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

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Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

IDC 01 00:03:12.4±4.8, 4°82S×153°35E, h79km±39km, mb3.7/10, mb1 3.9/11, mb1mx3.7/21, mbtmp3.8/11, ML3.3/1, MS3.6/1, Ms1 3.5/1, ms1mx2.7/26, Error ellipse: s-maj=28.9km s-min=19.3km az=48.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**7.65**	**233**	P		Pn	00 05 02.6	+1.4
	2.3nm,0.3s,baz=13,slow=5.6,SNR=3.5							
PMG				S		Sn	00 06 26.3	-0.1
	11nm,0.3s,baz=152,slow=21,SNR=10							
DZM	**Mont Dzumac**	**21.33**	**145**	P		P	00 07 52.7	-0.6
	2.8nm,0.6s,baz=295,slow=17,SNR=3.8							
WRA	**Warramunga Arr**	**23.85**	**229**	P		P	00 08 18.8	+0.1
	2.2nm,0.5s,baz=54,slow=9.8,SNR=18							
ASAR	**Alice Springs**	**26.51**	**222**	P		P	00 08 43.0	+0.3
	0.5nm,0.4s,baz=58,slow=9.2,SNR=6.8							
ASAR				PcP		PcP	00 12 06.1	+0.2
	0.2nm,0.3s,baz=113,slow=1.7,SNR=4.4							
STKA	**Stephens Creek**	**29.09**	**201**	P		P	00 09 05.5	-0.2
	1.2nm,0.6s,baz=40,slow=12,SNR=5.4							
STKA				LR		LR	00 21 17.3	
	comp=Z,108nm,19.4s,baz=26,slow=37							
FITZ	**Fitzroy Crossi**	**30.13**	**242**	P		P	00 09 14.7	-0.4
	2.8nm,0.7s,baz=78,slow=9.2,SNR=13							
RPZ	**Rata Peaks**	**41.77**	**161**	P		P	00 10 53.9	-0.2
	9.6nm,0.7s,baz=301,slow=5.9,SNR=5.2							
SONM	**Songino Array**	**66.63**	**328**	P		P	00 13 54.3	-0.5
	0.3nm,0.5s,baz=154,slow=5.8,SNR=2.9							
VNDA	**Vanda**	**72.79**	**178**	P		P	00 14 32.2	+0.3
	2.3nm,0.7s,baz=341,slow=7.3,SNR=9.1							
MKAR	**Makanchi Array**	**80.70**	**319**	P		P	00 15 17.5	+0.5
	0.4nm,0.4s,baz=97,slow=7.1,SNR=13							
MKAR				pP		pP	00 15 35.9	-2.3
	0.6nm,0.8s,baz=134,slow=5.2,SNR=3.6							
MAW	**Mawson**	**85.77**	**203**	P		P	00 15 42.7	+0.1
	2.0nm,0.6s,baz=94,slow=6.0,SNR=9.3							
TORD	**Torodi Ar. Bea**	**150.83**	**288**	PKPbc		PKPbc	00 22 56.3	-0.6
	0.7nm,0.5s,baz=67,slow=1.4,SNR=20							
TORD				PKPab		PKPab	00 23 03.5	-0.9
	0.4nm,0.5s,baz=62,slow=2.4,SNR=9.3							

WEL 01 00:03:59.7±0.6, 46°09S×166°00E, h26km±2km, ML3.6/10, 1D, Error ellipse: s-maj=6.0km s-min=2.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.48**	**100**	↓P*		Pb	00 04 09.1	-0.4
PYZ				S*		Sb	00 04 15.7	-0.5
DCZ	**Deep Cove**	**1.01**	**53**	PN		Pn	00 04 17.4	-0.8
DCZ				SN		Sb	00 04 30.5	-0.8
DCZ				AML		AML	00 04 31.9	
DCZ				AML		AML	00 04 31.9	
WHZ	**Wether Hill Ro**	**1.37**	**83**	PN		Pn	00 04 23.1	0.0
WHZ				SN		Sn	00 04 40.5	+0.1
WHZ				AML		AML	00 04 45.0	
APZ	**The Paps**	**1.56**	**119**	PN		Pn	00 04 25.1	-0.7
MLZ	**Mavora Lakes**	**1.69**	**65**	PN		Pn	00 04 28.5	+0.9
MLZ				AML		AML	00 04 55.0	
MLZ				AML		AML	00 04 57.0	
MSZ	**Milford Sound**	**1.96**	**44**	AML		AML	00 05 08.9	
MSZ				AML		AML	00 05 08.9	
MSZ				AML		AML	00 05 09.8	
MSZ				AML		AML	00 05 09.8	
SYZ	**Scrubby Hill**	**2.22**	**103**	PN		Pn	00 04 35.5	+0.8
WKZ	**Wanaka**	**2.47**	**60**	PN		Pn	00 04 40.0	+1.8
WKZ				AML		AML	00 05 17.7	
EAZ	**Earnscleugh**	**2.47**	**71**	PN		Pn	00 04 40.5	+2.3
EAZ				AML		AML	00 05 14.1	
EAZ				AML		AML	00 05 17.0	
TUZ	**Tuapeka**	**2.53**	**88**	PN		Pn	00 04 39.4	+0.4
TUZ				AML		AML	00 05 15.7	
TUZ				AML		AML	00 05 17.4	
JCZ	**Jackson Bay**	**2.80**	**45**	PN		Pn	00 04 45.0	+2.0
JCZ				AML		AML	00 05 37.1	
JCZ				AML		AML	00 05 37.9	
LBZ	**Lake Benmore**	**3.41**	**62**	PN		Pn	00 04 52.1	+0.9
ODZ	**Otahua Downs**	**3.42**	**74**	PN		Pn	00 04 51.4	+0.1

IDC 01 00:17:13.3±1.0, 15°83S×173°57W, h0km, mb4.0/8, mb1 4.3/8, mb1mx4.1/19, mbtmp4.0/8, MS3.7/3, Ms1 3.7/3, ms1mx3.2/31, Error ellipse: s-maj=65.5km s-min=20.3km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**2.58**	**42**	Pn		Pn	00 17 50.6	-5.8
	22nm,0.3s,baz=31,slow=20,SNR=7.9							
AFI				Sn		Sn	00 18 16.7	-12
	83nm,0.3s,baz=48,slow=22,SNR=26							
AFI				T		T	00 20 09.2	
	27nm,0.3s,baz=57,slow=23,SNR=3.7							
RAR	**Rarotonga**	**14.13**	**114**	LR		LR	00 24 37.3	
	comp=Z,411nm,18.8s,baz=270,slow=31							
RAR				T		T	00 34 33.1	
	17nm,0.3s,baz=270,slow=2.6,SNR=8.2							
DZM	**Mont Dzumac**	**19.89**	**249**	*e*LR		LR	00 27 29.0	
	230nm,25.0s							
DZM	**Mont Dzumac**	**19.89**	**249**	LR		LR	00 27 12.0	
	comp=Z,100nm,20.0s,baz=137,slow=30							
PPT2	**Papeete2**	**23.04**	**98**	*e*LR		LR	00 27 35.5	
	287nm,25.2s							
TBI	**Tubuai**	**23.89**	**112**	*e*LR		LR	00 28 04.6	
	364nm,27.8s							
HNR	**Honiara**	**26.60**	**281**	LR		LR	00 31 52.3	
	comp=Z,273nm,21.3s,baz=3.1,slow=33							
RKT	**Rikitea**	**37.02**	**107**	*e*LR		LR	00 33 55.7	
	515nm,34.2s							
H11S2	**WAKE ISLAND Hy**	**39.25**	**330**	T		T	01 06 39.6	
	baz=152,slow=0.7,SNR=15							
H11S3	**WAKE ISLAND Hy**	**39.26**	**330**	T		T	01 06 39.2	
	baz=152,slow=0.7,SNR=14							
H11S1	**WAKE ISLAND Hy**	**39.27**	**330**	T		T	01 06 41.0	
	baz=152,slow=0.7,SNR=21							
H11N3	**WAKE ISLAND Hy**	**40.20**	**331**	T		T	01 07 53.5	
	baz=156,slow=0.7							
H11N1	**WAKE ISLAND Hy**	**40.21**	**331**	T		T	01 07 53.0	
	baz=156,slow=0.7							
H11N2	**WAKE ISLAND Hy**	**40.22**	**331**	T		T	01 07 53.2	
	baz=156,slow=0.7							
STKA	**Stephens Creek**	**43.68**	**240**	P		P	00 25 19.9	-0.3
	1.5nm,0.7s,baz=57,slow=6.3,SNR=3.7							
WRA	**Warramunga Arr**	**49.59**	**257**	P		P	00 26 06.6	-0.1
	1.0nm,0.8s,baz=92,slow=7.3,SNR=4.6							
ASAR	**Alice Springs**	**49.83**	**252**	P		P	00 26 08.2	-0.3
	2.4nm,0.8s,baz=85,slow=8.1,SNR=17							
NVAR	**Mina Array Bea**	**74.75**	**42**	P		P	00 28 55.9	+0.3
	1.2nm,0.7s,baz=219,slow=7.0,SNR=7.6							
TXAR	**Lajitas Array**	**80.98**	**56**	P		P	00 29 30.3	0.0
	0.1nm,0.5s,baz=244,slow=3.9,SNR=3.6							
PDAR	**Pinedale Array**	**82.69**	**42**	P		P	00 29 38.5	-0.7
	0.5nm,0.5s,baz=249,slow=3.8,SNR=5.1							
ILAR	**Eielson Array**	**82.90**	**11**	P		P	00 29 39.2	-0.2
	0.8nm,0.7s,baz=212,slow=5.6,SNR=7.5							
MAW	**Mawson**	**87.34**	**199**	P		P	00 30 02.0	+0.1
	1.2nm,0.8s,baz=360,slow=3.6,SNR=3.8							
GERES	**GERESS Array B**	**146.54**	**351**	PKPbc		PKPbc	00 36 57.0	+0.2
	0.6nm,0.8s,baz=31,slow=2.3,SNR=5.4							

*SKHL **01** 00:23:27.9±0.1, 46°71N×153°28E, h33km, mb5.1/3*
*JMA **01** 00:23:29.5±0.7, 46°84N×152°89E, h30km, M5.1*
*ISCJB **01** 00:23:31.2±0.8, 46°45N±0°06×152°75E±0°08, h51km±8km, mb3.9/18, MS3.4/5, Error ellipse: s-maj=12.7km s-min=5.0km az=141.0*
*MOS **01** 00:23:32.0±1.1, 46°65N×152°74E, h53km, mb4.2/10, Error ellipse: s-maj=13.6km s-min=8.2km az=53.1*
*IDC **01** 00:23:33.8±0.6, 46°67N×152°67E, h49km±4km, mb3.7/18, mb1 4.0/21, mb1mx3.9/30, mbtmp4.0/21, MS3.3/8, Ms1 3.3/8, ms1mx3.1/47, Error ellipse: s-maj=18.9km s-min=10.8km az=155.0*

ISC 01 00:23:32.7±0.6, 46°39N±0°08×152°89E±0°06, h48km±4km, h48km: pP-P, n76, σ1°76/82, mb4.0/18, MS3.5/5, 3C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**3.70**	**254**	↑*i*P		**Pn**	**00 24 28.9**	**+1.7**
KUR				*i* S		**Sn**	**00 25 14.6**	**+5.1**
KUR				pmax		pmax		
	comp=Z,540nm,0.8s							
KUR				smax		smax		
	comp=N,2μm,1.0s							
KUR				smax		smax		
	comp=E,2μm,1.0s							
KUR	**Kuril'sk**	**3.70**	**254**	↓*i*P		**Pn**	**00 24 28.9**	**+1.7**
KUR				AMB		AMB	00 24 29.0	
	comp=E,540nm,0.8s							
KUR				*i* S		**Sn**	**00 25 14.6**	**+5.1**
KUR				A		A	00 25 27.5	
	comp=E,2μm,1.0s							
KUR				A		A	00 25 27.5	
	comp=E,2μm,1.0s							
SKR	**Severo-Kuril's**	**4.80**	**25**	*e*PN		Pn	00 24 37.6	-4.8
SKR				pmax		pmax		
	comp=N,80nm,0.5s							
SKR				pmax		pmax		
	comp=E,60nm,0.5s							
SKR				pmax		pmax		
	comp=Z,170nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**5.49**	**247**	*d i*PN		**Pn**	**00 24 53.5**	**+1.7**
YUK				*i* S		**Sn**	**00 25 57.9**	**+4.2**
YUK				pmax		pmax		
	comp=N,40nm,0.3s							
YUK				pmax		pmax		
	comp=Z,141nm,0.5s							
YUK				pmax		pmax		
	comp=E,70nm,0.5s							
YUK				smax		smax		
	comp=N,132nm,0.7s							
YUK				smax		smax		
	comp=E,454nm,0.7s							
YUK				smax		smax		
	comp=N,943nm,2.0s							
YUK				smax		smax		
	comp=E,502nm,3.0s							
YUK	**Yuzh-Kuril'sk**	**5.49**	**247**	↓*i*P		**Pn**	**00 24 53.6**	**+1.7**
YUK				AMB		AMB	00 24 55.1	
	comp=E,40nm,0.3s							
YUK				AMB		AMB	00 24 55.1	
	comp=E,70nm,0.5s							
YUK				AMB		AMB	00 24 55.1	
	comp=E,140nm,0.5s							
YUK				*i* S		**Sn**	**00 25 58.0**	**+4.2**
YUK				A		A	00 26 15.1	
	comp=E,132nm,0.7s							
YUK				A		A	00 26 15.1	
	comp=E,454nm,0.7s							
YUK				AMS		AMS	00 27 08.1	
	comp=E,372nm,13.0s							
NEM2	**Nemuro 2**	**5.91**	**242**	P		**Pn**	**00 24 57.0**	**-0.6**
NEM2				*e*S		**Sn**	**00 26 02.0**	**-1.9**
JRA	**Rausu**	**6.01**	**249**	P		**Pn**	**00 25 00.8**	**+1.8**
JNK	**Nakash**	**6.43**	**247**	P		**Pn**	**00 25 06.2**	**+1.4**
JAK	**Akkeshi**	**6.75**	**243**	P		**Pn**	**00 25 08.6**	**-0.5**
JAK				*e*S		**Sn**	**00 26 22.5**	**-2.1**
JTKR	**Abashiri--Toko**	**6.79**	**252**	P		**Pn**	**00 25 11.4**	**+1.7**
YSS	**Yuzh-Sakhalins**	**7.00**	**278**	↑*e*PN		**Pn**	**00 25 13.8**	**+1.3**
YSS				pmax		pmax		
	comp=Z,40nm,1.0s							
YSS	**Yuzh-Sakhalins**	**7.00**	**278**	↑*e*P		**Pn**	**00 25 13.8**	**+1.3**
YSS				AMB		AMB	00 25 15.7	
	comp=Z,40nm,1.0s							
YSS				*e*S		**Sn**	**00 26 29.4**	**-1.2**
YSS				A		A	00 26 32.5	
	comp=Z,30nm,0.9s							
YSS				*e*LQ		LQ	00 26 48.0	
YSS				AMS		AMS	00 27 44.0	
	comp=Z,400nm,16.0s							
JMP	**Maruseppu**	**7.14**	**254**	P		**Pn**	**00 25 16.6**	**+2.1**
JAR	**Ashorobuto**	**7.18**	**248**	P		**Pn**	**00 25 16.0**	**+1.0**
JAR				*e*S		**Sn**	**00 26 36.7**	**+1.5**
JOB	**Onbets**	**7.34**	**245**	P		**Pn**	**00 25 17.5**	**+0.4**
JOB				*e*S		**Sn**	**00 26 37.8**	**-1.2**
PETK	**Petropavlovsk-**	**7.41**	**23**	*e*PN		**Pn**	**00 25 17.5**	**-0.7**
PETK				pmax		pmax		
	comp=Z,2.0nm,0.3s							
PETK	**Petropavlovsk-**	**7.41**	**23**	P		**Pn**	**00 25 17.3**	**-0.9**
	comp=Z,2.3nm,0.3s,baz=186,slow=13,SNR=35							
PETK				S		Sn	00 26 46.7	+5.9
	baz=199,slow=26,SNR=1.5							
JKK2	**Kamakawa 2**	**7.60**	**254**	P		**Pn**	**00 25 23.1**	**+2.3**
ASAJ	**Asahikawa**	**7.61**	**256**	P		**Pn**	**00 25 23.7**	**+2.8**
ASAJ	**Asahikawa**	**7.61**	**256**	P		**Pn**	**00 25 22.8**	**+1.8**
	comp=Z,4.1nm,0.3s,baz=89,slow=14,SNR=38							
ASAJ				LR		LR	00 28 12.1	
	comp=Z,233nm,20.2s,baz=78,slow=37							
PET	**Petropavlovsk**	**7.62**	**27**	*e*PN		**Pn**	**00 25 21.8**	**+0.8**
PET				*e*S		**Sn**	**00 26 47.3**	**+1.5**
PET				smax		smax		
	comp=N,90nm,0.8s							
PET				smax		smax		
	comp=E,105nm,0.8s							
JCH	**Churui**	**7.78**	**244**	P		**Pn**	**00 25 22.8**	**-0.5**
JCH				*e*S		**Sn**	**00 26 47.1**	**-2.9**
JEM	**Erimo**	**8.24**	**241**	P		**Pn**	**00 25 29.8**	**+0.2**
ERM	**Erimo**	**8.24**	**241**	↓*e*PN		**Pn**	**00 25 30.6**	**+1.0**
JBT2	**Biratori 2**	**8.33**	**248**	P		**Pn**	**00 25 30.9**	**+0.1**
JNBK	**Urakawa-nobuka**	**8.34**	**244**	P		**Pn**	**00 25 30.2**	**-0.8**
JNB	**Noboribetsu**	**9.34**	**249**	P		**Pn**	**00 25 44.4**	**-0.2**
JKB	**Kayabe**	**9.64**	**246**	P		**Pn**	**00 25 47.3**	**-1.3**
JKB				*e*S		Sn	00 27 29.2	-6.2
JSH	**Shimam**	**9.91**	**252**	*e*S		**Pn**	**00 25 53.3**	**+1.0**
JYM2	**Yakumo 2**	**9.94**	**249**	*e*S		**Pn**	**00 25 52.7**	**-0.1**
JSR	**Shiriuchi**	**10.22**	**246**	P		**Pn**	**00 25 55.0**	**-1.6**
JTM	**Tenmabayashi**	**10.24**	**241**	*e*S		**Pn**	**00 25 55.1**	**-1.8**
JTH	**Tanohata**	**10.31**	**235**	P		Pn	00 25 54.4	-3.5
JTH				*e*S		Sn	00 27 43.3	-8.7
JOSM	**Okushiri--Mats**	**10.54**	**251**	P		**Pn**	**00 26 00.6**	**-0.4**
OFUJ	**Ofunato**	**11.01**	**232**	P		**Pn**	**00 26 04.5**	**-3.0**
OFUJ				*e*S		Sn	00 28 01.1	-8.0
HABR	**Khabarovsk**	**12.26**	**286**	PN		**Pn**	**00 26 25.1**	**+0.7**
FX1	**Attu Island--F**	**14.63**	**56**	P		**Pn**	**00 26 55.6**	**-0.9**
	comp=E,16nm,0.3s,baz=320,slow=4.3,SNR=30							
FX1				S		Sn	00 29 28.4	-8.8
	comp=E,0.7nm,0.3s,baz=229,slow=20,SNR=3.3							
FX1				LR		LR	00 33 02.9	
	comp=E,55nm,18.2s,baz=67,slow=39							
MAJO	**Matsushiro**	**14.74**	**233**	*i* P		**Pn**	**00 26 56.3**	**-1.8**
MAT	**Matsushiro**	**14.74**	**233**	P		**Pn**	**00 26 55.8**	**-2.3**
USRK	**Ussuriysk Arra**	**14.87**	**269**	P		**Pn**	**00 26 59.5**	**-0.2**
	comp=E,0.5nm,0.3s,baz=83,slow=14,SNR=10							
USRK				LR		LR	00 32 26.1	
	comp=E,109nm,20.7s,baz=262,slow=36							
KSRS	**Korea Array**	**20.54**	**253**	P		Pn	00 28 08.4	-1.1
	comp=E,7.0nm,0.8s,baz=57,slow=12,SNR=21							
JNU	**Nakatsue**	**21.40**	**240**	LR		LR	00 37 04.0	
	comp=E,39nm,21.4s,baz=286,slow=38							
H11N2	**WAKE ISLAND Hy**	**28.97**	**152**	T		T	01 00 42.2	
	baz=342,slow=0.7,SNR=326							
H11N1	**WAKE ISLAND Hy**	**28.99**	**152**	T		T	01 00 57.6	
	baz=342,slow=0.7,SNR=234							
H11N3	**WAKE ISLAND Hy**	**28.99**	**152**	T		T	01 01 02.4	
	baz=342,slow=0.7,SNR=183							
H11S1	**WAKE ISLAND Hy**	**30.05**	**153**	T		T	01 02 27.0	
	baz=343,slow=0.7,SNR=56							
H11S3	**WAKE ISLAND Hy**	**30.06**	**153**	T		T	01 02 15.9	
	baz=343,slow=0.7,SNR=107							
H11S2	**WAKE ISLAND Hy**	**30.07**	**153**	T		T	01 02 20.8	
	baz=343,slow=0.7,SNR=10							
SONM	**Songino Array**	**31.31**	**290**	P		**P**	**00 29 46.6**	**-1.6**
	comp=E,0.4nm,0.8s,baz=60,slow=8.5,SNR=2.2							
SONM				LR		LR	00 43 22.1	
	comp=E,76nm,18.3s,baz=113,slow=38							
KDAK	**Kodiak Island**	**34.45**	**50**	P		**P**	**00 30 15.0**	**-0.3**
	comp=E,10nm,0.7s,baz=276,slow=7.9,SNR=7.3							
COLA	**College**	**36.52**	**38**	↓*i*P		**P**	**00 30 33.9**	**+1.0**
ILAR	**Eielson Array**	**36.93**	**38**	P		**P**	**00 30 36.3**	**-0.2**
	comp=E,2.9nm,1.1s,baz=271,slow=8.9,SNR=14							
INK	**Inuvik**	**42.04**	**32**	P		**P**	**00 31 19.3**	**+0.4**
	comp=E,0.9nm,0.3s,baz=317,slow=9.5,SNR=3.5							
ZALV	**Zalesovo Beam**	**42.70**	**306**	P		**P**	**00 31 22.1**	**-2.4**
ZALV							00 33 15.9	
ZALV	**Zalesovo Beam**	**42.70**	**306**	P		**P**	**00 31 22.1**	**-2.4**
	comp=E,0.3nm,0.4s,baz=64,slow=6.6,SNR=2.3							
ZALV				PcP		**PcP**	**00 33 15.9**	**+0.5**
	comp=E,0.2nm,0.4s,baz=44,slow=4.4,SNR=2.4							
ZALV				pPcP			00 33 29.5	
	comp=E,0.6nm,0.4s,baz=47,slow=2.8,SNR=4.0							
MKAR	**Makanchi Array**	**46.97**	**298**	*e*P		**P**	**00 31 56.8**	**-1.8**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**	**46.97**	**298**	P		**P**	**00 31 56.6**	**-2.1**
	comp=Z,0.4nm,0.6s,baz=67,slow=7.8,SNR=7.2							
MKAR				LR		LR	00 52 56.5	
	comp=Z,54nm,18.4s,baz=352,slow=38							
YKA	**Yellowknife Ar**	**51.31**	**36**	P		**P**	**00 32 32.0**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=294,slow=7.2,SNR=3.2							
YKA				pP		**pP**	**00 32 44.9**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=299,slow=6.6,SNR=4.7							
CMAR	**Chiang Mai Arr**	**52.13**	**256**	P		**P**	**00 32 39.6**	**+1.3**
	comp=Z,2.4nm,0.7s,baz=34,slow=6.9,SNR=11							
CMAR				pP		**pP**	**00 32 52.8**	**+1.3**
	comp=Z,2.3nm,0.7s,baz=38,slow=7.5,SNR=4.2							
NVAR	**Mina Array Bea**	**62.74**	**62**	P		**P**	**00 33 54.4**	**+1.4**
	comp=Z,1.5nm,0.8s,baz=298,slow=6.1,SNR=7.5							
NVAR				pP		**pP**	**00 34 08.4**	**+1.9**
	comp=Z,3.1nm,0.8s,baz=296,slow=6.9,SNR=9.5							
FINES	**FINESS Array B**	**64.30**	**335**	P		**P**	**00 34 01.8**	**-0.8**
	comp=Z,1.7nm,0.7s,baz=32,slow=8.9,SNR=3.9							
FINES				pP		**pP**	**00 34 14.9**	**-1.2**
	comp=Z,1.8nm,0.8s,baz=28,slow=6.3,SNR=1.7							
PDAR	**Pinedale Array**	**65.08**	**54**	P		**P**	**00 34 09.2**	**+0.9**
	comp=Z,1.4nm,1.0s,baz=270,slow=2.7,SNR=5.8							
PDAR				pP		**pP**	**00 34 23.1**	**+1.2**
	comp=Z,1.3nm,0.7s,baz=298,slow=1.9,SNR=17							
OBN	**Obninsk**	**65.52**	**326**	↓*e*P		P	00 34 13.9	+3.4
OBN				*e**PP		pP	00 34 28.9	+4.7
OBN				*e*S		S	00 43 05.9	+14
OBN				*e*SS		**SS**	**00 47 05.0**	**+0.1**
OBN				pmax		pmax		
	comp=Z,22nm,2.2s							
WRA	**Warramunga Arr**	**68.12**	**199**	P		**P**	**00 34 28.5**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=15,slow=6.7,SNR=4.0							
NB2	**NORSAR Subarra**	**68.52**	**341**	P		**P**	**00 34 28.9**	**-0.7**
	comp=Z,1.7nm,0.6s,baz=29,slow=6.5							
NOA	**NORSAR Array B**	**68.52**	**341**	P		**P**	**00 34 28.3**	**-1.3**
	comp=Z,1.5nm,0.9s,baz=27,slow=6.4,SNR=3.0							
NOA				pP		**pP**	**00 34 42.2**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=29,slow=5.6,SNR=1.7							
KBZ	**Khabaz**	**71.00**	**314**	LR		LR	01 11 59.7	
	comp=Z,34nm,19.5s,baz=166,slow=41							
AKASG	**Malin Array Be**	**71.76**	**326**	P		**P**	**00 34 48.5**	**-1.0**
AKASG				*PP		**pP**	**00 35 02.2**	**-1.2**
AKASG	**Malin Array Be**	**71.76**	**326**	P		**P**	**00 34 48.5**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=28,slow=5.0,SNR=3.2							
AKASG				pP		**pP**	**00 35 02.1**	**-1.2**
	comp=Z,0.7nm,0.4s,baz=33,slow=6.0,SNR=3.8							
ASAR	**Alice Springs**	**71.82**	**198**	P		**P**	**00 34 52.1**	**+2.0**
	comp=Z,1.3nm,0.7s,baz=11,slow=5.1,SNR=12							
VRAC	**Vranov**	**77.40**	**332**	LR		LR	01 10 23.2	
	comp=Z,29nm,20.4s,baz=352,slow=36							
TXAR	**Lajitas Array**	**77.81**	**60**	P		**P**	**00 35 26.2**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=303,slow=5.1,SNR=6.6							
TXAR				pP		**pP**	**00 35 39.7**	**+0.7**
	comp=Z,2.7nm,0.6s,baz=300,slow=4.1,SNR=23							
GERES	**GERESS Array B**	**78.71**	**334**	P		**P**	**00 35 29.2**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=27,slow=6.6,SNR=3.8							
H03N2	**Juan Fernandez**	**138.90**	**91**	T		T	03 18 19.3	
	baz=305,slow=0.7,SNR=14							
H03N3	**Juan Fernandez**	**138.92**	**91**	T		T	03 18 17.5	
	baz=305,slow=0.7,SNR=17							
H03N1	**Juan Fernandez**	**138.92**	**91**	T		T	03 18 21.3	
	baz=305,slow=0.7,SNR=15							

*IDC **01** 00:25:53.8±0.9, 1°36S×99°48E, h0km, mb4.0/11, mb1 4.1/13, mb1mx3.9/25, mbtmp3.9/13, ML2.8/1, MS3.2/2, Ms1 3.2/2, ms1mx2.8/40, Error ellipse: s-maj=37.7km s-min=15.8km az=60.0*
*NEIC **01** 00:25:55.1±0.4, 1°32S×99°55E, h10km, mb4.5/5, Error ellipse: s-maj=19.7km s-min=6.6km az=61.0*
*ISCJB **01** 00:25:56.7±0.6, 1°25S±0°1×99°7E±0°2, h30km, mb4.1/15, MS3.5/1, Error ellipse: s-maj=26.3km s-min=9.4km az=151.3*

ISC 01 00:25:58.5±0.7, 1°3S±0°1×99°6E±0°2, h30km, n43, σ0°84/37, mb4.2/15, Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PSI	**Prapat**	**4.08**	**351**	Pn		**Pn**	**00 26 58.5**	**-0.6**
PSI	**Prapat**	**4.08**	**351**	Pn		**Pn**	**00 26 58.5**	**-0.6**
	0.6nm,0.3s,baz=180,slow=13,SNR=2.4							
PSI				LR		LR	00 28 52.8	
	comp=Z,156nm,19.8s,baz=170,slow=44							
CMAR	**Chiang Mai Arr**	**19.60**	**358**	P		**P**	**00 30 23.2**	**-1.4**
CMAR	**Chiang Mai Arr**	**19.60**	**358**	P		**P**	**00 30 23.2**	**-1.4**
	baz=179,slow=11,SNR=3.8							
CHTO	**Chiang Mai**	**19.96**	**358**	*e*P		**P**	**00 30 28.0**	**-0.4**
	8.8nm,0.6s							
H08S2	**Diego Garcia H**	**27.71**	**256**	T		T	00 59 44.8	
	baz=77,slow=0.7,SNR=167							
H08S3	**Diego Garcia H**	**27.72**	**256**	T		T	00 59 39.3	
	baz=77,slow=0.7,SNR=197							

baz=78,slow=0.7,SNR=14
H01W3 Cape Leeuwin H 35.99 159 T T 01 12 20.8
baz=336,slow=0.7,SNR=9.3
H01W2 Cape Leeuwin H 36.00 159 T T 01 12 24.5
baz=336,slow=0.7,SNR=8.0
H01W1 Cape Leeuwin H 36.01 159 T T 01 12 26.5
baz=336,slow=0.7,SNR=9.1
WRA Warramunga Arr 38.94 120 P P 00 34 54.9 -0.6
1.1nm,0.5s,baz=300,slow=9.0,SNR=6.5
ASAR Alice Springs 40.19 126 P P 00 35 06.2 +0.3
0.6nm,0.6s,baz=305,slow=8.2,SNR=6.0
SONM Songino Array 49.57 6 P P 00 36 20.2 -0.2
0.6nm,0.5s,baz=189,slow=8.0,SNR=2.6
SONM PcP PcP 00 37 42.4 +0.2
0.8nm,0.7s,baz=158,slow=4.7,SNR=2.8
MKAR Makanchi Array 50.37 345 P P 00 36 26.9 +0.6
1.1nm,0.6s,baz=162,slow=8.6,SNR=7.2
ZALV Zalesovo Beam 56.57 350 P P 00 37 11.6 -0.1
2.0nm,0.6s,baz=147,slow=6.3,SNR=5.8
FINES FINESS Array B 83.32 332 P P 00 39 55.2 -0.8
3.6nm,0.9s,baz=124,slow=6.9,SNR=4.8
TXAR Lajitas Array 144.83 36 PKP PKPdf 00 47 06.8 -0.5
0.7nm,0.5s,baz=343,slow=2.8,SNR=6.8

IDC 01 00:27:51.5±7.5, 15°.81S×173°.13W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.8/21, mbtmp3.9/4, MS3.7/3, Ms1 3.7/3, ms1mx3.3/25, Error ellipse: s-maj=348.2km s-min=25.5km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.30**	**35**	Pn		Pn	Pn	00 28 29.2	-1.6
	baz=126,slow=17,SNR=2.1								
AFI				Sn		Sn	Sn	00 28 58.0	-1.8
	45nm,0.3s,baz=41,slow=20,SNR=4.8								
AFI				LR		LR	LR	00 29 01.2	
	comp=Z,509nm,18.6s,baz=114,slow=30								
WRA	**Warramunga Arr**	**50.00**	**257**	P		P	P	00 36 47.8	-0.3
	0.3nm,0.6s,baz=96,slow=7.1,SNR=3.4								
ASAR	**Alice Springs**	**50.23**	**252**	P		P	P	00 36 49.1	-0.6
	3.0nm,0.6s,baz=87,slow=8.4,SNR=18								
ASAJ	**Asahikawa**	**72.02**	**328**	LR		LR	LR	01 10 55.4	
	comp=Z,57nm,18.8s,baz=177,slow=36								
ILAR	**Eielson Array**	**82.79**	**11**	P		P	P	00 40 17.2	+0.1
	0.8nm,0.6s,baz=226,slow=6.4,SNR=12								
ROSC	**El Rosal**	**99.76**	**88**	LR		LR	LR	01 17 56.2	
	comp=Z,80nm,20.8s,baz=18,slow=30								
GERES	**GERESS Array B**	**146.58**	**352**	PKPbc		PKPbc	PKPbc	00 47 34.7	-0.4
	0.3nm,0.5s,baz=32,slow=3.9,SNR=4.3								
BRTR	**Keskin Array B**	**146.63**	**321**	PKPbc		PKPbc	PKPbc	00 47 35.6	0.0
	0.8nm,0.7s,baz=69,slow=1.7,SNR=4.5								

*ISCJB **01** 00:30:20.8±0.2, 16°.68S±0°.08×172°.30W±0°.06, h10km, mb4.8/45, MS4.2/16, Error ellipse: s-maj=13.5km s-min=5.4km az=150.6*
*IDC **01** 00:30:20.9±0.5, 16°.73S×172°.11W, h0km, mb4.2/12, mb1 4.5/12, mb1mx4.3/22, mbtmp4.2/12, MS4.0/13, Ms1 4.0/13, ms1mx3.9/27, Error ellipse: s-maj=25.5km s-min=16.4km az=130.0*
*BJI **01** 00:30:21.5, 16°.59S×172°.60W, h5km, mB5.4/10, mb5.1/18, Ms5.3/9, MS7 4.8/9*
*NEIC **01** 00:30:22.3±0.2, 16°.55S×172°.36W, h10km, mb4.9/27, Error ellipse: s-maj=11.9km s-min=5.1km az=140.0*
ISC 01 00:30:24.3±0.4, 16°.44S±0°.06×172°.35W±0°.07, h24km, n258, σ1°20/263, mb4.9/46, MS4.1/16, 73C-55D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.58**	**12**	*e*Pn		**Pn**	**Pn**	**00 31 02.8**	**-1.8**
AFI				Sn		**Sn**	**Sn**	**00 31 32.9**	**-2.4**
AFI	**Afiamalu**	**2.58**	**12**	Pn		**Pn**	**Pn**	**00 31 02.6**	**-2.1**
	24nm,0.3s,baz=127,slow=20,SNR=2.4								
AFI				Sn		**Sn**	**Sn**	**00 31 32.9**	**-2.4**
	157nm,0.3s,baz=65,slow=16,SNR=7.8								
MSVF	**Nonsavu**	**9.27**	**261**	*e*Pn		**Pn**	**Pn**	**00 32 35.5**	**-1.2**
FUNA	**Funafuti**	**11.40**	**313**	*e*Pn		**Pn**	**Pn**	**00 33 04.3**	**-1.4**
RAR	**Rarotonga**	**12.81**	**114**	Pn		Pn	Pn	00 33 14.2	-11
RAR	**Rarotonga**	**12.81**	**114**	Pn		Pn	Pn	00 33 14.1	-11
	1.4nm,0.3s,baz=271,slow=1.0,SNR=4.6								
RAR				LR		LR	LR	00 36 58.0	
	comp=Z,1μm,19.8s,baz=271,slow=32								
DZM	**Mont Dzumac**	**20.78**	**251**	*e*P		**P**	**P**	**00 35 04.5**	**+0.5**
	37nm,1.3s								
DZM				*e*LR		LR	LR	00 39 52.6	
	1μm,24.8s								
DZM	**Mont Dzumac**	**20.78**	**251**	*e*P		**P**	**P**	**00 35 02.7**	**-1.3**
	9.6nm,0.8s								
DZM	**Mont Dzumac**	**20.78**	**251**	LR		LR	LR	00 41 08.4	
	comp=Z,202nm,21.3s,baz=207,slow=31								
PPT	**Papeete**	**21.80**	**96**	LR		LR	LR	00 40 56.2	
	comp=Z,638nm,18.9s,baz=193,slow=30								
PPT2	**Papeete2**	**21.80**	**96**	*e*LR		LR	LR	00 40 04.8	
	1μm,25.5s,baz=260								
TBI	**Tubuai**	**22.57**	**111**	*e*LR		LR	LR	00 40 15.6	
	1μm,27.8s,baz=283								
XMAS	**Kiritimati**	**23.54**	**40**	*e*P		**P**	**P**	**00 35 31.7**	**-1.2**
	56nm,1.0s								
URZ	**Urewera**	**23.63**	**201**	P		**P**	**P**	**00 35 33.1**	**-0.6**
URZ	**Urewera**	**23.63**	**201**	P		**P**	**P**	**00 35 33.2**	**-0.6**
	7.3nm,0.4s,baz=254,slow=5.6,SNR=6.4								
HNR	**Honiara**	**27.86**	**281**	LR		LR	LR	00 45 50.3	
	comp=Z,1μm,20.4s,baz=356,slow=33								
RPZ	**Rata Peaks**	**30.62**	**204**	LR		LR	LR	00 48 02.4	
	comp=Z,214nm,19.5s,baz=30,slow=35								
ARMA	**Armidale**	**35.69**	**241**	*e*P		**P**	**P**	**00 37 20.2**	**-1.0**
RKT	**Rikitea**	**35.72**	**107**	*e*LR		LR	LR	00 46 19.3	
	808nm,27.8s								
H11S2	**WAKE ISLAND Hy**	**40.37**	**328**	T		T	T	01 21 43.5	
	baz=151,slow=0.7,SNR=4.7								
H11S3	**WAKE ISLAND Hy**	**40.39**	**328**	T		T	T	01 21 44.5	
	baz=151,slow=0.7,SNR=3.7								
H11S1	**WAKE ISLAND Hy**	**40.39**	**328**	T		T	T	01 21 41.5	
	baz=151,slow=0.7,SNR=4.0								
COEN	**Coen**	**42.93**	**267**	*e*P		**P**	**P**	**00 38 21.4**	**-0.3**
STKA	**Stephens Creek**	**44.41**	**241**	*e*P		**P**	**P**	**00 38 32.9**	**-0.5**
	6.4nm,1.4s								
STKA	**Stephens Creek**	**44.41**	**241**	P		**P**	**P**	**00 38 33.7**	**+0.3**
	16nm,1.5s,baz=81,slow=8.6,SNR=6.5								
BBOO	**Buckleboo**	**49.18**	**241**	*e*P		**P**	**P**	**00 39 10.2**	**-0.5**
	4μm,2.4s								
WRAB	**Tennant Creek**	**50.59**	**258**	*e*P		**P**	**P**	**00 39 21.6**	**-0.1**
	75nm,2.4s								
WRA	**Warramunga Arr**	**50.60**	**257**	P		**P**	**P**	**00 39 21.9**	**+0.1**
WRA	**Warramunga Arr**	**50.60**	**257**	P		**P**	**P**	**00 39 21.9**	**+0.1**
	2.2nm,0.4s,baz=95,slow=7.1,SNR=25								
WRA				LR		LR	LR	00 58 58.4	
	comp=Z,328nm,21.6s,baz=85,slow=34								
AS31	**Alice Springs**	**50.76**	**253**	*e*P		**P**	**P**	**00 39 22.8**	**-0.2**
ASAR	**Alice Springs**	**50.76**	**253**	P		**P**	**P**	**00 39 23.4**	**+0.5**
ASAR	**Alice Springs**	**50.76**	**253**	P		**P**	**P**	**00 39 23.4**	**+0.5**
	12nm,0.4s,baz=87,slow=9.2,SNR=122								
ASAR				LR		LR	LR	00 59 28.4	
	comp=Z,171nm,21.5s,baz=164,slow=34								
FITZ	**Fitzroy Crossi**	**58.99**	**259**	LR		LR	LR	01 03 43.8	
	comp=Z,242nm,21.0s,baz=95,slow=34								
JCJ	**Chichijima**	**61.80**	**314**	LR		LR	LR	01 03 23.7	
	comp=Z,98nm,20.1s,baz=126,slow=32								
SBA	**Scott Base**	**62.30**	**185**	*e*P		**P**	**P**	**00 40 43.8**	**-0.3**
VNDA	**Vanda**	**62.45**	**186**	*e*P		**P**	**P**	**00 40 44.3**	**-0.8**
VNDA	**Vanda**	**62.45**	**186**	P		**P**	**P**	**00 40 43.8**	**-1.3**
	1.0nm,0.7s,baz=0.0,slow=3.0,SNR=3.9								
EDW2	**Edwards Air Fo**	**72.56**	**44**	⇓P		**P**	**P**	**00 41 50.5**	**+0.8**
	baz=73								
ISA	**Isabella**	**72.69**	**44**	*e*P		**P**	**P**	**00 41 52.1**	**+1.5**
	25nm,1.7s								
ISA	**Isabella**	**72.69**	**44**	⇓P		**P**	**P**	**00 41 51.6**	**+1.0**
	baz=73								
PFO	**Pinyon Flat Ob**	**72.90**	**46**	⇑P		**P**	**P**	**00 41 53.1**	**+1.3**
	baz=73								
BELC	**Belle Mtn. Jos**	**73.43**	**46**	⇓P		**P**	**P**	**00 41 55.9**	**+0.9**
	baz=74								
MPMC	**Manual Prospec**	**73.58**	**44**	⇓P		**P**	**P**	**00 41 56.6**	**+0.7**
	baz=74,SNR=5.7								
GSC	**Goldstone**	**73.60**	**45**	⇓P		**P**	**P**	**00 41 56.5**	**+0.6**
	baz=74								
QSPA	**South Pole Qui**	**73.61**	**180**	*e*P		**P**	**P**	**00 41 54.0**	**-1.6**
QSPA				*e*PcP		**PcP**	**PcP**	**00 42 11.5**	**+0.1**
QSPA	**South Pole Qui**	**73.61**	**180**	P		**P**	**P**	**00 41 53.9**	**-1.7**
	2.3nm,0.8s,baz=45,slow=3.5,SNR=9.5								
BC3	**Big Chuckawall**	**73.62**	**47**	⇓P		**P**	**P**	**00 41 56.6**	**+0.5**
	baz=74								
HEC	**Hector,Ludlow**	**73.66**	**45**	⇓P		**P**	**P**	**00 41 56.3**	**0.0**
	baz=74								
GMRC	**Granite Mounta**	**74.09**	**46**	⇑P		**P**	**P**	**00 41 59.3**	**+0.4**
	baz=74								
IRM	**Iron Mountain**	**74.11**	**46**	⇑P		**P**	**P**	**00 42 00.0**	**+1.2**
	baz=74								
FURC	**Furnace Creek,**	**74.23**	**44**	⇑P		**P**	**P**	**00 42 00.4**	**+0.9**
	baz=74								
SHOC	**Shoshone**	**74.29**	**44**	⇑P		**P**	**P**	**00 42 01.2**	**+1.3**
	baz=75								
Y12C	**Blythe**	**74.32**	**47**	⇑P		**P**	**P**	**00 42 01.5**	**+1.4**
	baz=75								
113A	**Mohawk Valley,**	**74.34**	**48**	⇑P		**P**	**P**	**00 42 02.1**	**+2.0**
	baz=75								
NVAR	**Mina Array Bea**	**74.43**	**41**	P		**P**	**P**	**00 42 01.6**	**+0.8**
NVAR	**Mina Array Bea**	**74.43**	**41**	P		**P**	**P**	**00 42 01.6**	**+0.8**
	1.6nm,0.8s,baz=220,slow=8.3,SNR=9.5								
PAHR	**Pah Rah Range**	**74.52**	**40**	*e*P		**P**	**P**	**00 42 01.8**	**+0.5**
	13nm,1.4s								
NV11	**Mina Array Sit**	**74.52**	**41**	*e*P		**P**	**P**	**00 42 01.7**	**+0.4**
NV11				*e*PcP		**PcP**	**PcP**	**00 42 16.7**	**+1.0**
214A	**Organ Pipe Nat**	**74.61**	**49**	⇓P		**P**	**P**	**00 42 02.6**	**+0.8**
	baz=75								
PDMCI	**Parker Dam,Lak**	**74.88**	**47**	⇑P		**P**	**P**	**00 42 04.4**	**+1.1**
	baz=75								
Z14A	**Wintersburg**	**75.24**	**48**	⇓P		**P**	**P**	**00 42 05.8**	**+0.4**
	baz=76								
SHPR	**Sheep Range**	**75.38**	**44**	*e*P		**P**	**P**	**00 42 07.1**	**+0.8**
W13A	**Hualapai Mount**	**75.49**	**46**	⇓P		**P**	**P**	**00 42 07.7**	**+0.7**
	baz=76								
K05A	**Summer Lake**	**75.49**	**37**	*e*P		**P**	**P**	**00 42 07.0**	**+0.1**
	66nm,1.8s								
Y14A	**Wickenburg**	**75.49**	**48**	⇑P		**P**	**P**	**00 42 07.3**	**+0.4**
	baz=76								
R11A	**Troy Canyon, C**	**76.13**	**43**	*e*P		**P**	**P**	**00 42 11.6**	**+1.0**
	30nm,1.9s								
R11A	**Troy Canyon, C**	**76.13**	**43**	⇑P		**P**	**P**	**00 42 11.3**	**+0.7**
	baz=76								
TUC	**Tucson**	**76.27**	**50**	*e*P		**P**	**P**	**00 42 12.7**	**+1.3**
	52nm,2.2s								
X16A	**Lo Mia Camp, P**	**76.85**	**48**	⇑P		**P**	**P**	**00 42 15.1**	**+0.3**
	baz=77,SNR=6.2								
319A	**Douglas**	**76.94**	**52**	⇓P		**P**	**P**	**00 42 15.6**	**+0.4**
	baz=77								
CCUT	**Cedar City**	**77.16**	**44**	*e*P		**P**	**P**	**00 42 18.2**	**+1.8**
	19nm,1.6s								
J08A	**Circle Bar Ran**	**77.28**	**37**	*e*P		**P**	**P**	**00 42 18.3**	**+1.4**
	11nm,1.4s								
U15A	**North Rim**	**77.29**	**46**	⇑P		**P**	**P**	**00 42 17.8**	**+0.5**
	baz=78,SNR=5.8								
WUAZ	**Wupatki**	**77.46**	**47**	⇑P		**P**	**P**	**00 42 19.1**	**+1.0**
	baz=78								
KSRS	**Korea Array**	**77.61**	**315**	P		P	P	00 42 22.2	+3.5
	0.6nm,0.5s,baz=130,slow=6.6,SNR=6.1								
KSRS				LR		LR	LR	01 11 18.3	
	comp=Z,40nm,18.7s,baz=281,slow=32								
KSAR	**Wonju Array Be**	**77.63**	**315**	P		P	P	00 42 22.2	+3.4
ELK	**Elko**	**77.70**	**41**	*e*P		**P**	**P**	**00 42 20.5**	**+1.1**
	18nm,1.8s								
220A	**Playas Peak, P**	**77.75**	**51**	⇑P		**P**	**P**	**00 42 20.7**	**+0.9**
	baz=78								
120A	**U Bar Ranch, L**	**77.98**	**51**	⇑P		**P**	**P**	**00 42 22.0**	**+0.9**
	baz=78								
G08A	**Pilot Rock**	**78.18**	**35**	*e*P		**P**	**P**	**00 42 23.7**	**+1.8**
	24nm,1.8s								
Z20A	**Nine Sixteen R**	**78.28**	**50**	⇓P		**P**	**P**	**00 42 23.5**	**+0.8**
	baz=78								
121A	**Cedars Peak, D**	**78.60**	**51**	⇓P		**P**	**P**	**00 42 25.4**	**+0.8**
	baz=79								
USRK	**Ussuriysk Arra**	**78.82**	**323**	LR		LR	LR	01 10 15.4	
	comp=Z,103nm,20.2s,baz=197,slow=30								
DUG	**Dugway**	**78.94**	**42**	⇓P		**P**	**P**	**00 42 27.7**	**+1.5**
	baz=79								
Z21A	**St. Cloud Mine**	**79.05**	**50**	⇑P		**P**	**P**	**00 42 28.0**	**+1.0**
	baz=79,SNR=6.6								
W20A	**Ramah**	**79.30**	**48**	⇓P		**P**	**P**	**00 42 29.7**	**+1.2**
	baz=80,SNR=6.2								
X21A	**Alamocita Cree**	**79.50**	**49**	⇓P		**P**	**P**	**00 42 30.7**	**+1.2**
	baz=80								
Z22A	**Elephant Butte**	**79.55**	**51**	⇑P		**P**	**P**	**00 42 30.3**	**+0.5**
	baz=80								
F10A	**Beach Ranch, E**	**79.56**	**36**	*e*P		**P**	**P**	**00 42 29.6**	**+0.2**
	26nm,1.6s								
HLID	**Hailey**	**79.79**	**39**	*e*P		**P**	**P**	**00 42 32.3**	**+1.4**
	12nm,1.6s								
HLID	**Hailey**	**79.79**	**39**	⇑P		**P**	**P**	**00 42 32.7**	**+1.9**
	baz=80								
324A	**Moseley Ranch,**	**79.85**	**53**	⇑P		**P**	**P**	**00 42 31.9**	**+0.5**
	baz=80								
Y22A	**Socorro**	**79.86**	**50**	⇓P		**P**	**P**	**00 42 32.8**	**+1.3**
	baz=80								
SRU	**San Rafael**	**79.87**	**44**	*e*P		**P**	**P**	**00 42 32.6**	**+1.2**
	16nm,1.5s								
LAZ	**Ladron**	**79.95**	**50**	*e*P		**P**	**P**	**00 42 32.6**	**+0.6**
	17nm,2.0s								
626A	**Big Bend Ranch**	**80.08**	**55**	⇑P		**P**	**P**	**00 42 32.4**	**-0.2**
	baz=80								
224A	**Cornudas Mount**	**80.10**	**52**	⇓P		**P**	**P**	**00 42 32.8**	**0.0**
	baz=80,SNR=6.3								
526A	**Mary Lane Ranc**	**80.33**	**55**	⇓P		**P**	**P**	**00 42 33.8**	**-0.3**
	baz=80								
TXAR	**Lajitas Array**	**80.35**	**56**	P		**P**	**P**	**00 42 34.7**	**+0.6**
TXAR	**Lajitas Array**	**80.35**	**56**	P		**P**	**P**	**00 42 34.7**	**+0.6**
	2.1nm,1.1s,baz=214,slow=6.3,SNR=14								
124A	**Stringfield Ra**	**80.43**	**52**	⇓P		**P**	**P**	**00 42 34.6**	**0.0**
	baz=81								
MDJ	**Mudanjiang**	**80.46**	**322**	P		**P**	**P**	**00 42 36.0**	**+1.8**
MDJ					AMB	AMB	AMB		
	comp=Z,6.0nm,1.3s								
MDJ					AMB	AMB	AMB		
	comp=Z,39nm,5.3s								
U21A	**Nageezi**	**80.53**	**48**	⇑P		**P**	**P**	**00 42 36.0**	**+1.0**
	baz=81								
Y23A	**Lovelace Mesa,**	**80.53**	**51**	⇓P		**P**	**P**	**00 42 35.4**	**+0.3**
	baz=81								
627A	**Terlingua Ranc**	**80.62**	**56**	⇓P		**P**	**P**	**00 42 34.8**	**-0.7**
	baz=81,SNR=7.4								
426A	**McDonald Obser**	**80.64**	**54**	⇑P		**P**	**P**	**00 42 35.3**	**-0.4**
	baz=81,SNR=5.2								
225A	**Deer Hill, Car**	**80.65**	**53**	⇑P		**P**	**P**	**00 42 36.2**	**+0.5**
	baz=81								
ANMO	**Albuquerque**	**80.70**	**49**	*e*P		**P**	**P**	**00 42 37.0**	**+1.0**
	30nm,2.0s								
S20A	**Disappointment**	**80.71**	**46**	⇑P		**P**	**P**	**00 42 36.1**	**+0.1**
	baz=81								
527A	**Woodward Ranch**	**80.74**	**55**	⇑P		**P**	**P**	**00 42 36.5**	**+0.3**
	baz=81								
Z24A	**Sheeppen Canyo**	**80.77**	**51**	⇓P		**P**	**P**	**00 42 36.9**	**+0.5**
	baz=81								
R20A	**Redvale**	**80.87**	**46**	⇑P		**P**	**P**	**00 42 37.3**	**+0.5**
	baz=81								
T21A	**Navajo Lake**	**80.88**	**47**	⇓P		**P**	**P**	**00 42 37.7**	**+0.8**
	baz=81								
326A	**Caldwell Ranch**	**80.95**	**54**	⇑P		**P**	**P**	**00 42 37.6**	**+0.3**
	baz=81								
Y24A	**Capitan**	**80.99**	**51**	⇑P		**P**	**P**	**00 42 37.5**	**0.0**
	baz=81,SNR=5.5								
125A	**Gardner Draw,**	**81.01**	**52**	⇓P		**P**	**P**	**00 42 38.2**	**+0.7**
	baz=81								
628A	**Black Gap, Mar**	**81.03**	**56**	⇓P		**P**	**P**	**00 42 38.3**	**+0.7**
	baz=81								
GDL2	**Guadalupe Moun**	**81.03**	**53**	*e*P		**P**	**P**	**00 42 38.7**	**+0.9**
	1.7nm,0.2s								
226B	**Tecolote Peak,**	**81.13**	**53**	⇓P		**P**	**P**	**00 42 37.9**	**-0.3**
	baz=81,SNR=5.1								
427A	**Hayter Ranch,**	**81.20**	**54**	⇓P		**P**	**P**	**00 42 39.0**	**+0.4**
	baz=81								
Z25A	**Roswell**	**81.24**	**52**	⇑P		**P**	**P**	**00 42 40.0**	**+1.2**
	baz=82								
V23A	**Ortiz Mt. (NFS**	**81.26**	**49**	⇑P		**P**	**P**	**00 42 40.0**	**+1.0**
	baz=82								
Q20A	**Ridgley Place,**	**81.30**	**45**	⇑P		**P**	**P**	**00 42 40.3**	**+1.3**
	baz=82								
528A	**Cox Ranch, San**	**81.39**	**55**	⇑P		**P**	**P**	**00 42 40.2**	**+0.6**
	baz=82								
126A	**Clayton Basin,**	**81.49**	**52**	⇓P		**P**	**P**	**00 42 40.5**	**+0.4**
	baz=82								
P20A	**De Beque**	**81.50**	**45**	⇑P		**P**	**P**	**00 42 41.2**	**+1.1**
	baz=82								
U23A	**El Rito**	**81.53**	**48**	⇓P		**P**	**P**	**00 42 41.1**	**+0.7**
	baz=82								
R21A	**Cimarron**	**81.53**	**46**	⇑P		**P**	**P**	**00 42 41.6**	**+1.2**
	baz=82								
Y25A	**Mesa, Roswell**	**81.54**	**51**	⇓P		**P**	**P**	**00 42 40.9**	**+0.5**
	baz=82								
RRI2	**Red Ridge**	**81.56**	**40**	*e*P		**P**	**P**	**00 42 40.9**	**+0.4**
	31nm,1.9s								
NJ2	**Nanjing**	**81.60**	**307**	*e*P		**P**	**P**	**00 42 42.5**	**+2.0**
NJ2					AMB	AMB	AMB		
	comp=Z,11nm,0.6s								
428A	**Kincaid Ranch,**	**81.71**	**55**	⇑P		**P**	**P**	**00 42 41.8**	**+0.5**
	baz=82								
S22A	**4UR Ranch, Cre**	**81.73**	**47**	⇓P		**P**	**P**	**00 42 42.2**	**+0.7**
	baz=82								
Z26A	**Caprock**	**81.79**	**52**	⇑P		**P**	**P**	**00 42 41.9**	**+0.2**
	baz=82								
529A	**Stev Forest Ra**	**81.83**	**55**	⇓P		**P**	**P**	**00 42 41.9**	**0.0**
	baz=82								
X25A	**Clemmons Ranch**	**81.83**	**51**	⇑P		**P**	**P**	**00 42 42.7**	**+0.8**
	baz=82								
REDW	**Red Top Meadow**	**81.86**	**40**	*e*P		**P**	**P**	**00 42 43.0**	**+1.0**
	20nm,1.6s								
DLMT	**Dillon**	**81.88**	**38**	*e*P		**P**	**P**	**00 42 43.0**	**+1.1**
	17nm,1.7s								
328A	**Wristen Ranch,**	**81.88**	**54**	⇑P		**P**	**P**	**00 42 42.4**	**+0.3**
	baz=82								
MSO	**Missoula**	**81.91**	**36**	*e*P		**P**	**P**	**00 42 43.1**	**+1.1**
	88nm,3.0s								
MSO	**Missoula**	**81.91**	**36**	⇑P		**P**	**P**	**00 42 43.8**	**+1.8**
	baz=82								
BSMT	**Bassoo Peak**	**82.02**	**35**	*e*P		**P**	**P**	**00 42 43.4**	**+0.7**
LOHW	**Long Hollow**	**82.15**	**40**	*e*P		**P**	**P**	**00 42 44.2**	**+0.7**
	13nm,1.6s								
Q22A	**Crested Butte,**	**82.20**	**46**	⇓P		**P**	**P**	**00 42 45.4**	**+1.5**
	baz=82								
W25A	**X Bar L Ranch,**	**82.28**	**50**	⇑P		**P**	**P**	**00 42 44.5**	**+0.2**
	baz=82								
429A	**Davenport Ranc**	**82.29**	**55**	⇓P		**P**	**P**	**00 42 44.5**	**+0.2**
	baz=82								
SMCO	**Snowmass**	**82.31**	**45**	*e*P		**P**	**P**	**00 42 45.4**	**+0.7**
	36nm,1.8s								
PDAR	**Pinedale Array**	**82.37**	**41**	P		**P**	**P**	**00 42 45.0**	**+0.4**
PDAR	**Pinedale Array**	**82.37**	**41**	P		**P**	**P**	**00 42 45.0**	**+0.4**
	0.3nm,0.5s,baz=226,slow=5.9,SNR=6.4								
V25A	**Rancho No Teng**	**82.44**	**49**	⇑P		**P**	**P**	**00 42 45.6**	**+0.4**
	baz=83								
329A	**Wagon Wheel Ra**	**82.57**	**54**	⇑P		**P**	**P**	**00 42 45.7**	**-0.1**
	baz=83								
128A	**Castleberry Fa**	**82.65**	**53**	⇑P		**P**	**P**	**00 42 46.4**	**+0.2**
	baz=83								
S24A	**Houchin Ranch,**	**82.82**	**47**	⇑P		**P**	**P**	**00 42 47.4**	**+0.2**
	baz=83								
U25A	**Circle Dot Ran**	**82.84**	**49**	⇑P		**P**	**P**	**00 42 47.5**	**+0.3**
	baz=83								
631A	**Perdido Creek**	**82.85**	**57**	⇓P		**P**	**P**	**00 42 47.5**	**+0.3**
	baz=83								
J19A	**Crowheart**	**82.94**	**41**	⇑P		**P**	**P**	**00 42 48.8**	**+1.3**
	baz=83								
Z28A	**Tucker Farm, M**	**83.00**	**52**	⇑P		**P**	**P**	**00 42 48.5**	**+0.4**
	baz=83								
V26A	**Tequesquite Ra**	**83.03**	**50**	⇑P		**P**	**P**	**00 42 49.1**	**+1.0**
	baz=83								
O22A	**Kremmling**	**83.06**	**45**	⇓P		**P**	**P**	**00 42 49.1**	**+0.7**
	baz=83								
R24A	**Sanders Place,**	**83.16**	**47**	⇑P		**P**	**P**	**00 42 49.0**	**+0.1**
	baz=83								
531A	**Rocksprings**	**83.17**	**56**	⇓P		**P**	**P**	**00 42 49.0**	**+0.1**
	baz=83								
M21A	**Separation Pea**	**83.21**	**43**	⇑P		**P**	**P**	**00 42 50.4**	**+1.3**
	baz=84								
W27A	**Bowe Ranch, En**	**83.25**	**51**	⇑P		**P**	**P**	**00 42 49.5**	**+0.2**
	baz=84								
ILAR	**Eielson Array**	**83.27**	**11**	P		**P**	**P**	**00 42 49.3**	**+0.8**
ILAR	**Eielson Array**	**83.27**	**11**	P		**P**	**P**	**00 42 49.3**	**+0.8**
	0.7nm,0.7s,baz=210,slow=5.2,SNR=7.3								
ILAR				LR		LR	LR	01 13 55.0	
	comp=Z,34nm,21.4s,baz=201,slow=31								
**U

KMI				AMB	AMB		
	comp=Z,9.0nm,0.5s						
KMI				LR	LR		
	comp=Z,72nm,29.1s						
CD2	**Chengdu**	**93.21**	**301**	P	**P**	**00 43 38.0**	**+0.8**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
LZH	**Lanzhou**	**94.65**	**306**	*e*P	**P**	**00 43 46.7**	**+2.8**
LZH				pP	**pP**	**00 43 50.2**	**-1.6**
LZH				sP	**sP**	**00 43 52.1**	**-2.5**
LZH				AMB	AMB		
	comp=Z,13nm,1.0s						
MKAR	**Makanchi Array**	**112.27**	**314**	PKiKP	**PKiKP**	**00 48 58.6**	**+0.4**
MKAR	**Makanchi Array**	**112.27**	**314**	PKiKP	**PKiKP**	**00 48 58.6**	**+0.4**
	0.3nm,0.6s,baz=64,slow=3.4,SNR=3.0						
FINES	**FINESS Array B**	**133.17**	**348**	PKP	**PKPdf**	**00 49 39.5**	**+1.8**
FINES	**FINESS Array B**	**133.17**	**348**	PKP	**PKPdf**	**00 49 39.5**	**+1.8**
	1.8nm,0.8s,baz=1.9,slow=4.2,SNR=5.9						
KWP	**Kalwaria Pacla**	**144.71**	**343**	⇑*i*P	**PKPdf**	**00 50 00.0**	**+0.9**
KWP	**Kalwaria Pacla**	**144.71**	**343**	*e*PKP	**PKPdf**	**00 49 59.7**	**+0.6**
CLL	**Collm**	**144.95**	**354**	*e*PKPdf	PKPbc	00 49 59.0	+0.3
	comp=Z,7.0nm,1.0s						
BRG	**Berggiesshubel**	**145.28**	**353**	*e*PKP	**PKPdf**	**00 50 00.3**	**+0.3**
	comp=Z,24nm,1.8s						
BRG				*e*		00 50 10.2	
	comp=Z,6.2nm,1.4s						
STHS	**Stebnicka Huta**	**145.30**	**344**	*e*PKP	**PKPdf**	**00 50 01.4**	**+1.3**
MALT	**Malatya**	**145.31**	**315**	⇑*i*P	**PKPdf**	**00 50 03.3**	**+2.7**
UPC	**Upice**	**145.36**	**351**	*e*PKP	**PKPdf**	**00 50 01.8**	**+1.6**
DPC	**Dobruska-Polom**	**145.46**	**350**	*e*PKP	**PKPab**	**00 50 02.5**	**+1.9**
KOLS	**Kolonicke sedl**	**145.46**	**343**	*e*PKP	**PKPab**	**00 50 00.6**	**0.0**
NIE	**Niedzica**	**145.53**	**345**	*e*PKP	**PKPab**	**00 50 02.0**	**+1.1**
PVCC	**Panska Ves**	**145.54**	**352**	*e*PKP	**PKPab**	**00 50 03.0**	**+2.2**
OKC	**Ostrava-Krasne**	**145.62**	**348**	*e*PKP	**PKPab**	**00 50 02.8**	**+1.7**
KRLC	**Kraliky**	**145.65**	**350**	*e*PKP	**PKPab**	**00 50 02.5**	**+1.2**
BEBN	**Eben Emael**	**145.69**	**2**	PKP	**PKPab**	**00 50 02.9**	**+1.6**
BURAR	**Bucovina Array**	**145.70**	**339**	⇑*i*P	**PKPab**	**00 50 04.0**	**+2.3**
CRVS	**Cervenica-Dubn**	**145.72**	**344**	*e*PKP	**PKPab**	**00 50 03.2**	**+1.6**
MORC	**Moravsky Berou**	**145.79**	**349**	*e*PKP	**PKPbc**	**00 50 01.6**	**+0.1**
MEM	**Membach**	**145.89**	**2**	PKP	**PKPab**	**00 50 03.3**	**+1.2**
SNF	**Seneffe**	**145.91**	**4**	PKP	**PKPab**	**00 50 05.2**	**+3.0**
KMBO	**Kilima Mbogo**	**145.97**	**242**	*e*PKP	**PKPdf**	**00 50 02.4**	**-0.3**
KMBO				PKPbc	**PKPab**	**00 50 04.2**	**+0.3**
KMBO	**Kilima Mbogo**	**145.97**	**242**	PKPbc	**PKPab**	**00 50 04.2**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=119,slow=2.9,SNR=9.6						
PRU	**Pruhonice**	**146.07**	**352**	*e*PKP	**PKPab**	**00 50 03.7**	**+0.9**
PRU				*ex*	x	00 50 12.4	
TESR	**Tescani**	**146.11**	**336**	⇑*i*P	**PKPdf**	**00 50 01.1**	**-0.5**
TRPA	**Tarpa**	**146.11**	**342**	⇑*i*P	**PKPab**	**00 50 04.3**	**+1.3**
GHRR		**146.18**	**335**	⇑*i*P	**PKPab**	**00 50 05.4**	**+2.1**
DOU	**Dourbes**	**146.34**	**4**	PKP	**PKPab**	**00 50 04.8**	**+1.0**
KECS	**Kecovo**	**146.36**	**345**	*e*PKP	**PKPab**	**00 50 04.8**	**+0.8**
CFR	**Carcaliu**	**146.58**	**333**	⇑*i*P	**PKPab**	**00 50 06.1**	**+1.2**
VRI	**Vrincioaia**	**146.61**	**335**	⇑*i*P	**PKPab**	**00 50 06.2**	**+1.1**
TREC	**Trest**	**146.62**	**351**	*e*PKP	**PKPab**	**00 50 05.7**	**+0.7**
PLOR	**Plostina**	**146.65**	**336**	⇑*i*P	**PKPbc**	**00 50 04.4**	**+0.2**
WLF	**Walferdange**	**146.84**	**2**	PKP	**PKPbc**	**00 50 03.7**	**-0.8**
PSZ	**Piszkesteto**	**147.03**	**345**	*e*PKP	**PKPdf**	**00 50 03.2**	**0.0**
KHC	**Kasperske Hory**	**147.04**	**353**	*e*PKP	**PKPab**	**00 50 06.6**	**-0.1**
KHC	**Kasperske Hory**	**147.04**	**353**	*e*PKP	**PKPdf**	**00 50 03.7**	**+0.6**
GERES	**GERESS Array B**	**147.31**	**353**	PKPbc	**PKPab**	**00 50 07.0**	**-0.8**
GERES	**GERESS Array B**	**147.31**	**353**	PKPbc	**PKPab**	**00 50 07.0**	**-0.8**
	comp=Z,1.9nm,0.9s,baz=20,slow=3.1,SNR=14						
BRTR	**Keskin Array B**	**147.60**	**321**	PKPbc	**PKPab**	**00 50 08.8**	**-0.6**
BRTR	**Keskin Array B**	**147.60**	**321**	PKPbc	**PKPab**	**00 50 08.8**	**-0.6**
	comp=Z,2.7nm,0.8s,baz=116,slow=3.4,SNR=13						
VOIR		**147.62**	**337**	⇑*i*P	**PKPab**	**00 50 09.3**	**+0.2**
ARR	**Arges**	**147.83**	**337**	⇓*i*P	**PKPab**	**00 50 10.1**	**+0.2**
CONA	**Conrad Observa**	**147.88**	**350**	⇓*i*PKiKP	**PKiKP**	**00 50 09.6**	**+0.1**
	comp=Z,18nm,1.5s,SNR=9.8						
ANTO	**Ankara**	**148.01**	**322**	⇑*i*P	**PKPab**	**00 50 09.7**	**-1.2**
BFO	**Black Forest**	**148.19**	**359**	*e*PKPdf	**PKPdf**	**00 50 04.7**	**-0.3**
BZS	**Buzias**	**148.65**	**341**	⇓*i*P	**PKPbc**	**00 50 11.2**	**+1.7**
RETA	**Reutte**	**148.93**	**356**	*i* PKiKP	**PKiKP**	**00 50 12.0**	**+0.3**
	comp=Z,16nm,1.6s,SNR=8.8						
ASF	**Jabal al Asfar**	**149.22**	**306**	PKPbc	**PKPbc**	**00 50 13.4**	**+1.8**
ASF	**Jabal al Asfar**	**149.22**	**306**	PKPbc	**PKPbc**	**00 50 13.4**	**+1.8**
	comp=Z,0.9nm,0.7s,baz=76,slow=5.7,SNR=6.6						
SOKA	**Soboth**	**149.23**	**350**	*i* PKiKP	**PKiKP**	**00 50 12.3**	**0.0**
	comp=Z,15nm,1.6s,SNR=8.9						
FETA	**Feichten**	**149.40**	**356**	⇑*i*PKiKP	**PKiKP**	**00 50 12.6**	**-0.1**
	comp=Z,13nm,1.4s,SNR=6.6						
ABTA	**Abfaltersbach**	**149.51**	**353**	⇑*i*PKiKP	**PKiKP**	**00 50 12.8**	**-0.1**
	comp=Z,13nm,1.3s						
TUE	**Stuetta**	**150.02**	**358**	*e*PKPdf	**PKPdf**	**00 50 07.6**	**-0.7**
TUE				*e*PKPbc	**PKiKP**	**00 50 14.8**	**+0.7**
TUE	**Vitosha**	**150.73**	**336**	⇑*i*P	**PKPbc**	**00 50 16.8**	**+1.8**
BNI	**Bardonecchia**	**151.46**	**1**	*e*PKPdf	**PKPdf**	**00 50 11.3**	**+0.8**
TORD	**Torodi Ar. Bea**	**173.37**	**119**	PKP	**PKPdf**	**00 50 31.1**	**-1.6**
TORD				PKPab	**PKPab**	**00 51 58.9**	**-2.2**
TORD	**Torodi Ar. Bea**	**173.37**	**119**	PKP	**PKPdf**	**00 50 31.1**	**-1.6**
	comp=Z,1.6nm,1.2s,baz=306,slow=1.3,SNR=4.4						
TORD				PKPab	**PKPab**	**00 51 58.9**	**-2.2**
	comp=Z,2.4nm,1.0s,baz=263,slow=5.2,SNR=8.4						

DDA ***01*** *00:35:58.4, 40.39N×34.82E, h10km, MD3.4, ML3.6*
ISK ***01*** *00:35:58.2, 40.42N×34.84E, h5km, MD3.3*
CSEM ***01*** *00:35:59.4±0.1, 40.44N×34.82E, h2km, ML3.6, Error ellipse: s-maj=3.2km s-min=2.9km az=176.0*

ISC 01 00:35:58.8±1.0, **40.41**N±0.02×**34.83E**±0.02, **h7**km±9km, **n80**, σ**1**s**25**/103, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTKT	**Corum**	**0.21**	**351**	*i* P	**Pg**	**00 36 03.9**	**+0.8**
CTKT				*i* S	**Sg**	**00 36 05.6**	**-0.4**
CTKT	**Corum**	**0.21**	**351**	*i* P	**Pg**	**00 36 03.9**	**+0.8**
CTKT				*i* S	**Sg**	**00 36 05.6**	**-0.4**
CORM	**Corum**	**0.28**	**213**	PG	**Pb**	**00 36 05.0**	**-1.2**
CORM				SG	**Sb**	**00 36 10.4**	**-0.8**
CORM	**Corum**	**0.28**	**213**	*i* Pg	**Pb**	**00 36 05.0**	**-1.2**
YOZ	**Yozgat**	**0.86**	**154**	*e*PG	**Pb**	**00 36 15.3**	**-0.7**
YOZ	**Yozgat**	**0.86**	**154**	*e*Pg	**Pb**	**00 36 15.3**	**-0.7**
CDAG	**Cicekdag**	**0.86**	**204**	*i* P	**Pg**	**00 36 15.2**	**-0.2**
CDAG				*i* S	**Sg**	**00 36 26.9**	**+0.3**
CDAG	**Cicekdag**	**0.86**	**204**	*i* P	**Pg**	**00 36 15.2**	**-0.2**
CDAG				*i* S	**Sg**	**00 36 26.9**	**+0.3**
TOS	**Tosya**	**0.88**	**316**	*e*PG	**Pb**	**00 36 15.9**	**-0.4**
TOS	**Tosya**	**0.88**	**316**	*e*Pg	**Pb**	**00 36 15.9**	**-0.4**
CANT	**Cankiri**	**0.94**	**282**	*e*PG	**Pb**	**00 36 16.9**	**-0.6**
HAVZ	**Havza**	**0.94**	**45**	*i* P	**Pb**	**00 36 16.8**	**-0.7**
HAVZ				*i* S	**Sn**	**00 36 31.2**	**-1.0**
HAVZ	**Havza**	**0.94**	**45**	*i* P	**Pb**	**00 36 16.8**	**-0.7**
HAVZ				*i* S	**Sn**	**00 36 31.2**	**-1.0**
BOYT	**Boyabat**	**1.01**	**3**	*i* P	**Pb**	**00 36 18.1**	**-0.5**
BOYT				*i* S	**Sb**	**00 36 31.2**	**-0.8**
BOYT	**Boyabat**	**1.01**	**3**	*i* P	**Pb**	**00 36 18.1**	**-0.5**
BOYT				*i* S	**Sb**	**00 36 31.2**	**-0.8**
BYBT	**Boyabat**	**1.06**	**357**	*e*PG	**Pn**	**00 36 19.5**	**-0.4**
BYBT	**Boyabat**	**1.06**	**357**	*e*Pg	**Pn**	**00 36 19.5**	**-0.4**
ILGA	**Ilgaz**	**1.06**	**307**	*i* P	**Pb**	**00 36 19.1**	**-0.5**
ILGA				*i* S	**Sb**	**00 36 33.8**	**+0.1**
ILGA	**Ilgaz**	**1.06**	**307**	*i* P	**Pb**	**00 36 19.1**	**-0.5**
ILGA				*i* S	**Sb**	**00 36 33.8**	**+0.1**
ELDT	**Eldivan**	**1.07**	**275**	*i* P	**Pg**	**00 36 19.0**	**-0.4**
ELDT				*i* S	**Sb**	**00 36 33.7**	**-0.4**
ELDT	**Eldivan**	**1.07**	**275**	*i* P	**Pg**	**00 36 19.0**	**-0.4**
ELDT				*i* S	**Sb**	**00 36 33.7**	**-0.4**
KVT	**Kavak**	**1.14**	**54**	*e*PN	**Pb**	**00 36 20.3**	**-0.5**
KVT	**Kavak**	**1.14**	**54**	*e*Pn	**Pb**	**00 36 20.3**	**-0.5**
TOKA	**Tokat**	**1.26**	**94**	*i* P	**Pg**	**00 36 22.1**	**-0.9**
TOKA				*i* S	**Sn**	**00 36 40.5**	**+0.5**
TOKA	**Tokat**	**1.26**	**94**	*i* P	**Pg**	**00 36 22.1**	**-0.9**
TOKA				*i* S	**Sn**	**00 36 40.5**	**+0.5**
DIKM	**Dikmen**	**1.28**	**14**	*e*PN	**Pn**	**00 36 23.4**	**+0.4**
DIKM	**Dikmen**	**1.28**	**14**	*e*Pn	**Pn**	**00 36 23.4**	**+0.4**
TOKT	**Tokat**	**1.31**	**93**	*e*PN	**Pg**	**00 36 24.2**	**+0.3**
TOKT	**Tokat**	**1.31**	**93**	*e*Pn	**Pg**	**00 36 24.2**	**+0.3**
ERBA	**Erbaa**	**1.49**	**79**	*i* P	**Pb**	**00 36 26.1**	**-0.7**
ERBA				*i* S	**Sg**	**00 36 46.9**	**+0.3**
ERBA	**Erbaa**	**1.49**	**79**	*i* P	**Pb**	**00 36 26.1**	**-0.7**
ERBA				*i* S	**Sg**	**00 36 46.9**	**+0.3**
BBAL	**Bala**	**1.57**	**237**	*i* P	**Pn**	**00 36 27.4**	**+0.2**
BBAL				*i* S	**Sg**	**00 36 49.7**	**+0.3**
BBAL	**Bala**	**1.57**	**237**	*i* P	**Pn**	**00 36 27.4**	**+0.2**
BBAL				*i* S	**Sg**	**00 36 49.7**	**+0.3**
AVNT	**Avonos**	**1.63**	**179**	*i* P	**Pb**	**00 36 29.0**	**-0.2**
AVNT				*i* S	**Sg**	**00 36 51.0**	**-0.2**
AVNT	**Avonos**	**1.63**	**179**	*i* P	**Pb**	**00 36 29.0**	**-0.2**
AVNT				*i* S	**Sg**	**00 36 51.0**	**-0.2**

ANTO	**Ankara**	**1.65**	**251**	*e*PN	**Pg**	**00 36 30.2**	**-0.3**
ANTO	**Ankara**	**1.65**	**251**	*e*Pn	**Pg**	**00 36 30.2**	**-0.3**
AFSR	**Afar-Bala (A**	**1.66**	**235**	*e*PN	**Pb**	**00 36 29.8**	**0.0**
AFSR	**Afar-Bala (A**	**1.66**	**235**	*e*Pn	**Pb**	**00 36 29.8**	**0.0**
BZK	**Bozkurt**	**1.67**	**338**	*e*PN	**Pg**	**00 36 29.9**	**-0.8**
BZK	**Bozkurt**	**1.67**	**338**	*e*Pn	**Pg**	**00 36 29.9**	**-0.8**
SVSK	**Karacayir**	**1.73**	**106**	*e*PN	**Pg**	**00 36 30.8**	**-1.2**
SVSK	**Karacayir**	**1.73**	**106**	*e*Pn	**Pg**	**00 36 30.8**	**-1.2**
BNN	**Bunyan**	**1.74**	**153**	*e*PN	**Pg**	**00 36 31.9**	**-0.3**
BNN	**Bunyan**	**1.74**	**153**	*e*Pn	**Pg**	**00 36 31.9**	**-0.3**
SCER	**sogukcermik**	**1.84**	**107**	*i* P	**Pb**	**00 36 32.4**	**-0.5**
SCER				*i* S	**Sg**	**00 36 58.6**	**+0.6**
SCER	**sogukcermik**	**1.84**	**107**	*i* P	**Pb**	**00 36 32.4**	**-0.5**
SCER				*i* S	**Sg**	**00 36 58.6**	**+0.6**
RSDY	**Resadiye-TOKAT**	**1.91**	**90**	*e*PN	**Pb**	**00 36 33.4**	**-0.4**
RSDY	**Resadiye-TOKAT**	**1.91**	**90**	*e*Pn	**Pb**	**00 36 33.4**	**-0.4**
PINB	**Pinarbasi**	**2.12**	**144**	*i* P	**Pb**	**00 36 37.0**	**-0.6**
PINB				*i* S	**Sg**	**00 37 05.9**	**-0.9**
PINB	**Pinarbasi**	**2.12**	**144**	*i* P	**Pb**	**00 36 37.0**	**-0.6**
PINB				*i* S	**Sg**	**00 37 05.9**	**-0.9**
NIG	**Nigde**	**2.31**	**184**	*e*PN	**Pb**	**00 36 38.9**	**-1.9**
NIG	**Nigde**	**2.31**	**184**	*e*Pn	**Pb**	**00 36 38.9**	**-1.9**
SULT	**Sultanhani-AKS**	**2.44**	**205**	*e*PN	**Pb**	**00 36 41.1**	**-1.8**
SULT	**Sultanhani-AKS**	**2.44**	**205**	*e*Pn	**Pb**	**00 36 41.1**	**-1.8**
KIZT	**Kizilcal**	**2.75**	**237**	*e*PN	**Pn**	**00 36 45.1**	**+1.8**
KIZT	**Kizilcal**	**2.75**	**237**	*e*Pn	**Pn**	**00 36 45.1**	**+1.8**
DARE	**Darende-Malaty**	**2.75**	**131**	*e*PN	**Pb**	**00 36 46.1**	**-2.2**
MDUB	**Mudurnu**	**2.77**	**272**	*e*PN	**Pn**	**00 36 45.7**	**+2.0**
MDUB	**Mudurnu**	**2.77**	**272**	*e*Pn	**Pn**	**00 36 45.7**	**+2.0**
ESPY	**Espiye-Giresun**	**3.01**	**79**	*e*PN	**Pn**	**00 36 48.5**	**+1.7**
ESPY	**Espiye-Giresun**	**3.01**	**79**	*e*Pn	**Pn**	**00 36 48.5**	**+1.7**
ILIC	**ilic-Erzincan**	**3.03**	**107**	*e*PN	**Pn**	**00 36 49.3**	**+2.1**
ILIC	**ilic-Erzincan**	**3.03**	**107**	*e*Pn	**Pn**	**00 36 49.3**	**+2.1**
KOZT	**Kozan**	**3.03**	**165**	*e*PN	**Pn**	**00 36 50.1**	**-2.9**
KOZT	**Kozan**	**3.03**	**165**	*e*Pn	**Pn**	**00 36 50.1**	**-2.9**
KONT	**Konya--Tatoy**	**3.12**	**219**	*e*PN	**Pn**	**00 36 50.5**	**+2.1**
KONT	**Konya--Tatoy**	**3.12**	**219**	*e*Pn	**Pn**	**00 36 50.5**	**+2.1**
KARA	**Karaisali**	**3.15**	**177**	*e*PN	**Pn**	**00 36 50.9**	**+2.1**
KARA	**Karaisali**	**3.15**	**177**	*e*Pn	**Pn**	**00 36 50.9**	**+2.1**
GULT	**Gulveren**	**3.29**	**272**	*e*PN	Pn	00 36 53.6	+2.8
GULT	**Gulveren**	**3.29**	**272**	*e*Pn	Pn	00 36 53.6	+2.8
MALT	**Malatya**	**3.49**	**126**	*e*PN	**Pn**	**00 36 55.9**	**+2.4**
MALT	**Malatya**	**3.49**	**126**	*e*Pn	**Pn**	**00 36 55.9**	**+2.4**
GUMT	**Gumushane**	**3.55**	**88**	*e*PN	**Pn**	**00 36 56.4**	**+2.1**
GUMT	**Gumushane**	**3.55**	**88**	*e*Pn	**Pn**	**00 36 56.4**	**+2.1**
PTK	**Pertek**	**3.83**	**112**	*e*PN	**Pn**	**00 37 00.8**	**+2.5**
PTK	**Pertek**	**3.83**	**112**	*e*Pn	**Pn**	**00 37 00.8**	**+2.5**
HDMB	**Hadim**	**3.90**	**209**	*e*PN	**Pn**	**00 37 02.0**	**+2.7**
HDMB	**Hadim**	**3.90**	**209**	*e*Pn	**Pn**	**00 37 02.0**	**+2.7**

IDC 01 00:46:54.5±1.0, **16.84S**×**172.34W**, **h0**km, **mb3.8**/5, **mb1 4.1**/6, **mb1mx3.9**/20, **mbtmp3.8**/6, **ML1.8**/1, **MS3.4**/1, **Ms1 3.4**/1, **ms1mx2.8**/31, **Error ellipse: s-maj=47.8km s-min=20.6km az=144.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.96**	**11**	Pn	Pn	00 47 41.3	-1.6
	8.1nm,0.3s,baz=287,slow=20,SNR=2.2						
AFI				Sn	Sn	00 48 07.6	-12
	29nm,0.3s,baz=9.0,slow=19,SNR=5.5						
URZ	**Urewera**	**23.27**	**201**	P	P	00 52 07.7	+4.0
	8.7nm,0.8s,baz=281,slow=5.2,SNR=3.2						
HNR	**Honiara**	**27.95**	**282**	LR	LR	01 02 10.2	
	comp=Z,74nm,19.1s,baz=161,slow=33						
H11S2	**WAKE ISLAND Hy**	**40.71**	**329**	T	T	01 36 56.8	
	baz=159						
H11S3	**WAKE ISLAND Hy**	**40.73**	**329**	T	T	01 36 57.9	
	baz=159						
H11S1	**WAKE ISLAND Hy**	**40.73**	**329**	T	T	01 36 57.2	
	baz=159						
H11N3	**WAKE ISLAND Hy**	**41.66**	**330**	T	T	01 38 10.7	
	baz=152,slow=0.7,SNR=5.1						
H11N1	**WAKE ISLAND Hy**	**41.66**	**330**	T	T	01 38 08.6	
	baz=152,slow=0.7,SNR=4.6						
H11N2	**WAKE ISLAND Hy**	**41.67**	**330**	T	T	01 38 12.8	
	baz=152,slow=0.7,SNR=3.8						
STKA	**Stephens Creek**	**44.23**	**241**	P	P	00 55 05.2	-0.6
	2.3nm,0.9s,baz=80,slow=10,SNR=3.9						
WRA	**Warramunga Arr**	**50.53**	**258**	P	P	00 55 54.5	-0.5
	0.9nm,0.4s,baz=96,slow=7.2,SNR=12						
ASAR	**Alice Springs**	**50.65**	**253**	P	P	00 55 56.0	+0.1
	12nm,0.6s,baz=87,slow=8.8,SNR=116						
NVAR	**Mina Array Bea**	**74.72**	**41**	P	P	00 58 36.5	-0.1
	0.8nm,0.8s,baz=244,slow=7.9,SNR=3.5						
TXAR	**Lajitas Array**	**80.57**	**56**	P	P	00 59 09.6	+0.3
	0.2nm,0.8s,baz=218,slow=5.6,SNR=3.9						
ILAR	**Eielson Array**	**83.65**	**11**	P	P	00 59 24.6	0.0
	0.3nm,0.9s,baz=224,slow=5.9,SNR=4.0						
GERES	**GERESS Array B**	**147.70**	**353**	PKPbc	PKPbc	01 06 40.8	-0.5
	0.1nm,0.3s,baz=308,slow=2.4,SNR=3.9						
BRTR	**Keskin Array B**	**147.91**	**321**	PKPbc	PKPbc	01 06 42.5	+0.3
	1.1nm,0.8s,baz=124,slow=2.3,SNR=5.2						
DAVOX	**Davos/Dischmat**	**150.08**	**357**	PKPbc	PKPbc	01 06 47.4	-0.1
	1.9nm,0.6s,baz=240,slow=8.1,SNR=4.5						
TORD	**Torodi Ar. Bea**	**173.17**	**122**	PKPab	PKPab	01 08 33.1	-1.1
	0.4nm,0.9s,baz=219,slow=1.8,SNR=2.3						

IDC 01 00:48:51.7±2.6, **6.66S**×**151.01E**, **h0**km, **mb3.4**/3, **mb1 3.8**/3, **mb1mx3.4**/17, **mbtmp3.5**/3, **MS3.4**/2, **Ms1 3.4**/2, **ms1mx3.0**/22, **Error ellipse: s-maj=152.3km s-min=30.4km az=135.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.69**	**234**	Sn	Sn	00 50 58.9	0.0
	2.2nm,0.3s,baz=343,slow=20,SNR=4.5						
PMG				LR	LR	00 51 36.2	
	comp=Z,183nm,20.2s,baz=102,slow=35						
WRA	**Warramunga Arr**	**20.89**	**229**	P	P	00 53 35.1	-0.6
	0.6nm,0.6s,baz=54,slow=11,SNR=4.6						
FITZ	**Fitzroy Crossi**	**27.22**	**243**	P	P	00 54 37.0	-0.6
	0.5nm,0.4s,baz=55,slow=12,SNR=3.2						
PSI	**Prapat**	**52.84**	**279**	LR	LR	01 20 39.7	
	comp=Z,71nm,19.1s,baz=194,slow=36						
ILAR	**Eielson Array**	**84.55**	**22**	P	P	01 01 25.5	-0.9
	0.2nm,0.6s,baz=248,slow=5.1,SNR=3.8						
TORD	**Torodi Ar. Bea**	**149.12**	**284**	PKPbc	PKPbc	01 08 44.4	+1.3
	0.1nm,0.4s,baz=52,slow=2.1,SNR=3.3						

IDC 01 00:49:18.6±1.6, **1.63S**×**99.32E**, **h0**km, **mb3.9**/8, **mb1 4.0**/10, **mb1mx3.8**/24, **mbtmp3.9**/10, **ML4.1**/2, **MS3.4**/2, **Ms1 3.4**/2, **ms1mx2.9**/39, **Error ellipse: s-maj=55.6km s-min=20.2km az=59.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**4.42**	**355**	Pn	Pn	00 50 26.9	-0.2
	1.4nm,0.3s,baz=161,slow=14,SNR=2.6						
PSI				LR	LR	00 52 19.2	
	comp=Z,199nm,19.1s,baz=338,slow=42						
CMAR	**Chiang Mai Arr**	**19.96**	**359**	P	P	00 53 52.5	-0.1
	0.9nm,0.3s,baz=185,slow=9.9,SNR=8.1						
H08S2	**Diego Garcia H**	**27.38**	**257**	T	T	01 23 09.9	
	baz=77,slow=0.7,SNR=286						
H08S3	**Diego Garcia H**	**27.39**	**257**	T	T	01 23 10.4	
	baz=77,slow=0.7,SNR=284						
H08S1	**Diego Garcia H**	**27.40**	**257**	T	T	01 23 09.2	
	baz=77,slow=0.7,SNR=214						
H01W3	**Cape Leeuwin H**	**35.85**	**159**	T	T	01 34 19.5	
	baz=336,slow=0.7,SNR=9.3						
H01W2	**Cape Leeuwin H**	**35.87**	**159**	T	T	01 34 20.5	
	baz=336,slow=0.7,SNR=10						
H01W1	**Cape Leeuwin H**	**35.87**	**159**	T	T	01 34 18.7	
	baz=336,slow=0.7,SNR=7.2						
WRA	**Warramunga Arr**	**38.77**	**120**	P	P	00 56 45.2	-0.1
	1.0nm,0.8s,baz=300,slow=9.0,SNR=7.1						
ASAR	**Alice Springs**	**40.02**	**126**	P	P	00 56 55.6	-0.1
	0.6nm,0.8s,baz=303,slow=8.4,SNR=3.1						
KSRS	**Korea Array**	**47.06**	**31**	P	P	00 57 51.5	-0.6
	0.7nm,0.5s,baz=220,slow=8.9,SNR=4.1						
SONM	**Songino Array**	**49.65**	**6**	P	P	00 58 11.9	-0.3
	0.7nm,0.8s,baz=188,slow=8.7,SNR=5.5						
SONM				PcP	PcP	00 59 33.5	-0.1
	0.5nm,0.7s,baz=178,slow=3.0,SNR=2.9						
SONM				LR	LR	01 21 19.5	
	comp=Z,76nm,19.9s,baz=282,slow=39						
MKAR	**Makanchi Array**	**50.49**	**345**	P	P	00 58 18.6	+0.1
	1.2nm,0.6s,baz=148,slow=8.1,SNR=13						
USRK	**Ussuriysk Arra**	**54.16**	**29**	P	P	00 58 45.5	-0.2
	1.9nm,0.7s,baz=229,slow=6.3,SNR=5.2						

ZALV	**Zalesovo Beam**	**56.68**	**350**	P	P	00 59 03.4	-0.3
	2.1nm,0.6s,baz=167,slow=7.6,SNR=8.2						
FINES	**FINESS Array B**	**83.47**	**332**	P	P	01 01 47.5	-0.4
	3.6nm,1.1s,baz=90,slow=3.8,SNR=3.6						
TXAR	**Lajitas Array**	**144.82**	**36**	PKP	PKPdf	01 08 58.4	-0.2
	1.0nm,0.7s,baz=266,slow=1.4,SNR=11						

IDC 01 01:01:19.0±1.4, **5.11N**×**127.00E**, **h0**km, **mb3.8**/6, **mb1 4.0**/6, **mb1mx3.7**/23, **mbtmp3.8**/6, **Error ellipse: s-maj=119.4km s-min=19.0km az=71.0, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**23.11**	**183**	P	P	01 06 27.1	+0.4
	3.0nm,0.8s,baz=353,slow=12,SNR=4.2						
WRA	**Warramunga Arr**	**25.92**	**164**	P	P	01 06 53.1	0.0
	4.0nm,0.8s,baz=344,slow=10,SNR=12						
ASAR	**Alice Springs**	**29.39**	**167**	P	P	01 07 24.2	+0.1
	0.2nm,0.4s,baz=355,slow=10,SNR=3.4						
STKA	**Stephens Creek**	**39.32**	**160**	P	P	01 08 49.5	-0.5
	3.1nm,1.0s,baz=326,slow=6.9,SNR=2.7						
SONM	**Songino Array**	**46.09**	**341**	P	P	01 09 45.4	+0.5
	0.4nm,0.7s,baz=159,slow=8.5,SNR=4.0						
MKAR	**Makanchi Array**	**56.59**	**325**	P	P	01 11 03.2	-0.5
	0.8nm,0.7s,baz=127,slow=7.7,SNR=7.1						
TORD	**Torodi Ar.

DCZ				AML	AML	01 25 32.9		
DCZ				AML	AML	01 25 33.5		
WHZ	**Wether Hill Ro**	**1.35**	**82**	PN	Pn	01 25 24.9	+0.5	
WHZ				SN	Sn	01 25 42.1	+0.8	
WHZ				AML	AML	01 25 47.8		
APZ	**The Paps**	**1.54**	**119**	PN	Pn	01 25 26.6	-0.4	
MLZ	**Mavora Lakes**	**1.67**	**64**	PN	Pn	01 25 29.9	+1.0	
MLZ				SN	Sb	01 25 51.1	-1.3	
MLZ				AML	AML	01 25 56.6		
MSZ	**Milford Sound**	**1.95**	**44**	PN	Pn	01 25 33.6	+1.0	
MSZ				AML	AML	01 26 10.5		
MSZ				AML	AML	01 26 11.3		
MSZ				AML	AML	01 26 11.4		
MSZ				AML	AML	01 26 13.7		
SYZ	**Scrubby Hill**	**2.19**	**103**	PN	Pn	01 25 36.6	+0.7	
SYZ				SN	Sn	01 26 03.1	+1.0	
EAZ	**Earnscleugh**	**2.45**	**71**	AML	AML	01 26 15.7		
EAZ				AML	AML	01 26 15.7		
EAZ				AML	AML	01 26 29.3		
WKZ	**Wanaka**	**2.45**	**60**	PN	Pb	01 25 42.7	-2.2	
WKZ				SN	Sn	01 26 08.6	0.0	
WKZ				AML	AML	01 26 32.5		
TUZ	**Tuapeka**	**2.51**	**88**	PN	Pn	01 25 41.9	+1.6	
TUZ				AML	AML	01 26 17.0		
TUZ				AML	AML	01 26 19.0		
JCZ	**Jackson Bay**	**2.79**	**45**	PN	Pn	01 25 46.8	+2.5	
JCZ				AML	AML	01 26 38.7		
JCZ				AML	AML	01 26 39.4		
LBZ	**Lake Benmore**	**3.39**	**61**	PN	Pn	01 25 53.6	+1.1	
LBZ				AML	AML	01 26 53.8		
LBZ				AML	AML	01 27 02.3		
ODZ	**Otahua Downs**	**3.40**	**74**	PN	Pn	01 25 52.9	+0.3	
FOZ	**Fox Glacier**	**3.63**	**47**	PN	Pn	01 25 58.5	+2.9	
RPZ	**Rata Peaks**	**4.29**	**58**	PN	Pn	01 26 05.2	+0.4	
RPZ				AML	AML	01 27 30.6		

CASC 01 01:28:29.6±2.9, 13°.65N×89°.72W, h144^{km}±20^{km}, MD4.1, 2C-2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**0.21**	**27**	*eP*	Pn	01 28 50.0	+0.5
SNJE	**San Jose**	**0.24**	**27**	*eP*	Pn	01 28 50.1	+0.6
RTR	**El Retiro**	**0.26**	**16**	*eP*	Pn	01 28 49.9	+0.3
BOQS	**Boqueron**	**0.44**	**79**	*eP*	Pn	01 28 50.8	+0.5
RBDL	**Robledal**	**0.46**	**4**	*eP*	Pn	01 28 49.8	-0.6
LFU	**La Fuente**	**0.60**	**80**	*eP*	Pn	01 28 51.9	+0.9
LFRS	**El Faro**	**0.64**	**92**	*eP*	Pn	01 28 52.4	+1.1
LBRS	**Las Brisas**	**0.66**	**82**	*eP*	Pn	01 28 52.3	+1.0
NBG	**Las Nubes**	**1.11**	**327**	*eP*	Pn	01 28 54.5	-0.7
FUG	**Fuego 3**	**1.35**	**306**	*eP*	Pn	01 28 56.6	-0.8
MRL	**Marmol**	**1.41**	**1**	⇑*eP*	Pn	01 28 56.3	-1.7
VSM	**San Miguel**	**1.42**	**99**	*eP*	Pn	01 28 59.4	+1.1
CAHU	**Cacacuatique**	**1.47**	**85**	*eP*	Pn	01 28 58.8	+0.1
JAT	**Jato**	**1.98**	**290**	⇓*eP*	Pn	01 29 03.9	-0.2
VCR	**Vista de Mar**	**5.32**	**131**	*eP*	Pn	01 29 50.7	+3.3
VCR				*eS*	Sn	01 30 49.0	+1.0
JCR	**Jicaral**	**5.88**	**129**	*eP*	Pn	01 29 58.1	+3.2
JCR				*eS*	Sn	01 31 02.1	+0.6
CAO	**Cobano**	**5.99**	**130**	⇓*iP*	Pn	01 29 59.6	+3.5
CAO				*eS*	Sn	01 31 03.8	0.0
CGA2	**Cerro Gallo 2**	**6.29**	**125**	*eP*	Pn	01 30 03.8	+3.5
CGA2				*eS*	Sn	01 31 11.6	+0.4
URSC	**Urasca**	**6.94**	**122**	⇑*eP*	Pn	01 30 11.7	+2.5
BUS	**Buena Vista**	**7.12**	**124**	*eP*	Pn	01 30 14.7	+2.9
BUS				*eS*	Sn	01 31 34.3	+2.4
CTCR	**Cotoan**	**8.30**	**124**	*eP*	Pn	01 30 29.5	+2.1
BRU2	**Volcan**	**8.41**	**124**	*eP*	Pn	01 30 30.8	+1.9
BRU	**Baru**	**8.51**	**124**	*eP*	Pn	01 30 33.5	+2.9

*IDC **01** 01:30:56.1±0.4, 4°.25N×127°.44E, h0^{km}, mb4.8/29, mb1 4.8/30, mb1mx4.8/32, mbtmp4.8/30, ML4.4/1, MS3.8/4, Ms1 3.8/4, ms1mx3.5/43, Error ellipse: s-maj=19.7km s-min=9.7km az=85.0*

*BJI **01** 01:30:57.8, 3°.66N×127°.81E, h65^{km}, mB5.1/31, mb5.1/49, Ms4.7/34, MS7 4.3/35*

*ISCJB **01** 01:31:02.7±0.4, 4°.23N±0°.02×127°.51E±0°.03, h62^{km}±3^{km}, mb5.0/98, Error ellipse: s-maj=5.5km s-min=3.3km az=165.9*

*MOS **01** 01:31:03.2±1.1, 4°.25N×127°.61E, h69^{km}, mb5.4/36, Error ellipse: s-maj=14.6km s-min=5.7km az=116.5*

*DJA **01** 01:31:03.4±0.5, 4°.N±.5×12°.7E±°, h10^{km}, M5.3/12, mB5.6/10, mb5.5/12, MLv5.5/10, Mw(mB)5.1/10*

*NEIC **01** 01:31:04.4±0.8, 4°.24N×127°.49E, h61^{km}±7^{km}, mb5.0/45, Error ellipse: s-maj=7.5km s-min=3.8km az=77.0*

*MAN **01** 01:31:05, 4°.13N×127°.04E, h114^{km}, mb5.5, ML4.6, MS4.9*

*BKK **01** 01:31:06.0±0.8, 4°.N±4°×12°.8E±°, h67^{km}±7^{km}, M5.2/15, mB5.4/6, mb5.1/15, MLv5.6/3, Mw(mB)4.8/6*

ISC 01 01:31:05.1±0.3, 4°.21N±0°.03×127°.48E±0°.05, h64^{km}±2^{km}, n306, σ1°39/370, mb5.0/98, 21C-7D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**2.01**	**255**	P	**Pn**	**01 31 34.5**	**-2.3**
SGSI				S	**Sn**	**01 31 59.6**	**-1.3**
MATI	**Mati**	**2.98**	**336**	*eP*	**Pn**	**01 31 52.0**	**+2.0**
GSPH	**General Santos**	**3.13**	**307**	⇓*eP*	**Pn**	**01 31 49.5**	**-2.8**
TNTI	**Ternate**	**3.41**	**182**	P	**Pn**	**01 31 55.9**	**0.0**
TNTI	**Ternate**	**3.41**	**182**	*e*Pn	**Pn**	**01 31 55.9**	**0.0**
DAV	**Davao City (W)**	**3.41**	**327**	P	**Pn**	**01 31 57.4**	**+1.5**
DAV	**Davao City (W)**	**3.41**	**327**	*e*Pn	**Pn**	**01 31 57.8**	**+1.8**
DAV				*eS*	**Sn**	**01 32 40.4**	**+5.1**
DMPH	**Davao City--Mi**	**3.46**	**326**	⇑*eP*	**Pn**	**01 31 56.9**	**+0.3**
DMPH				*eS*	**Sn**	**01 32 33.3**	**-3.2**
KCP	**Kidapawan**	**3.66**	**320**	⇓*eP*	**Pn**	**01 31 58.4**	**-0.9**
KCP				*i* S	**Sn**	**01 32 44.3**	**+2.9**
BUKP	**Musuan**	**4.37**	**327**	*eP*	**Pn**	**01 32 09.0**	**0.0**
CTBH	**Cotabato--PC H**	**4.39**	**313**	⇓*iP*	**Pn**	**01 32 08.9**	**-0.4**
LBMI	**Labuha**	**4.81**	**180**	P	**Pn**	**01 32 15.0**	**-0.1**
KMSI	**Cibinong**	**5.02**	**224**	P	**Pn**	**01 32 18.4**	**+0.5**
CGP	**Cagayan de Oro**	**5.04**	**327**	*eP*	**Pn**	**01 32 17.5**	**-0.8**
CGP				*i* S	**Sn**	**01 33 14.6**	**-0.7**
BUTP	**Butuan**	**5.08**	**339**	*eP*	**Pn**	**01 32 20.1**	**+1.4**
PAGZ	**Pagadian**	**5.45**	**312**	*eP*	**Pn**	**01 32 22.4**	**-1.3**
GTOI	**Gorontalo** 427nm,0.6s,6μm1.9nm	**5.70**	**232**	P	**Pn**	**01 32 26.9**	**-0.3**
SCPH	**Surigao**	**5.88**	**341**	*eP*	**Pn**	**01 32 32.0**	**+2.3**
SCPH				*eS*	**Sn**	**01 33 35.6**	**-0.1**
DCPH	**Dipolog City**	**5.97**	**317**	⇑*eP*	**Pn**	**01 32 32.4**	**+1.5**
IPIL	**Ipil**	**6.04**	**306**	*eP*	**Pn**	**01 32 30.7**	**-1.1**
SWI	**Sorong** 159nm,1.0s,2μm0.6nm	**6.30**	**143**	P	**Pn**	**01 32 34.2**	**-1.2**
TBP	**Tagbilaran**	**6.52**	**327**	*eP*	**Pn**	**01 32 38.4**	**-0.1**
MRSI	**Marisa** 700nm,0.6s,8μm2.7nm	**6.66**	**236**	P	**Pn**	**01 32 40.9**	**+0.6**
LUWI	**Luwuk** 541nm,0.8s,5μm2.5nm	**7.02**	**222**	P	**Pn**	**01 32 47.0**	**+1.7**
NLAI	**Namlea** 152nm,0.7s,2μm0.6nm	**7.41**	**183**	P	**Pn**	**01 32 49.5**	**-1.1**
APSI	**Ampana** 701nm,0.7s,7μm	**7.73**	**229**	P	**Pn**	**01 32 57.2**	**+2.2**
AAI	**Ambon** 252nm,0.9s,3μm	**7.87**	**175**	P	**Pn**	**01 32 57.8**	**+0.8**
GUIM	**Jordan**	**8.01**	**323**	*eP*	**Pn**	**01 32 58.6**	**-0.2**
FAKI	**Fak Fak** 106nm,1.2s,1μm	**8.54**	**146**	P	**Pn**	**01 33 05.9**	**-0.2**
RCP	**Roxas**	**8.68**	**328**	⇑*eP*	**Pn**	**01 33 08.2**	**+0.2**
MYLDM	**Lahad Datu**	**9.00**	**277**	P	**Pn**	**01 33 12.5**	**+0.1**
TSM	**Tawau**	**9.58**	**271**	P	**Pn**	**01 33 20.4**	**+0.1**
KKSI	**Kolaka, Sulawe** 96nm,0.5s,3μm	**10.15**	**215**	P	**Pn**	**01 33 26.2**	**-2.0**
BAKI	**Biak** 382nm,1.4s	**10.16**	**122**	P	**Pn**	**01 33 31.2**	**+3.0**
SDKM	**Sandakan**	**10.34**	**278**	P	**Pn**	**01 33 31.9**	**+1.1**
SRPI	**Serui, Papua** 441nm,1.2s,12μm	**10.64**	**124**	P	Pn	01 33 39.8	+5.0
KDM	**Kudat**	**10.93**	**285**	P	Pn	01 33 42.0	+3.3
MMSI	**Mamuju**	**10.96**	**231**	P	Pn	01 33 45.4	+6.1
TLE	**Tual**	**11.10**	**152**	P	**Pn**	**01 33 43.4**	**+2.3**
KKM	**Kota Kinabalu**	**11.36**	**280**	P	Pn	01 33 48.2	+3.4
KKM	**Kota Kinabalu**	**11.36**	**280**	*e*Pn	**Pn**	**01 33 45.8**	**+1.0**
KAPI	**Kappang**	**11.97**	**220**	*e*Pn	**Pn**	**01 33 50.6**	**-2.4**
KAPI				*eS*	**Sn**	**01 36 05.2**	**+0.2**
KAPI	**Kappang** 2.1nm,0.3s,baz=53,slow=16,SNR=5.2	**11.97**	**220**	Pn	**Sn**	**01 33 50.2**	**-2.9**
KAPI	2.8nm,0.3s,baz=225,slow=20,SNR=4.1			Sn	**Sn**	**01 36 05.2**	**+0.2**
KAPI				LR	LR	01 39 09.1	
	comp=Z,316nm,18.6s,baz=258,slow=41						
BTM	**Bintulu**	**14.40**	**267**	P	**P**	**01 34 29.2**	**-1.7**
BATI	**Baumata**	**14.81**	**195**	Pn	**Pn**	**01 34 31.3**	**+0.2**
BATI				Sn	**S**	**01 37 28.6**	**-0.4**
BATI	**Baumata** 20nm,0.3s,baz=29,slow=13,SNR=8.0	**14.81**	**195**	Pn	**Pn**	**01 34 31.3**	**+0.2**
BATI	3.4nm,0.3s,baz=287,slow=19,SNR=3.9			Sn	**S**	**01 37 28.6**	**-0.4**
SBUM	**Sibu**	**15.33**	**264**	P	**Pn**	**01 34 37.8**	**0.0**
SBUM	**Sibu** 96nm,1.0s	**15.33**	**264**	*e*Pn	**Pn**	**01 34 37.6**	**-0.1**
KSM	**Kuching**	**17.36**	**261**	P	**Pn**	**01 35 03.4**	**+0.2**
KSM	**Kuching** 63nm,0.7s	**17.36**	**261**	*e*Pn	**Pn**	**01 35 02.9**	**-0.3**
TWG	**Pinlang** 139nm,0.8s	**19.52**	**342**	*eP*	**P**	**01 35 24.6**	**-2.7**
YULB	**Yu-li** 33nm,0.9s	**19.99**	**343**	*eP*	**P**	**01 35 30.9**	**-1.6**
TPUB	**Ta-pu** 66nm,0.6s	**20.10**	**341**	*eP*	**P**	**01 35 32.5**	**-1.2**
TPUB				*eS*	Sn	01 39 21.1	-0.8
SSLB	**Suanglung** 52nm,0.6s	**20.46**	**343**	*eP*	**P**	**01 35 36.2**	**-1.4**
SSLB				*eS*	**S**	**01 39 26.7**	**+3.6**
NACB	**Ninganchiao** 32nm,1.0s	**20.65**	**345**	*eP*	**P**	**01 35 39.6**	**+0.1**
YHNB	**Yeheng** 45nm,0.6s	**21.18**	**344**	*eP*	**P**	**01 35 45.6**	**+0.3**
FITZ	**Fitzroy Crossi** 20nm,0.8s	**22.24**	**185**	*eP*	**P**	**01 35 54.0**	**-2.7**
FITZ				S	**S**	**01 39 58.9**	**+1.2**
FITZ	**Fitzroy Crossi** 13nm,0.7s,baz=14,slow=12,SNR=29	**22.24**	**185**	P	**P**	**01 35 54.0**	**-2.7**
FITZ	6.1nm,1.0s,baz=180,slow=20,SNR=3.1			S	**S**	**01 39 58.9**	**+1.2**
QIZ	**Qiongzhong**	**22.66**	**312**	P	**P**	**01 36 01.8**	**+0.6**
QIZ				S	**S**	**01 40 06.0**	**+1.1**
QIZ	comp=Z,75nm,2.3s			AMB	AMB		
QIZ	comp=Z,440nm,4.1s			AMB	AMB		
QIZ	**Qiongzhong** 102nm,1.5s	**22.66**	**312**	*eP*	**P**	**01 36 00.3**	**-0.9**
MYKOM	**Kota Tinggi**	**23.71**	**265**	P	**P**	**01 36 11.1**	**-0.4**
PMG	**Port Moresby** comp=Z,251nm,18.6s,baz=271,slow=38	**23.83**	**125**	LR	LR	01 45 52.9	
COEN	**Coen** 27nm,0.7s	**23.84**	**139**	*eP*	**P**	**01 36 14.4**	**+1.8**
KGM	**Kluang**	**24.22**	**266**	P	**P**	**01 36 16.4**	**+0.3**
KTGM	**Kuala Trenggan**	**24.28**	**274**	P	**P**	**01 36 16.9**	**+0.3**
WRAB	**Tennant Creek**	**24.92**	**164**	*eP*	**P**	**01 36 21.1**	**-1.3**
WRAB	comp=Z,72nm,0.9s			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,274nm,0.5s,SNR=14	**24.92**	**164**	P	**P**	**01 36 21.1**	**-1.3**
WRAB	**Tennant Creek** comp=Z,72nm,0.9s	**24.92**	**164**	*eP*	**P**	**01 36 21.1**	**-1.3**
WRA	**Warramunga Arr**	**24.93**	**165**	P	**P**	**01 36 21.2**	**-1.2**
WRA				S	**S**	**01 40 43.6**	**+2.2**
WRA	**Warramunga Arr** comp=Z,25nm,0.7s,baz=346,slow=10.0,SNR=67	**24.93**	**165**	P	**P**	**01 36 21.2**	**-1.2**
WRA	comp=Z,2.5nm,1.1s,baz=343,slow=19,SNR=3.3			S	**S**	**01 40 43.6**	**+2.2**
FRIM	**Kepong**	**25.81**	**269**	P	**P**	**01 36 32.2**	**+1.7**
MBWA	**Marble Bar** comp=Z,60nm,0.9s	**26.33**	**196**	*eP*	**P**	**01 36 35.1**	**+0.1**
CBIJ	**Chichi jima**	**26.75**	**30**	P	**P**	**01 36 37.0**	**-1.8**
JCJ	**Chichijima** comp=Z,45nm,0.6s,baz=143,slow=10,SNR=2.7	**26.75**	**30**	P	**P**	**01 36 37.0**	**-1.8**
JCJ	comp=Z,188nm,21.5s,baz=149,slow=31			LR	LR	01 44 55.6	
KULM	**Kulim**	**26.75**	**273**	*eP*	**P**	**01 36 39.1**	**0.0**
AS31	**Alice Springs**	**28.40**	**168**	*eP*	**P**	**01 36 53.6**	**-0.1**
ASAR	**Alice Springs**	**28.40**	**168**	P	**P**	**01 36 52.5**	**-1.2**
ASAR	**Alice Springs** comp=Z,5.3nm,0.5s,baz=354,slow=7.8,SNR=84	**28.40**	**168**	P	**P**	**01 36 52.5**	**-1.2**
NJ2	**Nanjing**	**28.86**	**345**	*eP*	**P**	**01 36 58.8**	**+1.2**
NJ2	comp=Z,14nm,0.9s			AMB	AMB		
LOEI	**Loei**	**28.88**	**299**	P	P	01 36 53.8	-4.2
JNU	**Nakatsue** comp=Z,12nm,0.9s	**28.94**	**6**	*eP*	**P**	**01 36 56.8**	**-1.6**
JNU	**Nakatsue** comp=Z,27nm,0.9s,baz=190,slow=3.6,SNR=14	**28.94**	**6**	P	**P**	**01 36 56.8**	**-1.6**
JNU	comp=Z,203nm,19.8s,baz=7.4,slow=33			LR	LR	01 46 58.0	
WHN	**Wuhan**	**28.98**	**336**	⇓P	**P**	**01 36 59.8**	**+1.1**
WHN				S	**S**	**01 41 50.8**	**+5.6**
WHN	comp=Z,1μm,22.3s			LR	LR		
GYA	**Guiyang**	**29.77**	**320**	P	**P**	**01 37 06.3**	**+0.4**
GYA				pP	**pP**	**01 37 23.8**	**+2.2**
GYA				sP	**sP**	**01 37 32.0**	**+2.8**
GYA				PP	**PnPn**	**01 38 06.4**	**+2.2**
GYA				PcP	**PcP**	**01 40 09.5**	**+1.0**
GYA				S	**S**	**01 41 59.6**	**+1.6**
GYA				sS	**sS**	**01 42 25.0**	**+0.2**
GYA				ScP	**ScP**	**01 43 44.0**	**-1.1**
GYA				ScS	**ScS**	**01 47 37.9**	**-2.6**
GYA	comp=Z,30nm,0.8s			AMB	AMB		
GYA	comp=Z,130nm,4.8s			AMB	AMB		
GYA	comp=Z,890nm,16.8s			LR	LR		
GYA	comp=Z,610nm,17.3s			LR	LR		
GYA	comp=Z,840nm,17.5s			LR	LR		
CRAI	**Chiangrai** comp=Z,16nm,1.7s,comp=Z,2μm	**30.82**	**303**	P	**P**	**01 37 14.3**	**-0.9**
ENH	**Enshi** comp=Z,16nm,0.7s	**31.00**	**329**	*eP*	**P**	**01 37 16.2**	**-0.4**
CMAR	**Chiang Mai Arr**	**31.28**	**299**	P	**P**	**01 37 17.8**	**-1.4**
CMAR				ScP	**ScP**	**01 43 54.8**	**+4.7**
CMAR	**Chiang Mai Arr** comp=Z,7.6nm,0.8s,baz=119,slow=8.0,SNR=21	**31.28**	**299**	P	**P**	**01 37 17.8**	**-1.4**
CMAR	comp=Z,0.9nm,0.3s,baz=111,slow=2.3,SNR=3.4			ScP	**ScP**	**01 43 54.8**	**+4.7**
CHTO	**Chiang Mai**	**31.42**	**300**	*eP*	**P**	**01 37 18.9**	**-1.6**
CHTO	comp=Z,101nm,1.4s			pmax	pmax		
CHTO	**Chiang Mai** comp=Z,101nm,1.4s	**31.42**	**300**	*eP*	**P**	**01 37 18.9**	**-1.6**
CHTO	**Chiang Mai** comp=Z,63nm,1.2s	**31.42**	**300**	P	**P**	**01 37 21.1**	**+0.6**
KMI	**Kunming**	**31.58**	**314**	P	**P**	**01 37 21.0**	**-1.1**
KMI				pP	**pP**	**01 37 39.4**	**+1.6**
KMI				sP	**sP**	**01 37 46.3**	**+0.9**
KMI				PP	**PP**	**01 38 33.6**	**-0.8**
KMI				S	**S**	**01 42 28.4**	**+1.8**
KMI	comp=Z,23nm,1.2s			AMB	AMB		
KMI	comp=Z,170nm,5.6s			AMB	AMB		
KMI	comp=Z,270nm,21.3s			LR	LR		
KMI	comp=Z,370nm,21.3s			LR	LR		
KMI	comp=Z,390nm,21.3s			LR	LR		
KSAR	**Wonju Array Be**	**33.08**	**1**	P	**P**	**01 37 33.7**	**-1.0**
KSAR				PcP	**PcP**	**01 40 17.1**	**+0.2**
KSRS	**Korea Array** comp=Z,16nm,0.8s,baz=177,slow=9.9,SNR=55	**33.09**	**1**	P	**P**	**01 37 33.7**	**-1.1**
KSRS	comp=Z,1.5nm,0.8s,baz=195,slow=3.3,SNR=4.5			PcP	**PcP**	**01 40 17.1**	**+0.2**
MAJO	**Matsushiro**	**33.66**	**16**	*eP*	**P**	**01 37 37.4**	**-2.4**
MAJO	comp=Z,9.0nm,0.9s			pmax	pmax		
MAJO	**Matsushiro** comp=Z,8.7nm,0.9s	**33.66**	**16**	*eP*	**P**	**01 37 37.4**	**-2.4**
MAT	**Matsushiro**	**33.66**	**16**	P	**P**	**01 37 37.4**	**-2.4**
CD2	**Chengdu**	**34.71**	**323**	P	**P**	**01 37 48.6**	**-0.5**
CD2				pP	**pP**	**01 38 04.6**	**-0.3**
CD2				sP	**sP**	**01 38 12.3**	**-0.2**
CD2				PP	**PnPn**	**01 39 07.5**	**+0.6**
CD2				S	**S**	**01 43 13.6**	**-1.1**
CD2				sS	**sS**	**01 43 40.9**	**-0.8**
CD2	comp=Z,30nm,0.9s			AMB	AMB		
CD2	comp=Z,170nm,5.7s			AMB	AMB		
CD2	comp=Z,600nm,7.7s			LR	LR		
CD2	comp=Z,390nm,13.1s			LR	LR		
FORT	**Forrest** comp=Z,35nm,0.8s	**34.79**	**179**	*eP*	**P**	**01 37 49.1**	**-0.6**
BJT	**Baijiatuau** comp=Z,52nm,0.8s	**37.09**	**346**	*eP*	**P**	**01 38 08.5**	**-0.7**
BJI	**Beijing**	**37.11**	**346**	P	**P**	**01 38 08.7**	**-0.6**
BJI				sP	**sP**	**01 38 31.7**	**-1.1**
BJI				S	**S**	**01 43 48.4**	**-2.5**
BJI	comp=Z,54nm,1.4s			AMB	AMB		
BJI	comp=Z,210nm,20.6s			LR	LR		
BJI	comp=Z,94nm,21.4s			LR	LR		
BJI	comp=Z,110nm,23.3s			LR	LR		
SNY	**Shenyang**	**37.62**	**355**	⇑P	**P**	**01 38 12.7**	**-0.9**
SNY				S	**S**	**01 43 52.9**	**-5.8**
SNY	comp=Z,17nm,1.8s			AMB	AMB		
SNY	comp=Z,110nm,5.3s			AMB	AMB		
SNY	comp=Z,120nm,18.8s			LR	LR		
SNY	comp=Z,140nm,37.7s			LR	LR		
BBOO	**Buckleboo** comp=Z,349nm,0.6s	**37.70**	**168**	*eP*	**P**	**01 38 14.2**	**-0.3**
NWAO	**Narrogin (SRO)** comp=Z,8.0nm,0.6s	**38.19**	**194**	*eP*	**P**	**01 38 18.2**	**-0.3**
NWAO	**Narrogin (SRO)** comp=Z,14nm,0.7s,baz=7.6,slow=9.8,SNR=13	**38.19**	**194**	P	**P**	**01 38 18.1**	**-0.5**
STKA	**Stephens Creek** comp=Z,6.1nm,0.8s	**38.32**	**160**	*eP*	**P**	**01 38 19.4**	**-0.2**
STKA	**Stephens Creek** comp=Z,25nm,0.6s,baz=333,slow=7.8,SNR=55	**38.32**	**160**	P	**P**	**01 38 19.3**	**-0.4**
LZH	**Lanzhou**	**38.48**	**329**	⇑P	**P**	**01 38 22.5**	**+1.3**
LZH				pP	**pP**	**01 38 37.8**	**+0.6**
LZH				sP	**sP**	**01 38 44.3**	**-0.4**
LZH				PcP	**PcP**	**01 40 33.5**	**+0.3**
LZH				S	**ScP**	**01 44 15.0**	**-0.8**
LZH				sS	**sS**	**01 44 40.0**	**+0.5**
LZH	comp=Z,96nm,1.3s			AMB	AMB		
LZH	comp=Z,190nm,5.3s			AMB	AMB		
LZH	comp=Z,770nm,15.1s			LR	LR		
LZH	comp=Z,330nm,14.3s			LR	LR		
LZH	comp=Z,880nm,16.4s			LR	LR		
HHC	**Hu-ho-hao-te**	**39.19**	**341**	*eP*	**P**	**01 38 27.7**	**+0.7**
HHC				pP	**pP**	**01 38 43.0**	**-0.1**
HHC				sP	**sP**	**01 38 50.2**	**-0.4**
HHC				PP	**PnPn**	**01 40 03.1**	**+1.9**
HHC				S	**S**	**01 44 24.1**	**+1.4**
HHC				sS	**sS**	**01 44 50.1**	**+0.1**
HHC				SS	**SS**	**01 47 12.5**	**-5.4**
HHC				ScS	**ScS**	**01 48 28.6**	**-1.5**
HHC	comp=Z,96nm,1.1s			AMB	AMB		
HHC	comp=Z,200nm,5.5s			AMB	AMB		
HHC	comp=Z,430nm,16.1s			LR	LR		
HHC	comp=Z,830nm,16.3s			LR	LR		
HHC	comp=Z,280nm,14.3s			LR	LR		
CN2	**Changchun**	**39.47**	**358**	*eP*	**P**	**01 38 28.6**	**-0.6**
CN2	comp=Z,10.0nm,0.6s			AMB	AMB		
USRK	**Ussuriysk Arra** comp=Z,2.9nm,0.4s,baz=190,slow=8.2,SNR=18	**40.03**	**5**	P	**P**	**01 38 33.1**	**-0.6**
SHL	**Shillong**	**40.20**	**305**	*eP*	**P**	**01 38 34.0**	**-1.7**
SHL				*eS*	**S**	**01 44 36.0**	**-2.4**
MDJ	**Mudanjiang**	**40.29**	**2**	P	**P**	**01 38 35.7**	**-0.2**
MDJ				pP	**pP**	**01 38 50.8**	**-1.3**
MDJ				sP	**sP**	**01 38 58.0**	**-1.5**
MDJ				ScP	**ScP**	**01 44 22.0**	**-0.4**
MDJ				PcS	**PcS**	**01 44 29.0**	**+0.1**
MDJ				S	**S**	**01 44 39.1**	**+0.3**
MDJ	comp=Z,21nm,1.2s			AMB	AMB		
MDJ	comp=Z,62nm,2.7s			AMB	AMB		
MDJ	comp=Z,120nm,35.3s			LR	LR		
MDJ	comp=Z,42nm,26.0s			LR	LR		
MDJ	comp=Z,160nm,31.9s			LR	LR		
MDJ	**Mudanjiang** comp=Z,14nm,0.9s	**40.29**	**2**	*eP*	**P**	**01 38 35.4**	**-0.5**
H11S3	**WAKE ISLAND Hy** baz=254,slow=0.7,SNR=9.0	**40.86**	**66**	T	T	02 22 05.7	
H11S1	**WAKE ISLAND Hy** baz=254,slow=0.7,SNR=11	**40.88**	**66**	T	T	02 22 03.4	
H11S2	**WAKE ISLAND Hy** baz=254,slow=0.7,SNR=3.6	**40.88**	**67**	T	T	02 22 06.8	
ARMA	**Armidale** comp=Z,9.6nm,0.7s	**41.46**	**148**	*eP*	**P**	**01 38 45.5**	**-0.4**
ASAJ	**Asahikawa**	**41.93**	**16**	P	**P**	**01 38 48.6**	**-0.7**
ASAJ	**Asahikawa** comp=Z,5.5nm,0.5s,baz=266,slow=13,SNR=6.4	**41.93**	**16**	P	**P**	**01 38 48.6**	**-0.7**
LSA	**Lhasa**	**42.69**	**311**	P	**P**	**01 38 55.8**	**-0.6**
LSA	**Lhasa**	**42.69**	**311**	*eP*	**P**	**01 38 56.5**	**+0.1**
LSA	comp=Z,11nm,0.6s			pmax	pmax		
LSA	**Lhasa** comp=Z,11nm,0.6s	**42.69**	**311**	*eP*	**P**	**01 38 56.5**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**42.85**	**20**	P	P	01 39 04.6	+7.7
YUK				*i*		01 40 48.1	
YUK				*i*		01 41 14.2	
GTA	**Gaotai**	**43.08**	**328**	⇑P	**P**	**01 39 00.6**	**+1.6**
GTA				pP	**pP**	**01 39 15.8**	**+0.5**
GTA				sP	**sP**	**01 39 23.3**	**+0.6**
GTA				PcP	**PcP**	**01 40 49.2**	**+1.2**
GTA				S	**S**	**01 45 21.6**	**+1.1**
GTA				sS	**sS**	**01 45 48.7**	**+0.6**
GTA	comp=Z,26nm,0.8s			AMB	AMB		
GTA	comp=Z,79nm,5.7s			AMB	AMB		
GTA	comp=Z,190nm,18.5s			LR	LR		
GTA	comp=Z,200nm,21.8s			LR	LR		
GTA	comp=Z,340nm,20.4s			LR	LR		
TAPN	**Taplejung** comp=Z,41nm,0.8s	**44.34**	**306**	*eP*	**P**	**01 39 08.2**	**-1.3**
ODAN	**Odare** comp=Z,38nm,0.6s	**44.41**	**305**	*eP*	**P**	**01 39 08.6**	**-1.4**
HABR	**Khabarovsk**	**44.58**	**7**	*eP*	**P**	**01 39 07.9**	**-2.8**
HABR				*eS*	**S**	**01 45 42.3**	**+0.6**
HABR

SONM				PcP	**PcP**	01 41 01.9	+0.2	
	comp=Z,4.4nm,0.8s,baz=132,slow=2.1,SNR=5.3							
GKN	**Gorkha**	**47.10**	**305**	*e*P	**P**	01 39 29.6	-1.6	
	comp=Z,18nm,0.4s							
KOLN	**Koldanda**	**47.87**	**304**	*e*P	**P**	01 39 36.0	-1.2	
	comp=Z,52nm,0.6s							
DANN	**Dangsing**	**47.95**	**305**	*e*P	**P**	01 39 36.5	-1.4	
	comp=Z,54nm,0.5s							
ZAK	**Zakamensk**	**50.33**	**340**	*e*P	**P**	01 39 53.5	-1.9	
ZAK				*e*		01 41 12.5		
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.2s							
TLY	**Talaya**	**51.32**	**341**	*c i*P	**P**	01 40 02.8	0.0	
TLY				pmax	pmax			
	comp=Z,13nm,0.9s							
MOY	**Mondy**	**52.20**	**339**	*e*P	**P**	01 40 10.4	+1.0	
MOY				pmax	pmax			
	comp=Z,51nm,2.4s							
WMQ	**Urumqi**	**52.77**	**324**	P	**P**	01 40 15.6	+1.9	
WMQ				pP	**pP**	01 40 31.4	+0.9	
WMQ				sP	**sP**	01 40 38.4	+0.6	
WMQ				PcP	**PcP**	01 41 24.7	+2.1	
WMQ				PP	**PP**	01 42 16.7	+3.0	
WMQ				S	**S**	01 47 37.3	0.0	
WMQ				sS	**sS**	01 48 04.3	-1.4	
WMQ				ScS	**ScS**	01 49 56.3	-1.5	
WMQ				AMB	AMB			
	comp=Z,29nm,0.7s							
WMQ				AMB	AMB			
	comp=Z,120nm,5.2s							
WMQ				LR	LR			
	comp=Z,2μm,7.0s							
WMQ				LR	LR			
	comp=Z,990nm,8.0s							
WMQ				LR	LR			
	comp=Z,2μm,16.8s							
PETK	**Petropavlovsk-**	**54.71**	**22**	P	**P**	01 40 27.3	-0.4	
PETK	**Petropavlovsk-**	**54.71**	**22**	P	**P**	01 40 27.3	-0.4	
PETK	**Petropavlovsk-**	**54.71**	**22**	P	**P**	01 40 27.3	-0.4	
	comp=Z,7.5nm,0.6s,baz=190,slow=6.7,SNR=12							
MK31	**Makanchi Array**	**57.59**	**325**	*ce*P	**P**	01 40 48.2	-0.2	
MK31				pmax	pmax			
	comp=Z,22nm,0.6s							
MK31	**Makanchi Array**	**57.59**	**325**	*e*P	**P**	01 40 48.2	-0.2	
MKAR	**Makanchi Array**	**57.59**	**325**	*e*P	**P**	01 40 48.5	+0.1	
MKAR	**Makanchi Array**	**57.59**	**325**	*e*P	**P**	01 40 48.5	+0.1	
MKAR				ScP	ScP	01 45 43.9	+8.3	
MKAR	**Makanchi Array**	**57.59**	**325**	P	**P**	01 40 48.0	-0.4	
	comp=Z,22nm,0.5s,baz=118,slow=8.1,SNR=138							
MKAR				ScP	ScP	01 45 43.9	+8.3	
	comp=Z,1.2nm,0.8s,baz=134,slow=4.2,SNR=2.5							
YAK	**Yakutsk**	**57.72**	**1**	*e*P	**P**	01 40 47.1	-1.8	
YAK				pmax	pmax			
	comp=Z,34nm,0.9s							
YAK				pmax	pmax			
	comp=N,22nm,1.2s							
YAK				pmax	pmax			
	comp=E,7.0nm,1.1s							
KSH	**Kashi**	**58.24**	**315**	P	**P**	01 40 54.3	+1.1	
KSH				pP	**pP**	01 41 10.9	+0.8	
KSH				sP	**sP**	01 41 17.5	+0.1	
KSH				PP	PP	01 43 10.7	+8.0	
KSH				S	**S**	01 48 53.4	+2.8	
KSH				sS	**sS**	01 49 21.4	+2.1	
KSH				SS	**SS**	01 52 48.7	+5.4	
KSH				AMB	AMB			
	comp=E,46nm,1.9s							
KSH				LR	LR			
	comp=E,150nm,6.4s							
KSH				LR	LR			
	comp=E,100nm,5.0s							
KSH				LR	LR			
	comp=E,130nm,5.6s							
ULHL	**Ulahol**	**59.17**	**318**	*i* P	**P**	01 41 00.3	+0.6	
ULHL	**Ulahol**	**59.17**	**318**	P	**P**	01 41 00.3	+0.6	
	SNR=10							
KZA	**Kyzart**	**59.77**	**317**	*i* P	**P**	01 41 04.7	+0.6	
KZA	**Kyzart**	**59.77**	**317**	P	**P**	01 41 04.7	+0.6	
	SNR=27							
TKM2	**Tokmak 2**	**59.89**	**318**	*i* P	**P**	01 41 04.5	-0.1	
TKM2	**Tokmak 2**	**59.89**	**318**	P	**P**	01 41 04.6	-0.1	
	SNR=33							
TKM2	**Tokmak 2**	**59.89**	**318**	*e*P	**P**	01 41 04.7	+0.1	
	comp=E,22nm,0.6s							
KBK	**Karagaybulak**	**60.21**	**318**	*i* P	**P**	01 41 08.5	+1.7	
KBK	**Karagaybulak**	**60.21**	**318**	P	**P**	01 41 08.5	+1.7	
	SNR=10							
ZAA0	**Zalesovo Array**	**60.51**	**333**	*e*P	**P**	01 41 07.5	-0.8	
ZALV	**Zalesovo Beam**	**60.51**	**333**	P	**P**	01 41 07.5	-0.9	
ZALV	**Zalesovo Beam**	**60.51**	**333**	P	**P**	01 41 07.5	-0.9	
ZALV	**Zalesovo Beam**	**60.51**	**333**	P	**P**	01 41 07.5	-0.9	
	comp=E,19nm,0.8s,baz=112,slow=6.6,SNR=81							
AAK	**Ala-Archa**	**60.51**	**317**	P	**P**	01 41 09.2	+0.4	
	comp=E,69nm,1.1s,SNR=5.4							
AAK	**Ala-Archa**	**60.51**	**317**	*i* P	**P**	01 41 09.3	+0.4	
AAK	**Ala-Archa**	**60.51**	**317**	P	**P**	01 41 09.3	+0.5	
	SNR=8.2							
AAK	**Ala-Archa**	**60.51**	**317**	*e*P	**P**	01 41 08.8	0.0	
	comp=E,10nm,0.9s							
USP	**Ospenovka**	**60.76**	**318**	*i* P	**P**	01 41 10.1	-0.3	
USP	**Ospenovka**	**60.76**	**318**	P	**P**	01 41 10.1	-0.3	
	SNR=41							
AML	**Almayashu**	**60.85**	**317**	*i* P	**P**	01 41 11.6	+0.1	
AML	**Almayashu**	**60.85**	**317**	P	**P**	01 41 11.6	+0.1	
	SNR=24							
EKS2	**Erkin-Say**	**61.01**	**317**	*e*P	**P**	01 41 12.6	+0.4	
EKS2				pmax	pmax			
	comp=Z,29nm,0.8s							
EKS2	**Erkin-Say**	**61.01**	**317**	P	**P**	01 41 12.6	+0.4	
	SNR=30							
EKS2	**Erkin-Say**	**61.01**	**317**	*e*P	**P**	01 41 12.6	+0.4	
	comp=Z,29nm,0.8s							
SEY	**Seymchan**	**61.41**	**13**	*ce*P	**P**	01 41 15.0	+0.7	
RPZ	**Rata Peaks**	**61.73**	**145**	P	**P**	01 41 17.7	+0.9	
RPZ	**Rata Peaks**	**61.73**	**145**	P	**P**	01 41 17.7	+0.9	
	comp=Z,11nm,0.8s,baz=304,slow=7.3,SNR=3.9							
KURK	**Kurchatov**	**61.74**	**327**	P	**P**	01 41 16.1	-0.7	
	comp=Z,303nm,0.6s,SNR=46							
KURK	**Kurchatov**	**61.74**	**327**	*ce*P	**P**	01 41 16.6	-0.2	
KURK				pmax	pmax			
	comp=Z,25nm,0.6s							
KURK	**Kurchatov**	**61.74**	**327**	*e*P	**P**	01 41 16.7	-0.1	
	comp=Z,31nm,0.6s							
KBL	**Kabul**	**61.83**	**307**	*e*P	**P**	01 41 16.6	-1.4	
KBL				pmax	pmax			
	comp=Z,10.0nm,0.6s							
KBL	**Kabul**	**61.83**	**307**	*e*P	**P**	01 41 16.6	-1.4	
	comp=Z,9.8nm,0.6s							
KK31	**Karatay Array**	**63.40**	**317**	*ce*P	**P**	01 41 27.2	-0.8	
KK31				pmax	pmax			
	comp=Z,23nm,0.8s							
KKAR	**Karatay Array**	**63.40**	**317**	*e*P	**P**	01 41 27.6	-0.4	
KKAR	**Karatay Array**	**63.40**	**317**	*e*P	**P**	01 41 27.6	-0.4	
VOSK	**Vostochnaya**	**66.88**	**327**	*e*P	**P**	01 41 49.3	-1.1	
VOSK	**Vostochnaya**	**66.88**	**327**	*e*P	**P**	01 41 49.3	-1.1	
TIXI	**Tiksi**	**67.36**	**0**	*ce*P	**P**	01 41 52.8	-0.2	
TIXI				pmax	pmax			
	comp=Z,16nm,1.2s							
BRVK	**Borovoye**	**67.40**	**327**	*ce*P	**P**	01 41 53.7	0.0	
BRVK				pmax	pmax			
	comp=Z,43nm,0.8s							
BRVK	**Borovoye**	**67.40**	**327**	P	**P**	01 41 53.6	-0.1	
	comp=Z,281nm,0.9s,SNR=32							
BRVK	**Borovoye**	**67.40**	**327**	*e*P	**P**	01 41 53.5	-0.1	
	comp=Z,35nm,0.8s							
IDAH	**Dahanechah**	**68.94**	**303**	*e*P	**P**	01 42 04.0	0.0	
IMYA	**Miami**	**69.34**	**307**	*e*P	**P**	01 42 06.1	-0.3	
IKOO	**Kooshah**	**69.61**	**303**	*e*P	**P**	01 42 08.5	+0.3	
IAKL	**Akhelmad**	**70.45**	**307**	*e*P	**P**	01 42 14.0	+0.7	
IKRD	**Kardeh**	**70.68**	**307**	*e*P	P	01 42 10.2	-4.4	
ISFR	**Sfrayin**	**71.13**	**308**	*e*P	**P**	01 42 18.2	+0.8	
CASY	**Casey**	**71.38**	**187**	*e*P	**P**	01 42 18.7	+0.8	
	comp=Z,17nm,0.8s							
AB31	**Akbulak array**	**72.26**	**321**	*ce*P	**P**	01 42 22.8	-0.8	
AB31				pmax	pmax			
	comp=Z,3.0nm,0.4s							
ABKAR	**Akbulak array**	**72.26**	**321**	*e*P	**P**	01 42 23.1	-0.4	
AKTO	**Aktyubinsk**	**73.75**	**321**	*i* P	**P**	01 42 31.9	-0.5	
AKTO				pmax	pmax			
	comp=Z,23nm,1.1s							
SVE	**Sverdlovsk**	**73.95**	**328**	⇑*i* P	**P**	01 42 33.3	-0.1	
SVE				pmax	pmax			
	comp=Z,50nm,1.2s							
ISRV	**Sarvestan**	**74.32**	**299**	*e*P	**P**	01 42 36.2	-0.4	
IPAR	**Pars**	**74.41**	**300**	*e*P	**P**	01 42 36.8	-0.3	
ISHM	**Shahmirzad**	**74.73**	**306**	*e*P	**P**	01 42 38.5	-0.3	
ARU	**Arti**	**74.94**	**328**	*d i*P	**P**	01 42 38.6	-0.5	
ARU				PPP	PPP	01 47 12.1		
ARU				S	**S**	01 52 16.5	+5.0	
ARU				SS	**SS**	01 57 00.5	-0.4	
ARU				pmax	pmax			
	comp=Z,26nm,1.0s							
ARU	**Arti**	**74.94**	**328**	P	**P**	01 42 38.6	-0.5	
	comp=Z,159nm,0.6s,SNR=6.4							
ISFB	**Sefidab**	**75.45**	**304**	*e*P	**P**	01 42 42.1	-0.6	
IKAZ	**Kazeroun**	**75.46**	**300**	*e*P	**P**	01 42 42.4	-0.7	
IPIR	**Pirpir**	**76.45**	**302**	*e*P	**P**	01 42 47.1	-1.6	
UMR	**Umm Al-Rimmam**	**79.03**	**299**	*e*P	**P**	01 43 01.7	-1.0	
UMR				AMb	AMB	01 43 05.3		
	comp=Z,22nm,1.0s							
ISRB	**Sarab**	**79.38**	**308**	*e*P	**P**	01 43 04.7	-0.1	
NAY	**Al-Naaiem**	**79.44**	**299**	*e*P	**P**	01 43 04.1	-0.8	
NAY				AMb	AMB	01 43 06.4		
	comp=Z,16nm,1.1s							
RST	**Umm Al-Ruwaisa**	**79.66**	**299**	*e*P	**P**	01 43 05.0	-1.2	
RST				AMb	AMB	01 43 10.6		
	comp=Z,187nm,0.8s							
IHRS	**Heris**	**79.90**	**308**	*e*P	**P**	01 43 06.9	-0.7	
IVIS	**Veis**	**79.91**	**304**	*e*P	P	01 43 02.3	-5.2	
ITBZ	**Tabriz**	**80.60**	**308**	*e*P	**P**	01 43 11.0	-0.3	
RAYN	**Ar Rayn**	**80.98**	**293**	P	**P**	01 43 13.5	+0.1	
	comp=Z,77nm,0.8s,SNR=7.3							
RAYN	**Ar Rayn**	**80.98**	**293**	*e*P	**P**	01 43 13.3	-0.1	
	comp=Z,11nm,0.8s							
KDAK	**Kodiak Island**	**81.09**	**32**	P	**P**	01 43 13.0	-0.2	
KDAK	**Kodiak Island**	**81.09**	**32**	P	**P**	01 43 13.0	-0.2	
	comp=Z,8.7nm,0.8s,baz=300,slow=8.1,SNR=5.0							
IM04	**Indian Mountai**	**81.59**	**24**	*e*P	**P**	01 43 16.2	+0.5	
GNI	**Garni**	**81.75**	**310**	*e*P	P	01 43 20.8	+3.5	
	comp=Z,20nm,1.2s							
GNI	**Garni**	**81.75**	**310**	P	**P**	01 43 17.1	-0.2	
	comp=Z,1.4nm,0.4s,baz=135,slow=7.1,SNR=2.0							
CAST	**Castle Rocks**	**81.98**	**27**	*e*P	**P**	01 43 17.5	-0.3	
	comp=Z,105nm,2.2s							
ZEI	**Tsey**	**82.44**	**312**	*e*P	**P**	01 43 20.2	-0.8	
ZEI				pmax	pmax			
	comp=Z,14nm,1.0s							
BPAW	**Bear Paw Mtn.**	**82.54**	**26**	*e*P	**P**	01 43 20.4	-0.4	
	comp=Z,156nm,2.7s							
TRF	**Thorofare Moun**	**82.78**	**27**	*e*P	**P**	01 43 21.2	-1.0	
	comp=Z,21nm,1.3s							
COLD	**Coldfoot**	**83.17**	**23**	*e*P	**P**	01 43 24.2	+0.3	
	comp=Z,62nm,2.1s							
KBZ	**Khabaz**	**83.19**	**313**	P	**P**	01 43 24.9	+0.4	
KBZ	**Khabaz**	**83.19**	**313**	P	**P**	01 43 24.9	+0.4	
KBZ	**Khabaz**	**83.19**	**313**	P	**P**	01 43 24.9	+0.4	
	comp=Z,2.4nm,0.8s,baz=107,slow=6.5,SNR=4.3							
KIV	**Kislovodsk**	**83.35**	**314**	*e*P	**P**	01 43 27.1	+1.6	
KIV				pmax	pmax			
	comp=Z,8.0nm,1.0s							
MCK	**McKinley**	**83.41**	**26**	*e*P	**P**	01 43 24.4	-0.8	
MCK				pmax	pmax			
	comp=Z,67nm,1.7s							
MCK	**McKinley**	**83.41**	**26**	*e*P	**P**	01 43 24.4	-0.8	
	comp=Z,67nm,1.7s							
VNDA	**Vanda**	**83.80**	**173**	*e*P	**P**	01 43 27.6	+0.6	
	comp=Z,9.5nm,0.8s							
VNDA	**Vanda**	**83.80**	**173**	P	**P**	01 43 27.2	+0.3	
	comp=Z,8.5nm,0.8s,baz=314,slow=5.8,SNR=50							
VRHR	**Novokhopersk**	**84.14**	**321**	*e*P	**P**	01 43 28.2	-1.0	
VRHR				pmax	pmax			
	comp=Z,40nm,1.1s							
VRHR				pmax	pmax			
	comp=N,10.0nm,0.7s							
VRHR				pmax	pmax			
	comp=E,30nm,1.4s							
ILAR	**Eielson Array**	**84.36**	**25**	P	**P**	01 43 28.6	-1.4	
ILAR	**Eielson Array**	**84.36**	**25**	P	**P**	01 43 28.6	-1.4	
	comp=E,1.1nm,0.7s,baz=240,slow=4.9,SNR=12							
MAW	**Mawson**	**84.46**	**200**	P	**P**	01 43 30.6	+0.2	
MAW	**Mawson**	**84.46**	**200**	P	**P**	01 43 30.6	+0.2	
	comp=E,2.2nm,0.7s,baz=65,slow=8.2,SNR=6.1							
KLMR	**Klimovskoe**	**85.36**	**331**	*e*P	**P**	01 43 32.4	-2.7	
KLMR				pmax	pmax			
	comp=Z,54nm,1.6s							
VSR	**Storozhevoye**	**85.69**	**321**	*e*P	**P**	01 43 36.1	-0.9	
VSR				pmax	pmax			
	comp=Z,40nm,1.4s							
VSR				pmax	pmax			
	comp=N,10.0nm,1.3s							
VSR				pmax	pmax			
	comp=E,20nm,1.6s							
MALT	**Malatya**	**86.67**	**308**	⇑*i*P	**P**	01 43 43.0	+0.7	
OBN	**Obninsk**	**87.10**	**325**	⇓*i*P	**P**	01 43 42.8	-1.0	
OBN				*e*		01 47 05.8		
OBN				*e*S	**S**	01 54 19.8	+1.9	
OBN				pmax	pmax			
	comp=Z,21nm,0.8s							
OBN				MLR	MLR			
	comp=Z,5μm,18.0s							
ARCES	**ARCESS Array B**	**90.26**	**340**	P	**P**	01 43 57.2	-1.3	
ARCES	**ARCESS Array B**	**90.26**	**340**	P	**P**	01 43 57.2	-1.3	
	comp=Z,8.3nm,0.8s,baz=86,slow=4.7,SNR=17							
BR131	**Keskin Array S**	**90.29**	**310**	*e*P	**P**	01 43 59.8	+0.4	
	comp=Z,1.3nm,0.6s							
BRTR	**Keskin Array B**	**90.29**	**310**	P	**P**	01 43 58.6	-0.8	
BRTR	**Keskin Array B**	**90.29**	**310**	P	**P**	01 43 58.6	-0.8	
	comp=Z,3.6nm,0.9s,baz=110,slow=4.8,SNR=12							
KMBO	**Kilima Mbogo**	**90.30**	**269**	*e*P	**P**	01 44 00.5	+0.4	
	comp=Z,2.7nm,0.9s							
KMBO	**Kilima Mbogo**	**90.30**	**269**	P	**P**	01 43 59.9	-0.3	
	comp=Z,2.7nm,0.9s,baz=53,slow=6.9,SNR=8.5							
FINES	**FINESS Array B**	**91.77**	**332**	P	**P**	01 44 04.2	-1.3	
FINES	**FINESS Array B**	**91.77**	**332**	P	**P**	01 44 04.2	-1.3	
	comp=Z,1.7nm,0.6s,baz=98,slow=4.2,SNR=9.6							
AKASG	**Malin Array Be**	**91.99**	**321**	P	**P**	01 44 05.5	-1.4	
AKASG	**Malin Array Be**	**91.99**	**321**	P	**P**	01 44 05.5	-1.4	
AKASG	**Malin Array Be**	**91.99**	**321**	P	**P**	01 44 05.5	-1.4	
	comp=Z,4.7nm,0.8s,baz=69,slow=4.4,SNR=23							
KIEV	**Kiev**	**92.00**	**321**	*e*P	**P**	01 44 06.1	-0.8	
KIEV				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KIEV	**Kiev**	**92.00**	**321**	*e*P	**P**	01 44 06.1	-0.8	
	comp=Z,4.1nm,0.8s							
SYO	**Syowa Base**	**93.14**	**201**	⇑*e*P	**P**	01 44 11.0	-0.7	
QSPA	**South Pole Qui**	**94.11**	**180**	*e*P	**P**	01 44 17.0	+0.6	
	comp=Z,16nm,1.4s							
QSPA	**South Pole Qui**	**94.11**	**180**	P	**P**	01 44 16.6	+0.2	
	comp=Z,5.9nm,0.9s,baz=322,slow=1.4,SNR=14							
TESR	**Tescani**	**94.40**	**317**	⇑*i*P	**P**	01 44 17.6	-0.5	
VRI	**Vrincioaia**	**94.46**	**316**	⇓*i*P	**P**	01 44 19.2	+0.8	
PLOR	**Plostina**	**94.52**	**316**	⇑*i*P	**P**	01 44 18.4	-0.3	
BURAR	**Bucovina Array**	**95.14**	**318**	⇑*i*P	**P**	01 44 20.0	-1.6	
KWP	**Kalwaria Pacla**	**96.31**	**321**	⇑*i*P	**P**	01 44 24.5	-2.2	
KOLS	**Kolonicke sedl**	**96.76**	**320**	*e*P	**P**	01 44 30.0	+1.2	
KOLS				pmax	pmax			
	comp=Z,11nm,1.7s							
KOLS	**Kolonicke sedl**	**96.76**	**320**	*e*P	**P**	01 44 30.0	+1.2	
UZH	**Uzhgorod**	**96.82**	**320**	*e*P	**P**	01 44 27.5	-1.5	
UZH				*e*		01 44 49.0		
CRVS	**Cervenica-Dubn**	**97.28**	**320**	*e*P	Pdif	01 44 31.7	+0.5	
CRVS				pmax	pmax			
	comp=Z,8.0nm,1.1s							
CRVS	**Cervenica-Dubn**	**97.28**	**320**	*e*P	Pdif	01 44 31.7	+0.5	
STHS	**Stebnicka Huta**	**97.29**	**321**	*e*P	**P**	01 44 31.0	-0.2	
STHS				pmax	pmax			
	comp=Z,6.0nm,1.7s							
STHS	**Stebnicka Huta**	**97.29**	**321**	*e*P	**P**	01 44 31.0	-0.2	
KECS	**Kecovo**	**98.02**	**320**	*e*P	**P**	01 44 34.4	-0.1	
KECS				pmax	pmax			
	comp=Z,2.0nm,1.0s							
KECS	**Kecovo**	**98.02**	**320**	*e*P	**P**	01 44 34.4	-0.1	
NOA	**NORSAR Array B**	**98.69**	**334**	P	**P**	01 44 35.3	-1.9	
NOA	**NORSAR Array B**	**98.69**	**334**	P	**P**	01 44 35.3	-1.9	
	comp=Z,1.7nm,0.8s,baz=66,slow=4.6,SNR=3.4							
GERES	**GERESS Array B**	**102.17**	**322**	P	**Pdif**	01 44 52.9	-0.3	
GERES				PP	PP	01 48 58.5	-6.8	
GERES	**GERESS Array B**	**102.17**	**322**	P	**Pdif**	01 44 52.9	-0.3	
	comp=Z,0.6nm,0.9s,baz=72,slow=6.3,SNR=6.5							
GERES				PP	PP	01 48 58.5	-6.8	
	comp=Z,0.2nm,0.3s,baz=83,slow=8.0,SNR=2.7							
PDAR	**Pinedale Array**	**110.51**	**41**	PKKPab	PKKPab	02 00 41.8	-0.6	
PDAR	**Pinedale Array**	**110.51**	**41**	PKKPab	PKKPab	02 00 41.8	-0.6	
	comp=Z,0.5nm,0.7s,baz=122,slow=4.4,SNR=4.8							
ESDC	**Sonseca Array**	**117.59**	**319**	PP	PP	01 50 57.9	+1.1	
ESDC	**Sonseca Array**	**117.59**	**319**	PP	PP	01 50 57.9	+1.1	
	comp=Z,0.1nm,0.3s,baz=56,slow=8.1,SNR=4.3							
SCHQ	**Schefferville**	**119.98**	**10**	PKP	**PKPdf**	01 49 48.1	-0.2	
SCHQ	**Schefferville**	**119.98**	**10**	PKP	**PKPdf**	01 49 48.1	-0.2	
	comp=Z,5.7nm,0.8s,baz=268,slow=3.2,SNR=4.6							
TXAR	**Lajitas Array**	**120.72**	**52**	PKP	**PKPdf**	01 49 51.0	+0.4	
TXAR	**Lajitas Array**	**120.72**	**52**	PKP	**PKPdf**	01 49 51.0	+0.4	
	comp=Z,0.9nm,0.7s							
MDT	**Midelt**	**121.58**	**313**	PKP	**PKPdf**	01 49 52.0	-0.2	
MDT	**Midelt**	**121.58**	**313**	PKP	**PKPdf**	01 49 52.0	-0.2	
	comp=Z,1.5nm,0.9s,baz=153,slow=2.8,SNR=5.2							
TORD	**Torodi Ar. Bea**	**123.47**	**289**	PKP	**PKPdf**	01 49 55.8	-0.3	
TORD	**Torodi Ar. Bea**	**123.47**	**289**	PKP	**PKPdf**	01 49 55.8	-0.3	
	comp=Z,2.7nm,0.7s,baz=17,slow=1.9,SNR=18							
TRQA	**Tornquist**	**145.22**	**167**	*e*PKPdf	**PKPdf**	01 50 36.6	+0.7	
LCO	**Las Campanas**	**149.90**	**147**	*e*PKPbc	**PKPbc**	01 50 50.4	+1.3	
CPUP	**Villa Florida**	**157.52**	**169**	PKPab	**PKPab**	01 51 27.9	+1.3	
CPUP	**Villa Florida**	**157.52**	**169**	PKPab	**PKPab**	01 51 27.9	+1.3	
	comp=Z,0.6nm,0.4s,baz=112,slow=2.9,SNR=5.0							
LPAZ	**La Paz**	**160.53**	**129**	PKP	**PKPdf**	01 50 59.4	0.0	
LPAZ				*e*PKPdf	**PKPdf**	01 51 00.4	+1.0	
LPAZ	**La Paz**	**160.53**	**129**	PKP	**PKPdf**	01 50 59.4	0.0	
	comp=Z,4.0nm,0.9s,baz=306,slow=1.2,SNR=12							

ISCJB ***01*** *01:32:57.8±1.0, 37.78N±0.04×23.87E±0.08, h12km±4km, Error ellipse: s-maj=10.5km s-min=5.3km az=18.3*
CSEM ***01*** *01:32:57.8±0.3, 37.77N×23.87E, h10km, ML1.0/3, Error ellipse: s-maj=7.1km s-min=3.5km az=110.0*
ATH ***01*** *01:32:57.3, 37.75N×23.93E, h15km±3km, MD2.6/6, ML1.2*
THE ***01*** *01:32:58.2, 37.78N×23.85E, h0km±2km, ML1.0/3, Error ellipse: s-maj=2.9km s-min=0.5km az=119.0*

ISC 01 01:32:57.8±1.2, 37.76N±0.04×23.87E±0.05, h12km±8km, n30, σ0s32/45, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATHU	**Athens Univers**	**0.21**	**341**	P	**Pg**	**01 33 02.2**	**-0.2**
ATHU				S	**Sg**	**01 33 05.6**	**+0.1**
ATHU	**Athens Univers**	**0.21**	**341**	P	**Pg**	**01 33 02.2**	**-0.2**
ATHU				S	**Sg**	**01 33 05.6**	**+0.1**
ATH	**Athens Observa**	**0.24**	**330**	P	**Pg**	**01 33 02.3**	**-0.5**
ATH				S	**Sg**	**01 33 06.2**	**-0.1**
ATH	**Athens Observa**	**0.24**	**330**	*e*PB	**Pg**	**01 33 03.0**	**+0.2**
ATH				*e*SB	**Sg**	**01 33 07.4**	**+1.1**
ATH	**Athens Observa**	**0.24**	**330**	P	**Pg**	**01 33 02.3**	**-0.5**
ATH	**Athens Observa**	**0.24**	**330**	*e*Pb	**Pg**	**01 33 03.0**	**+0.2**
ATH				S	**Sg**	**01 33 06.2**	**-0.1**
ATH				*e*Sb		01 33 07.4	
PTL	**Penteli**	**0.28**	**359**	P	**Pg**	**01 33 03.5**	**-0.2**
PTL				S	**Sg**	**01 33 08.2**	**+0.6**
PTL	**Penteli**	**0.28**	**359**	*e*PB	**Pg**	**01 33 03.7**	**0.0**
PTL				*e*SB	**Sg**	**01 33 07.4**	**-0.2**
PTL	**Penteli**	**0.28**	**359**	*e*Pb	**Pg**	**01 33 03.7**	**0.0**
PTL				*e*Sb	**Sg**	**01 33 07.4**	**-0.2**
PTL				S	**Sg**	**01 33 08.2**	**+0.6**
NAIG	**Nisos Aigina**	**0.30**	**269**	*e*PB	**Pg**	**01 33 04.1**	**+0.1**
NAIG	**Nisos Aigina**	**0.30**	**269**	*e*Pb	**Pg**	**01 33 04.1**	**+0.1**
DID	**Didima**	**0.57**	**243**	P	**Pg**	**01 33 09.0**	**+0.2**
DID				S	**Sb**	**01 33 17.3**	**-0.4**
DID	**Didima**	**0.57**	**243**	*e*PN	**Pg**	**01 33 09.0**	**+0.2**
DID	**Didima**	**0.57**	**243**	P	**Pg**	**01 33 09.0**	**+0.2**
DID				S	**Sb**	**01 33 17.3**	**-0.4**
ERET	**Eretria**	**0.68**	**356**	P	**Pg**	**01 33 11.3**	**+0.3**
ERET				S	**Sb**	**01 33 20.9**	**-0.2**
ERET	**Eretria**	**0.68**	**356**	P	**Pg**	**01 33 11.3**	**+0.3**
ERET				S	**Sb**	**01 33 20.9**	**-0.2**
LTK	**Loutraki**	**0.76**	**290**	P	**Pg**	**01 33 12.6**	**+0.1**
LTK				S	**Sg**	**01 33 22.5**	**0.0**
**L

JSU	**Suzuyama**	**3.21**	**16**	P	Pn	01 49 25.2	+1.5
JSJ	**Shimokoshiki**	**3.27**	**4**	P	Pn	01 49 25.3	+0.9
JNAR	**Kushima--Naru**	**3.50**	**27**	*e*S	Sn	01 50 08.7	+1.0

ISCJB ***01*** *01:50:53.2±0.8,2˙6S±0˙.1×101˙.4E±0˙.1, h10km, mb4.0/13, Error ellipse: s-maj=22.5km s-min=11.8km az=147.5*

IDC ***01*** *01:50:53.1±1.1,2˙68S×101˙.23E, h0km, mb4.0/12, mb1 4.1/12, mb1mx3.9/23, mbtmp4.0/12, Error ellipse: s-maj=49.5km s-min=17.6km az=51.0*

ISC 01 01:50:54.7±1.0,**2.7S**±0.1×**101˙.3E**±0˙.1,**h10**km,**n24,** σ1§**09**/15,**mb3.9**/13,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPBI	**Pangkal Pinang**	**4.87**	**84**	P	**Pb**	**01 52 20.7**	**+0.6**
PPBI	**Pangkal Pinang**	**4.87**	**84**	P	Sn	01 53 17.6	+13
MYKOM	**Kota Tinggi**	**5.11**	**30**	P	**Pn**	**01 52 10.1**	**-1.3**
PSI	**Prapat**	**5.93**	**336**	Pn	Pn	01 52 25.0	+2.3
	1.0nm,0.3s,baz=151,slow=12,SNR=6.0						
CMAR	**Chiang Mai Arr**	**21.12**	**354**	P	**P**	**01 55 42.0**	**+2.2**
	0.7nm,0.3s,baz=184,slow=11,SNR=2.8						
H08S2	**Diego Garcia H**	**29.09**	**259**	T	T	02 26 50.3	
	baz=73						
H08S3	**Diego Garcia H**	**29.10**	**259**	T	T	02 26 55.6	
	baz=73						
H08S1	**Diego Garcia H**	**29.11**	**259**	T	T	02 26 51.1	
	baz=73						
H01W3	**Cape Leeuwin H**	**34.21**	**161**	T	T	02 33 47.1	
	baz=338,slow=0.7						
H01W2	**Cape Leeuwin H**	**34.22**	**161**	T	T	02 33 48.3	
	baz=338						
H01W1	**Cape Leeuwin H**	**34.22**	**161**	T	T	02 33 48.6	
	baz=338,slow=0.7						
WRA	**Warramunga Arr**	**36.54**	**121**	P	**P**	**01 58 00.5**	**-0.5**
	0.4nm,0.5s,baz=306,slow=9.7,SNR=2.4						
ASAR	**Alice Springs**	**37.82**	**126**	P	**P**	**01 58 12.3**	**+0.6**
	1.2nm,0.7s,baz=302,slow=8.4,SNR=12						
STKA	**Stephens Creek**	**47.74**	**132**	P	**P**	**01 59 32.0**	**-0.2**
	2.4nm,0.8s,baz=313,slow=8.4,SNR=4.1						
SONM	**Songino Array**	**50.49**	**4**	P	**P**	**01 59 53.3**	**+0.2**
	1.0nm,0.7s,baz=176,slow=8.4,SNR=5.4						
MKAR	**Makanchi Array**	**52.02**	**344**	P	**P**	**02 00 03.2**	**-1.3**
	0.9nm,0.8s,baz=142,slow=7.0,SNR=5.6						
USRK	**Ussurisyk Arra**	**54.15**	**27**	P	**P**	**02 00 20.4**	**+0.3**
	2.4nm,0.6s,baz=205,slow=6.4,SNR=6.5						
ZALV	**Zalesovo Beam**	**58.07**	**349**	P	**P**	**02 00 47.6**	**-0.4**
	1.4nm,0.3s,baz=134,slow=4.3,SNR=4.4						
BVAR	**Borovoye Array**	**61.26**	**339**	P	**P**	**02 01 09.6**	**-0.4**
	0.5nm,0.5s,baz=141,slow=9.3,SNR=3.7						
KBZ	**Khabaz**	**69.66**	**319**	P	**P**	**02 02 05.2**	**+0.7**
	0.7nm,0.4s,baz=108,slow=3.2,SNR=3.2						
BRTR	**Keskin Array B**	**74.72**	**312**	P	**P**	**02 02 34.0**	**-1.2**
	0.9nm,0.8s,baz=174,slow=5.0,SNR=3.6						
FINES	**FINESS Array B**	**85.30**	**332**	P	**P**	**02 03 32.7**	**+1.0**
	2.2nm,0.9s,baz=58,slow=3.4,SNR=3.0						
ARCES	**ARCESS Array B**	**87.54**	**340**	P	P	02 03 44.3	+1.7
	7.2nm,1.1s,baz=106,slow=6.7,SNR=3.1						
TXAR	**Lajitas Array**	**144.42**	**39**	PKP	**PKPdf**	**02 10 31.1**	**-1.1**
	0.7nm,0.7s						

IDC ***01*** *01:52:25.0±0.3,2˙48S×101˙.59E, h0km, mb5.3/35, mb1 5.4/36, mb1mx5.4/36, mbtmp5.3/36, ML5.2/1, MS6.4/40, Ms1 6.4/40, ms1mx6.3/52, Error ellipse: s-maj=10.4km s-min=7.3km az=48.0*

AUST ***01*** *01:52:26.3±0.2,2˙63S×101˙.59E, h0km, Error ellipse: s-maj=6.0km s-min=3.9km az=60.0*

ISCJB ***01*** *01:52:28.0±0.5,2˙51S±0˙.02×101˙.46E±0˙.02, h21km±3km, mb5.8/268, MS6.6/276, Error ellipse: s-maj=3.4km s-min=2.2km az=34.4*

NEIC ***01*** *01:52:27.3±0.1,2˙48S×101˙.52E, h9km, mb5.9/120, ME7.4, MS6.7/141, MW6.5, MW6.6, MW6.6(USGS), Error ellipse: s-maj=4.7km s-min=3.6km az=214.0, Moment Tensor Solution. s91 Moment tensor: Scale 10¹⁸Nm; Mrr=0.39; Mθθ=6.28; Mϕϕ=5.89; Mrθ=0.20; Mθϕ=1.86; Mϕr=0.21; Best double couple: Mw6.4 0000×10¹⁸ NP1:ϕs=324.00000°, δ87.00000°, λ179.00000°. NP2:ϕs=54.00000°, δ89.00000°, λ3.00000°. Principal axes: T 6.1800, Plg2.0000°, Azm278.0000°; N 0.3900, Plg87.0000°, Azm67.0000°; P -6.5600, Plg1.0000°, Azm188.0000°; Broadband fault plane solution: P waves. NP1:ϕs=325.00000°, δ85.00000°, λ180.00000°. NP2:ϕs=55.00000°, δ90.00000°, λ5.00000°. Principal axes: T Plg4.0000°, Azm280.0000°; N Plg0.0000°, Azm0.0000°; P Plg4.0000°, Azm190.0000°; Complex earthquake with two events occurring about 7 seconds apart observed on broadband displacement seismograms. Depth based on first event. Energy computed from BB mechanism.*

NEIC Three people killed and dozens of houses collapsed in Kerinci. Damage estimated at 10 million U.S. dollars. Felt [IV] at Jambi, Kapahiang and Padangpanjang and [III] at Bengkulu and Pekanbaru. Also felt at Duri and Padang. Felt [II] at Jakarta, Java and in Singapore. Felt [II] at Kuala Lumpur, Malaysia. Also felt at Johor Bahru.

BJI ***01*** *01:52:27.2,2˙50S×101˙.50E, h13km, mB6.1/59, mb5.5/51, Ms7.0/80, Ms7 6.8/73*

MOS ***01*** *01:52:28.2±1.0,2˙46S×101˙.63E, h33km, mb6.2/126, MS6.6/98, Error ellipse: s-maj=11.0km s-min=6.3km az=102.3*

BKK ***01*** *01:52:30.7±0.2,3˚S±2˚×10˚2E±˚, h10km, M6.6/47, mb5.9/47, mB6.6/45, MLv6.7/7, Mw(mB)6.4/45, Mwp6.8/19*

DJA ***01*** *01:52:31.0±0.3,2˚S±2˚×10˚2E±˚, h12km±3km, M6.8/89, mb6.1/89, mB6.9/87, MLv6.8/30, Mw(mB)6.8/87, Mwp6.6/55*

SZGRF ***01*** *01:52:33.7,2˙58S×101˙.43E, h33km, mb6.1, MS6.6, Southern Sumatera, Indonesia*

GCMT ***01*** *01:52:34.8±0.1,2˙45S×101˙.59E, h15km, MW6.6, Moment Tensor Solution. s130,c310; s99,c241; Moment tensor: Scale 10¹⁸Nm; Mrr=0.08±.04; Mθθ=8.80±.04; Mϕϕ 8.88±.05; Mrθ 2.97±.16; Mθϕ 2.46±.04; Mϕr 1.67±.15; Best double couple: Mw9.80000×10¹⁸ NP1:ϕs=232.00000°, δ88.00000°, λ-20.00000°. NP2:ϕs=323.00000°, δ70.00000°, λ-178.00000°. Principal axes: T 9.6700, Plg12.0000°, Azm280.0000°; N 0.2300, Plg70.0000°, Azm46.0000°; P -9.9000, Plg16.0000°, Azm186.0000°; Data Used: II IU CN IC G. LP body wave period 50 sec. Mantle waves from 114 sta. Surface waves: sta=120, comp=280, per= 50.*

NEIC ***01*** *01:52:47.9±0.0,2˙60S×101˙.70E, h10km Best double couple: NP1:ϕs=319.00000°, δ51.00000°, λ179.00000°. NP2:ϕs=50.00000°, δ89.00000°, λ39.00000°. Principal axes: T 1.1300, Plg27.0000°, Azm281.0000°; N -0.2500, Plg51.0000°, Azm51.0000°; P -0.8800, Plg25.0000°, Azm177.0000°;*

ISC 01 01:52:29.7±0.2,**2.52S**±0.02×**101˙.57E**±0˙.02,**h21**km±1km, **h21**km:**pP-P, n1998,** σ1§**75**/2099,**mb5.9**/277,**MS6.6**/279, **277C-210D,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRJI	**Kerinci**	**0.44**	**346**	P	**Pb**	**01 52 37.1**	**-1.7**
MASI	**Maura Aman, Be**	**0.91**	**132**	P	**Pb**	**01 52 44.8**	**-2.1**
KSI	**Kapahiang**	**1.52**	**138**	P	**Pn**	**01 52 55.8**	**+0.1**
PDSI	**Padang**	**1.94**	**325**	P	**Pn**	**01 53 02.4**	**+0.9**
RGRI	**Rengat**	**2.29**	**20**	P	**Pn**	**01 53 06.4**	**+0.1**
MNAI	**Manna**	**2.29**	**143**	P	**Pn**	**01 53 06.1**	**-0.2**
MNAI	**Manna**	**2.29**	**143**	*e*Pn	**Pn**	**01 53 05.7**	**-0.6**
MNAI	**Manna**	**2.29**	**143**	P	**Pn**	**01 53 05.9**	**-0.4**
	baz=2.2,SNR=64						
PPI	**Padang Panjang**	**2.36**	**330**	P	**Pn**	**01 53 09.3**	**+2.1**
PPI	**Padang Panjang**	**2.36**	**330**	P	**Pn**	**01 53 09.1**	**+1.8**
	baz=2.5,SNR=5.9						
EGSI	**Enggano, Bengk**	**2.90**	**166**	P	**Pb**	**01 53 19.7**	**-1.1**
PMBI	**Palembang**	**3.23**	**97**	P	**Pn**	**01 53 16.9**	**-2.3**
PMBI				S	**Sn**	**01 54 00.2**	**+3.2**
PMBI	**Palembang**	**3.23**	**97**	P	**Pn**	**01 53 16.6**	**-2.5**
	baz=3.2,SNR=15						
MDSI	**Maura Dua**	**3.26**	**127**	P	**Pn**	**01 53 19.2**	**-0.4**
MDSI				S	**Sn**	**01 54 00.7**	**+3.0**
LWLI	**Liwa**	**3.51**	**135**	P	Pn	01 53 25.9	+2.7
MNSI	**Mandailing Nat**	**3.85**	**329**	P	**Pn**	**01 53 30.4**	**+2.7**
MNSI				S	**Sn**	**01 54 15.4**	**+3.1**
KLI	**Kotabumi**	**4.02**	**125**	P	Pn	01 53 33.9	+3.8
KLI				S	Sn	01 54 22.1	+5.5
KASI	**Kota Agung**	**4.17**	**136**	P	**Pn**	**01 53 33.3**	**+1.1**
KASI				S	**Sn**	**01 54 25.1**	**+4.7**
BTDF	**Bukit Timah Da**	**4.45**	**30**	P	**Pn**	**01 53 35.2**	**-0.7**
	baz=4.5,SNR=51						
BTDF				P	**Pn**	**01 53 35.2**	**-0.7**
	baz=4.5,SNR=51						
PPBI	**Pangkal Pinang**	**4.58**	**86**	S	Sn	01 54 36.9	+6.5
BLSI	**Bandar Lampung**	**4.63**	**128**	P	**Pn**	**01 53 40.6**	**+2.1**
KGM	**Kluang**	**4.84**	**21**	P	**Pn**	**01 53 41.8**	**+0.5**
MYKOM	**Kota Tinggi**	**4.86**	**28**	P	**Pn**	**01 53 41.4**	**-0.1**
MYKOM	**Kota Tinggi**	**4.86**	**28**	S	Sb	01 55 00.2	+8.0
GSI	**Gunungsitoli**	**5.51**	**314**	P	**Pn**	**01 53 50.8**	**+0.2**
	6μm,0.9s,267μm968μm55nm						
GSI				S	**Sn**	**01 54 56.6**	**+3.3**
	6μm,0.9s,267μm968μm55nm						
FRIM	**Kepong**	**5.72**	**1**	P	**Pn**	**01 53 54.0**	**+0.5**
SBJI	**Serang**	**5.79**	**128**	P	Pn	01 53 57.2	+2.8
	126nm839μm312μm9μm,1.5s						
SBJI				S	Pn	01 53 57.4	+3.0
	126nm839μm312μm9μm,1.5s						
PSI	**Prapat**	**5.91**	**333**	Pn	**Pn**	**01 53 57.4**	**+1.2**
PSI				Sn	**Sn**	**01 55 07.9**	**+4.5**
PSI	**Prapat**	**5.91**	**333**	⇓P	**Pn**	**01 53 57.5**	**+1.3**
	baz=6.0,SNR=57						
PSI	**Prapat**	**5.91**	**333**	Pn	**Pn**	**01 53 57.4**	**+1.2**
	7.8nm,0.3s,baz=159,slow=12,SNR=51						
PSI				Sn	**Sn**	**01 55 07.9**	**+4.5**
	37nm,0.3s,baz=128,slow=19,SNR=2.3						
PSI				LR	LR	01 56 32.2	
	comp=Z,1327μm,20.8s,baz=141,slow=43						
TPI	**Tanjungpandan**	**6.09**	**92**	P	**Pn**	**01 53 55.7**	**-2.8**
TPI				S	**Pn**	**01 53 57.4**	**-1.1**
TNG	**Tangerang**	**6.23**	**126**	P	Pn	01 54 04.9	+4.5
	194nm812μm756μm37μm,2.3s						
TNG				S	Pn	01 54 07.5	+7.1
	194nm812μm756μm37μm,2.3s						
DBJI	**Dramaga**	**6.54**	**128**	P	Pn	01 54 08.1	+3.4
	78nm530μm274μm9μm,2.2s						
DBJI				S	Pn	01 54 09.0	+4.3
	78nm530μm274μm9μm,2.2s						
SKJI	**Sukabumi**	**6.67**	**132**	P	Pn	01 54 11.1	+4.5
	5μm,2.3s,197μm280μm49nm						
IPM	**Ipoh**	**6.98**	**356**	P	**Pn**	**01 54 13.1**	**+2.4**
IPM	**Ipoh**	**6.98**	**356**	S	Sb	01 56 07.3	+14
IPM	**Ipoh**	**6.98**	**356**	P	**Pn**	**01 54 13.0**	**+2.2**
	2μm,0.8s,41μm23nm						
IPM	**Ipoh**	**6.98**	**356**	*e*Pn	**Pn**	**01 54 12.2**	**+1.5**
IPM				*e*S	Sb	01 56 03.6	+10
KCSI	**Kotacane, Aceh**	**7.10**	**328**	P	**Pn**	**01 54 14.8**	**+2.3**
	33nm320μm54μm2μm,1.9s						
KCSI				S	**Pn**	**01 54 15.5**	**+3.0**
	33nm320μm54μm2μm,1.9s						
SNSI	**Sinabang, Aceh**	**7.17**	**313**	P	**Pn**	**01 54 14.8**	**+1.4**
	22nm780μm84μm3μm,1.6s						
SNSI				S	**Pn**	**01 54 15.0**	**+1.6**
	22nm780μm84μm3μm,1.6s						
LEM	**Lembang**	**7.39**	**126**	P	Pn	01 54 20.9	+4.3
	39nm219μm8μm,1.6s						
LEM				S	Pn	01 54 20.4	+3.8
	39nm219μm8μm,1.6s						
KULM	**Kulim**	**7.81**	**353**	P	**Pn**	**01 54 24.8**	**+2.6**
KULM	**Kulim**	**7.81**	**353**	S	Sb	01 56 39.6	+22
KULM	**Kulim**	**7.81**	**353**	P	**Pn**	**01 54 24.1**	**+1.9**
	2μm,2.1s,44μm904μm11nm						
KULM	**Kulim**	**7.81**	**353**	*e*Pn	**Pn**	**01 54 22.2**	**0.0**
KULM				*e*S	Sb	01 56 10.3	-7.0
KTGM	**Kuala Trenggan**	**7.96**	**11**	P	**Pn**	**01 54 25.4**	**+1.2**
CISI	**Cisompet, Garu**	**7.98**	**129**	P	**Pn**	**01 54 25.5**	**+0.9**
	27nm356μm144μm3μm,2.5s						
CISI				S	Pn	01 54 30.3	+5.7
	27nm356μm144μm3μm,2.5s						
CISI	**Cisompet, Garu**	**7.98**	**129**	⇓P	**Pn**	**01 54 24.5**	**-0.1**
	baz=7.9,SNR=12						
TGJI	**Tegal**	**8.68**	**120**	P	Pn	01 54 38.9	+4.8
	2μm,2.9s,100μm389μm16nm						
TGJI				S	Pn	01 54 38.9	+4.8
	2μm,2.9s,100μm389μm16nm						
KPJI	**Karang Pucung**	**8.76**	**123**	P	Pn	01 54 39.2	+4.0
	130μm2μm,3.3s						
KPJI				S	Pn	01 54 38.2	+3.0
	130μm2μm,3.3s						
XMI	**Christmas Isla**	**8.88**	**153**	P	Pn	01 54 32.4	-4.4
	baz=8.8,SNR=4.7						
XMIS	**Christmas Isla**	**8.89**	**153**	*e*Pn	Pn	01 54 29.4	-7.6
LHMI	**Lhok Sumawe**	**8.98**	**329**	⇑P	Pn	01 54 41.7	+3.5
	baz=9.1,SNR=5.0						
CLJI	**Cilicap**	**9.04**	**125**	P	Pn	01 54 47.0	+8.0
	2μm,2.9s,83μm						
BJII	**Banjamegara**	**9.41**	**121**	P	Pn	01 54 47.8	+3.5
	763μm94μm2μm,4.2s						
BJII				S	Pn	01 54 49.6	+5.3
	763μm94μm2μm,4.2s						
KSM	**Kuching**	**9.60**	**66**	P	**Pn**	**01 54 46.5**	**-0.2**
KSM	**Kuching**	**9.60**	**66**	P	**Pn**	**01 54 46.6**	**-0.2**
	172nm,1.8s,12μm362μm						
KSM	**Kuching**	**9.60**	**66**	*e*Pn	**Pn**	**01 54 46.1**	**-0.7**
KSM				*e*S	Sn	01 56 44.6	+11
KSM	**Kuching**	**9.60**	**66**	⇑P	**Pn**	**01 54 46.8**	**0.0**
	baz=9.6,SNR=6.7						
SKLT	**Songkhla**	**9.68**	**354**	P	**Pn**	**01 54 49.5**	**+1.7**
	2μm,1.4s,28μm742μm						
SKLT	**Songkhla**	**9.68**	**354**	P	**Pn**	**01 54 49.5**	**+1.7**
	2μm,1.4s,28μm						
PBKI	**Pangkalan Bun**	**10.10**	**91**	P	**Pn**	**01 54 52.8**	**-0.8**
	2μm,1.2s,24μm543μm						
YOGI	**Yogyakarta**	**10.16**	**121**	P	**Pn**	**01 54 56.9**	**+2.5**
	489μm319μm10μm,2.3s						
YOGI				S	Pn	01 54 58.4	+4.0
	489μm319μm10μm,2.3s						
STKI	**Sintang**	**10.24**	**76**	P	Pn	01 54 59.8	+4.3
	325nm,1.7s,22μm317μm						
UGM	**Wanagama**	**10.40**	**121**	P	Pn	01 55 02.8	+5.0
	499μm344μm9μm,2.5s						
UGM				S	Pn	01 55 02.1	+4.3
	499μm344μm9μm,2.5s						
UGM	**Wanagama**	**10.40**	**121**	*e*Pn	**Pn**	**01 54 59.7**	**+1.9**
COCO	**West Island**	**10.69**	**206**	*i* P	**Pn**	**01 55 04.0**	**+2.4**
COCO	**West Island**	**10.69**	**206**	Pn	**Pn**	**01 55 00.1**	**-1.5**
	5μm,0.7s,SNR=5.7						
COCO	**West Island**	**10.69**	**206**	P	**Pn**	**01 55 04.4**	**+2.8**
	1μm,1.2s,29μm						
COCO	**West Island**	**10.69**	**206**	*e*Pn	**Pn**	**01 55 00.6**	**-1.0**
COCO				*e*S	Sn	01 56 53.9	-6.8
WOJI	**Wonogiri, Jawa**	**10.71**	**120**	P	Pn	01 55 05.6	+3.7
	368μm142μm4μm,3.3s						
WOJI				S	Pn	01 55 06.6	+4.7
	368μm142μm4μm,3.3s						
NGJI	**Ngawi**	**10.97**	**116**	P	Pn	01 55 10.7	+5.2
	2μm,3.4s,152μm501μm						
PCJI	**Pacitan**	**11.10**	**121**	P	Pn	01 55 10.3	+3.0
	3μm,2.6s,119μm362μm						
SJI	**Sawahan**	**11.40**	**117**	P	Pn	01 55 15.9	+4.4
	2μm,1.7s,62μm315μm						
PWJI	**Purwojo**	**11.56**	**119**	P	Pn	01 55 16.9	+3.2
	2μm,1.8s,96μm388μm						
GRJI	**Gresik**	**11.72**	**112**	P	Pn	01 55 21.2	+5.4
	861nm,1.0s,15μm7μm						
SBUM	**Sibu**	**11.74**	**65**	P	**Pn**	**01 55 18.0**	**+1.9**
SBUM	**Sibu**	**11.74**	**65**	P	**Pn**	**01 55 18.6**	**+2.5**
	225nm,2.5s,11μm322μm						
SBUM	**Sibu**	**11.74**	**65**	*e*Pn	**Pn**	**01 55 17.5**	**+1.4**
KRKI	**Karangkates**	**12.20**	**118**	P	Pn	01 55 25.8	+3.5
	4μm,2.4s,142μm681μm						
BTM	**Bintulu**	**12.84**	**64**	P	**Pn**	**01 55 31.9**	**+0.7**
BLJI	**Banyuglugur**	**13.05**	**114**	P	Pn	01 55 37.9	+3.9
	1μm,3.1s,70μm314μm						
GMJI	**Gumukmas**	**13.13**	**116**	P	Pn	01 55 38.2	+3.1
	2μm,3.1s,81μm279μm						
KMMI	**Kalianget**	**13.15**	**110**	P	Pn	01 55 39.3	+4.0
	2μm,2.8s,76μm514μm						
MTKI	**Muara Teweh, K**	**13.42**	**84**	P	Pn	01 55 42.1	+3.1
	849nm,2.3s,35μm313μm						
ABJI	**Asem Bagus**	**13.66**	**113**	P	Pn	01 55 45.6	+3.3
	4μm,1.5s,120μm375μm						
BYJI	**Banyuwangi**	**13.93**	**114**	P	P	01 55 50.1	-3.9
	4μm,2.7s,138μm286μm						
SRBI	**Singaraja**	**14.66**	**113**	P	**Pn**	**01 55 58.3**	**+2.2**
	1μm,2.6s,71μm236μm						
DNP	**Denpasar**	**14.89**	**115**	P	P	01 56 07.5	+2.9
	2μm,1.0s,124μm						
CHBT	**CHBT**	**15.20**	**3**	P	**P**	**01 56 08.1**	**+0.1**
	79nm,1.5s						
CHBT	**CHBT**	**15.20**	**3**	P	**P**	**01 56 07.7**	**-0.3**
	2μm,2.1s,22μm						
BKB	**Balikpapan**	**15.37**	**86**	P	**P**	**01 56 11.9**	**+1.9**
	1μm,2.4s,57μm						
MTNI	**Mataram**	**15.75**	**113**	P	**P**	**01 56 16.2**	**+2.0**
	1μm,3.1s,57μm						
SMKI	**Samarinda**	**15.77**	**83**	P	Pn	**01 56 07.4**	**-3.3**
SGKI	**Sangatta, Kali**	**16.15**	**83**	P	**P**	**01 56 19.6**	**+0.8**
	1μm,2.7s,38μm236μm						
KKM	**Kota Kinabalu**	**16.93**	**60**	P	**Pn**	**01 56 26.1**	**+0.6**
KKM	**Kota Kinabalu**	**16.93**	**60**	P	**Pn**	**01 56 25.4**	**-0.1**
	736nm,1.9s,25μm115μm						
KKM	**Kota Kinabalu**	**16.93**	**60**	*e*Pn	**Pn**	**01 56 24.8**	**-0.7**
	10μm,2.9s						
KKM				*e*S	**S**	**01 59 42.0**	**-1.2**
KKM	**Kota Kinabalu**	**16.93**	**60**	P	**Pn**	**01 56 26.1**	**+0.6**
	baz=17,SNR=24						
MMSI	**Mamuju**	**17.33**	**91**	P	**P**	**01 56 34.7**	**+2.9**
	2μm,1.9s,67μm294μm						
MJSI	**Majene**	**17.42**	**94**	P	**P**	**01 56 34.3**	**+1.5**
	2μm,1.6s,63μm						
SDKM	**Sandakan**	**17.59**	**63**	P	**P**	**01 56 34.7**	**-0.1**
TSM	**Tawau**	**17.65**	**67**	P	**P**	**01 56 35.3**	**0.0**
KDM	**Kudat**	**17.89**	**58**	P	**P**	**01 56 39.0**	**+1.1**
UBPT	**Khong Chiam**	**18.11**	**12**	P	**P**	**01 56 42.6**	**+2.3**
	799nm,4.1s						
UBPT	**Khong Chiam**	**18.11**	**12**	P	**P**	**01 56 43.0**	**+2.7**
	799nm,4.1s,40μm						
SPSI	**Sidrap Palu**	**18.23**	**95**	P	**P**	**01 56 41.8**	**+0.1**
	1μm,2.4s,31μm164μm						
KAPI	**Kappang**	**18.31**	**98**	Pn	**P**	**01 56 41.1**	**-1.5**
	SNR=197						
KAPI	**Kappang**	**18.31**	**98**	P	**P**	**01 56 41.8**	**-0.8**
	8μm,1.4s						
KAPI	**Kappang**	**18.31**	**98**	P	**P**	**01 56 42.4**	**-0.2**
	2μm,1.9s,64μm164μm						
KAPI	**Kappang**	**18.31**	**98**	*e*Pn	**P**	**01 56 40.9**	**-1.8**
KAPI				*e*S	**S**	**02 00 10.6**	**-0.7**
KAPI	**Kappang**	**18.31**	**98**	P	**P**	**01 56 41.1**	**-1.5**
	7.5nm,0.3s,baz=278,slow=10.0,SNR=37						
KAPI				S	**S**	**02 00 14.9**	**+3.7**
	0.7nm,0.3s,baz=265,slow=12,SNR=2.2						
KAPI				LR	LR	02 05 11.2	
	comp=Z,104μm,20.1s,baz=265,slow=42						
MYLDM	**Lahad Datu**	**18.57**	**66**	P	**Pn**	**01 56 47.3**	**+1.5**
MYLDM	**Lahad Datu**	**18.57**	**66**	P	**Pn**	**01 56 47.7**	**+2.0**
	1μm,3.2s,69μm240μm						
BNSI	**Bone**	**18.60**	**96**	P	**Pn**	**01 56 50.0**	**+3.9**
	2μm,1.6s,66μm196μm						
BKSI	**Bulukumba**	**18.72**	**99**	P	**Pn**	**01 56 50.3**	**+2.7**
	3μm,1.8s,74μm127μm						
WBSI	**Waikabubak, Su**	**19.07**	**113**	P	**P**	**01 56 48.8**	**-2.2**
	2μm,1.2s,31μm						
LBFI	**Labuhan Bajo,**	**19.17**	**109**	P	**Pn**	**01 56 53.3**	**+0.3**
	1μm,1.2s,43μm						
SKNT	**Sakolnakorn**	**19.52**	**7**	P	**Pn**	**01 56 59.6**	**+2.4**
	638nm,3.0s,35μm						
TOLI	**Toli-Toli**	**19.56**	**80**	P	Pn	01 57 06.5	+8.8
	1μm,1.7s,35μm						
LOEI	**Loei**	**19.91**	**359**	P	**P**	**01 57 00.4**	**+0.3**
	227nm,1.1s,12μm						
WSI	**Waingapu**	**19.92**	**112**	P	**P**	**01 57 00.9**	**+0.6**
	3μm,1.2s,63μm						
KKSI	**Kolaka, Sulawe**	**20.12**	**95**	P	Pn	01 57 04.1	-0.2
	1μm,1.2s,28μm121μm						
APSI	**Ampana**	**20.14**	**86**	P	Pn	01 57 04.1	-0.5
	2μm,1.1s,40μm147μm						
MRSI	**Marisa**	**20.59**	**82**	P	Pn	01 57 08.9	-0.9
	2μm,1.1s,29μm						
CM31	**Chiang Mai Arr**	**21.01**	**353**	*e*P	**P**	**01 57 10.8**	**-1.2**
	161nm,0.9s						
CMAR	**Chiang Mai Arr**	**21.01**	**353**	P	**P**	**01 57 09.8**	**-2.2**
CMAR				S	Sn	02 01 11.9	+0.2
CMAR				PcP	**PcP**	**02 01 18.2**	**-0.8**
CMAR				ScP	**ScP**	**02 04 55.9**	**+1.1**
CMAR	**Chiang Mai Arr**	**21.01**	**353**	P	**P**	**01 57 09.8**	**-2.2**
	11nm,0.8s,baz=184,slow=9.8,SNR=15						
CMAR				S	Sn	02 01 11.9	+0.2
	1.4nm,0.7s,baz=165,slow=25,SNR=2.4						
CMAR				PcP	**PcP**	**02 01 18.2**	**-0.8**
	2.2nm,0.6s,baz=206,slow=3.2,SNR=2.4						
CMAR				LR	LR	02 04 47.0	
	comp=Z,82μm,21.7s,baz=345,slow=35						
CMAR				ScP	**ScP**	**02 04 55.9**	**+1.1**
	10nm,1.0s,baz=215,slow=3.0,SNR=4.0						
BBSI	**Bau Bau**	**21.16**	**99**	P	**P**	**01 57 13.8**	**+0.1**
	1μm,1.4s,29μm						
LUWI	**Luwuk**	**21.25**	**86**	P	**P**	**01 57 16.7**	**+2.0**
	4μm,1.4s,45μm173μm						
LUWI	**Luwuk**	**21.25**	**86**	⇓P	**P**	**01 57 14.4**	**-0.2**
	baz=21,SNR=20						
CHTO	**Chiang Mai**	**21.36**	**353**	*e*P	**P**	**01 57 14.2**	**-1.6**
CHTO				*e*S	**S**	**02 01 16.5**	**+4.3**
CHTO				pmax	pmax		
	comp=Z,6μm,2.6s						
CHTO				MLR	MLR		
	comp=Z,111μm,19.0s						
CHTO	**Chiang Mai**	**21.36**	**353**	P	P	01 57 22.4	+6.6
	SNR=22						
CHTO	**Chiang Mai**	**21.36**	**353**	P	**P**	**01 57 15.8**	**0.0**
	comp=Z,517nm,1.3s,comp=Z,30μmcomp=Z,326μm

MBWA	**Marble Bar**	**25.62**	**138**		P		P	01 58 02.3	+4.5
	SNR=12								
MBWA	**Marble Bar**	**25.62**	**138**		*e*P		**P**	**01 57 59.1**	**+1.3**
	comp=Z,442nm,1.3s								
MBWA					LR		LR		
	comp=Z,56µm,20.0s								
BOAC	**Boac**	**25.63**	**51**		*e*P		**P**	**01 58 01.8**	**+3.8**
LLP	**Lapu-Lapu**	**25.69**	**60**	⇑	*e*P		**P**	**01 57 58.3**	**-0.3**
LLP					*e*S		S	02 02 34.9	+8.5
DAV	**Davao City (W)**	**25.79**	**68**		P		**P**	**01 58 03.2**	**+3.7**
	SNR=33								
DAV	**Davao City (W)**	**25.79**	**68**		P		P	01 58 07.4	+7.9
	comp=Z,990nm,1.7s,comp=Z,40µm								
DAV	**Davao City (W)**	**25.79**	**68**		*e*P		**P**	**01 58 00.3**	**+0.8**
DAV					*e*S		S	02 02 38.5	+10
DAV					LR		LR		
	comp=Z,126µm,22.0s								
LQP	**Lukban**	**25.79**	**50**		*e*P		P	01 58 12.6	+13
LBMI	**Labuha**	**25.99**	**86**		P		**P**	**01 58 03.2**	**+1.8**
	comp=Z,1µm,1.1s,comp=Z,19µm								
TNTI	**Ternate**	**26.00**	**83**		P		**P**	**01 58 01.7**	**+0.3**
	comp=Z,848nm,2.0s,comp=Z,18µmcomp=Z,81µm								
BOLP	**Bolinao**	**26.11**	**43**		*e*P		**P**	**01 58 04.0**	**+1.7**
MSLP	**Maasin**	**26.38**	**61**		*e*P		**P**	**01 58 05.5**	**+0.7**
AAI	**Ambon**	**26.61**	**93**		P		**P**	**01 58 09.8**	**+2.8**
	comp=Z,204nm,1.9s,comp=Z,8µm								
TRD	**Trivandrum**	**26.87**	**294**	⇓	*e*P		P	01 58 34.4	+25
TRD					*e*S		S	02 03 08.4	+23
PLP	**Palo**	**26.97**	**59**	⇑	*e*P		P	01 58 17.4	+7.2
KMI	**Kunming**	**27.51**	**2**		P		**P**	**01 58 17.0**	**+1.9**
KMI					pP		**pP**	**01 58 21.1**	**-0.5**
KMI					sP		**sP**	**01 58 23.3**	**-0.9**
KMI					PP		**PnPn**	**01 59 06.1**	**+5.8**
KMI					S		**S**	**02 03 01.0**	**+5.8**
KMI					sS		**sS**	**02 03 07.3**	**+1.4**
KMI					AMB		AMB		
	comp=Z,3µm,7.2s								
KMI					LR		LR		
	comp=Z,133µm,17.8s								
KMI					LR		LR		
	comp=Z,328µm,13.8s								
KMI					LR		LR		
	comp=Z,255µm,15.7s								
PVCP	**Virac**	**27.54**	**54**		*e*P		P	01 58 21.3	+6.0
HKC	**Hong Kong Obse**	**27.58**	**26**		P		P	01 58 24.0	+8.5
HKC					S		**S**	**02 02 56.0**	**+0.1**
CAUP	**Cauayan**	**27.82**	**45**		*e*P		P	01 58 24.0	+6.2
GZH	**Guangzhou**	**27.93**	**24**		P		P	01 58 28.0	+9.4
GZH					S		S	02 03 20.6	+19
FITZ	**Fitzroy Crossi**	**28.23**	**125**		*e*P		**P**	**01 58 18.4**	**-3.0**
	comp=Z,251nm,1.0s								
FITZ					S		S	02 03 18.7	+12
FITZ					ScP		**ScP**	**02 05 13.8**	**-1.1**
FITZ	**Fitzroy Crossi**	**28.23**	**125**		P		**P**	**01 58 20.4**	**-1.0**
	baz=28,SNR=70								
FITZ	**Fitzroy Crossi**	**28.23**	**125**		P		**P**	**01 58 20.6**	**-0.8**
	comp=Z,44nm,0.9s,baz=304,slow=8.0,SNR=28								
FITZ					S		S	02 03 18.7	+12
	comp=Z,14nm,1.0s,baz=73,slow=19,SNR=1.9								
FITZ					ScP		**ScP**	**02 05 13.8**	**-1.1**
	comp=Z,23nm,0.9s,baz=273,slow=3.8,SNR=4.9								
FITZ					LR		LR	02 09 14.3	
	comp=Z,32µm,19.2s,baz=299,slow=36								
MEEK	**Meekatharra**	**29.02**	**147**		P		**P**	**01 58 28.1**	**-0.3**
	baz=29,SNR=33								
GYA	**Guiyang**	**29.23**	**9**	⇑	*i*P		P	01 58 33.9	+3.6
GYA					PP		**PnPn**	**01 59 29.8**	**+6.1**
GYA					PcP		**PcP**	**02 01 39.2**	**+1.9**
GYA					S		**S**	**02 03 23.9**	**+1.8**
GYA					ScS		**ScS**	**02 09 13.8**	**+1.4**
GYA					AMB		AMB		
	comp=Z,80nm,1.0s								
GYA					AMB		AMB		
	comp=Z,3µm,10.5s								
GYA					LR		LR		
	comp=Z,147µm,15.9s								
GYA					LR		LR		
	comp=Z,161µm,19.3s								
GYA					LR		LR		
	comp=Z,145µm,14.6s								
H08S2	**Diego Garcia H**	**29.39**	**259**		T		T	02 28 01.5	
	baz=88,slow=0.7,SNR=1700								
DGAR	**Diego Garcia**	**29.40**	**259**		PFAKE			01 58 40.0	+8.2
DGAR					LR		LR		
	comp=Z,63µm,19.0s								
H08S3	**Diego Garcia H**	**29.40**	**259**		T		T	02 27 59.8	
	baz=88,SNR=963								
H08S1	**Diego Garcia H**	**29.41**	**259**		T		T	02 28 12.8	
	baz=88,slow=0.7,SNR=2341								
SHL	**Shillong**	**29.46**	**342**		*e*P		**P**	**01 58 31.0**	**-1.4**
SHL					*ex*		x	02 03 20.0	
SWI	**Sorong**	**29.73**	**87**		P		**P**	**01 58 34.5**	**-0.3**
	comp=Z,429nm,1.4s,comp=Z,6µm								
SWI	**Sorong**	**29.73**	**87**	⇓	P		**P**	**01 58 34.6**	**-0.1**
	baz=30,SNR=4.2								
MORW	**Morawa**	**29.78**	**154**		P		**P**	**01 58 34.3**	**-0.7**
	baz=30,SNR=39								
KNRA	**Kununurra**	**29.81**	**118**		P		**P**	**01 58 33.5**	**-2.0**
	baz=30,SNR=8.6								
HYB	**Hyderabad**	**30.13**	**312**		*i* P		**P**	**01 58 38.0**	**-0.3**
HYB					*e*pP		**PP**	**01 59 46.0**	**-0.5**
HYB					*e*S		**S**	**02 03 40.0**	**+3.7**
FAKI	**Fak Fak**	**30.65**	**91**		P		**P**	**01 58 42.9**	**-0.1**
	comp=Z,337nm,1.2s,comp=Z,6µmcomp=Z,51µm								
FAKI	**Fak Fak**	**30.65**	**91**		P		**P**	**01 58 43.0**	**0.0**
	baz=31,SNR=21								
TLE	**Tual**	**31.24**	**97**		P		**P**	**01 58 47.8**	**-0.4**
	comp=Z,210nm,2.2s,comp=Z,13µm								
BLDU	**Ballidu**	**31.40**	**154**		P		**P**	**01 58 49.6**	**+0.2**
	baz=31,SNR=19								
TWG	**Pinlang**	**31.57**	**36**		*e*P		**P**	**01 58 52.7**	**+1.8**
	comp=Z,6µm,2.3s								
TPUB	**Ta-pu**	**31.68**	**35**		*e*P		**P**	**01 58 53.6**	**+1.6**
	comp=Z,281nm,1.3s								
QZH	**Quanzhou**	**31.91**	**30**	⇑	*i*P		P	01 58 57.0	+3.1
QZH					PP		**PnPn**	**01 59 59.3**	**+0.2**
QZH					S		S	02 03 58.0	-5.9
QZH					AMB		AMB		
	comp=Z,760nm,1.4s								
QZH					AMB		AMB		
	comp=Z,7µm,4.8s								
QZH					LR		LR		
	comp=Z,115µm,17.0s								
QZH					LR		LR		
	comp=Z,219µm,15.6s								
QZH					LR		LR		
	comp=Z,196µm,12.4s								
YULB	**Yu-li**	**32.14**	**36**		*e*P		**P**	**01 58 57.0**	**+1.0**
	comp=Z,109nm,1.3s								
KDU	**Kakadu**	**32.21**	**110**		P		**P**	**01 58 55.5**	**-1.2**
	baz=32,SNR=5.3								
NGP	**Nagpur**	**32.24**	**318**		*e*P		**P**	**01 58 54.9**	**-1.9**
NGP					*ex*		x	01 59 49.6	
	comp=Z,274nm,1.6s								
NGP					*ex*		x	02 04 14.4	
SSLB	**Suanglung**	**32.25**	**35**		*e*P		**P**	**01 58 58.8**	**+1.8**
	comp=Z,135nm,1.1s								
SSLB					*e*PcP		**PcP**	**02 01 50.1**	**+4.9**
ODAN	**Odare**	**32.26**	**336**		*e*P		**P**	**01 58 58.1**	**+0.9**
	comp=Z,207nm,0.8s								
TAPN	**Taplejung**	**32.56**	**337**		*e*P		**P**	**01 59 00.6**	**+0.6**
	comp=Z,678nm,0.9s								
RAMN	**Ramite**	**32.67**	**335**		*e*P		**P**	**01 59 02.0**	**+1.2**
	comp=Z,370nm,1.1s								
KLBR	**Kellerberrin**	**32.70**	**154**		P		**P**	**01 59 00.6**	**-0.2**
	baz=33,SNR=35								
NACB	**Ninganchiao**	**32.92**	**35**		*e*P		**P**	**01 59 02.5**	**-0.2**
JBP	**Jabalpur**	**33.08**	**322**	⇓	*i*P		**P**	**01 59 04.0**	**-0.1**
JBP					*ex*		x	02 04 21.1	
YHNB	**Yeheng**	**33.18**	**34**		*e*P		**P**	**01 59 06.5**	**+1.4**
	comp=Z,346nm,1.4s								
YHNB					LR		LR		
	comp=Z,91µm,19.0s								
CD2	**Chengdu**	**33.31**	**3**		P		**P**	**01 59 08.1**	**+1.9**
CD2					pP		**pP**	**01 59 15.4**	**+2.7**
CD2					sP		**sP**	**01 59 18.7**	**+3.3**
CD2					PP		**PP**	**02 00 20.6**	**-1.2**
CD2					PcP		**PcP**	**02 01 48.8**	**+0.7**
CD2					S		**S**	**02 04 27.5**	**+1.8**
CD2					sS		**sS**	**02 04 39.6**	**+3.1**
CD2					SS		**SnSn**	**02 06 31.7**	**+4.5**
CD2					AMB		AMB		
	comp=Z,50nm,0.7s								
CD2					AMB		AMB		
	comp=Z,3µm,9.5s								
CD2					LR		LR		
	comp=Z,365µm,19.8s								
CD2					LR		LR		
	comp=Z,220µm,12.0s								
JIRN	**Jiri**	**33.46**	**335**		*e*P		**P**	**01 59 08.5**	**+0.6**
	comp=Z,522nm,0.8s								
ENH	**Enshi**	**33.48**	**12**		*e*P		**P**	**01 59 06.8**	**-0.8**
	comp=Z,28nm,0.6s								
ENH					*e*PcP		PcP	02 01 55.5	+7.0
ENH					LR		LR		
	comp=Z,561nm,20.0s								
TATO	**Taipei**	**33.48**	**34**		PFAKE			01 59 20.0	+12
TATO					LR		LR		
	comp=Z,62µm,21.0s								
LSA	**Lhasa**	**33.56**	**343**		P		**P**	**01 59 08.6**	**-0.2**
LSA					LR		LR		
	comp=Z,61µm,25.5s								
LSA					LR		LR		
	comp=Z,141µm,31.4s								
LSA					LR		LR		
	comp=Z,133µm,21.6s								
LSA	**Lhasa**	**33.56**	**343**		*e*P		**P**	**01 59 07.6**	**-1.2**
LSA					pmax		pmax		
	comp=Z,256nm,1.4s								
LSA					MLR		MLR		
	comp=Z,146µm,22.0s								
LSA	**Lhasa**	**33.56**	**343**		*e*P		**P**	**01 59 07.6**	**-1.2**
	comp=Z,256nm,1.4s								
LSA					LR		LR		
	comp=Z,146µm,22.0s								
NWAO	**Narrogin (SRO)**	**33.63**	**156**		P		**P**	**01 59 09.6**	**+0.8**
	SNR=37								
NWAO	**Narrogin (SRO)**	**33.63**	**156**		*e*P		**P**	**01 59 09.0**	**+0.2**
	comp=Z,2µm,2.1s								
NWAO	**Narrogin (SRO)**	**33.63**	**156**		P		**P**	**01 59 07.5**	**-1.4**
	comp=Z,52nm,0.8s,baz=328,slow=9.6,SNR=28								
NWAO					LR		LR	02 11 27.9	
	comp=Z,110µm,20.9s,baz=328,slow=34								
PKI	**Pulchoki**	**33.73**	**334**		*e*P		**P**	**01 59 10.2**	**+0.1**
	comp=Z,142nm,0.7s								
PKIN	**Phulchoki**	**33.74**	**334**		*e*P		**P**	**01 59 10.8**	**+0.6**
	comp=Z,85nm,0.6s								
GUN	**Gumba**	**33.81**	**335**		*e*P		**P**	**01 59 11.4**	**+0.5**
	comp=Z,385nm,0.6s								
DMN	**Daman**	**33.89**	**333**		*e*P		**P**	**01 59 11.6**	**+0.1**
	comp=Z,171nm,0.7s								
KKN	**Kakani**	**33.97**	**334**		*e*P		**P**	**01 59 12.3**	**+0.1**
	comp=Z,196nm,0.6s								
H01W3	**Cape Leeuwin H**	**34.26**	**161**		T		T	02 36 02.5	
	baz=337,slow=0.7,SNR=4.5								
H01W2	**Cape Leeuwin H**	**34.27**	**161**		T		T	02 36 01.9	
	baz=337,slow=0.7,SNR=51								
H01W1	**Cape Leeuwin H**	**34.27**	**161**		T		T	02 36 05.3	
	baz=337,slow=0.7,SNR=4.8								
POO	**Poona**	**34.38**	**309**	⇑	*i*P		**P**	**01 59 13.0**	**-2.6**
	comp=Z,432nm,1.2s								
POO					*i* PP		**PnPn**	**02 00 28.5**	**-2.0**
POO					*i* x		x	02 01 56.0	
POO					*i* S		**S**	**02 04 40.0**	**-2.5**
POO					*i* SCS		**ScS**	**02 09 40.0**	**+1.7**
GKN	**Gorkha**	**34.44**	**333**		*e*P		**P**	**01 59 16.4**	**+0.2**
BAKI	**Biak**	**34.55**	**88**		P		P	01 59 22.4	+5.3
	comp=Z,286nm,1.3s,comp=Z,8µm								
KOLN	**Koldanda**	**34.73**	**331**		*e*P		**P**	**01 59 18.1**	**-0.6**
	comp=Z,403nm,0.7s								
RKGY	**Rocky Gully**	**35.00**	**158**		P		**P**	**01 59 21.7**	**+1.0**
	baz=35,SNR=29								
WHN	**Wuhan**	**35.07**	**19**		P		P	01 59 24.4	+3.1
WHN					S		S	02 04 59.0	+6.2
WHN					LR		LR		
	comp=Z,193µm,17.6s								
WHN					LR		LR		
	comp=Z,612µm,17.7s								
WHN					LR		LR		
	comp=Z,255µm,18.5s								
DANN	**Dangsing**	**35.14**	**332**		*e*P		**P**	**01 59 21.2**	**-1.2**
	comp=Z,948nm,0.9s								
WRA	**Warramunga Arr**	**36.38**	**121**		P		**P**	**01 59 31.0**	**-1.8**
WRA					S		**S**	**02 05 14.6**	**+1.3**
WRA					ScP		**ScP**	**02 05 42.8**	**+0.1**
WRA	**Warramunga Arr**	**36.38**	**121**		P		**P**	**01 59 31.0**	**-1.8**
	comp=Z,45nm,0.9s,baz=295,slow=9.9,SNR=34								
WRA					S		**S**	**02 05 14.6**	**+1.3**
	comp=Z,5.3nm,1.0s,baz=288,slow=17,SNR=4.8								
WRA					ScP		**ScP**	**02 05 42.8**	**+0.1**
	comp=Z,5.5nm,1.1s,baz=308,slow=3.2,SNR=6.0								
WRA					LR		LR	02 14 09.7	
	comp=Z,55µm,21.8s,baz=290,slow=36								
WRAB	**Tennant Creek**	**36.39**	**121**		*e*P		**P**	**01 59 30.5**	**-2.4**
WRAB					pmax		pmax		
	comp=Z,149nm,0.9s								
WRAB					MLR		MLR		
	comp=Z,49µm,22.0s								
WRAB	**Tennant Creek**	**36.39**	**121**		P		**P**	**01 59 31.0**	**-1.9**
	comp=Z,971nm,0.8s,SNR=23								
WRAB	**Tennant Creek**	**36.39**	**121**		*e*P		**P**	**01 59 30.5**	**-2.4**
	comp=Z,149nm,0.9s								
WRAB					*e*PcP		PcP	02 02 06.4	+9.2
WRAB					LR		LR		
	comp=Z,49µm,22.0s								
XAN	**Xi'an**	**37.02**	**10**		P		**P**	**01 59 38.0**	**-0.1**
XAN					S		**S**	**02 05 20.0**	**-2.7**
XAN					LR		LR		
	comp=Z,58µm,17.9s								
XAN					LR		LR		
	comp=Z,54µm,13.7s								
XAN					LR		LR		
	comp=Z,32µm,13.8s								
FORT	**Forrest**	**37.65**	**141**		*e*P		**P**	**01 59 43.2**	**-0.2**
	comp=Z,291nm,0.8s								
FORT	**Forrest**	**37.65**	**141**	⇓	P		**P**	**01 59 43.4**	**0.0**
	baz=38,SNR=16								
AS31	**Alice Springs**	**37.69**	**127**		*e*P		**P**	**01 59 43.3**	**-0.6**
ASAR	**Alice Springs**	**37.69**	**127**		P		**P**	**01 59 41.5**	**-2.4**
ASAR					PcP		**PcP**	**02 02 00.8**	**-0.4**
ASAR					S		S	02 05 26.5	-6.6
ASAR					ScP		**ScP**	**02 05 47.5**	**0.0**
ASAR	**Alice Springs**	**37.69**	**127**		P		**P**	**01 59 41.5**	**-2.4**
	comp=Z,42nm,0.9s,baz=301,slow=7.6,SNR=52								
ASAR					PcP		**PcP**	**02 02 00.8**	**-0.4**
	comp=Z,10.0nm,0.8s,baz=313,slow=3.0,SNR=2.4								
ASAR					S		S	02 05 26.5	-6.6
	comp=Z,7.2nm,0.9s,baz=300,slow=15,SNR=4.3								
ASAR					ScP		**ScP**	**02 05 47.5**	**0.0**
	comp=Z,18nm,0.9s,baz=312,slow=3.4,SNR=8.9								
ASAR					LR		LR	02 16 01.4	
	comp=Z,29µm,21.2s,baz=294,slow=38								
LGTI	**Lohaghat**	**37.78**	**329**		*e*4		P	01 59 49.6	+5.1
NJ2	**Nanjing**	**38.10**	**24**		*e*P		P	01 59 51.9	+4.7
NJ2					pP		pP	01 59 54.3	+0.5
NJ2					PP		**PnPn**	**02 01 18.2**	**+2.1**
NJ2					S		**S**	**02 05 42.6**	**+3.6**
NJ2					sS		sS	02 05 54.1	+4.2
NJ2					AMB		AMB		
	comp=Z,64nm,1.1s								
NJ2					AMB		AMB		
	comp=Z,3µm,4.8s								
NJ2					LR		LR		
	comp=Z,162µm,17.3s								
NJ2					LR		LR		
	comp=Z,212µm,22.5s								
NJ2					LR		LR		
	comp=Z,105µm,18.4s								
SSE	**Sheshan**	**38.30**	**28**		P		**P**	**01 59 50.1**	**+1.2**
SSE					pP		**pP**	**01 59 56.3**	**+0.8**
SSE					PP		**PP**	**02 01 16.6**	**-0.1**
SSE					S		**S**	**02 05 42.0**	**-0.1**
SSE					sS		**sS**	**02 05 51.6**	**-1.3**
SSE					AMB		AMB		
	comp=Z,40nm,1.5s								
SSE					AMB		AMB		
	comp=Z,410nm,4.3s								
SSE					LR		LR		
	comp=Z,106µm,14.1s								
SSE					LR		LR		
	comp=Z,100µm,14.0s								
SSE					LR		LR		
	comp=Z,100µm,14.3s								
LZH	**Lanzhou**	**38.47**	**3**	⇑	P		**P**	**01 59 50.7**	**+0.3**
LZH					pP		**pP**	**01 59 53.9**	**-3.1**
LZH	**Lanzhou**	**38.47**	**3**	⇑	P		P	01 59 53.6	+3.2
LZH					pP		pP	01 59 58.7	+1.7
LZH					sP		sP	02 00 01.0	+1.3
LZH					PP		**PnPn**	**02 01 24.0**	**+3.4**
LZH					S		**S**	**02 05 46.0**	**+1.1**
LZH					sS		sS	02 05 54.5	-1.2
LZH					SS		**SnSn**	**02 08 29.2**	**-2.9**
LZH					ScS		**ScS**	**02 10 01.0**	**+0.4**
LZH					AMB		AMB		
	comp=Z,220nm,1.6s								
LZH					AMB		AMB		
	comp=Z,740nm,4.7s								
LZH					LR		LR		
	comp=Z,74µm,15.8s								
LZH					LR		LR		
	comp=Z,166µm,14.6s								
LZH					LR		LR		
	comp=Z,263µm,14.4s								
NDI	**New Delhi**	**38.84**	**325**		*e*4		P	01 59 48.0	-5.5
NDI					*ex*		x	02 00 45.0	
JOW	**Kunigami**	**38.94**	**40**		*e*P		**P**	**01 59 56.4**	**+2.1**
	comp=Z,386nm,2.2s								
JAY	**Jayapura**	**39.10**	**91**		P		**P**	**01 59 53.8**	**-2.1**
	baz=39,SNR=4.9								
DDI	**Dehra Dun**	**39.63**	**327**		*e*P		**P**	**01 59 58.8**	**-1.3**
SMLA	**Simla**	**40.74**	**327**		*i* P		**P**	**02 00 07.9**	**-1.3**
SMLA					AMB		AMB	02 00 23.4	
	comp=Z,837nm,0.6s								
SMLA					*i* x		x	02 06 15.7	
SDNR	**Sundarnagar**	**41.13**	**327**		*ex*		**P**	**02 00 13.0**	**+0.5**
SDNR					*e*S		**S**	**02 06 25.6**	**+1.0**
TIA	**Tai'an**	**41.18**	**19**	⇑	P		P	02 00 15.8	+3.0
TIA					sP		sP	02 00 25.8	+3.7
TIA					PP		**PnPn**	**02 01 56.6**	**+3.9**
TIA					AMB		AMB		
	comp=Z,70nm,1.9s								
TIA					AMB		AMB		
	comp=Z,3µm,4.9s								
TIA					LR		LR		
	comp=Z,123µm,18.1s								
TIA					LR		LR		
	comp=Z,301µm,18.2s								
TIA					LR		LR		
	comp=Z,150µm,17.7s								
TIY	**Taiyuan**	**41.28**	**13**		*e*P		**P**	**02 00 12.0**	**-1.7**
TIY					PP		**PP**	**02 01 51.6**	**+2.3**
TIY					S		**S**	**02 06 25.5**	**-1.3**
TIY					AMB		AMB		
	comp=Z,2µm,5.7s								
TIY					LR		LR		
	comp=Z,50µm,12.3s								
TIY					LR		LR		
	comp=Z,43µm,13.6s								
TIY					LR		LR		
	comp=Z,68µm,15.9s								
GTA	**Gaotai**	**41.76**	**358**	⇑	P		**P**	**02 00 19.2**	**+1.5**
GTA					pP		**pP**	**02 00 23.5**	**-0.8**
GTA					sP		**sP**	**02 00 26.5**	**-0.4**
GTA					PcP		**PcP**	**02 02 15.7**	**+1.9**
GTA					ScP		**ScP**	**02 06 03.3**	**+0.2**
GTA					PcS		**PcS**	**02 06 07.4**	**+2.0**
GTA					S		**S**	**02 06 34.8**	**+0.9**
GTA					sS		**sS**	**02 06 42.6**	**-2.3**
GTA					SS		**SS**	**02 09 35.0**	**-5.3**
GTA					ScS		**ScS**	**02 10 19.8**	**-0.1**
GTA					AMB		AMB		
	comp=Z,1µm,5.7s								
GTA					LR		LR		
	comp=Z,114µm,13.8s								
GTA					LR		LR		
	comp=Z,192µm,19.0s								
GTA					LR		LR		
	comp=Z,124µm,20.9s								
THN	**Thein Dam**	**42.53**	**327**		*e*P		P	02 00 20.7	-3.1
THN					*ex*		x	02 06 49.5	
COEN	**Coen**	**42.63**	**108**		P		**P**	**02 00 26.0**	**+1.0**
	comp=Z,48nm,1.1s								
COEN	**Coen**	**42.63**	**108**	⇑	P		**P**	**02 00 22.8**	**-2.3**
	baz=43,SNR=4.7								
BTO	**Baotou**	**43.61**	**9**		*e*P		**P**	**02 00 35.4**	**+2.7**
HHC	**Hu-ho-hao-te**	**44.12**	**11**		*e*P		P	02 00 40.3	+3.6
HHC					pP		pP	02 00 44.8	+1.4
HHC					sP		sP	02 00 47.3	+1.3
HHC					PP		**PcP**	**02 02 25.1**	**+3.4**
HHC					PcS		**PcS**	**02 06 16.9**	**+2.1**
HHC					S		**S**	**02 07 12.2**	**+3.7**
HHC					sS		sS	02 07 20.8	+1.3
HHC					SS		**SS**	**02 10 23.5**	**-3.1**
HHC					ScS		**ScS**	**02 10 35.8**	**+1.3**
HHC					AMB		AMB		
	comp=Z,99nm,1.1s								
HHC					AMB		AMB		
	comp=Z,3µm,5.1s								
HHC					LR		LR		
	comp=Z,110µm,12.7s								
HHC					LR		LR		
	comp=Z,125µm,16.2s								
HHC					LR		LR		
	comp=Z,166µm,12.5s								
BBOO	**Buckleboo**	**44.19**	**137**		*e*P		**P**	**02 00 35.5**	**-1.9**
	comp=Z,124nm,0.9s								
BBOO					*e*S		S	02 07 16.1	+6.4
BBOO	**Buckleboo**	**44.19**	**137**		P		**P**	**02 00 36.2**	**-1.2**
	baz=44,SNR=31								
BJT	**Baijiatuau**	**44.40**	**16**		*e*P		**P**	**02 00 38.9**	**0.0**
	comp=Z,243nm,1.4s								
BJT					LR		LR		
	comp=Z,91µm,20.0s								
BJI	**Beijing**	**44.43**	**16**		P		**P**	**02 00 39.0**	**0.0**
BJI					sP		**sP**	**02 00 47.5**	**-0.8**
BJI					PP		**PP**	**02 02 26.6**	**+3.7**
BJI					S		**S**	**02 07 09.4**	**-3.3**
BJI					sS		**sS**	**02 07 24.2**	**+0.5**
BJI					AMB		AMB		
	comp=Z,120nm,1.8s								
BJI					AMB		AMB		
	comp=Z,4µm,12.1s								
BJI					LR		LR		
	comp=Z,162µm,21.1s								
BJI					LR		LR		
	comp=Z,403µm,19.6s								
BJI					LR		LR		
	comp=Z,67µm,24.2s								
MTSU	**Mount Surprise**	**44.67**	**113**		P		**P**	**02 00 41.4**	**0.0**
	baz=45,SNR=12								
JNU	**Nakatsue**	**44.99**	**36**		*e*P		**P**	**02 00 42.6**	**-1.1**
	comp=Z,226nm,1.4s								
JNU					S		S	02 07 29.8	+8.5
JNU	**Nakatsue**	**44.99**	**36**		P		**P**	**02 00 42.5**	**-1.3**
	comp=Z,60nm,0.9s,baz=214,slow=5.5,SNR=16								
JNU					S		S	02 07 29.8	+8.5
	comp=Z,3.3nm,0.9s,baz=180,slow=20,SNR=2.0								
DL2	**Dalian**	**45.18**	**22**		P		**P**	**02 00 43.8**	**-1.3**

KSRS S **S** **02 07 50.6 +5.1**
comp=Z,0.5nm,0.4s,baz=166,slow=18,SNR=3.1
KSRS LR LR 02 21 10.3
comp=Z,31µm,18.3s,baz=221,slow=37
CTA Charters Tower 46.96 115 P **P** **02 00 57.9 -1.6**
CTA ScP **ScP** **02 06 26.2 +1.5**
CTA S **S** **02 07 50.1 +0.1**
CTA Charters Tower 46.96 115 P **P** **02 00 57.9 -1.6**
comp=Z,19nm,1.0s,baz=294,slow=8.8,SNR=11
CTA ScP **ScP** **02 06 26.2 +1.5**
comp=Z,6.8nm,0.8s,baz=237,slow=7.5,SNR=2.4
CTA S **S** **02 07 50.1 +0.1**
comp=Z,1.2nm,0.3s,baz=267,slow=19,SNR=1.9
CTAO Charters Tower 46.96 115 *e*P **P** **02 00 58.2 -1.3**
CTAO pmax pmax
comp=Z,145nm,1.1s
CTAO MLR MLR
comp=Z,30µm,20.0s
CTAO Charters Tower 46.96 115 *e*P **P** **02 00 58.2 -1.3**
comp=Z,145nm,1.1s
CTAO LR LR
comp=Z,30µm,20.0s
QLP Quilpie 47.37 124 P **P** **02 01 02.9 +0.3**
baz=47,SNR=18
STKA Stephens Creek 47.64 132 *e*P **P** **02 01 03.0 -1.6**
comp=Z,28nm,0.8s
STKA *e*PP PP 02 03 04.1 +7.7
STKA S **S** **02 07 53.6 -5.8**
STKA Stephens Creek 47.64 132 P **P** **02 01 02.3 -2.3**
baz=48,SNR=154
STKA Stephens Creek 47.64 132 P **P** **02 01 02.8 -1.8**
comp=Z,100nm,0.9s,baz=308,slow=7.5,SNR=27
STKA S **S** **02 07 53.6 -5.8**
comp=Z,3.9nm,0.9s,baz=44,slow=15,SNR=1.8
STKA LR LR 02 23 08.3
comp=Z,49µm,20.9s,baz=296,slow=39
WMQ Urumqi 47.79 346 P **P** **02 01 04.7 -0.9**
WMQ pP **pP** **02 01 12.2 -0.1**
WMQ sP **sP** **02 01 15.5 +0.6**
WMQ PcP **PcP** **02 02 33.8 -0.6**
WMQ PcS **PcS** **02 06 27.9 -2.0**
WMQ S **S** **02 07 58.9 -2.2**
WMQ sS **sS** **02 08 11.4 -0.8**
WMQ ScS **ScS** **02 10 53.7 -4.3**
WMQ SS SS 02 11 21.7 -8.2
WMQ AMB AMB
comp=Z,100nm,1.4s
WMQ AMB AMB
comp=Z,2µm,4.5s
WMQ LR LR
comp=Z,65µm,19.0s
WMQ LR LR
comp=Z,85µm,19.6s
WMQ LR LR
comp=Z,40µm,21.8s
KBL Kabul 47.88 323 *e*P **P** **02 01 05.6 -1.1**
KBL pmax pmax
comp=Z,191nm,0.9s
KBL Kabul 47.88 323 *e*P **P** **02 01 05.6 -1.1**
comp=Z,191nm,0.9s
KBL Kabul 47.88 323 P **P** **02 01 07.2 +0.6**
baz=48,SNR=16
KSH Kashi 47.99 333 P **P** **02 01 07.6 +0.3**
KSH pP **pP** **02 01 13.4 -0.6**
KSH sP **sP** **02 01 16.2 -0.4**
KSH PcP **PcP** **02 02 34.5 -0.8**
KSH PP **PP** **02 03 02.5 +2.9**
KSH S **S** **02 08 05.6 +1.3**
KSH sS **sS** **02 08 14.7 -0.6**
KSH AMB AMB
comp=Z,87nm,0.9s
KSH AMB AMB
comp=Z,2µm,7.1s
KSH LR LR
comp=Z,56µm,15.2s
KSH LR LR
comp=Z,70µm,20.1s
KSH LR LR
comp=Z,134µm,22.8s
RER Riviere de l'E 48.27 244 PFAKE 02 01 20.0 +10
RER LR LR
comp=Z,17µm,21.0s
SNY Shenyang 48.46 22 ⇑P **P** **02 01 10.7 0.0**
SNY S **S** **02 08 07.2 -3.3**
SNY AMB AMB
comp=Z,90nm,1.6s
SNY AMB AMB
comp=Z,3µm,4.8s
SNY LR LR
comp=Z,75µm,14.9s
SNY LR LR
comp=Z,116µm,16.5s
SNY LR LR
comp=Z,99µm,16.5s
WBK Wadi Bani Khal 48.48 303 P **P** **02 01 11.8 +0.5**
SNR=68
SMDO Samad 49.44 303 P **P** **02 01 19.1 +0.5**
SNR=56
BSY Bisya 50.02 303 P P 02 01 27.0 +4.0
SNR=91
ULHL Ulahol 50.12 336 P **P** **02 01 25.8 +2.2**
SNR=33
HOQ Hoqain 50.27 304 P **P** **02 01 26.2 +1.2**
SNR=92
SONM Songino Array 50.33 4 P **P** **02 01 23.4 -1.7**
SONM PcP **PcP** **02 02 43.6 0.0**
SONM ScP **ScP** **02 06 38.4 -0.1**
SONM S **S** **02 08 42.4 +5.6**
SONM Songino Array 50.33 4 P **P** **02 01 23.4 -1.7**
comp=Z,18nm,0.6s,baz=186,slow=9.0,SNR=30
SONM PcP **PcP** **02 02 43.6 0.0**
comp=Z,27nm,0.8s,baz=183,slow=4.3,SNR=2.4
SONM ScP **ScP** **02 06 38.4 -0.1**
comp=Z,8.3nm,1.1s,baz=180,slow=4.6,SNR=4.4
SONM S **S** **02 08 42.4 +5.6**
comp=Z,1.7nm,1.2s,baz=250,slow=12,SNR=2.3
ARPS Mount Arapiles 50.35 138 P **P** **02 01 25.0 -0.3**
baz=50,SNR=30
KZA Kyzart 50.40 335 P P 02 01 30.1 +4.1
SNR=52
ULN Ulaanbaatar 50.41 5 P **P** **02 01 25.2 -0.5**
SNR=76
ULN Ulaanbaatar 50.41 5 *e*P **P** **02 01 25.1 -0.5**
comp=Z,351nm,1.6s
ULN LR LR
comp=Z,85µm,19.0s
CMSA Cobar Meteorol 50.57 130 P **P** **02 01 25.9 -1.2**
baz=50,SNR=144
AAA Alma-Ata 50.69 337 *i* P **P** **02 01 29.0 +1.2**
AAA *i* S **S** **02 08 42.8 +0.9**
AAA pmax pmax
comp=Z,4µm,4.5s
AAA smax smax
comp=E,18µm,7.9s
AAA MLR MLR
comp=Z,43µm,10.0s
RBK Rabkut 50.75 295 P **P** **02 01 31.7 +3.1**
SNR=29
ARQ Araqi 50.83 303 P **P** **02 01 29.9 +0.7**
SNR=50
UCH Uchtor 50.84 334 P **P** **02 01 30.0 +0.6**
SNR=10
CN2 Changchun 50.86 22 ⇓*e*P **P** **02 01 26.8 -2.1**
CN2 *e*S **S** **02 08 47.3 +3.3**
CN2 AMB AMB
comp=Z,30nm,0.9s
CN2 AMB AMB
comp=Z,300nm,4.0s
CN2 LR LR
comp=Z,75µm,19.0s
CN2 LR LR
comp=Z,100µm,19.0s
CN2 LR LR
comp=Z,48µm,17.0s
TKM2 Tokmak 2 50.94 336 *i* P **P** **02 01 27.5 -2.4**
TKM2 Tokmak 2 50.94 336 P **P** **02 01 27.6 -2.3**
SNR=52
TKM2 Tokmak 2 50.94 336 *e*P **P** **02 01 29.3 -0.6**
comp=Z,189nm,0.9s
TKM2 LR LR
comp=Z,141µm,22.0s
KBK Karagaybulak 51.00 335 P **P** **02 01 31.6 +1.3**
SNR=56
RMQ Roma 51.11 122 ⇑P **P** **02 01 31.6 +0.4**
baz=51,SNR=13
AML Almayashu 51.12 333 P **P** **02 01 30.3 -1.1**
SNR=75
AAK Ala-Archa 51.17 334 *i* P **P** **02 01 30.2 -1.4**
AAK MLR MLR
comp=Z,183µm,17.0s
AAK Ala-Archa 51.17 334 P **P** **02 01 32.7 +1.1**
SNR=114
AAK Ala-Archa 51.17 334 P P 02 01 34.9 +3.3
SNR=43
AAK Ala-Archa 51.17 334 *e*P **P** **02 01 30.4 -1.2**
comp=Z,142nm,1.3s
AAK *e*S S 02 09 01.4 +13
AAK Ala-Archa 51.17 334 P **P** **02 01 29.9 -1.7**
comp=Z,36nm,0.9s,baz=133,slow=6.7,SNR=35
AAK S **S** **02 08 46.5 -2.3**
comp=Z,1.1nm,0.4s,baz=207,slow=18,SNR=1.5
AAK LR LR 02 26 06.7
comp=Z,93µm,20.3s,baz=140,slow=40
FRU Bishkek 51.28 335 *i* P **P** **02 01 32.0 -0.2**
FRU *i* 02 09 00.0
FRU pmax pmax
comp=Z,440nm,2.0s
FRU pmax pmax
comp=Z,3µm,4.0s
FRU MLR MLR
comp=Z,110µm,20.0s
CHMS Chumysh 51.36 335 P **P** **02 01 35.3 +2.5**
SNR=22
EKS2 Erkin-Say 51.51 334 *e*P **P** **02 01 33.2 -0.8**
EKS2 *e*S **S** **02 08 54.4 +1.0**
EKS2 pmax pmax
comp=Z,238nm,0.8s
EKS2 MLR MLR
comp=Z,90µm,20.0s
EKS2 Erkin-Say 51.51 334 P **P** **02 01 32.2 -1.8**
SNR=80
EKS2 Erkin-Say 51.51 334 *e*P **P** **02 01 33.2 -0.8**
comp=Z,238nm,0.8s
EKS2 *e*S **S** **02 08 54.4 +1.0**
EKS2 LR LR
comp=Z,90µm,20.0s
ABTO Aybut 51.53 294 P P 02 01 37.9 +3.4
SNR=18
MAJO Matsushiro 51.71 38 *e*P **P** **02 01 33.9 -1.6**
MAJO pmax pmax
comp=Z,110nm,1.3s
MAJO MLR MLR
comp=Z,42µm,20.0s
MAJO Matsushiro 51.71 38 *e*P **P** **02 01 33.9 -1.6**
comp=Z,18nm,1.3s
MAJO LR LR
comp=Z,28µm,20.0s
MAT Matsushiro 51.71 38 P **P** **02 01 35.1 -0.4**
MAT S **S** **02 08 55.8 -0.3**
UOSS Wadi Hilu 51.76 305 P **P** **02 01 36.5 +0.4**
comp=Z,564nm,1.0s,SNR=22
ASHO Ashiyiah 51.77 304 P P 02 01 39.9 +3.6
SNR=44
MK31 Makanchi Array 51.96 343 *ce*P **P** **02 01 34.6 -2.6**
MK31 pmax pmax
comp=Z,108nm,1.1s
MK31 Makanchi Array 51.96 343 *e*P **P** **02 01 35.1 -2.1**
MKAR Makanchi Array 51.96 343 P **P** **02 01 35.2 -2.0**
MKAR S **S** **02 08 56.9 -2.4**
MKAR pmax pmax
comp=Z,31nm,0.8s
MKAR smax smax
comp=N,2.0nm,1.0s
MKAR MLR MLR
comp=Z,37µm,21.6s
MKAR Makanchi Array 51.96 343 P **P** **02 01 35.2 -2.0**
MKAR S **S** **02 08 56.9 -2.4**
MKAR Makanchi Array 51.96 343 P **P** **02 01 35.2 -2.0**
comp=Z,32nm,0.8s,baz=154,slow=8.5,SNR=38
MKAR S **S** **02 08 56.9 -2.4**
comp=Z,1.9nm,1.0s,baz=165,slow=24,SNR=2.9
MKAR LR LR 02 25 43.4
comp=Z,37µm,21.6s,baz=157,slow=38
BANOM Banah 52.11 306 P P 02 01 43.1 +4.5
SNR=13
IBND Bandar-abas 52.59 308 *e*P **P** **02 01 44.3 +2.1**
ZAK Zakamensk 52.72 1 *e*P **P** **02 01 41.1 -1.8**
ZAK *e* 02 11 26.4
ZAK pmax pmax
comp=Z,35nm,1.5s
EIDS Eidsvold 52.74 120 *e*P **P** **02 01 43.1 -0.3**
comp=Z,93nm,1.1s
EIDS Eidsvold 52.74 120 P **P** **02 01 43.2 -0.2**
baz=53,SNR=9.8
IDAH Dahanechah 52.76 315 *e*P **P** **02 01 41.9 -1.8**
VLA Vladivostok 53.01 28 ⇓*i*P **P** **02 01 42.5 -2.5**
VLA *e* 02 02 51.7
VLA *e* 02 03 42.8
VLA *i* S **S** **02 09 09.9 -3.7**
VLA pmax pmax
comp=Z,351nm,1.5s
VLA MLR MLR
comp=E,4476µm,21.0s
IMON Monand 53.15 316 *e*P **P** **02 01 46.1 -0.5**
MDJ Mudanjiang 53.19 25 P **P** **02 01 46.7 +0.4**
MDJ pP **pP** **02 01 49.8 -3.3**
MDJ ScP **ScP** **02 06 52.8 +2.0**
MDJ PcS **PcS** **02 06 54.1 +1.2**
MDJ S **S** **02 09 17.0 +1.0**
MDJ AMB AMB
comp=E,27nm,1.3s
MDJ AMB AMB
comp=E,1µm,6.1s
MDJ LR LR
comp=E,46µm,32.6s
MDJ LR LR
comp=E,80µm,28.5s
MDJ LR LR
comp=E,58µm,20.8s
MDJ Mudanjiang 53.19 25 *e*P **P** **02 01 45.9 -0.4**
comp=E,142nm,1.1s
MDJ LR LR
comp=Z,60µm,20.0s
IKOO Kooshah 53.20 314 *e*P **P** **02 01 44.8 -2.2**
TOO Toolangi 53.25 137 P **P** **02 01 47.3 +0.3**
baz=53,SNR=23
KK31 Karatay Array 53.34 332 *ce*P **P** **02 01 45.8 -1.7**
KK31 pmax pmax
comp=Z,44nm,0.6s
KKAR Karatay Array 53.34 332 *e*P **P** **02 01 46.1 -1.4**
KKAR pmax pmax
comp=Z,50nm,0.8s
KKAR Karatay Array 53.34 332 *e*P **P** **02 01 46.1 -1.4**
comp=Z,50nm,0.8s
ITEG Tejag 53.64 315 *e*P **P** **02 01 48.5 -1.6**
PAF Port-aux-Franc 53.77 205 PFAKE 02 02 00.0 +10
PAF LR LR
comp=Z,32µm,20.0s
YNG Young 53.82 132 P **P** **02 01 50.5 -0.6**
baz=54,SNR=94
HVS Khovu-Aksy 53.88 354 *e*P **P** **02 01 50.8 -0.5**
HVS pmax pmax
comp=Z,165nm,1.4s
HVS MLR MLR
comp=Z,242µm,18.0s
USRK Ussuriysk Arra 53.90 27 P **P** **02 01 49.8 -1.7**
comp=Z,120nm,0.9s,baz=219,slow=6.6,SNR=56
USRK S **S** **02 09 27.2 +1.5**
comp=Z,0.8nm,0.5s,baz=248,slow=11,SNR=3.0
USRK LR LR 02 28 56.1
comp=Z,46µm,18.2s,baz=213,slow=41
HIA Hailar 53.93 15 *e*P **P** **02 01 50.1 -1.6**
comp=Z,99nm,1.2s
HIA LR LR
comp=Z,101µm,19.0s
MOY Mondy 53.99 360 *e*P **P** **02 01 52.8 +0.6**
MOY pmax pmax
comp=Z,217nm,2.6s
TLY Talaya 54.03 2 *e*P **P** **02 01 51.5 -0.9**
TLY *e*S **S** **02 09 27.1 -0.2**
TLY pmax pmax
comp=Z,108nm,1.3s
TLY MLR MLR
comp=Z,91µm,18.0s
TLY Talaya 54.03 2 P **P** **02 01 52.2 -0.2**
comp=Z,337nm,1.1s,SNR=14
IRK Irkutsk 54.61 2 *e*P **P** **02 01 53.8 -2.8**
IRK *e* 02 09 42.2
IRK pmax pmax
comp=Z,314nm,2.2s
IMYA Miami 54.64 319 *e*P **P** **02 01 55.0 -2.3**
MUKL Al Mukalla 54.70 290 *e*P **P** **02 02 00.9 +3.1**
CAN Canberra 54.70 132 *e*P **P** **02 01 56.7 -1.0**
CAN pmax pmax
comp=Z,195nm,1.1s
CAN MLR MLR
comp=Z,55µm,22.0s
CAN Canberra 54.70 132 *e*P **P** **02 01 56.7 -1.0**
comp=Z,195nm,1.1s
CAN LR LR
comp=Z,55µm,22.0s
ARMA Armidale 54.83 126 *e*P **P** **02 01 58.3 -0.5**
ARMA Armidale 54.83 126 P **P** **02 01 58.3 -0.5**
baz=55,SNR=33
CNB Canberra Magne 54.97 132 P **P** **02 01 59.8 +0.2**
baz=55,SNR=18
IMOG Moghan 55.01 318 *e*P **P** **02 01 57.7 -2.5**
ISRO Mashad 55.04 319 *e*P **P** **02 01 58.7 -1.4**
CIT Chita 55.28 9 *e*P **P** **02 02 01.2 -0.3**
CIT *e* 02 02 15.3
CIT *e* 02 02 54.8
CIT *e* 02 04 03.6
CIT *e* 02 09 52.8
CIT pmax pmax
comp=Z,449nm,2.3s
IBAF Bafgh 55.29 312 *e*P **P** **02 02 00.3 -1.8**
MGCD Mangrove Creek 55.44 129 P **P** **02 02 03.2 +0.3**
baz=55,SNR=12
OPO Ambohidratompo 55.54 249 P **P** **02 02 02.8 -1.3**
OPO Ambohidratompo 55.54 249 P **P** **02 02 02.8 -1.3**
comp=Z,5.6nm,0.9s,baz=34,slow=7.3,SNR=3.0
ABPO Ambohimpanom 55.58 249 *e*P **P** **02 02 05.4 +0.9**
ABPO pmax pmax
comp=Z,44nm,1.1s
ABPO MLR MLR
comp=Z,37µm,20.0s
ABPO Ambohimpanom 55.58 249 *e*P **P** **02 02 05.3 +0.9**
comp=Z,44nm,1.1s
ABPO LR LR
comp=Z,37µm,20.0s
IAKL Akhelmad 55.68 319 *e*P **P** **02 02 02.2 -2.8**
IMEH Mehriz 55.91 311 *e*P **P** **02 02 03.9 -2.7**
IKRD Kardeh 55.94 319 *e*P P 02 02 00.2 -6.6
ISRV Sarvestan 56.15 308 *e*P **P** **02 02 07.7 -0.8**
IEMG Emamgholi 56.21 319 *e*P **P** **02 02 06.6 -2.2**
IPAR Pars 56.41 309 *e*P **P** **02 02 09.7 -0.6**
ISFR Sfrayin 56.44 319 *e*P **P** **02 02 08.5 -1.8**
ICHK Chekchek 56.47 312 *e*P P 02 02 07.0 -3.6
KURBB Kurchatov Arra 56.50 343 PKP2bc 02 32 13.7
comp=Z,1.6nm,0.8s,baz=311,slow=2.7,SNR=4.3
KURK Kurchatov 56.56 343 *e*P **P** **02 02 08.5 -2.1**
KURK *e*S **S** **02 10 05.5 +4.5**
KURK pmax pmax
comp=Z,50nm,0.9s
KURK MLR MLR
comp=Z,30µm,21.0s
KURK Kurchatov 56.56 343 P **P** **02 02 10.2 -0.4**
SNR=65
KURK Kurchatov 56.56 343 *e*P **P** **02 02 08.5 -2.1**
comp=Z,101nm,0.9s
KURK *e*S **S** **02 10 05.5 +4.5**
KURK ⇑*e* 02 32 13.7
KURK LR LR
comp=Z,60µm,21.0s
ISAD Sadrabad 56.85 311 *e*P **P** **02 02 11.8 -1.6**
MOO Moorlands 56.87 141 P **P** **02 02 15.3 +2.3**
baz=57,SNR=6.8
TAU Tasmania Unive 57.19 141 *e*P **P** **02 02 15.6 +0.3**
TAU pmax pmax
comp=Z,270nm,1.3s
TAU MLR MLR
comp=Z,28µm,20.0s
TAU Tasmania Unive 57.19 141 *e*P **P** **02 02 15.6 +0.3**
comp=Z,271nm,1.3s
TAU LR LR
comp=Z,28µm,20.0s
IKAZ Kazeroun 57.33 308 *e*P **P** **02 02 14.6 -2.3**
PATS Pohnpei 57.40 80 ⇓P **P** **02 02 18.6 +1.4**
baz=57,SNR=5.5
KLR Kul'dur 57.79 23 *e*P P 02 02 14.3 -5.0
KLR *e*S **S** **02 10 19.5 +2.2**
KLR *e*SS **SS** **02 14 11.5 +3.2**
KLR pmax pmax
comp=E,100nm,1.4s
KLR pmax pmax
comp=Z,450nm,1.4s
KLR pmax pmax
comp=Z,2µm,5.5s
ZAA0 Zalesovo Array 57.98 348 *e*P **P** **02 02 18.2 -2.3**
ZAA0 *e*S **S** **02 10 15.6 -4.1**
ZALV Zalesovo Beam 57.98 348 P **P** **02 02 18.6 -2.0**
ZALV S **S** **02 10 20.4 +0.7**
ZALV pmax pmax
comp=Z,39nm,0.7s
ZALV smax smax
comp=N,1.0nm,0.7s
ZALV MLR MLR
comp=Z,42µm,19.8s
ZALV Zalesovo Beam 57.98 348 P **P** **02 02 18.6 -2.0**
ZALV S **S** **02 10 20.4 +0.7**
ZALV Zalesovo Beam 57.98 348 P **P** **02 02 18.6 -2.0**
comp=Z,39nm,0.7s,baz=155,slow=7.2,SNR=28
ZALV S **S** **02 10 20.4 +0.7**
comp=Z,1.4nm,0.7s,baz=155,slow=17,SNR=2.9
ZALV LR LR 02 31 09.0
comp=Z,42µm,19.8s,baz=168,slow=40
ERM Erimo 58.15 36 *i* P **P** **02 02 22.0 0.0**
ERM pmax pmax
comp=Z,84nm,1.5s
ERM Erimo 58.15 36 *e*P **P** **02 02 22.0 0.0**
comp=Z,57nm,1.1s
ERM LR LR
comp=Z,37µm,20.0s
IMND Minoodasht 58.28 317 *e*P P 02 02 17.6 -5.4
IGAR Gharneh 58.31 311 *e*P **P** **02 02 22.7 -0.9**
IZEF Zefreh 58.32 312 *e*P **P** **02 02 21.0 -2.7**
HNR Honiara 58.41 99 LR LR 02 25 32.3
comp=Z,13µm,21.1s,baz=264,slow=34
HABR Khabarovsk 58.54 25 *de*P **P** **02 02 24.2 -0.4**
HABR *i* *PP **pP** **02 02 32.5 +1.1**
HABR *e**SP **sP** **02 02 36.4 +2.4**
HABR *e* 02 03 12.7
HABR *e* 02 04 31.5
HABR *e*S **S** **02 10 25.4 -1.8**
HABR *e* 02 10 35.9
HABR *e**SS **sS** **02 10 40.5 +2.0**
HABR *e* 02 12 09.0
HABR *e*SS **SS** **02 14 17.0 -3.2**
HABR pmax pmax
comp=Z,615nm,2.7s
HABR pmax pmax
comp=N,113nm,2.0s
HABR pmax pmax
comp=Z,428nm,2.1s
HABR pmax pmax
comp=E,125nm,1.4s
HABR MLR MLR
comp=Z,47µm,17.0s
KRAR Krasnoyarsk 58.77 354 *i* P P 02 02 32.1 +6.1
KRAR pmax pmax
comp=Z,165nm,1.3s
IKIA Kiasar 58.92 316 *e*P **P** **02 02 26.4 -1.4**
IGLO Ghaloghah 58.97 316 *e*P **P** **02 02 27.3 -0.8**
ISHM Shahmirzad 59.00 315 *e*P **P** **02 02 26.4 -2.0**
ILAS Lasjerd 59.03 314 *e*P **P** **02 02 26.6 -2.0**
ISFB Sefidab 59.06 313 *e*P **P** **02 02 26.9 -1.7**
IKLH Kolahrood 59.07 312 *e*P **P** **02 02 27.3 -1.7**
TRBA At Turbah 59.10 287 *e*P **P** **02 02 30.5 +1.1**
NVS Novosibirsk 59.14 348 *e*P **P** **02 02 27.0 -1.6**
NVS *e*S **S** **02 10 34.8 0.0**
NVS pmax pmax
comp=N,53nm,1.3s
NVS pmax pmax
comp=Z,85nm,1.3s
NVS pmax pmax
comp=E,31nm,1.2s
NVS smax smax
comp=N,63nm,1.5s
NVS smax smax
comp=E,5.0nm,0.6s
ASAJ Asahikawa 59.17 33 *e*P **P** **02 02 28.6 -0.5**
comp=E,48nm,1.1s
IFIR Firoozkooh 59.30 315 *e*P **P** **02 02 28.6 -1.9**
IPIR Pirpir 59.31 311 *e*P **P** **02 02 28.6 -2.0**
IALA Alasht 59.48 315 *e*P **P** **02 02 29.4 -2.3**
IVRN Varamin 59.73 313 *e*P **P** **02 02 31.6 -1.6**
IDMV Damavand 59.79 314 *e*P **P** **02 02 32.2 -1.7**

IPRN	Peran	59.89	315	eP	P	02 02 32.5	-1.9
ATD	Arta Tunnel	60.02	285	P	P	02 02 34.4	-1.1
ATD				S	S	02 10 54.1	+6.5
ATD	Arta Tunnel	60.02	285	P	P	02 02 34.4	-1.1
	comp=E,2.1nm,0.3s,baz=144,slow=6.9,SNR=1.8						
ATD				S	S	02 10 54.1	+6.5
	comp=E,2.1nm,0.3s,baz=307,slow=20,SNR=2.2						
ATD				LR	LR	02 24 22.9	
	comp=E,52µm,21.4s,baz=271,slow=32						
RAYN	Ar Rayn	60.36	299	P	P	02 02 37.4	-0.3
	comp=E,526nm,1.4s,SNR=16						
KBD	Kabd	60.40	306	eP	P	02 02 37.9	0.0
KBD				AMb	AMB	02 02 47.0	
	comp=Z,690nm,1.5s						
RDF	Al-Radifah	60.43	305	eP	P	02 02 37.4	-0.7
RDF				AMb	AMB	02 02 47.1	
	comp=Z,1µm,1.4s						
IR3	Iran Long-Peri	60.47	314	eP	P	02 02 36.8	-1.5
UMR	Umm Al-Rimmam	60.52	306	eP	P	02 02 38.3	-0.3
UMR				AMb	AMB	02 02 47.8	
	comp=Z,1µm,1.7s						
IMHD	Mahdasht	60.82	314	eP	P	02 02 40.0	-0.7
YUK	Yuzh-Kuril'sk	60.96	35d	iP	P	02 02 41.3	0.0
YUK				i		02 03 20.5	
YUK				iS	S	02 11 02.7	+4.2
YUK				pmax	pmax		
	comp=Z,5µm,5.1s						
YUK				pmax	pmax		
	comp=E,323nm,1.5s						
YUK				pmax	pmax		
	comp=N,252nm,1.5s						
YUK				pmax	pmax		
	comp=Z,514nm,1.5s						
YUK				MLR	MLR		
	comp=N,13µm,21.0s						
YUK				MLR	MLR		
	comp=E,17µm,21.0s						
YUK				MLR	MLR		
	comp=Z,28µm,21.0s						
RST	Umm Al-Ruwaisa	61.09	306	eP	P	02 02 41.8	-0.7
RST				AMb	AMB	02 02 51.1	
	comp=Z,4µm,1.0s						
YSS	Yuzh-Sakhalins	61.11	31⇑	eP	P	02 02 41.3	-1.0
YSS				e*SP	sP	02 02 48.0	-3.7
YSS				e		02 05 02.0	
YSS				eS	S	02 10 57.0	-3.3
YSS				ePS	PnS	02 11 04.0	-12
YSS				e		02 11 13.0	
YSS				eSS	SS	02 14 50.0	-11
YSS				pmax	pmax		
	comp=Z,160nm,1.0s						
YSS				MLR	MLR		
	comp=Z,35µm,19.0s						
YSS				MLR	MLR		
	comp=N,27µm,18.0s						
YSS				MLR	MLR		
	comp=E,33µm,20.0s						
BVAR	Borovoye Array	61.22	339	P	P	02 02 39.9	-3.1
BVAR				pmax	pmax		
	comp=Z,25nm,0.6s						
BVAR				MLR	MLR		
	comp=Z,72µm,20.3s						
BVAR	Borovoye Array	61.22	339	P	P	02 02 39.9	-3.1
BVAR	Borovoye Array	61.22	339	P	P	02 02 39.9	-3.1
	comp=Z,25nm,0.6s,baz=140,slow=7.6,SNR=46						
BVAR				LR	LR	02 32 47.2	
	comp=Z,72µm,20.3s,baz=148,slow=40						
IRAZ	Razeghan	61.23	313	eP	P	02 02 42.6	-1.0
BRVK	Borovoye	61.28	339	eP	P	02 02 40.9	-2.5
BRVK				pmax	pmax		
	comp=Z,167nm,1.1s						
BRVK				MLR	MLR		
	comp=Z,84µm,20.0s						
BRVK	Borovoye	61.28	339	P	P	02 02 43.1	-0.3
	SNR=80						
BRVK	Borovoye	61.28	339	P	P	02 02 41.9	-1.5
	comp=Z,598nm,0.9s,SNR=18						
BRVK	Borovoye	61.28	339	eP	P	02 02 40.9	-2.5
	comp=Z,166nm,1.1s						
BRVK				LR	LR		
	comp=Z,84µm,20.0s						
CLNS	Chul'man	62.12	14	eP	P	02 02 52.1	+3.1
CLNS				e*PP	pP	02 03 01.4	+5.5
CLNS				e		02 03 28.0	
CLNS				e		02 05 09.2	
CLNS				eS	S	02 11 16.3	+3.4
CLNS				e		02 12 39.3	
CLNS				eSS	SS	02 15 18.8	+2.7
CLNS				pmax	pmax		
	comp=N,99nm,1.2s						
CLNS				pmax	pmax		
	comp=Z,139nm,1.0s						
CLNS				pmax	pmax		
	comp=E,81nm,1.3s						
CLNS				pmax	pmax		
	comp=E,4.0nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,13nm,1.0s						
CLNS				pmax	pmax		
	comp=N,8.0nm,0.9s						
CLNS				smax	smax		
	comp=N,1µm,12.8s						
CLNS				smax	smax		
	comp=E,2µm,12.1s						
CLNS				MLR	MLR		
	comp=E,44µm,15.0s						
CLNS				MLR	MLR		
	comp=Z,61µm,16.0s						
CLNS				MLR	MLR		
	comp=N,33µm,14.0s						
IKOM	Komasi	62.50	311	eP	P	02 02 51.7	-0.5
KUR	Kuril'sk	62.82	35	P	P	02 02 56.0	+2.2
KUR				iS	S	02 11 35.0	+13
KUR				pmax	pmax		
	comp=Z,570nm,1.2s						
KUR				pmax	pmax		
	comp=E,4µm,5.0s						
KUR				pmax	pmax		
	comp=Z,5µm,5.0s						
AB31	Akbulak array	62.85	331ce	eP	P	02 02 51.5	-2.5
AB31				pmax	pmax		
	comp=Z,603nm,1.5s						
ABKAR	Akbulak array	62.85	331	eP	P	02 02 51.2	-2.8
	comp=Z,139nm,0.8s						
IVIS	Veis	63.14	311	eP	P	02 02 54.2	-2.2
ILIN	Lien	63.22	311	eP	P	02 02 55.8	-1.2
IGHG	Ghaleghazi	63.27	311	eP	P	02 02 55.1	-2.3
IDHR	Dehrash	63.56	311	eP	P	02 02 56.3	-3.0
AAE	Adis Abeba	63.62	281	iP	P	02 03 04.5	+4.3
FURI	Furi	63.69	281	PG	P	02 03 01.6	+0.9
FURI				SG	S	02 11 44.9	+10
ISRB	Sarab	63.93	315	eP	P	02 03 00.0	-1.7
CASY	Casey	63.95	176	eP	P	02 03 01.4	+0.5
	comp=Z,519nm,1.7s						
CASY				ePP	PP	02 05 23.9	+2.3
CASY				LR	LR		
	comp=Z,25µm,22.0s						
KMBO	Kilima Mbogo	64.29	270	eP	P	02 03 05.9	+1.4
KMBO	Kilima Mbogo	64.29	270	P	P	02 03 09.8	+5.3
	SNR=39						
KMBO	Kilima Mbogo	64.29	270	eP	P	02 03 05.5	+1.0
	comp=Z,16nm,1.0s						
KMBO				S	S	02 11 43.6	+1.6
KMBO	Kilima Mbogo	64.29	270	P	P	02 03 04.9	+0.4
	comp=Z,44nm,1.1s,baz=58,slow=11,SNR=24						
KMBO				S	S	02 11 43.6	+1.6
	comp=Z,0.3nm,0.4s,baz=75,slow=17,SNR=1.7						
KMBO				LR	LR	02 27 01.1	
	comp=Z,53µm,21.2s,baz=80,slow=32						
IBST	Bostanabad	64.43	314	eP	P	02 03 01.9	-3.1
AKTO	Aktyubinsk	64.57	331	LR	LR	02 35 29.3	
	comp=Z,44µm,21.6s,baz=142,slow=40						
IHRS	Heris	64.59	315	eP	P	02 03 03.0	-3.0
MAUS	Longido	64.79	268	iP	P	02 03 11.0	+3.4
IFTB	Fath-abad	64.92	314	eP	P	02 03 08.8	+0.6
ITBZ	Tabriz	65.19	314	eP	P	02 03 09.3	-0.5
DODT	Dodoma, Tanzan	65.69	264	iP	P	02 03 16.6	+3.1
DZM	Mont Dzumac	65.81	113	eP	P	02 03 13.3	-0.7
	comp=Z,133nm,1.7s						
DZM				eS	S	02 11 57.0	-3.1
	comp=Z,28µm,39.0s						
DZM				eSS	SS	02 16 10.9	-4.2
	comp=Z,18µm,26.0s						
DZM				eLR	LR	02 23 03.2	
	comp=Z,90µm,25.2s						
DZM	Mont Dzumac	65.81	113	eP	P	02 03 14.6	+0.5
	comp=Z,30nm,1.0s						
DZM				S	S	02 12 05.6	+5.5
DZM	Mont Dzumac	65.81	113	P	P	02 03 13.8	-0.3
	comp=Z,11nm,1.0s,baz=284,slow=17,SNR=3.7						
DZM				S	S	02 12 05.6	+5.5
	comp=Z,3.3nm,0.8s,baz=198,slow=20,SNR=2.0						
DZM				LR	LR	02 33 08.9	
	comp=Z,22µm,21.9s,baz=275,slow=37						
MAK	Makhachkala	66.37	320	eP	P	02 03 15.0	-2.1
MAK				e		02 03 44.6	
MAK				e		02 05 49.7	
MAK				ePPP	PPP	02 07 23.7	
MAK				eS	S	02 12 01.5	-4.5
MAK				e		02 13 09.2	
MAK				pmax	pmax		
	comp=Z,693nm,2.2s						
MAK				pmax	pmax		
	comp=E,516nm,1.5s						
MAK				pmax	pmax		
	comp=Z,3µm,3.8s						
MAK				pmax	pmax		
	comp=N,475nm,1.1s						
MAK				smax	smax		
	comp=E,10µm,9.1s						
MAK				smax	smax		
	comp=N,8µm,7.3s						
HAKT	HAKKARI	66.68	313	iP	P	02 03 18.0	-1.6
GNI	Garni	66.99	316	P	P	02 03 24.1	+2.8
	SNR=76						
GNI		66.99	316	eP	P	02 03 20.8	-0.5
	comp=N,335nm,1.1s						
GNI				eS	S	02 12 21.4	+7.5
GNI	Garni	66.99	316	LR	LR	02 36 44.9	
	comp=N,17µm,20.6s,baz=99,slow=40						
DGRG	David-gareji	67.11	317	P	P	02 03 22.7	+0.8
GEVA	Gevas	67.44	313	iP	P	02 03 22.6	-1.7
WAKE	Wake Island	67.47	68	PFAKE		02 03 30.0	+5.5
WAKE				LR	LR		
	comp=Z,10µm,22.0s						
DYDN	Diyadin	67.48	315	iP	P	02 03 23.8	-0.7
MZM	Mzuzu	67.50	259	iP	P	02 03 28.5	+3.7
SIRN	S¯rnak	67.61	312	iP	P	02 03 23.1	-2.1
TBLG	Delisi	67.66	317	P	P	02 03 23.1	-2.3
TBLG				S	S	02 12 20.3	-1.3
SVE	Sverdlovsk	67.76	337⇑	eP	P	02 03 23.6	-2.1
SVE				eS	S	02 12 19.4	-2.8
SVE				eSS	SS	02 16 34.6	-9.3
SVE				pmax	pmax		
	comp=Z,428nm,1.4s						
SVE				MLR	MLR		
	comp=Z,88µm,23.0s						
SVE				MLR	MLR		
	comp=E,65µm,23.0s						
YAK	Yakutsk	67.86	14	eP	P	02 03 24.3	-1.8
YAK				e*PP	pP	02 03 35.1	+2.0
YAK				e		02 03 48.9	
YAK				e		02 05 55.2	
YAK				eS	S	02 12 20.0	-3.2
YAK				e		02 13 20.7	
YAK				eSS	SS	02 16 43.9	-1.3
YAK				pmax	pmax		
	comp=Z,404nm,1.1s						
YAK				pmax	pmax		
	comp=E,125nm,1.3s						
YAK				pmax	pmax		
	comp=N,160nm,1.1s						
YAK				pmax	pmax		
	comp=N,58nm,1.5s						
YAK				pmax	pmax		
	comp=Z,85nm,1.4s						
YAK				pmax	pmax		
	comp=E,71nm,1.5s						
YAK				smax	smax		
	comp=N,577nm,5.3s						
YAK				smax	smax		
	comp=E,992nm,5.0s						
YAK				MLR	MLR		
	comp=E,36µm,14.0s						
YAK				MLR	MLR		
	comp=Z,60µm,15.0s						
YAK				MLR	MLR		
	comp=N,37µm,15.0s						
TUTA	Tutak	68.04	314	iP	P	02 03 26.9	-1.2
DIGO	Kars	68.05	316	iP	P	02 03 26.5	-1.6
TATV	Tatvan	68.09	313	iP	P	02 03 26.7	-1.7
ARU	Arti	68.31	336d	iP	P	02 03 28.0	-1.2
ARU						02 03 51.0	
ARU						02 05 57.7	
ARU				PPP	PPP	02 07 31.8	
ARU				S	S	02 12 28.0	-0.8
ARU						02 13 25.3	
ARU				pmax	pmax		
	comp=Z,206nm,1.7s						
ARU				pmax	pmax		
	comp=Z,1µm,13.1s						
ARU				MLR	MLR		
	comp=Z,61µm,24.0s						
ARU	Arti	68.31	336	P	P	02 03 27.9	-1.2
	comp=Z,998nm,0.9s,SNR=24						
AKH	Akhalkalaki	68.37	317	P	P	02 03 33.1	+3.1
EKAR	Karacoban	68.52	314	iP	P	02 03 31.1	-0.1
BEST	Besiri	68.60	312	iP	P	02 03 33.1	+1.7
ZEI	Tsey	68.67	318	eP	P	02 03 31.2	-0.7
ZEI				pmax	pmax		
	comp=Z,250nm,1.0s						
MARD	Mardin	68.75	312	iP	P	02 03 31.1	-1.4
ONI	Oni	68.89	318	P	P	02 03 35.7	+2.6
EPOS	Posof	68.93	316	iP	P	02 03 26.7	-6.8
HOMI	Horasan	68.94	315	iP	P	02 03 32.8	-0.9
BNGL	BINGOL	69.07	313	iP	P	02 03 33.7	-0.8
ERZM	Erzurum	69.27	314	iP	P	02 03 35.6	-0.2
DAGI	Agilar	69.33	316	iP	P	02 03 34.7	-1.2
ARTV	Artvin	69.36	316	iP	P	02 03 34.4	-1.9
DDEM	Demirkent	69.37	316	iP	P	02 03 35.3	-0.9
DRV	Dumont d'Urvil	69.40	165	PP	PP	02 06 06.0	-3.2
DRV				SS	SS	02 16 46.0	-23
DRV				L	L	02 20 00.0	
DIYA	Diyarbakir	69.46	312	iP	P	02 03 36.2	-0.6
DBAD	Bademkaya	69.46	316	iP	P	02 03 35.4	-1.3
DBOC	Borcka	69.61	316	iP	P	02 03 35.6	-1.9
KBZ	Khabaz	69.73	319	P	P	02 03 36.6	-1.5
KBZ				S	S	02 12 45.4	-0.6
KBZ				pmax	pmax		
	comp=Z,68nm,0.8s						
KBZ				smax	smax		
	comp=N,1.0nm,0.9s						
KBZ	Khabaz	69.73	319	P	P	02 03 36.6	-1.5
KBZ				S	S	02 12 45.4	-0.6
KBZ	Khabaz	69.73	319	P	P	02 03 36.6	-1.5
	comp=N,68nm,0.8s,baz=110,slow=6.5,SNR=30						
KBZ				S	S	02 12 45.4	-0.6
	comp=N,1.3nm,0.9s,baz=90,slow=10,SNR=2.5						
CHVG	Ch'k'valeri	69.86	317	P	P	02 03 38.7	-0.4
KOPT	Kop Dagi	69.93	314	iP	P	02 03 39.2	-0.7
KIV	Kislovodsk	69.96	319	eP	P	02 03 38.6	-1.1
KIV				e		02 06 12.6	
KIV				ePPP	PPP	02 08 00.4	
KIV				eS	S	02 12 46.2	-2.8
KIV				eSS	SS	02 17 21.2	+2.6
KIV				pmax	pmax		
	comp=Z,159nm,2.8s						
KIV				pmax	pmax		
	comp=Z,228nm,1.0s						
KIV				MLR	MLR		
	comp=Z,17µm,18.0s						
KIV	Kislovodsk	69.96	319	P	P	02 03 39.5	-0.2
	comp=Z,1µm,0.9s,SNR=28						
ASF	Jabal al Asfar	70.16	305	P	P	02 03 39.8	-1.5
ASF				S	S	02 12 58.2	+6.4
ASF	Jabal al Asfar	70.16	305	P	P	02 03 39.8	-1.5
	comp=Z,38nm,0.9s,baz=63,slow=5.1,SNR=47						
ASF				S	S	02 12 58.2	+6.4
	comp=Z,0.5nm,0.5s,baz=69,slow=14,SNR=2.0						
ASF				LR	LR	02 36 00.8	
	comp=Z,51µm,18.1s,baz=237,slow=37						
MAW	Mawson	70.17	195	P	P	02 03 39.7	-0.7
MAW				S	S	02 12 52.4	+2.0
MAW	Mawson	70.17	195	P	P	02 03 39.7	-0.7
	comp=Z,35nm,1.0s,baz=1.7,slow=7.5,SNR=10						
MAW				S	S	02 12 52.4	+2.0
	comp=Z,0.6nm,0.4s,baz=198,slow=20,SNR=3.6						
MAW				LR	LR	02 29 00.6	
	comp=Z,37µm,20.2s,baz=36,slow=31						
GOF	Gofitskoye	70.19	320	eP	P	02 03 42.2	+1.2
GOF				eS	S	02 12 52.8	+1.3
GOF				pmax	pmax		
	comp=Z,270nm,1.1s						
GOF				smax	smax		
	comp=E,100nm,1.4s						
GOF				smax	smax		
	comp=N,100nm,1.3s						
SKR	Severo-Kuril's	70.44	33	eP	P	02 03 41.0	-1.3
SKR				e		02 04 04.0	
SKR				e		02 06 26.0	
SKR				ePPP	PPP	02 07 54.0	
SKR				eS	S	02 12 50.0	-4.0
SKR				e		02 13 36.0	
SKR				pmax	pmax		
	comp=Z,450nm,1.0s						
SKR				pmax	pmax		
	comp=N,2µm,6.0s						
SKR				pmax	pmax		
	comp=Z,3µm,6.0s						
SKR				smax	smax		
	comp=N,6µm,18.0s						
SKR				smax	smax		
	comp=E,9µm,18.0s						
SKR				MLR	MLR		
	comp=N,45µm,18.0s						
SKR				MLR	MLR		
	comp=E,26µm,18.0s						
SKR				MLR	MLR		
	comp=Z,39µm,18.0s						
ELZG	Elazig	70.50	312	iP	P	02 03 42.6	-0.7
ATAB	Bozova	70.67	311	iP	P	02 03 43.6	-0.6
MACK	Trabzon	70.78	315	iP	P	02 03 47.9	+3.1
MBAR	Mbarara	70.82	270	P	P	02 03 48.7	+3.0
	comp=Z,204nm,0.9s,SNR=5.1						
KELT	Kelkit	70.87	314	iP	P	02 03 43.9	-1.6
POGA	Pongola	71.06	242	eP	P	02 03 47.6	+0.9
POGA				AMS	AMS	02 27 22.1	
	comp=Z,17µm,22.8s						
POGA	Pongola	71.06	242	P	P	02 03 47.6	+0.9
KEMA	Kemaliye	71.12	313	iP	P	02 03 46.4	-0.5
EIL	Elat	71.12	302	P	P	02 03 46.9	-0.2
	baz=71,SNR=48						
GZT	Gaziantep	71.18	311	iP	P	02 03 46.2	-1.3
AKCD	Akcadag	71.22	312	iP	P	02 03 46.5	-1.1
KUZU	Kuzuini	71.37	310	iP	P	02 03 47.1	-1.4
RCY	Rachaya	71.39	307	eP	P	02 03 49.2	+0.5
TARA	Tarawa	71.44	88	PFAKE		02 04 00.0	+11
TARA				LR	LR		
	comp=Z,15µm,21.0s						
HWQ	Hawqa	71.52	307	eP	P	02 03 48.5	-1.0
SUSE	Susehri	71.64	314	iP	P	02 03 49.8	-0.4
BHL	Bhannes	71.65	307	eP	P	02 03 49.7	-0.6
AYKD	Aykdinkavak	71.77	311	iP	P	02 03 49.2	-1.6
SOC	Sochi	71.79	318d	iP	P	02 03 49.8	-0.9
SOC				e*PP	pP	02 03 58.2	+0.5
SOC				e		02 06 34.1	
SOC				iS	S	02 13 05.0	-5.1
SOC				e		02 13 47.6	
SOC				eSS	SS	02 17 43.0	-3.5
SOC				pmax	pmax		
	comp=Z,1µm,3.0s						
SOC				pmax	pmax		
	comp=Z,199nm,1.2s						
GRSN	GIRESUNGRSN	71.84	315	iP	P	02 03 50.6	-0.6
YAYL	Yayladag	71.90	309	iP	P	02 03 50.6	-1.2
COBT	Iskenderun	71.92	310	iP	P	02 03 51.4	-0.6
MSNA	Messina	71.98	247	eP	P	02 03 56.0	+3.6
MSNA				AMS	AMS	02 34 07.0	
	comp=Z,16µm,20.2s						
MSNA	Messina	71.98	247	P	P	02 03 56.0	+3.6
ANDN	Andirin	72.17	311	iP	P	02 03 52.4	-0.9
SCER	sogukcermik	72.31	313	iP	P	02 03 53.1	-1.1
PINB	Pinarbasi	72.47	312	iP	P	02 03 53.7	-1.5
PEA0B	Petropavlovsk-	72.50	32	eP	P	02 03 54.4	-0.4
PETK	Petropavlovsk-	72.50	32	P	P	02 03 53.2	-1.6
PETK				S	S	02 13 18.7	+0.8
PETK				pmax	pmax		
	comp=Z,18nm,0.8s						
PETK				smax	smax		
	comp=N,2.0nm,0.7s						
PETK				MLR	MLR		
	comp=Z,18µm,20.0s						
PETK	Petropavlovsk-	72.50	32	P	P	02 03 53.2	-1.6
PETK				S	S	02 13 18.7	+0.8
PETK	Petropavlovsk-	72.50	32	P	P	02 03 53.2	-1.6
	comp=Z,18nm,0.8s,baz=203,slow=4.4,SNR=13						
PETK				S	S	02 13 18.7	+0.8
	comp=Z,2.3nm,0.7s,baz=237,slow=13,SNR=3.0						
PETK				LR	LR	02 38 23.3	
	comp=Z,18µm,20.0s,baz=60,slow=38						
ERBA	Erbaa	72.84	314	iP	P	02 03 55.1	-2.1
TOKA	Tokat	72.93	314	iP	P	02 03 55.6	-2.1
PET	Petropavlovsk	72.96	32	eP	P	02 03 57.0	-0.5
PET				eS	S	02 13 22.2	-0.8
PET				ePS	PnS	02 14 00.1	+4.1
PET				pmax	pmax		
	comp=Z,200nm,1.0s						
PET				pmax	pmax		
	comp=Z,2µm,7.8s						
PET				pmax	pmax		
	comp=Z,1µm,14.3s						
PET				MLR	MLR		
	comp=Z,29µm,20.0s						
PET				MLR	MLR		
	comp=Z,22µm,18.0s						
PHNC	Paralimni	73.23	308	P	P	02 03 59.8	+0.2
	comp=Z,1.1nm,0.9s						
GULE	Gulek	73.28	310	iP	P	02 03 59.0	-1.1
LSZ	Lusaka	73.31	255	eP	P	02 04 00.8	+0.4
LSZ	Lusaka	73.31	255	P	P	02 04 04.0	+3.5
	SNR=17						
LSZ	Lusaka	73.31	255	eP	P	02 04 00.9	+0.5
	comp=Z,237nm,1.8s						
LSZ				LR	LR		
	comp=Z,23µm,20.0s						
KSD	Kokstad	73.36	239	eP	P	02 04 01.2	+0.6
KSD				AMS	AMS	02 27 14.3	
	comp=Z,27µm,28.1s						
KSD	Kokstad	73.36	239	P	P	02 04 01.2	+0.6
RPZ	Rata Peaks	73.50	135	eP	P	02 03 59.8	-1.2
	comp=Z,510nm,1.5s						
RPZ				ePP	PP	02 06 38.9	-6.1
RPZ				S	SKiKP	02 13 34.5	+3.7
RPZ	Rata Peaks	73.50	135	P	P	02 03 59.6	-1.4
	comp=Z,98nm,0.9s,baz=296,slow=5.0,SNR=16						
RPZ				S	SKiKP	02 13 34.5	+3.7
	comp=Z,12nm,1.0s,baz=335,slow=17,SNR=2.7						
RPZ				LR	LR	02 35 49.3	
	comp=Z,51µm,21.0s,baz=275,slow=35						
KIZK	Mersin	73.55	309	iP	P	02 04 00.9	-0.4
VRHR	Novokhopersk	73.64	325	eP	P	02 04 00.7	-0.9
VRHR				e		02 06 45.4	
VRHR				eS	SKiKP	02 13 28.9	-1.7
VRHR				pmax	pmax		
	comp=Z,110nm,0.6s						
VRHR				pmax	pmax		
	comp=N,80nm,0.8s						
VRHR				pmax	pmax		
	comp=E,360nm,1.2s						
VRHR				pmax	pmax		
	comp=Z,150nm,1.3s						
VRHR				pmax	pmax		
	comp=N,80nm,1.1s						
VRHR				pmax	pmax		
	comp=E,160nm,1.8s						
VRHR				smax	smax		
	comp=E,2µm,2.9s						
VRHR				smax	smax		
	comp=Z,1µm,3.5s						
VRHR				smax	smax		
	comp=N,740nm,2.0s						
VRHR				MLR	MLR		
	comp=Z,34µm,24.0s						
VRHR				MLR	MLR		
	comp=N,3µm,21.0s						
VRHR				MLR	MLR		
	comp=E,37µm,25.0s						
AVNT	Avonos	73.65	312	iP	P	02 04 00.9	-1.2
HAVZ	Havza	73.71	314	iP	P	02 03 59.2	-3.1
ANN	Anapa	73.76	318c	iP	P	02 04 01.8	-0.6
ANN				i*PP	pP	02 04 12.6	+3.2
ANN				i		02 06 44.0	
ANN				iPPP	PPP	02 08 29.3	
ANN				iS	S	02 13 32.2	-0.3

ANN *i* SS **SS** **02 18 16.1 -0.4**
ANN pmax pmax
comp=N,85nm,2.3s
ANN pmax pmax
comp=E,35nm,2.3s
ANN pmax pmax
comp=Z,195nm,2.3s
ANN pmax pmax
comp=N,483nm,6.9s
ANN pmax pmax
comp=E,359nm,6.9s
ANN pmax pmax
comp=Z,2µm,6.9s
ANN smax smax
comp=N,5µm,12.1s
ANN smax smax
comp=E,2µm,12.1s
CSS **Prodhromos** **73.78 307** P **P** **02 04 02.2 -0.6**
comp=E,3.6nm,0.9s
CSS **Prodhromos** **73.78 307** P **P** **02 04 01.7 -1.1**
CSS **Prodhromos** **73.78 307** *eP* **P** **02 04 01.6 -1.2**
comp=E,233nm,1.5s
CSS LR LR
comp=Z,15µm,19.0s
SLR **Silverton** **73.86 244** *eP* **P** **02 04 04.7 +1.1**
SLR AMS AMS 02 44 23.7
comp=Z,18µm,16.2s
SLR **Silverton** **73.86 244** P **P** **02 04 04.7 +1.1**
OUZ **Omahuta** **73.89 126** *eP* **P** **02 04 03.3 -0.1**
comp=Z,41nm,1.5s
MAMC **Mammari** **73.92 308** P **P** **02 04 03.6 0.0**
ERPM **east rand prop** **73.94 243** *eP* **P** **02 04 05.7 +1.6**
ERPM AMS AMS 02 38 50.2
comp=Z,11µm,16.6s
ERPM **east rand prop** **73.94 243** P **P** **02 04 05.7 +1.6**
SZAC **Souni-Zanaja** **74.08 307** P **P** **02 04 05.7 +1.1**
comp=Z,3.0nm,0.7s
CTKT **Corum** **74.25 313** *i* P **P** **02 04 04.3 -1.3**
CDAG **Cicekdag** **74.26 312** *i* P P 02 04 02.3 -3.4
ALFC **Alevga** **74.41 307** P **P** **02 04 06.7 +0.2**
comp=Z,3.1nm,0.7s
ERMK **Ermenek** **74.54 309** *i* P **P** **02 04 06.1 -1.4**
PPCY **Paphos** **74.55 307** P **P** **02 04 07.9 +0.7**
AKMC **Akamas** **74.59 307** P **P** **02 04 07.8 +0.3**
SEK **Senekal** **74.67 241** *eP* **P** **02 04 09.8 +1.4**
SEK AMS AMS 02 36 26.5
comp=Z,14µm,17.6s
SEK **Senekal** **74.67 241** P **P** **02 04 09.8 +1.4**
PRYS **Parys** **74.78 243** *eP* **P** **02 04 09.8 +0.8**
PRYS AMS AMS 02 38 50.0
comp=Z,8µm,13.6s
PRYS **Parys** **74.78 243** P **P** **02 04 09.8 +0.8**
BR131 **Keskin Array S** **74.83 312** *eP* **P** **02 04 06.8 -2.1**
comp=Z,72nm,0.8s
BRTR **Keskin Array B** **74.83 312** P **P** **02 04 07.4 -1.5**
BRTR S **S** **02 13 46.3 +1.2**
BRTR **Keskin Array B** **74.83 312** P **P** **02 04 07.4 -1.5**
comp=Z,42nm,0.8s,baz=140,slow=5.5,SNR=55
BRTR S **S** **02 13 46.3 +1.2**
comp=Z,0.6nm,0.9s,baz=52,slow=8.1,SNR=2.4
BRTR LR LR 02 40 32.0
comp=Z,19µm,20.0s,baz=324,slow=39
GAZI **Gazipasa** **74.90 308** *i* P **P** **02 04 06.8 -2.5**
VORD **Divnogorie** **74.93 325** *eP* **P** **02 04 09.3 +0.2**
VORD *e* 02 06 55.0
VORD *eS* **S** **02 13 41.9 -3.4**
VORD pmax pmax
comp=E,80nm,1.2s
VORD pmax pmax
comp=Z,140nm,1.2s
VORD pmax pmax
comp=N,60nm,1.3s
VORD pmax pmax
comp=Z,220nm,2.3s
VORD pmax pmax
comp=N,240nm,2.5s
VORD pmax pmax
comp=E,150nm,1.5s
VORD smax smax
comp=E,2µm,3.8s
VORD smax smax
comp=Z,660nm,5.1s
VORD smax smax
comp=N,1µm,3.7s
VORD MLR MLR
comp=Z,34µm,28.0s
VORD MLR MLR
comp=N,42µm,24.0s
VORD MLR MLR
comp=E,36µm,26.0s
KHZ **Kahutara** **75.03 133** *eP* **P** **02 04 09.3 -0.6**
comp=E,92nm,1.2s
VSR **Storozhevoye** **75.10 325** *eP* **P** **02 04 09.3 -0.8**
VSR *e* 02 06 56.9
VSR *eS* **S** **02 13 44.5 -2.7**
VSR pmax pmax
comp=Z,30nm,0.6s
VSR pmax pmax
comp=N,40nm,1.1s
VSR pmax pmax
comp=E,170nm,1.1s
VSR pmax pmax
comp=Z,990nm,2.3s
VSR pmax pmax
comp=N,80nm,2.1s
VSR pmax pmax
comp=E,160nm,1.2s
VSR smax smax
comp=N,2µm,3.9s
VSR smax smax
comp=Z,470nm,3.0s
VSR smax smax
comp=E,110nm,1.6s
VSR MLR MLR
comp=E,31µm,22.0s
VSR MLR MLR
comp=Z,37µm,22.0s
VSR MLR MLR
comp=N,49µm,25.0s
ILGA **Ilgaz** **75.15 314** *i* P **P** **02 04 09.1 -1.8**
BBAL **Bala** **75.16 312** *i* P P 02 04 07.5 -3.4
ELDT **Eldivan** **75.20 313** *i* P **P** **02 04 13.3 +2.2**
VOR **Voronezh** **75.29 325** *eP* **P** **02 04 09.0 -2.1**
VOR pmax pmax
comp=Z,750nm,2.0s
ANTO **Ankara** **75.49 312** *eP* **P** **02 04 11.6 -1.1**
ANTO pmax pmax
comp=Z,148nm,1.0s
ANTO MLR MLR
comp=Z,25µm,22.0s
ANTO **Ankara** **75.49 312**⇑ *iP* **P** **02 04 14.9 +2.2**
ANTO **Ankara** **75.49 312** *eP* **P** **02 04 11.6 -1.1**
comp=Z,148nm,1.0s
ANTO LR LR
comp=Z,25µm,22.0s
SEY **Seymchan** **75.53 21** *ceP* **P** **02 04 11.0 -1.3**
SNZO **South Karori** **75.70 132** PFAKE 02 04 20.0 +6.3
SNZO LR LR
comp=Z,33µm,20.0s
SIM **Simferopol'** **76.04 317** *eP* **P** **02 04 17.5 +1.9**
SIM *i* S **S** **02 13 55.0 -2.9**
SIM pmax pmax
comp=Z,120nm,0.7s
SIM MLR MLR
comp=Z,14µm,28.0s
TIXI **Tiksi** **76.13 9** *c iP* **P** **02 04 16.5 +1.0**
TIXI pmax pmax
comp=Z,202nm,2.5s
GRM **Grahamstown** **76.14 236** *eP* **P** **02 04 15.9 -0.6**
GRM AMS AMS 02 41 39.7
comp=Z,11µm,17.0s
GRM **Grahamstown** **76.14 236** P **P** **02 04 15.9 -0.6**
LBTB **Lobatse** **76.22 245** *eP* **P** **02 04 16.6 -0.6**
LBTB AMS AMS 02 32 20.4
comp=Z,22µm,22.0s
LBTB **Lobatse** **76.22 245** *eP* **P** **02 04 16.2 -1.1**
comp=Z,178nm,1.5s
MSVF **Nonsavu** **76.36 108** *eP* **P** **02 04 17.7 -0.4**
MSVF pmax pmax
comp=Z,105nm,1.5s
MSVF MLR MLR
comp=Z,14µm,19.0s
MSVF **Nonsavu** **76.36 108** P P 02 04 21.7 +3.6
comp=Z,179nm,1.1s,SNR=5.3
MSVF **Nonsavu** **76.36 108** *eP* **P** **02 04 17.7 -0.4**
comp=Z,120nm,1.5s
MSVF LR LR
comp=Z,15µm,19.0s
BOLV **Bolvadin** **76.58 311** *i* P **P** **02 04 17.0 -2.0**
SWZ **Schweizer** **76.61 243** *eP* **P** **02 04 20.3 +0.9**
SWZ AMS AMS 02 30 53.0
comp=Z,19µm,24.2s
SWZ **Schweizer** **76.61 243** P **P** **02 04 20.3 +0.9**
KORT **Korkueli** **76.62 309** *i* P **P** **02 04 17.7 -1.6**
ISP **Isparta** **76.69 310** P **P** **02 04 18.7 -0.9**
ISP **Isparta** **76.69 310** *eP* **P** **02 04 19.6 0.0**
ISP pmax pmax
comp=Z,109nm,1.0s
ISP MLR MLR
comp=Z,32µm,21.0s
ISP **Isparta** **76.69 310**⇑ *iP* **P** **02 04 21.2 +1.6**
ISP **Isparta** **76.69 310** *eP* **P** **02 04 19.6 0.0**
comp=Z,109nm,1.0s
ISP LR LR
comp=Z,32µm,21.0s
HVD **Gariep Dam** **76.73 239** *eP* **P** **02 04 19.5 -0.6**
HVD AMS AMS 02 30 26.3
comp=Z,15µm,22.2s
HVD **Gariep Dam** **76.73 239** P **P** **02 04 19.5 -0.6**
BOSA **Boshof** **76.78 241** *eP* **P** **02 04 20.3 -0.1**
BOSA AMS AMS 02 30 33.2
comp=Z,12µm,23.5s
BOSA **Boshof** **76.78 241** *eP* **P** **02 04 20.1 -0.3**
comp=Z,114nm,1.2s
BOSA S **S** **02 14 08.9 +1.9**
BOSA **Boshof** **76.78 241** P **P** **02 04 19.6 -0.7**
comp=Z,37nm,1.0s,baz=103,slow=5.6,SNR=18
BOSA S **S** **02 14 08.9 +1.9**
comp=Z,2.1nm,0.9s,baz=34,slow=11,SNR=2.2
BOSA LR LR 02 32 33.5
comp=Z,14µm,20.2s,baz=92,slow=31
SEYT **Eskypehyr** **76.85 311** *i* P **P** **02 04 17.7 -2.8**
SOE **Somerset East** **76.87 237** *eP* **P** **02 04 23.6 +2.9**
SOE AMS AMS 02 41 11.0
SOE **Somerset East** **76.87 237** P **P** **02 04 23.6 +2.9**
AKAS **Kas** **77.03 308** *i* P **P** **02 04 19.4 -2.2**
URZ **Urewera** **77.10 129** *eP* **P** **02 04 20.4 -1.4**
comp=Z,241nm,1.4s
URZ *eP* **PP** **02 07 16.5 +1.0**
URZ S **S** **02 14 06.3 -3.5**
URZ **Urewera** **77.10 129** P **P** **02 04 20.5 -1.3**
comp=Z,16nm,0.5s,baz=269,slow=4.4,SNR=8.9
URZ S **S** **02 14 06.3 -3.5**
comp=Z,2.1nm,0.3s,baz=196,slow=7.4,SNR=2.6
URZ LR LR 02 41 39.7
comp=Z,33µm,19.7s,baz=284,slow=38
BORA **Eskisehir** **77.24 312** *i* P **P** **02 04 20.6 -2.0**
GOLH **Golhisar** **77.29 309** *i* P P 02 04 19.3 -3.7
ALT **Altintas** **77.29 311** *i* P P 02 04 29.4 +6.4
KHAL **Karahalli** **77.60 310** *i* P **P** **02 04 22.2 -2.5**
MOS **Moscow** **77.75 329** *eP* **P** **02 04 24.4 -0.6**
MOS *e* 02 07 17.6
MOS *i* S S 02 14 10.1 -6.0
MOS *eS* **SS** **02 19 12.7 -3.8**
MOS pmax pmax
comp=Z,1µm,2.0s
MOS pmax pmax
comp=Z,701nm,1.7s
MOS smax smax
comp=E,4µm,4.0s
MOS smax smax
comp=N,4µm,5.7s
MOS MLR MLR
comp=E,41µm,24.0s
MOS MLR MLR
comp=Z,65µm,24.0s
MOS MLR MLR
comp=N,56µm,21.0s
GDZ **Gediz** **77.78 311** *i* P **P** **02 04 23.5 -2.2**
DNZL **Cakiroluk** **77.79 309** *i* P **P** **02 04 23.8 -2.1**
SYO **Syowa Base** **77.88 199**‖ *eP* **P** **02 04 25.6 +0.1**
TURN **Turunc** **77.96 308** *i* P **P** **02 04 26.6 0.0**
OBN **Obninsk** **78.06 328**⇑ *eP* **P** **02 04 25.9 -0.8**
OBN *i* 02 07 23.8
OBN *i* S **S** **02 14 16.2 -3.3**
OBN *eSS* **SS** **02 19 19.8 -1.4**
OBN pmax pmax
comp=Z,365nm,1.7s
OBN MLR MLR
comp=Z,42µm,21.0s
OBN **Obninsk** **78.06 328** P **P** **02 04 25.0 -1.7**
comp=Z,1µm,1.4s,SNR=15
ARG **Arkhangelos** **78.20 308** P **P** **02 04 27.4 -0.5**
ARG **Arkhangelos** **78.20 308** P **P** **02 04 27.4 -0.5**
ARG **Arkhangelos** **78.20 308** P **P** **02 04 27.4 -0.5**
KULA **Kula-Manisa** **78.27 310** P **P** **02 04 28.7 +0.3**
KULA **Kula-Manisa** **78.27 310** P **P** **02 04 28.7 +0.3**
ULDT **Uludag** **78.28 312** *i* P **P** **02 04 27.3 -1.3**
MANT **Manisa** **78.34 310** *i* P **P** **02 04 28.8 -0.2**
DEMI **Demirci** **78.35 311** *i* P **P** **02 04 26.6 -2.2**
ISK **Istanbul-Kandi** **78.55 313** P **P** **02 04 27.9 -1.9**
ISK **Istanbul-Kandi** **78.55 313** P **P** **02 04 27.9 -1.9**
ISK **Istanbul-Kandi** **78.55 313** P **P** **02 04 27.9 -1.9**
DURS **Dursunbey** **78.65 311** *i* P **P** **02 04 28.5 -2.0**
AYDN **Tasoluk** **78.69 309** *i* P **P** **02 04 29.5 -1.2**
KARP **Karpathos** **78.83 307** P **P** **02 04 31.1 -0.4**
KARP **Karpathos** **78.83 307** P **P** **02 04 31.1 -0.4**
BDRM **Kayabasi** **78.91 308** *i* P **P** **02 04 29.4 -2.5**
KLMR **Klimovskoe** **78.98 334** *eP* **P** **02 04 29.3 -2.4**
KLMR *eS* S 02 14 23.0 -6.1
KLMR SSS SSS 02 19 33.6
KLMR pmax pmax
comp=Z,2µm,2.9s
KLMR pmax pmax
comp=Z,617nm,1.8s
KLMR MLR MLR
comp=Z,37µm,22.0s
AKHS **Akhisar** **79.00 310** *i* P **P** **02 04 30.6 -1.7**
NIS2 **Nisyros Isl.** **79.02 308** P **P** **02 04 32.6 +0.1**
NIS1 **Nisyros Isl.** **79.02 308** P **P** **02 04 34.1 +1.6**
NIS1 **Nisyros Isl.** **79.02 308** P **P** **02 04 34.1 +1.6**
PKA **Prieska** **79.03 240** *eP* **P** **02 04 34.5 +1.7**
PKA AMS AMS 02 31 58.5
comp=Z,3µm,17.5s
PKA **Prieska** **79.03 240** P **P** **02 04 34.5 +1.7**
ELBA **Catalca** **79.03 313** *i* P **P** **02 04 30.5 -2.0**
NIS3 **Nisyros Isl.** **79.04 308** P **P** **02 04 32.1 -0.5**
GCAM **G?zelcaml?** **79.20 309** *i* P **P** **02 04 33.8 +0.4**
BALY **Balya** **79.33 311** *i* P **P** **02 04 32.6 -1.5**
ZKR **Zakros** **79.51 306** P **P** **02 04 35.2 0.0**
ZKR **Zakros** **79.51 306** P **P** **02 04 35.2 0.0**
SMG **Samos** **79.51 309** P **P** **02 04 33.9 -1.2**
SMG **Samos** **79.51 309** P **P** **02 04 33.9 -1.2**
EFOR **EFORIE** **79.57 316**⇑ *iP* **P** **02 04 35.9 +0.6**
TLCR **79.71 317**⇑ P **P** **02 04 35.5 -0.5**
TLCR **79.71 317**⇑ *iP* **P** **02 04 35.5 -0.5**
PSN **Preselentsi** **79.79 315** *i* P **P** **02 04 39.2 +2.7**
TIRR **Tirgusor** **79.81 316** *eP* **P** **02 04 35.7 -0.9**
TIRR pmax pmax
comp=Z,103nm,0.9s
TIRR **Tirgusor** **79.81 316**⇑ *iP* **P** **02 04 37.0 +0.4**
TIRR **Tirgusor** **79.81 316** *eP* **P** **02 04 35.7 -0.9**
comp=Z,103nm,0.9s
SART **Tekirdag** **79.86 312** *i* P **P** **02 04 34.1 -3.0**
NPS **Neapolis** **80.02 306** P **P** **02 04 37.0 -1.0**
NPS **Neapolis** **80.02 306** P **P** **02 04 37.0 -1.0**
NPS **Neapolis** **80.02 306** P **P** **02 04 37.0 -1.0**
TLB **Topalu** **80.10 316**⇑ P **P** **02 04 37.7 -0.4**
TLB **Topalu** **80.10 316**⇑ *iP* **P** **02 04 37.7 -0.4**
LAST **Lasithi** **80.11 306** P **P** **02 04 39.1 +0.6**
LAST **Lasithi** **80.11 306** P **P** **02 04 39.1 +0.6**
KIS **Kishinev** **80.16 318**⇑ *iP* **P** **02 04 40.0 +1.6**
comp=Z,700nm,2.0s
KIS **Kishinev** **80.16 318** *i* PP PP 02 07 40.0 -0.9
comp=Z,2µm,16.0s
KIS *i* S **S** **02 14 44.0 +1.8**
KIS *i* SSS SSS 02 23 28.0
KIS LRM MLR 02 49 04.0
comp=Z,20µm,20.0s
KIS **Kishinev** **80.16 318**⇑ *iP* **P** **02 04 40.0 +1.6**
KIS *i* 02 07 40.0
KIS *i* S **S** **02 14 44.0 +1.8**
KIS pmax pmax
comp=Z,700nm,2.0s
KIS pmax pmax
comp=Z,3µm,12.0s
KIS pmax pmax
comp=Z,2µm,16.0s
KIS **Kishinev** **80.16 318**⇑ *iP* **P** **02 04 39.7 +1.3**
CFR **Carcaliu** **80.18 317**⇑ P **P** **02 04 40.1 +1.6**
CFR **Carcaliu** **80.18 317**⇑ *iP* **P** **02 04 40.1 +1.6**
HARR **Harsova** **80.20 316**⇑ P **P** **02 04 39.0 +0.3**
HARR **Harsova** **80.20 316**⇑ *iP* **P** **02 04 39.0 +0.3**
PRD **Provadia** **80.24 314** *i* P **P** **02 04 41.6 +2.7**
CHOS **Chios island** **80.25 309** P **P** **02 04 38.6 -0.6**
CHOS **Chios island** **80.25 309** P **P** **02 04 38.6 -0.6**
PRK **Paraskevi** **80.25 310** P **P** **02 04 37.2 -1.9**
PRK **Paraskevi** **80.25 310** P **P** **02 04 37.2 -1.9**
PRK **Paraskevi** **80.25 310** P **P** **02 04 37.2 -1.9**
UPI **Upington** **80.28 242** *eP* **P** **02 04 41.0 +1.4**
UPI AMS AMS 02 32 41.2
comp=Z,15µm,21.8s
UPI **Upington** **80.28 242** P **P** **02 04 41.0 +1.4**
SANT **Santorini** **80.34 307** P **P** **02 04 37.7 -2.0**
SANT **Santorini** **80.34 307** *eP* **P** **02 04 37.5 -2.2**
comp=Z,338nm,1.3s
SANT LR LR
comp=Z,31µm,20.0s
THR1 **Thera Island** **80.34 307** P **P** **02 04 38.0 -1.7**
THR2 **Thira island,** **80.37 307** P **P** **02 04 38.5 -1.3**
THR2 **Thira island,** **80.37 307** P **P** **02 04 38.5 -1.3**
THR3 **Thira Island,** **80.39 307** P P 02 04 44.4 +4.5
THR3 **Thira Island,** **80.39 307** P P 02 04 44.4 +4.5
APE **Apeiranthos** **80.41 308** P **P** **02 04 41.5 +1.4**
APE **Apeiranthos** **80.41 308**⇑ P **P** **02 04 39.4 -0.7**
APE **Apeiranthos** **80.41 308**⇑ *iP* **P** **02 04 39.4 -0.7**
APE **Apeiranthos** **80.41 308** P **P** **02 04 41.5 +1.4**
LEOM **Leova** **80.41 318**⇑ P **P** **02 04 39.5 -0.3**
LEOM **Leova** **80.41 318**⇑ *iP* **P** **02 04 39.5 -0.3**
EDRB **Edirne** **80.42 313** P **P** **02 04 38.5 -1.5**
EDRB **Edirne** **80.42 313** P **P** **02 04 38.5 -1.5**
RAO **Raoul Island** **80.50 119** LR LR 02 40 04.2
comp=Z,11µm,21.4s,baz=9.0,slow=36
BOZC **Bozcaada** **80.53 311** *i* P **P** **02 04 39.5 -1.1**
IDI **Anoyia** **80.61 306** P **P** **02 04 41.5 +0.3**
IDI **Anoyia** **80.61 306** *eP* **P** **02 04 40.1 -1.1**
comp=Z,332nm,1.4s
IDI *eS* **S** **02 14 52.3 +4.8**
SIVA **Sivas** **80.62 306** P **P** **02 04 42.0 +0.8**
SIVA **Sivas** **80.62 306** P **P** **02 04 42.0 +0.8**
JMB **Yambol** **80.67 314** P **P** **02 04 40.8 -0.5**
JMB **Yambol** **80.67 314** P **P** **02 04 40.8 -0.5**
JMB **Yambol** **80.67 314** *i* P P 02 04 44.5 +3.2
JMB **Yambol** **80.67 314** P **P** **02 04 40.8 -0.5**
ALN **Alexandroupoli** **80.74 312** P **P** **02 04 40.8 -0.9**
ALN **Alexandroupoli** **80.74 312** P **P** **02 04 40.8 -0.9**
ALN **Alexandroupoli** **80.74 312** P **P** **02 04 40.8 -0.9**
SUR **Sutherland** **80.84 238** *eP* **P** **02 04 42.2 -0.5**
SUR AMS AMS 02 32 49.1
comp=Z,9µm,22.6s
SUR **Sutherland** **80.84 238** *eP* **P** **02 04 42.6 -0.1**
comp=Z,22nm,1.0s
SUR LR LR
comp=Z,16µm,21.0s
AKASG **Malin Array Be** **80.85 322** P **P** **02 04 39.2 -2.9**
AKASG 02 07 44.7
AKASG S **S** **02 14 44.3 -5.0**
AKASG pmax pmax
comp=Z,26nm,0.8s
AKASG pmax pmax
comp=Z,16nm,1.0s
AKASG MLR MLR
comp=Z,24µm,19.7s
AKASG **Malin Array Be** **80.85 322** P **P** **02 04 39.2 -2.9**
AKASG PP **PP** **02 07 44.7 -1.9**
AKASG S **S** **02 14 44.3 -5.0**
AKASG **Malin Array Be** **80.85 322** P **P** **02 04 39.2 -2.9**
comp=Z,19nm,0.8s,baz=89,slow=4.6,SNR=39
AKASG PP **PP** **02 07 44.7 -1.9**
comp=Z,16nm,1.0s,baz=95,slow=6.5,SNR=8.9
AKASG S **S** **02 14 44.3 -5.0**
comp=Z,0.1nm,0.3s,baz=255,slow=10,SNR=3.1
AKASG LR LR 02 45 15.7
comp=Z,24µm,19.7s,baz=105,slow=39
KIEV **Kiev** **80.86 322** *eP* **P** **02 04 39.5 -2.6**
KIEV *e* 02 07 47.7
KIEV *eS* **S** **02 14 53.1 +3.7**
KIEV pmax pmax
comp=Z,82nm,1.1s
KIEV MLR MLR
comp=Z,23µm,19.0s
KIEV **Kiev** **80.86 322** *eP* **P** **02 04 39.5 -2.6**
comp=Z,82nm,1.1s
KIEV *ePP* **PP** **02 07 47.7 +1.1**
KIEV *eS* **S** **02 14 53.1 +3.7**
KIEV LR LR
comp=Z,23µm,19.0s
PETR **Petresti** **80.92 317**⇑ *iP* **P** **02 04 44.1 +1.6**
FX1 **Attu Island--F** **81.01 36** P **P** **02 04 41.4 -1.5**
IAS **Iasi** **81.04 318**⇑ P **P** **02 04 43.9 +0.8**
IAS **Iasi** **81.04 318**⇑ *iP* **P** **02 04 43.9 +0.8**
SMTH **Samothraki Isl** **81.05 311** P **P** **02 04 42.0 -1.4**
SMTH **Samothraki Isl** **81.05 311** P **P** **02 04 42.0 -1.4**
RDO **Rodhopi** **81.17 312** P **P** **02 04 42.6 -1.4**
RDO **Rodhopi** **81.17 312** P **P** **02 04 42.6 -1.4**
GVD **Gavdhos** **81.18 306** P **P** **02 04 41.9 -2.3**
GVD **Gavdhos** **81.18 306** *eP* **P** **02 04 41.5 -2.7**
comp=Z,284nm,0.8s
VAM **Vamos** **81.18 306** P **P** **02 04 43.3 -0.9**
VAM **Vamos** **81.18 306** P **P** **02 04 43.3 -0.9**
VAM **Vamos** **81.18 306** P **P** **02 04 43.3 -0.9**
LIA **Limnos Island** **81.20 311** P **P** **02 04 42.3 -1.8**
LIA **Limnos Island** **81.20 311** P **P** **02 04 42.3 -1.8**
ISR **Istrita** **81.26 316**⇑ P **P** **02 04 45.7 +1.2**
ISR **Istrita** **81.26 316**⇑ *iP* **P** **02 04 45.7 +1.2**
VRI **Vrincioaia** **81.30 317**‖ P **P** **02 04 43.7 -0.9**
VRI **Vrincioaia** **81.30 317**‖ *iP* **P** **02 04 43.7 -0.9**
SZH **Strazhica** **81.30 314** *i* P **P** **02 04 47.0 +2.4**
PLOR **Plostina** **81.35 317**⇑ P **P** **02 04 45.2 +0.3**
PLOR **Plostina** **81.35 317**⇑ *iP* **P** **02 04 45.2 +0.3**
DIM **Dimitrovgrad** **81.35 313** *i* P **P** **02 04 46.5 +1.6**
VNDA **Vanda** **81.35 169** *eP* **P** **02 04 44.6 +0.4**
comp=Z,275nm,1.7s
VNDA *ePP* PP 02 07 39.6 -10
VNDA S S **02 14 52.4 -1.3**
VNDA PKKPbc **PKKPbc** **02 23 21.4 -0.9**
VNDA **Vanda** **81.35 169** P **P** **02 04 43.3 -0.9**
comp=Z,22nm,1.0s,baz=307,slow=5.4,SNR=54
VNDA S **S** **02 14 52.4 -1.3**
comp=Z,0.4nm,0.7s,baz=207,slow=9.0,SNR=1.8
VNDA PKKPbc **PKKPbc** **02 23 21.4 -0.9**
comp=Z,1.3nm,0.9s,baz=140,slow=0.5,SNR=3.4
VNDA LR LR 02 35 39.5
comp=Z,14µm,21.7s,baz=316,slow=32
RUDU **RUNDU** **81.47 252** *eP* P 02 04 51.5 +5.3
RUDU AMS AMS 02 49 40.7
comp=Z,18µm,17.1s
TESR **Tescani** **81.49 318**‖ *iP* **P** **02 04 45.5 -0.1**
CVNA **Calvinia** **81.70 239** *eP* **P** **02 04 48.1 +0.9**
CVNA AMS AMS 02 32 25.5
comp=Z,17µm,22.8s
CVNA **Calvinia** **81.70 239** P **P** **02 04 48.1 +0.9**
PVL **Pavlikeni** **81.72 314** *i* P P 02 04 50.1 +3.3
ZIMR **81.78 315**⇑ P **P** **02 04 47.2 0.0**
ZIMR **81.78 315**⇑ *iP* **P** **02 04 47.2 0.0**
RZN **Rozhen** **81.88 313** *i* P **P** **02 04 50.5 +2.5**
PTL **Penteli** **81.88 309** P **P** **02 04 45.5 -2.4**
PTL **Penteli** **81.88 309** P **P** **02 04 45.5 -2.4**
KAVA **Kavala** **81.90 312** P **P** **02 04 47.0 -0.8**
KAVA **Kavala** **81.90 312** P **P** **02 04 47.0 -0.8**
ATHU **Athens Univers** **81.93 309** P **P** **02 04 46.1 -2.0**
ATHU **Athens Univers** **81.93 309** P **P** **02 04 46.1 -2.0**
PRAR **RASCA** **81.96 318**⇑ *iP* **P** **02 04 47.6 -0.5**
PLD **Plovdiv** **81.97 313** P **P** **02 04 50.4 +2.2**
PLD **Plovdiv** **81.97 313** P **P** **02 04 50.4 +2.2**
PLD **Plovdiv** **81.97 313** P **P** **02 04 50.4 +2.2**
ANKY **Antikythira Is** **81.98 307** P **P** **02 04 46.9 -1.5**
ANKY **Antikythira Is** **81.98 307** P **P** **02 04 46.9 -1.5**
ATH **Athens Observa** **81.99 309** P **P** **02 04 47.9 -0.5**
ATH **Athens Observa** **81.99 309** P **P** **02 04 47.9 -0.5**
ATH **Athens Observa** **81.99 309** P **P** **02 04 47.9 -0.5**
ERET **Eretria** **82.00 309** P **P** **02 04 48.0 -0.5**
AOS **Alonnisos** **82.06 310** P **P** **02 04 47.9 -0.8**
AOS **Alonnisos** **82.06 310** P **P** **02 04 47.9 -0.8**
OUR **Ouranopolis** **82.18 311** P **P** **02 04 49.3 0.0**
OUR **Ouranopolis** **82.18 311** P **P** **02 04 49.3 0.0**
OUR **Ouranopolis** **82.18 311** P **P** **02 04 49.3 0.0**
MRKA **Markates** **82.21 309** P **P** **02 04 48.6 -1.0**
HUMR **Humele** **82.23 315**⇑ *iP* **P** **02 04 48.8 -0.7**
DOPR **Dopca** **82.23 317**‖ *iP* **P** **02 04 49.7 +0.2**
KYTH **Kithira** **82.25 307** P **P** **02 04 50.1 +0.2**

KYTH	Kithira	82.25 307		P		P	02 04 50.1	+0.2	
DID	Didima	82.29 308		P		P	02 04 47.5	-2.5	
DID	Didima	82.29 308		P		P	02 04 47.5	-2.5	
DIDY	Didyma	82.30 308		P		P	02 04 47.5	-2.7	
PAIG	Paliouri	82.34 311		P		P	02 04 48.1	-2.1	
PAIG	Paliouri	82.34 311		P		P	02 04 48.1	-2.1	
PAIG	Paliouri	82.34 311		P		P	02 04 48.1	-2.1	
VOIR		82.36 316	⇑	P		P	02 04 50.1	-0.2	
VOIR		82.36 316	⇑	*iP*		P	02 04 50.1	-0.2	
SKIA	Skiathos	82.38 310		P		P	02 04 49.0	-1.4	
VLI	Veliai	82.40 307		P		P	02 04 49.2	-1.4	
VLI	Veliai	82.40 307		P		P	02 04 49.2	-1.4	
PGB	Panagyurishte	82.44 313		*iP*		P	02 04 51.0	+0.3	
SBA	Scott Base	82.44 169		*eP*		P	02 04 51.4	+1.4	
SBA				*e*			02 08 01.6		
SBA				pmax		pmax			
	comp=Z,3μm,2.6s								
SBA				MLR		MLR			
	comp=Z,13μm,21.0s								
SBA	Scott Base	82.44 169		*eP*		P	02 04 51.4	+1.4	
	comp=Z,3μm,2.6s								
SBA				*e*PP		PP	02 08 01.6	+2.7	
SBA				LR		LR			
	comp=Z,13μm,21.0s								
NVR	Nevrokopi	82.45 312		P		P	02 04 48.7	-2.1	
NVR	Nevrokopi	82.45 312		P		P	02 04 48.7	-2.1	
SMIA	Simia	82.53 310		P		P	02 04 51.2	0.0	
LTK	Loutraki	82.58 309		P		P	02 04 48.2	-3.3	
LTK	Loutraki	82.58 309		P		P	02 04 48.2	-3.3	
NEO	Neokhori	82.59 310		P		P	02 04 49.5	-2.0	
NEO	Neokhori	82.59 310		P		P	02 04 49.5	-2.0	
MMB	Musomiste	82.59 312		*i* P		P	02 04 53.5	+2.0	
PLG	Polygyros	82.59 311		P		P	02 04 48.3	-3.3	
PLG	Polygyros	82.59 311		P		P	02 04 48.3	-3.3	
PLG	Polygyros	82.59 311		P		P	02 04 48.3	-3.3	
SRS	Serrai	82.61 312		P		P	02 04 50.5	-1.1	
SRS	Serrai	82.61 312		P		P	02 04 50.5	-1.1	
SRS	Serrai	82.61 312		P		P	02 04 50.5	-1.1	
XOR	Xorichti	82.62 310		P		P	02 04 48.8	-2.9	
XOR	Xorichti	82.62 310		P		P	02 04 48.8	-2.9	
ACOR	Acrocorinthos	82.64 309		P		P	02 04 46.7	-5.1	
MICGM	Minsk	82.64 326	⇓	*eP*		P	02 04 47.0	-4.4	
MNK	Minsk	82.66 326	⇓	*eP*		P	02 04 47.0	-4.5	
MNK				*e*			02 04 57.0		
MNK				*e*			02 07 56.0		
MNK				*e*PPP		PPP	02 09 50.0		
MNK				*e*S		S	02 15 02.0	-5.8	
MNK				*e*SSS		SSS	02 23 54.0		
MNK				pmax		pmax			
	comp=E,490nm,1.3s								
MNK				pmax		pmax			
	comp=Z,540nm,1.1s								
MNK				smax		smax			
	comp=N,4μm,9.0s								
MNK				MLR		MLR			
	comp=Z,35μm,18.0s								
MNK				MLR		MLR			
	comp=E,41μm,20.0s								
MNK				MLR		MLR			
	comp=N,30μm,20.0s								
BURAR	Bucovina Array	82.69 318	⇑	P		P	02 04 51.9	0.0	
BURAR	Bucovina Array	82.69 318	⇑	*iP*		P	02 04 51.9	0.0	
SOH	Sokhos	82.74 312		P		P	02 04 50.2	-2.1	
SOH	Sokhos	82.74 312		P		P	02 04 50.2	-2.1	
SOH	Sokhos	82.74 312		P		P	02 04 50.2	-2.1	
PUL	Pulkovo	82.83 331	⇑	*iP*		P	02 04 54.2	+2.0	
PUL				pmax		pmax			
	comp=Z,422nm,1.2s								
PUL				MLR		MLR			
	comp=Z,47μm,20.0s								
MPEP	Malo Peshtene	82.89 314		*i* P		P	02 04 55.8	+2.8	
HORT	Hortiatis	82.89 311		P		P	02 04 50.8	-2.4	
HORT	Hortiatis	82.89 311		P		P	02 04 50.8	-2.4	
AXAR	Agios Charalam	82.93 309		P		P	02 04 51.8	-1.5	
AXAR	Agios Charalam	82.93 309		P		P	02 04 51.8	-1.5	
VLX	Vlachokerasia	82.94 308		P		P	02 04 53.2	-0.3	
VLX	Vlachokerasia	82.94 308		P		P	02 04 53.2	-0.3	
DSF	Desfina	82.98 309		P		P	02 04 51.9	-1.7	
DSF	Desfina	82.98 309		P		P	02 04 51.9	-1.7	
THE	Thessaloniki	83.00 311		P		P	02 04 52.2	-1.4	
THE	Thessaloniki	83.00 311		P		P	02 04 52.2	-1.4	
THE	Thessaloniki	83.00 311		P		P	02 04 52.2	-1.4	
GUR	Goura	83.05 309		P		P	02 04 52.0	-2.1	
GUR	Goura	83.05 309		P		P	02 04 52.0	-2.1	
KKB	Krupnik	83.11 313		*i* P		P	02 04 53.9	-0.3	
KNT	Kendrikon	83.13 312		P		P	02 04 53.9	-0.4	
KNT	Kendrikon	83.13 312		P		P	02 04 53.9	-0.4	
KNT	Kendrikon	83.13 312		P		P	02 04 53.9	-0.4	
VTS	Vitosha	83.14 313		P		P	02 04 52.7	-1.8	
VTS	Vitosha	83.14 313		P		P	02 04 52.7	-1.8	
VTS	Vitosha	83.14 313	⇑	*iP*		P	02 04 54.6	+0.1	
VTS	Vitosha	83.14 313		*i* P		P	02 04 55.1	+0.6	
VTS	Vitosha	83.14 313		P		P	02 04 52.7	-1.8	
ARCR	ARCALIA	83.15 318	⇑	*iP*		P	02 04 55.5	+1.2	
KLV	Kalavryta, Ach	83.22 309		P		P	02 04 52.9	-2.0	
KLV	Kalavryta, Ach	83.22 309		P		P	02 04 52.9	-2.0	
AGG	Agios Georgios	83.23 310		P		P	02 04 54.0	-0.9	
AGG	Agios Georgios	83.23 310		P		P	02 04 54.0	-0.9	
AGG	Agios Georgios	83.23 310		P		P	02 04 54.0	-0.9	
ITM	Ithomi	83.27 308		P		P	02 04 55.2	+0.1	
ITM	Ithomi	83.27 308		P		P	02 04 55.2	+0.1	
LIT	Litokhoron	83.27 311		P		P	02 04 52.5	-2.6	
LIT	Litokhoron	83.27 311		P		P	02 04 52.5	-2.6	
LIT	Litokhoron	83.27 311		P		P	02 04 52.5	-2.6	
MIDW	Midway	83.32 61		PFAKE			02 05 10.0	+15	
MIDW				LR		LR			
	comp=Z,13μm,22.0s								
NACGM	Naroch	83.35 326		*eP*		P	02 04 51.0	-4.1	
JOF	Joensuu	83.36 334		*eP*		P	02 04 55.2	+0.3	
JOF				pmax		pmax			
	comp=Z,125nm,1.1s								
JOF	Joensuu	83.36 334		*ep*		P	02 04 55.2	+0.3	
	comp=Z,125nm,1.1s								
PYL	PYLOS	83.38 307		P		P	02 04 54.8	-0.8	
PYL	PYLOS	83.38 307		P		P	02 04 54.8	-0.8	
MAKR	Makrakomi, Fth	83.38 310		P		P	02 04 56.3	+0.7	
MAKR	Makrakomi, Fth	83.38 310		P		P	02 04 56.3	+0.7	
LAKA	Lakka	83.38 309		P		P	02 04 53.9	-1.8	
LAKA	Lakka	83.38 309		P		P	02 04 53.9	-1.8	
VAY	Valandovo	83.40 312		P		P	02 04 53.6	-2.1	
VAY	Valandovo	83.40 312		P		P	02 04 53.6	-2.1	
VAY	Valandovo	83.40 312		P		P	02 04 53.6	-2.1	
VAY	Valandovo	83.40 312		*i* P		P	02 04 53.4	-2.3	
EFP	Efpalio	83.47 309		P		P	02 04 56.0	0.0	
AMT	Artemida-Makis	83.49 308		P		P	02 04 56.1	-0.2	
TSUM	Tsumeb	83.50 251		*eP*		P	02 04 57.8	+1.0	
TSUM	Tsumeb	83.50 251		*eP*		P	02 04 56.7	-0.1	
	comp=Z,68nm,1.0s								
TSUM	Tsumeb	83.50 251		LR		LR	02 37 58.6		
	comp=Z,24μm,20.1s,baz=54,slow=33								
DRO	Drossia	83.55 308		P		P	02 04 55.7	-0.8	
THL	Klokotos Trika	83.55 310		P		P	02 04 54.6	-1.9	
EVR	Evrytania	83.61 309		P		P	02 04 56.3	-0.6	
EVR	Evrytania	83.61 309		P		P	02 04 56.3	-0.6	
RLS	Riolos of Patr	83.76 309		P		P	02 04 56.3	-1.2	
RLS	Riolos of Patr	83.76 309		P		P	02 04 56.3	-1.2	
IIGN	Ignalina	83.77 326		*eP*		P	02 04 56.6	-0.6	
IIGN				AMB		AMB	02 05 04.7		
	comp=Z,96nm,1.5s								
PVO	Paravola	83.79 309		P		P	02 04 56.9	-0.8	
LVZ	Lovozero	83.81 340		*ceP*		P	02 04 58.5	+1.3	
LVZ				pmax		pmax			
	comp=Z,247nm,1.7s								
LVZ				MLR		MLR			
	comp=Z,56μm,25.0s								
BMR	Baia Mare	83.84 318	⇑	P		P	02 04 58.9	+1.1	
BMR	Baia Mare	83.84 318	⇑	*iP*		P	02 04 59.0	+1.2	
AXS	Araxos	83.85 309		P		P	02 04 58.2	+0.2	
KZN	Kozani	83.85 311		P		P	02 04 58.5	+0.4	
KZN	Kozani	83.85 311		P		P	02 04 58.5	+0.4	
KZN	Kozani	83.85 311		P		P	02 04 58.5	+0.4	
ISAL	Salakas	83.88 326		*eP*		P	02 04 57.2	-0.6	
ISAL				AMB		AMB	02 05 03.8		
	comp=Z,63nm,1.6s								
LVV	L'vov	83.89 321	⇓	*iP*		P	02 05 00.5	+2.5	
LVV				*i*			02 08 14.7		
LVV				*e*			02 10 11.9		
LVV				*e*S		S	02 15 24.9	+4.4	
LVV				*i*			02 16 17.7		
GZR	Gura Zlata	83.92 316	⇑	P		P	02 04 57.7	-0.6	
GZR	Gura Zlata	83.92 316	⇑	*iP*		P	02 04 57.7	-0.6	
WIN	Windhoek	83.93 248		*eP*		P	02 04 59.7	+0.7	
WIN				AMS		AMS	02 45 51.3		
	comp=Z,6μm,16.9s								
WIN	Windhoek	83.93 248		P		P	02 04 59.7	+0.7	
APA	Apatity	84.13 339	⇓	*iP*		P	02 04 58.6	-0.2	
APA				*i*			02 05 11.0		
APA				*i* S		S	02 15 20.0	-2.2	
APA				pmax		pmax			
	comp=Z,187nm,1.2s								
APA				MLR		MLR			
	comp=Z,57μm,22.0s								
FNA	Florina	84.21 311		P		P	02 04 59.1	-0.8	
FNA	Florina	84.21 311		P		P	02 04 59.1	-0.8	
FNA	Florina	84.21 311		P		P	02 04 59.1	-0.8	
VSU	Vasula	84.25 329	⇑	*iP*		P	02 04 58.2	-1.4	
VSU				pmax		pmax			
	comp=Z,1μm,2.0s								
VSU				MLR		MLR			
	comp=Z,82μm,24.0s								
BIA	Bitola	84.29 311		P		P	02 05 01.8	+1.5	
BIA	Bitola	84.29 311		P		P	02 05 01.8	+1.5	
BIA	Bitola	84.29 311		*i* P		P	02 04 59.7	-0.5	
KFL	Anninata	84.29 309		P		P	02 05 02.6	+2.3	
SKO	Skopje	84.34 312		P		P	02 05 02.6	+2.1	
SKO	Skopje	84.34 312		P		P	02 05 02.6	+2.1	
SKO	Skopje	84.34 312		P		P	02 05 02.6	+2.1	
SKO	Skopje	84.34 312		*i* P		P	02 05 01.2	+0.7	
NEST	Nestorio	84.41 311		P		P	02 04 58.9	-2.1	
JAN	Janina	84.45 310		P		P	02 05 00.3	-0.8	
JAN	Janina	84.45 310		P		P	02 05 00.3	-0.8	
JAN	Janina	84.45 310		P		P	02 05 00.3	-0.8	
VLS	Valsamata	84.46 309		P		P	02 05 00.8	-0.4	
VLS	Valsamata	84.46 309		P		P	02 05 00.8	-0.4	
VLS	Valsamata	84.46 309		P		P	02 05 00.8	-0.4	
TRPA	Tarpa	84.55 319	⇑	*iP*		P	02 05 01.4	+0.1	
KBN	Korca	84.64 311		P		P	02 05 02.3	+0.2	
KBN	Korca	84.64 311		P		P	02 05 02.3	+0.2	
KBN	Korca	84.64 311		P		P	02 05 02.3	+0.2	
KWP	Kalwaria Pacla	84.70 320		*eP*		P	02 05 01.7	-0.4	
KWP				pmax		pmax			
	comp=Z,374nm,1.4s								
KWP				MLR		MLR			
	comp=Z,26μm,19.0s								
KWP	Kalwaria Pacla	84.70 320		*eP*		P	02 05 01.7	-0.4	
	comp=Z,374nm,1.4s								
KWP				*e*PP		PP	02 08 10.4	-7.8	
KWP				LR		LR			
	comp=Z,26μm,19.0s								
KWP	Kalwaria Pacla	84.70 320		*eP*		P	02 05 03.4	+1.3	
KWP				*e*PP		PP	02 08 21.4	+3.2	
KWP				LMZ		LR	02 47 44.4		
BZS	Buzias	84.77 316	⇑	P		P	02 05 02.3	-0.2	
BZS	Buzias	84.77 316	⇑	*iP*		P	02 05 02.3	-0.2	
UZH	Uzhgorod	84.80 319		*eP*		P	02 05 02.5	-0.1	
UZH				*e*			02 05 10.5		
UZH				*e*			02 05 17.7		
UZH				*e*			02 08 17.9		
UZH				*e*S		S	02 15 26.3	-3.3	
UZH				*e*			02 16 16.9		
IGT	Igoumenitsa	84.83 310		P		P	02 05 01.1	-1.9	
IGT	Igoumenitsa	84.83 310		P		P	02 05 01.1	-1.9	
IGT	Igoumenitsa	84.83 310		P		P	02 05 01.1	-1.9	
SIRR	Širia	84.84 317	⇑	*iP*		P	02 05 03.0	+0.1	
KOLS	Kolonicke sedl	84.86 319		*eP*		P	02 05 02.0	-1.0	
KOLS				pmax		pmax			
	comp=Z,207nm,1.2s								
KOLS	Kolonicke sedl	84.86 319		*eP*		P	02 05 02.0	-1.0	
KOLS				*e*PP		PP	02 08 23.3	+3.7	
PHP	Peshkopia	85.04 312		P		P	02 05 02.3	-1.8	
PHP	Peshkopia	85.04 312		P		P	02 05 02.3	-1.8	
PHP	Peshkopia	85.04 312		P		P	02 05 02.3	-1.8	
SRN	Sarande	85.13 310		P		P	02 05 04.3	-0.2	
SRN	Sarande	85.13 310		P		P	02 05 04.3	-0.2	
SUW	Suwalki	85.22 325		*eP*		P	02 05 03.5	-1.1	
SUW				pmax		pmax			
	comp=Z,540nm,1.0s								
SUW	Suwalki	85.22 325		*eP*		P	02 05 03.5	-1.1	
	comp=Z,540nm,1.0s								
SUW	Suwalki	85.22 325		*eP*		P	02 05 04.4	-0.1	
SUW				*e*pP		PcP	02 05 06.9	-0.8	
SUW				*e*PP		PP	02 08 18.5	-3.7	
SUW				LMZ		LR	02 42 33.2		
KEK	Kerkira	85.27 310		P		P	02 05 05.4	+0.2	
KEK	Kerkira	85.27 310		P		P	02 05 05.4	+0.2	
FINES	FINESS Array B	85.30 332		P		P	02 05 03.6	-1.2	
FINES				PKiKP		PKiKP	02 10 15.2	-0.6	
FINES				S		S	02 15 29.2	-4.8	
FINES				PKKPbc		PKKPbc	02 23 09.9	-2.8	
FINES	FINESS Array B	85.30 332		P		P	02 05 03.6	-1.2	
	comp=Z,51nm,1.0s,baz=100,slow=4.8,SNR=32								
FINES				PKiKP		PKiKP	02 10 15.2	-0.6	
	comp=Z,4.3nm,0.9s,baz=113,slow=3.2,SNR=2.4								
FINES				S		S	02 15 29.2	-4.8	
	comp=Z,7.5nm,1.2s,baz=171,slow=9.7,SNR=3.3								
FINES				PKKPbc		PKKPbc	02 23 09.9	-2.8	
	comp=Z,2.1nm,1.0s,baz=242,slow=3.0,SNR=2.5								
FINES				LR		LR	02 49 48.3		
	comp=Z,34μm,19.0s,baz=106,slow=40								
KAF	Kangasniemi	85.36 333		*eP*		P	02 05 03.6	-1.5	
KAF				pmax		pmax			
	comp=Z,122nm,0.8s								
KAF	Kangasniemi	85.36 333		*ep*		P	02 05 03.6	-1.5	
	comp=Z,122nm,0.8s								
CRVS	Cervenica-Dubn	85.39 319		*eP*		P	02 05 07.6	+2.0	
CRVS				pmax		pmax			
	comp=Z,136nm,1.5s								
CRVS	Cervenica-Dubn	85.39 319		*eP*		P	02 05 07.6	+2.0	
CRVS				*e*PP		PP	02 08 27.4	+3.6	
TIR	Tirane	85.42 312		P		P	02 05 05.7	-0.2	
TIR	Tirane	85.42 312		*eP*		P	02 05 06.2	+0.3	
TIR				*e*S		S	02 15 31.0	-5.1	
TIR				pmax		pmax			
	comp=Z,232nm,1.4s								
TIR				MLR		MLR			
	comp=Z,39μm,20.0s								
TIR	Tirane	85.42 312		*eP*		P	02 05 06.2	+0.3	
	comp=Z,232nm,1.4s								
TIR				*e*S		S	02 15 31.0	-5.1	
TIR				LR		LR			
	comp=Z,39μm,20.0s								
PVY	Plav	85.52 313		*eP*		P	02 05 03.9	-2.6	
IVA	Berane	85.60 313		*eP*		P	02 05 05.1	-1.8	
STHS	Stebnicka Huta	85.61 320		*eP*		P	02 05 07.4	+0.7	
STHS				pmax		pmax			
	comp=Z,83nm,1.1s								
STHS	Stebnicka Huta	85.61 320		*eP*		P	02 05 07.4	+0.7	
DIVS	Divibare	85.69 314		P		P	02 05 07.8	+0.5	
ULC	Ulcinj	85.96 312	⇑	*iP*		P	02 05 06.5	-2.1	
KECS	Kecovo	85.96 319		*eP*		P	02 05 08.3	-0.1	
KECS				pmax		pmax			
	comp=Z,104nm,1.9s								
KECS	Kecovo	85.96 319		*eP*		P	02 05 08.3	-0.1	
PDG	Podgorica	86.01 313		P		P	02 05 06.5	-2.3	
TTG	Podgorica	86.01 313		*eP*		P	02 05 07.0	-1.8	
TTG	Podgorica	86.01 313		P		P	02 05 06.5	-2.3	
TTG	Podgorica	86.01 313		P		P	02 05 06.5	-2.3	
PLE	Pljevlja	86.02 314		*eP*		P	02 05 07.0	-2.0	
DRME	Dracevica, Mon	86.03 312		*eP*		P	02 05 07.0	-1.9	
AFI	Afiamalu	86.16 104		LR		LR	02 44 53.0		
	comp=Z,7μm,21.0s,baz=102,slow=36								
NIE	Niedzica	86.21 320		*eP*		P	02 05 10.2	+0.5	
NIE				*e*SP		sP	02 05 19.5	+0.2	
NIE				*e*			02 08 30.6		
NIE				*e*			02 15 33.5		
NIE				*e*SS		SS	02 21 25.0	+2.3	
NIE	Niedzica	86.21 320		*eP*		P	02 05 10.2	+0.5	
NIE				*e*PcP		PcP	02 05 12.4	+0.1	
NIE				*e*PP		PP	02 08 30.6	+0.1	
NIE				*e*SKSac		SKSac	02 15 33.5	-1.3	
NIE				L		L	02 48 49.0		
	comp=Z,28μm,20.1s								
NKY	Niksic	86.25 313		*eP*		P	02 05 08.1	-2.0	
BUM	Brajici-Budva	86.26 312		*eP*		P	02 05 07.8	-2.3	
BEL	Belsk	86.27 322		*eP*		P	02 05 08.2	-1.6	
BEL				LMZ		LR	02 48 26.6		
NKME	Niksic	86.27 313	⇑	*iP*		P	02 05 08.5	-1.7	
PSZ	Piszkesteto	86.27 318		*eP*		P	02 05 09.0	-1.1	
PSZ				*e*			02 08 30.7		
PSZ				pmax		pmax			
	comp=Z,125nm,1.3s								
PSZ				MLR		MLR			
	comp=Z,20μm,19.0s								
PSZ	Piszkesteto	86.27 318	⇑	*iP*		P	02 05 10.0	-0.1	
PSZ	Piszkesteto	86.27 318		*eP*		P	02 05 09.0	-1.1	
	comp=Z,125nm,1.3s								
PSZ				*e*PP		PP	02 08 30.7	-0.4	
PSZ				LR		LR			
	comp=Z,20μm,19.0s								
UPM	Unac-Piva	86.36 313	⇑	*iP*		P	02 05 09.2	-1.6	
HCY	Herceg Novi	86.57 313		*eP*		P	02 05 09.8	-1.8	
BRY	Bratogost	86.59 313	⇑	*iP*		P	02 05 09.5	-2.3	
PKM7	Kunszentmiklos	86.65 317		*eP*		P	02 05 13.5	+1.7	
OJC	Ojcow	86.65 320		*eP*		P	02 05 12.1	+0.3	
OJC				*e*SP		sP	02 05 21.3	-0.1	
OJC				*e*			02 15 37.2		
OJC				*e*SS		SS	02 21 32.3	+3.2	
OJC	Ojcow	86.65 320		*eP*		P	02 05 12.1	+0.3	
OJC				*e*PcP		PcP	02 05 14.4	+0.3	
OJC				*e*SKSac		SKSac	02 15 37.2	-0.2	
OJC				L		L	02 54 17.0		
	comp=Z,25μm,19.7s								
BUD	Budapest	86.80 318	⇑	*eP*		P	02 05 15.4	+2.8	
KEV	Kevo	87.04 340		*eP*		P	02 05 11.4	-1.9	
KEV				pmax		pmax			
	comp=Z,446nm,1.6s								
KEV				MLR		MLR			
	comp=Z,55μm,22.0s								
KEV	Kevo	87.04 340		*ep*		P	02 05 13.4	+0.2	
	comp=Z,138nm,1.1s								
KEV	Kevo	87.04 340		*eP*		P	02 05 11.4	-1.9	
	comp=Z,446nm,1.6s								
KEV				LR		LR			
	comp=Z,55μm,22.0s								
STON	Ston	87.20 313		P		P	02 05 16.1	+1.5	
PKSG		87.22 318	⇑	*eP*		P	02 05 15.2	+0.6	
PKST	T"s	87.44 317	⇑	*eP*		P	02 05 15.5	-0.2	
QSPA	South Pole Qui	87.44 180		*eP*		P	02 05 16.2	+0.7	
	comp=Z,2μm,2.2s								
QSPA	South Pole Qui	87.44 180		LR		LR	02 42 24.2		
	comp=Z,15μm,19.5s,baz=141,slow=34								
ARCES	ARCESS Array B	87.50 340		P		P	02 05 14.0	-1.5	
ARCES				S		S	02 15 49.9	-5.3	
ARCES				PKKPbc		PKKPbc	02 23 06.8	-1.0	
ARCES	ARCESS Array B	87.50 340		P		P	02 05 14.0	-1.5	
	comp=Z,77nm,1.0s,baz=103,slow=4.9,SNR=23								
ARCES				S		S	02 15 49.9	-5.3	
	comp=Z,3.6nm,0.8s,baz=350,slow=17,SNR=2.5								
ARCES				PKKPbc		PKKPbc	02 23 06.8	-1.0	
	comp=Z,2.2nm,0.7s,baz=311,slow=5.9,SNR=3.5								
ARCES				LR		LR	02 47 23.4		
	comp=Z,47μm,21.7s,baz=113,slow=38								
ARE0	ARCESS Array S	87.50 340		*eP*		P	02 05 14.5	-1.0	
MAIT	Maitri	87.58 199		*eP*		P	02 05 18.0	+2.1	
RAC	Raciborz	87.66 320		*eP*		P	02 05 18.3	+1.6	
OKC	Ostrava-Krasne	87.66 320		*eP*		P	02 05 16.7	0.0	
OKC				*e*			02 15 46.6		
OKC				MLR		MLR			
	comp=Z,12μm,19.5s								
OKC	Ostrava-Krasne	87.66 320		*eP*		P	02 05 16.7	0.0	
OKC				*e*SKS		SKSac	02 15 46.6	+3.1	
OKC				AMS		AMS	02 49 20.0		
	comp=Z,12μm,19.5s								
MSKU	Masuku	87.88 268		PFAKE			02 05 30.0	+11	
MSKU				LR		LR			
	comp=Z,2.0nm,20.0s								
SMOL	Smolenice	87.98 319		*eP*		P	02 05 20.0	+1.7	
SMOL	Smolenice	87.98 319		*eP*		P	02 05 20.0	+1.7	
MORC	Moravsky Berou	88.04 320		*eP*		P	02 05 17.3	-1.3	
MORC				*e*			02 08 46.4		
MORC				pmax		pmax			
	comp=Z,111nm,1.3s								
MORC	Moravsky Berou	88.04 320	⇑	*iP*		P	02 05 18.9	+0.3	
MORC	Moravsky Berou	88.04 320		*eP*		P	02 05 17.3	-1.3	
	comp=Z,111nm,1.3s								
MORC				*e*PP		PP	02 08 46.4	+1.1	
CEL	Celeste	88.14 308		*eP*		P	02 05 19.1	-0.3	
	comp=Z,436nm,1.3s								
CEL				LR		LR			
	comp=Z,21μm,21.0s								
ZST	Bratislava	88.17 318		*eP*		P	02 05 20.4	+1.3	
ZST				*e*S		SKSac	02 15 51.5	+4.8	
ZST	Bratislava	88.17 318		*eP*		P	02 05 20.4	+1.3	
BEHE	Becsehely	88.22 316	⇑	*eP*		P	02 05 22.9	+3.5	
CUC	Castrocucco	88.34 310		*eP*		P	02 05 19.6	-0.7	
	comp=Z,99nm,1.2s								
CUC				*e*PP		PP	02 08 27.2	-21	
CUC				*e*S		S	02 16 10.0	+5.4	
CUC				LR		LR			
	comp=Z,21μm,20.0s								
SISC	Sisak	88.41 315		P		P	02 05 22.9	+2.7	
KRLC	Kraliky	88.56 320		*eP*		P	02 05 20.4	-0.6	
KRLC				*e*			02 08 51.8		
KRLC	Kraliky	88.56 320		*eP*		P	02 05 20.4	-0.6	
KRLC				*e*PP		PP	02 08 51.8	+2.4	
KOGS	Kog	88.58 316		*eP*		P	02 05 20.1	-1.0	
GKP	Gorka Klasztor	88.61 323		*eP*		P	02 05 23.9	+2.8	
GKP				LMZ		LR	02 49 53.0		
VRAC	Vranov	88.61 319	⇑	*iP*		P	02 05 21.4	+0.2	
UDBI	Udbina	88.75

JAVS	**Javornik**	**90.05 316**	*i* P	**P**	**02 05 25.8**	**-2.4**	
PRA	**Prague**	**90.07 320**	P	**P**	**02 05 29.0**	**+1.0**	
PRA			PP	**PP**	**02 09 05.0**	**+3.6**	
PRA			SKS	**SKSac**	**02 16 03.0**	**+5.2**	
PRA			AMS	AMS	02 52 00.0		
BSD	**Bornholm Skovb**	**90.13 325**	*e*P	P	02 05 32.1	+4.0	
BSD			*i*		02 16 16.7		
BSD			MLR	MLR			
	comp=Z,27µm,21.0s						
BSD	**Bornholm Skovb**	**90.13 325**	*i* P	P	02 05 32.1	+4.0	
VOY	**Vojsko**	**90.18 316**	*e*P	**P**	**02 05 28.7**	**-0.1**	
TRI	**Trieste**	**90.25 316**	*e*P	**P**	**02 05 29.2**	**+0.2**	
TRI			pmax	pmax			
	comp=Z,68nm,1.0s						
TRI	**Trieste**	**90.25 316**	*e*P	**P**	**02 05 29.2**	**+0.2**	
	comp=Z,68nm,1.0s						
MYKA	**Terra Mystica**	**90.39 316** ⇑	*i*pP	**P**	**02 05 30.9**	**+1.2**	
	comp=Z,147nm,1.8s,SNR=29						
BRG	**Berggiesshubel**	**90.43 321**	*i* P	**P**	**02 05 29.9**	**+0.2**	
	comp=Z,113nm,1.4s						
BRG			PP	PP	02 08 34.0	-30	
BRG			*e*PKKP	**PKKPdf**	**02 22 52.9**	**-3.1**	
	comp=Z,16nm,1.9s						
BRG			*e*PKPPKP	P'P'df	02 30 59.5	-7.7	
	comp=Z,1.7nm,0.8s						
BRG	**Berggiesshubel**	**90.43 321**	*i* P	**P**	**02 05 29.9**	**+0.2**	
BRG			*i*		02 05 35.2		
BRG					02 16 01.0		
BRG			S	**S**	**02 16 22.0**	**-1.5**	
BRG			SS	**SS**	**02 22 21.0**	**-3.1**	
BRG			pmax	pmax			
	comp=Z,113nm,1.4s						
BRG			MLR	MLR			
	comp=N,22µm,17.7s						
BRG			MLR	MLR			
	comp=E,20µm,23.0s						
BRG			MLR	MLR			
	comp=Z,22µm,22.7s						
BRG	**Berggiesshubel**	**90.43 321**	*e*P	**P**	**02 05 32.3**	**+2.6**	
	comp=Z,178nm,1.5s						
BRG			*e*S	**S**	**02 16 21.3**	**-2.2**	
GERES	**GERESS Array B**	**90.47 319**	P	**P**	**02 05 28.8**	**-1.3**	
GERES			PP	PP	02 09 13.9	+9.2	
GERES	**GERESS Array B**	**90.47 319**	P	**P**	**02 05 28.8**	**-1.3**	
	comp=Z,41nm,1.1s,baz=84,slow=4.2,SNR=28						
GERES			PP	PP	02 09 13.9	+9.2	
	comp=Z,4.3nm,0.9s,baz=103,slow=4.2,SNR=3.7						
GERES			LR	LR	02 55 03.5		
	comp=Z,13µm,18.5s,baz=316,slow=42						
KHC	**Kasperske Hory**	**90.57 319**	*e*P	**P**	**02 05 29.9**	**-0.5**	
KHC			*e*		02 09 10.8		
KHC			*e*		02 16 03.8		
KHC			*e*S	**S**	**02 16 24.1**	**-0.8**	
KHC			MLR	MLR			
	comp=Z,16µm,18.5s						
KHC	**Kasperske Hory**	**90.57 319**	*e*P	**P**	**02 05 29.9**	**-0.5**	
KHC			*e*pP	**PcP**	**02 05 32.5**	**+1.0**	
KHC			*ex*	x	02 05 49.5		
KHC			*ex*	x	02 06 28.5		
KHC			*e*PP	PP	02 09 10.8	+5.4	
KHC			*e*SKS	**SKSac**	**02 16 03.8**	**+2.9**	
KHC			*e*S	**S**	**02 16 24.1**	**-0.8**	
KHC			AMS	AMS	02 54 00.0		
	comp=Z,16µm,18.5s						
KHC	**Kasperske Hory**	**90.57 319**	*e*P	**P**	**02 05 30.0**	**-0.4**	
	comp=Z,20nm,0.9s						
KBA	**Koelnbreinsper**	**90.61 317** ⇑	*i*PcP	**P**	**02 05 30.5**	**-0.4**	
	comp=Z,62nm,1.1s,SNR=34						
RUE	**Ruedersdorf**	**90.63 322**	*e*P	**P**	**02 05 33.1**	**+2.6**	
	comp=Z,479nm,1.4s						
RUE			*e*S	**S**	**02 16 20.4**	**-4.7**	
RUE	**Ruedersdorf**	**90.63 322**	*e*P	**P**	**02 05 30.9**	**+0.4**	
	comp=Z,385nm,1.4s						
FBE	**Freiberg**	**90.81 321**	*e*P	**P**	**02 05 34.2**	**+2.8**	
	comp=Z,281nm,1.8s						
FBE			*e*PP	**PP**	**02 09 09.7**	**+2.5**	
STEI	**Steigen**	**90.93 338**	*e*P	**P**	**02 05 31.0**	**-0.6**	
STEI			AMB	AMB	02 05 39.2		
	comp=Z,216nm,1.0s						
RGN	**Rugen**	**91.01 324**	*e*S	**S**	**02 16 26.0**	**-2.6**	
RJOB	**Jochberg**	**91.02 318**	*e*P	**P**	**02 05 34.3**	**+1.7**	
	comp=Z,79nm,1.5s						
RJOB			*e*S	**S**	**02 16 25.3**	**-3.9**	
WET	**Wettzell**	**91.03 319**	*e*P	**P**	**02 05 35.1**	**+2.5**	
WET			*e*S	**S**	**02 16 27.5**	**-1.6**	
WET			pmax	pmax			
	comp=Z,114nm,1.4s						
WET	**Wettzell**	**91.03 319**	*e*P	**P**	**02 05 35.1**	**+2.5**	
	comp=Z,114nm,1.4s						
WET			*e*S	**S**	**02 16 27.5**	**-1.6**	
CLL	**Collm**	**91.05 321**	*i* P	**P**	**02 05 34.9**	**+2.4**	
CLL			*i*		02 05 44.9		
CLL			*e*		02 09 12.0		
CLL			*e*		02 16 03.0		
CLL			*e*S	**S**	**02 16 30.0**	**+0.9**	
CLL			pmax	pmax			
	comp=Z,81nm,1.5s						
CLL			pmax	pmax			
	comp=Z,166nm,2.4s						
CLL			MLR	MLR			
	comp=Z,23µm,18.4s						
CLL	**Collm**	**91.05 321**	*e*P	**P**	**02 05 34.7**	**+2.2**	
	comp=Z,88nm,1.5s						
CLL			*e*S	**S**	**02 16 25.8**	**-3.3**	
CLL	**Collm**	**91.05 321**	*i* P	**P**	**02 05 34.9**	**+2.4**	
	comp=Z,81nm,1.5s						
CLL			*e*PP	**PP**	**02 09 12.0**	**+2.9**	
	comp=Z,166nm,2.4s						
CLL			*e*SKSac	**SKSac**	**02 16 03.0**	**-0.4**	
CLL			*e*SSS	SSS	02 26 06.0		
ABTA	**Abfaltersbach**	**91.17 317** ⇓	*i*PcP	**P**	**02 05 33.2**	**-0.2**	
	comp=Z,50nm,0.8s,SNR=21						
TANN	**Tannenbergstha**	**91.35 320**	*e*P	**P**	**02 05 36.5**	**+2.4**	
	comp=Z,81nm,1.6s						
TANN			*e*PP	**PP**	**02 09 13.4**	**+1.8**	
TANN			*e*S	**S**	**02 16 31.1**	**-1.0**	
GUNZ	**Gunzen**	**91.43 320**	*e*P	**P**	**02 05 37.0**	**+2.6**	
	comp=Z,106nm,1.5s						
GUNZ			*e*PP	**PP**	**02 09 15.2**	**+3.0**	
WERD	**Werda**	**91.45 320**	*e*P	**P**	**02 05 36.9**	**+2.4**	
	comp=Z,98nm,1.6s						
WERD			*e*PP	**PP**	**02 09 14.6**	**+2.2**	
ROTZ	**Rotzenmuhle**	**91.49 320**	*e*P	**P**	**02 05 37.6**	**+2.9**	
	comp=Z,111nm,1.6s						
ROTZ			*e*S	**S**	**02 16 32.7**	**-0.6**	
PLN	**Plauen**	**91.55 320**	*e*P	**P**	**02 05 37.5**	**+2.6**	
	comp=Z,592nm,1.8s						
MANZ	**Manzenberg**	**91.56 320**	*e*P	**P**	**02 05 37.9**	**+2.9**	
	comp=Z,165nm,1.5s						
MANZ			*e*S	**S**	**02 16 33.4**	**-0.5**	
COP	**Copenhagen**	**91.57 325**	*e*P	P	02 05 40.4	+5.6	
COP			*i*		02 16 31.3		
COP			MLR	MLR			
	comp=Z,8µm,22.0s						
COP	**Copenhagen**	**91.57 325**	*i* P	P	02 05 40.4	+5.6	
LOF	**Lofoten**	**91.58 338**	*e*	**P**	**02 05 35.5**	**+0.9**	
STOK	**Stokkvaagen**	**91.71 336**	*e*P	**P**	**02 05 38.1**	**+2.8**	
NEUB	**Neuenburg**	**91.82 321**	*e*P	**P**	**02 05 38.3**	**+2.2**	
	comp=Z,104nm,1.1s						
NEUB			*e*S	**S**	**02 16 32.6**	**-3.5**	
WATA	**Walderalm**	**91.83 317** ⇑	*i*PcP	**P**	**02 05 36.1**	**-0.4**	
	comp=Z,57nm,1.1s,SNR=8.6						
MOX	**Moxa**	**91.90 320**	*e*P	**P**	**02 05 39.0**	**+2.4**	
MOX			*e*S	**S**	**02 16 34.9**	**-2.0**	
MOX			pmax	pmax			
	comp=Z,62nm,1.4s						
MOX	**Moxa**	**91.90 320**	*e*P	**P**	**02 05 39.0**	**+2.4**	
	comp=Z,62nm,1.4s						
MOX			*e*S	**S**	**02 16 34.9**	**-2.0**	
MOX			*e*L	L	02 51 55.6		
	comp=Z,19µm,22.0s						
FUR	**Furstenfeldbru**	**92.06 318**	*e*P	**P**	**02 05 39.2**	**+1.9**	
FUR			*e*S	**S**	**02 16 34.8**	**-3.6**	
FUR			pmax	pmax			
	comp=Z,95nm,1.4s						
FUR	**Furstenfeldbru**	**92.06 318**	*e*P	**P**	**02 05 39.2**	**+1.9**	
	comp=Z,95nm,1.4s						
FUR			*e*S	**S**	**02 16 34.8**	**-3.6**	
NSS	**Namsos**	**92.09 334**	*e*P	**P**	**02 05 37.6**	**+0.6**	
NSS			AMB	AMB	02 05 45.1		
	comp=Z,165nm,2.0s						
SNAA	**Sanae**	**92.13 198**	*e*P	P	02 05 41.3	+4.0	
SNAA	**Sanae**	**92.13 198**	*e*P	**P**	**02 05 40.0**	**+2.8**	
SNAA	**Sanae**	**92.13 198**	*e*P	**P**	**02 05 38.5**	**+1.2**	
	comp=Z,411nm,2.3s						
SNAA	**Sanae**	**92.13 198**	LR	LR	02 41 13.5		
	comp=Z,3µm,21.5s,baz=98,slow=32						
GRF	**Grafenberg Arr**	**92.13 319**	*e*P	**P**	**02 05 40.4**	**+2.8**	
GRF			*e*S	**S**	**02 16 37.7**	**-1.3**	
GRF			pmax	pmax			
	comp=Z,159nm,1.5s						
GRF	**Grafenberg Arr**	**92.13 319**	*e*P	**P**	**02 05 40.4**	**+2.8**	
	comp=Z,159nm,1.5s						
GRF			*e*S	**S**	**02 16 37.7**	**-1.3**	
GRF			*e*L	L	02 55 23.4		
	comp=Z,20µm,20.6s						
GRFO	**Grafenberg**	**92.13 319**	*e*P	**P**	**02 05 37.6**	**0.0**	
GRFO			pmax	pmax			
	comp=Z,141nm,1.5s						
GRFO	**Grafenberg**	**92.13 319**	*e*P	**P**	**02 05 37.6**	**0.0**	
	comp=Z,141nm,1.5s						
MOTA	**Moosalm**	**92.15 317** ⇑	*i*PcP	**P**	**02 05 37.3**	**-0.6**	
	comp=Z,65nm,0.9s,SNR=40						
NB2	**NORSAR Subarra**	**92.36 331**	P	**P**	**02 05 38.4**	**-0.1**	
	comp=Z,37nm,1.0s,baz=93,slow=4.6						
NB2	**NORSAR Subarra**	**92.36 331**	P	**P**	**02 05 38.4**	**-0.1**	
	baz=93,slow=4.6						
NOA	**NORSAR Array B**	**92.36 331**	P	**P**	**02 05 37.4**	**-1.1**	
NOA			PP	**PP**	**02 09 20.5**	**+1.3**	
NOA	**NORSAR Array B**	**92.36 331**	P	**P**	**02 05 37.4**	**-1.1**	
	comp=Z,18nm,0.8s,baz=93,slow=4.7,SNR=21						
NOA			PP	**PP**	**02 09 20.5**	**+1.3**	
	comp=Z,6.9nm,0.8s,baz=96,slow=7.5,SNR=5.9						
NOA			LR	LR	02 51 12.4		
	comp=Z,25µm,20.7s,baz=90,slow=38						
KBS	**Kingsbay**	**92.39 349**	PFAKE		02 05 50.0	+12	
KBS			LR	LR			
	comp=Z,44µm,20.0s						
RETA	**Reutte**	**92.39 317** ⇑	*i*P	**P**	**02 05 37.3**	**-1.7**	
	comp=Z,49nm,0.9s,SNR=25						
FETA	**Feichten**	**92.40 317** ⇑	*i*PcP	**P**	**02 05 38.5**	**-0.7**	
	comp=Z,40nm,1.2s,SNR=16						
NAO01	**NORSAR Array S**	**92.52 331**	*e*P	**P**	**02 05 40.0**	**+0.8**	
	comp=Z,32nm,0.9s						
VLC	**Villacollemand**	**92.59 314**	PFAKE		02 05 50.0	+10	
VLC			LR	LR			
	comp=Z,25µm,20.0s						
CLZ	**Clausthal**	**92.70 322**	*e*P	**P**	**02 05 42.6**	**+2.3**	
CLZ			*e*S	**S**	**02 16 40.5**	**-3.6**	
CLZ			pmax	pmax			
	comp=Z,188nm,2.0s						
CLZ	**Clausthal**	**92.70 322**	*e*P	**P**	**02 05 42.6**	**+2.3**	
	comp=Z,188nm,2.0s						
CLZ			*e*S	**S**	**02 16 40.5**	**-3.6**	
TBLU	**Trondheim**	**92.83 333**	*e*P	**P**	**02 05 42.2**	**+1.7**	
DAVA	**Damuels**	**92.98 317** ⇓	*i*P	**P**	**02 05 40.6**	**-1.2**	
	comp=Z,85nm,1.1s,SNR=17						
KONO	**Kongsberg**	**93.16 329**	*e*P	**P**	**02 05 42.0**	**-0.1**	
KONO			pmax	pmax			
	comp=Z,269nm,1.1s						
KONO			MLR	MLR			
	comp=Z,29µm,20.0s						
KONO	**Kongsberg**	**93.16 329**	*e*P	**P**	**02 05 42.0**	**-0.1**	
	comp=Z,65nm,1.1s						
KONO			LR	LR			
	comp=Z,29µm,20.0s						
KEST	**Kesra**	**93.26 305**	*e*P	**P**	**02 05 44.7**	**+1.4**	
KEST	**Kesra**	**93.26 305**	P	**P**	**02 05 41.8**	**-1.5**	
	comp=Z,2.5nm,0.8s,baz=346,slow=4.2,SNR=6.7						
KEST			LR	LR	02 49 04.8		
	comp=Z,16µm,19.9s,baz=50,slow=36						
VSL	**Villasalto**	**93.28 309**	*e*P	**P**	**02 05 42.3**	**-0.8**	
	comp=Z,38nm,1.1s						
VSL			LR	LR			
	comp=Z,8µm,19.0s						
TUE	**Stuetta**	**93.34 316**	*e*P	**P**	**02 05 44.7**	**+1.2**	
	comp=Z,53nm,1.4s						
TUE			LR	LR			
	comp=Z,22µm,20.0s						
MUD	**Monsted U'grnd**	**93.41 326**	*e*P	P	02 05 48.3	+5.0	
MUD			*i*		02 16 49.3		
MUD			MLR	MLR			
	comp=Z,18µm,17.0s						
MUD	**Monsted U'grnd**	**93.41 326**	*i* P	P	02 05 48.3	+5.0	
STU	**Stuttgart**	**93.45 319**	*e*P	**P**	**02 05 43.6**	**-0.1**	
STU			*e*		02 09 31.4		
STU			pmax	pmax			
	comp=Z,63nm,1.3s						
STU	**Stuttgart**	**93.45 319**	*e*P	**P**	**02 05 45.8**	**+2.1**	
	comp=Z,166nm,1.9s						
STU			*e*S	**S**	**02 16 48.4**	**-2.3**	
STU	**Stuttgart**	**93.45 319**	*e*P	**P**	**02 05 43.6**	**-0.1**	
	comp=Z,63nm,1.3s						
STU			*e*PP	**PP**	**02 09 31.4**	**+3.4**	
PGF	**Pioggiola**	**93.58 312**	*e*P	**P**	**02 05 44.4**	**-0.2**	
	comp=Z,45nm,1.0s						
PGF	**Pioggiola**	**93.58 312**	*e*P	**P**	**02 05 44.4**	**-0.2**	
PGF			pmax	pmax			
	comp=Z,45nm,1.0s						
PGF	**Pioggiola**	**93.58 312**	*e*P	**P**	**02 05 44.4**	**-0.2**	
	comp=Z,45nm,1.0s						
VNA2	**Neumayer--Watz**	**93.75 198**	*e*P	P	02 05 50.7	+6.0	
TNS	**Taunus Mts**	**93.92 320**	*e*P	**P**	**02 05 48.2**	**+2.2**	
TNS			*e*S	**S**	**02 16 53.3**	**-1.7**	
TNS			pmax	pmax			
	comp=Z,44nm,1.0s						
TNS	**Taunus Mts**	**93.92 320**	*e*P	**P**	**02 05 48.2**	**+2.2**	
	comp=Z,44nm,1.0s						
TNS			*e*S	**S**	**02 16 53.3**	**-1.7**	
BFO	**Black Forest**	**94.03 318**	*e*P	**P**	**02 05 45.8**	**-0.7**	
BFO			pmax	pmax			
	comp=Z,18nm,1.0s						
BFO			MLR	MLR			
	comp=Z,14µm,20.0s						
BFO	**Black Forest**	**94.03 318**	*e*P	**P**	**02 05 48.1**	**+1.7**	
	comp=Z,23nm,1.1s						
BFO			*e*S	**S**	**02 16 53.3**	**-2.6**	
BFO	**Black Forest**	**94.03 318**	*e*P	**P**	**02 05 45.8**	**-0.7**	
	comp=Z,18nm,1.0s						
BFO			LR	LR			
	comp=Z,14µm,20.0s						
HLG	**Helgoland**	**94.19 324**	*e*S	**S**	**02 16 54.1**	**-2.8**	
FELD	**Feldberg im Sc**	**94.25 318**	*e*P	**P**	**02 05 49.9**	**+2.3**	
IBBN	**Ibbenburen**	**94.32 322**	*e*P	**P**	**02 05 49.7**	**+2.1**	
	comp=Z,68nm,1.2s						
IBBN			*e*S	**S**	**02 16 54.4**	**-3.7**	
LANF	**Langenberg**	**94.36 319**	*e*P	**P**	**02 05 50.8**	**+2.9**	
SAOF	**Saorge**	**94.63 314**	*e*P	**P**	**02 05 51.6**	**+2.3**	
BUG	**Bochum--Univer**	**94.64 321**	*e*P	**P**	**02 05 51.1**	**+2.0**	
	comp=Z,85nm,1.7s						
BUG			*e*S	**S**	**02 16 58.5**	**-2.5**	
SBF	**Sospel**	**94.72 314**	*e*P	**P**	**02 05 49.3**	**-0.5**	
	comp=Z,81nm,0.9s						
SBF	**Sospel**	**94.72 314**	*e*P	**P**	**02 05 49.3**	**-0.5**	
SBF			pmax	pmax			
	comp=Z,81nm,0.9s						
SBF	**Sospel**	**94.72 314**	*e*P	**P**	**02 05 49.3**	**-0.5**	
	comp=Z,81nm,0.9s						
CDF	**Champ du Feu**	**94.73 318**	*e*P	**P**	**02 05 49.1**	**-0.6**	
	comp=Z,36nm,1.1s						
CDF	**Champ du Feu**	**94.73 318**	*e*P	**P**	**02 05 49.1**	**-0.6**	
CDF			pmax	pmax			
	comp=Z,36nm,1.1s						
CDF	**Champ du Feu**	**94.73 318**	*e*P	**P**	**02 05 49.1**	**-0.6**	
	comp=Z,36nm,1.1s						
REVF	**Revere**	**94.77 314**	*e*P	**P**	**02 05 52.5**	**+2.5**	
LUCF	**Luceram**	**94.78 314**	*e*P	**P**	**02 05 52.5**	**+2.4**	
ECH	**Echery**	**94.81 318**	*e*P	**P**	**02 05 49.3**	**-0.7**	
ECH			pmax	pmax			
	comp=Z,27nm,1.2s						
ECH			MLR	MLR			
	comp=Z,15µm,21.0s						
ECH	**Echery**	**94.81 318**	*e*P	**P**	**02 05 52.3**	**+2.3**	
ECH	**Echery**	**94.81 318**	*e*P	**P**	**02 05 49.3**	**-0.7**	
	comp=Z,27nm,1.2s						
ECH			*e*PP	PP	02 09 21.4	-17	
ECH			LR	LR			
	comp=Z,15µm,21.0s						
MOF	**Molkenrain**	**94.84 318**	*e*P	**P**	**02 05 50.8**	**+0.5**	
TOUF	**Mont Tournerai**	**94.85 314**	*e*P	**P**	**02 05 51.6**	**+1.1**	
MVIF	**Mont Vial**	**94.92 314**	*e*P	**P**	**02 05 53.4**	**+2.6**	
HINF	**Hinteralfeld**	**95.03 318**	*e*P	**P**	**02 05 50.9**	**-0.2**	
HINF	**Hinteralfeld**	**95.03 318**	*e*P	**P**	**02 05 50.9**	**-0.2**	
HINF	**Hinteralfeld**	**95.03 318**	*e*P	**P**	**02 05 50.9**	**-0.2**	
LOMF	**Lomont**	**95.06 317**	*e*P	**P**	**02 05 53.4**	**+2.1**	
CALN	**Calern**	**95.11 314**	*e*P	**P**	**02 05 54.4**	**+2.7**	
LPG	**La Plagne**	**95.17 315**	*e*P	**P**	**02 05 51.7**	**-0.4**	
	comp=Z,40nm,0.9s						
LPG	**La Plagne**	**95.17 315**	*e*P	**P**	**02 05 51.7**	**-0.4**	
LPG			pmax	pmax			
	comp=Z,40nm,0.9s						
LPG	**La Plagne**	**95.17 315**	*e*P	**P**	**02 05 51.7**	**-0.4**	
	comp=Z,40nm,0.9s						
MBDF	**Montbardon**	**95.17 315**	*e*P	**P**	**02 05 50.9**	**-1.0**	
	comp=Z,19nm,0.9s						
MBDF	**Montbardon**	**95.17 315**	*e*P	**P**	**02 05 50.9**	**-1.0**	
MBDF			pmax	pmax			
	comp=Z,19nm,0.9s						
MBDF	**Montbardon**	**95.17 315**	*e*P	**P**	**02 05 50.9**	**-1.0**	
	comp=Z,19nm,0.9s						
LPL	**La Plagne**	**95.18 315**	*e*P	**P**	**02 05 51.7**	**-0.3**	
	comp=Z,50nm,0.8s						
LPL	**La Plagne**	**95.18 315**	*e*P	**P**	**02 05 51.7**	**-0.3**	
LPL			pmax	pmax			
	comp=Z,50nm,0.8s						
LPL	**La Plagne**	**95.18 315**	*e*P	**P**	**02 05 51.7**	**-0.3**	
	comp=Z,50nm,0.8s						
BNI	**Bardonecchia**	**95.23 315**	*e*P	**P**	**02 05 53.4**	**+1.2**	
BNI			pmax	pmax			
	comp=Z,11nm,0.8s						
BNI			MLR	MLR			
	comp=Z,21µm,22.0s						
BNI	**Bardonecchia**	**95.23 315**	*e*P	**P**	**02 05 53.4**	**+1.2**	
	comp=Z,11nm,0.8s						
BNI			*e*PP	PP	02 09 29.5	-13	
BNI			LR	LR			
	comp=Z,21µm,22.0s						
FRF	**La Foret Royal**	**95.30 313**	*e*P	**P**	**02 05 52.2**	**-0.1**	
	comp=Z,57nm,1.0s						
FRF	**La Foret Royal**	**95.30 313**	*e*P	**P**	**02 05 52.2**	**-0.1**	
FRF			pmax	pmax			
	comp=Z,57nm,1.0s						
FRF	**La Foret Royal**	**95.30 313**	*e*P	**P**	**02 05 52.2**	**-0.1**	
	comp=Z,57nm,1.0s						
HAU	**Haudompre**	**95.36 318**	*e*P	**P**	**02 05 52.0**	**-0.6**	
	comp=Z,43nm,0.9s						
HAU			*e*R				
	comp=Z,16µm,22.8s						
HAU	**Haudompre**	**95.36 318**	*e*P	**P**	**02 05 52.0**	**-0.6**	
HAU			pmax	pmax			
	comp=Z,43nm,0.9s						
HAU	**Haudompre**	**95.36 318**	*e*P	**P**	**02 05 52.0**	**-0.6**	
	comp=Z,43nm,0.9s						
LMR	**La Mourre**	**95.40 313**	*e*P	**P**	**02 05 52.6**	**-0.2**	
	comp=Z,49nm,1.3s						
LMR	**La Mourre**	**95.40 313**	*e*P	**P**	**02 05 52.6**	**-0.2**	
LMR			pmax	pmax			
	comp=Z,49nm,1.3s						
LMR	**La Mourre**	**95.40 313**	*e*P	**P**	**02 05 52.6**	**-0.2**	
	comp=Z,49nm,1.3s						
WLF	**Walferdange**	**95.42 319**	P	P	02 05 56.1	+3.3	
	comp=Z,24nm,2.3s						
WLF	**Walferdange**	**95.42 319**	*e*P	**P**	**02 05 53.3**	**+0.6**	
WLF			pmax	pmax			
	comp=Z,40nm,1.4s						
WLF			MLR	MLR			
	comp=Z,17µm,19.0s						
WLF	**Walferdange**	**95.42 319**	*e*P	**P**	**02 05 55.1**	**+2.4**	
	comp=Z,44nm,1.5s						
WLF			*e*S	**S**	**02 17 06.3**	**-1.6**	
WLF	**Walferdange**	**95.42 319**	*e*P	**P**	**02 05 53.3**	**+0.6**	
	comp=Z,40nm,1.4s						
WLF			LR	LR			
	comp=Z,17µm,19.0s						
MEM	**Membach**	**95.47 320**	P	**P**	**02 05 55.0**	**+2.1**	
	comp=Z,12nm,1.4s						
CABF	**La Chapelle**	**95.59 316**	*e*P	**P**	**02 05 53.5**	**-0.2**	
	comp=Z,20nm,0.8s						
CABF	**La Chapelle**	**95.59 316**	*e*P	**P**	**02 05 53.5**	**-0.2**	
CABF			pmax	pmax			
	comp=Z,20nm,0.8s						
CABF	**La Chapelle**	**95.59 316**	*e*P	**P**	**02 05 53.5**	**-0.2**	
	comp=Z,20nm,0.8s						
THEF	**They Montfort**	**95.59 318**	*e*P	**P**	**02 05 55.7**	**+2.1**	
PAGF	**Fort de Pagny**	**95.75 318**	*e*P	**P**	**02 05 53.8**	**-0.5**	
	comp=Z,15nm,1.4s						
PAGF	**Fort de Pagny**	**95.75 318**	*e*P	**P**	**02 05 53.8**	**-0.5**	
	comp=Z,15nm,1.4s						
ORIF	**Oris-en-Rattie**	**95.80 315**	*e*P	**P**	**02 05 54.5**	**-0.2**	
	comp=Z,84nm,1.5s						
ORIF			*e*R				
	comp=Z,32µm,21.0s						
ORIF	**Oris-en-Rattie**	**95.80 315**	*e*P	**P**	**02 05 54.5**	**-0.2**	
ORIF			pmax	pmax			
	comp=Z,84nm,1.5s						
ORIF	**Oris-en-Rattie**	**95.80 315**	*e*P	**P**	**02 05 54.5**	**-0.2**	
	comp=Z,84nm,1.5s						
BCLA	**Clavier**	**95.93 320**	P	**P**	**02 05 56.5**	**+1.4**	
	comp=Z,16nm,2.2s						
SMRF	**Simiane la Rot**	**96.06 314**	*e*P	**P**	**02 05 56.0**	**+0.1**	
	comp=Z,34nm,1.0s						
SMRF	**Simiane la Rot**	**96.06 314**	*e*P	**P**	**02 05 56.0**	**+0.1**	
	comp=Z,34nm,1.0s						
MEZF	**Maizieres J'vi**	**96.20 318**	*e*P	**P**	**02 05 55.8**	**-0.5**	
	comp=Z,34nm,1.0s						
MEZF	**Maizieres J'vi**	**96.20 318**	*e*P	**P**	**02 05 55.8**	**-0.5**	
	comp=Z,34nm,1.0s						
SFTF	**Sexfontaines**	**96.23 318**	*e*P	**P**	**02 05 55.9**	**-0.6**	
	comp=Z,73nm,0.9s						
SFTF	**Sexfontaines**	**96.23 318**	*e*P	**P**	**02 05 55.9**	**-0.6**	
	comp=Z,73nm,0.9s						
GIVF	**Givet**	**96.26 320**	*e*P	**P**	**02 05 56.0**	**-0.5**	
GIVF	**Givet**	**96.26 320**	*e*P	**P**	**02 05 56.0**	**-0.5**	
GIVF	**Givet**	**96.26 320**	*e*P	**P**	**02 05 56.0**	**-0.5**	
DOU	**Dourbes**	**96.40 320**	P	**P**	**02 05 59.5**	**+2.3**	
	comp=Z,13nm,1.7s						
TAM	**Tamanrasset**	**96.54 293**	*e*P	**P**	**02 06 00.2**	**+1.6**	
TAM			pmax	pmax			
	comp=Z,29nm,1.3s						
TAM			MLR	MLR			
	comp=Z,41µm,22.0s						
TAM	**Tamanrasset**	**96.54 293**	*e*P	**P**	**02 06 00.2**	**+1.6**	
	comp=Z,29nm,1.3s						
TAM			LR	LR			
	comp=Z,41µm,22.0s						
BAIF	**Baives**	**96.66 320**	*e*P	**P**	**02 05 58.2**	**-0.1**	
	comp=Z,64nm,1.2s						
BAIF	**Baives**	**96.66 320**	*e*P	**P**	**02 05 58.2**	**-0.1**	
BAIF			pmax	pmax			
	comp=Z,64nm,1.2s						
BAIF	**Baives**	**96.66 320**	*e*P	**P**	**02 05 58.2**	**-0.

AGO Saint Agoulin 97.67 316 eP Pdif 02 06 05.4 +2.3
comp=Z,28nm,1.0s
PYM Petit Puy Mans 97.78 316 eP Pdif 02 06 06.4 +2.7
HYF Humbligny 97.91 317 eP P 02 06 04.0 -0.1
HYF Humbligny 97.91 317 eP P 02 06 04.0 -0.1
IM04 Indian Mountai 98.24 24 eP P 02 06 04.5 -0.7
TCF Toulx Ste Croi 98.29 316 eP P 02 06 05.5 -0.4
TCF Toulx Ste Croi 98.29 316 eP P 02 06 05.5 -0.4
TCF Toulx Ste Croi 98.29 316 eP P 02 06 05.5 -0.4
ELSH Elham, Standar 98.50 321 AMS AMS 02 55 02.5
comp=Z,19µm,24.1s
CAF Calviac 98.51 315 eP Pdif 02 06 07.1 +0.2
comp=Z,66nm,1.7s
CAF Calviac 98.51 315 eP Pdif 02 06 07.1 +0.2
CAF pmax pmax
comp=Z,66nm,1.7s
CAF Calviac 98.51 315 eP Pdif 02 06 07.1 +0.2
comp=Z,66nm,1.7s
LRW Lerwick 98.52 330 AMS AMS 02 57 06.5
comp=Z,19µm,17.8s
MTLF Montolieu 98.53 313 eP P 02 06 06.9 -0.1
comp=Z,33nm,1.4s
MTLF Montolieu 98.53 313 eP P 02 06 06.9 -0.1
MTLF pmax pmax
comp=Z,33nm,1.4s
MTLF Montolieu 98.53 313 eP P 02 06 06.9 -0.1
comp=Z,33nm,1.4s
RJF Les Rejaudoux 98.86 315 eP P 02 06 08.3 -0.1
comp=Z,48nm,1.5s
RJF eR
comp=Z,21µm,22.5s
RJF Les Rejaudoux 98.86 315 eP P 02 06 08.3 -0.1
RJF pmax pmax
comp=Z,48nm,1.5s
RJF Les Rejaudoux 98.86 315 eP P 02 06 08.3 -0.1
comp=Z,48nm,1.5s
HMNX Herstmonceux 99.04 321 AMS AMS 02 56 52.5
comp=Z,21µm,23.3s
LMK Market Rasen 99.10 324 eP Pdif 02 06 05.9 -3.3
LMK AMS AMS 02 59 59.8
comp=Z,16µm,18.0s
DAG Danmarks Havn 99.11 348 eP Pdif 02 06 16.7 +7.9
DAG MLR MLR
comp=Z,41µm,20.0s
DAG Danmarks Havn 99.11 348 i P Pdif 02 06 16.7 +7.9
LDF La Druitiere 99.62 319 eP Pdif 02 06 11.3 -0.4
comp=Z,30nm,1.1s
LDF La Druitiere 99.62 319 eP Pdif 02 06 11.3 -0.4
LDF pmax pmax
comp=Z,30nm,1.1s
LDF La Druitiere 99.62 319 eP Pdif 02 06 11.3 -0.4
comp=Z,30nm,1.1s
DRUM Mains of Drumt 99.77 327 AMS AMS 02 54 02.7
comp=Z,30µm,21.7s
HPK Haverah Park 99.79 324 AMS AMS 02 56 50.0
comp=Z,19µm,21.1s
FLN La Foliniere 99.83 319 eP Pdif 02 06 12.0 -0.6
comp=Z,47nm,1.2s
FLN eR
comp=Z,22µm,19.8s
FLN La Foliniere 99.83 319 eP Pdif 02 06 12.0 -0.6
FLN pmax pmax
comp=Z,47nm,1.2s
FLN La Foliniere 99.83 319 eP Pdif 02 06 12.0 -0.6
comp=Z,47nm,1.2s
MFF Saint Martin d 99.87 317 eP Pdif 02 06 12.6 -0.3
comp=Z,52nm,1.4s
MFF Saint Martin d 99.87 317 eP Pdif 02 06 12.6 -0.3
MFF pmax pmax
comp=Z,52nm,1.4s
MFF Saint Martin d 99.87 317 eP Pdif 02 06 12.6 -0.3
comp=Z,52nm,1.4s
WOL Wolverton 99.95 322 eP Pdif 02 06 10.4 -2.7
WOL AMS AMS 02 59 36.9
comp=Z,14µm,18.9s
GRR Gorron 100.13 319 eP Pdif 02 06 13.7 -0.3
comp=Z,32nm,1.2s
GRR Gorron 100.13 319 eP Pdif 02 06 13.7 -0.3
GRR pmax pmax
comp=Z,32nm,1.2s
GRR Gorron 100.13 319 eP Pdif 02 06 13.7 -0.3
comp=Z,32nm,1.2s
TORD Torodi Ar. Bea 100.18 283 P Pdif 02 06 13.2 -1.7
TORD PP PP 02 10 23.6 +2.7
TORD PKKPbc PKKPbc 02 22 30.2 -2.3
TORD Torodi Ar. Bea 100.18 283 P Pdif 02 06 13.2 -1.7
comp=Z,2.6nm,0.8s,baz=69,slow=3.9,SNR=14
TORD PP PP 02 10 23.6 +2.7
comp=Z,3.7nm,1.1s,baz=98,slow=9.5,SNR=5.2
TORD PKKPbc PKKPbc 02 22 30.2 -2.3
comp=Z,0.6nm,1.0s,baz=309,slow=5.1,SNR=2.6
STNC Stoke 100.27 323 eP Pdif 02 06 11.9 -2.6
STNC AMS AMS 02 57 12.1
comp=Z,15µm,21.6s
EDI Edinburgh 100.33 326 eP Pdif 02 06 11.1 -3.6
EDI AMS AMS 02 55 04.0
comp=Z,24µm,22.4s
ESK Eskdalemuir 100.46 326 AMS AMS 02 56 52.9
comp=Z,20µm,21.1s
ESK Eskdalemuir 100.46 326 PFAKE 02 06 20.0 +4.7
ESK LR LR
comp=Z,28µm,22.0s
KESW Keswick, Cumbr 100.53 325 AMS AMS 02 58 53.7
comp=Z,18µm,21.0s
KDAK Kodiak Island 100.55 32 PFAKE 02 06 30.0 +14
KDAK LR LR
comp=Z,28µm,21.0s
ETSF Etsaut 100.59 313 eP Pdif 02 06 16.1 -0.2
comp=Z,14nm,1.1s
ETSF Etsaut 100.59 313 eP Pdif 02 06 16.1 -0.2
ETSF pmax pmax
comp=Z,14nm,1.1s
ETSF Etsaut 100.59 313 eP Pdif 02 06 16.1 -0.2
comp=Z,14nm,1.1s
KIP Kipapa 100.62 69 PFAKE 02 06 30.0 +13
KIP LR LR
comp=Z,8µm,21.0s
SOFL Sornfelli, Far 100.84 333 eP Pdif 02 06 14.0 -2.9
SOFL AMS AMS 02 53 17.4
comp=Z,31µm,23.8s
JSA Saint Aubin 100.87 320 eP Pdif 02 06 15.6 -1.7
JSA AMS AMS 03 00 15.8
comp=Z,19µm,21.0s
FOEL Foel Wylfa 100.90 323 AMS AMS 03 03 19.6
comp=Z,19µm,20.8s
COLA College 100.92 24 PFAKE 02 06 30.0 +13
COLA LR LR
comp=Z,18µm,21.0s
MCH1 Michaelchurch 100.93 322 AMS AMS 03 05 47.4
comp=Z,14µm,17.6s
XMAS Kiritimati 101.06 88 PFAKE 02 06 30.0 +11
XMAS LR LR
comp=Z,10µm,21.0s
PGBU Glenifferbraes 101.07 326 AMS AMS 02 55 18.6
comp=Z,31µm,21.8s
ILAR Eielson Array 101.35 24 P Pdif 02 06 18.7 -0.3
ILAR PP PP 02 10 21.7 -6.5
ILAR PKKPbc PKKPbc 02 22 28.2 -2.5
ILAR Eielson Array 101.35 24 P Pdif 02 06 18.7 -0.3
comp=Z,0.3nm,0.8s,baz=309,slow=4.5,SNR=3.4
ILAR PP PP 02 10 21.7 -6.5
comp=Z,2.4nm,1.0s,baz=285,slow=8.6,SNR=5.3
ILAR PKKPbc PKKPbc 02 22 28.2 -2.5
comp=Z,2.6nm,0.7s,baz=136,slow=2.0,SNR=12
KPL Plockton 101.37 328 AMS AMS 02 53 47.0
comp=Z,25µm,22.9s
GAL1 Galloway 101.39 326 AMS AMS 03 01 30.8
comp=Z,17µm,17.9s
WLF1 Llynfaes 101.53 324 eP Pdif 02 06 17.9 -2.2
WLF1 AMS AMS 03 02 58.2
comp=Z,13µm,19.9s
LPW Lampeter 101.56 323 eP Pdif 02 06 19.1 -1.2
LPW AMS AMS 03 03 49.9
comp=Z,173µm,21.2s
DYA Yadsworthy 101.79 321 AMS AMS 02 58 34.9
comp=Z,17µm,21.1s
HTL Hartland 102.03 322 AMS AMS 03 00 28.4
comp=Z,14µm,18.1s
CCA1 Carnmenellis 102.65 321 eP Pdif 02 06 23.0 -2.2
CCA1 AMS AMS 03 04 42.7
comp=Z,16µm,18.9s
ESDC Sonseca Array 103.55 310 Pdif Pdif 02 06 27.8 -1.7
ESDC PP PP 02 10 41.5 -4.1
ESDC PKKPbc PKKPbc 02 22 22.3 -1.2
ESDC Sonseca Array 103.55 310 Pdiff Pdif 02 06 27.7 -1.7
comp=Z,0.1nm,0.3s,baz=57,slow=4.7,SNR=2.0
ESDC PP PP 02 10 41.5 -4.1
comp=Z,0.7nm,0.7s,baz=65,slow=7.2,SNR=4.6
ESDC PKKPbc PKKPbc 02 22 22.3 -1.2
comp=Z,0.1nm,0.4s,baz=234,slow=1.1,SNR=3.1
EGAK Eagle 103.63 23 PFAKE 02 06 40.0 +11
EGAK LR LR
comp=Z,31µm,21.0s
PAB San Pablo 103.86 310 PFAKE 02 06 40.0 +9.1
PAB LR LR
comp=Z,18µm,20.0s
MDT Midelt 104.95 303 PP PP 02 10 55.0 -1.4
MDT Midelt 104.95 303 PP PP 02 10 55.0 -1.4
comp=Z,5.1nm,1.0s,baz=81,slow=8.4,SNR=5.6
PBRG Braganca 105.29 313 eP PP 02 10 57.4 -1.1
MVO Moncorvo 105.62 312 ePdif Pdif 02 06 46.0 +7.3
MVO Moncorvo 105.62 312 eP PP 02 11 02.6 +1.6
MVO eSKSac SKSac 02 17 22.0 +4.1
MVO eSS SKKPbc 02 26 04.9 +5.8
MVO Moncorvo 105.62 312 eLQ LQ 02 36 13.1
MVO Moncorvo 105.62 312 eLR LR 02 46 24.3
comp=Z,16µm,20.0s
BORG Borgarnes 105.80 338 PFAKE 02 11 00.0
BORG LR LR
comp=Z,29µm,20.0s
SUMG Summit 105.80 348 eP Pdif 02 06 48.8 +10
SUMG MLR MLR
comp=Z,21µm,24.0s
SUMG Summit 105.80 348 i P Pdif 02 06 48.8 +10
SHEL Horse Pasture 105.90 253 PFAKE 02 11 00.0
SHEL LR LR
comp=Z,22µm,20.0s
PVRL Vila Real 106.10 312 eP PP 02 11 01.5 -3.0
MTE Manteigas 106.14 311 ePdif Pdif 02 06 47.1 +6.1
MTE Manteigas 106.14 311 eP PP 02 11 07.0 +2.1
MTE eSKSac SKSac 02 17 23.3 +3.0
MTE eSS SS 02 26 09.2 +3.9
MTE Manteigas 106.14 311 eLQ LQ 02 36 28.7
MTE Manteigas 106.14 311 eLR LR 02 49 43.8
comp=Z,20µm,20.0s
MTE Manteigas 106.14 311 PFAKE 02 11 00.0
MTE LR LR
comp=Z,21µm,20.0s
POLO Lamas de Olo 106.14 312 eP PP 02 11 05.5 +0.6
PBAR Barrancos 106.15 309 eP PP 02 11 07.3 +2.4
PCBR Castelo Branco 106.19 311 eP PP 02 11 08.1 +2.9
PMRV Marv??o 106.20 310 ePdif Pdif 02 06 40.8 -0.4
PMRV Marv??o 106.20 310 eP PP 02 11 07.8 +2.5
PMRV eSKSac SKSac 02 17 24.4 +3.9
PMRV eSS SS 02 26 08.6 +2.5
PMRV Marv??o 106.20 310 eLQ LQ 02 36 17.0
PMRV Marv??o 106.20 310 eLR LR 02 48 17.2
comp=Z,14µm,20.0s
PCAB Cabril 106.25 313 eP PP 02 11 07.3 +1.7
TBI Tubuai 106.34 115 ePdif Pdif 02 06 39.1 -3.0
comp=Z,217nm,29.5s
TBI Tubuai 106.34 115 eP PP 02 10 56.6 -10
comp=Z,555nm,26.5s
TBI eSKSac SKSac 02 17 13.6 -8.1
TBI comp=Z,2µm,28.0s
TBI eSdif Sdif 02 18 32.0 -8.9
TBI comp=Z,3µm,32.8s
TBI eSS SS 02 26 04.2 -4.5
comp=Z,14µm,33.2s
TBI Tubuai 106.34 115 eLQ LQ 02 37 11.3
comp=Z,30µm,38.0s
TBI eLR LR 02 41 46.9
comp=Z,35µm,25.5s
PVIS Viseu 106.34 312 eP PP 02 11 06.2 -0.1
PGAV Gavieira, Arco 106.38 313 ePdif Pdif 02 06 48.4 +6.3
PGAV Gavieira, Arco 106.38 313 eP PP 02 11 08.6 +2.0
PGAV eSKSac SKSac 02 17 25.2 +3.8
PGAV eSS SS 02 26 06.1 -2.4
PGAV Gavieira, Arco 106.38 313 eLQ LQ 02 36 27.6
PGAV Gavieira, Arco 106.38 313 eLR LR 02 47 36.4
comp=Z,17µm,22.0s
PESTR Estremoz 106.45 310 eP PP 02 11 07.3 +0.1
KIC Kosan Boka 106.48 276 eP PP 02 11 02.5 -5.6
comp=Z,108nm,1.6s
TIC Toumodi 106.76 276 eP PP 02 10 58.0 -12
comp=Z,119nm,1.6s
LIC Lamto 106.76 276 eP PP 02 10 59.9 -10
comp=Z,91nm,1.9s
PVAQ Vaqueiros 106.81 308 ePdif Pdif 02 06 42.3 -1.6
PVAQ Vaqueiros 106.81 308 eP PP 02 11 07.6 -2.2
PVAQ eSKSac SKSac 02 17 29.1 +5.9
PVAQ eSS SS 02 26 09.0 -5.4
PVAQ Vaqueiros 106.81 308 eLQ LQ 02 39 08.0
PVAQ eLR LR 02 47 08.1
comp=Z,17µm,24.0s
EVO Evora 106.84 309 ePKIKP PKiKP 02 10 54.5 +0.4
comp=Z,123nm,1.8s
EVO eR
comp=Z,32µm,22.0s
EVO Evora 106.84 309 eP PP 02 11 12.9 +2.9
PMTG Montargil 106.90 310 eP PP 02 11 12.4 +2.0
EVOP Sao Brissos 106.92 309 ePKPdf PKiKP 02 10 54.5 +0.2
KULLO Kullorsuaq 106.94 354 eP Pdif 02 06 53.0 +9.3
KULLO MLR MLR
comp=Z,41µm,24.0s
PTOM Tomar 106.94 311 eP PP 02 11 09.5 -1.2
PBDV Barranco-do-Ve 107.00 308 eP PP 02 11 09.7 -1.6
PCVE Castro Verde 107.02 309 eP PP 02 11 09.1 -2.3
PPT2 Papeete2 107.15 109 ePdif Pdif 02 06 43.3 -2.7
comp=Z,264nm,28.2s
PPT2 Papeete2 107.15 109 eSdif Sdif 02 18 38.5 -10
PPT2 comp=Z,4µm,28.2s
eSS SS 02 26 14.7 -5.5
comp=Z,8µm,27.8s
PPT2 Papeete2 107.15 109 eLQ LQ 02 37 36.1
comp=Z,73nm,38.0s
PPT2 eLR LR 02 42 04.0
comp=Z,49µm,27.0s
TRIS Tristan da Cun 107.29 230 PFAKE 02 11 00.0
TRIS LR LR
comp=Z,6µm,19.0s
PNCL Nicolau / Gran 107.31 309 eP PP 02 11 12.7 -0.8
PACT Alcochete 107.43 310 eP PP 02 11 15.0 +0.8
MORF Marmelete 107.56 308 eP Pdif 02 06 48.1 +0.7
MORF eS SKSac 02 17 27.6 +1.0
PTEO Sao Teotonio 107.57 309 eP PP 02 11 17.1 +1.7
LIS Lisbon 107.68 310 eP Pdif 02 06 48.2 +0.4
LIS eS SKSac 02 17 27.4 +0.5
LIS AMS AMS 03 00 03.8
comp=Z,21µm,16.6s
LIS Lisbon 107.68 310 eP Pdif 02 06 48.2 +0.4
LIS Lisbon 107.68 310 A A 03 00 03.8
comp=Z,21µm,16.6s
LIS Lisbon 107.68 310 eP Pdif 02 06 48.2 +0.4
LIS eS SKSac 02 17 27.4 +0.5
PMST Lisbon--Monsan 107.70 310 eP PP 02 11 15.5 -0.8
PFVI Vila Bisbo 107.73 308 eP PP 02 11 16.1 -0.4
PMAFR Mafra 107.73 310 eP PP 02 11 16.0 -0.5
WRAK Wrangell Islan 111.31 29 PFAKE 02 11 10.0
WRAK LR LR
comp=Z,26µm,20.0s
PMSA Palmer Station 112.04 187 PFAKE 02 11 10.0
PMSA LR LR
comp=Z,19µm,21.0s
SFJD Kangerlussuaq 112.80 349 PFAKE 02 11 10.0
SFJD LR LR
comp=Z,32µm,20.0s
YKA Yellowknife Ar 114.41 18 PKiKP PKiKP 02 11 05.3 -2.4
YKA PKKPbc PKKPbc 02 21 47.3 -2.1
YKA Yellowknife Ar 114.41 18 PKiKP PKiKP 02 11 05.3 -2.4
comp=Z,3.3nm,1.0s,baz=335,slow=2.7,SNR=7.1
YKA PKKPbc PKKPbc 02 21 47.3 -2.1
comp=Z,1.2nm,0.7s,baz=136,slow=3.1,SNR=4.8
ASCN Ascension 115.26 260 PFAKE 02 11 20.0 +9.3
ASCN LR LR
comp=Z,16µm,20.0s
PMOZ Porto Moniz, M 115.36 305 eSS SS 02 28 14.3 +5.2
PMOZ Porto Moniz, M 115.36 305 eLR LR 02 53 03.2
comp=Z,15µm,20.0s
PMOZ eLR LR 02 53 13.7
comp=Z,15µm,20.0s
RKT Rikitea 119.34 118 eP PP 02 12 33.0 -6.4
comp=Z,590nm,26.0s
RKT Rikitea 119.34 118 ePS PS 02 22 23.1 -5.3
comp=Z,2µm,28.5s
RKT eSS SS 02 28 58.6 -2.5
comp=Z,12µm,35.5s
RKT Rikitea 119.34 118 eLQ LQ 02 42 47.3
comp=Z,25µm,36.5s
RKT eLR LR 02 47 50.7
comp=Z,35µm,27.5s
PSMN Pico do Norte, 120.22 312 ePP PP 02 12 50.8 +5.8
PSMN eSP SP 02 22 35.2 +2.6
PSMN eSKKS SS 02 29 10.9 -0.7
CMLA Cha da Macela 120.28 313 ePP PP 02 12 40.7 -4.6
CMLA eSP SP 02 22 31.1 -1.9
CMLA eSKKS SKKSdf 02 29 06.8 -5.1
CMLA Cha da Macela 120.28 313 PFAKE 02 11 30.0 +10
CMLA LR LR
comp=Z,28µm,20.0s
PSET Sete Cidades 120.40 313 ePP PP 02 12 52.8 +6.7
PSET eSP SP 02 22 29.1 -5.0
NLWA Neilton Lookou 120.56 34 PFAKE 02 11 30.0 +10
NLWA LR LR
comp=Z,15µm,21.0s
PGRA Graciosa 121.53 315 ePP PP 02 12 58.9 +5.2
PGRA eSP SP 02 22 47.4 +3.4
PGRA eSKKS SS 02 29 37.3 +9.3
EDM Edmonton 121.84 24 ePKIKP PKPdf 02 11 21.6 -0.8
EDM Edmonton 121.84 24 ePKPdf PKPdf 02 11 21.6 -0.8
LON Longmire 122.08 34 ePKIKP PKPdf 02 11 23.0 0.0
LON Longmire 122.08 34 ePKPdf PKPdf 02 11 23.0 0.0
FL2 Flat Top 2 122.10 35 P PKPdf 02 11 24.3 +1.1
WPW White Pass 122.26 34 P PKPdf 02 11 26.0 +2.5
ETW Entiat 122.37 32 P PKPdf 02 11 25.7 +2.0
NAC Naches 122.63 33 P PKPdf 02 11 26.8 +2.7
VFP Flag Point 123.11 35 P PKPdf 02 11 28.1 +2.8
EFI East Falkland 123.30 195 PFAKE 02 11 30.0 +4.9
EFI LR LR
comp=Z,8µm,22.0s
HAWA Hanford 123.55 33 ePKPdf PKPdf 02 11 25.4 -0.4
HAWA LR LR
comp=Z,13µm,21.0s
NEW Newport 123.61 30 ePKPdf PKPdf 02 11 26.4 +0.5
NEW LR LR
comp=Z,19µm,22.0s
NEW Newport 123.61 30 ⇓PKiKP PKiKP 02 11 27.6 +1.4
baz=124
VIPM Ingram Point 124.07 35 PKIKP PKPdf 02 11 27.8 +0.7
VIPM Ingram Point 124.07 35 P PKPdf 02 11 27.8 +0.7
KHMM Horse Mountain 124.15 41 ePKPdf PKPdf 02 11 27.6 +0.3
FFC Flin Flon 124.53 16 ePKPdf PKPdf 02 11 27.0 -0.4
FFC MLR MLR
comp=Z,18µm,22.0s
FFC Flin Flon 124.53 16 ePKPdf PKPdf 02 11 27.0 -0.4
FFC LR LR
comp=Z,30µm,22.0s
WALA Waterton Lakes 124.62 28 ePKPdf PKPdf 02 11 27.5 -0.4
BSMT Bassoo Peak 125.05 29 ePKPdf PKPdf 02 11 28.6 -0.3
JTMT Jette 125.36 29 ePKPdf PKPdf 02 11 30.6 +1.2
SWMT Swartz Lake 125.67 29 ePKPdf PKPdf 02 11 29.9 -0.1
LBCM Butte Creek Ri 125.71 40 P PKPdf 02 11 31.0 +0.7
BMO Blue Mountains 125.73 33 ePKIKP PKPdf 02 11 30.4 +0.3
BMO MLR MLR
comp=Z,14µm,21.0s
BMO Blue Mountains 125.73 33 ePKPdf PKPdf 02 11 30.4 +0.3
BMO ePP PP 02 13 28.6 +6.9
BMO LR LR
comp=Z,14µm,21.0s
SLMT Seeley Lake 126.10 29 ePKPdf PKPdf 02 11 31.5 +0.6
MSO Missoula 126.17 30 ⇓PKiKP PKiKP 02 11 32.0 +0.7
baz=126
CHMT Chamberlain Mo 126.45 29 ePKPdf PKPdf 02 11 31.6 -0.1
WVOR Wild Horse Val 126.46 36 ePKIKP PKPdf 02 11 31.5 -0.2
WVOR MLR MLR
comp=Z,13µm,20.0s
WVOR Wild Horse Val 126.46 36 ePKPdf PKPdf 02 11 31.5 -0.2
WVOR LR LR
comp=Z,13µm,20.0s
BEKR Beckworth 126.87 40 ePKPdf PKPdf 02 11 33.0 +0.4
A19A Klindworth Far 126.99 25 ⇑PKiKP PKiKP 02 11 33.2 +0.3
baz=127
SCHQ Schefferville 127.00 352 PKP PKPdf 02 11 32.2 +0.1
SCHQ Schefferville 127.00 352 PKP PKPdf 02 11 32.2 +0.1
comp=Z,6.0nm,1.0s,baz=69,slow=1.7,SNR=3.2
EGMT Eagleton 127.25 26 ePKPdf PKPdf 02 11 31.2 -1.8
EGMT LR LR
comp=Z,26µm,19.0s
EGMT Eagleton 127.25 26 ⇑PKiKP PKiKP 02 11 33.4 0.0
baz=127
B19A Brinkman Farms 127.27 25 ⇑PKiKP PKiKP 02 11 33.9 +0.5
baz=127
HRY Holter Researc 127.28 28 ePKPdf PKPdf 02 11 33.2 +0.1
HRY ePP PP 02 13 35.4 +3.5
MFID Camas Ranch 127.47 34 ⇑PKiKP PKiKP 02 11 34.3 +0.2
baz=127
PAHR Pah Rah Range 127.58 40 ePKPdf PKPdf 02 11 34.2 +0.2
PAHR ePP PP 02 13 41.3 +7.0
LRM Limekiln Ridge 127.61 30 ePKPdf PKPdf 02 11 35.2 +1.3
LRM ePP PP 02 13 39.3 +5.0
B20A Solberg Farm, 127.67 25 ⇓PKiKP PKiKP 02 11 34.9 +0.6
baz=128
A21A Bergtoll Ranch 127.68 23 ⇑PKiKP PKiKP 02 11 34.7 +0.4
baz=128
C19A Slack Wire Ran 127.78 26 ⇓PKiKP PKiKP 02 11 36.1 +1.6
baz=128
DLMT Dillon 127.87 30 ePKPdf PKPdf 02 11 34.9 +0.6
DLMT ePP PP 02 13 46.3 +10
A22A Carney Farms, 128.07 23 ⇑PKiKP PKiKP 02 11 36.3 +1.2
baz=128
B21A Ellsworth Farm 128.09 24 ⇓PKiKP PKiKP 02 11 35.9 +0.8
baz=128
MCMT McKenzie Canyo 128.11 31 ePKPdf PKPdf 02 11 35.9 +1.0
HLID Hailey 128.15 33 ePKPdf PKPdf 02 11 34.9 -0.1
HLID LR LR
comp=Z,22µm,19.0s
HLID Hailey 128.15 33 ⇑PKiKP PKiKP 02 11 36.2 +0.7
baz=128
WAKR Walker 128.22 41 ePKPdf PKPdf 02 11 37.5 +2.3
C20A Veseth Ranch, 128.25 25 ⇑PKiKP PKiKP 02 11 36.6 +1.2
baz=128
D19A Cripps Ranch, 128.29 26 ⇑PKiKP PKiKP 02 11 37.1 +1.5
baz=128
A23A Redstone 128.50 22 ⇓PKiKP PKiKP 02 11 38.1 +2.2
baz=128
BMN Battle Mountai 128.51 38 ePKIKP PKPdf 02 11 36.5 +0.8
BMN e 02 13 41.5
BMN MLR MLR
comp=Z,10µm,20.0s
BMN Battle Mountai 128.51 38 ePKPdf PKPdf 02 11 36.5 +0.8
BMN ePP PP 02 13 41.5 +1.1
BMN LR LR
comp=Z,10µm,20.0s
C21A Desert Coulee 128.54 24 ⇑PKiKP PKiKP 02 11 37.6 +1.5
baz=128
B22A Reddig Ranch S 128.60 23 ⇑PKiKP PKiKP 02 11 37.7 +1.5
baz=128
D20A Manuel Ranch, 128.67 26 ⇑PKiKP PKiKP 02 11 37.6 +1.3
baz=129
QLMT Earthquake Lak 128.82 30 ePKPdf PKPdf 02 11 36.5 +0.3
B23A Brockton 128.86 22 ⇑PKiKP PKiKP 02 11 37.9 +1.3
baz=129
E19A Rath Farm, Rou 128.87 27 ⇓PKiKP PKiKP 02 11 38.0 +1.2
baz=129
GCMT Greycliff 128.97 28 ePKPdf PKPdf 02 11 36.2 -0.2
NVAR Mina Array Bea 129.00 40 PKP PKPdf 02 11 35.8 -1.0
NVAR SKPbc 02 14 59.9
NVAR Mina Array Bea 129.00 40 PKP PKPdf 02 11 35.8 -1.0
comp=Z,16nm,1.1s,baz=258,slow=2.7,SNR=23
NVAR SKPbc 02 14 59.9
comp=Z,4.3nm,0.9s,baz=262,slow=4.3,SNR=4.4
NV11 Mina Array Sit 129.09 40 ePKPdf PKPdf 02 11 35.2 -1.6
C22A Vida 129.09 24 ⇑PKiKP PKiKP 02 11 37.6 +0.4
baz=129
MLAC Mammoth Lakes 129.10 42 ⇓PKiKP PKiKP 02 11 38.0 +0.4
baz=129
E20A Meyer Farm, Mu 129.13 26 ⇓PKiKP PKiKP 02 11 37.4 +0.2
baz=129
DGMT Dagmar 129.16 22 ePKPdf PKPdf 02 11 36.5 -0.1
DGMT LR LR
comp=Z,28µm,22.0s
DGMT Dagmar 129.16 22 ⇓PKiKP PKPdf 02 11 36.4 -0.1
baz=129
A25A Svangstu Ranch 129.16 21 ⇓PKiKP PKPdf 02 11 35.4 -1.1
baz=129
YMR Madison River 129.17 30 ePKPdf PKPdf 02 11 36.7 -0.2
YMR ePP PP 02 13 47.1 +2.6
D21A La Casta Ranch 129.18 25 ⇑PKiKP PKiKP 02 11 37.5 +0.2
baz=129
F19A Roth Farm, Mol 129.26 27 ⇑PKiKP PKiKP 02 11 38.3 +0.7
baz=129
YNR Norris Junctio 129.28 29 ePKPdf PKPdf 02 11 38.7 +1.6
C23A Lambert 129.33 23 ⇓PKiKP PKiKP 02 11 39.0 +1.5
baz=129

YFT	Old Faithful	129.39	30	ePKPdf	PKPdf	02 11 36.9	-0.5		
D22A	Cohagen	129.45	24	⇑PKiKP	PKiKP	02 11 39.1	+1.2		
	baz=129								
ELK	Elko	129.51	36	ePKPdf	PKPdf	02 11 38.4	+0.7		
LKWY	Lake	129.53	29	ePKIKP	PKPdf	02 11 41.6	+4.0		
LKWY				MLR	MLR				
	comp=Z,39µm,20.0s								
LKWY	Lake	129.53	29	ePKPdf	PKPdf	02 11 41.6	+4.0		
LKWY				LR	LR				
	comp=Z,39µm,20.0s								
SMMC	Simmler	129.53	45	⇓PKiKP	PKiKP	02 11 39.5	+1.1		
	baz=130								
RCTC	Rector, Farmer	129.54	43	⇓PKiKP	PKPdf	02 11 37.6	+0.1		
	baz=130								
E21A	Keefer Ranch,	129.56	25	⇑PKiKP	PKiKP	02 11 39.7	+1.6		
	baz=129								
H17A	Grant Village	129.56	30	ePKPdf	PKPdf	02 11 40.0	+2.3		
H17A	Grant Village	129.56	30	⇑PKiKP	PKiKP	02 11 40.5	+2.1		
	baz=130								
A26A	Wade Farm, Ken	129.57	20	⇑PKiKP	PKiKP	02 11 38.6	+0.6		
	baz=129								
RLMT	Red Lodge	129.66	28	ePKPdf	PKPdf	02 11 36.9	-0.9		
RLMT				ePP	PP	02 13 48.5	+1.0		
RLMT				LR	LR				
	comp=Z,22µm,22.0s								
F20A	Billings	129.66	27	⇓PKiKP	PKiKP	02 11 38.6	+0.2		
	baz=130								
B25A	Knox Farm, Ray	129.70	21	⇑PKiKP	PKPdf	02 11 37.4	-0.1		
	baz=130								
IMW	Indian Meadow	129.74	30	ePKPdf	PKPdf	02 11 39.0	+0.9		
A27A	Ledoux Ranch,	129.79	19	⇓PKiKP	PKiKP	02 11 39.5	+1.1		
	baz=130								
H18A	Shoshone NF, C	129.80	29	⇓PKiKP	PKiKP	02 11 39.3	+0.4		
	baz=130								
LAO	LASA Array	129.80	25	PFAKE		02 11 50.0	+12		
LAO				LR	LR				
	comp=Z,20µm,20.0s								
D23A	Lindsay	129.83	24	⇓PKiKP	PKiKP	02 11 39.1	+0.5		
	baz=130								
TPH	Tonopah	129.90	40	PFAKE		02 11 50.0	+12		
TPH				LR	LR				
	comp=Z,10µm,20.0s								
RRI2	Red Ridge	129.94	31	ePKPdf	PKPdf	02 11 39.3	+0.8		
RRI2				ePP	PP	02 13 50.2	+0.6		
MOOW	Moose Ponds	129.94	30	ePKPdf	PKPdf	02 11 39.7	+1.3		
MOOW				ePP	PP	02 13 55.9	+6.4		
TPAW	Teton Pass	130.02	31	ePKPdf	PKPdf	02 11 38.8	+0.2		
TPAW				ePP	PP	02 14 00.9	+11		
G20A	Bridger	130.07	27	⇑PKiKP	PKiKP	02 11 39.6	+0.3		
	baz=130								
LOHW	Long Hollow	130.11	30	ePKPdf	PKPdf	02 11 38.9	+0.1		
LOHW				ePP	PP	02 13 57.8	+7.1		
E22A	Miles City	130.12	25	⇑PKiKP	PKiKP	02 11 39.1	-0.2		
	baz=130								
H19A	Powell	130.13	28	⇑PKiKP	PKiKP	02 11 39.3	-0.1		
	baz=130								
C25A	Freed Ranch, W	130.14	22	⇓PKiKP	PKiKP	02 11 39.1	-0.1		
	baz=130								
SNOW	Snow King Moun	130.14	31	ePKPdf	PKPdf	02 11 40.0	+1.2		
REDW	Red Top Meadow	130.17	31	ePKPdf	PKPdf	02 11 39.2	+0.4		
REDW				ePP	PP	02 13 59.3	+8.4		
ULM	Lac du Bonnet	130.20	15	PKP	PKPdf	02 11 37.0	-1.4		
ULM				ePKPdf	PKiKP	02 11 37.1	-2.0		
ULM	Lac du Bonnet	130.20	15	PKP	PKPdf	02 11 37.0	-1.4		
	comp=Z,9.5nm,0.8s,baz=339,slow=3.4,SNR=7.8								
D24A	Glendive	130.22	23	⇓PKiKP	PKiKP	02 11 40.3	+0.9		
	baz=130								
HVU	Hansel Valley	130.24	34	ePKIKP	PKPdf	02 11 39.3	+0.3		
HVU	Hansel Valley	130.24	34	ePKPdf	PKPdf	02 11 39.3	+0.3		
CWC	Cottonwood Cre	130.25	42	⇓PKiKP	PKiKP	02 11 39.8	-0.1		
	baz=130								
E23A	Ismay	130.34	24	⇑PKiKP	PKiKP	02 11 40.5	+0.9		
	baz=130								
ISA	Isabella	130.41	43	ePKIKP	PKPdf	02 11 38.4	-0.9		
ISA	Isabella	130.41	43	ePKPdf	PKPdf	02 11 38.4	-0.9		
ISA	Isabella	130.41	43	⇑PKiKP	PKiKP	02 11 39.9	-0.3		
	baz=130								
ARVC	Arvin	130.44	44	⇓PKiKP	PKiKP	02 11 40.0	-0.2		
	baz=130								
A29A	Manning Farm,	130.46	18	⇓PKiKP	PKiKP	02 11 39.9	+0.1		
	baz=130								
AHID	Auburn Hatcher	130.46	31	PFAKE		02 11 50.0	+11		
AHID				LR	LR				
	comp=Z,16µm,19.0s								
C26A	Wahner Farm, P	130.46	21	⇓PKiKP	PKiKP	02 11 41.4	+1.5		
F22A	Rosebud	130.51	25	⇓PKiKP	PKPdf	02 11 39.6	+0.4		
	baz=130								
B28A	Dugan Ranch, T	130.52	19	⇑PKiKP	PKPdf	02 11 39.2	+0.1		
	baz=130								
G21A	Lodge Grass	130.53	27	⇓PKiKP	PKiKP	02 11 39.8	-0.3		
	baz=130								
D25A	Fairfield	130.58	22	⇓PKiKP	PKPdf	02 11 39.1	-0.2		
	baz=130								
I19A	Meeteetse	130.60	29	⇑PKiKP	PKPdf	02 11 40.0	+0.4		
	baz=130								
BGU	Big Grassy Mou	130.67	35	ePKPdf	PKPdf	02 11 40.4	+0.6		
E24A	Baker	130.69	23	⇓PKiKP	PKiKP	02 11 40.5	+0.2		
	baz=131								
H20A	Greybull	130.73	28	⇑PKiKP	PKiKP	02 11 40.6	0.0		
	baz=131								
R11A	Troy Canyon, C	130.78	39	ePKPdf	PKPdf	02 11 39.9	-0.2		
R11A	Troy Canyon, C	130.78	39	⇓PKiKP	PKiKP	02 11 40.8	-0.2		
	baz=131								
MPMC	Manual Prospec	130.86	42	⇓PKiKP	PKPdf	02 11 39.7	-0.7		
	baz=131								
F23A	Volborg	130.92	25	⇑PKiKP	PKiKP	02 11 40.6	-0.3		
	baz=131								
G22A	Birney	130.94	26	⇓PKiKP	PKPdf	02 11 40.4	+0.3		
	baz=131								
D26A	Manning	131.01	22	⇓PKiKP	PKiKP	02 11 40.6	-0.4		
	baz=131								
HWUT	Hardware Ranch	131.02	33	ePKPdf	PKPdf	02 11 40.8	+0.3		
HWUT				ePP	PP	02 14 00.7	+4.2		
HWUT				LR	LR				
	comp=Z,15µm,22.0s								
LRMC	Laurel Mountai	131.05	43	⇑PKiKP	PKiKP	02 11 41.3	-0.3		
	baz=131								
FURC	Furnace Creek,	131.05	42	⇑PKiKP	PKPdf	02 11 40.4	0.0		
	baz=131								
H21A	Big Horn, Sher	131.06	27	⇑PKiKP	PKiKP	02 11 41.2	-0.1		
	baz=131								
I20A	Worland	131.08	28	⇓PKiKP	PKPdf	02 11 40.5	+0.1		
	baz=131								
E25A	Miller Ranch,	131.09	23	⇓PKiKP	PKiKP	02 11 41.1	0.0		
	baz=131								
J19A	Crowheart	131.14	30	⇑PKiKP	PKPdf	02 11 41.0	+0.4		
	baz=131								
C28A	Hausauer Farms	131.15	20	⇓PKiKP	PKPdf	02 11 39.7	-0.6		
	baz=131								
B30A	Myrvik Farm, E	131.15	18	⇓PKiKP	PKPdf	02 11 40.5	+0.2		
	baz=131								
EDW2	Edwards Air Fo	131.16	44	⇑PKiKP	PKPdf	02 11 41.2	+0.5		
	baz=131								
F24A	Ekalaka	131.21	24	⇓PKiKP	PKiKP	02 11 41.3	-0.2		
	baz=131								
BW06	Boulder Array	131.25	30	ePKPdf	PKPdf	02 11 40.9	0.0		
BW06				LR	LR				
	comp=Z,20µm,22.0s								
PDAR	Pinedale Array	131.25	30	PKP	PKPdf	02 11 39.0	-1.9		
PDAR				SKPbc	SKPbc	02 15 02.1	-2.6		
PDAR	Pinedale Array	131.25	30	PKP	PKPdf	02 11 39.0	-1.9		
	comp=Z,4.0nm,0.9s,baz=48,slow=1.3,SNR=19								
PDAR				SKPbc	SKPbc	02 15 02.1	-2.6		
	comp=Z,2.0nm,0.8s,baz=43,slow=4.1,SNR=3.1								
D27A	Center	131.28	21	⇓PKiKP	PKiKP	02 11 41.4	-0.1		
	baz=131								
DUG	Dugway	131.28	35	ePKIKP	PKPdf	02 11 41.3	+0.4		
DUG				MLR	MLR				
	comp=Z,19µm,21.0s								
DUG	Dugway	131.28	35	ePKPdf	PKPdf	02 11 41.3	+0.4		
DUG				LR	LR				
	comp=Z,19µm,21.0s								
DUG	Dugway	131.28	35	⇑PKiKP	PKiKP	02 11 41.8	-0.1		
	baz=131								
MDND	Maddock	131.29	19	ePKPdf	PKPdf	02 11 41.7	+1.1		
MDND	Maddock	131.29	19	⇓PKiKP	PKPdf	02 11 41.6	+1.1		
	baz=131								
G23A	Biddle	131.34	25	⇑PKiKP	PKiKP	02 11 42.0	+0.2		
	baz=131								
H22A	Clearmont	131.40	26	⇓PKiKP	PKiKP	02 11 42.0	0.0		
	baz=131								
MWC	Mount Wilson	131.46	45	ePKIKP	PKPdf	02 11 42.0	+0.5		
MWC				e		02 14 08.9			
MWC	Mount Wilson	131.46	45	ePKPdf	PKPdf	02 11 42.0	+0.5		
MWC				ePP	PP	02 14 08.8	+9.0		
E26A	Carlson Angus	131.47	22	⇑PKiKP	PKiKP	02 11 42.1	+0.2		
	baz=131								
D28A	Regan	131.54	20	⇑PKiKP	PKiKP	02 11 42.4	+0.3		
	baz=131								
F25A	Bowman	131.54	23	⇑PKiKP	PKiKP	02 11 42.2	+0.1		
	baz=131								
J20A	Shoshoni	131.55	29	⇑PKiKP	PKPdf	02 11 41.6	+0.3		
	baz=131								
K19A	Absolon Red Bu	131.57	30	⇓PKiKP	PKPdf	02 11 41.8	+0.3		
	baz=132								
I21A	Big Trails, Te	131.57	28	⇑PKiKP	PKPdf	02 11 41.9	+0.5		
	baz=132								
M17A	Scullys Gap (B	131.60	32	⇑PKiKP	PKPdf	02 11 41.8	+0.1		
	baz=132								
L18A	Fontenelle, Gr	131.61	32	⇑PKiKP	PKiKP	02 11 42.5	-0.1		
	baz=132								
CIS	Catalina Islan	131.64	46	⇑PKiKP	PKPdf	02 11 42.1	+0.5		
	baz=132								
BFSC	Mount Baldy Ra	131.73	45	⇓PKiKP	PKPdf	02 11 42.1	+0.1		
	baz=132								
GSC	Goldstone	131.75	43	ePKIKP	PKPdf	02 11 43.0	+1.1		
GSC	Goldstone	131.75	43	ePKPdf	PKPdf	02 11 43.0	+1.1		
GSC	Goldstone	131.75	43	⇑PKiKP	PKPdf	02 11 42.2	+0.3		
	baz=132								
SCI	San Clemente I	131.75	47	⇓PKiKP	PKPdf	02 11 42.1	+0.3		
	baz=132								
SHOC	Shoshone	131.76	42	⇑PKiKP	PKPdf	02 11 41.7	-0.1		
	baz=132								
C30A	Mose, Pekin	131.77	18	⇓PKiKP	PKPdf	02 11 41.5	+0.1		
	baz=132								
E27A	Carson	131.84	21	⇓PKiKP	PKPdf	02 11 42.2	+0.5		
	baz=132								
J21A	Lysite	131.86	28	⇑PKiKP	PKiKP	02 11 42.7	-0.3		
	baz=132								
NLU	North Lily Min	131.86	35	ePKPdf	PKPdf	02 11 42.3	+0.2		
NLU				ePP	PP	02 14 04.9	+2.8		
I22A	9 Mile Ranch,	131.89	27	⇓PKiKP	PKiKP	02 11 42.8	-0.2		
	baz=132								
F26A	Lodgepole	131.91	23	⇑PKiKP	PKiKP	02 11 42.6	-0.3		
	baz=132								
D29A	Pettibone, Tap	131.98	19	⇑PKiKP	PKPdf	02 11 42.1	+0.2		
	baz=132								
AGMN	Agassiz Nation	131.99	16	ePKPdf	PKPdf	02 11 42.0	+0.2		
AGMN				LR	LR				
	comp=Z,26µm,20.0s								
DAU	Daniels Canyon	132.01	34	ePKIKP	PKPdf	02 11 43.5	+0.9		
DAU				e		02 14 09.0			
DAU	Daniels Canyon	132.01	34	ePKPdf	PKPdf	02 11 43.5	+0.9		
DAU				ePP	PP	02 14 09.0	+5.9		
E28A	Huff	132.03	21	⇓PKiKP	PKPdf	02 11 42.0	0.0		
	baz=132								
H24A	Dirks Ranch, A	132.06	25	⇑PKiKP	PKPdf	02 11 42.3	+0.1		
	baz=132								
MPU	Maple Canyon	132.07	35	ePKPdf	PKPdf	02 11 43.6	+1.1		
F27A	Lemmon	132.14	22	⇑PKiKP	PKPdf	02 11 42.4	+0.1		
	baz=132								
SHPR	Sheep Range	132.15	41	ePKPdf	PKPdf	02 11 43.1	+0.3		
G25A	Newell	132.16	24	⇓PKiKP	PKPdf	02 11 42.7	+0.3		
	baz=132								
D30A	Buchanan	132.21	19	⇑PKiKP	PKPdf	02 11 42.2	-0.1		
	baz=132								
J22A	Midwest	132.26	28	⇓PKiKP	PKPdf	02 11 43.0	+0.3		
	baz=132								
I23A	Meade Ranch, G	132.29	26	⇓PKiKP	PKPdf	02 11 42.7	-0.1		
	baz=132								
HEC	Hector,Ludlow	132.33	43	⇑PKiKP	PKPdf	02 11 42.3	-0.7		
	baz=132								
M19A	Rock Springs	132.37	31	⇑PKiKP	PKPdf	02 11 42.1	-1.0		
	baz=132								
E29A	Napoleon	132.40	20	⇓PKiKP	PKPdf	02 11 42.3	-0.4		
	baz=132								
MURC	Murrieta	132.40	45	⇑PKiKP	PKPdf	02 11 42.2	-0.9		
	baz=132								
G26A	Maurine	132.41	23	⇑PKiKP	PKPdf	02 11 41.9	-0.9		
	baz=132								
L20A	Wamsutter	132.42	30	⇑PKiKP	PKPdf	02 11 42.0	-1.1		
	baz=132								
ARUT	Antelope Range	132.46	38	ePKIKP	PKPdf	02 11 45.0	+1.8		
ARUT	Antelope Range	132.46	38	ePKPdf	PKPdf	02 11 45.0	+1.8		
K21A	Alcova	132.49	29	⇑PKiKP	PKPdf	02 11 42.2	-1.1		
	baz=132								
H25A	Fruitdale	132.56	24	⇑PKiKP	PKPdf	02 11 42.3	-0.8		
	baz=132								
G27A	Dupree	132.59	22	⇑PKiKP	PKPdf	02 11 42.7	-0.4		
	baz=132								
F28A	McLaughlin	132.61	21	⇑PKiKP	PKPdf	02 11 43.0	-0.1		
	baz=132								
CCUT	Cedar City	132.65	38	ePKPdf	PKPdf	02 11 45.3	+1.6		
E30A	Jud	132.70	19	⇓PKiKP	PKPdf	02 11 43.4	+0.1		
	baz=133								
MVU	Marysvale	132.74	36	ePKPdf	PKPdf	02 11 44.1	+0.3		
MVU				LR	LR				
	comp=Z,14µm,22.0s								
I24A	Kuemmerle Ranc	132.74	26	⇑PKiKP	PKPdf	02 11 43.6	+0.1		
	baz=133								
TMUT	Trail Mountain	132.80	35	ePKPdf	PKPdf	02 11 43.8	-0.2		
GMRC	Granite Mounta	132.82	43	⇓PKiKP	PKPdf	02 11 44.2	+0.2		
	baz=133								
K22A	Casper	132.82	28	⇓PKiKP	PKPdf	02 11 44.2	+0.3		
	baz=133								
109C	Camp Elliot, M	132.84	46	⇑PKiKP	PKPdf	02 11 43.8	-0.1		
	baz=133								
M20A	Sweetwater, Wa	132.88	31	⇑PKiKP	PKPdf	02 11 43.0	-1.0		
	baz=133								
H26A	Fairpoint	132.90	24	⇓PKiKP	PKPdf	02 11 43.4	-0.3		
	baz=133								
PFO	Pinyon Flat Ob	132.91	45	ePKPdf	PKPdf	02 11 43.6	-0.6		
PFO				ePP	PP	02 14 07.1	-2.1		
PFO				LR	LR				
	comp=Z,11µm,22.0s								
PFO	Pinyon Flat Ob	132.91	45	⇑PKiKP	PKPdf	02 11 44.1	-0.1		
	baz=133								
L21A	Rawlins	132.94	30	⇓PKiKP	PKPdf	02 11 44.7	+0.6		
	baz=133								
F29A	Eureka	132.97	20	⇓PKiKP	PKiKP	02 11 44.5	-0.4		
	baz=133								
I25A	Rochford	132.99	25	⇑PKiKP	PKPdf	02 11 44.1	0.0		
	baz=133								
BELC	Belle Mtn. Jos	133.02	44	⇓PKiKP	PKPdf	02 11 44.0	-0.4		
	baz=133								
Q16A	Castle Valley	133.07	35	ePKPdf	PKPdf	02 11 43.9	-0.5		
Q16A	Castle Valley	133.07	35	⇓PKiKP	PKPdf	02 11 43.9	-0.5		
	baz=133								
J24A	Dixon Ranch, L	133.15	26	⇑PKiKP	PKPdf	02 11 44.3	-0.1		
	baz=133								
H27A	Howes	133.16	23	⇓PKiKP	PKPdf	02 11 43.8	-0.4		
	baz=133								
K23A	Bowen Ranch, D	133.16	27	⇓PKiKP	PKPdf	02 11 44.3	-0.1		
	baz=133								
M21A	Separation Pea	133.21	30	⇓PKiKP	PKPdf	02 11 45.1	+0.5		
	baz=133								
G28A	Parade	133.23	22	⇑PKiKP	PKPdf	02 11 44.0	-0.3		
	baz=133								
F30A	Leola	133.24	20	⇑PKiKP	PKPdf	02 11 43.8	-0.5		
	baz=133								
O19A	Miners Draw (B	133.26	32	⇓PKiKP	PKPdf	02 11 44.4	-0.3		
	baz=133								
BAR	Barrett	133.26	46	PKPdf	PKPdf	02 11 44.9	+0.2		
SRU	San Rafael	133.31	35	ePKIKP	PKPdf	02 11 46.3	+1.4		
SRU				e		02 14 10.8			
SRU	San Rafael	133.31	35	ePKPdf	PKPdf	02 11 46.3	+1.4		
SRU				ePP	PP	02 14 10.8	-0.5		
N20A	Spence Gulch,	133.32	31	⇓PKiKP	PKPdf	02 11 45.0	+0.1		
	baz=133								
MONP	Monument Peak	133.33	45	⇑PKiKP	PKPdf	02 11 45.0	-0.1		
	baz=133								
L22A	Ellis Ranch, M	133.34	29	⇓PKiKP	PKPdf	02 11 44.1	-0.7		
	baz=133								
I26A	New Underwood	133.35	24	⇓PKiKP	PKPdf	02 11 44.5	-0.1		
	baz=133								
EYMN	Ely	133.37	12	ePKPdf	PKPdf	02 11 43.1	-1.3		
EYMN				LR	LR				
	comp=Z,35µm,22.0s								
J25A	Sunshine Ranch	133.47	25	⇑PKiKP	PKPdf	02 11 44.6	-0.3		
	baz=133								
G29A	Hoven	133.49	21	⇓PKiKP	PKPdf	02 11 45.4	+0.6		
	baz=133								
IRM	Iron Mountain	133.51	43	⇑PKiKP	PKPdf	02 11 45.1	0.0		
	baz=134								
H28A	Mission Ridge	133.53	22	⇓PKiKP	PKPdf	02 11 45.2	+0.3		
	baz=133								
K24A	Anderson Ranch	133.56	27	⇑PKiKP	PKPdf	02 11 45.3	+0.1		
	baz=133								
BC3	Big Chuckawall	133.59	44	⇓PKiKP	PKPdf	02 11 45.3	-0.2		
	baz=134								
L23A	Garrett	133.63	28	⇓PKiKP	PKPdf	02 11 44.9	-0.5		
	baz=134								
I27A	Quinn	133.64	24	⇑PKiKP	PKPdf	02 11 45.0	-0.1		
	baz=134								
DVTC	Desert V Tower	133.68	45	⇓PKiKP	PKPdf	02 11 45.3	-0.3		
	baz=134								
M22A	Cedar Creek Ra	133.74	29	⇓PKiKP	PKPdf	02 11 45.7	+0.1		
	baz=134								
SWSC	Sam W. Stewart	133.74	45	⇑PKiKP	PKPdf	02 11 45.3	-0.3		
	baz=134								
P19A	Cripple Cowboy	133.81	33	⇑PKiKP	PKPdf	02 11 46.1	+0.3		
	baz=134								
W13A	Hualapai Mount	133.82	41	⇑PKiKP	PKPdf	02 11 45.4	-0.5		
	baz=134								
O20A	White River Ci	133.84	32	ePKPdf	PKPdf	02 11 45.8	-0.1		
O20A	White River Ci	133.84	32	⇓PKiKP	PKPdf	02 11 45.9	+0.1		
	baz=134								
J26A	Sides Ranch, S	133.84	25	⇓PKiKP	PKPdf	02 11 44.8	-0.8		
	baz=134								
H29A	Onida	133.87	22	⇓PKiKP	PKPdf	02 11 46.2	+0.7		
	baz=134								
U15A	North Rim	134.02	39	⇑PKiKP	PKPdf	02 11 46.6	+0.2		
	baz=134								
L24A	Wheatland	134.04	28	⇑PKiKP	PKPdf	02 11 46.4	+0.3		
	baz=134								
I28A	Midland	134.05	23	⇑PKiKP	PKPdf	02 11 46.4	+0.5		
	baz=134								
K25A	Mack Ranch, Ha	134.07	26	⇓PKiKP	PKPdf	02 11 45.9	-0.3		
	baz=134								
M23A	Laramie	134.12	29	⇓PKiKP	PKPdf	02 11 46.2	-0.2		
	baz=134								
PDMCI	Parker Dam,Lak	134.12	42	⇓PKiKP	PKPdf	02 11 46.4	+0.1		
	baz=134								
Y12C	Blythe	134.17	43	⇑PKiKP	PKPdf	02 11 46.5	+0.1		
	baz=134								
O21A	Pagoda	134.19	31	⇑PKiKP	PKPdf	02 11 46.3	-0.2		
	baz=134								
P20A	De Beque	134.22	33	⇑PKiKP	PKPdf	02 11 46.4	-0.1		
	baz=134								
N22A	Wattenberg Ran	134.26	30	⇑PKiKP	PKPdf	02 11 45.9	-0.9		
	baz=134								
K26A	Motz Farm, Whi	134.30	26	⇓PKiKP	PKPdf	02 11 46.6	+0.2		
	baz=134								
J27A	Elkhorn Farm,	134.34	24	⇓PKiKP	PKPdf	02 11 46.7	+0.2		
	baz=134								
GLA	Glamis	134.36	44	ePKIKP	PKPdf	02 11 47.1	+0.3		
GLA	Glamis	134.36	44	ePKPdf	PKPdf	02 11 47.1	+0.3		
GLA	Glamis	134.36	44	⇓PKiKP	PKPdf	02 11 46.5	-0.4		
	baz=134								
I29A	Vivian Onida	134.36	22	⇓PKiKP	PKPdf	02 11 46.9	+0.4		
	baz=134								
PHWY	Pilot Hill	134.37	29	ePKPdf	PKPdf	02 11 47.3	+0.4		
L25A	Engebretsen Ra	134.39	27	⇑PKiKP	PKPdf	02 11 46.8	+0.1		
	baz=134								
N23A	Red Feather La	134.45	29	⇓PKiKP	PKPdf	02 11 46.9	-0.1		
	baz=134								
BRSD	Miller	134.48	21	ePKPdf	PKPdf	02 11 46.5	-0.2		
BRSD	Miller	134.48	21	⇓PKiKP	PKPdf	02 11 46.9	+0.2		
	baz=134								
J28A	Allard Ranch,	134.50	23	⇓PKiKP	PKPdf	02 11 47.0	+0.2		
	baz=134								
M24A	Cheyenne	134.54	28	⇓PKiKP	PKPdf	02 11 46.2	-0.9		
	baz=134								
Q20A	Ridgley Place,	134.66	33	⇑PKiKP	PKPdf	02 11 47.1	-0.3		
	baz=135								
K27A	Flueckinger Fa	134.70	25	⇓PKiKP	PKPdf	02 11 47.0	-0.2		
	baz=135								
O22A	Kremming	134.70	31	⇓PKiKP	PKPdf	02 11 46.8	-0.8		
	baz=135								
I30A	Oacoma	134.77	21	⇑PKiKP	PKPdf	02 11 46.3	-1.0		
	baz=135								
J29A	Okreek	134.87	23	⇑PKiKP	PKPdf	02 11 47.6	+0.1		
	baz=135								
M25A	Palm-Egli Farm	134.92	27	⇓PKiKP	PKPdf	02 11 47.3	-0.5		
	baz=135								
O23A	Lake Granby, G	134.98	30	⇑PKiKP	PKPdf	02 11 47.6	-0.6		
	baz=135								
K28A	Ten Mile Ranch	135.05	24	⇓PKiKP	PKPdf	02 11 48.3	+0.4		
	baz=135								
PV01	Paradox Valley	135.09	34	PKPdf	PKPdf	02 11 49.2	+0.9		
Y14A	Wickenburg	135.09	42	⇓PKiKP	PKPdf	02 11 48.5	+0.4		
	baz=135								
Q21A	Lamborn Mes

W18A	Petrified Fore	136.46	38	⇑PKiKP	PKPdf	02 11 50.7	-0.2		
	baz=136								
T21A	Navajo Lake	136.48	34	⇑PKiKP	PKPdf	02 11 51.6	+0.7		
	baz=136								
L31A	Butterfield Fa	136.49	22	⇑PKiKP	PKPdf	02 11 50.4	-0.1		
	baz=136								
R23A	Moffat	136.54	32	⇓PKiKP	PKPdf	02 11 50.9	-0.1		
	baz=136								
O27A	Beecher Island	136.64	27	⇑PKiKP	PKPdf	02 11 51.2	+0.3		
	baz=136								
N28A	Pribbeno Ranch	136.65	26	⇑PKiKP	PKPdf	02 11 51.0	+0.1		
	baz=136								
PKME	Peaks-Kenny Pk	136.68	351	*e*PKPdf	PKPdf	02 11 49.4	-1.3		
PKME				LR	LR				
	comp=Z,32μm,20.0s								
X18A	Snowflake	136.71	39	⇑PKiKP	PKPdf	02 11 51.5	+0.2		
	baz=137								
RCBR	Riachuelo	136.72	259	PFAKE		02 12 00.0	+8.3		
RCBR				LR	LR				
	comp=Z,14μm,19.0s								
P26A	Davis Ranch, A	136.74	28	⇑PKiKP	PKPdf	02 11 51.8	+0.6		
	baz=137								
V20A	Brimhall	136.77	36	⇑PKiKP	PKPdf	02 11 51.1	-0.3		
	baz=137								
Q25A	Bedland, Calha	136.80	30	⇑PKiKP	PKPdf	02 11 50.5	-0.9		
	baz=137								
U21A	Nageezi	136.81	35	⇑PKiKP	PKPdf	02 11 51.1	-0.5		
	baz=137								
S23A	Nye Farm, Mont	136.81	32	⇑PKiKP	PKPdf	02 11 51.1	-0.5		
	baz=137								
T22A	Edith	136.82	34	⇓PKiKP	PKPdf	02 11 51.1	-0.5		
	baz=137								
TRQA	Tornquist	136.84	199	*e*PKPpre	PKPpre	02 11 45.6			
TRQA				*e*PKPdf	PKPdf	02 11 50.9	-0.4		
TRQA				LR	LR				
	comp=Z,8μm,20.0s								
R24A	Sanders Place,	136.89	31	⇑PKiKP	PKPdf	02 11 50.7	-0.9		
	baz=137								
SDCO	Great Sand Dun	137.04	32	*e*PKPdf	PKPdf	02 11 50.1	-1.9		
SDCO				LR	LR				
	comp=Z,20μm,22.0s								
P27A	Ficken Ranch,	137.10	28	⇓PKiKP	PKPdf	02 11 51.0	-0.9		
	baz=137								
Q26A	Hugo	137.15	29	⇓PKiKP	PKPdf	02 11 52.7	+0.7		
	baz=137								
M31A	Lambtecht Ranc	137.15	23	⇓PKiKP	PKPdf	02 11 52.2	+0.4		
	baz=137								
N30A	Hueftle Ranch,	137.17	24	⇑PKiKP	PKPdf	02 11 51.8	0.0		
	baz=137								
W20A	Ramah	137.21	37	⇓PKiKP	PKPdf	02 11 52.3	0.0		
	baz=137								
S24A	Houchin Ranch,	137.28	32	⇑PKiKP	PKPdf	02 11 51.5	-0.9		
	baz=137								
T23A	Casias Ranch,	137.28	33	⇑PKiKP	PKPdf	02 11 52.4	0.0		
	baz=137								
U22A	Llaves	137.30	34	⇓PKiKP	PKPdf	02 11 52.2	-0.2		
	baz=137								
R25A	Fountain Ranch	137.37	31	⇓PKiKP	PKPdf	02 11 52.8	+0.4		
	baz=137								
BGNE	Belgrade	137.41	22	*e*PKPdf	PKPdf	02 11 52.3	0.0		
BGNE	Belgrade	137.41	22	⇓PKiKP	PKPdf	02 11 52.6	+0.4		
	baz=137								
WVL	Waterville	137.42	351	*e*PKPdf	PKPdf	02 11 50.9	-1.1		
P28A	Saint Francis	137.46	27	⇑PKiKP	PKPdf	02 11 51.2	-1.2		
	baz=137								
TUC	Tucson	137.56	42	*e*PKiKP	PKPdf	02 11 50.8	-2.0		
TUC				MLR	MLR				
	comp=Z,9μm,20.0s								
TUC	Tucson	137.56	42	*e*PKPdf	PKPdf	02 11 50.8	-2.0		
TUC				LR	LR				
	comp=Z,9μm,20.0s								
V22A	San Miguel Ran	137.60	35	⇑PKiKP	PKPdf	02 11 53.0	0.0		
	baz=138								
X20A	Quemado	137.60	38	⇑PKiKP	PKPdf	02 11 53.8	+0.7		
	baz=138								
T24B	San Luis	137.62	33	⇑PKiKP	PKPdf	02 11 53.4	+0.3		
	baz=138								
S25A	Robets Cordova	137.67	31	⇑PKiKP	PKPdf	02 11 54.0	+1.0		
	baz=138								
R26A	Arlington	137.67	30	⇑PKiKP	PKPdf	02 11 53.1	+0.2		
	baz=138								
O30A	MW Ranch, Wils	137.70	25	⇓PKiKP	PKiKP	02 11 53.9	-0.9		
	baz=138								
U23A	El Rito	137.71	34	⇑PKiKP	PKPdf	02 11 53.7	+0.5		
	baz=138								
Q28A	Sharon Springs	137.84	27	⇑PKiKP	PKPdf	02 11 51.9	-1.3		
	baz=138								
LONY	Lake Ozonia	137.94	356	*e*PKiKP	PKPdf	02 11 50.5	-2.5		
LONY				LR	LR				
	comp=Z,24μm,20.0s								
R27A	Eads	138.00	29	⇑PKiKP	PKPdf	02 11 52.6	-0.9		
	baz=138								
LBNH	Lisbon	138.06	353	PFAKE		02 12 00.0	+6.7		
LBNH				LR	LR				
	comp=Z,22μm,22.0s								
T25A	Trinidad	138.07	32	⇓PKiKP	PKPdf	02 11 53.5	-0.3		
	baz=138								
RPN	Rapa Nui	138.09	137	PFAKE		02 12 00.0	+6.2		
RPN				LR	LR				
	comp=Z,9μm,21.0s								
Y20A	Horse Springs,	138.09	38	⇓PKiKP	PKPdf	02 11 53.7	-0.3		
	baz=138								
X21A	Alamocita Cree	138.10	37	⇓PKiKP	PKPdf	02 11 53.4	-0.6		
	baz=138								
V23A	Ortiz Mt. (NFS	138.13	35	⇓PKiKP	PKPdf	02 11 54.6	+0.6		
	baz=138								
P30A	Selden	138.15	26	⇑PKiKP	PKPdf	02 11 53.0	-0.7		
	baz=138								
S26A	Kim	138.19	30	⇑PKiKP	PKPdf	02 11 53.6	-0.4		
	baz=138								
JFWS	Jewell Farm	138.42	13	*e*PKiKP	PKPdf	02 11 54.9	+0.9		
JFWS				*e*		02 14 43.1			
JFWS				MLR	MLR				
	comp=Z,26μm,22.0s								
JFWS	Jewell Farm	138.42	13	*e*PKPdf	PKPdf	02 11 54.9	+0.9		
JFWS				*e*PP	PP	02 14 43.1	+0.5		
JFWS				LR	LR				
	comp=Z,26μm,22.0s								
R28A	Tribune	138.43	28	⇓PKiKP	PKPdf	02 11 53.1	-1.2		
	baz=138								
MDV	Middlebury	138.44	354	*e*PKPdf	PKPdf	02 11 53.5	-0.4		
Y21A	Point of Rocks	138.46	38	⇑PKiKP	PKPdf	02 11 53.7	-0.9		
	baz=138								
T26A	Comanche Natio	138.47	31	⇓PKiKP	PKPdf	02 11 54.5	-0.1		
	baz=138								
Z20A	Nine Sixteen R	138.48	40	⇓PKiKP	PKPdf	02 11 54.5	-0.1		
	baz=138								
LAZ	Ladron	138.52	37	*e*PKPdf	PKPdf	02 11 53.0	-1.7		
X22A	Bernardo	138.52	37	⇑PKiKP	PKPdf	02 11 54.4	-0.2		
	baz=138								
P31A	Stockton	138.54	25	⇓PKiKP	PKPdf	02 11 54.3	-0.1		
	baz=138								
ANMO	Albuquerque	138.54	36	*e*PKPdf	PKPdf	02 11 53.1	-1.6		
ANMO				LR	LR				
	comp=Z,24μm,21.0s								
NCB	Newcomb	138.56	355	*e*PKPdf	PKPdf	02 11 53.5	-0.8		
NCB				LR	LR				
	comp=Z,29μm,22.0s								
SCIA	State Center	138.60	17	*e*PKPpre	PKPpre	02 11 46.9			
SCIA				*e*PKPdf	PKPdf	02 11 53.9	-0.5		
SCIA				*e*PP	PP	02 14 45.3	+1.5		
SCIA				LR	LR				
	comp=Z,23μm,21.0s								
U25A	Circle Dot Ran	138.63	32	⇑PKiKP	PKPdf	02 11 55.7	+0.9		
	baz=138								
V24A	Rampart Ranch,	138.66	34	⇑PKiKP	PKPdf	02 11 55.6	+0.6		
	baz=139								
LENM	Lemitar	138.78	37	*e*PKPdf	PKPdf	02 11 55.4	+0.2		
120A	U Bar Ranch, L	138.82	40	⇑PKiKP	PKPdf	02 11 55.4	+0.1		
	baz=139								
LPM	Los Pinos Moun	138.88	36	*e*PKPdf	PKPdf	02 11 53.6	-1.7		
Z21A	St. Cloud Mine	138.93	39	⇑PKiKP	PKPdf	02 11 55.4	-0.1		
	baz=139								
V25A	Rancho No Teng	138.94	33	⇑PKiKP	PKPdf	02 11 55.9	+0.5		
	baz=139								
Y22A	Socorro	138.94	37	⇑PKiKP	PKPdf	02 11 54.8	-0.6		
	baz=139								
W24A	Lazy 6 Ranch,	138.95	34	⇓PKiKP	PKiKP	02 11 56.7	-1.0		
	baz=139								
X23A	Hourglass Bar	138.96	36	⇓PKiKP	PKPdf	02 11 56.3	+0.8		
	baz=139								
U26A	Atchley Ranch,	138.99	32	⇑PKiKP	PKPdf	02 11 55.6	+0.1		
	baz=139								
S28A	Manter	138.99	29	⇑PKiKP	PKPdf	02 11 56.1	+0.8		
	baz=139								
BNM	Barren Site	139.00	37	*e*PKPdf	PKPdf	02 11 53.6	-2.1		
T27A	Campo	139.00	30	⇑PKiKP	PKPdf	02 11 55.7	+0.2		
	baz=139								
319A	Douglas	139.14	42	⇑PKiKP	PKPdf	02 11 56.8	+1.0		
	baz=139								
T28A	Walsh	139.25	29	⇑PKiKP	PKPdf	02 11 56.5	+0.6		
	baz=139								
220A	Playas Peak, P	139.31	41	⇑PKiKP	PKPdf	02 11 56.8	+0.6		
	baz=139								
S29A	Ulysses	139.33	28	⇓PKiKP	PKPdf	02 11 56.6	+0.7		
	baz=139								
121A	Cookes Peak, D	139.38	39	⇓PKiKP	PKPdf	02 11 56.7	+0.5		
	baz=139								
X24A	Lazy VL Ranch,	139.40	35	⇓PKiKP	PKPdf	02 11 56.8	+0.5		
	baz=139								
Z22A	Elephant Butte	139.41	38	⇑PKiKP	PKPdf	02 11 57.4	+1.1		
	baz=139								
V26A	Tequesquite Ra	139.41	32	⇑PKiKP	PKPdf	02 11 57.2	+0.9		
	baz=139								
U27A	Thompson Grove	139.44	31	⇑PKiKP	PKPdf	02 11 56.7	+0.5		
	baz=139								
W25A	X Bar L Ranch,	139.48	34	⇑PKiKP	PKPdf	02 11 57.5	+1.2		
	baz=139								
Y23A	Lovelace Mesa,	139.49	36	⇓PKiKP	PKiKP	02 11 57.8	-1.0		
	baz=139								
T29A	Hugoton	139.62	29	⇓PKiKP	PKPdf	02 11 56.3	-0.2		
	baz=140								
320A	Kipp Ranch, An	139.66	42	⇑PKiKP	PKiKP	02 11 58.3	-0.9		
	baz=140								
221A	Mesquite Ranch	139.72	40	⇓PKiKP	PKPdf	02 11 58.0	+1.1		
	baz=140								
TRY	Troy	139.74	355	*e*PKPdf	PKPdf	02 11 54.5	-1.9		
122A	Conniff Cattle	139.76	39	⇑PKiKP	PKPdf	02 11 58.2	+1.2		
	baz=140								
Z23A	Rita Site, Whi	139.85	37	⇑PKiKP	PKiKP	02 11 58.6	-0.9		
	baz=140								
X25A	Clemmons Ranch	139.87	34	⇑PKiKP	PKPdf	02 11 58.2	+1.1		
	baz=140								
V27A	Dan Oppiter Fa	139.95	31	⇓PKiKP	PKiKP	02 11 58.6	-1.0		
	baz=140								
W26A	Owens Ranch, T	139.96	33	⇓PKiKP	PKPdf	02 11 58.4	+1.2		
	baz=140								
KSU1	Kansas State U	140.00	22	*e*PKPdf	PKPdf	02 11 56.1	-0.9		
KSU1				LR	LR				
	comp=Z,20μm,21.0s								
QUA2	Belchertown	140.04	353	*e*PKPdf	PKPdf	02 11 55.2	-1.8		
T30A	Plains	140.07	28	⇑PKiKP	PKPdf	02 11 58.1	+0.8		
	baz=140								
S31A	Mullinville	140.08	26	⇑PKiKP	PKPdf	02 11 58.3	+1.1		
	baz=140								
222A	Williams Famil	140.09	39	⇑PKiKP	PKPdf	02 11 58.2	+0.6		
	baz=140								
SPB	Sao Paulo	140.19	228	PFAKE		02 12 10.0	+12		
SPB				LR	LR				
	comp=Z,16μm,20.0s								
Y25A	Mesa, Roswell	140.29	35	⇑PKiKP	PKiKP	02 11 59.6	-0.8		
	baz=140								
Z24A	Shreeppen Canyo	140.32	36	⇑PKiKP	PKiKP	02 11 59.6	-1.0		
	baz=140								
X26A	CR and CF Fran	140.33	34	⇓PKiKP	PKiKP	02 11 59.7	-0.8		
	baz=140								
W27A	Bowe Ranch, En	140.35	32	⇓PKiKP	PKiKP	02 11 59.9	-0.6		
	baz=140								
U30A	WK&E Inc. Balk	140.43	29	⇑PKiKP	PKPdf	02 11 59.2	+1.3		
	baz=140								
BINY	Binghamton	140.44	357	*e*PKPdf	PKPdf	02 11 57.5	-0.3		
BINY				LR	LR				
	comp=Z,30μm,21.0s								
ERPA	Erie	140.56	2	PFAKE		02 12 10.0	+12		
ERPA				LR	LR				
	comp=Z,19μm,20.0s								
X27A	F and S Farms,	140.65	33	⇓PKiKP	PKiKP	02 12 00.0	-1.1		
	baz=141								
W28A	Vega	140.66	31	⇓PKiKP	PKPdf	02 11 59.4	+0.9		
	baz=141								
124A	Stringfield Ra	140.71	37	⇓PKiKP	PKiKP	02 12 00.4	-1.0		
	baz=141								
Z25A	Roswell	140.74	36	⇓PKiKP	PKiKP	02 12 00.4	-0.9		
	baz=141								
V30A	Spur Ranch, Mi	141.03	29	⇓PKiKP	PKPdf	02 12 00.2	+1.1		
	baz=141								
W29A	Amraillo	141.05	31	⇓PKiKP	PKiKP	02 12 00.7	-1.1		
	baz=141								
224A	Cornudas Mount	141.10	38	⇓PKiKP	PKPdf	02 11 60.0	+0.6		
	baz=141								
Z26A	Caprock	141.17	35	⇓PKiKP	PKPdf	02 12 00.1	+0.6		
	baz=141								
Y27A	Causey	141.18	34	⇓PKiKP	PKiKP	02 12 01.0	-1.2		
	baz=141								
125A	Gardner Draw,	141.21	37	⇑PKiKP	PKPdf	02 12 00.9	+1.4		
	baz=141								
X28A	Dimmitt	141.23	32	⇓PKiKP	PKiKP	02 12 01.2	-1.1		
	baz=141								
MSTX	Muleshoe	141.34	33	*e*PKPdf	PKPdf	02 11 58.4	-1.3		
MSTX	Muleshoe	141.34	33	⇑PKiKP	PKiKP	02 12 01.2	-1.2		
	baz=141								
MNTX	Cornudas Mount	141.44	38	*e*PKPdf	PKPdf	02 11 58.9	-1.0		
MNTX				LR	LR				
	comp=Z,21μm,22.0s								
225A	Deer Hill, Car	141.50	37	⇓PKiKP	PKPdf	02 12 00.3	+0.1		
	baz=141								
SFIN	Scholer Farm	141.51	11	*e*PKPdf	PKPdf	02 11 54.3	-5.4		
X29A	Tulia	141.55	32	⇓PKiKP	PKiKP	02 12 01.6	-1.3		
	baz=142								
324A	Moseley Ranch,	141.56	39	⇓PKiKP	PKiKP	02 12 01.8	-1.3		
	baz=142								
Z27A	Tatum	141.58	34	⇓PKiKP	PKPdf	02 12 00.5	+0.4		
	baz=142								
126A	Clayton Basin,	141.60	36	⇑PKiKP	PKPdf	02 12 00.7	+0.5		
	baz=142								
Y28A	McKinney Farm,	141.67	33	⇓PKiKP	PKPdf	02 12 00.9	+0.6		
	baz=142								
W31A	Holland Ranch,	141.85	29	⇓PKiKP	PKPdf	02 12 00.4	-0.1		
	baz=142								
226B	Tecolote Peak,	141.92	37	⇓PKiKP	PKPdf	02 12 01.3	+0.5		
	baz=142								
127A	Arkansas Junct	141.96	35	⇓PKiKP	PKPdf	02 12 01.4	+0.5		
	baz=142								
X30A	Coker Ranch, T	141.97	31	⇑PKiKP	PKPdf	02 12 01.9	+1.1		
	baz=142								
Y29A	Porterfield Fa	142.01	32	⇓PKiKP	PKPdf	02 12 00.8	-0.1		
	baz=142								
SSPA	Standing Stone	142.06	359	*e*PKPdf	PKPdf	02 11 59.0	-1.6		
Z28A	Tucker Farm, M	142.06	34	⇑PKiKP	PKPdf	02 12 01.5	+0.5		
	baz=142								
ACSO	Alum Creek Sta	142.24	6	*e*PKPdf	PKPdf	02 11 58.2	-2.8		
ACSO				LR	LR				
	comp=Z,21μm,22.0s								
X31A	McDonald Ranch	142.28	30	⇓PKiKP	PKPdf	02 12 01.0	-0.2		
	baz=142								
425A	Indio Mountain	142.31	39	⇓PKiKP	PKPdf	02 12 02.4	+0.8		
	baz=142								
Y30A	Stafford Cattl	142.41	31	⇑PKiKP	PKPdf	02 12 02.6	+1.0		
	baz=142								
Z29A	Hungry Hill Ra	142.45	33	⇓PKiKP	PKPdf	02 12 02.5	+0.8		
	baz=142								
128A	Castleberry Fa	142.50	34	⇓PKiKP	PKPdf	02 12 02.4	+0.6		
	baz=142								
326A	Caldwell Ranch	142.57	37	⇑PKiKP	PKPdf	02 12 03.3	+1.3		
	baz=142								
Y31A	Rekieta Farm,	142.67	31	⇓PKiKP	PKiKP	02 12 03.7	-1.4		
	baz=143								
WMOK	Wichita Mounta	142.77	28	*e*PKHKP	PKPpre	02 11 57.5			
WMOK				MLR	MLR				
	comp=Z,22μm,21.0s								
WMOK	Wichita Mounta	142.77	28	*e*PKPdf	PKPpre	02 11 57.5			
WMOK				LR	LR				
	comp=Z,22μm,21.0s								
BLO	Bloomington	142.78	10	*e*PKiKP	PKPdf	02 12 01.2	-0.8		
BLO	Bloomington	142.78	10	*e*PKPdf	PKPdf	02 12 01.2	-0.8		
228A	UT Block 9, Go	142.81	35	⇑PKiKP	PKPdf	02 12 03.7	+1.3		
	baz=143								
327A	Balmorhea Ranc	142.82	37	⇓PKPdf	PKPdf	02 11 59.8	-2.5		
	baz=143								
129A	Stewart Farms,	142.84	34	⇓PKPdf	PKPdf	02 11 59.4	-3.0		
	baz=143								
OLIL	Olney	142.89	13	*e*PKPdf	PKPdf	02 12 01.4	-0.8		
426A	McDonald Obser	142.99	38	⇑PKPdf		02 11 59.7			
	baz=143								
LMEL	Las Melosas	143.00	191	⇓*i*P	PKPdf	02 11 58.3	-4.5		
LMEL	Las Melosas	143.00	191	⇓*i*P	PKPdf	02 11 58.3	-4.5		
MCWV	Mont Chateau	143.01	2	*e*PKPdf	PKPbc	02 12 00.3	+1.2		
MCWV				LR	LR				
	comp=Z,24μm,19.0s								
Y32A	R-V Farms, Ver	143.05	30	⇓PKPdf	PKPbc	02 12 00.4	+1.0		
	baz=143								
TUL1	Tulsa	143.09	24	*e*PKPdf	PKPbc	02 11 59.7	+0.3		
TUL1	Tulsa	143.09	24	⇓PKPdf	PKPbc	02 12 00.1	+0.6		
	baz=143								
328A	Wristen Ranch,	143.22	36	⇑PKPdf	PKPbc	02 12 00.7	+0.7		
	baz=143								
Z31A	Sharp Cattle R	143.24	31	⇑PKPdf	PKPbc	02 12 00.1	+0.2		
	baz=143								
427A	Hayter Ranch,	143.25	37	⇑PKPdf	PKPdf	02 12 02.1	-1.1		
	baz=143								
SDMD	Soldier's Deli	143.26	358	*e*PKPdf	PKPdf	02 12 03.1	+0.3		
130A	Snyder	143.36	33	⇓PKPdf	PKPbc	02 12 01.4	+1.1		
	baz=143								
526A	Mary Lane Ranc	143.37	39	⇑PKPdf	PKPbc	02 12 01.9	+1.3		
	baz=143								
CLCH	Cerro Calan	143.50	191	⇑*i*P	PKPdf	02 12 05.2	+1.6		
Z32A	Haskell	143.59	30	⇓PKPdf	PKPbc	02 12 01.8	+0.9		
	baz=144								
SIUC	Southern Illin	143.60	14	*e*PKPdf	PKPdf	02 12 03.0	-0.4		
131A	Roby	143.61	32	⇓PKPdf	PKPbc	02 12 01.8	+0.8		
	baz=144								
527A	Woodward Ranch	143.61	38	⇓PKPdf	PKPbc	02 12 01.4	+0.2		
	baz=144								
329A	Wagon Wheel Ra	143.63	35	⇑PKPdf	PKPbc	02 12 01.5	+0.3		
	baz=144								
626A	Big Bend Ranch	143.69	40	⇓PKPdf	PKPbc	02 12 02.0	+0.6		
	baz=144								
USIN	University of	143.72	12	*e*PKPdf	PKPbc	02 12 02.5	+1.3		
WCI	Wyandotte Cave	143.74	10	*e*PKiKP	PKPbc	02 12 02.2	+1.0		
WCI	Wyandotte Cave	143.74	10	*e*PKPdf	PKPbc	02 12 02.2	+1.0		
428A	Kincaid Ranch,	143.77	37	⇑PKPdf	PKPbc	02 12 02.1	+0.5		
	baz=144								
230A	Sterling City	143.82	34	⇓PKPdf	PKPbc	02 12 02.0	+0.3		
	baz=144								
ABTX	Abilene, Hawle	144.04	31	*e*PKPdf	PKPdf	02 12 03.9	-0.5		
ABTX				*e*PP	PP	02 15 22.9	+5.5		
ABTX	Abilene, Hawle	144.04	31	⇑PKPdf	PKPbc	02 12 02.6	+0.3		
	baz=144								
528A	Cox Ranch, San	144.11	38	⇓PKPdf	PKPab	02 12 02.3	0.0		
	baz=144								
TXAR	Lajitas Array	144.14	39	PKP	PKPbc	02 12 02.7	-0.1		
TXAR				SKPbc	SKPbc	02 15 39.6	-3.1		
TXAR	Lajitas Array	144.14	39	PKP	PKPbc	02 12 02.7	-0.1		
	comp=Z,25nm,0.7s								
TXAR				SKPbc	SKPbc	02 15 39.6	-3.1		
330A	Mertzon	144.15	34	⇑PKPdf	PKPbc	02 12 03.0	+0.3		
	baz=144								
231A	Bronte	144.22	33	⇓PKPdf	PKPab	02 12 02.7	+0.2		
	baz=144								
627A	Terlingua Ranc	144.23	39	⇓PKPdf	PKPbc	02 12 03.1	0.0		
	baz=144								
429A	Davenport Ranc	144.31	36	⇑PKPdf	PKPbc	02 12 03.3	0.0		
	baz=144								
PARMO	Parma	144.46	16	*e*PKPdf	PKPab	02 12 03.4	+0.2		
CBN	Corbin	144.47	359	*e*PKPdf	PKPbc	02 12 03.9	+0.4		
CBN				LR	LR				
	comp=Z,22μm,21.0s								
529A	Stev Forest Ra	144.48	37	⇑PKPdf	PKPab	02 12 03.3	-0.2		
	baz=144								
628A	Black Gap, Mar	144.52	38	⇑PKPdf	PKPab	02 12 03.6	-0.1		
	baz=144								
430A	Baggett Ranch,	144.57	35	⇓PKPdf	PKPab	02 12 03.3	-0.6		
	baz=144								
232A	Coleman	144.61	32	⇓PKPdf	PKPab	02 12 03.6	-0.4		
	baz=144								
331A	San Angelo	144.64	34	⇓PKPdf	PKPab	02 12 04.2	+0.1		
	baz=145								
CPUP	Villa Florida	144.80	214	PKP	PKPab	02 12 04.5	-0.3		
CPUP				*e*PKPdf	PKPbc	02 12 05.0	+0.2		
CPUP	Villa Florida	144.80	214	PKP	PKPab	02 12 04.5	-0.3		
	comp=Z,75nm,0.9s,baz=106,slow=2.9,SNR=39								
BDFB	Brasilia	144.91	238	PKP	PKPab	02 12 04.8	-0.7		
BDFB	Brasilia	144.91	238	PKP	PKPab	02 12 04.8	-0.7		
	comp=Z,14nm,0.5s,baz=192,slow=2.1,SNR=26								
GLAT	Glass	144.95	15	*e*PKPdf	PKPdf	02 12 06.0	+0.2		
332A	Millersview	144.95	33	⇑PKPdf	PKPab	02 12 04.6	-0.6		
	baz=145								
530A	J-C Ranch, Com	144.98	36	⇓PKPdf	PKPab	02 12 05.4	0.0		
	baz=145								
JSRW	J. Sargeant Re	145.00	359	*e*PKPdf	PKPab	02 12 04.2	-0.9		
431A	Sonora	145.01	35	⇑PKPdf	PKPdf	02 12 06.1	-0.1		
	baz=145								
GNAR	Gosnell	145.04	17	*e*PKPdf	PKPbc	02 12 04.9	-0.4		
HBAR	Harrisburg	145.23	18	*e*PKPdf	PKPbc

BRAL					LR	LR		
	comp=Z,30µm,22.0s							
TIGA	**Tifton**	**150.83**	**9**	*e*PKPbc	**PKPbc**	**02 12 20.5**	**-0.7**	
TIGA				*e*PKPab	**PKPab**	**02 12 29.2**	**+1.0**	
TIGA	**Tifton**	**150.83**	**9**	⇑PKPdf	**PKPbc**	**02 12 19.0**	**-2.3**	
	baz=151							
LVC	**Limon Verde**	**153.34**	**200**	*e*PKPdf	**PKPdf**	**02 12 19.9**	**-0.1**	
LVC				*e*PKPbc	**PKPbc**	**02 12 26.1**	**-1.5**	
LVC				LR	LR			
	comp=Z,7µm,19.0s							
ANWB	**Willy Bob**	**157.78**	**314**	PFAKE		02 12 40.0	+14	
ANWB				LR	LR			
	comp=Z,13µm,20.0s							
BBGH	**Gun Hill**	**158.55**	**300**	PFAKE		02 12 40.0	+13	
BBGH				LR	LR			
	comp=Z,22µm,22.0s							
LPAZ	**La Paz**	**158.72**	**208**	PKP	**PKPdf**	**02 12 27.8**	**+0.1**	
LPAZ				*e*PKPdf	**PKPdf**	**02 12 28.1**	**+0.5**	
LPAZ	**La Paz**	**158.72**	**208**	PKP	**PKPdf**	**02 12 27.8**	**+0.1**	
	comp=Z,16nm,1.0s,baz=215,slow=1.5,SNR=6.0							
STVI	**Saint Thomas**	**159.46**	**321**	*e*PKPdf	**PKPdf**	**02 12 26.9**	**-0.8**	
GRTK	**Grand Turk**	**159.83**	**340**	PFAKE		02 12 40.0	+12	
GRTK				LR	LR			
	comp=Z,21µm,22.0s							
TEIG	**Tepich**	**159.95**	**28**	PFAKE		02 12 40.0	+12	
TEIG				LR	LR			
	comp=Z,13µm,20.0s							
MTP	**Monte Pirata**	**160.02**	**322**	*e*PKPdf	**PKPdf**	**02 12 27.0**	**-1.4**	
CBYP	**Canovanas**	**160.07**	**323**	*e*PKPdf	**PKPdf**	**02 12 29.0**	**+0.5**	
CBYP				*e*PP	**PP**	**02 16 51.8**	**+2.6**	
SJG	**San Juan**	**160.38**	**323**	*e*PKPdf	**PKPdf**	**02 12 28.7**	**-0.1**	
SJG				PP	**PP**	**02 16 52.4**	**+1.7**	
SJG				LR	LR			
	comp=Z,17µm,22.0s							
SJG	**San Juan**	**160.38**	**323**	PP	PP	02 16 52.4	+1.7	
	comp=Z,7.5nm,0.7s,baz=11,slow=11,SNR=5.4							
LRS	**Lares**	**160.64**	**325**	*e*PKPdf	**PKPdf**	**02 12 28.9**	**-0.2**	
LRS				*e*PP	**PP**	**02 16 54.9**	**+2.7**	
CELP	**Cerrillos**	**160.66**	**324**	*e*PKPdf	**PKPdf**	**02 12 29.9**	**+0.8**	
OBIP	**Obispado Ponce**	**160.70**	**324**	*e*PKPdf	**PKPdf**	**02 12 26.8**	**-2.3**	
OBIP				*e*PP	**PP**	**02 16 57.0**	**+4.6**	
GRGR	**Grenville**	**160.83**	**301**	PFAKE		02 12 40.0	+11	
GRGR				LR	LR			
	comp=Z,10µm,21.0s							
SAML	**Samuel**	**161.00**	**233**	*e*PKPdf	**PKPdf**	**02 12 30.6**	**+1.0**	
SAML				*e*PP	**PP**	**02 16 55.3**	**+0.5**	
SAML				LR	LR			
	comp=Z,14µm,20.0s							
SDDR	**Presa de Saban**	**162.21**	**337**	*e*PKPdf	**PKPdf**	**02 12 29.4**	**-1.3**	
SDDR				*e*PKPab	**PKPab**	**02 13 14.6**	**-2.7**	
SDDR				*e*PP	**PP**	**02 17 01.9**	**+1.9**	
SDDR				LR	LR			
	comp=Z,21µm,20.0s							
TGUH	**Tegucigalpa,Un**	**165.59**	**37**	*e*PKPdf	**PKPdf**	**02 12 34.4**	**+0.5**	
TGUH				*e*PKPab	PKPab	02 13 37.7	+5.4	
TGUH				LR	LR			
	comp=Z,13µm,20.0s							
PAYG	**Puerto Ayora**	**167.73**	**105**	PFAKE		02 12 50.0	+14	
PAYG				LR	LR			
	comp=Z,10µm,21.0s							
JTS	**JuntasAbangare**	**169.93**	**40**	PFAKE		02 12 50.0	+13	
JTS				LR	LR			
	comp=Z,15µm,21.0s							
BCIP	**Isla Barro Col**	**173.25**	**12**	PFAKE		02 12 50.0	+11	
BCIP				LR	LR			
	comp=Z,11µm,22.0s							
ROSC	**El Rosal**	**175.29**	**300**	*e*PKPdf	**PKPdf**	**02 12 40.1**	**+0.3**	
ROSC				PKP		02 12 40.2		
ROSC				*e*PP	**PP**	**02 18 07.8**	**-0.6**	
ROSC				PP	PP	02 18 11.4	+3.0	
ROSC	**El Rosal**	**175.29**	**300**	PKP	**PKPdf**	**02 12 40.2**	**+0.5**	
	comp=Z,20nm,0.9s,baz=0.0,slow=3.0,SNR=8.4							
ROSC				PP	**PP**	**02 18 11.4**	**+3.0**	
	comp=Z,4.6nm,0.4s,baz=82,slow=11,SNR=3.6							
OTAV	**Otavalo**	**177.73**	**180**	PFAKE		02 12 50.0	+10	
OTAV				LR	LR			
	comp=Z,16µm,21.0s							

IDC 01 02:18:12.9±3.0, 0.66S×100.12E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/23, mbtmp3.7/7, Error ellipse: s-maj=149.9km s-min=19.8km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.64**	**341**	Pn	Pn	02 19 14.5	+3.8
	2.2nm,0.3s,baz=128,slow=19,SNR=6.4						
H08S2	**Diego Garcia H**	**28.40**	**255**	T	T	02 52 10.4	
	baz=77,slow=0.7,SNR=14						
H08S3	**Diego Garcia H**	**28.41**	**255**	T	T	02 52 03.3	
	baz=77,slow=0.7,SNR=18						
H08S1	**Diego Carcia H**	**28.42**	**255**	T	T	02 52 11.1	
	baz=77,slow=0.7,SNR=18						
H01W3	**Cape Leeuwin H**	**36.48**	**160**	T	T	03 02 00.7	
	baz=339,slow=0.7,SNR=2.1						
H01W2	**Cape Leeuwin H**	**36.49**	**160**	T	T	03 02 02.1	
	baz=339,slow=0.7,SNR=2.1						
H01W1	**Cape Leeuwin H**	**36.49**	**160**	T	T	03 01 55.7	
	baz=339,slow=0.7,SNR=3.6						
WRA	**Warramunga Arr**	**38.58**	**122**	P	P	02 25 37.8	-0.1
	0.9nm,0.9s,baz=302,slow=8.9,SNR=3.6						
ASAR	**Alice Springs**	**39.95**	**127**	P	P	02 25 49.0	-0.4
	0.1nm,0.3s,baz=300,slow=7.4,SNR=3.2						
SONM	**Songino Array**	**48.60**	**6**	P	P	02 26 58.5	0.0
	0.4nm,0.6s,baz=188,slow=8.0,SNR=3.5						
MKAR	**Makanchi Array**	**49.78**	**344**	P	P	02 27 07.4	0.0
	1.5nm,0.6s,baz=152,slow=8.4,SNR=10						
STKA	**Stephens Creek**	**49.95**	**133**	P	P	02 27 09.1	+0.2
	0.5nm,0.4s,baz=329,slow=12,SNR=3.9						
KURBB	**Kurchatov Arra**	**54.31**	**343**	P	P	02 27 40.8	-0.2
	0.5nm,0.7s,baz=164,slow=7.3,SNR=7.0						
ZALV	**Zalesovo Beam**	**55.88**	**349**	P	P	02 27 52.0	-0.3
	0.6nm,0.3s,baz=182,slow=8.2,SNR=2.9						

*ISCJB **01** 02:20:04.3±1.2, 76.93N±0.06×19.6E±0.4, h10km, Error ellipse: s-maj=12.4km s-min=8.0km az=156.7*
*CSEM **01** 02:20:05.8±0.1, 76.76N×17.83E, h2km, ML2.4, Error ellipse: s-maj=12.8km s-min=2.0km az=69.0*
*BER **01** 02:20:07.0±2.1, 77.15N×21.55E, h12km±27km, MD2.6, ML2.4, ML2.4(NAO)*
*NAO **01** 02:20:07.3±2.3, 76.92N×19.01E, h12km±26km, ML2.4*

ISC 01 02:20:06.0±1.0, 76.86N±0.06×19.48E±0.09, h10km, n11, σ1s22/20, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSP	**Hornsund**	**0.91**	**281**	*e*P	**Pg**	**02 20 23.7**	**+0.4**
HSP				*e*S	**Sg**	**02 20 33.4**	**-1.7**
SPA0	**Spitsbergen Ar**	**1.48**	**334**	Pg	**Pb**	**02 20 32.9**	**-0.7**
	baz=151,slow=22						
SPA0				Lg	Lg	02 20 51.1	
	baz=153,slow=37						
SPA0	**Spitsbergen Ar**	**1.48**	**334**	*e*P	**Pb**	**02 20 33.1**	**-0.5**
SPA0				*e*Sg	**Sg**	**02 20 52.1**	**-1.5**
SPA0	**Spitsbergen Ar**	**1.48**	**334**	*e*P	**Pb**	**02 20 33.1**	**-0.5**
	SNR=55						
SPA0				Lg	Lg	02 20 51.2	
	baz=153,slow=36,SNR=8.0						
SPA0				*e*Sg	**Sg**	**02 20 52.1**	**-1.5**
	SNR=90						
KBS	**Kingsbay**	**2.61**	**326**	Pn	**Pn**	**02 20 47.7**	**-0.4**
KBS				Pg	**Pb**	**02 20 53.7**	**+1.0**
KBS				Lg	Lg	02 21 23.5	
KBS	**Kingsbay**	**2.61**	**326**	Pn	**Pn**	**02 20 47.7**	**-0.4**
KBS				Pg	**Pb**	**02 20 53.7**	**+1.0**
KBS				*e*Sg	**Sb**	**02 21 26.1**	**+1.3**
KBS				AML	AML	02 21 30.8	
	comp=Z,36nm,0.5s						
KBS	**Kingsbay**	**2.61**	**326**	Pn	**Pn**	**02 20 47.7**	**-0.4**
KBS	**Kingsbay**	**2.61**	**326**	Pg	**Pb**	**02 20 53.7**	**+1.0**
KBS				Lg	Lg	02 21 23.5	
KBS				*e*Sg	**Sb**	**02 21 26.1**	**+1.3**
	comp=Z,36nm,0.5s,SNR=90						
ARA0	**ARCESS Array S**	**7.57**	**164**	Pn	**Pn**	**02 21 57.4**	**+1.2**
	baz=357,slow=18						
ARA0				Sn	**Sn**	**02 23 20.1**	**-1.6**
	baz=1.1,slow=22						
ARA0	**ARCESS Array S**	**7.57**	**164**	Pn	**Pn**	**02 21 57.4**	**+1.2**
	baz=357,slow=18						
ARA0				Sn	**Sn**	**02 23 20.1**	**-1.6**
	baz=1.1,slow=22						
ARA0	**ARCESS Array S**	**7.57**	**164**	Pn	**Pn**	**02 21 57.3**	**+1.2**
	baz=357,slow=16						

*IDC **01** 02:20:29.2±0.3, 2.30S×101.56E, h0km, mb4.7/35, mb1 4.8/36, mb1mx4.8/36, mbtmp4.8/36, ML4.6/1, Error ellipse: s-maj=14.2km s-min=9.3km az=58.0*
*BJI **01** 02:20:30.1, 2.50S×101.40E, h10km, mB4.9/4, mb4.7/32, Ms5.3/6, Ms7 5.0/10*
*NEIC **01** 02:20:30.9±0.2, 2.42S×101.42E, h10km, mb5.3/44, Error ellipse: s-maj=6.6km s-min=4.6km az=59.0*
*ISCJB **01** 02:20:32.5±0.7, 2.38S±0.02×101.40E±0.03, h27km±5km, mb5.0/109, MS5.4/5, Error ellipse: s-maj=5.4km s-min=3.0km az=145.8*
*DJA **01** 02:20:33.9±0.3, 2.2S×2×10-1E±°, h10km±2km, M5.2/8, MLv5.2/8*
*MOS **01** 02:20:33.3±1.0, 2.14S×101.72E, h33km, mb5.4/40, Error ellipse: s-maj=12.9km s-min=5.2km az=121.8*
*BKK **01** 02:20:34.4±0.2, 2.5S×3×10-2E±°, h10km, M5.7/29, mB6.2/3, mb5.8/29, MLv5.6/6, Mw(mB)5.9/3*

ISC 01 02:20:32.8±0.4, 2.41S±0.03×101.41E±0.04, h19km±1km, h19km:pP-P, n475, σ1s34/518, mb5.1/110, MS5.6/5, 39C-3D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRJI	**Kerinci**	**0.32**	**8**	P	**Pg**	**02 20 38.1**	**-1.8**
KRJI				S	**Sg**	**02 20 44.0**	**-0.7**
MASI	**Maura Aman, Be**	**1.10**	**131**	P	**Pn**	**02 20 51.7**	**-1.5**
MASI				S	**Sg**	**02 21 12.4**	**+3.9**
KSI	**Kapahiang**	**1.70**	**136**	P	**Pn**	**02 21 02.2**	**+0.7**
KSI				S	**Sn**	**02 21 23.5**	**+0.7**
PDSI	**Padang**	**1.77**	**327**	P	**Pb**	**02 21 05.0**	**+0.3**
PDSI				S	**Sb**	**02 21 27.3**	**+0.8**
PPI	**Padang Panjang**	**2.19**	**332**	P	**Pb**	**02 21 11.2**	**-0.7**
RGRI	**Rengat**	**2.25**	**24**	P	**Pn**	**02 21 08.6**	**-0.4**
RGRI				S	**Sb**	**02 21 38.2**	**-2.1**
MNAI	**Manna**	**2.47**	**142**	P	**Pn**	**02 21 13.8**	**+1.7**
MNAI				S	**Sn**	**02 21 42.7**	**+0.9**
MNAI	**Manna**	**2.47**	**142**	*e*Pn	**Pn**	**02 21 12.3**	**+0.2**
EGSI	**Enggano, Bengk**	**3.04**	**164**	P	**Pn**	**02 21 22.0**	**+2.1**
EGSI				S	**Sn**	**02 21 54.3**	**-1.6**
PMBI	**Palembang**	**3.39**	**99**	P	**Pn**	**02 21 23.6**	**-1.1**
PMBI				S	**Sn**	**02 22 08.0**	**+3.5**
MDSI	**Maura Dua**	**3.44**	**127**	P	**Pn**	**02 21 25.8**	**+0.4**
MDSI				S	**Sb**	**02 22 12.8**	**-1.9**
LWLI	**Liwa**	**3.69**	**134**	P	**Pn**	**02 21 31.0**	**+2.0**
KLI	**Kotabumi**	**4.21**	**125**	P	Pb	02 21 42.4	-3.9
KASI	**Kota Agung**	**4.36**	**135**	P	**Pn**	**02 21 39.9**	**+1.9**
KASI				S	**Sn**	**02 22 26.4**	**-1.9**
PPBI	**Pangkal Pinang**	**4.72**	**87**	P	**Pn**	**02 21 43.0**	**-0.1**
KGM	**Kluang**	**4.79**	**23**	P	**Pn**	**02 21 44.0**	**-0.1**
BLSI	**Bandar Lampung**	**4.82**	**128**	P	**Pn**	**02 21 47.1**	**+2.7**
MYKOM	**Kota Tinggi**	**4.83**	**30**	P	**Pn**	**02 21 44.1**	**-0.5**
MYKOM	**Kota Tinggi**	**4.83**	**30**	S	**Sn**	**02 22 39.4**	**-0.7**
MYKOM	**Kota Tinggi**	**4.83**	**30**	P	**Pn**	**02 21 43.6**	**-1.0**
GSI	**Gunungsitoli**	**5.33**	**314**	P	**Pn**	**02 21 54.0**	**+2.6**
FRIM	**Kepong**	**5.62**	**2**	P	**Pn**	**02 21 56.3**	**+0.9**
PSI	**Prapat**	**5.75**	**334**	Pn	**Pn**	**02 22 00.1**	**+2.9**
PSI	**Prapat**	**5.75**	**334**	Pn	**Pn**	**02 22 00.1**	**+2.9**
	2.0nm,0.3s,baz=158,slow=14,SNR=24						
SBJI	**Serang**	**5.97**	**128**	P	**Pn**	**02 22 01.9**	**+1.7**
TPI	**Tanjungpandan**	**6.24**	**93**	P	**Pn**	**02 22 02.2**	**-1.7**
DBJI	**Dramaga**	**6.72**	**128**	P	Pn	02 22 14.1	+3.5
IPM	**Ipoh**	**6.86**	**357**	P	**Pn**	**02 22 14.1**	**+1.6**
IPM	**Ipoh**	**6.86**	**357**	P	**Pn**	**02 22 14.9**	**+2.5**
IPM	**Ipoh**	**6.86**	**357**	*e*Pn	**Pn**	**02 22 14.7**	**+2.2**
IPM				*e*S	**Sg**	**02 24 16.6**	**+3.6**
SKJI	**Sukabumi**	**6.86**	**132**	P	**Pn**	**02 22 13.3**	**+0.9**
KCSI	**Kotacane, Aceh**	**6.93**	**328**	P	Pn	02 22 18.9	+5.5
LEM	**Lembang**	**7.58**	**126**	P	Pn	02 22 27.6	+5.1
KULM	**Kulim**	**7.69**	**354**	P	**Pn**	**02 22 26.0**	**+2.1**
KULM	**Kulim**	**7.69**	**354**	P	**Pn**	**02 22 26.4**	**+2.5**
KULM	**Kulim**	**7.69**	**354**	*e*Pn	**Pn**	**02 22 24.9**	**+1.0**
KULM				*e*S	Sb	02 24 40.4	+23
KTGM	**Kuala Trenggan**	**7.88**	**13**	P	**Pn**	**02 22 28.0**	**+1.6**
CISI	**Cisompet, Garu**	**8.17**	**129**	P	**Pn**	**02 22 33.0**	**+2.5**
TGJI	**Tegal**	**8.86**	**120**	P	Pn	02 22 46.1	+6.1
KPJI	**Karang Pucung**	**8.94**	**123**	P	**Pn**	**02 22 44.2**	**+3.2**
SKLT	**Songkhla**	**9.55**	**355**	P	**Pn**	**02 22 50.4**	**+1.0**
SKLT	**Songkhla**	**9.55**	**355**	P	**Pn**	**02 22 51.5**	**+2.1**
	276nm,0.9s						
BJII	**Banjamegara**	**9.60**	**121**	P	**Pn**	**02 22 52.2**	**+2.1**
KSM	**Kuching**	**9.69**	**67**	Pn	Pn	02 22 56.2	+4.8
KSM				*e*S	Sn	02 25 14.3	+34
UGM	**Wanagama**	**10.59**	**121**	P	**Pn**	**02 23 06.7**	**+3.1**
UGM	**Wanagama**	**10.59**	**121**	*e*Pn	Pn	02 23 07.8	+4.2
PKDT	**Phuket**	**10.69**	**343**	P	Pn	02 23 11.5	+6.5
	253nm,0.8s						
COCO	**West Island**	**10.72**	**205**	*e*P	**Pn**	**02 23 03.2**	**-2.2**
COCO	**West Island**	**10.72**	**205**	*e*Pn	**Pn**	**02 23 03.2**	**-2.2**
NGJI	**Ngawi**	**11.15**	**117**	P	Pn	02 23 18.5	+7.2
SJI	**Sawahan**	**11.59**	**118**	P	**Pn**	**02 23 19.9**	**+2.5**
SBUM	**Sibu**	**11.83**	**66**	P	**Pn**	**02 23 21.1**	**+0.4**
SBUM	**Sibu**	**11.83**	**66**	*e*Pn	**Pn**	**02 23 20.8**	**+0.1**
CHBT	**CHBT**	**15.10**	**3**	P	**P**	**02 24 13.4**	**+3.1**
KKM	**Kota Kinabalu**	**17.00**	**60**	P	**P**	**02 24 31.4**	**-0.2**
KKM	**Kota Kinabalu**	**17.00**	**60**	*e*Pn	**Pn**	**02 24 30.6**	**+0.8**
	131nm,1.1s						
SDKM	**Sandakan**	**17.68**	**63**	P	**P**	**02 24 39.4**	**+0.4**
TSM	**Tawau**	**17.75**	**68**	P	**P**	**02 24 41.2**	**+1.5**
KDM	**Kudat**	**17.96**	**59**	P	**P**	**02 24 43.8**	**+1.7**
UBPT	**Khong Chiam**	**18.03**	**13**	P	**P**	**02 24 45.7**	**+2.8**
	902nm,1.1s						
KAPI	**Kappang**	**18.48**	**99**	P	**P**	**02 24 47.8**	**0.0**
	SNR=36						
KAPI	**Kappang**	**18.48**	**99**	Pn	**P**	**02 24 47.1**	**-0.7**
	2µm,1.3s,SNR=28						
KAPI	**Kappang**	**18.48**	**99**	P	**P**	**02 24 46.5**	**-1.3**
KAPI				*e*Pn	**Pn**	**02 24 47.4**	**-0.6**
KAPI	**Kappang**	**18.48**	**99**	P	**P**	**02 24 46.5**	**-1.3**
	1.9nm,0.3s,baz=278,slow=12,SNR=21						
MYLDM	**Lahad Datu**	**18.66**	**66**	P	**Pn**	**02 24 51.8**	**+1.6**
LOEI	**Loei**	**19.80**	**360**	P	**Pn**	**02 25 04.6**	**+0.8**
	96nm,1.3s						
CM31	**Chiang Mai Arr**	**20.88**	**353**	*e*P	Pn	02 25 16.8	+0.2
	23nm,1.0s						
CMAR	**Chiang Mai Arr**	**20.88**	**353**	P	**P**	**02 25 12.5**	**-1.5**
CMAR				PcP	**PcP**	**02 29 22.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**20.88**	**353**	P	**P**	**02 25 12.5**	**-1.5**
	3.8nm,0.8s,baz=187,slow=9.9,SNR=13						
CMAR				PcP	**PcP**	**02 29 22.0**	**-0.2**
	0.7nm,0.3s,baz=212,slow=2.8,SNR=4.7						
CHTO	**Chiang Mai**	**21.23**	**354**	*e*P	**P**	**02 25 19.2**	**+1.4**
CHTO				pmax	pmax		
	comp=Z,80nm,1.2s						
CHTO	**Chiang Mai**	**21.23**	**354**	*e*P	**P**	**02 25 19.2**	**+1.4**
	comp=Z,80nm,1.2s						
CHTO	**Chiang Mai**	**21.23**	**354**	P	**P**	**02 25 22.1**	**+4.3**
	comp=Z,1µm,2.9s						
CMAI	**Chiengmai2**	**22.33**	**354**	P	P	02 25 42.7	+13
QIZ	**Qiongzhong**	**22.86**	**21**	P	**P**	**02 25 35.4**	**+0.1**
QIZ				S	**S**	**02 29 47.5**	**+3.4**
QIZ	**Qiongzhong**	**22.86**	**21**	*e*P	**P**	**02 25 36.7**	**+1.4**
	comp=Z,50nm,1.0s						
BATI	**Baumata**	**23.41**	**110**	P	**P**	**02 25 39.9**	**-1.1**
BATI	**Baumata**	**23.41**	**110**	P	**P**	**02 25 39.9**	**-1.1**
	comp=Z,7.2nm,0.3s,baz=282,slow=9.3,SNR=2.5						
MBWA	**Marble Bar**	**25.80**	**138**	*e*P	**P**	**02 26 02.9**	**+0.1**
	comp=Z,244nm,2.3s						
KMI	**Kunming**	**27.40**	**3**	P	**P**	**02 26 21.0**	**+3.4**
KMI				pP	**pP**	**02 26 23.1**	**-0.3**
KMI				sP	**sP**	**02 26 24.3**	**-1.5**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**28.41**	**125**	*e*P	**P**	**02 26 26.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**28.41**	**125**	P	**P**	**02 26 25.0**	**-1.5**
	comp=Z,16nm,1.1s,baz=334,slow=6.4,SNR=7.2						
GYA	**Guiyang**	**29.15**	**10**	P	**P**	**02 26 35.7**	**+2.7**
GYA				PP	**PnPn**	**02 27 30.2**	**+4.3**
GYA				PcP	**PcP**	**02 29 41.5**	**+0.9**
GYA				S	**S**	**02 31 28.0**	**+3.6**
GYA				ScP	**ScP**	**02 33 22.3**	**+0.9**
GYA				ScS	**ScS**	**02 37 15.6**	**-0.2**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s						
GYA				AMB	AMB		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=Z,720nm,17.4s						
H08S2	**Diego Garcia H**	**29.26**	**259**	T	T	02 56 12.1	
	baz=82,slow=0.7,SNR=38						
H08S3	**Diego Garcia H**	**29.27**	**259**	T	T	02 56 13.8	
	baz=82,slow=0.7,SNR=14						
H08S1	**Diego Carcia H**	**29.28**	**259**	T	T	02 56 10.0	
	baz=82,slow=0.7,SNR=37						
TPUB	**Ta-pu**	**31.68**	**35**	*e*P	**P**	**02 26 56.2**	**+0.9**
	comp=Z,51nm,1.0s						
ODAN	**Odare**	**32.10**	**336**	*e*P	**P**	**02 26 59.0**	**-0.2**
	comp=Z,22nm,0.6s						
SSLB	**Suanglung**	**32.25**	**35**	*e*P	**P**	**02 27 01.0**	**+0.7**
	comp=Z,235nm,2.4s						
TAPN	**Taplejung**	**32.41**	**337**	*e*P	**P**	**02 27 02.1**	**+0.1**
	comp=Z,49nm,0.9s						
CD2	**Chengdu**	**33.21**	**4**	P	P	02 27 12.4	+3.7
CD2				AMB	AMB		
	comp=Z,20nm,0.5s						
JIRN	**Jiri**	**33.30**	**335**	*e*P	**P**	**02 27 09.6**	**-0.3**
	comp=Z,54nm,0.8s						
PKI	**Pulchoki**	**33.56**	**334**	*e*P	**P**	**02 27 12.3**	**+0.2**
GUN	**Gumba**	**33.65**	**335**	*e*P	**P**	**02 27 12.9**	**0.0**
	comp=Z,56nm,0.6s						
DMN	**Daman**	**33.73**	**333**	*e*P	**P**	**02 27 13.6**	**+0.1**
	comp=Z,34nm,0.9s						
NWAO	**Narrogin (SRO)**	**33.79**	**156**	*e*P	**P**	**02 27 14.5**	**+0.9**
	comp=Z,28nm,0.8s						
NWAO	**Narrogin (SRO)**	**33.79**	**156**	P	**P**	**02 27 14.0**	**+0.4**
	comp=Z,30nm,0.8s,baz=317,slow=8.9,SNR=21						
KKN	**Kakani**	**33.81**	**334**	*e*P	**P**	**02 27 13.8**	**-0.3**
	comp=Z,53nm,0.8s						
GKN	**Gorkha**	**34.28**	**333**	*e*P	**P**	**02 27 17.9**	**-0.2**
	comp=Z,73nm,1.0s						
H01W3	**Cape Leeuwin H**	**34.41**	**161**	T	T	03 03 36.0	
	baz=338						
H01W2	**Cape Leeuwin H**	**34.42**	**161**	T	T	03 03 44.5	
	baz=338						
H01W1	**Cape Leeuwin H**	**34.42**	**161**	T	T	03 03 39.5	
	baz=338						
KOLN	**Koldanda**	**34.56**	**331**	*e*P	**P**	**02 27 21.1**	**+0.4**
	comp=Z,86nm,0.8s						
DANN	**Dangsing**	**34.98**	**332**	*e*P	**P**	**02 27 24.2**	**-0.1**
	comp=Z,130nm,0.8s						
WHN	**Wuhan**	**35.02**	**20**	⇓P	**P**	**02 27 26.4**	**+2.1**
WRA	**Warramunga Arr**	**36.57**	**121**	P	**P**	**02 27 36.2**	**-1.6**
WRA				PcP	**PcP**	**02 30 00.1**	**-1.1**
WRA				ScP	**ScP**	**02 33 48.6**	**+1.5**
WRA	**Warramunga Arr**	**36.57**	**121**	P	**P**	**02 27 36.2**	**-1.6**
	comp=Z,4.0nm,0.9s,baz=296,slow=9.4,SNR=4.9						
WRA				PcP	**PcP**	**02 30 00.1**	**-1.1**
	comp=Z,3.3nm,0.9s,baz=310,slow=5.4,SNR=5.6						
WRA				ScP	**ScP**	**02 33 48.6**	**+1.5**
	comp=Z,0.4nm,0.4s,baz=301,slow=3.2,SNR=4.5						
WRAB	**Tennant Creek**	**36.57**	**121**	*e*P	**P**	**02 27 36.5**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,14nm,1.0s						
WRAB	**Tennant Creek**	**36.57**	**121**	P	**P**	**02 27 37.8**	**-0.1**
	comp=Z,76nm,1.0s,SNR=6.0						
WRAB	**Tennant Creek**	**36.57**	**121**	*e*P	**P**	**02 27 36.5**	**-1.4**
	comp=Z,14nm,1.0s						
FORT	**Forrest**	**37.83**	**141**	*e*P	**P**	**02 27 48.6**	**+0.3**
	comp=Z,36nm,0.9s						
AS31	**Alice Springs**	**37.87**	**127**	*e*P	**P**	**02 27 48.5**	**-0.4**
ASAR	**Alice Springs**	**37.87**	**127**	P	**P**	**02 27 46.7**	**-2.2**
ASAR				PcP	**PcP**	**02 30 03.5**	**-1.6**
ASAR				ScP	**ScP**	**02 33 53.3**	**+1.3**
ASAR	**Alice Springs**	**37.87**	**127**	P	**P**	**02 27 46.7**	**-2.2**
	comp=Z,7.7nm,0.7s,baz=300,slow=7.1,SNR=56						
ASAR				PcP	**PcP**	**02 30 03.5**	**-1.6**
	comp=Z,6.1nm,0.9s,baz=298,slow=2.6,SNR=9.8						
ASAR				ScP	**ScP**	**02 33 53.3**	**+1.3**
	comp=Z,3.4nm,0.9s,baz=294,slow=3.3,SNR=9.5						
NJ2	**Nanjing**	**38.06**	**24**	*e*P	**P**	**02 27 51.9**	**+1.6**
LZH	**Lanzhou**	**38.37**	**3**	*e*P	**P**	**02 27 55.8**	**+2.8**
LZH				pP	**pP**	**02 27 59.6**	**+0.7**
LZH				sP	**sP**	**02 28 02.2**	**+0.9**
LZH				AMB	AMB		
	comp=Z,13nm,1.0s						
GTA	**Gaotai**	**41.65**	**358**	*e*P	**P**	**02 28 22.9**	**+2.8**
GTA				pP	**pP**	**02 28 27.2**	**+1.1**
GTA				sP	**sP**	**02 28 30.4**	**+2.0**
GTA				S	**S**	**02 34 40.5**	**+4.6**
GTA				sS	**sS**	**02 34 48.1**	**+2.4**
GTA				SS	**SS**	**02 37 40.5**	**-1.1**
GTA				AMB	AMB		
	comp=Z,12nm,1.0s						

AAK Ala-Archa 51.01 335 ceP P 02 29 33.0 -0.8
AAK pmax pmax
comp=Z,63nm,2.5s
AAK Ala-Archa 51.01 335 P P 02 29 34.8 +1.1
SNR=7.9
AAK Ala-Archa 51.01 335 eP P 02 29 33.0 -0.8
comp=Z,69nm,2.2s
AAK PcP PcP 02 30 50.2 +0.4
AAK Ala-Archa 51.01 335 P P 02 29 32.6 -1.1
comp=Z,3.8nm,0.7s,baz=155,slow=7.9,SNR=12
AAK PcP PcP 02 30 50.2 +0.4
comp=Z,5.7nm,0.7s,baz=182,slow=4.2,SNR=4.7
FRU Bishkek 51.12 335 eP P 02 29 34.0 -0.4
EKS2 Erkin-Say 51.34 334 eP P 02 29 36.1 -0.1
EKS2 Erkin-Say 51.34 334 eP P 02 29 36.0 -0.1
MK31 Makanchi Array 51.82 343 ceP P 02 29 37.9 -1.7
MK31 pmax pmax
comp=Z,5.0nm,0.8s
MKAR Makanchi Array 51.82 343 P P 02 29 38.3 -1.2
MKAR Makanchi Array 51.82 343 P P 02 29 38.3 -1.2
MKAR Makanchi Array 51.82 343 P P 02 29 38.3 -1.2
comp=Z,6.3nm,0.9s,baz=146,slow=7.4,SNR=23
IDAH Dahanechah 52.58 315 eP P 02 29 46.2 +0.4
ZAK Zakamensk 52.62 2 eP P 02 29 44.3 -1.2
ZAK pmax pmax
comp=Z,3.0nm,1.4s
MDJ Mudanjiang 53.15 25 P P 02 29 50.4 +1.0
MDJ AMB AMB
comp=Z,4.0nm,0.8s
KK31 Karatay Array 53.17 332 ceP P 02 29 48.5 -1.2
KK31 pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 53.17 332 eP P 02 29 49.2 -0.5
KKAR pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 53.17 332 eP P 02 29 49.2 -0.5
comp=Z,2.3nm,0.6s
USRK Ussuriysk Arra 53.87 27 P P 02 29 54.0 -0.7
comp=Z,18nm,0.8s,baz=224,slow=6.8,SNR=24
ARMA Armidale 55.02 126 eP P 02 30 04.8 +1.3
IBAF Bafgh 55.10 312 eP P 02 30 03.6 -0.5
OPO Ambohidratompo 55.44 249 P P 02 30 07.6 +0.8
OPO Ambohidratompo 55.44 249 P P 02 30 07.6 +0.8
comp=Z,3.5nm,0.8s,baz=44,slow=8.6,SNR=2.3
IMEH Mehriz 55.72 311 eP P 02 30 07.7 -1.0
IKRD Kardeh 55.76 319 eP P 02 30 04.4 -4.5
IEMG Emamgholi 56.03 319 eP P 02 30 10.3 -0.6
IPAR Pars 56.22 309 eP P 02 30 13.0 +0.6
KURBB Kurchatov Arra 56.35 343 P P 02 30 11.1 -1.5
comp=Z,4.4nm,0.9s,baz=160,slow=6.8,SNR=28
KURBB PcP PcP 02 31 08.7 -0.9
comp=Z,3.8nm,0.7s,baz=152,slow=3.4,SNR=6.9
KURK Kurchatov 56.41 343 P P 02 30 11.6 -1.3
comp=Z,34nm,0.7s,SNR=8.9
KURK Kurchatov 56.41 343 ceP P 02 30 10.8 -2.1
KURK pmax pmax
comp=Z,6.0nm,0.8s
KURK Kurchatov 56.41 343 eP P 02 30 11.8 -1.1
comp=Z,6.2nm,0.9s
KURK PcP PcP 02 31 08.7 -1.1
ISAD Sadrabad 56.66 311 eP P 02 30 14.0 -1.5
IKAZ Kazeroun 57.14 308 eP P 02 30 19.5 +0.5
KLR Kul'dur 57.74 23 eP P 02 30 17.9 -4.5
ZAA0 Zalesovo Array 57.84 348 eP P 02 30 20.8 -2.2
ZALV Zalesovo Beam 57.84 348 P P 02 30 21.1 -1.9
ZALV 02 31 14.1
ZALV Zalesovo Beam 57.84 348 P P 02 30 21.1 -1.9
ZALV PcP PcP 02 31 14.1 -1.3
ZALV Zalesovo Beam 57.84 348 P P 02 30 21.1 -1.9
comp=Z,15nm,0.8s,baz=164,slow=5.4,SNR=32
ZALV PcP PcP 02 31 14.1 -1.3
comp=Z,6.7nm,0.7s,baz=174,slow=5.6,SNR=2.1
IZEF Zefreh 58.13 312 eP P 02 30 24.8 -1.0
IKIA Kiasar 58.74 316 eP P 02 30 29.8 -0.2
ISHM Shahmirzad 58.82 315 eP P 02 30 29.7 -0.9
ILAS Lasjerd 58.85 314 eP P 02 30 30.1 -0.6
ISFB Sefidab 58.87 313 eP P 02 30 30.8 0.0
IFIR Firoozkooh 59.12 315 eP P 02 30 32.0 -0.7
IPIR Pirpir 59.12 311 eP P 02 30 32.6 -0.2
IALA Alasht 59.29 315 eP P 02 30 33.9 0.0
IVRN Varamin 59.55 313 eP P 02 30 35.4 0.0
IDMV Damavand 59.60 314 eP P 02 30 35.7 -0.3
IPRN Peran 59.70 315 eP P 02 30 36.1 -0.4
RAYN Ar Rayn 60.17 299 P P 02 30 40.5 +0.6
comp=Z,80nm,1.2s,SNR=5.7
RDF Al-Radifah 60.24 305 eP P 02 30 39.4 -0.8
RDF AMb AMB 02 30 43.0
comp=Z,145nm,1.3s
NAY Al-Naaiem 60.61 306 eP P 02 30 42.2 -0.5
NAY AMb AMB 02 30 45.3
comp=Z,44nm,1.1s
IMHD Mahdasht 60.63 314 eP P 02 30 43.4 +0.5
RST Umm Al-Ruwaisa 60.90 306 eP P 02 30 44.4 -0.3
RST AMb AMB 02 30 47.5
comp=Z,487nm,1.0s
IRAZ Razeghan 61.04 313 eP P 02 30 46.3 +0.5
BVAR Borovoye Array 61.06 339 P P 02 30 43.4 -1.9
BVAR Borovoye Array 61.06 339 P P 02 30 43.4 -1.9
BVAR Borovoye Array 61.06 339 P P 02 30 43.4 -1.9
comp=Z,5.8nm,0.8s,baz=141,slow=9.6,SNR=22
YSS Yuzh-Sakhalins 61.09 31 eP P 02 30 44.5 -1.1
BRVK Borovoye 61.13 339 ceP P 02 30 43.4 -2.3
BRVK pmax pmax
comp=Z,33nm,2.5s
AB31 Akbulak array 62.68 331 iP P 02 30 54.0 -2.3
AB31 pmax pmax
comp=Z,26nm,0.9s
ABKAR Akbulak array 62.68 331 eP P 02 30 54.9 -1.3
comp=Z,21nm,0.9s
IGHG Ghaleghazi 63.09 311 eP P 02 30 58.8 -0.8
IDHR Dehrash 63.38 311 eP P 02 31 00.0 -1.5
CASY Casey 64.07 176 eP P 02 31 06.9 +1.8
comp=Z,16nm,1.0s
KMBO Kilima Mbogo 64.14 270 P P 02 31 07.4 +0.5
KMBO Kilima Mbogo 64.14 270 P P 02 31 07.4 +0.5
comp=Z,5.6nm,0.9s,baz=49,slow=9.8,SNR=14
AKTO Aktyubinsk 64.40 331 iP P 02 31 05.8 -1.8
AKTO pmax pmax
comp=Z,104nm,2.6s
AKTO Aktyubinsk 64.40 331 P P 02 31 05.7 -1.9
AKTO Aktyubinsk 64.40 331 P P 02 31 05.7 -1.9
comp=Z,9.0nm,1.0s,baz=138,slow=7.8,SNR=22
IHRS Heris 64.41 315 eP P 02 31 07.2 -1.0
HAKT HAKKARI 66.50 313 iP P 02 31 22.3 +0.5
GNI Garni 66.80 316 P P 02 31 25.2 +1.6
SNR=9.4
GNI Garni 66.80 316 eP P 02 31 24.1 +0.5
comp=Z,65nm,1.4s
GNI Garni 66.80 316 P P 02 31 23.2 -0.4
comp=Z,19nm,1.1s,baz=152,slow=4.7,SNR=9.9
SVE Sverdlovsk 67.61 337⇑eP P 02 31 27.6 -0.5
SVE pmax pmax
comp=Z,36nm,1.1s
YAK Yakutsk 67.79 14 eP P 02 31 26.9 -2.2
YAK pmax pmax
comp=Z,29nm,1.0s
YAK pmax pmax
comp=N,12nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.0s
ARU Arti 68.15 336 diP P 02 31 28.1 -3.4
ARU S S 02 40 28.3 -2.3
ARU pmax pmax
comp=Z,16nm,1.2s
EKAR Karacoban 68.34 314 iP P 02 31 35.3 +1.9
ZEI Tsey 68.49 318 eP P 02 31 34.0 -0.2
ZEI pmax pmax
comp=Z,21nm,1.0s
EPOS Posof 68.75 316 iP P 02 31 30.9 -5.0
DAGI Agillar 69.15 316 iP P 02 31 35.6 -2.6
ARTV Artvin 69.18 316 iP P 02 31 40.4 +1.8
DBAD Bademkaya 69.28 316 iP P 02 31 39.7 +0.7
KBZ Khabaz 69.55 319 P P 02 31 40.2 -0.3
KBZ Khabaz 69.55 319 P P 02 31 40.1 -0.3
KBZ Khabaz 69.55 319 P P 02 31 40.1 -0.3
comp=Z,13nm,0.9s,baz=121,slow=5.4,SNR=15
KIV Kislovodsk 69.78 319 eP P 02 31 41.8 -0.3
KIV pmax pmax
comp=Z,30nm,1.0s
GOF Gofitskoye 70.01 320 eP P 02 31 43.5 +0.2
MAW Mawson 70.24 195 P P 02 31 43.7 -0.5
MAW Mawson 70.24 195 P P 02 31 43.7 -0.5
comp=Z,13nm,1.0s,baz=307,slow=5.1,SNR=10
MALT Malatya 70.66 312 ⇑P P 02 31 49.3 +1.7

MALT Malatya 70.66 312⇑iP P 02 31 49.3 +1.7
KELT Kelkit 70.68 314 iP P 02 31 47.5 -0.4
KEMA Kemaliye 70.93 313 iP P 02 31 50.0 +0.8
GZT Gaziantep 71.00 311 iP P 02 31 51.0 +1.3
SUSE Susehri 71.46 314 iP P 02 31 54.6 +2.1
ANDN Andirin 71.99 311 iP P 02 31 57.0 +1.3
PETK Petropavlovsk- 72.48 32 P P 02 31 56.7 -1.4
PETK Petropavlovsk- 72.48 32 P P 02 31 56.7 -1.4
PETK Petropavlovsk- 72.48 32 P P 02 31 56.7 -1.4
comp=Z,4.1nm,0.7s,baz=211,slow=4.9,SNR=5.5
GULE Gulek 73.10 310 iP P 02 32 02.9 +0.5
LSZ Lusaka 73.19 255 eP P 02 32 04.9 +1.7
comp=Z,14nm,1.4s
VRHR Novokhopersk 73.47 325 eP P 02 32 03.0 -1.0
VRHR pmax pmax
comp=Z,50nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,30nm,1.2s
CSS Prodhromos 73.59 307 eP P 02 32 05.7 +0.5
comp=E,47nm,1.1s
BR131 Keskin Array S 74.64 312 eP P 02 32 10.6 -0.7
comp=E,7.0nm,0.6s
BRTR Keskin Array B 74.64 312 P P 02 32 10.7 -0.7
BRTR Keskin Array B 74.64 312 P P 02 32 10.7 -0.7
comp=E,6.8nm,0.8s,baz=132,slow=6.8,SNR=26
VORD Divnogorie 74.75 325 eP P 02 32 09.0 -2.5
VORD pmax pmax
comp=Z,10.0nm,1.1s
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.5s
VSR Storozhevoye 74.92 325 eP P 02 32 11.4 -1.1
VSR pmax pmax
comp=E,30nm,1.2s
VSR pmax pmax
comp=Z,40nm,1.2s
VSR pmax pmax
comp=N,10.0nm,1.1s
ANTO Ankara 75.31 312 ⇑P P 02 32 15.9 +0.8
ANTO Ankara 75.31 312 P P 02 32 16.3 +1.2
SNR=5.2
ANTO Ankara 75.31 312⇑iP P 02 32 15.9 +0.8
SEY Seymchan 75.48 22 iP P 02 32 15.0 -0.5
TIXI Tiksi 76.05 9 iP P 02 32 17.5 -1.0
TIXI pmax pmax
comp=Z,26nm,1.5s
SEYT Eskypehyr 76.67 311 iP P 02 32 22.7 -0.2
BOSA Boshof 76.70 241 P P 02 32 24.6 +1.2
BOSA Boshof 76.70 241 P P 02 32 24.6 +1.2
comp=Z,8.0nm,0.8s,baz=78,slow=6.6,SNR=7.9
GOLH Golhisar 77.11 309 iP P 02 32 23.8 -1.6
MOS Moscow 77.58 329 eP P 02 32 24.6 -2.9
MOS e 02 35 22.6
MOS pmax pmax
comp=Z,66nm,0.9s
OBN Obninsk 77.89 328⇑iP P 02 32 28.6 -0.6
OBN e 02 35 24.9
OBN iS S 02 42 18.2 -3.1
OBN pmax pmax
comp=Z,49nm,1.3s
SYO Syowa Base 77.94 199⇑eP P 02 32 30.4 +1.2
SYO Syowa Base 77.94 199⇓epP pP 02 32 30.4 -1.5
KLMR Klimovskoe 78.82 334 eP P 02 32 32.5 -1.7
KLMR pmax pmax
comp=Z,64nm,1.9s
BALY Balya 79.14 311 iP P 02 32 36.9 +0.3
CFR Carcaliu 79.99 317 ⇑P P 02 32 41.2 +0.2
CFR Carcaliu 79.99 317⇑iP P 02 32 41.2 +0.2
LEOM Leova 80.23 318 ⇑P P 02 32 42.4 +0.2
LEOM Leova 80.23 318⇑iP P 02 32 42.4 +0.2
AKASG Malin Array Be 80.67 322 P P 02 32 43.6 -0.9
AKASG 02 35 47.5
AKASG Malin Array Be 80.67 322 P P 02 32 43.6 -0.9
AKASG PP PP 02 35 47.5 -1.0
AKASG Malin Array Be 80.67 322 P P 02 32 43.6 -0.9
comp=Z,3.7nm,0.8s,baz=85,slow=5.0,SNR=21
AKASG PP PP 02 35 47.5 -1.0
comp=Z,1.1nm,0.7s,baz=93,slow=7.0,SNR=7.5
VRI Vrincioaia 81.11 317 ⇑P P 02 32 48.0 +1.0
VRI Vrincioaia 81.11 317⇑iP P 02 32 48.0 +1.0
PLOR Plostina 81.17 317 ⇑P P 02 32 47.9 +0.6
PLOR Plostina 81.17 317⇑iP P 02 32 47.9 +0.6
TESR Tescani 81.31 318⇑iP P 02 32 48.5 +0.4
VNDA Vanda 81.49 169 P P 02 32 48.3 -0.1
VNDA Vanda 81.49 169 P P 02 32 48.3 -0.1
comp=Z,7.7nm,1.1s,baz=301,slow=6.0,SNR=9.6
VOIR 82.18 316 ⇑P P 02 32 52.3 -0.4
VOIR 82.18 316⇑iP P 02 32 52.3 -0.4
ARR Arges 82.45 316⇑iP P 02 32 53.9 -0.3
BURAR Bucovina Array 82.50 318 ⇑P P 02 32 55.5 +1.1
BURAR Bucovina Array 82.50 318⇑iP P 02 32 55.5 +1.1
BUR08 Bucovina Ar. S 82.52 319 eP P 02 32 55.2 +0.7
SBA Scott Base 82.58 169 eP P 02 32 55.3 +1.2
SBA pmax pmax
comp=Z,16nm,1.1s
SBA Scott Base 82.58 169 eP P 02 32 55.3 +1.2
comp=Z,16nm,1.1s
VTS Vitosha 82.96 313 ⇑P P 02 32 56.9 -0.1
VTS Vitosha 82.96 313⇑iP P 02 32 56.9 -0.1
ARCR ARCALIA 82.97 318⇑iP P 02 32 57.7 +0.9
LOT Lotru 83.06 316⇑iP P 02 32 57.5 +0.1
JOF Joensuu 83.20 334 eP P 02 32 57.6 +0.1
JOF Joensuu 83.20 334 ep P 02 32 57.6 +0.1
VAY Valandovo 83.22 312 eP P 02 32 56.5 -1.6
IIGN Ignalina 83.60 326 eP P 02 32 59.6 -0.2
IIGN AMB AMB 02 33 01.3
comp=Z,12nm,1.3s
ISAL Salakas 83.70 326 eP P 02 33 00.1 -0.1
ISAL AMB AMB 02 33 02.2
comp=Z,12nm,1.1s
LVV L'vov 83.71 321 eP P 02 33 00.5 0.0
GZR Gura Zlata 83.74 316 ⇑P P 02 33 01.9 +1.1
GZR Gura Zlata 83.74 316⇑iP P 02 33 01.9 +1.1
BIA Bitola 84.10 311 eP P 02 33 01.7 -1.1
TRPA Tarpa 84.37 319⇑iP P 02 33 04.4 +0.5
KWP Kalwaria Pacla 84.52 320 eP P 02 33 03.8 -0.9
KWP pmax pmax
comp=Z,30nm,1.2s
KWP Kalwaria Pacla 84.52 320⇑iP P 02 33 04.0 -0.7
KWP Kalwaria Pacla 84.52 320 eP P 02 33 03.8 -0.9
comp=Z,30nm,1.2s
KWP Kalwaria Pacla 84.52 320 eP P 02 33 03.8 -0.9
BZS Buzias 84.58 316 ⇑P P 02 33 04.7 -0.3
BZS Buzias 84.58 316⇑iP P 02 33 04.7 -0.3
UZH Uzhgorod 84.62 319 eP P 02 33 03.7 -1.4
SIRR Siria 84.66 317⇑iP P 02 33 06.0 +0.6
KOLS Kolonicke sedl 84.68 319 eP P 02 33 06.4 +0.9
KOLS pmax pmax
comp=Z,40nm,1.1s
KOLS Kolonicke sedl 84.68 319 eP P 02 33 06.4 +0.9
SUW Suwalki 85.04 325 eP P 02 33 05.7 -1.4
SUW pmax pmax
comp=Z,104nm,1.2s
SUW Suwalki 85.04 325 eP P 02 33 05.7 -1.4
comp=Z,104nm,1.2s
SUW Suwalki 85.04 325 eP P 02 33 06.3 -0.8
FINES FINESS Array B 85.13 332 P P 02 33 06.8 -0.6
FINES FINESS Array B 85.13 332 P P 02 33 06.8 -0.6
comp=Z,6.2nm,0.8s,baz=117,slow=3.5,SNR=13
KAF Kangasniemi 85.19 333 eP P 02 33 07.2 -0.5
KAF Kangasniemi 85.19 333 ep P 02 33 07.2 -0.5
CRVS Cervenica-Dubn 85.20 319 eP P 02 33 10.2 +2.1
CRVS pmax pmax
comp=Z,27nm,1.6s
CRVS Cervenica-Dubn 85.20 319 eP P 02 33 10.2 +2.1
KECS Kecovo 85.78 319 eP P 02 33 11.2 +0.2
KECS pmax pmax
comp=Z,7.0nm,1.4s
KECS Kecovo 85.78 319 eP P 02 33 11.2 +0.2
PSZ Piszkesteto 86.09 318 eP P 02 33 12.9 +0.3
PSZ pmax pmax
comp=Z,22nm,1.4s
PSZ Piszkesteto 86.09 318⇑iP P 02 33 13.1 +0.5
PSZ Piszkesteto 86.09 318 eP P 02 33 12.9 +0.3
comp=Z,22nm,1.4s
AFI Afiamalu 86.33 104 PFAKE 02 33 30.0 +16
AFI LR LR
comp=Z,9μm,20.0s
ARCES ARCESS Array B 87.34 340 P P 02 33 17.7 -0.4
ARCES ARCESS Array B 87.34 340 P P 02 33 17.7 -0.4

comp=Z,14nm,1.1s,baz=97,slow=6.2,SNR=15
OKC Ostrava-Krasne 87.48 320 eP P 02 33 19.7 +0.5
OKC Ostrava-Krasne 87.48 320 eP P 02 33 19.7 +0.5
QSPA South Pole Qui 87.55 180 eP P 02 33 19.9 +0.4
comp=Z,42nm,1.3s
QSPA South Pole Qui 87.55 180 P P 02 33 19.5 +0.1
comp=Z,17nm,1.0s,baz=305,slow=2.4,SNR=50
SMOL Smolenice 87.80 319 eP P 02 33 21.7 +0.9
SMOL Smolenice 87.80 319 eP P 02 33 21.7 +0.9
MORC Moravsky Berou 87.86 320 eP P 02 33 21.3 +0.1
MORC pmax pmax
comp=Z,19nm,1.4s
MORC Moravsky Berou 87.86 320⇑iP P 02 33 21.9 +0.7
MORC Moravsky Berou 87.86 320 eP P 02 33 21.3 +0.1
comp=Z,19nm,1.4s
CEL Celeste 87.96 308 eP P 02 33 22.7 +0.8
comp=Z,58nm,1.3s
CUC Castrocucco 88.16 310 eP P 02 33 22.6 -0.2
comp=Z,23nm,1.3s
KRLC Kraliky 88.38 320 eP P 02 33 24.2 +0.6
KRLC Kraliky 88.38 320 eP P 02 33 24.2 +0.6
DPC Dobruska-Polom 88.70 320 eP P 02 33 26.0 +0.9
DPC Dobruska-Polom 88.70 320 eP P 02 33 26.0 +0.9
KSP Ksiaz 88.77 321 eP P 02 33 25.8 +0.5
KSP Ksiaz 88.77 321 eP P 02 33 27.1 +1.8
UPC Upice 88.91 320 eP P 02 33 24.9 -1.2
UPC Upice 88.91 320 eP P 02 33 24.9 -1.2
UPC epP PcP 02 33 27.3 -0.3
ARSA Arzberg 88.96 317 iPcP P 02 33 26.8 +0.5
comp=Z,18nm,1.6s,SNR=8.0
BOJS Bojanci 89.01 315 iP P 02 33 27.1 +0.5
TREC Trest 89.15 319 eP P 02 33 27.0 -0.2
TREC Trest 89.15 319 eP P 02 33 27.0 -0.2
PERS Pernice 89.19 317 iP P 02 33 28.1 +0.6
SOKA Soboth 89.25 317 iPcP P 02 33 28.5 +0.7
comp=Z,24nm,1.2s,SNR=20
LJU Ljubljana 89.55 316 iP P 02 33 30.0 +0.8
PRU Pruhonice 89.81 320 eP P 02 33 30.8 +0.5
PRU Pruhonice 89.81 320 eP P 02 33 30.8 +0.5
PVCC Panska Ves 89.83 320 eP P 02 33 31.4 +1.0
PVCC Panska Ves 89.83 320 eP P 02 33 31.4 +1.0
JAVS Javornik 89.87 316 iP P 02 33 31.2 +0.5
PRA Prague 89.89 320 P P 02 33 31.0 +0.4
BRG Berggiesshubel 90.25 321 iP P 02 33 32.9 +0.6
comp=Z,28nm,1.6s
BRG Berggiesshubel 90.25 321 iP P 02 33 32.9 +0.6
BRG pmax pmax
comp=Z,28nm,1.6s
GERES GERESS Array B 90.29 319 P P 02 33 32.8 +0.1
GERES PP PP 02 37 06.8 +0.1
GERES GERESS Array B 90.29 319 P P 02 33 32.8 +0.1
comp=Z,4.1nm,1.1s,baz=101,slow=4.2,SNR=26
GERES PP PP 02 37 06.8 +0.1
comp=Z,1.0nm,0.9s,baz=82,slow=7.0,SNR=4.6
KHC Kasperske Hory 90.39 319 eP P 02 33 33.2 +0.2
KHC Kasperske Hory 90.39 319 eP P 02 33 33.2 +0.2
KHC epP pP 02 33 37.9 -1.5
RUE Ruedersdorf 90.45 322 eP P 02 33 34.4 +1.2
comp=Z,14nm,0.5s
CLL Collm 90.87 321 iP P 02 33 34.9 -0.3
CLL pmax pmax
comp=Z,26nm,1.7s
CLL Collm 90.87 321 iP P 02 33 34.9 -0.3
comp=Z,26nm,1.7s
SNAA Sanae 92.19 198 eP P 02 33 43.0 +2.0
comp=Z,11nm,1.1s
NB2 NORSAR Subarra 92.19 331 P P 02 33 39.5 -1.6
comp=Z,7.3nm,1.1s,baz=92,slow=4.8
NOA NORSAR Array B 92.19 331 P P 02 33 40.4 -0.8
NOA NORSAR Array B 92.19 331 P P 02 33 40.4 -0.8
comp=Z,2.9nm,0.9s,baz=93,slow=4.7,SNR=5.1
DAVOX Davos/Dischmat 92.80 317 P P 02 33 44.5 0.0
DAVOX Davos/Dischmat 92.80 317 P P 02 33 44.4 0.0
comp=Z,5.4nm,0.9s,baz=208,slow=4.3
KEST Kesra 93.08 305 eP P 02 33 47.7 +1.8
KEST Kesra 93.08 305 P P 02 33 47.2 +1.3
comp=Z,3.9nm,1.0s,baz=132,slow=5.0,SNR=7.3
PGF Pioggiola 93.40 312 eP P 02 33 47.4 +0.2
comp=Z,24nm,1.3s
PGF Pioggiola 93.40 312 eP P 02 33 47.4 +0.2
PGF pmax pmax
comp=Z,24nm,1.3s
PGF Pioggiola 93.40 312 eP P 02 33 47.4 +0.2
comp=Z,24nm,1.3s
SBF Sospel 94.53 314 eP P 02 33 52.1 -0.3
SBF Sospel 94.53 314 eP P 02 33 52.1 -0.3
SBF Sospel 94.53 314 eP P 02 33 52.1 -0.3
CDF Champ du Feu 94.54 318 eP P 02 33 51.8 -0.5
comp=Z,12nm,1.3s
CDF Champ du Feu 94.54 318 eP P 02 33 51.8 -0.5
CDF pmax pmax
comp=Z,12nm,1.3s
CDF Champ du Feu 94.54 318 eP P 02 33 51.8 -0.5
comp=Z,12nm,1.3s
LPG La Plagne 94.98 315 eP P 02 33 54.4 -0.3
comp=Z,9.2nm,1.0s
LPG La Plagne 94.98 315 eP P 02 33 54.4 -0.3
LPG pmax pmax
comp=Z,9.0nm,1.0s
LPG La Plagne 94.98 315 eP P 02 33 54.4 -0.3
comp=Z,9.2nm,1.0s
LPL La Plagne 95.00 315 eP P 02 33 54.4 -0.2
comp=Z,14nm,1.1s
LPL La Plagne 95.00 315 eP P 02 33 54.4 -0.2
LPL pmax pmax
comp=Z,14nm,1.1s
LPL La Plagne 95.00 315 eP P 02 33 54.4 -0.2
comp=Z,14nm,1.1s
FRF La Foret Royal 95.11 313 eP P 02 33 54.8 -0.1
comp=Z,32nm,1.4s
FRF La Foret Royal 95.11 313 eP P 02 33 54.8 -0.1
FRF pmax pmax
comp=Z,32nm,1.4s
FRF La Foret Royal 95.11 313 eP P 02 33 54.8 -0.1
comp=Z,32nm,1.4s
HAU Haudompre 95.18 318 eP P 02 33 54.7 -0.5
HAU Haudompre 95.18 318 eP P 02 33 54.7 -0.5
HAU Haudompre 95.18 318 eP P 02 33 54.7 -0.5
LMR La Mourre 95.22 313 eP P 02 33 55.4 0.0
comp=Z,13nm,1.3s
LMR La Mourre 95.22 313 eP P 02 33 55.4 0.0
LMR pmax pmax
comp=Z,13nm,1.3s
LMR La Mourre 95.22 313 eP P 02 33 55.4 0.0
comp=Z,13nm,1.3s
CABF La Chapelle 95.41 316 eP P 02 33 56.2 -0.1
CABF La Chapelle 95.41 316 eP P 02 33 56.2 -0.1
CABF La Chapelle 95.41 316 eP P 02 33 56.2 -0.1
SMRF Simiane la Rot 95.87 314 eP P 02 33 58.9 +0.4
comp=Z,20nm,1.4s
SMRF Simiane la Rot 95.87 314 eP P 02 33 58.9 +0.4
comp=Z,20nm,1.4s
SFTF Sexfontaines 96.05 318 eP P 02 33 58.6 -0.5
comp=Z,36nm,1.2s
SFTF Sexfontaines 96.05 318 eP P 02 33 58.6 -0.5
comp=Z,36nm,1.2s
BAIF Baives 96.47 320 eP P 02 34 00.9 -0.1
comp=Z,53nm,1.5s
BAIF Baives 96.47 320 eP P 02 34 00.9 -0.1
BAIF pmax pmax
comp=Z,53nm,1.5s
BAIF Baives 96.47 320 eP P 02 34 00.9 -0.1
comp=Z,53nm,1.5s
LOR Lormes 96.90 317 eP P 02 34 02.6 -0.4
LOR Lormes 96.90 317 eP P 02 34 02.6 -0.4
SMF Signal de Mont 96.95 317 eP P 02 34 02.8 -0.4
comp=Z,12nm,1.1s
SMF Signal de Mont 96.95 317 eP P 02 34 02.8 -0.4
SMF pmax pmax
comp=Z,13nm,1.1s
SMF Signal de Mont 96.95 317 eP P 02 34 02.8 -0.4
comp=Z,12nm,1.1s
AVF Avril sur Loir 97.28 317 eP P 02 34 04.1 -0.6
AVF Avril sur Loir 97.28 317 eP P 02 34 04.1 -0.6
AVF Avril sur Loir 97.28 317 eP P 02 34 04.1 -0.6
IMA2 Indian Mountai 98.22 23 eP Pdif 02 34 09.1 +0.4
MTLF Montolieu 98.34 313 eP Pdif 02 34 09.6 0.0
comp=Z,16nm,1.5s
MTLF Montolieu 98.34 313 eP Pdif 02 34 09.6 0.0
MTLF pmax pmax
comp=Z,16nm,1.5s
MTLF Montolieu 98.34 313 eP Pdif 02 34 09.6 0.0
comp=Z,16nm,1.5s
TORD Torodi Ar. Bea 100.01 283 P Pdif 02 34 17.6 0.0
TORD Torodi Ar. Bea 100.01 283 P Pdif 02 34 17.6 0.0

comp=Z,1.9nm,1.0s,baz=101,slow=4.6,SNR=8.3

ILAR	**Eielson Array**	**101.31**	**24**	PKKPbc	PKKPbc	02 50 32.1	-2.1
ILAR	**Eielson Array**	**101.31**	**24**	PKKPbc	PKKPbc	02 50 32.1	-2.1
	comp=Z,0.8nm,0.7s,baz=126,slow=2.3,SNR=7.9						
ESDC	**Sonseca Array**	**103.36**	**310**	PP	PP	02 38 48.7	+1.0
ESDC	**Sonseca Array**	**103.36**	**310**	PP	PP	02 38 48.7	+1.0
	comp=Z,0.4nm,0.7s,baz=82,slow=9.2,SNR=4.2						
YBH	**Yreka Blue Hor**	**124.37**	**39**	PKP	**PKPdf**	**02 39 30.1**	**-1.0**
YBH	**Yreka Blue Hor**	**124.37**	**39**	PKP	**PKPdf**	**02 39 30.1**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=272,slow=1.6,SNR=7.5						
NVAR	**Mina Array Bea**	**129.01**	**40**	PKP	**PKPdf**	**02 39 39.8**	**-0.4**
NVAR	**Mina Array Bea**	**129.01**	**40**	PKP	**PKPdf**	**02 39 39.8**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=232,slow=2.2,SNR=5.9						
PDAR	**Pinedale Array**	**131.24**	**30**	PKPpre	PKPpre	02 39 41.0	
PDAR				SKPbc	**SKPbc**	**02 43 05.1**	**-3.2**
PDAR	**Pinedale Array**	**131.24**	**30**	PKhKP	PKPpre	02 39 41.0	
	comp=Z,1.2nm,1.1s,baz=358,slow=2.2,SNR=6.4						
PDAR				SKPbc	**SKPbc**	**02 43 05.1**	**-3.2**
	comp=Z,2.1nm,0.9s,baz=1.6,slow=0.9,SNR=9.5						
PLCA	**Paso Flores**	**136.44**	**189**	PKP	**PKPdf**	**02 39 54.3**	**+0.3**
PLCA	**Paso Flores**	**136.44**	**189**	PKP	**PKPdf**	**02 39 54.3**	**+0.3**
	comp=Z,7.7nm,1.2s,baz=117,slow=2.2,SNR=3.4						
TXAR	**Lajitas Array**	**144.15**	**39**	PKP	**PKPab**	**02 40 05.8**	**-0.1**
TXAR				SKPbc	**SKPbc**	**02 43 46.2**	**-0.2**
TXAR	**Lajitas Array**	**144.15**	**39**	PKP	**PKPab**	**02 40 05.8**	**-0.1**
	comp=Z,4.5nm,0.6s						
TXAR				SKPbc	**SKPbc**	**02 43 46.2**	**-0.2**
CFAA	**Coronel Fontan**	**144.77**	**195**	PKP	PKPbc	02 40 08.3	+0.2
CFAA	**Coronel Fontan**	**144.77**	**195**	PKP	PKPbc	02 40 08.3	+0.2
	comp=Z,5.0nm,0.6s,baz=167,slow=3.4,SNR=30						
CPUP	**Villa Florida**	**144.80**	**214**	PKP	**PKPdf**	**02 40 08.9**	**-0.4**
CPUP				*e*PKPdf	PKPbc	02 40 09.2	+0.9
CPUP	**Villa Florida**	**144.80**	**214**	PKP	**PKPdf**	**02 40 08.9**	**-0.4**
	comp=Z,81nm,1.1s,baz=90,slow=3.2,SNR=38						
BDFB	**Brasilia**	**144.84**	**238**	PKPbc	**PKPdf**	**02 40 09.7**	**-0.1**
BDFB	**Brasilia**	**144.84**	**238**	PKPbc	**PKPdf**	**02 40 09.7**	**-0.1**
	comp=Z,29nm,0.8s,baz=79,slow=3.7,SNR=25						
JSRW	**J. Sargeant Re**	**144.88**	**359**	*e*PKPdf	**PKPab**	**02 40 07.5**	**-0.6**
VWCC	**Virginia Weste**	**145.31**	**2**	*e*PKPdf	**PKPbc**	**02 40 08.5**	**-1.2**
BLA	**Blacksburg**	**145.33**	**3**	*e*PKIKP	**PKPbc**	**02 40 08.1**	**-1.6**
BLA	**Blacksburg**	**145.33**	**3**	*e*PKPdf	**PKPbc**	**02 40 08.1**	**-1.6**
UALR	**University of**	**145.35**	**20**	*e*PKPdf	**PKPbc**	**02 40 08.4**	**-1.4**
WVT	**Waverly**	**145.38**	**13**	*e*PKIKP	**PKPbc**	**02 40 07.8**	**-2.0**
WVT	**Waverly**	**145.38**	**13**	*e*PKPdf	**PKPbc**	**02 40 07.8**	**-2.0**
JCT	**Junction City**	**145.61**	**34**	*e*PKIKP	**PKPdf**	**02 40 09.7**	**-1.0**
JCT	**Junction City**	**145.61**	**34**	*e*PKPdf	**PKPdf**	**02 40 09.7**	**-1.0**
WHTX	**Lake Whitney**	**145.63**	**29**	*e*PKPdf	**PKPdf**	**02 40 09.8**	**-0.8**
TZTN	**Tazewell**	**145.73**	**7**	*e*PKPdf	**PKPdf**	**02 40 09.2**	**-1.5**
OXF	**Oxford**	**146.51**	**16**	PKP2	**PKPdf**	**02 40 11.6**	**-0.4**
OXF	**Oxford**	**146.51**	**16**	PKPdf	**PKPdf**	**02 40 11.6**	**-0.4**
SWET	**Sewanee**	**146.66**	**11**	*e*PKPdf	**PKPdf**	**02 40 11.5**	**-0.8**
CPCT	**Cooper Cave**	**146.67**	**9**	*e*PKPbc	**PKPdf**	**02 40 12.3**	**0.0**
CNNC	**Cliffs of the**	**147.33**	**359**	*e*PKPbc	**PKPbc**	**02 40 14.7**	**-1.0**
KMSC	**Kings Mountain**	**147.34**	**4**	*e*PKPbc	**PKPdf**	**02 40 14.3**	**+0.9**
LCO	**Las Campanas**	**147.85**	**193**	*e*PKPdf	**PKPdf**	**02 40 12.9**	**-1.9**
LCO				*e*PKPdf	**PKPbc**	**02 40 16.0**	**-1.7**
LCO				*e*PKPab	**PKiKP**	**02 40 18.6**	**-1.1**
HKT	**Hockley**	**148.10**	**29**	*e*PKP2	**PKPbc**	**02 40 17.7**	**-0.1**
HKT	**Hockley**	**148.10**	**29**	*e*PKPbc	**PKPbc**	**02 40 17.7**	**-0.1**
LRAL	**Lakeview Retre**	**148.53**	**14**	*e*PKPdf	**PKPdf**	**02 40 15.9**	**+0.4**
LRAL				*e*PKPbc	**PKPbc**	**02 40 17.4**	**-1.6**
BRAL	**Brewton**	**150.45**	**15**	*e*PKPdf	**PKPdf**	**02 40 18.1**	**-0.4**
BRAL				*e*PKPbc	**PKPbc**	**02 40 23.8**	**0.0**
BRAL				*e*PKPab	**PKPab**	**02 40 31.4**	**+1.3**
TIGA	**Tifton**	**150.75**	**9**	*e*PKPdf	**PKPdf**	**02 40 19.1**	**+0.1**
TIGA				*e*PKPbc	**PKPbc**	**02 40 23.6**	**-0.9**
LPAZ	**La Paz**	**158.74**	**209**	PKP	**PKPdf**	**02 40 30.6**	**-0.6**
LPAZ				PKPab	**PKPab**	**02 41 07.7**	**+1.3**
LPAZ	**La Paz**	**158.74**	**209**	PKP	**PKPdf**	**02 40 30.6**	**-0.6**
	comp=Z,11nm,1.3s,baz=255,slow=1.3,SNR=10.0						
LPAZ				PKPab	**PKPab**	**02 41 07.7**	**+1.3**
	comp=Z,3.0nm,1.0s,baz=75,slow=7.0,SNR=2.8						
SAML	**Samuel**	**160.94**	**233**	*e*PKPdf	**PKPdf**	**02 40 33.3**	**+0.3**
SAML				*e*PKPab	**PKPab**	**02 41 16.9**	**+1.4**
ROSC	**El Rosal**	**175.11**	**300**	PKP	**PKPdf**	**02 40 42.7**	**-0.5**
ROSC	**El Rosal**	**175.11**	**300**	PKP	**PKPdf**	**02 40 42.7**	**-0.5**
	comp=Z,3.2nm,0.5s,baz=109,slow=18,SNR=5.1						
OTAV	**Otavalo**	**177.83**	**184**	*e*PKPdf	**PKPdf**	**02 40 42.9**	**-0.9**
OTAV				*e*PKPab	PKPab	02 42 32.1	+1.6

IDC 01 02:26:42.6±2.9, 3°88'N×75°38'W, h86km±26km, mb3.5/8, mb1 3.7/8, mb1mx3.5/23, mbtmp3.5/8, Error ellipse: s-maj=40.2km s-min=16.4km az=63.0, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**1.43**	**47**	P	Pn	02 27 07.0	-0.8
	68nm,0.3s,baz=284,slow=6.0,SNR=75						
ROSC				S	Sn	02 27 31.5	+4.8
	98nm,0.3s,baz=105,slow=20,SNR=6.7						
LPAZ	**La Paz**	**21.29**	**160**	P	P	02 31 23.9	+0.8
	0.9nm,0.8s,baz=354,slow=9.2,SNR=3.0						
SIV	**San Ignacio**	**24.30**	**145**	P	P	02 31 52.6	+0.4
	1.7nm,0.6s,baz=313,slow=13,SNR=4.6						
PDAR	**Pinedale Array**	**49.20**	**327**	P	P	02 35 22.5	0.0
	0.9nm,0.6s,baz=132,slow=8.9,SNR=9.2						
NVAR	**Mina Array Bea**	**52.01**	**317**	P	P	02 35 44.3	+0.6
	1.7nm,0.7s,baz=131,slow=7.5,SNR=13						
NVAR				PcP	PcP	02 36 54.1	-0.9
	0.3nm,0.6s,baz=142,slow=4.6,SNR=2.4						
YKA	**Yellowknife Ar**	**65.26**	**341**	P	P	02 37 14.6	-0.4
	0.5nm,0.4s,baz=134,slow=6.0,SNR=7.7						
TORD	**Torodi Ar. Bea**	**76.55**	**77**	P	P	02 38 24.9	+0.6
	2.7nm,1.3s,baz=287,slow=6.3,SNR=4.1						
ILAR	**Eielson Array**	**78.67**	**336**	P	P	02 38 35.2	+0.2
	1.0nm,0.6s,baz=118,slow=4.1,SNR=14						
SNAA	**Sanae**	**88.23**	**162**	P	P	02 39 23.1	-0.8
	0.4nm,1.0s,baz=292,slow=5.4,SNR=4.4						
ASAR	**Alice Springs**	**145.56**	**232**	PKPbc	PKPdf	02 46 11.0	-0.8
	0.4nm,0.8s,baz=130,slow=3.8,SNR=6.6						
WRA	**Warramunga Arr**	**146.92**	**239**	PKPbc	PKPdf	02 46 15.1	+0.9
	0.4nm,0.3s,baz=105,slow=3.7,SNR=17						

IDC 01 02:27:38.0±1.2, 0°90S×100°09E, h0km, mb4.1/13, mb1 4.1/13, mb1mx3.9/25, mbtmp4.1/13, MS5.0/1, Ms1 5.0/1, ms1mx4.3/41, Error ellipse: s-maj=50.2km s-min=16.5km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**		**3.86**	**342**	Pn	Pb	02 28 43.0	-4.2
	5.6nm,0.3s,baz=290,slow=15,SNR=7.3						
PSI				LR	LR	02 30 29.6	
	comp=Z,19μm,19.1s,baz=144,slow=46						
H08S2	**Diego Garcia H**		**28.30**	**256**	T	T	03 01 51.5
	baz=77						
H08S3	**Diego Garcia H**		**28.31**	**256**	T	T	03 01 48.1
	baz=77,slow=0.7						
H08S1	**Diego Garcia H**		**28.32**	**256**	T	T	03 01 49.9
	baz=77,slow=0.7						
FITZ	**Fitzroy Crossi**		**30.37**	**126**	P	P	02 33 52.5	+0.6
	2.9nm,1.2s,baz=339,slow=12,SNR=3.1						
WRA	**Warramunga Arr**		**38.48**	**122**	P	P	02 35 02.2	-0.1
	0.4nm,0.3s,baz=304,slow=8.9,SNR=4.4						
ASAR	**Alice Springs**		**39.83**	**127**	P	P	02 35 13.6	+0.1
	0.3nm,0.4s,baz=317,slow=8.1,SNR=2.4						
KSRS	**Korea Array**		**46.04**	**31**	P	P	02 36 02.6	-1.0
	1.9nm,0.7s,baz=226,slow=7.4,SNR=4.7						
SONM	**Songino Array**		**48.85**	**6**	P	P	02 36 25.6	+0.1
	0.7nm,0.5s,baz=192,slow=9.2,SNR=4.2						
SONM				PcP	PcP	02 37 49.7	-0.5
	0.3nm,0.5s,baz=193,slow=4.4,SNR=3.6						
STKA	**Stephens Creek**		**49.82**	**132**	P	P	02 36 32.5	-0.5
	0.7nm,0.5s,baz=260,slow=6.1,SNR=1.9						
MKAR	**Makanchi Array**		**50.00**	**344**	P	P	02 36 34.2	0.0
	1.8nm,0.3s,baz=154,slow=8.2,SNR=32						
USRK	**Ussuriysk Arra**		**53.16**	**28**	P	P	02 36 57.8	0.0
	3.7nm,0.5s,baz=241,slow=6.0,SNR=6.9						
KURBB	**Kurchatov Arra**		**54.53**	**343**	P	P	02 37 08.4	+0.7
	1.2nm,0.8s,baz=177,slow=8.4,SNR=8.9						
ZALV	**Zalesovo Beam**		**76.12**	**349**	P	P	02 37 19.1	0.0
	0.8nm,0.3s,baz=180,slow=7.4,SNR=4.3						
BVAR	**Borovoye Array**		**59.19**	**340**	P	P	02 37 40.4	-0.4
	2.0nm,0.5s,baz=145,slow=10,SNR=7.3						
FINES	**FINESS Array B**		**83.19**	**332**	P	P	02 40 06.0	+0.1
	3.5nm,1.1s,baz=116,slow=4.4,SNR=5.2						
ARCES	**ARCESS Array B**		**85.48**	**340**	P	P	02 40 17.1	-0.3
	5.7nm,1.1s,baz=95,slow=6.1,SNR=9.0						
TXAR	**Lajitas Array**		**143.78**	**37**	PKP	PKPbc	02 47 13.8	+0.2
	0.6nm,0.6s						

*IDC **01** 02:28:59.2±2.0, 46°.65S×166°.76E, h0km, mb3.6/1,*

mb1 4.1/2, mb1mx3.7/14, mbtmp3.9/2, ML4.4/1, Error ellipse: s-maj=64.7km s-min=31.3km az=155.0

*NEIC **01** 02:29:00.4, 46°.25S×165°.86E, h12km, ML4.4(WEL), After WEL.*

*WEL **01** 02:29:00.8±0.7, 46°.13S×165°.91E, h12km, ML4.4/14, Error ellipse: s-maj=6.0km s-min=3.6km az=90.0, Biggest of two.*

*ISCJB **01** 02:29:01.2±1.6, 46°.06S±0°.06×166°.06E±0°.1, h26km±7km, mb3.6/1, Error ellipse: s-maj=13.8km s-min=9.3km az=162.4*

ISC 01 02:29:01.2±2.6, 46°13S±0°05×165°99E±0°08, h14km±14km, n57, σ1°25/55, 1C-3D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.48**	**95**	⇓P*	**Pb**	**02 29 11.6**	**0.0**
PYZ				S*	**Sg**	**02 29 18.3**	**+1.0**
PYZ	**Puysegur Point**	**0.48**	**95**	⇓P*	**Pb**	**02 29 11.6**	**0.0**
PYZ				S*	**Sb**	**02 29 19.4**	**+0.9**
DCZ	**Deep Cove**	**1.04**	**52**	P*	**Pb**	**02 29 19.7**	**-1.3**
DCZ				S*	**Sb**	**02 29 32.9**	**-1.6**
DCZ				AML	AML	02 29 37.7	
DCZ	**Deep Cove**	**1.04**	**52**	P*	**Pb**	**02 29 19.7**	**-1.3**
WHZ	**Wether Hill Ro**	**1.39**	**81**	PN	**Pn**	**02 29 25.8**	**-0.4**
WHZ				SN	**Sn**	**02 29 43.6**	**-0.7**
WHZ				AML	AML	02 29 49.0	
WHZ	**Wether Hill Ro**	**1.39**	**81**	Pn	**Pn**	**02 29 25.8**	**-0.4**
APZ	**The Paps**	**1.55**	**118**	PN	**Pn**	**02 29 27.6**	**-1.0**
APZ				SN	**Sn**	**02 29 47.9**	**-0.6**
APZ	**The Paps**	**1.55**	**118**	Pn	**Pn**	**02 29 27.6**	**-1.0**
APZ				Sn	**Sn**	**02 29 47.9**	**-0.6**
MLZ	**Mavora Lakes**	**1.72**	**64**	PN	**Pn**	**02 29 30.7**	**-0.1**
MLZ				SN	**Sn**	**02 29 50.3**	**-2.2**
MLZ				AML	AML	02 29 57.9	
MLZ	**Mavora Lakes**	**1.72**	**64**	Pn	**Pn**	**02 29 31.2**	**+0.4**
MSZ	**Milford Sound**	**2.00**	**44**	PN	**Pn**	**02 29 34.8**	**+0.3**
MSZ				AML	AML	02 30 11.8	
MSZ				AML	AML	02 30 11.9	
MSZ				AML	AML	02 30 23.6	
MSZ				AML	AML	02 30 23.6	
MSZ	**Milford Sound**	**2.00**	**44**	Pn	**Pn**	**02 29 34.8**	**+0.3**
SYZ	**Scrubby Hill**	**2.22**	**102**	PN	**Pn**	**02 29 37.7**	**+0.1**
EAZ	**Earnscleugh**	**2.49**	**70**	PN	**Pn**	**02 29 42.5**	**+1.1**
EAZ				AML	AML	02 30 17.1	
EAZ				AML	AML	02 30 17.1	
EAZ				AML	AML	02 30 30.5	
EAZ	**Earnscleugh**	**2.49**	**70**	Pn	**Pn**	**02 29 42.5**	**+1.1**
WKZ	**Wanaka**	**2.50**	**60**	AML	AML	02 30 22.1	
WKZ				AML	AML	02 30 25.7	
WKZ	**Wanaka**	**2.50**	**60**	Pn	**Pn**	**02 29 43.3**	**+1.8**
TUZ	**Tuapeka**	**2.54**	**87**	⇑PN	**Pn**	**02 29 42.9**	**+0.8**
TUZ				AML	AML	02 30 18.1	
TUZ				AML	AML	02 30 20.3	
TUZ	**Tuapeka**	**2.54**	**87**	Pn	**Pn**	**02 29 42.9**	**+0.8**
JCZ	**Jackson Bay**	**2.84**	**45**	AML	AML	02 30 40.6	
JCZ				AML	AML	02 30 41.0	
JCZ	**Jackson Bay**	**2.84**	**45**	Pn	**Pn**	**02 29 47.4**	**+1.2**
HHSZ	**Highcliff Hill**	**3.22**	**87**	PN	**Pn**	**02 29 51.9**	**+0.5**
LBZ	**Lake Benmore**	**3.44**	**61**	PN	**Pn**	**02 29 54.4**	**+0.1**
LBZ				AML	AML	02 30 55.0	
LBZ				AML	AML	02 31 02.7	
LBZ	**Lake Benmore**	**3.44**	**61**	Pn	**Pn**	**02 29 54.7**	**+0.4**
ODZ	**Otahua Downs**	**3.44**	**73**	⇓PN	**Pn**	**02 29 53.9**	**-0.6**
ODZ	**Otahua Downs**	**3.44**	**73**	*e*Pn	**Pn**	**02 29 54.1**	**-0.3**
ODZ				*e*S	**Sn**	**02 30 39.3**	**+4.3**
FOZ	**Fox Glacier**	**3.67**	**47**	PN	**Pn**	**02 29 59.1**	**+1.5**
FOZ				AML	AML	02 31 06.2	
FOZ				AML	AML	02 31 13.3	
FOZ				AML	AML	02 31 13.3	
FOZ				AML	AML	02 31 18.7	
FOZ	**Fox Glacier**	**3.67**	**47**	Pn	**Pn**	**02 29 59.1**	**+1.5**
RPZ	**Rata Peaks**	**4.33**	**58**	PN	**Pn**	**02 30 06.0**	**-0.6**
RPZ				AML	AML	02 31 31.9	
RPZ				AML	AML	02 31 36.0	
RPZ	**Rata Peaks**	**4.33**	**58**	*e*Pn	**Pn**	**02 30 06.0**	**-0.6**
RPZ				*e*S	**Sn**	**02 30 59.5**	**+2.6**
RPZ	**Rata Peaks**	**4.33**	**58**	Pn	**Pn**	**02 30 06.0**	**-0.6**
	22nm,0.3s,baz=223,slow=5.2,SNR=53						
RPZ				Sn	**Sn**	**02 30 54.7**	**-2.2**
	10nm,0.3s,baz=66,slow=19,SNR=6.6						
WVZ	**Waitaha Valley**	**4.56**	**50**	PN	**Pn**	**02 30 09.4**	**-0.4**
WVZ				AML	AML	02 31 24.8	
WVZ				AML	AML	02 31 44.9	
WVZ	**Waitaha Valley**	**4.56**	**50**	Pn	**Pn**	**02 30 10.0**	**+0.2**
OXZ	**Oxford**	**5.14**	**59**	PN	**Pn**	**02 30 16.6**	**-1.1**
MQZ	**McQueen's Vall**	**5.32**	**65**	PN	**Pn**	**02 30 19.2**	**-0.9**
MQZ	**McQueen's Vall**	**5.32**	**65**	Pn	**Pn**	**02 30 19.2**	**-0.9**
LTZ	**Lake Taylor**	**5.60**	**56**	PN	**Pn**	**02 30 23.0**	**-1.2**
LTZ	**Lake Taylor**	**5.60**	**56**	Pn	**Pn**	**02 30 23.0**	**-1.2**
THZ	**Tophouse**	**6.63**	**51**	PN	**Pn**	**02 30 36.9**	**-1.3**
THZ	**Tophouse**	**6.63**	**51**	Pn	**Pn**	**02 30 36.9**	**-1.3**
QRZ	**Quartz Range**	**7.12**	**44**	Pn	**Pn**	**02 30 44.7**	**-0.3**
URZ	**Urewera**	**11.39**	**50**	Pn	Pn	02 31 39.2	-4.2
URZ	**Urewera**	**11.39**	**50**	Pn	Pn	02 31 39.2	-4.2
	0.3nm,0.3s,baz=260,slow=11,SNR=2.2						
WRA	**Warramunga Arr**	**36.81**	**305**	P	P	02 36 15.1	+6.3
WRA	**Warramunga Arr**	**36.81**	**305**	P	P	02 36 15.1	+6.3
	0.8nm,0.9s,baz=146,slow=8.9,SNR=3.9						
H01W1	**Cape Leeuwin H**	**40.32**	**267**	T	T	03 19 21.2	
	baz=121,slow=0.7,SNR=87						
H01W2	**Cape Leeuwin H**	**40.33**	**267**	T	T	03 19 22.3	
	baz=121,slow=0.7,SNR=180						
H01W3	**Cape Leeuwin H**	**40.34**	**267**	T	T	03 19 23.3	
	baz=121,slow=0.7,SNR=155						
H08S2	**Diego Garcia H**	**86.96**	**262**	T	T	04 17 36.7	
	baz=136,slow=0.7,SNR=18						
H08S1	**Diego Garcia H**	**86.98**	**262**	T	T	04 17 36.6	
	baz=136,slow=0.7,SNR=22						
H08S3	**Diego Garcia H**	**86.98**	**262**	T	T	04 17 38.7	
	baz=136,slow=0.7,SNR=20						
TORD	**Torodi Ar. Bea**	**144.55**	**207**	PKP	**PKPdf**	**02 48 36.4**	**-1.2**
TORD	**Torodi Ar. Bea**	**144.55**	**207**	PKP	**PKPdf**	**02 48 36.4**	**-1.2**
	0.4nm,0.6s,baz=172,slow=1.5,SNR=5.6						
BRTR	**Keskin Array B**	**144.96**	**277**	PKPbc	**PKPdf**	**02 48 39.4**	**+1.7**
BRTR	**Keskin Array B**	**144.96**	**277**	PKPbc	**PKPdf**	**02 48 39.4**	**+1.7**
	0.5nm,0.9s,baz=96,slow=1.4,SNR=3.5						
ARCES	**ARCESS Array B**	**149.47**	**334**	PKPbc	**PKPbc**	**02 48 49.2**	**+0.6**
ARCES	**ARCESS Array B**	**149.47**	**334**	PKPbc	**PKPbc**	**02 48 49.2**	**+0.6**
	3.8nm,0.9s,baz=22,slow=3.3,SNR=5.5						

GUC 01 02:32:06.5±0.9, 20°61S×69°41W, h100km±7km, ML4.3, 4C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMBC	**Humberstone**	**0.56**	**306**	⇑*i*P	Pn	02 32 22.9	0.0
HMBC				*i* S	Sn	02 32 35.4	+0.3
HMBC				AML	AML	02 32 37.6	
	comp=E,10μm,0.6s						
PB09	**Plate Boundary**	**1.19**	**173**	⇑*i*P	Pn	02 32 29.8	+0.4
PB09				*i* S	Sn	02 32 47.4	+0.9
PB09				AML	AML	02 32 48.9	
	comp=E,29μm,0.4s						
PB07	**Plate Boundary**	**1.20**	**202**	⇑*i*P	Pn	02 32 30.3	+0.9
PB07				*i* S	Sn	02 32 47.9	+1.2
PB07				AML	AML	02 32 49.5	
	comp=N,5μm,0.2s						
PSGC	**Pisagua**	**1.21**	**326**	⇓*i*P	Pn	02 32 29.6	+0.2
PSGC				*i* S	Sn	02 32 47.8	+1.0
PSGC				AML	AML	02 32 51.6	
	comp=N,4μm,0.5s						
MNMC	**Minimini**	**1.48**	**353**	⇓*i*P	Pn	02 32 32.9	-0.1
MNMC				*i* S	Sn	02 32 54.0	+1.1
MNMC				AML	AML	02 33 00.5	
	comp=E,7μm,0.3s						
MACH	**Maria Elena**	**1.61**	**192**	⇑*i*P	Pn	02 32 35.2	+0.8
MACH				*i* S	Sn	02 32 56.8	+1.1
PB04	**Plate Boundary**	**1.65**	**183**	⇓*i*P	Pn	02 32 38.3	+3.7
PB04				*i* S	Sn	02 33 02.1	+6.1
PB04				AML	AML	02 33 16.3	
	comp=N,3μm,0.4s						
CEN1	**Los Morros**	**2.86**	**195**	*e*P	Pn	02 32 54.1	+3.5
CEN1				AML	AML	02 33 43.1	
	comp=E,865nm,0.7s						
ANCH	**Antofagasta**	**3.20**	**197**	*e*P	Pn	02 32 55.8	+1.0
ANCH				AML	AML	02 33 48.6	
	comp=N,1μm,0.5s						

*ISCJB **01** 02:35:10.8±0.9, 0°.5N±0°.1×30°.3E±0°.1, h14km, mb3.3/3, Error ellipse: s-maj=20.4km s-min=13.9km az=34.9*

*IDC **01** 02:35:11.0±1.7, 0°.44N×30°.06E, h0km, mb3.3/3, mb1 3.5/5, mb1mx3.3/27, mbtmp3.3/5, ML3.5/2, Error ellipse: s-maj=46.8km s-min=30.6km az=36.0*

ISC 01 02:35:13.0±1.0, 0°5N±0°2×30°1E±0°1, h14km, n6, σ1°03/5, mb3.2/3, Uganda

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**		**7.30**	**103**	Pn	**Pn**	**02 36 59.2**	**-0.4**
	0.4nm,0.3s,baz=287,slow=17,SNR=10						
KMBO				Sn	Sn	02 38 15.2	-7.4
	1.2nm,0.3s,baz=259,slow=18,SNR=5.4						
KMBO				Lg	Lg	02 38 56.2	
	5.0nm,0.3s,baz=191,slow=23,SNR=17						
DODT	**Dodoma, Tanzan**		**8.68**	**140**	*i* P	Pn	02 37 25.6	+7.2
DODT					*i* S	Sn	02 38 37.2	-19
LSZ	**Lusaka**		**15.76**	**187**	Pn	**Pn**	**02 38 55.4**	**+0.5**
	0.1nm,0.3s,baz=21,slow=8.6,SNR=2.0						
LSZ				Lg	Lg	02 43 20.7	
	0.2nm,0.3s,baz=305,slow=19,SNR=3.3						
TORD	**Torodi Ar. Bea**		**30.85**	**295**	P	**P**	**02 41 28.1**	**-1.1**
	0.5nm,0.7s,baz=113,slow=6.3,SNR=7.2						
ESDC	**Sonseca Array**		**49.88**	**326**	P	**P**	**02 44 06.6**	**+0.4**
	0.1nm,0.4s,baz=120,slow=5.4,SNR=4.2						
GERES	**GERESS Array B**		**50.23**	**346**	P	**P**	**02 44 09.4**	**+0.7**
	0.1nm,0.4s,baz=159,slow=5.9,SNR=4.1						

IDC 01 02:37:32.0±1.6, 0°72N×30°05E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/27, mbtmp3.7/5, ML3.8/1, MS4.9/1, Ms1 4.9/1, ms1mx4.4/35, Error ellipse: s-maj=40.1km s-min=27.3km az=105.0, Uganda

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**		**7.43**	**104**	Lg	Lg	02 41 14.6	
	4.2nm,0.3s,baz=190,slow=22,SNR=5.2						
KMBO				LR	LR	02 42 29.8	
	comp=Z,10μm,20.4s,baz=67,slow=40						
LSZ	**Lusaka**		**16.00**	**187**	Pn	Pn	02 41 17.2	-1.6
	0.1nm,0.3s,baz=35,slow=9.6,SNR=2.9						
LSZ				Lg	Lg	02 45 41.6	
	0.1nm,0.3s,baz=128,slow=19,SNR=2.8						
TSUM	**Tsumeb**		**23.28**	**211**	P	P	02 42 42.1	+0.5
	4.2nm,1.2s,baz=25,slow=19,SNR=2.4						
TSUM				Lg	Lg	02 49 30.4	
	1.3nm,0.7s,baz=234,slow=19,SNR=4.8						
TORD	**Torodi Ar. Bea**		**30.68**	**295**	P	P	02 43 48.9	+0.1
	0.4nm,0.5s,baz=108,slow=7.0,SNR=32						
ESDC	**Sonseca Array**		**49.64**	**325**	P	P	02 46 25.1	-0.5
	0.3nm,0.7s,baz=127,slow=7.5,SNR=4.8						
MKAR	**Makanchi Array**		**64.55**	**37**	P	P	02 48 11.2	+0.2
	0.5nm,0.7s,baz=242,slow=7.5,SNR=3.8						

DJA 01 02:56:43.6±2.4, 3°S±11°×10°1E±2°1, h10km, M3.9/7, MLv3.9/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRJI	**Kerinci**		**0.60**	**14**	P	Pg	02 56 55.3

CPW	**Capitol Peak**	**0.25**	**162**	⇑P		**Pn**	**03 10 14.2**	**-0.3**
CPW	**Capitol Peak**	**0.25**	**162**	P		**Pn**	**03 10 14.2**	**-0.3**
WISH	**Wishkah**	**0.37**	**256**	⇓P		**Pn**	**03 10 16.1**	**+0.6**
WISH				⇑S		**Sn**	**03 10 23.9**	**+1.5**
WISH	**Wishkah**	**0.37**	**256**	P		**Pn**	**03 10 16.1**	**+0.6**
WISH				S		**Sn**	**03 10 23.9**	**+1.5**
GNW	**Green Mountain**	**0.46**	**39**	⇓P		**Pn**	**03 10 16.8**	**+0.2**
GNW				⇓S		**Sn**	**03 10 24.3**	**+0.2**
GNW	**Green Mountain**	**0.46**	**39**	P		**Pn**	**03 10 16.8**	**+0.2**
GNW				S		**Sn**	**03 10 24.3**	**+0.2**
HDW	**Hoodsport**	**0.46**	**16**	⇑P		**Pn**	**03 10 17.1**	**+0.4**
HDW				⇓S		**Sn**	**03 10 25.3**	**+0.9**
NLWA	**Neilton Lookou**	**0.46**	**294**	*e*Pg		**Pn**	**03 10 16.9**	**+0.2**
NLWA				*e*S		**Sn**	**03 10 25.8**	**+1.5**
OSD	**Olympics--Snow**	**0.69**	**333**	⇑P		**Pn**	**03 10 20.7**	**+1.1**
E03A	**Lebam**	**0.70**	**198**	⇓P		**Pn**	**03 10 19.4**	**-0.1**
E03A				⇑S		**Sn**	**03 10 29.4**	**0.0**
D05A	**Enumclaw**	**0.86**	**91**	⇓P		**Pn**	**03 10 22.3**	**+0.6**
D05A				⇓S		**Sn**	**03 10 33.7**	**+0.5**
SQM	**Sequim**	**0.88**	**9**	⇓P		**Pn**	**03 10 23.8**	**+1.9**
ELW	**Echo Lake**	**0.98**	**72**	⇑P		**Pn**	**03 10 23.6**	**+0.4**
ELW				⇓S		**Sn**	**03 10 36.8**	**+0.7**
OBC	**Olympics--Boni**	**1.00**	**326**	⇓P		**Pn**	**03 10 24.4**	**+0.7**
OFR	**Olym-F Res Ctr**	**1.06**	**313**	⇓P		**Pn**	**03 10 25.3**	**+0.9**
OFR				⇑S		**Sn**	**03 10 38.8**	**+0.6**
LON	**Longmire**	**1.08**	**114**	⇓P		**Pn**	**03 10 25.1**	**+0.3**
LON				⇑S		**Sn**	**03 10 38.9**	**+0.2**
LON	**Longmire**	**1.08**	**114**	*e*Pg		**Pn**	**03 10 25.1**	**+0.3**
LON				*e*S		**Sn**	**03 10 39.5**	**+0.7**
FMW	**Mount Fremont**	**1.11**	**104**	⇑P		**Pn**	**03 10 25.6**	**+0.3**
SVOH	**Skagit Valley**	**1.16**	**21**	⇓P		**Pn**	**03 10 27.1**	**+1.4**
SVOH				⇑S		**Sn**	**03 10 41.0**	**+0.6**
C05A	**Tolt Reservoir**	**1.16**	**65**	⇓P		**Pn**	**03 10 26.2**	**+0.4**
C05A				⇓S		**Sn**	**03 10 41.0**	**+0.4**
VGZ	**Gonzales**	**1.21**	**358**	⇓P		**Pn**	**03 10 27.0**	**+0.6**
VGZ				⇓S		**Sn**	**03 10 42.0**	**+0.4**
JCW	**Jim Creek**	**1.33**	**42**	⇓P		**Pn**	**03 10 28.9**	**+0.9**
CMW	**Cultus Mountai**	**1.43**	**32**	⇑P		**Pn**	**03 10 30.9**	**+1.3**
CMW				⇑S		**Sn**	**03 10 49.9**	**+2.5**
OCP	**Olym-Cheeka Pk**	**1.43**	**320**	⇓P		**Pn**	**03 10 29.7**	**+0.2**
OCP				⇓S		**Sn**	**03 10 47.4**	**+0.2**
PGC	**Sidney**	**1.45**	**355**	⇑P		**Pn**	**03 10 30.3**	**+0.7**
PGC				⇓S		**Sn**	**03 10 47.8**	**+0.3**
PGC	**Sidney**	**1.45**	**355**	*e*Pn		**Pn**	**03 10 30.4**	**+0.7**
PGC				*e*S		**Sn**	**03 10 47.7**	**+0.3**
LZB	**Mount Lazard**	**1.46**	**345**	⇓P		**Pn**	**03 10 30.3**	**+0.4**
LZB				⇓S		**Sn**	**03 10 47.3**	**-0.5**
SNB	**Saturna Island**	**1.57**	**2**	⇑P		**Pn**	**03 10 32.5**	**+1.2**
SNB				⇑S		**Sn**	**03 10 50.9**	**+0.4**
PFB	**Port Renfrew**	**1.58**	**330**	⇑P		**Pn**	**03 10 31.7**	**+0.2**
PFB				⇑S		**Sn**	**03 10 50.5**	**-0.4**
COR	**Corvallis**	**2.62**	**181**	*e*Pn		**Pn**	**03 10 46.7**	**+0.9**
HAWA	**Hanford**	**2.68**	**106**	*e*Pn		**Pn**	**03 10 46.8**	**+0.3**
HAWA				*e*S		Sn	03 11 27.8	+10
NEW	**Newport**	**4.26**	**73**	*e*Pn		**Pn**	**03 11 08.1**	**-0.2**
NEW				Lg		Lg	03 12 14.0	
NEW				*e*S		Sn	03 12 14.8	+18
NEW	**Newport**	**4.26**	**73**	Pn		**Pn**	**03 11 08.0**	**-0.3**
	2.6nm,0.3s,baz=262,slow=13,SNR=36							
NEW				Pg			03 11 16.4	
	3.8nm,0.3s,baz=261,slow=9.8,SNR=18							
NEW				Lg		Lg	03 12 14.0	
	4.2nm,0.3s,baz=106,slow=15,SNR=2.8							
KEBM	**Edson Butte**	**4.40**	**190**	*e*Pn		**Pn**	**03 11 10.4**	**+0.1**
KEBM				*e*S		**Sn**	**03 11 57.3**	**-3.0**
BMO	**Blue Mountains**	**4.76**	**118**	*e*Pn		**Pn**	**03 11 15.8**	**+0.6**
BMO				*e*S		Sn	03 12 39.9	+31
YBH	**Yreka Blue Hor**	**5.49**	**176**	Pn		**Pn**	**03 11 23.9**	**-1.3**
YBH	**Yreka Blue Hor**	**5.49**	**176**	Pn		**Pn**	**03 11 23.9**	**-1.3**
	0.2nm,0.3s,baz=345,slow=2.1,SNR=5.7							
KRMB	**Red Mountain**	**5.70**	**185**	*e*Pn		**Pn**	**03 11 28.9**	**+0.7**
KRMB				*e*S		**Sn**	**03 12 33.2**	**+0.8**
BSMT	**Bassoo Peak**	**5.76**	**80**	*e*Pn		**Pn**	**03 11 28.9**	**-0.2**
BSMT				*e*S		Sn	03 13 01.6	+27
BBB	**Bella Bella**	**5.90**	**329**	Pn		**Pn**	**03 11 31.9**	**+1.3**
BBB				Sn		**Sn**	**03 12 31.0**	**-5.7**
BBB	**Bella Bella**	**5.90**	**329**	Pn		**Pn**	**03 11 31.9**	**+1.3**
	0.2nm,0.3s,baz=160,slow=8.0,SNR=3.3							
BBB				Sn		**Sn**	**03 12 31.0**	**-5.7**
	0.5nm,0.3s,baz=42,slow=21,SNR=8.1							
JTMT	**Jette**	**6.10**	**82**	*e*Pn		**Pn**	**03 11 33.7**	**+0.1**
	15nm,0.8s							
JTMT				*e*S		Sn	03 12 56.7	+14
YBMT	**Yellow Bay**	**6.29**	**81**	*e*Pn		**Pn**	**03 11 36.5**	**+0.4**
	5.9nm,0.7s							
YBMT				*e*S		Sn	03 13 20.3	+33
SWMT	**Swartz Lake**	**6.29**	**84**	*e*Pn		**Pn**	**03 11 35.7**	**-0.4**
	4.8nm,0.6s							
SWMT				*e*S		Sn	03 13 11.9	+25
WALA	**Waterton Lakes**	**6.52**	**70**	*e*Pn		**Pn**	**03 11 39.8**	**+0.5**
SLMT	**Seeley Lake**	**6.64**	**86**	*e*Pn		**Pn**	**03 11 40.3**	**-0.7**
	4.3nm,0.3s							
SLMT				*e*S		Sn	03 13 33.5	+38
CHMT	**Chamberlain Mo**	**6.83**	**89**	*e*Pn		**Pn**	**03 11 43.1**	**-0.6**
	2.6nm,0.5s							
CHMT				*e*S		Sn	03 13 36.4	+36
HLID	**Hailey**	**7.21**	**117**	*e*Pn		**Pn**	**03 11 49.9**	**+1.1**
DLMT	**Dillon**	**7.61**	**100**	*e*Pn		**Pn**	**03 11 55.1**	**+0.8**
	6.1nm,0.9s							
DLMT				*e*S		Sn	03 14 07.0	+48
NVAR	**Mina Array Bea**	**9.49**	**156**	Pg		Pn	03 12 41.8	+21
	0.1nm,0.3s,baz=338,slow=13,SNR=10							
YKA	**Yellowknife Ar**	**16.08**	**15**	Pn		**Pn**	**03 13 47.5**	**-0.9**
YKA	**Yellowknife Ar**	**16.08**	**15**	Pn		**Pn**	**03 13 47.5**	**-0.9**
	0.1nm,0.3s,baz=206,slow=11,SNR=6.1							
ESDC	**Sonseca Array**	**78.01**	**43**	P		P	03 22 03.8	+4.7
ESDC	**Sonseca Array**	**78.01**	**43**	P		P	03 22 03.8	+4.7
	0.7nm,0.5s,baz=313,slow=5.2,SNR=12							

IDC ***01*** *03:17:01.7±0.8,2˚.50S×101˚.47E, h0km, mb4.0/12, mb1 4.2/13,mb1mx4.0/24,mbtmp4.1/13,ML4.4/1,MS4.0/1, Ms1 4.0/1,ms1mx3.6/48, Error ellipse: s-maj=29.7km s-min=14.6km az=58.0*

NEIC ***01*** *03:17:03.0±0.6,2˚.60S×101˚.46E, h10km, mb4.4/3, Error ellipse: s-maj=23.8km s-min=10.5km az=53.0*

DJA ***01*** *03:17:07.0±0.5,2˚S±3˚×10˚2E±˚, h10km±4km, M4.3/7, MLv4.3/7*

ISCJB ***01*** *03:17:08.3±0.5,2˚.39S±0˚.04×101˚.64E±0˚.07, h64km±5km, mb4.1/12, Error ellipse: s-maj=12.3km s-min=4.7km az=154.2*

ISC 01 03:17:09.8±1.0,**2˚.41S**±0˚.05×**101˚.66E**±0˚.07,**h59**km±10km, **n62**,σ1**§19**/61,**mb4.1**/12,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRJI	**Kerinci**	**0.37**	**328**	P	Pn	03 17 12.6	-7.9
KRJI				S	Sn	03 17 16.7	-12
MASI	**Maura Aman, Be**	**0.93**	**142**	P	**Pn**	**03 17 24.5**	**-2.4**
MASI				S	**Sn**	**03 17 39.3**	**-0.2**
KSI	**Kapahiang**	**1.55**	**143**	P	**Pn**	**03 17 34.6**	**-0.6**
KSI				S	**Sn**	**03 17 56.6**	**+2.4**
PDSI	**Padang**	**1.91**	**321**	P	**Pn**	**03 17 38.2**	**-1.9**
PDSI				S	**Sn**	**03 18 03.5**	**+0.5**
RGRI	**Rengat**	**2.15**	**18**	P	**Pn**	**03 17 41.4**	**-2.0**
RGRI				S	**Sn**	**03 18 09.4**	**+0.4**
PPI	**Padang Panjang**	**2.31**	**327**	P	**Pn**	**03 17 44.4**	**-1.1**
MNAI	**Manna**	**2.33**	**146**	P	**Pn**	**03 17 46.4**	**+0.6**
MNAI				S	**Sn**	**03 18 16.7**	**+3.4**
PMBI	**Palembang**	**3.15**	**99**	P	**Pn**	**03 17 56.1**	**-0.9**
MDSI	**Maura Dua**	**3.25**	**129**	P	**Pn**	**03 17 58.3**	**-0.1**
MDSI				S	**Sn**	**03 18 32.8**	**-3.1**
LWLI	**Liwa**	**3.53**	**137**	P	**Pn**	**03 18 03.0**	**+0.8**
KASI	**Kota Agung**	**4.19**	**138**	P	**Pn**	**03 18 12.2**	**+1.0**
KGM	**Kluang**	**4.70**	**21**	P	**Pn**	**03 18 17.2**	**-1.0**
MYKOM	**Kota Tinggi**	**4.71**	**28**	P	**Pn**	**03 18 17.1**	**-1.3**
MYKOM	**Kota Tinggi**	**4.71**	**28**	S	Sn	03 19 34.0	+22
MYKOM	**Kota Tinggi**	**4.71**	**28**	P	**Pn**	**03 18 16.7**	**-1.7**
FRIM	**Kepong**	**5.61**	**360**	P	**Pn**	**03 18 29.6**	**-1.1**
PSI	**Prapat**	**5.85**	**332**	Pn	**Pn**	**03 18 33.0**	**-1.1**
PSI	**Prapat**	**5.85**	**332**	Pn	**Pn**	**03 18 33.0**	**-1.1**
	0.5nm,0.3s,baz=174,slow=15,SNR=4.0						
PSI				LR	LR	03 21 02.2	
	comp=Z,1µm,19.5s,baz=280,slow=42						
IPM	**Ipoh**	**6.87**	**355**	P	**Pn**	**03 18 48.5**	**+0.5**
KULM	**Kulim**	**7.71**	**352**	P	**Pn**	**03 19 02.2**	**+2.7**
KTGM	**Kuala Trenggan**	**7.83**	**11**	P	**Pn**	**03 19 01.6**	**+0.6**
KTGM	**Kuala Trenggan**	**7.83**	**11**	P	**Pn**	**03 19 01.7**	**+0.6**
KDM	**Kudat**	**17.75**	**58**	P	Pn	03 21 05.4	-7.6
KAPI	**Kappang**	**18.24**	**99**	*e*Pn	**Pn**	**03 21 19.4**	**+0.5**
	54nm,1.1s						
KAPI	**Kappang**	**18.24**	**99**	P	**Pn**	**03 21 20.3**	**+1.4**
	1.3nm,0.3s,baz=264,slow=9.8,SNR=8.8						
MYLDM	**Lahad Datu**	**18.43**	**66**	P	P	03 21 09.1	-12
CMAR	**Chiang Mai Arr**	**20.91**	**353**	P	**P**	**03 21 48.5**	**+0.9**
CMAR	**Chiang Mai Arr**	**20.91**	**353**	P	**P**	**03 21 48.5**	**+0.9**
	0.9nm,0.3s,baz=184,slow=11,SNR=5.3						
H08S2	**Diego Garcia H**	**29.51**	**259**	T	T	03 52 42.5	
	baz=80						
H08S3	**Diego Garcia H**	**29.51**	**259**	T	T	03 52 41.1	
	baz=80						
H08S1	**Diego Garcia H**	**29.52**	**259**	T	T	03 52 43.8	
	baz=80						
NWAO	**Narrogin (SRO)**	**33.69**	**156**	P	**P**	**03 23 44.4**	**-1.0**
NWAO	**Narrogin (SRO)**	**33.69**	**156**	P	**P**	**03 23 44.4**	**-1.0**
	10nm,1.1s,baz=326,slow=7.3,SNR=2.5						
WRA	**Warramunga Arr**	**36.36**	**121**	P	**P**	**03 24 08.8**	**+0.2**
WRA	**Warramunga Arr**	**36.36**	**121**	P	**P**	**03 24 08.8**	**+0.2**
	1.6nm,1.0s,baz=298,slow=9.3,SNR=6.3						
ASAR	**Alice Springs**	**37.68**	**127**	P	**P**	**03 24 19.2**	**-0.6**
ASAR				PcP	**PcP**	**03 26 37.5**	**+1.2**
ASAR	**Alice Springs**	**37.68**	**127**	P	**P**	**03 24 19.2**	**-0.6**
	2.1nm,0.7s,baz=307,slow=8.3,SNR=20						
ASAR				PcP	**PcP**	**03 26 37.5**	**+1.2**
	0.7nm,0.7s,baz=316,slow=3.9,SNR=5.4						
KSAR	**Wonju Array Be**	**46.52**	**29**	P	**P**	**03 25 31.7**	**+0.2**
KSRS	**Korea Array**	**46.55**	**29**	P	**P**	**03 25 31.7**	**0.0**
	0.7nm,0.4s,baz=217,slow=8.0,SNR=5.9						
STKA	**Stephens Creek**	**47.65**	**132**	P	**P**	**03 25 40.7**	**+0.3**
STKA	**Stephens Creek**	**47.65**	**132**	P	**P**	**03 25 40.7**	**+0.3**
	1.8nm,0.7s,baz=297,slow=4.5,SNR=4.5						
SONM	**Songino Array**	**50.21**	**4**	P	**P**	**03 26 00.8**	**+0.9**
SONM	**Songino Array**	**50.21**	**4**	P	**P**	**03 26 00.8**	**+0.9**
	1.0nm,0.8s,baz=178,slow=9.9,SNR=5.9						
MKAR	**Makanchi Array**	**51.88**	**343**	P	**P**	**03 26 11.4**	**-1.0**
MKAR	**Makanchi Array**	**51.88**	**343**	P	**P**	**03 26 11.4**	**-1.0**
	0.7nm,0.6s,baz=138,slow=8.2,SNR=7.3						
USRK	**Ussuriysk Arra**	**53.75**	**27**	P	**P**	**03 26 26.9**	**+0.8**
	1.5nm,0.6s,baz=224,slow=5.3,SNR=6.4						
ZALV	**Zalesovo Beam**	**57.89**	**348**	P	**P**	**03 26 54.8**	**-0.8**
ZALV	**Zalesovo Beam**	**57.89**	**348**	P	**P**	**03 26 54.7**	**-0.8**
	1.9nm,0.3s,baz=186,slow=4.3,SNR=1.4						
ABKAR	**Akbulak array**	**62.80**	**331**	*e*P	**P**	**03 27 27.8**	**-1.4**
	2.4nm,0.8s						
BR131	**Keskin Array S**	**74.82**	**312**	*e*P	**P**	**03 28 44.3**	**-0.1**
	1.7nm,0.8s						
BRTR	**Keskin Array B**	**74.82**	**312**	P	**P**	**03 28 44.2**	**-0.1**
BRTR	**Keskin Array B**	**74.82**	**312**	P	**P**	**03 28 44.2**	**-0.1**
	1.7nm,0.8s,baz=129,slow=6.7,SNR=11						
AKASG	**Malin Array Be**	**80.82**	**322**	P	**P**	**03 29 16.6**	**-0.7**
AKASG	**Malin Array Be**	**80.82**	**322**	P	**P**	**03 29 16.6**	**-0.7**
	0.1nm,0.2s,baz=106,slow=3.4,SNR=4.4						
TORD	**Torodi Ar. Bea**	**100.25**	**283**	P	**Pdif**	**03 30 51.2**	**+0.7**
TORD	**Torodi Ar. Bea**	**100.25**	**283**	P	**Pdif**	**03 30 51.2**	**+0.7**
	0.4nm,0.9s,baz=82,slow=4.0,SNR=2.4						
TXAR	**Lajitas Array**	**143.99**	**39**	PKP	PKPbc	03 36 38.1	+0.5
TXAR	**Lajitas Array**	**143.99**	**39**	PKP	PKPbc	03 36 38.1	+0.5
	0.9nm,0.7s						
CPUP	**Villa Florida**	**144.95**	**214**	PKP	**PKPdf**	**03 36 41.6**	**+0.4**
CPUP	**Villa Florida**	**144.95**	**214**	PKP	**PKPdf**	**03 36 41.6**	**+0.4**
	8.3nm,1.0s,baz=116,slow=3.3,SNR=6.6						
BDFB	**Brasilia**	**145.06**	**238**	PKP	**PKPab**	**03 36 41.5**	**+0.2**
BDFB	**Brasilia**	**145.06**	**238**	PKP	**PKPab**	**03 36 41.5**	**+0.2**
	5.1nm,1.0s,baz=173,slow=8.3,SNR=4.1						

IDC 01 03:25:02.3±1.8,**15˚.27S**×**173˚.50W**,**h0**km,**mb3.8**/6, **mb1 4.2**/6,**mb1mx3.9**/19,**mbtmp3.8**/6,**Error ellipse: s-maj=105.1km s-min=23.9km az=151.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.15**	**51**	Pn	Pn	03 25 31.9	-7.6
	29nm,0.3s,baz=114,slow=5.1,SNR=7.2						
AFI				Sn	Sn	03 25 51.5	-15
	78nm,0.3s,baz=69,slow=22,SNR=13						
H11S2	**WAKE ISLAND Hy**	**38.81**	**329**	T	T	04 13 32.8	
	baz=152,slow=0.7,SNR=35						
H11S3	**WAKE ISLAND Hy**	**38.82**	**329**	T	T	04 13 36.7	
	baz=152,slow=0.7,SNR=31						
H11S1	**WAKE ISLAND Hy**	**38.83**	**329**	T	T	04 13 34.1	
	baz=152,slow=0.7,SNR=32						
H11N3	**WAKE ISLAND Hy**	**39.76**	**330**	T	T	04 14 54.2	
	baz=152,slow=0.7,SNR=34						
H11N1	**WAKE ISLAND Hy**	**39.76**	**330**	T	T	04 14 56.6	
	baz=152,slow=0.7,SNR=32						
H11N2	**WAKE ISLAND Hy**	**39.77**	**330**	T	T	04 14 48.9	
	baz=152,slow=0.7,SNR=44						
WRA	**Warramunga Arr**	**49.78**	**257**	P	P	03 33 56.2	-1.0
	0.6nm,0.8s,baz=88,slow=7.7,SNR=3.1						
ASAR	**Alice Springs**	**50.06**	**252**	P	P	03 33 58.7	-0.6
	2.5nm,0.7s,baz=84,slow=8.3,SNR=14						
NVAR	**Mina Array Bea**	**74.30**	**42**	P	P	03 36 42.7	+0.8
	0.4nm,0.7s,baz=226,slow=6.2,SNR=3.2						
TXAR	**Lajitas Array**	**80.62**	**56**	P	P	03 37 17.4	+0.1
	0.9nm,0.9s						
PDAR	**Pinedale Array**	**82.23**	**42**	P	P	03 37 24.6	-1.2
	0.6nm,0.8s,baz=264,slow=3.0,SNR=4.9						
ILAR	**Eielson Array**	**82.34**	**11**	P	P	03 37 23.7	-1.8
	1.9nm,1.1s,baz=208,slow=6.0,SNR=7.3						
MLR	**Muntele Rosu**	**145.72**	**335**	PKPbc	PKPab	03 44 43.7	-0.1
	baz=217,slow=5.1						
BRTR	**Keskin Array B**	**146.00**	**321**	PKPbc	PKPab	03 44 45.8	+0.7
	1.3nm,0.8s,baz=90,slow=3.7,SNR=6.5						
GERES	**GERESS Array B**	**146.00**	**351**	PKPbc	PKPbc	03 44 44.3	+0.2
	0.3nm,0.5s,baz=353,slow=3.2,SNR=5.8						

DJA 01 03:34:46.8±1.0,**3˚S**±7˚×**9˚9E**±˚,**h43**km±74km,**M4.5**/9, **mb4.7**/1,**MLv4.5**/9,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRJI	**Kerinci**	**2.19**	**72**	P	Pn	03 35 19.2	-1.7
PPI	**Padang Panjang**	**2.53**	**24**	P	Pn	03 35 26.0	+0.6
MASI	**Maura Aman, Be**	**2.88**	**97**	P	Pn	03 35 30.3	+0.1
KSI	**Kapahiang**	**3.32**	**105**	P	Pn	03 35 35.5	-0.9
KSI				S	Sn	03 36 07.6	-7.1
RGRI	**Rengat**	**3.82**	**51**	P	Pn	03 35 43.4	+0.2
EGSI	**Enggano, Bengk**	**3.85**	**131**	P	Pn	03 35 43.0	-0.6
MNAI	**Manna**	**3.90**	**114**	P	Pn	03 35 46.0	+1.8
MNAI				S	Sn	03 36 30.6	+1.9
GSI	**Gunungsitoli**	**4.45**	**336**	P	Pn	03 35 50.9	-0.9
GSI				S	Sn	03 36 00.1	-42
MDSI	**Maura Dua**	**5.08**	**110**	P	Pn	03 36 00.0	-0.4

IDC 01 03:39:52.5±6.2,**24˚.35S**×**179˚.59W**,**h501**km±63km, **mb3.0**/4,**mb1 3.2**/6,**mb1mx3.0**/20,**mbtmp3.1**/6,**Error ellipse: s-maj=68.0km s-min=41.2km az=18.0,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.04**	**277**	P	P	03 42 43.4	+1.1
	0.2nm,0.3s,baz=97,slow=17,SNR=3.0						
URZ	**Urewera**	**14.15**	**191**	P	P	03 42 53.0	-0.6
	0.8nm,0.3s,baz=262,slow=7.1,SNR=4.7						
URZ				S	S	03 45 16.1	-6.9
	0.4nm,0.3s,baz=310,slow=18,SNR=2.1						
CTA	**Charters Tower**	**31.86**	**271**	P	P	03 45 36.0	+0.1
	2.7nm,0.5s,baz=82,slow=9.8,SNR=5.3						
ASAR	**Alice Springs**	**42.34**	**261**	P	P	03 47 01.9	-0.2
	0.3nm,0.4s,baz=93,slow=7.0,SNR=4.8						
WRA	**Warramunga Arr**	**42.76**	**266**	P	P	03 47 04.5	-0.9
	0.8nm,0.3s,baz=97,slow=8.5,SNR=5.2						
FITZ	**Fitzroy Crossi**	**51.17**	**266**	P	P	03 48 09.4	+0.4
	1.1nm,0.6s,baz=100,slow=6.1,SNR=4.2						
HFS	**Hagfors**	**143.06**	**349**	PKP	PKPdf	03 58 27.4	-0.9
	1.2nm,0.3s,baz=29,slow=3.3,SNR=10						
AKASG	**Malin Array Be**	**145.55**	**327**	PKPbc	PKPbc	03 58 33.8	-0.5
	0.5nm,0.5s,baz=47,slow=3.3,SNR=5.2						

IDC ***01*** *03:40:20.5±0.5,2˚.23S×101˚.67E, h0km, mb4.1/21, mb1 4.2/22,mb1mx4.2/26,mbtmp4.1/22,ML4.0/1,MS4.1/1, Ms1 4.1/1,ms1mx3.5/52, Error ellipse: s-maj=19.7km s-min=13.3km az=54.0*

NEIC ***01*** *03:40:22.0±0.5,2˚.36S×101˚.66E, h10km, mb4.8/3, Error ellipse: s-maj=17.5km s-min=10.5km az=60.0*

DJA ***01*** *03:40:25.0±0.5,2˚S±2˚×10˚2E±˚, h11km±4km, M4.5/8, mb4.6/1, MLv4.5/8*

ISC 01 03:40:23.3±1.4,**2˚.41S**±0˚.04×**101˚.59E**±0˚.06,**h18**km±9km, **n84**,σ1**§34**/94,**mb4.3**/23,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRJI	**Kerinci**	**0.34**	**339**	P	**Pb**	**03 40 31.3**	**+0.2**
MASI	**Maura Aman, Be**	**0.97**	**138**	P	**Pg**	**03 40 41.9**	**-0.4**
MASI				S	**Sn**	**03 40 57.1**	**+1.5**
KSI	**Kapahiang**	**1.59**	**141**	P	**Pb**	**03 40 52.3**	**0.0**
KSI				S	**Sg**	**03 41 14.9**	**+0.2**
PDSI	**Padang**	**1.87**	**323**	P	**Pb**	**03 40 56.4**	**-0.6**
PDSI				S	**Sb**	**03 41 20.4**	**+0.3**
RGRI	**Rengat**	**2.18**	**20**	P	**Pn**	**03 40 59.4**	**+0.6**
RGRI				S	**Sn**	**03 41 26.3**	**+0.9**
PPI	**Padang Panjang**	**2.28**	**329**	P	**Pb**	**03 41 03.3**	**-0.7**
PPI				S	**Sn**	**03 41 28.2**	**+0.4**
MNAI	**Manna**	**2.37**	**145**	P	**Pb**	**03 41 04.6**	**-0.9**
MNAI				S	**Sb**	**03 41 34.9**	**+0.4**
PMBI	**Palembang**	**3.22**	**99**	P	**Pn**	**03 41 13.6**	**+0.5**
PMBI				S	**Sn**	**03 41 50.6**	**-0.5**
MDSI	**Maura Dua**	**3.31**	**129**	P	**Pn**	**03 41 16.3**	**+2.0**
LWLI	**Liwa**	**3.57**	**136**	P	**Pn**	**03 41 20.3**	**+2.2**
KASI	**Kota Agung**	**4.24**	**137**	P	Pn	03 41 31.1	+4.0
KGM	**Kluang**	**4.73**	**22**	P	**Pn**	**03 41 35.0**	**+1.1**
MYKOM	**Kota Tinggi**	**4.75**	**28**	P	**Pn**	**03 41 34.5**	**+0.4**
MYKOM	**Kota Tinggi**	**4.75**	**28**	P	**Pn**	**03 41 34.9**	**+0.8**
MYKOM	**Kota Tinggi**	**4.75**	**28**	S	**Sn**	**03 42 30.2**	**+1.3**
MYKOM	**Kota Tinggi**	**4.75**	**28**	P	**Pn**	**03 41 34.7**	**+0.6**
GSI	**Gunungsitoli**	**5.45**	**313**	P	**Pn**	**03 41 46.4**	**+2.6**
FRIM	**Kepong**	**5.61**	**0**	P	**Pn**	**03 41 47.2**	**+1.2**
PSI	**Prapat**	**5.82**	**333**	Pn	**Pn**	**03 41 51.5**	**+2.4**
PSI				Sn	**Sb**	**03 43 13.6**	**-0.6**
PSI	**Prapat**	**5.82**	**333**	Pn	**Pn**	**03 41 51.5**	**+2.4**
	1.1nm,0.3s,baz=172,slow=8.1,SNR=7.0						
PSI				Sn	**Sb**	**03 43 13.6**	**-0.6**
	0.7nm,0.3s,baz=180,slow=19,SNR=2.5						
PSI				LR	LR	03 44 34.3	
	comp=Z,2µm,20.6s,baz=162,slow=45						
IPM	**Ipoh**	**6.87**	**355**	P	**Pn**	**03 42 05.2**	**+1.8**
IPM	**Ipoh**	**6.87**	**355**	*e*Pn	**Pn**	**03 42 05.9**	**+2.5**
	14nm,0.6s						
IPM				*e*S	**Sb**	**03 43 48.3**	**+4.2**
KULM	**Kulim**	**7.71**	**353**	P	**Pn**	**03 42 17.4**	**+2.6**
KULM	**Kulim**	**7.71**	**353**	*e*Pn	**Pn**	**03 42 13.1**	**-1.7**
KTGM	**Kuala Trenggan**	**7.84**	**11**	P	**Pn**	**03 42 18.9**	**+2.2**
KTGM	**Kuala Trenggan**	**7.84**	**11**	P	**Pn**	**03 42 18.9**	**+2.2**
KAPI	**Kappang**	**18.31**	**99**	*e*Pn	**P**	**03 44 37.5**	**+0.7**
	57nm,1.1s						
KAPI	**Kappang**	**18.31**	**99**	P	**Pn**	**03 44 36.9**	**+0.2**
	0.5nm,0.3s,baz=258,slow=9.7,SNR=9.4						
CMAR	**Chiang Mai Arr**	**20.90**	**353**	P	**P**	**03 45 04.2**	**-0.8**

	63nm,0.3s,baz=102,slow=15,SNR=3.7								
MSVF	**Nonsavu**	8.43	255	*e*Pn	Pn	03 44 05.7	+6.2		
	79nm,1.4s								
RAR	**Rarotonga**	14.04	115	Pn	**Pn**	**03 45 14.8**	**-1.4**		
RAR	**Rarotonga**	14.04	115	Pn	**Pn**	**03 45 14.8**	**-1.4**		
	0.4nm,0.3s,baz=90,slow=7.8,SNR=2.2								
DZM	**Mont Dzumac**	20.08	249	*e*P	Pn	03 46 34.6	+1.8		
	25nm,1.0s								
DZM	**Mont Dzumac**	20.08	249	P	Pn	03 46 34.4	+1.5		
	0.1nm,0.3s,baz=78,slow=19,SNR=4.6								
URZ	**Urewera**	23.97	199	P	**P**	**03 47 08.9**	**-2.8**		
URZ	**Urewera**	23.97	199	P	**P**	**03 47 09.0**	**-2.8**		
	7.5nm,0.8s,baz=12,slow=14,SNR=2.4								
HNR	**Honiara**	26.73	280	P	**P**	**03 47 37.8**	**+0.7**		
HNR	**Honiara**	26.73	280	P	**P**	**03 47 37.8**	**+0.7**		
	38nm,0.4s,baz=188,slow=14,SNR=2.1								
EIDS	**Eidsvold**	34.52	248	*e*P	**P**	**03 48 44.8**	**-1.1**		
	8.7nm,1.2s								
H11S2	**WAKE ISLAND Hy**	39.22	329	T	T	04 31 10.6			
	baz=152,slow=0.7,SNR=39								
H11S3	**WAKE ISLAND Hy**	39.24	329	T	T	04 31 07.2			
	baz=152,slow=0.7,SNR=51								
H11S1	**WAKE ISLAND Hy**	39.24	329	T	T	04 31 15.6			
	baz=152,slow=0.7,SNR=74								
H11N3	**WAKE ISLAND Hy**	40.17	331	T	T	04 32 28.2			
	baz=152,slow=0.7,SNR=103								
H11N1	**WAKE ISLAND Hy**	40.18	331	T	T	04 32 26.9			
	baz=152,slow=0.7,SNR=111								
H11N2	**WAKE ISLAND Hy**	40.19	331	T	T	04 32 29.5			
	baz=152,slow=0.7,SNR=98								
COEN	**Coen**	41.96	266	*e*P	**P**	**03 49 49.2**	**+0.6**		
	130nm,1.0s								
STKA	**Stephens Creek**	43.88	240	*e*P	**P**	**03 50 02.9**	**-1.1**		
	2.3nm,1.0s								
STKA	**Stephens Creek**	43.88	240	P	**P**	**03 50 03.0**	**-1.1**		
	7.0nm,0.9s,baz=92,slow=7.0,SNR=6.8								
WRAB	**Tennant Creek**	49.76	257	*e*P	**P**	**03 50 49.1**	**-1.2**		
	5.1nm,0.8s								
WRA	**Warramunga Arr**	49.77	257	P	**P**	**03 50 48.6**	**-1.7**		
WRA	**Warramunga Arr**	49.77	257	P	**P**	**03 50 48.6**	**-1.7**		
	6.8nm,1.0s,baz=91,slow=7.0,SNR=16								
AS31	**Alice Springs**	50.01	252	*e*P	**P**	**03 50 51.6**	**-0.5**		
ASAR	**Alice Springs**	50.01	252	P	**P**	**03 50 50.8**	**-1.4**		
ASAR	**Alice Springs**	50.01	252	P	**P**	**03 50 50.8**	**-1.4**		
	25nm,0.9s,baz=84,slow=8.3,SNR=78								
FITZ	**Fitzroy Crossi**	58.14	258	P	**P**	**03 51 50.0**	**-1.6**		
FITZ	**Fitzroy Crossi**	58.14	258	P	**P**	**03 51 50.0**	**-1.6**		
	1.9nm,0.8s,baz=162,slow=3.2,SNR=3.0								
SBA	**Scott Base**	62.94	185	*e*P	**P**	**03 52 26.2**	**+2.8**		
	13nm,1.0s								
VNDA	**Vanda**	63.07	186	*e*P	**P**	**03 52 26.0**	**+1.8**		
VNDA	**Vanda**	63.07	186	P	**P**	**03 52 24.6**	**+0.4**		
	6.1nm,0.9s,baz=360,slow=5.6,SNR=27								
CASY	**Casey**	70.13	205	*e*P	**P**	**03 53 09.7**	**+0.2**		
	9.5nm,1.0s								
BFSC	**Mount Baldy Ra**	72.64	46	⇑P	**P**	**03 53 26.6**	**+1.3**		
	baz=73								
EDW2	**Edwards Air Fo**	72.77	45	⇑P	**P**	**03 53 27.6**	**+1.7**		
	baz=73								
MONP	**Monument Peak**	72.78	48	⇓P	**P**	**03 53 27.4**	**+1.1**		
	baz=73								
ISA	**Isabella**	72.88	44	*e*P	**P**	**03 53 27.8**	**+1.2**		
	5.6nm,1.0s								
ISA	**Isabella**	72.88	44	⇓P	**P**	**03 53 28.0**	**+1.4**		
	baz=73								
PFO	**Pinyon Flat Ob**	73.14	47	⇑P	**P**	**03 53 29.8**	**+1.6**		
	baz=73								
LRMC	**Laurel Mountai**	73.30	45	⇑P	**P**	**03 53 30.2**	**+1.0**		
	baz=74								
BELC	**Belle Mtn. Jos**	73.67	47	⇑P	**P**	**03 53 33.0**	**+1.5**		
	baz=74								
MPMC	**Manual Prospec**	73.76	44	⇑P	**P**	**03 53 32.8**	**+0.9**		
	baz=74,SNR=7.5								
GSC	**Goldstone**	73.81	45	⇑P	**P**	**03 53 33.1**	**+1.0**		
	baz=74								
BC3	**Big Chuckawall**	73.87	47	⇓P	**P**	**03 53 33.6**	**+1.1**		
	baz=74								
HEC	**Hector,Ludlow**	73.88	46	⇓P	**P**	**03 53 33.9**	**+1.4**		
	baz=74								
GLA	**Glamis**	74.00	48	⇓P	**P**	**03 53 34.7**	**+1.4**		
	baz=74								
GMRC	**Granite Mounta**	74.32	46	⇓P	**P**	**03 53 36.5**	**+1.3**		
	baz=75								
QSPA	**South Pole Qui**	74.34	180	*e*P	**P**	**03 53 35.9**	**+1.1**		
	11nm,0.9s								
IRM	**Iron Mountain**	74.35	47	⇓P	**P**	**03 53 36.6**	**+1.3**		
	baz=75								
GRAC	**Grapevine Rang**	74.36	44	⇑P	**P**	**03 53 36.6**	**+1.3**		
	baz=75								
FURC	**Furnace Creek,**	74.41	44	⇓P	**P**	**03 53 36.7**	**+1.3**		
	baz=75								
SHOC	**Shoshone**	74.49	45	⇑P	**P**	**03 53 37.0**	**+1.0**		
	baz=75								
NVAR	**Mina Array Bea**	74.56	42	P	**P**	**03 53 37.2**	**+0.6**		
NVAR	**Mina Array Bea**	74.56	42	P	**P**	**03 53 37.2**	**+0.6**		
	5.6nm,1.1s,baz=226,slow=9.5,SNR=18								
PAHR	**Pah Rah Range**	74.62	40	*e*P	**P**	**03 53 37.4**	**+0.6**		
	8.4nm,1.1s								
113A	**Mohawk Valley,**	74.62	49	⇑P	**P**	**03 53 38.3**	**+1.5**		
	baz=75								
PDMCI	**Parker Dam,Lak**	75.14	47	⇓P	**P**	**03 53 41.4**	**+1.6**		
	baz=75								
Z14A	**Wintersburg**	75.52	49	⇓P	**P**	**03 53 43.3**	**+1.3**		
	baz=76								
K05A	**Summer Lake**	75.52	37	*e*P	**P**	**03 53 43.5**	**+1.5**		
SHPR	**Sheep Range**	75.58	45	*e*P	**P**	**03 53 43.6**	**+1.1**		
	6.1nm,1.1s								
W13A	**Hualapai Mount**	75.73	47	⇓P	**P**	**03 53 44.5**	**+1.0**		
	baz=76								
Y14A	**Wickenburg**	75.76	48	⇑P	**P**	**03 53 44.6**	**+1.1**		
	baz=76								
H04A	**Detroit Lake**	76.01	35	*e*P	**P**	**03 53 45.8**	**+1.2**		
	61nm,2.0s								
R11A	**Troy Canyon, C**	76.29	43	*e*P	**P**	**03 53 47.2**	**+0.7**		
	7.4nm,1.4s								
R11A	**Troy Canyon, C**	76.29	43	⇓P	**P**	**03 53 47.0**	**+0.5**		
	baz=77								
KSRS	**Korea Array**	76.37	316	P	**P**	**03 53 47.0**	**+0.2**		
	0.4nm,0.4s,baz=121,slow=5.9,SNR=3.5								
KSAR	**Wonju Array Be**	76.39	316	P	**P**	**03 53 47.0**	**+0.1**		
X16A	**Lo Mia Camp, P**	77.12	48	⇓P	**P**	**03 53 52.5**	**+1.2**		
	baz=77,SNR=10								
I07A	**Izee**	77.15	37	*e*P	**P**	**03 53 52.3**	**+1.1**		
	24nm,1.8s								
319A	**Douglas**	77.28	52	⇑P	**P**	**03 53 53.7**	**+1.5**		
	baz=78								
J08A	**Circle Bar Ran**	77.32	38	*e*P	**P**	**03 53 53.1**	**+1.0**		
	11nm,1.1s								
U15A	**North Rim**	77.52	46	⇓P	**P**	**03 53 54.6**	**+0.9**		
	baz=78,SNR=9.5								
WUAZ	**Wupatki**	77.71	48	⇓P	**P**	**03 53 55.9**	**+1.3**		
	baz=78								
ELK	**Elko**	77.82	41	*e*P	**P**	**03 53 55.3**	**+0.2**		
	5.7nm,1.3s								
320A	**Kipp Ranch, An**	77.84	52	⇑P	**P**	**03 53 56.6**	**+1.2**		
	baz=78								
SEW	**Seward**	77.99	12	*e*P	P	03 54 01.1	+5.8		
220A	**Playas Peak, P**	78.10	52	⇓P	**P**	**03 53 58.1**	**+1.3**		
	baz=78								
G08A	**Pilot Rock**	78.19	36	*e*P	**P**	**03 53 57.8**	**+0.9**		
	7.5nm,1.1s								
X18A	**Snowflake**	78.26	49	⇑P	**P**	**03 53 59.1**	**+1.4**		
	baz=78								
120A	**U Bar Ranch, L**	78.31	51	⇓P	**P**	**03 53 59.5**	**+1.5**		
	baz=79								
Z20A	**Nine Sixteen R**	78.60	51	⇓P	**P**	**03 54 01.0**	**+1.4**		
	baz=79								
MVU	**Marysvale**	78.62	45	*e*P	**P**	**03 54 01.4**	**+1.7**		
	6.0nm,1.1s								
MFID	**Camas Ranch**	78.93	39	⇑P	**P**	**03 54 01.8**	**+0.7**		
	baz=79								
121A	**Cookes Peak, D**	78.94	52	⇑P	**P**	**03 54 02.5**	**+1.0**		
	baz=79								
DUG	**Dugway**	79.09	43	*e*P	**P**	**03 54 04.0**	**+1.9**		
	5.4nm,1.0s								
DUG	**Dugway**	79.09	43	⇑P	**P**	**03 54 03.3**	**+1.2**		
	baz=79								
Y20A	**Horse Springs,**	79.12	50	⇑P	**P**	**03 54 03.7**	**+1.2**		
	baz=79,SNR=5.6								
MDJ	**Mudanjiang**	79.27	322	P	**P**	**03 54 03.5**	**+0.8**		
MDJ				AMB	AMB				
	comp=Z,5.0nm,0.9s								
MDJ				AMB	AMB				
	comp=Z,400nm,2.8s								
X20A	**Quemado**	79.32	50	⇓P	**P**	**03 54 05.0**	**+1.4**		
	baz=80								
Z21A	**St. Cloud Mine**	79.37	51	⇑P	**P**	**03 54 05.1**	**+1.2**		
	baz=80,SNR=9.5								

F10A	**Beach Ranch, E**	79.57	36	*e*P	**P**	**03 54 04.7**	**+0.2**
	96nm,2.6s						
W20A	**Ramah**	79.59	49	⇓P	**P**	**03 54 06.1**	**+1.1**
	baz=80,SNR=9.6						
Y21A	**Point of Rocks**	79.69	50	⇓P	**P**	**03 54 06.9**	**+1.3**
	baz=80						
X21A	**Alamocita Cree**	79.80	50	⇑P	**P**	**03 54 07.5**	**+1.3**
	baz=80						
HLID	**Hailey**	79.87	39	*e*P	**P**	**03 54 07.3**	**+1.0**
	9.9nm,1.1s						
HLID	**Hailey**	79.87	39	⇑P	**P**	**03 54 07.3**	**+1.0**
	baz=80						
Z22A	**Elephant Butte**	79.88	51	⇓P	**P**	**03 54 07.8**	**+1.3**
	baz=80						
V20A	**Brimhall**	79.92	48	⇓P	**P**	**03 54 08.1**	**+1.3**
	baz=80						
U20A	**Newcomb**	80.15	48	⇓P	**P**	**03 54 09.6**	**+1.6**
	baz=80						
Y22A	**Socorro**	80.18	51	⇑P	**P**	**03 54 09.9**	**+1.7**
	baz=80						
324A	**Moseley Ranch,**	80.23	53	⇑P	**P**	**03 54 09.7**	**+1.2**
	baz=80						
425A	**Indio Mountain**	80.34	54	⇑P	**P**	**03 54 09.7**	**+0.6**
	baz=81,SNR=6.9						
NJ2	**Nanjing**	80.35	307	*e*P	**P**	**03 54 09.3**	**+0.4**
NJ2				AMB	AMB		
	comp=Z,9.0nm,0.7s						
Z23A	**Rita Site, Whi**	80.44	52	⇑P	**P**	**03 54 11.0**	**+1.5**
	baz=81						
224A	**Cornudas Mount**	80.47	53	⇑P	**P**	**03 54 11.1**	**+1.4**
	baz=81						
626A	**Big Bend Ranch**	80.50	56	⇑P	**P**	**03 54 11.2**	**+1.3**
	baz=81						
PV10	**Paradox Valley**	80.73	46	*e*P	**P**	**03 54 11.7**	**+0.6**
	115nm,0.8s						
526A	**Mary Lane Ranc**	80.75	55	⇓P	**P**	**03 54 12.6**	**+1.3**
	baz=81						
124A	**Stringfield Ra**	80.78	52	⇑P	**P**	**03 54 13.0**	**+1.5**
	baz=81						
TXAR	**Lajitas Array**	80.79	56	P	**P**	**03 54 13.0**	**+1.6**
TXAR	**Lajitas Array**	80.79	56	P	**P**	**03 54 13.0**	**+1.6**
	3.4nm,1.1s						
U21A	**Nageezi**	80.79	48	⇑P	**P**	**03 54 12.2**	**+0.7**
	baz=81,SNR=6.7						
Y23A	**Lovelace Mesa,**	80.86	51	⇑P	**P**	**03 54 13.0**	**+1.2**
	baz=81						
PV01	**Paradox Valley**	80.94	46	*e*P	**P**	**03 54 12.5**	**+0.2**
	500nm,1.1s						
S20A	**Disappointment**	80.94	47	⇑P	**P**	**03 54 13.4**	**+1.1**
	baz=81						
ANMO	**Albuquerque**	81.00	50	*e*P	**P**	**03 54 13.2**	**+0.6**
	9.8nm,1.4s						
225A	**Deer Hill, Car**	81.02	53	⇓P	**P**	**03 54 14.2**	**+1.4**
	baz=81						
426A	**McDonald Obser**	81.04	55	⇑P	**P**	**03 54 13.4**	**+0.5**
	baz=81,SNR=7.8						
627A	**Terlingua Ranc**	81.06	56	⇑P	**P**	**03 54 13.5**	**+0.6**
	baz=81,SNR=8.1						
T21A	**Navajo Lake**	81.14	48	⇑P	**P**	**03 54 14.5**	**+1.2**
	baz=81						
527A	**Woodward Ranch**	81.16	55	⇓P	**P**	**03 54 14.7**	**+1.2**
	baz=81						
Y24A	**Capitan**	81.32	51	⇑P	**P**	**03 54 14.7**	**+0.4**
	baz=82,SNR=5.3						
MCK	**McKinley**	81.43	11	*e*P	**P**	**03 54 13.9**	**-0.1**
226B	**Tecolote Peak,**	81.51	53	⇑P	**P**	**03 54 15.9**	**+0.7**
	baz=82,SNR=7.3						
Q20A	**Ridgley Place,**	81.51	46	⇓P	**P**	**03 54 16.3**	**+1.1**
	baz=82						
O19A	**Miners Draw (B**	81.59	44	⇓P	**P**	**03 54 16.9**	**+1.3**
	baz=82						
Z25A	**Roswell**	81.59	52	⇓P	**P**	**03 54 16.9**	**+1.2**
	baz=82						
T22A	**Edith**	81.60	48	⇑P	**P**	**03 54 16.9**	**+1.1**
	baz=82						
427A	**Hayter Ranch,**	81.61	55	⇑P	**P**	**03 54 17.3**	**+1.5**
	baz=82						
RRI2	**Red Ridge**	81.67	41	*e*P	**P**	**03 54 16.9**	**+0.9**
	14nm,1.4s						
P20A	**De Beque**	81.70	45	⇓P	**P**	**03 54 17.4**	**+1.2**
	baz=82						
U23A	**El Rito**	81.81	49	⇓P	**P**	**03 54 17.9**	**+1.0**
	baz=82						
528A	**Cox Ranch, San**	81.82	56	⇑P	**P**	**03 54 17.8**	**+0.9**
	baz=82						
126A	**Clayton Basin,**	81.86	53	⇓P	**P**	**03 54 18.1**	**+1.0**
	baz=82						
Y25A	**Mesa, Roswell**	81.88	52	⇓P	**P**	**03 54 18.3**	**+1.1**
	baz=82						
W24A	**Lazy 6 Ranch,**	81.89	50	⇑P	**P**	**03 54 18.5**	**+1.1**
	baz=82						
MSO	**Missoula**	81.93	37	*e*P	**P**	**03 54 17.7**	**+0.6**
	5.2nm,1.0s						
MSO	**Missoula**	81.93	37	⇑P	**P**	**03 54 18.3**	**+1.2**
	baz=82						
DLMT	**Dillon**	81.93	38	*e*P	**P**	**03 54 18.6**	**+1.4**
	16nm,1.6s						
REDW	**Red Top Meadow**	81.97	41	*e*P	**P**	**03 54 18.3**	**+0.8**
	12nm,1.3s						
TPAW	**Teton Pass**	81.97	41	*e*P	**P**	**03 54 18.2**	**+0.5**
	10nm,1.3s						
S22A	**4UR Ranch, Cre**	81.98	47	⇑P	**P**	**03 54 18.6**	**+0.8**
	baz=82						
BSMT	**Bassoo Peak**	82.02	35	*e*P	**P**	**03 54 17.6**	**-0.1**
SNOW	**Snow King Moun**	82.08	41	*e*P	**P**	**03 54 19.4**	**+1.2**
	16nm,1.4s						
O20A	**White River Ci**	82.10	45	⇑P	**P**	**03 54 19.2**	**+0.9**
	baz=82						
428A	**Kincaid Ranch,**	82.12	55	⇓P	**P**	**03 54 19.4**	**+0.9**
	baz=82						
Z26A	**Caprock**	82.15	52	⇓P	**P**	**03 54 19.1**	**+0.5**
	baz=82						
X25A	**Clemmons Ranch**	82.16	51	⇑P	**P**	**03 54 19.5**	**+0.8**
	baz=82						
IMW	**Indian Meadow**	82.19	40	*e*P	**P**	**03 54 20.3**	**+1.5**
	7.9nm,1.1s						
MOOW	**Moose Ponds**	82.23	41	*e*P	**P**	**03 54 20.4**	**+1.4**
	49nm,2.5s						
R22A	**Saguache, Gunn**	82.25	47	⇑P	**P**	**03 54 20.8**	**+1.5**
	baz=82						
LOHW	**Long Hollow**	82.25	41	*e*P	**P**	**03 54 20.4**	**+1.4**
	20nm,1.9s						
529A	**Stev Forest Ra**	82.25	56	⇑P	**P**	**03 54 20.1**	**+0.9**
	baz=82						
328A	**Wristen Ranch,**	82.28	54	⇓P	**P**	**03 54 20.2**	**+0.9**
	baz=82						
P21A	**Newcastle**	82.36	45	⇑P	**P**	**03 54 20.8**	**+1.1**
	baz=83						
QLMT	**Earthquake Lak**	82.36	39	*e*P	**P**	**03 54 21.1**	**+1.5**
	0.2nm,0.2s						
CHMT	**Chamberlain Mo**	82.37	37	*e*P	**P**	**03 54 19.7**	**+0.1**
127A	**Arkansas Junct**	82.38	53	⇑P	**P**	**03 54 20.8**	**+1.0**
	baz=83						
N20A	**Spence Gulch,**	82.42	44	⇑P	**P**	**03 54 20.9**	**+0.9**
	baz=83						
Q22A	**Crested Butte,**	82.43	46	⇓P	**P**	**03 54 21.2**	**+1.0**
	baz=83						
PDAR	**Pinedale Array**	82.50	42	P	**P**	**03 54 20.0**	**-0.4**
PDAR	**Pinedale Array**	82.50	42	P	**P**	**03 54 20.0**	**-0.4**
	2.6nm,1.1s,baz=207,slow=3.0,SNR=11						
SMCO	**Snowmass**	82.53	46	*e*P	**P**	**03 54 23.4**	**+2.6**
	4.2nm,0.9s						
W25A	**X Bar L Ranch,**	82.60	50	⇑P	**P**	**03 54 21.9**	**+0.9**
	baz=83						
COLA	**College**	82.67	11	*e*P	**P**	**03 54 20.3**	**-0.1**
	22nm,0.8s						
429A	**Davenport Ranc**	82.71	56	⇑P	**P**	**03 54 21.7**	**+0.1**
	baz=83,SNR=11						
T24B	**San Luis**	82.71	48	⇓P	**P**	**03 54 22.5**	**+0.8**
	baz=83						
V25A	**Rancho No Teng**	82.75	50	⇑P	**P**	**03 54 22.5**	**+0.8**
	baz=83						
ILAR	**Eielson Array**	82.75	11	P	**P**	**03 54 20.1**	**-0.8**
ILAR	**Eielson Array**	82.75	11	P	**P**	**03 54 20.1**	**-0.8**
	0.8nm,0.7s,baz=229,slow=5.4,SNR=11						
Z27A	**Tatum**	82.75	53	⇓P	**P**	**03 54 22.6**	**+0.8**
	baz=83						
M20A	**Sweetwater, Wa**	82.78	43	⇑P	**P**	**03 54 23.1**	**+1.2**
	baz=83						
L20A	**Wamsutter**	82.92	43	⇓P	**P**	**03 54 23.8**	**+1.3**
	baz=83						
SDCO	**Great Sand Dun**	82.92	48	*e*P	**P**	**03 54 23.3**	**+0.5**
	2.7nm,1.2s						
530A	**J-C Ranch, Com**	82.97	56	⇑P	**P**	**03 54 23.8**	**+0.9**
	baz=83						
329A	**Wagon Wheel Ra**	82.98	55	⇓P	**P**	**03 54 24.2**	**+1.3**
	baz=83						
K19A	**Absolon Red Bu**	82.98	42	⇓P	**P**	**03 54 23.7**	**+0.9**

	baz=83						
Y27A	**Causey**	83.02	52	⇓P	**P**	**03 54 24.2**	**+1.1**
	baz=83						
128A	**Castleberry Fa**	83.03	53	⇓P	**P**	**03 54 24.3**	**+1.1**
	baz=83						
W26A	**Owens Ranch, T**	83.06	51	⇑P	**P**	**03 54 24.5**	**+1.2**
	baz=83						
J19A	**Crowheart**	83.06	42	⇓P	**P**	**03 54 24.5**	**+1.3**
	baz=83						
S24A	**Houchin Ranch,**	83.08	48	⇑P	**P**	**03 54 24.7**	**+1.1**
	baz=83						
U25A	**Circle Dot Ran**	83.14	49	⇓P	**P**	**03 54 24.9**	**+1.1**
	baz=83						
Q23A	**Hartsel**	83.20	47	⇑P	**P**	**03 54 25.2**	**+1.0**
	baz=84						
O22A	**Kremmling**	83.27	45	⇓P	**P**	**03 54 25.6**	**+1.1**
	baz=84						
430A	**Baggett Ranch,**	83.30	56	⇓P	**P**	**03 54 25.8**	**+1.2**
	baz=84						
631A	**Perdido Creek**	83.30	57	⇑P	**P**	**03 54 26.0**	**+1.4**
	baz=84						
V26A	**Tequesquite Ra**	83.34	50	⇓P	**P**	**03 54 25.8**	**+1.1**
	baz=84						
MSTX	**Muleshoe**	83.35	52	*e*P	**P**	**03 54 26.0**	**+1.1**
	10nm,1.0s						
MSTX	**Muleshoe**	83.35	52	⇓P	**P**	**03 54 25.9**	**+1.1**
	baz=84						
H18A	**Shoshone NF, C**	83.37	40	⇑P	**P**	**03 54 26.1**	**+1.2**
	baz=84						
Z28A	**Tucker Farm, M**	83.37	53	⇓P	**P**	**03 54 26.5**	**+1.6**
	baz=84						
M21A	**Separation Pea**	83.38	44	⇓P	**P**	**03 54 25.8**	**+0.8**
	baz=84						
X27A	**F and S Farms,**	83.38	51	⇓P	**P**	**03 54 26.6**	**+1.6**
	baz=84						
P23A	**Jefferson**	83.40	46	⇑P	**P**	**03 54 26.6**	**+1.3**
	baz=84						
R24A	**Sanders Place,**	83.42	47	⇑P	**P**	**03 54 26.7**	**+1.5**
	baz=84						
T25A	**Trinidad**	83.45	49	⇓P	**P**	**03 54 26.6**	**+1.2**
	baz=84						
I19A	**Meeteetse**	83.47	41	⇑P	**P**	**03 54 26.5**	**+1.1**
	baz=84						
129A	**Stewart Farms,**	83.52	54	⇑P	**P**	**03 54 26.7**	**+1.0**
	baz=84						
L21A	**Rawlins**	83.54	43	⇑P	**P**	**03 54 26.2**	**+0.5**
	baz=84						
W27A	**Bowe Ranch, En**	83.58	51	⇑P	**P**	**03 54 26.9**	**+0.9**
	baz=84						
531A	**Rocksprings**	83.61	56	⇑P	**P**	**03 54 27.1**	**+0.9**
	baz=84						
U26A	**Atchley Ranch,**	83.62	50	⇑P	**P**	**03 54 27.0**	**+0.7**
	baz=84						
N22A	**Wattenberg Ran**	83.62	45	⇑P	**P**	**03 54 26.9**	**+0.7**
	baz=84						
S25A	**Robets Cordova**	83.65	48	⇑P	**P**	**03 54 27.1**	**+0.7**
	baz=84						
J20A	**Shoshoni**	83.73	42	⇑P	**P**	**03 54 27.4**	**+0.8**
	baz=84						
431A	**Sonora**	83.75	56	⇑P	**P**	**03 54 28.0**	**+1.1**
	baz=84						
H19A	**Powell**	83.79	40	⇓P	**P**	**03 54 28.1**	**+1.2**
	baz=84						
Z29A	**Hungry Hill Ra**	83.89	53	⇓P	**P**	**03 54 28.5**	**+1.0**
	baz=84						
K21A	**Alcova**	83.93	43	⇓P	**P**	**03 54 28.3**	**+0.6**
	baz=84						
632A	**Uvalde**	83.98	57	⇑P	**P**	**03 54 29.3**	**+1.3**
	baz=84						
I20A	**Worland**	83.98	41	⇑P	**P**	**03 54 28.6**	**+0.7**
	baz=84						
X28A	**Dimmitt**	84.01	52	⇑P	**P**	**03 54 29.4**	**+1.2**
	baz=84						
N23A	**Red Feather La**	84.01	45	⇑P	**P**	**03 54 29.3**	**+1.0**
	baz=84						
532A	**Rocksprings**	84.11	57	⇑P	**P**	**03 54 30.2**	**+1.5**
	baz=84						
J21A	**Lysite**	84.13	42	⇑P	**P**	**03 54 29.4**	**+0.6**
	baz=84						
Y29A	**Porterfield Fa**	84.15	53	⇑P	**P**	**03 54 30.1**	**+1.2**
	baz=84						
U27A	**Thompson Grove**	84.31	50	⇑P	**P**	**03 54 30.2**	**+0.5**
	baz=85						
S26A	**Kim**	84.33	49	⇑P	**P**	**03 54 31.1**	**+1.3**
	baz=85						
Z30A	**Sanderson Ranc**	84.34	53	⇓P	**P**	**03 54 30.8**	**+1.0**
	baz=85						
X29A	**Tulia**	84.36	52	⇑P	**P**	**03 54 30.9**	**+0.9**
	baz=85						
F19A	**Roth Farm, Mol**	84.39	39	⇑P	**P**	**03 54 31.0**	**+1.1**
	baz=85						
M23A	**Laramie**	84.41	44	⇓P	**P**	**03 54 31.1**	**+0.8**
	baz=85						
I21A	**Big Trails, Te**	84.45	42	⇑P	**P**	**03 54 31.2**	**+0.9**
	baz=85

HHC					AMB	AMB		
	comp=Z,20nm,1.1s							
HHC					LR	LR		
	comp=N,380nm,17.2s							
HHC					LR	LR		
	comp=E,500nm,15.7s							
HHC					LR	LR		
	comp=Z,590nm,15.9s							
YKA	**Yellowknife Ar**	**90.38**	**23**	P	**P**	**03 54 58.0**	**-0.2**	
YKA	**Yellowknife Ar**	**90.38**	**23**	P	**P**	**03 54 58.0**	**-0.2**	
	1.1nm,0.9s,baz=246,slow=4.6,SNR=2.8							
KMI	**Kunming**	**91.15**	**296**	P	**P**	**03 55 01.6**	**-1.5**	
KMI				pP	**pP**	**03 55 06.8**	**0.0**	
KMI				AMB	AMB			
	comp=Z,11nm,0.5s							
CD2	**Chengdu**	**91.97**	**301**	P	**P**	**03 55 07.5**	**+1.0**	
CD2				AMB	AMB			
	comp=Z,7.0nm,0.5s							
SNAA	**Sanae**	**92.60**	**177**	*e*P	**P**	**03 55 08.8**	**+0.1**	
	11nm,1.2s							
CMAR	**Chiang Mai Arr**	**92.71**	**288**	P	**P**	**03 55 10.8**	**+0.7**	
CMAR	**Chiang Mai Arr**	**92.71**	**288**	P	**P**	**03 55 10.8**	**+0.7**	
	0.9nm,0.3s,baz=101,slow=3.3,SNR=5.2							
SONM	**Songino Array**	**95.07**	**318**	P	**P**	**03 55 21.5**	**+1.0**	
SONM	**Songino Array**	**95.07**	**318**	P	**P**	**03 55 21.5**	**+1.0**	
	0.4nm,0.7s,baz=64,slow=5.0,SNR=2.9							
ARCES	**ARCESS Array B**	**124.91**	**352**	PKP	**PKPdf**	**04 00 57.0**	**+0.1**	
ARCES	**ARCESS Array B**	**124.91**	**352**	PKP	**PKPdf**	**04 00 57.0**	**+0.1**	
	3.8nm,0.9s,baz=40,slow=1.5,SNR=3.2							
AKASG	**Malin Array Be**	**140.62**	**337**	PKPpre	PKPpre	04 01 23.8		
AKASG	**Malin Array Be**	**140.62**	**337**	PKhKP	PKPpre	04 01 23.8		
	0.2nm,0.3s,baz=18,slow=1.7,SNR=2.9							
CLL	**Collm**	**144.12**	**353**	*e*PKPpre	PKPpre	04 01 30.0		
CLL				*i* PKPdf	**PKPdf**	**04 01 33.3**	**+0.2**	
CLL				*e*(pPKPdf)		04 01 37.0		
UPC	**Upice**	**144.47**	**350**	*e*PKP	**PKPab**	**04 01 31.5**	**-0.5**	
UPC				*ep*PKP	**PKiKP**	**04 01 36.3**	**-1.1**	
DPC	**Dobruska-Polom**	**144.56**	**349**	*e*PKP	PKPbc	04 01 32.9	+0.3	
DPC				*ep*PKP	pPKPdf	04 01 37.0	-0.8	
OKC	**Ostrava-Krasne**	**144.69**	**347**	*e*PKP	PKPbc	04 01 33.4	+0.5	
KRLC	**Kraliky**	**144.74**	**349**	*e*PKP	**PKPdf**	**04 01 34.3**	**0.0**	
MEM	**Membach**	**145.19**	**1**	PKP	**PKPab**	**04 01 34.8**	**+0.3**	
PRU	**Pruhonice**	**145.21**	**351**	*e*PKP	**PKPbc**	**04 01 34.7**	**+0.1**	
PRU				*ep*PKP	**pPKPdf**	**04 01 38.5**	**-0.3**	
SNF	**Seneffe**	**145.24**	**3**	PKP	**PKPdf**	**04 01 35.1**	**+0.1**	
BCLA	**Clavier**	**145.36**	**1**	PKP	**PKPbc**	**04 01 34.8**	**-0.2**	
KMBO	**Kilima Mbogo**	**145.40**	**244**	PKPbc	**PKPab**	**04 01 37.3**	**+0.5**	
KMBO				*e*PKPdf	**PKPdf**	**04 01 37.7**	**+0.9**	
KMBO	**Kilima Mbogo**	**145.40**	**244**	PKPbc	**PKPab**	**04 01 37.3**	**+0.5**	
	4.4nm,1.0s,baz=63,slow=6.8,SNR=7.0							
VRAC	**Vranov**	**145.51**	**348**	PKPbc	**PKPab**	**04 01 35.9**	**+0.1**	
VRAC	**Vranov**	**145.51**	**348**	PKPbc	**PKPab**	**04 01 35.9**	**+0.1**	
	2.7nm,0.3s,baz=222,slow=4.9,SNR=7.9							
DOU	**Dourbes**	**145.66**	**2**	PKP	**PKPab**	**04 01 36.5**	**+0.1**	
TREC	**Trest**	**145.72**	**350**	*e*PKP	**PKPab**	**04 01 36.7**	**0.0**	
GRFO	**Grafenberg**	**145.90**	**355**	*e*PKPdf	**PKPbc**	**04 01 37.1**	**+0.2**	
WLF	**Walferdange**	**146.13**	**1**	PKP	**PKPab**	**04 01 38.8**	**+0.7**	
MLR	**Muntele Rosu**	**146.15**	**335**	PKPbc	**PKPbc**	**04 01 38.0**	**+0.1**	
MLR	**Muntele Rosu**	**146.15**	**335**	PKPbc	**PKPbc**	**04 01 38.0**	**+0.1**	
	0.8nm,0.7s,baz=319,slow=5.5,SNR=7.1							
KHC	**Kasperske Hory**	**146.18**	**352**	*e*PKP	**PKPdf**	**04 01 37.4**	**+0.6**	
KHC				*ep*PKP	**PKiKP**	**04 01 42.0**	**+1.0**	
KHC	**Kasperske Hory**	**146.18**	**352**	*e*PKPbc	**PKPab**	**04 01 38.4**	**0.0**	
BR131	**Keskin Array S**	**146.39**	**321**	*e*PKPbc	**PKPbc**	**04 01 38.9**	**0.0**	
BRTR	**Keskin Array B**	**146.39**	**321**	PKPbc	**PKPbc**	**04 01 38.5**	**-0.4**	
BRTR	**Keskin Array B**	**146.39**	**321**	PKPbc	**PKPbc**	**04 01 38.5**	**-0.4**	
	7.0nm,0.9s,baz=114,slow=1.8,SNR=23							
GEC2	**GERESS Array S**	**146.44**	**351**	*e*PKPab	**PKPab**	**04 01 39.6**	**+0.1**	
GERES	**GERESS Array B**	**146.44**	**351**	PKPbc	**PKPbc**	**04 01 39.0**	**+0.4**	
GERES	**GERESS Array B**	**146.44**	**351**	PKPbc	**PKPbc**	**04 01 39.0**	**+0.4**	
	2.5nm,0.9s,baz=29,slow=3.0,SNR=18							
CONA	**Conrad Observa**	**146.97**	**349**	↑*i* PKPab	**PKPab**	**04 01 41.1**	**-0.4**	
	12nm,1.1s,SNR=6.1							
BFO	**Black Forest**	**147.44**	**358**	*e*PKPbc	**PKPbc**	**04 01 41.9**	**+0.5**	
ECH	**Echery**	**147.58**	**359**	PKP	**PKPbc**	**04 01 41.7**	**-0.1**	
ECH	**Echery**	**147.58**	**359**	*e*PKPbc	**PKPbc**	**04 01 42.1**	**+0.4**	
FELD	**Feldberg im Sc**	**147.90**	**358**	PKP	**PKPbc**	**04 01 43.2**	**+0.4**	
MOF	**Molkenrain**	**147.94**	**359**	PKP	**PKPbc**	**04 01 43.4**	**+0.5**	
ASF	**Jabal al Asfar**	**147.97**	**306**	PKPbc	**PKPbc**	**04 01 42.9**	**-0.5**	
ASF	**Jabal al Asfar**	**147.97**	**306**	PKPbc	**PKPbc**	**04 01 42.9**	**-0.5**	
	1.7nm,0.8s,baz=0.0,slow=4.0,SNR=3.1							
DAVA	**Damuels**	**148.40**	**356**	*i* sPKPdf	sPKPdf	04 01 44.8	-0.9	
	11nm,0.9s,SNR=5.4							
ABTA	**Abfaltersbach**	**148.66**	**352**	↑*i* PKPdf	**PKPdf**	**04 01 40.6**	**-0.5**	
	2.9nm,1.1s							
ABTA				*i* sPKPdf	**sPKPdf**	**04 01 44.8**	**-1.3**	
	12nm,1.0s,SNR=5.8							
MMAI	**Mount Meron Ar**	**148.76**	**309**	PKPbc	**PKPbc**	**04 01 44.0**	**-1.5**	
MMAI	**Mount Meron Ar**	**148.76**	**309**	PKPbc	**PKPbc**	**04 01 44.0**	**-1.5**	
	2.6nm,0.6s,baz=80,slow=1.9,SNR=3.7							
TUE	**Stuetta**	**149.24**	**356**	*e*PKPdf	**PKPdf**	**04 01 42.5**	**+0.4**	
TUE				*e*PKPbc	**PKPbc**	**04 01 47.0**	**+0.6**	
TUE				*e*PKPab	**PKPab**	**04 01 50.8**	**-0.1**	
SENIN	**Lac Senin/Sane**	**149.43**	**359**	*e*PKPab	**PKPab**	**04 01 47.8**	**+0.9**	
AGO	**Saint Agoulin**	**149.61**	**5**	PKP	**PKPab**	**04 01 50.0**	**-2.1**	
PLDF	**La Plantade**	**149.73**	**4**	PKP	**PKPbc**	**04 01 47.5**	**0.0**	
PYM	**Petit Puy Mans**	**149.90**	**5**	PKP	**PKPdf**	**04 01 43.9**	**+0.8**	
LBL	**Lubilhac**	**150.43**	**5**	PKP	**PKPbc**	**04 01 50.0**	**+0.8**	
SSB	**Saint Sauveur**	**150.47**	**3**	*e*PKPbc	**PKPbc**	**04 01 48.8**	**-0.4**	
BNI	**Bardonecchia**	**150.75**	**360**	*e*PKPbc	**PKPbc**	**04 01 51.3**	**+1.3**	
TOUF	**Mont Tournerai**	**151.78**	**359**	PKP	**PKPbc**	**04 01 51.9**	**-0.6**	
AUTN	**L'Aution**	**151.80**	**359**	PKP	**PKPbc**	**04 01 52.9**	**+0.3**	
SAOF	**Saorge**	**151.80**	**359**	PKP	**PKPbc**	**04 01 52.3**	**-0.1**	
LUCF	**Luceram**	**151.90**	**359**	PKP	**PKPbc**	**04 01 54.0**	**+1.3**	
ESDC	**Sonseca Array**	**154.40**	**19**	PKP	**PKPdf**	**04 01 49.8**	**-0.2**	
ESDC	**Sonseca Array**	**154.40**	**19**	PKP	**PKPdf**	**04 01 49.7**	**-0.2**	
	0.3nm,0.6s,baz=335,slow=5.7,SNR=3.7							
DBIC	**Dimbokro**	**165.62**	**127**	PKPab	**PKPab**	**04 03 01.6**	**-0.2**	
DBIC	**Dimbokro**	**165.62**	**127**	PKPab	**PKPab**	**04 03 01.6**	**-0.2**	
	12nm,1.2s,baz=166,slow=8.9,SNR=3.8							
TORD	**Torodi Ar. Bea**	**174.61**	**118**	PKP	**PKPdf**	**04 02 07.9**	**-0.3**	
TORD				PKPab	**PKPab**	**04 03 41.3**	**-0.3**	
TORD	**Torodi Ar. Bea**	**174.61**	**118**	PKP	**PKPdf**	**04 02 07.9**	**-0.3**	
	1.1nm,1.1s,baz=318,slow=2.0,SNR=4.7							
TORD				PKPab	**PKPab**	**04 03 41.3**	**-0.3**	
	2.2nm,1.1s,baz=254,slow=5.5,SNR=5.9							

*IDC **01** 03:52:28.1±2.1,46.02°S×166.04°E,h0km,mb3.5/1, mb1 4.1/2,mb1mx3.6/15,mbtmp3.9/2,ML4.4/1,MS3.6/1, Ms1 3.6/1,ms1mx3.5/24,Error ellipse: s-maj=75.6km s-min=31.3km az=165.0*

*ISCJB **01** 03:52:29.1±1.5,46.14S±0.07°×165.92E±0.09,h22km±9km, mb3.8/1,Error ellipse: s-maj=12.8km s-min=9.9km az=24.2*

*NEIC **01** 03:52:30.0,46.23S×165.97E,h13km,ML4.3(WEL),After WEL.*

*WEL **01** 03:52:30.9±0.7,46.09S×166.03E,h25km±3km,ML4.2/14, Error ellipse: s-maj=6.9km s-min=2.9km az=90.0*

ISC 01 03:52:28.4±3.6,46.16S±0.06°×166.00E±0.07,h4km±22km, n46,σ1s09/44,1C,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.47**	**92**	↑P*	**Pb**	**03 52 40.1**	**+0.8**
PYZ				S*	**Sb**	**03 52 46.4**	**-0.2**
PYZ	**Puysegur Point**	**0.47**	**92**	P*	**Pb**	**03 52 40.1**	**+0.8**
PYZ				S*	**Sb**	**03 52 46.4**	**-0.2**
DCZ	**Deep Cove**	**1.05**	**50**	PN	**Pb**	**03 52 48.5**	**-0.7**
DCZ				SN	**Sb**	**03 53 01.1**	**-2.2**
DCZ				AML	AML	03 53 05.7	
DCZ				AML	AML	03 53 05.7	
DCZ				AML	AML	03 53 10.9	
WHZ	**Wether Hill Ro**	**1.38**	**80**	PN	**Pn**	**03 52 54.2**	**-0.3**
WHZ				SN	**Sb**	**03 53 13.0**	**+0.2**
WHZ				AML	AML	03 53 20.0	
WHZ	**Wether Hill Ro**	**1.38**	**80**	Pn	**Pn**	**03 52 54.2**	**-0.3**
APZ	**The Paps**	**1.53**	**117**	PN	**Pn**	**03 52 56.0**	**-0.5**
APZ				SN	**Sn**	**03 53 16.1**	**-0.8**
APZ	**The Paps**	**1.53**	**117**	Pn	**Pn**	**03 52 56.0**	**-0.5**
APZ				Sn	**Sn**	**03 53 16.1**	**-0.8**
MLZ	**Mavora Lakes**	**1.72**	**63**	PN	**Pn**	**03 52 59.5**	**+0.3**
MLZ				AML	AML	03 53 26.4	
MLZ				AML	AML	03 53 31.6	
MLZ	**Mavora Lakes**	**1.72**	**63**	Pn	**Pn**	**03 52 59.5**	**+0.3**
MSZ	**Milford Sound**	**2.01**	**43**	PN	**Pn**	**03 53 02.7**	**-0.4**
MSZ				AML	AML	03 53 40.8	
MSZ				AML	AML	03 53 47.9	
MSZ	**Milford Sound**	**2.01**	**43**	Pn	**Pn**	**03 53 02.7**	**-0.4**
SYZ	**Scrubby Hill**	**2.21**	**101**	PN	**Pn**	**03 53 06.1**	**+0.3**
EAZ	**Earnscleugh**	**2.50**	**69**	PN	**Pn**	**03 53 10.5**	**+0.7**
EAZ				AML	AML	03 53 45.7	
EAZ				AML	AML	03 53 59.1	
EAZ	**Earnscleugh**	**2.50**	**69**	Pn	**Pn**	**03 53 11.0**	**+1.2**
WKZ	**Wanaka**	**2.50**	**59**	PN	**Pn**	**03 53 11.8**	**+1.9**
WKZ				AML	AML	03 53 50.1	
WKZ				AML	AML	03 53 57.0	
WKZ	**Wanaka**	**2.50**	**59**	Pn	**Pn**	**03 53 11.8**	**+1.9**
TUZ	**Tuapeka**	**2.54**	**87**	PN	**Pn**	**03 53 10.9**	**+0.6**
TUZ				AML	AML	03 53 44.0	
TUZ				AML	AML	03 53 48.8	
TUZ	**Tuapeka**	**2.54**	**87**	Pn	**Pn**	**03 53 10.9**	**+0.6**
JCZ	**Jackson Bay**	**2.85**	**44**	PN	**Pn**	**03 53 15.2**	**+0.4**
JCZ				AML	AML	03 54 04.7	
JCZ				AML	AML	03 54 11.6	
JCZ	**Jackson Bay**	**2.85**	**44**	Pn	**Pn**	**03 53 15.9**	**+1.1**
LBZ	**Lake Benmore**	**3.44**	**61**	PN	**Pn**	**03 53 22.7**	**-0.1**
LBZ				AML	AML	03 54 23.6	
LBZ				AML	AML	03 54 25.5	
LBZ	**Lake Benmore**	**3.44**	**61**	Pn	**Pn**	**03 53 22.7**	**-0.1**
ODZ	**Otahua Downs**	**3.44**	**73**	PN	**Pn**	**03 53 22.1**	**-0.7**
ODZ	**Otahua Downs**	**3.44**	**73**	*e*Pn	**Pn**	**03 53 22.3**	**-0.5**
ODZ				*e*S	**Sn**	**03 54 05.6**	**+1.5**
FOZ	**Fox Glacier**	**3.69**	**47**	PN	**Pn**	**03 53 27.0**	**+0.9**
FOZ				AML	AML	03 54 38.9	
FOZ				AML	AML	03 54 43.2	
FOZ	**Fox Glacier**	**3.69**	**47**	Pn	**Pn**	**03 53 28.2**	**+2.1**
RPZ	**Rata Peaks**	**4.34**	**58**	PN	**Pn**	**03 53 34.4**	**-0.7**
RPZ				AML	AML	03 54 56.8	
RPZ				AML	AML	03 55 00.4	
RPZ	**Rata Peaks**	**4.34**	**58**	*e*Pn	**Pn**	**03 53 34.5**	**-0.7**
RPZ				*e*S	**Sn**	**03 54 28.1**	**+2.0**
RPZ	**Rata Peaks**	**4.34**	**58**	Pn	**Pn**	**03 53 34.5**	**-0.6**
	19nm,0.3s,baz=207,slow=3.9,SNR=66						
RPZ				Sn	**Sn**	**03 54 23.1**	**-3.0**
	11nm,0.3s,baz=32,slow=22,SNR=7.3						
RPZ				LR	LR	03 55 11.2	
	comp=Z,709nm,21.3s,baz=227,slow=38						
WVZ	**Waitaha Valley**	**4.57**	**49**	AML	AML	03 54 53.3	
URZ	**Urewera**	**11.40**	**50**	Pn	Pn	03 55 07.3	-4.6
URZ	**Urewera**	**11.40**	**50**	Pn	Pn	03 55 07.3	-4.6
	0.4nm,0.3s,baz=225,slow=1.4,SNR=2.3						
WRA	**Warramunga Arr**	**36.83**	**305**	P	**P**	**03 59 36.8**	**-0.8**
WRA	**Warramunga Arr**	**36.83**	**305**	P	**P**	**03 59 36.8**	**-0.8**
	0.5nm,0.3s,baz=134,slow=7.5,SNR=2.8						
H01W1	**Cape Leeuwin H**	**40.33**	**267**	T	T	04 42 53.9	
	baz=121,slow=0.7,SNR=213						
H01W2	**Cape Leeuwin H**	**40.34**	**267**	T	T	04 42 54.8	
	baz=121,slow=0.7,SNR=269						
H01W3	**Cape Leeuwin H**	**40.34**	**267**	T	T	04 42 55.5	
	baz=121,slow=0.7,SNR=265						
H08S2	**Diego Garcia H**	**86.97**	**262**	T	T	05 41 05.0	
	baz=136						
H08S1	**Diego Carcia H**	**86.98**	**262**	T	T	05 41 07.3	
	baz=136						
H08S3	**Diego Garcia H**	**86.99**	**262**	T	T	05 41 06.4	
	baz=136						
TORD	**Torodi Ar. Bea**	**144.53**	**207**	PKP	**PKPab**	**04 12 05.2**	**+0.5**
TORD	**Torodi Ar. Bea**	**144.53**	**207**	PKP	**PKPab**	**04 12 05.2**	**+0.5**
	0.3nm,0.6s,baz=172,slow=2.0,SNR=4.2						
BRTR	**Keskin Array B**	**144.97**	**277**	PKP	PKPbc	04 12 06.0	+0.1
BRTR	**Keskin Array B**	**144.97**	**277**	PKP	PKPbc	04 12 06.0	+0.1
	0.6nm,0.8s,baz=156,slow=4.6,SNR=3.4						
ARCES	**ARCESS Array B**	**149.50**	**334**	PKPbc	**PKPbc**	**04 12 18.5**	**+1.0**
ARCES	**ARCESS Array B**	**149.50**	**334**	PKPbc	**PKPbc**	**04 12 18.5**	**+1.0**
	4.9nm,0.9s,baz=48,slow=2.9,SNR=3.8						

IDC 01 03:53:00.8±1.2,4.26N×127.05E,h0km,mb3.7/8, mb1 3.8/8,mb1mx3.7/25,mbtmp3.8/8,Error ellipse: s-maj=106.2km s-min=16.6km az=71.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.26**	**184**	P	P	03 57 59.6	0.0
	0.6nm,0.3s,baz=4.1,slow=14,SNR=6.7						
WRA	**Warramunga Arr**	**25.10**	**164**	P	P	03 58 27.4	0.0
	0.5nm,0.3s,baz=344,slow=10,SNR=5.2						
ASAR	**Alice Springs**	**28.55**	**167**	P	P	03 58 59.5	+1.0
	0.3nm,0.7s,baz=344,slow=7.1,SNR=3.7						
STKA	**Stephens Creek**	**38.51**	**160**	P	P	04 00 24.1	-0.9
	1.1nm,0.7s,baz=338,slow=11,SNR=2.6						
SONM	**Songino Array**	**46.90**	**341**	P	P	04 01 34.0	+0.9
	0.4nm,0.5s,baz=153,slow=9.7,SNR=3.4						
MKAR	**Makanchi Array**	**57.30**	**325**	P	P	04 02 51.0	+0.5
	0.8nm,0.4s,baz=118,slow=7.4,SNR=12						
KURBB	**Kurchatov Arra**	**61.47**	**327**	P	P	04 03 18.4	-0.8
	1.1nm,0.6s,baz=130,slow=6.5,SNR=12						
ARCES	**ARCESS Array B**	**90.06**	**340**	P	P	04 06 01.9	-0.4
	2.0nm,1.0s,baz=82,slow=6.6,SNR=5.2						
TORD	**Torodi Ar. Bea**	**123.05**	**289**	PKP	PKPdf	04 11 59.7	-0.7
	0.2nm,0.8s,baz=71,slow=2.4,SNR=3.0						

DJA 01 03:55:38.0±0.8,3.5S±4.3°×10.2E±0.3°,h10km±6km,M3.7/5, MLv3.7/5,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASI	**Maura Aman, Be**	**0.69**	**129**	P	Pg	03 55 50.3	-1.1
KSI	**Kapahiang**	**1.29**	**136**	P	Pn	03 56 00.8	-1.4
KSI				S	Sb	03 56 19.3	+0.1
SDSI	**Sungai Dareh**	**1.79**	**351**	P	Pn	03 56 06.8	-2.1
MNAI	**Manna**	**2.06**	**143**	P	Pn	03 56 11.8	-1.0
MNAI				S	Sn	03 56 38.1	-0.5
RGRI	**Rengat**	**2.43**	**15**	P	Pn	03 56 18.4	+0.6
RGRI				S	Sn	03 56 48.3	+0.7
PPI	**Padang Panjang**	**2.59**	**330**	P	Pn	03 56 21.1	+1.1
MDSI	**Maura Dua**	**3.04**	**126**	P	Pn	03 56 26.3	+0.1

IDC 01 04:04:41.9±9.3,15.56S×173.57W,h0km,mb3.9/2, mb1 4.2/2,mb1mx3.7/20,mbtmp3.9/2,MS3.5/1,Ms1 3.5/1, ms1mx3.4/35,Error ellipse: s-maj=419.5km s-min=61.0km az=140.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.39**	**47**	Sn	Sn	04 05 39.0	-13
	9.8nm,0.3s,baz=66,slow=20,SNR=3.2						
AFI				LR	LR	04 06 01.7	
	comp=Z,1μm,20.9s,baz=7.7,slow=33						
WRA	**Warramunga Arr**	**49.65**	**257**	P	P	04 13 35.8	0.0
	0.6nm,0.8s,baz=95,slow=7.3,SNR=2.4						
ASAR	**Alice Springs**	**49.90**	**252**	P	P	04 13 37.5	-0.2
	2.6nm,0.7s,baz=84,slow=8.4,SNR=28						
BRTR	**Keskin Array B**	**146.17**	**321**	PKPbc	PKPdf	04 24 23.8	+0.1
	0.4nm,0.6s,baz=24,slow=4.3,SNR=2.3						

MEX 01 04:05:01.3±0.3,19.01N×103.41W,h57km±8km,MD3.5, Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EZ5V		**0.51**	**339**	*i* P	Pn	04 05 11.9	-1.6
EZ5V				*i* S	Sn	04 05 20.5	-1.8
R15V		**0.57**	**287**	*i* P	Pn	04 05 12.5	-1.3
R15V				*i* S	Sn	04 05 21.1	-2.0
MMIG	**Aquila**	**0.71**	**175**	*i* P	Pn	04 05 14.2	-1.4
MMIG				*i* S	Sn	04 05 24.1	-1.9

DJA 01 04:08:46.8±0.9,2.5S±3.3°×10.2E±0.4°,h14km±7km,M3.7/6, MLv3.7/6,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASI	**Maura Aman, Be**	**0.92**	**139**	P	Pb	04 09 02.7	-1.9
MASI				S	Sb	04 09 15.6	-1.1
KSI	**Kapahiang**	**1.53**	**142**	P	Pn	04 09 13.9	0.0
KSI				S	Sb	04 09 34.3	-0.2
RGRI	**Rengat**	**2.19**	**18**	P	Pb	04 09 25.3	-0.9
RGRI				S	Sn	04 09 49.5	-0.2
MNAI	**Manna**	**2.32**	**145**	P	Pn	04 09 25.7	+1.1
MNAI				S	Sn	04 09 53.0	+0.1
PPI	**Padang Panjang**	**2.33**	**328**	P	Pn	04 09 23.5	-1.2
MDSI	**Maura Dua**	**3.25**	**129**	P	Pn	04 09 35.8	-1.6

IDC 01 04:11:14.8±0.9,16.32S×172.75W,h0km,mb4.0/9, mb1 4.3/9,mb1mx4.1/21,mbtmp4.0/9,Error ellipse: s-maj=40.1km s-min=19.9km az=136.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.57**	**22**	Pn	Pn	04 11 53.8	-4.0
	11nm,0.3s,baz=260,slow=11,SNR=2.3						
AFI				Sn	Sn	04 12 23.4	-6.6
	50nm,0.3s,baz=73,slow=21,SNR=4.0						
STKA	**Stephens Creek**	**44.13**	**241**	P	P	04 19 24.9	-0.4
	1.1nm,0.4s,baz=76,slow=12,SNR=7.1						
WRA	**Warramunga Arr**	**50.25**	**257**	P	P	04 20 12.0	-1.3
	0.6nm,0.8s,baz=91,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**50.43**	**253**	P	P	04 20 13.5	-1.1
	2.5nm,0.4s,baz=88,slow=8.6,SNR=33						
VNDA	**Vanda**	**62.53**	**186**	P	P	04 21 40.4	+0.5
	1.0nm,0.9s,baz=333,slow=6.8,SNR=5.4						
MJAR	**Matsushiro Arr**	**70.04**	**320**	P	P	04 22 30.0	+1.3
	0.6nm,0.3s,baz=163,slow=8.7,SNR=3.0						
NVAR	**Mina Array Bea**	**74.59**	**42**	P	P	04 22 55.9	-0.3
	0.7nm,0.7s,baz=228,slow=8.6,SNR=6.7						
PDAR	**Pinedale Array**	**82.53**	**42**	P	P	04 23 39.0	-0.9
	0.6nm,0.7s,baz=207,slow=1.7,SNR=5.6						
ILAR	**Eielson Array**	**83.22**	**11**	P	P	04 23 42.1	-0.5
	1.1nm,0.9s,baz=208,slow=7.0,SNR=7.3						
YKA	**Yellowknife Ar**	**90.69**	**23**	P	P	04 24 18.6	-0.5
	1.9nm,1.0s,baz=235,slow=4.4,SNR=3.8						
KMBO	**Kilima Mbogo**	**145.68**	**242**	PKPbc	PKPab	04 30 57.9	+0.6
	1.0nm,0.6s,baz=307,slow=5.1,SNR=2.6						
GERES	**GERESS Array B**	**147.13**	**352**	PKPbc	PKPbc	04 30 59.8	-0.2
	1.2nm,0.9s,baz=350,slow=1.6,SNR=5.3						
BRTR	**Keskin Array B**	**147.26**	**321**	PKPbc	PKPab	04 31 01.8	-0.7
	1.9nm,0.8s,baz=127,slow=2.2,SNR=3.0						

*NEIC **01** 04:19:21.7,46.13S×165.99E,h12km,ML4.0(WEL),After WEL.*

WEL 01 04:19:21.3±0.8,46.12S×165.98E,h33km,ML4.0/10, 1C-1D,Error ellipse: s-maj=8.3km s-min=3.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.49**	**96**	PN	Pb	04 19 31.1	-0.6
PYZ				SN	Sb	04 19 38.2	-0.7
PYZ	**Puysegur Point**	**0.49**	**96**	P*	Pb	04 19 31.1	-0.6
PYZ				S*	Sb	04 19 38.2	-0.7
WHZ	**Wether Hill Ro**	**1.39**	**81**	PN	Pn	04 19 45.1	+0.8
WHZ				SN	Sb	04 20 02.8	-1.3
WHZ				AML	AML	04 20 05.6	
WHZ	**Wether Hill Ro**	**1.39**	**81**	Pn	Pn	04 19 45.1	+0.8
WHZ				Sn	Sb	04 20 02.9	-1.2
APZ	**The Paps**	**1.56**	**118**	PN	Pn	04 19 47.1	+0.4
APZ				SN	Sn	04 20 06.6	+0.7
APZ	**The Paps**	**1.56**	**118**	Pn	Pn	04 19 47.1	+0.4
MSZ	**Milford Sound**	**1.99**	**44**	PN	Pn	04 19 53.8	+1.2
MSZ				AML	AML	04 20 31.2	
MSZ				AML	AML	04 20 31.3	
MSZ				AML	AML	04 20 34.1	
MSZ				AML	AML	04 20 34.2	
MSZ	**Milford Sound**	**1.99**	**44**	Pn	Pn	04 19 53.8	+1.2
SYZ	**Scrubby Hill**	**2.23**	**102**	PN	Pn	04 19 57.5	+1.6
SYZ				SN	Sn	04 20 24.5	+2.3
EAZ	**Earnscleugh**	**2.49**	**70**	PN	Pn	04 20 02.4	+2.8
EAZ				AML	AML	04 20 38.1	
EAZ				AML	AML	04 20 38.1	
EAZ				AML	AML	04 20 38.9	
EAZ	**Earnscleugh**	**2.49**	**70**	Pn	Pn	04 20 02.4	+2.8
WKZ	**Wanaka

	5.0nm,0.6s,baz=325,slow=16,SNR=2.2							
STKA	**Stephens Creek**	**44.21**	**241**	P	P	04 35 08.1	+0.1	
	1.6nm,0.8s,baz=86,slow=16,SNR=4.0							
WRA	**Warramunga Arr**	**50.36**	**257**	P	P	04 35 56.1	+0.1	
	1.0nm,0.6s,baz=93,slow=7.1,SNR=7.4							
ASAR	**Alice Springs**	**50.53**	**253**	P	P	04 35 56.8	-0.6	
	6.1nm,0.7s,baz=86,slow=8.5,SNR=62							
FITZ	**Fitzroy Crossi**	**58.75**	**259**	P	P	04 36 56.5	-0.6	
	1.9nm,0.9s,baz=108,slow=13,SNR=2.8							
VNDA	**Vanda**	**62.50**	**186**	P	P	04 37 22.6	+0.9	
	1.3nm,1.0s,baz=0.6,slow=8.2,SNR=5.0							
QSPA	**South Pole Qui**	**73.68**	**180**	P	P	04 38 32.5	+0.1	
	2.7nm,0.9s,baz=332,slow=4.1,SNR=8.2							
NVAR	**Mina Array Bea**	**74.55**	**41**	P	P	04 38 38.2	+0.3	
	0.3nm,0.6s,baz=234,slow=11,SNR=3.1							
PDAR	**Pinedale Array**	**82.49**	**41**	P	P	04 39 21.9	+0.3	
	0.2nm,0.6s,baz=221,slow=8.0,SNR=2.8							
ILAR	**Eielson Array**	**83.25**	**11**	P	P	04 39 23.9	-0.9	
	0.5nm,0.7s,baz=219,slow=6.3,SNR=6.3							
BRTR	**Keskin Array B**	**147.37**	**321**	PKPbc	PKPbc	04 46 43.9	+0.9	
	2.4nm,1.1s,baz=79,slow=7.8,SNR=5.0							
TORD	**Torodi Ar. Bea**	**173.64**	**119**	PKPab	PKPab	04 48 37.1	-1.6	
	0.9nm,1.1s,baz=213,slow=5.0,SNR=3.2							

*IDC **01** 04:42:17.7±0.9, 15°.42S×173°.32W, h0km, mb4.0/8, mb1 4.4/8, mb1mx4.1/22, mbtmp4.0/8, Error ellipse: s-maj=51.7km s-min=19.1km az=141.0*
*NEIC **01** 04:42:18.8±0.6, 15°.31S×173°.31W, h10km, mb4.2/4, Error ellipse: s-maj=37.7km s-min=11.7km az=143.0*
*ISCJB **01** 04:42:22.0±0.6, 15°.3S±0°.2×173°.5W±0°.2, h42km, mb4.0/11, Error ellipse: s-maj=34.0km s-min=12.7km az=143.0*

ISC 01 04:42:23.6±0.8, 15°.4S±0°.2×173°.4W±0°.2, h42km, n34, σ0§78/28, mb4.0/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.14**	**46**	Pn	Pn	04 42 50.1	-6.8
AFI				Sn	Sn	04 43 10.9	-11
AFI	**Afiamalu**	**2.14**	**46**	Pn	Pn	04 42 50.1	-6.8
	19nm,0.3s,baz=40,slow=9.4,SNR=4.3						
AFI				Sn	Sn	04 43 10.9	-11
	125nm,0.3s,baz=251,slow=23,SNR=8.3						
URZ	**Urewera**	**24.26**	**199**	P	P	**04 47 37.0**	**+0.2**
URZ	**Urewera**	**24.26**	**199**	P	P	**04 47 37.0**	**+0.2**
	3.9nm,0.7s,baz=124,slow=9.6,SNR=3.3						
H11S2	**WAKE ISLAND Hy**	**39.00**	**329**	T	T	05 31 50.3	
	baz=150,slow=0.7,SNR=14						
H11S3	**WAKE ISLAND Hy**	**39.02**	**329**	T	T	05 31 53.9	
	baz=150,slow=0.7,SNR=14						
H11S1	**WAKE ISLAND Hy**	**39.02**	**329**	T	T	05 31 53.1	
	baz=150,slow=0.7,SNR=15						
H11N3	**WAKE ISLAND Hy**	**39.95**	**330**	T	T	05 32 58.3	
	baz=157						
H11N1	**WAKE ISLAND Hy**	**39.96**	**330**	T	T	05 32 56.7	
	baz=157						
H11N2	**WAKE ISLAND Hy**	**39.97**	**330**	T	T	05 33 01.3	
	baz=157						
STKA	**Stephens Creek**	**44.07**	**240**	*eP*	**P**	**04 50 26.9**	**-0.8**
	1.0nm,1.0s						
STKA	**Stephens Creek**	**44.07**	**240**	P	**P**	**04 50 26.9**	**-0.8**
	3.0nm,0.9s,baz=123,slow=8.2,SNR=5.1						
WRAB	**Tennant Creek**	**49.88**	**257**	*eP*	**P**	**04 51 12.4**	**-0.9**
	8.3nm,1.3s						
WRA	**Warramunga Arr**	**49.88**	**257**	P	**P**	**04 51 12.4**	**-1.0**
WRA				PcP	**PcP**	**04 52 34.6**	**+1.1**
WRA	**Warramunga Arr**	**49.88**	**257**	P	**P**	**04 51 12.4**	**-1.0**
	1.3nm,0.6s,baz=91,slow=7.1,SNR=6.7						
WRA				PcP	**PcP**	**04 52 34.6**	**+1.1**
	0.8nm,0.7s,baz=87,slow=3.7,SNR=4.0						
AS31	**Alice Springs**	**50.15**	**252**	*eP*	**P**	**04 51 14.8**	**-0.5**
ASAR	**Alice Springs**	**50.15**	**252**	P	**P**	**04 51 15.0**	**-0.4**
ASAR	**Alice Springs**	**50.15**	**252**	P	**P**	**04 51 15.0**	**-0.4**
	10nm,0.7s,baz=86,slow=8.4,SNR=76						
NVAR	**Mina Array Bea**	**74.31**	**42**	P	**P**	**04 53 55.8**	**-1.4**
NVAR	**Mina Array Bea**	**74.31**	**42**	P	**P**	**04 53 55.8**	**-1.4**
	0.5nm,0.7s,baz=243,slow=11,SNR=3.0						
TXAR	**Lajitas Array**	**80.58**	**56**	P	**P**	**04 54 31.9**	**-0.3**
TXAR	**Lajitas Array**	**80.58**	**56**	P	**P**	**04 54 32.0**	**-0.3**
	1.2nm,0.9s						
ANMO	**Albuquerque**	**80.78**	**50**	*eP*	**P**	**04 54 32.9**	**-0.3**
	1.5nm,0.9s						
PDAR	**Pinedale Array**	**82.25**	**42**	P	**P**	**04 54 41.3**	**+0.4**
PDAR	**Pinedale Array**	**82.25**	**42**	P	**P**	**04 54 41.3**	**+0.4**
	1.0nm,0.8s,baz=183,slow=2.8,SNR=6.5						
SMCO	**Snowmass**	**82.29**	**46**	*eP*	**P**	**04 54 41.7**	**+0.3**
	4.1nm,1.0s						
ILAR	**Eielson Array**	**82.45**	**11**	P	**P**	**04 54 41.5**	**+0.3**
ILAR	**Eielson Array**	**82.45**	**11**	P	**P**	**04 54 41.5**	**+0.3**
	0.3nm,0.7s,baz=229,slow=6.4,SNR=3.7						
KMBO	**Kilima Mbogo**	**145.57**	**244**	PKPbc	**PKPab**	**05 02 00.4**	**+1.2**
KMBO	**Kilima Mbogo**	**145.57**	**244**	PKPbc	**PKPab**	**05 02 00.4**	**+1.2**
	0.6nm,0.3s,baz=108,slow=6.4,SNR=3.2						
GERES	**GERESS Array B**	**146.17**	**352**	PKPbc	**PKPab**	**05 02 00.6**	**+0.4**
GERES	**GERESS Array B**	**146.17**	**352**	PKPbc	**PKPab**	**05 02 00.6**	**+0.4**
	0.3nm,0.3s,baz=19,slow=5.5,SNR=3.7						
BRTR	**Keskin Array B**	**146.20**	**321**	PKPbc	**PKPab**	**05 02 01.2**	**+0.5**
BRTR	**Keskin Array B**	**146.20**	**321**	PKPbc	**PKPab**	**05 02 01.2**	**+0.5**
	2.3nm,0.8s,baz=130,slow=1.7,SNR=9.8						

*IDC **01** 04:50:22.8±0.7, 16°.69S×173°.16W, h0km, mb4.0/9, mb1 4.2/9, mb1mx4.1/22, mbtmp4.0/9, Error ellipse: s-maj=32.7km s-min=18.5km az=128.0*
*NEIC **01** 04:50:23.9±0.6, 16°.57S×173°.19W, h10km, mb4.5/3, Error ellipse: s-maj=27.5km s-min=12.9km az=121.0*
*ISCJB **01** 04:50:25.1±0.5, 16°.5S±0°.1×173°.3W±0°.2, h32km, mb4.1/11, Error ellipse: s-maj=24.1km s-min=8.1km az=32.3*

ISC 01 04:50:27.1±0.6, 16°.6S±0°.1×173°.2W±0°.2, h32km, n39, σ1§37/37, mb4.2/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.95**	**27**	ePn	Pn	04 51 08.4	-3.4
AFI				eS	**Sn**	**04 51 45.5**	**-0.7**
AFI	**Afiamalu**	**2.95**	**27**	Pn	Pn	04 51 08.5	-3.3
	7.4nm,0.3s,baz=218,slow=18,SNR=3.7						
AFI				Sn	**Sn**	**04 51 43.0**	**-3.1**
	16nm,0.3s,baz=93,slow=19,SNR=4.1						
URZ	**Urewera**	**23.25**	**200**	P	**P**	**04 55 29.4**	**-2.3**
URZ	**Urewera**	**23.25**	**200**	P	**P**	**04 55 29.4**	**-2.3**
	9.7nm,0.8s,baz=304,slow=12,SNR=5.9						
H11S2	**WAKE ISLAND Hy**	**40.08**	**329**	T	T	05 40 10.4	
	baz=152,slow=0.7,SNR=4.4						
H11S3	**WAKE ISLAND Hy**	**40.09**	**329**	T	T	05 40 16.1	
	baz=152,slow=0.7,SNR=4.2						
H11S1	**WAKE ISLAND Hy**	**40.10**	**329**	T	T	05 40 13.7	
	baz=152,slow=0.7,SNR=4.4						
H11N3	**WAKE ISLAND Hy**	**41.04**	**331**	T	T	05 41 27.3	
	baz=152						
H11N1	**WAKE ISLAND Hy**	**41.04**	**331**	T	T	05 41 26.1	
	baz=152						
H11N2	**WAKE ISLAND Hy**	**41.05**	**331**	T	T	05 41 25.0	
	baz=152						
STKA	**Stephens Creek**	**43.68**	**241**	P	**P**	**04 58 28.1**	**-1.1**
STKA	**Stephens Creek**	**43.68**	**241**	P	**P**	**04 58 28.1**	**-1.1**
	1.5nm,0.8s,baz=63,slow=14,SNR=4.0						
WRA	**Warramunga Arr**	**49.83**	**258**	P	**P**	**04 59 15.8**	**-1.6**
WRA				PcP	**PcP**	**05 00 39.4**	**+1.5**
WRA	**Warramunga Arr**	**49.83**	**258**	P	**P**	**04 59 15.8**	**-1.6**
	0.4nm,0.6s,baz=94,slow=7.1,SNR=3.7						
WRA				PcP	**PcP**	**05 00 39.4**	**+1.5**
	0.3nm,0.3s,baz=93,slow=3.6,SNR=2.8						
AS31	**Alice Springs**	**49.99**	**253**	*eP*	**P**	**04 59 18.4**	**-0.3**
ASAR	**Alice Springs**	**49.99**	**253**	P	**P**	**04 59 18.4**	**-0.3**
ASAR	**Alice Springs**	**49.99**	**253**	P	**P**	**04 59 18.4**	**-0.3**
	2.9nm,0.7s,baz=86,slow=8.5,SNR=36						
SBA	**Scott Base**	**62.12**	**185**	*eP*	**P**	**05 00 45.0**	**+0.5**
	5.3nm,1.0s						
VNDA	**Vanda**	**62.25**	**186**	*eP*	**P**	**05 00 45.5**	**+0.1**
	1.3nm,0.6s						
VNDA	**Vanda**	**62.25**	**186**	P	**P**	**05 00 46.0**	**+0.6**
	1.4nm,0.7s,baz=9.4,slow=6.0,SNR=11						
QSPA	**South Pole Qui**	**73.49**	**180**	*eP*	**P**	**05 01 55.8**	**-0.6**
	4.1nm,0.8s						
NVAR	**Mina Array Bea**	**75.03**	**42**	P	**P**	**05 02 07.1**	**+1.2**
NVAR	**Mina Array Bea**	**75.03**	**42**	P	**P**	**05 02 07.1**	**+1.2**
	1.2nm,0.7s,baz=224,slow=10,SNR=9.0						
PDAR	**Pinedale Array**	**82.97**	**42**	P	**P**	**05 02 50.0**	**+0.7**
PDAR	**Pinedale Array**	**82.97**	**42**	P	**P**	**05 02 50.0**	**+0.7**
	0.5nm,0.9s,baz=222,slow=2.0,SNR=4.9						
ILAR	**Eielson Array**	**83.53**	**11**	P	**P**	**05 02 52.3**	**+0.9**
ILAR	**Eielson Array**	**83.53**	**11**	P	**P**	**05 02 52.3**	**+0.9**
	0.5nm,0.6s,baz=223,slow=5.9,SNR=12						
MAW	**Mawson**	**86.78**	**199**	P	**P**	**05 03 09.7**	**+1.9**
MAW	**Mawson**	**86.78**	**199**	P	**P**	**05 03 09.7**	**+1.9**
	0.5nm,0.3s,baz=202,slow=5.6,SNR=2.8						
ARCES	**ARCESS Array B**	**125.79**	**352**	PKP	**PKPdf**	**05 09 26.2**	**+1.3**
ARCES	**ARCESS Array B**	**125.79**	**352**	PKP	**PKPdf**	**05 09 26.2**	**+1.3**
	5.2nm,1.0s,baz=180,slow=1.8,SNR=3.9						
KMBO	**Kilima Mbogo**	**145.23**	**243**	PKPbc	**PKPdf**	**05 10 04.5**	**+1.6**
KMBO	**Kilima Mbogo**	**145.23**	**243**	PKPbc	**PKPdf**	**05 10 04.5**	**+1.6**
	1.9nm,0.5s,baz=180,slow=1.0,SNR=7.4						
BRTR	**Keskin Array B**	**147.20**	**320**	PKPbc	**PKPab**	**05 10 09.5**	**+0.2**
BRTR	**Keskin Array B**	**147.20**	**320**	PKPbc	**PKPab**	**05 10 09.5**	**+0.2**
	1.0nm,0.8s,baz=90,slow=3.3,SNR=4.1						
GERES	**GERESS Array B**	**147.32**	**352**	PKPbc	**PKPab**	**05 10 09.3**	**0.0**
GERES	**GERESS Array B**	**147.32**	**352**	PKPbc	**PKPab**	**05 10 09.3**	**0.0**
	0.3nm,0.3s,baz=23,slow=1.7,SNR=4.8						
TORD	**Torodi Ar. Bea**	**173.97**	**124**	PKP	**PKPdf**	**05 10 33.3**	**-1.0**
TORD				PKPab	**PKPab**	**05 12 03.5**	**-1.7**
TORD	**Torodi Ar. Bea**	**173.97**	**124**	PKP	**PKPdf**	**05 10 33.3**	**-1.0**
	0.6nm,0.9s,baz=150,slow=1.0,SNR=3.4						
TORD				PKPab	**PKPab**	**05 12 03.5**	**-1.7**
	0.7nm,0.8s,baz=257,slow=5.6,SNR=3.7						

DJA 01 04:53:44.4±0.5, 2°.5S±5°.5×10°.2E±1°.0, h10km, M3.9/5, MLv3.9/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MASI	**Maura Aman, Be**	**1.03**	**157**	P	Pg	04 54 02.9	-1.3
KSI	**Kapahiang**	**1.64**	**153**	P	Pn	04 54 13.5	+0.2
RGRI	**Rengat**	**1.89**	**15**	P	Pn	04 54 17.5	+0.7
PPI	**Padang Panjang**	**2.25**	**320**	P	Pn	04 54 22.8	+1.1
EGSI	**Enggano, Bengk**	**3.17**	**172**	P	Pn	04 54 27.9	-6.5
MDSI	**Maura Dua**	**3.26**	**134**	P	Pn	04 54 37.1	+1.4

MEX 01 05:06:22.3±0.6, 16°.53N×100°.14W, h5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.43**	**39**	*i* P	Pg	05 06 29.0	-1.8
ACX				*i* S	Sg	05 06 35.7	-0.8
CAIG	**El Cayaco**	**0.53**	**347**	*i* P	Pg	05 06 32.5	0.0
CAIG				*i* S	Sg	05 06 39.2	-0.2
MEIG	**Mezcala**	**1.48**	**20**	*i* P	Pn	05 06 46.4	-3.3
MEIG				*i* S	Sn	05 07 05.3	-4.2
ARIG	**Puente Sto Nin**	**1.75**	**354**	*i* P	Pn	05 06 49.5	-3.9
ARIG				*i* S	Sn	05 07 12.0	-4.2
PNIG	**Pinotepa**	**1.94**	**94**	*i* P	Pn	05 06 52.8	-3.2
PNIG				*i* S	Sn	05 07 16.9	-3.9
PLIG	**Platanillo**	**1.95**	**18**	*i* P	Pn	05 06 53.2	-3.0
PLIG				*i* S	Sn	05 07 16.5	-4.7
YAIG	**Yautepec**	**2.54**	**24**	*i* P	Pn	05 07 01.2	-3.1
YAIG				*i* S	Sn	05 07 32.2	-3.7

*IDC **01** 05:13:23.3±1.4, 46°.13S×165°.99E, h0km, mb3.7/2, mb1 4.2/4, mb1mx3.8/16, mbtmp4.1/4, ML4.3/2, MS3.8/2, Ms1 3.9/2, ms1mx3.4/28, Error ellipse: s-maj=57.8km s-min=26.6km az=174.0*
*WEL **01** 05:13:25.4±0.6, 46°.14S×165°.92E, h12km, ML4.7/17, Error ellipse: s-maj=5.4km s-min=2.5km az=90.0*
*NEIC **01** 05:13:27.1, 46°.15S×166°.22E, h8km, ML4.7(WEL), After WEL.*

ISC 01 05:13:23.7±2.1, 46°.10S±0°.06×166°.01E±0°.06, h3km±12km, n71, σ0§99/66, 1C-1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.47**	**99**	↑P*	**Pb**	**05 13 35.9**	**+1.3**
PYZ				S*	**Sb**	**05 13 42.5**	**+0.5**
PYZ	**Puysegur Point**	**0.47**	**99**	Pg	**Pb**	**05 13 35.9**	**+1.3**
PYZ				Sg	**Sg**	**05 13 37.3**	**-1.5**
DCZ	**Deep Cove**	**1.01**	**53**	P*	**Pb**	**05 13 44.1**	**+0.3**
DCZ				AML	AML	05 14 02.5	
DCZ				AML	AML	05 14 02.5	
DCZ				AML	AML	05 14 09.4	
DCZ	**Deep Cove**	**1.01**	**53**	P*	**Pb**	**05 13 44.1**	**+0.3**
WHZ	**Wether Hill Ro**	**1.36**	**82**	PN	**Pg**	**05 13 49.9**	**+0.1**
WHZ				SN	**Sn**	**05 14 08.9**	**+0.7**
WHZ				AML	AML	05 14 10.0	
WHZ	**Wether Hill Ro**	**1.36**	**82**	P*	**Pg**	**05 13 49.9**	**+0.1**
WHZ				S*	**Sg**	**05 14 07.8**	**+0.4**
APZ	**The Paps**	**1.55**	**119**	PN	**Pn**	**05 13 51.9**	**-0.3**
APZ				SN	**Sn**	**05 14 12.1**	**-0.8**
APZ	**The Paps**	**1.55**	**119**	Pn	**Pn**	**05 13 51.9**	**-0.3**
MLZ	**Mavora Lakes**	**1.69**	**64**	PN	**Pb**	**05 13 55.1**	**-0.3**
MLZ				SN	**Sn**	**05 14 16.4**	**+0.1**
MLZ				AML	AML	05 14 22.3	
MLZ	**Mavora Lakes**	**1.69**	**64**	Pn	**Pb**	**05 13 55.1**	**-0.3**
MSZ	**Milford Sound**	**1.96**	**44**	PN	**Pn**	**05 13 58.3**	**+0.5**
MSZ				AML	AML	05 14 38.6	
MSZ				AML	AML	05 14 38.6	
MSZ				AML	AML	05 14 44.3	
MSZ				AML	AML	05 14 44.3	
MSZ	**Milford Sound**	**1.96**	**44**	Pn	**Pn**	**05 13 58.3**	**+0.5**
SYZ	**Scrubby Hill**	**2.21**	**103**	PN	**Pn**	**05 14 01.6**	**+0.4**
WKZ	**Wanaka**	**2.47**	**60**	PN	**Pb**	**05 14 07.3**	**-1.3**
WKZ				AML	AML	05 14 49.3	
WKZ				AML	AML	05 14 49.3	
WKZ				AML	AML	05 14 52.1	
WKZ	**Wanaka**	**2.47**	**60**	Pn	**Pb**	**05 14 07.3**	**-1.3**
EAZ	**Earnscleugh**	**2.47**	**71**	PN	**Pn**	**05 14 06.8**	**+2.0**
EAZ				AML	AML	05 14 41.1	
EAZ				AML	AML	05 14 41.1	
EAZ				AML	AML	05 14 47.8	
EAZ				AML	AML	05 14 47.8	
EAZ	**Earnscleugh**	**2.47**	**71**	Pn	**Pn**	**05 14 06.8**	**+2.0**
TUZ	**Tuapeka**	**2.52**	**88**	PN	**Pn**	**05 14 06.8**	**+1.2**
TUZ				AML	AML	05 14 39.6	
TUZ				AML	AML	05 14 42.1	
TUZ	**Tuapeka**	**2.52**	**88**	Pn	**Pn**	**05 14 06.8**	**+1.2**
JCZ	**Jackson Bay**	**2.81**	**45**	PN	**Pn**	**05 14 10.7**	**+1.1**
JCZ				AML	AML	05 15 02.3	
JCZ				AML	AML	05 15 07.4	
JCZ	**Jackson Bay**	**2.81**	**45**	Pn	**Pn**	**05 14 10.7**	**+1.1**
HHSZ	**Highcliff Hill**	**3.20**	**88**	PN	**Pn**	**05 14 15.2**	**+0.3**
LBZ	**Lake Benmore**	**3.41**	**61**	PN	**Pn**	**05 14 18.6**	**+0.9**
LBZ				AML	AML	05 15 19.4	
LBZ				AML	AML	05 15 23.9	
LBZ	**Lake Benmore**	**3.41**	**61**	Pn	**Pn**	**05 14 18.6**	**+0.9**
ODZ	**Otahua Downs**	**3.42**	**74**	PN	**Pn**	**05 14 18.0**	**+0.1**
ODZ	**Otahua Downs**	**3.42**	**74**	Pn	**Pn**	**05 14 18.0**	**+0.1**
FOZ	**Fox Glacier**	**3.64**	**47**	PN	**Pn**	**05 14 23.2**	**+2.3**
FOZ				AML	AML	05 15 38.8	
FOZ				AML	AML	05 15 38.9	
FOZ				AML	AML	05 15 44.1	
FOZ				AML	AML	05 15 44.1	
FOZ	**Fox Glacier**	**3.64**	**47**	Pn	**Pn**	**05 14 23.2**	**+2.3**
RPZ	**Rata Peaks**	**4.30**	**58**	PN	**Pn**	**05 14 30.0**	**0.0**
RPZ				AML	AML	05 15 52.6	
RPZ				AML	AML	05 15 59.2	
RPZ	**Rata Peaks**	**4.30**	**58**	Pn	**Pn**	**05 14 30.2**	**+0.2**
RPZ				Sn	**Sn**	**05 15 18.9**	**-1.7**
RPZ	**Rata Peaks**	**4.30**	**58**	Pn	**Pn**	**05 14 30.2**	**+0.2**
	27nm,0.3s,baz=229,slow=4.8,SNR=149						
RPZ				Sn	**Sn**	**05 15 18.9**	**-1.7**
	31nm,0.3s,baz=114,slow=18,SNR=7.7						
RPZ				LR	LR	05 15 44.4	
	comp=Z,368nm,21.9s,baz=204,slow=32						
WVZ	**Waitaha Valley**	**4.53**	**50**	AML	AML	05 14 57.3	
WVZ				AML	AML	05 15 14.8	
OXZ	**Oxford**	**5.11**	**59**	↓PN	**Pn**	**05 14 40.7**	**-0.4**
MQZ	**McQueen's Vall**	**5.29**	**65**	PN	**Pn**	**05 14 43.3**	**-0.2**
MQZ	**McQueen's Vall**	**5.29**	**65**	Pn	**Pn**	**05 14 43.3**	**-0.2**
LTZ	**Lake Taylor**	**5.57**	**56**	PN	**Pn**	**05 14 47.2**	**-0.2**
LTZ				AML	AML	05 15 57.8	
LTZ				AML	AML	05 16 10.7	
LTZ	**Lake Taylor**	**5.57**	**56**	Pn	**Pn**	**05 14 47.2**	**-0.2**
THZ	**Tophouse**	**6.60**	**51**	PN	**Pn**	**05 15 01.0**	**-0.5**
THZ				AML	AML	05 16 37.2	
THZ				AML	AML	05 16 40.8	
THZ	**Tophouse**	**6.60**	**51**	Pn	**Pn**	**05 15 01.0**	**-0.5**
NNZ	**Nelson**	**7.23**	**50**	PN	**Pn**	**05 15 09.7**	**-0.5**
NNZ				AML	AML	05 16 54.9	
NNZ	**Nelson**	**7.23**	**50**	Pn	**Pn**	**05 15 09.7**	**-0.5**
TUWZ	**Tuamarina**	**7.39**	**54**	PN	**Pn**	**05 15 14.5**	**+2.0**
TUWZ	**Tuamarina**	**7.39**	**54**	Pn	**Pn**	**05 15 14.5**	**+2.0**
OGWZ	**Otaki Gorge**	**8.49**	**55**	PN	**Pn**	**05 15 28.2**	**+0.7**
OGWZ	**Otaki Gorge**	**8.49**	**55**	Pn	**Pn**	**05 15 28.2**	**+0.7**
URZ	**Urewera**	**11.35**	**50**	Pn	**Pn**	**05 16 06.6**	**-0.1**
URZ	**Urewera**	**11.35**	**50**	Pn	**Pn**	**05 16 06.6**	**-0.1**
	1.1nm,0.3s,baz=314,slow=9.6,SNR=4.1						
ASAR	**Alice Springs**	**34.20**	**300**	P	**P**	**05 20 10.3**	**-0.1**
ASAR	**Alice Springs**	**34.20**	**300**	P	**P**	**05 20 10.3**	**-0.1**
	0.8nm,0.7s,baz=132,slow=9.1,SNR=7.5						
WRA	**Warramunga Arr**	**36.81**	**304**	P	**P**	**05 20 32.8**	**-0.1**
WRA	**Warramunga Arr**	**36.81**	**304**	P	**P**	**05 20 32.8**	**-0.1**
	0.9nm,0.7s,baz=137,slow=8.1,SNR=4.7						
H01W1	**Cape Leeuwin H**	**40.34**	**267**	T	T	06 03 48.4	
	baz=121,slow=0.7,SNR=305						
H01W2	**Cape Leeuwin H**	**40.35**	**267**	T	T	06 03 50.2	
	baz=121,slow=0.7,SNR=523						
H01W3	**Cape Leeuwin H**	**40.35**	**267**	T	T	06 03 50.8	
	baz=121,slow=0.7,SNR=488						
PLCA	**Paso Flores**	**79.89**	**140**	LR	LR	05 52 02.1	
	comp=Z,188nm,19.2s,baz=314,slow=29						
H08S2	**Diego Garcia H**	**86.99**	**262**	T	T	07 02 03.7	
	baz=136,slow=0.7,SNR=103						
H08S1	**Diego Garcia H**	**87.00**	**262**	T	T	07 02 01.2	
	baz=136,slow=0.7,SNR=73						
H08S3	**Diego Garcia H**	**87.00**	**262**	T	T	07 02 02.6	
	baz=136,slow=0.7,SNR=119						
H08N1	**Diego Garcia H**	**88.94**	**262**	T	T	07 04 26.0	
	baz=122,slow=0.7,SNR=8.5						
H08N3	**Diego Garcia H**	**88.95**	**262**	T	T	07 04 32.0	
	baz=122,slow=0.7,SNR=21						
H08N2	**Diego Garcia H**	**88.96**	**262**	T	T	07 04 32.2	
	baz=122,slow=0.7,SNR=14						
TORD	**Torodi Ar. Bea**	**144.58**	**207**	PKP	PKPbc	05 33 00.4	-0.1
TORD	**Torodi Ar. Bea**	**144.58**	**207**	PKP	PKPbc	05 33 00.4	-0.1
	0.8nm,0.6s,baz=237,slow=0.7,SNR=9.7						
BRTR	**Keskin Array B**	**144.97**	**277**	PKP	PKPbc	05 33 01.4	+0.1
BRTR	**Keskin Array B**	**144.97**	**277**	PKP	PKPbc	05 33 01.4	+0.1
	1.0nm,0.8s,baz=151,slow=2.8,SNR=5.0						
SCHQ	**Schefferville**	**145.99**	**56**	PKPbc	**PKPdf**	**05 33 03.0**	**0.0**
SCHQ	**Schefferville**	**145.99**	**56**	PKPbc	**PKPdf**	**05 33 03.0**	**0.0**
	6.5nm,0.9s,baz=198,slow=10.0,SNR=5.9						
ARCES	**ARCESS Array B**	**149.45**	**334**	PKPbc	**PKPbc**	**05 33 13.8**	**+1.0**
ARCES	**ARCESS Array B**	**149.45**	**334**	PKPbc	**PKPbc**	**05 33 13.8**	**+1.0**
	5.5nm,0.8s,baz=49,slow=2.2,SNR=8.8						
AKASG	**Malin Array Be**	**151.26**	**295**	PKPbc	**PKPbc**	**05 33 18.0**	**+0.3**
AKASG				PKPab	**PKPab**	**05 33 24.6**	**-1.2**
AKASG	**Malin Array Be**	**151.26**	**295**	PKPbc	**PKPbc**	**05 33 18.0**	**+0.3**
	1.2nm,0.6s,baz=74,slow=2.7,SNR=4.7						
AKASG				PKPab	**PKPab**	**05 33 24.6**	**-1.2**
	1.4nm,0.6s,baz=80,slow=2.3,SNR=5.2						

*IDC **01** 05:17:38.1±2.4, 15°.08S×172°.62W, h0km, mb4.1/5, mb1 4.4/5, mb1mx3.9/21, mbtmp4.1/5, Error ellipse: s-maj=128.3km s-min=18.5km az=140.0*
*NEIC **01** 05:17:39.0±0.5, 15°.15S×172°.57W, h10km, mb4.2/1, Error ellipse: s-maj=14.9km s-min=10.1km az=147.0*
*ISCJB **01** 05:17:40.5±0.5, 15°.16S±0°.08×172°.53W±0°.10, h35km, mb4.0/6, Error ellipse: s-maj=15.6km s-min=7.7km az=38.3*

ISC 01 05:17:42.2±0.6, 15°.12S±0°.10×172°.5W±0°.1, h35km, n23, σ1§20/25, mb4.2/6, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.41**	**32**	Pn	**Pn**	**05 18 04.1**	**-1.4**
AFI				Sn	**Sn**	**05 18 21.9**	**-1.0**
AFI	**Afiamalu**	**1.41**	**32**	Pn	**Pn**	**05 18 04.1**	**-1.4**
	24nm,0.3s,baz=240,slow=20,SNR=1.7						
AFI				Sn	**Sn**	**05 18 21.9**	**-1.0**
	82nm,0.3s,baz=30,slow=20,SNR=4.2						
MSVF	**Nonsavu**	**9.39**	**253**	*ePn*	**Pn**	**05 19 53.4**	**-1.8**
RAR	**Rarotonga**	**13.56**	**118**	*ePn*	**Pn**	**05 20 52.0**	**0.0**
URZ	**Urewera**	**24.80**	**200**	P	P	**05 23 01.4**	**+0.5**
RPZ	**Rata Peaks**	**31.75**	**203**	*eP*	**P**	**05 24 03.7**	**+0.7**
STKA	**Stephens Creek**

PDSI				S	Sb	05 32 54.2	-0.3
PPI	**Padang Panjang**	**2.25**	**333**	P	Pn	05 32 34.6	-0.7
PPI				S	Sn	05 33 02.8	-0.2
RGRI	**Rengat**	**2.31**	**23**	P	Pn	05 32 33.9	-2.1
RGRI				S	Sn	05 33 06.1	+1.8
MNAI	**Manna**	**2.42**	**141**	P	Pn	05 32 38.6	+1.0
MNAI				S	Sn	05 33 08.6	+1.5
MDSI	**Maura Dua**	**3.40**	**126**	P	Pn	05 32 52.9	+1.8

*MDD **01** 05:33:38.8±1.4, 36°.37N×9°.95W, h6km±10km, mbLg3.1/30, Error ellipse: s-maj=14.0km s-min=6.6km az=51.0, PRXIMO*

*INMG **01** 05:33:39.9±1.1, 36°.14N×9°.93W, h31km±15km, MD3.2, ML2.7, Error ellipse: s-maj=10.9km s-min=3.4km az=53.0*

*LDG **01** 05:33:40.7±0.6, 36°.51N×9°.61W, h20km, Ml3.2/3, Error ellipse: s-maj=10.6km s-min=7.0km az=47.0*

*IGIL **01** 05:33:40.0, 36°.25N×9°.83W, h10km, ML2.9*

*CSEM **01** 05:33:41.1±0.3, 36°.41N×9°.72W, h20km, ML3.7/8, Error ellipse: s-maj=5.7km s-min=3.6km az=52.0*

ISC 01 05:33:38.5±2.4, **36°.33N**±0°.07×**9°.78W**±0°.07, **h16**km±10km, **n124**, σ1**s37**/210, **3C-1D, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.11**	**43**	*i* P	**Pn**	**05 34 00.8**	**+1.4**
PFVI				*e*S	**Sn**	**05 34 16.5**	**+2.2**
PFVI				A	A	05 34 17.3	
	69nm,0.1s						
PFVI	**Vila Bisbo**	**1.11**	**43**	⇑P	**Pn**	**05 34 00.8**	**+1.4**
	47nm,0.1s,SNR=18						
PFVI				S	**Sn**	**05 34 16.0**	**+1.7**
	108nm,0.1s,SNR=25						
PFVI	**Vila Bisbo**	**1.11**	**43**	P	**Pn**	**05 34 00.8**	**+1.4**
	47nm,0.1s,SNR=18						
PFVI				*e*S	**Sn**	**05 34 16.5**	**+2.2**
	69nm,0.1s						
MORF	**Marmelete**	**1.33**	**43**	*e*P	**Pg**	**05 34 03.8**	**-0.4**
MORF				*e*S	**Sg**	**05 34 22.0**	**+0.5**
MORF				A	A	05 34 23.3	
	119nm,0.2s						
PTEO	**Sao Teotonio**	**1.48**	**35**	*e*P	**Pb**	**05 34 05.8**	**+0.2**
PTEO				*e*S	**Sg**	**05 34 25.3**	**-1.0**
PTEO				A	A	05 34 29.6	
	48nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.74**	**58**	*e*Pn	**Pb**	**05 34 09.5**	**-0.6**
PBDV				*e*Sn	**Sn**	**05 34 31.4**	**+1.4**
PBDV				A	A	05 34 35.3	
	40nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.74**	**58**	*e*Pn	**Pb**	**05 34 09.5**	**-0.6**
PCVE	**Castro Verde**	**1.91**	**46**	*e*Pn	**Pn**	**05 34 11.9**	**+1.6**
PCVE				*e*Sn	**Sb**	**05 34 36.3**	**-0.1**
PCVE				A	A	05 34 37.6	
	29nm,0.3s						
PVAQ	**Vaqueiros**	**1.97**	**56**	*i* Pn	**Pn**	**05 34 12.6**	**+1.4**
PVAQ				*e*Sn	**Sn**	**05 34 36.7**	**+1.1**
PVAQ				A	A	05 34 38.6	
	62nm,0.1s						
PNCL	**Nicolau / Gran**	**2.04**	**29**	*i* Pn	**Pn**	**05 34 13.2**	**+1.0**
PNCL				*e*Sn	**Sn**	**05 34 38.7**	**+1.4**
PNCL				A	A	05 34 41.5	
	27nm,0.1s						
EGRO	**El Granado**	**2.20**	**56**	⇑P	**Pn**	**05 34 15.5**	**+1.2**
	0.8nm,0.1s,SNR=18						
EGRO				S	**Sn**	**05 34 42.1**	**+1.0**
	23nm,0.1s,SNR=20						
EGRO	**El Granado**	**2.20**	**56**	P	**Pn**	**05 34 15.5**	**+1.2**
	0.8nm,0.1s,SNR=18						
EGRO				S	**Sn**	**05 34 42.1**	**+1.0**
	23nm,0.1s,SNR=20						
PMST	**Lisbon--Monsan**	**2.45**	**11**	*e*Sn	**Sn**	**05 34 48.3**	**+0.9**
PMST				A	A	05 34 50.9	
	27nm,0.2s						
PMST	**Lisbon--Monsan**	**2.45**	**11**	*e*Sn	**Sn**	**05 34 48.3**	**+0.9**
	27nm,0.2s						
PACT	**Alcochete**	**2.55**	**17**	*e*Pn	**Pn**	**05 34 20.7**	**+1.6**
PACT				*e*Sn	**Sn**	**05 34 51.6**	**+1.8**
PACT				A	A	05 34 54.3	
	22nm,0.2s						
PACT	**Alcochete**	**2.55**	**17**	*e*Pn	**Pn**	**05 34 20.7**	**+1.6**
PACT				*e*Sn	**Sn**	**05 34 51.6**	**+1.8**
	22nm,0.2s						
EVOP	**Sao Brissos**	**2.56**	**30**	*e*P	**Pn**	**05 34 19.7**	**+0.4**
EVO	**Evora**	**2.61**	**32**	*e*P	**Pn**	**05 34 19.7**	**-0.3**
EVO				*e*Sn	Sn	05 34 42.4	-8.9
	29nm,0.2s						
EVO	**Evora**	**2.61**	**32**	*e*Pn	**Pn**	**05 34 21.0**	**+1.0**
EVO				*e*Sn	**Sn**	**05 34 52.4**	**+1.1**
EVO				A	A	05 34 54.0	
	65nm,0.1s						
EVO	**Evora**	**2.61**	**32**	P	**Pn**	**05 34 21.0**	**+1.0**
EVO				S	**Sn**	**05 34 52.4**	**+1.1**
	65nm,0.1s						
EVO	**Evora**	**2.61**	**32**	P	**Pn**	**05 34 21.0**	**+1.0**
EVO				S	**Sn**	**05 34 52.4**	**+1.1**
	65nm,0.1s						
PMAFR	**Mafra**	**2.65**	**8**	*e*Pn	**Pn**	**05 34 21.5**	**+0.9**
PMAFR				*e*Sn	**Sn**	**05 34 52.7**	**+0.3**
PMAFR				A	A	05 34 55.7	
	47nm,0.1s						
PMAFR	**Mafra**	**2.65**	**8**	P	**Pn**	**05 34 20.4**	**-0.2**
	1.4nm,0.1s,SNR=7.2						
PMAFR				S	**Sn**	**05 34 52.5**	**+0.1**
	45nm,0.2s,SNR=13						
PMAFR	**Mafra**	**2.65**	**8**	P	**Pn**	**05 34 20.4**	**-0.2**
	1.4nm,0.1s,SNR=7.2						
PMAFR	**Mafra**	**2.65**	**8**	*e*Pn	**Pn**	**05 34 21.5**	**+0.9**
PMAFR				*e*Sn	**Sn**	**05 34 52.7**	**+0.3**
	47nm,0.1s						
PBAR	**Barrancos**	**2.86**	**49**	*e*Pn	**Pn**	**05 34 24.5**	**+1.1**
PBAR				*e*Sn	**Sn**	**05 34 58.8**	**+1.3**
PBAR				A	A	05 35 00.2	
	24nm,0.3s						
PBAR	**Barrancos**	**2.86**	**49**	P	**Pn**	**05 34 24.5**	**+1.1**
PBAR				S	**Sn**	**05 34 58.8**	**+1.3**
	24nm,0.3s						
PBAR	**Barrancos**	**2.86**	**49**	P	**Pn**	**05 34 24.5**	**+1.1**
PBAR				S	**Sn**	**05 34 58.8**	**+1.3**
	24nm,0.3s						
EMIN	**Mina Concepcio**	**2.87**	**59**	P	**Pn**	**05 34 24.6**	**+1.0**
	0.4nm,0.1s,SNR=22						
EMIN				S	**Sn**	**05 34 57.8**	**0.0**
	13nm,0.1s						
EMIN	**Mina Concepcio**	**2.87**	**59**	P	**Pn**	**05 34 24.6**	**+1.0**
	0.4nm,0.1s,SNR=22						
EMIN				S	**Sn**	**05 34 57.8**	**0.0**
	13nm,0.1s						
ALMR	**Almeirim**	**2.98**	**18**	*e*P	**Pn**	**05 34 26.6**	**+1.6**
ALMR				*e*S	**Sn**	**05 35 01.1**	**+0.7**
ALMR				AML	AML	05 35 03.7	
	comp=E,33nm,0.2s						
ALMR	**Almeirim**	**2.98**	**18**	*e*P	**Pn**	**05 34 26.6**	**+1.6**
ALMR				*e*S	**Sn**	**05 35 01.1**	**+0.7**
ALMR	**Almeirim**	**2.98**	**18**	P	**Pn**	**05 34 26.6**	**+1.6**
ALMR				S	**Sn**	**05 35 01.1**	**+0.7**
ALMR	**Almeirim**	**2.98**	**18**	P	**Pn**	**05 34 26.6**	**+1.6**
ALMR				S	**Sn**	**05 35 01.1**	**+0.7**
PMTG	**Montargil**	**3.00**	**24**	*e*Pn	**Pn**	**05 34 26.4**	**+1.0**
PMTG				*e*Sn	**Sn**	**05 35 01.6**	**+0.6**
PMTG				A	A	05 35 02.9	
	comp=E,16nm,0.1s						
PMTG	**Montargil**	**3.00**	**24**	*e*Pn	**Pn**	**05 34 26.4**	**+1.0**
PMTG				*e*Sn	**Sn**	**05 35 01.6**	**+0.6**
	comp=E,16nm,0.1s						
PESTR	**Estremoz**	**3.07**	**34**	*e*Pn	**Pn**	**05 34 27.1**	**+0.7**
PESTR				*e*Sn	**Sn**	**05 35 03.6**	**+0.8**
PESTR				A	A	05 35 05.0	
	comp=E,11nm,0.3s						
PESTR	**Estremoz**	**3.07**	**34**	P	**Pn**	**05 34 27.1**	**+0.7**
PESTR				S	**Sn**	**05 35 03.6**	**+0.8**
	comp=E,5.6nm,0.3s						
PESTR	**Estremoz**	**3.07**	**34**	P	**Pn**	**05 34 27.1**	**+0.7**
PESTR				S	**Sn**	**05 35 03.6**	**+0.8**
	comp=E,5.6nm,0.3s						
ESPR	**Espera**	**3.20**	**79**	P	**Pn**	**05 34 29.2**	**+1.1**
	comp=E,1.0nm,0.1s,SNR=11						
ESPR				S	**Sn**	**05 35 05.7**	**-0.2**
	comp=E,89nm,0.2s,SNR=11						
ESPR	**Espera**	**3.20**	**79**	P	**Pn**	**05 34 29.2**	**+1.1**
	comp=E,1.0nm,0.1s,SNR=11						
ESPR				S	**Sn**	**05 35 05.7**	**-0.2**
	comp=E,89nm,0.2s,SNR=11						
EBAD	**Badajoz**	**3.27**	**41**	P	**Pn**	**05 34 29.8**	**+0.7**
	comp=E,0.4nm,0.2s,SNR=12						
EBAD				S	**Sn**	**05 35 08.2**	**+0.6**
	comp=E,15nm,0.1s						
EBAD	**Badajoz**	**3.27**	**41**	P	**Pn**	**05 34 29.8**	**+0.7**
	comp=E,0.4nm,0.2s,SNR=12						
EBAD				S	**Sn**	**05 35 08.2**	**+0.6**
	comp=E,15nm,0.1s						
PTOM	**Tomar**	**3.46**	**18**	*e*Sn	**Sn**	**05 35 12.4**	**+0.2**
PTOM				A	A	05 35 15.1	
	comp=E,11nm,0.1s						
PTOM	**Tomar**	**3.46**	**18**	S	**Sn**	**05 35 12.4**	**+0.2**
	comp=E,5.6nm,0.1s						
PTOM	**Tomar**	**3.46**	**18**	S	**Sn**	**05 35 12.4**	**+0.2**
	comp=E,5.6nm,0.1s						
EJIF	**Jimena Fronter**	**3.48**	**87**	P	**Pn**	**05 34 33.5**	**+1.6**
	comp=E,1.4nm,0.1s,SNR=4.0						
EJIF				S	**Sn**	**05 35 10.3**	**-2.5**
	comp=E,11nm,0.3s,SNR=7.9						
EJIF	**Jimena Fronter**	**3.48**	**87**	P	**Pn**	**05 34 33.5**	**+1.6**
	comp=E,1.4nm,0.1s,SNR=4.0						
LIJA	**Lijar**	**3.57**	**79**	*e*S	**Sn**	**05 35 18.9**	**+3.8**
PMRV	**Marv??o**	**3.62**	**31**	*e*Pn	**Pn**	**05 34 35.0**	**+1.0**
PMRV				*e*Sn	**Sn**	**05 35 16.4**	**0.0**
PMRV				A	A	05 35 18.6	
	comp=E,17nm,0.2s						
PMRV	**Marv??o**	**3.62**	**31**	P	**Pn**	**05 34 35.0**	**+1.0**
PMRV				S	**Sn**	**05 35 16.4**	**0.0**
	comp=E,17nm,0.2s						
PMRV	**Marv??o**	**3.62**	**31**	P	**Pn**	**05 34 35.0**	**+1.0**
PMRV				S	**Sn**	**05 35 16.4**	**0.0**
	comp=E,17nm,0.2s						
ECAB	**El Cabril**	**3.89**	**62**	⇑P	**Pn**	**05 34 38.4**	**+0.7**
	comp=E,1.1nm,0.1s,SNR=18						
ECAB				S	**Sn**	**05 35 21.8**	**-1.2**
	comp=E,13nm,0.3s						
ECAB	**El Cabril**	**3.89**	**62**	P	**Pn**	**05 34 38.4**	**+0.7**
	comp=E,1.1nm,0.1s,SNR=18						
ECAB				S	**Sn**	**05 35 21.8**	**-1.2**
	comp=E,13nm,0.3s						
PCBR	**Castelo Branco**	**3.95**	**27**	*e*Pn	**Pn**	**05 34 39.7**	**+1.3**
PCBR				*e*Sn	**Sn**	**05 35 24.1**	**-0.2**
PCBR				A	A	05 35 26.4	
	comp=E,6.2nm,0.2s						
PCBR	**Castelo Branco**	**3.95**	**27**	P	**Pn**	**05 34 39.7**	**+1.3**
PCBR				S	**Sn**	**05 35 24.1**	**-0.2**
	comp=E,3.1nm,0.2s						
PCBR	**Castelo Branco**	**3.95**	**27**	P	**Pn**	**05 34 39.7**	**+1.3**
PCBR				S	**Sn**	**05 35 24.1**	**-0.2**
	comp=E,3.1nm,0.2s						
EMIJ	**Mijas**	**4.04**	**85**	P	**Pn**	**05 34 41.9**	**+2.2**
	comp=E,0.5nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**05 35 22.8**	**-3.9**
	comp=E,6.6nm,0.3s,SNR=6.2						
EMIJ	**Mijas**	**4.04**	**85**	P	**Pn**	**05 34 41.9**	**+2.2**
	comp=E,0.5nm,0.1s,SNR=7.9						
MTE	**Manteigas**	**4.43**	**23**	*e*Pn	**Pn**	**05 34 46.1**	**+1.1**
MTE				*e*Sn	**Sn**	**05 35 35.7**	**-0.6**
MTE				A	A	05 35 38.5	
	comp=E,7.3nm,0.4s						
MTE	**Manteigas**	**4.43**	**23**	P	**Pn**	**05 34 46.1**	**+1.1**
MTE				S	**Sn**	**05 35 35.7**	**-0.6**
	comp=E,3.7nm,0.4s						
MTE	**Manteigas**	**4.43**	**23**	P	**Pn**	**05 34 46.1**	**+1.1**
MTE				S	**Sn**	**05 35 35.7**	**-0.6**
	comp=E,3.7nm,0.4s						
EADA	**Adamuz**	**4.54**	**65**	P	**Pn**	**05 34 47.7**	**+1.2**
	comp=E,0.8nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**05 35 36.8**	**-2.2**
	comp=E,11nm,0.1s,SNR=6.4						
EADA	**Adamuz**	**4.54**	**65**	P	**Pn**	**05 34 47.7**	**+1.2**
	comp=E,0.8nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**05 35 36.8**	**-2.2**
	comp=E,11nm,0.1s,SNR=6.4						
ELUQ	**Luque**	**4.58**	**73**	S	**Sn**	**05 35 39.7**	**-0.4**
	comp=E,6.2nm,0.1s,SNR=7.9						
ELUQ	**Luque**	**4.58**	**73**	S	**Sn**	**05 35 39.7**	**-0.4**
	comp=E,6.2nm,0.1s,SNR=7.9						
PVIS	**Viseu**	**4.62**	**18**	*e*Pn	**Pn**	**05 34 48.8**	**+1.1**
PVIS				*e*Sn	**Sn**	**05 35 40.5**	**-0.6**
PVIS				A	A	05 35 44.0	
	comp=E,6.5nm,0.1s						
PVIS	**Viseu**	**4.62**	**18**	P	**Pn**	**05 34 48.8**	**+1.1**
PVIS				S	**Sn**	**05 35 40.5**	**-0.6**
	comp=E,3.2nm,0.1s						
PVIS	**Viseu**	**4.62**	**18**	P	**Pn**	**05 34 48.8**	**+1.1**
PVIS				S	**Sn**	**05 35 40.5**	**-0.6**
	comp=E,3.2nm,0.1s						
EPLA	**Plasencia**	**4.73**	**37**	P	**Pn**	**05 34 49.9**	**+0.7**
	comp=E,0.6nm,0.2s,SNR=7.9						
EPLA				S	**Sn**	**05 35 42.6**	**-1.2**
	comp=E,6.4nm,0.3s,SNR=11						
EPLA	**Plasencia**	**4.73**	**37**	P	**Pn**	**05 34 49.9**	**+0.7**
	comp=E,0.6nm,0.2s,SNR=7.9						
EPLA				S	**Sn**	**05 35 42.6**	**-1.2**
	comp=E,6.4nm,0.3s,SNR=11						
EGUA	**Guajares**	**5.03**	**82**	P	**Pn**	**05 34 55.6**	**+2.4**
	comp=E,1.5nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**05 35 51.2**	**+0.2**
	comp=E,7.2nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**5.03**	**82**	P	**Pn**	**05 34 55.6**	**+2.4**
	comp=E,1.5nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**05 35 51.2**	**+0.2**
	comp=E,7.2nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**5.07**	**77**	S	**Sn**	**05 35 52.3**	**0.0**
	comp=E,7.4nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**5.07**	**77**	S	**Sn**	**05 35 52.3**	**0.0**
	comp=E,7.4nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**5.12**	**67**	P	**Pn**	**05 34 55.2**	**+0.7**
	comp=E,2.5nm,0.1s,SNR=7.9						
EBAN				S	**Sn**	**05 35 49.7**	**-3.6**
	comp=E,6.9nm,0.1s,SNR=8.6						
EBAN	**Banos Encina**	**5.12**	**67**	P	**Pn**	**05 34 55.2**	**+0.7**
	comp=E,2.5nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**5.16**	**78**	P	**Pn**	**05 34 57.8**	**+2.6**
	comp=E,0.3nm,0.1s,SNR=4.0						
EQUE				S	**Sn**	**05 35 54.8**	**+0.3**
	comp=E,6.5nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**5.16**	**78**	P	**Pn**	**05 34 57.8**	**+2.6**
	comp=E,0.3nm,0.1s,SNR=4.0						
EQUE				S	**Sn**	**05 35 54.8**	**+0.3**
	comp=E,6.5nm,0.3s,SNR=7.9						
PVRL	**Vila Real**	**5.20**	**17**	*e*Sn	**Sn**	**05 35 53.9**	**-1.3**
PVRL	**Vila Real**	**5.20**	**17**	S	**Sn**	**05 35 53.9**	**-1.3**
PVRL	**Vila Real**	**5.20**	**17**	S	**Sn**	**05 35 53.9**	**-1.3**
POLO	**Lamas de Olo**	**5.27**	**16**	*e*Pn	**Pn**	**05 34 57.5**	**+0.9**
POLO				*e*Sn	**Sn**	**05 35 55.7**	**-1.4**
POLO	**Lamas de Olo**	**5.27**	**16**	*e*Pn	**Pn**	**05 34 57.5**	**+0.9**
POLO				*e*Sn	**Sn**	**05 35 55.7**	**-1.4**
MVO	**Moncorvo**	**5.29**	**23**	*e*Pn	**Pn**	**05 34 57.8**	**+1.0**
MVO				*e*Sn	**Sn**	**05 35 56.1**	**-1.3**
MVO				A	A	05 35 59.2	
	comp=E,5.9nm,0.5s						
MVO	**Moncorvo**	**5.29**	**23**	P	**Pn**	**05 34 57.6**	**+0.8**
	comp=E,0.6nm,0.1s,SNR=7.9						
MVO				S	**Sn**	**05 35 55.2**	**-2.2**
	comp=E,3.8nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**5.29**	**23**	*e*Pn	**Pn**	**05 34 57.8**	**+1.0**
MVO				S	**Sn**	**05 35 55.2**	**-2.2**
	comp=E,3.8nm,0.1s,SNR=7.9						
MVO				*e*Sn	**Sn**	**05 35 56.1**	**-1.3**
	comp=E,5.9nm,0.5s						
EALB	**Alboran**	**5.47**	**92**	P	**Pn**	**05 35 01.2**	**+1.9**
	comp=E,16nm,0.3s,SNR=7.9						
EALB				S	**Sn**	**05 35 57.6**	**-4.3**
	comp=E,6.6nm,0.2s,SNR=7.9						
EALB	**Alboran**	**5.47**	**92**	P	**Pn**	**05 35 01.2**	**+1.9**
	comp=E,16nm,0.3s,SNR=7.9						
PCAB	**Cabril**	**5.54**	**14**	*e*Pn	**Pn**	**05 35 01.1**	**+0.8**
PCAB				*e*Sn	**Sn**	**05 36 01.9**	**-1.8**
PCAB	**Cabril**	**5.54**	**14**	P	**Pn**	**05 35 01.1**	**+0.8**
PCAB				S	**Sn**	**05 36 01.9**	**-1.8**
PCAB	**Cabril**	**5.54**	**14**	P	**Pn**	**05 35 01.1**	**+0.8**
PCAB				S	**Sn**	**05 36 01.9**	**-1.8**
EQES	**Quesada**	**5.56**	**73**	P	**Pn**	**05 35 01.2**	**+0.5**
	comp=E,0.3nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**05 36 03.1**	**-1.2**
	comp=E,4.1nm,0.2s,SNR=10						
EQES	**Quesada**	**5.56**	**73**	P	**Pn**	**05 35 01.2**	**+0.5**
	comp=E,0.3nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**05 36 03.1**	**-1.2**
	comp=E,4.1nm,0.2s,SNR=10						
EBER	**Berja**	**5.57**	**82**	S	**Sn**	**05 36 04.4**	**-0.2**
	comp=E,5.0nm,0.4s,SNR=4.7						
EBER	**Berja**	**5.57**	**82**	S	**Sn**	**05 36 04.4**	**-0.2**
	comp=E,5.0nm,0.4s,SNR=4.7						
ESDC	**Sonseca Array**	**5.68**	**52**	P	**Pn**	**05 35 03.3**	**+1.1**
	comp=E,1.1nm,0.2s,baz=236,slow=13,SNR=12						
ESDC				S	**Sn**	**05 36 06.4**	**-0.7**
	comp=E,4.3nm,0.6s,baz=239,slow=23,SNR=31						
ESDC	**Sonseca Array**	**5.68**	**52**	P	**Pn**	**05 35 03.3**	**+1.1**
	comp=E,1.1nm,0.2s,baz=236,slow=13,SNR=12						
ESDC				S	**Sn**	**05 36 06.4**	**-0.7**
	comp=E,4.3nm,0.6s,baz=239,slow=23,SNR=31						
ELOB	**Lobios**	**5.69**	**13**	P	**Pn**	**05 35 03.0**	**+0.6**
	comp=E,0.2nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**05 36 03.6**	**-3.8**
	comp=E,2.4nm,0.1s,SNR=6.3						
ELOB	**Lobios**	**5.69**	**13**	P	**Pn**	**05 35 03.0**	**+0.6**
	comp=E,0.2nm,0.1s,SNR=7.9						
PGAV	**Gavieira, Arco**	**5.75**	**11**	*e*Pn	**Pn**	**05 35 03.9**	**+0.7**
PGAV				*e*Sn	**Sn**	**05 36 07.1**	**-1.8**
PGAV				A	A	05 36 10.6	
	comp=E,3.5nm,0.3s						
PGAV	**Gavieira, Arco**	**5.75**	**11**	*e*Pn	**Pn**	**05 35 03.9**	**+0.7**
PGAV				*e*Sn	**Sn**	**05 36 07.1**	**-1.8**
	comp=E,3.5nm,0.3s						
EHUE	**Huescar**	**5.93**	**73**	P	**Pn**	**05 35 06.0**	**+0.2**
	comp=E,0.3nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**05 36 11.9**	**-1.6**
	comp=E,2.8nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**5.93**	**73**	P	**Pn**	**05 35 06.0**	**+0.2**
	comp=E,0.3nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**05 36 11.9**	**-1.6**
	comp=E,2.8nm,0.1s,SNR=7.9						
PBRG	**Braganca**	**5.96**	**22**	*e*Pn	**Pn**	**05 35 06.0**	**0.0**
PBRG				*e*Sn	**Sn**	**05 36 12.8**	**-1.1**
PBRG				A	A	05 36 15.6	
	comp=E,3.1nm,0.1s						
PBRG	**Braganca**	**5.96**	**22**	P	**Pn**	**05 35 06.0**	**0.0**
PBRG				S	**Sn**	**05 36 12.8**	**-1.1**
	comp=E,1.6nm,0.1s						
PBRG	**Braganca**	**5.96**	**22**	P	**Pn**	**05 35 06.0**	**0.0**
PBRG				S	**Sn**	**05 36 12.8**	**-1.1**
	comp=E,1.6nm,0.1s						
ECAL	**Calabor**	**6.08**	**22**	P	**Pn**	**05 35 09.1**	**+1.3**
	comp=E,0.2nm,0.1s,SNR=7.9						
ECAL				S	**Sn**	**05 36 14.2**	**-2.9**
	comp=E,4.0nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**6.08**	**22**	P	**Pn**	**05 35 09.1**	**+1.3**
	comp=E,0.2nm,0.1s,SNR=7.9						
ECAL				S	**Sn**	**05 36 14.2**	**-2.9**
	comp=E,4.0nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**6.17**	**44**	⇓P	**Pn**	**05 35 10.1**	**+1.1**
	comp=E,1.1nm,0.2s,SNR=18						
GUD				S	**Sn**	**05 36 18.6**	**-0.6**
	comp=E,3.9nm,0.3s,SNR=8.0						
GUD	**Guadarrama**	**6.17**	**44**	P	**Pn**	**05 35 10.1**	**+1.1**
	comp=E,1.1nm,0.2s,SNR=18						
GUD				S	**Sn**	**05 36 18.6**	**-0.6**
	comp=E,3.9nm,0.3s,SNR=8.0						
EVIA	**Vianos**	**6.23**	**66**	S	**Sn**	**05 36 18.6**	**-2.1**
	comp=E,7.3nm,0.1s,SNR=10						
EVIA	**Vianos**	**6.23**	**66**	S	**Sn**	**05 36 18.6**	**-2.1**
	comp=E,7.3nm,0.1s,SNR=10						
EMAZ	**Mazaricos**	**6.64**	**5**	S	Sn	05 36 24.3	-6.4
	comp=E,4.2nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**6.94**	**68**	S	**Sn**	**05 36 35.8**	**-2.4**
	comp=E,2.4nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**6.94**	**68**	S	**Sn**	**05 36 35.8**	**-2.4**
	comp=E,2.4nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**8.35**	**58**	S	**Sn**	**05 37 10.0**	**-2.9**
	comp=E,2.0nm,0.4s,SNR=7.9						
SJPF	**Ste Jean**	**9.45**	**42**	*e*P	**Pn**	**05 35 55.5**	**+1.6**
SJPF				*e*Sn	Sn	05 37 27.1	-13
	comp=E,1.1nm,0.3s						
SJPF	**Ste Jean**	**9.45**	**42**	*e*P	**Pn**	**05 35 55.5**	**+1.6**
ETSF	**Etsaut**	**9.67**	**44**	*e*P	**Pn**	**05 35 58.1**	**+1.1**
ETSF				*e*Sn	Sn	05 37 31.4	-14
	comp=E,0.4nm,0.2s						
ETSF	**Etsaut**	**9.67**	**44**	*e*P	**Pn**	**05 35 58.1**	**+1.1**
EPF	**Esparros**	**10.27**	**46**	*e*Pn	Pn	05 36 01.4	-3.8
EPF	**Esparros**	**10.27**	**46**	*e*P	**Pn**	**05 36 07.1**	**+1.9**
EPF	**Esparros**	**10.27**	**46**	*e*P	**Pn**	**05 36 07.1**	**+1.9**

DJA 01 05:37:41.6±1.0, **3°S**±12°×**10°1E**±1°3, **h10**km, **M3.9**/4, **MLv3.9**/4, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MASI	**Maura Aman, Be**	**1.21**	**110**	P	Pn	05 38 01.9	-2.8
KSI	**Kapahiang**	**1.75**	**122**	S	Sn	05 38 34.9	+0.2
PPI	**Padang Panjang**	**2.35**	**343**	P	Pn	05 38 22.2	+1.8
MNAI	**Manna**	**2.47**	**131**	P	Pn	05 38 23.6	+1.7
MNAI				S	Sb	05 38 55.6	-1.0
MDSI	**Maura Dua**	**3.54**	**120**	P	Pn	05 38 35.6	-1.0
MDSI		

WKZ				AML	AML	05 45 48.2	
WKZ				AML	AML	05 45 48.3	
WKZ	**Wanaka**	**2.42**	**59**	Pn	**Pn**	**05 44 48.7**	**+1.9**
TUZ	**Tuapeka**	**2.47**	**88**	PN	**Pn**	**05 44 48.5**	**+1.2**
TUZ				AML	AML	05 45 34.8	
TUZ				AML	AML	05 45 39.3	
TUZ	**Tuapeka**	**2.47**	**88**	Pn	**Pn**	**05 44 48.5**	**+1.2**
JCZ	**Jackson Bay**	**2.78**	**44**	PN	**Pn**	**05 44 52.7**	**+1.0**
JCZ				AML	AML	05 45 58.0	
JCZ				AML	AML	05 45 58.3	
JCZ	**Jackson Bay**	**2.78**	**44**	Pn	**Pn**	**05 44 53.0**	**+1.3**
HHSZ	**Highcliff Hill**	**3.15**	**87**	PN	**Pn**	**05 44 57.4**	**+0.7**
LBZ	**Lake Benmore**	**3.37**	**61**	Pn	**Pn**	**05 45 00.1**	**+0.4**
LBZ				AML	AML	05 46 16.6	
LBZ				AML	AML	05 46 16.6	
LBZ				AML	AML	05 46 21.6	
LBZ				AML	AML	05 46 21.6	
LBZ	**Lake Benmore**	**3.37**	**61**	Pn	**Pn**	**05 45 00.1**	**+0.4**
ODZ	**Otahua Downs**	**3.37**	**73**	‖PN	**Pn**	**05 44 59.6**	**-0.1**
ODZ	**Otahua Downs**	**3.37**	**73**	*e*Pn	**Pn**	**05 44 59.6**	**-0.1**
FOZ	**Fox Glacier**	**3.61**	**46**	PN	**Pn**	**05 45 04.9**	**+1.8**
FOZ				AML	AML	05 46 22.7	
FOZ				AML	AML	05 46 22.7	
FOZ				AML	AML	05 46 32.9	
FOZ				AML	AML	05 46 33.0	
FOZ	**Fox Glacier**	**3.61**	**46**	Pn	**Pn**	**05 45 04.9**	**+1.8**
RPZ	**Rata Peaks**	**4.26**	**57**	PN	**Pn**	**05 45 11.4**	**-0.6**
RPZ				AML	AML	05 46 45.6	
RPZ				AML	AML	05 46 51.6	
RPZ	**Rata Peaks**	**4.26**	**57**	Pn	**Pn**	**05 45 12.3**	**+0.2**
RPZ	**Rata Peaks**	**4.26**	**57**	Pn	**Pn**	**05 45 12.3**	**+0.2**
	56nm,0.3s,baz=216,slow=4.3,SNR=259						
WVZ	**Waitaha Valley**	**4.50**	**49**	AML	AML	05 46 41.8	
WVZ				AML	AML	05 46 44.5	
OXZ	**Oxford**	**5.07**	**59**	Pn	**Pn**	**05 45 22.4**	**-0.8**
MQZ	**McQueen's Vall**	**5.24**	**65**	PN	**Pn**	**05 45 24.9**	**-0.5**
LTZ	**Lake Taylor**	**5.53**	**55**	PN	**Pn**	**05 45 28.6**	**-0.9**
LTZ				AML	AML	05 47 06.1	
LTZ				AML	AML	05 47 34.9	
LTZ	**Lake Taylor**	**5.53**	**55**	Pn	**Pn**	**05 45 28.6**	**-0.9**
DSZ	**Denniston Nort**	**6.00**	**45**	PN	**Pn**	**05 45 35.6**	**-0.4**
DSZ				AML	AML	05 47 12.6	
DSZ				AML	AML	05 47 13.6	
DSZ	**Denniston Nort**	**6.00**	**45**	Pn	**Pn**	**05 45 35.6**	**-0.4**
KHZ	**Kahutara**	**6.50**	**58**	*e*Pn	**Pn**	**05 45 41.2**	**-1.5**
SNZO	**South Karori**	**7.87**	**55**	*e*Pn	**Pn**	**05 45 58.6**	**-2.9**
SNZO				*e*Sn	Sn	05 47 39.0	+8.5
URZ	**Urewera**	**11.32**	**50**	Pn	**Pn**	**05 46 48.7**	**-0.2**
URZ				*e*Sn	**Sn**	**05 48 55.7**	**+0.5**
URZ	**Urewera**	**11.32**	**50**	Pn	**Pn**	**05 46 48.7**	**-0.2**
	1.1nm,0.3s,baz=246,slow=6.7,SNR=3.7						
MOO	**Moorlands**	**14.03**	**278**	P	**Pn**	**05 47 25.6**	**-0.2**
	baz=14,SNR=4.1						
STKA	**Stephens Creek**	**23.64**	**298**	P	**P**	**05 49 20.1**	**+1.7**
STKA	**Stephens Creek**	**23.64**	**298**	P	**P**	**05 49 20.1**	**+1.7**
	1.4nm,0.7s,baz=115,slow=13,SNR=3.0						
EIDS	**Eidsvold**	**23.95**	**325**	*e*P	**P**	**05 49 22.6**	**+1.3**
	3.8nm,1.0s						
DZM	**Mont Dzumac**	**23.99**	**1**	LR	LR	05 57 31.8	
	comp=Z,651nm,18.9s,baz=207,slow=34						
VNDA	**Vanda**	**31.56**	**182**	P	**P**	**05 50 30.2**	**+1.2**
AS31	**Alice Springs**	**34.26**	**300**	P	**P**	**05 50 53.5**	**+0.3**
ASAR	**Alice Springs**	**34.26**	**300**	P	**P**	**05 50 52.8**	**-0.4**
ASAR	**Alice Springs**	**34.26**	**300**	P	**P**	**05 50 52.8**	**-0.4**
	0.8nm,0.6s,baz=134,slow=8.9,SNR=5.4						
WRA	**Warramunga Arr**	**36.87**	**304**	P	**P**	**05 51 14.8**	**-0.9**
WRA	**Warramunga Arr**	**36.87**	**304**	P	**P**	**05 51 14.8**	**-0.9**
	0.9nm,0.7s,baz=140,slow=7.9,SNR=5.7						
WRAB	**Tennant Creek**	**36.87**	**304**	*e*P	**P**	**05 51 13.1**	**-2.6**
	1.7nm,0.8s						
QSPA	**South Pole Qui**	**44.01**	**180**	P	**P**	**05 52 14.6**	**+0.1**
	1.9nm,0.9s						
QSPA	**South Pole Qui**	**44.01**	**180**	P	**P**	**05 52 14.5**	**+0.1**
	2.6nm,1.1s,baz=57,slow=2.6,SNR=5.8						
RKT	**Rikitea**	**52.34**	**85**	*e*LR	LR	06 07 23.3	
	490nm,23.2s						
SNAA	**Sanae**	**62.26**	**184**	P	**P**	**05 54 27.2**	**-1.3**
	1.1nm,0.8s						
PLCA	**Paso Flores**	**79.84**	**140**	P	**P**	**05 56 15.7**	**0.0**
	1.4nm,0.9s						
PDAR	**Pinedale Array**	**115.82**	**54**	PKP	**PKPdf**	**06 02 47.9**	**-1.6**
PDAR	**Pinedale Array**	**115.82**	**54**	PKP	**PKPdf**	**06 02 47.9**	**-1.6**
	1.8nm,1.0s,baz=230,slow=2.1,SNR=7.6						
TORD	**Torodi Ar. Bea**	**144.59**	**207**	PKP	**PKPab**	**06 03 42.4**	**-0.1**
TORD	**Torodi Ar. Bea**	**144.59**	**207**	PKP	**PKPab**	**06 03 42.4**	**-0.1**
	0.8nm,0.5s,baz=211,slow=1.2,SNR=7.3						
BRTR	**Keskin Array B**	**145.03**	**277**	PKPbc	**PKPbc**	**06 03 43.6**	**-0.1**
BRTR	**Keskin Array B**	**145.03**	**277**	PKPbc	**PKPbc**	**06 03 43.6**	**-0.1**
	0.4nm,0.4s,baz=95,slow=1.7,SNR=2.4						
SCHQ	**Scheffer ville**	**145.95**	**56**	PKPbc	**PKPdf**	**06 03 44.9**	**-0.3**
SCHQ	**Scheffer ville**	**145.95**	**56**	PKPbc	**PKPdf**	**06 03 44.9**	**-0.3**
	3.5nm,0.9s,baz=41,slow=3.8,SNR=5.6						
ARCES	**ARCESS Array B**	**149.49**	**334**	PKPbc	**PKPbc**	**06 03 55.5**	**+0.5**
ARCES	**ARCESS Array B**	**149.49**	**334**	PKPbc	**PKPbc**	**06 03 55.5**	**+0.5**
	7.0nm,1.1s,baz=86,slow=3.1,SNR=10						

*BJI **01** 05:44:18.4, 46.00S×166.90E, h10km, mB5.4/2, mb5.2/7, Ms5.2/1, Ms7 5.0/1*

*IDC **01** 05:44:18.4±0.5, 46.13S×166.08E, h0km, mb4.4/13, mb1 4.5/15, mb1mx4.5/20, mbtmp4.5/15, ML4.8/2, Error ellipse: s-maj=18.9km s-min=15.2km az=71.0*

*ISCJB **01** 05:44:19.1±0.4, 46.15S±0.06×166.17E±0.07, h12km, mb4.6/22, MS5.0/1, Error ellipse: s-maj=9.2km s-min=6.6km az=148.5*

*NEIC **01** 05:44:19.7±0.3, 46.10S×166.18E, h10km, mb4.6/8, ML5.1(WEL), Error ellipse: s-maj=9.9km s-min=9.1km az=215.0*

NEIC Felt in parts of Southland.

ISC 01 05:44:20.4±0.4, 46.19S±0.07×166.18E±0.07, h12km, n89, σ1°23/93, mb4.5/22, 1C, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ODZ	**Otahua Downs**	**3.34**	**72**	Pn	**Pn**	**05 45 13.0**	**+0.7**
RPZ	**Rata Peaks**	**4.25**	**56**	Pn	**Pn**	**05 45 24.8**	**-0.1**
	103nm,0.3s,baz=189,slow=13,SNR=25						
RPZ				Sn	**Sn**	**05 46 15.0**	**+0.4**
	33nm,0.3s,baz=79,slow=14,SNR=3.6						
RPZ	**Rata Peaks**	**4.25**	**56**	Sn	**Sn**	**05 46 15.0**	**+0.4**
KHZ	**Kahutara**	**6.49**	**57**	Pn	**Pn**	**05 45 54.1**	**-1.6**
URZ	**Urewera**	**11.32**	**50**	Pn	**Pn**	**05 47 01.9**	**-0.1**
	3.3nm,0.3s,baz=228,slow=8.7,SNR=11						
STKA	**Stephens Creek**	**23.72**	**298**	*e*P	**P**	**05 49 31.9**	**-0.4**
	2.9nm,1.0s						
STKA	**Stephens Creek**	**23.72**	**298**	P	**P**	**05 49 31.1**	**-1.2**
	3.6nm,1.0s,baz=134,slow=15,SNR=4.4						
EIDS	**Eidsvold**	**24.03**	**325**	*e*P	**P**	**05 49 35.7**	**+0.5**
	9.5nm,0.8s						
DZM	**Mont Dzumac**	**24.06**	**1**	*e*P	**P**	**05 49 37.3**	**+1.8**
	96nm,1.3s						
DZM				*e*LR	LR	05 55 50.5	
	455nm,21.9s						
DZM	**Mont Dzumac**	**24.06**	**1**	P	**P**	**05 49 37.4**	**+1.9**
DZM	**Mont Dzumac**	**24.06**	**1**	P	**P**	**05 49 37.4**	**+1.9**
	22nm,0.7s,baz=181,slow=10,SNR=17						
VNDA	**Vanda**	**31.49**	**182**	*e*P	**P**	**05 50 42.5**	**+1.0**
	4.0nm,1.2s						
VNDA	**Vanda**	**31.49**	**182**	P	**P**	**05 50 42.9**	**+1.3**
	1.3nm,1.0s,baz=341,slow=10,SNR=4.4						
AS31	**Alice Springs**	**34.34**	**300**	*e*P	**P**	**05 51 06.3**	**-0.7**
ASAR	**Alice Springs**	**34.34**	**300**	P	**P**	**05 51 05.4**	**-1.6**
ASAR	**Alice Springs**	**34.34**	**300**	P	**P**	**05 51 05.4**	**-1.6**
	2.0nm,0.8s,baz=139,slow=9.4,SNR=10						
ASAR				PcP	**PcP**	**05 53 41.4**	**-1.5**
	2.4nm,0.9s,baz=138,slow=3.4,SNR=5.6						
CASY	**Casey**	**35.27**	**215**	P	**P**	**05 51 16.4**	**+1.8**
	42nm,1.9s						
WRA	**Warramunga Arr**	**36.95**	**304**	P	**P**	**05 51 27.1**	**-2.4**
WRA	**Warramunga Arr**	**36.95**	**304**	P	**P**	**05 51 27.1**	**-2.4**
	3.4nm,0.9s,baz=144,slow=8.1,SNR=9.2						
WRA				PcP	**PcP**	**05 53 49.6**	**-1.0**
	1.3nm,0.8s,baz=138,slow=2.8,SNR=5.8						
WRAB	**Tennant Creek**	**36.95**	**304**	*e*P	**P**	**05 51 27.4**	**-2.0**
	7.8nm,0.9s						
HNR	**Honiara**	**37.01**	**350**	P	**P**	**05 51 30.3**	**+0.4**
	0.1nm,1.0s						
HNR	**Honiara**	**37.01**	**350**	P	**P**	**05 51 30.3**	**+0.4**
	58nm,0.6s,baz=196,slow=5.3,SNR=4.3						
PMG	**Port Moresby**	**40.10**	**330**	P	**P**	**05 51 55.0**	**-0.9**
PMG	**Port Moresby**	**40.10**	**330**	P	**P**	**05 51 55.0**	**-0.9**
	23nm,0.8s,baz=167,slow=8.1,SNR=4.9						
H01W1	**Cape Leeuwin H**	**40.45**	**267**	T	T	06 34 42.1	
	baz=121,slow=0.7,SNR=4449						
H01W2	**Cape Leeuwin H**	**40.46**	**267**	T	T	06 34 43.0	
	baz=121,slow=0.7,SNR=4466						
H01W3	**Cape Leeuwin H**	**40.46**	**267**	T	T	06 34 43.5	
	baz=121,slow=0.7,SNR=5269						
TBI	**Tubuai**	**42.27**	**73**	*e*S	S	05 57 51.1	-43
	499nm,27.8s						
TBI				*e*LR	LR	06 02 54.0	
	486nm,33.5s						
FITZ	**Fitzroy Crossi**	**43.59**	**296**	P	**P**	**05 52 24.2**	**-0.2**
FITZ	**Fitzroy Crossi**	**43.59**	**296**	P	**P**	**05 52 24.2**	**-0.2**
	4.0nm,0.8s,baz=154,slow=6.1,SNR=10						
FITZ				PcP	**PcP**	**05 54 10.8**	**-1.1**
	4.5nm,0.8s,baz=260,slow=1.6,SNR=4.3						
QSPA	**South Pole Qui**	**43.94**	**180**	*e*P	**P**	**05 52 28.4**	**+1.5**
	20nm,0.9s						
QSPA	**South Pole Qui**	**43.94**	**180**	P	**P**	**05 52 27.7**	**+0.8**
	18nm,0.9s,baz=13,slow=3.0,SNR=35						
MAW	**Mawson**	**52.91**	**208**	P	**P**	**05 53 36.5**	**+0.8**
MAW	**Mawson**	**52.91**	**208**	P	**P**	**05 53 36.5**	**+0.8**
	3.5nm,1.1s,baz=109,slow=12,SNR=4.8						
MAW				PcP	**PcP**	**05 54 43.8**	**-0.7**
	4.9nm,1.1s,baz=135,slow=3.7,SNR=4.7						
SYO	**Syowa Base**	**58.55**	**200‖**	*e*X	**P**	**05 54 14.0**	**-2.2**
SNAA	**Sanae**	**62.19**	**184**	*e*P	**P**	**05 54 41.3**	**+0.1**
SNAA	**Sanae**	**62.19**	**184**	*e*P	**P**	**05 54 41.2**	**0.0**
	14nm,0.9s						
VNA2	**Neumayer--Watz**	**63.11**	**182**	*e*P	**P**	**05 54 47.5**	**+0.3**
	baz=174,slow=5.4						
VNA1	**Neumayer--Stat**	**63.41**	**182**	*e*P	**P**	**05 54 50.5**	**+1.4**
PLCA	**Paso Flores**	**79.75**	**140**	*e*P	**P**	**05 56 28.4**	**+0.2**
	5.4nm,1.0s						
PLCA	**Paso Flores**	**79.75**	**140**	P	**P**	**05 56 28.6**	**+0.3**
	4.1nm,1.0s,baz=212,slow=7.3,SNR=5.0						
JNU	**Nakatsue**	**85.14**	**331**	P	**P**	**05 56 56.7**	**+0.6**
JNU	**Nakatsue**	**85.14**	**331**	P	**P**	**05 56 56.7**	**+0.6**
	10nm,0.9s,baz=97,slow=6.6,SNR=5.7						
MJAR	**Matsushiro Ar**	**86.11**	**338**	P	**P**	**05 57 01.8**	**+0.9**
MJAR	**Matsushiro Ar**	**86.11**	**338**	P	**P**	**05 57 01.8**	**+0.9**
	2.6nm,0.7s,baz=176,slow=7.4,SNR=8.9						
H08S2	**Diego Garcia H**	**87.09**	**262**	T	T	07 32 58.4	
	baz=136,slow=0.7,SNR=395						
H08S1	**Diego Garcia H**	**87.10**	**262**	T	T	07 32 54.9	
	baz=136,slow=0.7,SNR=293						
H08S3	**Diego Garcia H**	**87.11**	**262**	T	T	07 32 59.9	
	baz=136,slow=0.7,SNR=521						
CMAR	**Chiang Mai Arr**	**88.35**	**299**	P	**P**	**05 57 11.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**88.35**	**299**	P	**P**	**05 57 11.7**	**-0.3**
	5.6nm,1.0s,baz=157,slow=3.4,SNR=15						
NJ2	**Nanjing**	**88.85**	**321**	*e*P	**P**	**05 57 15.0**	**+0.9**
NJ2				AMB	AMB		
	comp=Z,11nm,0.6s						
H08N1	**Diego Garcia H**	**89.04**	**262**	T	T	07 35 21.0	
	baz=124,slow=0.6,SNR=25						
H08N3	**Diego Garcia H**	**89.05**	**262**	T	T	07 35 20.7	
	baz=124,slow=0.6,SNR=63						
H08N2	**Diego Garcia H**	**89.06**	**262**	T	T	07 35 21.6	
	baz=124,slow=0.6,SNR=25						
KSRS	**Korea Array**	**90.08**	**330**	P	**P**	**05 57 20.7**	**+1.0**
	1.5nm,0.8s,baz=157,slow=7.2,SNR=5.8						
KSAR	**Wonju Array Be**	**90.08**	**330**	P	**P**	**05 57 20.7**	**+1.0**
KMI	**Kunming**	**91.26**	**306**	P	**P**	**05 57 28.5**	**+2.7**
KMI				pP	**pP**	**05 57 31.8**	**+1.9**
KMI				AMB	AMB		
	comp=Z,9.0nm,0.7s						
CD2	**Chengdu**	**95.23**	**310**	P	**P**	**05 57 46.5**	**+2.7**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**99.41**	**321**	*e*P	**Pdif**	**05 58 02.6**	**+0.2**
HHC				pP	**pP**	**05 58 07.4**	**+0.9**
HHC				sP	**sP**	**05 58 09.6**	**+1.7**
HHC				PP	**PP**	**06 02 07.7**	**+1.3**
HHC				S	**S**	**06 09 33.6**	**-0.7**
HHC				sS	**sS**	**06 09 40.7**	**-0.3**
HHC				SS	**SS**	**06 16 29.1**	**+4.0**
HHC				LR	LR		
	comp=N,270nm,15.3s						
HHC				LR	LR		
	comp=E,260nm,15.7s						
HHC				LR	LR		
	comp=Z,340nm,15.9s						
ILAR	**Eielson Array**	**116.52**	**20**	PKP	**PKPdf**	**06 03 02.5**	**-0.4**
ILAR	**Eielson Array**	**116.52**	**20**	PKP	**PKPdf**	**06 03 02.5**	**-0.4**
	0.5nm,0.7s,baz=258,slow=3.3,SNR=7.2						
MKAR	**Makanchi Array**	**118.15**	**309**	PKP	**PKPdf**	**06 03 05.3**	**-1.3**
MKAR	**Makanchi Array**	**118.15**	**309**	PKP	**PKPdf**	**06 03 05.3**	**-1.3**
	1.1nm,0.8s,baz=95,slow=2.8,SNR=4.8						
ECSD	**EROS Data Cent**	**123.96**	**60**	*e*PKPdf	**PKPdf**	**06 03 15.8**	**-2.1**
JFWS	**Jewell Farm**	**127.43**	**64**	*e*PKPdf	**PKPdf**	**06 03 23.4**	**-1.1**
WCI	**Wyandotte Cave**	**127.45**	**71**	*e*PKPdf	**PKPdf**	**06 03 23.1**	**-1.7**
BLO	**Bloomington**	**127.81**	**70**	*e*PKPdf	**PKPdf**	**06 03 24.8**	**-0.5**
DBIC	**Dimbokro**	**139.88**	**194**	PKP	**PKPdf**	**06 03 47.8**	**-1.0**
DBIC	**Dimbokro**	**139.88**	**194**	PKP	**PKPdf**	**06 03 47.8**	**-1.0**
	5.8nm,1.0s,baz=75,slow=3.6,SNR=3.1						
TORD	**Torodi Ar. Bea**	**144.55**	**207**	PKP	**PKPab**	**06 03 54.8**	**-0.6**
TORD	**Torodi Ar. Bea**	**144.55**	**207**	PKP	**PKPab**	**06 03 54.8**	**-0.6**
	5.9nm,0.5s,baz=188,slow=1.5,SNR=34						
BRTR	**Keskin Array B**	**145.09**	**277**	PKPbc	**PKPbc**	**06 03 56.5**	**-0.4**
BRTR	**Keskin Array B**	**145.09**	**277**	PKPbc	**PKPbc**	**06 03 56.5**	**-0.4**
	17nm,0.9s,baz=144,slow=3.9,SNR=40						
BR131	**Keskin Array S**	**145.09**	**277**	*e*PKPdf	**PKPbc**	**06 03 56.2**	**-0.7**
SPITS	**Spitsbergen Ar**	**145.85**	**349**	PKPbc	**PKPdf**	**06 03 57.2**	**-0.3**
SPITS	**Spitsbergen Ar**	**145.85**	**349**	PKPbc	**PKPdf**	**06 03 57.2**	**-0.3**
	37nm,0.9s,baz=116,slow=11,SNR=8.9						
SCHQ	**Scheffer ville**	**145.94**	**56**	PKPbc	**PKPdf**	**06 03 57.1**	**-1.1**
SCHQ	**Scheffer ville**	**145.94**	**56**	PKPbc	**PKPdf**	**06 03 57.1**	**-1.1**
	22nm,0.7s,baz=290,slow=2.7,SNR=20						
IDI	**Anoyia**	**149.00**	**263**	*e*PKPbc	**PKPbc**	**06 04 07.0**	**-1.0**
ARCES	**ARCESS Array B**	**149.58**	**334**	PKPbc	**PKPbc**	**06 04 08.1**	**-0.3**
ARCES	**ARCESS Array B**	**149.58**	**334**	PKPbc	**PKPbc**	**06 04 08.1**	**-0.3**
	19nm,0.7s,baz=74,slow=3.2,SNR=25						
AKASG	**Malin Array Be**	**151.40**	**295**	PKPbc	**PKPbc**	**06 04 11.8**	**-1.4**
AKASG				PKPab	**PKPab**	**06 04 19.9**	**-1.7**
AKASG	**Malin Array Be**	**151.40**	**295**	PKPbc	**PKPbc**	**06 04 11.8**	**-1.4**
	10nm,0.7s,baz=80,slow=2.4,SNR=27						
AKASG				PKPab	**PKPab**	**06 04 19.9**	**-1.7**
	8.7nm,0.7s,baz=82,slow=2.6,SNR=9.3						
TAM	**Tamanrasset**	**151.88**	**220**	*e*PKPbc	**PKPbc**	**06 04 15.7**	**+0.3**
FINES	**FINESS Array B**	**152.48**	**318**	PKPbc	**PKPbc**	**06 04 14.8**	**-0.5**
FINES	**FINESS Array B**	**152.48**	**318**	PKPbc	**PKPbc**	**06 04 14.8**	**-0.5**
	5.2nm,0.7s,baz=83,slow=6.0,SNR=10						
BRG	**Berggiesshubel**	**161.08**	**294**	*i* PKP	**PKPab**	**06 05 03.1**	**0.0**
	5.7nm,1.0s						
GERES	**GERESS Array B**	**161.26**	**288**	PKPab	**PKPab**	**06 05 03.3**	**-0.8**
	1.0nm,0.8s,baz=94,slow=5.4,SNR=6.7						
ESDC	**Sonseca Array**	**170.28**	**231**	PKPab	**PKPab**	**06 05 43.7**	**-0.3**
	0.6nm,0.5s,baz=137,slow=3.2,SNR=7.5						

IDC 01 05:49:42.6±1.2, 15.64S×172.82W, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/22, mbtmp3.9/6, Error ellipse: s-maj=55.1km s-min=18.8km az=133.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.99**	**31**	Pn	Pn	05 50 16.4	-1.4
	41nm,0.3s,baz=0.7,slow=3.3,SNR=9.1						
AFI				Sn	Sn	05 50 39.2	-4.3
	103nm,0.3s,baz=40,slow=22,SNR=15						
URZ	**Urewera**	**24.22**	**200**	P	P	05 55 01.3	+0.1
	8.4nm,0.7s,baz=189,slow=11,SNR=6.2						
H11S2	**WAKE ISLAND Hy**	**39.45**	**329**	T	T	06 39 18.5	
	baz=148,slow=0.7						
H11S3	**WAKE ISLAND Hy**	**39.46**	**328**	T	T	06 39 15.4	
	baz=148,slow=0.7						
H11S1	**WAKE ISLAND Hy**	**39.47**	**329**	T	T	06 39 22.8	
	baz=148,slow=0.7						
H11N3	**WAKE ISLAND Hy**	**40.39**	**330**	T	T	06 40 32.9	
	baz=155,slow=0.7						
H11N1	**WAKE ISLAND Hy**	**40.40**	**330**	T	T	06 40 33.2	
	baz=155,slow=0.7						
H11N2	**WAKE ISLAND Hy**	**40.41**	**330**	T	T	06 40 34.2	
	baz=155,slow=0.7						
STKA	**Stephens Creek**	**44.40**	**240**	P	P	05 57 54.7	-0.6
	1.4nm,0.6s,baz=99,slow=11,SNR=4.0						
WRA	**Warramunga Arr**	**50.33**	**257**	P	P	05 58 41.8	+0.1
	0.7nm,0.6s,baz=89,slow=6.7,SNR=5.3						
ASAR	**Alice Springs**	**50.57**	**252**	P	P	05 58 43.0	-0.4
	2.0nm,0.8s,baz=88,slow=7.6,SNR=19						
NVAR	**Mina Array Bea**	**74.13**	**42**	P	P	06 01 21.2	-0.2
	0.3nm,0.7s,baz=231,slow=5.7,SNR=3.6						
ILAR	**Eielson Array**	**82.57**	**11**	P	P	06 02 08.3	+1.2
	0.3nm,0.6s,baz=228,slow=6.5,SNR=6.0						

IDC 01 05:50:25.0±48.0, 15.45S×174.51W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.9/19, mbtmp4.3/3, Error ellipse: s-maj=923.6km s-min=181.5km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**43.09**	**240**	P	P	05 58 26.9	-0.2
	3.6nm,0.8s,baz=94,slow=10,SNR=5.7						
WRA	**Warramunga Arr**	**48.79**	**257**	P	P	05 59 12.0	-0.3
	0.8nm,0.5s,baz=91,slow=8.1,SNR=5.0						
ASAR	**Alice Springs**	**49.08**	**252**	P	P	05 59 14.5	0.0
	9.6nm,0.7s,baz=85,slow=8.2,SNR=21						

IDC 01 05:52:05.8±1.6, 15.55S×172.65W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/22, mbtmp3.9/4, Error ellipse: s-maj=63.6km s-min=23.9km az=123.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.84**	**28**	Pn	Pn	05 52 37.2	-1.6
	baz=35,slow=19,SNR=1.2						
AFI				Sn	Sn	05 52 58.2	-4.6
	49nm,0.3s,baz=174,slow=19,SNR=4.7						
URZ	**Urewera**	**24.36**	**200**	P	P	05 57 25.3	-0.2
	4.0nm,0.7s,baz=333,slow=6.8,SNR=2.9						
WRA	**Warramunga Arr**	**50.51**	**257**	P	P	06 01 05.5	-0.7
	0.5nm,0.8s,baz=95,slow=7.5,SNR=2.4						
ASAR	**Alice Springs**	**50.75**	**252**	P	P	06 01 08.1	+0.1
	2.1nm,0.7s,baz=87,slow=8.3,SNR=5.7						
ILAR	**Eielson Array**	**82.46**	**11**	P	P	06 04 30.8	+1.1
	0.4nm,0.6s,baz=222,slow=5.4,SNR=4.2						

DJA 01 06:02:57.3±0.5, 3°S±5°×10°1E±°, h10km, M3.8/7, MLv3.8/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASI	**Maura Aman, Be**	**0.98**	**128**	P	Pg	06 03 15.1	-1.2
MASI				S	Sb	06 03 29.6	+0.1
KSI	**Kapahiang**	**1.58**	**134**	P	Pn	06 03 24.0	-1.5
KSI				S	Sb	06 03 47.1	+0.2
PPI	**Padang Panjang**	**2.33**	**333**	P	Pn	06 03 36.2	+0.5
MNAI	**Manna**	**2.34**	**140**	P	Pn	06 03 35.5	-0.5
MNAI				S	Sn	06 04 06.7	+1.9
EGSI	**Enggano, Bengk**	**2.91**	**164**	P	Pn	06 03 43.6	-0.1
EGSI				S	Sn	06 04 21.4	+2.6
MDSI	**Maura Dua**	**3.33**	**126**	P	Pn	06 03 50.4	+0.9
MDSI				S	Sb	06 04 36.1	-1.0

*AUST **01** 06:13:29.6±0.4, 15.20S×172.97W, h0km, Error ellipse: s-maj=9.2km s-min=6.7km az=7.0*

*BJI **01** 06:13:30.0, 15.47S×173.15W, h7km, mB6.1/46, mb5.4/46, Ms5.6/51, Ms7 5.4/50*

*ISCJB **01** 06:13:31.2±0.1, 15.33S±0.03×173.29W±0.03, h10km, mb5.4/210, MS5.6/221, Error ellipse: s-maj=5.5km s-min=2.9km az=152.9*

*IDC **01** 06:13:31.4±0.4, 15.27S×173.27W, h0km, mb5.2/24, mb1 5.4/24, mb1mx5.3/28, mbtmp5.2/24, MS5.5/28, Ms1 5.5/28, ms1mx5.4/32, Error ellipse: s-maj=15.9km s-min=11.0km az=132.0*

*NEIC **01** 06:13:33.3±0.1, 15.39S×173.25W, h14km, mb5.6/157, ME5.2, MS5.7/151, MW5.7, Error ellipse: s-maj=5.3km s-min=3.1km az=144.0, Moment Tensor Solution. s48 Moment tensor: Scale 10^{17}Nm; M_{rr}3.37; $M_{\theta\theta}$-1.86; $M_{\phi\phi}$-1.51; $M_{r\theta}$-1.80; $M_{\theta\phi}$1.18;

TBI eLR LR 06 24 37.6
comp=Z,25µm,25.0s,baz=288
PMOR Pomariorio Ree 24.43 93 eP **P** **06 18 51.8 0.0**
comp=Z,476nm,1.3s
URZ Urewera 24.43 199 eP **P** **06 18 50.7 -0.9**
comp=Z,90nm,0.7s
URZ Urewera 24.43 199 P **P** **06 18 50.7 -0.9**
comp=Z,80nm,0.8s,baz=352,slow=4.6,SNR=26
VAH Vaihoa 24.67 93 eP **P** **06 18 53.6 -0.4**
comp=Z,218nm,1.2s
BKZ Black Stump Fm 25.45 199 eP **P** **06 19 00.9 0.0**
comp=Z,68nm,1.2s
HNR Honiara 26.85 279 LR LR 06 28 11.5
comp=Z,11µm,18.6s,baz=120,slow=33
BFZ Birch Farm 26.91 198 eP **P** **06 19 14.1 0.0**
comp=Z,129nm,1.0s
SNZO South Karori 27.97 200 PFAKE 06 19 30.0 +6.5
SNZO LR LR
comp=Z,11µm,19.0s
KHZ Kahutara 29.34 200 eP **P** **06 19 35.3 -0.4**
comp=Z,56nm,0.8s
LHI Lord Howe Isla 30.02 233 ⇓P **P** **06 19 42.6 +0.7**
baz=30
RPZ Rata Peaks 31.35 202 eP **P** **06 19 52.2 -1.3**
RPZ Rata Peaks 31.35 202 P **P** **06 19 53.0 -0.5**
comp=Z,19nm,0.6s,baz=346,slow=2.2,SNR=16
TAOE Nuku Hiva Isla 32.92 83 eS **S** **06 25 24.4 -1.1**
comp=Z,2µm,29.2s
TAOE eLR LR 06 28 37.1
comp=Z,15µm,24.5s
EIDS Eidsvold 34.86 248 eP **P** **06 20 22.0 -2.4**
comp=Z,13nm,0.8s
EIDS ePP **PP** **06 21 49.5 +6.0**
EIDS Eidsvold 34.86 248 ⇓P **P** **06 20 22.9 -1.5**
baz=35,SNR=7.6
ARMA Armidale 35.56 239 eP **P** **06 20 29.1 -1.4**
comp=Z,128nm,1.5s
ARMA Armidale 35.56 239 P **P** **06 20 29.7 -0.8**
baz=36,SNR=7.0
RKT Rikitea 36.84 108 eS **S** **06 26 26.8 +1.2**
comp=Z,1µm,25.8s
RKT eLQ LQ 06 29 06.9
comp=Z,5µm,27.8s
RKT eLR LR 06 30 37.5
comp=Z,13µm,25.2s,baz=281
MGCD Mangrove Creek 36.87 235 P **P** **06 20 41.3 -0.3**
baz=37,SNR=6.3
CTA Charters Tower 38.85 257 P **P** **06 20 56.5 -1.9**
CTA Charters Tower 38.85 257 P **P** **06 20 56.5 -1.9**
comp=Z,11nm,0.9s,baz=87,slow=12,SNR=6.5
CTA LR LR 06 34 06.8
comp=Z,7µm,21.5s,baz=80,slow=32
CTAO Charters Tower 38.85 257 eP **P** **06 20 57.6 -0.9**
CTAO e 06 23 10.6
CTAO pmax pmax
comp=Z,15nm,0.7s
CTAO MLR MLR
comp=Z,8µm,21.0s
CTAO Charters Tower 38.85 257 eP **P** **06 20 57.6 -0.9**
comp=Z,15nm,0.7s
CTAO ePcP **PcP** **06 23 10.6 +1.0**
CTAO LR LR
comp=Z,8µm,21.0s
CNB Canberra Magne 38.97 232 P **P** **06 20 58.9 -0.4**
baz=39,SNR=13
H11S2 WAKE ISLAND Hy 38.97 329 T T 07 01 20.7
baz=150,slow=0.7,SNR=81
H11S3 WAKE ISLAND Hy 38.98 329 T T 07 01 17.5
baz=150,slow=0.7,SNR=47
H11S1 WAKE ISLAND Hy 38.99 329 T T 07 01 34.2
baz=150,slow=0.7,SNR=43
PMG Port Moresby 39.12 274 P **P** **06 21 03.4 +2.7**
comp=Z,53nm,1.2s,comp=Z,1µm
PMG Port Moresby 39.12 274 P **P** **06 21 00.2 -0.5**
PMG Port Moresby 39.12 274 P **P** **06 21 00.2 -0.5**
comp=Z,36nm,1.0s,baz=334,slow=3.3,SNR=5.4
PMG LR LR 06 34 57.0
comp=Z,5µm,20.3s,baz=303,slow=33
CAN Canberra 39.25 232 eP **P** **06 21 00.4 -1.3**
CAN pmax pmax
comp=Z,177nm,1.4s
CAN MLR MLR
comp=Z,5µm,19.0s
CAN Canberra 39.25 232 eP **P** **06 21 00.4 -1.3**
comp=Z,177nm,1.4s
CAN LR LR
comp=Z,5µm,19.0s
CAN Canberra 39.25 232 ⇓P **P** **06 21 00.8 -0.9**
baz=40
YNG Young 39.37 234 P **P** **06 21 02.0 -0.6**
baz=40,SNR=6.2
KIP Kipapa 39.41 23 eP **P** **06 21 04.3 +1.3**
KIP MLR MLR
comp=Z,5µm,20.0s
KIP Kipapa 39.41 23 eP **P** **06 21 04.3 +1.3**
comp=Z,2µm,2.8s
KIP LR LR
comp=Z,5µm,20.0s
WAKE Wake Island 39.67 329 P **P** **06 21 02.5 -2.6**
comp=Z,1µm,1.7s
WAKE LR LR
comp=Z,5µm,19.0s
H11N3 WAKE ISLAND Hy 39.91 330 T T 07 02 37.8
baz=150,slow=0.7,SNR=39
H11N1 WAKE ISLAND Hy 39.92 330 T T 07 02 42.2
baz=150,slow=0.7,SNR=48
H11N2 WAKE ISLAND Hy 39.93 330 T T 07 02 39.3
baz=150,slow=0.7,SNR=41
MTSU Mount Surprise 40.72 260 P **P** **06 21 13.5 -0.6**
baz=41,SNR=19
CMSA Cobar Meteorol 40.77 239 P **P** **06 21 13.3 -1.0**
baz=41,SNR=16
QLP Quilpie 41.14 247 ⇓P **P** **06 21 16.0 -1.3**
baz=41,SNR=11
COEN Coen 42.18 266 eP **P** **06 21 26.1 0.0**
comp=Z,128nm,1.3s
COEN Coen 42.18 266 P **P** **06 21 26.5 +0.4**
baz=42,SNR=14
TOO Toolangi 42.68 231 P **P** **06 21 29.1 -0.8**
baz=43,SNR=13
MIDW Midway 43.44 355 PFAKE 06 21 50.0 +14
MIDW LR LR
comp=Z,5µm,20.0s
TAU Tasmania Unive 43.53 223 PFAKE 06 21 50.0 +13
TAU LR LR
comp=Z,7µm,20.0s
STKA Stephens Creek 44.26 240 eP **P** **06 21 41.7 -0.9**
comp=Z,49nm,1.4s
STKA Stephens Creek 44.26 240 P **P** **06 21 41.8 -0.8**
baz=44,SNR=57
STKA Stephens Creek 44.26 240 P **P** **06 21 41.6 -1.0**
comp=Z,66nm,1.0s,baz=77,slow=7.7,SNR=58
ARPS Mount Arapiles 45.21 233 P **P** **06 21 49.2 -1.0**
baz=45,SNR=7.1
HTT Hallett 46.77 238 ⇑P **P** **06 22 01.8 -0.7**
baz=47
BBOO Buckleboo 49.03 240 eP **P** **06 22 19.2 -0.9**
comp=Z,179nm,1.4s
BBOO Buckleboo 49.03 240 P **P** **06 22 19.3 -0.9**
baz=49,SNR=38
WRAB Tennant Creek 50.05 257 eP **P** **06 22 26.4 -1.6**
WRAB pmax pmax
comp=Z,130nm,1.3s
WRAB MLR MLR
comp=Z,6µm,20.0s
WRAB Tennant Creek 50.05 257 eP **P** **06 22 26.4 -1.6**
comp=Z,130nm,1.3s
WRAB LR LR
comp=Z,6µm,20.0s
WRA Warramunga Arr 50.06 257 P **P** **06 22 26.0 -2.1**
WRA Warramunga Arr 50.06 257 P **P** **06 22 26.0 -2.1**
comp=Z,47nm,1.0s,baz=91,slow=7.7,SNR=77
WRA LR LR 06 41 49.9
comp=Z,6µm,20.9s,baz=90,slow=34
AS31 Alice Springs 50.33 252 eP **P** **06 22 28.8 -1.4**
ASAR Alice Springs 50.33 252 P **P** **06 22 28.6 -1.5**
ASAR S **S** **06 29 45.2 +2.3**
ASAR Alice Springs 50.33 252 P **P** **06 22 28.6 -1.5**
comp=Z,61nm,0.7s,baz=88,slow=7.7,SNR=275
ASAR S **S** **06 29 45.2 +2.3**
comp=Z,1.6nm,0.9s,baz=85,slow=15,SNR=5.6
ASAR LR LR 06 42 09.4
comp=Z,12µm,20.3s,baz=88,slow=34
KDU Kakadu 52.67 266 P **P** **06 22 47.3 -0.4**
baz=53,SNR=11
FORT Forrest 55.64 243 eP **P** **06 23 07.3 -1.9**
comp=Z,110nm,0.7s
FORT Forrest 55.64 243 P **P** **06 23 07.7 -1.5**
baz=56,SNR=15
KNRA Kununurra 55.77 261 P **P** **06 23 10.4 +0.1**
baz=56,SNR=6.4
FITZ Fitzroy Crossi 58.42 258 eP **P** **06 23 28.5 -0.6**
FITZ Fitzroy Crossi 58.42 258 P **P** **06 23 28.5 -0.6**
baz=59,SNR=5.6
DRV Dumont d'Urvil 59.76 200 PP PP 06 25 35.0 -14
DRV S S 06 31 31.0 -17
DRV L L 06 38 00.0
DRV R 06 43 00.0
JCJ Chichijima 60.42 314 LR LR 06 45 10.3
comp=Z,4µm,20.3s,baz=141,slow=32
SOEI Soe 61.12 267 ⇓P **P** **06 23 48.4 +0.5**
baz=61,SNR=7.0
SBA Scott Base 63.37 185 eP **P** **06 24 04.9 +3.1**
SBA pmax pmax
comp=Z,33nm,0.8s
SBA MLR MLR
comp=Z,2µm,19.0s
SBA Scott Base 63.37 185 eP **P** **06 24 04.9 +3.1**
comp=Z,33nm,0.8s
SBA LR LR
comp=Z,2µm,19.0s
VNDA Vanda 63.50 186 eP **P** **06 24 05.0 +2.3**
comp=Z,85nm,1.4s
VNDA Vanda 63.50 186 P **P** **06 24 05.0 +2.3**
comp=Z,33nm,1.1s,baz=8.1,slow=6.5,SNR=46
VNDA LR LR 06 46 29.8
comp=Z,1µm,19.2s,baz=19,slow=31
MBWA Marble Bar 63.58 254 eP **P** **06 24 03.2 -0.9**
comp=Z,68nm,1.5s
MBWA LR LR
comp=Z,4µm,19.0s
MEEK Meekatharra 64.03 248 P **P** **06 24 06.2 -0.9**
baz=64,SNR=11
KLBR Kellerberrin 64.46 242 P **P** **06 24 09.2 -0.6**
baz=65,SNR=14
DAV Davao City (W) 64.59 286 PFAKE 06 24 20.0 +9.2
DAV LR LR
comp=Z,4µm,19.0s
NWAO Narrogin (SRO) 64.84 241 eP **P** **06 24 11.0 -1.2**
comp=Z,141nm,1.5s
NWAO LR LR
comp=Z,2µm,22.0s
RKGY Rocky Gully 64.99 239 P **P** **06 24 14.1 +0.9**
baz=65,SNR=5.3
BLDU Ballidu 65.41 243 P **P** **06 24 15.2 -0.8**
baz=66,SNR=15
MORW Morawa 66.10 245 P **P** **06 24 19.0 -1.5**
baz=66,SNR=8.7
KAPI Kappang 66.57 271 eP **P** **06 24 22.1 -1.5**
comp=Z,8.1nm,1.2s
KAPI LR LR
comp=Z,1µm,20.0s
MJAR Matsushiro Arr 68.98 320 P **P** **06 24 38.5 +0.1**
MJAR Matsushiro Arr 68.98 320 P **P** **06 24 38.5 +0.1**
comp=Z,39nm,1.2s,baz=165,slow=6.1,SNR=48
MJAR LR LR 06 49 07.6
comp=Z,4µm,21.5s,baz=125,slow=31
MAJO Matsushiro 68.98 320 eP **P** **06 24 39.0 +0.6**
MAJO pmax pmax
comp=Z,293nm,1.8s
MAJO MLR MLR
comp=Z,5µm,21.0s
MAJO Matsushiro 68.98 320 eP **P** **06 24 39.0 +0.6**
comp=Z,49nm,1.8s
MAJO LR LR
comp=Z,3µm,21.0s
MAT Matsushiro 68.98 320 P **P** **06 24 38.5 +0.1**
MAT S **S** **06 33 42.8 0.0**
ERM Erimo 69.78 327 *d* iP **P** **06 24 44.2 +1.1**
ERM pmax pmax
comp=Z,90nm,2.3s
ERM MLR MLR
comp=Z,3µm,19.0s
ERM Erimo 69.78 327 eP **P** **06 24 43.9 +0.7**
comp=Z,69nm,1.6s
ERM LR LR
comp=Z,4µm,20.0s
YUK Yuzh-Kuril'sk 69.86 330 *c* iP P 06 24 37.2 -6.4
YUK *i* S S 06 33 45.1 -7.7
YUK pmax pmax
comp=E,89nm,0.9s
YUK pmax pmax
comp=Z,419nm,1.8s
YUK pmax pmax
comp=N,8.0nm,0.3s
CASY Casey 70.59 205 eP **P** **06 24 46.8 -1.0**
comp=N,116nm,1.3s
CASY LR LR
comp=Z,1µm,19.0s
ASAJ Asahikawa 71.55 328 eP **P** **06 24 55.0 +1.1**
comp=Z,64nm,1.4s
OSI Osito Adit 71.68 45 eP **P** **06 24 57.5 +2.5**
comp=Z,17nm,1.6s
JNU Nakatsue 71.86 313 eP **P** **06 24 55.9 -0.3**
comp=Z,25nm,1.3s
MWC Mount Wilson 71.92 46 eP **P** **06 24 57.5 +0.8**
MWC pmax pmax
comp=Z,43nm,1.1s
MWC Mount Wilson 71.92 46 eP **P** **06 24 57.5 +0.8**
comp=Z,43nm,1.1s
BAR Barrett 72.06 48 eP **P** **06 24 59.8 +2.5**
comp=Z,1.2nm,0.8s
VES Vestal, Richgr 72.13 44 ⇓P **P** **06 24 57.6 0.0**
baz=72
MURC Murrieta 72.18 47 ⇓P **P** **06 24 57.1 -0.9**
baz=72
BFSC Mount Baldy Ra 72.21 46 ⇑P **P** **06 24 57.5 -0.8**
baz=72
PET Petropavlovsk 72.23 343 *c* iP **P** **06 24 58.3 +0.5**
PET *i* S **S** **06 34 22.0 +2.1**
PET eSS **SS** **06 38 55.4 -2.9**
PET pmax pmax
comp=Z,2µm,8.5s
PET pmax pmax
comp=Z,113nm,1.5s
PET pmax pmax
comp=Z,1µm,8.7s
PET MLR MLR
comp=Z,2µm,18.0s
PET MLR MLR
comp=Z,2µm,18.0s
EDW2 Edwards Air Fo 72.33 45 ⇑P **P** **06 24 59.0 +0.1**
baz=73,SNR=7.4
MONP Monument Peak 72.35 48 ⇓P **P** **06 24 58.4 -0.9**
baz=73
CHGN Chignik 72.39 9 eP **P** **06 24 58.8 +0.2**
ISA Isabella 72.44 44 eP **P** **06 25 01.0 +1.4**
ISA pmax pmax
comp=Z,39nm,1.2s
ISA Isabella 72.44 44 eP **P** **06 25 00.9 +1.4**
comp=Z,9.6nm,1.2s
ISA Isabella 72.44 44 ⇑P **P** **06 24 60.0 +0.4**
baz=73,SNR=14
DVTC Desert V Tower 72.46 48 ⇑P **P** **06 24 59.7 -0.1**
baz=73
PEA0B Petropavlovsk- 72.59 342 eP **P** **06 25 00.0 +0.1**
PETK Petropavlovsk- 72.59 342 P **P** **06 25 00.6 +0.6**
PETK pmax pmax
comp=Z,90nm,1.2s
PETK Petropavlovsk- 72.59 342 P **P** **06 25 00.6 +0.6**
PETK Petropavlovsk- 72.59 342 P **P** **06 25 00.6 +0.6**
comp=Z,90nm,1.2s,baz=119,slow=9.0,SNR=27
PETK LR LR 06 54 38.6
comp=Z,1µm,19.1s,baz=155,slow=34
PFO Pinyon Flat Ob 72.71 47 ⇑P **P** **06 25 01.6 +0.3**
baz=73
PFO Pinyon Flat Ob 72.71 47 LR LR 06 52 20.5
comp=Z,8µm,18.0s,baz=254,slow=32
BBRC Big Bear Solar 72.73 46 ⇑P **P** **06 25 01.7 +0.2**
baz=73
LPIG La Paz 72.82 58 LR LR 06 50 35.0
comp=Z,4µm,18.6s,baz=231,slow=30
SWSC Sam W. Stewart 72.82 48 ⇑P **P** **06 25 01.8 0.0**
baz=73
LRMC Laurel Mountai 72.87 45 ⇓P **P** **06 25 02.4 +0.2**
baz=73,SNR=6.9
RRX Edison Barstow 73.01 46 ⇓P **P** **06 25 03.1 +0.1**
baz=73
KKM Kota Kinabalu 73.05 281 PFAKE 06 25 10.0 +6.3
KKM LR LR
comp=Z,2µm,22.0s
CWC Cottonwood Cre 73.14 44 ⇑P **P** **06 25 04.0 +0.2**
baz=73,SNR=8.4
BELC Belle Mtn. Jos 73.24 47 ⇓P **P** **06 25 04.7 +0.3**
baz=74
MLAC Mammoth Lakes 73.32 42 ⇓P **P** **06 25 05.4 +0.4**
baz=74
MPMC Manual Prospec 73.33 44 ⇑P **P** **06 25 04.7 -0.3**
baz=74,slow=25
GSC Goldstone 73.38 45 eP **P** **06 25 07.0 +1.8**
GSC pmax pmax
comp=Z,34nm,1.2s
GSC Goldstone 73.38 45 eP **P** **06 25 07.0 +1.8**
comp=Z,8.1nm,1.2s
GSC Goldstone 73.38 45 ⇓P **P** **06 25 05.0 -0.2**
baz=74,SNR=10
TIN Tinemaha 73.39 43 ⇓P **P** **06 25 05.7 +0.5**
baz=74
WAKR Walker 73.44 41 eP **P** **06 25 06.8 +1.2**
comp=Z,69nm,1.4s
BC3 Big Chuckawall 73.44 47 ⇓P **P** **06 25 06.0 +0.4**
baz=74
HEC Hector,Ludlow 73.45 46 ⇓P **P** **06 25 05.7 +0.1**
baz=74
YSS Yuzh-Sakhalins 73.48 330 ⇑eP **P** **06 25 06.0 +0.6**
YSS *e* 06 25 12.0
YSS eS **S** **06 34 34.0 -0.5**
YSS ePS **PnS** **06 34 58.0 -10**
YSS *e* 06 35 20.0
YSS pmax pmax
comp=Z,220nm,1.5s
YSS pmax pmax
comp=Z,1µm,6.0s
YSS MLR MLR
comp=Z,1µm,18.0s
GLA Glamis 73.58 48 eP **P** **06 25 07.0 +0.6**
GLA pmax pmax
comp=Z,12nm,0.7s
GLA Glamis 73.58 48 eP **P** **06 25 07.0 +0.6**
comp=Z,3.1nm,0.7s
GLA Glamis 73.58 48 ⇑P **P** **06 25 06.7 +0.3**
baz=74
BEKR Beckworth 73.66 40 eP **P** **06 25 07.8 +1.0**
comp=Z,22nm,1.2s
GMRC Granite Mounta 73.89 46 ⇓P **P** **06 25 07.8 -0.4**
baz=74,SNR=12
IRM Iron Mountain 73.92 47 ⇓P **P** **06 25 08.7 +0.4**
baz=74
GRAC Grapevine Rang 73.93 44 ⇓P **P** **06 25 08.9 +0.6**
baz=74
FURC Furnace Creek, 73.97 44 ⇑P **P** **06 25 08.8 +0.3**
baz=74,SNR=6.8
TUQ Turquoise Moun 74.05 46 ⇑P **P** **06 25 09.3 +0.1**
baz=74
SHOC Shoshone 74.06 45 ⇑P **P** **06 25 09.1 +0.1**
baz=74
NVAR Mina Array Bea 74.12 42 P **P** **06 25 10.3 +0.7**
NVAR Mina Array Bea 74.12 42 P **P** **06 25 10.3 +0.7**
comp=Z,8.2nm,0.8s,baz=228,slow=9.8,SNR=41
NVAR LR LR 06 52 49.9
comp=Z,5µm,18.3s,baz=120,slow=32
Y12C Blythe 74.15 48 ⇓P **P** **06 25 10.1 +0.4**
baz=74
PAHR Pah Rah Range 74.17 40 eP **P** **06 25 10.6 +0.8**
comp=Z,37nm,1.1s
113A Mohawk Valley, 74.20 49 ⇓P **P** **06 25 10.5 +0.6**
baz=74
NV11 Mina Array Sit 74.22 42 eP **P** **06 25 10.6 +0.5**
LDFC Landfair 74.43 46 eP **P** **06 25 11.9 +0.6**
comp=Z,140nm,1.1s
214A Organ Pipe Nat 74.50 50 ⇓P **P** **06 25 12.5 +0.7**
baz=75
TPH Tonopah 74.62 43 PFAKE 06 25 20.0 +7.5
TPH LR LR
comp=Z,5µm,20.0s
PDMCI Parker Dam,Lak 74.71 47 ⇓P **P** **06 25 13.6 +0.7**
baz=75
QSPA South Pole Qui 74.75 180 P **P** **06 25 14.1 +1.3**
QSPA LR LR
comp=Z,2µm,19.0s
QSPA South Pole Qui 74.75 180 P **P** **06 25 14.1 +1.3**
comp=Z,55nm,1.0s,baz=45,slow=2.0,SNR=70
KDAK Kodiak Island 74.78 11 eP **P** **06 25 13.3 +0.6**
comp=Z,285nm,1.6s
KDAK LR LR
comp=Z,4µm,20.0s
Z14A Wintersburg 75.09 49 ⇓P **P** **06 25 15.6 +0.5**
baz=75
YHNB Yeheng 75.14 301 PFAKE 06 25 30.0 +14
YHNB LR LR
comp=Z,3µm,20.0s
SHPR Sheep Range 75.15 45 eP **P** **06 25 16.5 +1.0**
comp=Z,56nm,1.3s
TATO Taipei 75.18 301 PFAKE 06 25 30.0 +14
TATO LR LR
comp=Z,2µm,19.0s
TPUB Ta-pu 75.20 300 eP **P** **06 25 17.4 +1.4**
comp=Z,36nm,0.8s
W13A Hualapai Mount 75.30 47 ⇓P **P** **06 25 17.0 +0.5**
baz=76,SNR=5.8
Y14A Wickenburg 75.34 48 ⇓P **P** **06 25 16.9 +0.3**
baz=76
R11A Troy Canyon, C 75.85 43 eP **P** **06 25 19.5 -0.1**
comp=Z,17nm,1.1s
R11A Troy Canyon, C 75.85 43 ⇑P **P** **06 25 20.4 +0.8**
baz=76
BMN Battle Mountai 75.94 41 eP **P** **06 25 20.4 +0.3**
BMN pmax pmax
comp=Z,46nm,1.1s
BMN MLR MLR
comp=Z,4µm,19.0s
BMN Battle Mountai 75.94 41 eP **P** **06 25 20.4 +0.3**
comp=Z,46nm,1.1s
BMN LR LR
comp=Z,4µm,19.0s
TUC Tucson 76.17 51 eP **P** **06 25 21.3 -0.2**
TUC pmax pmax
comp=Z,75nm,1.4s
TUC MLR MLR
comp=Z,4µm,19.0s
TUC Tucson 76.17 51 eP **P** **06 25 21.2 -0.2**
comp=Z,75nm,1.4s
TUC LR LR
comp=Z,4µm,19.0s
KSRS Korea Array 76.22 315 P **P** **06 25 22.6 +1.1**
comp=Z,14nm,1.0s,baz=126,slow=6.3,SNR=47
KSRS LR LR 06 52 53.4
comp=Z,1µm,21.2s,baz=110,slow=31
WVOR Wild Horse Val 76.23 38 eP **P** **06 25 21.8 +0.2**
WVOR pmax pmax
comp=Z,54nm,1.1s
WVOR MLR MLR
comp=Z,6µm,20.0s
WVOR Wild Horse Val 76.23 38 eP **P** **06 25 21.8 +0.2**
comp=Z,54nm,1.1s
WVOR LR LR
comp=Z,6µm,20.0s
KSAR Wonju Array Be 76.24 315 P **P** **06 25 22.6 +1.0**
VIPM Ingram Point 76.32 36 P **P** **06 25 23.2 +1.1**
VIPM Ingram Point 76.32 36 P **P** **06 25 23.2 +1.1**
VFP Flag Point 76.35 35 P **P** **06 25 23.1 +0.8**
NLWA Neilton Lookou 76.41 32 eP **P** **06 25 23.6 +1.3**
comp=Z,50nm,1.3s
NLWA LR LR
comp=Z,2µm,19.0s
TDL Tradedollar La 76.60 34 P **P** **06 25 24.4 +0.8**
X16A Lo Mia Camp, P 76.70 48 ⇓P **P** **06 25 25.0 +0.5**
baz=77,SNR=16
OBC Olympics--Boni 76.73 31 P **P** **06 25 25.9 +1.7**
319A Douglas 76.87 52 ⇓P **P** **06 25 26.0 +0.6**
baz=77,SNR=8.2
CCUT Cedar City 76.92 45 eP **P** **06 25 27.0 +1.2**
comp=Z,86nm,1.8s
ARUT Antelope Range 76.99 45 eP **P** **06 25 27.1 +1.0**
ARUT Antelope Range 76.99 45 eP **P** **06 25 27.1 +1.0**
comp=Z,30nm,1.1s
GLK Glacier Lake 77.06 34 P **P** **06 25 27.3 +1.2**
LON Longmire 77.07 33 eP **P** **06 25 25.8 -0.3**
LON pmax pmax
comp=Z,77nm,1.7s
LON Longmire 77.07 33 eP **P** **06 25 25.8 -0.3**
comp=Z,77nm,1.7s
U15A North Rim 77.09 46 ⇑P **P** **06 25 27.4 +0.7**
baz=77,SNR=19
INCN Inchon 77.11 315 P **P** **06 25 28.6 +2.1**
SNR=15
INCN Inchon 77.11 315 eP **P** **06 25 28.1 +1.5**
comp=Z,85nm,1.9s
INCN LR LR
comp=Z,1µm,19.0s
RSO Redoubt South 77.27 10 eP **P** **06 25 27.1 0.0**

comp=Z,294nm,1.4s
WUAZ Wupatki 77.28 47 *e*P P **06 25 29.0 +1.2**
comp=Z,74nm,1.5s
WUAZ LR LR
comp=Z,4µm,19.0s
WUAZ Wupatki 77.28 47 ⇑P P **06 25 28.0 +0.2**
baz=78,SNR=7.7
KSM Kuching 77.37 275 *e*P P **06 25 28.8 +0.3**
comp=Z,49nm,1.1s
KSM LR LR
comp=Z,789nm,20.0s
ELK Elko 77.38 41 *e*P P **06 25 29.2 +0.9**
comp=Z,24nm,1.1s
USRK Ussuriysk Arra 77.41 323 P P **06 25 28.7 +0.7**
comp=Z,39nm,1.2s,baz=109,slow=4.6,SNR=53
USRK LR LR 06 53 10.5
comp=Z,4µm,21.7s,baz=298,slow=31
320A Kipp Ranch, An 77.43 52 ⇓P P **06 25 29.5 +0.9**
baz=78,SNR=10.0
PGC Sidney 77.45 31 *e*P P **06 25 29.3 +1.2**
comp=Z,38nm,1.1s
SEW Seward 77.55 12 *e*P P **06 25 28.5 +0.2**
comp=Z,201nm,1.7s
QZH Quanzhou 77.56 300 ⇑ *i*P P **06 25 28.2 -1.1**
QZH S S **06 35 23.1 +2.5**
QZH AMB AMB
comp=Z,2µm,5.1s
QZH LR LR
comp=Z,4µm,25.2s
220A Playas Peak, P 77.69 52 ⇓P P **06 25 30.3 +0.3**
baz=78,SNR=21
X18A Snowflake 77.83 49 ⇓P P **06 25 31.5 +0.6**
baz=78,SNR=6.1
120A U Bar Ranch, L 77.89 51 ⇑P P **06 25 31.7 +0.4**
baz=78,SNR=8.9
SSE Sheshan 78.05 307 P P **06 25 32.8 +1.0**
SSE S S **06 35 29.2 +3.7**
SSE sS **sS 06 35 36.6 +3.1**
SSE AMB AMB
comp=Z,14nm,0.6s
SSE AMB AMB
comp=Z,800nm,7.3s
SSE LR LR
comp=Z,1µm,26.6s
SSE LR LR
comp=Z,530nm,26.5s
SSE LR LR
comp=Z,1µm,26.2s
HAWA Hanford 78.08 35 *e*P P **06 25 32.1 +0.4**
comp=Z,84nm,1.4s
HAWA LR LR
comp=Z,4µm,19.0s
H2OWA Water 78.14 35 P P **06 25 33.3 +1.3**
Z20A Nine Sixteen R 78.18 51 ⇓P P **06 25 33.0 +0.2**
baz=78,SNR=13
MVU Marysvale 78.19 45 *e*P P **06 25 34.3 +1.5**
comp=Z,42nm,1.1s
MVU *e*PP **PP 06 28 32.1 +2.3**
MVU LR LR
comp=Z,7µm,19.0s
W18A Petrified Fore 78.27 49 *e*P P **06 25 33.4 +0.1**
comp=Z,40nm,1.3s
W18A Petrified Fore 78.27 49 ⇑P P **06 25 33.6 +0.3**
baz=78
221A Mesquite Ranch 78.30 52 ⇓P P **06 25 33.3 -0.2**
baz=78
HABR Khabarovsk 78.35 328 *c i*P P **06 25 33.1 0.0**
HABR 06 25 42.0
HABR *e* 06 28 29.2
HABR *e*S **S 06 35 28.8 +0.8**
HABR *e**SS **sS 06 35 33.7 -2.3**
HABR *e* 06 35 52.6
HABR *e*SS **SS 06 40 31.1 -0.2**
HABR pmax pmax
comp=N,57nm,3.0s
HABR pmax pmax
comp=Z,407nm,3.0s
HABR pmax pmax
comp=E,132nm,3.4s
HABR pmax pmax
comp=Z,710nm,3.2s
HABR MLR MLR
comp=Z,2µm,17.0s
ETW Entiat 78.39 33 P P **06 25 34.2 +0.6**
BMO Blue Mountains 78.42 37 *e*P P **06 25 33.6 -0.2**
comp=Z,54nm,1.3s
BMO LR LR
comp=Z,4µm,19.0s
MFID Camas Ranch 78.48 39 ⇑P P **06 25 34.1 -0.1**
baz=79,SNR=28
121A Cookes Peak, D 78.53 52 ⇑P P **06 25 34.7 -0.1**
baz=79,SNR=18
DUG Dugway 78.65 43 *e*P P **06 25 35.5 +0.3**
DUG pmax pmax
comp=Z,29nm,1.0s
DUG MLR MLR
comp=Z,3µm,21.0s
DUG Dugway 78.65 43 *e*P P **06 25 35.5 +0.3**
comp=Z,30nm,1.0s
DUG LR LR
comp=Z,3µm,21.0s
DUG Dugway 78.65 43 ⇓P P **06 25 35.6 +0.4**
baz=79,SNR=17
Y20A Horse Springs, 78.70 50 ⇑P P **06 25 36.5 +0.8**
baz=79,SNR=16
222A Williams Famil 78.86 52 ⇑P P **06 25 37.0 +0.4**
baz=79,SNR=12
BGU Big Grassy Mou 78.89 42 *e*P P **06 25 36.6 +0.1**
comp=Z,43nm,1.1s
X20A Quemado 78.90 50 ⇓P P **06 25 37.6 +0.8**
baz=79,SNR=24
Z21A St. Cloud Mine 78.96 51 ⇓P P **06 25 38.0 +0.9**
baz=79,SNR=23
PMR Palmer 78.98 11 *e*P P **06 25 36.2 -0.1**
PMR pmax pmax
comp=Z,209nm,1.4s
PMR Palmer 78.98 11 *e*P P **06 25 36.2 -0.1**
comp=Z,209nm,1.4s
NLU North Lily Min 79.01 43 *e*P P **06 25 36.6 -0.7**
comp=Z,16nm,1.2s
MDJ Mudanjiang 79.06 322 P P **06 25 37.5 +0.4**
MDJ pP **pP 06 25 40.7 -1.3**
MDJ sP **sP 06 25 42.0 -1.7**
MDJ S **S 06 35 41.5 +5.6**
MDJ sS **sS 06 35 45.7 +1.8**
MDJ ScS **ScS 06 36 01.1 +2.1**
MDJ AMB AMB
comp=Z,53nm,1.9s
MDJ AMB AMB
comp=Z,1µm,7.2s
MDJ LR LR
comp=Z,1µm,21.7s
MDJ LR LR
comp=Z,2µm,21.3s
MDJ LR LR
comp=Z,3µm,22.4s
MDJ Mudanjiang 79.06 322 *e*P P **06 25 38.2 +1.1**
comp=Z,206nm,1.8s
MDJ LR LR
comp=Z,4µm,21.0s
Q16A Castle Valley 79.10 45 *e*P P **06 25 39.1 +1.4**
Q16A Castle Valley 79.10 45 ⇓P P **06 25 38.6 +0.9**
baz=79,SNR=7.2
Q16A ⇑S S **06 35 36.4 -0.6**
baz=79
OD2 Odessa Site #2 79.13 34 P P **06 25 38.3 +0.8**
W20A Ramah 79.17 49 ⇑P P **06 25 39.6 +1.3**
baz=79,SNR=30
WRAK Wrangell Islan 79.18 22 PFAKE 06 25 50.0 +13
WRAK LR LR
comp=Z,3µm,20.0s
122A Conniff Cattle 79.20 52 ⇓P P **06 25 39.3 +0.9**
baz=79
DIV Divide 79.25 13 *e*P P **06 25 38.0 +0.1**
comp=Z,295nm,1.4s
Y21A Point of Rocks 79.27 50 ⇑P P **06 25 39.5 +0.6**
baz=80,SNR=13
223A Chaparral, Ant 79.33 53 ⇑P P **06 25 39.7 +0.5**
baz=80
MPU Maple Canyon 79.34 43 *e*P P **06 25 39.3 +0.2**
comp=Z,56nm,1.3s
BMRM Bremner River 79.37 14 *e*P P **06 25 38.9 +0.4**
comp=Z,325nm,1.4s
X21A Alamocita Cree 79.38 50 ⇑P P **06 25 40.5 +1.0**
baz=80,SNR=13
HLID Hailey 79.42 39 *e*P P **06 25 40.1 +0.8**
comp=Z,49nm,1.0s
HLID LR LR
comp=Z,3µm,19.0s
HLID Hailey 79.42 39 ⇓P P **06 25 40.2 +0.8**
baz=80,SNR=71
Z22A Elephant Butte 79.47 51 ⇓P P **06 25 40.8 +0.9**
baz=80,SNR=21
HVU Hansel Valley 79.50 41 *e*P P **06 25 39.8 0.0**
HVU pmax pmax
comp=Z,105nm,1.5s
HVU Hansel Valley 79.50 41 *e*P P **06 25 39.8 0.0**
comp=Z,87nm,1.5s
V20A Brimhall 79.50 48 ⇑P P **06 25 40.3 +0.3**
baz=80
SRU San Rafael 79.63 45 *e*P P **06 25 40.8 +0.2**
SRU pmax pmax
comp=Z,104nm,1.6s
SRU San Rafael 79.63 45 *e*P P **06 25 40.8 +0.2**
comp=Z,104nm,1.6s
U20A Newcomb 79.73 48 ⇓P P **06 25 42.0 +0.7**
baz=80,SNR=12
123A Bell Site, Whi 79.73 52 ⇑P P **06 25 42.0 +0.7**
baz=80
Y22A Socorro 79.77 51 ⇓P P **06 25 42.1 +0.6**
baz=80,SNR=9.3
W21A San Fidel 79.79 49 ⇓P P **06 25 42.6 +1.0**
baz=80
324A Moseley Ranch, 79.82 53 ⇓P P **06 25 41.8 0.0**
baz=80,SNR=19
LAZ Ladron 79.84 50 *e*P P **06 25 43.6 +1.7**
comp=Z,26nm,1.5s
Y22D IRIS PASSCAL I 79.86 51 ⇓P P **06 25 42.8 +0.9**
baz=80
LENM Lemitar 79.86 50 *e*P P **06 25 42.3 +0.3**
comp=Z,24nm,1.2s
425A Indio Mountain 79.94 54 ⇑P P **06 25 42.6 +0.2**
baz=80,SNR=22
X22A Bernardo 79.98 50 ⇓P P **06 25 42.5 -0.1**
baz=80
MNTX Cornudas Mount 80.01 53 *e*P P **06 25 42.6 0.0**
comp=Z,38nm,1.1s
MNTX LR LR
comp=Z,5µm,19.0s
Z23A Rita Site, Whi 80.02 52 ⇑P P **06 25 43.7 +0.8**
baz=80,SNR=9.5
224A Cornudas Mount 80.06 53 ⇓P P **06 25 44.1 +1.0**
baz=80,SNR=30
626A Big Bend Ranch 80.11 56 ⇓P P **06 25 44.3 +0.9**
baz=80,SNR=17
BNM Barren Site 80.11 51 *e*P P **06 25 44.4 +1.0**
comp=Z,23nm,1.0s
MVCO Mesa Verde 80.13 47 *e*P P **06 25 44.0 +0.6**
comp=Z,21nm,1.1s
MVCO LR LR
comp=Z,5µm,19.0s
MVCO Mesa Verde 80.13 47 ⇓P P **06 25 44.4 +0.9**
baz=80
LPM Los Pinos Moun 80.18 50 *e*P P **06 25 45.4 +1.7**
comp=Z,39nm,1.3s
HWUT Hardware Ranch 80.19 42 *e*P P **06 25 43.3 -0.4**
comp=Z,32nm,1.2s
NJ2 Nanjing 80.25 307 *e*P P **06 25 43.4 -0.5**
W22A Albuquerque 80.34 50 ⇑P P **06 25 45.8 +1.2**
baz=81,SNR=6.3
526A Mary Lane Ranc 80.35 55 ⇓P P **06 25 45.3 +0.6**
baz=81,SNR=23
U21A Nageezi 80.37 48 ⇑P P **06 25 45.8 +1.0**
baz=81,SNR=54
124A Stringfield Ra 80.37 52 ⇑P P **06 25 45.8 +0.9**
baz=81,SNR=19
TXAR Lajitas Array 80.39 56 P P **06 25 46.3 +1.4**
TXAR Lajitas Array 80.39 56 P P **06 25 46.3 +1.4**
comp=Z,11nm,1.1s
TXAR LR LR 06 56 20.9
comp=Z,4µm,18.2s,baz=95,slow=32
Y23A Lovelace Mesa, 80.44 51 ⇓P P **06 25 46.2 +1.0**
baz=81
TRF Thorofare Moun 80.48 10 *e*P P **06 25 44.1 -0.5**
comp=Z,327nm,1.5s
PV01 Paradox Valley 80.51 46 *e*P P **06 25 46.3 +0.8**
comp=Z,6µm,1.4s
NEW Newport 80.51 34 *e*P P **06 25 44.7 -0.3**
comp=Z,27nm,1.4s
NEW LR LR
comp=Z,3µm,20.0s
NEW Newport 80.51 34 ⇓P P **06 25 45.0 0.0**
baz=81,SNR=9.1
S20A Disappointment 80.51 47 ⇓P P **06 25 46.5 +0.9**
baz=81,SNR=20
KLR Kul'dur 80.53 327 *k i*P P **06 25 42.8 -2.2**
KLR *e* 06 28 43.5
KLR *e*S **S 06 35 55.5 +4.2**
KLR pmax pmax
comp=E,64nm,1.8s
KLR pmax pmax
comp=Z,240nm,1.8s
KLR pmax pmax
comp=Z,2µm,8.0s
SKAG Skagway 80.58 19 *e*P P **06 25 46.4 +1.3**
comp=Z,109nm,1.6s
ANMO Albuquerque 80.58 50 *e*P P **06 25 46.2 +0.3**
comp=Z,40nm,1.2s
ANMO LR LR
comp=Z,4µm,19.0s
225A Deer Hill, Car 80.61 53 ⇑P P **06 25 46.9 +0.8**
baz=81,SNR=10.0
X23A Hourglass Bar 80.62 50 ⇓P P **06 25 46.7 +0.5**
baz=81
426A McDonald Obser 80.64 55 ⇓P P **06 25 46.7 +0.3**
baz=81,SNR=44
627A Terlingua Ranc 80.66 56 ⇓P P **06 25 47.0 +0.6**
baz=81,SNR=34
R20A Redvale 80.67 46 ⇑P P **06 25 46.3 0.0**
baz=81,SNR=15
V22A San Miguel Ran 80.68 49 ⇓P P **06 25 47.1 +0.6**
baz=81,SNR=10
M17A Scullys Gap (B 80.70 43 ⇑P P **06 25 46.4 -0.1**
baz=81,SNR=6.8
Z24A Sheeppen Canyo 80.71 52 ⇑P P **06 25 47.0 +0.4**
baz=81,SNR=7.3
T21A Navajo Lake 80.71 48 ⇓P P **06 25 47.1 +0.5**
baz=81,SNR=13
527A Woodward Ranch 80.76 55 ⇓P P **06 25 46.9 0.0**
baz=81
W23A Werner Place, 80.91 50 ⇓P P **06 25 48.3 +0.7**
baz=81,SNR=12
Y24A Capitan 80.91 51 ⇑P P **06 25 48.1 +0.4**
baz=81,SNR=22
U22A Llaves 80.93 48 ⇓P P **06 25 48.3 +0.5**
baz=81,SNR=9.2
P19A Cripple Cowboy 80.93 45 ⇓P P **06 25 47.8 +0.1**
baz=81,SNR=10
326A Caldwell Ranch 80.94 54 ⇑P P **06 25 47.8 0.0**
baz=81,SNR=8.6
PAX Paxson 80.96 12 *e*P P **06 25 46.6 -0.5**
PAX pmax pmax
comp=Z,122nm,1.5s
PAX Paxson 80.96 12 *e*P P **06 25 46.6 -0.5**
comp=Z,122nm,1.5s
125A Gardner Draw, 80.97 53 ⇓P P **06 25 48.1 +0.2**
baz=81,SNR=14
BPAW Bear Paw Mtn. 80.97 10 *e*P P **06 25 45.5 -1.6**
comp=Z,82nm,1.4s
MCK McKinley 80.98 11 *e*P P **06 25 46.8 -0.4**
MCK pmax pmax
comp=Z,290nm,1.4s
MCK McKinley 80.98 11 *e*P P **06 25 46.8 -0.4**
comp=Z,290nm,1.4s
GDL2 Guadalupe Moun 81.00 53 *e*P P **06 25 47.1 -1.0**
comp=Z,38nm,1.0s
MCMT McKenzie Canyo 81.05 39 *e*P P **06 25 49.1 +0.8**
comp=Z,27nm,1.2s
HYT Haines Junctio 81.05 17 *e*P P **06 25 48.4 +0.7**
comp=Z,146nm,1.4s
AHID Auburn Hatcher 81.07 41 PFAKE 06 26 00.0 +12
AHID LR LR
comp=Z,2µm,19.0s
628A Black Gap, Mar 81.08 56 ⇑P P **06 25 48.6 +0.1**
baz=81,SNR=24
Q20A Ridgley Place, 81.08 46 ⇑P P **06 25 48.7 +0.2**
baz=81,SNR=24
226B Tecolote Peak, 81.11 53 ⇑P P **06 25 48.8 +0.2**
baz=81,SNR=26
CN2 Changchun 81.13 320 ⇑P P **06 25 49.3 +1.0**
CN2 PP **PP 06 28 51.8 -2.0**
CN2 AMB AMB
comp=Z,100nm,1.2s
CN2 AMB AMB
comp=Z,2µm,4.0s
CN2 LR LR
comp=Z,800nm,20.0s
CN2 LR LR
comp=Z,2µm,20.0s
CN2 LR LR
comp=Z,2µm,20.0s
V23A Ortiz Mt. (NFS 81.14 49 ⇓P P **06 25 49.7 +0.8**
baz=81,SNR=19
O19A Miners Draw (B 81.15 44 ⇓P P **06 25 48.6 -0.2**
baz=81,SNR=12
T22A Edith 81.17 48 ⇑P P **06 25 49.3 +0.3**
baz=81,SNR=12
Z25A Roswell 81.18 52 ⇑P P **06 25 49.7 +0.7**
baz=81,SNR=19
X24A Lazy VL Ranch, 81.18 51 ⇓P P **06 25 49.5 +0.4**
baz=81
427A Hayter Ranch, 81.21 55 ⇑P P **06 25 49.4 +0.2**
baz=81,SNR=26
RRI2 Red Ridge 81.22 41 *e*P P **06 25 49.6 +0.4**
comp=Z,100nm,1.3s
DL2 Dalian 81.24 314 P P **06 25 50.5 +1.5**
DL2 S S 06 36 08.6 +10
DL2 AMB AMB
comp=Z,89nm,1.7s
DL2 AMB AMB
comp=Z,960nm,5.2s
DL2 LR LR
comp=Z,420nm,21.0s
DL2 LR LR
comp=Z,540nm,21.6s
DL2 LR LR
comp=Z,690nm,23.5s
P20A De Beque 81.27 45 ⇑P P **06 25 49.8 +0.4**
baz=82,SNR=22
MENT Mentasta 81.30 13 *e*P P **06 25 49.0 +0.1**
SNY Shenyang 81.33 318 ⇑P P **06 25 50.7 +1.3**
SNY PP **PP 06 28 56.6 +1.1**
SNY S S 06 36 08.9 +9.1
SNY AMB AMB
comp=Z,120nm,1.8s
SNY AMB AMB
comp=Z,2µm,8.4s
SNY LR LR
comp=Z,760nm,19.0s
SNY LR LR
comp=Z,1µm,18.0s
SNY LR LR
comp=Z,900nm,20.8s
R21A Cimarron 81.33 46 ⇓P P **06 25 50.7 +0.8**
baz=82,SNR=34
L18A Fontenelle, Gr 81.33 42 ⇑P P **06 25 50.1 +0.3**
baz=82
327A Balmorhea Ranc 81.34 54 ⇑P P **06 25 49.9 0.0**
baz=82
U23A El Rito 81.38 49 ⇓P P **06 25 50.9 +0.7**
baz=82,SNR=23
CLNB Carlsbad 81.40 53 *e*P P **06 25 51.5 +1.3**
comp=Z,3.0nm,0.7s
528A Cox Ranch, San 81.42 56 ⇑P P **06 25 50.8 +0.4**
baz=82,SNR=24
126A Clayton Basin, 81.45 53 ⇓P P **06 25 50.5 +0.1**
baz=82,SNR=10
Y25A Mesa, Roswell 81.47 51 ⇑P P **06 25 50.4 -0.2**
baz=82,SNR=30
W24A Lazy 6 Ranch, 81.47 50 ⇓P P **06 25 50.9 +0.2**
baz=82,SNR=7.4
MSO Missoula 81.48 37 ⇑P P **06 25 49.9 -0.4**
baz=82,SNR=36
DLMT Dillon 81.48 38 *e*P P **06 25 51.0 +0.6**
comp=Z,159nm,1.7s
Q21A Lamborn Mesa, 81.53 46 ⇓P P **06 25 51.8 +0.9**
baz=82,SNR=7.7
REDW Red Top Meadow 81.53 41 *e*P P **06 25 51.3 +0.5**
comp=Z,147nm,1.6s
TPAW Teton Pass 81.53 41 *e*P P **06 25 51.5 +0.6**
comp=Z,55nm,1.1s
DLBC Dease Lake 81.53 21 *e*P P **06 25 50.4 +0.2**
comp=Z,79nm,1.6s
S22A 4UR Ranch, Cre 81.56 47 ⇑P P **06 25 52.1 +1.0**
baz=82,SNR=27
BSMT Bassoo Peak 81.56 35 *e*P P **06 25 51.2 +0.3**
comp=Z,94nm,1.4s
SNOW Snow King Moun 81.64 41 *e*P P **06 25 52.1 +0.7**
comp=Z,76nm,1.2s
O20A White River Ci 81.67 45 *e*P P **06 25 52.1 +0.6**
comp=Z,140nm,1.8s
O20A White River Ci 81.67 45 ⇑P P **06 25 52.2 +0.6**
baz=82,SNR=15
M19A Rock Springs 81.71 43 ⇑P P **06 25 51.8 0.0**
baz=82
428A Kincaid Ranch, 81.72 55 ⇑P P **06 25 52.8 +0.8**
baz=82,SNR=23
Z26A Caprock 81.74 52 ⇓P P **06 25 52.2 +0.2**
baz=82,SNR=43
X25A Clemmons Ranch 81.74 51 ⇓P P **06 25 52.1 +0.1**
baz=82,SNR=8.3
IMW Indian Meadow 81.74 40 *e*P P **06 25 52.4 +0.4**
comp=Z,79nm,1.2s
227A Bennet, Jal 81.76 54 ⇓P P **06 25 52.3 +0.2**
baz=82
JTMT Jette 81.79 36 *e*P P **06 25 51.7 -0.2**
comp=Z,28nm,1.5s
MOOW Moose Ponds 81.79 40 *e*P P **06 25 52.2 0.0**
comp=Z,89nm,1.7s
V24A Rampart Ranch, 81.80 50 ⇓P P **06 25 53.2 +0.8**
baz=82,SNR=7.4
T23A Casias Ranch, 81.81 48 ⇓P P **06 25 52.9 +0.5**
baz=82,SNR=13
LOHW Long Hollow 81.81 41 *e*P P **06 25 52.1 -0.2**
comp=Z,84nm,1.5s
LRM Limekiln Ridge 81.81 38 *e*P P **06 25 52.5 +0.3**
comp=Z,1µm,1.8s
SWMT Swartz Lake 81.82 36 *e*P P **06 25 51.7 -0.4**
comp=Z,33nm,1.5s
R22A Saguache, Gunn 81.82 47 ⇓P P **06 25 53.5 +1.0**
baz=82,SNR=27
529A Stev Forest Ra 81.86 56 ⇑P P **06 25 53.0 +0.3**
baz=82,SNR=26
328A Wristen Ranch, 81.88 54 ⇓P P **06 25 52.8 0.0**
baz=82,SNR=15
BLMT Blacktail Moun 81.89 35 *e*P P **06 25 52.3 -0.3**
comp=Z,4.5nm,0.3s
QLMT Earthquake Lak 81.91 39 *e*P P **06 25 54.5 +1.7**
comp=Z,17nm,1.5s
CHMT Chamberlain Mo 81.92 37 *e*P P **06 25 52.7 -0.1**
comp=Z,46nm,1.3s
P21A Newcastle 81.93 45 ⇑P P **06 25 53.5 +0.5**
baz=82,SNR=8.4
SLMT Seeley Lake 81.96 36 *e*P P **06 25 52.8 -0.2**
comp=Z,32nm,1.4s
127A Arkansas Junct 81.97 53 ⇓P P **06 25 53.3 0.0**
baz=82,SNR=13
I17A Pilgrim Ck. 81.98 40 ⇑P P **06 25 54.1 +0.9**
baz=82,SNR=5.5
N20A Spence Gulch, 81.98 44 ⇑P P **06 25 53.9 +0.6**
baz=82,SNR=30
FLWY Flagg Ranch 81.98 40 *e*P P **06 25 53.3 +0.1**
comp=Z,150nm,1.4s
Q22A Crested Butte, 82.00 46 ⇓P P **06 25 54.4 +0.9**
baz=82,SNR=47
YBMT Yellow Bay 82.00 36 *e*P P **06 25 53.2 +0.1**
comp=Z,13nm,1.2s
BW06 Boulder Array 82.06 42 *e*P P **06 25 53.2 -0.4**
comp=Z,52nm,1.2s
BW06 LR LR
comp=Z,6µm,19.0s
PDAR Pinedale Array 82.06 42 P P **06 25 53.5 -0.2**
PDAR P'P' 06 52 29.6
PDAR Pinedale Array 82.06 42 P P **06 25 53.5 -0.2**
comp=Z,17nm,1.1s,baz=222,slow=2.0,SNR=76
PDAR PKPPKP **P'P'df 06 52 29.6 +3.9**
comp=Z,1.4nm,1.1s,baz=111,slow=3.3,SNR=6.9
PDAR LR LR 06 58 19.3
comp=Z,5µm,18.4s,baz=250,slow=33
U24A Moreno Valley 82.08 49 ⇑P P **06 25 54.9 +0.9**
baz=82,SNR=6.4
YFT Old Faithful 82.09 40 *e*P P **06 25 55.0 +1.3**
comp=Z,64nm,1.3s
SMCO Snowmass 82.10 46 *e*P P **06 25 54.9 +0.7**
comp=Z,211nm,1.8s
YMR Madison River 82.12 40 *e*P P **06 25 54.9 +1.1**
comp=Z,219nm,1.5s
Y26A Elida 82.12 52 ⇓P P **06 25 54.0 -0.1**
baz=82,SNR=8.1
S23A Nye Farm, Mont 82.12 48 ⇑P P **06 25 54.4 +0.3**
baz=82
W25A X Bar L Ranch, 82.18 50 ⇓P P **06 25 54.3 0.0**
baz=82,SNR=20

H17A	**Grant Village**	**82.22**	**40**	*e*P	**P**	**06 25 56.0**	**+1.5**
	comp=Z,70nm,1.3s						
H17A	**Grant Village**	**82.22**	**40**	⇑P	**P**	**06 25 55.8**	**+1.4**
	baz=82,SNR=8.7						
COLA	**College**	**82.22**	**11**	*e*P	**P**	**06 25 53.4**	**-0.2**
COLA				MLR	MLR		
	comp=Z,4μm,20.0s						
COLA	**College**	**82.22**	**11**	*e*P	**P**	**06 25 53.4**	**-0.2**
	comp=Z,116nm,0.9s						
COLA				LR	LR		
	comp=Z,4μm,20.0s						
O21A	**Pagoda**	**82.23**	**45**	⇑P	**P**	**06 25 54.9**	**+0.3**
	baz=82,SNR=6.1						
T24B	**San Luis**	**82.29**	**48**	⇓P	**P**	**06 25 55.8**	**+0.8**
	baz=82,SNR=11						
ILAR	**Eielson Array**	**82.30**	**11**	P	**P**	**06 25 53.6**	**-0.4**
ILAR	**Eielson Array**	**82.30**	**11**	P	**P**	**06 25 53.6**	**-0.4**
	comp=Z,21nm,0.9s,baz=219,slow=5.2,SNR=104						
ILAR				LR	LR	07 00 23.7	
	comp=Z,2μm,18.4s,baz=32,slow=34						
429A	**Davenport Ranc**	**82.31**	**55**	⇓P	**P**	**06 25 55.4**	**+0.4**
	baz=82,SNR=45						
YNR	**Norris Junctio**	**82.32**	**40**	*e*P	**P**	**06 25 57.3**	**+2.3**
	comp=Z,155nm,1.6s						
IM04	**Indian Mountai**	**82.33**	**8**	*e*P	**P**	**06 25 54.5**	**+0.3**
V25A	**Rancho No Teng**	**82.33**	**50**	⇓P	**P**	**06 25 55.6**	**+0.5**
	baz=83,SNR=32						
Z27A	**Tatum**	**82.34**	**53**	⇑P	**P**	**06 25 54.7**	**-0.4**
	baz=83,SNR=15						
M20A	**Sweetwater, Wa**	**82.34**	**43**	⇑P	**P**	**06 25 55.7**	**+0.6**
	baz=83,SNR=20						
228A	**UT Block 9, Go**	**82.34**	**54**	⇓P	**P**	**06 25 55.2**	**0.0**
	baz=83,SNR=7.2						
X26A	**CR and CF Fran**	**82.39**	**51**	⇓P	**P**	**06 25 55.3**	**-0.2**
	baz=83,SNR=7.6						
LKWY	**Lake**	**82.41**	**40**	*e*P	**P**	**06 25 57.4**	**+1.9**
LKWY				pmax	pmax		
	comp=Z,83nm,1.2s						
LKWY				MLR	MLR		
	comp=Z,4μm,19.0s						
LKWY	**Lake**	**82.41**	**40**	*e*P	**P**	**06 25 57.4**	**+1.9**
	comp=Z,83nm,1.2s						
LKWY				LR	LR		
	comp=Z,4μm,19.0s						
IMA2	**Indian Mountai**	**82.43**	**8**	*e*P	**P**	**06 25 55.0**	**+0.1**
P22A	**Eagle**	**82.44**	**46**	⇓P	**P**	**06 25 55.9**	**+0.3**
	baz=83,SNR=21						
R23A	**Moffat**	**82.46**	**47**	⇑P	**P**	**06 25 56.4**	**+0.5**
	baz=83,SNR=19						
SEY	**Seymchan**	**82.46**	**345**	*c i*P	**P**	**06 25 55.2**	**+0.3**
L20A	**Wamsutter**	**82.48**	**43**	⇓P	**P**	**06 25 56.5**	**+0.7**
	baz=83,SNR=43						
SDCO	**Great Sand Dun**	**82.50**	**48**	*e*P	**P**	**06 25 55.8**	**-0.3**
	comp=Z,65nm,1.5s						
SDCO				LR	LR		
	comp=Z,4μm,19.0s						
K19A	**Absolon Red Bu**	**82.54**	**42**	⇓P	**P**	**06 25 55.7**	**-0.4**
	baz=83,SNR=28						
530A	**J-C Ranch, Com**	**82.57**	**56**	⇑P	**P**	**06 25 56.6**	**+0.2**
	baz=83,SNR=13						
329A	**Wagon Wheel Ra**	**82.58**	**55**	⇑P	**P**	**06 25 56.5**	**+0.1**
	baz=83,SNR=21						
Y27A	**Causey**	**82.61**	**52**	⇑P	**P**	**06 25 56.9**	**+0.3**
	baz=83,SNR=26						
J19A	**Crowheart**	**82.62**	**42**	⇑P	**P**	**06 25 56.6**	**+0.2**
	baz=83,SNR=28						
128A	**Castleberry Fa**	**82.63**	**53**	⇑P	**P**	**06 25 57.1**	**+0.4**
	baz=83,SNR=28						
HRY	**Holter Researc**	**82.64**	**38**	*e*P	**P**	**06 25 56.9**	**+0.4**
	comp=Z,45nm,0.9s						
W26A	**Owens Ranch, T**	**82.64**	**51**	⇓P	**P**	**06 25 56.5**	**-0.2**
	baz=83						
S24A	**Houchin Ranch,**	**82.66**	**48**	⇓P	**P**	**06 25 57.4**	**+0.4**
	baz=83,SNR=33						
U25A	**Circle Dot Ran**	**82.72**	**49**	⇓P	**P**	**06 25 57.4**	**+0.2**
	baz=83,SNR=43						
WALA	**Waterton Lakes**	**82.72**	**35**	*e*P	**P**	**06 25 57.0**	**+0.2**
	comp=Z,59nm,1.4s						
Q23A	**Hartsel**	**82.77**	**47**	⇑P	**P**	**06 25 57.9**	**+0.4**
	baz=83,SNR=28						
O22A	**Kremmling**	**82.83**	**45**	⇓P	**P**	**06 25 58.5**	**+0.7**
	baz=83,SNR=53						
430A	**Baggett Ranch,**	**82.90**	**56**	⇓P	**P**	**06 25 58.0**	**0.0**
	baz=83,SNR=8.8						
631A	**Perdido Creek**	**82.91**	**57**	⇑P	**P**	**06 25 58.2**	**+0.1**
	baz=83,SNR=30						
V26A	**Tequesquite Ra**	**82.92**	**50**	⇓P	**P**	**06 25 58.1**	**-0.1**
	baz=83,SNR=11						
H18A	**Shoshone NF, C**	**82.92**	**40**	⇑P	**P**	**06 25 58.9**	**+0.8**
	baz=83,SNR=18						
MSTX	**Muleshoe**	**82.94**	**52**	*e*P	**P**	**06 25 58.5**	**+0.2**
	comp=Z,204nm,1.6s						
MSTX	**Muleshoe**	**82.94**	**52**	⇓P	**P**	**06 25 58.6**	**+0.3**
	baz=83,SNR=39						
M21A	**Separation Pea**	**82.94**	**44**	⇑P	**P**	**06 25 58.4**	**+0.1**
	baz=83,SNR=38						
Z28A	**Tucker Farm, M**	**82.97**	**53**	⇓P	**P**	**06 25 58.5**	**+0.1**
	baz=83,SNR=17						
X27A	**F and S Farms,**	**82.97**	**51**	⇓P	**P**	**06 25 58.8**	**+0.4**
	baz=83,SNR=20						
P23A	**Jefferson**	**82.97**	**46**	⇓P	**P**	**06 25 59.4**	**+0.8**
	baz=83						
PAYG	**Puerto Ayora**	**82.99**	**89**	PFAKE		06 26 10.0	+11
PAYG				LR	LR		
	comp=Z,1μm,19.0s						
R24A	**Sanders Place,**	**82.99**	**47**	⇓P	**P**	**06 25 59.2**	**+0.7**
	baz=83,SNR=6.2						
T25A	**Trinidad**	**83.02**	**49**	⇓P	**P**	**06 25 59.1**	**+0.4**
	baz=83,SNR=15						
I19A	**Meeteetse**	**83.03**	**41**	⇑P	**P**	**06 25 59.0**	**+0.4**
	baz=83,SNR=36						
QIZ	**Qiongzhong**	**83.04**	**292**	P	**P**	**06 25 57.2**	**-1.8**
QIZ				sP	**sP**	**06 26 03.9**	**-1.7**
QIZ				S	**S**	**06 36 18.9**	**+0.5**
QIZ				AMB	AMB		
	comp=Z,34nm,1.9s						
QIZ				AMB	AMB		
	comp=Z,880nm,11.3s						
QIZ				LR	LR		
	comp=Z,690nm,21.7s						
QIZ				LR	LR		
	comp=Z,2μm,24.4s						
QIZ	**Qiongzhong**	**83.04**	**292**	PFAKE		06 26 10.0	+11
QIZ				LR	LR		
	comp=Z,2μm,22.0s						
RWWY	**Rawlins**	**83.08**	**44**	*e*P	P	06 26 05.4	+6.4
	comp=Z,128nm,1.3s						
RWWY				*e*PP	**PP**	**06 29 05.7**	**-4.6**
L21A	**Rawlins**	**83.10**	**43**	⇓P	**P**	**06 25 59.1**	**0.0**
	baz=83,SNR=28						
129A	**Stewart Farms,**	**83.11**	**54**	⇓P	**P**	**06 25 59.3**	**+0.2**
	baz=83,SNR=14						
732A	**Laxson Ranch,**	**83.15**	**58**	⇑P	**P**	**06 25 59.2**	**-0.1**
	baz=83						
W27A	**Bowe Ranch, En**	**83.16**	**51**	⇓P	**P**	**06 25 59.8**	**+0.4**
	baz=83,SNR=31						
330A	**Mertzon**	**83.18**	**55**	⇓P	**P**	**06 25 59.4**	**-0.1**
	baz=83						
N22A	**Wattenberg Ran**	**83.19**	**45**	⇓P	**P**	**06 25 60.0**	**+0.4**
	baz=83,SNR=31						
WHN	**Wuhan**	**83.19**	**304**	*e*P	**P**	**06 26 00.4**	**+0.9**
U26A	**Atchley Ranch,**	**83.20**	**50**	⇓P	**P**	**06 26 00.0**	**+0.3**
	baz=83,SNR=36						
531A	**Rocksprings**	**83.22**	**56**	⇓P	**P**	**06 26 00.2**	**+0.5**
	baz=83,SNR=32						
S25A	**Robets Cordova**	**83.23**	**48**	⇓P	**P**	**06 26 00.2**	**+0.4**
	baz=84,SNR=41						
DAWY	**Dawson**	**83.27**	**14**	*e*P	**P**	**06 25 59.6**	**+0.4**
	comp=Z,150nm,1.3s						
Q24A	**Divide**	**83.28**	**47**	⇑P	**P**	**06 26 00.7**	**+0.6**
	baz=84,SNR=37						
J20A	**Shoshoni**	**83.28**	**42**	⇑P	**P**	**06 26 00.3**	**+0.4**
	baz=84,SNR=28						
TIA	**Tai'an**	**83.28**	**310**	⇑P	**P**	**06 25 59.8**	**-0.1**
TIA				AMB	AMB		
	comp=Z,30nm,1.7s						
TIA				AMB	AMB		
	comp=Z,2μm,7.8s						
TIA				LR	LR		
	comp=Z,920nm,18.6s						
TIA				LR	LR		
	comp=Z,1μm,18.2s						
TIA				LR	LR		
	comp=Z,2μm,22.0s						
O23A	**Lake Granby, G**	**83.29**	**45**	⇓P	**P**	**06 26 00.6**	**+0.4**
	baz=84,SNR=9.3						
Y28A	**McKinney Farm,**	**83.32**	**52**	⇑P	**P**	**06 26 00.2**	**0.0**
	baz=84,SNR=11						
ISCO	**Idaho Springs**	**83.32**	**46**	*e*P	**P**	**06 26 00.8**	**+0.5**
ISCO				pmax	pmax		
	comp=Z,31nm,1.1s						
ISCO				MLR	MLR		
	comp=Z,5μm,19.0s						
ISCO	**Idaho Springs**	**83.32**	**46**	*e*P	**P**	**06 26 00.8**	**+0.5**
	comp=Z,31nm,1.1s						
ISCO				LR	LR		
	comp=Z,5μm,19.0s						
ISCO	**Idaho Springs**	**83.32**	**46**	⇓P	**P**	**06 26 01.1**	**+0.8**
	baz=84,SNR=22						
H19A	**Powell**	**83.34**	**40**	⇓P	**P**	**06 26 01.0**	**+0.9**
	baz=84,SNR=38						
431A	**Sonora**	**83.36**	**56**	⇑P	**P**	**06 26 00.0**	**-0.4**
	baz=84						
M22A	**Cedar Creek Ra**	**83.36**	**44**	⇓P	**P**	**06 26 00.5**	**+0.1**
	baz=84,SNR=14						
RLMT	**Red Lodge**	**83.39**	**40**	*e*P	**P**	**06 26 01.9**	**+1.4**
	comp=Z,63nm,1.4s						
RLMT				LR	LR		
	comp=Z,2μm,20.0s						
230A	**Sterling City**	**83.41**	**55**	⇓P	**P**	**06 26 00.6**	**-0.1**
	baz=84						
EGAK	**Eagle**	**83.47**	**13**	*e*P	**P**	**06 25 59.8**	**-0.3**
	comp=Z,152nm,1.5s						
EGAK				LR	LR		
	comp=Z,3μm,19.0s						
GCMT	**Greycliff**	**83.47**	**39**	P	**P**	**06 26 01.2**	**+0.4**
	comp=Z,94nm,1.5s						
Z29A	**Hungry Hill Ra**	**83.48**	**53**	⇓P	**P**	**06 26 01.0**	**0.0**
	baz=84,SNR=13						
K21A	**Alcova**	**83.49**	**43**	⇑P	**P**	**06 26 00.8**	**-0.2**
	baz=84,SNR=48						
I20A	**Worland**	**83.54**	**41**	⇓P	**P**	**06 26 01.5**	**+0.4**
	baz=84,SNR=62						
R25A	**Fountain Ranch**	**83.54**	**48**	⇓P	**P**	**06 26 01.2**	**-0.1**
	baz=84,SNR=6.5						
N23A	**Red Feather La**	**83.57**	**45**	⇓P	**P**	**06 26 02.3**	**+0.7**
	baz=84						
632A	**Uvalde**	**83.59**	**57**	⇑P	**P**	**06 26 01.9**	**+0.3**
	baz=84,SNR=16						
X28A	**Dimmitt**	**83.59**	**52**	⇓P	**P**	**06 26 01.5**	**-0.1**
	baz=84,SNR=29						
V27A	**Dan Oppiter Fa**	**83.61**	**50**	⇑P	**P**	**06 26 01.7**	**0.0**
	baz=84,SNR=25						
T26A	**Comanche Natio**	**83.63**	**49**	⇑P	**P**	**06 26 01.8**	**-0.1**
	baz=84,SNR=14						
P24A	**Kohler Place,**	**83.68**	**46**	⇓P	**P**	**06 26 02.6**	**+0.5**
	baz=84						
J21A	**Lysite**	**83.69**	**42**	⇑P	**P**	**06 26 02.4**	**+0.3**
	baz=84,SNR=42						
532A	**Rocksprings**	**83.72**	**57**	⇑P	**P**	**06 26 02.1**	**-0.2**
	baz=84,SNR=22						
331A	**San Angelo**	**83.74**	**55**	⇑P	**P**	**06 26 02.0**	**-0.3**
	baz=84,SNR=12						
Y29A	**Porterfield Fa**	**83.74**	**53**	⇑P	**P**	**06 26 02.8**	**+0.5**
	baz=84,SNR=23						
L22A	**Ellis Ranch, M**	**83.75**	**44**	⇑P	**P**	**06 26 02.7**	**+0.3**
	baz=84,SNR=12						
130A	**Snyder**	**83.80**	**54**	⇓P	**P**	**06 26 02.8**	**+0.2**
	baz=84,SNR=12						
O24A	**Longmont**	**83.83**	**46**	⇓P	**P**	**06 26 03.7**	**+1.0**
	baz=84,SNR=9.5						
W28A	**Vega**	**83.88**	**51**	⇓P	**P**	**06 26 03.2**	**+0.1**
	baz=84						
U27A	**Thompson Grove**	**83.89**	**50**	⇓P	**P**	**06 26 02.9**	**-0.2**
	baz=84,SNR=22						
Q25A	**Bedland, Calha**	**83.89**	**47**	⇑P	**P**	**06 26 03.0**	**-0.2**
	baz=84,SNR=5.5						
S26A	**Kim**	**83.91**	**49**	⇑P	**P**	**06 26 02.8**	**-0.4**
	baz=84,SNR=25						
JCT	**Junction City**	**83.93**	**56**	*e*P	**P**	**06 26 03.1**	**-0.2**
JCT				pmax	pmax		
	comp=Z,18nm,1.0s						
JCT				MLR	MLR		
	comp=Z,3μm,19.0s						
JCT	**Junction City**	**83.93**	**56**	*e*P	**P**	**06 26 03.1**	**-0.2**
	comp=Z,18nm,1.0s						
JCT				LR	LR		
	comp=Z,3μm,19.0s						
JCT	**Junction City**	**83.93**	**56**	⇓P	**P**	**06 26 03.0**	**-0.4**
	baz=84,SNR=7.8						
Z30A	**Sanderson Ranc**	**83.94**	**53**	⇓P	**P**	**06 26 02.9**	**-0.4**
	baz=84						
X29A	**Tulia**	**83.94**	**52**	⇑P	**P**	**06 26 03.3**	**-0.1**
	baz=84,SNR=22						
F19A	**Roth Farm, Mol**	**83.94**	**39**	⇓P	**P**	**06 26 03.4**	**+0.2**
	baz=84,SNR=34						
K22A	**Casper**	**83.97**	**43**	⇓P	**P**	**06 26 03.4**	**0.0**
	baz=84,SNR=23						
M23A	**Laramie**	**83.98**	**44**	⇑P	**P**	**06 26 03.8**	**+0.2**
	baz=84,SNR=15						
COLD	**Coldfoot**	**84.01**	**9**	*e*P	**P**	**06 26 03.4**	**+0.5**
	comp=Z,150nm,1.4s						
I21A	**Big Trails, Te**	**84.01**	**42**	⇓P	**P**	**06 26 03.4**	**-0.2**
	baz=84,SNR=82						
231A	**Bronte**	**84.06**	**55**	⇓P	**P**	**06 26 03.5**	**-0.4**
	baz=84,SNR=15						
V28A	**Channing**	**84.06**	**51**	⇓P	**P**	**06 26 04.0**	**0.0**
	baz=84,SNR=11						
432A	**Menard**	**84.08**	**56**	⇓P	**P**	**06 26 03.9**	**-0.3**
	baz=84,SNR=26						
PHWY	**Pilot Hill**	**84.08**	**45**	*e*P	**P**	**06 26 04.6**	**+0.4**
	comp=Z,13nm,0.7s						
G20A	**Bridger**	**84.09**	**40**	⇑P	**P**	**06 26 03.5**	**-0.5**
	baz=84,SNR=14						
P25A	**Willow Gulch B**	**84.20**	**47**	⇓P	**P**	**06 26 04.7**	**0.0**
	baz=84,SNR=12						
R26A	**Arlington**	**84.20**	**48**	⇑P	**P**	**06 26 04.3**	**-0.3**
	baz=84,SNR=28						
T27A	**Campo**	**84.22**	**49**	⇓P	**P**	**06 26 04.5**	**-0.3**
	baz=84,SNR=15						
W29A	**Amraillo**	**84.25**	**51**	⇓P	**P**	**06 26 05.1**	**+0.1**
	baz=84,SNR=23						
N24A	**Carr**	**84.27**	**45**	⇓P	**P**	**06 26 05.6**	**+0.6**
	baz=84,SNR=11						
131A	**Roby**	**84.28**	**54**	⇑P	**P**	**06 26 04.9**	**-0.2**
	baz=84,SNR=14						
L23A	**Garrett**	**84.28**	**44**	⇓P	**P**	**06 26 05.1**	**0.0**
	baz=84,SNR=30						
332A	**Millersview**	**84.31**	**55**	⇑P	**P**	**06 26 05.2**	**-0.1**
	baz=84,SNR=30						
U28A	**Mallet**	**84.31**	**50**	⇓P	**P**	**06 26 04.9**	**-0.3**
	baz=84						
E19A	**Rath Farm, Rou**	**84.33**	**39**	⇑P	**P**	**06 26 05.5**	**+0.4**
	baz=85,SNR=40						
Y30A	**Stafford Cattl**	**84.34**	**53**	⇓P	**P**	**06 26 05.1**	**-0.3**
	baz=85,SNR=12						
S27A	**Las Animas**	**84.34**	**49**	⇑P	**P**	**06 26 05.1**	**-0.3**
	baz=85						
J22A	**Midwest**	**84.35**	**42**	⇑P	**P**	**06 26 05.3**	**0.0**
	baz=85,SNR=72						
F20A	**Billings**	**84.41**	**40**	⇑P	**P**	**06 26 05.6**	**+0.1**
	baz=85,SNR=24						
Q26A	**Hugo**	**84.41**	**47**	⇑P	**P**	**06 26 05.6**	**-0.1**
	baz=85,SNR=12						
KVTX	**Kingsville**	**84.45**	**60**	PFAKE		06 26 20.0	+14
KVTX				LR	LR		
	comp=Z,1μm,20.0s						
O25A	**Wiggins**	**84.49**	**46**	⇓P	**P**	**06 26 06.2**	**+0.1**
	baz=85						
EGMT	**Eagleton**	**84.53**	**37**	*e*P	**P**	**06 26 06.3**	**+0.2**
	comp=Z,119nm,1.4s						
EGMT				LR	LR		
	comp=Z,3μm,20.0s						
EGMT	**Eagleton**	**84.53**	**37**	⇑P	**P**	**06 26 06.1**	**+0.1**
	baz=85,SNR=17						
H21A	**Big Horn, Sher**	**84.55**	**41**	⇑P	**P**	**06 26 06.5**	**+0.2**
	baz=85,SNR=20						
I22A	**9 Mile Ranch,**	**84.56**	**42**	⇑P	**P**	**06 26 06.6**	**+0.2**
	baz=85,SNR=38						
232A	**Coleman**	**84.57**	**55**	⇑P	**P**	**06 26 06.5**	**-0.1**
	baz=85,SNR=33						
X30A	**Coker Ranch, T**	**84.57**	**52**	⇓P	**P**	**06 26 06.5**	**-0.1**
	baz=85,SNR=10						
M24A	**Cheyenne**	**84.58**	**45**	⇑P	**P**	**06 26 07.1**	**+0.5**
	baz=85,SNR=9.5						
K23A	**Bowen Ranch, D**	**84.61**	**43**	⇑P	**P**	**06 26 06.4**	**-0.3**
	baz=85,SNR=21						
D19A	**Cripps Ranch,**	**84.62**	**38**	⇑P	**P**	**06 26 06.8**	**+0.3**
	baz=85,SNR=45						
V29A	**Stinnett**	**84.64**	**51**	⇑P	**P**	**06 26 06.8**	**-0.1**
	baz=85						
R27A	**Eads**	**84.66**	**48**	⇓P	**P**	**06 26 06.6**	**-0.3**
	baz=85,SNR=18						
T28A	**Walsh**	**84.69**	**49**	⇓P	**P**	**06 26 07.0**	**-0.2**
	baz=85,SNR=19						
Z31A	**Sharp Cattle R**	**84.71**	**54**	⇓P	**P**	**06 26 07.0**	**-0.3**
	baz=85,SNR=22						
G21A	**Lodge Grass**	**84.72**	**40**	⇑P	**P**	**06 26 07.4**	**+0.3**
	baz=85,SNR=6.3						
E20A	**Meyer Farm, Mu**	**84.75**	**39**	⇑P	**P**	**06 26 07.6**	**+0.4**
	baz=85,SNR=36						
L24A	**Wheatland**	**84.76**	**44**	⇓P	**P**	**06 26 08.1**	**+0.7**
	baz=85,SNR=8.1						
P26A	**Davis Ranch, A**	**84.80**	**47**	⇓P	**P**	**06 26 07.7**	**0.0**
	baz=85						
C19A	**Slack Wire Ran**	**84.80**	**38**	⇑P	**P**	**06 26 08.0**	**+0.6**
	baz=85,SNR=54						
N25A	**Grover**	**84.81**	**45**	⇓P	**P**	**06 26 07.4**	**-0.3**
	baz=85						
ABTX	**Abilene, Hawle**	**84.84**	**54**	*e*P	**P**	**06 26 08.1**	**+0.2**
	comp=Z,129nm,1.1s						
ABTX	**Abilene, Hawle**	**84.84**	**54**	⇑P	**P**	**06 26 08.0**	**+0.1**
	baz=85,SNR=19						
Y31A	**Rekieta Farm,**	**84.86**	**53**	⇑P	**P**	**06 26 08.0**	**0.0**
	baz=85,SNR=21						
J23A	**Dilts Ranch, B**	**84.95**	**43**	⇓P	**P**	**06 26 08.1**	**-0.2**
	baz=85						
H22A	**Clearmont**	**84.97**	**41**	⇓P	**P**	**06 26 08.6**	**+0.2**
	baz=85,SNR=10						
D20A	**Manuel Ranch,**	**85.03**	**38**	⇑P	**P**	**06 26 09.1**	**+0.6**
	baz=85,SNR=45						
S28A	**Manter**	**85.03**	**49**	⇓P	**P**	**06 26 08.7**	**-0.1**
	baz=85,SNR=14						
F21A	**Absaloka Mine,**	**85.05**	**40**	⇑P	**P**	**06 26 09.4**	**+0.7**
	baz=85,SNR=8.1						
U29A	**Oasis Ranch, S**	**85.05**	**50**	⇑P	**P**	**06 26 08.4**	**-0.5**
	baz=85						
KSCO	**Kaye Shedlock'**	**85.08**	**48**	*e*P	**P**	**06 26 09.9**	**+0.8**
	comp=Z,42nm,0.3s						
KSCO	**Kaye Shedlock'**	**85.08**	**48**	⇑P	**P**	**06 26 08.4**	**-0.7**
	baz=85						
W30A	**Crocket Farms**	**85.08**	**52**	⇓P	**P**	**06 26 08.9**	**-0.2**
	baz=85						
M25A	**Palm-Egli Farm**	**85.09**	**45**	⇑P	**P**	**06 26 09.4**	**+0.2**
	baz=85						
O26A	**Horse Wrangler**	**85.10**	**46**	⇑P	**P**	**06 26 09.5**	**+0.3**
	baz=85,SNR=5.1						
K24A	**Anderson Ranch**	**85.14**	**43**	⇑P	**P**	**06 26 09.5**	**+0.2**
	baz=85						
B19A	**Brinkman Farms**	**85.21**	**37**	⇓P	**P**	**06 26 09.8**	**+0.4**
	baz=86,SNR=37						
V30A	**Spur Ranch, Mi**	**85.22**	**51**	⇑P	**P**	**06 26 10.2**	**+0.4**
	baz=85						
Z32A	**Haskell**	**85.22**	**54**	⇑P	**P**	**06 26 10.0**	**+0.3**
	baz=85,SNR=89						
I23A	**Meade Ranch, G**	**85.25**	**42**	⇑P	**P**	**06 26 09.9**	**0.0**
	baz=86						
G22A	**Birney**	**85.29**	**41**	⇓P	**P**	**06 26 10.4**	**+0.4**
	baz=86,SNR=8.6						
EDM	**Edmonton**	**85.29**	**31**	*e*P	**P**	**06 26 08.9**	**-0.8**
EDM	**Edmonton**	**85.29**	**31**	*e*P	**P**	**06 26 08.9**	**-0.8**
	comp=Z,208nm,1.5s						
T29A	**Hugoton**	**85.31**	**50**	⇑P	**P**	**06 26 09.9**	**-0.3**
	baz=86						
X31A	**McDonald Ranch**	**85.33**	**52**	⇓P	**P**	**06 26 09.9**	**-0.4**
	baz=86,SNR=9.5						
P27A	**Ficken Ranch,**	**85.34**	**47**	⇓P	**P**	**06 26 10.3**	**-0.1**
	baz=86						
R28A	**Tribune**	**85.40**	**48**	⇓P	**P**	**06 26 10.7**	**0.0**
	baz=86,SNR=25						
C20A	**Veseth Ranch,**	**85.41**	**38**	⇓P	**P**	**06 26 11.0**	**+0.6**
	baz=86,SNR=41						
N26A	**Koester Ranch,**	**85.41**	**46**	⇑P	**P**	**06 26 10.3**	**-0.4**
	baz=86						
E21A	**Keefer Ranch,**	**85.41**	**39**	⇑P	**P**	**06 26 11.1**	**+0.6**
	baz=86,SNR=12						
L25A	**Engebretsen Ra**	**85.46**	**44**	⇑P	**P**	**06 26 11.1**	**+0.2**
	baz=86						
J24A	**Dixon Ranch, L**	**85.50**	**43**	⇑P	**P**	**06 26 11.1**	**0.0**
	baz=86						
Y32A	**R-V Farms, Ver**	**85.51**	**53**	⇑P	**P**	**06 26 11.1**	**-0.1**
	baz=86,SNR=31						
BJT	**Baijiatuau**	**85.53**	**313**	*e*P	**P**	**06 26 12.0**	**+0.8**
	comp=Z,408nm,1.9s						
BJT				LR	LR		
	comp=Z,1μm,21.0s						
BJI	**Beijing**	**85.53**	**313**	P	**P**	**06 26 12.7**	**+1.6**
BJI				PP	**PP**	**06 29 28.9**	**-1.1**
BJI				S	**S**	**06 36 39.2**	**-3.3**
BJI				SS	**SS**	**06 42 19.7**	**+1.0**
BJI				AMB	AMB		
	comp=Z,87nm,2.1s						
BJI				AMB	AMB		
	comp=Z,2μm,8.0s						
BJI				LR	LR		
	comp=Z,510nm,22.4s						
BJI				LR	LR		
	comp=Z,1μm,21.9s						
BJI				LR	LR		
	comp=Z,1μm,24.7s						
U30A	**WK&E Inc. Balk**	**85.54**	**50**	⇓P	**P**	**06 26 10.8**	**-0.5**
	baz=86						
A19A	**Klindworth Far**	**85.56**	**37**	⇑P	**P**	**06 26 11.6**	**+0.4**
	baz=86,SNR=28						
H23A	**Clabaugh Cattl**	**85.56**	**42**	⇑P	**P**	**06 26 10.7**	**-0.7**
	baz=86						
W31A	**Holland Ranch,**	**85.56**	**52**	⇑P	**P**	**06 26 11.3**	**-0.2**
	baz=86,SNR=17						
S29A	**Ulysses**	**85.62**	**49**	⇓P	**P**	**06 26 11.5**	**-0.2**
	baz=86,SNR=5.5						
O27A	**Beecher Island**	**85.66**	**46**	⇑P	**P**	**06 26 12.2**	**+0.2**
	baz=86						
Q28A	**Sharon Springs**	**85.67**	**48**	⇓P	**P**	**06 26 11.8**	**-0.2**
	baz=86						
D21A	**La Casta Ranch**	**85.71**	**39**	⇑P	**P**	**06 26 12.5**	**+0.5**
	baz=86,SNR=5.2						
K25A	**Mack Ranch, Ha**	**85.72**	**44**	⇓P	**P**	**06 26 12.6**	**+0.4**
	baz=86						
M26A	**Mc

OGNE	**Ogallala**	86.28	46	⇓	P		**P**	06 26 14.6	-0.3
	baz=86								
WMOK	**Wichita Mounta**	86.28	53	*e*	P		**P**	06 26 14.9	-0.2
WMOK					pmax	pmax			
	comp=Z,45nm,1.6s								
WMOK					MLR	MLR			
	comp=Z,4μm,19.0s								
WMOK	**Wichita Mounta**	86.28	53	*e*	P		**P**	06 26 14.9	-0.2
	comp=Z,45nm,1.6s								
WMOK					LR	LR			
	comp=Z,4μm,19.0s								
B21A	**Ellsworth Farm**	86.33	38	⇓	P		**P**	06 26 14.9	0.0
	baz=87,SNR=14								
WHTX	**Lake Whitney**	86.34	56	*e*	P		**P**	06 26 15.0	-0.3
	comp=Z,184nm,1.6s								
WHTX	**Lake Whitney**	86.34	56	⇓	P		**P**	06 26 15.6	+0.2
	baz=87,SNR=6.7								
I25A	**Rochford**	86.41	43	⇑	P		**P**	06 26 15.3	-0.3
	baz=87,SNR=18								
T31A	**Randall Ranch,**	86.48	50	⇑	P		**P**	06 26 15.9	-0.1
	baz=87								
E23A	**Ismay**	86.48	40	⇓	P		**P**	06 26 16.1	+0.4
	baz=87								
R30A	**Dighton**	86.48	49	⇓	P		**P**	06 26 16.2	+0.2
	baz=87								
N28A	**Pribbeno Ranch**	86.52	46	⇓	P		**P**	06 26 15.7	-0.5
	baz=87								
P29A	**Atwood**	86.52	47	⇓	P		**P**	06 26 16.0	-0.2
	baz=87								
G24A	**Alzada**	86.53	41	⇑	P		**P**	06 26 15.7	-0.4
	baz=87								
J26A	**Sides Ranch, S**	86.54	43	⇓	P		**P**	06 26 16.2	0.0
	baz=87								
L27A	**T5 Ranch, Ells**	86.55	45	⇓	P		**P**	06 26 16.0	-0.3
	baz=87								
A21A	**Bergtoll Ranch**	86.64	37	⇓	P		**P**	06 26 16.5	0.0
	baz=87,SNR=9.1								
C22A	**Vida**	86.69	39	⇓	P		**P**	06 26 16.6	-0.2
	baz=87								
F24A	**Ekalaka**	86.73	41	⇑	P		**P**	06 26 17.1	0.0
	baz=87								
H25A	**Fruitdale**	86.75	42	⇑	P		**P**	06 26 17.1	0.0
	baz=87								
Q30A	**Quinter**	86.79	48	⇓	P		**P**	06 26 17.1	-0.4
	baz=87								
COCO	**West Island**	86.81	258		PFAKE			06 26 30.0	+12
COCO					LR	LR			
	comp=Z,2μm,21.0s								
S31A	**Mullinville**	86.81	50	⇓	P		**P**	06 26 17.1	-0.5
	baz=87								
O29A	**4D Ranch, Culb**	86.82	47	⇓	P		**P**	06 26 17.5	-0.1
	baz=87								
D23A	**Lindsay**	86.84	39	⇑	P		**P**	06 26 18.2	+0.6
	baz=87,SNR=8.5								
K27A	**Flueckinger Fa**	86.85	44	⇓	P		**P**	06 26 17.6	-0.2
	baz=87								
B22A	**Reddig Ranch S**	86.87	38	⇑	P		**P**	06 26 17.7	+0.1
	baz=87,SNR=13								
M28A	**Bar X Bar Ranc**	86.92	46	⇑	P		**P**	06 26 17.5	-0.6
	baz=87								
HKT	**Hockley**	86.96	58	*e*	P		**P**	06 26 18.9	+0.5
HKT					pmax	pmax			
	comp=Z,166nm,2.0s								
HKT	**Hockley**	86.96	58	*e*	P		**P**	06 26 18.9	+0.5
	comp=Z,166nm,2.0s								
I26A	**New Underwood**	86.98	43	⇓	P		**P**	06 26 18.2	-0.1
	baz=87								
P30A	**Selden**	86.99	48	⇓	P		**P**	06 26 18.0	-0.4
	baz=87,SNR=6.2								
ENH	**Enshi**	87.02	302	*e*	P		**P**	06 26 17.3	-1.5
	comp=Z,33nm,1.3s								
R31A	**Burdett**	87.03	49	⇑	P		**P**	06 26 18.0	-0.7
	baz=87,SNR=5.3								
G25A	**Newell**	87.11	42	⇓	P		**P**	06 26 18.6	-0.2
	baz=87								
E24A	**Baker**	87.13	40	⇑	P		**P**	06 26 19.2	+0.2
	baz=87								
C23A	**Lambert**	87.14	39	⇓	P		**P**	06 26 19.3	+0.4
	baz=87,SNR=15								
N29A	**Votaw Ranch, W**	87.21	46	⇓	P		**P**	06 26 19.0	-0.5
	baz=88								
HIA	**Hailar**	87.23	323	*e*	P		**P**	06 26 20.2	+0.9
	comp=Z,32nm,0.8s								
HIA					LR	LR			
	comp=Z,3μm,21.0s								
J27A	**Elkhorn Farm,**	87.23	44	⇑	P		**P**	06 26 19.5	0.0
	baz=88,SNR=11								
A22A	**Carney Farms,**	87.23	37	⇓	P		**P**	06 26 19.1	-0.3
	baz=88								
H26A	**Fairpoint**	87.28	42	⇑	P		**P**	06 26 19.6	-0.1
	baz=88								
TIY	**Taiyuan**	87.33	310	*e*	P		**P**	06 26 18.9	-1.2
TIY					sP		**sP**	06 26 25.9	-0.9
TIY					S		**S**	06 36 59.4	-0.9
TIY					sS		**ScS**	06 37 07.7	+0.2
TIY					LR	LR			
	comp=Z,680nm,14.9s								
TIY					LR	LR			
	comp=Z,760nm,16.1s								
TIY					LR	LR			
	comp=Z,1μm,16.2s								
D24A	**Glendive**	87.36	40	⇑	P		**P**	06 26 20.4	+0.4
	baz=88								
O30A	**MW Ranch, Wils**	87.36	47	⇓	P		**P**	06 26 20.0	-0.2
	baz=88								
F25A	**Bowman**	87.39	41	⇓	P		**P**	06 26 20.5	+0.3
	baz=88								
Q31A	**Ellis**	87.40	49	⇓	P		**P**	06 26 20.0	-0.4
	baz=88								
K28A	**Ten Mile Ranch**	87.44	45	⇑	P		**P**	06 26 20.7	+0.1
	baz=88								
C24A	**Savage**	87.48	39	⇓	P		**P**	06 26 21.0	+0.4
	baz=88,SNR=11								
I27A	**Quinn**	87.53	43	⇑	P		**P**	06 26 20.8	-0.2
	baz=88								
B23A	**Brockton**	87.55	38	⇓	P		**P**	06 26 21.6	+0.7
	baz=88,SNR=7.2								
P31A	**Stockton**	87.60	48	⇓	P		**P**	06 26 20.9	-0.5
	baz=88								
E25A	**Miller Ranch,**	87.67	40	⇑	P		**P**	06 26 21.5	-0.1
	baz=88								
G26A	**Maurine**	87.67	42	⇑	P		**P**	06 26 21.2	-0.4
	baz=88,SNR=6.8								
KULM	**Kulim**	87.68	276		PFAKE			06 26 30.0	+7.7
KULM					LR	LR			
	comp=Z,794nm,20.0s								
H27A	**Howes**	87.74	43	⇓	P		**P**	06 26 21.9	0.0
	baz=88								
L29A	**Maesberg Ranch**	87.79	45	⇓	P		**P**	06 26 22.2	-0.1
	baz=88								
J28A	**Allard Ranch,**	87.81	44	⇓	P		**P**	06 26 22.1	-0.2
	baz=88,SNR=6.1								
A23A	**Redstone**	87.83	38	⇓	P		**P**	06 26 22.7	+0.5
	baz=88								
F26A	**Lodgepole**	87.86	41	⇑	P		**P**	06 26 22.6	+0.1
	baz=88								
O31A	**Woolen Ranch,**	87.87	47	⇑	P		**P**	06 26 22.3	-0.4
	baz=88								
MAW	**Mawson**	87.96	199		P		**P**	06 26 23.8	+1.3
MAW	**Mawson**	87.96	199		P		**P**	06 26 23.7	+1.2
	baz=88,SNR=35								
MAW	**Mawson**	87.96	199		P		**P**	06 26 23.8	+1.3
	comp=Z,56nm,1.0s,baz=117,slow=5.5,SNR=66								
MAW					LR	LR		07 06 07.6	
	comp=Z,4μm,18.0s,baz=118,slow=36								
D25A	**Fairfield**	87.99	40	⇓	P		**P**	06 26 23.7	+0.6
	baz=88,SNR=5.4								
M30A	**Dale-Ortello V**	88.01	46	⇑	P		**P**	06 26 23.2	-0.1
	baz=88								
DGMT	**Dagmar**	88.02	38	*e*	P		**P**	06 26 23.4	+0.3
	comp=Z,80nm,1.0s								
DGMT					LR	LR			
	comp=Z,6μm,20.0s								
DGMT	**Dagmar**	88.02	38	⇓	P		**P**	06 26 23.7	+0.6
	baz=88								
I28A	**Midland**	88.08	43	⇑	P		**P**	06 26 23.6	+0.1
	baz=88								
INK	**Inuvik**	88.12	14		P		**P**	06 26 22.9	-0.2
	comp=Z,27nm,1.6s								
INK	**Inuvik**	88.12	14		P		**P**	06 26 22.9	-0.2
	comp=Z,20nm,1.1s,baz=228,slow=6.3,SNR=19								
G27A	**Dupree**	88.14	42	⇓	P		**P**	06 26 23.7	-0.1
	baz=88								
GYA	**Guiyang**	88.16	298	⇑	*i*P		**P**	06 26 23.2	-1.2
GYA					PP		**PP**	06 29 53.0	+1.3
GYA					SKS		**SKSac**	06 36 49.5	-3.7
GYA					S		**S**	06 37 07.6	-1.2
GYA					SS		**SS**	06 43 01.5	+3.5
GYA					AMB	AMB			
	comp=Z,40nm,1.0s								
GYA					AMB	AMB			
	comp=Z,160nm,6.8s								
GYA					LR	LR			
	comp=Z,990nm,21.8s								
GYA					LR	LR			
	comp=Z,710nm,22.5s								
GYA					LR	LR			
	comp=Z,840nm,20.6s								
K29A	**Lazy Trails An**	88.17	45	⇑	P		**P**	06 26 24.0	0.0
	baz=88,SNR=7.1								
CLNS	**Chul'man**	88.23	331	*e*	P		**P**	06 26 24.2	+0.2
CLNS				*e*	*e**PP	pP		06 26 34.6	+5.7
CLNS				*e*				06 29 50.4	
CLNS				*e*	PPP	PPP		06 31 49.2	
CLNS				*e*	S		**SKSac**	06 36 49.1	-3.0
CLNS				*e*	SS		**SS**	06 43 00.1	+2.5
CLNS					pmax	pmax			
	comp=E,9.0nm,1.3s								
CLNS					pmax	pmax			
	comp=Z,32nm,1.4s								
CLNS					pmax	pmax			
	comp=N,20nm,1.5s								
CLNS					pmax	pmax			
	comp=N,8.0nm,0.9s								
CLNS					pmax	pmax			
	comp=E,6.0nm,0.8s								
CLNS					pmax	pmax			
	comp=Z,7.0nm,1.0s								
CLNS					smax	smax			
	comp=N,140nm,10.7s								
CLNS					smax	smax			
	comp=E,330nm,11.9s								
CLNS					MLR	MLR			
	comp=N,1μm,16.0s								
CLNS					MLR	MLR			
	comp=Z,2μm,15.0s								
CLNS					MLR	MLR			
	comp=E,1μm,16.0s								
E26A	**Carlson Angus**	88.25	41	⇓	P		**P**	06 26 24.2	-0.1
	baz=88								
C25A	**Freed Ranch, W**	88.27	39	⇑	P		**P**	06 26 24.9	+0.5
	baz=88								
L30A	**Spencer Herefo**	88.27	46	⇓	P		**P**	06 26 24.7	+0.2
	baz=88								
F27A	**Lemmon**	88.28	41	⇓	P		**P**	06 26 24.5	0.0
	baz=88								
N31A	**Bailey Ranch,**	88.39	47	⇓	P		**P**	06 26 24.8	-0.2
	baz=89								
J29A	**Okreek**	88.42	44	⇓	P		**P**	06 26 24.6	-0.6
	baz=89,SNR=7.7								
H28A	**Mission Ridge**	88.45	43	⇑	P		**P**	06 26 25.1	-0.2
	baz=89								
D26A	**Manning**	88.49	40	⇑	P		**P**	06 26 25.3	-0.2
	baz=89,SNR=6.2								
NATX	**Nacogdoches**	88.51	57	*e*	P		**P**	06 26 27.1	+1.3
	comp=E,268nm,1.8s								
NATX					LR	LR			
	comp=Z,4μm,19.0s								
B25A	**Knox Farm, Ray**	88.56	39	⇑	P		**P**	06 26 26.6	+0.9
	baz=89								
M31A	**Lambtecht Ranc**	88.56	46	⇓	P		**P**	06 26 25.6	-0.3
	baz=89								
K30A	**Basset**	88.62	45	⇓	P		**P**	06 26 26.2	+0.1
	baz=89								
I29A	**Vivian Onida**	88.67	44	⇓	P		**P**	06 26 25.9	-0.4
	baz=89								
G28A	**Parade**	88.67	42	⇑	P		**P**	06 26 26.2	-0.2
	baz=89								
PSI	**Prapat**	88.68	273		P		**P**	06 26 28.2	+1.0
	baz=89,SNR=4.5								
XAN	**Xi'an**	88.72	306		P		**P**	06 26 26.2	-0.6
XAN					pP		**pP**	06 26 36.0	+4.3
XAN					sP		sP	06 26 40.1	+6.6
XAN					AMB	AMB			
	comp=Z,250nm,11.7s								
XAN					LR	LR			
	comp=Z,740nm,20.9s								
XAN					LR	LR			
	comp=Z,320nm,20.9s								
XAN					LR	LR			
	comp=Z,390nm,19.8s								
E27A	**Carson**	88.80	41	⇓	P		**P**	06 26 27.0	+0.2
	baz=89								
N32A	**Stulken Farm,**	88.83	47	⇑	P		**P**	06 26 26.9	-0.2
	baz=89								
A25A	**Svangstu Ranch**	88.87	38	⇓	P		**P**	06 26 27.2	+0.1
	baz=89								
J30A	**Dallas**	88.95	44	⇑	P		**P**	06 26 27.4	-0.2
	baz=89								
H29A	**Onida**	88.96	43	⇑	P		**P**	06 26 27.5	-0.2
	baz=89								
L31A	**Butterfield Fa**	88.97	46	⇓	P		**P**	06 26 27.5	-0.3
	baz=89								
TUL1	**Tulsa**	88.98	52	*e*	P		**P**	06 26 27.6	-0.4
	comp=Z,30nm,1.2s								
TUL1	**Tulsa**	88.98	52	⇑	P		**P**	06 26 27.4	-0.5
	baz=89								
C26A	**Wahner Farm, P**	89.03	40	⇑	P		**P**	06 26 27.5	-0.4
	baz=89								
F28A	**McLaughlin**	89.05	42	⇑	P		**P**	06 26 27.9	-0.2
	baz=89								
YAK	**Yakutsk**	89.09	337	*e*	P		**P**	06 26 25.5	-2.3
YAK				*e*				06 29 55.3	
YAK				*e*	S		**SKSac**	06 36 55.4	-1.4
YAK				*e*	*SS		**SKKSac**	06 37 01.6	-7.0
YAK				*e*				06 38 12.2	
YAK				*e*	SS		**SS**	06 43 03.7	-6.0
YAK				*e*	SSS		SSS	06 46 44.5	
YAK					pmax	pmax			
	comp=Z,24nm,1.1s								
YAK					pmax	pmax			
	comp=E,15nm,1.5s								
YAK					pmax	pmax			
	comp=Z,48nm,1.1s								
YAK					pmax	pmax			
	comp=N,30nm,1.4s								
YAK					pmax	pmax			
	comp=E,40nm,1.4s								
YAK					smax	smax			
	comp=E,168nm,9.8s								
YAK					smax	smax			
	comp=N,96nm,6.3s								
D27A	**Center**	89.09	40	⇑	P		**P**	06 26 28.3	+0.1
	baz=89								
HHC	**Hu-ho-hao-te**	89.09	313	*e*	P		**P**	06 26 30.1	+1.6
HHC					sP		**sP**	06 26 36.2	+1.1
HHC					PP		**PP**	06 30 03.6	+4.8
HHC					SKS		**SKSac**	06 36 57.6	-0.5
HHC					S		**S**	06 37 17.6	+0.6
HHC					sS		**sS**	06 37 25.6	+0.5
HHC					SS		**SS**	06 43 16.0	+5.0
HHC					AMB	AMB			
	comp=N,200nm,1.5s								
HHC					AMB	AMB			
	comp=N,2μm,8.9s								
HHC					LR	LR			
	comp=N,570nm,18.0s								
HHC					LR	LR			
	comp=N,2μm,20.8s								
HHC					LR	LR			
	comp=N,2μm,20.2s								
BGNE	**Belgrade**	89.17	47	⇓	P		**P**	06 26 28.1	-0.6
	baz=89								
B26A	**Jensen Ranch,**	89.17	39	⇑	P		**P**	06 26 27.8	-0.7
	baz=89								
I30A	**Oacoma**	89.21	44	⇓	P		**P**	06 26 28.3	-0.6
	baz=90								
C27A	**Sayler Ranch,**	89.35	40	⇓	P		**P**	06 26 29.0	-0.4
	baz=90								
G29A	**Hoven**	89.37	43	⇓	P		**P**	06 26 28.7	-0.9
	baz=90								
E28A	**Huff**	89.41	41	⇓	P		**P**	06 26 29.9	+0.2
	baz=90								
PLCA	**Paso Flores**	89.44	132		LR	LR		06 57 24.9	
	comp=N,2μm,20.2s,baz=314,slow=29								
KSU1	**Kansas State U**	89.45	49		PFAKE			06 26 40.0	+10
KSU1					LR	LR			
	comp=Z,4μm,19.0s								
A26A	**Wade Farm, Ken**	89.50	39	⇓	P		**P**	06 26 30.1	0.0
	baz=90								
F29A	**Eureka**	89.67	42	⇑	P		**P**	06 26 29.9	-1.1
	baz=90								
BRSD	**Miller**	89.72	44	⇑	P		**P**	06 26 30.4	-0.8
	baz=90								
D28A	**Regan**	89.72	41	⇓	P		**P**	06 26 30.8	-0.4
	baz=90								
B27A	**Peters Farms,**	89.77	39	⇑	P		**P**	06 26 31.6	+0.3
	baz=90								
TGUH	**Tegucigalpa,Un**	89.81	75	*e*	P		**P**	06 26 32.1	-0.2
	comp=Z,121nm,2.0s								
TGUH					LR	LR			
	comp=Z,3μm,19.0s								
G30A	**Faulkton**	89.85	43	⇓	P		**P**	06 26 30.6	-1.3
	baz=90								
YKA	**Yellowknife Ar**	89.92	23		P		**P**	06 26 31.7	0.0
YKA	**Yellowknife Ar**	89.92	23		P		**P**	06 26 31.7	0.0
	comp=Z,12nm,1.0s,baz=237,slow=4.4,SNR=32								
YKW3	**Yellowknife Ar**	89.96	23	*e*	P		**P**	06 26 32.0	+0.2
	comp=Z,1.4nm,1.5s								
A27A	**Ledoux Ranch,**	90.00	39	⇑	P		**P**	06 26 32.2	-0.2
	baz=90								
E29A	**Napoleon**	90.07	41	⇓	P		**P**	06 26 31.5	-1.3
	baz=90								
F30A	**Leola**	90.19	42	⇓	P		**P**	06 26 32.5	-0.9
	baz=90								
D29A	**Pettibone, Tap**	90.29	41	⇑	P		**P**	06 26 32.5	-1.3
	baz=90								
B28A	**Dugan Ranch, T**	90.34	40	⇓	P		**P**	06 26 33.7	-0.4
	baz=91								
E30A	**Jud**	90.52	42	⇑	P		**P**	06 26 33.9	-1.0
	baz=91								
TEIG	**Tepich**	90.57	69	*e*	P		**P**	06 26 37.9	+2.3
	comp=Z,59nm,1.4s								
TEIG					LR	LR			
	comp=Z,1μm,22.0s								
A28A	**Rude Farm, Bot**	90.58	39	⇓	P		**P**	06 26 34.9	-0.3
	baz=91								
MDND	**Maddock**	90.58	40	⇑	P		**P**	06 26 34.5	-0.7
	baz=91								
D30A	**Buchanan**	90.84	41	⇓	P		**P**	06 26 35.2	-1.2
	baz=91								
B29A	**Wagenman Farm,**	90.97	40	⇓	P		**P**	06 26 36.2	-0.8
	baz=91								
JTS	**JuntasAbangare**	91.00	80	*e*	P		**P**	06 26 38.6	+0.7
	comp=Z,86nm,1.1s								
JTS					LR	LR			
	comp=Z,4μm,20.0s								
ECSD	**EROS Data Cent**	91.05	45	*e*	P		**P**	06 26 36.7	-0.8
	comp=Z,17nm,1.3s								
ECSD					LR	LR			
	comp=Z,3μm,21.0s								
KMI	**Kunming**	91.15	296		P		**P**	06 26 39.0	+0.4
KMI					pP		**pP**	06 26 42.5	-1.0
KMI					sP		**sP**	06 26 44.1	-1.2
KMI					PP		**PP**	06 30 18.6	+2.9
KMI					SKS		**SKSac**	06 37 10.5	-0.5
KMI					S		**S**	06 37 34.3	-2.6
KMI					sS		**ScS**	06 37 40.9	+0.9
KMI					SS		**SS**	06 43 45.3	+3.6
KMI					AMB	AMB			
	comp=Z,12nm,1.0s								
KMI					AMB	AMB			
	comp=Z,570nm,8.1s								
KMI					LR	LR			
	comp=Z,660nm,21.2s								
KMI					LR	LR			
	comp=Z,1μm,17.3s								
KMI					LR	LR			
	comp=Z,1μm,17.3s								
A29A	**Manning Farm,**	91.22	39	⇓	P		**P**	06 26 37.3	-0.7
	baz=92								
C30A	**Mose, Pekin**	91.23	41	⇑	P		**P**	06 26 37.3	-0.9
	baz=92								
UALR	**University of**	91.29	54	*e*	P		**P**	06 26 39.1	+0.4
	comp=Z,25nm,1.1s								
UTHA	**Uthaitani**	91.54	286		P		P	06 26 47.3	+7.0
B30A	**Myrvik Farm, E**	91.60	40	⇓	P		**P**	06 26 38.6	-1.3
	baz=92								
A30A	**Hoffart Farm,**	91.79	40	⇓	P		**P**	06 26 39.9	-0.9
	baz=92								
SUKH	**Sukhothai**	91.88	287		P		P	06 26 48.8	+7.0
FFC	**Flin Flon**	91.91	33		PFAKE			06 26 50.0	+8.9
FFC					LR	LR			
	comp=Z,1μm,20.0s								
CD2	**Chengdu**	91.92	301		P		**P**	06 26 41.0	-0.8
CD2					pP		**pP**	06 26 45.8	-0.9
CD2					sP		**sP**	06 26 48.0	-0.5
CD2					PP		**PP**	06 30 23.7	+2.3
CD2					SKS		**SKSac**	06 37 12.5	-2.2
CD2					S		**S**	06 37 40.9	-2.4
CD2					sS		**ScS**	06 37 48.4	+2.6
CD2					SS		**SS**	06 43 53.8	+1.6
CD2					AMB	AMB			
	comp=Z,20nm,0.7s								
CD2					AMB	AMB			
	comp=Z,680nm,10.1s								
CD2					LR	LR			
	comp=Z,1μm,22.6s								
CD2					LR	LR			
	comp=Z,1μm,16.7s								
CIT	**Chita**	91.96	324	*e*	P		**P**	06 26 42.1	+0.6
CIT				*e*				06 26 53.1	
CIT					pmax	pmax			
	comp=Z,323nm,1.8s								
VBMS	**Vicksburg**	92.00	57		PFAKE			06 26 50.0	+7.9
VBMS					LR	LR			
	comp=Z,2μm,20.0s								
SYO	**Syowa Base**	92.74	191	⇓	*e*P		**P**	06 26 43.4	-1.4
CMAR	**Chiang Mai Arr**	92.76	288		P		**P**	06 26 46.8	+0.8
CMAR	**Chiang Mai Arr**	92.76	288		P		**P**	06 26 46.8	+0.8
	comp=Z,2.2nm,0.5s,baz=108,slow=3.0,SNR=13								
CMAR					LR	LR		07 03 43.3	
	comp=Z,1μm,21.9s,baz=272,slow=32								
SCIA	**State Center**	92.82	47	*e*	P		**P**	06 26 46.4	+0.8
SCIA					LR	LR			
	comp=Z,4μm,19.0s								
CHTO	**Chiang Mai**	92.86	289	*e*	P		**P**	06 26 47.7	+1.3
CHTO					pmax	pmax			
	comp=Z,24nm,0.9s								
CHTO					MLR	MLR			
	comp=Z,1μm,22.0s								
CHTO	**Chiang Mai**	92.86	289	*e*	P		**P**	06 26 47.6	+1.3
	comp=Z,6.1nm,0.9s								
CHTO					LR	LR			
	comp=Z,1μm,22.0s								
EFI	**East Falkland**	92.88	146		PFAKE			06 27 00.0	+14
EFI					LR	LR			
	comp=Z,4μm,21.0s								
SNAA	**Sanae**	93.00	177	*e*	P		**P**	06 26 46.6	+0.5
SNAA	**Sanae**	93.00	177	*e*	P		**P**	06 26 46.6	+0.5
	comp=Z,54nm,1.4s								
AGMN	**Agassiz Nation**	93.09	41	*e*	P		**P**	06 26 46.3	-0.4
	comp=Z,69nm,1.6s								
AGMN					LR	LR			
	comp=Z,7μm,19.0s								
LCO	**Las Campanas**	93.24	121		P		**P**	06 26 48.7	+0.3
	comp=Z,18nm,1.0s								
LCO					LR	LR			
	comp=Z,3μm,22.0s								
LZH	**Lanzhou**	93.31	306	*e*	P		P	06 26 51.7	+3.4
LZH					pP		pP	06 26 59.2	+6.0
LZH					sP		sP	06 27 02.2	+7.2
LZH					PP		**PP**	06 30 36.0	+3.5
LZ

comp=Z,6µm,18.3s,baz=260,slow=34
SLM Saint Louis 94.04 51 *e*P **P 06 26 51.6 +0.3**
SLM pmax pmax
comp=Z,19nm,0.3s
SLM Saint Louis 94.04 51 *e*P **P 06 26 51.6 +0.3**
comp=Z,19nm,0.3s
SPMN St. Paul 94.11 44 *e*P **P 06 26 51.4 -0.1**
comp=Z,42nm,1.3s
SPMN St. Paul 94.11 44 ⇓P **P 06 26 50.8 -0.8**
baz=94
CFAA Coronel Fontan 94.36 124 P **P 06 26 52.6 -0.5**
CFAA Coronel Fontan 94.36 124 P **P 06 26 52.6 -0.5**
comp=Z,1.0nm,1.1s,baz=264,slow=4.2,SNR=8.4
ULN Ulaanbaatar 94.48 318 P **P 06 26 54.1 +0.7**
SNR=22
ULN Ulaanbaatar 94.48 318 *e*P **P 06 26 53.7 +0.3**
ULN LR LR
comp=Z,2µm,22.0s
BRAL Brewton 94.51 59 PFAKE 06 27 00.0 +6.3
BRAL LR LR
comp=Z,1µm,20.0s
SIUC Southern Illin 94.56 52 *e*P **P 06 26 54.2 +0.4**
comp=Z,13nm,0.8s
OTAV Otavalo 94.65 91 PFAKE 06 27 10.0 +15
OTAV LR LR
comp=Z,1µm,21.0s
SONM Songino Array 94.89 318 P **P 06 26 55.4 +0.2**
SONM PP **PP 06 30 43.0 -1.4**
SONM Songino Array 94.89 318 P **P 06 26 55.4 +0.2**
comp=Z,6.1nm,1.1s,baz=121,slow=3.8,SNR=23
SONM PP **PP 06 30 43.0 -1.4**
comp=Z,4.9nm,1.2s,baz=151,slow=3.0,SNR=7.9
SONM LR LR 07 04 46.5
comp=Z,1µm,21.8s,baz=119,slow=32
TIXI Tiksi 94.95 344*c i*P **P 06 26 54.8 +0.1**
TIXI pmax pmax
comp=Z,23nm,1.5s
TIXI MLR MLR
comp=Z,2µm,19.0s
LRAL Lakeview Retre 95.08 57 PFAKE 06 27 10.0 +14
LRAL LR LR
comp=Z,1µm,19.0s
WVT Waverly 95.21 54 *e*P **P 06 26 56.6 -0.2**
WVT pmax pmax
comp=Z,31nm,1.5s
WVT Waverly 95.21 54 *e*P **P 06 26 56.6 -0.2**
comp=Z,31nm,1.5s
JFWS Jewell Farm 95.21 47 *e*P **P 06 26 56.1 -0.5**
JFWS pmax pmax
comp=Z,20nm,0.9s
JFWS MLR MLR
comp=Z,4µm,19.0s
JFWS Jewell Farm 95.21 47 *e*P **P 06 26 56.1 -0.5**
comp=Z,20nm,0.9s
JFWS LR LR
comp=Z,4µm,19.0s
BCIP Isla Barro Col 95.59 82 PFAKE 06 27 10.0 +11
BCIP LR LR
comp=Z,1µm,21.0s
EYMN Ely 95.76 42 PFAKE 06 27 10.0 +11
EYMN LR LR
comp=Z,4µm,19.0s
SWET Sewanee 96.48 55 *e*P **P 06 27 03.0 +0.3**
comp=Z,16nm,1.1s
TRQA Tornquist 96.60 132 PFAKE 06 27 10.0 +6.8
TRQA LR LR
comp=Z,2µm,19.0s
SFIN Scholer Farm 96.84 50 ⇑P **P 06 27 02.9 -1.2**
baz=97
LVC Limon Verde 96.89 116 PFAKE 06 27 20.0 +15
LVC LR LR
comp=Z,2µm,22.0s
GTA Gaotai 97.26 309 *e*P Pdif 06 27 07.3 +1.0
GTA pP pP 06 27 12.9 +1.8
GTA sP sP 06 27 16.2 +3.3
GTA PP **PP 06 31 07.7 +4.7**
GTA S **S 06 38 24.3 -5.5**
GTA sS sS 06 38 35.7 -2.3
GTA SS **SS 06 45 08.1 0.0**
GTA AMB AMB
comp=Z,44nm,1.0s
GTA AMB AMB
comp=Z,340nm,9.7s
GTA LR LR
comp=Z,740nm,20.0s
GTA LR LR
comp=Z,1µm,21.8s
GTA LR LR
comp=Z,2µm,21.8s
IRK Irkutsk 97.44 322 *e*P **P 06 27 06.2 -0.3**
IRK pmax pmax
comp=Z,47nm,1.5s
ZAK Zakamensk 97.56 320 *e*P **P 06 27 06.6 -0.7**
ZAK pmax pmax
comp=Z,10.0nm,1.4s
TLY Talaya 97.67 321 *e*P Pdif 06 27 08.3 +0.6
TLY pmax pmax
comp=Z,19nm,1.4s
LPAZ La Paz 99.67 110 LR LR 07 06 06.8
comp=Z,1µm,18.1s,baz=254,slow=32
ROSC El Rosal 99.81 88 LR LR 07 04 59.8
comp=Z,1µm,18.9s,baz=189,slow=31
ACSO Alum Creek Sta 99.87 51 PFAKE 06 27 30.0 +12
ACSO LR LR
comp=Z,4µm,19.0s
BLA Blacksburg 101.25 54 PFAKE 06 27 30.0 +6.0
BLA LR LR
comp=Z,5µm,19.0s
MCWV Mont Chateau 102.13 52 PFAKE 06 27 40.0 +12
MCWV LR LR
comp=Z,4µm,19.0s
LSA Lhasa 102.23 298 PFAKE 06 27 40.0 +11
LSA LR LR
comp=Z,539nm,21.0s
ERPA Erie 102.44 50 PFAKE 06 27 40.0 +11
ERPA LR LR
comp=Z,6µm,19.0s
GTBY Guantanamo Bay 102.51 73 PFAKE 06 27 40.0 +10
GTBY LR LR
comp=Z,2µm,19.0s
CNNC Cliffs of the 102.92 57 PFAKE 06 27 40.0 +8.6
CNNC LR LR
comp=Z,2µm,20.0s
CBN Corbin 103.80 54 PFAKE 06 27 50.0 +15
CBN LR LR
comp=Z,5µm,19.0s
BINY Binghamton 105.39 50 PFAKE 06 32 10.0
BINY LR LR
comp=Z,7µm,19.0s
SDDR Presa de Saban 105.86 74 PFAKE 06 32 10.0
SDDR LR LR
comp=Z,4µm,20.0s
GRTK Grand Turk 106.47 72 PFAKE 06 32 10.0
GRTK LR LR
comp=Z,1µm,21.0s
SAML Samuel 106.61 104 PFAKE 06 32 10.0
SAML LR LR
comp=Z,1µm,20.0s
LONY Lake Ozonia 106.66 47 PFAKE 06 32 10.0
LONY LR LR
comp=Z,3µm,20.0s
NCB Newcomb 106.86 48 PFAKE 06 32 10.0
NCB LR LR
comp=Z,4µm,19.0s
WMQ Urumqi 106.94 312 *e*Pdif **Pdif 06 27 47.8 -1.4**
WMQ PP **PP 06 32 17.7 +2.1**
WMQ S **Sdif 06 39 43.5 -7.1**
WMQ SS **SS 06 47 18.7 -3.0**
WMQ PPMZ
comp=Z,290nm,5.4s
WMQ LR LR
comp=Z,480nm,14.6s
WMQ LR LR
comp=Z,770nm,17.2s
WMQ LR LR
comp=Z,700nm,25.6s
LBNH Lisbon 108.53 48 PFAKE 06 32 10.0
LBNH LR LR
comp=Z,4µm,20.0s
ZALV Zalesovo Beam 109.26 322 PKiKP **PKiKP 06 32 03.0 +0.2**
ZALV PP **PP 06 32 31.3 -0.7**
ZALV Zalesovo Beam 109.26 322 PKiKP **PKiKP 06 32 03.0 +0.2**
comp=Z,0.9nm,0.3s,baz=70,slow=1.7,SNR=4.3
ZALV PP **PP 06 32 31.3 -0.7**
comp=Z,1.6nm,0.4s,baz=77,slow=6.7,SNR=3.6
PKME Peaks-Kenny Pk 110.45 47 PFAKE 06 32 20.0
PKME LR LR
comp=Z,3µm,19.0s
SJG San Juan 110.49 76 PFAKE 06 32 20.0
SJG LR LR
comp=Z,2µm,19.0s
MK31 Makanchi Array 110.89 315 *e*PKIKP **PKiKP 06 32 05.8 -0.4**
MK31 Makanchi Array 110.89 315 *e*PKPdf **PKiKP 06 32 05.8 -0.4**
MKAR Makanchi Array 110.89 315 *i* PKIKP **PKiKP 06 32 06.1 -0.1**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 110.89 315 PKiKP **PKiKP 06 32 06.1 -0.1**
MKAR Makanchi Array 110.89 315 PKiKP **PKiKP 06 32 06.1 -0.1**
comp=Z,3.4nm,0.7s,baz=62,slow=1.0,SNR=23
DGAR Diego Garcia 111.16 256 PFAKE 06 32 20.0
DGAR LR LR
comp=Z,2µm,22.0s
KURK Kurchatov 113.19 319*c i*PKIKP **PKiKP 06 32 09.9 -0.5**
KURK MLR MLR
comp=Z,820nm,19.0s
KURK Kurchatov 113.19 319 PKiKP **PKiKP 06 32 11.0 +0.7**
SNR=6.6
KURK Kurchatov 113.19 319 *e*PKPdf **PKiKP 06 32 10.1 -0.2**
KURK LR LR
comp=Z,2µm,20.0s
BBSR BB Station 113.50 61 PFAKE 06 32 20.0
BBSR LR LR
comp=Z,2µm,19.0s
GRGR Grenville 113.66 83 PFAKE 06 32 20.0
GRGR LR LR
comp=Z,810nm,21.0s
SPB Sao Paulo 114.41 125 PFAKE 06 32 20.0 +6.4
SPB LR LR
comp=Z,2µm,21.0s
ANWB Willy Bob 114.52 77 PFAKE 06 32 20.0 +6.1
ANWB LR LR
comp=Z,1µm,19.0s
KSH Kashi 115.56 307 PKP **PKPdf 06 32 17.4 +1.9**
KSH PP PP 06 33 28.1 +10
KSH PKS **PKSdf 06 35 49.1 -3.2**
KSH SKS **SKSdf 06 39 26.3 -1.1**
KSH LR LR
comp=Z,220nm,8.8s
KSH LR LR
comp=Z,520nm,14.2s
KSH LR LR
comp=Z,1µm,20.7s
TKM2 Tokmak 2 115.73 311 *e*PKIKP **PKPdf 06 32 14.2 -1.6**
TKM2 MLR MLR
comp=Z,1µm,21.0s
TKM2 Tokmak 2 115.73 311 *e*PKPdf **PKPdf 06 32 14.2 -1.6**
TKM2 LR LR
comp=Z,1µm,21.0s
BBGH Gun Hill 115.86 83 PFAKE 06 32 30.0 +13
BBGH LR LR
comp=Z,3µm,20.0s
KBS Kingsbay 116.29 359 PFAKE 06 32 30.0 +14
KBS LR LR
comp=Z,825nm,19.0s
SFJD Kangerlussuaq 116.44 22 *i* P **PP 06 33 20.3 -2.4**
SFJD *i* 06 43 07.7
SFJD
comp=Z,2µm,16.0s
SFJD Kangerlussuaq 116.44 22 PFAKE 06 32 30.0 +14
SFJD LR LR
comp=Z,3µm,19.0s
FRU Bishkek 116.46 310 *e*PKIKP **PKPdf 06 32 16.0 -1.0**
FRU *e* 06 33 21.0
AAK Ala-Archa 116.56 310 *i* PKIKP **PKPdf 06 32 17.2 -0.2**
AAK Ala-Archa 116.56 310 PFAKE 06 32 30.0 +13
AAK LR LR
comp=Z,1µm,21.0s
EKS2 Erkin-Say 117.09 310 *e*PKIKP **PKPdf 06 32 18.6 +0.3**
EKS2 MLR MLR
comp=Z,1µm,20.0s
EKS2 Erkin-Say 117.09 310 *e*PKPdf **PKPdf 06 32 18.6 +0.3**
EKS2 LR LR
comp=Z,1µm,20.0s
DAG Danmarks Havn 117.11 6 *i* P PP 06 33 15.4 -12
DAG
comp=Z,2µm,16.0s
BRVK Borovoye 117.97 322*c i*PKIKP **PKPdf 06 32 19.5 0.0**
BRVK MLR MLR
comp=Z,2µm,18.0s
BRVK Borovoye 117.97 322 PKPdf **PKPdf 06 32 20.1 +0.6**
SNR=11
BRVK Borovoye 117.97 322 *e*PKPdf **PKPdf 06 32 19.0 -0.5**
BRVK *e*PP **PP 06 33 30.6 -3.3**
BRVK LR LR
comp=Z,2µm,20.0s
KKAR Karatay Array 119.44 311 *e*PKIKP **PKPdf 06 32 22.9 +0.2**
KKAR Karatay Array 119.44 311 *e*PKPdf **PKPdf 06 32 22.9 +0.2**
KBL Kabul 121.26 301 *e*PKIKP **PKPdf 06 32 27.6 +0.9**
KBL Kabul 121.26 301 *e*PKPdf **PKPdf 06 32 27.6 +0.9**
SVE Sverdlovsk 122.14 328 *i* PKIKP **PKPdf 06 32 27.7 +0.3**
SVE pmax pmax
comp=Z,43nm,1.2s
SVE MLR MLR
comp=Z,2µm,21.0s
SOKR Solikamsk 122.77 332 ⇓*i*PKIKP **PKPdf 06 32 29.3 +0.8**
SOKR SP SP 06 43 55.9 -3.2
SOKR pmax pmax
comp=Z,70nm,1.3s
ARU Arti 123.35 329 *i* PKIKP **PKPdf 06 32 30.5 +0.8**
ARU 06 34 11.8
ARU PPP PPP 06 36 44.2
ARU SP SP 06 44 05.0 +0.4
ARU SS **SS 06 50 51.4 -4.4**
ARU MLR MLR
comp=Z,2µm,22.0s
KEV Kevo 124.12 352 PFAKE 06 32 40.0 +9.2
KEV LR LR
comp=Z,1µm,19.0s
ARCES ARCESS Array B 124.53 352 PKP **PKPdf 06 32 31.3 -0.4**
ARCES ARCESS Array B 124.53 352 PKP **PKPdf 06 32 31.3 -0.4**
comp=Z,5.3nm,0.8s,baz=90,slow=1.2,SNR=8.0
ABKAR Akbulak array 125.26 320 *e*PKPdf **PKPdf 06 32 33.1 -0.5**
ABKAR *e*PP **PP 06 34 19.9 -3.6**
BORG Borgarnes 127.00 15 PFAKE 06 32 50.0 +14
BORG LR LR
comp=Z,3µm,20.0s
ABPO Ambohimpanom 127.60 231 PFAKE 06 32 50.0 +11
ABPO LR LR
comp=Z,2µm,21.0s
MSEY Mahe Island 127.87 251 PFAKE 06 32 50.0 +10
MSEY LR LR
comp=Z,1µm,20.0s
KLMR Klimovskoe 128.75 340 *e*PKIKP **PKPdf 06 32 39.2 -0.7**
KLMR pmax pmax
comp=Z,104nm,1.5s
SUR Sutherland 130.74 196 PFAKE 06 32 50.0 +5.0
SUR LR LR
comp=Z,3µm,19.0s
SMDO Samad 131.18 287 PKPdf **PKPdf 06 32 47.4 +1.6**
SNR=9.7
FIA1 FINESS Array S 131.88 348 *e*PKPdf **PKPdf 06 32 47.3 +1.5**
FINES FINESS Array B 131.88 348 PKP **PKPdf 06 32 46.4 +0.5**
FINES FINESS Array B 131.88 348 PKP **PKPdf 06 32 46.4 +0.5**
comp=Z,4.2nm,0.8s,baz=129,slow=6.1,SNR=7.5
BSY Bisya 131.96 287 PKPdf **PKPdf 06 32 48.7 +1.4**
SNR=5.6
RCBR Riachuelo 132.78 113 PFAKE 06 33 00.0 +11
RCBR LR LR
comp=Z,1µm,19.0s
BOSA Boshof 132.84 202 PKP **PKPdf 06 32 49.4 +0.5**
BOSA Boshof 132.84 202 PKP **PKPdf 06 32 49.4 +0.5**
comp=Z,9.0nm,1.1s,baz=166,slow=1.7,SNR=4.5
ASHO Ashiyiah 132.98 290 PKPdf **PKPdf 06 32 49.8 +0.6**
SNR=8.8
MOS Moscow 133.22 337 *e*PKIKP **PKPdf 06 32 45.5 -3.0**
MOS *e*PS **PS 06 45 32.6 -0.8**
MOS pmax pmax
comp=Z,107nm,1.6s
MOS MLR MLR
comp=Z,1µm,19.0s
OBN Obninsk 134.09 337 ⇓*i*PKIKP **PKPdf 06 32 51.1 +0.9**
OBN *e* 06 40 01.9
OBN *e*PS **PS 06 45 45.7 +4.9**
OBN *i* SS SS 06 53 01.1 -7.0
OBN pmax pmax
comp=Z,81nm,1.4s
OBN MLR MLR
comp=Z,1µm,22.0s
NB2 NORSAR Subarra134.21 357 PKPdf **PKPdf 06 32 50.0 -0.3**
comp=Z,178nm,2.5s,baz=6.6,slow=1.8
NB2 NORSAR Subarra134.21 357 PKPdf **PKPdf 06 32 50.0 -0.3**
baz=6.6,slow=1.8
NOA NORSAR Array B134.21 357 PKP **PKPdf 06 32 51.6 +1.3**
NOA NORSAR Array B134.21 357 PKP **PKPdf 06 32 51.6 +1.3**
comp=Z,2.0nm,0.9s,baz=154,slow=18,SNR=3.1
VRHR Novokhopersk 134.66 330 *e*PKIKP **PKPdf 06 32 53.1 +1.7**
VRHR pmax pmax
comp=Z,40nm,1.1s
VRHR pmax pmax
comp=N,10.0nm,1.5s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR MLR MLR
comp=Z,990nm,21.0s
VRHR MLR MLR
comp=N,90nm,14.0s
VRHR MLR MLR
comp=E,770nm,24.0s
HFS Hagfors 134.94 355 PKP **PKPdf 06 32 51.9 +0.3**
HFS Hagfors 134.94 355 PKP **PKPdf 06 32 51.9 +0.3**
comp=E,3.3nm,0.8s,baz=18,slow=5.0,SNR=3.2
MAK Makhachkala 135.64 317 *e*PKIKP **PKPdf 06 32 50.4 -3.1**
MAK *e* 06 35 27.2
MAK *e* 06 40 01.1
MAK *e*SP SP 06 45 48.3 -3.6
MAK *e*SSS SSS 06 58 31.9
MAK pmax pmax
comp=Z,360nm,11.8s
MAK MLR MLR
comp=Z,2µm,22.0s
KONO Kongsberg 135.66 358 PFAKE 06 33 00.0 +7.0
KONO LR LR
comp=Z,1µm,20.0s
VSR Storozhevoye 135.76 331 *e*PKIKP **PKPdf 06 32 56.0 +2.5**
VSR pmax pmax
comp=Z,30nm,1.1s
VSR pmax pmax
comp=N,7.0nm,0.5s
VSR pmax pmax
comp=E,6.0nm,0.8s
VSR MLR MLR
comp=Z,2µm,26.0s
VSR MLR MLR
comp=N,1µm,22.0s
VSR MLR MLR
comp=E,780nm,22.0s
VORD Divnogorie 135.87 331 *e*PKIKP **PKPdf 06 32 55.5 +1.9**
VORD pmax pmax
comp=Z,30nm,1.3s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.6s
VORD MLR MLR
comp=N,550nm,24.0s
VORD MLR MLR
comp=Z,1µm,24.0s
VORD MLR MLR
comp=E,2µm,22.0s
MICGM Minsk 137.57 342 *e* **PKPdf 06 32 52.0 -4.7**
MNK Minsk 137.58 342 *e*PKIKP **PKPdf 06 32 52.0 -4.7**
DGRG David-gareji 137.73 316 P **PKPdf 06 32 58.4 +0.8**
ZEI Tsey 138.07 318 *e*PKIKP **PKPdf 06 32 57.6 -0.7**
ZEI pmax pmax
comp=Z,11nm,1.2s
KBZ Khabaz 138.23 320 PKIKP **PKPdf 06 32 56.3 -1.9**
KBZ 06 35 48.6
KBZ pmax pmax
comp=Z,3.0nm,0.8s
KBZ pmax pmax
comp=Z,3.0nm,0.8s
KBZ Khabaz 138.23 320 PKP **PKPdf 06 32 56.3 -1.9**
KBZ PP **PP 06 35 48.5 +1.5**
KBZ Khabaz 138.23 320 PKP **PKPdf 06 32 56.3 -1.9**
comp=Z,3.3nm,0.8s,baz=176,slow=2.9,SNR=3.7
KBZ PP **PP 06 35 48.5 +1.5**
comp=Z,2.5nm,0.8s,baz=132,slow=5.4,SNR=5.4
KIV Kislovodsk 138.24 321 *i* PKIKP **PKPdf 06 32 59.1 +0.7**
KIV *e* 06 35 44.0
KIV *e* 06 40 07.4
KIV *e*SS SS 06 53 58.7 -0.3
KIV pmax pmax
comp=Z,15nm,1.1s
ONI Oni 138.46 318 P **PKPdf 06 32 59.8 +1.0**
GNI Garni 138.74 314 PKPdf **PKPdf 06 33 01.6 +2.1**
SNR=8.5
GNI Garni 138.74 314 PFAKE 06 33 10.0 +10
GNI LR LR
comp=Z,709nm,20.0s
MUD Monsted U'grnd 138.88 358 *e*PKIKP **PKPdf 06 33 00.3 +1.3**
MUD *e* 06 35 51.3
MUD MLR MLR
comp=Z,900nm,14.0s
MUD Monsted U'grnd 138.88 358 *i* P **PKPdf 06 33 00.3 +1.3**
MUD *e* 06 35 51.3
MUD
comp=Z,900nm,14.0s
ESK Eskdalemuir 139.31 9 PFAKE 06 33 10.0 +10
ESK LR LR
comp=Z,3µm,20.0s
COP Copenhagen 139.45 355 *e*PKIKP **PKPdf 06 32 57.4 -2.7**
COP *e* 06 35 52.2
COP MLR MLR
comp=Z,540nm,18.0s
COP Copenhagen 139.45 355 *i* P **PKPdf 06 32 57.4 -2.7**
COP *e* 06 35 52.2
COP
comp=Z,540nm,17.0s
BSD Bornholm Skovb 139.76 353 *e*PKIKP **PKPdf 06 32 56.0 -4.7**
BSD *e* 06 35 54.4
BSD MLR MLR
comp=Z,990nm,21.0s
BSD Bornholm Skovb 139.76 353 *i* P **PKPdf 06 32 56.0 -4.7**
BSD *i* 06 35 51.8
BSD *e* 06 35 54.4
BSD
comp=Z,980nm,21.0s
DAGI Agillar 140.21 317 *i* P **PKPdf 06 33 02.5 +0.4**
SOC Sochi 140.24 322 *e*PKIKP **PKPdf 06 32 59.0 -3.0**
SOC *e* 06 40 12.5
SOC *e*SS SS 06 54 25.1 +2.9
SOC pmax pmax
comp=Z,39nm,0.9s
SOC MLR MLR
comp=Z,1µm,22.0s
AKASG Malin Array Be 140.31 338 PKHKP PKPpre 06 32 56.5
AKASG 06 33 02.1
AKASG 06 35 56.5
AKASG pmax pmax
comp=Z,10.0nm,0.9s
AKASG Malin Array Be 140.31 338 PKPpre PKPpre 06 32 56.5
AKASG PKP **PKPdf 06 33 02.1 +0.3**
AKASG PP **PP 06 35 56.5 -2.7**
AKASG Malin Array Be 140.31 338 PKhKP PKPpre 06 32 56.5
comp=Z,0.6nm,0.4s,baz=33,slow=4.0,SNR=7.4
AKASG PKP **PKPdf 06 33 02.1 +0.3**
comp=Z,9.5nm,0.9s,baz=31,slow=2.1,SNR=17
AKASG PP **PP 06 35 56.5 -2.7**
comp=Z,0.4nm,0.3s,baz=36,slow=5.7,SNR=7.0
KIEV Kiev 140.32 338 *e*PKIKP **PKPdf 06 33 02.0 +0.2**
KIEV MLR MLR
comp=Z,2µm,21.0s
KIEV Kiev 140.32 338 *e*PKPdf **PKPdf 06 33 02.0 +0.2**
KIEV LR LR
comp=Z,2µm,21.0s
DBAD Bademkaya 140.38 317 *i* P **PKPdf 06 33 02.8 +0.3**
TUTA Tutak 140.40 314 *i* P **PKPdf 06 33 03.7 +1.0**
HAKT HAKKARI 140.56 311 *i* P PKPdf 06 32 56.4 -6.7
ANN Anapa 140.82 325 *i* PKIKP **PKPdf 06 33 01.8 -1.1**
ANN *e* 06 36 02.6
ANN *e* 06 40 14.7
ANN *e*SS SS 06 54 29.9 +1.2
ANN pmax pmax
comp=Z,108nm,1.6s
ANN MLR MLR
comp=N,207nm,22.0s
ANN MLR MLR
comp=E,58nm,22.0s
ANN MLR MLR
comp=Z,489nm,22.0s
BNGL BINGOL 141.75 315 *i* P PKPdf 06 32 59.8 -5.3
KELT Kelkit 142.42 318 *i* P PKPdf 06 33 00.9 -5.4
MARD Mardin 142.77 313 *i* P **PKPdf 06 33 02.0 -4.9**
LVV L'vov 142.82 341 *e*PKHKP PKPpre 06 33 02.9
LVV MLR MLR
comp=N,700nm,20.0s

LVV MLR MLR
comp=E,700nm,20.0s
LVV MLR MLR
comp=Z,1µm,20.0s
MAZI Mazidag 142.94 313 *e*P PKPdf 06 32 59.1 -8.1
PTK Pertek 142.98 316 *e*P **PKPdf 06 33 02.5 -4.8**
LSZ Lusaka 143.00 216 *e*PKPdf **PKPdf 06 33 05.5 -2.4**
LSZ LR LR
comp=Z,1µm,20.0s
KWP Kalwaria Pacla 143.38 343 ⇑PKIKP PKPbc 06 33 04.4 -0.1
KWP Kalwaria Pacla 143.38 343 ⇑*i*P PKPbc 06 33 04.4 -0.1
KWP Kalwaria Pacla 143.38 343 *e*PKPdf PKPbc 06 33 04.8 +0.3
KWP LR LR
comp=Z,2µm,20.0s
KWP Kalwaria Pacla 143.38 343 *e*PKP PKPbc 06 33 04.0 -0.5
KEMA Kemaliye 143.38 317 *i*P PKPbc 06 33 04.8 -0.1
ELZG Elazig 143.45 315 *i*P PKPbc 06 33 06.3 +1.0
KIS Kishinev 143.46 334 *e*PKP PKPab 06 33 04.0 +0.2
KIS *e*SKKS 06 42 36.0
KIS Kishinev 143.46 334 *e*PKHKP PKPab 06 33 04.0 +0.2
KIS *e* 06 36 20.0
KIS MLR MLR
comp=Z,2µm,20.0s
KIS MLR MLR
comp=N,1µm,22.0s
KIS MLR MLR
comp=Z,1µm,22.0s
RSDY Resadiye-TOKAT 143.52 319 *e*P PKPab 06 33 00.6 -3.8
OJC Ojcow 143.60 346 *e*PKIKP PKPbc 06 33 05.0 -0.1
OJC Ojcow 143.60 346 *e*PKPdf PKPbc 06 33 05.0 -0.1
SFNV Sufian 143.65 312 *e*P PKPbc 06 33 06.3 +0.5
SFNV Sufian 143.65 312 *e*P PKPbc 06 33 06.3 +0.5
SNR=46
ERBA Erbaa 143.71 320 *i*P PKPab 06 33 05.0 0.0
KSP Ksiaz 143.72 350 *e*PKIKP PKPbc 06 33 05.5 +0.1
KSP *e* 06 36 17.0
KSP MLR MLR
comp=Z,3µm,21.6s
KSP Ksiaz 143.72 350 *e*PKP PKPab 06 33 04.7 0.0
CLL Collm 143.73 353 *e*PKIKP PKPbc 06 33 06.0 +0.6
CLL *i* 06 33 12.2
CLL pmax pmax
comp=Z,48nm,1.5s
CLL MLR MLR
comp=Z,2µm,20.3s
CLL Collm 143.73 353 *e*PKPdf PKPbc 06 33 06.0 +0.6
comp=Z,48nm,1.5s
CLL *i* 06 33 10.1
CLL *i* (PKiKP) 06 33 12.2
CLL *e*P **PP 06 36 21.0 +1.3**
CLL *e*SKSac **SKSac 06 40 30.0 +5.5**
CLL *e*SKKSac SKKSac 06 43 24.0 +11
CLL *e* 06 43 48.0
CLL *e* 06 44 54.0
CLL *e*PSKS 06 46 30.0
CLL *e*PPS PPS 06 48 48.0
CLL *e*SS SS 06 54 48.0 -13
CLL *e* 06 56 12.0
CLL *e*SSS SSS 07 00 24.0
CLL *e* 07 04 18.0
CLL LmV 07 41 00.0
comp=Z,2µm,20.3s
KVT Kavak 143.91 321 *e*P PKPab 06 33 03.5 -2.3
MALT Malatya 143.92 316 ⇑PKIKP **PKPdf 06 33 08.0 -0.9**
MALT Malatya 143.92 316 *e*P **PKPdf 06 33 08.2 -0.7**
MALT Malatya 143.92 316 ⇑*i*P **PKPdf 06 33 08.0 -0.9**
SCER sogukcermik 143.94 319 *i*P PKPbc 06 33 07.6 +0.9
STHS Stebnicka Huta 143.98 344 *e*PKIKP **PKPdf 06 33 07.6 -0.9**
STHS Stebnicka Huta 143.98 344 *e*PKP **PKPdf 06 33 07.6 -0.9**
SVSK Karacayir 144.00 319 *e*P **PKPdf 06 33 08.6 -0.2**
DIKM Dikmen 144.03 323 *e*P **PKPab 06 33 05.5 -0.7**
BRG Berggiesshubel 144.04 352 *e*PKP PKPbc 06 33 07.2 +0.8
comp=Z,34nm,1.5s
BRG
comp=N,1µm,16.0s
BRG
comp=E,565nm,17.9s
BRG
comp=Z,1µm,16.1s
BRG Berggiesshubel 144.04 352 *e*PKIKP PKPbc 06 33 07.2 +0.8
BRG pmax pmax
comp=Z,34nm,1.5s
BRG MLR MLR
comp=N,1µm,16.0s
BRG MLR MLR
comp=E,565nm,17.9s
BRG MLR MLR
comp=Z,1µm,16.1s
TOKT Tokat 144.05 320 *e*P **PKPab 06 33 06.5 +0.1**
UPC Upice 144.09 350 *e*PKIKP PKPbc 06 33 07.5 +0.9
UPC *e* 06 33 11.8
UPC Upice 144.09 350 *e*PKP PKPbc 06 33 07.5 +0.9
UPC *ep*PKP **PKiKP 06 33 11.8 -0.4**
TOKA Tokat 144.09 320 *i*P **PKPab 06 33 06.0 -0.5**
TSUM Tsumeb 144.12 198 *e*PKPdf **PKPdf 06 33 09.3 -0.5**
TSUM LR LR
comp=Z,2µm,20.0s
KOLS Kolonicke sedl 144.13 343 *e*PKIKP PKPbc 06 33 07.3 +0.5
KOLS Kolonicke sedl 144.13 343 *e*PKP PKPbc 06 33 07.3 +0.5
DPC Dobruska-Polom 144.19 350 *e*PKIKP **PKPdf 06 33 08.0 -0.9**
DPC Dobruska-Polom 144.19 350 *e*PKP **PKPdf 06 33 08.0 -0.9**
DPC *ep*PKP **PKiKP 06 33 12.2 -0.2**
DPC AMS AMS 07 44 10.0
NIE Niedzica 144.22 345 *e*PKIKP PKPbc 06 33 06.9 -0.2
NIE Niedzica 144.22 345 *e*PKPdf PKPbc 06 33 06.9 -0.2
PVCC Panska Ves 144.29 351 *e*PKIKP PKPbc 06 33 07.8 +0.6
PVCC MLR MLR
comp=Z,2µm,18.0s
PVCC Panska Ves 144.29 351 *e*PKP PKPbc 06 33 07.8 +0.6
PVCC AMS AMS 07 41 30.0
comp=Z,2µm,18.0s
OKC Ostrava-Krasne 144.33 347 *e*PKIKP **PKPdf 06 33 08.3 -0.7**
OKC *e* 06 33 13.1
OKC MLR MLR
comp=Z,1µm,16.5s
OKC Ostrava-Krasne 144.33 347 *e*PKP **PKPdf 06 33 08.3 -0.7**
OKC *ep*PKP **PKiKP 06 33 13.1 +0.5**
OKC AMS AMS 07 52 50.0
comp=Z,1µm,16.5s
KRLC Kraliky 144.37 349 *e*PKIKP **PKPdf 06 33 08.6 -0.6**
KRLC *e* 06 33 13.2
KRLC Kraliky 144.37 349 *e*PKP **PKPdf 06 33 08.6 -0.6**
KRLC *ep*PKP **PKiKP 06 33 13.2 +0.4**
BOYT Boyabat 144.38 323 *i*P **PKPdf 06 33 10.1 +0.6**
CRVS Cervenica-Dubn 144.39 343 *e*PKIKP PKPbc 06 33 07.9 +0.3
CRVS Cervenica-Dubn 144.39 343 *e*PKP PKPbc 06 33 07.9 +0.3
UZH Uzhgorod 144.40 342 *e*PKIKP **PKPab 06 33 07.0 -0.3**
UZH *e* 06 33 12.5
UZH eSS SS 06 55 12.0 +2.9
UZH MLR MLR
comp=N,800nm,24.0s
UZH MLR MLR
comp=E,700nm,24.0s
UZH MLR MLR
comp=Z,400nm,24.0s
ATAB Bozova 144.44 314 *i*P **PKPdf 06 33 09.2 -0.4**
MORC Moravsky Berou 144.51 348 *e*PKIKP PKPbc 06 33 08.3 +0.3
MORC Moravsky Berou 144.51 348 ⇑*i*P PKPbc 06 33 08.4 +0.4
MORC Moravsky Berou 144.51 348 *e*PKPdf PKPbc 06 33 08.3 +0.3
BZK Bozkurt 144.56 324 *e*P **PKPdf 06 33 09.4 -0.2**
BEBN Eben Emael 144.57 1 PKP **PKPab 06 33 07.8 0.0**
HGN Heimansgroeve 144.61 1 *e*PKPdf PKPbc 06 33 08.2 +0.1
comp=Z,247nm,2.0s
TESR Tescani 144.73 336 ⇓*i*P PKPbc 06 33 08.8 +0.1
PRA Prague 144.76 351 PKP **PKPdf 06 33 10.0 +0.2**
MEM Membach 144.77 1 PKP **PKPab 06 33 08.6 0.0**
TRPA Tarpa 144.77 342 ⇑*i*P PKPbc 06 33 09.1 +0.3
TRPA Tarpa 144.77 342 ⇑*e*PKPbc PKPbc 06 33 09.0 +0.2
GHRR 144.79 335 ⇑*i*P **PKPdf 06 33 09.6 -0.4**
SNF Seneffe 144.81 3 PKP **PKPdf 06 33 09.5 -0.3**
PRU Pruhonice 144.83 351 *e*PKIKP **PKPdf 06 33 09.9 0.0**
PRU *e* 06 33 14.3
PRU *e* 06 55 07.0
PRU MLR MLR
comp=Z,2µm,19.3s
PRU Pruhonice 144.83 351 *e*PKP **PKPdf 06 33 09.9 0.0**
PRU *ep*PKP **PKiKP 06 33 14.3 +0.6**
PRU *ex* x 06 55 07.0
PRU AMS AMS 07 41 50.0
comp=Z,2µm,19.3s
BMR Baia Mare 144.87 340 ⇓PKIKP **PKPdf 06 33 09.6 -0.5**
BMR Baia Mare 144.87 340 ⇓*i*P **PKPdf 06 33 09.6 -0.5**
BCLA Clavier 144.94 2 PKP PKPbc 06 33 09.3 +0.1
CTKT Corum 144.95 322 *i*P **PKPdf 06 33 11.2 +0.6**
GZT Gaziantep 145.00 315 *i*P **PKPdf 06 33 11.6 +0.8**
KECS Kecovo 145.03 344 *e*PKIKP **PKPdf 06 33 10.5 +0.2**
KECS Kecovo 145.03 344 *e*PKP **PKPdf 06 33 10.5 +0.2**
PINB Pinarbasi 145.07 318 *i*P **PKPdf 06 33 10.9 -0.1**
ARCR ARCALIA 145.09 339 ⇓*i*P **PKPdf 06 33 10.7 +0.2**
PETR Petresti 145.14 335 ⇓*i*P **PKPdf 06 33 11.1 +0.6**
VRAC Vranov 145.14 349 ⇑*i*P **PKPdf 06 33 11.6 +1.1**
TOS Tosya 145.14 323 *e*P **PKPdf 06 33 12.8 +1.9**
CFR Carcaliu 145.19 333 ⇑PKIKP **PKPdf 06 33 10.7 +0.1**
CFR Carcaliu 145.19 333 ⇑*i*P **PKPdf 06 33 10.7 +0.1**
JHLN Al Jahlan 145.19 312 *e*P **PKPdf 06 33 12.2 +1.2**
JHLN Al Jahlan 145.19 312 *e*P **PKPdf 06 33 12.2 +1.2**
SNR=46
YOZ Yozgat 145.21 320 *e*P **PKPbc 06 33 09.9 -0.8**
DOU Dourbes 145.24 2 PKP **PKPdf 06 33 10.5 -0.1**
PLOR Plostina 145.27 335 ⇑PKIKP **PKPdf 06 33 10.9 0.0**
PLOR Plostina 145.27 335 ⇑*i*P **PKPdf 06 33 10.9 0.0**
ILGA Ilgaz 145.31 323 *i*P **PKPdf 06 33 11.9 +0.6**
CORM Corum 145.31 321 *e*P **PKPdf 06 33 12.8 +1.6**
BNN Bunyan 145.33 318 *e*P **PKPdf 06 33 12.6 +1.3**
TREC Trest 145.35 350 *e*PKIKP **PKPdf 06 33 11.6 +0.7**
TREC MLR MLR
comp=Z,2µm,17.9s
TREC Trest 145.35 350 *e*PKP **PKPdf 06 33 11.6 +0.7**
TREC AMS AMS 07 42 10.0
comp=Z,2µm,17.9s
AYKD Aykdinkavak 145.48 315 *i*P **PKPab 06 33 11.9 +0.2**
GRFO Grafenberg 145.50 355 *e*PKIKP **PKPab 06 33 12.3 +0.9**
GRFO Grafenberg 145.50 355 *e*PKPbc **PKPab 06 33 12.2 +0.9**
KUZU Kuzuini 145.63 314 *i*P **PKPab 06 33 12.2 -0.1**
TIRR Tirgusor 145.63 332 ⇑PKIKP **PKPdf 06 33 11.5 +0.1**
TIRR Tirgusor 145.63 332 ⇑*i*P **PKPdf 06 33 11.5 +0.1**
TIRR Tirgusor 145.63 332 *e*PKPbc **PKPab 06 33 13.1 +1.2**
CANT Cankiri 145.65 322 *e*P **PKPab 06 33 14.0 +1.7**
HARR Harsova 145.66 333 ⇑PKIKP **PKPab 06 33 12.8 +0.7**
HARR Harsova 145.66 333 ⇑*i*P **PKPab 06 33 12.8 +0.7**
TLB Topalu 145.70 333 ⇑PKIKP **PKPbc 06 33 11.8 -0.1**
TLB Topalu 145.70 333 ⇑*i*P **PKPbc 06 33 11.8 -0.1**
ANDN Andirin 145.71 316 *i*P **PKPdf 06 33 11.9 -0.1**
PSZ Piszkesteto 145.71 344 ⇓PKIKP **PKPab 06 33 12.1 -0.2**
PSZ Piszkesteto 145.71 344 ⇓*i*P **PKPab 06 33 12.1 -0.2**
PSZ Piszkesteto 145.71 344 *e*PKPbc **PKPab 06 33 12.9 +0.6**
PSZ LR LR
comp=Z,2µm,20.0s
PSZ Piszkesteto 145.71 344 ⇑*e*PKPdf **PKPab 06 33 12.5 +0.2**
WLF Walferdange 145.72 1 PKP **PKPab 06 33 12.8 +0.7**
WLF Walferdange 145.72 1 *e*PKIKP **PKPab 06 33 12.8 +0.7**
WLF MLR MLR
comp=Z,2µm,20.0s
WLF Walferdange 145.72 1 *e*PKPbc **PKPab 06 33 12.8 +0.7**
WLF LR LR
comp=Z,2µm,20.0s
SMOL Smolenice 145.73 347 *e*PKIKP **PKPab 06 33 13.8 +1.6**
SMOL Smolenice 145.73 347 *e*PKP **PKPab 06 33 13.8 +1.6**
KMBO Kilima Mbogo 145.75 244 PKPdf **PKPab 06 33 15.4 +1.7**
SNR=42
KMBO Kilima Mbogo 145.75 244 PKPbc **PKPab 06 33 14.6 +0.9**
KMBO LR LR
comp=Z,1µm,19.0s
KMBO Kilima Mbogo 145.75 244 PKPbc **PKPab 06 33 14.6 +0.9**
comp=Z,55nm,1.1s,baz=89,slow=3.0,SNR=77
SAFT Safranbolu 145.78 324 *e*P **PKPab 06 33 13.8 +1.2**
KHC Kasperske Hory 145.80 352 *e*PKP2 **PKPab 06 33 12.4 -0.1**
KHC *e* 06 55 23.9
KHC MLR MLR
comp=Z,2µm,19.5s
KHC Kasperske Hory 145.80 352 *e*PKP **PKPab 06 33 12.4 -0.1**
KHC *ep*PKP **pPKPdf 06 33 17.6 +0.9**
KHC *ex* x 06 33 28.0
KHC *e*SS SS 06 55 23.9 -1.1
KHC *ex* x 07 01 05.4
KHC AMS AMS 07 45 20.0
comp=Z,2µm,19.5s
KHC Kasperske Hory 145.80 352 *e*PKPbc **PKPab 06 33 12.9 +0.4**
CDAG Cicekdag 145.81 320 *i*P **PKPab 06 33 12.9 -0.1**
ELDT Eldivan 145.84 323 *i*P **PKPdf 06 33 11.5 -0.7**
BST Brest 145.88 13 PKP **PKPdf 06 33 12.0 +0.2**
ISR Istrita 145.91 335 ⇑PKP2 **PKPab 06 33 13.4 +0.3**
ISR Istrita 145.91 335 ⇑*i*P **PKPab 06 33 13.4 +0.3**
AMRR Amara 145.99 333 ⇑PKP2 **PKPab 06 33 13.7 +0.4**
AMRR Amara 145.99 333 ⇑*i*P **PKPab 06 33 13.7 +0.4**
DRWC Darouich 145.99 314 *e*P PKPab 06 33 25.6 +12
DRWC Darouich 145.99 314 *e*P PKPab 06 33 25.6 +12
SNR=46
AVNT Avonos 146.01 319 *i*P **PKPdf 06 33 12.5 0.0**
ROSF Rostrenen 146.02 12 *e*PKIKP **PKPbc 06 33 12.5 -0.3**
ROSF Rostrenen 146.02 12 *e*PKP2 **PKPbc 06 33 12.5 -0.3**
ROSF Rostrenen 146.02 12 *e*PKPdf **PKPbc 06 33 12.5 -0.3**
GERES GERESS Array B 146.06 352 PKPbc **PKPab 06 33 13.5 -0.1**
GERES GERESS Array B 146.06 352 PKPbc **PKPab 06 33 13.5 -0.1**
comp=Z,29nm,1.1s,baz=36,slow=2.5,SNR=93
FLN La Foliniere 146.09 9 *e*PKIKP **PKPbc 06 33 12.8 -0.2**
comp=Z,604nm,1.6s
FLN *e*R
comp=Z,2µm,21.5s
FLN La Foliniere 146.09 9 *e*PKP2 **PKPbc 06 33 12.8 -0.2**
FLN La Foliniere 146.09 9 *e*PKPdf **PKPbc 06 33 12.8 -0.2**
ZST Bratislava 146.10 348 *e*PKP2 **PKPab 06 33 13.5 -0.1**
ZST Bratislava 146.10 348 *e*PKP **PKPab 06 33 13.5 -0.1**
KOZT Kozan 146.11 316 *e*P **PKPab 06 33 16.1 +2.0**
BR131 Keskin Array S 146.19 321 *e*PKPdf **PKPdf 06 33 12.8 0.0**
BR131 *e*PKPbc **PKPab 06 33 14.2 -0.2**
BRTR Keskin Array B 146.19 321 PKPbc **PKPab 06 33 14.6 +0.1**
BRTR Keskin Array B 146.19 321 PKPbc **PKPab 06 33 14.6 +0.1**
comp=Z,163nm,1.0s,baz=126,slow=1.7,SNR=187
SGMF Saint Gilles 146.24 11 *e*PKIKP **PKPbc 06 33 13.4 0.0**
comp=Z,615nm,1.9s
SGMF Saint Gilles 146.24 11 *e*PKP2 **PKPbc 06 33 13.4 0.0**
SGMF Saint Gilles 146.24 11 *e*PKPdf **PKPbc 06 33 13.4 0.0**
VOIR 146.24 337 ⇑PKP2 **PKPab 06 33 14.6 +0.2**
VOIR 146.24 337 ⇑*i*P **PKPab 06 33 14.6 +0.2**
LDF La Druitiere 146.31 8 *e*PKIKP **PKPbc 06 33 13.6 0.0**
comp=Z,510nm,1.8s
LDF La Druitiere 146.31 8 *e*PKP2 **PKPbc 06 33 13.6 0.0**
LDF La Druitiere 146.31 8 *e*PKPdf **PKPbc 06 33 13.6 0.0**
COBT Iskenderun 146.32 314 *i*P **PKPbc 06 33 14.5 +0.2**
BUD Budapest 146.34 345 ⇑*e*PKPdf **PKPbc 06 33 13.2 -0.5**
PSN Preselentsi 146.34 331 P **PKPab 06 33 15.0 +0.4**
SULR 146.39 335 ⇓*i*P **PKPab 06 33 14.4 -0.4**
LANF Langenberg 146.39 359 PKP **PKPab 06 33 14.4 -0.3**
GRR Gorron 146.40 9 *e*PKIKP **PKPbc 06 33 14.1 +0.2**
GRR Gorron 146.40 9 *e*PKP2 **PKPbc 06 33 14.1 +0.2**
GRR Gorron 146.40 9 *e*PKPdf **PKPbc 06 33 14.1 +0.2**
KDZE Karadeniz Ereo 146.42 325 *e*P **PKPdf 06 33 12.9 0.0**
QUIF Quistinic 146.44 12 *e*PKIKP **PKPbc 06 33 13.8 -0.2**
comp=Z,266nm,1.6s
QUIF Quistinic 146.44 12 *e*PKP2 **PKPbc 06 33 13.8 -0.2**
QUIF Quistinic 146.44 12 *e*PKPdf **PKPbc 06 33 13.8 -0.2**
ARR Arges 146.46 337 ⇑*i*P **PKPbc 06 33 13.9 -0.4**
NIG Nigde 146.55 318 *e*P **PKPbc 06 33 15.4 +0.3**
STU Stuttgart 146.55 357 *e*PKP2 **PKPbc 06 33 14.8 +0.4**
STU Stuttgart 146.55 357 *e*PKPbc **PKPbc 06 33 14.8 +0.4**
SHEL Horse Pasture 146.57 158 PFAKE 06 33 20.0 +3.7
SHEL LR LR
comp=Z,1µm,19.0s
PKSG 146.58 346 ⇑*e*PKPdf **PKPbc 06 33 14.4 0.0**
CONA Conrad Observa 146.60 349 ⇑*i*PKPbc **PKPdf 06 33 13.8 +0.6**
comp=Z,1µm,2.4s,SNR=72
ANTO Ankara 146.61 322 *e*PKIKP **PKPdf 06 33 13.1 -0.3**
ANTO MLR MLR
comp=Z,775nm,20.0s
ANTO Ankara 146.61 322 PKPdf **PKPbc 06 33 14.8 -0.1**
SNR=70
ANTO Ankara 146.61 322 *e*P **PKPdf 06 33 13.4 +0.1**
ANTO Ankara 146.61 322 ⇑*i*P **PKPdf 06 33 14.0 +0.6**
ANTO Ankara 146.61 322 *e*PKPdf **PKPdf 06 33 13.1 -0.3**
ANTO LR LR
comp=Z,775nm,20.0s
HTY Hatay 146.61 314 *e*P **PKPdf 06 33 10.5 -2.9**
BBAL Bala 146.62 321 *i*P **PKPdf 06 33 14.2 +0.7**
PKSN Nyarlorinc 146.66 344 *e* **PKPab 06 33 15.6 -0.2**
YAYL Yayladag 146.68 314 *i*P **PKPdf 06 33 14.2 +0.6**
SIRR Siria 146.70 341 ⇑*i*P **PKPbc 06 33 14.4 -0.5**
SOP Sopron 146.70 348 ⇑*e*PKPdf **PKPbc 06 33 15.1 +0.3**
PKS7 Kunszentmiklos 146.71 345 ⇑*e*PKPdf **PKPbc 06 33 14.8 0.0**
AFSR Af`ar-Bala (A 146.71 321 *e*P **PKPab 06 33 16.7 +0.3**
WRDH Warideh 146.73 313 ⇑*e*P **PKPab 06 33 19.2 +2.7**
WRDH Warideh 146.73 313 ⇑*e*P **PKPab 06 33 19.2 +2.7**
SNR=46
KARA Karaisali 146.74 316 *e*P **PKPdf 06 33 10.9 -2.7**
PKST T``s 146.78 346 ⇑*e*PKPdf **PKPdf 06 33 13.3 -0.1**
MEZF Maizieres J'vi 146.85 2 *e*PKIKP **PKPdf 06 33 14.1 +0.7**
MEZF Maizieres J'vi 146.85 2 *e*PKPdf **PKPdf 06 33 14.1 +0.7**
ARNB Al Arnab 146.86 314 *e*P **PKPab 06 33 17.9 +0.8**
ARNB Al Arnab 146.86 314 *e*P **PKPab 06 33 17.9 +0.8**
SNR=46
GULE Gulek 146.91 317 *i*P **PKPdf 06 33 14.8 +0.7**
MOA Molln 146.95 351 ⇑*i*PKPbc **PKPdf 06 33 14.0 +0.3**
comp=Z,2µm,4.3s,SNR=32
CDF Champ du Feu 146.97 359 *e*PKIKP **PKPdf 06 33 14.2 +0.5**
CDF Champ du Feu 146.97 359 *e*PKIKP **PKPdf 06 33 14.2 +0.5**
CDF Champ du Feu 146.97 359 *e*PKPdf **PKPdf 06 33 14.2 +0.5**
BFO Black Forest 147.03 358 *e*PKIKP **PKPdf 06 33 13.1 -0.7**
BFO *e* 06 33 16.3
BFO MLR MLR
comp=Z,1µm,20.0s
BFO Black Forest 147.03 358 *e*PKPdf **PKPdf 06 33 13.1 -0.7**
BFO *e*PKPbc **PKPbc 06 33 16.3 +0.5**
BFO LR LR
comp=Z,1µm,20.0s
BIDA Albida 147.03 312 *e*P **PKPab 06 33 17.1 -0.7**
BIDA Albida 147.03 312 *e*P **PKPab 06 33 17.1 -0.7**
SNR=46
PRD Provadia 147.07 332 P **PKPbc 06 33 16.0 0.0**
GZR Gura Zlata 147.11 339 ⇓*i*P **PKPdf 06 33 13.7 -0.3**
MDUB Mudurnu 147.13 325 *e*P **PKPab 06 33 17.7 -0.3**
SFTF Sexfontaines 147.15 2 *e*PKIKP **PKPdf 06 33 14.5 +0.6**
SFTF Sexfontaines 147.15 2 *e*PKPdf **PKPdf 06 33 14.5 +0.6**
THEF They Montfort 147.15 1 PKP **PKPbc 06 33 16.2 +0.1**
ECH Echery 147.17 360 *e*PKP2 **PKPbc 06 33 16.9 +0.7**
ECH MLR MLR
comp=Z,2µm,19.0s
ECH Echery 147.17 360 PKP **PKPbc 06 33 16.2 0.0**
ECH Echery 147.17 360 *e*PKPbc **PKPbc 06 33 16.9 +0.7**
ECH LR LR
comp=Z,2µm,19.0s
SULT Sultanhani-AKS 147.20 319 *e*P **PKPbc 06 33 17.4 +0.7**
HAWK Haweek 147.21 311 *e*P **PKPab 06 33 19.2 +0.7**
HAWK Haweek 147.21 311 *e*P **PKPab 06 33 19.2 +0.7**
SNR=46
BZS Buzias 147.30 341 ⇑PKIKP **PKPdf 06 33 14.8 +0.6**
BZS Buzias 147.30 341 ⇑*i*P **PKPdf 06 33 14.8 +0.6**
ARSA Arzberg 147.32 349 ⇑*i*PKPdf **PKPdf 06 33 14.4 +0.1**
comp=Z,466nm,2.3s,SNR=22
PKS9 Tamasi 147.36 345 ⇑*e* **PKPab 06 33 18.1 -0.4**
HAU Haudompre 147.38 1 *e*PKIKP **PKPdf 06 33 15.0 +0.6**
HAU *e*R
comp=Z,2µm,19.5s
HAU Haudompre 147.38 1 *e*PKIKP **PKPdf 06 33 15.0 +0.6**
HAU Haudompre 147.38 1 *e*PKPdf **PKPdf 06 33 15.0 +0.6**
MARH Ras Al Marh 147.38 310 *e*P **PKPab 06 33 19.2 -0.3**
MARH Ras Al Marh 147.38 310 *e*P **PKPab 06 33 19.2 -0.3**
SNR=46
FELD Feldberg im Sc 147.49 358 PKP **PKPbc 06 33 16.9 -0.3**
MOF Molkenrain 147.53 360 PKP **PKPdf 06 33 15.1 +0.4**
GULT Gulveren 147.54 325 *e*P **PKPdf 06 33 13.9 -1.0**
HINF Hinteralfeld 147.57 360 *e*PKIKP **PKPdf 06 33 15.3 +0.6**
HINF Hinteralfeld 147.57 360 *e*PKIKP **PKPdf 06 33 15.3 +0.6**
HINF Hinteralfeld 147.57 360 *e*PKPdf **PKPdf 06 33 15.3 +0.6**
SVRH Sivrihisar-ESK 147.63 323 *e*P **PKPdf 06 33 12.9 -2.2**
HWQ Hawqa 147.66 311 *e*P **PKPdf 06 33 15.5 +0.2**
SZH Strazhica 147.67 333 P **PKPbc 06 33 17.8 +0.1**
HRT Hereke 147.72 326 *e*P **PKPbc 06 33 19.0 +1.0**
RETA Reutte 147.73 355 ⇑*i*PKPdf **PKPdf 06 33 15.3 +0.3**
comp=Z,472nm,2.2s,SNR=21
KLYT Kilyos 147.74 328 *e*P **PKPbc 06 33 18.9 +1.0**
KIZK Mersin 147.78 316 *i*P **PKPdf 06 33 15.5 +0.1**
KIZT Kizilcal 147.78 322 *e*P **PKPab 06 33 19.9 -0.8**
WATA Walderalm 147.80 354 ⇓*i*PKPbc **PKPdf 06 33 16.3 +1.1**
comp=Z,156nm,1.6s
BEHE Becsehely 147.81 347 ⇑*e*PKPdf **PKPdf 06 33 15.6 +0.5**
MOTA Moosalm 147.84 354 ⇓*i*PKPbc **PKPdf 06 33 15.9 +0.6**
comp=Z,119nm,1.2s,SNR=19
KBA Koelnbreinsper 147.84 352 *i*PKPdf **PKPdf 06 33 14.9 -0.5**
comp=Z,548nm,2.8s,SNR=24
ISK Istanbul-Kandi 147.87 327 P **PKPdf 06 33 15.4 +0.1**
ISK Istanbul-Kandi 147.87 327 *e*P **PKPdf 06 33 13.9 -1.4**
BGKT Bogazkoy 147.93 328 *e*P **PKPbc 06 33 19.5 +1.1**
BORA Eskisehir 147.95 324 *i*P **PKPdf 06 33 16.1 +0.5**
SOKA Soboth 147.96 349 ⇑*i*PKPdf **PKPdf 06 33 15.2 -0.2**
comp=Z,320nm,1.9s,SNR=40
ADVT Abdulvahap 147.96 326 *e*P **PKPbc 06 33 19.5 +1.0**
CTYL Yal??k??y-??at 147.96 329 *e*P **PKPdf 06 33 16.9 +1.4**
SEYT Eskypehyr 147.97 324 *i*P **PKPdf 06 33 16.3 +0.6**
PERS Pernice 147.99 349 *i*PKPdf **PKPdf 06 33 15.9 +0.4**
BUY Buyukada 147.99 327 *i*P **PKPdf 06 33 15.3 -0.2**
DAVA Damuels 148.00 356 ⇓*i*PKPdf **PKPdf 06 33 15.8 +0.3**
comp=Z,634nm,2.0s,SNR=34
JMB Yambol 148.02 332 P **PKPdf 06 33 15.5 0.0**
JMB Yambol 148.02 332 *e*P **PKPab 06 33 20.1 -1.1**
JMB Yambol 148.02 332 P **PKPbc 06 33 19.9 +1.3**
LOR Lormes 148.02 4 *e*PKIKP **PKPdf 06 33 16.2 +0.8**
LOR *e*R
comp=Z,3µm,20.0s
LOR Lormes 148.02 4 *e*PKPdf **PKPdf 06 33 16.2 +0.8**
CTKS Kestanelik-??a 148.03 328 *e*P **PKPbc 06 33 18.4 -0.3**
LOMF Lomont 148.03 360 PKP **PKPdf 06 33 16.4 +0.9**
BHL Bhannes 148.05 311 *e*P **PKPdf 06 33 16.4 +0.4**
CAVI Cavuskoy 148.07 325 *e*P **PKPbc 06 33 20.1 +1.2**
KONT Konya--Tatoy 148.08 320 *e*P **PKPbc 06 33 19.8 +0.8**
LCHF La Chataignera 148.09 10 PKP **PKPdf 06 33 15.1 -0.4**
RCY Rachaya 148.10 310 *e*P **PKPdf 06 33 16.8 +0.6**
ELBA Catalca 148.13 328 *i*P **PKPdf 06 33 15.4 -0.4**
SLVT Silivri 148.18 329 *e*P **PKPbc 06 33 18.4 -0.8**
FETA Feichten 148.19 355 ⇑*i*PKPdf **PKPdf 06 33 16.3 +0.3**
comp=Z,549nm,2.9s,SNR=28
SSF Saint Saulge 148.21 4 *e*PKIKP **PKPdf 06 33 16.4 +0.7**
SSF Saint Saulge 148.21 4 *e*PKIKP **PKPdf 06 33 16.4 +0.7**
SSF Saint Saulge 148.21 4 *e*PKPdf **PKPdf 06 33 16.4 +0.7**
OBKA Obir 148.21 350 ⇑*i*PKPdf **PKPdf 06 33 14.6 -1.2**
comp=Z,445nm,3.3s,SNR=11
FURI Furi 148.21 262 P **PKPdf 06 33 17.6 +0.5**
PHSR Pinarhisar 148.22 330 *e*P **PKPbc 06 33 18.4 -0.9**
IKL Isikli 148.22 316 *e*P **PKPbc 06 33 20.2 +0.8**
MYKA Terra Mystica 148.24 351 ⇑*i*PKPdf **PKPdf 06 33 15.3 -0.6**
comp=Z,246nm,1.9s,SNR=17
GEMT Gemlik 148.25 326 *e*P **PKPbc 06 33 19.3 0.0**
ABTA Abfaltersbach 148.28 353 ⇑*i*PKPdf **PKPdf 06 33 15.9 0.0**
comp=Z,448nm,2.2s,SNR=39
EREN Erenkoy 148.28 314 *e*P **PKPbc 06 33 20.9 +1.3**
ARMT Armutlu 148.33 327 *e*P **PKPbc 06 33 20.4 +0.9**
EDRB Edirne 148.43 331 P **PKPdf 06 33 16.3 +0.1**
EDRB Edirne 148.43 331 *e*P **PKPdf 06 33 15.4 -0.8**
BOLV Bolvadin 148.44 322 *i*P **PKPdf 06 33 16.5 -0.1**
AVF Avril sur Loir 148.46 5 *e*PKIKP **PKPdf 06 33 16.4 +0.3**
AVF Avril sur Loir 148.46 5 *e*PKIKP **PKPdf 06 33 16.4 +0.3**
AVF Avril sur Loir 148.46 5 *e*PKPdf **PKPdf 06 33 16.4 +0.3**
MDNY Mudanya-Bursa 148.46 327 *e*P **PKPdf 06 33 16.4 +0.1**
ULDT Uludag 148.49 326 *i*P **PKPdf 06 33 17.2 +0.5**
MPEP Malo Peshtene 148.50 336 P **PKPdf 06 33 17.5 +1.2**
ERMK Ermenek 148.50 317 *i*P **PKPdf 06 33 16.8 0.0**
HDMB Hadim 148.59 318 *e*P **PKPdf 06 33 16.9 0.0**
SMF Signal de Mont 148.64 4 *e*PKIKP **PKPdf 06 33 16.7 +0.2**
SMF Signal de Mont 148.64 4 *e*PKIKP **PKPdf 06 33 16.7 +0.2**
SMF Signal de Mont 148.64 4 *e*PKPdf **PKPdf 06 33 16.7 +0.2**
PHNC Paralimni 148.66 314 P **PKPbc 06 33 20.5 0.0**
comp=Z,1.5nm,1.0s
LJU Ljubljana 148.66 350 *e*PKPdf **PKPdf 06 33 14.5 -2.0**
CABF La Chapelle 148.77 1 *e*PKIKP **PKPdf 06 33 18.0 +1.2**
CABF La Chapelle 148.77 1 *e*PKIKP **PKPdf 06 33 18.0 +1.2**
CABF La Chapelle 148.77 1 *e*PKPdf **PKPdf 06 33 18.0 +1.2**
VOY Vojsko 148.78 350 *e*PKPdf **PKPdf 06 33 17.4 +0.6**
VOY *e*PKPbc **PKPbc 06 33 20.3 -0.3**
VOY *e* 06 33 28.3
VOY *e* 06 33 31.7
KCTX Karacabey (Bur 148.82 327 *e*P **PKPdf 06 33 15.4 -1.6**
ASCN Ascension 148.82 136 PFAKE 06 33 30.0 +4.7
ASCN LR LR
comp=Z,1µm,19.0s
TUE Stuetta 148.84 357 *e*PKPdf **PKPdf 06 33 17.0 0.0**
TUE *e*PKPbc **PKPbc 06 33 21.3 +0.

BOJS	**Bojanci**	**149.05**	**348**	*i* PKPdf	**PKPdf**	**06 33 17.6**	**+0.5**
BOJS				*i* PKPbc	**PKPbc**	**06 33 21.8**	**+0.6**
SART	**Tekirdag**	**149.10**	**329**	*i* P	**PKPdf**	**06 33 17.0**	**-0.4**
RKY	**Sarkoy-Tekirda**	**149.11**	**329**	*e*P	**PKPbc**	**06 33 19.8**	**-1.8**
TRI	**Trieste**	**149.12**	**350**	*e*PKIKP	**PKPdf**	**06 33 17.2**	**0.0**
TRI				*e*		06 33 26.3	
TRI	**Trieste**	**149.12**	**350**	*e*PKPdf	**PKPdf**	**06 33 17.2**	**0.0**
TRI				*e*PKPbc	**PKPbc**	**06 33 21.4**	**+0.1**
TRI				*e*PKPab	**PKPab**	**06 33 26.3**	**+0.7**
MAMC	**Mammari**	**149.13**	**315**	P	**PKPbc**	**06 33 21.3**	**-0.5**
GAZI	**Gazipasa**	**149.13**	**317**	*i* P	**PKPdf**	**06 33 16.6**	**-1.0**
PLD	**Plovdiv**	**149.14**	**334**	P	**PKPbc**	**06 33 21.3**	**-0.2**
PLD	**Plovdiv**	**149.14**	**334**	*e*P	**PKPbc**	**06 33 22.3**	**+0.8**
PLD	**Plovdiv**	**149.14**	**334**	P	**PKPbc**	**06 33 21.4**	**-0.1**
CSS	**Prodhromos**	**149.17**	**314**	P	**PKPbc**	**06 33 20.7**	**-1.2**
	comp=Z,1.4nm,0.8s						
CSS	**Prodhromos**	**149.17**	**314**	P	**PKPdf**	**06 33 17.6**	**-0.1**
CSS	**Prodhromos**	**149.17**	**314**	*e*P	**PKPdf**	**06 33 18.1**	**+0.5**
CSS	**Prodhromos**	**149.17**	**314**	*e*PKPdf	**PKPdf**	**06 33 17.6**	**-0.1**
CSS				*e*PKPbc	**PKPbc**	**06 33 22.2**	**+0.4**
CSS				*e*PKPab	**PKPab**	**06 33 27.2**	**+1.0**
CSS				LR	LR		
	comp=Z,226nm,22.0s						
DIVS	**Divibare**	**149.17**	**341**	P	**PKPdf**	**06 33 17.7**	**+0.2**
AGO	**Saint Agoulin**	**149.18**	**5**	PKP	**PKPbc**	**06 33 21.9**	**+0.3**
KDZ	**Kurdzhali**	**149.19**	**332**	P	**PKPbc**	**06 33 21.4**	**-0.3**
DURS	**Dursunbey**	**149.23**	**326**	*i* P	**PKPdf**	**06 33 17.2**	**-0.5**
KRBG	**Karabiga-Canak**	**149.27**	**328**	*e*P	**PKPbc**	**06 33 22.8**	**+0.9**
ISP	**Isparta**	**149.28**	**321**	P	**PKPbc**	**06 33 22.3**	**+0.1**
ISP	**Isparta**	**149.28**	**321**	*e*PKHKP	**PKPdf**	**06 33 17.2**	**-0.7**
ISP				*e*		06 33 27.4	
ISP				MLR	MLR		
	comp=Z,1µm,19.0s						
ISP	**Isparta**	**149.28**	**321**	⇑PKHKP	**PKPdf**	**06 33 17.4**	**-0.5**
ISP	**Isparta**	**149.28**	**321**	*e*P	**PKPbc**	**06 33 21.8**	**-0.4**
ISP	**Isparta**	**149.28**	**321**	⇑*i*P	**PKPdf**	**06 33 17.4**	**-0.5**
ISP	**Isparta**	**149.28**	**321**	*e*PKPdf	**PKPdf**	**06 33 17.2**	**-0.7**
ISP				*e*PKPbc	**PKPbc**	**06 33 21.8**	**-0.4**
ISP				*e*PKPab	**PKPab**	**06 33 27.4**	**+0.7**
ISP				LR	LR		
	comp=Z,1µm,19.0s						
PLDF	**La Plantade**	**149.30**	**4**	PKP	**PKPbc**	**06 33 23.1**	**+1.2**
GONE	**Gonen-Balikesi**	**149.33**	**328**	*e*P	**PKPdf**	**06 33 19.8**	**+2.1**
VTS	**Vitosha**	**149.35**	**336**	P	**PKPdf**	**06 33 17.6**	**-0.3**
VTS	**Vitosha**	**149.35**	**336**	⇑PKIKP	**PKPdf**	**06 33 18.0**	**+0.1**
VTS	**Vitosha**	**149.35**	**336**	*e*P	**PKPdf**	**06 33 18.2**	**+0.3**
VTS	**Vitosha**	**149.35**	**336**	⇑*i*P	**PKPdf**	**06 33 18.0**	**+0.1**
VTS	**Vitosha**	**149.35**	**336**	P	**PKPbc**	**06 33 22.2**	**-0.1**
LEF	**Lefka**	**149.38**	**315**	*e*P	**PKPbc**	**06 33 23.2**	**+0.9**
PYM	**Petit Puy Mans**	**149.47**	**5**	PKP	**PKPbc**	**06 33 23.2**	**+0.8**
BCK	**Bucak**	**149.47**	**321**	*e*P	**PKPbc**	**06 33 20.8**	**-1.8**
RZN	**Rozhen**	**149.47**	**333**	P	**PKPbc**	**06 33 22.4**	**-0.2**
ALN	**Alexandroupoli**	**149.50**	**331**	P	**PKPdf**	**06 33 17.9**	**0.0**
ALN	**Alexandroupoli**	**149.50**	**331**	*e*P	**PKPbc**	**06 33 20.3**	**-2.2**
ALN	**Alexandroupoli**	**149.50**	**331**	*e*P	**PKPdf**	**06 33 18.0**	**0.0**
DEMI	**Demirci**	**149.50**	**325**	*i* P	**PKPdf**	**06 33 17.9**	**-0.3**
BALB	**Balikesir**	**149.52**	**327**	*e*P	**PKPbc**	**06 33 23.4**	**+0.9**
KHAL	**Karahalli**	**149.53**	**323**	*i* P	**PKPdf**	**06 33 18.9**	**+0.6**
RDO	**Rodhopi**	**149.54**	**331**	P	**PKPdf**	**06 33 17.8**	**-0.2**
RDO	**Rodhopi**	**149.54**	**331**	*e*P	**PKPdf**	**06 33 18.5**	**+0.5**
LPK	**Lapseki**	**149.55**	**329**	*e*P	**PKPbc**	**06 33 23.6**	**+0.9**
ALFC	**Alevga**	**149.56**	**315**	P	**PKPbc**	**06 33 22.6**	**-0.3**
	comp=Z,1.5nm,0.8s						
BALY	**Balya**	**149.59**	**327**	*i* P	**PKPdf**	**06 33 16.2**	**-2.1**
SZAC	**Souni-Zanaja**	**149.59**	**314**	P	**PKPbc**	**06 33 22.0**	**-0.9**
	comp=Z,2.6nm,1.0s						
RJF	**Les Rejaudoux**	**149.75**	**7**	*e*PKIKP	**PKPdf**	**06 33 18.6**	**+0.3**
RJF				*e*R			
	comp=Z,3µm,18.0s						
RJF	**Les Rejaudoux**	**149.75**	**7**	*e*PKPdf	**PKPdf**	**06 33 18.6**	**+0.3**
FRNF	**Fournols**	**149.79**	**6**	PKP	**PKPdf**	**06 33 20.1**	**+1.7**
AKMC	**Akamas**	**149.81**	**315**	P	**PKPbc**	**06 33 22.8**	**-0.7**
LPL	**La Plagne**	**149.87**	**0**	*e*PKIKP	**PKPdf**	**06 33 19.9**	**+1.2**
LPL	**La Plagne**	**149.87**	**0**	*e*PKPdf	**PKPdf**	**06 33 19.9**	**+1.2**
PPCY	**Paphos**	**149.88**	**315**	P	**PKPbc**	**06 33 23.0**	**-0.6**
LPG	**La Plagne**	**149.89**	**0**	*e*PKIKP	**PKPdf**	**06 33 20.2**	**+1.3**
LPG	**La Plagne**	**149.89**	**0**	*e*PKPdf	**PKPdf**	**06 33 20.2**	**+1.3**
KULA	**Kula-Manisa**	**149.90**	**324**	P	**PKPdf**	**06 33 18.6**	**-0.2**
KULA	**Kula-Manisa**	**149.90**	**324**	*e*P	**PKPbc**	**06 33 24.8**	**+1.1**
KORT	**Korkueli**	**149.91**	**320**	*i* P	**PKPdf**	**06 33 18.7**	**-0.2**
MMB	**Musomiste**	**149.98**	**334**	P	**PKPbc**	**06 33 24.0**	**+0.3**
LBL	**Lubilhac**	**150.00**	**5**	PKP	**PKPbc**	**06 33 25.4**	**+1.7**
KKB	**Krupnik**	**150.01**	**335**	P	**PKPbc**	**06 33 25.5**	**+1.8**
SSB	**Saint Sauveur**	**150.05**	**3**	PKP	**PKPdf**	**06 33 20.4**	**+1.6**
SSB	**Saint Sauveur**	**150.05**	**3**	*e*PKPdf	**PKPdf**	**06 33 19.5**	**+0.7**
SSB				*e*PKPbc	**PKPbc**	**06 33 24.1**	**+0.4**
SSB				LR	LR		
	comp=Z,3µm,20.0s						
PLE	**Pljevlja**	**150.05**	**341**	*e*PKP	**PKPdf**	**06 33 18.9**	**-0.1**
SMTH	**Samothraki Isl**	**150.07**	**331**	P	**PKPdf**	**06 33 18.1**	**-0.8**
SMTH	**Samothraki Isl**	**150.07**	**331**	*e*P	**PKPdf**	**06 33 19.0**	**+0.1**
AKHS	**Akhisar**	**150.11**	**326**	*i* P	**PKPdf**	**06 33 18.9**	**-0.2**
AKS	**Akhisar**	**150.11**	**326**	*e*P	**PKPbc**	**06 33 25.2**	**+1.2**
NVR	**Nevrokopi**	**150.12**	**334**	P	**PKPdf**	**06 33 18.1**	**-0.9**
NVR	**Nevrokopi**	**150.12**	**334**	*e*P	**PKPdf**	**06 33 19.0**	**0.0**
KAVA	**Kavala**	**150.12**	**332**	P	**PKPdf**	**06 33 18.6**	**-0.4**
GDM	**Grand'Maison**	**150.18**	**1**	PKP	**PKPdf**	**06 33 19.6**	**+0.4**
CAF	**Calviac**	**150.19**	**7**	*e*PKIKP	**PKPdf**	**06 33 19.8**	**+0.8**
CAF	**Calviac**	**150.19**	**7**	*e*PKPdf	**PKPdf**	**06 33 19.8**	**+0.8**
GOLH	**Golhisar**	**150.24**	**322**	*i* P	**PKPdf**	**06 33 19.9**	**+0.5**
DNZL	**Cakiroluk**	**150.24**	**323**	*i* P	**PKPdf**	**06 33 20.0**	**+0.5**
IVA	**Berane**	**150.31**	**340**	⇑*i*PKP	**PKPdf**	**06 33 18.7**	**-0.6**
BOZC	**Bozcaada**	**150.31**	**329**	*i* P	**PKPdf**	**06 33 19.5**	**+0.2**
UPM	**Unac-Piva**	**150.31**	**342**	⇑*i*PKP	**PKPdf**	**06 33 18.7**	**-0.8**
BNI	**Bardonecchia**	**150.33**	**0**	*e*PKIKP	**PKPdf**	**06 33 19.4**	**0.0**
BNI				MLR	MLR		
	comp=Z,2µm,22.0s						
BNI	**Bardonecchia**	**150.33**	**0**	*e*PKPdf	**PKPdf**	**06 33 19.4**	**0.0**
BNI				LR	LR		
	comp=Z,2µm,22.0s						
ELL	**Elmali**	**150.35**	**320**	*e*P	**PKPdf**	**06 33 21.8**	**+2.2**
PGAV	**Gavieira, Arco**	**150.41**	**23**	*e*PKPdf	**PKPdf**	**06 33 20.5**	**+1.0**
PGAV	**Gavieira, Arco**	**150.41**	**23**	*e*SS	SS	06 56 24.4	+6.9
PGAV	**Gavieira, Arco**	**150.41**	**23**	*e*LQ	LQ	07 15 39.6	
PGAV				*e*LR	LR	07 23 26.3	
	comp=Z,2µm,20.0s						
SRS	**Serrai**	**150.43**	**334**	P	**PKPdf**	**06 33 20.2**	**+0.7**
ORIF	**Oris-en-Rattie**	**150.46**	**1**	*e*PKIKP	**PKPdf**	**06 33 20.4**	**+0.9**
ORIF				*e*R			
	comp=Z,2µm,20.2s						
ORIF	**Oris-en-Rattie**	**150.46**	**1**	*e*PKIKP	**PKPdf**	**06 33 20.4**	**+0.9**
ORIF	**Oris-en-Rattie**	**150.46**	**1**	*e*PKPdf	**PKPdf**	**06 33 20.4**	**+0.9**
VIVF	**Saint-Julien-l**	**150.47**	**3**	*e*PKIKP	**PKPdf**	**06 33 20.4**	**+0.9**
VIVF	**Saint-Julien-l**	**150.47**	**3**	*e*PKIKP	**PKPdf**	**06 33 20.4**	**+0.9**
VIVF	**Saint-Julien-l**	**150.47**	**3**	*e*PKPdf	**PKPdf**	**06 33 20.4**	**+0.9**
PVY	**Plav**	**150.53**	**340**	⇑*i*PKP	**PKPdf**	**06 33 19.3**	**-0.4**
SKO	**Skopje**	**150.56**	**337**	P	**PKPbc**	**06 33 26.2**	**+1.2**
SKO	**Skopje**	**150.56**	**337**	*i* PKP	**PKPdf**	**06 33 20.0**	**+0.3**
OG22	**Abries**	**150.56**	**360**	PKP	**PKPdf**	**06 33 20.9**	**+1.1**
NKY	**Niksic**	**150.64**	**342**	⇑*i*PKP	**PKPdf**	**06 33 19.6**	**-0.3**
PRK	**Paraskevi**	**150.65**	**328**	P	**PKPbc**	**06 33 25.9**	**+0.6**
PRK	**Paraskevi**	**150.65**	**328**	*e*P	**PKPdf**	**06 33 20.5**	**+0.7**
MBDF	**Montbardon**	**150.66**	**0**	*e*PKIKP	**PKPdf**	**06 33 20.8**	**+0.9**
	comp=Z,78nm,1.7s						
MBDF	**Montbardon**	**150.66**	**0**	*e*PKIKP	**PKPdf**	**06 33 20.8**	**+0.9**
MBDF	**Montbardon**	**150.66**	**0**	*e*PKPdf	**PKPdf**	**06 33 20.8**	**+0.9**
VAY	**Valandovo**	**150.68**	**335**	P	**PKPbc**	**06 33 24.2**	**-1.1**
VAY	**Valandovo**	**150.68**	**335**	*i* PKP	**PKPdf**	**06 33 16.7**	**-3.1**
LIA	**Limnos Island**	**150.69**	**330**	P	**PKPbc**	**06 33 26.5**	**+1.1**
LIA	**Limnos Island**	**150.69**	**330**	*e*P	**PKPdf**	**06 33 20.5**	**+0.6**
NKME	**Niksic**	**150.70**	**342**	⇑*i*PKP	**PKPdf**	**06 33 19.6**	**-0.3**
BRY	**Bratogost**	**150.70**	**342**	⇑*i*PKP	**PKPdf**	**06 33 19.6**	**-0.4**
PCAB	**Cabril**	**150.72**	**23**	*e*PKPdf	**PKPbc**	**06 33 25.6**	**+0.1**
IZM	**Izmir**	**150.75**	**326**	*e*P	**PKPbc**	**06 33 26.5**	**+0.9**
SOH	**Sokhos**	**150.77**	**334**	P	**PKPbc**	**06 33 24.3**	**-1.3**
SOH	**Sokhos**	**150.77**	**334**	*e*P	**PKPbc**	**06 33 24.5**	**-1.1**
OG26	**St.-Nazaire-De**	**150.78**	**2**	PKP	**PKPdf**	**06 33 16.7**	**-3.3**
AKAS	**Kas**	**150.87**	**320**	*i* P	**PKPdf**	**06 33 19.5**	**-1.0**
OUR	**Ouranopolis**	**150.90**	**332**	P	**PKPdf**	**06 33 19.3**	**-0.9**
OUR	**Ouranopolis**	**150.90**	**332**	*e*P	**PKPdf**	**06 33 22.6**	**+2.4**
SURF	**Saint Ours**	**150.91**	**360**	PKP	**PKPdf**	**06 33 20.9**	**+0.5**
PDG	**Podgorica**	**150.91**	**341**	P	**PKPdf**	**06 33 21.4**	**+1.3**
TTG	**Podgorica**	**150.91**	**341**	⇑*i*PKP	**PKPdf**	**06 33 20.3**	**+0.2**
FETY	**Fethiye**	**150.93**	**321**	*e*P	**PKPbc**	**06 33 27.1**	**+1.0**
KSL	**Kastellorizon**	**150.93**	**320**	*e*P	**PKPbc**	**06 33 25.5**	**-0.6**
AYDN	**Tasoluk**	**150.94**	**324**	*i* P	**PKPdf**	**06 33 20.7**	**+0.2**
TURN	**Turunc**	**151.06**	**322**	*i* P	**PKPdf**	**06 33 21.4**	**+0.9**
DALY	**Dalyan (Mu¨la**	**151.06**	**322**	*e*P	**PKPbc**	**06 33 24.8**	**-1.6**
VLC	**Villacollemand**	**151.06**	**355**	*e*PKPdf	**PKPdf**	**06 33 19.5**	**-0.9**
VLC				*e*PKPbc	**PKPbc**	**06 33 25.0**	**-1.2**
VLC				*e*PKPab	**PKPab**	**06 33 34.2**	**+0.5**
VLC				LR	LR		
	comp=Z,2µm,21.0s						
HORT	**Hortiatis**	**151.07**	**334**	P	**PKPdf**	**06 33 20.9**	**+0.3**
YER	**Yerkesik**	**151.07**	**323**	*e*P	**PKPbc**	**06 33 27.5**	**+1.0**
THE	**Thessaloniki**	**151.09**	**334**	P	**PKPdf**	**06 33 20.9**	**+0.4**
POLO	**Lamas de Olo**	**151.10**	**23**	*e*PKPdf	**PKPdf**	**06 33 21.4**	**+0.8**
PLG	**Polygyros**	**151.10**	**333**	P	**PKPbc**	**06 33 25.9**	**-0.5**
PLG	**Polygyros**	**151.10**	**333**	*e*P	**PKPbc**	**06 33 25.5**	**-0.9**
PBRG	**Braganca**	**151.10**	**21**	*e*PKPdf	**PKPdf**	**06 33 21.1**	**+0.5**
HCY	**Herceg Novi**	**151.13**	**342**	*e*PKP	**PKPdf**	**06 33 20.3**	**-0.2**
BUM	**Brajici-Budva**	**151.14**	**341**	⇑*i*PKP	**PKPdf**	**06 33 20.4**	**-0.2**
DRME	**Dracevica, Mon**	**151.15**	**341**	⇑*i*PKP	**PKPdf**	**06 33 20.4**	**-0.1**
PHP	**Peshkopia**	**151.17**	**339**	P	**PKPdf**	**06 33 19.9**	**-0.8**
LASF	**Ste Croix**	**151.20**	**4**	*e*PKIKP	**PKPdf**	**06 33 21.6**	**+1.0**
	comp=Z,102nm,1.6s						
LASF	**Ste Croix**	**151.20**	**4**	*e*PKPdf	**PKPdf**	**06 33 21.6**	**+1.0**
PVRL	**Vila Real**	**151.21**	**23**	*e*PKPdf	**PKPbc**	**06 33 26.6**	**0.0**
GCAM	**G?zelcaml?**	**151.27**	**325**	*i* P	**PKPdf**	**06 33 20.9**	**+0.1**
ULC	**Ulcinj**	**151.33**	**340**	*e*PKP	**PKPdf**	**06 33 20.6**	**-0.3**
PAIG	**Paliouri**	**151.36**	**332**	P	**PKPdf**	**06 33 21.0**	**+0.1**
PAIG	**Paliouri**	**151.36**	**332**	*e*P	**PKPdf**	**06 33 19.0**	**-1.9**
TOUF	**Mont Tournerai**	**151.37**	**359**	PKP	**PKPbc**	**06 33 27.7**	**+0.6**
AUTN	**L'Aution**	**151.38**	**359**	PKP	**PKPbc**	**06 33 26.6**	**-0.6**
SMRF	**Simiane la Rot**	**151.39**	**2**	*e*PKPdf	**PKPdf**	**06 33 22.2**	**+1.3**
	comp=Z,99nm,1.7s						
SMRF	**Simiane la Rot**	**151.39**	**2**	*e*PKPdf	**PKPdf**	**06 33 22.2**	**+1.3**
SAOF	**Saorge**	**151.39**	**359**	PKP	**PKPbc**	**06 33 26.8**	**-0.2**
CHOS	**Chios island**	**151.41**	**327**	P	**PKPdf**	**06 33 20.6**	**-0.6**
CHOS	**Chios island**	**151.41**	**327**	*e*P	**PKPbc**	**06 33 27.6**	**+0.4**
CHOS	**Chios island**	**151.41**	**327**	*e*P	**PKPdf**	**06 33 21.0**	**-0.2**
BIA	**Bitola**	**151.43**	**337**	*e*PKP	**PKPdf**	**06 33 21.3**	**+0.2**
SJPF	**Ste Jean**	**151.43**	**12**	*e*PKIKP	**PKPdf**	**06 33 21.9**	**+0.9**
SJPF	**Ste Jean**	**151.43**	**12**	*e*PKIKP	**PKPdf**	**06 33 21.9**	**+0.9**
SJPF	**Ste Jean**	**151.43**	**12**	*e*PKPdf	**PKPdf**	**06 33 21.9**	**+0.9**
SMG	**Samos**	**151.48**	**325**	P	**PKPbc**	**06 33 26.5**	**-0.8**
SMG	**Samos**	**151.48**	**325**	*e*P	**PKPdf**	**06 33 22.0**	**+0.8**
MVIF	**Mont Vial**	**151.49**	**359**	PKP	**PKPbc**	**06 33 28.1**	**+0.8**
LUCF	**Luceram**	**151.49**	**359**	PKP	**PKPbc**	**06 33 27.9**	**+0.6**
SBF	**Sospel**	**151.52**	**359**	*e*PKIKP	**PKPdf**	**06 33 21.2**	**+0.1**
SBF	**Sospel**	**151.52**	**359**	*e*PKIKP	**PKPdf**	**06 33 21.2**	**+0.1**
SBF	**Sospel**	**151.52**	**359**	*e*PKPdf	**PKPdf**	**06 33 21.2**	**+0.1**
LARF	**Larrau**	**151.55**	**12**	PKP	**PKPdf**	**06 33 22.8**	**+1.6**
MBAR	**Mbarara**	**151.55**	**238**	PFAKE		06 33 30.0	+1.6
MBAR				LR	LR		
	comp=Z,1µm,22.0s						
ATE	**Arette**	**151.56**	**12**	PKP	**PKPdf**	**06 33 22.0**	**+0.8**
MVO	**Moncorvo**	**151.56**	**22**	*e*PKPdf	**PKPdf**	**06 33 21.6**	**+0.3**
MVO	**Moncorvo**	**151.56**	**22**	*e*SS	SS	06 56 38.0	+7.8
MVO	**Moncorvo**	**151.56**	**22**	*e*LQ	LQ	07 16 04.7	
MVO				*e*LR	LR	07 24 56.7	
	comp=Z,2µm,20.0s						
BDRM	**Kayabasi**	**151.60**	**324**	*i* P	**PKPdf**	**06 33 21.0**	**-0.4**
FNA	**Florina**	**151.61**	**336**	*e*P	**PKPdf**	**06 33 20.5**	**-0.9**
PVIS	**Viseu**	**151.62**	**24**	*e*PKPdf	**PKPbc**	**06 33 27.6**	**0.0**
CALN	**Calern**	**151.63**	**360**	PKP	**PKPbc**	**06 33 28.6**	**+0.9**
REYF	**Montagne du Re**	**151.64**	**11**	PKP	**PKPdf**	**06 33 23.0**	**+1.6**
REVF	**Revere**	**151.64**	**359**	PKP	**PKPbc**	**06 33 27.7**	**+0.1**
TIR	**Tirane**	**151.67**	**339**	*e*PKIKP	**PKPdf**	**06 33 21.2**	**-0.2**
TIR				*e*		06 33 27.5	
TIR				MLR	MLR		
	comp=Z,2µm,22.0s						
TIR	**Tirane**	**151.67**	**339**	*e*P	**PKPbc**	**06 33 27.0**	**-0.6**
TIR	**Tirane**	**151.67**	**339**	*e*PKPdf	**PKPdf**	**06 33 21.2**	**-0.2**
TIR				*e*PKPbc	**PKPbc**	**06 33 27.5**	**-0.1**
TIR				LR	LR		
	comp=Z,2µm,22.0s						
BODT	**Bodrum**	**151.68**	**324**	*e*P	**PKPbc**	**06 33 25.3**	**-2.6**
LIT	**Litokhoron**	**151.74**	**334**	P	**PKPdf**	**06 33 20.7**	**-0.8**
LIT	**Litokhoron**	**151.74**	**334**	*e*P	**PKPdf**	**06 33 21.0**	**-0.5**
LABF	**Labassere**	**151.74**	**10**	PKP	**PKPdf**	**06 33 22.5**	**+1.0**
DAT	**Datca**	**151.76**	**323**	*e*P	**PKPbc**	**06 33 28.2**	**+0.1**
MTLF	**Montolieu**	**151.77**	**7**	*e*PKIKP	**PKPdf**	**06 33 22.2**	**+0.7**
MTLF	**Montolieu**	**151.77**	**7**	*e*PKIKP	**PKPdf**	**06 33 22.2**	**+0.7**
MTLF	**Montolieu**	**151.77**	**7**	*e*PKPdf	**PKPdf**	**06 33 22.2**	**+0.7**
ETSF	**Etsaut**	**151.77**	**11**	*e*PKIKP	**PKPdf**	**06 33 22.7**	**+1.1**
ETSF	**Etsaut**	**151.77**	**11**	*e*PKIKP	**PKPdf**	**06 33 22.7**	**+1.1**
ETSF	**Etsaut**	**151.77**	**11**	*e*PKPdf	**PKPdf**	**06 33 22.7**	**+1.1**
EPF	**Esparros**	**151.81**	**10**	*e*PKIKP	**PKPdf**	**06 33 22.3**	**+0.7**
EPF	**Esparros**	**151.81**	**10**	*e*PKIKP	**PKPdf**	**06 33 22.3**	**+0.7**
EPF	**Esparros**	**151.81**	**10**	*e*PKPdf	**PKPdf**	**06 33 22.3**	**+0.7**
FRF	**La Foret Royal**	**151.82**	**0**	*e*PKIKP	**PKPdf**	**06 33 22.1**	**+0.6**
FRF	**La Foret Royal**	**151.82**	**0**	*e*PKIKP	**PKPdf**	**06 33 22.1**	**+0.6**
FRF	**La Foret Royal**	**151.82**	**0**	*e*PKPdf	**PKPdf**	**06 33 22.1**	**+0.6**
KZN	**Kozani**	**151.86**	**335**	*e*P	**PKPbc**	**06 33 27.5**	**-0.7**
AOS	**Alonnisos**	**151.88**	**331**	P	**PKPdf**	**06 33 20.7**	**-1.0**
AOS	**Alonnisos**	**151.88**	**331**	*e*P	**PKPdf**	**06 33 23.7**	**+2.0**
AOS	**Alonnisos**	**151.88**	**331**	*e*P	**PKPdf**	**06 33 21.0**	**-0.7**
MLS	**Moulis**	**152.00**	**9**	PKP	**PKPdf**	**06 33 23.3**	**+1.5**
MTE	**Manteigas**	**152.03**	**24**	*e*PKPdf	**PKPdf**	**06 33 22.4**	**+0.4**
MTE	**Manteigas**	**152.03**	**24**	*e*SS	SS	06 56 36.7	+1.2
MTE	**Manteigas**	**152.03**	**24**	*e*LQ	LQ	07 16 07.0	
MTE				*e*LR	LR	07 23 51.1	
	comp=Z,2µm,20.0s						
MTE	**Manteigas**	**152.03**	**24**	*e*PKPdf	**PKPdf**	**06 33 22.2**	**+0.1**
MTE				*e*PKPbc	**PKiKP**	**06 33 28.8**	**-0.2**
MTE				*e*PKPab	**PKPab**	**06 33 38.4**	**+0.6**
MTE				LR	LR		
	comp=Z,2µm,20.0s						
XOR	**Xorichti**	**152.04**	**332**	P	**PKPdf**	**06 33 20.8**	**-1.2**
LMR	**La Mourre**	**152.05**	**0**	*e*PKIKP	**PKPdf**	**06 33 22.4**	**+0.5**
LMR	**La Mourre**	**152.05**	**0**	*e*PKIKP	**PKPdf**	**06 33 22.4**	**+0.5**
LMR	**La Mourre**	**152.05**	**0**	*e*PKPdf	**PKPdf**	**06 33 22.4**	**+0.5**
NEST	**Nestorio**	**152.06**	**336**	P	**PKPdf**	**06 33 21.7**	**-0.4**
NEO	**Neokhori**	**152.07**	**332**	P	**PKPdf**	**06 33 21.7**	**-1.0**
NEO	**Neokhori**	**152.07**	**332**	*e*P	**PKPdf**	**06 33 22.0**	**-0.1**
SKIA	**Skiathos**	**152.07**	**332**	P	**PKPdf**	**06 33 20.8**	**-1.2**
NIS1	**Nisyros Isl.**	**152.07**	**323**	P	**PKPbc**	**06 33 27.1**	**-1.6**
NIS1	**Nisyros Isl.**	**152.07**	**323**	*e*P	**PKPdf**	**06 33 23.6**	**+1.4**
NIS1	**Nisyros Isl.**	**152.07**	**323**	*e*P	**PKPbc**	**06 33 26.5**	**-2.2**
NIS2	**Nisyros Isl.**	**152.09**	**323**	P	**PKPbc**	**06 33 28.2**	**-0.6**
PMOZ	**Porto Moniz, M**	**152.09**	**47**	*e*LR	LR	07 24 14.1	
	comp=Z,1µm,20.0s						
NIS3	**Nisyros Isl.**	**152.11**	**323**	P	**PKPbc**	**06 33 28.2**	**-0.6**
LRDF	**Laroque-de-Fa**	**152.21**	**7**	PKP	**PKPdf**	**06 33 23.8**	**+1.7**
PTOM	**Tomar**	**152.34**	**26**	*e*PKPdf	**PKPdf**	**06 33 23.8**	**+1.4**
CARF	**Carcanieres**	**152.37**	**7**	PKP	**PKPdf**	**06 33 23.8**	**+1.3**
MRKA	**Markates**	**152.39**	**331**	P	**PKPdf**	**06 33 22.5**	**0.0**
THL	**Klokotos Trika**	**152.39**	**334**	P	**PKPdf**	**06 33 20.8**	**-1.7**
THL	**Klokotos Trika**	**152.39**	**334**	*e*P	**PKPdf**	**06 33 22.0**	**-0.5**
ERET	**Eretria**	**152.49**	**330**	P	**PKPdf**	**06 33 21.7**	**-1.1**
PMAFR	**Mafra**	**152.51**	**28**	*e*PKPdf	**PKPdf**	**06 33 26.1**	**+3.4**
PCBR	**Castelo Branco**	**152.54**	**24**	*e*PKPdf	**PKPdf**	**06 33 24.3**	**+1.6**
APE	**Apeiranthos**	**152.66**	**326**	P	**PKPdf**	**06 33 21.6**	**-1.4**
APE	**Apeiranthos**	**152.66**	**326**	⇑PKIKP	**PKPdf**	**06 33 21.6**	**-1.4**
APE	**Apeiranthos**	**152.66**	**326**	*e*P	**PKPdf**	**06 33 26.6**	**+3.5**
APE	**Apeiranthos**	**152.66**	**326**	*e*P	**PKPdf**	**06 33 22.0**	**-1.0**
APE	**Apeiranthos**	**152.66**	**326**	⇑*i*P	**PKPdf**	**06 33 21.6**	**-1.4**
AGG	**Agios Georgios**	**152.70**	**333**	P	**PKPdf**	**06 33 20.4**	**-2.6**
AGG	**Agios Georgios**	**152.70**	**333**	*e*P	**PKPdf**	**06 33 21.0**	**-2.0**
AXAR	**Agios Charalam**	**152.76**	**332**	P	**PKPdf**	**06 33 22.8**	**-0.3**
LIS	**Lisbon**	**152.77**	**28**	*e*P	**PKPdf**	**06 33 19.4**	**-3.7**
LIS				AMS	AMS	07 43 15.8	
	comp=Z,3µm,19.6s						
LIS	**Lisbon**	**152.77**	**28**	*e*P	**PKPdf**	**06 33 19.4**	**-3.7**
LIS	**Lisbon**	**152.77**	**28**	A	A	07 43 15.8	
	comp=Z,3µm,19.6s						
LIS	**Lisbon**	**152.77**	**28**	*e*PKIKP	**PKPdf**	**06 33 19.4**	**-3.7**
PGF	**Pioggiola**	**152.77**	**356**	*e*PKIKP	**PKPdf**	**06 33 23.2**	**+0.1**
PGF	**Pioggiola**	**152.77**	**356**	*e*PKIKP	**PKPdf**	**06 33 23.2**	**+0.1**
PGF	**Pioggiola**	**152.77**	**356**	*e*PKPdf	**PKPdf**	**06 33 23.2**	**+0.1**
PTL	**Penteli**	**152.77**	**330**	P	**PKPbc**	**06 33 29.8**	**-0.5**
PTL	**Penteli**	**152.77**	**330**	*e*P	**PKPdf**	**06 33 23.0**	**-0.1**
JAN	**Janina**	**152.78**	**336**	*e*P	**PKPbc**	**06 33 31.0**	**+0.8**
MAKR	**Makrakomi, Fth**	**152.80**	**333**	P	**PKPdf**	**06 33 22.9**	**-0.3**
KARP	**Karpathos**	**152.81**	**322**	P	**PKPdf**	**06 33 22.6**	**-0.7**
KARP	**Karpathos**	**152.81**	**322**	*e*P	**PKPdf**	**06 33 23.5**	**+0.2**
ATHU	**Athens Univers**	**152.88**	**330**	P	**PKPbc**	**06 33 29.6**

URZ				*e*S	S	06 23 30.9	-1.9
CNGZ	**Carnagh Statio**	**2.72**	**179**	PN	Pn	06 22 59.2	+0.6
CNGZ	**Carnagh Statio**	**2.72**	**179**	Pn	Pn	06 22 59.2	+0.6
ALRZ	**Allen Road**	**3.15**	**207**	Pn	Pn	06 23 05.1	+1.5
PRGZ	**Paritu Road**	**3.17**	**184**	PN	Pn	06 23 03.9	+0.1
PRGZ	**Paritu Road**	**3.17**	**184**	Pn	Pn	06 23 03.9	+0.1
RAHZ	**Arahi**	**3.27**	**195**	PN	Pn	06 23 05.6	+0.6
RAHZ	**Arahi**	**3.27**	**195**	Pn	Pn	06 23 05.5	+0.6
KNZ	**Kokohu**	**3.28**	**187**	PN	Pn	06 23 04.9	-0.1
KNZ	**Kokohu**	**3.28**	**187**	Pn	Pn	06 23 04.9	-0.1
MHGZ	**Mahia Peninsul**	**3.39**	**183**	PN	Pn	06 23 06.5	+0.1
MHGZ	**Mahia Peninsul**	**3.39**	**183**	Pn	Pn	06 23 06.5	+0.1
NMHZ	**Naumai**	**3.50**	**198**	PN	Pn	06 23 08.6	+0.7
NMHZ	**Naumai**	**3.50**	**198**	Pn	Pn	06 23 08.6	+0.8
BKZ	**Black Stump Fm**	**3.65**	**201**	PN	Pn	06 23 10.2	+0.5
BKZ				AML	AML	06 24 14.0	
BKZ				AML	AML	06 24 14.7	
BKZ	**Black Stump Fm**	**3.65**	**201**	Pn	Pn	06 23 10.2	+0.5
MCHZ	**McNeill Hill**	**3.86**	**197**	PN	Pn	06 23 12.7	+0.6
MCHZ	**McNeill Hill**	**3.86**	**197**	Pn	Pn	06 23 10.5	-1.6
TUVZ	**Tukino**	**4.03**	**209**	PN	Pn	06 23 15.1	+0.6
TUVZ	**Tukino**	**4.03**	**209**	Pn	Pn	06 23 15.1	+0.6
FWVZ	**Far West T-bar**	**4.06**	**210**	PN	Pn	06 23 15.6	+0.7
FWVZ	**Far West T-bar**	**4.06**	**210**	Pn	Pn	06 23 15.7	+0.7
WHVZ	**Whangaehu Hut**	**4.07**	**209**	⇓PN	Pn	06 23 15.6	+0.6
BHHZ	**Black Hill Sta**	**4.08**	**204**	PN	Pn	06 23 14.7	-0.2
BHHZ	**Black Hill Sta**	**4.08**	**204**	Pn	Pn	06 23 14.7	-0.2
WNVZ	**Wahianoa**	**4.11**	**209**	PN	Pn	06 23 16.1	+0.7
WNVZ	**Wahianoa**	**4.11**	**209**	Pn	Pn	06 23 16.1	+0.7
MOVZ	**Moawhango**	**4.12**	**207**	PN	Pn	06 23 15.1	-0.3
MOVZ	**Moawhango**	**4.12**	**207**	Pn	Pn	06 23 15.1	-0.3
KAHZ	**Kahuranaki**	**4.16**	**194**	PN	Pn	06 23 15.5	-0.3
KAHZ	**Kahuranaki**	**4.16**	**194**	Pn	Pn	06 23 15.5	-0.3
PXZ	**Pawanui**	**4.39**	**193**	PN	Pn	06 23 17.6	-1.1
PXZ				AML	AML	06 24 11.6	
PXZ				AML	AML	06 24 12.3	
PXZ				AML	AML	06 24 12.3	
PXZ				AML	AML	06 24 13.6	
PXZ	**Pawanui**	**4.39**	**193**	Pn	Pn	06 23 17.6	-1.1
PNHZ	**Pukenui**	**4.43**	**200**	PN	Pn	06 23 18.1	-1.2
PNHZ	**Pukenui**	**4.43**	**200**	Pn	Pn	06 23 18.1	-1.2
WPHZ	**Waipukurau**	**4.51**	**197**	PN	Pn	06 23 19.7	-0.6
WPHZ	**Waipukurau**	**4.51**	**197**	Pn	Pn	06 23 19.7	-0.6
TSZ	**Takapari Road**	**4.63**	**201**	PN	Pn	06 23 21.1	-0.7
TSZ				AML	AML	06 24 37.1	
TSZ				AML	AML	06 24 37.4	
TSZ	**Takapari Road**	**4.63**	**201**	Pn	Pn	06 23 21.1	-0.7
PRHZ	**Porangahau**	**4.66**	**195**	PN	Pn	06 23 21.1	-1.0
PRHZ	**Porangahau**	**4.66**	**195**	Pn	Pn	06 23 21.1	-1.0
DVHZ	**Dannevirke**	**4.80**	**199**	PN	Pn	06 23 22.6	-1.3
DVHZ	**Dannevirke**	**4.80**	**199**	Pn	Pn	06 23 22.6	-1.3
POWZ	**Post Office Ro**	**5.00**	**202**	Pn	Pn	06 23 25.3	-1.1
BFZ	**Birch Farm**	**5.14**	**197**	PN	Pn	06 23 26.3	-1.9
BFZ	**Birch Farm**	**5.14**	**197**	Pn	Pn	06 23 26.3	-1.9
MRZ	**Mangatainoka R**	**5.30**	**202**	PN	Pn	06 23 28.4	-1.8
MRZ				AML	AML	06 24 30.7	
MRZ				AML	AML	06 24 30.9	
MRZ	**Mangatainoka R**	**5.30**	**202**	Pn	Pn	06 23 28.4	-1.8
TIWZ	**Tintock**	**5.32**	**199**	PN	Pn	06 23 29.3	-1.2
TIWZ	**Tintock**	**5.32**	**199**	Pn	Pn	06 23 29.3	-1.2
HOWZ	**Holdsworth Sta**	**5.54**	**201**	PN	Pn	06 23 31.2	-2.1
HOWZ	**Holdsworth Sta**	**5.54**	**201**	Pn	Pn	06 23 31.2	-2.1
OGWZ	**Otaki Gorge**	**5.57**	**204**	PN	Pn	06 23 32.1	-1.6
OGWZ	**Otaki Gorge**	**5.57**	**204**	Pn	Pn	06 23 32.1	-1.6
TMWZ	**Te Maipa**	**5.63**	**198**	PN	Pn	06 23 32.6	-1.9
TMWZ	**Te Maipa**	**5.63**	**198**	Pn	Pn	06 23 32.6	-1.9
KIW	**Kapiti Island**	**5.70**	**206**	PN	Pn	06 23 33.6	-1.8
KIW	**Kapiti Island**	**5.70**	**206**	Pn	Pn	06 23 33.6	-1.8
MTW	**Mount Morrison**	**5.78**	**200**	PN	Pn	06 23 32.9	-3.5
MTW	**Mount Morrison**	**5.78**	**200**	Pn	Pn	06 23 32.9	-3.5
CAW	**Cannon Point**	**5.87**	**204**	PN	Pn	06 23 35.2	-2.3
CAW				AML	AML	06 24 54.4	
CAW	**Cannon Point**	**5.87**	**204**	Pn	Pn	06 23 35.2	-2.3
TRWZ	**Traveller**	**5.96**	**198**	PN	Pn	06 23 36.6	-2.0
TRWZ				AML	AML	06 24 46.1	
TRWZ	**Traveller**	**5.96**	**198**	Pn	Pn	06 23 36.6	-2.0
PAWZ	**Paruwai Farm**	**6.01**	**200**	PN	Pn	06 23 36.8	-2.5
PAWZ	**Paruwai Farm**	**6.01**	**200**	Pn	Pn	06 23 36.8	-2.5
DUWZ	**D'Urville Isla**	**6.04**	**212**	Pn	Pn	06 23 38.1	-1.6
MSWZ	**Moikau Station**	**6.09**	**201**	PN	Pn	06 23 38.1	-2.3
MSWZ	**Moikau Station**	**6.09**	**201**	Pn	Pn	06 23 38.1	-2.3
SNZO	**South Karori**	**6.17**	**205**	PN	Pn	06 23 39.1	-2.3
SNZO				AML	AML	06 23 43.2	
SNZO				AML	AML	06 24 50.6	
SNZO	**South Karori**	**6.17**	**205**	*e*Pn	Pn	06 23 39.1	-2.3
SNZO				*e*S	S	06 24 50.0	-2.0
BHW	**Baring Head**	**6.20**	**204**	PN	Pn	06 23 39.3	-2.4
BHW	**Baring Head**	**6.20**	**204**	Pn	Pn	06 23 39.4	-2.4
PLWZ	**Palliser**	**6.23**	**201**	PN	Pn	06 23 39.6	-2.7
PLWZ	**Palliser**	**6.23**	**201**	Pn	Pn	06 23 39.6	-2.7
TCW	**Tory Channel**	**6.24**	**208**	PN	Pn	06 23 40.1	-2.2
TCW				AML	AML	06 24 54.2	
TCW				AML	AML	06 24 54.3	
TCW	**Tory Channel**	**6.24**	**208**	Pn	Pn	06 23 40.1	-2.2
TUWZ	**Tuamarina**	**6.56**	**209**	PN	Pn	06 23 44.2	-2.2
TUWZ				AML	AML	06 25 06.0	
TUWZ				AML	AML	06 25 09.4	
TUWZ	**Tuamarina**	**6.56**	**209**	Pn	Pn	06 23 44.2	-2.2
NNZ	**Nelson**	**6.62**	**213**	Pn	Pn	06 23 33.4	-14
QRZ	**Quartz Range**	**6.72**	**220**	Pn	Pn	06 23 32.1	-16
BSWZ	**Blackbirch Sta**	**6.83**	**208**	Pn	Pn	06 23 48.2	-1.7
KHZ	**Kahutara**	**7.56**	**207**	Pn	Pn	06 23 56.6	-2.8
LTZ	**Lake Taylor**	**8.37**	**215**	Pn	Pn	06 24 07.8	-2.2
CTZ	**Chatham Island**	**8.92**	**155**	Pn	Pn	06 24 18.8	+1.8
MQZ	**McQueen's Vall**	**9.00**	**206**	Pn	Pn	06 24 14.3	-3.7
ODZ	**Otahua Downs**	**10.90**	**209**	Pn	Pn	06 24 40.2	-2.3
JCZ	**Jackson Bay**	**11.00**	**218**	Pn	Pn	06 24 42.2	-1.8

IDC 01 06:24:13.1±3.8, 15°19S×173°52W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/20, mbtmp3.8/3, MS3.6/1, Ms1 3.6/1, ms1mx3.5/25, Error ellipse: s-maj=244.9km s-min=34.6km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.12**	**53**	Pn	Pn	06 24 44.9	-5.0
	33nm,0.3s,baz=121,slow=9.8,SNR=7.5						
AFI				Sn	Sn	06 25 05.4	-12
	70nm,0.3s,baz=54,slow=19,SNR=7.2						
AFI				LR	LR	06 25 43.3	
	comp=Z,1μm,21.9s,baz=117,slow=43						
WRA	**Warramunga Arr**	**49.77**	**257**	P	P	06 33 07.6	-0.3
	0.5nm,0.8s,baz=91,slow=7.4,SNR=2.8						
ASAR	**Alice Springs**	**50.16**	**252**	P	P	06 33 09.9	-0.2
	2.9nm,0.8s,baz=87,slow=8.1,SNR=17						
PDAR	**Pinedale Array**	**82.19**	**42**	P	P	06 36 36.1	-0.2
	0.3nm,0.6s,baz=198,slow=4.2,SNR=3.5						
BRTR	**Keskin Array B**	**145.92**	**321**	PKPbc	PKPbc	06 43 54.8	-0.3
	0.9nm,0.7s,baz=99,slow=1.6,SNR=4.5						

IDC 01 06:25:14.9±2.5, 15°19S×173°05W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/21, mbtmp3.9/5, Error ellipse: s-maj=143.6km s-min=23.8km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.09**	**240**	P	P	06 33 24.8	-0.2
	1.4nm,0.6s,baz=82,slow=7.1,SNR=3.2						
WRA	**Warramunga Arr**	**50.06**	**257**	P	P	06 34 11.1	-0.8
	0.5nm,0.4s,baz=91,slow=6.6,SNR=3.4						
ASAR	**Alice Springs**	**50.28**	**252**	P	P	06 34 13.7	+0.1
	2.0nm,0.6s,baz=88,slow=8.0,SNR=12						
NVAR	**Mina Array Bea**	**74.47**	**42**	P	P	06 36 55.4	-0.1
	0.3nm,0.5s,baz=227,slow=8.5,SNR=3.0						
ILAR	**Eielson Array**	**82.87**	**11**	P	P	06 37 40.5	-0.3
	0.6nm,0.6s,baz=230,slow=6.2,SNR=9.3						
BRTR	**Keskin Array B**	**146.75**	**321**	PKPbc	PKPab	06 45 00.1	-0.5
	0.9nm,0.7s,baz=90,slow=4.3,SNR=3.6						

IDC 01 06:26:28.8±0.7, 15°18S×173°48W, h0km, mb4.0/10, mb1 4.3/10, mb1mx4.1/21, mbtmp4.0/10, Error ellipse: s-maj=33.2km s-min=18.1km az=133.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.51**	**41**	Pn	Pn	06 27 05.8	-5.2
	35nm,0.3s,baz=335,slow=18,SNR=2.6						
AFI				Sn	Sn	06 27 33.1	-9.2
	87nm,0.3s,baz=56,slow=23,SNR=9.8						

H11S2	**WAKE ISLAND Hy**	**39.27**	**329**	T	T	07 15 56.2	
	baz=152,slow=0.7,SNR=28						
H11S3	**WAKE ISLAND Hy**	**39.28**	**329**	T	T	07 15 57.1	
	baz=152,slow=0.7,SNR=25						
H11S1	**WAKE ISLAND Hy**	**39.29**	**329**	T	T	07 15 57.8	
	baz=152,slow=0.7,SNR=31						
H11N3	**WAKE ISLAND Hy**	**40.23**	**331**	T	T	07 17 07.1	
	baz=152,slow=0.7,SNR=20						
H11N1	**WAKE ISLAND Hy**	**40.23**	**331**	T	T	07 17 04.9	
	baz=152,slow=0.7,SNR=20						
H11N2	**WAKE ISLAND Hy**	**40.24**	**331**	T	T	07 17 08.5	
	baz=152,slow=0.7,SNR=19						
STKA	**Stephens Creek**	**43.77**	**240**	P	P	06 34 35.9	-0.4
	3.4nm,0.8s,baz=106,slow=10,SNR=4.3						
WRA	**Warramunga Arr**	**49.68**	**257**	P	P	06 35 22.9	0.0
	1.0nm,0.6s,baz=92,slow=7.4,SNR=6.9						
ASAR	**Alice Springs**	**49.91**	**252**	P	P	06 35 24.3	-0.4
	3.6nm,0.6s,baz=86,slow=7.9,SNR=15						
VNDA	**Vanda**	**62.96**	**186**	P	P	06 36 57.8	+1.0
	0.6nm,0.7s,baz=17,slow=8.1,SNR=3.7						
QSPA	**South Pole Qui**	**74.24**	**180**	P	P	06 38 06.9	-0.6
	1.7nm,0.7s,baz=80,slow=1.7,SNR=13						
NVAR	**Mina Array Bea**	**74.68**	**42**	P	P	06 38 10.7	0.0
	1.4nm,0.6s,baz=226,slow=9.7,SNR=13						
TXAR	**Lajitas Array**	**80.90**	**56**	P	P	06 38 45.9	+0.5
	0.3nm,0.6s						
PDAR	**Pinedale Array**	**82.62**	**42**	P	P	06 38 53.8	-0.5
	0.6nm,0.7s,baz=230,slow=2.9,SNR=5.2						
ILAR	**Eielson Array**	**82.86**	**11**	P	P	06 38 54.7	-0.1
	0.9nm,0.6s,baz=230,slow=6.2,SNR=17						
MAW	**Mawson**	**87.38**	**199**	P	P	06 39 17.7	+0.2
	2.1nm,0.9s,baz=63,slow=8.3,SNR=4.5						
BRTR	**Keskin Array B**	**146.42**	**321**	PKPbc	PKPbc	06 46 12.7	+0.4
	1.8nm,0.7s,baz=83,slow=0.5,SNR=7.9						
GERES	**GERESS Array B**	**146.53**	**351**	PKPbc	PKPdf	06 46 10.6	-0.3
	0.7nm,0.7s,baz=336,slow=1.6,SNR=3.9						

*IDC **01** 06:31:44.0±0.5, 15°24S×173°40W, h0km, mb4.3/16, mb1 4.5/16, mb1mx4.4/24, mbtmp4.3/16, Error ellipse: s-maj=23.2km s-min=13.7km az=122.0*
*NEIC **01** 06:31:45.2±0.4, 15°23S×173°38W, h10km, mb4.9/5, Error ellipse: s-maj=15.6km s-min=8.5km az=133.0*
*ISCJB **01** 06:31:46.8±0.5, 15°23S±0°10×173°48W±0°10, h30km, mb4.4/18, Error ellipse: s-maj=17.2km s-min=9.3km az=135.7*
*AUST **01** 06:31:49.3±0.0, 14°86S×172°72W, h81km, Error ellipse: s-maj=2.8km s-min=1.4km az=330.0*

ISC 01 06:31:48.5±0.5, 15°25S±0°1×173°4W±0°1, h30km, n67, σ0°88/58, mb4.6/18, 3C-2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.08**	**51**	Pn	Pn	06 32 11.8	-10
AFI				Sn	Sn	06 32 30.0	-16
AFI	**Afiamalu**	**2.08**	**51**	Pn	Pn	06 32 11.8	-10
	70nm,0.3s,baz=39,slow=1.7,SNR=24						
AFI				Sn	Sn	06 32 30.0	-16
	526nm,0.3s,baz=75,slow=20,SNR=21						
MSVF	**Nonsavu**	**8.54**	**252**	Pn	**Pn**	**06 33 50.6**	**+0.3**
	45nm,0.9s						
DZM	**Mont Dzumac**	**20.23**	**247**	*e*P	Pn	06 36 22.7	-0.9
	100nm,1.4s						
DZM	**Mont Dzumac**	**20.23**	**247**	P	Pn	06 36 23.0	-0.6
	5.9nm,0.8s,baz=66,slow=20,SNR=5.0						
URZ	**Urewera**	**24.41**	**198**	P	**P**	**06 37 03.1**	**-1.3**
URZ	**Urewera**	**24.41**	**198**	P	**P**	**06 37 03.1**	**-1.3**
	11nm,0.6s,baz=52,slow=7.5,SNR=5.6						
RPZ	**Rata Peaks**	**31.32**	**202**	P	**P**	**06 38 04.6**	**-1.6**
RPZ	**Rata Peaks**	**31.32**	**202**	P	**P**	**06 38 04.6**	**-1.6**
	5.8nm,0.6s,baz=0.0,slow=2.0,SNR=4.6						
RMQ	**Roma**	**36.93**	**246**	P	**P**	**06 38 56.8**	**+1.7**
	baz=38,SNR=5.7						
H11S2	**WAKE ISLAND Hy**	**38.81**	**329**	T	T	07 20 28.1	
	baz=158						
H11S3	**WAKE ISLAND Hy**	**38.82**	**329**	T	T	07 20 42.9	
	baz=158,slow=0.7						
H11S1	**WAKE ISLAND Hy**	**38.83**	**329**	T	T	07 20 32.6	
	baz=158,slow=0.7						
H11N3	**WAKE ISLAND Hy**	**39.76**	**330**	T	T	07 21 48.2	
	baz=151						
H11N1	**WAKE ISLAND Hy**	**39.76**	**330**	T	T	07 21 52.2	
	baz=151						
H11N2	**WAKE ISLAND Hy**	**39.77**	**330**	T	T	07 21 49.6	
	baz=151						
MTSU	**Mount Surprise**	**40.51**	**260**	⇑P	**P**	**06 39 26.1**	**+0.9**
	baz=41,SNR=6.3						
TOO	**Toolangi**	**42.54**	**231**	P	**P**	**06 39 41.9**	**+0.2**
	baz=43,SNR=4.1						
STKA	**Stephens Creek**	**44.09**	**240**	P	**P**	**06 39 54.3**	**+0.1**
STKA	**Stephens Creek**	**44.09**	**240**	⇓P	**P**	**06 39 54.2**	**0.0**
	baz=45,SNR=15						
STKA	**Stephens Creek**	**44.09**	**240**	P	**P**	**06 39 54.3**	**+0.1**
	11nm,0.8s,baz=82,slow=7.3,SNR=20						
BBOO	**Buckleboo**	**48.87**	**240**	⇑P	**P**	**06 40 31.3**	**-0.4**
	baz=50,SNR=7.9						
WRAB	**Tennant Creek**	**49.84**	**257**	*e*P	**P**	**06 40 38.5**	**-0.8**
	7.7nm,1.0s						
WRA	**Warramunga Arr**	**49.85**	**257**	P	**P**	**06 40 38.6**	**-0.8**
WRA	**Warramunga Arr**	**49.85**	**257**	P	**P**	**06 40 38.6**	**-0.8**
	3.7nm,0.5s,baz=90,slow=6.8,SNR=23						
AS31	**Alice Springs**	**50.13**	**252**	*e*P	**P**	**06 40 41.2**	**-0.4**
ASAR	**Alice Springs**	**50.13**	**252**	P	**P**	**06 40 41.2**	**-0.3**
ASAR	**Alice Springs**	**50.13**	**252**	P	**P**	**06 40 41.2**	**-0.3**
	12nm,0.6s,baz=86,slow=7.9,SNR=178						
FORT	**Forrest**	**55.46**	**243**	⇑P	**P**	**06 41 19.9**	**-0.9**
	baz=56,SNR=15						
VNDA	**Vanda**	**63.53**	**186**	P	**P**	**06 42 17.0**	**+1.3**
VNDA	**Vanda**	**63.53**	**186**	P	**P**	**06 42 17.0**	**+1.3**
	3.4nm,1.0s,baz=25,slow=6.6,SNR=11						
MEEK	**Meekatharra**	**63.85**	**248**	P	**P**	**06 42 18.6**	**0.0**
	baz=65,SNR=3.2						
KLBR	**Kellerberrin**	**64.29**	**242**	P	**P**	**06 42 21.1**	**-0.3**
	baz=65,SNR=11						
NWAO	**Narrogin (SRO)**	**64.67**	**241**	P	**P**	**06 42 23.9**	**-0.1**
NWAO	**Narrogin (SRO)**	**64.67**	**241**	P	**P**	**06 42 23.9**	**-0.1**
	baz=80,slow=6.1						
MJAR	**Matsushiro Arr**	**68.80**	**320**	P	**P**	**06 42 50.4**	**+0.4**
MJAR	**Matsushiro Arr**	**68.80**	**320**	P	**P**	**06 42 50.4**	**+0.4**
	1.3nm,0.7s,baz=141,slow=7.9,SNR=3.1						
PETK	**Petropavlovsk-**	**72.47**	**342**	P	**P**	**06 43 12.4**	**+0.4**
PETK	**Petropavlovsk-**	**72.47**	**342**	P	**P**	**06 43 12.4**	**+0.4**
	3.2nm,0.8s,baz=167,slow=7.0,SNR=3.4						
NVAR	**Mina Array Bea**	**74.23**	**42**	P	**P**	**06 43 22.1**	**-1.0**
NVAR	**Mina Array Bea**	**74.23**	**42**	P	**P**	**06 43 22.1**	**-1.0**
	0.6nm,0.6s,baz=236,slow=10.0,SNR=4.0						
QSPA	**South Pole Qui**	**74.81**	**180**	*e*P	**P**	**06 43 26.2**	**+0.3**
	11nm,1.0s						
QSPA	**South Pole Qui**	**74.81**	**180**	P	**P**	**06 43 26.3**	**+0.4**
	12nm,1.0s,baz=50,slow=2.2,SNR=25						
TRF	**Thorofare Moun**	**80.47**	**10**	*e*P	**P**	**06 43 56.2**	**-1.1**
	13nm,1.0s						
TXAR	**Lajitas Array**	**80.55**	**56**	P	**P**	**06 43 59.7**	**+1.2**
TXAR	**Lajitas Array**	**80.55**	**56**	P	**P**	**06 43 59.7**	**+1.2**
	0.7nm,0.8s						
MCK	**McKinley**	**80.97**	**11**	*e*P	**P**	**06 43 59.2**	**-0.6**
	16nm,1.0s						
PDAR	**Pinedale Array**	**82.17**	**42**	P	**P**	**06 44 05.5**	**-1.4**
PDAR	**Pinedale Array**	**82.17**	**42**	P	**P**	**06 44 05.5**	**-1.4**
	0.5nm,0.6s,baz=198,slow=3.7,SNR=5.4						
ILAR	**Eielson Array**	**82.29**	**11**	P	**P**	**06 44 06.1**	**-0.7**
ILAR	**Eielson Array**	**82.29**	**11**	P	**P**	**06 44 06.1**	**-0.7**
	1.3nm,0.8s,baz=229,slow=6.4,SNR=10.0						
MAW	**Mawson**	**87.94**	**199**	P	**P**	**06 44 35.6**	**+0.4**
MAW	**Mawson**	**87.94**	**199**	⇓P	**P**	**06 44 35.7**	**+0.6**
	baz=88,SNR=11						
MAW	**Mawson**	**87.94**	**199**	P	**P**	**06 44 35.6**	**+0.4**
	3.3nm,0.6s,baz=88,slow=3.3,SNR=17						
YKA	**Yellowknife Ar**	**89.96**	**23**	P	**P**	**06 44 46.1**	**+1.5**
YKA	**Yellowknife Ar**	**89.96**	**23**	P	**P**	**06 44 46.1**	**+1.5**
	1.0nm,0.9s,baz=345,slow=22,SNR=3.3						
MKAR	**Makanchi Array**	**110.69**	**315**	PKiKP	**PKiKP**	**06 50 17.6**	**-0.9**
MKAR	**Makanchi Array**	**110.69**	**315**	PKiKP	**PKiKP**	**06 50 17.6**	**-0.9**
	0.4nm,0.6s,baz=153,slow=0.3,SNR=5.0						
KMBO	**Kilima Mbogo**	**145.58**	**244**	PKPbc	**PKPab**	**06 51 25.8**	**+0.1**
KMBO				*e*PKPdf	**PKPbc**	**06 51 25.9**	**+0.5**
KMBO	**Kilima Mbogo**	**145.58**	**244**	PKPbc	**PKPab**	**06 51 25.8**	**+0.1**
	3.4nm,0.9s,baz=54,slow=4.1,SNR=7.9						
KHC	**Kasperske Hory**	**145.72**	**352**	*e*PKPdf	**PKPab**	**06 51 24.5**	**-0.4**
GERES	**GERESS Array B**	**145.98**	**352**	PKPbc	**PKPab**	**06 51 25.5**	**-0.5**
GERES	**GERESS Array B**	**145.98**	**352**	PKPbc	**PKPab**	**06 51 25.5**	**-0.5**
	0.8nm,0.5s,baz=15,slow=5.5,SNR=6.7						
BR131	**Keskin Array S**	**146.01**	**321**	*e*PKPdf	**PKPdf**	**06 51 24.8**	**-0.3**
BRTR	**Keskin Array B**	**146.01**	**321**	PKPbc	**PKPab**	**06 51 27.1**	**+0.6**
BRTR	**Keskin Array B**	**146.01**	**321**	PKPbc	**PKPab**	**06 51 27.1**	**+0.6**

	12nm,0.9s,baz=98,slow=1.8,SNR=37						
CSS	**Prodhromos**	**148.97**	**314**	*e*PKPbc	**PKPbc**	**06 51 32.2**	**-1.9**

*SKO **01** 06:36:47.3, 39°40N×19°66E, h261km*
*TIR **01** 06:36:59.2, 40°08N×19°92E, h2km*
*PDG **01** 06:37:04.3±0.4, 40°03N×19°92E, h5km±1km, ML3.1/11, Error ellipse: s-maj=1.0km s-min=0.8km az=90.0*
*ATH **01** 06:37:04.8, 40°12N×19°88E, h11km±1km, MD3.5/22*
*THE **01** 06:37:05.7, 40°09N×19°86E, h2km±1km, ML3.0/11, Error ellipse: s-maj=1.9km s-min=0.9km az=275.0*
*CSEM **01** 06:37:06.0±0.1, 40°13N×19°95E, h2km, ML3.0/11, Error ellipse: s-maj=4.0km s-min=2.3km az=67.0*

ISC 01 06:37:04.9±1.0, 40°10N±0°01×19°83E±0°02, h8km±8km, n148, σ1°35/245, 8C-16D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.25**	**149**	*e*PG	**Pg**	**06 37 09.5**	**-0.4**
SRN				*i* SG	**Sg**	**06 37 14.6**	**+1.2**
SRN	**Sarande**	**0.25**	**149**	P	**Pg**	**06 37 09.5**	**-0.4**
SRN				S	**Sg**	**06 37 14.4**	**+1.1**
SRN	**Sarande**	**0.25**	**149**	P	**Pg**	**06 37 09.5**	**-0.4**
SRN				S	**Sg**	**06 37 14.4**	**+1.1**
KEK	**Kerkira**	**0.38**	**184**	P	**Pg**	**06 37 12.4**	**+0.1**
KEK				S	**Sb**	**06 37 20.1**	**+0.1**
KEK	**Kerkira**	**0.38**	**184**	*e*PG	**Pg**	**06 37 12.5**	**+0.1**
KEK				*e*SB	**Sb**	**06 37 19.2**	**-0.8**
KEK	**Kerkira**	**0.38**	**184**	*e*Pg	**Pg**	**06 37 12.5**	**+0.1**
KEK				*e*Sb	**Sb**	**06 37 19.2**	**-0.8**
KEK				S	**Sb**	**06 37 20.1**	**+0.1**
IGT	**Igoumenitsa**	**0.68**	**145**	P	**Pg**	**06 37 17.6**	**-0.5**
IGT				S	**Sb**	**06 37 28.2**	**-0.4**
IGT	**Igoumenitsa**	**0.68**	**145**	P	**Pg**	**06 37 17.6**	**-0.5**
IGT				S	**Sb**	**06 37 28.2**	**-0.4**
JAN	**Janina**	**0.90**	**119**	P	**Pg**	**06 37 21.9**	**-0.3**
JAN				S	**Sb**	**06 37 35.0**	**+0.1**
JAN	**Janina**	**0.90**	**119**	*e*PB	**Pg**	**06 37 21.8**	**-0.4**
JAN				*e*SB	**Sg**	**06 37 32.6**	**-1.3**
JAN	**Janina**	**0.90**	**119**	P	**Pg**	**06 37 21.9**	**-0.3**
JAN				*e*Sb	**Sg**	**06 37 32.6**	**-1.3**
JAN				S	**Sb**	**06 37 35.0**	**+0.1**
KBN	**Korca**	**0.90**	**54**	*e*PG	**Pg**	**06 37 21.6**	**-0.7**
KBN	**Korca**	**0.90**	**54**	P	**Pg**	**06 37 21.6**	**-0.7**
KBN				S	**Sb**	**06 37 35.9**	**+0.9**
KBN	**Korca**	**0.90**	**54**	P	**Pg**	**06 37 21.6**	**-0.7**
KBN				S	**Sb**	**06 37 35.9**	**+0.9**
NEST	**Nestorio**	**0.98**	**71**	P	**Pg**	**06 37 22.8**	**-1.0**
NEST				S	**Sg**	**06 37 38.3**	**+0.9**
NEST	**Nestorio**	**0.98**	**71**	P	**Pg**	**06 37 22.8**	**-1.0**
NEST				S	**Sb**	**06 37 38.3**	**+0.9**
TIR	**Tirane**	**1.25**	**1**	*e*PG	**Pn**	**06 37 30.0**	**+1.3**
TI

HCY	**Herceg Novi**	**2.56**	**337**	⇑*i*Pn	**Pn**	**06 37 48.1**	**+1.5**
HCY				*e*Sn	**Sb**	**06 38 22.8**	**+0.2**
HCY	**Herceg Novi**	**2.56**	**337**	⇑*i*Pn	**Pn**	**06 37 48.1**	**+1.5**
HCY				*e*Sn	**Sb**	**06 38 22.8**	**+0.2**
DRO	**Drossia**	**2.59**	**145**	P	**Pn**	**06 37 47.5**	**+0.4**
DRO				S	**Sn**	**06 38 20.5**	**+1.7**
DRO	**Drossia**	**2.59**	**145**	P	**Pn**	**06 37 47.5**	**+0.4**
DRO				S	**Sn**	**06 38 20.5**	**+1.7**
DSF	**Desfina**	**2.69**	**128**	P	**Pn**	**06 37 49.3**	**+0.9**
DSF				S	**Sn**	**06 38 21.8**	**+0.7**
DSF	**Desfina**	**2.69**	**128**	P	**Pn**	**06 37 49.3**	**+0.9**
DSF				S	**Sn**	**06 38 21.8**	**+0.7**
XOR	**Xorichti**	**2.69**	**105**	P	**Pn**	**06 37 48.8**	**+0.3**
XOR	**Xorichti**	**2.69**	**105**	P	**Pn**	**06 37 48.8**	**+0.3**
KLV	**Kalavryta, Ach**	**2.73**	**138**	P	**Pn**	**06 37 50.2**	**+1.1**
KLV				S	**Sn**	**06 38 23.9**	**+1.6**
KLV	**Kalavryta, Ach**	**2.73**	**138**	*e*PN	**Pn**	**06 37 50.5**	**+1.4**
KLV	**Kalavryta, Ach**	**2.73**	**138**	P	**Pn**	**06 37 50.2**	**+1.1**
KLV	**Kalavryta, Ach**	**2.73**	**138**	*e*Pb	**Pn**	**06 37 50.5**	**+1.4**
KLV				S	**Sn**	**06 38 23.9**	**+1.6**
NEO	**Neokhori**	**2.73**	**106**	P	**Pn**	**06 37 50.7**	**+1.6**
NEO	**Neokhori**	**2.73**	**106**	*e*PB	**Pn**	**06 37 49.8**	**+0.7**
NEO				*e*SN	**Sn**	**06 38 24.6**	**+2.3**
NEO	**Neokhori**	**2.73**	**106**	*e*Pb	**Pn**	**06 37 49.8**	**+0.7**
NEO	**Neokhori**	**2.73**	**106**	P	**Pn**	**06 37 50.7**	**+1.6**
NEO				*e*Sn	**Sn**	**06 38 24.6**	**+2.3**
NKME	**Niksic**	**2.75**	**346**	⇑*i*Pn	**Pn**	**06 37 52.0**	**+2.7**
NKME				*e*Sn	**Sb**	**06 38 27.9**	**-0.3**
NKME	**Niksic**	**2.75**	**346**	⇑*i*Pn	**Pn**	**06 37 52.0**	**+2.7**
NKME				*e*Sn	**Sb**	**06 38 27.9**	**-0.3**
BEY	**Berane**	**2.77**	**1**	⇓*i*Pn	**Pn**	**06 37 51.0**	**+1.3**
BEY				*e*Sn	**Sb**	**06 38 28.9**	**0.0**
IVA	**Berane**	**2.77**	**1**	⇓*i*Pn	**Pn**	**06 37 51.0**	**+1.3**
IVA				*e*Sn	**Sb**	**06 38 28.9**	**0.0**
PLG	**Polygyros**	**2.78**	**83**	*e*PN	**Pn**	**06 37 50.7**	**+1.0**
PLG				*e*SN	**Sn**	**06 38 24.3**	**+0.8**
PLG	**Polygyros**	**2.78**	**83**	*e*Pn	**Pn**	**06 37 50.7**	**+1.0**
PLG				*e*Sn	**Sn**	**06 38 24.3**	**+0.8**
SOH	**Sokhos**	**2.78**	**74**	*e*PB	**Pn**	**06 37 50.6**	**+0.8**
SOH				*e*SN	**Sn**	**06 38 25.0**	**+1.4**
SOH	**Sokhos**	**2.78**	**74**	*e*Pb	**Pn**	**06 37 50.6**	**+0.8**
SOH				*e*Sn	**Sn**	**06 38 25.0**	**+1.4**
NKY	**Niksic**	**2.79**	**347**	⇓*i*Pn	**Pn**	**06 37 51.9**	**+2.0**
NKY				*e*Sn	**Sb**	**06 38 28.6**	**-0.7**
NKY	**Niksic**	**2.79**	**347**	⇓*i*Pn	**Pn**	**06 37 51.9**	**+2.0**
NKY				*e*Sn	**Sb**	**06 38 28.6**	**-0.7**
CDT	**Castel del Mon**	**2.88**	**291**	*e*Pn	**Pn**	**06 37 49.9**	**-1.2**
GUR	**Goura**	**2.91**	**137**	P	**Pn**	**06 37 52.8**	**+1.2**
GUR				S	**Sn**	**06 38 27.6**	**+0.8**
GUR	**Goura**	**2.91**	**137**	*e*PN	**Pn**	**06 37 52.8**	**+1.2**
GUR	**Goura**	**2.91**	**137**	P	**Pn**	**06 37 52.8**	**+1.2**
GUR				S	**Sn**	**06 38 27.6**	**+0.8**
PAIG	**Paliouri**	**2.96**	**92**	*e*PN	**Pn**	**06 37 52.1**	**0.0**
PAIG				*e*SN	**Sn**	**06 38 30.0**	**+2.2**
PAIG	**Paliouri**	**2.96**	**92**	*e*Pn	**Pn**	**06 37 52.1**	**0.0**
PAIG				*e*Sn	**Sn**	**06 38 30.0**	**+2.2**
BRY	**Bratogost**	**2.97**	**341**	⇑*i*Pn	**Pn**	**06 37 54.5**	**+2.1**
BRY				*e*Sn	**Sb**	**06 38 33.1**	**-1.4**
BRY	**Bratogost**	**2.97**	**341**	⇑*i*Pn	**Pn**	**06 37 54.5**	**+2.1**
BRY				*e*Sn	**Sb**	**06 38 33.1**	**-1.4**
SJES	**Sjenica**	**3.17**	**2**	*e*Pn	**Pn**	**06 37 55.3**	**+0.2**
UPM	**Unac-Piva**	**3.18**	**348**	⇓*i*Pn	**Pn**	**06 37 57.8**	**+2.4**
UPM				*e*Sn	**Sb**	**06 38 38.2**	**-2.5**
UPM	**Unac-Piva**	**3.18**	**348**	⇓*i*Pn	**Pn**	**06 37 57.8**	**+2.4**
UPM				*e*Sn	**Sb**	**06 38 38.2**	**-2.5**
LTK	**Loutraki**	**3.20**	**129**	*e*PB	**Pn**	**06 37 58.2**	**+2.7**
LTK	**Loutraki**	**3.20**	**129**	*e*Pn	**Pn**	**06 37 58.2**	**+2.7**
STON	**Ston**	**3.20**	**331**	*e*Pn	**Pn**	**06 37 54.4**	**-1.0**
STON				Sn	**Sn**	**06 38 31.9**	**-1.8**
STON	**Ston**	**3.20**	**331**	*e*Pn	**Pn**	**06 37 54.4**	**-1.0**
STON				Sn	**Sn**	**06 38 31.9**	**-1.8**
PLE	**Pljevlja**	**3.25**	**354**	⇓*i*Pn	**Pn**	**06 37 58.0**	**+1.8**
PLE				*e*Sn	**Sb**	**06 38 39.9**	**-2.7**
PLE	**Pljevlja**	**3.25**	**354**	⇓*i*Pn	**Pn**	**06 37 58.0**	**+1.8**
PLE				*e*Sn	**Sb**	**06 38 39.9**	**-2.7**
AOS	**Alonnisos**	**3.26**	**105**	P	**Pn**	**06 37 56.3**	**0.0**
AOS	**Alonnisos**	**3.26**	**105**	*e*PN	**Pn**	**06 37 57.2**	**+0.9**
AOS	**Alonnisos**	**3.26**	**105**	P	**Pn**	**06 37 56.3**	**0.0**
AOS	**Alonnisos**	**3.26**	**105**	*e*Pn	**Pn**	**06 37 57.2**	**+0.9**
ITM	**Ithomi**	**3.34**	**150**	*e*PB	**Pn**	**06 38 00.3**	**+2.9**
ITM				*e*SN	**Sn**	**06 38 38.9**	**+1.6**
VLX	**Vlachokerasia**	**3.37**	**143**	*e*PN	**Pn**	**06 38 00.6**	**+2.7**
VLX	**Vlachokerasia**	**3.37**	**143**	*e*Pn	**Pn**	**06 38 00.6**	**+2.7**
IVAS	**Ivanjica**	**3.49**	**4**	*e*Pn	**Pn**	**06 38 01.3**	**+1.9**
DID	**Didima**	**3.71**	**133**	P	**Pn**	**06 38 02.5**	**0.0**
DID	**Didima**	**3.71**	**133**	*e*PN	**Pn**	**06 38 03.2**	**+0.7**
DID	**Didima**	**3.71**	**133**	P	**Pn**	**06 38 02.5**	**0.0**
DID	**Didima**	**3.71**	**133**	*e*Pn	**Pn**	**06 38 03.2**	**+0.7**
BBLS	**Lazići**	**3.78**	**355**	*e*Pn	**Pn**	**06 38 04.0**	**+0.5**
ZAPS	**Zavoj**	**3.81**	**33**	*e*Pn	**Pn**	**06 38 05.7**	**+1.9**
GRUS	**Gruza**	**3.85**	**10**	*e*Pn	**Pn**	**06 38 04.5**	**+0.2**
DIVS	**Divibare**	**4.00**	**2**	*e*Pn	Pb	06 38 12.5	-3.2
TEKS	**Tekeris**	**4.46**	**357**	*e*Pn	Pn	06 38 16.9	+4.2
KYTH	**Kithira**	**4.57**	**145**	P	**Pn**	**06 38 15.7**	**+1.4**
KYTH	**Kithira**	**4.57**	**145**	*e*PN	**Pn**	**06 38 16.7**	**+2.4**
KYTH	**Kithira**	**4.57**	**145**	P	**Pn**	**06 38 15.7**	**+1.4**
KYTH	**Kithira**	**4.57**	**145**	*e*Pn	**Pn**	**06 38 16.7**	**+2.4**
NVLJ	**Novalja**	**5.78**	**322**	*e*Pn	**Pn**	**06 38 30.3**	**-0.6**
NVLJ				Sn	**Sn**	**06 39 35.0**	**-2.3**
BOJS	**Bojanci**	**6.37**	**330**	*i* Pn	**Pn**	**06 38 38.7**	**-0.2**
BOJS				*i* Sn	**Sn**	**06 39 48.6**	**-3.2**
VISS	**Visnje**	**6.78**	**329**	*i* Pn	**Pn**	**06 38 43.9**	**-0.7**
VISS				*i* Sn	**Sn**	**06 39 53.7**	**-3.2**
CEY	**Cerknica**	**6.89**	**327**	*i* Pn	**Pn**	**06 38 45.6**	**-0.6**
CEY				*i* Sn	**Sn**	**06 40 01.7**	**-3.1**
JAVS	**Javornik**	**7.17**	**326**	*i* Pn	**Pn**	**06 38 49.4**	**-0.7**
JAVS				*i* Sn	**Sn**	**06 40 08.7**	**-3.0**

WEL 01 06:38:44.2±0.6, 36°.81S×177°.25E, *h*166km±6km, ML3.6/8, Error ellipse: s-maj=6.8km s-min=6.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.13**	**132**	PN	Pn	06 39 11.2	-0.3
MXZ				SN	Sn	06 39 32.7	0.0
URZ	**Urewera**	**1.45**	**184**	PN	Pn	06 39 15.1	+0.6
PUZ	**Puketiti**	**1.49**	**148**	PN	Pn	06 39 14.7	-0.3
PUZ				SN	Sn	06 39 38.1	-0.7
CNGZ	**Carnagh Statio**	**1.83**	**156**	PN	Pn	06 39 19.1	+0.6
RAHZ	**Arahi**	**2.11**	**184**	PN	Pn	06 39 22.1	+0.5
KNZ	**Kokohu**	**2.23**	**172**	PN	Pn	06 39 22.6	-0.3
KNZ				*e*SN	Sn	06 39 51.7	-1.3
NMHZ	**Naumai**	**2.31**	**189**	PN	Pn	06 39 24.8	+0.9
MHGZ	**Mahia Peninsul**	**2.40**	**168**	PN	Pn	06 39 24.7	-0.2
BKZ	**Black Stump Fm**	**2.43**	**194**	PN	Pn	06 39 25.3	0.0
BKZ				SN	Sn	06 39 57.3	+0.1
MCHZ	**McNeill Hill**	**2.66**	**189**	PN	Pn	06 39 28.4	+0.3
WHVZ	**Whangaehu Hut**	**2.79**	**208**	PN	Pn	06 39 30.6	+0.6
BHHZ	**Black Hill Sta**	**2.83**	**199**	PN	Pn	06 39 29.9	+0.3
MOVZ	**Moawhango**	**2.85**	**204**	PN	Pn	06 39 30.3	-0.1
KAHZ	**Kahuranaki**	**2.99**	**186**	PN	Pn	06 39 31.6	-0.5
PNHZ	**Pukenui**	**3.21**	**195**	PN	Pn	06 39 33.8	-1.0
PXZ	**Pawanui**	**3.23**	**185**	PN	Pn	06 39 33.7	-1.3
PXZ				SN	Sn	06 40 13.1	-1.5
PRHZ	**Porangahau**	**3.48**	**188**	PN	Pn	06 39 37.0	-1.2
BFZ	**Birch Farm**	**3.94**	**191**	PN	Pn	06 39 42.1	-2.0
MRZ	**Mangatainoka R**	**4.06**	**198**	PN	Pn	06 39 43.4	-2.2
TIWZ	**Tintock**	**4.10**	**195**	PN	Pn	06 39 44.2	-2.0
HOWZ	**Holdsworth Sta**	**4.30**	**198**	PN	Pn	06 39 46.2	-2.5
OGWZ	**Otaki Gorge**	**4.32**	**201**	PN	Pn	06 39 46.7	-2.2
TMWZ	**Te Maipa**	**4.42**	**193**	PN	Pn	06 39 47.8	-2.4
KIW	**Kapiti Island**	**4.44**	**204**	PN	Pn	06 39 48.0	-2.5
MTW	**Mount Morrison**	**4.55**	**197**	PN	Pn	06 39 48.3	-3.6
CAW	**Cannon Point**	**4.62**	**201**	AML	AML	06 40 08.9	

IDC 01 06:43:03.5±0.8, 16°.70S×171°.99W, *h*0km, mb4.2/8, mb1 4.4/9, mb1mx4.2/22, mbtmp4.2/9, ML1.9/1, Error ellipse: s-maj=33.9km s-min=17.9km az=130.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.78**	**4**	Pn	Pn	06 43 50.5	+1.0
	11nm,0.3s,baz=162,slow=20,SNR=2.5						
AFI				Sn	Sn	06 44 17.6	-6.3
	24nm,0.3s,baz=34,slow=24,SNR=7.3						
URZ	**Urewera**	**23.51**	**202**	P	P	06 48 17.1	+1.9
	9.5nm,0.6s,baz=53,slow=7.3,SNR=8.3						
STKA	**Stephens Creek**	**44.58**	**241**	P	P	06 51 17.4	-0.2
	3.1nm,0.7s,baz=110,slow=11,SNR=6.7						
WRA	**Warramunga Arr**	**50.88**	**258**	P	P	06 52 05.6	-1.1
	3.6nm,0.8s,baz=92,slow=7.9,SNR=15						
ASAR	**Alice Springs**	**51.01**	**253**	P	P	06 52 07.3	-0.3
	19nm,0.8s,baz=86,slow=8.4,SNR=131						
NVAR	**Mina Array Bea**	**74.40**	**41**	P	P	06 54 44.3	+0.6
	0.7nm,0.6s,baz=222,slow=8.6,SNR=5.4						
KSRS	**Korea Array**	**78.03**	**315**	P	P	06 55 07.5	+3.5
	0.8nm,0.7s,baz=151,slow=5.6,SNR=4.6						
PDAR	**Pinedale Array**	**82.34**	**41**	P	P	06 55 27.0	-0.6
	0.5nm,0.9s,baz=191,slow=5.4,SNR=4.7						
ILAR	**Eielson Array**	**83.46**	**11**	P	P	06 55 32.8	+0.2
	0.7nm,0.7s,baz=205,slow=6.2,SNR=5.9						
MAW	**Mawson**	**86.99**	**198**	P	P	06 55 50.3	0.0
	1.2nm,0.7s,baz=116,slow=12,SNR=6.3						
MKAR	**Makanchi Array**	**112.70**	**314**	PKiKP	PKiKP	07 01 41.6	-0.5
	0.3nm,0.7s,baz=26,slow=3.1,SNR=3.7						
GERES	**GERESS Array B**	**147.61**	**353**	PKPbc	PKPbc	07 02 49.2	-0.8
	1.0nm,0.7s,baz=0.0,slow=2.7,SNR=6.8						
BRTR	**Keskin Array B**	**148.01**	**321**	PKPbc	PKPbc	07 02 51.6	+0.2
	2.1nm,0.7s,baz=108,slow=2.1,SNR=7.7						
TORD	**Torodi Ar. Bea**	**172.95**	**119**	PKPab	PKPab	07 04 40.4	-1.9
	1.3nm,0.7s,baz=250,slow=5.4,SNR=6.4						

IDC 01 06:57:15.9±1.7, 15°.35S×172°.03W, *h*0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/21, mbtmp3.7/4, Error ellipse: s-maj=60.2km s-min=20.4km az=124.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.45**	**10**	Pn	Pn	06 57 43.5	-0.1
	94nm,0.3s,baz=156,slow=1.5,SNR=16						
AFI				Sn	Sn	06 58 04.4	+1.0
	158nm,0.3s,baz=164,slow=20,SNR=6.2						
WRA	**Warramunga Arr**	**51.14**	**257**	P	P	07 06 21.1	0.0
	0.5nm,0.7s,baz=94,slow=8.2,SNR=3.6						
ASAR	**Alice Springs**	**51.38**	**252**	P	P	07 06 22.9	0.0
	1.4nm,0.6s,baz=87,slow=8.0,SNR=20						
PDAR	**Pinedale Array**	**81.35**	**41**	P	P	07 09 34.9	+0.1
	0.4nm,0.7s,baz=200,slow=6.7,SNR=3.3						
ILAR	**Eielson Array**	**82.15**	**11**	P	P	07 09 38.6	+0.5
	0.3nm,0.7s,baz=218,slow=5.7,SNR=3.8						
GERES	**GERESS Array B**	**146.27**	**353**	PKPbc	PKPdf	07 16 58.0	+0.5
	0.4nm,0.7s,baz=48,slow=3.2,SNR=3.7						
BRTR	**Keskin Array B**	**146.94**	**322**	PKPbc	PKPdf	07 16 59.1	+0.1
	0.7nm,0.7s,baz=58,slow=3.6,SNR=3.5						

*BJI **01** 07:02:14.8, 8°.61S×159°.19E, *h*31km, mB5.3/18, mb4.9/37, Ms5.0/17, Ms7 4.7/17*
*ISCJB **01** 07:02:23.4±0.7, 8°.66S±0°.05×159°.25E±0°.05, *h*107km±7km, mb4.8/57, Error ellipse: s-maj=8.9km s-min=6.3km az=137.5*
*MOS **01** 07:02:24.2±1.0, 8°.69S×159°.28E, *h*114km, mb5.1/12, Error ellipse: s-maj=11.4km s-min=9.8km az=56.1*
*IDC **01** 07:02:25.2±0.4, 8°.84S×159°.43E, *h*118km±3km, mb4.4/23, mb1 4.5/23, mb1mx4.5/24, mbtmp4.4/23, Error ellipse: s-maj=12.4km s-min=9.2km az=84.0*
*NEIC **01** 07:02:25.8±0.9, 8°.72S×159°.39E, *h*119km±8km, mb4.8/18, Error ellipse: s-maj=10.6km s-min=6.7km az=134.0*
*AUST **01** 07:02:40.1±3.6, 9°.03S×159°.18E, *h*244km±22km, Error ellipse: s-maj=32.6km s-min=8.3km az=46.0*

ISC 01 07:02:26.1±0.4, 8°.78S±0°.05×159°.41E±0°.06, h122km±3km, h122km:pP-P, n197, σ1°.19/430, mb4.8/57, 16C-27D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.84**	**141**	P	**Pn**	**07 02 45.1**	**-1.6**
HNR				S	**Sn**	**07 03 00.3**	**-2.2**
HNR	**Honiara**	**0.84**	**141**	P	**Pn**	**07 02 45.1**	**-1.6**
	256nm,0.3s,baz=254,slow=2.5,SNR=187						
HNR				S	**Sn**	**07 03 00.3**	**-2.2**
	2um,0.3s,baz=21,slow=17,SNR=61						
PMG	**Port Moresby**	**12.11**	**266**	*e*Pn	**Pn**	**07 05 13.5**	**-1.3**
PMG				*e*Sn	**Sn**	**07 07 23.3**	**-4.9**
DZM	**Mont Dzumac**	**14.85**	**154**	P	P	07 05 56.6	+3.9
DZM	**Mont Dzumac**	**14.85**	**154**	P	P	07 05 56.6	+3.9
	2.3nm,0.3s,baz=8.4,slow=14,SNR=17						
COEN	**Coen**	**16.72**	**251**	*e*P	**P**	**07 06 16.5**	**+3.1**
	87nm,0.8s						
COEN	**Coen**	**16.72**	**251**	⇑P	**P**	**07 06 16.3**	**+2.9**
	baz=16,SNR=5.4						
COEN		

STKA P P 07 08 08.8 +0.4
baz=28,SNR=18
STKA P P 07 08 08.8 +0.4
baz=28,SNR=18
STKA P P 07 08 08.8 +0.4
baz=28,SNR=18
STKA Stephens Creek 28.32 213 P P 07 08 08.3 -0.1
comp=Z,6.8nm,0.5s,baz=48,slow=15,SNR=27
AS31 Alice Springs 28.54 236 *eP* P 07 08 09.7 -0.8
ASAR Alice Springs 28.54 236 P P 07 08 09.3 -1.2
ASAR PcP PcP 07 11 18.6 -0.6
ASAR Alice Springs 28.54 236 P P 07 08 09.3 -1.2
comp=Z,5.0nm,0.4s,baz=65,slow=10,SNR=48
ASAR PcP PcP 07 11 18.6 -0.6
comp=Z,1.4nm,0.7s,baz=64,slow=2.5,SNR=6.9
ASPA Alice Springs 28.54 236 ⇓P P 07 08 09.8 -0.7
baz=28
ASPA ⇓P P 07 08 09.8 -0.7
baz=28
ASPA ⇓P P 07 08 09.8 -0.7
baz=28
ASPA ⇓P P 07 08 09.8 -0.7
baz=28
ASPA ⇓P P 07 08 09.8 -0.7
baz=28
ASPA ⇓P P 07 08 09.8 -0.7
baz=28
ASPA ⇓P P 07 08 09.8 -0.7
baz=28
AFI Afiamalu 28.69 103 *eP* P 07 08 08.2 -3.8
comp=Z,297nm,0.8s
H11N1 WAKE ISLAND Hy 29.25 15 T T 07 38 34.6
baz=197,slow=0.7,SNR=212
H11N3 WAKE ISLAND Hy 29.26 15 T T 07 38 27.6
baz=197,slow=0.7,SNR=81
H11N2 WAKE ISLAND Hy 29.27 15 T T 07 38 34.6
baz=197,slow=0.7,SNR=92
KNRA Kununurra 30.70 254 P P 07 08 29.2 -0.4
baz=30,SNR=9.6
KNRA P P 07 08 29.2 -0.4
baz=30,SNR=9.6
KNRA P P 07 08 29.2 -0.4
baz=30,SNR=9.6
KNRA P P 07 08 29.2 -0.4
baz=30,SNR=9.6
KNRA P P 07 08 29.2 -0.4
baz=30,SNR=9.6
KNRA P P 07 08 29.2 -0.4
baz=30,SNR=9.6
KNRA P P 07 08 29.2 -0.4
baz=30,SNR=9.6
TOO Toolangi 31.31 202 P P 07 08 36.5 +1.7
baz=31,SNR=4.7
TOO P P 07 08 36.5 +1.7
baz=31,SNR=4.7
TOO P P 07 08 36.5 +1.7
baz=31,SNR=4.7
TOO P P 07 08 36.5 +1.7
baz=31,SNR=4.7
TOO P P 07 08 36.5 +1.7
baz=31,SNR=4.7
TOO P P 07 08 36.5 +1.7
baz=31,SNR=4.7
TOO P P 07 08 36.5 +1.7
baz=31,SNR=4.7
BBOO Buckleboo 32.22 219 *eP* P 07 08 43.0 +0.1
comp=Z,474nm,0.8s
BBOO Buckleboo 32.22 219 P P 07 08 42.7 -0.1
baz=32,SNR=18
BBOO P P 07 08 42.7 -0.1
baz=32,SNR=18
BBOO P P 07 08 42.7 -0.1
baz=32,SNR=18
BBOO P P 07 08 42.7 -0.1
baz=32,SNR=18
BBOO P P 07 08 42.7 -0.1
baz=32,SNR=18
BBOO P P 07 08 42.7 -0.1
baz=32,SNR=18
BBOO P P 07 08 42.7 -0.1
baz=32,SNR=18
BBOO P P 07 08 42.9 +0.1
baz=32,SNR=30
BBOO P P 07 08 42.9 +0.1
baz=32,SNR=30
BBOO P P 07 08 42.9 +0.1
baz=32,SNR=30
BBOO P P 07 08 42.9 +0.1
baz=32,SNR=30
BBOO P P 07 08 42.9 +0.1
baz=32,SNR=30
BBOO P P 07 08 42.9 +0.1
baz=32,SNR=30
BBOO P P 07 08 42.9 +0.1
baz=32,SNR=30
FITZ Fitzroy Crossi 34.07 251 *eP* P 07 08 58.1 -1.1
FITZ Fitzroy Crossi 34.07 251 P P 07 08 58.0 -1.1
baz=34,SNR=16
FITZ P P 07 08 58.0 -1.1
baz=34,SNR=16
FITZ P P 07 08 58.0 -1.1
baz=34,SNR=16
FITZ P P 07 08 58.0 -1.1
baz=34,SNR=16
FITZ P P 07 08 58.0 -1.1
baz=34,SNR=16
FITZ P P 07 08 58.0 -1.1
baz=34,SNR=16
FITZ P P 07 08 58.0 -1.1
baz=34,SNR=16
FITZ P P 07 08 58.0 -1.1
baz=34,SNR=16
FITZ P P 07 08 59.4 +0.3
baz=34,SNR=4.7
FITZ P P 07 08 59.4 +0.3
baz=34,SNR=4.7
FITZ P P 07 08 59.4 +0.3
baz=34,SNR=4.7
FITZ P P 07 08 59.4 +0.3
baz=34,SNR=4.7
FITZ P P 07 08 59.4 +0.3
baz=34,SNR=4.7
FITZ P P 07 08 59.4 +0.3
baz=34,SNR=4.7
FITZ P P 07 08 59.4 +0.3
baz=34,SNR=4.7
FITZ Fitzroy Crossi 34.07 251 P P 07 08 57.6 -1.5
comp=Z,2.8nm,0.4s,baz=70,slow=7.2,SNR=27
FORT Forrest 36.52 229 P P 07 09 19.9 0.0
baz=36,SNR=6.2
FORT P P 07 09 19.9 0.0
baz=36,SNR=6.2
FORT P P 07 09 19.9 0.0
baz=36,SNR=6.2
FORT P P 07 09 19.9 0.0
baz=36,SNR=6.2
FORT P P 07 09 19.9 0.0
baz=36,SNR=6.2
FORT P P 07 09 19.9 0.0
baz=36,SNR=6.2
FORT P P 07 09 19.9 0.0
baz=36,SNR=6.2
MBWA Marble Bar 40.14 248 *eP* P 07 09 49.4 -1.0
comp=Z,20nm,0.8s
MEEK Meekatharra 42.49 240 P P 07 10 09.7 +0.2
baz=42,SNR=29
MEEK

NVAR	**Mina Array Bea**	**89.41**	**51**	P		**P**	**07 15 10.4**	**+0.8**
NVAR				pP		**pP**	**07 15 44.4**	**+3.3**
NVAR	**Mina Array Bea**	**89.41**	**51**	P		**P**	**07 15 10.4**	**+0.8**
	comp=Z,5.5nm,0.9s,baz=241,slow=6.0,SNR=22							
NVAR				pP		**pP**	**07 15 44.4**	**+3.3**
	comp=Z,1.6nm,1.0s,baz=250,slow=7.5,SNR=2.5							
G08A	**Pilot Rock**	**90.33**	**44**	*e*P		**P**	**07 15 14.6**	**+1.0**
	comp=Z,4.7nm,0.9s							
KURK	**Kurchatov**	**90.94**	**321**	⇓*i*P		**P**	**07 15 15.3**	**-0.8**
KURK				pmax		pmax		
	comp=Z,3.0nm,1.2s							
BMO	**Blue Mountains**	**91.39**	**45**	*e*P		**P**	**07 15 19.3**	**+0.7**
BMO				pmax		pmax		
	comp=Z,5.0nm,0.9s							
BMO	**Blue Mountains**	**91.39**	**45**	*e*P		**P**	**07 15 19.3**	**+0.7**
	comp=Z,5.3nm,0.9s							
TKM2	**Tokmak 2**	**91.41**	**313**	*e*P		**P**	**07 15 17.8**	**-1.0**
TKM2				pmax		pmax		
	comp=Z,2.0nm,0.7s							
TKM2	**Tokmak 2**	**91.41**	**313**	*e*P		**P**	**07 15 17.8**	**-1.0**
	comp=Z,1.8nm,0.7s							
AAK	**Ala-Archa**	**92.16**	**313**	*i*P		**P**	**07 15 21.3**	**-0.9**
AAK				pmax		pmax		
	comp=Z,5.0nm,1.0s							
YKA	**Yellowknife Ar**	**95.86**	**28**	P		**P**	**07 15 38.2**	**-0.3**
YKA				pP		**pP**	**07 16 09.7**	**-0.4**
YKA	**Yellowknife Ar**	**95.86**	**28**	P		**P**	**07 15 38.2**	**-0.3**
	comp=Z,4.0nm,0.7s,baz=261,slow=4.8,SNR=16							
YKA				pP		**pP**	**07 16 09.7**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=264,slow=5.2,SNR=3.2							
BRVK	**Borovoye**	**96.42**	**323**	*e*P		**P**	**07 15 39.3**	**-2.0**
BRVK				pmax		pmax		
	comp=Z,5.0nm,1.5s							
PDAR	**Pinedale Array**	**96.64**	**48**	P		**P**	**07 15 42.9**	**0.0**
PDAR	**Pinedale Array**	**96.64**	**48**	P		**P**	**07 15 42.9**	**0.0**
	comp=Z,1.5nm,0.8s,baz=220,slow=2.4,SNR=14							
TXAR	**Lajitas Array**	**100.25**	**62**	P		**Pdif**	**07 16 02.0**	**+2.8**
TXAR	**Lajitas Array**	**100.25**	**62**	P		**Pdif**	**07 16 02.0**	**+2.8**
	comp=Z,0.5nm,0.8s							
ARCES	**ARCESS Array B**	**112.52**	**344**	PKiKP		**PKiKP**	**07 20 46.3**	**-1.1**
ARCES	**ARCESS Array B**	**112.52**	**344**	PKiKP		**PKiKP**	**07 20 46.3**	**-1.1**
	comp=Z,2.4nm,0.9s,baz=59,slow=1.3,SNR=11							
FINES	**FINESS Array B**	**117.31**	**337**	PKP		**PKPdf**	**07 20 55.6**	**-1.2**
FINES	**FINESS Array B**	**117.31**	**337**	PKP		**PKPdf**	**07 20 55.6**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=114,slow=2.3,SNR=5.0							
AKASG	**Malin Array Be**	**121.50**	**325**	PKiKP		**PKPdf**	**07 21 03.6**	**-1.6**
AKASG	**Malin Array Be**	**121.50**	**325**	PKP		**PKPdf**	**07 21 03.6**	**-1.6**
AKASG	**Malin Array Be**	**121.50**	**325**	PKP		**PKPdf**	**07 21 03.6**	**-1.6**
	comp=Z,0.8nm,0.3s,baz=62,slow=2.3,SNR=7.4							
NB2	**NORSAR Subarra**	**122.77**	**342**	PKPdf		**PKPdf**	**07 21 05.6**	**-1.8**
	comp=Z,2.0nm,0.8s,baz=39,slow=1.9							
NOA	**NORSAR Array B**	**122.77**	**342**	PKP		**PKPdf**	**07 21 06.5**	**-0.8**
NOA	**NORSAR Array B**	**122.77**	**342**	PKP		**PKPdf**	**07 21 06.5**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=40,slow=1.6,SNR=5.0							
BRTR	**Keskin Array B**	**122.83**	**312**	PKP		**PKPdf**	**07 21 06.9**	**-1.4**
BRTR	**Keskin Array B**	**122.83**	**312**	PKP		**PKPdf**	**07 21 06.9**	**-1.4**
	comp=Z,0.8nm,0.7s,baz=151,slow=3.3,SNR=3.4							
KOLS	**Kolonicke sedl**	**126.28**	**326**	*e*PKiKP		**PKPdf**	**07 21 13.8**	**-0.6**
KOLS	**Kolonicke sedl**	**126.28**	**326**	*e*PKP		**PKPdf**	**07 21 13.8**	**-0.6**
ROSC	**El Rosal**	**126.53**	**90**	PKP		**PKPdf**	**07 21 15.7**	**-0.7**
ROSC	**El Rosal**	**126.53**	**90**	PKP		**PKPdf**	**07 21 15.7**	**-0.7**
	comp=Z,7.3nm,0.5s,baz=58,slow=1.3,SNR=7.3							
STHS	**Stebnicka Huta**	**126.57**	**327**	*e*PKiKP		**PKPdf**	**07 21 15.4**	**+0.4**
STHS	**Stebnicka Huta**	**126.57**	**327**	*e*PKP		**PKPdf**	**07 21 15.4**	**+0.4**
LPAZ	**La Paz**	**126.77**	**118**	PKP		**PKPdf**	**07 21 16.1**	**-1.0**
LPAZ	**La Paz**	**126.77**	**118**	PKP		**PKPdf**	**07 21 16.1**	**-1.0**
	comp=Z,2.1nm,0.7s,baz=234,slow=3.4,SNR=12							
GERES	**GERESS Array B**	**130.79**	**331**	PKP		**PKPdf**	**07 21 22.9**	**-0.3**
GERES	**GERESS Array B**	**130.79**	**331**	PKP		**PKPdf**	**07 21 22.9**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=333,slow=1.5,SNR=7.7							
BDFB	**Brasilia**	**143.58**	**132**	PKPpre		PKPpre	07 21 44.4	
BDFB	**Brasilia**	**143.58**	**132**	PKhKP		PKPpre	07 21 44.4	
	comp=Z,1.5nm,0.4s,baz=43,slow=8.5,SNR=3.2							
PBRG	**Braganca**	**144.90**	**342**	*e*PKPdf		**PKPab**	**07 21 48.5**	**-0.1**
PGAV	**Gavieira, Arco**	**145.20**	**344**	*e*PKPdf		**PKPdf**	**07 21 49.9**	**+0.2**
PCAB	**Cabril**	**145.37**	**343**	*e*PKPdf		**PKPab**	**07 21 50.4**	**+0.1**
MVO	**Moncorvo**	**145.58**	**342**	*e*PKPbc		**PKPbc**	**07 21 50.7**	**0.0**
POLO	**Lamas de Olo**	**145.61**	**343**	*e*PKPdf		**PKPbc**	**07 21 51.0**	**+0.1**
PVRL	**Vila Real**	**145.68**	**343**	*e*PKPdf		**PKPab**	**07 21 51.8**	**+0.3**
ESDC	**Sonseca Array**	**145.83**	**337**	PKPbc		**PKPdf**	**07 21 51.0**	**+0.2**
ESDC				pPKPbc		pPKPbc	07 22 21.6	-2.4
ESDC	**Sonseca Array**	**145.83**	**337**	PKPbc		**PKPdf**	**07 21 51.0**	**+0.2**
	comp=Z,1.3nm,0.4s,baz=20,slow=4.0,SNR=19							
ESDC				pPKPbc		pPKPbc	07 22 21.6	-2.4
	comp=Z,1.8nm,0.7s,baz=24,slow=4.2,SNR=3.5							
PAB	**San Pablo**	**146.09**	**337**	*e*PKP2		**PKPbc**	**07 21 52.4**	**0.0**
PAB	**San Pablo**	**146.09**	**337**	*e*PKPdf		**PKPbc**	**07 21 52.4**	**0.0**
PVIS	**Viseu**	**146.25**	**343**	*e*PKPab		**PKPbc**	**07 21 53.1**	**+0.3**
MTE	**Manteigas**	**146.43**	**342**	*e*PKPab		**PKPbc**	**07 21 53.6**	**+0.3**
MTE	**Manteigas**	**146.43**	**342**	*e*PKPbc		**PKPbc**	**07 21 53.8**	**+0.5**
PCBR	**Castelo Branco**	**146.92**	**341**	*e*PKPab		**PKPbc**	**07 21 54.8**	**+0.2**
PMRV	**Marv??o**	**147.27**	**341**	*e*PKPab		**PKPbc**	**07 21 55.8**	**+0.1**
PTOM	**Tomar**	**147.41**	**342**	*e*PKPab		**PKPbc**	**07 21 56.4**	**+0.4**
PESTR	**Estremoz**	**147.84**	**341**	*e*PKPbc		**PKPbc**	**07 21 57.0**	**-0.2**
PMTG	**Montargil**	**147.86**	**342**	*e*PKPbc		**PKPbc**	**07 21 57.0**	**-0.2**
EVO	**Evora**	**148.28**	**341**	*e*PKPbc		**PKPbc**	**07 21 58.3**	**-0.1**
LIS	**Lisbon**	**148.47**	**343**	*e*P		**PKPdf**	**07 21 55.3**	**+0.1**
LIS	**Lisbon**	**148.47**	**343**	*e*P		**PKPdf**	**07 21 55.3**	**+0.1**
PNCL	**Nicolau / Gran**	**148.83**	**341**	*e*PKPbc		**PKPbc**	**07 22 00.1**	**+0.3**
PCVE	**Castro Verde**	**149.11**	**340**	*e*PKPbc		**PKPbc**	**07 22 01.0**	**+0.5**
PVAQ	**Vaqueiros**	**149.21**	**340**	*e*PKPab		**PKPab**	**07 22 06.2**	**+0.8**
PTEO	**Sao Teotonio**	**149.41**	**341**	*e*PKPbc		**PKPbc**	**07 22 01.8**	**+0.6**
PTEO	**Sao Teotonio**	**149.41**	**341**	*e*PKPab		**PKPab**	**07 22 07.4**	**+1.2**
PBDV	**Barranco-do-Ve**	**149.43**	**340**	*e*PKPbc		**PKPbc**	**07 22 02.4**	**+1.1**
MORF	**Marmelete**	**149.61**	**341**	*e*PKPbc		**PKPbc**	**07 22 02.2**	**+0.4**
PFVI	**Vila Bisbo**	**149.82**	**341**	*e*PKPbc		**PKPbc**	**07 22 02.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**157.70**	**283**	PKP		**PKPdf**	**07 22 07.5**	**-1.7**
TORD				PKPab		**PKPab**	**07 22 39.9**	**-2.2**
TORD	**Torodi Ar. Bea**	**157.70**	**283**	PKP		**PKPdf**	**07 22 07.5**	**-1.7**
	comp=Z,0.8nm,0.9s,baz=337,slow=1.6,SNR=4.7							
TORD				PKPab		**PKPab**	**07 22 39.9**	**-2.2**
	comp=Z,1.5nm,0.9s,baz=76,slow=4.1,SNR=6.5							

IDC 01 07:08:02.5±5.1, 16.07S×173.15W, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/23, mbtmp4.0/6, ML2.4/1, Error ellipse: s-maj=222.1km s-min=23.1km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.53**	**32**	Pn	Pn	07 08 42.9	-2.0
	48nm,0.3s,baz=236,slow=3.6,SNR=6.6						
AFI				Sn	Sn	07 09 08.2	-8.3
	138nm,0.3s,baz=62,slow=23,SNR=9.1						
H11S2	**WAKE ISLAND Hy**	**39.66**	**329**	T	T	07 57 53.2	
	baz=152						
H11S3	**WAKE ISLAND Hy**	**39.67**	**329**	T	T	07 57 44.1	
	baz=152						
H11S1	**WAKE ISLAND Hy**	**39.68**	**329**	T	T	07 57 53.6	
	baz=152						
H11N3	**WAKE ISLAND Hy**	**40.61**	**330**	T	T	07 58 53.8	
	baz=152,slow=0.7,SNR=2.6						
H11N1	**WAKE ISLAND Hy**	**40.62**	**330**	T	T	07 58 59.3	
	baz=152,slow=0.7,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**40.63**	**330**	T	T	07 58 56.7	
	baz=152,slow=0.7,SNR=6.4						
STKA	**Stephens Creek**	**43.91**	**241**	P	P	07 16 10.5	-0.8
	2.1nm,0.8s,baz=82,slow=9.0,SNR=4.1						
WRA	**Warramunga Arr**	**49.93**	**257**	P	P	07 16 58.0	-0.5
	0.8nm,0.6s,baz=92,slow=7.2,SNR=5.4						
ASAR	**Alice Springs**	**50.13**	**252**	P	P	07 16 59.6	-0.5
	1.6nm,0.6s,baz=86,slow=8.2,SNR=15						
FITZ	**Fitzroy Crossi**	**58.31**	**258**	P	P	07 18 00.3	+0.6
	2.0nm,0.8s,baz=56,slow=7.3,SNR=2.6						
ILAR	**Eielson Array**	**83.06**	**11**	P	P	07 20 30.6	+1.1
	0.3nm,0.7s,baz=224,slow=6.3,SNR=3.8						

*AUST **01** 07:24:03.7±0.3, 15.21S×172.97W, h0km, Error ellipse: s-maj=9.7km s-min=5.9km az=142.0*
*IDC **01** 07:24:05.9±0.5, 15.35S×173.28W, h0km, mb4.5/20, mb1 4.7/20, mb1mx4.6/25, mbtmp4.5/20, MS4.5/25, Ms1 4.5/25, ms1mx4.4/41, Error ellipse: s-maj=19.6km s-min=13.6km az=118.0*
*NEIC **01** 07:24:07.7±0.2, 15.31S×173.42W, h10km, mb5.1/33, Error ellipse: s-maj=11.1km s-min=6.0km az=129.0*
*ISCJB **01** 07:24:09.5±0.2, 15.40S±0.06×173.35W±0.05, h33km, mb4.8/62, MS4.6/27, Error ellipse: s-maj=9.6km s-min=4.3km az=143.7*
*MOS **01** 07:24:11.0±1.3, 15.27S×173.56W, h33km, mb5.5/6, Error ellipse: s-maj=16.4km s-min=12.0km az=64.7*

ISC 01 07:24:10.4±0.3, 15.50S±0.07×173.12W±0.08, h29km, n390, σ1.906/362, mb4.8/62, MS4.6/27, 41C-15D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.05**	**40**	*e*Pn	Pn	07 24 34.8	-8.2
AFI				Pn	Pb	07 24 35.2	-12
AFI				*e*Sn	Sn	07 24 51.9	-16
AFI				Sn	Sb	07 24 53.9	-18
AFI	**Afiamalu**	**2.05**	**40**	Pn	Pn	07 24 35.2	-7.9
	324nm,0.3s,baz=43,slow=2.5,SNR=37						
AFI				Sn	Sn	07 24 53.9	-14
	1μm,0.3s,baz=60,slow=20,SNR=14						
NIUE	**Niue**	**4.69**	**140**	P	**Pn**	**07 25 17.7**	**-1.5**
	baz=4.8,SNR=48						
MSVF	**Nonsavu**	**8.75**	**254**	Pn	Pn	07 26 23.3	+8.2
	555nm,1.1s,SNR=14						
RAR	**Rarotonga**	**13.88**	**116**	*e*Pn	Pn	07 27 22.5	-2.8
RAR	**Rarotonga**	**13.88**	**116**	Pn	Pn	07 27 22.1	-3.2
	2.4nm,0.3s,baz=270,slow=6.9,SNR=6.4						
RAR				LR	LR	07 32 13.9	
	comp=Z,1μm,18.3s,baz=270,slow=35						
DZM	**Mont Dzumac**	**20.41**	**248**	*e*P	Pn	07 28 47.0	-0.6
	242nm,1.4s						
DZM				*e*LR	LR	07 33 57.4	
	2μm,24.8s						
DZM	**Mont Dzumac**	**20.41**	**248**	P	Pn	07 28 46.5	-1.1
DZM	**Mont Dzumac**	**20.41**	**248**	P	Pn	07 28 46.5	-1.1
	20nm,1.0s,baz=89,slow=18,SNR=8.4						
DZM				LR	LR	07 34 13.5	
	comp=Z,325nm,19.1s,baz=303,slow=30						
PPT	**Papeete**	**22.66**	**98**	LR	LR	07 36 47.8	
	comp=Z,842nm,18.8s,baz=114,slow=33						
PPT2	**Papeete2**	**22.67**	**99**	*e*LQ	LQ	07 33 36.0	
	2μm,26.8s						
PPT2				*e*LR	LR	07 34 09.3	
	1μm,25.5s						
TBI	**Tubuai**	**23.62**	**113**	*e*LQ	LQ	07 34 04.5	
	1μm,27.5s						
TBI				*e*LR	LR	07 34 57.3	
	2μm,25.0s,baz=292						
URZ	**Urewera**	**24.25**	**199**	*e*P	**P**	**07 29 24.2**	**-0.8**
	89nm,1.3s						
URZ	**Urewera**	**24.25**	**199**	P	**P**	**07 29 25.8**	**+0.9**
	16nm,0.7s,baz=13,slow=5.8,SNR=11						
URZ				LR	LR	07 37 41.0	
	comp=Z,1μm,19.7s,baz=28,slow=34						
HNR	**Honiara**	**26.96**	**280**	LR	LR	07 38 41.0	
	comp=Z,295nm,19.4s,baz=343,slow=33						
KHZ	**Kahutara**	**29.17**	**201**	*e*P	**P**	**07 30 09.6**	**+0.4**
RPZ	**Rata Peaks**	**31.19**	**202**	P	**P**	**07 30 27.1**	**+0.1**
RPZ	**Rata Peaks**	**31.19**	**202**	P	**P**	**07 30 27.1**	**+0.1**
	10nm,0.6s,baz=352,slow=2.4,SNR=5.1						
RKT	**Rikitea**	**36.71**	**108**	*e*LR	LR	07 40 56.7	
	606nm,26.0s,baz=292						
CNB	**Canberra Magne**	**38.90**	**232**	⇑P	**P**	**07 31 33.1**	**-0.6**
	baz=39,SNR=6.6						
CAN	**Canberra**	**39.18**	**233**	⇓P	**P**	**07 31 34.6**	**-1.4**
	baz=40						
H11S2	**WAKE ISLAND Hy**	**39.19**	**329**	T	T	08 13 02.8	
	baz=152,slow=0.7,SNR=12						
H11S3	**WAKE ISLAND Hy**	**39.20**	**329**	T	T	08 12 39.2	
	baz=152,slow=0.7,SNR=53						
H11S1	**WAKE ISLAND Hy**	**39.20**	**329**	T	T	08 12 39.4	
	baz=152,slow=0.7,SNR=20						
H11N3	**WAKE ISLAND Hy**	**40.13**	**330**	T	T	08 14 08.7	
	baz=138,slow=0.7,SNR=15						
H11N1	**WAKE ISLAND Hy**	**40.14**	**330**	T	T	08 14 10.5	
	baz=138,slow=0.7,SNR=29						
H11N2	**WAKE ISLAND Hy**	**40.15**	**330**	T	T	08 14 10.7	
	baz=138,slow=0.7,SNR=16						
MTSU	**Mount Surprise**	**40.76**	**260**	⇓P	**P**	**07 31 47.7**	**-1.6**
	baz=41						
COEN	**Coen**	**42.24**	**266**	*e*P	P	07 31 56.5	-4.9
	66nm,0.8s						
TOO	**Toolangi**	**42.61**	**231**	⇑P	**P**	**07 32 03.5**	**-0.7**
	baz=43						
STKA	**Stephens Creek**	**44.22**	**240**	P	**P**	**07 32 15.7**	**-1.5**
STKA	**Stephens Creek**	**44.22**	**240**	P	**P**	**07 32 16.1**	**-1.1**
	baz=44,SNR=9.9						
STKA	**Stephens Creek**	**44.22**	**240**	P	**P**	**07 32 15.7**	**-1.5**
	9.5nm,0.7s,baz=74,slow=8.5,SNR=17						
STKA				LR	LR	07 47 42.2	
	comp=Z,603nm,19.4s,baz=31,slow=32						
HTT	**Hallett**	**46.72**	**239**	⇑P	**P**	**07 32 36.1**	**-0.9**
	baz=47						
BBOO	**Buckleboo**	**48.99**	**240**	P	**P**	**07 32 53.1**	**-1.6**
	baz=49,SNR=13						
WRAB	**Tennant Creek**	**50.07**	**257**	*e*P	**P**	**07 33 01.7**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,22nm,1.1s						
WRAB	**Tennant Creek**	**50.07**	**257**	P	**P**	**07 33 01.1**	**-1.9**
	comp=Z,81nm,1.2s,SNR=7.5						
WRAB	**Tennant Creek**	**50.07**	**257**	*e*P	**P**	**07 33 01.7**	**-1.4**
	comp=Z,22nm,1.1s						
WRA	**Warramunga Arr**	**50.08**	**257**	P	**P**	**07 33 00.7**	**-2.4**
WRA				PcP	**PcP**	**07 34 22.4**	**-0.2**
WRA	**Warramunga Arr**	**50.08**	**257**	P	**P**	**07 33 00.7**	**-2.4**
	comp=Z,4.4nm,0.6s,baz=90,slow=6.7,SNR=52						
WRA				PcP	**PcP**	**07 34 22.4**	**-0.2**
	comp=Z,2.3nm,0.6s,baz=93,slow=3.2,SNR=5.7						
AS17	**Alice Springs**	**50.25**	**252**	⇓P	**P**	**07 33 03.6**	**-0.8**
	baz=50						
AS19	**Alice Springs**	**50.28**	**252**	⇓P	**P**	**07 33 03.7**	**-0.9**
	baz=50						
AS09	**Alice Springs**	**50.30**	**252**	⇓P	**P**	**07 33 03.8**	**-0.9**
	baz=50						
AS31	**Alice Springs**	**50.33**	**252**	*e*P	**P**	**07 33 02.6**	**-2.4**
ASAR	**Alice Springs**	**50.33**	**252**	P	**P**	**07 33 02.8**	**-2.2**
ASAR	**Alice Springs**	**50.33**	**252**	P	**P**	**07 33 02.8**	**-2.2**
	comp=Z,25nm,0.9s,baz=88,slow=8.8,SNR=130						
ASAR				LR	LR	07 52 08.9	
	comp=Z,588nm,19.8s,baz=88,slow=34						
FORT	**Forrest**	**55.61**	**243**	*e*P	**P**	**07 33 42.6**	**-1.2**
	comp=Z,23nm,0.7s						
FITZ	**Fitzroy Crossi**	**58.45**	**258**	⇑P	**P**	**07 34 03.4**	**-0.6**
	baz=59,SNR=4.0						
DRV	**Dumont d'Urvil**	**59.59**	**200**	PP	PP	07 35 55.0	-28
JCJ	**Chichijima**	**60.62**	**314**	LR	LR	07 55 50.2	
	comp=Z,340nm,18.6s,baz=120,slow=32						
SBA	**Scott Base**	**63.17**	**185**	*e*P	P	07 34 38.7	+3.5
SBA				pmax	pmax		
	comp=Z,137nm,2.3s						
SBA	**Scott Base**	**63.17**	**185**	*e*P	P	07 34 38.7	+3.5
	comp=Z,137nm,2.3s						
VNDA	**Vanda**	**63.30**	**186**	P	**P**	**07 34 38.1**	**+2.0**
VNDA	**Vanda**	**63.30**	**186**	P	**P**	**07 34 38.1**	**+2.0**
	comp=Z,8.5nm,1.0s,baz=9.9,slow=6.3,SNR=31						
VNDA				LR	LR	07 56 52.6	
	comp=Z,208nm,19.7s,baz=50,slow=31						
MEEK	**Meekatharra**	**64.02**	**248**	P	**P**	**07 34 41.1**	**-0.7**
	baz=54,SNR=4.0						
KLBR	**Kellerberrin**	**64.43**	**242**	P	**P**	**07 34 43.8**	**-0.6**
	baz=65,SNR=6.5						
FX1	**Attu Island--F**	**69.12**	**351**	LR	LR	08 00 25.1	
	comp=Z,614nm,18.5s,baz=224,slow=32						
MJAR	**Matsushiro Arr**	**69.19**	**320**	P	**P**	**07 35 13.3**	**-1.1**
MJAR	**Matsushiro Arr**	**69.19**	**320**	P	**P**	**07 35 13.3**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=164,slow=5.9,SNR=5.0						
MJAR				LR	LR	07 59 03.4	
	comp=Z,352nm,21.8s,baz=130,slow=30						
CASY	**Casey**	**70.43**	**205**	*e*P	**P**	**07 35 22.1**	**+0.5**
	comp=Z,1nm,1.1s						
ASAJ	**Asahikawa**	**71.77**	**328**	P	**P**	**07 35 30.0**	**0.0**
ASAJ	**Asahikawa**	**71.77**	**328**	P	**P**	**07 35 30.0**	**0.0**
	comp=Z,6.0nm,0.8s,baz=34,slow=11,SNR=2.8						
ASAJ				LR	LR	08 00 25.4	
	comp=Z,249nm,20.8s,baz=145,slow=30						
JNU	**Nakatsue**	**72.06**	**313**	P	**P**	**07 35 30.4**	**-1.7**
JNU	**Nakatsue**	**72.06**	**313**	P	**P**	**07 35 30.4**	**-1.7**
	comp=Z,3.4nm,0.6s,baz=154,slow=6.0,SNR=2.8						
PFO	**Pinyon Flat Ob**	**72.80**	**47**	LR	LR	08 00 34.4	
	comp=Z,620nm,18.7s,baz=152,slow=30						
PETK	**Petropavlovsk-**	**72.81**	**342**	P	**P**	**07 35 34.4**	**-1.7**
PETK	**Petropavlovsk-**	**72.81**	**342**	P	**P**	**07 35 34.4**	**-1.7**
PETK	**Petropavlovsk-**	**72.81**	**342**	P	**P**	**07 35 34.4**	**-1.7**
	comp=Z,3.4nm,0.7s,baz=113,slow=11,SNR=4.6						
PETK				LR	LR	08 02 47.4	
	comp=Z,135nm,18.8s,baz=240,slow=32						
LPIG	**La Paz**	**72.86**	**58**	LR	LR	07 59 09.5	
	comp=Z,304nm,19.8s,baz=163,slow=29						
MPMC	**Manuel Prospec**	**73.42**	**44**	P	**P**	**07 35 42.8**	**+2.5**
	baz=74						
GSC	**Goldstone**	**73.47**	**45**	P	**P**	**07 35 42.9**	**+2.4**
	baz=74						
NVAR	**Mina Array Bea**	**74.23**	**42**	P	**P**	**07 35 44.5**	**-0.6**
	comp=Z,2.3nm,0.8s,baz=224,slow=9.0,SNR=11						
NVAR				LR	LR	08 02 55.4	
	comp=Z,506nm,18.6s,baz=296,slow=31						
QSPA	**South Pole Qui**	**74.54**	**180**	*e*P	**P**	**07 35 47.9**	**+1.6**
	comp=Z,27nm,0.9s						
QSPA	**South Pole Qui**	**74.54**	**180**	LR	LR	08 01 52.6	
	comp=Z,378nm,19.2s,baz=219,slow=30						
KDAK	**Kodiak Island**	**74.97**	**11**	LR	LR	07 59 44.7	
	comp=Z,540nm,21.4s,baz=109,slow=29						
K05A	**Summer Lake**	**75.19**	**37**	*e*P	P	07 35 54.1	+3.6
	comp=Z,36nm,1.4s						
SHPR	**Sheep Range**	**75.24**	**45**	*e*P	P	07 35 54.8	+4.0
	comp=Z,28nm,1.8s						
Y14A	**Wickenburg**	**75.42**	**48**	P	**P**	**07 35 52.9**	**+1.1**
	baz=76						
R11A	**Troy Canyon, C**	**75.95**	**43**	P	**P**	**07 35 57.3**	**+2.4**
	baz=76						
WVOR	**Wild Horse Val**	**76.35**	**38**	*e*P	**P**	**07 35 58.7**	**+1.7**
WVOR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
WVOR	**Wild Horse Val**	**76.35**	**38**	*e*P	**P**	**07 35 58.6**	**+1.7**
	comp=Z,9.7nm,1.1s						
KSRS	**Korea Array**	**76.42**	**315**	P	**P**	**07 35 57.7**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=131,slow=6.1,SNR=3.3						
KSRS				LR	LR	08 02 46.0	
	comp=Z,154nm,21.2s,baz=100,slow=30						
KSAR	**Wonju Array Be**	**76.44**	**315**	P	**P**	**07 35 57.7**	**+0.3**
X16A	**Lo Mia Camp, P**	**76.78**	**48**	P	**P**	**07 36 01.1**	**+1.4**
	baz=77						
I07A	**Izee**	**76.82**	**37**	*e*P	**P**	**07 36 00.8**	**+1.2**
	comp=Z,73nm,2.4s						
319A	**Douglas**	**76.94**	**52**	P	**P**	**07 36 02.1**	**+1.5**
	baz=77						
J08A	**Circle Bar Ran**	**76.99**	**38**	*e*P	P	07 36 05.9	+5.3
	comp=Z,12nm,1.1s						
CCUT	**Cedar City**	**77.02**	**45**	*e*P	P	07 36 05.0	+3.9
	comp=Z,22nm,1.9s						
ARUT	**Antelope Range**	**77.09**	**45**	*e*P	P	07 36 04.7	+3.4
ARUT				pmax	pmax		
	comp=Z,216nm,1.4s						
ARUT	**Antelope Range**	**77.09**	**45**	*e*P	P	07 36 04.7	+3.4
	comp=Z,216nm,1.4s						
U15A	**North Rim**	**77.18**	**46**	P	**P**	**07 36 03.1**	**+1.1**
	baz=77						
ELK	**Elko**	**77.48**	**41**	*e*P	P	07 36 07.4	+3.8
	comp=Z,63nm,2.8s						
USRK	**Ussuriysk Arra**	**77.62**	**323**	P	**P**	**07 36 03.0**	**-1.0**
	comp=Z,2.0nm,0.8s,baz=143,slow=6.7,SNR=7.4						
USRK				LR	LR	08 03 16.5	
	comp=Z,321nm,21.2s,baz=58,slow=30						
220A	**Playas Peak, P**	**77.76**	**52**	P	**P**	**07 36 06.2**	**+1.0**
	baz=78						
G08A	**Pilot Rock**	**77.86**	**36**	*e*P	**P**	**07 36 06.3**	**+0.8**
	comp=Z,9.7nm,1.1s						
X18A	**Snowflake**	**77.92**	**49**	P	**P**	**07 36 07.2**	**+1.1**
	baz=78						
120A	**U Bar Ranch, L**	**77.97**	**51**	P	**P**	**07 36 07.6**	**+1.2**

Y25A	Mesa, Roswell	81.54	51	P		P	07 36 25.7	0.0
	baz=82							
W24A	Lazy 6 Ranch,	81.55	50	P		P	07 36 25.8	-0.1
	baz=82							
MSO	Missoula	81.61	37	*e*P		P	07 36 27.1	+1.4
	comp=Z,9.8nm,1.3s							
MSO	Missoula	81.61	37	P		P	07 36 25.9	+0.2
	baz=82							
REDW	Red Top Meadow	81.64	41	*e*P		P	07 36 27.8	+1.6
	comp=Z,14nm,1.4s							
TPAW	Teton Pass	81.64	41	*e*P		P	07 36 28.7	+2.5
S22A	4UR Ranch, Cre	81.64	47	P		P	07 36 26.5	+0.1
	baz=82							
BSMT	Bassoo Peak	81.69	35	*e*P		P	07 36 25.4	-0.8
428A	Kincaid Ranch,	81.78	55	P		P	07 36 26.9	-0.1
	baz=82							
Z26A	Caprock	81.81	52	P		P	07 36 26.9	-0.2
	baz=82							
IMW	Indian Meadow	81.86	40	*e*P		P	07 36 28.2	+0.9
	comp=Z,12nm,1.4s							
R22A	Saguache, Gunn	81.91	47	P		P	07 36 28.6	+0.8
	baz=82							
LOHW	Long Hollow	81.92	41	*e*P		P	07 36 28.4	+0.8
QLMT	Earthquake Lak	82.03	39	*e*P		P	07 36 28.6	+0.5
	comp=Z,0.4nm,0.5s							
127A	Arkansas Junct	82.04	53	P		P	07 36 29.7	+1.3
	baz=82							
CHMT	Chamberlain Mo	82.05	37	*e*P		P	07 36 27.2	-1.0
Q22A	Crested Butte,	82.09	46	P		P	07 36 29.0	+0.3
	baz=82							
FLWY	Flagg Ranch	82.10	40	*e*P		P	07 36 29.5	+1.0
	comp=Z,32nm,1.5s							
PDAR	Pinedale Array	82.16	42	P		P	07 36 28.8	-0.2
PDAR	Pinedale Array	82.16	42	P		P	07 36 28.8	-0.2
	comp=Z,1.8nm,1.0s,baz=169,slow=3.0,SNR=9.8							
PDAR				LR		LR	08 08 54.2	
	comp=Z,443nm,18.4s,baz=165,slow=33							
SMCO	Snowmass	82.19	46	*e*P		P	07 36 29.4	+0.1
	comp=Z,57nm,2.1s							
W25A	X Bar L Ranch,	82.26	50	P		P	07 36 30.3	+0.8
	baz=82							
H17A	Grant Village	82.33	40	P		P	07 36 31.8	+2.0
	baz=82							
429A	Davenport Ranc	82.37	55	P		P	07 36 31.0	+0.9
	baz=83							
V25A	Rancho No Teng	82.41	50	P		P	07 36 30.7	+0.4
	baz=83							
COLA	College	82.41	11	*e*P		P	07 36 28.1	-1.3
COLA	College	82.41	11	*e*P		P	07 36 28.1	-1.3
ILAR	Eielson Array	82.49	11	P		P	07 36 27.9	-1.9
ILAR	Eielson Array	82.49	11	P		P	07 36 27.9	-1.9
	comp=Z,1.6nm,0.6s,baz=224,slow=5.8,SNR=29							
IM04	Indian Mountai	82.52	8	*e*P		P	07 36 29.2	-0.8
P22A	Eagle	82.53	46	P		P	07 36 30.8	-0.1
	baz=83							
R23A	Moffat	82.55	47	P		P	07 36 30.9	-0.2
	baz=83							
L20A	Wamsutter	82.59	43	P		P	07 36 31.2	+0.1
	baz=83							
IMA2	Indian Mountai	82.63	8	*e*P		P	07 36 29.6	-1.1
329A	Wagon Wheel Ra	82.64	55	P		P	07 36 32.3	+0.9
	baz=83							
K19A	Absolon Red Bu	82.65	42	P		P	07 36 32.3	+0.9
	baz=83							
Y27A	Causey	82.68	52	P		P	07 36 31.6	-0.1
	baz=83							
SEY	Seymchan	82.69	345	⇓*e*P		P	07 36 30.3	-0.5
128A	Castleberry Fa	82.69	53	P		P	07 36 31.7	0.0
	baz=83							
J19A	Crowheart	82.73	41	P		P	07 36 31.6	-0.2
	baz=83							
S24A	Houchin Ranch,	82.75	48	P		P	07 36 32.2	0.0
	baz=83							
HRY	Holter Researc	82.77	37	*e*P		P	07 36 31.4	-0.4
U25A	Circle Dot Ran	82.80	49	P		P	07 36 32.5	+0.2
	baz=83							
K20A	Yellowstone Ra	82.90	42	P		P	07 36 32.3	-0.4
	baz=83							
O22A	Kremmling	82.93	45	P		P	07 36 32.9	-0.2
	baz=83							
631A	Perdido Creek	82.96	57	P		P	07 36 32.8	-0.3
	baz=83							
V26A	Tequesquite Ra	83.00	50	P		P	07 36 34.0	+0.7
	baz=83							
MSTX	Muleshoe	83.01	52	*e*P		P	07 36 33.5	+0.1
MSTX	Muleshoe	83.01	52	P		P	07 36 33.8	+0.4
	baz=83							
Z28A	Tucker Farm, M	83.03	53	P		P	07 36 33.2	-0.3
	baz=83							
H18A	Shoshone NF, C	83.04	40	P		P	07 36 33.8	+0.4
	baz=83							
R24A	Sanders Place,	83.08	47	P		P	07 36 33.7	-0.1
	baz=83							
I19A	Meeteetse	83.14	41	P		P	07 36 33.8	-0.1
	baz=83							
QIZ	Qiongzhong	83.19	292	P		P	07 36 36.4	+1.9
QIZ				S		S	07 46 56.8	+3.6
QIZ					AMB	AMB		
	comp=Z,42nm,2.4s							
L21A	Rawlins	83.21	43	P		P	07 36 34.8	+0.5
	baz=83							
W27A	Bowe Ranch, En	83.24	51	P		P	07 36 34.4	-0.1
	baz=84							
531A	Rocksprings	83.27	56	P		P	07 36 34.1	-0.6
	baz=84							
U26A	Atchley Ranch,	83.28	49	P		P	07 36 34.4	-0.5
	baz=84							
N22A	Wattenberg Ran	83.28	45	P		P	07 36 34.6	-0.2
	baz=84							
S25A	Robets Cordova	83.31	48	P		P	07 36 34.8	-0.2
	baz=84							
O23A	Lake Granby, G	83.38	45	P		P	07 36 35.4	0.0
	baz=84							
Y28A	McKinney Farm,	83.39	52	P		P	07 36 35.5	+0.2
	baz=84							
431A	Sonora	83.42	56	P		P	07 36 35.7	+0.2
	baz=84							
H19A	Powell	83.46	40	P		P	07 36 35.3	-0.1
	baz=84							
K21A	Alcova	83.59	43	P		P	07 36 36.1	-0.2
	baz=84							
632A	Uvalde	83.64	57	P		P	07 36 37.3	+0.7
	baz=84							
I20A	Worland	83.65	41	P		P	07 36 36.3	-0.1
	baz=84							
X28A	Dimmitt	83.67	52	P		P	07 36 36.3	-0.5
	baz=84							
N23A	Red Feather La	83.67	45	P		P	07 36 36.5	-0.3
	baz=84							
T26A	Comanche Natio	83.72	49	P		P	07 36 36.0	-1.0
	baz=84							
532A	Rocksprings	83.77	57	P		P	07 36 37.6	+0.3
	baz=84							
Y29A	Porterfield Fa	83.81	53	P		P	07 36 38.2	+0.8
	baz=84							
L22A	Ellis Ranch, M	83.86	43	P		P	07 36 37.8	+0.1
	baz=84							
O24A	Longmont	83.93	46	P		P	07 36 37.9	-0.1
	baz=84							
U27A	Thompson Grove	83.97	50	P		P	07 36 37.5	-0.8
	baz=84							
H20A	Greybull	83.99	41	P		P	07 36 38.6	+0.4
	baz=84							
S26A	Kim	83.99	48	P		P	07 36 38.1	-0.2
	baz=84							
Z30A	Sanderson Ranc	84.00	53	P		P	07 36 38.1	-0.3
	baz=84							
X29A	Tulia	84.02	52	P		P	07 36 38.1	-0.4
	baz=84							
F19A	Roth Farm, Mol	84.06	39	P		P	07 36 38.2	-0.3
	baz=84							
M23A	Laramie	84.08	44	P		P	07 36 38.3	-0.5
	baz=84							
I21A	Big Trails, Te	84.12	42	P		P	07 36 38.3	-0.6
	baz=84							
231A	Bronte	84.12	55	P		P	07 36 38.5	-0.5
	baz=84							
432A	Menard	84.14	56	P		P	07 36 38.8	-0.4
	baz=84							
V28A	Channing	84.14	51	P		P	07 36 38.8	-0.3
	baz=84							
COLD	Coldfoot	84.20	9	*e*P		P	07 36 39.3	+0.7
	comp=Z,13nm,1.2s							
R26A	Arlington	84.29	48	P		P	07 36 39.4	-0.5
	baz=84							
T27A	Campo	84.30	49	P		P	07 36 39.3	-0.7
	baz=84							
W29A	Amraillo	84.32	51	P		P	07 36 39.4	-0.7
	baz=85							
131A	Roby	84.34	54	P		P	07 36 39.8	-0.3
	baz=85							
332A	Millersview	84.37	55	P		P	07 36 39.9	-0.3
	baz=85							
L23A	Garrett	84.38	44	P		P	07 36 39.9	-0.5
	baz=85							
E19A	Rath Farm, Rou	84.45	39	P		P	07 36 39.9	-0.6
	baz=85							
J22A	Midwest	84.46	42	P		P	07 36 39.9	-0.7
	baz=85							
F20A	Billings	84.52	40	P		P	07 36 40.2	-0.6
	baz=85							
232A	Coleman	84.63	55	P		P	07 36 41.4	-0.2
	baz=85							
EGMT	Eagleton	84.65	37	P		P	07 36 40.7	-0.7
	baz=85							
I22A	9 Mile Ranch,	84.67	42	P		P	07 36 41.2	-0.5
	baz=85							
M24A	Cheyenne	84.68	45	P		P	07 36 41.5	-0.4
	baz=85							
Z31A	Sharp Cattle R	84.78	54	P		P	07 36 41.6	-0.7
	baz=85							
E20A	Meyer Farm, Mu	84.87	39	P		P	07 36 42.0	-0.5
	baz=85							
ABTX	Abilene, Hawle	84.91	54	*e*P		P	07 36 43.5	+0.5
C19A	Slack Wire Ran	84.92	38	P		P	07 36 43.1	+0.4
	baz=85							
D20A	Manuel Ranch,	85.15	38	P		P	07 36 43.7	-0.2
	baz=85							
Z32A	Haskell	85.29	54	P		P	07 36 44.6	-0.2
	baz=86							
X31A	McDonald Ranch	85.40	52	P		P	07 36 44.9	-0.5
	baz=86							
R28A	Tribune	85.48	48	P		P	07 36 45.6	-0.2
	baz=86							
A19A	Klindworth Far	85.69	37	P		P	07 36 46.0	-0.5
	baz=86							
BJI	Beijing	85.73	313	P		P	07 36 49.6	+2.8
BJI					AMB	AMB		
	comp=Z,8.0nm,1.4s							
V31A	Spring Creek L	85.93	51	P		P	07 36 48.6	+0.6
	baz=86							
G23A	Biddle	85.96	41	P		P	07 36 49.0	+1.0
	baz=86							
MAW	Mawson	87.78	199	P		P	07 36 57.0	+0.6
MAW	Mawson	87.78	199	P		P	07 36 57.0	+0.6
	comp=Z,6.3nm,0.8s,baz=120,slow=5.9,SNR=13							
MAW					LR	LR	08 11 36.1	
	comp=Z,426nm,18.5s,baz=41,slow=32							
GYA	Guiyang	88.33	298	⇑*i*P		P	07 37 01.8	+1.9
GYA					PP	PP	07 40 31.6	+3.7
GYA					SKS	SKSac	07 47 28.0	+0.7
GYA					S	S	07 47 44.2	+0.6
GYA					SS	SS	07 53 33.2	-0.8
GYA					AMB	AMB		
	comp=Z,20nm,1.0s							
GYA					AMB	AMB		
	comp=Z,120nm,6.6s							
GYA					LR	LR		
	comp=Z,590nm,21.4s							
GYA					LR	LR		
	comp=Z,410nm,22.8s							
GYA					LR	LR		
	comp=Z,540nm,20.2s							
PLCA	Paso Flores	89.25	132		LR	LR	08 07 11.3	
	comp=Z,436nm,19.1s,baz=316,slow=29							
HHC	Hu-ho-hao-te	89.29	313	*e*P		P	07 37 04.0	-0.1
HHC					pP	PcP	07 37 08.8	+3.3
HHC					sP	sP	07 37 11.0	-5.8
HHC					PP	PP	07 40 37.2	+1.9
HHC					SKS	SKSac	07 47 31.4	-1.0
HHC					S	S	07 47 51.1	-1.0
HHC					sS	ScS	07 47 59.1	+2.2
HHC					SS	SS	07 53 48.8	+1.4
HHC					AMB	AMB		
	comp=Z,24nm,1.0s							
HHC					AMB	AMB		
	comp=Z,570nm,5.3s							
HHC					LR	LR		
	comp=Z,310nm,16.1s							
HHC					LR	LR		
	comp=Z,400nm,15.5s							
HHC					LR	LR		
	comp=Z,250nm,16.1s							
YKA	Yellowknife Ar	90.09	23	P		P	07 37 07.0	-0.2
YKA	Yellowknife Ar	90.09	23	P		P	07 37 06.9	-0.2
	comp=Z,1.6nm,0.7s,baz=236,slow=4.9,SNR=4.8							
KMI	Kunming	91.31	296	P		P	07 37 17.4	+3.3
KMI					pP	pP	07 37 19.9	-3.5
KMI					AMB	AMB		
	comp=Z,8.0nm,1.0s							
CD2	Chengdu	92.09	301	P		P	07 37 18.9	+1.6
CD2					AMB	AMB		
	comp=Z,10.0nm,0.5s							
SYO	Syowa Base	92.55	191	⇑*e*P		P	07 37 17.6	-1.1
SYO	Syowa Base	92.55	191	⇓*e*pP		P	07 37 21.8	+3.1
SNAA	Sanae	92.79	177	*e*P		P	07 37 20.2	+0.3
SNAA	Sanae	92.79	177	*e*P		P	07 37 21.0	+1.2
	comp=Z,16nm,1.4s							
CMAR	Chiang Mai Arr	92.90	288	P		P	07 37 20.7	-0.6
CMAR	Chiang Mai Arr	92.90	288	P		P	07 37 20.7	-0.6
	comp=Z,1.2nm,0.3s,baz=85,slow=3.9,SNR=2.3							
VNA2	Neumayer--Watz	93.23	175	*e*P		P	07 37 23.2	+1.4
VNA1	Neumayer--Stat	93.43	175	*e*P		P	07 37 23.9	+1.2
LZH	Lanzhou	93.50	306	*e*P		P	07 37 24.1	+0.2
LZH					pP	pP	07 37 27.9	-5.3
LZH					sP	sP	07 37 29.8	-6.8
LZH					AMB	AMB		
	comp=Z,15nm,1.0s							
LZH					AMB	AMB		
	comp=Z,75nm,4.9s							
ULM	Lac du Bonnet	93.84	39		LR	LR	08 16 38.6	
	comp=Z,485nm,18.1s,baz=276,slow=34							
SONM	Songino Array	95.10	318	P		P	07 37 29.5	-1.4
SONM	Songino Array	95.10	318	P		P	07 37 29.5	-1.4
	comp=Z,0.3nm,0.4s,baz=93,slow=3.0,SNR=3.2							
BVAR	Borovoye Array	118.13	322		PKIKP	PKPdf	07 42 53.1	-1.4
BVAR	Borovoye Array	118.13	322		PKP	PKPdf	07 42 53.1	-1.4
BVAR	Borovoye Array	118.13	322		PKP	PKPdf	07 42 53.1	-1.4
	comp=Z,1.2nm,0.6s,baz=79,slow=3.2,SNR=6.4							
BRVK	Borovoye	118.18	322	*i*	PKIKP	PKPdf	07 42 53.9	-0.7
ARCES	ARCESS Array B	124.75	352		PKP	PKPdf	07 43 06.8	+0.1
ARCES	ARCESS Array B	124.75	352		PKP	PKPdf	07 43 06.8	+0.1
	comp=Z,4.0nm,0.8s,baz=335,slow=5.4,SNR=6.0							
AKTO	Aktyubinsk	126.23	322		PKIKP	PKPdf	07 43 10.4	+0.3
AKTO	Aktyubinsk	126.23	322		PKP	PKPdf	07 43 10.4	+0.3
AKTO	Aktyubinsk	126.23	322		PKP	PKPdf	07 43 10.4	+0.3
	comp=Z,0.3nm,0.3s,baz=96,slow=2.5,SNR=3.6							
OBN	Obninsk	134.31	337	⇑*i*	PKIKP	PKPdf	07 43 25.5	+0.3
OBN				*e*			07 45 54.8	
OBN				*e*			07 50 34.7	
OBN					pmax	pmax		
	comp=Z,34nm,0.4s							
OBN					MLR	MLR		
	comp=Z,200nm,20.0s							
AKASG	Malin Array Be	140.53	338		PKIKP	PKPdf	07 43 36.6	-0.3
AKASG	Malin Array Be	140.53	338		PKP	PKPdf	07 43 36.6	-0.3
AKASG	Malin Array Be	140.53	338		PKP	PKPdf	07 43 36.6	-0.3
	comp=Z,0.6nm,0.5s,baz=36,slow=2.8,SNR=3.7							
KIS	Kishinev	143.68	334	⇑	PKHKP	PKPpre	07 43 27.8	
KIS	Kishinev	143.68	334	⇑*i*	P	PKPpre	07 43 27.8	
CLL	Collm	143.95	353	*e*	PKIKP	PKPdf	07 43 47.0	+4.0
CLL	Collm	143.95	353	*e*	PKiKP	PKPdf	07 43 47.0	+4.0
MALT	Malatya	144.12	315	⇑	PKIKP	PKPdf	07 43 44.7	+0.8
MALT	Malatya	144.12	315	⇑*i*	P	PKPdf	07 43 44.7	+0.8
STHS	Stebnicka Huta	144.20	344	*e*	PKIKP	PKPbc	07 43 42.0	+0.3
STHS	Stebnicka Huta	144.20	344	*e*	PKP	PKPbc	07 43 42.0	+0.3
KOLS	Kolonicke sedl	144.35	343	*e*	PKIKP	PKPbc	07 43 42.3	+0.2
KOLS	Kolonicke sedl	144.35	343	*e*	PKP	PKPbc	07 43 42.3	+0.2
DPC	Dobruska-Polom	144.41	350	*e*	PKIKP	PKPdf	07 43 43.6	-0.3
DPC	Dobruska-Polom	144.41	350	*e*	PKP	PKPdf	07 43 43.6	-0.3
BURAR	Bucovina Array	144.56	338	⇑	PKIKP	PKPdf	07 43 44.2	-0.1
BURAR	Bucovina Array	144.56	338	⇑*i*	P	PKPdf	07 43 44.2	-0.1
CRVS	Cervenica-Dubn	144.61	343	*e*	PKIKP	PKPab	07 43 41.9	-0.9
CRVS	Cervenica-Dubn	144.61	343	*e*	PKP	PKPab	07 43 41.9	-0.9
UZH	Uzhgorod	144.62	342	*e*	PKIKP	PKPdf	07 43 44.0	-0.2
UZH				*e*			07 43 51.3	
UZH				*e*			07 43 55.0	
MORC	Moravsky Berou	144.73	348	⇑	PKIKP	PKPdf	07 43 43.5	-1.0
MORC	Moravsky Berou	144.73	348	⇑*i*	P	PKPdf	07 43 43.5	-1.0
MORC	Moravsky Berou	144.73	348	*e*	PKPdf	PKPdf	07 43 44.5	+0.1
TRPA	Tarpa	144.99	342	⇑*i*	P	PKPdf	07 43 44.7	-0.2
KECS	Kecovo	145.26	344	*e*	PKIKP	PKPdf	07 43 45.1	-0.3
KECS	Kecovo	145.26	344	*e*	PKP	PKPdf	07 43 45.0	-0.3
ARCR	ARCALIA	145.32	339	⇑*i*	P	PKPdf	07 43 45.7	+0.2
VRAC	Vranov	145.36	349		PKPbc	PKPdf	07 43 45.8	+0.3
VRAC	Vranov	145.36	349		PKPbc	PKPdf	07 43 45.8	+0.3
	comp=Z,4.3nm,0.3s,baz=300,slow=21,SNR=5.0							
CFR	Carcaliu	145.41	333	⇓	PKIKP	PKPdf	07 43 46.0	+0.3
CFR	Carcaliu	145.41	333	⇓*i*	P	PKPdf	07 43 46.0	+0.3
VRI	Vrincioaia	145.45	335	⇓	PKIKP	PKPab	07 43 47.5	+1.5
VRI	Vrincioaia	145.45	335	⇓*i*	P	PKPab	07 43 47.5	+1.5
PLOR	Plostina	145.49	335	⇑	PKIKP	PKPab	07 43 45.6	-0.6
PLOR	Plostina	145.49	335	⇑*i*	P	PKPab	07 43 45.6	-0.6
KMBO	Kilima Mbogo	145.73	244		PKPbc	PKPab	07 43 48.1	-0.1
KMBO				*e*	PKPdf	PKPbc	07 43 48.7	+0.8
KMBO	Kilima Mbogo	145.73	244		PKPbc	PKPab	07 43 48.1	-0.1
	comp=Z,2.7nm,0.6s,baz=62,slow=6.9,SNR=8.2							
TIRR	Tirgusor	145.85	332	⇓	PKIKP	PKPab	07 43 47.0	-0.5
TIRR	Tirgusor	145.85	332	⇓*i*	P	PKPab	07 43 47.0	-0.5
HARR	Harsova	145.88	333	⇑	PKIKP	PKPab	07 43 47.2	-0.4
HARR	Harsova	145.88	333	⇑*i*	P	PKPab	07 43 47.2	-0.4
DOPR	Dopca	145.89	337	⇑*i*	P	PKPab	07 43 48.3	+0.7
TLB	Topalu	145.92	333	⇑	PKP2	PKPab	07 43 47.0	-0.7
TLB	Topalu	145.92	333	⇑*i*	P	PKPab	07 43 47.0	-0.7
KHC	Kasperske Hory	146.02	352	*e*	PKIKP	PKPdf	07 43 46.4	-0.3
KHC	Kasperske Hory	146.02	352	*e*	PKP	PKPab	07 43 47.7	-0.3
KHC	Kasperske Hory	146.02	352	*e*	PKPdf	PKPdf	07 43 46.4	-0.3
MLR	Muntele Rosu	146.07	336		PKPbc	PKPbc	07 43 47.3	-0.6
MLR	Muntele Rosu	146.07	336		PKPbc	PKPbc	07 43 47.3	-0.6
	comp=Z,3.3nm,0.8s,baz=187,slow=4.2,SNR=12							
DRGR		146.13	340	⇑	PKP2	PKPab	07 43 48.5	0.0
DRGR		146.13	340	⇑*i*	P	PKPab	07 43 48.5	0.0
ISR	Istrita	146.13	335	⇑	PKP2	PKPbc	07 43 47.5	-0.5
ISR	Istrita	146.13	335	⇑*i*	P	PKPbc	07 43 47.5	-0.5
ISR	Istrita	146.13	335	⇑*i*	P	PKPab	07 43 51.0	+2.4
GERES	GERESS Array B	146.28	352		PKPbc	PKPbc	07 43 47.6	-0.7
GERES	GERESS Array B	146.28	352		PKPbc	PKPbc	07 43 47.6	-0.7
	comp=Z,1.3nm,0.7s,baz=20,slow=4.3,SNR=7.1							
BRTR	Keskin Array B	146.40	321		PKPbc	PKPbc	07 43 48.4	-0.7
BRTR	Keskin Array B	146.40	321		PKPbc	PKPbc	07 43 48.4	-0.7
	comp=Z,10nm,0.9s,baz=122,slow=1.6,SNR=28							
VOIR		146.47	337	⇑	PKP2	PKPab	07 43 49.4	-0.5
VOIR		146.47	337	⇑*i*	P	PKPab	07 43 49.4	-0.5
ARR	Arges	146.68	337	⇑*i*	P	PKPab	07 43 50.7	0.0
ANTO	Ankara	146.82	322	*e*	PKP2	PKPbc	07 43 50.0	-0.2
ANTO	Ankara	146.82	322	⇑*i*	P	PKPbc	07 43 50.2	0.0
ANTO	Ankara	146.82	322	*e*	PKPbc	PKPbc	07 43 50.0	-0.2
CONA	Conrad Observa	146.82	349	⇑*i*	pPKPdf	PKPab	07 43 50.9	-0.3
	comp=Z,16nm,1.0s							
SIRR	Siria	146.93	341	⇓*i*	P	PKPab	07 43 51.5	-0.1
LOT	Lotru	146.93	338	⇑*i*	P	PKPab	07 43 50.5	-1.3
GZR	Gura Zlata	147.33	339	⇑	PKP2	PKPab	07 43 53.2	-0.1
GZR	Gura Zlata	147.33	339	⇑*i*	P	PKPab	07 43 53.2	-0.1
ASF	Jabal al Asfar	148.07	307		PKPbc	PKPbc	07 43 54.5	+0.6
ASF	Jabal al Asfar	148.07	307		PKPbc	PKPbc	07 43 54.5	+0.6
	comp=Z,1.9nm,0.6s,baz=179,slow=3.5,SNR=4.1							
SOKA	Soboth	148.18	349	⇑*i*	pPKPbc	PKPab	07 43 55.8	-0.8
	comp=Z,9.8nm,1.0s							
PERS	Pernice	148.21	349	*i*	PKPbc	PKPab	07 43 59.0	+2.3
FETA	Feichten	148.41	355	⇓*i*	PKiKP	PKiKP	07 43 55.5	-0.5
	comp=Z,10nm,1.1s							
ABTA	Abfaltersbach	148.50	353	⇑*i*	pPKPdf	PKPbc	07 43 53.8	-0.8
	comp=Z,15nm,1.2s							
DAVOX	Davos/Dischmat	148.72	356		PKPbc	PKPbc	07 43 55.1	-0.1
DAVOX	Davos/Dischmat	148.72	356		PKPbc	PKPbc	07 43 55.1	-0.1
	comp=Z,4.5nm,0.6s,baz=202,slow=2.5,SNR=7.0							
MMAI	Mount Meron Ar	148.84	309		PKPbc	PKPbc	07 43 55.8	-0.1
MMAI	Mount Meron Ar	148.84	309		PKPbc	PKPbc	07 43 55.8	-0.1
	comp=Z,2.9nm,0.7s,baz=20,slow=4.6,SNR=3.2							
TUE	Stuetta	149.06	357	*e*	PKPdf	PKPdf	07 43 52.3	+0.3
TUE				*e*	PKPbc	PKiKP	07 43 57.9	+0.5
TUE				*e*	PKPab	PKPab	07 44 00.1	-0.1
VISS	Visnje	149.06	349	*i*	PKPbc	PKPab	07 44 01.1	+1.1
JAVS	Javornik	149.11	350	*i*	PKPdf	PKPbc	07 43 56.0	-0.2
JAVS				*i*	PKPbc	PKPab	07 44 01.3	+0.9
BOJS	Bojanci	149.27	348	*i*	PKPbc	PKPbc	07 43 58.0	+1.6
VTS	Vitosha	149.58	336	⇑	PKP2	PKPbc	07 43 58.3	+0.8
VTS	Vitosha	149.58	336	⇑*i*	P	PKPbc	07 43 58.3	+0.8
BNI	Bardonecchia	150.54	0	*e*	PKIKP	PKPab	07 44 06.5	+0.2
BNI	Bardonecchia	150.54	0	*e*	PKPab	PKPab	07 44 06.5	+0.2
EIL	Elat	150.59	303		PKPbc	PKPab	07 44 04.1	-2.8
EIL	Elat	150.59	303		PKPbc	PKPab	07 44 04.1	-2.8
	comp=Z,7.0nm,0.9s,baz=85,slow=7.7,SNR=5.9							
ESDC	Sonseca Array	154.12	19		PKPbc	PKPbc	07 44 07.5	-0.4
ESDC					PKPab	PKPab	07 44 19.4	-2.0
ESDC	Sonseca Array	154.12	19		PKPbc	PKPbc	07 44 07.5	-0.4
	comp=Z,0.3nm,0.4s,baz=316,slow=5.4,SNR=4.1	

s-maj=15.1km s-min=2.5km az=158.0

ISC 01 07:34:19.0±1.8,**33°.89N**±0°.06×**25°.54E**±0°.03,**h16**km±11km, **n51**,σ1§**39/78**,**mb3.4**/6,**Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.27**	**358**	P		**Pn**	**07 34 39.4**	**-2.7**
LAST				S		**Sn**	**07 34 59.1**	**+0.3**
LAST	**Lasithi**	**1.27**	**358**	*e*PB		**Pn**	**07 34 41.1**	**-1.0**
LAST				*e*SB		**Sg**	**07 35 00.5**	**+0.5**
LAST	**Lasithi**	**1.27**	**358**	*e*Pb		**Pn**	**07 34 41.1**	**-1.0**
LAST				S		**Sn**	**07 34 59.1**	**+0.3**
LAST				*e*Sb		**Sg**	**07 35 00.5**	**+0.5**
SIVA	**Sivas**	**1.27**	**332**	P		**Pn**	**07 34 39.6**	**-2.5**
SIVA				S		**Sb**	**07 34 57.6**	**-1.1**
SIVA	**Sivas**	**1.27**	**332**	*e*PG		**Pn**	**07 34 39.9**	**-2.2**
SIVA				*e*SB		**Sg**	**07 34 59.5**	**-0.7**
SIVA	**Sivas**	**1.27**	**332**	*e*Pg		**Pn**	**07 34 39.9**	**-2.2**
SIVA				S		**Sb**	**07 34 57.6**	**-1.1**
SIVA				*e*Sb		**Sg**	**07 34 59.5**	**-0.7**
ZKR	**Zakros**	**1.34**	**25**	P		**Pn**	**07 34 42.2**	**-0.9**
ZKR				S		**Sn**	**07 35 00.1**	**-0.5**
ZKR	**Zakros**	**1.34**	**25**	*e*PB		**Pn**	**07 34 42.7**	**-0.4**
ZKR				*e*SB		**Sg**	**07 35 03.4**	**+1.0**
ZKR	**Zakros**	**1.34**	**25**	P		**Pn**	**07 34 42.2**	**-0.9**
ZKR	**Zakros**	**1.34**	**25**	*e*Pb		**Pn**	**07 34 42.7**	**-0.4**
ZKR				S		**Sn**	**07 35 00.1**	**-0.5**
ZKR				*e*Sb		**Sg**	**07 35 03.4**	**+1.0**
NPS	**Neapolis**	**1.37**	**3**	P		**Pn**	**07 34 41.6**	**-1.8**
NPS				S		**Sn**	**07 35 00.6**	**-0.6**
NPS	**Neapolis**	**1.37**	**3**	*e*PB		**Pn**	**07 34 43.2**	**-0.2**
NPS				*e*SB		**Sg**	**07 35 04.5**	**+1.3**
NPS	**Neapolis**	**1.37**	**3**	*e*Pb		**Pn**	**07 34 43.2**	**-0.2**
NPS				S		**Sn**	**07 35 00.6**	**-0.6**
NPS				*e*Sb		**Sg**	**07 35 04.5**	**+1.3**
IDI	**Anoyia**	**1.49**	**339**	P		**Pn**	**07 34 44.1**	**-1.0**
IDI				S		**Sn**	**07 35 03.1**	**-1.2**
IDI	**Anoyia**	**1.49**	**339**	*e*PB		**Pn**	**07 34 45.0**	**-0.1**
IDI	**Anoyia**	**1.49**	**339**	P		**Pn**	**07 34 44.1**	**-1.0**
IDI	**Anoyia**	**1.49**	**339**	*e*Pb		**Pn**	**07 34 45.0**	**-0.1**
IDI				S		**Sn**	**07 35 03.1**	**-1.2**
IDI	**Anoyia**	**1.49**	**339**	Pn		Pn	07 34 41.8	-3.4
	4.6nm,0.3s,baz=149,slow=18,SNR=28							
GVD	**Gavdhos**	**1.53**	**309**	P		**Pb**	**07 34 46.3**	**-0.6**
GVD				S		**Sg**	**07 35 07.0**	**-1.2**
GVD	**Gavdhos**	**1.53**	**309**	*e*PB		**Pn**	**07 34 45.0**	**-0.5**
GVD				*e*SB		**Sg**	**07 35 07.0**	**-1.2**
GVD	**Gavdhos**	**1.53**	**309**	*e*Pb		**Pn**	**07 34 45.0**	**-0.5**
GVD	**Gavdhos**	**1.53**	**309**	P		**Pb**	**07 34 46.3**	**-0.6**
GVD				S		**Sg**	**07 35 07.0**	**-1.2**
VAM	**Vamos**	**1.87**	**324**	P		**Pn**	**07 34 50.2**	**-0.1**
VAM				S		**Sb**	**07 35 16.1**	**+0.2**
VAM	**Vamos**	**1.87**	**324**	*e*PG		**Pn**	**07 34 49.8**	**-0.5**
VAM	**Vamos**	**1.87**	**324**	*e*Pg		**Pn**	**07 34 49.8**	**-0.5**
VAM	**Vamos**	**1.87**	**324**	P		**Pn**	**07 34 50.2**	**-0.1**
VAM				S		**Sb**	**07 35 16.1**	**+0.2**
KARP	**Karpathos**	**2.13**	**39**	P		**Pb**	**07 34 55.8**	**-1.3**
KARP	**Karpathos**	**2.13**	**39**	*e*PN		**Pb**	**07 34 55.8**	**-1.3**
KARP				*e*SN		**Sg**	**07 35 26.2**	**-1.2**
KARP	**Karpathos**	**2.13**	**39**	P		**Pb**	**07 34 55.8**	**-1.3**
KARP				*e*Sn		**Sg**	**07 35 26.2**	**-1.2**
ANKY	**Antikythira Is**	**2.69**	**318**	*e*PN		**Pn**	**07 35 02.9**	**+1.3**
ANKY	**Antikythira Is**	**2.69**	**318**	*e*Pn		**Pn**	**07 35 02.9**	**+1.3**
KYTH	**Kithira**	**3.14**	**320**	*e*PN		**Pn**	**07 35 09.2**	**+1.4**
KYTH	**Kithira**	**3.14**	**320**	*e*Pn		**Pn**	**07 35 09.2**	**+1.4**
ARG	**Arkhangelos**	**3.15**	**42**	*e*PN		**Pn**	**07 35 09.9**	**+2.1**
ARG	**Arkhangelos**	**3.15**	**42**	*e*Pn		**Pn**	**07 35 09.9**	**+2.1**
APE	**Apeiranthos**	**3.17**	**360**	*e*PB		**Pn**	**07 35 10.2**	**+2.0**
APE	**Apeiranthos**	**3.17**	**360**	*e*Pb		**Pn**	**07 35 10.2**	**+2.0**
KLV	**Kalavryta, Ach**	**4.97**	**327**	*e*PN		**Pn**	**07 35 35.4**	**+2.5**
KLV	**Kalavryta, Ach**	**4.97**	**327**	*e*Pn		**Pn**	**07 35 35.4**	**+2.5**
MMAI	**Mount Meron Ar**	**8.29**	**93**	Pn		**Pn**	**07 36 19.3**	**+0.7**
	1.5nm,0.3s,baz=257,slow=13,SNR=2.5							
MMAI				Sn		**Sn**	**07 37 47.4**	**-4.5**
	4.2nm,0.3s,baz=250,slow=28,SNR=4.5							
BRTR	**Keskin Array B**	**8.72**	**46**	Pn		**Pn**	**07 36 25.7**	**+1.2**
	0.1nm,0.3s,baz=221,slow=13,SNR=5.5							
BRTR				Sn		**Sn**	**07 38 01.5**	**-1.0**
	0.1nm,0.3s,baz=222,slow=20,SNR=2.1							
EIL	**Elat**	**9.05**	**115**	Pn		**Pn**	**07 36 30.2**	**+1.2**
	0.8nm,0.3s,baz=0.0,slow=7.1,SNR=4.6							
EIL				Sn		**Sn**	**07 38 07.5**	**-3.0**
	0.4nm,0.3s,baz=38,slow=18,SNR=2.8							
KBZ	**Khabaz**	**16.69**	**49**	Pn		**P**	**07 38 14.6**	**+0.2**
	0.1nm,0.3s,baz=240,slow=18,SNR=2.9							
AKASG	**Malin Array Be**	**17.02**	**8**	Pn		**Pn**	**07 38 15.7**	**-0.3**
	0.8nm,0.3s,baz=198,slow=11,SNR=7.6							
GERES	**GERESS Array B**	**17.35**	**333**	P		**P**	**07 38 20.9**	**-0.8**
	0.2nm,0.3s,baz=149,slow=11,SNR=7.6							
ESDC	**Sonseca Array**	**24.26**	**292**	P		**P**	**07 39 35.5**	**+0.2**
	0.2nm,0.4s,baz=92,slow=11,SNR=3.7							
MDT	**Midelt**	**25.17**	**276**	P		**P**	**07 39 46.9**	**+3.2**
	0.8nm,0.7s,baz=101,slow=12,SNR=2.9							
TORD	**Torodi Ar. Bea**	**29.93**	**232**	P		**P**	**07 40 27.9**	**+1.6**
	0.2nm,0.5s,baz=27,slow=9.8,SNR=3.2							
KURBB	**Kurchatov Arra**	**41.69**	**50**	P		**P**	**07 42 07.0**	**+0.3**
	0.9nm,0.5s,baz=277,slow=8.6,SNR=20							
MKAR	**Makanchi Array**	**44.23**	**55**	P		**P**	**07 42 27.7**	**+0.4**
	1.2nm,0.7s,baz=278,slow=6.1,SNR=11							
ILAR	**Eielson Array**	**81.48**	**357**	P		**P**	**07 46 35.5**	**+0.5**
	0.2nm,0.8s,baz=345,slow=3.2,SNR=2.7							

IDC 01 07:34:58.2±3.3,**14°.21N**×**93°.88E**,**h0**km,**mb3.1**/2, **mb1 3.5**/3,**mb1mx3.3**/27,**mbtmp3.2**/3,**ML4.1**/1,**Error ellipse: s-maj=62.3km s-min=34.0km az=102.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.44**	**48**	Pn		Pn	07 36 35.0	+0.7
	1.2nm,0.3s,baz=238,slow=15,SNR=11							
CMAR				Sn		Sn	07 37 48.0	-0.5
	0.3nm,0.3s,baz=234,slow=29,SNR=2.3							
WRA	**Warramunga Arr**	**52.30**	**130**	P		P	07 44 12.6	+0.6
	0.2nm,0.6s,baz=311,slow=7.8,SNR=2.7							
ASAR	**Alice Springs**	**54.30**	**133**	P		P	07 44 25.8	-0.8
	0.1nm,0.5s,baz=307,slow=6.4,SNR=3.3							

*IDC **01** 07:39:26.6±0.6,56°.54N×120°.72E,h0km,mb3.9/16, mb1 4.0/18,mb1mx3.9/30,mbtmp3.8/18,ML3.5/2,MS3.9/7, Ms1 4.0/7,ms1mx3.6/45,Error ellipse: s-maj=16.8km s-min=15.3km az=21.0*

*MOS **01** 07:39:26.1±1.5,56°.65N×120°.92E,h8km,mb4.5/20, MS4.3/5,Error ellipse: s-maj=10.2km s-min=8.0km az=89.5*

*BYKL **01** 07:39:27.7±0.3,56°.59N×121°.00E,h10km±6km*

*NEIC **01** 07:39:31.3±2.2,56°.61N×120°.82E,h33km±17km,mb4.1/5, Error ellipse: s-maj=8.8km s-min=7.0km az=161.0*

ISC 01 07:39:26.1±1.1,**56°.49N**±0°.03×**120°.86E**±0°.02,**h1**km±7km, **n122**,σ1§**72**/121,**mb4.0**/28,**MS4.2**/6,**9C-9D,Southeastern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YKLR	**Yuktali**	**0.45**	**77**	⇑*i*Pg		**Pg**	**07 39 34.6**	**0.0**
YKLR				*e*			07 39 36.7	
YKLR				*i* Sg		**Sg**	**07 39 40.0**	**-0.5**
KHNR	**Khani**	**0.65**	**312**	⇑*i*Pg		**Pg**	**07 39 39.0**	**+0.5**
KHNR				*e*Pb		**Pn**	**07 39 42.8**	**+0.3**
KHNR				*i* Sg		**Sb**	**07 39 47.6**	**-2.2**
KHNR				*e*Sb		**Sn**	**07 39 54.1**	**+0.7**
CRS	**Chara**	**1.49**	**287**	*e*P		**Pg**	**07 39 55.9**	**+1.3**
CRS				*e*			07 40 16.7	
CRS				pmax	pmax			
	comp=Z,2μm,0.5s							
CRS				smax	smax			
	comp=E,4μm,1.0s							
CRS	**Chara**	**1.49**	**287**	⇓*i*Pg		**Pg**	**07 39 55.0**	**+0.4**
CRS				*i* Sg		**Sg**	**07 40 16.6**	**+2.8**
TUP	**Tupik**	**2.14**	**194**	*e*P		**Pb**	**07 40 06.8**	**+1.3**
TUP				*e*			07 40 36.5	
TUP				pmax	pmax			
	comp=Z,1μm,0.6s							
TUP				smax	smax			
	comp=N,3μm,0.5s							
TUP	**Tupik**	**2.14**	**194**	*e*Pn		**Pb**	**07 40 04.8**	**-0.7**
TUP				⇓*i*Pg		**Pg**	**07 40 07.0**	**0.0**
TUP				*e*			07 40 09.2	
TUP				max			07 40 10.1	
	comp=N,1μm,0.5s							
TUP				*e*			07 40 27.2	
TUP				*i* Sg		**Sg**	**07 40 36.3**	**+1.7**
TUP				Smax			07 40 38.0	
	comp=N,3μm,0.4s							
TUP	**Tupik**	**2.14**	**194**	P		**Pb**	**07 40 06.8**	**+1.3**
IENR	**Iengra**	**2.24**	**95**	⇓*i*Pn		**Pn**	**07 40 04.5**	**+0.2**
IENR				*e*Pg		**Pb**	**07 40 07.0**	**-0.3**
IENR				*e*			07 40 09.5	
IENR				*e*Sg		**Sb**	**07 40 35.8**	**+0.3**
IENR				*e*			07 40 50.8	
CLNS	**Chul'man**	**2.25**	**79**	*e*P		**Pn**	**07 40 05.0**	**+0.5**
CLNS				*e*			07 40 35.0	
CLNS				pmax	pmax			
	comp=E,1μm,0.9s							
CLNS				pmax	pmax			
	comp=N,727nm,0.7s							
CLNS				pmax	pmax			
	comp=Z,945nm,0.7s							
CLNS	**Chul'man**	**2.25**	**79**	*e*Pn		**Pn**	**07 40 05.0**	**+0.5**
CLNS				⇓*i*Pg		**Pb**	**07 40 07.4**	**-0.1**
CLNS				*e*Sg		**Sb**	**07 40 35.8**	**-0.1**
CLNS	**Chul'man**	**2.25**	**79**	P		**Pn**	**07 40 05.0**	**+0.5**
TNDR	**Tynda**	**2.56**	**120**	⇓*i*Pn		**Pn**	**07 40 10.4**	**+1.7**
TNDR				⇓*i*Pg		**Pb**	**07 40 12.7**	**-0.1**
TNDR				*e*			07 40 42.2	
TNDR				*e*Sg		**Sb**	**07 40 46.4**	**+1.7**
BOD	**Bodaibo**	**3.97**	**292**	*e*P		**Pn**	**07 40 28.8**	**+0.8**
BOD				pmax	pmax			
	comp=Z,201nm,1.5s							
BOD	**Bodaibo**	**3.97**	**292**	*e*Pn		**Pn**	**07 40 29.2**	**+1.2**
BOD				*e*Pg		**Pb**	**07 40 38.6**	**+1.9**
BOD				Pmax			07 40 41.9	
	comp=Z,203nm,1.5s							
BOD				*i* Sg		**Sg**	**07 41 29.7**	**-3.6**
BOD				*e*			07 41 36.9	
BOD				max			07 41 40.4	
	comp=Z,2μm,1.7s							
SVKR	**Severomuysk**	**4.09**	**268**	*e*P		**Pg**	**07 40 42.9**	**-1.4**
SVKR				pmax	pmax			
	comp=Z,437nm,1.9s							
SVKR	**Severomuysk**	**4.09**	**268**	⇑*i*Pn		Pn	07 40 32.3	+2.6
SVKR				*e*			07 40 34.2	
SVKR				*e*Pg		**Pg**	**07 40 43.0**	**-1.4**
SVKR				Pmax			07 40 44.8	
	comp=Z,440nm,1.3s							
SVKR				*e*			07 40 48.5	
SVKR				*e*Sn		**Sn**	**07 41 18.3**	**+0.2**
SVKR				*e*Sg		**Sg**	**07 41 36.3**	**-0.9**
SVKR				Smax			07 41 58.2	
	comp=Z,2μm,1.0s							
UKT	**Uakit**	**4.19**	**259**	*e*P		**Pb**	**07 40 42.7**	**+2.2**
UKT				pmax	pmax			
	comp=Z,143nm,0.6s							
UKT	**Uakit**	**4.19**	**259**	*e*Pn		**Pn**	**07 40 33.4**	**+2.3**
UKT				⇑*i*Pg		**Pb**	**07 40 42.8**	**+2.2**
UKT				Pmax			07 40 46.6	
	comp=Z,180nm,1.6s							
UKT				*e*Sg		**Sg**	**07 41 38.7**	**-1.7**
UKT				Smax			07 42 02.8	
	comp=Z,1μm,2.0s							
ZEA	**Zeya**	**4.59**	**124**	*i* Sg		**Sg**	**07 41 49.2**	**-4.1**
YOA	**Uoyan**	**5.10**	**270**	*e*Pg		Pg	07 41 01.4	-2.3
YOA				*e*			07 41 06.7	
YOA				max			07 41 11.6	
	comp=Z,354nm,1.4s							
YOA				*e*			07 41 18.4	
YOA				*e*Sg		**Sg**	**07 42 09.6**	**-0.2**
YOA				*e*			07 42 14.3	
YOA				max			07 42 38.8	
	comp=Z,8μm,1.9s							
VTMR	**Vitim**	**5.32**	**307**	*e*		**Pb**	**07 41 00.5**	**+0.8**
VTMR				*e*			07 41 07.4	
VTMR				*e*			07 41 50.7	
VTMR				*e*Sg		Sg	07 42 10.5	-6.3
KMO	**Kumora**	**5.43**	**268**	*e*P		Pn	07 40 50.7	+2.6
KMO	**Kumora**	**5.43**	**268**	⇑*i*Pn		**Pn**	**07 40 50.6**	**+2.5**
KMO				⇑*i*Pg		Pb	07 41 05.9	+4.2
KMO				Pmax			07 41 15.1	
	comp=Z,108nm,1.5s							
KMO				*e*			07 41 55.2	
KMO				*e*Sg		**Sg**	**07 42 18.1**	**-2.3**
KMO				*e*			07 42 24.0	
KMO				max			07 42 27.9	
	comp=Z,1μm,1.6s							
KMO	**Kumora**	**5.43**	**268**	P		**Pn**	**07 40 50.6**	**+2.5**
YLYR	**Ulyunkhan**	**5.72**	**258**	*e*P		**Pn**	**07 40 54.7**	**+2.6**
YLYR				pmax	pmax			
	comp=Z,92nm,1.0s							
YLYR	**Ulyunkhan**	**5.72**	**258**	⇓*i*Pn		**Pn**	**07 40 54.0**	**+1.9**
YLYR				⇓*i*Pg		Pb	07 41 10.8	+4.2
YLYR				Pmax			07 41 24.1	
	comp=Z,91nm,1.4s							
YLYR				*e*			07 42 11.7	
YLYR				*i* Sg		**Sg**	**07 42 27.0**	**-2.7**
YLYR				Smax			07 42 34.2	
	comp=Z,1μm,1.8s							
YLYR	**Ulyunkhan**	**5.72**	**258**	P		**Pn**	**07 40 54.6**	**+2.5**
CIT	**Chita**	**6.20**	**227**	*e*		Pg	07 41 42.2	+17
CIT				*e*Sg		**Sg**	**07 42 43.3**	**-1.6**
CIT				Smax			07 42 48.9	
	comp=Z,2μm,2.1s							
NIZ	**Nizh Angarsk**	**6.37**	**268**	Pg		Pg	07 41 24.9	-3.1
NIZ				Pmax			07 41 27.2	
	comp=Z,53nm,1.8s							
NIZ				*e*			07 42 04.7	
NIZ				*i* Sg		**Sg**	**07 42 48.1**	**-2.4**
NIZ				Smax			07 43 00.0	
	comp=Z,551nm,2.2s							
SYVR	**Suvo**	**6.85**	**250**	Pg		Pg	07 41 33.6	-3.7
SYVR				Pmax			07 41 35.9	
	comp=Z,3.0nm,0.1s							
SYVR				*e*			07 41 39.2	
SYVR				*e*			07 42 46.4	
SYVR				*i* Sg		**Sg**	**07 43 04.2**	**-1.8**
SYVR				*e*			07 43 11.3	
SYVR				max			07 43 28.2	
	comp=Z,903nm,1.8s							
YAK	**Yakutsk**	**7.16**	**35**	*e*P		**Pn**	**07 41 10.8**	**-0.9**
YAK				*e*			07 42 29.2	
YAK				pmax	pmax			
	comp=Z,33nm,0.4s							
YAK				pmax	pmax			
	comp=N,6.0nm,0.2s							
YAK				pmax	pmax			
	comp=E,20nm,0.5s							
YAK				smax	smax			
	comp=E,330nm,0.7s							
YAK				smax	smax			
	comp=N,316nm,0.8s							
YAK				MLR	MLR			
	comp=Z,604nm,7.7s							
MXMB	**Maximikha**	**7.70**	**250**	*e*		Pg	07 41 49.8	-3.7
MXMB				max			07 42 00.6	
	comp=Z,21nm,0.3s							
MXMB				*e*Sg		**Sg**	**07 43 30.2**	**-2.9**
MXMB				*e*			07 43 34.3	
MXMB				max			07 43 43.9	
	comp=Z,748nm,1.2s							
OGRR	**Ongureny**	**8.13**	**255**	*e*		**Sn**	**07 42 55.9**	**-1.8**
OGRR				*e*Sg		**Sg**	**07 43 43.0**	**-4.0**
OGRR				Smax			07 43 49.0	
	comp=Z,568nm,2.3s							
KPC	**Khapcheranga**	**8.50**	**220**	*e*Pg		Pg	07 42 02.6	-6.1
KPC				Pmax			07 42 14.3	
	comp=Z,10.0nm,0.4s							
KPC				*e*			07 43 20.5	
KPC				*e*Sg		Sg	07 43 53.8	-4.9
KPC				*e*			07 43 57.1	
KPC				max			07 44 20.1	
	comp=Z,667nm,2.3s							
ZRHB	**Zarechye**	**8.89**	**249**	*e*Sg		Sg	07 44 05.5	-5.8
ZRHB				Smax			07 44 23.8	
	comp=Z,2μm,1.9s							
UUDB	**Ulan-Yde**	**9.02**	**245**	*e*		x	07 42 09.3	
UUDB				max			07 42 12.3	
	comp=Z,20nm,1.3s							
UUDB				*e*			07 44 01.8	
UUDB				*e*Sg		Sn	07 44 10.0	+51
UUDB				Smax			07 44 21.2	
	comp=Z,779nm,1.6s							
TRG	**Tyrgan**	**9.21**	**252**	*e*		x	07 42 10.6	
TRG				*e*Pg		Pn	07 42 16.5	+37
TRG				Pmax			07 42 25.9	
	comp=Z,5.0nm,0.1s							
TRG				*e*Sg		Sn	07 44 16.9	+53
TRG				*e*			07 44 21.7	
TRG				max			07 44 29.5	
	comp=Z,388nm,2.0s							
KAB	**Kabansk**	**9.42**	**248**	*e*			07 42 57.2	
KAB				*e*Sg		Sn	07 44 22.9	+53
KAB				*e*			07 44 29.7	
KAB				max			07 44 50.1	
	comp=Z,2μm,2.0s							
HRMR	**Khuramsha**	**9.51**	**245**	*e*			07 43 51.6	
HRMR				*e*Sg		Sn	07 44 24.6	+53
HRMR				Smax			07 44 52.9	
	comp=Z,1μm,2.0s							
KLR	**Kul'dur**	**9.80**	**133**	*e*P		Pn	07 41 44.3	-3.7
KLR				MLR	MLR			
	comp=N,2μm,10.0s							
KLR				MLR	MLR			
	comp=Z,3μm,10.0s							
LSTR	**Listvyanka**	**10.47**	**250**	*e*		x	07 42 35.0	
LSTR				Pg		Pn	07 42 38.1	+41
LSTR				*e*			07 42 45.6	
LSTR				*e*			07 44 13.8	
LSTR				*e*Sg			07 44 54.7	
LSTR				Smax			07 45 12.9	
	comp=Z,265nm,2.3s							
IRK	**Irkutsk**	**10.57**	**253**	*e*Sg			07 45 00.4	
IRK				*e*			07 45 07.5	
IRK				max			07 45 16.1	
	comp=Z,326nm,1.3s							
TLY	**Talaya**	**11.19**	**252**	*e*Sg			07 45 18.1	
TLY				*e*			07 45 22.7	
TLY				max			07 45 43.6	
	comp=Z,134nm,2.4s							
HABR	**Khabarovsk**	**11.78**	**127**	P		Pn	07 42 23.4	+8.3
HABR							07 44 31.2	
HABR				MLR	MLR			
	comp=Z,333nm,15.0s							
ZAK	**Zakamensk**	**12.12**	**247**	*e*P		Pn	07 42 25.2	+5.4
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.6s							
ZAK	**Zakamensk**	**12.12**	**247**	*e*			07 45 25.8	
ZAK				*e*Sg			07 45 48.3	
ZAK				Smax			07 46 27.4	
	comp=Z,177nm,2.2s							
SONM	**Songino Array**	**12.39**	**232**	Pn		**Pn**	**07 42 25.3**	**+1.7**
SONM				Sn		**Sn**	**07 44 36.6**	**-5.6**
SONM				Lg		Lg	07 45 57.1	
SONM	**Songino Array**	**12.39**	**232**	Pn		**Pn**	**07 42 25.3**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=35,slow=15,SNR=12							
SONM				Sn		**Sn**	**07 44 36.6**	**-5.6**
	comp=Z,0.4nm,0.3s,baz=33,slow=20,SNR=2.8							
SONM				Lg		Lg	07 45 57.1	
	comp=Z,1.8nm,0.3s,baz=37,slow=26,SNR=6.0							
MOY	**Mondy**	**12.61**	**256**	*e*		Pn	07 42 36.6	+10
MOY				*e*			07 42 40.1	
MOY				*e*			07 43 27.5	
MOY				*e*			07 45 44.5	
MOY				*i* Sg			07 46 03.3	
MOY				Smax			07 46 28.7	
	comp=Z,352nm,1.9s							
ORL	**Orlik**	**12.84**	**261**	*e*		**Pn**	**07 42 31.2**	**+1.5**
ORL				max			07 42 47.5	
	comp=Z,3.0nm,1.0s							
ORL				*e*			07 45 40.0	
ORL				*e*Sg			07 46 06.0	
ORL				Smax			07 46 26.8	
	comp=Z,214nm,2.2s							
USRK	**Ussuriysk Arra**	**14.18**	**145**	Pn		**P**	**07 42 52.7**	**-2.9**
	comp=Z,0.2nm,0.3s,baz=350,slow=16,SNR=4.1							
USRK				Lg			07 46 55.7	
	comp=Z,0.2nm,0.3s,baz=341,slow=26,SNR=8.5							
USRK				LR		LR	07 48 41.9	
	comp=Z,384nm,21.1s,baz=138,slow=39							
TIXI	**Tiksi**	**15.59**	**9**	*i* P		**Pn**	**07 43 04.1**	**-2.5**
TIXI				pmax	pmax			
	comp=Z,16nm,0.7s							
TIXI	**Tiksi**	**15.59**	**9**	P		**Pn**	**07 43 04.1**	**-2.5**
HVS	**Khovu-Aksy**	**16.85**	**263**	*c* iP		**P**	**07 43 26.4**	**+1.2**
HVS				pmax	pmax			
	comp=Z,124nm,1.8s							
SEY	**Seymchan**	**17.02**	**55**	⇑*e*P		**P**	**07 43 25.8**	**-1.1**
SEY	**Seymchan**	**17.02**	**55**	P		**P**	**07 43 25.8**	**-1.1**
ASAJ	**Asahikawa**	**18.50**	**123**	LR		LR	07 51 22.5	
	comp=Z,196nm,20.7s,baz=334,slow=38							
KSRS	**Korea Array**	**19.63**	**163**	P		**Pn**	**07 43 58.9**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=356,slow=8.5,SNR=5.0							
KSRS				Lg		Lg	07 49 53.6	
	comp=Z,0.3nm,0.3s,baz=348,slow=29,SNR=9.2							
KSRS				LR		LR	07 51 54.6	
	comp=Z,210nm,19.4s,baz=332,slow=38							
KSAR	**Wonju Array Be**	**19.63**	**163**	P		**Pn**	**07 43 58.9**	**+1.7**
KSAR				Lg		Lg	07 49 53.6	
ZAA0	**Zalesovo Array**	**20.57**	**278**	*e*P		Pn	07 44 06.4	-1.7
ZALV	**Zalesovo Beam**	**20.57**	**278**	P		Pn	07 44 08.9	+0.8
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.3s							
ZALV	**Zalesovo Beam**	**20.57**	**278**	P		Pn	07 44 08.9	+0.8
ZALV	**Zalesovo Beam**	**20.57**	**278**	P		Pn	07 44 08.9	+0.8
	comp=Z,2.5nm,0.3s,baz=65,slow=8.1,SNR=2.7							
NVS	**Novosibirsk**	**21.12**	**281**	⇑*i*P		P	07 44 16.3	+4.5
NVS				*i*			07 44 36.0	
NVS				pmax	pmax			
	comp=Z,26nm,1.1s							
NVS				pmax	pmax			
	comp=N,6.0nm,0.8s							
NVS				pmax	pmax			
	comp=E,13nm,0.8s							
PETK	**Petropavlovsk-**	**21.33**	**84**	P		**P**	**07 44 17.6**	**+3.4**
PETK				pmax	pmax			
	comp=Z,7.0nm,0.8s					

VRHR	**Novokhopersk**	**44.67**	**298**	*e*P		**P**	**07 47 37.9**	**-2.1**
VRHR				pmax	pmax				
	comp=Z,10.0nm,0.6s								
VRHR				pmax	pmax				
	comp=N,6.0nm,0.5s								
VRHR				pmax	pmax				
	comp=E,10.0nm,0.5s								
FINES	**FINESS Array B**	**44.97**	**317**	P		**P**	**07 47 42.0**	**-0.2**
FINES	**FINESS Array B**	**44.97**	**317**	P		**P**	**07 47 42.0**	**-0.2**
	comp=E,1.6nm,0.5s,baz=44,slow=9.0,SNR=11								
VSR	**Storozhevoye**	**45.79**	**300**	*e*P		**P**	**07 47 48.9**	**0.0**
VSR				pmax	pmax				
	comp=Z,10.0nm,1.1s								
VSR				pmax	pmax				
	comp=N,10.0nm,0.7s								
VSR				pmax	pmax				
	comp=E,3.0nm,0.3s								
VORD	**Divnogorie**	**45.89**	**299**	*e*P		**P**	**07 47 48.0**	**-1.6**
VORD				pmax	pmax				
	comp=E,10.0nm,0.9s								
VORD				pmax	pmax				
	comp=Z,7.0nm,0.9s								
VORD				pmax	pmax				
	comp=N,4.0nm,0.8s								
KIV	**Kislovodsk**	**48.88**	**290**	*e*P		**P**	**07 48 14.0**	**+0.8**
KIV				pmax	pmax				
	comp=Z,10.0nm,1.1s								
KIV				MLR	MLR				
	comp=Z,415nm,16.0s								
HFS	**Hagfors**	**50.33**	**322**	P		**P**	**07 48 23.1**	**-0.7**
HFS	**Hagfors**	**50.33**	**322**	P		**P**	**07 48 23.1**	**-0.7**
	comp=Z,2.1nm,0.5s,baz=76,slow=6.1,SNR=10								
NOA	**NORSAR Array B**	**50.50**	**324**	P		**P**	**07 48 23.8**	**-1.4**
NOA	**NORSAR Array B**	**50.50**	**324**	P		**P**	**07 48 23.8**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=44,slow=7.4,SNR=2.8								
AKASG	**Malin Array Be**	**50.80**	**305**	P		**P**	**07 48 27.0**	**-0.5**
AKASG				pmax	pmax				
	comp=Z,3.0nm,0.4s								
AKASG	**Malin Array Be**	**50.80**	**305**	P		**P**	**07 48 27.0**	**-0.5**
AKASG	**Malin Array Be**	**50.80**	**305**	P		**P**	**07 48 27.0**	**-0.5**
	comp=Z,2.6nm,0.4s,baz=41,slow=8.4,SNR=16								
KIEV	**Kiev**	**50.81**	**305**	*e*P		**P**	**07 48 27.4**	**-0.2**
BRTR	**Keskin Array B**	**56.61**	**293**	P		**P**	**07 49 11.3**	**+0.9**
BRTR	**Keskin Array B**	**56.61**	**293**	P		**P**	**07 49 11.3**	**+0.9**
	comp=Z,1.2nm,0.9s,baz=66,slow=1.5,SNR=4.6								
KHC	**Kasperske Hory**	**58.72**	**313**	*i* P		**P**	**07 49 26.4**	**+1.4**
PMG	**Port Moresby**	**69.17**	**152**	LR		LR	08 17 54.9		
	comp=Z,130nm,19.2s,baz=276,slow=33								
PDAR	**Pinedale Array**	**72.38**	**37**	P		**P**	**07 50 54.9**	**+1.2**
PDAR	**Pinedale Array**	**72.38**	**37**	P		**P**	**07 50 54.9**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=273,slow=5.6,SNR=3.9								
NVAR	**Mina Array Bea**	**73.03**	**45**	P		**P**	**07 50 58.5**	**+0.8**
NVAR	**Mina Array Bea**	**73.03**	**45**	P		**P**	**07 50 58.5**	**+0.8**
	comp=Z,0.7nm,0.9s,baz=335,slow=7.9,SNR=3.6								
ESDC	**Sonseca Array**	**73.46**	**319**	P		**P**	**07 50 59.9**	**0.0**
ESDC	**Sonseca Array**	**73.46**	**319**	P		**P**	**07 50 59.9**	**0.0**
	comp=Z,0.1nm,0.3s,baz=38,slow=4.9,SNR=4.9								
FITZ	**Fitzroy Crossi**	**74.41**	**175**	*e*P		**P**	**07 51 05.5**	**+0.1**
	comp=Z,0.9nm,0.5s								
WRAB	**Tennant Creek**	**76.97**	**167**	*e*P		**P**	**07 51 20.5**	**+0.4**
WRAB				pmax	pmax				
	comp=Z,3.0nm,0.9s								
WRAB	**Tennant Creek**	**76.97**	**167**	*e*P		**P**	**07 51 20.5**	**+0.4**
	comp=Z,2.8nm,0.9s								
WRA	**Warramunga Arr**	**76.98**	**167**	P		**P**	**07 51 19.9**	**-0.2**
WRA	**Warramunga Arr**	**76.98**	**167**	P		**P**	**07 51 19.9**	**-0.2**
	comp=Z,0.8nm,0.9s,baz=347,slow=7.0,SNR=4.4								
ASAR	**Alice Springs**	**80.60**	**168**	P		**P**	**07 51 40.3**	**+0.3**
ASAR	**Alice Springs**	**80.60**	**168**	P		**P**	**07 51 40.3**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=4.3,slow=5.7,SNR=3.8								
NWAO	**Narrogin (SRO)**	**89.12**	**183**	*e*P		**P**	**07 52 22.7**	**+0.1**
	comp=Z,3.6nm,0.8s								
VNDA	**Vanda**	**136.15**	**168**	PKP		**PKPdf**	**07 58 48.2**	**+1.1**
VNDA	**Vanda**	**136.15**	**168**	PKP		**PKPdf**	**07 58 48.2**	**+1.1**
	comp=Z,1.0nm,1.0s,baz=327,slow=3.5,SNR=2.9								
QSPA	**South Pole Qui**	**146.25**	**180**	PKPbc		**PKPbc**	**07 59 05.9**	**-0.9**
QSPA	**South Pole Qui**	**146.25**	**180**	PKPbc		**PKPbc**	**07 59 05.9**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=254,slow=1.3,SNR=9.2								

IDC ***01*** *07:48:39.4±0.6, 10.76N×74.67W, h0km, mb4.0/11, mb1 4.2/13, mb1mx4.0/26, mbtmp4.0/13, ML4.0/2, MS3.6/3, Ms1 3.6/3, ms1mx3.4/37, Error ellipse: s-maj=23.7km s-min=14.8km az=63.0*

ISCJB ***01*** *07:48:41.8±0.4, 10.88N±0.04×74.54W±0.04, h33km, mb4.0/15, Error ellipse: s-maj=5.9km s-min=5.5km az=34.2*

NEIC ***01*** *07:48:42.3±2.0, 10.83N×74.58W, h21km±15km, mb4.4/5, Error ellipse: s-maj=8.4km s-min=6.1km az=55.0*

ISC 01 07:48:44.6±0.5, 10.87N±0.05×74.54W±0.05, h35km, n46, σ1s38/53, mb4.2/15, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SDV	**Santo Domingo**	**4.32**	**117**	*e*Pn		**Pn**	**07 49 47.0**	**-1.1**
SDV				*e*Sn		**Sn**	**07 50 35.4**	**-2.0**
BCIP	**Isla Barro Col**	**5.49**	**253**	*e*Pn		**Pn**	**07 50 03.4**	**-0.5**
	54nm,0.6s							
BCIP				*e*Sn		**Sn**	**07 51 06.8**	**+1.0**
ROSC	**El Rosal**	**5.97**	**178**	*e*Pn		**Pn**	**07 50 12.1**	**+1.1**
ROSC				*e*Sn		**Sn**	**07 51 19.4**	**+1.0**
ROSC	**El Rosal**	**5.97**	**178**	Pn		**Pn**	**07 50 10.9**	**0.0**
	1.0nm,0.3s,baz=277,slow=18,SNR=5.1							
ROSC				Sn		Sn	07 51 29.2	+11
	10nm,0.3s,baz=270,slow=20,SNR=2.5							
ROSC				LR		LR	07 52 41.7	
	comp=Z,187nm,20.8s,baz=184,slow=41							
SDDR	**Presa de Saban**	**8.66**	**21**	*e*Pn		**Pn**	**07 50 47.2**	**-0.3**
	15nm,0.5s							
SDDR				*e*Sn		**Sn**	**07 52 23.7**	**-0.3**
JTS	**JuntasAbangare**	**10.26**	**268**	*e*Pn		**Pn**	**07 51 07.6**	**-1.8**
JTS				*e*Sn		**Sn**	**07 53 04.0**	**+0.8**
JTS	**JuntasAbangare**	**10.26**	**268**	Pn		Pn	07 51 05.8	-3.6
	0.6nm,0.3s,baz=90,slow=20,SNR=5.2							
JTS				Sn		**Sn**	**07 53 01.9**	**-1.4**
	0.9nm,0.3s,baz=181,slow=12,SNR=5.8							
JTS				LR		LR	07 54 32.0	
	comp=Z,396nm,18.6s,baz=220,slow=35							
SJG	**San Juan**	**10.85**	**47**	Sn		Sn	07 53 08.0	-10
	0.1nm,0.3s,baz=41,slow=20,SNR=17							
OTAV	**Otavalo**	**11.25**	**200**	*e*Pn		**Pn**	**07 51 22.9**	**-0.6**
	4.5nm,0.6s							
APG	**El Apazote**	**16.06**	**287**	Pn		**P**	**07 52 31.7**	**+0.5**
APG	**El Apazote**	**16.06**	**287**	Pn		**P**	**07 52 31.7**	**+0.5**
	0.1nm,0.3s,baz=122,slow=12,SNR=8.1							
APG				LR		LR	07 58 21.0	
	comp=Z,533nm,20.2s,baz=229,slow=36							
TEIG	**Tepich**	**16.17**	**307**	Pn		**Pn**	**07 52 27.3**	**-2.0**
TEIG	**Tepich**	**16.17**	**307**	Pn		**Pn**	**07 52 27.3**	**-2.0**
	0.9nm,0.3s,baz=350,slow=21,SNR=8.7							
ATAH	**Atahualpa**	**18.29**	**192**	P		**Pn**	**07 52 59.8**	**+3.6**
ATAH	**Atahualpa**	**18.29**	**192**	P		**Pn**	**07 52 59.8**	**+3.6**
	0.4nm,0.3s,baz=54,slow=8.7,SNR=2.9							
SAML	**Samuel**	**22.70**	**150**	*e*P		**P**	**07 53 41.5**	**-1.9**
	8.2nm,0.8s							
SAML				*e*S		**S**	**07 57 48.8**	**-0.8**
LPAZ	**La Paz**	**27.71**	**167**	*e*P		**P**	**07 54 28.8**	**-1.8**
	7.3nm,0.9s							
LPAZ	**La Paz**	**27.71**	**167**	P		**P**	**07 54 29.6**	**-0.9**
	3.3nm,0.5s,baz=327,slow=7.3,SNR=19							
SIV	**San Ignacio**	**29.83**	**153**	P		**P**	**07 54 48.0**	**-0.7**
SIV	**San Ignacio**	**29.83**	**153**	P		**P**	**07 54 48.0**	**-0.7**
	1.5nm,0.8s,baz=329,slow=9.6,SNR=4.0							
TXAR	**Lajitas Array**	**32.80**	**308**	P		**P**	**07 55 13.7**	**-1.2**
TXAR	**Lajitas Array**	**32.80**	**308**	P		**P**	**07 55 13.7**	**-1.2**
	0.5nm,0.7s							
LVC	**Limon Verde**	**33.73**	**171**	*e*P		**P**	**07 55 21.8**	**-1.4**
	3.6nm,0.7s							
ANMO	**Albuquerque**	**37.65**	**315**	*e*P		**P**	**07 55 56.3**	**-0.4**
	0.8nm,0.7s							
CPUP	**Villa Florida**	**40.58**	**156**	*e*P		**P**	**07 56 20.9**	**-0.1**
CFAA	**Coronel Fontan**	**42.66**	**172**	P		**P**	**07 56 37.1**	**-0.9**
CFAA	**Coronel Fontan**	**42.66**	**172**	P		**P**	**07 56 37.1**	**-0.9**
	0.3nm,0.6s,baz=356,slow=15,SNR=6.9							
PDAR	**Pinedale Array**	**44.02**	**323**	P		**P**	**07 56 48.6**	**-0.5**
PDAR				PcP		**PcP**	**07 58 36.1**	**+1.7**
PDAR	**Pinedale Array**	**44.02**	**323**	P		**P**	**07 56 48.6**	**-0.5**
	1.0nm,1.0s,baz=102,slow=11,SNR=4.6							
PDAR				PcP		**PcP**	**07 58 36.1**	**+1.7**
	0.5nm,0.8s,baz=134,slow=3.9,SNR=4.3							
SCHQ	**Schefferville**	**44.28**	**6**	P		**P**	**07 56 53.3**	**+2.6**
SCHQ	**Schefferville**	**44.28**	**6**	P		**P**	**07 56 53.3**	**+2.6**
	3.3nm,0.8s,baz=217,slow=15,SNR=4.3							
REDW	**Red Top Meadow**	**45.14**	**322**	*e*P		**P**	**07 56 58.1**	**0.0**
	7.3nm,1.0s							
PLCA	**Paso Flores**	**51.47**	**176**	P		**P**	**07 57 47.2**	**+0.6**
PLCA	**Paso Flores**	**51.47**	**176**	P		**P**	**07 57 47.2**	**+0.6**
	4.0nm,0.8s,baz=352,slow=9.6,SNR=6.2							
YKA	**Yellowknife Ar**	**59.01**	**340**	P		**P**	**07 58 40.4**	**-0.3**
YKA	**Yellowknife Ar**	**59.01**	**340**	P		**P**	**07 58 40.3**	**-0.3**
	1.8nm,0.9s,baz=131,slow=7.1,SNR=4.8							
DBIC	**Dimbokro**	**68.87**	**87**	P		**P**	**07 59 46.9**	**+0.5**
DBIC	**Dimbokro**	**68.87**	**87**	P		**P**	**07 59 46.9**	**+0.5**
	3.2nm,0.8s,baz=242,slow=6.1,SNR=3.0							
TORD	**Torodi Ar. Bea**	**74.33**	**79**	P		**P**	**08 00 19.6**	**+0.3**
TORD	**Torodi Ar. Bea**	**74.33**	**79**	P		**P**	**08 00 19.6**	**+0.3**
	0.4nm,0.5s,baz=286,slow=6.8,SNR=7.2							
ARCES	**ARCESS Array B**	**83.39**	**20**	P		**P**	**08 01 09.7**	**+1.7**
ARCES	**ARCESS Array B**	**83.39**	**20**	P		**P**	**08 01 09.7**	**+1.7**
	2.6nm,0.9s,baz=306,slow=2.7,SNR=4.5							
ASAR	**Alice Springs**	**150.08**	**241**	PKPbc		**PKPbc**	**08 08 31.6**	**-0.9**
ASAR	**Alice Springs**	**150.08**	**241**	PKPbc		**PKPbc**	**08 08 31.6**	**-0.9**
	1.5nm,0.7s,baz=114,slow=3.2,SNR=13							
WRA	**Warramunga Arr**	**150.78**	**249**	PKPbc		**PKPbc**	**08 08 33.5**	**-0.8**
WRA	**Warramunga Arr**	**150.78**	**249**	PKPbc		**PKPbc**	**08 08 33.5**	**-0.8**
	1.1nm,0.5s,baz=98,slow=2.5,SNR=3.9							

IDC 01 07:50:49.8±5.4, 15.06S×173.15W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.4/21, mbtmp3.4/2, Error ellipse: s-maj=315.0km s-min=25.7km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**1.75**	**49**	Pn		Pn	07 51 21.4	-0.1
	baz=180,slow=11,SNR=2.3							
AFI				Sn		Sn	07 51 38.8	-5.9
	29nm,0.3s,baz=229,slow=19,SNR=4.5							
H11S2	**WAKE ISLAND Hy**	**38.80**	**329**	T		T	08 38 45.7	
	baz=151,slow=0.7,SNR=7.4							
H11S3	**WAKE ISLAND Hy**	**38.81**	**329**	T		T	08 38 43.1	
	baz=151,slow=0.7,SNR=6.9							
H11S1	**WAKE ISLAND Hy**	**38.82**	**329**	T		T	08 38 43.3	
	baz=151,slow=0.7,SNR=6.0							
WRA	**Warramunga Arr**	**50.16**	**256**	P		P	07 59 47.4	-0.1
	0.2nm,0.6s,baz=90,slow=6.9,SNR=3.4							
ASAR	**Alice Springs**	**50.45**	**252**	P		P	07 59 49.4	-0.3
	0.3nm,0.4s,baz=87,slow=8.2,SNR=4.4							
BRTR	**Keskin Array B**	**146.05**	**322**	PKPbc		PKPdf	08 10 31.5	+0.1
	0.4nm,0.5s,baz=77,slow=1.9,SNR=2.3							

IDC 01 07:52:33.5±4.8, 15.65S×172.98W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/21, mbtmp3.8/4, Error ellipse: s-maj=222.8km s-min=30.6km az=136.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**44.27**	**240**	P		P	08 00 45.2	+0.1
	1.1nm,0.2s,baz=100,slow=5.2,SNR=2.7							
WRA	**Warramunga Arr**	**50.18**	**257**	P		P	08 01 31.5	+0.1
	0.5nm,0.7s,baz=92,slow=7.6,SNR=4.2							
ASAR	**Alice Springs**	**50.42**	**252**	P		P	08 01 33.2	0.0
	1.5nm,0.9s,baz=88,slow=7.7,SNR=8.1							
ILAR	**Eielson Array**	**82.61**	**11**	P		P	08 04 59.0	+0.9
	0.3nm,0.7s,baz=223,slow=6.2,SNR=3.8							
BRTR	**Keskin Array B**	**146.60**	**321**	PKPbc		PKPdf	08 12 15.0	-1.0
	0.6nm,0.6s,baz=29,slow=3.3,SNR=2.8							

IDC 01 07:53:19.5±1.0, 16.11S×173.14W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.8/22, mbtmp3.7/5, MS3.3/1, Ms1 3.3/1, ms1mx3.0/42, Error ellipse: s-maj=44.1km s-min=26.0km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**2.56**	**31**	Sn		Sn	07 54 22.8	-12
	44nm,0.3s,baz=90,slow=20,SNR=3.4							
AFI				LR		LR	07 54 39.2	
	comp=Z,620nm,21.8s,baz=229,slow=31							
WRA	**Warramunga Arr**	**49.93**	**257**	P		P	08 02 15.0	-0.5
	0.6nm,0.7s,baz=92,slow=7.0,SNR=2.8							
ASAR	**Alice Springs**	**50.13**	**252**	P		P	08 02 16.3	-0.7
	1.1nm,0.6s,baz=88,slow=8.2,SNR=6.1							
QSPA	**South Pole Qui**	**73.94**	**180**	P		P	08 04 56.7	+0.2
	0.7nm,0.8s,baz=132,slow=1.3,SNR=3.6							
NVAR	**Mina Array Bea**	**74.69**	**42**	P		P	08 05 00.8	-0.6
	0.4nm,0.7s,baz=230,slow=11,SNR=2.9							
ILAR	**Eielson Array**	**83.09**	**11**	P		P	08 05 46.5	-0.2
	0.4nm,0.8s,baz=218,slow=5.7,SNR=3.2							
BRTR	**Keskin Array B**	**146.86**	**321**	PKPbc		PKPab	08 13 05.5	-0.1
	0.3nm,0.3s,baz=96,slow=2.5,SNR=2.6							

IDC 01 07:56:47.1±1.9, 13.72N×92.12W, h0km, mb3.7/3, mb1 4.1/7, mb1mx3.9/26, mbtmp3.9/7, ML3.9/3, MS3.3/1, Ms1 3.3/1, ms1mx2.9/36, Error ellipse: s-maj=38.6km s-min=23.3km az=5.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
APG	**El Apazote**	**2.06**	**51**	Pn		Pn	07 57 23.3	0.0
	24nm,0.3s,baz=219,slow=8.6,SNR=336							
APG				Sn		Sn	07 57 50.6	+0.7
	26nm,0.3s,baz=248,slow=8.0,SNR=18							
TEIG	**Tepich**	**7.45**	**29**	Pn		Pn	07 58 37.5	+0.4
	11nm,0.3s,baz=220,slow=3.2,SNR=111							
TEIG				Sn		Sn	07 59 58.6	-3.8
	baz=282,slow=19,SNR=1.6							
TEIG				LR		LR	08 00 57.4	
	comp=Z,185nm,18.1s,baz=196,slow=34							
JTS	**JuntasAbangare**	**7.80**	**115**	Pn		Pn	07 58 41.9	0.0
	0.7nm,0.3s,baz=294,slow=19,SNR=9.5							
JTS				Lg		Lg	08 00 46.5	
	0.1nm,0.3s,baz=141,slow=14,SNR=3.4							
TXAR	**Lajitas Array**	**18.87**	**327**	P		Pn	08 01 09.6	-0.1
ANMO	**Albuquerque**	**24.79**	**331**	P		P	08 02 10.7	-0.4
	1.0nm,0.7s,baz=155,slow=12,SNR=5.4							
NVAR	**Mina Array Bea**	**33.82**	**321**	P		P	08 03 32.1	+0.6
	1.1nm,0.9s,baz=135,slow=7.8,SNR=5.9							
ILAR	**Eielson Array**	**63.05**	**337**	P		P	08 07 15.2	-0.8
	1.5nm,1.1s,baz=133,slow=5.1,SNR=7.7							
CMAR	**Chiang Mai Arr**	**146.22**	**341**	PKPbc		PKPdf	08 16 29.9	+0.4
	3.0nm,0.9s,baz=340,slow=4.2,SNR=8.0							

IDC 01 08:08:52.7±1.9, 15.10S×177.38W, h0km, mb4.0/5, mb1 4.3/5, mb1mx3.9/19, mbtmp4.0/5, MS4.2/9, Ms1 4.2/9, ms1mx3.9/34, Error ellipse: s-maj=127.0km s-min=23.2km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**5.55**	**78**	LR		LR	08 12 12.4	
	comp=Z,557nm,19.4s,baz=252,slow=36							
DZM	**Mont Dzumac**	**16.82**	**243**	*e*LR		LR	08 17 20.7	
	971nm,24.0s							
DZM	**Mont Dzumac**	**16.82**	**243**	LR		LR	08 18 19.8	
	comp=Z,803nm,18.2s,baz=27,slow=34							
URZ	**Urusvera**	**23.57**	**191**	LR		LR	08 21 35.6	
	comp=Z,492nm,19.5s,baz=30,slow=32							
PPT2	**Papeete2**	**26.78**	**99**	*e*LQ		LQ	08 19 58.6	
	431nm,28.2s							
PPT2				*e*LR		LR	08 21 13.8	
	238nm,27.0s							
TBI	**Tubuai**	**27.57**	**112**	*e*LR		LR	08 21 59.8	
	102nm,25.2s							
H11S2	**WAKE ISLAND Hy**	**36.88**	**334**	T		T	08 54 14.1	
	baz=152,slow=0.7,SNR=10							
H11S3	**WAKE ISLAND Hy**	**36.89**	**334**	T		T	08 54 19.2	
	baz=152,slow=0.7,SNR=13							
H11S1	**WAKE ISLAND Hy**	**36.90**	**334**	T		T	08 54 16.6	
	baz=152,slow=0.7,SNR=13							
STKA	**Stephens Creek**	**40.88**	**239**	P		P	08 16 37.2	+0.4
	8.4nm,0.9s,baz=93,slow=7.1,SNR=10							
STKA				LR		LR	08 31 26.6	
	comp=Z,385nm,18.9s,baz=31,slow=33							
ASAR	**Alice Springs**	**46.55**	**252**	P		P	08 17 21.8	-0.9
	1.6nm,0.8s,baz=83,slow=8.5,SNR=15							
FITZ	**Fitzroy Crossi**	**54.51**	**258**	LR		LR	08 38 56.0	
	comp=Z,139nm,18.2s,baz=187,slow=33							
BATI	**Baumata**	**57.60**	**267**	LR		LR	08 38 55.9	
	comp=Z,263nm,19.5s,baz=163,slow=31							
NWAO	**Narrogin (SRO)**	**61.42**	**241**	LR		LR	08 42 58.9	
	comp=Z,261nm,20.7s,baz=298,slow=33							
PETK	**Petropavlovsk-**	**71.25**	**344**	LR		LR	08 45 51.1	
	comp=Z,133nm,20.6s,baz=53,slow=31							
NVAR	**Mina Array Bea**	**76.73**	**44**	P		P	08 20 45.9	-0.4
	0.8nm,0.8s,baz=224,slow=10,SNR=5.5							
ILAR	**Eielson Array**	**82.95**	**13**	P		P	08 21 19.1	0.0
	1.6nm,1.1s,baz=214,slow=5.3,SNR=7.7							
TXAR	**Lajitas Array**	**83.67**	**57**	LR		LR	08 55 51.7	
	comp=Z,178nm,18.4s,baz=25,slow=34							
PDAR	**Pinedale Array**	**84.65**	**43**	P		P	08 21 28.8	+0.1
	0.6nm,0.9s,baz=237,slow=3.1,SNR=3.8							
GERES	**GERESS Array B**	**145.14**	**347**	PKPbc		PKPab	08 28 31.9	0.0
	0.3nm,0.2s,baz=55,slow=5.1,SNR=6.6							

KRSC 01 08:16:13.0±4.5, 52.57N×162.61E, h74km±75km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MKZ	**Mys Kozlova**	**2.06**	**346**	P		Pn	08 16 46.7	+1.3
MKZ				S		Sn	08 17 09.8	-0.4
NLC	**Nalytchevo**	**2.07**	**288**	P		Pn	08 16 47.9	+2.3
NLC				S		Sn	08 17 11.5	+1.1
SDLR	**Sedlovina**	**2.36**	**289**	P		Pn	08 16 52.4	+2.6
SDLR				S		Sn	08 17 19.6	+1.7
UGLR	**Uglovaya**	**2.38**	**287**	S		Sn	08 17 20.8	+2.5
AVH	**Avacha**	**2.44**	**288**	P		Pn	08 16 53.5	+2.7
AVH				S		Sn	08 17 21.4	+1.6
PET	**Petropavlovsk**	**2.44**	**282**	S		Sn	08 17 20.8	+1.3
KRER	**Koryakskii**	**2.45**	**289**	P		Pn	08 16 53.5	+2.5
KRER				S		Sn	08 17 21.3	+1.1
RUS	**Russkaya**	**2.51**	**268**	P		Pn	08 16 54.1	+2.6
RUS				S		Sn	08 17 22.2	+1.1
KOK	**Koryaka**	**2.51**	**288**	P		Pn	08 16 54.3	+2.6
KOK				S		Sn	08 17 23.0	+1.6
KRX	**Arik**	**2.52**	**290**	P		Pn	08 16 54.7	+2.8
KRX				S		Sn	08 17 23.8	+2.0
MTVR	**Mutnovka**	**2.71**	**270**	P		Pn	08 16 56.7	+2.3
MTVR				S		Sn	08 17 26.9	+0.7
ASAK	**Asacha**	**2.89**	**268**	P		Pn	08 17 00.1	+3.3
ASAK				S		Sn	08 17 32.6	+2.1
GNL	**Ganaly**	**3.03**	**294**	P		Pn	08 17 01.7	+2.9
GNL				S		Sn	08 17 35.7	+1.7
TUMR	**Tumrok**	**3.08**	**333**	P		Pn	08 17 02.5	+3.0
TUMR				S		Sn	08 17 36.9	+1.6
KMNR	**Kamenistaya**	**3.48**	**337**	P		Pn	08 17 07.8	+2.9
KMNR				S		Sn	08 17 46.2	+1.1
KBTR	**Krutoberegovo**	**3.65**	**2**	P		Pn	08 17 08.7	+1.7
KBTR				S		Sn	08 17 47.7	-1.1
SMKR	**Semkarok**	**4.08**	**351**	P		Pn	08 17 16.0	+3.1
SRDR	**Sredinnyy**	**4.12**	**337**	P		Pn	08 17 17.0	+3.5

AUST ***01*** *08:21:36.8±1.1, 19.69S×133.93E, h0km, Error ellipse: s-maj=21.4km s-min=8.7km az=51.0*

ISCJB ***01*** *08:21:37.1±0.8, 19.77S±0.06×134.1E±0.1, h12km, mb3.5/1, Error ellipse: s-maj=14.8km s-min=7.6km az=157.7*

IDC ***01*** *08:21:37.5±1.4, 19.94S×134.03E, h0km, mb3.6/1, mb1 3.9/3, mb1mx3.6/15, mbtmp3.9/3, ML3.9/2, MS2.8/1, Ms1 2.8/1, ms1mx2.6/34, Error ellipse: s-maj=9.1km s-min=2.9km az=91.0*

ISC 01 08:21:38.2±0.9, 19.81S±0.08×134.03E±0.08, h12km, n9, σ2s22/11, 3C-1D, Northern Territory

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**0.32**	**114**	Pg		**Pg**	**08 21 43.2**	**-1.4**
	71nm,0.3s,baz=270,slow=15,SNR=448							
WRA				Lg		Lg	08 21 46.5	
	146nm,0.3s,baz=271,slow=33,SNR=272							
AS01	**Alice Springs**	**3.84**	**181**	⇑P		**Pn**	**08 22 39.5**	**+2.3**
	baz=4.0							
ASAR	**Alice Springs**	**3.84**	**182**	Pn		**Pn**	**08 22 39.4**	**+2.2**
	5.3nm,0.3s,baz=12,slow=8.8,SNR=189							
ASAR				Sn		**Sn**	**08 23 23.1**	**+0.7**
	7.9nm,0.

comp=E,3.1nm,0.6s,baz=228,slow=9.8,SNR=4.1
QSPA South Pole Qui 69.06 180 P **P** **08 37 51.3 +0.6**
comp=E,2.1nm,0.5s,baz=162,slow=5.6,SNR=50
PDAR Pinedale Array 74.14 330 P **P** **08 38 23.4 +1.8**
comp=E,0.5nm,0.9s,baz=112,slow=7.3,SNR=3.7
TORD Torodi Ar. Bea 76.58 70 P **P** **08 38 35.0 -0.8**
comp=E,3.0nm,0.5s,baz=258,slow=6.0,SNR=36
VNDA Vanda 77.33 190 P **P** **08 38 40.4 +1.4**
comp=E,0.7nm,1.0s,baz=130,slow=4.5,SNR=3.5
MAW Mawson 84.48 163 P **P** **08 39 17.5 +0.5**
comp=E,1.1nm,0.5s,baz=213,slow=5.2,SNR=6.2
YKA Yellowknife Ar 91.08 340 P **P** **08 39 47.4 -1.1**
comp=E,1.2nm,0.6s,baz=133,slow=4.6,SNR=6.2
BORG Borgarnes 92.86 18 LR LR 09 20 59.8
comp=E,110nm,18.4s,baz=106,slow=35
ASAR Alice Springs 130.56 207 PKP **PKPdf** **08 45 54.6 -0.8**
comp=E,0.4nm,0.5s,baz=131,slow=1.7,SNR=6.9
WRA Warramunga Arr 133.62 210 PKP **PKPdf** **08 45 60.0 -1.3**
comp=E,0.5nm,0.5s,baz=152,slow=1.7,SNR=8.3
MKAR Makanchi Array 144.93 36 PKP **PKPab** **08 46 20.6 +0.1**
comp=E,0.9nm,0.4s,baz=340,slow=2.4,SNR=9.4

CASC 01 08:28:27.8±1.1, 14°11N×90°90W, h108km±5km, MD3.6, 2D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.34**	**9**	*eP*	Pn	08 28 43.5	-0.3
PCG	**Pacaya**	**0.40**	**45**	*eP*	Pn	08 28 44.3	+0.2
PCG				*eS*	Sn	08 28 56.4	0.0
NBG	**Las Nubes**	**0.72**	**48**	*eP*	Pn	08 28 47.2	+0.8
NBG				*eS*	Sn	08 29 05.2	+4.7
JAT	**Jato**	**0.74**	**286**	*eP*	Pn	08 28 46.8	+0.5
JAT				*eS*	Sn	08 29 01.4	+1.1
RBDL	**Robledal**	**1.18**	**90**	*eP*	Pn	08 28 50.8	-0.1
RTR	**El Retiro**	**1.23**	**100**	*eP*	Pn	08 28 51.7	+0.1
SBLS	**San Blas**	**1.27**	**102**	*eP*	Pn	08 28 52.4	+0.3
SBLS				*eS*	Sn	08 29 12.0	+1.6
SNJE	**San Jose**	**1.28**	**101**	*eP*	Pn	08 28 52.3	+0.2
SNJE				*eS*	Sn	08 29 12.3	+1.7
MRL	**Marmol**	**1.51**	**51**	*eP*	Pn	08 28 55.9	+1.1
BOQS	**Boqueron**	**1.62**	**103**	*eP*	Pn	08 28 56.3	+0.1
SNET	**Serv Nac Est T**	**1.67**	**104**	*eP*	Pn	08 28 56.6	-0.1
SNET				*eS*	Sn	08 29 19.2	+0.5
LFU	**La Fuente**	**1.77**	**101**	*eP*	Pn	08 28 58.0	+0.1
LBRS	**Las Brisas**	**1.84**	**101**	*eP*	Pn	08 28 59.1	+0.3
LFRS	**El Faro**	**1.85**	**105**	*eP*	Pn	08 28 59.6	+0.6
LFRS				*eS*	Sn	08 29 24.4	+1.7
CNCH	**Conchagua**	**3.09**	**105**	*eP*	Pn	08 29 15.7	+0.6

*IDC **01** 08:28:32.1±0.8, 16°.04S×173°.06W, h0km, mb4.0/6, mb1 4.3/6, mb1mx4.0/23, mbtmp4.0/6, MS3.0/1, Ms1 3.0/1, ms1mx2.7/35, Error ellipse: s-maj=45.2km s-min=23.3km az=106.0*
*NEIC **01** 08:28:33.2±0.5, 16°.01S×173°.02W, h10km, mb4.4/2, Error ellipse: s-maj=23.3km s-min=10.8km az=121.0*
*ISCJB **01** 08:28:34.2±0.7, 15°.9S±0°.1×172°.8W±0°.2, h26km, mb4.0/6, Error ellipse: s-maj=28.4km s-min=8.9km az=26.4*
ISC 01 08:28:35.3±0.7, 15°.9S±0°.1×172°.9W±0°.2, h26km, n31, σ1§34/24, mb3.9/6, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.24**	**29**	*eP*	**Pn**	**08 29 11.2**	**+0.3**
AFI					**Sn**	**08 29 36.0**	**-1.8**
AFI	**Afiamalu**	**2.24**	**29**	Pn	**Pn**	**08 29 08.7**	**-2.2**
	8.2nm,0.3s,baz=229,slow=11,SNR=5.2						
AFI					**Sn**	**08 29 36.0**	**-1.8**
	53nm,0.3s,baz=211,slow=23,SNR=6.6						
AFI				LR	LR	08 30 11.7	
	comp=Z,345nm,20.5s,baz=45,slow=41						
DZM	**Mont Dzumac**	**20.48**	**249**	*eP*	**P**	**08 33 09.6**	**-1.8**
	9.2nm,0.7s						
DZM	**Mont Dzumac**	**20.48**	**249**	P	Pn	08 33 14.5	+0.8
	11nm,0.8s,baz=96,slow=19,SNR=12						
URZ	**Urewera**	**23.97**	**200**	*eP*	**P**	**08 33 45.6**	**-2.0**
URZ	**Urewera**	**23.97**	**200**	P	**P**	**08 33 46.8**	**-0.8**
	16nm,1.1s,baz=31,slow=2.8,SNR=3.7						
H11S2	**WAKE ISLAND Hy**	**39.63**	**329**	T	T	09 18 17.9	
	baz=156						
H11S3	**WAKE ISLAND Hy**	**39.64**	**329**	T	T	09 18 17.5	
	baz=156						
H11S1	**WAKE ISLAND Hy**	**39.65**	**329**	T	T	09 18 14.7	
	baz=156						
H11N3	**WAKE ISLAND Hy**	**40.58**	**330**	T	T	09 19 29.0	
	baz=153						
H11N1	**WAKE ISLAND Hy**	**40.58**	**330**	T	T	09 19 27.8	
	baz=153						
H11N2	**WAKE ISLAND Hy**	**40.59**	**330**	T	T	09 19 27.9	
	baz=153						
VNDA	**Vanda**	**62.95**	**186**	P	**P**	**08 38 58.9**	**-0.2**
QSPA	**South Pole Qui**	**74.16**	**180**	*eP*	**P**	**08 40 09.5**	**0.0**
	11nm,1.5s						
QSPA	**South Pole Qui**	**74.16**	**180**	P	**P**	**08 40 09.4**	**0.0**
	3.6nm,1.1s,baz=41,slow=4.4,SNR=6.4						
NVAR	**Mina Array Bea**	**74.36**	**42**	P	P	08 40 13.9	+2.7
NVAR	**Mina Array Bea**	**74.36**	**42**	P	P	08 40 13.9	+2.7
	0.3nm,0.3s,baz=226,slow=7.5,SNR=5.4						
KSRS	**Korea Array**	**76.85**	**315**	P	**P**	**08 40 26.2**	**+1.1**
	0.6nm,0.7s,baz=120,slow=4.9,SNR=2.6						
KSAR	**Wonju Array Be**	**76.87**	**315**	P	**P**	**08 40 26.2**	**+1.0**
PDAR	**Pinedale Array**	**82.30**	**42**	P	**P**	**08 40 57.2**	**+2.2**
PDAR	**Pinedale Array**	**82.30**	**42**	P	**P**	**08 40 57.2**	**+2.2**
	0.9nm,0.9s,baz=210,slow=5.2,SNR=5.1						
ILAR	**Eielson Array**	**82.83**	**11**	P	**P**	**08 40 58.5**	**+1.6**
ILAR	**Eielson Array**	**82.83**	**11**	P	**P**	**08 40 58.5**	**+1.6**
	1.0nm,0.7s,baz=231,slow=6.5,SNR=27						
KMBO	**Kilima Mbogo**	**145.76**	**243**	PKPbc	**PKPdf**	**08 48 12.8**	**-0.2**
KMBO	**Kilima Mbogo**	**145.76**	**243**	PKPbc	**PKPdf**	**08 48 12.8**	**-0.2**
	0.7nm,0.4s,baz=204,slow=13,SNR=3.1						
GERES	**GERESS Array B**	**146.69**	**352**	PKPbc	**PKPbc**	**08 48 15.4**	**+0.4**
GERES	**GERESS Array B**	**146.69**	**352**	PKPbc	**PKPbc**	**08 48 15.4**	**+0.4**
	0.4nm,0.2s,baz=45,slow=2.1,SNR=4.0						
BRTR	**Keskin Array B**	**146.84**	**321**	PKPbc	**PKPab**	**08 48 16.6**	**-0.4**
BRTR	**Keskin Array B**	**146.84**	**321**	PKPbc	**PKPab**	**08 48 16.6**	**-0.4**
	2.9nm,0.7s,baz=98,slow=2.9,SNR=12						
TORD	**Torodi Ar. Bea**	**174.09**	**117**	PKP	**PKPdf**	**08 48 43.2**	**-0.4**
TORD	**Torodi Ar. Bea**	**174.09**	**117**	PKP	**PKPdf**	**08 48 43.2**	**-0.4**
	1.1nm,1.1s,baz=282,slow=1.3,SNR=3.1						

*IDC **01** 08:30:28.6±0.6, 6°.79S×131°.85E, h0km, mb4.3/14, mb1 4.3/15, mb1mx4.3/18, mbtmp4.2/15, ML4.0/1, MS3.6/2, Ms1 3.6/2, ms1mx3.0/39, Error ellipse: s-maj=26.8km s-min=13.4km az=78.0*
*ISCJB **01** 08:30:30.4±0.3, 6°.98S±0°.03×131°.95E±0°.05, h33km, mb4.3/22, MS3.9/1, Error ellipse: s-maj=7.1km s-min=4.7km az=165.0*
*AUST **01** 08:30:32.3±11.0, 7°.44S×132°.06E, h10km, Error ellipse: s-maj=83.8km s-min=33.1km az=163.0*
*NEIC **01** 08:30:32.6±0.4, 7°.03S×131°.78E, h35km, mb4.6/10, Error ellipse: s-maj=15.0km s-min=6.8km az=75.0*
*DJA **01** 08:30:33.8±0.5, 7°.5S±3°×13°.2E±°, h101km±8km, M4.9/7, mb5.0/5, mB5.2/2, MLv4.8/7, Mw(mB)4.6/2*
ISC 01 08:30:33.0±0.4, 6°.88S±0°.05×131°.91E±0°.06, h35km, n76, σ1§67/77, mb4.4/22, 3C-1D, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.25**	**209**	P	**Pn**	**08 30 56.3**	**+2.3**
TLE	**Tual**	**1.48**	**34**	P	**Pn**	**08 30 59.3**	**+2.1**
BNDI	**Bandanaira**	**3.07**	**319**	P	**Pn**	**08 31 20.6**	**+1.6**
BNDI				S	**Sn**	**08 31 57.5**	**+2.9**
FAKI	**Fak Fak**	**3.95**	**5**	P	**Pn**	**08 31 31.2**	**+0.1**
FAKI				S	**Sn**	**08 32 13.6**	**-2.6**
AAI	**Ambon**	**4.87**	**310**	P	**Pn**	**08 31 46.4**	**+2.6**
KDU	**Kakadu**	**5.80**	**175**	P	**Pn**	**08 31 57.8**	**+1.2**
	baz=5.3						
NLAI	**Namlea**	**6.00**	**307**	P	Pn	08 32 07.6	+8.3
SWI	**Sorong**	**6.01**	**354**	P	**Pn**	**08 31 59.6**	**+0.2**
	56nm,0.7s,5μm1.2nm						
SWI				S	**Sn**	**08 33 02.1**	**-5.0**
	56nm,0.7s,5μm1.2nm						
LBMI	**Labuha**	**7.60**	**324**	P	Pn	08 32 26.0	+4.7
	302nm,0.9s,1.0nm						
SOEI	**Soe**	**8.08**	**249**	P	**Pn**	**08 32 29.5**	**+1.5**
	106nm,0.8s,1μm						
SOEI				S	**Sn**	**08 33 58.2**	**-0.1**
	106nm,0.8s,1μm						
BATI	**Baumata**	**8.80**	**247**	P	**Pn**	**08 32 40.7**	**+2.9**
	59nm,0.5s						
BATI	**Baumata**	**8.80**	**247**	Pn	**Pn**	**08 32 40.1**	**+2.4**
BATI				Sn	**Sn**	**08 34 12.8**	**-2.9**
BATI	**Baumata**	**8.80**	**247**	Pn	**Pn**	**08 32 40.1**	**+2.4**
	35nm,0.3s,baz=85,slow=3.2,SNR=15						
BATI				Sn	**Sn**	**08 34 12.8**	**-2.9**
	13nm,0.3s,baz=131,slow=20,SNR=4.0						
KNRA	**Kununurra**	**9.27**	**199**	*e*P	**Pn**	**08 32 44.1**	**-0.2**
	baz=8.8,SNR=40						
FITZ	**Fitzroy Crossi**	**12.72**	**208**	*e*Pn	**Pn**	**08 33 29.3**	**-2.2**
	16nm,0.6s						
FITZ				*e*Sn	Sn	08 35 41.6	-10
FITZ	**Fitzroy Crossi**	**12.72**	**208**	P	**Pn**	**08 33 29.2**	**-2.2**
	baz=12,SNR=121						
FITZ	**Fitzroy Crossi**	**12.72**	**208**	Pn	**Pn**	**08 33 29.1**	**-2.4**
	6.7nm,0.3s,baz=36,slow=11,SNR=109						
FITZ				Sn	Sn	08 35 41.2	-11
	11nm,0.3s,baz=193,slow=18,SNR=12						
COEN	**Coen**	**13.12**	**123**	P	**Pn**	**08 33 35.7**	**-1.3**
	baz=13,SNR=8.5						
WRAB	**Tennant Creek**	**13.19**	**170**	*e*Pn	**Pn**	**08 33 35.2**	**-2.8**
	16nm,0.6s						
WRAB				*e*Sn	Sn	08 35 53.6	-10
WRA	**Warramunga Arr**	**13.20**	**170**	Pn	Pn	08 33 34.6	-3.5
WRA				Sn	Sn	08 35 52.0	-12
WRA	**Warramunga Arr**	**13.20**	**170**	Pn	Pn	08 33 34.6	-3.5
	2.5nm,0.3s,baz=360,slow=13,SNR=32						
WRA				Sn	Sn	08 35 52.0	-12
	3.5nm,0.3s,baz=346,slow=23,SNR=8.0						
AS31	**Alice Springs**	**16.80**	**174**	*e*Pn	**Pn**	**08 34 22.5**	**-3.2**
AS31				*e*Sn	Sn	08 37 20.7	-11
ASAR	**Alice Springs**	**16.80**	**174**	Pn	**Pn**	**08 34 22.6**	**-3.1**
ASAR				Sn	Sn	08 37 20.1	-11
ASAR	**Alice Springs**	**16.80**	**174**	Pn	**Pn**	**08 34 22.6**	**-3.1**
	1.7nm,0.3s,baz=349,slow=12,SNR=93						
ASAR				Sn	Sn	08 37 20.1	-11
	1.3nm,0.3s,baz=2.2,slow=26,SNR=17						
ASAR				LR	LR	08 41 22.9	
	comp=Z,127nm,19.5s,baz=317,slow=39						
CTA	**Charters Tower**	**19.14**	**135**	P	**Pn**	**08 34 54.1**	**-0.3**
CTA	**Charters Tower**	**19.14**	**135**	P	**Pn**	**08 34 54.1**	**-0.3**
	0.3nm,0.3s,baz=318,slow=15,SNR=3.9						
KKM	**Kota Kinabalu**	**20.25**	**309**	*eP*	**P**	**08 35 04.3**	**-1.3**
	33nm,0.6s						
FORT	**Forrest**	**24.05**	**188**	*eP*	**P**	**08 35 44.8**	**-0.1**
	53nm,0.8s						
STKA	**Stephens Creek**	**26.47**	**161**	*eP*	**P**	**08 36 05.2**	**-1.7**
	3.5nm,1.1s						
STKA				S	S	08 40 53.4	+15
STKA	**Stephens Creek**	**26.47**	**161**	P	**P**	**08 36 08.4**	**+1.6**
	2.3nm,0.5s,baz=325,slow=9.0,SNR=5.1						
STKA				S	S	08 40 53.4	+15
	1.4nm,0.7s,baz=337,slow=22,SNR=2.9						
NWAO	**Narrogin (SRO)**	**29.29**	**206**	P	**P**	**08 36 33.4**	**+1.3**
	6.3nm,0.8s,baz=66,slow=8.8,SNR=3.8						
CMAR	**Chiang Mai Arr**	**41.12**	**308**	P	**P**	**08 38 13.9**	**0.0**
CMAR	**Chiang Mai Arr**	**41.12**	**308**	P	**P**	**08 38 13.9**	**0.0**
	1.9nm,0.6s,baz=139,slow=7.1,SNR=8.7						
MJAR	**Matsushiro Arr**	**43.59**	**7**	P	**P**	**08 38 32.5**	**-1.3**
MJAR	**Matsushiro Arr**	**43.59**	**7**	P	**P**	**08 38 32.5**	**-1.3**
	1.9nm,0.7s,baz=197,slow=11,SNR=5.5						
KSAR	**Wonju Array Be**	**44.25**	**355**	P	**P**	**08 38 39.5**	**+0.4**
KSRS	**Korea Array**	**44.26**	**355**	P	**P**	**08 38 39.5**	**+0.4**
	1.1nm,0.9s,baz=186,slow=9.8,SNR=5.0						
USRK	**Ussuriysk Arra**	**50.84**	**0**	P	**P**	**08 39 30.8**	**+0.6**
	2.0nm,0.6s,baz=182,slow=11,SNR=5.8						
TAPN	**Taplejung**	**54.63**	**311**	*eP*	**P**	**08 39 58.8**	**-0.1**
RAMN	**Ramite**	**55.27**	**309**	*eP*	**P**	**08 40 03.6**	**+0.2**
	33nm,0.7s						
JIRN	**Jiri**	**55.95**	**310**	*eP*	**P**	**08 40 08.2**	**-0.2**
GUN	**Gumba**	**56.31**	**310**	*eP*	**P**	**08 40 11.0**	**0.0**
	39nm,0.8s						
PKIN	**Phulchoki**	**56.51**	**309**	*eP*	**P**	**08 40 12.2**	**-0.1**
KKN	**Kakani**	**56.71**	**310**	*eP*	**P**	**08 40 13.6**	**-0.1**
DMN	**Daman**	**56.75**	**309**	*eP*	**P**	**08 40 13.9**	**-0.1**
GKN	**Gorkha**	**57.30**	**309**	*eP*	**P**	**08 40 17.7**	**-0.1**
KOLN	**Koldanda**	**57.99**	**309**	*eP*	**P**	**08 40 22.9**	**+0.2**
	31nm,0.8s						
DANN	**Dangsing**	**58.15**	**309**	*eP*	**P**	**08 40 23.7**	**-0.2**
ULN	**Ulaanbaatar**	**58.76**	**341**	*eP*	**P**	**08 40 27.2**	**-0.4**
	8.1nm,0.8s						
SONM	**Songino Array**	**58.95**	**340**	P	**P**	**08 40 29.3**	**+0.4**
SONM	**Songino Array**	**58.95**	**340**	P	**P**	**08 40 29.3**	**+0.4**
	3.1nm,0.8s,baz=159,slow=7.2,SNR=11						
PETK	**Petropavlovsk-**	**63.64**	**17**	P	**P**	**08 41 01.7**	**+1.3**
PETK	**Petropavlovsk-**	**63.64**	**17**	P	**P**	**08 41 01.7**	**+1.3**
	3.2nm,0.7s,baz=262,slow=5.4,SNR=3.7						
RAR	**Rarotonga**	**67.36**	**110**	P	**P**	**08 41 27.6**	**+2.5**
RAR	**Rarotonga**	**67.36**	**110**	P	**P**	**08 41 27.5**	**+2.5**
	29nm,0.6s,baz=270,slow=12,SNR=5.4						
MK31	**Makanchi Array**	**69.17**	**326**	*eP*	**P**	**08 41 36.9**	**+0.9**
MKAR	**Makanchi Array**	**69.17**	**326**	P	**P**	**08 41 37.0**	**+1.0**
MKAR	**Makanchi Array**	**69.17**	**326**	P	**P**	**08 41 37.0**	**+1.0**
	14nm,0.8s,baz=120,slow=8.2,SNR=102						
TKM2	**Tokmak 2**	**71.10**	**320**	*eP*	**P**	**08 41 47.8**	**-0.4**
	7.2nm,1.1s						
ZALV	**Zalesovo Beam**	**72.32**	**333**	P	**P**	**08 41 54.8**	**-0.2**
ZALV	**Zalesovo Beam**	**72.32**	**333**	P	**P**	**08 41 54.8**	**-0.2**
	13nm,0.7s,baz=121,slow=4.8,SNR=8.7						
VNDA	**Vanda**	**72.35**	**173**	*eP*	**P**	**08 41 53.4**	**-1.4**
	0.7nm,0.7s						
VNDA	**Vanda**	**72.35**	**173**	P	**P**	**08 41 56.3**	**+1.6**
	0.9nm,0.8s,baz=318,slow=7.9,SNR=5.6						
KURK	**Kurchatov**	**73.41**	**328**	*eP*	**P**	**08 42 01.7**	**+0.3**
	6.6nm,0.9s						
KKAR	**Karatay Array**	**74.50**	**318**	*eP*	**P**	**08 42 07.7**	**-0.4**
	4.1nm,0.7s						
MAW	**Mawson**	**75.76**	**202**	P	**P**	**08 42 16.4**	**+1.6**
	0.6nm,0.3s,baz=68,slow=14,SNR=4.3						
BRVK	**Borovoye**	**79.05**	**327**	*eP*	**P**	**08 42 33.6**	**+0.2**
	7.7nm,0.8s						
QSPA	**South Pole Qui**	**83.10**	**180**	P	**P**	**08 42 56.3**	**+1.3**
	0.9nm,0.9s,baz=20,slow=2.4,SNR=3.2						
ABKAR	**Akbulak array**	**83.59**	**321**	*eP*	**P**	**08 42 57.5**	**-0.2**
	0.7nm,0.5s						
AKTO	**Aktyubinsk**	**85.14**	**322**	LR	LR	09 23 14.8	
	comp=Z,53nm,19.4s,baz=360,slow=37						
ILAR	**Eielson Array**	**92.43**	**25**	P	**P**	**08 43 39.0**	**-0.9**
ILAR	**Eielson Array**	**92.43**	**25**	P	**P**	**08 43 39.0**	**-0.9**
	0.3nm,0.7s,baz=280,slow=5.1,SNR=3.9						
TORD	**Torodi Ar. Bea**	**130.64**	**281**	PKP	**PKPdf**	**08 49 42.5**	**+1.2**
TORD	**Torodi Ar. Bea**	**130.64**	**281**	PKP	**PKPdf**	**08 49 42.5**	**+1.2**
	0.6nm,0.9s,baz=94,slow=2.2,SNR=2.5						
LPAZ	**La Paz**	**149.62**	**139**	PKPbc	**PKPbc**	**08 50 22.6**	**+1.9**
LPAZ	**La Paz**	**149.62**	**139**	PKPbc	**PKPbc**	**08 50 22.6**	**+1.9**
	1.1nm,0.9s,baz=225,slow=4.3,SNR=3.9						

IDC 01 08:39:09.3±0.7, 15°.75S×173°.60W, h0km, mb4.1/9, mb1 4.4/9, mb1mx4.2/20, mbtmp4.1/9, MS4.0/1, Ms1 4.0/1, ms1mx3.3/31, Error ellipse: s-maj=40.0km s-min=18.1km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.54**	**44**	Pn	Pn	08 39 46.3	-5.7
	14nm,0.3s,baz=77,slow=16,SNR=8.7						
HNR	**Honiara**	**26.55**	**281**	LR	LR	08 53 59.3	
	comp=Z,330nm,19.2s,baz=77,slow=34						
STKA	**Stephens Creek**	**43.70**	**240**	P	P	08 47 15.4	-0.9
	1.4nm,0.5s,baz=90,slow=4.8,SNR=3.2						
WRA	**Warramunga Arr**	**49.58**	**257**	P	P	08 48 02.6	-0.1
	2.3nm,1.0s,baz=91,slow=7.2,SNR=8.8						
ASAR	**Alice Springs**	**49.82**	**252**	P	P	08 48 04.0	-0.5
	3.5nm,0.6s,baz=85,slow=8.4,SNR=2.9						
VNDA	**Vanda**	**63.01**	**186**	P	P	08 49 38.2	+0.5
	1.2nm,1.0s,baz=356,slow=7.3,SNR=4.9						
NVAR	**Mina Array Bea**	**74.72**	**42**	P	P	08 50 51.2	-0.3
	2.0nm,0.8s,baz=228,slow=10,SNR=13						
TXAR	**Lajitas Array**	**80.97**	**56**	P	P	08 51 26.5	+0.2
	1.1nm,0.9s						
PDAR	**Pinedale Array**	**82.65**	**42**	P	P	08 51 34.6	-0.5
	0.9nm,0.8s,baz=228,slow=3.6,SNR=6.9						
ILAR	**Eielson Array**	**82.85**	**11**	P	P	08 51 35.4	+0.2
	0.7nm,0.7s,baz=234,slow=6.6,SNR=11						
MAW	**Mawson**	**87.40**	**199**	P	P	08 51 57.7	-0.5
	1.8nm,0.9s,baz=135,slow=8.6,SNR=3.2						
KMBO	**Kilima Mbogo**	**145.21**	**244**	PKPbc	PKPbc	08 58 50.0	0.0
	0.8nm,0.3s,baz=300,slow=8.1,SNR=4.0						
BRTR	**Keskin Array B**	**146.30**	**320**	PKPbc	PKPab	08 58 53.0	-0.3
	2.5nm,0.9s,baz=81,slow=1.6,SNR=8.0						
ESDC	**Sonseca Array**	**154.50**	**19**	PKPab	PKPab	08 59 25.8	-0.9
	0.2nm,0.2s,baz=308,slow=4.2,SNR=4.6						

*IDC **01** 08:39:43.5±0.5, 15°.63S×173°.01W, h0km, mb4.4/16, mb1 4.6/16, mb1mx4.4/26, mbtmp4.4/16, MS3.8/1, Ms1 3.8/1, ms1mx3.3/33, Error ellipse: s-maj=25.0km s-min=13.6km az=133.0*
*NEIC **01** 08:39:45.1±0.4, 15°.64S×173°.05W, h10km, mb4.6/7, Error ellipse: s-maj=16.3km s-min=8.7km az=133.0*
*ISCJB **01** 08:39:46.8±0.4, 15°.64S±0°.10×173°.07W±0°.09, h33km, mb4.5/18, Error ellipse: s-maj=16.1km s-min=9.8km az=144.6*
ISC 01 08:39:47.2±0.4, 15°.47S±0°.09×172°.8W±0°.1, h29km, n61, σ1§76/58, mb4.5/18, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.84**	**33**	Pn	Pn	08 40 13.8	-3.0
AFI				Sn	**Sn**	**08 40 35.8**	**-3.4**
AFI	**Afiamalu**	**1.84**	**33**	Pn	Pn	08 40 13.8	-3.0
	65nm,0.3s,baz=232,slow=24,SNR=17						
AFI				Sn	**Sn**	**08 40 35.8**	**-3.4**
	178nm,0.3s,baz=130,slow=22,SNR=5.4						
RAR	**Rarotonga**	**13.62**	**117**	LR	LR	08 46 21.2	
	comp=Z,432nm,20.0s,baz=90,slow=29						
DZM	**Mont Dzumac**	**20.71**	**248**	*eP*	**P**	**08 44 25.8**	**+0.4**
	68nm,0.9s						
DZM				*e*LR	LR	08 49 08.7	
	438nm,27.2s						
DZM	**Mont Dzumac**	**20.71**	**248**	*eP*	**P**	**08 44 22.9**	**-2.5**
	24nm,0.8s						
DZM	**Mont Dzumac**	**20.71**	**248**	P	**P**	**08 44 22.4**	**-3.0**
	9.2nm,0.8s,baz=112,slow=19,SNR=2.2						
PPT2	**Papeete2**	**22.36**	**99**	*e*S	**S**	**08 48 44.5**	**-3.1**
	209nm,24.5s						
PPT2				*e*LR	LR	08 49 30.5	
	238nm,25.2s						
TBI	**Tubuai**	**23.34**	**113**	*e*LR	LR	08 49 59.6	
	283nm,26.0s						
URZ	**Urewera**	**24.39**	**200**	*eP*	**P**	**08 45 01.3**	**-1.6**
	8.9nm,0.7s						
URZ	**Urewera**	**24.39**	**200**	P	**P**	**08 45 01.7**	**-1.2**
	6.3nm,0.7s,baz=62,slow=11,SNR=4.8						
RPZ	**Rata Peaks**	**31.34**	**203**	P	**P**	**08 46 04.7**	**-0.4**
RPZ	**Rata Peaks**	**31.34**	**203**	P	**P**	**08 46 04.7**	**-0.4**
	14nm,0.9s,baz=16,slow=18,SNR=2.3						
H11S2	**WAKE ISLAND Hy**	**39.32**	**328**	T	T	09 28 37.3	
	baz=152,slow=0.7,SNR=9.9						
H11S3	**WAKE ISLAND Hy**	**39.33**	**328**	T	T	09 28 38.2	
	baz=152,slow=0.7,SNR=14						
H11S1	**WAKE ISLAND Hy**	**39.34**	**328**	T	T	09 28 39.3	
	baz=152,slow=0.7,SNR=17						
H11N3	**WAKE ISLAND Hy**	**40.26**	**330**	T	T	09 29 48.6	
	baz=152,slow=0.7,SNR=13						
H11N1	**WAKE ISLAND Hy**	**40.26**	**330**	T	T	09 29 49.8	
	baz=152,slow=0.7,SNR=9.4						
H11N2	**WAKE ISLAND Hy**	**40.27**	**330**	T	T	09 29 50.5	
	baz=152,slow=0.7,SNR=12						
CMSA	**Cobar Meteorol**	**41.02**	**240**	P	**P**	**08 47 26.0**	**-2.0**
	baz=38,SNR=13						
STKA	**Stephens Creek**	**44.50**	**240**	P	**P**	**08 47 54.6**	**-1.6**
	baz=41,SNR=12						
STKA	**Stephens Creek**	**44.50**	**240**	P	**P**	**08 47 54.7**	**-1.6**
	12nm,0.9s,baz=64,slow=8.5,SNR=14						
BBOO	**Buckleboo**	**49.28**	**240**	P	**P**	**08 48 33.0**	**-0.6**
	baz=46,SNR=5.9						
WRAB	**Tennant Creek**	**50.38**	**257**	*eP*	**P**	**08 48 40.7**	**-1.5**
	5.4nm,0.7s						
WRA	**Warramunga Arr**	**50.39**	**257**	P	**P**	**08 48 40.9**	**-1.4**
WRA				PcP	**PcP**	**08 50 01.5**	**+0.9**
WRA	**Warramunga Arr**	**50.39**	**257**	P	**P**	**08 48 40.9**	**-1.4**
	4.1nm,0.7s,baz=92,slow=7.3,SNR=18						
WRA				PcP	**PcP**	**08 50 01.5**	**+0.9**
	2.0nm,0.9s,baz=88,slow=3.7,SNR=5.2						
AS31	**Alice Springs**	**50.64**	**252**	*eP*	**P**	**08 48 42.2**	**-2.0**
ASAR	**Alice Springs**	**50.64**	**252**	P	**P**	**08 48 42.4**	**-1.8**
ASAR	**Alice Springs**	**50.64**	**252**	P	**P**	**08 48 42.4**	**-1.8**
	9.2nm,0.6s,baz=86,slow=7.9,SNR=33				

Ms5.3/5,Ms7 4.7/7
*NEIC **01** 08:49:59.0±0.3, 16°48S×173°22W,h10km,mb4.9/11, Error ellipse: s-maj=12.7km s-min=7.1km az=134.0*
*ISCJB **01** 08:50:01.3±0.3, 16°60S±0°08×173°26W±0°07,h33km, mb4.8/37,MS4.3/15,Error ellipse: s-maj=13.3km s-min=7.2km az=140.2*
*AUST **01** 08:50:17.5±8.3, 17°14S×173°94W,h114km±63km, Error ellipse: s-maj=45.5km s-min=23.4km az=64.0*
ISC 01 08:50:02.2±0.4,16°70S±0°08×173°02W±0°09,h32km, n135,σ1§41/124,mb4.8/37,MS4.2/15,8C-8D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.02**	**24**	*e*Pn	Pn	08 50 40.5	-7.4
AFI				Sn	Sn	08 51 09.8	-13
AFI				*e*Sn	Sn	08 51 11.6	-11
AFI	**Afiamalu**	**3.02**	**24**	Pn	Pn	08 50 40.5	-7.4
	37nm,0.3s,baz=29,slow=3.6,SNR=19						
AFI				Sn	Sn	08 51 09.8	-13
	199nm,0.3s,baz=15,slow=23,SNR=14						
MSVF	**Nonsavu**	**8.60**	**262**	*e*Pn	Pn	08 52 11.4	+6.9
RAR	**Rarotonga**	**13.31**	**112**	*e*Pn	Pn	08 53 06.2	-2.8
RAR	**Rarotonga**	**13.31**	**112**	Pn	Pn	08 53 06.1	-2.8
	5.0nm,0.3s,baz=270,slow=8.6,SNR=19						
RAR				LR	LR	08 56 54.5	
	comp=Z,1μm,18.8s,baz=270,slow=31						
DZM	**Mont Dzumac**	**20.09**	**251**	*e*P	Pn	08 54 35.5	+0.2
	82nm,1.4s						
DZM				*e*LR	LR	08 59 07.6	
	2μm,24.3s						
DZM	**Mont Dzumac**	**20.09**	**251**	*e*P	Pn	08 54 35.3	0.0
DZM	**Mont Dzumac**	**20.09**	**251**	P	Pn	08 54 34.9	-0.4
	0.4nm,0.3s,baz=82,slow=17,SNR=7.9						
PPT2	**Papeete2**	**22.42**	**96**	*e*LR	LR	09 00 22.1	
	936nm,24.5s						
PPT	**Papeete**	**22.42**	**96**	LR	LR	09 01 25.0	
	comp=Z,450nm,21.7s,baz=180,slow=30						
TBI	**Tubuai**	**23.09**	**110**	*e*LR	LR	09 00 35.2	
	1μm,26.8s						
URZ	**Urewera**	**23.16**	**200**	*e*P	**P**	**08 55 07.0**	**+1.1**
URZ	**Urewera**	**23.16**	**200**	P	**P**	**08 55 06.7**	**+0.8**
	19nm,0.5s,baz=18,slow=5.3,SNR=24						
HNR	**Honiara**	**27.28**	**282**	LR	LR	09 04 53.1	
	comp=Z,2μm,20.6s,baz=117,slow=33						
RPZ	**Rata Peaks**	**30.13**	**203**	P	P	08 56 12.1	+3.1
RPZ	**Rata Peaks**	**30.13**	**203**	P	P	08 56 12.1	+3.1
	17nm,0.7s,baz=44,slow=7.1,SNR=8.9						
ARMA	**Armidale**	**35.01**	**241**	*e*P	**P**	**08 56 51.0**	**-1.1**
	111nm,2.5s						
ARMA	**Armidale**	**35.01**	**241**	⇓P	**P**	**08 56 50.8**	**-1.2**
	baz=34,SNR=7.5						
RKT	**Rikitea**	**36.26**	**106**	*e*LR	LR	09 06 37.5	
	677nm,28.0s						
CTA	**Charters Tower**	**38.73**	**259**	P	**P**	**08 57 24.0**	**+0.3**
CTA	**Charters Tower**	**38.73**	**259**	P	**P**	**08 57 24.0**	**+0.3**
	4.8nm,0.8s,baz=96,slow=16,SNR=4.4						
PMG	**Port Moresby**	**39.41**	**275**	P	**P**	**08 57 27.6**	**-1.8**
PMG	**Port Moresby**	**39.41**	**275**	P	**P**	**08 57 27.6**	**-1.8**
	21nm,0.9s,baz=171,slow=2.4,SNR=4.4						
CMSA	**Cobar Meteorol**	**40.23**	**241**	⇑P	**P**	**08 57 34.4**	**-1.7**
	baz=39						
H11S2	**WAKE ISLAND Hy**	**40.26**	**329**	T	T	09 39 43.0	
	baz=146						
H11S3	**WAKE ISLAND Hy**	**40.27**	**329**	T	T	09 39 45.0	
	baz=146						
H11S1	**WAKE ISLAND Hy**	**40.28**	**329**	T	T	09 39 45.3	
	baz=146						
QLP	**Quilpie**	**40.77**	**249**	P	**P**	**08 57 38.6**	**-2.0**
	baz=40,SNR=4.9						
H11N3	**WAKE ISLAND Hy**	**41.22**	**331**	T	T	09 40 55.4	
	baz=152,slow=0.7,SNR=5.2						
H11N1	**WAKE ISLAND Hy**	**41.22**	**331**	T	T	09 40 56.4	
	baz=152,slow=0.7,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**41.23**	**331**	T	T	09 40 56.8	
	baz=152,slow=0.7,SNR=3.1						
COEN	**Coen**	**42.27**	**267**	P	**P**	**08 57 53.6**	**+0.5**
	baz=41,SNR=4.3						
STKA	**Stephens Creek**	**43.72**	**241**	*e*P	**P**	**08 58 03.5**	**-1.0**
STKA	**Stephens Creek**	**43.72**	**241**	P	**P**	**08 58 03.5**	**-1.0**
	baz=43,SNR=9.4						
STKA	**Stephens Creek**	**43.72**	**241**	P	**P**	**08 58 03.2**	**-1.4**
	18nm,0.9s,baz=78,slow=8.2,SNR=23						
STKA				LR	LR	09 14 18.0	
	comp=Z,312nm,19.7s,baz=293,slow=34						
BBOO	**Buckleboo**	**48.49**	**241**	⇓P	**P**	**08 58 41.3**	**-0.9**
	baz=48						
WRAB	**Tennant Creek**	**49.91**	**258**	*e*P	**P**	**08 58 53.1**	**0.0**
	3.7nm,0.6s						
WRA	**Warramunga Arr**	**49.92**	**258**	P	**P**	**08 58 51.0**	**-2.3**
WRA				PcP	**PcP**	**09 00 13.5**	**+0.1**
WRA	**Warramunga Arr**	**49.92**	**258**	P	**P**	**08 58 51.0**	**-2.3**
	4.0nm,0.9s,baz=92,slow=6.9,SNR=17						
WRA				PcP	**PcP**	**09 00 13.5**	**+0.1**
	2.9nm,1.0s,baz=87,slow=3.8,SNR=5.8						
AS17	**Alice Springs**	**49.99**	**253**	⇑P	**P**	**08 58 51.8**	**-2.0**
	baz=49						
AS08	**Alice Springs**	**50.02**	**253**	⇑P	**P**	**08 58 52.1**	**-1.9**
	baz=49						
AS05	**Alice Springs**	**50.03**	**253**	⇓P	**P**	**08 58 52.1**	**-2.0**
	baz=49						
AS31	**Alice Springs**	**50.07**	**253**	*e*P	**P**	**08 58 52.0**	**-2.4**
ASAR	**Alice Springs**	**50.07**	**253**	P	**P**	**08 58 52.2**	**-2.1**
ASAR	**Alice Springs**	**50.07**	**253**	P	**P**	**08 58 52.2**	**-2.1**
	23nm,0.6s,baz=88,slow=8.4,SNR=253						
KDU	**Kakadu**	**52.75**	**267**	⇓P	**P**	**08 59 13.4**	**-1.1**
	baz=52,SNR=4.7						
KNRA	**Kununurra**	**55.74**	**262**	⇑P	**P**	**08 59 35.7**	**-0.6**
	baz=55						
SWI	**Sorong**	**57.05**	**280**	⇓P	**P**	**08 59 45.2**	**-0.4**
	baz=56						
FITZ	**Fitzroy Crossi**	**58.31**	**259**	*e*P	**P**	**08 59 53.5**	**-1.0**
FITZ	**Fitzroy Crossi**	**58.31**	**259**	P	**P**	**08 59 53.1**	**-1.4**
	1.3nm,0.6s,baz=135,slow=7.1,SNR=4.1						
SOEI	**Soe**	**61.24**	**268**	⇑P	**P**	**09 00 15.4**	**+0.6**
	baz=60,SNR=7.4						
VNDA	**Vanda**	**62.13**	**186**	P	**P**	**09 00 21.1**	**+1.4**
VNDA	**Vanda**	**62.13**	**186**	P	**P**	**09 00 21.1**	**+1.4**
	1.2nm,0.7s,baz=16,slow=7.7,SNR=8.3						
MEEK	**Meekatharra**	**63.67**	**248**	P	**P**	**09 00 29.2**	**-1.6**
	baz=63,SNR=3.8						
KLBR	**Kellerberrin**	**63.96**	**243**	⇓P	**P**	**09 00 31.5**	**-1.2**
	baz=63						
BLDU	**Ballidu**	**64.94**	**244**	⇑P	**P**	**09 00 37.8**	**-1.2**
	baz=64						
MORW	**Morawa**	**65.67**	**245**	⇓P	**P**	**09 00 43.1**	**-0.7**
	baz=65						
CASY	**Casey**	**69.39**	**205**	*e*P	**P**	**09 01 07.5**	**+0.9**
	9.4nm,1.1s						
ASAJ	**Asahikawa**	**72.83**	**328**	LR	LR	09 26 47.0	
	comp=Z,90nm,22.0s,baz=165,slow=30						
JNU	**Nakatsue**	**72.95**	**313**	P	**P**	**09 01 26.4**	**-2.3**
JNU	**Nakatsue**	**72.95**	**313**	P	**P**	**09 01 26.4**	**-2.3**
	5.3nm,0.8s,baz=72,slow=6.4,SNR=3.6						
JNU				LR	LR	09 26 57.1	
	comp=Z,137nm,19.6s,baz=60,slow=30						
QSPA	**South Pole Qui**	**73.35**	**180**	*e*P	**P**	**09 01 32.8**	**+2.1**
	12nm,1.3s						
PETK	**Petropavlovsk-**	**73.97**	**342**	P	**P**	**09 01 33.3**	**-0.9**
PETK	**Petropavlovsk-**	**73.97**	**342**	P	**P**	**09 01 33.3**	**-0.9**
	5.3nm,0.7s,baz=118,slow=8.3,SNR=6.3						
NVAR	**Mina Array Bea**	**75.05**	**42**	P	**P**	**09 01 41.4**	**+0.3**
NVAR	**Mina Array Bea**	**75.05**	**42**	P	**P**	**09 01 41.4**	**+0.3**
	1.3nm,0.7s,baz=225,slow=10,SNR=9.8						
NVAR				LR	LR	09 27 03.7	
	comp=Z,172nm,20.1s,baz=111,slow=30						
SHPR	**Sheep Range**	**76.02**	**45**	*e*P	P	09 01 49.8	+3.1
	8.4nm,1.5s						
KSRS	**Korea Array**	**77.34**	**316**	P	**P**	**09 01 53.7**	**-0.1**
	1.2nm,0.9s,baz=114,slow=5.6,SNR=3.8						
KSAR	**Wonju Array Be**	**77.36**	**316**	P	**P**	**09 01 53.7**	**-0.2**
KSM	**Kuching**	**77.67**	**275**	*e*P	**P**	**09 01 56.1**	**-0.1**
	25nm,1.0s						
RSO	**Redoubt South**	**78.61**	**10**	*e*P	P	09 01 55.3	-5.3
G08A	**Pilot Rock**	**78.77**	**36**	*e*P	**P**	**09 02 02.2**	**+0.5**
TMUT	**Trail Mountain**	**80.15**	**44**	*e*P	**P**	**09 02 07.5**	**-2.1**
MDJ	**Mudanjiang**	**80.27**	**322**	P	**P**	**09 02 10.5**	**+0.7**
MDJ				pP	pP	09 02 13.7	-6.2
MDJ				sP	sP	09 02 15.1	-8.5
MDJ				S	S	09 12 17.0	+4.0
MDJ				sS	sS	09 12 22.5	-7.3
MDJ				ScS	**ScS**	**09 12 36.1**	**+3.0**
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.3s						
MDJ				AMB	AMB		
	comp=Z,52nm,3.6s						
MDJ				LR	LR		
	comp=Z,91nm,19.6s						
HLID	**Hailey**	**80.40**	**39**	*e*P	**P**	**09 02 11.1**	**+0.3**
	3.2nm,0.9s						
TXAR	**Lajitas Array**	**81.03**	**56**	P	**P**	**09 02 15.1**	**+0.7**
TXAR	**Lajitas Array**	**81.03**	**56**	P	**P**	**09 02 15.1**	**+0.7**
	3.9nm,1.2s						
TXAR				LR	LR	09 29 25.3	
	comp=Z,114nm,20.3s,baz=90,slow=29						
NJ2	**Nanjing**	**81.24**	**307**	*e*P	**P**	**09 02 16.2**	**+1.0**
PV01	**Paradox Valley**	**81.35**	**46**	*e*P	**P**	**09 02 16.6**	**+0.6**
	879nm,1.5s						
ANMO	**Albuquerque**	**81.36**	**50**	*e*P	P	09 02 20.4	+4.3
RRI2	**Red Ridge**	**82.18**	**40**	*e*P	**P**	**09 02 21.5**	**+1.2**
	14nm,1.6s						
MCK	**McKinley**	**82.33**	**11**	*e*P	**P**	**09 02 19.3**	**-1.0**
	17nm,0.9s						
SMCO	**Snowmass**	**82.95**	**46**	*e*P	**P**	**09 02 25.7**	**+1.1**
	3.8nm,0.9s						
PDAR	**Pinedale Array**	**82.99**	**42**	P	**P**	**09 02 23.9**	**-0.6**
PDAR	**Pinedale Array**	**82.99**	**42**	P	**P**	**09 02 23.9**	**-0.6**
	1.7nm,0.9s,baz=200,slow=4.3,SNR=10						
COLA	**College**	**83.56**	**11**	*e*P	**P**	**09 02 25.6**	**-1.0**
ILAR	**Eielson Array**	**83.64**	**11**	P	**P**	**09 02 25.5**	**-1.6**
ILAR	**Eielson Array**	**83.64**	**11**	P	**P**	**09 02 25.5**	**-1.6**
	2.2nm,0.7s,baz=227,slow=6.4,SNR=45						
ILAR				LR	LR	09 36 40.2	
	comp=Z,58nm,19.5s,baz=183,slow=34						
DAWY	**Dawson**	**84.58**	**14**	*e*P			
PPI	**Padang Panjang**	**86.60**	**271**	P	**P**	**09 02 43.7**	**+0.6**
	baz=86						
MAW	**Mawson**	**86.69**	**199**	P	**P**	**09 02 42.6**	**+0.2**
MAW	**Mawson**	**86.69**	**199**	⇑P	**P**	**09 02 44.2**	**+1.7**
	baz=86,SNR=5.9						
MAW	**Mawson**	**86.69**	**199**	P	**P**	**09 02 42.6**	**+0.2**
	2.9nm,0.7s,baz=112,slow=8.4,SNR=8.8						
MAW				LR	LR	09 37 54.9	
	comp=Z,136nm,18.7s,baz=289,slow=33						
IPM	**Ipoh**	**87.41**	**275**	*e*P	**P**	**09 02 47.6**	**+0.6**
	34nm,1.1s						
PSI	**Prapat**	**88.93**	**273**	P	**P**	**09 02 53.5**	**-0.9**
PSI	**Prapat**	**88.93**	**273**	P	**P**	**09 02 53.5**	**-0.9**
	9.1nm,0.9s,baz=178,slow=11,SNR=3.4						
GYA	**Guiyang**	**88.97**	**298**	*e*P	**P**	**09 02 55.0**	**+0.7**
GYA				PP	**PP**	**09 06 27.2**	**+2.8**
GYA				SKS	**SKSac**	**09 13 23.8**	**+1.7**
GYA				S	**S**	**09 13 42.1**	**+1.4**
GYA				SS	**SS**	**09 19 38.6**	**+4.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
GYA				AMB	AMB		
	comp=Z,90nm,6.4s						
GYA				LR	LR		
	comp=N,490nm,21.0s						
GYA				LR	LR		
	comp=E,350nm,22.2s						
GYA				LR	LR		
	comp=Z,480nm,20.6s						
HHC	**Hu-ho-hao-te**	**90.17**	**313**	*e*P	**P**	**09 02 58.7**	**-0.9**
HHC				pP	**PcP**	**09 03 03.5**	**+2.7**
HHC				sP	sP	09 03 05.7	-7.8
HHC				PP	**PP**	**09 06 35.2**	**+1.5**
HHC				SKS	**SKSac**	**09 13 27.5**	**-1.0**
HHC				S	**S**	**09 13 50.2**	**-1.1**
HHC				sS	**ScS**	**09 13 58.2**	**+3.0**
HHC				SS	**SS**	**09 19 53.6**	**+2.3**
HHC				AMB	AMB		
	comp=Z,42nm,1.1s						
HHC				AMB	AMB		
	comp=Z,290nm,5.1s						
HHC				LR	LR		
	comp=N,240nm,15.9s						
HHC				LR	LR		
	comp=E,250nm,15.3s						
HHC				LR	LR		
	comp=Z,190nm,16.9s						
KMI	**Kunming**	**91.91**	**296**	P	**P**	**09 03 09.0**	**+0.8**
KMI				pP	pP	09 03 12.6	-5.8
KMI				sP	sP	09 03 14.6	-7.5
KMI				S	**ScS**	**09 14 08.6**	**-2.0**
KMI				AMB	AMB		
	comp=Z,12nm,0.5s						
KMI				LR	LR		
	comp=Z,68nm,19.7s						
CD2	**Chengdu**	**92.80**	**301**	P	**P**	**09 03 13.4**	**+1.5**
CD2				AMB	AMB		
	comp=Z,7.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**93.37**	**288**	P	**P**	**09 03 15.6**	**+0.8**
CMAR	**Chiang Mai Arr**	**93.37**	**288**	P	**P**	**09 03 15.6**	**+0.8**
	3.7nm,0.9s,baz=92,slow=2.9,SNR=14						
CMAR				LR	LR	09 41 09.0	
	comp=Z,70nm,19.3s,baz=160,slow=33						
LZH	**Lanzhou**	**94.28**	**306**	*e*P	P	09 03 20.6	+1.8
LZH				pP	pP	09 03 24.1	-5.0
LZH				sP	sP	09 03 26.1	-6.6
LZH				AMB	AMB		
	comp=Z,13nm,1.0s						
LPAZ	**La Paz**	**99.03**	**110**	LR	LR	09 38 26.6	
	comp=Z,91nm,20.6s,baz=55,slow=29						
KURK	**Kurchatov**	**114.35**	**319**	*e*PKPdf	PKPdf	09 08 37.6	-1.0
CLL	**Collm**	**145.14**	**353**	*e*PKPdf	**PKPdf**	**09 09 35.0**	**-1.3**
CLL				*e*(PKiKP)		09 09 42.0	
KMBO	**Kilima Mbogo**	**145.28**	**242**	PKPbc	**PKPdf**	**09 09 39.0**	**+1.0**
KMBO	**Kilima Mbogo**	**145.28**	**242**	PKPbc	**PKPdf**	**09 09 39.0**	**+1.0**
	14nm,0.9s,baz=50,slow=3.7,SNR=29						
STHS	**Stebnicka Huta**	**145.37**	**344**	*e*PKP	**PKPdf**	**09 09 37.3**	**+0.5**
UPC	**Upice**	**145.50**	**350**	*e*PKP	**PKPab**	**09 09 38.4**	**+1.1**
KOLS	**Kolonicke sedl**	**145.52**	**342**	*e*PKP	**PKPab**	**09 09 37.5**	**+0.1**
DPC	**Dobruska-Polom**	**145.60**	**349**	*e*PKP	**PKPab**	**09 09 37.4**	**-0.3**
DPC				*ep*PKP	**PKiKP**	**09 09 43.1**	**+1.8**
BUR08	**Bucovina Ar. S**	**145.68**	**338**	*e*PKPdf	**PKPab**	**09 09 38.1**	**-0.1**
CRVS	**Cervenica-Dubn**	**145.78**	**343**	*e*PKP	**PKPab**	**09 09 38.8**	**+0.4**
MORC	**Moravsky Berou**	**145.91**	**348**	*e*PKPdf	**PKPab**	**09 09 38.1**	**-0.8**
PRU	**Pruhonice**	**146.24**	**351**	*e*PKP	**PKPab**	**09 09 39.4**	**-0.7**
KECS	**Kecovo**	**146.43**	**344**	*e*PKP	**PKPab**	**09 09 40.3**	**-0.6**
MLR	**Muntele Rosu**	**147.19**	**335**	PKPbc	**PKPbc**	**09 09 40.8**	**-1.6**
MLR	**Muntele Rosu**	**147.19**	**335**	PKPbc	**PKPbc**	**09 09 40.8**	**-1.6**
	0.5nm,0.7s,baz=170,slow=12,SNR=2.8						
KHC	**Kasperske Hory**	**147.21**	**352**	*e*PKP	**PKPab**	**09 09 42.5**	**-1.5**
KHC				*ex*	x	09 09 49.2	
KHC	**Kasperske Hory**	**147.21**	**352**	*e*PKPbc	**PKPab**	**09 09 42.4**	**-1.5**
BR131	**Keskin Array S**	**147.39**	**320**	*e*PKPbc	**PKPab**	**09 09 43.1**	**-2.0**
BRTR	**Keskin Array B**	**147.39**	**320**	PKPbc	**PKPab**	**09 09 42.8**	**-2.3**
BRTR	**Keskin Array B**	**147.39**	**320**	PKPbc	**PKPab**	**09 09 42.8**	**-2.3**
	4.5nm,0.8s,baz=118,slow=1.7,SNR=19						
GERES	**GERESS Array B**	**147.47**	**352**	PKPbc	**PKPab**	**09 09 42.6**	**-2.4**
GERES	**GERESS Array B**	**147.47**	**352**	PKPbc	**PKPab**	**09 09 42.6**	**-2.4**
	2.7nm,0.8s,baz=29,slow=3.0,SNR=14						
CONA	**Conrad Observa**	**148.01**	**349**	*i*,*s*PKPdf	**PKPbc**	**09 09 44.8**	**+0.3**
	6.2nm,0.8s						
BFO	**Black Forest**	**148.44**	**358**	*e*PKPbc	**PKPbc**	**09 09 45.7**	**+0.1**
MMAI	**Mount Meron Ar**	**149.66**	**308**	PKPbc	**PKPbc**	**09 09 48.9**	**-0.3**
MMAI	**Mount Meron Ar**	**149.66**	**308**	PKPbc	**PKPbc**	**09 09 48.9**	**-0.3**
	0.5nm,0.2s,baz=76,slow=6.1,SNR=3.7						
ABTA	**Abfaltersbach**	**149.69**	**352**	*i*,*s*PKPdf	**PKPbc**	**09 09 48.3**	**-0.6**
	5.6nm,0.7s						
DAVOX	**Davos/Dischmat**	**149.91**	**356**	PKPbc	**PKPbc**	**09 09 49.6**	**+0.1**
DAVOX	**Davos/Dischmat**	**149.91**	**356**	PKPbc	**PKPbc**	**09 09 49.6**	**+0.1**
	2.1nm,0.3s,baz=322,slow=6.9,SNR=5.0						
TORD	**Torodi Ar. Bea**	**173.79**	**124**	PKP	**PKPdf**	**09 10 08.2**	**-1.2**
TORD				PKPab	**PKPab**	**09 11 39.8**	**+0.3**
TORD	**Torodi Ar. Bea**	**173.79**	**124**	PKP	**PKPdf**	**09 10 08.2**	**-1.2**
	1.3nm,0.8s,baz=310,slow=1.5,SNR=7.3						
TORD				PKPab	**PKPab**	**09 11 39.8**	**+0.3**
	0.8nm,1.0s,baz=208,slow=2.8,SNR=3.3						

*IDC **01** 08:50:37.4±6.8, 8°70S×118°01E,h112km±61km, mb2.9/2, mb1 3.5/6,mb1mx3.3/25,mbtmp3.3/6,Error ellipse: s-maj=105.5km s-min=19.1km az=63.0*
*ISCJB **01** 08:50:39.9±0.6, 8°56S±0°05×118°41E±0°05,h143km, mb3.1/2,Error ellipse: s-maj=8.1km s-min=5.7km az=30.6*
*DJA **01** 08:50:42.2±0.6, 9°S±5°×11°8E±°,h111km±8km, M4.3/3, mb4.7/2,MLv4.2/3*
ISC 01 08:50:40.3±1.0,8°57S±0°06×118°39E±0°05,h143km,n16,σ1§69/21,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**1.46**	**137**	S	**Sn**	**08 51 31.0**	**+0.2**
LBFI	**Labuhan Bajo,**	**1.49**	**87**	P	**Pn**	**08 51 08.7**	**-0.6**
LBFI				S	**Sn**	**08 51 29.8**	**-1.5**
WSI	**Waingapu**	**2.18**	**120**	P	**Pn**	**08 51 19.3**	**+2.1**
WSI				S	**Sn**	**08 51 48.9**	**+3.4**
MTNI	**Mataram**	**2.19**	**268**	P	**Pn**	**08 51 17.0**	**-0.4**
SRBI	**Singaraja**	**3.18**	**278**	S	**Sn**	**08 52 08.9**	**+1.0**
BKSI	**Bulukumba**	**3.66**	**28**	P	**Pn**	**08 51 37.7**	**+1.7**
KAPI	**Kappang**	**3.78**	**21**	P	**Pn**	**08 51 38.9**	**+1.3**
KAPI	**Kappang**	**3.78**	**21**	P	**Pn**	**08 51 37.7**	**+0.1**
	1.7nm,0.3s,baz=201,slow=7.2,SNR=11						
KAPI				S	**Sn**	**08 52 21.8**	**-0.2**
	1.0nm,0.3s,baz=60,slow=20,SNR=4.3						
MMRI	**Maumere**	**3.81**	**91**	P	**Pn**	**08 51 38.9**	**+1.0**
BATI	**Baumata**	**5.45**	**108**	P	**Pn**	**08 52 00.3**	**+0.5**
	54nm,0.6s						
BATI	**Baumata**	**5.45**	**108**	P	**Pn**	**08 52 00.5**	**+0.7**
	20nm,0.3s,baz=284,slow=5.2,SNR=8.5						
BATI				S	**Sn**	**08 53 00.3**	**-1.4**
	7.4nm,0.3s,baz=18,slow=20,SNR=3.9						
SOEI	**Soe**	**5.92**	**102**	P	**Pn**	**08 52 07.0**	**+0.9**
FITZ	**Fitzroy Crossi**	**11.81**	**144**	P	**Pn**	**08 53 23.8**	**-0.7**
	0.3nm,0.3s,baz=323,slow=10,SNR=11						
FITZ				S	Sn	08 55 26.9	-7.9
	0.4nm,0.3s,baz=174,slow=19,SNR=7.7						
WRA	**Warramunga Arr**	**19.13**	**128**	P	**Pn**	**08 54 53.8**	**-1.2**
	0.3nm,0.3s,baz=301,slow=12,SNR=20						
WRA				S	**S**	**08 58 17.8**	**-4.3**
	0.1nm,0.3s,baz=299,slow=25,SNR=2.5						
ASAR	**Alice Springs**	**21.12**	**137**	P	**P**	**08 55 15.7**	**+1.7**
	0.8nm,0.5s,baz=312,slow=9.1,SNR=16						
MKAR	**Makanchi Array**	**63.80**	**333**	P	**P**	**09 00 57.2**	**0.0**
	0.1nm,0.5s,baz=123,slow=7.1,SNR=2.6						

IDC 01 08:52:17.5±2.3,15°14S×173°69W,h0km,mb3.9/5, mb1 4.1/5,mb1mx3.9/19,mbtmp3.9/5,MS4.1/2,Ms1 4.1/2, ms1mx3.5/32,Error ellipse: s-maj=126.6km s-min=22.8km az=142.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.21**	**57**	Pn	Pn	08 52 50.6	-5.1
	baz=176,slow=19,SNR=1.2						
AFI				Sn	Sn	08 53 06.6	-17
	152nm,0.3s,baz=270,slow=20,SNR=5.7						
STKA	**Stephens Creek**	**43.93**	**240**	P	P	09 00 26.2	-0.2
	2.7nm,0.9s,baz=65,slow=9.0,SNR=2.5						
WRA	**Warramunga Arr**	**49.64**	**257**	P	P	09 01 11.1	-0.2
	0.8nm,0.7s,baz=92,slow=6.9,SNR=5.5						
ASAR	**Alice Springs**	**49.93**	**252**	P	P	09 01 13.0	-0.6
	4.2nm,0.8s,baz=87,slow=7.9,SNR=6.5						
BATI	**Baumata**	**61.16**	**267**	LR	LR	09 23 46.2	
	comp=Z,210nm,21.4s,baz=136,slow=31						
MJAR	**Matsushiro Arr**	**68.56**	**320**	LR	LR	09 26 20.8	
	comp=Z,117nm,21.7s,baz=120,slow=30						
NVAR	**Mina Array Bea**	**74.32**	**42**	P	P	09 03 57.3	0.0
	0.2nm,0.6s,baz=230,slow=9.3,SNR=2.7						
ILAR	**Eielson Array**	**82.24**	**11**	P	P	09 04 39.3	-1.0
	0.3nm,0.5s,baz=222,slow=6.3,SNR=4.6						
MLR	**Muntele Rosu**	**145.52**	**335**	PKPbc	PKPbc	09 11 58.1	+0.1
	0.6nm,0.7s,baz=229,slow=5.9,SNR=3.5						
BRTR	**Keskin Array B**	**145.78**	**321**	PKPbc	PKPab	09 11 59.3	-0.2
	1.4nm,0.8s,baz=72,slow=4.7,SNR=4.6						
GERES	**GERESS Array B**	**145.84**	**351**	PKPbc	PKPdf	09 11 58.4	-0.1
	0.3nm,0.3s,baz=49,slow=1.8,SNR=3.9						

*IDC **01** 09:03:06.2±0.7, 15°96S×173°00W,h0km,mb4.2/13, mb1 4.4/13,mb1mx4.2/25,mbtmp4.2/13,MS4.0/7, Ms1 4.0/7,ms1mx3.6/31,Error ellipse: s-maj=28.4km s-min=15.5km az=122.0*
*NEIC **01** 09:03:07.5±0.5, 16°03S×172°90W,h10km,mb4.2/3,Error ellipse: s-maj=18.2km s-min=9.6km az=132.0*
ISC 01 09:03:09.1±0.6,15°85S±0°1×172°9W±0°1,h26km,n56,σ1§54/41,mb4.2/14,MS3.9/6,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.13**	**29**	*e*Pn	**Pb**	**09 03 47.4**	**+0.3**
AFI				Sn	**Sn**	**09 04 05.3**	**-3.4**
AFI	**Afiamalu**	**2.13**	**29**	Pn	**Pn**	**09 03 42.6**	**-0.6**
	28nm,0.3s,baz=195,slow=20,SNR=2.6						
AFI				Sn	**Sn**	**09 04 05.3**	**-3.4**
	84nm,0.3s,baz=54,slow=21,SNR=8.9						
MSVF	**Nonsavu**	**8.93**	**256**	Pn	**Pn**	**09 05 17.

GERES	GERESS Array B	146.59	352	PKPbc	PKPab	09 22 50.4	+0.9
GERES	GERESS Array B	146.59	352	PKPbc	PKPab	09 22 50.4	+0.9
	0.3nm,0.3s,baz=24,slow=3.6,SNR=3.6						
BRTR	Keskin Array B	146.78	321	PKPbc	PKPab	09 22 50.5	-0.1
BRTR	Keskin Array B	146.78	321	PKPbc	PKPab	09 22 50.5	-0.1
	2.7nm,0.9s,baz=144,slow=1.3,SNR=9.7						
TORD	Torodi Ar. Bea	174.10	116	PKP	PKPdf	09 23 16.8	-0.6
TORD	Torodi Ar. Bea	174.10	116	PKP	PKPdf	09 23 16.8	-0.6
	0.3nm,0.6s,baz=232,slow=1.6,SNR=2.6						

*ISCJB **01** 09:04:05.9±0.8,59°33N±0'.03×26°.96E±0'.09,h0km, Error ellipse: s-maj=6.5km s-min=4.0km az=5.8*
*HEL **01** 09:04:05.9±0.7,59°.27N×27°.35E, h0km, ML1.6, Explosion*
*CSEM **01** 09:04:06.7±0.3,59°.33N×27°.05E, h2km, ML2.3, Error ellipse: s-maj=6.0km s-min=3.7km az=96.0, Mining explosion.*
*BER **01** 09:04:07.8±2.8,59°.32N×26°.79E, h0km, ML2.3(NAO), Suspected explosion*
*NAO **01** 09:04:07.0±1.0,59°.29N×26°.59E, ML2.3*

ISC 01 09:04:06.0±1.0, 59°28N±0'.03×27°02E±0'.04, h0km, n27, σ0s97/37, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VSU	Vasula	0.83	190	Pg	Pb	09 04 23.7	+0.4
VSU				Lg	Lg	09 04 33.8	
VSU	Vasula	0.83	190	Pg	Pb	09 04 23.7	+0.4
VSU				Lg	Lg	09 04 33.8	
VSU	Vasula	0.83	190	*e*P	Pb	09 04 23.7	+0.4
	SNR=90						
VSU				Lg	Lg	09 04 33.8	
VSU				*e*S	Sb	09 04 34.5	-0.5
	164nm,0.5s,SNR=90						
VJF	Virojoki	1.29	12	PG	Pg	09 04 30.4	-0.3
VJF				SG	Sg	09 04 47.1	-0.3
VJF				MSG		09 04 47.1	
	comp=Z,2.7nm,0.1s						
VJF				RG	Rg	09 04 51.9	
VJF	Virojoki	1.29	12	Pg	Pg	09 04 30.4	-0.3
VJF				Sg	Sg	09 04 47.1	-0.3
PVF	Pernaja	1.40	336	PG	Pb	09 04 32.9	0.0
PVF				SG	Sg	09 04 50.8	0.0
PVF				MSG		09 04 50.8	
	comp=Z,1.5nm,0.4s						
PVF	Pernaja	1.40	336	Pg	Pb	09 04 32.9	0.0
PVF				Sg	Sg	09 04 50.8	0.0
MEF	Metsahovi	1.63	306	PG	Pg	09 04 37.5	+0.4
MEF				SG	Sg	09 05 00.0	+1.8
MEF				MSG		09 05 00.0	
	comp=Z,4.2nm,0.4s						
MEF	Metsahovi	1.63	306	Pg	Pg	09 04 37.5	+0.4
MEF				*e*S	Sg	09 04 58.9	+0.7
	comp=Z,313nm,0.1s,SNR=50						
MEF				Sg	Sg	09 05 00.0	+1.8
MTSE	Matsula	1.75	252	PN	Pg	09 04 39.1	-0.4
MTSE				SG	Sg	09 05 02.9	+0.6
MTSE	Matsula	1.75	252	Pn	Pg	09 04 39.1	-0.4
MTSE				Sg	Sg	09 05 02.8	+0.6
FIA0	FINESS Array S	2.22	348	Pn	Pn	09 04 45.0	+1.0
	baz=157,slow=18						
FIA0				Lg	Lg	09 05 15.6	
	baz=172,slow=37						
FIA0				Rg	Rg	09 05 26.4	
	baz=167,slow=18						
FIA0	FINESS Array S	2.22	348	Pn	Pn	09 04 45.0	+1.0
	baz=157,slow=18						
FIA0				Lg	Lg	09 05 15.6	
	baz=172,slow=37						
FIA0				Rg	Rg	09 05 26.4	
	baz=167,slow=18						
FIA0	FINESS Array S	2.22	348	PN	Pn	09 04 44.8	+0.8
	baz=164						
FIA0				SG	Sb	09 05 14.6	-0.3
FIA0				MSG		09 05 14.6	
	comp=Z,3.1nm,0.5s						
FIA0				RG	Rg	09 05 29.1	
FIA0	FINESS Array S	2.22	348	Pn	Pn	09 04 44.8	+0.8
FIA0				Sg	Sb	09 05 14.6	-0.3
FIA0				Lg	Lg	09 05 15.6	
	baz=172,slow=29						
RAF	Rauma	3.16	306	SG	Sg	09 05 46.2	-1.0
RAF				MSG		09 05 46.2	
	comp=Z,1.7nm,0.4s						
RAF	Rauma	3.16	306	*e*S	Sb	09 05 39.3	-2.5
	SNR=50						
RAF				Sg	Sg	09 05 46.2	-1.0
SUF	Sumiainen	3.48	353	SG	Sb	09 05 52.6	+1.6
SUF				MSG		09 05 52.6	
	comp=Z,2.2nm,0.4s						
SUF	Sumiainen	3.48	353	Sg	Sb	09 05 52.6	+1.6
AAL	Aland	3.67	287	SG	Sg	09 06 03.1	-0.6
AAL	Aland	3.67	287	Sg	Sg	09 06 03.1	-0.6
HFS	Hagfors	6.80	283	Lg	Lg	09 07 33.2	
HFS	Hagfors	6.80	283	Lg	Lg	09 07 33.2	
HFS	Hagfors	6.80	283	Lg	Lg	09 07 33.2	
ARA0	ARCESS Array S	10.32	357	Pn	Pn	09 06 33.8	-1.2
	baz=172,slow=12						
ARA0	ARCESS Array S	10.32	357	Pn	Pn	09 06 33.8	-1.2
	baz=172,slow=12						
ARA0	ARCESS Array S	10.32	357	Pn	Pn	09 06 33.8	-1.2
	baz=172,slow=12,SNR=4.0						

IDC 01 09:15:09.3±7.8, 14°90S×174°25W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.5/19, mbtmp3.7/2, Error ellipse: s-maj=328.4km s-min=59.6km az=138.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	49.16	256	P	P	09 23 59.9	+0.5
	0.3nm,0.5s,baz=90,slow=6.7,SNR=14						
ASAR	Alice Springs	49.48	252	P	P	09 24 01.1	-0.8
	0.7nm,0.5s,baz=89,slow=7.9,SNR=14						
BRTR	Keskin Array B	145.25	321	PKPbc	PKPbc	09 34 48.4	-0.8
	0.6nm,0.7s,baz=135,slow=0.6,SNR=3.5						

*TIR **01** 09:30:46.3±1.4,41°.37N×20°.96E, h14km±24km, ML3.1*
*ATH **01** 09:30:46.1,41°.39N×20°.91E, h7km±4km, MD3.3/5*
*BEO **01** 09:30:47.5±0.5,41°.29N×20°.98E, h0km±3km, ML2.3/6*
*CSEM **01** 09:30:47.6±0.1,41°.32N×20°.98E, h2km, ML2.8/4, Error ellipse: s-maj=4.0km s-min=2.8km az=61.0*
*THE **01** 09:30:47.0,41°.42N×21°.02E, h2km±1km, ML2.8/4, Error ellipse: s-maj=2.0km s-min=0.9km az=244.0*
*SKO **01** 09:30:47.6,41°.33N×20°.97E, h14km, M2.2, ML2.5*

ISC 01 09:30:47.3±1.0, 41°37N±0'.02×20°98E±0'.02, h5km±9km, n57, σ0s84/96, 1D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIA	Bitola	0.43	143	P	Pg	09 30 55.4	-0.3
BIA				S	Sg	09 31 03.0	+1.7
BIA	Bitola	0.43	143	*i* Pg	Pg	09 30 55.7	0.0
BIA				*e*Lg	Lg	09 31 01.2	
	comp=E,353nm,0.2s						
BIA				*e*Lg	Lg	09 31 01.3	
	comp=N,222nm,0.2s						
BIA				*i* Sg	Sg	09 31 01.4	+0.1
BIA	Bitola	0.43	143	P	Pg	09 30 55.4	-0.3
PHP	Peshkopia	0.52	308	*e*PG	Pg	09 30 56.4	-0.9
PHP				*e*SG	Sg	09 31 04.4	+0.4
PHP	Peshkopia	0.52	308	P	Pg	09 30 56.4	-0.9
PHP				S	Sg	09 31 04.6	+0.6
PHP	Peshkopia	0.52	308	P	Pg	09 30 56.4	-0.9
PHP				S	Sg	09 31 04.6	+0.6
FNA	Florina	0.66	153	P	Pg	09 30 59.6	-0.3
FNA				S	Sb	09 31 10.8	+0.1
FNA	Florina	0.66	153	*e*PB	Pg	09 30 59.6	-0.3
FNA				*e*SB	Sg	09 31 09.2	+0.8
FNA	Florina	0.66	153	P	Pg	09 30 59.6	-0.3
FNA				*e*Sb	Sg	09 31 09.2	+0.8
SKO	Skopje	0.69	29	P	Pb	09 31 02.8	+0.9
SKO				S	Sb	09 31 11.5	-0.3
SKO	Skopje	0.69	29	*e*Pg	Pb	09 31 02.0	+0.1
SKO				*e*Sg	Sb	09 31 11.4	-0.3
SKO	Skopje	0.69	29	*e*Pg	Pg	09 31 01.1	+0.4
SKO				*e*Sg	Sb	09 31 12.9	+1.1
SKO				*e*Lg	Lg	09 31 13.1	
	comp=E,81nm,0.2s						
SKO				*e*Lg	Lg	09 31 13.3	
	comp=N,152nm,0.3s						
SKO	Skopje	0.69	29	*e*Pg	Pb	09 31 02.0	+0.1
SKO	Skopje	0.69	29	P	Pb	09 31 02.8	+0.9
SKO				S	Sb	09 31 11.5	-0.3
KBN	Korca	0.76	191	*e*PG	Pg	09 31 01.8	-0.1
KBN				*e*SG	Sb	09 31 13.3	-0.3
KBN	Korca	0.76	191	P	Pg	09 31 01.9	+0.1
KBN				S	Sb	09 31 13.9	+0.3
KBN	Korca	0.76	191	*e*Pg	Pg	09 31 01.8	-0.1
	SNR=98						
KBN				*e*Sg	Sb	09 31 13.3	-0.3
	SNR=98						
TIR	Tirane	0.84	269	*e*PG	Pg	09 31 02.5	-1.0
TIR				*e*SG	Sg	09 31 14.7	+0.3
TIR	Tirane	0.84	269	*e*Pg	Pg	09 31 02.4	-1.0
TIR				*e*Sg	Sg	09 31 14.6	+0.3
TIR	Tirane	0.84	269	*e*Pg	Pg	09 31 02.5	-1.0
	SNR=97						
TIR				*e*Sg	Sg	09 31 14.7	+0.3
	SNR=97						
NEST	Nestorio	0.95	177	P	Pg	09 31 05.0	-0.6
NEST				S	Sn	09 31 20.8	-0.6
NEST	Nestorio	0.95	177	P	Pg	09 31 05.0	-0.6
PUK	Puka	1.06	310	*e*PG	Pg	09 31 06.1	-1.5
PUK				*e*SG	Sn	09 31 23.4	-0.6
PUK	Puka	1.06	310	*e*Pg	Pg	09 31 06.1	-1.5
	SNR=95						
PUK				*e*Sg	Sn	09 31 23.4	-0.6
	SNR=95						
VAY	Valandovo	1.20	92	P	Pg	09 31 08.8	-1.5
VAY				S	Sg	09 31 25.3	-0.5
VAY	Valandovo	1.20	92	*e*Pg	Pg	09 31 08.7	-1.5
VAY				*i* Sg	Sg	09 31 25.8	0.0
VAY	Valandovo	1.20	92	*e*Pg	Pg	09 31 01.3	-8.9
VAY				*e*Sg	Sb	09 31 26.6	+0.4
VAY				*e*Lg	Lg	09 31 27.3	
	comp=E,49nm,0.3s						
VAY				*e*Lg	Lg	09 31 27.5	
	comp=N,121nm,1.1s						
VAY	Valandovo	1.20	92	P	Pg	09 31 08.8	-1.5
VAY				S	Sg	09 31 25.3	-0.5
BCI	Bajram Curri	1.21	326	*e*PG	Pg	09 31 09.3	-1.2
BCI	Bajram Curri	1.21	326	*e*Pg	Pg	09 31 09.3	-1.2
	SNR=94						
KZN	Kozani	1.22	150	P	Pb	09 31 10.1	-0.7
KZN				S	Sn	09 31 29.7	+1.8
KZN	Kozani	1.22	150	*e*PG	Pb	09 31 09.8	-1.0
KZN				*e*SB	Sn	09 31 28.0	+0.1
KZN	Kozani	1.22	150	*e*Pg	Pb	09 31 09.8	-1.0
KZN	Kozani	1.22	150	P	Pb	09 31 10.1	-0.7
KZN				*e*Sb	Sn	09 31 28.0	+0.1
KNT	Kendrikon	1.46	97	P	Pn	09 31 13.6	-0.7
KNT				S	Sb	09 31 34.1	+0.3
KNT	Kendrikon	1.46	97	P	Pn	09 31 13.6	-0.7
KNT				S	Sb	09 31 34.1	+0.3
PDG	Podgorica	1.67	310	*e*Pn	Pb	09 31 18.7	+0.2
PDG				*e*Sn	Sg	09 31 41.3	+0.3
PDG	Podgorica	1.67	310	*e*Pn	Pb	09 31 18.7	+0.2
PDG				*e*Sn	Sg	09 31 41.3	+0.3
LIT	Litokhoron	1.71	137	P	Pn	09 31 17.8	+0.1
LIT				S	Sn	09 31 39.5	-0.4
LIT	Litokhoron	1.71	137	*e*PN	Pb	09 31 19.6	+0.4
LIT	Litokhoron	1.71	137	P	Pn	09 31 17.8	+0.1
LIT	Litokhoron	1.71	137	*e*Pn	Pb	09 31 19.6	+0.4
LIT				S	Sn	09 31 39.5	-0.4
SELS	Selova	1.85	3↓	*i* Pn	Sg	09 31 21.5	+2.2
SELS				*i* Sg	Sg	09 31 49.1	+2.2
KEK	Kerkira	1.88	209	*e*PN	Pn	09 31 20.8	+0.7
KEK	Kerkira	1.88	209	*e*Pn	Pn	09 31 20.8	+0.7
THL	Klokotos Trika	1.97	156	P	Pn	09 31 21.4	+0.2
THL				S	Sb	09 31 47.5	-0.8
THL	Klokotos Trika	1.97	156	*e*PN	Pn	09 31 22.5	+1.3
THL	Klokotos Trika	1.97	156	P	Pn	09 31 21.4	+0.2
THL	Klokotos Trika	1.97	156	*e*Pn	Pn	09 31 22.5	+1.3
THL				S	Sb	09 31 47.5	-0.8
SJES	Sjenica	2.04	339	*e*Pn	Pn	09 31 23.2	+0.9
SJES				*e*Sn	Sg	09 31 51.7	-1.0
VTS	Vitosha	2.06	53	*e*Pn	Pn	09 31 24.0	+1.3
VTS				*e*Sn	Sb	09 31 50.8	-0.5
VTS	Vitosha	2.06	53	*e*Pn	Pn	09 31 24.0	+1.3
VTS				*e*Sn	Sb	09 31 50.8	-0.5
ZAPS	Zavoj	2.27	32	*e*Pn	Pb	09 31 27.9	-0.8
IVAS	Ivanjica	2.29	345	*e*Pn	Pn	09 31 26.4	+0.6
IVAS	Ivanjica	2.29	345	*e*Pn	Pn	09 31 26.4	+0.6
BBLS	Lazići	2.75	336	*e*Pn	Pn	09 31 34.2	+2.0
BBLS	Lazići	2.75	336	*e*Pn	Pn	09 31 34.2	+2.0

IDC 01 09:36:34.8±0.8, 16°35S×172°88W, h0km, mb3.8/7, mb1 4.1/7, mb1mx3.9/22, mbtmp3.8/7, Error ellipse: s-maj=39.8km s-min=20.0km az=127.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	2.65	24	Pn	Pn	09 37 15.4	-3.5
	20nm,0.3s,baz=229,slow=9.3,SNR=6.2						
AFI				Sn	Sn	09 37 43.6	-8.3
	78nm,0.3s,baz=46,slow=22,SNR=8.9						
URZ	Urewera	23.53	200	P	P	09 41 47.1	+0.4
	8.9nm,0.8s,baz=101,slow=5.2,SNR=5.3						
H11S2	WAKE ISLAND Hy	40.03	329	T	T	10 26 43.0	
	baz=149						
H11S3	WAKE ISLAND Hy	40.05	329	T	T	10 26 41.1	
	baz=149						
H11S1	WAKE ISLAND Hy	40.05	329	T	T	10 26 35.0	
	baz=149,SNR=4.6						
WRA	Warramunga Arr	50.12	257	P	P	09 45 31.1	-1.1
	0.4nm,0.7s,baz=95,slow=7.3,SNR=5.7						
ASAR	Alice Springs	50.30	253	P	P	09 45 33.9	+0.3
	3.1nm,0.7s,baz=87,slow=8.5,SNR=42						
VNDA	Vanda	62.49	186	P	P	09 46 59.4	-0.2
	0.9nm,1.1s,baz=17,slow=7.0,SNR=3.4						
NVAR	Mina Array Bea	74.70	42	P	P	09 48 17.3	+0.5
	0.3nm,0.5s,baz=242,slow=9.1,SNR=3.1						
PDAR	Pinedale Array	82.64	42	P	P	09 48 59.3	-1.1
	0.2nm,0.6s,baz=219,slow=8.0,SNR=2.7						
ILAR	Eielson Array	83.28	11	P	P	09 49 03.0	+0.1
	0.7nm,0.6s,baz=228,slow=5.8,SNR=12						
GERES	GERESS Array B	147.15	352	PKPbc	PKPbc	09 56 20.4	+0.4
	0.3nm,0.3s,baz=339,slow=11,SNR=3.9						

KRSC 01 09:39:07.7±4.7, 52°.69N×159°.00E, h109km±69km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	Russkaya	0.39	229	P	Pn	09 39 24.3	+0.6
RUS				S	Sn	09 39 35.1	-0.7
PET	Petropavlovsk	0.40	328	P	Pn	09 39 24.0	+0.2
PET				S	Sn	09 39 34.5	-1.3
NLC	Nalytchevo	0.53	23	P	Pn	09 39 25.0	+0.8
NLC				S	Sn	09 39 37.0	-0.2
UGLR	Uglovaya	0.53	348	P	Pn	09 39 25.5	+0.7
UGLR				S	Sn	09 39 37.3	-0.3
MTVR	Mutnovka	0.54	248	P	Pn	09 39 25.9	+1.0
MTVR				S	Sn	09 39 37.7	-0.1
GRL	Gorelyy	0.58	257	P	Pn	09 39 26.4	+1.2
SMAR	Somma	0.59	348	P	Pn	09 39 26.4	+1.1
SMAR				S	Sn	09 39 38.4	-0.2
SDLR	Sedlovina	0.59	353	P	Pn	09 39 25.7	+0.4
SDLR				S	Sn	09 39 37.2	-1.3
AVH	Avacha	0.60	345	P	Pn	09 39 26.2	+1.0
AVH				S	Sn	09 39 38.6	+0.2
KRER	Koryakskii	0.63	346	P	Pn	09 39 26.5	+0.8
KRER				S	Sn	09 39 38.9	-0.3
KOK	Koryaka	0.64	340	P	Pn	09 39 26.4	+0.8
KOK				S	Sn	09 39 38.5	-0.6
KRX	Arik	0.70	343	P	Pn	09 39 26.7	+0.5
KRX				S	Sn	09 39 39.1	-1.0
ASAK	Asacha	0.74	246	P	Pn	09 39 27.4	+1.0
ASAK				S	Sn	09 39 40.8	+0.4
APC	Apacha	1.14	283	P	Pn	09 39 31.2	+0.9
APC				S	Sn	09 39 47.4	0.0
GNL	Ganaly	1.19	328	P	Pn	09 39 31.3	+0.3
GNL				S	Sn	09 39 47.6	-1.0
KII	Karymskiy	1.38	11	S	Sn	09 39 53.1	+0.8
MIPR	Malaya Ipel'ka	1.43	254	P	Pn	09 39 34.5	+0.9
MKZ	Mys Kozlova	2.48	40	P	Pn	09 39 48.9	+2.2
MKZ				S	Sn	09 40 17.9	+1.3
KBTR	Krutoberegovo	4.17	31	P	Pn	09 40 10.6	+1.4
KBTR				S	Sn	09 40 57.9	+1.0

*IDC **01** 09:41:17.0±0.7,15°.27S×173°.30W, h0km, mb4.1/10, mb1 4.4/10, mb1mx4.2/22, mbtmp4.2/10, Error ellipse: s-maj=38.1km s-min=17.7km az=136.0*
*NEIC **01** 09:41:18.5±0.3,15°.22S×173°.39W, h10km, mb4.4/5, Error ellipse: s-maj=16.0km s-min=7.8km az=142.0*
*ISCJB **01** 09:41:21.4±0.5,15°.2S±0'.1×173°.57W±0'.09, h42km, mb4.2/13, Error ellipse: s-maj=17.7km s-min=9.5km az=151.7*

ISC 01 09:41:23.0±0.6, 15°3S±0'.1×173°4W±0'.1, h42km, n47, σ0s84/38, mb4.2/13, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	2.07	50	*e*Pn	Pn	09 41 45.6	-10
AFI				Sn	Sn	09 42 03.6	-17
AFI	Afiamalu	2.07	50	Pn	Pn	09 41 45.6	-10
	84nm,0.3s,baz=315,slow=1.4,SNR=17						
AFI				Sn	Sn	09 42 03.6	-17
	401nm,0.3s,baz=90,slow=20,SNR=17						
MSVF	Nonsavu	8.55	252	*e*Pn	Pn	09 43 22.5	-2.0
	26nm,1.0s						
DZM	Mont Dzumac	20.24	247	*e*LR	LR	09 51 05.8	
	259nm,22.4s						
DZM	Mont Dzumac	20.24	247	P	Pn	09 45 55.9	-1.3
DZM	Mont Dzumac	20.24	247	P	Pn	09 45 55.9	-1.3
	8.6nm,1.1s,baz=78,slow=20,SNR=3.2						
PPT2	Papeete2	22.98	99	*e*S	S	09 50 29.8	-2.1
	409nm,28.2s						
PPT2				*e*LR	LR	09 51 49.5	
	271nm,24.5s						
TBI	Tubuai	23.97	113	*e*LQ	LQ	09 51 12.8	
	399nm,30.2s						
TBI				*e*LR	LR	09 52 13.1	
	315nm,23.2s						
URZ	Urewera	24.39	198	P	P	09 46 37.6	+0.2
RKT	Rikitea	37.05	108	*e*LR	LR	09 58 22.7	
	237nm,26.8s						
H11S2	WAKE ISLAND Hy	38.84	329	T	T	10 30 21.4	
	baz=143						
H11S3	WAKE ISLAND Hy	38.85	329	T	T	10 30 05.6	
	baz=143,slow=0.7,SNR=14						
H11S1	WAKE ISLAND Hy	38.85	329	T	T	10 30 07.2	
	baz=143,slow=0.7,SNR=20						
H11N3	WAKE ISLAND Hy	39.78	330	T	T	10 31 34.7	
	baz=152,slow=0.7,SNR=6.6						
H11N1	WAKE ISLAND Hy	39.79	330	T	T	10 31 15.9	
	baz=152,slow=0.7,SNR=8.3						
H11N2	WAKE ISLAND Hy	39.80	330	T	T	10 31 34.5	
	baz=152,slow=0.7,SNR=5.9						
STKA	Stephens Creek	44.10	240	*e*P	P	09 49 27.0	-0.4
	2.2nm,1.1s						
STKA				PcP	PcP	09 51 13.8	+1.7
STKA	Stephens Creek	44.10	240	P	P	09 49 27.4	0.0
	4.5nm,0.7s,baz=76,slow=10,SNR=10						
STKA				PcP	PcP	09 51 13.8	+1.7
	1.9nm,0.8s,baz=71,slow=7.5,SNR=2.7						
WRAB	Tennant Creek	49.86	257	*e*P	P	09 50 12.1	-0.4
	4.7nm,0.9s						
WRA	Warramunga Arr	49.87	257	P	P	09 50 12.3	-0.3
WRA				PcP	PcP	09 51 33.8	+1.0
WRA	Warramunga Arr	49.87	257	P	P	09 50 12.3	-0.3
	2.0nm,0.5s,baz=90,slow=6.8,SNR=68						
WRA				PcP	PcP	09 51 33.8	+1.0
	1.6nm,0.8s,baz=90,slow=3.3,SNR=5.0						
AS31	Alice Springs	50.14	252	*e*P	P	09 50 14.3	-0.4
ASAR	Alice Springs	50.14	252	P	P	09 50 14.3	-0.4
ASAR	Alice Springs	50.14	252	P	P	09 50 14.3	-0.4
	9.3nm,0.9s,baz=88,slow=8.2,SNR=74						
VNDA	Vanda	63.52	186	P	P	09 51 48.2	-0.3
VNDA	Vanda	63.52	186	P	P	09 51 48.2	-0.3
	1.5nm,0.8s,baz=12,slow=7.1,SNR=7.4						
NVAR	Mina Array Bea	74.23	42	P	P	09 52 55.9	-0.1
NVAR	Mina Array Bea	74.23	42	P	P	09 52 55.9	-0.1
	0.4nm,0.6s,baz=224,slow=9.9,SNR=4.9						
QSPA	South Pole Qui	74.79	180	*e*P	P	09 52 59.3	+0.6
	8.2nm,1.1s						
PV01	Paradox Valley	80.63	46	*e*P	P	09 53 31.4	-0.5
ANMO	Albuquerque	80.72	50	*e*P	P	09 53 32.3	-0.1
	2.8nm,1.2s						
MCK	McKinley	80.98	11	*e*P	P	09 53 32.4	-0.5
	12nm,0.9s						
PDAR	Pinedale Array	82.17	42	P	P	09 53 39.5	-0.3
PDAR	Pinedale Array	82.17	42	P	P	09 53 39.5	-0.3
	0.7nm,0.9s,baz=216,slow=1.3,SNR=5.5						
ILAR	Eielson Array	82.31	11	P	P	09 53 39.2	-0.6
ILAR	Eielson Array	82.31	11	P	P	09 53 39.2	-0.6
	1.5nm,0.7s,baz=228,slow=6.2,SNR=19						
MAW	Mawson	87.92	199	P	P	09 54 08.4	+0.4
MAW	Mawson	87.92	199	P	P	09 54 08.4	+0.4
	1.0nm,0.7s,baz=129,slow=6.5,SNR=2.9						
YKA	Yellowknife Ar	89.97	23	P	P	09 54 17.5	-0.1
YKA	Yellowknife Ar	89.97	23	P	P	09 54 17.5	-0.1
	1.0nm,0.7s,baz=236,slow=4.3,SNR=3.9						
LBTB	Lobatse	135.89	205	*e*PKPdf	PKPdf	10 00 39.8	-0.5
KECS	Kecovo	144.95	344	*e*PKP	PKPdf	10 00 55.8	+0.1
KMBO	Kilima Mbogo	145.59	244	PKPbc	PKPab	10 00 60.0	+1.3
KMBO	Kilima Mbogo	145.59	244	PKPbc	PKPab	10 00 60.0	+1.3
	2.5nm,0.9s,baz=72,slow=7.4,SNR=5.3						
BR131	Keskin Array S	146.04	321	*e*PKPdf	PKPab	10 00 59.9	+0.4
BRTR	Keskin Array B	146.04	321	PKPbc	PKPab	10 01 00.5	+1.0
BRTR	Keskin Array B	146.04	321	PKPbc	PKPab	10 01 00.5	+1.0
	13nm,0.9s,baz=100,slow=2.1,SNR=47						

*BJI **01** 09:47:26.2,16°.30S×173°.50W, h10km, mB5.5/13, mb5.0/21, Ms5.1/8, Ms7 4.8/9*
*IDC **01** 09:47:30.7±0.5,15°.22S×173°.15W, h0km, mb4.2/17, mb1 4.4/17, mb1mx4.4/25, mbtmp4.2/17, MS4.2/13, Ms1 4.2/13, ms1mx3.9/39, Error ellipse: s-maj=23.4km s-min=13.6km az=133.0*
*NEIC **01** 09:47:32.5±0.2,15°.20S×173°.21W, h10km, mb5.0/25, Error ellipse: s-maj=11.9km s-min=6.1km az=133.0*
*ISCJB **01** 09:47:33.4±0.2,15°.20S±0'.08×173°.28W±0'.06, h29km, mb4.7/48, MS4.4/15, Error ellipse: s-maj=12.3km s-min=6.6km az=147.1*

**ISC 01 09:47:34.9±0.4, 15°15S±0'.09×173°25W±0'.08, h29km, n241, σ1s03/232, mb4.8/48

baz=147,slow=0.7,SNR=4.0
H11S1 **WAKE ISLAND Hy** 38.85 329 T T 10 35 44.2
baz=147,SNR=3.6
PMG **Port Moresby** 39.06 274 LR LR 10 08 54.5
comp=Z,94nm,20.2s,baz=233,slow=33
H11N3 **WAKE ISLAND Hy** 39.77 330 T T 10 38 38.6
baz=148,slow=0.7,SNR=3.5
H11N1 **WAKE ISLAND Hy** 39.78 330 T T 10 38 48.2
baz=148,slow=0.7,SNR=4.6
H11N2 **WAKE ISLAND Hy** 39.79 330 T T 10 38 46.7
baz=148,slow=0.7,SNR=3.6
STKA **Stephens Creek** 44.29 240 P P 09 55 42.3 0.0
4.0nm,1.4s
STKA **Stephens Creek** 44.29 240 P P 09 55 42.3 0.0
6.3nm,1.0s,baz=83,slow=8.6,SNR=9.1
STKA LR LR 10 11 00.1
comp=Z,151nm,21.6s,baz=212,slow=32
WRA **Warramunga Arr** 50.04 257 P P 09 56 27.0 -0.4
WRA **Warramunga Arr** 50.04 257 P P 09 56 27.0 -0.4
2.4nm,0.9s,baz=93,slow=6.6,SNR=15
WRA LR LR 10 15 42.8
comp=Z,261nm,20.4s,baz=70,slow=34
AS31 **Alice Springs** 50.33 252 *e*P P 09 56 28.6 -1.0
ASAR **Alice Springs** 50.33 252 P P 09 56 29.1 -0.4
ASAR **Alice Springs** 50.33 252 P P 09 56 29.1 -0.4
12nm,0.9s,baz=86,slow=8.5,SNR=28
ASAR LR LR 10 16 04.3
comp=Z,567nm,21.7s,baz=93,slow=34
FITZ **Fitzroy Crossi** 58.41 258 LR LR 10 20 49.5
comp=Z,326nm,19.5s,baz=99,slow=34
BATI **Baumata** 61.58 266 LR LR 10 21 17.6
comp=Z,251nm,19.6s,baz=133,slow=33
SBA **Scott Base** 63.51 185 *e*P P 09 58 03.0 +1.0
53nm,2.0s
VNDA **Vanda** 63.63 186 P P 09 58 03.6 +0.7
49nm,2.5s
VNDA **Vanda** 63.63 186 P P 09 58 03.6 +0.7
1.9nm,0.9s,baz=3.7,slow=6.5,SNR=10
MJAR **Matsushiro Arr** 68.85 320 P P 09 58 38.9 +2.0
MJAR **Matsushiro Arr** 68.85 320 P P 09 58 38.9 +2.0
0.7nm,0.7s,baz=166,slow=5.5,SNR=3.0
EDW2 **Edwards Air Fo** 72.27 45 P P 09 58 55.9 -2.0
baz=72
MONP **Monument Peak** 72.29 48 P P 09 58 56.1 -2.1
baz=72
ISA **Isabella** 72.38 44 *e*P P 09 58 59.2 +0.7
7.6nm,1.1s
PEA0B **Petropavlovsk-** 72.44 342 *e*P P 09 58 59.4 +1.0
PETK **Petropavlovsk-** 72.44 342 P P 09 58 58.7 +0.3
PETK **Petropavlovsk-** 72.44 342 P P 09 58 58.7 +0.3
3.6nm,0.8s,baz=105,slow=9.3,SNR=3.9
BELC **Belle Mtn. Jos** 73.18 47 P P 09 59 02.3 -1.1
baz=73
MPMC **Manual Prospec** 73.26 44 P P 09 59 03.1 -0.8
baz=73
YBH **Yreka Blue Hor** 73.31 37 P P 09 59 04.6 +0.6
YBH **Yreka Blue Hor** 73.31 37 P P 09 59 04.6 +0.6
3.4nm,1.1s,baz=188,slow=11,SNR=3.3
YBH LR LR 10 25 17.4
comp=Z,285nm,18.6s,baz=150,slow=31
GRAC **Grapevine Rang** 73.86 44 P P 09 59 05.8 -1.4
baz=74
IRM **Iron Mountain** 73.86 47 P P 09 59 06.3 -1.0
baz=74
NVAR **Mina Array Bea** 74.05 42 P P 09 59 08.6 0.0
NVAR **Mina Array Bea** 74.05 42 P P 09 59 08.6 0.0
1.6nm,0.8s,baz=228,slow=11,SNR=8.3
113A **Mohawk Valley,** 74.14 49 P P 09 59 09.2 +0.3
baz=74
QSPA **South Pole Qui** 74.89 180 *e*P P 09 59 14.0 +1.1
14nm,1.1s
K05A **Summer Lake** 74.99 37 *e*P P 09 59 14.9 +1.1
28nm,1.4s
SHPR **Sheep Range** 75.08 45 *e*P P 09 59 15.2 +0.7
KSRS **Korea Array** 76.09 315 P P 09 59 22.1 +2.2
1.2nm,0.8s,baz=110,slow=7.3,SNR=6.7
KSAR **Wonju Array Be** 76.11 315 P P 09 59 22.1 +2.0
TUC **Tucson** 76.12 51 *e*P P 09 59 20.3 -0.1
14nm,1.3s
I07A **Izee** 76.62 37 *e*P P 09 59 26.0 +3.0
117nm,2.8s
X16A **Lo Mia Camp, P** 76.64 48 P P 09 59 24.1 +0.6
baz=77
J08A **Circle Bar Ran** 76.79 38 *e*P P 09 59 24.4 +0.4
22nm,1.7s
319A **Douglas** 76.83 52 P P 09 59 24.7 +0.2
baz=77
CCUT **Cedar City** 76.85 45 *e*P P 09 59 26.5 +1.8
10nm,1.5s
U15A **North Rim** 77.03 46 P P 09 59 26.4 +0.7
baz=77
D05A **Enumclaw** 77.16 33 *e*P P 09 59 27.6 +1.8
45nm,1.4s
320A **Kipp Ranch, An** 77.38 52 P P 09 59 27.1 -0.5
baz=78
BBB **Bella Bella** 77.60 27 P P 09 59 28.0 -0.1
BBB **Bella Bella** 77.60 27 P P 09 59 28.0 -0.1
baz=203,slow=13
220A **Playas Peak, P** 77.64 52 P P 09 59 29.3 +0.2
baz=78
G08A **Pilot Rock** 77.65 36 *e*P P 09 59 29.7 +0.9
13nm,1.4s
X18A **Snowflake** 77.78 49 P P 09 59 30.3 +0.4
baz=78
120A **U Bar Ranch, L** 77.84 51 P P 09 59 30.2 -0.1
baz=78
Z20A **Nine Sixteen R** 78.13 51 P P 09 59 31.8 -0.1
baz=78
MFID **Camas Ranch** 78.40 39 P P 09 59 33.4 +0.4
baz=79
DUG **Dugway** 78.58 43 P P 09 59 34.9 +0.7
baz=79
Y20A **Horse Springs,** 78.65 50 P P 09 59 35.1 +0.3
baz=79
X20A **Quemado** 78.85 50 P P 09 59 36.0 +0.2
baz=79
Z21A **St. Cloud Mine** 78.91 51 P P 09 59 36.3 +0.1
baz=79
MDJ **Mudanjiang** 78.92 322 P P 09 59 36.0 +0.3
MDJ AMB AMB
comp=Z,7.0nm,2.2s
MDJ AMB AMB
comp=Z,44nm,3.0s
W20A **Ramah** 79.11 49 P P 09 59 37.8 +0.5
baz=79
HLID **Hailey** 79.34 39 *e*P P 09 59 38.8 +0.5
6.3nm,1.1s
HLID **Hailey** 79.34 39 P P 09 59 38.8 +0.5
baz=80
Z22A **Elephant Butte** 79.42 51 P P 09 59 39.1 +0.2
baz=80
Y22A **Socorro** 79.71 51 P P 09 59 41.0 +0.5
baz=80
V21A **Milan** 80.05 49 P P 09 59 43.0 +0.6
baz=80
626A **Big Bend Ranch** 80.07 56 P P 09 59 42.8 +0.4
baz=80
NJ2 **Nanjing** 80.14 307 *e*P P 09 59 39.8 -2.8
NJ2 AMB AMB
comp=Z,11nm,0.6s
526A **Mary Lane Ranc** 80.31 55 P P 09 59 43.6 -0.1
baz=80
U21A **Nageezi** 80.31 48 P P 09 59 44.4 +0.7
baz=80
TXAR **Lajitas Array** 80.35 56 P P 09 59 44.5 +0.5
TXAR **Lajitas Array** 80.35 56 P P 09 59 44.5 +0.5
1.5nm,1.0s
TRF **Thorofare Moun** 80.36 10 *e*P P 09 59 43.6 +0.3
161nm,2.4s
Y23A **Lovelace Mesa,** 80.39 51 P P 09 59 44.8 +0.6
baz=80
S20A **Disappointment** 80.45 47 P P 09 59 44.8 +0.2
baz=81
ANMO **Albuquerque** 80.53 50 P P 09 59 45.0 +0.1
10nm,1.3s
ANMO **Albuquerque** 80.53 50 P P 09 59 45.0 +0.1
0.7nm,0.6s,baz=203,slow=6.6,SNR=4.4
426A **McDonald Obser** 80.60 55 P P 09 59 45.3 -0.1
baz=81
627A **Terlingua Ranc** 80.62 56 P P 09 59 45.5 0.0
baz=81
527A **Woodward Ranch** 80.72 55 P P 09 59 45.7 -0.3
baz=81
MCK **McKinley** 80.86 11 *e*P P 09 59 46.5 +0.8
19nm,1.0s
Y24A **Capitan** 80.86 51 P P 09 59 46.8 +0.1
baz=81
P19A **Cripple Cowboy** 80.87 45 P P 09 59 47.0 +0.4
baz=81
326A **Caldwell Ranch** 80.90 54 P P 09 59 47.1 +0.3
baz=81
MCMT **McKenzie Canyo** 80.97 39 *e*P P 09 59 47.3 +0.2
2.8nm,1.1s
Q20A **Ridgley Place,** 81.02 46 P P 09 59 47.8 +0.4
baz=81
628A **Black Gap, Mar** 81.04 56 P P 09 59 47.5 -0.1
baz=81
226B **Tecolote Peak,** 81.06 53 P P 09 59 47.1 -0.6
baz=81
V23A **Ortiz Mt. (NFS** 81.08 49 P P 09 59 48.3 +0.5
baz=81
T22A **Edith** 81.12 48 P P 09 59 47.7 -0.4
baz=81
X24A **Lazy VL Ranch,** 81.13 51 P P 09 59 48.0 -0.2
baz=81
Z25A **Roswell** 81.13 52 P P 09 59 47.8 -0.3
baz=81
427A **Hayter Ranch,** 81.17 55 P P 09 59 48.4 +0.1
baz=81
P20A **De Beque** 81.21 45 P P 09 59 48.8 +0.4
baz=81
U23A **El Rito** 81.33 49 P P 09 59 49.8 +0.6
baz=82
528A **Cox Ranch, San** 81.38 56 P P 09 59 49.6 +0.2
baz=82
Y25A **Mesa, Roswell** 81.42 52 P P 09 59 49.9 +0.3
baz=82
REDW **Red Top Meadow** 81.45 41 *e*P P 09 59 53.8 +4.1
17nm,1.5s
SNOW **Snow King Moun** 81.56 41 *e*P P 09 59 51.2 +0.9
48nm,2.3s
428A **Kincaid Ranch,** 81.68 55 P P 09 59 50.7 -0.4
baz=82
Z26A **Caprock** 81.69 52 P P 09 59 50.9 -0.1
baz=82
LOHW **Long Hollow** 81.73 41 *e*P P 09 59 51.4 +0.2
7.2nm,1.4s
T23A **Casias Ranch,** 81.75 48 P P 09 59 51.9 +0.4
baz=82
529A **Stev Forest Ra** 81.82 56 P P 09 59 51.5 -0.2
baz=82
QLMT **Earthquake Lak** 81.84 39 *e*P P 09 59 52.1 +0.4
0.2nm,0.3s
Q22A **Crested Butte,** 81.94 46 P P 09 59 53.2 +0.8
baz=82
PDAR **Pinedale Array** 81.98 42 P P 09 59 52.0 -0.6
PDAR **Pinedale Array** 81.98 42 P P 09 59 52.0 -0.6
0.8nm,0.9s,baz=197,slow=2.8,SNR=6.0
PDAR LR LR 10 31 33.1
comp=Z,217nm,18.1s,baz=358,slow=32
COLA **College** 82.09 11 *e*P P 09 59 52.6 +0.4
25nm,1.0s
ILAR **Eielson Array** 82.18 11 P P 09 59 52.6 -0.1
ILAR **Eielson Array** 82.18 11 P P 09 59 52.6 -0.1
1.9nm,0.9s,baz=208,slow=5.3,SNR=14
IM04 **Indian Mountai** 82.20 8 *e*P P 09 59 53.4 +0.6
429A **Davenport Ranc** 82.27 56 P P 09 59 53.6 -0.5
baz=82
V25A **Rancho No Teng** 82.27 50 P P 09 59 53.9 -0.3
baz=82
IMA2 **Indian Mountai** 82.30 8 *e*P P 09 59 54.6 +1.1
R23A **Moffat** 82.40 47 P P 09 59 55.3 +0.4
baz=83
L20A **Wamsutter** 82.42 43 P P 09 59 55.3 +0.6
baz=83
329A **Wagon Wheel Ra** 82.53 55 P P 09 59 55.4 0.0
baz=83
530A **J-C Ranch, Com** 82.53 56 P P 09 59 55.7 +0.2
baz=83
J19A **Crowheart** 82.55 42 P P 09 59 55.9 +0.5
baz=83
Y27A **Causey** 82.56 52 P P 09 59 55.5 -0.1
baz=83
128A **Castleberry Fa** 82.58 53 P P 09 59 55.0 -0.7
baz=83
S24A **Houchin Ranch,** 82.60 48 P P 09 59 56.6 +0.7
baz=83
U25A **Circle Dot Ran** 82.66 49 P P 09 59 56.5 +0.3
baz=83
Q23A **Hartsel** 82.71 47 P P 09 59 56.6 +0.1
baz=83
K20A **Yellowstone Ra** 82.72 42 P P 09 59 56.2 -0.1
baz=83
O22A **Kremmling** 82.77 45 P P 09 59 57.0 +0.2
baz=83
V26A **Tequesquite Ra** 82.87 50 P P 09 59 56.4 -0.8
baz=83
631A **Perdido Creek** 82.88 57 P P 09 59 56.3 -0.9
baz=83
M21A **Separation Pea** 82.88 44 P P 09 59 57.4 +0.2
baz=83
MSTX **Muleshoe** 82.89 52 *e*P P 09 59 56.7 -0.6
14nm,1.3s
MSTX **Muleshoe** 82.89 52 P P 09 59 56.7 -0.6
baz=83
R24A **Sanders Place,** 82.93 47 P P 09 59 57.6 +0.1
baz=83
QIZ **Qiongzhong** 82.95 292 P P 09 59 53.7 -4.1
QIZ S S 10 10 13.9 -1.4
QIZ AMB AMB
comp=Z,52nm,2.2s
I19A **Meeteetse** 82.96 41 P P 09 59 58.2 +0.7
baz=83
T25A **Trinidad** 82.97 49 P P 09 59 57.9 +0.2
baz=83
W27A **Bowe Ranch, En** 83.11 51 P P 09 59 58.2 -0.2
baz=83
N22A **Wattenberg Ran** 83.12 45 P P 09 59 59.1 +0.6
baz=83
U26A **Atchley Ranch,** 83.14 50 P P 09 59 59.0 +0.3
baz=83
DAWY **Dawson** 83.15 14 *e*P P 09 59 58.2 +0.4
S25A **Robets Cordova** 83.17 48 P P 09 59 58.5 -0.2
baz=83
531A **Rocksprings** 83.18 56 P P 09 59 58.1 -0.7
baz=83
H19A **Powell** 83.27 40 P P 09 59 59.8 +0.8
baz=83
K21A **Alcova** 83.42 43 P P 10 00 00.4 +0.4
baz=84
I20A **Worland** 83.47 41 P P 10 00 00.1 0.0
baz=84
R25A **Fountain Ranch** 83.48 48 P P 10 00 00.3 0.0
baz=84
N23A **Red Feather La** 83.51 45 P P 10 00 00.2 -0.3
baz=84
632A **Uvalde** 83.55 57 P P 10 00 00.3 -0.4
baz=84
V27A **Dan Oppiter Fa** 83.56 50 P P 10 00 00.9 +0.2
baz=84
J21A **Lysite** 83.62 42 P P 10 00 01.4 +0.5
baz=84
532A **Rocksprings** 83.68 57 P P 10 00 01.7 +0.3
baz=84
Y29A **Porterfield Fa** 83.69 53 P P 10 00 01.8 +0.4
baz=84
H20A **Greybull** 83.80 41 P P 10 00 00.9 -0.8
baz=84
U27A **Thompson Grove** 83.83 50 P P 10 00 01.3 -0.8
baz=84
S26A **Kim** 83.85 49 P P 10 00 01.7 -0.5
baz=84
F19A **Roth Farm, Mol** 83.87 39 P P 10 00 02.0 0.0
baz=84
COLD **Coldfoot** 83.88 9 *e*P P 10 00 02.7 +1.3
26nm,1.6s
Z30A **Sanderson Ranc** 83.89 53 P P 10 00 01.2 -1.1
baz=84
I21A **Big Trails, Te** 83.94 42 P P 10 00 02.3 -0.2
baz=84
432A **Menard** 84.04 56 P P 10 00 02.5 -0.7
baz=84
P25A **Willow Gulch B** 84.14 47 P P 10 00 03.7 0.0
baz=84
R26A **Arlington** 84.15 48 P P 10 00 03.5 -0.1
baz=84
T27A **Campo** 84.17 49 P P 10 00 03.6 -0.2
baz=84
W29A **Amraillo** 84.20 51 P P 10 00 03.9 -0.1
baz=84
L23A **Garrett** 84.21 44 P P 10 00 03.9 -0.1
baz=84
E19A **Rath Farm, Rou** 84.26 39 P P 10 00 04.4 +0.4
baz=84
332A **Millersview** 84.27 56 P P 10 00 03.6 -0.8
baz=84
J22A **Midwest** 84.28 42 P P 10 00 04.2 -0.1
baz=84
F20A **Billings** 84.33 40 P P 10 00 04.6 +0.2
baz=84
EGMT **Eagleton** 84.45 37 P P 10 00 05.2 +0.3
baz=85
I22A **9 Mile Ranch,** 84.49 42 P P 10 00 04.8 -0.5
baz=85
232A **Coleman** 84.53 55 P P 10 00 04.9 -0.8
baz=85
D19A **Cripps Ranch,** 84.54 38 P P 10 00 05.3 -0.1
baz=85
R27A **Eads** 84.61 48 P P 10 00 05.3 -0.7
baz=85
T28A **Walsh** 84.64 49 P P 10 00 05.2 -0.9
baz=85
Z31A **Sharp Cattle R** 84.67 54 P P 10 00 05.3 -1.0
baz=85
E20A **Meyer Farm, Mu** 84.67 39 P P 10 00 05.4 -0.7
baz=85
C19A **Slack Wire Ran** 84.72 38 P P 10 00 07.3 +1.1
baz=85
P26A **Davis Ranch, A** 84.74 47 P P 10 00 07.1 +0.4
baz=85
ABTX **Abilene, Hawle** 84.80 54 P P 10 00 07.4 +0.4
baz=85
Y31A **Rekieta Farm,** 84.81 53 P P 10 00 06.6 -0.4
baz=85
D20A **Manuel Ranch,** 84.95 38 P P 10 00 08.0 +0.6
baz=85
Z32A **Haskell** 85.18 54 P P 10 00 08.6 -0.3
baz=85
X31A **McDonald Ranch** 85.28 52 P P 10 00 09.1 -0.2
baz=85
C20A **Veseth Ranch,** 85.33 38 P P 10 00 10.0 +0.8
baz=86
R28A **Tribune** 85.34 48 P P 10 00 10.4 +0.7
baz=86
BJI **Beijing** 85.41 313 P P 10 00 12.9 +3.1
BJI AMB AMB
comp=Z,9.0nm,1.4s
Y32A **R-V Farms, Ver** 85.46 53 P P 10 00 10.3 +0.1
baz=86
A19A **Klindworth Far** 85.48 37 P P 10 00 10.2 +0.2
baz=86
W31A **Holland Ranch,** 85.51 52 P P 10 00 10.1 -0.4
baz=86
RSSD **Black Hills** 86.18 42 *e*P P 10 00 13.8 -0.1
76nm,1.6s
INK **Inuvik** 88.00 14 P P 10 00 22.4 +0.7
8.3nm,1.3s
GYA **Guiyang** 88.06 298⇑ *i*P P 10 00 20.3 -2.9
GYA PP PP 10 03 50.7 +0.4
GYA SKS SKSac 10 10 48.7 -1.5
GYA S S 10 11 04.2 -1.4
GYA SS SS 10 16 57.0 +2.4
GYA AMB AMB
comp=Z,20nm,1.0s
GYA AMB AMB
comp=Z,120nm,6.5s
GYA LR LR
comp=N,540nm,21.9s
GYA LR LR
comp=E,480nm,22.5s
GYA LR LR
comp=Z,520nm,20.4s
MAW **Mawson** 88.07 199 P P 10 00 23.7 +1.3
MAW **Mawson** 88.07 199 P P 10 00 23.7 +1.3
4.0nm,1.1s,baz=104,slow=12,SNR=4.2
HHC **Hu-ho-hao-te** 88.97 313 *e*P P 10 00 23.4 -3.8
HHC pP PcP 10 00 28.2 -0.5
HHC sP sP 10 00 30.4 -9.5
HHC PP PP 10 03 57.5 +0.2
HHC SKS SKSac 10 10 51.2 -3.8
HHC S S 10 11 11.8 -1.8
HHC SS SS 10 17 11.4 +4.1
HHC AMB AMB
comp=Z,25nm,1.0s
HHC AMB AMB
comp=Z,170nm,5.0s
HHC LR LR
comp=N,230nm,16.9s
HHC LR LR
comp=E,220nm,16.5s
HHC LR LR
comp=Z,240nm,16.3s
YKA **Yellowknife Ar** 89.81 23 P P 10 00 31.1 +0.7
YKA **Yellowknife Ar** 89.81 23 P P 10 00 31.1 +0.7
2.2nm,0.8s,baz=246,slow=4.7,SNR=6.8
KMI **Kunming** 91.05 296 P P 10 00 34.4 -3.0
KMI pP PcP 10 00 37.5 -0.9
KMI sP sP 10 00 38.6 -12
KMI S S 10 11 33.1 -0.7
KMI AMB AMB
comp=Z,11nm,0.5s
KMI AMB AMB
comp=Z,100nm,5.4s
CD2 **Chengdu** 91.81 301 P P 10 00 37.5 -3.1
CD2 AMB AMB
comp=Z,10.0nm,0.5s
LZH **Lanzhou** 93.20 306 *e*P P 10 00 45.6 -1.4
LZH pP PcP 10 00 49.0 +1.4
LZH sP sP 10 00 51.3 -8.4
LZH AMB AMB
comp=Z,13nm,1.0s
ULM **Lac du Bonnet** 93.65 39 LR LR 10 38 32.5
comp=Z,244nm,18.8s,baz=360,slow=33
WMQ **Urumqi** 106.82 312 *e*Pdif Pdif 10 01 45.2 -2.7
WMQ PP PP 10 06 15.8 +1.7
WMQ S Sdif 10 13 42.5 -4.8
WMQ SS SS 10 21 19.9 +1.8
WMQ PPMZ
comp=Z,260nm,5.2s
WMQ LR LR
comp=N,280nm,28.0s
WMQ LR LR
comp=E,440nm,27.2s
WMQ LR LR
comp=Z,310nm,25.8s
KHC **Kasperske Hory** 145.66 352 *e*PKP PKPdf 10 07 08.5 -2.1
KHC *ex* x 10 07 24.0
KHC **Kasperske Hory** 145.66 352 *e*PKPdf PKPdf 10 07 10.8 +0.2
KMBO **Kilima Mbogo** 145.77 244 PKPbc PKPab 10 07 13.8 +0.8
KMBO **Kilima Mbogo** 145.77 244 PKPbc PKPab 10 07 13.8 +0.8
3.7nm,0.8s,baz=59,slow=4.6,SNR=7.3
GERES **GERESS Array B** 145.92 352 PKPbc PKPab 10 07 12.6 +0.3
GERES **GERESS Array B** 145.92 352 PKPbc PKPab 10 07 12.6 +0.3
1.0nm,0.7s,baz=36,slow=2.5,SNR=7.2
BR131 **Keskin Array S** 146.06 321 *e*PKPdf PKPab 10 07 13.9 +0.7
BRTR **Keskin Array B** 146.06 321 PKPbc PKPab 10 07 14.1 +0.9
BRTR **Keskin Array B** 146.06 321 PKPbc PKPab 10 07 14.1 +0.9
9.8nm,1.1s,baz=90,slow=1.5,SNR=19
BFO **Black Forest** 146.89 358 *e*PKPdf PKPbc 10 07 14.2 -0.4
FETA **Feichten** 148.06 355⇑ *i*pPKPbc PKPab 10 07 20.6 -0.1
5.9nm,1.2s
ABTA **Abfaltersbach** 148.14 352⇑ *i*pPKPdf PKPbc 10 07 18.5 +0.4
9.7nm,1.2s
TUE **Stuetta** 148.70 357 *e*PKPab PKPab 10 07 21.9 -1.5
BNI **Bardonecchia** 150.20 0 *e*PKPdf PKPdf 10 07 19.5 +1.2
ESDC **Sonseca Array** 153.83 19 PKPab PKPab 10 07 45.0 +0.3
ESDC **Sonseca Array** 153.83 19 PKPab PKPab 10 07 45.0 +0.3
0.3nm,0.4s,baz=327,slow=3.6,SNR=4.1
TORD **Torodi Ar. Bea** 174.70 111 PKPab PKPab 10 09 15.2 -1.8
TORD **Torodi Ar. Bea** 174.70 111 PKPab PKPab 10 09 15.2 -1.8
1.7nm,1.0s,baz=268,slow=5.0,SNR=5.5

*BJI **01** 10:01:21.0, 36˚.40N×117˚.90W, h3km, mB5.5/5, mb4.9/11, Ms5.2/9, Ms7 4.7/9*
*ISCJB **01** 10:01:24.0±0.4, 36˚.350N±0˚.009×117˚.87W±0˚.01, h0km±3km, mb4.6/35, MS4.6/29, Error ellipse: s-maj=1.8km s-min=1.6km az=173.3*
*IDC **01** 10:01:24.1±0.5, 36˚.34N×117˚.87W, h0km, mb4.3/15, mb1 4.4/22, mb1mx4.3/34, mbtmp4.3/22, ML3.9/6, MS4.5/32, Ms1 4.5/32, ms1mx4.4/51, Error ellipse: s-maj=13.3km s-min=6.0km az=71.0*
*NEIC **01** 10:01:24.7, 36˚.39N×117˚.86W, h6km, mb4.8/24, MW5.0(PAS), After PAS.*
NEIC Felt [IV] at Independence; [III] at Clovis, Fresno, Kernville, Lone Pine and Trona; [II] at Arnold, Auberry, Bakersfield, California City, El Portal, Exeter, Hanford, Inyokern, Lake Isabella, Lindsay, Mariposa, Oakhurst, Pioneer, Porterville, Ridgecrest, Sonora, Springville, Three Rivers, Visalia,

Weldon, Wofford Heights and Yosemite National Park. Felt throughout Inyo County, in the Sierra Nevada region from Placerville to Tehachapi and as far as Sacramento, Oakland, Los Angeles and Blythe. Felt at Las Vegas and Pahrump, Nevada.

*GCMT **01** 10:01:28.2±0.2, 36°.37N×117°.83W, h15km±1km, MW5.1, Moment Tensor Solution. s44,c54; s88,c156; Moment tensor: Scale 10^{16}Nm; M_{rr}-0.34±.16; $M_{t\theta}$-5.39±.16; $M_{\phi\phi}$5.73±.17; $M_{r\theta}$-0.11±.30; $M_{\theta\phi}$2.95±.13; $M_{\phi r}$-1.37±.32; Best double couple: $M_0$6.40000×10^{16} NP1:ϕ_s149.00000°, δ84.00000°, λ171.00000°. NP2:ϕ_s240.00000°, δ81.00000°, λ6.00000°. Principal axes: T 6.7300, Plg11.0000°, Azm104.0000°; N -0.6000, Plg79.0000°, Azm296.0000°; P -6.1300, Plg2.0000°, Azm194.0000°; Data Used: II IC IU G CN.*

ISC 01 10:01:25.8±0.5, 36°.32N±0°.01×117°.96W±0°.01, h12km±3km, n553, σ1§45/510, mb4.6/35, MS4.6/29, 177C-182D, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CWC	**Cottonwood Cre** baz=0.2	**0.16**	**321**	⇓P		**Pg**	**10 01 28.0**	**-1.6**
CWC	baz=0.2			⇑S		**Sg**	**10 01 31.2**	**-1.1**
MPMC	**Manual Prospec** baz=0.4	**0.46**	**124**	⇑P		**Pg**	**10 01 32.6**	**-2.2**
MPMC	baz=0.4			⇑S		**Sg**	**10 01 39.1**	**-2.0**
TIN	**Tinemaha** baz=0.7	**0.77**	**344**	⇓P		**Pg**	**10 01 38.0**	**-2.6**
TIN	baz=0.7			⇑S		**Sg**	**10 01 48.4**	**-2.4**
ISA	**Isabella**	**0.78**	**213**	*e*Pg		**Pg**	**10 01 40.4**	**-0.4**
ISA				*e*Sg		**Sb**	**10 01 51.8**	**0.0**
ISA	**Isabella** baz=0.9	**0.78**	**213**	⇑P		**Pg**	**10 01 40.8**	**-0.1**
ISA	baz=0.9			⇑S		**Sb**	**10 01 52.7**	**+1.0**
GRAC	**Grapevine Rang** baz=0.7	**0.83**	**35**	⇓P		Pg	10 01 38.2	-3.6
GRAC	baz=0.7			⇓S		**Sg**	**10 01 48.0**	**-4.7**
LRMC	**Laurel Mountai** baz=0.9	**0.87**	**165**	⇑P		**Pg**	**10 01 41.7**	**-0.9**
LRMC	baz=0.9			⇑S		**Sb**	**10 01 54.5**	**+0.1**
FURC	**Furnace Creek,** baz=0.8	**0.90**	**80**	⇑P		Pg	10 01 39.7	-3.5
FURC	baz=0.8			⇓Sb		**Sg**	**10 01 51.8**	**-3.1**
VES	**Vestal, Richgr** baz=1.1	**1.03**	**243**	⇑P		**Pb**	**10 01 45.7**	**+0.2**
VES	baz=1.1			⇑S		**Sn**	**10 02 01.5**	**+1.2**
RCTC	**Rector, Farmer** baz=1.1	**1.03**	**270**	⇑P		**Pg**	**10 01 45.2**	**-0.5**
RCTC	baz=1.1			⇓S		**Sn**	**10 02 00.8**	**+0.4**
MTUM	**Tungsten Hills**	**1.14**	**335**	*e*Pg		**Pb**	**10 01 45.0**	**-2.6**
GSC	**Goldstone**	**1.38**	**137**	*e*Pg		**Pn**	**10 01 49.5**	**-1.4**
GSC				*e*Sg		**Sb**	**10 02 07.9**	**-1.3**
GSC	**Goldstone** baz=1.4	**1.38**	**137**	⇑P		**Pn**	**10 01 49.5**	**-1.4**
GSC	baz=1.4			⇓S		**Sb**	**10 02 08.7**	**-0.4**
ARVC	**Arvin** baz=1.5	**1.39**	**211**	⇓P		**Pg**	**10 01 51.9**	**-0.4**
ARVC	baz=1.5			⇓S		**Sg**	**10 02 11.9**	**+1.5**
SHOC	**Shoshone** baz=1.4	**1.42**	**107**	⇑P		**Pn**	**10 01 48.9**	**-2.5**
SHOC	baz=1.4			⇑S		**Sn**	**10 02 08.2**	**-1.9**
EDW2	**Edwards Air Fo** baz=1.5	**1.44**	**181**	⇑P		**Pn**	**10 01 51.6**	**0.0**
EDW2	baz=1.5			⇑S		**Sg**	**10 02 11.9**	**-0.1**
MLAC	**Mammoth Lakes** baz=1.5	**1.49**	**332**	⇑P		**Pn**	**10 01 51.4**	**-1.1**
MLAC	baz=1.5			⇓S		**Sn**	**10 02 11.9**	**-0.1**
RRX	**Edison Barstow** baz=1.7	**1.63**	**151**	⇑P		**Pn**	**10 01 53.8**	**-0.5**
RRX	baz=1.7			⇓S		**Sb**	**10 02 16.3**	**-0.1**
OSI	**Osito Adit**	**1.81**	**200**	*e*Pn		**Pb**	**10 01 58.0**	**-0.9**
OSI				*e*Sn		**Sb**	**10 02 21.3**	**-0.2**
OSI	**Osito Adit** baz=1.9	**1.81**	**200**	⇑P		**Pn**	**10 01 57.5**	**+0.7**
OSI	baz=1.9			⇑Sg		**Sg**	**10 02 27.5**	**+3.5**
TUQ	**Turquoise Moun** baz=1.8	**1.87**	**117**	⇓P		**Pn**	**10 01 55.8**	**-2.0**
TUQ	baz=1.8			⇓Sg		**Sb**	**10 02 24.3**	**+0.9**
SMMC	**Simmler** baz=2.0	**1.94**	**239**	⇓P		**Pn**	**10 01 59.2**	**+0.6**
SMMC	baz=2.0			⇓Sb		**Sg**	**10 02 28.5**	**+0.3**
PTRM	**Twissleman Ran**	**1.94**	**251**	*e*Pn		**Pn**	**10 01 60.0**	**+1.3**
HEC	**Hector,Ludlow** baz=2.0	**1.99**	**138**	⇑P		**Pn**	**10 01 57.9**	**-1.4**
HEC	baz=2.0			⇑Sb		**Sb**	**10 02 27.3**	**+0.6**
PKM	**Peak Mountain** baz=2.2	**2.08**	**227**	⇓P		**Pn**	**10 02 00.6**	**0.0**
PKM	baz=2.2			⇓Sb		**Sg**	**10 02 32.4**	**-0.1**
DECC	**Green Verdugo** baz=2.2	**2.09**	**188**	⇓P		**Pn**	**10 02 01.0**	**+0.4**
DECC	baz=2.2			⇑Sb		**Sg**	**10 02 32.9**	**0.0**
BFSC	**Mount Baldy Ra** baz=2.2	**2.09**	**173**	⇓P		**Pn**	**10 02 00.7**	**0.0**
BFSC	baz=2.2			⇑Sb		**Sg**	**10 02 32.5**	**-0.5**
MWC	**Mount Wilson**	**2.09**	**182**	*e*Pn		**Pn**	**10 02 01.1**	**+0.3**
MWC				*e*Sn		**Sb**	**10 02 29.7**	**0.0**
NV11	**Mina Array Sit**	**2.12**	**356**	*e*Pn		**Pn**	**10 01 59.6**	**-1.5**
NVAR	**Mina Array Bea**	**2.12**	**353**	Pn		**Pn**	**10 01 59.9**	**-1.4**
NVAR				Pg		**Pb**	**10 02 03.4**	**-1.0**
NVAR				Lg		Lg	10 02 30.8	
NVAR	**Mina Array Bea** 185nm,0.3s,baz=175,slow=16,SNR=644	**2.12**	**353**	Pn		**Pn**	**10 01 59.9**	**-1.4**
NVAR	448nm,0.3s,baz=164,slow=17,SNR=554			Pg		**Pb**	**10 02 03.4**	**-1.0**
NVAR	571nm,0.3s,baz=169,slow=29,SNR=7.8			Lg		Lg	10 02 30.8	
NVAR	comp=Z,13μm,18.1s,baz=196,slow=48			LR		LR	10 03 04.5	
BBRC	**Big Bear Solar** baz=2.3	**2.22**	**157**	⇑P		**Pn**	**10 02 01.8**	**-0.8**
BBRC	baz=2.3			⇑S		**Sn**	**10 02 30.0**	**0.0**
SHPR	**Sheep Range**	**2.27**	**84**	*e*Pn		**Pn**	**10 02 01.4**	**-1.8**
SHPR				*e*Sn		**Sn**	**10 02 29.6**	**-1.5**
SBC	**Santa Barbara** baz=2.5	**2.36**	**218**	⇑P		**Pn**	**10 02 04.8**	**+0.5**
SBC	baz=2.5			⇓S		**Sn**	**10 02 35.1**	**+1.9**
BLG	**Laguna Peak** baz=2.5	**2.38**	**203**	⇓P		**Pn**	**10 02 05.4**	**+0.7**
BLG	baz=2.5			⇑Sb		**Sg**	**10 02 42.2**	**-0.1**
GMRC	**Granite Mounta** baz=2.4	**2.42**	**129**	⇓P		**Pn**	**10 02 03.0**	**-2.3**
GMRC	baz=2.4			⇑Sb		**Sb**	**10 02 39.0**	**-0.2**
WAKR	**Walker**	**2.48**	**332**	*e*Pn		**Pn**	**10 02 06.3**	**+0.1**
FMP	**Fort Macarthur** baz=2.7	**2.62**	**186**	⇑P		**Pn**	**10 02 08.3**	**+0.5**
LDFC	**Landfair**	**2.63**	**117**	*e*Pn		**Pn**	**10 02 05.3**	**-2.8**
LDFC				*e*Sn		**Sn**	**10 02 41.2**	**+1.2**
R11A	**Troy Canyon, C**	**2.77**	**42**	*e*Pn		**Pn**	**10 02 08.2**	**-2.0**
R11A	**Troy Canyon, C** baz=2.7	**2.77**	**42**	⇑P		**Pn**	**10 02 07.9**	**-2.3**
R11A	baz=2.7			⇑Sb		**Sb**	**10 02 48.6**	**-0.7**
MURC	**Murrieta** baz=2.8	**2.78**	**167**	⇓P		**Pn**	**10 02 10.3**	**+0.1**
BELC	**Belle Mtn. Jos** baz=2.8	**2.82**	**145**	⇓P		**Pn**	**10 02 09.8**	**-0.9**
CIS	**Catalina Islan** baz=3.0	**2.93**	**187**	⇓P		**Pn**	**10 02 12.3**	**+0.1**
CIS	baz=3.0			⇓S		**Sn**	**10 02 48.4**	**+1.2**
PFO	**Pinyon Flat Ob**	**2.97**	**155**	*e*Pn		**Pn**	**10 02 12.3**	**-0.6**
PFO				Pg		**Pb**	**10 02 19.9**	**+1.2**
PFO				*e*Sn		**Sg**	**10 02 58.8**	**-2.5**
PFO				Lg		Lg	10 02 58.9	
PFO	**Pinyon Flat Ob** baz=3.0	**2.97**	**155**	⇑P		**Pn**	**10 02 12.1**	**-0.7**
PFO	**Pinyon Flat Ob** 10nm,0.3s,baz=349,slow=10,SNR=90	**2.97**	**155**	Pn		**Pn**	**10 02 12.2**	**-0.6**
PFO	192nm,0.3s,baz=335,slow=17,SNR=158			Pg		**Pb**	**10 02 19.9**	**+1.2**
PFO	comp=Z,948nm,21.9s,baz=295,slow=29			LR		LR	10 02 49.7	
PFO	218nm,0.3s,baz=246,slow=20,SNR=16			Lg		Lg	10 02 58.9	
IRM	**Iron Mountain** baz=3.1	**3.15**	**132**	⇓P		**Pn**	**10 02 13.3**	**-2.0**
BC3	**Big Chuckawall** baz=3.4	**3.36**	**142**	⇓P		**Pn**	**10 02 16.5**	**-1.6**
SCI	**San Clemente I** baz=3.5	**3.37**	**188**	⇓P		**Pn**	**10 02 18.0**	**-0.1**
109C	**Camp Elliot, M** baz=3.6	**3.49**	**168**	⇓P		**Pn**	**10 02 20.0**	**+0.1**
W13A	**Hualapai Mount** baz=3.5	**3.53**	**109**	⇓P		**Pn**	**10 02 18.7**	**-1.9**
W13A	baz=3.5			⇑S		**Sn**	**10 03 01.0**	**-1.5**
PAHR	**Pah Rah Range**	**3.56**	**342**	*e*Pn		**Pn**	**10 02 21.0**	**0.0**
MONP	**Monument Peak** baz=3.7	**3.65**	**159**	⇓P		**Pn**	**10 02 21.7**	**-0.5**
PDMCI	**Parker Dam,Lak** baz=3.7	**3.72**	**122**	⇓P		**Pn**	**10 02 21.3**	**-1.7**
BAR	**Barrett**	**3.78**	**163**	*e*Pn		**Pn**	**10 02 24.0**	**+0.1**
SAC	**San Andreas**	**3.79**	**291**	*e*Pn		**Pn**	**10 02 25.3**	**+1.4**
SAC				*e*Sn		**Sn**	**10 03 08.9**	**+0.5**
Y12C	**Blythe** baz=3.8	**3.81**	**131**	⇑P		**Pn**	**10 02 22.4**	**-1.9**
SWSC	**Sam W. Stewart** baz=3.8	**3.81**	**151**	⇓P		**Pn**	**10 02 23.2**	**-1.1**
CCUT	**Cedar City**	**3.88**	**70**	*e*Pn		**Pn**	**10 02 23.6**	**-1.8**
ARUT	**Antelope Range**	**3.90**	**67**	*e*Pn		**Pn**	**10 02 24.1**	**-1.5**
DVTC	**Desert V Tower** baz=4.0	**3.96**	**157**	⇓P		**Pn**	**10 02 26.0**	**-0.4**
BEKR	**Beckworth**	**4.02**	**333**	*e*Pn		**Pn**	**10 02 28.6**	**+1.4**
BMN	**Battle Mountai**	**4.15**	**8**	*e*Pn		**Pn**	**10 02 28.2**	**-0.8**
GLA	**Glamis**	**4.16**	**141**	*e*Pn		**Pn**	**10 02 27.5**	**-1.6**
GLA				*e*Sn		**Sb**	**10 03 27.2**	**-1.8**
GLA	**Glamis** baz=4.2	**4.16**	**141**	⇓P		**Pn**	**10 02 27.3**	**-1.8**
U15A	**North Rim** baz=4.5	**4.57**	**87**	⇑P		**Pn**	**10 02 33.8**	**-1.2**
Y14A	**Wickenburg** baz=4.7	**4.70**	**119**	⇓P		**Pn**	**10 02 34.8**	**-1.8**
ELK	**Elko**	**4.91**	**25**	*e*Pn		**Pn**	**10 02 38.8**	**-0.7**
113A	**Mohawk Valley,** baz=4.9	**4.95**	**134**	⇓P		**Pn**	**10 02 37.5**	**-2.4**
MVU	**Marysvale**	**5.07**	**63**	*e*Pn		**Pn**	**10 02 41.4**	**-0.4**
Z14A	**Wintersburg** baz=5.0	**5.07**	**124**	⇑P		**Pn**	**10 02 39.8**	**-1.7**
WUAZ	**Wupatki** 960nm,0.8s	**5.40**	**97**	*e*Pn		**Pn**	**10 02 46.7**	**+0.4**
WUAZ	**Wupatki** baz=5.3	**5.40**	**97**	⇓P		**Pn**	**10 02 46.2**	**-0.1**
KCPM	**Cahto Peak** 59nm,0.7s	**5.57**	**309**	*e*Pn		**Pn**	**10 02 50.6**	**+2.1**
KIPM	**Iron Peak** 205nm,1.0s	**5.58**	**310**	*e*Pn		Pn	10 02 52.0	+3.3
DUG	**Dugway**	**5.60**	**45**	*e*Pn		**Pn**	**10 02 49.8**	**+0.8**
DUG	**Dugway** baz=5.5	**5.60**	**45**	⇓P		**Pn**	**10 02 48.5**	**-0.4**
X16A	**Lo Nia Camp, P** baz=5.6	**5.65**	**108**	⇑P		**Pn**	**10 02 49.6**	**-0.2**
NLU	**North Lily Min**	**5.89**	**50**	*e*Pn		Pn	10 02 56.8	+3.8
Q16A	**Castle Valley**	**5.98**	**62**	*e*Pn		**Pn**	**10 02 55.7**	**+1.5**
Q16A	**Castle Valley** baz=5.9	**5.98**	**62**	⇑P		**Pn**	**10 02 54.5**	**+0.3**
BGU	**Big Grassy Mou**	**6.00**	**38**	*e*Pn		**Pn**	**10 02 54.9**	**+0.3**
214A	**Organ Pipe Nat** baz=6.1	**6.09**	**134**	⇓P		**Pn**	**10 02 53.6**	**-2.1**
TMUT	**Trail Mountain**	**6.12**	**59**	*e*Pn		**Pn**	**10 02 57.1**	**+0.9**
WVOR	**Wild Horse Val** 124nm,0.8s	**6.13**	**355**	*e*Pn		**Pn**	**10 02 57.5**	**+1.2**
SRU	**San Rafael**	**6.52**	**62**	*e*Pn		**Pn**	**10 03 03.1**	**+1.5**
YBH	**Yreka Blue Hor**	**6.55**	**327**	Pn		**Pn**	**10 03 03.0**	**+1.0**
YBH				Lg		Lg	10 04 47.1	
YBH	**Yreka Blue Hor** 0.3nm,0.3s,baz=138,slow=12,SNR=9.3	**6.55**	**327**	Pn		**Pn**	**10 03 03.0**	**+1.0**
YBH	4.4nm,0.3s,baz=173,slow=22,SNR=4.7			Lg		Lg	10 04 47.1	
YBH	comp=Z,4μm,18.9s,baz=156,slow=39			LR		LR	10 05 37.7	
SPUT	**South Promonto** 90nm,0.5s	**6.58**	**39**	*e*Pn		**Pn**	**10 03 03.4**	**+1.0**
DAU	**Daniels Canyon**	**6.67**	**50**	*e*Pn		**Pn**	**10 03 05.4**	**+1.6**
X18A	**Snowflake** baz=6.7	**6.78**	**103**	⇑P		**Pn**	**10 03 05.6**	**+0.4**
HVU	**Hansel Valley**	**6.78**	**35**	*e*Pn		**Pn**	**10 03 07.3**	**+2.1**
K05A	**Summer Lake**	**6.79**	**341**	*e*Pn		Pn	10 03 08.7	+3.4
W18A	**Petrified Fore** baz=6.7	**6.80**	**98**	⇑P		**Pn**	**10 03 06.0**	**+0.5**
KRMB	**Red Mountain**	**6.96**	**320**	*e*Pn		Pn	10 03 12.5	+4.8
J08A	**Circle Bar Ran**	**7.04**	**357**	*e*Pn		**Pn**	**10 03 11.2**	**+2.4**
TUC	**Tucson**	**7.16**	**122**	*e*Pn		**Pn**	**10 03 08.8**	**-1.5**
MFID	**Camas Ranch** baz=7.2	**7.27**	**12**	⇓P		**Pn**	**10 03 13.1**	**+1.2**
PV05	**Paradox Valley**	**7.29**	**73**	*e*Pn		**Pn**	**10 03 14.2**	**+2.0**
PV09	**Paradox Valley**	**7.35**	**70**	*e*Pn		**Pn**	**10 03 14.3**	**+1.1**
U20A	**Newcomb** baz=7.5	**7.62**	**87**	⇑P		**Pn**	**10 03 17.5**	**+0.7**
MVCO	**Mesa Verde**	**7.64**	**81**	*e*Pn		**Pn**	**10 03 18.3**	**+1.1**
MVCO	**Mesa Verde** baz=7.5	**7.64**	**81**	⇓P		**Pn**	**10 03 17.6**	**+0.4**
M17A	**Scullys Gap (B** baz=7.6	**7.67**	**46**	⇓P		**Pn**	**10 03 18.9**	**+1.4**
PV01	**Paradox Valley** 123nm,0.9s	**7.71**	**74**	*e*Pn		**Pn**	**10 03 17.7**	**-0.3**
V20A	**Brimhall** baz=7.6	**7.71**	**91**	⇑P		**Pn**	**10 03 19.8**	**+1.8**
HLID	**Hailey**	**7.73**	**20**	*e*Pn		**Pn**	**10 03 20.0**	**+1.7**
HLID	**Hailey** baz=7.6	**7.73**	**20**	⇑P		**Pn**	**10 03 18.9**	**+0.7**
W20A	**Ramah** baz=7.7	**7.79**	**96**	⇑P		**Pn**	**10 03 20.8**	**+1.7**
PV15	**Paradox Valley**	**7.82**	**72**	*e*Pn		**Pn**	**10 03 20.0**	**+0.5**
S20A	**Disappointment** baz=7.7	**7.82**	**76**	⇑P		**Pn**	**10 03 19.8**	**+0.3**
P19A	**Cripple Cowboy** baz=7.7	**7.82**	**62**	⇓P		**Pn**	**10 03 20.1**	**+0.5**
I07A	**Izee**	**7.84**	**352**	*e*Pn		Pn	10 03 23.1	+3.3
R20A	**Redvale** baz=7.8	**7.86**	**73**	⇓P		**Pn**	**10 03 20.1**	**-0.1**
X20A	**Quemado** baz=7.8	**7.92**	**100**	⇓P		**Pn**	**10 03 22.4**	**+1.4**
O19A	**Miners Draw (B** baz=7.9	**8.00**	**58**	⇑P		**Pn**	**10 03 23.0**	**+1.1**
Q20A	**Ridgley Place,** baz=8.0	**8.11**	**68**	⇑P		**Pn**	**10 03 23.9**	**+0.5**
P20A	**De Beque** baz=8.1	**8.20**	**64**	⇑P		**Pn**	**10 03 25.1**	**+0.4**
Y20A	**Horse Springs,** baz=8.1	**8.21**	**104**	⇓P		**Pn**	**10 03 26.3**	**+1.4**
U21A	**Nageezi** baz=8.2	**8.31**	**86**	⇓P		**Pn**	**10 03 27.1**	**+0.9**
L18A	**Fontelle, Gr** baz=8.2	**8.32**	**45**	⇑P		**Pn**	**10 03 26.8**	**+0.4**
AHID	**Auburn Hatcher** 44nm,0.9s	**8.34**	**37**	*e*Pn		Pn	10 03 29.7	+3.1
Z20A	**Nine Sixteen R** baz=8.3	**8.35**	**110**	⇓P		**Pn**	**10 03 27.4**	**+0.6**
T21A	**Navajo Lake** baz=8.3	**8.40**	**82**	⇓P		**Pn**	**10 03 28.3**	**+0.7**
X21A	**Alamocita Cree** baz=8.4	**8.52**	**100**	⇑P		**Pn**	**10 03 31.3**	**+2.2**
BMO	**Blue Mountains** 54nm,0.9s	**8.54**	**3**	*e*Pn		**Pn**	**10 03 31.1**	**+1.9**
R21A	**Cimarron** baz=8.4	**8.54**	**73**	⇓P		**Pn**	**10 03 29.4**	**0.0**
O20A	**White River Ci**	**8.54**	**61**	*e*Pn		**Pn**	**10 03 31.7**	**+2.3**
O20A	**White River Ci** baz=8.4	**8.54**	**61**	⇑P		**Pn**	**10 03 30.4**	**+0.9**
120A	**U Bar Ranch, L** baz=8.5	**8.57**	**113**	⇑P		**Pn**	**10 03 30.1**	**+0.3**
RRI2	**Red Ridge**	**8.68**	**34**	*e*Pn		**Pn**	**10 03 33.3**	**+1.9**
Y21A	**Point of Rocks** baz=8.7	**8.73**	**102**	⇓P		**Pn**	**10 03 34.3**	**+2.2**
319A	**Douglas** baz=8.7	**8.74**	**122**	⇑P		**Pn**	**10 03 31.8**	**-0.2**
N20A	**Spence Gulch,** baz=8.7	**8.83**	**56**	⇓P		**Pn**	**10 03 34.3**	**+0.9**
P21A	**Newcastle** baz=8.8	**8.90**	**66**	⇓P		**Pn**	**10 03 35.7**	**+1.4**
REDW	**Red Top Meadow**	**8.90**	**36**	*e*Pn		Pn	10 03 37.0	+2.6
T22A	**Edith** baz=8.8	**8.91**	**82**	⇓P		**Pn**	**10 03 35.5**	**+1.0**
V22A	**San Miguel Ran** baz=8.8	**8.95**	**89**	⇓P		**Pn**	**10 03 36.1**	**+1.0**
H04A	**Detroit Lake**	**8.95**	**340**	*e*Pn		Pn	10 03 40.0	+5.1
U22A	**Llaves** baz=8.9	**8.96**	**86**	⇓P		**Pn**	**10 03 36.4**	**+1.2**
220A	**Playas Peak, P** baz=8.9	**8.97**	**117**	⇑P		**Pn**	**10 03 35.2**	**-0.1**
Z21A	**St. Cloud Mine** baz=8.9	**8.98**	**107**	⇓P		**Pn**	**10 03 37.2**	**+1.8**
G08A	**Pilot Rock**	**8.99**	**355**	*e*Pn		Pn	10 03 39.6	+4.0
S22A	**4UR Ranch, Cre** baz=8.9	**9.01**	**78**	⇓P		**Pn**	**10 03 36.9**	**+0.9**
SNOW	**Snow King Moun**	**9.03**	**36**	*e*Pn		Pn	10 03 39.0	+2.9
LAZ	**Ladron**	**9.04**	**99**	*e*Pn		**Pn**	**10 03 38.6**	**+2.3**
W22A	**Albuquerque** baz=9.0	**9.11**	**95**	⇑P		**Pn**	**10 03 39.5**	**+2.3**
O21A	**Pagoda** baz=9.0	**9.12**	**62**	⇓P		**Pn**	**10 03 38.8**	**+1.4**
X22A	**Bernardo** baz=9.0	**9.12**	**98**	⇓P		**Pn**	**10 03 39.5**	**+2.2**
Q22A	**Crested Butte,** baz=9.0	**9.13**	**71**	⇓P		**Pn**	**10 03 38.4**	**+0.8**
R22A	**Saguache, Gunn** baz=9.0	**9.13**	**75**	⇓P		**Pn**	**10 03 39.1**	**+1.5**
G06A	**Carlson Farm,**	**9.13**	**348**	*e*Pn		Pn	10 03 42.3	+4.9
BW06	**Boulder Array** 22nm,0.8s	**9.14**	**43**	*e*Pn		**Pn**	**10 03 39.7**	**+2.1**
PDAR	**Pinedale Array**	**9.14**	**43**	Pn		**Pn**	**10 03 39.9**	**+2.3**
PDAR				Lg		Lg	10 06 08.0	
PDAR	**Pinedale Array** 0.2nm,0.3s,baz=229,slow=11,SNR=15	**9.14**	**43**	Pn		**Pn**	**10 03 39.9**	**+2.3**
PDAR	1.4nm,0.3s,baz=226,slow=26,SNR=6.2			Lg		Lg	10 06 08.0	
SMCO	**Snowmass**	**9.16**	**69**	*e*Pn		**Pn**	**10 03 35.5**	**-2.5**
M20A	**Sweetwater, Wa** baz=9.1	**9.20**	**53**	⇑P		**Pn**	**10 03 40.7**	**+2.2**
121A	**Cookes Peak, D** baz=9.2	**9.21**	**111**	⇓P		**Pn**	**10 03 39.1**	**+0.5**
LOHW	**Long Hollow**	**9.21**	**36**	*e*Pn		Pn	10 03 41.2	+2.5
LENM	**Lemitar**	**9.24**	**100**	*e*Pn		**Pn**	**10 03 37.6**	**-1.4**
MOOW	**Moose Ponds**	**9.25**	**34**	*e*Pn		**Pn**	**10 03 41.2**	**+2.0**
IMW	**Indian Meadow**	**9.28**	**33**	*e*Pn		**Pn**	**10 03 41.2**	**+1.6**
320A	**Kipp Ranch, An** baz=9.2	**9.28**	**120**	⇑P		**Pn**	**10 03 39.9**	**+0.3**
Y22D	**IRIS PASSCAL I** baz=9.2	**9.31**	**101**	⇓P		**Pn**	**10 03 42.3**	**+2.4**
Y22A	**Socorro** baz=9.2	**9.31**	**102**	⇑P		**Pn**	**10 03 42.4**	**+2.4**
L20A	**Wamsutter** baz=9.3	**9.38**	**50**	⇑P		**Pn**	**10 03 42.7**	**+1.8**
P22A	**Eagle** baz=9.3	**9.43**	**66**	⇑P		**Pn**	**10 03 42.4**	**+0.8**
I17A	**Pilgrim Ck.** baz=9.4	**9.46**	**34**	⇑P		**Pn**	**10 03 43.9**	**+1.8**
ANMO	**Albuquerque**	**9.46**	**95**	*e*Pn		**Pn**	**10 03 42.9**	**+0.8**
ANMO				Lg		Lg	10 06 20.1	
ANMO	**Albuquerque** 0.4nm,0.3s,baz=290,slow=12,SNR=46	**9.46**	**95**	Pn		**Pn**	**10 03 42.6**	**+0.5**
ANMO	0.5nm,0.3s,baz=12,slow=23,SNR=4.4			Lg		Lg	10 06 20.1	
221A	**Mesquite Ranch** baz=9.4	**9.46**	**114**	⇑P		**Pn**	**10 03 43.3**	**+1.3**
LPM	**Los Pinos Moun**	**9.47**	**99**	*e*Pn		**Pn**	**10 03 44.1**	**+2.0**
U23A	**El Rito** baz=9.4	**9.50**	**86**	⇑P		**Pn**	**10 03 43.8**	**+1.2**
BNM	**Barren Site** 246nm,1.4s	**9.52**	**100**	*e*Pn		**Pn**	**10 03 44.8**	**+2.0**
FLWY	**Flagg Ranch**	**9.53**	**33**	*e*Pn		Pn	10 03 45.6	+2.6
Z22A	**Elephant Butte** baz=9.5	**9.54**	**105**	⇑P		**Pn**	**10 03 45.4**	**+2.2**
V23A	**Ortiz Mt. (NFS** baz=9.5	**9.56**	**90**	⇓P		**Pn**	**10 03 44.2**	**+0.8**
K19A	**Absolon Red Bu** baz=9.5	**9.57**	**44**	⇑P		**Pn**	**10 03 44.3**	**+0.8**
T23A	**Casias Ranch,** baz=9.5	**9.60**	**82**	⇑P		Pn	10 03 46.9	+2.9
F10A	**Beach Ranch, E**	**9.66**	**3**	*e*Pn		Pn	10 03 48.7	+4.0
S23A	**Nye Farm, Mont** baz=9.5	**9.66**	**78**	⇑P		**Pn**	**10 03 46.6**	**+1.7**
W23A	**Werner Place,** baz=9.6	**9.67**	**93**	⇓P		**Pn**	**10 03 46.6**	**+1.7**
122A	**Conniff Cattle** baz=9.7	**9.73**	**109**	⇓P		**Pn**	**10 03 47.3**	**+1.5**
J19A	**Crowheart** baz=9.6	**9.75**	**42**	⇑P		**Pn**	**10 03 48.0**	**+2.1**
X23A	**Hourglass Bar** baz=9.7	**9.76**	**97**	⇑P		**Pn**	**10 03 48.4**	**+2.3**
O22A	**Kremmling** baz=9.6	**9.76**	**63**	⇓P		**Pn**	**10 03 47.6**	**+1.4**
YFT	**Old Faithful** 96nm,1.1s	**9.77**	**32**	*e*Pn		**Pn**	**10 03 44.2**	**-2.1**
M21A	**Separation Pea** baz=9.7	**9.79**	**54**	⇑P		**Pn**	**10 03 45.6**	**-1.0**
QLMT	**Earthquake Lak**	**9.84**	**28**	*e*Pn		**Pn**	**10 03 49.1**	**+1.9**
R23A	**Moffat** baz=9.7	**9.85**	**75**	⇑P		**Pn**	**10 03 48.2**	**+0.7**
YMR	**Madison River** 68nm,0.9s	**9.89**	**30**	*e*Pn		**Pn**	**10 03 49.8**	**+1.9**
DLMT	**Dillon**	**9.90**	**23**	*e*Pn		Pn	10 03 51.9	+3.9
222A	**Williams Famil** baz=9.9	**9.92**	**112**	⇓P		**Pn**	**10 03 50.4**	**+2.1**
RWWY	**Rawlins** 41nm,0.9s	**9.93**	**54**	*e*Pn		**Pn**	**10 03 47.4**	**-1.1**
Q23A	**Hartsel** baz=9.8	**9.96**	**71**	⇓P		**Pn**	**10 03 48.4**	**-0.6**
L21A	**Rawlins** baz=9.8	**9.97**	**52**	⇑P		**Pn**	**10 03 50.0**	**+1.0**
Y23A	**Lovelace Mesa,** baz=10.0	**10.04**	**100**	⇑P		**Pn**	**10 03 52.2**	**+2.3**
YNR	**Norris Junctio** 26nm,1.0s	**10.05**	**31**	*e*Pn		**Pn**	**10 03 48.6**	**-1.5**
N22A	**Wattenberg Ran** baz=9.9	**10.06**	**60**	⇓P		**Pn**	**10 03 52.5**	**+2.3**
SDCO	**Great Sand Dun**	**10.06**	**78**	*e*Pn		**Pn**	**10 03 51.1**	**+0.7**

Z24A	Sheeppen Canyo	10.77	102	⇓P	Pn	10 04 02.2	+2.2
	baz=11						
H19A	Powell	10.78	37	⇑P	Pn	10 04 01.2	+1.2
	baz=11						
V25A	Rancho No Teng	10.81	89	⇑P	Pn	10 04 02.6	+2.1
	baz=11						
LON	Longmire	10.81	346	ℯPn	Pn	10 04 04.9	+4.6
O24A	Longmont	10.82	66	⇑P	Pn	10 04 01.1	+0.5
	baz=11						
M23A	Laramie	10.83	58	⇓P	Pn	10 04 00.7	-0.1
	baz=11						
K22A	Casper	10.86	51	⇑P	Pn	10 04 01.8	+0.7
	baz=11						
S25A	Robets Cordova	10.90	79	⇑P	Pn	10 04 04.4	+2.7
	baz=11						
T25A	Trinidad	10.91	82	⇓P	Pn	10 04 04.2	+2.4
	baz=11						
MSO	Missoula	10.92	15	ℯPn	Pn	10 04 05.3	+3.4
MSO	Missoula	10.92	15	⇑P	Pn	10 04 04.7	+2.8
	baz=11						
124A	Stringfield Ra	10.93	106	⇑P	Pn	10 04 01.2	-1.0
	baz=11						
U25A	Circle Dot Ran	10.93	86	⇓P	Pn	10 04 03.4	+1.2
	baz=11						
PHWY	Pilot Hill	10.95	59	ℯPn	Pn	10 04 02.2	-0.3
X25A	Clemmons Ranch	11.00	95	⇓P	Pn	10 04 02.3	-0.7
	baz=11						
W25A	X Bar L Ranch,	11.02	92	⇑P	Pn	10 04 04.4	+1.1
	baz=11						
R25A	Fountain Ranch	11.06	76	⇓P	Pn	10 04 04.6	+0.8
	baz=11						
I21A	Big Trails, Te	11.07	44	⇑P	Pn	10 04 06.2	+2.2
	baz=11						
LTY	Liberty	11.12	350	ℯPn	Pn	10 04 09.3	+4.8
Y25A	Mesa, Roswell	11.12	99	⇑P	Pn	10 04 07.9	+3.1
	baz=11						
L23A	Garrett	11.13	55	⇑P	Pn	10 04 06.1	+1.2
	baz=11						
224A	Cornudas Mount	11.13	109	⇓P	Pn	10 04 06.6	+1.7
	baz=11						
H20A	Greybull	11.14	40	⇑P	Pn	10 04 05.9	+1.0
	baz=11						
CHMT	Chamberlain Mo	11.15	17	ℯPn	Pn	10 04 06.8	+1.6
D05A	Enumclaw	11.27	346	ℯPn	Pn	10 04 12.1	+5.6
Z25A	Roswell	11.30	102	⇑P	Pn	10 04 11.2	+4.0
	baz=11						
J22A	Midwest	11.31	48	⇓P	Pn	10 04 09.4	+2.1
	baz=11						
HRY	Holter Researc	11.35	22	ℯPn	Pn	10 04 09.8	+2.0
P25A	Willow Gulch B	11.35	70	⇓P	Pn	10 04 09.1	+1.2
	baz=11						
MNTX	Cornudas Mount	11.41	110	ℯPn	Pn	10 04 08.4	-0.1
	50nm,1.3s						
SLMT	Seeley Lake	11.41	16	ℯPn	Pn	10 04 11.4	+2.7
324A	Moseley Ranch,	11.45	112	⇑P	Pn	10 04 11.0	+1.8
	baz=11						
M24A	Cheyenne	11.45	59	⇑P	Pn	10 04 10.9	+1.7
	baz=11						
U26A	Atchley Ranch,	11.46	85	⇑P	Pn	10 04 11.0	+1.5
	baz=11						
C09A	Chrisman Ranch	11.48	359	ℯPn	Pn	10 04 14.1	+4.7
K23A	Bowen Ranch, D	11.48	52	⇑P	Pn	10 04 11.1	+1.5
	baz=11						
V26A	Tequesquite Ra	11.49	88	⇑P	Pn	10 04 11.3	+1.6
	baz=11						
O25A	Wiggins	11.53	67	⇑P	Pn	10 04 10.8	+0.6
	baz=11						
G20A	Bridger	11.55	37	⇑P	Pn	10 04 12.6	+2.0
	baz=11						
T26A	Comanche Natio	11.56	81	⇓P	Pn	10 04 12.0	+1.3
	baz=11						
SWMT	Swartz Lake	11.56	14	ℯPn	Pn	10 04 13.9	+3.2
125A	Gardner Draw,	11.57	105	⇑P	Pn	10 04 13.8	+3.0
	baz=12						
I22A	9 Mile Ranch,	11.59	46	⇓P	Pn	10 04 12.7	+1.7
	baz=12						
W26A	Owens Ranch, T	11.61	92	⇓P	Pn	10 04 13.8	+2.5
	baz=12						
L24A	Wheatland	11.61	57	⇓P	Pn	10 04 13.1	+1.7
	baz=12						
225A	Deer Hill, Car	11.65	107	⇓P	Pn	10 04 14.9	+2.8
	baz=12						
S26A	Kim	11.66	79	⇓P	Pn	10 04 14.7	+2.6
	baz=12						
X26A	CR and CF Fran	11.68	95	⇑P	Pn	10 04 15.5	+3.2
	baz=12						
F19A	Roth Farm, Mol	11.70	33	⇑P	Pn	10 04 15.1	+2.6
	baz=12						
R26A	Arlington	11.73	76	⇓P	Pn	10 04 14.9	+1.9
	baz=12						
H21A	Big Horn, Sher	11.74	42	⇓P	Pn	10 04 13.8	+0.7
	baz=12						
JTMT	Jette	11.74	12	ℯPn	Pn	10 04 16.3	+3.2
Q26A	Hugo	11.74	73	⇑P	Pn	10 04 14.3	+1.1
	baz=12						
BSMT	Bassoo Peak	11.76	11	ℯPn	Pn	10 04 16.7	+3.2
Y26A	Elida	11.82	98	⇓P	Pn	10 04 17.0	+2.8
	baz=12						
Z26A	Caprock	11.89	101	⇑P	Pn	10 04 20.1	+4.9
	baz=12						
NEW	Newport	11.95	3	ℯPn	Pn	10 04 17.2	+1.3
NEW				Lg	Lg	10 07 35.5	
NEW	Newport	11.95	3	⇓P	Pn	10 04 17.6	+1.7
	baz=12						
NEW	Newport	11.95	3	Pn	Pn	10 04 17.8	+1.9
	0.1nm,0.3s,baz=190,slow=15,SNR=7.5						
NEW				Lg	Lg	10 07 35.5	
	0.0nm,0.3s,baz=275,slow=19,SNR=1.7						
NEW				LR	LR	10 09 26.4	
	comp=Z,2µm,18.0s,baz=189,slow=40						
GDL2	Guadalupe Moun	11.97	106	ℯPn	Pn	10 04 20.4	+4.1
M25A	Palm-Egli Farm	11.98	61	⇓P	Pn	10 04 17.8	+1.4
	baz=12						
BLMT	Blacktail Moun	11.98	12	ℯPn	Pn	10 04 21.8	+5.3
P26A	Davis Ranch, A	11.98	70	⇑P	Pn	10 04 18.5	+2.0
	baz=12						
126A	Clayton Basin,	12.07	104	⇓P	Pn	10 04 21.9	+4.2
	baz=12						
B08A	Colville Reser	12.07	356	ℯPn	Pn	10 04 22.6	+5.0
425A	Indio Mountain	12.14	113	⇓P	Pn	10 04 20.7	+2.0
	baz=12						
O26A	Horse Wrangler	12.16	67	⇑P	Pn	10 04 19.3	+0.5
	baz=12						
226B	Tecolote Peak,	12.18	106	⇓P	Pn	10 04 23.6	+4.5
	baz=12						
W27A	Bowe Ranch, En	12.18	92	⇑P	Pn	10 04 21.3	+2.2
	baz=12						
U27A	Thompson Grove	12.20	85	⇑P	Pn	10 04 21.7	+2.2
	baz=12						
X27A	F and S Farms,	12.23	93	⇓P	Pn	10 04 21.6	+1.7
	baz=12						
R27A	Eads	12.23	76	⇓P	Pn	10 04 21.0	+1.1
	baz=12						
E19A	Rath Farm, Rou	12.24	31	⇑P	Pn	10 04 23.5	+3.6
	baz=12						
T27A	Campo	12.26	82	⇑P	Pn	10 04 22.4	+2.1
	baz=12						
V27A	Dan Oppiter Fa	12.26	88	⇓P	Pn	10 04 22.9	+2.7
	baz=12						
CLNB	Carlsbad	12.32	105	ℯPn	Pn	10 04 19.7	-1.5
	7.2nm,1.2s						
Y27A	Causey	12.36	97	⇑P	Pn	10 04 24.5	+2.9
	baz=12						
KSCO	Kaye Shedlock'	12.44	73	ℯPn	Pn	10 04 25.4	+2.6
Z27A	Tatum	12.48	100	⇑P	Pn	10 04 26.1	+2.8
	baz=12						
E20A	Meyer Farm, Mu	12.56	33	⇑P	Pn	10 04 25.4	+1.2
	baz=12						
P27A	Ficken Ranch,	12.56	70	⇓P	Pn	10 04 25.2	+0.8
	baz=12						
127A	Arkansas Junct	12.58	103	⇓P	Pn	10 04 28.0	+3.4
	baz=12						
326A	Caldwell Ranch	12.65	109	⇑P	Pn	10 04 28.9	+3.3
	baz=13						
MSTX	Muleshoe	12.65	96	ℯPn	Pn	10 04 28.2	+2.6
MSTX	Muleshoe	12.65	96	⇑P	Pn	10 04 27.5	+1.9
	baz=13						
I24A	Kuemmerle Ranc	12.68	49	⇓P	Pn	10 04 28.4	+2.4
	baz=13						
U28A	Mallet	12.69	85	⇓P	Pn	10 04 29.2	+3.1
	baz=13						
T28A	Walsh	12.74	82	⇓P	Pn	10 04 29.9	+3.1
	baz=13						
V28A	Channing	12.75	88	⇓P	Pn	10 04 29.8	+2.9
	baz=13						
O27A	Beecher Island	12.77	68	⇓P	Pn	10 04 29.0	+1.9
	baz=13						
D19A	Cripps Ranch,	12.77	29	⇑P	Pn	10 04 30.0	+2.8
	baz=13						
227A	Bennet, Jal	12.88	105	⇑P	Pn	10 04 31.0	+2.2
	baz=13						
S28A	Manter	12.91	80	⇓P	Pn	10 04 30.9	+1.8
	baz=13						
426A	McDonald Obser	12.91	112	⇓P	Pn	10 04 31.8	+2.5
	baz=13						
F22A	Rosebud	12.92	39	⇑P	Pn	10 04 31.1	+1.8
	baz=13						
J25A	Sunshine Ranch	12.96	53	⇑P	Pn	10 04 30.6	+0.8
	baz=13						
X28A	Dimmitt	12.98	93	⇑P	Pn	10 04 32.2	+2.0
	baz=13						
G23A	Biddle	13.01	43	⇓P	Pn	10 04 31.8	+1.4
	baz=13						
R28A	Tribune	13.01	76	⇑P	Pn	10 04 32.1	+1.6
	baz=13						
D20A	Manuel Ranch,	13.01	31	⇑P	Pn	10 04 33.9	+3.4
	baz=13						
E21A	Keefer Ranch,	13.06	35	⇑P	Pn	10 04 33.2	+2.1
	baz=13						
WALA	Waterton Lakes	13.07	12	ℯPn	Pn	10 04 34.6	+3.3
	0.8nm,0.9s						
Y28A	McKinney Farm,	13.09	96	⇑P	Pn	10 04 34.3	+2.7
	baz=13						
Z28A	Tucker Farm, M	13.15	99	⇓P	Pn	10 04 34.4	+2.0
	baz=13						
EGMT	Eagleton	13.17	25	ℯPn	Pn	10 04 35.6	+2.9
EGMT	Eagleton	13.17	25	⇓P	Pn	10 04 35.2	+2.6
	baz=13						
RSSD	Black Hills	13.18	49	ℯPn	Pn	10 04 30.1	-2.8
C19A	Slack Wire Ran	13.18	27	⇑P	Pn	10 04 35.7	+3.0
	baz=13						
526A	Mary Lane Ranc	13.18	114	⇓P	Pn	10 04 34.7	+1.9
	baz=13						
H24A	Dirks Ranch, A	13.21	46	⇓P	Pn	10 04 33.6	+0.4
	baz=13						
O28A	Krutsinger Ran	13.28	68	⇑P	Pn	10 04 34.9	+0.8
	baz=13						
128A	Castleberry Fa	13.29	102	⇓P	Pn	10 04 36.9	+2.6
	baz=13						
427A	Hayter Ranch,	13.30	110	⇓P	Pn	10 04 37.5	+3.0
	baz=13						
V29A	Stinnett	13.30	87	⇑P	Pn	10 04 36.4	+1.9
	baz=13						
I25A	Rochford	13.31	50	⇓P	Pn	10 04 35.4	+0.8
	baz=13						
W29A	Amraillo	13.31	90	⇓P	Pn	10 04 37.2	+2.6
	baz=13						
228A	UT Block 9, Go	13.39	104	⇓P	Pn	10 04 35.8	+0.1
	baz=13						
J26A	Sides Ranch, S	13.39	54	⇑P	Pn	10 04 36.1	+0.4
	baz=13						
X29A	Tulia	13.40	93	⇓P	Pn	10 04 38.2	+2.4
	baz=13						
626A	Big Bend Ranch	13.42	116	⇑P	Pn	10 04 38.6	+2.5
	baz=13						
527A	Woodward Ranch	13.49	113	⇑P	Pn	10 04 39.4	+2.3
	baz=13						
328A	Wristen Ranch,	13.52	107	⇑P	Pn	10 04 39.5	+2.1
	baz=13						
S29A	Ulysses	13.53	79	⇓P	Pn	10 04 39.5	+2.0
	baz=13						
Y29A	Porterfield Fa	13.56	96	⇓P	Pn	10 04 39.8	+1.8
	baz=14						
C20A	Veseth Ranch,	13.56	30	⇓P	Pn	10 04 38.7	+0.8
	baz=14						
N28A	Pribbeno Ranch	13.57	66	⇓P	Pn	10 04 39.6	+1.4
	baz=13						
Z29A	Hungry Hill Ra	13.70	98	⇓P	Pn	10 04 41.9	+2.0
	baz=14						
B19A	Brikman Farms	13.82	26	⇑P	Pn	10 04 43.4	+2.0
	baz=14						
P29A	Atwood	13.83	71	⇑P	Pn	10 04 42.1	+0.5
	baz=14						
LPIG	La Paz	13.85	149	Lg	Lg	10 08 59.9	
	1.4nm,0.3s,baz=329,slow=19,SNR=2.0						
LPIG				LR	LR	10 10 21.5	
	comp=Z,1µm,19.3s,baz=1.1,slow=39						
TXAR	Lajitas Array	13.88	116	Pn	Pn	10 04 43.3	+0.9
TXAR				Lg	Lg	10 08 45.2	
TXAR	Lajitas Array	13.88	116	Pn	Pn	10 04 43.3	+0.9
TXAR				Lg	Lg	10 08 45.2	
TXAR				LR	LR	10 10 18.4	
	comp=Z,2µm,18.0s,baz=285,slow=39						
428A	Kincaid Ranch,	13.90	109	⇑P	Pn	10 04 45.7	+3.0
	baz=14						
U30A	WK&E Inc. Balk	13.94	84	⇑P	Pn	10 04 44.9	+1.7
	baz=14						
O29A	4D Ranch, Culb	14.02	69	⇓P	Pn	10 04 45.7	+1.6
	baz=14						
627A	Terlingua Ranc	14.02	115	⇑P	Pn	10 04 46.9	+2.5
	baz=14						
C21A	Desert Coulee	14.03	32	⇑P	P	10 04 51.0	-1.2
	baz=14						
S30A	Montezuma	14.05	79	⇓P	Pn	10 04 46.3	+1.6
	baz=14						
X30A	Coker Ranch, T	14.07	93	⇑P	Pn	10 04 47.1	+2.2
	baz=14						
J27A	Elkhorn Farm,	14.07	56	⇓P	Pn	10 04 44.0	-0.9
	baz=14						
528A	Cox Ranch, San	14.10	111	⇓P	Pn	10 04 48.6	+3.2
	baz=14						
329A	Wagon Wheel Ra	14.12	105	⇓P	Pn	10 04 48.6	+3.0
	baz=14						
G25A	Newell	14.13	47	⇓P	Pn	10 04 46.9	+1.2
	baz=14						
B20A	Solberg Farm,	14.15	28	⇑P	Pn	10 04 44.8	-1.1
	baz=14						
Z30A	Sanderson Ranc	14.16	97	⇑P	Pn	10 04 46.1	-0.1
	baz=14						
Y30A	Stafford Cattl	14.18	95	⇓P	Pn	10 04 49.3	+2.8
	baz=14						
R30A	Dighton	14.21	77	⇑P	Pn	10 04 48.0	+1.1
	baz=14						
A19A	Klindworth Far	14.30	25	⇑P	Pn	10 04 50.4	+2.4
	baz=14						
Q30A	Quinter	14.30	74	⇓P	Pn	10 04 45.9	-2.2
	baz=14						
P30A	Selden	14.35	72	⇓P	Pn	10 04 49.6	+0.9
	baz=14						
628A	Black Gap, Mar	14.37	114	⇓P	Pn	10 04 52.4	+3.3
	baz=14						
130A	Snyder	14.50	100	⇑P	Pn	10 04 53.5	+2.7
	baz=14						
529A	Stev Forest Ra	14.54	111	⇓P	Pn	10 04 54.9	+3.5
	baz=14						
429A	Davenport Ranc	14.55	108	⇓P	Pn	10 04 54.2	+2.6
	baz=14						
O30A	MW Ranch, Wils	14.58	69	⇓P	Pn	10 04 53.0	+1.1
	baz=14						
U31A	Nine Bar Ranch	14.60	84	⇓P	Pn	10 04 54.6	+2.4
	baz=14						
230A	Sterling City	14.64	103	⇑P	Pn	10 04 55.1	+2.4
	baz=15						
J28A	Allard Ranch,	14.66	56	⇓P	Pn	10 04 54.8	+1.9
	baz=14						
G26A	Maurine	14.67	48	⇓P	Pn	10 04 54.5	+1.5
	baz=14						
V31A	Spring Creek L	14.67	87	⇑P	Pn	10 04 55.3	+2.2
	baz=15						
Y31A	Rekieta Farm,	14.67	94	⇑P	Pn	10 04 54.9	+1.7
	baz=15						
W31A	Holland Ranch,	14.68	89	⇑P	Pn	10 04 54.5	+1.3
	baz=15						
T31A	Randall Ranch,	14.69	82	⇓P	Pn	10 04 54.9	+1.5
	baz=15						
X31A	McDonald Ranch	14.75	91	⇑P	Pn	10 04 56.2	+2.0
	baz=15						
330A	Mertzon	14.78	105	⇑P	Pn	10 04 57.1	+2.5
	baz=15						
R31A	Burdett	14.80	77	⇓P	Pn	10 04 55.9	+0.9
	baz=15						
131A	Roby	14.94	99	⇑P	Pn	10 04 57.7	+0.9
	baz=15						
Z31A	Sharp Cattle R	14.94	96	⇓P	Pn	10 04 57.6	+0.9
	baz=15						
430A	Baggett Ranch,	14.99	107	⇓P	Pn	10 05 00.1	+2.6
	baz=15						
A21A	Bergtoll Ranch	15.02	29	⇑P	Pn	10 04 59.8	+2.0
	baz=15						
C24A	Savage	15.04	38	⇑P	Pn	10 04 59.8	+1.7
	baz=15						
K29A	Lazy Trails An	15.04	59	⇓P	Pn	10 04 58.1	0.0
	baz=15						
530A	J-C Ranch, Com	15.20	109	⇓P	Pn	10 05 02.6	+2.3
	baz=15						
231A	Bronte	15.25	102	⇓P	Pn	10 05 02.3	+1.4
	baz=15						
J29A	Okreek	15.26	57	⇑P	Pn	10 05 02.1	+1.0
	baz=15						
Y32A	R-V Farms, Ver	15.32	93	⇑P	Pn	10 05 04.0	+2.1
	baz=15						
331A	San Angelo	15.40	104	⇑P	Pn	10 05 04.9	+1.9
	baz=15						
E26A	Carlson Angus	15.40	44	⇓P	Pn	10 05 02.2	-0.7
	baz=15						
B23A	Brockton	15.43	34	⇓P	Pn	10 05 03.7	+0.4
	baz=15						
Z32A	Haskell	15.47	96	⇓P	Pn	10 05 04.2	+0.3
	baz=15						
431A	Sonora	15.52	106	⇑P	Pn	10 05 05.9	+1.4
	baz=15						
ABTX	Abilene, Hawle	15.55	98	ℯPn	Pn	10 05 05.8	+0.9
ABTX	Abilene, Hawle	15.55	98	⇓P	Pn	10 05 06.1	+1.3
	baz=15						
G28A	Parade	15.58	51	⇑P	Pn	10 05 05.7	+0.5
	baz=16						
WMOK	Wichita Mounta	15.70	90	ℯPn	Pn	10 05 05.4	-1.3
	19nm,1.2s						
C25A	Freed Ranch, W	15.75	39	⇓P	P	10 05 09.7	-1.5
	baz=16						
D26A	Manning	15.75	42	⇑P	P	10 05 10.3	-1.0
	baz=16						
232A	Coleman	15.80	101	⇑P	Pn	10 05 09.3	+1.2
	baz=16						
531A	Rocksprings	15.80	108	⇓P	P	10 05 10.5	-1.5
	baz=16						
DGMT	Dagmar	15.81	36	ℯPn	Pn	10 05 07.0	-1.0
	55nm,1.0s						
DGMT	Dagmar	15.81	36	⇑P	P	10 05 12.4	+0.5
	baz=16						
H29A	Onida	15.83	53	⇓P	Pn	10 05 09.2	+0.8
	baz=16						
332A	Millersview	15.91	103	⇓P	Pn	10 05 10.8	+1.3
	baz=16						
L31A	Butterfield Fa	15.91	63	⇓P	Pn	10 05 10.1	+0.6
	baz=16						
O32A	Brockman Farm,	15.94	70	⇓P	Pn	10 05 10.3	+0.4
	baz=16						
F28A	McLaughlin	16.03	48	⇑P	P	10 05 13.1	-1.3
	baz=16						
432A	Menard	16.07	105	⇑P	Pn	10 05 13.0	+1.3
	baz=16						
631A	Perdido Creek	16.14	110	⇓P	Pn	10 05 13.7	+1.3
	baz=16						
BGNE	Belgrade	16.23	66	ℯPn	Pn	10 05 12.2	-1.5
JCT	Junction City	16.23	106	ℯP	P	10 05 15.8	-1.0
	57nm,1.0s						
JCT	Junction City	16.23	106	⇑P	Pn	10 05 14.0	+0.3
	baz=16						
G29A	Hoven	16.26	51	⇑P	Pn	10 05 12.4	-1.5
	baz=16						
532A	Rocksprings	16.31	107	⇑P	Pn	10 05 15.5	+0.8
	baz=16						
E28A	Huff	16.48	46	⇓P	Pn	10 05 16.3	-0.3
	baz=16						
F29A	Eureka	16.62	50	⇑P	Pn	10 05 17.0	-1.5
	baz=16						
632A	Uvalde	16.69	109	⇓P	P	10 05 21.7	-0.2
	baz=17						
732A	Laxson Ranch,	16.94	111	⇓P	P	10 05 24.1	-0.4
	baz=17						
KSU1	Kansas State U	17.12	74	ℯP	Pn	10 05 24.9	+0.1
	68nm,0.9s						
EDM	Edmonton	17.21	9	ℯP	Pn	10 05 25.4	-0.5
B27A	Peters Farms,	17.22	40	⇑P	Pn	10 05 25.4	-0.7
	baz=17						
C28A	Hausauer Farms	17.28	43	⇑P	Pn	10 05 26.0	-0.7
	baz=17						
BBB	Bella Bella	17.42	339	LR	LR	10 12 46.3	
	comp=Z,1µm,19.9s,baz=354,slow=39						
E30A	Jud	17.50	49	⇓P	Pn	10 05 28.4	-1.1
	baz=17						
WHTX	Lake Whitney	17.50	98	ℯP	Pn	10 05 30.0	+0.3
WHTX	Lake Whitney	17.50	98	⇑P	Pn	10 05 29.3	-0.3
	baz=17						
B28A	Dugan Ranch, T	17.72	41	⇓P	P	10 05 33.0	-0.1
	baz=18						
MDND	Maddock	17.79	44	ℯP	Pn	10 05 32.8	-0.3
MDND	Maddock	17.79	44	⇑P	Pn	10 05 32.4	-0.7
	baz=18						
D30A	Buchanan	17.89	47	⇓P	Pn	10 05 33.4	-0.9
	baz=18						
TUL1	Tulsa	17.91	85	ℯP	Pn	10 05 34.5	-0.2
TUL1	Tulsa	17.91	85	⇑P	Pn	10 05 33.8	-0.9
	baz=18						
ECSD	EROS Data Cent	17.92	59	ℯP	Pn	10 05 33.9	-0.8
	37nm,1.5s						
A28A	Rude Farm, Bot	18.05	40	⇓P	P	10 05 37.1	+0.3
	baz=18						
B29A	Wagenman Farm,	18.28	43	⇓P	Pn	10 05 39.0	-0.1
	baz=18						
A29A	Manning Farm,	18.61	42	⇑P	Pn	10 05 45.0	+1.9
	baz=18						
B30A	Myrvik Farm, E	18.84	44	⇓P	P	10 05 45.0	-0.4
	baz=19						
A30A	Hoffart Farm,	19.12	43	⇑P	Pn	10 05 49.2	-0.1
	baz=19						
HKT	Hockley	19.57	103	ℯP	Pn	10 05 54.6	-0.1
	136nm,1.8s						
NATX	Nacogdoches	19.82	96	ℯP	P	10 05 55.3	-0.9
	125nm,1.1s						
SCIA	State Center	19.96	66	ℯP	P	10 05 57.1	-0.6
	51nm,0.8s						
AGMN	Agassiz Nation	20.18	47	ℯP	P	10 05 59.0	-1.0
	19nm,0.9s						
UALR	University of	20.89	87	ℯP	P	10 06 06.3	-1.5
	41nm,1.4s						
SPMN	St. Paul	20.96	57	ℯP	P	10 06 08.2	-0.3
SPMN	St. Paul	20.96	57	⇓P	P	10 06 08.0	-0.5
	baz=21						
ULM	Lac du Bonnet	21.16	42	ℯP	P	10 06 08.8	-1.8
	72nm,1.6s						
ULM	Lac du Bonnet	21.16	42	P	P	10 06 09.9	-0.7
	13nm,0.8s,baz=234,slow=11,SNR=8.5						
ULM				LR	LR	10 15 32.4	
	comp=Z,264nm,18.1s,baz=55,slow=40						
FFC	Flin Flon	21.45	26	ℯP	P	10 06 11.5	-2.2
	98nm,1.0s						
SLM	Saint Louis	22.09	76	ℯP	P	10 06 21.2	+0.4
PARMO	Parma	22.65	81	ℯP	P	10 06 26.9	+0.2
SIUC	Southern Illin	22.96	78	ℯP	P	10 06 29.4	-0.6
VBMS	Vicksburg	23.01	92	ℯP	P	10 06 30.4	-0.1
GLAT	Glass	23.08	82	ℯP	P	10 06 31.3	+0.1
HALT	Halls	23.09	82	ℯP	P	10 06 30.7	-0.7
OXF	Oxford	23.30	86	ℯP	P	10 06 33.0	-0.5
	60nm,1.1s						
DLBC	Dease Lake	23.52	344	ℯP	P	10 06 35.9	+0.4
DLBC	Dease Lake	23.52	344	P	P	10 06 36.2	+0.8
	9.5nm,0.9s,baz=191,slow=6.0,SNR=9.5						
DLBC				LR	LR	10 16 53.

INK				PcP	**PcP**	**10 10 44.9**	**+0.6**
	1.5nm,0.7s,baz=118,slow=3.2,SNR=4.1						
MCK	**McKinley**	**33.26**	**335**	*eP*	P	10 08 05.7	+3.1
	17nm,1.2s						
ILAR	**Eielson Array**	**33.31**	**338**	P	**P**	**10 08 05.3**	**+2.3**
ILAR				PcP	**PcP**	**10 10 45.6**	**+0.9**
ILAR	**Eielson Array**	**33.31**	**338**	P	**P**	**10 08 05.3**	**+2.3**
	6.2nm,0.9s,baz=153,slow=7.7,SNR=34						
ILAR				PcP	**PcP**	**10 10 45.6**	**+0.9**
	0.5nm,0.7s,baz=171,slow=2.6,SNR=6.8						
ILAR				LR	LR	10 21 13.6	
	comp=Z,703nm,19.2s,baz=324,slow=36						
TRF	**Thorofare Moun**	**33.54**	**334**	*eP*	**P**	**10 08 08.4**	**+3.1**
	33nm,1.5s						
PPLA	**Purkeypile**	**33.90**	**332**	*eP*	**P**	**10 08 08.1**	**-0.2**
BPAW	**Bear Paw Mtn.**	**34.19**	**335**	*eP*	**P**	**10 08 11.8**	**+1.1**
	16nm,1.2s						
IM04	**Indian Mountai**	**36.28**	**336**	*eP*	**P**	**10 08 30.1**	**+1.4**
SCHQ	**Schefferville**	**39.26**	**45**	*eP*	**P**	**10 08 53.5**	**-0.5**
SCHQ	**Schefferville**	**39.26**	**45**	P	**P**	**10 08 52.7**	**-1.3**
	15nm,0.9s,baz=271,slow=7.0,SNR=11						
SCHQ				LR	LR	10 24 45.4	
	comp=Z,902nm,19.5s,baz=259,slow=36						
ROSC	**El Rosal**	**50.79**	**117**	LR	LR	10 35 19.0	
	comp=Z,354nm,19.0s,baz=354,slow=40						
SUMG	**Summit**	**52.66**	**22**	*i* P	**P**	**10 10 40.2**	**+0.4**
	4.4nm,0.7s						
PETK	**Petropavlovsk-**	**58.77**	**315**	P	**P**	**10 11 25.0**	**+1.5**
PETK	**Petropavlovsk-**	**58.77**	**315**	P	**P**	**10 11 25.0**	**+1.5**
	5.4nm,0.8s,baz=85,slow=9.1,SNR=5.0						
PETK				LR	LR	10 32 22.7	
	comp=Z,98nm,21.1s,baz=312,slow=32						
BORG	**Borgarnes**	**60.48**	**29**	LR	LR	10 39 12.7	
	comp=Z,495nm,18.1s,baz=300,slow=38						
RKT	**Rikitea**	**61.27**	**198**	*e*LR	LR	10 29 42.9	
	820nm,29.0s						
PPT2	**Papeete2**	**61.39**	**215**	*e*LR	LR	10 29 47.9	
	674nm,25.0s,baz=19						
JMIC	**Jan Mayen**	**62.03**	**20**	LR	LR	10 39 49.8	
	comp=Z,566nm,20.1s,baz=67,slow=37						
SPITS	**Spitsbergen Ar**	**62.57**	**10**	LR	LR	10 39 23.8	
	comp=Z,764nm,18.2s,baz=310,slow=36						
TBI	**Tubuai**	**66.39**	**212**	*e*LQ	LQ	10 29 22.9	
	534nm,33.5s						
TBI				*e*LR	LR	10 32 07.4	
	483nm,25.5s,baz=27						
LPAZ	**La Paz**	**70.37**	**129**	*eP*	**P**	**10 12 39.9**	**-0.5**
	5.1nm,0.9s						
LPAZ	**La Paz**	**70.37**	**129**	P	**P**	**10 12 40.4**	**0.0**
	4.8nm,0.8s,baz=351,slow=7.8,SNR=18						
LPAZ				LR	LR	10 42 31.0	
	comp=Z,287nm,19.3s,baz=329,slow=35						
ARCES	**ARCESS Array B**	**71.11**	**13**	LR	LR	10 45 38.5	
	comp=Z,435nm,19.4s,baz=140,slow=37						
AFI	**Afiamalu**	**71.21**	**236**	*eP*	**P**	**10 12 44.9**	**0.0**
	381nm,0.4s						
AFI	**Afiamalu**	**71.21**	**236**	Sn	**P**	**10 12 44.5**	**-0.4**
	143nm,0.3s,baz=63,slow=21,SNR=10						
NOA	**NORSAR Array B**	**74.52**	**23**	P	**P**	**10 13 04.7**	**+0.8**
NOA	**NORSAR Array B**	**74.52**	**23**	P	**P**	**10 13 04.7**	**+0.8**
	1.0nm,0.6s,baz=319,slow=5.7,SNR=3.2						
NOA				LR	LR	10 46 53.6	
	comp=Z,248nm,18.4s,baz=325,slow=37						
HFS	**Hagfors**	**76.00**	**23**	LR	LR	10 48 54.3	
	comp=Z,392nm,18.4s,baz=311,slow=38						
FINES	**FINESS Array B**	**78.28**	**17**	P	**P**	**10 13 25.1**	**0.0**
FINES	**FINESS Array B**	**78.28**	**17**	P	**P**	**10 13 25.1**	**0.0**
	2.0nm,0.7s,baz=12,slow=7.1,SNR=3.3						
FINES				LR	LR	10 47 17.5	
	comp=Z,538nm,20.4s,baz=117,slow=35						
MDJ	**Mudanjiang**	**78.90**	**318**	P	**P**	**10 13 27.8**	**-1.1**
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,32nm,3.4s						
ESDC	**Sonseca Array**	**83.02**	**45**	P	**P**	**10 13 51.0**	**0.0**
ESDC	**Sonseca Array**	**83.02**	**45**	P	**P**	**10 13 51.0**	**0.0**
	0.2nm,0.4s,baz=303,slow=5.6,SNR=2.8						
BDFB	**Brasilia**	**83.75**	**114**	LR	LR	10 53 48.7	
	comp=Z,379nm,20.8s,baz=110,slow=38						
CPUP	**Villa Florida**	**84.53**	**128**	LR	LR	10 52 18.8	
	comp=Z,174nm,19.3s,baz=312,slow=36						
KSRS	**Korea Array**	**84.58**	**313**	P	**P**	**10 13 59.8**	**+0.8**
	0.8nm,0.6s,baz=50,slow=6.5,SNR=4.1						
KSAR	**Wonju Array Be**	**84.61**	**313**	P	**P**	**10 13 59.8**	**+0.6**
GERES	**GERESS Array B**	**84.95**	**30**	P	P	10 14 06.5	+5.7
GERES	**GERESS Array B**	**84.95**	**30**	P	P	10 14 06.5	+5.7
	0.2nm,0.4s,baz=332,slow=7.6,SNR=4.3						
GERES				LR	LR	10 52 31.5	
	comp=Z,501nm,18.5s,baz=318,slow=36						
MDT	**Midelt**	**87.22**	**51**	LR	LR	10 51 36.7	
	comp=Z,227nm,18.9s,baz=59,slow=35						
SONM	**Songino Array**	**87.32**	**332**	P	**P**	**10 14 14.2**	**+1.6**
SONM	**Songino Array**	**87.32**	**332**	P	**P**	**10 14 14.2**	**+1.6**
	0.6nm,0.5s,baz=10,slow=5.6,SNR=5.0						
SONM				LR	LR	10 56 01.4	
	comp=Z,234nm,21.6s,baz=24,slow=38						
ZALV	**Zalesovo Beam**	**87.97**	**347**	P	**P**	**10 14 15.2**	**-0.1**
ZALV	**Zalesovo Beam**	**87.97**	**347**	P	**P**	**10 14 15.2**	**-0.1**
	3.7nm,0.3s,baz=22,slow=4.7,SNR=2.8						
AKASG	**Malin Array Be**	**88.65**	**20**	P	**P**	**10 14 18.7**	**0.0**
AKASG	**Malin Array Be**	**88.65**	**20**	P	**P**	**10 14 18.7**	**0.0**
	0.9nm,0.6s,baz=332,slow=3.9,SNR=4.4						
AKASG				LR	LR	10 54 07.0	
	comp=Z,275nm,20.1s,baz=5.0,slow=36						
BJI	**Beijing**	**89.16**	**322**	P	**P**	**10 14 18.4**	**-2.9**
BJI				PP	**PP**	**10 17 46.3**	**-4.4**
BJI				S	**S**	**10 25 09.9**	**-0.2**
BJI				SS	**SS**	**10 30 58.7**	**-3.8**
BJI				AMB	AMB		
	comp=Z,8.0nm,2.3s						
BJI				LR	LR		
	comp=N,170nm,24.9s						
BJI				LR	LR		
	comp=E,280nm,22.3s						
BJI				LR	LR		
	comp=Z,200nm,33.8s						
HHC	**Hu-ho-hao-te**	**90.77**	**325**	*eP*	**P**	**10 14 27.0**	**-1.9**
HHC				PP	**PP**	**10 18 04.0**	**+0.4**
HHC				SKS	**SKSac**	**10 24 57.8**	**-2.9**
HHC				S	**S**	**10 25 21.0**	**-4.3**
HHC				SS	**SS**	**10 31 25.0**	**-1.0**
HHC				AMB	AMB		
	comp=Z,27nm,1.0s						
HHC				AMB	AMB		
	comp=Z,150nm,5.2s						
HHC				LR	LR		
	comp=N,230nm,16.3s						
HHC				LR	LR		
	comp=E,300nm,15.5s						
HHC				LR	LR		
	comp=Z,290nm,17.1s						
DZM	**Mont Dzumac**	**91.95**	**244**	*e*LR	LR	10 43 28.8	
	442nm,25.4s						
KEST	**Kesra**	**93.17**	**40**	LR	LR	10 56 31.6	
	comp=Z,106nm,18.0s,baz=261,slow=36						
NJ2	**Nanjing**	**93.67**	**315**	*eP*	**P**	**10 14 40.9**	**-1.4**
NJ2				AMB	AMB		
	comp=Z,8.0nm,0.8s						
WMQ	**Urumqi**	**96.90**	**342**	*eP*	**P**	**10 14 57.4**	**+0.5**
WMQ				LR	LR		
	comp=N,280nm,28.0s						
WMQ				LR	LR		
	comp=E,440nm,27.0s						
WMQ				LR	LR		
	comp=Z,310nm,25.6s						
KBZ	**Khabaz**	**98.45**	**14**	LR	LR	11 01 18.1	
	comp=Z,293nm,18.8s,baz=341,slow=36						
BRTR	**Keskin Array B**	**99.93**	**22**	LR	LR	11 02 48.8	
	comp=Z,167nm,20.1s,baz=177,slow=37						
CD2	**Chengdu**	**102.52**	**324**	P	**Pdif**	**10 15 21.4**	**-0.9**
KMI	**Kunming**	**107.82**	**322**	PKP	**PKiKP**	**10 19 54.1**	**+0.4**
KMI				pPKP	PP	10 20 06.1	-7.8
KMI				sPKP		10 20 11.0	
KMI				PP	**PP**	**10 20 16.8**	**+2.9**
KMI	**Kunming**	**107.82**	**322**	SS	SS	10 35 24.4	-0.7
KMI				PPMZ			
	48nm,3.1s						
KMI				LR	LR		
	comp=Z,150nm,21.5s						
WRA	**Warramunga Arr**	**115.53**	**263**	PKP	**PKPdf**	**10 20 08.7**	**+0.6**
WRA	**Warramunga Arr**	**115.53**	**263**	PKP	**PKPdf**	**10 20 08.7**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=61,slow=2.1,SNR=6.2						
ASAR	**Alice Springs**	**117.77**	**260**	PKP	**PKPdf**	**10 20 12.3**	**+0.1**
ASAR	**Alice Springs**	**117.77**	**260**	PKP	**PKPdf**	**10 20 12.3**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=68,slow=1.9,SNR=7.4						
SYO	**Syowa Base**	**144.99**	**166**	*i eP*	PKPbc	10 21 00.2	-0.9
BOSA	**Boshof**	**148.17**	**87**	PKPbc	**PKPdf**	**10 21 10.2**	**+1.6**
BOSA	**Boshof**	**148.17**	**87**	PKPbc	**PKPdf**	**10 21 10.2**	**+1.6**
	comp=Z,3.9nm,1.1s,baz=304,slow=7.3,SNR=3.5						
MAW	**Mawson**	**148.66**	**181**	PKPbc	**PKPbc**	**10 21 12.3**	**+0.6**
MAW	**Mawson**	**148.66**	**181**	PKPbc	**PKPbc**	**10 21 12.3**	**+0.6**
	comp=Z,4.0nm,0.7s,baz=186,slow=0.8,SNR=14						

IDC 01 10:02:44.2±31.0, 21°92S×177°63W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/19, mbtmp3.9/4, Error ellipse: s-maj=598.2km s-min=157.1km az=91.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.50**	**246**	P		P	10 09 59.9	-0.1
	2.0nm,0.9s,baz=81,slow=6.9,SNR=4.3							
ASAR	**Alice Springs**	**44.55**	**258**	P		P	10 10 57.8	-0.4
	0.7nm,0.6s,baz=91,slow=7.3,SNR=18							
WRA	**Warramunga Arr**	**44.76**	**263**	P		P	10 10 59.9	0.0
	0.8nm,0.5s,baz=102,slow=8.0,SNR=42							
FITZ	**Fitzroy Crossi**	**53.19**	**263**	P		P	10 12 04.5	-0.1
	1.7nm,0.9s,baz=113,slow=12,SNR=2.6							

NEIC 01 10:03:30.2, 36°38N×117°86W, h6km, ML3.5(PAS), 1C-1D, After PAS., California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CGO	**Cerro Gordo**	**0.18**	**15**	*i P*		Pg	10 03 33.2	-1.1
CWC	**Cottonwood Cre**	**0.19**	**290**	*i P*		Pg	10 03 33.6	-0.6
CWC				*eS*		Sg	10 03 36.7	-0.2
CSSM	**Coso Springs S**	**0.36**	**168**	*eP*		Pg	10 03 36.7	-0.6
ISA	**Isabella**	**0.87**	**215**	*e*Pg		Pg	10 03 45.8	-1.2
ISA				*e*Sg		Sg	10 03 57.4	-1.0
GSC	**Goldstone**	**1.37**	**141**	*e*Pg		Pn	10 03 55.4	-0.6
GSC				*e*Sg		Sb	10 04 14.0	-0.3
MWC	**Mount Wilson**	**2.15**	**184**	P		Pb	10 04 10.0	+0.1

DJA 01 10:04:47.9±0.6, 1°S±8°×100°E±°, h47km±12km, M3.8/6, mb3.6/1, MLv4.0/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.60**	**98**	P		Pn	10 05 01.4	+1.2
PDSI				S		Sn	10 05 12.2	+3.1
PPI	**Padang Panjang**	**0.64**	**55**	P		Pn	10 05 01.4	+0.6
PPI				S		Sn	10 05 11.8	+1.7
SDSI	**Sungai Dareh**	**1.56**	**94**	P		Pn	10 05 13.2	0.0
MNSI	**Mandailing Nat**	**1.64**	**350**	P		Pn	10 05 14.7	+0.4
GSI	**Gunungsitoli**	**3.12**	**313**	P		Pn	10 05 34.0	-0.7
KCSI	**Kotacane, Aceh**	**4.80**	**334**	P		Pn	10 05 57.9	+0.1
MDSI	**Maura Dua**	**5.63**	**130**	P		Pn	10 06 08.6	-0.5

IDC 01 10:07:20.0±4.7, 16°22S×172°93W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/21, mbtmp4.0/4, Error ellipse: s-maj=209.1km s-min=33.5km az=137.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy**	**39.90**	**329**	T		T	10 56 58.0	
	baz=151,SNR=5.6							
H11S3	**WAKE ISLAND Hy**	**39.91**	**329**	T		T	10 57 02.8	
	baz=151							
H11S1	**WAKE ISLAND Hy**	**39.91**	**329**	T		T	10 57 02.5	
	baz=151							
H11N3	**WAKE ISLAND Hy**	**40.84**	**330**	T		T	10 58 14.8	
	baz=151							
H11N1	**WAKE ISLAND Hy**	**40.85**	**330**	T		T	10 58 14.4	
	baz=151							
H11N2	**WAKE ISLAND Hy**	**40.86**	**330**	T		T	10 58 15.6	
	baz=151							
STKA	**Stephens Creek**	**44.03**	**241**	P		P	10 15 29.6	-0.1
	1.2nm,0.7s,baz=72,slow=13,SNR=3.5							
WRA	**Warramunga Arr**	**50.10**	**257**	P		P	10 16 17.2	-0.1
	1.2nm,0.7s,baz=96,slow=7.0,SNR=13							
ASAR	**Alice Springs**	**50.29**	**253**	P		P	10 16 18.7	-0.1
	5.8nm,0.7s,baz=85,slow=8.6,SNR=48							
ILAR	**Eielson Array**	**83.16**	**11**	P		P	10 19 47.5	-0.1
	0.4nm,0.7s,baz=224,slow=5.5,SNR=4.3							
BRTR	**Keskin Array B**	**147.08**	**321**	PKPbc		PKPbc	10 27 04.7	-0.8
	0.4nm,0.7s,baz=11,slow=1.5,SNR=3.7							

IDC 01 10:11:34.7±7.6, 16°14S×173°83W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.8/19, mbtmp3.9/3, Error ellipse: s-maj=341.7km s-min=35.2km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.97**	**42**	Pn		Pn	10 12 18.6	-4.7
	32nm,0.3s,baz=37,slow=15,SNR=3.1							
H11S2	**WAKE ISLAND Hy**	**39.39**	**330**	T		T	11 00 22.8	
	baz=151,slow=0.7,SNR=12							
H11S3	**WAKE ISLAND Hy**	**39.40**	**330**	T		T	11 00 23.4	
	baz=151,slow=0.7,SNR=11							
H11S1	**WAKE ISLAND Hy**	**39.41**	**330**	T		T	11 00 24.9	
	baz=151,slow=0.7,SNR=9.2							
H11N3	**WAKE ISLAND Hy**	**40.35**	**331**	T		T	11 01 56.2	
	baz=152,slow=0.7,SNR=8.9							
H11N1	**WAKE ISLAND Hy**	**40.36**	**331**	T		T	11 01 56.5	
	baz=152,slow=0.7,SNR=9.9							
H11N2	**WAKE ISLAND Hy**	**40.37**	**331**	T		T	11 01 57.6	
	baz=152,slow=0.7,SNR=9.4							
STKA	**Stephens Creek**	**43.31**	**241**	P		P	10 19 42.1	+3.5
	2.3nm,0.8s,baz=90,slow=6.1,SNR=3.3							
WRA	**Warramunga Arr**	**49.28**	**257**	P		P	10 20 25.6	-0.1
	0.7nm,0.7s,baz=94,slow=6.9,SNR=8.7							
ASAR	**Alice Springs**	**49.49**	**253**	P		P	10 20 26.8	-0.6
	3.0nm,0.6s,baz=87,slow=8.7,SNR=31							
ILAR	**Eielson Array**	**83.25**	**11**	P		P	10 24 01.6	-1.0
	0.4nm,0.6s,baz=185,slow=6.3,SNR=5.5							
BRTR	**Keskin Array B**	**146.46**	**320**	PKPbc		PKPab	10 31 19.2	0.0
	1.6nm,0.7s,baz=77,slow=1.9,SNR=7.6							

IDC 01 10:23:10.6±0.7, 15°95S×172°97W, h0km, mb4.3/10, mb1 4.4/10, mb1mx4.2/24, mbtmp4.3/10, MS3.1/1, Ms1 3.1/1, ms1mx3.1/28, Error ellipse: s-maj=28.1km s-min=18.0km az=124.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.33**	**30**	LR		LR	10 24 43.5	
	comp=Z,437nm,21.6s,baz=276,slow=40							
DZM	**Mont Dzumac**	**20.39**	**249**	*e*LR		LR	10 33 07.2	
	722nm,27.4s							
DZM	**Mont Dzumac**	**20.39**	**249**	P		Pn	10 27 51.9	+0.5
	6.1nm,0.6s,baz=72,slow=18,SNR=6.4							
PPT2	**Papeete2**	**22.45**	**98**	*e*LR		LR	10 33 16.6	
	966nm,25.8s							
TBI	**Tubuai**	**23.31**	**112**	*e*LR		LR	10 33 49.2	
	1µm,25.5s							
URZ	**Urewera**	**23.88**	**200**	P		P	10 28 25.0	-0.9
	2.7nm,0.3s,baz=318,slow=19,SNR=3.8							
RPZ	**Rata Peaks**	**30.84**	**203**	P		P	10 29 30.2	+1.8
	5.7nm,0.6s,baz=107,slow=18,SNR=2.1							
RKT	**Rikitea**	**36.43**	**107**	*e*LR		LR	10 39 50.2	
	630nm,26.2s							
H11S2	**WAKE ISLAND Hy**	**39.65**	**329**	T		T	11 11 41.9	
	baz=151,slow=0.7,SNR=19							
H11S3	**WAKE ISLAND Hy**	**39.66**	**329**	T		T	11 11 44.9	
	baz=151,slow=0.7,SNR=36							
H11S1	**WAKE ISLAND Hy**	**39.67**	**329**	T		T	11 11 44.8	
	baz=151,slow=0.7,SNR=41							
H11N3	**WAKE ISLAND Hy**	**40.59**	**330**	T		T	11 12 51.0	
	baz=150,slow=0.7,SNR=27							
H11N1	**WAKE ISLAND Hy**	**40.60**	**330**	T		T	11 12 51.4	
	baz=150,slow=0.7,SNR=16							
H11N2	**WAKE ISLAND Hy**	**40.61**	**330**	T		T	11 12 54.5	
	baz=150,slow=0.7,SNR=19							
STKA	**Stephens Creek**	**44.13**	**241**	P		P	10 31 20.1	-1.0
	4.5nm,0.7s,baz=88,slow=12,SNR=9.7							
WRA	**Warramunga Arr**	**50.13**	**257**	P		P	10 32 06.9	-1.3
	0.8nm,0.3s,baz=97,slow=6.1,SNR=25							
WRA				PcP		PcP	10 33 28.0	+0.1
	0.8nm,0.8s,baz=84,slow=3.4,SNR=3.3							
ASAR	**Alice Springs**	**50.34**	**252**	P		P	10 32 08.3	-1.4
	7.8nm,0.7s,baz=86,slow=8.5,SNR=36							
FITZ	**Fitzroy Crossi**	**58.51**	**258**	P		P	10 33 09.4	+0.1
	0.9nm,0.6s,baz=90,slow=8.1,SNR=3.1							
VNDA	**Vanda**	**62.88**	**186**	P		P	10 33 38.8	+0.7
	1.2nm,0.8s,baz=346,slow=4.6,SNR=6.0							
PETK	**Petropavlovsk-**	**73.28**	**342**	P		P	10 34 44.5	+0.8
	3.5nm,0.7s,baz=154,slow=11,SNR=4.1							
PDAR	**Pinedale Array**	**82.39**	**42**	P		P	10 35 34.3	-0.7
	1.5nm,0.9s,baz=222,slow=2.0,SNR=8.8							
ILAR	**Eielson Array**	**82.90**	**11**	P		P	10 35 36.4	-0.5
	1.1nm,0.7s,baz=227,slow=6.4,SNR=14							
KMBO	**Kilima Mbogo**	**145.67**	**243**	PKPbc		PKPab	10 42 54.2	+1.1
	0.8nm,0.3s,baz=71,slow=5.0,SNR=5.4							
MLR	**Muntele Rosu**	**146.54**	**336**	PKPbc		PKPbc	10 42 54.5	+0.2
	1.3nm,1.0s,baz=268,slow=3.8,SNR=4.0							
BRTR	**Keskin Array B**	**146.85**	**321**	PKPbc		PKPab	10 42 56.1	-0.6
	5.6nm,0.9s,baz=132,slow=1.8,SNR=18							
TORD	**Torodi Ar. Bea**	**174.13**	**118**	PKP		PKPdf	10 43 22.1	-1.2
	0.7nm,0.9s,baz=272,slow=1.0,SNR=3.4							
TORD				PKPab		PKPab	10 44 52.5	-2.2
	0.4nm,0.8s,baz=240,slow=2.8,SNR=2.6							

NEIC 01 10:25:11.4, 17°00N×93°99W, h152km, MD4.0(MEX), After MEX.

MEX 01 10:25:11.4±0.4, 17°00N×93°99W, h151km±6km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TGIG		**0.86**	**105**	*i P*		Pn	10 25 34.0	-1.3
TGIG				*i S*		Sn	10 25 51.2	-2.1
TGIG		**0.86**	**105**	*i P*		Pn	10 25 34.2	-1.1
TGIG				*i S*		Sn	10 25 51.2	-2.1
PCIG		**1.49**	**150**	*i P*		Pn	10 25 39.8	-1.2
PCIG				*i S*		Sn	10 26 01.4	-2.2
PCIG		**1.49**	**150**	*i P*		Pn	10 25 39.8	-1.2
PCIG				*i S*		Sn	10 26 01.4	-2.2
CCIG	**Comitan**	**1.91**	**112**	*i P*		Pn	10 25 44.3	-1.5
CCIG				*i S*		Sn	10 26 10.3	-1.9
CCIG	**Comitan**	**1.91**	**112**	*i P*		Pn	10 25 44.3	-1.5
CCIG				*i S*		Sn	10 26 10.3	-1.9
HUIG	**Huatulco**	**2.38**	**239**	*i P*		Pn	10 25 49.4	-1.7
HUIG				*i S*		Sn	10 26 20.1	-1.5
HUIG	**Huatulco**	**2.38**	**239**	*i P*		Pn	10 25 49.4	-1.7
HUIG				*i S*		Sn	10 26 20.1	-1.5

AUST 01 10:32:40.3±1.9, 16°14S×171°22W, h0km, Error ellipse: s-maj=41.0km s-min=8.8km az=36.0

IDC 01 10:32:45.4±0.8, 16°33S×172°01W, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.1/22, mbtmp4.1/9, MS3.7/2, Ms1 3.7/2, ms1mx3.4/36, Error ellipse: s-maj=37.9km s-min=19.7km az=138.0

ISC 01 10:32:49.9±1.2, 16°0S±0°1×171°9W±0°2, h41km, n28, σ0°82/22, mb4.1/10, 6C-4D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.08**	**4**	Pn		**Pn**	**10 33 21.8**	**-0.7**
	55nm,0.3s,baz=135,slow=3.7,SNR=17							
AFI				Sn		**Sn**	**10 33 48.3**	**+1.0**
	716nm,0.3s,baz=219,slow=19,SNR=29							
AFI				LR		LR	10 34 07.4	
	comp=Z,953nm,18.2s,baz=302,slow=34							
RAR	**Rarotonga**	**12.62**	**116**	LR		LR	10 38 58.4	
	comp=Z,446nm,18.5s,baz=270,slow=30							
DZM	**Mont Dzumac**	**21.32**	**250**	*e*LR		LR	10 42 23.8	
	442nm,25.4s							
DZM	**Mont Dzumac**	**21.32**	**250**	P		**P**	**10 37 33.9**	**+0.3**
	2.5nm,0.5s,baz=71,slow=18,SNR=4.7							
PPT2	**Papeete2**	**21.44**	**97**	*e*LR		LR	10 42 10.1	
	476nm,27.5s							
TBI	**Tubuai**	**22.35**	**113**	*e*LR		LR	10 42 38.3	
	403nm,28.2s							
URZ	**Urewera**	**24.19**	**201**	P		**P**	**10 38 04.6**	**+2.1**
	8.4nm,0.4s,baz=330,slow=20,SNR=14							
ARMA	**Armidale**	**36.27**	**240**	P		**P**	**10 39 48.9**	**-0.8**
	baz=37,SNR=5.9							
CMSA	**Cobar Meteorol**	**41.49**	**240**	⇓P		**P**	**10 40 32.4**	**-0.8**
	baz=42,SNR=8.0							
STKA	**Stephens Creek**	**44.99**	**241**	⇓P		**P**	**10 41 01.3**	**-0.2**
	baz=46,SNR=4.5							
STKA	**Stephens Creek**	**44.99**	**241**	P		**P**	**10 41 00.1**	**-1.4**
	3.2nm,0.8s,baz=73,slow=8.8,SNR=6.0							
BBOO	**Buckleboo**	**49.76**	**240**	⇑P		**P**	**10 41 38.9**	**+0.4**
	baz=50,SNR=5.1							
WRA	**Warramunga Arr**	**51.10**	**257**	P		**P**	**10 41 48.6**	**-0.3**
	0.9nm,0.4s,baz=95,slow=6.9,SNR=31							
AS17	**Alice Springs**	**51.21**	**252**	⇓P		**P**	**10 41 49.4**	**-0.3**
	baz=52							
AS01	**Alice Springs**	**51.25**	**252**	⇓P		**P**	**10 41 49.5**	**-0.5**
	baz=52							
AS15	**Alice Springs**	**51.28**	**252**	⇑P		**P**	**10 41 49.9**	**-0.3**
	baz=52							
ASAR	**Alice Springs**	**51.29**	**252**	P		**P**	**10 41 49.7**	**-0.6**
	5.1nm,0.6s,baz=90,slow=8.2,SNR=98							
ASPA	**Alice Springs**	**51.29**	**252**	⇑P		**P**	**10 41 49.8**	**-0.5**
	baz=52							
AS11	**Alice Springs**	**51.30**	**252**	⇑P		**P**	**10 41 49.9**	**-0.5**
	baz=52							
AS13	**Alice Springs**	**51.30**	**252**	⇑P		**P**	**10 41 50.0**	**-0.4

MEEK	**Meekatharra**	**56.97**	**251**	⇑P	**P**	**10 50 45.5**	**-0.9**
	baz=55,SNR=5.7							
KLBR	**Kellerberrin**	**57.11**	**245**	⇓P	**P**	**10 50 46.7**	**-0.5**
	baz=55,SNR=5.7							
VNDA	**Vanda**	**57.51**	**185**	P	**P**	**10 50 50.2**	**+1.2**
	0.3nm,0.6s,baz=360,slow=4.8,SNR=2.5							
BLDU	**Ballidu**	**58.11**	**246**	⇑P	**P**	**10 50 53.1**	**-0.9**
	baz=56							
MORW	**Morawa**	**58.88**	**248**	⇓P	**P**	**10 50 58.5**	**-0.7**
	baz=57,SNR=5.4							
MJAR	**Matsushiro Arr**	**69.95**	**324**	P	**P**	**10 52 09.4**	**+0.9**
	1.6nm,0.8s,baz=170,slow=7.5,SNR=4.6							
CMAR	**Chiang Mai Arr**	**89.39**	**290**	P	**P**	**10 53 52.8**	**+2.4**
	0.6nm,0.4s,baz=135,slow=3.3,SNR=4.5							
PDAR	**Pinedale Array**	**89.81**	**44**	P	**P**	**10 53 50.9**	**-1.2**
	0.9nm,1.1s,baz=243,slow=7.7,SNR=3.6							
AKASG	**Malin Array Be**	**142.86**	**330**	PKP	**PKPdf**	**11 00 20.1**	**-1.8**
	2.6nm,0.5s,baz=44,slow=4.0,SNR=15							
BRTR	**Keskin Array B**	**146.40**	**311**	PKPbc	**PKPbc**	**11 00 31.5**	**+0.4**
	0.5nm,0.6s,baz=157,slow=4.1,SNR=2.7							

*NIED **01** 10:43:00,36˚.40N×140˚.60E,h56km,Mw4.1 Best double couple: M₀1.66000×10¹⁵ NP1:φ₀22.00000°,δ70.00000°,λ89.00000°. NP2:φ₀205.00000°,δ20.00000°,λ92.00000°.*

*ISCJB **01** 10:43:01.0±0.7,36˚.36N±0˚.05×140˚.82E±0˚.06,h55km±4km, mb4.2/21, Error ellipse: s-maj=10.0km s-min=5.7km az=41.5*

*NEIC **01** 10:43:02.2±0.8,36˚.38N×140˚.72E,h44km±7km,mb4.5/4, MW4.1(NIED),Error ellipse: s-maj=9.4km s-min=8.2km az=133.0*

NEIC Recorded [3 JMA] in Ibaraki; [2 JMA] in Chiba, Fukushima and Tochigi; [1 JMA] in Gumma, Saitama and Tokyo.

*JMA **01** 10:43:03.4±0.1,36˚.43N×140˚.65E,h54km±1km,MA4.2 Broadband fault plane solution: P waves. NP1: φs19.00000°,δ69.00000°,λ85.00000°. NP2:φ₀212.00000°, δ22.00000°,λ102.00000°. Principal axes: T Plg66.0000°, Azm281.0000°; N Plg4.0000°, Azm21.0000°; P Plg24.0000°, Azm113.0000°;*

JMA Felt III J1.

*IDC **01** 10:43:05.8±2.4,36˚.39N×140˚.51E,h73km±21km,mb3.9/18, mb1 4.1/20,mb1mx4.0/29,mbtmp3.9/20,MS3.0/2, Ms1 3.0/2,ms1mx2.8/46 Error ellipse: s-maj=18.7km s-min=14.8km az=80.0*

ISC 01 10:43:01.8±0.8,36˚.29N±0˚.05×140˚.87E±0˚.06,h48km±7km, n75,σ1§63/76,mb4.3/21,2C-2D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.41**	**323**	⇑P	**Pn**	**10 43 12.2**	**+0.4**
JHO				S	**Sn**	**10 43 18.1**	**-0.9**
JYT	**Yasato**	**0.55**	**264**	⇓P	**Pn**	**10 43 14.1**	**+0.6**
JYT				S	**Sn**	**10 43 21.3**	**-0.6**
ONAJ	**Iwakimizuishiy**	**0.82**	**356**	⇑P	**Pn**	**10 43 16.6**	**-0.4**
ONAJ				S	**Sn**	**10 43 26.4**	**-1.8**
JFK	**Kawauchi**	**1.08**	**0**	P	**Pn**	**10 43 20.0**	**-0.5**
JFK				*eS*	**Sn**	**10 43 31.9**	**-2.5**
JAG	**Ashikaga**	**1.16**	**277**	⇓P	**Pn**	**10 43 21.1**	**-0.4**
JAG				S	**Sn**	**10 43 33.6**	**-2.6**
MJAR	**Matsushiro Arr**	**2.16**	**278**	P	**Pn**	**10 43 33.9**	**-1.5**
MJAR				S	Sn	10 43 49.3	-12
MJAR	**Matsushiro Arr**	**2.16**	**278**	P	**Pn**	**10 43 33.9**	**-1.5**
	143nm,0.3s,baz=215,slow=12,SNR=927						
MJAR				S	Sn	10 43 49.3	-12
	137nm,0.3s,baz=90,slow=16,SNR=26						
MJAR				LR	LR	10 43 55.7	
	comp=Z,370nm,19.9s,baz=55,slow=27						
MAJO	**Matsushiro**	**2.17**	**278**	*e*Pn	**Pn**	**10 43 35.3**	**-0.1**
MAT	**Matsushiro**	**2.17**	**278**	P	**Pn**	**10 43 35.0**	**-0.4**
MAT				S	**Sn**	**10 43 59.5**	**-1.5**
ERM	**Erimo**	**5.99**	**17**	*e*Pn	**Pn**	**10 44 27.2**	**-0.5**
	20nm,0.6s						
ERM				*e*Sn	**Sn**	**10 45 33.8**	**-1.3**
ASAJ	**Asahikawa**	**7.93**	**9**	P	**Pn**	**10 44 52.8**	**-1.6**
ASAJ				S	**Sn**	**10 46 18.6**	**-4.1**
ASAJ	**Asahikawa**	**7.93**	**9**	P	**Pn**	**10 44 52.8**	**-1.6**
	2.9nm,0.3s,baz=226,slow=11,SNR=27						
ASAJ				S	**Sn**	**10 46 18.6**	**-4.1**
	0.6nm,0.3s,baz=250,slow=15,SNR=2.9						
JNU	**Nakatsue**	**8.81**	**252**	P	**Pn**	**10 45 08.4**	**+1.9**
JNU	**Nakatsue**	**8.81**	**252**	P	**Pn**	**10 45 08.4**	**+1.9**
	0.9nm,0.3s,baz=51,slow=6.3,SNR=8.1						
JNU				LR	LR	10 48 34.1	
	comp=Z,95nm,20.9s,baz=7.2,slow=38						
CBIJ	**Chichi jima**	**9.23**	**173**	P	**Pn**	**10 45 11.9**	**-0.3**
CBIJ				S	**Sn**	**10 46 50.5**	**-4.3**
JCJ	**Chichijima**	**9.23**	**173**	P	**Pn**	**10 45 11.9**	**-0.3**
	24nm,0.3s,baz=172,slow=20,SNR=17						
JCJ				S	**Sn**	**10 46 50.5**	**-4.3**
	15nm,0.3s,baz=180,slow=20,SNR=5.5						
USRK	**Ussuriysk Arra**	**10.41**	**322**	P	**Pn**	**10 45 30.1**	**+1.8**
	0.8nm,0.3s,baz=139,slow=13,SNR=7.5						
KSRS	**Korea Array**	**10.44**	**280**	P	Pn	10 45 31.9	+3.1
	0.5nm,0.3s,baz=95,slow=14,SNR=20						
KSRS				LR	LR	10 49 15.5	
	comp=Z,84nm,20.1s,baz=80,slow=36						
KSAR	**Wonju Array Be**	**10.47**	**280**	P	**Pn**	**10 45 31.9**	**+2.7**
BJT	**Baijiatuan**	**19.76**	**288**	*e*P	**P**	**10 47 25.6**	**-2.1**
	11nm,0.5s						
ENH	**Enshi**	**26.84**	**266**	P	**P**	**10 48 36.7**	**-1.1**
SONM	**Songino Array**	**27.85**	**305**	P	**P**	**10 48 45.6**	**-1.2**
SONM	**Songino Array**	**27.85**	**305**	P	**P**	**10 48 45.6**	**-1.2**
	2.3nm,0.6s,baz=104,slow=9.1,SNR=12						
H11N2	**WAKE ISLAND Hy**	**28.15**	**119**	T	T	11 18 54.8	
	baz=315,slow=0.7,SNR=70						
H11N1	**WAKE ISLAND Hy**	**28.16**	**119**	T	T	11 18 56.7	
	baz=315,slow=0.7,SNR=75						
H11N3	**WAKE ISLAND Hy**	**28.17**	**119**	T	T	11 18 58.1	
	baz=315,slow=0.7,SNR=74						
H11S1	**WAKE ISLAND Hy**	**28.83**	**121**	T	T	11 19 48.6	
	baz=318,slow=0.7,SNR=88						
H11S3	**WAKE ISLAND Hy**	**28.83**	**121**	T	T	11 19 48.0	
	baz=318,slow=0.7,SNR=34						
H11S2	**WAKE ISLAND Hy**	**28.85**	**121**	T	T	11 19 50.4	
	baz=318,slow=0.7,SNR=39						
ZALV	**Zalesovo Beam**	**42.10**	**313**	P	**P**	**10 50 48.5**	**-0.4**
ZALV	**Zalesovo Beam**	**42.10**	**313**	P	**P**	**10 50 48.5**	**-0.4**
	5.5nm,0.6s,baz=91,slow=7.6,SNR=13						
MK31	**Makanchi Array**	**44.15**	**303**	*e*P	**P**	**10 51 04.7**	**-0.9**
MKAR	**Makanchi Array**	**44.15**	**303**	P	**P**	**10 51 05.5**	**0.0**
MKAR	**Makanchi Array**	**44.15**	**303**	P	**P**	**10 51 05.5**	**0.0**
	2.7nm,0.7s,baz=89,slow=10,SNR=22						
KURK	**Kurchatov**	**46.05**	**309**	*e*P	**P**	**10 51 19.4**	**-1.2**
	2.5nm,0.5s						
TKM2	**Tokmak 2**	**49.61**	**299**	*e*P	**P**	**10 51 48.7**	**+0.3**
	3.8nm,0.6s						
ILAR	**Eielson Array**	**50.36**	**32**	P	**P**	**10 51 55.1**	**+1.5**
ILAR	**Eielson Array**	**50.36**	**32**	P	**P**	**10 51 55.1**	**+1.5**
	2.0nm,0.7s,baz=269,slow=6.4,SNR=27						
INK	**Inuvik**	**55.25**	**27**	P	**P**	**10 52 31.4**	**+1.8**
INK	**Inuvik**	**55.25**	**27**	P	**P**	**10 52 31.4**	**+1.8**
	2.6nm,0.8s,baz=318,slow=4.3,SNR=6.5						
WRA	**Warramunga Arr**	**56.26**	**187**	P	**P**	**10 52 39.0**	**+1.6**
WRA	**Warramunga Arr**	**56.26**	**187**	P	**P**	**10 52 39.0**	**+1.6**
	3.6nm,0.6s,baz=3.6,slow=7.3,SNR=36						
ABKAR	**Akbulak array**	**58.09**	**310**	*e*P	**P**	**10 52 49.0**	**-1.0**
	3.1nm,0.6s						
AKTO	**Aktyubinsk**	**58.85**	**312**	P	**P**	**10 52 54.7**	**-0.6**
AKTO	**Aktyubinsk**	**58.85**	**312**	P	**P**	**10 52 54.7**	**-0.6**
	0.8nm,0.3s,baz=90,slow=8.1,SNR=4.4						
ASAR	**Alice Springs**	**59.99**	**187**	P	**P**	**10 53 05.2**	**+1.9**
ASAR	**Alice Springs**	**59.99**	**187**	P	**P**	**10 53 05.2**	**+1.9**
	1.7nm,0.7s,baz=13,slow=7.4,SNR=19						
ARCES	**ARCESS Array B**	**64.54**	**339**	P	**P**	**10 53 33.0**	**-0.3**
ARCES	**ARCESS Array B**	**64.54**	**339**	P	**P**	**10 53 33.0**	**-0.3**
	6.1nm,1.0s,baz=54,slow=8.2,SNR=9.7						
FINES	**FINESS Array B**	**69.27**	**332**	P	**P**	**10 54 03.0**	**-0.5**
FINES	**FINESS Array B**	**69.27**	**332**	P	**P**	**10 54 03.0**	**-0.5**
	4.1nm,0.8s,baz=54,slow=6.7,SNR=12						
KBZ	**Khabaz**	**71.06**	**311**	P	**P**	**10 54 14.5**	**-0.2**
KBZ	**Khabaz**	**71.06**	**311**	P	**P**	**10 54 14.5**	**-0.2**
	2.7nm,0.8s,baz=36,slow=4.9,SNR=5.2						
AKASG	**Malin Array Be**	**74.62**	**322**	P	**P**	**10 54 35.0**	**-0.7**
AKASG	**Malin Array Be**	**74.62**	**322**	P	**P**	**10 54 35.0**	**-0.7**
	2.0nm,0.4s,baz=47,slow=6.0,SNR=7.5						
NB2	**NORSAR Subarra**	**74.71**	**337**	P	**P**	**10 54 35.7**	**-0.4**
	comp=Z,2.4nm,0.7s,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**74.71**	**337**	P	**P**	**10 54 36.1**	**0.0**
NOA	**NORSAR Array B**	**74.71**	**337**	P	**P**	**10 54 36.1**	**0.0**
	comp=Z,4.2nm,0.7s,baz=43,slow=5.4,SNR=13						
NVAR	**Mina Array Bea**	**75.78**	**53**	P	**P**	**10 54 45.8**	**+2.9**
	comp=Z,0.9nm,0.7s,baz=281,slow=6.4,SNR=4.8						
PDAR	**Pinedale Array**	**78.50**	**45**	P	**P**	**10 54 59.9**	**+1.8**
PDAR	**Pinedale Array**	**78.50**	**45**	P	**P**	**10 54 59.9**	**+1.8**
	comp=Z,0.7nm,0.6s,baz=266,slow=1.5,SNR=6.3						
BRTR	**Keskin Array B**	**79.02**	**311**	P	**P**	**10 55 00.7**	**-0.3**
BRTR	**Keskin Array B**	**79.02**	**311**	P	**P**	**10 55 00.7**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=110,slow=1.8,SNR=4.0						
GERES	**GERESS Array B**	**83.12**	**328**	P	**P**	**10 55 21.8**	**-0.6**
GERES	**GERESS Array B**	**83.12**	**328**	P	**P**	**10 55 21.8**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=30,slow=6.6,SNR=5.0						
TXAR	**Lajitas Array**	**90.92**	**52**	P	**P**	**10 56 02.8**	**+2.0**
TXAR	**Lajitas Array**	**90.92**	**52**	P	**P**	**10 56 02.8**	**+2.0**
	comp=Z,0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**117.54**	**314**	PKP	**PKPdf**	**11 01 42.7**	**-0.2**
TORD	**Torodi Ar. Bea**	**117.54**	**314**	PKP	**PKPdf**	**11 01 42.7**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=330,slow=2.1,SNR=3.2						
H03N2	**Juan Fernandez**	**147.37**	**97**	T	T	13 47 54.7	
	baz=288,slow=0.7,SNR=28						
H03N3	**Juan Fernandez**	**147.38**	**97**	T	T	13 47 55.5	
	baz=288,slow=0.7,SNR=31						
H03N1	**Juan Fernandez**	**147.39**	**97**	T	T	13 47 56.0	
	baz=288,slow=0.7,SNR=27						
LPAZ	**La Paz**	**147.44**	**60**	PKPbc	**PKPab**	**11 02 43.0**	**-0.6**
LPAZ	**La Paz**	**147.44**	**60**	PKPbc	**PKPab**	**11 02 43.0**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=359,slow=3.3,SNR=5.8						

*DJA **01** 10:51:04.5±0.8,18˚.S±22˚×17˚.3W±˚,h10km,M5.5/10, mB6.1/2,mb5.2/10,MLv5.7/1,Mw(mB)5.8/2*

*IDC **01** 10:51:05.5±0.4,17˚.22S×172˚.77W,h0km,mb4.8/26, mb1 4.9/26,mb1mx4.9/29,mbtmp4.8/26,MS5.0/30, Ms1 5.0/30,ms1mx4.9/41,Error ellipse: s-maj=15.8km s-min=12.2km az=142.0*

*ISCJB **01** 10:51:05.7±0.1,17˚.26S±0˚.04×172˚.72W±0˚.03,h10km, mb5.3/149,MS5.1/59,Error ellipse: s-maj=6.2km s-min=2.9km az=156.0*

*NEIC **01** 10:51:07.2±0.1,17˚.22S×172˚.78W,h10km,mb5.4/87, Error ellipse: s-maj=7.3km s-min=3.7km az=143.0*

*AUST **01** 10:51:07.7±0.9,17˚.20S×173˚.07W,h0km,Error ellipse: s-maj=20.4km s-min=17.6km az=145.0*

*BJI **01** 10:51:10.0,16˚.44S×173˚.15W,h10km,mB5.9/44, mb5.4/46,Ms5.4/44,Ms7 5.1/46*

*GCMT **01** 10:51:12.3±0.1,17˚.19S×172˚.29W,h12km,MW5.5, Moment Tensor Solution. s78,c131; s99,c223; Moment tensor: Scale 10¹⁷Nm; Mrr1.31±.02; Mθθ-0.26±.02; Mφφ-1.06±.02; Mrθ0.51±.05; Mrφ-0.78±.01; Mθφ1.29±.05; Best double couple: M₀2.00000×10¹⁷ NP1:φ₀24.00000°, δ67.00000°,λ83.00000°. NP2:φ₀221.00000°,δ24.00000°, λ105.00000°. Principal axes: T 1.8900, Plg67.0000°, Azm282.0000°; N 0.2000, Plg6.0000°, Azm27.0000°; P -2.0900, Plg22.0000°, Azm119.0000°; Data Used: II IU IC G CN. Surface waves from 114 sta.*

*MOS **01** 10:51:13.0±1.3,16˚.46S×172˚.65W,h33km,mb5.5/33, MS5.1/13 Error ellipse: s-maj=12.4km s-min=9.0km az=66.9*

ISC 01 10:51:08.2±0.4,17˚.24S±0˚.06×172˚.78W±0˚.05,h15km±1km, h15km:pP-P,n731,σ1§20/761,mb5.3/151,MS5.1/60, 187C-135D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.45**	**16**	*e*Pn	Pn	10 51 55.9	-5.6
AFI				Sn	Sn	10 52 30.5	-12
AFI	**Afiamalu**	**3.45**	**16**	Pn	Pn	10 51 51.2	-10
	23nm,0.3s,baz=74,slow=20,SNR=4.4						
AFI				Sn	Sn	10 52 30.5	-12
	123nm,0.3s,baz=214,slow=21,SNR=6.9						
AFI				LR	LR	10 53 12.2	
	comp=Z,11µm,20.9s,baz=164,slow=37						
MSVF	**Nonsavu**	**8.76**	**265**	*e*P	Pn	10 53 21.2	+6.8
MSVF	**Nonsavu**	**8.76**	**265**	Pn	Pn	10 53 21.3	+6.8
	2µm,1.1s,SNR=42						
MSVF	**Nonsavu**	**8.76**	**265**	*e*Pn	Pn	10 53 21.2	+6.8
RAR	**Rarotonga**	**12.91**	**110**	Pn	Pn	10 54 02.7	-8.4
RAR	**Rarotonga**	**12.91**	**110**	Pn	Pn	10 54 02.7	-8.4
	4.7nm,0.3s,baz=270,slow=7.3,SNR=14						
DZM	**Mont Dzumac**	**20.14**	**253**	*e*P	**P**	**10 55 41.4**	**-0.5**
	304nm,1.6s						
DZM				*e*LR	LR	11 00 22.6	
	5µm,23.7s						
DZM	**Mont Dzumac**	**20.14**	**253**	*e*P	**P**	**10 55 41.0**	**-1.0**
	445nm,1.9s						
DZM	**Mont Dzumac**	**20.14**	**253**	P	**P**	**10 55 41.6**	**-0.3**
	8.4nm,0.9s,baz=87,slow=16,SNR=5.5						
OUZ	**Omahuta**	**21.64**	**212**	*e*P	**P**	**10 56 00.1**	**+2.2**
	149nm,1.4s						
PAE	**Paea**	**22.14**	**95**	*e*P	**P**	**10 56 04.2**	**+0.8**
	41nm,1.4s						
PPT2	**Papeete2**	**22.15**	**94**	*e*P	**P**	**10 56 04.6**	**+1.0**
	231nm,1.6s						
PPT2				*e*S	**S**	**11 00 06.1**	**-1.3**
	10µm,26.0s						
PPT2				*e*LR	LR	11 01 06.1	
	6µm,27.5s						
PPT	**Papeete**	**22.15**	**94**	P	**P**	**10 56 02.2**	**-1.4**
PPT	**Papeete**	**22.15**	**94**	P	**P**	**10 56 02.2**	**-1.4**
	45nm,0.8s,baz=274,slow=16,SNR=4.0						
PPT				LR	LR	11 03 23.1	
	comp=Z,5µm,18.2s,baz=260,slow=33						
TIAR	**Tiarei**	**22.37**	**94**	*e*P	**P**	**10 56 05.5**	**-0.4**
	300nm,1.4s						
TVO	**Taravao**	**22.45**	**95**	*e*P	**P**	**10 56 05.3**	**-1.5**
	186nm,1.2s						
TBI	**Tubuai**	**22.69**	**109**	*e*P	**P**	**10 56 08.9**	**-0.4**
	690nm,1.5s						
TBI				*e*LQ	LQ	11 00 28.6	
	6µm,28.0s						
TBI				*e*LR	LR	11 01 15.9	
	9µm,29.8s,baz=284						
URZ	**Urewera**	**22.74**	**201**	*e*P	**P**	**10 56 09.6**	**-0.1**
	225nm,1.2s						
URZ	**Urewera**	**22.74**	**201**	P	**P**	**10 56 09.8**	**+0.2**
	40nm,0.6s,baz=34,slow=5.8,SNR=20						
BKZ	**Black Stump Fm**	**23.77**	**201**	*e*P	**P**	**10 56 21.1**	**+1.0**
	183nm,1.6s						
PMOR	**Pomariorio Ree**	**24.01**	**88**	*e*P	**P**	**10 56 19.7**	**-2.8**
	897nm,1.5s						
VAH	**Vaihoa**	**24.23**	**89**	*e*P	**P**	**10 56 21.4**	**-3.2**
	408nm,1.5s						
HNR	**Honiara**	**27.62**	**283**	P	**P**	**10 56 56.0**	**+0.7**
HNR	**Honiara**	**27.62**	**283**	P	**P**	**10 56 56.0**	**+0.7**
	31nm,0.8s,baz=223,slow=12,SNR=5.7						
HNR				LR	LR	11 06 10.3	
	comp=Z,7µm,20.2s,baz=122,slow=33						
KHZ	**Kahutara**	**27.68**	**202**	P	**P**	**10 56 56.4**	**+0.9**
RPZ	**Rata Peaks**	**29.73**	**204**	*e*P	**P**	**10 57 15.5**	**+1.7**
	240nm,1.5s						
RPZ	**Rata Peaks**	**29.73**	**204**	P	**P**	**10 57 15.5**	**+1.7**
	31nm,0.9s,baz=298,slow=5.2,SNR=4.1						
EIDS	**Eidsvold**	**34.54**	**250**	*e*P	**P**	**10 57 54.3**	**-1.9**
	27nm,1.4s						
EIDS				*e*pP	pP	10 58 18.6	+18
EIDS	**Eidsvold**	**34.54**	**250**	⇑P	**P**	**10 57 54.6**	**-1.6**
	baz=34						
RKT	**Rikitea**	**35.90**	**106**	*e*S	**S**	**11 03 46.9**	**+1.3**
	333nm,25.0s						
RKT				*e*LR	LR	11 07 17.5	
	5µm,29.5s,baz=278						
RMQ	**Roma**	**36.74**	**249**	P	**P**	**10 58 14.2**	**-1.0**
	baz=36,SNR=7.5						
CAN	**Canberra**	**38.42**	**235**	⇓P	**P**	**10 58 29.6**	**+0.3**
	baz=38						
CTA	**Charters Tower**	**38.84**	**259**	P	**P**	**10 58 31.3**	**-1.6**
CTA	**Charters Tower**	**38.84**	**259**	⇓P	**P**	**10 58 31.4**	**-1.6**
	baz=39						
CTA	**Charters Tower**	**38.84**	**259**	P	**P**	**10 58 31.3**	**-1.6**
	11nm,0.8s,baz=87,slow=10.0,SNR=8.4						
CTAO	**Charters Tower**	**38.84**	**259**	*e*P	**P**	**10 58 31.4**	**-1.6**
CTAO				pmax	pmax		
	comp=Z,19nm,1.0s						
CTAO	**Charters Tower**	**38.84**	**259**	*e*P	**P**	**10 58 31.4**	**-1.6**
	comp=Z,19nm,1.0s						
PMG	**Port Moresby**	**39.69**	**276**	P	**P**	**10 58 38.9**	**-1.2**
PMG	**Port Moresby**	**39.69**	**276**	P	**P**	**10 58 38.9**	**-1.2**
	comp=Z,14nm,0.9s,baz=135,slow=14,SNR=5.1						
CMSA	**Cobar Meteorol**	**40.16**	**241**	P	**P**	**10 58 43.8**	**0.0**
	baz=40,SNR=5.8						
QLP	**Quilpie**	**40.79**	**249**	P	**P**	**10 58 47.9**	**-1.1**
	baz=40,SNR=8.2						
COEN	**Coen**	**42.48**	**268**	*e*P	**P**	**10 59 03.3**	**+0.2**
	comp=Z,121nm,1.0s						
STKA	**Stephens Creek**	**43.66**	**242**	*e*P	**P**	**10 59 12.1**	**-0.4**
	comp=Z,9.1nm,1.5s						
STKA	**Stephens Creek**	**43.66**	**242**	P	**P**	**10 59 11.7**	**-0.8**
	baz=43,SNR=7.8						
STKA	**Stephens Creek**	**43.66**	**242**	P	**P**	**10 59 12.3**	**-0.1**
	comp=Z,9.6nm,1.0s,baz=90,slow=7.8,SNR=9.0						
STKA				LR	LR	11 15 36.1	
	comp=Z,1µm,18.7s,baz=76,slow=34						
ARPS	**Mount Arapiles**	**44.39**	**235**	⇓P	**P**	**10 59 19.2**	**+1.0**
	baz=44						
HTT	**Hallett**	**46.12**	**240**	⇓P	**P**	**10 59 31.7**	**-0.4**
	baz=46						
JAY	**Jayapura**	**47.94**	**283**	⇑P	**P**	**10 59 47.0**	**+0.4**
	baz=48,SNR=5.9						
BBOO	**Buckleboo**	**48.43**	**241**	*e*P	**P**	**10 59 49.9**	**-0.1**
	comp=Z,2µm,1.5s						
BBOO	**Buckleboo**	**48.43**	**241**	⇓P	**P**	**10 59 49.3**	**-0.7**
	baz=48,SNR=18						
WRAB	**Tennant Creek**	**50.02**	**258**	P	P	10 59 59.1	-3.3
	comp=Z,193nm,1.1s,SNR=12						
WRAB	**Tennant Creek**	**50.02**	**258**	*e*P	**P**	**10 59 59.9**	**-2.4**
	comp=Z,92nm,1.4s						
WRA	**Warramunga Arr**	**50.02**	**258**	P	**P**	**11 00 00.3**	**-2.2**
WRA	**Warramunga Arr**	**50.02**	**258**	P	**P**	**11 00 00.3**	**-2.2**
	comp=Z,19nm,1.0s,baz=97,slow=7.0,SNR=43						
WRA				LR	LR	11 21 05.0	
	comp=Z,3µm,18.8s,baz=105,slow=36						
AS06	**Alice Springs**	**50.07**	**253**	⇑P	**P**	**11 00 01.1**	**-1.7**
	baz=50						
AS05	**Alice Springs**	**50.09**	**253**	⇑P	**P**	**11 00 01.2**	**-1.8**
	baz=50						
AS09	**Alice Springs**	**50.09**	**253**	⇓P	**P**	**11 00 01.2**	**-1.7**
	baz=50						
AS14	**Alice Springs**	**50.12**	**253**	⇑P	**P**	**11 00 01.4**	**-1.8**
	baz=50						
AS31	**Alice Springs**	**50.13**	**253**	*e*P	**P**	**11 00 01.4**	**-1.8**
ASAR	**Alice Springs**	**50.13**	**253**	P	**P**	**11 00 01.2**	**-2.0**
ASAR				S	**S**	**11 07 09.8**	**-4.8**
ASAR	**Alice Springs**	**50.13**	**253**	P	**P**	**11 00 01.2**	**-2.0**
	comp=Z,34nm,0.8s,baz=86,slow=8.6,SNR=150						
ASAR				S	**S**	**11 07 09.8**	**-4.8**
	comp=Z,1.1nm,1.0s,baz=90,slow=14,SNR=5.3						
ASAR				LR	LR	11 18 07.7	
	comp=Z,2µm,19.3s,baz=92,slow=32						
TLE	**Tual**	**54.46**	**275**	P	P	11 00 31.4	-4.1
	comp=Z,98nm,1.3s						
FORT	**Forrest**	**55.13**	**244**	*e*P	**P**	**11 00 38.7**	**-1.5**
	comp=Z,36nm,1.0s						
FORT	**Forrest**	**55.13**	**244**	⇑P	**P**	**11 00 39.3**	**-0.9**
	baz=55						
KNRA	**Kununurra**	**55.90**	**262**	⇑P	**P**	**11 00 43.9**	**-1.9**
	baz=56,SNR=3.5						
FITZ	**Fitzroy Crossi**	**58.43**	**259**	*e*P	**P**	**11 01 02.4**	**-1.3**
FITZ	**Fitzroy Crossi**	**58.43**	**259**	P	**P**	**11 01 02.4**	**-1.3**
	baz=58,SNR=3.8						
FITZ	**Fitzroy Crossi**	**58.43**	**259**	P	**P**	**11 01 01.9**	**-1.8**
	comp=Z,9.6nm,1.3s,baz=108,slow=8.2,SNR=5.2						
FITZ				LR	LR	11 26 13.0	
	comp=Z,3µm,18.2s,baz=99,slow=36						
AAI	**Ambon**	**59.36**	**276**	P	**P**	**11 01 09.9**	**-0.3**
	comp=Z,55nm,1.3s,comp=Z,2µm						
NLAI	**Namlea**	**60.53**	**276**	P	**P**	**11 01 18.7**	**+0.4**
SOEI	**Soe**	**61.45**	**268**	P	**P**	**11 01 24.6**	**-0.1**
	comp=Z,122nm,1.7s,comp=Z,2µm						
SOEI	**Soe**	**61.45**	**268**	⇓P	**P**	**11 01 25.7**	**+1.0**
	baz=61						
SBA	**Scott Base**	**61.48**	**185**	*e*P	**P**	**11 01 25.7**	**+2.0**
SBA				pmax	pmax		
	comp=Z,528nm,3.0s						
SBA	**Scott Base**	**61.48**	**185**	*e*P	**P**	**11 01 25.7**	**+2.0**
	comp=Z,528nm,3.0s						
VNDA	**Vanda**	**61.62**	**186**	*e*P	**P**	**11 01 25.3**	**+0.6**
VNDA	**Vanda**	**61.62**	**186**	P	**P**	**11 01 25.0**	**+0.3**
	comp=Z,7.6nm,1.2s,baz=7.1,slow=8.0,SNR=13						
VNDA				LR	LR	11 24 48.3	
	comp=Z,594nm,18.7s,baz=28,slow=33						
JCJ	**Chichijima**	**62.06**	**314**	LR	LR	11 24 44.8	
	comp=Z,1µm,19.0s,baz=112,slow=32						
MBWA	**Marble Bar**	**63.43**	**255**	*e*P	**P**	**11 01 36.7**	**-1.0**
	comp=Z,88nm,1.6s						
MEEK	**Meekatharra**	**63.68**	**248**	P	**P**	**11 01 39.5**	**+0.2**
	baz=63,SNR=6.3						
KLBR	**Keller

PET	Petropavlovsk	74.20	343	eP		P	11 02 44.0	0.0		
PET				eS		S	11 12 19.8	+3.0		
PET				ePS		PnS	11 12 58.0	+6.7		
PET				pmax	pmax					
	comp=Z,500nm,13.8s									
PET				pmax	pmax					
	comp=Z,52nm,1.6s									
PET				MLR	MLR					
	comp=Z,1μm,19.0s									
PET				MLR	MLR					
	comp=Z,2μm,19.0s									
CWC	Cottonwood Cre	74.27	43	⇓P		P	11 02 44.5	-0.6		
	baz=74									
BELC	Belle Mtn. Jos	74.28	46	⇓P		P	11 02 44.3	-0.8		
	baz=74									
PCJI	Pacitan	74.34	266	P		P	11 02 45.2	-0.5		
	comp=Z,258nm,1.4s									
MPMC	Manual Prospec	74.44	44	⇑P		P	11 02 45.2	-0.9		
	baz=75									
GSC	Goldstone	74.46	45	eP		P	11 02 45.6	-0.5		
GSC				pmax	pmax					
	comp=Z,19nm,1.4s									
GSC	Goldstone	74.46	45	eP		P	11 02 45.6	-0.5		
	comp=Z,19nm,1.4s									
GSC	Goldstone	74.46	45	⇑P		P	11 02 45.4	-0.7		
	baz=75									
BC3	Big Chuckawall	74.47	47	⇓P		P	11 02 45.1	-1.1		
	baz=75									
MLAC	Mammoth Lakes	74.49	42	⇑P		P	11 02 45.5	-0.9		
	baz=75									
MTUM	Tungsten Hills	74.50	42	eP		P	11 02 46.8	+0.4		
HEC	Hector,Ludlow	74.52	45	⇑P		P	11 02 45.3	-1.1		
	baz=75									
PEA0B	Petropavlovsk-	74.55	342	eP		P	11 02 45.4	-0.7		
PETK	Petropavlovsk-	74.55	342	P		P	11 02 45.9	-0.2		
PETK	Petropavlovsk-	74.55	342	P		P	11 02 45.9	-0.2		
PETK	Petropavlovsk-	74.55	342	P		P	11 02 45.9	-0.2		
	comp=Z,19nm,0.9s,baz=125,slow=7.8,SNR=15									
PETK				LR		LR	11 35 56.4			
	comp=Z,508nm,18.4s,baz=157,slow=36									
GLA	Glamis	74.58	48	⇑P		P	11 02 45.5	-1.3		
	baz=75									
WAKR	Walker	74.64	41	eP		P	11 02 47.1	-0.1		
WOJI	Wonogiri, Jawa	74.68	266	P		P	11 02 47.8	+0.1		
	comp=Z,144nm,1.4s									
BEKR	Beckworth	74.90	39	eP		P	11 02 47.8	-0.9		
	comp=Z,20nm,1.8s									
GMRC	Granite Mounta	74.95	46	⇓P		P	11 02 47.8	-1.2		
	baz=75									
IRM	Iron Mountain	74.96	46	⇑P		P	11 02 47.7	-1.2		
	baz=75									
GRAC	Grapevine Rang	75.06	43	⇓P		P	11 02 49.0	-0.5		
	baz=75									
FURC	Furnace Creek,	75.09	44	⇓P		P	11 02 48.9	-0.6		
	baz=75									
TUQ	Turquoise Moun	75.13	45	⇓P		P	11 02 49.1	-0.9		
	baz=75									
Y12C	Blythe	75.17	47	⇑P		P	11 02 49.0	-1.1		
	baz=75									
113A	Mohawk Valley,	75.18	48	⇑P		P	11 02 49.1	-1.1		
	baz=75									
NVAR	Mina Array Bea	75.30	41	P		P	11 02 50.5	-0.5		
NVAR	Mina Array Bea	75.30	41	P		P	11 02 50.5	-0.5		
	comp=Z,5.1nm,0.8s,baz=224,slow=9.4,SNR=28									
NVAR				LR		LR	11 31 34.1			
	comp=Z,2μm,18.1s,baz=292,slow=32									
YSS	Yuzh-Sakhalins	75.37	330	eP		P	11 02 51.4	+0.5		
YSS				e			11 02 58.0			
YSS				e			11 03 07.0			
YSS				eS		S	11 12 28.0	-2.1		
YSS				e			11 13 12.0			
YSS				pmax	pmax					
	comp=Z,80nm,1.1s									
YSS				pmax	pmax					
	comp=Z,1μm,4.0s									
YSS				MLR	MLR					
	comp=Z,700nm,18.0s									
NV11	Mina Array Sit	75.40	41	eP		P	11 02 50.6	-1.0		
PAHR	Pah Rah Range	75.40	40	eP		P	11 02 51.9	+0.4		
	comp=Z,51nm,1.7s									
214A	Organ Pipe Nat	75.44	49	⇑P		P	11 02 51.0	-0.8		
	baz=76									
PDMCI	Parker Dam,Lak	75.73	47	⇑P		P	11 02 52.4	-0.9		
	baz=76									
BJII	Banjamegara	75.97	267	P		P	11 02 56.2	+0.9		
	comp=Z,76nm,2.2s									
Z14A	Wintersburg	76.08	48	⇓P		P	11 02 54.3	-1.0		
	baz=76									
SHPR	Sheep Range	76.24	44	eP		P	11 02 56.4	0.0		
Y14A	Wickenburg	76.34	48	⇓P		P	11 02 56.2	-0.7		
	baz=76									
W13A	Hualapai Mount	76.34	46	⇓P		P	11 02 56.4	-0.7		
	baz=76									
K05A	Summer Lake	76.38	37	eP		P	11 02 56.6	-0.5		
	comp=Z,239nm,2.3s									
SBUM	Sibu	76.43	277	P		P	11 02 59.5	+1.8		
SBUM	Sibu	76.43	277	eP		P	11 02 59.1	+1.4		
TGJI	Tegal	76.66	267	P		P	11 03 00.4	+1.3		
KPJI	Karang Pucung	76.71	266	P		P	11 02 58.4	-1.0		
	comp=Z,70nm,1.2s									
H04A	Detroit Lake	76.92	34	eP		P	11 03 00.1	+0.2		
	comp=Z,39nm,1.5s									
R11A	Troy Canyon, C	77.00	43	eP		P	11 03 00.5	-0.2		
R11A	Troy Canyon, C	77.00	43	⇓P		P	11 02 59.5	-1.2		
	baz=77									
TUC	Tucson	77.10	50	eP		P	11 03 00.5	-0.8		
TUC				pmax	pmax					
	comp=Z,66nm,1.8s									
TUC	Tucson	77.10	50	eP		P	11 03 00.5	-0.8		
	comp=Z,66nm,1.8s									
BMN	Battle Mountai	77.16	40	eP		P	11 03 00.3	-1.2		
BMN				pmax	pmax					
	comp=Z,13nm,1.2s									
BMN	Battle Mountai	77.16	40	eP		P	11 03 00.3	-1.2		
	comp=Z,13nm,1.2s									
WVOR	Wild Horse Val	77.51	38	eP		P	11 03 03.0	-0.4		
WVOR				pmax	pmax					
	comp=Z,19nm,1.3s									
WVOR	Wild Horse Val	77.51	38	eP		P	11 03 03.0	-0.4		
	comp=Z,19nm,1.3s									
X16A	Lo Mia Camp, P	77.69	48	⇑P		P	11 03 04.0	-0.7		
	baz=78									
CISI	Cisompet, Garu	77.72	266	P		P	11 03 06.7	+1.6		
319A	Douglas	77.76	52	⇑P		P	11 03 03.8	-1.2		
	baz=78									
NLWA	Neilton Lookou	77.84	32	eP		P	11 03 04.7	-0.3		
KSRS	Korea Array	77.88	316	P		P	11 03 07.5	+2.2		
	comp=Z,28nm,1.3s,baz=129,slow=5.5,SNR=38									
KSRS				LR		LR	11 31 06.8			
	comp=Z,501nm,21.4s,baz=117,slow=31									
KSAR	Wonju Array Be	77.90	316	P		P	11 03 07.5	+2.1		
KSM	Kuching	77.94	275	P		P	11 03 07.7	+1.4		
KSM	Kuching	77.94	275	eP		P	11 03 07.0	+0.8		
	comp=Z,112nm,1.2s									
KSM	Kuching	77.94	275	P		P	11 03 07.7	+1.4		
	baz=78,SNR=17									
CCUT	Cedar City	78.02	44	eP		P	11 03 06.7	+0.3		
	comp=Z,33nm,1.5s									
I07A	Izee	78.02	36	eP		P	11 03 06.3	+0.2		
	comp=Z,211nm,3.0s									
ARUT	Antelope Range	78.09	44	eP		P	11 03 04.6	-2.2		
ARUT	Antelope Range	78.09	44	eP		P	11 03 04.6	-2.2		
	comp=Z,443nm,1.5s									
LEM	Lembang	78.11	266	P		P	11 03 07.9	+0.5		
	comp=Z,137nm,1.5s,comp=Z,2μm									
G06A	Carlson Farm,	78.12	35	eP		P	11 03 06.5	-0.1		
	comp=Z,231nm,2.4s									
G06A				epP		PcP	11 03 21.7	+5.5		
U15A	North Rim	78.14	46	⇑P		P	11 03 06.9	-0.3		
	baz=78									
J08A	Circle Bar Ran	78.16	37	eP		P	11 03 07.0	+0.1		
	comp=Z,43nm,1.6s									
320A	Kipp Ranch, An	78.30	52	⇓P		P	11 03 07.5	-0.6		
	baz=78									
WUAZ	Wupatki	78.31	47	eP		P	11 03 07.8	-0.2		
	comp=Z,45nm,1.9s									
WUAZ	Wupatki	78.31	47	⇓P		P	11 03 07.8	-0.2		
	baz=78									
LON	Longmire	78.47	33	eP		P	11 03 08.7	+0.2		
LON				pmax	pmax					
	comp=Z,23nm,1.5s									
LON	Longmire	78.47	33	eP		P	11 03 08.7	+0.2		
	comp=Z,23nm,1.5s									
ELK	Elko	78.57	41	eP		P	11 03 09.5	0.0		
	comp=Z,75nm,2.4s									
220A	Playas Peak, P	78.58	51	⇓P		P	11 03 09.0	-0.5		
	baz=79									
D05A	Enumclaw	78.66	33	eP		P	11 03 11.4	+1.9		
	comp=Z,101nm,1.6s									
INCN	Inchon	78.76	315	eP		P	11 03 12.7	+2.4		
	comp=Z,189nm,1.6s									
120A	U Bar Ranch, L	78.80	51	⇓P		P	11 03 10.2	-0.7		
	baz=79									
X18A	Snowflake	78.81	48	⇓P		P	11 03 09.8	-1.1		
	baz=79									
QZH	Quanzhou	78.89	301	⇑iP		P	11 03 10.0	-1.2		
QZH				S		S	11 13 10.0	+0.6		
QZH				AMB	AMB					
	comp=Z,2μm,4.2s									
QZH				LR	LR					
	comp=Z,2μm,33.0s									
DBJI	Dramaga	79.01	267	P		P	11 03 10.4	-1.8		
G08A	Pilot Rock	79.08	35	eP		P	11 03 11.9	-0.1		
Z20A	Nine Sixteen R	79.11	50	⇑P		P	11 03 12.0	-0.5		
	baz=79									
221A	Mesquite Ranch	79.18	52	⇓P		P	11 03 12.7	-0.2		
	baz=79									
USRK	Ussuriysk Arra	79.20	323	P		P	11 03 14.0	+1.5		
	comp=Z,14nm,1.2s,baz=111,slow=4.3,SNR=16									
USRK				LR		LR	11 37 54.1			
	comp=Z,670nm,18.2s,baz=112,slow=36									
MVU	Marysvale	79.29	44	eP		P	11 03 13.5	0.0		
LTY	Liberty	79.39	33	eP		P	11 03 15.3	+1.7		
	comp=Z,133nm,2.7s									
121A	Cookes Peak, D	79.42	51	⇓P		P	11 03 13.5	-0.7		
	baz=80									
HAWA	Hanford	79.45	34	eP		P	11 03 14.0	+0.1		
	comp=Z,42nm,1.6s									
SSE	Sheshan	79.53	307	eP		P	11 03 15.0	+0.4		
SSE				S		S	11 13 16.0	+0.1		
SSE				sS		sS	11 13 23.8	-0.6		
SSE				AMB	AMB					
	comp=Z,14nm,0.8s									
SSE				AMB	AMB					
	comp=Z,110nm,3.5s									
SSE				LR	LR					
	comp=Z,190nm,23.9s									
SSE				LR	LR					
	comp=Z,220nm,23.9s									
SSE				LR	LR					
	comp=Z,340nm,23.9s									
Y20A	Horse Springs,	79.64	50	⇓P		P	11 03 14.9	-0.6		
	baz=80									
BMO	Blue Mountains	79.74	37	eP		P	11 03 14.4	-1.1		
	comp=Z,26nm,1.5s									
MFID	Camas Ranch	79.75	38	⇓P		P	11 03 15.6	-0.1		
	baz=80,SNR=7.2									
DUG	Dugway	79.81	42	eP		P	11 03 16.1	0.0		
DUG				pmax	pmax					
	comp=Z,22nm,1.4s									
DUG	Dugway	79.81	42	eP		P	11 03 16.1	0.0		
	comp=Z,22nm,1.4s									
DUG	Dugway	79.81	42	⇓P		P	11 03 15.8	-0.3		
	baz=80									
X20A	Quemado	79.86	49	⇑P		P	11 03 16.2	-0.4		
	baz=80									
Z21A	St. Cloud Mine	79.88	51	⇓P		P	11 03 16.9	+0.1		
	baz=80									
122A	Conniff Cattle	80.09	51	⇑P		P	11 03 18.0	+0.2		
	baz=80									
W20A	Ramah	80.14	49	⇓P		P	11 03 18.0	-0.2		
	baz=80									
HABR	Khabarovsk	80.20	328	c iP		P	11 03 17.8	0.0		
HABR				e			11 03 24.5			
HABR				e*PP		PcP	11 03 27.9	+2.9		
HABR				e*SP		sP	11 03 31.8	+7.0		
HABR				e			11 06 19.3			
HABR				eS		S	11 13 20.6	-1.6		
HABR				e			11 13 33.1			
HABR				e*SS		SKKSac	11 13 37.6	+0.9		
HABR				eSS		SS	11 18 31.4	-2.3		
HABR				pmax	pmax					
	comp=Z,314nm,1.9s									
HABR				pmax	pmax					
	comp=N,67nm,2.8s									
HABR				pmax	pmax					
	comp=E,94nm,2.8s									
HABR				MLR	MLR					
	comp=Z,291nm,17.0s									
Q16A	Castle Valley	80.20	44	⇑P		P	11 03 18.1	-0.3		
	baz=80									
Y21A	Point of Rocks	80.21	50	⇓P		P	11 03 18.5	0.0		
	baz=80									
E09A	Wood Farm, Sta	80.28	35	eP		P	11 03 18.1	-0.2		
	comp=Z,68nm,1.9s									
X21A	Alamocita Cree	80.33	49	⇓P		P	11 03 18.7	-0.5		
	baz=80									
Z22A	Elephant Butte	80.37	51	⇑P		P	11 03 18.8	-0.6		
	baz=80,SNR=9.9									
F10A	Beach Ranch, E	80.45	36	eP		P	11 03 18.7	-0.7		
	comp=Z,130nm,2.3s									
V20A	Brimhall	80.50	48	⇑P		P	11 03 19.5	-0.5		
	baz=81									
324A	Moseley Ranch,	80.66	53	⇑P		P	11 03 19.9	-1.0		
	baz=81,SNR=7.8									
HLID	Hailey	80.68	39	eP		P	11 03 19.9	-0.9		
	comp=Z,12nm,1.1s									
HLID	Hailey	80.68	39	⇑P		P	11 03 20.3	-0.5		
	baz=81,SNR=17									
Y22A	Socorro	80.69	50	⇓P		P	11 03 20.4	-0.7		
	baz=81									
SRU	San Rafael	80.74	44	eP		P	11 03 21.6	+0.4		
SRU				pmax	pmax					
	comp=Z,18nm,1.3s									
SRU	San Rafael	80.74	44	eP		P	11 03 21.6	+0.4		
	comp=Z,18nm,1.3s									
U20A	Newcomb	80.74	47	⇑P		P	11 03 21.3	0.0		
	baz=81									
425A	Indio Mountain	80.75	54	⇓P		P	11 03 20.7	-0.7		
	baz=81,SNR=12									
LAZ	Ladron	80.78	50	eP		P	11 03 21.2	-0.4		
	comp=Z,23nm,1.9s									
B08A	Colville Reser	80.79	33	eP		P	11 03 20.5	-0.6		
	comp=Z,19nm,1.3s									
MDJ	Mudanjiang	80.84	322	P		P	11 03 22.1	+0.7		
MDJ				pP		pP	11 03 25.3	-1.2		
MDJ				sP		sP	11 03 26.6	-1.7		
MDJ				AMB	AMB					
	comp=Z,34nm,2.0s									
MDJ				AMB	AMB					
	comp=Z,280nm,3.5s									
MDJ				LR	LR					
	comp=Z,400nm,25.1s									
MDJ				LR	LR					
	comp=Z,410nm,27.8s									
MDJ				LR	LR					
	comp=Z,720nm,27.6s									
MDJ	Mudanjiang	80.84	322	eP		P	11 03 22.3	+1.0		
	comp=Z,91nm,1.6s									
MNTX	Cornudas Mount	80.85	53	eP		P	11 03 21.0	-0.7		
	comp=Z,26nm,1.6s									
626A	Big Bend Ranch	80.88	55	⇓P		P	11 03 21.3	-0.7		
	baz=81,SNR=8.8									
224A	Cornudas Mount	80.92	52	⇓P		P	11 03 21.9	-0.4		
	baz=81,SNR=12									
Z23A	Rita Site, Whi	80.92	51	⇑P		P	11 03 22.3	+0.1		
	baz=81									
X22A	Bernardo	80.92	50	⇑P		P	11 03 22.0	-0.3		
	baz=81									
DAU	Daniels Canyon	80.93	43	eP		P	11 03 22.7	+0.3		
DAU	Daniels Canyon	80.93	43	eP		P	11 03 22.7	+0.3		
C09A	Chrisman Ranch	81.00	34	eP		P	11 03 21.2	-1.0		
	comp=Z,44nm,1.6s									
BNM	Barren Site	81.04	50	eP		P	11 03 22.1	-0.9		
	comp=Z,14nm,1.4s									
LPM	Los Pinos Moun	81.11	50	eP		P	11 03 23.2	-0.1		
526A	Mary Lane Ranc	81.13	55	⇑P		P	11 03 22.9	-0.5		
	baz=81,SNR=9.7									
TXAR	Lajitas Array	81.15	56	P		P	11 03 23.9	+0.4		
TXAR	Lajitas Array	81.15	56	P		P	11 03 23.9	+0.4		
	comp=Z,3.3nm,0.9s									
PV05	Paradox Valley	81.17	46	eP		P	11 03 24.1	+0.5		
124A	Stringfield Ra	81.25	52	⇓P		P	11 03 23.5	-0.6		
	baz=81									
Y23A	Lovelace Mesa,	81.36	51	⇓P		P	11 03 24.3	-0.4		
	baz=82									
U21A	Nageezi	81.37	48	⇓P		P	11 03 24.5	-0.2		
	baz=82,SNR=11									
627A	Terlingua Ranc	81.42	56	⇓P		P	11 03 24.5	-0.5		
	baz=82,SNR=11									
426A	McDonald Obser	81.44	54	⇑P		P	11 03 24.4	-0.8		
	baz=82,SNR=7.2									
225A	Deer Hill, Car	81.46	53	⇑P		P	11 03 24.4	-0.8		
	baz=82,SNR=6.9									
ANMO	Albuquerque	81.53	50	eP		P	11 03 24.4	-1.2		
	comp=Z,39nm,1.8s									
527A	Woodward Ranch	81.54	55	⇓P		P	11 03 24.9	-0.8		
	baz=82,SNR=8.5									
S20A	Disappointment	81.56	46	⇑P		P	11 03 25.2	-0.5		
	baz=82									
X23A	Hourglass Bar	81.56	50	⇓P		P	11 03 25.2	-0.5		
	baz=82									
PV01	Paradox Valley	81.57	46	eP		P	11 03 24.9	-0.8		
	comp=Z,2μm,1.5s									
Z24A	Sheeppen Canyo	81.60	51	⇑P		P	11 03 25.4	-0.6		
	baz=82									
V22A	San Miguel Ran	81.66	48	⇑P		P	11 03 25.8	-0.5		
	baz=82									
R20A	Redvale	81.72	46	⇑P		P	11 03 25.8	-0.7		
	baz=82									
PV15	Paradox Valley	81.73	46	eP		P	11 03 26.7	+0.1		
T21A	Navajo Lake	81.73	47	⇑P		P	11 03 26.1	-0.5		
	baz=82									
NJ2	Nanjing	81.74	307	eP		P	11 03 28.1	+1.7		
NJ2				AMB	AMB					
	comp=Z,14nm,0.9s									
326A	Caldwell Ranch	81.76	54	⇓P		P	11 03 26.2	-0.5		
	baz=82									
Y24A	Capitan	81.81	51	⇑P		P	11 03 26.5	-0.5		
	baz=82,SNR=7.7									
628A	Black Gap, Mar	81.83	56	⇑P		P	11 03 26.4	-0.7		
	baz=82,SNR=12									
125A	Gardner Draw,	81.83	52	⇓P		P	11 03 26.1	-1.0		
	baz=82									
GDL2	Guadalupe Moun	81.85	53	eP		P	11 03 27.5	+0.3		
M17A	Scullys Gap (B	81.87	42	⇓P		P	11 03 26.3	-0.9		
	baz=82									
NEW	Newport	81.89	34	eP		P	11 03 27.6	+0.6		
	comp=Z,30nm,1.7s									
NEW	Newport	81.89	34	⇓P		P	11 03 26.7	-0.2		
	baz=82									
U22A	Llaves	81.92	48	⇓P		P	11 03 26.4	-1.2		
	baz=82									
226B	Tecolote Peak,	81.95	53	⇓P		P	11 03 26.9	-0.7		
	baz=82,SNR=15									
427A	Hayter Ranch,	82.00	54	⇑P		P	11 03 27.3	-0.7		
	baz=82,SNR=14									
P19A	Cripple Cowboy	82.03	44	⇑P		P	11 03 27.3	-0.8		
	baz=82									
Z25A	Roswell	82.06	52	⇓P		P	11 03 27.6	-0.7		
	baz=82,SNR=6.1									
V23A	Ortiz Mt. (NFS	82.10	49	⇓P		P	11 03 27.8	-0.7		
	baz=82,SNR=6.6									
X24A	Lazy VL Ranch,	82.11	50	⇓P		P	11 03 27.6	-1.0		
	baz=82									
Q20A	Ridgley Place,	82.16	45	⇑P		P	11 03 27.7	-1.0		
	baz=82,SNR=10.0									
T22A	Edith	82.18	48	⇑P		P	11 03 28.3	-0.7		
	baz=82									
528A	Cox Ranch, San	82.19	55	⇓P		P	11 03 28.0	-1.0		
	baz=82,SNR=11									
PMSA	Palmer Station	82.26	156	LR		LR	11 37 23.3			
	comp=Z,1μm,19.0s,baz=72,slow=34									
O19A	Miners Draw (B	82.27	44	⇑P		P	11 03 28.7	-0.6		
	baz=82									
126A	Clayton Basin,	82.31	53	⇓P		P	11 03 28.7	-0.9		
	baz=82									
MCMT	McKenzie Canyo	82.32	38	eP		P	11 03 29.4	-0.1		
	comp=Z,11nm,1.4s									
TRF	Thorofare Moun	82.32	10	eP		P	11 03 28.8	-0.3		
	comp=Z,116nm,1.8s									
P20A	De Beque	82.36	45	⇓P		P	11 03 29.3	-0.5		
	baz=82,SNR=14									
Y25A	Mesa, Roswell	82.36	51	⇑P		P	11 03 29.0	-0.9		
	baz=82,SNR=8.0									
U23A	El Rito	82.37	48	⇑P		P	11 03 29.5	-0.5		
	baz=82									
KLR	Kul'dur	82.38	327	eP		P	11 03 26.2	-3.2		
KLR				e			11 06 36.5			
KLR				eS		S	11 13 46.0	+1.2		
KLR				pmax	pmax					
	comp=Z,85nm,1.6s									
KLR				pmax	pmax					
	comp=Z,1μm,7.5s									
KLR				smax	smax					
	comp=N,1μm,10.0s									
KLR				smax	smax					
	comp=E,1μm,10.0s									
R21A	Cimarron	82.38	46	⇓P		P	11 03 29.5	-0.5		
	baz=82,SNR=10									
W24A	Lazy 6 Ranch,	82.42	50	⇑P		P	11 03 29.7	-0.5		
	baz=83									
RRI2	Red Ridge	82.44	40	eP		P	11 03 30.4	+0.2		
	comp=E,45nm,1.5s									
428A	Kincaid Ranch,	82.51	55	⇑P		P	11 03 30.3	-0.3		
	baz=83,SNR=8.2									
S22A	4UR Ranch, Cre	82.58	47	⇑P		P	11 03 30.4	-0.8		
	baz=83,SNR=11									
Q21A	Lamborn Mesa,	82.59	46	⇑P		P	11 03 30.9	-0.1		
	baz=83									
Z26A	Caprock	82.61	52	⇑P		P	11 03 30.5	-0.6		
	baz=83,SNR=15									
529A	Stev Forest Ra	82.62	55	⇓P		P	11 03 30.6	-0.6		
	baz=83,SNR=10									
X25A	Clemmons Ranch	82.66	51	⇑P		P	11 03 30.8	-0.6		
	baz=83									
328A	Wristen Ranch,	82.69	54	⇓P		P	11 03 30.6	-0.9		
	baz=83,SNR=5.6									
TPAW	Teton Pass	82.74	40	eP		P	11 03 32.0	+0.2		
	comp=E,24nm,1.3s									
V24A	Rampart Ranch,	82.75	49	⇑P		P	11 03 31.3	-0.7		
	baz=83									
DLMT	Dillon	82.76	38	eP		P	11 03 31.6	0.0		
	comp=E,42nm,1.6s									
O20A	White River Ci	82.77	44	eP		P	11 03 31.5	-0.4		
O20A	White River Ci	82.77	44	⇑P		P	11 03 31.6	-0.4		
	baz=83									
HYT	Haines Junctio	82.79	17	eP		P	11 03 31.9	+0.4

SNY S S 11 13 53.9 +2.1
SNY AMB AMB
comp=Z,56nm,1.7s
SNY AMB AMB
comp=Z,860nm,7.5s
SNY LR LR
comp=Z,460nm,15.7s
SNY LR LR
comp=Z,410nm,17.7s
Q22A Crested Butte, 83.06 46 ⇑P P 11 03 32.6 -1.0
baz=83,SNR=12
429A Davenport Ranc 83.09 55 ⇑P P 11 03 32.2 -1.5
baz=83,SNR=13
LRM Limekiln Ridge 83.10 38 *e*P P 11 03 33.4 -0.2
MENT Mentasta 83.10 13 *e*P P 11 03 30.5 -2.4
N20A Spence Gulch, 83.11 44 ⇓P P 11 03 32.8 -0.9
baz=83,SNR=8.3
W25A X Bar L Ranch, 83.11 50 ⇑P P 11 03 33.0 -0.7
baz=83
SWMT Swartz Lake 83.15 36 *e*P P 11 03 34.4 +0.8
QLMT Earthquake Lak 83.17 39 *e*P P 11 03 34.7 +0.8
228A UT Block 9, Go 83.17 54 ⇑P P 11 03 33.4 -0.7
baz=83
Z27A Tatum 83.21 52 ⇓P P 11 03 33.2 -1.0
baz=83
FLWY Flagg Ranch 83.21 40 *e*P P 11 03 34.7 +0.6
comp=Z,49nm,1.4s
CHMT Chamberlain Mo 83.24 37 *e*P P 11 03 33.6 -0.6
BW06 Boulder Array 83.24 41 *e*P P 11 03 32.8 -1.6
comp=Z,36nm,1.7s
PDAR Pinedale Array 83.24 41 P P 11 03 33.6 -0.8
PDAR Pinedale Array 83.24 41 P P 11 03 33.6 -0.8
comp=Z,6.3nm,1.0s,baz=215,slow=3.3,SNR=25
V25A Rancho No Teng 83.28 49 ⇓P P 11 03 33.8 -0.9
baz=83,SNR=6.8
T24B San Luis 83.28 48 ⇑P P 11 03 34.2 -0.6
baz=83
SLMT Seeley Lake 83.29 36 *e*P P 11 03 33.3 -1.1
X26A CR and CF Fran 83.30 51 ⇓P P 11 03 34.5 -0.3
baz=83
YFT Old Faithful 83.32 40 *e*P P 11 03 35.2 +0.4
comp=Z,17nm,1.1s
530A J-C Ranch, Com 83.33 56 ⇓P P 11 03 34.3 -0.6
baz=83
O21A Pagoda 83.33 44 ⇓P P 11 03 34.8 -0.1
baz=84
YMR Madison River 83.36 39 *e*P P 11 03 35.2 +0.3
comp=Z,61nm,1.5s
329A Wagon Wheel Ra 83.38 54 ⇑P P 11 03 34.0 -1.1
baz=84,SNR=5.7
H17A Grant Village 83.45 40 *e*P P 11 03 36.1 +0.7
H17A Grant Village 83.45 40 ⇓P P 11 03 35.5 +0.1
baz=84
128A Castleberry Fa 83.46 53 ⇑P P 11 03 34.5 -1.0
baz=84,SNR=7.5
M20A Sweetwater, Wa 83.48 43 ⇑P P 11 03 35.1 -0.5
baz=84
Y27A Causey 83.49 52 ⇓P P 11 03 34.4 -1.3
baz=84,SNR=6.4
R23A Moffat 83.49 47 ⇓P P 11 03 35.7 -0.1
baz=84
P22A Eagle 83.51 45 ⇓P P 11 03 34.8 -1.0
baz=84
SDCO Great Sand Dun 83.51 47 *e*P P 11 03 35.1 -0.8
comp=Z,24nm,1.8s
W26A Owens Ranch, T 83.57 50 ⇑P P 11 03 35.6 -0.5
baz=84
631A Perdido Creek 83.64 57 ⇑P P 11 03 35.9 -0.5
baz=84
L20A Wamsutter 83.64 43 ⇓P P 11 03 36.1 -0.3
baz=84
LKWY Lake 83.65 40 *e*P P 11 03 37.0 +0.5
LKWY Lake 83.65 40 *e*P P 11 03 37.0 +0.5
S24A Houchin Ranch, 83.67 48 ⇑P P 11 03 35.8 -1.0
baz=84,SNR=7.7
430A Baggett Ranch, 83.67 55 ⇑P P 11 03 35.9 -0.7
baz=84
U25A Circle Dot Ran 83.68 49 ⇑P P 11 03 35.5 -1.3
baz=84,SNR=6.1
K19A Absolon Red Bu 83.72 42 ⇑P P 11 03 36.1 -0.7
baz=84
J19A Crowheart 83.81 41 ⇑P P 11 03 36.2 -1.0
baz=84,SNR=10.0
Q23A Hartsel 83.82 46 ⇑P P 11 03 37.0 -0.5
baz=84
MSTX Muleshoe 83.82 52 ⇑P P 11 03 36.1 -1.3
baz=84,SNR=7.3
Z28A Tucker Farm, M 83.82 53 ⇓P P 11 03 36.4 -1.0
baz=84,SNR=7.0
732A Laxson Ranch, 83.85 58 ⇓P P 11 03 37.0 -0.5
baz=84
V26A Tequesquite Ra 83.86 50 ⇑P P 11 03 37.0 -0.6
baz=84
X27A F and S Farms, 83.87 51 ⇑P P 11 03 36.9 -0.8
baz=84
O22A Kremmling 83.92 45 ⇑P P 11 03 36.9 -1.1
baz=84,SNR=12
129A Stewart Farms, 83.94 53 ⇓P P 11 03 37.3 -0.7
baz=84
HRY Holter Researc 83.94 37 *e*P P 11 03 37.1 -0.7
531A Rocksprings 83.96 56 ⇑P P 11 03 37.4 -0.8
baz=84
330A Mertzon 83.97 55 ⇓P P 11 03 37.2 -1.0
baz=84
T25A Trinidad 84.01 48 ⇓P P 11 03 37.9 -0.5
baz=84
R24A Sanders Place, 84.01 47 ⇓P P 11 03 38.1 -0.3
baz=84
COLA College 84.05 10 *e*P P 11 03 37.1 -0.5
COLA pmax pmax
comp=Z,45nm,1.1s
COLA College 84.05 10 *e*P P 11 03 37.1 -0.5
comp=Z,45nm,1.1s
USHA Ushuaia 84.07 146 LR LR 11 31 45.6
comp=Z,1µm,19.6s,baz=229,slow=29
W27A Bowe Ranch, En 84.07 51 ⇑P P 11 03 37.6 -1.1
baz=84,SNR=6.7
M21A Separation Pea 84.08 43 ⇑P P 11 03 37.5 -1.2
baz=84,SNR=6.2
WALA Waterton Lakes 84.08 34 *e*P P 11 03 37.8 -0.6
comp=Z,1.2nm,1.6s
431A Sonora 84.12 56 ⇑P P 11 03 37.7 -1.2
baz=84
ILAR Eielson Array 84.13 11 P P 11 03 37.0 -1.1
ILAR Eielson Array 84.13 11 P P 11 03 37.0 -1.1
comp=Z,2.4nm,0.7s,baz=207,slow=5.2,SNR=19
ILAR LR LR 11 36 43.6
comp=Z,882nm,18.4s,baz=26,slow=33
QIZ Qiongzhong 84.14 292 P P 11 03 38.1 -1.1
QIZ S S 11 14 05.1 +1.2
QIZ sS sS 11 14 10.9 -1.5
QIZ AMB AMB
comp=Z,600nm,9.9s
QIZ LR LR
comp=Z,870nm,27.7s
H18A Shoshone NF, C 84.16 40 ⇓P P 11 03 38.8 -0.2
baz=84
U26A Atchley Ranch, 84.16 49 ⇓P P 11 03 38.0 -1.2
baz=84,SNR=6.7
Y28A McKinney Farm, 84.19 52 ⇑P P 11 03 38.5 -0.8
baz=84
IM04 Indian Mountai 84.19 8 *e*P P 11 03 38.0 -0.4
MYKOM Kota Tinggi 84.19 274 P P 11 03 42.1 +2.5
RWWY Rawlins 84.22 43 *e*P P 11 03 40.1 +0.7
comp=Z,194nm,2.4s
S25A Robets Cordova 84.23 48 ⇑P P 11 03 39.0 -0.5
baz=84
I19A Meeteetse 84.24 41 ⇑P P 11 03 38.4 -1.0
baz=84,SNR=6.5
L21A Rawlins 84.24 43 ⇑P P 11 03 39.0 -0.5
baz=84
N22A Wattenberg Ran 84.29 44 ⇑P P 11 03 39.4 -0.4
baz=84
IMA2 Indian Mountai 84.30 8 *e*P P 11 03 38.5 -0.5
632A Uvalde 84.30 57 ⇑P P 11 03 39.6 -0.3
baz=84
Q24A Divide 84.32 46 ⇓P P 11 03 39.8 -0.3
baz=84
Z29A Hungry Hill Ra 84.33 53 ⇑P P 11 03 39.2 -0.8
baz=84
O23A Lake Granby, G 84.37 45 ⇑P P 11 03 39.7 -0.6
baz=84
ISCO Idaho Springs 84.39 46 *e*P P 11 03 40.6 +0.2
ISCO pmax pmax
comp=Z,64nm,2.4s
ISCO Idaho Springs 84.39 46 *e*P P 11 03 40.6 +0.2
comp=Z,64nm,2.4s

ISCO Idaho Springs 84.39 46 ⇓P P 11 03 40.4 0.0
baz=84
SEY Seymchan 84.44 345 ⇑*e*P P 11 03 38.8 -0.9
532A Rocksprings 84.45 56 ⇑P P 11 03 39.8 -0.8
baz=85
J20A Shoshoni 84.47 41 ⇓P P 11 03 40.2 -0.3
baz=85
M22A Cedar Creek Ra 84.48 44 ⇑P P 11 03 40.4 -0.4
baz=85
X28A Dimmitt 84.48 51 ⇓P P 11 03 40.1 -0.7
baz=85
331A San Angelo 84.52 55 ⇑P P 11 03 40.2 -0.7
baz=85
R25A Fountain Ranch 84.55 47 ⇓P P 11 03 40.3 -0.8
baz=85
H19A Powell 84.57 40 ⇓P P 11 03 41.0 0.0
baz=85
Y29A Porterfield Fa 84.60 52 ⇑P P 11 03 40.8 -0.5
baz=85
T26A Comanche Natio 84.61 49 ⇓P P 11 03 40.7 -0.8
baz=85
WHN Wuhan 84.61 304 ⇓P P 11 03 43.3 +2.0
WHN S S 11 14 12.8 +4.6
WHN LR LR
comp=Z,990nm,18.8s
130A Snyder 84.62 54 ⇓P P 11 03 40.5 -0.9
baz=85
K21A Alcova 84.65 42 ⇑P P 11 03 41.0 -0.5
baz=85
N23A Red Feather La 84.67 44 ⇓P P 11 03 41.2 -0.6
baz=85
JCT Junction City 84.68 56 *e*P P 11 03 41.1 -0.6
JCT Junction City 84.68 56 *e*P P 11 03 41.1 -0.6
JCT Junction City 84.68 56 ⇑P P 11 03 40.8 -0.9
baz=85
I20A Worland 84.74 41 ⇓P P 11 03 41.6 -0.2
baz=85
KGM Kluang 84.77 274 P P 11 03 44.6 +2.0
Z30A Samerson Ranc 84.78 53 ⇑P P 11 03 41.5 -0.7
baz=85
X29A Tulia 84.83 52 ⇓P P 11 03 41.7 -0.8
baz=85
U27A Thompson Grove 84.84 50 ⇑P P 11 03 41.5 -1.0
baz=85
432A Menard 84.84 56 ⇓P P 11 03 41.8 -0.8
baz=85
TIA Tai'an 84.84 310 ⇑P P 11 03 43.2 +0.8
TIA S S 11 14 07.4 -2.9
TIA AMB AMB
comp=Z,40nm,1.3s
TIA AMB AMB
comp=Z,960nm,4.3s
TIA LR LR
comp=Z,460nm,20.1s
TIA LR LR
comp=Z,530nm,20.1s
TIA LR LR
comp=Z,680nm,17.6s
231A Bronte 84.85 54 ⇓P P 11 03 41.6 -1.0
baz=85
J21A Lysite 84.87 42 ⇓P P 11 03 41.9 -0.7
baz=85,SNR=7.1
L22A Ellis Ranch, M 84.89 43 ⇑P P 11 03 42.5 -0.2
baz=85
S26A Kim 84.89 48 ⇑P P 11 03 42.2 -0.6
baz=85
O24A Longmont 84.90 45 ⇓P P 11 03 43.1 +0.3
baz=85
DAWY Dawson 85.05 14 *e*P P 11 03 42.7 -0.1
332A Millersview 85.08 55 ⇓P P 11 03 42.9 -0.9
baz=85
M23A Laramie 85.09 44 ⇑P P 11 03 43.4 -0.4
baz=85
131A Roby 85.09 54 ⇑P P 11 03 42.6 -1.2
baz=85
K22A Casper 85.12 43 ⇑P P 11 03 43.2 -0.6
baz=85
W29A Amraillo 85.15 51 ⇓P P 11 03 43.6 -0.5
baz=85
T27A Campo 85.19 49 ⇓P P 11 03 44.0 -0.2
baz=85
F19A Roth Farm, Mol 85.19 39 ⇑P P 11 03 43.8 -0.3
baz=85
I21A Big Trails, Te 85.19 41 ⇑P P 11 03 43.7 -0.4
baz=85
Y30A Strd Cattl 85.20 53 ⇑P P 11 03 43.5 -0.8
baz=85
R26A Arlington 85.21 48 ⇓P P 11 03 43.1 -1.3
baz=85,SNR=7.9
P25A Willow Gulch B 85.25 46 ⇑P P 11 03 44.5 0.0
baz=85
U28A Mallet 85.25 50 ⇑P P 11 03 44.2 -0.4
baz=85
EGAK Eagle 85.27 13 *e*P P 11 03 42.7 -1.1
comp=Z,43nm,1.5s
232A Coleman 85.36 55 ⇑P P 11 03 44.6 -0.5
baz=86
L23A Garrett 85.41 43 ⇑P P 11 03 44.9 -0.5
baz=86
Q26A Hugo 85.43 47 ⇑P P 11 03 45.2 -0.3
baz=86
X30A Coker Ranch, T 85.45 52 ⇓P P 11 03 45.1 -0.4
baz=86
J22A Midwest 85.52 42 ⇓P P 11 03 45.6 -0.2
baz=86
Z31A Sharp Cattle R 85.54 53 ⇑P P 11 03 45.3 -0.7
baz=86
V29A Stinnett 85.56 50 ⇑P P 11 03 45.6 -0.5
baz=86
E19A Rath Farm, Rou 85.60 39 ⇓P P 11 03 45.9 -0.1
baz=86
F20A Billings 85.65 39 ⇓P P 11 03 46.1 -0.2
baz=86
ABTX Abilene, Hawle 85.65 54 *e*P P 11 03 45.7 -0.8
ABTX Abilene, Hawle 85.65 54 ⇑P P 11 03 45.9 -0.7
baz=86
T28A Walsh 85.65 49 ⇓P P 11 03 46.0 -0.6
baz=86
R27A Eads 85.66 48 ⇑P P 11 03 45.9 -0.7
baz=86
M24A Cheyenne 85.69 44 ⇑P P 11 03 46.5 -0.2
baz=86
Y31A Rekieta Farm, 85.71 53 ⇓P P 11 03 46.4 -0.4
baz=86
I22A 9 Mile Ranch, 85.75 42 ⇓P P 11 03 46.5 -0.4
baz=86
K23A Bowen Ranch, D 85.76 43 ⇓P P 11 03 46.7 -0.3
baz=86
EGMT Eagleton 85.84 37 *e*P P 11 03 48.4 +1.2
comp=Z,75nm,2.0s
EGMT Eagleton 85.84 37 ⇑P P 11 03 47.5 +0.3
baz=86
COLD Coldfoot 85.86 9 *e*P P 11 03 47.3 +0.6
comp=Z,80nm,1.9s
D19A Cripps Ranch, 85.90 38 ⇑P P 11 03 47.3 -0.2
baz=86
KTGM Kuala Trenggan 85.93 277 P P 11 03 47.9 -0.4
E20A Meyer Farm, Mu 86.01 39 ⇓P P 11 03 48.1 0.0
baz=86
Z32A Haskell 86.05 54 ⇓P P 11 03 48.3 -0.2
baz=86
C19A Slack Wire Ran 86.09 37 ⇑P P 11 03 48.4 -0.1
baz=86
KSCO Kaye Shedlock' 86.10 47 ⇓P P 11 03 48.3 -0.4
baz=86
O26A Horse Wrangler 86.16 46 ⇑P P 11 03 48.2 -0.9
baz=86
H22A Clearmont 86.17 41 ⇓P P 11 03 48.8 -0.1
baz=86
X31A McDonald Ranch 86.20 52 ⇑P P 11 03 48.7 -0.5
baz=86
MAW Mawson 86.25 198 *e*P P 11 03 49.2 +0.4
comp=Z,8.9nm,1.4s
MAW Mawson 86.25 198 P P 11 03 49.5 +0.6
baz=86,SNR=17
MAW Mawson 86.25 198 P P 11 03 49.3 +0.4
comp=Z,18nm,1.1s,baz=104,slow=6.1,SNR=9.1
MAW LR LR 11 41 55.1
comp=Z,2µm,18.0s,baz=112,slow=35
D20A Manuel Ranch, 86.30 38 ⇑P P 11 03 49.4 -0.1
baz=86
Y32A R-V Farms, Ver 86.35 53 ⇑P P 11 03 49.2 -0.8
baz=86
P27A Ficken Ranch, 86.37 47 ⇑P P 11 03 49.5 -0.5
baz=86
R28A Tribune 86.39 48 ⇑P P 11 03 49.9 -0.3
baz=86
W31A Holland Ranch, 86.45 52 ⇓P P 11 03 50.1 -0.4
baz=87

B19A Brinkman Farms 86.52 37 ⇑P P 11 03 50.1 -0.4
baz=87
C20A Veseth Ranch, 86.69 38 ⇑P P 11 03 51.3 -0.1
baz=87
EDM Edmonton 86.74 31 *e*P P 11 03 50.5 -0.9
EDM Edmonton 86.74 31 *e*P P 11 03 50.5 -0.9
FRIM Kepong 86.74 274 P P 11 03 54.7 +2.4
V31A Spring Creek L 86.76 51 ⇓P P 11 03 52.2 +0.2
baz=87
A19A Klindworth Far 86.88 36 ⇓P P 11 03 52.0 -0.3
baz=87
WHTX Lake Whitney 87.11 55 *e*P P 11 03 52.6 -1.1
WHTX Lake Whitney 87.11 55 ⇑P P 11 03 53.2 -0.5
baz=87
BJT Baijiatuau 87.15 313 *e*P P 11 03 54.6 +0.9
comp=Z,211nm,1.5s
BJI Beijing 87.16 313 P P 11 03 54.7 +1.0
BJI PP PP 11 07 16.2 -1.6
BJI S S 11 14 25.8 -7.0
BJI SS SS 11 20 11.6 -5.4
BJI AMB AMB
comp=Z,78nm,1.4s
BJI AMB AMB
comp=Z,980nm,3.9s
BJI LR LR
comp=Z,380nm,17.2s
BJI LR LR
comp=Z,580nm,17.9s
BJI LR LR
comp=Z,380nm,23.3s
C21A Desert Coulee 87.28 38 ⇑P P 11 03 53.5 -0.7
baz=87
H24A Dirks Ranch, A 87.37 41 ⇑P P 11 03 53.9 -0.9
baz=88
T31A Randall Ranch, 87.41 50 ⇓P P 11 03 54.3 -0.8
baz=88
RSSD Black Hills 87.42 42 *e*P P 11 03 53.8 -1.4
RSSD pmax pmax
comp=Z,23nm,1.2s
RSSD Black Hills 87.42 42 *e*P P 11 03 53.8 -1.4
comp=Z,23nm,1.2s
R30A Dighton 87.46 49 ⇑P P 11 03 54.3 -1.1
baz=88
I25A Rochford 87.56 42 ⇓P P 11 03 54.9 -1.0
baz=88
HKT Hockley 87.65 58 *e*P P 11 03 56.9 +0.6
HKT pmax pmax
comp=Z,103nm,2.2s
HKT Hockley 87.65 58 *e*P P 11 03 56.9 +0.6
comp=Z,103nm,2.2s
IPM Ipoh 87.68 275 P P 11 03 59.3 +2.4
IPM Ipoh 87.68 275 P P 11 03 57.2 +0.3
IPM Ipoh 87.68 275 *e*P P 11 03 56.9 0.0
comp=Z,70nm,1.3s
PLCA Paso Flores 87.84 132 *e*P P 11 03 57.1 -0.2
comp=Z,66nm,1.8s
PLCA Paso Flores 87.84 132 P P 11 03 57.1 -0.2
comp=Z,5.5nm,0.8s,baz=240,slow=5.4,SNR=11
PLCA LR LR 11 38 35.4
comp=Z,1µm,18.0s,baz=317,slow=32
KULM Kulim 88.28 276 P P 11 04 02.8 +3.1
ENH Enshi 88.40 302 *e*P P 11 04 00.1 +0.2
comp=Z,109nm,1.6s
SKLT Songkhla 88.87 278 P P 11 04 04.2 +1.7
SKLT Songkhla 88.87 278 P P 11 04 06.3 +3.8
comp=Z,69nm,1.5s,comp=Z,1µm
HIA Hailar 89.01 323 *e*P P 11 04 03.0 +0.6
comp=Z,68nm,1.5s
PSI Prapat 89.19 273 P P 11 04 04.9 +0.7
baz=89,SNR=12
GYA Guiyang 89.42 298 ⇑*i*P P 11 04 06.4 +1.4
GYA PP PP 11 07 39.8 +3.4
GYA SKS SKSac 11 14 34.2 -0.9
GYA S S 11 14 55.0 -0.2
GYA AMB AMB
comp=Z,30nm,1.0s
GYA AMB AMB
comp=Z,140nm,6.7s
GYA LR LR
comp=Z,690nm,21.0s
GYA LR LR
comp=Z,550nm,22.4s
GYA LR LR
comp=Z,670nm,20.9s
INK Inuvik 89.91 14 *e*P P 11 04 05.3 -0.7
INK Inuvik 89.91 14 P P 11 04 04.7 -1.3
comp=Z,3.4nm,0.9s,baz=186,slow=7.7,SNR=5.5
CLNS Chul'man 90.12 331 *e*P P 11 04 07.8 +0.4
CLNS *e**PP pP 11 04 17.5 +4.9
CLNS *e* 11 07 37.9
CLNS *e*PPP PPP 11 09 38.4
CLNS *e*S SKSac 11 14 34.9 -2.8
CLNS *e* 11 16 00.3
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS pmax pmax
comp=Z,21nm,1.4s
CLNS pmax pmax
comp=N,12nm,1.2s
CLNS pmax pmax
comp=E,3.0nm,0.8s
CLNS pmax pmax
comp=Z,2.0nm,0.9s
CLNS pmax pmax
comp=N,8.0nm,1.2s
CLNS smax smax
comp=N,394nm,11.8s
CLNS smax smax
comp=E,347nm,10.3s
CLNS MLR MLR
comp=Z,419nm,17.0s
CLNS MLR MLR
comp=N,278nm,16.0s
CLNS MLR MLR
comp=E,337nm,17.0s
XAN Xi'an 90.18 306 P P 11 04 09.5 +1.2
XAN pP pP 11 04 20.0 +6.6
XAN AMB AMB
comp=E,12nm,1.7s
KCSI Kotacane, Aceh 90.50 274 P P 11 04 10.8 +0.6
HHC Hu-ho-hao-te 90.70 313 *e*P P 11 04 10.0 -0.6
HHC pP pP 11 04 14.8 -1.0
HHC sP sP 11 04 17.0 -0.6
HHC PP PP 11 07 48.1 +1.8
HHC SKS SKSac 11 14 39.4 -2.6
HHC S S 11 15 03.6 -2.8
HHC sS ScS 11 15 11.6 +1.7
HHC AMB AMB
comp=E,30nm,1.0s
HHC AMB AMB
comp=E,1µm,5.1s
HHC LR LR
comp=E,430nm,16.9s
HHC LR LR
comp=E,520nm,16.3s
HHC LR LR
comp=E,760nm,17.6s
SYO Syowa Base 90.92 191 ⇓*e*P P 11 04 09.6 -1.4
SYO Syowa Base 90.92 191 ⇑*e*PcP P 11 04 10.6 -0.4
JTS JuntasAbangare 90.96 80 *e*P P 11 04 12.7 +0.4
comp=E,1µm,2.1s
JTS JuntasAbangare 90.96 80 LR LR 11 37 05.9
comp=E,1µm,18.1s,baz=258,slow=30
SNAA Sanae 91.05 177 *e*P P 11 04 11.2 -0.5
SNAA Sanae 91.05 177 *e*P P 11 04 10.6 -1.0
comp=E,19nm,1.2s
SNAA Sanae 91.05 177 LR LR 11 44 39.5
comp=E,473nm,18.3s,baz=202,slow=35
VNA2 Neumayer--Watz 91.48 175 *e*P P 11 04 13.8 +0.2
baz=194,slow=3.4
YKA Yellowknife Ar 91.54 23 P P 11 04 13.9 +0.1
YKA Yellowknife Ar 91.54 23 P P 11 04 13.9 +0.1
comp=E,2.0nm,0.9s,baz=225,slow=4.0,SNR=5.0
VNA1 Neumayer--Stat 91.68 175 *e*P P 11 04 16.1 +1.6
ATAH Atahualpa 92.08 98 LR LR 11 37 08.5
comp=E,987nm,19.1s,baz=220,slow=30
ECSD EROS Data Cent 92.14 45 *e*P P 11 04 16.6 -0.5
comp=E,30nm,1.8s
MAIT Maitri 92.16 181 *e*P P 11 04 15.2 -1.5
KMI Kunming 92.35 295 P P 11 04 21.0 +2.3
KMI pP pP 11 04 25.1 +1.2
KMI sP sP 11 04 27.1 +1.4
KMI SKS SKSac 11 14 53.1 +0.9
KMI S S 11 15 21.8 -0.4
KMI sS sS 11 15 28.7 -2.1

KMI AMB AMB
comp=E,32nm,1.7s
KMI AMB AMB
comp=E,570nm,4.4s
KMI LR LR
comp=E,330nm,15.9s
KMI LR LR
comp=E,420nm,17.9s
KMI LR LR
comp=E,500nm,17.2s
UTHA Uthaitani 92.45 285 P **P** **11 04 22.2 +3.1**
comp=E,7.5nm,1.2s
SUKH Sukhothai 92.84 287 P **P** **11 04 24.0 +3.2**
comp=E,5.9nm,1.0s,comp=E,71nm
CFAA Coronel Fontan 92.93 124 LR LR 11 37 30.4
comp=E,119nm,19.3s,baz=312,slow=30
CD2 Chengdu 93.27 301 P **P** **11 04 23.5 +0.9**
CD2 pP **pP** **11 04 28.3 +0.5**
CD2 sP **sP** **11 04 30.5 +0.9**
CD2 PP **PP** **11 08 10.3 +3.6**
CD2 SKS **SKSac** **11 14 56.3 -0.4**
CD2 S **S** **11 15 28.3 -1.5**
CD2 sS **sS** **11 15 35.9 -2.5**
CD2 AMB AMB
comp=E,20nm,1.3s
CD2 AMB AMB
comp=E,490nm,8.8s
CD2 LR LR
comp=E,530nm,8.3s
CD2 LR LR
comp=E,720nm,17.8s
CMAR Chiang Mai Arr 93.75 288 P **P** **11 04 26.6 +1.5**
CMAR Chiang Mai Arr 93.75 288 P **P** **11 04 26.6 +1.5**
comp=E,6.3nm,1.0s,baz=101,slow=3.0,SNR=8.4
CMAR LR LR 11 41 29.5
comp=E,597nm,20.9s,baz=130,slow=32
CIT Chita 93.76 324 *e*P **P** **11 04 25.9 +1.5**
CIT *e* 11 04 40.7
CHTO Chiang Mai 93.85 288 *e*P **P** **11 04 27.2 +1.7**
CHTO pmax pmax
comp=Z,138nm,1.5s
CHTO Chiang Mai 93.85 288 P **P** **11 04 26.8 +1.3**
comp=Z,88nm,1.8s
CHTO Chiang Mai 93.85 288 *e*P **P** **11 04 27.2 +1.7**
comp=Z,138nm,1.5s
CHTO Chiang Mai 93.85 288 P **P** **11 04 28.0 +2.5**
comp=Z,116nm,2.0s
CMAI Chiengmai2 94.08 289 P **P** **11 04 29.9 +3.1**
comp=Z,50nm,1.0s
LZH Lanzhou 94.78 306 *e*P **P** **11 04 32.1 +2.5**
LZH pP **pP** **11 04 35.9 +1.1**
LZH sP **sP** **11 04 38.0 +1.4**
LZH PP **PP** **11 08 22.3 +3.7**
LZH SKS **SKSac** **11 15 06.2 +1.2**
LZH *e*S **S** **11 15 40.2 -2.9**
LZH sS **sS** **11 15 50.0 -1.7**
LZH AMB AMB
comp=Z,71nm,1.3s
LZH AMB AMB
comp=Z,280nm,4.5s
LZH LR LR
comp=Z,480nm,17.1s
LZH LR LR
comp=Z,490nm,16.6s
LZH LR LR
comp=Z,630nm,18.6s
ULM Lac du Bonnet 94.98 39 LR LR 11 44 02.0
comp=Z,2µm,18.2s,baz=258,slow=33
SONM Songino Array 96.60 318 P **P** **11 04 38.6 +1.0**
SONM Songino Array 96.60 318 P **P** **11 04 38.6 +1.0**
comp=Z,1.0nm,0.9s,baz=110,slow=8.7,SNR=4.2
SONM LR LR 11 49 47.1
comp=Z,412nm,18.4s,baz=85,slow=36
LPAZ La Paz 98.63 110 LR LR 11 41 14.6
comp=Z,421nm,18.3s,baz=251,slow=30
GTA Gaotai 98.78 308 *e*P Pdif 11 04 49.1 +1.4
GTA pP pP 11 04 53.9 +1.1
GTA sP sP 11 04 56.6 +1.9
GTA AMB AMB
comp=Z,9.0nm,1.1s
GTA AMB AMB
comp=Z,230nm,6.2s
GTA LR LR
comp=Z,410nm,18.0s
GTA LR LR
comp=Z,430nm,21.1s
GTA LR LR
comp=Z,620nm,22.8s
ZAK Zakamensk 99.30 320 *e*P **Pdif** **11 04 45.9 -3.8**
ZAK pmax pmax
comp=Z,2.0nm,1.5s
ROSC El Rosal 99.48 88 LR LR 11 39 36.8
comp=Z,174nm,19.3s,baz=190,slow=29
WMQ Urumqi 108.52 311 *e*Pdif **Pdif** **11 05 31.5 +0.7**
WMQ PP **PP** **11 10 05.8 +4.0**
WMQ S **Sdif** **11 17 33.4 -4.9**
WMQ SS **SS** **11 25 14.6 -3.1**
WMQ PPMZ
comp=Z,260nm,8.8s
WMQ LR LR
comp=Z,250nm,22.6s
WMQ LR LR
comp=Z,180nm,24.8s
WMQ LR LR
comp=Z,310nm,22.2s
MKAR Makanchi Array 112.53 314 PKiKP **PKiKP** **11 09 43.5 -0.4**
MKAR Makanchi Array 112.53 314 PKiKP **PKiKP** **11 09 43.5 -0.4**
comp=Z,0.7nm,0.6s,baz=88,slow=1.6,SNR=6.9
KURK Kurchatov 114.91 318 PKIKP PKPdf 11 09 48.7 +0.5
KURK Kurchatov 114.91 318 PKiKP PKPdf 11 09 48.6 +0.4
KURBB Kurchatov Arra 114.97 318 PKiKP PKPdf 11 09 48.6 +0.3
comp=Z,0.5nm,0.3s,baz=97,slow=1.6,SNR=3.5
BRVK Borovoye 119.75 322 *i*PKIKP **PKPdf** **11 09 58.2 +0.7**
BRVK pmax pmax
comp=Z,9.0nm,1.7s
KBL Kabul 122.60 300 *e*PKIKP **PKPdf** **11 10 04.7 +0.8**
KBL Kabul 122.60 300 *e*PKPdf **PKPdf** **11 10 04.7 +0.8**
SOKR Solikamsk 124.67 332 *i*PKIKP **PKPdf** **11 10 06.0 -0.7**
SOKR pmax pmax
comp=Z,10.0nm,0.9s
ARU Arti 125.21 328 *i*PKIKP **PKPdf** **11 10 08.6 +0.7**
ARU 11 11 58.2
ARU SS SS 11 28 52.6 -1.3
ARCES ARCESS Array B 126.50 352 PKP **PKPdf** **11 10 10.7 +0.6**
ARCES ARCESS Array B 126.50 352 PKP **PKPdf** **11 10 10.7 +0.6**
comp=Z,2.4nm,0.8s,baz=20,slow=3.9,SNR=4.3
APA Apatity 126.95 348 ⇑*i*PKIKP PKPdf 11 10 16.6 +5.7
ABKAR Akbulak array 126.99 319 *e*PKPdf **PKPdf** **11 10 11.5 -0.1**
KLMR Klimovskoe 130.71 340 *e*PKIKP **PKPdf** **11 10 17.0 -1.2**
KLMR pmax pmax
comp=Z,43nm,2.0s
OBN Obninsk 136.03 336 ⇑*i*PKIKP **PKPdf** **11 10 26.3 -2.1**
OBN *e* 11 13 04.5
OBN *e* 11 17 38.1
OBN *e*PS PS 11 23 18.9 -13
OBN pmax pmax
comp=Z,9.0nm,0.5s
MAK Makhachkala 137.32 316 PKIKP **PKPdf** **11 10 30.5 -0.7**
MAK *e*SP SP 11 23 30.8 -10
MAK *e*PS **PS** **11 23 41.7 -1.9**
MAK pmax pmax
comp=Z,61nm,4.4s
KIV Kislovodsk 139.98 319 *i*PKIKP **PKPdf** **11 10 40.8 +4.6**
KIV *e* 11 13 35.6
KIV *e*SS SS 11 31 55.1 +1.0
KIV *e*SSS SSS 11 37 08.3
KIV pmax pmax
comp=Z,5.0nm,0.9s
KIV MLR MLR
comp=Z,426nm,21.0s
AKASG Malin Array Be 142.26 337 PKHKP PKPpre 11 10 35.5
AKASG Malin Array Be 142.26 337 PKPpre PKPpre 11 10 35.5
AKASG Malin Array Be 142.26 337 PKhKP PKPpre 11 10 35.5
comp=Z,0.6nm,0.5s,baz=35,slow=3.6,SNR=3.7
KBSD Kabsdagh 144.66 310 *e*P **PKPab** **11 10 38.8 -4.5**
LVV L'vov 144.78 341 *e*PKIKP **PKPab** **11 10 43.3 0.0**
LVV *e* 11 10 53.7
SFNV Sufian 145.22 310 *e*P **PKPdf** **11 10 46.4 +0.7**
KMBO Kilima Mbogo 145.22 241 PKPbc **PKPdf** **11 10 47.8 +1.2**
KMBO Kilima Mbogo 145.22 241 PKPbc **PKPdf** **11 10 47.8 +1.2**
comp=Z,37nm,1.2s,baz=93,slow=3.1,SNR=47
KWP Kalwaria Pacla 145.35 342 ⇑PKIKP **PKPdf** **11 10 45.7 +0.3**
KWP Kalwaria Pacla 145.35 342 ⇑*i*P **PKPdf** **11 10 45.7 +0.3**
KWP Kalwaria Pacla 145.35 342 *e*PKPbc **PKPdf** **11 10 45.7 +0.3**
KWP Kalwaria Pacla 145.35 342 *e*PKP **PKPdf** **11 10 45.6 +0.2**

KIS Kishinev 145.38 334 *e*PKP **PKPbc** **11 10 45.0 -0.4**
KIS LRM MLR 12 14 24.0
comp=Z,400nm,22.0s
KIS Kishinev 145.38 334 *e*PKIKP **PKPbc** **11 10 45.0 -0.4**
KIS MLR MLR
comp=Z,600nm,20.0s
KIS MLR MLR
comp=Z,400nm,22.0s
MALT Malatya 145.57 314 ⇑PKIKP **PKPab** **11 10 48.1 +1.4**
MALT Malatya 145.57 314 ⇑*i*P **PKPab** **11 10 48.1 +1.4**
OJC Ojcow 145.58 346 *e*PKIKP **PKPab** **11 10 46.1 -0.1**
OJC Ojcow 145.58 346 *e*PKPab **PKPab** **11 10 46.1 -0.1**
KSP Ksiaz 145.70 350 *e*PKIKP **PKPbc** **11 10 46.3 0.0**
KSP MLR MLR
comp=Z,1µm,21.4s
KSP Ksiaz 145.70 350 *e*PKP **PKPab** **11 10 46.6 0.0**
CLL Collm 145.70 354 ⇓*i*PKIKP **PKPab** **11 10 46.6 0.0**
CLL *e* 11 10 54.0
CLL *i* 11 11 00.2
CLL pmax pmax
comp=Z,79nm,1.6s
CLL Collm 145.70 354 ⇓*i*PKPbc **PKPab** **11 10 46.6 0.0**
comp=Z,79nm,1.6s
CLL *e* 11 10 54.0
CLL *i* 11 11 00.2
comp=Z,90nm,1.4s
CLL *e*SS SS 11 32 42.0 -16
CLL *e*SSS SSS 11 38 24.0
BRG Berggiesshubel 146.02 352 *i*PKP **PKPbc** **11 10 47.5 +0.2**
comp=Z,64nm,1.5s
BRG *i* 11 11 00.9
comp=Z,88nm,1.6s
BRG
comp=N,412nm,20.1s
BRG
comp=E,188nm,13.2s
BRG
comp=Z,476nm,17.8s
BRG Berggiesshubel 146.02 352 *i*PKIKP **PKPbc** **11 10 47.5 +0.2**
BRG *i* 11 11 00.9
BRG pmax pmax
comp=Z,64nm,1.5s
BRG MLR MLR
comp=N,412nm,20.1s
BRG MLR MLR
comp=E,188nm,13.2s
BRG MLR MLR
comp=Z,476nm,17.8s
UPC Upice 146.07 350 *e*PKIKP **PKPab** **11 10 48.4 +0.4**
UPC *e* 11 10 57.4
UPC Upice 146.07 350 *e*PKP **PKPab** **11 10 48.4 +0.4**
UPC *ex* x 11 10 57.4
DPC Dobruska-Polom 146.17 350 *e*PKIKP **PKPab** **11 10 49.1 +0.6**
DPC *e* 11 10 57.3
DPC Dobruska-Polom 146.17 350 *e*PKP **PKPab** **11 10 49.1 +0.6**
DPC *ex* x 11 10 57.3
DPC AMS AMS 12 14 30.0
NIE Niedzica 146.19 345 *e*PKIKP **PKPab** **11 10 48.6 0.0**
NIE Niedzica 146.19 345 *e*PKPab **PKPab** **11 10 48.6 0.0**
PVCC Panska Ves 146.27 352 *e*PKP2 **PKPab** **11 10 48.8 0.0**
PVCC MLR MLR
comp=Z,500nm,18.6s
PVCC Panska Ves 146.27 352 *e*PKP **PKPab** **11 10 48.8 0.0**
PVCC *ex* x 11 10 58.8
PVCC AMS AMS 12 20 10.0
comp=Z,500nm,18.6s
BURAR Bucovina Array 146.29 338 ⇑PKP2 **PKPab** **11 10 49.0 -0.1**
BURAR Bucovina Array 146.29 338 ⇑*i*P **PKPab** **11 10 49.0 -0.1**
OKC Ostrava-Krasne 146.31 347 *e*PKP2 **PKPab** **11 10 48.9 0.0**
OKC MLR MLR
comp=Z,500nm,18.5s
OKC Ostrava-Krasne 146.31 347 *e*PKP **PKPab** **11 10 48.9 0.0**
OKC *ex* x 11 10 57.6
OKC AMS AMS 12 15 10.0
comp=Z,500nm,18.5s
UZH Uzhgorod 146.36 342 *e*PKIKP **PKPbc** **11 10 48.0 -0.4**
UZH *e* 11 10 57.0
UZH *e* 11 11 04.3
UCC Uccle 146.44 3 PKP **PKPab** **11 10 50.1 +0.8**
MORC Moravsky Berou 146.49 348 *e*PKP2 **PKPbc** **11 10 48.9 +0.1**
MORC Moravsky Berou 146.49 348 ⇑*i*P **PKPbc** **11 10 49.2 +0.4**
MORC Moravsky Berou 146.49 348 *e*PKPbc **PKPbc** **11 10 48.9 +0.1**
BEBN Eben Emael 146.50 2 PKP **PKPbc** **11 10 48.9 +0.3**
TESR Tesciani 146.66 335 ⇓*i*P **PKPbc** **11 10 49.7 +0.4**
MEM Membach 146.70 1 PKP **PKPab** **11 10 50.1 -0.3**
SNF Seneffe 146.73 3 PKP **PKPab** **11 10 49.8 +0.4**
PRA Prague 146.74 352 PKP **PKPab** **11 10 51.0 +0.4**
PRU Pruhonice 146.80 351 *e*PKP2 **PKPab** **11 10 50.5 -0.3**
PRU MLR MLR
comp=Z,600nm,18.3s
PRU Pruhonice 146.80 351 *e*PKP **PKPab** **11 10 50.5 -0.3**
PRU *ex* x 11 10 59.4
PRU AMS AMS 12 20 00.0
comp=Z,600nm,18.3s
BCLA Clavier 146.87 2 PKP **PKPab** **11 10 51.4 +0.4**
CFR Carcaliu 147.10 332 ⇑PKP2 **PKPbc** **11 10 51.1 +0.5**
CFR Carcaliu 147.10 332 ⇑*i*P **PKPbc** **11 10 51.0 +0.5**
VRAC Vranov 147.12 349 ⇑*i*P **PKPbc** **11 10 51.2 +0.6**
VRI Vrincioaia 147.15 335 ⇑PKP2 **PKPbc** **11 10 51.3 +0.5**
VRI Vrincioaia 147.15 335 ⇑*i*P **PKPbc** **11 10 51.3 +0.5**
DOU Dourbes 147.16 3 PKP **PKPbc** **11 10 51.0 +0.4**
PLOR Plostina 147.20 335 ⇓PKP2 **PKPbc** **11 10 51.4 +0.5**
PLOR Plostina 147.20 335 ⇓*i*P **PKPbc** **11 10 51.4 +0.5**
TREC Trest 147.33 350 *e*PKIKP **PKPbc** **11 10 50.1 -1.1**
TREC MLR MLR
comp=Z,600nm,22.6s
TREC Trest 147.33 350 *e*PKP **PKPbc** **11 10 50.1 -1.1**
TREC AMS AMS 12 16 40.0
comp=Z,600nm,22.6s
TIRR Tirgusor 147.53 331 ⇑PKP2 **PKPbc** **11 10 52.4 +0.6**
TIRR Tirgusor 147.53 331 ⇑*i*P **PKPbc** **11 10 52.4 +0.6**
TLB Topalu 147.60 332 ⇑PKP2 **PKPbc** **11 10 52.9 +0.9**
TLB Topalu 147.60 332 ⇑*i*P **PKPbc** **11 10 52.8 +0.8**
WLF Walferdange 147.65 1 *e*PKIKP **PKPbc** **11 10 51.3 -0.7**
WLF Walferdange 147.65 1 *e*PKPbc **PKPbc** **11 10 51.3 -0.7**
PSZ Piszkesteto 147.68 344 *e*PKP2 **PKPbc** **11 10 52.5 +0.2**
PSZ Piszkesteto 147.68 344 *e*PKPbc **PKPbc** **11 10 52.5 +0.2**
PSZ Piszkesteto 147.68 344 ⇑*e*PKPdf **PKPbc** **11 10 52.4 +0.2**
KHC Kasperske Hory 147.77 352 *e*PKP2 **PKPbc** **11 10 52.4 0.0**
KHC Kasperske Hory 147.77 352 *e*PKP **PKPbc** **11 10 53.4 +1.0**
KHC *ex* x 11 11 04.0
KHC AMS AMS 12 19 00.0
comp=Z,500nm,18.6s
KHC Kasperske Hory 147.77 352 *e*PKPbc **PKPbc** **11 10 52.4 0.0**
MLR Muntele Rosu 147.78 335 ⇑*i*P **PKPbc** **11 10 53.0 +0.3**
ISR Istrita 147.83 334 ⇓*i*P **PKPdf** **11 10 49.3 -0.5**
BR131 Keskin Array S 147.94 320 *e*PKPbc **PKPbc** **11 10 53.8 +0.5**
BRTR Keskin Array B 147.94 320 PKPbc **PKPbc** **11 10 54.0 +0.7**
BRTR Keskin Array B 147.94 320 PKPbc **PKPbc** **11 10 54.0 +0.7**
comp=Z,8.1nm,0.9s,baz=107,slow=1.7,SNR=33
GERES GERESS Array B 148.04 352 PKPbc **PKPbc** **11 10 53.1 -0.1**
GERES GERESS Array B 148.04 352 PKPbc **PKPbc** **11 10 53.1 -0.1**
comp=Z,4.7nm,0.9s,baz=29,slow=3.0,SNR=24
VOIR 148.18 336 ⇑PKP2 **PKPbc** **11 10 54.3 +0.6**
VOIR 148.18 336 ⇑*i*P **PKPbc** **11 10 54.3 +0.6**
BUD Budapest 148.31 345 ⇑*e* **PKPbc** **11 10 54.3 +0.5**
WRDH Warideh 148.32 311 ⇑*e*P **PKPab** **11 11 00.4 +3.0**
LANF Langenberg 148.34 359 PKP **PKPbc** **11 10 54.0 +0.1**
ANTO Ankara 148.37 321 *e*PKIKP **PKPbc** **11 10 54.3 0.0**
ANTO Ankara 148.37 321 ⇑*i*P **PKPbc** **11 10 55.4 +1.1**
ANTO Ankara 148.37 321 *e*PKPbc **PKPbc** **11 10 54.3 0.0**
ARR Arges 148.40 336 ⇑*i*P **PKPbc** **11 10 55.5 +1.3**
PKSG 148.55 345 ⇓*e* **PKPbc** **11 10 53.8 -0.6**
CONA Conrad Observa 148.58 349 *i*PKiKP **PKPbc** **11 10 55.3 +0.6**
comp=Z,61nm,1.6s,SNR=17
BIDA Albida 148.61 310 *e*P **PKPab** **11 10 57.7 -1.0**
PKSN Nyarlorinc 148.63 343 ⇓*e* **PKPbc** **11 10 56.2 +1.6**
PKS7 Kunszentmiklos 148.68 344 ⇑*e* **PKPbc** **11 10 55.2 +0.4**
SOP Sopron 148.68 348 ⇑*e* **PKPbc** **11 10 55.0 +0.2**
PKST T``s 148.76 346 ⇑*e* **PKPbc** **11 10 54.5 -0.5**
MOA Molln 148.93 351 ⇑*i*sPKPdf **PKPbc** **11 10 55.6 +0.1**
comp=Z,21nm,1.2s,SNR=5.7
HUMR Humele 148.96 335 ⇑*i*P **PKPbc** **11 10 54.8 -0.8**
BFO Black Forest 148.98 359 *e*PKP2 **PKPbc** **11 10 55.8 +0.2**
BFO Black Forest 148.98 359 *e*PKPbc **PKPbc** **11 10 55.8 +0.2**
THEF They Montfort 149.08 2 PKP **PKPbc** **11 10 56.0 +0.2**
ECH Echery 149.11 0 *e*PKIKP **PKPbc** **11 10 55.3 -0.6**
ECH Echery 149.11 0 PKP **PKPbc** **11 10 55.7 -0.2**
ECH Echery 149.11 0 *e*PKPbc **PKPbc** **11 10 55.3 -0.6**
PKS2 Kecel 149.18 344 ⇓ **PKPbc** **11 10 57.3 +1.3**
BZS Buzias 149.26 340 ⇑PKP2 **PKPbc** **11 10 56.6 +0.3**
BZS Buzias 149.26 340 ⇑*i*P **PKPbc** **11 10 56.6 +0.3**

PKS9 Tamasi 149.33 345 ⇓*e* **PKPbc** **11 10 56.2 -0.2**
FELD Feldberg im Sc 149.44 359 PKP **PKPbc** **11 10 56.4 -0.5**
MOF Molkenrain 149.47 0 PKP **PKPbc** **11 10 56.4 -0.5**
BRBR Barbar 149.58 307 *e*P **PKPbc** **11 10 58.8 +1.0**
BEHE Becsehely 149.79 347 ⇑*e* **PKPbc** **11 10 58.6 +1.0**
MOTA Moosalm 149.81 355 ⇑*i*PKiKP **PKiKP** **11 10 58.4 -0.4**
comp=Z,70nm,1.7s,SNR=8.4
KBA Koelnbreinsper 149.82 352 ⇓*i*PKiKP **PKPbc** **11 10 58.1 +0.2**
comp=Z,15nm,1.1s
SOKA Soboth 149.94 349 ⇑*i*PKiKP **PKPbc** **11 10 57.9 -0.2**
comp=Z,23nm,1.3s,SNR=8.9
DAVA Damuels 149.96 356 ⇑*i*PKiKP **PKPbc** **11 10 58.6 +0.4**
comp=Z,27nm,1.3s,SNR=6.4
PERS Pernice 149.97 349 *i*PKPbc **PKPbc** **11 10 57.7 -0.4**
LOMF Lomont 149.97 1 PKP **PKPbc** **11 10 58.3 +0.2**
FETA Feichten 150.16 355 ⇑*i*PKiKP **PKPbc** **11 10 59.1 +0.4**
comp=Z,24nm,1.1s,SNR=9.3
MYKA Terra Mystica 150.21 351 ⇑*i*PKPbc **PKPbc** **11 10 58.1 -0.6**
comp=Z,30nm,1.7s,SNR=7.0
ABTA Abfaltersbach 150.25 353 ⇑*i*PKPbc **PKPbc** **11 10 58.4 -0.4**
comp=Z,33nm,1.0s,SNR=10
VOY Vojsko 150.76 350 *e*PKPbc **PKPbc** **11 11 00.1 0.0**
VOY *e* 11 11 19.6
VOY *e* 11 11 41.8
CSS Prodhromos 150.79 312 *e*PKPdf **PKPdf** **11 10 55.4 +0.6**
TUE Stuetta 150.80 357 *e*PKPbc **PKPbc** **11 11 00.2 0.0**
VISS Visnje 150.82 349 *i*PKPbc **PKPbc** **11 11 00.1 -0.1**
JAVS Javornik 150.87 350 *i*PKPbc **PKPbc** **11 11 00.0 -0.3**
BOJS Bojanci 151.03 348 *i*PKPbc **PKPbc** **11 11 00.9 +0.3**
TRI Trieste 151.09 350 *e*PKIKP **PKPdf** **11 10 54.8 -0.1**
TRI Trieste 151.09 350 *e*PKPdf **PKPdf** **11 10 54.8 -0.1**
PLDF La Plantade 151.20 5 PKP **PKPdf** **11 10 55.7 +0.5**
VTS Vitosha 151.28 335 ⇑PKIKP **PKPbc** **11 11 01.8 +0.3**
VTS Vitosha 151.28 335 ⇑*i*P **PKPbc** **11 11 01.8 +0.3**
PYM Petit Puy Mans 151.36 6 PKP **PKPdf** **11 10 55.6 +0.2**
LBL Lubilhac 151.90 6 PKP **PKPdf** **11 10 57.0 +0.7**
SSB Saint Sauveur 151.96 4 *e*PKIKP **PKPdf** **11 10 56.0 -0.3**
SSB Saint Sauveur 151.96 4 *e*PKPdf **PKPdf** **11 10 56.0 -0.3**
BNI Bardonecchia 152.27 1 *e*PKIKP **PKPbc** **11 11 02.5 -1.1**
BNI Bardonecchia 152.27 1 *e*PKPbc **PKPbc** **11 11 02.5 -1.1**
SAOF Saorge 153.34 359 PKP **PKPdf** **11 10 58.4 0.0**
ESDC Sonseca Array 155.62 21 PKPab **PKPab** **11 11 24.9 -2.7**
ESDC Sonseca Array 155.62 21 PKPab **PKPab** **11 11 24.9 -2.7**
comp=Z,1.0nm,0.5s,baz=336,slow=3.3,SNR=9.3
KEST Kesra 161.49 355 PKP **PKPdf** **11 11 08.4 -0.5**
KEST Kesra 161.49 355 PKP **PKPdf** **11 11 08.4 -0.5**
comp=Z,1.4nm,0.7s,baz=348,slow=3.6,SNR=7.1
TORD Torodi Ar. Bea 173.29 127 PKP **PKPdf** **11 11 16.4 -1.5**
TORD PKPab **PKPab** **11 12 44.6 -1.3**
TORD Torodi Ar. Bea 173.29 127 PKP **PKPdf** **11 11 16.4 -1.5**
comp=Z,1.4nm,0.8s,baz=322,slow=2.0,SNR=8.5
TORD PKPab **PKPab** **11 12 44.6 -1.3**
comp=Z,3.4nm,0.7s,baz=260,slow=2.1,SNR=14

IDC 01 10:59:59.1±1.1, 15°24S×173°58W, h0km, mb4.1/6, mb1 4.4/6, mb1mx4.0/19, mbtmp4.1/6, Error ellipse: s-maj=61.6km s-min=22.4km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
AFI	**Afiamalu**	**2.19**	**53**	Sn		11 00 52.7	-12
	95nm,0.3s,baz=156,slow=20,SNR=3.3						
H11S2	**WAKE ISLAND Hy 38.74**	**329**		T		T 11 48 10.5	
	baz=152,slow=0.7,SNR=34						
H11S3	**WAKE ISLAND Hy 38.75**	**329**		T		T 11 48 14.7	
	baz=152,slow=0.7,SNR=37						
H11S1	**WAKE ISLAND Hy 38.76**	**329**		T		T 11 48 13.0	
	baz=152,slow=0.7,SNR=33						
H11N3	**WAKE ISLAND Hy 39.69**	**330**		T		T 11 49 24.9	
	baz=152,slow=0.7,SNR=13						
H11N1	**WAKE ISLAND Hy 39.69**	**330**		T		T 11 49 28.2	
	baz=152,slow=0.7,SNR=18						
H11N2	**WAKE ISLAND Hy 39.70**	**330**		T		T 11 49 26.2	
	baz=152,slow=0.7,SNR=16						
WRA	**Warramunga Arr**	**49.71**	**257**	P		P 11 08 53.1	-0.4
	0.6nm,0.5s,baz=90,slow=6.9,SNR=16						
ASAR	**Alice Springs**	**49.99**	**252**	P		P 11 08 55.1	-0.5
	9.9nm,0.7s,baz=86,slow=8.3,SNR=36						
NVAR	**Mina Array Bea**	**74.33**	**42**	P		P 11 11 38.8	-0.2
	0.6nm,0.8s,baz=227,slow=10,SNR=3.4						
PDAR	**Pinedale Array**	**82.27**	**42**	P		P 11 12 22.6	-0.2
	1.2nm,0.9s,baz=219,slow=3.8,SNR=7.9						
ILAR	**Eielson Array**	**82.32**	**11**	P		P 11 12 22.1	-0.3
	1.0nm,0.9s,baz=202,slow=5.0,SNR=7.4						
MAW	**Mawson**	**87.89**	**199**	P		P 11 12 50.5	+0.2
	1.4nm,0.6s,baz=139,slow=9.0,SNR=8.4						
BRTR	**Keskin Array B**	**145.92**	**321**	PKPbc	PKPab	11 19 41.9	+0.3
	0.8nm,0.7s,baz=87,slow=4.1,SNR=3.1						

IDC 01 11:04:22.4±0.8, 16°12S×173°44W, h0km, mb4.2/9, mb1 4.3/10, mb1mx4.1/23, mbtmp4.2/10, ML3.5/1, MS4.6/2, Ms1 4.6/2, ms1mx4.0/29, Error ellipse: s-maj=36.6km s-min=18.0km az=135.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.72**	**36**	Pn	Pn	11 05 03.4	-4.1
	23nm,0.3s,baz=114,slow=20,SNR=3.4						
AFI				Sn	Sn	11 05 30.8	-10
	112nm,0.3s,baz=272,slow=22,SNR=9.2						
DZM	**Mont Dzumac**	**19.90**	**250**	P	P	11 08 54.9	-0.8
	0.2nm,0.3s,baz=301,slow=19,SNR=2.1						
PPT	**Papeete**	**22.89**	**97**	LR	LR	11 17 01.0	
	comp=Z,1µm,18.5s,baz=305,slow=33						
URZ	**Urewera**	**23.58**	**199**	P	P	11 09 33.9	-0.7
	7.3nm,0.5s,baz=256,slow=5.9,SNR=7.0						
HNR	**Honiara**	**26.77**	**281**	LR	LR	11 19 24.1	
	comp=Z,1µm,19.4s,baz=320,slow=34						
STKA	**Stephens Creek**	**43.65**	**241**	P	P	11 12 29.2	+0.3
	2.3nm,0.5s,baz=113,slow=12,SNR=7.1						
WRA	**Warramunga Arr**	**49.65**	**257**	P	P	11 13 15.7	-0.6
	0.7nm,0.4s,baz=89,slow=3.8,SNR=32						
WRA				PcP	PcP	11 14 38.5	+0.8
	0.4nm,0.6s,baz=91,slow=3.6,SNR=2.9						
ASAR	**Alice Springs**	**49.85**	**252**	P	P	11 13 17.7	-0.1
	6.8nm,0.5s,baz=90,slow=7.5,SNR=60						
JNU	**Nakatsue**	**72.26**	**313**	P	P	11 15 49.3	-0.5
	8.1nm,1.0s,baz=67,slow=8.2,SNR=4.9						
NVAR	**Mina Array Bea**	**74.89**	**42**	P	P	11 16 05.5	+0.1
	0.3nm,0.5s,baz=239,slow=7.0,SNR=2.5						
PDAR	**Pinedale Array**	**82.82**	**42**	P	P	11 16 48.2	-0.8
	0.7nm,0.9s,baz=180,slow=1.5,SNR=4.8						
ILAR	**Eielson Array**	**83.15**	**11**	P	P	11 16 49.5	-0.4
	0.4nm,0.6s,baz=235,slow=6.2,SNR=11						
MAW	**Mawson**	**87.10**	**199**	P	P	11 17 09.9	+0.1
	0.7nm,0.4s,baz=132,slow=8.4,SNR=10						
ARCES	**ARCESS Array B**	**125.31**	**352**	PKP	PKPdf	11 23 24.8	+0.2
	1.6nm,0.7s,baz=329,slow=4.2,SNR=4.7						
FINES	**FINESS Array B**	**132.63**	**347**	PKP	PKPdf	11 23 38.5	-0.2
	2.5nm,0.9s,baz=98,slow=5.8,SNR=3.3						
BRTR	**Keskin Array B**	**146.68**	**320**	PKPbc	PKPbc	11 24 07.0	+0.3
	1.6nm,0.6s,baz=104,slow=2.5,SNR=9.5						

*CSEM **01** 11:05:24.1, 38°.66N×29°.29W, h0km, ML2.9, After PDA*
PDA 01 11:05:24.1±0.9, 38°.66N×29°.29W, h0km±8km, MD3.6, ML2.9, Error ellipse: s-maj=11.0km s-min=7.1km az=85.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**0.46**	**94**	*e*P	Pg	11 05 32.6	-0.3
PCED				*e*S	Sg	11 05 37.7	-1.2
PCED				A	A	11 05 38.4	
	334nm,0.5s						
PCED	**Cedros**	**0.46**	**94**	*e*P	Pg	11 05 32.6	-0.3
PCED				*e*S	Sg	11 05 37.7	-1.2
CALA	**Caldeira**	**0.47**	**99**	*e*P	Pg	11 05 32.7	-0.5
CALA	**Caldeira**	**0.47**	**99**	*e*P	Pg	11 05 32.7	-0.5
HOR	**Horta**	**0.53**	**104**	*e*P	Pg	11 05 33.8	-0.5
HOR				*e*S	Sg	11 05 40.7	-0.5
HOR	**Horta**	**0.53**	**104**	*e*P	Pg	11 05 33.8	-0.5
HOR				*e*S	Sg	11 05 40.7	-0.5
PCAN	**Candelaria**	**0.66**	**107**	*e*P	Pg	11 05 35.3	-1.5
PCAN				*e*S	Sg	11 05 44.5	-0.8
PCAN				A	A	11 05 46.9	
	248nm,0.3s						
PCAN	**Candelaria**	**0.66**	**107**	*e*P	Pg	11 05 35.3	-1.5
PCAN				*e*S	Sg	11 05 44.5	-0.8
PICO	**Pico**	**0.69**	**103**	*e*P	Pg	11 05 36.5	-1.0
PICO				*e*S	Sg	11 05 45.4	-1.2
PICO	**Pico**	**0.69**	**103**	*e*P	Pg	11 05 36.5	-1.0
PICO				*e*S	Sg	11 05 45.4	-1.2

PPNO	**Prainha do Nor**	**0.82**	**103**	*e*P	Pg	11 05 38.2	-1.8
PPNO				*e*S	Sg	11 05 48.8	-2.0
PPNO				A	A	11 05 52.0	
	312nm,0.4s						
PPNO	**Prainha do Nor**	**0.82**	**103**	*e*P	Pg	11 05 38.2	-1.8
PPNO				*e*S	Sg	11 05 48.8	-2.0
PMAN	**Manadas**	**0.94**	**91**	*e*S	Sg	11 05 51.1	-3.2
PMAN				A	A	11 05 52.7	
	163nm,0.3s						
PMAN	**Manadas**	**0.94**	**91**	*e*S	Sg	11 05 51.1	-3.2
TOPO	**Topo**	**1.07**	**93**	*e*S	Sg	11 05 54.0	-4.8
TOPO	**Topo**	**1.07**	**93**	*e*S	Sg	11 05 54.0	-4.8
PGRA	**Graciosa**	**1.08**	**70**	*e*S	Sg	11 05 54.8	-4.2
PGRA				A	A	11 05 56.3	
	88nm,0.3s						
PGRA	**Graciosa**	**1.08**	**70**	*e*S	Sg	11 05 54.8	-4.2
PSET	**Sete Cidades**	**2.93**	**105**	*e*P	Pn	11 06 07.3	-4.7
PSET	**Sete Cidades**	**2.93**	**105**	*e*P	Pn	11 06 07.3	-4.7
PDA	**Ponta Delgada**	**3.00**	**107**	*e*P	Pn	11 06 08.2	-4.6
PDA	**Ponta Delgada**	**3.00**	**107**	*e*P	Pn	11 06 08.2	-4.6
PSMA	**Santa Maria**	**3.69**	**115**	*e*P	Pn	11 06 17.5	-4.8
PSMN	**Pico do Norte,**	**3.73**	**115**	*e*P	Pn	11 06 18.1	-4.8
PSMN	**Pico do Norte,**	**3.73**	**115**	*e*P	Pn	11 06 18.1	-4.8

*IDC **01** 11:10:50.1±1.2, 6°.98N×92°.00E, h0km, mb4.0/8, mb1 4.1/10, mb1mx3.8/31, mbtmp4.0/10, ML4.1/2, Error ellipse: s-maj=41.7km s-min=20.3km az=48.0*
*ISCJB **01** 11:10:51.7±0.9, 6°.9N±0°.1×92°.1E±0°.1, h23km, mb3.9/8, Error ellipse: s-maj=22.3km s-min=7.3km az=41.2*
ISC 01 11:10:53.8±1.0, 7°.1N±0°.1×92°.1E±0°.1, h23km, n25, σ1§59/19, mb4.0/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMBY	**CAMPBELL BAY**	**1.79**	**91**	*e*P	**Pb**	**11 11 24.7**	**-1.2**
DGPR	**DIGLIPUR**	**6.13**	**7**	*ex*	**Pn**	**11 12 21.8**	**-1.2**
PSI	**Prapat**	**7.98**	**122**	Pn	**Pn**	**11 12 49.7**	**+1.1**
	2.2nm,0.3s,baz=335,slow=10,SNR=8.3						
PSI				Sn	**Sn**	**11 14 17.4**	**-0.9**
	1.6nm,0.3s,baz=264,slow=17,SNR=2.6						
CMAR	**Chiang Mai Arr**	**13.13**	**30**	Pn	**Pn**	**11 13 59.9**	**+0.9**
	0.4nm,0.3s,baz=233,slow=14,SNR=10						
VIS	**Vishakhapatnam**	**13.63**	**322**	*ex*	**Pn**	**11 14 04.1**	**-1.8**
ODAN	**Odare**	**20.20**	**348**	*e*P	Pn	11 15 30.9	+1.5
	34nm,0.5s						
RAMN	**Ramite**	**20.47**	**346**	*e*P	Pn	11 15 36.9	+4.3
	63nm,0.4s						
JIRN	**Jiri**	**21.25**	**345**	*e*P	**P**	**11 15 38.4**	**-0.5**
PKIN	**Phulchoki**	**21.38**	**343**	*e*P	**P**	**11 15 44.3**	**+4.1**
	25nm,0.4s						
DMN	**Daman**	**21.50**	**343**	*e*P	P	11 15 46.3	+4.9
	60nm,0.7s						
GUN	**Gumba**	**21.57**	**345**	*e*P	**P**	**11 15 40.5**	**-1.7**
	57nm,0.8s						
GKN	**Gorkha**	**22.00**	**342**	*e*P	**P**	**11 15 49.1**	**+2.3**
KOLN	**Koldanda**	**22.13**	**340**	*e*P	P	11 15 57.3	+9.2
	40nm,0.7s						
DANN	**Dangsing**	**22.61**	**341**	*e*P	**P**	**11 15 54.4**	**+1.0**
	26nm,0.6s						
H08S3	**Diego Garcia H**	**24.43**	**234**	T	T	11 42 25.4	
	baz=53,slow=0.7,SNR=46						
H08S2	**Diego Garcia H**	**24.43**	**234**	T	T	11 42 18.8	
	baz=53,slow=0.7,SNR=43						
H08S1	**Diego Garcia H**	**24.44**	**234**	T	T	11 42 21.0	
	baz=53,slow=0.7,SNR=75						
AAK	**Ala-Archa**	**38.70**	**339**	P	**P**	**11 18 16.8**	**+0.6**
	0.7nm,0.3s,baz=12,slow=18,SNR=2.7						
MKAR	**Makanchi Array**	**40.48**	**350**	P	**P**	**11 18 29.9**	**-1.0**
	1.8nm,0.7s,baz=168,slow=8.4,SNR=20						
FITZ	**Fitzroy Crossi**	**41.46**	**128**	P	**P**	**11 18 39.0**	**-0.2**
	5.2nm,1.0s,baz=346,slow=8.4,SNR=8.6						
SONM	**Songino Array**	**42.41**	**14**	P	**P**	**11 18 48.5**	**+1.7**
	1.8nm,0.8s,baz=194,slow=5.5,SNR=3.7						
KURBB	**Kurchatov Arra**	**44.88**	**348**	P	**P**	**11 19 06.0**	**-0.4**
	1.1nm,0.4s,baz=172,slow=7.6,SNR=5.4						
BRTR	**Keskin Array B**	**61.46**	**312**	P	**P**	**11 21 08.8**	**-0.1**
	0.4nm,0.7s,baz=116,slow=6.6,SNR=2.1						
FINES	**FINESS Array B**	**72.50**	**333**	P	**P**	**11 22 18.6**	**+0.1**
	1.3nm,0.7s,baz=319,slow=6.1,SNR=2.6						
GERES	**GERESS Array B**	**77.10**	**318**	P	**P**	**11 22 45.7**	**+0.1**
	0.4nm,0.2s,baz=44,slow=7.2,SNR=2.2						

*IDC **01** 11:10:59.9±1.8, 7°.05N×92°.01E, h0km, mb4.2/7, mb1 4.3/9, mb1mx3.9/30, mbtmp4.2/9, ML4.4/2, MS3.2/1, Ms1 3.4/1, ms1mx3.1/41, Error ellipse: s-maj=42.6km s-min=32.5km az=32.0*
*ISCJB **01** 11:11:01.4±1.1, 7°.0N±0°.2×92°.1E±0°.1, h23km, mb4.1/7, Error ellipse: s-maj=26.2km s-min=15.7km az=41.9*
ISC 01 11:11:03.5±1.2, 7°.1N±0°.2×92°.0E±0°.2, h23km, n9, σ0§88/9, mb4.2/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**8.08**	**121**	Pn	**Pn**	**11 12 59.8**	**+0.1**
	1.6nm,0.3s,baz=22,slow=7.7,SNR=4.3						
CMAR	**Chiang Mai Arr**	**13.20**	**30**	Pn	**Pn**	**11 14 10.2**	**+0.6**
	1.2nm,0.3s,baz=232,slow=14,SNR=26						
CMAR				LR	LR	11 18 44.6	
	comp=Z,110nm,20.6s,baz=105,slow=35						
AAK	**Ala-Archa**	**38.66**	**339**	P	**P**	**11 18 26.9**	**+1.4**
	2.5nm,0.7s,baz=205,slow=16,SNR=6.8						
MKAR	**Makanchi Array**	**40.47**	**350**	P	**P**	**11 18 39.7**	**-0.7**
	2.5nm,0.5s,baz=167,slow=9.1,SNR=22						
SONM	**Songino Array**	**42.45**	**14**	P	**P**	**11 18 55.9**	**-0.9**
	1.6nm,0.7s,baz=197,slow=8.2,SNR=8.2						
KURBB	**Kurchatov Arra**	**44.86**	**348**	P	**P**	**11 19 15.7**	**-0.2**
	3.9nm,0.6s,baz=172,slow=7.3,SNR=14						
BRTR	**Keskin Array B**	**61.37**	**312**	P	**P**	**11 21 17.7**	**-0.3**
	1.2nm,0.8s,baz=140,slow=9.7,SNR=4.9						
FINES	**FINESS Array B**	**72.45**	**333**	P	**P**	**11 22 27.3**	**-0.6**
	2.4nm,0.8s,baz=120,slow=6.8,SNR=5.6						
GERES	**GERESS Array B**	**77.03**	**318**	P	**P**	**11 22 55.7**	**+0.9**
	1.6nm,0.7s,baz=76,slow=5.6,SNR=8.0						

GUC 01 11:11:36.0±0.4, 29°.78S×71°.13W, h45km±2km, MD3.5, ML2.7, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TLL	**Tololo Astrono**	**0.48**	**144**	*i* P	Pn	11 11 47.6	+0.6
TLL				*i* S	Sn	11 11 56.2	+1.3
TLL				AML	AML	11 11 57.1	
	comp=E,1μm,0.3s						
LCO	**Las Campanas**	**0.85**	**26**	⇓*i* P	Pn	11 11 52.9	+0.9
LCO				*i* S	Sn	11 12 05.6	+1.9
LCO				AML	AML	11 12 07.0	
	comp=E,290nm,0.3s						
VACH	**Vallenar**	**1.24**	**15**	*i* P	Pn	11 11 57.6	+0.6
VACH				*i* S	Sn	11 12 14.1	+1.5
CMCH	**Combarbala**	**1.39**	**176**	⇓*i* P	Pn	11 11 58.1	-1.0
CMCH				*i* S	Sn	11 12 16.4	-0.1
CMCH				AML	AML	11 12 22.2	
	comp=E,304nm,0.4s						

*IDC **01** 11:15:19.4±0.9, 4°.78S×134°.74E, h0km, mb4.1/8, mb1 4.3/12, mb1mx4.2/21, mbtmp4.2/12, ML4.3/4, Error ellipse: s-maj=38.5km s-min=11.1km az=83.0*
*AUST **01** 11:15:20.3±2.6, 4°.49S×134°.65E, h0km±17km, Error ellipse: s-maj=6.5km s-min=4.6km az=33.0*
*ISCJB **01** 11:15:22.4±0.4, 4°.60S±0°.0×134°.49E±0°.0, h22km, mb4.1/11, Error ellipse: s-maj=6.7km s-min=5.4km az=150.1*
*NEIC **01** 11:15:24.6±3.2, 4°.67S×134°.55E, h27km±24km, mb4.6/5, Error ellipse: s-maj=12.0km s-min=8.4km az=198.0*
*DJA **01** 11:15:27.5±0.5, 4°.5±5°×13°.4E±°, h30km, M4.9/9, mb5.2/4, mB5.8/3, MLv4.7/9, Mw(mB)5.3/3*
ISC 01 11:15:24.0±0.6, 4°.64S±0°.05×134°.45E±0°.06, h22km, n55, σ1§54/58, mb4.2/11, 4C-2D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMPI	**Kaimana, Papua**	**1.22**	**322**	P	**Pn**	**11 15 44.6**	**-1.1**
TLE	**Tual**	**1.98**	**240**	P	**Pb**	**11 15 59.0**	**-0.2**
TLE	**Tual**	**1.98**	**240**	⇑P	**Pb**	**11 15 58.8**	**-0.5**
	baz=2.2,SNR=6.3						
FAKI	**Fak Fak**	**2.78**	**308**	P	**Pn**	**11 16 06.4**	**-0.8**
FAKI	**Fak Fak**	**2.78**	**308**	⇑P	**Pn**	**11 16 06.5**	**-0.8**
	baz=2.9,SNR=73						
BAKI	**Biak**	**3.80**	**26**	P	**Pn**	**11 16 20.3**	**-0.9**
BNDI	**Bandanaira**	**4.53**	**271**	P	**Pn**	**11 16 32.9**	**+1.6**
BNDI				S	**Sn**	**11 17 25.2**	**+1.8**
BNDI	**Bandanaira**	**4.53**	**271**	⇑P	**Pn**	**11 16 33.1**	**+1.8**
	baz=4.7,SNR=5.1						
SWI	**Sorong**	**4.92**	**320**	P	**Pn**	**11 16 36.3**	**-0.3**
SWI				S	**Sn**	**11 17 28.6**	**-4.3**
SWI	**Sorong**	**4.92**	**320**	P	**Pn**	**11 16 36.6**	**0.0**
	baz=5.0,SNR=6.3						
AAI	**Ambon**	**6.31**	**278**	P	**Pn**	**11 16 56.8**	**+1.0**
	155nm,0.5s,7μm0.6nm						
AAI	**Ambon**	**6.31**	**278**	⇓P	**Pn**	**11 16 56.9**	**+1.1**
	baz=6.5,SNR=6.5						
JAY	**Jayapura**	**6.59**	**72**	P	Pn	11 17 03.1	+3.5
	55nm,0.6s,7μm0.4nm						
NLAI	**Namlea**	**7.46**	**280**	P	**Pn**	**11 17 11.6**	**0.0**
KDU	**Kakadu**	**8.23**	**194**	⇑P	**Pn**	**11 17 24.3**	**+2.1**
	baz=8.5,SNR=4.9						
BATI	**Baumata**	**12.04**	**242**	Pn	**Pn**	**11 18 16.2**	**+1.8**
BATI				Sn	**Sn**	**11 20 26.9**	**-1.3**
BATI	**Baumata**	**12.04**	**242**	Pn	**Pn**	**11 18 16.2**	**+1.8**
	6.3nm,0.3s,baz=112,slow=8.8,SNR=4.1						
BATI				Sn	**Sn**	**11 20 26.9**	**-1.3**
	3.1nm,0.3s,baz=91,slow=16,SNR=3.6						
COEN	**Coen**	**12.64**	**138**	*e*Pn	**Pn**	**11 18 21.7**	**-0.9**
	106nm,0.8s						
COEN	**Coen**	**12.64**	**138**	P	**Pn**	**11 18 21.9**	**-0.6**
	baz=13,SNR=6.2						
PMG	**Port Moresby**	**13.47**	**111**	Pn	**Pn**	**11 18 32.7**	**-1.2**
PMG	**Port Moresby**	**13.47**	**111**	Pn	**Pn**	**11 18 32.7**	**-1.2**
	0.9nm,0.3s,baz=90,slow=19,SNR=2.8						
KAPI	**Kappang**	**14.65**	**268**	Pn	**Pn**	**11 18 51.3**	**+1.2**
WRAB	**Tennant Creek**	**15.21**	**180**	*e*Pn	**Pn**	**11 18 58.5**	**+1.1**
	44nm,0.9s						
WRA	**Warramunga Arr**	**15.21**	**180**	Pn	**Pn**	**11 18 53.9**	**-3.8**
WRA				Sn	Sn	11 21 35.7	-10
WRA				Lg	Lg	11 23 21.2	
WRA	**Warramunga Arr**	**15.21**	**180**	Pn	**Pn**	**11 18 53.9**	**-3.8**
	0.6nm,0.3s,baz=356,slow=13,SNR=29						
WRA				Sn	Sn	11 21 35.7	-10
	0.9nm,0.3s,baz=2.9,slow=23,SNR=4.7						
WRA				Lg	Lg	11 23 21.2	
	0.1nm,0.3s,baz=22,slow=27,SNR=2.7						
FITZ	**Fitzroy Crossi**	**15.92**	**212**	Pn	**Pn**	**11 19 05.9**	**-0.9**
FITZ				Sn	Sn	11 21 52.3	-10
FITZ	**Fitzroy Crossi**	**15.92**	**212**	Pn	**Pn**	**11 19 05.9**	**-0.9**
	1.5nm,0.3s,baz=38,slow=9.1,SNR=34						
FITZ				Sn	Sn	11 21 52.3	-10
	0.7nm,0.3s,baz=194,slow=18,SNR=3.3						
ASAR	**Alice Springs**	**18.93**	**182**	P	**P**	**11 19 41.9**	**-1.6**
ASAR				S	**Sn**	**11 23 13.4**	**-2.3**
ASAR				Lg	Lg	11 25 20.9	
ASAR	**Alice Springs**	**18.93**	**182**	P	**P**	**11 19 41.9**	**-1.6**
	1.4nm,0.3s,baz=6.5,slow=10,SNR=117						
ASAR				S	**Sn**	**11 23 13.4**	**-2.3**
	0.3nm,0.3s,baz=5.7,slow=27,SNR=4.2						
ASAR				Lg	Lg	11 25 20.9	
	baz=11,slow=30,SNR=3.0						
CTA	**Charters Tower**	**19.18**	**144**	P	**Pn**	**11 19 49.9**	**+2.5**
CTA				Lg	Lg	11 25 26.6	
CTA	**Charters Tower**	**19.18**	**144**	P	**Pn**	**11 19 49.9**	**+2.5**
	1.8nm,0.3s,baz=324,slow=13,SNR=28						
CTA				Lg	Lg	11 25 26.6	
	0.2nm,0.3s,baz=223,slow=18,SNR=4.1						
CTAO	**Charters Tower**	**19.18**	**144**	*e*P	**Pn**	**11 19 49.0**	**+1.7**
	33nm,0.8s						
MBWA	**Marble Bar**	**21.77**	**220**	*e*P	**P**	**11 20 16.4**	**+2.0**
	33nm,1.1s						
QLP	**Quilpie**	**23.74**	**158**	⇓P	**P**	**11 20 36.2**	**+1.4**
	baz=24,SNR=11						
STKA	**Stephens Creek**	**27.91**	**167**	P	P	11 21 07.6	-5.0
STKA	**Stephens Creek**	**27.91**	**167**	P	P	11 21 07.6	-5.0
	4.9nm,0.8s,baz=314,slow=5.1,SNR=8.8						
CMAR	**Chiang Mai Arr**	**41.85**	**304**	P	**P**	**11 23 13.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**41.85**	**304**	P	**P**	**11 23 13.0**	**+0.3**
	0.7nm,0.4s,baz=134,slow=5.7,SNR=5.7						
KSAR	**Wonju Array Be**	**42.31**	**352**	P	**P**	**11 23 15.9**	**-0.2**
KSRS	**Korea Array**	**42.31**	**352**	P	**P**	**11 23 15.9**	**-0.2**
	1.5nm,0.8s,baz=173,slow=9.8,SNR=6.6						
SONM	**Songino Array**	**57.77**	**338**	P	**P**	**11 25 14.7**	**+1.1**
SONM	**Songino Array**	**57.77**	**338**	P	**P**	**11 25 14.7**	**+1.1**
	1.0nm,0.5s,baz=156,slow=8.5,SNR=7.6						
MK31	**Makanchi Array**	**68.79**	**324**	*e*P	**P**	**11 26 27.2**	**+0.7**
MKAR	**Makanchi Array**	**68.79**	**324**	P	**P**	**11 26 27.5**	**+1.0**
MKAR	**Makanchi Array**	**68.79**	**324**	P	**P**	**11 26 27.5**	**+1.0**
	3.6nm,0.6s,baz=114,slow=8.3,SNR=47						
TKM2	**Tokmak 2**	**71.08**	**318**	*e*P	**P**	**11 26 41.4**	**+0.5**
	1.6nm,0.5s						
ZALV	**Zalesovo Beam**	**71.53**	**332**	P	**P**	**11 26 43.3**	**+0.2**
ZALV	**Zalesovo Beam**	**71.53**	**332**	P	**P**	**11 26 43.3**	**+0.2**
	0.8nm,0.3s,baz=120,slow=6.0,SNR=4.2						
KURK	**Kurchatov**	**72.91**	**327**	P	**P**	**11 26 52.1**	**+0.7**
KURBB	**Kurchatov Arra**	**72.91**	**326**	P	**P**	**11 26 52.1**	**+0.7**
	1.9nm,0.7s,baz=125,slow=4.9,SNR=23						
BVAR	**Borovoye Array**	**78.50**	**326**	P	**P**	**11 27 24.3**	**+0.9**
BVAR	**Borovoye Array**	**78.50**	**326**	P	**P**	**11 27 24.3**	**+0.9**
	0.6nm,0.4s,baz=134,slow=6.2,SNR=3.4						
BRVK	**Borovoye**	**78.57**	**326**	*e*P	**P**	**11 27 24.2**	**+0.5**
	5.2nm,0.9s						
LPAZ	**La Paz**	**149.49**	**133**	PKPbc	**PKPbc**	**11 35 12.7**	**-0.6**
LPAZ	**La Paz**	**149.49**	**133**	PKPbc	**PKPbc**	**11 35 12.7**	**-0.6**
	1.1nm,0.8s,baz=249,slow=8.6,SNR=2.1						

IDC 01 11:22:44.4±3.5, 14°.95S×173°.66W, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.8/19, mbtmp4.0/3, MS3.4/2, Ms1 3.4/2, ms1mx3.3/29, Error ellipse: s-maj=216.7km s-min=32.9km az=149.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.10**	**61**	Pn	Pn	11 23 14.9	-6.0
	12nm,0.3s,baz=39,slow=16,SNR=5.4						
AFI				Sn	Sn	11 23 35.6	-12
	66nm,0.3s,baz=59,slow=22,SNR=9.9						
AFI				LR	LR	11 24 10.7	
	comp=Z,338nm,19.0s,baz=276,slow=41						
DZM	**Mont Dzumac**	**20.14**	**246**	LR	LR	11 33 43.5	
	comp=Z,311nm,18.9s,baz=50,slow=33						
WRA	**Warramunga Arr**	**49.70**	**256**	P	P	11 31 38.1	-0.5
	0.9nm,0.8s,baz=91,slow=6.9,SNR=14						
ASAR	**Alice Springs**	**50.01**	**252**	P	P	11 31 41.0	0.0
	4.2nm,0.6s,baz=86,slow=8.2,SNR=59						
PDAR	**Pinedale Array**	**82.10**	**42**	P	P	11 35 07.0	-0.3
	0.5nm,1.0s,baz=214,slow=7.3,SNR=3.5						
BRTR	**Keskin Array B**	**145.65**	**321**	PKPbc	PKPdf	11 42 25.3	0.0
	1.2nm,0.7s,baz=114,slow=1.7,SNR=3.4						

*ISK **01** 11:40:10.5, 40°.45N×34°.87E, h8km, MD2.7*
*ISCJB **01** 11:40:11.1±0.7, 40°.42N±0°.04×34°.92E±0°.06, h7km±7km, Error ellipse: s-maj=7.7km s-min=6.3km az=167.9*
*CSEM **01** 11:40:11.2±0.2, 40°.44N×34°.88E, h10km, MD2.7, Error ellipse: s-maj=7.1km s-min=6.7km az=149.0*
ISC 01 11:40:11.5±1.0, 40°.44N±0°.03×34°.88E±0°.03, h12km±7km, n20, σ0§76/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTKT	**Corum**	**0.20**	**339**	*i* P	**Pg**	**11 40 16.5**	**+0.6**
CTKT				*i* S	**Sg**	**11 40 18.4**	**-0.6**
CTKT	**Corum**	**0.20**	**339**	*i* P	**Pg**	**11 40 16.5**	**+0.6**
CTKT				*i* S	**Sg**	**11 40 18.4**	**-0.6**
CORM	**Corum**	**0.32**	**216**	*e*PG	**Pg**	**11 40 17.6**	**-0.5**
CORM				*e*SG	**Sg**	**11 40 22.6**	**+0.1**
CORM	**Corum**	**0.32**	**216**	*e*Pg	**Pg**	**11 40 17.6**	**-0.5**
CORM				*e*Sg	**Sg**	**11 40 22.6**	**+0.1**
YOZ	**Yozgat**	**0.87**	**157**	*e*PG	**Pg**	**11 40 28.1**	**-0.1**
YOZ	**Yozgat**	**0.87**	**157**	*e*Pg	**Pg**	**11 40 28.1**	**-0.1**
ILGA	**Ilgaz**	**1.08**	**305**	*i* P	**Pg**	**11 40 31.7**	**-0.6**
ILGA				*i* S	**Sn**	**11 40 48.1**	**+0.5**
ILGA	**Ilgaz**	**1.08**	**305**	*i* P	**Pg**	**11 40 31.7**	**-0.6**
ILGA				*i* S	**Sn**	**11 40 48.1**	**+0.5**
KVT	**Kavak**	**1.09**	**54**	*e*PN	**Pg**	**11 40 31.0**	**-1.6**
KVT	**Kavak**	**1.09**	**54**	*e*Pn	**Pg**	**11 40 31.0**	**-1.6**
DIKM	**Dikmen**	**1.24**	**13**	*e*PN	**Pg**	**11 40 35.1**	**-0.3**
DIKM	**Dikmen**	**1.24**	**13**	*e*Pn	**Pg**	**11 40 35.1**	**-0.3**
ANTO	**Ankara**	**1.70**	**251**	*e*PN	**Pn**	**11 40 40.4**	**-0.6**
ANTO	**Ankara**	**1.70**	**251**	*e*Pn	**Pn**	**11 40 40.4**	**-0.6**
SVSK	**Karacayir**	**1.70**	**107**	*e*PN	**Pn**	**11 40 41.3**	**+0.3**
SVSK	**Karacayir**	**1.70**	**107**	*e*Pn	**Pn**	**11 40 41.3**	**+0.3**
AFSR	**Af˙ar-Bala (A**	**1.71**	**235**	*e*PN	**Pn**	**11 40 41.5**	**+0.3**
AFSR	**Af˙ar-Bala (A**	**1.71**	**235**	*e*Pn	**Pn**	**11 40 41.5**	**+0.3**
RSDY	**Resadiye-TOKAT**	**1.87**	**90**	*e*PN	**Pn**	**11 40 44.6**	**+1.3**
RSDY	**Resadiye-TOKAT**	**1.87**	**90**	*e*Pn	**Pn**	**11 40 44.6**	**+1.3**

IDC 01 11:43:57.2±1.6, 15°.57S×173°.17W, h0km, mb3.9/7, mb1 4.3/7, mb1mx4.0/22, mbtmp4.0/7, MS4.1/3, Ms1 4.0/3, ms1mx3.6/28, Error ellipse: s-maj=96.5km s-min=19.9km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.13**	**39**	Pn	Pn	11 44 27.4	-6.8
	23nm,0.3s,baz=284,slow=3.1,SNR=4.4						
AFI				Sn	Sn	11 44 47.4	-14
	81nm,0.3s,baz=70,slow=23,SNR=12						
DZM	**Mont Dzumac**	**20.34**	**248**	P	P	11 48 34.0	-1.4
	3.9nm,0.7s,baz=17,slow=18,SNR=6.3						
H11S2	**WAKE ISLAND Hy**	**39.22**	**329**	T	T	12 31 55.1	
	baz=152,slow=0.7,SNR=13						
H11S3	**WAKE ISLAND Hy**	**39.23**	**329**	T	T	12 31 53.8	
	baz=152,slow=0.7,SNR=16						
H11S1	**WAKE ISLAND Hy**	**39.24**	**329**	T	T	12 31 54.4	
	baz=152,slow=0.7,SNR=13						
H11N3	**WAKE ISLAND Hy**	**40.17**	**330**	T	T	12 33 13.6	
	baz=159						
H11N1	**WAKE ISLAND Hy**	**40.17**	**330**	T	T	12 33 14.7	
	baz=159						
H11N2	**WAKE ISLAND Hy**	**40.18**	**330**	T	T	12 33 15.6	
	baz=159						
STKA	**Stephens Creek**	**44.14**	**240**	P	P	11 52 06.9	-0.9
	2.9nm,0.8s,baz=39,slow=2.8,SNR=5.1						
STKA				LR	LR	12 09 45.6	
	comp=Z,175nm,19.6s,baz=201,slow=35						
WRA	**Warramunga Arr**	**50.02**	**257**	P	P	11 52 54.2	+0.3
	0.9nm,0.9s,baz=90,slow=6.6,SNR=8.7						
ASAR	**Alice Springs**	**50.27**	**252**	P	P	11 52 56.7	+0.9
	2.2nm,0.6s,baz=85,slow=8.7,SNR=20						
ASAJ	**Asahikawa**	**71.80**	**328**	LR	LR	12 24 13.5	
	comp=Z,69nm,18.0s,baz=344,slow=34						
TXAR	**Lajitas Array**	**80.52**	**56**	P	P	11 56 12.2	+0.4
	1.1nm,1.0s,baz=230,slow=5.9,SNR=7.5						
PDAR	**Pinedale Array**	**82.25**	**42**	P	P	11 56 20.4	-0.5
	1.3nm,1.1s,baz=245,slow=3.1,SNR=4.4						
ILAR	**Eielson Array**	**82.57**	**11**	P	P	11 56 21.4	-0.3
	0.7nm,0.7s,baz=217,slow=6.1,SNR=7.4						
MAW	**Mawson**	**87.70**	**199**	LR	LR	12 35 16.4	
	comp=Z,152nm,21.3s,baz=167,slow=35						
GERES	**GERESS Array B**	**146.34**	**352**	PKPbc	PKPbc	12 03 39.8	-0.4
	0.5nm,0.7s,baz=354,slow=2.7,SNR=5.5						
BRTR	**Keskin Array B**	**146.43**	**321**	PKPbc	PKPdf	12 03 39.6	+0.1
	3.2nm,0.9s,baz=116,slow=2.9,SNR=9.9						

*NNC **01** 11:48:30.6±0.7, 44°.67N×80°.71E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=9.4km s-min=3.6km az=134.0*
ISC 01 11:48:32.3±1.9, 44°.6N±0°.1×81°.0E±0°.1, h27km, n11, σ1§13/17, 9C-7D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**2.41**	**22**	⇑Pn	**Pn**	**11 49 10.8**	**+0.8**
	0.7nm,0.2s,baz=201,slow=13,SNR=203						
MK31				⇑Pg	**Pb**	**11 49 14.8**	**-0.2**
	5.8nm,0.3s,baz=204,slow=12,SNR=8.4						
MK31				⇑Sn	**Sb**	**11 49 42.2**	**-2.1**
	5.1nm,0.3s,baz=204,slow=23,SNR=5.4						
MK31				Lg	Lg	11 49 47.3	
	42nm,0.6s,baz=195,slow=29,SNR=8.4						
ULHL	**Ulahol**	**4.15**	**238**	P	**Pn**	**11 49 34.0**	**-0.1**
	SNR=13						
TKM2	**Tokmak 2**	**4.23**	**249**	⇓Pn	**Pn**	**11 49 34.1**	**-0.9**
	2.1nm,0.3s						
TKM2				⇓Pg	**Pb**	**11 49 45.7**	**-0.3**
	12nm,0.6s						
TKM2				⇑Lg	Lg	11 50 41.7	
	19nm,0.3s						
TKM2	**Tokmak 2**	**4.23**	**249**	P	**Pn**	**11 49 34.8**	**-0.3**
	SNR=9.6						
CHMS	**Chumysh**	**4.77**	**253**	P	**Pn**	**11 49 42.0**	**-0.4**
	SNR=18

TRIZ					S		Sb	12 01 57.3	+0.6
TRIZ	**Trizonia**	**0.61**	**233**	*e*PN			**Pg**	**12 01 48.1**	**+0.2**
TRIZ					eSN		**Sb**	**12 01 57.9**	**+1.2**
TRIZ	**Trizonia**	**0.61**	**233**	P			**Pg**	**12 01 48.2**	**+0.3**
TRIZ					S		**Sb**	**12 01 57.3**	**+0.6**
EFP	**Efpalio**	**0.69**	**243**	*e*PN			**Pb**	**12 01 49.4**	**-0.2**
EFP					eSN		**Sn**	**12 02 00.3**	**-1.2**
EFP	**Efpalio**	**0.69**	**243**	*e*Pn			**Pb**	**12 01 49.4**	**-0.2**
EFP					eSn		**Sn**	**12 02 00.3**	**-1.2**
MRKA	**Markates**	**0.70**	**92**	P			**Pn**	**12 01 51.0**	**-0.4**
MRKA	**Markates**	**0.70**	**92**	P			**Pn**	**12 01 51.0**	**-0.4**
LTK	**Loutraki**	**0.75**	**163**	*e*PN			**Pb**	**12 01 50.5**	**-0.1**
LTK					eSN		**Sn**	**12 02 02.0**	**-1.0**
LTK	**Loutraki**	**0.75**	**163**	*e*Pn			**Pb**	**12 01 50.5**	**-0.1**
LTK					eSn		**Sn**	**12 02 02.0**	**-1.0**
LAKA	**Lakka**	**0.75**	**229**	*e*PN			**Pg**	**12 01 51.1**	**+0.6**
LAKA					eSN		**Sn**	**12 02 01.8**	**-1.2**
LAKA	**Lakka**	**0.75**	**229**	*e*Pn			**Pg**	**12 01 51.1**	**+0.6**
LAKA					eSn		**Sn**	**12 02 01.8**	**-1.2**
KLV	**Kalavryta, Ach**	**0.81**	**212**	P			**Pn**	**12 01 52.7**	**-0.2**
KLV					S		**Sn**	**12 02 04.3**	**-0.4**
KLV	**Kalavryta, Ach**	**0.81**	**212**	*e*PB			**Pg**	**12 01 52.1**	**+0.3**
KLV					eSN		**Sg**	**12 02 03.3**	**+0.8**
KLV	**Kalavryta, Ach**	**0.81**	**212**	*e*Pn			**Pg**	**12 01 52.1**	**+0.3**
KLV	**Kalavryta, Ach**	**0.81**	**212**	P			**Pn**	**12 01 52.7**	**-0.2**
KLV					eSn		**Sg**	**12 02 03.3**	**+0.8**
KLV					S		**Sn**	**12 02 04.3**	**-0.4**
GUR	**Goura**	**0.84**	**199**	*e*PN			**Pb**	**12 01 52.2**	**-0.2**
GUR					eSN		**Sn**	**12 02 04.9**	**-0.7**
GUR	**Goura**	**0.84**	**199**	*e*Pn			**Pb**	**12 01 52.2**	**-0.2**
GUR					eSn		**Sn**	**12 02 04.9**	**-0.7**
DID	**Didima**	**1.30**	**160**	*e*PN			**Pb**	**12 02 00.6**	**+0.5**
DID	**Didima**	**1.30**	**160**	*e*Pn			**Pb**	**12 02 00.6**	**+0.5**

IDC 01 12:03:31.9±2.8, 15°89S×173°28W, h0km, mb3.8/5, mb1 4.2/5, mb1mx3.8/21, mbtmp3.8/5, Error ellipse: s-maj=161.9km s-min=24.3km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.45**	**37**	Pn	Pn	12 04 06.7	-6.6
	11nm,0.3s,baz=9.2,slow=12,SNR=6.6						
AFI				Sn	Sn	12 04 29.9	-14
	42nm,0.3s,baz=70,slow=18,SNR=5.3						
H11S2	**WAKE ISLAND Hy 39.44**	**329**		T	T	12 52 43.6	
	baz=152,slow=0.7,SNR=22						
H11S3	**WAKE ISLAND Hy 39.45**	**329**		T	T	12 52 44.5	
	baz=152,slow=0.7,SNR=19						
H11S1	**WAKE ISLAND Hy 39.46**	**329**		T	T	12 52 45.5	
	baz=152,slow=0.7,SNR=18						
H11N3	**WAKE ISLAND Hy 40.39**	**330**		T	T	12 54 07.9	
	baz=152,slow=0.7,SNR=21						
H11N1	**WAKE ISLAND Hy 40.40**	**330**		T	T	12 54 06.6	
	baz=152,slow=0.7,SNR=17						
H11N2	**WAKE ISLAND Hy 40.41**	**330**		T	T	12 54 09.9	
	baz=152,slow=0.7,SNR=24						
WRA	**Warramunga Arr**	**49.84**	**257**	P	P	12 12 26.6	-0.6
	0.9nm,0.9s,baz=94,slow=7.0,SNR=6.2						
ASAR	**Alice Springs**	**50.07**	**252**	P	P	12 12 29.0	0.0
	3.5nm,0.7s,baz=85,slow=8.3,SNR=52						
NVAR	**Mina Array Bea**	**74.62**	**42**	P	P	12 15 12.5	-0.9
	0.6nm,0.8s,baz=225,slow=5.0,SNR=3.6						
PDAR	**Pinedale Array**	**82.55**	**42**	P	P	12 15 58.1	+1.0
	0.4nm,0.7s,baz=218,slow=6.8,SNR=3.7						
ILAR	**Eielson Array**	**82.90**	**11**	P	P	12 15 58.0	-0.1
	0.7nm,0.6s,baz=231,slow=6.5,SNR=9.9						
GERES	**GERESS Array B**	**146.64**	**352**	PKPbc	PKPbc	12 23 15.8	+0.1
	0.3nm,0.2s,baz=63,slow=0.2,SNR=4.9						

*ISCJB **01** 12:23:11.6±0.6, 22°.12N±0°.03×121°.30E±0°.02, h54km±5km, Error ellipse: s-maj=4.8km s-min=3.7km az=6.8*
*JMA **01** 12:23:11.9±0.3, 22°.06N×121°.43E, h97km, M3.8*
*TAP **01** 12:23:12.0, 22°.15N×121°.25E, h45km, ML3.9, B*
ISC 01 12:23:12.1±1.5, 22°.11N±0°.05×121°.25E±0°.03, h53km±9km, n61, σ1=109/106, 4C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.29**	**103**	⇑*i*P	**Pn**	**12 23 21.2**	**-0.2**
	baz=111						
LAY				S	**Sn**	**12 23 28.1**	**0.0**
	baz=111						
TSEB	**Hengchuen, Pin**	**0.38**	**238**	P	**Pn**	**12 23 22.5**	**+0.2**
	baz=235						
TSEB				S	**Sn**	**12 23 31.0**	**+1.5**
	baz=235						
TAW	**Tawu**	**0.41**	**308**	P	**Pn**	**12 23 22.0**	**-0.6**
	baz=302						
TAW				*e*S	**Sn**	**12 23 29.4**	**-0.7**
	baz=302						
TWK1	**Hengchun**	**0.44**	**249**	⇑*i*P	**Pn**	**12 23 22.7**	**-0.2**
	baz=242						
TWK1				*e*S	**Sn**	**12 23 30.3**	**-0.4**
	baz=242						
EAST	**Anshuo**	**0.46**	**307**	⇑*i*P	**Pn**	**12 23 22.8**	**-0.3**
	baz=302						
EAST				S	**Sn**	**12 23 30.9**	**-0.2**
	baz=302						
HEN	**Hengchun**	**0.48**	**258**	P	**Pn**	**12 23 23.2**	**-0.1**
	baz=252						
HEN				*e*S	**Sn**	**12 23 31.8**	**+0.4**
	baz=252						
ECL	**Taimali**	**0.56**	**331**	P	**Pn**	**12 23 23.5**	**-0.8**
	baz=328						
ECL				S	**Sn**	**12 23 32.1**	**-0.9**
	baz=328						
SCZT	**Fangliau**	**0.64**	**295**	*i* P	**Pn**	**12 23 25.0**	**-0.3**
	baz=290						
SCZT				*e*S	**Sn**	**12 23 34.5**	**-0.2**
	baz=290						
TTN	**Taitung**	**0.65**	**352**	*e*P	**Pn**	**12 23 25.9**	**+0.5**
	baz=351						
TTN				*e*S	**Sn**	**12 23 37.2**	**+2.2**
	baz=351						
TWG	**Pinlang**	**0.73**	**347**	⇓*i*P	**Pn**	**12 23 25.6**	**-0.8**
	baz=346						
TWG				S	**Sn**	**12 23 35.6**	**-1.2**
	baz=346						
TWP	**Hsiaoliuchiu**	**0.85**	**286**	*e*P	**Pn**	**12 23 28.8**	**+0.8**
	baz=283						
TWP				*e*S	**Sn**	**12 23 41.7**	**+2.0**
	baz=283						
SGLT	**Jiouru**	**0.93**	**311**	*e*P	**Pn**	**12 23 29.2**	**+0.2**
	baz=309						
KAU	**Kaohsiung**	**0.98**	**298**	*e*S	**Sn**	**12 23 43.9**	**+1.2**
	baz=295						
CHKT	**Chengkung**	**0.99**	**6**	P	**Pn**	**12 23 29.3**	**-0.5**
	baz=6.0						
CHKT				*e*S	**Sn**	**12 23 42.6**	**-0.4**
	baz=6.0						
TWM1	**Shoushan**	**1.05**	**313**	P	**Pn**	**12 23 31.3**	**+0.7**
	baz=311						
TWM1				*e*S	**Sn**	**12 23 47.0**	**+2.7**
	baz=311						
ELDTW	**Lidau**	**1.10**	**349**	*i* P	**Pn**	**12 23 30.7**	**-0.7**
	baz=348						
ELDTW				S	**Sn**	**12 23 44.8**	**-0.8**
	baz=348						
SGST	**Jiashian**	**1.15**	**328**	P	**Pn**	**12 23 32.1**	**+0.2**
	baz=326						
SGST				*e*S	**Sn**	**12 23 46.7**	**0.0**
	baz=326						
TWF1	**Yuli**	**1.24**	**2**	*i* P	**Pn**	**12 23 32.2**	**-1.0**
	baz=2.0						
TWF1				*e*S	**Sn**	**12 23 47.7**	**-1.2**
	baz=2.0						
CHN1	**Nanshi**	**1.26**	**328**	P	**Pn**	**12 23 33.3**	**-0.2**
	baz=327						
CHN3	**Shinhua**	**1.27**	**320**	P	**Pn**	**12 23 33.9**	**+0.4**
	baz=318						
CHN3				*e*S	**Sn**	**12 23 50.3**	**+0.9**
	baz=318						
WTP	**Ta-pu**	**1.28**	**333**	⇑*i*P	**Pn**	**12 23 33.6**	**-0.2**
	baz=331						
TAI1	**Yung-k'ang**	**1.32**	**315**	*e*S	**Sn**	**12 23 50.7**	**-0.1**
	baz=313						
EHY	**Hungye**	**1.40**	**3**	P	**Pn**	**12 23 34.3**	**-1.0**
	baz=3.0						
EHY				*e*S	**Sn**	**12 23 52.2**	**-0.4**
	baz=3.0						
YUS	**Yu-Shan**	**1.40**	**349**	*i* P	**Pn**	**12 23 36.2**	**+0.4**
	baz=348						
YUS				*e*S	**Sn**	**12 23 52.6**	**-0.9**
	baz=348						
SCLT	**Jiali**	**1.44**	**318**	*e*S	**Sn**	**12 23 53.6**	**-0.1**
	baz=316						
ALS	**Alishan**	**1.46**	**344**	*e*P	**Pn**	**12 23 37.6**	**+1.2**
	baz=343						
CHN5	**Tsauling**	**1.57**	**341**	P	**Pn**	**12 23 37.6**	**-0.2**
	baz=339						
CHN5				*e*S	**Sn**	**12 23 57.9**	**+0.8**
	baz=339						
CHY	**Chiayi**	**1.58**	**331**	*e*S	**Sn**	**12 23 56.8**	**-0.3**
	baz=330						
WGK	**Gukeng**	**1.70**	**338**	*e*P	**Pn**	**12 23 42.2**	**+2.9**
	baz=337						
WGK				*e*S	**Sn**	**12 23 59.8**	**-0.2**
	baz=337						
ESL	**Shilin**	**1.71**	**6**	P	**Pn**	**12 23 38.6**	**-0.9**
	baz=6.0						
ESL				*e*S	**Sn**	**12 23 58.5**	**-1.8**
	baz=6.0						
WSF	**Szhu**	**1.79**	**328**	*e*P	**Pn**	**12 23 39.6**	**-1.1**
	baz=327						
WSF				*e*S	**Sn**	**12 24 01.2**	**-1.1**
	baz=327						
SMLT	**Sun Moon Lake**	**1.80**	**350**	*e*P	**Pn**	**12 23 41.2**	**+0.3**
	baz=349						
TYC	**Yuchr**	**1.83**	**349**	P	**Pn**	**12 23 41.4**	**+0.2**
	baz=348						
WNT	**Mingjian**	**1.84**	**344**	*e*P	**Pn**	**12 23 42.9**	**+1.5**
	baz=343						
WNT				*e*S	**Sn**	**12 24 04.2**	**+0.8**
	baz=343						
WDGT	**Dungji**	**1.86**	**308**	*e*P	**Pn**	**12 23 39.8**	**-1.9**
	baz=307						
WDGT				*e*S	**Sn**	**12 24 00.5**	**-3.5**
	baz=307						
TWD	**Chiawan**	**1.99**	**9**	*e*P	**Pn**	**12 23 43.1**	**-0.3**
	baz=9.0						
TWD				*e*S	**Sn**	**12 24 07.0**	**-0.1**
	baz=9.0						
WHF	**Hehuan Shan**	**2.03**	**0**	P	**Pn**	**12 23 44.6**	**+0.3**
WHF				S	**Sn**	**12 24 08.3**	**-0.4**
TCU	**Taichung**	**2.10**	**346**	*e*P	**Pn**	**12 23 44.6**	**-0.3**
	baz=345						
PNG	**Penghu**	**2.13**	**313**	*e*P	**Pn**	**12 23 43.5**	**-1.8**
	baz=312						
TWT	**Tachien**	**2.14**	**358**	*e*P	**Pn**	**12 23 46.8**	**+1.2**
	baz=357						
TWT				*e*S	**Sn**	**12 24 11.1**	**0.0**
	baz=357						
TWQ1	**Liyutan**	**2.27**	**349**	P	**Pn**	**12 23 47.5**	**+0.2**
	baz=348						
TWQ1				*e*S	**Sn**	**12 24 14.8**	**+0.6**
	baz=348						
NNS	**Nan Shan**	**2.33**	**3**	*e*P	**Pn**	**12 23 50.1**	**+2.0**
	baz=3.0						
NSY	**Sanyi**	**2.34**	**349**	*e*P	**Pn**	**12 23 46.8**	**-1.4**
	baz=348						
NSY				*e*S	**Sn**	**12 24 18.0**	**+2.2**
	baz=348						
ENA	**Nanau**	**2.36**	**11**	*e*P	**Pn**	**12 23 49.7**	**+1.3**
	baz=11						
ENA				*e*S	**Sn**	**12 24 16.2**	**+0.1**
	baz=11						
NSTT	**Nanjuang**	**2.52**	**355**	*e*P	Pn	12 23 53.8	+3.2
	baz=354						
ENTT	**Nioudou**	**2.54**	**7**	*e*P	**Pn**	**12 23 51.9**	**+0.9**
	baz=6.0						
ENTT				*e*S	**Sn**	**12 24 20.5**	**-0.2**
	baz=6.0						
TWC	**Suao**	**2.55**	**12**	*e*P	**Pn**	**12 23 52.8**	**+1.7**
	baz=12						
TWC				*e*S	**Sn**	**12 24 22.8**	**+1.9**
	baz=12						
NSK	**Sanguang**	**2.56**	**2**	*e*P	**Pn**	**12 23 52.4**	**+1.2**
	baz=2.0						
NSK				*e*S	**Sn**	**12 24 21.4**	**+0.1**
	baz=2.0						
TWE	**Neicheng**	**2.63**	**8**	*e*P	**Pn**	**12 23 52.8**	**+0.7**
	baz=8.0						
TWE				*e*S	**Sn**	**12 24 22.4**	**-0.5**
	baz=8.0						
YOJ	**Yonaguni jima**	**2.85**	**34**	P	**Pn**	**12 23 55.6**	**+0.5**
YOJ				S	**Sn**	**12 24 29.7**	**+1.5**
TWA	**Mucha**	**2.88**	**6**	*e*P	**Pn**	**12 23 57.6**	**+2.0**
	baz=6.0						
TWA				*e*S	**Sn**	**12 24 30.4**	**+1.4**
	baz=6.0						
TWB1	**Santiao Chiao**	**2.97**	**13**	*e*P	**Pn**	**12 23 58.4**	**+1.6**
	baz=13						
TWB1				*e*S	**Sn**	**12 24 31.1**	**-0.1**
	baz=13						
NWF	**Wu-fen Shan**	**2.99**	**9**	*e*P	**Pn**	**12 23 59.0**	**+1.8**
	baz=9.0						
NWF				*e*S	**Sn**	**12 24 31.2**	**-0.6**
	baz=9.0						
HATJ	**Hateruma jima**	**3.05**	**50**	P	**Pn**	**12 23 57.9**	**0.0**
HATJ				S	**Sn**	**12 24 32.6**	**-0.6**
IRIF	**Iriomote-Funau**	**3.18**	**45**	P	**Pn**	**12 23 59.9**	**+0.2**
IRIF				S	**Sn**	**12 24 37.1**	**+0.7**
JKRS	**Kuro-shima**	**3.31**	**50**	P	**Pn**	**12 24 01.7**	**+0.3**
JKRS				S	**Sn**	**12 24 38.9**	**-0.6**
KNM	**Kinmen**	**3.46**	**312**	*e*P	**Pn**	**12 24 03.3**	**-0.2**
	baz=309						
KNM				*e*S	**Sn**	**12 24 41.4**	**-1.9**
	baz=309						
JIJ	**Ishigaki jima**	**3.48**	**49**	P	**Pn**	**12 24 03.5**	**-0.3**
JIJ				S	**Sn**	**12 24 42.4**	**-1.4**
JTJ	**Tarama**	**4.05**	**51**	P	**Pn**	**12 24 11.8**	**+0.2**
JTJ				S	**Sn**	**12 24 56.7**	**-1.1**
JMJ	**Miyako jima 2**	**4.59**	**53**	*e*S	**Sn**	**12 25 10.5**	**-0.5**
JOGS	**Gusukube**	**4.64**	**55**	P	**Pn**	**12 24 20.0**	**+0.3**
JOGS				*e*S	**Sn**	**12 25 11.8**	**-0.5**

*IDC **01** 12:34:55.0±0.5, 17°.11S×172°.88W, h0km, mb4.3/16, mb1 4.5/16, mb1mx4.4/24, mbtmp4.3/16, MS4.3/16, Ms1 4.3/16, ms1mx4.0/45, Error ellipse: s-maj=21.7km s-min=14.9km az=127.0*
*NEIC **01** 12:34:56.5±0.4, 17°.03S×172°.85W, h10km, mb4.5/4, Error ellipse: s-maj=16.5km s-min=9.4km az=136.0*
*ISCJB **01** 12:34:59.3±0.4, 17°.07S±0°.09×172°.99W±0°.07, h41km, mb4.4/21, MS4.3/16, Error ellipse: s-maj=13.9km s-min=8.7km az=152.7*
ISC 01 12:35:00.7±0.4, 17°.1S±0°.1×172°.84W±0°.09, h41km, n92, σ1=37/75, mb4.3/21, MS4.5/16, 5C-5D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.35**	**18**	Pn	Pn	12 35 46.0	-4.7
AFI	**Afiamalu**	**3.35**	**18**	Pn	Pn	12 35 41.8	-8.9
	7.3nm,0.3s,baz=96,slow=10,SNR=3.3						
MSVF	**Nonsavu**	**8.71**	**265**	*e*Pn	**Pn**	**12 37 05.7**	**+1.3**
	72nm,1.1s						
RAR	**Rarotonga**	**13.00**	**110**	*e*Pn	Pn	12 37 52.2	-11
	36nm,0.6s						
RAR	**Rarotonga**	**13.00**	**110**	Pn	Pn	12 37 51.1	-12
	4.2nm,0.3s,baz=270,slow=6.1,SNR=6.4						
DZM	**Mont Dzumac**	**20.12**	**253**	*e*LR	LR	12 43 54.2	
	732nm,24.2s						
PPT2	**Papeete2**	**22.21**	**95**	*e*S	**S**	**12 43 54.8**	**-1.5**
	293nm,24.2s						
PPT2				*e*LR	LR	12 44 55.0	
	540nm,27.8s						
PPT	**Papeete**	**22.21**	**95**	LR	LR	12 45 54.5	
	comp=Z,170nm,20.5s,baz=78,slow=30						
TBI	**Tubuai**	**22.78**	**110**	*e*LR	LR	12 45 03.1	
	576nm,30.0s,baz=290						
URZ	**Urewera**	**22.83**	**201**	*e*P	**P**	**12 40 01.0**	**+0.8**
URZ	**Urewera**	**22.83**	**201**	P	**P**	**12 39 59.1**	**-1.1**
	23nm,0.7s,baz=41,slow=3.6,SNR=14						
HNR	**Honiara**	**27.54**	**283**	LR	LR	12 49 59.7	
	comp=Z,382nm,21.7s,baz=308,slow=33						
RPZ	**Rata Peaks**	**29.81**	**204**	P	**P**	**12 41 05.3**	**+1.4**
RPZ	**Rata Peaks**	**29.81**	**204**	P	**P**	**12 41 05.3**	**+1.4**
	4.6nm,0.6s,baz=287,slow=17,SNR=2.4						
RKT	**Rikitea**	**35.98**	**106**	*e*LR	LR	12 51 06.1	
	304nm,29.0s						
CTA	**Charters Tower**	**38.81**	**259**	P	**P**	**12 42 20.2**	**-1.7**
CTA	**Charters Tower**	**38.81**	**259**	P	**P**	**12 42 20.2**	**-1.7**
	4.2nm,0.8s,baz=78,slow=14,SNR=3.8						
H11S2	**WAKE ISLAND Hy 40.71**	**329**		T	T	13 25 40.7	
	baz=148,slow=0.7,SNR=6.0						
H11S3	**WAKE ISLAND Hy 40.72**	**329**		T	T	13 25 44.1	
	baz=148,slow=0.7,SNR=8.2						
H11S1	**WAKE ISLAND Hy 40.73**	**329**		T	T	13 25 46.1	
	baz=148,slow=0.7,SNR=5.5						
H11N3	**WAKE ISLAND Hy 41.66**	**331**		T	T	13 26 51.1	
	SNR=5.4						
STKA	**Stephens Creek**	**43.67**	**242**	P	**P**	**12 43 00.8**	**-0.9**
STKA	**Stephens Creek**	**43.67**	**242**	P	**P**	**12 43 00.8**	**-0.9**
	5.2nm,0.9s,baz=80,slow=5.2,SNR=7.1						
STKA				LR	LR	12 58 01.1	
	comp=Z,360nm,18.3s,baz=29,slow=32						
WRAB	**Tennant Creek**	**49.98**	**258**	*e*P	**P**	**12 43 49.5**	**-1.8**
	5.3nm,0.8s						
WRA	**Warramunga Arr**	**49.99**	**258**	P	**P**	**12 43 49.4**	**-2.0**
WRA	**Warramunga Arr**	**49.99**	**258**	P	**P**	**12 43 49.4**	**-2.0**
	2.7nm,0.6s,baz=96,slow=7.2,SNR=22						
WRA				LR	LR	13 02 23.7	
	comp=Z,189nm,18.9s,baz=85,slow=33						
AS31	**Alice Springs**	**50.11**	**253**	*e*P	**P**	**12 43 51.0**	**-1.2**
ASAR	**Alice Springs**	**50.11**	**253**	P	**P**	**12 43 51.2**	**-1.0**
ASAR				PcP	**PcP**	**12 45 12.7**	**+1.2**
ASAR	**Alice Springs**	**50.11**	**253**	P	**P**	**12 43 51.2**	**-1.0**
	9.3nm,0.8s,baz=90,slow=6.9,SNR=20						
ASAR				PcP	**PcP**	**12 45 12.7**	**+1.2**
	1.3nm,0.7s,baz=115,slow=3.4,SNR=4.6						
VNDA	**Vanda**	**61.73**	**186**	P	**P**	**12 45 15.7**	**+1.2**
VNDA	**Vanda**	**61.73**	**186**	P	**P**	**12 45 15.7**	**+1.2**
	1.3nm,1.0s,baz=3.3,slow=6.8,SNR=5.3						
MJAR	**Matsushiro Arr**	**70.59**	**320**	P	**P**	**12 46 12.9**	**+1.0**
MJAR	**Matsushiro Arr**	**70.59**	**320**	P	**P**	**12 46 12.9**	**+1.0**
	1.6nm,0.9s,baz=166,slow=5.7,SNR=4.5						
FX1	**Attu Island--F**	**70.76**	**351**	LR	LR	13 15 13.9	
	comp=Z,223nm,18.4s,baz=343,slow=34						
LPIG	**La Paz**	**73.49**	**58**	LR	LR	13 12 59.3	
	comp=Z,105nm,18.5s,baz=82,slow=31						
PFO	**Pinyon Flat Ob**	**73.71**	**46**	LR	LR	13 12 21.8	
	comp=Z,204nm,19.1s,baz=128,slow=30						
PETK	**Petropavlovsk-**	**74.42**	**342**	P	**P**	**12 46 34.9**	**+0.5**
PETK	**Petropavlovsk-**	**74.42**	**342**	P	**P**	**12 46 34.9**	**+0.5**
	3.0nm,0.7s,baz=132,slow=8.8,SNR=4.0						
WAKR	**Walker**	**74.58**	**41**	P	**P**	**12 46 35.0**	**-0.8**
YBH	**Yreka Blue Hor**	**74.65**	**37**	LR	LR	13 12 37.0	
	comp=Z,208nm,18.6s,baz=346,slow=30						
NVAR	**Mina Array Bea**	**75.25**	**41**	P	**P**	**12 46 39.8**	**0.0**
NVAR	**Mina Array Bea**	**75.25**	**41**	P	**P**	**12 46 39.8**	**0.0**
	2.2nm,0.9s,baz=231,slow=9.1,SNR=11						
NV11	**Mina Array Sit**	**75.35**	**41**	*e*P	**P**	**12 46 39.8**	**-0.4**
KSRS	**Korea Array**	**77.76**	**316**	P	**P**	**12 46 55.0**	**+1.4**
	4.1nm,1.2s,baz=137,slow=6.0,SNR=7.1						
KSRS				LR	LR	13 19 41.9	
	comp=Z,62nm,18.7s,baz=123,slow=35						
KSAR	**Wonju Array Be**	**77.78**	**316**	P	**P**	**12 46 55.0**	**+1.3**
BBB	**Bella Bella**	**79.18**	**26**	LR	LR	13 17 19.6	
	comp=Z,191nm,19.0s,baz=94,slow=32						
HLID	**Hailey**	**80.62**	**39**	*e*P	**P**	**12 47 08.7**	**-0.7**
	3.4nm,0.8s						
TXAR	**Lajitas Array**	**81.13**	**56**	P	**P**	**12 47 13.5**	**+1.2**
TXAR	**Lajitas Array**	**81.13**	**56**	P	**P**	**12 47 13.5**	**+1.2**
	1.6nm,1.1s,baz=220,slow=7.6,SNR=8.9						
NEW	**Newport**	**81.83**	**34**	LR	LR	13 19 04.4	
	comp=Z,214nm,18.1s,baz=150,slow=32						
DLBC	**Dease Lake**	**83.10**	**21**	LR	LR	13 15 45.5	
	comp=Z,245nm,20.6s,baz=200,slow=30						
PDAR	**Pinedale Array**	**83.19**	**41**	P	**P**	**12 47 22.4**	**-0.6**
PDAR	**Pinedale Array**	**83.19**	**41**	P	**P**	**12 47 22.4**	**-0.6**
	2.3nm,1.0s,baz=202,slow=2.6,SNR=11						
PDAR				LR	LR	13 22 34.2	
	comp=Z,163nm,18.0s,baz=97,slow=34						
BOZ	**Bozeman (W)**	**83.43**	**38**	*e*P	**P**	**12 47 25.4**	**+1.4**
	2.4nm,0.9s						
HRY	**Holter Researc**	**83.88**	**37**	P	**P**	**12 47 25.5**	**-0.9**
	5.5nm,0.7s						
ILAR	**Eielson Array**	**84.02**	**11**	P	**P**	**12 47 26.0**	**-0.5**
ILAR	**Eielson Array**	**84.02**	**11**	P	**P**	**12 47 26.0**	**-0.5**
	1.3nm,1.0s,baz=240,slow=5.7,SNR=10.0						
USHA	**Ushuaia**	**84.20**	**146**	LR	LR	13 14 12.9	
	comp=Z,352nm,21.5s,baz=50,slow=28						
MAW	**Mawson**	**86.34**	**198**	P	**P**	**12 47 38.8**	**+0.6**
MAW	**Mawson**	**86.34**	**198**	P	**P**	**12 47 38.8**	**+0.6**
	1.8nm,0.8s,baz=131,slow=10,SNR=6.5						
MAW				LR	LR	13 24 58.4	
	comp=Z,209nm,20.8s,baz=113,slow=35						
PLCA	**Paso Flores**	**87.97**	**132**	P	**P**	**12 47 47.0**	**+0.2**
PLCA	**Paso Flores**	**87.97**	**132**	P	**P**	**12 47 47.0**	**+0.2**
	1.8nm,1.0s,baz=204,slow=7.2,SNR=4.3						
ULM	**Lac du Bonnet**	**94.93**	**39**	LR	LR	13 28 19.0	
	comp=Z,238nm,18.1s,baz=351,slow=34						
BCIP	**Isla Barro Col**	**95.50**	**82**	*e*P	**P**	**12 48 22.9**	**+0.9**
	86nm,0.9s						
MKAR	**Makanchi Array**	**112.41**	**314**	PKiKP	**PKiKP**	**12 53 32.7**	**+0.3**
MKAR	**Makanchi Array**	**112.41**	**314**	PKiKP	**PKiKP**	**12 53 32.7**	**+0.3**
	0.3nm,0.6s,baz=184,slow=0.5,SNR=5.5						
KMBO	**Kilima Mbogo**	**145.23**	**242**	PKPbc	**PKPdf**	**12 54 35.5**	**+0.2**
KMBO	**Kilima Mbogo**	**145.23**	**242**	PKPbc	**PKPdf**	**12 54 35.5**	**+0.2**
	2.2nm,0.5s,baz=95,slow=5.9,SNR=8.3						
CLL	**Collm**	**145.58**	**354**	⇓*i*PKPbc	**PKPab**	**12 54 38.0**	**+3.1**
	comp=Z,8.0nm,1.1s						
CLL				*e*		12 54 46.0	
UPC	**Upice**	**145.94**	**350**	*e*PKP	**PKPab**	**12 54 39.5**	**+3.1**
UPC				*ex*	x	12 54 45.0	
DPC	**Dobruska-Polom**	**146.04**	**349**	*e*PKP	**PKPab**	**12 54 37.7**	**+0.9**
DPC				*ex*	x	12 54 43.9	
PVCC	**Panska Ves**	**146.15**	**352**	*e*PKP	**PKPab**	**12 54 40.3**	**+3.2**
MORC	**Moravsky Berou**	**146.36**	**348

CTAO	**Charters Tower**	**38.82**	**259**	P		**P**	**12 46 16.0**	**-0.8**
STKA	**Stephens Creek**	**43.69**	**242**	P		**P**	**12 46 55.4**	**-1.2**
STKA	**Stephens Creek**	**43.69**	**242**	P		**P**	**12 46 55.4**	**-1.2**
	2.2nm,0.6s,baz=91,slow=10,SNR=6.3							
WRAB	**Tennant Creek**	**49.99**	**258**	*e*P		**P**	**12 47 43.6**	**-2.5**
	6.8nm,1.0s							
WRA	**Warramunga Arr**	**50.00**	**258**	P		**P**	**12 47 44.0**	**-2.2**
WRA	**Warramunga Arr**	**50.00**	**258**	P		**P**	**12 47 44.0**	**-2.2**
	2.2nm,0.5s,baz=96,slow=7.6,SNR=12							
AS31	**Alice Springs**	**50.12**	**253**	*e*P		**P**	**12 47 45.4**	**-1.7**
ASAR	**Alice Springs**	**50.12**	**253**	P		**P**	**12 47 45.4**	**-1.7**
ASAR	**Alice Springs**	**50.12**	**253**	P		**P**	**12 47 45.4**	**-1.7**
	8.2nm,0.6s,baz=89,slow=8.4,SNR=37							
VNDA	**Vanda**		**61.77**	**186**	P	**P**	**12 49 10.6**	**+1.1**
VNDA	**Vanda**		**61.77**	**186**	P	**P**	**12 49 10.6**	**+1.1**
	0.4nm,0.6s,baz=6.1,slow=7.3,SNR=4.3							
PETK	**Petropavlovsk-**	**74.39**	**342**	P		**P**	**12 50 28.4**	**-0.4**
PETK	**Petropavlovsk-**	**74.39**	**342**	P		**P**	**12 50 28.4**	**-0.4**
	11nm,1.1s,baz=134,slow=8.3,SNR=3.8							
NVAR	**Mina Array Bea**	**75.22**	**41**	P		**P**	**12 50 35.6**	**+1.3**
NVAR	**Mina Array Bea**	**75.22**	**41**	P		**P**	**12 50 35.6**	**+1.3**
	1.8nm,0.9s,baz=228,slow=11,SNR=7.3							
NV11	**Mina Array Sit**	**75.32**	**41**	*e*P		**P**	**12 50 35.9**	**+1.1**
KSRS	**Korea Array**	**77.73**	**316**	P		**P**	**12 50 50.5**	**+2.3**
	2.5nm,1.0s,baz=122,slow=6.0,SNR=8.5							
KSAR	**Wonju Array Be**	**77.75**	**316**	P		**P**	**12 50 50.5**	**+2.2**
SMCO	**Snowmass**	**83.09**	**46**	P		**P**	**12 51 18.4**	**+0.8**
	11nm,0.9s							
PDAR	**Pinedale Array**	**83.16**	**41**	P		**P**	**12 51 17.2**	**-0.4**
PDAR	**Pinedale Array**	**83.16**	**41**	P		**P**	**12 51 17.2**	**-0.4**
	1.4nm,0.9s,baz=220,slow=5.5,SNR=8.5							
ILAR	**Eielson Array**	**83.98**	**11**	P		**P**	**12 51 20.7**	**-0.3**
ILAR	**Eielson Array**	**83.98**	**11**	P		**P**	**12 51 20.7**	**-0.3**
	0.7nm,0.8s,baz=230,slow=5.6,SNR=6.6							
PLCA	**Paso Flores**	**87.99**	**132**	P		**P**	**12 51 41.3**	**-0.3**
PLCA	**Paso Flores**	**87.99**	**132**	P		**P**	**12 51 41.3**	**-0.3**
	1.0nm,0.7s,baz=211,slow=5.9,SNR=4.8							
CMAR	**Chiang Mai Arr**	**93.64**	**288**	P		**P**	**12 52 09.2**	**+0.9**
CMAR	**Chiang Mai Arr**	**93.64**	**288**	P		**P**	**12 52 09.2**	**+0.9**
	1.2nm,0.4s,baz=112,slow=3.2,SNR=6.2							
CMAR					LR	LR	13 31 15.0	
	comp=Z,123nm,18.5s,baz=349,slow=34							
MKAR	**Makanchi Array**	**112.38**	**314**	PKiKP		**PKiKP**	**12 57 27.0**	**-0.1**
MKAR	**Makanchi Array**	**112.38**	**314**	PKiKP		**PKiKP**	**12 57 27.0**	**-0.1**
	0.3nm,0.6s,baz=123,slow=1.1,SNR=3.6							
KMBO	**Kilima Mbogo**	**145.25**	**242**	PKPbc		**PKPdf**	**12 58 31.7**	**+1.6**
KMBO	**Kilima Mbogo**	**145.25**	**242**	PKPbc		**PKPdf**	**12 58 31.7**	**+1.6**
	3.5nm,0.8s,baz=148,slow=3.1,SNR=8.0							
MALT	**Malatya**	**145.42**	**314**	⇓*i*P		**PKPab**	**12 58 32.1**	**+2.4**
TIRR	**Tirgusor**	**147.36**	**331**	⇓*i*P		**PKPab**	**12 58 39.6**	**+2.8**
BRTR	**Keskin Array B**	**147.79**	**320**	PKPbc		**PKPbc**	**12 58 37.1**	**+0.7**
BRTR	**Keskin Array B**	**147.79**	**320**	PKPbc		**PKPbc**	**12 58 37.1**	**+0.7**
	2.3nm,0.7s,baz=144,slow=2.6,SNR=8.6							
GERES	**GERESS Array B**	**147.87**	**352**	PKPbc		**PKPab**	**12 58 37.7**	**-1.1**
GERES	**GERESS Array B**	**147.87**	**352**	PKPbc		**PKPab**	**12 58 37.7**	**-1.1**
	0.3nm,0.3s,baz=70,slow=1.6,SNR=5.5							
VOIR		**148.01**	**336**	⇓*i*P		**PKPab**	**12 58 40.7**	**+1.2**
ARR	**Arges**	**148.23**	**336**	⇑*i*P		**PKPab**	**12 58 41.0**	**+0.7**
GZR	**Gura Zlata**	**148.89**	**338**	⇑*i*P		**PKPab**	**12 58 42.0**	**-1.0**
TORD	**Torodi Ar. Bea**	**173.43**	**126**	PKP		**PKPdf**	**12 59 01.6**	**+0.2**
TORD				PKPab		**PKPab**	**13 00 28.4**	**-1.7**
TORD	**Torodi Ar. Bea**	**173.43**	**126**	PKP		**PKPdf**	**12 59 01.6**	**+0.2**
	0.4nm,0.9s,baz=222,slow=1.9,SNR=2.3							
TORD				PKPab		**PKPab**	**13 00 28.4**	**-1.7**
	0.9nm,0.7s,baz=260,slow=4.8,SNR=4.7							

IDC 01 12:53:24.9±1.7, 16°07S×171°43W, h0km, mb3.9/5, mb1 4.2/6, mb1mx3.8/23, mbtmp4.0/6, Error ellipse: s-maj=53.4km s-min=23.4km az=134.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**2.18**	**351**	Pn		Pn	12 54 02.2	-0.4
	53nm,0.3s,baz=56,slow=3.7,SNR=24							
AFI				Sn		Sn	12 54 18.7	-12
	298nm,0.3s,baz=57,slow=22,SNR=42							
DZM	**Mont Dzumac**	**21.74**	**251**	P		P	12 58 19.6	+1.5
	3.2nm,0.6s,baz=127,slow=20,SNR=4.8							
CTA	**Charters Tower**	**40.35**	**258**	P		P	13 01 08.5	+3.8
	2.2nm,0.4s,baz=73,slow=10,SNR=6.0							
H11S2	**WAKE ISLAND Hy**	**40.54**	**327**	T		T	13 43 53.4	
	baz=152,slow=0.7,SNR=8.1							
H11S3	**WAKE ISLAND Hy**	**40.55**	**327**	T		T	13 43 54.4	
	baz=152,slow=0.7,SNR=7.6							
H11S1	**WAKE ISLAND Hy**	**40.55**	**327**	T		T	13 44 16.4	
	baz=152,slow=0.7,SNR=2.3							
H11N3	**WAKE ISLAND Hy**	**41.46**	**328**	T		T	13 45 16.8	
	baz=124							
H11N1	**WAKE ISLAND Hy**	**41.46**	**328**	T		T	13 45 22.2	
	baz=124							
H11N2	**WAKE ISLAND Hy**	**41.48**	**328**	T		T	13 45 13.7	
	baz=124							
STKA	**Stephens Creek**	**45.36**	**241**	P		P	13 01 44.5	-0.6
	0.8nm,0.4s,baz=90,slow=9.1,SNR=3.8							
WRA	**Warramunga Arr**	**51.54**	**257**	P		P	13 02 32.3	-0.8
	0.7nm,0.3s,baz=97,slow=7.6,SNR=22							
ASAR	**Alice Springs**	**51.71**	**252**	P		P	13 02 34.4	0.0
	3.7nm,0.5s,baz=90,slow=7.9,SNR=18							
PDAR	**Pinedale Array**	**81.51**	**41**	P		P	13 05 44.8	+0.2
	0.2nm,0.6s,baz=231,slow=5.7,SNR=2.4							

IDC 01 12:55:12.2±9.8, 15°60S×172°95W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/22, mbtmp3.7/3, ML2.1/1, MS3.2/1, Ms1 3.2/1, ms1mx3.0/28, Error ellipse: s-maj=434.6km s-min=27.9km az=139.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**2.03**	**34**	Pn		Pn	12 55 46.4	-1.4
	37nm,0.3s,baz=232,slow=19,SNR=1.9							
AFI				Sn		Sn	12 56 03.3	-11
	231nm,0.3s,baz=233,slow=20,SNR=7.5							
RAR	**Rarotonga**	**13.70**	**116**	LR		LR	13 01 43.9	
	comp=Z,102nm,19.8s,baz=271,slow=29							
PPT2	**Papeete2**	**22.49**	**98**	*e*LR		LR	13 05 43.5	
	184nm,27.5s							
TBI	**Tubuai**	**23.43**	**113**	*e*LR		LR	13 06 15.9	
	168nm,29.0s							
WRA	**Warramunga Arr**	**50.22**	**257**	P		P	13 04 09.9	-0.5
	0.7nm,1.0s,baz=97,slow=6.1,SNR=4.0							
ASAR	**Alice Springs**	**50.46**	**252**	P		P	13 04 11.3	-1.0
	1.1nm,0.6s,baz=87,slow=8.2,SNR=4.1							
BRTR	**Keskin Array B**	**146.58**	**321**	PKPbc		PKPab	13 14 57.2	0.0
	0.9nm,0.9s,baz=64,slow=3.4,SNR=3.0							

NEIC 01 12:55:55.5, 36°38N×117°85W, h2km, ML3.5(PAS), After PAS., California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ISA	**Isabella**	**0.87**	**215**	*e*Pg		Pg	12 56 11.7	-0.7
ISA				*e*Sg		Sg	12 56 23.4	-0.4
GSC	**Goldstone**	**1.37**	**141**	*e*Pn		Pn	12 56 20.7	-1.1
GSC				*e*Sn		Sb	12 56 40.0	-0.1
OSI	**Osito Adit**	**1.90**	**202**	*e*Pn		Pn	12 56 29.6	+0.6
OSI				*e*Sn		Sb	12 56 55.0	-0.2
NV11	**Mina Array Sit**	**2.06**	**353**	*e*Pn		Pn	12 56 31.9	+0.5
NV11				*e*Sn		Sn	12 56 58.3	+0.4
MWC	**Mount Wilson**	**2.16**	**184**	*e*Pn		Pn	12 56 32.5	-0.2
MWC				*e*Sn		Sn	12 57 00.3	+0.2
SHPR	**Sheep Range**	**2.18**	**86**	*e*Pn		Pn	12 56 32.5	-0.5
WAKR	**Walker**	**2.47**	**330**	*e*Pn		Pn	12 56 38.9	+1.8
LDFC	**Landfair**	**2.58**	**119**	*e*Pn		Pb	12 56 41.6	-1.1
LDFC				*e*Sn		Sn	12 57 12.8	+2.2
CMB	**Columbia Colle**	**2.61**	**310**	*e*Pn		Pb	12 56 41.0	-2.1
CMB				*e*Sn		Sb	12 57 14.1	-1.7
R11A	**Troy Canyon, C**	**2.67**	**42**	*e*Pn		Pb	12 56 43.0	-1.4
SAO	**San Andreas Ge**	**2.92**	**279**	*e*Pn		Pn	12 56 44.3	+1.4
PFO	**Pinyon Flat Ob**	**2.99**	**157**	*e*Pn		Pn	12 56 42.9	-1.3
PFO				*e*Sg		Sb	12 57 28.6	+1.7
CCUT	**Cedar City**	**3.78**	**71**	*e*Pn		Pn	12 56 55.7	+0.5
ARUT	**Antelope Range**	**3.80**	**67**	Pn		Pn	12 56 57.4	+2.1
BAR	**Barrett**	**3.82**	**165**	*e*Pn		Pn	12 56 55.3	0.0
ELK	**Elko**	**4.82**	**24**	*e*Pn		Pn	12 57 09.9	+0.5
ELK				*e*Pg		Pg	12 57 24.9	-3.3
ELK				*e*Sn		Sn	12 58 03.2	-2.8
WUAZ	**Wupatki**	**5.33**	**97**	*e*Pn		Pn	12 57 18.0	+1.7
	20nm,0.8s							

*IDC **01** 13:01:15.3±1.2, 54°99N×156°47W, h0km, mb3.9/11, mb1 4.1/15, mb1mx3.9/31, mbtmp3.9/15, ML3.8/4, MS3.4/2, Ms1 3.4/2, ms1mx2.8/49, Error ellipse: s-maj=28.5km s-min=17.1km az=156.0*

*ISCJB **01** 13:01:16.1±0.6, 55°08N±0°07×156°33W±0°07, h22km, mb3.9/11, MS3.7/1, Error ellipse: s-maj=11.7km s-min=3.1km az=152.2*

*NEIC **01** 13:01:16.0, 54°75N×156°04W, h27km, mb3.9/1, ML3.7(AEIC), After AEIC.*

ISC 01 13:01:18.7±0.7, 55°16N±0°09×156°50W±0°05, h22km, n71, σ1°50/76, mb4.1/11, South of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CHIR	**Chirikof Islan**	**0.83**	**36**	P		**Pb**	**13 01 34.2**	**-0.3**
CHGN	**Chignik**	**1.58**	**317**	P		**Pn**	**13 01 46.4**	**+1.0**
VNHG	**Veniaminof 1**	**1.85**	**306**	P		**Pb**	**13 01 51.4**	**-0.5**
VNWF	**Veniaminof 8**	**2.00**	**301**	P		**Pb**	**13 01 54.0**	**-0.4**
SDPT	**Sand Point**	**2.29**	**277**	P		**Pn**	**13 01 55.1**	**0.0**
CAHL	**Cahill**	**2.98**	**12**	P		**Pn**	**13 02 05.5**	**+0.9**
PS4A	**Pavlof South-4**	**3.07**	**276**	P		**Pn**	**13 02 06.1**	**+0.2**
DOL	**Dolgoi Island**	**3.08**	**272**	P		**Pn**	**13 02 06.0**	**0.0**
KABR	**Katmai Barrier**	**3.10**	**15**	P		**Pn**	**13 02 07.4**	**+1.0**
ANCK	**Angle Creek**	**3.10**	**10**	P		**Pn**	**13 02 07.7**	**+1.3**
KAKN	**Katmai Knife C**	**3.25**	**14**	P		**Pn**	**13 02 08.7**	**+0.3**
DTNA	**Dutton South F**	**3.30**	**272**	P		**Pn**	**13 02 09.2**	**+0.1**
DRIA	**Deer Island**	**3.32**	**269**	P		**Pn**	**13 02 08.9**	**-0.4**
DT1	**Dutton Round H**	**3.32**	**272**	P		**Pn**	**13 02 09.3**	**0.0**
KDAK	**Kodiak Island**	**3.41**	**38**	*e*Pn		**Pn**	**13 02 09.5**	**-1.1**
KDAK				*e*Sn		**Sn**	**13 02 52.7**	**+2.4**
KDAK	**Kodiak Island**	**3.41**	**38**	Pn		**Pn**	**13 02 09.4**	**-1.1**
	3.4nm,0.3s,baz=204,slow=11,SNR=60							
KDAK				Sn		**Sn**	**13 02 48.4**	**-1.8**
	7.6nm,0.3s,baz=238,slow=20,SNR=8.8							
FALS	**False Pass**	**4.00**	**269**	P		**Pn**	**13 02 18.4**	**-0.1**
FALS				S		**Sn**	**13 03 07.3**	**+2.7**
ISNN	**Isanotski Nort**	**4.21**	**269**	P		**Pn**	**13 02 22.1**	**+0.6**
SSLS	**Shishaldin Sou**	**4.35**	**267**	P		**Pn**	**13 02 23.7**	**+0.2**
SSLS				S		**Sn**	**13 03 14.8**	**+1.3**
SSLW	**Shishaldin Wes**	**4.41**	**268**	P		**Pn**	**13 02 24.9**	**+0.6**
SSBA	**Shishaldin**	**4.41**	**268**	P		**Pn**	**13 02 24.8**	**+0.4**
SSBA				S		**Sn**	**13 03 18.0**	**+2.9**
WESN	**West Dahl Nort**	**4.71**	**266**	P		**Pn**	**13 02 28.7**	**+0.3**
CNPM	**China Poot**	**5.23**	**31**	P		**Pn**	**13 02 35.0**	**-0.5**
CNPM				S		**Sn**	**13 03 34.3**	**-0.7**
AKUT	**Akutan**	**5.48**	**263**	*e*Pn		**Pn**	**13 02 38.6**	**-0.4**
AKUT				*e*Sn		**Sn**	**13 03 40.3**	**-0.9**
BRLK	**Bradley Lake**	**5.52**	**31**	P		**Pn**	**13 02 38.2**	**-1.4**
BRLK				S		**Sn**	**13 03 40.6**	**-1.7**
UNV	**Unalaska Valle**	**5.98**	**261**	P		**Pn**	**13 02 44.8**	**-1.0**
UNV				S		**Sn**	**13 03 51.6**	**-1.8**
MTBL	**Makushin Table**	**6.04**	**263**	P		**Pn**	**13 02 45.7**	**-1.0**
MSW	**Makushin Switc**	**6.12**	**262**	P		**Pn**	**13 02 47.1**	**-0.6**
MSW				S		**Sn**	**13 03 55.0**	**-1.9**
SEW	**Seward**	**6.24**	**34**	P		**Pn**	**13 02 47.8**	**-1.5**
PWL	**Port Wells**	**7.17**	**34**	P		**Pn**	**13 03 00.9**	**-1.3**
GLI	**Glacier Island**	**7.60**	**37**	P		**Pn**	**13 03 07.7**	**-0.3**
FID	**Port Fidalgo**	**7.73**	**39**	P		**Pn**	**13 03 06.9**	**-2.9**
EYAK	**Cordova Ski Ar**	**7.88**	**42**	P		**Pn**	**13 03 09.9**	**-1.9**
VLZ	**Valdez**	**8.04**	**38**	P		**Pn**	**13 03 12.4**	**-1.6**
KLU	**Klutina**	**8.44**	**37**	P		**Pn**	**13 03 17.1**	**-2.5**
ILAR	**Eielson Array**	**10.76**	**23**	Pn		**Pn**	**13 03 49.4**	**-2.0**
ILAR				Sn		**Sn**	**13 05 45.3**	**-5.7**
ILAR	**Eielson Array**	**10.76**	**23**	Pn		**Pn**	**13 03 49.4**	**-2.0**
	0.6nm,0.3s,baz=211,slow=13,SNR=12							
ILAR				Sn		**Sn**	**13 05 45.3**	**-5.7**
	0.1nm,0.3s,baz=210,slow=24,SNR=3.1							
ILAR				LR		LR	13 08 05.6	
	comp=Z,79nm,18.1s,baz=157,slow=38							
EGAK	**Eagle**	**12.29**	**32**	*e*Pn		**Pn**	**13 04 13.0**	**+0.9**
DLBC	**Dease Lake**	**14.83**	**66**	Pn		**Pn**	**13 04 46.7**	**-0.2**
DLBC	**Dease Lake**	**14.83**	**66**	Pn		**Pn**	**13 04 46.7**	**-0.2**
	0.1nm,0.3s,baz=177,slow=17,SNR=2.9							
INK	**Inuvik**	**16.93**	**30**	P		**Pn**	**13 05 14.5**	**+0.6**
	3.4nm,0.9s							
INK	**Inuvik**	**16.93**	**30**	P		**Pn**	**13 05 14.5**	**+0.6**
	0.5nm,0.3s,baz=246,slow=12,SNR=14							
PETK	**Petropavlovsk-**	**26.55**	**285**	P		**P**	**13 06 55.2**	**+0.6**
PETK	**Petropavlovsk-**	**26.55**	**285**	P		**P**	**13 06 55.2**	**+0.6**
	2.4nm,0.5s,baz=85,slow=11,SNR=12							
H11N2	**WAKE ISLAND Hy**	**44.86**	**233**	T		T	13 57 40.1	
	baz=31,slow=0.7,SNR=24							
H11N3	**WAKE ISLAND Hy**	**44.87**	**233**	T		T	13 57 42.9	
	baz=31,slow=0.7,SNR=26							
H11N1	**WAKE ISLAND Hy**	**44.88**	**233**	T		T	13 57 38.9	
	baz=31,slow=0.7,SNR=19							
TXAR	**Lajitas Array**	**45.42**	**102**	P		**P**	**13 09 35.7**	**-0.1**
TXAR	**Lajitas Array**	**45.42**	**102**	P		**P**	**13 09 35.7**	**-0.1**
	0.6nm,0.8s,baz=313,slow=7.0,SNR=5.2							
H11S1	**WAKE ISLAND Hy**	**46.02**	**232**	T		T	13 59 02.3	
	baz=29,slow=0.7,SNR=33							
H11S2	**WAKE ISLAND Hy**	**46.03**	**232**	T		T	13 59 01.0	
	baz=29,slow=0.7,SNR=17							
H11S3	**WAKE ISLAND Hy**	**46.03**	**232**	T		T	13 59 02.2	
	baz=29,slow=0.7,SNR=18							
SADO	**Sadowa**	**48.38**	**68**	LR		LR	13 32 55.8	
	comp=Z,75nm,18.6s,baz=229,slow=39							
KSRS	**Korea Array**	**52.44**	**284**	P		**P**	**13 10 30.3**	**+1.0**
	1.0nm,0.7s,baz=45,slow=6.0,SNR=4.5							
KSAR	**Wonju Array Be**	**52.47**	**284**	P		**P**	**13 10 30.3**	**+0.8**
ARCES	**ARCESS Array B**	**55.61**	**359**	P		**P**	**13 10 52.6**	**+0.5**
ARCES	**ARCESS Array B**	**55.61**	**359**	P		**P**	**13 10 52.6**	**+0.5**
	5.3nm,1.1s,baz=19,slow=8.6,SNR=4.0							
SONM	**Songino Array**	**56.13**	**306**	P		**P**	**13 10 57.7**	**+1.5**
SONM	**Songino Array**	**56.13**	**306**	P		**P**	**13 10 57.7**	**+1.5**
	1.9nm,0.9s,baz=71,slow=5.2,SNR=8.5							
ZALV	**Zalesovo Beam**	**60.15**	**323**	P		**P**	**13 11 25.3**	**+1.2**
ZALV	**Zalesovo Beam**	**60.15**	**323**	P		**P**	**13 11 25.3**	**+1.2**
	1.0nm,0.7s,baz=46,slow=4.3,SNR=5.9							
FINES	**FINESS Array B**	**63.73**	**359**	P		**P**	**13 11 49.0**	**+1.0**
FINES	**FINESS Array B**	**63.73**	**359**	P		**P**	**13 11 49.0**	**+1.0**
	3.9nm,1.0s,baz=10,slow=8.5,SNR=4.0							
MKAR	**Makanchi Array**	**67.00**	**320**	P		**P**	**13 12 09.7**	**+0.2**
MKAR	**Makanchi Array**	**67.00**	**320**	P		**P**	**13 12 09.7**	**+0.2**
	0.3nm,0.5s,baz=51,slow=5.6,SNR=6.5							
AKASG	**Malin Array Be**	**74.41**	**356**	P		**P**	**13 12 54.6**	**+0.2**
AKASG	**Malin Array Be**	**74.41**	**356**	P		**P**	**13 12 54.6**	**+0.2**
	0.4nm,0.4s,baz=10,slow=6.9,SNR=3.9							
ESDC	**Sonseca Array**	**82.66**	**21**	P		**P**	**13 13 41.0**	**+0.8**
ESDC	**Sonseca Array**	**82.66**	**21**	P		**P**	**13 13 41.0**	**+0.8**
	1.1nm,0.7s,baz=341,slow=5.7,SNR=5.1							
CMAR	**Chiang Mai Arr**	**83.06**	**292**	P		**P**	**13 13 43.2**	**+0.7**
CMAR	**Chiang Mai Arr**	**83.06**	**292**	P		**P**	**13 13 43.2**	**+0.7**
	0.4nm,0.4s,baz=29,slow=5.7,SNR=4.7							

*IDC **01** 13:11:10.6±0.5, 15°93S×172°85W, h0km, mb4.4/21, mb1 4.6/21, mb1mx4.5/27, mbtmp4.4/21, MS3.8/3, Ms1 3.8/3, ms1mx3.3/36, Error ellipse: s-maj=20.1km s-min=14.0km az=130.0*

*NEIC **01** 13:11:11.9±0.4, 15°95S×172°90W, h10km, mb4.5/3, Error ellipse: s-maj=17.1km s-min=10.3km az=136.0*

*AUST **01** 13:11:22.3±6.5, 16°26S×171°32W, h180km±38km, Error ellipse: s-maj=92.3km s-min=16.1km az=19.0*

ISC 01 13:11:13.7±0.4, 15°85S±0°09×172°73W±0°09, h24km, n71, σ1°52/72, mb4.4/21, MS3.9/3, 4C-7D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**2.14**	**26**	Pn		Pn	13 11 42.9	-5.1
AFI				Sn		**Sn**	**13 12 09.9**	**-4.0**
AFI	**Afiamalu**	**2.14**	**26**	Pn		Pn	13 11 42.9	-5.1
	19nm,0.3s,baz=238,slow=16,SNR=5.9							
AFI				Sn		**Sn**	**13 12 09.9**	**-4.0**
	84nm,0.3s,baz=60,slow=20,SNR=13							
NIUE	**Niue**	**4.18**	**141**	⇑P		Pn	13 12 10.0	-6.0
	baz=3.1,SNR=17							
DZM	**Mont Dzumac**	**20.63**	**249**	*e*LR		LR	13 21 17.6	
	224nm,25.0s							
DZM	**Mont Dzumac**	**20.63**	**249**	P		**P**	**13 15 51.0**	**-0.7**
DZM	**Mont Dzumac**	**20.63**	**249**	P		**P**	**13 15 51.0**	**-0.7**
	14nm,1.1s,baz=69,slow=16,SNR=4.2							
PPT2	**Papeete2**	**22.24**	**98**	*e*S		**S**	**13 20 08.5**	**-4.4**
	389nm,27.0s							
PPT2				*e*LR		LR	13 21 12.7	
	93nm,31.8s							
TBI	**Tubuai**	**23.14**	**112**	*e*LQ		LQ	13 20 44.6	
	300nm,27.0s							
TBI				*e*LR		LR	13 21 46.3	
	171nm,27.2s							
URZ	**Urewera**	**24.05**	**200**	P		**P**	**13 16 25.2**	**-1.8**
	16nm,1.0s							
URZ	**Urewera**	**24.05**	**200**	P		**P**	**13 16 27.1**	**+0.1**
	13nm,1.0s,baz=349,slow=12,SNR=4.0							
URZ				LR		LR	13 24 45.9	
	comp=Z,158nm,20.0s,baz=24,slow=34							
HNR	**Honiara**	**27.39**	**280**	LR		LR	13 25 47.4	
	comp=Z,281nm,19.2s,baz=127,slow=32							
ARMA	**Armidale**	**35.66**	**240**	⇓P		**P**	**13 18 08.6**	**-1.7**
	baz=37,SNR=4.9							
CTA	**Charters Tower**	**39.17**	**258**	P		**P**	**13 18 38.4**	**-1.6**
CTA	**Charters Tower**	**39.17**	**258**	P		**P**	**13 18 38.4**	**-1.6**
	2.5nm,0.5s,baz=6.1,slow=18,SNR=3.5							
CMSA	**Cobar Meteorol**	**40.88**	**240**	⇓P		**P**	**13 18 52.2**	**-1.8**
	baz=42,SNR=19							
STKA	**Stephens Creek**	**44.37**	**240**	*e*P		**P**	**13 19 20.9**	**-1.5**
	2.3nm,0.8s							
STKA	**Stephens Creek**	**44.37**	**240**	⇑P		**P**	**13 19 21.1**	**-1.3**
	baz=45,SNR=11							
STKA	**Stephens Creek**	**44.37**	**240**	P		**P**	**13 19 21.0**	**-1.4**
	11nm,0.8s,baz=92,slow=9.2,SNR=25							
STKA				LR		LR	13 36 36.4	
	comp=Z,153nm,19.8s,baz=200,slow=34							
BBOO	**Buckleboo**	**49.14**	**240**	⇑P		**P**	**13 19 58.5**	**-1.3**
	baz=50,SNR=5.5							
WRAB	**Tennant Creek**	**50.36**	**257**	*e*P		**P**	**13 20 07.2**	**-2.0**
	12nm,1.0s							
WRA	**Warramunga Arr**	**50.37**	**257**	P		**P**	**13 20 07.4**	**-1.9**
WRA				PcP		**PcP**	**13 21 28.4**	**+0.6**
WRA	**Warramunga Arr**	**50.37**	**257**	P		**P**	**13 20 07.4**	**-1.9**
	12nm,1.1s,baz=90,slow=6.7,SNR=57							
WRA				PcP		**PcP**	**13 21 28.4**	**+0.6**
	3.2nm,1.0s,baz=82,slow=4.3,SNR=5.5							
AS31	**Alice Springs**	**50.58**	**252**	*e*P		**P**	**13 20 09.0**	**-1.9**
ASAR	**Alice Springs**	**50.58**	**252**	P		**P**	**13 20 08.8**	**-2.1**
ASAR				PcP		**PcP**	**13 21 28.1**	**-0.4**
ASAR	**Alice Springs**	**50.58**	**252**	P		**P**	**13 20 08.8**	**-2.1**
	20nm,0.9s,baz=84,slow=8.7,SNR=64							
ASAR				PcP		**PcP**	**13 21 28.1**	**-0.4**
	1.2nm,0.9s,baz=114,slow=3.7,SNR=4.5							
ASPA	**Alice Springs**	**50.59**	**252**	⇓P		**P**	**13 20 09.3**	**-1.6**
	baz=52							
KDU	**Kakadu**	**53.08**	**266**	⇓P		**P**	**13 20 29.2**	**-0.3**
	baz=54,SNR=3.7							
KNRA	**Kununurra**	**56.13**	**262**	⇓P		**P**	**13 20 50.9**	**-0.8**
	baz=57,SNR=3.3							
FITZ	**Fitzroy Crossi**	**58.74**	**258**	⇑P		**P**	**13 21 09.8**	**-0.3**
	baz=60,SNR=3.8							
VNDA	**Vanda**		**62.99**	**186**	P	**P**	**13 21 39.0**	**+0.9**
VNDA	**Vanda**		**62.99**	**186**	P	**P**	**13 21 39.0**	**+0.9**

*GCMT **01** 13:33:47.0±0.2, 15.˙60S×173.˙14W, h12km, MW5.1, Moment Tensor Solution. s46,c60; s96,c162; Moment tensor: Scale 10^16Nm; Mrr-5.19±.10; Mθθ4.13±.09; Mφφ1.07±.09; Mrθ0.75±.29; Mrφ1.20±.08; Mθφ1.84±.37; Best double couple: M0 5.20000×10^16 NP1:φ237.00000°, δ54.00000°, λ-106.00000°. NP2:φ82.00000°, δ39.00000°, λ-70.00000°. Principal axes: T 4.7300, Plg8.0000°, Azm338.0000°; N 0.9900, Plg13.0000°, Azm246.0000°; P -5.7100, Plg75.0000°, Azm100.0000°; Data Used: II IU IC G CN.*

ISC 01 13:33:44.1±0.5, 15.˙55S±0.˙08×173.˙53W±0.˙07, h13km±2km, h13km:pP-P, n445, σ0.81/438, mb5.0/55, MS4.5/35, 124C-127D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.35**	**46**	*e*Pn	Pn	13 34 14.7	-7.8
AFI				Sn	Sn	13 34 38.5	-13
AFI	**Afiamalu**	**2.35**	**46**	Pn	Pn	13 34 15.0	-7.5
	64nm,0.3s,baz=71,slow=1.1,SNR=30						
AFI				Sn	Sn	13 34 38.5	-13
	269nm,0.3s,baz=65,slow=21,SNR=10.0						
NIUE	**Niue**	**4.91**	**136**	⇓P	Pn	13 34 50.3	-7.4
	baz=4.8,SNR=46						
MSVF	**Nonsavu**	**8.36**	**254**	*e*Pn	**Pn**	**13 35 44.9**	**-0.3**
	94nm,1.2s						
RAR	**Rarotonga**	**14.22**	**115**	Pn	Pn	13 36 57.0	-8.3
RAR	**Rarotonga**	**14.22**	**115**	Pn	Pn	13 36 57.0	-8.3
	1.9nm,0.3s,baz=270,slow=3.2,SNR=3.4						
RAR				LR	LR	13 41 15.9	
	comp=Z,869nm,20.4s,baz=270,slow=32						
RAO	**Raoul Island**	**14.23**	**196**	LR	LR	13 41 42.8	
	comp=Z,2μm,18.8s,baz=26,slow=34						
DZM	**Mont Dzumac**	**20.03**	**248**	*e*P	Pn	13 38 25.1	+6.3
	154nm,2.0s						
DZM				*e*LR	LR	13 43 09.3	
	1μm,27.6s						
DZM	**Mont Dzumac**	**20.03**	**248**	*e*P	**P**	**13 38 16.3**	**-0.7**
	466nm,2.3s						
DZM	**Mont Dzumac**	**20.03**	**248**	P	Pn	13 38 19.2	+0.4
	6.2nm,0.8s,baz=77,slow=18,SNR=4.3						
DZM				LR	LR	13 44 30.5	
	comp=Z,730nm,20.8s,baz=8.8,slow=32						
PPT	**Papeete**	**23.04**	**98**	LR	LR	13 44 43.4	
	comp=Z,684nm,19.8s,baz=86,slow=29						
PPT2	**Papeete2**	**23.04**	**98**	*e*S	**S**	**13 42 57.3**	**-2.9**
	2μm,27.0s						
PPT2				*e*LR	LR	13 44 04.4	
	1μm,25.8s						
TBI	**Tubuai**	**23.96**	**113**	*e*LQ	LQ	13 43 35.5	
	2μm,28.0s						
TBI				*e*LR	LR	13 44 36.7	
	2μm,27.2s,baz=288						
URZ	**Urewera**	**24.09**	**198**	P	**P**	**13 38 58.1**	**-1.2**
URZ	**Urewera**	**24.09**	**198**	P	**P**	**13 38 58.1**	**-1.2**
	9.8nm,0.7s,baz=318,slow=6.3,SNR=5.3						
URZ				LR	LR	13 47 33.6	
	comp=Z,2μm,18.9s,baz=27,slow=35						
HNR	**Honiara**	**26.59**	**280**	LR	LR	13 48 43.0	
	comp=Z,380nm,19.4s,baz=119,slow=34						
RPZ	**Rata Peaks**	**31.00**	**202**	P	**P**	**13 40 00.1**	**-1.3**
RPZ	**Rata Peaks**	**31.00**	**202**	P	**P**	**13 40 00.1**	**-1.3**
	2.8nm,0.4s,baz=49,slow=20,SNR=2.1						
RKT	**Rikitea**	**37.07**	**108**	*e*LR	LR	13 50 22.0	
	844nm,30.2s						
CTAO	**Charters Tower**	**38.49**	**257**	*e*P	**P**	**13 41 05.6**	**-0.7**
H11S2	**WAKE ISLAND Hy**	**39.03**	**329**	T	T	14 22 50.4	
	baz=152,slow=0.7,SNR=48						
H11S3	**WAKE ISLAND Hy**	**39.04**	**329**	T	T	14 22 51.2	
	baz=152,slow=0.7,SNR=33						
H11S1	**WAKE ISLAND Hy**	**39.04**	**329**	T	T	14 22 53.4	
	baz=152,slow=0.7,SNR=37						
H11N3	**WAKE ISLAND Hy**	**39.98**	**331**	T	T	14 24 04.4	
	baz=152,slow=0.7,SNR=87						
H11N1	**WAKE ISLAND Hy**	**39.98**	**331**	T	T	14 24 04.8	
	baz=152,slow=0.7,SNR=81						
H11N2	**WAKE ISLAND Hy**	**39.99**	**331**	T	T	14 24 05.8	
	baz=152,slow=0.7,SNR=106						
CMSA	**Cobar Meteorol**	**40.37**	**239**	⇑P	**P**	**13 41 21.6**	**-0.3**
	baz=41,SNR=6.7						
QLP	**Quilpie**	**40.75**	**247**	⇑P	**P**	**13 41 26.2**	**+1.2**
	baz=42,SNR=3.3						
STKA	**Stephens Creek**	**43.86**	**240**	*e*P	**P**	**13 41 50.0**	**-0.4**
	3.8nm,1.0s						
STKA	**Stephens Creek**	**43.86**	**240**	P	**P**	**13 41 50.3**	**0.0**
	7.7nm,0.7s,baz=73,slow=11,SNR=9.3						
STKA				LR	LR	13 58 35.5	
	comp=Z,208nm,19.9s,baz=47,slow=34						
HTT	**Hallett**	**46.36**	**238**	⇑P	**P**	**13 42 11.1**	**+0.8**
	baz=47						
BBOO	**Buckleboo**	**48.63**	**240**	⇓P	**P**	**13 42 28.6**	**+0.7**
	baz=50,SNR=6.3						
WRAB	**Tennant Creek**	**49.68**	**257**	*e*P	**P**	**13 42 35.5**	**-0.7**
	39nm,1.6s						
WRA	**Warramunga Arr**	**49.69**	**257**	P	**P**	**13 42 35.5**	**-0.7**
WRA				PcP	**PcP**	**13 43 58.8**	**+1.3**
WRA	**Warramunga Arr**	**49.69**	**257**	P	**P**	**13 42 35.5**	**-0.7**
	2.7nm,0.5s,baz=96,slow=7.8,SNR=54						
WRA				PcP	**PcP**	**13 43 58.8**	**+1.3**
	0.9nm,0.6s,baz=92,slow=3.5,SNR=2.9						
WRA				LR	LR	14 02 42.3	
	comp=Z,387nm,19.3s,baz=80,slow=35						
AS17	**Alice Springs**	**49.87**	**252**	⇓P	**P**	**13 42 37.5**	**-0.1**
	baz=51						
AS31	**Alice Springs**	**49.95**	**252**	*e*P	**P**	**13 42 38.0**	**-0.1**
ASAR	**Alice Springs**	**49.95**	**252**	P	**P**	**13 42 37.9**	**-0.3**
ASAR	**Alice Springs**	**49.95**	**252**	P	**P**	**13 42 37.9**	**-0.3**
	18nm,0.6s,baz=85,slow=8.0,SNR=263						
ASAR				LR	LR	14 02 29.0	
	comp=Z,238nm,20.3s,baz=83,slow=34						
KDU	**Kakadu**	**52.34**	**266**	⇑P	**P**	**13 42 56.8**	**+0.7**
	baz=53,SNR=4.7						
FORT	**Forrest**	**55.24**	**243**	⇑P	**P**	**13 43 16.6**	**-0.6**
	baz=56						
FITZ	**Fitzroy Crossi**	**58.06**	**258**	P	**P**	**13 43 38.2**	**+0.7**
FITZ	**Fitzroy Crossi**	**58.06**	**258**	⇓P	**P**	**13 43 37.9**	**+0.4**
	baz=59,SNR=3.8						
FITZ	**Fitzroy Crossi**	**58.06**	**258**	P	**P**	**13 43 38.2**	**+0.7**
	0.8nm,0.5s,baz=144,slow=2.3,SNR=3.9						
JCJ	**Chichijima**	**60.37**	**314**	LR	LR	14 05 14.0	
	comp=Z,417nm,19.2s,baz=127,slow=31						
SBA	**Scott Base**	**63.09**	**185**	*e*P	**P**	**13 44 10.5**	**-0.3**
	162nm,2.2s						
MBWA	**Marble Bar**	**63.20**	**254**	*e*P	**P**	**13 44 12.8**	**+0.3**
VNDA	**Vanda**	**63.22**	**186**	*e*P	**P**	**13 44 12.2**	**+0.5**
	56nm,2.0s						
VNDA	**Vanda**	**63.22**	**186**	P	**P**	**13 44 12.9**	**+1.2**
	1.4nm,0.7s,baz=2.6,slow=5.3,SNR=11						
VNDA				LR	LR	14 05 08.2	
	comp=Z,235nm,21.8s,baz=14,slow=30						
MEEK	**Meekatharra**	**63.65**	**248**	⇑P	**P**	**13 44 15.3**	**-0.1**
	baz=64,SNR=10						
KLBR	**Kellerberrin**	**64.06**	**242**	⇓P	**P**	**13 44 18.3**	**+0.2**
	baz=65,SNR=11						
MJAR	**Matsushiro Arr**	**68.97**	**320**	LR	LR	14 09 32.5	
	comp=Z,425nm,21.1s,baz=125,slow=31						
FX1	**Attu Island--F**	**69.11**	**351**	P	**P**	**13 44 50.1**	**+0.4**
FX1	**Attu Island--F**	**69.11**	**351**	P	**P**	**13 44 50.1**	**+0.4**
	12nm,0.7s,baz=201,slow=9.2,SNR=2.6						
FX1				LR	LR	14 09 01.9	
	comp=Z,738nm,19.2s,baz=170,slow=31						
PETK	**Petropavlovsk-**	**72.73**	**342**	P	**P**	**13 45 13.1**	**+1.4**
PETK	**Petropavlovsk-**	**72.73**	**342**	P	**P**	**13 45 13.1**	**+1.4**
	2.3nm,0.7s,baz=115,slow=10,SNR=6.3						
PETK				LR	LR	14 13 59.9	
	comp=Z,114nm,19.7s,baz=159,slow=33						
EDW2	**Edwards Air Fo**	**72.73**	**45**	⇑P	**P**	**13 45 12.7**	**+0.4**
	baz=73						
MONP	**Monument Peak**	**72.75**	**48**	⇑P	**P**	**13 45 12.8**	**+0.2**
	baz=73						
ISA	**Isabella**	**72.84**	**44**	*e*P	**P**	**13 45 12.7**	**-0.2**
	22nm,1.7s						
ISA	**Isabella**	**72.84**	**44**	⇑P	**P**	**13 45 13.4**	**+0.5**
	baz=73						
PFO	**Pinyon Flat Ob**	**73.11**	**47**	LR	LR	14 13 58.5	
	comp=Z,254nm,18.1s,baz=254,slow=33						
WDC	**Whiskeytown Da**	**73.17**	**38**	*e*P	**P**	**13 45 13.6**	**-1.0**
BELC	**Belle Mtn. Jos**	**73.64**	**47**	⇓P	**P**	**13 45 18.2**	**+0.4**
	baz=74						
MPMC	**Manual Prospec**	**73.73**	**44**	⇑P	**P**	**13 45 18.9**	**+0.7**
	baz=74						
GSC	**Goldstone**	**73.78**	**45**	⇑P	**P**	**13 45 18.7**	**+0.3**
	baz=74						
BC3	**Big Chuckawall**	**73.84**	**47**	⇓P	**P**	**13 45 19.5**	**+0.6**
	baz=74						
HEC	**Hector,Ludlow**	**73.85**	**46**	⇓P	**P**	**13 45 18.7**	**-0.1**
	baz=74						
BEKR	**Beckworth**	**74.06**	**40**	*e*P	**P**	**13 45 19.4**	**-0.7**
	7.9nm,1.5s						
GMRC	**Granite Mounta**	**74.29**	**46**	⇓P	**P**	**13 45 21.8**	**+0.3**
	baz=74						
IRM	**Iron Mountain**	**74.32**	**47**	⇓P	**P**	**13 45 22.0**	**+0.4**
	baz=74						
GRAC	**Grevine Rang**	**74.33**	**44**	⇑P	**P**	**13 45 22.3**	**+0.8**
	baz=74						
FURC	**Furnace Creek,**	**74.38**	**44**	⇑P	**P**	**13 45 22.3**	**+0.6**
	baz=74						
TUQ	**Turquoise Moun**	**74.46**	**46**	⇑P	**P**	**13 45 22.7**	**+0.2**
	baz=75						
QSPA	**South Pole Qui**	**74.50**	**180**	LR	LR	14 11 16.0	
	comp=Z,358nm,20.4s,baz=41,slow=30						
NVAR	**Mina Array Bea**	**74.52**	**42**	P	**P**	**13 45 23.4**	**+0.5**
NVAR	**Mina Array Bea**	**74.52**	**42**	P	**P**	**13 45 23.4**	**+0.5**
	3.1nm,0.8s,baz=228,slow=9.9,SNR=13						
NVAR				LR	LR	14 11 04.9	
	comp=Z,328nm,20.2s,baz=302,slow=30						
113A	**Mohawk Valley,**	**74.60**	**49**	⇓P	**P**	**13 45 23.4**	**+0.2**
	baz=75						
214A	**Organ Pipe Nat**	**74.90**	**50**	⇓P	**P**	**13 45 25.1**	**+0.1**
	baz=75						
TPH	**Tonopah**	**75.02**	**43**	*e*P	**P**	**13 45 25.4**	**-0.3**
KDAK	**Kodiak Island**	**75.09**	**11**	P	**P**	**13 45 25.7**	**+0.4**
KDAK	**Kodiak Island**	**75.09**	**11**	P	**P**	**13 45 25.7**	**+0.4**
	9.2nm,0.8s,baz=241,slow=13,SNR=3.2						
PDMCI	**Parker Dam,Lak**	**75.11**	**47**	⇑P	**P**	**13 45 26.3**	**+0.2**
	baz=75						
MOD	**Modoc**	**75.31**	**38**	*e*P	**P**	**13 45 28.0**	**+0.7**
	146nm,1.6s						
Z14A	**Wintersburg**	**75.50**	**49**	⇓P	**P**	**13 45 28.8**	**+0.4**
	baz=76						
SHPR	**Sheep Range**	**75.55**	**45**	*e*P	**P**	**13 45 28.9**	**+0.1**
	29nm,1.5s						
W13A	**Huapai Mount**	**75.70**	**47**	⇑P	**P**	**13 45 29.9**	**+0.2**
	baz=76						
Y14A	**Wickenburg**	**75.74**	**48**	⇓P	**P**	**13 45 30.4**	**+0.6**
	baz=76						
KSRS	**Korea Array**	**76.18**	**316**	LR	LR	14 12 56.3	
	comp=Z,222nm,21.5s,baz=123,slow=31						
R11A	**Troy Canyon, C**	**76.25**	**43**	*e*P	**P**	**13 45 31.0**	**-1.7**
R11A	**Troy Canyon, C**	**76.25**	**43**	⇓P	**P**	**13 45 32.9**	**+0.1**
	baz=76						
TUC	**Tucson**	**76.58**	**51**	*e*P	**P**	**13 45 31.6**	**-3.0**
WVOR	**Wild Horse Val**	**76.62**	**38**	*e*P	**P**	**13 45 35.2**	**+0.5**
	17nm,1.4s						
X16A	**Lo Mia Camp, P**	**77.11**	**49**	⇓P	**P**	**13 45 38.4**	**+0.7**
	baz=77						
319A	**Douglas**	**77.28**	**52**	⇓P	**P**	**13 45 39.1**	**+0.4**
	baz=77						
ARUT	**Antelope Range**	**77.39**	**45**	*e*P	**P**	**13 45 39.5**	**+0.3**
USRK	**Ussuriysk Arra**	**77.43**	**323**	P	**P**	**13 45 41.5**	**+2.5**
	2.1nm,0.9s,baz=142,slow=7.3,SNR=2.7						
USRK				LR	LR	14 16 34.9	
	comp=Z,601nm,20.9s,baz=296,slow=33						
U15A	**North Rim**	**77.49**	**46**	⇑P	**P**	**13 45 40.6**	**+0.6**
	baz=78						
WUAZ	**Wupatki**	**77.69**	**48**	*e*P	**P**	**13 45 40.9**	**-0.1**
	24nm,1.6s						
WUAZ	**Wupatki**	**77.69**	**48**	⇑P	**P**	**13 45 41.3**	**+0.3**
	baz=78						
ELK	**Elko**	**77.77**	**41**	*e*P	**P**	**13 45 40.8**	**-0.6**
320A	**Kipp Ranch, An**	**77.83**	**52**	⇑P	**P**	**13 45 42.4**	**+0.6**
	baz=78						
220A	**Playas Peak, P**	**78.09**	**52**	⇑P	**P**	**13 45 43.3**	**+0.1**
	baz=78						
X18A	**Snowflake**	**78.24**	**49**	⇑P	**P**	**13 45 44.3**	**+0.3**
	baz=78						
120A	**U Bar Ranch, L**	**78.30**	**51**	⇓P	**P**	**13 45 44.9**	**+0.5**
	baz=78						
Z20A	**Nine Sixteen R**	**78.59**	**51**	⇓P	**P**	**13 45 46.7**	**+0.7**
	baz=79						
MVU	**Marysvale**	**78.59**	**45**	*e*P	**P**	**13 45 45.0**	**-0.9**
	40nm,1.7s						
W18A	**Petrified Fore**	**78.67**	**49**	⇓P	**P**	**13 45 46.7**	**+0.3**
	baz=79						
221A	**Mesquite Ranch**	**78.71**	**52**	⇑P	**P**	**13 45 47.3**	**+0.7**
	baz=79						
BMO	**Blue Mountains**	**78.82**	**37**	*e*P	**P**	**13 45 46.6**	**-0.3**
	36nm,1.7s						
MFID	**Camas Ranch**	**78.88**	**39**	⇑P	**P**	**13 45 47.7**	**+0.4**
	baz=79						
121A	**Cookes Peak, D**	**78.93**	**52**	⇑P	**P**	**13 45 48.3**	**+0.4**
	baz=79						
DUG	**Dugway**	**79.05**	**43**	⇓P	**P**	**13 45 48.7**	**+0.4**
	baz=79						
MDJ	**Mudanjiang**	**79.07**	**322**	P	**P**	**13 45 48.5**	**+0.4**
MDJ				pP	**pP**	**13 45 51.7**	**-0.7**
MDJ				S	**S**	**13 55 48.2**	**+1.2**
MDJ				sS	**sS**	**13 55 53.9**	**-0.3**
MDJ				ScS	**ScS**	**13 56 10.6**	**+0.5**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.9s						
MDJ				LR	LR		
	comp=N,250nm,24.2s						
MDJ				LR	LR		
	comp=E,300nm,25.2s						
MDJ				LR	LR		
	comp=Z,500nm,22.3s						
Y20A	**Horse Springs,**	**79.11**	**50**	⇑P	**P**	**13 45 49.4**	**+0.5**
	baz=79						
222A	**Williams Famil**	**79.27**	**52**	⇑P	**P**	**13 45 49.9**	**+0.2**
	baz=79						
X20A	**Quemado**	**79.31**	**50**	⇓P	**P**	**13 45 50.9**	**+0.9**
	baz=79						
Q16A	**Castle Valley**	**79.50**	**45**	⇓P	**P**	**13 45 51.5**	**+0.6**
	baz=80						
W20A	**Ramah**	**79.57**	**49**	⇓P	**P**	**13 45 52.1**	**+0.7**
	baz=80						
122A	**Conniff Cattle**	**79.60**	**52**	⇑P	**P**	**13 45 52.2**	**+0.7**
	baz=80						
TMUT	**Trail Mountain**	**79.66**	**44**	*e*P	**P**	**13 45 51.2**	**-0.7**
	38nm,1.4s						
Y21A	**Point of Rocks**	**79.67**	**50**	⇓P	**P**	**13 45 52.8**	**+0.8**
	baz=80						
HLID	**Hailey**	**79.82**	**39**	*e*P	**P**	**13 45 51.6**	**-0.8**
	7.3nm,0.8s						
HLID	**Hailey**	**79.82**	**39**	⇑P	**P**	**13 45 52.9**	**+0.4**
	baz=80,SNR=17						
Z22A	**Elephant Butte**	**79.87**	**51**	⇑P	**P**	**13 45 53.3**	**+0.3**
	baz=80						
V20A	**Brimhall**	**79.91**	**48**	⇓P	**P**	**13 45 53.7**	**+0.5**
	baz=80						
U20A	**Newcomb**	**80.13**	**48**	⇓P	**P**	**13 45 54.9**	**+0.5**
	baz=80						
123A	**Bell Site, Whi**	**80.13**	**52**	⇑P	**P**	**13 45 55.0**	**+0.6**
	baz=80						
Y22A	**Socorro**	**80.17**	**51**	⇑P	**P**	**13 45 55.1**	**+0.4**
	baz=80						
324A	**Moseley Ranch,**	**80.23**	**54**	⇓P	**P**	**13 45 54.7**	**-0.2**
	baz=80,SNR=6.5						
LAZ	**Ladron**	**80.25**	**50**	*e*P	**P**	**13 45 54.8**	**-0.2**
	31nm,2.0s						
425A	**Indio Mountain**	**80.34**	**54**	⇓P	**P**	**13 45 55.8**	**+0.3**
	baz=80,SNR=11						
X22A	**Bernardo**	**80.39**	**50**	⇑P	**P**	**13 45 56.1**	**+0.3**
	baz=80						
MNTX	**Cornudas Mount**	**80.41**	**53**	*e*P	**P**	**13 45 55.3**	**-0.5**
	31nm,1.8s						
Z23A	**Rita Site, Whi**	**80.43**	**52**	⇑P	**P**	**13 45 56.5**	**+0.6**
	baz=80						
224A	**Cornudas Mount**	**80.46**	**53**	⇑P	**P**	**13 45 56.1**	**-0.1**
	baz=81,SNR=6.6						
626A	**Big Bend Ranch**	**80.51**	**56**	⇓P	**P**	**13 45 57.1**	**+0.7**
	baz=81						
BNM	**Barren Site**	**80.52**	**51**	*e*P	**P**	**13 45 55.8**	**-0.8**
	31nm,1.7s						
W22A	**Albuquerque**	**80.74**	**50**	⇑P	**P**	**13 45 58.1**	**+0.4**
	baz=81						
526A	**Mary Lane Ranc**	**80.75**	**55**	⇓P	**P**	**13 45 57.6**	**-0.2**
	baz=81,SNR=5.4						
U21A	**Nageezi**	**80.77**	**48**	⇑P	**P**	**13 45 58.3**	**+0.4**
	baz=81						
124A	**Stringfield Ra**	**80.78**	**52**	⇓P	**P**	**13 45 58.2**	**+0.2**
	baz=81						
TRF	**Thorofare Moun**	**80.79**	**10**	*e*P	**P**	**13 45 55.7**	**-1.6**
TXAR	**Lajitas Array**	**80.80**	**56**	P	**P**	**13 45 58.6**	**+0.6**
TXAR	**Lajitas Array**	**80.80**	**56**	P	**P**	**13 45 58.6**	**+0.6**
	1.8nm,0.8s,baz=213,slow=6.5,SNR=6.3						
Y23A	**Lovelace Mesa,**	**80.85**	**51**	⇓P	**P**	**13 45 58.4**	**+0.2**
	baz=81						
PV01	**Paradox Valley**	**80.91**	**46**	*e*P	**P**	**13 45 58.2**	**-0.3**
S20A	**Disappointment**	**80.92**	**47**	⇑P	**P**	**13 45 59.2**	**+0.6**
	baz=81						
ANMO	**Albuquerque**	**80.99**	**50**	*e*P	**P**	**13 45 57.7**	**-1.3**
	64nm,2.1s						
225A	**Deer Hill, Car**	**81.02**	**53**	⇑P	**P**	**13 45 59.8**	**+0.6**
	baz=81						
X23A	**Hourglass Bar**	**81.03**	**50**	⇓P	**P**	**13 45 59.6**	**+0.4**
	baz=81						
426A	**McDonald Obser**	**81.04**	**55**	⇑P	**P**	**13 45 59.2**	**-0.2**
	baz=81,SNR=9.1						
627A	**Terlingua Ranc**	**81.06**	**56**	⇓P	**P**	**13 45 59.7**	**+0.2**
	baz=81						
R20A	**Redvale**	**81.07**	**46**	⇑P	**P**	**13 45 59.7**	**+0.3**
	baz=81						
V22A	**San Miguel Ran**	**81.08**	**49**	⇓P	**P**	**13 45 60.0**	**+0.4**
	baz=81						
M17A	**Scullys Gap (B**	**81.10**	**43**	⇑P	**P**	**13 45 59.5**	**0.0**
	baz=81						
Z24A	**Sheeppen Canyo**	**81.11**	**52**	⇓P	**P**	**13 45 59.9**	**+0.2**
	baz=81						
T21A	**Navajo Lake**	**81.12**	**48**	⇑P	**P**	**13 45 59.8**	**+0.1**
	baz=81						
CN2	**Changchun**	**81.12**	**320**	*e*P	**P**	**13 45 58.7**	**-0.5**
527A	**Woodward Ranch**	**81.16**	**55**	⇑P	**P**	**13 45 59.9**	**0.0**
	baz=81						
S21A	**Coal Bank Pass**	**81.24**	**47**	⇓P	**P**	**13 46 01.3**	**+0.9**
	baz=81						
W23A	**Werner Place,**	**81.31**	**50**	⇓P	**P**	**13 46 00.9**	**+0.1**
	baz=81						
Y24A	**Capitan**	**81.31**	**51**	⇑P	**P**	**13 46 00.9**	**+0.1**
	baz=81						
U22A	**Llaves**	**81.33**	**49**	⇓P	**P**	**13 46 01.0**	**+0.2**
	baz=82						
P19A	**Cripple Cowboy**	**81.33**	**45**	⇑P	**P**	**13 46 00.9**	**+0.2**
	baz=82						
326A	**Caldwell Ranch**	**81.35**	**54**	⇓P	**P**	**13 46 00.9**	**+0.1**
	baz=81						
125A	**Gardner Draw,**	**81.37**	**53**	⇓P	**P**	**13 46 01.4**	**+0.4**
	baz=82						
MCMT	**McKenzie Canyo**	**81.45**	**39**	*e*P	**P**	**13 46 00.7**	**-0.6**
	9.0nm,1.5s						
628A	**Black Gap, Mar**	**81.48**	**56**	⇓P	**P**	**13 46 02.1**	**+0.6**
	baz=82						
Q20A	**Ridgley Place,**	**81.48**	**46**	⇓P	**P**	**13 46 01.8**	**+0.3**
	baz=82						
226B	**Tecolote Peak,**	**81.51**	**53**	⇓P	**P**	**13 46 02.3**	**+0.6**
	baz=82,SNR=7.7						
V23A	**Ortiz Mt. (NFS**	**81.54**	**49**	⇓P	**P**	**13 46 02.6**	**+0.7**
	baz=82						
O19A	**Miners Draw (B**	**81.55**	**44**	⇑P	**P**	**13 46 02.2**	**+0.4**
	baz=82						
T22A	**Edith**	**81.58**	**48**	⇓P	**P**	**13 46 02.8**	**+0.7**
	baz=82						
Z25A	**Roswell**	**81.58**	**52**	⇓P	**P**	**13 46 02.6**	**+0.5**
	baz=82						
427A	**Hayter Ranch,**	**81.61**	**55**	⇑P	**P**	**13 46 02.3**	**0.0**
	baz=82,SNR=8.6						
RRI2	**Red Ridge**	**81.62**	**41**	*e*P	**P**	**13 46 01.8**	**-0.5**
	130nm,2.2s						
R21A	**Cimarron**	**81.73**	**47**	⇓P	**P**	**13 46 03.5**	**+0.6**
	baz=82						
L18A	**Fontenelle, Gr**	**81.73**	**42**	⇑P	**P**	**13 46 02.7**	**-0.1**
	baz=82						
U23A	**El Rito**	**81.79**	**49**	⇓P	**P**	**13 46 04.0**	**+0.8**
	baz=82						
528A	**Cox Ranch, San**	**81.82**	**56**	⇑P	**P**	**13 46 03.9**	**+0.5**
	baz=82						
126A	**Clayton Basin,**	**81.86**	**53**	⇑P	**P**	**13 46 04.0**	**+0.5**
	baz=82						
Y25A	**Mesa, Roswell**	**81.87**	**52**	⇓P	**P**	**13 46 03.6**	**0.0**
	baz=82,SNR=5.6						
MSO	**Missoula**	**81.87**	**37**	⇓P	**P**	**13 46 03.8**	**+0.5**
	baz=82						
DLMT	**Dillon**	**81.88**	**38**	*e*P	**P**	**13 46 03.2**	**-0.2**
	88nm,2.3s						
W24A	**Lazy 6 Ranch,**	**81.88**	**50**	⇓P	**P**	**13 46 04.3**	**+0.5**
	baz=82						
REDW	**Red Top Meadow**	**81.93**	**41**	*e*P	**P**	**13 46 02.4**	**-1.4**
	17nm,1.4s						
TPAW	**Teton Pass**	**81.93**	**41**	*e*P	**P**	**13 46 03.8**	**0.0**
	60nm,1.9s						
Q21A	**Lamborn Mesa,**	**81.93**	**46**	⇓P	**P**	**13 46 04.8**	**+0.9**
	baz=82						
BSMT	**Bassoo Peak**	**81.95**	**36**	*e*P	**P**	**13 46 03.5**	**-0.3**
	11nm,1.2s						
S22A	**4UR Ranch, Cre**	**81.96**	**47**	⇑P	**P**	**13 46 04.5**	**+0.2**
	baz=82,SNR=15						
O20A	**White River Ci**	**82.07**	**45**	*e*P	P	13 46 00.4	-4.2
O20A	**White River Ci**	**82.07**	**45**	⇓P	**P**	**13 46 05.3**	**+0.7**
	baz=82						
M19A	**Rock Springs**	**82.11**	**43**	⇓P	**P**	**13 46 04.9**	**+0.1**
	baz=82						
IMW	**Indian Meadow**	**82.14**	**40**	*e*P	**P**	**13 46 04.7**	**-0.3**
Z26A	**Caprock**	**82.14**	**52**	⇑P	**P**	**13 46 04.9**	**-0.2**
	baz=82,SNR=8.7						
X25A	**Clemmons Ranch**	**82.15**	**51**	⇑P	**P**	**13 46 05.0**	**-0.1**
	baz=82						
227A	**Bennet, Jal**	**82.16**	**54**	⇓P	**P**	**13 46 05.2**	**+0.1**
	baz=82						
V24A	**Rampart Ranch,**	**82.20**	**50**	⇓P	**P**	**13 46 05.8**	**+0.4**

K19A	Absolon Red Bu	82.94	42	⇑P		P	13 46 09.1	0.0	
	baz=83								
530A	J-C Ranch, Com	82.98	56	⇓P		P	13 46 09.4	0.0	
	baz=83								
329A	Wagon Wheel Ra	82.98	55	⇑P		P	13 46 09.7	+0.3	
	baz=83								
Y27A	Causey	83.01	52	⇑P		P	13 46 09.4	-0.2	
	baz=83								
J19A	Crowheart	83.02	42	⇑P		P	13 46 09.1	-0.3	
	baz=83,SNR=5.2								
128A	Castleberry Fa	83.03	54	⇑P		P	13 46 09.2	-0.4	
	baz=83,SNR=8.4								
HRY	Holter Researc	83.04	38	*e*P		P	13 46 09.4	0.0	
	9.6nm,0.8s								
W26A	Owens Ranch, T	83.05	51	⇓P		P	13 46 09.6	-0.2	
	baz=83								
S24A	Houchin Ranch,	83.06	48	⇓P		P	13 46 10.4	+0.4	
	baz=83								
U25A	Circle Dot Ran	83.12	49	⇑P		P	13 46 10.2	0.0	
	baz=83								
Q23A	Hartsel	83.17	47	⇑P		P	13 46 10.6	+0.1	
	baz=83								
O22A	Kremmling	83.24	45	⇑P		P	13 46 10.7	-0.1	
	baz=83,SNR=6.1								
631A	Perdido Creek	83.31	57	⇓P		P	13 46 10.9	-0.2	
	baz=83								
H18A	Shoshone NF, C	83.32	40	⇑P		P	13 46 11.4	+0.4	
	baz=84								
V26A	Tequesquite Ra	83.33	50	⇓P		P	13 46 11.0	-0.2	
	baz=83								
M21A	Separation Pea	83.34	44	⇑P		P	13 46 11.2	-0.1	
	baz=84								
MSTX	Muleshoe	83.34	52	⇓P		P	13 46 11.2	-0.1	
	baz=83								
Z28A	Tucker Farm, M	83.37	53	⇓P		P	13 46 12.0	+0.6	
	baz=84								
X27A	F and S Farms,	83.37	51	⇑P		P	13 46 11.4	-0.1	
	baz=84								
P23A	Jefferson	83.38	46	⇑P		P	13 46 11.8	+0.2	
	baz=84								
R24A	Sanders Place,	83.39	47	⇑P		P	13 46 11.8	+0.2	
	baz=84								
T25A	Trinidad	83.43	49	⇓P		P	13 46 11.9	+0.2	
	baz=84								
I19A	Meeteetse	83.43	41	⇓P		P	13 46 11.6	0.0	
	baz=84								
RWWY	Rawlins	83.48	44	*e*P		P	13 46 10.8	-1.2	
L21A	Rawlins	83.50	43	⇑P		P	13 46 12.2	+0.2	
	baz=84								
129A	Stewart Farms,	83.51	54	⇑P		P	13 46 12.3	+0.2	
	baz=84								
732A	Laxson Ranch,	83.56	58	⇓P		P	13 46 12.1	-0.2	
	baz=84								
W27A	Bowe Ranch, En	83.57	51	⇑P		P	13 46 12.5	+0.1	
	baz=84								
N22A	Wattenberg Ran	83.59	45	⇑P		P	13 46 12.7	+0.1	
	baz=84,SNR=10								
U26A	Atchley Ranch,	83.60	50	⇑P		P	13 46 12.7	0.0	
	baz=84								
531A	Rocksprings	83.62	56	⇓P		P	13 46 12.6	-0.1	
	baz=84								
S25A	Robets Cordova	83.63	48	⇑P		P	13 46 12.6	-0.2	
	baz=84,SNR=6.1								
Q24A	Divide	83.68	47	⇑P		P	13 46 13.5	+0.3	
	baz=84								
J20A	Shoshoni	83.69	42	⇑P		P	13 46 13.4	+0.6	
	baz=84								
O23A	Lake Granby, G	83.69	45	⇓P		P	13 46 13.4	+0.3	
	baz=84								
ISCO	Idaho Springs	83.72	46	⇑P		P	13 46 13.4	+0.1	
	baz=84								
Y28A	McKinney Farm,	83.72	52	⇑P		P	13 46 13.1	-0.1	
	baz=84								
H19A	Powell	83.74	40	⇓P		P	13 46 13.6	+0.5	
	baz=84								
M22A	Cedar Creek Ra	83.76	44	⇑P		P	13 46 13.1	-0.4	
	baz=84								
230A	Sterling City	83.82	55	⇑P		P	13 46 13.1	-0.6	
	baz=84								
Z29A	Hungry Hill Ra	83.88	53	⇑P		P	13 46 13.7	-0.3	
	baz=84								
K21A	Alcova	83.89	43	⇑P		P	13 46 13.6	-0.4	
	baz=84,SNR=5.5								
I20A	Worland	83.94	41	⇓P		P	13 46 13.7	-0.4	
	baz=84,SNR=6.7								
R25A	Fountain Ranch	83.94	48	⇑P		P	13 46 14.2	-0.1	
	baz=84								
N23A	Red Feather La	83.98	45	⇓P		P	13 46 14.9	+0.3	
	baz=84								
632A	Uvalde	83.99	57	⇓P		P	13 46 14.3	-0.2	
	baz=84								
X28A	Dimmitt	84.00	52	⇓P		P	13 46 14.2	-0.4	
	baz=84								
V27A	Dan Oppiter Fa	84.02	51	⇑P		P	13 46 14.5	-0.2	
	baz=84								
T26A	Comanche Natio	84.04	49	⇓P		P	13 46 15.0	+0.2	
	baz=84								
P24A	Kohler Place,	84.09	46	⇑P		P	13 46 15.2	+0.1	
	baz=84								
J21A	Lysite	84.09	42	⇓P		P	13 46 15.2	+0.2	
	baz=84								
532A	Rocksprings	84.12	57	⇑P		P	13 46 15.0	-0.3	
	baz=84								
130A	Snyder	84.20	54	⇓P		P	13 46 15.2	-0.4	
	baz=84								
O24A	Longmont	84.23	46	⇓P		P	13 46 15.9	+0.2	
	baz=84								
U27A	Thompson Grove	84.29	50	⇓P		P	13 46 15.8	-0.3	
	baz=84								
Q25A	Bedland, Calha	84.30	47	⇓P		P	13 46 16.1	-0.1	
	baz=84								
JCT	Junction City	84.33	56	⇑P		P	13 46 15.8	-0.5	
	baz=84								
Z30A	Sanderson Ranc	84.34	53	⇑P		P	13 46 16.1	-0.2	
	baz=84								
F19A	Roth Farm, Mol	84.34	39	⇓P		P	13 46 16.1	0.0	
	baz=84								
X29A	Tulia	84.35	52	⇑P		P	13 46 16.1	-0.3	
	baz=84								
M23A	Laramie	84.38	44	⇑P		P	13 46 16.4	-0.1	
	baz=84								
I21A	Big Trails, Te	84.41	42	⇑P		P	13 46 16.3	-0.2	
	baz=85								
V28A	Channing	84.47	51	⇑P		P	13 46 16.8	-0.2	
	baz=85								
432A	Menard	84.48	56	⇓P		P	13 46 16.9	-0.2	
	baz=85								
G20A	Bridger	84.49	40	⇑P		P	13 46 17.1	+0.2	
	baz=85								
P25A	Willow Gulch B	84.60	47	⇑P		P	13 46 18.0	+0.4	
	baz=85								
R26A	Arlington	84.61	48	⇑P		P	13 46 17.5	-0.1	
	baz=85								
W29A	Amraillo	84.65	51	⇓P		P	13 46 17.9	-0.1	
	baz=85								
N24A	Carr	84.67	45	⇓P		P	13 46 18.1	+0.2	
	baz=85								
L23A	Garrett	84.68	44	⇓P		P	13 46 17.8	-0.2	
	baz=85,SNR=5.4								
131A	Roby	84.68	54	⇓P		P	13 46 17.5	-0.6	
	baz=85								
E19A	Rath Farm, Rou	84.73	39	⇓P		P	13 46 18.6	+0.6	
	baz=85								
Y30A	Stafford Cattl	84.74	53	⇓P		P	13 46 18.1	-0.3	
	baz=85								
J22A	Midwest	84.75	42	⇑P		P	13 46 18.3	0.0	
	baz=85								
H21A	Big Horn, Sher	84.94	41	⇓P		P	13 46 19.9	+0.7	
	baz=85								
I22A	9 Mile Ranch,	84.97	42	⇓P		P	13 46 19.4	0.0	
	baz=85								
232A	Coleman	84.97	55	⇓P		P	13 46 19.3	-0.2	
	baz=85								
X30A	Coker Ranch, T	84.98	52	⇑P		P	13 46 19.1	-0.4	
	baz=85								
M24A	Cheyenne	84.99	45	⇑P		P	13 46 19.6	0.0	
	baz=85								
D19A	Cripps Ranch,	85.02	38	⇓P		P	13 46 19.8	+0.3	
	baz=85								
V29A	Stinnett	85.04	51	⇑P		P	13 46 19.3	-0.5	
	baz=85								
R27A	Eads	85.07	48	⇑P		P	13 46 19.6	-0.4	
	baz=85								
T28A	Walsh	85.09	50	⇓P		P	13 46 20.0	-0.1	
	baz=85								
Z31A	Sharp Cattle R	85.11	54	⇑P		P	13 46 20.2	0.0	
	baz=85								
G21A	Lodge Grass	85.12	41	⇓P		P	13 46 20.1	+0.1	
	baz=85								
L24A	Wheatland	85.16	44	⇓P		P	13 46 20.5	+0.1	
	baz=85								
C19A	Slack Wire Ran	85.19	38	⇑P		P	13 46 21.1	+0.9	
	baz=85								
ABTX	Abilene, Hawle	85.25	54	*e*P		P	13 46 17.2	-3.7	
ABTX				*e*PcP		PcP	13 46 24.2	+0.2	
ABTX	Abilene, Hawle	85.25	54	⇑P		P	13 46 21.2	+0.3	
	baz=85								
Y31A	Rekieta Farm,	85.27	53	⇓P		P	13 46 21.3	+0.4	
	baz=85								
H03N2	Juan Fernandez	85.32	123	T		T	15 20 05.1		
	baz=254,slow=0.7,SNR=11								
H03N3	Juan Fernandez	85.33	123	T		T	15 20 07.2		
	baz=254,slow=0.7,SNR=6.8								
H03N1	Juan Fernandez	85.34	123	T		T	15 20 06.8		
	baz=254,slow=0.7,SNR=7.4								
J23A	Dilts Ranch, B	85.35	43	⇓P		P	13 46 21.0	-0.2	
	baz=86								
H22A	Clearmont	85.37	41	⇓P		P	13 46 21.1	-0.2	
	baz=86								
S28A	Manter	85.44	49	⇓P		P	13 46 21.7	-0.1	
	baz=86								
BJI	Beijing	85.48	314	P		P	13 46 22.5	+0.7	
BJI				S		S	13 56 51.1	-1.9	
BJI				AMB		AMB			
	comp=Z,8.0nm,2.1s								
BJI				LR		LR			
	comp=N,190nm,25.5s								
BJI				LR		LR			
	comp=E,200nm,24.9s								
BJI				LR		LR			
	comp=Z,190nm,26.2s								
B19A	Brinkman Farms	85.61	37	⇓P		P	13 46 23.2	+0.9	
	baz=86								
Z32A	Haskell	85.63	54	⇑P		P	13 46 22.2	-0.5	
	baz=86								
C20A	Veseth Ranch,	85.80	38	⇑P		P	13 46 23.7	+0.4	
	baz=86								
R28A	Tribune	85.80	48	⇓P		P	13 46 23.8	+0.3	
	baz=86								
E21A	Keefer Ranch,	85.81	39	⇓P		P	13 46 23.7	+0.3	
	baz=86								
Y32A	R-V Farms, Ver	85.91	53	⇓P		P	13 46 23.9	-0.3	
	baz=86								
A19A	Klindworth Far	85.95	37	⇓P		P	13 46 24.5	+0.5	
	baz=86								
WHTX	Lake Whitney	86.75	56	*e*P		P	13 46 27.3	-1.0	
I25A	Rochford	86.81	43	⇓P		P	13 46 28.3	-0.2	
	baz=87								
HIA	Hailar	87.24	323	*e*P		P	13 46 30.6	+0.3	
MAW	Mawson	87.61	199	P		P	13 46 32.9	+1.1	
MAW	Mawson	87.61	199	P		P	13 46 32.9	+1.1	
	2.4nm,0.7s,baz=135,slow=8.3,SNR=17								
MAW				LR		LR	14 22 53.0		
	comp=Z,504nm,20.7s,baz=120,slow=34								
GYA	Guiyang	88.00	298	⇑P		P	13 46 35.4	+0.8	
GYA				PP		PP	13 50 03.7	+2.4	
GYA				SKS		SKSac	13 57 01.0	-2.3	
GYA				S		S	13 57 16.3	-2.1	
GYA				SS		SS	14 03 07.9	+1.1	
GYA				AMB		AMB			
	comp=Z,20nm,1.0s								
GYA				AMB		AMB			
	comp=Z,120nm,6.3s								
GYA				LR		LR			
	comp=N,520nm,21.2s								
GYA				LR		LR			
	comp=E,460nm,22.0s								
GYA				LR		LR			
	comp=Z,490nm,20.7s								
HHC	Hu-ho-hao-te	89.04	313	*e*P		P	13 46 38.1	-1.0	
HHC				pP		pP	13 46 42.9	-0.6	
HHC				sP		sP	13 46 45.3	+0.2	
HHC				PP		PP	13 50 10.8	+1.5	
HHC				SKS		SKSac	13 57 05.7	-3.1	
HHC				S		S	13 57 24.9	-2.6	
HHC				SS		SS	14 03 21.9	+0.7	
HHC				AMB		AMB			
	comp=Z,46nm,1.1s								
HHC				AMB		AMB			
	comp=Z,270nm,5.7s								
HHC				LR		LR			
	comp=N,260nm,16.4s								
HHC				LR		LR			
	comp=E,200nm,16.8s								
HHC				LR		LR			
	comp=Z,210nm,16.3s								
PLCA	Paso Flores	89.50	132	LR		LR	14 19 00.9		
	comp=Z,339nm,18.1s,baz=315,slow=30								
YKA	Yellowknife Ar	90.28	23	P		P	13 46 44.5	+0.2	
YKA	Yellowknife Ar	90.28	23	P		P	13 46 44.5	+0.2	
	1.1nm,0.7s,baz=223,slow=4.6,SNR=4.0								
KMI	Kunming	90.98	296	P		P	13 46 48.0	-0.7	
KMI				pP		pP	13 46 52.1	-1.0	
KMI				sP		sP	13 46 54.0	-0.7	
KMI				S		S	13 57 43.8	-2.6	
KMI				SS		SS	14 03 49.0	-1.2	
KMI				AMB		AMB			
	comp=Z,5.0nm,1.1s								
KMI				AMB		AMB			
	comp=Z,130nm,3.5s								
KMI				LR		LR			
	comp=N,150nm,19.3s								
KMI				LR		LR			
	comp=E,250nm,17.8s								
KMI				LR		LR			
	comp=Z,240nm,18.3s								
CD2	Chengdu	91.78	301	P		P	13 46 53.4	+1.3	
CMAR	Chiang Mai Arr	92.54	288	P		P	13 46 57.7	+1.9	
CMAR	Chiang Mai Arr	92.54	288	P		P	13 46 57.7	+1.9	
	0.5nm,0.7s,baz=116,slow=4.1,SNR=3.4								
CMAR				LR		LR	14 28 45.5		
	comp=Z,140nm,18.5s,baz=147,slow=36								
SNAA	Sanae	92.77	177	*e*P		P	13 46 56.4	+0.4	
SNAA	Sanae	92.77	177	*e*P		P	13 46 56.3	+0.3	
	9.4nm,1.4s								
SNAA	Sanae	92.77	177	LR		LR	14 22 29.8		
	comp=Z,102nm,20.7s,baz=199,slow=32								
ATAH	Atahualpa	93.02	98	LR		LR	14 22 13.7		
	comp=Z,178nm,18.7s,baz=327,slow=31								
VNA2	Neumayer--Watz	93.22	175	*e*P		P	13 46 59.2	+1.2	
	baz=182,slow=3.8								
VNA1	Neumayer--Stat	93.42	175	*e*P		P	13 46 59.9	+1.1	
ULM	Lac du Bonnet	94.12	39	LR		LR	14 24 26.4		
	comp=Z,391nm,20.4s,baz=286,slow=32								
CFAA	Coronel Fontan	94.47	124	LR		LR	14 19 48.4		
	comp=Z,30nm,18.1s,baz=245,slow=29								
SONM	Songino Array	94.87	318	LR		LR	14 24 27.5		
	comp=Z,178nm,19.8s,baz=81,slow=32								
LPAZ	La Paz	99.88	110	LR		LR	14 21 53.1		
	comp=Z,101nm,19.4s,baz=68,slow=29								
WMQ	Urumqi	106.87	312	*e*Pdif		Pdif	13 48 00.9	+1.1	
WMQ				S		Sdif	13 59 55.8	-5.3	
WMQ				SS		SS	14 07 30.1	-1.8	
WMQ				LR		LR			
	comp=N,82nm,22.6s								
WMQ				LR		LR			
	comp=E,94nm,22.0s								
WMQ				LR		LR			
	comp=Z,110nm,24.4s								
MKAR	Makanchi Array	110.84	315	PKiKP		PKiKP	13 52 16.8	-0.2	
MKAR	Makanchi Array	110.84	315	PKiKP		PKiKP	13 52 16.8	-0.2	
	0.2nm,0.6s,baz=147,slow=0.7,SNR=3.3								
ARCES	ARCESS Array B	124.74	352	PKP		PKPdf	13 52 43.3	+0.3	
ARCES	ARCESS Array B	124.74	352	PKP		PKPdf	13 52 43.3	+0.3	
	3.6nm,0.6s,baz=43,slow=1.1,SNR=17								
FINES	FINESS Array B	132.06	347	PKP		PKPdf	13 52 57.9	+0.8	
FINES	FINESS Array B	132.06	347	PKP		PKPdf	13 52 57.9	+0.8	
	2.0nm,0.7s,baz=5.7,slow=3.8,SNR=5.4								
AKASG	Malin Array Be	140.43	337	PKP		PKPdf	13 53 10.8	-2.2	
AKASG	Malin Array Be	140.43	337	PKP		PKPdf	13 53 10.8	-2.2	
	0.4nm,0.4s,baz=30,slow=2.6,SNR=3.9								
RUE	Ruedersdorf	142.70	353	*e*PKPdf		PKPdf	13 53 16.0	-1.0	
TSUM	Tsumeb	143.78	198	PKP		PKPbc	13 53 18.5	+0.9	
TSUM	Tsumeb	143.78	198	PKP		PKPbc	13 53 18.5	+0.9	
	2.0nm,0.7s,baz=100,slow=5.7,SNR=4.5								
MALT	Malatya	143.88	315	⇑*i*P		PKPdf	13 53 20.8	+1.1	
CLL	Collm	143.94	353	*i* PKPdf		PKPdf	13 53 18.5	-0.7	
	comp=Z,4.0nm,0.9s								
CLL				*e*			13 53 28.0		
UPC	Upice	144.28	350	*e*PKP		PKPdf	13 53 19.1	-0.8	
DPC	Dobruska-Polom	144.38	349	*e*PKP		PKPdf	13 53 19.9	-0.2	
BURAR	Bucovina Array	144.46	338	⇓*i*P		PKPdf	13 53 20.6	+0.2	
PVCC	Panska Ves	144.50	351	*e*PKP		PKPdf	13 53 20.7	+0.5	
MORC	Moravsky Berou	144.69	348	⇑*i*P		PKPdf	13 53 20.8	+0.1	
MORC	Moravsky Berou	144.69	348	*e*PKPdf		PKPdf	13 53 20.2	-0.5	
PRA	Prague	144.97	351	PKP		PKPdf	13 53 22.0	+0.9	
MEM	Membach	145.03	1	PKP		PKPdf	13 53 21.3	+0.1	
PRU	Pruhonice	145.03	351	*e*PKP		PKPdf	13 53 21.6	+0.4	
SNF	Seneffe	145.08	2	PKP		PKPdf	13 53 21.6	+0.3	
BCLA	Clavier	145.20	1	PKP		PKPdf	13 53 21.8	+0.3	
VRI	Vrincioaia	145.32	335	⇑*i*P		PKPbc	13 53 20.4	-1.2	
KMBO	Kilima Mbogo	145.36	244	PKPbc		PKPdf	13 53 24.1	+1.0	
KMBO				*e*PKPdf		PKPab	13 53 24.6	+1.4	
KMBO	Kilima Mbogo	145.36	244	PKPbc		PKPdf	13 53 24.1	+1.0	
	comp=Z,1.3nm,0.6s,baz=100,slow=5.6,SNR=12								
PLOR	Plostina	145.37	335	⇑*i*P		PKPab	13 53 23.0	+1.0	
DOU	Dourbes	145.51	2	PKP		PKPdf	13 53 21.9	0.0	
TLB	Topalu	145.78	332	⇑*i*P		PKPab	13 53 24.7	+1.3	
PSZ	Piszkesteto	145.87	344	*e*PKPdf		PKPab	13 53 24.6	+0.8	
PSZ	Piszkesteto	145.87	344	⇑*e*PKPdf		PKPab	13 53 25.4	+1.6	
MLR	Muntele Rosu	145.95	335	⇑*i*P		PKPab	13 53 25.0	+0.8	
WLF	Walferdange	145.97	0	PKP		PKPab	13 53 24.8	+0.8	
KHC	Kasperske Hory	146.01	352	*e*PKP		PKPab	13 53 24.5	+0.3	
KHC	Kasperske Hory	146.01	352	*e*PKP		PKPbc	13 53 23.8	+0.1	
DRGR		146.03	340	⇑*i*P		PKPab	13 53 24.8	+0.4	
BR131	Keskin Array S	146.19	321	*e*PKPdf		PKPab	13 53 25.7	+0.3	
BRTR	Keskin Array B	146.19	321	PKPbc		PKPab	13 53 25.4	0.0	
BRTR	Keskin Array B	146.19	321	PKPbc		PKPab	13 53 25.4	0.0	
	comp=Z,2.4nm,0.6s,baz=52,slow=2.0,SNR=9.3								
GERES	GERESS Array B	146.27	351	PKPbc		PKPbc	13 53 24.9	+0.3	
GERES	GERESS Array B	146.27	351	PKPbc		PKPbc	13 53 24.9	+0.3	
	comp=Z,2.7nm,0.7s,baz=13,slow=1.8,SNR=14								
BUD	Budapest	146.50	345	⇓*e*PKPdf		PKPab	13 53 26.2	+0.1	
ARR	Arges	146.57	336	⇓*i*P		PKPab	13 53 27.5	+1.0	
LANF	Langenberg	146.64	358	PKP		PKPab	13 53 27.1	+0.5	
CONA	Conrad Observa	146.79	348	⇓*i*sPKPdf		PKPab	13 53 27.3	0.0	
	comp=Z,15nm,1.1s,SNR=8.7								
PKSN	Nyarlorinc	146.81	343	⇓*e*		PKPab	13 53 29.4	+2.1	
SOP	Sopron	146.88	347	⇓*e*		PKPab	13 53 27.6	0.0	
PKST	T``s	146.95	346	⇓*e*		PKPbc	13 53 26.3	-0.2	
GZR	Gura Zlata	147.23	339	⇓*i*P		PKPab	13 53 28.3	-0.8	
BFO	Black Forest	147.27	358	*e*PKPdf		PKPab	13 53 28.3	-0.8	
PKS2	Kecel	147.36	344	⇑		PKPbc	13 53 29.3	-0.1	
THEF	They Montfort	147.41	1	PKP		PKPbc	13 53 28.6	+0.9	
ECH	Echery	147.42	359	PKP		PKPbc	13 53 28.6	+0.8	
BZS	Buzias	147.43	340	⇑*i*P		PKPab	13 53 29.2	-0.6	
PKS9	Tamasi	147.52	345	⇑*e*		PKPbc	13 53 28.9	+0.8	
FELD	Feldberg im Sc	147.74	358	PKP		PKPdf	13 53 27.1	+1.1	
MOF	Molkenrain	147.78	359	PKP		PKPbc	13 53 29.5	+0.6	
BEHE	Becsehely	147.99	347	⇑*e*		PKPbc	13 53 31.4	-0.6	
LOMF	Lomont	148.29	360	PKP		PKPbc	13 53 31.4	+1.2	
ABTA	Abfaltersbach	148.49	352	⇑*i*PKiKP		PKPbc	13 53 31.1	+0.3	
	comp=Z,12nm,0.7s,SNR=7.4								
TUE	Stuetta	149.07	356	*e*PKPbc		PKPbc	13 53 33.4	+0.9	
VTS	Vitosha	149.46	335	⇑*i*P		PKPbc	13 53 34.6	+1.1	
AGO	Saint Agoulin	149.46	5	PKP		PKPbc	13 53 34.0	+0.8	
PLDF	La Plantade	149.58	4	PKP		PKPbc	13 53 34.5	+1.0	
SSB	Saint Sauveur	150.32	3	*e*PKPbc		PKPbc	13 53 36.5	+1.2	
BNI	Bardonecchia	150.59	360	*e*PKPbc		PKPbc	13 53 37.3	+1.2	
PGAV	Gavieira, Arco	150.76	23	*e*PKP		PKPbc	13 53 37.0	+0.4	
PCAB	Cabril	151.08	23	*e*PKP		PKPbc	13 53 37.9	+0.7	
POLO	Lamas de Olo	151.45	23	*e*PKP		PKPbc	13 53 38.7	+0.5	
PBRG	Braganca	151.46	21	*e*PKP		PKPbc	13 53 38.6	+0.5	
TOUF	Mont Tournerai	151.62	359	PKP		PKPbc	13 53 40.5	+1.9	
AUTN	L'Aution	151.63	359	PKP		PKPbc	13 53 37.9	-0.8	
SAOF	Saorge	151.64	358	PKP		PKPbc	13 53 39.2	+0.8	
MVIF	Mont Vial	151.74	359	PKP		PKPbc	13 53 39.6	+0.8	
CALN	Calern	151.88	359	PKP		PKPbc	13 53 40.1	+0.9	
MVO	Moncorvo	151.92	22	*e*PKP		PKPbc	13 53 40.0	+0.8	
MTE	Manteigas	152.39	24	*e*PKP		PKPbc	13 53 41.0	+0.7	
PMTG	Montargil	153.25	26	*e*PKP		PKPbc	13 53 42.1	-0.1	
PMRV	Marv??o	153.29	24	*e*PKP		PKPbc	13 53 42.3	0.0	
MOE	Montemor	153.65	27	*e*PKP		PKPbc	13 53 43.3	+0.2	
ESDC	Sonseca Array	154.29	19	PKPbc		PKPbc	13 53 44.1	-0.3	
ESDC	Sonseca Array	154.29	19	PKPbc		PKPbc	13 53 44.1	-0.3	
	comp=Z,0.3nm,0.4s,baz=326,slow=1.5,SNR=4.0								
TORD	Torodi Ar. Bea	174.79	117	PKP		PKPdf	13 53 53.5	-1.2	
TORD				PKPab		PKPab	13 55 27.2	-1.7	
TORD	Torodi Ar. Bea	174.79	117	PKP		PKPdf	13 53 53.5	-1.2	
	comp=Z,1.1nm,1.0s,baz=21,slow=3.3,SNR=5.3								
TORD				PKPab		PKPab	13 55 27.2	-1.7	
	comp=Z,0.6nm,0.6s,baz=272,slow=4.3,SNR=4.6								

*IDC **01** 13:38:13.6±0.5, 15°.51S×173°.47W, h0km, mb4.3/14, mb1 4.6/15, mb1mx4.4/24, mbtmp4.4/15, ML4.5/1, Error ellipse: s-maj=24.8km s-min=15.6km az=142.0*

*NEIC **01** 13:38:14.8±0.3, 15°.52S×173°.43W, h10km, mb4.3/2, Error ellipse: s-maj=13.0km s-min=8.3km az=158.0*

*ISCJB **01** 13:38:17.9±0.5, 15°.5S±0°.1×173°.5W±0°.1, h42km

1.9nm,0.9s,baz=235,slow=8.8,SNR=8.5

WVOR	**Wild Horse Val**	**76.58**	**38**	*e*P	**P**		**13 50 02.7**	**-3.2**
ARUT	**Antelope Range**	**77.33**	**45**	*e*P	**P**		**13 50 09.1**	**-1.2**
MVU	**Marysvale**	**78.53**	**45**	*e*P	**P**		**13 50 16.9**	**-0.1**
	4.6nm,1.1s							
HLID	**Hailey**	**79.77**	**39**	*e*P	**P**		**13 50 23.4**	**-0.2**
TXAR	**Lajitas Array**	**80.70**	**56**	P	**P**		**13 50 29.1**	**+0.3**
TXAR	**Lajitas Array**	**80.70**	**56**	P	**P**		**13 50 29.1**	**+0.3**
	1.2nm,0.8s,baz=202,slow=4.7,SNR=7.9							
PDAR	**Pinedale Array**	**82.40**	**42**	P	**P**		**13 50 37.4**	**-0.3**
PDAR	**Pinedale Array**	**82.40**	**42**	P	**P**		**13 50 37.4**	**-0.3**
	2.1nm,1.0s,baz=224,slow=4.1,SNR=10							
ILAR	**Eielson Array**	**82.65**	**11**	P	**P**		**13 50 37.5**	**-0.6**
ILAR	**Eielson Array**	**82.65**	**11**	P	**P**		**13 50 37.5**	**-0.6**
	0.9nm,0.8s,baz=226,slow=6.2,SNR=9.1							
H03N2	**Juan Fernandez**	**85.16**	**123**	T	T		15 26 17.4	
	baz=267,slow=0.7,SNR=8.1							
H03N3	**Juan Fernandez**	**85.16**	**123**	T	T		15 26 17.9	
	baz=267,slow=0.7,SNR=8.0							
H03N1	**Juan Fernandez**	**85.17**	**123**	T	T		15 26 18.7	
	baz=267,slow=0.7,SNR=9.8							
MAW	**Mawson**	**87.60**	**199**	P	**P**		**13 51 03.7**	**+0.6**
MAW	**Mawson**	**87.60**	**199**	P	**P**		**13 51 03.7**	**+0.6**
	2.6nm,0.9s,baz=114,slow=7.8,SNR=5.5							
YKA	**Yellowknife Ar**	**90.28**	**23**	P	**P**		**13 51 16.6**	**+1.1**
YKA	**Yellowknife Ar**	**90.28**	**23**	P	**P**		**13 51 16.6**	**+1.1**
	1.9nm,0.9s,baz=251,slow=3.8,SNR=3.7							
CMAR	**Chiang Mai Arr**	**92.72**	**288**	P	**P**		**13 51 28.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**92.72**	**288**	P	**P**		**13 51 28.2**	**+0.3**
	0.4nm,0.3s,baz=108,slow=2.9,SNR=3.0							
MKAR	**Makanchi Array**	**111.00**	**315**	PKiKP	**PKiKP**		**13 56 48.3**	**-0.2**
MKAR	**Makanchi Array**	**111.00**	**315**	PKiKP	**PKiKP**		**13 56 48.3**	**-0.2**
	0.3nm,0.8s,baz=122,slow=1.9,SNR=2.7							
ARCES	**ARCESS Array B**	**124.83**	**352**	PKP	**PKPdf**		**13 57 14.8**	**+0.5**
ARCES	**ARCESS Array B**	**124.83**	**352**	PKP	**PKPdf**		**13 57 14.8**	**+0.5**
	5.4nm,0.9s,baz=32,slow=2.4,SNR=6.5							
FINES	**FINESS Array B**	**132.16**	**348**	PKP	**PKPdf**		**13 57 29.1**	**+0.6**
FINES	**FINESS Array B**	**132.16**	**348**	PKP	**PKPdf**		**13 57 29.1**	**+0.6**
	5.2nm,1.2s,baz=296,slow=4.5,SNR=2.6							
AKASG	**Malin Array Be**	**140.55**	**337**	PKP	**PKPdf**		**13 57 44.2**	**-0.1**
AKASG	**Malin Array Be**	**140.55**	**337**	PKP	**PKPdf**		**13 57 44.2**	**-0.1**
	0.5nm,0.4s,baz=16,slow=2.3,SNR=2.6							
TSUM	**Tsumeb**	**143.76**	**198**	PKP	**PKPdf**		**13 57 51.2**	**-0.1**
TSUM	**Tsumeb**	**143.76**	**198**	PKP	**PKPdf**		**13 57 51.2**	**-0.1**
	0.8nm,0.2s,baz=162,slow=6.4,SNR=3.3							
BURAR	**Bucovina Array**	**144.58**	**338**	↓*i*P	**PKPdf**		**13 57 52.8**	**+1.0**
MORC	**Moravsky Berou**	**144.79**	**348**	↑*i*P	**PKPdf**		**13 57 51.9**	**-0.1**
CFR	**Carcaliu**	**145.41**	**333**	↓*i*P	**PKPab**		**13 57 53.9**	**+0.7**
VRI	**Vrincioaia**	**145.45**	**335**	↑*i*P	**PKPab**		**13 57 54.8**	**+1.3**
KMBO	**Kilima Mbogo**	**145.47**	**244**	PKPbc	**PKPab**		**13 57 55.5**	**+0.7**
KMBO	**Kilima Mbogo**	**145.47**	**244**	PKPbc	**PKPab**		**13 57 55.5**	**+0.7**
	1.5nm,0.5s,baz=156,slow=3.5,SNR=4.8							
PLOR	**Plostina**	**145.50**	**335**	↑*i*P	**PKPab**		**13 57 54.7**	**+1.0**
TLB	**Topalu**	**145.91**	**337**	↑*i*P	**PKPab**		**13 57 55.6**	**+0.5**
MLR	**Muntele Rosu**	**146.08**	**335**	↑*i*P	**PKPab**		**13 57 56.8**	**+0.8**
ISR	**Istrita**	**146.13**	**334**	↓*i*P	**PKPab**		**13 57 56.9**	**+0.8**
DRGR		**146.15**	**340**	↑*i*P	**PKPab**		**13 57 56.3**	**+0.2**
BRTR	**Keskin Array B**	**146.34**	**321**	PKPbc	**PKPbc**		**13 57 56.1**	**-0.3**
BRTR	**Keskin Array B**	**146.34**	**321**	PKPbc	**PKPbc**		**13 57 56.1**	**-0.3**
	3.3nm,1.0s,baz=130,slow=1.9,SNR=9.3							
GERES	**GERESS Array B**	**146.36**	**352**	PKPbc	**PKPdf**		**13 57 55.3**	**+0.6**
GERES	**GERESS Array B**	**146.36**	**352**	PKPbc	**PKPdf**		**13 57 55.3**	**+0.6**
	1.7nm,0.7s,baz=42,slow=4.2,SNR=12							
VOIR		**146.47**	**336**	↑*i*P	**PKPab**		**13 57 57.9**	**+0.5**
ARR	**Arges**	**146.69**	**337**	↑*i*P	**PKPab**		**13 57 58.9**	**+0.7**
GZR	**Gura Zlata**	**147.35**	**339**	↓*i*P	**PKPab**		**13 58 00.2**	**-0.6**
BZS	**Buzias**	**147.55**	**340**	↓*i*P	**PKPbc**		**13 57 59.6**	**+0.2**
VTS	**Vitosha**	**149.58**	**335**	↑*i*P	**PKPbc**		**13 58 05.1**	**+0.2**
ESDC	**Sonseca Array**	**154.30**	**19**	PKPbc	**PKPbc**		**13 58 15.8**	**+0.2**
ESDC	**Sonseca Array**	**154.30**	**19**	PKPbc	**PKPbc**		**13 58 15.8**	**+0.2**
	0.1nm,0.3s,baz=337,slow=2.8,SNR=3.5							
TORD	**Torodi Ar. Bea**	**174.62**	**116**	PKP	**PKPdf**		**13 58 25.2**	**-0.6**
TORD	**Torodi Ar. Bea**	**174.62**	**116**	PKP	**PKPdf**		**13 58 25.2**	**-0.6**
	1.0nm,1.0s,baz=204,slow=3.2,SNR=4.3							

IDC 01 13:42:30.3±0.5, 15°57S×173°49W, h0km, mb4.2/13, mb1 4.4/13, mb1mx4.2/23, mbtmp4.2/13, MS3.8/1, Ms1 3.8/1, ms1mx3.2/40, Error ellipse: s-maj=25.8km s-min=16.0km az=124.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.33**	**45**	Pn	Pn	Pn	13 43 07.5	-2.6
	52nm,0.3s,baz=117,slow=2.3,SNR=4.8							
AFI				Sn	Sn	Sn	13 43 26.5	-13
	139nm,0.3s,baz=63,slow=22,SNR=5.2							
RAR	**Rarotonga**	**14.17**	**115**	LR	LR	LR	13 49 41.4	
	comp=Z,393nm,19.7s,baz=89,slow=30							
URZ	**Urewera**	**24.08**	**198**	P	P	P	13 47 47.6	+0.1
	4.9nm,0.6s,baz=203,slow=2.2,SNR=4.2							
H11S2	**WAKE ISLAND Hy**	**39.06**	**329**	T	T	T	14 31 39.3	
	baz=152,slow=0.7,SNR=11							
H11S3	**WAKE ISLAND Hy**	**39.07**	**329**	T	T	T	14 31 42.0	
	baz=152,slow=0.7,SNR=11							
H11S1	**WAKE ISLAND Hy**	**39.08**	**329**	T	T	T	14 31 45.1	
	baz=152,slow=0.7,SNR=11							
H11N3	**WAKE ISLAND Hy**	**40.01**	**331**	T	T	T	14 32 59.9	
	baz=152,slow=0.7,SNR=8.7							
H11N1	**WAKE ISLAND Hy**	**40.02**	**331**	T	T	T	14 33 04.2	
	baz=152,slow=0.7,SNR=9.0							
H11N2	**WAKE ISLAND Hy**	**40.03**	**331**	T	T	T	14 32 54.3	
	baz=152,slow=0.7,SNR=9.8							
STKA	**Stephens Creek**	**43.88**	**240**	P	P	P	13 50 38.1	-0.7
	5.0nm,0.8s,baz=72,slow=7.9,SNR=8.2							
WRA	**Warramunga Arr**	**49.72**	**257**	P	P	P	13 51 23.8	-0.9
	1.6nm,0.6s,baz=95,slow=6.9,SNR=25							
ASAR	**Alice Springs**	**49.95**	**252**	P	P	P	13 51 26.2	-0.5
	12nm,0.7s,baz=84,slow=8.4,SNR=106							
VNDA	**Vanda**	**63.20**	**186**	P	P	P	13 53 00.3	+0.4
	0.7nm,0.7s,baz=354,slow=7.0,SNR=5.0							
PETK	**Petropavlovsk-**	**72.76**	**342**	P	P	P	13 54 00.5	+0.2
	3.8nm,0.9s,baz=140,slow=11,SNR=3.0							
QSPA	**South Pole Qui**	**74.48**	**180**	P	P	P	13 54 10.8	+0.3
	4.0nm,0.8s,baz=49,slow=1.7,SNR=19							
NVAR	**Mina Array Bea**	**74.51**	**42**	P	P	P	13 54 11.0	-0.2
	1.9nm,0.9s,baz=227,slow=6.8,SNR=6.7							
TXAR	**Lajitas Array**	**80.78**	**56**	P	P	P	13 54 46.4	+0.2
	1.1nm,0.9s,baz=218,slow=5.7,SNR=7.7							
PDAR	**Pinedale Array**	**82.44**	**42**	P	P	P	13 54 54.8	-0.2
	1.4nm,1.0s,baz=205,slow=3.1,SNR=6.7							
ILAR	**Eielson Array**	**82.62**	**11**	P	P	P	13 54 54.7	-0.4
	0.9nm,0.6s,baz=229,slow=6.6,SNR=16							
MAW	**Mawson**	**87.61**	**199**	P	P	P	13 55 20.3	+0.2
	1.2nm,0.6s,baz=124,slow=12,SNR=7.9							
SNAA	**Sanae**	**92.78**	**177**	P	P	P	13 55 43.8	-0.4
	0.6nm,1.0s,baz=151,slow=3.5,SNR=4.6							
ARCES	**ARCESS Array B**	**124.76**	**352**	PKP	PKPdf	PKPdf	14 01 31.2	-0.3
	2.2nm,0.8s,baz=79,slow=2.3,SNR=6.0							
AKASG	**Malin Array Be**	**140.46**	**337**	PKP	PKPdf	PKPdf	14 02 02.0	+0.6
	0.3nm,0.3s,baz=24,slow=2.6,SNR=2.4							
KMBO	**Kilima Mbogo**	**145.39**	**244**	PKPbc	PKPbc	PKPdf	14 02 12.7	+1.0
	0.6nm,0.3s,baz=250,slow=23,SNR=3.7							
BRTR	**Keskin Array B**	**146.23**	**321**	PKPbc	PKPbc	PKPbc	14 02 13.6	+0.3
	1.4nm,0.7s,baz=33,slow=0.8,SNR=7.4							
GERES	**GERESS Array B**	**146.29**	**351**	PKPbc	PKPbc	PKPbc	14 02 12.9	-0.2
	0.4nm,0.3s,baz=4.4,slow=1.7,SNR=7.1							
TORD	**Torodi Ar. Bea**	**174.75**	**117**	PKP	PKPdf	PKPdf	14 02 42.1	-1.1
	0.7nm,0.9s,baz=278,slow=2.5,SNR=3.4							
TORD				PKPab	PKPab	PKPab	14 04 15.4	-1.7
	0.6nm,0.9s,baz=224,slow=4.0,SNR=2.9							

IDC 01 13:50:01.9±1.0, 14°98S×173°56W, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.8/20, mbtmp3.8/6, Error ellipse: s-maj=48.9km s-min=25.4km az=143.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.03**	**59**	Pn	Pn	Pn	13 50 30.4	-7.1
	31nm,0.3s,baz=42,slow=3.1,SNR=8.1							
AFI				Sn	Sn	Sn	13 50 49.9	-14
	97nm,0.3s,baz=141,slow=18,SNR=11							
H11S2	**WAKE ISLAND Hy**	**38.52**	**329**	T	T	T	14 38 37.0	
	baz=143,slow=0.7							
H11S3	**WAKE ISLAND Hy**	**38.54**	**329**	T	T	T	14 38 56.7	
	baz=143,slow=0.7							
H11S1	**WAKE ISLAND Hy**	**38.54**	**329**	T	T	T	14 38 56.2	
	baz=143,slow=0.7							
H11N3	**WAKE ISLAND Hy**	**39.47**	**330**	T	T	T	14 39 54.7	
	baz=152,slow=0.7,SNR=7.0							
H11N1	**WAKE ISLAND Hy**	**39.47**	**330**	T	T	T	14 40 13.0	
	baz=152,slow=0.7,SNR=7.6							
H11N2	**WAKE ISLAND Hy**	**39.49**	**330**	T	T	T	14 40 09.6	
	baz=152,slow=0.7,SNR=7.2							
WRA	**Warramunga Arr**	**49.79**	**256**	P	P	P	13 58 56.3	-0.6
	0.4nm,0.8s,baz=97,slow=5.9,SNR=3.2							
ASAR	**Alice Springs**	**50.09**	**252**	P	P	P	13 58 58.7	-0.4
	1.2nm,0.7s,baz=86,slow=8.2,SNR=17							
QSPA	**South Pole Qui**	**75.06**	**180**	P	P	P	14 01 45.7	+0.2
	1.2nm,0.9s,baz=27,slow=4.1,SNR=3.6							
TXAR	**Lajitas Array**	**80.51**	**56**	P	P	P	14 02 16.9	+0.5
	0.4nm,0.5s,baz=212,slow=8.2,SNR=5.6							
PDAR	**Pinedale Array**	**82.06**	**42**	P	P	P	14 02 23.2	-1.4
	0.6nm,1.0s,baz=242,slow=8.8,SNR=3.2							
ILAR	**Eielson Array**	**82.06**	**11**	P	P	P	14 02 23.5	-0.2
	0.5nm,0.9s,baz=238,slow=6.7,SNR=4.4							
GERES	**GERESS Array B**	**145.70**	**351**	PKPbc	PKPdf		14 09 41.8	-0.7
	0.5nm,0.3s,baz=76,slow=4.5,SNR=3.3							
BRTR	**Keskin Array B**	**145.73**	**321**	PKPbc	PKPab		14 09 44.5	+0.8
	1.4nm,0.8s,baz=91,slow=3.5,SNR=5.0							

IDC 01 13:53:59.9±0.8, 15°53S×173°63W, h0km, mb3.9/9, mb1 4.2/9, mb1mx3.9/21, mbtmp3.9/9, Error ellipse: s-maj=36.4km s-min=20.6km az=135.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.41**	**48**	Pn	Pn	Pn	13 54 34.6	-6.1
	7.4nm,0.3s,baz=216,slow=19,SNR=3.8							
AFI				Sn	Sn	Sn	13 54 56.2	-15
	20nm,0.3s,baz=78,slow=19,SNR=4.8							
H11S2	**WAKE ISLAND Hy**	**38.96**	**329**	T	T	T	14 43 06.7	
	baz=152,slow=0.7,SNR=26							
H11S3	**WAKE ISLAND Hy**	**38.97**	**329**	T	T	T	14 43 07.6	
	baz=152,slow=0.7,SNR=26							
H11S1	**WAKE ISLAND Hy**	**38.98**	**329**	T	T	T	14 43 11.2	
	baz=152,slow=0.7,SNR=24							
H11N3	**WAKE ISLAND Hy**	**39.91**	**331**	T	T	T	14 44 28.1	
	baz=152,slow=0.7,SNR=27							
H11N1	**WAKE ISLAND Hy**	**39.92**	**331**	T	T	T	14 44 27.1	
	baz=152,slow=0.7,SNR=24							
H11N2	**WAKE ISLAND Hy**	**39.93**	**331**	T	T	T	14 44 29.5	
	baz=152,slow=0.7,SNR=30							
STKA	**Stephens Creek**	**43.78**	**240**	P	P	P	14 02 06.0	-1.6
	2.3nm,0.8s,baz=77,slow=18,SNR=2.5							
WRA	**Warramunga Arr**	**49.60**	**257**	P	P	P	14 02 53.7	+0.2
	1.3nm,1.1s,baz=98,slow=13,SNR=5.1							
ASAR	**Alice Springs**	**49.86**	**252**	P	P	P	14 02 55.8	+0.3
	3.2nm,0.7s,baz=85,slow=8.3,SNR=25							
VNDA	**Vanda**	**63.23**	**186**	P	P	P	14 04 31.5	+1.8
	1.2nm,1.0s,baz=333,slow=5.1,SNR=3.8							
QSPA	**South Pole Qui**	**74.52**	**180**	P	P	P	14 05 39.0	-1.3
	1.7nm,1.0s,baz=40,slow=3.9,SNR=3.0							
NVAR	**Mina Array Bea**	**74.57**	**42**	P	P	P	14 05 40.2	-1.0
	0.4nm,0.6s,baz=235,slow=6.3,SNR=2.6							
TXAR	**Lajitas Array**	**80.86**	**56**	P	P	P	14 06 17.4	+1.0
	0.3nm,0.6s,baz=224,slow=6.3,SNR=3.3							
PDAR	**Pinedale Array**	**82.50**	**42**	P	P	P	14 06 25.4	+0.6
	0.2nm,0.4s,baz=229,slow=6.6,SNR=3.6							
ILAR	**Eielson Array**	**82.61**	**11**	P	P	P	14 06 24.0	-0.6
	0.6nm,0.6s,baz=228,slow=6.3,SNR=9.3							
BRTR	**Keskin Array B**	**146.12**	**321**	PKPbc	PKPbc		14 13 42.4	-0.2
	1.6nm,0.9s,baz=90,slow=2.5,SNR=5.2							

IDC 01 14:01:10.8±0.9, 15°50S×173°55W, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/21, mbtmp3.8/8, Error ellipse: s-maj=36.7km s-min=25.4km az=128.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.33**	**48**	Pn	Pn	Pn	14 01 47.0	-3.7
	24nm,0.3s,baz=70,slow=1.7,SNR=14							
AFI				Sn	Sn	Sn	14 02 06.7	-13
	62nm,0.3s,baz=66,slow=21,SNR=15							
H11S2	**WAKE ISLAND Hy**	**38.97**	**329**	T	T	T	14 50 22.8	
	baz=152,slow=0.7,SNR=11							
H11S3	**WAKE ISLAND Hy**	**38.99**	**329**	T	T	T	14 50 31.0	
	baz=152,slow=0.7,SNR=11							
H11S1	**WAKE ISLAND Hy**	**38.99**	**329**	T	T	T	14 50 24.3	
	baz=152,slow=0.7,SNR=5.5							
H11N3	**WAKE ISLAND Hy**	**39.93**	**331**	T	T	T	14 51 43.0	
	baz=152,slow=0.7,SNR=20							
H11N1	**WAKE ISLAND Hy**	**39.93**	**331**	T	T	T	14 51 41.4	
	baz=152,slow=0.7,SNR=18							
H11N2	**WAKE ISLAND Hy**	**39.94**	**331**	T	T	T	14 51 44.4	
	baz=152,slow=0.7,SNR=19							
STKA	**Stephens Creek**	**43.86**	**240**	P	P	P	14 09 18.6	-0.5
	1.7nm,0.8s,baz=50,slow=5.0,SNR=3.0							
WRA	**Warramunga Arr**	**49.68**	**257**	P	P	P	14 10 04.4	-0.5
	0.5nm,0.6s,baz=91,slow=6.7,SNR=8.4							
ASAR	**Alice Springs**	**49.94**	**252**	P	P	P	14 10 06.6	-0.3
	2.9nm,0.8s,baz=85,slow=7.9,SNR=37							
VNDA	**Vanda**	**63.26**	**186**	P	P	P	14 11 41.3	+0.5
	0.5nm,0.8s,baz=26,slow=8.2,SNR=3.0							
QSPA	**South Pole Qui**	**74.54**	**180**	P	P	P	14 12 51.3	-0.1
	2.3nm,1.1s,baz=6.8,slow=1.5,SNR=6.3							
PDAR	**Pinedale Array**	**82.44**	**42**	P	P	P	14 13 34.4	-1.0
	0.4nm,0.9s,baz=177,slow=4.5,SNR=3.2							
ILAR	**Eielson Array**	**82.57**	**11**	P	P	P	14 13 34.3	-1.0
	0.2nm,0.6s,baz=231,slow=5.7,SNR=3.5							
MAW	**Mawson**	**87.65**	**199**	P	P	P	14 14 00.7	-0.2
	1.0nm,0.7s,baz=0.0,slow=0.0,SNR=3.5							
BRTR	**Keskin Array B**	**146.14**	**321**	PKPbc	PKPab		14 20 54.2	0.0
	0.2nm,0.3s,baz=7.1,slow=4.6,SNR=3.0							
GERES	**GERESS Array B**	**146.22**	**351**	PKPbc	PKPab		14 20 54.5	+0.4
	0.2nm,0.3s,baz=23,slow=8.5,SNR=3.9							

*ISCJB **01** 14:03:13.3±0.5, 31°29S±0°05×68°85W±0°06, h114km±5km, mb4.0/5, Error ellipse: s-maj=9.1km s-min=6.4km az=137.5*
*IDC **01** 14:03:15.0±0.9, 31°31S×68°62W, h108km±4km, mb3.7/5, mb1 3.6/8, mb1mx3.5/20, mbtmp3.6/8, Error ellipse: s-maj=28.3km s-min=15.7km az=91.0*
*NEIC **01** 14:03:14.0, 31°26S×68°88W, h110km, MD4.2(SJA), After SJA.*
NEIC Felt [III] at San Juan.
*GUC **01** 14:03:14.3±0.8, 31°24S×69°16W, h150km, ML4.0*
ISC 01 14:03:14.1±0.6, 31°28S±0°05×68°83W±0°05, h105km±6km, n34, σ1°00/40, mb3.9/5, 6C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.60**	**123**	P	**Pn**	**Pn**	**14 03 32.1**	**+0.8**
	31nm,0.3s,baz=302,slow=7.1,SNR=2714							
CFAA				S	**Sn**	**Sn**	**14 03 45.3**	**+1.1**
	76nm,0.3s,baz=158,slow=19,SNR=201							
CMCH	**Combarbala**	**1.86**	**273**	↓*i*P	**Pn**	**Pn**	**14 03 45.2**	**0.0**
CMCH				*i* S	**Sn**	**Sn**	**14 04 08.9**	**0.0**
CMCH	**Combarbala**	**1.86**	**273**	↓*i*P	**Pn**	**Pn**	**14 03 45.2**	**0.0**
CMCH				*i* S	**Sn**	**Sn**	**14 04 08.9**	**0.0**
TLL	**Tololo Astrono**	**2.03**	**303**	↑*i*P	**Pn**	**Pn**	**14 03 48.1**	**+0.6**
TLL				*i* S	**Sn**	**Sn**	**14 04 13.8**	**+0.8**
TLL	**Tololo Astrono**	**2.03**	**303**	↑*i*P	**Pn**	**Pn**	**14 03 48.1**	**+0.6**
TLL				*i* S	**Sn**	**Sn**	**14 04 13.8**	**+0.8**
TLL				AML	AML	AML	14 04 15.9	
	comp=N,1μm,0.4s							
CHNG	**Los Chungos**	**2.35**	**255**	↑*i*P	**Pn**	**Pn**	**14 03 50.5**	**-0.9**
CHNG				*i* S	**Sn**	**Sn**	**14 04 18.1**	**-1.9**
CHNG	**Los Chungos**	**2.35**	**255**	↑*i*P	**Pn**	**Pn**	**14 03 50.5**	**-0.9**
CHNG				*i* S	**Sn**	**Sn**	**14 04 18.1**	**-1.9**
CHNG				AML	AML	AML	14 04 25.9	
	comp=E,551nm,0.6s							
LCO	**Las Campanas**	**2.78**	**324**	↑*i*P	**Pn**	**Pn**	**14 03 57.5**	**+0.1**
LCO				*i* S	**Sn**	**Sn**	**14 04 30.7**	**+0.1**
LCO	**Las Campanas**	**2.78**	**324**	↑*i*P	**Pn**	**Pn**	**14 03 57.5**	**+0.1**
LCO				*i* S	**Sn**	**Sn**	**14 04 30.7**	**+0.1**
LCO				AML	AML	AML	14 04 31.9	
	comp=E,1μm,0.2s							
LMEL	**Las Melosas**	**2.81**	**204**	*e*P	**Pn**	**Pn**	**14 03 59.7**	**+2.1**
LMEL	**Las Melosas**	**2.81**	**204**	*e*P	**Pn**	**Pn**	**14 03 59.7**	**+2.1**
LMEL				AML	AML	AML	14 04 45.3	
	comp=N,274nm,0.2s							
VACH	**Vallenar**	**3.17**	**328**	*e*P	**Pn**	**Pn**	**14 04 02.2**	**-0.2**
VACH				*e*S	**Sn**	**Sn**	**14 04 38.4**	**-1.1**
VACH	**Vallenar**	**3.17**	**328**	*e*P	**Pn**	**Pn**	**14 04 02.2**	**-0.2**
VACH				*e*S	**Sn**	**Sn**	**14 04 38.4**	**-1.1**
H03N1	**Juan Fernandez**	**8.79**	**253**	T	T	T	14 12 32.3	
	baz=69,slow=0.7,SNR=90							
TRQA	**Tornquist**	**8.80**	**142**	P	**Pn**	**Pn**	**14 05 17.8**	**-0.7**
	comp=N,8.1nm,0.6s							
H03N3	**Juan Fernandez**	**8.81**	**253**	T	T	T	14 12 48.1	
	baz=69,slow=0.7,SNR=102							
H03N2	**Juan Fernandez**	**8.81**	**253**	T	T	T	14 12 25.1	
	baz=69,slow=0.7,SNR=129							
PLCA	**Paso Flores**	**9.54**	**188**	P	**Pn**	**Pn**	**14 05 28.6**	**+0.1**
	comp=N,0.1nm,0.3s,baz=355,slow=11,SNR=2.8							
CPUP	**Villa Florida**	**11.23**	**67**	P	**Pn**	**Pn**	**14 05 49.9**	**-1.5**
	comp=N,0.5nm,0.3s,baz=199,slow=13,SNR=3.5							
LPAZ	**La Paz**	**14.94**	**3**	P	**Pn**	**Pn**	**14 06 41.6**	**+1.2**
	comp=N,0.2nm,0.3s,baz=183,slow=6.1,SNR=14							
SNAA	**Sanae**	**53.11**	**159**	P	**P**	**P**	**14 12 20.7**	**+0.3**
	comp=N,0.9nm,0.8s,baz=278,slow=6.8,SNR=6.0							
QSPA	**South Pole Qui**	**58.95**	**180**	P	**P**	**P**	**14 13 02.8**	**+0.6**
	comp=N,2.1nm,0.6s,baz=128,slow=3.0,SNR=14							
DBIC	**Dimbokro**	**71.73**	**70**	P	**P**	**P**	**14 14 24.5**	**-0.7**
	comp=N,1.9nm,0.5s,baz=259,slow=16,SNR=2.9							
MAW	**Mawson**	**74.99**	**163**	P	**P**	**P**	**14 14 43.6**	**+0.1**
	comp=N,0.8nm,0.8s,baz=180,slow=8.1,SNR=3.4							
TORD	**Torodi Ar. Bea**	**80.72**	**69**	P	**P**	**P**	**14 15 16.0**	**0.0**
	comp=N,1.8nm,0.9s,baz=251,slow=4.4,SNR=7.6							
TORD				pP	**pP**	**pP**	**14 15 41.7**	**-1.5**
	comp=N,0.4nm,0.8s,baz=256,slow=4.3,SNR=2.0							
WRA	**Warramunga Arr**	**124.42**	**207**	PKP	**PKPdf**		**14 22 00.5**	**-0.9**
	comp=N,0.5nm,0.7s,baz=165,slow=1.7,SNR=8.0							
H11S2	**WAKE ISLAND Hy**	**28.51**	**269**	T	T		16 43 15.2	
	baz=149							
H11S1	**WAKE ISLAND Hy**	**28.52**	**269**	T	T		16 43 19.4	
	baz=149							
H11S3	**WAKE ISLAND Hy**	**28.53**	**269**	T	T		16 43 17.7	
	baz=149							
H11N3	**WAKE ISLAND Hy**	**28.85**	**271**	T	T		16 44 29.2	
	baz=147							
H11N1	**WAKE ISLAND Hy**	**28.87**	**271**	T	T		16 44 27.6	
	baz=147							
H11N2	**WAKE ISLAND Hy**	**28.87**	**271**	T	T		16 44 30.5	
	baz=147							
ZALV	**Zalesovo Beam**	**150.49**	**32**	PKPbc	**PKPbc**		**14 22 53.2**	**+0.3**
	comp=N,1.3nm,0.4s,baz=310,slow=2.9,SNR=7.5							
ZALV				pPKPbc	**pPKPbc**		**14 23 22.9**	**+1.3**
	comp=N,1.5nm,0.5s,baz=304,slow=3.2,SNR=4.8							
MKAR	**Makanchi Array**	**152.94**	**47**	PKPbc	**PKPbc**		**14 22 58.6**	**-0.2**
	comp=N,0.5nm,0.8s,baz=308,slow=3.0,SNR=5.9							
MKAR				PKPab	**PKPab**		**14 23 10.8**	**+0.4**
	comp=N,0.6nm,0.7s,baz=296,slow=4.0,SNR=6.7							
MKAR				pPKPbc	**pPKPbc**		**14 23 28.7**	**+1.2**
	comp=N,0.4nm,0.7s,baz=284,slow=2.8

QSPA	**South Pole Qui**	**44.00**	**180**	P		**P**	**14 31 51.9**	**+0.9**	
	1.5nm,0.9s,baz=227,slow=11,SNR=7.6								
H08S2	**Diego Garcia H**	**87.01**	**262**	T		T	16 12 21.0		
	baz=139								
H08S1	**Diego Garcia H**	**87.03**	**262**	T		T	16 12 21.9		
	baz=139								
H08S3	**Diego Garcia H**	**87.03**	**262**	T		T	16 12 19.1		
	baz=139								
H08N1	**Diego Garcia H**	**88.96**	**262**	T		T	16 14 49.7		
	baz=32								
H08N3	**Diego Garcia H**	**88.98**	**262**	T		T	16 14 50.1		
	baz=32								
H08N2	**Diego Garcia H**	**88.98**	**262**	T		T	16 14 50.2		
	baz=32								
TORD	**Torodi Ar. Bea**	**144.57**	**207**	PKP		**PKPab**	**14 43 18.4**	**-0.8**	
	0.5nm,0.5s,baz=190,slow=1.1,SNR=7.4								
BRTR	**Keskin Array B**	**145.00**	**277**	PKPbc		**PKPab**	**14 43 20.2**	**-0.1**	
	0.5nm,0.5s,baz=123,slow=5.3,SNR=3.1								
ARCES	**ARCESS Array B**	**149.49**	**334**	PKPbc		**PKPbc**	**14 43 31.9**	**0.0**	
	4.3nm,0.9s,baz=45,slow=0.3,SNR=5.4								

IDC 01 14:32:59.6±2.6, 5.48N×127.21E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/23, mbtmp3.5/3, 1C, Error ellipse: s-maj=203.3km s-min=26.8km az=66.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**3.41**	**301**	⇑*i*P		Pb	14 33 60.0	-1.0
WRA	**Warramunga Arr**	**26.22**	**165**	P		P	14 38 35.9	-0.5
	1.4nm,0.7s,baz=344,slow=10.0,SNR=7.8							
ASAR	**Alice Springs**	**29.70**	**168**	P		P	14 39 08.2	+0.7
	0.3nm,0.8s,baz=0.3,slow=8.9,SNR=5.2							
MKAR	**Makanchi Array**	**56.41**	**324**	P		P	14 42 42.9	-0.1
	0.4nm,0.7s,baz=122,slow=8.8,SNR=5.8							

IDC 01 14:38:17.3±3.4, 6.53S×127.90E, h358km±41km, mb3.0/2, mb1 3.1/5, mb1mx2.9/20, mbtmp3.8/5, Error ellipse: s-maj=53.7km s-min=13.3km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BATI	**Baumata**	**5.56**	**229**	P		Pn	14 39 44.0	+0.6
	37nm,0.3s,baz=95,slow=1.5,SNR=66							
BATI				S		S	14 40 52.4	-0.8
	5.4nm,0.3s,baz=309,slow=19,SNR=4.8							
FITZ	**Fitzroy Crossi**	**11.71**	**191**	P		Pn	14 40 55.5	0.0
	0.2nm,0.3s,baz=30,slow=11,SNR=6.3							
WRA	**Warramunga Arr**	**14.73**	**155**	P		P	14 41 28.5	-0.2
	0.7nm,0.3s,baz=335,slow=12,SNR=37							
WRA				S		S	14 44 10.8	+3.5
	0.1nm,0.3s,baz=340,slow=20,SNR=4.7							
ASAR	**Alice Springs**	**17.99**	**162**	P		P	14 42 04.5	+0.7
	0.3nm,0.3s,baz=344,slow=12,SNR=29							
ASAR				S		S	14 45 11.8	+0.2
	0.1nm,0.3s,baz=347,slow=20,SNR=4.1							
STKA	**Stephens Creek**	**28.28**	**155**	P		P	14 43 39.0	-0.1
	1.1nm,0.6s,baz=319,slow=9.3,SNR=3.4							
SONM	**Songino Array**	**57.36**	**343**	P		P	14 47 29.1	-0.2
	0.4nm,0.7s,baz=167,slow=7.2,SNR=3.1							

*ISCJB **01** 14:39:04.6±0.5, 0.87S±0.06×99.85E±0.07, h81km, mb4.1/19, Error ellipse: s-maj=11.0km s-min=7.3km az=154.4*
*IDC **01** 14:39:07.0±0.8, 0.69S×100.27E, h77km±6km, mb3.8/16, mb1 3.8/18, mb1mx3.7/29, mbtmp3.8/18, MS2.9/1, Ms1 2.9/1, ms1mx2.5/36, Error ellipse: s-maj=26.0km s-min=11.3km az=66.0*
*NEIC **01** 14:39:09.3±1.4, 0.67S×100.23E, h103km±11km, mb4.4/5, Error ellipse: s-maj=21.2km s-min=8.1km az=60.0*
*DJA **01** 14:39:09.9±0.6, 1°S±6'×10°E±°, h52km±10km, M4.2/5, mb4.2/1, MLv4.2/5*

ISC 01 14:39:07.1±0.5, 0.75S±0.07×100.03E±0.07, h81km, n62, σ1°42/67, mb4.2/19, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PDSI	**Padang**	**0.47**	**110**	P		**Pn**	**14 39 22.4**	**+1.8**
PPI	**Padang Panjang**	**0.47**	**52**	P		**Pn**	**14 39 22.1**	**+1.4**
GSI	**Gunungsitoli**	**3.19**	**310**	P		**Pn**	**14 39 57.4**	**+2.4**
PSI	**Prapat**	**3.69**	**343**	P		**Pn**	**14 40 02.5**	**+0.5**
PSI	**Prapat**	**3.69**	**343**	P		**Pn**	**14 40 02.5**	**+0.5**
	5.5nm,0.3s,baz=167,slow=10,SNR=11							
PSI				LR		LR	14 41 20.2	
	comp=Z,156nm,18.9s,baz=29,slow=37							
KSI	**Kapahiang**	**3.86**	**138**	P		**Pn**	**14 40 06.3**	**+2.1**
FRIM	**Kepong**	**4.27**	**22**	P		**Pn**	**14 40 11.8**	**+2.1**
KGM	**Kluang**	**4.29**	**50**	P		**Pn**	**14 40 12.4**	**+2.5**
MYKOM	**Kota Tinggi**	**4.58**	**57**	P		**Pn**	**14 40 15.6**	**+1.7**
MYKOM	**Kota Tinggi**	**4.58**	**57**	P		**Pn**	**14 40 15.6**	**+1.7**
KCSI	**Kotacane, Aceh**	**4.80**	**332**	P		**Pn**	**14 40 20.0**	**+3.0**
IPM	**Ipoh**	**5.29**	**11**	P		Pn	14 40 26.9	+3.3
IPM	**Ipoh**	**5.29**	**11**	P		Pn	14 40 27.5	+3.9
IPM	**Ipoh**	**5.29**	**11**	*e*Pn		**Pn**	**14 40 26.4**	**+2.8**
	10nm,0.5s							
KULM	**Kulim**	**6.03**	**6**	P		**Pn**	**14 40 36.1**	**+2.3**
KULM	**Kulim**	**6.03**	**6**	*e*Pn		**Pn**	**14 40 35.0**	**+1.2**
	20nm,0.6s							
KTGM	**Kuala Trenggan**	**6.79**	**27**	P		**Pn**	**14 40 46.6**	**+2.5**
SDKM	**Sandakan**	**18.28**	**69**	P		**Pn**	**14 43 17.2**	**+1.7**
CMAR	**Chiang Mai Arr**	**19.11**	**357**	P		**P**	**14 43 24.6**	**+0.9**
CMAR	**Chiang Mai Arr**	**19.11**	**357**	P		**P**	**14 43 24.6**	**+0.9**
	0.1nm,0.3s,baz=186,slow=10,SNR=9.4							
H08S2	**Diego Garcia H**	**28.28**	**255**	T		T	15 12 57.4	
	baz=76,slow=0.7,SNR=26							
H08S3	**Diego Garcia H**	**28.29**	**255**	T		T	15 12 58.8	
	baz=76,slow=0.7,SNR=35							
H08S1	**Diego Garcia H**	**28.30**	**255**	T		T	15 13 17.9	
	baz=76,slow=0.7,SNR=24							
FITZ	**Fitzroy Crossi**	**30.51**	**126**	P		**P**	**14 45 10.8**	**-2.0**
FITZ	**Fitzroy Crossi**	**30.51**	**126**	P		**P**	**14 45 10.8**	**-2.0**
	0.5nm,0.5s,baz=292,slow=10,SNR=2.6							
NWAO	**Narrogin (SRO)**	**35.87**	**155**	P		**P**	**14 46 00.2**	**+0.9**
NWAO	**Narrogin (SRO)**	**35.87**	**155**	P		**P**	**14 46 00.2**	**+0.9**
	3.2nm,0.6s,baz=338,slow=8.4,SNR=4.0							
WRA	**Warramunga Arr**	**38.61**	**122**	P		**P**	**14 46 19.8**	**-2.9**
WRA	**Warramunga Arr**	**38.61**	**122**	P		**P**	**14 46 19.8**	**-2.9**
	0.4nm,0.3s,baz=300,slow=9.1,SNR=13							
WRAB	**Tennant Creek**	**38.62**	**122**	*e*P		**P**	**14 46 21.3**	**-1.4**
ASAR	**Alice Springs**	**39.98**	**127**	P		**P**	**14 46 33.0**	**-1.1**
ASAR				ScP		**ScP**	**14 52 18.2**	**-1.9**
ASAR	**Alice Springs**	**39.98**	**127**	P		**P**	**14 46 33.0**	**-1.1**
	0.9nm,0.5s,baz=300,slow=8.1,SNR=22							
ASAR				ScP		**ScP**	**14 52 18.2**	**-1.9**
	0.4nm,0.7s,baz=301,slow=3.9,SNR=5.7							
KSAR	**Wonju Array Be**	**45.91**	**31**	P		**P**	**14 47 20.8**	**-0.9**
KSRS	**Korea Array**	**45.94**	**31**	P		**P**	**14 47 20.8**	**-1.1**
	1.9nm,0.6s,baz=224,slow=7.8,SNR=14							
TKM2	**Tokmak 2**	**48.70**	**336**	*e*P		**P**	**14 47 43.0**	**-0.6**
	4.4nm,0.4s							
SONM	**Songino Array**	**48.70**	**6**	P		**P**	**14 47 43.2**	**-0.2**
SONM				PcP		**PcP**	**14 49 07.6**	**+0.2**
SONM	**Songino Array**	**48.70**	**6**	P		**P**	**14 47 43.2**	**-0.2**
	1.3nm,0.8s,baz=182,slow=10,SNR=9.1							
SONM				PcP		**PcP**	**14 49 07.6**	**+0.2**
	0.5nm,0.6s,baz=201,slow=3.3,SNR=3.7							
EKS2	**Erkin-Say**	**49.25**	**334**	*e*P		**P**	**14 47 46.5**	**-1.1**
	3.0nm,0.6s							
MK31	**Makanchi Array**	**49.84**	**344**	*e*P		**P**	**14 47 52.1**	**+0.1**
MKAR	**Makanchi Array**	**49.84**	**344**	P		**P**	**14 47 52.3**	**+0.4**
MKAR				pP		**pP**	**14 48 11.6**	**-0.4**
MKAR	**Makanchi Array**	**49.84**	**344**	P		**P**	**14 47 52.3**	**+0.4**
	2.6nm,0.3s,baz=159,slow=8.7,SNR=116							
MKAR				pP		**pP**	**14 48 11.6**	**-0.4**
	1.0nm,0.5s,baz=150,slow=8.9,SNR=3.2							
STKA	**Stephens Creek**	**49.97**	**132**	P		**P**	**14 47 52.9**	**-0.2**
STKA	**Stephens Creek**	**49.97**	**132**	P		**P**	**14 47 52.9**	**-0.2**
	2.8nm,0.7s,baz=313,slow=7.9,SNR=8.3							
USRK	**Ussuriysk Arra**	**53.05**	**28**	P		**P**	**14 48 15.4**	**-0.5**
	4.6nm,0.5s,baz=236,slow=4.3,SNR=10.0							
ZAA0	**Zalesovo Array**	**55.95**	**349**	*e*P		**P**	**14 48 36.0**	**-0.8**
ZALV	**Zalesovo Beam**	**55.95**	**349**	P		**P**	**14 48 36.3**	**-0.4**
ZALV				pP		**pP**	**14 48 56.8**	**-0.3**
ZALV	**Zalesovo Beam**	**55.95**	**349**	P		**P**	**14 48 36.3**	**-0.4**
	2.4nm,0.3s,baz=171,slow=6.0,SNR=20							
ZALV				pP		**pP**	**14 48 56.8**	**-0.3**
	1.3nm,0.5s,baz=174,slow=6.3,SNR=3.5							
ASAJ	**Asahikawa**	**58.58**	**35**	P		**P**	**14 48 55.0**	**-0.4**
ASAJ	**Asahikawa**	**58.58**	**35**	P		**P**	**14 48 55.0**	**-0.4**
	4.0nm,0.9s,baz=286,slow=18,SNR=4.3							
ABKAR	**Akbulak array**	**60.56**	**331**	*e*P		**P**	**14 49 07.2**	**-1.8**
	1.7nm,0.6s							

BRTR	**Keskin Array B**	**72.50**	**312**	P		**P**	**14 50 25.2**	**-0.3**	
BRTR	**Keskin Array B**	**72.50**	**312**	P		**P**	**14 50 25.2**	**-0.3**	
	0.3nm,0.4s,baz=133,slow=53,SNR=2.3								
FINES	**FINESS Array B**	**83.02**	**332**	P		**P**	**14 51 23.8**	**+0.5**	
FINES				pP		**pP**	**14 51 43.9**	**-1.1**	
FINES	**FINESS Array B**	**83.02**	**332**	P		**P**	**14 51 23.8**	**+0.5**	
	1.0nm,0.4s,baz=105,slow=5.5,SNR=11								
FINES				pP		**pP**	**14 51 43.9**	**-1.1**	
	2.8nm,1.0s,baz=98,slow=8.6,SNR=2.0								
VNDA	**Vanda**	**83.38**	**169**	P		**P**	**14 51 26.1**	**+1.3**	
VNDA	**Vanda**	**83.38**	**169**	P		**P**	**14 51 26.1**	**+1.3**	
	0.5nm,0.5s,baz=329,slow=7.4,SNR=8.2								
ARCES	**ARCESS Array B**	**85.31**	**340**	P		**P**	**14 51 34.7**	**0.0**	
ARCES				pP		**pP**	**14 51 55.8**	**-0.8**	
ARCES	**ARCESS Array B**	**85.31**	**340**	P		**P**	**14 51 34.7**	**0.0**	
	2.0nm,0.7s,baz=104,slow=3.9,SNR=6.2								
ARCES				pP		**pP**	**14 51 55.8**	**-0.8**	
	1.3nm,0.8s,baz=102,slow=4.9,SNR=1.1								
QSPA	**South Pole Qui**	**89.21**	**180**	P		**P**	**14 51 55.8**	**+2.0**	
QSPA	**South Pole Qui**	**89.21**	**180**	P		**P**	**14 51 55.8**	**+2.0**	
	0.6nm,0.6s,baz=0.1,slow=7.0,SNR=8.7								
TXAR	**Lajitas Array**	**143.69**	**36**	PKP		PKPbc	14 58 31.7	+0.4	
TXAR	**Lajitas Array**	**143.69**	**36**	PKP		PKPbc	14 58 31.7	+0.4	
	0.4nm,0.5s,baz=270,slow=7.2,SNR=3.4								

IDC 01 14:49:13.4±0.6, 16.01S×173.27W, h0km, mb4.1/15, mb1 4.3/15, mb1mx4.2/25, mbtmp4.1/15, MS3.9/12, Ms1 3.9/12, ms1mx3.6/33, Error ellipse: s-maj=24.9km s-min=15.5km az=132.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**2.54**	**35**	Pn		Pn	14 49 51.8	-4.2
	116nm,0.3s,baz=243,slow=5.5,SNR=11							
AFI				Sn		Sn	14 50 17.1	-11
	253nm,0.3s,baz=38,slow=21,SNR=7.7							
AFI				LR		LR	14 50 45.3	
	comp=Z,391nm,18.4s,baz=174,slow=36							
RAR	**Rarotonga**	**13.80**	**114**	LR		LR	14 56 02.2	
	comp=Z,578nm,20.4s,baz=270,slow=30							
DZM	**Mont Dzumac**	**20.09**	**249**	*e*LR		LR	14 58 30.8	
	860nm,24.9s							
DZM	**Mont Dzumac**	**20.09**	**249**	P		P	14 53 47.9	-0.9
	5.9nm,0.9s,baz=258,slow=17,SNR=1.9							
DZM				LR		LR	14 59 55.5	
	comp=Z,335nm,20.1s,baz=22,slow=32							
PPT	**Papeete**	**22.74**	**97**	LR		LR	15 00 52.1	
	comp=Z,319nm,18.1s,baz=299,slow=31							
PPT2	**Papeete2**	**22.74**	**97**	*e*LR		LR	14 59 40.4	
	480nm,24.2s							
TBI	**Tubuai**	**23.56**	**112**	*e*LR		LR	14 59 56.1	
	619nm,26.2s,baz=292							
URZ	**Urewera**	**23.73**	**199**	P		P	14 54 26.9	-0.2
	5.6nm,0.6s,baz=247,slow=2.2,SNR=5.9							
HNR	**Honiara**	**26.91**	**281**	LR		LR	15 02 03.7	
	comp=Z,164nm,20.3s,baz=272,slow=29							
RKT	**Rikitea**	**36.69**	**107**	*e*LR		LR	15 06 10.0	
	342nm,25.2s,baz=292							
CTA	**Charters Tower**	**38.63**	**258**	P		P	14 56 39.2	+0.4
	1.8nm,0.6s,baz=74,slow=15,SNR=3.5							
H11N3	**WAKE ISLAND Hy**	**40.50**	**331**	T		T	15 39 38.2	
	baz=152,slow=0.7,SNR=5.5							
H11N1	**WAKE ISLAND Hy**	**40.51**	**331**	T		T	15 39 38.5	
	baz=152,slow=0.7,SNR=6.5							
H11N2	**WAKE ISLAND Hy**	**40.52**	**331**	T		T	15 39 39.5	
	baz=152,slow=0.7,SNR=7.8							
STKA	**Stephens Creek**	**43.84**	**241**	P		P	14 57 20.8	-0.7
	4.2nm,0.9s,baz=97,slow=11,SNR=6.9							
WRA	**Warramunga Arr**	**49.83**	**257**	P		P	14 58 07.6	-1.0
	2.0nm,0.6s,baz=97,slow=6.6,SNR=48							
WRA				LR		LR	15 17 52.4	
	comp=Z,204nm,20.3s,baz=95,slow=34							
ASAR	**Alice Springs**	**50.04**	**252**	P		P	14 58 09.2	-1.0
	6.1nm,0.8s,baz=89,slow=8.5,SNR=29							
ASAR				LR		LR	15 18 26.6	
	comp=Z,292nm,19.2s,baz=116,slow=35							
FITZ	**Fitzroy Crossi**	**58.20**	**258**	LR		LR	15 21 00.4	
	comp=Z,106nm,21.5s,baz=177,slow=33							
JCJ	**Chichijima**	**60.87**	**314**	LR		LR	15 19 39.5	
	comp=Z,92nm,21.2s,baz=135,slow=30							
VNDA	**Vanda**	**62.78**	**186**	P		P	14 59 41.3	+1.1
	0.7nm,0.9s,baz=354,slow=7.7,SNR=3.1							
MJAR	**Matsushiro Arr**	**69.48**	**320**	LR		LR	15 23 54.6	
	comp=Z,56nm,21.2s,baz=185,slow=30							
PETK	**Petropavlovsk-**	**73.25**	**342**	P		P	15 00 47.7	+1.5
	0.9nm,0.5s,baz=147,slow=8.1,SNR=2.3							
QSPA	**South Pole Qui**	**74.03**	**180**	P		P	15 00 51.1	+0.2
	2.8nm,1.1s,baz=43,slow=1.4,SNR=7.6							
NVAR	**Mina Array Bea**	**74.70**	**42**	P		P	15 00 55.1	-0.3
	0.7nm,0.7s,baz=228,slow=9.4,SNR=4.6							
TXAR	**Lajitas Array**	**80.85**	**56**	P		P	15 01 29.3	-0.4
	0.2nm,0.5s,baz=246,slow=6.7,SNR=2.8							
PDAR	**Pinedale Array**	**82.64**	**42**	P		P	15 01 38.5	-0.5
	0.8nm,0.8s,baz=224,slow=5.0,SNR=6.8							
ILAR	**Eielson Array**	**83.02**	**11**	P		P	15 01 39.5	-0.7
	0.9nm,0.6s,baz=228,slow=6.3,SNR=10.0							
ILAR				LR		LR	15 35 45.4	
	comp=Z,30nm,20.4s,baz=28,slow=34							
CMAR	**Chiang Mai Arr**	**92.92**	**288**	P		P	15 02 29.7	+0.7
	2.1nm,0.9s,baz=105,slow=2.6,SNR=14							
ULM	**Lac du Bonnet**	**94.33**	**39**	LR		LR	15 38 14.0	
	comp=Z,97nm,19.0s,baz=341,slow=31							
SONM	**Songino Array**	**95.38**	**318**	P		P	15 02 39.5	-0.3
	0.7nm,0.7s,baz=46,slow=6.2,SNR=2.7							
KMBO	**Kilima Mbogo**	**145.37**	**243**	PKPbc		PKPdf	15 08 55.2	+0.5
	2.3nm,0.9s,baz=65,slow=24,SNR=5.7							
BRTR	**Keskin Array B**	**146.71**	**321**	PKPbc		PKPbc	15 08 57.6	-0.1
	4.3nm,0.9s,baz=121,slow=1.2,SNR=14							
GERES	**GERESS Array B**	**146.76**	**352**	PKPbc		PKPbc	15 08 56.9	-0.6
	0.3nm,0.3s,baz=38,slow=5.0,SNR=4.1							
TORD	**Torodi Ar. Bea**	**174.36**	**120**	PKP		PKPdf	15 09 23.3	-2.8
	0.3nm,0.7s,baz=248,slow=0.8,SNR=3.0							

*MOS **01** 14:54:35.1±0.5, 49.64N×157.63E, h54km, mb4.2/1, Error ellipse: s-maj=49.9km s-min=12.8km az=85.7*

KRSC 01 14:54:45.8±5.6, 50.47N×157.66E, h53km±53km, ML4.0, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.01**	**283**	⇑*i*PN		Pn	14 54 59.5	-4.1
SKR				*e*S		Sn	14 55 10.5	-6.3
SKR				pmax		pmax		
	comp=Z,1μm,0.5s							
SKR				pmax		pmax		
	comp=N,510nm,0.3s							
SKR				pmax		pmax		
	comp=E,510nm,0.3s							
SKR				smax		smax		
	comp=N,2μm,0.3s							
SKR				smax		smax		
	comp=E,2μm,0.3s							
SKR	**Severo-Kuril's**	**1.01**	**283**	P		Pn	14 55 03.7	+0.1
SKR				*i* S		Sn	14 55 15.4	-1.4
PAU	**Pauzhetka**	**1.13**	**332**	PN		Pn	14 55 06.2	+0.8
PAU	**Pauzhetka**	**1.13**	**332**	P		Pn	14 55 06.2	+0.8
PAU				*i* S		Sn	14 55 19.3	-0.6
MIPR	**Malaya Ipel'ka**	**1.90**	**343**	P		Pn	14 55 16.7	+1.0
MIPR				*i* S		Sn	14 55 37.8	-0.7
ASAK	**Asacha**	**1.92**	**4**	P		Pn	14 55 17.8	+1.6
ASAK				*i* S		Sn	14 55 39.8	+0.5
RUS	**Russkaya**	**2.04**	**15**	PN		Pn	14 55 19.0	+1.4
RUS	**Russkaya**	**2.04**	**15**	P		Pn	14 55 19.0	+1.4
RUS				*i* S		Sn	14 55 41.8	-0.1
MTVR	**Mutnovka**	**2.04**	**9**	P		Pn	14 55 19.8	+1.9
MTVR				*i* S		Sn	14 55 43.3	+0.9
GRL	**Gorelyy**	**2.10**	**7**	P		Pn	14 55 20.6	+1.9
GRL				*i* S		Sn	14 55 44.4	+0.6
APC	**Apacha**	**2.48**	**353**	P		Pn	14 55 25.1	+1.4
PET	**Petropavlovsk**	**2.63**	**13**	PN		Pn	14 55 28.0	+2.3
PET	**Petropavlovsk**	**2.63**	**13**	P		Pn	14 55 28.0	+2.3
PET				*i* S		Sn	14 55 57.0	+0.6
UGLR	**Uglovaya**	**2.84**	**14**	P		Pn	14 55 31.4	+2.7
UGLR				*i* S		Sn	14 56 03.0	+1.2
AVH	**Avacha**	**2.88**	**13**	P		Pn	14 55 32.0	+2.7
AVH				*i* S		Sn	14 56 03.5	+0.8
SMAR	**Somma**	**2.88**	**14**	P		Pn	14 55 32.4	+2.9
SMAR				*i* S		Sn	14 56 04.8	+1.6
KOK	**Koryaka**	**2.89**	**12**	P		Pn	14 55 32.3	+2.8
KOK				*i* S		Sn	14 56 04.1	+1.0
NLC	**Nalytchevo**	**2.90**	**20**	PN		Pn	14 55 31.1	+1.7
NLC	**Nalytchevo**	**2.90**	**20**	P		Pn	14 55 31.1	+1.7
NLC				*i* S		Sn	14 56 03.0	0.0
SDLR	**Sedlovina**	**2.91**	**15**	P		Pn	14 55 31.8	+2.0
SDLR				*i* S		Sn	14 56 03.4	-0.3
KRER	**Koryakskii**	**2.92**	**13**	P		Pn	14 55 32.4	+2.4
KRER				*i* S		Sn	14 56 04.6	+0.6
KRX	**Arik**	**2.96**	**12**	P		Pn	14 55 33.4	+3.0
GNL	**Ganaly**	**3.23**	**3**	P		Pn	14 55 36.1	+1.9
MKZ	**Mys Kozlova**	**4.79**	**30**	PN		Pn	14 55 57.6	+2.3
MKZ	**Mys Kozlova**	**4.79**	**30**	P		Pn	14 55 57.6	+2.3
MKZ				*i* S		Sn	14 56 48.9	-0.4
KMNR	**Kamenistaya**	**5.52**	**15**	P		Pn	14 56 09.3	+3.9
KBTR	**Krutoberegovo**	**6.52**	**26**	PN		Pn	14 56 20.8	+1.7
KBTR	**Krutoberegovo**	**6.52**	**26**	P		Pn	14 56 20.8	+1.7

*NIED **01** 15:03:00, 32.90N×137.00E, h440km, Mw4.0 Best double couple: M0 1.09000×10^15 NP1:ϕs 71.00000°, δ 78.00000°, λ -111.00000°. NP2:ϕs 313.00000°, δ 24.00000°, λ -30.00000°.*
*AUST **01** 15:03:09.6±4.0, 31.32N×133.76E, h71km±45km, Error ellipse: s-maj=43.5km s-min=9.2km az=43.0*
*ISCJB **01** 15:03:28.8±0.3, 32.87N±0.06×137.07E±0.07, h430km±3km, mb3.7/18, Error ellipse: s-maj=9.3km s-min=9.1km az=38.7*
*IDC **01** 15:03:29.7±0.9, 32.88N×136.93E, h418km±9km, mb3.6/16, mb1 3.6/20, mb1mx3.6/31, mbtmp4.3/20, Error ellipse: s-maj=16.3km s-min=8.6km az=77.0*
*JMA **01** 15:03:29.9±0.4, 32.94N×137.02E, h427km±4km, M3.5*

ISC 01 15:03:29.8±0.7, 32.92N±0.08×137.00E±0.07, h424km±6km, n65, σ1°06/76, mb3.9/18, 1C-2D, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TK01	**Tokai 1**	**0.98**	**30**	P		**P**	**15 04 22.1**	**-0.7**
TTO4	**TONANKAI O.B.S**	**1.18**	**22**	P		**P**	**15 04 25.0**	**+1.4**
TK02	**Tokai 2**	**1.21**	**32**	P		**P**	**15 04 25.4**	**+1.7**
JWZ	**Kozaga**	**1.23**	**300**	P		**P**	**15 04 24.3**	**+0.2**
JIE	**Ise**	**1.49**	**351**	P		**P**	**15 04 26.0**	**+0.8**
JWY	**Kouya**	**1.75**	**318**	P		**P**	**15 04 27.3**	**+0.8**
TSUJ	**Tsu 2**	**1.85**	**345**	P		**P**	**15 04 27.9**	**+1.0**
HMMJ	**Hamamatsu 2**	**2.02**	**17**	P		**P**	**15 04 28.6**	**+0.7**
JHE	**Heguri**	**2.05**	**328**	P		**P**	**15 04 28.8**	**+0.7**
JEG	**Eigenji**	**2.27**	**347**	P		**P**	**15 04 30.6**	**+1.1**
JAI	**Aioi**	**2.30**	**293**	P		**P**	**15 04 30.5**	**+0.8**
JAO	**Obara**	**2.35**	**5**	P		**P**	**15 04 31.0**	**+0.9**
SHZ3	**Shizuoka 3**	**2.37**	**25**	P		**P**	**15 04 31.2**	**+1.0**
JIZS	**Izushimoda**	**2.38**	**41**	P		**P**	**15 04 30.5**	**+0.3**
JNY	**Yasuok**	**2.54**	**16**	P		**P**	**15 04 32.1**	**+0.8**
JWT	**Wachi**	**2.70**	**331**	P		**P**	**15 04 33.2**	**+0.8**
JWT				S		**S**	**15 05 22.4**	**-1.0**
JFM	**Mihama**	**2.73**	**342**	P		**P**	**15 04 33.6**	**+1.0**
JGM	**Miyama**	**2.78**	**355**	P		**P**	**15 04 34.1**	**+1.0**
JGM				*e*S		**S**	**15 05 24.0**	**-0.5**
JYN	**Shimob**	**2.88**	**26**	P		**P**	**15 04 34.5**	**+0.7**
JOD2	**Odawara 2**	**2.91**	**36**	P		**P**	**15 04 34.4**	**+0.4**
JOD2				S		**S**	**15 05 26.2**	**-0.1**
JKG	**Kaga**	**3.40**	**351**	P		**P**	**15 04 38.4**	**+0.6**
JRY	**Ryogami san**	**3.47**	**26**	P		**P**	**15 04 39.0**	**+0.5**
JRY				S		**S**	**15 05 34.0**	**-0.5**
BSO1	**Boso 1**	**3.74**	**61**	S		**S**	**15 05 35.1**	**-2.6**
MJAR	**Matsushiro Arr**	**3.75**	**15**	P		**P**	**15 04 41.0**	**+0.1**
	21nm,0.3s,baz=191,slow=9.5,SNR=270				

MWC				*e*Pb		Pb	15 08 52.7	-0.3	
MWC				*e*Sg		Sb	15 09 21.5	+1.1	
SHPR	**Sheep Range**	**2.19**	**86**	*e*Pn		Pn	15 08 49.5	-0.7	
SHPR				*e*Sn		Sb	15 09 20.1	-0.7	
WAKR	**Walker**	**2.45**	**330**	*e*Pn		Pb	15 08 55.9	-1.8	
WAKR				*e*Pb		Pg	15 08 58.1	-2.0	
WAKR				*e*Sg		Sg	15 09 30.6	-1.5	
CMB	**Columbia Colle**	**2.59**	**310**	*e*Pn		Pn	15 08 53.4	-2.2	
CMB				*e*Pg		Pb	15 08 58.2	-1.8	
CMB				*e*Sg		Sb	15 09 31.4	-0.9	
LDFC	**Landfair**	**2.60**	**120**	*e*Pn		Pn	15 08 53.9	-2.0	
R11A	**Troy Canyon, C**	**2.67**	**42**	*e*Pn		Pn	15 08 56.5	-0.4	
R11A				*e*Pb		Pb	15 09 01.1	-0.4	
R11A				*e*Sg		Sb	15 09 36.7	+1.9	
SAO	**San Andreas Ge**	**2.90**	**278**	*e*Pn		Pn	15 09 00.9	+1.1	
PFO	**Pinyon Flat Ob**	**3.01**	**157**	*e*Pn		Pn	15 09 01.6	+0.1	
PFO				*e*Pb		Pb	15 09 08.3	+1.0	
PFO				*e*Sg		Sg	15 09 47.4	-2.6	
PAHR	**Pah Rah Range**	**3.52**	**341**	*e*Pn		Pn	15 09 08.9	+0.4	
PAHR				*e*Pg		Pb	15 09 17.6	+1.8	
CCUT	**Cedar City**	**3.79**	**71**	*e*Pn		Pn	15 09 11.9	-0.5	
CCUT				*e*Pg		Pg	15 09 23.3	-2.5	
ARUT	**Antelope Range**	**3.81**	**67**	*e*Pn		Pn	15 09 13.8	+1.3	
ARUT				*e*Pg		Pg	15 09 23.8	-2.3	
ARUT				*e*Sg		Sg	15 10 12.8	-2.7	
SAC	**San Andreas**	**3.83**	**289**	*e*Pn		Pn	15 09 11.8	-0.7	
BAR	**Barrett**	**3.83**	**165**	*e*Pn		Pn	15 09 12.2	-0.4	
BAR				*e*Pb		Pb	15 09 20.9	-0.3	
BEKR	**Beckworth**	**3.98**	**331**	*e*Pg		Pb	15 09 24.7	+0.9	
BEKR				*e*Sg		Sg	15 10 18.7	-2.6	
BMN	**Battle Mountai**	**4.06**	**7**	*e*Pn		Pn	15 09 18.0	+2.0	
BMN				*e*Pg		Pg	15 09 28.1	-2.8	
ELK	**Elko**	**4.81**	**25**	*e*Pn		Pn	15 09 26.3	0.0	
ELK				*e*Pg		Pg	15 09 42.1	-3.2	
ELK				*e*Sg		Sg	15 10 43.6	-4.2	
MVU	**Marysvale**	**4.97**	**63**	*e*Pn		Pn	15 09 29.6	+1.0	
MVU				*e*Pg		Pg	15 09 47.5	-0.9	
MVU				*e*Sg		Sg	15 10 50.9	-2.2	
WUAZ	**Wupatki** 8.2nm,0.5s	**5.34**	**98**	Pn		Pn	15 09 36.2	+2.6	
WUAZ				*e*Pg		Pb	15 09 51.0	+4.0	
DUG	**Dugway** 5.0nm,0.6s	**5.50**	**45**	*e*Pg		Pb	15 09 53.2	+3.6	
DUG				*e*Sg		Sg	15 11 05.5	-4.2	
BGU	**Big Grassy Mou** 5.9nm,0.9s	**5.90**	**38**	*e*Pg		Pg	15 10 02.0	-4.1	
BGU				*e*Sg		Sg	15 11 17.3	-5.4	
HVU	**Hansel Valley** 4.3nm,0.6s	**6.68**	**35**	*e*Pg		Pg	15 10 16.8	-4.2	

IDC 01 15:08:34.3±15.0, 15°95S×173°41W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.6/21, mbtmpb3.7/3, ML1.2/1, Error ellipse: s-maj=719.9km s-min=29.6km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 2.5nm,0.3s,baz=254,slow=18,SNR=2.4	**2.57**	**38**	Pn	Pn	15 09 16.1	-1.1
AFI	14nm,0.3s,baz=243,slow=14,SNR=5.6			Sn	Sn	15 09 38.4	-11
H11S2	**WAKE ISLAND Hy** baz=153,slow=0.7,SNR=8.9	**39.42**	**329**	T	T	15 58 02.9	
H11S3	**WAKE ISLAND Hy** baz=153,slow=0.7,SNR=9.3	**39.44**	**329**	T	T	15 58 03.1	
H11S1	**WAKE ISLAND Hy** baz=153,slow=0.7,SNR=9.7	**39.44**	**329**	T	T	15 58 04.3	
H11N3	**WAKE ISLAND Hy** baz=154,slow=0.7,SNR=8.2	**40.38**	**331**	T	T	15 59 12.2	
H11N1	**WAKE ISLAND Hy** baz=154,slow=0.7,SNR=3.2	**40.38**	**331**	T	T	15 59 11.2	
H11N2	**WAKE ISLAND Hy** baz=154,slow=0.7,SNR=6.8	**40.39**	**331**	T	T	15 59 13.6	
ASAR	**Alice Springs** 0.7nm,0.4s,baz=90,slow=7.7,SNR=13	**49.93**	**252**	P	P	15 17 29.7	-0.6
ILAR	**Eielson Array** 0.5nm,1.0s,baz=225,slow=6.3,SNR=4.9	**82.98**	**11**	P	P	15 21 01.1	+0.2
BRTR	**Keskin Array B** 0.3nm,0.3s,baz=18,slow=5.2,SNR=2.1	**146.57**	**320**	PKPbc	PKPbc	15 28 18.6	+0.4

*IDC **01** 15:15:14.9±9.1, 29°98N×130°97E, h0km, mb3.6/5, mb1 3.6/5, mb1mx3.4/26, mbtmpb3.6/5, Error ellipse: s-maj=233.7km s-min=113.7km az=10.0*
*JMA **01** 15:15:22.1±0.1, 30°37N×131°12E, h29km±1km, M3.0*
ISC 01 15:15:20.3±2.5, 30°32N±0°10×131°2E±0°1, h29km±11km, n13, σ0°64/17, mb3.4/5, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.39**	**329**	P	**Pb**	**15 15 29.3**	**+0.4**
JTN				*e*S	**Sb**	**15 15 34.6**	**-0.2**
JTSR	**Tashiro 2**	**0.88**	**344**	P	**Pn**	**15 15 36.9**	**+0.1**
JTSR				*e*S	**Sb**	**15 15 47.7**	**-0.7**
JKC	**Kuchinoerabu**	**0.89**	**279**	P	**Pn**	**15 15 37.1**	**+0.2**
JKC				*e*S	**Sb**	**15 15 48.0**	**-0.7**
JNAR	**Kushima--Naru**	**1.20**	**2**	P	**Pb**	**15 15 43.1**	**+0.7**
JNAR				*e*S	**Sn**	**15 15 57.2**	**+0.7**
JNN	**Nakanoshima**	**1.25**	**248**	P	**Pb**	**15 15 43.6**	**+0.2**
JSU	**Suzuyama**	**1.35**	**331**	P	**Pn**	**15 15 43.7**	**+0.5**
JSU				*e*S	**Sn**	**15 16 01.1**	**+0.9**
JTZ	**Takazaki**	**1.58**	**356**	P	**Pb**	**15 15 47.9**	**-0.9**
SONM	**Songino Array** 0.3nm,0.4s,baz=138,slow=11,SNR=3.6	**25.84**	**320**	P	**P**	**15 20 49.3**	**-0.1**
KULM	**Kulim**	**38.05**	**235**	P	P	15 22 30.2	-6.3
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=120,slow=8.5,SNR=3.0	**40.74**	**319**	P	**P**	**15 22 58.1**	**-0.4**
MKAR	**Makanchi Array** 0.5nm,0.9s,baz=93,slow=8.7,SNR=4.5	**40.94**	**308**	P	**P**	**15 22 59.6**	**-0.6**
KURBB	**Kurchatov Arra** 0.4nm,0.6s,baz=99,slow=8.6,SNR=8.5	**43.85**	**313**	P	**P**	**15 23 23.1**	**-0.8**
FINES	**FINESS Array B** 1.0nm,0.5s,baz=76,slow=5.9,SNR=8.0	**70.60**	**331**	P	**P**	**15 26 32.9**	**+0.3**

IDC 01 15:19:34.6±4.2, 15°81S×173°30W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/21, mbtmpb3.7/3, MS3.1/3, Ms1 3.1/3, ms1mx3.0/30, Error ellipse: s-maj=271.1km s-min=31.9km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 14nm,0.3s,baz=214,slow=11,SNR=3.6	**2.40**	**38**	Pn	Pn	15 20 10.0	-5.3
AFI	34nm,0.3s,baz=229,slow=20,SNR=6.7			Sn	Sn	15 20 32.4	-13
AFI	comp=Z,332nm,18.2s,baz=306,slow=29			LR	LR	15 20 44.5	
H11S2	**WAKE ISLAND Hy** baz=151,slow=0.7	**39.36**	**329**	T	T	16 08 59.7	
H11S3	**WAKE ISLAND Hy** baz=151,slow=0.7	**39.37**	**329**	T	T	16 09 04.8	
H11S1	**WAKE ISLAND Hy** baz=151,slow=0.7	**39.38**	**329**	T	T	16 08 50.1	
H11N3	**WAKE ISLAND Hy** baz=153	**40.31**	**330**	T	T	16 10 12.3	
H11N1	**WAKE ISLAND Hy** baz=153	**40.32**	**330**	T	T	16 10 13.3	
H11N2	**WAKE ISLAND Hy** baz=153	**40.33**	**330**	T	T	16 10 14.7	
WRA	**Warramunga Arr** 0.6nm,1.0s,baz=92,slow=8.2,SNR=4.6	**49.84**	**257**	P	P	15 28 29.4	-0.6
ASAR	**Alice Springs** 0.6nm,0.6s,baz=83,slow=8.2,SNR=6.4	**50.08**	**252**	P	P	15 28 31.7	-0.1
NVAR	**Mina Array Bea** 0.3nm,0.7s,baz=222,slow=10,SNR=4.5	**74.57**	**42**	P	P	15 31 15.5	-0.3
BBB	**Bella Bella** comp=Z,55nm,18.2s,baz=85,slow=32	**78.21**	**27**	LR	LR	16 01 25.0	
CMIG	**Matias Romero** comp=Z,2.0nm,21.0s,slow=28	**83.93**	**70**	LR	LR	15 59 14.0	
BRTR	**Keskin Array B** 0.3nm,0.4s,baz=48,slow=2.1,SNR=2.7	**146.53**	**321**	PKPbc	PKPbc	15 39 18.4	-0.1

*IDC **01** 15:20:29.1±1.2, 2°51S×101°49E, h0km, mb3.7/8, mb1 3.8/10, mb1mx3.7/26, mbtmpb3.8/10, ML3.7/1, MS3.7/2, Ms1 3.7/2, ms1mx2.9/45, Error ellipse: s-maj=55.7km s-min=16.4km az=51.0*
*DJA **01** 15:20:35.8±0.3, 2°S±2°×10°2E±°, h19km, M4.3/11, mb4.3/1, MLv4.2/11*
ISC 01 15:20:31.9±1.5, 2°49S±0°05×101°43E±0°08, h15km±10km, n33, σ1°41/33, mb3.7/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRJI	**Kerinci**	**0.40**	**5**	P	**Pb**	**15 20 41.6**	**+0.8**
MASI	**Maura Aman, Be**	**1.04**	**128**	P	**Pb**	**15 20 51.7**	**0.0**
KSI	**Kapahiang**	**1.64**	**135**	P	**Pb**	**15 21 01.6**	**-0.3**
KSI				S	**Sg**	**15 21 24.9**	**+0.1**
PDSI	**Padang**	**1.84**	**328**	P	**Pg**	**15 21 07.2**	**-0.2**
PPI	**Padang Panjang**	**2.27**	**333**	P	**Pb**	**15 21 12.8**	**+0.1**
RGRI	**Rengat**	**2.31**	**23**	P	**Pn**	**15 21 09.2**	**-0.4**
RGRI				S	**Sn**	**15 21 37.7**	**-0.1**
MNAI	**Manna**	**2.40**	**141**	P	**Pb**	**15 21 13.4**	**-1.5**
MNAI				S	**Sb**	**15 21 43.9**	**-0.5**
EGSI	**Enggano, Bengk**	**2.96**	**163**	P	**Pb**	**15 21 23.9**	**-0.6**
EGSI				S	**Sb**	**15 22 02.5**	**+1.9**
MDSI	**Maura Dua**	**3.39**	**126**	P	**Pn**	**15 21 26.2**	**+1.9**
MDSI				S	**Sb**	**15 22 14.1**	**+1.4**
LWLI	**Liwa**	**3.63**	**134**	P	**Pn**	**15 21 31.0**	**+3.2**
KASI	**Kota Agung**	**4.29**	**135**	P	Pn	15 21 40.2	+3.4
KASI				S	**Sn**	**15 22 30.2**	**+3.5**
KGM	**Kluang**	**4.86**	**23**	P	**Pn**	**15 21 45.2**	**+0.5**
MYKOM	**Kota Tinggi**	**4.89**	**30**	P	**Pn**	**15 21 45.1**	**0.0**
MYKOM	**Kota Tinggi**	**4.89**	**30**	P	**Pn**	**15 21 44.0**	**-1.1**
GSI	**Gunungsitoli**	**5.39**	**314**	P	Pn	15 21 56.6	+4.7
FRIM	**Kepong**	**5.70**	**2**	P	**Pn**	**15 21 58.1**	**+2.0**
PSI	**Prapat** baz=96,slow=18,SNR=2.0	**5.82**	**335**	Pn	**Pn**	**15 21 58.1**	**+0.2**
PSI	comp=Z,220nm,20.1s,baz=176,slow=44			LR	LR	15 24 41.4	
KTGM	**Kuala Trenggan**	**7.95**	**12**	P	**Pn**	**15 22 28.7**	**+1.6**
KAPI	**Kappang** 0.3nm,0.3s,baz=241,slow=9.2,SNR=7.0	**18.45**	**98**	P	**P**	**15 24 46.7**	**-0.6**
H08S2	**Diego Garcia H** baz=82,slow=0.7,SNR=10	**29.26**	**259**	T	T	15 56 10.1	
H08S3	**Diego Garcia H** baz=82,slow=0.7,SNR=10	**29.27**	**259**	T	T	15 56 07.9	
H08S1	**Diego Garcia H** baz=82,slow=0.7,SNR=7.3	**29.28**	**259**	T	T	15 56 12.4	
WRA	**Warramunga Arr** 1.1nm,1.1s,baz=299,slow=11,SNR=5.0	**36.52**	**121**	P	**P**	**15 27 35.5**	**-1.7**
ASAR	**Alice Springs** 0.9nm,0.7s,baz=302,slow=8.6,SNR=10	**37.81**	**127**	P	**P**	**15 27 46.9**	**-1.4**
STKA	**Stephens Creek** 0.8nm,0.5s,baz=270,slow=4.0,SNR=2.5	**47.76**	**132**	P	**P**	**15 29 08.4**	**-0.4**
SONM	**Songino Array** 0.4nm,0.7s,baz=183,slow=2.9,SNR=3.8	**50.31**	**4**	P	**P**	**15 29 28.0**	**-0.1**
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=138,slow=9.2,SNR=3.7	**51.90**	**343**	P	**P**	**15 29 41.6**	**+1.7**
KURBB	**Kurchatov Arra** 0.2nm,0.8s,baz=160,slow=6.7,SNR=4.5	**56.43**	**343**	P	**P**	**15 30 11.3**	**-1.6**
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=145,slow=5.4,SNR=4.2	**57.92**	**348**	P	**P**	**15 30 21.6**	**-1.9**
BRTR	**Keskin Array B** 1.1nm,0.9s,baz=120,slow=7.3,SNR=3.8	**74.70**	**312**	P	**P**	**15 32 11.7**	**+0.1**
SUR	**Sutherland** comp=Z,150nm,21.2s,slow=29	**80.74**	**238**	LR	LR	15 59 18.3	
TXAR	**Lajitas Array** 0.2nm,0.5s,baz=220,slow=6.9,SNR=3.2	**144.20**	**39**	PKP	**PKPab**	**15 40 06.2**	**+0.2**
CPUP	**Villa Florida** 1.8nm,0.6s,baz=123,slow=3.3,SNR=4.9	**144.75**	**214**	PKP	**PKPdf**	**15 40 09.0**	**-0.1**

*IDC **01** 15:21:22.5±5.3, 29°74N×131°81E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.5/27, mbtmpb3.8/6, ML3.1/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/48, Error ellipse: s-maj=104.7km s-min=73.1km az=108.0*
*NEIC **01** 15:21:26.4±2.9, 29°71N×131°93E, h35km, mb4.6/2, Error ellipse: s-maj=75.1km s-min=13.9km az=96.0*
*ISCJB **01** 15:21:34.7±1.3, 30°38N±0°07×131°1E±0°1, h51km±7km, mb3.9/7, Error ellipse: s-maj=18.2km s-min=8.7km az=30.6*
*JMA **01** 15:21:35.1±0.1, 30°38N×131°11E, h29km±1km, M3.4*
ISC 01 15:21:34.0±2.1, 30°35N±0°10×131°1E±0°1, h33km±8km, n26, σ1°10/27, mb3.7/7, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.34**	**337**	P	**Pb**	**15 21 42.2**	**0.0**
JTN				*e*S	**Sb**	**15 21 47.2**	**-0.6**
JKC	**Kuchinoerabu**	**0.82**	**278**	P	**Pn**	**15 21 49.9**	**+0.7**
JKC				*e*S	**Sn**	**15 22 00.6**	**+0.4**
JTSR	**Tashiro 2**	**0.84**	**347**	P	**Pn**	**15 21 49.8**	**+0.3**
JTSR				*e*S	**Sn**	**15 22 00.7**	**0.0**
JNAR	**Kushima--Naru**	**1.18**	**6**	P	**Pb**	**15 21 55.9**	**0.0**
JNN	**Nakanoshima**	**1.20**	**246**	P	**Pb**	**15 21 56.4**	**+0.2**
JSU	**Suzuyama**	**1.29**	**333**	P	**Pn**	**15 21 56.5**	**+0.7**
JSU				*e*S	**Sn**	**15 22 12.9**	**+0.9**
JTZ	**Takazaki**	**1.55**	**359**	P	**Pn**	**15 22 00.8**	**+1.5**
JTZ				*e*S	**Sn**	**15 22 20.3**	**+2.0**
JNU	**Nakatsue**	**2.78**	**356**	*e*Pn	**Pn**	**15 22 17.8**	**+1.6**
JNU				Pn	Pn	15 22 18.1	+1.9
JNU				Sn	**Sn**	**15 22 46.9**	**-1.7**
JNU	**Nakatsue** 2.3nm,0.3s,baz=186,slow=11,SNR=26	**2.78**	**356**	Pn	**Pn**	**15 22 18.1**	**+1.9**
JNU	2.7nm,0.3s,baz=175,slow=17,SNR=3.5			Sn	**Sn**	**15 22 46.9**	**-1.7**
KSRS	**Korea Array** comp=Z,74nm,19.5s,baz=155,slow=38	**7.57**	**340**	LR	LR	15 26 37.5	
SONM	**Songino Array**	**25.78**	**320**	P	**P**	**15 27 02.0**	**+0.1**
SONM	**Songino Array** 0.5nm,0.4s,baz=138,slow=9.5,SNR=7.1	**25.78**	**320**	P	**P**	**15 27 02.0**	**+0.1**
KKM	**Kota Kinabalu** 31nm,1.0s	**27.95**	**213**	P	P	15 27 12.1	-10
H11N2	**WAKE ISLAND Hy** baz=299,slow=0.7,SNR=17	**33.95**	**100**	T	T	16 04 16.0	
H11N1	**WAKE ISLAND Hy** baz=299,slow=0.7,SNR=7.0	**33.96**	**100**	T	T	16 04 16.2	
H11N3	**WAKE ISLAND Hy** baz=299,slow=0.7,SNR=11	**33.97**	**100**	T	T	16 04 17.3	
KULM	**Kulim** 2.9nm,0.7s	**38.01**	**235**	P	P	15 28 43.1	-6.2
ZALV	**Zalesovo Beam**	**40.68**	**319**	P	**P**	**15 29 11.0**	**-0.1**
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=94,slow=8.2,SNR=2.9	**40.68**	**319**	P	**P**	**15 29 11.0**	**-0.1**
MKAR	**Makanchi Array**	**40.88**	**308**	P	**P**	**15 29 13.2**	**+0.4**
MKAR	**Makanchi Array** 0.5nm,0.7s,baz=93,slow=9.6,SNR=7.6	**40.88**	**308**	P	**P**	**15 29 13.2**	**+0.4**
KURK	**Kurchatov**	**43.74**	**313**	P	**P**	**15 29 36.9**	**+0.9**
KURBB	**Kurchatov Arra** 0.5nm,0.4s,baz=106,slow=6.5,SNR=20	**43.78**	**313**	P	**P**	**15 29 36.9**	**+0.5**
BRVK	**Borovoye**	**49.08**	**316**	*e*P	**P**	**15 30 16.6**	**-1.4**
FINES	**FINESS Array B**	**70.55**	**331**	P	**P**	**15 32 44.0**	**-1.4**
FINES	**FINESS Array B** 2.0nm,0.5s,baz=76,slow=4.7,SNR=17	**70.55**	**331**	P	**P**	**15 32 44.0**	**-1.4**

*IDC **01** 15:25:36.0±0.6, 16°05S×172°80W, h0km, mb4.3/18, mb1 4.5/18, mb1mx4.4/25, mbtmpb4.3/18, Error ellipse: s-maj=22.7km s-min=14.5km az=137.0*
*NEIC **01** 15:25:36.7±0.3, 16°28S×172°67W, h10km, mb4.6/17, Error ellipse: s-maj=10.2km s-min=6.6km az=152.0*
*AUST **01** 15:25:40.9±0.8, 16°10S×172°25W, h62km±12km, Error ellipse: s-maj=15.3km s-min=10.2km az=91.0*
ISC 01 15:25:39.2±0.4, 16°20S±0°09×172°64W±0°08, h24km, n92, σ1°09/82, mb4.4/31, 2C-8D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.42**	**20**	*e*Pn	Pn	15 26 09.7	-7.8
AFI				Sn	Sn	15 26 38.1	-8.3
AFI	**Afiamalu** 35nm,0.3s,baz=249,slow=8.6,SNR=4.9	**2.42**	**20**	Pn	Pn	15 26 09.9	-7.6
AFI	106nm,0.3s,baz=140,slow=19,SNR=9.8			Sn	Sn	15 26 38.1	-8.3
NIUE	**Niue** baz=3.7,SNR=16	**3.85**	**138**	⇓P	**Pn**	**15 26 35.8**	**-1.3**
RAR	**Rarotonga**	**13.16**	**114**	Pn	**Pn**	**15 28 42.9**	**-1.9**
RAR	**Rarotonga** 2.8nm,0.3s,baz=270,slow=6.6,SNR=3.0	**13.16**	**114**	Pn	**Pn**	**15 28 42.9**	**-1.9**
DZM	**Mont Dzumac** 508nm,29.2s	**20.60**	**250**	*e*LR	LR	15 35 12.4	
DZM	**Mont Dzumac**	**20.60**	**250**	P	**P**	**15 30 15.8**	**-1.1**
DZM	**Mont Dzumac** 8.6nm,1.0s,baz=80,slow=19,SNR=3.0	**20.60**	**250**	P	**P**	**15 30 15.8**	**-1.1**
PPT2	**Papeete2** 321nm,25.5s,baz=263	**22.11**	**97**	*e*LR	LR	15 35 41.1	
TBI	**Tubuai** 362nm,27.5s,baz=293	**22.92**	**112**	*e*LR	LR	15 35 58.0	
URZ	**Urewera** 23nm,1.1s	**23.76**	**200**	P	**P**	**15 30 47.2**	**-2.6**
URZ	**Urewera** 4.0nm,0.3s,baz=104,slow=4.2,SNR=5.7	**23.76**	**200**	P	**P**	**15 30 50.9**	**+1.1**
RPZ	**Rata Peaks** 9.2nm,0.8s,baz=1.9,slow=18,SNR=2.5	**30.73**	**203**	P	P	15 31 59.2	+6.7

CTA	**Charters Tower**	**39.19**	**258**	P		**P**	**15 33 05.2**	**-0.6**	
CTA	**Charters Tower** 2.1nm,0.6s,baz=97,slow=13,SNR=7.1	**39.19**	**258**	P		**P**	**15 33 05.2**	**-0.6**	
CTAO	**Charters Tower** 3.7nm,0.8s	**39.19**	**258**	*e*P		**P**	**15 33 05.0**	**-0.7**	
H11S2	**WAKE ISLAND Hy** baz=151,slow=0.7,SNR=6.9	**40.02**	**329**	T		T	16 15 13.9		
H11S3	**WAKE ISLAND Hy** baz=151,slow=0.7,SNR=6.2	**40.04**	**329**	T		T	16 15 14.4		
H11S1	**WAKE ISLAND Hy** baz=151,slow=0.7,SNR=4.8	**40.04**	**329**	T		T	16 15 17.4		
CMSA	**Cobar Meteorol** baz=41,SNR=11	**40.79**	**240**	P		**P**	**15 33 17.9**	**-1.0**	
H11N3	**WAKE ISLAND Hy** baz=151,slow=0.7,SNR=3.1	**40.97**	**330**	T		T	16 16 23.9		
H11N1	**WAKE ISLAND Hy** baz=151,slow=0.7,SNR=2.5	**40.97**	**330**	T		T	16 16 26.8		
H11N2	**WAKE ISLAND Hy** baz=151,slow=0.7,SNR=2.6	**40.98**	**330**	T		T	16 16 26.3		
QLP	**Quilpie** baz=42	**41.30**	**248**	⇑P		**P**	**15 33 21.4**	**-1.7**	
TOO	**Toolangi** baz=43	**42.54**	**232**	⇓P		**P**	**15 33 34.4**	**+1.2**	
STKA	**Stephens Creek** 1.5nm,1.0s	**44.28**	**241**	*e*P		**P**	**15 33 46.4**	**-0.9**	
STKA				*e*			15 33 53.9		
STKA	**Stephens Creek** baz=45,SNR=8.5	**44.28**	**241**	P		**P**	**15 33 46.8**	**-0.5**	
STKA	**Stephens Creek** 4.8nm,0.7s,baz=92,slow=11,SNR=14	**44.28**	**241**	P		**P**	**15 33 46.6**	**-0.6**	
HTT	**Hallett** baz=47	**46.76**	**239**	⇓P		**P**	**15 34 07.0**	**+0.1**	
BBOO	**Buckleboo** baz=49	**49.05**	**240**	⇓P		**P**	**15 34 23.9**	**-0.8**	
WRAB	**Tennant Creek** 11nm,1.3s	**50.37**	**257**	*e*P		**P**	**15 34 33.0**	**-1.8**	
WRA	**Warramunga Arr**	**50.38**	**257**	P		**P**	**15 34 33.1**	**-1.8**	
WRA				PcP		**PcP**	**15 35 54.2**	**+0.8**	
WRA	**Warramunga Arr** 3.5nm,0.7s,baz=91,slow=7.0,SNR=37	**50.38**	**257**	P		**P**	**15 34 33.1**	**-1.8**	
WRA	1.8nm,0.9s,baz=97,slow=3.9,SNR=3.7			PcP		**PcP**	**15 35 54.2**	**+0.8**	
AS17	**Alice Springs** baz=51	**50.49**	**253**	⇓P		**P**	**15 34 34.4**	**-1.3**	
AS31	**Alice Springs**	**50.57**	**253**	*e*P		**P**	**15 34 34.6**	**-1.8**	
ASAR	**Alice Springs**	**50.57**	**253**	P		**P**	**15 34 34.9**	**-1.5**	
ASAR				PcP		**PcP**	**15 35 55.5**	**+1.4**	
ASAR	**Alice Springs** 7.9nm,0.6s,baz=88,slow=8.2,SNR=56	**50.57**	**253**	P		**P**	**15 34 34.9**	**-1.5**	
ASAR	1.7nm,0.9s,baz=97,slow=4.7,SNR=3.6			PcP		**PcP**	**15 35 55.4**	**+1.4**	
KDU	**Kakadu** baz=54,SNR=4.0	**53.15**	**266**	⇓P		**P**	**15 34 55.3**	**-0.3**	
FITZ	**Fitzroy Crossi**	**58.77**	**258**	P		**P**	**15 35 35.1**	**-0.7**	
FITZ	**Fitzroy Crossi** 2.1nm,0.7s,baz=190,slow=5.2,SNR=5.9	**58.77**	**258**	P		**P**	**15 35 35.1**	**-0.7**	
SBA	**Scott Base** 9.9nm,1.3s	**62.52**	**185**	*e*P		P	15 36 04.1	+3.6	
VNDA	**Vanda** 4.3nm,1.2s	**62.66**	**186**	*e*P		**P**	**15 36 02.4**	**+1.0**	
VNDA	**Vanda** 1.6nm,0.8s,baz=2.6,slow=7.5,SNR=12	**62.66**	**186**	P		**P**	**15 36 02.7**	**+1.3**	
MBWA	**Marble Bar** 16nm,1.2s	**63.85**	**254**	*e*P		**P**	**15 36 09.3**	**-1.0**	
MEEK	**Meekatharra** baz=64,SNR=4.5	**64.20**	**248**	⇑P		**P**	**15 36 12.0**	**-0.5**	
KLBR	**Kellerberrin** baz=65,SNR=6.6	**64.52**	**242**	⇓P		**P**	**15 36 14.5**	**-0.1**	
BLDU	**Ballidu** baz=66	**65.49**	**243**	⇓P		**P**	**15 36 20.7**	**-0.2**	
MJAR	**Matsushiro Arr**	**70.02**	**320**	P		**P**	**15 36 48.2**	**-1.0**	
MJAR	**Matsushiro Arr** 0.7nm,0.5s,baz=111,slow=1.3,SNR=3.9	**70.02**	**320**	P		**P**	**15 36 48.2**	**-1.0**	
PETK	**Petropavlovsk-**	**73.61**	**342**	P		**P**	**15 37 09.8**	**-0.5**	
PETK	**Petropavlovsk-** 3.6nm,0.9s,baz=90,slow=7.4,SNR=3.6	**73.61**	**342**	P		**P**	**15 37 09.8**	**-0.5**	
QSPA	**South Pole Qui** 3.3nm,0.8s	**73.85**	**180**	*e*P		**P**	**15 37 14.6**	**+2.7**	
NVAR	**Mina Array Bea**	**74.43**	**41**	P		**P**	**15 37 16.5**	**+0.7**	
NVAR	**Mina Array Bea** 1.8nm,0.8s,baz=231,slow=9.9,SNR=7.3	**74.43**	**41**	P		**P**	**15 37 16.5**	**+0.7**	
MOD	**Modoc** 13nm,1.0s	**75.30**	**38**	*e*P		**P**	**15 37 21.0**	**+0.4**	
WVOR	**Wild Horse Val** 2.6nm,1.0s	**76.60**	**38**	*e*P		**P**	**15 37 28.4**	**+0.4**	
KSRS	**Korea Array** 0.8nm,0.7s,baz=133,slow=4.3,SNR=4.7	**77.24**	**315**	P		**P**	**15 37 32.4**	**+0.8**	
KSAR	**Wonju Array Be**	**77.26**	**315**	P		**P**	**15 37 32.4**	**+0.7**	
TXAR	**Lajitas Array**	**80.45**	**56**	P		**P**	**15 37 49.3**	**-0.2**	
TXAR	**Lajitas Array** 2.9nm,1.2s,baz=230,slow=5.6,SNR=8.7	**80.45**	**56**	P		**P**	**15 37 49.3**	**-0.2**	
ANMO	**Albuquerque** 4.9nm,1.2s	**80.75**	**50**	*e*P		**P**	**15 37 51.3**	**+0.2**	
MCK	**McKinley** 8.5nm,0.7s	**81.77**	**10**	*e*P		**P**	**15 37 55.1**	**-0.6**	
PDAR	**Pinedale Array**	**82.37**	**41**	P		**P**	**15 38 00.1**	**+0.5**	
PDAR	**Pinedale Array** 2.2nm,0.9s,baz=223,slow=3.0,SNR=14	**82.37**	**41**	P		**P**	**15 38 00.1**	**+0.5**	
**SD

IDC ***01*** *15:34:32.3±0.5, 16°45S×173°23W, h0km, mb4.5/22, mb1 4.6/23, mb1mx4.6/30, mbtmp4.5/23, ML4.6/1, MS4.8/20, Ms1 4.7/20, ms1mx4.6/26, Error ellipse: s-maj=20.1km s-min=12.6km az=134.0*

BJI ***01*** *15:34:33.5, 16°20S×173°40W, h8km, mB5.3/19, mb4.9/27, Ms5.0/14, Ms7 4.7/15*

ISCJB ***01*** *15:34:33.3±4.7, 16°40S±0°06×173°39W±0°05, h15km±28km, mb4.8/79, MS4.7/30, Error ellipse: s-maj=11.7km s-min=6.0km az=146.5*

NEIC ***01*** *15:34:33.5±0.2, 16°34S×173°35W, h10km, mb4.9/47, Error ellipse: s-maj=10.4km s-min=4.8km az=141.0*

DJA ***01*** *15:34:35.4±0.8, 16°S±18°×17°3W±1°3, h10km, M5.7/8, mB5.7/1, mb5.4/8, MLv5.9/1, Mw(mB)5.3/1*

MOS ***01*** *15:34:36.9±1.8, 16°31S×173°42W, h33km, mb5.1/16, Error ellipse: s-maj=13.3km s-min=10.7km az=47.3*

GCMT ***01*** *15:34:41.2±0.2, 16°48S×172°70W, h37km, MW5.2, Moment Tensor Solution. s70,c114; s91,c153; Moment tensor: Scale 10^16Nm; Mrr7.07±.20; Mθθ0.59±.15; Mφφ-7.66±.14; Mrθ-0.56±.17; Mrφ-0.15±.11; Mθφ4.72±.15; Best double couple: M08.80000×10^16 NP1:strike357.00000°, dip61.00000°, rake85.00000° NP2:strike186.00000°, dip29.00000°, rake98.00000° Principal axes: T 8.4900, Plg73.0000°, Azm255.0000°; N 0.5400, Plg4.0000°, Azm359.0000°; P -9.0400, Plg16.0000°, Azm90.0000°; Data Used: II IU IC G CN.*

AUST ***01*** *15:34:43.9±0.6, 14°72S×173°51W, h110km, 8km Error ellipse: s-maj=38.1km s-min=8.3km az=155.0*

ISC 01 15:34:34.2±0.5, 16°36S±0°07×173°29W±0°07, h12km±2km, h12km:pP-P, n351, σ1s10/349, mb4.8/79, MS4.8/30, 76C-52D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.84**	**31**	*e*Pn	Pn	15 35 14.4	-5.0
AFI				Sn	Sn	15 35 45.3	-8.3
AFI	**Afiamalu**	**2.84**	**31**	Pn	Pn	15 35 14.8	-4.6
	32nm,0.3s,baz=192,slow=3.5,SNR=5.8						
AFI				Sn	Sn	15 35 45.3	-8.3
	235nm,0.3s,baz=218,slow=23,SNR=13						
RAR	**Rarotonga**	**13.68**	**113**	*e*Pn	Pn	15 37 42.1	-5.9
	54nm,0.9s						
RAR	**Rarotonga**	**13.68**	**113**	Pn	Pn	15 37 42.2	-5.8
	9.0nm,0.3s,baz=270,slow=5.7,SNR=4.4						
RAR				LR	LR	15 41 31.5	
	comp=Z,3μm,21.3s,baz=270,slow=31						
DZM	**Mont Dzumac**	**19.96**	**250**	*e*LR	LR	15 38 39.9	
	690nm,26.2s						
DZM	**Mont Dzumac**	**19.96**	**250**	*e*P	**Pn**	**15 39 08.4**	**+0.3**
	212nm,1.6s						
DZM				*e*LQ	LQ	15 42 59.4	
	2μm,28.4s						
DZM				*e*LR	LR	15 43 52.8	
	8μm,24.4s						
DZM	**Mont Dzumac**	**19.96**	**250**	P	**Pn**	**15 39 08.2**	**+0.1**
DZM	**Mont Dzumac**	**19.96**	**250**	P	**Pn**	**15 39 08.2**	**+0.1**
	1.5nm,0.3s,baz=86,slow=16,SNR=7.9						
PPT2	**Papeete2**	**22.71**	**97**	*e*LR	LR	15 39 37.5	
	441nm,28.2s						
PPT2	**Papeete2**	**22.71**	**97**	*e*S	S	15 43 37.0	-7.6
	1μm,27.5s						
PPT2				*e*LR	LR	15 44 58.5	
	4μm,24.5s,baz=261						
PPT	**Papeete**	**22.71**	**96**	LR	LR	15 46 09.2	
	comp=Z,2μm,19.2s,baz=277,slow=31						
URZ	**Urewera**	**23.40**	**199**	P	**P**	**15 39 41.2**	**-1.7**
URZ				S	S	15 43 42.8	-13
URZ	**Urewera**	**23.40**	**199**	P	**P**	**15 39 41.2**	**-1.7**
	25nm,0.5s,baz=51,slow=3.8,SNR=29						
URZ				S	S	15 43 42.8	-13
	4.1nm,0.6s,baz=105,slow=20,SNR=2.3						
URZ				LR	LR	15 46 27.7	
	comp=Z,492nm,20.3s,baz=27,slow=31						
TBI	**Tubuai**	**23.45**	**111**	*e*LR	LR	15 39 35.8	
	239nm,30.8s						
TBI	**Tubuai**	**23.45**	**111**	*e*S	**S**	**15 43 52.0**	**-4.9**
	918nm,25.1s						
TBI				*e*LQ	LQ	15 44 14.0	
	2μm,28.5s						
TBI				*e*LR	LR	15 45 11.5	
	4μm,26.8s,baz=288						
HNR	**Honiara**	**26.96**	**281**	LR	LR	15 49 27.6	
	comp=Z,6μm,20.8s,baz=116,slow=33						
RPZ	**Rata Peaks**	**30.34**	**203**	P	**P**	**15 40 46.5**	**+0.8**
RPZ	**Rata Peaks**	**30.34**	**203**	P	**P**	**15 40 46.5**	**+0.8**
	11nm,0.6s,baz=21,slow=18,SNR=2.5						
EIDS	**Eidsvold**	**34.39**	**249**	*e*P	**P**	**15 41 18.8**	**-2.7**
	11nm,1.2s						
ARMA	**Armidale**	**34.95**	**240**	*e*P	**P**	**15 41 26.1**	**-0.3**
	7.4nm,0.7s						
RKT	**Rikitea**	**36.61**	**107**	*e*LR	LR	15 42 11.5	
	216nm,28.0s						
RKT	**Rikitea**	**36.61**	**107**	*e*S	S	15 47 16.4	-6.9
	301nm,28.5s						
RKT				*e*LR	LR	15 51 14.0	
	2μm,27.0s						
RMQ	**Roma**	**36.62**	**248**	⇓P	**P**	**15 41 40.6**	**0.0**
	baz=37						
CTA	**Charters Tower**	**38.54**	**258**	P	**P**	**15 41 56.5**	**-0.5**
CTA	**Charters Tower**	**38.54**	**258**	P	**P**	**15 41 56.5**	**-0.5**
	6.2nm,1.0s,baz=94,slow=14,SNR=5.0						
CTAO	**Charters Tower**	**38.54**	**258**	*e*P	**P**	**15 41 56.7**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CTAO	**Charters Tower**	**38.54**	**258**	*e*P	**P**	**15 41 56.7**	**-0.3**
	comp=Z,10nm,1.1s						
PMG	**Port Moresby**	**39.12**	**275**	*e*P	**P**	**15 41 59.1**	**-2.7**
	comp=Z,28nm,1.0s						
PMG	**Port Moresby**	**39.12**	**275**	P	**P**	**15 42 00.8**	**-1.1**
	comp=Z,19nm,0.9s,baz=92,slow=14,SNR=3.1						
H11S2	**WAKE ISLAND Hy**	**39.84**	**330**	T	T	16 24 15.0	
	baz=146						
H11S3	**WAKE ISLAND Hy**	**39.85**	**330**	T	T	16 24 14.9	
	baz=146						
H11S1	**WAKE ISLAND Hy**	**39.85**	**330**	T	T	16 24 15.9	
	baz=146						
H11N3	**WAKE ISLAND Hy**	**40.79**	**331**	T	T	16 25 06.0	
	baz=152,slow=0.7,SNR=10						
H11N1	**WAKE ISLAND Hy**	**40.80**	**331**	T	T	16 25 06.9	
	baz=152,slow=0.7,SNR=7.6						
H11N2	**WAKE ISLAND Hy**	**40.81**	**331**	T	T	16 25 07.4	
	baz=152,slow=0.7,SNR=11						
COEN	**Coen**	**42.03**	**267**	P	**P**	**15 42 26.9**	**+0.9**
	baz=42,SNR=4.9						
STKA	**Stephens Creek**	**43.66**	**241**	*e*P	**P**	**15 42 38.5**	**-0.5**
	comp=Z,8.3nm,1.2s						
STKA	**Stephens Creek**	**43.66**	**241**	P	**P**	**15 42 38.5**	**-0.5**
	comp=Z,20nm,1.0s,baz=76,slow=6.6,SNR=22						
STKA				LR	LR	15 58 24.1	
	comp=Z,830nm,18.6s,baz=56,slow=33						
WRAB	**Tennant Creek**	**49.73**	**258**	*e*P	**P**	**15 43 24.7**	**-2.0**
WRAB				pmax	pmax		
	comp=Z,15nm,1.3s						
WRAB	**Tennant Creek**	**49.73**	**258**	*e*P	**P**	**15 43 24.7**	**-2.0**
	comp=Z,15nm,1.3s						
WRA	**Warramunga Arr**	**49.74**	**258**	P	**P**	**15 43 25.6**	**-1.2**
WRA				PcP	**PcP**	**15 44 48.1**	**+0.2**
WRA	**Warramunga Arr**	**49.74**	**258**	P	**P**	**15 43 25.6**	**-1.2**
	comp=Z,4.2nm,0.8s,baz=97,slow=7.8,SNR=27						
WRA				PcP	**PcP**	**15 44 48.1**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=96,slow=3.7,SNR=4.8						
WRA				LR	LR	16 03 31.4	
	comp=Z,1μm,19.6s,baz=100,slow=35						
AS17	**Alice Springs**	**49.84**	**253**	⇑P	**P**	**15 43 26.9**	**-0.7**
	baz=50						
AS31	**Alice Springs**	**49.92**	**253**	*e*P	**P**	**15 43 26.9**	**-1.3**
ASAR	**Alice Springs**	**49.92**	**253**	P	**P**	**15 43 27.1**	**-1.1**
ASAR				PcP	**PcP**	**15 44 49.3**	**+0.8**
ASAR	**Alice Springs**	**49.92**	**253**	P	**P**	**15 43 27.1**	**-1.1**
	comp=Z,22nm,0.5s,baz=89,slow=8.3,SNR=248						
ASAR				PcP	**PcP**	**15 44 49.3**	**+0.8**
	comp=Z,2.3nm,0.8s,baz=91,slow=3.6,SNR=2.0						
ASAR				LR	LR	16 03 52.1	
	comp=Z,2μm,18.9s,baz=90,slow=35						
KNRA	**Kununurra**	**55.53**	**262**	P	**P**	**15 44 09.9**	**+0.2**
	baz=56,SNR=5.9						
FITZ	**Fitzroy Crossi**	**58.12**	**259**	P	**P**	**15 44 28.3**	**+0.2**
	comp=Z,10.0nm,1.3s						
FITZ	**Fitzroy Crossi**	**58.12**	**259**	P	**P**	**15 44 28.4**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=88,slow=15,SNR=7.9						
BATI	**Baumata**	**61.47**	**267**	P	**P**	**15 44 51.0**	**-0.2**
BATI	**Baumata**	**61.47**	**267**	P	**P**	**15 44 51.0**	**-0.2**
	comp=Z,23nm,0.6s,baz=121,slow=3.1,SNR=4.0						
SBA	**Scott Base**	**62.31**	**185**	*e*P	**P**	**15 44 57.4**	**+1.6**
SBA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SBA	**Scott Base**	**62.31**	**185**	*e*P	**P**	**15 44 57.4**	**+1.6**
	comp=Z,6.3nm,1.0s						
VNDA	**Vanda**	**62.44**	**186**	P	**P**	**15 44 56.7**	**0.0**
VNDA	**Vanda**	**62.44**	**186**	P	**P**	**15 44 56.7**	**0.0**
	comp=Z,2.2nm,1.1s,baz=22,slow=7.0,SNR=7.8						
MBWA	**Marble Bar**	**63.20**	**254**	*e*P	**P**	**15 45 02.1**	**-0.7**
	comp=Z,18nm,1.2s						
MEEK	**Meekatharra**	**63.55**	**248**	⇓P	**P**	**15 45 04.5**	**-0.5**
	baz=64,SNR=5.3						
KLBR	**Kellerberrin**	**63.89**	**242**	⇑P	**P**	**15 45 07.1**	**-0.1**
	baz=64,SNR=11						
BLDU	**Ballidu**	**64.86**	**243**	⇓P	**P**	**15 45 13.3**	**-0.2**
	baz=65,SNR=8.0						
MORW	**Morawa**	**65.58**	**245**	⇓P	**P**	**15 45 17.9**	**-0.4**
	baz=66,SNR=3.9						
CASY	**Casey**	**69.59**	**205**	*e*P	**P**	**15 45 42.9**	**0.0**
	comp=Z,18nm,1.3s						
MJAR	**Matsushiro Arr**	**69.74**	**320**	P	**P**	**15 45 44.5**	**+0.2**
MJAR	**Matsushiro Arr**	**69.74**	**320**	P	**P**	**15 45 44.5**	**+0.2**
	comp=Z,2.0nm,0.9s,baz=174,slow=7.2,SNR=5.1						
MAJO	**Matsushiro**	**69.74**	**320**	P	**P**	**15 45 42.3**	**-1.9**
MAJO	**Matsushiro**	**69.74**	**320**	P	**P**	**15 45 42.3**	**-1.9**
FX1	**Attu Island--F**	**69.94**	**351**	LR	LR	16 09 49.7	
	comp=Z,489nm,21.7s,baz=180,slow=30						
MYLDM	**Lahad Datu**	**70.74**	**282**	P	P	15 45 55.5	+4.7
	comp=Z,48nm,1.4s						
MONP	**Monument Peak**	**73.13**	**47**	⇑P	**P**	**15 46 05.1**	**0.0**
	baz=73						
EDW2	**Edwards Air Fo**	**73.14**	**45**	⇑P	**P**	**15 46 05.0**	**+0.1**
	baz=73						
PET	**Petropavlovsk**	**73.22**	**343**	*e*P	P	15 46 12.7	+7.9
PET				*e*S	**SKiKP**	**15 55 39.6**	**+2.9**
PET				pmax	pmax		
	comp=Z,100nm,17.4s						
PET				MLR	MLR		
	comp=Z,100nm,21.0s						
DVTC	**Desert V Tower**	**73.23**	**48**	⇑P	**P**	**15 46 05.8**	**+0.3**
	baz=73						
ISA	**Isabella**	**73.26**	**44**	*e*P	**P**	**15 46 06.3**	**+0.7**
ISA				pmax	pmax		
	comp=Z,29nm,1.5s						
ISA	**Isabella**	**73.26**	**44**	*e*P	**P**	**15 46 06.3**	**+0.7**
	comp=Z,29nm,1.5s						
ISA	**Isabella**	**73.26**	**44**	⇓P	**P**	**15 46 06.4**	**+0.7**
	baz=74						
CMB	**Columbia Colle**	**73.41**	**41**	P	**P**	**15 46 05.9**	**-0.5**
CMB				pmax	pmax		
	comp=Z,19nm,1.4s						
CMB	**Columbia Colle**	**73.41**	**41**	P	**P**	**15 46 05.9**	**-0.5**
	comp=Z,19nm,1.4s						
LPIG	**La Paz**	**73.45**	**58**	LR	LR	16 10 13.5	
	comp=Z,596nm,20.3s,baz=248,slow=29						
PFO	**Pinyon Flat Ob**	**73.50**	**47**	LR	LR	16 11 12.4	
	comp=Z,545nm,18.9s,baz=309,slow=30						
PETK	**Petropavlovsk-**	**73.57**	**342**	P	**P**	**15 46 07.7**	**+0.8**
PETK	**Petropavlovsk-**	**73.57**	**342**	P	**P**	**15 46 07.7**	**+0.8**
PETK	**Petropavlovsk-**	**73.57**	**342**	P	**P**	**15 46 07.7**	**+0.8**
	comp=Z,7.5nm,0.9s,baz=122,slow=7.7,SNR=6.3						
MPMC	**Manual Prospec**	**74.14**	**44**	⇓P	**P**	**15 46 11.4**	**+0.5**
	baz=74						
WAKR	**Walker**	**74.29**	**41**	P	**P**	**15 46 11.9**	**+0.1**
	comp=Z,16nm,1.2s						
YBH	**Yreka Blue Hor**	**74.30**	**37**	*e*P	**P**	**15 46 10.4**	**-1.2**
	comp=Z,20nm,1.3s						
YBH	**Yreka Blue Hor**	**74.30**	**37**	P	**P**	**15 46 11.6**	**+0.1**
	comp=Z,1.4nm,0.4s,baz=147,slow=12,SNR=5.1						
YBH				LR	LR	16 11 14.3	
	comp=Z,682nm,21.1s,baz=248,slow=30						
YSS	**Yuzh-Sakhalins**	**74.36**	**330**	⇓*i*P	**P**	**15 46 13.5**	**+1.8**
YSS				pmax	pmax		
	comp=Z,50nm,1.0s						
BEKR	**Beckworth**	**74.53**	**40**	*e*P	**P**	**15 46 12.4**	**-0.7**
	comp=Z,10nm,1.4s						
GMRC	**Granite Mounta**	**74.68**	**46**	⇑P	**P**	**15 46 14.3**	**+0.3**
	baz=75						
HUMO	**Hull Mountain**	**74.71**	**36**	P	**P**	**15 46 15.3**	**+1.4**
	comp=Z,36nm,1.4s						
NVAR	**Mina Array Bea**	**74.97**	**42**	P	**P**	**15 46 16.1**	**+0.5**
NVAR	**Mina Array Bea**	**74.97**	**42**	P	**P**	**15 46 16.1**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=226,slow=9.5,SNR=8.9						
NVAR				LR	LR	16 12 09.3	
	comp=Z,793nm,20.2s,baz=305,slow=30						
NV11	**Mina Array Sit**	**75.06**	**42**	*e*P	**P**	**15 46 16.1**	**-0.1**
214A	**Organ Pipe Nat**	**75.24**	**50**	⇑P	**P**	**15 46 18.0**	**+0.8**
	baz=75						
MOD	**Modoc**	**75.81**	**38**	*e*P	**P**	**15 46 20.0**	**-0.3**
	comp=Z,69nm,1.2s						
KDAK	**Kodiak Island**	**75.83**	**11**	LR	LR	16 12 11.8	
	comp=Z,672nm,21.9s,baz=273,slow=30						
SHPR	**Sheep Range**	**75.96**	**45**	P	P	15 46 25.4	+4.1
	comp=Z,28nm,1.4s						
W13A	**Hualapai Mount**	**76.09**	**47**	⇓P	**P**	**15 46 23.1**	**+0.9**
	baz=76						
Y14A	**Wickenburg**	**76.11**	**48**	⇑P	**P**	**15 46 23.2**	**+1.1**
	baz=76						
R11A	**Troy Canyon, C**	**76.68**	**43**	⇓P	**P**	**15 46 26.2**	**+0.8**
	baz=77						
KSRS	**Korea Array**	**76.91**	**316**	P	**P**	**15 46 28.2**	**+1.8**
	comp=Z,1.7nm,0.9s,baz=133,slow=6.3,SNR=6.6						
KSAR	**Wonju Array Be**	**76.93**	**316**	P	**P**	**15 46 28.2**	**+1.6**
WVOR	**Wild Horse Val**	**77.11**	**38**	*e*P	**P**	**15 46 27.5**	**-0.2**
WVOR				pmax	pmax		
	comp=Z,20nm,1.4s						
WVOR	**Wild Horse Val**	**77.11**	**38**	*e*P	**P**	**15 46 27.5**	**-0.2**
	comp=Z,20nm,1.4s						
KSM	**Kuching**	**77.38**	**275**	P	**P**	**15 46 31.6**	**+1.9**
	comp=Z,45nm,1.3s,comp=Z,618nm						
KSM	**Kuching**	**77.38**	**275**	*e*P	**P**	**15 46 28.8**	**-0.9**
	comp=Z,82nm,1.3s						
X16A	**Lo Mia Camp, P**	**77.47**	**48**	⇓P	**P**	**15 46 30.6**	**+0.6**
	baz=78						
CCUT	**Cedar City**	**77.73**	**45**	*e*P	**P**	**15 46 31.6**	**+0.2**
	comp=Z,14nm,1.3s						
U15A	**North Rim**	**77.88**	**46**	⇑P	**P**	**15 46 33.4**	**+1.0**
	baz=78						
WUAZ	**Wupatki**	**78.06**	**47**	⇓P	**P**	**15 46 34.1**	**+0.9**
	baz=78						
320A	**Kipp Ranch, An**	**78.14**	**52**	⇑P	**P**	**15 46 34.7**	**+0.9**
	baz=78						
USRK	**Ussuriysk Arra**	**78.21**	**323**	P	**P**	**15 46 36.0**	**+2.4**
	comp=Z,4.0nm,1.1s,baz=79,slow=4.1,SNR=4.8						
ELK	**Elko**	**78.23**	**41**	*e*P	**P**	**15 46 34.7**	**+0.6**
	comp=Z,9.5nm,1.2s						
220A	**Playas Peak, P**	**78.41**	**52**	⇓P	**P**	**15 46 36.2**	**+1.0**
	baz=79						
120A	**U Bar Ranch, L**	**78.62**	**51**	⇑P	**P**	**15 46 37.5**	**+1.1**
	baz=79						
Z20A	**Nine Sixteen R**	**78.92**	**51**	⇓P	**P**	**15 46 39.3**	**+1.3**
	baz=79						
MVU	**Marysvale**	**79.00**	**44**	*e*P	**P**	**15 46 39.0**	**+0.5**
	comp=Z,1.1nm,0.7s						
HABR	**Khabarovsk**	**79.20**	**328**	*de*P	**P**	**15 46 37.9**	**-1.0**
HABR				*e*		15 46 45.8	
HABR				*e*		15 49 36.4	
HABR				*e*S	**S**	**15 56 37.9**	**-0.6**
HABR				*e**SS	**sS**	**15 56 43.1**	**-2.2**
HABR				*e*		15 56 59.8	
HABR				*e*SS	**SS**	**16 01 44.7**	**-0.8**
HABR				pmax	pmax		
	comp=N,23nm,2.6s						
HABR				pmax	pmax		
	comp=E,41nm,2.6s						
HABR				pmax	pmax		
	comp=Z,34nm,2.6s						
HABR				MLR	MLR		
	comp=Z,89nm,21.0s						
121A	**Cookes Peak, D**	**79.25**	**51**	⇓P	**P**	**15 46 41.2**	**+1.3**
	baz=79						
BMO	**Blue Mountains**	**79.32**	**37**	*e*P	**P**	**15 46 38.5**	**-1.4**
	comp=Z,17nm,1.4s						
MFID	**Camas Ranch**	**79.36**	**39**	⇓P	**P**	**15 46 40.9**	**+0.8**
	baz=80						
Y20A	**Horse Springs,**	**79.45**	**50**	⇑P	**P**	**15 46 41.4**	**+0.4**
	baz=80						
DUG	**Dugway**	**79.49**	**43**	*e*P	**P**	**15 46 40.8**	**-0.1**
DUG				pmax	pmax		
	comp=Z,18nm,1.3s						
DUG	**Dugway**	**79.49**	**43**	*e*P	**P**	**15 46 40.8**	**-0.1**
	comp=Z,18nm,1.3s						
DUG	**Dugway**	**79.49**	**43**	⇓P	**P**	**15 46 41.7**	**+0.8**
	baz=80						
X20A	**Quemado**	**79.66**	**49**	⇓P	**P**	**15 46 42.9**	**+0.8**
	baz=80						
Z21A	**St. Cloud Mine**	**79.69**	**51**	⇑P	**P**	**15 46 43.1**	**+0.7**
	baz=80						
MDJ	**Mudanjiang**	**79.85**	**322**	P	**P**	**15 46 41.3**	**-1.3**
MDJ				pP	**pP**	**15 46 44.6**	**-2.1**
MDJ				S	**S**	**15 56 43.7**	**-1.9**
MDJ				ScS	**ScS**	**15 57 04.8**	**-2.0**
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,87nm,4.8s						
MDJ				LR	LR		
	comp=Z,190nm,29.6s						
MDJ				LR	LR		
	comp=Z,160nm,29.0s						
MDJ				LR	LR		
	comp=Z,190nm,31.5s						
W20A	**Ramah**	**79.93**	**49**	⇑P	**P**	**15 46 44.7**	**+1.1**
	baz=80						
Y21A	**Point of Rocks**	**80.01**	**50**	⇑P	**P**	**15 46 44.8**	**+0.7**
	baz=80						
TMUT	**Trail Mountain**	**80.08**	**44**	*e*P	**P**	**15 46 42.9**	**-1.5**
	comp=Z,33nm,1.3s						
Z22A	**Elephant Butte**	**80.20**	**51**	⇓P	**P**	**15 46 46.0**	**+1.0**
	baz=80						
HLID	**Hailey**	**80.30**	**39**	*e*P	**P**	**15 46 45.4**	**+0.1**
	comp=Z,11nm,1.1s						
HLID	**Hailey**	**80.30**	**39**	⇓P	**P**	**15 46 46.4**	**+1.1**
	baz=80						
SRU	**San Rafael**	**80.45**	**45**	P	**P**	**15 46 46.1**	**-0.1**
SRU				pmax	pmax		
	comp=Z,21nm,1.3s						
SRU	**San Rafael**	**80.45**	**45**	P	**P**	**15 46 46.1**	**-0.1**
	comp=Z,20nm,1.3s						
U20A	**Newcomb**	**80.50**	**48**	⇓P	**P**	**15 46 47.2**	**+0.6**
	baz=81						
Y22A	**Socorro**	**80.50**	**51**	⇑P	**P**	**15 46 47.3**	**+0.7**
	baz=81						
324A	**Moseley Ranch,**	**80.52**	**53**	⇑P	**P**	**15 46 47.5**	**+0.8**
	baz=81						
425A	**Indio Mountain**	**80.62**	**54**	⇑P	**P**	**15 46 48.7**	**+1.4**
	baz=81						
MNTX	**Cornudas Mount**	**80.71**	**53**	P	P	15 46 52.9	+5.3
	comp=Z,5.3nm,1.2s						
224A	**Cornudas Mount**	**80.77**	**53**	⇓P	**P**	**15 46 49.2**	**+1.1**
	baz=81						
626A	**Big Bend Ranch**	**80.78**	**56**	⇑P	**P**	**15 46 49.3**	**+1.3**
	baz=81						
NJ2	**Nanjing**	**80.83**	**307**	*e*P	**P**	**15 46 48.2**	**+0.1**
NJ2				AMB	AMB		
	comp=Z,9.0nm,0.8s						
BNM	**Barren Site**	**80.85**	**50**	*e*P	**P**	**15 46 50.4**	**+1.9**
	comp=Z,2.0nm,0.8s						
LPM	**Los Pinos Moun**	**80.92**	**50**	P	**P**	**15 46 49.2**	**+0.4**
	comp=Z,9.4nm,1.2s						
526A	**Mary Lane Ranc**	**81.02**	**55**	⇓P	**P**	**15 46 50.6**	**+1.2**
	baz=81						
TXAR	**Lajitas Array**	**81.06**	**56**	P	**P**	**15 46 49.6**	**+0.1**
TXAR	**Lajitas Array**	**81.06**	**56**	P	**P**	**15 46 49.6**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=193,slow=5.1,SNR=4.0						
124A	**Stringfield Ra**	**81.09**	**52**	⇓P	**P**	**15 46 50.5**	**+0.7**
	baz=81						
PV10	**Paradox Valley**	**81.10**	**46**	*e*P	**P**	**15 46 49.3**	**-0.5**
	comp=Z,109nm,0.8s						
U21A	**Nageezi**	**81.14**	**48**	⇓P	**P**	**15 46 50.9**	**+0.9**
	baz=81						
Y23A	**Lovelace Mesa,**	**81.18**	**51**	⇑P	**P**	**15 46 51.2**	**+1.0**
	baz=81						
PV01	**Paradox Valley**	**81.30**	**46**	*e*P	**P**	**15 46 51.3**	**+0.4**
S20A	**Disappointment**	**81.31**	**47**	⇑P	**P**	**15 46 51.7**	**+0.7**
	baz=82						
225A	**Deer Hill, Car**	**81.32**	**53**	⇑P	**P**	**15 46 52.2**	**+1.2**
	baz=82						
627A	**Terlingua Ranc**	**81.33**	**56**	⇑P	**P**	**15 46 52.0**	**+1.0**
	baz=82						
ANMO	**Albuquerque**	**81.33**	**50**	P	**P**	**15 46 49.0**	**-2.1**
	comp=Z,14nm,1.4s						
527A	**Woodward Ranch**	**81.43**	**55**	⇑P	**P**	**15 46 52.6**	**+0.9**
	baz=82						
T21A	**Navajo Lake**	**81.49**	**48**	⇑P	**P**	**15 46 52.9**	**+1.0**
	baz=82						
M17A	**Scullys Gap (B**	**81.54**	**42**	⇑P	**P**	**15 46 53.5**	**+1.5**
	baz=82						
Y24A	**Capitan**	**81.64**	**51**	⇑P	**P**	**15 46 53.5**	**+0.8**
	baz=82						
125A	**Gardner Draw,**	**81.68**	**53**	⇑P	**P**	**15 46 54.1**	**+1.3**
	baz=82						
628A	**Black Gap, Mar**	**81.74**	**56**	⇓P	**P**	**15 46 54.2**	**+1.0**
	baz=82						
P19A	**Cripple Cowboy**	**81.74**	**45**	⇓P	**P**	**15 46 54.2**	**+1.1**
	baz=82						
226B	**Tecolote Peak,**	**81.81**	**53**	⇑P	**P**	**15 46 54.4**	**+0.9**
	baz=82						
Q20A	**Ridgley Place,**	**81.88**	**46**	⇑P	**P**	**15 46 54.7**	**+0.9**
	baz=82						
CN2	**Changchun**	**81.89**	**320**	*e*P	**P**	**15 46 55.2**	**+1.7**
CN2				*e*S	**S**	**15 57 08.0**	**+1.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=Z,100nm,18.0s						
CN2				LR	LR		
	comp=Z,200nm,18.0s						
CN2				LR	LR		
	comp=Z,200nm,18.0s						
427A	**Hayter Ranch,**	**81.89**	**55**	⇑P	**P**	**15 46 54.8**	**+0.9**
	baz=82						
MCMT	**McKenzie Canyo**	**81.93**	**39**	*e*P	**P**	**15 46 54.2**	**+0.1**
	comp=Z,5.2nm,1.1s						
T22A	**Edith**	**81.95**	**48**	⇑P	**P**	**15 46 55.1**	**+0.7**
	baz=82						
MCK	**McKinley**	**82.04**	**11**	*e

BOZ pmax pmax
comp=Z,5.0nm,1.5s
BOZ Bozeman (W) 83.10 38 *e*P **P 15 46 58.8 -1.2**
comp=Z,4.7nm,1.5s
M20A Sweetwater, Wa 83.17 43 ⇑P **P 15 47 01.4 +0.8**
baz=83
530A J-C Ranch, Com 83.24 56 ⇑P **P 15 47 01.3 +0.4**
baz=83
COLA College 83.28 11 *e*P **P 15 46 59.3 -0.9**
COLA pmax pmax
comp=Z,67nm,0.9s
COLA College 83.28 11 *e*P **P 15 46 59.3 -0.9**
comp=Z,67nm,0.9s
L20A Wamsutter 83.32 43 ⇓P **P 15 47 01.9 +0.6**
baz=84
128A Castleberry Fa 83.33 53 ⇑P **P 15 47 02.0 +0.6**
baz=84
ILAR Eielson Array 83.36 11 P **P 15 47 00.2 -0.5**
ILAR Eielson Array 83.36 11 P **P 15 47 00.2 -0.5**
comp=Z,2.0nm,0.7s,baz=224,slow=6.1,SNR=18
QIZ Qiongzhong 83.36 292 P **P 15 47 00.7 -1.0**
QIZ S **S 15 57 21.6 -1.4**
QIZ LR LR
comp=Z,330nm,26.5s
K19A Absolon Red Bu 83.39 42 ⇓P **P 15 47 02.1 +0.5**
baz=84
S24A Houchin Ranch, 83.44 48 ⇑P **P 15 47 02.9 +0.7**
baz=84
SEY Seymchan 83.47 345⇑*e*P **P 15 47 00.7 -0.6**
J19A Crowheart 83.47 41 ⇑P **P 15 47 02.3 +0.3**
baz=84
HRY Holter Researc 83.54 37 *e*P **P 15 47 01.9 -0.3**
comp=Z,3.3nm,0.8s
WALA Waterton Lakes 83.64 35 *e*P **P 15 47 02.0 -0.6**
comp=Z,0.6nm,1.5s
O22A Kremmling 83.64 45 ⇓P **P 15 47 02.9 -0.2**
baz=84,SNR=8.0
MSTX Muleshoe 83.66 52 ⇑P **P 15 47 03.8 +0.6**
baz=84
M21A Separation Pea 83.77 44 ⇓P **P 15 47 02.8 -0.9**
baz=84,SNR=5.3
R24A Sanders Place, 83.77 47 ⇑P **P 15 47 04.0 +0.2**
baz=84
T25A Trinidad 83.79 49 ⇓P **P 15 47 04.4 +0.6**
baz=84
H18A Shoshone NF, C 83.79 40 ⇓P **P 15 47 04.2 +0.5**
baz=84
I19A Meeteetse 83.89 41 ⇑P **P 15 47 04.3 +0.1**
baz=84
W27A Bowe Ranch, En 83.89 51 ⇓P **P 15 47 04.2 -0.1**
baz=84
L21A Rawlins 83.93 43 ⇑P **P 15 47 05.3 +0.8**
baz=84
U26A Atchley Ranch, 83.95 49 ⇓P **P 15 47 05.6 +0.9**
baz=84
S25A Robets Cordova 84.00 48 ⇑P **P 15 47 05.9 +1.0**
baz=84
N22A Wattenberg Ran 84.00 45 ⇓P **P 15 47 05.2 +0.3**
baz=84
Q24A Divide 84.07 47 ⇑P **P 15 47 06.2 +0.9**
baz=84
O23A Lake Granby, G 84.09 45 ⇓P **P 15 47 06.3 +0.9**
baz=84
ISCO Idaho Springs 84.12 46 ⇑P **P 15 47 06.7 +1.1**
baz=84
K21A Alcova 84.33 43 ⇑P **P 15 47 05.9 -0.5**
baz=84,SNR=7.6
N23A Red Feather La 84.39 45 ⇓P **P 15 47 07.2 +0.3**
baz=85
I20A Worland 84.39 41 ⇑P **P 15 47 07.1 +0.5**
baz=85
J21A Lysite 84.54 42 ⇑P **P 15 47 06.7 -0.8**
baz=85,SNR=5.7
L22A Ellis Ranch, M 84.58 43 ⇑P **P 15 47 08.5 +0.8**
baz=85
Z30A Sanderson Ranc 84.64 53 ⇑P **P 15 47 08.8 +0.8**
baz=85
H20A Greybull 84.73 41 ⇑P **P 15 47 08.7 +0.3**
baz=85
231A Bronte 84.74 55 ⇓P **P 15 47 09.0 +0.4**
baz=85
I21A Big Trails, Te 84.86 42 ⇑P **P 15 47 08.3 -0.7**
baz=85,SNR=7.6
R26A Arlington 84.98 48 ⇑P **P 15 47 09.4 -0.3**
baz=85
J22A Midwest 85.19 42 ⇑P **P 15 47 10.2 -0.5**
baz=85,SNR=6.4
E19A Rath Farm, Rou 85.21 39 ⇑P **P 15 47 11.6 +0.9**
baz=85
I22A 9 Mile Ranch, 85.41 42 ⇓P **P 15 47 12.8 +1.0**
baz=86
ABTX Abilene, Hawle 85.53 54 ⇑P **P 15 47 13.6 +1.1**
baz=86
BJI Beijing 86.20 313 P **P 15 47 17.1 +1.5**
BJI SS SS 16 03 32.0 +2.1
BJI AMB AMB
comp=Z,11nm,1.4s
BJI LR LR
comp=Z,170nm,25.0s
BJI LR LR
comp=Z,180nm,25.9s
BJI LR LR
comp=Z,160nm,27.3s
MAW Mawson 86.92 199 P **P 15 47 18.7 0.0**
MAW Mawson 86.92 199 P **P 15 47 18.7 0.0**
comp=Z,4.7nm,0.8s,baz=126,slow=3.6,SNR=16
MAW LR LR 16 26 57.9
comp=Z,349nm,19.5s,baz=129,slow=36
OGNE Ogallala 87.08 46 ⇓P **P 15 47 20.6 +0.6**
baz=87
IPM Ipoh 87.12 275 P **P 15 47 22.8 +2.1**
comp=Z,29nm,1.4s
GYA Guiyang 88.58 298 *e*P **P 15 47 27.8 +0.2**
GYA PP **PP 15 50 57.6 +1.4**
GYA SKS **SKSac 15 57 53.4 -3.7**
GYA S **S 15 58 11.2 -3.0**
GYA SS **SS 16 04 04.3 -1.2**
GYA AMB AMB
comp=Z,10.0nm,1.0s
GYA AMB AMB
comp=Z,110nm,6.6s
GYA LR LR
comp=Z,460nm,21.5s
GYA LR LR
comp=Z,380nm,22.8s
GYA LR LR
comp=Z,420nm,20.4s
PLCA Paso Flores 88.79 132 LR LR 16 18 23.3
comp=Z,419nm,20.4s,baz=317,slow=30
INK Inuvik 89.17 14 P **P 15 47 29.5 +0.4**
INK Inuvik 89.17 14 P **P 15 47 29.5 +0.4**
comp=Z,1.7nm,0.7s,baz=198,slow=6.4,SNR=3.1
HHC Hu-ho-hao-te 89.75 313 *e*P **P 15 47 30.9 -1.8**
HHC pP **pP 15 47 35.7 -1.2**
HHC sP **sP 15 47 38.0 -0.3**
HHC PP **PP 15 51 05.3 +0.1**
HHC SKS **SKSac 15 57 59.2 -4.2**
HHC S **SKKSac 15 58 20.0 +3.8**
HHC sS **ScS 15 58 28.6 -0.3**
HHC AMB AMB
comp=Z,45nm,1.1s
HHC AMB AMB
comp=Z,260nm,5.6s
HHC LR LR
comp=Z,260nm,15.0s
HHC LR LR
comp=Z,290nm,16.5s
HHC LR LR
comp=Z,330nm,16.3s
KMI Kunming 91.53 296 P **P 15 47 44.1 +2.6**
KMI pP **pP 15 47 46.8 +1.1**
KMI sP **sP 15 47 48.1 +1.0**
KMI SKS **SKSac 15 58 16.7 +2.1**
KMI S **S 15 58 39.0 -2.8**
KMI SS **SS 16 04 50.1 +1.5**
KMI AMB AMB
comp=Z,8.0nm,1.0s
KMI AMB AMB
comp=Z,53nm,3.7s
KMI LR LR
comp=Z,130nm,13.8s
KMI LR LR
comp=Z,210nm,18.0s
KMI LR LR
comp=Z,270nm,19.5s
SNAA Sanae 91.95 177 *e*P **P 15 47 42.1 -0.3**
SNAA Sanae 91.95 177 P **P 15 47 41.6 -0.8**
comp=Z,5.0nm,1.1s
VNA2 Neumayer--Watz 92.39 175 *e*P **P 15 47 44.6 +0.2**
baz=147,slow=2.4
CD2 Chengdu 92.40 301 P **P 15 47 44.8 -0.4**
CD2 AMB AMB
comp=Z,10.0nm,0.5s
VNA1 Neumayer--Stat 92.59 175 *e*P **P 15 47 45.4 +0.1**
CMAR Chiang Mai Arr 93.02 288 P **P 15 47 50.5 +2.2**
CMAR Chiang Mai Arr 93.02 288 P **P 15 47 50.5 +2.2**
comp=Z,4.4nm,1.0s,baz=92,slow=2.8,SNR=19
CHTO Chiang Mai 93.11 289 P **P 15 47 51.1 +2.4**
CHTO pmax pmax
comp=Z,51nm,1.5s
CHTO Chiang Mai 93.11 289 P P 15 47 51.9 +3.2
CHTO Chiang Mai 93.11 289 P **P 15 47 51.1 +2.4**
comp=Z,51nm,1.5s
CFAA Coronel Fontan 93.83 124 LR LR 16 22 24.4
comp=Z,30nm,19.0s,baz=296,slow=31
LZH Lanzhou 93.88 306 *e*P **P 15 47 54.0 +2.0**
LZH pP **pP 15 47 57.0 +0.8**
LZH sP **sP 15 47 58.3 +0.7**
LZH AMB AMB
comp=Z,13nm,1.0s
ULM Lac du Bonnet 94.61 39 LR LR 16 23 52.9
comp=Z,723nm,21.1s,baz=261,slow=31
SONM Songino Array 95.63 318 LR LR 16 25 58.2
comp=Z,176nm,20.7s,baz=320,slow=32
LPAZ La Paz 99.38 110 LR LR 16 23 44.7
comp=Z,277nm,19.8s,baz=268,slow=30
ROSC El Rosal 99.93 88 LR LR 16 22 47.8
comp=Z,241nm,21.4s,baz=202,slow=29
MKAR Makanchi Array 111.57 314 PKIKP **PKiKP 15 53 08.3 -0.4**
MKAR Makanchi Array 111.57 314 PKiKP **PKiKP 15 53 08.3 -0.4**
MKAR Makanchi Array 111.57 314 PKiKP **PKiKP 15 53 08.3 -0.4**
comp=Z,0.1nm,0.4s,baz=113,slow=3.3,SNR=2.5
KURK Kurchatov 113.93 319 PKIKP **PKiKP 15 53 13.2 +0.2**
KURK Kurchatov 113.93 319 PKP **PKiKP 15 53 13.2 +0.2**
KURBB Kurchatov Arra 113.99 319 PKP **PKiKP 15 53 13.2 +0.1**
comp=Z,0.2nm,0.7s,baz=95,slow=1.3,SNR=3.1
ARCES ARCESS Array B 125.57 352 PKP **PKPdf 15 53 35.2 +0.4**
ARCES ARCESS Array B 125.57 352 PKP **PKPdf 15 53 35.2 +0.4**
comp=Z,4.3nm,1.0s,baz=38,slow=1.6,SNR=3.1
FINES FINESS Array B 132.90 347 PKP **PKPdf 15 53 49.0 +0.1**
FINES FINESS Array B 132.90 347 PKP **PKPdf 15 53 49.0 +0.1**
comp=Z,1.7nm,0.8s,baz=57,slow=5.1,SNR=3.3
AKASG Malin Array Be 141.26 337 PKIKP **PKPdf 15 54 04.3 -0.4**
AKASG Malin Array Be 141.26 337 PKP **PKPdf 15 54 04.3 -0.4**
AKASG Malin Array Be 141.26 337 PKP **PKPdf 15 54 04.3 -0.4**
comp=Z,0.2nm,0.3s,baz=34,slow=2.9,SNR=3.2
MALT Malatya 144.61 314 ⇑PKIKP **PKPdf 15 54 12.6 +1.4**
MALT Malatya 144.61 314 ⇑*i*P **PKPdf 15 54 12.6 +1.4**
CLL Collm 144.77 353 *e*PKIKP **PKPdf 15 54 11.0 +0.1**
CLL *e* 15 54 25.0
CLL MLR MLR
comp=Z,200nm,18.2s
CLL Collm 144.77 353 *e*PKPdf **PKPdf 15 54 11.0 +0.1**
CLL *e* 15 54 25.0
CLL LmV 17 09 00.0
comp=Z,200nm,18.2s
STHS Stebnicka Huta 144.97 343 *e*PKIKP **PKPdf 15 54 12.1 +0.7**
STHS Stebnicka Huta 144.97 343 *e*PKP **PKPdf 15 54 12.1 +0.7**
BRG Berggiesshubel 145.08 352 *e*PKP PKPdf 15 54 24.6 +13
comp=Z,9.8nm,1.3s
KOLS Kolonicke sedl 145.11 342 *e*PKIKP **PKPdf 15 54 11.6 0.0**
KOLS Kolonicke sedl 145.11 342 *e*PKP **PKPdf 15 54 11.6 0.0**
UPC Upice 145.12 350 *e*PKIKP **PKPdf 15 54 12.2 +0.6**
UPC Upice 145.12 350 *e*PKP **PKPdf 15 54 12.2 +0.6**
KMBO Kilima Mbogo 145.21 243 *e*PKPdf **PKPdf 15 54 13.2 +0.1**
KMBO PKPbc **PKPdf 15 54 13.8 +0.7**
KMBO Kilima Mbogo 145.21 243 PKPbc **PKPdf 15 54 13.8 +0.7**
comp=Z,18nm,1.0s,baz=62,slow=3.7,SNR=36
DPC Dobruska-Polom 145.22 349 *e*PKIKP **PKPdf 15 54 12.2 +0.4**
DPC *e* 15 54 21.3
DPC Dobruska-Polom 145.22 349 *e*PKP **PKPdf 15 54 12.2 +0.4**
DPC *ex* x 15 54 21.3
NIE Niedzica 145.22 344 *e*PKIKP **PKPdf 15 54 12.4 +0.6**
NIE Niedzica 145.22 344 *e*PKPdf **PKPdf 15 54 12.4 +0.6**
OKC Ostrava-Krasne 145.34 347 *e*PKIKP **PKPdf 15 54 12.5 +0.6**
OKC *e* 15 54 21.7
OKC *e* 15 54 22.0
OKC Ostrava-Krasne 145.34 347 *e*PKP **PKPdf 15 54 12.5 +0.6**
OKC *ex* x 15 54 21.7
UZH Uzhgorod 145.38 342 *e*PKIKP **PKPbc 15 54 12.0 +0.1**
UZH *e* 15 54 22.0
MORC Moravsky Berou 145.53 348 *e*PKIKP **PKPdf 15 54 12.0 -0.4**
MORC Moravsky Berou 145.53 348 ⇑*i*P **PKPab 15 54 13.9 +1.3**
MORC Moravsky Berou 145.53 348 *e*PKPdf **PKPdf 15 54 12.0 -0.4**
PRU Pruhonice 145.86 351 *e*PKP2 **PKPab 15 54 13.8 0.0**
PRU Pruhonice 145.86 351 *e*PKP **PKPab 15 54 13.8 0.0**
PRU *ex* x 15 54 22.8
BCLA Clavier 146.00 2 PKP **PKPab 15 54 14.9 +0.6**
KECS Kecovo 146.03 344 *e*PKP2 **PKPab 15 54 15.3 +0.8**
KECS Kecovo 146.03 344 *e*PKP **PKPab 15 54 15.3 +0.8**
VRI Vrincioaia 146.15 335 ⇓PKP2 **PKPab 15 54 18.7 +3.6**
VRI Vrincioaia 146.15 335 ⇓*i*P **PKPab 15 54 18.7 +3.6**
VRAC Vranov 146.16 348 ⇑*i*P PKPab 15 54 30.2 +15
VRAC Vranov 146.16 348 PKPbc **PKPbc 15 54 14.4 +0.1**
VRAC Vranov 146.16 348 PKPbc **PKPbc 15 54 14.4 +0.1**
comp=Z,3.3nm,0.7s,baz=315,slow=2.4,SNR=7.1
TREC Trest 146.38 350 *e*PKP2 **PKPab 15 54 15.9 +0.1**
TREC Trest 146.38 350 *e*PKP **PKPab 15 54 15.9 +0.1**
MLR Muntele Rosu 146.78 335 ⇑*i*P **PKPab 15 54 17.8 +0.2**
MLR Muntele Rosu 146.78 335 PKPbc **PKPbc 15 54 16.1 -0.3**
MLR Muntele Rosu 146.78 335 PKPbc **PKPbc 15 54 16.1 -0.3**
comp=Z,0.7nm,0.7s,baz=320,slow=13,SNR=4.0
KHC Kasperske Hory 146.84 352 *e*PKP2 **PKPbc 15 54 16.7 +0.3**
KHC Kasperske Hory 146.84 352 *e*PKP **PKPab 15 54 17.4 -0.2**
KHC *ex* x 15 54 30.9
KHC Kasperske Hory 146.84 352 *e*PKPbc **PKPbc 15 54 16.7 +0.3**
DRGR 146.87 340 ⇑PKP2 **PKPbc 15 54 16.8 +0.2**
DRGR 146.87 340 ⇑*i*P **PKPbc 15 54 16.8 +0.2**
BR131 Keskin Array S 146.96 320 *e*PKPbc **PKPbc 15 54 17.2 0.0**
BRTR Keskin Array B 146.96 320 PKPbc **PKPbc 15 54 17.9 +0.7**
BRTR Keskin Array B 146.96 320 PKPbc **PKPbc 15 54 17.9 +0.7**
comp=Z,4.6nm,0.8s,baz=50,slow=2.3,SNR=18
GERES GERESS Array B 147.10 351 PKPbc **PKPbc 15 54 17.2 0.0**
GERES GERESS Array B 147.10 351 PKPbc **PKPbc 15 54 17.2 0.0**
comp=Z,2.6nm,0.8s,baz=29,slow=3.0,SNR=18
VOIR 147.18 336 ⇑PKP2 **PKPab 15 54 19.2 +0.1**
VOIR 147.18 336 ⇑*i*P **PKPab 15 54 19.2 +0.1**
ARR Arges 147.40 336 ⇓*i*P **PKPab 15 54 20.0 0.0**
CONA Conrad Observa 147.63 348 ⇓*i*PKiKP **PKiKP 15 54 20.0 -0.8**
comp=Z,11nm,1.2s
BFO Black Forest 148.09 358 *e*PKP2 **PKPbc 15 54 18.8 -1.0**
BFO Black Forest 148.09 358 *e*PKPbc **PKPbc 15 54 18.8 -1.0**
ECH Echery 148.23 359 *e*PKP2 **PKPab 15 54 23.1 0.0**
ECH Echery 148.23 359 *e*PKPbc **PKPab 15 54 23.1 0.0**
DAVA Damuels 149.05 356 ⇑*i*PKiKP **PKPbc 15 54 23.2 +0.7**
comp=Z,9.2nm,1.1s
DAVOX Davos/Dischmat 149.55 356 PKPbc **PKPbc 15 54 24.5 +0.6**
DAVOX Davos/Dischmat 149.55 356 PKPbc **PKPbc 15 54 24.5 +0.6**
comp=Z,3.5nm,0.7s,baz=292,slow=1.1,SNR=4.6
TUE Stuetta 149.89 356 *e*PKPbc **PKPbc 15 54 25.2 +0.5**
VTS Vitosha 150.28 335 ⇑PKIKP **PKPab 15 54 32.1 +0.3**
VTS Vitosha 150.28 335 ⇑*i*P **PKPab 15 54 32.1 +0.3**
BNI Bardonecchia 151.40 0 *e*PKIKP **PKPbc 15 54 28.0 -0.2**
BNI Bardonecchia 151.40 0 *e*PKPbc **PKPbc 15 54 28.0 -0.2**
ESDC Sonseca Array 154.97 20 PKPab **PKPab 15 54 50.4 -1.1**
ESDC Sonseca Array 154.97 20 PKPab **PKPab 15 54 50.4 -1.1**
comp=Z,0.4nm,0.4s,baz=294,slow=4.7,SNR=5.9
TORD Torodi Ar. Bea 174.19 123 PKP **PKPdf 15 54 43.4 -1.3**
TORD PKPab **PKPab 15 56 14.9 -1.5**
TORD Torodi Ar. Bea 174.19 123 PKP **PKPdf 15 54 43.4 -1.3**
comp=Z,1.5nm,1.0s,baz=204,slow=3.2,SNR=6.0
TORD PKPab **PKPab 15 56 14.9 -1.5**
comp=Z,1.4nm,1.0s,baz=266,slow=5.5,SNR=4.1

IDC 01 15:40:00.8±10.0, 15°65S×172°99W, h0km, mb4.1/2, mb1 4.4/2, mb1mx3.7/19, mbtmp4.1/2, MS3.7/2, Ms1 3.7/2, ms1mx3.4/37, Error ellipse: s-maj=488.7km s-min=68.0km az=141.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.09**	**34**	Pn	Pn	Pn	15 40 31.9	-5.3
	17nm,0.3s,baz=162,slow=20,SNR=4.4							
AFI				Sn	Sn	Sn	15 41 00.3	-3.7
	42nm,0.3s,baz=232,slow=18,SNR=3.4							
AFI				LR	LR	LR	15 41 04.6	
	comp=Z,558nm,19.2s,baz=237,slow=31							
CTA	**Charters Tower**	**38.98**	**257**	LR	LR	LR	15 59 24.7	
	comp=Z,368nm,21.1s,slow=30							
H11S2	**WAKE ISLAND Hy**	**39.38**	**329**	T	T		16 29 16.6	
	baz=152,slow=0.7,SNR=8.6							
H11S3	**WAKE ISLAND Hy**	**39.40**	**329**	T	T		16 29 18.7	
	baz=152,slow=0.7,SNR=8.4							
H11S1	**WAKE ISLAND Hy**	**39.40**	**329**	T	T		16 29 18.4	
	baz=152,slow=0.7,SNR=9.0							
H11N3	**WAKE ISLAND Hy**	**40.33**	**330**	T	T		16 30 34.9	
	baz=152,slow=0.7,SNR=14							
H11N1	**WAKE ISLAND Hy**	**40.33**	**330**	T	T		16 30 35.3	
	baz=152,slow=0.7,SNR=12							
H11N2	**WAKE ISLAND Hy**	**40.34**	**330**	T	T		16 30 36.2	
	baz=152,slow=0.7,SNR=14							
WRA	**Warramunga Arr**	**50.18**	**257**	P	P		15 48 58.5	-0.1
	1.2nm,0.9s,baz=94,slow=7.1,SNR=4.3							
ASAR	**Alice Springs**	**50.41**	**252**	P	P		15 49 00.3	-0.1
	3.6nm,0.7s,baz=87,slow=7.4,SNR=14							
PDAR	**Pinedale Array**	**82.19**	**42**	P	P		15 52 29.1	+5.1
	0.3nm,0.3s,baz=251,slow=4.5,SNR=5.0							
ILAR	**Eielson Array**	**82.61**	**11**	P	P		15 52 28.1	+2.6
	0.4nm,0.6s,baz=228,slow=5.5,SNR=5.9							
BRTR	**Keskin Array B**	**146.60**	**321**	PKPbc	PKPdf		15 59 44.0	+0.7
	0.6nm,0.7s,baz=27,slow=3.5,SNR=2.9							

IDC 01 15:40:57.6±16.0, 26°56S×178°97W, h622km±193km, mb2.9/5, mb1 3.2/5, mb1mx2.9/18, mbtmp2.9/5, Error ellipse: s-maj=90.8km s-min=25.7km az=53.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.59**	**263**	P	P	P	15 48 01.1	-0.2
	0.9nm,0.4s,baz=101,slow=8.0,SNR=8.8							
WRA	**Warramunga Arr**	**43.22**	**269**	P	P	P	15 48 05.3	-0.8
	0.9nm,0.5s,baz=106,slow=8.0,SNR=9.7							
FITZ	**Fitzroy Crossi**	**51.60**	**267**	P	P	P	15 49 10.0	+1.6
	1.8nm,0.7s,baz=107,slow=11,SNR=4.6							
VNDA	**Vanda**	**51.83**	**185**	P	P	P	15 49 09.1	0.0
	0.6nm,0.8s,baz=353,slow=9.7,SNR=3.4							
ILAR	**Eielson Array**	**94.39**	**13**	P	P	P	15 53 13.3	+1.7
	0.2nm,0.5s,baz=189,slow=5.2,SNR=3.8							
HFS	**Hagfors**	**145.32**	**349**	PKPbc	PKPdf		15 59 24.5	-0.7
	1.0nm,0.4s,baz=46,slow=4.2,SNR=6.6							

IDC 01 16:05:07.0±4.9, 15°87S×173°09W, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/22, mbtmp3.7/5, ML1.5/1, Error ellipse: s-maj=225.0km s-min=23.1km az=137.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.33**	**33**	Pn	Pn	Pn	16 05 45.6	-1.2
	6.6nm,0.3s,baz=180,slow=20,SNR=5.2							
AFI				Sn	Sn	Sn	16 06 07.6	-8.6
	43nm,0.3s,baz=270,slow=15,SNR=8.1							
STKA	**Stephens Creek**	**44.06**	**240**	P	P	P	16 13 16.8	-0.2
	0.8nm,0.5s,baz=76,slow=12,SNR=2.9							
WRA	**Warramunga Arr**	**50.03**	**257**	P	P	P	16 14 03.2	-0.5
	0.4nm,0.5s,baz=95,slow=6.6,SNR=7.2							
ASAR	**Alice Springs**	**50.25**	**252**	P	P	P	16 14 05.1	-0.3
	1.0nm,0.7s,baz=88,slow=8.2,SNR=17							
ILAR	**Eielson Array**	**82.85**	**11**	P	P	P	16 17 33.2	+0.3
	0.2nm,0.5s,baz=229,slow=6.9,SNR=2.8							
BRTR	**Keskin Array B**	**146.71**	**321**	PKPbc	PKPbc		16 24 51.5	+0.1
	0.2nm,0.4s,baz=75,slow=7.6,SNR=2.9							

*IDC **01** 16:07:13.8±0.5, 16°39S×173°29W, h0km, mb4.4/14, mb1 4.6/14, mb1mx4.4/25, mbtmp4.4/14, MS4.0/9, Ms1 4.0/9, ms1mx3.7/33, Error ellipse: s-maj=23.9km s-min=15.5km az=139.0*

*NEIC **01** 16:07:14.9±0.3, 16°43S×173°24W, h10km, mb4.6/9, Error ellipse: s-maj=13.3km s-min=9.8km az=151.0*

*ISCJB **01** 16:07:16.1±0.4, 16°31S±0°09×173°41W±0°08, h26km, mb4.4/22, MS4.0/7, Error ellipse: s-maj=15.0km s-min=8.2km az=142.0*

*AUST **01** 16:07:24.2±2.2, 17°06S×172°82W, h91km±27km, Error ellipse: s-maj=73.0km s-min=17.1km az=29.0*

ISC 01 16:07:17.6±0.4, 16°16S±0°09×173°29W±0°09, h26km, n90, σ1s55/78, mb4.5/22, MS4.0/7, 10C-6D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.67**	**33**	*e*Pn	Pn	Pn	16 07 56.3	-2.9
AFI				Sn	**Sn**	**Sn**	**16 08 27.3**	**-3.5**
AFI	**Afiamalu**	**2.67**	**33**	Pn	Pn	Pn	16 07 56.9	-2.3
	38nm,0.3s,baz=202,slow=5.4,SNR=6.7							
AFI				Sn	**Sn**	**Sn**	**16 08 27.3**	**-3.5**
	242nm,0.3s,baz=223,slow=19,SNR=9.1							
NIUE	**Niue**	**4.33**	**133**	⇓P	Pn		16 08 15.2	-6.5
	baz=3.4,SNR=42							
RAO	**Raoul Island**	**13.71**	**197**	LR	LR		16 14 58.0	
	comp=Z,453nm,20.1s,baz=340,slow=34							
RAR	**Rarotonga**	**13.76**	**113**	Pn	Pn		16 10 25.8	-5.3
RAR	**Rarotonga**	**13.76**	**113**	Pn	Pn		16 10 25.8	-5.3
	4.0nm,0.3s,baz=270,slow=4.3,SNR=3.2							
RAR				LR	LR		16 14 09.6	
	comp=Z,419nm,19.2s,baz=270,slow=30							
DZM	**Mont Dzumac**	**20.02**	**250**	*e*P	**Pn**		**16 11 54.2**	**+3.6**
	52nm,0.9s							
DZM				*e*LR	LR		16 16 33.0	
	716nm,24.6s							
DZM	**Mont Dzumac**	**20.02**	**250**	P	**Pn**		**16 11 50.2**	**-0.4**
DZM	**Mont Dzumac**	**20.02**	**250**	P	**Pn**		**16 11 50.2**	**-0.4**
	0.2nm,0.3s,baz=93,slow=19,SNR=3.8							
PPT2	**Papeete2**	**22.74**	**97**	*e*S	**S**		**16 16 29.1**	**+3.7**
	575nm,29.8s							
PPT2				*e*LR	LR		16 17 45.5	
	254nm,23.2s,baz=257							
TBI	**Tubuai**	**23.52**	**111**	*e*LQ	LQ		16 16 55.9	
	499nm,30.0s							
TBI				*e*LR	LR		16 18 02.2	
	326nm,24.0s,baz=289							
URZ	**Urewera**	**23.58**	**199**	P	**P**		**16 12 23.3**	**-3.0**
URZ	**Urewera**	**23.58**	**199**	P	**P**		**16 12 23.3**	**-3.0**
	15nm,0.4s,baz=344,slow=3.4,SNR=18							
HNR	**Honiara**	**26.92**	**281**	LR	LR		16 22 13.0	
	comp=Z,432nm,19.8s,baz=133,slow=33							
RPZ	**Rata Peaks**	**30.52**	**203**	P	**P**		**16 13 31.4**	**+2.6**
RPZ	**Rata Peaks**	**30.52**	**203**	P	**P**		**16 13 31.4**	**+2.6**
	6.2nm,0.5s,baz=14,slow=6.7,SNR=5.1							
ARMA	**Armidale**	**35.05**	**240**	⇑P	**P**		**16 14 07.0**	**-1.6**
	baz=35,SNR=5.0							
RKT	**Rikitea**	**36.67**	**107**	*e*LR	LR		16 24 17.6	
	236nm,25.5s							
PMG	**Port Moresby**	**39.10**	**275**	P	**P**		**16 14 44.0**	**+0.9**
PMG	**Port Moresby**	**39.10**	**275**	P	**P**		**16 14 44.0**	**+0.9**
	21nm,1.0s,baz=114,slow=6.1,SNR=3.1							
PMG				LR	LR		16 28 54.8	
	comp=Z,157nm,19.5s,baz=14,slow=33							
H11S2	**WAKE ISLAND Hy**	**39.67**	**329**	T	T		16 56 53.8	
	baz=145,slow=0.7,SNR=7.1							
H11S3	**WAKE ISLAND Hy**	**39.68**	**329**	T	T		16 56 54.9	
	baz=145							
H11S1	**WAKE ISLAND Hy**	**39.68**	**329**	T	T		16 56 54.7	
	baz=145,slow=0.7,SNR=6.0							
CMSA	**Cobar Meteorol**	**40.26**	**240**	P	**P**		**16 14 50.9**	**-1.7**
	baz=40,SNR=15							
H11N3	**WAKE ISLAND Hy**	**40.62**	**331**	T	T		16 58 07.3	
	baz=152,slow=0.7,SNR=7.3							
H11N1	**WAKE ISLAND Hy**	**40.62**	**331**	T	T		16 58 09.4	
	baz=152,slow=0.7,SNR=5.6							
H11N2	**WAKE ISLAND Hy**	**40.64**	**331**	T	T		16 58 09.1	
	baz=152,slow=0.7,SNR=6.3							
QLP	**Quilpie**	**40.73**	**248**	⇑P	**P**		**16 14 55.2**	**-1.3**
	baz=41,SNR=4.0							
TOO	**Toolangi**	**42.07**	**231**	⇑P	**P**		**16 15 07.1**	**-0.3**
	baz=42,SNR=4.0							
STKA	**Stephens Creek**	**43.75**	**241**	*e*P	**P**		**16 15 19.2**	**-2.0**
	2.0nm,1.0s							
STKA	**Stephens Creek**	**43.75**	**241**	⇑P	**P**		**16 15 20.0**	**-1.1**
	baz=44,SNR=8.4							
STKA	**Stephens Creek**	**43.75**	**241**	P	**P**		**16 15 19.7**	**-1.4**
	7.5nm,0.9s,baz=64,slow=6.7,SNR=11							
ARPS	**Mount Arapiles**	**44.62**	**234**	P	**P**		**16 15 25.6**	**-2.4**
	baz=44							
HTT	**Hallett**	**46.24**	**239**	⇑P	**P**		**16 15 40.4**	**-0.6**
	baz=46							
WRAB	**Tennant Creek**	**49.77**	**257**	*e*P	**P**		**16 16 07.1**	**-1.3**
	3.2nm,0.8s							
WRA	**Warramunga Arr**	**49.77**	**257**	P	**P**		**16 16 06.9**	**-1.6**
WRA	**Warramunga Arr**	**49.77**	**257**	P	**P**		**16 16 06.9**	**-1.6**
	1.2nm,0.4s,baz=92,slow=6.8,SNR=19							
AS31	**Alice Springs**	**49.98**	**253**	*e*P	**P**		**16 16 08.3**	**-1.7**
ASAR	**Alice Springs**	**49.98**	**253**	P	**P**		**16 16 08.4**	**-1.6**

ASAR	**Alice Springs**	**49.98**	**253**	P		**P**	**16 16 08.4**	**-1.6**
	13nm,0.6s,baz=90,slow=7.8,SNR=52							
ASAR				LR		LR	16 35 59.9	
	comp=Z,170nm,20.0s,baz=120,slow=35							
FORT	**Forrest**	**55.17**	**244**	⇑P		**P**	**16 16 46.5**	**-1.8**
	baz=55							
KNRA	**Kununurra**	**55.56**	**262**	⇓P		**P**	**16 16 52.2**	**+0.9**
	baz=56,SNR=3.9							
SOEI	**Soe**	**61.00**	**268**	⇑P		**P**	**16 17 31.4**	**+1.9**
	baz=61,SNR=7.2							
SBA	**Scott Base**	**62.51**	**185**	*e*P		**P**	**16 17 39.4**	**+1.0**
VNDA	**Vanda**	**62.63**	**186**	P		**P**	**16 17 39.0**	**-0.4**
	2.4nm,1.0s							
VNDA	**Vanda**	**62.63**	**186**	P		**P**	**16 17 39.5**	**+0.2**
	1.1nm,1.0s,baz=3.5,slow=7.5,SNR=4.5							
VNDA				LR		LR	16 38 08.0	
	comp=Z,91nm,21.9s,baz=8.1,slow=30							
MBWA	**Marble Bar**	**63.25**	**254**	*e*P		**P**	**16 17 41.9**	**-2.5**
MEEK	**Meekatharra**	**63.62**	**248**	⇓P		**P**	**16 17 45.4**	**-1.5**
	baz=64,SNR=4.2							
KLBR	**Kellerberrin**	**63.98**	**242**	⇓P		**P**	**16 17 48.0**	**-1.1**
	baz=64,SNR=5.6							
BLDU	**Ballidu**	**64.94**	**243**	⇓P		**P**	**16 17 54.1**	**-1.4**
	baz=65							
ASAJ	**Asahikawa**	**72.24**	**328**	P		**P**	**16 18 42.5**	**+2.0**
ASAJ	**Asahikawa**	**72.24**	**328**	P		**P**	**16 18 42.5**	**+2.0**
	4.5nm,0.8s,baz=121,slow=12,SNR=2.7							
QSPA	**South Pole Qui**	**73.89**	**180**	*e*P		**P**	**16 18 49.6**	**-0.6**
	14nm,1.2s							
YBH	**Yreka Blue Hor**	**74.14**	**37**	P		**P**	**16 18 53.6**	**+1.7**
YBH	**Yreka Blue Hor**	**74.14**	**37**	P		**P**	**16 18 53.6**	**+1.7**
	0.8nm,0.3s,baz=227,slow=2.4,SNR=5.8							
NVAR	**Mina Array Bea**	**74.82**	**42**	P		**P**	**16 18 57.0**	**+0.9**
NVAR	**Mina Array Bea**	**74.82**	**42**	P		**P**	**16 18 57.0**	**+0.9**
	2.2nm,0.8s,baz=225,slow=10,SNR=14							
TMUT	**Trail Mountain**	**79.94**	**44**	P		**P**	**16 19 26.0**	**+1.0**
	10nm,1.0s							
TXAR	**Lajitas Array**	**80.95**	**56**	P		**P**	**16 19 31.0**	**+0.7**
TXAR	**Lajitas Array**	**80.95**	**56**	P		**P**	**16 19 31.0**	**+0.7**
	0.3nm,0.8s,baz=229,slow=6.9,SNR=2.6							
TXAR				LR		LR	16 49 08.2	
	comp=Z,78nm,18.4s,baz=250,slow=31							
MCMT	**McKenzie Canyo**	**81.78**	**39**	P		**P**	**16 19 34.5**	**0.0**
	0.9nm,1.0s							
MCK	**McKinley**	**81.85**	**11**	*e*P		**P**	**16 19 34.0**	**-0.2**
	3.7nm,0.7s							
PDAR	**Pinedale Array**	**82.76**	**42**	P		**P**	**16 19 40.2**	**+0.5**
PDAR	**Pinedale Array**	**82.76**	**42**	P		**P**	**16 19 40.2**	**+0.5**
	2.8nm,0.7s,baz=210,slow=3.5,SNR=23							
PDAR				LR		LR	16 50 52.1	
	comp=Z,78nm,19.8s,baz=255,slow=32							
SMCO	**Snowmass**	**82.76**	**46**	P		**P**	**16 19 39.9**	**-0.1**
HRY	**Holter Researc**	**83.38**	**37**	*e*P		**P**	**16 19 43.2**	**+0.5**
	6.1nm,0.5s							
EGAK	**Eagle**	**84.33**	**13**	*e*P		**P**	**16 19 47.6**	**+0.6**
MAW	**Mawson**	**87.11**	**199**	P		**P**	**16 20 00.7**	**-0.2**
MAW	**Mawson**	**87.11**	**199**	P		**P**	**16 20 00.7**	**-0.2**
	3.2nm,0.7s,baz=149,slow=5.6,SNR=14							
MAW				LR		LR	16 54 11.8	
	comp=Z,101nm,18.9s,baz=12,slow=32							
PLCA	**Paso Flores**	**88.93**	**132**	P		**P**	**16 20 10.6**	**+0.3**
PLCA	**Paso Flores**	**88.93**	**132**	P		**P**	**16 20 10.6**	**+0.3**
	1.6nm,0.8s,baz=236,slow=22,SNR=3.0							
SNAA	**Sanae**	**92.14**	**177**	*e*P		**P**	**16 20 23.7**	**-0.9**
	6.2nm,1.0s							
CMAR	**Chiang Mai Arr**	**92.95**	**288**	P		**P**	**16 20 31.3**	**+2.1**
CMAR	**Chiang Mai Arr**	**92.95**	**288**	P		**P**	**16 20 31.3**	**+2.1**
	1.2nm,0.9s,baz=104,slow=2.2,SNR=5.4							
CHTO	**Chiang Mai**	**93.65**	**289**	P			**16 20 30.9**	**+1.2**
MKAR	**Makanchi Array**	**111.43**	**314**	PKiKP		**PKiKP**	**16 25 48.5**	**-1.1**
MKAR	**Makanchi Array**	**111.43**	**314**	PKiKP		**PKiKP**	**16 25 48.5**	**-1.1**
	0.3nm,0.9s,baz=101,slow=1.5,SNR=2.6							
KMBO	**Kilima Mbogo**	**145.29**	**243**	PKPbc		**PKPdf**	**16 26 55.1**	**+0.6**
KMBO	**Kilima Mbogo**	**145.29**	**243**	PKPbc		**PKPdf**	**16 26 55.1**	**+0.6**
	4.6nm,0.8s,baz=44,slow=5.6,SNR=12							
TLCR		**145.61**	**332**	⇑*i*P		**PKPdf**	**16 26 53.8**	**+0.1**
VRI	**Vrincioaia**	**145.97**	**335**	⇓*i*P		PKPab	16 27 01.4	+5.8
DRGR		**146.69**	**340**	⇑*i*P		**PKPab**	**16 26 58.6**	**+0.2**
BR131	**Keskin Array S**	**146.81**	**320**	*e*PKPdf		**PKPbc**	**16 26 58.5**	**+0.5**
BRTR	**Keskin Array B**	**146.81**	**320**	PKPbc		**PKPab**	**16 26 59.1**	**-0.1**
BRTR	**Keskin Array B**	**146.81**	**320**	PKPbc		**PKPab**	**16 26 59.1**	**-0.1**
	3.7nm,0.8s,baz=122,slow=1.7,SNR=15							
GERES	**GERESS Array B**	**146.91**	**352**	PKPbc		**PKPbc**	**16 26 58.8**	**+0.9**
GERES	**GERESS Array B**	**146.91**	**352**	PKPbc		**PKPbc**	**16 26 58.8**	**+0.9**
	1.5nm,0.7s,baz=9.9,slow=3.1,SNR=9.8							
VOIR		**147.00**	**336**	⇑*i*P		**PKPab**	**16 27 00.2**	**+0.5**
TORD	**Torodi Ar. Bea**	**174.30**	**121**	PKP		**PKPdf**	**16 27 25.4**	**-0.6**
TORD				PKPab		**PKPab**	**16 28 56.6**	**-1.6**
TORD	**Torodi Ar. Bea**	**174.30**	**121**	PKP		**PKPdf**	**16 27 25.4**	**-0.6**
	0.5nm,0.9s,baz=255,slow=4.3,SNR=2.4							
TORD				PKPab		**PKPab**	**16 28 56.6**	**-1.6**
	1.3nm,1.0s,baz=259,slow=6.0,SNR=4.6							

IDC 01 16:15:41.0±1.9, 15°.08S×173°.80W, h0km, mb3.7/6, mb1 4.1/6, mb1mx3.8/19, mbtmp3.7/6, Error ellipse: s-maj=119.7km s-min=23.3km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.28**	**59**	Pn	Pn	16 16 15.1	-5.0
	11nm,0.3s,baz=248,slow=5.4,SNR=9						
AFI				Sn	Sn	16 16 32.9	-16
	69nm,0.3s,baz=187,slow=23,SNR=3.9						
H11S2	**WAKE ISLAND Hy**	**38.49**	**329**	T	T	17 03 54.2	
	baz=152,slow=0.7,SNR=9.9						
H11S3	**WAKE ISLAND Hy**	**38.51**	**329**	T	T	17 03 53.8	
	baz=152,slow=0.7,SNR=11						
H11S1	**WAKE ISLAND Hy**	**38.51**	**329**	T	T	17 03 54.2	
	baz=152,slow=0.7,SNR=12						
H11N3	**WAKE ISLAND Hy**	**39.45**	**331**	T	T	17 05 08.3	
	baz=152,slow=0.7,SNR=2.1						
H11N1	**WAKE ISLAND Hy**	**39.45**	**331**	T	T	17 05 08.7	
	baz=152,slow=0.7,SNR=16						
H11N2	**WAKE ISLAND Hy**	**39.46**	**331**	T	T	17 05 09.6	
	baz=152,slow=0.7,SNR=3.0						
WRA	**Warramunga Arr**	**49.54**	**257**	P	P	16 24 33.5	-0.6
	0.4nm,0.5s,baz=91,slow=7.3,SNR=9.9						
ASAR	**Alice Springs**	**49.84**	**252**	P	P	16 24 36.2	-0.2
	2.8nm,0.6s,baz=87,slow=7.9,SNR=14						
NVAR	**Mina Array Bea**	**74.35**	**42**	P	P	16 27 21.1	+0.1
	0.2nm,0.5s,baz=242,slow=8.9,SNR=2.7						
TXAR	**Lajitas Array**	**80.76**	**56**	P	P	16 27 57.1	+0.2
	0.3nm,0.8s,baz=289,slow=3.8,SNR=4.4						
ILAR	**Eielson Array**	**82.21**	**11**	P	P	16 28 02.9	-0.8
	1.0nm,1.0s,baz=207,slow=6.8,SNR=5.8						
PDAR	**Pinedale Array**	**82.29**	**42**	P	P	16 28 04.4	-0.5
	0.3nm,0.6s,baz=201,slow=4.8,SNR=3.3						
BRTR	**Keskin Array B**	**145.67**	**321**	PKPbc	PKPab	16 35 23.6	+1.0
	1.3nm,0.9s,baz=64,slow=2.9,SNR=4.6						

*ATH **01** 16:16:23.7, 37°.50N×28°.74E, h3km, MD2.8/3*
*ISCJB **01** 16:16:27.8±0.6, 37°.20N±0°.03×28°.82E±0°.03, h1km±6km, Error ellipse: s-maj=4.7km s-min=3.8km az=166.5*
*ISK **01** 16:16:27.5, 37°.20N×28°.82E, h8km, MD2.8*
*DDA **01** 16:16:27.6, 37°.23N×28°.79E, h7km*
*CSEM **01** 16:16:28.1±0.2, 37°.20N×28°.81E, h10km, MD2.8, Error ellipse: s-maj=3.7km s-min=3.4km az=2.0*

IDC 01 16:16:28.0±1.1, 37°.23N±0°.02×28°.79E±0°.02, h8km±10km, n41, σ1°10/57, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.41**	**258**	*e*PG	**Pg**	**16 16 36.8**	**+0.7**
YER				*e*SG	**Sb**	**16 16 43.2**	**-1.0**
YER	**Yerkesik**	**0.41**	**258**	*e*Pg	**Pg**	**16 16 36.8**	**+0.7**
YER				*e*Sg	**Sb**	**16 16 43.2**	**-1.0**
DALY	**Dalyan (Mu˘la**	**0.42**	**195**	*e*PG	**Pg**	**16 16 35.6**	**-0.6**
DALY	**Dalyan (Mu˘la**	**0.42**	**195**	*e*Pg	**Pg**	**16 16 35.6**	**-0.6**
DNZL	**Cakiroluk**	**0.51**	**24**	*i* S	**Sb**	**16 16 46.9**	**-0.1**
DNZL	**Cakiroluk**	**0.51**	**24**	*i* S	**Sb**	**16 16 46.9**	**-0.1**
DENT	**Denizli**	**0.56**	**20**	*e*PG	**Pb**	**16 16 39.1**	**-1.1**
DENT	**Denizli**	**0.56**	**20**	*e*Pg	**Pb**	**16 16 39.1**	**-1.1**
GOLH	**Golhisar**	**0.62**	**89**	*i* P	**Pg**	**16 16 39.3**	**-0.6**
GOLH				*i* S	**Sb**	**16 16 49.1**	**-0.9**
GOLH	**Golhisar**	**0.62**	**89**	*i* P	**Pg**	**16 16 39.3**	**-0.6**
GOLH				*i* S	**Sb**	**16 16 49.1**	**-0.9**
FETY	**Fethiye**	**0.63**	**158**	*e*PG	**Pg**	**16 16 39.7**	**-0.6**
FETY	**Fethiye**	**0.63**	**158**	*e*Pg	**Pg**	**16 16 39.7**	**-0.6**
AYDN	**Tasoluk**	**0.84**	**301**	*i* P	**Pb**	**16 16 44.7**	**-0.3**
AYDN				*i* S	**Sn**	**16 16 58.0**	**-1.0**
AYDN	**Tasoluk**	**0.84**	**301**	*i* P	**Pb**	**16 16 44.7**	**-0.3**
AYDN				*i* S	**Sn**	**16 16 58.0**	**-1.0**
ELL	**Elmali**	**1.01**	**118**	*e*PG	**Pg**	**16 16 47.0**	**-0.5**
ELL	**Elmali**	**1.01**	**118**	*e*Pg	**Pg**	**16 16 47.0**	**-0.5**
BDRM	**Kayabasi**	**1.09**	**262**	*i* P	**Pg**	**16 16 48.0**	**-0.9**
BDRM				*i* S	**Sn**	**16 17 04.5**	**-0.4**
BDRM	**Kayabasi**	**1.09**	**262**	*i* P	**Pg**	**16 16 48.0**	**-0.9**
BDRM				*i* S	**Sn**	**16 17 04.5**	**-0.4**
DAT	**Datca**	**1.09**	**243**	*e*PN	**Pg**	**16 16 48.7**	**-0.2**
DAT	**Datca**	**1.09**	**243**	*e*Pn	**Pg**	**16 16 48.7**	**-0.2**
ARG	**Arkhangelos**	**1.14**	**208**	*e*PG	**Pg**	**16 16 49.3**	**-0.6**
ARG				*e*SB	**Sn**	**16 17 08.7**	**+2.6**
ARG	**Arkhangelos**	**1.14**	**208**	*e*Pg	**Pg**	**16 16 49.3**	**-0.6**
ARG				*e*Sb	**Sn**	**16 17 08.7**	**+2.6**
AKAS	**Kas**	**1.19**	**146**	*i* P	**Pb**	**16 16 50.3**	**-0.6**
AKAS				*i* S	**Sn**	**16 17 11.2**	**+3.7**
AKAS	**Kas**	**1.19**	**146**	*i* P	**Pb**	**16 16 50.3**	**-0.6**
BODT	**Bodrum**	**1.19**	**263**	*e*PN	**Pb**	**16 16 50.8**	**-0.1**
BODT	**Bodrum**	**1.19**	**263**	*e*Pn	**Pb**	**16 16 50.8**	**-0.1**
KHL	**Karahalli**	**1.24**	**28**	*e*Pn	**Pg**	**16 16 52.1**	**+0.3**
KHL	**Karahalli**	**1.24**	**28**	*e*Pn	**Pg**	**16 16 52.1**	**+0.3**
KSL	**Kastellorizon**	**1.25**	**149**	*e*PB	**Pg**	**16 16 52.1**	**+0.1**
KHAL	**Karahalli**	**1.27**	**26**	*i* P	**Pn**	**16 16 51.7**	**-0.5**
KHAL				*i* S	**Sn**	**16 17 09.6**	**0.0**
KHAL	**Karahalli**	**1.27**	**26**	*i* P	**Pn**	**16 16 51.7**	**-0.5**
KHAL				*i* S	**Sn**	**16 17 09.6**	**0.0**
KULA	**Kula-Manisa**	**1.29**	**355**	*e*PN	**Pg**	**16 16 52.8**	**0.0**
KULA	**Kula-Manisa**	**1.29**	**355**	*e*Pn	**Pg**	**16 16 52.8**	**0.0**
GCAM	**G?zelcaml?**	**1.33**	**291**	*i* P	**Pn**	**16 16 52.7**	**-0.2**
GCAM				*i* S	**Sg**	**16 17 13.1**	**+2.4**
GCAM	**G?zelcaml?**	**1.33**	**291**	*i* P	**Pn**	**16 16 52.7**	**-0.2**
GCAM				*i* S	**Sg**	**16 17 13.1**	**+2.4**
IZM	**Izmir**	**1.68**	**315**	*e*PN	**Pn**	**16 16 58.2**	**+0.3**
IZM	**Izmir**	**1.68**	**315**	*e*Pn	**Pn**	**16 16 58.2**	**+0.3**
KARP	**Karpathos**	**2.13**	**219**	*e*PN	**Pb**	**16 17 05.3**	**-1.6**
KARP				*e*SN	**Sg**	**16 17 35.1**	**-1.3**
KARP	**Karpathos**	**2.13**	**219**	*e*Pn	**Pb**	**16 17 05.3**	**-1.6**
HDMB	**Hadim**	**2.97**	**94**	*e*PN	**Pn**	**16 17 16.8**	**+1.2**
HDMB	**Hadim**	**2.97**	**94**	*e*Pn	**Pn**	**16 17 16.8**	**+1.2**

IDC 01 16:23:19.9±2.2, 17°.43S×69°.96W, h142km±17km, mb3.6/9, mb1 3.8/12, mb1mx3.7/21, mbtmp3.6/12, Error ellipse: s-maj=26.3km s-min=18.4km az=43.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.08**	**57**	P	Pn	16 23 56.2	-0.2
	20nm,0.3s,baz=250,slow=7.3,SNR=625						
LPAZ				S	Sn	16 24 24.7	+0.4
	12nm,0.3s,baz=161,slow=25,SNR=12						
SIV	**San Ignacio**	**8.63**	**82**	P	Pn	16 25 21.2	-0.8
	5.5nm,0.3s,baz=274,slow=12,SNR=79						
CPUP	**Villa Florida**	**14.68**	**129**	P	Pn	16 26 38.8	-1.9
	0.3nm,0.3s,baz=293,slow=11,SNR=4.2						
H03N1	**Juan Fernandez**	**17.86**	**205**	T	T	16 45 09.7	
	baz=26,slow=0.7,SNR=35						
H03N2	**Juan Fernandez**	**17.87**	**205**	T	T	16 45 10.6	
	baz=26,slow=0.7,SNR=41						
H03N3	**Juan Fernandez**	**17.88**	**205**	T	T	16 45 11.5	
	baz=26,slow=0.7,SNR=31						
BDFB	**Brasilia**	**21.11**	**88**	P	P	16 27 52.7	-1.0
	3.4nm,0.4s,baz=266,slow=8.9,SNR=6.3						
PLCA	**Paso Flores**	**23.23**	**181**	P	P	16 28 14.8	+0.3
	1.7nm,0.9s,baz=347,slow=7.5,SNR=3.3						
TXAR	**Lajitas Array**	**56.75**	**325**	P	P	16 32 48.4	-0.9
	0.5nm,0.5s,baz=156,slow=8.6,SNR=4.7						
DBIC	**Dimbokro**	**68.60**	**75**	P	P	16 34 08.4	+0.3
	1.7nm,0.5s,baz=246,slow=11,SNR=4.4						
PDAR	**Pinedale Array**	**70.11**	**330**	P	P	16 34 16.8	-0.3
	0.3nm,0.4s,baz=118,slow=8.3,SNR=4.1						
ULM	**Lac du Bonnet**	**71.16**	**343**	P	P	16 34 22.0	-0.9
	2.4nm,0.5s,baz=170,slow=6.1,SNR=3.0						
NVAR	**Mina Array Bea**	**71.70**	**322**	P	P	16 34 27.6	+0.8
	0.5nm,0.7s,baz=172,slow=7.0,SNR=4.4						
TORD	**Torodi Ar. Bea**	**76.97**	**72**	P	P	16 34 57.6	+0.1
	1.7nm,0.6s,baz=264,slow=5.6,SNR=15						
YKA	**Yellowknife Ar**	**87.04**	**341**	P	P	16 35 48.6	-0.4
	1.7nm,0.7s,baz=136,slow=4.7,SNR=4.2						
WRA	**Warramunga Arr**	**135.86**	**214**	PKP	PKPdf	16 42 25.4	+0.7
	0.5nm,0.9s,baz=136,slow=1.9,SNR=5.4						
KURBB	**Kurchatov Arra**	**138.41**	**30**	PKP	PKPdf	16 42 27.9	-0.5
	0.2nm,1.0s,baz=328,slow=1.5,SNR=2.5						
ZALV	**Zalesovo Beam**	**138.65**	**22**	PKP	PKPdf	16 42 29.7	+1.0
	0.3nm,0.3s,baz=316,slow=4.0,SNR=2.1						
SONM	**Songino Array**	**149.53**	**5**	PKPbc	PKPbc	16 42 53.3	+0.6
	0.9nm,0.9s,baz=27,slow=1.6,SNR=4.1						

*IDC **01** 16:28:42.5±0.6, 15°.25S×173°.53W, h0km, mb4.3/12, mb1 4.5/12, mb1mx4.3/23, mbtmp4.3/12, MS3.9/7, Ms1 3.9/7, ms1mx3.6/32, Error ellipse: s-maj=27.6km s-min=15.9km az=131.0*
*NEIC **01** 16:28:43.7±0.3, 15°.23S×173°.57W, h10km, mb4.7/8, Error ellipse: s-maj=12.7km s-min=7.5km az=139.0*
*ISCJB **01** 16:28:46.7±0.5, 15°.2S±0°.1×173°.66W±0°.08, h42km, mb4.4/17, MS4.0/6, Error ellipse: s-maj=15.6km s-min=9.6km az=159.8*
*AUST **01** 16:29:11.4±13.0, 15°.89S×174°.28W, h200km±69km, Error ellipse: s-maj=156.3km s-min=100.1km az=33.0*

ISC 01 16:28:48.4±0.5, 15°.3S±0°.1×173°.6W±0°.1, h42km, n94, σ0°80/88, mb4.5/17, MS4.0/6, 7C-16D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.20**	**52**	*e*Pn	Pn	16 29 11.1	-11
AFI				Sn	Sn	16 29 30.8	-18
AFI	**Afiamalu**	**2.20**	**52**	Pn	Pn	16 29 11.7	-11
	218nm,0.3s,baz=229,slow=11,SNR=34						
AFI				Sn	Sn	16 29 30.8	-18
	813nm,0.3s,baz=226,slow=18,SNR=21						
RAR	**Rarotonga**	**14.36**	**116**	LR	LR	16 35 34.2	
	comp=Z,342nm,18.7s,baz=90,slow=29						
DZM	**Mont Dzumac**	**20.10**	**247**	*e*LR	LR	16 38 36.3	
	356nm,23.8s						
DZM	**Mont Dzumac**	**20.10**	**247**	P	**P**	**16 33 18.5**	**-0.4**
DZM	**Mont Dzumac**	**20.10**	**247**	P	**P**	**16 33 18.5**	**-0.4**
	5.5nm,0.8s,baz=58,slow=15,SNR=3.4						
DZM				LR	LR	16 39 40.5	
	comp=Z,286nm,19.8s,baz=42,slow=33						
PPT2	**Papeete2**	**23.11**	**99**	*e*S	**S**	**16 37 56.8**	**-2.6**
	555nm,28.5s						
PPT2				*e*LR	LR	16 39 12.9	
	274nm,24.5s						
TBI	**Tubuai**	**24.09**	**113**	*e*LQ	LQ	16 38 37.2	
	363nm,27.2s						
TBI				*e*LR	LR	16 39 35.0	
	290nm,26.2s						
URZ	**Urewera**	**24.33**	**198**	P	**P**	**16 34 00.8**	**-1.4**
	30nm,1.2s						
URZ	**Urewera**	**24.33**	**198**	P	**P**	**16 34 02.4**	**+0.2**
	6.9nm,0.5s,baz=306,slow=3.7,SNR=7.9						
HNR	**Honiara**	**26.51**	**280**	LR	LR	16 43 21.6	
	comp=Z,124nm,18.4s,baz=120,slow=33						
EIDS	**Eidsvold**	**34.55**	**247**	P	**P**	**16 35 33.2**	**0.0**
ARMA	**Armidale**	**35.27**	**239**	⇓P	**P**	**16 35 39.5**	**0.0**
	baz=34,SNR=5.2						
RMQ	**Roma**	**36.81**	**246**	⇓P	**P**	**16 35 52.5**	**0.0**
	baz=36,SNR=3.9						
RKT	**Rikitea**	**37.17**	**108**	*e*LR	LR	16 46 01.3	
	170nm,25.5s						
CTA	**Charters Tower**	**38.52**	**257**	P	**P**	**16 36 07.4**	**+0.3**
CTA	**Charters Tower**	**38.52**	**257**	P	**P**	**16 36 07.4**	**+0.3**
	3.7nm,0.8s,baz=16,slow=7.4,SNR=3.8						
CTAO	**Charters Tower**	**38.52**	**257**	*e*P	**P**	**16 36 07.2**	**+0.1**
	8.1nm,1.1s						
PMG	**Port Moresby**	**38.78**	**274**	*e*P	**P**	**16 36 07.0**	**-2.2**
	20nm,0.9s						
H11S2	**WAKE ISLAND Hy**	**38.79**	**329**	T	T	17 17 32.1	
	baz=152,slow=0.7,SNR=10						
H11S3	**WAKE ISLAND Hy**	**38.80**	**329**	T	T	17 17 29.9	
	baz=152,slow=0.7,SNR=4.6						
H11S1	**WAKE ISLAND Hy**	**38.80**	**329**	T	T	17 17 30.6	
	baz=152,slow=0.7,SNR=9.8						
H11N3	**WAKE ISLAND Hy**	**39.73**	**330**	T	T	17 18 42.2	
	baz=147						
H11N1	**WAKE ISLAND Hy**	**39.74**	**330**	T	T	17 18 43.0	
	baz=147,slow=0.7,SNR=12						
H11N2	**WAKE ISLAND Hy**	**39.75**	**330**	T	T	17 18 43.8	
	baz=147,slow=0.7,SNR=2.4						
CMSA	**Cobar Meteorol**	**40.49**	**239**	⇓P	**P**	**16 36 22.9**	**-0.4**
	baz=40,SNR=8.0						
COEN	**Coen**	**41.84**	**266**	⇑P	**P**	**16 36 35.8**	**+1.2**
	baz=41,SNR=5.4						
STKA	**Stephens Creek**	**43.97**	**240**	P	**P**	**16 36 51.2**	**-0.5**
STKA				PcP	**PcP**	**16 38 37.6**	**+0.6**
STKA	**Stephens Creek**	**43.97**	**240**	⇓P	**P**	**16 36 51.1**	**-0.6**
	baz=43,SNR=15						
STKA	**Stephens Creek**	**43.97**	**240**	P	**P**	**16 36 51.2**	**-0.5**
	7.0nm,0.8s,baz=77,slow=7.4,SNR=14						
STKA				PcP	**PcP**	**16 38 37.6**	**+0.6**
	1.7nm,0.7s,baz=121,slow=5.9,SNR=4.1						
WRAB	**Tennant Creek**	**49.72**	**257**	*e*P	**P**	**16 37 35.9**	**-0.9**
	4.7nm,0.9s						
WRA	**Warramunga Arr**	**49.73**	**257**	P	**P**	**16 37 36.6**	**-0.2**
WRA				PcP	**PcP**	**16 38 58.3**	**+0.7**
WRA	**Warramunga Arr**	**49.73**	**257**	P	**P**	**16 37 36.6**	**-0.2**
	4.4nm,0.8s,baz=90,slow=6.9,SNR=46						
WRA				PcP	**PcP**	**16 38 58.3**	**+0.7**
	1.5nm,0.6s,baz=93,slow=3.5,SNR=9.9						
AS31	**Alice Springs**	**50.00**	**252**	*e*P	**P**	**16 37 38.5**	**-0.4**
ASAR	**Alice Springs**	**50.01**	**252**	P	**P**	**16 37 38.9**	**-0.1**
ASAR				PcP	**PcP**	**16 38 59.0**	**+0.3**
ASAR	**Alice Springs**	**50.01**	**252**	P	**P**	**16 37 38.9**	**-0.1**
	8.6nm,0.6s,baz=86,slow=7.9,SNR=84						
ASAR				PcP	**PcP**	**16 38 59.0**	**+0.3**
	1.1nm,0.6s,baz=100,slow=4.0,SNR=4.2						
MBWA	**Marble Bar**	**63.25**	**254**	*e*P	**P**	**16 39 13.1**	**-0.1**
	11nm,1.2s						
SBA	**Scott Base**	**63.36**	**185**	*e*P	**P**	**16 39 14.7**	**+1.8**
	23nm,1.9s						
VNDA	**Vanda**	**63.48**	**186**	P	**P**	**16 39 14.0**	**+0.3**
VNDA	**Vanda**	**63.48**	**186**	P	**P**	**16 39 14.0**	**+0.3**
	1.9nm,0.9s,baz=360,slow=6.1,SNR=9.3						
VNDA				PcP	**PcP**	**16 39 51.4**	**+1.3**
	0.6nm,0.7s,baz=349,slow=5.2,SNR=3.8						
KLBR	**Kellerberrin**	**64.16**	**242**	⇓P	**P**	**16 39 17.8**	**-1.2**
	baz=63,SNR=6.0						
CASY	**Casey**	**70.45**	**205**	*e*P	**P**	**16 39 57.5**	**-0.6**
PETK	**Petropavlovsk-**	**72.47**	**342**	P	**P**	**16 40 11.1**	**+0.7**
PETK	**Petropavlovsk-**	**72.47**	**342**	P	**P**	**16 40 11.1**	**+0.7**
	2.0nm,0.7s,baz=144,slow=9.3,SNR=6.0						
NVAR	**Mina Array Bea**	**74.34**	**42**	P	**P**	**16 40 21.5**	**-0.5**
NVAR	**Mina Array Bea**	**74.34**	**42**	P	**P**	**16 40 21.5**	**-0.5**
	0.9nm,0.8s,baz=223,slow=10,SNR=5.0						
NVAR				LR	LR	17 06 14.7	
	comp=Z,71nm,18.8s,baz=120,slow=30						
QSPA	**South Pole Qui**	**74.76**	**180**	*e*P	**P**	**16 40 24.1**	**+0.2**
	8.4nm,0.9s						
HLID	**Hailey**	**79.63**	**39**	*e*P	**P**	**16 40 50.5**	**-1.1**
	3.2nm,1.0s						
TXAR	**Lajitas Array**	**80.67**	**56**	P	**P**	**16 40 58.3**	**+0.8**
TXAR	**Lajitas Array**	**80.67**	**56**	P	**P**	**16 40 58.3**	**+0.8**
	0.7nm,0.9s,baz=205,slow=5.5,SNR=4.5						
TXAR				LR	LR	17 08 47.5	
	comp=Z,67nm,18.4s,baz=180,slow=30						
PDAR	**Pinedale Array**	**82.28**	**42**	P	**P**	**16 41 05.0**	**-0.8**
PDAR	**Pinedale Array**	**82.28**	**42**	P	**P**	**16 41 05.0

GTOI	**Gorontalo**	**2.05**	**28**	P	Pn	16 34 53.2	0.0
KMSI	**Cibinong**	**2.61**	**48**	P	Pn	16 34 59.8	-1.0
KMSI				S	Sn	16 35 33.8	+2.4

IDC 01 16:41:08.5±2.5, 15°79S×173°23W, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.6/21, mbtmp3.7/3, Error ellipse: s-maj=201.1km s-min=32.9km az=155.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.91**	**257**	P	P	16 50 03.8	-0.6
	0.6nm,0.7s,baz=92,slow=6.5,SNR=11						
ASAR	**Alice Springs**	**50.15**	**252**	P	P	16 50 06.2	+0.1
	2.3nm,0.6s,baz=87,slow=8.2,SNR=22						
TXAR	**Lajitas Array**	**80.69**	**56**	P	P	16 53 23.8	-0.2
	0.2nm,0.6s,baz=249,slow=7.6,SNR=2.6						
BRTR	**Keskin Array B**	**146.56**	**321**	PKPbc	PKPbc	17 00 52.3	-0.1
	0.5nm,0.6s,baz=29,slow=3.3,SNR=3.1						

IDC 01 16:49:47.6±9.9, 13°45N×144°61E, h170km±96km, mb3.4/10, mb1 3.7/10, mb1mx3.4/26, mbtmp3.4/10, Error ellipse: s-maj=30.3km s-min=13.0km az=84.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**23.70**	**347**	P	P	16 54 44.5	+0.6
	1.0nm,0.6s,baz=170,slow=7.6,SNR=5.9						
KSRS	**Korea Array**	**28.16**	**331**	P	P	16 55 23.9	0.0
	0.8nm,0.5s,baz=140,slow=9.7,SNR=8.0						
WRA	**Warramunga Arr**	**34.69**	**197**	P	P	16 56 20.9	-0.4
	3.1nm,0.7s,baz=24,slow=9.4,SNR=31						
ASAR	**Alice Springs**	**38.35**	**196**	P	P	16 56 52.1	-0.1
	1.4nm,0.7s,baz=19,slow=11,SNR=47						
CMAR	**Chiang Mai Arr**	**44.10**	**283**	P	P	16 57 39.7	+0.4
	0.6nm,0.5s,baz=77,slow=6.6,SNR=5.9						
STKA	**Stephens Creek**	**45.16**	**184**	P	P	16 57 47.3	-0.1
	2.5nm,0.5s,baz=21,slow=7.6,SNR=10						
MKAR	**Makanchi Array**	**61.41**	**316**	P	P	16 59 45.7	-0.1
	0.2nm,0.5s,baz=91,slow=9.1,SNR=5.5						
KURBB	**Kurchatov Arra**	**64.56**	**320**	P	P	17 00 06.0	-0.5
	0.5nm,0.5s,baz=105,slow=7.1,SNR=5.1						
ILAR	**Eielson Array**	**68.80**	**25**	P	P	17 00 32.0	-1.0
	0.6nm,0.5s,baz=252,slow=5.8,SNR=10						
NVAR	**Mina Array Bea**	**87.20**	**51**	P	P	17 02 17.1	+1.8
	0.5nm,0.6s,baz=276,slow=5.3,SNR=4.7						

*IDC **01** 16:58:47.0±0.5, 48°.91N×154°.90E, h0km, mb4.2/25, mb1 4.4/27, mb1mx4.4/31, mbtmp4.2/27, ML4.0/2, MS3.6/13, Ms1 3.6/13, ms1mx3.4/51, Error ellipse: s-maj=16.2km s-min=10.8km az=152.0*

*SKHL **01** 16:58:50.1±1.3, 48°.78N×155°.66E, h54km±24km, mb4.8/6, msh5.8/1*

*MOS **01** 16:58:52.2±1.2, 48°.87N×154°.89E, h43km, mb4.5/22, Error ellipse: s-maj=10.6km s-min=4.9km az=78.7*

*ISCJB **01** 16:58:52.6±0.5, 48°.77N±0°.04×154°.98E±0°.07, h53km±3km, mb4.4/63, MS3.7/9, Error ellipse: s-maj=10.0km s-min=3.0km az=135.5*

*NEIC **01** 16:58:56.9±1.0, 48°.94N×154°.90E, h78km±9km, mb4.5/8, Error ellipse: s-maj=11.8km s-min=6.0km az=143.0*

*KRSC **01** 16:58:57.3±8.6, 48°.97N×156°.02E, h50km±50km, ML4.9*

ISC 01 16:58:54.6±0.8, 48°83N±0°06×155°03E±0°05, h59km±6km, n272, σ1°37/264, mb4.5/64, MS3.8/9, 32C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.98**	**20**	*e*PN	Pn	16 59 20.1	-5.6
SKR				pmax	pmax		
	comp=N,170nm,0.5s						
SKR				pmax	pmax		
	comp=E,140nm,0.5s						
SKR				pmax	pmax		
	comp=Z,460nm,0.5s						
SKR	**Severo-Kuril's**	**1.98**	**20**	P	**Pn**	**16 59 25.6**	**-0.1**
SKR				*i* S	**Sn**	**16 59 45.2**	**-4.2**
SKR	**Severo-Kuril's**	**1.98**	**20**	*e*P	Pn	16 59 20.1	-5.6
SKR				AMB	AMB	16 59 24.0	
	comp=Z,170nm,0.5s						
SKR				AMB	AMB	16 59 24.0	
	comp=Z,140nm,0.5s						
SKR				AMB	AMB	16 59 24.0	
	comp=Z,460nm,0.5s						
SKR				*e*S	Sn	16 59 41.0	-8.4
SKR				A	A	16 59 51.5	
	comp=Z,8μm,2.0s						
SKR				A	A	16 59 51.5	
	comp=Z,5μm,2.0s						
SKR				A	A	16 59 51.5	
	comp=Z,2μm,2.0s						
SKR				A	A	16 59 51.5	
	comp=Z,3μm,0.5s						
SKR				A	A	16 59 51.5	
	comp=Z,2μm,0.5s						
SKR				A	A	16 59 51.5	
	comp=Z,1μm,0.5s						
PAU	**Pauzhetka**	**2.88**	**23**	PN	**Pn**	**16 59 39.8**	**+1.9**
PAU				S	**Sn**	**17 00 09.7**	**-1.5**
PAU	**Pauzhetka**	**2.88**	**23**	P	**Pn**	**16 59 39.8**	**+1.9**
PAU				*i* S	**Sn**	**17 00 09.7**	**-1.5**
ASAK	**Asacha**	**4.00**	**26**	P	**Pn**	**16 59 53.9**	**+0.6**
ASAK				*i* S	**Sn**	**17 00 34.9**	**-4.0**
MTVR	**Mutnovka**	**4.17**	**28**	P	**Pn**	**16 59 56.1**	**+0.4**
MTVR				*i* S	**Sn**	**17 00 39.5**	**-3.7**
GRL	**Gorelyy**	**4.20**	**26**	P	**Pn**	**16 59 57.3**	**+1.2**
RUS	**Russkaya**	**4.23**	**30**	PN	**Pn**	**16 59 56.9**	**+0.5**
RUS	**Russkaya**	**4.23**	**30**	P	**Pn**	**16 59 56.9**	**+0.5**
RUS				*i* S	**Sn**	**17 00 39.6**	**-4.9**
APC	**Apacha**	**4.31**	**17**	P	**Pn**	**17 00 00.2**	**+2.7**
PEA0B	**Petropavlovsk-**	**4.60**	**20**	*e*Pn	**Pn**	**17 00 02.7**	**+1.2**
PETK	**Petropavlovsk-**	**4.60**	**20**	PN	**Pn**	**17 00 02.7**	**+1.2**
PETK						17 00 58.9	
PETK				pmax	pmax		
	comp=Z,13nm,0.3s						
PETK				smax	smax		
	comp=N,3.0nm,0.3s						
PETK	**Petropavlovsk-**	**4.60**	**20**	Pn	**Pn**	**17 00 02.7**	**+1.2**
PETK				Sn	**Sn**	**17 00 58.9**	**+5.3**
PETK	**Petropavlovsk-**	**4.60**	**20**	Pn	**Pn**	**17 00 02.7**	**+1.2**
	comp=N,12nm,0.3s,baz=184,slow=14,SNR=108						
PETK				Sn	**Sn**	**17 00 58.9**	**+5.3**
	comp=N,3.1nm,0.3s,baz=187,slow=17,SNR=2.5						
PETK				LR	LR	17 02 05.9	
	comp=N,437nm,21.4s,baz=206,slow=44						
PET	**Petropavlovsk**	**4.78**	**27**	*e*PN	**Pn**	**17 00 04.2**	**+0.3**
PET				pmax	pmax		
	comp=Z,94nm,0.6s						
PET	**Petropavlovsk**	**4.78**	**27**	P	**Pn**	**17 00 04.5**	**+0.6**
PET				*i* S	**Sn**	**17 00 54.2**	**-3.8**
UGLR	**Uglovaya**	**4.99**	**27**	P	**Pn**	**17 00 07.6**	**+0.6**
KOK	**Koryaka**	**5.01**	**26**	P	**Pn**	**17 00 08.9**	**+1.7**
AVH	**Avacha**	**5.02**	**26**	P	**Pn**	**17 00 08.9**	**+1.6**
SMAR	**Somma**	**5.03**	**27**	P	**Pn**	**17 00 08.8**	**+1.2**
KRER	**Koryakskii**	**5.05**	**26**	P	**Pn**	**17 00 08.7**	**+0.8**
KRER				*i* S	**Sn**	**17 01 01.3**	**-3.7**
SDLR	**Sedlovina**	**5.07**	**27**	P	**Pn**	**17 00 08.5**	**+0.5**
KRX	**Arik**	**5.07**	**25**	P	**Pn**	**17 00 09.6**	**+1.5**
NLC	**Nalytchevo**	**5.13**	**30**	PN	**Pn**	**17 00 08.6**	**-0.1**
NLC	**Nalytchevo**	**5.13**	**30**	P	**Pn**	**17 00 08.6**	**-0.1**
NLC				*i* S	Sn	17 01 00.3	-6.1
GNL	**Ganaly**	**5.20**	**19**	P	**Pn**	**17 00 11.8**	**+2.0**
KII	**Karymskiy**	**5.90**	**26**	P	**Pn**	**17 00 20.0**	**+0.7**
KUR	**Kuril'sk**	**6.08**	**236**	*i* PN	**Pn**	**17 00 23.5**	**+1.8**
KUR				*i* S	Sn	17 01 35.5	+5.7
KUR				pmax	pmax		
	comp=Z,190nm,1.0s						
KUR				smax	smax		
	comp=N,370nm,1.0s						
KUR				smax	smax		
	comp=E,280nm,1.0s						
KUR				smax	smax		
	comp=N,2μm,2.0s						
KUR				smax	smax		
	comp=E,2μm,2.0s						
KUR	**Kuril'sk**	**6.08**	**236**	⇓ *i* P	**Pn**	**17 00 23.5**	**+1.8**
KUR				AMB	AMB	17 00 25.5	
	comp=E,190nm,1.0s						
KUR				*i* S	Sn	17 01 35.5	+5.7
KUR				A	A	17 01 38.0	
	comp=E,2μm,2.0s						
KUR				A	A	17 01 38.0	
	comp=E,2μm,2.0s						
KUR				A	A	17 01 40.0	
	comp=E,370nm,1.0s						
KUR				A	A	17 01 40.0	
	comp=E,280nm,1.0s						
MKZ	**Mys Kozlova**	**7.08**	**33**	PN	**Pn**	**17 00 35.7**	**+0.3**
MKZ	**Mys Kozlova**	**7.08**	**33**	P	**Pn**	**17 00 35.7**	**+0.3**
MKZ				*i* S	Sn	17 01 47.4	-7.0
TUMR	**Tumrok**	**7.19**	**24**	P	**Pn**	**17 00 38.4**	**+1.4**
ESO	**Esso**	**7.45**	**16**	PN	Pn	17 00 43.5	+3.0
ESO	**Esso**	**7.45**	**16**	P	Pn	17 00 43.5	+3.0
KMNR	**Kamenistaya**	**7.63**	**23**	P	**Pn**	**17 00 44.5**	**+1.4**
YUK	**Yuzh-Kuril'sk**	**7.95**	**236**	*d* iPN	**Pn**	**17 00 48.5**	**+1.2**
YUK				pmax	pmax		
	comp=N,3.0nm,0.4s						
YUK				pmax	pmax		
	comp=Z,74nm,0.9s						
YUK				pmax	pmax		
	comp=E,32nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**7.95**	**236**	⇓ *i* P	**Pn**	**17 00 48.5**	**+1.2**
YUK				AMB	AMB	17 00 55.0	
	comp=E,74nm,0.9s						
YUK				AMB	AMB	17 00 55.0	
	comp=E,3.0nm,0.4s						
YUK				AMB	AMB	17 00 55.0	
	comp=E,32nm,0.4s						
YUK				*i* S	**Sn**	**17 02 15.9**	**+0.3**
YUK				AMS	AMS	17 03 35.5	
	comp=E,320nm,16.0s						
SRDR	**Sredinnyy**	**8.02**	**19**	P	**Pn**	**17 00 50.9**	**+2.6**
TYV	**Tymovskoe**	**8.26**	**289**	*e*P	**Pn**	**17 00 52.5**	**+1.0**
TYV				AMB	AMB	17 00 57.8	
	comp=E,11nm,0.8s						
TYV				AMB	AMB	17 00 57.8	
	comp=E,4.0nm,0.6s						
NEM2	**Nemuro 2**	**8.46**	**233**	P	**Pn**	**17 00 52.2**	**-2.1**
NEM2				*e*S	Sn	17 02 22.2	-6.0
YSS	**Yuzh-Sakhalins**	**8.46**	**262**	⇑ *i* PN	Pn	17 00 57.8	+3.4
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS	**Yuzh-Sakhalins**	**8.46**	**262**	⇑ *i* P	Pn	17 00 57.8	+3.4
YSS				AMB	AMB	17 00 58.5	
	comp=Z,20nm,0.7s						
YSS				pP		17 01 12.0	
YSS				*e*S	**Sn**	**17 02 29.0**	**+0.7**
YSS				A	A	17 02 32.0	
	comp=Z,20nm,0.7s						
YSS				*e*LQ	LQ	17 02 47.0	
YSS				AMS	AMS	17 04 12.0	
	comp=Z,400nm,15.0s						
UGL	**Uglegorsk**	**8.54**	**277**	*e*P	Pn	17 01 00.5	+5.1
UGL				AMB	AMB	17 01 02.0	
	comp=Z,54nm,0.8s						
UGL				*e*L	L	17 03 14.0	
UGL				AMS	AMS	17 04 34.0	
	comp=Z,400nm,17.0s						
UGL				AMS	AMS	17 04 34.0	
	comp=Z,200nm,17.0s						
UGL				AMS	AMS	17 04 34.0	
	comp=Z,500nm,17.0s						
KBTR	**Krutoberegovo**	**8.78**	**30**	PN	**Pn**	**17 00 59.4**	**+0.8**
KBTR	**Krutoberegovo**	**8.78**	**30**	P	**Pn**	**17 00 59.4**	**+0.8**
JNK	**Nakash**	**8.87**	**238**	P	**Pn**	**17 01 00.0**	**+0.1**
ITKR	**Abashiri--Toko**	**9.09**	**242**	P	Pn	17 01 06.1	+3.1
JAK	**Akkeshi**	**9.27**	**235**	P	**Pn**	**17 01 03.0**	**-2.4**
JAK				*e*S	Sn	17 02 42.0	-6.0
JMP	**Maruseppu**	**9.39**	**243**	P	**Pn**	**17 01 09.1**	**+2.0**
JAR	**Ashorobuto**	**9.58**	**239**	P	**Pn**	**17 01 10.6**	**+0.9**
JAR				*e*S	**Sn**	**17 02 54.7**	**-1.1**
ASAJ	**Asahikawa**	**9.79**	**246**	P	Pn	17 01 15.9	+3.5
ASAJ	**Asahikawa**	**9.79**	**246**	*e*Pn	Pn	17 01 15.5	+3.0
	comp=Z,18nm,0.9s						
ASAJ	**Asahikawa**	**9.79**	**246**	Pn	Pn	17 01 16.0	+3.5
	comp=Z,4.1nm,0.3s,baz=80,slow=15,SNR=34						
ASAJ				LR	LR	17 04 46.2	
	comp=Z,266nm,18.4s,baz=340,slow=37						
JKK2	**Kamakawa 2**	**9.83**	**244**	P	**Pn**	**17 01 15.5**	**+2.4**
JCH	**Churui**	**10.25**	**237**	P	**Pn**	**17 01 17.1**	**-1.7**
JCH				*e*S	Sn	17 03 05.8	-6.4
ERM	**Erimo**	**10.77**	**235**	*i* PN	**Pn**	**17 01 25.1**	**-0.8**
JNBK	**Urakawa-nobuka**	**10.81**	**237**	P	Pn	17 01 23.5	-3.0
JNBK				*e*S	Sn	17 03 18.3	-7.5
JNB	**Noboribetsu**	**11.67**	**242**	P	**Pn**	**17 01 37.5**	**-0.7**
JKB	**Kayabe**	**12.04**	**240**	P	**Pn**	**17 01 41.2**	**-2.0**
JKB				*e*S	Sn	17 03 46.7	-9.0
FX1	**Attu Island--F**	**12.15**	**64**	Pn	Pn	17 01 40.5	-4.1
FX1				Sn	Sn	17 03 45.3	-13
FX1	**Attu Island--F**	**12.15**	**64**	Pn	Pn	17 01 40.5	-4.1
	comp=Z,5.1nm,0.3s,baz=345,slow=11,SNR=15						
FX1				Sn	Sn	17 03 45.3	-13
	comp=Z,24nm,0.3s,baz=172,slow=18,SNR=17						
JSH	**Shimam**	**12.15**	**245**	P	**Pn**	**17 01 45.0**	**+0.2**
JYM2	**Yakumo 2**	**12.28**	**242**	P	**Pn**	**17 01 45.0**	**-1.5**
JSR	**Shiriuchi**	**12.62**	**240**	P	**Pn**	**17 01 49.1**	**-2.0**
SEY	**Seymchan**	**14.21**	**355**	*i* P	**Pn**	**17 02 13.1**	**+0.6**
KLR	**Kul'dur**	**15.27**	**280**	*e*P	P	17 02 35.7	+5.7
KLR				pmax	pmax		
	comp=E,28nm,1.6s						
KLR				pmax	pmax		
	comp=Z,45nm,1.6s						
JFY	**Yanaizu**	**15.95**	**230**	P	**Pn**	**17 02 31.0**	**-4.1**
USRK	**Ussuriysk Arra**	**16.50**	**262**	Pn	**Pn**	**17 02 42.0**	**0.0**
	comp=Z,0.2nm,0.3s,baz=61,slow=16,SNR=8.5						
USRK				LR	LR	17 09 06.8	
	comp=Z,89nm,20.2s,baz=174,slow=38						
MAJO	**Matsushiro**	**17.38**	**231**	*e*P	**P**	**17 02 54.7**	**+1.2**
MAJO				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MAJO	**Matsushiro**	**17.38**	**231**	*e*Pn	**P**	**17 02 54.7**	**+1.2**
	comp=Z,10.0nm,1.0s						
MAJO				*e*		17 03 02.8	
MAT	**Matsushiro**	**17.38**	**231**	P	**P**	**17 02 54.3**	**+0.8**
MJAR	**Matsushiro Arr**	**17.38**	**231**	P	**Pn**	**17 02 50.6**	**-2.3**
MJAR	**Matsushiro Arr**	**17.38**	**231**	P	**Pn**	**17 02 50.6**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=26,slow=11,SNR=12						
MJAR				LR	LR	17 10 30.7	
	comp=Z,102nm,18.4s,baz=65,slow=40						
MDJ	**Mudanjiang**	**17.91**	**266**	Pn	**Pn**	**17 02 55.8**	**-3.6**
	comp=Z,10.0nm,1.0s						
YAK	**Yakutsk**	**19.36**	**322**	*e*P	**P**	**17 03 14.7**	**-0.3**
YAK				pmax	pmax		
	comp=Z,17nm,1.0s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.0s						
KSRS	**Korea Array**	**22.69**	**250**	P	**P**	**17 03 50.8**	**-0.2**
	comp=E,6.5nm,0.8s,baz=47,slow=9.8,SNR=22						
KSRS				LR	LR	17 12 06.8	
	comp=E,94nm,20.2s,baz=359,slow=35						
KSAR	**Wonju Array Be**	**22.72**	**250**	P	**P**	**17 03 50.8**	**-0.6**
JNU	**Nakatsue**	**23.91**	**238**	P	**P**	**17 04 03.5**	**+0.7**
JNU	**Nakatsue**	**23.91**	**238**	P	**P**	**17 04 03.5**	**+0.7**
	comp=E,11nm,1.0s,baz=55,slow=4.9,SNR=3.7						
TIXI	**Tiksi**	**25.87**	**341**	*i* P	**P**	**17 04 18.6**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**30.57**	**158**	T	T	17 37 20.0	
	baz=348,slow=0.7,SNR=80						
H11N1	**WAKE ISLAND Hy**	**30.58**	**158**	T	T	17 37 21.1	
	baz=348,slow=0.7,SNR=144						
H11N3	**WAKE ISLAND Hy**	**30.58**	**158**	T	T	17 37 21.2	
	baz=348,slow=0.7,SNR=119						
ULN	**Ulaanbaatar**	**31.49**	**287**	P	**P**	**17 05 08.3**	**-2.3**
H11S1	**WAKE ISLAND Hy**	**31.69**	**159**	T	T	17 38 39.7	
	baz=348,slow=0.7,SNR=2299						
H11S3	**WAKE ISLAND Hy**	**31.70**	**159**	T	T	17 38 38.6	
	baz=348,slow=0.7,SNR=2364						
H11S2	**WAKE ISLAND Hy**	**31.71**	**159**	T	T	17 38 38.8	
	baz=348,slow=0.7,SNR=1139						
SONM	**Songino Array**	**31.91**	**287**	P	**P**	**17 05 13.3**	**-1.0**
SONM				PcP	**PcP**	**17 08 03.3**	**-0.1**
SONM	**Songino Array**	**31.91**	**287**	P	**P**	**17 05 13.3**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=92,slow=8.7,SNR=2.6						
SONM				PcP	**PcP**	**17 08 03.3**	**-0.1**
	comp=Z,1.5nm,0.9s,baz=87,slow=1.6,SNR=9.0						
MCK	**McKinley**	**33.23**	**42**	*e*P	**P**	**17 05 25.9**	**+0.3**
MCK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MCK	**McKinley**	**33.23**	**42**	*e*P	**P**	**17 05 25.9**	**+0.3**
	comp=Z,8.5nm,1.0s						
COLA	**College**	**33.70**	**40**	*e*P	**P**	**17 05 29.9**	**+0.3**
COLA	**College**	**33.70**	**40**	*e*P	**P**	**17 05 29.9**	**+0.3**
	comp=Z,40nm,0.8s						
ILAR	**Eielson Array**	**34.12**	**40**	P	**P**	**17 05 33.0**	**-0.2**
ILAR	**Eielson Array**	**34.12**	**40**	P	**P**	**17 05 33.0**	**-0.2**
	comp=Z,3.5nm,1.1s,baz=259,slow=9.2,SNR=19						
EGAK	**Eagle**	**36.57**	**40**	*e*P	**P**	**17 05 53.4**	**-0.8**
	comp=Z,8.2nm,1.0s						
INK	**Inuvik**	**39.20**	**34**	*e*P	**P**	**17 06 16.9**	**+0.6**
	comp=Z,5.5nm,0.9s						
GTA	**Gaotai**	**39.95**	**278**	*e*P	**P**	**17 06 23.7**	**+0.6**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.4s						
ZALV	**Zalesovo Beam**	**42.47**	**305**	P	**P**	**17 06 42.6**	**-0.8**
ZALV						17 08 34.9	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV				MLR	MLR		
	comp=Z,68nm,18.9s						
ZALV	**Zalesovo Beam**	**42.47**	**305**	P	**P**	**17 06 42.6**	**-0.8**
ZALV				PcP	**PcP**	**17 08 34.9**	**-0.3**
ZALV	**Zalesovo Beam**	**42.47**	**305**	P	**P**	**17 06 42.6**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=68,slow=5.1,SNR=2.9						
ZALV				PcP	**PcP**	**17 08 34.9**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=45,slow=4.3,SNR=4.6						
ZALV				LR	LR	17 25 55.7	
	comp=Z,68nm,18.9s,baz=68,slow=38						
KMI	**Kunming**	**46.90**	**259**	P	**P**	**17 07 17.4**	**-1.9**
KMI				AMB	AMB		
	comp=Z,9.0nm,1.1s						
MK31	**Makanchi Array**	**47.15**	**296**	*e*P	**P**	**17 07 20.1**	**-0.7**
MK31	**Makanchi Array**	**47.15**	**296**	*e*P	**P**	**17 07 20.1**	**-0.7**
MKAR	**Makanchi Array**	**47.15**	**296**	P	**P**	**17 07 20.3**	**-0.5**
MKAR						17 08 51.7	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,107nm,20.9s						
MKAR	**Makanchi Array**	**47.15**	**296**	P	**P**	**17 07 20.2**	**-0.5**
MKAR				PcP	**PcP**	**17 08 51.7**	**+0.2**
MKAR	**Makanchi Array**	**47.15**	**296**	P	**P**	**17 07 20.2**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=66,slow=8.3,SNR=10						
MKAR				PcP	**PcP**	**17 08 51.7**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=64,slow=3.4,SNR=3.1						
MKAR				LR	LR	17 28 26.2	
	comp=Z,107nm,20.9s,baz=359,slow=38						
KURK	**Kurchatov**	**47.31**	**303**	*i* P	**P**	**17 07 20.8**	**-1.0**
KURK				pmax	pmax		
	comp=Z,7.0nm,3.0s						
YKA	**Yellowknife Ar**	**48.48**	**38**	P	**P**	**17 07 31.6**	**+0.8**
YKA	**Yellowknife Ar**	**48.48**	**38**	P	**P**	**17 07 31.6**	**+0.8**
	comp=Z,4.2nm,0.8s,baz=302,slow=8.6,SNR=5.5						
BVAR	**Borovoye Array**	**50.55**	**309**	P	P	17 07 44.0	-2.7
BVAR						17 09 03.2	
BVAR	**Borovoye Array**	**50.55**	**309**	P	P	17 07 44.0	-2.7
BVAR				PcP	**PcP**	**17 09 03.2**	**-0.5**
BVAR	**Borovoye Array**	**50.55**	**309**	P	P	17 07 44.0	-2.7
	comp=Z,0.3nm,0.4s,baz=48,slow=6.4,SNR=3.4						
BVAR				PcP	**PcP**	**17 09 03.2**	**-0.5**
	comp=Z,1.2nm,0.9s,baz=57,slow=5.3,SNR=3.9						
BRVK	**Borovoye**	**50.59**	**309**	*i* P	**P**	**17 07 46.4**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,8.0nm,2.5s						
CHTO	**Chiang Mai**	**53.86**	**257**	*e*P	**P**	**17 08 12.6**	**+1.0**
CHTO	**Chiang Mai**	**53.86**	**257**	*e*P	**P**	**17 08 12.6**	**+1.0**
	comp=Z,52nm,0.9s						
EDM	**Edmonton**	**53.95**	**48**	*e*P	**P**	**17 08 12.3**	**+0.4**
EDM	**Edmonton**	**53.95**	**48**	*e*P	**P**	**17 08 12.3**	**+0.4**
CM31	**Chiang Mai Arr**	**54.12**	**256**	P	**P**	**17 08 13.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**54.12**	**256**	P	**P**	**17 08 15.1**	**+1.6**
CMAR	**Chiang Mai Arr**	**54.12**	**256**	P	**P**	**17 08 15.1**	**+1.6**
	comp=Z,6.8nm,0.8s,baz=33,slow=7.2,SNR=39						
CMAR				LR	LR	17 32 51.9	
	comp=Z,36nm,18.4s,baz=315,slow=38						
ARU	**Arti**	**54.36**	**317**	*c i* P	**P**	**17 08 13.7**	**-1.0**
ARU						17 10 14.4	
ARU				S	**S**	**17 15 47.3**	**-0.8**
ARU				pmax	pmax		
	comp=Z,13nm,2.5s						
ARCES	**ARCESS Array B**	**56.31**	**341**	P	**P**	**17 08 27.1**	**-1.5**
ARCES	**ARCESS Array B**	**56.31**	**341**	P	**P**	**17 08 27.1**	**-1.5**
	comp=Z,2.5nm,0.8s,baz=26,slow=6.7,SNR=4.7						
ARCES				LR	LR	17 35 55.6	
	comp=Z,92nm,20.2s,baz=195,slow=40						
ABKAR	**Akbulak array**	**58.09**	**310**	*e*P	**P**	**17 08 40.2**	**-1.2**
	comp=Z,0.5nm,0.5s						
AKTO	**Aktyubinsk**	**58.30**	**312**	PcP	**PcP**	**17 09 33.7**	**+0.3**
AKTO	**Aktyubinsk**	**58.30**	**312**	PcP	**PcP**	**17 09 33.7**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=15,slow=8.1,SNR=4.2						
FFC	**Flin Flon**	**58.32**	**42**	*e*P	**P**	**17 08 42.9**	**-0.1**
FFC	**Flin Flon**	**58.32**	**42**	*e*P	**P**	**17 08 42.9**	**-0.1**
PMG	**Port Moresby**	**58.40**	**189**	LR	LR	17 28 45.9	
	comp=Z,82nm,21.9s,baz=11,slow=31						
FCC	**Fort Churchill**	**58.81**	**35**	P	P	17 08 43.5	-2.8
FCC	**Fort Churchill**	**58.81**	**35**	P	P	17 08 43.5	-2.8
NVAR	**Mina Array Bea**	**60.34**	**64**	P	**P**	**17 08 58.9**	**+1.4**
NVAR	**Mina Array Bea**	**60.34**	**64**	P	**P**	**17 08 58.9**	**+1.4**
	comp=Z,1.1nm,0.6s,baz=291,slow=6.2,SNR=9.6						
RRI2	**Red Ridge**	**61.14**	**56**	*e*P	**P**	**17 09 04.2**	**+1.4**
	comp=Z,4.7nm,0.8s						
PDAR	**Pinedale Array**	**62.49**	**56**	P	**P**	**17 09 13.1**	**+1.2**
PDAR	**Pinedale Array**	**62.49**	**56**	P	**P**	**17

MEZF	Maizieres J'vi	79.63	340	*e*P		P	17 10 56.0	+0.8
MEZF	Maizieres J'vi	79.63	340	*e*P		P	17 10 56.0	+0.8
HAU	Haudompre	79.80	339	*e*P		P	17 10 56.7	+0.6
HAU				*e*R				
	comp=Z,83nm,21.8s							
HAU	Haudompre	79.80	339	*e*P		P	17 10 56.7	+0.6
HAU	Haudompre	79.80	339	*e*P		P	17 10 56.7	+0.6
HINF	Hinteralfeld	79.86	339	*e*P		P	17 10 56.8	+0.3
HINF	Hinteralfeld	79.86	339	*e*P		P	17 10 56.8	+0.3
HINF	Hinteralfeld	79.86	339	*e*P		P	17 10 56.8	+0.3
SFTF	Sexfontaines	79.91	340	*e*P		P	17 10 57.4	+0.7
	comp=Z,24nm,0.7s							
SFTF	Sexfontaines	79.91	340	*e*P		P	17 10 57.4	+0.7
DAVOX	Davos/Dischmat	80.06	337	P		P	17 10 58.5	+0.7
DAVOX	Davos/Dischmat	80.06	337	P		P	17 10 58.5	+0.7
	comp=Z,4.3nm,0.7s,baz=10,slow=7.5,SNR=6.4							
FLN	La Foliniere	80.51	344	*e*P		P	17 11 00.5	+0.6
	comp=Z,16nm,0.8s							
FLN				*e*R				
	comp=Z,81nm,17.8s							
FLN	La Foliniere	80.51	344	*e*P		P	17 11 00.5	+0.6
FLN	La Foliniere	80.51	344	*e*P		P	17 11 00.5	+0.6
LDF	La Druitiere	80.61	344	*e*P		P	17 11 01.8	+1.4
LDF	La Druitiere	80.61	344	*e*P		P	17 11 01.8	+1.4
LDF	La Druitiere	80.61	344	*e*P		P	17 11 01.8	+1.4
GRR	Gorron	80.94	344	*e*P		P	17 11 03.0	+0.8
	comp=Z,56nm,1.1s							
GRR	Gorron	80.94	344	*e*P		P	17 11 03.0	+0.8
GRR	Gorron	80.94	344	*e*P		P	17 11 03.0	+0.8
LOR	Lormes	81.06	341	⇑*i*P		P	17 11 03.5	+0.6
	comp=Z,17nm,0.9s							
LOR				*e*R				
	comp=Z,69nm,22.0s							
LOR	Lormes	81.06	341	⇑*i*P		P	17 11 03.5	+0.6
CABF	La Chapelle	81.17	339	*e*P		P	17 11 04.4	+0.8
	comp=Z,9.3nm,0.9s							
CABF	La Chapelle	81.17	339	*e*P		P	17 11 04.4	+0.8
CABF	La Chapelle	81.17	339	*e*P		P	17 11 04.4	+0.8
STKA	Stephens Creek	81.24	192	P		P	17 11 03.4	-0.3
STKA	Stephens Creek	81.24	192	P		P	17 11 03.4	-0.3
	comp=Z,1.2nm,0.8s,baz=311,slow=9.3,SNR=3.9							
SSF	Saint Saulge	81.33	341	⇑*i*P		P	17 11 05.0	+0.7
	comp=Z,13nm,0.9s							
SSF	Saint Saulge	81.33	341	⇑*i*P		P	17 11 05.0	+0.7
SSF	Saint Saulge	81.33	341	⇑*i*P		P	17 11 05.0	+0.7
SGMF	Saint Gilles	81.37	345	*e*P		P	17 11 05.4	+0.9
	comp=Z,35nm,1.0s							
SGMF	Saint Gilles	81.37	345	*e*P		P	17 11 05.4	+0.9
SGMF	Saint Gilles	81.37	345	*e*P		P	17 11 05.4	+0.9
ROSF	Rostrenen	81.41	346	*e*P		P	17 11 05.6	+0.9
	comp=Z,13nm,1.0s							
ROSF	Rostrenen	81.41	346	*e*P		P	17 11 05.6	+0.9
ROSF	Rostrenen	81.41	346	*e*P		P	17 11 05.6	+0.9
AVF	Avril sur Loir	81.62	341	⇑*i*P		P	17 11 06.7	+0.9
	comp=Z,12nm,0.8s							
AVF	Avril sur Loir	81.62	341	⇑*i*P		P	17 11 06.7	+0.9
AVF	Avril sur Loir	81.62	341	⇑*i*P		P	17 11 06.7	+0.9
SMF	Signal de Mont	81.66	340	⇑*i*P		P	17 11 06.8	+0.8
	comp=Z,24nm,1.1s							
SMF	Signal de Mont	81.66	340	⇑*i*P		P	17 11 06.8	+0.8
SMF	Signal de Mont	81.66	340	⇑*i*P		P	17 11 06.8	+0.8
QUIF	Quistinic	81.80	345	*e*P		P	17 11 07.8	+1.1
	comp=Z,6.2nm,0.6s							
QUIF	Quistinic	81.80	345	*e*P		P	17 11 07.8	+1.1
QUIF	Quistinic	81.80	345	*e*P		P	17 11 07.8	+1.1
LPL	La Plagne	82.04	338	⇑*i*P		P	17 11 09.8	+1.4
	comp=Z,19nm,0.7s							
LPL	La Plagne	82.04	338	⇑*i*P		P	17 11 09.8	+1.4
LPL	La Plagne	82.04	338	⇑*i*P		P	17 11 09.8	+1.4
LPG	La Plagne	82.06	338	⇑*i*P		P	17 11 10.1	+1.6
	comp=Z,19nm,0.7s							
LPG	La Plagne	82.06	338	⇑*i*P		P	17 11 10.1	+1.6
LPG	La Plagne	82.06	338	⇑*i*P		P	17 11 10.1	+1.6
TCF	Toulx Ste Croi	82.35	341	*e*P		P	17 11 10.7	+1.0
	comp=Z,18nm,1.1s							
TCF	Toulx Ste Croi	82.35	341	*e*P		P	17 11 10.7	+1.0
TCF	Toulx Ste Croi	82.35	341	*e*P		P	17 11 10.7	+1.0
MFF	Saint Martin d	82.52	343	*e*P		P	17 11 11.5	+0.9
MFF	Saint Martin d	82.52	343	*e*P		P	17 11 11.5	+0.9
MFF	Saint Martin d	82.52	343	*e*P		P	17 11 11.5	+0.9
MBDF	Montbardon	82.77	338	*e*P		P	17 11 13.4	+1.3
	comp=Z,5.6nm,0.7s							
MBDF	Montbardon	82.77	338	*e*P		P	17 11 13.4	+1.3
MBDF	Montbardon	82.77	338	*e*P		P	17 11 13.4	+1.3
ORIF	Oris-en-Rattie	82.81	338	*e*P		P	17 11 13.7	+1.5
ORIF				*e*R				
	comp=Z,67nm,20.8s							
ORIF	Oris-en-Rattie	82.81	338	*e*P		P	17 11 13.7	+1.5
ORIF	Oris-en-Rattie	82.81	338	*e*P		P	17 11 13.7	+1.5
VIVF	Saint-Julien-l	83.16	339	⇑*i*P		P	17 11 15.3	+1.4
	comp=Z,15nm,1.0s							
VIVF	Saint-Julien-l	83.16	339	⇑*i*P		P	17 11 15.3	+1.4
VIVF	Saint-Julien-l	83.16	339	⇑*i*P		P	17 11 15.3	+1.4
SBF	Sospel	83.41	337	*e*P		P	17 11 15.9	+0.6
	comp=Z,28nm,0.9s							
SBF	Sospel	83.41	337	*e*P		P	17 11 15.9	+0.6
SBF	Sospel	83.41	337	*e*P		P	17 11 15.9	+0.6
RJF	Les Rejaudoux	83.43	342	*e*P		P	17 11 16.3	+1.0
	comp=Z,23nm,1.1s							
RJF				*e*R				
	comp=Z,88nm,22.2s							
RJF	Les Rejaudoux	83.43	342	*e*P		P	17 11 16.3	+1.0
RJF	Les Rejaudoux	83.43	342	*e*P		P	17 11 16.3	+1.0
CAF	Calviac	83.68	341	⇑*i*P		P	17 11 18.0	+1.4
	comp=Z,19nm,1.1s							
CAF	Calviac	83.68	341	⇑*i*P		P	17 11 18.0	+1.4
CAF	Calviac	83.68	341	⇑*i*P		P	17 11 18.0	+1.4
SMRF	Simiane la Rot	83.77	338	*e*P		P	17 11 18.6	+1.5
	comp=Z,18nm,1.0s							
SMRF	Simiane la Rot	83.77	338	*e*P		P	17 11 18.6	+1.5
FRF	La Foret Royal	83.89	337	*e*P		P	17 11 18.5	+0.8
FRF	La Foret Royal	83.89	337	*e*P		P	17 11 18.5	+0.8
FRF	La Foret Royal	83.89	337	*e*P		P	17 11 18.5	+0.8
LASF	Ste Croix	84.08	340	*e*P		P	17 11 20.2	+1.5
	comp=Z,16nm,1.2s							
LASF	Ste Croix	84.08	340	*e*P		P	17 11 20.2	+1.5
LMR	La Mourre	84.14	337	⇑*i*P		P	17 11 19.9	+1.0
	comp=Z,30nm,1.0s							
LMR	La Mourre	84.14	337	⇑*i*P		P	17 11 19.9	+1.0
LMR	La Mourre	84.14	337	⇑*i*P		P	17 11 19.9	+1.0
LPAZ	La Paz	132.23	63	PKP		PKPdf	17 18 03.5	+0.8
LPAZ	La Paz	132.23	63	PKP		PKPdf	17 18 03.5	+0.8
	comp=Z,0.7nm,0.8s,baz=281,slow=5.2,SNR=3.6							
H03N2	Juan Fernandez	137.45	89	T		T	19 51 05.2	
	baz=308,slow=0.7,SNR=34							
H03N1	Juan Fernandez	137.47	89	T		T	19 51 06.4	
	baz=308,slow=0.7,SNR=45							
H03N3	Juan Fernandez	137.47	89	T		T	19 51 04.7	
	baz=308,slow=0.7,SNR=24							
CPUP	Villa Florida	146.31	60	PKPbc		PKPdf	17 18 28.3	+1.2
CPUP	Villa Florida	146.31	60	PKPbc		PKPdf	17 18 28.3	+1.2
	comp=Z,1.6nm,0.5s,baz=286,slow=1.4,SNR=5.8							

IDC 01 17:06:15.4±5.7, 14°94S×172°63W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/21, mbtmp3.7/3, MS3.6/1, Ms1 3.6/1, ms1mx3.0/29, Error ellipse: s-maj=262.9km s-min=18.6km az=139.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	1.31	39	Pn	Pg	17 06 39.8	-0.9
	15nm,0.3s,baz=221,slow=2.5,SNR=4.8						
AFI				Sn	Sn	17 06 59.7	+0.2
	38nm,0.3s,baz=32,slow=23,SNR=11						
DZM	Mont Dzumac	21.06	247	LR	LR	17 16 27.7	
	comp=Z,143nm,19.0s,baz=175,slow=29						
WRA	Warramunga Arr	50.67	256	P	P	17 15 16.7	-0.4
	0.4nm,0.7s,baz=92,slow=7.1,SNR=6.0						
ASAR	Alice Springs	50.96	252	P	P	17 15 18.3	-0.9
	1.5nm,0.6s,baz=87,slow=7.8,SNR=36						
ILAR	Eielson Array	81.85	11	P	P	17 18 36.8	+0.7
	0.3nm,0.6s,baz=230,slow=7.0,SNR=3.4						
BRTR	Keskin Array B	146.26	322	PKPbc	PKPab	17 25 59.2	+0.1
	1.1nm,0.8s,baz=39,slow=4.3,SNR=4.9						

IDC 01 17:17:41.6±5.7, 16°99S×172°11W, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.5/21, mbtmp3.4/3, MS3.2/2, Ms1 3.2/2, ms1mx3.0/16, Error ellipse: s-maj=382.7km s-min=29.6km az=150.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	3.08	6	LR	LR	17 19 35.4	
	comp=Z,278nm,18.1s,baz=96,slow=37						
URZ	Urewera	23.21	202	LR	LR	17 29 42.9	
	comp=Z,78nm,21.1s,baz=299,slow=31						
WRA	Warramunga Arr	50.71	258	P	P	17 26 43.6	+0.1
	0.2nm,0.8s,baz=88,slow=6.8,SNR=2.7						
ASAR	Alice Springs	50.82	253	P	P	17 26 43.9	-0.4
	0.6nm,0.6s,baz=88,slow=7.6,SNR=5.7						
NVAR	Mina Array Bea	74.69	41	P	P	17 29 23.4	0.0
	0.3nm,0.5s,baz=222,slow=8.0,SNR=2.7						
BRTR	Keskin Array B	148.16	321	PKPbc	PKPbc	17 37 29.4	-0.5
	0.7nm,0.7s,baz=78,slow=2.8,SNR=3.7						

IDC 01 17:26:21.4±2.0, 5°22N×127°11E, h29km±7km, mb3.1/3, mb1 3.3/3, mb1mx3.1/21, mbtmp3.1/3, 1D, Error ellipse: s-maj=166.0km s-min=18.3km az=66.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	Cotabato--PC H	3.47	305	⇓*i*P	Pb	17 27 26.2	+4.0
WRA	Warramunga Arr	26.00	164	P	P	17 31 50.8	-1.1
	0.5nm,0.9s,baz=344,slow=9.8,SNR=5.1						
WRA				pP	pP	17 32 00.2	-0.3
	1.9nm,0.7s,baz=343,slow=9.8,SNR=9.1						
ASAR	Alice Springs	29.47	167	P	P	17 32 23.6	+0.6
	0.2nm,0.6s,baz=354,slow=7.8,SNR=3.8						
ASAR				pP	pP	17 32 32.5	+0.9
	0.4nm,0.5s,baz=351,slow=8.1,SNR=4.7						
STKA	Stephens Creek	39.39	160	pP	pP	17 33 58.5	+1.2
	0.9nm,0.4s,baz=7.7,slow=8.5,SNR=4.0						
MKAR	Makanchi Array	56.56	325	P	P	17 36 01.5	+0.2
	0.2nm,0.5s,baz=119,slow=6.6,SNR=6.2						
MKAR				pP	pP	17 36 10.1	-0.3
	0.8nm,0.5s,baz=120,slow=7.6,SNR=10						
FINES	FINESS Array B	90.71	332	pP	pP	17 39 30.4	-0.3
	0.8nm,0.5s,baz=66,slow=6.5,SNR=8.5						

IDC 01 17:32:01.6±6.2, 0°61S×99°78E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/23, mbtmp3.4/3, Error ellipse: s-maj=321.5km s-min=29.5km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	38.90	122	P	P	17 39 29.0	-0.3
	0.9nm,1.1s,baz=301,slow=8.9,SNR=2.5						
ASAR	Alice Springs	40.25	127	P	P	17 39 40.7	+0.1
	0.5nm,0.7s,baz=297,slow=8.3,SNR=8.9						
MKAR	Makanchi Array	49.64	344	P	P	17 40 54.9	-0.1
	0.2nm,0.5s,baz=146,slow=5.9,SNR=4.1						

IDC 01 17:39:24.0±3.6, 16°55S×175°25W, h0km, mb3.8/4, mb1 4.2/4, mb1mx3.8/18, mbtmp3.8/4, MS4.0/11, Ms1 4.0/11, ms1mx3.7/37, Error ellipse: s-maj=254.9km s-min=26.7km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	4.25	52	LR	LR	17 42 05.0	
	comp=Z,2μm,21.9s,baz=232,slow=38						
DZM	Mont Dzumac	18.12	249	*e*LR	LR	17 47 59.0	
	2μm,25.2s						
DZM	Mont Dzumac	18.12	249	LR	LR	17 47 58.0	
	comp=Z,195nm,21.5s,baz=38,slow=28						
PPT2	Papeete2	24.56	96	*e*S	S	17 49 26.5	+19
	1μm,25.9s						
PPT2				*e*LR	LR	17 51 07.4	
	509nm,26.0s						
TBI	Tubuai	25.15	110	*e*LQ	LQ	17 50 24.2	
	1μm,27.5s						
TBI				*e*LR	LR	17 51 44.3	
	211nm,25.8s						
HNR	Honiara	25.16	283	LR	LR	17 51 16.7	
	comp=Z,323nm,21.9s,baz=108,slow=28						
PMG	Port Moresby	37.26	276	LR	LR	18 00 45.3	
	comp=Z,127nm,18.0s,baz=97,slow=34						
H11N3	WAKE ISLAND Hy	40.08	333	T	T	18 27 58.4	
	baz=155,slow=0.7,SNR=24						
H11N1	WAKE ISLAND Hy	40.08	333	T	T	18 27 58.7	
	baz=155,slow=0.7,SNR=57						
H11N2	WAKE ISLAND Hy	40.09	333	T	T	18 27 59.8	
	baz=155,slow=0.7,SNR=38						
WRA	Warramunga Arr	47.86	258	P	P	17 48 03.6	-0.4
	0.9nm,0.8s,baz=95,slow=8.5,SNR=3.8						
WRA				LR	LR	18 05 36.0	
	comp=Z,183nm,21.9s,baz=140,slow=33						
ASAR	Alice Springs	48.07	253	P	P	17 48 05.7	0.0
	1.7nm,0.7s,baz=85,slow=8.2,SNR=13						
ASAR				LR	LR	18 07 51.1	
	comp=Z,214nm,21.4s,baz=104,slow=36						
VNDA	Vanda	62.07	185	LR	LR	18 09 11.5	
	comp=Z,76nm,21.8s,baz=17,slow=29						
NWAO	Narrogin (SRO)	62.51	241	LR	LR	18 14 49.0	
	comp=Z,249nm,19.6s,baz=284,slow=34						
NVAR	Mina Array Bea	76.37	43	P	P	17 51 14.2	-1.4
	1.0nm,0.8s,baz=232,slow=7.3,SNR=4.9						
USRK	Ussuriysk Arra	77.24	324	LR	LR	18 19 02.0	
	comp=Z,207nm,21.2s,baz=330,slow=31						
TXAR	Lajitas Array	82.72	57	LR	LR	18 21 41.1	
	comp=Z,133nm,18.2s,baz=265,slow=31						
ANMO	Albuquerque	82.90	51	LR	LR	18 21 05.5	
	comp=Z,127nm,18.3s,baz=69,slow=30						
ILAR	Eielson Array	83.92	12	P	P	17 51 59.1	+3.7
	0.5nm,0.9s,baz=207,slow=3.8,SNR=3.6						
PDAR	Pinedale Array	84.30	42	P	P	17 51 59.6	+1.4
	0.9nm,0.9s,baz=172,slow=2.2,SNR=6.4						
BRTR	Keskin Array B	145.87	318	PKPbc	PKPdf	17 59 05.1	-0.2
	1.0nm,0.7s,baz=32,slow=5.8,SNR=3.3						

IDC 01 17:42:11.1±1.7, 15°36S×173°15W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/20, mbtmp3.7/5, Error ellipse: s-maj=137.0km s-min=20.2km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	1.95	43	Pn	Pn	17 42 45.2	-0.3
	46nm,0.3s,baz=88,slow=18,SNR=6.9						
AFI				Sn	Sn	17 43 08.2	-2.7
	88nm,0.3s,baz=342,slow=16,SNR=8.2						
STKA	Stephens Creek	44.27	240	P	P	17 50 21.4	-1.3
	1.1nm,0.9s,baz=65,slow=3.7,SNR=2.9						
WRA	Warramunga Arr	50.09	257	P	P	17 51 08.6	+0.2
	0.4nm,0.9s,baz=92,slow=6.9,SNR=2.9						
ASAR	Alice Springs	50.36	252	P	P	17 51 10.7	+0.3
	0.9nm,0.5s,baz=88,slow=8.2,SNR=13						
NVAR	Mina Array Bea	74.13	42	P	P	17 53 49.1	-0.6
	0.5nm,0.7s,baz=236,slow=6.4,SNR=3.8						
TXAR	Lajitas Array	80.38	56	P	P	17 54 25.7	+0.8
	0.3nm,0.5s,baz=207,slow=5.6,SNR=5.2						
ILAR	Eielson Array	82.35	11	P	P	17 54 40.0	+5.6
	0.6nm,0.8s,baz=204,slow=5.9,SNR=4.3						

IDC 01 17:46:35.4±5.4, 15°92S×173°47W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/20, mbtmp3.6/3, Error ellipse: s-maj=408.6km s-min=33.1km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	2.58	40	Pn	Pn	17 47 13.0	-5.6
	11nm,0.3s,baz=219,slow=14,SNR=5.3						
AFI				Sn	Sn	17 47 43.3	-7.4
	32nm,0.3s,baz=205,slow=23,SNR=5.7						
H11S2	WAKE ISLAND Hy	39.37	330	T	T	18 35 53.8	
	baz=152,slow=0.7,SNR=31						
H11S3	WAKE ISLAND Hy	39.39	329	T	T	18 35 52.8	
	baz=152,slow=0.7,SNR=32						
H11S1	WAKE ISLAND Hy	39.39	330	T	T	18 35 55.2	
	baz=152,slow=0.7,SNR=28						
H11N3	WAKE ISLAND Hy	40.33	331	T	T	18 37 04.5	
	baz=144						
H11N1	WAKE ISLAND Hy	40.33	331	T	T	18 37 05.1	
	baz=144						
H11N2	WAKE ISLAND Hy	40.35	331	T	T	18 37 05.8	
	baz=144						
WRA	Warramunga Arr	49.66	257	P	P	17 55 29.1	-0.2
	0.4nm,0.9s,baz=93,slow=6.4,SNR=2.4						
ASAR	Alice Springs	49.89	252	P	P	17 55 31.0	-0.1
	0.7nm,0.7s,baz=89,slow=7.7,SNR=4.7						
NVAR	Mina Array Bea	74.76	42	P	P	17 58 17.8	+0.1
	0.5nm,0.7s,baz=230,slow=8.3,SNR=4.6						

IDC 01 17:53:27.4±6.2, 15°39S×173°23W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.6/21, mbtmp3.8/3, ML2.1/1, Error ellipse: s-maj=325.9km s-min=26.2km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	2.03	44	Pn	Pn	17 54 03.1	+0.1
	40nm,0.3s,baz=90,slow=1.4,SNR=13						
AFI				Sn	Sn	17 54 22.8	-6.4
	108nm,0.3s,baz=25,slow=22,SNR=7.9						
H11S2	WAKE ISLAND Hy	39.03	329	T	T	18 41 43.6	
	baz=152,slow=0.7,SNR=37						
H11S3	WAKE ISLAND Hy	39.05	329	T	T	18 41 44.0	
	baz=152,slow=0.7,SNR=38						
H11S1	WAKE ISLAND Hy	39.05	329	T	T	18 41 44.7	
	baz=152,slow=0.7,SNR=44						
H11N3	WAKE ISLAND Hy	39.98	330	T	T	18 42 54.2	
	baz=152,slow=0.7,SNR=22						
H11N1	WAKE ISLAND Hy	39.98	330	T	T	18 42 55.5	
	baz=152,slow=0.7,SNR=33						
H11N2	WAKE ISLAND Hy	40.00	330	T	T	18 43 01.0	
	baz=152,slow=0.7,SNR=29						
WRA	Warramunga Arr	50.01	257	P	P	18 02 23.7	-0.3
	0.4nm,0.8s,baz=93,slow=6.9,SNR=7.0						
ASAR	Alice Springs	50.27	252	P	P	18 02 26.1	0.0
	2.1nm,0.8s,baz=89,slow=7.6,SNR=35						
NVAR	Mina Array Bea	74.21	42	P	P	18 05 11.6	+5.1
	0.3nm,0.6s,baz=231,slow=9.4,SNR=4.1						
BRTR	Keskin Array B	146.25	321	PKPbc	PKPdf	18 13 09.4	+0.1
	1.0nm,0.8s,baz=46,slow=4.2,SNR=2.1						

*IDC **01** 17:53:35.6±1.6, 38°24N×21°51E, h0km, mb3.8/3, mb1 3.6/5, mb1mx3.4/28, mbtmp3.5/5, ML3.1/1, MS3.6/1, Ms1 3.6/1, ms1mx2.1/48, Error ellipse: s-maj=43.4km s-min=22.0km az=115.0*

*ISCJB **01** 17:53:37.2±0.5, 38°23N±0°03×21°46E±0°04, h22km±3km, mb3.8/3, MS3.6/1, Error ellipse: s-maj=5.0km s-min=4.1km az=150.9*

*CSEM **01** 17:53:38.2±0.2, 38°18N×21°58E, h15km, MD3.3, Error ellipse: s-maj=5.2km s-min=4.7km az=79.0*

*ATH **01** 17:53:38.7, 38°16N×21°60E, h19km, MD3.3/16, ML3.2*

ISC 01 17:53:38.0±0.9, 38°21N±0°02×21°56E±0°03, h19km±2km, n60, σ0°95/87, mb3.9/3, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RLS	Riolos of Patr	0.16	205	*e*PB	Pg	17 53 42.8	+0.3
RLS				*e*SB	Sg	17 53 46.3	+0.8
RLS	Riolos of Patr	0.16	205	*e*Pb	Pg	17 53 42.8	+0.3
RLS				*e*Sb	Sg	17 53 46.3	+0.8
LAKA	Lakka	0.34	84	*e*PB	Pb	17 53 45.4	-0.1
LAKA				*e*SB	Sb	17 53 50.6	+0.1
LAKA	Lakka	0.34	84	*e*Pb	Pb	17 53 45.4	-0.1
LAKA				*e*Sb	Sb	17 53 50.6	+0.1
EFP	Efpalio	0.35	51	*e*PB	Pb	17 53 45.9	+0.1
EFP				*e*SB	Sb	17 53 52.3	+1.3
EFP	Efpalio	0.35	51	*e*Pb	Pb	17 53 45.9	+0.1
EFP				*e*Sb	Sb	17 53 52.3	+1.3
TRIZ	Trizonia	0.44	68	*e*PB	Pb	17 53 47.2	0.0
TRIZ				*e*SB	Sb	17 53 54.1	+0.7
TRIZ	Trizonia	0.44	68	*e*Pb	Pb	17 53 47.2	0.0
TRIZ				*e*Sb	Sb	17 53 54.1	+0.7
KLV	Kalavryta, Ach	0.50	109	*e*PB	Pg	17 53 47.8	-0.3
KLV				*e*SB	Sg	17 53 54.3	-0.5
KLV	Kalavryta, Ach	0.50	109	*e*Pb	Pg	17 53 47.8	-0.3
KLV				*e*Sb	Sg	17 53 54.3	-0.5
GUR	Goura	0.68	113	*e*PB	Pb	17 53 50.6	-0.6
GUR				*e*SN	Sg	17 54 00.7	+0.3
GUR	Goura	0.68	113	*e*Pb	Pb	17 53 50.6	-0.6
GUR				*e*Sn	Sg	17 54 00.7	+0.3
AMT	Artemida-Makis	0.68	170	*e*PN	Pb	17 53 51.1	-0.2
AMT	Artemida-Makis	0.68	170	*e*Pn	Pb	17 53 51.1	-0.2
EVR	Evrytania	0.74	16	*e*PB	Pg	17 53 52.9	+0.4
EVR	Evrytania	0.74	16	*e*Pb	Pg	17 53 52.9	+0.4
AGG	Agios Georgios	1.02	36	*e*PB	Pg	17 53 57.6	-0.2
AGG	Agios Georgios	1.02	36	*e*Pb	Pg	17 53 57.6	-0.2
SFD	Strofades	1.04	204	*e*PN	Pg	17 53 58.0	-0.3
SFD	Strofades	1.04	204	*e*Pn	Pg	17 53 58.0	-0.3
VLX	Vlachokerasia	1.06	142	*e*PN	Pb	17 53 57.7	-0.1
VLX				*e*SN	Sn	17 54 12.3	+0.1
VLX	Vlachokerasia	1.06	142	*e*Pn	Pb	17 53 57.7	-0.1
VLX				*e*Sn	Sn	17 54 12.3	+0.1
ITM	Ithomi	1.07	164	*e*PB	Pb	17 53 57.4	-0.5
ITM				*e*SN	Sn	17 54 12.3	0.0
ITM	Ithomi	1.07	164	*e*Pn	Pb	17 53 57.4	-0.5
ITM				*e*Sn	Sn	17 54 12.3	0.0
LTK	Loutraki	1.13	99	*e*PN	Pb	17 53 59.2	+0.3
LTK				*e*SN	Sg	17 54 14.8	+0.1
LTK	Loutraki	1.13	99	*e*

H11S1	**WAKE ISLAND Hy 38.94 328** baz=152,slow=0.7,SNR=12		T		T		18 46 56.7	
H11N3	**WAKE ISLAND Hy 39.85 329** baz=152,slow=0.7,SNR=12		T		T		18 48 08.5	
H11N1	**WAKE ISLAND Hy 39.86 329** baz=152,slow=0.7,SNR=14		T		T		18 48 08.9	
H11N2	**WAKE ISLAND Hy 39.87 329** baz=152,slow=0.7,SNR=12		T		T		18 48 09.8	
STKA	**Stephens Creek** 3.4nm,0.8s,baz=71,slow=7.9,SNR=6.0	**44.80 240**	P		P		18 06 25.8	-1.4
WRA	**Warramunga Arr** 1.3nm,0.8s,baz=92,slow=7.7,SNR=13	**50.56 256**	P		P		18 07 11.7	-0.4
ASAR	**Alice Springs** 4.8nm,0.9s,baz=86,slow=8.2,SNR=40	**50.85 252**	P		P		18 07 14.1	-0.2
NVAR	**Mina Array Bea** 0.5nm,0.7s,baz=230,slow=8.1,SNR=4.1	**73.58 42**	P		P		18 09 47.2	+0.4
BRTR	**Keskin Array B** 1.7nm,0.8s,baz=67,slow=4.2,SNR=7.5	**146.21 322**	PKPbc		PKPab		18 17 55.8	+0.8

IDC 01 18:03:38.8±3.6, 14°.80S×172°.73W, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.6/21, mbtmp3.7/3, Error ellipse: s-maj=210.4km s-min=18.3km az=145.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 21nm,0.3s,baz=198,slow=20,SNR=4.1	**1.28**	**46**	Pn	Pg	18 04 02.9	-0.5
AFI	43nm,0.3s,baz=8.6,slow=22,SNR=4.3			Sn	Sb	18 04 21.3	+0.4
WRA	**Warramunga Arr** 0.5nm,0.8s,baz=91,slow=7.7,SNR=4.6	**50.61 256**		P	P	18 12 39.5	-0.5
ASAR	**Alice Springs** 1.9nm,0.7s,baz=84,slow=8.4,SNR=16	**50.91 251**		P	P	18 12 41.0	-1.2
NVAR	**Mina Array Bea** 0.4nm,0.7s,baz=223,slow=9.9,SNR=3.2	**73.45**	**42**	P	P	18 15 13.5	0.0
GERES	**GERESS Array B** 0.3nm,0.6s,baz=2.6,slow=2.2,SNR=4.3	**145.64 352**		PKPbc	PKPab	18 23 20.1	+0.3
BRTR	**Keskin Array B** 1.0nm,0.7s,baz=70,slow=4.6,SNR=6.1	**146.09 322**		PKPbc	PKPab	18 23 22.1	+0.3

*IDC **01** 18:04:30.6±0.5, 15°.67S×172°.26W, h0km, mb4.4/20, mb1 4.6/20, mb1mx4.5/26, mbtmp4.4/20, MS4.2/4, Ms1 4.2/4, ms1mx3.7/36, Error ellipse: s-maj=22.1km s-min=13.4km az=135.0*
*NEIC **01** 18:04:32.2±0.2, 15°.63S×172°.32W, h10km, mb4.7/12, Error ellipse: s-maj=11.2km s-min=6.4km az=133.0*
*ISCJB **01** 18:04:34.7±0.3, 15°.60S±0°.08×172°.45W±0°.08, h35km, mb4.5/30, MS4.1/4, Error ellipse: s-maj=14.0km s-min=8.1km az=42.9*
*AUST **01** 18:04:37.1±0.5, 13°.62S×172°.64W, h103km±12km, Error ellipse: s-maj=28.4km s-min=17.9km az=2.0*

ISC 01 18:04:36.2±0.4, 15°.45S±0°.08×172°.30W±0°.09, h35km, n167, σ1§30/164, mb4.5/31, MS4.0/4, 15C-7D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.61**	**19**	Pn	Pn	18 04 56.3	-5.9
AFI				Sn	**Sn**	**18 05 16.4**	**-5.3**
AFI	**Afiamalu** 169nm,0.3s,baz=263,slow=2.5,SNR=9.5	**1.61**	**19**	Pn	Pn	18 04 56.3	-5.9
AFI	614nm,0.3s,baz=70,slow=21,SNR=10			Sn	**Sn**	**18 05 16.4**	**-5.3**
MSVF	**Nonsavu** 83nm,1.0s	**9.52 255**		*e*P	Pn	18 06 55.9	+4.9
RAR	**Rarotonga**	**13.20 118**		Pn	Pn	18 07 33.0	-8.2
RAR	**Rarotonga** 3.3nm,0.3s,baz=270,slow=2.8,SNR=3.2	**13.20 118**		Pn	Pn	18 07 33.0	-8.2
DZM	**Mont Dzumac** 75nm,1.2s	**21.16 249**		*e*P	**P**	**18 09 21.9**	**+3.3**
DZM	1µm,26.2s			*e*LR	LR	18 14 17.4	
DZM	**Mont Dzumac**	**21.16 249**		P	**P**	**18 09 17.9**	**-0.7**
DZM	**Mont Dzumac** 28nm,1.1s,baz=60,slow=17,SNR=4.7	**21.16 249**		P	**P**	**18 09 17.9**	**-0.7**
DZM	comp=Z,873nm,21.9s,baz=22,slow=32			LR	LR	18 15 57.6	
PPT	**Papeete** comp=Z,459nm,18.7s,baz=344,slow=30	**21.89**	**99**	LR	LR	18 15 14.7	
PPT2	**Papeete2** 576nm,27.8s	**21.89**	**99**	*e*S	Sn	18 13 32.6	-5.0
PPT2	890nm,25.8s,baz=273			*e*LR	LR	18 14 23.3	
TBI	**Tubuai** 630nm,27.7s	**22.91 114**		*e*S	**S**	**18 13 45.7**	**+0.9**
TBI	816nm,26.8s,baz=292			*e*LR	LR	18 14 56.9	
URZ	**Urewera** 14nm,1.0s	**24.57 200**		P	**P**	**18 09 50.5**	**-2.3**
URZ	**Urewera** 45nm,1.0s,baz=326,slow=3.6,SNR=3.9	**24.57 200**		P	**P**	**18 09 50.5**	**-2.3**
HNR	**Honiara** comp=Z,346nm,21.1s,baz=238,slow=33	**27.73 279**		LR	LR	18 19 40.4	
RKT	**Rikitea** 407nm,26.0s	**35.98 108**		*e*LR	LR	18 20 57.4	
ARMA	**Armidale** baz=37,SNR=5.8	**36.23 239**		⇓P	**P**	**18 11 34.1**	**-2.0**
CTA	**Charters Tower**	**39.66 257**		P	**P**	**18 12 05.1**	**0.0**
CTA	**Charters Tower** 1.7nm,0.6s,baz=84,slow=9.2,SNR=4.5	**39.66 257**		P	**P**	**18 12 05.1**	**0.0**
QLP	**Quilpie** baz=42,SNR=4.0	**41.88 247**		⇓P	**P**	**18 12 20.2**	**-3.1**
STKA	**Stephens Creek** 4.3nm,1.0s	**44.93 240**		*e*P	**P**	**18 12 46.6**	**-1.3**
STKA	**Stephens Creek** baz=46,SNR=9.3	**44.93 240**		⇑P	**P**	**18 12 46.3**	**-1.6**
STKA	**Stephens Creek** 14nm,0.9s,baz=85,slow=9.0,SNR=16	**44.93 240**		P	**P**	**18 12 46.3**	**-1.6**
BBOO	**Buckleboo** baz=50,SNR=5.2	**49.70 240**		⇓P	**P**	**18 13 23.5**	**-1.5**
WRAB	**Tennant Creek** 8.3nm,1.1s	**50.85 257**		*e*P	**P**	**18 13 31.9**	**-2.0**
WRA	**Warramunga Arr**	**50.86 257**		P	**P**	**18 13 32.1**	**-1.9**
WRA	**Warramunga Arr** 3.2nm,0.8s,baz=94,slow=7.5,SNR=19	**50.86 257**		P	**P**	**18 13 32.1**	**-1.9**
AS31	**Alice Springs**	**51.10 252**		*e*P	**P**	**18 13 33.9**	**-1.9**
ASAR	**Alice Springs**	**51.10 252**		P	**P**	**18 13 34.1**	**-1.6**
ASAR	**Alice Springs** 11nm,0.7s,baz=87,slow=8.3,SNR=41	**51.10 252**		P	**P**	**18 13 34.1**	**-1.6**
SBA	**Scott Base**	**63.29 185**		*e*P	**P**	**18 15 01.7**	**+0.8**
VNDA	**Vanda**	**63.44 186**		P	**P**	**18 15 00.9**	**-1.0**
VNDA	**Vanda** 3.0nm,0.9s,baz=12,slow=6.0,SNR=14	**63.44 186**		P	**P**	**18 15 00.9**	**-1.0**
MJAR	**Matsushiro Arr**	**69.66 319**		P	**P**	**18 15 42.7**	**+0.4**
MJAR	**Matsushiro Arr** 1.8nm,0.8s,baz=149,slow=6.7,SNR=4.3	**69.66 319**		P	**P**	**18 15 42.7**	**+0.4**
PETK	**Petropavlovsk-**	**73.00 342**		P	**P**	**18 16 03.0**	**+0.9**
PETK	**Petropavlovsk-** 5.7nm,0.9s,baz=124,slow=7.4,SNR=5.4	**73.00 342**		P	**P**	**18 16 03.0**	**+0.9**
NVAR	**Mina Array Bea**	**73.66**	**41**	P	**P**	**18 16 07.2**	**+0.6**
NVAR	**Mina Array Bea** 2.3nm,0.8s,baz=228,slow=9.3,SNR=11	**73.66**	**41**	P	**P**	**18 16 07.2**	**+0.6**
QSPA	**South Pole Qui** 30nm,1.2s	**74.60 180**		*e*P	**P**	**18 16 10.8**	**-0.8**
KDAK	**Kodiak Island**	**74.76**	**11**	P	**P**	**18 16 13.3**	**+1.0**
KDAK	**Kodiak Island** 9.1nm,0.9s,baz=132,slow=14,SNR=4.1	**74.76**	**11**	P	**P**	**18 16 13.3**	**+1.0**
KSRS	**Korea Array** 4.4nm,0.9s,baz=127,slow=6.3,SNR=12	**76.93 315**		P	**P**	**18 16 27.8**	**+2.7**
KSAR	**Wonju Array Be**	**76.95 315**		P	**P**	**18 16 27.8**	**+2.5**
TMUT	**Trail Mountain** 8.5nm,0.8s	**78.77**	**44**	*e*P	**P**	**18 16 37.1**	**+1.4**
HLID	**Hailey** 4.8nm,1.0s	**79.00**	**39**	*e*P	**P**	**18 16 37.8**	**+1.1**
TXAR	**Lajitas Array**	**79.76**	**56**	P	**P**	**18 16 42.4**	**+1.2**
TXAR	**Lajitas Array** 0.3nm,0.4s,baz=230,slow=7.8,SNR=5.6	**79.76**	**56**	P	**P**	**18 16 42.4**	**+1.2**
PV01	**Paradox Valley** 527nm,1.1s	**79.99**	**46**	*e*P	**P**	**18 16 43.3**	**+0.9**
ANMO	**Albuquerque**	**80.02**	**50**	P	**P**	**18 16 44.0**	**+1.4**
ANMO	**Albuquerque** 0.7nm,0.5s,baz=272,slow=10,SNR=6.8	**80.02**	**50**	P	**P**	**18 16 44.0**	**+1.4**
ANMO	comp=Z,137nm,19.2s,baz=69,slow=30			LR	LR	18 44 35.1	
TRF	**Thorofare Moun**	**80.48**	**10**	*e*P	P	18 16 40.7	-3.7
MCMT	**McKenzie Canyo** 1.8nm,1.1s	**80.63**	**38**	*e*P	**P**	**18 16 46.5**	**+0.8**
MCK	**McKinley** 16nm,1.1s	**80.97**	**10**	*e*P	**P**	**18 16 47.1**	**+0.4**
TPAW	**Teton Pass** 4.8nm,1.0s	**81.08**	**40**	*e*P	**P**	**18 16 49.0**	**+0.9**
BSMT	**Bassoo Peak** 6.6nm,1.1s	**81.19**	**35**	*e*P	**P**	**18 16 48.7**	**+0.2**

PDAR	**Pinedale Array**	**81.60**	**41**	P	**P**		**18 16 50.5**	**-0.4**
PDAR	**Pinedale Array** 1.1nm,0.8s,baz=200,slow=3.2,SNR=6.6	**81.60**	**41**	P	**P**		**18 16 50.5**	**-0.4**
COLA	**College** 39nm,0.9s	**82.21**	**10**	*e*P	**P**		**18 16 53.7**	**+0.5**
ILAR	**Eielson Array**	**82.29**	**11**	P	**P**		**18 16 53.5**	**-0.1**
ILAR	**Eielson Array** 1.6nm,0.7s,baz=215,slow=5.1,SNR=11	**82.29**	**11**	P	**P**		**18 16 53.5**	**-0.1**
ENH	**Enshi**	**87.84 302**		*e*P	**P**		**18 17 24.1**	**+1.8**
MAW	**Mawson**	**88.08 198**		P	**P**		**18 17 22.4**	**-0.3**
MAW	**Mawson** baz=90,SNR=5.9	**88.08 198**		P	**P**		**18 17 22.9**	**+0.2**
MAW	**Mawson** 3.2nm,0.8s,baz=122,slow=5.3,SNR=9.2	**88.08 198**		P	**P**		**18 17 22.4**	**-0.3**
YKA	**Yellowknife Ar**	**89.72**	**23**	P	**P**		**18 17 30.9**	**+0.6**
YKA	**Yellowknife Ar** 2.0nm,0.8s,baz=233,slow=5.1,SNR=3.7	**89.72**	**23**	P	**P**		**18 17 30.9**	**+0.6**
SNAA	**Sanae**	**92.80 177**		*e*P	**P**		**18 17 44.1**	**-0.7**
SNAA	**Sanae** 12nm,1.4s	**92.80 177**		*e*P	**P**		**18 17 43.0**	**-1.8**
VNA2	**Neumayer--Watz** baz=175,slow=2.6	**93.22 175**		*e*P	**P**		**18 17 46.9**	**+0.2**
VNA1	**Neumayer--Stat**	**93.41 175**		*e*P	**P**		**18 17 47.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**93.63 288**		P	**P**		**18 17 51.2**	**+1.6**
CMAR	**Chiang Mai Arr** 1.4nm,1.1s,baz=90,slow=2.5,SNR=6.6	**93.63 288**		P	**P**		**18 17 51.2**	**+1.6**
SONM	**Songino Array**	**95.58 318**		P	**P**		**18 17 58.9**	**+0.9**
SONM	**Songino Array** 0.4nm,0.7s,baz=105,slow=3.3,SNR=2.6	**95.58 318**		P	**P**		**18 17 58.9**	**+0.9**
ZALV	**Zalesovo Beam**	**109.91 322**		PKiKP	**PKiKP**		**18 23 02.6**	**-0.9**
ZALV	**Zalesovo Beam** 0.5nm,0.4s,baz=64,slow=3.4,SNR=3.9	**109.91 322**		PKiKP	**PKiKP**		**18 23 02.6**	**-0.9**
MKAR	**Makanchi Array**	**111.61 315**		PKiKP	**PKiKP**		**18 23 06.7**	**-0.4**
MKAR	**Makanchi Array** 0.7nm,0.5s,baz=153,slow=0.5,SNR=19	**111.61 315**		PKiKP	**PKiKP**		**18 23 06.7**	**-0.4**
BVAR	**Borovoye Array**	**118.57 322**		PKP	**PKPdf**		**18 23 20.2**	**0.0**
BVAR	**Borovoye Array** 2.1nm,0.7s,baz=107,slow=1.5,SNR=13	**118.57 322**		PKP	**PKPdf**		**18 23 20.2**	**0.0**
BRVK	**Borovoye**	**118.62 322**		*e*PKPdf	**PKPdf**		**18 23 19.7**	**-0.6**
ARCES	**ARCESS Array B**	**124.80 352**		PKP	**PKPdf**		**18 23 32.0**	**+0.3**
ARCES	**ARCESS Array B** 1.7nm,0.5s,baz=21,slow=2.5,SNR=13	**124.80 352**		PKP	**PKPdf**		**18 23 32.0**	**+0.3**
AKTO	**Aktyubinsk**	**126.67 322**		PKP	**PKPdf**		**18 23 35.8**	**0.0**
AKTO	**Aktyubinsk** 1.4nm,0.7s,baz=127,slow=3.8,SNR=6.9	**126.67 322**		PKP	**PKPdf**		**18 23 35.8**	**0.0**
FINES	**FINESS Array B**	**132.21 348**		PKP	**PKPdf**		**18 23 46.4**	**+0.4**
FINES	**FINESS Array B** 1.8nm,0.8s,baz=151,slow=4.4,SNR=4.0	**132.21 348**		PKP	**PKPdf**		**18 23 46.4**	**+0.4**
NOA	**NORSAR Array B**	**134.40 358**		PKP	**PKPdf**		**18 23 50.1**	**-0.1**
NOA	**NORSAR Array B** 1.1nm,0.9s,baz=137,slow=4.6,SNR=2.8	**134.40 358**		PKP	**PKPdf**		**18 23 50.1**	**-0.1**
AKASG	**Malin Array Be**	**140.78 338**		PKP	**PKPdf**		**18 24 02.1**	**-0.1**
AKASG	**Malin Array Be** 1.4nm,0.7s,baz=28,slow=2.6,SNR=6.0	**140.78 338**		PKP	**PKPdf**		**18 24 02.1**	**-0.1**
CLL	**Collm** comp=Z,14nm,1.6s	**143.97 354**		*e*PKPdf	**PKPdf**		**18 24 11.0**	**+3.1**
CLL				*e*			18 24 32.0	
TSUM	**Tsumeb**	**144.22 196**		*e*PKPdf	PKPbc		18 24 07.7	+0.1
STHS	**Stebnicka Huta**	**144.36 345**		*e*PKP	**PKPdf**		**18 24 08.2**	**-0.5**
UPC	**Upice**	**144.39 351**		*e*PKP	**PKPdf**		**18 24 08.7**	**0.0**
UPC				*ep*PKP	**PKiKP**		**18 24 14.3**	**+2.0**
DPC	**Dobruska-Polom**	**144.49 350**		*e*PKP	**PKPdf**		**18 24 08.6**	**-0.3**
DPC				*ep*PKP	**PKiKP**		**18 24 15.5**	**+2.9**
KOLS	**Kolonicke sedl**	**144.53 343**		*e*PKP	**PKPab**		**18 24 07.3**	**-0.1**
MALT	**Malatya**	**144.63 316**		⇓*i*P	**PKPdf**		**18 24 10.4**	**+0.8**
OKC	**Ostrava-Krasne**	**144.66 348**		*e*PKP	**PKPdf**		**18 24 09.0**	**-0.1**
BURAR	**Bucovina Array**	**144.79 339**		⇑*i*P	**PKPab**		**18 24 05.8**	**-2.7**
MORC	**Moravsky Berou**	**144.83 349**		*e*PKPdf	**PKPab**		**18 24 08.2**	**-0.3**
PRU	**Pruhonice**	**145.10 352**		*e*PKP	**PKPdf**		**18 24 10.1**	**+0.2**
PRU				*ex*	x		18 24 19.6	
TRPA	**Tarpa**	**145.18 343**		⇑*i*P	**PKPdf**		**18 24 10.8**	**+0.7**
TESR	**Tescani**	**145.22 337**		⇑*i*P	**PKPdf**		**18 24 10.5**	**+0.3**
KECS	**Kecovo**	**145.41 345**		*e*PKP	**PKPab**		**18 24 11.3**	**+0.7**
TLCR		**145.41 333**		⇑*i*P	**PKPab**		**18 24 11.8**	**+1.1**
VRAC	**Vranov**	**145.45 350**		PKPbc	**PKPab**		**18 24 10.9**	**+0.1**
VRAC	**Vranov** comp=Z,2.9nm,0.4s,baz=96,slow=12,SNR=9.3	**145.45 350**		PKPbc	**PKPab**		**18 24 10.9**	**+0.1**
VRI	**Vrincioaia**	**145.72 336**		⇑*i*P	**PKPab**		**18 24 12.4**	**+0.5**
GRFO	**Grafenberg**	**145.72 356**		*e*PKPdf	**PKPab**		**18 24 11.5**	**-0.2**
PLOR	**Plostina**	**145.77 336**		⇑*i*P	**PKPab**		**18 24 12.0**	**-0.1**
KHC	**Kasperske Hory**	**146.06 353**		*e*PKP	**PKPbc**		**18 24 13.3**	**+0.2**
KHC	**Kasperske Hory**	**146.06 353**		*e*PKPdf	**PKPbc**		**18 24 12.0**	**-0.4**
PSZ	**Piszkesteto**	**146.09 345**		*e*PKPdf	**PKPbc**		**18 24 12.5**	**-0.2**
DOPR	**Dopca**	**146.15 338**		⇑*i*P	**PKPab**		**18 24 14.3**	**+0.8**
HARR	**Hasova**	**146.19 334**		⇑*i*P	**PKPab**		**18 24 13.4**	**-0.2**
TLB	**Topalu**	**146.23 333**		⇑*i*P	**PKPab**		**18 24 13.4**	**-0.3**
GERES	**GERESS Array B**	**146.33 353**		PKPbc	**PKPab**		**18 24 13.7**	**-0.5**
GERES	**GERESS Array B** comp=Z,1.0nm,0.6s,baz=11,slow=2.7,SNR=12	**146.33 353**		PKPbc	**PKPab**		**18 24 13.7**	**-0.5**
MLR	**Muntele Rosu**	**146.34 337**		⇓*i*P	**PKPab**		**18 24 14.5**	**+0.1**
MLR	**Muntele Rosu**	**146.34 337**		PKPbc	**PKPab**		**18 24 14.6**	**+0.2**
MLR	**Muntele Rosu** comp=Z,1.4nm,0.7s,baz=340,slow=7.4,SNR=10	**146.34 337**		PKPbc	**PKPab**		**18 24 14.6**	**+0.2**
KMBO	**Kilima Mbogo**	**146.46 243**		PKPbc	**PKPbc**		**18 24 14.3**	**-0.7**
KMBO	**Kilima Mbogo** comp=Z,2.1nm,0.8s,baz=134,slow=8.0,SNR=5.3	**146.46 243**		PKPbc	**PKPbc**		**18 24 14.3**	**-0.7**
LANF	**Langenberg**	**146.56 360**		PKP	**PKPab**		**18 24 14.8**	**-0.1**
VOIR		**146.72 337**		⇑*i*P	**PKPab**		**18 24 16.0**	**+0.2**
BR131	**Keskin Array S**	**146.85 322**		*e*PKPbc	**PKPab**		**18 24 15.9**	**-0.7**
BRTR	**Keskin Array B**	**146.85 322**		PKPbc	**PKPab**		**18 24 16.1**	**-0.5**
BRTR	**Keskin Array B** comp=Z,9.3nm,0.7s,baz=119,slow=2.0,SNR=34	**146.85 322**		PKPbc	**PKPab**		**18 24 16.1**	**-0.5**
CONA	**Conrad Observa** comp=Z,16nm,1.4s	**146.91 350**		⇑*i*pPKPdf	**PKPbc**		**18 24 15.1**	**0.0**
ARR	**Arges**	**146.93 338**		⇑*i*P	**PKPab**		**18 24 17.1**	**+0.5**
BFO	**Black Forest**	**147.20 359**		*e*PKPbc	**PKPab**		**18 24 16.6**	**-0.9**
ANTO	**Ankara**	**147.26 323**		⇓*i*P	**PKPdf**		**18 24 14.6**	**+0.6**
ANTO	**Ankara**	**147.26 323**		*e*PKPdf	**PKPdf**		**18 24 14.5**	**+0.6**
THEF	**They Montfort**	**147.28**	**2**	PKP	**PKPab**		**18 24 16.9**	**-0.8**
ECH	**Echery**	**147.32**	**1**	PKP	**PKPbc**		**18 24 16.9**	**+0.8**
GZR	**Gura Zlata**	**147.55 340**		⇓*i*P	**PKPbc**		**18 24 17.4**	**+0.5**
MOF	**Molkenrain**	**147.68**	**1**	PKP	**PKPbc**		**18 24 17.8**	**+0.6**
BZS	**Buzias**	**147.72 342**		⇑*i*P	**PKPdf**		**18 24 09.5**	**-5.0**
DAVOX	**Davos/Dischmat**	**148.71 357**		PKPbc	**PKPbc**		**18 24 20.5**	**+0.4**
DAVOX	**Davos/Dischmat** comp=Z,3.6nm,0.5s,baz=329,slow=6.9,SNR=8.2	**148.71 357**		PKPbc	**PKPbc**		**18 24 20.5**	**+0.4**
MPEP	**Malo Peshtene**	**148.99 337**		P	**PKPbc**		**18 24 19.5**	**-1.2**
TUE	**Stuetta**	**149.04 358**		*e*PKPbc	**PKPbc**		**18 24 21.7**	**+0.8**
AGO	**Saint Agoulin**	**149.25**	**6**	PKP	**PKPbc**		**18 24 23.1**	**+1.8**
PLDF	**La Plantade**	**149.38**	**6**	PKP	**PKPbc**		**18 24 23.6**	**+1.9**
PGB	**Panagyurishte**	**149.50 336**		P	**PKPbc**		**18 24 22.8**	**+0.7**
PYM	**Petit Puy Mans**	**149.53**	**6**	PKP	**PKPbc**		**18 24 24.0**	**+1.9**
VTS	**Vitosha**	**149.84 337**		⇑*i*P	**PKPbc**		**18 24 24.0**	**+1.0**
VTS	**Vitosha**	**149.84 337**		P	**PKPbc**		**18 24 23.3**	**+0.3**
SSB	**Saint Sauveur**	**150.14**	**4**	*e*PKPbc	**PKPbc**		**18 24 24.4**	**+0.9**
PGAV	**Gavieira, Arco**	**150.20**	**24**	*e*PKPbc	**PKPbc**		**18 24 24.3**	**+0.5**
BNI	**Bardonecchia**	**150.47**	**1**	*e*PKPbc	**PKPbc**		**18 24 25.5**	**+1.0**
MMB	**Musomiste**	**150.49 335**		P	**PKPbc**		**18 24 24.9**	**+0.4**
KKB	**Krupnik**	**150.51 336**		P	**PKPbc**		**18 24 25.3**	**+0.8**
POLO	**Lamas de Olo**	**150.89**	**24**	*e*PKPbc	**PKPbc**		**18 24 26.3**	**+0.8**
PBRG	**Braganca**	**150.92**	**23**	*e*PKPbc	**PKPbc**		**18 24 26.1**	**+0.6**
MVO	**Moncorvo**	**151.37**	**24**	*e*PKPbc	**PKPbc**		**18 24 26.7**	**+0.1**
SAOF	**Saorge**	**151.55**	**0**	PKP	**PKPbc**		**18 24 27.4**	**+0.5**
LUCF	**Luceram**	**151.65**	**1**	PKP	**PKPbc**		**18 24 28.0**	**+0.8**
REVF	**Revere**	**151.80**	**1**	PKP	**PKPbc**		**18 24 27.8**	**+0.4**
MTE	**Manteigas**	**151.81**	**25**	*e*PKPbc	**PKPbc**		**18 24 28.1**	**+0.5**
PMTG	**Montargil**	**152.63**	**28**	*e*PKPbc	**PKPbc**		**18 24 29.7**	**+0.3**
PMRV	**Marv??o**	**152.69**	**26**	*e*PKPbc	**PKPbc**		**18 24 30.3**	**+0.7**
ESDC	**Sonseca Array**	**153.79**	**21**	PKPbc	**PKPbc**		**18 24 31.7**	**-0.3**
ESDC				PKPab	**PKPab**		**18 24 45.8**	**+0.9**
ESDC	**Sonseca Array** comp=Z,0.9nm,0.7s,baz=328,slow=2.8,SNR=9.1	**153.79**	**21**	PKPbc	**PKPbc**		**18 24 31.7**	**-0.3**
ESDC	comp=Z,0.9nm,0.6s,baz=332,slow=3.6,SNR=6.3			PKPab	**PKPab**		**18 24 45.8**	**+0.9**
TORD	**Torodi Ar. Bea**	**173.75 111**		PKP	**PKPdf**		**18 24 41.9**	**-1.1**
TORD				PKPab	**PKPab**		**18 26 11.3**	**-1.8**
TORD	**Torodi Ar. Bea** comp=Z,1.9nm,1.0s,baz=58,slow=1.1,SNR=9.0	**173.75 111**		PKP	**PKPdf**		**18 24 41.9**	**-1.1**
TORD	comp=Z,1.2nm,0.9s,baz=267,slow=5.1,SNR=4.9			PKPab	**PKPab**		**18 26 11.3**	**-1.8**

*MOS **01** 18:10:28.7±2.1, 49°.75N×156°.67E, h2km, mb4.3/1, Error ellipse: s-maj=71.6km s-min=17.9km az=84.8*

KRSC 01 18:10:28.7±1.6, 49°.75N×156°.67E, h2km±3km, ML4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.00**	**339**	*e*PN	Pg	18 10 43.9	-4.0
SKR				*e*S	Sb	18 11 02.0	-0.3
SKR	comp=E,80nm,0.5s			pmax	pmax		
SKR	comp=N,70nm,0.3s			pmax	pmax		
SKR	comp=E,70nm,0.3s			pmax	pmax		
SKR	comp=N,350nm,0.3s			smax	smax		
SKR	**Severo-Kuril's**	**1.00**	**339**	*e*P	Pg	18 10 48.2	+0.3
SKR				*i*S	Sn	18 11 06.1	+1.7
PAU	**Pauzhetka**	**1.72**	**3**	PN	Pb	18 11 00.8	-0.2
PAU				S	Sg	18 11 27.6	+3.6
PAU	**Pauzhetka**	**1.72**	**3**	*e*P	Pb	18 11 00.8	-0.2
PAU				*i*S	Sg	18 11 27.6	+3.6
MTVR	**Mutnovka**	**2.90**	**19**	*e*P	Pb	18 11 18.9	-2.4
RUS	**Russkaya**	**2.93**	**23**	PN	Pn	18 11 18.0	+1.8
RUS				S	Sb	18 11 57.2	-0.6
RUS	**Russkaya**	**2.93**	**23**	*e*P	Pn	18 11 18.0	+1.8
RUS				*i*S	Sb	18 11 57.2	-0.6
APC	**Apacha**	**3.19**	**5**	*e*P	Pb	18 11 24.6	-1.5
UGLR	**Uglovaya**	**3.72**	**20**	*e*P	Pn	18 11 31.0	+3.8
AVH	**Avacha**	**3.75**	**19**	*e*P	Pb	18 11 32.2	-3.5
KOK	**Koryaka**	**3.75**	**18**	*e*P	Pn	18 11 31.6	+3.9
SMAR	**Somma**	**3.76**	**20**	*e*P	Pb	18 11 32.6	-3.5
KRER	**Koryakskii**	**3.79**	**19**	*e*P	Pn	18 11 32.1	+3.8
SDLR	**Sedlovina**	**3.79**	**21**	*e*P	Pn	18 11 31.3	+3.0
KRX	**Arik**	**3.82**	**18**	*e*P	Pn	18 11 32.6	+3.9
GNL	**Ganaly**	**4.03**	**11**	*e*P	Pn	18 11 35.3	+3.8
MKZ	**Mys Kozlova**	**5.73**	**31**	PN	Pn	18 11 56.0	+1.3
MKZ				S	Sn	18 13 05.9	+4.9
MKZ	**Mys Kozlova**	**5.73**	**31**	*e*P	Pn	18 11 56.0	+1.3
MKZ				*i*S	Sn	18 13 05.9	+4.9
KBTR	**Krutoberegovo**	**7.46**	**27**	PN	Pn	18 12 21.3	+2.9
KBTR	**Krutoberegovo**	**7.46**	**27**	*e*P	Pn	18 12 21.3	+2.9

IDC 01 18:13:08.7±2.1, 15°.19S×173°.88W, h0km, mb3.7/4, mb1 4.1/4, mb1mx3.7/19, mbtmp3.7/4, Error ellipse: s-maj=122.3km s-min=28.4km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 8.5nm,0.3s,baz=233,slow=20,SNR=2.5	**2.40**	**58**	Pn	Pn	18 13 41.3	-8.0
AFI	49nm,0.3s,baz=197,slow=19,SNR=9.5			Sn	Sn	18 14 01.4	-18
H11S2	**WAKE ISLAND Hy 38.55** baz=152,slow=0.7,SNR=18	**330**		T	T	19 01 23.8	
H11S3	**WAKE ISLAND Hy 38.56** baz=152,slow=0.7,SNR=21	**330**		T	T	19 01 24.8	
H11S1	**WAKE ISLAND Hy 38.56** baz=152,slow=0.7,SNR=19	**330**		T	T	19 01 25.1	
H11N3	**WAKE ISLAND Hy 39.50** baz=152,slow=0.7,SNR=17	**331**		T	T	19 02 38.3	
H11N1	**WAKE ISLAND Hy 39.51** baz=152,slow=0.7,SNR=25	**331**		T	T	19 02 38.7	
H11N2	**WAKE ISLAND Hy 39.52** baz=152,slow=0.7,SNR=15	**331**		T	T	19 02 39.6	
WRA	**Warramunga Arr** 0.5nm,0.8s,baz=91,slow=7.3,SNR=8.6	**49.45 257**

WRAB **Tennant Creek** 49.59 257 P P 18 27 43.8 -0.9
comp=Z,97nm,1.0s,SNR=7.6
WRAB **Tennant Creek** 49.59 257 eP P 18 27 42.4 -2.3
comp=Z,41nm,1.4s
WRA **Warramunga Arr** 49.60 257 P P 18 27 42.4 -2.4
WRA **Warramunga Arr** 49.60 257 P P 18 27 42.4 -2.4
comp=Z,7.9nm,0.7s,baz=91,slow=7.4,SNR=60
AS17 **Alice Springs** 49.81 252 ⇑P P 18 27 45.1 -1.3
baz=50
AS31 **Alice Springs** 49.89 252 eP P 18 27 44.7 -2.3
AS31 ePP PP 18 29 40.2 -1.8
ASAR **Alice Springs** 49.89 252 P P 18 27 45.2 -1.8
ASAR **Alice Springs** 49.89 252 P P 18 27 45.2 -1.8
comp=Z,58nm,0.7s,baz=85,slow=8.4,SNR=244
KNRA **Kununurra** 55.30 261 P P 18 28 27.7 +0.7
baz=56,SNR=3.7
SWI **Sorong** 56.12 279 P P 18 28 32.1 -0.9
baz=56,SNR=4.4
SBA **Scott Base** 63.47 185 eP P 18 29 24.4 +1.8
SBA pmax pmax
comp=Z,31nm,1.2s
SBA **Scott Base** 63.47 185 eP P 18 29 24.4 +1.8
comp=Z,31nm,1.2s
VNDA **Vanda** 63.59 186 eP P 18 29 24.4 +1.0
comp=Z,26nm,1.1s
VNDA **Vanda** 63.59 186 P P 18 29 24.6 +1.2
comp=Z,18nm,1.0s,baz=4.1,slow=6.5,SNR=24
KLBR **Kellerberrin** 64.08 242 ⇑P P 18 29 27.0 -0.5
baz=65,SNR=3.8
NWAO **Narrogin (SRO)** 64.47 241 P P 18 29 30.1 +0.2
NWAO **Narrogin (SRO)** 64.47 241 P P 18 29 30.1 +0.2
comp=Z,13nm,1.1s,baz=79,slow=8.6,SNR=3.3
MJAR **Matsushiro Arr** 68.55 320 P P 18 29 54.9 -1.0
MJAR **Matsushiro Arr** 68.55 320 P P 18 29 54.9 -1.0
comp=Z,6.3nm,0.9s,baz=161,slow=5.9,SNR=12
MAJO **Matsushiro** 68.55 320 eP P 18 29 55.0 -0.8
MAJO pmax pmax
comp=Z,138nm,1.9s
MAJO **Matsushiro** 68.55 320 eP P 18 29 55.0 -0.8
comp=Z,138nm,1.9s
MAT **Matsushiro** 68.55 320 P P 18 29 54.4 -1.4
MAT S S 18 38 55.4 -0.9
YUK **Yuzh-Kuril'sk** 69.49 330 *c iP P 18 29 59.8 -1.6
YUK *i* S S 18 39 06.1 -0.9
YUK *i* SS SS 18 43 33.6 -1.7
ASAJ **Asahikawa** 71.16 328 P P 18 30 11.2 -0.5
ASAJ **Asahikawa** 71.16 328 P P 18 30 11.2 -0.5
comp=Z,14nm,0.8s,baz=268,slow=23,SNR=4.4
PKM **Peak Mountain** 71.35 45 ⇑P P 18 30 13.1 -0.2
baz=72
SAO **San Andreas Ge** 71.36 42 eP P 18 30 12.8 -0.3
SAO pmax pmax
comp=Z,35nm,1.3s
SAO **San Andreas Ge** 71.36 42 eP P 18 30 12.8 -0.3
comp=Z,35nm,1.3s
SMMC **Simmler** 71.47 44 ⇑P P 18 30 14.2 +0.4
baz=72
PET **Petropavlovsk** 71.95 343 eP P 18 30 17.9 +1.7
PET *e*S S 18 39 40.6 +5.3
PET MLR MLR
comp=Z,300nm,19.0s
PEA0B **Petropavlovsk-** 72.30 342 eP P 18 30 18.0 -0.4
PETK **Petropavlovsk-** 72.30 342 P P 18 30 17.6 -0.8
PETK **Petropavlovsk-** 72.30 342 P P 18 30 17.6 -0.8
PETK **Petropavlovsk-** 72.30 342 P P 18 30 17.6 -0.8
comp=Z,17nm,0.8s,baz=138,slow=9.9,SNR=19
VES **Vestal, Richgr** 72.38 44 ⇓P P 18 30 19.3 0.0
baz=72
MURC **Murrieta** 72.45 47 ⇑P P 18 30 19.9 +0.2
baz=73
EDW2 **Edwards Air Fo** 72.59 45 ⇑P P 18 30 20.0 -0.6
baz=73,SNR=8.0
MONP **Monument Peak** 72.63 48 ⇓P P 18 30 20.7 -0.4
baz=73
ISA **Isabella** 72.69 44 eP P 18 30 19.9 -1.3
ISA pmax pmax
comp=Z,36nm,1.4s
ISA **Isabella** 72.69 44 eP P 18 30 19.9 -1.3
comp=Z,36nm,1.4s
ISA **Isabella** 72.69 44 ⇑P P 18 30 20.7 -0.5
baz=73,SNR=10
DVTC **Desert V Tower** 72.74 48 ⇑P P 18 30 21.5 -0.1
baz=73
CMB **Columbia Colle** 72.78 42 eP P 18 30 21.2 -0.4
CMB pmax pmax
comp=Z,37nm,1.4s
CMB **Columbia Colle** 72.78 42 eP P 18 30 21.2 -0.4
comp=Z,37nm,1.4s
WDC **Whiskeytown Da** 72.98 38 eP P 18 30 23.2 +0.5
WDC pmax pmax
comp=Z,52nm,1.5s
WDC **Whiskeytown Da** 72.98 38 eP P 18 30 23.1 +0.5
comp=Z,52nm,1.5s
PFO **Pinyon Flat Ob** 72.98 47 P P 18 30 22.3 -0.8
PFO **Pinyon Flat Ob** 72.98 47 ⇑P P 18 30 22.8 -0.2
baz=73
PFO **Pinyon Flat Ob** 72.98 47 P P 18 30 22.3 -0.8
comp=Z,3.3nm,0.7s,baz=196,slow=1.4,SNR=5.1
SWSC **Sam W. Stewart** 73.11 48 ⇓P P 18 30 23.8 +0.2
baz=73
YSS **Yuzh-Sakhalins** 73.11 330 ⇑eP P 18 30 23.0 -0.3
YSS *e* 18 39 50.0
YSS pmax pmax
comp=Z,50nm,1.0s
YSS MLR MLR
comp=Z,500nm,18.0s
LRMC **Laurel Mountai** 73.12 45 ⇓P P 18 30 23.7 -0.1
baz=73
BELC **Belle Mtn. Jos** 73.51 47 ⇓P P 18 30 25.7 -0.5
baz=74
MPMC **Manual Prospec** 73.58 45 ⇓P P 18 30 25.8 -0.8
baz=74,SNR=8.6
YBH **Yreka Blue Hor** 73.59 37 eP P 18 30 26.5 +0.1
comp=Z,38nm,1.3s
YBH **Yreka Blue Hor** 73.59 37 P P 18 30 26.4 0.0
comp=Z,16nm,0.8s,baz=202,slow=0.7,SNR=34
TIN **Tinemaha** 73.63 43 ⇓P P 18 30 26.5 -0.3
baz=74
GSC **Goldstone** 73.64 46 eP P 18 30 26.4 -0.4
GSC pmax pmax
comp=Z,27nm,1.2s
GSC **Goldstone** 73.64 46 eP P 18 30 26.4 -0.4
comp=Z,27nm,1.2s
GSC **Goldstone** 73.64 46 ⇓P P 18 30 25.9 -0.9
baz=74,SNR=7.7
WAKR **Walker** 73.67 42 eP P 18 30 26.6 -0.4
comp=Z,52nm,1.3s
HEC **Hector,Ludlow** 73.72 46 ⇓P P 18 30 26.5 -0.8
baz=74,SNR=10
BC3 **Big Chuckawall** 73.72 48 ⇑P P 18 30 27.0 -0.4
baz=74
GLA **Glamis** 73.86 48 ⇓P P 18 30 27.8 -0.3
baz=74
BEKR **Beckworth** 73.88 40 eP P 18 30 27.1 -1.2
comp=Z,20nm,1.3s
HUMO **Hull Mountain** 73.99 37 eP P 18 30 29.0 +0.3
comp=Z,33nm,1.2s
GMRC **Granite Mounta** 74.16 47 ⇓P P 18 30 29.2 -0.7
baz=74,SNR=9.5
GRAC **Grapevine Rang** 74.17 44 ⇑P P 18 30 29.6 -0.3
baz=74
IRM **Iron Mountain** 74.19 47 ⇓P P 18 30 29.9 -0.1
baz=74
FURC **Furnace Creek,** 74.23 45 ⇓P P 18 30 30.1 0.0
baz=74
TUQ **Turquoise Moun** 74.32 46 ⇑P P 18 30 30.4 -0.5
baz=74
SHOC **Shoshone** 74.32 45 ⇓P P 18 30 30.3 -0.4
baz=74
NVAR **Mina Array Bea** 74.35 42 P P 18 30 30.9 -0.2
NVAR **Mina Array Bea** 74.35 42 P P 18 30 30.9 -0.2
comp=Z,10nm,0.8s,baz=228,slow=9.4,SNR=58
PAHR **Pah Rah Range** 74.39 41 eP P 18 30 31.0 -0.3
comp=Z,60nm,1.3s
Y12C **Blythe** 74.43 48 ⇓P P 18 30 31.3 -0.1
baz=74
NV11 **Mina Array Sit** 74.45 42 eP P 18 30 31.1 -0.5
113A **Mohawk Valley,** 74.49 49 ⇓P P 18 30 31.4 -0.4
baz=75,SNR=5.5
LDFC **Landfair** 74.70 47 eP P 18 30 33.5 +0.4
214A **Organ Pipe Nat** 74.80 50 ⇓P P 18 30 33.7 +0.2
baz=75
QSPA **South Pole Qui** 74.89 180 eP P 18 30 34.1 +0.4
comp=Z,57nm,1.1s
QSPA **South Pole Qui** 74.89 180 LR LR 18 56 58.7
comp=Z,316nm,19.4s,baz=216,slow=30
PDMCI **Parker Dam,Lak** 74.99 48 ⇑P P 18 30 35.0 +0.4
baz=75
MOD **Modoc** 75.12 38 eP P 18 30 34.9 -0.5
comp=Z,164nm,1.1s
Z14A **Wintersburg** 75.38 49 ⇑P P 18 30 37.0 +0.1
baz=76
SHPR **Sheep Range** 75.41 45 eP P 18 30 37.0 -0.1
comp=Z,31nm,1.3s
W13A **Hualapai Mount** 75.57 47 ⇑P P 18 30 38.0 -0.2
baz=76,SNR=15
Y14A **Wickenburg** 75.62 48 ⇓P P 18 30 38.1 -0.2
baz=76,SNR=12
KSRS **Korea Array** 75.76 316 P P 18 30 38.7 -0.2
comp=Z,4.3nm,1.0s,baz=123,slow=5.4,SNR=10
KSAR **Wonju Array Be** 75.78 316 P P 18 30 38.7 -0.4
R11A **Troy Canyon, C** 76.09 43 eP P 18 30 40.1 -1.0
R11A **Troy Canyon, C** 76.09 43 ⇓P P 18 30 40.9 -0.2
baz=76
BMN **Battle Mountai** 76.17 41 eP P 18 30 40.9 -0.5
BMN pmax pmax
comp=Z,75nm,1.5s
BMN **Battle Mountai** 76.17 41 eP P 18 30 40.9 -0.5
comp=Z,75nm,1.5s
WVOR **Wild Horse Val** 76.43 39 eP P 18 30 42.0 -0.9
WVOR pmax pmax
comp=Z,55nm,1.4s
WVOR **Wild Horse Val** 76.43 39 eP P 18 30 42.0 -0.9
comp=Z,55nm,1.4s
TUC **Tucson** 76.47 51 eP P 18 30 43.3 +0.1
TUC pmax pmax
comp=Z,32nm,1.1s
TUC **Tucson** 76.47 51 eP P 18 30 43.3 +0.1
comp=Z,32nm,1.1s
VFP **Flag Point** 76.53 35 P P 18 30 43.1 -0.2
TDL **Tradedollar La** 76.76 34 P P 18 30 44.9 +0.3
X16A **Lo Mia Camp, P** 76.99 49 ⇓P P 18 30 46.2 0.0
baz=77,SNR=21
USRK **Ussuriysk Arra** 77.00 323 P P 18 30 46.0 +0.3
comp=Z,3.2nm,0.8s,baz=134,slow=5.5,SNR=12
HDW **Hoopeport** 77.14 32 P P 18 30 47.0 +0.4
CCUT **Cedar City** 77.18 45 eP P 18 30 47.1 -0.1
comp=Z,55nm,1.5s
319A **Douglas** 77.19 52 ⇑P P 18 30 47.2 -0.1
baz=77,SNR=17
LON **Longmire** 77.23 34 eP P 18 30 46.0 -1.2
LON pmax pmax
comp=Z,7.0nm,0.2s
LON **Longmire** 77.23 34 eP P 18 30 46.0 -1.2
comp=Z,7.1nm,0.2s
ARUT **Antelope Range** 77.25 45 eP P 18 30 47.9 +0.3
ARUT **Antelope Range** 77.25 45 eP P 18 30 47.9 +0.3
comp=Z,180nm,0.7s
WPW **White Pass** 77.34 34 P P 18 30 47.7 -0.1
U15A **North Rim** 77.36 47 ⇓P P 18 30 48.4 +0.1
baz=78,SNR=57
SSE **Sheshan** 77.56 307 eP P 18 30 48.3 -0.9
SSE pP pP 18 30 51.4 -7.3
SSE S S 18 40 40.3 +1.4
SSE AMB AMB
comp=Z,13nm,1.4s
SSE AMB AMB
comp=Z,150nm,3.5s
SSE LR LR
comp=Z,110nm,20.6s
SSE LR LR
comp=Z,160nm,20.6s
SSE LR LR
comp=Z,230nm,20.1s
WUAZ **Wupatki** 77.56 48 eP P 18 30 49.5 +0.2
comp=Z,59nm,1.5s
WUAZ **Wupatki** 77.56 48 ⇓P P 18 30 49.6 +0.2
baz=78,SNR=14
ELK **Elko** 77.60 42 eP P 18 30 49.1 -0.5
comp=Z,28nm,1.2s
320A **Kipp Ranch, An** 77.75 53 ⇓P P 18 30 50.9 +0.4
baz=78,SNR=10
HABR **Khabarovsk** 77.96 328 eP P 18 30 51.0 -0.1
HABR *e* 18 30 59.5
HABR *e* 18 33 44.5
HABR *e*S S 18 40 43.5 +1.0
HABR *e* 18 41 08.1
HABR pmax pmax
comp=N,40nm,2.0s
HABR pmax pmax
comp=E,25nm,2.0s
HABR pmax pmax
comp=Z,63nm,2.0s
HABR MLR MLR
comp=Z,495nm,19.0s
220A **Playas Peak, P** 78.00 52 ⇑P P 18 30 52.2 +0.3
baz=78,SNR=49
X18A **Snowflake** 78.12 49 ⇑P P 18 30 52.6 0.0
baz=78,SNR=6.9
120A **U Bar Ranch, L** 78.20 51 ⇑P P 18 30 53.5 +0.4
baz=78,SNR=13
HAWA **Hanford** 78.25 35 eP P 18 30 52.5 -0.3
comp=Z,35nm,1.2s
MVU **Marysvale** 78.44 45 eP P 18 30 54.8 +0.5
comp=Z,30nm,1.1s
Z20A **Nine Sixteen R** 78.48 51 ⇓P P 18 30 55.0 +0.4
baz=79,SNR=28
ETW **Entiat** 78.55 34 P P 18 30 54.3 -0.3
W18A **Petrified Fore** 78.55 49 eP P 18 30 54.5 -0.4
W18A **Petrified Fore** 78.55 49 ⇓P P 18 30 55.4 +0.5
baz=79
221A **Mesquite Ranch** 78.61 52 ⇓P P 18 30 55.6 +0.3
baz=79
BMO **Blue Mountains** 78.62 37 eP P 18 30 54.1 -0.9
comp=Z,26nm,0.3s
MDJ **Mudanjiang** 78.64 323 P P 18 30 54.6 -0.3
MDJ pP PcP 18 30 57.7 -6.1
MDJ sP sP 18 30 59.1 -8.8
MDJ S S 18 40 51.6 +1.6
MDJ sS sS 18 40 57.3 -8.4
MDJ ScS ScS 18 41 15.3 +1.3
MDJ AMB AMB
comp=Z,10.0nm,2.1s
MDJ AMB AMB
comp=Z,91nm,3.4s
MDJ LR LR
comp=Z,670nm,17.8s
MDJ LR LR
comp=Z,620nm,26.1s
MDJ LR LR
comp=Z,1μm,26.8s
MFID **Camas Ranch** 78.69 39 ⇓P P 18 30 55.2 -0.2
baz=79,SNR=18
121A **Cookes Peak, D** 78.84 52 ⇑P P 18 30 56.8 +0.3
baz=79,SNR=24
DUG **Dugway** 78.89 43 eP P 18 30 56.2 -0.4
DUG pmax pmax
comp=Z,31nm,1.0s
DUG **Dugway** 78.89 43 eP P 18 30 56.2 -0.4
comp=Z,31nm,1.0s
DUG **Dugway** 78.89 43 ⇓P P 18 30 56.2 -0.4
baz=79,SNR=21
Y20A **Horse Springs,** 79.00 50 ⇑P P 18 30 57.7 +0.2
baz=79,SNR=44
BGU **Big Grassy Mou** 79.12 42 eP P 18 30 57.7 -0.2
comp=Z,46nm,1.6s
222A **Williams Famil** 79.17 52 ⇓P P 18 30 58.3 -0.1
baz=79,SNR=6.6
X20A **Quemado** 79.20 50 ⇑P P 18 30 58.9 +0.4
baz=79,SNR=22
DIV **Divide** 79.23 13 eP P 18 30 57.1 -0.8
comp=Z,81nm,1.3s
NLU **North Lily Min** 79.26 44 eP P 18 30 57.9 -0.9
comp=Z,38nm,1.6s
Z21A **St. Cloud Mine** 79.26 51 ⇓P P 18 30 59.4 +0.5
baz=79,SNR=18
BMRM **Bremner River** 79.35 14 eP P 18 30 57.7 -0.9
comp=Z,101nm,1.3s
Q16A **Castle Valley** 79.35 45 eP P 18 30 59.4 +0.1
Q16A **Castle Valley** 79.35 45 ⇓P P 18 30 59.3 +0.1
baz=80,SNR=6.0
W20A **Ramah** 79.46 49 ⇓P P 18 31 00.4 +0.4
baz=80,SNR=48
122A **Conniff Cattle** 79.51 52 ⇑P P 18 30 60.0 -0.2
baz=80,SNR=6.8
TMUT **Trail Mountain** 79.51 44 eP P 18 31 00.7 +0.4
comp=Z,62nm,0.9s
Y21A **Point of Rocks** 79.57 51 ⇑P P 18 31 00.8 +0.2
baz=80,SNR=19
MPU **Maple Canyon** 79.58 44 eP P 18 31 00.1 -0.4
comp=Z,26nm,1.0s
HLID **Hailey** 79.63 39 eP P 18 31 00.6 -0.1
comp=Z,43nm,1.1s
HLID **Hailey** 79.63 39 ⇓P P 18 31 00.5 -0.1
baz=80,SNR=40
X21A **Alamocita Cree** 79.68 50 ⇓P P 18 31 01.4 +0.2
baz=80,SNR=27
SPUT **South Promonto** 79.70 42 eP P 18 30 59.0 -2.0
comp=Z,50nm,1.2s
HVU **Hansel Valley** 79.73 42 eP P 18 31 01.0 -0.2
HVU pmax pmax
comp=Z,54nm,1.2s
HVU **Hansel Valley** 79.73 42 eP P 18 31 01.0 -0.2
comp=Z,54nm,1.2s
NJ2 **Nanjing** 79.77 307 eP P 18 31 00.8 -0.6
NJ2 AMB AMB
comp=Z,13nm,0.8s
Z22A **Elephant Butte** 79.77 51 ⇓P P 18 31 02.1 +0.4
baz=80,SNR=41
V20A **Brimhall** 79.79 49 ⇓P P 18 31 01.6 -0.1
baz=80,SNR=9.4
SRU **San Rafael** 79.89 45 eP P 18 31 01.9 -0.2
SRU pmax pmax
comp=Z,81nm,1.4s
SRU **San Rafael** 79.89 45 eP P 18 31 01.9 -0.2
comp=Z,81nm,1.4s
JLU **Jordanelle** 80.00 43 eP P 18 31 02.4 -0.4
comp=Z,31nm,0.9s
U20A **Newcomb** 80.01 48 ⇓P P 18 31 03.1 +0.2
baz=80,SNR=19
DAU **Daniels Canyon** 80.03 43 eP P 18 31 02.7 -0.4
DAU pmax pmax
comp=Z,48nm,1.2s
DAU **Daniels Canyon** 80.03 43 eP P 18 31 02.6 -0.4
comp=Z,48nm,1.2s
Y22A **Socorro** 80.07 51 ⇑P P 18 31 03.4 +0.2
baz=80,SNR=13
KLR **Kul'dur** 80.14 327 eP P 18 30 57.2 -5.8
KLR *e*S S 18 41 07.5 +1.8
KLR pmax pmax
comp=Z,64nm,1.8s
LAZ **Ladron** 80.14 50 eP P 18 31 04.2 +0.6
comp=Z,28nm,1.4s
324A **Moseley Ranch,** 80.14 54 ⇓P P 18 31 03.3 -0.4
baz=80,SNR=41
LENM **Lemitar** 80.16 51 eP P 18 31 03.3 -0.4
comp=Z,22nm,1.3s
425A **Indio Mountain** 80.27 54 ⇓P P 18 31 04.7 +0.4
baz=80,SNR=59
MNTX **Cornudas Mount** 80.33 53 eP P 18 31 04.3 -0.2
comp=Z,39nm,1.2s
Z23A **Rita Site, Whi** 80.33 52 ⇑P P 18 31 04.8 +0.2
baz=80,SNR=8.3
224A **Cornudas Mount** 80.38 53 ⇑P P 18 31 04.7 -0.2
baz=80,SNR=36
MVCO **Mesa Verde** 80.41 47 eP P 18 31 04.8 -0.3
comp=Z,19nm,1.0s
MVCO **Mesa Verde** 80.41 47 ⇓P P 18 31 05.0 -0.1
baz=80,SNR=6.6
BNM **Barren Site** 80.41 51 eP P 18 31 05.3 +0.1
comp=Z,39nm,1.2s
TRF **Thorofare Moun** 80.44 10 eP P 18 31 03.3 -1.2
comp=Z,77nm,1.3s
626A **Big Bend Ranch** 80.45 56 ⇓P P 18 31 05.8 +0.5
baz=80,SNR=42
LPM **Los Pinos Moun** 80.48 51 eP P 18 31 06.0 +0.5
comp=Z,34nm,1.2s
W22A **Albuquerque** 80.63 50 ⇓P P 18 31 06.5 +0.3
baz=81
U21A **Nageezi** 80.65 48 ⇑P P 18 31 06.5 +0.1
baz=81,SNR=62
NEW **Newport** 80.68 34 P P 18 31 04.4 -1.6
NEW **Newport** 80.68 34 ⇑P P 18 31 06.1 +0.1
baz=81
NEW **Newport** 80.68 34 P P 18 31 04.4 -1.6
comp=Z,4.9nm,0.9s,baz=231,slow=3.6,SNR=4.8
526A **Mary Lane Ranc** 80.68 55 ⇓P P 18 31 06.8 +0.2
baz=81,SNR=42
124A **Stringfield Ra** 80.69 53 ⇑P P 18 31 06.6 -0.1
baz=81,SNR=21
CN2 **Changchun** 80.70 320 eP P 18 31 05.7 -0.4
CN2 *es*P sP 18 31 12.8 -6.4
CN2 *e*S S 18 41 16.2 +4.4
CN2 AMB AMB
comp=Z,10.0nm,1.0s
CN2 AMB AMB
comp=Z,300nm,4.0s
CN2 LR LR
comp=Z,400nm,18.0s
CN2 LR LR
comp=Z,300nm,18.0s
CN2 LR LR
comp=Z,300nm,20.0s
TXAR **Lajitas Array** 80.73 56 P P 18 31 07.4 +0.6
TXAR **Lajitas Array** 80.73 56 P P 18 31 07.4 +0.6
comp=Z,24nm,1.0s,baz=232,slow=4.4,SNR=89
Y23A **Lovelace Mesa,** 80.75 51 ⇓P P 18 31 06.8 -0.1
baz=81,SNR=9.0
PV01 **Paradox Valley** 80.78 46 eP P 18 31 06.6 -0.5
comp=Z,3μm,1.0s
DL2 **Dalian** 80.78 314 P P 18 31 07.6 +0.9
DL2 S S 18 41 20.0 +7.1
DL2 AMB AMB
comp=Z,20nm,1.3s
DL2 AMB AMB
comp=Z,230nm,7.1s
DL2 LR LR
comp=Z,410nm,15.9s
DL2 LR LR
comp=Z,270nm,14.4s
DL2 LR LR
comp=Z,270nm,20.0s
S20A **Disappointment** 80.78 47 ⇓P P 18 31 07.1 0.0
baz=81,SNR=18
ANMO **Albuquerque** 80.88 50 P P 18 31 07.8 +0.2
ANMO **Albuquerque** 80.88 50 P P 18 31 07.8 +0.2
comp=Z,15nm,0.9s,baz=224,slow=6.1,SNR=26
225A **Deer Hill, Car** 80.93 53 ⇓P P 18 31 08.1 +0.2
baz=81,SNR=18
PAX **Paxson** 80.93 13 eP P 18 31 05.9 -1.2
PAX pmax pmax
comp=Z,60nm,1.5s
PAX **Paxson** 80.93 13 eP P 18 31 05.9 -1.2
comp=Z,60nm,1.5s
R20A **Redvale** 80.94 46 ⇓P P 18 31 07.4 -0.4
baz=81,SNR=20
MCK **McKinley** 80.94 11 eP P 18 31 06.1 -0.9
MCK pmax pmax
comp=Z,93nm,1.1s
MCK **McKinley** 80.94 11 eP P 18 31 06.1 -0.9
comp=Z,93nm,1.1s
M17A **Scullys Gap (B** 80.94 43 ⇑P P 18 31 07.2 -0.6
baz=81,SNR=6.5
V22A **San Miguel Ran** 80.97 49 ⇓P P 18 31 08.1 0.0
baz=81,SNR=8.6
426A **McDonald Obser** 80.97 55 ⇓P P 18 31 08.1 -0.1
baz=81,SNR=72
T21A **Navajo Lake** 80.99 48 ⇓P P 18 31 08.2 0.0
baz=81,SNR=11
627A **Terlingua Ranc** 81.00 56 ⇓P P 18 31 08.5 +0.2
baz=81,SNR=61
Z24A **Sheeppen Canyo** 81.02 52 ⇑P P 18 31 08.5 +0.1
baz=81,SNR=14
527A **Woodward Ranch** 81.09 56 ⇑P P 18 31 08.6 -0.2
baz=81,SNR=37
P19A **Cripple Cowboy** 81.19 45 ⇑P P 18 31 08.6 -0.5
baz=81,SNR=6.2
W23A **Werner Place,** 81.20 50 ⇑P P 18 31 09.3 0.0
baz=81,SNR=18
U22A **Llaves** 81.21 49 ⇓P P 18 31 09.4 0.0
baz=81,SNR=13
Y24A **Capitan** 81.21 51 ⇓P P 18 31 09.5 +0.1
baz=81,SNR=31
MCMT **McKenzie Canyo** 81.26 39 P P 18 31 09.7 +0.2
326A **Caldwell Ranch** 81.27 54 ⇓P P 18 31 09.2 -0.5
baz=81,SNR=14
125A **Gardner Draw,** 81.28 53 ⇑P P 18 31 09.5 -0.2
baz=81,SNR=21
AHID **Auburn Hatcher** 81.30 41 eP P 18 31 08.5 -1.1
comp=Z,39nm,1.1s
GDL2 **Guadalupe Moun** 81.32 53 eP P 18 31 09.9 0.0
comp=Z,35nm,1.1s
Q20A **Ridgley Place,** 81.34 46 ⇑P P 18 31 09.7 -0.2
baz=82,SNR=21
O19A **Miners Draw (B** 81.40 44 ⇓P P 18 31 10.0 -0.2
baz=82
628A **Black Gap, Mar** 81.42 56 ⇑P P 18 31 10.6 +0.2
baz=82,SNR=48
V23A **Ortiz Mt. (NFS** 81.43 49 ⇑P P 18 31 11.1 +0.6
baz=82,SNR=20
226B **Tecolote Peak,** 81.43 54 ⇓P P 18 31 10.4 -0.1
baz=82,SNR=59

RRI2 **Red Ridge** 81.45 41 *e*P P 18 31 10.2 -0.3
comp=Z,46nm,1.0s
T22A **Edith** 81.46 48 ⇑P P 18 31 10.5 -0.1
baz=82,SNR=7.5
X24A **Lazy VL Ranch,** 81.48 51 ⇓P P 18 31 10.9 +0.1
baz=82
Z25A **Roswell** 81.49 52 ⇑P P 18 31 11.0 +0.2
baz=82,SNR=19
P20A **De Beque** 81.53 45 ⇓P P 18 31 10.6 -0.4
baz=82,SNR=22
427A **Hayter Ranch,** 81.54 55 ⇑P P 18 31 11.1 0.0
baz=82,SNR=38
L18A **Fontenelle, Gr** 81.57 43 ⇑P P 18 31 10.6 -0.6
baz=82,SNR=7.4
DLBC **Dease Lake** 81.58 22 P P 18 31 09.8 -0.8
DLBC **Dease Lake** 81.58 22 P P 18 31 09.8 -0.8
comp=Z,15nm,1.2s,baz=174,slow=6.9,SNR=6.6
R21A **Cimarron** 81.60 47 ⇑P P 18 31 11.7 +0.3
baz=82,SNR=18
MSO **Missoula** 81.67 37 ⇑P P 18 31 10.7 -0.7
baz=82,SNR=19
327A **Balmorhea Ranc** 81.67 54 ⇓P P 18 31 11.9 +0.2
baz=82
U23A **El Rito** 81.67 49 ⇓P P 18 31 11.8 0.0
baz=82,SNR=6.9
DLMT **Dillon** 81.69 39 *e*P P 18 31 11.0 -0.6
comp=Z,61nm,1.4s
CLNB **Carlsbad** 81.72 53 *e*P P 18 31 11.1 -0.9
comp=Z,7.0nm,0.9s
BSMT **Bassoo Peak** 81.74 36 *e*P P 18 31 10.4 -1.4
comp=Z,54nm,1.4s
REDW **Red Top Meadow** 81.75 41 *e*P P 18 31 12.0 -0.1
comp=Z,100nm,1.4s
TPAW **Teton Pass** 81.75 41 *e*P P 18 31 11.9 -0.3
comp=Z,48nm,1.1s
528A **Cox Ranch, San** 81.76 56 ⇓P P 18 31 12.3 +0.1
baz=82,SNR=58
126A **Clayton Basin,** 81.77 53 ⇓P P 18 31 11.8 -0.4
baz=82,SNR=19
W24A **Lazy 6 Ranch,** 81.77 50 ⇓P P 18 31 12.1 -0.3
baz=82,SNR=15
Y25A **Mesa, Roswell** 81.77 52 ⇑P P 18 31 12.1 -0.2
baz=82,SNR=39
Q21A **Lamborn Mesa,** 81.79 46 ⇑P P 18 31 12.6 +0.2
baz=82,SNR=18
S22A **4UR Ranch, Cre** 81.83 47 ⇑P P 18 31 12.5 -0.2
baz=82,SNR=84
SNOW **Snow King Moun** 81.86 41 *e*P P 18 31 12.9 +0.2
comp=Z,51nm,1.0s
O20A **White River Ci** 81.92 45 *e*P P 18 31 13.0 0.0
O20A **White River Ci** 81.92 45 ⇓P P 18 31 12.6 -0.4
baz=82
M19A **Rock Springs** 81.95 43 ⇓P P 18 31 12.5 -0.6
baz=82,SNR=5.5
IMW **Indian Meadow** 81.96 40 *e*P P 18 31 12.9 -0.4
comp=Z,19nm,0.4s
SWMT **Swartz Lake** 82.00 36 *e*P P 18 31 13.0 -0.1
comp=Z,17nm,1.3s
MOOW **Moose Ponds** 82.01 41 *e*P P 18 31 13.0 -0.5
comp=Z,97nm,1.9s
LRM **Limekiln Ridge** 82.02 38 *e*P P 18 31 12.7 -0.7
comp=Z,276nm,1.3s
LOHW **Long Hollow** 82.03 41 *e*P P 18 31 13.0 -0.5
comp=Z,73nm,1.5s
X25A **Clemmons Ranch** 82.05 51 ⇓P P 18 31 13.6 -0.1
baz=82
Z26A **Caprock** 82.05 53 ⇑P P 18 31 13.5 -0.2
baz=82,SNR=36
428A **Kincaid Ranch,** 82.06 55 ⇑P P 18 31 13.9 +0.1
baz=82,SNR=34
227A **Bennet, Jal** 82.08 54 ⇑P P 18 31 14.3 +0.4
baz=82
T23A **Casias Ranch,** 82.09 48 ⇓P P 18 31 14.0 -0.1
baz=82,SNR=8.9
V24A **Rampart Ranch,** 82.09 50 ⇑P P 18 31 14.2 +0.2
baz=82,SNR=20
R22A **Saguache, Gunn** 82.10 47 ⇑P P 18 31 14.4 +0.3
baz=82,SNR=41
CHMT **Chamberlain Mo** 82.11 37 *e*P P 18 31 12.8 -1.1
comp=Z,24nm,1.2s
QLMT **Earthquake Lak** 82.13 39 *e*P P 18 31 14.4 +0.4
comp=Z,9.4nm,1.3s
SLMT **Seeley Lake** 82.15 37 *e*P P 18 31 12.8 -1.2
comp=Z,20nm,1.4s
COLA **College** 82.18 11 *e*P P 18 31 12.8 -0.7
COLA **College** 82.18 11 *e*P P 18 31 12.8 -0.7
comp=Z,195nm,0.8s
P21A **Newcastle** 82.19 46 ⇑P P 18 31 14.3 -0.2
baz=82,SNR=14
529A **Stev Forest Ra** 82.20 56 ⇓P P 18 31 14.3 -0.2
baz=82,SNR=24
SEY **Seymchan** 82.20 345 ⇓*e*P P 18 31 11.8 -1.8
I17A **Pilgrim Ck.** 82.20 41 ⇓P P 18 31 15.0 +0.6
baz=82
FLWY **Flagg Ranch** 82.20 40 *e*P P 18 31 13.7 -0.8
comp=Z,24nm,0.4s
328A **Wristen Ranch,** 82.21 55 ⇓P P 18 31 14.2 -0.3
baz=82,SNR=21
N20A **Spence Gulch,** 82.23 44 ⇓P P 18 31 14.5 -0.2
baz=82,SNR=25
IM04 **Indian Mountai** 82.26 8 *e*P P 18 31 12.6 -1.3
ILAR **Eielson Array** 82.26 11 P P 18 31 12.8 -1.2
ILAR **Eielson Array** 82.26 11 P P 18 31 12.8 -1.2
comp=Z,29nm,1.2s,baz=204,slow=6.3,SNR=36
Q22A **Crested Butte,** 82.27 46 ⇑P P 18 31 14.9 -0.1
baz=82,SNR=46
BW06 **Boulder Array** 82.29 42 *e*P P 18 31 13.9 -1.0
comp=Z,59nm,1.4s
PDAR **Pinedale Array** 82.29 42 P P 18 31 14.1 -0.8
PDAR **Pinedale Array** 82.29 42 P P 18 31 14.1 -0.8
comp=Z,11nm,0.8s,baz=213,slow=3.3,SNR=70
127A **Arkansas Junct** 82.29 53 ⇑P P 18 31 14.9 -0.1
baz=82,SNR=9.5
YFT **Old Faithful** 82.30 40 *e*P P 18 31 17.0 +2.0
comp=Z,60nm,1.2s
YMR **Madison River** 82.33 40 *e*P P 18 31 15.8 +0.7
comp=Z,144nm,1.4s
SMCO **Snowmass** 82.36 46 *e*P P 18 31 15.3 -0.3
comp=Z,72nm,1.2s
BOZ **Bozeman (W)** 82.42 39 *e*P P 18 31 14.9 -0.5
BOZ pmax pmax
comp=Z,65nm,1.5s
BOZ **Bozeman (W)** 82.42 39 *e*P P 18 31 14.9 -0.5
comp=Z,65nm,1.5s
Y26A **Elida** 82.43 52 ⇑P P 18 31 15.3 -0.5
baz=82,SNR=9.8
H17A **Grant Village** 82.44 40 *e*P P 18 31 16.4 +0.8
H17A **Grant Village** 82.44 40 ⇑P P 18 31 15.8 +0.1
baz=82
W25A **X Bar L Ranch,** 82.48 51 ⇓P P 18 31 15.4 -0.6
baz=83,SNR=39
O21A **Pagoda** 82.49 45 ⇑P P 18 31 15.4 -0.6
baz=83,SNR=7.3
QIZ **Qiongzhong** 82.52 292 P P 18 31 15.6 -0.7
QIZ S S 18 41 32.6 +0.9
QIZ AMB AMB
comp=Z,29nm,2.5s
QIZ LR LR
comp=Z,620nm,26.0s
QIZ LR LR
comp=Z,260nm,25.0s
YNR **Norris Junctio** 82.53 40 *e*P P 18 31 17.7 +1.5
comp=Z,14nm,0.3s
T24B **San Luis** 82.57 49 ⇓P P 18 31 16.5 -0.1
baz=83,SNR=18
M20A **Sweetwater, Wa** 82.59 44 ⇑P P 18 31 16.2 -0.3
baz=83,SNR=22
V25A **Rancho No Teng** 82.62 50 ⇑P P 18 31 16.4 -0.4
baz=83,SNR=59
LKWY **Lake** 82.63 40 *e*P P 18 31 18.2 +1.5
LKWY pmax pmax
comp=Z,69nm,1.1s
LKWY **Lake** 82.63 40 *e*P P 18 31 18.2 +1.5
comp=Z,69nm,1.1s
429A **Davenport Ranc** 82.65 56 ⇑P P 18 31 16.5 -0.4
baz=83,SNR=94
Z27A **Tatum** 82.66 53 ⇑P P 18 31 16.2 -0.7
baz=83,SNR=26
228A **UT Block 9, Go** 82.67 54 ⇑P P 18 31 16.5 -0.5
baz=83,SNR=12
WHN **Wuhan** 82.70 304 *e*P P 18 31 18.9 +1.9
X26A **CR and CF Fran** 82.70 51 ⇓P P 18 31 16.6 -0.5
baz=83,SNR=9.6
P22A **Eagle** 82.70 46 ⇑P P 18 31 16.9 -0.2
baz=83,SNR=19
L20A **Wamsutter** 82.72 43 ⇑P P 18 31 17.1 -0.1
baz=83,SNR=35
R23A **Moffat** 82.74 47 ⇓P P 18 31 17.4 -0.1
baz=83,SNR=27
K19A **Absolon Red Bu** 82.78 42 ⇑P P 18 31 16.2 -1.2
baz=83,SNR=28
SDCO **Great Sand Dun** 82.78 48 *e*P P 18 31 17.4 -0.2
comp=Z,51nm,1.3s
HRY **Holter Researc** 82.84 38 *e*P P 18 31 16.2 -1.4
comp=Z,36nm,0.9s
J19A **Crowheart** 82.85 42 ⇑P P 18 31 17.2 -0.5
baz=83,SNR=10
WALA **Waterton Lakes** 82.89 35 *e*P P 18 31 16.5 -1.2
comp=Z,1.1nm,1.4s
329A **Wagon Wheel Ra** 82.91 55 ⇓P P 18 31 17.8 -0.4
baz=83,SNR=28
530A **J-C Ranch, Com** 82.92 56 ⇓P P 18 31 17.6 -0.6
baz=83,SNR=28
Y27A **Causey** 82.92 52 ⇑P P 18 31 17.4 -0.9
baz=83,SNR=26
S24A **Houchin Ranch,** 82.94 48 ⇑P P 18 31 18.8 +0.3
baz=83,SNR=45
128A **Castleberry Fa** 82.95 54 ⇓P P 18 31 18.1 -0.3
baz=83,SNR=34
W26A **Owens Ranch, T** 82.95 51 ⇑P P 18 31 17.9 -0.5
baz=83,SNR=9.5
U25A **Circle Dot Ran** 83.01 50 ⇓P P 18 31 18.7 0.0
baz=83,SNR=10
Q23A **Hartsel** 83.04 47 ⇓P P 18 31 18.8 -0.2
baz=83
O22A **Kremmling** 83.09 45 ⇓P P 18 31 18.8 -0.4
baz=83,SNR=88
H18A **Shoshone NF, C** 83.14 40 ⇓P P 18 31 19.3 0.0
baz=83,SNR=11
M21A **Separation Pea** 83.19 44 ⇑P P 18 31 18.8 -0.8
baz=83,SNR=38
V26A **Tequesquite Ra** 83.22 50 ⇓P P 18 31 19.1 -0.7
baz=83,SNR=9.0
430A **Baggett Ranch,** 83.23 56 ⇓P P 18 31 19.3 -0.6
baz=83,SNR=13
P23A **Jefferson** 83.24 46 ⇑P P 18 31 19.7 -0.4
baz=83,SNR=10
MSTX **Muleshoe** 83.25 52 *e*P P 18 31 19.6 -0.4
MSTX **Muleshoe** 83.25 52 ⇓P P 18 31 19.4 -0.6
baz=83,SNR=38
I19A **Meeteetse** 83.26 41 ⇓P P 18 31 19.7 -0.2
baz=83,SNR=27
DAWY **Dawson** 83.26 14 *e*P P 18 31 19.0 -0.2
631A **Perdido Creek** 83.26 57 ⇓P P 18 31 19.1 -0.8
baz=83,SNR=46
R24A **Sanders Place,** 83.27 48 ⇓P P 18 31 19.7 -0.4
baz=83,SNR=21
X27A **F and S Farms,** 83.27 52 ⇑P P 18 31 19.1 -1.0
baz=83,SNR=12
Z28A **Tucker Farm, M** 83.28 53 ⇓P P 18 31 19.8 -0.4
baz=83
T25A **Trinidad** 83.31 49 ⇑P P 18 31 19.7 -0.7
baz=83,SNR=16
L21A **Rawlins** 83.35 43 ⇑P P 18 31 19.5 -0.9
baz=84,SNR=43
129A **Stewart Farms,** 83.43 54 ⇓P P 18 31 20.5 -0.3
baz=84,SNR=7.8
N22A **Wattenberg Ran** 83.44 45 ⇑P P 18 31 21.0 0.0
baz=84,SNR=30
EGAK **Eagle** 83.45 13 *e*P P 18 31 19.0 -1.1
comp=Z,50nm,1.4s
W27A **Bone Ranch, En** 83.47 51 ⇓P P 18 31 20.3 -0.7
baz=84,SNR=34
U26A **Atchley Ranch,** 83.49 50 ⇓P P 18 31 20.6 -0.7
baz=84,SNR=38
732A **Laxson Ranch,** 83.51 58 ⇑P P 18 31 20.6 -0.6
baz=84
330A **Mertzon** 83.51 55 ⇑P P 18 31 20.3 -1.0
baz=84,SNR=9.1
J20A **Shoshoni** 83.52 42 ⇓P P 18 31 21.0 -0.1
baz=84,SNR=54
Q24A **Divide** 83.55 47 ⇑P P 18 31 21.4 -0.2
baz=84,SNR=22
O23A **Lake Granby, G** 83.55 46 ⇓P P 18 31 21.8 +0.2
baz=84,SNR=9.9
H19A **Powell** 83.56 40 ⇑P P 18 31 21.5 +0.1
baz=84,SNR=5.9
ISCO **Idaho Springs** 83.58 46 *e*P P 18 31 21.4 -0.4
ISCO pmax pmax
comp=Z,33nm,1.1s
ISCO **Idaho Springs** 83.58 46 *e*P P 18 31 21.4 -0.4
comp=Z,33nm,1.1s
ISCO **Idaho Springs** 83.58 46 ⇓P P 18 31 21.7 -0.1
baz=84,SNR=13
RLMT **Red Lodge** 83.61 40 *e*P P 18 31 21.6 0.0
comp=Z,38nm,1.3s
M22A **Cedar Creek Ra** 83.61 44 ⇑P P 18 31 21.5 -0.3
baz=84,SNR=15
Y28A **McKinney Farm,** 83.63 53 ⇓P P 18 31 21.1 -0.8
baz=84,SNR=5.5
GCMT **Greycliff** 83.68 39 *e*P P 18 31 21.8 -0.1
comp=Z,72nm,1.4s
431A **Sonora** 83.70 56 ⇑P P 18 31 21.1 -1.1
baz=84,SNR=6.5
K21A **Alcova** 83.73 43 ⇓P P 18 31 21.6 -0.7
baz=84,SNR=50
230A **Sterling City** 83.74 55 ⇑P P 18 31 21.6 -0.9
baz=84,SNR=5.4
I20A **Worland** 83.77 41 ⇓P P 18 31 21.8 -0.6
baz=84,SNR=42
Z29A **Hungry Hill Ra** 83.80 53 ⇑P P 18 31 21.5 -1.2
baz=84,SNR=16
R25A **Fountain Ranch** 83.82 48 ⇓P P 18 31 22.2 -0.7
baz=84,SNR=28
N23A **Red Feather La** 83.83 45 ⇓P P 18 31 22.2 -0.8
baz=84,SNR=36
X28A **Dimmitt** 83.91 52 ⇑P P 18 31 22.5 -0.9
baz=84,SNR=7.6
V27A **Dan Oppiter Fa** 83.91 51 ⇑P P 18 31 23.1 -0.2
baz=84
T26A **Comanche Natio** 83.92 49 ⇓P P 18 31 22.3 -1.1
baz=84,SNR=14
J21A **Lysite** 83.93 42 ⇑P P 18 31 23.5 +0.1
baz=84,SNR=52
632A **Uvalde** 83.94 57 ⇓P P 18 31 23.2 -0.3
baz=84,SNR=20
COLD **Cotfoot** 83.95 9 *e*P P 18 31 22.8 +0.2
comp=Z,82nm,1.4s
L22A **Ellis Ranch, M** 84.00 44 ⇑P P 18 31 23.1 -0.7
baz=84,SNR=18
Y29A **Porterfield Fa** 84.05 53 ⇑P P 18 31 23.3 -0.7
baz=84,SNR=12
532A **Rocksprings** 84.06 57 ⇓P P 18 31 23.4 -0.8
baz=84,SNR=16
331A **San Angelo** 84.07 56 ⇓P P 18 31 23.2 -1.0
baz=84,SNR=9.5
O24A **Logmont** 84.10 46 ⇑P P 18 31 24.1 -0.1
baz=84
H20A **Greybull** 84.10 41 ⇑P P 18 31 23.3 -0.7
baz=84,SNR=11
130A **Snyder** 84.12 54 ⇓P P 18 31 23.7 -0.7
baz=84,SNR=8.4
F19A **Roth Farm, Mol** 84.16 39 ⇑P P 18 31 23.6 -0.7
baz=84
Q25A **Bedland, Calha** 84.17 47 ⇑P P 18 31 24.0 -0.6
baz=84,SNR=9.5
U27A **Thompson Grove** 84.18 50 ⇓P P 18 31 23.7 -1.0
baz=84,SNR=14
W28A **Vega** 84.19 51 ⇑P P 18 31 24.0 -0.7
baz=84
K22A **Casper** 84.22 43 ⇑P P 18 31 23.7 -1.1
baz=84,SNR=8.0
M23A **Laramie** 84.23 44 ⇑P P 18 31 24.4 -0.6
baz=84,SNR=8.5
I21A **Big Trails, Te** 84.24 42 ⇑P P 18 31 24.1 -0.8
baz=84,SNR=57
X29A **Tulia** 84.26 52 ⇓P P 18 31 24.7 -0.3
baz=84
Z30A **Sanderson Ranc** 84.26 53 ⇑P P 18 31 24.1 -1.0
baz=84,SNR=27
JCT **Junction City** 84.27 56 *e*P P 18 31 24.6 -0.6
JCT pmax pmax
comp=Z,22nm,0.9s
JCT **Junction City** 84.27 56 *e*P P 18 31 24.6 -0.6
comp=Z,22nm,0.9s
JCT **Junction City** 84.27 56 ⇓P P 18 31 24.4 -0.8
baz=84,SNR=6.5
G20A **Bridger** 84.31 40 ⇓P P 18 31 25.1 0.0
baz=84
V28A **Channing** 84.36 51 ⇑P P 18 31 25.4 -0.2
baz=84
231A **Bronte** 84.39 55 ⇓P P 18 31 24.9 -0.8
baz=84,SNR=15
432A **Menard** 84.42 56 ⇑P P 18 31 25.0 -0.9
baz=84,SNR=8.4
P25A **Willow Gulch B** 84.47 47 ⇓P P 18 31 25.6 -0.6
baz=85,SNR=15
R26A **Arlington** 84.48 48 ⇑P P 18 31 25.5 -0.7
baz=85,SNR=55
T27A **Campo** 84.51 49 ⇓P P 18 31 25.4 -1.0
baz=85,SNR=14
L23A **Garrett** 84.53 44 ⇓P P 18 31 25.7 -0.7
baz=85,SNR=13
N24A **Carr** 84.53 45 ⇓P P 18 31 26.1 -0.3
baz=85,SNR=12
E19A **Rath Farm, Rou** 84.54 39 ⇑P P 18 31 25.8 -0.4
baz=85,SNR=12
W29A **Amraillo** 84.56 52 ⇑P P 18 31 25.9 -0.7
baz=85,SNR=18
J22A **Midwest** 84.59 42 ⇑P P 18 31 25.7 -0.9
baz=85,SNR=24
131A **Roby** 84.60 54 ⇑P P 18 31 26.0 -0.8
baz=85,SNR=25
U28A **Mallet** 84.61 50 ⇑P P 18 31 26.8 -0.1
baz=85
F20A **Billings** 84.62 40 ⇓P P 18 31 27.0 +0.3
baz=85
332A **Millersview** 84.64 56 ⇑P P 18 31 26.3 -0.7
baz=85,SNR=16
Y30A **Stafford Cattl** 84.66 53 ⇓P P 18 31 26.2 -0.8
baz=85,SNR=14
Q26A **Hugo** 84.69 47 ⇑P P 18 31 27.0 -0.2
baz=85
EGMT **Eagleton** 84.72 37 *e*P P 18 31 26.2 -0.8
comp=Z,60nm,1.3s
EGMT **Eagleton** 84.72 37 ⇑P P 18 31 27.3 +0.3
baz=85,SNR=9.5
O25A **Wiggins** 84.75 46 ⇓P P 18 31 27.5 0.0
baz=85
H21A **Big Horn, Sher** 84.77 41 ⇑P P 18 31 26.9 -0.6
baz=85,SNR=8.4
I22A **9 Mile Ranch,** 84.80 42 ⇑P P 18 31 27.0 -0.7
baz=85,SNR=28
D19A **Cripps Ranch,** 84.82 38 ⇑P P 18 31 27.2 -0.4
baz=85,SNR=11
M24A **Cheyenne** 84.84 45 ⇓P P 18 31 27.9 -0.1
baz=85
K23A **Bowen Ranch, D** 84.86 43 ⇓P P 18 31 28.1 +0.1
baz=85
X30A **Coker Ranch, T** 84.89 52 ⇑P P 18 31 27.5 -0.7
baz=85,SNR=13
232A **Coleman** 84.90 55 ⇓P P 18 31 27.5 -0.9
baz=85,SNR=46
G21A **Lodge Grass** 84.94 41 ⇑P P 18 31 27.7 -0.6
baz=85
V29A **Stinnett** 84.94 51 ⇑P P 18 31 28.4 -0.1
baz=85
R27A **Eads** 84.95 48 ⇓P P 18 31 27.6 -0.9
baz=85,SNR=11
E20A **Meyer Farm, Mu** 84.96 39 ⇑P P 18 31 28.4 +0.1
baz=85
T28A **Walsh** 84.98 50 ⇑P P 18 31 27.8 -0.9
baz=85,SNR=6.1
C19A **Slack Wire Ran** 85.00 38 ⇓P P 18 31 28.3 -0.1
baz=85
L24A **Wheatland** 85.01 44 ⇓P P 18 31 28.7 -0.1
baz=85
Z31A **Sharp Cattle R** 85.03 54 ⇑P P 18 31 28.1 -0.8
baz=85,SNR=33
BJT **Baijiatuau** 85.07 314 *e*P P 18 31 29.8 +0.9
comp=Z,27nm,1.3s
P26A **Davis Ranch, A** 85.07 47 ⇓P P 18 31 29.2 +0.1
baz=85
BJI **Beijing** 85.07 314 P P 18 31 29.5 +0.6
BJI S S 18 41 55.6 -0.8
BJI AMB AMB
comp=Z,20nm,1.8s
BJI AMB AMB
comp=Z,310nm,8.1s
BJI LR LR
comp=Z,550nm,16.7s
BJI LR LR
comp=Z,320nm,23.5s
BJI LR LR
comp=Z,450nm,30.2s
ABTX **Abilene, Hawle** 85.17 55 *e*P P 18 31 29.2 -0.5
ABTX **Abilene, Hawle** 85.17 55 ⇓P P 18 31 29.1 -0.5
baz=85,SNR=47
Y31A **Rekieta Farm,** 85.18 53 ⇑P P 18 31 29.1 -0.6
baz=85,SNR=14
J23A **Dilts Ranch, B** 85.19 43 ⇑P P 18 31 30.0 +0.4
baz=85
H22A **Clearmont** 85.20 41 ⇓P P 18 31 29.1 -0.5
baz=85,SNR=9.2
D20A **Manuel Ranch,** 85.23 39 ⇑P P 18 31 29.5 -0.1
baz=85,SNR=12
F21A **Absaloka Mine,** 85.27 40 ⇑P P 18 31 30.3 +0.4
baz=85
S28A **Manter** 85.33 49 ⇓P P 18 31 30.6 +0.2
baz=85
U29A **Oasis Ranch, S** 85.35 50 ⇓P P 18 31 30.9 +0.4
baz=85
O26A **Horse Wrangler** 85.37 46 ⇑P P 18 31 30.1 -0.5
baz=86,SNR=5.8
K24A **Anderson Ranch** 85.38 44 ⇓P P 18 31 30.9 +0.2
baz=86
B19A **Brinkman Farms** 85.41 37 ⇓P P 18 31 30.3 -0.2
baz=86,SNR=6.7
EDM **Edmonton** 85.44 32 *e*P P 18 31 29.4 -1.1
EDM **Edmonton** 85.44 32 *e*P P 18 31 29.4 -1.1
V30A **Spur Ranch, Mi** 85.52 51 ⇑P P 18 31 31.4 0.0
baz=86
Z32A **Haskell** 85.55 54 ⇓P P 18 31 31.3 -0.2
baz=86,SNR=58
C20A **Veseth Ranch,** 85.61 38 ⇓P P 18 31 31.4 -0.1
baz=86,SNR=15
E21A **Keefer Ranch,** 85.62 39 ⇑P P 18 31 32.0 +0.3
baz=86
X31A **McDonald Ranch** 85.64 53 ⇓P P 18 31 32.1 +0.2
baz=86
N26A **Koester Ranch,** 85.67 46 ⇑P P 18 31 32.3 +0.2
baz=86
R28A **Tribune** 85.68 49 ⇑P P 18 31 32.1 0.0
baz=86
H03N2 **Juan Fernandez** 85.70 123 T T 20 06 10.8
baz=254,slow=0.7,SNR=11
H03N3 **Juan Fernandez** 85.70 123 T T 20 06 08.3
baz=254,slow=0.7,SNR=5.8
H03N1 **Juan Fernandez** 85.71 123 T T 20 06 13.5
baz=254,slow=0.7,SNR=9.7
A19A **Klindworth Far** 85.75 37 ⇓P P 18 31 32.6 +0.4
baz=86,SNR=8.5
F22A **Rosebud** 85.79 40 ⇑P P 18 31 33.0 +0.6
baz=86
Y32A **R-V Farms, Ver** 85.83 53 ⇓P P 18 31 32.3 -0.6
baz=86,SNR=25
W31A **Holland Ranch,** 85.87 52 ⇑P P 18 31 32.5 -0.6
baz=86,SNR=9.2
D21A **La Casta Ranch** 85.91 39 ⇓P P 18 31 33.5 +0.5
baz=86
B20A **Solberg Farm,** 85.94 37 ⇑P P 18 31 33.5 +0.4
baz=86
M26A **McRoberts Ranc** 85.99 45 ⇓P P 18 31 33.7 +0.1
baz=86
I24A **Kuemmerle Ranc** 85.99 43 ⇓P P 18 31 33.8 +0.2
baz=86
G23A **Biddle** 86.08 41 ⇓P P 18 31 34.2 +0.3
baz=86
R29A **Marienthal** 86.20 49 ⇑P P 18 31 35.4 +0.7
baz=86
F23A **Volborg** 86.30 41 ⇑P P 18 31 35.6 +0.7
baz=86
H24A **Dirks Ranch, A** 86.42 42 ⇑P P 18 31 35.7 +0.1
baz=86,SNR=10
RSSD **Black Hills** 86.49 43 *e*P P 18 31 35.2 -1.0
RSSD pmax pmax
comp=Z,143nm,1.3s
RSSD **Black Hills** 86.49 43 *e*P P 18 31 35.1 -1.0
comp=Z,144nm,1.3s
B21A **Ellsworth Farm** 86.53 38 ⇓P P 18 31 36.3 +0.3
baz=87
WMOK **Wichita Mounta** 86.60 53 *e*P P 18 31 35.2 -1.5
WMOK pmax pmax
comp=Z,19nm,1.2s
WMOK **Wichita Mounta** 86.60 53 *e*P P 18 31 35.2 -1.5
comp=Z,18nm,1.2s
I25A **Rochford** 86.64 43 ⇓P P 18 31 37.0 +0.1
baz=87,SNR=6.2
WHTX **Lake Whitney** 86.68 56 *e*P P 18 31 36.9 -0.2
WHTX **Lake Whitney** 86.68 56 ⇑P P 18 31 36.6 -0.5
baz=87,SNR=13
A21A **Bergtoll Ranch** 86.84 37 ⇑P P 18 31 37.5 0.0
baz=87
D23A **Lindsay** 87.05 39 ⇑P P 18 31 39.2 +0.5

baz=87
B22A Reddig Ranch S 87.07 38 ⇑P **P** 18 31 38.7 0.0
baz=87
Q30A Quinter 87.07 48 ⇑P **P** 18 31 38.9 0.0
baz=87
S31A Mullinville 87.11 50 ⇑P **P** 18 31 39.5 +0.3
baz=87
HKT Hockley 87.32 58 *e*P **P** 18 31 40.4 +0.3
HKT pmax pmax
comp=Z,74nm,1.4s
HKT Hockley 87.32 58 *e*P **P** 18 31 40.4 +0.3
comp=Z,74nm,1.4s
C23A Lambert 87.34 39 ⇑P **P** 18 31 40.5 +0.5
baz=87
J27A Elkhorn Farm, 87.48 44 ⇓P **P** 18 31 40.2 -0.6
baz=88,SNR=5.5
GYA Guiyang 87.65 298 ⇑*i*P **P** 18 31 42.0 -0.1
GYA SKS **SKSac** 18 42 07.9 -0.6
GYA S **S** 18 42 22.6 +0.1
GYA SS **SS** 18 48 11.0 +1.6
GYA AMB AMB
comp=Z,30nm,1.0s
GYA AMB AMB
comp=Z,140nm,6.6s
GYA LR LR
comp=Z,760nm,20.8s
GYA LR LR
comp=Z,680nm,22.0s
GYA LR LR
comp=Z,720nm,20.4s
MAW Mawson 87.93 199 P **P** 18 31 42.3 -0.1
MAW Mawson 87.93 199 ⇓P **P** 18 31 41.2 -1.2
baz=88,SNR=15
MAW Mawson 87.93 199 P **P** 18 31 42.3 -0.1
comp=Z,30nm,1.1s,baz=120,slow=6.9,SNR=32
INK Inuvik 88.10 14 *e*P **P** 18 31 42.5 -0.6
comp=Z,48nm,1.4s
INK Inuvik 88.10 14 P **P** 18 31 42.5 -0.6
comp=Z,18nm,1.2s,baz=214,slow=4.4,SNR=15
DGMT Dagmar 88.23 39 ⇑P **P** 18 31 44.6 +0.4
baz=88
G27A Dupree 88.37 42 ⇑P **P** 18 31 45.2 +0.2
baz=88
HHC Hu-ho-hao-te 88.63 313 *e*P **P** 18 31 44.7 -1.7
HHC pP **PcP** 18 31 49.5 +1.5
HHC sP sP 18 31 51.7 -7.8
HHC PP **PP** 18 35 14.9 -0.5
HHC SKS **SKSac** 18 42 10.8 -2.9
HHC S **SKKSac** 18 42 27.7 +2.9
HHC sS **ScS** 18 42 35.7 -0.9
HHC SS **SS** 18 48 21.0 -2.0
HHC AMB AMB
comp=Z,22nm,1.0s
HHC AMB AMB
comp=Z,540nm,5.2s
HHC LR LR
comp=Z,540nm,16.7s
HHC LR LR
comp=Z,520nm,16.9s
HHC LR LR
comp=Z,590nm,17.7s
YAK Yakutsk 88.76 337 *e*P P 18 31 43.0 -3.3
YAK pmax pmax
comp=Z,12nm,1.1s
G28A Parade 88.91 43 ⇓P **P** 18 31 47.5 0.0
baz=89
GSI Gunungsitoli 89.08 272 ⇓P **P** 18 31 48.3 -0.7
baz=90
H29A Onida 89.20 43 ⇓P **P** 18 31 49.0 +0.1
baz=89
TUL1 Tulsa 89.30 53 *e*P **P** 18 31 48.8 -0.7
D27A Center 89.31 41 ⇑P **P** 18 31 49.7 +0.4
baz=89
C27A Sayler Ranch, 89.57 40 ⇓P **P** 18 31 50.2 -0.4
baz=90
KSU1 Kansas State U 89.75 49 *e*P **P** 18 31 50.4 -1.1
PLCA Paso Flores 89.91 132 P **P** 18 31 52.8 +0.3
PLCA Paso Flores 89.91 132 P **P** 18 31 52.8 +0.3
comp=Z,2.7nm,0.9s,baz=225,slow=1.0,SNR=2.9
B27A Peters Farms, 89.99 39 ⇓P **P** 18 31 52.6 +0.2
baz=90
YKA Yellowknife Ar 89.99 23 P **P** 18 31 51.6 -0.5
YKA Yellowknife Ar 89.99 23 P **P** 18 31 51.6 -0.5
comp=Z,7.5nm,0.9s,baz=241,slow=4.6,SNR=11
G30A Faulkton 90.10 43 ⇓P **P** 18 31 53.4 +0.3
baz=90
A27A Ledoux Ranch, 90.21 39 ⇑P **P** 18 31 54.0 +0.5
baz=90
TGUH Tegucigalpa,Un 90.27 76 P **P** 18 31 54.5 +0.1
KMI Kunming 90.64 296 P **P** 18 31 58.5 +2.2
KMI sP **sP** 18 32 06.3 -3.1
KMI PP **PP** 18 35 32.6 +0.7
KMI SKS **SKSac** 18 42 25.9 -0.5
KMI S **S** 18 42 49.7 -1.0
KMI SS **SS** 18 48 55.7 +2.7
KMI AMB AMB
comp=Z,4.0nm,1.9s
KMI AMB AMB
comp=Z,120nm,5.3s
KMI LR LR
comp=Z,180nm,20.4s
KMI LR LR
comp=Z,340nm,19.5s
KMI LR LR
comp=Z,460nm,19.5s
E30A Jud 90.75 42 ⇑P **P** 18 31 55.8 -0.3
baz=91
A28A Rude Farm, Bot 90.79 39 ⇑P **P** 18 31 55.8 -0.4
baz=91
MDND Maddock 90.80 40 *e*P **P** 18 31 55.6 -0.6
MDND Maddock 90.80 40 ⇓P **P** 18 31 55.9 -0.4
baz=91
TEIG Tepich 90.99 69 *e*P **P** 18 31 58.1 +0.4
comp=Z,65nm,1.2s
D30A Buchanan 91.06 41 ⇓P **P** 18 31 57.0 -0.5
baz=91
ECSD EROS Data Cent 91.30 45 *e*P **P** 18 31 56.7 -1.9
comp=Z,25nm,1.3s
CD2 Chengdu 91.42 302 P **P** 18 31 59.4 -0.2
CD2 pP **PcP** 18 32 04.2 +3.7
CD2 sP sP 18 32 06.4 -6.3
CD2 PP **PP** 18 35 39.4 +1.7
CD2 SKS **SKSac** 18 42 30.0 -0.2
CD2 S **S** 18 42 56.0 -1.2
CD2 sS **ScS** 18 43 03.4 +3.3
CD2 SS **SS** 18 49 04.7 +1.0
CD2 AMB AMB
comp=Z,10.0nm,0.5s
CD2 AMB AMB
comp=Z,190nm,6.0s
CD2 LR LR
comp=Z,460nm,13.1s
CD2 LR LR
comp=Z,470nm,17.8s
A29A Manning Farm, 91.43 39 ⇓P **P** 18 31 58.9 -0.2
baz=92
JTS JuntasAbangare 91.47 80 *e*P **P** 18 32 00.3 +0.2
comp=Z,375nm,1.4s
CIT Chita 91.55 324 *e*P **P** 18 31 58.7 -1.0
A30A Hoffart Farm, 92.01 40 ⇓P **P** 18 32 01.6 -0.3
baz=92
CMAR Chiang Mai Arr 92.24 288 P **P** 18 32 04.8 +1.2
CMAR Chiang Mai Arr 92.24 288 P **P** 18 32 04.8 +1.2
comp=Z,1.2nm,0.8s,baz=85,slow=2.9,SNR=6.0
VBMS Vicksburg 92.35 57 *e*P **P** 18 32 05.4 +1.6
SYO Syowa Base 92.78 191 ⇑*e*P **P** 18 32 04.3 -0.8
SYO Syowa Base 92.78 191 ⇓*e*pP **P** 18 32 07.0 +1.9
LZH Lanzhou 92.83 306 *e*P **P** 18 32 07.7 +1.6
LZH pP **PcP** 18 32 11.2 +4.4
LZH sP sP 18 32 13.0 -6.2
LZH AMB AMB
comp=Z,12nm,0.8s
LZH AMB AMB
comp=Z,69nm,4.3s
SNAA Sanae 93.17 177 *e*P **P** 18 32 09.3 +2.3
SNAA Sanae 93.17 177 *e*P **P** 18 32 08.8 +1.9
comp=Z,20nm,1.3s
VNA2 Neumayer--Watz 93.62 176 *e*P **P** 18 32 10.4 +1.4
VNA1 Neumayer--Stat 93.83 175 *e*P **P** 18 32 12.7 +2.9
OXF Oxford 93.87 55 *e*P **P** 18 32 10.8 +0.1
OXF pmax pmax
comp=Z,102nm,1.3s
OXF Oxford 93.87 55 *e*P **P** 18 32 10.8 +0.1
comp=Z,102nm,1.3s
ULN Ulaanbaatar 94.04 318 P P 18 32 15.0 +3.6
ULN Ulaanbaatar 94.04 318 *e*P **P** 18 32 11.1 -0.4
comp=Z,28nm,1.8s
MAIT Maitri 94.21 182 *e* **P** 18 32 10.8 -0.8
SPMN St. Paul 94.36 44 *e*P **P** 18 32 12.3 -0.5
SPMN St. Paul 94.36 44 ⇓P **P** 18 32 12.7 0.0
baz=94
SONM Songino Array 94.45 318 P **P** 18 32 13.4 +0.1
SONM Songino Array 94.45 318 P **P** 18 32 13.4 +0.1
comp=Z,1.1nm,1.1s,baz=127,slow=3.8,SNR=6.7
JFWS Jewell Farm 95.48 47 *e*P **P** 18 32 17.2 -0.7
JFWS pmax pmax
comp=Z,65nm,1.4s
JFWS Jewell Farm 95.48 47 *e*P **P** 18 32 17.2 -0.7
comp=Z,65nm,1.4s
WVT Waverly 95.54 54 *e*P **P** 18 32 18.2 -0.1
WVT pmax pmax
comp=Z,18nm,1.1s
WVT Waverly 95.54 54 *e*P **P** 18 32 18.2 -0.1
comp=Z,18nm,1.1s
HDIL Hopedale 95.55 50 *e*P **P** 18 32 17.9 -0.5
comp=Z,50nm,1.2s
GTA Gaotai 96.78 309 *e*P **P** 18 32 21.7 -2.4
GTA sP sP 18 32 29.0 -8.2
GTA AMB AMB
comp=Z,3.0nm,0.7s
COWI Conover 97.07 44 *e*P **P** 18 32 23.9 -1.2
comp=Z,63nm,1.4s
ZAK Zakamensk 97.13 320 *e*P **P** 18 32 24.9 -0.5
ZAK pmax pmax
comp=Z,2.0nm,1.5s
TLY Talaya 97.25 322 *e*P Pdif 18 32 33.4 +7.6
TLY pmax pmax
comp=Z,4.0nm,0.9s
TLY MLR MLR
comp=Z,303nm,17.0s
WMQ Urumqi 106.47 312 *e*Pdif **Pdif** 18 33 06.8 -0.3
WMQ PP **PP** 18 37 34.5 +2.2
WMQ S **Sdif** 18 44 59.8 -5.3
WMQ SS **SS** 18 52 31.6 -2.5
WMQ PPMZ
comp=Z,130nm,4.4s
WMQ LR LR
comp=Z,180nm,26.2s
WMQ LR LR
comp=Z,360nm,28.0s
WMQ LR LR
comp=Z,400nm,23.4s
MKAR Makanchi Array 110.43 315 PKiKP **PKiKP** 18 37 24.1 -1.2
MKAR Makanchi Array 110.43 315 PKiKP **PKiKP** 18 37 24.1 -1.2
MKAR Makanchi Array 110.43 315 PKiKP **PKiKP** 18 37 24.1 -1.2
comp=Z,0.8nm,0.8s,baz=97,slow=1.9,SNR=7.5
KURK Kurchatov 112.75 319 PKiKP **PKiKP** 18 37 29.0 -0.6
KURK PKKPbc **PKKPbc** 18 48 17.6 -1.6
KURBB Kurchatov Arra 112.81 319 PKiKP **PKiKP** 18 37 29.0 -0.7
comp=Z,1.6nm,0.9s,baz=93,slow=1.8,SNR=7.7
KURBB PKKPbc **PKKPbc** 18 48 17.6 -1.4
comp=Z,0.7nm,0.9s,baz=266,slow=3.6,SNR=6.1
BVAR Borovoye Array 117.50 322 PKiKP **PKPdf** 18 37 37.1 -1.5
BVAR Borovoye Array 117.50 322 PKP **PKPdf** 18 37 37.1 -1.5
BVAR Borovoye Array 117.50 322 PKP **PKPdf** 18 37 37.1 -1.5
comp=Z,1.5nm,0.8s,baz=119,slow=1.9,SNR=9.3
BRVK Borovoye 117.55 322 *d i*PKiKP **PKPdf** 18 37 40.9 +2.2
BRVK pmax pmax
comp=Z,5.0nm,1.2s
KBL Kabul 120.76 301 *e*PKiKP **PKPdf** 18 37 46.3 +0.5
KBL Kabul 120.76 301 *e*PKPdf **PKPdf** 18 37 46.3 +0.5
SVE Sverdlovsk 121.75 328 *e*PKiKP **PKPdf** 18 37 49.9 +3.2
SOKR Solikamsk 122.41 332 *i* PKiKP **PKPdf** 18 37 51.5 +3.7
SOKR pmax pmax
comp=Z,10.0nm,1.1s
SOKR MLR MLR
comp=Z,410nm,23.0s
ARU Arti 122.97 328 *i* PKiKP **PKPdf** 18 37 51.7 +2.7
ARU 18 39 26.7
ARU SS SS 18 56 01.9 -7.8
ARCES ARCESS Array B 124.32 352 PKP **PKPdf** 18 37 51.2 -0.1
ARCES ARCESS Array B 124.32 352 PKP **PKPdf** 18 37 51.2 -0.1
comp=Z,7.7nm,0.8s,baz=20,slow=3.9,SNR=12
ABKAR Akbulak array 124.83 320 *e*PKPdf **PKPdf** 18 37 54.0 +1.2
AKTO Aktyubinsk 125.60 322 PKiKP **PKPdf** 18 37 53.9 -0.4
AKTO Aktyubinsk 125.60 322 PKP **PKPdf** 18 37 53.9 -0.4
AKTO Aktyubinsk 125.60 322 PKP **PKPdf** 18 37 53.9 -0.4
comp=Z,2.5nm,0.9s,baz=173,slow=2.4,SNR=6.6
KLMR Klimovskoe 128.45 340 *e*PKiKP **PKPdf** 18 37 58.6 -0.8
KLMR pmax pmax
comp=Z,50nm,1.5s
KLMR MLR MLR
comp=Z,981nm,22.0s
IAKL Akhelmad 128.86 305 *e*P **PKPdf** 18 38 03.1 +1.8
IKRD Kardeh 129.02 305 *e*P **PKPdf** 18 38 04.2 +2.6
FINES FINESS Array B 131.63 347 PKP **PKPdf** 18 38 04.5 -0.9
FINES FINESS Array B 131.63 347 PKP **PKPdf** 18 38 04.5 -0.9
comp=Z,1.9nm,0.7s,baz=96,slow=3.8,SNR=4.3
MOS Moscow 132.89 336 *e*PKiKP **PKPdf** 18 38 08.4 +0.5
MOS MLR MLR
comp=Z,1μm,23.0s
OBN Obninsk 133.76 336 ⇑ *i*PKiKP **PKPdf** 18 38 10.4 +0.8
OBN *e* 18 40 40.3
OBN *e*S SKSac 18 45 08.4 -11
OBN *e*PS PS 18 50 47.4 -11
OBN pmax pmax
comp=Z,27nm,1.3s
OBN MLR MLR
comp=Z,800nm,21.0s
NB2 NORSAR Subarra 134.04 357 PKPdf **PKPdf** 18 38 12.1 +2.1
comp=Z,31nm,1.7s,baz=6.6,slow=1.8
NB2 NORSAR Subarra 134.04 357 PKPdf **PKPdf** 18 38 12.1 +2.1
baz=6.6,slow=1.8
KIV Kislovodsk 137.81 320 *i* PKiKP **PKPdf** 18 38 20.7 +3.1
KIV *e* 18 41 06.3
KIV *e*SS SS 18 59 13.3 +0.8
KIV *e*SSS SSS 19 04 21.8
KIV pmax pmax
comp=Z,5.0nm,1.1s
AKASG Malin Array Be 139.99 337 PKiKP PKPpre 18 38 16.7
AKASG 18 38 21.6
AKASG Malin Array Be 139.99 337 PKPpre PKPpre 18 38 16.7
AKASG PKP **PKPdf** 18 38 21.6 +0.3
AKASG Malin Array Be 139.99 337 PKhKP PKPpre 18 38 16.7
comp=Z,0.9nm,0.6s,baz=34,slow=4.0,SNR=4.0
AKASG PKP **PKPdf** 18 38 21.6 +0.3
comp=Z,2.7nm,0.8s,baz=33,slow=2.4,SNR=14
ANN Anapa 140.42 325 *i* PKHKP PKPpre 18 38 10.0
ANN *e* 18 45 21.2
ANN pmax pmax
comp=Z,20nm,1.0s
LVV L'vov 142.52 341 *e*PKiKP **PKPdf** 18 38 23.7 -2.2
MALT Malatya 143.47 315 ⇑PKiKP **PKPdf** 18 38 27.5 -0.6
MALT Malatya 143.47 315 ⇑*i*P **PKPdf** 18 38 27.5 -0.6
KSP Ksiaz 143.49 349 *e*PKiKP PKPbc 18 38 24.5 -0.3
KSP MLR MLR
comp=Z,1μm,22.4s
CLL Collm 143.53 353 *i* PKiKP **PKPdf** 18 38 27.9 +0.3
CLL *i* 18 38 33.3
CLL pmax pmax
comp=Z,32nm,1.4s
CLL MLR MLR
comp=Z,300nm,21.8s
CLL Collm 143.53 353 *i* PKPdf **PKPdf** 18 38 27.9 +0.3
comp=Z,32nm,1.4s
CLL *i* 18 38 33.3
CLL *e*PP **PP** 18 41 38.0 -0.6
CLL *e* 18 50 24.0
CLL *e*PSKS 18 51 48.0
CLL *e*PPS PPS 18 54 06.0
CLL *e*SKKSdf SKKSdf 18 54 54.0 +2.5
CLL *e*PPPPrev 18 56 42.0
CLL *e* 19 03 18.0
CLL *e* 19 05 00.0
CLL LV 19 43 00.0
comp=Z,300nm,21.8s
STHS Stebnicka Huta 143.70 343 *e*PKiKP **PKPdf** 18 38 28.4 +0.4
STHS Stebnicka Huta 143.70 343 *e*PKP **PKPdf** 18 38 28.3 +0.3
BRG Berggiesshubel 143.83 352 *e*PKP **PKPdf** 18 38 29.2 +1.1
comp=Z,5.2nm,1.0s
BRG *e* 18 38 32.1
comp=Z,24nm,1.3s
BRG *e* 18 38 34.9
comp=Z,31nm,1.5s
BRG
comp=N,594nm,24.6s
BRG
comp=E,184nm,26.0s
BRG
comp=Z,657nm,25.2s
BRG Berggiesshubel 143.83 352 *e*PKiKP **PKPdf** 18 38 29.2 +1.1
BRG *e* 18 38 34.9
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG MLR MLR
comp=N,594nm,24.6s
BRG MLR MLR
comp=E,184nm,26.0s
BRG MLR MLR
comp=Z,657nm,25.2s
KOLS Kolonicke sedl 143.84 342 *e*PKiKP **PKPdf** 18 38 28.0 -0.2
KOLS Kolonicke sedl 143.84 342 *e*PKP **PKPdf** 18 38 28.0 -0.2
UPC Upice 143.86 349 *e*PKiKP PKPbc 18 38 26.2 +0.3
UPC Upice 143.86 349 *e*PKP PKPbc 18 38 26.2 +0.3
DPC Dobruska-Polom 143.96 349 *e*PKiKP PKPbc 18 38 26.8 +0.5
DPC Dobruska-Polom 143.96 349 *e*PKP PKPbc 18 38 26.8 +0.5
DPC AMS AMS 19 43 10.0
BURAR Bucovina Array 144.02 338 ⇑PKiKP **PKPdf** 18 38 29.3 +0.6
BURAR Bucovina Array 144.02 338 ⇑*i*P **PKPdf** 18 38 29.3 +0.6
OKC Ostrava-Krasne 144.08 347 *e*PKiKP PKPbc 18 38 26.9 +0.3
OKC MLR MLR
comp=Z,600nm,18.5s
OKC Ostrava-Krasne 144.08 347 *e*PKP PKPbc 18 38 26.9 +0.3
OKC AMS AMS 19 41 50.0
comp=Z,600nm,18.5s
PVCC Panska Ves 144.08 351 *e*PKiKP **PKPdf** 18 38 31.9 +3.3
PVCC Panska Ves 144.08 351 *e*PKP **PKPdf** 18 38 31.9 +3.3
TSUM Tsumeb 144.09 198 *e*PKPdf **PKPdf** 18 38 28.8 -1.0
UZH Uzhgorod 144.11 342 *e*PKiKP PKPbc 18 38 26.9 +0.2
UZH *e* 18 38 40.3
MORC Moravsky Berou 144.26 347 *e*PKiKP **PKPab** 18 38 26.2 -0.7
MORC Moravsky Berou 144.26 347 ⇑*i*P PKPbc 18 38 27.3 +0.1
MORC Moravsky Berou 144.26 347 *e*PKPpre **PKPab** 18 38 26.2 -0.7
UCC Uccle 144.41 2 PKP **PKPdf** 18 38 30.6 +1.5
BEBN Eben Emael 144.44 1 PKP **PKPdf** 18 38 30.4 +1.3
TRPA Tarpa 144.48 341 ⇑*i*P **PKPab** 18 38 27.4 -0.2
PRA Prague 144.55 351 PKP **PKPdf** 18 38 29.0 -0.4
PRU Pruhonice 144.61 351 *e*PKiKP PKPbc 18 38 28.6 +0.4
PRU MLR MLR
comp=Z,600nm,20.3s
PRU Pruhonice 144.61 351 *e*PKP PKPbc 18 38 28.6 +0.4
PRU AMS AMS 19 41 00.0
comp=Z,600nm,20.3s
MEM Membach 144.63 0 PKP **PKPdf** 18 38 29.3 -0.2
SNF Seneffe 144.70 2 PKP **PKPdf** 18 38 30.5 +0.9
KECS Kecovo 144.76 344 *e*PKiKP **PKPab** 18 38 28.6 -0.1
KECS Kecovo 144.76 344 *e*PKP **PKPab** 18 38 28.5 -0.1
ARCR ARCALIA 144.78 338 ⇑*i*P PKPbc 18 38 29.0 +0.1
BCLA Clavier 144.81 1 PKP **PKPdf** 18 38 29.7 -0.2
VRI Vrincioaia 144.89 335 ⇓PKiKP **PKPdf** 18 38 30.1 -0.1
VRI Vrincioaia 144.89 335 ⇓*i*P **PKPdf** 18 38 30.1 -0.1
VRAC Vranov 144.90 348 ⇑*i*P **PKPab** 18 38 29.3 +0.1
VRAC Vranov 144.90 348 PKP PKPbc 18 38 29.5 +0.2
VRAC Vranov 144.90 348 PKP **PKPdf** 18 38 29.5 +0.2
comp=Z,16nm,1.1s,baz=31,slow=2.7,SNR=18
DOU Dourbes 145.12 2 PKP **PKPbc** 18 38 29.6 -0.3
TREC Trest 145.12 349 AMS AMS 19 42 30.0
comp=Z,600nm,22.2s
TIRR Tirgusor 145.27 332 ⇓PKiKP **PKPbc** 18 38 29.8 -0.7
TIRR Tirgusor 145.27 332 ⇓*i*P **PKPbc** 18 38 29.8 -0.7
GRFO Grafenberg 145.32 354 *e*PKiKP **PKPbc** 18 38 30.6 +0.1
GRFO Grafenberg 145.32 354 *e*PKPdf **PKPbc** 18 38 30.6 +0.1
TLB Topalu 145.34 332 ⇑PKiKP **PKPdf** 18 38 32.8 +1.9
TLB Topalu 145.34 332 ⇑*i*P **PKPdf** 18 38 32.8 +1.9
KMBO Kilima Mbogo 145.36 245 PKPbc **PKPbc** 18 38 31.0 -1.1
KMBO *e*PKPdf **PKPab** 18 38 31.2 -1.0
KMBO Kilima Mbogo 145.36 245 PKPbc **PKPbc** 18 38 31.0 -1.1
comp=Z,1.6nm,0.7s,baz=68,slow=7.6,SNR=5.9
PSZ Piszkesteto 145.44 344 *e*PKiKP **PKPbc** 18 38 30.8 -0.3
PSZ Piszkesteto 145.44 344 ⇑*i*P **PKPbc** 18 38 31.1 0.0
PSZ Piszkesteto 145.44 344 *e*PKPdf **PKPbc** 18 38 30.8 -0.3
PSZ Piszkesteto 145.44 344 ⇑*e* **PKPdf** 18 38 31.2 +0.1
MLR Muntele Rosu 145.51 335 ⇑*i*P **PKPdf** 18 38 31.1 -0.3
MLR Muntele Rosu 145.51 335 PKPbc **PKPdf** 18 38 31.3 -0.1
MLR Muntele Rosu 145.51 335 PKPbc **PKPdf** 18 38 31.3 -0.1
comp=Z,6.8nm,1.1s,baz=14,slow=2.0,SNR=9.8
WLF Walferdange 145.58 0 PKP **PKPab** 18 38 31.9 +0.2
WLF Walferdange 145.58 0 *e*PKiKP **PKPab** 18 38 31.7 +0.1
WLF Walferdange 145.58 0 *e*PKPdf **PKPab** 18 38 31.7 +0.1
KHC Kasperske Hory 145.59 352 *e*PKiKP **PKPbc** 18 38 31.5 0.0
KHC MLR MLR
comp=Z,600nm,17.5s
KHC Kasperske Hory 145.59 352 *e*PKP **PKPbc** 18 38 31.5 0.0
KHC *ep*PKP **PKPab** 18 38 33.5 +1.7
KHC *ex* x 18 40 51.5
KHC AMS AMS 19 41 30.0
comp=Z,600nm,17.5s
KHC Kasperske Hory 145.59 352 *e*PKPdf **PKPdf** 18 38 31.2 -0.1
DRGR 145.60 340 ⇓PKiKP **PKPdf** 18 38 30.8 -0.6
DRGR 145.60 340 ⇓*i*P **PKPdf** 18 38 30.8 -0.6
AMRR Amara 145.63 333 ⇑PKiKP **PKPab** 18 38 34.5 +2.5
AMRR Amara 145.63 333 ⇑*i*P **PKPab** 18 38 34.5 +2.5
BR131 Keskin Array S 145.77 321 *e*PKPdf **PKPab** 18 38 33.0 +0.1
BRTR Keskin Array B 145.77 321 PKPbc **PKPab** 18 38 32.9 0.0
BRTR Keskin Array B 145.77 321 PKPbc **PKPab** 18 38 32.9 0.0
comp=Z,14nm,0.9s,baz=130,slow=2.0,SNR=36
GERES GERESS Array B 145.85 351 PKPbc **PKPdf** 18 38 30.9 -0.9
GERES GERESS Array B 145.85 351 PKPbc **PKPdf** 18 38 30.9 -0.9
comp=Z,4.7nm,0.7s,baz=29,slow=3.0,SNR=27
ZST Bratislava 145.86 347 *e*PKiKP **PKPbc** 18 38 32.5 +0.2
ZST Bratislava 145.86 347 *e*PKP **PKPbc** 18 38 32.5 +0.2
BST Brest 145.86 12 PKP **PKPdf** 18 38 29.6 -2.1
VOIR 145.91 336 ⇓PKP2 **PKPbc** 18 38 32.9 +0.2
VOIR 145.91 336 ⇓*i*P **PKPbc** 18 38 32.9 +0.2
SULR 146.04 334 ⇓*i*P **PKPdf** 18 38 31.4 -0.7
ARR Arges 146.13 337 ⇑*i*P **PKPab** 18 38 34.5 +0.5
ANTO Ankara 146.19 322 ⇓PKP2 **PKPab** 18 38 35.4 +1.0
ANTO Ankara 146.19 322 ⇓*i*P **PKPab** 18 38 35.4 +1.0
ANTO Ankara 146.19 322 *e*PKPbc **PKPab** 18 38 34.8 +0.4
LANF Langenberg 146.24 358 PKP **PKPbc** 18 38 33.2 -0.3
CONA Conrad Observa 146.37 348 ⇓*i*PKPab **PKPbc** 18 38 33.6 -0.4
comp=Z,165nm,1.6s,SNR=62
STU Stuttgart 146.39 357 *e*PKP2 **PKPbc** 18 38 34.0 +0.1
STU Stuttgart 146.39 357 *e*PKPdf **PKPbc** 18 38 34.0 +0.1
LOT Lotru 146.39 338 ⇓*i*P **PKPbc** 18 38 34.3 +0.1
SIRR Siria 146.41 341 ⇓*i*P **PKPbc** 18 38 33.9 -0.1
SOP Sopron 146.46 347 ⇑*e* **PKPab** 18 38 35.4 +0.4
PRD Provadia 146.71 331 P **PKPab** 18 38 37.7 +1.6
MOA Molln 146.73 350 ⇓*i*PKPab **PKPbc** 18 38 34.5 -0.5
comp=Z,63nm,1.4s,SNR=18
GZR Gura Zlata 146.79 339 ⇑PKiKP **PKPbc** 18 38 35.6 +0.3
GZR Gura Zlata 146.79 339 ⇑*i*P **PKPbc** 18 38 35.6 +0.3
BFO Black Forest 146.87 357 *e*PKP2 **PKPbc** 18 38 34.8 -0.5
BFO Black Forest 146.87 357 *e*PKPbc **PKPbc** 18 38 34.8 -0.5
BZS Buzias 147.00 340 ⇑PKP2 **PKPdf** 18 38 34.7 +1.0
BZS Buzias 147.00 340 ⇑*i*P **PKPdf** 18 38 34.7 +1.0
THEF They Montfort 147.02 0 PKP **PKPbc** 18 38 35.3 -0.4
ECH Echery 147.02 359 *e*PKP2 **PKPbc** 18 38 35.7 0.0
ECH Echery 147.02 359 PKP **PKPbc** 18 38 35.8 0.0
ECH Echery 147.02 359 *e*PKPbc **PKPbc** 18 38 35.7 0.0
ARSA Arzberg 147.08 348 ⇑*i*PKPdf **PKPdf** 18 38 29.7 -4.2
comp=Z,20nm,1.3s,SNR=8.8
FELD Feldberg im Sc 147.34 358 PKP **PKPbc** 18 38 36.0 -0.8
MOF Molkenrain 147.39 359 PKP **PKPbc** 18 38 36.2 -0.7
ISK Istanbul-Kandi 147.48 327 P **PKPab** 18 38 38.9 -0.3
ISK Istanbul-Kandi 147.48 327 PKP2 **PKPab** 18 38 38.9 -0.3
ISK Istanbul-Kandi 147.48 327 P **PKPab** 18 38 38.9 -0.3
RETA Reutte 147.54 354 ⇑*i*PKPbc **PKPdf** 18 38 35.5 +0.8
comp=Z,73nm,1.5s,SNR=20
MOTA Moosalm 147.65 354 ⇑*i*PKPbc **PKPdf** 18 38 35.4 +0.4
comp=Z,70nm,1.2s,SNR=21
JMB Yambol 147.65 331 P **PKPbc** 18 38 38.4 +0.7
JMB Yambol 147.65 331 PKP2 **PKPbc** 18 38 38.4 +0.7
JMB Yambol 147.65 331 P **PKPbc** 18 38 38.4 +0.7
SOKA Soboth 147.73 349 ⇑*i*PKPdf **PKPdf** 18 38 34.8 -0.2
comp=Z,71nm,1.4s,SNR=35
PERS Pernice 147.75 349 *i* PKPdf **PKPdf** 18 38 35.8 +0.7
PERS *i* PKPbc **PKiKP** 18 38 39.6 -0.3
DAVA Damuels 147.82 355 ⇓*i*PKPbc **PKPdf** 18 38 36.1 +0.9
comp=Z,122nm,1.4s,SNR=33
LOMF Lomont 147.89 359 PKP **PKPbc** 18 38 39.0 +0.7
FETA Feichten 148.01 354 ⇓*i*PKPbc **PKPdf** 18 38 36.5 +0.9
comp=Z,83nm,1.6s,SNR=18
MYKA Terra Mystica 148.02 350 ⇑*i*PKPbc **PKPdf** 18 38 36.0 +0.5
comp=Z,58nm,1.5s,SNR=10
LCHF La Chataignera 148.03 9 PKP **PKPdf** 18 38 36.1 +0.7
EDRB Edirne 148.06 330 P **PKPbc** 18 38 39.1 +0.3
EDRB Edirne 148.06 330 P **PKPbc** 18 38 39.1 +0.3
ABTA Abfaltersbach 148.07 352 ⇑*i*PKPdf **PKPdf** 18 38 33.0 -2.6
comp=Z,48nm,1.4s,SNR=11
MPEP Malo Peshtene 148.17 335 P **PKPbc** 18 38 40.5 +1.5
DAVOX Davos/Dischmat 148.32 355 PKPbc **PKPdf** 18 38 37.3 +1.2
DAVOX Davos/Dischmat 148.32 355 PKPbc **PKPdf** 18 38 37.3 +1.2

comp=Z,8.6nm,0.6s,baz=319,slow=5.1,SNR=14

VOY	**Vojsko**	**148.56**	**350**	*e*PKPdf	**PKPdf**	**18 38 36.8**	**+0.4**
VOY				*e*PKPbc	**PKPbc**	**18 38 39.7**	**-0.4**
VOY				*e*		18 38 44.2	
VOY				*e*		18 38 48.3	
VISS	**Visnje**	**148.60**	**348**	*i* PKPbc	**PKPbc**	**18 38 38.8**	**-1.3**
PGB	**Panagyurishte**	**148.66**	**334**	P	**PKPab**	**18 38 43.5**	**-0.5**
JAVS	**Javornik**	**148.66**	**350**	*i* PKPdf	**PKPdf**	**18 38 34.9**	**-1.8**
JAVS				*i* PKPbc	**PKPbc**	**18 38 38.7**	**-1.7**
TUE	**Stuetta**	**148.67**	**356**	*e*PKPdf	**PKPdf**	**18 38 37.7**	**+0.9**
CSS	**Prodhromos**	**148.71**	**314**	P	**PKPbc**	**18 38 40.1**	**-0.6**
CSS	**Prodhromos**	**148.71**	**314**	*e*PKPbc	**PKPbc**	**18 38 41.8**	**+1.1**
PLD	**Plovdiv**	**148.79**	**333**	P	**PKPbc**	**18 38 41.9**	**+1.2**
PLD	**Plovdiv**	**148.79**	**333**	PKP2	**PKPbc**	**18 38 41.9**	**+1.2**
PLD	**Plovdiv**	**148.79**	**333**	P	**PKPbc**	**18 38 41.9**	**+1.2**
BOJS	**Bojanci**	**148.81**	**348**	*i* PKPbc	**PKPbc**	**18 38 39.3**	**-1.3**
KDZ	**Kurdzhali**	**148.83**	**332**	P	**PKPbc**	**18 38 42.3**	**+1.5**
ISP	**Isparta**	**148.86**	**321**	P	**PKPab**	**18 38 43.2**	**-1.8**
ISP	**Isparta**	**148.86**	**321**	⇑PKP2	**PKPbc**	**18 38 41.8**	**+0.7**
ISP	**Isparta**	**148.86**	**321**	⇑*i*P	**PKPbc**	**18 38 41.8**	**+0.7**
ISP	**Isparta**	**148.86**	**321**	P	**PKPab**	**18 38 43.2**	**-1.8**
DIVS	**Divibare**	**148.87**	**341**	P	**PKPbc**	**18 38 39.2**	**-1.7**
TRI	**Trieste**	**148.89**	**350**	*e*PKIKP	**PKPdf**	**18 38 37.6**	**+0.7**
TRI	**Trieste**	**148.89**	**350**	*e*PKPdf	**PKPdf**	**18 38 37.5**	**+0.7**
OG01	**Vacheresse**	**148.91**	**359**	PKP	**PKPbc**	**18 38 41.3**	**+0.3**
VTS	**Vitosha**	**149.02**	**335**	P	**PKPbc**	**18 38 42.5**	**+1.1**
VTS	**Vitosha**	**149.02**	**335**	⇑PKP2	**PKPbc**	**18 38 40.7**	**-0.7**
VTS	**Vitosha**	**149.02**	**335**	⇑*i*P	**PKPbc**	**18 38 40.7**	**-0.7**
VTS	**Vitosha**	**149.02**	**335**	P	**PKPbc**	**18 38 43.3**	**+1.9**
VTS	**Vitosha**	**149.02**	**335**	P	**PKPbc**	**18 38 42.5**	**+1.1**
AGO	**Saint Agoulin**	**149.08**	**4**	PKP	**PKPdf**	**18 38 37.9**	**+0.7**
ALN	**Alexandroupoli**	**149.12**	**330**	P	**PKPdf**	**18 38 38.9**	**+1.5**
ALN	**Alexandroupoli**	**149.12**	**330**	PKIKP	**PKPdf**	**18 38 38.9**	**+1.5**
ALN	**Alexandroupoli**	**149.12**	**330**	P	**PKPdf**	**18 38 38.9**	**+1.5**
PLDF	**La Plantade**	**149.19**	**4**	PKP	**PKPdf**	**18 38 39.2**	**+1.8**
VERF	**Verneugheol**	**149.33**	**5**	PKP	**PKPbc**	**18 38 41.4**	**-0.6**
PYM	**Petit Puy Mans**	**149.37**	**4**	PKP	**PKPdf**	**18 38 38.6**	**+0.9**
KULA	**Kula-Manisa**	**149.49**	**324**	P	**PKPbc**	**18 38 43.5**	**+0.8**
KULA	**Kula-Manisa**	**149.49**	**324**	P	**PKPbc**	**18 38 43.5**	**+0.8**
MMB	**Musomiste**	**149.63**	**334**	P	**PKPbc**	**18 38 45.3**	**+2.4**
KKB	**Krupnik**	**149.68**	**335**	P	**PKPbc**	**18 38 45.3**	**+2.4**
FRNF	**Fournols**	**149.70**	**5**	PKP	**PKPdf**	**18 38 40.1**	**+1.9**
SMTH	**Samothraki Isl**	**149.70**	**330**	P	**PKPbc**	**18 38 43.5**	**+0.5**
SMTH	**Samothraki Isl**	**149.70**	**330**	P	**PKPbc**	**18 38 43.5**	**+0.5**
KAVA	**Kavala**	**149.76**	**332**	P	**PKPbc**	**18 38 44.9**	**+1.8**
KAVA	**Kavala**	**149.76**	**332**	P	**PKPbc**	**18 38 44.9**	**+1.8**
NVR	**Nevrokopi**	**149.77**	**333**	P	**PKPbc**	**18 38 43.2**	**0.0**
NVR	**Nevrokopi**	**149.77**	**333**	P	**PKPbc**	**18 38 43.2**	**0.0**
SSB	**Saint Sauveur**	**149.93**	**2**	PKP	**PKPdf**	**18 38 39.7**	**+1.1**
SSB	**Saint Sauveur**	**149.93**	**2**	*e*PKPdf	**PKPdf**	**18 38 39.5**	**+0.9**
GDM	**Grand'Maison**	**150.04**	**0**	PKP	**PKPbc**	**18 38 42.5**	**-1.4**
SRS	**Serrai**	**150.08**	**333**	P	**PKPbc**	**18 38 43.5**	**-0.4**
SRS	**Serrai**	**150.08**	**333**	PKP2	**PKPbc**	**18 38 43.5**	**-0.4**
SRS	**Serrai**	**150.08**	**333**	P	**PKPbc**	**18 38 43.5**	**-0.4**
BNI	**Bardonecchia**	**150.19**	**359**	*e*PKPdf	**PKPdf**	**18 38 39.8**	**+0.6**
SKO	**Skopje**	**150.24**	**337**	P	**PKPdf**	**18 38 38.2**	**-0.9**
SKO	**Skopje**	**150.24**	**337**	PKIKP	**PKPdf**	**18 38 38.2**	**-0.9**
SKO	**Skopje**	**150.24**	**337**	P	**PKPdf**	**18 38 38.2**	**-0.9**
PRK	**Paraskevi**	**150.26**	**328**	P	**PKPbc**	**18 38 44.7**	**+0.3**
PRK	**Paraskevi**	**150.26**	**328**	PKP2	**PKPbc**	**18 38 44.7**	**+0.3**
PRK	**Paraskevi**	**150.26**	**328**	P	**PKPbc**	**18 38 44.7**	**+0.3**
LIA	**Limnos Island**	**150.31**	**330**	P	**PKPbc**	**18 38 44.6**	**+0.1**
LIA	**Limnos Island**	**150.31**	**330**	*e*P	**PKPbc**	**18 38 44.4**	**-0.1**
LIA	**Limnos Island**	**150.31**	**330**	P	**PKPbc**	**18 38 44.6**	**+0.1**
KNT	**Kendrikon**	**150.34**	**334**	P	**PKPbc**	**18 38 44.9**	**+0.4**
KNT	**Kendrikon**	**150.34**	**334**	PKP2	**PKPbc**	**18 38 44.9**	**+0.4**
KNT	**Kendrikon**	**150.34**	**334**	P	**PKPbc**	**18 38 44.9**	**+0.4**
PGAV	**Gavieira, Arco**	**150.47**	**22**	*e*PKPdf	**PKPbc**	**18 38 42.4**	**-2.6**
PGAV	**Gavieira, Arco**	**150.47**	**22**	*e*PKPbc	**PKPbc**	**18 38 47.5**	**+2.5**
PGAV	**Gavieira, Arco**	**150.47**	**22**	*e*LR	LR	19 34 05.1	

comp=Z,395nm,20.0s

OUR	**Ouranopolis**	**150.54**	**332**	P	**PKPbc**	**18 38 42.4**	**-2.6**
OUR	**Ouranopolis**	**150.54**	**332**	PKIKP	**PKPbc**	**18 38 42.4**	**-2.6**
OUR	**Ouranopolis**	**150.54**	**332**	P	**PKPbc**	**18 38 42.4**	**-2.6**
PDG	**Podgorica**	**150.61**	**340**	P	**PKPbc**	**18 38 46.9**	**+1.8**
TTG	**Podgorica**	**150.61**	**340**	P	**PKPbc**	**18 38 46.9**	**+1.8**
OG26	**St.-Nazaire-De**	**150.66**	**1**	PKP	**PKPbc**	**18 38 43.8**	**-1.5**
PLG	**Polygyros**	**150.75**	**333**	P	**PKPbc**	**18 38 43.6**	**-2.0**
PLG	**Polygyros**	**150.75**	**333**	PKIKP	**PKPbc**	**18 38 43.6**	**-2.0**
PLG	**Polygyros**	**150.75**	**333**	P	**PKPbc**	**18 38 43.6**	**-2.0**
SUPF	**Saint Ours**	**150.75**	**359**	PKP	**PKPdf**	**18 38 43.8**	**+2.7**
PHP	**Peshkopia**	**150.86**	**338**	P	**PKPbc**	**18 38 46.5**	**+0.7**
PHP	**Peshkopia**	**150.86**	**338**	P	**PKPbc**	**18 38 46.5**	**+0.7**
CHOS	**Chios island**	**151.01**	**327**	P	**PKPdf**	**18 38 43.5**	**+3.0**
CHOS	**Chios island**	**151.01**	**327**	*e*P	**PKPbc**	**18 38 46.4**	**+0.1**
CHOS	**Chios island**	**151.01**	**327**	P	**PKPdf**	**18 38 43.5**	**+3.0**
SMG	**Samos**	**151.08**	**325**	P	**PKPbc**	**18 38 45.9**	**-0.5**
SMG	**Samos**	**151.08**	**325**	P	**PKPbc**	**18 38 45.9**	**-0.5**
PBRG	**Braganca**	**151.15**	**20**	*e*PKPbc	**PKPbc**	**18 38 47.4**	**+0.9**
POLO	**Lamas de Olo**	**151.16**	**22**	*e*PKPbc	**PKPbc**	**18 38 49.2**	**+2.6**
TOUF	**Mont Tournerai**	**151.22**	**359**	PKP	**PKPdf**	**18 38 43.7**	**+2.9**
AUTN	**L'Aution**	**151.23**	**358**	PKP	**PKPdf**	**18 38 43.7**	**+2.8**
FNA	**Florina**	**151.28**	**336**	P	**PKPbc**	**18 38 46.4**	**-0.4**
FNA	**Florina**	**151.28**	**336**	PKIKP	**PKPbc**	**18 38 46.4**	**-0.4**
FNA	**Florina**	**151.28**	**336**	P	**PKPbc**	**18 38 46.4**	**-0.4**
LUCF	**Luceram**	**151.34**	**358**	PKP	**PKPbc**	**18 38 44.1**	**-2.8**
MVIF	**Mont Vial**	**151.34**	**359**	PKP	**PKPbc**	**18 38 44.1**	**-2.9**
LIT	**Litokhoron**	**151.39**	**333**	P	**PKPbc**	**18 38 47.3**	**+0.2**
LIT	**Litokhoron**	**151.39**	**333**	P	**PKPbc**	**18 38 47.3**	**+0.2**
CALN	**Calern**	**151.49**	**359**	PKP	**PKPbc**	**18 38 43.5**	**-2.8**
REVF	**Revere**	**151.49**	**358**	PKP	**PKPdf**	**18 38 44.1**	**+3.0**
AOS	**Alonnisos**	**151.51**	**330**	P	**PKPbc**	**18 38 48.9**	**+1.6**
AOS	**Alonnisos**	**151.51**	**330**	*e*P	PKPab	18 39 02.2	**+6.5**
AOS	**Alonnisos**	**151.51**	**330**	P	**PKPbc**	**18 38 48.9**	**+1.6**
LARF	**Larrau**	**151.52**	**11**	PKP	**PKPdf**	**18 38 43.7**	**+2.6**
ATE	**Arette**	**151.52**	**11**	PKP	**PKPdf**	**18 38 44.2**	**+3.1**
MVO	**Moncorvo**	**151.62**	**21**	*e*PKPbc	**PKPbc**	**18 38 48.8**	**+1.2**
MVO	**Moncorvo**	**151.62**	**21**	*e*LR	LR	19 35 14.2	

comp=Z,372nm,24.0s

XOR	**Xorichti**	**151.68**	**332**	P	**PKPbc**	**18 38 47.5**	**-0.3**
XOR	**Xorichti**	**151.68**	**332**	P	**PKPbc**	**18 38 47.5**	**-0.3**
LABF	**Labassere**	**151.69**	**10**	PKP	**PKPdf**	**18 38 43.7**	**+2.3**
NEST	**Nestorio**	**151.72**	**336**	P	**PKPbc**	**18 38 48.2**	**+0.3**
VIEF	**Viey**	**151.84**	**10**	PKP	**PKPbc**	**18 38 45.3**	**-2.8**
MLS	**Moulis**	**151.93**	**8**	PKP	**PKPdf**	**18 38 43.8**	**+1.9**
RESF	**Ens**	**151.97**	**9**	PKP	**PKPdf**	**18 38 44.6**	**+2.7**
THL	**Klokotos Trika**	**152.04**	**333**	P	**PKPdf**	**18 38 42.6**	**+0.7**
MTE	**Manteigas**	**152.10**	**23**	*e*PKPdf	**PKPdf**	**18 38 42.7**	**+0.6**
MTE	**Manteigas**	**152.10**	**23**	*e*PKPbc	**PKPbc**	**18 38 49.6**	**+0.9**
MTE	**Manteigas**	**152.10**	**23**	*e*LR	LR	19 35 18.8	

comp=Z,481nm,20.0s

MTE	**Manteigas**	**152.10**	**23**	*e*PKPdf	**PKPdf**	**18 38 43.5**	**+1.3**
APE	**Apeiranthos**	**152.26**	**325**	P	**PKPdf**	**18 38 42.9**	**+0.5**
APE	**Apeiranthos**	**152.26**	**325**	*e*P	**PKPdf**	**18 38 40.8**	**-1.6**
APE	**Apeiranthos**	**152.26**	**325**	⇑*i*P	**PKPdf**	**18 38 40.4**	**-2.0**
APE	**Apeiranthos**	**152.26**	**325**	P	**PKPdf**	**18 38 42.9**	**+0.5**
APE	**Apeiranthos**	**152.26**	**325**	⇑*i*P	**PKPdf**	**18 38 40.4**	**-2.0**
AGG	**Agios Georgios**	**152.34**	**332**	P	**PKPbc**	**18 38 48.9**	**-0.4**
AGG	**Agios Georgios**	**152.34**	**332**	*e*P	**PKPbc**	**18 38 49.1**	**-0.2**
AGG	**Agios Georgios**	**152.34**	**332**	P	**PKPbc**	**18 38 48.9**	**-0.4**
KARP	**Karpathos**	**152.38**	**321**	P	**PKPbc**	**18 38 46.4**	**-3.1**
KARP	**Karpathos**	**152.38**	**321**	P	**PKPbc**	**18 38 46.4**	**-3.1**
KARP	**Karpathos**	**152.38**	**321**	P	**PKPbc**	**18 38 46.4**	**-3.1**
PTL	**Penteli**	**152.40**	**329**	P	**PKPbc**	**18 38 46.2**	**-3.2**
PTL	**Penteli**	**152.40**	**329**	P	**PKPbc**	**18 38 46.2**	**-3.2**
PTL	**Penteli**	**152.40**	**329**	P	**PKPbc**	**18 38 46.2**	**-3.2**
AXAR	**Agios Charalam**	**152.40**	**332**	P	**PKPdf**	**18 38 44.9**	**+2.3**
AXAR	**Agios Charalam**	**152.40**	**332**	P	**PKPdf**	**18 38 44.9**	**+2.3**
ATHU	**Athens Univers**	**152.50**	**329**	P	**PKPbc**	**18 38 51.8**	**+2.2**
ATHU	**Athens Univers**	**152.50**	**329**	P	**PKPbc**	**18 38 51.8**	**+2.2**
VALF	**Valcebollere**	**152.60**	**7**	PKP	**PKPdf**	**18 38 46.2**	**+3.3**
EVR	**Evrytania**	**152.66**	**333**	P	**PKPbc**	**18 38 51.0**	**+0.9**
EVR	**Evrytania**	**152.66**	**333**	P	**PKPbc**	**18 38 51.0**	**+0.9**
DSF	**Desfina**	**152.75**	**331**	P	**PKPbc**	**18 38 50.2**	**0.0**
DSF	**Desfina**	**152.75**	**331**	P	**PKPbc**	**18 38 50.2**	**0.0**
DSF	**Desfina**	**152.75**	**331**	P	**PKPbc**	**18 38 50.2**	**0.0**
IGT	**Igoumenitsa**	**152.76**	**336**	P	**PKPbc**	**18 38 48.6**	**-1.6**
IGT	**Igoumenitsa**	**152.76**	**336**	PKIKP	**PKPbc**	**18 38 48.6**	**-1.6**
IGT	**Igoumenitsa**	**152.76**	**336**	P	**PKPbc**	**18 38 48.6**	**-1.6**
KEK	**Kerkira**	**152.81**	**337**	P	**PKPbc**	**18 38 51.0**	**+0.7**
KEK	**Kerkira**	**152.81**	**337**	P	**PKPbc**	**18 38 51.0**	**+0.7**
LTK	**Loutraki**	**152.85**	**330**	P	**PKPbc**	**18 38 49.6**	**-0.8**
LTK	**Loutraki**	**152.85**	**330**	P	**PKPbc**	**18 38 49.6**	**-0.8**
PMTG	**Montargil**	**152.98**	**25**	*e*PKPbc	**PKPbc**	**18 38 52.7**	**+2.1**
PMTG	**Montargil**	**152.98**	**25**	*e*PKPab	**PKPab**	**18 39 02.7**	**+0.9**
TRIZ	**Trizonia**	**153.00**	**332**	P	**PKPbc**	**18 38 52.7**	**+2.0**
TRIZ	**Trizonia**	**153.00**	**332**	P	**PKPbc**	**18 38 52.7**	**+2.0**
PMRV	**Marv??o**	**153.00**	**24**	*e*PKPbc	**PKPbc**	**18 38 53.1**	**+2.4**
PMRV	**Marv??o**	**153.00**	**24**	*e*LR	LR	19 35 20.4	

comp=Z,395nm,22.0s

EFP	**Efpalio**	**153.02**	**332**	P	**PKPbc**	**18 38 47.3**	**-3.4**
EFP	**Efpalio**	**153.02**	**332**	P	**PKPbc**	**18 38 47.3**	**-3.4**
LAKA	**Lakka**	**153.14**	**332**	P	**PKPbc**	**18 38 55.1**	**+4.0**
LAKA	**Lakka**	**153.14**	**332**	P	**PKPbc**	**18 38 55.1**	**+4.0**
PESTR	**Estremoz**	**153.41**	**25**	*e*PKPdf	**PKPdf**	**18 38 46.7**	**+2.7**
PESTR	**Estremoz**	**153.41**	**25**	*e*PKPbc	**PKPbc**	**18 38 53.7**	**+2.1**
EVO	**Evora**	**153.52**	**26**	*e*PKPbc	**PKPbc**	**18 38 54.0**	**+2.2**
PNCL	**Nicolau / Gran**	**153.65**	**27**	*e*PKPbc	**PKPbc**	**18 38 54.5**	**+2.4**
PAB	**San Pablo**	**153.97**	**19**	*e*PKIKP	**PKPdf**	**18 38 46.3**	**+1.4**
PAB	**San Pablo**	**153.97**	**19**	*e*PKPdf	**PKPdf**	**18 38 46.3**	**+1.4**
ESDC	**Sonseca Array**	**153.97**	**18**	PKP	**PKPdf**	**18 38 45.8**	**+0.9**
ESDC				PKPbc	**PKiKP**	**18 38 53.1**	**+0.1**
ESDC				PKPab	**PKPab**	**18 39 05.3**	**-0.8**
ESDC	**Sonseca Array**	**153.97**	**18**	PKP	**PKPdf**	**18 38 45.8**	**+0.9**

comp=Z,0.2nm,0.4s,baz=3.8,slow=2.4,SNR=7.6

ESDC				PKPbc	**PKiKP**	**18 38 53.1**	**+0.1**

comp=Z,3.0nm,0.8s,baz=345,slow=2.8,SNR=18

ESDC				PKPab	**PKPab**	**18 39 05.3**	**-0.8**

comp=Z,4.4nm,0.9s,baz=323,slow=3.6,SNR=12

ESLA	**Sonseca Array**	**153.97**	**18**	*e*PKPdf	**PKPdf**	**18 38 42.8**	**-2.1**
ESLA				*e*PKPbc	**PKiKP**	**18 38 53.4**	**+0.5**
ESLA				*e*PKPab	**PKPab**	**18 39 06.8**	**+0.7**
PBAR	**Barrancos**	**154.22**	**25**	*e*PKPdf	**PKPdf**	**18 38 46.7**	**+1.5**
PBAR	**Barrancos**	**154.22**	**25**	*e*PKPbc	**PKPbc**	**18 38 55.8**	**+2.4**
PBAR	**Barrancos**	**154.22**	**25**	*e*PKPab	**PKPab**	**18 39 08.8**	**+1.7**
MORF	**Marmelete**	**154.26**	**28**	*e*PKPdf	**PKPdf**	**18 38 47.9**	**+2.6**
MORF	**Marmelete**	**154.26**	**28**	*e*PKPab	**PKPab**	**18 39 08.4**	**+1.0**
PCVE	**Castro Verde**	**154.26**	**27**	*e*PKPbc	**PKPbc**	**18 38 56.1**	**+2.6**
PVAQ	**Vaqueiros**	**154.59**	**27**	*e*PKPbc	**PKPbc**	**18 38 56.8**	**+2.6**
PVAQ	**Vaqueiros**	**154.59**	**27**	*e*PKPab	**PKPab**	**18 39 10.7**	**+2.0**
PVAQ	**Vaqueiros**	**154.59**	**27**	*e*LR	LR	19 34 55.8	

comp=Z,621nm,20.0s

KEST	**Kesra**	**159.32**	**353**	PKPab	**PKPab**	**18 39 28.1**	**-1.1**
KEST	**Kesra**	**159.32**	**353**	PKPab	**PKPab**	**18 39 28.1**	**-1.1**

comp=Z,3.7nm,1.0s,baz=41,slow=11,SNR=3.9

TAM	**Tamanrasset**	**172.37**	**5**	*e*PKIKP	**PKPdf**	**18 39 02.4**	**-0.5**
TAM	**Tamanrasset**	**172.37**	**5**	*e*PKPdf	**PKPdf**	**18 39 02.4**	**-0.5**
TORD	**Torodi Ar. Bea**	**175.13**	**114**	PKP	**PKPdf**	**18 39 02.7**	**-1.1**
TORD				PKPab	**PKPab**	**18 40 38.3**	**-1.3**
TORD	**Torodi Ar. Bea**	**175.13**	**114**	PKP	**PKPdf**	**18 39 02.7**	**-1.1**

comp=Z,1.1nm,0.8s,baz=319,slow=2.1,SNR=6.7

TORD				PKPab	**PKPab**	**18 40 38.3**	**-1.3**

comp=Z,2.6nm,0.9s,baz=265,slow=5.5,SNR=8.5

WEL 01 18:19:56.0±0.7, 36.72S×176.43E, h322km±10km, ML4.0/4, 1C, Error ellipse: s-maj=15.6km s-min=12.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.63**	**161**	⇑PN		Pn	18 20 42.5	+0.5
URZ				SN		S	18 21 17.8	-1.0
MXZ	**Matakaoa Point**	**1.72**	**120**	PN		Pn	18 20 43.2	+0.5
MXZ				SN		S	18 21 18.5	-1.5
PUZ	**Puketiti**	**1.99**	**133**	PN		Pn	18 20 44.3	-0.3
PUZ				SN		S	18 21 22.5	-0.9
CNGZ	**Carnagh Statio**	**2.26**	**142**	PN		Pn	18 20 47.2	+0.6
NMHZ	**Naumai**	**2.40**	**173**	PN		Pn	18 20 48.6	+0.8
NMHZ				SN		S	18 21 28.8	-0.6
BKZ	**Black Stump Fm**	**2.45**	**179**	PN		Pn	18 20 48.2	0.0
KNZ	**Kokohu**	**2.50**	**157**	PN		Pn	18 20 48.5	-0.1
BHHZ	**Black Hill Sta**	**2.78**	**186**	PN		Pn	18 20 51.2	0.0

*IDC **01** 18:21:08.5±0.7, 14.91S×177.17W, h0km, mb4.4/18, mb1 4.6/18, mb1mx4.6/23, mbtmp4.4/18, MS4.8/13, Ms1 4.8/13, ms1mx4.7/18, Error ellipse: s-maj=25.8km s-min=16.3km az=135.0*

*ISCJB **01** 18:21:12.2±0.3, 14.90S±0.08×177.20W±0.08, h33km, mb4.6/37, MS4.8/10, Error ellipse: s-maj=14.4km s-min=8.4km az=138.1*

*NEIC **01** 18:21:14.1±0.3, 14.85S×177.11W, h35km, mb4.8/18, Error ellipse: s-maj=16.5km s-min=8.2km az=146.0*

*GCMT **01** 18:21:16.2±0.1, 14.78S×176.95W, h12km, MW5.4, Moment Tensor Solution. s79,c145; s99,c233; Moment tensor: Scale 10^17 Nm; Mrr=0.24±.02; Mθθ 1.51±.02; Mφφ -1.28±.02; Mrθ 0.08±.05; Mrφ 0.77±.02; Mθφ -0.18±.05; Best double couple: M0 1.60000×10^17 NP1: φ 300.00000°, δ 85.00000°, λ -7.00000°. NP2: φ 31.00000°, δ 83.00000°, λ -175.00000°. Principal axes: T 1.7100, Plg1.0000°, Azm346.0000°; N -0.2100, Plg81.0000°, Azm82.0000°; P -1.5100, Plg9.0000°, Azm255.0000°; Data Used: II IU IC G CN. Surface waves from 121 sta.*

ISC 01 18:21:14.0±0.5, 14.9S±0.1×177.1W±0.1, h35km, n105, σ 1.9 30/84, mb4.7/37, MS4.8/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.22**	**80**	LR		LR	18 24 01.6	

comp=Z,17μm,20.6s,baz=237,slow=33

RAO	**Raoul Island**	**14.29**	**183**	LR		LR	18 28 31.1	

comp=Z,3μm,21.3s,baz=104,slow=31

DZM	**Mont Dzumac**	**17.17**	**243**	*e*P		**P**	**18 25 17.0**	**+4.3**

311nm,1.8s

DZM	**Mont Dzumac**	**17.17**	**243**	P		**P**	**18 25 13.6**	**+0.9**
DZM	**Mont Dzumac**	**17.17**	**243**	P		**P**	**18 25 13.6**	**+0.9**

0.2nm,0.3s,baz=95,slow=13,SNR=5.7

RAR	**Rarotonga**	**17.59**	**113**	LR		LR	18 30 27.4	

comp=Z,4μm,18.0s,baz=276,slow=32

HNR	**Honiara**	**23.11**	**281**	P		**P**	**18 26 19.0**	**+1.9**
HNR	**Honiara**	**23.11**	**281**	P		**P**	**18 26 19.0**	**+1.9**

41nm,0.7s,baz=265,slow=7.5,SNR=3.7

HNR				LR		LR	18 33 53.1	

comp=Z,3μm,19.6s,baz=112,slow=33

URZ	**Urewera**	**23.82**	**191**	P		**P**	**18 26 21.2**	**-2.4**
URZ	**Urewera**	**23.82**	**191**	P		**P**	**18 26 21.3**	**-2.4**

12nm,0.9s,baz=344,slow=3.4,SNR=2.9

URZ				LR		LR	18 34 03.8	

comp=Z,5μm,19.0s,baz=29,slow=33

PPT	**Papeete**	**26.52**	**99**	LR		LR	18 34 03.0	

comp=Z,3μm,21.7s,baz=270,slow=29

PPT2	**Papeete2**	**26.52**	**100**	*e*LQ		LQ	18 32 09.1	

5μm,26.2s

PPT2				*e*LR		LR	18 33 22.6	

6μm,26.5s,baz=266

TBI	**Tubuai**	**27.36**	**112**	*e*LQ		LQ	18 32 35.4	

6μm,29.8s

TBI				*e*LR		LR	18 33 53.5	

4μm,28.8s,baz=286

CTA	**Charters Tower**	**35.30**	**256**	LR		LR	18 40 25.3	

comp=Z,1μm,20.1s,baz=45,slow=33

PMG	**Port Moresby**	**35.36**	**275**	LR		LR	18 40 20.8	

comp=Z,923nm,18.4s,baz=92,slow=33

H11S2	**WAKE ISLAND Hy**	**36.84**	**334**	T		T	19 07 03.2	

baz=152,slow=0.7,SNR=12

H11S3	**WAKE ISLAND Hy**	**36.85**	**334**	T		T	19 07 04.1	

baz=152,slow=0.7,SNR=96

H11S1	**WAKE ISLAND Hy**	**36.86**	**334**	T		T	19 07 04.5	

baz=152,slow=0.7,SNR=96

H11N3	**WAKE ISLAND Hy**	**37.85**	**335**	T		T	19 08 15.2	

baz=152,slow=0.7,SNR=16

H11N1	**WAKE ISLAND Hy**	**37.86**	**335**	T		T	19 08 12.8	

baz=152,slow=0.7,SNR=86

H11N2	**WAKE ISLAND Hy**	**37.87**	**335**	T		T	19 08 13.8	

baz=152,slow=0.7,SNR=99

RKT	**Rikitea**	**40.51**	**108**	*e*LR		LR	18 39 54.0	

3μm,28.5s,baz=282

STKA	**Stephens Creek**	**41.24**	**238**	P		**P**	**18 28 55.8**	**-0.1**
STKA	**Stephens Creek**	**41.24**	**238**	P		**P**	**18 28 55.8**	**-0.1**

12nm,1.0s,baz=63,slow=7.8,SNR=5.9

WRAB	**Tennant Creek**	**46.50**	**257**	*e*P		**P**	**18 29 36.8**	**-1.4**
WRA	**Warramunga Arr**	**46.51**	**257**	P		**P**	**18 29 36.8**	**-1.5**
WRA	**Warramunga Arr**	**46.51**	**257**	P		**P**	**18 29 36.8**	**-1.5**

4.1nm,0.9s,baz=89,slow=7.4,SNR=4.8

ASAR	**Alice Springs**	**46.90**	**251**	P		**P**	**18 29 40.4**	**-1.0**
ASAR	**Alice Springs**	**46.90**	**251**	P		**P**	**18 29 40.4**	**-1.0**

6.5nm,0.7s,baz=85,slow=8.2,SNR=5.7

NWAO	**Narrogin (SRO)**	**61.77**	**240**	P		**P**	**18 31 27.1**	**-2.3**
NWAO	**Narrogin (SRO)**	**61.77**	**240**	P		**P**	**18 31 27.1**	**-2.3**

18nm,1.2s,baz=56,slow=7.3,SNR=3.1

SBA	**Scott Base**	**63.47**	**184**	*e*P		**P**	**18 31 40.7**	**+0.7**
VNDA	**Vanda**	**63.52**	**185**	P		**P**	**18 31 41.1**	**+0.8**
VNDA	**Vanda**	**63.52**	**185**	P		**P**	**18 31 41.1**	**+0.8**

4.4nm,1.2s,baz=25,slow=8.1,SNR=3.3

VNDA				LR		LR	18 56 49.4	

comp=Z,557nm,18.4s,baz=24,slow=34

MJAR	**Matsushiro Arr**	**66.33**	**322**	P

s-min=3.0km az=149.4
TAP ***01*** *18:22:41.1,24.94N×121.81E,h127km,ML3.9,B*
JMA ***01*** *18:22:42.1±0.3,24.94N×121.85E,h117km,M3.1*
IDC ***01*** *18:22:47.3±8.7,24.93N×121.63E,h186km±91km,mb3.2/5, mb1 3.3/6,mb1mx3.0/27,mbtmp3.1/6,Error ellipse: s-maj=76.9km s-min=23.4km az=64.0*

ISC 01 18:22:41.2±0.7,24.94N±0.04×121.81E±0.03,h127km±5km, n64,σ0.965/120,mb3.4/5,16D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NWF	**Wu-fen Shan**	**0.13**	**348**	⇓*iP*		**Pn**	**18 22 58.8**	**+0.1**
	baz=341							
NWF				S		**Sn**	**18 23 12.4**	**+0.5**
	baz=341							
TWB1	**Santiao Chiao**	**0.17**	**68**	*i*P		**Pn**	**18 22 58.6**	**0.0**
	baz=63							
TWB1				S		**Sn**	**18 23 11.6**	**-0.1**
	baz=63							
ILA	**Ilan**	**0.19**	**198**	P		**Pn**	**18 22 59.4**	**+0.7**
	baz=204							
ILA				*e*S		**Sn**	**18 23 13.5**	**+1.7**
	baz=204							
TWA	**Mucha**	**0.21**	**280**	⇓*iP*		**Pn**	**18 22 58.9**	**+0.2**
	baz=272							
TWA				S		**Sn**	**18 23 11.9**	**-0.1**
	baz=272							
TWE	**Neicheng**	**0.26**	**211**	⇓*iP*		**Pn**	**18 22 59.2**	**+0.4**
	baz=211							
TWE				*e*S		**Sn**	**18 23 12.7**	**+0.5**
	baz=211							
TAP1	**Taipei**	**0.28**	**290**	*i*P		**Pn**	**18 22 58.8**	**0.0**
	baz=294							
TAP1				S		**Sn**	**18 23 11.9**	**-0.3**
	baz=294							
TAP	**Taipei**	**0.29**	**289**	P		**Pn**	**18 22 58.9**	**0.0**
	baz=294							
TAP				S		**Sn**	**18 23 12.1**	**-0.2**
	baz=294							
TWC	**Suao**	**0.33**	**174**	⇓*iP*		**Pn**	**18 22 59.8**	**+0.6**
	baz=168							
TWC				*e*S		**Sn**	**18 23 13.1**	**+0.4**
	baz=168							
ENTT	**Nioudou**	**0.38**	**217**	*i*P		**Pn**	**18 22 59.5**	**+0.2**
	baz=226							
ENTT				S		**Sn**	**18 23 13.3**	**+0.3**
	baz=226							
TWY	**Chenhua**	**0.38**	**330**	*i*P		**Pn**	**18 22 59.4**	**+0.1**
	baz=326							
TWY				*e*S		**Sn**	**18 23 12.9**	**-0.2**
	baz=326							
TWS1	**Kuangyinshan**	**0.39**	**294**	⇓*iP*		**Pn**	**18 22 59.6**	**+0.3**
	baz=302							
TWS1				S		**Sn**	**18 23 13.2**	**+0.2**
	baz=302							
NSK	**Sanguang**	**0.49**	**237**	⇓*iP*		**Pn**	**18 22 59.9**	**0.0**
	baz=239							
NSK				S		**Sn**	**18 23 13.2**	**-1.0**
	baz=239							
ENA	**Nanau**	**0.52**	**187**	P		**Pn**	**18 23 00.4**	**+0.3**
	baz=179							
ENA				*e*S		**Sn**	**18 23 15.0**	**+0.8**
	baz=179							
NCU	**National Centr**	**0.57**	**273**	P		**Pn**	**18 23 00.6**	**+0.3**
	baz=273							
NCU				S		**Sn**	**18 23 14.7**	**-0.1**
	baz=273							
NNS	**Nan Shan**	**0.64**	**219**	⇓*iP*		**Pn**	**18 23 01.4**	**+0.4**
	baz=221							
NNS				*e*S		**Sn**	**18 23 16.1**	**+0.1**
	baz=221							
HSN	**Hsinchu**	**0.78**	**260**	P		**Pn**	**18 23 01.9**	**+0.1**
	baz=257							
HSN				S		**Sn**	**18 23 17.0**	**-0.5**
	baz=257							
NSTT	**Nanjuang**	**0.80**	**247**	⇓*iP*		**Pn**	**18 23 02.3**	**+0.2**
	baz=252							
NSTT				*e*S		**Sn**	**18 23 16.6**	**-1.2**
	baz=252							
TWD	**Chiawan**	**0.88**	**193**	P		**Pn**	**18 23 02.3**	**-0.5**
	baz=203							
TWD				S		**Sn**	**18 23 18.2**	**-0.9**
	baz=203							
TWT	**Tachien**	**0.90**	**220**	P		**Pn**	**18 23 03.7**	**+0.6**
	baz=223							
TWT				*e*S		**Sn**	**18 23 19.9**	**+0.2**
	baz=223							
WHF	**Hehuan Shan**	**0.94**	**212**	⇓*iP*		**Pn**	**18 23 04.5**	**+0.7**
	baz=210							
WHF				*e*S		**Sn**	**18 23 21.4**	**+0.6**
	baz=210							
HWA	**Hwalien**	**0.98**	**191**	*e*P		**Pn**	**18 23 03.6**	**-0.1**
	baz=201							
HWA				*e*S		**Sn**	**18 23 21.1**	**+0.5**
	baz=201							
NSY	**Sanyi**	**1.09**	**241**	⇓*iP*		**Pn**	**18 23 05.4**	**+0.7**
	baz=237							
NSY				S		**Sn**	**18 23 22.8**	**+0.3**
	baz=237							
TWQ1	**Liyutan**	**1.12**	**238**	⇓*iP*		**Pn**	**18 23 05.4**	**+0.4**
	baz=234							
TWQ1				*e*S		**Sn**	**18 23 22.9**	**-0.1**
	baz=234							
ESL	**Shilin**	**1.18**	**197**	P		**Pn**	**18 23 04.8**	**-0.8**
	baz=203							
ESL				*e*S		**Sn**	**18 23 23.2**	**-0.9**
	baz=203							
YOJ	**Yonaguni jima**	**1.19**	**113**	P		**Pn**	**18 23 05.7**	**0.0**
YOJ				S		**Sn**	**18 23 23.8**	**-0.5**
TCU	**Taichung**	**1.30**	**233**	P		**Pn**	**18 23 07.6**	**+0.7**
	baz=229							
TCU				S		**Sn**	**18 23 26.8**	**+0.4**
	baz=229							
SMLT	**Sun Moon Lake**	**1.34**	**218**	⇓*iP*		**Pn**	**18 23 08.2**	**+0.7**
	baz=227							
SMLT				*e*S		**Sn**	**18 23 28.1**	**+0.6**
	baz=227							
TYC	**Yuchr**	**1.35**	**220**	⇓*iP*		**Pn**	**18 23 08.1**	**+0.6**
	baz=229							
TYC				S		**Sn**	**18 23 27.8**	**+0.5**
	baz=229							
WNT	**Mingjian**	**1.48**	**224**	⇓*iP*		**Pn**	**18 23 09.6**	**+0.8**
	baz=226							
WNT				S		**Sn**	**18 23 30.5**	**+0.6**
	baz=226							
EHY	**Hungye**	**1.50**	**197**	*e*P		**Pn**	**18 23 08.8**	**-0.3**
	baz=192							
EHY				*e*S		**Sn**	**18 23 30.1**	**-0.2**
	baz=192							
YUS	**Yu-Shan**	**1.65**	**209**	*i*P		**Pn**	**18 23 12.3**	**+1.0**
	baz=220							
YUS				*e*S		**Sn**	**18 23 34.7**	**+0.6**
	baz=220							
TWF1	**Yuli**	**1.65**	**197**	*e*P		**Pn**	**18 23 10.2**	**-0.7**
	baz=193							
TWF1				*e*S		**Sn**	**18 23 32.6**	**-0.9**
	baz=193							
CHN5	**Tsauling**	**1.69**	**218**	*i*P		**Pn**	**18 23 12.1**	**+0.6**
	baz=228							
CHN5				*e*S		**Sn**	**18 23 34.9**	**+0.4**
	baz=228							
WGK	**Gukeng**	**1.69**	**223**	P		**Pn**	**18 23 12.1**	**+0.8**
	baz=224							
WGK				S		**Sn**	**18 23 35.2**	**+0.9**
	baz=224							
ALS	**Alishan**	**1.70**	**213**	P		**Pn**	**18 23 12.5**	**+0.8**
	baz=215							
ALS				S		**Sn**	**18 23 35.4**	**+0.5**
	baz=215							
WTCT	**Ta-ch'eng**	**1.76**	**233**	*e*P		**Pn**	**18 23 13.2**	**+1.1**
	baz=231							
WTCT				*e*S		**Sn**	**18 23 36.1**	**+0.4**
	baz=231							
IRIF	**Iriomote-Funau**	**1.85**	**109**	P		**Pn**	**18 23 13.0**	**-0.1**
IRIF				S		**Sn**	**18 23 37.2**	**-0.3**
CHKT	**Chengkung**	**1.88**	**193**	*e*P		**Pn**	**18 23 13.7**	**+0.2**
	baz=187							
CHKT				*e*S		**Sn**	**18 23 38.3**	**0.0**
	baz=187							
ELDTW	**Lidau**	**1.89**	**203**	*e*P		**Pn**	**18 23 14.3**	**+0.5**
	baz=205							
ELDTW				*e*S		**Sn**	**18 23 39.4**	**+0.7**
	baz=205							
CHY	**Chiayi**	**1.92**	**222**	P		**Pn**	**18 23 14.7**	**+0.7**
	baz=229							
CHY				*e*S		**Sn**	**18 23 38.8**	**-0.2**
	baz=229							
WSF	**Szhu**	**1.95**	**228**	*e*P		**Pn**	**18 23 15.6**	**+1.3**
	baz=226							
WSF				*e*S		**Sn**	**18 23 40.6**	**+0.9**
	baz=226							
WTP	**Ta-pu**	**2.01**	**213**	⇓*iP*		**Pn**	**18 23 15.6**	**+0.4**
	baz=214							
WTP				*e*S		**Sn**	**18 23 41.5**	**+0.2**
	baz=214							
HATJ	**Hateruma jima**	**2.02**	**116**	P		**Pn**	**18 23 15.9**	**+0.7**
HATJ				S		**Sn**	**18 23 40.8**	**-0.5**
CHN1	**Nanshi**	**2.11**	**214**	⇓*iP*		**Pn**	**18 23 16.8**	**+0.4**
	baz=216							
CHN1				*e*S		**Sn**	**18 23 43.2**	**-0.1**
	baz=216							
JKRS	**Kuro-shima**	**2.12**	**109**	P		**Pn**	**18 23 17.1**	**+0.6**
JKRS				*e*S		**Sn**	**18 23 43.1**	**-0.4**
SGST	**Jiashian**	**2.17**	**211**	P		**Pn**	**18 23 17.9**	**+0.8**
	baz=219							
SGST				*e*S		**Sn**	**18 23 44.9**	**+0.3**
	baz=219							
JIJ	**Ishigaki jima**	**2.20**	**105**	P		**Pn**	**18 23 17.4**	**0.0**
JIJ				S		**Sn**	**18 23 44.1**	**-1.1**
TWG	**Pinlang**	**2.22**	**198**	*e*P		**Pn**	**18 23 17.2**	**-0.5**
	baz=192							
TWG				*e*S		**Sn**	**18 23 44.9**	**-0.8**
	baz=192							
CHN3	**Shinhua**	**2.28**	**216**	*e*P		**Pn**	**18 23 19.8**	**+1.3**
	baz=218							
CHN3				*e*S		**Sn**	**18 23 48.3**	**+1.2**
	baz=218							
ECL	**Taimali**	**2.46**	**199**	*e*P		**Pn**	**18 23 20.8**	**0.0**
	baz=194							
ECL				*e*S		**Sn**	**18 23 51.3**	**0.0**
	baz=194							
TWM1	**Shoushan**	**2.46**	**211**	*e*P		**Pn**	**18 23 21.3**	**+0.5**
	baz=214							
TWM1				*e*S		**Sn**	**18 23 53.0**	**+1.7**
	baz=214							
PNG	**Penghu**	**2.47**	**237**	P		**Pn**	**18 23 20.8**	**-0.2**
	baz=238							
PNG				*e*S		**Sn**	**18 23 50.2**	**-1.2**
	baz=238							
WDGT	**Dungji**	**2.58**	**230**	P		**Pn**	**18 23 22.2**	**-0.1**
	baz=225							
WDGT				*e*S		**Sn**	**18 23 53.0**	**-1.0**
	baz=225							
JTJ	**Tarama**	**2.64**	**96**	P		**Pn**	**18 23 23.9**	**+0.8**
JTJ				*e*S		**Sn**	**18 23 56.1**	**+0.8**
EAST	**Anshuo**	**2.70**	**199**	P		**Pn**	**18 23 25.1**	**+1.3**
	baz=194							
EAST				*e*S		**Sn**	**18 23 56.1**	**-0.6**
	baz=194							
LAY	**Lan-yu**	**2.90**	**185**	*e*P		**Pn**	**18 23 26.0**	**-0.5**
	baz=181							
JOGS	**Gusukube**	**3.27**	**92**	P		**Pn**	**18 23 32.9**	**+1.7**
JKE	**Kume jima 2**	**4.70**	**72**	P		**Pn**	**18 23 50.8**	**+0.7**
JKE				*e*S		**Sn**	**18 24 44.4**	**+0.6**
KSRS	**Korea Array**	**13.52**	**21**	P		**P**	**18 25 52.8**	**+0.4**
	0.1nm,0.3s,baz=189,slow=12,SNR=4.7							
SONM	**Songino Array**	**25.90**	**336**	P		**P**	**18 28 01.1**	**-0.3**
	0.4nm,0.5s,baz=154,slow=10,SNR=3.5							
MKAR	**Makanchi Array**	**38.20**	**315**	P		**P**	**18 29 48.5**	**0.0**
	0.4nm,0.6s,baz=102,slow=10,SNR=6.1							
WRA	**Warramunga Arr**	**46.25**	**164**	P		**P**	**18 30 54.3**	**+0.4**
	0.5nm,0.9s,baz=344,slow=8.6,SNR=2.8							
BVAR	**Borovoye Array**	**47.45**	**320**	P		**P**	**18 31 01.9**	**-1.0**
	0.3nm,0.4s,baz=120,slow=5.8,SNR=3.6							
FINES	**FINESS Array B**	**71.08**	**330**	P		**P**	**18 33 44.8**	**-0.5**
	4.2nm,1.1s,baz=72,slow=6.2,SNR=8.8							

MAN 01 18:26:42,8.99N×126.39E,h23km,mb4.6,ML3.5,MS3.5, 2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.76**	**268**	*e*P		Pb	18 26 56.7	+0.1
BUTP				*e*S		Sn	18 27 09.2	+1.1
SCPH	**Surigao**	**1.19**	**311**	*e*P		Pn	18 27 02.8	-0.4
SCPH				*e*S		Sn	18 27 18.6	0.0
BUKP	**Musuan**	**1.72**	**230**	*e*P		Pb	18 27 11.9	-1.1
CGP	**Cagayan de Oro**	**1.76**	**252**	⇓*e*P		Pn	18 27 11.1	-0.1
CGP				*i* S		Sn	18 27 33.7	+0.8
MSLP	**Maasin**	**1.89**	**307**	*e*P		Pb	18 27 14.7	-1.2
MATI	**Mati**	**2.04**	**184**	*e*P		Pn	18 27 15.5	+0.6
TBP	**Tagbilaran**	**2.59**	**286**	*e*P		Pn	18 27 24.0	+1.5
TBP				*e*S		Sb	18 27 56.4	-2.9
CTBH	**Cotabato--PC H**	**2.76**	**231**	⇓*iP*		Pn	18 27 26.1	+1.2
PAGZ	**Pagadian**	**3.19**	**249**	*e*P		Pb	18 27 34.5	-3.5
IPIL	**Ipil**	**3.97**	**253**	*e*P		Pn	18 27 36.9	-4.6
GUIM	**Jordan**	**4.08**	**294**	*e*P		Pn	18 27 44.4	+1.3

IDC 01 18:27:43.7±2.1,15.33S×173.61W,h0km,mb3.8/5, mb1 4.2/5,mb1mx3.8/19,mbtmp3.8/5,Error ellipse: s-maj=127.7km s-min=30.8km az=151.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.27**	**52**	Pn		Pn	18 28 19.0	-3.6
	baz=72,slow=20,SNR=1.4							
AFI						Sn	18 28 38.5	-13
	26nm,0.3s,baz=139,slow=19,SNR=3.1							
H11S2	**WAKE ISLAND Hy**	**38.80**	**329**	T		T	19 15 56.6	
	baz=149							
H11S3	**WAKE ISLAND Hy**	**38.81**	**329**	T		T	19 15 57.1	
	baz=149							
H11S1	**WAKE ISLAND Hy**	**38.82**	**329**	T		T	19 15 58.7	
	baz=149							
H11N3	**WAKE ISLAND Hy**	**39.75**	**331**	T		T	19 17 09.7	
	baz=149,slow=0.7							
H11N1	**WAKE ISLAND Hy**	**39.76**	**331**	T		T	19 17 10.7	
	baz=149							
H11N2	**WAKE ISLAND Hy**	**39.77**	**331**	T		T	19 17 11.4	
	baz=149,slow=0.7							
ASAR	**Alice Springs**	**49.94**	**252**	P		P	18 36 39.6	-0.2
	2.6nm,0.6s,baz=85,slow=8.5,SNR=6.7							
NVAR	**Mina Array Bea**	**74.41**	**42**	P		P	18 39 25.3	+1.2
	0.5nm,0.8s,baz=234,slow=7.7,SNR=3.1							
TXAR	**Lajitas Array**	**80.74**	**56**	P		P	18 39 59.1	-0.4
	0.6nm,0.7s,baz=270,slow=2.3,SNR=3.7							
PDAR	**Pinedale Array**	**82.35**	**42**	P		P	18 40 07.0	-0.8
	0.5nm,0.8s,baz=228,slow=6.8,SNR=3.2							
ILAR	**Eielson Array**	**82.42**	**11**	P		P	18 40 06.7	-0.7
	0.3nm,0.7s,baz=202,slow=6.8,SNR=3.2							
BRTR	**Keskin Array B**	**145.98**	**321**	PKPbc		PKPdf	18 47 24.3	-0.9
	0.9nm,0.8s,baz=11,slow=0.7,SNR=2.8							
GERES	**GERESS Array B**	**146.04**	**351**	PKPbc		PKPab	18 47 26.3	+0.1
	0.2nm,0.3s,baz=45,slow=4.0,SNR=4.9							

AUST ***01*** *18:30:48.6±0.4,9.73S×122.19E,h41km±6km,Error ellipse: s-maj=5.7km s-min=4.7km az=152.0*
ISCJB ***01*** *18:30:49.3±0.4,9.43S±0.03×122.16E±0.04,h93km±4km, mb4.2/20,Error ellipse: s-maj=6.4km s-min=4.9km az=140.1*
IDC ***01*** *18:30:49.6±0.5,9.29S×122.21E,h79km±4km,mb4.0/20, mb1 4.1/21,mb1mx4.0/26,mbtmp4.0/21,Error ellipse: s-maj=17.3km s-min=8.8km az=72.0*
NEIC ***01*** *18:30:49.7±0.3,9.39S×122.22E,mb4.5/4,Error ellipse: s-maj=15.4km s-min=7.1km az=58.0*
DJA ***01*** *18:30:49.6±1.1,10°S±3°×12°2E±°,h13km±9km,M4.6/11, mB5.0/5,mb4.8/11,MLv4.7/9,Mw(mB)4.3/5*

ISC 01 18:30:49.8±0.4,9.47S±0.04×122.19E±0.04,h79km±3km, h78km:pP-P,n115,σ1.942/132,mb4.2/20,4C-11D,Savu Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.83**	**4**	P		**Pn**	**18 31 06.3**	**-0.4**
MMRI				S		**Sn**	**18 31 18.9**	**-0.4**
BATI	**Baumata**	**1.63**	**117**	P		**Pn**	**18 31 17.8**	**+1.0**
BATI	**Baumata**	**1.63**	**117**	P		**Pn**	**18 31 16.5**	**-0.3**
BATI	**Baumata**	**1.63**	**117**	P		**Pn**	**18 31 16.5**	**-0.3**
	47nm,0.3s,baz=287,slow=4.1,SNR=96							
WSI	**Waingapu**	**1.87**	**264**	P		**Pn**	**18 31 19.3**	**-0.6**
WSI	**Waingapu**	**1.87**	**264**	P		**Pn**	**18 31 19.3**	**-0.6**
	baz=1.9,SNR=50							
SOEI	**Soe**	**2.07**	**98**	P		**Pn**	**18 31 24.7**	**+2.0**
LBFI	**Labuhan Bajo,**	**2.47**	**293**	P		**Pn**	**18 31 29.3**	**+1.4**
LBFI				S		**Sn**	**18 31 58.9**	**+1.7**
WBSI	**Waikabubak, Su**	**2.76**	**266**	P		**Pn**	**18 31 32.3**	**+0.4**
BBSI	**Bau Bau**	**3.97**	**6**	P		**Pn**	**18 31 50.5**	**+2.2**
BKSI	**Bulukumba**	**4.60**	**333**	P		**Pn**	**18 31 58.0**	**+1.1**
KAPI	**Kappang**	**5.04**	**331**	P		**Pn**	**18 32 04.7**	**+1.8**
	131nm,0.9s,1μm							
KAPI	**Kappang**	**5.04**	**331**	*e*P		**Pn**	**18 32 04.5**	**+1.6**
KAPI				S		**Sn**	**18 33 01.0**	**+1.1**
KAPI	**Kappang**	**5.04**	**331**	P		**Pn**	**18 32 04.3**	**+1.4**
	13nm,0.3s,baz=165,slow=11,SNR=58							
KAPI				S		**Sn**	**18 33 01.0**	**+1.1**
	1.3nm,0.3s,baz=221,slow=20,SNR=2.2							
KKSI	**Kolaka, Sulawe**	**5.29**	**354**	P		**Pn**	**18 32 06.8**	**+0.5**
	72nm,0.8s,1μm0.4nm							
BNSI	**Bone**	**5.44**	**338**	P		Pn	18 32 12.8	+4.4
	81nm,0.7s,1μm							
SPSI	**Sidrap Palu**	**5.97**	**336**	P		**Pn**	**18 32 17.8**	**+2.2**
	24nm,0.9s							
MTNI	**Mataram**	**6.00**	**277**	P		**Pn**	**18 32 17.4**	**+1.4**
	47nm,0.5s,2μm							
NLAI	**Namlea**	**7.88**	**39**	P		Pn	18 32 47.8	+6.1
	167nm,0.8s,2μm0.5nm							
AAI	**Ambon**	**8.28**	**46**	P		Pn	18 32 52.6	+5.4
	40nm,0.8s							
KNRA	**Kununurra**	**8.90**	**135**	⇓P		**Pn**	**18 32 52.5**	**-3.1**
	baz=8.7,SNR=106							
BNDI	**Bandanaira**	**9.10**	**58**	P		Pn	18 33 04.3	+5.9
	89nm,1.0s							
BNDI	**Bandanaira**	**9.10**	**58**	⇓P		**Pn**	**18 33 00.4**	**+2.1**
	baz=9.3,SNR=5.9							
MRSI	**Marisa**	**9.88**	**359**	P		Pn	18 33 14.1	+5.1
	21nm,1.0s							
KDU	**Kakadu**	**10.59**	**109**	P		**Pn**	**18 33 16.1**	**-2.6**
	baz=10,SNR=53							
TLE	**Tual**	**11.13**	**71**	P		**Pn**	**18 33 26.3**	**+0.2**
	50nm,1.2s							
TLE	**Tual**	**11.13**	**71**	⇓P		**Pn**	**18 33 25.1**	**-1.0**
	baz=11,SNR=31							
UGM	**Wanagama**	**11.63**	**277**	⇓P		**Pn**	**18 33 31.5**	**-1.4**
	baz=12,SNR=6.9							
MBWA	**Marble Bar**	**11.86**	**191**	*e*P		Pn	18 33 32.6	-3.4
	14nm,0.5s							
FAKI	**Fak Fak**	**11.93**	**58**	P		**Pn**	**18 33 37.8**	**+0.9**
	baz=12,SNR=6.3							
SWI	**Sorong**	**12.43**	**47**	P		Pn	18 33 47.6	+3.8
SWI	**Sorong**	**12.43**	**47**	P		**Pn**	**18 33 46.1**	**+2.3**
	baz=13,SNR=7.1							
CISI	**Cisompet, Garu**	**14.34**	**277**	⇑P		**Pn**	**18 34 08.4**	**-0.7**
	baz=14,SNR=4.6							
GIRL	**Giralia**	**15.16**	**209**	⇓P		**Pn**	**18 34 17.8**	**-1.7**
	baz=15,SNR=11							
WRA	**Warramunga Arr**	**15.69**	**133**	P		Pn	18 34 20.6	-5.8
WRA				S		Sn	18 37 04.8	-15
WRA	**Warramunga Arr**	**15.69**	**133**	P		Pn	18 34 20.6	-5.8
	1.1nm,0.3s,baz=306,slow=14,SNR=45							
WRA				S		Sn	18 37 04.8	-15
	3.0nm,0.3s,baz=307,slow=24,SNR=14							
WRAB	**Tennant Creek**	**15.70**	**133**	*e*P		Pn	18 34 21.2	-5.2
	14nm,0.4s							
MEEK	**Meekatharra**	**17.41**	**191**	⇓P		**Pn**	**18 34 47.0**	**-0.7**
	baz=17,SNR=79							
AS15	**Alice Springs**	**18.00**	**143**	⇓P		**P**	**18 34 53.5**	**-0.9**
	baz=18							
AS31	**Alice Springs**	**18.02**	**143**	*e*P		**P**	**18 34 53.5**	**-1.1**
ASAR	**Alice Springs**	**18.02**	**143**	P		**P**	**18 34 54.0**	**-0.7**
ASAR				S		Sn	18 38 01.2	-15
ASAR	**Alice Springs**	**18.02**	**143**	P		**P**	**18 34 54.0**	**-0.7**
	2.2nm,0.3s,baz=311,slow=9.7,SNR=64							
ASAR				S		Sn	18 38 01.2	-15
	0.8nm,0.3s,baz=322,slow=23,SNR=8.9							
MORW	**Morawa**	**20.33**	**196**	⇓P		**P**	**18 35 19.6**	**-0.1**
	baz=20,SNR=60							
COEN	**Coen**	**21.03**	**104**	P		**P**	**18 35 28.3**	**+0.9**
	baz=21,SNR=5.6							
BLDU	**Ballidu**	**21.65**	**193**	P		**P**	**18 35 33.5**	**-0.3**
	baz=22,SNR=12							
FORT	**Forrest**	**21.90**	**166**	P		**P**	**18 35 36.5**	**0.0**
	baz=22,SNR=15							
KLBR	**Kellerberrin**	**22.40**	**190**	P		**P**	**18 35 41.2**	**-0.6**
	baz=22,SNR=9.2							
NWAO	**Narrogin (SRO)**	**23.79**	**190**	*e*P		**P**	**18 35 54.6**	**-0.7**
NWAO				S		**S**	**18 40 10.1**	**+4.8**
NWAO	**Narrogin (SRO)**	**23.79**	**190**	P		**P**	**18 35 55.0**	**-0.3**
	8.1nm,0.6s,baz=7.1,slow=10,SNR=15							
NWAO				S		**S**	**18 40 10.1**	**+4.8**
	3.5nm,0.3s,baz=225,slow=5.7,SNR=4.1							
RKGY	**Rocky Gully**	**25.48**	**190**	P		**P**	**18 36 11.8**	**+1.2**
	baz=25,SNR=9.6							
CTA	**Charters Tower**	**25.52**	**117**	P		**P**	**18 36 12.4**	**+1.2**
CTA	**Charters Tower**	**25.52**	**117**	⇓P		**P**	**18 36 12.3**	**+1.2**
	baz=25							
CTA	**Charters Tower**	**25.52**	**117**	P		**P**	**18 36 12.4**	**+1.2**
	6.7nm,0.9s,baz=272,slow=11,SNR=7.1							
CTAO	**Charters Tower**	**25.52**	**117**	*e*P		**P**	**18 36 12.0**	**+0.8**
BBOO	**Buckleboo**	**26.53**	**153**	P		**P**	**18 36 21.0**	**+0.8**
	baz=26,SNR=27							
QLP	**Quilpie**	**26.93**	**132**	⇓P		**P**	**18 36 25.3**	**+1.4**
	baz=27,SNR=3.8							
HTT	**Hallett**	**28.40**	**150**	⇑P		**P**	**18 36 37.8**	**+0.8**
	baz=28							
STKA	**Stephens Creek**	**28.66**	**144**	*e*P		**P**	**18 36 39.6**	**+0.5**
	1.6nm,0.5s							
STKA	**Stephens Creek**	**28.66**	**144**	P		**P**	**18 36 39.9**	**+0.7**
	baz=28,SNR=27							
STKA	**Stephens Creek**	**28.66**	**144**	P		**P**	**18 36 39.4**	**+0.2**
	11nm,0.5s,baz=315,slow=8.9,SNR=53							
CMSA	**Cobar Meteorol**	**30.96**	**139**	P		**P**	**18 37 00.8**	**+1.3**
	baz=31,SNR=32							
ARMA	**Armidale**	**34.47**	**131**	⇑P		**P**	**18 37 33.0**	**+2.6**
	baz=34,SNR=8.6							
YNG	**Young**	**34.47**	**140**	P		**P**	**18 37 32.1**	**+1.9**
	baz=34,SNR=35							
TOO	**Toolangi**	**35.00**	**147**	⇓P		**P**	**18 37 36.2**	**+1.4**
	baz=35							
CAN	**Canberra**	**35.51**	**141**	⇑P		**P**	**18 37 40.7**	**+1.5**
	baz=35							
MGCD	**Mangrove Creek**	**35.61**	**136**	P		**P**	**18 37 43.0**	**+3.0**
	baz=36,SNR=5.5							
CMAR	**Chiang Mai Arr**	**36.00**	**320**	P		**P**	**18 37 43.1**	**-0.4**
CMAR				pP		**pP**	**18 38 03.8**	**+1.7**
CMAR

MAW	**Mawson**	**69.89**	**201**	P	**P**	**18**	**41**	**53.0 +1.1**
	3.4nm,0.6s,baz=74,slow=6.6,SNR=17							
ZAA0	**Zalesovo Array**	**70.63**	**338**	*e*P	**P**	**18**	**41**	**54.5 -2.1**
ZAA0				*e*		18	42	15.3
ZALV	**Zalesovo Beam**	**70.63**	**338**	P	**P**	**18**	**41**	**54.5 -2.1**
ZALV				pP	**PcP**	**18**	**42**	**15.8 -1.4**
ZALV	**Zalesovo Beam**	**70.63**	**338**	P	**P**	**18**	**41**	**54.5 -2.1**
	2.1nm,0.3s,baz=138,slow=5.0,SNR=12							
ZALV				pP	**PcP**	**18**	**42**	**15.8 -1.4**
	3.5nm,0.5s,baz=130,slow=5.1,SNR=5.9							
KURBB	**Kurchatov Arra**	**70.81**	**332**	P	**P**	**18**	**41**	**56.4 -1.4**
	1.0nm,0.7s,baz=149,slow=5.2,SNR=15							
KURBB				pP	**PcP**	**18**	**42**	**16.8 -1.3**
	1.3nm,0.6s,baz=143,slow=5.4,SNR=6.7							
KURK	**Kurchatov**	**70.83**	**332**	P	**P**	**18**	**41**	**56.4 -1.6**
KURK				pP	**PcP**	**18**	**42**	**16.8 -1.4**
VNDA	**Vanda**	**71.05**	**172**	P	**P**	**18**	**42**	**00.1 +1.1**
VNDA	**Vanda**	**71.05**	**172**	P	**P**	**18**	**42**	**00.1 +1.1**
	1.4nm,0.5s,baz=319,slow=8.0,SNR=18							
BVAR	**Borovoye Array**	**76.21**	**331**	P	**P**	**18**	**42**	**27.4 -2.1**
BVAR				pP	**pP**	**18**	**42**	**48.5 -1.8**
BVAR	**Borovoye Array**	**76.21**	**331**	P	**P**	**18**	**42**	**27.4 -2.1**
	0.6nm,0.7s,baz=108,slow=4.8,SNR=3.8							
BVAR				pP	**pP**	**18**	**42**	**48.5 -1.8**
	0.9nm,0.6s,baz=120,slow=8.8,SNR=4.9							
QSPA	**South Pole Qui**	**80.53**	**180**	*e*P	**P**	**18**	**42**	**53.8 +0.5**
	6.3nm,0.9s							
QSPA				*e*pP	**pP**	**18**	**43**	**14.1 -0.2**
QSPA	**South Pole Qui**	**80.53**	**180**	P	**P**	**18**	**42**	**54.1 +0.9**
	4.7nm,0.8s,baz=318,slow=1.9,SNR=12							
KMBO	**Kilima Mbogo**	**84.82**	**270**	P	**P**	**18**	**43**	**17.0 +0.3**
KMBO	**Kilima Mbogo**	**84.82**	**270**	P	**P**	**18**	**43**	**17.0 +0.3**
	0.7nm,0.3s,baz=60,slow=23,SNR=4.2							
BOSA	**Boshof**	**91.53**	**241**	P	**P**	**18**	**43**	**48.5 +0.1**
BOSA	**Boshof**	**91.53**	**241**	P	**P**	**18**	**43**	**48.5 +0.1**
	1.9nm,0.4s,baz=91,slow=9.2,SNR=9.7							
NVAR	**Mina Array Bea**	**118.87**	**51**	PKP	**PKPdf**	**18**	**49**	**31.6 +1.7**
NVAR	**Mina Array Bea**	**118.87**	**51**	PKP	**PKPdf**	**18**	**49**	**31.5 +1.7**
	0.2nm,0.5s,baz=236,slow=1.0,SNR=2.4							
TORD	**Torodi Ar. Bea**	**121.64**	**280**	PKP	**PKPdf**	**18**	**49**	**35.4 -0.1**
TORD				pPKP	**pPKPdf**	**18**	**49**	**57.9 +0.2**
TORD	**Torodi Ar. Bea**	**121.64**	**280**	PKP	**PKPdf**	**18**	**49**	**35.4 -0.1**
	1.5nm,0.7s,baz=35,slow=1.8,SNR=16							
TORD				pPKP	**pPKPdf**	**18**	**49**	**57.9 +0.2**
	1.2nm,0.7s,baz=54,slow=1.0,SNR=5.0							
PDAR	**Pinedale Array**	**124.08**	**44**	PKP	**PKPdf**	**18**	**49**	**40.4 +0.6**
PDAR	**Pinedale Array**	**124.08**	**44**	PKP	**PKPdf**	**18**	**49**	**40.4 +0.6**
	0.4nm,0.4s,baz=64,slow=1.4,SNR=4.0							
SCIA	**State Center**	**135.16**	**38**	*e*P	**PKPdf**	**18**	**49**	**58.7 -1.8**
CPUP	**Villa Florida**	**144.41**	**181**	PKP	PKPbc	18	50	17.0 +0.7
CPUP	**Villa Florida**	**144.41**	**181**	PKP	**PKPdf**	**18**	**50**	**17.0 -0.7**
	2.0nm,0.5s,baz=125,slow=3.4,SNR=7.1							
LPAZ	**La Paz**	**152.45**	**158**	PKPbc	**PKPbc**	**18**	**50**	**39.4 +0.7**
LPAZ				PKPab	**PKPab**	**18**	**50**	**50.0 +1.0**
LPAZ	**La Paz**	**152.45**	**158**	PKPbc	**PKPbc**	**18**	**50**	**39.4 +0.7**
	0.8nm,0.5s,baz=205,slow=9.4,SNR=4.5							
LPAZ				PKPab	**PKPab**	**18**	**50**	**50.0 +1.0**
	4.7nm,0.5s,baz=171,slow=2.8,SNR=20							

IDC 01 18:31:22.9±2.1, 14°.89S×173°.83W, h0km, mb4.1/4, mb1 4.5/4, mb1mx4.0/18, mbtmp4.1/4, MS3.7/1, Ms1 3.7/1, ms1mx3.4/35, Error ellipse: s-maj=112.6km s-min=33.0km az=151.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.22**	**64**	Pn	Pn	18 31 54.5	-6.5
	26nm,0.3s,baz=83,slow=23,SNR=6.2						
AFI				Sn	Sn	18 32 15.5	-14
	54nm,0.3s,baz=138,slow=18,SNR=5.8						
AFI				LR	LR	18 32 32.9	
	comp=Z,1μm,18.3s,baz=182,slow=32						
H11S2	**WAKE ISLAND Hy**	**38.31**	**329**	T	T	19 19 35.0	
	baz=152,slow=0.7,SNR=17						
H11S3	**WAKE ISLAND Hy**	**38.33**	**329**	T	T	19 19 33.5	
	baz=152,slow=0.7,SNR=13						
H11S1	**WAKE ISLAND Hy**	**38.33**	**329**	T	T	19 19 36.4	
	baz=152,slow=0.7,SNR=23						
H11N3	**WAKE ISLAND Hy**	**39.26**	**331**	T	T	19 20 44.9	
	baz=153						
H11N1	**WAKE ISLAND Hy**	**39.27**	**331**	T	T	19 20 48.0	
	baz=153						
H11N2	**WAKE ISLAND Hy**	**39.28**	**331**	T	T	19 20 47.8	
	baz=153						
ASAR	**Alice Springs**	**49.87**	**252**	P	P	18 40 17.9	-0.6
	4.9nm,0.6s,baz=86,slow=9.3,SNR=5.0						
NVAR	**Mina Array Bea**	**74.23**	**42**	P	P	18 43 04.2	+2.1
	1.1nm,0.7s,baz=223,slow=10.0,SNR=8.8						
TXAR	**Lajitas Array**	**80.68**	**56**	P	P	18 43 38.6	+0.3
	0.5nm,0.6s,baz=203,slow=9.1,SNR=4.4						
ILAR	**Eielson Array**	**82.03**	**11**	P	P	18 43 44.2	-0.3
	1.7nm,1.0s,baz=220,slow=6.0,SNR=8.7						
PDAR	**Pinedale Array**	**82.17**	**42**	P	P	18 43 45.9	-0.2
	1.0nm,0.9s,baz=222,slow=4.0,SNR=5.2						
BRTR	**Keskin Array B**	**145.50**	**321**	PKPbc	PKPab	18 51 04.2	+0.4
	1.8nm,0.8s,baz=134,slow=3.6,SNR=8.5						
GERES	**GERESS Array B**	**145.58**	**351**	PKPbc	PKPdf	18 51 01.8	-1.5
	0.6nm,0.7s,baz=343,slow=4.2,SNR=4.4						

IDC 01 18:33:32.9±1.9, 15°.65S×173°.47W, h0km, mb4.0/5, mb1 4.4/5, mb1mx4.0/20, mbtmp4.0/5, Error ellipse: s-maj=119.7km s-min=25.2km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.38**	**44**	Sn	Sn	18 34 27.9	-15
	83nm,0.3s,baz=53,slow=20,SNR=5.2						
WRA	**Warramunga Arr**	**49.72**	**257**	P	P	18 42 26.8	-0.5
	0.9nm,0.6s,baz=90,slow=7.3,SNR=4.7						
ASAR	**Alice Springs**	**49.97**	**252**	P	P	18 42 29.0	-0.2
	5.5nm,0.6s,baz=85,slow=7.9,SNR=13						
TXAR	**Lajitas Array**	**80.81**	**56**	P	P	18 45 49.2	+0.2
	0.8nm,0.6s,baz=237,slow=5.8,SNR=7.0						
PDAR	**Pinedale Array**	**82.50**	**42**	P	P	18 45 57.1	-0.7
	1.1nm,0.9s,baz=205,slow=6.0,SNR=5.3						
ILAR	**Eielson Array**	**82.70**	**11**	P	P	18 45 57.3	-0.7
	0.5nm,0.8s,baz=232,slow=4.4,SNR=3.8						
BRTR	**Keskin Array B**	**146.31**	**321**	PKPbc	PKPdf	18 53 15.3	+0.4
	1.4nm,0.8s,baz=88,slow=1.2,SNR=5.3						
GERES	**GERESS Array B**	**146.38**	**351**	PKPbc	PKPab	18 53 17.2	+0.5
	0.6nm,0.8s,baz=48,slow=2.9,SNR=3.7						
DAVOX	**Davos/Dischmat**	**148.84**	**356**	PKPbc	PKPbc	18 53 22.2	-0.7
	1.8nm,0.7s,baz=309,slow=6.5,SNR=3.9						

IDC 01 18:36:51.2±2.0, 15°.06S×173°.58W, h0km, mb3.9/5, mb1 4.3/5, mb1mx3.9/19, mbtmp3.9/5, Error ellipse: s-maj=120.0km s-min=25.4km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy**	**38.59**	**329**	T	T	19 25 22.3	
	baz=152,slow=0.7,SNR=5.7						
H11S3	**WAKE ISLAND Hy**	**38.60**	**329**	T	T	19 25 21.5	
	baz=152,slow=0.7,SNR=6.9						
H11S1	**WAKE ISLAND Hy**	**38.60**	**329**	T	T	19 25 23.6	
	baz=152,slow=0.7,SNR=5.9						
H11N3	**WAKE ISLAND Hy**	**39.53**	**330**	T	T	19 26 41.2	
	baz=152						
H11N1	**WAKE ISLAND Hy**	**39.54**	**330**	T	T	19 26 41.4	
	baz=152						
H11N2	**WAKE ISLAND Hy**	**39.55**	**330**	T	T	19 26 43.6	
	baz=152						
WRA	**Warramunga Arr**	**49.75**	**256**	P	P	18 45 45.6	-0.2
	0.9nm,0.7s,baz=90,slow=7.3,SNR=5.5						
ASAR	**Alice Springs**	**50.05**	**252**	P	P	18 45 47.7	-0.4
	4.0nm,0.7s,baz=86,slow=8.0,SNR=12						
TXAR	**Lajitas Array**	**80.57**	**56**	P	P	18 49 06.4	+0.4
	0.2nm,0.4s,baz=163,slow=4.6,SNR=3.6						
PDAR	**Pinedale Array**	**82.13**	**42**	P	P	18 49 13.8	-0.4
	0.5nm,0.7s,baz=222,slow=2.0,SNR=3.9						
ILAR	**Eielson Array**	**82.15**	**11**	P	P	18 49 13.1	-0.4
	0.7nm,0.7s,baz=223,slow=6.7,SNR=5.0						
GERES	**GERESS Array B**	**145.78**	**351**	PKPbc	PKPdf	18 56 30.9	-1.1
	0.5nm,0.8s,baz=46,slow=4.2,SNR=5.0						
BRTR	**Keskin Array B**	**145.79**	**321**	PKPbc	PKPab	18 56 33.6	+0.4
	1.1nm,0.7s,baz=57,slow=4.6,SNR=5.9						

*CSEM **01** 18:37:55.6±0.8, 35°.11N×23°.20E, h2km, ML3.1/1, Error ellipse: s-maj=19.1km s-min=5.8km az=39.0*
*ATH **01** 18:37:55.5, 35°.13N×23°.14E, h10km±5km, MD3.5/9*
*THE **01** 18:37:55.2, 35°.07N×23°.20E, h0km±2km, ML3.1/1, Error ellipse: s-maj=5.5km s-min=1.8km az=217.0*

ISC 01 18:37:55.8±1.5, 35°.15N±0°.06×23°.23E±0°.05, h2km±11km, n37, σ0.81/50, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.72**	**5**	P	**Pg**	**18**	**38**	**09.9 +0.2**
ANKY				S	**Sn**	**18**	**38**	**23.3 -1.4**
ANKY	**Antikythira Is**	**0.72**	**5**	P	**Pg**	**18**	**38**	**09.9 +0.2**
GVD	**Gavdhos**	**0.77**	**113**	P	**Pg**	**18**	**38**	**10.2 -0.4**
GVD				S	**Sg**	**18**	**38**	**21.0 +0.4**
GVD	**Gavdhos**	**0.77**	**113**	*e*PB	**Pg**	**18**	**38**	**10.7 +0.1**
GVD				*e*SB	**Sb**	**18**	**38**	**23.7 +0.8**
GVD	**Gavdhos**	**0.77**	**113**	P	**Pg**	**18**	**38**	**10.2 -0.4**
GVD	**Gavdhos**	**0.77**	**113**	*e*Pb	**Pg**	**18**	**38**	**10.7 +0.1**
GVD				S	**Sg**	**18**	**38**	**21.0 +0.4**
GVD				*e*Sb	**Sb**	**18**	**38**	**23.7 +0.8**
VAM	**Vamos**	**0.84**	**72**	P	**Pg**	**18**	**38**	**12.4 +0.5**
VAM				S	**Sb**	**18**	**38**	**25.9 +1.0**
VAM	**Vamos**	**0.84**	**72**	*e*PG	**Pg**	**18**	**38**	**12.1 +0.2**
VAM	**Vamos**	**0.84**	**72**	*e*Pg	**Pg**	**18**	**38**	**12.1 +0.2**
VAM	**Vamos**	**0.84**	**72**	P	**Pg**	**18**	**38**	**12.4 +0.5**
KYTH	**Kithira**	**1.14**	**352**	P	**Pg**	**18**	**38**	**17.1 -0.7**
KYTH	**Kithira**	**1.14**	**352**	*e*PN	**Pg**	**18**	**38**	**17.0 -0.7**
KYTH	**Kithira**	**1.14**	**352**	P	**Pg**	**18**	**38**	**17.1 -0.7**
SIVA	**Sivas**	**1.30**	**95**	P	**Pg**	**18**	**38**	**20.7 -0.2**
SIVA				S	**Sn**	**18**	**38**	**39.4 +0.3**
SIVA	**Sivas**	**1.30**	**95**	*e*PG	**Pn**	**18**	**38**	**20.9 -0.2**
SIVA				*e*SB	**Sn**	**18**	**38**	**40.7 +1.6**
SIVA	**Sivas**	**1.30**	**95**	*e*Pg	**Pn**	**18**	**38**	**20.9 -0.2**
SIVA				S	**Sn**	**18**	**38**	**39.4 +0.3**
SIVA				*e*Sb	**Sn**	**18**	**38**	**40.7 +1.6**
IDI	**Anoyia**	**1.37**	**84**	P	Pb	18	38	25.6 +3.4
IDI	**Anoyia**	**1.37**	**84**	P	**Pn**	**18**	**38**	**20.6 -1.4**
IDI				S	**Sg**	**18**	**38**	**40.0 +0.1**
IDI	**Anoyia**	**1.37**	**84**	*e*PN	**Pn**	**18**	**38**	**21.2 -0.8**
IDI	**Anoyia**	**1.37**	**84**	P	**Pn**	**18**	**38**	**20.6 -1.4**
IDI	**Anoyia**	**1.37**	**84**	*e*Pn	**Pn**	**18**	**38**	**21.2 -0.8**
IDI				S	**Sg**	**18**	**38**	**40.0 +0.1**
VLI	**Veliai**	**1.59**	**352**	P	**Pg**	**18**	**38**	**25.3 -0.6**
VLI				S	**Sg**	**18**	**38**	**48.0 +1.1**
VLI	**Veliai**	**1.59**	**352**	*e*PB	**Pg**	**18**	**38**	**26.0 -0.3**
VLI	**Veliai**	**1.59**	**352**	P	**Pb**	**18**	**38**	**25.3 -0.6**
VLI	**Veliai**	**1.59**	**352**	*e*Pb	**Pg**	**18**	**38**	**26.0 -0.3**
VLI				S	**Sg**	**18**	**38**	**48.0 +1.1**
LAST	**Lasithi**	**1.85**	**89**	P	**Pn**	**18**	**38**	**27.1 -1.5**
LAST	**Lasithi**	**1.85**	**89**	*e*PN	**Pb**	**18**	**38**	**30.2 -0.2**
LAST	**Lasithi**	**1.85**	**89**	P	**Pn**	**18**	**38**	**27.1 -1.5**
LAST	**Lasithi**	**1.85**	**89**	*e*Pn	**Pb**	**18**	**38**	**30.2 -0.2**
NPS	**Neapolis**	**1.96**	**86**	*e*PN	**Pb**	**18**	**38**	**32.2 0.0**
NPS	**Neapolis**	**1.96**	**86**	*e*Pn	**Pb**	**18**	**38**	**32.2 0.0**
PYL	**PYLOS**	**2.12**	**326**	*e*PN	**Pn**	**18**	**38**	**32.5 +0.2**
PYL	**PYLOS**	**2.12**	**326**	*e*Pn	**Pn**	**18**	**38**	**32.5 +0.2**
ITM	**Ithomi**	**2.29**	**333**	P	**Pg**	**18**	**38**	**40.0 +0.3**
ITM	**Ithomi**	**2.29**	**333**	P	**Pg**	**18**	**38**	**40.0 +0.3**
ZKR	**Zakros**	**2.45**	**90**	*e*PN	**Pb**	**18**	**38**	**39.3 -1.3**
ZKR	**Zakros**	**2.45**	**90**	*e*Pn	**Pb**	**18**	**38**	**39.3 -1.3**

*IDC **01** 18:40:14.1±0.5, 15°.08S×173°.76W, h0km, mb4.7/20, mb1 4.9/21, mb1mx4.8/24, mbtmp4.7/21, MS4.3/21, Ms1 4.3/21, ms1mx4.2/34, Error ellipse: s-maj=19.6km s-min=13.3km az=136.0*
*BJI **01** 18:40:14.2, 15°.00S×173°.40W, h10km, mB5.6/16, mb5.0/31, Ms5.0/15, Ms7 4.7/15*
*NEIC **01** 18:40:15.6±0.2, 15°.08S×173°.73W, h10km, mb5.0/56, Error ellipse: s-maj=11.1km s-min=6.1km az=145.0*
*GCMT **01** 18:40:19.2±0.3, 14°.88S×173°.49W, h15km±1km, MW5.0, Moment Tensor Solution. s26,c29; s84,c134; Moment tensor: Scale 10^16 Nm; Mrr-3.95±.25; Mθθ3.56±.16; Mφφ0.39±.13; Mrθ0.48±.22; Mrφ1.54±.07; Mθφ-0.12±.29; Best double couple: M0 4.10000×10^16 NP1:θ252.00000°, δ48.00000°, λ-84.00000°. NP2:θ63.00000°, δ42.00000°, λ-96.00000°. Principal axes: T 4.2100, Plg3.0000°, Azm338.0000°; N -0.2100, Plg4.0000°, Azm68.0000°; P -3.9900, Plg85.0000°, Azm215.0000°; Data Used: IC IU G II CN.*
*ISCJB **01** 18:40:19.2±0.3, 14°.91S±0°.08×173°.52W±0°.05, h33km, mb4.9/87, MS4.5/27 Error ellipse: s-maj=12.0km s-min=6.4km az=163.8*
*MOS **01** 18:40:20.0±1.0, 14°.48S×173°.73W, h33km, mb5.2/27, Error ellipse: s-maj=14.7km s-min=10.8km az=51.8*

ISC 01 18:40:20.7±0.4, 14°.95S±0°.1×173°.31W±0°.07, h35km, n588, σ1.27/549, mb4.9/87, MS4.5/27, 143C-116D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.80**	**56**	Pn	Pn	18	40	44.6 -4.7
AFI				Sn	Sn	18	41	06.2 -4.8
AFI	**Afiamalu**	**1.80**	**56**	Pn	Pn	18	40	44.6 -4.7
	75nm,0.3s,baz=258,slow=19,SNR=8.6							
AFI				Sn	Sn	18	41	06.2 -4.8
	436nm,0.3s,baz=68,slow=22,SNR=13							
MSVF	**Nonsavu**	**8.75**	**250**	*e*P	**Pn**	**18**	**42**	**23.9 -0.9**
MSVF				pmax	pmax			
	comp=Z,170nm,1.4s							
MSVF	**Nonsavu**	**8.75**	**250**	Pn	**Pn**	**18**	**42**	**24.7 -0.1**
	comp=Z,497nm,1.5s,SNR=7.0							
MSVF	**Nonsavu**	**8.75**	**250**	*e*P	**Pn**	**18**	**42**	**23.9 -0.9**
	comp=Z,170nm,1.4s							
RAR	**Rarotonga**	**14.30**	**118**	Pn	Pn	18	43	36.5 -4.1
RAR	**Rarotonga**	**14.30**	**118**	Pn	Pn	18	43	36.5 -4.1
	comp=Z,2.4nm,0.3s,baz=270,slow=7.9,SNR=6.9							
RAR				LR	LR	18	47	11.8
	comp=Z,288nm,19.9s,baz=270,slow=29							
RAO	**Raoul Island**	**14.87**	**196**	LR	LR	18	48	07.7
	comp=Z,1μm,20.7s,baz=326,slow=32							
DZM	**Mont Dzumac**	**20.46**	**247**	*e*P	**P**	**18**	**44**	**55.2 -0.3**
	comp=Z,301nm,1.4s							
DZM				*e*LR	LR	18	49	42.0
	comp=Z,533nm,23.6s							
DZM	**Mont Dzumac**	**20.46**	**247**	*e*P	**P**	**18**	**44**	**55.1 -0.3**
DZM	**Mont Dzumac**	**20.46**	**247**	P	P	18	44	50.3 -5.2
	comp=Z,0.4nm,0.3s,baz=93,slow=16,SNR=22							
DZM				LR	LR	18	50	19.3
	comp=Z,290nm,20.5s,baz=207,slow=30							
PPT	**Papeete**	**22.93**	**100**	LR	LR	18	52	19.6
	comp=Z,658nm,18.2s,baz=272,slow=31							
PPT2	**Papeete2**	**22.93**	**100**	*e*LQ	LQ	18	49	52.7
	comp=Z,2μm,27.2s							
PPT2				*e*LR	LR	18	50	57.1
	comp=Z,656nm,25.0s							
TBI	**Tubuai**	**24.00**	**114**	*e*LQ	LQ	18	50	21.1
	comp=Z,2μm,27.8s							
TBI				*e*LR	LR	18	51	28.5
	comp=Z,1μm,26.8s							
HNR	**Honiara**	**26.70**	**279**	LR	LR	18	53	59.8
	comp=Z,736nm,21.5s,baz=314,slow=31							
RPZ	**Rata Peaks**	**31.64**	**202**	LR	LR	18	57	05.1
	comp=Z,793nm,20.2s,baz=18,slow=32							
RKT	**Rikitea**	**37.05**	**109**	*e*LR	LR	18	57	13.0
	comp=Z,383nm,29.8s							
H11S2	**WAKE ISLAND Hy**	**38.62**	**329**	T	T	19	28	24.8
	baz=152,slow=0.7,SNR=16							
H11S3	**WAKE ISLAND Hy**	**38.63**	**329**	T	T	19	28	25.7
	baz=152,slow=0.7,SNR=16							
H11S1	**WAKE ISLAND Hy**	**38.63**	**329**	T	T	19	28	26.3
	baz=152,slow=0.7,SNR=17							
CTA	**Charters Tower**	**38.83**	**256**	P	P	18	47	37.5 -5.2
CTA	**Charters Tower**	**38.83**	**256**	P	P	18	47	37.5 -5.2
	comp=Z,2.8nm,0.7s,baz=116,slow=9.3,SNR=4.0							
PMG	**Port Moresby**	**38.99**	**273**	LR	LR	19	00	53.3
	comp=Z,190nm,20.2s,baz=314,slow=32							
H11N3	**WAKE ISLAND Hy**	**39.56**	**330**	T	T	19	29	34.2
	baz=151,slow=0.7,SNR=8.8							
H11N1	**WAKE ISLAND Hy**	**39.56**	**330**	T	T	19	29	33.6
	baz=151,slow=0.7,SNR=8.6							
H11N2	**WAKE ISLAND Hy**	**39.58**	**330**	T	T	19	29	37.3
	baz=151,slow=0.7,SNR=7.8							
QLP	**Quilpie**	**41.18**	**247**	⇑P	P	18	47	55.6 -6.4
	baz=29,SNR=3.5							
STKA	**Stephens Creek**	**44.34**	**240**	P	P	18	48	21.9 -5.8
STKA	**Stephens Creek**	**44.34**	**240**	P	P	18	48	21.9 -5.8
	comp=Z,4.7nm,0.9s,baz=126,slow=2.7,SNR=4.6							
WRA	**Warramunga Arr**	**50.04**	**256**	P	P	18	49	05.5 -6.7
WRA	**Warramunga Arr**	**50.04**	**256**	P	P	18	49	05.5 -6.7
	comp=Z,4.0nm,0.6s,baz=91,slow=7.1,SNR=44							
AS31	**Alice Springs**	**50.34**	**252**	*e*P	P	18	49	07.9 -6.6
ASAR	**Alice Springs**	**50.34**	**252**	P	P	18	49	08.2 -6.3
ASAR	**Alice Springs**	**50.34**	**252**	P	P	18	49	08.2 -6.3
	comp=Z,27nm,0.6s,baz=86,slow=7.7,SNR=74							
ASAR				LR	LR	19	08	47.7
	comp=Z,241nm,21.5s,baz=73,slow=34							
SOEI	**Soe**	**61.04**	**267**	P	**P**	**18**	**50**	**32.6 +1.1**
	baz=48,SNR=4.2							
BATI	**Baumata**	**61.53**	**266**	LR	LR	19	13	47.5
	comp=Z,300nm,19.0s,baz=311,slow=33							
VNDA	**Vanda**	**63.84**	**186**	*e*P	P	18	50	47.2 -1.9
	comp=Z,12nm,1.3s							
VNDA	**Vanda**	**63.84**	**186**	P	P	18	50	47.8 -1.3
	comp=Z,7.5nm,1.1s,baz=13,slow=7.2,SNR=16							
VNDA				LR	LR	19	13	51.9
	comp=Z,234nm,20.0s,baz=351,slow=32							
MJAR	**Matsushiro Arr**	**68.65**	**320**	P	P	18	51	17.1 -3.4
MJAR	**Matsushiro Arr**	**68.65**	**320**	P	P	18	51	17.1 -3.4
	comp=Z,9.5nm,1.1s,baz=162,slow=6.0,SNR=15							
MJAR				LR	LR	19	15	50.1
	comp=Z,394nm,19.2s,baz=130,slow=31							
MAT	**Matsushiro**	**68.65**	**320**	P	P	18	51	16.8 -3.7
MAT				S	S	19	00	24.6 +3.5
EDW2	**Edwards Air Fo**	**72.16**	**45**	⇑P	**P**	**18**	**51**	**43.4 +1.3**
	baz=73							
MONP	**Monument Peak**	**72.19**	**48**	⇓P	**P**	**18**	**51**	**43.7 +1.1**
	baz=73							
PETK	**Petropavlovsk-**	**72.22**	**342**	P	**P**	**18**	**51**	**40.5 -1.5**
PETK	**Petropavlovsk-**	**72.22**	**342**	P	**P**	**18**	**51**	**40.5 -1.5**
PETK	**Petropavlovsk-**	**72.22**	**342**	P	**P**	**18**	**51**	**40.5 -1.5**
	comp=Z,8.0nm,0.9s,baz=136,slow=9.4,SNR=7.1							
PETK				LR	LR	19	15	29.8
	comp=Z,172nm,21.9s,baz=157,slow=29							
ISA	**Isabella**	**72.26**	**44**	⇓P	**P**	**18**	**51**	**43.8 +1.1**
	baz=73							
LRMC	**Laurel Mountai**	**72.69**	**45**	⇓P	**P**	**18**	**51**	**46.6 +1.3**
	baz=73							
YSS	**Yuzh-Sakhalins**	**73.13**	**330**	*e*P	**P**	**18**	**51**	**46.3 -1.2**
YSS				pmax	pmax			
	comp=Z,30nm,1.0s							
YBH	**Yreka Blue Hor**	**73.18**	**37**	*e*P	**P**	**18**	**51**	**48.5 +0.5**
	comp=Z,9.0nm,0.9s							
YBH	**Yreka Blue Hor**	**73.18**	**37**	P	**P**	**18**	**51**	**49.8 +1.8**
	comp=Z,6.3nm,0.8s,baz=195,slow=2.2,SNR=11							
GSC	**Goldstone**	**73.20**	**45**	*e*P	**P**	**18**	**51**	**48.9 +0.6**
GSC				pmax	pmax			
	comp=Z,9.0nm,0.9s							
GSC	**Goldstone**	**73.20**	**45**	*e*P	**P**	**18**	**51**	**48.9 +0.6**
	comp=Z,9.4nm,0.9s							
GSC	**Goldstone**	**73.20**	**45**	⇑P	**P**	**18**	**51**	**49.6 +1.2**
	baz=74							
HEC	**Hector,Ludlow**	**73.28**	**46**	⇑P	**P**	**18**	**51**	**50.2 +1.5**
	baz=74							
BC3	**Big Chuckawall**	**73.28**	**48**	⇓P	**P**	**18**	**51**	**50.7 +1.9**
	baz=74							
GLA	**Glamis**	**73.42**	**48**	⇓P	**P**	**18**	**51**	**51.1 +1.4**
	baz=74							
BEKR	**Beckworth**	**73.46**	**40**	*e*P	**P**	**18**	**51**	**49.6 -0.3**
	comp=Z,6.8nm,1.4s							
HUMO	**Hull Mountain**	**73.59**	**36**	*e*P	**P**	**18**	**51**	**52.0 +1.6**
	comp=Z,13nm,1.3s							
GMRC	**Granite Mounta**	**73.72**	**46**	⇓P	**P**	**18**	**51**	**52.9 +1.4**
	baz=74							
GRAC	**Grapevine Rang**	**73.75**	**44**	⇓P	**P**	**18**	**51**	**53.0 +1.6**
	baz=74							
IRM	**Iron Mountain**	**73.76**	**47**	⇑P	**P**	**18**	**51**	**52.6 +

	baz=79							
Y20A	Horse Springs,	78.56	50	⇑P		P	18 52 20.6	+1.4
	baz=79							
MDJ	Mudanjiang	78.72	322	P		P	18 52 19.6	+0.2
MDJ				pP		PcP	18 52 22.7	-5.5
MDJ				sP		sP	18 52 24.2	-10
MDJ				S		S	19 02 17.4	+3.0
MDJ				sS		sS	19 02 23.1	-9.4
MDJ				ScS		ScS	19 02 40.7	+2.5
MDJ				AMB		AMB		
	comp=Z,10.0nm,1.1s							
MDJ				LR		LR		
	comp=Z,250nm,19.6s							
MDJ				LR		LR		
	comp=Z,250nm,20.9s							
MDJ				LR		LR		
	comp=Z,500nm,20.1s							
X20A	Quemado	78.75	50	⇑P		P	18 52 22.0	+1.8
	baz=79							
Z21A	St. Cloud Mine	78.82	51	⇓P		P	18 52 22.5	+1.9
	baz=79							
Q16A	Castle Valley	78.92	45	⇑P		P	18 52 22.6	+1.7
	baz=80							
W20A	Ramah	79.02	49	⇓P		P	18 52 23.1	+1.5
	baz=80							
TMUT	Trail Mountain	79.08	44	eP		P	18 52 23.5	+1.5
	comp=Z,24nm,1.0s							
Y21A	Point of Rocks	79.13	50	⇓P		P	18 52 23.7	+1.4
	baz=80							
HLID	Hailey	79.22	39	eP		P	18 52 23.2	+0.8
	comp=Z,20nm,1.1s							
HLID	Hailey	79.22	39	⇑P		P	18 52 23.6	+1.1
	baz=80,SNR=19							
Z22A	Elephant Butte	79.33	51	⇑P		P	18 52 24.1	+0.9
	baz=80							
V20A	Brimhall	79.35	48	⇑P		P	18 52 24.4	+1.0
	baz=80							
SRU	San Rafael	79.46	45	eP		P	18 52 24.8	+0.9
SRU				pmax		pmax		
	comp=Z,20nm,1.2s							
SRU	San Rafael	79.46	45	eP		P	18 52 24.8	+0.9
	comp=Z,20nm,1.2s							
JLU	Jordanelle	79.57	43	eP		P	18 52 25.0	+0.4
	comp=Z,13nm,1.0s							
U20A	Newcomb	79.57	48	⇓P		P	18 52 25.7	+1.2
	baz=80							
DAU	Daniels Canyon	79.60	43	eP		P	18 52 26.2	+1.4
DAU				pmax		pmax		
	comp=Z,9.0nm,0.9s							
DAU	Daniels Canyon	79.60	43	eP		P	18 52 26.2	+1.4
	comp=Z,8.6nm,0.9s							
Y22A	Socorro	79.62	51	⇓P		P	18 52 26.2	+1.3
	baz=80							
324A	Moseley Ranch,	79.70	54	⇑P		P	18 52 26.2	+0.9
	baz=80,SNR=16							
LAZ	Ladron	79.70	50	eP		P	18 52 25.4	+0.1
	comp=Z,6.4nm,1.3s							
425A	Indio Mountain	79.82	54	⇑P		P	18 52 27.0	+1.0
	baz=80,SNR=21							
MNTX	Cornudas Mount	79.88	53	eP		P	18 52 27.2	+1.1
	comp=Z,16nm,1.3s							
Z23A	Rita Site, Whi	79.89	52	⇓P		P	18 52 27.9	+1.6
	baz=80							
224A	Cornudas Mount	79.93	53	⇓P		P	18 52 27.5	+0.9
	baz=80,SNR=14							
NJ2	Nanjing	79.96	307	eP		P	18 52 27.4	+0.9
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.8s							
MVCO	Mesa Verde	79.97	47	eP		P	18 52 28.2	+1.4
	comp=Z,12nm,1.1s							
MVCO	Mesa Verde	79.97	47	⇑P		P	18 52 28.0	+1.3
	baz=80							
BNM	Barren Site	79.97	51	eP		P	18 52 27.6	+0.8
	comp=Z,12nm,1.2s							
626A	Big Bend Ranch	80.00	56	⇓P		P	18 52 27.8	+0.9
	baz=80,SNR=21							
TRF	Thorofare Moun	80.16	10	eP		P	18 52 25.9	-1.2
	comp=Z,25nm,1.2s							
KLR	Kul'dur	80.18	327	eP		P	18 52 23.9	-3.4
KLR				pmax		pmax		
	comp=Z,50nm,1.8s							
U21A	Nageezi	80.22	48	⇓P		P	18 52 29.0	+0.9
	baz=81,SNR=31							
526A	Mary Lane Ranc	80.23	55	⇓P		P	18 52 29.2	+1.0
	baz=81,SNR=16							
124A	Stringfield Ra	80.24	52	⇓P		P	18 52 29.3	+1.0
	baz=81,SNR=7.7							
TXAR	Lajitas Array	80.28	56	P		P	18 52 30.1	+1.6
TXAR	Lajitas Array	80.28	56	P		P	18 52 30.1	+1.6
	comp=Z,14nm,1.1s,baz=227,slow=5.0,SNR=35							
Y23A	Lovelace Mesa,	80.31	51	⇑P		P	18 52 29.8	+1.2
	baz=81							
PV01	Paradox Valley	80.34	46	eP		P	18 52 29.5	+0.8
	comp=Z,1µm,1.0s							
S20A	Disappointment	80.35	47	⇓P		P	18 52 29.4	+0.6
	baz=81,SNR=14							
ANMO	Albuquerque	80.44	50	eP		P	18 52 30.1	+0.8
	comp=Z,19nm,1.3s							
ANMO	Albuquerque	80.44	50	P		P	18 52 30.6	+1.4
	comp=Z,8.8nm,1.1s,baz=213,slow=5.1,SNR=11							
225A	Deer Hill, Car	80.48	53	⇓P		P	18 52 30.4	+0.9
	baz=81,SNR=8.7							
R20A	Redvale	80.50	46	⇓P		P	18 52 30.1	+0.6
	baz=81,SNR=6.6							
426A	McDonald Obser	80.52	55	⇑P		P	18 52 30.5	+0.6
	baz=81,SNR=22							
627A	Terlingua Ranc	80.55	56	⇑P		P	18 52 30.8	+0.8
	baz=81,SNR=20							
T21A	Navajo Lake	80.56	48	⇑P		P	18 52 30.8	+0.9
	baz=81,SNR=6.4							
Z24A	Sheeppen Canyo	80.57	52	⇑P		P	18 52 30.8	+0.8
	baz=81,SNR=5.8							
527A	Woodward Ranch	80.65	55	⇑P		P	18 52 30.9	+0.4
	baz=81,SNR=14							
MCK	McKinley	80.66	11	eP		P	18 52 28.6	-1.0
MCK				pmax		pmax		
	comp=Z,38nm,1.2s							
MCK	McKinley	80.66	11	eP		P	18 52 28.6	-1.0
	comp=Z,38nm,1.2s							
P19A	Cripple Cowboy	80.76	45	⇓P		P	18 52 31.3	+0.3
	baz=81,SNR=6.2							
W23A	Werner Place,	80.76	50	⇓P		P	18 52 32.2	+1.2
	baz=81							
Y24A	Capitan	80.77	51	⇑P		P	18 52 31.9	+0.8
	baz=81,SNR=12							
U22A	Llaves	80.77	49	⇓P		P	18 52 31.9	+0.8
	baz=81							
CN2	Changchun	80.79	320	eP		P	18 52 29.0	-1.7
CN2				esP		sP	18 52 36.1	-10
CN2				PP		PP	18 55 40.3	+4.9
CN2				eS		S	19 02 37.5	+1.1
CN2				SS		SS	19 07 55.1	+4.3
CN2				AMB		AMB		
	comp=Z,20nm,1.3s							
CN2				AMB		AMB		
	comp=Z,400nm,4.0s							
CN2				LR		LR		
	comp=Z,200nm,18.0s							
CN2				LR		LR		
	comp=Z,300nm,18.0s							
CN2				LR		LR		
	comp=Z,200nm,20.0s							
326A	Caldwell Ranch	80.82	54	⇑P		P	18 52 32.2	+0.9
	baz=81							
125A	Gardner Draw,	80.84	53	⇑P		P	18 52 32.1	+0.7
	baz=81,SNR=9.0							
MCMT	McKenzie Canyo	80.84	39	eP		P	18 52 32.3	+1.0
	comp=Z,8.0nm,1.1s							
Q20A	Ridgley Place,	80.91	46	⇓P		P	18 52 32.6	+0.9
	baz=82,SNR=7.1							
628A	Black Gap, Mar	80.97	56	⇓P		P	18 52 33.0	+0.9
	baz=82,SNR=15							
226B	Tecolote Peak,	80.98	53	⇓P		P	18 52 33.1	+1.0
	baz=82,SNR=25							
V23A	Ortiz Mt. (NFS	80.99	49	⇑P		P	18 52 33.0	+0.8
	baz=82,SNR=5.5							
T22A	Edith	81.02	48	⇓P		P	18 52 33.1	+0.7
	baz=82,SNR=7.6							
RRI2	Red Ridge	81.03	41	eP		P	18 52 33.4	+1.1
	comp=Z,27nm,1.1s							
Z25A	Roswell	81.05	52	⇓P		P	18 52 33.8	+1.3
	baz=82							
427A	Hayter Ranch,	81.09	55	⇑P		P	18 52 33.9	+1.1
	baz=82,SNR=11							
P20A	De Beque	81.10	45	⇑P		P	18 52 34.2	+1.5
	baz=82							
R21A	Cimarron	81.16	46	⇑P		P	18 52 34.0	+0.9
	baz=82,SNR=20							
U23A	El Rito	81.23	49	⇑P		P	18 52 34.5	+0.9
	baz=82,SNR=17							
MSO	Missoula	81.26	37	⇑P		P	18 52 34.3	+1.0
	baz=82							
DLMT	Dillon	81.28	38	eP		P	18 52 34.5	+1.0
	comp=Z,14nm,1.3s							
528A	Cox Ranch, San	81.31	56	⇑P		P	18 52 34.8	+0.8
	baz=82,SNR=21							
126A	Clayton Basin,	81.32	53	⇓P		P	18 52 34.8	+0.8
	baz=82,SNR=7.7							
Y25A	Mesa, Roswell	81.33	52	⇓P		P	18 52 34.7	+0.7
	baz=82,SNR=12							
REDW	Red Top Meadow	81.33	41	eP		P	18 52 35.0	+1.1
	comp=Z,25nm,1.2s							
W24A	Lazy 6 Ranch,	81.33	50	⇑P		P	18 52 34.6	+0.5
	baz=82,SNR=10							
TPAW	Teton Pass	81.33	41	eP		P	18 52 35.1	+1.1
	comp=Z,23nm,1.1s							
BSMT	Bassoo Peak	81.34	36	eP		P	18 52 33.9	+0.1
	comp=Z,19nm,1.2s							
Q21A	Lamborn Mesa,	81.36	46	⇓P		P	18 52 35.1	+0.9
	baz=82,SNR=11							
S22A	4UR Ranch, Cre	81.39	47	⇑P		P	18 52 35.5	+1.0
	baz=82,SNR=25							
SNOW	Snow King Moun	81.44	41	eP		P	18 52 35.6	+1.1
	comp=Z,31nm,1.2s							
IMW	Indian Meadow	81.54	40	eP		P	18 52 36.6	+1.5
	comp=Z,10nm,0.4s							
MOOW	Moose Ponds	81.59	41	eP		P	18 52 36.1	+0.9
	comp=Z,8.5nm,1.1s							
SWMT	Swartz Lake	81.60	36	eP		P	18 52 34.8	-0.3
	comp=Z,8.5nm,1.3s							
LRM	Limekiln Ridge	81.60	38	eP		P	18 52 36.0	+0.7
	comp=Z,41nm,1.0s							
X25A	Clemmons Ranch	81.60	51	⇑P		P	18 52 35.9	+0.5
	baz=82,SNR=8.5							
Z26A	Caprock	81.61	52	⇑P		P	18 52 36.0	+0.6
	baz=82,SNR=12							
428A	Kincaid Ranch,	81.61	55	⇑P		P	18 52 36.6	+1.1
	baz=82,SNR=10.0							
LOHW	Long Hollow	81.61	41	eP		P	18 52 35.9	+0.5
	comp=Z,23nm,1.3s							
227A	Bennet, Jal	81.63	54	⇓P		P	18 52 37.0	+1.4
	baz=82							
V24A	Rampart Ranch,	81.65	50	⇓P		P	18 52 36.8	+1.0
	baz=82,SNR=10							
T23A	Casias Ranch,	81.65	48	⇑P		P	18 52 36.9	+1.1
	baz=82							
R22A	Saguache, Gunn	81.66	47	⇓P		P	18 52 36.8	+0.9
	baz=82,SNR=20							
CHMT	Chamberlain Mo	81.71	37	eP		P	18 52 35.4	-0.4
	comp=Z,11nm,1.2s							
QLMT	Earthquake Lak	81.71	39	eP		P	18 52 37.4	+1.6
	comp=Z,4.4nm,1.3s							
529A	Stev Forest Ra	81.75	56	⇓P		P	18 52 36.6	+0.4
	baz=82,SNR=16							
P21A	Newcastle	81.76	45	⇑P		P	18 52 37.5	+1.3
	baz=82							
328A	Wristen Ranch,	81.77	55	⇓P		P	18 52 36.7	+0.4
	baz=82,SNR=9.6							
N20A	Spence Gulch,	81.80	44	⇑P		P	18 52 37.2	+0.7
	baz=82,SNR=9.6							
Q22A	Crested Butte,	81.83	46	⇓P		P	18 52 36.9	+0.2
	baz=82,SNR=14							
127A	Arkansas Junct	81.85	53	⇓P		P	18 52 37.6	+0.9
	baz=82							
PDAR	Pinedale Array	81.87	42	P		P	18 52 37.0	+0.2
PDAR	Pinedale Array	81.87	42	P		P	18 52 37.0	+0.2
	comp=Z,7.4nm,0.9s,baz=224,slow=2.5,SNR=21							
COLA	College	81.90	11	eP		P	18 52 35.4	-0.6
COLA	College	81.90	11	eP		P	18 52 35.4	-0.6
	comp=Z,144nm,1.0s							
YMR	Madison River	81.91	40	eP		P	18 52 38.9	+2.0
	comp=Z,32nm,1.2s							
SMCO	Snowmass	81.93	46	eP		P	18 52 38.2	+0.8
	comp=Z,27nm,1.1s							
ILAR	Eielson Array	81.98	11	P		P	18 52 35.2	-1.3
ILAR	Eielson Array	81.98	11	P		P	18 52 35.2	-1.3
	comp=Z,20nm,1.2s,baz=215,slow=5.8,SNR=30							
ILAR				LR		LR	19 23 07.2	
	comp=Z,139nm,19.1s,baz=131,slow=31							
Y26A	Elida	81.99	52	⇑P		P	18 52 38.4	+0.9
	baz=82							
IM04	Indian Mountai	82.00	8	eP		P	18 52 35.8	-0.9
BOZ	Bozeman (W)	82.00	39	eP		P	18 52 37.9	+0.6
BOZ				pmax		pmax		
	comp=Z,19nm,1.5s							
BOZ	Bozeman (W)	82.00	39	eP		P	18 52 37.9	+0.6
	comp=Z,19nm,1.5s							
W25A	X Bar L Ranch,	82.04	50	⇑P		P	18 52 38.1	+0.3
	baz=83,SNR=17							
O21A	Pagoda	82.06	45	⇑P		P	18 52 38.7	+0.9
	baz=83							
SEY	Seymchan	82.10	345	⇑eP		P	18 52 35.9	-1.3
T24B	San Luis	82.14	48	⇑P		P	18 52 38.8	+0.5
	baz=83,SNR=11							
M20A	Sweetwater, Wa	82.16	43	⇑P		P	18 52 38.9	+0.6
	baz=83,SNR=14							
V25A	Rancho No Teng	82.18	50	⇑P		P	18 52 39.2	+0.7
	baz=83,SNR=26							
429A	Davenport Ranc	82.20	56	⇑P		P	18 52 39.3	+0.8
	baz=83,SNR=31							
Z27A	Tatum	82.21	53	⇑P		P	18 52 39.7	+1.0
	baz=83							
228A	UT Block 9, Go	82.22	54	⇑P		P	18 52 39.5	+0.8
	baz=83							
X26A	CR and CF Fran	82.25	51	⇑P		P	18 52 39.7	+0.8
	baz=83							
P22A	Eagle	82.27	46	⇑P		P	18 52 39.6	+0.6
	baz=83,SNR=9.2							
L20A	Wamsutter	82.30	43	⇑P		P	18 52 39.5	+0.5
	baz=83,SNR=16							
R23A	Moffat	82.30	47	⇑P		P	18 52 39.7	+0.5
	baz=83,SNR=14							
SDCO	Great Sand Dun	82.34	48	eP		P	18 52 40.0	+0.5
	comp=Z,12nm,1.1s							
K19A	Absolon Red Bu	82.35	42	⇑P		P	18 52 39.9	+0.7
	baz=83							
J19A	Crowheart	82.43	42	⇑P		P	18 52 40.7	+1.1
	baz=83							
329A	Wagon Wheel Ra	82.46	55	⇑P		P	18 52 40.3	+0.4
	baz=83,SNR=8.3							
530A	J-C Ranch, Com	82.47	56	⇓P		P	18 52 40.2	+0.3
	baz=83,SNR=8.4							
Y27A	Causey	82.48	52	⇑P		P	18 52 40.2	+0.2
	baz=83,SNR=14							
128A	Castleberry Fa	82.50	54	⇑P		P	18 52 40.4	+0.3
	baz=83,SNR=13							
S24A	Houchin Ranch,	82.50	48	⇑P		P	18 52 41.1	+0.8
	baz=83,SNR=15							
W26A	Owens Ranch, T	82.50	51	⇓P		P	18 52 41.0	+0.8
	baz=83							
U25A	Circle Dot Ran	82.57	49	⇑P		P	18 52 40.9	+0.4
	baz=83,SNR=7.7							
O22A	Kremmling	82.66	45	⇑P		P	18 52 41.5	+0.4
	baz=83,SNR=23							
M21A	Separation Pea	82.76	44	⇓P		P	18 52 41.7	+0.2
	baz=83,SNR=10							
V26A	Tequesquite Ra	82.78	50	⇑P		P	18 52 41.7	+0.1
	baz=83,SNR=9.2							
430A	Baggett Ranch,	82.79	56	⇑P		P	18 52 42.4	+0.7
	baz=83							
MSTX	Muleshoe	82.81	52	eP		P	18 52 42.5	+0.8
MSTX	Muleshoe	82.81	52	⇓P		P	18 52 42.0	+0.3
	baz=83,SNR=11							
631A	Perdido Creek	82.81	57	⇓P		P	18 52 42.5	+0.8
	baz=83							
R24A	Sanders Place,	82.83	47	⇓P		P	18 52 42.5	+0.6
	baz=83,SNR=7.9							
X27A	F and S Farms,	82.83	51	⇓P		P	18 52 42.8	+0.9
	baz=83							
I19A	Meeteetse	82.84	41	⇓P		P	18 52 42.8	+1.1
	baz=83							
Z28A	Tucker Farm, M	82.84	53	⇓P		P	18 52 42.2	+0.3
	baz=83,SNR=6.8							
T25A	Trinidad	82.87	49	⇑P		P	18 52 42.4	+0.3
	baz=83,SNR=8.9							
L21A	Rawlins	82.92	43	⇓P		P	18 52 42.8	+0.6
	baz=84							
DAWY	Dawson	82.96	14	eP		P	18 52 41.5	-0.2
129A	Stewart Farms,	82.99	54	⇓P		P	18 52 43.4	+0.8
	baz=84							
N22A	Wattenberg Ran	83.01	45	⇓P		P	18 52 43.3	+0.5
	baz=84,SNR=19							
W27A	Bowe Ranch, En	83.02	51	⇑P		P	18 52 42.9	+0.1
	baz=84,SNR=18							
U26A	Atchley Ranch,	83.05	50	⇓P		P	18 52 43.2	+0.2
	baz=84,SNR=16							
732A	Laxson Ranch,	83.06	58	⇑P		P	18 52 43.8	+0.9
	baz=84							
330A	Mertzon	83.07	55	⇑P		P	18 52 43.7	+0.6
	baz=84							
J20A	Shoshoni	83.09	42	⇑P		P	18 52 43.6	+0.6
	baz=84,SNR=7.9							
Q24A	Divide	83.11	47	⇓P		P	18 52 43.9	+0.5
	baz=84,SNR=9.0							
O23A	Lake Granby, G	83.12	45	⇑P		P	18 52 44.3	+0.9
	baz=84							
H19A	Powell	83.14	40	⇓P		P	18 52 44.3	+1.0
	baz=84							
ISCO	Idaho Springs	83.15	46	eP		P	18 52 44.8	+1.2
ISCO				pmax		pmax		
	comp=Z,14nm,1.1s							
ISCO	Idaho Springs	83.15	46	eP		P	18 52 44.8	+1.2
	comp=Z,14nm,1.1s							
ISCO	Idaho Springs	83.15	46	⇑P		P	18 52 44.5	+0.9
	baz=84							
EGAK	Eagle	83.16	13	eP		P	18 52 42.3	-0.3
	comp=Z,42nm,1.5s							
M22A	Cedar Creek Ra	83.18	44	⇑P		P	18 52 44.8	+1.1
	baz=84							
Y28A	McKinney Farm,	83.19	52	⇓P		P	18 52 44.3	+0.7
	baz=84							
431A	Sonora	83.25	56	⇑P		P	18 52 44.4	+0.4
	baz=84							
230A	Sterling City	83.30	55	⇑P		P	18 52 44.9	+0.7
	baz=84							
K21A	Alcova	83.30	43	⇓P		P	18 52 44.5	+0.2
	baz=84,SNR=10							
I20A	Worland	83.34	41	⇑P		P	18 52 44.2	-0.1
	baz=84,SNR=7.5							
Z29A	Hungry Hill Ra	83.35	53	⇑P		P	18 52 44.3	-0.2
	baz=84,SNR=8.0							
R25A	Fountain Ranch	83.38	48	⇓P		P	18 52 44.9	+0.3
	baz=84,SNR=16							
N23A	Red Feather La	83.40	45	⇑P		P	18 52 44.8	0.0
	baz=84,SNR=6.2							
X28A	Dimmitt	83.46	52	⇓P		P	18 52 45.9	+0.8
	baz=84							
T26A	Comanche Natio	83.48	49	⇑P		P	18 52 45.0	-0.2
	baz=84,SNR=5.8							
632A	Uvalde	83.48	57	⇑P		P	18 52 45.9	+0.7
	baz=84							
J21A	Lysite	83.50	42	⇓P		P	18 52 45.8	+0.6
	baz=84,SNR=9.3							
L22A	Ellis Ranch, M	83.57	44	⇑P		P	18 52 45.9	+0.3
	baz=84,SNR=6.8							
Y29A	Porterfield Fa	83.61	53	⇓P		P	18 52 46.6	+0.8
	baz=84							
532A	Rocksprings	83.61	57	⇓P		P	18 52 46.6	+0.7
	baz=84							
331A	San Angelo	83.62	55	⇓P		P	18 52 46.7	+0.8
	baz=84							
O24A	Longmont	83.66	46	⇓P		P	18 52 46.9	+0.8
	baz=84							
130A	Snyder	83.68	54	⇑P		P	18 52 47.0	+0.8
	baz=84							
COLD	Coldfoot	83.68	9	eP		P	18 52 45.6	+0.3
	comp=Z,22nm,1.2s							
H20A	Greybull	83.68	41	⇑P		P	18 52 47.0	+1.0
	baz=84							
Q25A	Bedland, Calha	83.73	47	⇓P		P	18 52 47.2	+0.7
	baz=84							
U27A	Thompson Grove	83.74	50	⇑P		P	18 52 46.1	-0.4
	baz=84,SNR=5.8							
K22A	Casper	83.79	43	⇓P		P	18 52 47.2	+0.5
	baz=84							
M23A	Laramie	83.80	44	⇑P		P	18 52 47.7	+0.9
	baz=84							
Z30A	Sanderson Ranc	83.81	53	⇑P		P	18 52 46.3	-0.6
	baz=84,SNR=19							
X29A	Tulia	83.81	52	⇑P		P	18 52 47.3	+0.4
	baz=84							
I21A	Big Trails, Te	83.82	42	⇑P		P	18 52 46.7	-0.1
	baz=84,SNR=6.1							
JCT	Junction City	83.82	56	⇑P		P	18 52 47.3	+0.3
	baz=84							
231A	Bronte	83.94	55	⇓P		P	18 52 47.9	+0.4
	baz=84							
432A	Menard	83.97	56	⇓P		P	18 52 48.2	+0.5
	baz=84							
P25A	Willow Gulch B	84.04	47	⇓P		P	18 52 48.4	+0.4
	baz=85,SNR=14							
R26A	Arlington	84.05	48	⇓P		P	18 52 48.2	+0.2
	baz=85,SNR=19							
T27A	Campo	84.07	49	⇑P		P	18 52 48.7	+0.5
	baz=85							
L23A	Garrett	84.10	44	⇓P		P	18 52 48.7	+0.4
	baz=85,SNR=7.7							
W29A	Amraillo	84.11	51	⇓P		P	18 52 48.7	+0.3
	baz=85,SNR=8.2							
E19A	Rath Farm, Rou	84.13	39	⇑P		P	18 52 49.3	+1.1
	baz=85							
131A	Roby	84.16	54	⇓P		P	18 52 49.3	+0.7
	baz=85							
332A	Millersview	84.20	56	⇓P		P	18 52 49.6	+0.8
	baz=85							
F20A	Billings	84.20	40	⇓P		P	18 52 50.0	+1.4
	baz=85							
Y30A	Stafford Cattl	84.21	53	⇓P		P	18 52 49.2	+0.3
	baz=85,SNR=8.3							
Q26A	Hugo	84.25	47	⇑P		P	18 52 50.2	+1.1
	baz=85							
EGMT	Eagleton	84.31	37	eP		P	18 52 49.4	+0.3
	comp=Z,20nm,1.3s							
M24A	Cheyenne	84.41	45	⇓P		P	18 52 50.8	+0.9
	baz=85							
D19A	Cripps Ranch,	84.41	38	⇑P		P	18 52 50.8	+1.2
	baz=85							
K23A	Bowen Ranch, D	84.43	43	⇓P		P	18 52 51.0	+1.1
	baz=85							
X30A	Coker Ranch, T	84.44	52	⇓P		P	18 52 50.5	+0.5
	baz=85							
232A	Coleman	84.45	55	⇓P		P	18 52 50.6	+0.5
	baz=85							
T28A	Walsh	84.54	49	⇑P		P	18 52 51.0	+0.5
	baz=85							
L24A	Wheatland	84.58	44	⇑P		P	18 52 51.9	+1.2
	baz=85							
C19A	Slack Wire Ran	84.58	38	⇓P		P	18 52 51.7	+1.3
	baz=85							
Z31A	Sharp Cattle R	84.59	54	⇓P		P	18 52 51.3	+0.6
	baz=85							
ABTX	Abilene, Hawle	84.72	54	eP		P	18 52 52.1	+0.6
ABTX	Abilene, Hawle	84.72	54	⇓P		P	18 52 52.7	+1.3
	baz=85							
Y31A	Rekieta Farm,	84.73	53

HKT	**Hockley**	**86.87**	**58**	*e*P		**P**		**18 53 01.7**	**-0.3**
HKT					pmax	pmax			
	comp=Z,32nm,1.4s								
HKT	**Hockley**	**86.87**	**58**	*e*P		**P**		**18 53 01.7**	**-0.3**
	comp=Z,32nm,1.4s								
L29A	**Maesberg Ranch**	**87.62**	**45**	⇑P		**P**		**18 53 06.4**	**+0.8**
	baz=88								
GYA	**Guiyang**	**87.91**	**298**	P		**P**		**18 53 08.0**	**+0.7**
GYA				PP		**PP**		**18 56 36.4**	**+2.4**
GYA				SKS		**SKSac**		**19 03 33.2**	**-0.3**
GYA				S		**S**		**19 03 47.9**	**-0.6**
GYA				SS		**SS**		**19 09 39.8**	**+3.0**
GYA				AMB		AMB			
	comp=Z,20nm,1.0s								
GYA				AMB		AMB			
	comp=Z,120nm,6.7s								
GYA				LR		LR			
	comp=Z,550nm,21.1s								
GYA				LR		LR			
	comp=Z,480nm,22.6s								
GYA				LR		LR			
	comp=Z,530nm,20.7s								
MAW	**Mawson**	**88.25**	**199**	P		P		18 53 05.0	-3.1
MAW	**Mawson**	**88.25**	**199**	P		P		18 53 05.0	-3.1
	comp=Z,7.6nm,0.9s,baz=132,slow=7.4,SNR=13								
MAW				LR		LR		19 28 36.3	
	comp=Z,511nm,21.2s,baz=100,slow=33								
YAK	**Yakutsk**	**88.73**	**337**	*e*P		P		18 53 05.2	-5.0
YAK				pmax		pmax			
	comp=Z,12nm,1.3s								
YAK				pmax		pmax			
	comp=N,5.0nm,1.4s								
YAK				pmax		pmax			
	comp=E,6.0nm,1.3s								
HHC	**Hu-ho-hao-te**	**88.78**	**313**	*e*P		**P**		**18 53 10.9**	**-0.2**
HHC				pP		**PcP**		**18 53 15.7**	**+3.0**
HHC				sP		sP		18 53 17.9	-8.4
HHC				PP		**PP**		**18 56 42.7**	**+2.0**
HHC				SKS		**SKSac**		**19 03 37.8**	**-0.3**
HHC				S		**S**		**19 03 56.2**	**+0.1**
HHC				sS		**ScS**		**19 04 04.2**	**+2.8**
HHC				SS		**SS**		**19 09 51.8**	**+2.9**
HHC				AMB		AMB			
	comp=E,34nm,1.1s								
HHC				AMB		AMB			
	comp=E,360nm,5.2s								
HHC				LR		LR			
	comp=E,240nm,15.7s								
HHC				LR		LR			
	comp=E,240nm,15.9s								
HHC				LR		LR			
	comp=E,220nm,16.9s								
TUL1	**Tulsa**	**88.85**	**52**	⇓P		**P**		**18 53 12.5**	**+1.0**
	baz=89								
YKA	**Yellowknife Ar**	**89.64**	**23**	P		**P**		**18 53 14.8**	**+0.4**
YKA	**Yellowknife Ar**	**89.64**	**23**	P		**P**		**18 53 14.8**	**+0.4**
	comp=E,2.6nm,0.7s,baz=233,slow=4.4,SNR=5.5								
PLCA	**Paso Flores**	**89.75**	**132**	LR		LR		19 25 19.3	
	comp=E,262nm,18.0s,baz=137,slow=30								
E30A	**Jud**	**90.33**	**42**	⇑P		**P**		**18 53 18.8**	**+0.7**
	baz=91								
A28A	**Rude Farm, Bot**	**90.37**	**39**	⇑P		**P**		**18 53 19.1**	**+0.8**
	baz=91								
MDND	**Maddock**	**90.38**	**40**	⇓P		**P**		**18 53 18.9**	**+0.6**
	baz=91								
TEIG	**Tepich**	**90.54**	**69**	*e*P		**P**		**18 53 20.0**	**+0.3**
	comp=E,28nm,1.2s								
D30A	**Buchanan**	**90.64**	**41**	⇑P		**P**		**18 53 20.1**	**+0.6**
	baz=91								
KMI	**Kunming**	**90.91**	**296**	P		**P**		**18 53 22.8**	**+1.2**
KMI				pP		**PcP**		**18 53 27.5**	**+4.9**
KMI				sP		sP		18 53 29.5	-7.2
KMI				AMB		AMB			
	comp=E,4.0nm,0.9s								
KMI				LR		LR			
	comp=E,120nm,17.5s								
KMI				LR		LR			
	comp=E,170nm,18.3s								
KMI				LR		LR			
	comp=E,170nm,18.3s								
A29A	**Manning Farm,**	**91.01**	**39**	⇑P		**P**		**18 53 22.0**	**+0.7**
	baz=92								
CD2	**Chengdu**	**91.65**	**301**	P		**P**		**18 53 25.8**	**+1.1**
CD2				AMB		AMB			
	comp=E,10.0nm,0.5s								
CMAR	**Chiang Mai Arr**	**92.56**	**288**	P		**P**		**18 53 27.0**	**-2.0**
CMAR	**Chiang Mai Arr**	**92.56**	**288**	P		**P**		**18 53 27.0**	**-2.0**
	comp=E,0.5nm,0.4s,baz=126,slow=4.6,SNR=4.4								
CMAR				LR		LR		19 27 47.9	
	comp=E,96nm,21.1s,baz=125,slow=31								
LZH	**Lanzhou**	**93.02**	**306**	*e*P		**P**		**18 53 31.6**	**+0.5**
LZH				pP		**PcP**		**18 53 34.8**	**+3.1**
LZH				sP		sP		18 53 37.1	-9.1
LZH				AMB		AMB			
	comp=E,12nm,0.8s								
SNAA	**Sanae**	**93.36**	**177**	*e*P		**P**		**18 53 33.2**	**+1.3**
ULM	**Lac du Bonnet**	**93.52**	**39**	LR		LR		19 27 51.5	
	comp=E,208nm,19.8s,baz=272,slow=30								
VNA2	**Neumayer--Watz**	**93.80**	**175**	*e*P		**P**		**18 53 34.4**	**+0.6**
	baz=157,slow=4.0								
SPMN	**St. Paul**	**93.93**	**44**	⇑P		**P**		**18 53 35.6**	**+0.8**
	baz=94								
VNA1	**Neumayer--Stat**	**94.00**	**175**	*e*P		**P**		**18 53 35.4**	**+0.7**
ULN	**Ulaanbaatar**	**94.15**	**318**	*e*P		**P**		**18 53 37.5**	**+1.6**
	comp=E,8.0nm,1.3s								
SONM	**Songino Array**	**94.56**	**318**	P		**P**		**18 53 37.2**	**-0.6**
SONM	**Songino Array**	**94.56**	**318**	P		**P**		**18 53 37.2**	**-0.6**
	comp=E,1.2nm,1.1s,baz=124,slow=4.3,SNR=4.0								
SONM				LR		LR		19 30 01.4	
	comp=E,242nm,21.9s,baz=69,slow=32								
COWI	**Conover**	**96.64**	**44**	*e*P		**P**		**18 53 47.1**	**-0.1**
	comp=E,16nm,1.0s								
GTA	**Gaotai**	**96.96**	**309**	*e*P		**P**		**18 53 47.4**	**-1.6**
GTA				pP		**PcP**		**18 53 51.5**	**+2.4**
GTA				sP		sP		18 53 54.8	-9.3
GTA				AMB		AMB			
	comp=E,3.0nm,1.0s								
MKAR	**Makanchi Array**	**110.57**	**315**	PKiKP		**PKiKP**		**18 58 47.0**	**-2.6**
MKAR	**Makanchi Array**	**110.57**	**315**	PKiKP		**PKiKP**		**18 58 47.0**	**-2.6**
	comp=E,0.5nm,0.7s,baz=112,slow=1.6,SNR=6.7								
KURK	**Kurchatov**	**112.85**	**319**	PKiKP		**PKiKP**		**18 58 52.8**	**-1.0**
KURBB	**Kurchatov Arra**	**112.92**	**319**	PKiKP		**PKiKP**		**18 58 52.7**	**-1.1**
	comp=E,0.5nm,0.2s,baz=134,slow=2.7,SNR=5.3								
BVAR	**Borovoye Array**	**117.58**	**322**	PKiKP		**PKPdf**		**18 59 01.9**	**-0.9**
BVAR	**Borovoye Array**	**117.58**	**322**	PKP		**PKPdf**		**18 59 01.9**	**-0.9**
BVAR	**Borovoye Array**	**117.58**	**322**	PKP		**PKPdf**		**18 59 01.9**	**-0.9**
	comp=E,1.4nm,0.8s,baz=94,slow=4.8,SNR=10								
BRVK	**Borovoye**	**117.63**	**322**	*i* PKiKP		**PKPdf**		**18 59 01.7**	**-1.2**
SVE	**Sverdlovsk**	**121.79**	**328**	*e*PKiKP		**PKPdf**		**18 59 10.8**	**+0.1**
SVE				pmax		pmax			
	comp=Z,10.0nm,1.2s								
SOKR	**Solikamsk**	**122.41**	**332**	*e*PKiKP		**PKPdf**		**18 59 09.0**	**-2.8**
SOKR				pmax		pmax			
	comp=Z,10.0nm,1.3s								
ARU	**Arti**	**123.00**	**329**	*i* PKiKP		**PKPdf**		**18 59 12.2**	**-0.9**
ARU								19 00 46.8	
ARU				SS		SS		19 17 24.2	-9.5
ARCES	**ARCESS Array B**	**124.17**	**352**	PKPpre		PKPpre		18 59 11.3	
ARCES	**ARCESS Array B**	**124.17**	**352**	PKhKP		PKPpre		18 59 11.3	
	comp=Z,6.7nm,1.0s,baz=20,slow=3.9,SNR=4.6								
KLMR	**Klimovskoe**	**128.39**	**340**	*e*PKiKP		**PKPdf**		**18 59 22.1**	**-1.2**
KLMR				pmax		pmax			
	comp=Z,23nm,1.3s								
OBN	**Obninsk**	**133.73**	**337**	*i* PKiKP		**PKPdf**		**18 59 35.5**	**+2.0**
OBN				*e*				19 01 59.5	
OBN				*e*PS		**PS**		**19 12 14.1**	**-8.0**
OBN				pmax		pmax			
	comp=Z,21nm,2.0s								
OBN				MLR		MLR			
	comp=Z,100nm,19.0s								
AKASG	**Malin Array Be**	**139.95**	**338**	PKiKP		**PKPdf**		**18 59 43.3**	**-1.9**
AKASG	**Malin Array Be**	**139.95**	**338**	PKP		**PKPdf**		**18 59 43.3**	**-1.9**
AKASG	**Malin Array Be**	**139.95**	**338**	PKP		**PKPdf**		**18 59 43.3**	**-1.9**
	comp=Z,1.5nm,0.7s,baz=34,slow=2.2,SNR=8.6								
LVV	**L'vov**	**142.45**	**342**	*e*PKiKP		**PKPdf**		**18 59 48.5**	**-1.3**
CLL	**Collm**	**143.37**	**353**	*i* PKiKP		**PKPdf**		**18 59 51.9**	**+0.6**
CLL				*e*				19 00 08.0	
CLL				pmax		pmax			
	comp=Z,15nm,1.1s								
CLL	**Collm**	**143.37**	**353**	*i* PKPdf		**PKPdf**		**18 59 51.9**	**+0.6**
	comp=Z,15nm,1.1s								
CLL				*e*				19 00 08.0	
MALT	**Malatya**	**143.60**	**316**	⇑PKiKP		PKPbc		18 59 50.7	+1.0
MALT	**Malatya**	**143.60**	**316**	⇑*i*P		PKPbc		18 59 50.7	+1.0
STHS	**Stebnicka Huta**	**143.61**	**344**	*e*PKiKP		PKPbc		18 59 49.2	-0.1
STHS	**Stebnicka Huta**	**143.61**	**344**	*e*PKP		PKPbc		18 59 49.2	-0.1
BRG	**Berggiesshubel**	**143.68**	**352**	*e*PKP		**PKPdf**		**18 59 52.7**	**+0.8**
	comp=Z,19nm,1.3s								
BRG	**Berggiesshubel**	**143.68**	**352**	*e*PKiKP		**PKPdf**		**18 59 52.7**	**+0.8**
BRG				pmax		pmax			
	comp=Z,19nm,1.3s								
KOLS	**Kolonicke sedl**	**143.76**	**343**	*e*PKiKP		PKPbc		18 59 51.2	+1.5
KOLS	**Kolonicke sedl**	**143.76**	**343**	*e*PKP		PKPbc		18 59 51.2	+1.5
BURAR	**Bucovina Array**	**143.97**	**339**	⇓PKiKP		**PKPdf**		**18 59 55.7**	**+3.0**
BURAR	**Bucovina Array**	**143.97**	**339**	⇓*i*P		**PKPdf**		**18 59 55.7**	**+3.0**
UZH	**Uzhgorod**	**144.03**	**342**	*e*PKiKP		PKPab		18 59 48.5	-1.5
UCC	**Uccle**	**144.19**	**3**	PKP		PKPdf		19 00 00.5	+7.8
TRPA	**Tarpa**	**144.41**	**342**	⇓*e*PKPdf		PKPbc		18 59 52.3	+0.6
MEM	**Membach**	**144.42**	**1**	PKP		PKPbc		18 59 52.7	+1.0
SNF	**Seneffe**	**144.47**	**3**	PKP		PKPbc		18 59 53.0	+1.2
BCLA	**Clavier**	**144.60**	**2**	PKP		**PKPab**		**18 59 51.1**	**-0.9**
KECS	**Kecovo**	**144.67**	**344**	*e*PKiKP		**PKPab**		**18 59 51.4**	**-1.0**
KECS	**Kecovo**	**144.67**	**344**	*e*PKP		**PKPab**		**18 59 51.4**	**-1.0**
VRAC	**Vranov**	**144.78**	**349**	⇓*i*P		**PKPab**		**18 59 51.5**	**-1.3**
VRAC	**Vranov**	**144.78**	**349**	PKP		**PKPab**		**18 59 51.1**	**-1.7**
VRAC	**Vranov**	**144.78**	**349**	PKP		**PKPab**		**18 59 51.1**	**-1.7**
	comp=Z,8.3nm,1.1s,baz=0.5,slow=4.1,SNR=11								
CFR	**Carcaliu**	**144.83**	**333**	⇓PKiKP		**PKPab**		**18 59 52.8**	**-0.2**
CFR	**Carcaliu**	**144.83**	**333**	⇓*i*P		**PKPab**		**18 59 52.8**	**-0.2**
VRI	**Vrincioaia**	**144.87**	**335**	⇑PKiKP		**PKPdf**		**18 59 56.6**	**+2.4**
VRI	**Vrincioaia**	**144.87**	**335**	⇑*i*P		**PKPdf**		**18 59 56.6**	**+2.4**
DOU	**Dourbes**	**144.90**	**2**	PKP		**PKPab**		**18 59 52.5**	**-0.7**
DOPR	**Dopca**	**145.31**	**337**	⇑*i*P		PKPbc		18 59 55.2	+0.5
TLB	**Topalu**	**145.34**	**333**	⇑PKiKP		PKPbc		18 59 52.9	-1.9
TLB	**Topalu**	**145.34**	**333**	⇑*i*P		PKPbc		18 59 52.9	-1.9
PSZ	**Piszkesteto**	**145.35**	**344**	⇑PKiKP		**PKPbc**		**18 59 52.8**	**-2.0**
PSZ	**Piszkesteto**	**145.35**	**344**	⇑*i*P		**PKPbc**		**18 59 52.8**	**-2.0**
PSZ	**Piszkesteto**	**145.35**	**344**	‖*e*		**PKPdf**		**18 59 56.6**	**+1.6**
WLF	**Walferdange**	**145.37**	**1**	PKP		**PKPbc**		**18 59 54.6**	**-0.1**
KHC	**Kasperske Hory**	**145.44**	**352**	*e*PKiKP		**PKPbc**		**18 59 54.0**	**-1.0**
KHC	**Kasperske Hory**	**145.44**	**352**	*e*PKP		**PKPbc**		**18 59 54.0**	**-1.0**
MLR	**Muntele Rosu**	**145.49**	**336**	⇑*i*P		**PKPbc**		**18 59 53.6**	**-1.8**
MLR	**Muntele Rosu**	**145.49**	**336**	PKPbc		**PKPbc**		**18 59 53.9**	**-1.5**
MLR	**Muntele Rosu**	**145.49**	**336**	PKPbc		**PKPbc**		**18 59 53.9**	**-1.5**
	comp=Z,8.0nm,1.3s,baz=360,slow=3.3,SNR=6.2								
DRGR		**145.54**	**340**	⇓PKiKP		**PKPbc**		**18 59 53.5**	**-2.0**
DRGR		**145.54**	**340**	⇓*i*P		**PKPbc**		**18 59 53.5**	**-2.0**
ISR	**Istrita**	**145.55**	**335**	⇑PKiKP		**PKPdf**		**18 59 57.4**	**+2.0**
ISR	**Istrita**	**145.55**	**335**	⇑*i*P		**PKPdf**		**18 59 57.4**	**+2.0**
BST	**Brest**	**145.57**	**13**	PKP		**PKPbc**		**18 59 54.7**	**-0.7**
GERES	**GERESS Array B**	**145.70**	**352**	PKPbc		**PKPbc**		**18 59 54.6**	**-1.4**
GERES	**GERESS Array B**	**145.70**	**352**	PKPbc		**PKPbc**		**18 59 54.6**	**-1.4**
	comp=Z,4.6nm,0.7s,baz=11,slow=1.4,SNR=33								
ZST	**Bratislava**	**145.74**	**348**	*e*PKiKP		**PKPab**		**18 59 56.4**	**+0.1**
ZST	**Bratislava**	**145.74**	**348**	*e*PKP		**PKPab**		**18 59 56.4**	**+0.1**
KMBO	**Kilima Mbogo**	**145.81**	**245**	PKPbc		**PKPdf**		**18 59 55.4**	**-1.7**
KMBO	**Kilima Mbogo**	**145.81**	**245**	PKPbc		**PKPdf**		**18 59 55.4**	**-1.7**
	comp=Z,3.6nm,0.9s,baz=100,slow=2.6,SNR=5.9								
BRTR	**Keskin Array B**	**145.86**	**321**	PKPbc		**PKPdf**		**18 59 56.2**	**0.0**
BRTR	**Keskin Array B**	**145.86**	**321**	PKPbc		**PKPdf**		**18 59 56.2**	**0.0**
	comp=Z,11nm,0.8s,baz=103,slow=1.6,SNR=41								
VOIR		**145.88**	**337**	⇑PKiKP		**PKPdf**		**18 59 55.5**	**-0.5**
VOIR		**145.88**	**337**	⇑*i*P		**PKPdf**		**18 59 55.5**	**-0.5**
BUD	**Budapest**	**145.97**	**345**	*e*PKP		**PKPdf**		**18 59 56.5**	**+0.6**
LANF	**Langenberg**	**146.04**	**359**	PKP		**PKPdf**		**18 59 56.4**	**+0.3**
ARR	**Arges**	**146.10**	**337**	⇓*i*P		**PKPdf**		**18 59 56.8**	**+0.5**
PKSG		**146.21**	**346**	‖*e*	PKPdf	**PKPdf**		**18 59 57.2**	**+0.8**
CONA	**Conrad Observa**	**146.24**	**349**	⇓*i*PKPdf		**PKPdf**		**18 59 52.3**	**-4.2**
	comp=Z,83nm,1.6s,SNR=30								
ANTO	**Ankara**	**146.27**	**322**	⇑PKP2		**PKPdf**		**18 59 57.8**	**+1.0**
ANTO	**Ankara**	**146.27**	**322**	⇑*i*P		**PKPdf**		**18 59 57.8**	**+1.0**
PKSN	**Nyarlorinc**	**146.29**	**344**	‖*e*		**PKPbc**		**18 59 58.2**	**+0.5**
SIRR	**Siria**	**146.34**	**341**	⇑*i*P		**PKPbc**		**18 59 58.3**	**+0.4**
PKS7	**Kunszentmiklos**	**146.34**	**345**	‖*e*	PKPdf	**PKPdf**		**18 59 57.3**	**+0.7**
SOP	**Sopron**	**146.34**	**348**	‖*e*		**PKPab**		**19 00 00.3**	**+1.7**
PKST	**T^s**	**146.42**	**346**	‖*e*		**PKPab**		**19 00 00.2**	**+1.2**
GZR	**Gura Zlata**	**146.74**	**339**	⇑PKiKP		**PKPdf**		**18 59 57.5**	**+0.1**
GZR	**Gura Zlata**	**146.74**	**339**	⇑*i*P		**PKPdf**		**18 59 57.5**	**+0.1**
THEF	**They Montfort**	**146.80**	**1**	PKP		**PKPdf**		**18 59 58.6**	**+1.2**
ECH	**Echery**	**146.82**	**359**	PKP		**PKPdf**		**18 59 58.6**	**+1.2**
PKS2	**Kecel**	**146.84**	**344**	⇑		**PKPab**		**19 00 02.0**	**+1.4**
BZS	**Buzias**	**146.93**	**341**	⇑PKP2		**PKPdf**		**18 59 57.3**	**-0.3**
BZS	**Buzias**	**146.93**	**341**	⇑*i*P		**PKPdf**		**18 59 57.3**	**-0.3**
ARSA	**Arzberg**	**146.96**	**349**	⇑*i*PKPbc		**PKPdf**		**18 59 57.4**	**-0.3**
	comp=Z,18nm,1.7s,SNR=8.6								
PKS9	**Tamasi**	**146.99**	**345**	‖*e*PKPdf		**PKPdf**		**18 59 54.7**	**-3.0**
FELD	**Feldberg im Sc**	**147.14**	**358**	PKP		**PKPdf**		**18 59 59.7**	**+1.6**
MOF	**Molkenrain**	**147.18**	**359**	PKP		**PKPbc**		**18 59 59.9**	**-0.4**
SZH	**Strazhica**	**147.31**	**334**	P		**PKPbc**		**19 00 00.8**	**+0.1**
RETA	**Reutte**	**147.37**	**355**	*i* pPKPdf		**PKPdf**		**19 00 00.2**	**+1.7**
	comp=Z,45nm,1.3s,SNR=12								
BEHE	**Becsehely**	**147.45**	**347**	⇑*e*		**PKPbc**		**19 00 01.2**	**+0.2**
MOTA	**Moosalm**	**147.48**	**354**	*i* PKPbc		**PKPdf**		**18 59 59.3**	**+0.6**
	comp=Z,55nm,1.2s,SNR=13								
SOKA	**Soboth**	**147.60**	**349**	⇑*i*PKPdf		**PKPdf**		**18 59 57.9**	**-0.9**
	comp=Z,35nm,1.3s,SNR=15								
DAVA	**Damuels**	**147.64**	**356**	*i* sPKPdf		**PKPbc**		**19 00 01.0**	**-0.7**
	comp=Z,54nm,1.4s,SNR=14								
JMB	**Yambol**	**147.66**	**332**	P		**PKPab**		**19 00 03.7**	**-0.2**
JMB	**Yambol**	**147.66**	**332**	PKP2		**PKPab**		**19 00 03.7**	**-0.2**
JMB	**Yambol**	**147.66**	**332**	P		**PKPab**		**19 00 03.6**	**-0.3**
JMB	**Yambol**	**147.66**	**332**	P		**PKPab**		**19 00 03.7**	**-0.2**
LOMF	**Lomont**	**147.69**	**360**	PKP		**PKPbc**		**19 00 01.4**	**-0.3**
FETA	**Feichten**	**147.84**	**355**	⇑*i*PKPbc		**PKPdf**		**18 59 58.7**	**-0.6**
	comp=Z,44nm,1.5s,SNR=16								
ABTA	**Abfaltersbach**	**147.92**	**352**	⇑*i*PKPdf		**PKPdf**		**18 59 56.4**	**-3.0**
	comp=Z,21nm,1.2s,SNR=7.3								
EDRB	**Edirne**	**148.07**	**331**	P		**PKPdf**		**19 00 00.5**	**+0.8**
EDRB	**Edirne**	**148.07**	**331**	P		**PKPdf**		**19 00 00.5**	**+0.8**
MPEP	**Malo Peshtene**	**148.14**	**336**	P		**PKPdf**		**19 00 00.8**	**+1.1**
DAVOX	**Davos/Dischmat**	**148.14**	**356**	PKPbc		**PKPbc**		**19 00 03.8**	**+0.7**
DAVOX	**Davos/Dischmat**	**148.14**	**356**	PKPbc		**PKPbc**		**19 00 03.8**	**+0.7**
	comp=Z,23nm,1.1s,baz=269,slow=1.6,SNR=11								
PGB	**Panagyurishte**	**148.64**	**335**	P		**PKPbc**		**19 00 05.7**	**+1.3**
PLD	**Plovdiv**	**148.78**	**334**	P		**PKPbc**		**19 00 05.4**	**+0.7**
PLD	**Plovdiv**	**148.78**	**334**	PKP2		**PKPbc**		**19 00 05.4**	**+0.7**
PLD	**Plovdiv**	**148.78**	**334**	P		**PKPbc**		**19 00 05.4**	**+0.7**
DIVS	**Divibare**	**148.81**	**341**	P		**PKPdf**		**19 00 02.1**	**+1.2**
AGO	**Saint Agoulin**	**148.84**	**5**	PKP		**PKPdf**		**19 00 02.9**	**+2.1**
CSS	**Prodhromos**	**148.85**	**315**	P		**PKPdf**		**19 00 03.1**	**+1.9**
CSS	**Prodhromos**	**148.85**	**315**	P		**PKPdf**		**19 00 03.1**	**+1.9**
PLDF	**La Plantade**	**148.96**	**4**	PKP		**PKPdf**		**19 00 03.2**	**+2.1**
VTS	**Vitosha**	**148.99**	**336**	P		**PKPbc**		**19 00 05.0**	**-0.4**
VTS	**Vitosha**	**148.99**	**336**	PKP2		**PKPbc**		**19 00 05.0**	**-0.4**
VTS	**Vitosha**	**148.99**	**336**	⇑*i*P		**PKPbc**		**19 00 05.2**	**-0.2**
VTS	**Vitosha**	**148.99**	**336**	P		**PKPbc**		**19 00 05.1**	**-0.4**
VTS	**Vitosha**	**148.99**	**336**	P		**PKPbc**		**19 00 05.0**	**-0.4**
PYM	**Petit Puy Mans**	**149.13**	**5**	PKP		**PKPdf**		**19 00 02.5**	**+1.1**
ALN	**Alexandroupoli**	**149.14**	**331**	P		**PKPdf**		**19 00 01.8**	**+0.4**
ALN	**Alexandroupoli**	**149.14**	**331**	PKiKP		**PKPdf**		**19 00 01.8**	**+0.4**
ALN	**Alexandroupoli**	**149.14**	**331**	*e*P		**PKPdf**		**19 00 03.0**	**+1.6**
ALN	**Alexandroupoli**	**149.14**	**331**	P		**PKPdf**		**19 00 01.8**	**+0.4**
MMB	**Musomiste**	**149.62**	**334**	P		**PKPbc**		**19 00 06.9**	**+0.1**
KKB	**Krupnik**	**149.65**	**335**	P		**PKPbc**		**19 00 07.4**	**+0.5**
SSB	**Saint Sauveur**	**149.70**	**3**	PKP		**PKPdf**		**19 00 04.4**	**+2.1**
SMTH	**Samothraki Isl**	**149.72**	**331**	P		**PKPbc**		**19 00 05.5**	**-1.6**
SMTH	**Samothraki Isl**	**149.72**	**331**	*e*P		**PKPbc**		**19 00 06.3**	**-0.8**
SMTH	**Samothraki Isl**	**149.72**	**331**	P		**PKPbc**		**19 00 05.5**	**-1.6**
NVR	**Nevrokopi**	**149.76**	**334**	P		**PKPbc**		**19 00 06.5**	**-0.7**
NVR	**Nevrokopi**	**149.76**	**334**	*e*P		**PKPbc**		**19 00 06.2**	**-1.0**
NVR	**Nevrokopi**	**149.76**	**334**	P		**PKPbc**		**19 00 06.5**	**-0.7**
KAVA	**Kavala**	**149.77**	**333**	P		**PKPbc**		**19 00 06.5**	**-0.6**
KAVA	**Kavala**	**149.77**	**333**	P		**PKPbc**		**19 00 06.5**	**-0.6**
PGAV	**Gavieira, Arco**	**150.13**	**23**	*e*PKPbc		**PKPbc**		**19 00 07.4**	**-0.7**
PRK	**Paraskevi**	**150.30**	**328**	P		**PKPbc**		**19 00 07.8**	**-0.7**
PRK	**Paraskevi**	**150.30**	**328**	PKP2		**PKPbc**		**19 00 07.8**	**-0.7**
PRK	**Paraskevi**	**150.30**	**328**	*e*P		**PKPbc**		**19 00 07.7**	**-0.7**
PRK	**Paraskevi**	**150.30**	**328**	P		**PKPbc**		**19 00 07.8**	**-0.7**
LIA	**Limnos Island**	**150.33**	**330**	P		**PKPbc**		**19 00 07.5**	**-1.0**
LIA	**Limnos Island**	**150.33**	**330**	*e*P		**PKPbc**		**19 00 07.7**	**-0.8**
LIA	**Limnos Island**	**150.33**	**330**	P		**PKPbc**		**19 00 07.5**	**-1.0**
OG26	**St.-Nazaire-De**	**150.44**	**2**	PKP		**PKPdf**		**19 00 05.0**	**+1.5**
OUR	**Ouranopolis**	**150.54**	**332**	P		**PKPbc**		**19 00 07.5**	**-1.5**
OUR	**Ouranopolis**	**150.54**	**332**	P		**PKPbc**		**19 00 07.5**	**-1.5**
PLG	**Polygyros**	**150.74**	**333**	P		**PKPbc**		**19 00 09.3**	**-0.3**
PLG	**Polygyros**	**150.74**	**333**	*e*P		**PKPbc**		**19 00 09.1**	**-0.5**
PLG	**Polygyros**	**150.74**	**333**	P		**PKPbc**		**19 00 09.3**	**-0.3**
PHP	**Peshkopia**	**150.81**	**339**	P		**PKPdf**		**19 00 06.6**	**+2.5**
PHP	**Peshkopia**	**150.81**	**339**	PKiKP		**PKPdf**		**19 00 06.6**	**+2.5**
PHP	**Peshkopia**	**150.81**	**339**	P		**PKPdf**		**19 00 06.6**	**+2.5**
PBRG	**Braganca**	**150.82**	**21**	*e*PKPbc		**PKPbc**		**19 00 08.4**	**-1.3**
POLO	**Lamas de Olo**	**150.82**	**23**	*e*PKPbc		**PKPbc**		**19 00 11.2**	**+1.4**
OSSF	**Osses**	**150.97**	**12**	PKP		**PKPbc**		**19 00 10.9**	**+0.9**
TOUF	**Mont Tournerai**	**151.02**	**359**	PKP		**PKPbc**		**19 00 11.8**	**+1.5**
AUTN	**L'Aution**	**151.03**	**359**	PKP		**PKPbc**		**19 00 10.9**	**+0.5**
CHOS	**Chios island**	**151.06**	**327**	P		**PKPbc**		**19 00 09.5**	**-0.9**
CHOS	**Chios island**	**151.06**	**327**	*e*P		**PKPbc**		**19 00 09.7**	**-0.7**
CHOS	**Chios island**	**151.06**	**327**	P		**PKPbc**		**19 00 09.5**	**-0.9**
MVIF	**Mont Vial**	**151.14**	**359**	PKP		**PKPbc**		**19 00 10.9**	**+0.4**
LARF	**Larrau**	**151.23**	**12**	PKP		**PKPbc**		**19 00 12.3**	**+1.6**
FNA	**Florina**	**151.25**	**336**	*e*P		**PKPbc**		**19 00 09.9**	**-0.9**
MVO	**Moncorvo**	**151.28**	**22**	*e*PKPbc		**PKPbc**		**19 00 11.0**	**+0.1**
CALN	**Calern**	**151.28**	**360**	PKP		**PKPbc**		**19 00 12.2**	**+1.3**
REVF	**Revere**	**151.29**	**359**	PKP		**PK

DAVOX **Davos/Dischmat 148.53 356** PKPbc **PKPbc 19 04 40.3 +0.1**
1.0nm,0.5s,baz=88,slow=5.0,SNR=4.7

IDC 01 18:53:56.5±0.8, 15°43S×173°38W, h0km, mb3.9/8, mb1 4.2/8, mb1mx4.0/21, mbtmp3.9/8, Error ellipse: s-maj=41.3km s-min=20.1km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.17**	**46**	Pn	Pn	18 54 30.3	-3.8
	40nm,0.3s,baz=359,slow=21,SNR=5.2						
AFI				Sn	Sn	18 54 49.0	-13
	47nm,0.3s,baz=63,slow=20,SNR=4.4						
H11S2	**WAKE ISLAND Hy 39.00**	**329**		T	T	19 43 04.2	
	baz=152,slow=0.7,SNR=18						
H11S3	**WAKE ISLAND Hy 39.01**	**329**		T	T	19 43 05.7	
	baz=152,slow=0.7,SNR=17						
H11S1	**WAKE ISLAND Hy 39.01**	**329**		T	T	19 43 05.6	
	baz=152,slow=0.7,SNR=20						
H11N3	**WAKE ISLAND Hy 39.94**	**330**		T	T	19 44 19.0	
	baz=152,slow=0.7,SNR=16						
H11N1	**WAKE ISLAND Hy 39.95**	**330**		T	T	19 44 17.9	
	baz=152,slow=0.7,SNR=21						
H11N2	**WAKE ISLAND Hy 39.96**	**330**		T	T	19 44 19.7	
	baz=152,slow=0.7,SNR=18						
STKA	**Stephens Creek**	**44.03**	**240**	P	P	19 02 06.2	-0.1
	2.4nm,0.9s,baz=242,slow=6.7,SNR=3.7						
WRA	**Warramunga Arr**	**49.85**	**257**	P	P	19 02 51.5	-0.5
	0.7nm,0.5s,baz=91,slow=6.7,SNR=32						
ASAR	**Alice Springs**	**50.12**	**252**	P	P	19 02 53.9	-0.1
	3.4nm,0.6s,baz=88,slow=8.2,SNR=42						
VNDA	**Vanda**	**63.35**	**186**	P	P	19 04 27.1	0.0
	0.9nm,0.8s,baz=14,slow=4.2,SNR=3.0						
NVAR	**Mina Array Bea**	**74.34**	**42**	P	P	19 05 36.7	+0.2
	0.3nm,0.6s,baz=217,slow=8.8,SNR=2.3						
TXAR	**Lajitas Array**	**80.62**	**56**	P	P	19 06 11.3	-0.3
	0.4nm,0.5s,baz=212,slow=8.5,SNR=3.1						
PDAR	**Pinedale Array**	**82.28**	**42**	P	P	19 06 20.3	0.0
	0.7nm,0.9s,baz=216,slow=4.8,SNR=5.5						
ILAR	**Eielson Array**	**82.47**	**11**	P	P	19 06 19.7	-0.8
	0.4nm,0.6s,baz=210,slow=7.0,SNR=4.4						
MLR	**Muntele Rosu**	**145.90**	**335**	PKPbc	PKPdf	19 13 37.3	-0.4
	1.2nm,1.0s,baz=317,slow=3.0,SNR=4.5						
GERES	**GERESS Array B**	**146.17**	**352**	PKPbc	PKPbc	19 13 38.8	-0.2
	0.3nm,0.5s,baz=54,slow=7.3,SNR=5.0						
BRTR	**Keskin Array B**	**146.19**	**321**	PKPbc	PKPbc	19 13 39.5	+0.1
	3.9nm,1.0s,baz=90,slow=0.5,SNR=12						

IDC 01 18:54:55.1±2.1, 15°00S×173°81W, h0km, mb3.8/5, mb1 4.2/5, mb1mx3.9/19, mbtmp3.8/5, Error ellipse: s-maj=119.5km s-min=26.5km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**49.55**	**256**	P	P	19 03 48.0	-0.3
	0.4nm,0.5s,baz=90,slow=6.9,SNR=5.0						
ASAR	**Alice Springs**	**49.86**	**252**	P	P	19 03 50.0	-0.6
	2.2nm,0.5s,baz=86,slow=7.5,SNR=6.9						
TXAR	**Lajitas Array**	**80.72**	**56**	P	P	19 07 11.7	+0.9
	0.4nm,0.7s,baz=297,slow=5.5,SNR=3.8						
ILAR	**Eielson Array**	**82.13**	**11**	P	P	19 07 16.9	-0.4
	0.4nm,0.8s,baz=217,slow=7.4,SNR=4.4						
PDAR	**Pinedale Array**	**82.23**	**42**	P	P	19 07 17.6	-1.1
	0.9nm,0.9s,baz=151,slow=3.4,SNR=4.4						
BRTR	**Keskin Array B**	**145.60**	**321**	PKPbc	PKPab	19 14 37.4	+1.0
	1.5nm,0.9s,baz=119,slow=1.8,SNR=3.0						
GERES	**GERESS Array B**	**145.69**	**351**	PKPbc	PKPdf	19 14 34.5	-1.3
	0.2nm,0.4s,baz=22,slow=8.5,SNR=2.3						

MEX 01 18:57:42.5±0.7, 17°00N×100°22W, h35km±5km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.06**	**316**	*i* P	Pn	18 57 46.9	-1.5
CAIG				*i* S	Sn	18 57 50.7	-1.8
ACX	**Acapulco**	**0.37**	**111**	*i* P	Pn	18 57 48.4	-3.0
ACX				*i* S	Sn	18 57 54.5	-3.1
MEIG	**Mezcala**	**1.08**	**32**	*i* P	Pn	18 57 59.7	-1.6
MEIG				*i* S	Sn	18 58 13.3	-1.9
ARIG	**Puente Sto Nin**	**1.27**	**355**	*i* P	Pn	18 58 01.6	-2.3
ARIG				*i* S	Sn	18 58 16.9	-3.0
ZIIG	**Zihuatanejo**	**1.33**	**297**	*i* P	Pn	18 58 03.3	-1.3
ZIIG				*i* S	Sn	18 58 19.1	-1.9
PLIG	**Platanillo**	**1.54**	**26**	*i* P	Pn	18 58 05.8	-1.9
PLIG				*e*S	Sn	18 58 24.3	-2.2

IDC 01 19:04:58.9±7.7, 15°60S×173°22W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.5/22, mbtmp3.6/3, ML1.9/1, Error ellipse: s-maj=378.0km s-min=27.8km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.19**	**40**	Pn	Pn	19 05 34.9	-1.7
	23nm,0.3s,baz=184,slow=23,SNR=5.8						
AFI				Sn	Sn	19 05 52.9	-12
	74nm,0.3s,baz=5.2,slow=21,SNR=8.0						
WRA	**Warramunga Arr**	**49.96**	**257**	P	P	19 13 54.6	-0.5
	0.2nm,0.7s,baz=93,slow=7.2,SNR=6.1						
ASAR	**Alice Springs**	**50.21**	**252**	P	P	19 13 56.1	-0.8
	1.0nm,0.6s,baz=88,slow=7.6,SNR=18						
BRTR	**Keskin Array B**	**146.42**	**321**	PKPbc	PKPab	19 24 43.6	+0.4
	0.6nm,0.8s,baz=85,slow=3.0,SNR=3.0						

IDC 01 19:08:44.3±3.8, 5°32S×101°90E, h0km, mb3.4/6, mb1 3.6/6, mb1mx3.4/23, mbtmp3.4/6, Error ellipse: s-maj=156.2km s-min=20.2km az=55.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**23.80**	**353**	P	P	19 13 59.2	+0.2
	0.2nm,0.3s,baz=182,slow=8.4,SNR=3.8						
H08S2	**Diego Garcia H**	**29.31**	**264**	T	T	19 45 42.8	
	baz=87,slow=0.7,SNR=11						
H08S3	**Diego Garcia H**	**29.32**	**264**	T	T	19 45 48.3	
	baz=87,slow=0.7,SNR=13						
H08S1	**Diego Carcia H**	**29.32**	**264**	T	T	19 45 46.6	
	baz=87,slow=0.7,SNR=10						
WRA	**Warramunga Arr**	**54.73**	**118**	P	P	19 15 35.9	-0.6
	0.2nm,0.5s,baz=303,slow=10,SNR=4.6						
ASAR	**Alice Springs**	**35.81**	**124**	P	P	19 15 46.0	+0.3
	0.3nm,0.5s,baz=295,slow=7.6,SNR=17						
SONM	**Songino Array**	**53.08**	**4**	P	P	19 18 03.5	0.0
	0.6nm,0.7s,baz=185,slow=8.3,SNR=6.0						
MKAR	**Makanchi Array**	**54.72**	**344**	P	P	19 18 15.6	+0.2
	0.2nm,0.4s,baz=147,slow=9.4,SNR=7.9						
ZALV	**Zalesovo Beam**	**60.77**	**349**	P	P	19 18 57.2	-0.5
	0.4nm,0.3s,baz=157,slow=7.9,SNR=4.0						

IDC 01 19:12:00.8±9.1, 15°20S×173°59W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/19, mbtmp3.5/3, Error ellipse: s-maj=425.5km s-min=31.8km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**49.71**	**257**	P	P	19 20 54.7	-0.4
	0.2nm,0.4s,baz=89,slow=7.2,SNR=4.7						
ASAR	**Alice Springs**	**50.00**	**252**	P	P	19 20 56.9	-0.5
	0.7nm,0.4s,baz=90,slow=7.6,SNR=15						
ILAR	**Eielson Array**	**82.28**	**11**	P	P	19 24 22.5	-1.2
	0.4nm,0.7s,baz=210,slow=5.2,SNR=3.5						
BRTR	**Keskin Array B**	**145.88**	**321**	PKPbc	PKPab	19 31 43.9	+0.7
	0.6nm,0.8s,baz=24,slow=3.9,SNR=3.0						
GERES	**GERESS Array B**	**145.91**	**351**	PKPbc	PKPdf	19 31 41.9	+0.1
	0.1nm,0.3s,baz=17,slow=8.4,SNR=2.9						

IDC 01 19:19:15.8±3.1, 18°44S×172°23W, h0km, mb3.8/5, mb1 4.2/5, mb1mx3.8/21, mbtmp3.8/5, Error ellipse: s-maj=183.0km s-min=24.3km az=149.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S2	**WAKE ISLAND Hy 42.14**	**329**		T	T	20 11 59.0	
	baz=152,slow=0.7,SNR=16						
H11S3	**WAKE ISLAND Hy 42.15**	**329**		T	T	20 11 58.5	
	baz=152,slow=0.7,SNR=15						
H11S1	**WAKE ISLAND Hy 42.15**	**329**		T	T	20 11 59.9	
	baz=152,slow=0.7,SNR=6.5						
H11N3	**WAKE ISLAND Hy 43.09**	**331**		T	T	20 13 11.6	
	baz=153,slow=0.7,SNR=20						
H11N1	**WAKE ISLAND Hy 43.10**	**331**		T	T	20 13 21.1	
	baz=153,slow=0.7,SNR=22						
H11N2	**WAKE ISLAND Hy 43.11**	**331**		T	T	20 13 12.9	
	baz=153,slow=0.7,SNR=20						
ASAR	**Alice Springs**	**50.30**	**254**	P	P	19 28 15.1	+0.4
	3.7nm,0.6s,baz=89,slow=8.4,SNR=44						
WRA	**Warramunga Arr**	**50.31**	**259**	P	P	19 28 14.0	-0.7
	0.8nm,0.6s,baz=96,slow=7.5,SNR=22						
NVAR	**Mina Array Bea**	**75.86**	**41**	P	P	19 31 04.2	-0.3
	0.4nm,0.7s,baz=224,slow=5.0,SNR=3.6						
PDAR	**Pinedale Array**	**83.79**	**41**	P	P	19 31 47.4	0.0
	0.3nm,0.7s,baz=216,slow=2.9,SNR=2.3						
ILAR	**Eielson Array**	**85.20**	**11**	P	P	19 31 53.9	+0.2
	0.5nm,0.8s,baz=209,slow=7.2,SNR=3.1						
BRTR	**Keskin Array B**	**149.19**	**319**	PKPbc	PKPbc	19 39 06.0	-0.8
	0.6nm,0.7s,baz=113,slow=2.8,SNR=4.2						
GERES	**GERESS Array B**	**149.29**	**352**	PKPbc	PKPbc	19 39 06.5	-0.3
	0.5nm,0.8s,baz=12,slow=5.0,SNR=2.2						

IDC 01 19:23:47.1±2.3, 15°76S×173°58W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/20, mbtmp3.7/4, Error ellipse: s-maj=124.2km s-min=28.4km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**49.59**	**257**	P	P	19 32 40.5	0.0
	0.3nm,0.6s,baz=89,slow=7.2,SNR=5.5						
ASAR	**Alice Springs**	**49.83**	**252**	P	P	19 32 42.0	-0.4
	1.6nm,0.6s,baz=87,slow=7.5,SNR=18						
TXAR	**Lajitas Array**	**80.96**	**56**	P	P	19 36 04.1	+0.1
	0.2nm,0.3s,baz=205,slow=5.7,SNR=3.4						
ILAR	**Eielson Array**	**82.83**	**11**	P	P	19 36 12.6	-0.4
	0.5nm,1.1s,baz=182,slow=4.5,SNR=3.1						
BRTR	**Keskin Array B**	**146.32**	**320**	PKPbc	PKPbc	19 43 30.2	-0.2
	0.7nm,0.8s,baz=70,slow=1.7,SNR=3.1						

MEX 01 19:24:34.8±0.6, 17°33N×100°34W, h40km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.29**	**166**	*i* P	Pn	19 24 41.1	-1.8
CAIG				*i* S	Sn	19 24 47.2	-1.4
ACX	**Acapulco**	**0.65**	**135**	*i* P	Pn	19 24 42.0	-5.6
ACX				*i* S	Sn	19 24 51.1	-5.6
ARIG	**Puente Sto Nin**	**0.95**	**360**	*i* P	Pn	19 24 49.9	-1.9
ARIG				*i* S	Sn	19 25 02.5	-1.6
ZIIG	**Zihuatanejo**	**1.11**	**285**	*e*P	Pn	19 24 51.6	-2.2
ZIIG				*i* S	Sn	19 25 06.3	-1.6
PLIG	**Platanillo**	**1.33**	**37**	*i* P	Pn	19 24 54.8	-2.2
PLIG				*i* S	Sn	19 25 11.8	-1.8

IDC 01 19:25:43.6±0.7, 15°55S×173°70W, h0km, mb4.0/9, mb1 4.3/9, mb1mx4.1/19, mbtmp4.0/9, Error ellipse: s-maj=38.4km s-min=18.9km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.48**	**49**	Pn	Pn	19 26 19.1	-6.2
	30nm,0.3s,baz=292,slow=19,SNR=4.5						
AFI				Sn	Sn	19 26 44.0	-12
	76nm,0.3s,baz=34,slow=23,SNR=6.4						
H11S2	**WAKE ISLAND Hy 38.95**	**330**		T	T	20 14 55.0	
	baz=152,slow=0.7,SNR=11						
H11S3	**WAKE ISLAND Hy 38.96**	**330**		T	T	20 14 58.8	
	baz=152,slow=0.7,SNR=17						
H11S1	**WAKE ISLAND Hy 38.96**	**330**		T	T	20 14 57.9	
	baz=152,slow=0.7,SNR=16						
H11N3	**WAKE ISLAND Hy 39.90**	**331**		T	T	20 16 07.5	
	baz=152,slow=0.7,SNR=16						
H11N1	**WAKE ISLAND Hy 39.91**	**331**		T	T	20 16 10.4	
	baz=152,slow=0.7,SNR=15						
H11N2	**WAKE ISLAND Hy 39.92**	**331**		T	T	20 16 13.4	
	baz=152,slow=0.7,SNR=17						
STKA	**Stephens Creek**	**43.71**	**240**	P	P	19 33 50.4	-0.3
	2.0nm,0.7s,baz=94,slow=11,SNR=5.0						
WRA	**Warramunga Arr**	**49.53**	**257**	P	P	19 34 36.4	-0.2
	1.2nm,0.7s,baz=96,slow=7.7,SNR=11						
ASAR	**Alice Springs**	**49.79**	**252**	P	P	19 34 38.0	-0.4
	8.3nm,0.7s,baz=85,slow=8.5,SNR=40						
VNDA	**Vanda**	**63.20**	**186**	P	P	19 36 13.2	+0.1
	1.9nm,1.0s,baz=348,slow=8.4,SNR=8.0						
NVAR	**Mina Array Bea**	**74.64**	**42**	P	P	19 37 25.2	0.0
	1.2nm,0.9s,baz=224,slow=9.7,SNR=7.6						
TXAR	**Lajitas Array**	**80.94**	**56**	P	P	19 38 00.1	-0.3
	1.0nm,0.9s,baz=230,slow=3.1,SNR=5.7						
PDAR	**Pinedale Array**	**82.57**	**42**	P	P	19 38 08.8	-0.1
	0.3nm,0.7s,baz=232,slow=4.9,SNR=3.9						
ILAR	**Eielson Array**	**82.65**	**11**	P	P	19 38 08.6	+0.1
	0.3nm,0.7s,baz=232,slow=7.4,SNR=4.7						
MAW	**Mawson**	**87.56**	**199**	P	P	19 38 33.2	0.0
	0.7nm,0.6s,baz=43,slow=8.4,SNR=3.2						
BRTR	**Keskin Array B**	**146.09**	**321**	PKPbc	PKPbc	19 45 26.1	0.0
	1.4nm,0.8s,baz=90,slow=2.7,SNR=7.0						
GERES	**GERESS Array B**	**146.25**	**351**	PKPbc	PKPdf	19 45 25.2	0.0
	0.4nm,0.7s,baz=356,slow=1.7,SNR=4.8						

IDC 01 19:27:43.8±10.0, 16°10S×172°98W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.5/21, mbtmp3.7/2, Error ellipse: s-maj=542.4km s-min=53.5km az=144.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**50.08**	**257**	P	P	19 36 40.4	-0.6
	0.3nm,0.5s,baz=90,slow=6.7,SNR=4.5						
ASAR	**Alice Springs**	**50.28**	**252**	P	P	19 36 42.8	+0.2
	1.5nm,0.7s,baz=89,slow=7.5,SNR=8.0						
GERES	**GERESS Array B**	**146.89**	**352**	PKPbc	PKPbc	19 47 27.5	-0.8
	0.6nm,0.7s,baz=12,slow=6.8,SNR=4.5						

*IDC **01** 19:28:56.1±0.5, 15°75S×173°50W, h0km, mb4.6/21, mb1 4.7/21, mb1mx4.7/27, mbtmp4.6/21, MS4.1/4, Ms1 4.1/4, ms1mx3.6/30, Error ellipse: s-maj=20.3km s-min=13.2km az=138.0*

*AUST **01** 19:28:56.6±4.1, 16°00S×173°39W, h0km, Error ellipse: s-maj=88.3km s-min=52.6km az=78.0*

*NEIC **01** 19:28:57.6±0.2, 15°67S×173°56W, h10km, mb4.8/35, Error ellipse: s-maj=10.3km s-min=5.1km az=141.0*

*GCMT **01** 19:29:01.3±0.3, 15°62S×173°20W, h14km±1km, MW4.9, Moment Tensor Solution. s26,c32; s62,c90; Moment tensor: Scale 10^{16}Nm; M_{rr}-2.58±.17; $M_{\theta\theta}$2.14±.11; $M_{\phi\phi}$0.43±.11; $M_{r\theta}$0.37±.19; $M_{\theta\phi}$0.88±.07; $M_{r\phi}$-0.20±.29; Best double couple: $M_0$2.60000×10^{16} NP1:ϕ_s254.00000°, δ48.00000°, λ-81.00000°. NP2:ϕ_s60.00000°, δ42.00000°, λ-100.00000°. Principal axes: T 2.5300, Plg3.0000°, Azm337.0000°; N 0.1000, Plg7.0000°, Azm68.0000°; P -2.6300, Plg82.0000°, Azm224.0000°; Data Used: IU II IC G CN. Surface wave period40 sec.*

*ISCJB **01** 19:29:05.1±0.2, 15°71S±0.07×173°65W±0.05, h79km, mb4.6/55 Error ellipse: s-maj=11.6km s-min=4.5km az=150.2*

ISC 01 19:29:06.5±0.4, 15°79S±0.09×173°56W±0.09, h79km, n334, $_{c0}$6/64/324, mb4.7/55, 106C-76D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.54**	**43**	Pn	Pn	19 29 30.5	-15
AFI				Sn	Sn	19 29 56.4	-20
AFI	**Afiamalu**	**2.54**	**43**	Pn	Pn	19 29 30.5	-15
	16nm,0.3s,baz=46,slow=14,SNR=1.9						
AFI				Sn	Sn	19 29 56.4	-20
	185nm,0.3s,baz=213,slow=23,SNR=5.3						
RAR	**Rarotonga**	**14.14**	**114**	Pn	Pn	19 32 14.0	-9.2
RAR	**Rarotonga**	**14.14**	**114**	Pn	Pn	19 32 14.0	-9.2
	3.6nm,0.3s,baz=270,slow=3.2,SNR=2.3						
RAR				LR	LR	19 36 13.1	
	comp=Z,643nm,18.3s,baz=270,slow=31						
DZM	**Mont Dzumac**	**19.91**	**249**	*e*P	**Pn**	**19 33 33.2**	**-1.2**
	65nm,1.4s						
DZM	**Mont Dzumac**	**19.91**	**249**	P	**Pn**	**19 33 33.5**	**-0.9**
DZM	**Mont Dzumac**	**19.91**	**249**	P	**Pn**	**19 33 33.5**	**-0.9**
	0.4nm,0.3s,baz=101,slow=18,SNR=7.5						
PPT	**Papeete**	**23.04**	**98**	LR	LR	19 41 20.9	
	comp=Z,7.9nm,20.4s,baz=338,slow=32						
PPT2	**Papeete2**	**23.04**	**98**	*e*LQ	LQ	19 38 25.9	
	921nm,25.0s						
PPT2				*e*LR	LR	19 39 20.5	
	283nm,26.2s						
URZ	**Urewera**	**23.85**	**198**	*e*P	**P**	**19 34 11.5**	**-1.0**
URZ	**Urewera**	**23.85**	**198**	P	**P**	**19 34 11.8**	**-0.7**
	6.7nm,0.6s,baz=355,slow=5.4,SNR=4.5						
TBI	**Tubuai**	**23.90**	**112**	*e*LQ	LQ	19 38 50.6	
	1μm,26.8s						
TBI				*e*LR	LR	19 39 36.8	
	664nm,29.2s						
HNR	**Honiara**	**26.60**	**281**	LR	LR	19 43 28.0	
	comp=Z,580nm,21.6s,baz=111,slow=33						
ARMA	**Armidale**	**35.01**	**239**	⇓P	**P**	**19 35 51.3**	**-0.4**
	baz=35,SNR=4.8						
RKT	**Rikitea**	**37.02**	**108**	*e*LR	LR	19 45 50.8	
	440nm,29.8s						
CTA	**Charters Tower**	**38.41**	**257**	P	**P**	**19 36 19.6**	**-1.0**
CTA	**Charters Tower**	**38.41**	**257**	P	**P**	**19 36 19.6**	**-1.0**
	3.6nm,0.6s,baz=104,slow=11,SNR=5.7						
CTAO	**Charters Tower**	**38.41**	**257**	*e*P	**P**	**19 36 19.7**	**-1.0**
	12nm,1.1s						
PMG	**Port Moresby**	**38.81**	**275**	P	**P**	**19 36 25.0**	**+1.0**
PMG	**Port Moresby**	**38.81**	**275**	P	**P**	**19 36 25.0**	**+1.0**
	13nm,0.8s,baz=69,slow=12,SNR=3.5						
H11S2	**WAKE ISLAND Hy 39.22**	**330**		T	T	20 18 07.6	
	baz=152,slow=0.7,SNR=17						
H11S3	**WAKE ISLAND Hy 39.23**	**330**		T	T	20 18 08.2	
	baz=152,slow=0.7,SNR=11						
H11S1	**WAKE ISLAND Hy 39.23**	**330**		T	T	20 18 07.5	
	baz=152,slow=0.7,SNR=11						
H11N3	**WAKE ISLAND Hy 40.17**	**331**		T	T	20 19 18.9	
	baz=152,slow=0.7,SNR=9.4						
H11N1	**WAKE ISLAND Hy 40.18**	**331**		T	T	20 19 25.0	
	baz=152,slow=0.7,SNR=30						
H11N2	**WAKE ISLAND Hy 40.19**	**331**		T	T	20 19 19.7	
	baz=152,slow=0.7,SNR=10						
QLP	**Quilpie**	**40.63**	**248**	⇑P	**P**	**19 36 38.2**	**-0.8**
	baz=41,SNR=3.9						
COEN	**Coen**	**41.80**	**267**	*e*P	**P**	**19 36 47.7**	**-1.1**
	176nm,0.9s						
COEN	**Coen**	**41.80**	**267**	⇑P	**P**	**19 36 49.2**	**+0.5**
	baz=42,SNR=7.8						
STKA	**Stephens Creek**	**43.71**	**240**	P	**P**	**19 37 03.5**	**-0.5**
STKA	**Stephens Creek**	**43.71**	**240**	P	**P**	**19 37 03.5**	**-0.5**
	8.4nm,0.7s,baz=78,slow=8.3,SNR=16						
JAY	**Jayapura**	**46.91**	**282**	⇓P	**P**	**19 37 30.2**	**+0.6**
	baz=47						
BBOO	**Buckleboo**	**48.48**	**240**	⇓P	**P**	**19 37 41.0**	**-0.5**
	baz=48						
WRAB	**Tennant Creek**	**49.60**	**257**	*e*P	**P**	**19 37 49.7**	**-0.5**
	6.6nm,0.8s						
WRA	**Warramunga Arr**	**49.61**	**257**	P	**P**	**19 37 49.6**	**-0.7**
WRA	**Warramunga Arr**	**49.61**	**257**	P	**P**	**19 37 49.6**	**-0.7**
	7.3nm,0.8s,baz=94,slow=7.6,SNR=34						
AS31	**Alice Springs**	**49.84**	**252**	*e*P	**P**	**19 37 51.3**	**-0.7**
ASAR	**Alice Springs**	**49.84**	**252**	P	**P**	**19 37 51.2**	**-0.9**
ASAR	**Alice Springs**	**49.84**	**252**	P	**P**	**19 37 51.2**	**-0.9**
	42nm,0.7s,baz=88,slow=6.4,SNR=51						
KDU	**Kakadu**	**52.29**	**266**	⇓P	**P**	**19 38 10.6**	**+0.2**
	baz=52,SNR=4.7						
KNRA	**Kununurra**	**55.36**	**262**	⇓P	**P**	**19 38 32.9**	**+0.1**
	baz=56,SNR=5.8						
SWI	**Sorong**	**56.38**	**280**	⇑P	**P**	**19 38 40.9**	**+0.8**
	baz=57,SNR=6.6						
SOEI	**Soe**	**60.76**	**268**	⇑P	**P**	**19 39 11.1**	**+0.4**
	baz=61,SNR=6.2						
SBA	**Scott Base**	**62.85**	**185**	*e*P	**P**	**19 39 26.0**	**+2.4**
	15nm,1.0s						
VNDA	**Vanda**	**62.98**	**186**	P	**P**	**19 39 25.8**	**+1.4**
VNDA	**Vanda**	**62.98**	**186**	P	**P**	**19 39 25.8**	**+1.4**
	7.0nm,0.9s,baz=12,slow=7.4,SNR=37						
VNDA				LR	LR	20 01 49.7	
	comp=Z,110nm,21.1s,baz=355,slow=31						
MBWA	**Marble Bar**	**63.10**	**254**	*e*P	**P**	**19 39 26.1**	**-0.2**
	14nm,0.8s						
MEEK	**Meekatharra**	**63.52**	**248**	⇑P	**P**	**19 39 28.7**	**-0.3**
	baz=64,SNR=5.6						
BLDU	**Ballidu**	**64.88**	**243**	⇓P	**P**	**19 39 37.5**	**-0.3**
	baz=65,SNR=4.6						
MJAR	**Matsushiro Arr**	**69.13**	**320**	P	**P**	**19 40 05.1**	**+0.6**
MJAR	**Matsushiro Arr**	**69.13**	**320**	P	**P**	**19 40 05.1**	**+0.6**
	1.0nm,0.7s,baz=157,slow=6.1,SNR=4.1						
CASY	**Casey**	**69.99**	**205**	*e*P	**P**	**19 40 09.5**	**+0.2**
JNU	**Nakatsue**	**71.95**	**313**	P	**P**	**19 40 21.2**	**-0.5**
JNU	**Nakatsue**	**71.95**	**313**	P	**P**	**19 40 21.2**	**-0.5**
	11nm,1.0s,baz=40,slow=4.1,SNR=2.5						
MURC	**Murrieta**	**72.77**	**47**	⇑P	**P**	**19 40 26.6**	**0.0**
	baz=73						
BFSC	**Mount Baldy Ra**	**72.80**	**46**	⇑P	**P**	**19 40 27.1**	**+0.2**
	baz=73						
EDW2	**Edwards Air Fo**	**72.93**	**45**	⇑P	**P**	**19 40 27.1**	**-0.4**
	baz=73,SNR=5.7						
MONP	**Monument Peak**	**72.94**	**48**	⇑P	**P**	**19 40 27.5**	**-0.4**
	baz=73						
PETK	**Petropavlovsk-**	**72.95**	**342**	P	**P**	**19 40 27.0**	**-0.2**
PETK	**Petropavlovsk-**	**72.95**	**342**	P	**P**	**19 40 27.0**	**-0.2**
	6.6nm,0.8s,baz=140,slow=9.7,SNR=6.8						
ISA	**Isabella**	**73.04**	**44**	*e*P	**P

U15A	North Rim	77.68	46	⇑P		P	19 40 55.4	+0.3	
	baz=78,SNR=14								
WUAZ	Wupatki	77.87	48	*e*P		P	19 40 55.9	-0.2	
	14nm,1.3s								
WUAZ	Wupatki	77.87	48	⇑P		P	19 40 56.2	+0.2	
	baz=78,SNR=5.8								
ELK	Elko	77.97	41	*e*P		P	19 40 56.1	-0.4	
	6.8nm,1.1s								
220A	Playas Peak, P	78.26	52	⇑P		P	19 40 58.8	+0.5	
	baz=78,SNR=6.8								
X18A	Snowflake	78.42	49	⇓P		P	19 40 58.9	-0.3	
	baz=78								
Z20A	Nine Sixteen R	78.76	51	⇑P		P	19 41 01.4	+0.4	
	baz=79,SNR=8.1								
MVU	Marysvale	78.78	45	*e*P		P	19 41 01.1	0.0	
	12nm,1.3s								
BMO	Blue Mountains	79.03	37	*e*P		P	19 41 01.1	-1.0	
	7.0nm,1.0s								
MFID	Camas Ranch	79.08	39	⇑P		P	19 41 02.4	-0.1	
	baz=79								
121A	Cookes Peak, D	79.11	52	⇑P		P	19 41 03.1	+0.2	
	baz=79								
DUG	Dugway	79.25	43	*e*P		P	19 41 03.1	-0.4	
	13nm,1.3s								
DUG	Dugway	79.25	43	⇑P		P	19 41 03.4	-0.1	
	baz=79								
Y20A	Horse Springs,	79.29	50	⇓P		P	19 41 04.3	+0.4	
	baz=79,SNR=5.7								
X20A	Quemado	79.49	50	⇓P		P	19 41 05.4	+0.4	
	baz=80								
W20A	Ramah	79.75	49	⇑P		P	19 41 06.4	-0.1	
	baz=80,SNR=12								
DIV	Divide	79.81	13	*e*P		P	19 41 05.0	-0.9	
	8.2nm,0.7s								
Y21A	Point of Rocks	79.85	50	⇑P		P	19 41 07.3	+0.3	
	baz=80								
X21A	Alamocita Cree	79.97	50	⇓P		P	19 41 07.6	0.0	
	baz=80								
HLID	Hailey	80.02	39	*e*P		P	19 41 07.2	-0.5	
	11nm,1.0s								
Z22A	Elephant Butte	80.05	51	⇑P		P	19 41 08.2	+0.2	
	baz=80,SNR=7.4								
V20A	Brimhall	80.09	48	⇓P		P	19 41 07.9	-0.3	
	baz=80								
U20A	Newcomb	80.32	48	⇓P		P	19 41 09.5	+0.1	
	baz=80								
324A	Moseley Ranch,	80.39	54	⇑P		P	19 41 09.6	-0.3	
	baz=80,SNR=6.2								
425A	Indio Mountain	80.51	54	⇑P		P	19 41 10.3	-0.2	
	baz=81								
X22A	Bernardo	80.57	50	⇓P		P	19 41 10.9	+0.1	
	baz=81								
224A	Cornudas Mount	80.63	53	⇑P		P	19 41 11.2	+0.1	
	baz=81								
626A	Big Bend Ranch	80.67	56	⇑P		P	19 41 11.3	0.0	
	baz=81,SNR=6.1								
526A	Mary Lane Ranc	80.91	55	⇑P		P	19 41 12.6	-0.1	
	baz=81,SNR=6.0								
124A	Stringfield Ra	80.95	52	⇑P		P	19 41 13.0	+0.1	
	baz=81								
TXAR	Lajitas Array	80.96	56	P		P	19 41 13.4	+0.5	
TXAR	Lajitas Array	80.96	56	P		P	19 41 13.4	+0.5	
	4.3nm,1.1s,baz=224,slow=5.2,SNR=16								
U21A	Nageezi	80.96	48	⇑P		P	19 41 13.3	+0.4	
	baz=81,SNR=12								
Y23A	Lovelace Mesa,	81.02	51	⇑P		P	19 41 13.2	-0.1	
	baz=81								
TRF	Thorofare Moun	81.03	10	*e*P		P	19 41 10.4	-2.1	
	6.9nm,0.8s								
PV01	Paradox Valley	81.10	46	*e*P		P	19 41 13.3	-0.3	
	499nm,0.9s								
S20A	Disappointment	81.11	47	⇓P		P	19 41 13.5	-0.2	
	baz=81								
ANMO	Albuquerque	81.17	50	*e*P		P	19 41 13.9	-0.1	
ANMO	Albuquerque	81.17	50	P		P	19 41 14.1	+0.1	
	3.0nm,0.8s,baz=212,slow=7.2,SNR=6.5								
225A	Deer Hill, Car	81.19	53	⇑P		P	19 41 14.3	+0.2	
	baz=81								
426A	McDonald Obser	81.21	55	⇓P		P	19 41 14.4	+0.1	
	baz=81,SNR=7.6								
627A	Terlingua Ranc	81.23	56	⇑P		P	19 41 14.3	0.0	
	baz=81,SNR=9.0								
V22A	San Miguel Ran	81.27	49	⇑P		P	19 41 14.3	-0.2	
	baz=81								
T21A	Navajo Lake	81.30	48	⇑P		P	19 41 14.8	+0.1	
	baz=81								
527A	Woodward Ranch	81.33	55	⇑P		P	19 41 14.8	-0.1	
	baz=81,SNR=9.4								
Y24A	Capitan	81.49	51	⇑P		P	19 41 15.7	+0.1	
	baz=82,SNR=6.1								
W23A	Werner Place,	81.49	50	⇓P		P	19 41 15.5	-0.2	
	baz=82								
326A	Caldwell Ranch	81.51	54	⇓P		P	19 41 15.5	-0.2	
	baz=82								
U22A	Llaves	81.51	49	⇑P		P	19 41 15.5	-0.3	
	baz=82								
MCK	McKinley	81.53	11	*e*P		P	19 41 13.4	-1.6	
	12nm,0.8s								
125A	Gardner Draw,	81.54	53	⇑P		P	19 41 16.0	+0.1	
	baz=82								
628A	Black Gap, Mar	81.64	56	⇓P		P	19 41 16.5	+0.1	
	baz=82								
MCMT	McKenzie Canyo	81.65	39	*e*P		P	19 41 15.8	-0.6	
	4.4nm,1.1s								
Q20A	Ridgley Place,	81.67	46	⇑P		P	19 41 17.0	+0.4	
	baz=82								
226B	Tecolote Peak,	81.68	53	⇑P		P	19 41 16.5	-0.1	
	baz=82,SNR=11								
V23A	Ortiz Mt. (NFS	81.72	49	⇑P		P	19 41 17.1	+0.2	
	baz=82								
Z25A	Roswell	81.75	52	⇓P		P	19 41 17.0	0.0	
	baz=82								
T22A	Edith	81.76	48	⇑P		P	19 41 17.1	-0.1	
	baz=82								
427A	Hayter Ranch,	81.78	55	⇓P		P	19 41 17.3	+0.1	
	baz=82,SNR=5.5								
RRI2	Red Ridge	81.83	41	*e*P		P	19 41 17.1	-0.2	
	8.5nm,1.1s								
R21A	Cimarron	81.92	46	⇑P		P	19 41 18.3	+0.3	
	baz=82								
U23A	El Rito	81.97	49	⇓P		P	19 41 18.3	+0.1	
	baz=82,SNR=6.1								
528A	Cox Ranch, San	81.99	56	⇓P		P	19 41 18.4	+0.1	
	baz=82,SNR=5.6								
Y25A	Mesa, Roswell	82.04	52	⇓P		P	19 41 18.4	-0.1	
	baz=82								
W24A	Lazy 6 Ranch,	82.06	50	⇓P		P	19 41 18.5	-0.2	
	baz=82								
MSO	Missoula	82.08	37	⇑P		P	19 41 18.8	+0.4	
	baz=82								
DLMT	Dillon	82.09	38	*e*P		P	19 41 18.0	-0.6	
	10nm,1.5s								
Q21A	Lamborn Mesa,	82.12	46	⇑P		P	19 41 19.3	+0.4	
	baz=82								
REDW	Red Top Meadow	82.13	41	*e*P		P	19 41 17.7	-1.2	
	16nm,1.3s								
S22A	4UR Ranch, Cre	82.14	47	⇑P		P	19 41 19.1	-0.1	
	baz=82								
428A	Kincaid Ranch,	82.29	55	⇑P		P	19 41 19.9	0.0	
	baz=82								
Z26A	Caprock	82.31	52	⇑P		P	19 41 19.8	-0.1	
	baz=82,SNR=7.6								
X25A	Clemmons Ranch	82.32	51	⇑P		P	19 41 20.2	+0.2	
	baz=82								
227A	Bennet, Jal	82.33	54	⇑P		P	19 41 19.9	-0.1	
	baz=82								
V24A	Rampart Ranch,	82.38	50	⇑P		P	19 41 20.9	+0.5	
	baz=82								
R22A	Saguache, Gunn	82.41	47	⇑P		P	19 41 20.8	+0.2	
	baz=82								
529A	Stev Forest Ra	82.42	56	⇓P		P	19 41 20.4	-0.1	
	baz=82								
328A	Wristen Ranch,	82.45	55	⇑P		P	19 41 20.5	-0.2	
	baz=82								
QLMT	Earthquake Lak	82.52	39	*e*P		P	19 41 20.9	0.0	
	2.3nm,1.3s								
CHMT	Chamberlain Mo	82.53	37	*e*P		P	19 41 19.5	-1.4	
	4.1nm,1.0s								
127A	Arkansas Junct	82.55	53	⇓P		P	19 41 21.3	+0.1	
	baz=83								
N20A	Spence Gulch,	82.58	44	⇓P		P	19 41 21.7	+0.4	
	baz=83								
Q22A	Crested Butte,	82.59	46	⇑P		P	19 41 21.4	-0.1	
	baz=83								
PDAR	Pinedale Array	82.66	42	P		P	19 41 21.0	-0.7	
PDAR	Pinedale Array	82.66	42	P		P	19 41 21.0	-0.7	
	4.0nm,1.0s,baz=204,slow=3.3,SNR=11								
SMCO	Snowmass	82.69	46	*e*P		P	19 41 22.4	+0.3	
	12nm,1.2s								
W25A	X Bar L Ranch,	82.76	50	⇑P		P	19 41 22.3	0.0	
	baz=83								
COLA	College	82.77	11	*e*P		P	19 41 20.2	-1.1	
	58nm,0.8s								
H17A	Grant Village	82.82	40	⇓P		P	19 41 23.0	+0.5	
	baz=83								
ILAR	Eielson Array	82.85	11	P		P	19 41 20.6	-1.3	
ILAR	Eielson Array	82.85	11	P		P	19 41 20.6	-1.3	
	1.6nm,0.8s,baz=215,slow=6.1,SNR=13								
IM04	Indian Mountai	82.86	8	*e*P		P	19 41 21.0	-0.9	
429A	Davenport Ranc	82.88	56	⇓P		P	19 41 22.7	-0.2	
	baz=83,SNR=9.5								
V25A	Rancho No Teng	82.91	50	⇓P		P	19 41 22.9	-0.2	
	baz=83								
228A	UT Block 9, Go	82.92	54	⇓P		P	19 41 22.8	-0.2	
	baz=83								
Z27A	Tatum	82.92	53	⇑P		P	19 41 23.2	+0.1	
	baz=83								
X26A	CR and CF Fran	82.97	51	⇓P		P	19 41 23.6	+0.2	
	baz=83								
P22A	Eagle	83.03	46	⇓P		P	19 41 23.5	-0.1	
	baz=83								
R23A	Moffat	83.05	47	⇓P		P	19 41 23.9	0.0	
	baz=83								
L20A	Wamsutter	83.08	43	⇓P		P	19 41 23.8	-0.1	
	baz=83								
530A	J-C Ranch, Com	83.14	56	⇓P		P	19 41 23.9	-0.3	
	baz=83								
K19A	Absolon Red Bu	83.14	42	⇑P		P	19 41 24.2	+0.1	
	baz=83								
329A	Wagon Wheel Ra	83.14	55	⇓P		P	19 41 24.4	+0.2	
	baz=83								
Y27A	Causey	83.19	52	⇓P		P	19 41 24.6	+0.1	
	baz=83								
128A	Castleberry Fa	83.20	54	⇓P		P	19 41 24.8	+0.3	
	baz=83								
J19A	Crowheart	83.22	42	⇑P		P	19 41 24.6	+0.1	
	baz=83								
W26A	Owens Ranch, T	83.23	51	⇑P		P	19 41 24.8	+0.1	
	baz=83								
S24A	Houchin Ranch,	83.25	48	⇑P		P	19 41 24.7	-0.3	
	baz=83								
U25A	Circle Dot Ran	83.30	49	⇑P		P	19 41 25.2	+0.1	
	baz=83								
O22A	Kremmling	83.43	45	⇓P		P	19 41 26.2	+0.4	
	baz=84								
430A	Baggett Ranch,	83.46	56	⇓P		P	19 41 25.9	0.0	
	baz=84								
631A	Perdido Creek	83.47	57	⇓P		P	19 41 25.9	0.0	
	baz=84								
V26A	Tequesquite Ra	83.50	50	⇑P		P	19 41 25.9	-0.2	
	baz=84								
MSTX	Muleshoe	83.52	52	*e*P		P	19 41 25.4	-0.7	
MSTX	Muleshoe	83.52	52	⇑P		P	19 41 26.1	-0.1	
	baz=84								
M21A	Separation Pea	83.54	44	⇑P		P	19 41 26.0	-0.2	
	baz=84								
Z28A	Tucker Farm, M	83.54	53	⇓P		P	19 41 26.4	+0.2	
	baz=84								
X27A	F and S Farms,	83.55	51	⇓P		P	19 41 26.6	+0.3	
	baz=84								
R24A	Sanders Place,	83.58	47	⇑P		P	19 41 26.5	0.0	
	baz=84								
T25A	Trinidad	83.61	49	⇑P		P	19 41 26.4	-0.3	
	baz=84								
I19A	Meeteetse	83.63	41	⇓P		P	19 41 26.8	+0.1	
	baz=84								
W27A	Bowe Ranch, En	83.74	51	⇓P		P	19 41 26.7	-0.6	
	baz=84,SNR=7.7								
330A	Mertzon	83.75	55	⇓P		P	19 41 27.3	-0.1	
	baz=84								
N22A	Wattenberg Ran	83.78	45	⇓P		P	19 41 27.6	+0.1	
	baz=84								
U26A	Atchley Ranch,	83.78	50	⇑P		P	19 41 27.8	+0.2	
	baz=84								
Q24A	Divide	83.87	47	⇑P		P	19 41 28.2	+0.1	
	baz=84								
Z29A	Hungry Hill Ra	84.05	53	⇑P		P	19 41 28.9	0.0	
	baz=84								
R25A	Fountain Ranch	84.13	48	⇑P		P	19 41 29.0	-0.2	
	baz=84								
I20A	Worland	84.14	41	⇓P		P	19 41 29.1	0.0	
	baz=84								
632A	Uvalde	84.15	57	⇓P		P	19 41 29.3	-0.1	
	baz=84								
532A	Rocksprings	84.28	57	⇓P		P	19 41 29.8	-0.2	
	baz=84								
J21A	Lysite	84.29	42	⇑P		P	19 41 29.7	-0.3	
	baz=84								
130A	Snyder	84.37	54	⇓P		P	19 41 30.6	+0.2	
	baz=84								
JCT	Junction City	84.49	56	⇓P		P	19 41 30.9	-0.2	
	baz=84								
Z30A	Sanderson Ranc	84.51	53	⇓P		P	19 41 30.5	-0.7	
	baz=85,SNR=5.6								
F19A	Roth Farm, Mol	84.55	39	⇑P		P	19 41 31.5	+0.4	
	baz=85								
231A	Bronte	84.63	55	⇑P		P	19 41 31.1	-0.7	
	baz=85								
432A	Menard	84.64	56	⇑P		P	19 41 31.8	-0.1	
	baz=85								
R26A	Arlington	84.79	48	⇓P		P	19 41 32.5	-0.1	
	baz=85								
131A	Roby	84.85	54	⇑P		P	19 41 32.7	-0.2	
	baz=85								
332A	Millersview	84.87	56	⇑P		P	19 41 33.8	+0.8	
	baz=85								
L23A	Garrett	84.88	44	⇓P		P	19 41 33.3	+0.3	
	baz=85								
Y30A	Stafford Cattl	84.91	53	⇑P		P	19 41 33.0	-0.2	
	baz=85								
Z31A	Sharp Cattle R	85.28	54	⇑P		P	19 41 34.5	-0.5	
	baz=85,SNR=6.0								
E20A	Meyer Farm, Mu	85.36	39	⇓P		P	19 41 35.2	+0.1	
	baz=85								
C19A	Slack Wire Ran	85.40	38	⇓P		P	19 41 35.3	0.0	
	baz=86								
ABTX	Abilene, Hawle	85.41	54	*e*P		P	19 41 35.1	-0.5	
ABTX	Abilene, Hawle	85.41	54	⇑P		P	19 41 35.0	-0.7	
	baz=86,SNR=6.1								
Y31A	Rekieta Farm,	85.44	53	⇑P		P	19 41 35.5	-0.3	
	baz=86								
Z32A	Haskell	85.79	54	⇓P		P	19 41 37.1	-0.4	
	baz=86,SNR=9.8								
Y32A	R-V Farms, Ver	86.08	53	⇓P		P	19 41 38.9	0.0	
	baz=86								
MAW	Mawson	87.38	199	*e*P		P	19 41 42.8	-1.8	
	1.0nm,0.7s								
MAW	Mawson	87.38	199	P		P	19 41 43.2	-1.4	
	4.0nm,0.7s,baz=105,slow=8.7,SNR=8.9								
PSI	Prapat	88.36	273	LR		LR	20 19 08.1		
	comp=Z,105nm,18.5s,baz=216,slow=34								
INK	Inuvik	88.68	14	P		P	19 41 50.0	-0.5	
INK	Inuvik	88.68	14	P		P	19 41 50.0	-0.5	
	2.2nm,0.8s,baz=174,slow=11,SNR=3.5								
SNAA	Sanae	92.53	177	*e*P		P	19 42 09.9	+1.1	
	10nm,1.2s								
CMAR	Chiang Mai Arr	92.59	288	P		P	19 42 11.0	+1.1	
CMAR	Chiang Mai Arr	92.59	288	P		P	19 42 11.0	+1.1	
	2.2nm,0.8s,baz=90,slow=2.8,SNR=14								
SONM	Songino Array	95.03	318	P		P	19 42 20.2	-0.5	
SONM	Songino Array	95.03	318	P		P	19 42 20.2	-0.5	
	0.6nm,0.9s,baz=124,slow=3.9,SNR=4.7								
ARCES	ARCESS Array B	124.97	352	PKP		PKPdf	19 47 57.3	+0.3	
ARCES	ARCESS Array B	124.97	352	PKP		PKPdf	19 47 57.3	+0.3	
	3.7nm,0.9s,baz=345,slow=1.4,SNR=9.5								
AKASG	Malin Array Be	140.63	337	PKP		PKPdf	19 48 26.6	-0.2	
AKASG	Malin Array Be	140.63	337	PKP		PKPdf	19 48 26.6	-0.2	
	0.2nm,0.3s,baz=32,slow=2.7,SNR=5.9								
MALT	Malatya	144.03	315	⇑P		PKPab	19 48 30.0	-1.0	
CLL	Collm	144.18	353	*e*PKPdf		PKPbc	19 48 31.0	-0.4	
	comp=Z,12nm,1.1s								
CLL				*e*PKiKP		PKiKP	19 48 36.0	-0.7	
CLL				*e*			19 49 05.0		
STHS	Stebnicka Huta	144.35	343	*e*PKP		PKPdf	19 48 33.2	-0.4	
STHS				*e*			19 48 36.6		
KOLS	Kolonicke sedl	144.49	342	*e*PKP		PKPbc	19 48 32.2	-0.3	
UPC	Upice	144.51	349	*e*PKP		PKPdf	19 48 33.1	-0.7	
DPC	Dobruska-Polom	144.61	349	*e*PKP		PKPdf	19 48 33.1	-0.9	
DPC				*e*pPKP		PKiKP	19 48 37.6	-0.1	
BUR08	Bucovina Ar. S	144.65	338	*e*PKPdf		PKPbc	19 48 32.8	-0.4	
BURAR	Bucovina Array	144.67	338	⇓P		PKPdf	19 48 34.7	+0.4	
OKC	Ostrava-Krasne	144.73	347	*e*PKP		PKPdf	19 48 33.8	-0.4	
OKC				*e*pPKP		PKiKP	19 48 37.4	-0.5	
MORC	Moravsky Berou	144.92	347	⇑P		PKPdf	19 48 34.0	-0.6	
MORC	Moravsky Berou	144.92	347	*e*PKPdf		PKPbc	19 48 32.0	-1.9	
TESR	Tescani	145.04	335	⇓P		PKPdf	19 48 38.9	+4.1	
TRPA	Tarpa	145.13	341	⇑P		PKPdf	19 48 35.3	+0.4	
KMBO	Kilima Mbogo	145.23	244	PKPbc		PKPdf	19 48 36.7	+0.3	
KMBO				*e*PKPdf		PKPab	19 48 37.5	+1.1	
KMBO	Kilima Mbogo	145.23	244	PKPbc		PKPdf	19 48 36.7	+0.3	
	comp=Z,3.7nm,0.8s,baz=48,slow=5.7,SNR=9.8								
PRU	Pruhonice	145.26	351	*e*PKP		PKPab	19 48 35.5	+0.4	
PRU				*ep*PKP		PKiKP	19 48 39.7	+0.7	
MEM	Membach	145.26	0	PKP		PKPab	19 48 34.7	-0.3	
SNF	Seneffe	145.32	2	PKP		PKPab	19 48 35.5	+0.2	
KECS	Kecovo	145.41	343	*e*PKP		PKPab	19 48 35.8	+0.1	
KECS				*e*			19 48 40.2		
ARCR	ARCALIA	145.43	338	⇑P		PKPab	19 48 36.8	+1.0	
BCLA	Clavier	145.44	1	PKP		PKPab	19 48 36.1	+0.4	
CFR	Carcaliu	145.47	333	⇓P		PKPab	19 48 37.0	+1.0	
VRI	Vrincioaia	145.53	335	⇑P		PKPab	19 48 36.8	+0.6	
VRAC	Vranov	145.56	348	⇑P		PKPab	19 48 37.0	+0.8	
PLOR	Plostina	145.57	335	⇑P		PKPab	19 48 36.9	+0.5	
DOU	Dourbes	145.75	2	PKP		PKPab	19 48 36.9	0.0	
TREC	Trest	145.78	349	*e*PKP		PKPab	19 48 37.1	+0.1	
GRFO	Grafenberg	145.96	354	*e*PKPdf		PKPab	19 48 37.5	-0.2	
TLB	Topalu	145.97	332	⇑P		PKPab	19 48 38.5	+0.6	
DOPR	Dopca	145.98	336	⇑P		PKPab	19 48 39.0	+1.1	
PSZ	Piszkesteto	146.09	344	⇑P		PKPbc	19 48 37.6	-0.1	
MLR	Muntele Rosu	146.15	335	⇑P		PKPab	19 48 39.1	+0.4	
ISR	Istrita	146.21	334	⇓P		PKPab	19 48 41.1	+2.2	
WLF	Walferdange	146.21	0	PKP		PKPab	19 48 38.3	-0.3	
WLF	Walferdange	146.21	0	*e*PKPdf		PKPab	19 48 38.5	-0.2	
KHC	Kasperske Hory	146.24	352	*e*PKP		PKPab	19 48 38.8	0.0	
KHC				*e*pPKP		PKiKP	19 48 43.2	+2.1	
KHC	Kasperske Hory	146.24	352	*e*PKPdf		PKPbc	19 48 38.0	-0.1	
BR131	Keskin Array S	146.36	320	*e*PKPdf		PKPab	19 48 38.9	-0.8	
BRTR	Keskin Array B	146.36	320	PKPbc		PKPab	19 48 39.0	-0.8	
BRTR	Keskin Array B	146.36	320	PKPbc		PKPab	19 48 39.0	-0.8	
	comp=Z,8.5nm,0.9s,baz=99,slow=1.7,SNR=28								
GERES	GERESS Array B	146.50	351	PKPbc		PKPbc	19 48 38.8	-0.1	
GERES	GERESS Array B	146.50	351	PKPbc		PKPbc	19 48 38.8	-0.1	
	comp=Z,3.7nm,0.9s,baz=28,slow=3.2,SNR=23								
VOIR		146.56	336	⇑P		PKPab	19 48 40.5	+0.3	
ARR	Arges	146.78	336	⇓P		PKPab	19 48 41.6	+0.5	
ANTO	Ankara	146.78	321	⇓P		PKPdf	19 48 36.5	-1.6	
CONA	Conrad Observa	147.02	348	⇓pPKPdf		PKPab	19 48 41.0	-0.9	
	comp=Z,14nm,1.2s								
SIRR	Siria	147.06	340	⇑P		PKPbc	19 48 40.2	-0.2	
BZS	Buzias	147.65	340	⇑P		PKPbc	19 48 42.7	+0.7	
THEF	They Montfort	147.65	1	PKP		PKPbc	19 48 41.6	-0.4	
ECH	Echery	147.66	359	PKP		PKPbc	19 48 42.7	+0.6	
ECH	Echery	147.66	359	*e*PKPbc		PKPbc	19 48 42.7	+0.6	
FELD	Feldberg im Sc	147.98	358	PKP		PKPbc	19 48 42.5	-0.6	
MOTA	Moosalm	148.30	354	⇑pPKPdf		PKPbc	19 48 44.0	+0.1	
	comp=Z,11nm,0.9s,SNR=9.0								
DAVA	Damuels	148.46	356	⇑*i*PKiKP		PKPbc	19 48 44.6	+0.3	
	comp=Z,17nm,0.9s,SNR=6.8								
ABTA	Abfaltersbach	148.72	352	⇑*i*PKPbc		PKPbc	19 48 44.6	-0.3	
	comp=Z,13nm,0.9s,SNR=8.0								
TUE	Stuetta	149.31	356	*e*PKPbc		PKPbc	19 48 46.0	-0.6	
VTS	Vitosha	149.66	335	⇓P		PKPbc	19 48 48.5	+1.0	
PLDF	La Plantade	149.82	4	PKP		PKPbc	19 48 47.6	-0.1	
PYM	Petit Puy Mans	149.99	5	PKP		PKPbc	19 48 47.8	-0.3	
SSB	Saint Sauveur	150.56	3	*e*PKPdf		PKPdf	19 48 43.0	-1.0	
BNI	Bardonecchia	150.83	360	*e*PKPbc		PKPbc	19 48 50.8	+0.6	
POLO	Lamas de Olo	151.69	23	*e*PKPbc		PKPbc	19 48 53.1	+0.8	
SAOF	Saorge	151.88	358	PKP		PKPbc	19 48 53.3	+0.8	
LUCF	Luceram	151.98	359	PKP		PKPbc	19 48 53.5	+0.7	
MVO	Moncorvo	152.15	22	*e*PKPbc		PKPbc	19 48 54.0	+0.7	
MTE	Manteigas	152.62	24	*e*PKPbc		PKPbc	19 48 54.1	-0.3	
PMTG	Montargil	153.48	26	*e*PKPbc		PKPbc	19 48 56.4	+0.2	
PMRV	Marv??o	153.52	25	*e*PKPbc		PKPbc	19 48 56.9	+0.6	
ESDC	Sonseca Array	154.52	19	PKP		PKPdf	19 48 50.0	0.0	
ESDC				PKPab		PKPab	19 49 13.0	-0.1	
ESDC	Sonseca Array	154.52	19	PKP		PKPdf	19 48 50.0	0.0	
	comp=Z,0.9nm,0.9s,baz=350,slow=2.2,SNR=5.2								
ESDC				PKPab		PKPab	19 49 13.0	-0.1	
	comp=Z,1.8nm,0.9s,baz=323,slow=3.0,SNR

mb1 4.2/9, mb1mx4.0/23, mbtmp4.0/9, ML2.5/1, Error ellipse: s-maj=50.0km s-min=17.6km az=137.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.36**	**37**	Pn	Pn	19 42 58.6	-0.1
	67nm,0.3s,baz=233,slow=22,SNR=2.0						
AFI				Sn	Sn	19 43 23.3	-5.2
	224nm,0.3s,baz=34,slow=23,SNR=4.0						
URZ	**Urewera**	**23.93**	**199**	P	P	19 47 34.4	+0.1
	10.0nm,0.5s,baz=146,slow=3.1,SNR=6.9						
STKA	**Stephens Creek**	**43.96**	**240**	P	P	19 50 27.1	-0.7
	2.3nm,0.8s,baz=110,slow=11,SNR=4.8						
WRA	**Warramunga Arr**	**49.90**	**257**	P	P	19 51 14.5	+0.2
	0.4nm,0.4s,baz=92,slow=6.7,SNR=7.5						
ASAR	**Alice Springs**	**50.13**	**252**	P	P	19 51 16.0	-0.1
	2.3nm,0.6s,baz=87,slow=8.2,SNR=13						
NVAR	**Mina Array Bea**	**74.53**	**42**	P	P	19 53 59.8	+0.2
	0.5nm,0.7s,baz=217,slow=8.2,SNR=4.2						
TXAR	**Lajitas Array**	**80.71**	**56**	P	P	19 54 34.9	+0.7
	0.1nm,0.3s,baz=248,slow=4.8,SNR=1.8						
PDAR	**Pinedale Array**	**82.47**	**42**	P	P	19 54 42.4	-0.9
	0.6nm,0.7s,baz=204,slow=3.3,SNR=5.1						
ILAR	**Eielson Array**	**82.81**	**11**	P	P	19 54 44.4	+0.1
	0.7nm,0.7s,baz=233,slow=6.3,SNR=10						
GERES	**GERESS Array B**	**146.56**	**352**	PKPbc	PKPbc	20 02 01.4	-0.7
	0.3nm,0.6s,baz=45,slow=4.4,SNR=2.8						

IDC 01 19:54:36.2±2.1, 31.72S×177.74W, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.9/19, mbtmp4.1/4, ML3.8/1, Error ellipse: s-maj=61.1km s-min=33.0km az=138.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.47**	**356**	Pn	Pn	19 55 18.0	+0.3
	19nm,0.3s,baz=276,slow=23,SNR=1.3						
RAO				Sn	Sn	19 55 40.7	-7.9
	75nm,0.3s,baz=97,slow=18,SNR=1.3						
STKA	**Stephens Creek**	**34.41**	**259**	P	P	20 01 25.1	-0.3
	2.0nm,0.6s,baz=70,slow=12,SNR=3.2						
ASAR	**Alice Springs**	**43.27**	**268**	P	P	20 02 39.9	+0.1
	1.0nm,0.7s,baz=110,slow=7.9,SNR=13						
WRA	**Warramunga Arr**	**44.38**	**273**	P	P	20 02 48.5	-0.2
	2.2nm,0.5s,baz=110,slow=8.1,SNR=28						
MKAR	**Makanchi Array**	**118.78**	**309**	PKP	PKPdf	20 13 26.0	-0.2
	0.1nm,0.4s,baz=154,slow=1.0,SNR=3.3						
KURBB	**Kurchatov Arra**	**122.15**	**313**	PKP	PKPdf	20 13 32.1	-0.4
	0.1nm,0.5s,baz=145,slow=2.7,SNR=3.7						
FINES	**FINESS Array B**	**146.46**	**339**	PKPbc	PKPdf	20 14 17.7	+0.5
	1.1nm,0.7s,baz=50,slow=2.4,SNR=6.4						

*MOS **01** 19:56:19.4±2.3, 49.57N×156.61E, h4km, mb4.5/1, Error ellipse: s-maj=69.7km s-min=14.1km az=82.1*

KRSC 01 19:56:19.4±6.1, 49.75N×156.61E, h4km±6km, ML4.3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.99**	**341**	*e*PN	Pg	19 56 36.8	-1.5
SKR				pmax	pmax		
	comp=Z,160nm,0.6s						
SKR	**Severo-Kuril's**	**0.99**	**341**	*e*P	Pn	19 56 40.9	+0.9
SKR				*i* S	Sn	19 56 56.3	+1.9
PAU	**Pauzhetka**	**1.72**	**4**	PN	Pg	19 56 53.2	+0.8
PAU				S	Sg	19 57 17.3	+2.5
PAU	**Pauzhetka**	**1.72**	**4**	*e*P	Pg	19 56 53.2	+0.8
PAU				*i* S	Sg	19 57 17.3	+2.5
ASAK	**Asacha**	**2.76**	**17**	*e*P	Pb	19 57 09.2	-0.2
ASAK				*i* S	Sb	19 57 45.4	+1.8
MTVR	**Mutnovka**	**2.91**	**19**	*e*P	Pb	19 57 11.0	-1.0
MTVR				*i* S	Sb	19 57 48.9	+0.8
RUS	**Russkaya**	**2.94**	**23**	PN	Pb	19 57 10.6	-1.8
RUS				S	Sb	19 57 48.3	-0.3
RUS	**Russkaya**	**2.94**	**23**	*e*P	Pb	19 57 10.6	-1.8
RUS				*i* S	Sb	19 57 48.3	-0.3
GRL	**Gorelyy**	**2.95**	**18**	*e*P	Pb	19 57 11.9	-0.8
GRL				*i* S	Sb	19 57 50.4	+1.1
APC	**Apacha**	**3.20**	**6**	*e*P	Pn	19 57 12.7	+2.3
APC				*i* S	Sb	19 57 52.7	-3.3
PET	**Petropavlovsk**	**3.52**	**21**	*e*PN	Pb	19 57 19.8	-2.4
PET				*e*S	Sb	19 58 03.4	-1.8
PET				smax	smax		
	comp=N,78nm,0.5s						
PET				smax	smax		
	comp=E,76nm,0.6s						
PET	**Petropavlovsk**	**3.52**	**21**	*e*P	Pb	19 57 18.9	-3.3
PET				*i* S	Sb	19 58 04.2	-1.0
UGLR	**Uglovaya**	**3.73**	**21**	*e*P	Pb	19 57 22.9	-3.1
AVH	**Avacha**	**3.76**	**20**	P	Pb	19 57 24.1	-2.4
KOK	**Koryaka**	**3.77**	**19**	*e*P	Pb	19 57 23.9	-2.7
SMAR	**Somma**	**3.77**	**20**	*e*P	Pb	19 57 23.9	-3.0
KRER	**Koryakskii**	**3.80**	**20**	*e*P	Pb	19 57 23.8	-3.5
SDLR	**Sedlovina**	**3.81**	**21**	*e*P	Pb	19 57 23.3	-4.0
KRX	**Arik**	**3.83**	**19**	*e*P	Pb	19 57 24.4	-3.3
GNL	**Ganaly**	**4.04**	**11**	*e*P	Pb	19 57 26.8	-4.4
MKZ	**Mys Kozlova**	**5.75**	**31**	PN	Pn	19 57 48.3	+2.9
MKZ	**Mys Kozlova**	**5.75**	**31**	*e*P	Pn	19 57 48.3	+2.9
MKZ				*i* S	Sn	19 58 54.0	+2.2
KBTR	**Krutoberegovo**	**7.47**	**28**	PN	Pn	19 58 11.7	+2.6
KBTR	**Krutoberegovo**	**7.47**	**28**	*e*P	Pn	19 58 11.7	+2.6

IDC 01 20:06:46.0±1.5, 15.20S×173.77W, h0km, mb3.7/7, mb1 4.1/7, mb1mx3.9/19, mbtmp3.7/7, Error ellipse: s-maj=94.3km s-min=19.8km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy**	**38.61**	**329**	T	T	20 54 57.6	
	baz=152,slow=0.7,SNR=22						
H11S3	**WAKE ISLAND Hy**	**38.62**	**329**	T	T	20 54 54.8	
	baz=152,slow=0.7,SNR=26						
H11S1	**WAKE ISLAND Hy**	**38.62**	**329**	T	T	20 54 55.1	
	baz=152,slow=0.7,SNR=26						
H11N3	**WAKE ISLAND Hy**	**39.56**	**331**	T	T	20 56 14.5	
	baz=152,slow=0.7,SNR=18						
H11N1	**WAKE ISLAND Hy**	**39.56**	**331**	T	T	20 56 07.4	
	baz=152,slow=0.7,SNR=23						
H11N2	**WAKE ISLAND Hy**	**39.58**	**331**	T	T	20 56 18.2	
	baz=152,slow=0.7,SNR=17						
STKA	**Stephens Creek**	**43.83**	**240**	P	P	20 14 54.3	+0.2
	2.7nm,1.0s,baz=33,slow=3.3,SNR=4						
WRA	**Warramunga Arr**	**49.54**	**257**	P	P	20 15 39.0	-0.1
	0.3nm,0.5s,baz=90,slow=7.0,SNR=8.7						
ASAR	**Alice Springs**	**49.84**	**252**	P	P	20 15 40.2	-1.0
	1.7nm,0.6s,baz=87,slow=7.9,SNR=21						
NVAR	**Mina Array Bea**	**74.42**	**42**	P	P	20 18 28.3	+1.9
	0.6nm,0.7s,baz=248,slow=3.8,SNR=4.1						
TXAR	**Lajitas Array**	**80.80**	**56**	P	P	20 19 01.5	-0.6
	0.3nm,0.6s,baz=249,slow=7.6,SNR=2.6						
ILAR	**Eielson Array**	**82.31**	**11**	P	P	20 19 07.3	-1.8
	0.4nm,0.9s,baz=228,slow=8.0,SNR=3.2						
PDAR	**Pinedale Array**	**82.35**	**42**	P	P	20 19 08.7	-1.5
	0.6nm,0.8s,baz=205,slow=4.0,SNR=2.4						
BRTR	**Keskin Array B**	**145.77**	**321**	PKPbc	PKPab	20 26 28.1	+0.2
	2.4nm,1.0s,baz=37,slow=0.6,SNR=7.9						
GERES	**GERESS Array B**	**145.89**	**351**	PKPbc	PKPab	20 26 28.8	+0.8
	0.5nm,0.8s,baz=0.0,slow=4.9,SNR=4.6						

IDC 01 20:09:59.7±5.3, 16.08S×172.33W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/21, mbtmp4.0/3, Error ellipse: s-maj=214.3km s-min=59.0km az=136.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.60**	**241**	P	P	20 18 14.1	+0.2
	0.9nm,0.6s,baz=63,slow=9.0,SNR=3.8						
WRA	**Warramunga Arr**	**50.70**	**257**	P	P	20 19 01.1	-0.4
	0.5nm,0.5s,baz=96,slow=7.8,SNR=12						
ASAR	**Alice Springs**	**50.88**	**252**	P	P	20 19 02.9	0.0
	2.4nm,0.6s,baz=89,slow=8.2,SNR=17						
BRTR	**Keskin Array B**	**147.33**	**321**	PKPbc	PKPbc	20 29 44.9	-0.9
	0.6nm,0.6s,baz=64,slow=2.9,SNR=4.1						

IDC 01 20:12:48.9±11.0, 14.84S×172.81W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/21, mbtmp3.5/2, Error ellipse: s-maj=521.8km s-min=60.2km az=140.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**50.52**	**256**	P	P	20 21 49.3	-0.1
	0.3nm,0.7s,baz=90,slow=6.8,SNR=4.1						
ASAR	**Alice Springs**	**50.82**	**251**	P	P	20 21 51.4	-0.2
	0.7nm,0.5s,baz=85,slow=8.1,SNR=8.1						
BRTR	**Keskin Array B**	**146.07**	**322**	PKPbc	PKPdf	20 32 30.5	0.0
	0.2nm,0.4s,baz=34,slow=5.4,SNR=2.8						

*IDC **01** 20:13:45.7±0.4, 15.45S×173.39W, h0km, mb4.7/19, mb1 4.9/19, mb1mx4.8/25, mbtmp4.7/19, MS4.5/13, Ms1 4.5/13, ms1mx4.3/23, Error ellipse: s-maj=21.9km s-min=13.5km az=127.0*

*BJI **01** 20:13:47.5, 15.83S×173.15W, h10km, mB5.4/17, mb5.0/21, Ms5.3/10, Ms7 5.0/15*

*NEIC **01** 20:13:47.0±4.8, 15.39S×173.47W, h10km±28km, mb5.2/69, Error ellipse: s-maj=8.9km s-min=4.4km az=137.0*

*ISCJB **01** 20:13:49.3±0.2, 15.43S±0.06×173.44W±0.05, h33km, mb5.0/98, MS4.7/20, Error ellipse: s-maj=10.0km s-min=5.9km az=145.5*

*MOS **01** 20:13:50.4±1.1, 15.27S×173.25W, h33km, mb5.5/19, Error ellipse: s-maj=17.3km s-min=9.8km az=74.3*

*GCMT **01** 20:13:54.2±0.2, 15.35S×173.04W, h12km, MW5.1, Moment Tensor Solution. s48,c76; s96,c149; Moment tensor: Scale 10^{16}Nm; M_{rr}=4.99±.11; $M_{\theta\theta}$3.83±.12; $M_{\phi\phi}$1.16±.11; $M_{r\theta}$2.15±.32; $M_{r\phi}$-2.06±.10; $M_{\theta\phi}$0.20±.35; Best double couple: $M_0$5.40000×10^{16} NP1:ϕ_s286.00000°, δ56.00000°, λ-104.00000°. NP2:ϕ_s130.00000°, δ36.00000°, λ-71.00000°. Principal axes: T 5.2700, Plg10.0000°, Azm26.0000°; N 0.2800, Plg11.0000°, Azm294.0000°; P -5.5500, Plg75.0000°, Azm157.0000°; Data Used: lI lU G IC CN.*

*AUST **01** 20:14:18.0±35.0, 15.82S×174.44W, h232km±99km Error ellipse: s-maj=223.9km s-min=108.4km az=37.0*

ISC 01 20:13:51.1±0.5, 15.54S±0.07×172.90W±0.08, h34km±1km, h34km:pP-P, n760, σ1$34/756, mb5.1/98, MS4.8/20, 144C-164D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.95**	**34**	Pn	Pn	20 14 16.7	-5.2
AFI				Sn	Sn	20 14 37.5	-7.8
AFI	**Afiamalu**	**1.95**	**34**	Pn	Pn	20 14 16.7	-5.2
	128nm,0.3s,baz=5.5,slow=2.4,SNR=16						
AFI				Sn	Sn	20 14 37.5	-7.8
	723nm,0.3s,baz=33,slow=23,SNR=17						
RAR	**Rarotonga**	**13.67**	**116**	LR	LR	20 20 38.8	
	comp=Z,416nm,18.9s,baz=89,slow=29						
RAO	**Raoul Island**	**14.41**	**198**	LR	LR	20 21 36.6	
	comp=Z,1μm,20.1s,baz=29,slow=33						
DZM	**Mont Dzumac**	**20.59**	**248**	*e*P	**P**	**20 18 27.3**	**-0.2**
	173nm,1.7s						
DZM				*e*LR	LR	20 23 07.4	
	4μm,26.0s						
DZM	**Mont Dzumac**	**20.59**	**248**	P	**P**	**20 18 27.1**	**-0.4**
DZM	**Mont Dzumac**	**20.59**	**248**	P	**P**	**20 18 27.1**	**-0.4**
	13nm,0.8s,baz=102,slow=23,SNR=8.0						
PPT2	**Papeete2**	**22.45**	**98**	*e*S	Sn	20 23 03.3	-2.6
	2μm,26.5s						
PPT2				*e*LR	LR	20 24 09.7	
	870nm,27.0s,baz=266						
TBI	**Tubuai**	**23.40**	**113**	*e*LQ	LQ	20 23 35.9	
	687nm,27.5s						
TBI				*e*LR	LR	20 24 26.9	
	535nm,29.8s,baz=290						
URZ	**Urewera**	**24.29**	**199**	P	**P**	**20 19 04.1**	**-1.2**
URZ	**Urewera**	**24.29**	**199**	P	**P**	**20 19 04.1**	**-1.2**
	4.4nm,0.6s,baz=354,slow=10,SNR=3.3						
RKT	**Rikitea**	**36.49**	**108**	*e*LR	LR	20 30 42.7	
	399nm,27.0s						
H11S2	**WAKE ISLAND Hy**	**39.33**	**329**	T	T	21 02 44.8	
	baz=152,slow=0.7,SNR=39						
H11S3	**WAKE ISLAND Hy**	**39.35**	**329**	T	T	21 02 45.6	
	baz=152,slow=0.7,SNR=31						
H11S1	**WAKE ISLAND Hy**	**39.35**	**329**	T	T	21 02 46.1	
	baz=152,slow=0.7,SNR=30						
PMG	**Port Moresby**	**39.42**	**274**	LR	LR	20 32 42.9	
	comp=Z,108nm,19.9s,baz=270,slow=29						
H11N3	**WAKE ISLAND Hy**	**40.27**	**330**	T	T	21 03 59.1	
	baz=152,slow=0.7,SNR=27						
H11N1	**WAKE ISLAND Hy**	**40.28**	**330**	T	T	21 03 57.3	
	baz=152,slow=0.7,SNR=30						
H11N2	**WAKE ISLAND Hy**	**40.29**	**330**	T	T	21 03 56.9	
	baz=152,slow=0.7,SNR=28						
CMSA	**Cobar Meteorol**	**40.90**	**240**	↑P	P	20 21 25.5	-4.7
	baz=40,SNR=5.4						
COEN	**Coen**	**42.45**	**266**	*e*P	P	20 21 38.4	-4.8
	790nm,1.9s						
STKA	**Stephens Creek**	**44.38**	**240**	*e*P	P	20 21 54.1	-4.4
STKA	**Stephens Creek**	**44.38**	**240**	↑P	P	20 21 54.6	-3.9
	10.0nm,0.9s,baz=43,SNR=8.6						
STKA	**Stephens Creek**	**44.38**	**240**	P	P	20 21 54.3	-4.2
	10.0nm,0.9s,baz=77,slow=9.8,SNR=13						
WRA	**Warramunga Arr**	**50.28**	**257**	P	P	20 22 39.3	-5.3
WRA				PcP	**PcP**	**20 24 01.6**	**-1.7**
WRA	**Warramunga Arr**	**50.28**	**257**	P	P	20 22 39.3	-5.3
	5.9nm,0.9s,baz=40,slow=1.4,SNR=41						
WRA				PcP	**PcP**	**20 24 01.6**	**-1.7**
	2.3nm,0.9s,baz=90,slow=3.9,SNR=4.1						
AS31	**Alice Springs**	**50.52**	**252**	*e*P	P	20 22 41.9	-4.6
ASAR	**Alice Springs**	**50.52**	**252**	P	P	20 22 41.8	-4.7
ASAR	**Alice Springs**	**50.52**	**252**	P	P	20 22 41.8	-4.7
	22nm,0.7s,baz=86,slow=8.5,SNR=120						
ASAR				LR	LR	20 42 13.0	
	comp=Z,1μm,18.6s,baz=95,slow=34						
DRV	**Dumont d'Urvil**	**59.62**	**200**	S	S	20 31 35.0	-24
DRV				SS	**SS**	**20 35 50.0**	**-4.7**
DRV				L	L	20 38 00.0	
DRV				R		20 42 00.0	
SBA	**Scott Base**	**63.15**	**185**	*e*P	**P**	**20 24 17.5**	**+2.4**
SBA				pmax	pmax		
	comp=Z,55nm,1.6s						
SBA	**Scott Base**	**63.15**	**185**	*e*P	**P**	**20 24 17.5**	**+2.4**
	comp=Z,55nm,1.6s						
VNDA	**Vanda**	**63.28**	**186**	*e*P	**P**	**20 24 17.6**	**+1.6**
	comp=Z,8.2nm,1.2s						
VNDA	**Vanda**	**63.28**	**186**	P	**P**	**20 24 17.2**	**+1.2**
	comp=Z,11nm,1.0s,baz=11,slow=6.1,SNR=16						
MEEK	**Meekatharra**	**64.21**	**248**	↓P	P	20 24 18.1	-4.9
	baz=63,SNR=5.0						
MJAR	**Matsushiro Arr**	**69.36**	**320**	P	**P**	**20 24 52.6**	**-2.9**
MJAR	**Matsushiro Arr**	**69.36**	**320**	P	**P**	**20 24 52.6**	**-2.9**
	comp=Z,2.4nm,1.0s,baz=136,slow=4.0,SNR=4.5						
YUK	**Yuzh-Kuril'sk**	**70.22**	**330**	*c iP*	P	20 24 57.4	-3.2
YUK				*e*S	S	20 34 01.9	-8.0
CASY	**Casey**	**70.48**	**205**	*e*P	P	20 24 59.2	-2.7
	comp=Z,40nm,1.9s						
EDW2	**Edwards Air Fo**	**72.30**	**45**	↓P	P	**20 25 15.1**	**+1.6**
	baz=73						
DVTC	**Desert V Tower**	**72.41**	**48**	↑P	**P**	**20 25 15.9**	**+1.7**
	baz=73						
ISA	**Isabella**	**72.42**	**44**	↑P	**P**	**20 25 16.1**	**+1.9**
	baz=73						
PFO	**Pinyon Flat Ob**	**72.67**	**47**	↑P	**P**	**20 25 17.5**	**+1.7**
	baz=73						
LRMC	**Laurel Mountai**	**72.84**	**45**	↑P	**P**	**20 25 18.9**	**+2.1**
	baz=73						
PETK	**Petropavlovsk-**	**72.91**	**342**	P	**P**	**20 25 15.6**	**-1.1**
PETK	**Petropavlovsk-**	**72.91**	**342**	P	**P**	**20 25 15.6**	**-1.1**
PETK	**Petropavlovsk-**	**72.91**	**342**	P	**P**	**20 25 15.6**	**-1.1**
	comp=Z,13nm,1.1s,baz=156,slow=8.1,SNR=7.8						
BELC	**Belle Mtn. Jos**	**73.20**	**47**	↑P	**P**	**20 25 20.5**	**+1.6**
	baz=74						
MPMC	**Manual Prospec**	**73.30**	**44**	↓P	**P**	**20 25 21.2**	**+1.6**
	baz=74						
GSC	**Goldstone**	**73.34**	**45**	*e*P	**P**	**20 25 20.4**	**+0.7**
GSC				pmax	pmax		
	comp=Z,12nm,1.4s						
GSC	**Goldstone**	**73.34**	**45**	*e*P	**P**	**20 25 20.4**	**+0.7**
	comp=Z,12nm,1.4s						
GSC	**Goldstone**	**73.34**	**45**	↓P	**P**	**20 25 21.5**	**+1.8**
	baz=74						
BC3	**Big Chuckawall**	**73.40**	**47**	↑P	**P**	**20 25 21.8**	**+1.7**
	baz=74						
HEC	**Hector,Ludlow**	**73.41**	**46**	↓P	**P**	**20 25 22.0**	**+1.9**
	baz=74						
YBH	**Yreka Blue Hor**	**73.42**	**37**	P	**P**	**20 25 21.5**	**+1.5**
YBH	**Yreka Blue Hor**	**73.42**	**37**	P	**P**	**20 25 21.5**	**+1.5**
	comp=Z,7.1nm,1.0s,baz=254,slow=1.7,SNR=9.5						
YBH				LR	LR	20 49 55.5	
	comp=Z,625nm,21.6s,baz=324,slow=30						
WAKR	**Walker**	**73.43**	**41**	*e*P	**P**	**20 25 21.0**	**+0.7**
	comp=Z,28nm,1.8s						
GLA	**Glamis**	**73.53**	**48**	↓P	**P**	**20 25 22.6**	**+1.9**
	baz=74						
YSS	**Yuzh-Sakhalins**	**73.84**	**330**	*e*P	**P**	**20 25 21.2**	**-1.0**
GMRC	**Granite Mounta**	**73.85**	**46**	↑P	**P**	**20 25 24.1**	**+1.4**
	baz=74						
IRM	**Iron Mountain**	**73.88**	**47**	↑P	**P**	**20 25 24.6**	**+1.8**
	baz=74						
NVAR	**Mina Array Bea**	**74.11**	**42**	P	**P**	**20 25 25.8**	**+1.4**
NVAR	**Mina Array Bea**	**74.11**	**42**	P	**P**	**20 25 25.8**	**+1.4**
	comp=Z,2.7nm,0.8s,baz=230,slow=9.3,SNR=21						
NVAR				LR	LR	20 50 53.9	
	comp=Z,658nm,20.4s,baz=305,slow=30						
113A	**Mohawk Valley,**	**74.14**	**49**	↓P	**P**	**20 25 26.1**	**+1.8**
	baz=75						
PAHR	**Pah Rah Range**	**74.17**	**40**	*e*P	**P**	**20 25 26.1**	**+1.5**
	comp=Z,12nm,1.2s						
NV11	**Mina Array Sit**	**74.21**	**42**	*e*P	**P**	**20 25 26.1**	**+1.3**
LDFC	**Landfair**	**74.39**	**46**	*e*P	**P**	**20 25 28.1**	**+2.2**
	comp=Z,35nm,0.4s						
214A	**Organ Pipe Nat**	**74.44**	**50**	↓P	**P**	**20 25 27.8**	**+1.7**
	baz=75						
QSPA	**South Pole Qui**	**74.50**	**180**	*e*P	**P**	**20 25 27.1**	**+1.0**
	comp=Z,53nm,1.0s						
PDMCI	**Parker Dam,Lak**	**74.66**	**47**	↑P	**P**	**20 25 29.2**	**+1.9**
	baz=75						
MOD	**Modoc**	**74.94**	**38**	*e*P	**P**	**20 25 30.1**	**+1.2**
	comp=Z,77nm,1.3s						
KDAK	**Kodiak Island**	**74.97**	**11**	P	**P**	**20 25 27.7**	**-0.8**
KDAK	**Kodiak Island**	**74.97**	**11**	P	**P**	**20 25 27.7**	**-0.8**
	comp=Z,16nm,0.9s,baz=252,slow=9.1,SNR=3.8						
SHPR	**Sheep Range**	**75.12**	**45**	*e*P	**P**	**20 25 31.0**	**+0.9**
	comp=Z,20nm,1.4s						
W13A	**Hualapai Mount**	**75.26**	**47**	↑P	**P**	**20 25 32.5**	**+1.4**
	baz=76						
Y14A	**Wickenburg**	**75.29**	**48**	↓P	**P**	**20 25 32.6**	**+1.6**
	baz=76						
R11A	**Troy Canyon, C**	**75.83**	**43**	↓P	**P**	**20 25 35.9**	**+1.7**
	baz=76						
BMN	**Battle Mountai**	**75.95**	**41**	*e*P	**P**	**20 25 36.4**	**+1.6**
BMN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BMN	**Battle Mountai**	**75.95**	**41**	*e*P	**P**	**20 25 36.4**	**+1.6**
	comp=Z,6.9nm,1.0s						
TUC	**Tucson**	**76.11**	**50**	*e*P	**P**	**20 25 37.0**	**+1.2**
TUC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
TUC	**Tucson**	**76.11**	**50**	*e*P	**P**	**20 25 37.0**	**+1.2**
	comp=Z,7.7nm,1.0s						
WVOR	**Wild Horse Val**	**76.25**	**38**	*e*P	**P**	**20 25 37.1**	**+0.7**
WVOR				pmax	pmax		
	comp=Z,58nm,1.6s						
WVOR	**Wild Horse Val**	**76.25**	**38**	*e*P	**P**	**20 25 37.1**	**+0.7**
	comp=Z,58nm,1.6s						
VFP	**Flag Point**	**76.39**	**35**	P	**P**	**20 25 38.5**	**+1.3**
KSRS	**Korea Array**	**76.60**	**315**	P	**P**	**20 25 37.3**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=137,slow=6.9,SNR=3.9						
KSAR	**Wonju Array Be**	**76.62**	**315**	P	**P**	**20 25 37.3**	**-1.1**
TDL	**Tradedollar La**	**76.64**	**33**	P	**P**	**20 25 40.1**	**+1.5**
X16A	**Lo Mia Camp, P**	**76.65**	**48**	↓P	**P**	**20 25 41.1**	**+2.1**
	baz=77						
CCUT	**Cedar City**	**76.89**	**45**	*e*P	**P**	**20 25 41.9**	**+1.6**
	comp=Z,84nm,2.2s						
U15A	**North Rim**	**77.05**	**46**	↓P	**P**	**20 25 43.0**	**+1.8**
	baz=78						
WPW	**White Pass**	**77.22**	**33**	P	**P**	**20 25 42.7**	**+0.9**
WUAZ	**Wupatki**	**77.24**	**47**	*e*P	**P**	**20 25 44.3**	**+2.1**
	comp=Z,29nm,1.6s						
WUAZ	**Wupatki**	**77.24**	**47**	↑P	**P**	**20 25 44.2**	**+2.0**
	baz=78						
D05A	**Enumclaw**	**77.30**	**33**	P	**P**	**20 25 44.1**	**+2.0**
320A	**Kipp Ranch, An**	**77.35**	**52**	↑P	**P**	**20 25 44.8**	**+1.9**
	baz=78						
ELK	**Elko**	**77.37**	**41**	*e*P	**P**	**20 25 44.1**	**+1.2**
	comp=Z,27nm,1.5s						
220A	**Playas Peak, P**	**77.61**	**52**	↓P	**P**	**20 25 46.1**	**+1.8**
	baz=78,SNR=14						
X18A	**Snowflake**	**77.78**	**49**	↓P	**P**	**20 25 47.2**	**+1.9**
	baz=78						
USRK	**Ussuriysk Arra**	**77.79**	**323**	P	**P**	**20 25 44.0**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=108,slow=6.2,SNR=5.8						
120A	**U Bar Ranch, L**	**77.83**	**51**	↑P	**P**	**20 25 47.3**	**+1.8**
	baz=78,SNR=6.0						
Z20A	**Nine Sixteen R**	**78.12**	**51**	↑P	**P**	**20 25 48.7**	**+1.6**
	baz=79,SNR=9.5						
HAWA	**Hanford**	**78.12**	**35**	*e*P	**P**	**20 25 47.4**	**+0.8**
	comp=Z,8.9nm,0.9s						
MVU	**Marysvale**	**78.16**	**44**	*e*P	**P**	**20 25 49.2**	**+1.8**
	comp=Z,46nm,1.7s						
ETW	**Entiat**	**78.44**	**33**	P	**P**	**20 25 49.5**	**+0.9**
BMO	**Blue Mountains**	**78.45**	**37**	*e*P	**P**	**20 25 49.1**	**+0.5**
	comp=Z,26nm,1.3s						
121A	**Cookes Peak, D**	**78.46**	**51**	↓P	**P**	**20 25 50.8**	**+1.8**
	baz=79,SNR=5.2						
MFID	**Camas Ranch**	**78.50**	**39**	↓P	**P**	**20 25 49.9**	**+0.9**

U20A	**Newcomb** baz=80,SNR=6.7	79.68	48	⇑P		P	20 25 56.6	+0.9
Y22A	**Socorro** baz=80,SNR=5.5	79.70	50	⇓P		P	20 25 57.4	+1.5
324A	**Moseley Ranch,** baz=80,SNR=13	79.74	53	⇑P		P	20 25 57.4	+1.3
JLU	**Jordanelle** comp=Z,39nm,1.5s	79.74	43	*e*P		P	20 25 57.2	+1.3
DAU	**Daniels Canyon**	79.77	43	*e*P		P	20 25 57.9	+1.6
DAU	comp=Z,25nm,1.4s			pmax		pmax		
DAU	**Daniels Canyon** comp=Z,25nm,1.4s	79.77	43	*e*P		P	20 25 57.9	+1.6
LAZ	**Ladron** comp=Z,11nm,1.4s	79.78	50	*e*P		P	20 25 58.0	+1.7
LENM	**Lemitar** comp=Z,7.1nm,1.1s	79.80	50	*e*P		P	20 25 58.6	+2.2
425A	**Indio Mountain** baz=80,SNR=8.7	79.85	54	⇑P		P	20 25 58.2	+1.5
PPLA	**Purkeypile** comp=Z,13nm,1.1s	79.85	9	*e*P		P	20 25 53.6	-2.3
X22A	**Bernardo** baz=80	79.92	50	⇑P		P	20 25 59.3	+2.3
MNTX	**Cornudas Mount** comp=Z,46nm,1.8s	79.92	53	*e*P		P	20 25 58.5	+1.6
Z23A	**Rita Site, Whi** baz=80	79.95	51	⇑P		P	20 25 59.1	+1.9
224A	**Cornudas Mount** baz=80,SNR=15	79.98	53	⇓P		P	20 25 58.8	+1.5
626A	**Big Bend Ranch** baz=80,SNR=14	80.01	56	⇓P		P	20 25 59.2	+1.7
BNM	**Barren Site** comp=Z,35nm,1.8s	80.05	50	*e*P		P	20 25 59.7	+1.9
MVCO	**Mesa Verde** baz=80	80.09	47	⇑P		P	20 25 59.3	+1.4
LPM	**Los Pinos Moun** comp=Z,24nm,1.3s	80.11	50	*e*P		P	20 25 59.8	+1.7
HWUT	**Hardware Ranch** comp=Z,12nm,1.1s	80.18	42	*e*P		P	20 25 59.0	+0.7
526A	**Mary Lane Ranc** baz=81,SNR=17	80.25	55	⇑P		P	20 26 00.1	+1.2
W22A	**Albuquerque** baz=81	80.28	50	⇓P		P	20 26 01.1	+2.2
TXAR	**Lajitas Array**	80.29	56	P		P	20 26 00.9	+1.9
TXAR	**Lajitas Array** comp=Z,8.8nm,1.1s,baz=224,slow=5.2,SNR=32	80.29	56	P		P	20 26 00.9	+1.9
TXAR	comp=Z,288nm,19.1s,baz=310,slow=30			LR		LR	20 54 47.0	
124A	**Stringfield Ra** baz=81,SNR=7.6	80.30	52	⇓P		P	20 26 00.1	+0.9
U21A	**Nageezi** baz=81,SNR=33	80.32	48	⇑P		P	20 26 00.8	+1.6
Y23A	**Lovelace Mesa,** baz=81,SNR=5.5	80.38	51	⇑P		P	20 26 00.6	+1.1
PV01	**Paradox Valley** comp=Z,3jnm,1.5s	80.47	46	*e*P		P	20 26 01.7	+1.7
S20A	**Disappointment** baz=81,SNR=14	80.47	46	⇓P		P	20 26 01.3	+1.2
ANMO	**Albuquerque** comp=Z,12nm,1.2s	80.52	50	*e*P		P	20 26 01.8	+1.5
ANMO	**Albuquerque** comp=Z,320nm,19.7s,baz=297,slow=30	80.52	50	LR		LR	20 54 50.5	
225A	**Deer Hill, Car** baz=81	80.53	53	⇓P		P	20 26 01.7	+1.3
426A	**McDonald Obser** baz=81,SNR=15	80.55	55	⇑P		P	20 26 02.1	+1.5
627A	**Terlingua Ranc** baz=81,SNR=22	80.56	56	⇑P		P	20 26 02.4	+1.9
V22A	**San Miguel Ran** baz=81	80.63	49	⇓P		P	20 26 02.6	+1.8
R20A	**Redvale** baz=81,SNR=6.6	80.63	46	⇓P		P	20 26 01.9	+1.0
NJ2	**Nanjing**	80.63	307	*e*P		P	20 26 03.0	+2.3
Z24A	**Sheeppen Canyo** baz=81,SNR=5.3	80.63	52	⇑P		P	20 26 02.0	+1.1
527A	**Woodward Ranch** baz=81,SNR=15	80.66	55	⇑P		P	20 26 02.6	+1.5
T21A	**Navajo Lake** baz=81,SNR=5.4	80.67	48	⇓P		P	20 26 02.9	+1.8
TRF	**Thorofare Moun** comp=Z,27nm,1.0s	80.68	10	*e*P		P	20 25 59.6	-0.8
M17A	**Scullys Gap (B** baz=81	80.69	42	⇑P		P	20 26 01.9	+0.8
Y24A	**Capitan** baz=81,SNR=13	80.84	51	⇓P		P	20 26 03.3	+1.3
U22A	**Llaves** baz=81	80.88	48	⇑P		P	20 26 03.5	+1.3
125A	**Gardner Draw,** baz=81,SNR=8.6	80.89	53	⇓P		P	20 26 03.6	+1.4
P19A	**Cripple Cowboy** baz=81,SNR=5.4	80.90	45	⇓P		P	20 26 03.1	+0.8
628A	**Black Gap, Mar** baz=82,SNR=7.3	80.97	56	⇓P		P	20 26 04.2	+1.6
226B	**Tecolote Peak,** baz=82,SNR=15	81.02	53	⇑P		P	20 26 04.4	+1.5
Q20A	**Ridgley Place,** baz=82,SNR=7.6	81.05	45	⇓P		P	20 26 04.3	+1.4
MCMT	**McKenzie Canyo** comp=Z,16nm,1.2s	81.06	39	*e*P		P	20 26 04.4	+1.4
V23A	**Ortiz Mt. (NFS** baz=82	81.08	49	⇑P		P	20 26 05.0	+1.8
Z25A	**Roswell** baz=82,SNR=6.4	81.10	52	⇑P		P	20 26 05.2	+1.9
427A	**Hayter Ranch,** baz=82,SNR=11	81.11	55	⇓P		P	20 26 05.5	+2.1
T22A	**Edith** baz=82,SNR=6.6	81.13	48	⇓P		P	20 26 05.1	+1.5
O19A	**Miners Draw (B** baz=82,SNR=5.2	81.13	44	⇑P		P	20 26 04.4	+1.1
MCK	**McKinley**	81.17	11	*e*P		P	20 26 02.1	-0.8
MCK	comp=Z,51nm,1.0s			pmax		pmax		
MCK	**McKinley** comp=Z,51nm,1.0s	81.17	11	*e*P		P	20 26 02.1	-0.8
RRI2	**Red Ridge** comp=Z,64nm,1.4s	81.23	40	*e*P		P	20 26 05.2	+1.3
P20A	**De Beque** baz=82,SNR=10	81.24	45	⇑P		P	20 26 05.5	+1.5
R21A	**Cimarron** baz=82,SNR=10	81.29	46	⇑P		P	20 26 06.0	+1.6
528A	**Cox Ranch, San** baz=82,SNR=14	81.32	55	⇓P		P	20 26 06.3	+1.7
U23A	**El Rito** baz=82	81.33	49	⇓P		P	20 26 06.6	+2.0
126A	**Clayton Basin,** baz=82	81.37	53	⇓P		P	20 26 06.1	+1.4
Y25A	**Mesa, Roswell** baz=82,SNR=10	81.39	51	⇓P		P	20 26 06.3	+1.4
W24A	**Lazy 6 Ranch,** baz=82,SNR=7.8	81.41	50	⇑P		P	20 26 06.3	+1.2
Q21A	**Lamborn Mesa,** baz=82	81.49	46	⇓P		P	20 26 07.3	+1.9
DLMT	**Dillon** comp=Z,62nm,1.6s	81.50	38	*e*P		P	20 26 06.3	+1.1
CN2	**Changchun**	81.50	320	*e*P		P	20 26 03.1	-1.9
CN2	comp=Z,10.0nm,1.0s			AMB		AMB		
CN2	comp=Z,200nm,5.0s			AMB		AMB		
MSO	**Missoula** baz=82,SNR=10	81.51	36	⇑P		P	20 26 05.5	+0.3
S22A	**4UR Ranch, Cre** baz=82,SNR=19	81.51	47	⇓P		P	20 26 07.3	+1.6
REDW	**Red Top Meadow** comp=Z,69nm,1.5s	81.53	41	*e*P		P	20 26 06.2	+0.7
TPAW	**Teton Pass** comp=Z,39nm,1.2s	81.53	40	*e*P		P	20 26 07.1	+1.5
BSMT	**Basoo Peak** comp=Z,46nm,1.3s	81.60	35	*e*P		P	20 26 05.9	+0.2
428A	**Kincaid Ranch,** baz=82,SNR=9.3	81.63	55	⇑P		P	20 26 07.3	+1.2
SNOW	**Snow King Moun** comp=Z,70nm,1.4s	81.64	41	*e*P		P	20 26 07.4	+1.3
Z26A	**Caprock** baz=82,SNR=6.6	81.66	52	⇓P		P	20 26 07.4	+1.1
X25A	**Clemmons Ranch** baz=82	81.67	51	⇓P		P	20 26 07.8	+1.4
M19A	**Rock Springs** baz=82	81.69	43	⇓P		P	20 26 07.8	+1.4
V24A	**Rampart Ranch,** baz=82,SNR=6.1	81.74	49	⇑P		P	20 26 08.3	+1.5
IMW	**Indian Meadow** comp=Z,47nm,1.3s	81.75	40	*e*P		P	20 26 07.5	+0.8
T23A	**Casias Ranch,** baz=82	81.76	48	⇑P		P	20 26 08.6	+1.7
529A	**Stev Forest Ra** baz=82,SNR=6.2	81.76	56	⇓P		P	20 26 08.2	+1.4
R22A	**Saguache, Gunn** baz=82,SNR=6.5	81.78	47	⇓P		P	20 26 09.1	+2.0
MOOW	**Moose Ponds** comp=Z,25nm,1.5s	81.79	40	*e*P		P	20 26 07.5	+0.6
328A	**Wristen Ranch,** baz=82,SNR=8.0	81.79	54	⇑P		P	20 26 08.1	+1.1
LOHW	**Long Hollow** comp=Z,48nm,1.5s	81.81	41	*e*P		P	20 26 07.9	+0.9
LRM	**Linekin Ridge** comp=Z,426nm,1.7s	81.83	38	*e*P		P	20 26 07.6	+0.6
SWMT	**Swartz Lake** comp=Z,9.8nm,1.3s	81.85	36	*e*P		P	20 26 06.8	-0.1
127A	**Arkansas Junct** baz=82	81.89	53	⇑P		P	20 26 08.9	+1.4
BLMT	**Blacktail Moun**	81.92	35	*e*P		P	20 26 07.1	-0.3
QLMT	**Earthquake Lak** comp=Z,7.2nm,1.4s	81.92	39	*e*P		P	20 26 09.3	+1.8
CHMT	**Chamberlain Mo**	81.95	37	P		P	20 26 08.2	+0.6
N20A	**Spence Gulch,** baz=82,SNR=12	81.96	44	⇓P		P	20 26 09.1	+1.2
Q22A	**Crested Butte,** baz=82,SNR=10	81.96	46	⇑P		P	20 26 09.4	+1.4
SLMT	**Seeley Lake** comp=Z,11nm,1.3s	81.99	36	*e*P		P	20 26 07.7	0.0
BW06	**Boulder Array** comp=Z,43nm,1.5s	82.05	42	*e*P		P	20 26 09.0	+0.7
Y26A	**Elida** baz=82	82.05	52	⇓P		P	20 26 09.3	+1.0
PDAR	**Pinedale Array**	82.05	42	P		P	20 26 08.8	+0.6
PDAR	**Pinedale Array** comp=Z,12nm,1.1s,baz=209,slow=2.7,SNR=57	82.05	42	P		P	20 26 08.8	+0.6
PDAR	comp=Z,441nm,20.1s,baz=258,slow=31			LR		LR	20 56 05.3	
SMCO	**Snowmass** comp=Z,37nm,1.3s	82.06	46	*e*P		P	20 26 10.1	+1.4
W25A	**X Bar L Ranch,** baz=83,SNR=13	82.12	50	⇓P		P	20 26 09.4	+0.7
O21A	**Pagosa** baz=83	82.20	45	⇑P		P	20 26 10.8	+1.6
429A	**Davenport Ranc** baz=83,SNR=24	82.22	55	⇑P		P	20 26 10.1	+0.9
H17A	**Grant Village**	82.22	40	*e*P		P	20 26 11.4	+2.2
H17A	**Grant Village** baz=83	82.22	40	⇓P		P	20 26 10.9	+1.7
BOZ	**Bozeman (W)**	82.23	38	*e*P		P	20 26 09.8	+0.8
BOZ	comp=Z,45nm,1.4s			pmax		pmax		
BOZ	**Bozeman (W)** comp=Z,45nm,1.4s	82.23	38	*e*P		P	20 26 09.8	+0.8
228A	**UT Block 9, Go** baz=83	82.26	54	⇓P		P	20 26 10.8	+1.3
Z27A	**Tatum** baz=83,SNR=6.8	82.26	52	⇓P		P	20 26 10.3	+0.9
V25A	**Rancho No Teng** baz=83,SNR=33	82.27	50	⇑P		P	20 26 10.8	+1.3
X26A	**CR and CF Fran** baz=83	82.32	51	⇓P		P	20 26 11.1	+1.4
YNR	**Norris Junctio** comp=Z,24nm,1.1s	82.32	40	*e*P		P	20 26 12.0	+2.4
M20A	**Sweetwater, Wa** baz=83,SNR=9.5	82.32	43	⇓P		P	20 26 11.0	+1.2
P22A	**Eagle** baz=83	82.40	45	⇓P		P	20 26 11.8	+1.6
COLA	**College**	82.41	11	*e*P		P	20 26 08.7	-0.6
COLA	**College** comp=Z,190nm,0.9s	82.41	11	*e*P		P	20 26 08.7	-0.6
R23A	**Moffat** baz=83,SNR=9.4	82.42	47	⇑P		P	20 26 11.6	+1.3
SDCO	**Great Sand Dun** comp=Z,57nm,1.9s	82.45	48	*e*P		P	20 26 11.5	+1.0
L20A	**Wamsutter** baz=83,SNR=19	82.47	43	⇑P		P	20 26 11.7	+1.3
530A	**J-C Ranch, Com** baz=83,SNR=8.0	82.47	56	⇓P		P	20 26 11.6	+1.1
329A	**Wagon Wheel Ra** baz=83	82.48	55	⇑P		P	20 26 11.8	+1.2
ILAR	**Eielson Array**	82.49	11	P		P	20 26 08.9	-0.8
ILAR	**Eielson Array** comp=Z,6.8nm,0.9s,baz=206,slow=6.3,SNR=35	82.49	11	P		P	20 26 08.9	-0.8
IM04	**Indian Mountai**	82.53	8	*e*P		P	20 26 09.3	-0.7
Y27A	**Causey** baz=83,SNR=7.0	82.53	52	⇑P		P	20 26 11.9	+1.0
K19A	**Absolon Red Bu** baz=83,SNR=15	82.53	42	⇓P		P	20 26 10.8	+0.1
128A	**Castleberry Fa** baz=83,SNR=9.6	82.54	53	⇓P		P	20 26 12.1	+1.2
W26A	**Owens Ranch, T** baz=83,SNR=5.7	82.58	51	⇓P		P	20 26 11.9	+0.8
S24A	**Houchin Ranch,** baz=83,SNR=20	82.61	48	⇓P		P	20 26 13.0	+1.6
J19A	**Crowheart** baz=83,SNR=6.3	82.62	41	⇑P		P	20 26 11.5	+0.4
U25A	**Circle Dot Ran** baz=83,SNR=14	82.66	49	⇓P		P	20 26 12.8	+1.3
HRY	**Holter Researc** comp=Z,41nm,1.1s	82.67	37	*e*P		P	20 26 12.4	+1.1
WALA	**Waterton Lakes** comp=Z,2.1nm,1.7s	82.75	35	*e*P		P	20 26 10.8	-0.8
K20A	**Yellowstone Ra** baz=83,SNR=22	82.78	42	⇑P		P	20 26 12.6	+0.6
SEY	**Seymchan**	82.78	345	*d*	*i*	P	20 26 10.0	-1.3
430A	**Baggett Ranch,** baz=83	82.80	55	⇓P		P	20 26 13.3	+1.0
631A	**Perdido Creek** baz=83	82.80	57	⇓P		P	20 26 13.5	+1.3
O22A	**Kremmling** baz=83,SNR=32	82.81	45	⇓P		P	20 26 13.6	+1.2
V26A	**Tequesquite Ra** baz=83,SNR=8.0	82.86	50	⇓P		P	20 26 13.2	+0.7
MSTX	**Muleshoe**	82.86	52	*e*P		P	20 26 14.0	+1.4
MSTX	**Muleshoe** baz=83,SNR=7.1	82.86	52	⇓P		P	20 26 13.7	+1.1
Z28A	**Tucker Farm, M** baz=83,SNR=5.8	82.89	53	⇓P		P	20 26 13.3	+0.6
X27A	**F and S Farms,** baz=83	82.90	51	⇑P		P	20 26 14.1	+1.4
M21A	**Separation Pea** baz=83,SNR=20	82.92	43	⇑P		P	20 26 13.6	+0.7
H18A	**Shoshone NF, C** baz=83,SNR=5.5	82.93	40	⇓P		P	20 26 13.8	+1.0
P23A	**Jefferson** baz=83	82.94	46	⇓P		P	20 26 14.7	+1.6
R24A	**Sanders Place,** baz=83,SNR=13	82.94	47	⇓P		P	20 26 14.6	+1.6
T25A	**Trinidad** baz=83,SNR=8.5	82.97	49	⇑P		P	20 26 14.3	+1.1
129A	**Stewart Farms,** baz=84	83.02	54	⇓P		P	20 26 15.0	+1.6
I19A	**Meeteetse** baz=83,SNR=16	83.03	41	⇓P		P	20 26 14.3	+1.0
RWWY	**Rawlins** comp=Z,104nm,1.5s	83.06	43	*e*P		P	20 26 20.1	+6.5
L21A	**Rawlins** baz=84,SNR=11	83.09	43	⇑P		P	20 26 14.4	+0.7
330A	**Mertzon** baz=84	83.09	55	⇑P		P	20 26 14.9	+1.2
W27A	**Bowe Ranch, En** baz=84,SNR=20	83.09	51	⇓P		P	20 26 14.8	+1.0
U26A	**Atchley Ranch,** baz=84,SNR=9.5	83.14	49	⇓P		P	20 26 15.1	+1.0
N22A	**Wattenberg Ran** baz=84,SNR=11	83.16	44	⇑P		P	20 26 15.4	+1.2
Q24A	**Divide** baz=84,SNR=12	83.24	47	⇓P		P	20 26 16.0	+1.3
Y28A	**McKinney Farm,** baz=84	83.24	52	⇑P		P	20 26 15.6	+1.1
O23A	**Lake Granby, G** baz=84	83.26	45	⇓P		P	20 26 16.5	+1.8
431A	**Sonora** baz=84	83.26	56	⇑P		P	20 26 15.8	+1.2
J20A	**Shoshoni** baz=84,SNR=38	83.28	42	⇓P		P	20 26 15.7	+1.2
ISCO	**Idaho Springs**	83.28	46	*e*P		P	20 26 16.1	+1.3
ISCO	comp=Z,47nm,1.8s			pmax		pmax		
ISCO	**Idaho Springs** comp=Z,47nm,1.8s	83.28	46	*e*P		P	20 26 16.1	+1.3
ISCO	**Idaho Springs** baz=84,SNR=6.2	83.28	46	⇑P		P	20 26 16.1	+1.3
M22A	**Cedar Creek Ra** baz=84,SNR=6.6	83.34	44	⇓P		P	20 26 15.5	+0.4
H19A	**Powell** baz=84,SNR=5.3	83.35	40	⇑P		P	20 26 16.2	+1.3
Z29A	**Hungry Hill Ra** baz=84,SNR=5.5	83.40	53	⇑P		P	20 26 16.0	+0.7
QIZ	**Qiongzhong**	83.41	292		P	P	20 26 15.2	-0.3
QIZ					S	S	20 36 37.4	+2.6
QIZ	comp=Z,15nm,1.5s				AMB	AMB		
QIZ					AMB	AMB		
K21A	**Alcova** comp=Z,150nm,4.0s baz=84,SNR=24	83.48	43	⇑P		P	20 26 16.2	+0.5
632A	**Uvalde** baz=84	83.48	57	⇓P		P	20 26 16.9	+1.1
R25A	**Fountain Ranch** baz=84	83.49	48	⇑P		P	20 26 17.0	+1.3
X28A	**Dimmitt** baz=84	83.52	52	⇓P		P	20 26 17.2	+1.3
I20A	**Worland** baz=84,SNR=27	83.54	41	⇑P		P	20 26 16.9	+1.1
V27A	**Dan Oppiter Fa** baz=84	83.55	50	⇓P		P	20 26 17.4	+1.3
N23A	**Red Feather La** baz=84,SNR=11	83.55	45	⇑P		P	20 26 17.2	+1.1
T26A	**Comanche Natio** baz=84,SNR=6.3	83.58	49	⇓P		P	20 26 17.1	+0.8
532A	**Rocksprings** baz=84	83.61	56	⇓P		P	20 26 17.4	+1.0
331A	**San Angelo** baz=84	83.64	55	⇓P		P	20 26 17.7	+1.2
EGAK	**Eagle** comp=Z,17nm,1.1s	83.65	13	*e*P		P	20 26 15.0	-0.7
Y29A	**Porterfield Fa** baz=84	83.66	52	⇑P		P	20 26 18.3	+1.6
J21A	**Lysite** baz=84,SNR=8.1	83.69	42	⇑P		P	20 26 17.9	+1.2
130A	**Snyder** baz=84	83.71	54	⇑P		P	20 26 18.0	+1.1
L22A	**Ellis Ranch, M** baz=84,SNR=7.3	83.73	43	⇑P		P	20 26 18.0	+1.0
O24A	**Longmont** baz=84	83.80	46	⇓P		P	20 26 18.7	+1.5
W28A	**Vega** baz=84	83.81	51	⇓P		P	20 26 18.7	+1.3
JCT	**Junction City**	83.83	56	*e*P		P	20 26 18.6	+1.1
JCT	comp=Z,15nm,1.2s			pmax		pmax		
JCT	**Junction City** comp=Z,15nm,1.2s	83.83	56	*e*P		P	20 26 18.6	+1.1
JCT	**Junction City** baz=84	83.83	56	⇓P		P	20 26 18.7	+1.1
U27A	**Thompson Grove** baz=84,SNR=6.8	83.83	50	⇓P		P	20 26 17.9	+0.4
Q25A	**Bedland, Calha** baz=84	83.85	47	⇑P		P	20 26 18.6	+0.9
PMSA	**Palmer Station** comp=Z,432nm,20.3s,baz=78,slow=30	83.85	156	LR		LR	20 55 39.3	
Z30A	**Sanderson Ranc** baz=84,SNR=14	83.85	53	⇓P		P	20 26 18.1	+0.5
H20A	**Greybull** baz=84,SNR=13	83.88	41	⇑P		P	20 26 18.0	+0.5
F19A	**Roth Farm, Mol** baz=84	83.95	39	⇑P		P	20 26 19.2	+1.3
M23A	**Laramie** baz=84	83.95	44	⇑P		P	20 26 19.2	+1.0
K22A	**Casper** baz=84,SNR=8.3	83.96	43	⇑P		P	20 26 18.6	+0.6
231A	**Bronte** baz=84	83.97	55	⇓P		P	20 26 19.2	+1.0
432A	**Menard** baz=84	83.98	56	⇓P		P	20 26 19.1	+0.8
V28A	**Channing** baz=84	84.00	51	⇓P		P	20 26 19.0	+0.7
I21A	**Big Trails, Te** baz=84,SNR=41	84.00	42	⇓P		P	20 26 18.9	+0.6
G20A	**Bridger** baz=84,SNR=6.1	84.09	40	⇓P		P	20 26 19.1	+0.5
R26A	**Arlington** baz=85,SNR=10	84.16	48	⇓P		P	20 26 19.6	+0.5
P25A	**Willow Gulch B** baz=85,SNR=6.7	84.16	46	⇑P		P	20 26 20.3	+1.1
T27A	**Campo** baz=85,SNR=6.4	84.17	49	⇓P		P	20 26 19.9	+0.7
W29A	**Amraillo** baz=85,SNR=6.7	84.18	51	⇓P		P	20 26 20.3	+1.0
131A	**Roby** baz=85	84.19	54	⇓P		P	20 26 20.2	+0.9
COLD	**Coldfoot** comp=Z,22nm,1.1s	84.21	9	*e*P		P	20 26 19.2	+0.6
332A	**Millersview** baz=85	84.21	55	⇑P		P	20 26 20.6	+1.2
N24A	**Carr** baz=85	84.24	45	⇑P		P	20 26 21.2	+1.7
Y30A	**Stafford Cattl** baz=85	84.26	53	⇑P		P	20 26 21.1	+1.4
L23A	**Garrett** baz=85,SNR=9.4	84.26	44	⇑P		P	20 26 20.3	+0.6
J22A	**Midwest** baz=85,SNR=7.6	84.34	42	⇓P		P	20 26 20.6	+0.6
E19A	**Rath Farm, Rou** baz=85,SNR=17	84.35	39	⇑P		P	20 26 20.8	+1.0
Q26A	**Hugo** baz=85	84.37	47	⇓P		P	20 26 21.5	+1.3
F20A	**Billings** baz=85	84.41	39	⇑P		P	20 26 21.9	+1.6
232A	**Coleman** baz=85	84.47	55	⇓P		P	20 26 21.8	+1.1
X30A	**Coker Ranch, T** baz=85,SNR=5.8	84.50	52	⇑P		P	20 26 21.9	+1.0
H21A	**Big Horn, Sher** baz=85	84.54	41	⇓P		P	20 26 22.2	+1.3
EGMT	**Eagleton** baz=85,SNR=5.7	84.55	37	⇓P		P	20 26 21.9	+1.0
I22A	**9 Mile Ranch,** baz=85,SNR=13	84.56	42	⇑P		P	20 26 21.4	+0.4
M24A	**Cheyenne** baz=85	84.56	44	⇑P		P	20 26 22.4	+1.2
V29A	**Stinnett** baz=85	84.57	51	⇓P		P	20 26 22.5	+1.3
K23A	**Bowen Ranch, D** baz=85	84.60	43	⇑P		P	20 26 22.6	+1.3
R27A	**Eads** baz=85	84.61	48	⇑P		P	20 26 22.7	+1.3
Z31A	**Sharp Cattle R** baz=85	84.62	53	⇓P		P	20 26 22.6	+1.1
T28A	**Walsh** baz=85	84.63	49	⇑P		P	20 26 22.6	+1.1
D19A	**Cripps Ranch,** baz=85,SNR=8.9	84.64	38	⇑P		P	20 26 22.5	+1.2
G21A	**Lodge Grass** baz=85	84.72	40	⇑P		P	20 26 23.6	+1.8
L24A	**Wheatland** baz=85	84.74	44	⇑P		P	20 26 23.9	+1.9
ABTX	**Abilene, Hawle**	84.75	54	*e*P		P	20 26 23.3	+1.1
ABTX	**Abilene, Hawle** baz=85	84.75	54	⇓P		P	20 26 23.8	+1.6
E20A	**Meyer Farm, Mu** baz=85,SNR=7.7	84.76	39	⇑P		P	20 26 23.1	+1.2
Y31A	**Rekieta Farm,** baz=85	84.78	53	⇑P		P	20 26 23.8	+1.5
C19A	**Slack Wire Ran** baz=85,SNR=22	84.82	37	⇓P		P	20 26 23.2	+1.0
J23A	**Dilts Ranch, B** baz=85	84.94	42	⇑P		P	20 26 24.5	+1.6
H22A	**Clearmont** baz=85	84.97	41	⇑P		P	20 26 24.2	+1.2
S28A	**Manter** baz=85	84.98	49	⇑P		P	20 26 24.6	+1.4
D20A	**Manuel Ranch,** baz=85,SNR=12	85.04	38	⇑P		P	20 26 24.5	+1.2
O26A	**Horse Wrangler** baz=86	85.07	46	⇓P		P	20 26 24.7	+1.1
K24A	**Anderson Ranch** baz=86	85.12	43	⇑P		P	20 26 25.7	+1.8
Z32A	**Haskell** baz=86	85.14	54	⇑P		P	20 26 25.4	+1.4
V30A	**Spur Ranch, Mi** baz=86	85.15	51	⇑P		P	20 26 25.8	+1.7
B19A	**Brinkman Farms** baz=86	85.24	37	⇓P		P	20 26 25.4	+1.2
EDM	**Edmonton**	85.36	31	*e*P		P	20 26 24.8	+0.1
EDM	**Edmonton**	85.36	31	*e*P		P	20 26 24.8	+0.1
C20A	**Veseth Ranch,** baz=86	85.42	38	⇑P		P	20 26 26.7	+1.5
Y32A	**R-V Farms, Ver** baz=86	85.42	53	⇓P		P	20 26 26.8	+1.3
W31A	**Holland Ranch,** baz=86	85.49	52	⇓P		P	20 26 27.0	+1.2
A19A	**Klindworth Far** baz=86	85.59	37	⇑P		P	20 26 27.0	+1.0
B20A	**Solberg Farm,** baz=86	85.77	37	⇓P		P	20 26 27.9	+1.0
BJI	**Beijing**	85.92	313		P	P	20 26 26.4	-1.3
BJI					PP	PP	20 29 45.7	-2.3
BJI					S	S	20 37 03.2	+4.2
BJI					SS	SS	20 42 37.3	-0.1

BJI AMB AMB
comp=Z,7.0nm,1.3s
BJI LR LR
comp=Z,96nm,22.7s
WMOK Wichita Mounta 86.20 53 *e*P **P 20 26 30.2 +0.9**
WMOK pmax pmax
comp=Z,3.0nm,0.4s
WMOK Wichita Mounta 86.20 53 *e*P **P 20 26 30.2 +0.9**
comp=Z,3.4nm,0.4s
RSSD Black Hills 86.24 42 *e*P **P 20 26 28.9 -0.6**
RSSD pmax pmax
comp=Z,74nm,1.5s
RSSD Black Hills 86.24 42 *e*P **P 20 26 28.9 -0.6**
comp=Z,74nm,1.5s
WHTX Lake Whitney 86.25 56 *e*P **P 20 26 31.1 +1.5**
WHTX Lake Whitney 86.25 56 ⇑P **P 20 26 29.9 +0.3**
baz=87
B21A Ellsworth Farm 86.35 38 ⇑P **P 20 26 31.4 +1.6**
baz=87
A21A Bergtoll Ranch 86.67 37 ⇑P **P 20 26 32.4 +1.1**
baz=87
HKT Hockley 86.85 58 *e*P **P 20 26 33.0 +0.5**
HKT pmax pmax
comp=Z,20nm,1.4s
HKT Hockley 86.85 58 *e*P **P 20 26 33.0 +0.5**
comp=Z,20nm,1.4s
D23A Lindsay 86.85 39 ⇑P **P 20 26 34.0 +1.8**
baz=87
B22A Reddig Ranch S 86.89 38 ⇑P **P 20 26 33.7 +1.3**
baz=87
C23A Lambert 87.15 39 ⇑P **P 20 26 35.0 +1.3**
baz=88
MAW Mawson 87.81 198 P **P 20 26 36.6 +0.1**
MAW Mawson 87.81 198 ⇑P **P 20 26 36.6 +0.1**
baz=87,SNR=14
MAW Mawson 87.81 198 P **P 20 26 36.6 +0.1**
comp=Z,10nm,0.9s,baz=127,slow=6.1,SNR=19
MAW LR LR 21 01 28.0
comp=Z,457nm,19.6s,baz=124,slow=33
DGMT Dagmar 88.04 38 ⇑P **P 20 26 38.9 +1.1**
baz=88
K29A Lazy Trails An 88.14 45 ⇓P **P 20 26 39.5 +0.9**
baz=89
INK Inuvik 88.29 14 *e*P **P 20 26 38.3 -0.3**
INK Inuvik 88.29 14 P **P 20 26 38.2 -0.3**
comp=Z,9.3nm,1.0s,baz=212,slow=6.0,SNR=9.1
GYA Guiyang 88.53 298 ⇑*i*P **P 20 26 43.1 +2.2**
GYA PP **PP 20 30 13.7 +4.1**
GYA SKS **SKSac 20 37 06.9 -1.1**
GYA S **S 20 37 25.0 -0.1**
GYA SS **SS 20 43 19.5 +2.9**
GYA AMB AMB
comp=Z,30nm,1.0s
GYA AMB AMB
comp=Z,140nm,6.0s
GYA LR LR
comp=Z,740nm,20.9s
GYA LR LR
comp=Z,620nm,22.4s
GYA LR LR
comp=Z,750nm,20.2s
TUL1 Tulsa 88.91 52 ⇓P **P 20 26 42.4 +0.2**
baz=89
H29A Onida 88.94 43 ⇓P **P 20 26 42.8 +0.5**
baz=89
C27A Sayler Ranch, 89.36 40 ⇑P **P 20 26 44.6 +0.5**
baz=90
HHC Hu-ho-hao-te 89.48 313 *e*P **P 20 26 46.0 +1.0**
HHC pP **pP 20 26 56.6 +0.8**
HHC sP **sP 20 27 00.5 +0.8**
HHC PP **PP 20 30 20.6 +3.8**
HHC SKS **SKSac 20 37 11.8 -1.1**
HHC S **S 20 37 33.0 -0.3**
HHC sS **sS 20 37 50.6 -0.6**
HHC SS **SS 20 43 33.5 +3.8**
HHC AMB AMB
comp=Z,24nm,1.1s
HHC AMB AMB
comp=Z,410nm,5.0s
HHC LR LR
comp=Z,250nm,15.7s
HHC LR LR
comp=Z,350nm,15.9s
HHC LR LR
comp=Z,270nm,16.1s
YKA Yellowknife Ar 90.04 23 P **P 20 26 46.9 0.0**
YKA Yellowknife Ar 90.04 23 P **P 20 26 46.8 0.0**
comp=Z,8.5nm,1.0s,baz=234,slow=4.2,SNR=8.2
B28A Dugan Ranch, T 90.35 39 ⇓P **P 20 26 49.5 +0.8**
baz=91
E30A Jud 90.51 42 ⇓P **P 20 26 49.4 -0.1**
baz=91
A28A Rude Farm, Bot 90.59 39 ⇑P **P 20 26 50.2 +0.3**
baz=91
D30A Buchanan 90.83 41 ⇑P **P 20 26 51.2 +0.2**
baz=91
B29A Wagenman Farm, 90.97 40 ⇓P **P 20 26 52.2 +0.6**
baz=91
A29A Manning Farm, 91.22 39 ⇑P **P 20 26 53.3 +0.5**
baz=92
KMI Kunming 91.52 296 P **P 20 26 56.4 +1.4**
KMI pP **pP 20 27 07.4 +1.6**
KMI AMB AMB
comp=Z,4.0nm,0.6s
A30A Hoffart Farm, 91.80 39 ⇓P **P 20 26 55.9 +0.5**
baz=92
SNAA Sanae 92.74 177 *e*P **P 20 27 00.5 +0.9**
SNAA Sanae 92.74 177 *e*P **P 20 27 00.2 +0.6**
comp=Z,25nm,1.2s
VNA2 Neumayer--Watz 93.17 175 *e*P **P 20 27 03.3 +1.8**
baz=169,slow=2.9
VNA1 Neumayer--Stat 93.37 175 *e*P **P 20 27 04.3 +1.9**
LZH Lanzhou 93.70 306 *e*P **P 20 27 05.5 +0.8**
LZH pP **pP 20 27 14.8 -0.8**
LZH sP **sP 20 27 18.1 -1.4**
LZH AMB AMB
comp=Z,13nm,0.9s
ULM Lac du Bonnet 93.74 39 P **P 20 27 04.6 +0.2**
ULM Lac du Bonnet 93.74 39 P **P 20 27 04.6 +0.2**
comp=Z,4.4nm,0.8s,baz=270,slow=2.5,SNR=3.9
ULM LR LR 21 02 01.6
comp=Z,560nm,21.3s,baz=55,slow=31
CFAA Coronel Fontan 93.97 124 LR LR 21 01 28.0
comp=Z,12nm,18.2s,baz=163,slow=30
SWET Sewanee 96.38 55 *e*P **P 20 27 17.0 +0.2**
ROSC El Rosal 99.53 88 LR LR 21 01 15.1
comp=Z,148nm,21.0s,baz=204,slow=28
KURK Kurchatov 113.56 319 PKIKP **PKiKP 20 32 22.1 -3.6**
KURK pmax pmax
comp=Z,1.0nm,0.4s
BVAR Borovoye Array 118.29 322 PKIKP **PKPdf 20 32 33.2 -1.5**
BVAR Borovoye Array 118.29 322 PKP **PKPdf 20 32 33.2 -1.5**
BVAR Borovoye Array 118.29 322 PKP **PKPdf 20 32 33.2 -1.5**
comp=Z,0.6nm,0.7s,baz=100,slow=1.7,SNR=3.9
SOKR Solikamsk 123.12 332 *e*PKIKP **PKPdf 20 32 42.8 -0.9**
SOKR pmax pmax
comp=Z,20nm,1.1s
ARU Arti 123.71 329 *i* PKIKP **PKPdf 20 32 45.1 +0.1**
ARU 20 34 24.7
ARCES ARCESS Array B 124.81 352 PKP **PKPdf 20 32 46.3 -0.5**
ARCES ARCESS Array B 124.81 352 PKP **PKPdf 20 32 46.3 -0.5**
comp=Z,8.5nm,0.9s,baz=40,slow=2.1,SNR=12
APA Apatity 125.27 348 ⇓*i* PKIKP **PKPdf 20 32 47.0 -0.7**
APA MLR MLR
comp=Z,700nm,21.0s
AKTO Aktyubinsk 126.39 322 PKIKP **PKPdf 20 32 49.1 -1.3**
AKTO Aktyubinsk 126.39 322 PKP **PKPdf 20 32 49.1 -1.3**
AKTO Aktyubinsk 126.39 322 PKP **PKPdf 20 32 49.1 -1.3**
comp=Z,0.7nm,0.6s,baz=29,slow=7.8,SNR=5.0
KLMR Klimovskoe 129.09 340 *e*PKIKP **PKPdf 20 32 50.9 -4.2**
KLMR pmax pmax
comp=Z,35nm,1.6s
FINES FINESS Array B 132.18 348 PKP **PKPdf 20 33 00.7 -0.3**
FINES FINESS Array B 132.18 348 PKP **PKPdf 20 33 00.7 -0.3**
comp=Z,5.0nm,0.9s,baz=347,slow=7.8,SNR=6.1
BOSA Boshof 132.72 202 PKP **PKPdf 20 33 04.0 +0.7**
BOSA Boshof 132.72 202 PKP **PKPdf 20 33 04.0 +0.7**
comp=Z,5.4nm,1.0s,baz=164,slow=5.0,SNR=3.5
OBN Obninsk 134.43 337 ⇑*i* PKIKP **PKPdf 20 33 04.6 -0.8**
OBN *e* 20 35 36.4
OBN *e* 20 40 06.8
OBN pmax pmax
comp=Z,22nm,1.5s
OBN MLR MLR
comp=Z,100nm,19.0s
NOA NORSAR Array B 134.47 357 PKP **PKPdf 20 33 04.0 -1.5**
comp=Z,2.1nm,0.9s,baz=13,slow=4.1,SNR=3.8
HFS Hagfors 135.22 355 PKP **PKPdf 20 33 06.2 -0.5**
HFS Hagfors 135.22 355 PKP **PKPdf 20 33 06.2 -0.5**
comp=Z,6.0nm,1.1s,baz=179,slow=9.8,SNR=3.7
AKASG Malin Array Be 140.65 338 PKIKP **PKPdf 20 33 15.9 -1.2**
AKASG Malin Array Be 140.65 338 PKP **PKPdf 20 33 15.8 -1.2**
AKASG Malin Array Be 140.65 338 PKP **PKPdf 20 33 15.8 -1.2**
comp=Z,4.6nm,0.9s,baz=33,slow=2.2,SNR=16
LVV L'vov 143.14 342 *e*PKIKP PKPdf 20 33 27.3 +5.8
KWP Kalwaria Pacla 143.70 343 *e*PKIKP PKPab 20 33 19.2 -0.1
KWP Kalwaria Pacla 143.70 343 *e*PKPdf PKPab 20 33 19.2 -0.1
KWP Kalwaria Pacla 143.70 343 *e*PKP PKPab 20 33 18.7 -0.6
OJC Ojcow 143.91 346 *e*PKIKP PKPab 20 33 19.3 -0.8
OJC Ojcow 143.91 346 *e*PKP PKPab 20 33 19.3 -0.8
TSUM Tsumeb 143.97 197 *e*PKPdf PKPbc 20 33 22.4 +0.5
CLL Collm 144.01 354 *e*PKIKP PKPbc 20 33 21.0 +0.1
CLL pmax pmax
comp=Z,11nm,1.0s
CLL Collm 144.01 354 *e*PKPdf PKPbc 20 33 21.0 +0.1
comp=Z,11nm,1.0s
CLL *e*PKiKP **PKiKP 20 33 25.0 -1.5**
KSP Ksiaz 144.02 350 *e*PKIKP PKPab 20 33 20.4 0.0
KSP Ksiaz 144.02 350 *e*PKP PKPab 20 33 20.2 -0.2
STHS Stebnicka Huta 144.30 344 *e*PKIKP PKPbc 20 33 21.9 0.0
STHS Stebnicka Huta 144.30 344 *e*PKP PKPbc 20 33 21.9 0.0
MALT Malatya 144.30 315 ⇓PKIKP **PKPab 20 33 21.9 -0.2**
MALT Malatya 144.30 315 ⇓*i*P **PKPab 20 33 21.9 -0.2**
BRG Berggiesshubel 144.33 353 *e*PKP **PKPdf 20 33 27.2 +3.6**
comp=Z,7.1nm,1.0s
BRG Berggiesshubel 144.33 353 *e*PKIKP **PKPdf 20 33 27.2 +3.6**
BRG pmax pmax
comp=Z,7.0nm,1.0s
UPC Upice 144.39 350 *e*PKIKP **PKPab 20 33 21.8 0.0**
UPC Upice 144.39 350 *e*PKP **PKPab 20 33 21.8 0.0**
KOLS Kolonicke sedl 144.45 343 *e*PKIKP **PKPab 20 33 22.0 -0.1**
KOLS Kolonicke sedl 144.45 343 *e*PKP **PKPab 20 33 22.0 -0.1**
DPC Dobruska-Polom 144.49 350 *e*PKIKP **PKPab 20 33 22.2 -0.1**
DPC Dobruska-Polom 144.49 350 *e*PKP **PKPab 20 33 22.2 -0.1**
NIE Niedzica 144.53 345 *e*PKIKP **PKPab 20 33 21.6 -0.9**
NIE Niedzica 144.53 345 *e*PKP **PKPab 20 33 21.6 -0.9**
PVCC Panska Ves 144.58 352 *e*PKIKP PKPbc 20 33 23.0 +0.3
PVCC *e* 20 33 29.0
PVCC Panska Ves 144.58 352 *e*PKP PKPbc 20 33 23.0 +0.3
PVCC *e*pPKP **PKiKP 20 33 29.0 +1.3**
OKC Ostrava-Krasne 144.63 348 *e*PKIKP **PKPab 20 33 22.9 +0.2**
OKC *e* 20 33 27.9
OKC Ostrava-Krasne 144.63 348 *e*PKP **PKPab 20 33 22.9 +0.2**
OKC *e*pPKP **PKiKP 20 33 27.9 +0.1**
BUR08 Bucovina Ar. S 144.66 339 *e*P **PKPab 20 33 22.6 -0.5**
BURAR Bucovina Array 144.68 339 ⇑PKIKP **PKPab 20 33 22.8 -0.3**
BURAR Bucovina Array 144.68 339 ⇑*i*P **PKPab 20 33 22.8 -0.3**
UZH Uzhgorod 144.72 342 *e*PKIKP **PKPab 20 33 21.9 -1.2**
UZH *e* 20 33 27.7
UZH *e* 20 33 33.0
MORC Moravsky Berou 144.81 348 *e*PKIKP **PKPab 20 33 23.0 -0.5**
MORC Moravsky Berou 144.81 348 ⇓*i*P **PKPab 20 33 23.3 -0.2**
MORC Moravsky Berou 144.81 348 *e*PKPdf **PKPab 20 33 23.0 -0.5**
BEBN Eben Emael 144.82 2 PKP PKPbc 20 33 23.7 +0.3
HGN Heimansgroeve 144.85 1 *e*PKPdf **PKPab 20 33 23.2 -0.3**
comp=Z,100nm,1.8s
MEM Membach 145.01 1 PKP **PKPab 20 33 24.0 -0.1**
SNF Seneffe 145.05 3 PKP PKPbc 20 33 24.3 +0.1
TESR Tescani 145.07 336 ⇓*i*P **PKPbc 20 33 23.4 -1.1**
TRPA Tarpa 145.10 342 ⇓*i*P **PKPbc 20 33 23.8 -0.6**
TRPA Tarpa 145.10 342 ⇓*e*PKPbc **PKPbc 20 33 23.8 -0.6**
PRU Pruhonice 145.12 352 *e*PKIKP **PKPbc 20 33 23.9 -0.6**
PRU MLR MLR
comp=Z,200nm,22.4s
PRU Pruhonice 145.12 352 *e*PKP **PKPbc 20 33 23.9 -0.6**
PRU AMS AMS 21 43 40.0
comp=Z,200nm,22.4s
BCLA Clavier 145.18 2 PKP **PKPbc 20 33 24.6 -0.1**
BMR Baia Mare 145.20 340 ⇓PKIKP **PKPbc 20 33 24.1 -0.7**
BMR Baia Mare 145.20 340 ⇓*i*P **PKPbc 20 33 24.1 -0.7**
KECS Kecovo 145.35 344 *e*PKIKP **PKPbc 20 33 25.1 -0.2**
KECS Kecovo 145.35 344 *e*PKP **PKPbc 20 33 25.1 -0.2**
ARCR ARCALIA 145.43 339 ⇓*i*P **PKPbc 20 33 25.5 -0.1**
VRAC Vranov 145.44 349 ⇓*i*P **PKPbc 20 33 25.3 -0.3**
VRAC Vranov 145.44 349 PKPbc **PKPbc 20 33 25.5 -0.1**
VRAC Vranov 145.44 349 PKPbc **PKPbc 20 33 25.5 -0.1**
comp=Z,40nm,1.1s,baz=7.6,slow=3.1,SNR=41
DOU Doubes 145.48 3 PKP **PKPbc 20 33 25.3 -0.3**
PETR Petresti 145.49 335 ⇓*i*P **PKPdf 20 33 24.4 -1.3**
CFR Carcaliu 145.54 333 ⇓PKIKP **PKPdf 20 33 25.1 -0.7**
CFR Carcaliu 145.54 333 ⇓*i*P **PKPdf 20 33 25.1 -0.7**
VRI Vrincioaia 145.57 335 ⇓PKIKP **PKPdf 20 33 25.5 -0.4**
VRI Vrincioaia 145.57 335 ⇓*i*P **PKPdf 20 33 25.5 -0.4**
PLOR Plostina 145.62 336 ⇑PKIKP **PKPdf 20 33 25.9 -0.1**
PLOR Plostina 145.62 336 ⇑*i*P **PKPdf 20 33 25.9 -0.1**
TREC Trest 145.65 350 *e*PKIKP **PKPdf 20 33 25.9 -0.1**
TREC *e* 20 33 32.1
TREC Trest 145.65 350 *e*PKP **PKPdf 20 33 25.9 -0.1**
TREC *e*pPKP **PKiKP 20 33 32.1 +2.1**
GRFO Grafenberg 145.78 355 *e*PKIKP **PKPdf 20 33 26.4 +0.2**
GRFO Grafenberg 145.78 355 *e*PKPdf **PKPdf 20 33 26.4 +0.2**
KMBO Kilima Mbogo 145.91 244 *e*PKPdf **PKPdf 20 33 28.1 +0.3**
KMBO PKPbc **PKPdf 20 33 28.4 +0.7**
KMBO Kilima Mbogo 145.91 244 PKPbc **PKPdf 20 33 28.4 +0.7**
comp=Z,9.2nm,1.1s,baz=83,slow=3.3,SNR=23
WLF Walferdange 145.96 1 PKP **PKPab 20 33 27.6 0.0**
WLF Walferdange 145.96 1 *e*PKP2 **PKPab 20 33 27.7 0.0**
WLF Walferdange 145.96 1 *e*PKPdf **PKPab 20 33 27.7 0.0**
TIRR Tirgusor 145.99 332 ⇑PKP2 **PKPdf 20 33 27.1 +0.5**
TIRR Tirgusor 145.99 332 ⇑*i*P **PKPdf 20 33 27.1 +0.5**
PSZ Piszkesteto 146.03 345 *e*PKP2 **PKPdf 20 33 26.7 0.0**
PSZ Piszkesteto 146.03 345 ⇓*i*P **PKPdf 20 33 27.1 +0.4**
PSZ Piszkesteto 146.03 345 *e*PKPdf **PKPdf 20 33 26.7 0.0**
PSZ Piszkesteto 146.03 345 ⇓*e* **PKPbc 20 33 27.6 +0.1**
SMOL Smolenice 146.04 348 *e*PKP2 **PKPab 20 33 28.1 0.0**
SMOL Smolenice 146.04 348 *e*PKP **PKPab 20 33 28.0 0.0**
TLB Topalu 146.05 333 ⇓PKP2 **PKPdf 20 33 27.1 +0.4**
TLB Topalu 146.05 333 ⇓*i*P **PKPdf 20 33 27.1 +0.4**
BST Brest 146.06 13 PKP **PKPdf 20 33 26.9 +0.3**
KHC Kasperske Hory 146.09 352 *e*PKP2 **PKPdf 20 33 26.6 -0.1**
KHC Kasperske Hory 146.09 352 *e*PKP **PKPdf 20 33 27.1 +0.4**
KHC AMS AMS 21 44 20.0
comp=Z,300nm,22.1s
KHC Kasperske Hory 146.09 352 *e*PKPdf **PKPdf 20 33 26.6 -0.1**
MLR Muntele Rosu 146.19 336 ⇓*i*P **PKPdf 20 33 27.3 +0.2**
MLR Muntele Rosu 146.19 336 PKPbc **PKPdf 20 33 27.4 +0.2**
MLR Muntele Rosu 146.19 336 PKPbc **PKPdf 20 33 27.4 +0.2**
comp=Z,12nm,1.1s,baz=54,slow=2.3,SNR=34
DRGR 146.24 341 ⇓PKP2 **PKPdf 20 33 27.4 +0.3**
DRGR 146.24 341 ⇓*i*P **PKPdf 20 33 27.4 +0.3**
AMRR Amara 146.34 334 ⇑PKP2 **PKPab 20 33 29.7 +0.5**
AMRR Amara 146.34 334 ⇑*i*P **PKPab 20 33 29.7 +0.5**
GERES GERESS Array B 146.35 352 PKPbc **PKPdf 20 33 27.8 +0.5**
GERES GERESS Array B 146.35 352 PKPbc **PKPdf 20 33 27.8 +0.5**
comp=Z,225nm,1.0s,baz=36,slow=2.5,SNR=117
ZST Bratislava 146.41 348 *e*PKP2 **PKPbc 20 33 28.8 +0.3**
ZST Bratislava 146.41 348 *e*PKP **PKPbc 20 33 28.8 +0.3**
BR131 Keskin Array S 146.57 321 *e*PKPbc **PKPdf 20 33 28.5 +0.5**
BRTR Keskin Array B 146.57 321 PKPbc **PKPdf 20 33 28.1 +0.1**
BRTR Keskin Array B 146.57 321 PKPbc **PKPdf 20 33 28.1 +0.1**
comp=Z,19nm,0.9s,baz=113,slow=1.8,SNR=66
VOIR 146.59 337 ⇓PKP2 **PKPbc 20 33 29.3 0.0**
VOIR 146.59 337 ⇓*i*P **PKPbc 20 33 29.3 0.0**
LANF Langenberg 146.65 359 PKP **PKPbc 20 33 29.3 +0.1**
BUD Budapest 146.65 345 ⇓*e*PKPdf **PKPdf 20 33 27.6 -0.1**
PSN Preselentsi 146.69 332 P **PKPdf 20 33 28.1 +0.3**
ARR Arges 146.80 337 ⇓*i*P **PKPbc 20 33 30.3 +0.4**
PKSG 146.80 346 ⇓*e* **PKPbc 20 33 30.1 +0.2**
CONA Conrad Observa 146.90 349 ⇑*i* PKPab **PKPdf 20 33 28.5 +0.3**
comp=Z,57nm,1.0s,SNR=33
PKSN Nyarlorinc 146.98 344 ⇑*e*PKPdf **PKPdf 20 33 29.1 +0.9**
ANTO Ankara 146.98 322 *e*PKIKP **PKPdf 20 33 28.3 -0.3**
ANTO Ankara 146.98 322 ⇓*i*P **PKPbc 20 33 30.5 -0.1**
ANTO Ankara 146.98 322 *e*PKPdf **PKPdf 20 33 28.3 -0.3**
SOP Sopron 147.01 348 ⇓*e* **PKPbc 20 33 30.5 +0.2**
PKS7 Kunszentmiklos 147.02 345 ⇑*e* **PKPbc 20 33 30.4 +0.1**
SIRR Siria 147.03 341 ⇓*i*P **PKPbc 20 33 30.1 -0.3**
PKST T``s 147.10 346 ⇓*e* **PKPdf 20 33 28.6 +0.1**
MOA Molln 147.24 351 *i* PKPab **PKPbc 20 33 31.0 0.0**
comp=Z,58nm,1.2s,SNR=20
HUMR Humele 147.38 336 ⇓*i*P **PKPdf 20 33 29.6 +0.6**
THEF They Montfort 147.39 1 PKP **PKPbc 20 33 30.8 -0.6**
ECH Echery 147.42 360 *e*PKP2 **PKPbc 20 33 31.2 -0.3**
ECH Echery 147.42 360 PKP **PKPbc 20 33 31.0 -0.5**
ECH Echery 147.42 360 *e*PKPbc **PKPbc 20 33 31.2 -0.3**
PRD Provadia 147.43 332 P **PKPdf 20 33 29.5 +0.4**
GZR Gura Zlata 147.44 339 ⇓PKIKP **PKPbc 20 33 31.1 -0.6**
GZR Gura Zlata 147.44 339 ⇓*i*P **PKPbc 20 33 31.1 -0.6**
PKS2 Kecel 147.52 344 ⇑*e* **PKPbc 20 33 32.1 +0.4**
ARSA Arzberg 147.62 349 ⇑*i* PKPbc **PKPdf 20 33 29.4 +0.1**
comp=Z,37nm,1.1s,SNR=16
BZS Buzias 147.63 341 ⇓PKP2 **PKPbc 20 33 31.6 -0.5**
BZS Buzias 147.63 341 ⇓*i*P **PKPbc 20 33 31.5 -0.5**
PKS9 Tamasi 147.67 346 ⇑*e* **PKPbc 20 33 32.0 -0.1**
FELD Feldberg im Sc 147.75 359 PKP **PKPbc 20 33 32.3 -0.2**
MOF Molkenrain 147.78 360 PKP **PKPbc 20 33 31.4 -1.1**
RETA Reutte 148.00 355 *i* PKPab **PKPbc 20 33 32.9 -0.2**
comp=Z,51nm,1.2s,SNR=16
MOTA Moosalm 148.12 355 ⇑*i* PKPdf **PKPdf 20 33 30.1 -0.2**
comp=Z,35nm,1.0s,SNR=16
BEHE Becsehely 148.12 347 ⇓*e* **PKPbc 20 33 33.3 -0.1**
SOKA Soboth 148.26 350 *i* PKiKP **PKPbc 20 33 33.5 -0.3**
comp=Z,56nm,1.1s,SNR=22
DAVA Damuels 148.26 356 *i* PKiKP **PKPbc 20 33 33.8 -0.1**
comp=Z,61nm,1.1s,SNR=19
LOMF Lomont 148.28 0 PKP **PKPbc 20 33 33.6 -0.3**
PERS Pernice 148.28 349 *i* PKPdf **PKPdf 20 33 29.4 -1.1**
PERS *i* PKPbc **PKPbc 20 33 33.0 -0.9**
JMB Yambol 148.37 332 P **PKPdf 20 33 30.8 +0.1**
JMB Yambol 148.37 332 PKIKP **PKPdf 20 33 30.8 +0.1**
JMB Yambol 148.37 332 P **PKPdf 20 33 30.8 +0.1**
FETA Feichten 148.47 355 ⇑*i* PKPbc **PKPdf 20 33 31.1 +0.2**
comp=Z,37nm,1.1s,SNR=9.8
OBKA Obir 148.50 350 ⇑*i* PKiKP **PKPbc 20 33 33.8 -0.7**
comp=Z,24nm,1.2s,SNR=7.2
MYKA Terra Mystica 148.53 351 *i* PKPbc **PKPbc 20 33 33.5 -1.0**
comp=Z,45nm,1.3s,SNR=12
ABTA Abfaltersbach 148.56 353 ⇑*i* PKiKP **PKPbc 20 33 34.2 -0.4**
comp=Z,60nm,1.0s,SNR=15
DAVOX Davos/Dischmat 148.77 356 PKPbc **PKPbc 20 33 35.3 0.0**
DAVOX Davos/Dischmat 148.77 356 PKPbc **PKPbc 20 33 35.3 0.0**
comp=Z,25nm,0.9s,baz=320,slow=3.3,SNR=22
EDRB Edirne 148.79 331 P **PKPbc 20 33 34.2 -1.0**
EDRB Edirne 148.79 331 P **PKPbc 20 33 34.2 -1.0**
MPEP Malo Peshtene 148.85 336 P **PKPbc 20 33 34.1 -1.3**
TUE Stuetta 149.10 357 *e*PKPdf **PKPdf 20 33 32.2 +0.2**
TUE *e*PKPbc **PKPbc 20 33 35.9 -0.3**
VISS Visnje 149.14 349 *i* PKPdf **PKPdf 20 33 31.8 -0.1**
VISS *i* PKPbc **PKPbc 20 33 35.5 -0.5**
JAVS Javornik 149.18 350 *i* PKPdf **PKPdf 20 33 31.3 -0.7**
JAVS *i* PKPbc **PKPbc 20 33 35.5 -0.7**
PGB Panagyurishte 149.35 335 P **PKPbc 20 33 36.1 -0.6**
BOJS Bojanci 149.35 349 *i* PKPdf **PKPdf 20 33 32.4 +0.2**
BOJS *i* PKPbc **PKPbc 20 33 36.5 0.0**
AGO Saint Agoulin 149.40 5 PKP **PKPbc 20 33 35.8 -0.9**
TRI Trieste 149.41 351 *e*PKP2 **PKPbc 20 33 36.2 -0.5**
TRI Trieste 149.41 351 *e*PKPbc **PKPbc 20 33 36.2 -0.5**
PLD Plovdiv 149.49 334 P **PKPbc 20 33 36.0 -1.0**
PLD Plovdiv 149.49 334 PKP2 **PKPbc 20 33 36.0 -1.0**
PLD Plovdiv 149.49 334 P **PKPbc 20 33 36.0 -1.0**
DIVS Divibare 149.50 342 P **PKPbc 20 33 35.9 -1.2**
PLDF La Plantade 149.53 5 PKP **PKPbc 20 33 36.8 -0.3**
CSS Prodhromos 149.55 314 P **PKPbc 20 33 36.8 -0.6**
CSS Prodhromos 149.55 314 P **PKPbc 20 33 36.8 -0.6**
KDZ Kurdzhali 149.55 332 P **PKPbc 20 33 36.1 -1.1**
ISP Isparta 149.66 321 ⇓PKP2 **PKPbc 20 33 36.4 -1.3**
ISP Isparta 149.66 321 ⇓*i*P **PKPbc 20 33 36.4 -1.3**
PYM Petit Puy Mans 149.69 6 PKP **PKPbc 20 33 36.8 -0.7**
VTS Vitosha 149.70 336 P **PKPbc 20 33 37.1 -0.6**
VTS Vitosha 149.70 336 PKP2 **PKPbc 20 33 37.1 -0.6**
VTS Vitosha 149.70 336 ⇓*i*P **PKPbc 20 33 37.3 -0.4**
VTS Vitosha 149.70 336 P **PKPbc 20 33 37.1 -0.6**
VTS Vitosha 149.70 336 P **PKPbc 20 33 37.1 -0.6**
ALN Alexandroupoli 149.86 331 P **PKPbc 20 33 36.4 -1.5**
ALN Alexandroupoli 149.86 331 PKP2 **PKPbc 20 33 36.4 -1.5**
ALN Alexandroupoli 149.86 331 P **PKPbc 20 33 36.4 -1.5**
FRNF Fournols 150.00 6 PKP **PKPbc 20 33 38.7 +0.5**
KULA Kula-Manisa 150.27 324 P **PKPbc 20 33 38.0 -1.1**
KULA Kula-Manisa 150.27 324 P **PKPbc 20 33 38.0 -1.1**
SSB Saint Sauveur 150.28 4 *e*PKIKP **PKPdf 20 33 34.2 +0.5**
SSB *e* 20 33 39.2
SSB Saint Sauveur 150.28 4 PKP **PKPbc 20 33 39.2 +0.3**
SSB Saint Sauveur 150.28 4 *e*PKPdf **PKPdf 20 33 34.2 +0.5**
SSB *e*PKPbc **PKPbc 20 33 39.2 +0.3**
MMB Musomiste 150.33 334 P **PKPbc 20 33 38.4 -0.7**
KKB Krupnik 150.36 335 P **PKPbc 20 33 38.4 -0.8**
SMTH Samothraki Isl 150.43 331 P **PKPbc 20 33 37.9 -1.5**
SMTH Samothraki Isl 150.43 331 *e*P **PKPbc 20 33 38.2 -1.2**
SMTH Samothraki Isl 150.43 331 P **PKPbc 20 33 37.9 -1.5**
NVR Nevrokopi 150.47 334 P **PKPbc 20 33 38.4 -1.1**
NVR Nevrokopi 150.47 334 P **PKPbc 20 33 38.4 -1.1**
KAVA Kavala 150.48 333 P **PKPbc 20 33 38.0 -1.4**
KAVA Kavala 150.48 333 P **PKPbc 20 33 38.0 -1.4**
BNI Bardonecchia 150.58 1 *e*PKIKP **PKPdf 20 33 33.6 -0.7**
BNI *e* 20 33 40.9
BNI Bardonecchia 150.58 1 *e*PKPdf **PKPdf 20 33 33.6 -0.7**
BNI *e*PKPbc **PKiKP 20 33 40.9 +0.4**
SRS Serrai 150.78 334 P **PKPbc 20 33 38.4 -1.8**
SRS Serrai 150.78 334 PKIKP **PKPbc 20 33 38.4 -1.8**
SRS Serrai 150.78 334 P **PKPbc 20 33 38.4 -1.8**
SKO Skopje 150.90 338 P **PKPbc 20 33 40.3 -0.1**
SKO Skopje 150.90 338 PKIKP **PKPbc 20 33 40.3 -0.1**
SKO Skopje 150.90 338 P **PKPbc 20 33 40.3 -0.1**
PRK Paraskevi 151.01 328 P **PKPbc 20 33 39.2 -1.5**
PRK Paraskevi 151.01 328 PKIKP **PKPbc 20 33 39.2 -1.5**
PRK Paraskevi 151.01 328 P **PKPbc 20 33 39.2 -1.5**
OG26 St.-Nazaire-De 151.02 3 PKP **PKPbc 20 33 41.2 +0.5**
KNT Kendrikon 151.03 335 P **PKPbc 20 33 38.9 -1.9**
KNT Kendrikon 151.03 335 PKIKP **PKPbc 20 33 38.9 -1.9**
KNT Kendrikon 151.03 335 P **PKPbc 20 33 38.9 -1.9**
LIA Limnos Island 151.05 330 P **PKPdf 20 33 34.1 -0.9**
LIA Limnos Island 151.05 330 *e*P **PKPdf 20 33 37.0 +2.0**
LIA Limnos Island 151.05 330 P **PKPdf 20 33 34.1 -0.9**
SOH Sokhos 151.12 334 P **PKPbc 20 33 39.2 -1.8**
SOH Sokhos 151.12 334 PKIKP **PKPbc 20 33 39.2 -1.8**
SOH Sokhos 151.12 334 P **PKPbc 20 33 39.2 -1.8**
POLO Lamas de Olo 151.21 24 *e*PKPbc **PKPbc 20 33 41.8 +0.5**
PDG Podgorica 151.24 341 P **PKPbc 20 33 39.8 -1.3**
TTG Podgorica 151.24 341 PKIKP **PKPbc 20 33 39.8 -1.3**
TTG Podgorica 151.24 341 P **PKPbc 20 33 39.8 -1.3**
OUR Ouranopolis 151.25 333 P **PKPbc 20 33 39.4 -1.8**
OUR Ouranopolis 151.25 333 PKIKP **PKPbc 20 33 39.4 -1.8**
OUR Ouranopolis 151.25 333 P **PKPbc 20 33 39.4 -1.8**
VLC Villacollemand 151.34 355 *e*PKPbc **PKPbc 20 33 40.7 -0.7**
THE Thessaloniki 151.45 334 P **PKPbc 20 33 39.9 -1.8**
THE Thessaloniki 151.45 334 PKIKP **PKPbc 20 33 39.9 -1.8**
THE Thessaloniki 151.45 334 P **PKPbc 20 33 39.9 -1.8**
PHP Peshkopia 151.51 339 P **PKPbc 20 33 40.6 -1.3**
PHP Peshkopia 151.51 339 PKIKP **PKPbc 20 33 40.6 -1.3**
PHP Peshkopia 151.51 339 P **PKPbc 20 33 40.6 -1.3**
TOUF Mont Tournerai 151.62 360 PKP **PKPbc 20 33 41.6 -0.7**
AUTN L'Aution 151.64 360 PKP **PKPbc 20 33 42.0 -0.4**
SAOF Saorge 151.65 359 PKP **PKPbc 20 33 40.7 -1.4**
MVO Moncorvo 151.68 23 *e*PKPbc **PKPbc 20 33 42.6 +0.3**
MVIF Mont Vial 151.74 360 PKP **PKPbc 20 33 42.0 -0.5**
LUCF Luceram 151.74 360 PKP **PKPbc 20 33 41.6 -0.8**
CHOS Chios island 151.77 327 P **PKPbc 20 33 40.9 -1.7**
CHOS Chios island 151.77 327 *e*P **PKPbc 20 33 41.4 -1.2**
CHOS Chios island 151.77 327 P **PKPbc 20 33 40.9 -1.7**
SMG Samos 151.85 325 P **PKPbc 20 33 40.9 -1.9**
SMG Samos 151.85 325 *e*P **PKPbc 20 33 41.9 -0.9**
SMG Samos 151.85 325 P **PKPbc 20 33 40.9 -1.9**
CALN Calern 151.88 0 PKP **PKPbc 20 33 42.0 -0.8**
**REVF Revere 151.89

APE	Apeiranthos	153.03 326	⇓*i*P		PKPbc	20 33 43.3	-2.2
APE	Apeiranthos	153.03 326	P		PKPbc	20 33 43.0	-2.5
AGG	Agios Georgios	153.06 333	P		PKPdf	20 33 35.4	-2.7
AGG	Agios Georgios	153.06 333	PKIKP		PKPdf	20 33 35.4	-2.7
AGG	Agios Georgios	153.06 333	*e*P		PKPbc	20 33 43.7	-1.7
AGG	Agios Georgios	153.06 333	P		PKPdf	20 33 35.4	-2.7
AXAR	Agios Charalam	153.12 332	P		PKPdf	20 33 36.6	-1.6
AXAR	Agios Charalam	153.12 332	P		PKPdf	20 33 36.6	-1.6
PTL	Penteli	153.13 330	P		PKPbc	20 33 43.8	-1.8
PTL	Penteli	153.13 330	P		PKPbc	20 33 43.8	-1.8
MAKR	Makrakomi, Fth	153.15 333	P		PKPbc	20 33 44.4	-1.2
MAKR	Makrakomi, Fth	153.15 333	P		PKPbc	20 33 44.4	-1.2
KARP	Karpathos	153.18 322	P		PKPbc	20 33 43.2	-2.6
KARP	Karpathos	153.18 322	P		PKPbc	20 33 43.2	-2.6
EVR	Evrytania	153.37 334	P		PKPbc	20 33 44.3	-1.9
EVR	Evrytania	153.37 334	P		PKPbc	20 33 44.3	-1.9
LTK	Loutraki	153.58 331	P		PKPdf	20 33 42.7	+3.8
LTK	Loutraki	153.58 331	P		PKPdf	20 33 42.7	+3.8
TRIZ	Trizonia	153.71 333	P		PKPbc	20 33 46.0	-0.8
EFP	Efpalio	153.73 333	P		PKPbc	20 33 46.3	-0.6
DID	Didima	153.87 330	P		PKPbc	20 33 44.9	-2.4
DID	Didima	153.87 330	P		PKPbc	20 33 44.9	-2.4
DIDY	Didyma	153.90 330	P		PKPbc	20 33 45.7	-1.7
KLV	Kalavryta, Ach	153.94 332	P		PKPbc	20 33 46.2	-1.2
KLV	Kalavryta, Ach	153.94 332	P		PKPbc	20 33 46.2	-1.2
GUR	Goura	153.94 332	P		PKPbc	20 33 46.3	-1.2
GUR	Goura	153.94 332	P		PKPbc	20 33 46.3	-1.2
ZKR	Zakros	154.04 322	P		PKPbc	20 33 47.2	-0.5
ZKR	Zakros	154.04 322	P		PKPbc	20 33 47.2	-0.5
ESDC	Sonseca Array	154.08 20	PKP		PKPdf	20 33 39.9	+0.3
ESDC			PKPab		PKPab	20 34 00.8	-0.4
ESDC	Sonseca Array	154.08 20	PKP		PKPdf	20 33 39.9	+0.3
	comp=Z,0.5nm,0.7s,baz=352,slow=2.3,SNR=7.3						
ESDC			PKPab		PKPab	20 34 00.8	-0.4
	comp=Z,5.5nm,0.9s,baz=326,slow=3.4,SNR=21						
ESLA	Sonseca Array	154.08 20	*e*PKPab		PKPab	20 34 01.1	0.0
DRO	Drossia	154.21 333	P		PKPbc	20 33 48.2	+0.2
PBAR	Barrancos	154.23 26	*e*PKPbc		PKPbc	20 33 48.0	0.0
RLS	Riolos of Patr	154.23 333	P		PKPbc	20 33 48.0	+0.1
RLS	Riolos of Patr	154.23 333	P		PKPbc	20 33 48.0	+0.1
LAST	Lasithi	154.44 323	P		PKPdf	20 33 40.0	-0.3
LAST	Lasithi	154.44 323	P		PKPdf	20 33 40.0	-0.3
VLS	Valsamata	154.50 335	P		PKPbc	20 33 48.0	-0.6
VLS	Valsamata	154.50 335	P		PKPbc	20 33 48.0	-0.6
SIVA	Sivas	154.93 324	P		PKPbc	20 33 49.3	-0.2
SIVA	Sivas	154.93 324	P		PKPbc	20 33 49.3	-0.2
VAM	Vamos	154.98 325	P		PKPbc	20 33 49.6	0.0
VAM	Vamos	154.98 325	P		PKPbc	20 33 49.6	0.0
DBIC	Dimbokro	165.33 126	PKP		PKPdf	20 33 51.9	-1.1
DBIC	Dimbokro	165.33 126	PKP		PKPdf	20 33 51.9	-1.1
	comp=Z,8.0nm,1.1s,baz=147,slow=4.9,SNR=3.6						
TORD	Torodi Ar. Bea	174.25 114	PKP		PKPdf	20 33 57.3	-0.9
TORD			PKPab		PKPab	20 35 30.3	0.0
TORD	Torodi Ar. Bea	174.25 114	PKP		PKPdf	20 33 57.3	-0.9
	comp=Z,5.7nm,1.2s,baz=282,slow=1.9,SNR=15						
TORD			PKPab		PKPab	20 35 30.3	0.0
	comp=Z,1.6nm,1.1s,baz=264,slow=3.2,SNR=5.6						

MEX 01 20:14:58.5±0.3, 16°21N×95°55W, h71km±5km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.70	231	*i* P		Pn	20 15 12.2	-1.3
HUIG				*i* S		Sn	20 15 22.8	-1.8
VHO	Vista Hermosa	1.43	307	*i* P		Pn	20 15 21.4	-1.4
VHO				*i* S		Sn	20 15 39.2	-1.9
PCIG		2.29	102	*i* P		Pn	20 15 32.9	-1.2
PCIG				*i* S		Sn	20 15 59.6	-1.8
PNIG	Pinotepa	2.49	275	*i* P		Pn	20 15 35.6	-1.2
PNIG				*i* S		Sn	20 16 04.5	-1.6

IDC 01 20:16:52.5±2.0, 15°30S×173°11W, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.9/21, mbtmp3.9/5, Error ellipse: s-maj=116.4km s-min=27.3km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	Stephens Creek	44.33	240	P		P	20 25 04.5	-0.1
	2.3nm,0.9s,baz=146,slow=2.1,SNR=3.3							
WRA	Warramunga Arr	50.14	257	P		P	20 25 49.4	-0.7
	0.9nm,0.7s,baz=91,slow=6.7,SNR=5.4							
ASAR	Alice Springs	50.41	252	P		P	20 25 52.0	-0.2
	2.1nm,0.6s,baz=87,slow=7.6,SNR=9.2							
TXAR	Lajitas Array	80.33	56	P		P	20 29 05.9	-0.1
	0.2nm,0.4s,baz=225,slow=5.0,SNR=2.5							
ILAR	Eielson Array	82.30	11	P		P	20 29 14.8	-0.7
	0.5nm,0.6s,baz=212,slow=6.4,SNR=3.4							
BRTR	Keskin Array B	146.26	321	PKPbc		PKPab	20 36 36.3	+0.1
	1.0nm,0.8s,baz=83,slow=3.6,SNR=3.7							

IDC 01 20:22:53.8±0.8, 15°08S×173°79W, h0km, mb4.3/9, mb1 4.5/9, mb1mx4.2/20, mbtmp4.3/9, MS4.3/4, Ms1 4.3/4, ms1mx3.8/32, Error ellipse: s-maj=32.7km s-min=20.1km az=150.0

NEIC 01 20:22:55.4±0.3, 15°07S×173°78W, h10km, mb4.6/5, Error ellipse: s-maj=14.7km s-min=9.4km az=136.0

ISCJB 01 20:23:01.8±0.5, 15°0S±0°1×173°9W±0°1, h73km, mb4.4/15, Error ellipse: s-maj=21.9km s-min=12.6km az=136.1

ISC 01 20:23:03.6±0.6, 15°1S±0°1×173°8W±0°1, h73km, n59, σ0°89/44, mb4.3/15, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.23	60	Pn		Pn	20 23 25.6	-13
AFI				Sn		Sn	20 23 45.6	-20
AFI	Afiamalu	2.23	60	Pn		Pn	20 23 25.6	-13
	86nm,0.3s,baz=61,slow=3.5,SNR=15							
AFI				Sn		Sn	20 23 45.6	-20
	277nm,0.3s,baz=18,slow=22,SNR=17							
RAR	Rarotonga	14.63	117	LR		LR	20 30 31.7	
	comp=Z,700nm,18.6s,baz=270,slow=31							
DZM	Mont Dzumac	20.01	247	*e*P		Pn	20 27 35.1	+2.0
	64nm,1.6s							
PPT2	Papeete2	23.34	100	*e*LQ		LQ	20 32 32.0	
	989nm,27.0s							
PPT2				*e*LR		LR	20 33 35.6	
	655nm,28.2s							
TBI	Tubuai	24.36	114	*e*LQ		LQ	20 33 00.1	
	639nm,26.8s							
TBI				*e*LR		LR	20 33 59.6	
	798nm,27.2s							
HNR	Honiara	26.28	279	LR		LR	20 36 34.3	
	comp=Z,358nm,20.3s,baz=269,slow=31							
RKT	Rikitea	37.43	108	*e*LR		LR	20 40 07.6	
	327nm,25.8s							
H11S2	WAKE ISLAND Hy	38.49	329	T		T	21 11 06.0	
	baz=152,slow=0.7,SNR=44							
H11S3	WAKE ISLAND Hy	38.50	329	T		T	21 11 07.0	
	baz=152,slow=0.7,SNR=52							
H11S1	WAKE ISLAND Hy	38.50	329	T		T	21 11 07.7	
	baz=152,slow=0.7,SNR=47							
H11N3	WAKE ISLAND Hy	39.44	331	T		T	21 12 21.2	
	baz=151,slow=0.7,SNR=45							
H11N1	WAKE ISLAND Hy	39.44	331	T		T	21 12 20.4	
	baz=151,slow=0.7,SNR=47							
H11N2	WAKE ISLAND Hy	39.45	331	T		T	21 12 21.4	
	baz=151,slow=0.7,SNR=51							
WRA	Warramunga Arr	49.59	256	P		P	20 31 46.4	-1.5
WRA	Warramunga Arr	49.59	256	P		P	20 31 46.4	-1.5
	1.1nm,0.5s,baz=90,slow=7.2,SNR=43							
AS31	Alice Springs	49.89	252	*e*P		P	20 31 48.5	-1.7
ASAR	Alice Springs	49.89	252	P		P	20 31 48.6	-1.5
ASAR	Alice Springs	49.89	252	P		P	20 31 48.6	-1.5
	6.1nm,0.5s,baz=90,slow=7.6,SNR=88							
SBA	Scott Base	63.57	185	P		P	20 33 25.4	-0.7
	8.3nm,1.8s							
MJAR	Matsushiro Arr	68.45	320	P		P	20 33 58.0	-0.1
MJAR	Matsushiro Arr	68.45	320	P		P	20 33 58.0	-0.1
	0.5nm,0.5s,baz=152,slow=8.0,SNR=4.0							
TGY	Tagaytay City	70.78	291	LR		LR	20 59 49.7	
	comp=Z,146nm,21.2s,baz=178,slow=31							
PETK	Petropavlovsk-	72.19	342	P		P	20 34 20.8	+0.2
PETK	Petropavlovsk-	72.19	342	P		P	20 34 20.8	+0.2
	5.7nm,0.8s,baz=119,slow=14,SNR=4.4							
NVAR	Mina Array Bea	74.30	42	P		P	20 34 32.6	-1.0
NVAR	Mina Array Bea	74.30	42	P		P	20 34 32.6	-1.0
	0.5nm,0.4s,baz=234,slow=7.6,SNR=13							
QSPA	South Pole Qui	74.99	180	*e*P		P	20 34 37.4	+0.4
HLID	Hailey	79.58	39	*e*P		P	20 35 03.4	+0.4
	4.2nm,1.0s							
HWUT	Hardware Ranch	80.37	42	*e*P		P	20 35 05.4	-2.0
TXAR	Lajitas Array	80.70	56	P		P	20 35 10.1	+0.8
TXAR	Lajitas Array	80.70	56	P		P	20 35 10.1	+0.8
	2.6nm,1.0s,baz=235,slow=5.8,SNR=10.0							
PV01	Paradox Valley	80.73	46	*e*P		P	20 35 09.5	0.0
	1μm,1.5s							
ANMO	Albuquerque	80.84	50	P		P	20 35 10.7	+0.6
ANMO	Albuquerque	80.84	50	P		P	20 35 10.7	+0.6
	1.1nm,0.5s,baz=185,slow=4.6,SNR=5.7							
MCMT	McKenzie Canyo	81.20	39	*e*P		P	20 35 12.2	+0.4
	5.1nm,1.5s							
COLA	College	82.08	11	*e*P		P	20 35 15.3	-0.4
	69nm,1.0s							
IM04	Indian Mountai	82.16	8	*e*P		P	20 35 16.4	+0.3
ILAR	Eielson Array	82.17	11	P		P	20 35 15.7	-0.4
ILAR	Eielson Array	82.17	11	P		P	20 35 15.7	-0.4
	5.2nm,1.1s,baz=210,slow=5.9,SNR=17							
PDAR	Pinedale Array	82.24	42	LR		LR	21 07 20.6	
	comp=Z,422nm,18.6s,baz=243,slow=32							
BOZ	Bozeman (W)	82.36	39	*e*P		P	20 35 17.9	+0.1
	9.9nm,1.6s							
ABTX	Abilene, Hawle	85.14	55	*e*P		P	20 35 32.1	0.0
MAW	Mawson	88.01	199	P		P	20 35 45.6	+0.1
MAW	Mawson	88.01	199	P		P	20 35 45.6	+0.1
	2.2nm,0.9s,baz=69,slow=4.2,SNR=2.6							
ARCES	ARCESS Array B	124.22	352	PKP		PKPdf	20 41 54.1	+0.8
ARCES	ARCESS Array B	124.22	352	PKP		PKPdf	20 41 54.1	+0.8
	3.2nm,1.0s,baz=20,slow=3.9,SNR=4.2							
KHC	Kasperske Hory	145.48	351	*e*PKP		PKPbc	20 42 33.5	-0.1
KHC	Kasperske Hory	145.48	351	*e*PKPdf		PKPab	20 42 34.2	+0.4
BR131	Keskin Array S	145.67	321	*e*PKPbc		PKPab	20 42 36.1	+1.0
BRTR	Keskin Array B	145.67	321	PKPbc		PKPab	20 42 36.0	+1.0
BRTR	Keskin Array B	145.67	321	PKPbc		PKPab	20 42 36.0	+1.0
	4.2nm,0.9s,baz=96,slow=1.2,SNR=16							
GERES	GERESS Array B	145.74	351	PKPbc		PKPab	20 42 34.7	-0.2
GERES	GERESS Array B	145.74	351	PKPbc		PKPab	20 42 34.7	-0.2
	0.9nm,0.7s,baz=29,slow=3.0,SNR=9.2							
TUE	Stuetta	148.56	356	*e*PKPbc		PKPab	20 42 44.6	-1.5
ESDC	Sonseca Array	153.89	18	PKPab		PKPab	20 43 07.9	-0.4
ESDC	Sonseca Array	153.89	18	PKPab		PKPab	20 43 07.9	-0.4
	0.3nm,0.6s,baz=316,slow=4.2,SNR=5.0							
TORD	Torodi Ar. Bea	175.20	113	PKPab		PKPab	20 44 42.5	0.0
TORD	Torodi Ar. Bea	175.20	113	PKPab		PKPab	20 44 42.5	0.0
	0.9nm,1.1s,baz=241,slow=1.5,SNR=3.1							

IDC 01 20:25:22.4±0.5, 15°41S×173°41W, h0km, mb4.5/19, mb1 4.7/19, mb1mx4.6/26, mbtmp4.5/19, MS4.6/7, Ms1 4.5/7, ms1mx4.1/28, Error ellipse: s-maj=23.9km s-min=13.7km az=129.0

NEIC 01 20:25:24.1±0.2, 15°35S×173°48W, h10km, mb5.0/41, Error ellipse: s-maj=10.6km s-min=5.3km az=134.0

MOS 01 20:25:26.8±1.2, 15°35S×173°51W, h33km, mb5.2/9, Error ellipse: s-maj=19.4km s-min=11.9km az=65.5

ISCJB 01 20:25:27.1±0.2, 15°34S±0°07×173°58W±0°07, h42km, mb4.8/59, MS4.5/6, Error ellipse: s-maj=12.3km s-min=5.8km az=139.0

GCMT 01 20:25:30.2±0.3, 15°45S×173°08W, h13km±1km, MW5.1, Moment Tensor Solution. s30,c33; s73,c104; Moment tensor: Scale 10^{16}Nm; M_{rr}=4.34±.28; $M_{\theta\theta}$=4.06±.20; $M_{\phi\phi}$=0.28±.16; $M_{r\theta}$=0.45±.39; $M_{\theta\phi}$=1.32±.12; $M_{\phi r}$=1.78±.50; Best double couple: M_0=4.80000×10^{16} NP1:ϕ_S125.00000°, δ54.00000°, λ-68.00000°. NP2:ϕ_S271.00000°, δ41.00000°, λ-117.00000°. Principal axes: T 4.5900, Plg7.0000°, Azm200.0000°; N 0.3600, Plg18.0000°, Azm292.0000°; P -4.9500, Plg71.0000°, Azm90.0000°; Data Used: ll IU G IC CN.

AUST 01 20:25:58.6±2.7, 16°15S×174°53W, h247km±12km Error ellipse: s-maj=44.3km s-min=21.0km az=19.0

ISC 01 20:25:28.8±0.3, 15°40S±0°09×173°5W±0°1, h42km, n466, σ0°71/442, mb4.9/59, MS4.6/6, 115C-130D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.23	49	Pn		Pn	20 25 53.4	-10
AFI				Sn		Sn	20 26 14.3	-16
AFI	Afiamalu	2.23	49	Pn		Pn	20 25 53.4	-10
	144nm,0.3s,baz=79,slow=3.4,SNR=3.8							
AFI				Sn		Sn	20 26 14.3	-16
	598nm,0.3s,baz=215,slow=22,SNR=9.2							
RAO	Raoul Island	14.37	196	LR		LR	20 33 39.9	
	comp=Z,2μm,19.1s,baz=168,slow=35							
DZM	Mont Dzumac	20.11	248	*e*P		Pn	20 30 07.3	+5.9
	125nm,1.6s							
DZM				*e*LR		LR	20 34 50.1	
	3μm,26.2s							
DZM	Mont Dzumac	20.11	248	P		P	20 29 59.7	+0.4
	134nm,1.6s							
DZM	Mont Dzumac	20.11	248	LR		LR	20 36 00.4	
	comp=Z,878nm,18.8s,baz=29,slow=32							
PPT2	Papeete2	23.04	99	*e*S		S	20 34 39.2	+0.5
	1μm,26.8s							
PPT2				*e*LR		LR	20 35 46.5	
	585nm,28.0s							
TBI	Tubuai	23.99	113	*e*LQ		LQ	20 35 14.5	
	780nm,25.8s							
TBI				*e*LR		LR	20 36 04.3	
	395nm,31.8s							
URZ	Urewera	24.23	198	P		P	20 30 41.5	-0.2
URZ	Urewera	24.23	198	P		P	20 30 41.5	-0.2
	7.3nm,0.5s,baz=4.5,slow=0.9,SNR=5.4							
URZ				LR		LR	20 38 46.7	
	comp=Z,2μm,19.4s,baz=30,slow=33							
RPZ	Rata Peaks	31.14	202	LR		LR	20 42 55.3	
	comp=Z,2μm,20.8s,baz=35,slow=34							
RKT	Rikitea	37.09	108	*e*LR		LR	20 42 08.1	
	301nm,27.2s							
H11S2	WAKE ISLAND Hy	38.91	329	T		T	21 14 28.6	
	baz=152,slow=0.7,SNR=11							
H11S3	WAKE ISLAND Hy	38.93	329	T		T	21 14 23.6	
	baz=152,slow=0.7,SNR=13							
H11S1	WAKE ISLAND Hy	38.93	329	T		T	21 14 31.7	
	baz=152,slow=0.7,SNR=11							
H11N3	WAKE ISLAND Hy	39.86	330	T		T	21 15 42.8	
	baz=152,slow=0.7,SNR=16							
H11N1	WAKE ISLAND Hy	39.87	330	T		T	21 15 39.2	
	baz=152,slow=0.7,SNR=19							
H11N2	WAKE ISLAND Hy	39.88	330	T		T	21 15 39.1	
	baz=152,slow=0.7,SNR=20							
CMSA	Cobar Meteorol	40.47	239	P		P	20 33 02.7	-0.9
	baz=39,SNR=9.4							
STKA	Stephens Creek	43.95	240	*e*P		P	20 33 29.8	-2.1
	18nm,1.9s							
STKA	Stephens Creek	43.95	240	P		P	20 33 31.4	-0.5
	baz=43,SNR=6.1							
STKA	Stephens Creek	43.95	240	P		P	20 33 30.7	-1.2
	2.4nm,0.5s,baz=79,slow=10,SNR=8.8							
STKA				LR		LR	20 50 38.6	
	comp=Z,311nm,19.9s,baz=271,slow=34							
WRA	Warramunga Arr	49.75	257	P		P	20 34 16.6	-0.9
WRA	Warramunga Arr	49.75	257	P		P	20 34 16.6	-0.9
	2.6nm,0.5s,baz=92,slow=6.6,SNR=39							
AS31	Alice Springs	50.01	252	*e*P		P	20 34 18.8	-0.7
ASAR	Alice Springs	50.02	252	P		P	20 34 18.9	-0.6
ASAR	Alice Springs	50.02	252	P		P	20 34 18.9	-0.6
	15nm,0.6s,baz=87,slow=8.2,SNR=50							
ASAR				LR		LR	20 53 28.4	
	comp=Z,810nm,21.5s,baz=244,slow=34							
SBA	Scott Base	63.24	185	*e*P		P	20 35 54.3	+1.8
SBA				pmax		pmax		
	comp=Z,35nm,1.5s							
SBA	Scott Base	63.24	185	*e*P		P	20 35 54.2	+1.8
	comp=Z,35nm,1.5s							
VNDA	Vanda	63.36	186	P		P	20 35 54.4	+1.1
VNDA	Vanda	63.36	186	P		P	20 35 54.4	+1.1
	comp=Z,3.5nm,1.0s,baz=11,slow=7.7,SNR=11							
MEEK	Meekatharra	63.72	248	P		P	20 35 55.9	-0.7
	baz=62,SNR=7.8							
KLBR	Kellerberrin	64.15	242	P		P	20 35 59.1	-0.2
	baz=63,SNR=9.2							
BLDU	Ballidu	65.10	243	P		P	20 36 05.2	-0.4
	baz=64,SNR=8.0							
MORW	Morawa	65.79	245	P		P	20 36 09.7	-0.3
	baz=64,SNR=4.1							
MJAR	Matsushiro Arr	68.88	320	P		P	20 36 29.9	+0.5
MJAR	Matsushiro Arr	68.88	320	P		P	20 36 29.9	+0.5
	comp=Z,1.6nm,0.9s,baz=144,slow=6.1,SNR=4.2							
PETK	Petropavlovsk-	72.60	342	P		P	20 36 52.1	+0.5
PETK	Petropavlovsk-	72.60	342	P		P	20 36 52.0	+0.5
PETK	Petropavlovsk-	72.60	342	P		P	20 36 52.0	+0.5
	comp=Z,6.2nm,0.9s,baz=100,slow=7.8,SNR=4.8							
YBH	Yreka Blue Hor	73.66	37	P		P	20 36 58.1	-0.2
YBH	Yreka Blue Hor	73.66	37	P		P	20 36 58.1	-0.2
	comp=Z,4.6nm,0.8s,baz=328,slow=0.8,SNR=9.1							
HEC	Hector,Ludlow	73.73	46	⇑P		P	20 36 58.5	-0.3
	baz=74							
HUMO	Hull Mountain	74.07	36	*e*P		P	20 37 00.6	+0.1
	comp=Z,12nm,1.3s							
IRM	Iron Mountain	74.21	47	⇑P		P	20 37 01.8	+0.3
	baz=74							
NVAR	Mina Array Bea	74.40	42	P		P	20 37 01.7	-1.1
NVAR	Mina Array Bea	74.40	42	P		P	20 37 01.7	-1.1
	comp=Z,2.1nm,0.8s,baz=229,slow=9.6,SNR=11							
QSPA	South Pole Qui	74.64	180	*e*P		P	20 37 04.1	+0.4
	comp=Z,39nm,1.3s							
214A	Organ Pipe Nat	74.79	50	⇓P		P	20 37 04.9	-0.1
	baz=75							
KDAK	Kodiak Island	74.94	11	P		P	20 37 04.9	-0.3
KDAK	Kodiak Island	74.94	11	P		P	20 37 04.9	-0.3
	comp=Z,13nm,0.8s,baz=179,slow=4.1,SNR=5.6							
PDMCI	Parker Dam,Lak	75.00	48	⇓P		P	20 37 06.1	+0.1
	baz=75							
MOD	Modoc	75.18	38	*e*P		P	20 37 07.2	0.0
	comp=Z,216nm,1.8s							
W13A	Hualapai Mount	75.58	47	⇑P		P	20 37 09.6	-0.1
	baz=76							
Y14A	Wickenburg	75.63	48	⇑P		P	20 37 09.5	-0.3
	baz=76							
R11A	Troy Canyon, C	76.13	43	⇑P		P	20 37 12.5	-0.2
	baz=76							
TUC	Tucson	76.47	51	*e*P		P	20 37 14.2	-0.4
TUC				pmax		pmax		
	comp=Z,9.0nm,1.1s							
TUC	Tucson	76.47	51	*e*P		P	20 37 14.2	-0.4
	comp=Z,9.0nm,1.1s							
WVOR	Wild Horse Val	76.50	39	*e*P		P	20 37 13.4	-1.2
WVOR				pmax		pmax		
	comp=Z,20nm,1.5s							
WVOR	Wild Horse Val	76.50	39	*e*P		P	20 37 13.4	-1.2
	comp=Z,20nm,1.5s							
X16A	Lo Mia Camp, P	76.99	49	⇑P		P	20 37 17.9	+0.2
	baz=77							
U15A	North Rim	77.37	46	⇑P		P	20 37 19.6	-0.3
	baz=78							
WUAZ	Wupatki	77.57	48	⇑P		P	20 37 20.9	0.0
	baz=78							
320A	Kipp Ranch, An	77.73	53	⇑P		P	20 37 22.2	+0.4
	baz=78							
220A	Playas Peak, P	77.98	52	⇑P		P	20 37 23.4	+0.2
	baz=78							
X18A	Snowflake	78.13	49	⇓P		P	20 37 24.1	+0.1
	baz=78							
120A	U Bar Ranch, L	78.19	51	⇑P		P	20 37 24.5	+0.1
	baz=78							
MVU	Marysvale	78.47	45	*e*P		P	20 37 26.3	+0.4
	comp=Z,12nm,1.3s							
Z20A	Nine Sixteen R	78.48	51	⇑P		P	20 37 25.9	0.0
	baz=79							
W18A	Petrified Fore	78.56	49	⇓P		P	20 37 26.2	-0.2
	baz=79							
BMO	Blue Mountains	78.69	37	*e*P		P	20 37 25.7	-1.1
	comp=Z,15nm,1.4s							
MFID	Camas Ranch	78.75	39	⇓P		P	20 37 27.3	+0.1
	baz=79							
121A	Cookes Peak, D	78.83	52	⇑P		P	20 37 27.7	-0.2
	baz=79							
DUG	Dugway	78.93	43	⇓P		P	20 37 28.2	-0.1
	baz=79							
Y20A	Horse Springs,	79.00	50	⇓P		P	20 37 29.4	+0.5
	baz=79							
X20A	Quemado	79.19	50	⇑P		P	20 37 29.9	0.0
	baz=79							
Z21A	St. Cloud Mine	79.25	51	⇓P		P	20 37 30.3	0.0
	baz=79							
DIV	Divide	79.42	13	*e*P		P	20 37 29.9	-0.5
	comp=Z,32nm,1.0s							
W20A	Ramah	79.46	49	⇓P		P	20 37 31.1	-0.3
	baz=80							
BMRM	Bremner River	79.54	14	*e*P		P	20 37 30.8	-0.2
	comp=Z,42nm,1.0s							
TMUT	Trail Mountain	79.54	44	*e*P		P	20 37 32.3	+0.5
	comp=Z,18nm,1.0s							
Y21A	Point of Rocks	79.56	50	⇑P		P	20 37 31.6	-0.4
	baz=80							
X21A	Alamocita Cree	79.68	50	⇓P		P	20 37 32.2	-0.4
	baz=80							
HLID	Hailey	79.69	39	*e*P		P	20 37 31.8	-0.6
	comp=Z,14nm,1.0s							
HLID	Hailey	79.69	39	⇑P		P	20 37 32.0	-0.3
	baz=80,SNR=19							
Z22A	Elephant Butte	79.76	51	⇑P		P	20 37 32.3	-0.7
	baz=80							
HVU	Hansel Valley	79.77	42	*e*P		P	20 37 32.7	-0.1
HVU				pmax		pmax		
	comp=Z,39nm,1.6s							
HVU	Hansel Valley	79.77	42	*e

Q20A **Ridgley Place,** 81.37 46 ⇑P P 20 37 41.0 -0.5
baz=82
628A **Black Gap, Mar** 81.38 56 ⇓P P 20 37 41.1 -0.5
baz=82,SNR=5.8
226B **Tecolote Peak,** 81.41 53 ⇑P P 20 37 40.8 -0.9
baz=82,SNR=12
V23A **Ortiz Mt. (NFS** 81.43 49 ⇓P P 20 37 42.1 +0.2
baz=82
O19A **Miners Draw (B** 81.43 44 ⇑P P 20 37 41.6 -0.2
baz=82
T22A **Edith** 81.47 48 ⇑P P 20 37 41.7 -0.5
baz=82
X24A **Lazy VL Ranch,** 81.47 51 ⇓P P 20 37 42.3 +0.1
baz=82
Z25A **Roswell** 81.48 52 ⇓P P 20 37 42.2 +0.1
baz=82
MENT **Mentasta** 81.48 13 *e*P P 20 37 41.3 0.0
RRI2 **Red Ridge** 81.50 41 *e*P P 20 37 40.1 -2.1
comp=Z,14nm,1.0s
427A **Hayter Ranch,** 81.51 55 ⇑P P 20 37 42.1 -0.2
baz=82,SNR=10.0
P20A **De Beque** 81.56 45 ⇑P P 20 37 42.3 -0.1
baz=82
R21A **Cimarron** 81.62 47 ⇑P P 20 37 42.7 -0.2
baz=82,SNR=6.9
528A **Cox Ranch, San** 81.72 56 ⇑P P 20 37 43.2 -0.3
baz=82,SNR=10
DLBC **Dease Lake** 81.74 21 P P 20 37 42.5 -0.4
DLBC **Dease Lake** 81.74 21 P P 20 37 42.5 -0.4
comp=Z,2.7nm,0.8s,baz=210,slow=9.3,SNR=3.5
MSO **Missoula** 81.74 37 ⇑P P 20 37 42.3 -0.8
baz=82,SNR=5.2
126A **Clayton Basin,** 81.75 53 ⇓P P 20 37 43.0 -0.5
baz=82
DLMT **Dillon** 81.75 38 *e*P P 20 37 43.3 0.0
comp=Z,33nm,1.5s
Y25A **Mesa, Roswell** 81.76 52 ⇑P P 20 37 43.4 -0.2
baz=82,SNR=5.4
W24A **Lazy 6 Ranch,** 81.77 50 ⇓P P 20 37 43.0 -0.7
baz=82,SNR=7.8
REDW **Red Top Meadow** 81.80 41 *e*P P 20 37 43.5 -0.3
comp=Z,26nm,1.4s
TPAW **Teton Pass** 81.80 41 *e*P P 20 37 43.8 0.0
comp=Z,16nm,1.1s
BSMT **Bassoo Peak** 81.82 36 *e*P P 20 37 42.8 -0.9
comp=Z,16nm,1.0s
S22A **4UR Ranch, Cre** 81.84 47 ⇑P P 20 37 43.8 -0.4
baz=82,SNR=19
M19A **Rock Springs** 81.99 43 ⇓P P 20 37 44.7 0.0
baz=82
IMW **Indian Meadow** 82.02 40 *e*P P 20 37 44.5 -0.4
comp=Z,22nm,1.3s
428A **Kincaid Ranch,** 82.03 55 ⇓P P 20 37 44.8 -0.2
baz=82
Z26A **Caprock** 82.03 52 ⇑P P 20 37 44.0 -1.0
baz=82,SNR=8.6
X25A **Clemmons Ranch** 82.04 51 ⇓P P 20 37 44.5 -0.6
baz=82
LRM **Limekiln Ridge** 82.08 38 *e*P P 20 37 44.8 -0.4
comp=Z,82nm,1.1s
LOHW **Long Hollow** 82.08 41 *e*P P 20 37 44.8 -0.4
comp=Z,28nm,1.6s
V24A **Rampart Ranch,** 82.09 50 ⇑P P 20 37 45.1 -0.3
baz=82
T23A **Casias Ranch,** 82.10 48 ⇑P P 20 37 45.1 -0.4
baz=82
R22A **Saguache, Gunn** 82.11 47 ⇑P P 20 37 45.4 -0.2
baz=82,SNR=7.6
529A **Stev Forest Ra** 82.16 56 ⇑P P 20 37 44.7 -1.0
baz=82,SNR=6.0
QLMT **Earthquake Lak** 82.18 39 *e*P P 20 37 46.2 +0.5
comp=Z,3.5nm,1.2s
328A **Wristen Ranch,** 82.19 55 ⇓P P 20 37 44.5 -1.3
baz=82,SNR=5.0
CHMT **Chamberlain Mo** 82.19 37 *e*P P 20 37 44.8 -0.9
comp=Z,10nm,1.0s
P21A **Newcastle** 82.21 46 ⇓P P 20 37 45.7 -0.3
baz=82
N20A **Spence Gulch,** 82.26 44 ⇓P P 20 37 45.3 -0.9
baz=82,SNR=6.7
127A **Arkansas Junct** 82.27 53 ⇑P P 20 37 45.9 -0.4
baz=82
Q22A **Crested Butte,** 82.29 46 ⇓P P 20 37 46.0 -0.5
baz=82,SNR=9.2
BW06 **Boulder Array** 82.33 42 *e*P P 20 37 45.8 -0.8
comp=Z,31nm,1.5s
PDAR **Pinedale Array** 82.33 42 P P 20 37 45.4 -1.1
PDAR **Pinedale Array** 82.33 42 P P 20 37 45.4 -1.1
comp=Z,6.1nm,1.1s,baz=217,slow=3.7,SNR=19
COLA **College** 82.38 11 *e*P P 20 37 45.2 -0.7
COLA pmax pmax
comp=Z,112nm,0.8s
COLA **College** 82.38 11 *e*P P 20 37 45.2 -0.7
comp=Z,112nm,0.8s
SMCO **Snowmass** 82.38 46 *e*P P 20 37 47.0 -0.1
comp=Z,13nm,1.1s
ILAR **Eielson Array** 82.47 11 P P 20 37 45.7 -0.7
ILAR **Eielson Array** 82.47 11 P P 20 37 45.7 -0.7
comp=Z,4.6nm,0.8s,baz=213,slow=5.8,SNR=33
IM04 **Indian Mountai** 82.47 8 *e*P P 20 37 46.4 -0.1
W25A **X Bar L Ranch,** 82.47 50 ⇑P P 20 37 46.3 -1.0
baz=83,SNR=9.5
BOZ **Bozeman (W)** 82.48 39 *e*P P 20 37 46.5 -0.6
BOZ pmax pmax
comp=Z,19nm,1.4s
BOZ **Bozeman (W)** 82.48 39 *e*P P 20 37 46.5 -0.6
comp=Z,19nm,1.4s
H17A **Grant Village** 82.49 40 ⇑P P 20 37 47.0 -0.3
baz=83
IMA2 **Indian Mountai** 82.58 8 *e*P P 20 37 47.2 +0.1
T24B **San Luis** 82.58 48 ⇑P P 20 37 47.4 -0.7
baz=83
429A **Davenport Ranc** 82.61 56 ⇑P P 20 37 47.4 -0.6
baz=83,SNR=12
V25A **Rancho No Teng** 82.62 50 ⇓P P 20 37 47.5 -0.6
baz=83,SNR=11
M20A **Sweetwater, Wa** 82.62 43 ⇑P P 20 37 47.7 -0.4
baz=83
Z27A **Tatum** 82.64 53 ⇑P P 20 37 47.4 -0.8
baz=83
X26A **CR and CF Fran** 82.69 51 ⇑P P 20 37 48.2 -0.2
baz=83
P22A **Eagle** 82.72 46 ⇓P P 20 37 48.0 -0.6
baz=83
R23A **Moffat** 82.75 47 ⇓P P 20 37 48.7 -0.2
baz=83,SNR=6.8
L20A **Wamsutter** 82.76 43 ⇑P P 20 37 48.8 0.0
baz=83,SNR=8.8
SDCO **Great Sand Dun** 82.79 48 *e*P P 20 37 48.9 -0.2
comp=Z,9.8nm,1.1s
K19A **Absolon Red Bu** 82.82 42 ⇑P P 20 37 47.9 -1.1
baz=83,SNR=8.2
329A **Wagon Wheel Ra** 82.88 55 ⇓P P 20 37 48.6 -0.8
baz=83,SNR=5.0
530A **J-C Ranch, Com** 82.88 56 ⇑P P 20 37 49.1 -0.4
baz=83
J19A **Crowheart** 82.90 42 ⇓P P 20 37 48.5 -0.9
baz=83,SNR=6.6
Y27A **Causey** 82.91 52 ⇓P P 20 37 48.9 -0.7
baz=83
HRY **Holter Researc** 82.91 38 *e*P P 20 37 49.1 -0.1
comp=Z,32nm,1.1s
128A **Castleberry Fa** 82.93 54 ⇑P P 20 37 49.3 -0.3
baz=83,SNR=7.7
W26A **Owens Ranch, T** 82.94 51 ⇓P P 20 37 49.2 -0.6
baz=83
S24A **Houchin Ranch,** 82.95 48 ⇑P P 20 37 49.6 -0.4
baz=83,SNR=8.3
U25A **Circle Dot Ran** 83.01 49 ⇑P P 20 37 49.5 -0.7
baz=83,SNR=10
K20A **Yellowstone Ra** 83.07 42 ⇑P P 20 37 48.8 -1.5
baz=83,SNR=7.5
O22A **Kremmling** 83.12 45 ⇓P P 20 37 50.2 -0.5
baz=83,SNR=18
H18A **Shoshone NF, C** 83.20 40 ⇓P P 20 37 50.5 -0.5
baz=83
430A **Baggett Ranch,** 83.20 56 ⇑P P 20 37 50.4 -0.7
baz=83
631A **Perdido Creek** 83.22 57 ⇑P P 20 37 50.1 -1.0
baz=83
V26A **Tequesquite Ra** 83.22 50 ⇑P P 20 37 50.6 -0.6
baz=83
M21A **Separation Pea** 83.22 44 ⇑P P 20 37 50.1 -1.1
baz=83,SNR=8.8
MSTX **Muleshoe** 83.24 52 *e*P P 20 37 50.8 -0.5
MSTX **Muleshoe** 83.24 52 ⇓P P 20 37 50.7 -0.5
baz=83,SNR=7.9
Z28A **Tucker Farm, M** 83.26 53 ⇑P P 20 37 51.0 -0.4
baz=83
R24A **Sanders Place,** 83.28 48 ⇑P P 20 37 51.0 -0.5
baz=83,SNR=7.3
I19A **Meeteetse** 83.31 41 ⇑P P 20 37 51.2 -0.3
baz=83,SNR=6.8
T25A **Trinidad** 83.32 49 ⇓P P 20 37 51.2 -0.6
baz=83
L21A **Rawlins** 83.38 43 ⇓P P 20 37 51.4 -0.5
baz=84
W27A **Bowe Ranch, En** 83.46 51 ⇓P P 20 37 51.9 -0.5
baz=84,SNR=9.3
N22A **Wattenberg Ran** 83.47 45 ⇑P P 20 37 51.8 -0.7
baz=84,SNR=7.6
330A **Mertzon** 83.48 55 ⇓P P 20 37 51.9 -0.7
baz=84
U26A **Atchley Ranch,** 83.49 50 ⇓P P 20 37 51.7 -0.9
baz=84,SNR=7.1
J20A **Shoshoni** 83.56 42 ⇑P P 20 37 52.5 -0.3
baz=84,SNR=13
Q24A **Divide** 83.56 47 ⇑P P 20 37 53.0 -0.1
baz=84
O23A **Lake Granby, G** 83.57 45 ⇑P P 20 37 52.8 -0.3
baz=84
ISCO **Idaho Springs** 83.60 46 *e*P P 20 37 52.7 -0.6
ISCO pmax pmax
comp=Z,6.0nm,0.9s
ISCO **Idaho Springs** 83.60 46 *e*P P 20 37 52.7 -0.6
comp=Z,5.9nm,0.9s
ISCO **Idaho Springs** 83.60 46 ⇓P P 20 37 52.8 -0.4
baz=84
H19A **Powell** 83.62 40 ⇓P P 20 37 53.4 +0.4
baz=84
EGAK **Eagle** 83.64 13 *e*P P 20 37 52.5 +0.1
comp=Z,12nm,1.0s
RLMT **Red Lodge** 83.66 40 *e*P P 20 37 53.7 +0.4
comp=Z,22nm,1.3s
K21A **Alcova** 83.77 43 ⇓P P 20 37 53.3 -0.6
baz=84,SNR=11
Z29A **Hungry Hill Ra** 83.78 53 ⇑P P 20 37 54.1 +0.1
baz=84
I20A **Worland** 83.81 41 ⇓P P 20 37 53.7 -0.3
baz=84,SNR=11
R25A **Fountain Ranch** 83.83 48 ⇑P P 20 37 53.8 -0.5
baz=84,SNR=5.1
N23A **Red Feather La** 83.86 45 ⇑P P 20 37 54.3 -0.2
baz=84,SNR=6.2
632A **Uvalde** 83.89 57 ⇓P P 20 37 54.7 +0.1
baz=84
X28A **Dimmitt** 83.89 52 ⇓P P 20 37 54.3 -0.3
baz=84
V27A **Dan Oppiter Fa** 83.91 51 ⇓P P 20 37 54.3 -0.3
baz=84
T26A **Comanche Natio** 83.92 49 ⇓P P 20 37 54.4 -0.4
baz=84
J21A **Lysite** 83.97 42 ⇑P P 20 37 54.6 -0.3
baz=84,SNR=13
532A **Rocksprings** 84.02 57 ⇑P P 20 37 55.3 0.0
baz=84
L22A **Ellis Ranch, M** 84.03 44 ⇓P P 20 37 55.1 -0.3
baz=84,SNR=6.9
130A **Snyder** 84.10 54 ⇓P P 20 37 55.4 -0.2
baz=84
H20A **Greybull** 84.15 41 ⇑P P 20 37 55.3 -0.4
baz=84,SNR=5.3
COLD **Coldfoot** 84.16 9 *e*P P 20 37 56.0 +0.9
comp=Z,12nm,1.1s
U27A **Thompson Grove** 84.18 50 ⇑P P 20 37 55.5 -0.6
baz=84
F19A **Roth Farm, Mol** 84.21 39 ⇑P P 20 37 56.1 +0.1
baz=84
Z30A **Sanderson Ranc** 84.23 53 ⇑P P 20 37 55.3 -1.1
baz=84,SNR=8.2
M23A **Laramie** 84.26 44 ⇓P P 20 37 56.0 -0.5
baz=84
I21A **Big Trails, Te** 84.28 42 ⇓P P 20 37 55.7 -0.8
baz=84,SNR=20
V28A **Channing** 84.36 51 ⇑P P 20 37 56.6 -0.3
baz=84
231A **Bronte** 84.36 55 ⇑P P 20 37 56.4 -0.5
baz=84
G20A **Bridger** 84.36 40 ⇓P P 20 37 56.8 0.0
baz=84
432A **Menard** 84.38 56 ⇓P P 20 37 56.6 -0.5
baz=84
P25A **Willow Gulch B** 84.49 47 ⇓P P 20 37 56.9 -0.7
baz=85
R26A **Arlington** 84.49 48 ⇑P P 20 37 56.8 -0.8
baz=85,SNR=13
T27A **Campo** 84.51 49 ⇓P P 20 37 56.9 -0.9
baz=85
W29A **Amarillo** 84.54 51 ⇑P P 20 37 57.0 -0.9
baz=85
N24A **Carr** 84.55 45 ⇑P P 20 37 57.9 0.0
baz=85
L23A **Garrett** 84.56 44 ⇓P P 20 37 56.9 -1.1
baz=85,SNR=8.4
131A **Roby** 84.58 54 ⇓P P 20 37 57.1 -0.9
baz=85
E19A **Rath Farm, Rou** 84.60 39 ⇑P P 20 37 57.7 -0.2
baz=85,SNR=7.4
U28A **Mallet** 84.61 50 ⇑P P 20 37 57.2 -1.0
baz=85
332A **Millersview** 84.61 56 ⇓P P 20 37 57.7 -0.5
baz=85
J22A **Midwest** 84.63 42 ⇑P P 20 37 57.6 -0.7
baz=85,SNR=13
Y30A **Stafford Cattl** 84.64 53 ⇑P P 20 37 58.1 -0.3
baz=85
F20A **Billings** 84.68 40 ⇓P P 20 37 58.3 0.0
baz=85
EGMT **Eagleton** 84.79 37 ⇑P P 20 37 58.7 -0.2
baz=85
H21A **Big Horn, Sher** 84.82 41 ⇓P P 20 37 59.1 0.0
baz=85
I22A **9 Mile Ranch,** 84.84 42 ⇑P P 20 37 58.7 -0.6
baz=85,SNR=7.6
M24A **Cheyenne** 84.87 45 ⇓P P 20 37 59.0 -0.5
baz=85
232A **Coleman** 84.87 55 ⇑P P 20 37 59.0 -0.6
baz=85
D19A **Cripps Ranch,** 84.89 38 ⇓P P 20 37 58.9 -0.5
baz=85
K23A **Bowen Ranch, D** 84.89 43 ⇑P P 20 37 59.1 -0.5
baz=85
R27A **Eads** 84.95 48 ⇑P P 20 37 59.3 -0.6
baz=85
T28A **Walsh** 84.98 50 ⇓P P 20 37 59.4 -0.7
baz=85
G21A **Lodge Grass** 84.99 41 ⇑P P 20 37 59.6 -0.3
baz=85
Z31A **Sharp Cattle R** 85.01 54 ⇑P P 20 37 59.8 -0.5
baz=85
E20A **Meyer Farm, Mu** 85.02 39 ⇑P P 20 37 59.9 -0.1
baz=85
C19A **Slack Wire Ran** 85.06 38 ⇓P P 20 38 00.1 0.0
baz=85
ABTX **Abilene, Hawle** 85.14 54 *e*P P 20 38 00.2 -0.6
ABTX **Abilene, Hawle** 85.14 54 ⇑P P 20 38 00.5 -0.4
baz=85
Y31A **Rekieta Farm,** 85.16 53 ⇑P P 20 38 00.5 -0.5
baz=85
H22A **Clearmont** 85.24 41 ⇑P P 20 38 01.1 -0.1
baz=85
D20A **Manuel Ranch,** 85.30 39 ⇓P P 20 38 01.7 +0.3
baz=85
H03N2 **Juan Fernandez** 85.38 123 T T 22 11 55.5
baz=58,slow=0.7,SNR=3.7
H03N3 **Juan Fernandez** 85.39 123 T T 22 11 50.6
baz=253,slow=0.7,SNR=4.2
H03N1 **Juan Fernandez** 85.40 123 T T 22 11 46.8
B19A **Brinkman Farms** 85.47 37 ⇓P P 20 38 02.2 0.0
baz=86
V30A **Spur Ranch, Mi** 85.51 51 ⇓P P 20 38 02.4 -0.3
baz=86
Z32A **Haskell** 85.52 54 ⇓P P 20 38 02.4 -0.3
baz=86
G22A **Birney** 85.56 41 ⇑P P 20 38 02.7 -0.1
baz=86
X31A **McDonald Ranch** 85.62 52 ⇑P P 20 38 02.7 -0.6
baz=86
Y32A **R-V Farms, Ver** 85.81 53 ⇓P P 20 38 03.7 -0.4
baz=86
A19A **Klindworth Far** 85.82 37 ⇓P P 20 38 03.8 -0.1
baz=86
U30A **WK&E Inc. Balk** 85.83 51 ⇓P P 20 38 04.1 -0.2
baz=86
W31A **Holland Ranch,** 85.86 52 ⇓P P 20 38 04.0 -0.4
baz=86
M27A **Reverse DX Ran** 86.56 45 ⇓P P 20 38 07.7 -0.1
baz=87
WHTX **Lake Whitney** 86.65 56 ⇓P P 20 38 07.6 -0.7
baz=87
MAW **Mawson** 87.76 199 P P 20 38 13.0 0.0
MAW **Mawson** 87.76 199 P P 20 38 13.6 +0.6
baz=87,SNR=8.3
MAW **Mawson** 87.76 199 P P 20 38 13.0 0.0
comp=Z,3.3nm,0.6s,baz=147,slow=7.9,SNR=14
INK **Inuvik** 88.29 14 P P 20 38 15.2 -0.2
INK **Inuvik** 88.29 14 P P 20 38 15.2 -0.2
comp=Z,3.6nm,0.8s,baz=195,slow=9.5,SNR=5.1
INK LR LR 21 09 51.7
comp=Z,322nm,21.3s,baz=43,slow=30
YKA **Yellowknife Ar** 90.14 23 P P 20 38 23.4 -0.7
YKA **Yellowknife Ar** 90.14 23 P P 20 38 23.4 -0.7
comp=Z,3.3nm,0.8s,baz=234,slow=4.4,SNR=4.8
SNAA **Sanae** 92.91 177 *e*P P 20 38 37.4 +0.3
SNAA **Sanae** 92.91 177 *e*P P 20 38 37.3 +0.1
comp=Z,17nm,1.4s
VNA2 **Neumayer--Watz** 93.36 175 *e*P P 20 38 40.0 +0.9
baz=178,slow=2.8
VNA1 **Neumayer--Stat** 93.56 175 *e*P P 20 38 40.9 +0.9
SONM **Songino Array** 94.78 318 P P 20 38 46.6 +0.5
SONM **Songino Array** 94.78 318 P P 20 38 46.6 +0.5
comp=Z,0.4nm,0.8s,baz=114,slow=3.6,SNR=2.4
MKAR **Makanchi Array** 110.76 315 PKiKP PKiKP 20 43 56.4 -0.9
MKAR **Makanchi Array** 110.76 315 PKiKP PKiKP 20 43 56.4 -0.9
comp=Z,0.3nm,0.7s,baz=21,slow=2.1,SNR=4.2
KURK **Kurchatov** 113.08 319 PKiKP PKiKP 20 44 01.0 -0.4
KURBB **Kurchatov Arra** 113.14 319 PKiKP PKiKP 20 44 01.0 -0.6
comp=Z,0.4nm,0.7s,baz=85,slow=1.6,SNR=7.1
BVAR **Borovoye Array** 117.82 322 PKiKP PKPdf 20 44 10.4 -0.1
BVAR **Borovoye Array** 117.82 322 PKP PKPdf 20 44 10.4 -0.1
BVAR **Borovoye Array** 117.82 322 PKP PKPdf 20 44 10.4 -0.1
comp=Z,0.6nm,0.5s,baz=90,slow=0.3,SNR=4.5
ARCES **ARCESS Array B** 124.60 352 PKP PKPdf 20 44 23.1 0.0
ARCES **ARCESS Array B** 124.60 352 PKP PKPdf 20 44 23.1 0.0
comp=Z,8.2nm,0.8s,baz=12,slow=1.1,SNR=16
FINES **FINESS Array B** 131.92 348 PKP PKPdf 20 44 37.6 +0.3
FINES **FINESS Array B** 131.92 348 PKP PKPdf 20 44 37.6 +0.3
comp=Z,1.7nm,0.7s,baz=29,slow=4.4,SNR=5.3
AKASG **Malin Array Be** 140.30 337 PKiKP PKPdf 20 44 52.7 -0.4
AKASG **Malin Array Be** 140.30 337 PKP PKPdf 20 44 52.7 -0.4
AKASG **Malin Array Be** 140.30 337 PKP PKPdf 20 44 52.7 -0.4
comp=Z,2.8nm,0.8s,baz=30,slow=2.1,SNR=9.7
LVV **L'vov** 142.83 341 *e*PKiKP PKPdf 20 44 56.3 -1.4
KWP **Kalwaria Pacla** 143.39 342 *e*PKiKP PKPbc 20 44 55.8 -0.1
KWP **Kalwaria Pacla** 143.39 342 *e*PKPpre PKPbc 20 44 55.8 -0.1
CLL **Collm** 143.80 353 *i* PKiKP PKPab 20 44 56.3 0.0
CLL *e* 20 45 02.0
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL **Collm** 143.80 353 *i* PKPdf PKPab 20 44 56.3 0.0
CLL *e* 20 44 58.0
comp=Z,5.0nm,0.8s
CLL *e* 20 45 02.0
STHS **Stebnicka Huta** 144.00 344 *e*PKP PKPdf 20 44 58.8 -1.0
BRG **Berggiesshubel** 144.11 352 *e*PKP PKPdf 20 45 03.2 +3.3
comp=Z,5.9nm,1.0s
BRG **Berggiesshubel** 144.11 352 *e*PKiKP PKPdf 20 45 03.2 +3.3
BRG pmax pmax
comp=Z,6.0nm,1.0s
KOLS **Kolonicke sedl** 144.15 342 *e*PKP PKPbc 20 44 58.9 +0.7
UPC **Upice** 144.15 350 *e*PKiKP PKPbc 20 44 59.0 +0.9
UPC *e* 20 45 04.6
UPC **Upice** 144.15 350 *e*PKP PKPbc 20 44 59.0 +0.9
UPC *ep*PKP PKiKP 20 45 04.6 +1.0
DPC **Dobruska-Polom** 144.24 349 *e*PKiKP PKPdf 20 44 59.4 -0.8
DPC *e* 20 45 04.7
DPC **Dobruska-Polom** 144.24 349 *e*PKP PKPdf 20 44 59.4 -0.8
DPC *ep*PKP PKiKP 20 45 04.7 +0.9
BUR08 **Bucovina Ar. S** 144.31 338 *e*PKPdf PKPbc 20 44 59.2 +0.4
BURAR **Bucovina Array** 144.33 338 ⇓PKiKP PKPdf 20 45 00.0 -0.6
BURAR **Bucovina Array** 144.33 338 ⇓*i*P PKPdf 20 45 00.0 -0.6
OKC **Ostrava-Krasne** 144.37 347 *e*PKiKP PKPbc 20 44 59.5 +0.7
OKC **Ostrava-Krasne** 144.37 347 *e*PKP PKPbc 20 44 59.5 +0.7
UZH **Uzhgorod** 144.41 342 *e*PKiKP PKPbc 20 44 58.9 -0.1
UZH *e* 20 45 05.0
UZH *e* 20 45 15.5
MORC **Moravsky Berou** 144.56 348 *e*PKiKP PKPab 20 44 59.2 -0.1
MORC **Moravsky Berou** 144.56 348 ⇓*i*P PKPbc 20 44 59.9 +0.4
MORC **Moravsky Berou** 144.56 348 *e*PKPdf PKPab 20 44 59.2 -0.1
BEBN **Eben Emael** 144.69 1 PKP PKPbc 20 45 00.0 +0.3
TESR **Tescani** 144.71 336 ⇓*i*P PKPdf 20 45 01.0 -0.1
TRPA **Tarpa** 144.78 341 ⇓*i*P PKPbc 20 45 00.5 +0.3
TRPA **Tarpa** 144.78 341 ⇓*e*PKPbc PKPbc 20 45 00.6 +0.4
BMR **Baia Mare** 144.88 340 ⇓PKiKP PKPdf 20 45 01.1 -0.3
BMR **Baia Mare** 144.88 340 ⇓*i*P PKPdf 20 45 01.1 -0.3
MEM **Membach** 144.88 1 PKP PKPbc 20 45 00.8 +0.4
PRU **Pruhonice** 144.89 351 *e*PKiKP PKPbc 20 45 00.8 +0.3
PRU *e* 20 45 07.4
PRU **Pruhonice** 144.89 351 *e*PKP PKPbc 20 45 00.8 +0.3
PRU *ep*PKP PKiKP 20 45 07.4 +2.3
SNF **Seneffe** 144.94 2 PKP PKPab 20 45 00.0 -0.5
BCLA **Clavier** 145.06 1 PKP PKPdf 20 45 01.3 -0.3
KECS **Kecovo** 145.06 344 *e*PKP PKPdf 20 45 02.0 +0.3
ARCR **ARCALIA** 145.09 339 ⇓*i*P PKPdf 20 45 02.1 +0.3
CFR **Carcaliu** 145.16 333 ⇓PKiKP PKPdf 20 45 02.7 +0.8
CFR **Carcaliu** 145.16 333 ⇓*i*P PKPdf 20 45 02.7 +0.8
VRAC **Vranov** 145.19 348 ⇑*i*P PKPdf 20 45 02.4 +0.5
VRI **Vrincioaia** 145.20 335 ⇓PKiKP PKPdf 20 45 02.9 +0.9
VRI **Vrincioaia** 145.20 335 ⇓*i*P PKPdf 20 45 02.9 +0.9
PLOR **Plostina** 145.25 335 ⇓PKiKP PKPdf 20 45 02.3 +0.2
PLOR **Plostina** 145.25 335 ⇓*i*P PKPdf 20 45 02.3 +0.2
DOU **Dourbes** 145.36 2 PKP PKPab 20 45 02.2 +0.1
TREC **Trest** 145.41 350 *e*PKiKP PKPab 20 45 02.8 +0.4
TREC *e* 20 45 08.7
TREC **Trest** 145.41 350 *e*PKP PKPab 20 45 02.8 +0.4
TREC *ep*PKP PKiKP 20 45 08.7 +2.5
KMBO **Kilima Mbogo** 145.44 244 PKPbc PKPab 20 45 04.3 +0.4
KMBO **Kilima Mbogo** 145.44 244 PKPbc PKPab 20 45 04.3 +0.4
comp=Z,2.0nm,0.8s,baz=132,slow=3.2,SNR=10
GRFO **Grafenberg** 145.59 355 *e*PKP2 PKPbc 20 45 02.7 0.0
GRFO **Grafenberg** 145.59 355 *e*PKPdf PKPbc 20 45 02.7 0.0
DOPK **Dopca** 145.65 336 ⇓*i*P PKPab 20 45 04.5 +1.1
TLB **Topalu** 145.66 332 ⇓PKP2 PKPab 20 45 03.7 +0.3
TLB **Topalu** 145.66 332 ⇓*i*P PKPab 20 45 03.7 +0.3
PSZ **Piszkesteto** 145.74 344 *e*PKP2 PKPab 20 45 04.1 +0.4
PSZ **Piszkesteto** 145.74 344 ⇓*i*P PKPab 20 45 03.8 +0.1
PSZ **Piszkesteto** 145.74 344 *e*PKPdf PKPab 20 45 04.1 +0.4
PSZ **Piszkesteto** 145.74 344 ⇓*e* PKPab 20 45 04.3 +0.6
SMOL **Smolenice** 145.78 347 *e*PKP PKPab 20 45 04.7 +0.9
WLF **Walferdange** 145.83 0 PKP PKPab 20 45 04.1 +0.2
WLF **Walferdange** 145.83 0 *e*PKP2 PKPab 20 45 04.2 +0.3
WLF **Walferdange** 145.83 0 *e*PKPbc PKPab 20 45 04.2 +0.3
MLR **Muntele Rosu** 145.83 335 ⇓*i*P PKPab 20 45 05.0 +0.8
KHC **Kasperske Hory** 145.87 352 *e*PKP2 PKPab 20 45 04.3 +0.2
KHC **Kasperske Hory** 145.87 352 *e*PKP PKPab 20 45 04.3 +0.2
KHC *ep*PKP PKiKP 20 45 10.1 +2.9
KHC **Kasperske Hory** 145.87 352 *e*PKPdf PKPab 20 45 04.0 -0.2
DRGR 145.91 340 ⇓PKP2 PKPab 20 45 04.3 -0.1
DRGR 145.91 340 ⇓*i*P PKPab 20 45 04.3 -0.1
AMRR **Amara** 145.95 333 ⇓PKP2 PKPbc 20 45 04.0 0.0
AMRR **Amara** 145.95 333 ⇓*i*P PKPbc 20 45 04.0 0.0
BR131 **Keskin Array S** 146.09 321 *e*PKPdf PKPbc 20 45 04.7 -0.2
BRTR **Keskin Array B** 146.09 321 PKPbc PKPab 20 45 05.6 +0.1
BRTR **Keskin Array B** 146.09 321 PKPbc PKPab 20 45 05.6 +0.1
comp=Z,15nm,0.8s,baz=117,slow=1.7,SNR=43
GERES **GERESS Array B** 146.13 351 PKPbc PKPbc 20 45 04.7 +0.1
GERES **GERESS Array B** 146.13 351 PKPbc PKPbc 20 45 04.7 +0.1
comp=Z,11nm,0.9s,baz=27,slow=3.3,SNR=67
ZST **Bratislava** 146.15 347 *e*PKP PKPab 20 45 06.1 +0.9
VOIR 146.23 336 ⇑PKP2 PKPab 20 45 06.1 +0.4
VOIR 146.23 336 ⇑*i*P PKPab 20 45 06.1 +0.4
BUD **Budapest** 146.36 345 ⇓*e* PKPab 20 45 06.0 0.0
ARR **Arges** 146.44 337 ⇓*i*P PKPab 20 45 07.0 +0.5
LANF **Langenberg** 146.50 358 PKP PKPbc 20 45 05.3 -0.2
ANTO **Ankara** 146.51 322 ⇑PKP2 PKPbc 20 45 05.5 -0.5
ANTO **Ankara** 146.51 322 ⇑*i*P PKPbc 20 45 05.5 -0.5
ANTO **Ankara** 146.51 322 *e*PKPbc PKPab 20 45 07.0 0.0
PKSG 146.61 345 ⇓*e* PKPab 20 45 06.4 -0.5
CONA **Conrad Observa** 146.65 349 ⇓*i*PKPdf PKPab 20 45 07.0 -0.3
comp=Z,27nm,0.9s,SNR=13
PKSN **Nyarlorinc** 146.68 343 ⇓*e* PKPab 20 45 08.6 +1.4
SIRR **Síria** 146.71 341 ⇓*i*P PKPbc 20 45 06.7 +0.4
PKS7 **Kunszentmiklos** 146.73 344 ⇓*e* PKPab 20 45 07.3 -0.1
SOP **Sopron** 146.75 348 ⇓*e* PKPab 20 45 07.4 -0.1
PKST **T''s** 146.82 346 ⇓*e* PKPab 20 45 07.3 -0.5
MOA **Molln** 147.01 350 *i* PKPab PKPbc 20 45 07.4 +0.3
comp=Z,32nm,1.3s,SNR=13
GZR **Gura Zlata** 147.10 339 ⇓PKP2 PKPbc 20 45 07.7 +0.2

GZR	Gura Zlata	147.10	339	⇓	*i*P	PKPbc	20 45 07.7	+0.2
BFO	Black Forest	147.13	358	*e*	PKP2	PKPbc	20 45 06.8	-0.6
BFO	Black Forest	147.13	358	*e*	PKPbc	PKPbc	20 45 06.8	-0.6
PKS2	Kecel	147.23	344	⇑	*e*	PKPab	20 45 08.8	-0.6
THEF	They Montfort	147.26	1		PKP	PKPbc	20 45 07.6	-0.1
ECH	Echery	147.27	359	*e*	PKP2	PKPbc	20 45 07.5	-0.3
ECH	Echery	147.27	359		PKP	PKPbc	20 45 07.9	+0.1
ECH	Echery	147.27	359	*e*	PKPbc	PKPbc	20 45 07.5	-0.3
BZS	Buzias	147.30	340	⇑	PKP2	PKPbc	20 45 08.2	+0.3
BZS	Buzias	147.30	340	⇑	*i*P	PKPbc	20 45 08.2	+0.3
ARSA	Arzberg	147.37	349	⇓	*i*pPKPdf	PKPbc	20 45 08.4	+0.3
	comp=Z,17nm,1.0s,SNR=8.8							
PKS9	Tamasi	147.39	345	⇑	*e*	PKPbc	20 45 08.8	+0.7
FELD	Feldberg im Sc	147.59	358		PKP	PKPbc	20 45 08.3	-0.5
MOF	Molkenrain	147.64	359		PKP	PKPbc	20 45 08.7	-0.2
RETA	Reutte	147.81	355	⇑	*i*pPKPdf	PKPbc	20 45 09.5	+0.2
	comp=Z,18nm,1.1s,SNR=9.1							
BEHE	Becsehely	147.85	347	⇓	*e*PKPdf	PKPdf	20 45 05.5	-0.9
WATA	Walderalm	147.88	353	⇓	*i*pPKPdf	PKPbc	20 45 09.7	+0.1
	comp=Z,6.6nm,0.7s,SNR=7.1							
MOTA	Moosalm	147.92	354	⇓	*i*pPKPdf	PKPbc	20 45 09.6	-0.2
	comp=Z,16nm,0.9s,SNR=11							
SOKA	Soboth	148.01	349	⇓	*i*pPKPdf	PKPbc	20 45 09.7	-0.2
	comp=Z,27nm,1.0s,SNR=10							
DAVA	Damuels	148.08	356	⇓	*i*PKiKP	PKPbc	20 45 10.5	+0.3
	comp=Z,25nm,1.0s,SNR=10							
LOMF	Lomont	148.14	360		PKP	PKPbc	20 45 09.6	-0.6
FETA	Feichten	148.28	354	⇑	*i*PKiKP	PKPbc	20 45 11.0	+0.3
	comp=Z,19nm,1.0s,SNR=8.5							
MYKA	Terra Mystica	148.30	351	⇓	*i*pPKPdf	PKPbc	20 45 10.3	-0.4
	comp=Z,24nm,1.3s,SNR=6.3							
ABTA	Abfaltersbach	148.35	352		*i* pPKPdf	PKPbc	20 45 10.6	-0.2
	comp=Z,29nm,1.0s,SNR=12							
DAVOX	Davos/Dischmat	148.39	356		PKPbc	PKPbc	20 45 11.0	-0.6
DAVOX	Davos/Dischmat	148.59	356		PKPbc	PKPbc	20 45 11.0	-0.6
	comp=Z,13nm,0.8s,baz=336,slow=3.7,SNR=15							
TUE	Stuetta	148.93	356		*e*PKPbc	PKPbc	20 45 13.0	+0.6
AGO	Saint Agoulin	149.31	5		PKP	PKPbc	20 45 13.2	0.0
VTS	Vitosha	149.33	335	⇑	PKP2	PKPbc	20 45 13.9	+0.4
VTS	Vitosha	149.33	335	⇑	*i*P	PKPbc	20 45 13.9	+0.4
PLDF	La Plantade	149.43	4		PKP	PKPbc	20 45 13.9	+0.3
PYM	Petit Puy Mans	149.60	5		PKP	PKPbc	20 45 14.1	+0.1
SSB	Saint Sauveur	150.17	3	*e*	PKiKP	PKPbc	20 45 16.2	+0.8
SSB	Saint Sauveur	150.17	3	*e*	PKPbc	PKPbc	20 45 16.2	+0.8
BNI	Bardonecchia	150.44	360	*e*	PKiKP	PKPbc	20 45 17.4	+1.3
BNI	Bardonecchia	150.44	360	*e*	PKPbc	PKPbc	20 45 17.4	+1.3
POLO	Lamas de Olo	151.31	23	*e*	PKPbc	PKPbc	20 45 18.5	+0.3
SAOF	Saorge	151.50	358		PKP	PKPbc	20 45 18.5	0.0
LUCF	Luceram	151.59	359		PKP	PKPbc	20 45 18.7	-0.1
CALN	Calern	151.74	359		PKP	PKPbc	20 45 18.9	-0.3
MVO	Moncorvo	151.78	22	*e*	PKPbc	PKPbc	20 45 19.6	+0.3
MTE	Manteigas	152.25	23	*e*	PKPbc	PKPbc	20 45 20.4	0.0
PMTG	Montargil	153.11	26	*e*	PKPbc	PKPbc	20 45 22.0	-0.2
PMRV	Marv??o	153.15	24	*e*	PKPbc	PKPbc	20 45 22.1	-0.2
PNCL	Nicolau / Gran	153.77	28	*e*	PKPbc	PKPbc	20 45 23.6	-0.1
ESDC	Sonseca Array	154.14	19		PKP	PKPdf	20 45 16.9	+0.5
ESDC					PKPbc	PKiKP	20 45 26.6	+2.0
ESDC					PKPab	PKPab	20 45 38.3	+0.1
ESDC	Sonseca Array	154.14	19		PKP	PKPdf	20 45 16.9	+0.5
	comp=Z,0.1nm,0.3s,baz=352,slow=3.4,SNR=3.7							
ESDC					PKPbc	PKiKP	20 45 26.6	+2.0
	comp=Z,0.3nm,0.6s,baz=334,slow=2.7,SNR=6.0							
ESDC					PKPab	PKPab	20 45 38.3	+0.1
	comp=Z,3.1nm,0.9s,baz=328,slow=2.8,SNR=12							
TORD	Torodi Ar. Bea	174.83	115		PKP	PKPdf	20 45 32.8	-2.3
TORD					PKPab	PKPab	20 47 06.9	-2.7
TORD					PP	PP	20 51 07.5	+5.4
TORD	Torodi Ar. Bea	174.83	115		PKP	PKPdf	20 45 32.8	-2.3
	comp=Z,1.6nm,1.1s,baz=302,slow=3.3,SNR=6.8							
TORD					PKPab	PKPab	20 47 06.9	-2.7
	comp=Z,0.7nm,0.9s,baz=233,slow=5.0,SNR=3.6							
TORD					PP	PP	20 51 07.5	+5.4
	comp=Z,0.8nm,1.1s,baz=190,slow=7.5,SNR=4.2							

IDC 01 20:27:18.8±2.8, 48°.83N×113°.91E, h0km, mb2.8/2, mb1 3.0/4, mb1mx2.9/28, mbtmp3.0/4, ML3.3/1, Error ellipse: s-maj=67.5km s-min=29.0km az=5.0, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SONM	Songino Array	5.11	262	Pn		Pn	20 28 38.4	+1.6
	baz=104,slow=12,SNR=3.7							
SONM				Sn		Sn	20 29 37.9	+1.3
	0.2nm,0.3s,baz=111,slow=29,SNR=5.7							
SONM				Lg		Lg	20 29 59.3	
	0.2nm,0.3s,baz=110,slow=28,SNR=4.5							
KSRS	Korea Array	15.26	133	Pn		Pn	20 30 54.4	-1.0
	0.1nm,0.3s,baz=328,slow=14,SNR=3.1							
MKAR	Makanchi Array	21.26	276	P		P	20 32 07.6	+1.2
	0.2nm,0.4s,baz=80,slow=10,SNR=5.3							
KURBB	Kurchatov Arra	22.81	288	P		P	20 32 22.1	-0.9
	0.3nm,0.5s,baz=80,slow=8.4,SNR=13							

IDC 01 20:28:58.6±7.8, 16°.36S×172°.98W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/21, mbtmp3.7/2, Error ellipse: s-maj=363.0km s-min=61.6km az=142.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	50.02	258	P		P	20 37 55.6	+0.3
	0.2nm,0.5s,baz=95,slow=6.9,SNR=5.3							
ASAR	Alice Springs	50.20	253	P		P	20 37 56.2	-0.5
	1.7nm,0.8s,baz=86,slow=9.1,SNR=5.4							
BRTR	Keskin Array B	147.15	320	PKPbc		PKPbc	20 48 43.4	-0.9
	0.4nm,0.6s,baz=17,slow=6.0,SNR=2.3							

*CSEM **01** 20:31:53.8, 34°.88N×24°.30E, h27km, MD2.8, After ATH*
ATH 01 20:31:53.8, 34°.88N×24°.30E, h27km±1km, MD2.8/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.18	257	*e*PB		Pb	20 31 59.6	+0.2
GVD				*e*SB		Sb	20 32 03.7	+0.4
GVD	Gavdhos	0.18	257	*e*Pb		Pb	20 31 59.6	+0.2
GVD				*e*Sb		Sb	20 32 03.7	+0.4
SIVA	Sivas	0.44	72	*e*PB		Pb	20 32 03.4	+0.3
SIVA				*e*SB		Sb	20 32 09.6	+0.1
SIVA	Sivas	0.44	72	*e*Pb		Pb	20 32 03.4	+0.3
SIVA				*e*Sb		Sb	20 32 09.6	+0.1
VAM	Vamos	0.53	351	*e*PN		Pb	20 32 04.8	+0.1
VAM				*e*SN		Sn	20 32 13.2	-0.6
VAM	Vamos	0.53	351	*e*Pn		Pb	20 32 04.8	+0.1
VAM				*e*Sn		Sn	20 32 13.2	-0.6
IDI	Anoyia	0.63	50	*e*PN		Pb	20 32 06.3	-0.1
IDI	Anoyia	0.63	50	*e*Pn		Pb	20 32 06.3	-0.1
LAST	Lasithi	1.01	73	*e*PN		Pb	20 32 13.3	+0.6
LAST				*e*SN		Sb	20 32 27.7	+2.0
LAST	Lasithi	1.01	73	*e*Pn		Pb	20 32 13.3	+0.6
LAST				*e*Sn		Sb	20 32 27.7	+2.0

IDC 01 20:38:15.2±11.0, 15°.73S×174°.45W, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.5/19, mbtmp3.3/3, Error ellipse: s-maj=531.5km s-min=34.3km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	48.78	257	P		P	20 47 02.3	-0.2
	0.2nm,0.9s,baz=87,slow=6.9,SNR=4.3							
ASAR	Alice Springs	49.04	252	P		P	20 47 04.2	-0.3
	0.5nm,0.5s,baz=88,slow=7.8,SNR=10							
ILAR	Eielson Array	82.97	12	P		P	20 50 41.4	-0.4
	0.2nm,0.8s,baz=215,slow=5.5,SNR=2.3							
BRTR	Keskin Array B	145.76	320	PKPbc		PKPbc	20 57 56.6	-0.1
	0.2nm,0.3s,baz=48,slow=5.0,SNR=2.5							

IDC 01 20:47:55.2±11.0, 15°.14S×172°.89W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.5/21, mbtmp3.7/2, MS4.5/1, Ms1 4.5/1, ms1mx3.6/34, Error ellipse: s-maj=512.7km s-min=60.6km az=140.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.63	41	LR		LR	20 48 48.8	
	comp=Z,842nm,19.0s,baz=234,slow=33							
WRA	Warramunga Arr	50.39	257	P		P	20 56 54.9	+0.1
	1.5nm,1.2s,baz=89,slow=6.8,SNR=4.7							
ASAR	Alice Springs	50.66	252	P		P	20 56 56.5	-0.3
	0.9nm,0.7s,baz=85,slow=8.1,SNR=11							
KAPI	Kappang	66.87	271	LR		LR	21 25 33.7	
	comp=Z,336nm,20.4s,baz=112,slow=34							
BRTR	Keskin Array B	146.26	322	PKPbc		PKPdf	21 07 37.5	+0.2
	0.2nm,0.4s,baz=69,slow=3.1,SNR=2.4							

IDC 01 20:52:44.8±1.9, 15°.07S×173°.79W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.8/19, mbtmp3.7/5, Error ellipse: s-maj=117.8km s-min=24.1km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	49.56	257	P		P	21 01 37.5	-0.4
	0.5nm,0.8s,baz=91,slow=7.4,SNR=5.5							
ASAR	Alice Springs	49.86	252	P		P	21 01 40.2	0.0
	3.0nm,0.8s,baz=84,slow=8.4,SNR=26							
NVAR	Mina Array Bea	74.34	42	P		P	21 04 24.0	-0.6
	0.1nm,0.3s,baz=238,slow=8.4,SNR=3.3							
TXAR	Lajitas Array	80.74	56	P		P	21 05 00.8	+0.3
	0.8nm,0.9s,baz=260,slow=5.1,SNR=4.2							
ILAR	Eielson Array	82.20	11	P		P	21 05 08.1	+0.7
	0.5nm,1.0s,baz=205,slow=5.7,SNR=2.9							

IDC 01 20:54:48.9±8.0, 0°.91S×100°.48E, h0km, mb3.6/4, mb1 3.5/5, mb1mx3.4/25, mbtmp3.5/5, ML3.6/1, Error ellipse: s-maj=162.7km s-min=123.1km az=133.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	19.30	356	P		P	20 59 15.2	-0.5
	0.1nm,0.3s,baz=174,slow=10.0,SNR=3.9							
SONM	Songino Array	48.82	5	P		P	21 03 36.9	+0.8
	0.2nm,0.4s,baz=193,slow=4.4,SNR=2.4							
MKAR	Makanchi Array	50.12	344	P		P	21 03 46.1	+0.3
	0.4nm,0.3s,baz=157,slow=8.7,SNR=17							
KURBB	Kurchatov Arra	54.65	343	P		P	21 04 19.2	-0.2
	0.3nm,0.5s,baz=161,slow=6.9,SNR=4.0							
ZALV	Zalesovo Beam	56.19	349	P		P	21 04 29.4	-1.0
	0.3nm,0.2s,baz=153,slow=11,SNR=3.2							

*MOS **01** 20:55:36.8±1.4, 12°.08S×166°.43E, h33km, mb5.5/40, MS4.7/4, Error ellipse: s-maj=8.8km s-min=7.9km az=109.1*
*IDC **01** 20:55:37.1±1.9, 12°.20S×166°.65E, h30km±12km, mb5.0/24, mb1 5.1/25, mb1mx5.1/27, mbtmp5.2/25, ML3.9/1, MS4.7/29, Ms1 4.7/29, ms1mx4.6/34, Error ellipse: s-maj=16.0km s-min=11.7km az=91.0*
*ISCJB **01** 20:55:40.2±1.1, 12°.25S±0°.03×166°.56E±0°.03, h67km±9km, mb5.5/166, Error ellipse: s-maj=5.7km s-min=4.9km az=163.8*
*BJI **01** 20:55:41.7, 11°.94S×166°.80E, h82km, mB5.4/40, mb5.4/57, Ms5.1/47, Ms7 4.8/52*
*GCMT **01** 20:55:41.8±0.1, 12°.26S×166°.29E, h48km, MW5.5, Moment Tensor Solution. s108,c185; s99,c208; Moment tensor: Scale 10^17^Nm; Mrr=1.63±.03; Mθθ=0.49±.03; Mϕϕ2.12±.02; Mrθ=0.74±.02; Mrϕ=0.65±.02; Mθϕ=0.24±.02; Best double couple: Mo2.20000×10^17^ NP1:ϕ348.00000°,δ53.00000°,λ-127.00000°. NP2: ϕ219.00000°,δ51.00000°,λ-52.00000°. Principal axes: T 2.2700, Plg1.0000°, Azm103.0000°; N -0.2200, Plg29.0000°, Azm12.0000°; P -2.0500, Plg61.0000°, Azm195.0000°; Data Used: II IU IC G CN. Surface waves from 109 sta.*
*NEIC **01** 20:55:43.0±0.9, 12°.25S×166°.51E, h81km±7km, mb5.4/67 Error ellipse: s-maj=5.5km s-min=5.1km az=139.0*
*AUST **01** 20:55:46.1±0.3, 12°.21S×166°.48E, h100km, Error ellipse: s-maj=8.6km s-min=5.6km az=176.0*
*DJA **01** 20:55:48.1±1.0, 12°.5±4°×16°.7E±°, h113km±10km, M5.6/87, mb5.7/87, mB6.0/39, Mw(mB)5.6/39*
ISC 01 20:55:43.6±0.3, 12°.29S±0°.04×166°.51E±0°.05, h85km±2km, h85km:pP-P,n543,σ1°58/597, mb5.5/166, 45C-32D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	Honiara	7.05	293	Pn		Pn	20 57 21.9	-2.2
HNR				Sn		Sn	20 58 38.5	-4.3
HNR	Honiara	7.05	293	Pn		Pn	20 57 21.9	-2.2
	602nm,0.3s,baz=144,slow=3.5,SNR=361							
HNR				Sn		Sn	20 58 38.5	-4.3
	121nm,0.3s,baz=165,slow=18,SNR=2.0							
DZM	Mont Dzumac	9.72	180	*e*Pn		Pn	20 57 59.7	-1.0
	98nm,0.3s							
DZM				*e*Sn		Sn	20 59 43.1	-5.1
	67nm,0.3s							
DZM				*e*LR		LR	21 00 13.4	
	22μm,25.1s							
DZM	Mont Dzumac	9.72	180	*e*P		Pn	20 57 58.8	-1.9
	349nm,0.8s							
DZM	Mont Dzumac	9.72	180	Pn		Pn	20 57 59.6	-1.1
	37nm,0.3s,baz=28,slow=17,SNR=162							
DZM				LR		LR	21 00 17.9	
	comp=Z,1μm,21.1s,baz=357,slow=29							
MSVF	Nonsavu	12.39	117	*e*P		Pn	20 58 39.0	+2.1
MSVF				pmax		pmax		
	comp=Z,1μm,1.4s							
MSVF	Nonsavu	12.39	117	Pn		Pn	20 58 39.0	+2.1
	comp=Z,3μm,1.3s,SNR=33							
MSVF	Nonsavu	12.39	117	*e*Pn		Pn	20 58 39.0	+2.1
	comp=Z,1μm,1.4s							
TARA	Tarawa	14.98	26	*e*Pn		Pn	20 59 11.2	+0.3
	comp=Z,433nm,0.6s							
PMG	Port Moresby	19.22	277	P		Pn	21 00 03.5	+0.6
	comp=Z,92nm,1.0s,comp=Z,4μm							
PMG	Port Moresby	19.22	277	*e*P		Pn	21 00 02.6	-0.3
PMG	Port Moresby	19.22	277	P		Pn	21 00 02.3	-0.6
	comp=Z,1.1nm,0.3s,baz=97,slow=9.6,SNR=17							
PMG				LR		LR	21 04 55.7	
	comp=Z,1μm,21.4s,baz=115,slow=29							
EIDS	Eidsvold	19.53	226	*e*P		Pn	21 00 06.0	-0.4
	comp=Z,320nm,0.9s							
EIDS	Eidsvold	19.53	226	⇓P		Pn	21 00 06.3	-0.1
	baz=20,SNR=149							
LHI	Lord Howe Isla	20.33	199	⇑P		Pn	21 00 15.0	-0.7
	baz=20,SNR=5.2							
CTA	Charters Tower	20.93	246	P		P	21 00 20.9	+1.3
CTA	Charters Tower	20.93	246	P		P	21 00 20.9	+1.3
	comp=Z,43nm,0.8s,baz=74,slow=12,SNR=32							
CTA				LR		LR	21 07 33.0	
	comp=Z,3μm,19.7s,baz=68,slow=34							
CTAO	Charters Tower	20.93	246	*e*P		P	21 00 19.8	+0.3
CTAO				pmax		pmax		
	comp=Z,84nm,0.9s							
CTAO	Charters Tower	20.93	246	*e*P		P	21 00 19.8	+0.3
	comp=Z,84nm,0.9s							
KWAJ	Kwajalein Atol	20.99	3	*e*P		P	21 00 15.6	-4.5
KWAJ				pmax		pmax		
	comp=Z,363nm,1.2s							
KWAJ	Kwajalein Atol	20.99	3	*e*P		P	21 00 15.6	-4.5
	comp=Z,363nm,1.2s							
MANU	Manus Island	21.53	297	⇑P		P	21 00 27.5	+1.5
	baz=22,SNR=5.7							
RMQ	Roma	21.86	227	⇓P		P	21 00 30.8	+1.3
	baz=22,SNR=146							
RAO	Raoul Island	22.24	142	LR		LR	21 07 39.8	
	comp=Z,2μm,20.5s,baz=36,slow=32							
ARMA	Armidale	22.70	215	*e*P		P	21 00 38.6	+0.2
	comp=Z,508nm,1.0s							
ARMA	Armidale	22.70	215	⇓P		P	21 00 39.2	+0.7
	baz=23,SNR=86							
COEN	Coen	22.79	263	*e*P		P	21 00 37.3	-2.1
	comp=Z,448nm,0.8s							
COEN	Coen	22.79	263	⇓P		P	21 00 38.2	-1.2
	baz=23,SNR=7.8							
NIUE	Niue	23.65	110	⇓P		P	21 00 49.5	+2.1
	baz=24,SNR=6.0							
OUZ	Omahuta	23.71	165	*e*P		P	21 00 48.0	+0.2
	comp=Z,85nm,1.2s							
MGCD	Mangrove Creek	25.14	212	⇓P		P	21 01 02.2	+1.4
	baz=25,SNR=37							
QLP	Quilpie	25.30	233	⇓P		P	21 01 03.0	+0.6
	baz=25,SNR=63							
CMSA	Cobar Meteorol	27.11	222	⇑P		P	21 01 19.5	+0.9
	baz=27,SNR=95							
JAY	Jayapura	27.34	289	⇓P		P	21 01 22.7	+1.8
	baz=27,SNR=6.7							
YNG	Young	27.42	214	⇑P		P	21 01 22.3	+1.0
	baz=28,SNR=29							
URZ	Urewera	27.53	162	*e*P		P	21 01 22.0	-0.3
	comp=Z,21nm,0.6s							
URZ	Urewera	27.53	162	P		P	21 01 22.2	-0.1
	comp=Z,14nm,0.6s,baz=327,slow=4.6,SNR=9.0							
URZ				LR		LR	21 10 45.6	
	comp=Z,3μm,20.8s,baz=343,slow=33							
CNB	Canberra Magne	27.69	211	⇑P		P	21 01 24.9	+1.1
	baz=28,SNR=44							
CAN	Canberra	27.88	212	*e*P		P	21 01 26.3	+0.8
CAN				pmax		pmax		
	comp=Z,45nm,0.7s							
CAN	Canberra	27.88	212	*e*P		P	21 01 26.3	+0.8
	comp=Z,46nm,0.7s							
MILA	Mila	29.16	209	⇓P		P	21 01 37.9	+1.0
	baz=29,SNR=28							
STKA	Stephens Creek	30.08	226	*e*P		P	21 01 45.9	+0.8
	comp=Z,40nm,0.8s							
STKA				P		P	21 01 46.0	+1.0
STKA	Stephens Creek	30.08	226	⇑P		P	21 01 46.0	+1.0
	baz=30,SNR=110							
STKA	Stephens Creek	30.08	226	P		P	21 01 46.0	+1.0
	comp=Z,164nm,0.8s,baz=33,slow=8.0,SNR=208							
STKA				LR		LR	21 13 03.7	
	comp=Z,3μm,21.0s,baz=51,slow=35							
H11S2	WAKE ISLAND Hy	30.59	0	T		T	21 32 19.8	
	baz=183,slow=0.7,SNR=42							
H11S3	WAKE ISLAND Hy	30.59	0	T		T	21 32 31.5	
	baz=183,slow=0.7,SNR=43							
H11S1	WAKE ISLAND Hy	30.61	0	T		T	21 32 25.0	
	baz=183,slow=0.7,SNR=40							
KHZ	Kahutara	30.63	170	*e*P		P	21 01 48.6	-1.1
	comp=Z,62nm,0.9s							
TOO	Toolangi	31.42	213	⇑P		P	21 01 58.1	+1.3
	baz=32,SNR=70							
RPZ	Rata Peaks	31.55	174	*e*P		P	21 01 57.7	-0.1
RPZ				P		P	21 01 58.5	+0.6
RPZ	Rata Peaks	31.55	174	P		P	21 01 58.5	+0.6
	comp=Z,54nm,0.6s,baz=347,slow=4.0,SNR=16							
RPZ				LR		LR	21 13 50.2	
	comp=Z,2μm,18.5s,baz=350,slow=35							
WRAB	Tennant Creek	31.78	252	*e*P		P	21 01 59.1	-1.0
WRAB				pmax		pmax		
	comp=Z,88nm,1.3s							
WRAB	Tennant Creek	31.78	252	P		P	21 01 59.0	-1.0
	comp=Z,261nm,0.7s,SNR=29							
WRAB	Tennant Creek	31.78	252	*e*P		P	21 01 59.1	-1.0
	comp=Z,88nm,1.3s							
WRA	Warramunga Arr	31.79	252	P		P	21 01 59.1	-1.1
WRA				ScP		ScP	21 08 31.6	+6.0
WRA	Warramunga Arr	31.79	252	P		P	21 01 59.1	-1.1
	comp=Z,34nm,0.8s,baz=81,slow=9.2,SNR=98							
WRA				ScP		ScP	21 08 31.6	+6.0
	comp=Z,7.5nm,1.0s,baz=79,slow=3.6,SNR=5.5							
WRA				LR		LR	21 14 14.5	
	comp=Z,910nm,20.4s,baz=70,slow=35							
H11N1	WAKE ISLAND Hy	31.81	1	T		T	21 34 20.9	
	baz=184,slow=0.7,SNR=36							
H11N3	WAKE ISLAND Hy	31.81	1	T		T	21 34 21.1	
	baz=184,slow=0.7,SNR=30							
H11N2	WAKE ISLAND Hy	31.82	1	T		T	21 34 21.4	
	baz=184,slow=0.7,SNR=22							
AS31	Alice Springs	32.93	245	*e*P		P	21 02 09.0	-1.2
ASAR	Alice Springs	32.93	245	P		P	21 02 09.2	-1.0
ASAR				ScP		ScP	21 08 36.6	+7.0
ASAR	Alice Springs	32.93	245	P		P	21 02 09.2	-1.0
	comp=Z,47nm,0.8s,baz=74,slow=9.5,SNR=118							
ASAR				ScP		ScP	21 08 36.6	+7.0
	comp=Z,4.7nm,1.0s,baz=83,slow=2.7,SNR=6.8							
ASAR				LR		LR	21 14 38.6	
	comp=Z,1μm,18.1s,baz=74,slow=34							
ARPS	Mount Arapiles	32.94	218	P		P	21 02 11.0	+0.9
	baz=33,SNR=19							
KDU	Kakadu	33.22	266	⇑P		P	21 02 12.2	-0.5
	baz=33,SNR=53							
RAR	Rarotonga	33.42	110	LR		LR	21 13 10.1	
	comp=Z,1μm,21.2s,baz=270,slow=32							
TLE	Tual	33.98	278	P		P	21 02 20.6	+1.2
	comp=Z,98nm,1.3s							
TLE	Tual	33.98	278	⇓P		P	21 02 20.0	+0.6
	baz=34,SNR=4.0							
MOO	Moorlands	34.42	206	⇑P		P	21 02 23.8	+1.0
	baz=35,SNR=21							
BBOO	Buckleboo	34.55	229	*e*P		P	21 02 24.3	+0.1
	comp=Z,3μm,0.8s							
BBOO	Buckleboo	34.55	229	⇓P		P	21 02 24.8	+0.7
	baz=35,SNR=70							
TAU	Tasmania Unive	34.75	205	P		P	21 02 27.0	+1.4
	comp=Z,2μm,1.0s,SNR=14							
TAU	Tasmania Unive	34.75	205	*e*P		P	21 02 26.6	+1.0
TAU				pmax		pmax		
	comp=Z,320nm,1.0s							
TAU	Tasmania Unive	34.75	205	*e*P		P	21 02 26.6	+1.0
	comp=Z,320nm,1.0s							
FAKI	Fak Fak	35.17	283	⇑P		P	21 02 31.1	+1.4
	baz=35,SNR=5.8							
KNRA	Kununurra	36.75	260	⇓P		P	21 02 43.2	+0.1
	baz=37,SNR=18							
SWI	Sorong	36.75	285	P		P	21 02 44.0	+0.8
	comp=Z,180nm,1.3s,comp=Z,2μm							
SWI	Sorong	36.75	285	⇓P		P	21

comp=Z,116nm,1.1s
MORW Morawa 49.70 242 ⇑P **P** **21 04 27.9 +0.6**
baz=50,SNR=167
RKGY Rocky Gully 50.00 235 ⇓P **P** **21 04 30.1 +0.7**
baz=50,SNR=51
SRBI Singaraja 50.60 270 P **P** **21 04 35.7 +1.4**
comp=Z,174nm,1.2s
MYLDM Lahad Datu 50.79 287 P **P** **21 04 38.5 +2.9**
comp=Z,82nm,1.3s,comp=Z,1μm
ABJI Asem Bagus 51.61 270 P **P** **21 04 44.0 +2.2**
comp=Z,265nm,1.1s
KMMI Kalianget 51.99 271 P **P** **21 04 47.6 +2.9**
comp=Z,158nm,1.3s
BLJI Banyuglugur 52.24 270 P **P** **21 04 46.9 +0.4**
comp=Z,256nm,0.8s,comp=Z,2μm
GMJI Gumukmas 52.30 269 P **P** **21 04 47.6 +0.6**
comp=Z,106nm,1.0s
KKM Kota Kinabalu 53.22 287 P **P** **21 04 55.7 +1.9**
comp=Z,160nm,1.2s,comp=Z,1μm
KKM Kota Kinabalu 53.22 287 *e*P **P** **21 04 54.4 +0.6**
comp=Z,154nm,1.0s
KKM Kota Kinabalu 53.22 287 ⇑P **P** **21 04 54.7 +0.8**
baz=53,SNR=8.6
KRKI Karangkates 53.29 269 P **P** **21 04 55.7 +1.4**
comp=Z,580nm,0.8s,comp=Z,15μm
JOW Kunigami 53.77 317 *e*P **P** **21 04 58.2 +0.7**
comp=Z,43nm,0.8s
PWJI Pagerwojo 53.95 269 P **P** **21 05 00.1 +1.0**
comp=Z,161nm,1.0s
SJI Sawahan 54.03 269 P **P** **21 05 01.1 +1.3**
comp=Z,155nm,1.2s
NGJI Ngawi 54.39 270 P P 21 05 06.0 +3.7
comp=Z,183nm,1.3s
PCJI Pacitan 54.53 269 P **P** **21 05 04.6 +1.3**
comp=Z,337nm,1.0s
WOJI Wonogiri, Jawa 54.84 269 P **P** **21 05 08.7 +3.2**
comp=Z,163nm,1.1s
MJAR Matsushiro Arr 55.42 332 P **P** **21 05 07.8 -1.5**
MJAR Matsushiro Arr 55.42 332 P **P** **21 05 07.8 -1.5**
comp=Z,5.5nm,0.8s,baz=169,slow=8.9,SNR=17
MAJO Matsushiro 55.42 332 P **P** **21 05 06.3 -3.0**
MAJO pmax pmax
comp=Z,28nm,1.0s
MAJO Matsushiro 55.42 332 P **P** **21 05 06.3 -3.0**
comp=Z,28nm,1.0s
SBUM Sibu 55.88 281 P **P** **21 05 14.2 +1.2**
comp=Z,48nm,1.1s,comp=Z,538nm
STKI Sintang 55.95 278 P **P** **21 05 15.2 +1.6**
comp=Z,82nm,1.1s,comp=Z,11μm
BJII Banjamegara 56.11 269 P P 21 05 25.5 +11
RKT Rikitea 56.46 110 *e*S S 21 13 16.9 +15
comp=Z,287nm,28.5s
RKT *e*LR LR 21 21 55.4
comp=Z,3μm,29.2s,baz=278
JNU Nakatsue 56.53 324 *e*P **P** **21 05 16.8 -0.5**
comp=Z,22nm,0.9s
JNU Nakatsue 56.53 324 P **P** **21 05 17.1 -0.2**
comp=Z,51nm,1.1s,baz=113,slow=6.2,SNR=10
JNU LR LR 21 25 60.0
comp=Z,534nm,21.6s,baz=225,slow=32
YULB Yu-li 56.70 309 *e*P **P** **21 05 17.8 -0.9**
comp=Z,75nm,1.1s
TGJI Tegal 56.76 270 P **P** **21 05 20.1 +0.8**
comp=Z,90nm,1.2s
KPJI Karang Pucung 56.87 269 P **P** **21 05 23.1 +3.0**
comp=Z,130nm,0.9s
NACB Ninganchiao 56.91 310 *e*P **P** **21 05 20.0 -0.1**
comp=Z,76nm,0.9s
DRV Dumont d'Urvil 57.15 192 P **P** **21 05 19.0 -2.1**
DRV L L 21 19 00.0
TPUB Ta-pu 57.16 308 *e*P **P** **21 05 21.4 -0.6**
comp=Z,137nm,0.9s
SSLB Suanglung 57.18 309 *e*P **P** **21 05 21.0 -1.0**
comp=Z,41nm,0.8s
YHNB Yeheng 57.35 310 *e*P **P** **21 05 23.5 +0.1**
comp=Z,155nm,0.9s
TATO Taipei 57.44 310 *e*P **P** **21 05 23.7 -0.2**
comp=Z,551nm,1.3s
KSM Kuching 57.45 280 P **P** **21 05 25.0 +0.8**
comp=Z,75nm,1.0s,comp=Z,811nm
KSM Kuching 57.45 280 *e*P **P** **21 05 24.0 -0.2**
comp=Z,72nm,1.0s
KSM Kuching 57.45 280 ⇑P **P** **21 05 24.5 +0.3**
baz=57,SNR=19
CISI Cisompet, Garu 57.92 269 P **P** **21 05 27.8 +0.3**
comp=Z,193nm,0.9s,comp=Z,26μm
LEM Lembang 58.24 270 P **P** **21 05 30.8 +0.9**
comp=Z,325nm,0.9s,comp=Z,3μm
LEM Lembang 58.24 270 P **P** **21 05 30.8 +0.9**
baz=58,SNR=16
TPI Tanjungpandan 59.00 274 P **P** **21 05 36.7 +1.7**
comp=Z,49nm,1.1s,comp=Z,419nm
CBJI Citeko 59.06 270 P **P** **21 05 35.4 0.0**
comp=Z,375nm,0.9s,comp=Z,27μm
YUK Yuzh-Kuril'sk 59.13 343*c i*P **P** **21 05 34.0 -1.2**
YUK *i* S **S** **21 13 35.2 -0.8**
YUK *i* SS **SS** **21 17 27.0 -4.9**
DBJI Dramaga 59.14 270 P **P** **21 05 36.6 +0.7**
comp=Z,137nm,1.3s
SKJI Sukabumi 59.25 269 P **P** **21 05 36.4 -0.3**
comp=Z,411nm,0.9s,comp=Z,5μm
QZH Quanzhou 59.61 309 ⇓*i*P **P** **21 05 38.0 -0.9**
QZH S **S** **21 13 42.0 -0.9**
QZH AMB AMB
comp=Z,150nm,1.0s
QZH LR LR
comp=Z,1μm,15.4s
ASAJ Asahikawa 60.21 340 P **P** **21 05 42.7 0.0**
ASAJ Asahikawa 60.21 340 P **P** **21 05 42.7 0.0**
comp=Z,10nm,0.5s,baz=199,slow=4.4,SNR=17
ASAJ LR LR 21 27 09.4
comp=Z,1μm,21.6s,baz=169,slow=31
PPBI Pangkal Pinang 60.61 274 P **P** **21 05 47.3 +1.2**
comp=Z,79nm,1.0s,comp=Z,866nm
SSE Sheshan 61.27 316 P **P** **21 05 49.6 -0.5**
SSE pP **pP** **21 06 11.9 +0.3**
SSE S **S** **21 14 06.5 +2.6**
SSE AMB AMB
comp=Z,120nm,0.8s
SSE AMB AMB
comp=Z,330nm,3.5s
SSE LR LR
comp=Z,95nm,23.2s
SSE LR LR
comp=Z,330nm,23.2s
SSE LR LR
comp=Z,580nm,24.0s
KSRS Korea Array 61.33 326 P **P** **21 05 50.2 -0.1**
comp=Z,7.1nm,0.8s,baz=134,slow=6.4,SNR=20
KSAR Wonju Array Be 61.34 326 P **P** **21 05 50.2 -0.2**
KASI Kota Agung 61.53 270 P **P** **21 05 52.4 +0.2**
comp=Z,171nm,1.1s
MDSI Maura Dua 62.04 271 P **P** **21 05 56.2 +0.5**
comp=Z,44nm,1.3s
LWLI Liwa 62.05 271 P **P** **21 05 56.1 +0.2**
comp=Z,125nm,1.0s
YSS Yuzh-Sakhalins 62.70 342 *e*P **P** **21 06 01.0 +1.7**
YSS *e* 21 06 15.0
BTDF Bukit Timah Da 63.73 278 ⇓P **P** **21 06 08.4 +1.5**
baz=64
BTDF ⇓P **P** **21 06 08.4 +1.5**
baz=64
KSI Kapahiang 63.76 272 P **P** **21 06 07.8 +0.6**
comp=Z,119nm,0.9s
MYKOM Kota Tinggi 63.77 278 P **P** **21 06 09.2 +2.1**
comp=Z,50nm,1.2s
QIZ Qiongzhong 63.93 298 P **P** **21 06 09.6 +1.5**
QIZ sP **sP** **21 06 36.0 -3.1**
QIZ S **S** **21 14 38.7 +1.0**
QIZ sS **sS** **21 15 15.1 +0.5**
QIZ AMB AMB
comp=Z,60nm,1.2s
QIZ AMB AMB
comp=Z,220nm,4.3s
QIZ LR LR
comp=Z,380nm,25.7s
QIZ LR LR
comp=Z,220nm,25.1s
QIZ LR LR
comp=Z,680nm,25.9s
QIZ Qiongzhong 63.93 298 *e*P **P** **21 06 09.3 +1.3**
comp=Z,97nm,1.3s
MASI Maura Aman, Be 64.20 272 P **P** **21 06 11.6 +1.5**
comp=Z,242nm,0.9s,comp=Z,6μm
USRK Ussurisyk Arra 64.39 333 P **P** **21 06 11.0 +0.4**
comp=Z,15nm,1.0s,baz=136,slow=7.1,SNR=14
USRK LR LR 21 30 35.4
comp=Z,464nm,21.7s,baz=284,slow=33
RGRI Rengat 64.72 275 P **P** **21 06 15.3 +1.9**
comp=Z,408nm,1.0s,comp=Z,89μm
FX1 Attu Island--F 65.16 4 P **P** **21 06 14.8 -0.6**
FX1 Attu Island--F 65.16 4 P **P** **21 06 14.8 -0.6**
comp=Z,13nm,0.6s,baz=200,slow=3.6,SNR=6.0
FX1 LR LR 21 28 31.3
comp=Z,350nm,20.9s,baz=18,slow=30
VNDA Vanda 65.27 181 *e*P **P** **21 06 15.8 -0.1**
comp=Z,50nm,0.8s
VNDA Vanda 65.27 181 P **P** **21 06 16.1 +0.2**
comp=Z,53nm,0.9s,baz=358,slow=6.9,SNR=141
VNDA LR LR 21 31 28.0
comp=Z,504nm,19.2s,baz=6.4,slow=33
CASY Casey 65.50 202 *e*P **P** **21 06 16.9 -0.6**
comp=Z,102nm,1.0s
SBA Scott Base 65.56 180 *e*P **P** **21 06 18.7 +1.0**
SBA Scott Base 65.56 180 *e*P **P** **21 06 18.7 +1.0**
comp=Z,229nm,0.9s
PETK Petropavlovsk- 65.58 354 P **P** **21 06 18.1 0.0**
PETK Petropavlovsk- 65.58 354 P **P** **21 06 18.1 0.0**
PETK Petropavlovsk- 65.58 354 P **P** **21 06 18.1 0.0**
comp=Z,3.6nm,0.7s,baz=176,slow=9.8,SNR=4.1
PETK LR LR 21 29 46.5
comp=Z,398nm,20.8s,baz=167,slow=31
WHN Wuhan 65.78 312 ⇑P **P** **21 06 20.0 +0.2**
WHN S **S** **21 14 59.7 -0.3**
WHN LR LR
comp=Z,2μm,22.5s
MDJ Mudanjiang 65.80 332 P **P** **21 06 20.4 +0.7**
MDJ pP **pP** **21 06 41.1 -0.3**
MDJ sP **sP** **21 06 50.0 -0.8**
MDJ S **S** **21 15 01.2 +1.5**
MDJ sS **sS** **21 15 35.7 -1.1**
MDJ ScS **ScS** **21 16 08.3 +0.5**
MDJ AMB AMB
comp=Z,14nm,1.4s
MDJ AMB AMB
comp=Z,73nm,3.4s
MDJ LR LR
comp=Z,390nm,30.2s
MDJ LR LR
comp=Z,320nm,25.6s
MDJ LR LR
comp=Z,580nm,30.2s
MDJ Mudanjiang 65.80 332 *e*P **P** **21 06 19.9 +0.2**
comp=Z,35nm,1.0s
BKNI Bangkinang 66.14 276 P **P** **21 06 23.6 +1.1**
comp=Z,454nm,1.0s,comp=Z,3μm
UBPT Khong Chiam 66.34 293 P **P** **21 06 25.8 +2.1**
comp=Z,61nm,1.2s
UBPT Khong Chiam 66.34 293 P **P** **21 06 25.8 +2.1**
comp=Z,61nm,1.2s
PPI Padang Panjang 66.58 275 P **P** **21 06 26.2 +0.8**
comp=Z,126nm,0.9s,comp=Z,1μm
PPI Padang Panjang 66.58 275 ⇑P **P** **21 06 26.6 +1.2**
baz=67,SNR=5.7
HABR Khabarovsk 66.62 338 *e*P **P** **21 06 23.8 -1.0**
HABR *e* 21 06 52.3
HABR *e* 21 08 51.3
HABR *e*S **S** **21 15 08.4 -1.0**
HABR *e* 21 15 35.9
HABR *e* 21 16 11.8
HABR *e*SS **SS** **21 19 28.1 -0.6**
HABR pmax pmax
comp=Z,66nm,2.0s
SNY Shenyang 66.78 326 ⇑P **P** **21 06 27.5 +1.5**
SNY S **S** **21 15 15.9 +4.2**
SNY AMB AMB
comp=Z,10.0nm,0.7s
SNY AMB AMB
comp=Z,360nm,6.3s
SNY LR LR
comp=Z,240nm,18.2s
SNY LR LR
comp=Z,370nm,21.0s
SNY LR LR
comp=Z,440nm,19.6s
TIA Tai'an 67.04 318 P **P** **21 06 26.9 -0.9**
TIA S **S** **21 15 09.8 -5.3**
TIA LR LR
comp=Z,580nm,20.0s
TIA LR LR
comp=Z,810nm,24.0s
TIA LR LR
comp=Z,880nm,22.6s
IPM Ipoh 67.18 280 P **P** **21 06 30.0 +0.8**
comp=Z,205nm,1.1s,comp=Z,2μm
IPM Ipoh 67.18 280 *e*P **P** **21 06 29.3 +0.1**
comp=Z,197nm,1.0s
CN2 Changchun 67.19 329 *e*P **P** **21 06 28.4 -0.2**
CN2 e pP **pP** **21 06 52.4 +2.0**
CN2 *e*S **S** **21 15 19.2 +2.6**
CN2 AMB AMB
comp=Z,20nm,1.0s
CN2 AMB AMB
comp=Z,300nm,5.0s
CN2 LR LR
comp=Z,500nm,21.0s
CN2 LR LR
comp=Z,400nm,21.0s
CN2 LR LR
comp=Z,600nm,22.0s
KULM Kulim 67.75 281 P **P** **21 06 34.0 +1.2**
comp=Z,60nm,1.2s
KULM Kulim 67.75 281 *e*P **P** **21 06 32.9 +0.1**
comp=Z,58nm,1.0s
SKNT Sakolnakorn 68.28 294 P **P** **21 06 36.7 +0.7**
comp=Z,220nm,0.9s,comp=Z,2μm
SKLT Songkhla 68.29 283 P **P** **21 06 37.9 +1.8**
comp=Z,61nm,1.2s
SKLT Songkhla 68.29 283 P **P** **21 06 37.9 +1.8**
comp=Z,61nm,1.2s
CHBT CHBT 68.35 289 P **P** **21 06 38.4 +1.9**
comp=Z,63nm,1.1s
CHBT CHBT 68.35 289 P **P** **21 06 38.4 +1.9**
comp=Z,63nm,1.1s
KLR Kul'dur 68.49 336 *e*P **P** **21 06 33.7 -3.0**
KLR *e* 21 06 48.7
KLR *e*S **S** **21 15 29.5 -2.4**
PSI Prapat 68.78 278 ⇑P **P** **21 06 38.9 -0.5**
baz=69,SNR=22
ENH Enshi 69.26 309 *e*P **P** **21 06 41.6 -0.3**
comp=Z,117nm,0.8s
GSI Gunungsitoli 69.73 276 P **P** **21 06 45.8 +0.7**
comp=Z,204nm,1.0s
GYA Guiyang 69.74 304 ⇑*i*P **P** **21 06 46.8 +1.8**
GYA pP **PcP** **21 07 08.6 +1.3**
GYA sP **sP** **21 07 18.8 +2.6**
GYA S **S** **21 15 47.0 -0.8**
GYA SKS **SKSac** **21 16 35.2 -3.4**
GYA SS **SS** **21 20 18.9 +0.9**
GYA AMB AMB
comp=Z,30nm,1.0s
GYA AMB AMB
comp=Z,140nm,6.3s
GYA LR LR
comp=Z,840nm,19.9s
GYA LR LR
comp=Z,620nm,20.4s
GYA LR LR
comp=Z,750nm,19.2s
BJT Baijiatuan 69.91 321 *e*P **P** **21 06 45.9 +0.3**
comp=Z,34nm,0.8s
BJI Beijing 69.92 321 P **P** **21 06 45.4 -0.2**
BJI pP **pP** **21 07 08.4 +0.8**
BJI sP **sP** **21 07 17.8 +0.9**
BJI S **S** **21 15 53.0 +4.0**
BJI sS **SKiKP** **21 16 19.9 -4.6**
BJI AMB AMB
comp=Z,42nm,0.9s
BJI AMB AMB
comp=Z,230nm,8.2s
BJI LR LR
comp=Z,660nm,25.5s
BJI LR LR
comp=Z,400nm,26.6s
BJI LR LR
comp=Z,1μm,30.3s
KCSI Kotacane, Aceh 70.07 278 P **P** **21 06 46.5 -0.7**
comp=Z,101nm,0.9s
SNSI Sinabang, Aceh 71.20 277 P **P** **21 06 56.6 +2.5**
comp=Z,168nm,1.0s
XAN Xi'an 71.51 312 P **P** **21 06 55.7 +0.1**
XAN AMB AMB
comp=Z,25nm,1.0s
XAN LR LR
comp=Z,300nm,22.7s
XAN LR LR
comp=Z,140nm,20.6s
XAN LR LR
comp=Z,290nm,22.7s
UTHA Uthaitani 71.90 291 P **P** **21 06 59.5 +1.3**
comp=Z,26nm,1.0s,comp=Z,197nm
KMI Kunming 72.41 301 P **P** **21 07 02.6 +1.3**
KMI PP **PP** **21 09 47.2 +3.7**
KMI S **SKiKP** **21 16 25.7 -3.2**
KMI AMB AMB
comp=Z,140nm,1.0s
KMI AMB AMB
comp=Z,300nm,3.1s
KMI LR LR
comp=Z,230nm,20.6s
KMI LR LR
comp=Z,350nm,19.0s
KMI LR LR
comp=Z,540nm,20.6s
HHC Hu-ho-hao-te 73.26 320 *e*P **P** **21 07 07.7 +1.8**
HHC pP **pP** **21 07 27.7 -0.3**
HHC sP **sP** **21 07 36.3 -1.0**
HHC PP **PP** **21 09 54.2 +3.8**
HHC S **SKiKP** **21 16 29.5 -0.1**
HHC SKS **SKSac** **21 17 02.3 -2.3**
HHC sS **SKKSac** **21 17 04.0 -0.8**
HHC ScS **ScS** **21 17 06.2 -0.9**
HHC SS **SS** **21 21 15.5 +3.9**
HHC AMB AMB
comp=Z,59nm,1.1s
HHC AMB AMB
comp=Z,280nm,5.1s
HHC LR LR
comp=Z,860nm,16.3s
HHC LR LR
comp=Z,1μm,15.9s
HHC LR LR
comp=Z,2μm,16.5s
CM31 Chiang Mai Arr 73.30 294 *e*P **P** **21 07 07.7 +1.2**
comp=Z,57nm,0.7s
CMAR Chiang Mai Arr 73.30 294 P **P** **21 07 07.7 +1.2**
CMAR Chiang Mai Arr 73.30 294 P **P** **21 07 07.7 +1.2**
comp=Z,55nm,0.8s,baz=122,slow=4.7,SNR=167
CMAR LR LR 21 38 14.8
comp=Z,227nm,20.8s,baz=294,slow=35
CHTO Chiang Mai 73.41 294 *e*P **P** **21 07 07.8 +0.7**
CHTO Chiang Mai 73.41 294 P **P** **21 07 07.9 +0.8**
comp=Z,351nm,1.2s,comp=Z,4μm
CHTO Chiang Mai 73.41 294 *e*P **P** **21 07 07.8 +0.8**
comp=Z,396nm,1.1s
CHTO Chiang Mai 73.41 294 P **P** **21 07 07.9 +0.8**
comp=Z,351nm,1.2s,comp=Z,4μm
CMAI Chiengmai2 73.70 295 P **P** **21 07 10.6 +1.6**
comp=Z,86nm,1.0s
HIA Hailar 73.82 330 *e*P **P** **21 07 08.9 +0.1**
comp=Z,37nm,1.3s
CD2 Chengdu 73.95 307 ⇓*i*P **P** **21 07 10.9 +0.8**
CD2 PcP **PcP** **21 07 26.0 +0.9**
CD2 pP **pP** **21 07 33.5 +1.3**
CD2 sP **sP** **21 07 43.2 +1.7**
CD2 PP **PP** **21 09 58.9 +2.5**
CD2 S **S** **21 16 35.0 -0.8**
CD2 SKS **SKSac** **21 17 05.4 -4.6**
CD2 sS **sS** **21 17 14.0 +0.3**
CD2 SS **SS** **21 21 23.5 +1.2**
CD2 AMB AMB
comp=Z,150nm,1.0s
CD2 AMB AMB
comp=Z,180nm,3.7s
CD2 LR LR
comp=Z,550nm,11.3s
CD2 LR LR
comp=Z,600nm,23.8s
SEY Seymchan 75.79 353 *e*P **P** **21 07 19.6 -0.3**
LZH Lanzhou 76.15 312 P **P** **21 07 24.4 +1.6**
LZH PcP **PcP** **21 07 37.4 +2.9**
LZH pP **pP** **21 07 47.3 +2.3**
LZH sP **sP** **21 07 54.5 +0.3**
LZH *e*S **S** **21 17 02.5 +2.2**
LZH SS **SS** **21 21 56.2 +0.5**
LZH AMB AMB
comp=Z,95nm,0.9s
LZH AMB AMB
comp=Z,280nm,4.3s
LZH LR LR
comp=Z,400nm,15.4s
LZH LR LR
comp=Z,490nm,16.8s
LZH LR LR
comp=Z,1μm,17.9s
CLNS Chul'man 77.01 338 *e*P pP 21 07 43.6 -5.7
CLNS pmax pmax
comp=Z,23nm,1.0s
CLNS pmax pmax
comp=N,18nm,1.0s
CLNS pmax pmax
comp=E,7.0nm,1.0s
QSPA South Pole Qui 77.72 180 *e*P **P** **21 07 30.7 -0.3**
comp=E,94nm,1.3s
CIT Chita 78.61 330 *e*P **P** **21 07 36.8 +0.8**
CIT *e* 21 07 48.5
CIT pmax pmax
comp=Z,175nm,1.0s
YAK Yakutsk 79.50 343 *e*P P 21 07 53.3 +13
YAK pmax pmax
comp=Z,88nm,1.0s
YAK pmax pmax
comp=E,14nm,1.0s
YAK pmax pmax
comp=N,29nm,1.1s
ULN Ulaanbaatar 79.75 324 *e*P **P** **21 07 42.5 +0.1**
comp=N,34nm,0.9s
SONM Songino Array 80.11 324 P **P** **21 07 44.4 0.0**
SONM PKKPbc **PKKPbc** **21 26 28.0 -2.4**
SONM P'P'ab 21 34 05.6
SONM Songino Array 80.11 324 P **P** **21 07 44.4 0.0**
comp=N,9.3nm,0.8s,baz=146,slow=7.4,SNR=47
SONM PKKPbc **PKKPbc** **21 26 28.0 -2.4**
comp=N,1.2nm,0.7s,baz=270,slow=2.9,SNR=11
SONM PKP2ab 21 34 05.6
comp=N,1.5nm,1.1s,baz=263,slow=2.5,SNR=5.7
SONM LR LR 21 40 40.7
comp=N,333nm,21.9s,baz=113,slow=34
GTA Gaotai 80.46 314 *e*P **P** **21 07 47.2 +0.8**
GTA pP **pP** **21 08 08.2 -0.7**
GTA sP **sP** **21 08 15.4 -2.6**
GTA S **S** **21 17 48.9 +2.6**
GTA sS **sS** **21 18 21.7 -2.9**
GTA SS **SS** **21 23 01.0 +0.7**
GTA AMB AMB
comp=N,42nm,1.0s
GTA AMB AMB
comp=N,220nm,7.6s
GTA LR LR
comp=N,360nm,20.9s
GTA LR LR
comp=N,620nm,22.6s
GTA LR LR
comp=N,900nm,22.3s
DIV Divide 82.29 21 *e*P **P** **21 07 55.0 -0.5**
comp=N,12nm,0.6s
TRF Thorofare Moun 82.46 18 *e*P **P** **21 07 55.7 -0.8**
comp=N,19nm,0.9s
BMRM Bremner River 82.60 22 *e*P **P** **21 07 55.7 -1.4**
comp=N,12nm,1.0s
ZAK Zakamensk 83.15 325 *e*P **P** **21 07 59.7 -0.6**
ZAK *e* 21 08 14.4
ZAK pmax pmax
comp=Z,14nm,1.2s
IM04 Indian Mountai 83.41 15 *e*P **P** **21 08 00.3 -0.8**
IMA2 Indian Mountai 83.50 15 *e*P **P** **21 08 01.7 -0.1**
IRK Irkutsk 83.51 327 *e*P P 21 07 58.3 -3.6
IRK *e* 21 08 13.0
IRK pmax pmax
comp=Z,27nm,1.1s
TLY Talaya 83.57 326 *e*P **P** **21 08 02.8 +0.5**
TLY *e*S **S** **21 18 19.4 +2.0**
TLY pmax pmax
comp=Z,24nm,0.9s
TLY MLR MLR
comp=Z,200nm,19.0s
TLY Talaya 83.57 326 P **P** **21 08 02.5 +0.2**
comp=Z,133nm,1.0s,SNR=5.8

LSA	**Lhasa**	83.65	302	P		**P**		21 08 04.3	+0.5
LSA	**Lhasa**	83.65	302	*e*P		**P**		21 08 04.5	+0.7
LSA	comp=Z,30nm,0.8s			pmax		pmax			
LSA	**Lhasa**	83.65	302	*e*P		**P**		21 08 04.5	+0.7
	comp=Z,30nm,0.8s								
MAW	**Mawson**	83.85	202	P		**P**		21 08 03.8	+0.3
MAW	**Mawson**	83.85	202	⇑P		**P**		21 08 03.7	+0.2
	baz=84,SNR=92								
MAW	**Mawson**	83.85	202	P		**P**		21 08 03.8	+0.3
	comp=Z,74nm,1.0s,baz=106,slow=5.9,SNR=116								
YBH	**Yreka Blue Hor**	84.23	45	*e*P		**P**		21 08 08.1	+2.1
	comp=Z,32nm,1.0s								
ILAR	**Eielson Array**	84.45	18	P		**P**		21 08 04.8	-1.7
ILAR				PKKPbc		**PKKPdf**		21 26 16.1	+3.3
ILAR	**Eielson Array**	84.45	18	P		**P**		21 08 04.8	-1.7
	comp=Z,11nm,0.6s,baz=231,slow=5.5,SNR=64								
ILAR				PKKPbc		**PKKPdf**		21 26 16.1	+3.3
	comp=Z,0.6nm,0.6s,baz=360,slow=2.3,SNR=5.5								
ILAR				LR		LR		21 41 23.2	
	comp=Z,470nm,18.5s,baz=232,slow=33								
CMB	**Columbia Colle**	84.58	49	*e*P		**P**		21 08 06.8	-1.0
CMB				pmax		pmax			
	comp=Z,20nm,1.0s								
CMB	**Columbia Colle**	84.58	49	*e*P		**P**		21 08 06.8	-1.0
	comp=Z,20nm,1.0s								
MOY	**Mondy**	85.03	325	*e*P		**P**		21 08 09.5	-0.3
MOY				pmax		pmax			
	comp=Z,18nm,1.8s								
BEKR	**Beckworth**	85.22	48	*e*P		**P**		21 08 12.3	+1.1
	comp=Z,12nm,1.0s								
ISA	**Isabella**	85.24	52	*e*P		**P**		21 08 08.6	-2.6
ISA				pmax		pmax			
	comp=Z,15nm,1.0s								
ISA	**Isabella**	85.24	52	*e*P		**P**		21 08 08.6	-2.6
	comp=Z,15nm,1.0s								
ISA	**Isabella**	85.24	52	P		**P**		21 08 11.0	-0.2
	baz=85								
COLD	**Coldfoot**	85.29	16	*e*P		**P**		21 08 10.6	0.0
	comp=Z,9.0nm,0.9s								
EDW2	**Edwards Air Fo**	85.37	53	P		**P**		21 08 11.7	-0.1
	baz=85								
BFSC	**Mount Baldy Ra**	85.43	54	P		**P**		21 08 11.2	-1.0
	baz=86								
WAKR	**Walker**	85.44	49	*e*P		**P**		21 08 12.4	+0.1
	comp=Z,26nm,1.0s								
LRMC	**Laurel Mountai**	85.79	53	P		**P**		21 08 13.3	-0.7
	baz=86								
TAPN	**Taplejung**	85.86	299	*e*P		**P**		21 08 15.1	+0.4
	comp=Z,168nm,1.2s								
MOD	**Modoc**	85.97	46	*e*P		**P**		21 08 11.9	-2.9
	comp=Z,68nm,0.9s								
MONP	**Monument Peak**	86.00	55	P		**P**		21 08 15.5	+0.3
	baz=86								
ODAN	**Odare**	86.00	298	*e*P		**P**		21 08 15.7	+0.3
	comp=Z,157nm,0.9s								
MPMC	**Manual Prospec**	86.12	52	P		**P**		21 08 15.4	-0.3
	baz=86								
PFO	**Pinyon Flat Ob**	86.19	55	P		**P**		21 08 15.8	-0.2
	baz=86								
NVAR	**Mina Array Bea**	86.25	50	P		**P**		21 08 15.9	-0.5
NVAR	**Mina Array Bea**	86.25	50	P		**P**		21 08 15.9	-0.5
	comp=Z,6.9nm,1.1s,baz=239,slow=7.7,SNR=23								
NVAR				LR		LR		21 39 53.4	
	comp=Z,910nm,19.8s,baz=99,slow=31								
EGAK	**Eagle**	86.29	20	*e*P		**P**		21 08 14.7	-0.8
	comp=Z,27nm,0.9s								
NV11	**Mina Array Sit**	86.36	50	*e*P		**P**		21 08 15.5	-1.3
GSC	**Goldstone**	86.42	53	P		**P**		21 08 16.9	-0.2
	baz=86								
DAWY	**Dawson**	86.44	21	*e*P		**P**		21 08 14.9	-1.6
SWSC	**Sam W. Stewart**	86.52	55	P		**P**		21 08 17.3	-0.1
	baz=87								
HEC	**Hector,Ludlow**	86.65	53	P		**P**		21 08 18.0	-0.2
	baz=87								
BELC	**Belle Mtn. Jos**	86.67	54	P		**P**		21 08 18.0	-0.3
	baz=87								
RAMN	**Ramite**	86.71	298	*e*P		**P**		21 08 19.2	+0.4
	comp=Z,122nm,1.1s								
TUQ	**Turquoise Moun**	87.15	53	P		**P**		21 08 20.6	-0.1
	baz=87								
GMRC	**Granite Mounta**	87.16	54	P		**P**		21 08 20.6	-0.1
	baz=87								
JIRN	**Jiri**	87.25	299	*e*P		**P**		21 08 21.8	+0.2
	comp=Z,124nm,1.1s								
GLA	**Glamis**	87.33	56	P		**P**		21 08 21.7	+0.3
	baz=87								
IRM	**Iron Mountain**	87.39	54	P		**P**		21 08 21.6	-0.1
	baz=88								
GUN	**Gumba**	87.58	299	*e*P		**P**		21 08 23.2	+0.1
	comp=Z,184nm,1.1s								
BMN	**Battle Mountai**	87.68	48	P		**P**		21 08 23.1	0.0
BMN				pmax		pmax			
	comp=Z,10.0nm,1.0s								
BMN	**Battle Mountai**	87.68	48	P		**P**		21 08 23.1	0.0
	comp=Z,10nm,1.0s								
PKI	**Pulchoki**	87.89	299	*e*P		**P**		21 08 24.4	-0.2
	comp=Z,184nm,1.1s								
PKIN	**Phulchoki**	87.90	299	*e*P		**P**		21 08 24.7	+0.1
	comp=Z,42nm,0.8s								
SHPR	**Sheep Range**	88.05	52	*e*P		**P**		21 08 23.4	-1.6
	comp=Z,5.4nm,1.0s								
KKN	**Kakani**	88.06	299	*e*P		**P**		21 08 25.3	0.0
	comp=Z,79nm,0.8s								
DMN	**Daman**	88.16	299	*e*P		**P**		21 08 26.0	+0.2
	comp=Z,290nm,0.9s								
R11A	**Troy Canyon, C**	88.26	50	P		**P**		21 08 25.6	-0.3
	baz=88								
GKN	**Gorkha**	88.66	299	*e*P		**P**		21 08 27.6	-0.5
	comp=Z,184nm,0.9s								
HVS	**Khovu-Aksy**	88.99	323	*c i*P		**P**		21 08 28.6	-0.3
HVS				pmax		pmax			
	comp=Z,77nm,1.1s								
BMO	**Blue Mountains**	89.01	44	*e*P		**P**		21 08 30.7	+1.5
BMO				pmax		pmax			
	comp=Z,51nm,1.8s								
BMO	**Blue Mountains**	89.01	44	*e*P		**P**		21 08 30.7	+1.5
	comp=Z,51nm,1.8s								
ELK	**Elko**	89.22	48	*e*P		**P**		21 08 30.8	+0.3
	comp=Z,12nm,1.0s								
KOLN	**Koldanda**	89.50	298	*e*P		**P**		21 08 31.3	-0.7
	comp=Z,69nm,0.8s								
DANN	**Dangsing**	89.50	299	*e*P		**P**		21 08 31.5	-0.6
	comp=Z,134nm,0.8s								
MFID	**Camas Ranch**	89.58	45	P		**P**		21 08 32.0	0.0
	baz=90								
X16A	**Lo Mia Camp, P**	90.41	55	P		**P**		21 08 35.7	-0.5
	baz=90								
TUC	**Tucson**	90.42	57	*e*P		**P**		21 08 36.5	+0.4
TUC				pmax		pmax			
	comp=Z,10.0nm,1.2s								
TUC	**Tucson**	90.42	57	*e*P		**P**		21 08 36.5	+0.4
	comp=Z,9.6nm,1.2s								
WMQ	**Urumqi**	90.50	315	P		**P**		21 08 36.1	-0.1
WMQ				pP		**pP**		21 09 02.0	+3.0
WMQ				sP		**sP**		21 09 12.5	+4.4
WMQ				PP		**PP**		21 12 13.6	+1.5
WMQ				SKS		**SKSac**		21 18 56.6	-3.6
WMQ				S		**S**		21 19 20.1	-4.5
WMQ				sS		**sS**		21 20 05.1	+1.4
WMQ				SS		**SS**		21 25 26.0	-1.6
WMQ				AMB		AMB			
	comp=Z,35nm,0.8s								
WMQ				AMB		AMB			
	comp=Z,230nm,4.4s								
WMQ				LR		LR			
	comp=Z,380nm,28.0s								
WMQ				LR		LR			
	comp=Z,510nm,27.4s								
WMQ				LR		LR			
	comp=Z,540nm,27.6s								
HLID	**Hailey**	90.61	46	*e*P		**P**		21 08 36.5	-0.3
	comp=Z,20nm,1.2s								
HLID	**Hailey**	90.61	46	P		**P**		21 08 36.5	-0.3
	baz=91								
WUAZ	**Wupatki**	90.74	54	*e*P		**P**		21 08 38.4	+0.8
	comp=Z,25nm,1.1s								
SYO	**Syowa Base**	90.81	197	⇑*e*P		**P**		21 08 35.0	-2.1
SYO	**Syowa Base**	90.81	197	⇓*e*P		P		21 08 48.0	+11
DUG	**Dugway**	90.84	49	*e*P		**P**		21 08 37.3	-0.6
DUG				pmax		pmax			
	comp=Z,24nm,1.2s								
DUG	**Dugway**	90.84	49	*e*P		**P**		21 08 37.3	-0.6
	comp=Z,24nm,1.2s								
MVU	**Marysvale**	90.85	51	*e*P		**P**		21 08 38.3	+0.1
	comp=Z,28nm,1.2s								
BGU	**Big Grassy Mou**	90.88	48	*e*P		**P**		21 08 36.6	-1.5
	comp=Z,28nm,1.3s								
HVU	**Hansel Valley**	91.29	48	*e*P		**P**		21 08 39.2	-0.8
HVU				pmax		pmax			
	comp=Z,52nm,1.2s								
HVU	**Hansel Valley**	91.29	48	*e*P		**P**		21 08 39.1	-0.8
	comp=Z,52nm,1.2s								
BSMT	**Bassoo Peak**	91.57	41	*e*P		**P**		21 08 39.7	-1.5
	comp=Z,13nm,1.0s								
MPU	**Maple Canyon**	91.67	50	*e*P		**P**		21 08 44.3	+2.5
	comp=Z,35nm,1.2s								
MCMT	**McKenzie Canyo**	92.03	45	*e*P		**P**		21 08 43.2	-0.3
	comp=Z,0.9nm,0.7s								
320A	**Kipp Ranch, An**	92.06	59	P		**P**		21 08 43.2	-0.6
	baz=92								
DLMT	**Dillon**	92.35	44	*e*P		**P**		21 08 45.0	+0.2
	comp=Z,24nm,1.0s								
PDAR	**Pinedale Array**	93.84	47	P		**P**		21 08 52.1	+0.2
PDAR	**Pinedale Array**	93.84	47	P		**P**		21 08 52.1	+0.2
	comp=Z,0.5nm,0.6s,baz=255,slow=12,SNR=2.9								
PDAR				LR		LR		21 45 32.7	
	comp=Z,365nm,20.1s,baz=246,slow=32								
U21A	**Nageezi**	93.89	54	P		**P**		21 08 52.0	-0.2
	baz=94								
S22A	**4UR Ranch, Cre**	94.81	53	P		**P**		21 08 56.0	-0.5
	baz=95								
MK31	**Makanchi Array**	94.94	317	*e*P		**P**		21 08 56.1	-0.4
MK31	**Makanchi Array**	94.94	317	*e*P		**P**		21 08 56.1	-0.4
MKAR	**Makanchi Array**	94.94	317	P		**P**		21 08 56.3	-0.3
MKAR								21 12 46.4	
MKAR	**Makanchi Array**	94.94	317	P		**P**		21 08 56.2	-0.3
MKAR				PP		**PP**		21 12 46.4	-0.4
MKAR				PKKPbc		**PKKPdf**		21 25 50.0	-3.6
MKAR	**Makanchi Array**	94.94	317	P		**P**		21 08 56.2	-0.3
	comp=Z,29nm,0.7s,baz=95,slow=5.7,SNR=144								
MKAR				PP		**PP**		21 12 46.4	-0.4
	comp=Z,6.2nm,1.2s,baz=107,slow=11,SNR=3.9								
MKAR				PKKPbc		**PKKPdf**		21 25 50.0	-3.6
	comp=Z,3.5nm,0.6s,baz=258,slow=4.1,SNR=26								
MKAR				LR		LR		21 51 57.9	
	comp=Z,210nm,21.4s,baz=93,slow=36								
ZAA0	**Zalesovo Array**	95.00	324	*e*P		**P**		21 08 55.0	-1.6
ZALV	**Zalesovo Beam**	95.00	324	P		**P**		21 08 55.8	-0.8
ZALV	**Zalesovo Beam**	95.00	324	P		**P**		21 08 55.8	-0.8
ZALV				PKKPbc		**PKKPdf**		21 25 50.8	-2.9
ZALV	**Zalesovo Beam**	95.00	324	P		**P**		21 08 55.8	-0.8
	comp=Z,9.1nm,0.9s,baz=108,slow=4.8,SNR=33								
ZALV				PKKPbc		**PKKPdf**		21 25 50.8	-2.9
	comp=Z,2.2nm,0.5s,baz=282,slow=2.8,SNR=10								
ZALV				LR		LR		21 54 47.6	
	comp=Z,214nm,18.6s,baz=250,slow=37								
MAIT	**Maitri**	95.35	188	*e*P		**P**		21 08 55.4	-2.6
TXAR	**Lajitas Array**	95.77	61	P		**P**		21 09 00.7	-0.1
TXAR	**Lajitas Array**	95.77	61	P		**P**		21 09 00.7	-0.1
	comp=Z,2.4nm,0.7s,baz=357,slow=19,SNR=7.4								
TXAR				LR		LR		21 42 53.2	
	comp=Z,341nm,21.4s,baz=80,slow=30								
SNAA	**Sanae**	95.92	183	*e*P		**P**		21 08 59.6	-1.1
SNAA	**Sanae**	95.92	183	*e*P		**P**		21 08 59.2	-1.5
	comp=Z,42nm,1.0s								
NVS	**Novosibirsk**	96.11	325	*e*P		**P**		21 09 00.0	-1.6
NVS				pmax		pmax			
	comp=Z,21nm,1.7s								
NVS				pmax		pmax			
	comp=N,5.0nm,1.4s								
NVS				pmax		pmax			
	comp=E,11nm,1.9s								
VNA2	**Neumayer--Watz**	96.88	182	*e*P		**P**		21 09 04.2	-0.7
	baz=184,slow=3.8								
VNA1	**Neumayer--Stat**	97.18	182	*e*P		**P**		21 09 04.9	-1.3
KURK	**Kurchatov**	98.07	320	⇓*e*P		**P**		21 09 09.5	-1.1
KURK				pmax		pmax			
	comp=Z,4.0nm,1.6s								
KURK	**Kurchatov**	98.07	320	*e*P		**P**		21 09 09.3	-1.2
KURK				PP		**PP**		21 13 08.8	-1.9
KURK				PKiKP		**PKiKP**		21 13 45.3	+2.0
KURBB	**Kurchatov Arra**	98.11	320	P		**P**		21 09 09.3	-1.5
	comp=Z,1.5nm,0.7s,baz=100,slow=3.3,SNR=15								
KURBB				PP		**PP**		21 13 08.8	-2.3
	comp=Z,3.8nm,1.1s,baz=104,slow=8.2,SNR=5.6								
KURBB				PKiKP		**PKiKP**		21 13 45.3	+1.9
	comp=Z,1.6nm,0.8s,baz=86,slow=3.9,SNR=4.4								
KSH	**Kashi**	98.12	309	P		Pdif		21 09 13.2	+1.9
KSH				pP		pP		21 09 35.6	+1.5
KSH				sP		sP		21 09 49.7	+6.5
KSH				PP		**PP**		21 13 16.2	+4.6
KSH				S		**S**		21 20 27.8	-3.9
KSH				sS		sS		21 21 12.2	+1.0
KSH				SS		**SS**		21 27 14.6	-1.7
KSH				AMB		AMB			
	comp=Z,2.0nm,0.6s								
KSH				AMB		AMB			
	comp=Z,27nm,4.4s								
KSH				LR		LR			
	comp=Z,46nm,4.3s								
KSH				LR		LR			
	comp=Z,40nm,5.4s								
KSH				LR		LR			
	comp=Z,140nm,10.1s								
AAK	**Ala-Archa**	99.68	312	*i* P		**Pdif**		21 09 18.3	+0.1
AAK				pmax		pmax			
	comp=Z,4.0nm,0.8s								
AAK	**Ala-Archa**	99.68	312	*e*Pdif		**Pdif**		21 09 17.9	-0.3
AAK	**Ala-Archa**	99.68	312	P		**Pdif**		21 09 17.9	-0.3
	comp=Z,1.0nm,0.5s,baz=163,slow=0.9,SNR=6.0								
ISFR	**Sfrayin**	112.04	305	*e*P		**PKiKP**		21 14 10.3	+0.5
IMEH	**Mehriz**	114.92	299	*e*P		PKPdf		21 14 14.6	-0.9
ISAD	**Sadrabad**	115.71	300	*e*P		**PKPdf**		21 14 15.4	-1.6
ISRV	**Sarvestan**	116.23	297	*e*P		**PKPdf**		21 14 17.4	-0.7
IPAR	**Pars**	116.29	297	*e*P		**PKPdf**		21 14 19.1	+0.9
IPRN	**Peran**	116.62	304	*e*P		**PKPdf**		21 14 18.7	+0.2
ISFB	**Sefidab**	116.82	302	*e*P		**PKPdf**		21 14 18.5	-0.3
KEV	**Kevo**	117.20	345	*e*PKIKP		**PKPdf**		21 14 17.2	-1.1
IVRN	**Varamin**	117.20	303	*e*P		**PKPdf**		21 14 19.1	-0.4
IKLH	**Kolahrood**	117.43	301	*e*P		**PKPdf**		21 14 19.4	-0.9
ARCES	**ARCESS Array B**	117.72	346	PKP		**PKPdf**		21 14 18.5	-0.9
ARCES				PKKPbc		**PKKPbc**		21 24 39.7	-4.0
ARCES	**ARCESS Array B**	117.72	346	PKP		**PKPdf**		21 14 18.5	-0.9
	comp=Z,5.7nm,0.6s,baz=77,slow=2.0,SNR=39								
ARCES				PKKPbc		**PKKPbc**		21 24 39.7	-4.0
	comp=Z,4.6nm,0.8s,baz=212,slow=1.5,SNR=12								
IPIR	**Pirpir**	118.04	301	*e*P		**PKPdf**		21 14 20.3	-1.2
KLMR	**Klimovskoe**	118.19	334	*e*PKIKP		**PKPdf**		21 14 17.8	-2.7
KLMR				pmax		pmax			
	comp=Z,23nm,1.6s								
KLMR				MLR		MLR			
	comp=Z,730nm,26.0s								
LPAZ	**La Paz**	118.96	116	PKP		**PKPdf**		21 14 23.7	-0.4
LPAZ				PKKPbc		**PKKPbc**		21 24 37.2	-1.4
LPAZ	**La Paz**	118.96	116	PKP		**PKPdf**		21 14 23.7	-0.4
	comp=Z,1.9nm,0.7s,baz=289,slow=5.3,SNR=7.3								
LPAZ				PKKPbc		**PKKPbc**		21 24 37.2	-1.4
	comp=Z,1.4nm,0.8s,baz=67,slow=5.7,SNR=5.2								
ISRB	**Sarab**	120.17	307	*e*P		**PKPdf**		21 14 24.9	-0.4
JOF	**Joensuu**	120.36	338	*e*PKIKP		**PKPdf**		21 14 23.7	-0.9
JOF				pmax		pmax			
	comp=Z,5.0nm,0.6s								
IHRS	**Heris**	120.59	307	*e*P		**PKPdf**		21 14 26.0	-0.2
IKOM	**Komasi**	120.74	302	*e*P		**PKPdf**		21 14 25.3	-1.2
QRN	**Al-Qurain**	120.80	296	*e*P		**PKPdf**		21 14 25.8	-0.7
QRN				AMb		AMB		21 14 28.3	
	comp=Z,125nm,0.8s								
RDF	**Al-Radifah**	121.11	296	*e*P		**PKPdf**		21 14 26.5	-0.6
RDF				AMb		AMB		21 14 28.9	
	comp=Z,79nm,0.8s								
VRHR	**Novokhopersk**	121.11	323	*e*PKIKP		**PKPdf**		21 14 24.4	-2.0
VRHR				pmax		pmax			
	comp=N,8.0nm,0.5s								
VRHR				pmax		pmax			
	comp=E,10.0nm,0.5s								
VRHR				pmax		pmax			
	comp=Z,10.0nm,0.5s								
IVIS	**Veis**	121.25	303	*e*P		PKPdf		21 14 21.9	-5.5
NAY	**Al-Naaiem**	121.36	297	*e*P		**PKPdf**		21 14 26.5	-1.1
NAY				AMb		AMB		21 14 29.1	
	comp=Z,28nm,1.0s								
IGHG	**Ghaleghazi**	121.50	303	*e*P		**PKPdf**		21 14 25.4	-2.6
IMRD	**Marand**	121.56	308	*e*P		**PKPdf**		21 14 27.4	-0.5
RST	**Umm Al-Ruwaisa**	121.56	297	*e*P		**PKPdf**		21 14 27.1	-0.8
RST				AMb		AMB		21 14 29.8	
	comp=Z,806nm,0.8s								
IDHR	**Dehrash**	121.61	303	*e*P		**PKPdf**		21 14 26.8	-1.4
GNI	**Garni**	122.03	310	*e*PKPdf		**PKPdf**		21 14 29.5	+0.7
ZEI	**Tsey**	122.07	313	*e*PKIKP		**PKPdf**		21 14 28.8	0.0
ZEI				pmax		pmax			
	comp=Z,9.0nm,1.0s								
OBN	**Obninsk**	122.25	329	⇓*i*PKIKP		**PKPdf**		21 14 28.3	-0.2
OBN				*e*				21 16 08.3	
OBN				*e*				21 21 26.8	
OBN				*e*SS		SS		21 32 47.0	+9.5
OBN				pmax		pmax			
	comp=Z,30nm,1.6s								
VSR	**Storozhevoye**	122.50	324	*e*PKIKP		**PKPdf**		21 14 28.5	-0.6
VSR				pmax		pmax			
	comp=Z,10.0nm,0.7s								
VSR				pmax		pmax			
	comp=N,5.0nm,1.3s								
VSR				pmax		pmax			
	comp=E,3.0nm,0.6s								
VORD	**Divnogorie**	122.53	323	*e*PKIKP		**PKPdf**		21 14 27.1	-2.0
VORD				pmax		pmax			
	comp=Z,10.0nm,1.4s								
VORD				pmax		pmax			
	comp=N,40nm,0.6s								
VORD				pmax		pmax			
	comp=E,30nm,0.7s								
KIV	**Kislovodsk**	122.63	315	*i* PKIKP		**PKPdf**		21 14 27.3	-2.4
KIV				pmax		pmax			
	comp=Z,8.0nm,1.1s								
KIV				MLR		MLR			
	comp=Z,224nm,20.0s								
CPUP	**Villa Florida**	122.64	132	PKP		**PKPdf**		21 14 29.7	-0.4
CPUP	**Villa Florida**	122.64	132	PKP		**PKPdf**		21 14 29.7	-0.4
	comp=Z,5.3nm,0.7s,baz=304,slow=1.1,SNR=7.6								
KAF	**Kangasniemi**	122.67	339	*e*PKIKP		**PKPdf**		21 14 27.8	-1.3
KAF				pmax		pmax			
	comp=Z,8.0nm,0.5s								
FINES	**FINESS Array B**	123.20	339	PKP		**PKPdf**		21 14 29.4	-0.8
FINES				PKKPbc		**PKKPab**		21 24 20.3	+0.1
FINES	**FINESS Array B**	123.20	339	PKP		**PKPdf**		21 14 29.4	-0.8
	comp=Z,3.9nm,0.6s,baz=20,slow=4.4,SNR=22								
FINES				PKKPbc		**PKKPab**		21 24 20.3	+0.1
	comp=Z,7.0nm,0.8s,baz=199,slow=2.2,SNR=13								
BOSA	**Boshof**	124.71	222	PKP		**PKPdf**		21 14 34.0	-0.2
BOSA	**Boshof**	124.71	222	PKP		**PKPdf**		21 14 34.0	-0.2
	comp=Z,6.4nm,0.7s,baz=120,slow=3.9,SNR=14								
VSU	**Vasula**	124.91	336	*i* PKIKP		**PKPdf**		21 14 33.7	+0.3
ANN	**Anapa**	125.96	317	*i* PKIKP		PKPdf		21 14 27.9	-8.0
ANN				pmax		pmax			
	comp=Z,45nm,1.2s								
MALT	**Malatya**	127.22	309	⇑PKIKP		**PKPdf**		21 14 39.5	+0.8
MALT	**Malatya**	127.22	309	⇑*i*P		**PKPdf**		21 14 39.5	+0.8
KMBO	**Kilima Mbogo**	127.90	259	PKP		**PKPdf**		21 14 42.2	+1.3
KMBO	**Kilima Mbogo**	127.90	259	PKP		**PKPdf**		21 14 42.2	+1.3
	comp=Z,2.2nm,0.8s,baz=50,slow=24,SNR=5.9								
NB2	**NORSAR Subarra**	128.09	345	PKPdf		**PKPdf**		21 14 38.8	-0.8
	comp=Z,5.7nm,1.2s,baz=31,slow=1.9								
NOA	**NORSAR Array B**	128.09	345	PKP		**PKPdf**		21 14 38.9	-0.7
NOA	**NORSAR Array B**	128.09	345	PKP		**PKPdf**		21 14 38.9	-0.7
	comp=Z,3.5nm,0.9s,baz=32,slow=2.0,SNR=6.2								
AKASG	**Malin Array Be**	128.31	327	PKIKP		**PKPdf**		21 14 38.9	-1.3
AKASG	**Malin Array Be**	128.31	327	PKP		**PKPdf**		21 14 38.9	-1.3
AKASG	**Malin Array Be**	128.31	327	PKP		**PKPdf**		21 14 38.9	-1.3
	comp=Z,3.4nm,0.7s,baz=57,slow=2.4,SNR=10								
BR131	**Keskin Array S**	130.35	312	*e*PKPdf		**PKPdf**		21 14 45.1	+0.4
BRTR	**Keskin Array B**	130.35	312	PKP		**PKPdf**		21 14 44.8	+0.1
BRTR				PP		**PP**		21 16 59.0	-0.2
BRTR				SKPbc		**SKPbc**		21 18 05.7	+5.1
BRTR	**Keskin Array B**	130.35	312	PKP		**PKPdf**		21 14 44.8	+0.1
	comp=Z,1.5nm,0.6s,baz=131,slow=3.4,SNR=9.5								
BRTR				PP		**PP**		21 16 59.0	-0.2
	comp=Z,2.6nm,0.9s,baz=91,slow=5.1,SNR=5.7								
BRTR				SKPbc		**SKPbc**		21 18 05.7	+5.1
	comp=Z,8.6nm,1.0s,baz=103,slow=2.7,SNR=12								
ANTO	**Ankara**	130.91	313	⇓PKIKP		**PKPdf**		21 14 46.7	+1.1
CFR	**Carcaliu**	131.78	321	⇓PKIKP		**PKPdf**		21 14 48.0	+1.0
CFR	**Carcaliu**	131.78	321	⇓*i*P		**PKPdf**	

SSB	**Saint Sauveur**	**143.71**	**338**	*e*PKPpre	PKPbc	21 15 06.4	-0.2
LUCF	**Luceram**	**143.76**	**334**	PKP	PKPab	21 15 06.5	+0.3
PYM	**Petit Puy Mans**	**143.82**	**340**	PKP	PKPbc	21 15 07.9	+0.8
REVF	**Revere**	**143.88**	**334**	PKP	PKPab	21 15 05.7	-0.9
OG26	**St.-Nazaire-De**	**144.02**	**337**	PKP	**PKPab**	**21 15 07.3**	**+0.2**
CALN	**Calern**	**144.07**	**335**	PKP	PKPbc	21 15 07.8	-0.1
OSPF	**L'Ospedale**	**144.67**	**330**	PKP	**PKPab**	**21 15 08.7**	**-0.9**
VSL	**Villasalto**	**146.19**	**327**	*e*PKPdf	**PKPdf**	**21 15 13.5**	**+0.1**
MLS	**Moulis**	**146.94**	**340**	PKP	**PKPbc**	**21 15 16.2**	**-0.4**
RESF	**Ens**	**147.31**	**341**	PKP	**PKPbc**	**21 15 17.9**	**+0.1**
VIEF	**Viey**	**147.34**	**341**	PKP	**PKPbc**	**21 15 17.5**	**-0.3**
LARF	**Larrau**	**147.51**	**343**	PKP	**PKPdf**	**21 15 16.9**	**+1.4**
KEST	**Kesra**	**148.86**	**322**	*e*PKPbc	**PKPbc**	**21 15 22.0**	**0.0**
KEST	**Kesra**	**148.86**	**322**	PKPbc	**PKPbc**	**21 15 22.2**	**+0.2**
	comp=Z,19nm,0.9s,baz=286,slow=1.7,SNR=32						
CMAH	**Djebel Manchou**	**149.33**	**326**	P	**PKPbc**	**21 15 23.2**	**0.0**
ABSA	**Djebel Ababsia**	**149.56**	**325**	P	**PKPbc**	**21 15 22.6**	**-1.2**
CKFL	**Kef-Lekhel**	**149.88**	**326**	P	**PKPbc**	**21 15 24.5**	**-0.1**
PBRG	**Braganca**	**150.01**	**350**	*e*PKPbc	**PKPbc**	**21 15 24.9**	**+0.3**
PGAV	**Gavieira, Arco**	**150.09**	**352**	*e*PKPdf	**PKPdf**	**21 15 19.9**	**+0.1**
CASM	**Ain Smara**	**150.11**	**326**	P	**PKPbc**	**21 15 24.4**	**-0.7**
DFRA	**Djebel Bou Aff**	**150.22**	**327**	P	**PKPdf**	**21 15 21.6**	**+1.4**
CTEI	**Djebel Teioual**	**150.30**	**326**	P	**PKPbc**	**21 15 25.7**	**+0.1**
POLO	**Lamas de Olo**	**150.60**	**351**	*e*PKPbc	**PKPbc**	**21 15 26.0**	**-0.1**
MVO	**Moncorvo**	**150.69**	**350**	*e*PKPbc	**PKPbc**	**21 15 26.4**	**+0.1**
SET	**Setif**	**150.74**	**328**	P	**PKPbc**	**21 15 28.0**	**+1.4**
CKHR	**Kef el Ahmar**	**150.81**	**327**	P	**PKPbc**	**21 15 26.4**	**-0.4**
SHEL	**Horse Pasture**	**150.90**	**195**	*e*PKIKP	**PKPbc**	**21 15 28.4**	**+0.9**
SHEL	**Horse Pasture**	**150.90**	**195**	*e*PKPbc	**PKPbc**	**21 15 28.4**	**+0.9**
RCBR	**Riachuelo**	**151.35**	**128**	*e*PKPdf	**PKPbc**	**21 15 24.6**	**+2.0**
ESDC	**Sonseca Array**	**151.46**	**344**	PKP	**PKPdf**	**21 15 21.9**	**0.0**
ESDC				PKPbc	**PKPbc**	**21 15 27.8**	**-0.3**
ESDC	**Sonseca Array**	**151.46**	**344**	PKP	**PKPdf**	**21 15 21.9**	**0.0**
	comp=Z,3.2nm,0.7s,baz=14,slow=2.4,SNR=7.4						
ESDC				PKPbc	**PKPbc**	**21 15 27.8**	**-0.3**
	comp=Z,5.0nm,0.7s,baz=15,slow=2.3,SNR=40						
ESLA	**Sonseca Array**	**151.46**	**344**	*e*PKPdf	**PKPdf**	**21 15 22.4**	**+0.4**
ESLA				*e*PKPbc	**PKPbc**	**21 15 27.8**	**-0.3**
MTE	**Manteigas**	**151.52**	**350**	*e*PKPbc	**PKPbc**	**21 15 28.3**	**+0.1**
MTE	**Manteigas**	**151.52**	**350**	*e*PKPdf	**PKPdf**	**21 15 22.8**	**+0.8**
PAB	**San Pablo**	**151.68**	**345**	*e*PKIKP	**PKPdf**	**21 15 22.3**	**0.0**
PAB	**San Pablo**	**151.68**	**345**	*e*PKPdf	**PKPdf**	**21 15 22.3**	**0.0**
PMRV	**Marv??o**	**152.44**	**350**	*e*PKPbc	**PKPbc**	**21 15 30.1**	**-0.2**
PMTG	**Montargil**	**152.93**	**351**	*e*PKPbc	**PKPbc**	**21 15 30.3**	**-1.1**
PESTR	**Estremoz**	**153.02**	**350**	*e*PKPbc	**PKPbc**	**21 15 31.7**	**+0.1**
PMAFR	**Mafra**	**153.18**	**353**	*e*PKPbc	**PKPbc**	**21 15 32.1**	**+0.2**
EVO	**Evora**	**153.42**	**350**	*e*PKPdf	**PKPdf**	**21 15 23.8**	**-1.0**
PBAR	**Barrancos**	**153.59**	**349**	*e*PKPdf	**PKPdf**	**21 15 25.6**	**+0.5**
PNCL	**Nicolau / Gran**	**153.91**	**351**	*e*PKPbc	**PKPbc**	**21 15 34.1**	**+0.6**
PCVE	**Castro Verde**	**154.30**	**350**	*e*PKPdf	**PKPdf**	**21 15 27.1**	**+1.0**
PVAQ	**Vaqueiros**	**154.47**	**349**	*e*PKPbc	**PKPbc**	**21 15 33.8**	**-0.9**
PFVI	**Vila Bisbo**	**154.91**	**351**	*e*PKPdf	**PKPdf**	**21 15 27.6**	**+0.7**
TAM	**Tamanrasset**	**159.11**	**303**	*e*PKIKP	**PKPdf**	**21 15 33.3**	**+0.4**
TAM	**Tamanrasset**	**159.11**	**303**	*e*PKPdf	**PKPdf**	**21 15 33.3**	**+0.4**
PMOZ	**Porto Moniz, M**	**159.28**	**9**	*e*PKPdf	**PKPdf**	**21 15 34.0**	**+1.2**
TOA0	**Torodi Ar. Sit**	**165.16**	**275**	*e*PKPdf	**PKPdf**	**21 15 37.7**	**-1.3**
TORD	**Torodi Ar. Bea**	**165.16**	**275**	PKP	**PKPdf**	**21 15 39.1**	**+0.1**
TORD				PKPab	**PKPab**	**21 16 36.7**	**+0.1**
TORD	**Torodi Ar. Bea**	**165.16**	**275**	PKP	**PKPdf**	**21 15 39.1**	**+0.1**
	comp=Z,5.6nm,1.1s,baz=339,slow=0.9,SNR=19						
TORD				PKPab	**PKPab**	**21 16 36.7**	**+0.1**
	comp=Z,21nm,0.9s,baz=69,slow=4.0,SNR=19						

***WEL* 01 20:57:35.2±0.3, 45°39S×166°70E, h22km±2km, ML3.6/11, 1C-3D, Error ellipse: s-maj=2.8km s-min=1.8km az=90.0, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.33**	**105**	P*	Pb	20 57 41.8	-0.5
DCZ				S*	Sb	20 57 47.0	-0.2
DCZ				AML	AML	20 57 47.3	
DCZ				AML	AML	20 57 47.3	
DCZ				AML	AML	20 57 47.6	
PYZ	**Puysegur Point**	**0.78**	**181**	⇑P*	Pb	20 57 49.5	-0.5
PYZ				S*	Sb	20 57 59.9	-0.2
WHZ	**Wether Hill Ro**	**1.01**	**120**	⇓PN	Pb	20 57 53.6	-0.3
WHZ				SN	Sb	20 58 07.2	+0.4
WHZ				AML	AML	20 58 10.8	
MLZ	**Mavora Lakes**	**1.04**	**88**	⇓PN	Pb	20 57 53.3	-1.2
MLZ				S*	Sb	20 58 07.0	-0.7
MLZ				AML	AML	20 58 09.3	
MSZ	**Milford Sound**	**1.13**	**51**	PN	Pn	20 57 54.7	-0.9
MSZ				SN	Sn	20 58 11.8	+1.3
MSZ				AML	AML	20 58 15.4	
MSZ				AML	AML	20 58 15.8	
MSZ				AML	AML	20 58 15.8	
APZ	**The Paps**	**1.70**	**149**	PN	Pb	20 58 05.2	-0.5
WKZ	**Wanaka**	**1.73**	**72**	PN	Pb	20 58 05.7	-0.6
WKZ				AML	AML	20 58 33.1	
WKZ				AML	AML	20 58 33.1	
WKZ				AML	AML	20 58 36.0	
EAZ	**Earnscleugh**	**1.85**	**86**	⇓PN	Pb	20 58 07.0	-1.2
EAZ				SN	Sn	20 58 29.4	+1.1
EAZ				AML	AML	20 58 30.6	
EAZ				AML	AML	20 58 37.2	
EAZ				AML	AML	20 58 37.2	
JCZ	**Jackson Bay**	**1.97**	**49**	AML	AML	20 58 41.7	
JCZ				AML	AML	20 58 42.3	
SYZ	**Scrubby Hill**	**2.05**	**125**	PN	Pn	20 58 09.9	+1.6
LBZ	**Lake Benmore**	**2.67**	**69**	PN	Pn	20 58 18.0	+1.1
LBZ				AML	AML	20 58 54.6	
HHZ	**Highcliff Hill**	**2.78**	**102**	PN	Pn	20 58 19.6	+1.2
ODZ	**Otahua Downs**	**2.81**	**84**	PN	Pn	20 58 19.2	+0.4
RPZ	**Rata Peaks**	**3.53**	**63**	AML	AML	20 59 36.2	

***IDC* 01 21:03:24.7±1.9, 14°65S×174°00W, h0km, mb4.0/6, mb1 4.4/6, mb1mx4.0/19, mbtmp4.0/6, Error ellipse: s-maj=111.7km s-min=22.3km az=150.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.28**	**71**	Pn	Pn	21 03 55.5	-8.2
	33nm,0.3s,baz=166,slow=2.3,SNR=6.5						
AFI				Sn	Sn	21 04 15.7	-17
	110nm,0.3s,baz=6.1,slow=20,SNR=6.5						
WRA	**Warramunga Arr**	**49.45**	**256**	P	P	21 12 16.8	-0.3
	0.8nm,0.6s,baz=91,slow=6.8,SNR=8.7						
ASAR	**Alice Springs**	**49.80**	**251**	P	P	21 12 18.9	-0.8
	3.6nm,0.5s,baz=87,slow=7.9,SNR=16						
NVAR	**Mina Array Bea**	**74.16**	**42**	P	P	21 15 03.8	+0.2
	1.2nm,0.9s,baz=218,slow=8.7,SNR=5.0						
TXAR	**Lajitas Array**	**80.68**	**56**	P	P	21 15 40.4	+0.2
	0.8nm,0.8s,baz=211,slow=3.9,SNR=3.7						
ILAR	**Eielson Array**	**81.83**	**11**	P	P	21 15 43.5	-1.7
	1.6nm,1.1s,baz=217,slow=6.4,SNR=6.7						
PDAR	**Pinedale Array**	**82.10**	**42**	P	P	21 15 47.0	-0.6
	0.6nm,0.8s,baz=222,slow=2.4,SNR=3.5						
BRTR	**Keskin Array B**	**145.21**	**321**	PKPbc	PKPdf	21 23 05.7	+0.7
	2.6nm,0.9s,baz=144,slow=1.1,SNR=8.8						
GERES	**GERESS Array B**	**145.31**	**351**	PKPbc	PKPdf	21 23 05.4	+0.7
	0.5nm,0.5s,baz=358,slow=7.1,SNR=4.8						

***IDC* 01 21:08:49.0±4.3, 16°44S×172°31W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/21, mbtmp3.5/3, Error ellipse: s-maj=286.5km s-min=28.6km az=150.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**50.64**	**257**	P	P	21 17 49.7	-0.6
	0.4nm,1.0s,baz=91,slow=7.5,SNR=4.1						
ASAR	**Alice Springs**	**50.80**	**253**	P	P	21 17 51.1	-0.4
	0.7nm,0.5s,baz=85,slow=8.0,SNR=14						
NVAR	**Mina Array Bea**	**74.41**	**41**	P	P	21 20 28.6	-0.7
	0.2nm,0.6s,baz=229,slow=9.5,SNR=2.3						
BRTR	**Keskin Array B**	**147.62**	**321**	PKPbc	PKPbc	21 28 37.0	+1.1
	0.8nm,0.9s,baz=14,slow=6.7,SNR=2.9						

MAN ***01*** *21:13:33, 8.91N×122.48E, h30km, mb5.0, ML3.9, MS4.0*
ISC 01 21:13:33.4±1.4, 8°84N±0.04×122°46E±0.07, h34km±3km, n14, σ1°27/22, 4C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.92**	**57**	⇓*i*P	**Pb**	**21 13 51.8**	**+0.8**
SNPH				*i* S	**Sb**	**21 14 02.9**	**-0.1**
IPIL	**Ipil**	**1.05**	**174**	⇑*e*P	**Pb**	**21 13 52.5**	**-0.6**
IPIL				*i* S	**Sb**	**21 14 07.7**	**+1.2**
PAGZ	**Pagadian**	**1.34**	**137**	*e*P	**Pb**	**21 13 57.4**	**-0.7**
PAGZ				*e*S	**Sn**	**21 14 10.2**	**-2.3**
TBP	**Tagbilaran**	**1.63**	**58**	*e*P	**Pn**	**21 13 59.7**	**0.0**
TBP				*e*S	**Sn**	**21 14 19.5**	**0.0**
GUIM	**Jordan**	**1.78**	**4**	*e*P	**Pn**	**21 14 00.6**	**-1.2**
GUIM				*e*S	**Sn**	**21 14 21.7**	**-1.6**
LLP	**Lapu-Lapu**	**2.09**	**45**	⇑*i*P	**Pn**	**21 14 06.4**	**+0.3**
LLP				*i* S	**Sn**	**21 14 30.9**	**-0.1**
CGP	**Cagayan de Oro**	**2.25**	**100**	⇑*e*P	**Pn**	**21 14 07.7**	**-0.5**
CGP				*i* S	**Sn**	**21 14 34.9**	**+0.2**
CTBH	**Cotabato--PC H**	**2.39**	**132**	⇓*i*P	**Pn**	**21 14 12.3**	**+2.1**
MSLP	**Maasin**	**2.70**	**61**	*e*P	**Pn**	**21 14 16.2**	**+1.8**
RCP	**Roxas**	**2.72**	**6**	⇑*e*P	**Pn**	**21 14 14.9**	**+0.2**
RCP				*e*S	**Sn**	**21 14 47.7**	**+1.2**
BUKP	**Musuan**	**2.75**	**110**	*e*P	**Pb**	**21 14 19.3**	**-2.6**
OCLP	**Ormoc**	**3.06**	**44**	*e*P	**Pn**	**21 14 19.5**	**+0.1**
WRA	**Warramunga Arr**	**30.90**	**158**	P	P	**21 19 47.4**	**+0.3**
	0.2nm,0.8s,baz=340,slow=9.0,SNR=3.4						
ASAR	**Alice Springs**	**34.19**	**161**	P	P	**21 20 16.5**	**+0.7**
	0.2nm,0.6s,baz=339,slow=7.3,SNR=5.6						

IDC ***01*** *21:15:41.2±0.6, 16°37S×173°29W, h0km, mb4.4/14, mb1 4.6/14, mb1mx4.5/23, mbtmp4.4/14, MS4.3/13, Ms1 4.3/13, ms1mx4.0/29, Error ellipse: s-maj=26.5km s-min=15.7km az=139.0*
AUST ***01*** *21:15:42.0±3.1, 16°81S×173°17W, h0km, Error ellipse: s-maj=61.9km s-min=29.9km az=78.0*
NEIC ***01*** *21:15:42.3±2.3, 16°36S×173°09W, h10km±3km, mb5.0/25, Error ellipse: s-maj=21.1km s-min=9.4km az=122.0*
ISCJB ***01*** *21:15:44.2±0.2, 16°43S±0°07×173°29W±0°06, h32km, mb4.8/39, MS4.4/14, Error ellipse: s-maj=11.5km s-min=4.6km az=142.2*
ISC 01 21:15:46.2±0.4, 16°49S±0°08×173°21W±0°08, h32km, n162, σ1°20/142, mb4.8/39, MS4.5/14, 16C-10D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.91**	**29**	*e*Pn	Pn	21 16 23.8	-6.7
AFI				eSn	Sn	21 16 53.1	-11
AFI	**Afiamalu**	**2.91**	**29**	Pn	Pn	21 16 23.8	-6.7
	34nm,0.3s,baz=6.9,slow=0.5,SNR=18						
AFI				Sn	Sn	21 16 52.5	-12
	211nm,0.3s,baz=81,slow=22,SNR=12						
MSVF	**Nonsavu**	**8.45**	**260**	*e*Pn	Pn	21 17 55.3	+8.9
RAR	**Rarotonga**	**13.56**	**112**	LR	LR	21 22 29.3	
	comp=Z,583nm,18.5s,baz=90,slow=30						
DZM	**Mont Dzumac**	**19.98**	**251**	*e*P	Pn	21 20 19.2	+1.1
	55nm,0.9s						
DZM				*e*LR	LR	21 25 10.8	
	2μm,24.9s						
DZM	**Mont Dzumac**	**19.98**	**251**	P	Pn	21 20 19.1	+1.0
	0.5nm,0.3s,baz=76,slow=14,SNR=11						
DZM				LR	LR	21 25 02.9	
	comp=Z,53nm,18.8s,baz=209,slow=28						
OUZ	**Omahuta**	**22.07**	**210**	*e*P	**P**	**21 20 38.3**	**-0.2**
	378nm,2.5s						
PPT2	**Papeete2**	**22.63**	**96**	*e*S	Sn	21 24 59.0	-6.6
	594nm,29.0s						
PPT2				*e*LR	LR	21 26 06.0	
	644nm,24.0s						
PPT	**Papeete**	**22.63**	**96**	LR	LR	21 27 00.3	
	comp=Z,490nm,18.6s,baz=5.4,slow=30						
URZ	**Urewera**	**23.30**	**200**	*e*P	**P**	**21 20 51.0**	**-0.3**
	80nm,1.6s						
URZ	**Urewera**	**23.30**	**200**	P	**P**	**21 20 51.0**	**-0.3**
	11nm,0.6s,baz=354,slow=12,SNR=4.2						
TBI	**Tubuai**	**23.33**	**111**	*e*LQ	LQ	21 25 23.6	
	593nm,27.5s						
TBI				*e*LR	LR	21 26 24.5	
	498nm,27.2s						
XMAS	**Kiritimati**	**24.11**	**42**	*e*P	**P**	**21 20 58.1**	**-1.2**
	59nm,0.9s						
BKZ	**Black Stump Fm**	**24.33**	**200**	*e*P	**P**	**21 21 01.4**	**+0.3**
	101nm,2.0s						
HNR	**Honiara**	**27.06**	**282**	LR	LR	21 30 35.4	
	comp=Z,640nm,20.1s,baz=324,slow=33						
KHZ	**Kahutara**	**28.23**	**201**	*e*P	**P**	**21 21 36.3**	**+0.2**
	307nm,2.5s						
RPZ	**Rata Peaks**	**30.25**	**203**	*e*P	**P**	**21 21 53.4**	**-0.8**
	29nm,1.0s						
RPZ	**Rata Peaks**	**30.25**	**203**	P	P	21 22 00.0	+5.8
	22nm,0.9s,baz=4.3,slow=4.6,SNR=5.8						
WHZ	**Wether Hill Ro**	**33.28**	**204**	*e*P	**P**	**21 22 21.4**	**+0.7**
	705nm,3.0s						
EIDS	**Eidsvold**	**34.41**	**249**	*e*P	**P**	**21 22 29.9**	**-1.0**
	27nm,1.8s						
ARMA	**Armidale**	**34.95**	**240**	*e*P	**P**	**21 22 33.4**	**-2.2**
	48nm,1.6s						
ARMA	**Armidale**	**34.95**	**240**	⇑P	**P**	**21 22 35.3**	**-0.3**
	baz=35,SNR=4.7						
RKT	**Rikitea**	**36.50**	**107**	*e*LR	LR	21 32 24.9	
	306nm,27.8s						
CNB	**Canberra Magne**	**38.24**	**233**	⇑P	**P**	**21 23 02.7**	**-0.9**
	baz=38,SNR=5.3						
CTA	**Charters Tower**	**38.59**	**258**	*e*P	**P**	**21 23 05.3**	**-1.3**
CTA	**Charters Tower**	**38.59**	**258**	P	**P**	**21 23 05.3**	**-1.3**
	6.4nm,1.1s,baz=100,slow=5.7,SNR=6.0						
PMG	**Port Moresby**	**39.20**	**275**	*e*P	**P**	**21 23 11.7**	**0.0**
PMG	**Port Moresby**	**39.20**	**275**	P	**P**	**21 23 11.7**	**0.0**
	18nm,0.9s,baz=147,slow=3.0,SNR=4.7						
PMG				LR	LR	21 35 45.1	
	comp=Z,146nm,20.9s,baz=233,slow=31						
H11S2	**WAKE ISLAND Hy**	**39.98**	**330**	T	T	22 04 29.3	
	baz=161,slow=0.7,SNR=5.5						
H11S3	**WAKE ISLAND Hy**	**39.99**	**330**	T	T	22 04 26.3	
H11S1	**WAKE ISLAND Hy**	**40.00**	**330**	T	T	22 04 27.0	
	baz=170,slow=0.7,SNR=7.8						
CMSA	**Cobar Meteorol**	**40.17**	**240**	⇑P	**P**	**21 23 18.4**	**-1.2**
	baz=40,SNR=8.8						
QLP	**Quilpie**	**40.67**	**248**	⇓P	**P**	**21 23 23.5**	**-0.4**
	baz=41						
H11N3	**WAKE ISLAND Hy**	**40.94**	**331**	T	T	22 06 32.2	
	baz=152,slow=0.7,SNR=10						
H11N1	**WAKE ISLAND Hy**	**40.94**	**331**	T	T	22 06 06.9	
	baz=152,slow=0.7,SNR=12						
H11N2	**WAKE ISLAND Hy**	**40.96**	**331**	T	T	22 06 11.1	
	baz=152,slow=0.7,SNR=11						
COEN	**Coen**	**42.10**	**267**	⇑P	**P**	**21 23 35.1**	**-0.6**
	baz=42						
STKA	**Stephens Creek**	**43.66**	**241**	*e*P	**P**	**21 23 46.9**	**-1.3**
	4.4nm,0.9s						
STKA	**Stephens Creek**	**43.66**	**241**	⇓P	**P**	**21 23 47.3**	**-0.8**
	baz=44,SNR=8.1						
STKA	**Stephens Creek**	**43.66**	**241**	P	**P**	**21 23 47.4**	**-0.8**
	20nm,1.0s,baz=62,slow=7.4,SNR=24						
STKA				LR	LR	21 39 58.5	
	comp=Z,283nm,21.9s,baz=29,slow=33						
ARPS	**Mount Arapiles**	**44.49**	**234**	⇑P	**P**	**21 23 52.1**	**-2.6**
	baz=44						
HTT	**Hallett**	**46.14**	**239**	⇑P	**P**	**21 24 07.9**	**-0.1**
	baz=46						
BBOO	**Buckleboo**	**48.43**	**241**	*e*P	**P**	**21 24 24.8**	**-0.9**
	2μm,2.8s						
BBOO	**Buckleboo**	**48.43**	**241**	⇓P	**P**	**21 24 23.9**	**-1.8**
	baz=48						
WRAB	**Tennant Creek**	**49.77**	**258**	*e*P	**P**	**21 24 34.4**	**-1.8**
	11nm,1.5s						
WRA	**Warramunga Arr**	**49.78**	**258**	*e*P	**P**	**21 24 34.6**	**-1.6**
WRA	**Warramunga Arr**	**49.78**	**258**	P	**P**	**21 24 34.6**	**-1.6**
	1.2nm,0.5s,baz=83,slow=5.8,SNR=27						
WRA				LR	LR	21 44 30.9	
	comp=Z,379nm,19.6s,baz=85,slow=35						
AS01	**Alice Springs**	**49.91**	**253**	*e*P	**P**	**21 24 35.8**	**-1.4**
AS12	**Alice Springs**	**49.95**	**253**	*e*P	**P**	**21 24 36.0**	**-1.5**
ASAR	**Alice Springs**	**49.95**	**253**	P	**P**	**21 24 36.0**	**-1.5**
	25nm,1.0s,baz=85,slow=8.5,SNR=153						
KDU	**Kakadu**	**52.57**	**266**	⇑P	**P**	**21 24 56.7**	**-0.5**
	baz=53,SNR=3.1						
KNRA	**Kununurra**	**55.59**	**262**	⇑P	**P**	**21 25 20.0**	**+0.8**
	baz=56						
SWI	**Sorong**	**56.82**	**280**	⇓P	**P**	**21 25 28.7**	**+0.6**
	baz=57						
SOEI	**Soe**	**61.06**	**268**	⇓P	**P**	**21 25 58.5**	**+0.8**
	baz=61,SNR=7.7						
VNDA	**Vanda**	**62.32**	**186**	*e*P	**P**	**21 26 07.2**	**+2.2**
VNDA	**Vanda**	**62.32**	**186**	P	**P**	**21 26 07.2**	**+2.2**
	1.2nm,0.9s,baz=21,slow=5.4,SNR=6.7						
VNDA				LR	LR	21 48 08.9	
	comp=Z,133nm,21.6s,baz=290,slow=31						
MEEK	**Meekatharra**	**63.57**	**248**	⇓P	**P**	**21 26 13.5**	**-0.8**
	baz=63						
KLBR	**Kellerberrin**	**63.90**	**243**	P	**P**	**21 26 15.8**	**-0.5**
	baz=64,SNR=7.1						
BLDU	**Ballidu**	**64.86**	**244**	⇑P	**P**	**21 26 22.3**	**-0.3**
	baz=65						
CASY	**Casey**	**69.50**	**205**	*e*P	**P**	**21 26 51.6**	**+0.2**
	11nm,1.2s						
MJAR	**Matsushiro Arr**	**69.88**	**320**	P	**P**	**21 26 53.7**	**-0.4**
	1.4nm,0.9s,baz=151,slow=3.3,SNR=4.1						
TJR	**Tejon Ranch**	**72.76**	**44**	*e*P	**P**	**21 27 09.8**	**-1.8**
WOFM	**Oak Flat**	**73.07**	**44**	*e*P	**P**	**21 27 16.3**	**+2.7**
MONP	**Monument Peak**	**73.16**	**47**	P	**P**	**21 27 13.6**	**-0.6**
	baz=73						
EDW2	**Edwards Air Fo**	**73.18**	**45**	P	**P**	**21 27 13.5**	**-0.6**
	baz=73						
ISA	**Isabella**	**73.30**	**44**	*e*P	**P**	**21 27 13.3**	**-1.5**
	7.7nm,1.3s						
ISA	**Isabella**	**73.30**	**44**	P	**P**	**21 27 14.5**	**-0.3**
	baz=73						
CMB	**Columbia Colle**	**73.46**	**41**	*e*P	**P**	**21 27 14.8**	**-0.9**
	26nm,2.0s						
QSPA	**South Pole Qui**	**73.56**	**180**	*e*P	**P**	**21 27 16.5**	**+0.5**
	15nm,1.0s						
WSHM	**Spangler Hills**	**73.92**	**44**	*e*P	**P**	**21 27 18.4**	**0.0**
BELC	**Belle Mtn. Jos**	**74.06**	**47**	P	**P**	**21 27 19.1**	**-0.3**
	baz=74						
MPMC	**Manual Prospec**	**74.19**	**44**	P	**P**	**21 27 19.3**	**-0.9**
	baz=74						
GSC	**Goldstone**	**74.22**	**45**	P	**P**	**21 27 20.2**	**0.0**
	baz=74						
BC3	**Big Chuckawall**	**74.26**	**47**	P	**P**	**21 27 20.1**	**-0.5**
	baz=74						
HEC	**Hector,Ludlow**	**74.28**	**46**	P	**P**	**21 27 20.3**	**-0.3**
	baz=74						
YBH	**Yreka Blue Hor**	**74.35**	**37**	*e*P	**P**	**21 27 21.0**	**+0.1**
	10nm,1.2s						
GMRC	**Granite Mounta**	**74.72**	**46**	P	**P**	**21 27 22.8**	**-0.4**
	baz=75						
IRM	**Iron Mountain**	**74.74**	**47**	P	**P**	**21 27 23.0**	**-0.3**
	baz=75						
TUQ	**Turquoise Moun**	**74.90**	**45**	P	**P**	**21 27 23.9**	**-0.3**
	baz=75						
NV01	**Mina Array Sit**	**75.01**	**42**	*e*P	**P**	**21 27 24.1**	**-0.9**
NVAR	**Mina Array Bea**	**75.01**	**42**	P	**P**	**21 27 25.0**	**+0.1**
	3.5nm,0.8s,baz=227,slow=9.8,SNR=18						
NVAR				LR	LR	21 52 55.8	
	comp=Z,354nm,19.3s,baz=101,slow=30						
PAHR	**Pah Rah Range**	**75.09**	**40**	*e*P	**P**	**21 27 24.1**	**-1.2**
K05A	**Summer Lake**	**76.03**	**37**	*e*P	**P**	**21 27 30.5**	**-0.2**
	43nm,1.8s						
R11A	**Troy Canyon, C**	**76.72**	**43**	P	**P**	**21 27 34.1**	**-0.6**
	baz=77						
I07A	**Izee**	**77.66**	**36**	*e*P	**P**	**21 27 39.1**	**-0.6**
	52nm,2.6s						
CCUT	**Cedar City**	**77.77**	**45**	*e*P	**P**	**21 27 38.2**	**-2.5**
	7.7nm,1.4s						
320A	**Kipp Ranch, An**	**78.17**	**52**	P	**P**	**21 27 42.2**	**-0.7**
	baz=78						
Z20A	**Nine Sixteen R**	**78.94**	**51**	P	**P**	**21 27 47.5**	**+0.4**
	baz=79						
Y20A	**Horse Springs,**	**79.48**	**50**	P	**P**	**21 27 50.3**	**+0.1**
	baz=80						
DUG	**Dugway**	**79.53**	**43**	P	**P**	**21 27 50.1**	**-0.1**
	baz=80						
X20A	**Quemado**	**79.68**	**49**	P	**P**	**21 27 51.1**	**-0.2**
	baz=80						
W20A	**Ramah**	**79.96**	**49**	P	**P**	**21 27 52.6**	**-0.2**
	baz=80						
MDJ	**Mudanjiang**	**79.99**	**322**	P	**P**	**21 27 52.6**	**+0.3**
MDJ				AMB	AMB		
	comp=Z,3.0nm,1.2s						
MDJ				AMB	AMB		
	comp=Z,140nm,4.3s						
HLID	**Hailey**	**80.35**	**39**	P	**P**	**21 27 54.8**	**+0.2**
	baz=80						
425A	**Indio Mountain**	**80.64**	**54**	P	**P**	**21

comp=E,240nm,16.3s
HHC LR LR
comp=Z,230nm,16.3s
SYO Syowa Base 91.58 191⇑ *e*P **P 21 28 48.0 -1.5**
KMI Kunming 91.65 296 P **P 21 28 52.8 +1.8**
KMI AMB AMB
comp=Z,4.0nm,1.1s
SNAA Sanae 91.82 177 *e*P **P 21 28 51.3 +0.6**
7.7nm,1.1s
CM31 Chiang Mai Arr 93.12 288 *e*P **P 21 28 58.4 +0.7**
CMAR Chiang Mai Arr 93.12 288 P **P 21 28 58.4 +0.7**
1.6nm,0.8s,baz=88,slow=2.2,SNR=8.8
ULM Lac du Bonnet 94.66 39 LR LR 22 03 53.0
comp=Z,377nm,20.9s,baz=246,slow=31
SONA0 Songino Array 95.77 318 *e*P P 21 29 13.4 +4.1
SONM Songino Array 95.77 318 P P 21 29 13.4 +4.1
0.3nm,0.6s,baz=72,slow=4.7,SNR=2.0
TZTN Tazewell 99.36 55 *e*P **Pdif 21 29 24.7 -1.0**
91nm,0.9s
MALT Malatya 144.75 314⇑ *i*P **PKPdf 21 35 21.0 +0.7**
CLL Collm 144.91 353 *e*PKPbc **PKPdf 21 35 24.0 +4.0**
KMBO Kilima Mbogo 145.21 243 *e*PKPdf **PKPdf 21 35 22.4 +0.4**
KMBO Kilima Mbogo 145.21 243 PKPbc **PKPdf 21 35 22.8 +0.8**
4.5nm,0.8s,baz=63,slow=4.1,SNR=17
UPC Upice 145.26 350 *e*PKP PKPdf 21 35 35.0 +14
DPC Dobruska-Polom 145.35 349 *e*PKP **PKPab 21 35 22.9 +2.0**
DPC *ex* x 21 35 33.2
BUR04 Bucovina Ar. S 145.43 338 *e*PKPdf **PKPdf 21 35 21.1 -0.1**
BURAR Bucovina Array 145.44 338⇓ *i*P PKPab 21 35 28.4 +7.1
MORC Moravsky Berou 145.67 348⇓ *i*P **PKPab 21 35 25.4 +3.3**
MEM Membach 145.96 1 PKP PKPab 21 35 37.6 +15
PRU Pruhonice 146.00 351 *e*PKP **PKPab 21 35 23.3 +0.1**
PRU *ex* x 21 35 36.2
BCLA Clavier 146.13 2 PKP PKPab 21 35 35.8 +12
DOU Dourbes 146.43 3 PKP PKPab 21 35 38.5 +14
TLB Topalu 146.74 332⇑ *i*P **PKPab 21 35 29.1 +2.9**
MLR Muntele Rosu 146.92 335⇑ *i*P PKPab 21 35 37.7 +11
KHC Kasperske Hory 146.97 352 *e*PKP **PKPbc 21 35 26.1 +0.5**
KHC *ex* x 21 35 40.2
DRGR 147.01 340⇑ *i*P PKPab 21 35 39.2 +12
BR101 Keskin Array S 147.10 320 *e*PKPdf **PKPbc 21 35 26.6 +0.2**
BRTR Keskin Array B 147.10 320 PKPbc **PKPbc 21 35 26.6 +0.2**
2.6nm,0.8s,baz=126,slow=1.3,SNR=11
GERES GERESS Array B 147.24 352 PKPbc **PKPbc 21 35 25.9 -0.6**
0.8nm,0.8s,baz=5.7,slow=4.0,SNR=6.8
ARR Arges 147.54 336⇓ *i*P **PKPab 21 35 28.6 -0.9**
BR231 Keskin MP Arra 147.56 321 *e*PKPdf **PKPdf 21 35 25.9 +0.8**
SIRR Siria 147.82 340⇑ *i*P **PKPab 21 35 29.7 -0.8**
VTS Vitosha 150.43 335⇑ *i*P **PKPab 21 35 38.7 -2.6**
TOA0 Torodi Ar. Sit 174.06 123 *e*PKPdf **PKPdf 21 35 52.5 -1.0**
TORD Torodi Ar. Bea 174.06 123 PKP **PKPdf 21 35 52.5 -1.0**
0.5nm,0.9s,baz=205,slow=3.0,SNR=2.9

IDC 01 21:24:46.4±8.3, 15°20S×172°65W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.4/21, mbtmp3.4/2, MS3.9/1, Ms1 3.9/1, ms1mx3.3/14, Error ellipse: s-maj=366.2km s-min=27.0km az=138.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.54**	**33**	Pn		Pn	Pn	21 25 14.2	-1.0
	13nm,0.3s,baz=236,slow=20,SNR=2.4								
AFI				Sn		Sn	Sn	21 25 33.1	-3.0
	68nm,0.3s,baz=27,slow=21,SNR=7.1								
AFI				LR		LR	LR	21 25 50.1	
	comp=Z,596nm,21.4s,baz=260,slow=41								
WRA	**Warramunga Arr**	**50.59**	**257**	P		P	P	21 33 47.4	0.0
	0.2nm,0.8s,baz=94,slow=8.1,SNR=2.8								
ASAR	**Alice Springs**	**50.86**	**252**	P		P	P	21 33 48.5	-0.9
	0.7nm,0.7s,baz=87,slow=8.0,SNR=7.3								
JCJ	**Chichijima**	**60.74**	**314**	LR		LR	LR	21 54 24.0	
	comp=Z,102nm,21.1s,baz=104,slow=29								
BRTR	**Keskin Array B**	**146.46**	**322**	PKPbc		PKPbc	PKPab	21 44 30.5	+0.4
	0.4nm,0.6s,baz=86,slow=1.0,SNR=2.1								

IDC 01 21:29:05.9±8.2, 15°83S×173°44W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.5/21, mbtmp3.6/3, ML1.7/1, Error ellipse: s-maj=400.8km s-min=29.5km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.50**	**40**	Pn		Pn	Pn	21 29 46.4	-1.4
	8.3nm,0.3s,baz=38,slow=20,SNR=1.5								
AFI				Sn		Sn	Sn	21 30 08.9	-10
	19nm,0.3s,baz=45,slow=21,SNR=3.2								
WRA	**Warramunga Arr**	**49.71**	**257**	P		P	P	21 37 58.9	-1.3
	0.3nm,0.7s,baz=92,slow=8.7,SNR=4.3								
ASAR	**Alice Springs**	**49.94**	**252**	P		P	P	21 38 02.1	+0.1
	1.0nm,0.8s,baz=89,slow=8.3,SNR=13								
BRTR	**Keskin Array B**	**146.47**	**321**	PKPbc		PKPab	PKPab	21 48 50.2	-0.2
	0.4nm,0.4s,baz=69,slow=3.6,SNR=3.0								

IDC 01 21:40:10.3±2.2, 15°57S×173°59W, h0km, mb3.7/4, mb1 4.1/4, mb1mx3.8/20, mbtmp3.7/4, Error ellipse: s-maj=174.4km s-min=25.6km az=154.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.41**	**47**	Pn		Pn	Pn	21 40 42.8	-8.4
	20nm,0.3s,baz=230,slow=7.6,SNR=5.3								
AFI				Sn		Sn	Sn	21 41 03.7	-18
	54nm,0.3s,baz=176,slow=21,SNR=14								
H11S2	**WAKE ISLAND Hy 39.02 329**			T		T	T	22 28 21.3	
	baz=152,slow=0.7,SNR=15								
H11S3	**WAKE ISLAND Hy 39.03 329**			T		T	T	22 28 23.1	
	baz=152,slow=0.7,SNR=13								
H11S1	**WAKE ISLAND Hy 39.04 329**			T		T	T	22 28 23.9	
	baz=152,slow=0.7,SNR=14								
H11N3	**WAKE ISLAND Hy 39.97 331**			T		T	T	22 29 40.7	
	baz=152,slow=0.7,SNR=6.0								
H11N1	**WAKE ISLAND Hy 39.98 331**			T		T	T	22 29 37.8	
	baz=152,slow=0.7,SNR=9.6								
H11N2	**WAKE ISLAND Hy 39.99 331**			T		T	T	22 29 33.1	
	baz=152,slow=0.7,SNR=6.6								
WRA	**Warramunga Arr**	**49.63**	**257**	P		P	P	21 49 04.4	+0.4
	0.5nm,0.9s,baz=97,slow=8.4,SNR=3.8								
ASAR	**Alice Springs**	**49.88**	**252**	P		P	P	21 49 05.8	-0.2
	1.6nm,0.7s,baz=85,slow=8.6,SNR=15								
TXAR	**Lajitas Array**	**80.86**	**56**	P		P	P	21 52 27.2	+0.5
	0.6nm,0.8s,baz=224,slow=5.2,SNR=5.5								
PDAR	**Pinedale Array**	**82.52**	**42**	P		P	P	21 52 35.1	-0.2
	0.6nm,0.9s,baz=227,slow=4.8,SNR=4.0								
BRTR	**Keskin Array B**	**146.18**	**321**	PKPbc		PKPdf	P	21 59 51.6	-0.6
	0.5nm,0.7s,baz=27,slow=4.2,SNR=2.7								

IDC 01 21:43:14.7±1.3, 15°38S×173°74W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/19, mbtmp3.9/5, Error ellipse: s-maj=48.6km s-min=27.3km az=128.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.40**	**53**	Pn		Pn	Pn	21 43 44.6	-11
	16nm,0.3s,baz=210,slow=20,SNR=2.8								
AFI				Sn		Sn	Sn	21 44 05.6	-20
	133nm,0.3s,baz=92,slow=12,SNR=7.1								
H11S2	**WAKE ISLAND Hy 38.78 330**			T		T	T	22 31 26.1	
	baz=152,slow=0.7,SNR=15								
H11S3	**WAKE ISLAND Hy 38.79 330**			T		T	T	22 31 29.9	
	baz=152,slow=0.7,SNR=14								
H11S1	**WAKE ISLAND Hy 38.80 330**			T		T	T	22 31 29.1	
	baz=152,slow=0.7,SNR=15								
H11N3	**WAKE ISLAND Hy 39.73 331**			T		T	T	22 32 50.3	
	baz=152,slow=0.7,SNR=11								
H11N1	**WAKE ISLAND Hy 39.74 331**			T		T	T	22 32 43.8	
	baz=152,slow=0.7,SNR=11								
H11N2	**WAKE ISLAND Hy 39.75 331**			T		T	T	22 32 47.8	
	baz=152,slow=0.7,SNR=13								
STKA	**Stephens Creek**	**43.76**	**240**	P		P	P	21 51 22.1	-0.1
	1.3nm,0.8s,baz=114,slow=10.0,SNR=2.7								
WRA	**Warramunga Arr**	**49.53**	**257**	P		P	P	21 52 07.5	-0.2
	0.6nm,0.7s,baz=84,slow=5.9,SNR=10								
ASAR	**Alice Springs**	**49.81**	**252**	P		P	P	21 52 09.8	0.0
	1.7nm,0.4s,baz=88,slow=8.3,SNR=20								
VNDA	**Vanda**	**63.36**	**186**	P		P	P	21 53 45.5	+0.1
	1.1nm,0.8s,baz=0.0,slow=5.1,SNR=5.0								
ILAR	**Eielson Array**	**82.49**	**11**	P		P	P	21 55 39.4	+0.6
	0.4nm,0.8s,baz=193,slow=6.0,SNR=4.0								
BRTR	**Keskin Array B**	**145.94**	**321**	PKPbc		PKPbc	PKPbc	22 02 56.6	-0.2
	2.3nm,0.9s,baz=54,slow=2.1,SNR=7.3								
GERES	**GERESS Array B**	**146.07**	**351**	PKPbc		PKPdf	PKPbc	22 02 54.3	-1.7
	0.9nm,0.8s,baz=48,slow=2.2,SNR=6.7								

IDC 01 21:47:04.6±2.4, 14°94S×173°69W, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/20, mbtmp3.8/4, ML1.6/1, MS3.4/1, Ms1 3.4/1, ms1mx2.9/33, Error ellipse: s-maj=125.9km s-min=24.8km az=150.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.12**	**61**	Pn		Pn	Pn	21 47 40.7	-0.6
	10nm,0.3s,baz=157,slow=23,SNR=0.9								
AFI				Sn		Sn	Sn	21 47 57.7	-11
	54nm,0.3s,baz=24,slow=21,SNR=3.9								
AFI				LR		LR	LR	21 48 10.5	
	comp=Z,802nm,18.1s,baz=62,slow=31								
H11S2	**WAKE ISLAND Hy 38.43 329**			T		T	T	22 35 14.6	
	baz=152,slow=0.7,SNR=9.5								
H11S3	**WAKE ISLAND Hy 38.44 329**			T		T	T	22 35 15.8	
	baz=152,slow=0.7,SNR=10								
H11S1	**WAKE ISLAND Hy 38.44 329**			T		T	T	22 35 16.1	
	baz=152,slow=0.7,SNR=13								
H11N3	**WAKE ISLAND Hy 39.37 330**			T		T	T	22 36 29.7	
	baz=152,slow=0.7,SNR=16								
H11N1	**WAKE ISLAND Hy 39.38 330**			T		T	T	22 36 41.3	
	baz=152,slow=0.7,SNR=14								
H11N2	**WAKE ISLAND Hy 39.39 330**			T		T	T	22 36 31.6	
	baz=152,slow=0.7,SNR=14								
WRA	**Warramunga Arr**	**49.68**	**256**	P		P	P	21 55 58.1	-0.5
	0.4nm,0.5s,baz=90,slow=7.1,SNR=14								
ASAR	**Alice Springs**	**49.99**	**252**	P		P	P	21 56 00.5	-0.5
	1.4nm,0.5s,baz=86,slow=8.0,SNR=21								
ILAR	**Eielson Array**	**82.05**	**11**	P		P	P	21 59 25.5	-0.8
	0.4nm,0.8s,baz=187,slow=6.4,SNR=4.5								
BRTR	**Keskin Array B**	**145.62**	**321**	PKPbc		PKPab	PKPab	22 06 47.0	+1.1
	0.6nm,0.7s,baz=98,slow=4.4,SNR=3.3								

IDC 01 21:51:59.5±6.7, 14°86S×172°62W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.5/21, mbtmp3.6/2, Error ellipse: s-maj=322.5km s-min=19.1km az=140.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.25**	**41**	Pn		Pn	Pg	21 52 23.6	0.0
	23nm,0.3s,baz=88,slow=2.3,SNR=4.2								
AFI				Sn		Sn	Sn	21 52 42.8	+0.8
	67nm,0.3s,baz=177,slow=20,SNR=13								
WRA	**Warramunga Arr**	**50.70**	**256**	P		P	P	22 01 00.6	-0.7
	0.8nm,1.1s,baz=91,slow=8.4,SNR=3.7								
ASAR	**Alice Springs**	**50.99**	**251**	P		P	P	22 01 03.4	-0.2
	0.9nm,0.7s,baz=90,slow=8.2,SNR=7.8								
BRTR	**Keskin Array B**	**146.21**	**322**	PKPbc		PKPab	PKPab	22 11 42.8	-0.3
	0.3nm,0.6s,baz=90,slow=2.9,SNR=2.7								

*IDC **01** 21:52:41.2±1.2, 0°.13S×29°.94E, h0km, mb3.7/4, mb1 3.7/5, mb1mx3.4/26, mbtmp3.7/5, ML3.2/1, Error ellipse: s-maj=32.5km s-min=29.1km az=81.0*
*PRE **01** 21:52:55.3±2.7, 0°.84S×31°.50E, h10km, ML3.7*
ISC 01 21:52:45.2±1.2, 0°.42N±0°.08×30°.14E±0°.10, h14km, n10, σ1s39/9, mb3.7/4, 1C-1D, Uganda

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**1.18**	**149⇓**	*i*P		**Pg**		**21 53 08.9**	**+0.8**
MBAR				*e*S		**Sb**		**21 53 22.6**	**-0.1**
KIG	**Kigali**	**2.37**	**182⇑**	*i*P		**Pb**		**21 53 27.8**	**0.0**
KIG				*e*S		**Sn**		**21 53 52.3**	**-0.6**
KIG				AML		AML		21 54 08.3	
	comp=Z,718nm,0.4s								
MAUS	**Longido**	**7.27**	**116**	*i*P		**Pn**		**21 54 32.0**	**+0.7**
MAUS				*i*S		**Sn**		**21 55 51.9**	**-1.9**
KMBO	**Kilima Mbogo**	**7.28**	**102**	*e*P		Pn		21 54 23.2	-8.3
KMBO				*e*S		Sn		21 55 24.5	-30
KMBO	**Kilima Mbogo**	**7.28**	**102**	Pn		**Pn**		**21 54 30.6**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=263,slow=18,SNR=7.7								
KMBO				Sn		Sn		21 56 01.9	+7.8
	comp=Z,1.0nm,0.3s,baz=283,slow=14,SNR=1.9								
KMBO				Lg		Lg		21 56 28.2	
	comp=Z,2.5nm,0.3s,baz=358,slow=21,SNR=9.2								
LSZ	**Lusaka**	**15.71**	**187**	*e*S		Sn		21 58 58.0	-23
BOSA	**Boshof**	**29.25**	**189**	P		P		21 58 40.4	-6.7
	comp=Z,1.1nm,0.7s,baz=37,slow=5.1,SNR=2.2								
TORD	**Torodi Ar. Bea**	**30.89**	**295**	P		**P**		**21 59 00.3**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=116,slow=8.1,SNR=3.6								
MKAR	**Makanchi Array**	**64.73**	**37**	P		**P**		**22 03 25.1**	**+1.8**
	comp=Z,0.3nm,0.7s,baz=232,slow=6.0,SNR=3.6								
MAW	**Mawson**	**71.60**	**167**	P		P		22 04 00.8	-5.0
	comp=Z,0.4nm,0.3s,baz=7.1,slow=8.1,SNR=3.6								

IDC 01 21:59:59.8±4.0, 15°72S×173°39W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/21, mbtmp3.9/4, ML1.7/1, Error ellipse: s-maj=204.4km s-min=27.5km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.38**	**41**	Pn		Pn	Pn	22 00 38.7	-1.5
	12nm,0.3s,baz=239,slow=12,SNR=4.1								
AFI				Sn		Sn	Sn	22 01 05.6	-4.6
	37nm,0.3s,baz=41,slow=19,SNR=6.4								
H11S2	**WAKE ISLAND Hy 39.24 329**			T		T	T	22 49 11.6	
	baz=141								
H11S3	**WAKE ISLAND Hy 39.25 329**			T		T	T	22 49 10.0	
	baz=141								
H11S1	**WAKE ISLAND Hy 39.26 329**			T		T	T	22 49 13.2	
	baz=141								
H11N3	**WAKE ISLAND Hy 40.19 331**			T		T	T	22 50 21.6	
	baz=152,slow=0.7,SNR=5.8								
H11N1	**WAKE ISLAND Hy 40.19 330**			T		T	T	22 50 31.9	
	baz=152,slow=0.7,SNR=4.5								
H11N2	**WAKE ISLAND Hy 40.21 331**			T		T	T	22 50 23.1	
	baz=152,slow=0.7,SNR=6.9								
STKA	**Stephens Creek**	**43.89**	**240**	P		P	P	22 08 07.9	-0.4
	1.8nm,0.8s,baz=111,slow=12,SNR=3.1								
WRA	**Warramunga Arr**	**49.78**	**257**	P		P	P	22 08 54.6	-0.1
	0.6nm,0.6s,baz=91,slow=6.8,SNR=9.8								
ASAR	**Alice Springs**	**50.02**	**252**	P		P	P	22 08 55.6	-0.9
	1.8nm,0.8s,baz=86,slow=8.5,SNR=14								
BRTR	**Keskin Array B**	**146.41**	**321**	PKPbc		PKPab	PKPab	22 19 44.5	+0.4
	0.5nm,0.5s,baz=71,slow=2.3,SNR=3.9								

IDC 01 22:05:51.3±2.1, 15°04S×173°83W, h0km, mb3.9/4, mb1 4.3/4, mb1mx3.8/19, mbtmp3.9/4, MS3.4/2, Ms1 3.4/2, ms1mx3.0/38, Error ellipse: s-maj=162.7km s-min=25.3km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.29**	**61**	LR		LR	LR	22 07 17.5	
	comp=Z,538nm,21.6s,baz=330,slow=38								
PPT	**Papeete**	**23.41**	**99**	LR		LR	LR	22 17 47.2	
	comp=Z,131nm,21.6s,baz=346,slow=31								
H11S2	**WAKE ISLAND Hy 38.44 329**			T		T	T	22 54 01.2	
	baz=152,slow=0.7,SNR=21								
H11S3	**WAKE ISLAND Hy 38.46 329**			T		T	T	22 54 01.1	
	baz=152,slow=0.7,SNR=16								
H11S1	**WAKE ISLAND Hy 38.46 329**			T		T	T	22 54 01.4	
	baz=152,slow=0.7,SNR=18								
H11N3	**WAKE ISLAND Hy 39.40 331**			T		T	T	22 55 21.8	
	baz=152,slow=0.7,SNR=20								
H11N1	**WAKE ISLAND Hy 39.40 331**			T		T	T	22 55 11.8	
	baz=152,slow=0.7,SNR=19								
H11N2	**WAKE ISLAND Hy 39.41 331**			T		T	T	22 55 25.5	
	baz=152,slow=0.7,SNR=22								
WRA	**Warramunga Arr**	**49.52**	**256**	P		P	P	22 14 44.2	0.0
	0.5nm,0.7s,baz=90,slow=7.4,SNR=7.2								
ASAR	**Alice Springs**	**49.82**	**252**	P		P	P	22 14 46.0	-0.5
	3.2nm,0.7s,baz=86,slow=8.2,SNR=33								
NVAR	**Mina Array Bea**	**74.35**	**42**	P		P	P	22 17 30.5	-0.8
	0.4nm,0.8s,baz=232,slow=7.3,SNR=4.0								
TXAR	**Lajitas Array**	**80.76**	**56**	P		P	P	22 18 07.5	+0.3
	1.2nm,1.0s,baz=219,slow=4.2,SNR=6.2								
BRTR	**Keskin Array B**	**145.62**	**321**	PKPbc		PKPbc	PKPbc	22 25 32.5	+0.1
	0.6nm,0.8s,baz=151,slow=3.3,SNR=2.8								

*CSEM **01** 22:12:40.2, 37°.09N×3°.69W, h16km, ML1.2, After MDD*
MDD 01 22:12:40.2±0.4, 37°.09N×3°.69W, h16km±4km, mb3.8/1, mbLg1.2/8, Error ellipse: s-maj=3.6km s-min=2.8km az=124.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ERON	**Agron**	**0.12**	**235**	Pg		Pg	Pg	22 12 43.7	-0.3
	4.7nm,0.1s,SNR=7.9								
ERON				Lg		Lg	Lg	22 12 47.4	
	32nm,0.1s,SNR=7.9								
ERON	**Agron**	**0.12**	**235**	Pg		Pg	Pg	22 12 43.7	-0.4
	4.7nm,0.1s,SNR=7.9								
ERON				Lg		Lg	Lg	22 12 47.4	
	32nm,0.1s,SNR=7.9								
ECOG	**Cogollos-Vega**	**0.21**	**26**	Pg		Pg	Pg	22 12 43.7	-1.7
	2.5nm,0.1s,SNR=7.9								
ECOG				Lg		Lg	Lg	22 12 48.1	
	22nm,0.1s,SNR=38								
ECOG	**Cogollos-Vega**	**0.21**	**26**	Pg		Pg	Pg	22 12 43.7	-1.7
	2.5nm,0.1s,SNR=7.9								
ECOG				Lg		Lg	Lg	22 12 48.1	
	22nm,0.1s,SNR=38								
EQUE	**Quentar**	**0.23**	**59**	Pg		Pg	Pg	22 12 44.6	-1.0
	2.2nm,0.1s,SNR=8.2								
EQUE				Lg		Lg	Lg	22 12 49.7	
	7.6nm,0.1s,SNR=12								
EQUE	**Quentar**	**0.23**	**59**	Pg		Pg	Pg	22 12 44.6	-1.0
	2.2nm,0.1s,SNR=8.2								
EQUE				Lg		Lg	Lg	22 12 49.7	
	7.6nm,0.1s,SNR=12								
EGUA	**Guajares**	**0.27**	**159**	Pg		Pg	Pg	22 12 45.0	-1.2
	2.5nm,0.2s,SNR=7.9								
EGUA				Lg		Lg	Lg	22 12 49.8	
	28nm,0.3s,SNR=7.9								
EGUA	**Guajares**	**0.27**	**159**	Pg		Pg	Pg	22 12 45.0	-1.2
	2.5nm,0.2s,SNR=7.9								
EGUA				Lg		Lg	Lg	22 12 49.8	
	28nm,0.3s,SNR=7.9								
ELUQ	**Luque**	**0.66**	**316**	Pg		Pg	Pg	22 12 53.1	-0.2
	0.6nm,0.2s,SNR=7.9								
ELUQ				Lg		Lg	Lg	22 13 03.5	
	0.8nm,0.2s,SNR=4.0								
ELUQ	**Luque**	**0.66**	**316**	Pg		Pg	Pg	22 12 53.1	-0.3
	0.6nm,0.2s,SNR=7.9								
ELUQ				Lg		Lg	Lg	22 13 03.5	
	0.8nm,0.2s,SNR=4.0								
EBER	**Berja**	**0.66**	**106**	Pg		Pg	Pg	22 12 53.2	-0.4
	0.6nm,0.2s,SNR=7.9								
EBER				Lg		Lg	Lg	22 13 03.6	
	1.0nm,0.1s,SNR=7.9								
EBER	**Berja**	**0.66**	**106**	Pg		Pg	Pg	22 12 53.2	-0.4
	0.6nm,0.2s,SNR=7.9								
EBER				Lg		Lg	Lg	22 13 03.6	
	1.0nm,0.1s,SNR=7.9								
EQES	**Quesada**	**0.87**	**34**	Pg		Pg	Pg	22 12 57.4	+0.1
	0.7nm,0.1s,SNR=21								
EQES				Lg		Lg	Lg	22 13 10.5	
	1.3nm,0.3s,SNR=7.9								
EQES	**Quesada**	**0.87**	**34**	Pg		Pg	Pg	22 12 57.4	+0.1
	0.7nm,0.1s,SNR=21								
EQES				Lg		Lg	Lg	22 13 10.5	
	1.3nm,0.3s,SNR=7.9								
EMIJ	**Mijas**	**1.02**	**240**	Pg		Pb	Pg	22 12 57.5	-2.0
	0.3nm,0.2s,SNR=4.0								
EMIJ				Lg		Lg	Lg	22 13 07.3	
	0.9nm,0.2s,SNR=7.9								
EMIJ	**Mijas**	**1.02**	**240**	Pg		Pb	Pg	22 12 57.5	-2.0
	0.3nm,0.2s,SNR=4.0								
EMIJ				Lg		Lg	Lg	22 13 07.3	
	0.9nm,0.2s,SNR=7.9								
EBAN	**Banos Encina**	**1.08**	**356**	Pg		Pg	Pg	22 13 00.1	-0.5
	1.0nm,0.1s,SNR=7.9								
EBAN				Lg		Lg	Lg	22 13 15.2	
	1.7nm,0.2s,SNR=7.9								
EBAN	**Banos Encina**	**1.08**	**356**	Pg		Pb	Pg	22 13 00.1	-0.5
	1.0nm,0.1s,SNR=7.9								
EBAN				Lg		Lg	Lg	22 13 15.2	
	1.7nm,0.2s,SNR=7.9								
EHUE	**Huescar**	**1.13**	**50**	Pg		Pb	Pg	22 13 02.0	+0.3
	0.7nm,0.2s,SNR=7.9								
EHUE				Lg		Lg	Lg	22 13 19.8	
	1.2nm,0.2s,SNR=7.9								
EHUE	**Huescar**	**1.13**	**50**	Pg		Pg	Pg	22 13 02.0	-0.3
	0.7nm,0.2s,SNR=7.9								
EHUE				Lg		Lg	Lg	22 13 19.8	
	1.2nm,0.2s,SNR=7.9								
EADA	**Adamuz**	**1.29**	**327**	Pn		Pn	Pn	22 13 01.6	-2.1
	0.3nm,0.1s,SNR=7.9								
EADA				Sn		Sb	Sb	22 13 18.2	-2.4
	1.0nm,0.1s,SNR=7.9								
EADA	**Adamuz**	**1.29**	**327**	Pn		Pn	Pn	22 13 01.6	-2.1
	0.3nm,0.1s,SNR=7.9								
EADA				Sn		Sb	Sb	22 13 18.2	-2.5
	1.0nm,0.1s,SNR=7.9								
ECAB	**El Cabril**	**1.69**	**306**	Pg		Pn	Pn	22 13 09.4	+0.2
	0.1nm,0.1s,SNR=7.9								
ECAB				Sn		Sn	Sn	22 13 29.8	-0.9
	0.5nm,0.3s,SNR=7.9								
ECAB	**El Cabril**	**1.69**	**306**	Pg		Pn	Pn	22 13 09.4	+0.2
	0.1nm,0.1s,SNR=7.9	

LNV				*i* S	Sn	22 23 23.9	-0.9
LMEL	**Las Melosas**	**0.87**	**35**	⇑*i* P	Pn	22 23 11.4	-0.2
LMEL				*i* S	Sn	22 23 26.3	-0.2
LMEL				AML	AML	22 23 30.4	
	comp=N,2μm,0.2s						
TACH	**Talagante**	**0.92**	**353**	⇓*i* P	Pn	22 23 11.6	-0.2
TACH				*i* S	Sn	22 23 26.6	-0.4
PCH	**Pirque**	**0.97**	**14**	⇓*i* P	Pn	22 23 12.3	-0.2
PCH				*i* S	Sn	22 23 28.1	-0.1
SJCH	**San Jose de Ma**	**0.99**	**22**	*e*P	Pn	22 23 11.7	-1.1
SJCH				*i* S	Sn	22 23 27.6	-1.0
SJCH				AML	AML	22 23 29.0	
	comp=E,779nm,0.2s						
ANTU	**Antumapu**	**1.00**	**8**	*e*P	Pn	22 23 12.8	0.0
ANTU				*e*S	Sn	22 23 28.5	-0.2
ANTU				AML	AML	22 23 29.1	
	comp=N,1μm,0.3s						
TALC	**Talca**	**1.08**	**219**	⇑*i* P	Pn	22 23 13.2	-0.3
TALC				*i* S	Sn	22 23 29.3	-0.5
TALC				AML	AML	22 23 30.3	
	comp=E,3μm,0.4s						
FSR	**Penalolen**	**1.11**	**12**	*e*P	Pn	22 23 14.2	+0.3
SAN	**Santiago**	**1.12**	**6**	*e*P	Pn	22 23 13.7	-0.3
SAN				*i* S	Sn	22 23 30.5	-0.3
STL	**Santa Lucia**	**1.14**	**7**	⇓*i* P	Pn	22 23 13.8	-0.4
STL				*i* S	Sn	22 23 30.7	-0.4
CLCH	**Cerro Calan**	**1.19**	**11**	⇑*i* P	Pn	22 23 14.8	-0.1
CLCH				*i* S	Sn	22 23 32.1	-0.1
CLCH				AML	AML	22 23 33.5	
	comp=N,1μm,0.5s						
PEL	**Peldehue**	**1.42**	**4**	⇑*i* P	Pn	22 23 17.3	-0.2
PEL				*i* S	Sn	22 23 37.2	+0.1
PEL				AML	AML	22 23 39.4	
	comp=E,993nm,0.5s						
ROCH	**El Roble**	**1.60**	**354**	*e*P	Pn	22 23 19.6	-0.3
ROCH				AML	AML	22 23 45.1	
	comp=E,551nm,0.5s						
IHA	**Instituto Hidr**	**1.69**	**335**	*e*P	Pn	22 23 21.0	+0.4
IHA				*i* S	Sn	22 23 42.5	-0.2
JACH	**Jahuel**	**1.89**	**5**	*e*P	Pn	22 23 23.3	0.0
JACH				*i* S	Sn	22 23 47.5	+0.1
CHNG	**Los Chungos**	**2.74**	**347**	*e*P	Pn	22 23 34.2	0.0
CHNG				AML	AML	22 24 08.3	
	comp=N,87nm,0.5s						

IDC 01 22:23:22.0±4.2, 16°56S×172°44W, h0km, mb3.8/3, mb1 4.2/3, mb1mx3.7/21, mbtmp3.8/3, Error ellipse: s-maj=272.4km s-min=31.8km az=149.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**50.49**	**258**	P	P	22 32 21.5	-0.7
	0.4nm,0.6s,baz=95,slow=7.0,SNR=9.3						
ASAR	**Alice Springs**	**50.64**	**253**	P	P	22 32 23.6	+0.3
	3.0nm,0.6s,baz=88,slow=8.7,SNR=27						
NVAR	**Mina Array Bea**	**74.58**	**41**	P	P	22 35 03.0	-0.2
	0.5nm,0.8s,baz=225,slow=8.8,SNR=3.4						
BRTR	**Keskin Array B**	**147.63**	**321**	PKPbc	PKPbc	22 43 08.6	-0.4
	1.1nm,0.9s,baz=339,slow=3.7,SNR=4.4						

IDC 01 22:27:50.8±12.0, 2°82N×122°89E, h651km±228km, mb2.6/7, mb1 2.7/7, mb1mx2.5/24, mbtmp2.6/7, Error ellipse: s-maj=96.9km s-min=20.8km az=96.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.26**	**154**	P	P	22 32 29.3	+0.3
	0.2nm,0.4s,baz=336,slow=9.5,SNR=7.2						
KSRS	**Korea Array**	**34.77**	**7**	P	P	22 33 49.9	+0.1
	1.3nm,0.8s,baz=187,slow=9.9,SNR=4.9						
MJAR	**Matsushiro Arr**	**36.41**	**21**	P	P	22 34 02.9	-0.4
	0.7nm,0.6s,baz=197,slow=9.6,SNR=3.3						
USRK	**Ussuriysk Arra**	**41.98**	**10**	P	P	22 34 48.0	+0.5
	2.9nm,0.5s,baz=195,slow=6.3,SNR=9.2						
SONM	**Songino Array**	**47.05**	**345**	P	P	22 35 26.3	+0.1
	0.6nm,0.5s,baz=158,slow=8.0,SNR=9.1						
MKAR	**Makanchi Array**	**56.18**	**327**	P	P	22 36 31.3	0.0
	0.2nm,0.3s,baz=130,slow=7.7,SNR=11						
KURBB	**Kurchatov Arra**	**60.49**	**329**	P	P	22 37 00.2	+0.2
	0.3nm,0.3s,baz=120,slow=7.2,SNR=6.2						

IDC 01 22:29:29.6±2.4, 16°01S×173°45W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/20, mbtmp3.7/4, Error ellipse: s-maj=189.4km s-min=27.1km az=154.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S2	**WAKE ISLAND Hy**	**39.47**	**330**	T	T	23 17 41.3	
	baz=152,slow=0.7,SNR=27						
H11S3	**WAKE ISLAND Hy**	**39.48**	**330**	T	T	23 17 42.4	
	baz=152,slow=0.7,SNR=24						
H11S1	**WAKE ISLAND Hy**	**39.48**	**330**	T	T	23 17 40.4	
	baz=152,slow=0.7,SNR=19						
H11N3	**WAKE ISLAND Hy**	**40.42**	**331**	T	T	23 18 53.3	
	baz=152,slow=0.7,SNR=23						
H11N1	**WAKE ISLAND Hy**	**40.43**	**331**	T	T	23 19 05.9	
	baz=152,slow=0.7,SNR=34						
H11N2	**WAKE ISLAND Hy**	**40.44**	**331**	T	T	23 19 07.2	
	baz=152,slow=0.7,SNR=29						
WRA	**Warramunga Arr**	**49.66**	**257**	P	P	22 38 23.0	-0.6
	0.2nm,0.7s,baz=91,slow=7.5,SNR=4.5						
ASAR	**Alice Springs**	**49.88**	**252**	P	P	22 38 24.8	-0.4
	1.4nm,0.7s,baz=86,slow=8.1,SNR=16						
TXAR	**Lajitas Array**	**80.99**	**56**	P	P	22 41 47.2	+0.6
	0.7nm,1.0s,baz=212,slow=6.4,SNR=4.7						
PDAR	**Pinedale Array**	**82.75**	**42**	P	P	22 41 54.1	-1.6
	0.6nm,1.0s,baz=230,slow=4.2,SNR=4.4						
BRTR	**Keskin Array B**	**146.60**	**320**	PKPbc	PKPab	22 49 14.9	+0.3
	0.3nm,0.7s,baz=62,slow=3.4,SNR=4.5						

IDC 01 22:33:20.6±4.2, 15°99S×173°43W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/20, mbtmp3.7/3, Error ellipse: s-maj=284.9km s-min=28.9km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**49.68**	**257**	P	P	22 42 14.7	-0.1
	0.3nm,0.3s,baz=92,slow=6.6,SNR=9.8						
ASAR	**Alice Springs**	**49.90**	**252**	P	P	22 42 16.0	-0.4
	1.2nm,0.7s,baz=84,slow=8.9,SNR=8.2						
NVAR	**Mina Array Bea**	**74.78**	**42**	P	P	22 45 02.9	-0.2
	0.2nm,0.4s,baz=225,slow=8.9,SNR=2.9						
BRTR	**Keskin Array B**	**146.59**	**320**	PKPbc	PKPbc	22 53 04.7	0.0
	0.4nm,0.5s,baz=50,slow=2.3,SNR=3.5						

*IDC **01** 22:33:28.9±0.5, 16°.39S×173°.25W, h0km, mb4.5/21, mb1 4.6/22, mb1mx4.5/30, mbtmp4.5/22, ML3.9/1, Error ellipse: s-maj=20.5km s-min=13.1km az=133.0*

*NEIC **01** 22:33:29.8±2.1, 16°.37S×173°.11W, h10km±2km, mb5.0/51, Error ellipse: s-maj=15.0km s-min=12.1km az=78.0*

*ISCJB **01** 22:33:31.9±0.2, 16°.42S±0°.06×173°.22W±0°.05, h32km, mb4.8/73, MS4.6/10, Error ellipse: s-maj=9.6km s-min=4.4km az=143.4*

*MOS **01** 22:33:32.9±1.8, 16°.36S×172°.79W, h33km, mb5.0/16, MS4.4/4, Error ellipse: s-maj=14.1km s-min=10.8km az=51.9*

*AUST **01** 22:33:33.1±0.6, 16°.65S×172°.47W, h64km±9km, Error ellipse: s-maj=11.3km s-min=7.9km az=87.0*

*GCMT **01** 22:33:35.3±0.2, 16°.52S×172°.67W, h44km±1km, MW5.2, Moment Tensor Solution. s57,c85; s79,c114; Moment tensor: Scale 10^{16}Nm; M_{rr}5.97±.24; $M_{\theta\theta}$0.92±.20; $M_{\phi\phi}$-6.90±.17; $M_{r\theta}$-0.08±.18; $M_{\theta\phi}$-0.98±.15; $M_{\phi r}$4.16±.16; Best double couple: $M_0$7.70000×10^{16} NP1:ϕ_s2.00000°, δ61.00000°, λ85.00000°. NP2:ϕ_s193.00000°, δ29.00000°, λ100.00000°. Principal axes: T 7.2200, Plg73.0000°, Azm259.0000°; N 0.9900, Plg5.0000°, Azm5.0000°; P -8.2200, Plg16.0000°, Azm96.0000°; Data Used: II IU G CN IC.*

ISC 01 22:33:33.6±0.4, 16°42S±0°.07×173°10W±0°.07, h32km, n295, σ1°45/293, mb4.8/73, MS4.7/10, 19C-20D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.80**	**27**	*e*Pn	Pn	22 34 12.6	-3.7
AFI				*e*Sn	**Sn**	**22 34 45.5**	**-3.6**
AFI	**Afiamalu**	**2.80**	**27**	Pn	Pn	22 34 11.6	-4.7
	39nm,0.3s,baz=254,slow=16,SNR=6.9						
AFI				Sn	Sn	22 34 41.3	-7.8
	358nm,0.3s,baz=178,slow=23,SNR=9.7						
NIUE	**Niue**	**4.01**	**132**	⇑P	Pn	22 34 24.4	-8.5
	baz=3.4,SNR=9.5						
MSVF	**Nonsavu**	**8.57**	**260**	*e*P	Pn	22 35 41.5	+6.0
MSVF	**Nonsavu**	**8.57**	**260**	*e*Pn	Pn	22 35 41.5	+6.0
RAR	**Rarotonga**	**13.48**	**113**	*e*Pn	Pn	22 36 39.0	-3.9
RAR	**Rarotonga**	**13.48**	**113**	Pn	Pn	22 36 38.9	-3.9
	3.2nm,0.3s,baz=270,slow=7.9,SNR=8.8						
DZM	**Mont Dzumac**	**20.11**	**251**	*e*P	Pn	22 38 09.3	+2.3
	190nm,1.4s						
DZM				*e*LR	LR	22 43 00.1	
	5μm,24.9s						
DZM	**Mont Dzumac**	**20.11**	**251**	P	**P**	**22 38 04.4**	**-0.5**
	0.3nm,0.3s,baz=233,slow=20,SNR=3.4						
OUZ	**Omahuta**	**22.18**	**210**	*e*P	**P**	**22 38 26.0**	**-1.1**
PPT2	**Papeete2**	**22.52**	**96**	*e*LQ	LQ	22 42 47.8	
	707nm,25.2s						
PPT2				*e*LR	LR	22 43 53.4	
	3μm,25.2s						
TBI	**Tubuai**	**23.25**	**111**	*e*LQ	LQ	22 43 11.1	
	1μm,27.5s						
TBI				*e*LR	LR	22 44 08.9	
	3μm,26.5s						
URZ	**Urewera**	**23.40**	**200**	*e*P	**P**	**22 38 38.8**	**-0.9**
	84nm,1.6s						
URZ	**Urewera**	**23.40**	**200**	P	**P**	**22 38 38.4**	**-1.3**
	17nm,0.5s,baz=335,slow=1.0,SNR=16						
BKZ	**Black Stump Fm**	**24.43**	**200**	*e*P	**P**	**22 38 50.0**	**+0.6**
	39nm,1.5s						
BFZ	**Birch Farm**	**25.88**	**199**	*e*P	**P**	**22 39 01.6**	**-0.9**
	172nm,0.8s						
KHZ	**Kahutara**	**28.33**	**201**	*e*P	**P**	**22 39 25.8**	**+1.3**
	134nm,1.8s						
RPZ	**Rata Peaks**	**30.36**	**203**	*e*P	**P**	**22 39 43.7**	**+1.2**
	438nm,2.9s						
RPZ	**Rata Peaks**	**30.36**	**203**	P	**P**	**22 39 43.9**	**+1.4**
	14nm,0.7s,baz=74,slow=3.0,SNR=6.1						
ARMA	**Armidale**	**35.08**	**240**	*e*P	**P**	**22 40 21.9**	**-2.2**
	38nm,1.4s						
ARMA	**Armidale**	**35.08**	**240**	⇓P	**P**	**22 40 22.2**	**-1.9**
	baz=36,SNR=8.1						
RKT	**Rikitea**	**36.41**	**107**	*e*LR	LR	22 50 10.7	
	2μm,25.5s						
CTA	**Charters Tower**	**38.71**	**258**	*e*P	**P**	**22 40 52.6**	**-2.4**
CTA	**Charters Tower**	**38.71**	**258**	P	**P**	**22 40 52.6**	**-2.4**
	2.0nm,0.4s,baz=75,slow=12,SNR=4.7						
PMG	**Port Moresby**	**39.31**	**275**	*e*P	**P**	**22 40 59.2**	**-0.8**
PMG	**Port Moresby**	**39.31**	**275**	P	**P**	**22 40 59.2**	**-0.8**
	13nm,0.7s,baz=128,slow=12,SNR=5.1						
CMSA	**Cobar Meteorol**	**40.30**	**240**	⇑P	**P**	**22 41 05.7**	**-2.4**
	baz=41,SNR=11						
TOO	**Toangi**	**42.06**	**232**	⇓P	**P**	**22 41 21.4**	**-1.1**
	baz=42,SNR=4.9						
COEN	**Coen**	**42.21**	**267**	*e*P	**P**	**22 41 24.4**	**+0.4**
	48nm,0.8s						
COEN	**Coen**	**42.21**	**267**	⇑P	**P**	**22 41 24.4**	**+0.4**
	baz=43,SNR=4.8						
STKA	**Stephens Creek**	**43.79**	**241**	*e*P	**P**	**22 41 34.5**	**-2.0**
STKA	**Stephens Creek**	**43.79**	**241**	⇑P	**P**	**22 41 34.8**	**-1.7**
	baz=44,SNR=6.7						
STKA	**Stephens Creek**	**43.79**	**241**	P	**P**	**22 41 34.5**	**-2.0**
	16nm,0.9s,baz=83,slow=8.1,SNR=19						
BBOO	**Buckleboo**	**48.56**	**241**	*e*P	**P**	**22 42 13.1**	**-1.0**
	2μm,2.8s						
WRAB	**Tennant Creek**	**49.89**	**258**	*e*P	**P**	**22 42 22.3**	**-2.2**
WRAB				pmax	pmax		
	comp=Z,25nm,1.8s						
WRAB	**Tennant Creek**	**49.89**	**258**	*e*P	**P**	**22 42 22.3**	**-2.2**
	comp=Z,25nm,1.8s						
WRA	**Warramunga Arr**	**49.90**	**258**	*e*P	**P**	**22 42 22.1**	**-2.4**
WRA	**Warramunga Arr**	**49.90**	**258**	P	**P**	**22 42 22.1**	**-2.4**
	comp=Z,8nm,0.8s,baz=95,slow=6.2,SNR=20						
AS12	**Alice Springs**	**50.08**	**253**	*e*P	**P**	**22 42 23.4**	**-2.6**
ASAR	**Alice Springs**	**50.08**	**253**	P	**P**	**22 42 23.4**	**-2.6**
	comp=Z,25nm,0.7s,baz=88,slow=8.2,SNR=120						
KDU	**Kakadu**	**52.69**	**266**	P	**P**	**22 42 44.8**	**-0.7**
	baz=53,SNR=4.0						
SOEI	**Soe**	**61.17**	**268**	⇑P	**P**	**22 43 45.4**	**-0.5**
	baz=62,SNR=9.3						
SBA	**Scott Base**	**62.26**	**185**	*e*P	**P**	**22 43 53.4**	**+1.4**
SBA				pmax	pmax		
	comp=Z,119nm,2.8s						
SBA	**Scott Base**	**62.26**	**185**	*e*P	**P**	**22 43 53.4**	**+1.4**
	comp=Z,119nm,2.8s						
VNDA	**Vanda**	**62.40**	**186**	*e*P	**P**	**22 43 54.7**	**+1.8**
VNDA	**Vanda**	**62.40**	**186**	P	**P**	**22 43 54.7**	**+1.8**
	comp=Z,0.8nm,0.8s,baz=335,slow=7.7,SNR=3.6						
MEEK	**Meekatharra**	**63.70**	**248**	⇑P	**P**	**22 44 00.8**	**-1.7**
	baz=64,SNR=4.2						
KLBR	**Kellerberrin**	**64.03**	**243**	P	**P**	**22 44 02.8**	**-1.7**
	baz=64,SNR=11						
LUWI	**Luwuk**	**64.93**	**277**	P	**P**	**22 44 10.8**	**+0.1**
	baz=66,SNR=3.6						
BLDU	**Ballidu**	**64.99**	**244**	P	**P**	**22 44 08.7**	**-2.1**
	baz=65,SNR=7.3						
CASY	**Casey**	**69.61**	**205**	*e*P	**P**	**22 44 39.1**	**-0.2**
	comp=Z,7.9nm,1.0s						
MJAR	**Matsushiro Arr**	**69.90**	**320**	P	**P**	**22 44 41.0**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=160,slow=5.4,SNR=3.6						
SMMC	**Simmler**	**71.96**	**43**	P	**P**	**22 44 55.0**	**+0.7**
	baz=72						
ASAJ	**Asahikawa**	**72.56**	**328**	P	**P**	**22 44 58.2**	**+0.7**
	comp=Z,14nm,0.9s,baz=178,slow=8.9,SNR=5.0						
TJR	**Tejon Ranch**	**72.63**	**44**	*e*PKiKP	**PKiKP**	**22 50 57.5**	**-1.8**
MONP	**Monument Peak**	**73.04**	**47**	P	**P**	**22 45 01.4**	**+0.5**
	baz=73						
EDW2	**Edwards Air Fo**	**73.06**	**45**	P	**P**	**22 45 01.6**	**+0.8**
	baz=73						
DVTC	**Desert V Tower**	**73.14**	**48**	P	**P**	**22 45 01.7**	**+0.4**
	baz=73						
WASM	**Alta Sierra Ca**	**73.17**	**44**	*e*P	**P**	**22 45 00.7**	**-0.9**
ISA	**Isabella**	**73.18**	**44**	P	**P**	**22 45 01.8**	**+0.3**
	baz=73						
CMB	**Columbia Colle**	**73.34**	**41**	*e*P	**P**	**22 45 02.7**	**+0.3**
CMB				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CMB	**Columbia Colle**	**73.34**	**41**	*e*P	**P**	**22 45 02.7**	**+0.3**
	comp=Z,3.4nm,0.8s						
PFO	**Pinyon Flat Ob**	**73.40**	**47**	P	**P**	**22 45 03.4**	**+0.5**
	baz=74						
LRMC	**Lake Mountai**	**73.60**	**44**	P	**P**	**22 45 04.6**	**+0.6**
	baz=74						
QSPA	**South Pole Qui**	**73.63**	**180**	*e*P	**P**	**22 45 04.3**	**+0.5**
	comp=Z,122nm,2.7s						
PETK	**Petropavlovsk-**	**73.69**	**342**	P	**P**	**22 45 03.7**	**-0.3**
	comp=Z,5.1nm,0.8s,baz=138,slow=8.2,SNR=5.3						
CWC	**Cottonwood Cre**	**73.89**	**43**	*e*P	**P**	**22 45 07.7**	**+2.0**
BELC	**Belle Mtn. Jos**	**73.94**	**47**	P	**P**	**22 45 06.1**	**+0.1**
	baz=74						
MPMC	**Manual Prospec**	**74.06**	**44**	P	**P**	**22 45 06.4**	**-0.4**
	baz=74						
BC3	**Big Chuckawall**	**74.13**	**47**	P	**P**	**22 45 07.3**	**+0.1**
	baz=74						
HEC	**Hector,Ludlow**	**74.16**	**46**	P	**P**	**22 45 07.4**	**+0.1**
	baz=74						
YBH	**Yreka Blue Hor**	**74.23**	**37**	*e*P	**P**	**22 45 07.0**	**-0.6**
	comp=Z,11nm,1.3s						
YBH	**Yreka Blue Hor**	**74.23**	**37**	P	**P**	**22 45 08.6**	**+1.0**
	comp=Z,3.2nm,0.6s,baz=214,slow=1.0,SNR=9.2						
GLA	**Glamis**	**74.25**	**48**	P	**P**	**22 45 08.1**	**+0.2**
	baz=74						
YSS	**Yuzh-Sakhalins**	**74.51**	**330**	*i* P	**P**	**22 45 10.2**	**+1.3**
GMRC	**Granite Mounta**	**74.59**	**46**	P	**P**	**22 45 09.9**	**+0.1**
	baz=75						
IRM	**Iron Mountain**	**74.61**	**47**	P	**P**	**22 45 10.2**	**+0.3**
	baz=75						
GRAC	**Grapevine Rang**	**74.67**	**43**	P	**P**	**22 45 10.7**	**+0.5**
	baz=75						
FURC	**Furnace Creek,**	**74.71**	**44**	P	**P**	**22 45 11.2**	**+0.9**
	baz=75						
TUQ	**Turquoise Moun**	**74.77**	**45**	P	**P**	**22 45 11.2**	**+0.3**
	baz=75						
NVAR	**Mina Array Bea**	**74.89**	**42**	P	**P**	**22 45 12.3**	**+0.7**
	comp=Z,4.1nm,0.8s,baz=227,slow=10,SNR=24						
214A	**Organ Pipe Nat**	**75.14**	**50**	P	**P**	**22 45 12.9**	**0.0**
	baz=75						
PDMCI	**Parker Dam,Lak**	**75.40**	**47**	P	**P**	**22 45 14.5**	**+0.2**
	baz=76						
MOD	**Modoc**	**75.74**	**38**	*e*P	**P**	**22 45 16.4**	**0.0**
	comp=Z,52nm,1.4s						
Z14A	**Wintersburg**	**75.76**	**48**	P	**P**	**22 45 16.9**	**+0.4**
	baz=76						
K05A	**Summer Lake**	**75.91**	**37**	*e*P	**P**	**22 45 18.5**	**+1.2**
	comp=Z,213nm,2.6s						
W13A	**Hualapai Mount**	**76.00**	**47**	P	**P**	**22 45 18.0**	**0.0**
	baz=76						
Y14A	**Wickenburg**	**76.01**	**48**	P	**P**	**22 45 18.3**	**+0.3**
	baz=76						
R11A	**Troy Canyon, C**	**76.60**	**43**	P	**P**	**22 45 21.8**	**+0.4**
	baz=77						
TUC	**Tucson**	**76.81**	**50**	*e*P	**P**	**22 45 22.8**	**+0.3**
TUC				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TUC	**Tucson**	**76.81**	**50**	*e*P	**P**	**22 45 22.8**	**+0.3**
	comp=Z,7.2nm,1.0s						
KSRS	**Korea Array**	**77.09**	**316**	P	**P**	**22 45 25.1**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=128,slow=8.0,SNR=3.1						
KS15	**Wonju Array Si**	**77.11**	**316**	*e*P	**P**	**22 45 25.1**	**+1.1**
X16A	**Lo Mia Camp, P**	**77.37**	**48**	P	**P**	**22 45 26.9**	**+1.1**
	baz=78						
319A	**Douglas**	**77.49**	**52**	P	**P**	**22 45 27.0**	**+0.6**
	baz=78						
I07A	**Izee**	**77.54**	**36**	*e*P	**P**	**22 45 24.8**	**-1.6**
	comp=Z,16nm,1.5s						
KSM	**Kuching**	**77.57**	**275**	*e*P	**P**	**22 45 26.7**	**-0.4**
	comp=Z,43nm,1.2s						
CCUT	**Cedar City**	**77.65**	**45**	*e*P	**P**	**22 45 26.8**	**-0.5**
	comp=Z,8.2nm,1.4s						
J08A	**Circle Bar Ran**	**77.70**	**37**	*e*P	**P**	**22 45 26.4**	**-0.9**
	comp=Z,9.1nm,1.2s						
U15A	**North Rim**	**77.79**	**46**	P	**P**	**22 45 28.5**	**+0.3**
	baz=78						
LON	**Longmire**	**77.95**	**33**	*e*P	**P**	**22 45 26.7**	**-1.9**
LON				pmax	pmax		
	comp=Z,30nm,1.8s						
LON	**Longmire**	**77.95**	**33**	*e*P	**P**	**22 45 26.7**	**-1.9**
	comp=Z,30nm,1.8s						
WUAZ	**Wupatki**	**77.97**	**47**	*e*P	**P**	**22 45 28.8**	**-0.3**
	comp=Z,7.4nm,1.1s						
320A	**Kipp Ranch, An**	**78.04**	**52**	P	**P**	**22 45 30.0**	**+0.4**
	baz=78						
ELK	**Elko**	**78.15**	**41**	*e*P	**P**	**22 45 29.8**	**-0.3**
	comp=Z,7.0nm,1.2s						
220A	**Playas Peak, P**	**78.30**	**52**	P	**P**	**22 45 31.8**	**+0.8**
	baz=78						
G08A	**Pilot Rock**	**78.59**	**36**	*e*P	**P**	**22 45 32.2**	**0.0**
	comp=Z,10nm,1.1s						
Z20A	**Nine Sixteen R**	**78.82**	**51**	P	**P**	**22 45 34.6**	**+0.8**
	baz=79						
MVU	**Marysvale**	**78.92**	**44**	*e*P	**P**	**22 45 32.8**	**-1.6**
	comp=Z,16nm,1.4s						
BMO	**Blue Mountains**	**79.26**	**37**	*e*P	**P**	**22 45 34.1**	**-1.8**
BMO				pmax	pmax		
	comp=Z,6.0nm,1.2s						
BMO	**Blue Mountains**	**79.26**	**37**	*e*P	**P**	**22 45 34.1**	**-1.8**
	comp=Z,6.1nm,1.2s						
MFID	**Camas Ranch**	**79.30**	**39**	P	**P**	**22 45 36.8**	**+0.6**
	baz=79						
Y20A	**Horse Springs,**	**79.35**	**50**	P	**P**	**22 45 36.4**	**-0.4**
	baz=79						
HABR	**Khabarovsk**	**79.35**	**328**	*e*P	**P**	**22 45 34.4**	**-1.7**
HABR				*e*		22 45 42.5	
HABR				*e*S	**S**	**22 55 28.8**	**-5.7**
HABR				*e*		22 55 49.8	
HABR				*e**SS	**ScS**	**22 55 57.6**	**+0.8**
HABR				*e*SSS	SSS	23 04 01.7	
HABR				pmax	pmax		
	comp=Z,55nm,1.6s						
HABR				MLR	MLR		
	comp=Z,98nm,19.0s						
DUG	**Dugway**	**79.41**	**43**	*e*P	**P**	**22 45 36.0**	**-0.9**
DUG				pmax	pmax		
	comp=Z,8.0nm,1.1s						
DUG	**Dugway**	**79.41**	**43**	*e*P	**P**	**22 45 36.0**	**-0.9**
	comp=Z,7.6nm,1.1s						
DUG	**Dugway**	**79.41**	**43**	P	**P**	**22 45 37.1**	**+0.2**
	baz=80						
X20A	**Quemado**	**79.56**	**49**	P	**P**	**22 45 38.7**	**+0.8**
	baz=80						
W20A	**Ramah**	**79.83**	**49**	P	**P**	**22 45 40.1**	**+0.7**
	baz=80						
F10A	**Beach Ranch, E**	**79.97**	**36**	*e*P	**P**	**22 45 38.3**	**-1.4**
	comp=Z,94nm,2.5s						
MDJ	**Mudanjiang**	**80.01**	**322**	P	P	22 45 43.2	+3.4
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,14nm,2.9s						
Z22A	**Elephant Butte**	**80.09**	**51**	P	**P**	**22 45 41.8**	**+1.1**
	baz=80						
HLID	**Hailey**	**80.23**	**39**	*e*P	**P**	**22 45 40.8**	**-0.5**
	comp=Z,7.3nm,1.0s						
HLID	**Hailey**	**80.23**	**39**	P	**P**	**22 45 42.0**	**+0.7**
	baz=80						
SRU	**San Rafael**	**80.36**	**44**	*e*P	**P**	**22 45 40.7**	**-1.4**
SRU				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SRU	**San Rafael**	**80.36**	**44**	*e*P	**P**	**22 45 40.6**	**-1.4**
	comp=Z,6.1nm,1.0s						
324A	**Moseley Ranch,**	**80.41**	**53**	P	**P**	**22 45 42.6**	**+0.1**
	baz=80						
425A	**Indio Mountain**	**80.51**	**54**	P	**P**	**22 45 43.7**	**+0.7**
	baz=81						
MNTX	**Cornudas Mount**	**80.60**	**53**	*e*P	**P**	**22 45 43.2**	**-0.2**
	comp=Z,8.0nm,1.4s						
224A	**Cornudas Mount**	**80.66**	**53**	P	**P**	**22 45 44.1**	**+0.3**
	baz=81						
526A	**Mary Lane Ranc**	**80.91**	**55**	P	**P**	**22 45 45.7**	**+0.5**
	baz=81						
LTX	**Lajitas**	**80.94**	**56**

V24A	**Rampart Ranch,**	**82.45**	**49**	P		**P**	**22 45 53.8**	**+0.5**
	baz=82							
R22A	**Saguache, Gunn**	**82.52**	**47**	P		**P**	**22 45 54.8**	**+1.1**
	baz=83							
IMW	**Indian Meadow**	**82.53**	**40**	*e*P		**P**	**22 45 53.2**	**-0.5**
	comp=Z,16nm,1.5s							
MOOW	**Moose Ponds**	**82.58**	**40**	*e*P		**P**	**22 45 52.1**	**-1.7**
	comp=Z,62nm,2.8s							
Q22A	**Crested Butte,**	**82.71**	**46**	P		**P**	**22 45 55.1**	**+0.4**
	baz=83							
N20A	**Spence Gulch,**	**82.72**	**44**	P		**P**	**22 45 55.1**	**+0.5**
	baz=83							
SMCO	**Snowmass**	**82.81**	**46**	*e*P		**P**	**22 45 55.9**	**+0.5**
	comp=Z,23nm,1.4s							
W25A	**X Bar L Ranch,**	**82.82**	**50**	P		**P**	**22 45 55.6**	**+0.4**
	baz=83							
PD31	**Pinedale Array**	**82.83**	**42**	*e*P		**P**	**22 45 55.2**	**+0.1**
PDAR	**Pinedale Array**	**82.83**	**42**	P		**P**	**22 45 55.2**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=215,slow=3.3,SNR=25							
429A	**Davenport Ranc**	**82.87**	**55**	P		**P**	**22 45 55.5**	**+0.1**
	baz=83							
V25A	**Rancho No Teng**	**82.98**	**50**	P		**P**	**22 45 56.6**	**+0.6**
	baz=83							
BOZ	**Bozeman (W)**	**83.03**	**38**	*e*P		**P**	**22 45 54.5**	**-1.5**
BOZ				pmax		pmax		
	comp=Z,9.0nm,1.2s							
BOZ	**Bozeman (W)**	**83.03**	**38**	*e*P		**P**	**22 45 54.5**	**-1.5**
	comp=Z,8.9nm,1.2s							
M20A	**Sweetwater, Wa**	**83.09**	**43**	P		**P**	**22 45 57.0**	**+0.5**
	baz=83							
P22A	**Eagle**	**83.15**	**45**	P		**P**	**22 45 57.4**	**+0.5**
	baz=83							
R23A	**Moffat**	**83.15**	**47**	P		**P**	**22 45 57.5**	**+0.5**
	baz=83							
128A	**Castleberry Fa**	**83.22**	**53**	P		**P**	**22 45 57.4**	**+0.3**
	baz=83							
Y27A	**Causey**	**83.22**	**52**	P		**P**	**22 45 57.4**	**+0.2**
	baz=83							
L20A	**Wamsutter**	**83.24**	**43**	P		**P**	**22 45 58.1**	**+0.8**
	baz=83							
K19A	**Absolon Red Bu**	**83.31**	**42**	P		**P**	**22 45 57.5**	**-0.1**
	baz=83							
S24A	**Houchin Ranch,**	**83.34**	**48**	P		**P**	**22 45 58.6**	**+0.6**
	baz=83							
U25A	**Circle Dot Ran**	**83.37**	**49**	P		**P**	**22 45 58.4**	**+0.3**
	baz=84							
ILAR	**Eielson Array**	**83.39**	**11**	P		**P**	**22 45 56.7**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=225,slow=6.3,SNR=11							
ILB	**Eielson Array**	**83.39**	**11**	*e*P		**P**	**22 45 56.7**	**-0.5**
MSTX	**Muleshoe**	**83.55**	**52**	*e*P		P	22 45 54.1	-4.8
K20A	**Yellowstone Ra**	**83.55**	**42**	P		**P**	**22 45 58.8**	**0.0**
	baz=84							
QIZ	**Qiongzhong**	**83.55**	**292**	P		**P**	**22 45 57.1**	**-2.0**
QIZ				S		S	22 56 13.2	-6.1
QIZ				AMB		AMB		
	comp=Z,12nm,1.4s							
QIZ				AMB		AMB		
	comp=Z,70nm,4.7s							
QIZ				LR		LR		
	comp=Z,400nm,24.8s							
O22A	**Kremmling**	**83.56**	**45**	P		**P**	**22 45 59.4**	**+0.3**
	baz=84							
SEY	**Seymchan**	**83.57**	**345**	*i* P		**P**	**22 45 58.7**	**+0.5**
M21A	**Separation Pea**	**83.69**	**43**	P		**P**	**22 45 59.8**	**+0.1**
	baz=84							
W27A	**Bowe Ranch, En**	**83.79**	**51**	P		**P**	**22 46 00.1**	**0.0**
	baz=84							
I19A	**Meeteetse**	**83.82**	**41**	P		**P**	**22 46 00.7**	**+0.5**
	baz=84							
L21A	**Rawlins**	**83.85**	**43**	P		**P**	**22 46 00.1**	**-0.3**
	baz=84							
J20A	**Shoshoni**	**84.06**	**42**	P		**P**	**22 46 01.6**	**+0.3**
	baz=84							
I20A	**Worland**	**84.32**	**41**	P		**P**	**22 46 03.1**	**+0.4**
	baz=84							
DAWY	**Dawson**	**84.33**	**14**	*e*P		**P**	**22 46 01.7**	**-0.4**
COLD	**Coldfoot**	**85.10**	**9**	*e*P		**P**	**22 46 05.7**	**-0.1**
	comp=Z,19nm,1.4s							
ABTX	**Abilene, Hawle**	**85.42**	**54**	*e*P		**P**	**22 46 07.8**	**-0.5**
	comp=Z,18nm,1.1s							
BJI	**Beijing**	**86.38**	**313**	P		**P**	**22 46 13.9**	**+1.1**
BJI				sP		sP	22 46 36.1	+9.4
BJI				PP		**PP**	**22 49 34.1**	**-0.4**
BJI				SS		**SS**	**23 02 26.3**	**-0.9**
BJI				AMB		AMB		
	comp=Z,12nm,0.9s							
BJI				AMB		AMB		
	comp=Z,65nm,4.9s							
BJI				LR		LR		
	comp=Z,160nm,26.1s							
BJI				LR		LR		
	comp=Z,170nm,26.1s							
BJI				LR		LR		
	comp=Z,140nm,25.5s							
MAW	**Mawson**	**86.92**	**199**	*e*P		**P**	**22 46 15.3**	**+0.2**
	comp=Z,8.0nm,2.1s							
MAW	**Mawson**	**86.92**	**199**	P		**P**	**22 46 15.3**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=128,slow=10,SNR=7.6							
IPM	**Ipoh**	**87.31**	**275**	*e*P		**P**	**22 46 17.0**	**-1.0**
	comp=Z,15nm,0.8s							
GYA	**Guiyang**	**88.78**	**298**	*e*P		**P**	**22 46 27.2**	**+2.4**
GYA				pP		pP	22 46 44.0	+8.9
GYA				sP		sP	22 46 50.1	+11
GYA				PP		PP	22 49 59.5	+5.2
GYA				SKS		**SKSac**	**22 56 48.4**	**-4.0**
GYA				S		**S**	**22 57 07.8**	**-2.5**
GYA				SS		**SS**	**23 03 04.2**	**+1.2**
GYA				AMB		AMB		
	comp=Z,10.0nm,1.0s							
GYA				AMB		AMB		
	comp=Z,110nm,6.1s							
GYA				LR		LR		
	comp=Z,440nm,20.6s							
GYA				LR		LR		
	comp=Z,320nm,21.0s							
GYA				LR		LR		
	comp=Z,460nm,20.8s							
PSI	**Prapat**	**88.84**	**273**	*e*P		**P**	**22 46 25.4**	**-0.1**
PSI	**Prapat**	**88.84**	**273**	P		**P**	**22 46 25.4**	**-0.1**
	comp=Z,9.2nm,0.8s,baz=144,slow=9.5,SNR=5.2							
INK	**Inuvik**	**89.19**	**14**	*e*P		**P**	**22 46 26.2**	**+0.6**
	comp=Z,26nm,1.8s							
INK	**Inuvik**	**89.19**	**14**	P		**P**	**22 46 26.2**	**+0.6**
	comp=Z,1.6nm,0.5s,baz=226,slow=5.1,SNR=3.5							
HHC	**Hu-ho-hao-te**	**89.93**	**313**	*e*P		**P**	**22 46 30.7**	**+0.8**
HHC				pP		pP	22 46 47.8	+7.7
HHC				sP		sP	22 46 54.5	+11
HHC				PP		**PP**	**22 50 06.9**	**+3.7**
HHC				SKS		**SKSac**	**22 56 54.5**	**-4.0**
HHC				S		**S**	**22 57 16.9**	**-3.6**
HHC				sS		sS	22 57 46.2	+8.7
HHC				SS		**SS**	**23 03 20.4**	**+1.2**
HHC				AMB		AMB		
	comp=Z,26nm,1.1s							
HHC				AMB		AMB		
	comp=Z,120nm,5.4s							
HHC				LR		LR		
	comp=Z,150nm,16.1s							
HHC				LR		LR		
	comp=Z,190nm,15.9s							
HHC				LR		LR		
	comp=Z,270nm,17.1s							
KMI	**Kunming**	**91.73**	**296**	P		**P**	**22 46 40.2**	**+1.5**
KMI				pP		pP	22 46 58.3	+9.3
KMI				sP		sP	22 47 04.7	+12
KMI				PP		**PP**	**22 50 22.8**	**+4.9**
KMI				S		**S**	**22 57 33.5**	**-4.3**
KMI				sS		sS	22 58 02.4	+7.5
KMI				SS		**SS**	**23 03 47.1**	**+1.1**
KMI				AMB		AMB		
	comp=Z,6.0nm,1.3s							
KMI				AMB		AMB		
	comp=Z,69nm,5.8s							
KMI				LR		LR		
	comp=Z,180nm,17.3s							
KMI				LR		LR		
	comp=Z,190nm,17.3s							
KMI				LR		LR		
	comp=Z,230nm,15.5s							
CD2	**Chengdu**	**92.59**	**301**	P		**P**	**22 46 43.8**	**+1.4**
CM31	**Chiang Mai Arr**	**93.21**	**288**	*e*P		**P**	**22 46 45.9**	**+0.5**
CMAR	**Chiang Mai Arr**	**93.21**	**288**	P		**P**	**22 46 45.9**	**+0.5**
	comp=Z,2.9nm,0.8s,baz=94,slow=2.4,SNR=13							
LZH	**Lanzhou**	**94.06**	**306**	*e*P		P	22 46 53.0	+3.8
LZH				pP		pP	22 47 08.8	+9.3
LZH				sP		sP	22 47 16.7	+14
LZH				AMB		AMB		
	comp=Z,13nm,1.0s							
MK32	**Makanchi Array**	**111.75**	**314**	*e*PKiKP		**PKiKP**	**22 52 04.9**	**-0.3**
MKAR	**Makanchi Array**	**111.75**	**314**	PKiKP		**PKiKP**	**22 52 04.9**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=76,slow=0.6,SNR=3.1							
BVAR	**Borovoye Array**	**118.86**	**322**	PKP		**PKPdf**	**22 52 19.4**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=117,slow=1.6,SNR=3.1							
ARA0	**ARCESS Array S**	**125.65**	**352**	*e*PKPdf		**PKPdf**	**22 52 32.2**	**+1.0**
ARCES	**ARCESS Array B**	**125.65**	**352**	PKP		**PKPdf**	**22 52 32.2**	**+1.0**
	comp=Z,1.7nm,0.8s,baz=52,slow=7.9,SNR=4.2							
OBN	**Obninsk**	**135.16**	**336**	⇓*i*PKIKP		**PKPdf**	**22 52 51.2**	**+1.6**
OBN				*e*SS		SS	23 13 41.3	+24
OBN				pmax		pmax		
	comp=Z,25nm,2.2s							
OBN				MLR		MLR		
	comp=Z,100nm,23.0s							
NB200	**NORSAR Array S**	**135.33**	**357**	*e*PKPdf		**PKPdf**	**22 52 49.9**	**+0.1**
NOA	**NORSAR Array B**	**135.33**	**357**	PKP		**PKPdf**	**22 52 49.9**	**+0.1**
	comp=Z,1.4nm,0.9s,baz=13,slow=4.1,SNR=3.3							
MALT	**Malatya**	**144.78**	**314**	⇓PKIKP		**PKPdf**	**22 53 09.3**	**+1.6**
MALT	**Malatya**	**144.78**	**314**	⇓*i*P		**PKPdf**	**22 53 09.3**	**+1.6**
CLL	**Collm**	**144.85**	**353**	*e*PKIKP		**PKPdf**	**22 53 07.0**	**-0.3**
CLL				*e*			22 53 12.0	
CLL	**Collm**	**144.85**	**353**	*e*PKPdf		**PKPdf**	**22 53 07.0**	**-0.3**
CLL				*e*PKiKP		**PKiKP**	**22 53 12.0**	**+0.9**
CLL				*e*PP		**PP**	**22 56 20.0**	**-4.0**
CLL				LmV			00 04 00.0	
	comp=Z,100nm,18.6s							
STHS	**Stebnicka Huta**	**145.08**	**344**	*e*PKIKP		**PKPdf**	**22 53 08.9**	**+1.1**
STHS	**Stebnicka Huta**	**145.08**	**344**	*e*PKP		**PKPdf**	**22 53 08.9**	**+1.1**
UPC	**Upice**	**145.21**	**350**	*e*PKIKP		**PKPdf**	**22 53 12.0**	**+4.0**
UPC				*e*			22 53 21.5	
UPC	**Upice**	**145.21**	**350**	*e*PKP		**PKPdf**	**22 53 12.0**	**+4.0**
UPC				*ex*		x	22 53 21.5	
KOLS	**Kolonicke sedl**	**145.23**	**342**	*e*PKIKP		**PKPdf**	**22 53 09.0**	**+1.0**
KOLS	**Kolonicke sedl**	**145.23**	**342**	*e*PKP		**PKPdf**	**22 53 09.0**	**+1.0**
DPC	**Dobruska-Polom**	**145.31**	**349**	*e*PKHKP		PKPpre	22 53 05.0	
DPC	**Dobruska-Polom**	**145.31**	**349**	*e*PKP		**PKPdf**	**22 53 08.5**	**+0.3**
DPC				*ex*		x	22 53 21.0	
DPC	**Dobruska-Polom**	**145.31**	**349**	*e*PKPbc		**PKPbc**	**22 53 05.0**	**-2.9**
KMBO	**Kilima Mbogo**	**145.34**	**243**	*e*PKPbc		**PKPbc**	**22 53 07.0**	**-2.5**
KMBO	**Kilima Mbogo**	**145.34**	**243**	PKPbc		**PKPab**	**22 53 10.1**	**+0.5**
	comp=Z,9.7nm,0.9s,baz=66,slow=5.7,SNR=28							
BURAR	**Bucovina Array**	**145.42**	**338**	⇑PKIKP		**PKPab**	**22 53 09.0**	**+0.3**
BURAR	**Bucovina Array**	**145.42**	**338**	⇑*i*P		**PKPab**	**22 53 09.0**	**+0.3**
PVCC	**Panska Ves**	**145.42**	**351**	*e*PKIKP		**PKPab**	**22 53 08.3**	**-0.1**
PVCC				*e*			22 53 20.4	
PVCC	**Panska Ves**	**145.42**	**351**	*e*PKP		**PKPab**	**22 53 08.3**	**-0.1**
PVCC				*ex*		x	22 53 20.4	
OKC	**Ostrava-Krasne**	**145.44**	**347**	*e*PKIKP		**PKPab**	**22 53 08.4**	**-0.1**
OKC				*e*			22 53 21.5	
OKC	**Ostrava-Krasne**	**145.44**	**347**	*e*PKP		**PKPab**	**22 53 08.4**	**-0.1**
OKC				*ex*		x	22 53 21.5	
UZH	**Uzhgorod**	**145.49**	**342**	⇓*i*PKIKP		**PKPdf**	**22 53 07.0**	**-1.5**
MORC	**Moravsky Berou**	**145.63**	**348**	*e*PKHKP		PKPpre	22 53 04.7	
MORC	**Moravsky Berou**	**145.63**	**348**	⇓*i*P		**PKPab**	**22 53 09.2**	**-0.1**
MORC	**Moravsky Berou**	**145.63**	**348**	*e*PKPdf		PKPpre	22 53 04.7	
BEBN	**Eben Emael**	**145.69**	**1**	APKP		pPKPdf	22 53 22.2	+3.0
TRPA	**Tarpa**	**145.87**	**341**	⇓*i*P		**PKPab**	**22 53 11.0**	**+0.9**
SNF	**Seneffe**	**145.93**	**3**	APKP		pPKPdf	22 53 24.1	+4.4
PRU	**Pruhonice**	**145.95**	**351**	*e*PKP2		**PKPab**	**22 53 10.1**	**-0.3**
PRU				MLR		MLR		
	comp=Z,200nm,22.8s							
PRU	**Pruhonice**	**145.95**	**351**	*e*PKP		**PKPab**	**22 53 10.1**	**-0.3**
PRU				*ex*		x	22 53 23.2	
PRU				AMS		AMS	23 56 10.0	
	comp=Z,200nm,22.8s							
BCLA	**Clavier**	**146.06**	**2**	APKP		pPKPdf	22 53 24.3	+4.4
KECS	**Kecovo**	**146.14**	**344**	*e*PKP2		**PKPab**	**22 53 11.5**	**+0.3**
KECS	**Kecovo**	**146.14**	**344**	*e*PKP		**PKPab**	**22 53 11.5**	**+0.3**
CFR	**Carcaliu**	**146.23**	**333**	⇓PKP2		**PKPab**	**22 53 15.3**	**+3.7**
CFR	**Carcaliu**	**146.23**	**333**	⇓*i*P		**PKPab**	**22 53 15.3**	**+3.7**
VRI	**Vrincioaia**	**146.29**	**335**	⇑PKP2		**PKPab**	**22 53 16.7**	**+4.8**
VRI	**Vrincioaia**	**146.29**	**335**	⇑*i*P		**PKPab**	**22 53 16.7**	**+4.8**
PLOR	**Plostina**	**146.33**	**335**	⇓PKP2		**PKPab**	**22 53 14.5**	**+2.4**
PLOR	**Plostina**	**146.33**	**335**	⇓*i*P		**PKPab**	**22 53 14.5**	**+2.4**
DOU	**Dourbes**	**146.36**	**3**	APKP		pPKPdf	22 53 25.1	+4.6
TREC	**Trest**	**146.47**	**350**	*e*PKP2		**PKPab**	**22 53 12.0**	**-0.5**
TREC				MLR		MLR		
	comp=Z,100nm,19.2s							
TREC	**Trest**	**146.47**	**350**	*e*PKP		**PKPab**	**22 53 12.0**	**-0.5**
TREC				*ex*		x	22 53 25.6	
TREC				AMS		AMS	23 55 30.0	
	comp=Z,100nm,19.2s							
TLB	**Topalu**	**146.74**	**332**	⇓PKP2		**PKPab**	**22 53 13.3**	**-0.3**
TLB	**Topalu**	**146.74**	**332**	⇓*i*P		**PKPab**	**22 53 13.3**	**-0.3**
PSZ	**Piszkesteto**	**146.82**	**344**	⇑PKP2		**PKPab**	**22 53 15.2**	**+1.3**
PSZ	**Piszkesteto**	**146.82**	**344**	⇑*i*P		**PKPab**	**22 53 15.2**	**+1.3**
WLF	**Walferdange**	**146.84**	**1**	PKP		PKPab	22 53 27.0	+13
MLR	**Muntele Rosu**	**146.91**	**335**	⇓*i*P		**PKPab**	**22 53 14.7**	**+0.3**
KHC	**Kasperske Hory**	**146.92**	**352**	*e*PKP2		**PKPab**	**22 53 13.4**	**-0.8**
KHC	**Kasperske Hory**	**146.92**	**352**	*e*PKP		**PKPdf**	**22 53 10.5**	**-0.5**
KHC				*ex*		x	22 53 13.4	
KHC				*ex*		x	22 53 26.3	
KHC				*ex*		x	22 54 04.0	
DRGR		**146.99**	**340**	⇓PKP2		**PKPab**	**22 53 14.8**	**+0.2**
DRGR		**146.99**	**340**	⇓*i*P		**PKPab**	**22 53 14.8**	**+0.2**
BR101	**Keskin Array S**	**147.12**	**320**	*e*PKPdf		**PKPbc**	**22 53 13.7**	**-0.2**
BRTR	**Keskin Array B**	**147.13**	**320**	PKPbc		**PKPbc**	**22 53 13.7**	**-0.2**
	comp=Z,5.0nm,0.8s,baz=126,slow=2.0,SNR=18							
GEC2	**GERESS Array S**	**147.19**	**352**	*e*PKP2		**PKPbc**	**22 53 13.1**	**-0.6**
GEC2	**GERESS Array S**	**147.19**	**352**	*e*PKPdf		**PKPbc**	**22 53 13.1**	**-0.6**
GERES	**GERESS Array B**	**147.19**	**352**	PKPbc		**PKPbc**	**22 53 13.1**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=26,slow=2.8,SNR=15							
VOIR		**147.31**	**336**	⇓PKP2		**PKPbc**	**22 53 13.0**	**-1.1**
VOIR		**147.31**	**336**	⇓*i*P		**PKPbc**	**22 53 13.0**	**-1.1**
ARR	**Arges**	**147.53**	**336**	⇓*i*P		**PKPab**	**22 53 16.4**	**-0.4**
CONA	**Conrad Observa**	**147.72**	**349**	⇑*i*sPKPdf		**PKPbc**	**22 53 15.4**	**+0.2**
	comp=Z,23nm,2.0s							
SIRR	**Siria**	**147.80**	**341**	⇑*i*P		**PKPbc**	**22 53 15.9**	**+0.6**
BFO	**Black Forest**	**148.16**	**358**	*e*PKPdf		**PKPdf**	**22 53 10.7**	**-2.3**
BZS	**Buzias**	**148.39**	**340**	⇑PKP2		**PKPbc**	**22 53 17.9**	**+1.0**
BZS	**Buzias**	**148.39**	**340**	⇑*i*P		**PKPbc**	**22 53 17.9**	**+1.0**
ABTA	**Abfaltersbach**	**149.40**	**352**	⇑*i*sPKPdf		**PKPbc**	**22 53 18.4**	**-1.2**
	comp=Z,8.0nm,0.8s							
TUE	**Stuetta**	**149.97**	**357**	*e*PKPdf		**PKPbc**	**22 53 18.9**	**-2.3**
SENIN	**Lac Senin/Sane**	**150.14**	**359**	*e*PKPbc		**PKPbc**	**22 53 23.5**	**+2.0**
VTS	**Vitosha**	**150.42**	**335**	⇑PKIKP		**PKPbc**	**22 53 22.7**	**+0.4**
VTS	**Vitosha**	**150.42**	**335**	⇑*i*P		**PKPbc**	**22 53 22.6**	**+0.3**
MBAR	**Mbarara**	**151.03**	**237**	*e*PKPdf		**PKPdf**	**22 53 19.0**	**+0.2**
BNI	**Bardonecchia**	**151.46**	**0**	*e*PKIKP		**PKPdf**	**22 53 14.9**	**-3.6**
BNI	**Bardonecchia**	**151.46**	**0**	*e*PKPdf		**PKPdf**	**22 53 14.9**	**-3.6**
IDI	**Anoyia**	**155.28**	**323**	*e*PKPdf		**PKPdf**	**22 53 21.6**	**-2.6**
TOA0	**Torodi Ar. Sit**	**174.00**	**122**	*e*PKPdf		**PKPdf**	**22 53 41.8**	**+0.9**
TOA0				*e*PKPab		**PKPab**	**22 55 11.7**	**-0.2**
TORD	**Torodi Ar. Bea**	**174.00**	**122**	PKP		**PKPdf**	**22 53 41.8**	**+0.9**
	comp=Z,0.9nm,0.9s,baz=270,slow=1.3,SNR=4.3							
TORD				PKPab		**PKPab**	**22 55 11.7**	**-0.2**
	comp=Z,2.5nm,0.9s,baz=253,slow=4.4,SNR=8.0							

*IDC **01** 22:34:23.9±0.7, 16°.50S×173°.15W, h0km, mb4.5/12, mb1 4.7/12, mb1mx4.4/24, mbtmp4.5/12, MS4.4/6, Ms1 4.4/6, ms1mx4.1/17, Error ellipse: s-maj=33.9km s-min=17.6km az=139.0*

ISC 01 22:34:28.4±0.6, 16°.7S±0°.1×173°.0W±0°.1, h32km, n39, σ1s35/19, mb4.4/12, MS4.5/5, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.02**	**23**	Sn		Sn	22 35 36.7	-13
	baz=72,slow=20,SNR=1.6							
RAR	**Rarotonga**	**13.26**	**112**	Pn		**Pn**	**22 37 33.3**	**-1.3**
	3.5nm,0.3s,baz=270,slow=7.0,SNR=7.4							
RAO	**Raoul Island**	**13.28**	**199**	LR		LR	22 41 58.6	
	comp=Z,859nm,19.3s,baz=33,slow=34							
DZM	**Mont Dzumac**	**20.12**	**251**	P		Pn	22 39 01.7	-0.3
	14nm,0.8s,baz=88,slow=17,SNR=2.1							
DZM				LR		LR	22 44 39.4	
	comp=Z,3μm,20.1s,baz=47,slow=31							
URZ	**Urewera**	**23.16**	**200**	P		**P**	**22 39 34.8**	**+2.6**
	14nm,0.6s,baz=27,slow=4.5,SNR=2.3							
RPZ	**Rata Peaks**	**30.13**	**203**	LR		LR	22 50 49.8	
	comp=Z,900nm,20.1s,baz=300,slow=33							
PMG	**Port Moresby**	**39.45**	**276**	LR		LR	22 56 45.8	
	comp=Z,716nm,18.4s,baz=26,slow=34							
H11S2	**WAKE ISLAND Hy**	**40.30**	**329**	T		T	23 24 47.0	
	baz=155							
H11S3	**WAKE ISLAND Hy**	**40.31**	**329**	T		T	23 24 50.2	
	baz=155							
H11S1	**WAKE ISLAND Hy**	**40.32**	**329**	T		T	23 24 45.8	
	baz=155							
H11N3	**WAKE ISLAND Hy**	**41.26**	**331**	T		T	23 25 55.8	
	baz=152,slow=0.7,SNR=4.6							
H11N1	**WAKE ISLAND Hy**	**41.26**	**331**	T		T	23 25 54.2	
	baz=152,slow=0.7							
H11N2	**WAKE ISLAND Hy**	**41.27**	**331**	T		T	23 25 56.5	
	baz=152,slow=0.7,SNR=4.9							
STKA	**Stephens Creek**	**43.75**	**241**	P		**P**	**22 42 30.1**	**-1.0**
	13nm,0.9s,baz=68,slow=8.1,SNR=5.6							
WRA	**Warramunga Arr**	**49.95**	**258**	P		**P**	**22 43 18.5**	**-1.3**
	1.9nm,0.6s,baz=94,slow=7.1,SNR=3.3							
ASAR	**Alice Springs**	**50.10**	**253**	P		**P**	**22 43 19.1**	**-1.8**
	20nm,0.7s,baz=86,slow=8.4,SNR=6.8							
JCJ	**Chichijima**	**61.56**	**314**	LR		LR	23 06 08.8	
	comp=Z,374nm,19.5s,baz=150,slow=31							
PETK	**Petropavlovsk-**	**74.00**	**342**	P		**P**	**22 45 59.9**	**-0.8**
	4.0nm,0.9s,baz=161,slow=9.2,SNR=3.3							
PETK				LR		LR	23 20 22.3	
	comp=Z,61nm,18.3s,baz=225,slow=37							
YBH	**Yreka Blue Hor**	**74.40**	**37**	P		**P**	**22 46 03.7**	**+0.3**
	2.1nm,0.7s,baz=182,slow=4.7,SNR=4.4							
NVAR	**Mina Array Bea**	**75.03**	**42**	P		**P**	**22 46 07.2**	**-0.2**
	3.1nm,1.0s,baz=226,slow=8.7,SNR=2.7							
TXAR	**Lajitas Array**	**81.01**	**56**	P		**P**	**22 46 41.2**	**+0.6**
	0.5nm,0.8s,baz=213,slow=6.5,SNR=2.6							
PDAR	**Pinedale Array**	**82.97**	**42**	P		**P**	**22 46 50.6**	**-0.1**
	1.9nm,0.6s,baz=209,slow=3.5,SNR=4.8							
ILAR	**Eielson Array**	**83.66**	**11**	P		**P**	**22 46 52.6**	**-0.8**
	1.3nm,0.8s,baz=200,slow=5.6,SNR=4.4							
PSI	**Prapat**	**88.98**	**273**	P		**P**	**22 47 20.4**	**-0.6**
	2.7nm,0.4s,baz=233,slow=11,SNR=3.5							
CMAR	**Chiang Mai Arr**	**93.42**	**288**	P		**P**	**22 47 42.4**	**+1.2**
	2.1nm,0.8s,baz=89,slow=2.6,SNR=5.0							
MKAR	**Makanchi Array**	**112.04**	**314**	PKiKP		**PKiKP**	**22 53 00.3**	**-0.3**
	0.1nm,0.5s,baz=75,slow=4.1,SNR=3.4							
KMBO	**Kilima Mbogo**	**145.31**	**242**	PKPbc		**PKPdf**	**22 54 05.2**	**+0.8**
	7.2nm,0.9s,baz=69,slow=4.3,SNR=6.2							
UPC	**Upice**	**145.53**	**350**	*e*P		PKPab	22 54 16.5	+13
UPC				*ex*		x	22 54 23.5	
DPC	**Dobruska-Polom**	**145.63**	**349**	*e*P		PKPab	22 54 12.9	+8.8
OKC	**Ostrava-Krasne**	**145.76**	**347**	*e*P		PKPab	22 54 17.4	+13
MEM	**Membach**	**146.18**	**1**	PKP		PKPab	22 54 19.3	+13
PRU	**Pruhonice**	**146.26**	**351**	*e*P		PKPab	22 54 18.5	+12
PRU				*ex*		x	22 54 28.0	
BCLA	**Clavier**	**146.35**	**2**	PKP		PKPab	22 54 19.9	+13
DOU	**Dourbes**	**146.65**	**3**	PKP		PKPab	22 54 19.3	+11
WLF	**Walferdange**	**147.13**	**1**	PKP		PKPab	22 54 21.8	+12
KHC	**Kasperske Hory**	**147.24**	**352**	*e*P		**PKPab**	**22 54 13.5**	**+3.2**
KHC				*ex*		x	22 54 21.6	
BRTR	**Keskin Array B**	**147.43**	**320**	PKPbc		**PKPbc**	**22 54 09.7**	**+0.1**
	4.3nm,0.9s,baz=98,slow=2.1,SNR=2.0							
GERES	**GERESS Array B**	**147.50**	**352**	PKPbc		**PKPbc**	**22 54 09.8**	**+0.4**
	0.7nm,0.6s,baz=22,slow=3.2,SNR=2.6							
TORD	**Torodi Ar. Bea**	**173.74**	**124**	PKPab		**PKPab**	**22 56 06.0**	**+0.4**
	1.6nm,1.0s,baz=242,slow=5.5,SNR=3.9							

JMA 01 22:36:15.7±0.4, 26°.00N×140°.66E, h86km, M4.2, Bonin Islands region

| Code | Station Name | Δ° | AZ° | Phase | ID | |

H11N2 **WAKE ISLAND Hy 40.27 329** T T 23 50 45.6
baz=153,slow=0.7,SNR=6.4
STKA Stephens Creek 45.03 240 P P 23 09 10.2 +0.8
2.5nm,0.9s,baz=82,slow=6.0,SNR=3.8
WRA Warramunga Arr 50.89 257 P P 23 09 54.4 -0.6
1.1nm,0.8s,baz=94,slow=7.7,SNR=6.6
ASAR Alice Springs 51.15 252 P P 23 09 56.2 -0.8
4.5nm,0.7s,baz=87,slow=8.0,SNR=42
NVAR Mina Array Bea 73.49 42 P P 23 12 27.0 +0.4
0.3nm,0.7s,baz=235,slow=8.7,SNR=3.3
MAW Mawson 88.31 198 P P 23 13 43.4 -1.5
1.1nm,0.7s,baz=113,slow=7.7,SNR=3.7
GERES **GERESS Array B 146.07 353** PKPbc PKPdf 23 20 33.2 +0.1
0.3nm,0.6s,baz=1.9,slow=4.0,SNR=5.9
BRTR Keskin Array B 146.63 322 PKPbc PKPab 23 20 37.1 +0.2
1.5nm,1.0s,baz=343,slow=3.9,SNR=4.9

*IDC **01** 23:04:54.6±1.3, 31.°06N×103.°68E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/26, mbtmp3.5/5, Error ellipse: s-maj=47.8km s-min=21.5km az=48.0*
*ISCJB **01** 23:04:55.4±0.7, 31.°35N±0.°08×104.°16E±0.°10, h14km, mb3.3/4, Error ellipse: s-maj=15.6km s-min=6.1km az=42.3*
*BJI **01** 23:04:58.0, 31.°39N×103.°88E, h15km, ML3.2/10*

ISC 01 23:04:56.0±1.1, 31.°2N±0.°1×104.°1E±0.°1, h14km, n7, σ0s89/8, mb3.4/4, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CD2	**Chengdu**	**0.43**	**220**	Pg		**Pn**	**23 05 07.4**	**-0.4**
CD2				Sg		**Sn**	**23 05 14.5**	**-1.0**
CD2				SMN				
	930nm,0.7s							
CD2				SME				
	2µm,0.6s							
XAN	**Xi'an**	**4.95**	**54**	Pn		**Pn**	**23 06 09.6**	**-0.4**
XAN				Pg		Pg	23 06 27.1	-3.7
XAN				Sn		**Sn**	**23 07 06.2**	**-0.9**
XAN				SMN				
	85nm,0.7s							
XAN				SME				
	35nm,0.9s							
KSRS	**Korea Array**	**20.61**	**66**	P		Pn	23 09 39.7	+2.6
	0.9nm,0.6s,baz=263,slow=10,SNR=5.8							
MKAR	**Makanchi Array**	**22.87**	**319**	P		**P**	**23 09 59.9**	**+0.9**
	0.2nm,0.4s,baz=118,slow=12,SNR=7.2							
ZALV	**Zalesovo Beam**	**26.59**	**334**	P		**P**	**23 10 33.4**	**-0.2**
	0.6nm,0.5s,baz=134,slow=10,SNR=4.1							
KURBB	**Kurchatov Arra**	**27.12**	**323**	P		**P**	**23 10 38.3**	**-0.1**
	0.4nm,0.5s,baz=130,slow=9.4,SNR=9.4							
WRA	**Warramunga Arr**	**58.59**	**146**	P		**P**	**23 14 53.6**	**+1.0**
	0.4nm,0.4s,baz=338,slow=7.6,SNR=15							

IDC 01 23:05:23.8±2.1, 15.°99S×173.°50W, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.9/21, mbtmp3.8/7, ML2.0/1, Error ellipse: s-maj=124.5km s-min=19.6km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**2.66**	**39**	Pn		Pn	23 06 07.3	-0.8
	14nm,0.3s,baz=301,slow=5.9,SNR=4.1							
AFI				Sn		Sn	23 06 33.1	-8.0
	30nm,0.3s,baz=36,slow=22,SNR=7.2							
STKA	**Stephens Creek**	**43.66**	**240**	P		P	23 13 31.3	+0.8
	2.4nm,0.9s,baz=87,slow=11,SNR=3.2							
WRA	**Warramunga Arr**	**49.62**	**257**	P		P	23 14 16.9	-0.6
	0.2nm,0.4s,baz=94,slow=8.4,SNR=7.4							
ASAR	**Alice Springs**	**49.84**	**252**	P		P	23 14 18.1	-1.0
	2.6nm,0.6s,baz=86,slow=8.4,SNR=24							
NVAR	**Mina Array Bea**	**74.83**	**42**	P		P	23 17 06.7	+0.2
	0.3nm,0.7s,baz=242,slow=5.7,SNR=2.5							
PDAR	**Pinedale Array**	**82.77**	**42**	P		P	23 17 49.3	-0.8
	0.5nm,0.7s,baz=222,slow=4.9,SNR=3.4							
ILAR	**Eielson Array**	**83.04**	**11**	P		P	23 17 50.8	+0.1
	0.4nm,0.6s,baz=228,slow=6.5,SNR=3.7							
BRTR	**Keskin Array B**	**146.55**	**320**	PKPbc		PKPab	23 25 08.6	-0.1
	1.3nm,0.9s,baz=66,slow=4.5,SNR=5.8							
GERES	**GERESS Array B**	**146.70**	**351**	PKPbc		PKPbc	23 25 07.0	-0.8
	0.2nm,0.6s,baz=58,slow=3.3,SNR=4.3							

IDC 01 23:06:59.5±3.4, 15.°71S×173.°76W, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.7/20, mbtmp3.8/5, ML2.3/1, Error ellipse: s-maj=186.4km s-min=22.7km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**2.62**	**47**	Pn		Pn	23 07 41.9	-1.3
	32nm,0.3s,baz=253,slow=19,SNR=2.8							
AFI				Sn		Sn	23 08 08.6	-7.3
	74nm,0.3s,baz=53,slow=23,SNR=9.2							
WRA	**Warramunga Arr**	**49.44**	**257**	P		P	23 15 51.5	-0.3
	0.2nm,0.3s,baz=96,slow=7.6,SNR=6.5							
ASAR	**Alice Springs**	**49.69**	**252**	P		P	23 15 53.0	-0.7
	1.8nm,0.7s,baz=87,slow=8.5,SNR=6.3							
NVAR	**Mina Array Bea**	**74.79**	**42**	P		P	23 18 42.3	+0.3
	0.2nm,0.3s,baz=234,slow=7.7,SNR=3.7							
ILAR	**Eielson Array**	**82.82**	**11**	P		P	23 19 24.9	-0.3
	0.4nm,0.6s,baz=229,slow=6.3,SNR=4.9							
BRTR	**Keskin Array B**	**146.18**	**320**	PKPbc		PKPbc	23 26 42.4	0.0
	0.8nm,0.8s,baz=80,slow=1.8,SNR=4.1							
GERES	**GERESS Array B**	**146.40**	**351**	PKPbc		PKPbc	23 26 42.4	-0.2
	0.5nm,0.7s,baz=25,slow=4.4,SNR=5.1							

IDC 01 23:13:04.7±3.4, 15.°28S×173.°60W, h0km, mb3.7/4, mb1 4.1/4, mb1mx3.8/18, mbtmp3.7/4, MS3.0/1, Ms1 3.0/1, ms1mx2.7/30, Error ellipse: s-maj=184.3km s-min=28.9km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**2.23**	**53**	Pn		Pn	23 13 38.8	-4.2
	23nm,0.3s,baz=76,slow=9.1,SNR=4.9							
AFI				Sn		Sn	23 13 58.4	-13
	49nm,0.3s,baz=227,slow=22,SNR=6.3							
AFI				LR		LR	23 14 04.0	
	comp=Z,323nm,20.4s,baz=184,slow=27							
H11S2	**WAKE ISLAND Hy 38.76 329**			T		T	00 01 16.7	
	baz=152,slow=0.7,SNR=37							
H11S3	**WAKE ISLAND Hy 38.77 329**			T		T	00 01 17.7	
	baz=152,slow=0.7,SNR=58							
H11S1	**WAKE ISLAND Hy 38.77 329**			T		T	00 01 17.6	
	baz=152,slow=0.7,SNR=44							
H11N3	**WAKE ISLAND Hy 39.71 331**			T		T	00 02 44.1	
	baz=152,slow=0.7,SNR=24							
H11N1	**WAKE ISLAND Hy 39.71 331**			T		T	00 02 43.0	
	baz=152,slow=0.7,SNR=31							
H11N2	**WAKE ISLAND Hy 39.72 331**			T		T	00 02 44.7	
	baz=152,slow=0.7,SNR=32							
WRA	**Warramunga Arr**	**49.68**	**257**	P		P	23 21 58.5	-0.3
	0.3nm,0.5s,baz=90,slow=6.9,SNR=7.7							
ASAR	**Alice Springs**	**49.96**	**252**	P		P	23 22 00.7	-0.3
	1.3nm,0.6s,baz=88,slow=7.8,SNR=17							
TXAR	**Lajitas Array**	**80.71**	**56**	P		P	23 25 23.1	+2.9
	1.2nm,1.1s,baz=224,slow=5.2,SNR=6.2							
PDAR	**Pinedale Array**	**82.31**	**42**	P		P	23 25 28.6	0.0
	0.4nm,0.6s,baz=208,slow=5.0,SNR=4.0							
ILAR	**Eielson Array**	**82.36**	**11**	P		P	23 25 27.5	-0.6
	0.7nm,1.0s,baz=210,slow=7.1,SNR=4.1							
BRTR	**Keskin Array B**	**145.94**	**321**	PKPbc		PKPab	23 32 47.1	-0.2
	0.8nm,0.8s,baz=119,slow=1.5,SNR=4.9							

IDC 01 23:14:47.7±8.6, 15.°58S×173.°22W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.6/22, mbtmp3.6/3, ML1.9/1, Error ellipse: s-maj=423.7km s-min=27.5km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**2.16**	**40**	Pn		Pn	23 15 24.0	-1.2
	21nm,0.3s,baz=53,slow=21,SNR=2.7							
AFI				Sn		Sn	23 15 42.9	-10
	66nm,0.3s,baz=24,slow=21,SNR=7.4							
WRA	**Warramunga Arr**	**49.98**	**257**	P		P	23 23 43.1	-1.0
	0.4nm,1.0s,baz=91,slow=6.8,SNR=2.5							
ASAR	**Alice Springs**	**50.23**	**252**	P		P	23 23 45.8	-0.2
	1.2nm,0.7s,baz=85,slow=8.5,SNR=7.3							
BRTR	**Keskin Array B**	**146.40**	**321**	PKPbc		PKPab	23 34 31.9	-0.2
	0.5nm,0.7s,baz=15,slow=6.3,SNR=3.1							

IDC 01 23:19:19.5±2.5, 15.°92S×173.°89W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/19, mbtmp3.8/4, Error ellipse: s-maj=164.6km s-min=28.8km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**2.86**	**46**	Pn		Pn	23 20 02.0	-4.5
	12nm,0.3s,baz=231,slow=13,SNR=3.7							
AFI				Sn		Sn	23 20 31.2	-10
	83nm,0.3s,baz=74,slow=23,SNR=12							
STKA	**Stephens Creek**	**43.37**	**240**	P		P	23 27 25.0	+1.2
	2.2nm,0.9s,baz=72,slow=13,SNR=3.1							
WRA	**Warramunga Arr**	**49.27**	**257**	P		P	23 28 09.2	-1.2
	0.5nm,0.7s,baz=93,slow=7.8,SNR=5.9							
ASAR	**Alice Springs**	**49.50**	**252**	P		P	23 28 11.4	-0.8
	2.8nm,0.7s,baz=86,slow=8.5,SNR=26							
PDAR	**Pinedale Array**	**82.97**	**42**	P		P	23 31 46.0	-0.9
	0.3nm,0.7s,baz=209,slow=7.2,SNR=2.3							
BRTR	**Keskin Array B**	**146.26**	**320**	PKPbc		PKPab	23 39 03.7	+0.5
	0.5nm,0.7s,baz=354,slow=5.8,SNR=3.8							

*DDA **01** 23:22:40.4, 39.°42N×44.°48E, h7km, MD3.2*
*AZER **01** 23:22:40.6±0.2, 39.°21N×44.°44E, h23km±12km, Error ellipse: s-maj=8.2km s-min=8.1km az=348.0*
*ISK **01** 23:22:41.0, 39.°42N×44.°37E, h5km, MD2.9*
*CSEM **01** 23:22:42.0±0.5, 39.°47N×44.°35E, h2km, MD2.9, Error ellipse: s-maj=10.8km s-min=7.7km az=105.0*

ISC 01 23:22:41.2±1.0, 39.°40N±0.°03×44.°46E±0.°02, h11km±10km, n28, σ1s12/42, 4C-4D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CLDR	**Caldiran**	**0.49**	**239**	PG		**Pg**	**23 22 50.2**	**-0.6**
CLDR				*e*SG		**Sg**	**23 22 58.0**	**+0.8**
CLDR	**Caldiran**	**0.49**	**239**	*i* Pg		**Pg**	**23 22 50.2**	**-0.6**
CLDR				*e*Sg		**Sg**	**23 22 58.1**	**+0.8**
DYDN	**Diyadin**	**0.61**	**284**	*i* P		**Pg**	**23 22 52.9**	**-0.2**
DYDN				*i* S		**Sb**	**23 23 04.3**	**+1.6**
DYDN	**Diyadin**	**0.61**	**284**	*i* P		**Pg**	**23 22 52.9**	**-0.2**
GNI	**Garni**	**0.78**	**16**	*e*PG		**Pb**	**23 22 56.8**	**-0.1**
GNI				*e*SG		**Sn**	**23 23 09.5**	**-0.7**
GNI	**Garni**	**0.78**	**16**	*e*Pg		**Pb**	**23 22 56.8**	**-0.1**
NAX	**Nakhchivan**	**0.84**	**105**	⇑P		**Pg**	**23 22 57.2**	**-0.1**
NAX				⇑S		**Sb**	**23 23 09.9**	**+0.8**
AGRB	**Hanur-Agry**	**1.15**	**279**	*e*PG		**Pg**	**23 23 02.7**	**-0.5**
AGRB	**Hanur-Agry**	**1.15**	**279**	*e*Pg		**Pg**	**23 23 02.7**	**-0.5**
TUTA	**Tutak**	**1.27**	**271**	*i* P		**Pn**	**23 23 03.4**	**-1.8**
TUTA				*i* S		**Sn**	**23 23 23.2**	**+0.9**
TUTA	**Tutak**	**1.27**	**271**	*i* P		**Pn**	**23 23 03.4**	**-1.8**
TUTA				*i* S		**Sn**	**23 23 23.2**	**+0.9**
DIGO	**Kars**	**1.31**	**321**	*i* P		**Pn**	**23 23 05.1**	**-0.6**
DIGO	**Kars**	**1.31**	**321**	*i* P		**Pn**	**23 23 05.1**	**-0.6**
KARS	**Kars**	**1.62**	**320**	*e*PN		**Pb**	**23 23 10.4**	**-0.8**
KARS	**Kars**	**1.62**	**320**	*e*Pn		**Pb**	**23 23 10.4**	**-0.8**
GANJ	**Ganja**	**1.90**	**48**	⇑Pg		**Pg**	**23 23 16.7**	**-0.9**
GANJ				⇓S		**Sg**	**23 23 42.4**	**+0.1**
HAKT	**HAKKARI**	**1.93**	**198**	*i* P		**Pb**	**23 23 16.1**	**-0.4**
HAKT				*i* S		**Sg**	**23 23 44.7**	**+1.5**
HAKT	**HAKKARI**	**1.93**	**198**	*i* P		**Pb**	**23 23 16.1**	**-0.4**
HAKT				*i* S		**Sg**	**23 23 44.7**	**+1.5**
AKH	**Akhalkalaki**	**2.14**	**340**	P		**Pg**	**23 23 23.9**	**+1.6**
AKH				S		Sg	23 23 57.1	+7.1
DGRG	**David-gareji**	**2.17**	**19**	P		**Pg**	**23 23 21.5**	**-1.2**
DGRG				S		**Sg**	**23 23 52.3**	**+1.4**
CUKT	**Cukurca**	**2.25**	**198**	*e*PN		**Pb**	**23 23 21.4**	**-0.5**
CUKT	**Cukurca**	**2.25**	**198**	*e*Pn		**Pb**	**23 23 21.4**	**-0.5**
VRTB	**Varto-Mus**	**2.34**	**265**	*e*PN		**Pb**	**23 23 21.8**	**-1.7**
VRTB	**Varto-Mus**	**2.34**	**265**	*e*Pn		**Pb**	**23 23 21.8**	**-1.7**
TBLG	**Delisi**	**2.34**	**5**	P		**Pb**	**23 23 23.1**	**-0.3**
TBLG				S		**Sg**	**23 23 55.9**	**-0.5**
EZM	**Erzurum**	**2.44**	**283**	*e*PN		**Pn**	**23 23 22.6**	**+1.4**
SEKA	**Sheki**	**2.77**	**48**	⇓Pg		**Pg**	**23 23 33.0**	**-1.3**
SEKA				⇓Sg		**Sg**	**23 24 12.8**	**+2.6**
GLBA	**Clilabad**	**3.06**	**92**	⇓Pg		**Pb**	**23 23 36.5**	**+0.9**
GLBA				⇑Sg		**Sg**	**23 24 17.9**	**-1.6**

IDC 01 23:27:45.6±1.7, 14.°51S×173.°69W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.5/19, mbtmp3.6/2, MS3.6/1, Ms1 3.6/1, ms1mx3.0/21, Error ellipse: s-maj=137.6km s-min=27.8km az=160.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**1.95**	**72**	Pn		Pn	23 28 20.2	0.0
	3.2nm,0.3s,baz=318,slow=16,SNR=2.2							
AFI				Sn		Sn	23 28 41.0	-4.4
	33nm,0.3s,baz=25,slow=23,SNR=9.2							
RAO	**Raoul Island**	**15.19**	**194**	LR		LR	23 35 44.6	
	comp=Z,262nm,20.8s,baz=308,slow=32							
WRA	**Warramunga Arr**	**49.78**	**256**	P		P	23 36 40.8	+0.3
	0.2nm,0.6s,baz=91,slow=6.8,SNR=3.8							
ASAR	**Alice Springs**	**50.12**	**251**	P		P	23 36 42.7	-0.4
	1.0nm,0.6s,baz=86,slow=8.1,SNR=12							
BRTR	**Keskin Array B**	**145.29**	**322**	PKPbc		PKPbc	23 47 24.8	-0.9
	0.6nm,1.0s,baz=359,slow=6.2,SNR=2.3							

IDC 01 23:34:53.0±0.8, 15.°29S×173.°58W, h0km, mb4.0/8, mb1 4.2/8, mb1mx4.0/19, mbtmp4.0/8, MS3.6/2, Ms1 3.6/2, ms1mx3.1/23, Error ellipse: s-maj=39.3km s-min=21.3km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**2.22**	**52**	Pn		Pn	23 35 26.1	-5.1
	34nm,0.3s,baz=293,slow=4.6,SNR=12							
AFI				Sn		Sn	23 35 44.4	-15
	110nm,0.3s,baz=37,slow=21,SNR=6.6							
AFI				LR		LR	23 36 02.8	
	comp=Z,508nm,19.0s,baz=253,slow=31							
CTA	**Charters Tower**	**38.49**	**257**	LR		LR	23 53 16.6	
	comp=Z,213nm,21.6s,baz=229,slow=29							
H11S2	**WAKE ISLAND Hy 38.78 329**			T		T	00 24 33.7	
	baz=145							
H11S3	**WAKE ISLAND Hy 38.79 329**			T		T	00 23 55.5	
	baz=145,slow=0.7							
H11S1	**WAKE ISLAND Hy 38.80 329**			T		T	00 24 00.0	
	baz=145,slow=0.7							
H11N3	**WAKE ISLAND Hy 39.73 331**			T		T	00 25 31.4	
	baz=151,slow=0.7,SNR=6.1							
H11N1	**WAKE ISLAND Hy 39.73 330**			T		T	00 25 24.8	
	baz=151,slow=0.7,SNR=6.1							
H11N2	**WAKE ISLAND Hy 39.74 331**			T		T	00 25 32.7	
	baz=151,slow=0.7,SNR=5.9							
STKA	**Stephens Creek**	**43.94**	**240**	P		P	23 43 01.6	-0.4
	2.3nm,0.9s,baz=107,slow=9.3,SNR=3.2							
WRA	**Warramunga Arr**	**49.70**	**257**	P		P	23 43 47.0	-0.3
	0.8nm,0.5s,baz=92,slow=7.1,SNR=15							
ASAR	**Alice Springs**	**49.98**	**252**	P		P	23 43 49.1	-0.2
	5.1nm,0.6s,baz=87,slow=8.5,SNR=61							
VNDA	**Vanda**	**63.47**	**186**	P		P	23 45 24.5	+0.2
	1.2nm,0.9s,baz=4.4,slow=6.5,SNR=6.7							
TXAR	**Lajitas Array**	**80.70**	**56**	P		P	23 47 09.1	+0.5
	0.5nm,1.0s,baz=160,slow=4.0,SNR=4.0							
PDAR	**Pinedale Array**	**82.30**	**42**	P		P	23 47 16.4	-0.6
	0.2nm,0.4s,baz=260,slow=7.4,SNR=3.9							
ILAR	**Eielson Array**	**82.37**	**11**	P		P	23 47 15.5	-1.0
	0.6nm,0.6s,baz=228,slow=6.5,SNR=5.6							
MAW	**Mawson**	**87.84**	**199**	P		P	23 47 43.7	-0.3
	1.8nm,0.7s,baz=141,slow=4.3,SNR=4.5							
ARCES	**ARCESS Array B**	**124.47**	**352**	PKP		PKPdf	23 53 52.6	-1.1
	1.9nm,0.9s,baz=354,slow=4.9,SNR=3.7							
BRTR	**Keskin Array B**	**145.96**	**321**	PKPbc		PKPab	23 54 35.7	+0.1
	2.0nm,0.8s,baz=88,slow=2.1,SNR=11							
GERES	**GERESS Array B**	**146.01**	**351**	PKPbc		PKPbc	23 54 34.9	-0.1
	1.2nm,0.7s,baz=46,slow=3.9,SNR=12							

IDC 01 23:37:33.0±0.8, 15.°77S×173.°56W, h0km, mb4.0/9, mb1 4.3/9, mb1mx4.1/21, mbtmp4.0/9, Error ellipse: s-maj=47.3km s-min=18.9km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**2.53**	**43**	Pn		Pn	23 38 07.6	-7.8
	26nm,0.3s,baz=270,slow=20,SNR=2.3							
AFI				Sn		Sn	23 38 28.0	-19
	227nm,0.3s,baz=173,slow=22,SNR=12							
H11S2	**WAKE ISLAND Hy 39.19 330**			T		T	00 26 50.4	
	baz=152,slow=0.7,SNR=7.4							
H11S3	**WAKE ISLAND Hy 39.21 330**			T		T	00 26 53.6	
	baz=152,slow=0.7,SNR=9.4							
H11S1	**WAKE ISLAND Hy 39.21 330**			T		T	00 26 54.9	
	baz=152,slow=0.7,SNR=8.6							
H11N3	**WAKE ISLAND Hy 40.15 331**			T		T	00 28 07.1	
	baz=152,slow=0.7,SNR=17							
H11N1	**WAKE ISLAND Hy 40.15 331**			T		T	00 28 07.3	
	baz=152,slow=0.7,SNR=16							
H11N2	**WAKE ISLAND Hy 40.17 331**			T		T	00 28 08.3	
	baz=152,slow=0.7,SNR=17							
STKA	**Stephens Creek**	**43.72**	**240**	P		P	23 45 39.7	-0.4
	3.2nm,0.9s,baz=39,slow=8.1,SNR=5.1							
WRA	**Warramunga Arr**	**49.61**	**257**	P		P	23 46 25.8	-0.7
	1.0nm,0.7s,baz=89,slow=5.6,SNR=6.0							
ASAR	**Alice Springs**	**49.85**	**252**	P		P	23 46 27.7	-0.6
	1.7nm,0.5s,baz=88,slow=8.2,SNR=20							
YBH	**Yreka Blue Hor**	**73.98**	**37**	P		P	23 49 10.2	-0.3
	2.6nm,0.8s,baz=288,slow=3.2,SNR=4.3							
NVAR	**Mina Array Bea**	**74.70**	**42**	P		P	23 49 14.4	-0.5
	0.9nm,0.8s,baz=232,slow=9.0,SNR=6.4							
TXAR	**Lajitas Array**	**80.95**	**56**	P		P	23 49 48.5	-1.2
	0.7nm,0.9s,baz=215,slow=8.5,SNR=5.2							
PDAR	**Pinedale Array**	**82.64**	**42**	P		P	23 49 57.2	-1.4
	0.8nm,0.9s,baz=289,slow=2.8,SNR=3.6							
ILAR	**Eielson Array**	**82.83**	**11**	P		P	23 49 60.0	+1.2
	0.7nm,0.9s,baz=234,slow=6.2,SNR=4.4							
MAW	**Mawson**	**87.40**	**199**	P		P	23 50 21.6	-0.2
	2.0nm,0.6s,baz=89,slow=3.0,SNR=7.2							
BRTR	**Keskin Array B**	**146.34**	**321**	PKPbc		PKPab	23 57 17.3	+0.3
	1.3nm,0.9s,baz=74,slow=2.6,SNR=5.6							
GERES	**GERESS Array B**	**146.48**	**351**	PKPbc		PKPab	23 57 16.8	-0.3
	0.1nm,0.4s,baz=41,slow=5.2,SNR=3.3							
TORD	**Torodi Ar. Bea**	**174.72**	**119**	PKPab		PKPab	23 59 21.4	+1.8
	0.5nm,0.9s,baz=265,slow=5.2,SNR=3.5							

IDC 01 23:39:35.1±7.0, 15.°01S×172.°52W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.6/21, mbtmp3.9/2, Error ellipse: s-maj=296.7km s-min=19.2km az=136.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**1.31**	**34**	Pn		Pg	23 40 00.1	-0.3
	19nm,0.3s,baz=257,slow=19,SNR=1.7							
AFI				Sn		Sn	23 40 20.3	+1.2
	88nm,0.3s,baz=345,slow=20,SNR=8.0							
WRA	**Warramunga Arr**	**50.76**	**256**	P		P	23 48 37.4	-0.1
	0.9nm,1.0s,baz=90,slow=6.7,SNR=4.0							
ASAR	**Alice Springs**	**51.03**	**252**	P		P	23 48 38.8	-0.7
	2.1nm,0.7s,baz=87,slow=7.8,SNR=8.7							
BRTR	**Keskin Array B**	**146.38**	**322**	PKPbc		PKPbc	23 59 18.7	+0.2
	0.5nm,0.7s,baz=122,slow=1.9,SNR=3.3							

*IDC **01** 23:40:58.5±0.7, 15.°43S×173.°43W, h0km, mb3.9/9, mb1 4.2/9, mb1mx4.0/20, mbtmp3.9/9, Error ellipse: s-maj=43.0km s-min=18.9km az=140.0*
*ISCJB **01** 23:41:02.8±0.7, 15.°4S±0.°2×173.°6W±0.°2, h42km, mb3.9/9, Error ellipse: s-maj=36.4km s-min=16.3km az=140.0*
*SZGRF **01** 23:41:10.6, 16.°76S×172.°94W, h106km, Samoa Islands region*

ISC 01 23:41:04.5±0.8, 15.°4S±0.°2×173.°5W±0.°2, h42km, n24, σ0s50/17, mb3.9/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**2.22**	**50**	Pn		Pn	23 41 30.0	-8.9
	9.4nm,0.3s,baz=190,slow=18,SNR=2.5							
AFI				Sn		Sn	23 41 50.6	-15
	187nm,0.3s,baz=45,slow=23,SNR=9.3							
H11S2	**WAKE ISLAND Hy 38.88 329**			T		T	00 29 57.1	
	baz=152,slow=0.7,SNR=11							
H11S3	**WAKE ISLAND Hy 38.89 329**			T		T	00 29 57.2	
	baz=152,slow=0.7,SNR=11							
H11S1	**WAKE ISLAND Hy 38.89 329**			T		T	00 29 57.6	
	baz=152,slow=0.7,SNR=13							
H11N3	**WAKE ISLAND Hy 39.83 330**			T		T	00 31 10.0	
	baz=152,slow=0.7,SNR=6.5							
H11N1	**WAKE ISLAND Hy 39.83 330**			T		T	00 31 10.5	
	baz=152,slow=0.7,SNR=7.5							
H11N2	**WAKE ISLAND Hy 39.84 330**			T		T	00 31 11.4	
	baz=152,slow=0.7,SNR=7.9							
STKA	**Stephens Creek**	**43.95**	**240**	P		**P**	**23 49 07.5**	**-0.2**
	1.9nm,0.9s,baz=120,slow=8.1,SNR=3.0							
WRA	**Warramunga Arr**	**49.74**	**257**	P		**P**	**23 49 53.0**	**-0.1**
	1.2nm,0.9s,baz=91,slow=6.7,SNR=9.5							
ASAR	**Alice Springs**	**50.01**	**252**	P		**P**	**23 49 55.0**	**-0.2**
	4.8nm,0.7s,baz=88,slow=8.2,SNR=20							
VNDA	**Vanda**	**63.40**	**186**

IDC 01 23:56:40.3±8.6, 15°35S×172°97W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/21, mbtmp3.4/3, Error ellipse: s-maj=403.1km s-min=24.6km az=141.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.84**	**39**	Pn	Pn	23 57 11.8	-1.5
	26nm,0.3s,baz=107,slow=20,SNR=2.2						
AFI				Sn	Sn	23 57 29.4	-8.1
	75nm,0.3s,baz=178,slow=21,SNR=7.6						
WRA	**Warramunga Arr**	**50.25**	**257**	P	P	00 05 38.5	-0.3
	0.2nm,0.5s,baz=92,slow=6.5,SNR=3.0						
ASAR	**Alice Springs**	**50.52**	**252**	P	P	00 05 39.6	-1.2
	0.8nm,0.7s,baz=86,slow=8.1,SNR=5.1						
ILAR	**Eielson Array**	**82.32**	**11**	P	P	00 09 03.8	+0.3
	0.2nm,0.7s,baz=226,slow=6.7,SNR=4.4						
BRTR	**Keskin Array B**	**146.38**	**321**	PKPbc	PKPab	00 16 25.0	+0.5
	0.8nm,0.9s,baz=72,slow=4.0,SNR=4.2						

IDC 02 00:16:03.4±2.2, 17°04S×178°14W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/19, mbtmp3.7/4, MS3.9/1, Ms1 3.9/1, ms1mx2.8/31, Error ellipse: s-maj=83.7km s-min=31.7km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.04**	**259**	P	P	00 24 21.4	+0.1
	0.7nm,1.0s,baz=96,slow=8.4,SNR=7.5						
ASAR	**Alice Springs**	**45.27**	**253**	P	P	00 24 23.0	-0.1
	0.7nm,0.6s,baz=88,slow=8.2,SNR=10						
BATI	**Baumata**	**56.80**	**269**	LR	LR	00 47 31.0	
	comp=Z,110nm,20.5s,baz=138,slow=33						
MJAR	**Matsushiro Arr**	**67.37**	**323**	P	P	00 26 60.0	-0.5
	0.9nm,0.3s,baz=126,slow=6.0,SNR=4.4						
PDAR	**Pinedale Array**	**86.55**	**43**	P	P	00 28 48.9	+0.1
	0.2nm,0.4s,baz=256,slow=3.6,SNR=2.6						

*NEIC **02** 00:43:59.8±2.8, 36.69N×141.59E, h6km±4km, mb4.6/6, MW4.2(NIED), Error ellipse: s-maj=13.8km s-min=6.5km az=49.0*

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

*NIED **02** 00:44:00, 36.70N×141.40E, h26km, Mw4.3 Best double couple: M0 2.73000×10^15 NP1: φs 40.00000°, δ 81.00000°, λ 111.00000°. NP2: φs 151.00000°, δ 23.00000°, λ 23.00000°.*

*BJI **02** 00:44:00.9, 36.37N×141.72E, h41km, mB4.9/24, mb4.6/35, Ms4.2/23, Ms7 3.9/22*

*ISCJB **02** 00:44:01.2±1.0, 36.59N±0.03×141.65E±0.04, h30km±7km, mb4.4/45, MS3.8/9, Error ellipse: s-maj=5.3km s-min=5.0km az=8.3*

*JMA **02** 00:44:03.9±0.1, 36.69N×141.45E, h49km±2km, M4.3*

JMA Felt I J1.

*MOS **02** 00:44:05.1±1.2, 36.81N×141.37E, h45km, mb4.6/23, Error ellipse: s-maj=11.3km s-min=7.1km az=119.0*

*IDC **02** 00:44:10.1±2.3, 36.67N×141.31E, h78km±20km, mb3.8/18, mb1 4.0/21, mb1mx3.9/31, mbtmp3.8/21, MS3.4/10, Ms1 3.4/10, ms1mx3.3/60, Error ellipse: s-maj=17.6km s-min=14.7km az=72.0*

ISC 02 00:44:04.9±0.5, 36°60N±0°04×141°59E±0°04, h42km±2km, h41km; pP-P, n137, σ1s89/180, mb4.5/45, MS3.7/9, 3C-9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.81**	**309**	⇓P	**Pn**	**00 44 16.9**	**-3.0**
JHO	**Hitachi**	**0.82**	**271**	⇓P	**Pn**	**00 44 17.4**	**-2.6**
JFK	**Kawauchi**	**0.95**	**324**	⇓P	**Pn**	**00 44 19.1**	**-2.8**
JFK				*e*S	**Sn**	**00 44 30.2**	**-4.1**
JFT	**Otama**	**1.35**	**313**	⇓P	**Pn**	**00 44 25.4**	**-1.9**
JFT				*e*S	**Sn**	**00 44 41.0**	**-3.1**
JMM	**Marumori**	**1.41**	**334**	⇓P	**Pn**	**00 44 25.8**	**-2.3**
JMM				*e*S	**Sn**	**00 44 41.6**	**-3.9**
JFY	**Yanaizu**	**1.71**	**299**	P	**Pn**	**00 44 31.0**	**-1.2**
JAG	**Ashikaga**	**1.73**	**265**	⇓P	**Pn**	**00 44 31.0**	**-1.4**
JIO	**Ouri**	**1.86**	**354**	P	**Pn**	**00 44 32.1**	**-2.1**
JKT	**Katashina**	**1.89**	**276**	P	**Pn**	**00 44 33.8**	**-0.9**
JOU	**Okura**	**1.91**	**338**	P	**Pn**	**00 44 33.4**	**-1.5**
MJAR	**Matsushiro Arr**	**2.72**	**270**	P	**Pn**	**00 44 46.4**	**+0.4**
	40nm,0.3s,baz=87,slow=9.5,SNR=131						
MJAR				S	**Sn**	**00 45 18.9**	**+1.2**
	29nm,0.3s,baz=85,slow=32,SNR=8.9						
MJAR				LR	LR	00 45 55.9	
	comp=Z,1μm,21.4s,baz=115,slow=43						
MAJO	**Matsushiro**	**2.72**	**270**	*e*P	**Pn**	**00 44 46.0**	**-0.1**
MAJO	**Matsushiro**	**2.72**	**270**	*e*Pn	**Pn**	**00 44 46.0**	**-0.1**
MAT	**Matsushiro**	**2.72**	**270**	P	**Pn**	**00 44 46.2**	**+0.1**
MAT				S	**Sn**	**00 45 17.3**	**-0.5**
ERM	**Erimo**	**5.54**	**12**	⇓*e*P	**Pn**	**00 45 23.6**	**-1.2**
ERM	**Erimo**	**5.54**	**12**	*e*Pn	**Pn**	**00 45 23.6**	**-1.2**
ERM				*e*Sn	**Sn**	**00 46 25.2**	**-2.0**
ASAJ	**Asahikawa**	**7.55**	**6**	*e*Pn	**Pn**	**00 45 49.9**	**-2.4**
ASAJ				*e*Sn	**Sn**	**00 47 14.3**	**-2.2**
ASAJ	**Asahikawa**	**7.55**	**6**	P	**Pn**	**00 45 50.1**	**-2.2**
	8.6nm,0.3s,baz=239,slow=10,SNR=12						
ASAJ				S	**Sn**	**00 47 16.9**	**+0.4**
	3.3nm,0.3s,baz=66,slow=19,SNR=3.4						
ASAJ				LR	LR	00 49 24.2	
	comp=Z,147nm,19.4s,baz=163,slow=42						
JNU	**Nakatsue**	**9.46**	**252**	LR	LR	00 48 59.9	
	comp=Z,34nm,20.1s,baz=72,slow=31						
JCJ	**Chichijima**	**9.49**	**177**	P	**Pn**	**00 46 17.9**	**-1.1**
	14nm,0.3s,baz=283,slow=23,SNR=8.0						
JCJ				S	**Sn**	**00 48 02.7**	**-1.6**
	13nm,0.3s,baz=305,slow=19,SNR=5.2						
CBI	**Chichi jima**	**9.50**	**177**	*e*Pn	**Pn**	**00 46 17.9**	**-1.1**
CBI				*e*Sn	**Sn**	**00 48 02.7**	**-1.8**
YSS	**Yuzh-Sakhalins**	**10.38**	**4**	*e*P	Pn	00 46 36.7	+5.6
USRK	**Ussuriysk Arra**	**10.54**	**319**	P	**Pn**	**00 46 35.6**	**+2.3**
	1.5nm,0.3s,baz=130,slow=13,SNR=26						
USRK				LR	LR	00 50 20.3	
	comp=Z,280nm,19.6s,baz=77,slow=36						
KSRS	**Korea Array**	**10.96**	**279**	P	**Pn**	**00 46 41.4**	**+2.4**
	0.2nm,0.3s,baz=88,slow=14,SNR=6.9						
KSRS				S	**Sn**	**00 48 36.4**	**-3.8**
	baz=328,slow=26,SNR=4.2						
KSRS				LR	LR	00 50 36.7	
	comp=Z,285nm,19.6s,baz=164,slow=36						
KS15	**Wonju Array Si**	**10.99**	**278**	*e*Pn	**Pn**	**00 46 41.4**	**+2.0**
KS15				*e*Sn	**Sn**	**00 48 36.4**	**-4.5**
MDJ	**Mudanjiang**	**12.12**	**315**	P	**Pn**	**00 46 57.0**	**+2.1**
MDJ				S	Sn	00 49 14.2	+5.6
MDJ				PcP	**PcP**	**00 52 33.6**	**-3.2**
MDJ				PcS	**PcS**	**00 56 08.4**	**-2.4**
MDJ				ScS	**ScS**	**00 59 39.6**	**-2.5**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.6s						
MDJ				AMB	AMB		
	comp=Z,63nm,3.3s						
MDJ				LR	LR		
	comp=N,170nm,16.1s						
MDJ				LR	LR		
	comp=E,120nm,17.1s						
MDJ				LR	LR		
	comp=Z,260nm,17.6s						
HABR	**Khabarovsk**	**12.80**	**340**	*e*P	**P**	**00 47 16.4**	**+2.2**
HABR				pmax	pmax		
	comp=Z,29nm,0.9s						
CN2	**Changchun**	**14.26**	**305**	*e*P	**Pn**	**00 47 23.6**	**-0.5**
CN2				*e*S	**Sn**	**00 50 06.0**	**+5.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,200nm,11.0s						
CN2				LR	LR		
	comp=Z,200nm,11.0s						
CN2				LR	LR		
	comp=Z,300nm,10.0s						
KLR	**Kul'dur**	**14.52**	**333**	*e*P	**Pn**	**00 47 29.8**	**+2.3**
NJ2	**Nanjing**	**19.30**	**263**	*e*P	**P**	**00 48 26.2**	**-0.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
PETK	**Petropavlovsk-**	**19.99**	**29**	LR	LR	00 56 41.2	
	comp=Z,43nm,19.1s,baz=1.8,slow=38						
BJI	**Beijing**	**20.21**	**288**	P	**P**	**00 48 35.8**	**-0.3**
WHN	**Wuhan**	**23.44**	**263**	*e*P	P	00 49 19.0	+8.6
WHN				*e*S	**S**	**00 53 27.0**	**+6.2**
WHN				LR	LR		
	comp=Z,500nm,15.9s						
HHC	**Hu-ho-hao-te**	**23.74**	**289**	*e*P	**P**	**00 49 10.8**	**-2.5**
HHC				sP	**sP**	**00 49 28.2**	**-1.3**
HHC				S	**S**	**00 53 22.7**	**-3.1**
HHC				sS	**sS**	**00 53 41.6**	**-2.9**
HHC				SS	**SnSn**	**00 54 12.0**	**+5.7**
HHC				AMB	AMB		
	comp=Z,43nm,0.8s						
HHC				AMB	AMB		
	comp=Z,180nm,4.7s						
HHC				LR	LR		
	comp=Z,300nm,10.0s						
HHC				LR	LR		
	comp=Z,250nm,8.2s						
HHC				LR	LR		
	comp=Z,210nm,10.3s						
YAK	**Yakutsk**	**26.52**	**347**	*e*P	**P**	**00 49 36.9**	**-1.3**
YAK				pmax	pmax		
	comp=Z,16nm,1.0s						
SEY	**Seymchan**	**27.19**	**11**	*e*P	**P**	**00 49 47.2**	**+3.0**
ENH	**Enshi**	**27.44**	**266**	*e*P	**P**	**00 49 45.3**	**-1.6**
	comp=Z,8.0nm,0.6s						
ULN	**Ulaanbaatar**	**27.71**	**305**	*e*P	**P**	**00 49 46.9**	**-2.4**
	comp=Z,7.1nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**27.81**	**120**	T	T	01 19 04.5	
	baz=315,slow=0.7,SNR=438						
H11N1	**WAKE ISLAND Hy**	**27.82**	**120**	T	T	01 19 11.1	
	baz=315,slow=0.7,SNR=527						
H11N3	**WAKE ISLAND Hy**	**27.83**	**120**	T	T	01 19 11.9	
	baz=315,slow=0.7,SNR=451						
SONA0	**Songino Array**	**28.14**	**305**	*e*P	**P**	**00 49 52.0**	**-1.1**
SONM	**Songino Array**	**28.14**	**305**	P	**P**	**00 49 52.0**	**-1.1**
	comp=Z,4.3nm,0.8s,baz=106,slow=9.0,SNR=21						
SONM				LR	LR	01 01 07.9	
	comp=Z,52nm,19.3s,baz=170,slow=36						
H11S1	**WAKE ISLAND Hy**	**28.51**	**122**	T	T	01 20 05.1	
	baz=318,slow=0.7,SNR=121						
H11S3	**WAKE ISLAND Hy**	**28.51**	**122**	T	T	01 20 01.4	
	baz=318,slow=0.7,SNR=77						
H11S2	**WAKE ISLAND Hy**	**28.53**	**122**	T	T	01 20 03.9	
	baz=318,slow=0.7,SNR=55						
LZH	**Lanzhou**	**30.28**	**280**	*e*P	**P**	**00 50 12.4**	**+0.2**
LZH				pP	**pP**	**00 50 23.4**	**-0.1**
LZH				sP	**sP**	**00 50 27.8**	**-0.8**
LZH				AMB	AMB		
	comp=Z,14nm,1.0s						
ZAK	**Zakamensk**	**30.65**	**309**	*e*P	**P**	**00 50 13.0**	**-2.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
GYA	**Guiyang**	**31.29**	**261**	*e*P	**P**	**00 50 19.9**	**-1.2**
GYA				pP	**pP**	**00 50 32.2**	**-0.3**
GYA				sP	**sP**	**00 50 38.5**	**+1.0**
GYA				PP	**PnPn**	**00 51 26.0**	**+1.7**
GYA				PcP	**PcP**	**00 53 12.3**	**-2.4**
GYA				S	**S**	**00 55 25.8**	**+0.6**
GYA				sS	**sS**	**00 55 43.2**	**-1.0**
GYA				ScP	**ScP**	**00 56 51.9**	**-2.4**
GYA				ScS	**ScS**	**01 00 46.8**	**-5.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
GYA				AMB	AMB		
	comp=Z,110nm,4.9s						
GYA				LR	LR		
	comp=Z,490nm,17.3s						
GYA				LR	LR		
	comp=Z,360nm,18.2s						
GYA				LR	LR		
	comp=Z,480nm,17.9s						
CD2	**Chengdu**	**31.82**	**271**	P	**P**	**00 50 25.6**	**0.0**
CD2				pP	**pP**	**00 50 36.6**	**-0.4**
CD2				sP	**sP**	**00 50 41.5**	**-0.5**
CD2				PP	**PnPn**	**00 51 32.5**	**+1.5**
CD2				S	**S**	**00 55 33.2**	**0.0**
CD2				sS	**sS**	**00 55 51.9**	**-0.3**
CD2				SS	**SnSn**	**00 57 27.1**	**+3.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
CD2				AMB	AMB		
	comp=Z,120nm,4.2s						
CD2				LR	LR		
	comp=Z,510nm,4.4s						
CD2				LR	LR		
	comp=Z,190nm,6.5s						
GTA	**Gaotai**	**32.82**	**288**	*e*P	**P**	**00 50 34.7**	**+0.2**
GTA				pP	**pP**	**00 50 47.3**	**+1.4**
GTA				sP	**sP**	**00 50 52.1**	**+1.2**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s						
QIZ	**Qiongzhong**	**32.88**	**246**	P	**P**	**00 50 33.7**	**-1.3**
QIZ				S	**S**	**00 55 50.0**	**+0.1**
QIZ				AMB	AMB		
	comp=Z,17nm,1.9s						
KMI	**Kunming**	**35.03**	**262**	P	**P**	**00 50 51.5**	**-2.4**
KMI				pP	**pP**	**00 51 04.2**	**-1.2**
KMI				sP	**sP**	**00 51 09.1**	**-1.3**
KMI				S	**S**	**00 56 23.2**	**-0.4**
KMI				sS	**sS**	**00 56 43.2**	**+0.5**
KMI				SS	**SnSn**	**00 58 41.1**	**-0.6**
KMI				AMB	AMB		
	comp=Z,11nm,0.8s						
KMI				AMB	AMB		
	comp=Z,130nm,5.1s						
KMI				LR	LR		
	comp=Z,120nm,21.7s						
KMI				LR	LR		
	comp=Z,100nm,26.8s						
KMI				LR	LR		
	comp=Z,150nm,21.4s						
HVS	**Khovu-Aksy**	**36.77**	**309**	⇓*e*P	**P**	**00 51 09.7**	**+1.3**
HVS				pmax	pmax		
	comp=Z,19nm,1.1s						
WMQ	**Urumqi**	**41.16**	**297**	P	**P**	**00 51 45.4**	**+0.3**
WMQ				pP	**pP**	**00 51 57.7**	**+0.9**
WMQ				sP	**sP**	**00 52 03.1**	**+1.4**
WMQ				PP	**PnPn**	**00 53 24.9**	**-0.3**
WMQ				S	**S**	**00 57 56.9**	**+1.4**
WMQ				sS	**sS**	**00 58 17.5**	**+2.6**
WMQ				SS	**SS**	**01 00 57.2**	**-1.9**
WMQ				ScS	**ScS**	**01 01 43.0**	**-2.9**
WMQ				AMB	AMB		
	comp=Z,19nm,0.6s						
WMQ				AMB	AMB		
	comp=Z,110nm,3.8s						
WMQ				LR	LR		
	comp=Z,130nm,4.8s						
WMQ				LR	LR		
	comp=Z,120nm,5.4s						
WMQ				LR	LR		
	comp=Z,65nm,21.2s						
ZAA0	**Zalesovo Array**	**42.31**	**313**	*e*P	**P**	**00 51 53.1**	**-1.2**
ZALV	**Zalesovo Beam**	**42.31**	**313**	P	**P**	**00 51 54.1**	**-0.2**
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ZALV	**Zalesovo Beam**	**42.31**	**313**	P	**P**	**00 51 54.1**	**-0.2**
	comp=Z,4.5nm,0.5s,baz=95,slow=6.9,SNR=21						
ZALV				LR	LR	01 10 18.9	
	comp=Z,60nm,18.0s,baz=70,slow=37						
NVS	**Novosibirsk**	**43.24**	**314**	*e*P	**P**	**00 52 01.1**	**-0.7**
NVS				pmax	pmax		
	comp=Z,7.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,6.0nm,0.9s						
CHGN	**Chignik**	**44.18**	**44**	*e*P	**P**	**00 52 07.1**	**-2.2**
MK31	**Makanchi Array**	**44.47**	**303**	*i* P	**P**	**00 52 11.5**	**-0.3**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MK32	**Makanchi Array**	**44.47**	**303**	*e*P	**P**	**00 52 11.8**	**0.0**
MKAR	**Makanchi Array**	**44.47**	**303**	*e*P	**P**	**00 52 11.1**	**-0.7**
MKAR	**Makanchi Array**	**44.47**	**303**	*e*P	**P**	**00 52 11.1**	**-0.7**
MKAR	**Makanchi Array**	**44.47**	**303**	P	**P**	**00 52 11.8**	**0.0**
	comp=Z,1.7nm,0.5s,baz=87,slow=10,SNR=26						
KURK	**Kurchatov**	**46.31**	**308**	*c i*P	**P**	**00 52 25.5**	**-0.8**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KURK	**Kurchatov**	**46.31**	**308**	*e*P	**P**	**00 52 25.5**	**-0.8**
	comp=Z,8.5nm,0.8s						
KURBB	**Kurchatov Arra**	**46.38**	**308**	P	**P**	**00 52 26.5**	**-0.3**
	comp=Z,6.4nm,0.7s,baz=84,slow=8.3,SNR=30						
IL1	**Eielson Array**	**49.79**	**32**	*e*P	**P**	**00 52 51.7**	**-1.3**
ILAR	**Eielson Array**	**49.79**	**32**	P	**P**	**00 52 55.2**	**+2.2**
	comp=Z,0.7nm,0.7s,baz=269,slow=6.8,SNR=8.5						
ILB	**Eielson Array**	**49.79**	**32**	*e*P	**P**	**00 52 55.2**	**+2.2**
VOSK	**Vostochnaya**	**50.67**	**312**	*e*P	**P**	**00 52 59.0**	**-0.9**
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
VOSK	**Vostochnaya**	**50.67**	**312**	*e*P	**P**	**00 52 59.0**	**-0.9**
	comp=Z,5.3nm,0.8s						
KSH	**Kashi**	**50.71**	**294**	P	P	00 53 04.7	+4.2
KSH				sP	sP	00 53 23.0	+5.7
KSH				PcP	**PcP**	**00 54 19.5**	**+2.2**
KSH				PP	**PP**	**00 55 01.2**	**+4.6**
KSH				S	**S**	**01 00 15.4**	**+2.5**
KSH				sS	sS	01 00 36.1	+3.4
KSH				ScS	**ScS**	**01 02 46.0**	**-2.0**
KSH				SS	**SS**	**01 03 50.4**	**+3.1**
KSH				AMB	AMB		
	comp=Z,4.0nm,1.1s						
KSH				AMB	AMB		
	comp=Z,79nm,5.1s						
KSH				LR	LR		
	comp=Z,100nm,6.4s						
KSH				LR	LR		
	comp=Z,70nm,4.6s						
KSH				LR	LR		
	comp=Z,85nm,5.4s						
AAK	**Ala-Archa**	**50.82**	**299**	*i* P	**P**	**00 53 00.4**	**-0.9**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.7s						
AAK	**Ala-Archa**	**50.82**	**299**	LR	LR	01 15 47.4	
	comp=Z,154nm,19.7s,baz=77,slow=38						
BVAR	**Borovoye Array**	**50.97**	**313**	LR	LR	01 15 36.9	
	comp=Z,65nm,19.6s,baz=75,slow=37						
BRVK	**Borovoye**	**51.02**	**313**	⇓*e*P	**P**	**00 53 02.6**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KKAR	**Karatay Array**	**53.46**	**300**	*e*P	**P**	**00 53 20.3**	**-0.5**
KKAR	**Karatay Array**	**53.46**	**300**	*e*P	**P**	**00 53 20.3**	**-0.5**
INK	**Inuvik**	**54.71**	**27**	P	**P**	**00 53 31.0**	**+1.6**
	comp=Z,1.5nm,0.8s,baz=294,slow=10.0,SNR=2.4						
WRA	**Warramunga Arr**	**56.65**	**188**	*e*P	**P**	**00 53 44.9**	**+1.0**
WRA	**Warramunga Arr**	**56.65**	**188**	P	**P**	**00 53 44.9**	**+1.0**
	comp=Z,1.4nm,0.7s,baz=6.6,slow=7.4,SNR=9.9						
ARU	**Arti**	**56.78**	**319**	*c i*P	**P**	**00 53 43.1**	**-1.3**
ARU				*PP	**pP**	**00 53 54.7**	**-1.8**
ARU						00 55 46.7	
ARU				S	**S**	**01 01 30.1**	**-4.1**
ARU				pmax	pmax		
	comp=Z,9.0nm,1.3s						
KBL	**Kabul**	**57.70**	**291**	*e*P	**P**	**00 53 50.9**	**-0.7**
KBL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KBL	**Kabul**	**57.70**	**291**	*e*P	**P**	**00 53 50.9**	**-0.7**
	comp=Z,4.0nm,0.8s						
AB31	**Akbulak array**	**58.32**	**310**	*i* P	**P**	**00 53 55.0**	**-0.4**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.1s						
ABKAR	**Akbulak array**	**58.32**	**310**	*e*P	**P**	**00 53 54.1**	**-1.3**
AS12	**Alice Springs**	**60.38**	**188**	*e*P	**P**	**00 54 11.2**	**+1.4**
AS12				*e*PKiKP	**PKiKP**	**01 01 16.0**	**+3.5**
ASAR	**Alice Springs**	**60.38**	**188**	P	**P**	**00 54 11.2**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=3.6,slow=4.7,SNR=5.9						
ARA0	**ARCESS Array S**	**64.45**	**340**	*e*P	**P**	**00 54 36.7**	**+0.2**
ARCES	**ARCESS Array B**	**64.45**	**340**	P	**P**	**00 54 36.7**	**+0.2**
	comp=Z,4.5nm,1.1s,baz=54,slow=8.2,SNR=8.1						
OBN	**Obninsk**	**68.52**	**323**	*e*P	**P**	**00 55 03.0**	**+0.3**
OBN				*e*		00 55 13.6	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.5s						
FIA0	**FINESS Array S**	**69.26**	**332**	*e*P	**P**	**00 55 06.6**	**-0.6**
FIA0	**FINESS Array S**	**69.26**	**332**	*e*P	**P**	**00 55 06.6**	**-0.6**
FINES	**FINESS Array B**	**69.26**	**332**	P	**P**	**00 55 06.6**	**-0.6**
	comp=Z,2.0nm,0.6s,baz=69,slow=6.3,SNR=6.3						
KIV	**Kislovodsk**	**71.29**	**311**	⇑*e*P	**P**	**00 55 21.1**	**+1.0**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
NB2	**NORSAR Subarra**	**74.64**	**337**	P	**P**	**00 55 39.7**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=39,slow=6.2						
NB200	**NORSAR Array S**	**74.64**	**337**	*e*P	**P**	**00 55 40.0**	**+0.5**
NOA	**NORSAR Array B**	**74.64**	**337**	P	**P**	**00 55 40.0**	**+0.5**
	comp=Z,2.4nm,0.8s,baz=38,slow=5.8,SNR=5.4						
AKASG	**Malin Array Be**	**74.72**	**322**	P	**P**	**00 55 40.0**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKASG	**Malin Array Be**	**74.72**	**322**	P	**P**	**00 55 40.0**	**-0.1**
	comp=Z,2.3nm,0.4s,baz=45,slow=6.3,SNR=13						
AKBB	**Malin Array Si**	**74.72**	**322**	*e*P	**P**	**00 55 40.0**	**-0.1**
AKBB	**Malin Array Si**	**74.72**	**322**	*e*P	**P**	**00 55 40.0**	**-0.1**
KIEV	**Kiev**	**74.73**	**322**	*e*P	**P**	**00 55 40.6**	**+0.4**
NV01	**Mina Array Sit**	**75.14**	**53**	*e*P	**P**	**00 55 44.4**	**+1.3**
NVAR	**Mina Array Bea**	**75.14**	**53**	P	**P**	**00 55 44.4**	**+1.3**
	comp=Z,1.3nm,0.8s,baz=292,slow=4.8,SNR=6.5						
GCMT	**Greycliff**	**75.93**	**43**	*e*P	**P**	**00 55 46.6**	**-0.8**
FLWY	**Flagg Ranch**	**76.40**	**45**	*e*P	**P**	**00 55 48.5**	**-1.7**
	comp=Z,1.9nm,0.4s						
PD31	**Pinedale Array**	**77.87**	**45**	*e*P	**P**	**00 56 00.4**	**+1.9**
PDAR	**Pinedale Array**	**77.87**	**45**	P	**P**	**00 56 00.4**	**+1.9**
	comp=Z,0.3nm,0.7s,baz=274,slow=4.2,SNR=2.8						
DSCC	**Desert Studies**	**78.49**	**55**	*e*P	P	00 55 57.9	-3.8
BR101	**Keskin Array S**	**79.24**	**312**	*e*P	**P**	**00 56 06.5**	**+0.5**
BRTR	**Keskin Array B**	**79.24**	**312**	P	**P**	**00 56 06.5**	**+0.5**
	comp=Z,1.5nm,1.0s,baz=101,slow=5.2,SNR=4.7						
KOLS	**Kolonicke sedl**	**79.25**	**324**	*e*P	**P**	**00 56 06.6**	**+1.0**
KOLS	**Kolonicke sedl**	**79.25**	**324**	*e*P	**P**	**00 56 06.6**	**+1.0**
STHS	**Stebnicka Huta**	**79.39**	**325**	*e*P	**P**	**00 56 07.6**	**+1.1**
STHS	**Stebnicka Huta**	**79.39**	**325**	*e*P	**P**	**00 56 07.5**	**+1.1**
URZ	**Urewera**	**81.40**	**152**	*e*P	**P**	**00 56 19.4**	**+2.4**
URZ	**Urewera**	**81.40**	**152**	P	**P**	**00 56 19.4**	**+2.4**
	comp=Z,2.1nm,0.4s,baz=136,slow=14,SNR=2.3						
BRG	**Berggiesshubel**	**81.49**	**330**	*e*P	**P**	**00 56 18.7**	**+1.1**
	comp=Z,3.6nm,1.2s						
BRG	**Berggiesshubel**	**81.49**	**330**	*e*P	**P**	**00 56 18.7**	**+1.1**
BRG				pmax	pmax		
	comp=Z,4.0nm,1.3s						
CLL	**Collm**	**81.54**	**330**	*e*P	**P**	**00 56 18.0**	**+0.2**
CLL	**Collm**	**81.54**	**330**	*e*P	**P**	**00 56 18.0**	**+0.2**
PRU	**Pruhonice**	**81.92**	**329**	*e*P	**P**	**00 56 20.7**	**+0.8**
PRU	**Pruhonice**	**81.92**	**329**	*e*P	**P**	**00 56 20.7**	**+0.8**
KHC	**Kasperske Hory**	**82.98**	**329**	*e*P	**P**	**00 56 26.2**	**+0.7**
KHC	**Kasperske Hory

AFI Sn Sn 00 53 10.0 -17
94nm,0.3s,baz=7.5,slow=22,SNR=8.4
AFI LR LR 00 53 54.1
comp=Z,372nm,21.6s,baz=224,slow=42
H11S2 WAKE ISLAND Hy 38.84 329 T T 01 40 51.4
baz=152,slow=0.7,SNR=9.9
H11S3 WAKE ISLAND Hy 38.85 329 T T 01 40 51.2
baz=152,slow=0.7,SNR=9.2
H11S1 WAKE ISLAND Hy 38.85 329 T T 01 41 00.6
baz=152,slow=0.7,SNR=10
H11N3 WAKE ISLAND Hy 39.79 331 T T 01 41 54.8
baz=152,slow=0.7,SNR=5.0
H11N1 WAKE ISLAND Hy 39.79 330 T T 01 41 56.0
baz=152,slow=0.7,SNR=5.7
H11N2 WAKE ISLAND Hy 39.80 330 T T 01 41 54.6
baz=152,slow=0.7,SNR=4.6
WRA Warramunga Arr 49.72 257 P P 01 01 14.0 -0.3
0.4nm,0.7s,baz=90,slow=7.1,SNR=7.9
ASAR Alice Springs 49.99 252 P P 01 01 16.0 -0.4
2.1nm,0.6s,baz=87,slow=8.3,SNR=17
NVAR Mina Array Bea 74.38 42 P P 01 03 59.6 -0.4
0.3nm,0.6s,baz=230,slow=5.6,SNR=3.5
BRTR Keskin Array B 146.02 321 PKPbc PKPbc 01 12 02.2 0.0
1.2nm,0.9s,baz=56,slow=3.6,SNR=6.4
GERES GERESS Array B 146.06 351 PKPbc PKPbc 01 12 01.6 -0.4
0.8nm,0.8s,baz=0.0,slow=2.9,SNR=4.6

IDC 02 00:58:27.4±1.3, 13°.89S×174°.58W, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.7/20, mbtmp3.7/4, ML2.4/1, Error ellipse: s-maj=107.2km s-min=21.1km az=170.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.72**	**91**	Pn		00 59 13.4	+0.8
	39nm,0.3s,baz=355,slow=24,SNR=6.1						
AFI				Sn	Sn	00 59 46.6	+0.2
	102nm,0.3s,baz=34,slow=21,SNR=5.3						
WRA	**Warramunga Arr**	**49.09**	**256**	P	P	01 07 18.7	+1.6
	0.3nm,0.6s,baz=89,slow=7.3,SNR=7.7						
ASAR	**Alice Springs**	**49.51**	**251**	P	P	01 07 18.8	-1.5
	1.3nm,0.6s,baz=85,slow=8.2,SNR=21						
TXAR	**Lajitas Array**	**80.73**	**57**	P	P	01 10 42.9	-0.3
	0.3nm,0.9s,baz=228,slow=4.9,SNR=3.5						

IDC 02 00:58:49.4±1.5, 15°.41S×173°.41W, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.8/20, mbtmp3.7/6, Error ellipse: s-maj=101.6km s-min=21.2km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**44.02**	**240**	P	P	01 06 59.6	+0.5
	0.4nm,0.4s,baz=80,slow=14,SNR=2.8						
WRA	**Warramunga Arr**	**49.83**	**257**	P	P	01 07 44.4	-0.3
	0.4nm,0.6s,baz=82,slow=5.8,SNR=7.5						
ASAR	**Alice Springs**	**50.10**	**252**	P	P	01 07 45.7	-1.0
	1.1nm,0.4s,baz=92,slow=7.4,SNR=10.0						
NVAR	**Mina Array Bea**	**74.34**	**42**	P	P	01 10 29.4	+0.1
	0.7nm,0.7s,baz=238,slow=8.4,SNR=5.9						
TXAR	**Lajitas Array**	**80.62**	**56**	P	P	01 11 04.3	-0.2
	0.3nm,0.8s,baz=226,slow=8.5,SNR=2.9						
ILAR	**Eielson Array**	**82.46**	**11**	P	P	01 11 13.0	-0.3
	0.5nm,0.6s,baz=221,slow=6.4,SNR=4.5						
BRTR	**Keskin Array B**	**146.16**	**321**	PKPbc	PKPab	01 18 32.5	-0.2
	0.6nm,0.7s,baz=125,slow=4.3,SNR=4.4						

*IDC **02** 01:01:30.0±1.0, 15°.34S×177°.17W, h0km, mb4.1/9, mb1 4.4/10, mb1mx4.2/20, mbtmp4.1/10, ML2.9/1, MS5.4/1, Ms1 5.4/1, ms1mx4.2/29, Error ellipse: s-maj=44.7km s-min=18.0km az=153.0*
*ISCJB **02** 01:01:33.2±0.7, 15°.4S±0°.2×177°.1W±0°.1, h33km, mb4.2/14, MS5.5/1, Error ellipse: s-maj=31.3km s-min=11.2km az=153.6*
*SZGRF **02** 01:01:33.1, 16°.38S×177°.17W, h33km, Fiji Islands region*
*NEIC **02** 01:01:35.5±0.7, 15°.34S×177°.30W, h35km, mb4.6/6, Error ellipse: s-maj=35.4km s-min=12.0km az=149.0*
ISC 02 01:01:35.0±0.7, 15°.4S±0°.2×177°.0W±0°.1, h35km, n49, σ1°26/43, mb4.1/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.25**	**243**	*e*Pn	Pn	01 02 54.4	+3.3
	27nm,1.3s						
AFI	**Afiamalu**	**5.30**	**75**	Pn	**Pn**	**01 02 50.5**	**-1.3**
AFI	**Afiamalu**	**5.30**	**75**	Pn	**Pn**	**01 02 50.5**	**-1.3**
	21nm,0.3s,baz=248,slow=19,SNR=4.3						
DZM	**Mont Dzumac**	**16.99**	**244**	*e*Pn	**P**	**01 05 35.0**	**+3.3**
	56nm,1.5s						
DZM	**Mont Dzumac**	**16.99**	**244**	Pn	**P**	**01 05 30.9**	**-0.7**
	0.2nm,0.3s,baz=78,slow=18,SNR=2.7						
H11S2	**WAKE ISLAND Hy**	**37.27**	**334**	T	T	01 46 36.8	
	baz=152,slow=0.7,SNR=14						
H11S3	**WAKE ISLAND Hy**	**37.28**	**334**	T	T	01 46 41.7	
	baz=152,slow=0.7,SNR=13						
H11S1	**WAKE ISLAND Hy**	**37.29**	**334**	T	T	01 46 38.9	
	baz=152,slow=0.7,SNR=15						
H11N3	**WAKE ISLAND Hy**	**38.29**	**335**	T	T	01 47 57.1	
	baz=152,slow=0.7,SNR=12						
H11N1	**WAKE ISLAND Hy**	**38.29**	**335**	T	T	01 47 55.6	
	baz=152,slow=0.7,SNR=13						
H11N2	**WAKE ISLAND Hy**	**38.30**	**335**	T	T	01 47 58.4	
	baz=152,slow=0.7,SNR=14						
STKA	**Stephens Creek**	**41.02**	**239**	P	**P**	**01 09 15.5**	**+0.5**
STKA	**Stephens Creek**	**41.02**	**239**	P	**P**	**01 09 15.5**	**+0.5**
	17nm,1.1s,baz=68,slow=8.0,SNR=13						
WRAB	**Tennant Creek**	**46.41**	**257**	*e*P	**P**	**01 09 55.9**	**-2.7**
	12nm,1.4s						
WRA	**Warramunga Arr**	**46.42**	**257**	P	**P**	**01 09 56.8**	**-1.9**
WRA				PcP	**PcP**	**01 11 33.3**	**+0.1**
WRA	**Warramunga Arr**	**46.42**	**257**	P	**P**	**01 09 56.8**	**-1.9**
	2.4nm,1.1s,baz=90,slow=8.5,SNR=5.3						
WRA				PcP	**PcP**	**01 11 33.3**	**+0.1**
	1.5nm,1.0s,baz=87,slow=4.1,SNR=4.8						
ASAR	**Alice Springs**	**46.77**	**252**	P	**P**	**01 09 59.9**	**-1.5**
ASAR	**Alice Springs**	**46.77**	**252**	P	**P**	**01 09 59.9**	**-1.5**
	2.7nm,0.9s,baz=86,slow=8.2,SNR=10						
BATI	**Baumata**	**57.91**	**267**	LR	LR	01 34 00.8	
	comp=Z,3μm,19.1s,baz=355,slow=34						
KAPI	**Kappang**	**62.86**	**272**	*e*P	**P**	**01 11 57.5**	**-0.5**
	9.4nm,1.0s						
MJAR	**Matsushiro Arr**	**66.71**	**322**	P	**P**	**01 12 21.4**	**-1.2**
MJAR	**Matsushiro Arr**	**66.71**	**322**	P	**P**	**01 12 21.4**	**-1.2**
	0.9nm,0.4s,baz=147,slow=7.1,SNR=4.2						
KSRS	**Korea Array**	**73.72**	**317**	P	**P**	**01 13 06.2**	**+0.7**
	1.8nm,1.0s,baz=132,slow=8.8,SNR=5.7						
KSAR	**Wonju Array Be**	**73.74**	**317**	P	**P**	**01 13 06.2**	**+0.6**
NVAR	**Mina Array Bea**	**76.71**	**44**	P	**P**	**01 13 25.0**	**+2.0**
NVAR	**Mina Array Bea**	**76.71**	**44**	P	**P**	**01 13 25.0**	**+2.0**
	1.8nm,0.9s,baz=231,slow=9.7,SNR=7.1						
MCK	**McKinley**	**81.81**	**12**	*e*P	**P**	**01 13 50.0**	**0.0**
	7.0nm,1.0s						
ILAR	**Eielson Array**	**83.15**	**13**	P	**P**	**01 13 56.4**	**-0.6**
ILAR	**Eielson Array**	**83.15**	**13**	P	**P**	**01 13 56.4**	**-0.6**
	1.2nm,1.0s,baz=232,slow=4.9,SNR=7.0						
MCMT	**McKenzie Canyo**	**83.48**	**40**	*e*P	**P**	**01 14 01.2**	**+1.8**
	1.7nm,1.2s						
TXAR	**Lajitas Array**	**83.54**	**57**	P	**P**	**01 13 59.5**	**-0.4**
TXAR	**Lajitas Array**	**83.54**	**57**	P	**P**	**01 13 59.5**	**-0.4**
	0.1nm,0.6s,baz=102,slow=7.5,SNR=2.9						
PDAR	**Pinedale Array**	**84.63**	**43**	P	**P**	**01 14 07.5**	**+2.2**
PDAR	**Pinedale Array**	**84.63**	**43**	P	**P**	**01 14 07.5**	**+2.2**
	0.4nm,0.4s,baz=222,slow=2.0,SNR=4.9						
INK	**Inuvik**	**89.12**	**15**	*e*P	**P**	**01 14 26.5**	**+0.3**
	6.5nm,1.4s						
BRTR	**Keskin Array B**	**143.86**	**318**	PKP	**PKPdf**	**01 21 06.6**	**-0.5**
BRTR	**Keskin Array B**	**143.86**	**318**	PKP	**PKPdf**	**01 21 06.6**	**-0.5**
	1.2nm,1.0s,baz=48,slow=7.4,SNR=3.9						
PSZ	**Piszkesteto**	**144.67**	**340**	*e*PKPdf	**PKPdf**	**01 21 07.9**	**-0.2**
GRF	**Grafenberg Arr**	**145.13**	**351**	*e*PKPbc	**PKPdf**	**01 21 09.0**	**+0.2**
KHC	**Kasperske Hory**	**145.24**	**348**	*e*PKPbc	**PKPdf**	**01 21 09.2**	**+0.2**
GEC2	**GERESS Array S**	**145.49**	**347**	*e*PKPbc	**PKPab**	**01 21 09.9**	**+0.1**
GERES	**GERESS Array B**	**145.49**	**347**	PKPbc	**PKPab**	**01 21 10.1**	**+0.3**
GERES	**GERESS Array B**	**145.49**	**347**	PKPbc	**PKPab**	**01 21 10.1**	**+0.3**
	1.3nm,0.8s,baz=33,slow=3.2,SNR=11						
WLF	**Walferdange**	**145.71**	**356**	*e*PKPbc	**PKPab**	**01 21 11.1**	**+0.6**
WLF	**Walferdange**	**145.71**	**356**	*e*PKPbc	**PKPab**	**01 21 11.1**	**+0.6**
FUR	**Furstenfeldbru**	**146.60**	**350**	*e*PKPbc	**PKPab**	**01 21 13.8**	**-0.1**
RJOB	**Jochberg**	**146.73**	**348**	*e*PKPbc	**PKPbc**	**01 21 13.8**	**+0.5**
BFO	**Black Forest**	**146.85**	**353**	*e*PKPbc	**PKPab**	**01 21 14.3**	**-0.6**
BNI	**Bardonecchia**	**150.26**	**355**	*e*PKPbc	**PKPbc**	**01 21 23.9**	**+1.2**

IDC 02 01:04:02.7±2.1, 14°.67S×177°.66W, h0km, mb4.0/5, mb1 4.3/5, mb1mx3.9/19, mbtmp4.0/5, Error ellipse: s-maj=137.7km s-min=24.4km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.88**	**238**	P	P	01 11 47.2	+0.4
	7.0nm,0.9s,baz=66,slow=8.5,SNR=7.0						
WRA	**Warramunga Arr**	**46.01**	**256**	P	P	01 12 27.9	-0.4
	0.7nm,0.7s,baz=96,slow=8.7,SNR=4.6						
ASAR	**Alice Springs**	**46.44**	**251**	P	P	01 12 31.1	-0.5
	2.3nm,0.8s,baz=84,slow=8.3,SNR=7.3						
NVAR	**Mina Array Bea**	**76.60**	**44**	P	P	01 15 55.3	-0.3
	1.2nm,0.9s,baz=230,slow=6.9,SNR=5.4						
ILAR	**Eielson Array**	**82.58**	**13**	P	P	01 16 27.9	+0.6
	0.6nm,0.8s,baz=225,slow=6.6,SNR=4.3						
GERES	**GERESS Array B**	**144.66**	**347**	PKP	PKPdf	01 23 41.0	-0.6
	0.8nm,0.7s,baz=345,slow=3.0,SNR=7.8						

*IDC **02** 01:04:55.9±21.0, 1°.04S×98°.53E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.4/25, mbtmp3.7/5, Error ellipse: s-maj=474.7km s-min=53.0km az=11.0*
*ISCJB **02** 01:05:05.1±1.6, 0°.7S±0°.1×99°.71E±0°.08, h33km, mb3.8/5, Error ellipse: s-maj=23.0km s-min=7.4km az=23.4*
*DJA **02** 01:05:06.2±0.9, 1°S±8°×10°0E±1°.1, h22km±21km, M3.7/3, MLv3.7/3*
ISC 02 01:05:01.5±2.0, 0°.9S±0°.2×99°.60E±0°.09, h35km, n11, σ2°26/9, mb3.9/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**0.86**	**89**	P	**Pn**	**01 05 19.4**	**+2.2**
PDSI				S	**Sn**	**01 05 29.3**	**+0.8**
PPI	**Padang Panjang**	**0.92**	**60**	P	**Pn**	**01 05 20.1**	**+2.1**
PPI				S	**Sn**	**01 05 28.8**	**-1.2**
GSI	**Gunungsitoli**	**3.00**	**317**	P	Pn	01 05 56.5	+10
GSI				S	**Sn**	**01 06 24.0**	**+2.6**
H08S2	**Diego Garcia H**	**27.83**	**255**	T	T	01 39 09.8	
	baz=77,slow=0.7,SNR=12						
H08S3	**Diego Garcia H**	**27.84**	**255**	T	T	01 39 05.3	
	baz=77,slow=0.7,SNR=9.9						
H08S1	**Diego Carcia H**	**27.85**	**255**	T	T	01 39 06.6	
	baz=77,slow=0.7,SNR=10						
MKAR	**Makanchi Array**	**49.89**	**344**	P	**P**	**01 13 50.2**	**-1.3**
	0.8nm,0.6s,baz=153,slow=8.9,SNR=12						
MJAR	**Matsushiro Arr**	**51.70**	**40**	P	P	01 14 11.1	+5.7
	0.7nm,0.5s,baz=222,slow=5.8,SNR=2.6						
KURBB	**Kurchatov Arra**	**54.41**	**344**	P	**P**	**01 14 24.3**	**-0.8**
	0.4nm,0.8s,baz=168,slow=7.6,SNR=4.4						
ZALV	**Zalesovo Beam**	**56.04**	**350**	P	**P**	**01 14 34.6**	**-2.1**
	0.3nm,0.3s,baz=145,slow=5.3,SNR=2.7						
BVAR	**Borovoye Array**	**59.04**	**340**	P	**P**	**01 14 55.7**	**-2.3**
	0.5nm,0.4s,baz=136,slow=4.1,SNR=3.1						

*SZGRF **02** 01:06:11.8, 20°.01S×170°.39E, h33km, Vanuatu Islands*
*ISCJB **02** 01:06:28.9±0.2, 18°.76S±0°.05×168°.80E±0°.05, h147km, mb4.5/56, Error ellipse: s-maj=8.1km s-min=4.9km az=44.1*
*IDC **02** 01:06:28.1±0.7, 18°.76S×168°.91E, h125km±6km, mb4.3/24, mb1 4.4/25, mb1mx4.3/28, mbtmp4.3/25, Error ellipse: s-maj=13.3km s-min=9.5km az=104.0*
*NEIC **02** 01:06:29.8±1.1, 18°.77S×168°.88E, h144km±10km, mb4.7/37, Error ellipse: s-maj=6.9km s-min=5.8km az=149.0*
*AUST **02** 01:06:53.6±3.4, 19°.09S×168°.13E, h334km±28km, Error ellipse: s-maj=39.5km s-min=15.8km az=85.0*
ISC 02 01:06:29.8±0.4, 18°.86S±0°.06×168°.88E±0°.08, h147km, n163, σ1°40/170, mb4.6/56, 3C-5D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.93**	**215**	*e*Pn	**Pn**	**01 07 28.6**	**-0.5**
DZM				*e*Sn	**Sn**	**01 08 13.9**	**-1.4**
DZM	**Mont Dzumac**	**3.93**	**215**	P	**Pn**	**01 07 29.2**	**0.0**
	120nm,0.3s,baz=50,slow=18,SNR=988						
DZM				S	**Sn**	**01 08 14.2**	**-1.1**
	221nm,0.3s,baz=131,slow=23,SNR=31						
EIDS	**Eidsvold**	**17.71**	**245**	⇑P	**Pn**	**01 10 29.2**	**+1.8**
	baz=17,SNR=3.8						
TARA	**Tarawa**	**20.47**	**12**	*e*P	**P**	**01 10 55.3**	**-0.9**
	54nm,0.6s						
URZ	**Urewera**	**20.62**	**161**	*e*P	**P**	**01 10 59.0**	**+1.5**
	35nm,0.9s						
URZ	**Urewera**	**20.62**	**161**	P	**P**	**01 10 59.4**	**+1.9**
	22nm,0.7s,baz=345,slow=7.1,SNR=9.5						
CTA	**Charters Tower**	**21.37**	**263**	P	**P**	**01 11 07.7**	**+2.0**
CTA	**Charters Tower**	**21.37**	**263**	P	**P**	**01 11 07.7**	**+2.0**
	4.2nm,0.5s,baz=93,slow=12,SNR=7.8						
CTAO	**Charters Tower**	**21.37**	**263**	*e*P	**P**	**01 11 07.7**	**+2.0**
	4.7nm,0.6s						
PMG	**Port Moresby**	**23.04**	**291**	*e*P	**P**	**01 11 23.2**	**+0.9**
	23nm,1.1s						
PMG	**Port Moresby**	**23.04**	**291**	P	**P**	**01 11 23.2**	**+0.9**
	15nm,0.8s,baz=158,slow=5.8,SNR=4.7						
CNB	**Canberra Magne**	**23.82**	**223**	⇓P	**P**	**01 11 31.6**	**+2.3**
	baz=23,SNR=16						
YNG	**Young**	**23.85**	**226**	⇑P	**P**	**01 11 31.9**	**+2.3**
	baz=23,SNR=7.7						
RPZ	**Rata Peaks**	**24.85**	**176**	P	**P**	**01 11 40.1**	**+1.5**
RPZ	**Rata Peaks**	**24.85**	**176**	P	**P**	**01 11 40.1**	**+1.5**
	23nm,0.6s,baz=343,slow=5.1,SNR=12						
COEN	**Coen**	**25.12**	**277**	*e*P	**P**	**01 11 40.5**	**-0.8**
STKA	**Stephens Creek**	**27.77**	**237**	P	**P**	**01 12 07.7**	**+2.8**
STKA				pP	**pP**	**01 12 33.2**	**-2.7**
STKA	**Stephens Creek**	**27.77**	**237**	P	**P**	**01 12 07.7**	**+2.8**
	3.5nm,0.6s,baz=72,slow=9.9,SNR=7.6						
STKA				pP	**pP**	**01 12 33.2**	**-2.7**
	4.3nm,0.8s,baz=72,slow=8.3,SNR=2.9						
BBOO	**Buckleboo**	**32.50**	**238**	⇓P	**P**	**01 12 48.4**	**+1.8**
	baz=32,SNR=6.4						
WRAB	**Tennant Creek**	**32.56**	**262**	*e*P	**P**	**01 12 46.6**	**-0.7**
	2.2nm,0.8s						
WRA	**Warramunga Arr**	**32.57**	**262**	P	**P**	**01 12 46.8**	**-0.6**
WRA				pP	**pP**	**01 13 14.0**	**-4.8**
WRA	**Warramunga Arr**	**32.57**	**262**	P	**P**	**01 12 46.8**	**-0.6**
	0.7nm,0.3s,baz=95,slow=8.3,SNR=10						
WRA				pP	**pP**	**01 13 14.0**	**-4.8**
	1.5nm,0.8s,baz=91,slow=8.4,SNR=3.2						
AS31	**Alice Springs**	**32.89**	**255**	*e*P	**P**	**01 12 50.0**	**-0.2**
ASAR	**Alice Springs**	**32.89**	**255**	P	**P**	**01 12 50.6**	**+0.4**
ASAR				pP	**pP**	**01 13 17.3**	**-4.3**
ASAR	**Alice Springs**	**32.89**	**255**	P	**P**	**01 12 50.6**	**+0.4**
	13nm,0.5s,baz=83,slow=8.6,SNR=69						
ASAR				pP	**pP**	**01 13 17.3**	**-4.3**
	5.7nm,0.6s,baz=82,slow=8.9,SNR=2.8						
KNRA	**Kununurra**	**38.39**	**268**	⇓P	**P**	**01 13 36.8**	**-0.2**
	baz=38,SNR=6.1						
FORT	**Forrest**	**38.71**	**244**	*e*P	**P**	**01 13 39.9**	**+0.3**
	11nm,0.6s						
FAKI	**Fak Fak**	**39.17**	**289**	P	**P**	**01 13 43.5**	**-0.1**
	baz=39,SNR=3.6						
MBWA	**Marble Bar**	**46.10**	**258**	*e*P	**P**	**01 14 39.9**	**+0.4**
	16nm,0.7s						
MEEK	**Meekatharra**	**46.76**	**251**	⇓P	**P**	**01 14 45.2**	**+0.6**
	baz=46,SNR=19						
KLBR	**Kellerberrin**	**47.57**	**244**	P	**P**	**01 14 50.8**	**-0.1**
	baz=47,SNR=6.7						
MORW	**Morawa**	**49.00**	**248**	⇑P	**P**	**01 15 01.9**	**+0.1**
	baz=48,SNR=3.3						
KAPI	**Kappang**	**49.82**	**280**	P	**P**	**01 15 08.1**	**0.0**
KAPI	**Kappang**	**49.82**	**280**	P	**P**	**01 15 08.1**	**0.0**
	6.5nm,0.7s,baz=203,slow=7.1,SNR=4.1						
JCJ	**Chichijima**	**52.50**	**330**	P	**P**	**01 15 27.2**	**-0.7**
	28nm,0.3s,baz=291,slow=21,SNR=6.9						
CBIJ	**Chichi jima**	**52.51**	**330**	P	**P**	**01 15 27.2**	**-0.7**
VNDA	**Vanda**	**58.80**	**182**	*e*P	**P**	**01 16 12.8**	**+0.6**
	1.2nm,0.9s						
VNDA				pP	**pP**	**01 16 42.4**	**-4.3**
VNDA	**Vanda**	**58.80**	**182**	P	**P**	**01 16 13.2**	**+1.1**
	1.2nm,0.7s,baz=353,slow=8.1,SNR=11						
VNDA				pP	**pP**	**01 16 42.4**	**-4.3**
	0.8nm,0.7s,baz=32,slow=6.1,SNR=2.1						
SBA	**Scott Base**	**59.04**	**181**	*e*P	**P**	**01 16 15.7**	**+1.9**
	7.5nm,0.8s						
CASY	**Casey**	**60.34**	**203**	*e*P	**P**	**01 16 23.5**	**+0.7**
	4.8nm,0.9s						
MJAR	**Matsushiro Arr**	**62.26**	**332**	P	**P**	**01 16 35.7**	**-0.4**
MJAR	**Matsushiro Arr**	**62.26**	**332**	P	**P**	**01 16 35.7**	**-0.4**
	4.8nm,0.6s,baz=166,slow=7.0,SNR=8.5						
MAJO	**Matsushiro**	**62.26**	**332**	*e*P	**P**	**01 16 35.6**	**-0.5**
	7.8nm,0.4s						

MAT	**Matsushiro**	**62.26**	**332**	P	**P**	**01 16 35.7**	**-0.4**
JNU	**Nakatsue**	**63.16**	**325**	P	**P**	**01 16 42.5**	**+0.3**
JNU	**Nakatsue**	**63.16**	**325**	P	**P**	**01 16 42.4**	**+0.3**
	16nm,0.9s,baz=154,slow=2.5,SNR=5.5						
ASAJ	**Asahikawa**	**67.12**	**340**	P	**P**	**01 17 08.4**	**+0.9**
ASAJ	**Asahikawa**	**67.12**	**340**	P	**P**	**01 17 08.4**	**+0.9**
	15nm,0.8s,baz=196,slow=5.3,SNR=6.1						
KSRS	**Korea Array**	**68.00**	**326**	P	**P**	**01 17 13.4**	**+0.3**
	1.6nm,0.8s,baz=134,slow=7.1,SNR=5.2						
KSAR	**Wonju Array Be**	**68.01**	**326**	P	**P**	**01 17 13.4**	**+0.2**
QSPA	**South Pole Qui**	**71.20**	**180**	*e*P	**P**	**01 17 32.9**	**+0.3**
	8.2nm,0.9s						
USRK	**Ussuriysk Arra**	**71.24**	**333**	P	**P**	**01 17 33.7**	**+0.9**
	3.1nm,0.4s,baz=142,slow=5.7,SNR=10						
KULM	**Kulim**	**71.32**	**283**	*e*P	**P**	**01 17 34.6**	**+0.6**
PETK	**Petropavlovsk-**	**72.31**	**353**	P	**P**	**01 17 39.6**	**+0.6**
PETK	**Petropavlovsk-**	**72.31**	**353**	P	**P**	**01 17 39.6**	**+0.6**
	9.7nm,0.7s,baz=160,slow=9.8,SNR=14						
BJT	**Baijiatuau**	**76.42**	**321**	*e*P	**P**	**01 18 03.4**	**+0.3**
	13nm,0.6s						
CMAR	**Chiang Mai Arr**	**78.04**	**294**	P	**P**	**01 18 14.4**	**+1.9**
CMAR	**Chiang Mai Arr**	**78.04**	**294**	P	**P**	**01 18 14.4**	**+1.9**
	3.8nm,0.7s,baz=136,slow=4.7,SNR=15						
CHTO	**Chiang Mai**	**78.19**	**295**	*e*P	**P**	**01 18 14.4**	**+1.0**
	20nm,0.7s						
MAW	**Mawson**	**78.66**	**202**	P	**P**	**01 18 16.8**	**+1.7**
MAW				pP	**pP**	**01 18 48.5**	**-3.0**
MAW	**Mawson**	**78.66**	**202**	P	**P**	**01 18 16.8**	**+1.7**
	2.9nm,0.6s,baz=112,slow=4.7,SNR=9.8						
MAW				pP	**pP**	**01 18 48.5**	**-3.0**
	2.1nm,0.7s,baz=87,slow=6.2,SNR=3.2						
CHGN	**Chignik**	**79.78**	**18**	*e*P	**P**	**01 18 19.0**	**-2.2**
KDAK	**Kodiak Island**	**82.79**	**20**	P	**P**	**01 18 36.1**	**-0.9**
KDAK	**Kodiak Island**	**82.79**	**20**	P	**P**	**01 18 36.1**	**-0.9**
	14nm,0.9s,baz=122,slow=3.9,SNR=3.8						
ULN	**Ulaanbaatar**	**86.36**	**324**	*e*P	**P**	**01 18 55.3**	**-0.1**
	20nm,1.3s						
SONM	**Songino Array**	**86.71**	**323**	P	**P**	**01 18 57.5**	**+0.4**
SONM				pP	**pP**	**01 19 31.5**	**-2.7**
SONM	**Songino Array**	**86.71**	**323**	P	**P**	**01 18 57.5**	**+0.4**
	6.0nm,0.8s,baz=148,slow=6.9,SNR=31						
SONM				pP	**pP**	**01 19 31.5**	**-2.7**
	3.0nm,0.8s,baz=137,slow=4.9,SNR=5.4						
CMB	**Columbia Colle**	**87.15**	**48**	*e*P	**P**	**01 18 59.4**	**0.0**
	9.6nm,0.9s						
YBH	**Yreka Blue Hor**	**87.26**	**44**	P	**P**	**01 19 00.9**	**+1.0**
YBH	**Yreka Blue Hor**	**87.26**	**44**	P	**P**	**01 19 00.9**	**+1.0**
	6.4nm,0.6s,baz=200,slow=3.9,SNR=18						
ISA	**Isabella**	**87.50**	**51**	*e*P	**P**	**01 19 01.4**	**+0.2**
	6.6nm,0.9s						
HUMO	**Hull Mountain**	**87.51**	**43**	*e*P	**P**	**01 19 01.6**	**+0.6**
	9.9nm,0.9s						
BEKR	**Beckworth**	**87.99**	**47**	*e*P	**P**	**01 19 03.5**	**0.0**
	3.0nm,0.6s						
TRF	**Thorofare Moun**	**87.99**	**17**	*e*P	**P**	**01 19 01.7**	**-1.2**
	6.1nm,0.9s						
WAKR	**Walker**	**88.03**	**48**	*e*P	**P**	**01 19 04.2**	**+0.5**
	4.8nm,0.7s						
PAHR	**Pah Rah Range**	**88.59**	**47**	*e*P	**P**	**01 19 05.5**	**-0.8**
	15nm,1.2s						
NVAR	**Mina Array Bea**	**88.80**	**49**	P	**P**	**01 19 08.0**	**+0.6**
NVAR	**Mina Array Bea**	**88.80**	**49**	P	**P**	**01 19 08.0**	**+0.6**
	2.4nm,0.7s,baz=226,slow=8.6,SNR=20						
MOD	**Modoc**	**88.94**	**45**	*e*P	**P**	**01 19 07.7**	**-0.2**
	17nm,0.6s						
LSA	**Lhasa**	**89.04**	**302**	*e*P	**P**	**01 19 09.3**	**+0.2**
	3.4nm,0.5s						
BKCOR	**Black Crater**	**89.12**	**42**	P	**P**	**01 19 09.5**	**+0.9**
GLA	**Glamis**	**89.19**	**55**	*e*P	**P**	**01 19 09.6**	**+0.4**
	4.3nm,0.8s						
IMA2	**Indian Mountai**	**89.23**	**14**	*e*P	**P**	**01 19 08.3**	**-0.3**
LVP	**Lakeview Peak**	**89.50**	**40**	P	**P**	**01 19 11.0**	**+0.7**
SNAA	**Sanae**	**89.53**	**183**	*e*P	**P**	**01 19 09.8**	**-0.3**
	3.1nm,1.1s						
GMO	**Grizzlie Mount**	**89.65**	**42**	P	**P**	**01 19 11.9**

FETA	**Feichten**	**146.69**	**332**	*i* PKPab	**PKPbc**	**01 25 54.7**	**+0.2**	
	18nm,1.0s,SNR=6.7							
ECH	**Echery**	**147.16**	**337**	*e*PKPbc	**PKPbc**	**01 25 55.3**	**-0.3**	
DAVOX	**Davos/Dischmat**	**147.24**	**333**	PKPbc	**PKPbc**	**01 25 56.7**	**+0.6**	
DAVOX	**Davos/Dischmat**	**147.24**	**333**	PKPbc	**PKPbc**	**01 25 56.7**	**+0.6**	
	12nm,0.5s,baz=267,slow=0.8,SNR=44							
TUE	**Stuetta**	**147.71**	**333**	*e*PKPbc	**PKPbc**	**01 25 57.1**	**-0.3**	
CEL	**Celeste**	**149.57**	**315**	*e*PKPdf	**PKPdf**	**01 25 57.9**	**+0.4**	
CEL				*e*PKPbc	**PKiKP**	**01 26 02.7**	**-0.5**	
CEL				*e*PKPab	**PKPab**	**01 26 07.8**	**+0.1**	
BNI	**Bardonecchia**	**149.97**	**334**	*e*PKPbc	**PKPbc**	**01 26 02.9**	**-0.2**	
SSB	**Saint Sauveur**	**150.61**	**337**	*e*PKPbc	**PKPbc**	**01 26 04.4**	**0.0**	
ESDC	**Sonseca Array**	**158.35**	**345**	PKPab	**PKPab**	**01 26 45.1**	**+0.4**	
ESDC	**Sonseca Array**	**158.35**	**345**	PKPab	**PKPab**	**01 26 45.1**	**+0.4**	
	0.2nm,0.3s,baz=16,slow=4.6,SNR=8.2							
TORD	**Torodi Ar. Bea**	**166.44**	**247**	PKP	**PKPdf**	**01 26 18.6**	**+0.1**	
TORD				PKPab	**PKPab**	**01 27 21.4**	**+0.4**	
TORD	**Torodi Ar. Bea**	**166.44**	**247**	PKP	**PKPdf**	**01 26 18.5**	**+0.1**	
	2.0nm,1.1s,baz=45,slow=2.3,SNR=6.8							
TORD				PKPab	**PKPab**	**01 27 21.4**	**+0.4**	
	0.9nm,1.0s,baz=90,slow=4.2,SNR=2.8							

BJI ***02*** *01:07:38.9, 16˚.30S×173˚.50W, h5km, mB6.1/48, mb5.4/45, Ms5.9/65, Ms7 5.6/59*

IDC ***02*** *01:07:38.6±0.3, 16˚.30S×173˚.42W, h0km, mb5.6/30, mb1 5.7/31, mb1mx5.7/31, mbtmp5.6/31, ML4.5/1, MS5.9/7, Ms1 5.8/7, ms1mx5.7/11, Error ellipse: s-maj=12.8km s-min=9.3km az=137.0*

ISCJB ***02*** *01:07:38.3±0.1, 16˚.34S±0˚.03×173˚.40W±0˚.02, h10km, mb6.0/302, MS6.0/224, Error ellipse: s-maj=4.7km s-min=2.5km az=160.2*

NEIC ***02*** *01:07:39.3±0.1, 16˚.34S×173˚.47W, h8km, mb6.1/194, ME6.0, MS6.0/157, MW6.0, MW6.1, Error ellipse: s-maj=5.8km s-min=3.3km az=141.0, Moment Tensor Solution. s66 Moment tensor: Scale 10¹⁸Nm; Mrr=1.01; Mθθ 0.62; Mφφ 0.38; Mrθ 0.19; Mθφ -0.61; Mrφ 0.95; Best double couple: M₀1.40000×10¹⁸ NP1:φ=287.00000°, δ39.00000°, λ=-137.00000°. NP2:φ=160.00000°, δ65.00000°, λ=-60.00000°. Principal axes: T 1.2500, Plg14.0000°, Azm228.0000°; N 0.3400, Plg27.0000°, Azm326.0000°; P -1.5900, Plg58.0000°, Azm113.0000°; Broadband fault plane solution: P waves. NP1: φs=281.00000°, δ36.00000°, λ=-144.00000°. NP2: φs=160.00000°, δ70.00000°, λ=-60.00000°. Principal axes: T Plg19.0000°, Azm228.0000°; N Plg0.0000°, Azm0.0000°; P Plg55.0000°, Azm108.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt at Neiafu.

AUST ***02*** *01:07:39.3±0.3, 16˚.25S×173˚.46W, h0km Error ellipse: s-maj=15.1km s-min=9.2km az=169.0*

MOS ***02*** *01:07:41.7±1.0, 16˚.29S×173˚.50W, h33km, mb6.2/68, MS5.9/63, Error ellipse: s-maj=9.7km s-min=7.1km az=51.0*

SZGRF ***02*** *01:07:46.1, 15˚.89S×173˚.25W, h33km, mb6.1, Tonga Islands*

GCMT ***02*** *01:07:48.2±0.1, 16˚.45S×173˚.06W, h12km, MW6.1, Moment Tensor Solution. s111,c249; s80,c122; Moment tensor: Scale 10¹⁸Nm; Mrr=1.35±.01; Mθθ 0.89±.01; Mφφ 0.47±.01; Mrθ 0.29±.03; Mθφ -1.38±.01; Mφr 0.33±.03; Best double couple: M₀1.80000×10¹⁸ NP1:φ=286.00000°, δ51.00000°, λ=-126.00000°. NP2: φs=155.00000°, δ51.00000°, λ=-54.00000°. Principal axes: T 2.0700, Plg0.0000°, Azm41.0000°; N -0.5000, Plg27.0000°, Azm311.0000°; P -1.5700, Plg63.0000°, Azm131.0000°; Data Used: II IU CN IC G. Surface waves: sta=127, comp=275, per= 50.*

NEIC ***02*** *01:08:05.5±0.0, 16˚.25S×173˚.43W, h10km, Moment Tensor Solution. s115 Moment tensor: Scale 10¹⁸Nm; Mrr=1.14; Mθθ 0.70; Mφφ 0.45; Mrθ 0.20; Mθφ -1.13; Mφr 1.19; Best double couple: M₀1.90000×10¹⁸ NP1:φ=103.00000°, δ36.00000°, λ=-139.00000°. NP2:φs=338.00000°, δ68.00000°, λ=-60.00000°. Principal axes: T 2.0100, Plg17.0000°, Azm47.0000°; N -0.1700, Plg26.0000°, Azm146.0000°; P -1.8400, Plg57.0000°, Azm287.0000°;*

DJA ***02*** *01:08:17.4±1.2, 16˚.5±.19˚×17˚.6W±˚, h205km±9km, M5.8/50, mb5.8/50, mB6.2/44, Mw(mB)5.8/44, Mwp6.5/3*

ISC 02 01:07:40.9±0.3, 16˚.37S±0˚.04×173˚.39W±0˚.04, h14±1km, h14km:pP-P,n1825,σ1s49/1818, mb6.1/301, MS6.0/227, 293C-291D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
				Op		h	m s	ISC
AFI	**Afiamalu**	**2.90**	**33**	*e*Pn	Pn	01 08 19.7		-7.1
AFI				Sn	Sn	01 08 54.9		-6.6
AFI	**Afiamalu**	**2.90**	**33**	Pn	Pn	01 08 22.7		-4.1
	112nm,0.3s,baz=236,slow=1.6,SNR=21							
AFI				Sn	Sn	01 08 54.9		-6.6
	2µm,0.3s,baz=218,slow=19,SNR=11							
MSVF	**Nonsavu**	**8.30**	**259**	*e*P	Pn	01 09 47.9		+6.9
MSVF	**Nonsavu**	**8.30**	**259**	Pn	Pn	01 09 49.5		+8.5
	11µm,1.4s,SNR=27							
MSVF	**Nonsavu**	**8.30**	**259**	*e*Pn	Pn	01 09 47.9		+6.9
KNTN	**Kanton**	**13.61**	**7**	*e*Pn	**Pn**	**01 10 56.8**		**+3.1**
RAR	**Rarotonga**	**13.76**	**113**	*e*Pn	Pn	01 10 50.9		-4.9
RAR				Sn	**Sn**	**01 13 31.3**		**+2.8**
RAR	**Rarotonga**	**13.76**	**113**	Pn	Pn	01 10 51.8		-3.9
	6.8nm,0.3s,baz=270,slow=6.3,SNR=55							
RAR				Sn	**Sn**	**01 13 31.3**		**+2.8**
	3.0nm,0.3s,baz=270,slow=20,SNR=2.9							
RAR				LR	LR	01 15 02.4		
	comp=Z,14µm,21.7s,baz=278,slow=32							
DZM	**Mont Dzumac**	**19.86**	**250**	*e*P	**Pn**	**01 12 13.4**		**-0.1**
	2µm,1.4s							
DZM				*e*S	**S**	**01 15 51.0**		**-4.3**
	21µm,25.0s							
DZM				*e*LR	LR	01 16 55.1		
	200µm,25.9s							
DZM	**Mont Dzumac**	**19.86**	**250**	P	**P**	**01 12 12.3**		**+0.4**
DZM	**Mont Dzumac**	**19.86**	**250**	P	**P**	**01 12 12.3**		**+0.4**
	1.3nm,0.3s,baz=84,slow=14,SNR=3.9							
OUZ	**Omahuta**	**22.09**	**209**	*e*P	**P**	**01 12 34.8**		**-0.9**
	978nm,1.7s							
TARA	**Tarawa**	**22.20**	**321**	PFAKE		01 12 50.0		+13
TARA				LR	LR			
	comp=Z,13µm,22.0s							
PAE	**Paea**	**22.80**	**97**	*e*P	**P**	**01 12 42.3**		**-1.2**
	comp=Z,133nm,1.5s							
PPT2	**Papeete2**	**22.81**	**97**	*e*P	**P**	**01 12 42.6**		**-1.0**
	comp=Z,667nm,1.5s							
PPT2				*e*LQ	LQ	01 17 05.9		
	comp=Z,145µm,27.2s							
PPT2				*e*LR	LR	01 17 57.5		
	comp=Z,46µm,26.0s							
PPT	**Papeete**	**22.81**	**96**	P	**P**	**01 12 44.0**		**+0.4**
PPT	**Papeete**	**22.81**	**96**	P	**P**	**01 12 44.0**		**+0.4**
	comp=Z,124nm,0.9s,baz=297,slow=10,SNR=10							
PPT				LR	LR	01 18 50.2		
	comp=Z,15µm,21.1s,baz=267,slow=29							
TIAR	**Tiarei**	**23.03**	**96**	*e*P	**P**	**01 12 44.6**		**-1.3**
	comp=Z,451nm,1.3s							
TVO	**Taravao**	**23.11**	**97**	*e*P	**P**	**01 12 45.5**		**-1.3**
	comp=Z,851nm,1.3s							
URZ	**Urewera**	**23.35**	**199**	*e*P	**P**	**01 12 47.3**		**-1.6**
	comp=Z,572nm,1.1s							
URZ				S	**S**	**01 17 05.2**		**+3.8**
URZ	**Urewera**	**23.35**	**199**	P	**P**	**01 12 47.4**		**-1.6**
	comp=Z,201nm,1.0s,baz=24,slow=4.8,SNR=22							
URZ				S	**S**	**01 17 05.2**		**+3.8**
	comp=Z,42nm,0.7s,baz=335,slow=19,SNR=3.3							
URZ				LR	LR	01 20 37.0		
	comp=Z,39µm,20.4s,baz=228,slow=33							
TBI	**Tubuai**	**23.53**	**111**	*e*P	**P**	**01 12 50.1**		**-0.8**
	comp=Z,1µm,1.3s							
TBI				*e*LQ	LQ	01 17 27.2		
	comp=Z,89µm,28.0s							
TBI				*e*LR	LR	01 18 22.5		
	comp=Z,31µm,27.0s							
XMAS	**Kiritimati**	**24.14**	**42**	*e*P	**P**	**01 12 57.0**		**+0.3**
	comp=Z,561nm,1.1s							
XMAS				LR	LR			
	comp=Z,40µm,21.0s							
MEH	**Mehetia**	**24.24**	**97**	*e*P	**P**	**01 12 56.3**		**-1.4**
	comp=Z,484nm,1.4s							
BKZ	**Black Stump Fm**	**24.38**	**199**	*e*P	**P**	**01 12 57.4**		**-1.4**
	comp=Z,231nm,1.0s							
PMOR	**Pomariorio Ree**	**24.58**	**90**	*e*P	**P**	**01 12 59.0**		**-1.8**
	comp=Z,1µm,1.2s							
VAH	**Vaihoa**	**24.81**	**91**	*e*P	**P**	**01 13 01.7**		**-1.1**
	comp=Z,677nm,1.1s							
BFZ	**Birch Farm**	**25.84**	**198**	*e*P	**P**	**01 13 11.4**		**-0.5**
	comp=Z,676nm,1.6s							
HNR	**Honiara**	**26.87**	**282**	LR	LR	01 22 27.2		
	comp=Z,36µm,19.7s,baz=119,slow=33							
SNZO	**South Karori**	**26.89**	**200**	*e*P	**P**	**01 13 19.4**		**-2.0**
	comp=Z,166nm,0.8s							
SNZO				LR	LR			
	comp=Z,26µm,19.0s							
KHZ	**Kahutara**	**28.27**	**201**	*e*P	**P**	**01 13 32.1**		**-1.6**
	comp=Z,209nm,1.0s							
RPZ	**Rata Peaks**	**30.29**	**203**	*e*P	**P**	**01 13 51.8**		**0.0**
	comp=Z,215nm,0.9s							
RPZ	**Rata Peaks**	**30.29**	**203**	P	**P**	**01 13 50.6**		**-1.1**
	comp=Z,122nm,0.7s,baz=154,slow=1.6,SNR=15							
ODZ	**Otahua Downs**	**31.59**	**202**	*e*P	**P**	**01 14 01.7**		**-1.4**
	comp=Z,67nm,0.9s							
EIDS	**Eidsvold**	**34.30**	**249**	*e*P	**P**	**01 14 26.1**		**-1.0**
	comp=Z,313nm,2.1s							
ARMA	**Armidale**	**34.86**	**240**	*e*P	**P**	**01 14 30.6**		**-1.5**
	comp=Z,138nm,0.6s							
RKT	**Rikitea**	**36.70**	**107**	*e*P	**P**	**01 14 47.1**		**-0.6**
	comp=Z,291nm,1.3s							
RKT				*e*LQ	LQ	01 23 09.7		
	comp=Z,18µm,27.8s							
RKT				*e*LR	LR	01 24 26.0		
	comp=Z,19µm,26.2s,baz=280							
CTA	**Charters Tower**	**38.45**	**258**	P	**P**	**01 15 01.3**		**-1.3**
CTA	**Charters Tower**	**38.45**	**258**	P	**P**	**01 15 01.3**		**-1.3**
	comp=Z,43nm,0.9s,baz=87,slow=11,SNR=16							
CTAO	**Charters Tower**	**38.45**	**258**	*e*P	**P**	**01 15 00.7**		**-1.9**
CTAO				pmax	pmax			
	comp=Z,69nm,1.0s							
CTAO				MLR	MLR			
	comp=Z,24µm,19.0s							
CTAO	**Charters Tower**	**38.45**	**258**	*e*P	**P**	**01 15 00.7**		**-1.9**
	comp=Z,70nm,1.0s							
CTAO				LR	LR			
	comp=Z,24µm,19.0s							
CAN	**Canberra**	**38.45**	**233**	*e*P	**P**	**01 14 59.7**		**-2.9**
CAN				pmax	pmax			
	comp=Z,121nm,0.9s							
CAN				MLR	MLR			
	comp=Z,25µm,20.0s							
CAN	**Canberra**	**38.45**	**233**	*e*P	**P**	**01 14 59.7**		**-2.9**
	comp=Z,121nm,0.9s							
CAN				LR	LR			
	comp=Z,25µm,20.0s							
PMG	**Port Moresby**	**39.02**	**275**	P	P	01 15 03.0		-4.5
	comp=Z,444nm,1.0s,comp=Z,5µm							
PMG	**Port Moresby**	**39.02**	**275**	*e*P	**P**	**01 15 07.4**		**0.0**
	comp=Z,414nm,1.0s							
PMG	**Port Moresby**	**39.02**	**275**	P	**P**	**01 15 07.5**		**0.0**
	comp=Z,72nm,0.8s,baz=85,slow=5.9,SNR=19							
PMG				LR	LR	01 27 26.5		
	comp=Z,15µm,21.5s,baz=301,slow=30							
POHA	**Pohakuloa**	**39.96**	**27**	*e*P	P	01 15 19.0		+3.5
	comp=Z,526nm,1.4s							
KIP	**Kipapa**	**40.47**	**22**	*e*P	**P**	**01 15 21.9**		**+2.5**
KIP				pmax	pmax			
	comp=Z,277nm,1.1s							
KIP				MLR	MLR			
	comp=Z,14µm,22.0s							
KIP	**Kipapa**	**40.47**	**22**	*e*P	**P**	**01 15 21.9**		**+2.5**
	comp=Z,277nm,1.1s							
KIP				LR	LR			
	comp=Z,14µm,22.0s							
WAKE	**Wake Island**	**40.50**	**330**	*e*P	**P**	**01 15 18.8**		**-0.9**
	comp=Z,1µm,1.8s							
WAKE				LR	LR			
	comp=Z,7µm,19.0s							
H11N3	**WAKE ISLAND Hy**	**40.76**	**331**	T	T	01 58 51.9		
	baz=152,slow=0.7,SNR=73							
H11N1	**WAKE ISLAND Hy**	**40.76**	**331**	T	T	01 58 36.0		
	baz=152,slow=0.7,SNR=72							
H11N2	**WAKE ISLAND Hy**	**40.77**	**331**	T	T	01 58 55.1		
	baz=152,slow=0.7,SNR=75							
COEN	**Coen**	**41.94**	**267**	*e*P	**P**	**01 15 31.7**		**+0.1**
	comp=Z,995nm,1.0s							
TAU	**Tasmania Unive**	**42.62**	**223**	PFAKE		01 15 50.0		+13
TAU				LR	LR			
	comp=Z,40µm,19.0s							
STKA	**Stephens Creek**	**43.57**	**241**	P	**P**	**01 15 43.5**		**-1.2**
STKA	**Stephens Creek**	**43.57**	**241**	P	**P**	**01 15 43.5**		**-1.2**
	comp=Z,81nm,0.8s,baz=90,slow=8.6,SNR=40							
STKA				LR	LR	01 31 13.3		
	comp=Z,25µm,21.8s,baz=77,slow=32							
MIDW	**Midway**	**44.49**	**355**	*e*P	**P**	**01 15 51.4**		**-0.5**
	comp=Z,623nm,1.5s							
MIDW				LR	LR			
	comp=Z,9µm,21.0s							
MMPI	**Merauke**	**45.74**	**274**	P	**P**	**01 15 59.2**		**-3.0**
	comp=Z,1µm,0.3s							
JAY	**Jayapura**	**47.19**	**282**	P	**P**	**01 16 14.0**		**+0.3**
	comp=Z,173nm,1.9s,comp=Z,5µm							
BBOO	**Buckleboo**	**48.34**	**241**	*e*P	**P**	**01 16 20.5**		**-1.8**
	comp=Z,4µm,1.0s							
WRAB	**Tennant Creek**	**49.63**	**258**	*e*P	**P**	**01 16 30.8**		**-1.6**
WRAB				pmax	pmax			
	comp=Z,119nm,1.3s							
WRAB				MLR	MLR			
	comp=Z,29µm,20.0s							
WRAB	**Tennant Creek**	**49.63**	**258**	*e*P	**P**	**01 16 30.8**		**-1.6**
	comp=Z,119nm,1.3s							
WRAB				LR	LR			
	comp=Z,29µm,20.0s							
WRA	**Warramunga Arr**	**49.64**	**258**	P	**P**	**01 16 30.9**		**-1.6**
WRA				PcP	**PcP**	**01 17 55.9**		**+1.9**
WRA	**Warramunga Arr**	**49.64**	**258**	P	**P**	**01 16 30.9**		**-1.6**
	comp=Z,21nm,0.8s,baz=95,slow=6.2,SNR=34							
WRA				PcP	**PcP**	**01 17 55.9**		**+1.9**
	comp=Z,52nm,1.0s,baz=92,slow=3.3,SNR=6.3							
AS31	**Alice Springs**	**49.83**	**253**	*e*P	**P**	**01 16 31.7**		**-2.2**
ASAR	**Alice Springs**	**49.83**	**253**	P	**P**	**01 16 33.1**		**-0.8**
ASAR				P'P'		01 47 27.9		
ASAR	**Alice Springs**	**49.83**	**253**	P	**P**	**01 16 33.1**		**-0.8**
	comp=Z,217nm,0.6s,baz=88,slow=7.3,SNR=18							
ASAR				PKPPKP	**P'P'df**	**01 47 27.9**		**-3.7**
	comp=Z,0.4nm,0.8s,baz=250,slow=2.5,SNR=3.4							
GUMO	**Guam**	**50.87**	**303**	*e*P	P	01 16 45.7		+3.9
	comp=Z,610nm,1.5s							
SRPI	**Serui, Papua**	**51.61**	**281**	P	**P**	**01 16 48.2**		**+0.8**
	comp=Z,263nm,0.4s							
KDU	**Kakadu**	**52.41**	**266**	⇓P	**P**	**01 16 53.0**		**-0.4**
	baz=52,SNR=15							
KMPI	**Kaimana, Papua**	**53.45**	**278**	P	P	01 16 57.6		-3.4
	comp=Z,481nm,1.2s,comp=Z,6µm							
TLE	**Tual**	**53.80**	**275**	P	**P**	**01 17 02.7**		**-0.9**
	comp=Z,320nm,1.9s,comp=Z,8µm							
SAUI	**Saumlaki**	**54.57**	**272**	P	**P**	**01 17 09.6**		**+0.4**
	comp=Z,916nm,1.3s,comp=Z,14µm							
FORT	**Forrest**	**54.99**	**244**	*e*P	**P**	**01 17 09.8**		**-2.3**
	comp=Z,191nm,0.9s							
FORT	**Forrest**	**54.99**	**244**	⇑P	**P**	**01 17 09.9**		**-2.3**
	baz=55,SNR=61							
FAKI	**Fak Fak**	**55.05**	**278**	P	**P**	**01 17 12.8**		**0.0**
	comp=Z,156nm,2.0s,comp=Z,4µm							
FAKI	**Fak Fak**	**55.05**	**278**	⇑P	**P**	**01 17 11.6**		**-1.2**
	baz=55,SNR=9.9							
KNRA	**Kununurra**	**55.44**	**262**	⇑P	**P**	**01 17 14.5**		**-1.0**
	baz=55,SNR=14							
SWI	**Sorong**	**56.64**	**280**	P	**P**	**01 17 23.1**		**-1.0**
	comp=Z,822nm,1.1s,comp=Z,7µm							
SWI	**Sorong**	**56.64**	**280**	⇓P	**P**	**01 17 23.8**		**-0.3**
	baz=57,SNR=22							
PALU	**Palau**	**56.71**	**290**	⇓P	**P**	**01 17 25.1**		**+0.5**
	baz=57,SNR=5.3							
BNDI	**Bandanaira**	**56.82**	**275**	P	**P**	**01 17 23.4**		**-2.0**
	comp=Z,515nm,2.3s,comp=Z,10µm							
DRV	**Dumont d'Urvil**	**58.69**	**200**	PP	PP	01 19 37.0	-10	
DRV				S	S	01 25 25.0	-17	
DRV				SS	SS	01 29 55.0	+21	
DRV				L	L	01 31 00.0		
DRV				R		01 35 00.0		
AAI	**Ambon**	**58.69**	**276**	P	P	01 17 35.3	-3.3	
	comp=Z,242nm,1.0s,comp=Z,4µm							
NLAI	**Namlea**	**59.87**	**276**	P	**P**	**01 17 46.4**		**-0.3**
	comp=Z,162nm,1.2s,comp=Z,3µmcomp=Z,220µm							
RPN	**Rapa Nui**	**59.91**	**112**	PFAKE		01 18 00.0		+13
RPN				LR	LR			
	comp=Z,6µm,21.0s							
LBMI	**Labuha**	**60.27**	**279**	P	**P**	**01 17 48.1**		**-1.4**
	comp=Z,500nm,1.1s,comp=Z,6µm							
TNTI	**Ternate**	**60.85**	**280**	P	**P**	**01 17 51.1**		**-2.4**
	comp=Z,588nm,1.6s,comp=Z,9µm							
TNTI	**Ternate**	**60.85**	**280**	*e*P	**P**	**01 17 56.6**		**+3.1**
	comp=Z,2µm,1.6s							
SOEI	**Soe**	**60.90**	**268**	P	**P**	**01 17 54.4**		**+0.5**
	comp=Z,1µm,0.9s,comp=Z,11µm							
SOEI	**Soe**	**60.90**	**268**	⇑P	**P**	**01 17 54.4**		**+0.5**
	baz=61,SNR=40							
BATI	**Baumata**	**61.37**	**267**	P	**P**	**01 17 59.2**		**+2.1**
	comp=Z,205nm,1.1s,comp=Z,4µm							
BATI	**Baumata**	**61.37**	**267**	P	**P**	**01 17 58.4**		**+1.3**
BATI	**Baumata**	**61.37**	**267**	P	**P**	**01 17 58.4**		**+1.3**
	comp=Z,176nm,1.0s,baz=112,slow=5.4,SNR=9.6							
SBA	**Scott Base**	**62.29**	**185**	*e*P	**P**	**01 18 03.7**		**+1.6**
SBA				pmax	pmax			
	comp=Z,77nm,0.9s							
SBA				MLR	MLR			
	comp=Z,8µm,19.0s							
SBA	**Scott Base**	**62.29**	**185**	*e*P	**P**	**01 18 03.7**		**+1.6**
	comp=Z,77nm,0.9s							
SBA				LR	LR			
	comp=Z,8µm,19.0s							
VNDA	**Vanda**	**62.42**	**186**	*e*P	**P**	**01 18 03.7**		**+0.7**
	comp=Z,173nm,1.4s							
VNDA				P'P'		01 47 09.1		
VNDA				⇑*e*		01 47 15.5		
VNDA				P'P'ab	**P'P'ab**	**01 47 22.7**		**-4.8**
VNDA	**Vanda**	**62.42**	**186**	P	**P**	**01 18 04.1**		**+1.1**
	comp=Z,29nm,0.9s,baz=8.3,slow=6.5,SNR=33							
VNDA				PKPPKP	**P'P'df**	**01 47 09.1**		**-3.2**
	comp=Z,1.2nm,1.0s,baz=216,slow=5.0,SNR=4.4							
VNDA				PKP2bc		01 47 15.5		
	comp=Z,4.0nm,1.1s,baz=245,slow=5.7,SNR=13							
VNDA				PKP2ab		01 47 22.7		
	comp=Z,12nm,1.2s,baz=251,slow=4.5,SNR=12							
MBWA	**Marble Bar**	**63.10**	**254**	*e*P	**P**	**01 18 07.3**		**-1.3**
	comp=Z,143nm,1.2s							
MBWA				LR	LR			
	comp=Z,19µm,21.0s							
MMRI	**Maumere**	**63.11**	**268**	P	**P**	**01 18 08.6**		**-0.1**
	comp=Z,408nm,1.2s,comp=Z,7µm							
MMRI	**Maumere**	**63.11**	**268**	*e*P	**P**	**01 18 10.6**		**+2.0**
	comp=Z,452nm,1.1s							
MEEK	**Meekatharra**	**63.46**	**248**	⇑P	**P**	**01 18 08.8**		**-2.1**
	baz=63,SNR=39							
BBSI	**Bau Bau**	**63.58**	**272**	P	**P**	**01 18 12.9**		**+1.1**
	comp=Z,195nm,1.5s,comp=Z,5µm							
KLBR	**Kellerberrin**	**63.80**	**243**	⇑P	**P**	**01 18 11.2**		**-1.8**
	baz=64,SNR=97							
KMSI	**Cibinong**	**63.99**	**279**	P	**P**	**01 18 16.4**		**+1.9**
	comp=Z,501nm,1.1s							
NWAO	**Narrogin (SRO)**	**64.16**	**241**	*e*P	**P**	**01 18 13.9**		**-1.4**
	comp=Z,57nm,1.0s							
NWAO				LR	LR			
	comp=Z,12µm,21.0s							
NWAO	**Narrogin (SRO)**	**64.16**	**241**	P	**P**	**01 18 13.9**		**-1.4**
	comp=Z,19nm,0.6s,baz=100,slow=5.8,SNR=14							
RKGY	**Rocky Gully**	**64.28**	**239**	⇑P	**P**	**01 18 16.5**		**+0.4**
	baz=64,SNR=7.9							
LUWI	**Luwuk**	**64.64**	**277**	P	P	01 18 22.3		+3.5
	comp=Z,464nm,1.4s,comp=Z,4µm							
LUWI	**Luwuk**	**64.64**	**277**	⇓P	**P**	**01 18 18.2**		**-0.5**
	baz=65,SNR=3.8							
DAV	**Davao City (W)**	**64.71**	**286**	PFAKE		01 18 30.0		+11
DAV				LR	LR			
	comp=Z,6µm,19.0s							
WSI	**Waingapu**	**64.72**	**267**	P	**P**	**01 18 21.4**		**+2.1**
	comp=Z,947nm,1.2s,comp=Z,14µm							
BLDU	**Ballidu**	**64.76**	**244**	P	**P**	**01 18 17.6**		**-1.7**
	baz=65,SNR=83							
LBFI	**Labuhan Bajo,**	**65.40**	**268**	P	**P**	**01 18 24.0**		**+0.3**
	comp=Z,516nm,1.3s,comp=Z,7µm							
MORW	**Morawa**	**65.48**	**245**	P	**P**	**01 18 22.0**		**-2.1**
	baz=65,SNR=28							
APSI	**Ampana**	**65.75**	**277**	P	**P**	**01 18 26.6**		**+0.6**
	comp=Z,519nm,1.3s,comp=Z,6µm							
BKSI	**Bulukumba**	**65.97**	**271**	P	**P**	**01 18 28.3**		**+0.9**
	comp=Z,72nm,1.2s,comp=Z,2µm							
BNSI	**Bone**	**66.24**	**272**	P	**P**	**01 18 29.1**		**0.0**
	comp=Z,252nm,1.3s,comp=Z,3µm							
KAPI	**Kappang**	**66.41**	**272**	P	**P**	**01 18 32.2**		**+2.0**
	SNR=12							
KAPI	**Kappang**	**66.41**	**272**	P	**P**	**01 18 29.1**		**-1.1**
	comp=Z,145nm,2.1s,comp=Z,3µm							
KAPI	**Kappang**	**66.41**	**272**	*e*P	**P**	**01 18 28.7**		**-1.5**
	comp=Z,90nm,0.9s							
KAPI				LR	LR			
	comp=Z,3µm,22.0s							
KAPI	**Kappang**	**66.41**	**272**	P	**P**	**01 18 28.7**		**-1.5**
	comp=Z,28nm,0.7s,baz=114,slow=8.0,SNR=16							
SPSI	**Sidrap Palu**	**66.68**	**273**	P	**P**	**01 18 31.7**		**-0.2**
	comp=Z,122nm,1.1s,comp=Z,2µmcomp=Z,20µm							
TOLI	**Toli-Toli**	**67.19**	**278**	P	**P**	**01 18 36.8**		**+1.6**
	comp=Z,225nm,0.7s							
MJSI	**Majene**	**67.55**	**273**	P	**P**	**01 18 35.1**		**-2.4**
	comp=Z,577nm,1.1s,comp=Z,5µm							
MMSI	**Mamuju**	**67.86**	**274**	P	**P**	**01 18 38.5**		**-0.9**
	comp=Z,161nm,1.3s,comp=Z,3µm							
GIRL	**Giralia**	**67.93**	**252**	⇓P	**P**	**01 18 39.9**		**+0.1**
	baz=

comp=Z,366nm,1.0s,comp=Z,15µm
SCI San Clemente I 71.77 46 ⇑P P 01 19 02.3 -0.8
baz=72
SBC Santa Barbara 71.80 45 ⇑P P 01 19 02.9 -0.4
baz=72
SKR Severo-Kuril's 71.94 340 eP P 01 19 01.2 -2.4
SKR e 01 19 14.5
SKR e 01 21 50.0
SKR ePPP PPP 01 23 22.0
SKR eS S 01 28 26.0 +1.8
SKR ePS PnS 01 28 46.0 -8.5
SKR e 01 29 08.0
SKR pmax pmax
comp=Z,2µm,4.0s
SKR pmax pmax
comp=Z,220nm,1.0s
SKR smax smax
comp=N,5µm,10.0s
SKR smax smax
comp=E,3µm,10.0s
SKR MLR MLR
comp=E,3µm,16.0s
SKR MLR MLR
comp=Z,3µm,16.0s
MCCM Marconi Confer 72.00 40 eP P 01 19 04.0 -0.3
comp=Z,334nm,1.3s
PKM Peak Mountain 72.00 44 ⇓P P 01 19 04.7 0.0
baz=72,SNR=20
SDKM Sandakan 72.03 282 P P 01 19 06.4 +1.2
SAO San Andreas Ge 72.05 42 eP P 01 19 04.7 0.0
SAO pmax pmax
comp=Z,315nm,1.2s
SAO San Andreas Ge 72.05 42 eP P 01 19 04.7 0.0
comp=Z,315nm,1.2s
BLG Laguna Peak 72.05 45 ⇑P P 01 19 04.1 -0.8
baz=72
CIS Catalina Islan 72.11 46 ⇓P P 01 19 04.9 -0.3
baz=72
SMMC Simmler 72.12 44 ⇓P P 01 19 04.9 -0.3
baz=72,SNR=30
PTRM Twissleman Ran 72.18 43 eP P 01 19 06.5 +1.0
SDPT Sand Point 72.27 8 eP P 01 19 04.3 -1.2
comp=Z,276nm,0.9s
FMP Fort Macarthur 72.36 46 ⇓P P 01 19 05.7 -0.9
baz=73
ASAJ Asahikawa 72.37 328 eP P 01 19 06.7 +0.3
comp=Z,70nm,0.9s
ASAJ Asahikawa 72.37 328 P P 01 19 06.8 +0.4
comp=Z,128nm,0.8s,baz=208,slow=8.0,SNR=13
HOPS Hopland 72.42 39 eP P 01 19 06.9 +0.1
comp=Z,450nm,1.2s
JNU Nakatsue 72.47 313 eP P 01 19 05.1 -2.2
comp=Z,17nm,0.9s
JNU Nakatsue 72.47 313 P P 01 19 06.5 -0.8
comp=Z,9.2nm,0.7s,baz=276,slow=6.7,SNR=6.6
KCPM Cahto Peak 72.55 38 eP P 01 19 06.3 -1.5
comp=Z,311nm,1.5s
OSI Osito Adit 72.57 45 ⇑P P 01 19 07.0 -0.9
baz=73
DECC Green Verdugo 72.63 45 ⇓P P 01 19 07.6 -0.7
baz=73,SNR=8.0
KIPM Iron Peak 72.69 38 eP P 01 19 09.0 +0.4
comp=Z,983nm,1.8s
109C Camp Elliot, M 72.73 47 ⇓P P 01 19 07.8 -1.0
baz=73
ARVC Arvin 72.79 44 ⇓P P 01 19 09.0 -0.2
baz=73,SNR=17
MWC Mount Wilson 72.81 46 eP P 01 19 08.4 -1.1
MWC pmax pmax
comp=Z,291nm,1.3s
MWC Mount Wilson 72.81 46 eP P 01 19 08.4 -1.1
comp=Z,291nm,1.3s
BAR Barrett 72.92 48 eP P 01 19 08.9 -1.1
comp=Z,226nm,1.8s
VES Vestal, Richgr 73.03 44 ⇑P P 01 19 10.0 -0.6
baz=73,SNR=67
MURC Murrieta 73.05 46 ⇓P P 01 19 10.3 -0.5
baz=73,SNR=32
KKM Kota Kinabalu 73.08 282 P P 01 19 14.2 +2.8
KKM Kota Kinabalu 73.08 282 eP P 01 19 11.2 -0.2
comp=Z,426nm,1.4s
KKM LR LR
comp=Z,2µm,22.0s
KKM Kota Kinabalu 73.08 282 ⇓P P 01 19 11.8 +0.3
baz=73,SNR=7.8
BFSC Mount Baldy Ra 73.09 46 ⇑P P 01 19 10.2 -0.9
baz=73,SNR=6.3
PET Petropavlovsk 73.20 343 eP P 01 19 10.8 -0.3
PET e 01 21 50.3
PET eS S 01 28 40.0 +1.4
PET eSS SS 01 33 22.9 +2.2
PET pmax pmax
comp=Z,900nm,11.2s
PET pmax pmax
comp=Z,2µm,13.7s
PET pmax pmax
comp=Z,122nm,1.6s
PET pmax pmax
comp=Z,800nm,19.5s
PET MLR MLR
comp=Z,3µm,20.0s
RCTC Rector, Farmer 73.20 43 ⇓P P 01 19 11.0 -0.6
baz=73
MONP Monument Peak 73.21 47 ⇑P P 01 19 11.4 -0.6
baz=73,SNR=5.5
EDW2 Edwards Air Fo 73.22 45 ⇑P P 01 19 11.2 -0.6
baz=73,SNR=100
KHMM Horse Mountain 73.22 37 eP P 01 19 12.6 +0.8
comp=Z,446nm,1.3s
DVTC Desert V Tower 73.31 48 ⇓P P 01 19 12.0 -0.4
baz=74
ISA Isabella 73.34 44 eP P 01 19 12.2 -0.3
ISA pmax pmax
comp=Z,399nm,1.4s
ISA Isabella 73.34 44 eP P 01 19 12.2 -0.3
comp=Z,399nm,1.4s
ISA Isabella 73.34 44 ⇓P P 01 19 12.1 -0.4
baz=74,SNR=79
CHGN Chignik 73.48 9 eP P 01 19 11.0 -1.7
CMB Columbia Colle 73.48 41 eP P 01 19 12.7 -0.6
CMB pmax pmax
comp=Z,185nm,1.1s
CMB Columbia Colle 73.48 41 eP P 01 19 12.7 -0.6
comp=Z,185nm,1.1s
LPIG La Paz 73.54 58 P P 01 19 12.6 -1.2
LPIG La Paz 73.54 58 P P 01 19 12.6 -1.2
comp=Z,21nm,0.3s,baz=240,slow=8.1,SNR=9.7
KRMB Red Mountain 73.54 37 eP P 01 19 14.5 +0.9
comp=Z,2µm,1.8s
PEA0B Petropavlovsk- 73.55 342 eP P 01 19 12.6 -0.7
PETK Petropavlovsk- 73.55 342 P P 01 19 12.6 -0.6
PETK Petropavlovsk- 73.55 342 P P 01 19 12.6 -0.6
PETK Petropavlovsk- 73.55 342 P P 01 19 12.6 -0.6
comp=Z,16nm,0.7s,baz=126,slow=7.5,SNR=11
PFO Pinyon Flat Ob 73.58 47 eP P 01 19 13.1 -0.9
comp=Z,151nm,1.2s
PFO Pinyon Flat Ob 73.58 47 ⇑P P 01 19 12.8 -1.2
baz=74,SNR=47
PFO Pinyon Flat Ob 73.58 47 P P 01 19 13.3 -0.7
comp=Z,81nm,1.1s,baz=265,slow=4.2,SNR=23
PFO LR LR 01 43 32.9
comp=Z,12µm,21.1s,baz=185,slow=29
OHCM Honcut 73.59 40 eP P 01 19 13.8 0.0
BBRC Big Bear Solar 73.61 46 ⇓P P 01 19 13.3 -1.0
baz=74
QSPA South Pole Qui 73.68 180 eP P 01 19 14.6 +0.5
comp=Z,109nm,1.0s
QSPA LR LR
comp=Z,9µm,22.0s
SWSC Sam W. Stewart 73.68 48 ⇓P P 01 19 13.7 -0.8
baz=74
WDC Whiskeytown Da 73.73 38 eP P 01 19 13.9 -0.7
WDC pmax pmax
comp=Z,588nm,1.5s
WDC Whiskeytown Da 73.73 38 eP P 01 19 13.9 -0.7
comp=Z,588nm,1.5s
LRMC Laurel Mountai 73.76 45 ⇓P P 01 19 14.4 -0.6
baz=74,SNR=66
KBO Bosley Butte 73.81 36 eP P 01 19 13.9 -1.2
comp=Z,1µm,1.6s
RRX Edison Barstow 73.89 45 ⇑P P 01 19 14.7 -1.1
baz=74
CWC Cottonwood Cre 74.04 44 ⇓P P 01 19 16.5 -0.2
baz=74,SNR=67
BELC Belle Mtn. Jos 74.11 47 ⇓P P 01 19 16.6 -0.6
baz=74,SNR=10
KEBM Edson Butte 74.18 35 eP P 01 19 18.1 +0.8
comp=Z,819nm,1.3s
MPMC Manual Prospec 74.22 44 ⇓P P 01 19 17.4 -0.5
baz=74,SNR=145
MLAC Mammoth Lakes 74.23 42 ⇑P P 01 19 17.4 -0.5
baz=74,SNR=19
MTUM Tungsten Hills 74.25 43 eP P 01 19 17.7 -0.2
GSC Goldstone 74.26 45 eP P 01 19 17.3 -0.6
GSC pmax pmax
comp=Z,307nm,1.3s
GSC Goldstone 74.26 45 eP P 01 19 17.3 -0.6
comp=Z,307nm,1.3s
GSC Goldstone 74.26 45 ⇓P P 01 19 16.9 -1.0
baz=74,SNR=103
TIN Tinemaha 74.30 43 ⇑P P 01 19 18.0 -0.1
baz=74,SNR=19
BC3 Big Chuckawall 74.30 47 ⇓P P 01 19 17.4 -0.8
baz=74,SNR=52
HEC Hector,Ludlow 74.33 46 ⇓P P 01 19 17.5 -0.8
baz=74,SNR=94
YSS Yuzh-Sakhalins 74.33 330 oeP P 01 19 17.2 -0.7
YSS e 01 19 29.0
YSS e 01 22 07.0
YSS eS S 01 28 52.0 +0.4
YSS ePS PnS 01 29 13.0 -13
YSS ePPS PPS 01 29 34.0
YSS eSSS SSS 01 36 50.0
YSS pmax pmax
comp=Z,80nm,1.0s
YSS pmax pmax
comp=Z,1µm,3.0s
YSS MLR MLR
comp=N,2µm,16.0s
YSS MLR MLR
comp=Z,2µm,16.0s
WAKR Walker 74.36 41 eP P 01 19 18.2 -0.4
comp=Z,436nm,1.4s
YBH Yreka Blue Hor 74.36 37 eP P 01 19 18.4 0.0
comp=Z,401nm,1.2s
YBH Yreka Blue Hor 74.36 37 P P 01 19 18.5 +0.1
comp=Z,226nm,1.1s,baz=233,slow=4.8,SNR=36
GLA Glamis 74.43 48 eP P 01 19 19.1 +0.2
GLA Glamis 74.43 48 eP P 01 19 19.1 +0.2
GLA Glamis 74.43 48 ⇓P P 01 19 18.6 -0.3
baz=75,SNR=38
UGM Wanagama 74.52 266 ⇑P P 01 19 20.1 +0.2
baz=74,SNR=9.5
BEKR Beckworth 74.61 40 eP P 01 19 19.0 -0.9
comp=Z,165nm,1.4s
GMRC Granite Mounta 74.76 46 ⇓P P 01 19 20.2 -0.8
baz=75,SNR=75
HUMO Hull Mountain 74.78 36 eP P 01 19 20.9 +0.2
comp=Z,542nm,1.4s
IRM Iron Mountain 74.79 47 ⇓P P 01 19 20.5 -0.4
baz=75,SNR=84
GRAC Grapevine Rang 74.83 43 ⇓P P 01 19 21.3 +0.2
baz=75,SNR=69
FURC Furnace Creek, 74.87 44 ⇓P P 01 19 20.7 -0.5
baz=75,SNR=50
TUQ Tuquise Moun 74.94 45 ⇓P P 01 19 21.1 -0.8
baz=75,SNR=60
SHOC Shoshone 74.95 45 ⇓P P 01 19 21.2 -0.6
baz=75,SNR=43
Y12C Blythe 75.01 48 ⇑P P 01 19 21.6 -0.6
baz=75,SNR=30
NVAR Mina Array Bea 75.04 42 P P 01 19 22.4 -0.2
NVAR Mina Array Bea 75.04 42 P P 01 19 22.4 -0.2
comp=Z,162nm,1.1s,baz=227,slow=8.5,SNR=80
113A Mohawk Valley, 75.04 49 ⇑P P 01 19 21.9 -0.5
baz=75
YULB Yu-li 75.06 300 eP P 01 19 21.0 -1.7
comp=Z,125nm,1.6s
PAHR Pah Rah Range 75.11 40 eP P 01 19 23.0 +0.2
comp=Z,410nm,1.4s
BTM Bintulu 75.15 278 P P 01 19 23.0 -0.5
NACB Ninganchiao 75.15 301 eP P 01 19 21.7 -1.5
comp=Z,234nm,1.3s
OHAK Old Harbor 75.21 11 eP P 01 19 21.8 -0.9
comp=Z,112nm,1.0s
LDFC Landfair 75.30 46 eP P 01 19 24.3 +0.3
comp=Z,662nm,1.3s
214A Organ Pipe Nat 75.33 50 ⇓P P 01 19 23.6 -0.6
baz=76,SNR=40
SSLB Suanglung 75.51 300 eP P 01 19 23.9 -1.5
comp=Z,69nm,1.2s
TPH Tonopah 75.53 43 PFAKE 01 19 40.0 +15
TPH LR LR
comp=Z,13µm,20.0s
YHNB Yeheng 75.55 301 eP P 01 19 23.9 -1.7
comp=Z,191nm,1.4s
YHNB LR LR
comp=Z,3µm,19.0s
PDMCI Parker Dam,Lak 75.57 47 ⇓P P 01 19 24.7 -0.7
baz=76,SNR=27
TPUB Ta-pu 75.58 300 eP P 01 19 22.9 -2.8
comp=Z,203nm,1.4s
TATO Taipei 75.59 302 PFAKE 01 19 40.0 +14
TATO LR LR
comp=Z,3µm,19.0s
SBUM Sibu 75.75 277 P P 01 19 28.3 +1.5
SBUM Sibu 75.75 277 P P 01 19 27.3 +0.4
comp=Z,96nm,1.3s,comp=Z,2µm
STKI Sintang 75.76 274 P P 01 19 29.0 +2.0
comp=Z,334nm,1.3s,comp=Z,17µm
KDAK Kodiak Island 75.87 11 P P 01 19 29.2 +2.7
comp=Z,942nm,1.4s,SNR=7.7
KDAK Kodiak Island 75.87 11 eP P 01 19 26.0 -0.5
KDAK LR LR
comp=Z,15µm,22.0s
KDAK Kodiak Island 75.87 11 P P 01 19 26.2 -0.3
comp=Z,96nm,1.0s,baz=188,slow=4.3,SNR=17
COR Corvallis 75.87 34 eP P 01 19 27.6 +0.7
COR Corvallis 75.87 34 eP P 01 19 27.6 +0.7
comp=Z,3µm,1.3s
MOD Modoc 75.88 38 eP P 01 19 26.8 -0.4
comp=Z,3µm,1.6s
Z14A Wintersburg 75.94 49 ⇑P P 01 19 27.2 -0.3
baz=76,SNR=40
SHPR Sheep Range 76.04 45 eP P 01 19 27.9 -0.3
comp=Z,512nm,1.4s
K05A Summer Lake 76.04 37 eP P 01 19 28.1 0.0
comp=Z,739nm,1.3s
TGJI Tegal 76.13 267 P P 01 19 30.7 +1.6
comp=Z,217nm,1.3s,comp=Z,5µm
W13A Hualapai Mount 76.17 47 ⇓P P 01 19 28.6 -0.4
baz=76,SNR=44
Y14A Wickenburg 76.19 48 ⇑P P 01 19 28.4 -0.6
baz=76,SNR=50
KPJI Karang Pucung 76.19 266 P P 01 19 36.7 +7.3
H04A Detroit Lake 76.54 35 eP P 01 19 30.1 -0.7
comp=Z,604nm,1.4s
F03A Seaside 76.61 33 eP P 01 19 31.9 +0.8
comp=Z,722nm,1.4s
R11A Troy Canyon, C 76.76 43 eP P 01 19 31.2 -1.1
R11A Troy Canyon, C 76.76 43 ⇓P P 01 19 31.7 -0.7
baz=77
KSRS Korea Array 76.86 316 P P 01 19 32.6 0.0
comp=Z,4.0nm,1.0s,baz=129,slow=5.5,SNR=5.0
KSAR Wonju Array Be 76.88 316 P P 01 19 32.6 -0.1
BMN Battle Mountai 76.88 41 eP P 01 19 32.2 -0.7
BMN pmax pmax
comp=Z,340nm,1.4s
BMN MLR MLR
comp=Z,14µm,20.0s
BMN Battle Mountai 76.88 41 eP P 01 19 32.1 -0.7
comp=Z,340nm,1.4s
BMN LR LR
comp=Z,14µm,20.0s
TUC Tucson 77.00 50 eP P 01 19 33.4 -0.3
TUC pmax pmax
comp=Z,271nm,1.4s
TUC MLR MLR
comp=Z,8µm,22.0s
TUC Tucson 77.00 50 eP P 01 19 33.4 -0.3
comp=Z,271nm,1.4s
TUC LR LR
comp=Z,8µm,22.0s
WVOR Wild Horse Val 77.18 38 eP P 01 19 33.8 -0.7
WVOR pmax pmax
comp=Z,395nm,1.4s
WVOR MLR MLR
comp=Z,17µm,21.0s
WVOR Wild Horse Val 77.18 38 eP P 01 19 33.8 -0.7
comp=Z,396nm,1.4s
WVOR LR LR
comp=Z,17µm,21.0s
KSM Kuching 77.28 275 P P 01 19 36.2 +0.6
KSM Kuching 77.28 275 eP P 01 19 35.4 -0.2
comp=Z,931nm,1.4s
KSM LR LR
comp=Z,2µm,21.0s
KSM Kuching 77.28 275 ⇑P P 01 19 36.2 +0.6
baz=77,SNR=6.1
NLWA Neilton Lookou 77.42 32 eP P 01 19 35.6 0.0
comp=Z,202nm,1.0s
NLWA LR LR
comp=Z,8µm,20.0s
X16A Lo Mia Camp, P 77.55 48 ⇓P P 01 19 36.9 +0.1
baz=78,SNR=45
LEM Lembang 77.58 266 ⇓P P 01 19 37.9 +0.5
baz=78,SNR=3.5
319A Douglas 77.68 52 ⇑P P 01 19 37.0 -0.6
baz=78
INCN Inchon 77.74 315 eP P 01 19 37.9 +0.3
comp=Z,145nm,1.4s
INCN LR LR
comp=Z,2µm,22.0s
G06A Carlson Farm, 77.74 35 eP P 01 19 37.4 -0.2
CCUT Cedar City 77.81 45 eP P 01 19 38.3 0.0
comp=Z,279nm,1.2s
J08A Circle Bar Ran 77.83 38 eP P 01 19 38.2 +0.1
comp=Z,433nm,1.3s
ARUT Antelope Range 77.88 45 eP P 01 19 38.3 -0.3
ARUT Antelope Range 77.88 45 eP P 01 19 38.3 -0.3
comp=Z,5µm,1.3s
QZH Quanzhou 77.95 301 ⇓iP P 01 19 39.6 +0.6
QZH S S 01 29 31.0 -1.4
QZH AMB AMB
comp=Z,2µm,3.5s
QZH LR LR
comp=Z,2µm,11.6s
QZH LR LR
comp=Z,2µm,14.3s
QZH LR LR
comp=Z,5µm,22.0s
U15A North Rim 77.96 46 ⇑P P 01 19 39.3 +0.1
baz=78,SNR=50
LON Longmire 78.06 33 eP P 01 19 38.9 -0.4
LON pmax pmax
comp=Z,301nm,1.6s
LON Longmire 78.06 33 eP P 01 19 38.9 -0.4
comp=Z,301nm,1.6s
WUAZ Wupatki 78.14 47 eP P 01 19 39.5 -0.6
comp=Z,232nm,1.4s
WUAZ LR LR
comp=Z,7µm,21.0s
WUAZ Wupatki 78.14 47 ⇓P P 01 19 40.0 -0.1
baz=78,SNR=39
USRK Ussuriysk Arra 78.16 323 P P 01 19 38.9 -0.9
comp=Z,34nm,1.0s,baz=122,slow=3.7,SNR=11
320A Kipp Ranch, An 78.23 52 ⇑P P 01 19 40.4 -0.3
baz=78,SNR=7.0
D05A Enumclaw 78.25 33 eP P 01 19 40.8 +0.5
comp=Z,911nm,1.4s
ELK Elko 78.30 41 eP P 01 19 39.9 -1.0
comp=Z,168nm,1.2s
RSO Redoubt South 78.36 10 eP P 01 19 39.6 -1.2
PGC Sidney 78.46 31 eP P 01 19 41.0 -0.3
comp=Z,18nm,1.2s
220A Playas Peak, P 78.49 52 ⇓P P 01 19 42.1 0.0
baz=79,SNR=176
SSE Sheshan 78.55 307 P P 01 19 44.7 +2.5
SSE S S 01 29 44.1 +5.5
SSE ScS ScS 01 30 05.5 +2.5
SSE AMB AMB
comp=Z,19nm,0.6s
SSE AMB AMB
comp=Z,350nm,3.9s
SSE LR LR
comp=Z,2µm,29.9s
SSE LR LR
comp=Z,1µm,30.3s
SSE LR LR
comp=Z,1µm,23.0s
SEW Seward 78.63 12 eP P 01 19 39.9 -2.1
comp=Z,313nm,1.6s
X18A Snowflake 78.68 49 ⇓P P 01 19 42.9 -0.2
baz=79,SNR=28
120A U Bar Ranch, L 78.71 51 ⇑P P 01 19 43.3 0.0
baz=79,SNR=42
G08A Pilot Rock 78.71 36 eP P 01 19 42.5 -0.5
comp=Z,492nm,1.4s
LTY Liberty 78.99 34 eP P 01 19 43.9 -0.5
comp=Z,318nm,1.5s
Z20A Nine Sixteen R 79.00 51 ⇑P P 01 19 44.9 0.0
baz=79,SNR=89
HAWA Hanford 79.06 35 eP P 01 19 44.3 -0.4
comp=Z,422nm,1.4s
HAWA LR LR
comp=Z,12µm,20.0s
MVU Marysvale 79.08 44 eP P 01 19 45.4 +0.1
comp=Z,308nm,1.3s
MVU LR LR
comp=Z,14µm,22.0s
221A Mesquite Ranch 79.11 52 ⇑P P 01 19 45.4 0.0
baz=79,SNR=15
W18A Petrified Fore 79.12 48 eP P 01 19 44.9 -0.6
W18A Petrified Fore 79.12 48 ⇓P P 01 19 45.2 -0.3
baz=79,SNR=12
SPU Mount Spurr 79.15 10 eP P 01 19 43.4 -1.5
HABR Khabarovsk 79.16 328 oeP P 01 19 46.2 +1.1
HABR e 01 19 53.6
HABR ePPP PPP 01 24 33.6
HABR eS S 01 29 46.5 +2.1
HABR e'SS sS 01 29 52.1 +0.1
HABR eSS SS 01 34 53.7 +2.5
HABR pmax pmax
comp=Z,1µm,4.2s
HABR MLR MLR
comp=Z,2µm,21.0s
CRAG Craig 79.23 22 eP P 01 19 44.0 -1.4
comp=Z,302nm,1.4s
121A Cookes Peak, D 79.34 52 ⇓P P 01 19 46.7 -0.1
baz=80,SNR=59
BMO Blue Mountains 79.39 37 eP P 01 19 45.6 -1.0
comp=Z,324nm,1.5s
BMO LR LR
comp=Z,12µm,20.0s
MFID Camas Ranch 79.43 39 ⇑P P 01 19 46.4 -0.6
baz=80,SNR=64
Y20A Horse Springs, 79.53 50 ⇑P P 01 19 47.8 0.0
baz=80,SNR=127
DUG Dugway 79.56 43 eP P 01 19 46.9 -0.9
DUG pmax pmax
comp=Z,196nm,1.2s
DUG MLR MLR
comp=Z,13µm,22.0s
DUG Dugway 79.56 43 eP P 01 19 46.9 -0.9
comp=Z,196nm,1.2s
DUG LR LR
comp=Z,13µm,22.0s
DUG Dugway 79.56 43 ⇓P P 01 19 47.1 -0.7
baz=80,SNR=140
222A Williams Famil 79.66 52 ⇑P P 01 19 47.9 -0.6
baz=80
X20A Quemado 79.74 49 ⇑P P 01 19 49.0 0.0
baz=80,SNR=89
Z21A St. Cloud Mine 79.78 51 ⇑P P 01 19 49.4 +0.2
baz=80,SNR=160
MDJ Mudanjiang 79.80 323 P P 01 19 50.7 +2.0
MDJ pP pP 01 19 53.8 +0.4
MDJ sP sP 01 19 55.2 +0.1
MDJ PP PP 01 22 52.9 +2.6
MDJ S S 01 29 56.3 +5.0
MDJ SS SS 01 35 06.0 +5.1
MDJ AMB AMB
comp=Z,30nm,1.2s
MDJ AMB AMB
comp=Z,620nm,5.2s
MDJ LR LR
comp=Z,4µm,31.6s
MDJ LR LR
comp=Z,3µm,30.8s
MDJ LR LR
comp=Z,3µm,23.1s
MDJ Mudanjiang 79.80 323 eP P 01 19 48.6 -0.2
comp=Z,62nm,1.2s
MDJ LR LR
comp=Z,4µm,19.0s
BGU Big Grassy Mou 79.81 42 eP P 01 19 48.2 -0.9
comp=Z,205nm,1.7s
NLU North Lily Min 79.92 43 eP P 01 19 49.0 -0.8
comp=Z,193nm,1.6s
Q16A Castle Valley 79.99 44 eP P 01 19 50.1 -0.1
Q16A Castle Valley 79.99 44 ⇑P P 01 19 50.6 +0.4

	baz=80								
122A	Conniff Cattle	80.00	52	⇑	P		P	01 19 50.3	0.0
	baz=80,SNR=10								
W20A	Ramah	80.01	49	⇓	P		P	01 19 50.4	0.0
	baz=80								
PMR	Palmer	80.06	12		eP		P	01 19 48.6	-1.2
PMR						pmax	pmax		
	comp=Z,389nm,1.5s								
PMR	Palmer	80.06	12		eP		P	01 19 48.6	-1.2
	comp=Z,388nm,1.5s								
Y21A	Point of Rocks	80.10	50	⇑	P		P	01 19 50.9	-0.1
	baz=80,SNR=74								
223A	Chaparral, Ant	80.13	53	⇓	P		P	01 19 50.7	-0.3
	baz=80,SNR=6.5								
TMUT	Trail Mountain	80.16	44		eP		P	01 19 51.2	-0.1
	comp=Z,398nm,1.2s								
X21A	Alamosita Cree	80.21	50	⇑	P		P	01 19 51.4	-0.2
	baz=80,SNR=75								
MPU	Maple Canyon	80.24	43		eP		P	01 19 51.1	-0.4
	comp=Z,171nm,1.3s								
WRAK	Wrangell Islan	80.24	22		eP		P	01 19 50.5	-0.3
	comp=Z,257nm,1.4s								
WRAK						LR	LR		
	comp=Z,8µm,20.0s								
Z22A	Elephant Butte	80.28	51	⇑	P		P	01 19 51.6	-0.3
	baz=80,SNR=96								
DIV	Divide	80.33	13		eP		P	01 19 50.0	-1.3
	comp=Z,241nm,0.9s								
V20A	Brimhall	80.35	48	⇑	P		P	01 19 52.0	-0.3
	baz=80,SNR=32								
HLID	Hailey	80.37	39		eP		P	01 19 51.5	-0.6
	comp=Z,292nm,1.4s								
HLID						LR	LR		
	comp=Z,8µm,21.0s								
HLID	Hailey	80.37	39	⇑	P		P	01 19 52.0	-0.1
	baz=81,SNR=152								
SPUT	South Promonto	80.38	42		eP		P	01 19 51.5	-0.7
	comp=Z,296nm,1.5s								
HVU	Hansel Valley	80.42	41		eP		P	01 19 51.6	-0.8
HVU						pmax	pmax		
	comp=Z,124nm,1.1s								
HVU	Hansel Valley	80.42	41		eP		P	01 19 51.6	-0.8
	comp=Z,124nm,1.1s								
BMRM	Bremner River	80.45	14		eP		P	01 19 50.8	-1.2
	comp=Z,493nm,1.3s								
CTU	Camp Tracy	80.51	43		eP		P	01 19 52.6	-0.3
	comp=Z,176nm,1.2s								
SRU	San Rafael	80.52	45		eP		P	01 19 52.4	-0.7
SRU						pmax	pmax		
	comp=Z,183nm,1.1s								
SRU	San Rafael	80.52	45		eP		P	01 19 52.4	-0.7
	comp=Z,183nm,1.1s								
123A	Bell Site, Whi	80.53	52	⇓	P		P	01 19 52.9	-0.3
	baz=81								
U20A	Newcomb	80.58	48	⇑	P		P	01 19 53.1	-0.3
	baz=81,SNR=48								
Y22A	Socorro	80.59	51	⇓	P		P	01 19 53.2	-0.3
	baz=81,SNR=52								
324A	Moseley Ranch,	80.61	53	⇑	P		P	01 19 53.0	-0.7
	baz=81,SNR=72								
W21A	San Fidel	80.62	49	⇓	P		P	01 19 53.5	-0.2
	baz=81,SNR=9.3								
JLU	Jordanelle	80.66	43		eP		P	01 19 53.0	-0.8
	comp=Z,208nm,1.4s								
LAZ	Ladron	80.67	50		eP		P	01 19 53.9	-0.1
	comp=Z,110nm,1.6s								
Y22D	IRIS PASSCAL I	80.68	50	⇓	P		P	01 19 53.7	-0.2
	baz=81,SNR=9.6								
LENM	Lemitar	80.68	50		eP		P	01 19 53.9	-0.1
	comp=Z,85nm,1.2s								
DAU	Daniels Canyon	80.69	43		eP		P	01 19 53.8	-0.3
DAU						pmax	pmax		
	comp=Z,200nm,1.4s								
DAU	Daniels Canyon	80.69	43		eP		P	01 19 53.8	-0.3
	comp=Z,200nm,1.4s								
425A	Indio Mountain	80.71	54	⇑	P		P	01 19 53.7	-0.5
	baz=81,SNR=73								
PPLA	Purkeypile	80.74	10		eP		P	01 19 52.5	-1.1
	comp=Z,142nm,1.4s								
NJ2	Nanjing	80.75	307		eP		P	01 19 56.1	+1.9
NJ2					pP		PcP	01 20 00.5	-0.4
NJ2					sP		sP	01 20 02.6	+2.1
NJ2					PP		PP	01 22 59.0	+0.4
NJ2					S		S	01 30 02.5	+0.6
NJ2					sS		sS	01 30 07.5	-2.1
NJ2					SS		SS	01 35 17.0	+1.2
NJ2					AMB		AMB		
	comp=Z,40nm,1.4s								
NJ2					AMB		AMB		
	comp=Z,550nm,4.2s								
NJ2					LR		LR		
	comp=Z,2µm,23.0s								
NJ2					LR		LR		
	comp=Z,2µm,20.7s								
NJ2					LR		LR		
	comp=Z,11µm,23.8s								
MNTX	Cornudas Mount	80.80	53		eP		P	01 19 53.8	-0.7
	comp=Z,129nm,1.3s								
MNTX						LR	LR		
	comp=Z,8µm,20.0s								
X22A	Bernardo	80.81	50	⇑	P		P	01 19 55.4	+0.8
	baz=81,SNR=28								
Z23A	Rita Site, Whi	80.83	51	⇑	P		P	01 19 54.5	-0.3
	baz=81,SNR=43								
224A	Cornudas Mount	80.85	53	⇓	P		P	01 19 54.2	-0.8
	baz=81,SNR=80								
626A	Big Bend Ranch	80.86	56	⇓	P		P	01 19 54.5	-0.5
	baz=81,SNR=58								
BNM	Barren Site	80.93	51		eP		P	01 19 54.9	-0.5
	comp=Z,137nm,1.3s								
V21A	Milan	80.95	49		P		P	01 19 54.6	-0.8
	baz=81								
325A	Bean Ranch, Si	80.97	54		P		P	01 19 54.6	-1.0
	baz=81								
MVCO	Mesa Verde	80.99	47		eP		P	01 19 54.9	-0.8
	comp=Z,60nm,1.1s								
MVCO						LR	LR		
	comp=Z,10µm,22.0s								
MVCO	Mesa Verde	80.99	47	⇑	P		P	01 19 54.6	-1.1
	baz=81,SNR=15								
LPM	Los Pinos Moun	81.00	50		eP		P	01 19 55.2	-0.5
	comp=Z,96nm,1.2s								
HWUT	Hardware Ranch	81.11	42		eP		P	01 19 55.0	-1.2
	comp=Z,189nm,1.5s								
HWUT						LR	LR		
	comp=Z,16µm,20.0s								
526A	Mary Lane Ranc	81.11	55	⇓	P		P	01 19 55.8	-0.6
	baz=81,SNR=60								
TXAR	Lajitas Array	81.14	56		P		P	01 19 56.1	-0.4
TXAR	Lajitas Array	81.14	56		P		P	01 19 56.1	-0.4
	comp=Z,88nm,1.2s,baz=227,slow=5.0,SNR=52								
W22A	Albuquerque	81.17	50	⇓	P		P	01 19 56.6	0.0
	baz=81,SNR=14								
124A	Stringfield Ra	81.17	52	⇓	P		P	01 19 56.1	-0.6
	baz=81,SNR=68								
U21A	Nageezi	81.22	48	⇑	P		P	01 19 56.7	-0.2
	baz=81,SNR=116								
Y23A	Lovelace Mesa,	81.26	51	⇓	P		P	01 19 56.3	-0.8
	baz=81,SNR=50								
KLR	Kul'dur	81.33	327		eP		P	01 19 54.2	-2.7
KLR					eS		S	01 30 07.5	+0.2
KLR						pmax	pmax		
	comp=Z,400nm,2.8s								
KLR						pmax	pmax		
	comp=Z,2µm,11.0s								
KLR						smax	smax		
	comp=N,2µm,12.0s								
KLR						smax	smax		
	comp=E,2µm,12.0s								
PV01	Paradox Valley	81.38	46		eP		P	01 19 56.8	-1.0
	comp=E,26µm,1.3s								
S20A	Disappointment	81.38	47	⇓	P		P	01 19 57.6	-0.1
	baz=82,SNR=108								
225A	Deer Hill, Car	81.40	53	⇓	P		P	01 19 57.2	-0.7
	baz=82,SNR=85								
426A	McDonald Obser	81.41	55	⇑	P		P	01 19 57.5	-0.5
	baz=82,SNR=91								
627A	Terlingua Ranc	81.41	56	⇑	P		P	01 19 57.5	-0.5
	baz=82,SNR=92								
ANMO	Albuquerque	81.42	50		eP		P	01 19 57.3	-0.6
	comp=E,548nm,2.0s								
ANMO						LR	LR		
	comp=Z,6µm,20.0s								
X23A	Hourglass Bar	81.45	50	⇑	P		P	01 19 57.3	-0.8
	baz=82,SNR=33								
NEW	Newport	81.50	34		eP		P	01 19 56.4	-1.4
	comp=Z,186nm,1.5s								
NEW						LR	LR		
	comp=Z,11µm,20.0s								
NEW	Newport	81.50	34	⇓	P		P	01 19 56.4	-1.4
	baz=82,SNR=55								
Z24A	Sheeppen Canyo	81.52	52	⇓	P		P	01 19 58.0	-0.5
	baz=82,SNR=31								
527A	Woodward Ranch	81.52	55	⇑	P		P	01 19 57.7	-0.8
	baz=82,SNR=49								
V22A	San Miguel Ran	81.52	49	⇓	P		P	01 19 57.9	-0.6
	baz=82,SNR=35								
R20A	Redvale	81.54	46	⇓	P		P	01 19 58.0	-0.6
	baz=82,SNR=92								
T21A	Navajo Lake	81.57	48	⇑	P		P	01 19 58.2	-0.5
	baz=82,SNR=64								
TRF	Thorofare Moun	81.57	10		eP		P	01 19 56.4	-1.6
	comp=Z,639nm,1.7s								
M17A	Scullys Gap (B	81.62	42	⇑	P		P	01 19 57.8	-1.1
	baz=82,SNR=17								
GZH	Guangzhou	81.64	297		P		P	01 20 03.2	+4.1
GZH					S		S	01 30 14.8	+3.3
GZH					LR		LR		
	comp=Z,2µm,19.0s								
GZH					LR		LR		
	comp=Z,3µm,21.8s								
SKAG	Skagway	81.65	19		eP		P	01 19 58.3	0.0
	comp=Z,273nm,1.4s								
326A	Caldwell Ranch	81.72	54	⇓	P		P	01 19 58.2	-1.3
	baz=82,SNR=12								
Y24A	Capitan	81.72	51	⇑	P		P	01 19 59.0	-0.6
	baz=82,SNR=66								
W23A	Werner Place,	81.74	50	⇑	P		P	01 19 59.4	-0.3
	baz=82,SNR=52								
125A	Gardner Draw,	81.76	53	⇑	P		P	01 19 59.0	-0.7
	baz=82,SNR=58								
U22A	Llaves	81.78	48	⇑	P		P	01 19 59.4	-0.5
	baz=82,SNR=54								
TNA	Tin City	81.79	2		eP		P	01 19 58.6	-0.3
	comp=Z,472nm,1.4s								
GDL2	Guadalupe Moun	81.79	53		eP		P	01 20 00.0	+0.1
	comp=Z,98nm,1.2s								
P19A	Cripple Cowboy	81.82	45	⇑	P		P	01 19 59.7	-0.4
	baz=82,SNR=61								
628A	Black Gap, Mar	81.83	56	⇓	P		P	01 19 59.5	-0.5
	baz=82,SNR=58								
CN2	Changchun	81.83	320		eP		P	01 19 59.2	-0.5
CN2					epP		pP	01 20 03.9	-0.4
CN2					esP		sP	01 20 06.2	+0.2
CN2					PP		PP	01 23 10.0	+2.8
CN2					eS		S	01 30 13.1	+0.5
CN2					AMB		AMB		
	comp=Z,30nm,0.8s								
CN2					AMB		AMB		
	comp=Z,1µm,4.0s								
CN2					LR		LR		
	comp=Z,3µm,16.0s								
CN2					LR		LR		
	comp=Z,2µm,16.0s								
CN2					LR		LR		
	comp=Z,4µm,17.0s								
DL2	Dalian	81.86	314		P		P	01 20 00.1	+0.2
DL2					S		S	01 30 15.1	+2.0
DL2					AMB		AMB		
	comp=Z,63nm,1.7s								
DL2					AMB		AMB		
	comp=Z,1µm,3.7s								
DL2					LR		LR		
	comp=Z,930nm,13.9s								
DL2					LR		LR		
	comp=Z,930nm,19.0s								
226B	Tecolote Peak,	81.89	53	⇑	P		P	01 19 59.5	-0.9
	baz=82,SNR=124								
Q20A	Ridgley Place,	81.96	46	⇓	P		P	01 20 00.2	-0.5
	baz=82,SNR=197								
V23A	Ortiz Mt. (NFS	81.97	49	⇓	P		P	01 20 01.0	+0.1
	baz=82,SNR=92								
427A	Hayter Ranch,	81.97	55	⇓	P		P	01 20 00.2	-0.6
	baz=82,SNR=50								
Z25A	Roswell	81.98	52	⇓	P		P	01 20 00.4	-0.5
	baz=82,SNR=42								
SNY	Shenyang	82.00	318	⇓	P		P	01 19 59.5	-1.0
SNY					S		S	01 30 20.3	+5.9
SNY					AMB		AMB		
	comp=Z,41nm,2.5s								
SNY					AMB		AMB		
	comp=Z,1µm,3.5s								
SNY					LR		LR		
	comp=Z,2µm,16.7s								
SNY					LR		LR		
	comp=Z,2µm,17.7s								
SNY					LR		LR		
	comp=Z,2µm,21.1s								
AHID	Auburn Hatcher	82.00	41		eP		P	01 20 01.4	+0.6
	comp=Z,200nm,1.3s								
AHID					LR		LR		
	comp=Z,13µm,20.0s								
X24A	Lazy VL Ranch,	82.00	51	⇑	P		P	01 20 00.3	-0.7
	baz=82,SNR=10								
MCMT	McKenzie Canyo	82.00	39		eP		P	01 20 00.4	-0.4
	comp=Z,147nm,1.4s								
T22A	Edith	82.03	48	⇑	P		P	01 20 00.7	-0.5
	baz=82,SNR=93								
PAX	Paxson	82.05	12		eP		P	01 19 59.0	-1.5
PAX						pmax	pmax		
	comp=Z,239nm,1.6s								
PAX	Paxson	82.05	12		eP		P	01 19 59.0	-1.5
	comp=Z,239nm,1.6s								
O19A	Miners Draw (B	82.05	44	⇑	P		P	01 20 00.6	-0.5
	baz=82,SNR=36								
BPAW	Bear Paw Mtn.	82.06	10		eP		P	01 19 57.9	-2.6
	comp=Z,214nm,1.7s								
MCK	McKinley	82.07	11		eP		P	01 19 59.1	-1.4
MCK						pmax	pmax		
	comp=Z,255nm,1.0s								
MCK	McKinley	82.07	11		eP		P	01 19 59.0	-1.4
	comp=Z,254nm,1.0s								
327A	Balmorhea Ranc	82.12	54	⇑	P		P	01 20 00.5	-1.0
	baz=82								
P20A	De Beque	82.16	45	⇑	P		P	01 20 01.5	-0.2
	baz=82,SNR=88								
RRI2	Red Ridge	82.16	41		eP		P	01 20 01.0	-0.8
	comp=Z,407nm,1.4s								
528A	Cox Ranch, San	82.18	56	⇑	P		P	01 20 01.3	-0.7
	baz=82,SNR=53								
R21A	Cimarron	82.20	46	⇓	P		P	01 20 01.8	-0.3
	baz=82,SNR=159								
U23A	El Rito	82.23	49	⇑	P		P	01 20 02.0	-0.3
	baz=82,SNR=181								
126A	Clayton Basin,	82.24	53	⇑	P		P	01 20 01.7	-0.5
	baz=82,SNR=41								
L18A	Fontenelle, Gr	82.25	42	⇑	P		P	01 20 01.3	-0.9
	baz=82,SNR=23								
Y25A	Mesa, Roswell	82.28	51	⇓	P		P	01 20 01.5	-1.0
	baz=82,SNR=62								
W24A	Lazy 6 Ranch,	82.31	50	⇑	P		P	01 20 01.7	-0.9
	baz=82,SNR=98								
MENT	Mentasta	82.39	13		eP		P	01 20 01.5	-0.7
Q21A	Lamborn Mesa,	82.40	46	⇑	P		P	01 20 02.9	-0.2
	baz=83,SNR=64								
S22A	4UR Ranch, Cre	82.42	47	⇑	P		P	01 20 03.1	-0.1
	baz=83,SNR=241								
DLMT	Dillon	82.44	38		eP		P	01 20 02.4	-0.7
	comp=Z,263nm,1.3s								
MSO	Missoula	82.45	37	⇓	P		P	01 20 01.7	-1.3
	baz=83,SNR=100								
REDW	Red Top Meadow	82.46	41		eP		P	01 20 02.6	-0.6
	comp=Z,502nm,1.4s								
TPAW	Teton Pass	82.46	41		eP		P	01 20 02.9	-0.5
	comp=Z,256nm,1.2s								
428A	Kincaid Ranch,	82.49	55	⇓	P		P	01 20 03.3	-0.3
	baz=83,SNR=46								
Z26A	Caprock	82.54	52	⇓	P		P	01 20 02.8	-1.0
	baz=83,SNR=63								
227A	Bennet, Jal	82.54	54	⇓	P		P	01 20 02.8	-0.9
	baz=83,SNR=6.3								
BSMT	Bassoo Peak	82.54	35		eP		P	01 20 02.6	-1.0
	comp=Z,428nm,1.6s								
X25A	Clemmons Ranch	82.56	51	⇑	P		P	01 20 03.1	-0.8
	baz=83,SNR=12								
O20A	White River Ci	82.56	45		eP		P	01 20 03.2	-0.6
O20A	White River Ci	82.56	45	⇓	P		P	01 20 03.3	-0.6
	baz=83,SNR=65								
SNOW	Snow King Moun	82.57	41		eP		P	01 20 03.4	-0.5
	comp=Z,377nm,1.3s								
DLBC	Dease Lake	82.60	21		eP		P	01 20 02.7	-0.7
529A	Stev Forest Ra	82.61	56	⇓	P		P	01 20 03.4	-0.8
	baz=83,SNR=11								
M19A	Rock Springs	82.62	43	⇑	P		P	01 20 03.2	-0.9
	baz=83,SNR=45								
V24A	Rampart Ranch,	82.63	50	⇑	P		P	01 20 03.6	-0.7
	baz=83,SNR=42								
328A	Wristen Ranch,	82.66	54	⇓	P		P	01 20 02.8	-1.6
	baz=83,SNR=37								
T23A	Casias Ranch,	82.66	48	⇑	P		P	01 20 03.7	-0.8
	baz=83,SNR=45								
IMW	Indian Meadow	82.68	40		eP		P	01 20 03.9	-0.6
	comp=Z,368nm,1.3s								
R22A	Saguache, Gunn	82.69	47		P		P	01 20 03.7	-1.0
	baz=83								
MOOW	Moose Ponds	82.72	40		eP		P	01 20 04.0	-0.7
	comp=Z,191nm,1.4s								
LOHW	Long Hollow	82.74	41		eP		P	01 20 03.7	-1.0
	comp=Z,293nm,1.4s								
127A	Arkansas Junct	82.76	53	⇑	P		P	01 20 03.7	-1.3
	baz=83,SNR=25								
LRM	Limekiln Ridge	82.77	38		eP		P	01 20 03.8	-1.0
	comp=Z,2µm,1.5s								
L19A	Farson	82.78	42		P		P	01 20 04.0	-0.9
	baz=83								
P21A	Newcastle	82.81	45	⇓	P		P	01 20 04.4	-0.8
	baz=83,SNR=99								
QLMT	Earthquake Lak	82.86	39		eP		P	01 20 05.2	-0.1
	comp=Z,57nm,1.4s								
Q22A	Crested Butte,	82.88	46	⇓	P		P	01 20 05.7	0.0
	baz=83,SNR=193								
N20A	Spence Gulch,	82.88	44	⇑	P		P	01 20 04.8	-0.7
	baz=83,SNR=119								
CHMT	Chamberlain Mo	82.89	37		eP		P	01 20 03.9	-1.5
	comp=Z,129nm,1.2s								
I17A	Pilgrim Ck.	82.92	40	⇓	P		P	01 20 05.8	+0.1
	baz=83,SNR=18								
FLWY	Flagg Ranch	82.92	40		eP		P	01 20 05.4	-0.3
	comp=Z,396nm,1.2s								
U24A	Moreno Valley	82.93	49	⇓	P		P	01 20 05.8	-0.1
	baz=83,SNR=18								
Y26A	Elida	82.93	52	⇑	P		P	01 20 05.0	-0.9
	baz=83,SNR=12								
SLMT	Seeley Lake	82.93	36		eP		P	01 20 03.3	-2.3
	comp=Z,125nm,1.4s								
SMCO	Snowmass	82.98	46		eP		P	01 20 05.6	-0.7
	comp=Z,382nm,1.3s								
BW06	Boulder Array	82.98	42		eP		P	01 20 04.6	-1.4
	comp=Z,258nm,1.4s								
BW06						LR	LR		
	comp=Z,17µm,20.0s								
PDAR	Pinedale Array	82.98	42		P		P	01 20 04.8	-1.2
PDAR	Pinedale Array	82.98	42		P		P	01 20 04.8	-1.2
	comp=Z,112nm,1.1s,baz=215,slow=3.4,SNR=125								
S23A	Nye Farm, Mont	82.98	48	⇓	P		P	01 20 05.8	-0.4
	baz=83								
W25A	X Bar L Ranch,	83.01	50	⇑	P		P	01 20 05.2	-1.0
	baz=83,SNR=118								
YFT	Old Faithful	83.03	40		eP		P	01 20 06.0	-0.2
	comp=Z,255nm,1.3s								
YMR	Madison River	83.06	40		eP		P	01 20 06.6	+0.3
	comp=Z,850nm,1.6s								
429A	Davenport Ranc	83.07	55	⇑	P		P	01 20 05.3	-1.3
	baz=83,SNR=62								
O21A	Pagoda	83.12	45	⇑	P		P	01 20 06.1	-0.7
	baz=83,SNR=14								
228A	UT Block 9, Go	83.12	54	⇓	P		P	01 20 06.0	-0.8
	baz=83,SNR=19								
Z27A	Tatum	83.14	53	⇓	P		P	01 20 05.6	-1.3
	baz=83,SNR=47								
T24B	San Luis	83.14	48	⇓	P		P	01 20 07.1	+0.1
	baz=83,SNR=69								
H17A	Grant Village	83.16	40		eP		P	01 20 07.2	+0.3
H17A	Grant Village	83.16	40	⇓	P		P	01 20 07.0	+0.1
	baz=83,SNR=47								
V25A	Rancho No Teng	83.16	50	⇑	P		P	01 20 06.3	-0.7
	baz=83,SNR=182								
BOZ	Bozeman (W)	83.17	38		eP		P	01 20 05.9	-0.9
BOZ						pmax	pmax		
	comp=Z,336nm,1.4s								
BOZ						MLR	MLR		
	comp=Z,11µm,20.0s								
BOZ	Bozeman (W)	83.17	38		eP		P	01 20 05.9	-0.9
	comp=Z,336nm,1.4s								
BOZ						LR	LR		
	comp=Z,11µm,20.0s								
PAYG	Puerto Ayora	83.19	89			PFAKE		01 20 20.0	+13
PAYG						LR	LR		
	comp=Z,3µm,19.0s								
X26A	CR and CF Fran	83.20	51	⇑	P		P	01 20 06.1	-1.1
	baz=83,SNR=31								
KSI	Kapahiang	83.25	268		P		P	01 20 00.6	-7.2
M20A	Sweetwater, Wa	83.25	43	⇑	P		P	01 20 06.8	-0.6
	baz=83,SNR=73								
YNR	Norris Junctio	83.26	40		eP		P	01 20 07.3	-0.1
	comp=Z,303nm,1.4s								
QIZ	Qiongzhong	83.28	292		P		P	01 20 06.4	-1.3
QIZ					pP		PcP	01 20 10.0	-2.2
QIZ					sP		sP	01 20 12.5	-1.6
QIZ					S		S	01 30 27.6	-0.8
QIZ					sS		SKKSac	01 30 34.7	+0.3
QIZ					AMB		AMB		
	comp=Z,470nm,11.1s								
QIZ					LR		LR		
	comp=Z,800nm,21.5s								
QIZ					LR		LR		
	comp=Z,930nm,23.4s								
QIZ					LR		LR		
	comp=Z,3µm,25.9s								
QIZ	Qiongzhong	83.28	292			PFAKE		01 20 20.0	+12
QIZ						LR	LR		
	comp=Z,2µm,20.0s								
PMSA	Palmer Station	83.29	156		eP		P	01 20 07.5	+0.5
	comp=Z,410nm,1.8s								
PMSA						LR	LR		
	comp=Z,5µm,19.0s								
COLA	College	83.31	11		eP		P	01 20 05.5	-1.3
COLA						MLR	MLR		
	comp=Z,10µm,20.0s								
COLA	College	83.31	11		eP		P	01 20 05.5	-1.3
	comp=Z,1µm,1.3s								
COLA						LR	LR		
	comp=Z,10µm,20.0s								
P22A	Eagle	83.32	46	⇓	P		P	01 20 07.1	-0.7
	baz=84,SNR=108								
530A	J-C Ranch, Com	83.32	56	⇑	P		P	01 20 06.8	-1.1
	baz=84,SNR=30								
R23A	Moffat	83.33	47	⇓	P		P	01 20 07.3	-0.6
	baz=84,SNR=90								
329A	Wagon Wheel Ra	83.35	55	⇓	P		P	01 20 07.1	-0.9
	baz=84,SNR=47								
LKWY	Lake	83.35	40		eP		P	01 20 07.9	-0.1
LKWY						pmax	pmax		
	comp=Z,338nm,1.2s								
LKWY						MLR	MLR		
	comp=Z,10µm,20.0s								
LKWY	Lake	83.35	40		eP		P	01 20 07.8	-0.1
	comp

comp=Z,275nm,1.0s
Q23A Hartsel 83.64 47 ⇑P P 01 20 09.1 -0.5
baz=84,SNR=6.5
WHN Wuhan 83.64 304 ⇑P P 01 20 12.1 +2.7
WHN S S 01 30 36.3 +4.6
WHN LR LR
comp=Z,7μm,18.2s
WHN LR LR
comp=Z,960nm,13.6s
WHN LR LR
comp=Z,3μm,15.2s
631A Perdido Creek 83.65 57 ⇑P P 01 20 08.5 -1.0
baz=84,SNR=35
430A Baggett Ranch, 83.66 56 ⇑P P 01 20 08.4 -1.2
baz=84,SNR=12
WALA Waterton Lakes 83.70 35 *e*P P 01 20 08.2 -1.2
comp=Z,11nm,1.6s
K20A Yellowstone Ra 83.71 42 ⇓P P 01 20 08.4 -1.3
baz=84,SNR=133
O22A Kremmling 83.72 45 ⇓P P 01 20 09.4 -0.6
baz=84,SNR=242
MSTX Muleshoe 83.74 52 *e*P P 01 20 09.5 -0.5
MSTX Muleshoe 83.74 52 ⇑P P 01 20 09.0 -1.0
baz=84,SNR=75
V26A Tequesquite Ra 83.75 50 ⇓P P 01 20 08.9 -1.2
baz=84,SNR=42
Z28A Tucker Farm, M 83.76 53 ⇑P P 01 20 08.9 -1.2
baz=84,SNR=62
X27A F and S Farms, 83.78 51 ⇑P P 01 20 09.2 -1.0
baz=84,SNR=40
TIA Tai'an 83.84 310 ⇑P P 01 20 15.2 +4.9
TIA S S 01 30 40.4 +6.9
TIA LR LR
comp=Z,2μm,21.6s
TIA LR LR
comp=Z,2μm,17.1s
TIA LR LR
comp=Z,3μm,16.2s
M21A Separation Pea 83.85 44 ⇓P P 01 20 09.3 -1.3
baz=84,SNR=103
P23A Jefferson 83.85 46 ⇑P P 01 20 09.2 -1.5
baz=84,SNR=71
R24A Sanders Place, 83.85 47 ⇓P P 01 20 10.0 -0.6
baz=84,SNR=72
H18A Shoshone NF, C 83.86 40 ⇑P P 01 20 09.6 -0.9
baz=84,SNR=44
T25A Trinidad 83.87 49 ⇑P P 01 20 09.5 -1.2
baz=84,SNR=53
732A Laxson Ranch, 83.88 58 ⇓P P 01 20 09.6 -1.0
baz=84,SNR=14
129A Stewart Farms, 83.89 54 ⇑P P 01 20 09.9 -0.8
baz=84,SNR=18
330A Mertzon 83.95 55 ⇑P P 01 20 09.6 -1.4
baz=84,SNR=10
531A Rocksprings 83.96 56 P P 01 20 10.1 -1.0
baz=84
I19A Meeteetse 83.96 41 ⇓P P 01 20 10.3 -0.7
baz=84,SNR=113
W27A Bowe Ranch, En 83.98 51 ⇑P P 01 20 10.1 -1.1
baz=84,SNR=105
L21A Rawlins 84.01 43 ⇓P P 01 20 10.1 -1.2
baz=84,SNR=73
U26A Atchley Ranch, 84.03 50 ⇓P P 01 20 10.6 -1.0
baz=84,SNR=115
N22A Wattenberg Ran 84.08 45 ⇓P P 01 20 11.4 -0.4
baz=84,SNR=89
S25A Robets Cordova 84.08 48 ⇑P P 01 20 10.7 -1.1
baz=84
431A Sonora 84.11 56 ⇓P P 01 20 10.3 -1.6
baz=84,SNR=12
Y28A McKinney Farm, 84.12 52 ⇑P P 01 20 10.9 -1.0
baz=84,SNR=22
KGM Kluang 84.13 274 P P 01 20 15.1 +2.8
Q24A Divide 84.15 47 ⇑P P 01 20 11.4 -0.8
baz=84,SNR=122
O23A Lake Granby, G 84.17 45 ⇓P P 01 20 11.5 -0.8
baz=84,SNR=37
230A Sterling City 84.19 55 ⇑P P 01 20 11.1 -1.1
baz=84,SNR=5.7
ISCO Idaho Springs 84.20 46 *e*P P 01 20 11.6 -0.8
ISCO pmax pmax
comp=Z,179nm,1.6s
ISCO MLR MLR
comp=Z,8μm,21.0s
ISCO Idaho Springs 84.20 46 *e*P P 01 20 11.6 -0.8
comp=Z,179nm,1.6s
ISCO LR LR
comp=Z,8μm,21.0s
ISCO Idaho Springs 84.20 46 ⇑P P 01 20 11.8 -0.6
baz=84,SNR=45
J20A Shoshoni 84.21 42 ⇑P P 01 20 11.5 -0.7
baz=84,SNR=165
M22A Cedar Creek Ra 84.26 44 ⇑P P 01 20 11.6 -1.1
baz=84,SNR=52
Z29A Hungry Hill Ra 84.27 53 ⇑P P 01 20 11.2 -1.4
baz=84,SNR=62
H19A Powell 84.28 40 ⇑P P 01 20 12.3 -0.2
baz=84,SNR=98
632A Uvalde 84.32 57 ⇓P P 01 20 11.8 -1.1
baz=84,SNR=34
RLMT Red Lodge 84.33 40 PFAKE 01 20 20.0 +7.1
RLMT LR LR
comp=Z,7μm,22.0s
DAWY Dawson 84.36 14 *e*P P 01 20 11.7 -0.6
R25A Fountain Ranch 84.40 48 ⇑P P 01 20 12.4 -0.9
baz=85,SNR=40
K21A Alcova 84.40 43 ⇓P P 01 20 12.1 -1.2
baz=85,SNR=185
X28A Dimmitt 84.40 52 ⇓P P 01 20 12.2 -1.1
baz=85,SNR=6.8
RGRI Rengat 84.41 271 P P 01 20 14.3 +0.6
comp=Z,314nm,1.9s
GCMT Greycliff 84.42 39 *e*P P 01 20 12.7 -0.5
comp=Z,227nm,1.4s
V27A Dan Oppiter Fa 84.44 50 ⇑P P 01 20 12.4 -1.1
baz=85
532A Rocksprings 84.46 57 ⇑P P 01 20 12.6 -1.0
baz=85,SNR=30
N23A Red Feather La 84.47 45 ⇓P P 01 20 13.1 -0.6
baz=85,SNR=67
I20A Worland 84.47 41 ⇓P P 01 20 12.7 -0.7
baz=85,SNR=126
T26A Comanche Natio 84.48 49 P P 01 20 12.5 -1.3
baz=85
331A San Angelo 84.50 55 ⇑P P 01 20 12.3 -1.5
baz=85,SNR=14
Y29A Porterfield Fa 84.54 53 ⇓P P 01 20 13.1 -0.9
baz=85,SNR=55
P24A Kohler Place, 84.56 46 ⇓P P 01 20 13.6 -0.5
baz=85,SNR=8.0
EGAK Eagle 84.56 13 *e*P P 01 20 12.4 -0.9
EGAK LR LR
comp=Z,210nm,1.3s
comp=Z,10μm,20.0s
130A Snyder 84.58 54 ⇓P P 01 20 13.1 -1.1
baz=85,SNR=8.7
J21A Lysite 84.61 42 ⇑P P 01 20 13.4 -0.9
baz=85,SNR=41
L22A Ellis Ranch, M 84.66 44 ⇓P P 01 20 14.0 -0.6
baz=85,SNR=75
JCT Junction City 84.68 56 *e*P P 01 20 13.4 -1.3
JCT pmax pmax
comp=Z,27nm,0.9s
JCT MLR MLR
comp=Z,7μm,21.0s
JCT Junction City 84.68 56 *e*P P 01 20 13.4 -1.3
comp=Z,27nm,0.9s
JCT LR LR
comp=Z,7μm,21.0s
JCT Junction City 84.68 56 ⇑P P 01 20 13.1 -1.6
baz=85
W28A Vega 84.70 51 ⇓P P 01 20 13.3 -1.5
baz=85,SNR=7.2
O24A Longmont 84.71 46 ⇓P P 01 20 13.8 -1.1
baz=85,SNR=11
U27A Thompson Grove 84.72 50 ⇑P P 01 20 13.5 -1.4
baz=85,SNR=37
Z30A Sanderson Ranc 84.72 53 ⇑P P 01 20 13.4 -1.5
baz=85,SNR=36
X29A Tulia 84.75 52 ⇓P P 01 20 14.2 -0.9
baz=85,SNR=13
S26A Kim 84.75 48 ⇓P P 01 20 13.6 -1.5
baz=85,SNR=83
Q25A Bedland, Calha 84.76 47 ⇑P P 01 20 13.8 -1.3
baz=85,SNR=16
H20A Greybull 84.81 41 ⇓P P 01 20 13.8 -1.3
baz=85,SNR=81
231A Bronte 84.83 55 ⇓P P 01 20 13.8 -1.6
baz=85,SNR=28
432A Menard 84.83 56 ⇓P P 01 20 13.9 -1.6
baz=85,SNR=17
M23A Laramie 84.88 44 ⇑P P 01 20 14.5 -1.2
baz=85,SNR=52
K22A Casper 84.89 43 ⇑P P 01 20 14.4 -1.3
baz=85,SNR=62
V28A Channing 84.89 51 ⇑P P 01 20 14.4 -1.3
baz=85,SNR=8.3
F19A Roth Farm, Mol 84.89 39 ⇓P P 01 20 14.7 -0.9
baz=85,SNR=90
I21A Big Trails, Te 84.93 42 ⇑P P 01 20 14.7 -1.2
baz=85,SNR=161
PHWY Pilot Hill 84.98 45 *e*P P 01 20 16.7 +0.4
comp=Z,85nm,1.1s
G20A Bridger 85.03 40 ⇑P P 01 20 15.2 -1.1
baz=85,SNR=32
131A Roby 85.06 54 ⇓P P 01 20 15.4 -1.2
baz=85,SNR=12
R26A Arlington 85.06 48 ⇑P P 01 20 15.3 -1.3
baz=85,SNR=87
T27A Campo 85.06 49 ⇑P P 01 20 15.4 -1.3
baz=85,SNR=20
W29A Amraillo 85.06 51 ⇑P P 01 20 15.5 -1.1
baz=85,SNR=44
332A Millersview 85.07 55 ⇑P P 01 20 15.4 -1.3
baz=85,SNR=57
P25A Willow Gulch B 85.07 47 ⇓P P 01 20 15.9 -0.8
baz=85,SNR=21
COLD Coldfoot 85.10 9 *e*P P 01 20 15.7 -0.2
comp=Z,389nm,1.6s
Y30A Stafford Cattl 85.13 53 ⇓P P 01 20 15.8 -1.2
baz=85,SNR=20
U28A Mallet 85.14 50 ⇑P P 01 20 15.5 -1.5
baz=85,SNR=12
KVTX Kingsville 85.15 60 PFAKE 01 20 30.0 +13
KVTX LR LR
comp=Z,3μm,20.0s
N24A Carr 85.16 45 ⇓P P 01 20 16.2 -0.8
baz=85,SNR=19
L23A Garrett 85.18 44 ⇑P P 01 20 15.6 -1.7
baz=85,SNR=99
S27A Las Animas 85.19 49 ⇓P P 01 20 15.8 -1.5
baz=85
CHRN Cochrane 85.20 138 *e*P P 01 20 19.9 +2.9
KTGM Kuala Trenggan 85.25 277 P P 01 20 20.2 +2.3
J22A Midwest 85.27 42 ⇓P P 01 20 16.3 -1.2
baz=86,SNR=151
Q26A Hugo 85.27 47 ⇑P P 01 20 16.5 -1.2
baz=86,SNR=18
E19A Rath Farm, Rou 85.29 39 ⇓P P 01 20 16.8 -0.7
baz=86,SNR=96
232A Coleman 85.33 55 ⇓P P 01 20 16.8 -1.2
baz=86,SNR=70
F20A Billings 85.35 40 ⇑P P 01 20 16.9 -0.9
baz=86,SNR=44
O25A Wiggins 85.36 46 ⇓P P 01 20 17.1 -1.0
baz=86
X30A Coker Ranch, T 85.38 52 ⇑P P 01 20 16.8 -1.4
baz=86,SNR=26
V29A Stinnett 85.46 51 ⇑P P 01 20 17.6 -0.9
baz=86,SNR=11
H21A Big Horn, Sher 85.48 41 ⇑P P 01 20 17.3 -1.3
baz=86,SNR=30
M24A Cheyenne 85.48 45 ⇓P P 01 20 18.2 -0.4
baz=86,SNR=22
I22A 9 Mile Ranch, 85.49 42 ⇑P P 01 20 17.2 -1.4
baz=86,SNR=74
EGMT Eagleton 85.49 37 *e*P P 01 20 17.6 -0.8
comp=Z,356nm,1.5s
EGMT LR LR
comp=Z,12μm,20.0s
EGMT Eagleton 85.49 37 ⇑P P 01 20 17.3 -1.2
baz=86,SNR=50
Z31A Sharp Cattle R 85.50 54 ⇑P P 01 20 17.6 -1.2
baz=86,SNR=59
R27A Eads 85.52 48 ⇓P P 01 20 17.3 -1.6
baz=86,SNR=41
K23A Bowen Ranch, D 85.52 43 ⇑P P 01 20 17.4 -1.4
baz=86,SNR=53
T28A Walsh 85.53 49 ⇑P P 01 20 17.8 -1.1
baz=86
D19A Cripps Ranch, 85.58 38 ⇑P P 01 20 18.2 -0.7
baz=86,SNR=104
ABTX Abilene, Hawle 85.62 54 *e*P P 01 20 17.9 -1.4
ABTX Abilene, Hawle 85.62 54 ⇑P P 01 20 18.3 -1.1
baz=86,SNR=85
Y31A Rekieta Farm, 85.65 53 ⇑P P 01 20 18.5 -1.0
baz=86,SNR=33
G21A Lodge Grass 85.66 40 ⇑P P 01 20 18.0 -1.3
baz=86,SNR=11
L24A Wheatland 85.66 44 ⇑P P 01 20 18.8 -0.7
baz=86,SNR=20
P26A Davis Ranch, A 85.67 47 ⇓P P 01 20 18.8 -0.8
baz=86
N25A Grover 85.69 45 ⇓P P 01 20 18.7 -1.0
baz=86
E20A Meyer Farm, Mu 85.70 39 ⇓P P 01 20 19.4 -0.1
baz=86,SNR=16
C19A Slack Wire Ran 85.76 38 ⇑P P 01 20 19.4 -0.4
baz=86,SNR=155
J23A Dilts Ranch, B 85.86 43 ⇑P P 01 20 19.4 -1.1
baz=86,SNR=6.9
U29A Oasis Ranch, S 85.88 50 ⇑P P 01 20 19.2 -1.4
baz=86,SNR=5.5
S28A Manter 85.88 49 ⇓P P 01 20 19.3 -1.4
baz=86,SNR=15
W30A Crocket Farms 85.89 52 ⇓P P 01 20 19.5 -1.2
baz=86
H22A Clearmont 85.90 41 ⇑P P 01 20 19.4 -1.1
baz=86,SNR=16
KSCO Kaye Shedlock' 85.94 48 ⇓P P 01 20 19.7 -1.3
baz=86
O26A Horse Wrangler 85.98 46 ⇓P P 01 20 20.3 -0.9
baz=86
M25A Palm-Egli Farm 85.98 45 ⇓P P 01 20 20.1 -1.1
baz=86
D20A Manuel Ranch, 85.98 38 ⇑P P 01 20 20.2 -0.7
baz=86,SNR=77
F21A Ahaloka Mine, 85.99 40 ⇑P P 01 20 20.5 -0.5
baz=86,SNR=8.3
Z32A Haskell 86.00 54 ⇑P P 01 20 20.7 -0.6
baz=86,SNR=136
UBPT Khong Chiam 86.02 287 P P 01 20 28.4 +6.7
comp=Z,67nm,2.2s
V30A Spur Ranch, Mi 86.03 51 ⇑P P 01 20 20.8 -0.6
baz=86,SNR=7.8
K24A Anderson Ranch 86.04 43 ⇑P P 01 20 20.4 -1.0
baz=86
FRIM Kepong 86.10 275 P P 01 20 25.3 +3.1
X31A McDonald Ranch 86.13 52 ⇓P P 01 20 20.2 -1.6
baz=86,SNR=9.3
BJT Baijiatuau 86.14 314 *e*P P 01 20 22.5 +0.8
comp=Z,113nm,1.2s
BJT LR LR
comp=Z,2μm,20.0s
T29A Hugoton 86.14 50 ⇓P P 01 20 20.4 -1.5
baz=86
BJI Beijing 86.14 314 P P 01 20 21.6 -0.1
BJI SKS SKSac 01 30 46.2 -1.3
BJI S S 01 30 57.1 +1.0
BJI SS SS 01 36 36.2 +1.0
BJI AMB AMB
comp=Z,53nm,2.5s
BJI AMB AMB
comp=Z,1μm,4.2s
BJI LR LR
comp=Z,1μm,17.5s
BJI LR LR
comp=Z,1μm,26.6s
BJI LR LR
comp=Z,2μm,25.6s
COYC Coyhaique 86.15 136 *e*P P 01 20 22.8 +1.0
I23A Meade Ranch, G 86.17 42 ⇑P P 01 20 20.6 -1.4
baz=86
B19A Brinkman Farms 86.18 37 ⇑P P 01 20 21.2 -0.6
baz=86,SNR=61
P27A Ficken Ranch, 86.20 47 ⇑P P 01 20 21.2 -1.0
baz=86
G22A Birney 86.22 41 ⇓P P 01 20 21.2 -1.0
baz=86,SNR=6.2
PPI Padang Panjang 86.24 271 P P 01 20 25.4 +2.6
comp=Z,159nm,1.0s,comp=Z,2μm
R28A Tribune 86.25 48 ⇑P P 01 20 21.0 -1.5
baz=86,SNR=48
N26A Koester Ranch, 86.29 46 ⇓P P 01 20 21.3 -1.3
baz=86
Y32A R-V Farms, Ver 86.30 53 ⇓P P 01 20 21.5 -1.2
baz=86,SNR=70
EDM Edmonton 86.31 31 *e*P P 01 20 20.4 -1.9
EDM Edmonton 86.31 31 *e*P P 01 20 20.4 -1.9
L25A Engebretsen Ra 86.36 44 ⇓P P 01 20 22.2 -0.7
baz=86,SNR=8.6
E21A Keefer Ranch, 86.36 39 ⇓P P 01 20 21.8 -1.0
baz=87,SNR=13
C20A Veseth Ranch, 86.36 38 ⇓P P 01 20 21.7 -1.0
baz=87,SNR=90
U30A WK&E Inc. Balk 86.36 50 ⇓P P 01 20 21.5 -1.6
baz=86
W31A Holland Ranch, 86.37 52 ⇓P P 01 20 21.4 -1.6
baz=86,SNR=36
J24A Dixon Ranch, L 86.41 43 ⇓P P 01 20 22.4 -0.8
baz=87,SNR=7.5
COCO West Island 86.42 258 PFAKE 01 20 30.0 +6.3
COCO LR LR
comp=Z,8μm,20.0s
S29A Ulysses 86.45 49 ⇓P P 01 20 21.7 -1.7
baz=87,SNR=6.1
H23A Clabaugh Cattl 86.49 42 ⇑P P 01 20 22.0 -1.5
baz=87
F22A Rosebud 86.50 40 ⇓P P 01 20 22.3 -1.2
baz=87,SNR=14
Q28A Sharon Springs 86.53 48 ⇓P P 01 20 22.5 -1.3
baz=87
A19A Klindworth Far 86.53 37 ⇑P P 01 20 23.0 -0.6
baz=87,SNR=39
O27A Beecher Island 86.53 46 ⇓P P 01 20 22.5 -1.3
baz=87
M26A McRoberts Ranc 86.61 45 ⇓P P 01 20 23.2 -1.1
baz=87
K25A Mack Ranch, Ha 86.62 44 ⇑P P 01 20 23.5 -0.7
baz=87,SNR=14
D21A La Casta Ranch 86.66 39 ⇑P P 01 20 23.7 -0.5
baz=87,SNR=35
T30A Plains 86.66 50 ⇓P P 01 20 22.9 -1.5
baz=87
I24A Kuemmerle Ranc 86.67 42 ⇓P P 01 20 23.0 -1.4
baz=87
V31A Spring Creek L 86.67 51 ⇓P P 01 20 24.1 -0.5
baz=87,SNR=20
B20A Solberg Farm, 86.71 37 ⇑P P 01 20 23.3 -1.1
baz=87,SNR=63
N27A Anderson Farm, 86.75 46 ⇓P P 01 20 23.4 -1.5
baz=87
R29A Marienthal 86.76 49 ⇓P P 01 20 23.4 -1.6
baz=87
G23A Biddle 86.78 41 ⇑P P 01 20 23.3 -1.6
baz=87,SNR=9.4
P28A Saint Francis 86.79 47 ⇓P P 01 20 23.3 -1.8
baz=87,SNR=10
MAW Mawson 86.88 199 P P 01 20 25.1 +0.2
MAW SKKPbc SKKPbc 01 41 53.2 -3.3
MAW Mawson 86.88 199 ⇑P P 01 20 25.4 +0.5
baz=87,SNR=32
MAW Mawson 86.88 199 P P 01 20 25.1 +0.2
comp=Z,39nm,0.9s,baz=115,slow=5.9,SNR=22
MAW SKKPbc SKKPbc 01 41 53.2 -3.3
comp=Z,1.4nm,0.7s,baz=8.2,slow=1.9,SNR=3.6
U31A Nine Bar Ranch 86.89 51 ⇑P P 01 20 23.9 -1.7
baz=87
L26A Underwood Farm 86.90 45 ⇑P P 01 20 24.4 -1.1
baz=87
S30A Montezuma 86.94 49 ⇓P P 01 20 24.4 -1.4
baz=87
LAO LASA Array 86.95 39 *e*P P 01 20 24.6 -1.1
comp=Z,336nm,1.6s
LAO LR LR
comp=Z,8μm,22.0s
C21A Desert Coulee 86.96 38 ⇑P P 01 20 24.5 -1.2
baz=87,SNR=9.5
A20A Cobblestone Ra 86.98 37 ⇓P P 01 20 24.9 -0.9
baz=87,SNR=78
E22A Miles City 87.00 40 ⇑P P 01 20 25.2 -0.6
baz=87,SNR=13
J25A Sunshine Ranch 87.00 43 ⇓P P 01 20 24.5 -1.5
baz=87,SNR=5.3
O28A Krutsinger Ran 87.00 47 ⇓P P 01 20 24.8 -1.2
baz=87
F23A Volborg 87.01 41 ⇑P P 01 20 25.0 -1.0
baz=87,SNR=19
IPM Ipoh 87.02 276 P P 01 20 28.9 +2.2
IPM Ipoh 87.02 276 P P 01 20 27.1 +0.4
comp=Z,161nm,1.0s,comp=Z,3μm
IPM Ipoh 87.02 276 *e*P P 01 20 26.2 -0.5
comp=Z,100nm,0.9s
Q29A Oakley 87.06 48 P P 01 20 25.5 -1.0
baz=87
WMOK Wichita Mounta 87.08 53 *e*P P 01 20 24.2 -2.3
WMOK pmax pmax
comp=Z,50nm,1.3s
WMOK MLR MLR
comp=Z,9μm,21.0s
WMOK Wichita Mounta 87.08 53 *e*P P 01 20 24.2 -2.3
comp=Z,50nm,1.3s
WMOK LR LR
comp=Z,9μm,21.0s
WHTX Lake Whitney 87.10 56 *e*P P 01 20 28.6 +1.9
WHTX Lake Whitney 87.10 56 ⇑P P 01 20 25.5 -1.2
baz=87,SNR=8.0
H24A Dirks Ranch, A 87.11 42 ⇓P P 01 20 25.2 -1.3
baz=87,SNR=29
K26A Motz Farm, Whi 87.12 44 ⇓P P 01 20 25.3 -1.3
baz=87,SNR=16
M27A Reverse DX Ran 87.16 45 ⇑P P 01 20 25.1 -1.8
baz=87
OGNE Ogallala 87.16 46 PFAKE 01 20 40.0 +13
OGNE LR LR
comp=Z,6μm,20.0s
OGNE Ogallala 87.16 46 ⇑P P 01 20 25.4 -1.5
baz=87
RSSD Black Hills 87.17 42 *e*P P 01 20 25.0 -2.0
RSSD pmax pmax
comp=Z,191nm,0.9s
RSSD Black Hills 87.17 42 *e*P P 01 20 25.0 -2.0
comp=Z,192nm,0.9s
D22A Cohagen 87.19 39 ⇓P P 01 20 26.3 -0.5
baz=87
B21A Ellsworth Farm 87.29 38 ⇑P P 01 20 26.6 -0.6
baz=88,SNR=48
T31A Randall Ranch, 87.31 50 ⇑P P 01 20 26.4 -1.2
baz=88,SNR=10
I25A Rochford 87.32 43 ⇑P P 01 20 25.7 -2.0
baz=88,SNR=27
R30A Dighton 87.33 49 ⇓P P 01 20 25.8 -1.9
baz=88,SNR=13
PANO Nakornpanom 87.38 289 P P 01 20 34.8 +6.5
comp=Z,135nm,2.2s
P29A Atwood 87.38 48 ⇑P P 01 20 26.5 -1.4
baz=88
N28A Pribbeno Ranch 87.39 46 ⇓P P 01 20 26.1 -1.9
baz=88
E23A Ismay 87.42 40 ⇑P P 01 20 27.6 -0.3
baz=88,SNR=14
L27A T5 Ranch, Ells 87.44 45 ⇑P P 01 20 27.0 -1.2
baz=88
ENH Enshi 87.44 302 *e*P P 01 20 27.9 -0.5
comp=Z,66nm,1.3s
J26A Sides Ranch, S 87.45 43 ⇓P P 01 20 26.9 -1.3
baz=88
G24A Alzada 87.45 41 ⇓P P 01 20 27.0 -1.2
baz=88
A21A Bergtoll Ranch 87.61 37 ⇑P P 01 20 28.1 -0.7
baz=88,SNR=20
KULM Kulim 87.61 276 P P 01 20 32.8 +3.3
KULM Kulim 87.61 276 P P 01 20 33.1 +3.6
comp=Z,84nm,2.0s,comp=Z,3μm
KULM Kulim 87.61 276 *e*P P 01 20 29.0 -0.5
comp=Z,125nm,1.4s
KULM LR LR
comp=Z,4μm,19.0s
Q30A Quinter 87.64 48 ⇑P P 01 20 27.8 -1.3
baz=88,SNR=8.9
C22A Vida 87.64 39 ⇓P P 01 20 28.1 -0.9
baz=88,SNR=5.9
S31A Mullinville 87.65 50 ⇓P P 01 20 27.9 -1.4
baz=88
F24A Ekalaka 87.66 41 ⇓P P 01 20 28.1 -1.1
baz=88,SNR=12
H25A Fruitdale 87.67 42 ⇑P P 01 20 27.7 -1.5
baz=88
O29A 4D Ranch, Culb 87.69 47 ⇓P P 01 20 27.8 -1.5
baz=88
HKT Hockley 87.69 58 *e*P P 01 20 30.9 +1.5
HKT pmax pmax
comp=Z,164nm,1.9s
HKT Hockley 87.69 58 *e*P P 01 20 30.9 +1.5

	comp=Z,164nm,1.9s								
K27A	**Flueckinger Fa**	**87.75**	**44**	⇓	P		**P**	**01 20 29.0**	**-0.7**
	baz=88,SNR=6.3								
D23A	**Lindsay**	**87.79**	**39**	⇑	P		**P**	**01 20 29.1**	**-0.6**
	baz=88,SNR=15								
M28A	**Bar X Bar Ranc**	**87.80**	**46**	⇓	P		**P**	**01 20 28.9**	**-1.0**
	baz=88								
B22A	**Reddig Ranch S**	**87.83**	**38**	⇑	P		**P**	**01 20 29.1**	**-0.7**
	baz=88,SNR=16								
P30A	**Selden**	**87.84**	**48**	⇓	P		**P**	**01 20 28.8**	**-1.3**
	baz=88,SNR=10								
R31A	**Burdett**	**87.87**	**49**	⇓	P		**P**	**01 20 28.7**	**-1.6**
	baz=88,SNR=9.5								
TIY	**Taiyuan**	**87.88**	**310**		*e*P		**P**	**01 20 29.5**	**-0.9**
TIY					SKS		**SKSac**	**01 30 57.8**	**-0.7**
TIY					S		**S**	**01 31 12.3**	**-0.9**
TIY					LR		LR		
	comp=Z,770nm,10.1s								
TIY					LR		LR		
	comp=Z,2μm,17.5s								
TIY					LR		LR		
	comp=Z,2μm,17.1s								
I26A	**New Underwood**	**87.89**	**43**	⇑	P		**P**	**01 20 29.0**	**-1.2**
	baz=88								
SKNT	**Sakolnakorn**	**87.90**	**288**		P		P	01 20 37.0	+6.2
	comp=Z,135nm,1.6s,comp=Z,4μm								
L28A	**Connealy Angus**	**87.94**	**45**	⇑	P		**P**	**01 20 29.7**	**-0.9**
	baz=88								
HIA	**Hailar**	**87.97**	**323**		*e*P		**P**	**01 20 31.1**	**+0.6**
	comp=Z,113nm,1.4s								
HIA					LR		LR		
	comp=Z,3μm,19.0s								
G25A	**Newell**	**88.03**	**42**	⇑	P		**P**	**01 20 29.8**	**-1.1**
	baz=88								
E24A	**Baker**	**88.07**	**40**	⇓	P		**P**	**01 20 30.2**	**-0.9**
	baz=88								
N29A	**Votaw Ranch, W**	**88.08**	**46**	⇑	P		**P**	**01 20 29.5**	**-1.8**
	baz=88								
C23A	**Lambert**	**88.09**	**39**	⇑	P		**P**	**01 20 30.7**	**-0.4**
	baz=88,SNR=32								
J27A	**Elkhorn Farm,**	**88.13**	**44**	⇑	P		**P**	**01 20 30.1**	**-1.4**
	baz=88,SNR=32								
CHBT	**CHBT**	**88.17**	**284**		P		P	01 20 38.2	+6.1
	comp=Z,53nm,2.1s,comp=Z,2μm								
CHBT	**CHBT**	**88.17**	**284**		P		P	01 20 40.1	+8.0
	comp=Z,71nm,1.9s,comp=Z,2μm								
SKLT	**Songkhla**	**88.17**	**278**		P		P	01 20 39.1	+6.9
SKLT	**Songkhla**	**88.17**	**278**		P		P	01 20 38.4	+6.2
	comp=Z,200nm,1.0s,comp=Z,4μm								
A22A	**Carney Farms,**	**88.20**	**37**	⇑	P		**P**	**01 20 30.9**	**-0.7**
	baz=88,SNR=7.6								
H26A	**Fairpoint**	**88.20**	**42**	⇑	P		**P**	**01 20 30.7**	**-1.0**
	baz=88								
O30A	**MW Ranch, Wils**	**88.23**	**47**	⇓	P		**P**	**01 20 30.8**	**-1.2**
	baz=88								
Q31A	**Ellis**	**88.24**	**49**	⇑	P		**P**	**01 20 30.5**	**-1.5**
	baz=88								
M29A	**Burnside Ranch**	**88.29**	**46**	⇓	P		**P**	**01 20 30.7**	**-1.5**
	baz=88								
D24A	**Glendive**	**88.30**	**40**	⇓	P		**P**	**01 20 31.3**	**-0.8**
	baz=88,SNR=12								
F25A	**Bowman**	**88.32**	**41**	⇓	P		**P**	**01 20 31.3**	**-0.9**
	baz=88								
K28A	**Ten Mile Ranch**	**88.34**	**45**	⇓	P		**P**	**01 20 31.2**	**-1.2**
	baz=88								
C24A	**Savage**	**88.42**	**39**	⇑	P		**P**	**01 20 31.9**	**-0.8**
	baz=89,SNR=6.7								
I27A	**Quinn**	**88.44**	**43**	⇓	P		**P**	**01 20 31.4**	**-1.4**
	baz=89								
N30A	**Hueftle Ranch,**	**88.44**	**47**	⇓	P		**P**	**01 20 31.7**	**-1.3**
	baz=89								
P31A	**Stockton**	**88.45**	**48**	⇓	P		**P**	**01 20 31.6**	**-1.5**
	baz=89,SNR=7.7								
B23A	**Brockton**	**88.50**	**38**	⇑	P		**P**	**01 20 32.4**	**-0.6**
	baz=89,SNR=14								
GYA	**Guiyang**	**88.50**	**298**	⇑	*i*P		**P**	**01 20 34.1**	**+0.5**
GYA					PP		**PP**	**01 24 06.2**	**+4.2**
GYA					SKS		**SKSac**	**01 31 05.8**	**+2.9**
GYA					S		**ScS**	**01 31 23.6**	**-1.8**
GYA					AMB		AMB		
	comp=Z,60nm,1.0s								
GYA					AMB		AMB		
	comp=Z,460nm,6.8s								
GYA					LR		LR		
	comp=Z,1μm,17.7s								
GYA					LR		LR		
	comp=Z,1μm,19.8s								
GYA					LR		LR		
	comp=Z,1μm,18.3s								
PSI	**Prapat**	**88.56**	**273**		P		**P**	**01 20 34.0**	**-0.2**
PSI	**Prapat**	**88.56**	**273**	⇑	P		**P**	**01 20 34.4**	**+0.2**
	baz=88,SNR=10								
PSI	**Prapat**	**88.56**	**273**		P		**P**	**01 20 34.0**	**-0.2**
	comp=Z,86nm,0.9s,baz=114,slow=6.4,SNR=23								
G26A	**Maurine**	**88.59**	**42**	⇑	P		**P**	**01 20 32.1**	**-1.5**
	baz=89								
E25A	**Miller Ranch,**	**88.60**	**40**	⇑	P		**P**	**01 20 32.3**	**-1.3**
	baz=89								
H27A	**Howes**	**88.66**	**43**	⇑	P		**P**	**01 20 32.2**	**-1.6**
	baz=89								
L29A	**Maesberg Ranch**	**88.68**	**45**	⇓	P		**P**	**01 20 32.5**	**-1.6**
	baz=89								
J28A	**Allard Ranch,**	**88.71**	**44**	⇑	P		**P**	**01 20 33.0**	**-1.1**
	baz=89,SNR=10								
O31A	**Woolen Ranch,**	**88.73**	**47**	⇑	P		**P**	**01 20 32.1**	**-2.2**
	baz=89								
F26A	**Lodgepole**	**88.79**	**41**	⇓	P		**P**	**01 20 33.1**	**-1.3**
	baz=89								
A23A	**Redstone**	**88.79**	**38**	⇓	P		**P**	**01 20 33.4**	**-1.0**
	baz=89								
PLCA	**Paso Flores**	**88.86**	**132**		*e*P		**P**	**01 20 36.1**	**+1.1**
	comp=Z,436nm,1.8s								
PLCA	**Paso Flores**	**88.86**	**132**		P		**P**	**01 20 36.0**	**+1.0**
	comp=Z,40nm,1.0s,baz=237,slow=4.2,SNR=38								
M30A	**Dale-Ortello V**	**88.89**	**46**	⇓	P		**P**	**01 20 33.5**	**-1.5**
	baz=89								
D25A	**Fairfield**	**88.93**	**40**	⇓	P		**P**	**01 20 34.6**	**-0.5**
	baz=89,SNR=8.5								
DGMT	**Dagmar**	**88.98**	**38**		*e*P		**P**	**01 20 34.6**	**-0.7**
	comp=Z,305nm,1.2s								
DGMT					LR		LR		
	comp=Z,16μm,20.0s								
DGMT	**Dagmar**	**88.98**	**38**	⇓	P		**P**	**01 20 34.2**	**-1.0**
	baz=89,SNR=26								
I28A	**Midland**	**88.99**	**43**	⇓	P		**P**	**01 20 34.1**	**-1.3**
	baz=89,SNR=6.3								
P32A	**Huiting Farm,**	**89.05**	**48**		P		**P**	**01 20 35.6**	**-0.2**
	baz=89								
G27A	**Dupree**	**89.06**	**42**	⇓	P		**P**	**01 20 34.0**	**-1.7**
	baz=89,SNR=11								
K29A	**Lazy Trails An**	**89.06**	**45**	⇓	P		**P**	**01 20 35.0**	**-0.8**
	baz=89,SNR=7.9								
CLNS	**Chul'man**	**89.08**	**331**		*e*P		**P**	**01 20 32.8**	**-2.7**
CLNS					*e*			01 24 02.2	
CLNS					*e*PPP		PPP	01 25 59.6	
CLNS					*e*S		**SKSac**	**01 30 59.4**	**-5.4**
CLNS					*e*			01 31 23.6	
CLNS					*e*SS		SS	01 37 07.0	-11
CLNS					pmax		pmax		
	comp=Z,65nm,1.2s								
CLNS					pmax		pmax		
	comp=N,47nm,1.4s								
CLNS					pmax		pmax		
	comp=E,22nm,1.1s								
CLNS					pmax		pmax		
	comp=E,14nm,1.7s								
CLNS					pmax		pmax		
	comp=N,10.0nm,1.0s								
CLNS					pmax		pmax		
	comp=Z,7.0nm,1.0s								
CLNS					smax		smax		
	comp=N,571nm,13.0s								
CLNS					smax		smax		
	comp=E,589nm,10.9s								
CLNS					MLR		MLR		
	comp=N,998nm,17.0s								
CLNS					MLR		MLR		
	comp=E,1μm,16.0s								
CLNS					MLR		MLR		
	comp=Z,2μm,17.0s								
L30A	**Spencer Herefo**	**89.15**	**46**	⇑	P		**P**	**01 20 34.8**	**-1.5**
	baz=89								
CCHI	**Chillan**	**89.15**	**128**		*e*P		**P**	**01 20 38.5**	**+2.1**
E26A	**Carlson Angus**	**89.18**	**41**	⇑	P		**P**	**01 20 35.5**	**-0.8**
	baz=89								
XAN	**Xi'an**	**89.20**	**306**		P		**P**	**01 20 38.3**	**+1.6**
XAN					pP		**pP**	**01 20 42.3**	**+0.9**
XAN					AMB		AMB		
	comp=Z,7.0nm,1.5s								
XAN					AMB		AMB		
	comp=Z,150nm,3.8s								
XAN					LR		LR		
	comp=Z,870nm,20.2s								
XAN					LR		LR		
	comp=Z,470nm,21.4s								
XAN					LR		LR		
	comp=Z,530nm,22.5s								
INK	**Inuvik**	**89.20**	**14**		*e*P		**P**	**01 20 34.2**	**-1.5**
	comp=Z,241nm,1.6s								
F27A	**Lemmon**	**89.21**	**41**	⇑	P		**P**	**01 20 35.6**	**-0.8**
	baz=89								
C25A	**Freed Ranch, W**	**89.22**	**39**	⇓	P		**P**	**01 20 35.6**	**-0.8**
	baz=89,SNR=6.9								
NATX	**Nacogdoches**	**89.25**	**57**		*e*P		**P**	**01 20 36.6**	**-0.2**
	comp=Z,183nm,1.5s								
NATX					LR		LR		
	comp=Z,7μm,20.0s								
N31A	**Bailey Ranch,**	**89.25**	**47**	⇓	P		**P**	**01 20 35.5**	**-1.2**
	baz=89								
A24A	**Westby**	**89.29**	**38**		P		**P**	**01 20 36.3**	**-0.4**
	baz=90								
J29A	**Okreek**	**89.31**	**44**	⇑	P		**P**	**01 20 35.1**	**-1.9**
	baz=90								
H28A	**Mission Ridge**	**89.36**	**43**	⇑	P		**P**	**01 20 36.0**	**-1.2**
	baz=90								
CHAI	**Chaiyaphum**	**89.41**	**287**		P		P	01 20 45.3	+7.4
	comp=Z,8.7nm,1.3s								
D26A	**Manning**	**89.43**	**40**	⇓	P		**P**	**01 20 36.2**	**-1.2**
	baz=90								
M31A	**Lambtecht Ranc**	**89.43**	**46**	⇓	P		**P**	**01 20 36.3**	**-1.3**
	baz=90								
GSI	**Gunungsitoli**	**89.44**	**272**		P		**P**	**01 20 39.9**	**+1.7**
	comp=Z,484nm,1.6s,comp=Z,6μm								
K30A	**Basset**	**89.51**	**45**	⇓	P		**P**	**01 20 36.7**	**-1.2**
	baz=90,SNR=16								
B25A	**Knox Farm, Ray**	**89.51**	**39**	⇑	P		**P**	**01 20 37.0**	**-0.8**
	baz=90								
O32A	**Brockman Farm,**	**89.52**	**48**	⇓	P		**P**	**01 20 36.7**	**-1.3**
	baz=90								
I29A	**Vivian Onida**	**89.57**	**44**	⇓	P		**P**	**01 20 36.4**	**-1.7**
	baz=90,SNR=6.6								
G28A	**Parade**	**89.59**	**43**	⇑	P		**P**	**01 20 37.2**	**-1.0**
	baz=90								
HHC	**Hu-ho-hao-te**	**89.69**	**313**		*e*P		**P**	**01 20 37.8**	**-1.1**
HHC					sP		**sP**	**01 20 45.9**	**+0.6**
HHC					PP		**PP**	**01 24 14.7**	**+3.5**
HHC					SKS		**SKSac**	**01 31 07.8**	**-1.4**
HHC					S		**ScS**	**01 31 32.8**	**-1.8**
HHC					sS		**sS**	**01 31 38.0**	**0.0**
HHC					AMB		AMB		
	comp=Z,73nm,1.3s								
HHC					AMB		AMB		
	comp=Z,1μm,5.1s								
HHC					LR		LR		
	comp=Z,2μm,16.7s								
HHC					LR		LR		
	comp=Z,2μm,16.7s								
HHC					LR		LR		
	comp=Z,3μm,18.0s								
N32A	**Stulken Farm,**	**89.69**	**47**	⇑	P		**P**	**01 20 37.6**	**-1.2**
	baz=90								
E27A	**Carson**	**89.72**	**41**	⇓	P		**P**	**01 20 37.4**	**-1.4**
	baz=90								
TUL1	**Tulsa**	**89.78**	**52**		*e*P		**P**	**01 20 38.8**	**-0.5**
TUL1	**Tulsa**	**89.78**	**52**	⇓	P		**P**	**01 20 37.5**	**-1.8**
	baz=90								
A25A	**Svangstu Ranch**	**89.83**	**38**	⇑	P		**P**	**01 20 38.1**	**-1.1**
	baz=90,SNR=7.4								
J30A	**Dallas**	**89.84**	**45**	⇓	P		**P**	**01 20 38.0**	**-1.4**
	baz=90								
L31A	**Butterfield Fa**	**89.84**	**46**	⇓	P		**P**	**01 20 37.9**	**-1.6**
	baz=90								
KCSI	**Kotacane, Aceh**	**89.87**	**274**		P		**P**	**01 20 41.6**	**+1.4**
H29A	**Onida**	**89.87**	**43**	⇑	P		**P**	**01 20 38.0**	**-1.5**
	baz=90,SNR=7.2								
C26A	**Wahner Farm, P**	**89.97**	**40**	⇓	P		**P**	**01 20 38.6**	**-1.4**
	baz=90								
F28A	**McLaughlin**	**89.97**	**42**	⇓	P		**P**	**01 20 38.3**	**-1.7**
	baz=90,SNR=5.8								
YAK	**Yakutsk**	**90.00**	**337**	*d*	*i*P		**P**	**01 20 40.0**	**+0.4**
YAK					*e**PP		pP	01 20 50.9	+6.6
YAK					*e*			01 24 11.4	
YAK					*e*PPP		PPP	01 26 08.6	
YAK					*e*S		**SKSac**	**01 31 07.6**	**-2.2**
YAK					*e**SS		**S**	**01 31 28.8**	**-3.1**
YAK					*e*SS		**SS**	**01 37 30.9**	**+0.3**
YAK					*e*SSS		SSS	01 41 05.4	
YAK					pmax		pmax		
	comp=Z,76nm,1.0s								
YAK					pmax		pmax		
	comp=E,23nm,1.4s								
YAK					pmax		pmax		
	comp=N,16nm,1.0s								
YAK					pmax		pmax		
	comp=N,112nm,3.2s								
YAK					pmax		pmax		
	comp=Z,247nm,3.7s								
YAK					pmax		pmax		
	comp=E,297nm,4.4s								
YAK					smax		smax		
	comp=N,374nm,5.7s								
YAK					smax		smax		
	comp=E,450nm,8.4s								
D27A	**Center**	**90.03**	**40**	⇓	P		**P**	**01 20 39.0**	**-1.2**
	baz=90								
BGNE	**Belgrade**	**90.03**	**47**		*e*P		**P**	**01 20 40.9**	**+0.5**
BGNE	**Belgrade**	**90.03**	**47**	⇑	P		**P**	**01 20 38.5**	**-1.9**
	baz=90								
I30A	**Oacoma**	**90.11**	**44**	⇓	P		**P**	**01 20 39.1**	**-1.6**
	baz=90								
B26A	**Jensen Ranch,**	**90.12**	**39**	⇓	P		**P**	**01 20 39.4**	**-1.2**
	baz=90								
TGUH	**Tegucigalpa,Un**	**90.26**	**76**		*e*P		**P**	**01 20 41.6**	**-0.3**
	comp=E,200nm,1.5s								
TGUH					LR		LR		
	comp=Z,4μm,22.0s								
G29A	**Hoven**	**90.28**	**43**	⇓	P		**P**	**01 20 39.0**	**-2.5**
	baz=90								
C27A	**Sayler Ranch,**	**90.29**	**40**	⇓	P		**P**	**01 20 40.1**	**-1.3**
	baz=90								
KSU1	**Kansas State U**	**90.29**	**49**		*e*P		**P**	**01 20 40.5**	**-1.1**
	comp=Z,37nm,0.9s								
KSU1					LR		LR		
	comp=Z,8μm,22.0s								
E28A	**Huff**	**90.33**	**41**	⇑	P		**P**	**01 20 40.3**	**-1.3**
	baz=90								
A26A	**Wade Farm, Ken**	**90.45**	**39**		P		**P**	**01 20 41.0**	**-1.1**
	baz=91								
F29A	**Eureka**	**90.59**	**42**	⇓	P		**P**	**01 20 41.1**	**-1.7**
	baz=91,SNR=12								
BRSD	**Miller**	**90.63**	**44**	⇑	P		**P**	**01 20 41.2**	**-1.8**
	baz=91								
D28A	**Regan**	**90.66**	**41**	⇑	P		**P**	**01 20 42.0**	**-1.2**
	baz=91								
BTO	**Baotou**	**90.69**	**312**		*e*P		**P**	**01 20 43.9**	**+0.4**
B27A	**Peters Farms,**	**90.72**	**39**	⇑	P		**P**	**01 20 41.8**	**-1.6**
	baz=91,SNR=13								
G30A	**Faulkton**	**90.77**	**43**	⇓	P		**P**	**01 20 42.0**	**-1.7**
	baz=91								
A27A	**Ledoux Ranch,**	**90.95**	**39**	⇓	P		**P**	**01 20 43.1**	**-1.3**
	baz=91,SNR=7.0								
C28A	**Hausauer Farms**	**90.98**	**40**	⇑	P		**P**	**01 20 43.1**	**-1.5**
	baz=91,SNR=9.6								
YKA	**Yellowknife Ar**	**90.98**	**23**		P		**P**	**01 20 42.8**	**-1.3**
YKA	**Yellowknife Ar**	**90.98**	**23**		P		**P**	**01 20 42.8**	**-1.3**
	comp=Z,62nm,1.2s,baz=238,slow=4.2,SNR=16								
E29A	**Napoleon**	**91.00**	**41**	⇑	P		**P**	**01 20 42.9**	**-1.9**
	baz=91								
F30A	**Leola**	**91.11**	**42**	⇓	P		**P**	**01 20 43.6**	**-1.7**
	baz=91								
TEIG	**Tepich**	**91.12**	**69**		*e*P		**P**	**01 20 46.2**	**+0.4**
	comp=Z,128nm,1.3s								
TEIG					LR		LR		
	comp=Z,6μm,21.0s								
D29A	**Pettibone, Tap**	**91.22**	**41**	⇓	P		**P**	**01 20 43.8**	**-1.9**
	baz=91								
B28A	**Dugan Ranch, T**	**91.29**	**40**	⇑	P		**P**	**01 20 45.0**	**-1.0**
	baz=92								
JTS	**JuntasAbangare**	**91.37**	**80**		*e*P		**P**	**01 20 47.5**	**+0.3**
	comp=Z,3μm,1.4s								
JTS					LR		LR		
	comp=Z,6μm,22.0s								
E30A	**Jud**	**91.44**	**42**	⇓	P		**P**	**01 20 44.5**	**-2.2**
	baz=92								
CLCH	**Cerro Calan**	**91.44**	**125**		*e*P		**P**	**01 20 49.6**	**+2.3**
KMI	**Kunming**	**91.45**	**296**		P		**P**	**01 20 48.3**	**+0.7**
KMI					pP		**pP**	**01 20 52.1**	**-0.2**
KMI					sP		**sP**	**01 20 54.8**	**+0.8**
KMI					PP		**PP**	**01 24 27.7**	**+2.0**
KMI					SKS		**SKSac**	**01 31 22.4**	**+2.1**
KMI					S		**S**	**01 31 46.5**	**-0.8**
KMI					SS		**SS**	**01 37 51.2**	**-2.4**
KMI					AMB		AMB		
	comp=Z,31nm,1.8s								
KMI					AMB		AMB		
	comp=Z,760nm,4.0s								
KMI					LR		LR		
	comp=Z,1μm,19.2s								
KMI					LR		LR		
	comp=Z,2μm,16.4s								
KMI					LR		LR		
	comp=Z,2μm,18.1s								
MDND	**Maddock**	**91.52**	**40**		*e*P		**P**	**01 20 45.6**	**-1.5**
MDND	**Maddock**	**91.52**	**40**	⇑	P		**P**	**01 20 45.6**	**-1.5**
	baz=92								
A28A	**Rude Farm, Bot**	**91.53**	**39**	⇑	P		**P**	**01 20 45.6**	**-1.5**
	baz=92								
LMEL	**Las Melosas**	**91.55**	**126**	⇓	*i*P		**P**	**01 20 48.9**	**+1.0**
SYO	**Syowa Base**	**91.65**	**191**	⇑	*e*P		**P**	**01 20 45.2**	**-2.2**
SYO	**Syowa Base**	**91.65**	**191**	⇓	*i*P		P	01 20 50.8	+3.4
SYO	**Syowa Base**	**91.65**	**191**		*e*SH		**SKSac**	**01 31 20.6**	**+1.1**
D30A	**Buchanan**	**91.77**	**41**	⇓	P		**P**	**01 20 46.4**	**-1.8**
	baz=92								
B29A	**Wagenman Farm,**	**91.91**	**40**	⇓	P		**P**	**01 20 47.1**	**-1.8**
	baz=92								
ECSD	**EROS Data Cent**	**91.94**	**45**		*e*P		**P**	**01 20 48.0**	**-1.2**
	comp=Z,73nm,1.4s								
ECSD					LR		LR		
	comp=Z,4μm,19.0s								
SNAA	**Sanae**	**91.94**	**177**		*e*P		**P**	**01 20 49.1**	**+0.3**
SNAA	**Sanae**	**91.94**	**177**		*e*P		**PKKPbc**	**01 38 04.5**	**-3.8**
SNAA	**Sanae**	**91.94**	**177**		*e*P		**P**	**01 20 49.1**	**+0.3**
SNAA	**Sanae**	**91.94**	**177**		*e*P		**PKKPbc**	**01 38 04.5**	**-3.8**
SNAA	**Sanae**	**91.94**	**177**		*e*P		**P**	**01 20 48.2**	**-0.6**
	comp=Z,51nm,1.1s								
UALR	**University of**	**92.07**	**54**		*e*P		**P**	**01 20 49.0**	**-0.9**
	comp=Z,97nm,1.3s								
EFI	**East Falkland**	**92.09**	**146**		*i*P		**P**	**01 20 52.7**	**+2.9**
EFI					pmax		pmax		
	comp=Z,506nm,1.2s								
EFI	**East Falkland**	**92.09**	**146**		PFAKE			01 21 00.0	+10
EFI					LR		LR		
	comp=Z,2μm,19.0s								
CRAI	**Chiangrai**	**92.13**	**290**		P		P	01 20 55.3	+4.8
	comp=Z,26nm,1.7s								
A29A	**Manning Farm,**	**92.16**	**39**	⇑	P		**P**	**01 20 48.3**	**-1.7**
	baz=92								
C30A	**Mose, Pekin**	**92.17**	**41**	⇑	P		**P**	**01 20 48.3**	**-1.8**
	baz=92								
CD2	**Chengdu**	**92.32**	**301**		P		**P**	**01 20 52.3**	**+1.0**
CD2					PcP		**PcP**	**01 20 53.3**	**+1.3**
CD2					pP		**pP**	**01 20 57.1**	**+1.1**
CD2					sP		**sP**	**01 20 59.3**	**+1.6**
CD2					PP		**PP**	**01 24 36.6**	**+4.4**
CD2					SKS		**SKSac**	**01 31 25.9**	**+1.3**
CD2					S		**S**	**01 31 54.2**	**-0.3**
CD2					sS		**sS**	**01 32 01.7**	**-0.7**
CD2					AMB		AMB		
	comp=Z,30nm,1.4s								
CD2					AMB		AMB		
	comp=Z,550nm,5.4s								
CD2					LR		LR		
	comp=Z,3μm,22.6s								
CD2					LR		LR		
	comp=Z,2μm,21.4s								
VNA2	**Neumayer--Watz**	**92.39**	**175**		*e*P		**P**	**01 20 51.6**	**+0.8**
VNA2	**Neumayer--Watz**	**92.39**	**175**		*e*P		**PKKPbc**	**01 38 03.7**	**-3.4**
VNA2	**Neumayer--Watz**	**92.39**	**175**		*e*P		**P**	**01 20 51.6**	**+0.8**
VNA2	**Neumayer--Watz**	**92.39**	**175**		*e*P		**PKKPbc**	**01 38 03.7**	**-3.4**
B30A	**Myrvik Farm, E**	**92.54**	**40**	⇑	P		**P**	**01 20 49.6**	**-2.2**
	baz=93								
VNA1	**Neumayer--Stat**	**92.59**	**175**		*e*P		**P**	**01 20 52.7**	**+1.0**
VNA1	**Neumayer--Stat**	**92.59**	**175**		*e*P		**P**	**01 20 52.7**	**+1.0**
CIT	**Chita**	**92.72**	**324**		*e*P		**P**	**01 20 52.0**	**-0.6**
CIT					pmax		pmax		
	comp=Z,205nm,1.4s								
VBMS	**Vicksburg**	**92.73**	**57**		PFAKE			01 21 00.0	+7.0
VBMS					LR		LR		
	comp=Z,6μm,22.0s								
A30A	**Hoffart Farm,**	**92.74**	**40**	⇓	P		**P**	**01 20 51.1**	**-1.6**
	baz=93								
LCO	**Las Campanas**	**92.84**	**121**		*e*P		**P**	**01 20 55.6**	**+1.5**
	comp=Z,190nm,1.4s								
LCO					LR		LR		
	comp=Z,2μm,19.0s								
FFC	**Flin Flon**	**92.90**	**33**		*i*P		**P**	**01 20 54.9**	**+1.6**
FFC	**Flin Flon**	**92.90**	**33**		P		**P**	**01 20 54.3**	**+1.0**
	comp=Z,263nm,1.5s,SNR=9.8								
FFC	**Flin Flon**	**92.90**	**33**		*e*P		**P**	**01 20 54.1**	**+0.8**
	comp=Z,344nm,1.6s								
FFC					LR		LR		
	comp=Z,4μm,20.0s								
CMAR	**Chiang Mai Arr**	**92.93**	**288**		P		**P**	**01 20 55.7**	**+1.5**
CMAR					PP		**PP**	**01 24 41.0**	**+3.9**
CMAR	**Chiang Mai Arr**	**92.93**	**288**		P		**P**	**01 20 55.7**	**+1.5**
	comp=Z,11nm,1.0s,baz=102,slow=2.1,SNR=13								
CMAR					PP		**PP**	**01 24 41.0**	**+3.9**
	comp=Z,1.4nm,0.3s,baz=111,slow=7.8,SNR=4.8								
CHTO	**Chiang Mai**	**93.03**	**289**		*e*P		**P**	**01 20 54.7**	**0.0**
CHTO					pmax		pmax		
	comp=Z,358nm,1.4s								
CHTO					MLR		MLR		
	comp=Z,2μm,20.0s								
CHTO	**Chiang Mai**	**93.03**	**289**		P		P	01 21 02.0	+7.3

SLM	**Saint Louis**	**94.85**	**51**	*e*P		**P**	**01 21 03.4**	**+0.7**
SLM	**Saint Louis**	**94.85**	**51**	*e*P		**P**	**01 21 03.4**	**+0.7**
SPMN	**St. Paul**	**95.00**	**44**	*e*P		**P**	**01 21 01.6**	**-1.6**
SPMN	**St. Paul**	**95.00**	**44**	⇓P		**P**	**01 21 01.1**	**-2.1**
	baz=95							
ULN	**Ulaanbaatar**	**95.16**	**318**	P		**P**	**01 21 06.7**	**+2.7**
	SNR=8.8							
ULN	**Ulaanbaatar**	**95.16**	**318**	*e*P		**P**	**01 21 03.8**	**-0.3**
	comp=Z,5.6nm,0.3s							
ULN				LR	LR			
	comp=Z,2µm,20.0s							
BRAL	**Brewton**	**95.22**	**59**	PFAKE			01 21 20.0	+16
BRAL				LR	LR			
	comp=Z,5µm,22.0s							
SIUC	**Southern Illin**	**95.36**	**52**	*e*P		**P**	**01 21 04.9**	**-0.1**
	comp=Z,28nm,0.8s							
SONM	**Songino Array**	**95.57**	**318**	P		**P**	**01 21 05.3**	**-0.6**
SONM				PP		**PP**	**01 24 57.1**	**-0.2**
SONM				PKKP		**PKKPbc**	**01 37 58.7**	**-0.1**
SONM				P'P'			01 46 10.0	
SONM	**Songino Array**	**95.57**	**318**	P		**P**	**01 21 05.3**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=117,slow=3.2,SNR=3.7							
SONM				PP		**PP**	**01 24 57.1**	**-0.2**
	comp=Z,3.6nm,1.1s,baz=101,slow=6.0,SNR=3.7							
SONM				PKKP		**PKKPbc**	**01 37 58.7**	**-0.1**
	comp=Z,1.7nm,1.1s,baz=248,slow=2.6,SNR=6.9							
SONM				PKPPKP		**P'P'df**	**01 46 10.0**	**+1.9**
	comp=Z,1.0nm,1.0s,baz=180,slow=1.2,SNR=6.7							
LRAL	**Lakeview Retre**	**95.81**	**57**	PFAKE			01 21 20.0	+13
LRAL				LR	LR			
	comp=Z,6µm,22.0s							
BCIP	**Isla Barro Col**	**95.92**	**82**	PFAKE			01 21 20.0	+12
BCIP				LR	LR			
	comp=Z,2µm,22.0s							
TIXI	**Tiksi**	**95.94**	**344**	*de*P		**P**	**01 21 08.2**	**+1.4**
TIXI				pmax	pmax			
	comp=Z,59nm,1.2s							
WVT	**Waverly**	**95.98**	**54**	*e*P		**P**	**01 21 06.2**	**-1.7**
WVT				pmax	pmax			
	comp=Z,99nm,2.0s							
WVT	**Waverly**	**95.98**	**54**	*e*P		**P**	**01 21 06.2**	**-1.7**
	comp=Z,99nm,2.0s							
TRQA	**Tornquist**	**96.01**	**132**	*e*P		**P**	**01 21 10.2**	**+2.1**
	comp=Z,83nm,1.6s							
TRQA				LR	LR			
	comp=Z,3µm,21.0s							
JFWS	**Jewell Farm**	**96.08**	**47**	*e*P		**P**	**01 21 06.2**	**-2.0**
JFWS				pmax	pmax			
	comp=Z,80nm,0.9s							
JFWS				MLR	MLR			
	comp=Z,7µm,20.0s							
JFWS	**Jewell Farm**	**96.08**	**47**	*e*P		**P**	**01 21 06.2**	**-2.0**
	comp=Z,80nm,0.9s							
JFWS				LR	LR			
	comp=Z,7µm,20.0s							
LVC	**Limon Verde**	**96.59**	**116**	*e*P		**P**	**01 21 12.1**	**+0.8**
	comp=Z,98nm,1.4s							
LVC				LR	LR			
	comp=Z,3µm,21.0s							
EYMN	**Ely**	**96.68**	**42**	*e*P		**P**	**01 21 11.2**	**+0.4**
	comp=Z,73nm,1.4s							
EYMN				LR	LR			
	comp=Z,8µm,20.0s							
SWET	**Sewanee**	**97.24**	**56**	*e*P		**P**	**01 21 11.8**	**-1.8**
	comp=Z,54nm,1.5s							
SFIN	**Scholer Farm**	**97.66**	**50**	⇓P		**P**	**01 21 13.7**	**-1.7**
	baz=98							
COWI	**Conover**	**97.72**	**44**	*e*P		**P**	**01 21 14.1**	**-1.5**
	comp=Z,97nm,1.2s							
COWI				LR	LR			
	comp=Z,17µm,22.0s							
GTA	**Gaotai**	**97.79**	**309**	*e*P		Pdif	01 21 16.9	+0.7
GTA				pP		pP	01 21 21.2	+0.3
GTA				sP		sP	01 21 24.1	+1.5
GTA				SKS		**SKSac**	**01 31 52.7**	**-1.0**
GTA				S		**S**	**01 32 41.7**	**-0.3**
GTA				sS		sS	01 32 50.7	+0.8
GTA				AMB		AMB		
	comp=Z,9.0nm,1.0s							
GTA				AMB		AMB		
	comp=Z,290nm,4.0s							
GTA				LR		LR		
	comp=Z,1µm,16.9s							
GTA				LR		LR		
	comp=Z,2µm,20.2s							
GTA				LR		LR		
	comp=Z,2µm,22.6s							
IRK	**Irkutsk**	**98.18**	**322**	*e*P		Pdif	01 21 22.3	+4.8
IRK				pmax		pmax		
	comp=Z,39nm,1.3s							
TIGA	**Tifton**	**98.19**	**60**	⇓P		**P**	**01 21 15.4**	**-2.6**
	baz=98							
ZAK	**Zakamensk**	**98.27**	**320**	*e*P		**P**	**01 21 15.7**	**-2.3**
ZAK				pmax		pmax		
	comp=Z,6.0nm,1.2s							
TLY	**Talaya**	**98.40**	**321**	⇑*e*P		Pdif	01 21 20.3	+1.8
TLY				*e*			01 31 51.3	
TLY				*e*SS		SS	01 39 27.0	-3.9
TLY				pmax		pmax		
	comp=Z,12nm,1.2s							
CPCT	**Cooper Cave**	**98.41**	**56**	*e*P		Pdif	01 21 18.9	0.0
LPAZ	**La Paz**	**99.47**	**110**	*e*P		**Pdif**	**01 21 23.7**	**-1.1**
	comp=Z,23nm,1.3s							
LPAZ	**La Paz**	**99.47**	**110**	P		**Pdif**	**01 21 25.8**	**+0.9**
	comp=Z,14nm,1.2s,baz=313,slow=3.7,SNR=15							
MTDJ	**Mount Denham**	**100.38**	**74**	PFAKE			01 21 40.0	+12
MTDJ				LR		LR		
	comp=Z,3µm,22.0s							
ACSO	**Alum Creek Sta**	**100.69**	**51**	PFAKE			01 21 40.0	+11
ACSO				LR		LR		
	comp=Z,8µm,20.0s							
SHL	**Shillong**	**101.05**	**293**	*ex*		**PKiKP**	**01 25 56.5**	**0.0**
SHL				*e*S		**SKSac**	**01 32 10.0**	**-0.6**
BLA	**Blacksburg**	**102.03**	**55**	PFAKE			01 21 50.0	+15
BLA				LR		LR		
	comp=Z,8µm,21.0s							
LSA	**Lhasa**	**102.56**	**297**	PFAKE			01 21 50.0	+12
LSA				LR		LR		
	comp=Z,1µm,22.0s							
MCWV	**Mont Chateau**	**102.94**	**52**	PFAKE			01 21 50.0	+11
MCWV				LR		LR		
	comp=Z,10µm,22.0s							
GTBY	**Guantanamo Bay**	**103.00**	**73**	PFAKE			01 21 50.0	+10
GTBY				LR		LR		
	comp=Z,488nm,19.0s							
ERPA	**Erie**	**103.27**	**50**	PFAKE			01 21 50.0	+10
ERPA				LR		LR		
	comp=Z,10µm,20.0s							
CNNC	**Cliffs of the**	**103.66**	**57**	PFAKE			01 21 50.0	+7.8
CNNC				LR		LR		
	comp=Z,4µm,21.0s							
BOK	**Bokaro**	**106.02**	**291**	*ex*		**PKiKP**	**01 26 03.3**	**-2.1**
BINY	**Binghamton**	**106.22**	**50**	PFAKE			01 26 20.0	
BINY				LR		LR		
	comp=Z,8µm,19.0s							
SDDR	**Presa de Saban**	**106.32**	**75**	PFAKE			01 26 20.0	
SDDR				LR		LR		
	comp=Z,6µm,22.0s							
SAML	**Samuel**	**106.52**	**105**	PFAKE			01 26 20.0	
SAML				LR		LR		
	comp=Z,2µm,22.0s							
GRTK	**Grand Turk**	**106.97**	**72**	PFAKE			01 26 20.0	
GRTK				LR		LR		
	comp=Z,2µm,21.0s							
WMQ	**Urumqi**	**107.52**	**311**	*e*Pdif		**Pdif**	**01 21 59.9**	**+0.6**
WMQ				PP		**PP**	**01 26 31.9**	**+4.5**
WMQ				S		**Sdif**	**01 33 58.7**	**-4.3**
WMQ				SS		**SS**	**01 41 38.5**	**+1.3**
WMQ				PPMZ				
	comp=Z,220nm,4.0s							
WMQ				LR		LR		
	comp=Z,2µm,20.6s							
WMQ				LR		LR		
	comp=Z,630nm,20.6s							
WMQ				LR		LR		
	comp=Z,700nm,26.2s							
LONY	**Lake Ozonia**	**107.52**	**48**	PFAKE			01 26 20.0	
LONY				LR		LR		
	comp=Z,10µm,22.0s							
NCB	**Newcomb**	**107.71**	**48**	PFAKE			01 26 20.0	
NCB				LR		LR		
	comp=Z,9µm,22.0s							
LBNH	**Lisbon**	**109.38**	**48**	PFAKE			01 26 20.0	
LBNH				LR		LR		
	comp=Z,12µm,22.0s							
ZAA0	**Zalesovo Array**	**109.99**	**322**	*e*PKP		**PKiKP**	**01 26 10.7**	**-1.1**
ZALV	**Zalesovo Beam**	**109.99**	**322**	PKiKP		**PKiKP**	**01 26 11.8**	**0.0**
ZALV				PKKPbc		**PKKPbc**	**01 37 15.7**	**-0.2**
ZALV				PKKPab		**PKKPab**	**01 37 23.0**	**-1.5**
ZALV	**Zalesovo Beam**	**109.99**	**322**	PKiKP		**PKiKP**	**01 26 11.8**	**0.0**
	comp=Z,2.0nm,0.7s,baz=107,slow=1.5,SNR=9.1							
ZALV				PKKPbc		**PKKPbc**	**01 37 15.7**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=248,slow=3.9,SNR=4.6							
ZALV				PKKPab		**PKKPab**	**01 37 23.0**	**-1.5**
	comp=Z,3.7nm,1.0s,baz=270,slow=5.9,SNR=5.1							
DGAR	**Diego Garcia**	**110.72**	**255**	PFAKE			01 26 30.0	
DGAR				LR		LR		
	comp=Z,5µm,20.0s							
NVS	**Novosibirsk**	**110.91**	**323**	*e*PKiKP		**PKiKP**	**01 26 10.6**	**-2.9**
NVS				*e*			01 26 49.3	
SJG	**San Juan**	**110.92**	**77**	*e*PKP		**PKiKP**	**01 26 12.5**	**-2.1**
SJG				LR		LR		
	comp=Z,3µm,22.0s							
TRD	**Trivandrum**	**111.13**	**273**	AMS		AMS	02 14 34.3	
	comp=Z,4µm,17.8s							
PKME	**Peaks-Kenny Pk**	**111.31**	**47**	PFAKE			01 26 30.0	
PKME				LR		LR		
	comp=Z,9µm,21.0s							
MK31	**Makanchi Array**	**111.51**	**314**	*e*PKiKP		**PKiKP**	**01 26 14.0**	**-1.0**
MK31	**Makanchi Array**	**111.51**	**314**	*e*PKP		**PKiKP**	**01 26 13.9**	**-1.0**
MKAR	**Makanchi Array**	**111.51**	**314**	PKiKP		**PKiKP**	**01 26 14.2**	**-0.8**
MKAR	**Makanchi Array**	**111.51**	**314**	PKiKP		**PKiKP**	**01 26 14.2**	**-0.8**
MKAR				PKKPbc		**PKKPbc**	**01 37 12.2**	**+1.4**
MKAR				PKKPab		**PKKPab**	**01 37 20.1**	**+2.0**
MKAR	**Makanchi Array**	**111.51**	**314**	PKiKP		**PKiKP**	**01 26 14.1**	**-0.8**
	comp=Z,5.8nm,0.9s,baz=67,slow=1.8,SNR=19							
MKAR				PKKPbc		**PKKPbc**	**01 37 12.2**	**+1.4**
	comp=Z,5.3nm,1.1s,baz=262,slow=4.6,SNR=12							
MKAR				PKKPab		**PKKPab**	**01 37 20.1**	**+2.0**
	comp=Z,7.6nm,0.9s,baz=266,slow=3.4,SNR=16							
HYB	**Hyderabad**	**111.56**	**283**	*e*P		**PKiKP**	**01 26 13.2**	**-2.7**
NGP	**Nagpur**	**111.77**	**287**	*e*P		**PKiKP**	**01 26 16.1**	**0.0**
AKL	**Akola**	**113.57**	**286**	*e*P		**PKiKP**	**01 26 18.6**	**-1.0**
LATR	**Latur**	**113.61**	**283**	*e*P		**PKiKP**	**01 26 17.4**	**-2.2**
KURK	**Kurchatov**	**113.87**	**319**	*e*PKiKP		**PKiKP**	**01 26 16.7**	**-2.6**
KURK				MLR		MLR		
	comp=Z,717nm,21.0s							
KURK	**Kurchatov**	**113.87**	**319**	PKPdf		**PKiKP**	**01 26 21.1**	**+1.8**
	SNR=13							
KURK	**Kurchatov**	**113.87**	**319**	*e*PKP		**PKiKP**	**01 26 16.6**	**-2.6**
KURK				LR		LR		
	comp=Z,717nm,21.0s							
DDI	**Dehra Dun**	**113.88**	**296**	*ex*		PP	01 27 07.9	-5.8
SPB	**Sao Paulo**	**113.93**	**126**	PFAKE			01 26 30.0	
SPB				LR		LR		
	comp=Z,3µm,21.0s							
GRGR	**Grenville**	**113.96**	**84**	PFAKE			01 26 30.0	
GRGR				LR		LR		
	comp=Z,2µm,19.0s							
BBSR	**BB Station**	**114.18**	**61**	PFAKE			01 26 30.0	+10
BBSR				LR		LR		
	comp=Z,2µm,19.0s							
SMLA	**Simla**	**114.72**	**297**	*e*P		PKPdf	01 26 20.9	-0.5
ANWB	**Willy Bob**	**114.93**	**78**	PFAKE			01 26 30.0	+7.8
ANWB				LR		LR		
	comp=Z,2µm,22.0s							
DHRM	**DHARAMSHALA**	**115.54**	**298**	*e*P		**PKPdf**	**01 26 22.4**	**-1.0**
ULHL	**Ulahol**	**115.83**	**309**	P		**PKPdf**	**01 26 26.1**	**+2.5**
	SNR=10							
KSH	**Kashi**	**116.06**	**306**	PKP		**PKPdf**	**01 26 27.6**	**+3.6**
KSH				PP		PP	01 27 39.0	+10
KSH				PKS		**PKSdf**	**01 30 02.0**	**+1.2**
KSH				SKS		**SKSdf**	**01 33 38.3**	**+2.3**
KSH				PPMZ				
	comp=Z,160nm,3.4s							
KSH				LR		LR		
	comp=Z,680nm,12.5s							
KSH				LR		LR		
	comp=Z,650nm,13.7s							
KSH				LR		LR		
	comp=Z,1µm,17.4s							
POO	**Poona**	**116.16**	**283**	*e*P		**PKPdf**	**01 26 23.0**	**-1.7**
BBGH	**Gun Hill**	**116.18**	**83**	PFAKE			01 26 40.0	+15
BBGH				LR		LR		
	comp=Z,3µm,22.0s							
TKM2	**Tokmak 2**	**116.29**	**310**	*e*PKiKP		**PKPdf**	**01 26 24.2**	**-0.3**
TKM2				MLR		MLR		
	comp=Z,2µm,19.0s							
TKM2	**Tokmak 2**	**116.29**	**310**	*e*PKPdf		**PKPdf**	**01 26 24.2**	**-0.3**
TKM2				LR		LR		
	comp=Z,2µm,19.0s							
KZA	**Kyzart**	**116.57**	**309**	P		**PKPdf**	**01 26 28.0**	**+2.7**
	SNR=9.7							
KBK	**Karagaybulak**	**116.78**	**310**	P		**PKPdf**	**01 26 27.6**	**+2.2**
	SNR=5.6							
FRU	**Bishkek**	**117.01**	**310**	*e*PKiKP		**PKPdf**	**01 26 24.5**	**-1.1**
FRU				pmax		pmax		
	comp=Z,130nm,2.8s							
FRU				MLR		MLR		
	comp=Z,2µm,20.0s							
AAK	**Ala-Archa**	**117.11**	**310**	*e*PKiKP		**PKPdf**	**01 26 26.2**	**+0.2**
AAK				MLR		MLR		
	comp=Z,2µm,21.0s							
AAK	**Ala-Archa**	**117.11**	**310**	PKPdf		**PKPdf**	**01 26 28.2**	**+2.2**
	SNR=5.4							
AAK	**Ala-Archa**	**117.11**	**310**	*e*PKPdf		**PKPdf**	**01 26 26.1**	**+0.2**
AAK				LR		LR		
	comp=Z,2µm,21.0s							
KBS	**Kingsbay**	**117.36**	**359**	PFAKE			01 26 40.0	+15
KBS				LR		LR		
	comp=Z,2µm,20.0s							
SFJD	**Kangerlussuaq**	**117.50**	**22**	*i* P		**PP**	**01 27 36.9**	**-0.8**
SFJD								
	comp=Z,5µm,27.0s							
SFJD	**Kangerlussuaq**	**117.50**	**22**	PFAKE			01 26 40.0	+14
SFJD				LR		LR		
	comp=Z,7µm,21.0s							
EKS2	**Erkin-Say**	**117.64**	**310**	*e*PKiKP		**PKPdf**	**01 26 28.8**	**+1.8**
EKS2				MLR		MLR		
	comp=Z,1µm,20.0s							
EKS2	**Erkin-Say**	**117.64**	**310**	P		**PKPdf**	**01 26 29.5**	**+2.5**
	SNR=8.0							
EKS2	**Erkin-Say**	**117.64**	**310**	*e*PKPdf		**PKPdf**	**01 26 28.8**	**+1.8**
EKS2				LR		LR		
	comp=Z,1µm,20.0s							
AML	**Almayashu**	**117.73**	**309**	P		**PKPdf**	**01 26 30.2**	**+2.7**
	SNR=11							
SUMG	**Summit**	**118.12**	**14**	*e*PKiKP		**PKPdf**	**01 26 27.5**	**+0.1**
SUMG	**Summit**	**118.12**	**14**	*i* P		**PP**	**01 27 41.3**	**-1.0**
	comp=Z,6.3nm,1.1s							
SUMG	**Summit**	**118.12**	**14**	*e*PKPdf		**PKPdf**	**01 26 27.5**	**+0.1**
DAG	**Danmarks Havn**	**118.20**	**6**	*i* P		**PP**	**01 27 38.0**	**-4.2**
DAG								
	comp=Z,3µm,23.0s							
BRVK	**Borovoye**	**118.70**	**322**	*d i* PKiKP		**PKPdf**	**01 26 27.5**	**-1.0**
BRVK				pmax		pmax		
	comp=Z,44nm,1.2s							
BRVK	**Borovoye**	**118.70**	**322**	PKPdf		**PKPdf**	**01 26 31.0**	**+2.5**
	SNR=17							
BRVK	**Borovoye**	**118.70**	**322**	*e*PKPdf		**PKPdf**	**01 26 27.9**	**-0.6**
BRVK				LR		LR		
	comp=Z,2µm,20.0s							
RER	**Riviere de l'E**	**119.06**	**234**	PFAKE			01 26 40.0	+10
RER				LR		LR		
	comp=Z,4µm,19.0s							
KKAR	**Karatay Array**	**120.00**	**311**	*e*PKiKP		**PKPdf**	**01 26 30.2**	**-1.2**
KKAR	**Karatay Array**	**120.00**	**311**	*e*PKPdf		**PKPdf**	**01 26 30.2**	**-1.2**
KBL	**Kabul**	**121.66**	**301**	⇑P		**PKPdf**	**01 26 33.7**	**-1.4**
	baz=121,SNR=6.9							
SVE	**Sverdlovsk**	**122.95**	**328**	*i* PKiKP		**PKPdf**	**01 26 36.2**	**-0.4**
SVE				pmax		pmax		
	comp=Z,51nm,1.5s							
SOKR	**Solikamsk**	**123.63**	**332**	*e*PKiKP		**PKPdf**	**01 26 37.1**	**-0.6**
SOKR				pmax		pmax		
	comp=Z,60nm,1.0s							
ARU	**Arti**	**124.17**	**328**	*i* PKiKP		**PKPdf**	**01 26 38.0**	**-0.9**
ARU							01 33 38.6	
ARU				SP		SP	01 38 09.9	-10
ARU				PS		**PS**	**01 38 19.6**	**-2.8**
KEV	**Kevo**	**125.16**	**351**	*e*PKiKP		**PKPdf**	**01 26 35.3**	**-5.1**
KEV				pmax		pmax		
	comp=Z,58nm,1.1s							
KEV	**Kevo**	**125.16**	**351**	*e*p		**PKPdf**	**01 26 35.3**	**-5.1**
	comp=Z,58nm,1.1s							
KEV	**Kevo**	**125.16**	**351**	*e*p		**PP**	**01 28 25.0**	**-4.6**
	comp=Z,29nm,1.2s							
KEV	**Kevo**	**125.16**	**351**	PFAKE			01 26 50.0	+10
KEV				LR		LR		
	comp=Z,2µm,22.0s							
LVZ	**Lovozero**	**125.44**	**347**	*i* PKiKP		**PKPdf**	**01 26 42.8**	**+1.7**
ARCES	**ARCESS Array B**	**125.57**	**352**	PKP		**PKPdf**	**01 26 40.6**	**-0.6**
ARCES	**ARCESS Array B**	**125.57**	**352**	PKP		**PKPdf**	**01 26 40.6**	**-0.6**
	comp=Z,16nm,0.7s,baz=29,slow=2.1,SNR=28							
ABKAR	**Akbulak array**	**125.96**	**320**	*e*PKPdf		**PKPdf**	**01 26 41.7**	**-0.9**
APA	**Apatity**	**125.98**	**348**	⇑*e*PKiKP		**PKPdf**	**01 26 40.0**	**-2.0**
APA				*i*			01 38 40.0	
APA				pmax		pmax		
	comp=Z,65nm,1.2s							
ABPO	**Ambohimpanom**	**126.78**	**230**	*e*PKiKP		**PKPdf**	**01 26 44.5**	**-0.8**
ABPO				MLR		MLR		
	comp=Z,7µm,21.0s							
ABPO	**Ambohimpanom**	**126.78**	**230**	*e*PKPdf		**PKPdf**	**01 26 44.5**	**-0.8**
ABPO				LR		LR		
	comp=Z,7µm,21.0s							
MSEY	**Mahe Island**	**127.35**	**251**	PFAKE			01 27 00.0	+14
MSEY				LR		LR		
	comp=Z,5µm,22.0s							
BORG	**Borgarnes**	**128.09**	**15**	PFAKE			01 27 00.0	+14
BORG				LR		LR		
	comp=Z,8µm,21.0s							
SUR	**Sutherland**	**129.65**	**196**	*e*PKPdf		**PKPdf**	**01 26 50.5**	**0.0**
SUR				LR		LR		
	comp=Z,8µm,21.0s							
KLMR	**Klimovskoe**	**129.70**	**340**	*d i* PKiKP		**PKPdf**	**01 26 50.2**	**+0.9**
KLMR				pmax		pmax		
	comp=Z,158nm,1.3s							
KLMR				MLR		MLR		
	comp=Z,2µm,20.0s							
JOF	**Joensuu**	**130.41**	**345**	*e*PKiKP		**PKPdf**	**01 26 50.1**	**-0.5**
JOF				pmax		pmax		
	comp=Z,90nm,1.3s							
JOF	**Joensuu**	**130.41**	**345**	*e*p		**PKPdf**	**01 26 50.1**	**-0.5**
	comp=Z,90nm,1.3s							
JOF	**Joensuu**	**130.41**	**345**	*e*p		**SKPbc**	**01 30 12.0**	**-1.6**
	comp=Z,10nm,1.1s							
JMDO	**Jabal Madar**	**131.24**	**286**	PKPdf		**PKPdf**	**01 26 56.3**	**+2.9**
	SNR=9.3							
SMDO	**Samad**	**131.32**	**286**	PKPdf		**PKPdf**	**01 26 56.9**	**+3.2**
	SNR=15							
BOSA	**Boshof**	**131.78**	**202**	*e*PKPdf		**PKPdf**	**01 26 54.9**	**+0.3**
BOSA				PKP		**PKPdf**	**01 26 56.5**	**+2.0**
BOSA	**Boshof**	**131.78**	**202**	PKP		**PKPdf**	**01 26 56.5**	**+2.0**
	comp=Z,42nm,1.0s,baz=167,slow=2.9,SNR=17							
HOQ	**Hoqain**	**132.01**	**287**	PKPdf		**PKPdf**	**01 26 58.6**	**+3.7**
	SNR=7.1							
BSY	**Bisya**	**132.09**	**286**	PKPdf		**PKPdf**	**01 26 59.1**	**+4.1**
	SNR=11							
KAF	**Kangasniemi**	**132.24**	**348**	*e*PKiKP		**PKPdf**	**01 26 52.6**	**-1.5**
KAF				pmax		pmax		
	comp=Z,23nm,0.9s							
KAF	**Kangasniemi**	**132.24**	**348**	*e*p		**PKPdf**	**01 26 52.6**	**-1.5**
	comp=Z,23nm,0.9s							
RCBR	**Riachuelo**	**132.51**	**114**	*e*PKPdf		**PKPdf**	**01 26 56.7**	**+0.5**
RCBR				LR		LR		
	comp=Z,3µm,20.0s							
FINES	**FINESS Array B**	**132.89**	**347**	PKPpre		PKPpre	01 26 44.6	
FINES				PKP		**PKPdf**	**01 26 54.0**	**-1.3**
FINES	**FINESS Array B**	**132.89**	**347**	PKhKP		PKPpre	01 26 44.6	
	comp=Z,1.5nm,0.7s,baz=64,slow=3.9,SNR=3.6							
FINES				PKP		**PKPdf**	**01 26 54.0**	**-1.3**
	comp=Z,12nm,0.8s,baz=25,slow=3.7,SNR=13							
ASHO	**Ashiyiah**	**133.16**	**289**	PKPdf		**PKPdf**	**01 26 58.0**	**+0.9**
	SNR=21							
PUL	**Pulkovo**	**133.35**	**344**	*i* PKiKP		**PKPdf**	**01 26 58.5**	**+2.3**
MOS	**Moscow**	**134.13**	**336**	*e*PKiKP		**PKPdf**	**01 26 56.3**	**-1.5**
MOS				*e*			01 29 35.6	
MOS				*e*PPP		PPP	01 32 27.3	
MOS				*e*SS		SS	01 47 19.3	+3.0
MOS				pmax		pmax		
	comp=Z,500nm,2.9s							
MOS				pmax		pmax		
	comp=Z,87nm,2.0s							
RBK	**Rabkut**	**134.55**	**279**	PKPdf		**PKPdf**	**01 27 03.0**	**+3.2**
	SNR=7.4							
OBN	**Obninsk**	**135.00**	**336**	*de*PKiKP		**PKPdf**	**01 26 54.5**	**-5.0**
OBN				*i*			01 27 01.4	
OBN				*i*			01 29 34.3	
OBN				*e*			01 39 43.2	
OBN				MLR		MLR		
	comp=Z,2µm,20.0s							
NB2	**NORSAR Subarra**	**135.27**	**357**	PKPdf		PKPpre	01 26 47.0	
	comp=Z,226nm,2.5s,baz=6.6,slow=1.8							
NB2	**NORSAR Subarra**	**135.27**	**357**	PKPdf		PKPpre	01 26 47.0	
	baz=6.6,slow=1.8							
NOA	**NORSAR Array B**	**135.27**	**357**	PKPpre		PKPpre	01 26 48.6	
NOA				PKP		**PKPdf**	**01 26 59.8**	**-0.1**
NOA	**NORSAR Array B**	**135.27**	**357**	PKhKP		PKPpre	01 26 48.6	
	comp=Z,2.1nm,0.8s,baz=13,slow=4.1,SNR=4.5							
NOA				PKP		**PKPdf**	**01 26 59.8**	**-0.1**
	comp=Z,5.6nm,0.9s,baz=13,slow=4.0,SNR=7.3							
VSU	**Vasula**	**135.40**	**345**	*i* PKiKP		**PKPdf**	**01 27 02.2**	**+2.1**
VRHR	**Novokhopersk**	**135.49**	**329**	*e*PKiKP		**PKPdf**	**01 27 01.4**	**+0.9**
VRHR				pmax		pmax		
	comp=Z,10.0nm,0.9s							
VRHR				pmax		pmax		
	comp=N,10.0nm,1.6s							
VRHR				pmax		pmax		
	comp=E,10.0nm,0.7s							
LRW	**Lerwick**	**135.93**	**6**	AMS		AMS	02 27 50.3	
	comp=Z,5µm,16.8s							
VOR	**Voronezh**	**136.25**	**331**	PKiKP		**PKPdf**	**01 27 02.0**	**+0.1**
VOR				pmax		pmax		
	comp=Z,270nm,2.0s							
MAK	**Makhachkala**	**136.29**	**316**	*i* PKiKP		**PKPdf**	**01 27 03.7**	**+1.4**
MAK				*e*			01 29 39.0	
MAK				*e*PPP		PPP	01 32 40.1	
MAK				*e*SS		SS	01 47 32.6	-11
MAK				*e*SSS		SSS	01 52 50.3	
MAK				pmax		pmax		
	comp=Z,104n

QRN	**Al-Qurain**	**140.11**	**295**	*e*P		**PKPdf**	**01 27 07.6**	**-2.2**
QRN				AMb		AMB	01 27 15.9	
	comp=Z,209nm,1.4s							
KBD	**Kabd**	**140.23**	**296**	*e*P		**PKPdf**	**01 27 07.3**	**-2.6**
KBD				AMb		AMB	01 27 16.1	
	comp=Z,59nm,1.4s							
SUW	**Suwalki**	**140.28**	**345**	*e*PKIKP	PKPpre		01 27 02.6	
SUW				*e*			01 27 07.8	
SUW	**Suwalki**	**140.28**	**345**	*e*PKPpre	PKPpre		01 27 02.6	
SUW				*e*PKPdf	PKPpre		**01 27 07.8**	**-1.4**
SUW	**Suwalki**	**140.28**	**345**	*e*PKPdf	PKPpre		01 27 04.1	
SUW				*e*PKPbc	PKPpre		**01 27 06.4**	**-2.9**
SUW				*e*PKiKP	PKPpre		**01 27 11.2**	**-0.6**
SUW				*e*PKPab			01 27 13.4	
EKA	**Eskdalemuir Ar**	**140.39**	**9**	PKPpre	PKPpre		01 27 04.5	
EKA				PKP	PKPpre		**PKPdf**	**01 27 08.6**	**-0.8**
EKA	**Eskdalemuir Ar**	**140.39**	**9**	PKhKP	PKPpre		01 27 04.5	
	comp=Z,4.6nm,0.8s,baz=20,slow=2.7,SNR=3.4							
EKA				PKP		**PKPdf**	**01 27 08.6**	**-0.8**
	comp=Z,6.1nm,0.9s,baz=282,slow=2.0,SNR=4.8							
RDF	**Al-Radifah**	**140.40**	**296**	*e*P		**PKPdf**	**01 27 07.6**	**-2.7**
RDF				AMb		AMB	01 27 22.3	
	comp=Z,192nm,1.9s							
ESK	**Eskdalemuir**	**140.40**	**9**	AMS	AMS		02 25 06.4	
	comp=Z,5μm,21.5s							
ESK	**Eskdalemuir**	**140.40**	**9**	PFAKE			01 27 20.0	+11
ESK				LR	LR			
	comp=Z,6μm,21.0s							
COP	**Copenhagen**	**140.51**	**355**	*e*PKIKP		**PKPdf**	**01 27 04.4**	**-5.2**
COP				MLR	MLR			
	comp=Z,910nm,22.0s							
COP	**Copenhagen**	**140.51**	**355**	*i* P		**PKPdf**	**01 27 04.4**	**-5.2**
COP								
	comp=Z,910nm,22.0s							
GAL1	**Galloway**	**140.60**	**10**	AMS	AMS		02 22 42.0	
	comp=Z,4μm,21.4s							
NAY	**Al-Naaiem**	**140.61**	**296**	*e*P		**PKPdf**	**01 27 07.8**	**-2.9**
NAY				AMb	AMB		01 27 20.5	
	comp=Z,79nm,1.7s							
RST	**Umm Al-Ruwaisa**	**140.77**	**297**	AMb	AMB		01 27 14.8	
	comp=Z,558nm,1.1s							
BSD	**Bornholm Skovb**	**140.81**	**352**	*e*PKIKP	PKPdf		01 27 04.0	-6.2
BSD	**Bornholm Skovb**	**140.81**	**352**	*i* P	PKPdf		01 27 04.0	-6.2
SOC	**Sochi**	**140.97**	**321**	*i* PKIKP		**PKPdf**	**01 27 13.9**	**+3.1**
SOC				*e*			01 30 12.1	
SOC				*e*PPP	PPP		01 33 16.7	
SOC				*e*			01 34 20.4	
SOC				pmax	pmax			
	comp=Z,51nm,1.1s							
KESW	**Keswick, Cumbr**	**141.12**	**9**	AMS	AMS		02 25 56.8	
	comp=Z,5μm,19.3s							
AKASG	**Malin Array Be**	**141.23**	**337**	PKIKP		**PKPdf**	**01 27 10.3**	**-0.8**
AKASG	**Malin Array Be**	**141.23**	**337**	PKP		**PKPdf**	**01 27 10.3**	**-0.8**
AKASG	**Malin Array Be**	**141.23**	**337**	PKP		**PKPdf**	**01 27 10.3**	**-0.8**
	comp=Z,9.4nm,0.8s,baz=36,slow=3.7,SNR=13							
KIEV	**Kiev**	**141.25**	**337**	*e*PKIKP		**PKPdf**	**01 27 07.6**	**-3.5**
KIEV				MLR	MLR			
	comp=Z,3μm,20.0s							
KIEV	**Kiev**	**141.25**	**337**	*e*PKPpre		**PKPdf**	**01 27 07.5**	**-3.5**
KIEV				LR	LR			
	comp=Z,3μm,20.0s							
ANN	**Anapa**	**141.59**	**324**	*i* PKIKP		**PKPdf**	**01 27 08.2**	**-3.7**
ANN				*e*			01 30 14.9	
ANN				pmax	pmax			
	comp=Z,117nm,1.5s							
HPK	**Haverah Park**	**141.94**	**8**	AMS	AMS		02 26 26.8	
	comp=Z,4μm,19.5s							
LSZ	**Lusaka**	**142.02**	**215**	PFAKE			01 27 20.0	+6.3
LSZ				LR	LR			
	comp=Z,5μm,19.0s							
WLF1	**Llynfaes**	**142.16**	**11**	AMS	AMS		02 25 56.4	
	comp=Z,3μm,20.6s							
GKP	**Gorka Klasztor**	**142.25**	**350**	*e*PKP		**PKPdf**	**01 27 11.3**	**-1.5**
GKP				*e*PKPbc		**PKiKP**	**01 27 12.7**	**-3.1**
LMK	**Market Rasen**	**142.60**	**7**	AMS	AMS		02 22 22.8	
	comp=Z,4μm,28.1s							
STNC	**Stoke**	**142.71**	**9**	AMS	AMS		02 25 55.5	
	comp=Z,5μm,19.9s							
FOEL	**Foel Wylfa**	**142.75**	**10**	AMS	AMS		02 26 20.5	
	comp=Z,4μm,21.0s							
BEL	**Belsk**	**142.86**	**345**	*e*PKPdf		**PKPdf**	**01 27 11.7**	**-2.3**
BEL				*e*			01 27 19.2	
TSUM	**Tsumeb**	**143.04**	**197**	*e*PKPdf	PKPbc		01 27 12.3	+0.2
TSUM				LR	LR			
	comp=Z,7μm,20.0s							
SIM	**Simferopol'**	**143.31**	**327**	*e*PKIKP		**PKPdf**	**01 27 18.0**	**+3.0**
SIM				pmax	pmax			
	comp=Z,28nm,1.1s							
LPW	**Lampeter**	**143.34**	**11**	*e*P	PKPbc		01 27 11.8	0.0
LPW				AMS	AMS		02 15 34.9	
	comp=Z,60μm,44.7s							
RUE	**Ruedersdorf**	**143.53**	**353**	*e*PKPdf		**PKPdf**	**01 27 14.0**	**-1.1**
DAMY	**Dhamar**	**143.58**	**272**	⇑P	PKPbc		01 27 14.1	+0.1
	baz=142,SNR=8.5							
MCH1	**Michaelchurch**	**143.64**	**10**	*e*P	PKPab		01 27 11.9	0.0
MCH1				AMS	AMS		02 24 11.1	
	comp=Z,3μm,21.5s							
LVV	**L'vov**	**143.77**	**341**	*e*PKIKP		**PKPdf**	**01 27 14.9**	**-0.8**
LVV				*e*			01 30 36.7	
LVV				MLR	MLR			
	comp=N,1μm,21.0s							
LVV				MLR	MLR			
	comp=E,1μm,21.0s							
LVV				MLR	MLR			
	comp=Z,1μm,21.0s							
IBBN	**Ibbenburen**	**144.13**	**359**	*e*PKPbc		**PKPab**	**01 27 13.6**	**-0.2**
HTL	**Hartland**	**144.33**	**12**	AMS	AMS		02 23 37.8	
	comp=Z,4μm,23.0s							
KIS	**Kishinev**	**144.34**	**334**	*e*PKP		**PKPab**	**01 27 14.0**	**-0.7**
KIS				*e*SKKS			01 36 50.0	
KIS	**Kishinev**	**144.34**	**334**	*e*PPS	PPS		01 42 10.0	
KIS				LRM	MLR		02 34 10.0	
	comp=Z,2μm,22.0s							
KIS	**Kishinev**	**144.34**	**334**	*e*PKIKP		**PKPab**	**01 27 14.0**	**-0.7**
KIS				*e*			01 30 35.0	
KIS				*e*			01 33 42.0	
KWP	**Kalwaria Pacla**	**144.34**	**342**	*e*PKIKP		**PKPab**	**01 27 14.1**	**-0.6**
KWP				MLR	MLR			
	comp=Z,2μm,20.0s							
KWP	**Kalwaria Pacla**	**144.34**	**342**	⇑*i*P		**PKPab**	**01 27 14.6**	**-0.1**
KWP	**Kalwaria Pacla**	**144.34**	**342**	*e*PKPdf		**PKPab**	**01 27 14.1**	**-0.6**
KWP				LR	LR			
	comp=Z,2μm,20.0s							
KWP	**Kalwaria Pacla**	**144.34**	**342**	*e*PKPdf		**PKPab**	**01 27 14.4**	**-0.3**
KWP				*e*			01 27 22.8	
CLZ	**Clausthal**	**144.49**	**356**	*e*PKIKP		**PKPab**	**01 27 15.0**	**-0.2**
CLZ	**Clausthal**	**144.49**	**356**	*e*PKPbc		**PKPab**	**01 27 15.0**	**-0.2**
WTSB	**Winterswijk**	**144.49**	**360**	*e*PKPdf		**PKPab**	**01 27 14.5**	**-0.6**
	comp=Z,786nm,2.0s							
MALT	**Malatya**	**144.55**	**314**	⇑PKIKP		**PKPdf**	**01 27 17.8**	**+0.3**
MALT	**Malatya**	**144.55**	**314**	⇑*i*P		**PKPdf**	**01 27 17.8**	**+0.3**
WOL	**Wolverton**	**144.58**	**8**	*e*P		**PKPab**	**01 27 14.6**	**-0.8**
WOL				AMS	AMS		02 26 50.7	
	comp=Z,5μm,21.0s							
CMLA	**Cha da Macela**	**144.59**	**47**	PFAKE			01 27 30.0	+13
CMLA				LR	LR			
	comp=Z,5μm,21.0s							
OJC	**Ojcow**	**144.59**	**345**	*e*PKIKP		**PKPab**	**01 27 14.9**	**-0.7**
OJC				*e*SS	SS		01 49 22.3	+3.3
OJC	**Ojcow**	**144.59**	**345**	*e*PKP		**PKPab**	**01 27 14.9**	**-0.7**
OJC				*e*SS	SS		01 49 22.3	+3.3
OJC				L	L		02 41 48.0	
	comp=Z,3μm,18.6s							
IAS	**Iasi**	**144.71**	**335**	⇑PKIKP		**PKPdf**	**01 27 18.7**	**+1.3**
IAS	**Iasi**	**144.71**	**335**	⇑*i*P		**PKPdf**	**01 27 18.7**	**+1.3**
KSP	**Ksiaz**	**144.74**	**349**	*e*PKIKP		**PKPab**	**01 27 15.6**	**-0.5**
KSP				*e*SS	SS		01 49 20.0	-0.6
KSP				MLR	MLR			
	comp=Z,4μm,24.9s							
KSP	**Ksiaz**	**144.74**	**349**	*e*PKPdf		**PKPab**	**01 27 15.5**	**-0.5**
KSP				*e*PKiKP		**PKiKP**	**01 27 19.3**	**-1.8**
KSP				*e*			01 27 25.4	
CLL	**Collm**	**144.77**	**353**	*i* PKIKP		**PKPab**	**01 27 15.5**	**-0.7**
CLL				*i*			01 27 25.7	
CLL				MLR	MLR			
	comp=Z,3μm,20.1s							
CLL	**Collm**	**144.77**	**353**	*e*PKPbc		**PKPab**	**01 27 15.2**	**-1.0**
CLL	**Collm**	**144.77**	**353**	*i* PKPdf		**PKPab**	**01 27 15.5**	**-0.7**
CLL				*i* pPKPdf		**PKPdf**	**01 27 17.9**	**+0.6**
	comp=Z,162nm,1.2s							
CLL				*i* (sPKiKP)			01 27 25.7	
CLL				*e*			01 27 58.0	
CLL				*e*PP		**PP**	**01 30 34.0**	**+0.4**
CLL				*e*			01 31 49.0	
CLL				*e*PSKS			01 41 06.0	
CLL				*e*PPS	PPS		01 43 11.0	
CLL				*e*			01 44 30.0	
CLL				*e*SS	SS		01 49 18.0	-2.8
CLL				*e*			01 50 36.0	
CLL				*e*SSS	SSS		01 54 48.0	
CLL				LmH			02 32 00.0	
	comp=N,1μm,20.0s							
CLL				LmH			02 32 00.0	
	comp=E,2μm,21.5s							
CLL				LmV			02 38 00.0	
	comp=Z,3μm,20.1s							
CCA1	**Carnmenellis**	**144.94**	**13**	*e*P		**PKPab**	**01 27 16.1**	**-0.7**
CCA1				AMS	AMS		02 23 18.6	
	comp=Z,5μm,23.5s							
STHS	**Stebnicka Huta**	**144.96**	**343**	*e*PKIKP	PKPbc		01 27 17.2	+0.2
STHS	**Stebnicka Huta**	**144.96**	**343**	*e*PKP	PKPbc		01 27 17.2	+0.2
STHS				*e*			01 27 21.2	
DYA	**Yadsworthy**	**144.97**	**12**	*e*P		**PKPab**	**01 27 16.5**	**-0.4**
DYA				AMS	AMS		02 29 57.4	
	comp=Z,4μm,20.4s							
LEOM	**Leova**	**145.00**	**334**	⇑PKIKP		**PKPdf**	**01 27 18.8**	**+0.9**
LEOM	**Leova**	**145.00**	**334**	⇑*i*P		**PKPdf**	**01 27 18.8**	**+0.9**
BUG	**Bochum--Univer**	**145.01**	**359**	*e*PKPbc		**PKPbc**	**01 27 16.2**	**-0.8**
ELSH	**Elham, Standar**	**145.03**	**6**	*e*P		**PKPbc**	**01 27 16.9**	**-0.1**
ELSH				AMS	AMS		02 27 48.4	
	comp=Z,4μm,21.5s							
BRG	**Berggiesshubel**	**145.08**	**352**	*i* PKP		**PKPbc**	**01 27 16.9**	**-0.4**
	comp=Z,97nm,2.2s							
BRG				*i*			01 27 19.7	
	comp=Z,443nm,1.9s							
BRG				*i*			01 27 21.7	
	comp=Z,280nm,1.9s							
BRG				*i*			01 27 26.7	
	comp=Z,559nm,1.9s							
BRG				*i* PP	PP		01 30 45.8	+10
	comp=Z,50nm,1.8s							
BRG				*i*			01 30 59.1	
	comp=Z,84nm,2.1s							
BRG				SS	SS		01 50 32.0	+68
BRG								
	comp=N,2μm,18.8s							
BRG								
	comp=E,1μm,19.6s							
BRG								
	comp=Z,3μm,18.1s							
BRG	**Berggiesshubel**	**145.08**	**352**	*i* PKIKP		**PKPbc**	**01 27 16.9**	**-0.4**
BRG				*i*			01 27 26.7	
BRG				pmax	pmax			
	comp=Z,97nm,2.2s							
BRG				MLR	MLR			
	comp=N,2μm,18.8s							
BRG				MLR	MLR			
	comp=E,1μm,19.6s							
BRG				MLR	MLR			
	comp=Z,3μm,18.1s							
BRG	**Berggiesshubel**	**145.08**	**352**	*e*PKPbc		**PKPbc**	**01 27 16.6**	**-0.7**
RAC	**Raciborz**	**145.09**	**347**	*e*PKIKP		**PKPbc**	**01 27 17.2**	**-0.1**
KOLS	**Kolonicke sedl**	**145.10**	**342**	*e*PKIKP		**PKPbc**	**01 27 17.3**	**-0.1**
KOLS	**Kolonicke sedl**	**145.10**	**342**	*e*PKP		**PKPbc**	**01 27 17.3**	**-0.1**
PRAR	**RASCA**	**145.10**	**336**	⇑*i*P		**PKPbc**	**01 27 17.3**	**-0.2**
KMBO	**Kilima Mbogo**	**145.11**	**243**	PKPbc		**PKPdf**	**01 27 19.8**	**+0.4**
	SNR=258							
KMBO	**Kilima Mbogo**	**145.11**	**243**	*e*PKPbc		**PKPdf**	**01 27 19.2**	**-0.2**
KMBO				LR	LR			
	comp=Z,4μm,20.0s							
KMBO	**Kilima Mbogo**	**145.11**	**243**	⇑P		**PKPbc**	**01 27 18.0**	**-0.8**
	baz=144,SNR=56							
KMBO	**Kilima Mbogo**	**145.11**	**243**	PKPbc		**PKPdf**	**01 27 19.8**	**+0.4**
	comp=Z,87nm,1.0s,baz=78,slow=3.9,SNR=113							
UPC	**Upice**	**145.12**	**349**	*e*PKIKP		**PKPab**	**01 27 17.5**	**0.0**
UPC	**Upice**	**145.12**	**349**	*e*PKP		**PKPab**	**01 27 17.5**	**0.0**
UPC				*e*pPKP		**PKiKP**	**01 27 20.5**	**-1.3**
NIE	**Niedzica**	**145.20**	**344**	*e*PKIKP		**PKPbc**	**01 27 17.6**	**-0.2**
NIE				*e*			01 27 20.2	
NIE	**Niedzica**	**145.20**	**344**	*e*PKPab		**PKPbc**	**01 27 17.6**	**-0.2**
NIE				*e*pPKPab		**PKiKP**	**01 27 20.2**	**-1.9**
NIE				*e*SS	SS		01 49 32.5	+6.4
NIE				L	L		02 43 44.0	
	comp=Z,2μm,18.0s							
DPC	**Dobruska-Polom**	**145.21**	**349**	*e*PKIKP		**PKPbc**	**01 27 17.6**	**-0.2**
DPC				*e*			01 49 28.2	
DPC	**Dobruska-Polom**	**145.21**	**349**	*e*PKP		**PKPbc**	**01 27 17.6**	**-0.2**
DPC				*e*pPKP		**PKiKP**	**01 27 21.1**	**-1.0**
DPC				*e*SS	SS		01 49 28.2	+2.2
DPC				AMS	AMS		02 41 40.0	
HMNX	**Herstmonceux**	**145.22**	**7**	*e*P		**PKPbc**	**01 27 17.5**	**-0.2**
HMNX				AMS	AMS		02 28 31.0	
	comp=Z,6μm,21.1s							
BURAR	**Bucovina Array**	**145.27**	**338**	⇑PKIKP		**PKPbc**	**01 27 17.9**	**-0.2**
BURAR	**Bucovina Array**	**145.27**	**338**	⇑*i*P		**PKPbc**	**01 27 17.9**	**-0.2**
PVCC	**Panska Ves**	**145.33**	**351**	*e*PKIKP		**PKPbc**	**01 27 18.1**	**0.0**
PVCC				*e*			01 49 23.9	
PVCC				*e*			01 54 58.0	
PVCC				MLR	MLR			
	comp=Z,3μm,19.6s							
PVCC	**Panska Ves**	**145.33**	**351**	*e*PKP		**PKPbc**	**01 27 18.1**	**0.0**
PVCC				*e*pPKP		**PKiKP**	**01 27 21.1**	**-1.2**
PVCC				*e*SS	SS		01 49 23.9	-3.3
PVCC				*e*x	x		01 54 58.0	
PVCC				AMS	AMS		02 36 10.0	
	comp=Z,3μm,19.6s							
OKC	**Ostrava-Krasne**	**145.33**	**347**	*e*PKIKP		**PKPbc**	**01 27 17.6**	**-0.5**
OKC				*e*			01 49 17.5	
OKC				MLR	MLR			
	comp=Z,2μm,17.9s							
OKC	**Ostrava-Krasne**	**145.33**	**347**	*e*PKP		**PKPbc**	**01 27 17.6**	**-0.5**
OKC				*e*pPKP		**PKiKP**	**01 27 21.1**	**-1.2**
OKC				*e*x	x		01 49 17.5	
OKC				AMS	AMS		02 37 20.0	
	comp=Z,2μm,17.9s							
UZH	**Uzhgorod**	**145.36**	**342**	*e*PKIKP		**PKPbc**	**01 27 16.4**	**-1.8**
UZH				*i*			01 27 18.0	
UZH				*i*			01 27 23.4	
UZH				*i*			01 27 30.0	
UZH				*e*			01 30 37.8	
UZH				*e*			01 34 17.0	
UZH				MLR	MLR			
	comp=N,2μm,21.0s							
UZH				MLR	MLR			
	comp=E,700nm,21.0s							
UZH				MLR	MLR			
	comp=Z,700nm,21.0s							
MORC	**Moravsky Berou**	**145.52**	**347**	*e*PKIKP		**PKPdf**	**01 27 17.8**	**-1.0**
MORC	**Moravsky Berou**	**145.52**	**347**	⇑*i*P		**PKPdf**	**01 27 18.7**	**-0.1**
MORC	**Moravsky Berou**	**145.52**	**347**	*e*PKPbc		**PKPdf**	**01 27 17.8**	**-1.0**
UBBA	**Unterbreizbach**	**145.53**	**356**	*e*PKPbc		**PKPdf**	**01 27 17.9**	**-0.6**
MOX	**Moxa**	**145.57**	**354**	*e*PKIKP		**PKPdf**	**01 27 18.4**	**-0.4**
MOX	**Moxa**	**145.57**	**354**	*e*PKPbc		**PKPdf**	**01 27 18.4**	**-0.4**
MOX				*e*L	L		02 35 43.2	
	comp=Z,3μm,20.1s							
TESR	**Tescani**	**145.63**	**335**	⇑*i*P		**PKPdf**	**01 27 18.7**	**-0.3**
SHEL	**Horse Pasture**	**145.64**	**159**	*e*PKP2		**PKPab**	**01 27 22.3**	**+1.9**
SHEL				MLR	MLR			
	comp=Z,3μm,20.0s							
SHEL	**Horse Pasture**	**145.64**	**159**	*e*PKPbc		**PKPab**	**01 27 22.3**	**+1.9**
SHEL				LR	LR			
	comp=Z,3μm,20.0s							
BEBN	**Eben Emael**	**145.65**	**1**	PKP		**PKPdf**	**01 27 18.8**	**0.0**
GHRR		**145.68**	**334**	⇓*i*P		**PKPab**	**01 27 20.2**	**+0.5**
HGN	**Heimansgroeve**	**145.69**	**1**	*e*PKPdf		**PKPdf**	**01 27 18.3**	**-0.7**
	comp=Z,2μm,1.8s							
MENF	**Mencas**	**145.71**	**5**	PKP		**PKPdf**	**01 27 18.2**	**-0.7**
TANN	**Tannenbergstha**	**145.72**	**353**	*e*PKPbc		**PKPdf**	**01 27 19.0**	**-0.1**
TRPA	**Tarpa**	**145.73**	**341**	⇑*i*P		**PKPdf**	**01 27 19.0**	**-0.1**
TRPA	**Tarpa**	**145.73**	**341**	⇓*e*PKPdf		**PKPdf**	**01 27 19.0**	**-0.1**
TLCR		**145.75**	**332**	⇑PKP2		**PKPbc**	**01 27 19.4**	**-0.2**
TLCR		**145.75**	**332**	⇑*i*P		**PKPbc**	**01 27 19.4**	**-0.2**
PRA	**Prague**	**145.79**	**351**	⇓PKP		**PKPab**	**01 27 20.0**	**0.0**
PRA				AMS	AMS		02 36 30.0	
MEM	**Membach**	**145.84**	**1**	PKP		**PKPdf**	**01 27 19.1**	**-0.1**
PRU	**Pruhonice**	**145.86**	**351**	*e*PKP2		**PKPdf**	**01 27 19.4**	**+0.1**
PRU				*e*			01 49 35.2	
PRU				MLR	MLR			
	comp=Z,4μm,20.0s							
PRU	**Pruhonice**	**145.86**	**351**	*e*PKP		**PKPdf**	**01 27 19.4**	**+0.1**
PRU				*e*pPKP		**PKiKP**	**01 27 22.7**	**-0.7**
PRU				*e*SS	SS		01 49 35.2	+2.0
PRU				*e*x	x		01 54 41.8	
PRU				AMS	AMS		02 35 50.0	
	comp=Z,4μm,20.0s							
SNF	**Seneffe**	**145.90**	**3**	PKP		**PKPdf**	**01 27 19.2**	**-0.1**
KECS	**Kecovo**	**146.01**	**343**	*e*PKP2		**PKPbc**	**01 27 20.3**	**0.0**
KECS	**Kecovo**	**146.01**	**343**	*e*PKP		**PKPbc**	**01 27 20.3**	**0.0**
KECS				*e*			01 27 23.9	
BCLA	**Clavier**	**146.02**	**1**	PKP		**PKPdf**	**01 27 19.5**	**0.0**
PETR	**Petresti**	**146.03**	**334**	⇑*i*P		**PKPab**	**01 27 21.8**	**+0.8**
ARCR	**ARCALIA**	**146.03**	**338**	⇑*i*P		**PKPbc**	**01 27 20.3**	**-0.1**
CFR	**Carcaliu**	**146.06**	**332**	⇑PKP2		**PKPdf**	**01 27 20.1**	**+0.4**
CFR	**Carcaliu**	**146.06**	**332**	⇑*i*P		**PKPdf**	**01 27 20.1**	**+0.4**
VRI	**Vrincioaia**	**146.12**	**334**	⇑PKP2		**PKPbc**	**01 27 20.5**	**-0.3**
VRI	**Vrincioaia**	**146.12**	**334**	⇑*i*P		**PKPbc**	**01 27 20.5**	**-0.3**
VRAC	**Vranov**	**146.16**	**348**	⇓*i*P		**PKPbc**	**01 27 20.9**	**+0.1**
VRAC	**Vranov**	**146.16**	**348**	PKPbc		**PKPbc**	**01 27 20.6**	**-0.2**
VRAC	**Vranov**	**146.16**	**348**	PKPbc		**PKPbc**	**01 27 20.6**	**-0.2**
	comp=Z,28nm,1.0s,baz=17,slow=1.8,SNR=43							
PLOR	**Plostina**	**146.17**	**335**	⇓PKP2		**PKPbc**	**01 27 20.5**	**-0.4**
PLOR	**Plostina**	**146.17**	**335**	⇓*i*P		**PKPbc**	**01 27 20.5**	**-0.4**
TNS	**Taunus Mts**	**146.20**	**358**	*e*PKP2		**PKPbc**	**01 27 20.7**	**-0.2**
TNS	**Taunus Mts**	**146.20**	**358**	*e*PKPbc		**PKPbc**	**01 27 20.7**	**-0.2**
DOU	**Dourbes**	**146.32**	**2**	PKP		**PKPdf**	**01 27 20.4**	**+0.4**
TREC	**Trest**	**146.38**	**349**	*e*PKP2		**PKPdf**	**01 27 20.2**	**0.0**
TREC				MLR	MLR			
	comp=Z,4μm,19.1s							
TREC	**Trest**	**146.38**	**349**	*e*PKP		**PKPdf**	**01 27 20.2**	**0.0**
TREC				*e*pPKP		**PKiKP**	**01 27 23.9**	**-0.6**
TREC				*e*SS	SS		01 49 47.8	+8.6
TREC				AMS	AMS		02 36 50.0	
	comp=Z,4μm,19.1s							
ROTZ	**Rotzenmuhle**	**146.38**	**353**	*e*PKPbc		**PKPbc**	**01 27 21.6**	**+0.2**
GRER		**146.41**	**334**	⇓*i*P		**PKPab**	**01 27 25.0**	**+2.5**
TIRR	**Tirgusor**	**146.49**	**331**	*e*PKP2		**PKPbc**	**01 27 21.6**	**-0.3**
TIRR	**Tirgusor**	**146.49**	**331**	⇑*i*P		**PKPab**	**01 27 22.6**	**-0.2**
TIRR	**Tirgusor**	**146.49**	**331**	*e*PKPbc		**PKPbc**	**01 27 21.6**	**-0.3**
JSA	**Saint Aubin**	**146.50**	**10**	*e*P		**PKPdf**	**01 27 19.4**	**-0.9**
JSA				AMS	AMS		02 29 13.4	
	comp=Z,3μm,19.7s							
HARR	**Harsova**	**146.53**	**332**	⇑PKP2		**PKPbc**	**01 27 22.1**	**+0.1**
HARR	**Harsova**	**146.53**	**332**	⇑*i*P		**PKPbc**	**01 27 22.1**	**+0.1**
GRF	**Grafenberg Arr**	**146.56**	**355**	*e*PKP2		**PKPbc**	**01 27 22.0**	**+0.1**
GRF	**Grafenberg Arr**	**146.56**	**355**	*e*PKPbc		**PKPbc**	**01 27 22.0**	**+0.1**
GRF				*e*L	L		02 36 38.2	
	comp=Z,4μm,20.4s							
GRFO	**Grafenberg**	**146.56**	**355**	*e*PKP2		**PKPbc**	**01 27 21.4**	**-0.5**
GRFO	**Grafenberg**	**146.56**	**355**	*e*PKPbc		**PKPbc**	**01 27 21.4**	**-0.5**
TLB	**Topalu**	**146.56**	**332**	⇓PKP2		**PKPbc**	**01 27 22.0**	**-0.1**
TLB	**Topalu**	**146.56**	**332**	⇓*i*P		**PKPbc**	**01 27 22.0**	**-0.1**
DOPR	**Dopca**	**146.58**	**336**	⇑*i*P		**PKPab**	**01 27 27.6**	**+4.5**
PSZ	**Piszkesteto**	**146.69**	**344**	*e*PKP2		**PKPdf**	**01 27 21.1**	**+0.3**
PSZ				MLR	MLR			
	comp=Z,2μm,20.0s							
PSZ	**Piszkesteto**	**146.69**	**344**	*e*PKPbc		**PKPdf**	**01 27 21.1**	**+0.3**
PSZ				LR	LR			
	comp=Z,2μm,20.0s							
PSZ	**Piszkesteto**	**146.69**	**344**	⇓*e*		**PKPbc**	**01 27 22.5**	**0.0**
SMOL	**Smolenice**	**146.74**	**347**	*e*PKP2		**PKPab**	**01 27 23.1**	**-0.5**
SMOL	**Smolenice**	**146.74**	**347**	*e*PKP		**PKPab**	**01 27 23.1**	**-0.5**
MLR	**Muntele Rosu**	**146.75**	**335**	⇑*i*P		**PKPbc**	**01 27 22.2**	**-0.6**
MLR	**Muntele Rosu**	**146.75**	**335**	PKPbc		**PKPbc**	**01 27 22.1**	**-0.6**
MLR	**Muntele Rosu**	**146.75**	**335**	PKPbc		**PKPbc**	**01 27 22.2**	**-0.6**
	comp=Z,56nm,1.2s,baz=346,slow=2.9,SNR=25							
PGOR	**Pogoanele**	**146.78**	**333**	⇓*i*P		**PKPab**	**01 27 25.5**	**+1.6**
WLF	**Walferdange**	**146.79**	**1**	PKP		**PKPbc**	**01 27 22.7**	**+0.1**
WLF	**Walferdange**	**146.79**	**1**	*e*PKP2		**PKPbc**	**01 27 22.2**	**-0.4**
WLF				MLR	MLR			

THEF	They Montfort	148.23	1	PKP		PKPbc	01 27 25.6	-1.0	
ECH	Echery	148.24	359	*e*PKP2		PKPbc	01 27 25.8	-0.9	
ECH				MLR		MLR			
	comp=Z,3µm,20.0s								
ECH	Echery	148.24	359	PKP		PKPdf	01 27 25.0	+1.7	
ECH	Echery	148.24	359	*e*PKPbc		PKPbc	01 27 25.8	-0.9	
ECH				LR		LR			
	comp=Z,3µm,20.0s								
BZS	Buzias	148.25	340	⇓PKP2		PKPbc	01 27 26.3	-0.4	
BZS	Buzias	148.25	340	⇓*i*P		PKPbc	01 27 26.3	-0.4	
RJOB	Jochberg	148.31	352	*e*PKPbc		PKPbc	01 27 26.7	-0.2	
ARSA	Arzberg	148.34	346	⇓*i*PKPdf		PKPdf	01 27 22.2	-1.3	
	comp=Z,3µm,3.5s,SNR=57								
PKS9	Tamasi	148.34	345	⇓*e*		PKPbc	01 27 27.9	+1.0	
ASF	Jabal al Asfar	148.37	305	PKPbc		PKPbc	01 27 27.1	-0.5	
ASF	Jabal al Asfar	148.37	305	PKPbc		PKPbc	01 27 27.1	-0.5	
	baz=6.9,slow=1.7								
HAU	Haudompre	148.45	0	*e*PKIKP		PKPbc	01 27 26.6	-0.6	
HAU				*e*R					
	comp=Z,5µm,23.0s								
ZIMR		148.48	333	⇓PKP2		PKPbc	01 27 28.4	+1.0	
ZIMR		148.48	333	⇓*i*P		PKPbc	01 27 28.4	+1.0	
SZH	Strazhica	148.54	332	P		PKPbc	01 27 26.2	-1.4	
FELD	Feldberg im Sc	148.56	358	PKP		PKPdf	01 27 25.2	+1.2	
BHL	Bhannes	148.60	309	*e*P		PKPdf	01 27 23.9	-0.6	
MOF	Molkenrain	148.60	359	PKP		PKPdf	01 27 25.8	+1.8	
HINF	Hinteralfeld	148.64	360	*e*PKIKP		PKPbc	01 27 26.8	-0.9	
RCY	Rachaya	148.64	308	*e*P		PKPdf	01 27 24.9	+0.2	
RETA	Reutte	148.78	355	⇑*i*PKPdf		PKPdf	01 27 24.6	+0.3	
	comp=Z,3µm,3.4s,SNR=93								
BEHE	Becsehely	148.82	346	⇓*e*		PKPbc	01 27 26.4	-1.8	
PVL	Pavlikeni	148.85	333	P		PKPbc	01 27 26.7	-1.6	
WATA	Walderalm	148.85	353	⇓*i*PKPdf		PKPdf	01 27 24.3	-0.3	
	comp=Z,425nm,1.4s,SNR=52								
JMB	Yambol	148.87	331	P		PKPdf	01 27 25.3	+0.8	
JMB	Yambol	148.87	331	PKIKP		PKPdf	01 27 25.3	+0.8	
JMB	Yambol	148.87	331	P		PKPdf	01 27 27.2	-1.2	
JMB	Yambol	148.87	331	P		PKPdf	01 27 25.3	+0.8	
KBA	Koelnbreinsper	148.88	351	⇑*i*PKPdf		PKPdf	01 27 25.1	+0.4	
	comp=Z,2µm,3.2s,SNR=6.7								
MOTA	Moosalm	148.89	354	⇓*i*PKPdf		PKPdf	01 27 23.6	-1.0	
	comp=Z,673nm,1.6s,SNR=72								
SOKA	Soboth	148.98	349	⇑*i*PKPdf		PKPdf	01 27 23.4	-1.2	
	comp=Z,891nm,1.8s,SNR=100								
HYF	Humbligny	149.02	5	*e*PKIKP		PKPbc	01 27 27.0	-1.7	
DAVA	Damuels	149.05	356	⇑*i*pPKPdf		PKPdf	01 27 26.0	+1.1	
	comp=Z,3µm,2.9s,SNR=87								
LOR	Lormes	149.11	4	*e*PKIKP		PKPbc	01 27 26.9	-2.0	
LOR				*e*R					
	comp=Z,8µm,22.0s								
LOMF	Lomont	149.11	360	PKP		PKPdf	01 27 26.9	+2.0	
MMAI	Mount Meron Ar	149.18	308	PKPbc		PKPbc	01 27 29.9	+0.3	
MMAI	Mount Meron Ar	149.18	308	PKPbc		PKPbc	01 27 29.9	+0.3	
	comp=Z,24nm,0.7s,baz=60,slow=5.8,SNR=2.3								
LCHF	La Chataignera	149.18	10	PKP		PKPdf	01 27 24.1	-0.8	
OBKA	Obir	149.23	349	⇑*i*pPKPdf		PKPdf	01 27 25.5	+0.4	
	comp=Z,2µm,3.6s,SNR=14								
FETA	Feichten	149.25	354	⇓*i*pPKPdf		PKPdf	01 27 24.9	-0.3	
	comp=Z,2µm,3.1s,SNR=82								
PHNC	Paralimni	149.26	312	P		PKPbc	01 27 29.3	-0.3	
MYKA	Terra Mystica	149.27	350	⇓*i*PKPdf		PKPdf	01 27 22.3	-2.9	
	comp=Z,826nm,2.1s,SNR=51								
SSF	Saint Saulge	149.29	4	*e*PKIKP		PKPdf	01 27 27.2	+2.1	
ABTA	Abfaltersbach	149.32	352	⇑*i*pPKPdf		PKPdf	01 27 25.4	+0.2	
	comp=Z,1µm,1.9s,SNR=92								
MFF	Saint Martin d	149.34	9	*e*PKIKP		PKPdf	01 27 26.1	+1.0	
	comp=Z,278nm,1.5s								
MPEP	Malo Peshtene	149.40	335	P		PKPdf	01 27 25.9	+0.5	
AVF	Avril sur Loir	149.55	4	*e*PKIKP		PKPdf	01 27 27.2	+1.7	
DAVOX	Davos/Dischmat	149.56	356	PKPbc		PKPbc	01 27 30.6	+0.3	
DAVOX	Davos/Dischmat	149.56	356	PKPbc		PKPbc	01 27 30.6	+0.3	
	comp=Z,116nm,0.9s,baz=359,slow=1.9,SNR=14								
DIM	Dimitrovgrad	149.68	331	P		PKPbc	01 27 31.8	+1.3	
LJU	Ljubljana	149.68	349	*i* PKPdf		PKPdf	01 27 25.6	-0.1	
LJU				*i* PKPbc		PKiKP	01 27 31.8	+0.4	
LJU				*i*			01 27 38.5		
LJU				*i*			01 29 15.6		
SMF	Signal de Mont	149.73	4	*e*PKIKP		PKPdf	01 27 27.6	+1.8	
MAMC	Mammari	149.75	313	P		PKPbc	01 27 28.6	-2.3	
OLEF	Ile d'Oleron	149.77	11	PKP		PKPdf	01 27 26.2	+0.4	
CSS	Prodhromos	149.77	313	P		PKPdf	01 27 28.5	+2.3	
	comp=Z,7.6nm,1.9s								
CSS	Prodhromos	149.77	313	P		PKPdf	01 27 24.6	-1.6	
CSS	Prodhromos	149.77	313	*e*PKPdf		PKPdf	01 27 28.1	+1.9	
CSS				*e*PKPbc		PKiKP	01 27 33.4	+1.4	
CSS				LR		LR			
	comp=Z,3µm,19.0s								
VOY	Vojsko	149.81	350	*e*PKPdf		PKPdf	01 27 26.2	+0.2	
VOY				*e*			01 27 30.0		
VOY				*e*PKPbc		PKiKP	01 27 32.8	+1.0	
VOY				*e*			01 27 57.2		
VOY				*e*			01 28 08.1		
VOY				*e*			01 29 16.8		
CABF	La Chapelle	149.84	1	*e*PKIKP		PKPbc	01 27 28.7	-2.2	
SISC	Sisak	149.85	346	P		PKPdf	01 27 26.3	+0.4	
PGB	Panagyurishte	149.89	334	P		PKPbc	01 27 30.3	-0.8	
TUE	Stuetta	149.90	356	*e*PKPdf		PKPdf	01 27 28.6	+2.3	
TUE				*e*PKPbc		PKiKP	01 27 34.4	+2.3	
TUE				LR		LR			
	comp=Z,4µm,21.0s								
JAVS	Javornik	149.91	350	*i* PKPdf		PKPdf	01 27 26.4	+0.1	
JAVS				*e*PKPbc		PKiKP	01 27 32.0	0.0	
JAVS				*i*			01 29 16.6		
TCF	Toulx Ste Croi	149.95	6	*e*PKIKP		PKPdf	01 27 28.0	+1.8	
PLD	Plovdiv	150.01	332	P		PKPdf	01 27 25.3	-1.0	
PLD	Plovdiv	150.01	332	P		PKPdf	01 27 25.3	-1.0	
KDZ	Kurdzhali	150.05	331	P		PKPdf	01 27 28.0	+1.5	
BOJS	Bojanci	150.06	348	*i* PKPdf		PKPdf	01 27 25.8	-0.5	
BOJS				*i* PKPbc		PKiKP	01 27 33.5	+1.4	
BOJS				*i*			01 29 17.6		
DIVS	Divibare	150.12	340	P		PKPdf	01 27 25.0	-1.6	
OG01	Vacheresse	150.13	360	PKP		PKPdf	01 27 27.5	+1.0	
TRI	Trieste	150.14	350	*e*PKIKP		PKPbc	01 27 30.5	-0.9	
TRI	Trieste	150.14	350	*e*PKPbc		PKPbc	01 27 30.5	-0.9	
SZAC	Souni-Zanaja	150.19	313	P		PKPdf	01 27 28.3	+1.4	
	comp=Z,4.6nm,1.1s								
VTS	Vitosha	150.25	335	P		PKPdf	01 27 27.1	+0.2	
VTS	Vitosha	150.25	335	PKIKP		PKPdf	01 27 27.1	+0.2	
VTS	Vitosha	150.25	335	⇑*i*P		PKPbc	01 27 31.8	-0.3	
VTS	Vitosha	150.25	335	P		PKPdf	01 27 27.4	+0.5	
VTS	Vitosha	150.25	335	P		PKPdf	01 27 27.1	+0.2	
AGO	Saint Agoulin	150.26	5	PKP		PKPdf	01 27 29.1	+2.4	
ALN	Alexandroupoli	150.34	329	P		PKPdf	01 27 24.8	-2.1	
ALN	Alexandroupoli	150.34	329	PKIKP		PKPdf	01 27 24.8	-2.1	
ALN	Alexandroupoli	150.34	329	*e*P		PKPdf	01 27 28.0	+1.1	
ALN	Alexandroupoli	150.34	329	P		PKPdf	01 27 24.8	-2.1	
RZN	Rozhen	150.34	332	P		PKPdf	01 27 28.2	+1.1	
PLDF	La Plantade	150.38	4	PKP		PKPdf	01 27 28.9	+2.0	
RDO	Rodhopi	150.39	330	P		PKPdf	01 27 25.0	-1.9	
RDO	Rodhopi	150.39	330	*e*P		PKPdf	01 27 27.5	+0.6	
RDO	Rodhopi	150.39	330	P		PKPdf	01 27 25.0	-1.9	
AKMC	Akamas	150.44	314	P		PKPdf	01 27 28.2	+0.9	
PPCY	Paphos	150.50	314	P		PKPdf	01 27 27.8	+0.5	
VERF	Verneugheol	150.51	6	PKP		PKPdf	01 27 26.5	-0.6	
PYM	Petit Puy Mans	150.55	5	PKP		PKPdf	01 27 29.8	+2.6	
MBAR	Mbarara	150.82	237	PFAKE			01 27 40.0	-1.4	
MBAR				LR		LR			
	comp=Z,686nm,22.0s								
RJF	Les Rejaudoux	150.84	7	*e*PKIKP		PKPdf	01 27 28.9	+1.3	
	comp=Z,118nm,1.4s								
RJF				*e*R					
	comp=Z,9µm,22.8s								
EIL	Elat	150.84	302	PKPbc		PKPbc	01 27 34.2	+0.5	
EIL	Elat	150.84	302	⇓P		PKPdf	01 27 28.2	+0.1	
	baz=150,SNR=12								
EIL	Elat	150.84	302	PKPbc		PKPbc	01 27 34.2	+0.5	
	baz=88,slow=2.1								
MMB	Musomiste	150.86	333	P		PKPdf	01 27 26.7	-1.1	
UDBI	Udbina	150.88	346	P		PKPdf	01 27 27.8	+0.1	
KKB	Krupnik	150.91	334	P		PKPdf	01 27 29.9	+2.1	
SMTH	Samothraki Isl	150.91	329	P		PKPdf	01 27 24.6	-3.2	
SMTH	Samothraki Isl	150.91	329	*e*P		PKPdf	01 27 29.1	+1.3	
SMTH	Samothraki Isl	150.91	329	P		PKPdf	01 27 24.6	-3.2	
LPL	La Plagne	150.94	360	*e*PKIKP		PKPdf	01 27 30.5	+2.5	
	comp=Z,185nm,1.9s								
LPG	La Plagne	150.96	360	*e*PKIKP		PKPdf	01 27 30.7	+2.6	
KAVA	Kavala	150.99	331	P		PKPdf	01 27 26.1	-1.8	
KAVA	Kavala	150.99	331	P		PKPdf	01 27 26.1	-1.8	
NVR	Nevrokopi	151.00	333	P		PKPdf	01 27 26.4	-1.6	
NVR	Nevrokopi	151.00	333	*e*P		PKPdf	01 27 28.2	+0.2	
NVR	Nevrokopi	151.00	333	P		PKPdf	01 27 26.4	-1.6	
PLE	Pljevlja	151.01	341	⇓*i*PKP		PKPdf	01 27 30.3	+2.3	
NVLJ	Novalja	151.04	348	P		PKPdf	01 27 28.6	+0.7	
LFF	La Frestale	151.09	9	*e*PKIKP		PKPdf	01 27 30.1	+2.2	
	comp=Z,144nm,1.6s								
SSB	Saint Sauveur	151.13	3	*e*PKIKP		PKPdf	01 27 29.6	+1.5	
SSB				*e*			01 27 34.4		
SSB				MLR		MLR			
	comp=Z,9µm,20.0s								
SSB	Saint Sauveur	151.13	3	PKP		PKPdf	01 27 27.9	-0.2	
SSB	Saint Sauveur	151.13	3	*e*PKPdf		PKPdf	01 27 29.6	+1.5	
SSB				*e*PKPbc		PKiKP	01 27 34.4	-0.1	
SSB				LR		LR			
	comp=Z,9µm,20.0s								
IVA	Berane	151.25	339	⇓*i*PKP		PKPdf	01 27 30.6	+2.2	
GDM	Grand'Maison	151.25	1	PKP		PKPdf	01 27 30.7	+2.3	
UPM	Unac-Piva	151.27	341	⇑*i*PKP		PKPdf	01 27 30.3	+1.8	
CAF	Calviac	151.28	7	*e*PKIKP		PKPdf	01 27 30.6	+2.3	
	comp=Z,150nm,1.6s								
SRS	Serrai	151.30	333	P		PKPdf	01 27 26.1	-2.3	
SRS	Serrai	151.30	333	PKIKP		PKPdf	01 27 26.1	-2.3	
SRS	Serrai	151.30	333	P		PKPdf	01 27 26.1	-2.3	
BNI	Bardonecchia	151.41	360	*e*PKIKP		PKPbc	01 27 32.1	-2.6	
BNI				MLR		MLR			
	comp=Z,4µm,22.0s								
BNI	Bardonecchia	151.41	360	*e*PKPbc		PKPbc	01 27 32.1	-2.6	
BNI				LR		LR			
	comp=Z,4µm,22.0s								
PRK	Paraskevi	151.46	327	P		PKPdf	01 27 26.9	-1.8	
PRK	Paraskevi	151.46	327	PKIKP		PKPdf	01 27 26.9	-1.8	
PRK	Paraskevi	151.46	327	*e*P		PKPdf	01 27 28.1	-0.6	
PRK	Paraskevi	151.46	327	P		PKPdf	01 27 26.9	-1.8	
PGAV	Gavieira, Arco	151.47	24	*e*PKPdf		PKPdf	01 27 28.7	0.0	
PGAV	Gavieira, Arco	151.47	24	*e*PP		PP	01 31 14.4	+1.2	
PGAV	Gavieira, Arco	151.47	24	*e*SS		SS	01 50 49.1	+12	
PGAV				*i* P		x	01 56 41.1		
PGAV	Gavieira, Arco	151.47	24	*e*LQ		LQ	02 10 44.4		
PGAV				*e*LR		LR	02 18 16.1		
	comp=Z,7µm,22.0s								
PVY	Plav	151.47	339	*e*PKP		PKPdf	01 27 30.1	+1.3	
SKO	Skopje	151.48	336	P		PKPdf	01 27 28.9	+0.3	
SKO	Skopje	151.48	336	PKIKP		PKPdf	01 27 28.9	+0.3	
SKO	Skopje	151.48	336	P		PKPdf	01 27 28.9	+0.3	
SKO	Skopje	151.48	336	*e*PKP		PKPdf	01 27 25.1	-3.5	
LIA	Limnos Island	151.52	329	P		PKPdf	01 27 26.6	-2.1	
LIA	Limnos Island	151.52	329	*e*P		PKPdf	01 27 28.5	-0.2	
LIA	Limnos Island	151.52	329	P		PKPdf	01 27 26.6	-2.1	
ORIF	Oris-en-Rattie	151.53	1	*e*PKIKP		PKPdf	01 27 31.1	+2.3	
	comp=Z,175nm,1.8s								
ORIF				*e*R					
	comp=Z,9µm,22.5s								
VIVF	Saint-Julien-l	151.56	3	*e*PKIKP		PKPdf	01 27 31.0	+2.3	
	comp=Z,175nm,1.7s								
KNT	Kendrikon	151.57	334	P		PKPdf	01 27 27.9	-0.9	
KNT	Kendrikon	151.57	334	PKIKP		PKPdf	01 27 27.9	-0.9	
KNT	Kendrikon	151.57	334	P		PKPdf	01 27 27.9	-0.9	
VAY	Valandovo	151.57	334	P		PKPdf	01 27 26.8	-2.0	
VAY	Valandovo	151.57	334	PKIKP		PKPdf	01 27 26.8	-2.0	
VAY	Valandovo	151.57	334	P		PKPdf	01 27 26.8	-2.0	
VAY	Valandovo	151.57	334	*e*PKP		PKPdf	01 27 23.2	-5.5	
NKY	Niksic	151.60	341	⇓*i*PKP		PKPdf	01 27 31.2	+2.3	
KSL	Kastellorizon	151.62	318	*e*P		PKPbc	01 27 37.4	+2.1	
SOH	Sokhos	151.65	333	P		PKPdf	01 27 29.1	+0.1	
SOH	Sokhos	151.65	333	PKIKP		PKPdf	01 27 29.1	+0.1	
SOH	Sokhos	151.65	333	P		PKPdf	01 27 29.1	+0.1	
NKME	Niksic	151.65	341	⇓*i*PKP		PKPdf	01 27 31.2	+2.3	
BRY	Bratogost	151.66	341	⇓*i*PKP		PKPdf	01 27 30.3	+1.2	
MBDF	Montbardon	151.73	360	*e*PKIKP		PKPdf	01 27 31.4	+2.3	
	comp=Z,186nm,1.8s								
OUR	Ouranopolis	151.76	331	P		PKPdf	01 27 26.0	-3.1	
OUR	Ouranopolis	151.76	331	PKIKP		PKPdf	01 27 26.0	-3.1	
OUR	Ouranopolis	151.76	331	P		PKPdf	01 27 26.0	-3.1	
PDG	Podgorica	151.86	340	P		PKPdf	01 27 30.3	+1.1	
TTG	Podgorica	151.86	340	⇓*i*PKP		PKPdf	01 27 30.3	+1.1	
TTG	Podgorica	151.86	340	PKIKP		PKPdf	01 27 30.3	+1.1	
TTG	Podgorica	151.86	340	P		PKPdf	01 27 30.3	+1.1	
STON	Ston	151.94	343	P		PKPdf	01 27 28.6	-0.7	
HORT	Hortiatis	151.94	333	P		PKPdf	01 27 27.9	-1.6	
HORT	Hortiatis	151.94	333	P		PKPdf	01 27 27.9	-1.6	
GRG	Griva	151.95	334	P		PKPdf	01 27 27.6	-1.8	
GRG	Griva	151.95	334	PKIKP		PKPdf	01 27 27.6	-1.8	
GRG	Griva	151.95	334	*e*P		PKPdf	01 27 31.0	+1.6	
GRG	Griva	151.95	334	P		PKPdf	01 27 27.6	-1.8	
PLG	Polygyros	151.97	332	P		PKPdf	01 27 26.1	-3.4	
PLG	Polygyros	151.97	332	PKIKP		PKPdf	01 27 26.1	-3.4	
PLG	Polygyros	151.97	332	*e*P		PKPdf	01 27 28.8	-0.7	
PLG	Polygyros	151.97	332	P		PKPdf	01 27 26.1	-3.4	
THE	Thessaloniki	151.97	333	P		PKPdf	01 27 27.1	-2.3	
THE	Thessaloniki	151.97	333	PKIKP		PKPdf	01 27 27.1	-2.3	
THE	Thessaloniki	151.97	333	P		PKPdf	01 27 27.1	-2.3	
SURF	Saint Ours	151.98	360	PKP		PKPdf	01 27 31.6	+2.0	
HCY	Herceg Novi	152.09	341	⇓*i*PKP		PKPdf	01 27 30.7	+1.2	
BUM	Brajici-Budva	152.09	340	⇓*i*PKP		PKPdf	01 27 30.6	+1.0	
DRME	Dracevica, Mon	152.10	340	⇓*i*PKP		PKPbc	01 27 37.5	+1.3	
PHP	Peshkopia	152.10	337	P		PKPdf	01 27 27.7	-2.0	
PHP	Peshkopia	152.10	337	PKIKP		PKPdf	01 27 27.7	-2.0	
PHP	Peshkopia	152.10	337	P		PKPdf	01 27 27.7	-2.0	
VLC	Villacollemand	152.12	354	*e*PKPbc		PKPbc	01 27 34.4	-1.7	
VLC				LR		LR			
	comp=Z,5µm,21.0s								
POLO	Lamas de Olo	152.16	24	*e*PKPdf		PKPdf	01 27 29.9	+0.1	
PBRG	Braganca	152.17	22	*e*PKPdf		PKPdf	01 27 29.6	-0.1	
PBRG	Braganca	152.17	22	*e*PP		PP	01 31 19.6	+2.5	
CHOS	Chios island	152.20	326	P		PKPdf	01 27 27.3	-2.6	
CHOS	Chios island	152.20	326	*e*P		PKPdf	01 27 29.4	-0.5	
CHOS	Chios island	152.20	326	P		PKPdf	01 27 27.3	-2.6	
PAIG	Paliouri	152.22	331	P		PKPdf	01 27 26.6	-3.2	
PAIG	Paliouri	152.22	331	PKIKP		PKPdf	01 27 26.6	-3.2	
PAIG	Paliouri	152.22	331	*e*P		PKPdf	01 27 30.7	+0.9	
PAIG	Paliouri	152.22	331	P		PKPdf	01 27 26.6	-3.2	
SMG	Samos	152.25	324	P		PKPdf	01 27 28.3	-1.6	
SMG	Samos	152.25	324	*e*P		PKPdf	01 27 30.8	+0.9	
SMG	Samos	152.25	324	P		PKPdf	01 27 28.3	-1.6	
ULC	Ulcinj	152.28	339	⇓*i*PKP		PKPdf	01 27 30.4	+0.5	
LASF	Ste Croix	152.28	4	*e*PKIKP		PKPdf	01 27 32.4	+2.6	
	comp=Z,205nm,1.6s								
BIA	Bitola	152.34	336	P		PKPdf	01 27 31.1	+1.1	
BIA	Bitola	152.34	336	P		PKPdf	01 27 31.1	+1.1	
BIA	Bitola	152.34	336	*e*PKP		PKPdf	01 27 29.8	-0.2	
OSSF	Osses	152.38	12	PKP		PKPdf	01 27 31.3	+1.4	
TOUF	Mont Tournerai	152.44	359	PKP		PKPdf	01 27 32.3	+2.0	
AUTN	L'Aution	152.46	359	PKP		PKPdf	01 27 31.4	+1.1	
SAOF	Saorge	152.46	359	PKP		PKPdf	01 27 31.4	+1.3	
SMRF	Simiane la Rot	152.47	2	*e*PKIKP		PKPdf	01 27 32.9	+2.8	
	comp=Z,133nm,1.4s								
ORDF	Ordiarp	152.48	12	PKP		PKPdf	01 27 32.0	+1.9	
ARG	Arkhangelos	152.50	320	P		PKPdf	01 27 29.3	-1.0	
ARG	Arkhangelos	152.50	320	PKIKP		PKPdf	01 27 29.3	-1.0	
ARG	Arkhangelos	152.50	320	*e*P		PKPdf	01 27 30.7	+0.4	
ARG	Arkhangelos	152.50	320	P		PKPdf	01 27 29.3	-1.0	
FNA	Florina	152.52	335	P		PKPdf	01 27 29.1	-1.2	
FNA	Florina	152.52	335	PKIKP		PKPdf	01 27 29.1	-1.2	
FNA	Florina	152.52	335	*e*P		PKPdf	01 27 31.4	+1.1	
FNA	Florina	152.52	335	P		PKPdf	01 27 29.1	-1.2	
SJPF	Ste Jean	152.52	12	*e*PKIKP		PKPdf	01 27 32.6	+2.4	
	comp=Z,227nm,1.9s								
MVIF	Mont Vial	152.56	359	PKP		PKPdf	01 27 32.1	+1.7	
LUCF	Luceram	152.56	359	PKP		PKPdf	01 27 31.4	+1.1	
SBF	Sospel	152.59	359	*e*PKIKP		PKPdf	01 27 31.9	+1.6	
	comp=Z,120nm,1.4s								
TIR	Tirane	152.61	338	P		PKPdf	01 27 30.1	-0.2	
TIR	Tirane	152.61	338	PKIKP		PKPdf	01 27 30.1	-0.2	
TIR				*e*			01 27 36.5		
TIR				MLR		MLR			
	comp=Z,4µm,21.0s								
TIR	Tirane	152.61	338	*e*P		PKPdf	01 27 33.0	+2.7	
TIR	Tirane	152.61	338	P		PKPdf	01 27 30.1	-0.2	
TIR				*e*PKPbc		PKPbc	01 27 36.5	-0.8	
TIR				LR		LR			
	comp=Z,4µm,21.0s								
LIT	Litokhoron	152.62	333	P		PKPdf	01 27 27.7	-2.7	
LIT	Litokhoron	152.62	333	PKIKP		PKPdf	01 27 27.7	-2.7	
LIT	Litokhoron	152.62	333	*e*P		PKPdf	01 27 30.2	-0.2	
LIT	Litokhoron	152.62	333	P		PKPdf	01 27 27.7	-2.7	
MVO	Moncorvo	152.63	23	*e*PKPdf		PKPdf	01 27 30.5	0.0	
MVO	Moncorvo	152.63	23	*e*PP		PP	01 31 24.2	+4.5	
MVO	Moncorvo	152.63	23	*e*SS		SS	01 50 53.1	+3.5	
MVO				*e*SS		SS	01 50 54.2	+4.6	
MVO				*i* P		x	01 57 08.2		
MVO	Moncorvo	152.63	23	*e*LQ		LQ	02 11 10.0		
MVO				*e*LR		LR	02 18 43.2		
	comp=Z,5µm,22.0s								
LARF	Larrau	152.64	12	PKP		PKPdf	01 27 30.5	+0.1	
CALN	Calern	152.71	360	PKP		PKPdf	01 27 32.3	+1.7	
REVF	Revere	152.71	359	PKP		PKPdf	01 27 31.9	+1.4	
AOS	Alonnisos	152.72	330	P		PKPdf	01 27 32.2	+1.6	
AOS	Alonnisos	152.72	330	*e*P		PKPdf	01 27 30.1	-0.5	
AOS	Alonnisos	152.72	330	P		PKPdf	01 27 32.2	+1.6	
REYF	Montagne du Re	152.73	11	PKP		PKPdf	01 27 32.7	+2.1	
KZN	Kozani	152.75	334	P		PKPdf	01 27 30.0	-0.7	
KZN	Kozani	152.75	334	PKIKP		PKPdf	01 27 30.0	-0.7	
KZN	Kozani	152.75	334	*e*P		PKPdf	01 27 30.4	-0.3	
KZN	Kozani	152.75	334	P		PKPdf	01 27 30.0	-0.7	
NIS1	Nisyros Isl.	152.82	322	P		PKPdf	01 27 29.0	-1.8	
NIS1	Nisyros Isl.	152.82	322	*e*P		PKPdf	01 27 31.6	+0.8	
NIS1	Nisyros Isl.	152.82	322	P		PKPdf	01 27 29.0	-1.8	
NIS1	Nisyros Isl.	152.83	322	P		PKPdf	01 27 30.1	-0.8	
LABF	Labassere	152.83	11	PKP		PKPdf	01 27 30.6	-0.1	
NIS3	Nisyros Isl.	152.85	322	P		PKPdf	01 27 30.4	-0.4	
ETSF	Etsaut	152.86	12	*e*PKIKP		PKPdf	01 27 33.3	+2.5	
	comp=Z,179nm,1.9s								
MTLF	Montolieu	152.86	7	*e*PKIKP		PKPdf	01 27 32.9	+2.2	
	comp=Z,166nm,1.8s								
KBN	Korca	152.89	336	P		PKPdf	01 27 29.6	-1.3	
KBN	Korca	152.89	336	PKIKP		PKPdf	01 27 29.6	-1.3	
KBN	Korca	152.89	336	P		PKPdf	01 27 29.6	-1.3	
EPF	Esparros	152.89

EVO	Evora	154.46	27	*e*PKPdf	PKPdf	01 27 33.1	0.0		
EVO	Evora	154.46	27	*e*PP	PP	01 31 30.5	+0.4		
PNCL	Nicolau / Gran	154.57	29	*e*PKPdf	PKPdf	01 27 33.6	+0.4		
PNCL	Nicolau / Gran	154.57	29	*e*PP	PP	01 31 30.6	-0.2		
NPS	Neapolis	154.66	322	P	PKPdf	01 27 31.7	-1.8		
NPS	Neapolis	154.66	322	PKIKP	PKPdf	01 27 31.7	-1.8		
NPS	Neapolis	154.66	322	*e*P	PKPdf	01 27 33.8	+0.3		
NPS	Neapolis	154.66	322	P	PKPdf	01 27 31.7	-1.8		
RLS	Riolos of Patr	154.75	332	P	PKPdf	01 27 32.6	-0.9		
RLS	Riolos of Patr	154.75	332	*e*P	PKPdf	01 27 34.2	+0.7		
RLS	Riolos of Patr	154.75	332	P	PKPdf	01 27 32.6	-0.9		
LAST	Lasithi	154.81	322	P	PKPdf	01 27 32.9	-0.9		
LAST	Lasithi	154.81	322	*e*P	PKPdf	01 27 34.6	+0.8		
LAST	Lasithi	154.81	322	P	PKPdf	01 27 32.9	-0.9		
VLX	Vlachokerasia	154.87	329	*e*P	PKPdf	01 27 34.4	+0.6		
PAB	San Pablo	155.01	20	*e*PKIKP	PKPdf	01 27 30.8	-3.1		
PAB				*e*		01 27 36.9			
PAB				MLR	MLR				
	comp=Z,5µm,20.0s								
PAB	San Pablo	155.01	20	*e*PKPdf	PKPdf	01 27 30.8	-3.1		
PAB				*e*PKPbc	PKPbc	01 27 36.9			
PAB				LR	LR				
	comp=Z,5µm,20.0s								
ESDC	Sonseca Array	155.02	20	PKP	PKPdf	01 27 34.3	+0.4		
ESDC				PKPbc	PKPbc	01 27 43.9			
ESDC	Sonseca Array	155.02	20	PKP	PKPdf	01 27 34.3	+0.4		
	comp=Z,7.2nm,1.1s,baz=349,slow=2.5,SNR=22								
ESDC				PKPbc	PKPbc	01 27 43.9			
	comp=Z,5.7nm,0.9s,baz=331,slow=2.6,SNR=16								
VLS	Valsamata	155.04	333	P	PKPdf	01 27 33.4	-0.5		
VLS	Valsamata	155.04	333	PKIKP	PKPdf	01 27 33.4	-0.5		
VLS	Valsamata	155.04	333	*e*P	PKPdf	01 27 35.5	+1.6		
VLS	Valsamata	155.04	333	P	PKPdf	01 27 33.4	-0.5		
AMT	Artemida-Makis	155.06	331	*e*P	PKPdf	01 27 36.1	+2.1		
IDI	Anoyia	155.07	323	P	PKPdf	01 27 32.7	-1.4		
IDI	Anoyia	155.07	323	*e*P	PKPdf	01 27 33.3	-0.8		
IDI	Anoyia	155.07	323	*e*PKPdf	PKPdf	01 27 31.9	-2.2		
IDI				*e*PKPbc	PKPbc	01 27 36.8			
IDI	Anoyia	155.07	323	PKP	PKPdf	01 27 34.1	0.0		
	comp=Z,49nm,1.3s,baz=156,slow=2.5,SNR=13								
VLI	Veliai	155.09	328	P	PKPdf	01 27 34.2	+0.2		
VLI	Veliai	155.09	328	*e*P	PKPdf	01 27 34.6	+0.6		
VLI	Veliai	155.09	328	P	PKPdf	01 27 34.2	+0.2		
CUC	Castrocucco	155.14	343	*e*PKPbc	PKPdf	01 27 43.4	+9.4		
CUC				LR	LR				
	comp=Z,2µm,19.0s								
MORF	Marmelete	155.16	30	*e*PKPdf	PKPdf	01 27 34.3	+0.1		
MORF	Marmelete	155.16	30	*e*PKIKP	PKPdf	01 27 34.0	-0.2		
PBAR	Barrancos	155.18	26	*e*PKPdf	PKPdf	01 27 34.0	-0.1		
PCVE	Castro Verde	155.19	29	*e*PKPdf	PKPdf	01 27 35.8	+1.7		
PFVI	Vila Bisbo	155.22	30	*e*PKPdf	PKPdf	01 27 36.0	+1.8		
ITM	Ithomi	155.24	330	P	PKPdf	01 27 32.1	-2.1		
ITM	Ithomi	155.24	330	*e*P	PKPdf	01 27 33.5	-0.7		
ITM	Ithomi	155.24	330	P	PKPdf	01 27 32.1	-2.1		
SIVA	Sivas	155.30	322	P	PKPdf	01 27 33.0	-1.3		
SIVA	Sivas	155.30	322	*e*P	PKPdf	01 27 35.3	+1.0		
SIVA	Sivas	155.30	322	P	PKPdf	01 27 33.0	-1.3		
VAM	Vamos	155.38	324	P	PKPdf	01 27 32.7	-1.7		
VAM	Vamos	155.38	324	PKIKP	PKPdf	01 27 32.7	-1.7		
VAM	Vamos	155.38	324	*e*P	PKPdf	01 27 35.5	+1.1		
VAM	Vamos	155.38	324	P	PKPdf	01 27 32.7	-1.7		
PVAQ	Vaqueiros	155.52	28	*e*PKPdf	PKPdf	01 27 34.8	+0.2		
PVAQ	Vaqueiros	155.52	28	*e*PP	PP	01 31 36.3	+0.2		
PVAQ	Vaqueiros	155.52	28	*e*SS	SS	01 51 23.6	+2.3		
PVAQ				*i* P	x	01 57 39.6			
PVAQ	Vaqueiros	155.52	28	*e*LQ	LQ	02 09 07.6			
PVAQ	Vaqueiros	155.52	28	*e*LR	LR	02 19 58.9			
	comp=Z,5µm,22.0s								
ANKY	Antikythira Is	155.54	326	*e*P	PKPdf	01 27 36.0	+1.4		
PYL	PYLOS	155.55	330	*e*P	PKPdf	01 27 32.9	-1.7		
PBDV	Barranco-do-Ve	155.55	29	*e*PKPdf	PKPdf	01 27 35.1	+0.4		
PBDV	Barranco-do-Ve	155.55	29	*e*PP	PP	01 31 36.5	+0.2		
GVD	Gavdhos	155.85	323	P	PKPdf	01 27 33.9	-1.2		
GVD	Gavdhos	155.85	323	*e*PKPdf	PKPdf	01 27 32.9	-2.2		
CEL	Celeste	156.72	341	PFAKE		01 27 50.0	+14		
CEL				LR	LR				
	comp=Z,2µm,21.0s								
VSL	Villasalto	156.83	355	PFAKE		01 27 50.0	+14		
VSL				LR	LR				
	comp=Z,4µm,20.0s								
EBNR	Beni Rached	159.65	12	P	PKPdf	01 27 43.0	+3.2		
CAEH	'Ain El Ouahch	159.67	359	P	PKPdf	01 27 41.9	+2.1		
ECHA	Ech Chlef	159.75	12	P	PKPdf	01 27 43.3	+3.5		
CMAH	Djebel Manchou	159.81	358	P	PKPdf	01 27 41.2	+1.2		
EANR	'Ain N'Sour	159.89	13	P	PKPdf	01 27 43.8	+3.7		
EMHD	Djebel Mahouad	159.98	9	P	PKPdf	01 27 44.0	+3.7		
CKFL	Kef-Lekhel	160.05	360	P	PKPdf	01 27 42.2	+1.8		
ABSA	Djebel Ababsia	160.16	358	P	PKPdf	01 27 41.4	+0.9		
CASM	Ain Smara	160.19	0	P	PKPdf	01 27 42.3	+1.9		
SET	Setif	160.22	3	P	PKPdf	01 27 45.0	+4.5		
CTEI	Djebel Teioual	160.39	0	P	PKPdf	01 27 43.2	+2.4		
CKHR	Kef el Ahmar	160.41	3	P	PKPdf	01 27 43.6	+2.8		
ETRT	Tiaret	160.47	13	P	PKPdf	01 27 45.2	+4.3		
KEST	Kesra	160.56	353	*e*PKPdf	PKPdf	01 27 41.2	+0.3		
KEST				PKP	PKPdf	01 27 41.6	+0.7		
KEST				PKPab	PKPab	01 28 20.7	-1.4		
KEST	Kesra	160.56	353	PKP	PKPdf	01 27 41.6	+0.7		
	comp=Z,3.8nm,1.1s,baz=43,slow=7.2,SNR=4.1								
KEST				PKPab	PKPab	01 28 20.7	-1.4		
	comp=Z,6.1nm,1.0s,baz=40,slow=9.4,SNR=11								
MDT	Midelt	160.73	30	PKP	PKPdf	01 27 41.9	+0.6		
MDT				PKPab	PKPab	01 28 22.0	-1.0		
MDT	Midelt	160.73	30	PKP	PKPdf	01 27 41.9	+0.6		
	comp=Z,29nm,1.2s,baz=331,slow=0.9,SNR=26								
MDT				PKPab	PKPab	01 28 22.0	-1.0		
	comp=Z,64nm,1.2s,baz=310,slow=5.5,SNR=8.7								
LIC	Lamto	164.78	130	*e*PKIKP	PKPdf	01 27 44.9	-0.7		
	comp=Z,202nm,1.7s								
LIC				*e*R					
	comp=Z,6µm,21.8s								
LIC	Lamto	164.78	130	*e*PKIKP	PKPdf	01 27 46.9	+1.3		
	comp=Z,49nm,1.1s								
TIC	Toumodi	165.07	129	*e*PKIKP	PKPdf	01 27 46.3	+0.5		
	comp=Z,578nm,2.0s								
KIC	Kosan Boka	165.08	131	*e*PKIKP	PKPdf	01 27 46.4	+0.6		
	comp=Z,547nm,2.0s								
DBIC	Dimbokro	165.21	129	*e*PKPdf	PKPdf	01 27 46.4	+0.5		
DBIC				*e*PKPab	PKPab	01 28 42.7	-0.3		
DBIC				PP	PP	01 32 32.1	+2.9		
DBIC	Dimbokro	165.21	129	PKP	PKPdf	01 27 47.0	+1.1		
	comp=Z,45nm,1.3s,baz=186,slow=1.2,SNR=12								
DBIC				PKPab	PKPab	01 28 43.0	-0.1		
	comp=Z,81nm,1.2s,baz=195,slow=5.0,SNR=12								
DBIC				PP	PP	01 32 32.1	+2.9		
	comp=Z,7.5nm,1.1s,baz=265,slow=5.4,SNR=4.1								
TAM	Tamanrasset	173.53	9	*e*PKIKP	PKPdf	01 27 50.8	-0.1		
TAM				*e*		01 29 19.6			
TAM				MLR	MLR				
	comp=Z,7µm,19.0s								
TAM	Tamanrasset	173.53	9	*e*PKPdf	PKPdf	01 27 50.8	-0.1		
TAM				*e*PKPab	PKPab	01 29 19.6	-0.1		
TAM				LR	LR				
	comp=Z,7µm,19.0s								
TORD	Torodi Ar. Bea	174.27	123	PKP	PKPdf	01 27 50.2	-1.0		
TORD				PKPab	PKPab	01 29 22.7	-0.5		
TORD				PP	PP	01 33 15.2	0.0		
TORD	Torodi Ar. Bea	174.27	123	PKP	PKPdf	01 27 50.2	-1.0		
	comp=Z,24nm,1.1s,baz=302,slow=1.5,SNR=47								
TORD				PKPab	PKPab	01 29 22.7	-0.5		
	comp=Z,55nm,1.0s,baz=254,slow=3.9,SNR=22								
TORD				PP	PP	01 33 15.2	0.0		
	comp=Z,14nm,1.2s,baz=261,slow=5.8,SNR=8.0								

IDC ***02*** *01:09:25.2±0.6, 16°.24S×173°.35W, h0km, mb5.1/14, mb1 5.3/14, mb1mx5.0/25, mbtmp5.1/14, MS5.5/1, Ms1 5.5/1, ms1mx5.0/16, Error ellipse: s-maj=29.0km s-min=17.2km az=132.0*

NEIC ***02*** *01:09:26.6±0.2, 16°.25S×173°.47W, h10km, mb5.5/42, Error ellipse: s-maj=8.8km s-min=5.2km az=147.0*

ISCJB ***02*** *01:09:32.7±0.2, 16°.26S±0°.08×173°.63W±0°.06, h66km, mb5.2/55, Error ellipse: s-maj=12.3km s-min=6.0km az=150.4*

SZGRF ***02*** *01:09:32.2, 16°.25S×173°.21W, h33km, Tonga Islands*

ISC 02 01:09:34.1±0.3, 16°.28S±0°.10×173°.54W±0°.09, h66km, n374, σ0°63/379, mb5.3/54, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	19.76	250	*e*P	P	01 13 58.3	-0.7
	307nm,1.3s						
URZ	Urewera	23.39	199	P	P	01 14 36.3	-0.9
	55nm,0.6s,baz=346,slow=8.3,SNR=3.1						
CTAO	Charters Tower	38.33	258	*e*P	P	01 16 48.6	-0.3
	64nm,1.4s						
PMG	Port Moresby	38.87	275	*e*P	P	01 16 52.2	-1.3
	61nm,1.0s						
COEN	Coen	41.80	267	*e*P	P	01 17 17.8	+0.1
	207nm,1.0s						
WRA	Warramunga Arr	49.52	257	P	P	01 18 19.1	+0.5
WRA				PcP	PcP	01 19 41.5	+1.8
WRA	Warramunga Arr	49.52	257	P	P	01 18 19.1	+0.5
	7.1nm,0.7s,baz=93,slow=9.2,SNR=2.9						
WRA				PcP	PcP	01 19 41.5	+1.8
	4.3nm,0.6s,baz=92,slow=3.4,SNR=3.8						
AS31	Alice Springs	49.72	253	*e*P	P	01 18 19.4	-0.7
ASAR	Alice Springs	49.72	253	P	P	01 18 19.5	-0.6
ASAR				PcP	PcP	01 19 41.9	+1.5
ASAR	Alice Springs	49.72	253	P	P	01 18 19.5	-0.6
	44nm,0.9s,baz=87,slow=8.3,SNR=3.7						
ASAR				PcP	PcP	01 19 41.9	+1.5
	6.0nm,0.6s,baz=91,slow=4.5,SNR=2.7						
VNDA	Vanda	62.49	186	*e*P	P	01 19 50.0	-0.2
	75nm,1.6s						
MBWA	Marble Bar	62.99	254	*e*P	P	01 19 54.5	0.0
	53nm,1.3s						
KAPI	Kappang	66.27	272	*e*P	P	01 20 15.1	-1.0
	14nm,0.7s						
MAJO	Matsushiro	69.52	320	*e*P	P	01 20 36.3	+0.3
	17nm,0.9s						
SCI	San Clemente I	71.81	46	P	P	01 20 50.1	+0.1
	baz=72						
PKM	Peak Mountain	72.03	44	P	P	01 20 51.1	-0.3
	baz=72						
BLG	Laguna Peak	72.09	45	P	P	01 20 51.4	-0.2
	baz=72						
CIS	Catalina Islan	72.14	46	P	P	01 20 51.9	-0.1
	baz=72						
SMMC	Simmler	72.15	44	P	P	01 20 52.8	+0.8
	baz=72						
ASAJ	Asahikawa	72.21	328	P	P	01 20 53.1	+1.0
ASAJ	Asahikawa	72.21	328	P	P	01 20 53.1	+1.0
	27nm,1.0s,baz=153,slow=6.8,SNR=2.5						
JNU	Nakatsue	72.30	313	P	P	01 20 53.1	+0.2
JNU	Nakatsue	72.30	313	P	P	01 20 53.2	+0.2
	7.8nm,0.6s,baz=108,slow=5.3,SNR=2.9						
109C	Camp Elliot, M	72.77	47	P	P	01 20 55.8	+0.1
	baz=73						
ARVC	Arvin	72.83	44	P	P	01 20 56.2	+0.2
	baz=73						
VES	Vestal, Richgr	73.06	44	P	P	01 20 57.6	+0.3
	baz=73						
MURC	Murrieta	73.09	47	P	P	01 20 57.7	+0.1
	baz=73						
BFSC	Mount Baldy Ra	73.12	46	P	P	01 20 58.0	+0.1
	baz=73						
RCTC	Rector, Farmer	73.23	43	P	P	01 20 58.6	+0.3
	baz=73						
KHMM	Horse Mountain	73.23	37	*e*P	P	01 20 59.4	+0.9
	96nm,1.2s						
MONP	Monument Peak	73.25	48	P	P	01 20 58.5	-0.3
	baz=73						
EDW2	Edwards Air Fo	73.25	45	P	P	01 20 58.6	0.0
	baz=73						
DVTC	Desert V Tower	73.35	48	P	P	01 20 59.1	-0.1
	baz=73						
ISA	Isabella	73.37	44	P	P	01 20 59.8	+0.6
	baz=74						
PETK	Petropavlovsk-	73.42	342	P	P	01 20 59.4	+0.4
PETK	Petropavlovsk-	73.42	342	P	P	01 20 59.4	+0.4
	20nm,0.9s,baz=134,slow=8.2,SNR=4.3						
SWSC	Sam W. Stewart	73.72	48	P	P	01 21 01.4	+0.1
	baz=74						
LRMC	Laurel Mountai	73.79	45	P	P	01 21 01.9	+0.1
	baz=74						
CWC	Cottonwood Cre	74.07	44	P	P	01 21 03.7	+0.2
	baz=74						
BELC	Belle Mtn. Jos	74.14	47	P	P	01 21 04.1	+0.1
	baz=74						
MPMC	Manual Prospec	74.25	44	P	P	01 21 03.7	-0.9
	baz=74						
MLAC	Mammoth Lakes	74.26	42	P	P	01 21 04.8	+0.1
	baz=74						
GSC	Goldstone	74.30	45	P	P	01 21 04.8	+0.1
	baz=74						
TIN	Tinemaha	74.33	43	P	P	01 21 04.9	+0.1
	baz=74						
BC3	Big Chuckawall	74.34	47	P	P	01 21 04.9	-0.1
	baz=74						
HEC	Hector,Ludlow	74.36	46	P	P	01 21 05.1	0.0
	baz=74						
YBH	Yreka Blue Hor	74.37	37	P	P	01 21 05.2	+0.1
YBH	Yreka Blue Hor	74.37	37	P	P	01 21 05.2	+0.1
	39nm,0.9s,baz=210,slow=3.7,SNR=4.4						
GLA	Glamis	74.47	48	P	P	01 21 06.3	+0.6
	baz=75						
GMRC	Granite Mounta	74.80	46	P	P	01 21 07.9	+0.2
	baz=75						
IRM	Iron Mountain	74.83	47	P	P	01 21 07.8	+0.1
	baz=75						
GRAC	Grapevine Rang	74.86	44	P	P	01 21 08.3	+0.4
	baz=75						
FURC	Furnace Creek,	74.90	44	P	P	01 21 08.7	+0.6
	baz=75						
TUQ	Turquoise Moun	74.97	46	P	P	01 21 08.6	-0.1
	baz=75						
SHOC	Shoshone	74.98	45	P	P	01 21 08.6	+0.1
	baz=75						
Y12C	Blythe	75.05	48	P	P	01 21 09.0	0.0
	baz=75						
NVAR	Mina Array Bea	75.06	42	P	P	01 21 08.8	-0.4
NVAR	Mina Array Bea	75.06	42	P	P	01 21 08.8	-0.4
	23nm,0.9s,baz=226,slow=9.4,SNR=3.8						
113A	Mohawk Valley,	75.09	49	P	P	01 21 09.1	-0.1
	baz=75						
214A	Organ Pipe Nat	75.37	50	P	P	01 21 10.8	-0.1
	baz=76						
PDMCI	Parker Dam,Lak	75.61	47	P	P	01 21 12.4	+0.2
	baz=76						
Z14A	Wintersburg	75.98	49	P	P	01 21 14.7	+0.3
	baz=76						
W13A	Hualapai Mount	76.20	47	P	P	01 21 16.0	+0.1
	baz=76						
Y14A	Wickenburg	76.23	48	P	P	01 21 16.1	+0.3
	baz=76						
R11A	Troy Canyon, C	76.78	43	P	P	01 21 19.3	+0.3
	baz=77						
TUC	Tucson	77.05	51	*e*P	P	01 21 20.1	-0.3
	48nm,1.2s						
WVOR	Wild Horse Val	77.20	38	*e*P	P	01 21 21.0	-0.1
	61nm,1.1s						
X16A	Lo Mia Camp, P	77.59	48	P	P	01 21 23.8	+0.2
	baz=78						
319A	Douglas	77.73	52	P	P	01 21 24.5	+0.1
	baz=78						
U15A	North Rim	78.00	46	P	P	01 21 25.6	-0.4
	baz=78						
WUAZ	Wupatki	78.19	47	P	P	01 21 26.6	-0.3
	baz=78						
320A	Kipp Ranch, An	78.28	52	P	P	01 21 27.5	0.0
	baz=78						
ELK	Elko	78.33	41	*e*P	P	01 21 27.1	-0.5
	52nm,1.3s						
220A	Playas Peak, P	78.55	52	P	P	01 21 29.0	+0.1
	baz=79						
120A	U Bar Ranch, L	78.76	51	P	P	01 21 30.6	+0.5
	baz=79						
Z20A	Nine Sixteen R	79.05	51	P	P	01 21 31.9	+0.2
	baz=79						
MVU	Marysvale	79.11	45	*e*P	P	01 21 32.2	+0.2
	55nm,1.1s						
W18A	Penfield Fore	79.16	48	P	P	01 21 32.4	+0.1
	baz=79						
221A	Mesquite Ranch	79.16	52	P	P	01 21 33.5	+1.3
	baz=79						
121A	Cookes Peak, D	79.39	52	P	P	01 21 33.7	+0.2
	baz=80						
MFID	Camas Ranch	79.45	39	P	P	01 21 34.2	+0.6
	baz=80						
Y20A	Horse Springs,	79.58	50	P	P	01 21 34.6	-0.1
	baz=80						
DUG	Dugway	79.59	43	*e*P	P	01 21 33.7	-0.7
	44nm,1.3s						
X20A	Quemado	79.78	50	P	P	01 21 36.5	+0.8
	baz=80						
Z21A	St. Cloud Mine	79.83	51	P	P	01 21 37.4	+1.4
	baz=80						
W20A	Ramah	80.06	49	P	P	01 21 38.1	+0.9
	baz=80						
122A	Conniff Cattle	80.06	52	P	P	01 21 38.5	+1.4
	baz=80						
Z22A	Elephant Butte	80.33	51	P	P	01 21 39.3	+0.6
	baz=80						
HLID	Hailey	80.39	39	*e*P	P	01 21 38.3	-0.4
	114nm,1.5s						
HLID	Hailey	80.39	39	P	P	01 21 39.6	+0.9
	baz=80						
U20A	Newcomb	80.62	48	P	P	01 21 40.9	+0.7
	baz=81						
Y22A	Socorro	80.64	51	P	P	01 21 40.9	+0.6
	baz=81						
324A	Moseley Ranch,	80.67	53	P	P	01 21 39.8	-0.6
	baz=81						
425A	Indio Mountain	80.77	54	P	P	01 21 41.0	0.0
	baz=81						
MNTX	Cornudas Mount	80.85	53	*e*P	P	01 21 40.8	-0.5
	38nm,1.2s						
X22A	Bernardo	80.86	50	P	P	01 21 40.9	-0.5
	baz=81						
Z23A	Rita Site, Whi	80.89	52	P	P	01 21 41.6	+0.1
	baz=81						
224A	Cornudas Mount	80.91	53	P	P	01 21 41.7	0.0
	baz=81						
626A	Big Bend Ranch	80.93	56	P	P	01 21 42.4	+0.6
	baz=81						
V21A	Milan	80.99	49	P	P	01 21 42.6	+0.4
	baz=81						
325A	Bean Ranch, Si	81.03	54	P	P	01 21 42.7	+0.3
	baz=81						
HWUT	Hardware Ranch	81.13	42	*e*P	P	01 21 42.3	-0.4
	24nm,1.1s						
TXAR	Lajitas Array	81.21	56	P	P	01 21 42.4	-1.0
TXAR	Lajitas Array	81.21	56	P	P	01 21 42.3	-1.0
	10.0nm,1.0s,baz=232,slow=4.4,SNR=3.3						
W22A	Albuquerque	81.22	50	P	P	01 21 43.8	+0.5
	baz=81						
U21A	Nageezi	81.27	48	P	P	01 21 44.0	+0.4
	baz=81						
Y23A	Lovelace Mesa,	81.31	51	P	P	01 21 44.4	+0.5
	baz=81						
225A	Deer Hill, Car	81.46	53	P	P	01 21 44.6	-0.1
	baz=82						
ANMO	Albuquerque	81.46	50	*e*P	P	01 21 44.0	-0.6
	39nm,1.2s						
426A	McDonald Obser	81.47	55	P	P	01 21 45.3	+0.5
	baz=82						
627A	Terlingua Ranc	81.48	56	P	P	01 21 44.3	-0.5
	baz=82						
T21A	Navajo Lake	81.61	48	P	P	01 21 46.0	+0.6
	baz=82						
S21A	Coal Bank Pass	81.74	47	P	P	01 21 46.3	+0.1
	baz=82						
Y24A	Capitan	81.77	51	P	P	01 21 46.9	+0.6
	baz=82						
326A	Caldwell Ranch	81.78	54	P	P	01 21 46.4	+0.1
	baz=82						
W23A	Werner Place,	81.78	50	P	P	01 21 46.3	-0.1
	baz=82						
125A	Gardner Draw,	81.82	53	P	P	01 21 46.7	+0.2
	baz=82						
U22A	Llaves	81.82	48	P	P	01 21 47.1	+0.6
	baz=82						
P19A	Cripple Cowboy	81.86	45	P	P	01 21 47.5	+0.9
	baz=82						
226B	Tecolote Peak,	81.95	53	P	P	01 21 47.8	+0.6
	baz=82						
Q20A	Ridgley Place,	82.00	46	P	P	01 21 47.9	+0.5
	baz=82						
MCK	McKinley	82.00	11	*e*P	P	01 21 46.1	-0.5
	54nm,0.9s						
V23A	Ortiz Mt. (NFS	82.02	49	P	P	01 21 48.2	+0.6
	baz=82						
427A	Hayter Ranch,	82.04	55	P	P	01 21 47.8	+0.2
	baz=82						
Z25A	Roswell	82.04	52	P	P	01 21 48.1	+0.5
	baz=82						
X24A	Lazy VL Ranch,	82.05	51	P	P	01 21 47.6	-0.2
	baz=82						
P20A	De Beque	82.19	45	P	P	01 21 49.3	+0.9
	baz=82						
R21A	Cimarron	82.24	46	P	P	01 21 49.3	+0.5
	baz=82						
U23A	El Rito	82.27	49	P	P	01 21 49.7	+0.8
	baz=82						
126A	Clayton Basin,	82.30	53	P	P	01 21 48.9	-0.1
	baz=82						
W24A	Lazy 6 Ranch,	82.35	50	P	P	01 21 50.0	+0.7
	baz=82						
Q21A	Lamborn Mesa,	82.44	46	P	P	01 21 50.2	+0.5
	baz=82						
S22A	4UR Ranch, Cre	82.46	47	P	P	01 21 50.5	+0.5
	baz=82						
MSO	Missoula	82.46	37	P	P	01 21 49.1	-0.4
	baz=83						
TPAW	Teton Pass	82.48	41	*e*P	P	01 21 49.9	0.0
	52nm,1.1s						
Z26A	Caprock	82.59	52	P	P	01 21 50.7	+0.1
	baz=83						
SNOW	Snow King Moun	82.59	41	*e*P	P	01 21 50.3	-0.1
	71nm,1.1s						
O20A	White River Ci	82.59	45	P	P	01 21 50.9	+0.4
	baz=83						
X25A	Clemmons Ranch	82.61	51	P	P	01 21 51.1	+0.5
	baz=83						
M19A	Rock Springs	82.64	43	P	P	01 21 50.9	+0.1
	baz=83						
529A	Stev Forest Ra	82.68	56	P	P	01 21 51.1	+0.2
	baz=83						
V24A	Rampart Ranch,	82.68	50	P	P	01 21 51.1	0.0
	baz=83						
T23A	Casias Ranch,	82.70	48	P	P	01 21 52.1	+0.9
	baz=83						
328A	Wristen Ranch,	82.72	54	P	P	01 21 50.8	-0.3
	baz=83						
R22A	Saguache, Gunn	82.73	47	P	P

8.5nm,1.0s,baz=225,slow=3.7,SNR=5.4
P22A **Eagle** 83.35 46 P P 01 21 54.7 +0.3
baz=83
R23A **Moffat** 83.37 47 P P 01 21 54.7 +0.1
baz=84
530A **J-C Ranch, Com** 83.39 56 P P 01 21 54.9 +0.3
baz=83
SDCO **Great Sand Dun** 83.40 48 eP P 01 21 54.4 -0.4
33nm,1.1s
329A **Wagon Wheel Ra** 83.41 55 P P 01 21 54.8 +0.1
baz=84
L20A **Wamsutter** 83.42 43 P P 01 21 55.1 +0.4
baz=84
PMSA **Palmer Station** 83.43 156 eP P 01 21 53.9 -0.2
37nm,1.1s
Y27A **Causey** 83.47 52 P P 01 21 55.2 +0.1
baz=84
K19A **Absolon Red Bu** 83.49 42 P P 01 21 55.0 0.0
baz=84
W26A **Owens Ranch, T** 83.52 51 P P 01 21 55.1 -0.1
baz=84
S24A **Houchin Ranch,** 83.56 48 P P 01 21 55.3 -0.3
baz=84
J19A **Crowheart** 83.57 42 P P 01 21 55.5 +0.1
baz=84
U25A **Circle Dot Ran** 83.60 49 P P 01 21 55.8 +0.1
baz=84
631A **Perdido Creek** 83.72 57 P P 01 21 56.4 +0.1
baz=84
K20A **Yellowstone Ra** 83.73 42 P P 01 21 56.0 -0.3
baz=84
O22A **Kremmling** 83.76 45 P P 01 21 56.5 -0.2
baz=84
MSTX **Muleshoe** 83.80 52 P P 01 21 56.7 0.0
baz=84
V26A **Tequesquite Ra** 83.80 50 P P 01 21 56.9 +0.2
baz=84
Z28A **Tucker Farm, M** 83.81 53 P P 01 21 56.9 +0.1
baz=84
X27A **F and S Farms,** 83.83 51 P P 01 21 57.0 +0.2
baz=84
M21A **Separation Pea** 83.88 44 P P 01 21 57.4 +0.3
baz=84
R24A **Sanders Place,** 83.89 47 P P 01 21 58.5 +1.3
baz=84
T25A **Trinidad** 83.91 49 P P 01 21 58.0 +0.7
baz=84
129A **Stewart Farms,** 83.95 54 P P 01 21 58.1 +0.6
baz=84
I19A **Meeteetse** 83.98 41 P P 01 21 57.9 +0.3
baz=84
531A **Rocksprings** 84.03 56 P P 01 21 58.0 +0.1
baz=84
W27A **Bowe Ranch, En** 84.03 51 P P 01 21 57.6 -0.3
baz=84
L21A **Rawlins** 84.04 43 P P 01 21 57.7 -0.2
baz=84
U26A **Atchley Ranch,** 84.08 50 P P 01 21 58.1 -0.1
baz=84
N22A **Wattenberg Ran** 84.11 45 P P 01 21 58.6 +0.2
baz=84
S25A **Robets Cordova** 84.12 48 P P 01 21 58.5 +0.1
baz=84
Y28A **McKinney Farm,** 84.17 52 P P 01 21 58.0 -0.6
baz=84
Q24A **Divide** 84.18 47 P P 01 21 59.3 +0.4
baz=84
O23A **Lake Granby, G** 84.21 45 P P 01 21 59.7 +0.8
baz=84
ISCO **Idaho Springs** 84.23 46 P P 01 21 59.0 0.0
baz=84
J20A **Shoshoni** 84.23 42 P P 01 21 59.6 +0.8
baz=84
H19A **Powell** 84.30 40 P P 01 21 59.6 +0.6
baz=84
Z29A **Hungry Hill Ra** 84.33 53 P P 01 21 59.4 +0.1
baz=84
K21A **Alcova** 84.43 43 P P 01 21 59.8 0.0
baz=84
X28A **Dimmitt** 84.46 52 P P 01 21 59.7 -0.3
baz=84
I20A **Worland** 84.49 41 P P 01 22 00.2 +0.2
baz=85
N23A **Red Feather La** 84.50 45 P P 01 22 00.6 +0.3
baz=85
Y29A **Porterfield Fa** 84.59 53 P P 01 22 00.4 -0.3
baz=85
J21A **Lysite** 84.64 42 P P 01 22 01.5 +0.7
baz=85
L22A **Ellis Ranch, M** 84.69 44 P P 01 22 02.0 +0.9
baz=85
JCT **Junction City** 84.74 56 eP P 01 22 00.4 -1.1
25nm,1.2s
O24A **Longmont** 84.75 46 P P 01 22 02.5 +1.1
baz=85
U27A **Thompson Grove** 84.77 50 P P 01 22 01.5 -0.1
baz=85
S26A **Kim** 84.80 49 P P 01 22 01.6 -0.1
baz=85
X29A **Tulia** 84.80 52 P P 01 22 01.7 -0.1
baz=85
H20A **Greybull** 84.83 41 P P 01 22 01.8 +0.1
baz=85
231A **Bronte** 84.89 55 P P 01 22 01.7 -0.4
baz=85
432A **Menard** 84.90 56 P P 01 22 01.7 -0.6
baz=85
M23A **Laramie** 84.91 44 P P 01 22 02.8 +0.5
baz=85
F19A **Roth Farm, Mol** 84.91 39 P P 01 22 02.6 +0.6
baz=85
K22A **Casper** 84.91 43 P P 01 22 02.5 +0.3
baz=85
V28A **Channing** 84.94 51 P P 01 22 02.4 0.0
baz=85
I21A **Big Trails, Te** 84.96 42 P P 01 22 02.6 +0.2
baz=85
G20A **Bridger** 85.05 40 P P 01 22 02.9 +0.1
baz=85
R26A **Arlington** 85.10 48 P P 01 22 03.2 0.0
baz=85
T27A **Campo** 85.11 49 P P 01 22 03.2 -0.1
baz=85
P25A **Willow Gulch B** 85.11 47 P P 01 22 04.0 +0.7
baz=85
W29A **Amraillo** 85.11 51 P P 01 22 03.1 -0.2
baz=85
131A **Roby** 85.11 54 P P 01 22 02.6 -0.7
baz=85
332A **Millersview** 85.13 56 P P 01 22 03.2 -0.2
baz=85
Y30A **Stafford Cattl** 85.19 53 P P 01 22 03.7 0.0
baz=85
L23A **Garrett** 85.21 44 P P 01 22 04.0 +0.2
baz=85
J22A **Midwest** 85.29 42 P P 01 22 04.5 +0.4
baz=85
E19A **Rath Farm, Rou** 85.30 39 P P 01 22 04.8 +0.9
baz=85
F20A **Billings** 85.37 40 P P 01 22 04.8 +0.5
baz=86
X30A **Coker Ranch, T** 85.43 52 P P 01 22 05.0 +0.1
baz=86
V29A **Stinnett** 85.51 51 P P 01 22 05.6 +0.4
baz=86
K23A **Bowen Ranch, D** 85.55 43 P P 01 22 05.7 +0.3
baz=86
Z31A **Sharp Cattle R** 85.55 54 P P 01 22 05.4 -0.1
baz=86
D19A **Cripps Ranch,** 85.59 38 P P 01 22 06.0 +0.6
baz=86
ABTX **Abilene, Hawle** 85.68 54 P P 01 22 05.9 -0.2
baz=86
Y31A **Rekieta Farm,** 85.71 53 P P 01 22 06.2 0.0
baz=86
E20A **Meyer Farm, Mu** 85.72 39 P P 01 22 06.6 +0.5
baz=86
C19A **Slack Wire Ran** 85.77 38 P P 01 22 06.8 +0.6
baz=86
U29A **Oasis Ranch, S** 85.92 50 P P 01 22 07.3 0.0
baz=86
D20A **Manuel Ranch,** 86.00 39 P P 01 22 07.9 +0.6
baz=86
Z32A **Haskell** 86.06 54 P P 01 22 07.9 0.0
baz=86
B19A **Brinkman Farms** 86.19 37 P P 01 22 08.9 +0.6
baz=86
R28A **Tribune** 86.29 48 P P 01 22 09.0 0.0
baz=86
Y32A **R-V Farms, Ver** 86.35 53 P P 01 22 09.6 +0.2
baz=86
W31A **Holland Ranch,** 86.42 52 P P 01 22 10.3 +0.6
baz=86
A19A **Klindworth Far** 86.54 37 P P 01 22 10.6 +0.6
baz=87
Q28A **Sharon Springs** 86.57 48 P P 01 22 10.7 +0.3
baz=87
IPM **Ipoh** 86.87 276 eP P 01 22 12.2 -0.2
9.4nm,0.6s
MAW **Mawson** 86.92 199 P P 01 22 12.6 +1.1
MAW **Mawson** 86.92 199 P P 01 22 12.6 +1.1
10.0nm,0.7s,baz=125,slow=8.3,SNR=7.3
A20A **Cobblestone Ra** 86.99 37 P P 01 22 12.5 +0.4
baz=87
H24A **Dirks Ranch, A** 87.13 42 P P 01 22 13.4 +0.4
baz=87
WMOK **Wichita Mounta** 87.14 53 eP P 01 22 12.4 -0.8
31nm,1.4s
K26A **Motz Farm, Whi** 87.15 44 P P 01 22 13.6 +0.5
baz=87
RSSD **Black Hills** 87.19 42 eP P 01 22 12.9 -0.6
266nm,1.7s
B21A **Ellsworth Farm** 87.30 38 P P 01 22 14.1 +0.5
baz=87
T31A **Randall Ranch,** 87.35 50 P P 01 22 14.3 +0.1
baz=87
P30A **Selden** 87.89 48 P P 01 22 16.5 -0.2
baz=88
R31A **Burdett** 87.92 49 P P 01 22 16.6 -0.3
baz=88
C23A **Lambert** 88.10 39 P P 01 22 17.7 +0.2
baz=88
J27A **Elkhorn Farm,** 88.16 44 P P 01 22 18.2 +0.2
baz=88
B23A **Brockton** 88.52 38 P P 01 22 19.9 +0.5
baz=89
DGMT **Dagmar** 88.99 39 P P 01 22 21.8 +0.1
baz=89
I28A **Midland** 89.02 43 P P 01 22 21.6 -0.3
baz=89
PLCA **Paso Flores** 89.02 132 eP P 01 22 21.7 -0.5
90nm,1.8s
INK **Inuvik** 89.15 14 eP P 01 22 21.6 -0.3
16nm,0.9s
NATX **Nacogdoches** 89.32 57 eP P 01 22 24.4 +0.9
K30A **Basset** 89.54 45 P P 01 22 24.8 +0.4
baz=90
A25A **Svangstu Ranch** 89.84 38 P P 01 22 26.2 +0.6
baz=90
I30A **Oacoma** 90.14 44 P P 01 22 27.2 0.0
baz=90
A26A **Wade Farm, Ken** 90.47 39 P P 01 22 28.0 -0.5
baz=91
B27A **Peters Farms,** 90.74 39 P P 01 22 30.0 +0.2
baz=91
G30A **Faulkton** 90.79 43 P P 01 22 30.2 0.0
baz=91
YKA **Yellowknife Ar** 90.95 23 P P 01 22 30.3 -0.1
YKA **Yellowknife Ar** 90.95 23 P P 01 22 30.3 -0.1
7.4nm,1.0s,baz=231,slow=4.3,SNR=2.9
A27A **Ledoux Ranch,** 90.97 39 P P 01 22 31.2 +0.3
baz=91
JTS **JuntasAbangare** 91.49 80 eP P 01 22 34.8 +0.7
506nm,1.2s
A28A **Rude Farm, Bot** 91.54 39 P P 01 22 33.7 +0.1
baz=92
D30A **Buchanan** 91.79 41 P P 01 22 34.4 -0.4
baz=92
B29A **Wagenman Farm,** 91.93 40 P P 01 22 35.2 -0.2
baz=92
SNAA **Sanae** 92.04 177 eP P 01 22 35.9 +0.3
46nm,1.6s
A29A **Manning Farm,** 92.18 39 P P 01 22 36.2 -0.3
baz=92
C30A **Mose, Pekin** 92.19 41 P P 01 22 36.4 -0.1
baz=92
A30A **Hoffart Farm,** 92.75 40 P P 01 22 39.1 -0.1
baz=93
FFC **Flin Flon** 92.90 33 eP P 01 22 38.3 -1.3
120nm,1.6s
ULM **Lac du Bonnet** 94.69 39 eP P 01 22 45.9 -2.0
23nm,1.4s
ULM **Lac du Bonnet** 94.69 39 P P 01 22 46.0 -2.0
12nm,1.0s,baz=285,slow=5.2,SNR=3.8
OTAV **Otavalo** 94.95 91 eP P 01 22 50.6 -0.1
9.1nm,1.3s
SPMN **St. Paul** 95.04 44 P P 01 22 49.3 -0.4
baz=95
WVT **Waverly** 96.05 54 eP P 01 22 53.5 -1.0
6.1nm,0.9s
COWI **Conover** 97.75 44 eP P 01 23 01.4 -0.7
37nm,1.3s
FCC **Fort Churchill** 98.40 31 eP P 01 23 04.0 -0.5
LPAZ **La Paz** 99.64 110 eP Pdif 01 23 11.8 -0.1
3.9nm,1.1s
ROSC **El Rosal** 100.17 88 LR LR 01 56 37.7
comp=Z,2µm,22.0s,baz=232,slow=28
MK31 **Makanchi Array** 111.34 314 ePKP PKiKP 01 28 01.3 +0.6
KURK **Kurchatov** 113.71 319 ePKP PKiKP 01 28 05.9 +0.9
EKS2 **Erkin-Say** 117.47 310 ePKPdf PKPdf 01 28 10.3 -2.4
ARCES **ARCESS Array B** 125.45 352 PKP PKPdf 01 28 27.4 +0.3
ARCES **ARCESS Array B** 125.45 352 PKP PKPdf 01 28 27.5 +0.3
8.5nm,0.6s,baz=4.6,slow=0.3,SNR=12
SUR **Sutherland** 129.71 196 ePKPdf PKPdf 01 28 38.8 +2.1
JOF **Joensuu** 130.28 345 ep PKPdf 01 28 35.5 -0.9
17nm,0.7s
BOSA **Boshof** 131.81 202 PKP PKPdf 01 28 42.1 +1.4
BOSA **Boshof** 131.81 202 PKP PKPdf 01 28 42.1 +1.4
5.8nm,0.8s,baz=151,slow=2.7,SNR=4.0
KAF **Kangasniemi** 132.12 348 ep PKPdf 01 28 39.7 -0.2
10nm,0.6s
RCBR **Riachuelo** 132.68 114 ePKPdf PKPdf 01 28 44.2 +1.7
FINES **FINESS Array B** 132.77 347 PKP PKPdf 01 28 39.6 -1.6
FINES **FINESS Array B** 132.77 347 PKP PKPdf 01 28 39.6 -1.6
2.6nm,0.5s,baz=32,slow=3.7,SNR=8.1
NOA **NORSAR Array B** 135.17 357 PKP PKPdf 01 28 46.2 +0.4
NOA **NORSAR Array B** 135.17 357 PKP PKPdf 01 28 46.2 +0.4
3.8nm,1.0s,baz=13,slow=4.0,SNR=3.1
HFS **Hagfors** 135.89 355 PKP PKPdf 01 28 48.9 +1.8
HFS **Hagfors** 135.89 355 PKP PKPdf 01 28 48.9 +1.8
4.9nm,0.7s,baz=25,slow=3.8,SNR=4.6
AKASG **Malin Array Be** 141.09 337 PKP PKPdf 01 28 56.3 -0.6
AKASG **Malin Array Be** 141.09 337 PKP PKPdf 01 28 56.3 -0.6
5.1nm,0.9s,baz=30,slow=3.8,SNR=3.7
KIEV **Kiev** 141.10 337 ePKPdf PKPdf 01 28 56.4 -0.5
TSUM **Tsumeb** 143.09 198 ePKPdf PKPdf 01 29 01.3 -0.4
CLL **Collm** 144.66 353 ePKPdf PKPdf 01 29 04.0 +0.8
KMBO **Kilima Mbogo** 145.03 243 ePKPbc PKPdf 01 29 05.8 +0.5
KMBO **Kilima Mbogo** 145.03 243 PKPbc PKPdf 01 29 06.1 +0.8
82nm,1.2s,baz=116,slow=5.8,SNR=3.2
BUR08 **Bucovina Ar. S** 145.11 338 ePKPbc PKPdf 01 29 05.4 +1.1
MORC **Moravsky Berou** 145.40 347 ePKPbc PKPab 01 29 05.0 +0.2
UBBA **Unterbreizbach** 145.43 356 ePKPbc PKPab 01 29 04.8 +0.1
MOX **Moxa** 145.47 354 ePKPbc PKPab 01 29 05.3 +0.3
UCC **Uccle** 145.52 2 PKP PKPbc 01 29 05.1 +0.3
BEBN **Eben Emael** 145.56 1 PKP PKPbc 01 29 05.2 +0.2
HGN **Heimansgroeve** 145.60 1 ePKPdf PKPdf 01 29 04.0 -0.9
550nm,1.8s
TANN **Tannenbergstha** 145.61 353 ePKPbc PKPab 01 29 06.0 +0.4
MEM **Membach** 145.75 1 PKP PKPbc 01 29 05.8 +0.2
SNF **Seneffe** 145.81 2 PKP PKPbc 01 29 06.1 +0.4
BCLA **Clavier** 145.93 1 PKP PKPab 01 29 07.2 +0.5
VRAC **Vranov** 146.04 348 PKPbc PKPab 01 29 07.6 +0.4
VRAC **Vranov** 146.04 348 PKPbc PKPab 01 29 07.6 +0.4
67nm,1.2s,baz=352,slow=4.0,SNR=4.4
TNS **Taunus Mts** 146.10 358 ePKPbc PKPab 01 29 07.7 +0.2
DOU **Dourbes** 146.23 2 PKP PKPbc 01 29 07.5 +0.4
ROTZ **Rotzenmuhle** 146.27 353 ePKPbc PKPab 01 29 08.6 +0.5
GRF **Grafenberg Arr** 146.45 354 ePKPbc PKPab 01 29 09.2 +0.4
PSZ **Piszkesteto** 146.56 344 ePKPbc PKPbc 01 29 08.7 +0.5
WLF **Walferdange** 146.70 0 PKP PKPab 01 29 09.8 +0.1
WLF **Walferdange** 146.70 0 ePKPbc PKPab 01 29 10.0 +0.3
WLF **Walferdange** 146.70 0 ePKPbc PKPab 01 29 09.5 -0.2
BR131 **Keskin Array S** 146.75 320 ePKPbc PKPbc 01 29 08.8 -0.3
BRTR **Keskin Array B** 146.75 320 PKPbc PKPbc 01 29 09.4 +0.2
BRTR **Keskin Array B** 146.75 320 PKPbc PKPbc 01 29 09.4 +0.2
37nm,1.1s,baz=99,slow=2.3,SNR=5.0
WET **Wettzell** 146.81 352 ePKPbc PKPab 01 29 10.0 -0.2
GEC2 **GERESS Array S** 146.99 351 ePKPbc PKPbc 01 29 10.3 +0.8
GERES **GERESS Array B** 146.99 351 PKPbc PKPbc 01 29 09.1 -0.3
GERES **GERESS Array B** 146.99 351 PKPbc PKPbc 01 29 09.1 -0.3
22nm,1.0s,baz=27,slow=2.4,SNR=3.8
STU **Stuttgart** 147.52 357 ePKPbc PKPbc 01 29 11.9 +1.1
STU **Stuttgart** 147.52 357 ePKPbc PKPbc 01 29 10.8 0.0
FUR **Furstenfeldbru** 147.96 354 ePKPbc PKPbc 01 29 12.9 +0.9
BFO **Black Forest** 148.00 358 ePKPbc PKPbc 01 29 13.1 +0.9
RJOB **Jochberg** 148.20 352 ePKPbc PKPbc 01 29 13.6 +0.9
ASCN **Ascension** 148.32 138 ePKPdf PKPdf 01 29 09.6 -0.9
ASCN ePKPbc PKPbc 01 29 13.4 -0.6
DAVOX **Davos/Dischmat** 149.45 355 PKPbc PKPbc 01 29 17.4 +1.2
DAVOX **Davos/Dischmat** 149.45 355 PKPbc PKPbc 01 29 17.4 +1.2
53nm,0.9s,baz=259,slow=7.5,SNR=6.0
CSS **Prodhromos** 149.61 313 ePKPbc PKPbc 01 29 17.1 +0.4
BNI **Bardonecchia** 151.31 360 ePKPbc PKPbc 01 29 21.7 +1.1
BNI ePKPab PKPab 01 29 28.7 0.0
ESDC **Sonseca Array** 154.98 19 PKPbc PKPbc 01 29 26.8 -1.9
ESDC **Sonseca Array** 154.98 19 PKPbc PKPbc 01 29 26.8 -1.9
1.3nm,0.7s,baz=306,slow=0.6,SNR=2.9
GVD **Gavdhos** 155.69 323 ePKPdf PKPdf 01 29 21.5 +0.6
KEST **Kesra** 160.46 353 ePKPab PKPab 01 30 08.2 +0.2

IDC ***02*** *01:10:46.2±1.3,0.°02S×125.°62E,h0km,mb3.8/4, mb1 3.9/5,mb1mx3.7/24,mbtmp3.8/5,ML3.6/1,Error ellipse: s-maj=52.7km s-min=21.6km az=69.0*
DJA ***02*** *01:10:49.2±0.4,0.°N±6.°×12.°5E±.°,h10km,M4.3/6,MLv4.3/6*
ISCJB ***02*** *01:10:52.2±0.6,0.°31S±0.°07×125.°32E±0.°05,h49km, mb3.7/4,Error ellipse: s-maj=10.7km s-min=6.0km az=18.4*

ISC 02 01:10:53.3±1.0,0.°21S±0.°08×125.°38E±0.°05,h49km,n11, σ1§52/14,mb3.7/4,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KMSI	**Cibinong**	**1.60**	**299**	P		**Pn**	**01 11 17.6**	**-1.6**
KMSI				S		**Sn**	**01 11 39.4**	**+0.6**
LBMI	**Labuha**	**2.16**	**101**	P		**Pn**	**01 11 27.2**	**+0.4**
LBMI				S		**Sn**	**01 11 54.3**	**+1.9**
GTOI	**Gorontalo**	**2.52**	**289**	P		**Pn**	**01 11 32.4**	**+0.7**
LUWI	**Luwuk**	**2.74**	**252**	P		**Pn**	**01 11 37.8**	**+3.0**
LUWI				S		Sn	01 12 14.1	+7.4
NLAI	**Namlea**	**3.46**	**150**	P		**Pn**	**01 11 44.0**	**-0.8**
APSI	**Ampana**	**3.80**	**259**	P		**Pn**	**01 11 51.0**	**+1.6**
KAPI	**Kappang**	**7.38**	**230**	Pn		**Pn**	**01 12 38.4**	**0.0**
	0.8nm,0.3s,baz=245,slow=19,SNR=3.4							
KAPI				Sn		**Sn**	**01 13 58.9**	**-2.0**
	0.2nm,0.3s,baz=128,slow=23,SNR=3.1							
WRA	**Warramunga Arr**	**21.48**	**156**	P		**P**	**01 15 36.9**	**-1.1**
	1.5nm,0.6s,baz=338,slow=12,SNR=5.2							
ASAR	**Alice Springs**	**24.74**	**161**	P		**P**	**01 16 11.1**	**+0.6**
	1.4nm,0.8s,baz=342,slow=11,SNR=8.1							
MKAR	**Makanchi Array**	**60.06**	**327**	P		**P**	**01 20 55.1**	**-0.3**
	0.5nm,0.6s,baz=121,slow=8.3,SNR=5.6							
KURBB	**Kurchatov Arra**	**64.35**	**329**	P		**P**	**01 21 23.4**	**-0.6**
	0.6nm,0.2s,baz=129,slow=5.8,SNR=11							

IDC 02 01:19:14.2±2.2,16.°38S×173.°29W,h0km,mb3.9/5, mb1 4.2/6,mb1mx3.9/22,mbtmp3.9/6,ML2.1/1,Error ellipse: s-maj=115.4km s-min=21.8km az=144.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**2.86**	**31**	Pn		Pn	01 19 59.5	-1.7
	17nm,0.3s,baz=168,slow=6.4,SNR=3.1							
AFI				Sn		Sn	01 20 30.7	-5.7
	79nm,0.3s,baz=255,slow=20,SNR=6.0							
WRA	**Warramunga Arr**	**49.73**	**258**	P		P	01 28 08.5	-0.1
	0.6nm,0.7s,baz=95,slow=7.8,SNR=6.3							
ASAR	**Alice Springs**	**49.91**	**253**	P		P	01 28 09.6	-0.5
	2.9nm,0.7s,baz=89,slow=8.0,SNR=27							
NVAR	**Mina Array Bea**	**74.98**	**42**	P		P	01 30 57.9	0.0
	1.0nm,0.9s,baz=225,slow=8.9,SNR=5.1							
PDAR	**Pinedale Array**	**82.92**	**42**	P		P	01 31 41.2	-0.1
	1.0nm,0.8s,baz=197,slow=3.1,SNR=4.3							
ILAR	**Eielson Array**	**83.38**	**11**	P		P	01 31 43.8	+1.0
	0.4nm,0.6s,baz=223,slow=6.1,SNR=3.8							

IDC ***02*** *01:23:07.6±0.8,16.°31S×172.°30W,h0km,mb4.0/8, mb1 4.3/8,mb1mx4.0/22,mbtmp4.0/8,Error ellipse: s-maj=38.1km s-min=19.4km az=136.0*
NEIC ***02*** *01:23:09.0±0.4,16.°33S×172.°28W,h10km,mb4.3/7,Error ellipse: s-maj=20.3km s-min=9.2km az=135.0*
ISCJB ***02*** *01:23:09.3±0.5,16.°04S±0.°09×172.°5W±0.°1,h24km, mb4.0/14,Error ellipse: s-maj=22.0km s-min=7.9km az=29.1*

ISC 02 01:23:10.7±0.7,16.°1S±0.°1×172.°4W±0.°2,h24km,n32, σ1§09/29,mb4.2/14,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**2.25**	**15**	ePn		Pn	01 23 43.9	-2.6
AFI				Sn		**Sn**	**01 24 11.3**	**-2.3**
AFI	**Afiamalu**	**2.25**	**15**	Pn		Pn	01 23 44.6	-1.9
	44nm,0.3s,baz=207,slow=9.0,SNR=8.7							
AFI				Sn		**Sn**	**01 24 11.3**	**-2.3**
	203nm,0.3s,baz=197,slow=23,SNR=18							
MSVF	**Nonsavu**	**9.30**	**259**	ePn		Pn	01 25 30.7	+7.3
DZM	**Mont Dzumac**	**20.86**	**250**	P		Pn	01 27 56.5	+2.7
DZM	**Mont Dzumac**	**20.86**	**250**	P		Pn	01 27 56.5	+2.7
	5.4nm,0.8s,baz=84,slow=8.0,SNR=3.5							
URZ	**Urewera**	**23.94**	**201**	P		**P**	**01 28 22.9**	**-0.2**
URZ	**Urewera**	**23.94**	**201**	P		**P**	**01 28 22.9**	**-0.2**
	12nm,0.8s,baz=28,slow=5.5,SNR=5.2							
STKA	**Stephens Creek**	**44.54**	**241**	eP		**P**	**01 31 20.3**	**-0.5**
	0.4nm,0.6s							
STKA	**Stephens Creek**	**44.54**	**241**	P		**P**	**01 31 20.3**	**-0.5**
	4.8nm,0.8s,baz=96,slow=10,SNR=5.8							
WRA	**Warramunga Arr**	**50.64**	**257**	P		**P**	**01 32 08.5**	**+0.1**
WRA	**Warramunga Arr**	**50.64**	**257**	P		**P**	**01 32 08.5**	**+0.1**
	0.5nm,0.6s,baz=96,slow=6.7,SNR=12							
AS31	**Alice Springs**	**50.83**	**252**	eP		**P**	**01 32 10.5**	**+0.7**
ASAR	**Alice Springs**	**50.83**	**252**	P		**P**	**01 32 10.0**	**+0.2**
ASAR	**Alice Springs**	**50.83**	**252**	P		**P**	**01 32 10.0**	**+0.2**
	3.2nm,0.7s,baz=85,slow=8.6,SNR=29							
VNDA	**Vanda**	**62.79**	**186**	P		**P**	**01 33 32.9**	**-0.8**
VNDA	**Vanda**	**62.79**	**186**	P		**P**	**01 33 32.9**	**-0.8**
	1.8nm,0.9s,baz=12,slow=6.0,SNR=8.8							
BEKR	**Beckworth**	**73.78**	**39**	eP		**P**	**01 34 43.9**	**+0.5**
	0.7nm,0.7s							
QSPA	**South Pole Qui**	**73.96**	**180**	eP		**P**	**01 34 41.9**	**-2.1**
	5.1nm,1.1s							
NVAR	**Mina Array Bea**	**74.19**	**41**	P		**P**	**01 34 46.7**	**+0.8**
NVAR	**Mina Array Bea**	**74.19**	**41**	P		**P**	**01 34 46.7**	**+0.8**
	0.5nm,0.7s,baz=234,slow=9.0,SNR=3.9							
TUC	**Tucson**	**76.08**	**50**	eP		**P**	**01 34 57.4**	**+0.7**
	2.5nm,0.9s							
DUG	**Dugway**	**78.71**	**42**	eP		**P**	**01 35 12.3**	**+0.9**
	2.6nm,1.1s							
TMUT	**Trail Mountain**	**79.29**	**44**	eP		**P**	**01 35 16.5**	**+1.7**
	4.1nm,0.8s							
DIV	**Divide**	**79.85**	**13**	eP		**P**	**01 35 18.5**	**+1.5**
	12nm,1.0s							
TXAR	**Lajitas Array**	**80.19**	**56**	P		**P**	**01 35 20.3**	**+0.7**
TXAR	**Lajitas Array**	**80.19**	**56**	P		**P**	**01 35 20.3**	**+0.7**
	0.6nm,1.0s,baz=212,slow=8.9,SNR=3.7							
PDAR	**Pinedale Array**	**82.13**	**41**	P		**P**	**01 35 30.4**	**+0.6**
PDAR	**Pinedale Array**	**82.13**	**41**	P		**P**	**01 35 30.4**	**+0.6**
	0.6nm,0.4s,baz=210,slow=3.1,SNR=4.1							
GERES	**GERESS Array B**	**146.96**	**353**	PKPbc		**PKPab**	**01 42 54.0**	**+1.2**
GERES	**GERESS Array B**	**146.96**	**353**	PKPbc		**PKPab**	**01 42 54.0**	**+1.2**
	0.6nm,1.0s,baz=358,slow=9.8,SNR=4.5							
BRTR	**Keskin Array B**	**147.31**	**321**	PKPbc		**PKPab**	**01 42 55.1**	**+0.5**
BRTR	**Keskin Array B**	**147.31**	**321**	PKPbc		**PKPab**	**01 42 55.1**	**+0.5**
	0.4nm,0.5s,baz=61,slow=6.8,SNR=2.8							

MEX 02 01:23:24.4±0.5,17.°86N×100.°02W,h59km±6km,MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MEIG	**Mezcala**	**0.39**	**80**	*i* P		Pn	01 23 33.6	-1.7
MEIG				*i* S		Sn	01 23 41.4	-1.8
ARIG	**Puente Sto Nin**	**0.52**	**324**	*i* P		Pn	01 23 35.0	-1.6
ARIG				*i* S		Sn	01 23 43.5	-1.9
PLIG	**Platanillo**	**0.73**	**43**	*i* P		Pn	01 23 37.9	-1.1
PLIG				*i* S		Sn	01 23 48.5	-1.3
CAIG	**El Cayaco**	**0.84**	**196**	*i* P		Pn	01 23 38.8	-1.5
CAIG				*i* S		Sn	01 23 50.6	-1.4
ACX	**Acapulco**	**1.00**	**171**	*i* P		Pn	01 23 40.5	-1.9
YAIG	**Yautepec**	**1.35**	**42**	*i* P		Pn	01 23 45.9	-1.4
YAIG				*i* S		Sn	01 24 02.1	-2.2

IDC 02 01:28:12.9±1.6,15.°56S×171.°31W,h0km,mb4.0/4,

mb1 4.2/4, mb1mx3.8/21, mbtmp4.0/4, Error ellipse: s-maj=46.9km s-min=24.1km az=130.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.70**	**344**	Pn	Pn	01 28 44.3	+0.4
	162nm,0.3s,baz=196,slow=2.1,SNR=12						
AFI				Sn	Sn	01 28 59.8	-6.6
	872nm,0.3s,baz=47,slow=22,SNR=30						
URZ	**Urewera**	**24.82**	**202**	P	P	01 33 44.9	+8.2
	6.2nm,0.4s,baz=354,slow=1.4,SNR=9.3						
STKA	**Stephens Creek**	**45.71**	**241**	P	P	01 36 37.0	+1.0
	1.1nm,0.5s,baz=90,slow=5.1,SNR=3.5						
WRA	**Warramunga Arr**	**51.77**	**257**	P	P	01 37 21.6	-1.2
	0.7nm,0.6s,baz=92,slow=6.8,SNR=8.9						
ASAR	**Alice Springs**	**51.98**	**252**	P	P	01 37 24.4	0.0
	5.4nm,0.6s,baz=87,slow=8.0,SNR=51						
NVAR	**Mina Array Bea**	**73.11**	**41**	P	P	01 39 45.5	-0.1
	0.2nm,0.5s,baz=214,slow=7.7,SNR=2.5						

*ISCJB **02** 01:34:43.6±0.5, 40.89N±0.03×141.49E±0.08, h92km±4km, mb3.5/6, Error ellipse: s-maj=10.2km s-min=5.1km az=8.4*
*JMA **02** 01:34:44.6±0.1, 40.91N×141.52E, h81km±1km, M3.6*
JMA Felt I J1.
*IDC **02** 01:34:45.5±1.8, 40.89N×141.56E, h102km±16km, mb3.3/6, mb1 3.4/9, mb1mx3.2/27, mbtmp3.3/9, Error ellipse: s-maj=23.6km s-min=14.2km az=112.0*

ISC 02 01:34:44.2±0.9, 40.89N±0.04×141.48E±0.07, h84km±6km, n26, σ1°20/30, mb3.6/6, 5C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTM	**Tenmabayashi**	**0.33**	**252**	⇑P	**Pn**	**01 34 57.2**	**+0.1**
JTM				S	**Sn**	**01 35 06.5**	**-0.2**
JANG	**Nango**	**0.52**	**177**	⇓P	**Pn**	**01 34 58.6**	**+0.1**
JANG				S	**Sn**	**01 35 08.5**	**-0.6**
JOT	**Ohata**	**0.59**	**326**	⇓P	**Pn**	**01 34 59.3**	**+0.2**
JOT				S	**Sn**	**01 35 10.1**	**-0.1**
JAH	**Hinai**	**0.95**	**223**	⇑P	**Pn**	**01 35 03.8**	**+0.8**
JAH				*e*S	**Sn**	**01 35 18.2**	**+1.3**
JSR	**Shiriuchi**	**1.02**	**309**	P	**Pn**	**01 35 04.1**	**+0.3**
JKB	**Kayabe**	**1.05**	**341**	⇑P	**Pn**	**01 35 04.5**	**+0.4**
JKB				S	**Sn**	**01 35 19.4**	**+0.5**
JIW	**Iwasaki**	**1.16**	**256**	P	**Pn**	**01 35 06.1**	**+0.7**
JIW				*e*S	**Sn**	**01 35 21.8**	**+0.5**
JOM	**Ohasama**	**1.43**	**186**	⇑P	**Pn**	**01 35 09.7**	**+0.9**
JOM				S	**Sn**	**01 35 28.5**	**+1.3**
JYM2	**Yakumo 2**	**1.48**	**326**	⇑P	**Pn**	**01 35 10.4**	**+1.0**
JYM2				S	**Sn**	**01 35 29.7**	**+1.2**
JNBK	**Urakawa-nobuka**	**1.68**	**34**	P	**Pn**	**01 35 12.8**	**+0.8**
ASAJ	**Asahikawa**	**3.33**	**14**	P	**Pn**	**01 35 34.8**	**+0.8**
	6.5nm,0.3s,baz=201,slow=13,SNR=16						
ASAJ				S	**Sn**	**01 36 14.8**	**+2.4**
	3.2nm,0.3s,baz=162,slow=20,SNR=3.2						
MAT	**Matsushiro**	**5.04**	**212**	P	**Pn**	**01 36 00.4**	**+3.0**
MAT				*e*S	**Sn**	**01 36 54.7**	**+0.4**
MJAR	**Matsushiro Arr**	**5.04**	**212**	P	**Pn**	**01 35 59.9**	**+2.5**
	1.0nm,0.3s,baz=26,slow=14,SNR=9.6						
USRK	**Ussuriysk Arra**	**7.75**	**298**	P	**Pn**	**01 36 36.0**	**+1.8**
	0.5nm,0.3s,baz=101,slow=14,SNR=11						
SONM	**Songino Array**	**25.86**	**297**	P	**P**	**01 40 07.2**	**-0.8**
	0.4nm,0.5s,baz=90,slow=8.3,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	**30.24**	**127**	T	T	02 11 57.8	
	baz=321,slow=0.7,SNR=8.7						
H11N1	**WAKE ISLAND Hy**	**30.25**	**127**	T	T	02 12 00.7	
	baz=321,slow=0.7,SNR=9.4						
H11N3	**WAKE ISLAND Hy**	**30.26**	**127**	T	T	02 11 58.1	
	baz=321,slow=0.7,SNR=8.3						
ZALV	**Zalesovo Beamn**	**39.44**	**309**	P	**P**	**01 42 05.4**	**-0.5**
	0.9nm,0.4s,baz=98,slow=7.1,SNR=5.5						
MKAR	**Makanchi Array**	**42.22**	**299**	P	**P**	**01 42 28.8**	**0.0**
	0.4nm,0.4s,baz=84,slow=12,SNR=7.9						
ILAR	**Eielson Array**	**46.24**	**34**	P	**P**	**01 42 59.3**	**-1.3**
	0.3nm,0.9s,baz=253,slow=9.3,SNR=2.6						
WRA	**Warramunga Arr**	**60.88**	**188**	P	**P**	**01 44 47.2**	**-0.9**
	0.3nm,0.5s,baz=6.6,slow=7.1,SNR=7.7						
FINES	**FINESS Array B**	**65.44**	**331**	P	**P**	**01 45 17.8**	**+0.1**
	1.4nm,0.5s,baz=38,slow=7.5,SNR=11						
H03N2	**Juan Fernandez**	**147.17**	**90**	T	T	04 39 22.2	
	baz=297,slow=0.7,SNR=2.7						
H03N3	**Juan Fernandez**	**147.19**	**90**	T	T	04 39 22.6	
	baz=297,slow=0.7,SNR=4.1						
H03N1	**Juan Fernandez**	**147.19**	**90**	T	T	04 39 20.8	
	baz=297,slow=0.7,SNR=3.6						

*AUST **02** 01:43:34.4±1.5, 15.60S×172.34W, h73km±19km, Error ellipse: s-maj=22.9km s-min=16.3km az=73.0*
*IDC **02** 01:43:37.2±0.7, 16.76S×173.62W, h0km, mb4.4/13, mb1 4.6/13, mb1mx4.5/22, mbtmp4.4/13, Error ellipse: s-maj=27.4km s-min=17.0km az=117.0*
*NEIC **02** 01:43:38.6±0.3, 16.72S×173.68W, h10km, mb4.7/18, Error ellipse: s-maj=12.7km s-min=6.7km az=137.0*
*SZGRF **02** 01:43:44.2, 16.28S×173.56W, h33km, Tonga Islands*
*ISCJB **02** 01:43:50.7±0.4, 16.84S±0.09×173.78W±0.08, h124km, mb4.4/30, Error ellipse: s-maj=14.8km s-min=7.7km az=139.6*

ISC 02 01:43:52.8±0.5, 16.8S±0.1×173.8W±0.1, h124km, n130, σ0.92/137, mb4.4/30, 8C-7D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.51**	**35**	*e*Pn	Pn	01 44 22.4	-24
AFI				Sn	Sn	01 45 00.5	-27
AFI	**Afiamalu**	**3.51**	**35**	Pn	Pn	01 44 23.5	-23
	63nm,0.3s,baz=171,slow=20,SNR=13						
AFI				Sn	Sn	01 45 00.5	-27
	65nm,0.3s,baz=208,slow=23,SNR=7.0						
NIUE	**Niue**	**4.34**	**122**	P	Pn	01 44 38.4	-19
	baz=4.2,SNR=30						
MSVF	**Nonsavu**	**7.81**	**262**	*e*Pn	Pn	01 45 47.2	+3.4
DZM	**Mont Dzumac**	**19.31**	**251**	*e*P	**P**	**01 48 06.1**	**-2.4**
	10nm,0.9s						
DZM	**Mont Dzumac**	**19.31**	**251**	P	**Pn**	**01 48 11.0**	**+0.2**
	0.4nm,0.3s,baz=52,slow=19,SNR=4.8						
URZ	**Urewera**	**22.79**	**199**	P	**P**	**01 48 43.7**	**-1.2**
URZ	**Urewera**	**22.79**	**199**	P	**P**	**01 48 43.7**	**-1.2**
	11nm,0.5s,baz=350,slow=5.4,SNR=8.3						
RPZ	**Rata Peaks**	**29.72**	**202**	*e*P	**P**	**01 49 47.1**	**-0.1**
	17nm,0.9s						
ARMA	**Armidale**	**34.27**	**240**	⇓P	**P**	**01 50 27.1**	**-0.2**
	baz=36,SNR=4.8						
CTAO	**Charters Tower**	**37.94**	**259**	*e*P	**P**	**01 50 57.1**	**-1.5**
	5.5nm,0.8s						
PMG	**Port Moresby**	**38.64**	**276**	*e*P	**P**	**01 51 03.2**	**-1.3**
	36nm,1.0s						
CMSA	**Cobar Meteorol**	**39.49**	**241**	P	**P**	**01 51 10.6**	**-0.7**
	baz=41,SNR=19						
QLP	**Quilpie**	**40.00**	**249**	⇑P	**P**	**01 51 15.0**	**-0.6**
	baz=42,SNR=4.6						
COEN	**Coen**	**41.49**	**268**	*e*P	**P**	**01 51 29.0**	**+1.0**
	37nm,0.7s						
STKA	**Stephens Creek**	**42.98**	**241**	P	**P**	**01 51 39.4**	**-0.5**
STKA	**Stephens Creek**	**42.98**	**241**	⇓P	**P**	**01 51 40.3**	**+0.3**
	baz=45,SNR=9.5						
STKA	**Stephens Creek**	**42.98**	**241**	P	**P**	**01 51 39.4**	**-0.5**
	15nm,0.8s,baz=80,slow=8.8,SNR=26						
BBOO	**Buckleboo**	**47.75**	**241**	P	**P**	**01 52 17.5**	**-0.1**
	baz=50,SNR=5.3						
WRAB	**Tennant Creek**	**49.12**	**258**	*e*P	**P**	**01 52 26.9**	**-1.3**
	6.7nm,1.1s						
WRA	**Warramunga Arr**	**49.13**	**258**	P	**P**	**01 52 27.2**	**-1.1**
WRA				PcP	**PcP**	**01 53 50.8**	**+0.8**
WRA	**Warramunga Arr**	**49.13**	**258**	P	**P**	**01 52 27.2**	**-1.1**
	2.4nm,0.7s,baz=97,slow=7.8,SNR=60						
WRA				PcP	**PcP**	**01 53 50.8**	**+0.8**
	0.9nm,0.5s,baz=92,slow=3.5,SNR=3.3						
AS31	**Alice Springs**	**49.29**	**253**	*e*P	**P**	**01 52 28.6**	**-0.9**
ASAR	**Alice Springs**	**49.29**	**253**	P	**P**	**01 52 29.1**	**-0.4**
ASAR				PcP	**PcP**	**01 53 50.9**	**+0.3**
ASAR	**Alice Springs**	**49.29**	**253**	P	**P**	**01 52 29.1**	**-0.4**
	31nm,0.7s,baz=88,slow=8.5,SNR=322						
ASAR				PcP	**PcP**	**01 53 50.9**	**+0.3**
	0.3nm,0.3s,baz=81,slow=6.9,SNR=4.5						
KDU	**Kakadu**	**51.96**	**267**	P	**P**	**01 52 49.5**	**-0.1**
	baz=54,SNR=4.0						
FORT	**Forrest**	**54.41**	**244**	*e*P	**P**	**01 53 07.0**	**-0.4**
	11nm,0.8s						
VNDA	**Vanda**	**61.93**	**186**	P	**P**	**01 54 00.1**	**+1.2**
VNDA	**Vanda**	**61.93**	**186**	P	**P**	**01 54 00.1**	**+1.2**
	1.6nm,0.9s,baz=9.2,slow=5.8,SNR=9.3						
MEEK	**Meekatharra**	**62.90**	**248**	P	**P**	**01 54 05.8**	**-0.5**
	baz=65,SNR=3.3						
ASAJ	**Asahikawa**	**72.52**	**329**	P	**P**	**01 55 08.0**	**+1.9**
ASAJ	**Asahikawa**	**72.52**	**329**	P	**P**	**01 55 08.0**	**+1.9**
	4.8nm,0.5s,baz=170,slow=10,SNR=3.9						
QSPA	**South Pole Qui**	**73.23**	**180**	*e*P	**P**	**01 55 10.0**	**-0.2**
	2.9nm,0.9s						
PETK	**Petropavlovsk-**	**73.85**	**343**	P	**P**	**01 55 13.7**	**0.0**
PETK	**Petropavlovsk-**	**73.85**	**343**	P	**P**	**01 55 13.7**	**0.0**
	7.0nm,0.7s,baz=138,slow=9.1,SNR=7.7						
ISA	**Isabella**	**73.95**	**44**	*e*P	**P**	**01 55 13.4**	**-1.4**
	7.3nm,1.3s						
CMB	**Columbia Colle**	**74.10**	**41**	*e*P	**P**	**01 55 13.3**	**-2.3**
	14nm,1.5s						
YBH	**Yreka Blue Hor**	**74.98**	**37**	*e*P	**P**	**01 55 19.6**	**-1.1**
	2.6nm,0.9s						
WAKR	**Walker**	**74.98**	**41**	*e*P	P	01 55 16.9	-4.0
	6.5nm,1.2s						
HUMO	**Hull Mountain**	**75.39**	**36**	*e*P	**P**	**01 55 22.2**	**-0.7**
	5.2nm,1.0s						
KSRS	**Korea Array**	**76.88**	**316**	P	**P**	**01 55 33.1**	**+1.7**
	1.4nm,0.8s,baz=143,slow=4.7,SNR=4.7						
KSAR	**Wonju Array Be**	**76.90**	**316**	P	**P**	**01 55 33.1**	**+1.6**
USRK	**Ussuriysk Arra**	**78.27**	**323**	P	**P**	**01 55 40.8**	**+1.9**
	0.9nm,0.6s,baz=137,slow=6.5,SNR=5.4						
TMUT	**Trail Mountain**	**80.78**	**44**	*e*P	**P**	**01 55 52.4**	**-0.7**
	10nm,0.9s						
DIV	**Divide**	**80.87**	**13**	*e*P	**P**	**01 55 51.0**	**-1.8**
	9.9nm,0.9s						
BMRM	**Bremner River**	**80.99**	**14**	*e*P	**P**	**01 55 53.7**	**+0.3**
	14nm,1.0s						
TXAR	**Lajitas Array**	**81.75**	**56**	P	**P**	**01 55 56.5**	**-1.6**
TXAR	**Lajitas Array**	**81.75**	**56**	P	**P**	**01 55 56.5**	**-1.6**
	0.7nm,1.0s,baz=247,slow=6.4,SNR=4.8						
ANMO	**Albuquerque**	**82.03**	**50**	*e*P	**P**	**01 56 00.2**	**+0.6**
	3.4nm,1.1s						
REDW	**Red Top Meadow**	**83.08**	**41**	*e*P	**P**	**01 56 03.5**	**-1.4**
	11nm,1.3s						
PDAR	**Pinedale Array**	**83.60**	**42**	P	**P**	**01 56 06.0**	**-1.6**
PDAR	**Pinedale Array**	**83.60**	**42**	P	**P**	**01 56 06.0**	**-1.6**
	3.4nm,0.8s,baz=223,slow=3.5,SNR=6.5						
ILAR	**Eielson Array**	**83.91**	**11**	P	**P**	**01 56 06.8**	**-1.6**
ILAR	**Eielson Array**	**83.91**	**11**	P	**P**	**01 56 06.8**	**-1.6**
	0.7nm,0.5s,baz=229,slow=6.3,SNR=8.8						
MAW	**Mawson**	**86.32**	**199**	P	**P**	**01 56 21.6**	**+1.1**
MAW	**Mawson**	**86.32**	**199**	P	**P**	**01 56 21.6**	**+1.1**
	0.7nm,0.5s,baz=102,slow=5.3,SNR=4.1						
MKAR	**Makanchi Array**	**111.52**	**314**	PKiKP	**PKiKP**	**02 02 12.3**	**-0.2**
MKAR	**Makanchi Array**	**111.52**	**314**	PKiKP	**PKiKP**	**02 02 12.3**	**-0.2**
	0.4nm,0.7s,baz=74,slow=1.2,SNR=4.5						
ARCES	**ARCESS Array B**	**125.95**	**352**	PKP	**PKPdf**	**02 02 40.1**	**+0.5**
ARCES	**ARCESS Array B**	**125.95**	**352**	PKP	**PKPdf**	**02 02 40.1**	**+0.5**
	5.8nm,0.9s,baz=315,slow=0.5,SNR=5.6						
FINES	**FINESS Array B**	**133.23**	**347**	PKP	**PKPdf**	**02 02 54.1**	**+0.5**
FINES	**FINESS Array B**	**133.23**	**347**	PKP	**PKPdf**	**02 02 54.1**	**+0.5**
	3.5nm,0.9s,baz=54,slow=7.1,SNR=3.2						
LSZ	**Lusaka**	**141.41**	**215**	*e*PKPdf	**PKPdf**	**02 03 12.3**	**+2.0**
AKASG	**Malin Array Be**	**141.47**	**336**	PKP	**PKPdf**	**02 03 09.1**	**0.0**
AKASG	**Malin Array Be**	**141.47**	**336**	PKP	**PKPdf**	**02 03 09.1**	**0.0**
	0.1nm,0.3s,baz=45,slow=3.0,SNR=3.4						
TSUM	**Tsumeb**	**142.48**	**198**	*e*PKPdf	PKPdf	02 03 03.4	-8.7
KMBO	**Kilima Mbogo**	**144.53**	**243**	*e*PKPdf	**PKPdf**	**02 03 16.3**	**+0.3**
KMBO	**Kilima Mbogo**	**144.53**	**243**	PKP	**PKPdf**	**02 03 16.9**	**+1.0**
	3.0nm,0.8s,baz=75,slow=5.7,SNR=14						
MALT	**Malatya**	**144.55**	**314**	⇓*i*P	**PKPdf**	**02 03 16.5**	**+1.4**
KWP	**Kalwaria Pacla**	**144.63**	**341**	*e*PKPdf	**PKPdf**	**02 03 14.4**	**-0.3**
CLZ	**Clausthal**	**144.90**	**355**	*e*PKPbc	**PKPdf**	**02 03 14.9**	**-0.3**
CLL	**Collm**	**145.16**	**352**	*e*PKPbc	**PKPab**	**02 03 15.2**	**-0.3**
CLL	**Collm**	**145.16**	**352**	⇑*i*PKPbc	**PKPbc**	**02 03 15.1**	**-0.3**
	comp=Z,8.0nm,0.9s						
CLL				Lm	MLR	03 05 00.0	
	comp=Z,1μm,21.9s						
STHS	**Stebnicka Huta**	**145.26**	**343**	*e*PKP	**PKPab**	**02 03 17.2**	**+1.2**
KOLS	**Kolonicke sedl**	**145.38**	**341**	*e*PKP	**PKPab**	**02 03 16.6**	**+0.1**
BUG	**Bochum--Univer**	**145.45**	**359**	*e*PKPbc	**PKPab**	**02 03 16.2**	**-0.4**
BRG	**Berggiesshubel**	**145.46**	**351**	*i* PKP	**PKPab**	**02 03 16.6**	**-0.1**
	comp=Z,8.1nm,1.0s						
BRG	**Berggiesshubel**	**145.46**	**351**	*e*PKPbc	**PKPab**	**02 03 16.5**	**-0.1**
UPC	**Upice**	**145.47**	**349**	*e*PKP	**PKPab**	**02 03 17.3**	**+0.5**
BUR08	**Bucovina Ar. S**	**145.50**	**337**	*e*PKPbc	**PKPab**	**02 03 17.8**	**+0.7**
BURAR	**Bucovina Array**	**145.51**	**337**	⇓*i*P	**PKPab**	**02 03 17.4**	**+0.2**
DPC	**Dobruska-Polom**	**145.57**	**348**	*e*PKP	**PKPab**	**02 03 17.7**	**+0.5**
DPC				*ex*	x	02 03 32.3	
OKC	**Ostrava-Krasne**	**145.67**	**346**	*e*PKP	**PKPab**	**02 03 17.5**	**0.0**
PVCC	**Panska Ves**	**145.70**	**350**	*e*PKP	**PKPab**	**02 03 18.0**	**+0.4**
PVCC				*ex*	x	02 03 31.5	
MORC	**Moravsky Berou**	**145.86**	**347**	⇑*i*P	**PKPab**	**02 03 18.9**	**+0.6**
MORC	**Moravsky Berou**	**145.86**	**347**	*e*PKPbc	**PKPbc**	**02 03 17.6**	**-0.1**
UBBA	**Unterbreizbach**	**145.94**	**356**	*e*PKPbc	**PKPab**	**02 03 17.8**	**-0.6**
MOX	**Moxa**	**145.97**	**354**	*e*PKPbc	**PKPab**	**02 03 18.2**	**-0.5**
BEBN	**Eben Emael**	**146.10**	**1**	P	**PKPab**	**02 03 19.1**	**0.0**
TANN	**Tannenbergstha**	**146.11**	**353**	*e*PKPbc	**PKPab**	**02 03 18.8**	**-0.4**
PRU	**Puhonice**	**146.23**	**350**	*e*PKP	**PKPab**	**02 03 19.0**	**-0.6**
PRU				*ex*	x	02 03 30.6	
MEM	**Membach**	**146.29**	**0**	P	**PKPab**	**02 03 19.5**	**-0.3**
	comp=Z,6.0nm,1.3s						
KECS	**Kecovo**	**146.32**	**343**	*e*PKP	**PKPab**	**02 03 19.6**	**-0.4**
BCLA	**Clavier**	**146.48**	**1**	P	**PKPab**	**02 03 20.4**	**-0.1**
	comp=Z,8.1nm,1.2s						
VRAC	**Vranov**	**146.50**	**348**	⇓*i*P	**PKPab**	**02 03 20.9**	**+0.2**
TNS	**Taunus Mts**	**146.63**	**357**	*e*PKPbc	**PKPab**	**02 03 20.4**	**-0.9**
TLB	**Topalu**	**146.75**	**331**	⇓*i*P	**PKPab**	**02 03 23.3**	**+1.5**
ROTZ	**Rotzenmuhle**	**146.77**	**353**	*e*PKPbc	**PKPab**	**02 03 21.1**	**-0.7**
DOU	**Dourbes**	**146.78**	**2**	P	**PKPab**	**02 03 20.8**	**-1.0**
GRFO	**Grafenberg**	**146.96**	**354**	*e*PKPbc	**PKPbc**	**02 03 20.4**	**-0.5**
MLR	**Muntele Rosu**	**146.97**	**334**	⇑*i*P	**PKPab**	**02 03 22.3**	**-0.5**
BR131	**Keskin Array S**	**146.97**	**319**	*e*PKPbc	**PKPab**	**02 03 22.2**	**-0.9**
BRTR	**Keskin Array B**	**146.97**	**319**	PKPbc	**PKPab**	**02 03 22.6**	**-0.5**
BRTR	**Keskin Array B**	**146.97**	**319**	PKPbc	**PKPab**	**02 03 22.6**	**-0.5**
	comp=Z,4.0nm,0.7s,baz=111,slow=2.5,SNR=16						
PSZ	**Piszkesteto**	**147.00**	**343**	*e*PKPbc	**PKPab**	**02 03 23.0**	**+0.2**
SMOL	**Smolenice**	**147.07**	**346**	*e*PKP	**PKPab**	**02 03 22.9**	**-0.1**
DRGR		**147.12**	**339**	⇓*i*P	**PKPab**	**02 03 22.2**	**-1.1**
KHC	**Kasperske Hory**	**147.21**	**351**	*e*PKP	**PKPbc**	**02 03 22.2**	**+0.6**
KHC	**Kasperske Hory**	**147.21**	**351**	*e*PKPbc	**PKPab**	**02 03 22.4**	**-1.2**
WLF	**Walferdange**	**147.24**	**0**	*e*PKPbc	**PKPab**	**02 03 22.5**	**-1.0**
WLF	**Walferdange**	**147.24**	**0**	*e*PKPbc	**PKPab**	**02 03 22.6**	**-1.0**
VOIR		**147.38**	**335**	⇑*i*P	**PKPab**	**02 03 23.9**	**-0.5**
ANTO	**Ankara**	**147.41**	**320**	*e*PKPbc	**PKPab**	**02 03 23.6**	**-1.2**
ANTO				*e*PKPab	**PKiKP**	**02 03 25.9**	**+1.2**
GEC2	**GERESS Array S**	**147.47**	**351**	*e*PKPbc	**PKPbc**	**02 03 22.8**	**+0.4**
GERES	**GERESS Array B**	**147.47**	**351**	PKPbc	**PKPbc**	**02 03 22.7**	**+0.3**
GERES	**GERESS Array B**	**147.47**	**351**	PKPbc	**PKPbc**	**02 03 22.7**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=28,slow=2.9,SNR=16						
SIRR	**Siria**	**147.93**	**340**	⇑*i*P	**PKPbc**	**02 03 24.1**	**+0.5**
STU	**Stuttgart**	**148.04**	**356**	*e*PKPbc	**PKPab**	**02 03 25.1**	**-1.6**
BZS	**Buzias**	**148.51**	**339**	⇑*i*P	**PKPbc**	**02 03 26.3**	**+1.2**
BFO	**Black Forest**	**148.52**	**357**	*e*PKPbc	**PKPbc**	**02 03 25.5**	**+0.4**
BFO	**Black Forest**	**148.52**	**357**	*e*PKPbc	**PKPbc**	**02 03 25.2**	**+0.1**
BFO				*e*PKPab	**PKPbc**	**02 03 28.9**	**+0.1**
ECH	**Echery**	**148.68**	**359**	*e*PKPbc	**PKPbc**	**02 03 26.4**	**+0.8**
ECH				*e*PKPab	**PKPbc**	**02 03 29.4**	**-0.1**
RJOB	**Jochberg**	**148.69**	**351**	*e*PKPbc	**PKPbc**	**02 03 26.0**	**+0.4**
CSS	**Prodhromos**	**149.76**	**312**	*e*PKPbc	**PKPbc**	**02 03 29.2**	**+0.6**
CSS				*e*PKPab	**PKPbc**	**02 03 33.3**	**-1.0**
TUE	**Stuetta**	**150.31**	**356**	*e*PKPbc	**PKPbc**	**02 03 30.3**	**+0.5**
TUE				*e*PKPab	**PKPbc**	**02 03 36.2**	**-0.2**
VTS	**Vitosha**	**150.47**	**334**	⇑*i*P	**PKPbc**	**02 03 31.6**	**+1.3**
TRI	**Trieste**	**150.50**	**349**	*e*PKPbc	**PKPbc**	**02 03 29.6**	**-0.4**
TRI				*e*PKPab	**PKPab**	**02 03 36.9**	**-0.1**
SSB	**Saint Sauveur**	**151.59**	**2**	*e*PKPbc	**PKPbc**	**02 03 32.9**	**+0.3**
SSB				*e*PKPab	**PKPab**	**02 03 41.6**	**+0.1**
BNI	**Bardonecchia**	**151.85**	**359**	*e*PKPbc	**PKPbc**	**02 03 33.9**	**+0.6**
BNI				*e*PKPab	**PKPab**	**02 03 43.5**	**+0.8**
MTE	**Manteigas**	**153.67**	**24**	*e*PKPbc	**PKPbc**	**02 03 37.3**	**-0.1**
MTE				*e*PKPab	**PKPab**	**02 03 52.0**	**+1.5**

*NIED **02** 01:43:00, 41.70N×143.90E, h29km, Mw4.9 Best double couple: M0 2.14000×10^16 NP1:φ=18.00000°, δ=62.00000°, λ=80.00000°. NP2:φ=218.00000°, δ=30.00000°, λ=107.00000°.*
*BJI **02** 01:43:56.8, 41.75N×143.62E, h43km, mB5.3/31, mb5.0/51, Ms4.9/29, Ms7 4.7/30*
*IDC **02** 01:43:56.9±0.5, 41.75N×143.71E, h27km±2km, mb4.4/24, mb1 4.5/30, mb1mx4.5/34, mbtmp4.4/30, ML3.7/6, MS4.6/2, Ms1 4.6/2, ms1mx4.0/47, Error ellipse: s-maj=12.6km s-min=11.1km az=105.0*
*ISCJB **02** 01:43:56.3±0.5, 41.73N±0.03×143.70E±0.03, h34km±3km, mb4.9/171, MS4.8/9, Error ellipse: s-maj=5.6km s-min=3.3km az=150.4*
*MOS **02** 01:43:56.8±0.9, 41.79N×143.60E, h35km, mb5.3/88, MS4.2/5, Error ellipse: s-maj=6.9km s-min=4.1km az=113.2*
*DJA **02** 01:43:57.4±1.9, 42.2N±22.2×143.3E±3.0, h10km, M5.1/7, mB5.4/1, mb5.1/7, Mw(mB)4.8/1*
*JMA **02** 01:43:57.0±0.2, 41.75N×143.85E, h41km±4km, M4.8*
JMA Felt II J1.
*NEIC **02** 01:43:58.7±0.4, 41.76N×143.65E, h40km±3km, mb5.0/93, MW4.8(NIED), Error ellipse: s-maj=4.1km s-min=2.9km az=152.0*
NEIC Recorded [2 JMA] in southern Hokkaido. Also recorded [1 JMA] in Aomori, Honshu.
*SZGRF **02** 01:44:07.8, 43.45N×143.52E, h34km, mb4.9, Hokkaido, Japan, region*

ISC 02 01:43:57.5±0.4, 41.78N±0.04×143.74E±0.03, h32km±1km, h31km:pP-P, n491, σ0.85/569, mb5.0/171, MS4.7/10, 77C-28D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.49**	**299**	*c*P	**Pn**	**01 44 08.5**	**+0.1**
ERM	**Erimo**	**0.49**	**299**	*e*Pn	**Pn**	**01 44 08.4**	**+0.1**
ERM				*e*Sn	**Sb**	**01 44 15.1**	**+0.1**
JEM	**Erimo**	**0.49**	**299**	⇓P	**Pn**	**01 44 08.4**	**+0.1**
JEM				*e*S	**Sn**	**01 44 17.0**	**+1.2**
JCH	**Churui**	**0.88**	**342**	⇑P	**Pb**	**01 44 14.1**	**-0.2**
JNBK	**Urakawa-nobuka**	**0.89**	**305**	⇑P	**Pb**	**01 44 15.3**	**+0.9**
JOB	**Nobets**	**1.13**	**4**	⇑P	**Pn**	**01 44 17.5**	**+0.5**
JAK	**Akkeshi**	**1.41**	**30**	P	**Pn**	**01 44 20.3**	**-0.6**
JBT2	**Biratori 2**	**1.43**	**315**	P	**Pn**	**01 44 21.9**	**+0.7**
JAR	**Ashorobuto**	**1.52**	**1**	⇑P	**Pn**	**01 44 22.5**	**+0.1**
JAR				*e*S	**Sb**	**01 44 43.6**	**-0.3**
ASAJ	**Asahikawa**	**2.48**	**341**	*e*Pn	**Pn**	**01 44 36.8**	**+1.1**
ASAJ				Sn	**Sb**	**01 45 12.7**	**+1.1**
ASAJ	**Asahikawa**	**2.48**	**341**	Pn	**Pn**	**01 44 36.9**	**+1.2**
	16nm,0.3s,baz=203,slow=13,SNR=29						
ASAJ				Sn	**Sb**	**01 45 12.7**	**+1.1**
	53nm,0.3s,baz=231,slow=26,SNR=6.7						
ASAJ				LR	LR	01 46 08.7	
	comp=Z,6μm,18.6s,baz=161,slow=52						
YUK	**Yuzh-Kuril'sk**	**2.74**	**34**	*c*P	**Pn**	**01 44 39.4**	**+0.2**
YUK				*i* S	**Sn**	**01 45 11.0**	**-0.3**
YUK				pmax	pmax		
	comp=N,45nm,0.2s						
YUK				pmax	pmax		
	comp=Z,184nm,0.2s						
YUK				pmax	pmax		
	comp=E,63nm,0.1s						
YUK				smax	smax		
	comp=N,1μm,0.8s						
YUK				smax	smax		
	comp=E,2μm,0.8s						
KUR	**Kuril'sk**	**4.58**	**40**	⇑*i*P	**Pn**	**01 45 05.6**

YAK comp=N,520nm,5.7s smax smax
YAK comp=E,349nm,5.1s MLR MLR
YAK comp=E,501nm,13.0s MLR MLR
YAK comp=N,699nm,13.0s MLR MLR
YAK comp=Z,1µm,13.0s MLR MLR
NJ2 Nanjing 22.07 252 *eP* **P 01 48 49.8 +0.1**
NJ2 pP **pP 01 48 57.6 -0.6**
NJ2 sP **sP 01 49 01.9 -0.3**
NJ2 S **S 01 52 51.5 +0.2**
NJ2 sS **sS 01 53 07.0 +2.0**
NJ2 ScP **ScP 01 56 22.8 +1.3**
NJ2 AMB AMB
NJ2 comp=Z,30nm,0.7s AMB AMB
NJ2 comp=Z,2µm,9.5s LR LR
NJ2 comp=Z,2µm,26.2s LR LR
NJ2 comp=Z,2µm,24.9s LR LR
NJ2 comp=Z,2µm,23.8s LR LR
FX1 Attu Island--F 22.66 51 P **P 01 48 57.8 +1.9**
FX1 Attu Island--F 22.66 51 P **P 01 48 57.8 +1.9**
comp=Z,18nm,0.8s,baz=270,slow=11,SNR=2.8
HHC Hu-ho-hao-te 24.11 279 *eP* **P 01 49 10.1 -0.3**
HHC pP **pP 01 49 20.0 +0.5**
HHC S **S 01 53 23.2 -2.9**
HHC sS **sS 01 53 39.8 -1.2**
HHC SS **SnSn 01 54 11.6 +3.1**
HHC ScS **ScS 02 00 15.1 +0.9**
HHC AMB AMB
HHC comp=Z,50nm,0.6s AMB AMB
HHC comp=Z,1µm,7.8s LR LR
HHC comp=Z,1µm,16.5s LR LR
HHC comp=Z,2µm,13.9s LR LR
HHC comp=Z,2µm,17.0s
WHN Wuhan 26.12 254 ⇑P **P 01 49 28.1 -0.4**
ULN Ulaanbaatar 26.54 296 P **P 01 49 32.2 -0.2**
comp=Z,46nm,1.2s,comp=Z,849nm
ULN Ulaanbaatar 26.54 296 *eP* **P 01 49 32.3 -0.1**
comp=Z,49nm,1.1s
SONM Songino Array 26.99 296 P **P 01 49 36.7 +0.4**
SONM Songino Array 26.99 296 P **P 01 49 36.7 +0.4**
comp=Z,23nm,1.0s,baz=92,slow=9.0,SNR=86
XAN Xi'an 28.39 266 P **P 01 49 48.1 -0.8**
XAN AMB AMB
comp=Z,3.0nm,0.7s
IRK Irkutsk 28.54 305 *eP* **P 01 49 49.8 -0.2**
IRK pmax pmax
comp=Z,50nm,1.3s
TLY Talaya 28.88 304*c iP* **P 01 49 54.4 +1.3**
TLY pmax pmax
comp=Z,31nm,0.9s
TLY MLR MLR
comp=Z,2µm,18.0s
TLY Talaya 28.88 304 P **P 01 49 54.0 +0.9**
comp=Z,207nm,0.9s,SNR=5.2
ZAK Zakamensk 29.05 301 *eP* **P 01 49 53.5 -1.2**
ZAK pmax pmax
comp=Z,20nm,1.2s
H11N2 WAKE ISLAND Hy 29.48 131 T T 02 21 22.1
baz=326,slow=0.7,SNR=536
H11N1 WAKE ISLAND Hy 29.49 131 T T 02 21 19.9
baz=326,slow=0.7,SNR=540
H11N3 WAKE ISLAND Hy 29.49 131 T T 02 21 23.1
baz=326,slow=0.7,SNR=528
ENH Enshi 29.80 258 *eP* **P 01 50 00.5 -0.9**
comp=Z,19nm,0.8s
MOY Mondy 30.53 304 *eP* **P 01 50 08.1 +0.3**
MOY pmax pmax
comp=Z,59nm,2.9s
LZH Lanzhou 31.34 273 *eP* **P 01 50 16.5 +1.3**
LZH pP **pP 01 50 25.5 +1.1**
LZH sP **sP 01 50 29.7 +1.5**
LZH AMB AMB
LZH comp=Z,32nm,1.1s AMB AMB
comp=Z,160nm,4.4s
GTA Gaotai 33.17 281 *eP* **P 01 50 31.6 +0.5**
GTA pP **pP 01 50 40.8 +0.4**
GTA sP **sP 01 50 44.6 +0.4**
GTA S **S 01 55 48.2 -0.5**
GTA sS **sS 01 56 04.8 +0.9**
GTA SS **SnSn 01 57 50.8 +1.6**
GTA AMB AMB
GTA comp=Z,18nm,1.1s AMB AMB
GTA comp=Z,270nm,5.7s LR LR
GTA comp=Z,880nm,19.7s LR LR
GTA comp=Z,950nm,17.1s LR LR
GTA comp=Z,1µm,16.6s LR LR
CD2 Chengdu 33.71 264 P **P 01 50 35.0 -0.8**
CD2 pP **pP 01 50 46.7 +1.7**
CD2 sP **sP 01 50 50.8 +1.9**
CD2 PP **PnPn 01 51 49.5 +1.2**
CD2 S **S 01 55 55.5 -1.5**
CD2 sS **sS 01 56 12.0 -0.2**
CD2 SS **SnSn 01 58 00.5 -1.9**
CD2 AMB AMB
CD2 comp=Z,40nm,0.8s AMB AMB
CD2 comp=Z,320nm,5.7s AMB AMB
GYA Guiyang 33.99 255⇑ *iP* **P 01 50 37.2 -1.2**
GYA pP **pP 01 50 48.6 +1.0**
GYA PP **PnPn 01 51 52.0 0.0**
GYA PcP **PcP 01 53 17.5 +1.5**
GYA S **S 01 56 01.4 -0.2**
GYA sS **sS 01 56 17.0 +0.1**
GYA ScS **ScS 02 00 58.2 -2.4**
GYA AMB AMB
GYA comp=Z,20nm,0.9s AMB AMB
GYA comp=Z,110nm,4.5s LR LR
GYA comp=Z,480nm,17.5s LR LR
GYA comp=Z,360nm,18.0s LR LR
GYA comp=Z,510nm,17.7s
HVS Khovu-Aksy 35.10 303⇑ *eP* **P 01 50 47.7 0.0**
HVS pmax pmax
comp=Z,37nm,0.8s
QIZ Qiongzhong 36.63 242 P **P 01 51 01.9 +0.9**
QIZ S **S 01 56 42.0 -0.1**
QIZ AMB AMB
comp=Z,12nm,1.6s
KMI Kunming 37.63 257 P **P 01 51 09.6 -0.1**
KMI pP **pP 01 51 19.2 +0.2**
KMI sP **sP 01 51 23.3 +0.5**
KMI AMB AMB
comp=Z,24nm,0.9s
ZALV Zalesovo Beam 40.22 308 P **P 01 51 30.9 +0.2**
ZALV 01 53 33.1
ZALV pmax pmax
comp=Z,22nm,0.8s
ZALV Zalesovo Beam 40.22 308 P **P 01 51 30.9 +0.2**
ZALV PcP **PcP 01 53 33.1 -1.1**
ZALV Zalesovo Beam 40.22 308 P **P 01 51 30.9 +0.2**
comp=Z,22nm,0.8s,baz=87,slow=7.9,SNR=64
ZALV PcP **PcP 01 53 33.1 -1.1**
comp=Z,6.7nm,0.8s,baz=103,slow=4.6,SNR=4.3
WMQ Urumqi 40.50 292 P **P 01 51 33.5 +0.1**
WMQ pP **pP 01 51 43.3 +0.6**
WMQ sP **sP 01 51 47.3 +0.8**
WMQ PP **PnPn 01 53 10.9 +0.1**
WMQ PcP **PcP 01 53 36.9 +1.4**
WMQ ScP **ScP 01 57 22.3 -0.1**
WMQ S **S 01 57 39.3 -0.9**
WMQ sS **sS 01 57 55.6 0.0**
WMQ ScS **ScS 02 01 34.8 -1.8**
WMQ AMB AMB
comp=Z,39nm,0.8s
WMQ AMB AMB
comp=Z,260nm,5.0s
WMQ comp=Z,1µm,17.6s LR LR
WMQ comp=Z,2µm,15.8s LR LR
WMQ comp=Z,2µm,14.0s LR LR
NVS Novosibirsk 41.02 310 *eP* **P 01 51 37.2 -0.2**
NVS pmax pmax
NVS comp=Z,24nm,1.1s pmax pmax
NVS comp=E,26nm,1.2s pmax pmax
IMA2 Indian Mountai 41.71 33 *eP* **P 01 51 43.0 0.0**
CAST Castle Rocks 42.33 37 *eP* **P 01 51 49.3 +1.3**
comp=E,10nm,0.9s
BPAW Bear Paw Mtn. 42.80 36 *eP* **P 01 51 52.9 +1.0**
comp=E,6.1nm,0.9s
COLD Coldfoot 43.15 31 *eP* **P 01 51 55.0 +0.4**
comp=E,8.2nm,1.0s
KKM Kota Kinabalu 43.19 222 *eP* **P 01 51 54.6 -1.0**
comp=E,37nm,1.2s
MK31 Makanchi Array 43.29 298*cePP* **01 51 55.8 -0.2**
MK31 pmax pmax
comp=Z,22nm,0.7s
MK31 Makanchi Array 43.29 298 *eP* **P 01 51 55.5 -0.6**
MKAR Makanchi Array 43.29 298 P **P 01 51 56.3 +0.2**
MKAR pmax pmax
comp=Z,18nm,0.8s
MKAR Makanchi Array 43.29 298 *eP* **P 01 51 55.8 -0.2**
MKAR Makanchi Array 43.29 298 P **P 01 51 56.3 +0.2**
comp=Z,16nm,0.8s,baz=81,slow=9.1,SNR=154
MCK McKinley 43.72 36 *eP* **P 01 51 59.7 +0.4**
MCK pmax pmax
comp=Z,25nm,1.3s
MCK McKinley 43.72 36 *eP* **P 01 51 59.7 +0.4**
comp=Z,25nm,1.3s
LSA Lhasa 43.73 271 P **P 01 52 01.1 +0.8**
LSA Lhasa 43.73 271 *eP* **P 01 52 01.2 +0.9**
LSA pmax pmax
comp=Z,26nm,1.0s
LSA Lhasa 43.73 271 *eP* **P 01 52 01.2 +0.9**
comp=Z,26nm,1.0s
COLA College 44.13 35 *eP* **P 01 52 02.9 +0.4**
COLA pmax pmax
comp=Z,93nm,0.9s
COLA College 44.13 35 *eP* **P 01 52 02.9 +0.4**
comp=Z,93nm,0.9s
CHTO Chiang Mai 44.31 253 *eP* **P 01 52 04.7 +0.2**
CHTO pmax pmax
comp=Z,44nm,1.1s
CHTO Chiang Mai 44.31 253 P **P 01 52 05.5 +1.0**
comp=Z,96nm,1.2s
CHTO Chiang Mai 44.31 253 *eP* **P 01 52 04.7 +0.2**
comp=Z,44nm,1.1s
CMAR Chiang Mai Arr 44.55 252 P **P 01 52 06.7 +0.3**
CMAR Chiang Mai Arr 44.55 252 P **P 01 52 06.7 +0.3**
comp=Z,2.4nm,0.5s,baz=45,slow=7.0,SNR=14
ILAR Eielson Array 44.55 35 P **P 01 52 06.0 +0.1**
ILAR Eielson Array 44.55 35 P **P 01 52 06.0 +0.1**
comp=Z,12nm,0.9s,baz=256,slow=5.5,SNR=60
KURK Kurchatov 44.57 305*c iP* **P 01 52 05.5 -0.7**
KURK pmax pmax
comp=Z,11nm,0.7s
KURK Kurchatov 44.57 305 *eP* **P 01 52 05.8 -0.3**
comp=Z,20nm,0.7s
EGAK Eagle 46.99 34 *eP* **P 01 52 25.1 0.0**
comp=Z,14nm,1.0s
TAPN Taplejung 47.54 271 *eP* **P 01 52 30.8 +0.5**
comp=Z,49nm,0.8s
ODAN Odare 48.05 271 *eP* **P 01 52 34.5 +0.4**
JIRN Jiri 48.51 272 *eP* **P 01 52 38.0 +0.2**
comp=Z,42nm,0.8s
VOSK Vostochnaya 48.57 309 *eP* **P 01 52 37.3 -0.3**
VOSK pmax pmax
comp=Z,37nm,1.3s
VOSK Vostochnaya 48.57 309 *eP* **P 01 52 37.3 -0.3**
comp=Z,37nm,1.3s
RAMN Ramite 48.59 271 *eP* **P 01 52 38.4 +0.1**
comp=Z,105nm,0.9s
GUN Gumba 48.61 273 *eP* **P 01 52 38.8 +0.2**
comp=Z,232nm,0.8s
BRVK Borovoye 48.87 310*c iP* **P 01 52 39.7 -0.1**
BRVK pmax pmax
comp=Z,26nm,1.2s
BRVK Borovoye 48.87 310 *eP* **P 01 52 38.4 -1.4**
comp=Z,17nm,0.9s
ULHL Ulahol 48.92 294 *i* P **P 01 52 41.1 +0.5**
ULHL Ulahol 48.92 294 P **P 01 52 41.1 +0.5**
SNR=7.3
TKM2 Tokmak 2 49.09 296 *i* P **P 01 52 42.5 +0.6**
TKM2 Tokmak 2 49.09 296 P **P 01 52 42.5 +0.6**
SNR=13
TKM2 Tokmak 2 49.09 296 *eP* **P 01 52 42.5 +0.6**
comp=Z,41nm,0.8s
KKN Kakani 49.12 273 *eP* **P 01 52 42.6 +0.3**
comp=Z,103nm,0.8s
PKI Pulchoki 49.14 273 *eP* **P 01 52 42.6 0.0**
comp=Z,48nm,0.8s
PKIN Phulchoki 49.15 273 *eP* **P 01 52 43.2 +0.6**
comp=Z,29nm,0.7s
DMN Daman 49.35 273 *eP* **P 01 52 44.4 +0.3**
comp=Z,80nm,0.8s
INK Inuvik 49.36 29 *eP* **P 01 52 43.1 -0.2**
comp=Z,19nm,0.9s
INK Inuvik 49.36 29 P **P 01 52 43.6 +0.3**
comp=Z,11nm,0.6s,baz=284,slow=6.1,SNR=57
GKN Gorkha 49.49 274 *eP* **P 01 52 45.1 0.0**
KBK Karagaybulak 49.63 295 *i* P **P 01 52 46.3 +0.3**
KBK Karagaybulak 49.63 295 P **P 01 52 46.3 +0.3**
SNR=22
KZA Kyzart 49.66 295 *i* P **P 01 52 47.4 +0.9**
KZA Kyzart 49.66 295 P **P 01 52 47.4 +0.9**
SNR=19
USP Ospenovka 49.69 296 *i* P **P 01 52 46.5 +0.2**
USP Ospenovka 49.69 296 P **P 01 52 46.5 +0.2**
SNR=12
AAK Ala-Archa 49.94 296*c iP* **P 01 52 48.1 -0.3**
AAK pmax pmax
comp=Z,25nm,1.0s
AAK Ala-Archa 49.94 296 P **P 01 52 48.3 -0.1**
SNR=6.4
AAK Ala-Archa 49.94 296 *eP* **P 01 52 48.3 -0.1**
comp=Z,9.9nm,0.8s
DANN Dangsing 49.95 275 *eP* **P 01 52 49.5 +0.7**
comp=Z,315nm,0.7s
KSH Kashi 50.24 291 P P 01 52 54.6 +4.0
KSH pP pP 01 53 08.4 +8.2
KSH sP sP 01 53 13.7 +10
KSH S S 02 00 13.0 +12
KSH AMB AMB
KSH comp=Z,11nm,0.9s AMB AMB
KSH comp=Z,200nm,9.6s LR LR
KSH comp=Z,290nm,11.7s LR LR
KSH comp=Z,340nm,9.1s LR LR
KSH comp=Z,550nm,16.9s LR LR
KOLN Koldanda 50.38 274 *eP* **P 01 52 52.3 +0.3**
comp=Z,54nm,0.6s
EKS2 Erkin-Say 50.42 296 *eP* **P 01 52 52.2 +0.3**
EKS2 pmax pmax
comp=Z,11nm,0.7s
EKS2 Erkin-Say 50.42 296 P **P 01 52 52.1 +0.2**
SNR=12
EKS2 Erkin-Say 50.42 296 *eP* **P 01 52 52.2 +0.3**
comp=Z,11nm,0.7s
AML Almayashu 50.69 295 *i* P **P 01 52 54.6 +0.3**
AML Almayashu 50.69 295 P **P 01 52 54.6 +0.3**
SNR=15
KK31 Karatay Array 52.41 298*cePP* **01 53 06.2 -0.5**
KK31 pmax pmax
comp=Z,15nm,0.6s
KKAR Karatay Array 52.41 298 *eP* **P 01 53 06.3 -0.4**
KKAR pmax pmax
comp=Z,28nm,0.8s
KKAR Karatay Array 52.41 298 *eP* **P 01 53 06.3 -0.4**
comp=Z,28nm,0.8s
KULM Kulim 52.79 239 *eP* **P 01 53 10.2 +0.4**
comp=Z,18nm,1.1s
SVE Sverdlovsk 52.85 317⇓ *iP* **P 01 53 09.8 +0.1**
SVE pmax pmax
comp=Z,48nm,0.9s
SOKR Solikamsk 53.72 321*c iP* **P 01 53 15.8 -0.2**
SOKR pmax pmax
comp=Z,30nm,1.0s
ARU Arti 54.07 317*c iP* **P 01 53 18.2 -0.4**
ARU 01 55 16.3
ARU PPP PPP 01 56 30.2
ARU S **S 02 00 53.1 +0.5**
ARU pmax pmax
comp=Z,40nm,1.0s
ARU Arti 54.07 317 P **P 01 53 18.8 +0.2**
comp=Z,197nm,0.9s,SNR=10
COEN Coen 55.46 181 *eP* **P 01 53 29.3 +0.2**
AB31 Akbulak array 56.33 308*ceP* **01 53 34.9 -0.2**
AB31 pmax pmax
comp=Z,20nm,0.8s
ABKAR Akbulak array 56.33 308 *eP* **P 01 53 35.1 0.0**
comp=Z,22nm,0.8s
AKTO Aktyubinsk 56.91 310 *i* P **P 01 53 38.6 -0.6**
AKTO pmax pmax
comp=Z,9.0nm,0.8s
KBL Kabul 57.48 289 *eP* **P 01 53 42.3 -1.4**
KBL pmax pmax
comp=Z,16nm,0.9s
KBL Kabul 57.48 289 *eP* **P 01 53 42.3 -1.4**
comp=Z,16nm,0.9s
APA Apatity 59.12 335⇓ *iP* **P 01 53 53.0 -1.4**
APA MLR MLR
comp=Z,2µm,17.0s
KEV Kevo 59.66 339 *eP* **P 01 53 57.4 -0.6**
KEV pmax pmax
comp=Z,25nm,1.0s
KEV Kevo 59.66 339 *ep* **P 01 53 57.4 -0.6**
comp=Z,25nm,1.0s
ARCES ARCESS Array B 60.20 339 P **P 01 54 01.5 -0.3**
ARCES pP **pP 01 54 12.3 +0.7**
ARCES ARCESS Array B 60.20 339 P **P 01 54 01.5 -0.3**
comp=Z,2.6nm,0.5s,baz=50,slow=5.9,SNR=19
ARCES pP **pP 01 54 12.3 +0.7**
comp=Z,7.6nm,0.9s,baz=46,slow=8.7,SNR=3.5
WRAB Tennant Creek 62.01 190 *eP* **P 01 54 15.0 +0.4**
WRAB pmax pmax
comp=Z,6.0nm,1.1s
WRAB Tennant Creek 62.01 190 *eP* **P 01 54 15.0 +0.4**
comp=Z,6.1nm,1.1s
WRA Warramunga Arr 62.02 190 P **P 01 54 13.9 -0.7**
WRA pP **pP 01 54 22.1 -2.3**
WRA Warramunga Arr 62.02 190 P **P 01 54 13.9 -0.7**
comp=Z,1.1nm,0.5s,baz=7.4,slow=6.7,SNR=8.1
WRA pP **pP 01 54 22.1 -2.3**
comp=Z,3.2nm,0.7s,baz=7.4,slow=6.7,SNR=7.6
JOF Joensuu 62.64 332 *eP* **P 01 54 16.7 -1.7**
JOF pmax pmax
comp=Z,16nm,0.6s
JOF Joensuu 62.64 332 *ep* **P 01 54 16.7 -1.7**
comp=Z,16nm,0.6s
IMYA Miami 62.71 295 *eP* **P 01 54 19.3 -0.2**
IEMG Emamgholi 63.09 297 *eP* **P 01 54 22.3 +0.1**
IAKL Akhelmad 63.47 296 *eP* **P 01 54 22.4 -2.3**
IKRD Kardeh 63.53 297 *eP* P 01 54 21.2 -3.9
MOS Moscow 64.53 323 *eP* P 01 54 38.2 +7.3
IDAH Dahanechah 64.88 292 *eP* **P 01 54 34.4 +0.5**
KAF Kangasniemi 64.93 333 *eP* **P 01 54 32.4 -1.0**
KAF pmax pmax
comp=Z,11nm,0.6s
KAF Kangasniemi 64.93 333 *ep* **P 01 54 32.4 -1.0**
comp=Z,11nm,0.6s
C09A Chrisman Ranch 65.16 47 *eP* **P 01 54 37.0 +1.8**
comp=Z,21nm,1.5s
OBN Obninsk 65.39 323⇑ *iP* **P 01 54 35.6 -0.9**
OBN *i* 01 54 45.3
OBN pmax pmax
comp=Z,55nm,2.5s
VRHR Novokhopersk 65.41 317 *eP* **P 01 54 35.1 -1.6**
VRHR pmax pmax
comp=Z,20nm,1.1s
VRHR pmax pmax
comp=N,6.0nm,0.4s
VRHR pmax pmax
comp=E,20nm,1.4s
FINES FINESS Array B 65.47 332 P **P 01 54 36.8 -0.1**
FINES pP **pP 01 54 46.2 -0.5**
FINES FINESS Array B 65.47 332 P **P 01 54 36.8 -0.1**
comp=E,18nm,0.6s,baz=49,slow=7.0,SNR=92
FINES pP **pP 01 54 46.2 -0.5**
comp=E,30nm,0.6s,baz=46,slow=8.2,SNR=18
NEW Newport 65.52 46 *eP* **P 01 54 38.3 +0.8**
comp=E,9.2nm,1.3s
ITEG Tejag 65.56 293 *eP* **P 01 54 38.6 +0.3**
AS31 Alice Springs 65.75 190 *eP* **P 01 54 39.0 -0.2**
ASAR Alice Springs 65.75 190 P **P 01 54 39.7 +0.5**
ASAR pP **pP 01 54 47.0 -2.0**
ASAR Alice Springs 65.75 190 P **P 01 54 39.7 +0.5**
comp=E,1.0nm,0.8s,baz=14,slow=5.8,SNR=5.5
ASAR pP **pP 01 54 47.0 -2.0**
comp=E,1.9nm,0.8s,baz=11,slow=6.7,SNR=8.6
SUMG Summit 65.94 1 *eP* **P 01 54 40.4 +0.1**
SUMG pmax pmax
comp=Z,29nm,0.9s
SUMG Summit 65.94 1 *eP* **P 01 54 40.4 +0.1**
comp=Z,29nm,0.9s
E09A Wood Farm, Sta 65.98 48 *eP* **P 01 54 41.5 +1.0**
VSR Storozhevoye 66.57 318 *eP* **P 01 54 43.5 -0.7**
VSR pmax pmax
comp=Z,20nm,0.7s
VSR pmax pmax
comp=N,20nm,0.9s
VSR pmax pmax
comp=E,20nm,0.9s
VORD Divnogorie 66.66 318 *eP* **P 01 54 43.1 -1.6**
VORD pmax pmax
comp=N,50nm,0.6s
VORD pmax pmax
comp=E,80nm,0.6s
VORD pmax pmax
comp=Z,10.0nm,0.6s
VSU Vasula 67.28 329 *i* P **P 01 54 48.6 0.0**
VSU pmax pmax
comp=Z,103nm,1.4s
BMO Blue Mountains 67.44 50 *eP* **P 01 54 50.3 +0.3**
comp=Z,4.6nm,1.1s
SWMT Swartz Lake 67.65 46 *eP* **P 01 54 51.9 +0.6**
SLMT Seeley Lake 68.09 46 *eP* **P 01 54 54.7 +0.6**
IBAF Bafgh 68.51 294 *eP* **P 01 54 56.7 -0.3**
BEKR Beckworth 68.62 55 *eP* **P 01 54 58.7 +1.1**
comp=Z,3.8nm,1.1s
FFC Flin Flon 68.76 35 *i* P **P 01 54 58.9 +0.9**
FFC Flin Flon 68.76 35 *eP* **P 01 54 57.8 -0.2**
comp=Z,16nm,0.8s
ICHK Chekchek 68.91 295 *eP* **P 01 54 59.2 -0.4**
KIV Kislovodsk 69.17 311*c iP* **P 01 55 00.9 +0.1**
KIV *i* 01 55 10.1
KIV pmax pmax
comp=Z,73nm,1.2s
KIV Kislovodsk 69.17 311 P **P 01 55 02.1 +1.3**
comp=Z,345nm,0.8s,SNR=8.4
KBZ Khabaz 69.19 310 P **P 01 55 01.9 +1.1**
KBZ *PP **pP 01 55 08.9 -1.8**
KBZ pmax pmax
comp=Z,18nm,0.8s
KBZ pmax pmax
comp=Z,12nm,0.9s
KBZ Khabaz 69.19 310 P **P 01 55 01.9 +1.1**
KBZ pP **pP 01 55 08.9 -1.8**
KBZ Khabaz 69.19 310 P **P 01 55 01.9 +1.1**
comp=Z,18nm,0.8s,baz=54,slow=4.2,SNR=34
KBZ pP **pP 01 55 08.9 -1.8**
comp=Z,12nm,0.9s,baz=357,slow=6.0,SNR=7.2
ZEI Tsey 69.20 309 *eP* **P 01 55 00.2 -0.9**
ZEI pmax pmax
comp=Z,18nm,1.0s
IMEH Mehriz 69.28 294 *eP* **P 01 55 01.0 -0.9**
HRY Holter Researc 69.31 45 *eP* **P 01 55 02.6 +1.0**
LRM Limekiln Ridge 69.54 46 *eP* **P 01 55 03.2 -0.1**
ISAL Salakas 69.55 328 *eP* **P 01 55 02.7 -0.1**
ISAL AMB AMB 01 55 13.6
comp=Z,13nm,1.0s
EGMT Eagleton 69.56 43 *eP* **P 01 55 04.1 +1.0**
comp=Z,12nm,1.1s
ISAD Sadrabad 69.60 295 *eP* **P 01 55 03.0 -0.9**
IIGN Ignalina 69.67 327 *eP* **P 01 55 03.3 -0.3**
IIGN AMB AMB 01 55 13.8
comp=Z,12nm,1.2s
DLMT Dillon 69.75 47 *eP* **P 01 55 04.9 +0.5**
comp=Z,3.6nm,0.8s
IZEF Zefreh 69.92 296 *eP* **P 01 55 05.7 -0.2**
ISRB Sarab 69.96 303 *eP* **P 01 55 06.1 +0.2**
IHRS Heris 70.05 304 *eP* **P 01 55 06.7 +0.2**
BOZ Bozeman (W) 70.09 46 *eP* **P 01 55 06.7 +0.2**

BOZ pmax pmax
comp=Z,9.0nm,1.2s
BOZ Bozeman (W) 70.09 46 *eP* **P 01 55 06.7 +0.2**
comp=Z,8.8nm,1.2s
IKLH Kolahrood 70.17 297 *eP* **P 01 55 07.3 0.0**
GNI Garni 70.33 306 *eP* **P 01 55 08.4 +0.3**
comp=Z,15nm,1.0s
GNI Garni 70.33 306 P **P 01 55 08.8 +0.7**
comp=Z,2.8nm,0.6s,baz=216,slow=7.0,SNR=6.4
NB2 NORSAR Subarra 70.50 338 P **P 01 55 07.8 -0.8**
comp=Z,3.7nm,0.8s,baz=36,slow=6.2
NOA NORSAR Array B 70.50 338 P **P 01 55 08.2 -0.4**
NOA pP **pP 01 55 17.6 -0.9**
NOA NORSAR Array B 70.50 338 P **P 01 55 08.2 -0.4**
comp=Z,6.8nm,0.8s,baz=35,slow=6.1,SNR=17
NOA pP **pP 01 55 17.6 -0.9**
comp=Z,7.0nm,0.8s,baz=36,slow=6.1,SNR=8.3
IMRD Marand 70.63 305 *eP* **P 01 55 10.2 +0.2**
NVAR Mina Array Bea 70.76 55 P **P 01 55 12.2 +1.3**
NVAR Mina Array Bea 70.76 55 P **P 01 55 12.2 +1.3**
comp=Z,1.6nm,0.9s,baz=292,slow=5.8,SNR=9.1
IPAR Pars 71.29 293 *eP* **P 01 55 15.0 +0.7**
IMW Indian Meadow 71.59 47 *eP* **P 01 55 17.1 +1.2**
comp=Z,5.3nm,0.9s
AKASG Malin Array Be 71.64 322 P **P 01 55 15.2 -0.5**
AKASG *PP **pP 01 55 24.1 -1.4**
AKASG pmax pmax
comp=Z,15nm,0.7s
AKASG Malin Array Be 71.64 322 P **P 01 55 15.2 -0.5**
AKASG pP **pP 01 55 24.1 -1.4**
AKASG Malin Array Be 71.64 322 P **P 01 55 15.2 -0.5**
comp=Z,15nm,0.7s,baz=43,slow=6.0,SNR=72
AKASG pP **pP 01 55 24.1 -1.4**
comp=Z,10nm,0.8s,baz=41,slow=6.2,SNR=7.3
KIEV Kiev 71.66 322 *eP* **P 01 55 15.0 -0.7**
KIEV pmax pmax
comp=Z,19nm,0.8s
KIEV Kiev 71.66 322 *eP* **P 01 55 15.0 -0.7**
comp=Z,19nm,0.8s
LOHW Long Hollow 71.97 47 *eP* **P 01 55 18.4 +0.3**
comp=Z,5.8nm,1.2s
REDW Red Top Meadow 71.99 48 *eP* **P 01 55 18.7 +0.5**
comp=Z,9.3nm,1.4s
IKAZ Kazeroun 72.15 294 *eP* **P 01 55 18.8 -0.7**
IKOM Komasi 72.31 300 *eP* **P 01 55 19.6 -0.6**
BGU Big Grassy Mou 72.34 51 *eP* **P 01 55 21.2 +0.9**
comp=Z,11nm,1.8s
SPUT South Promonto 72.42 50 *eP* **P 01 55 21.8 +1.0**
comp=Z,8.2nm,1.4s
HWUT Hardware Ranch 72.74 49 *eP* **P 01 55 23.2 +0.5**
comp=Z,2.6nm,0.9s
IGHG Ghaleghazi 72.82 301 *eP* **P 01 55 20.9 -2.4**
DUG Dugway 72.94 51 *eP* **P 01 55 24.4 +0.6**
DUG pmax pmax
comp=Z,15nm,1.4s
DUG Dugway 72.94 51 *eP* **P 01 55 24.4 +0.6**
comp=Z,14nm,1.4s
BW06 Boulder Array 73.10 47 *eP* **P 01 55 24.8 0.0**
comp=Z,3.6nm,0.9s
PDAR Pinedale Array 73.10 47 P **P 01 55 24.1 -0.7**
PDAR Pinedale Array 73.10 47 P **P 01 55 24.1 -0.7**
comp=Z,1.6nm,0.5s,baz=299,slow=3.1,SNR=7.8
STKA Stephens Creek 73.32 182 P **P 01 55 27.5 +1.8**
STKA Stephens Creek 73.32 182 P **P 01 55 27.5 +1.8**
comp=Z,2.3nm,1.0s,baz=40,slow=7.9,SNR=2.1
JLU Jordanelle 73.46 50 *eP* **P 01 55 26.3 -0.7**
comp=Z,7.1nm,1.4s
NLU North Lily Min 73.52 51 *eP* **P 01 55 27.8 +0.4**
comp=Z,4.9nm,1.0s
SHPR Sheep Range 73.91 55 *eP* **P 01 55 30.7 +1.0**
comp=Z,9.4nm,1.3s
MALT Malatya 75.26 308 ⇓P **P 01 55 39.1 +1.8**
MALT Malatya 75.26 308 ⇓*iP* **P 01 55 39.1 +1.8**
KWP Kalwaria Pacla 75.31 325 ⇓P **P 01 55 38.3 +1.0**
KWP Kalwaria Pacla 75.31 325 ⇓*iP* **P 01 55 38.3 +1.0**
KWP Kalwaria Pacla 75.31 325 *eP* **P 01 55 37.8 +0.5**
comp=Z,32nm,1.0s
BUR08 Bucovina Ar. S 75.68 322 *eP* **P 01 55 39.6 0.0**
BURAR Bucovina Array 75.69 322 ⇓P **P 01 55 40.1 +0.5**
BURAR Bucovina Array 75.69 322 ⇓*iP* **P 01 55 40.1 +0.5**
TLCR 75.74 319 ⇑P **P 01 55 40.2 +0.5**
TLCR 75.74 319 ⇑*iP* **P 01 55 40.2 +0.5**
TESR Tescani 75.83 321 ⇓*iP* **P 01 55 40.7 +0.4**
KOLS Kolonicke sedl 76.02 325 *eP* **P 01 55 42.2 +0.8**
KOLS pmax pmax
comp=Z,6.0nm,1.0s
KOLS Kolonicke sedl 76.02 325 *eP* **P 01 55 42.2 +0.8**
CFR Carcaliu 76.08 319 ⇑P **P 01 55 41.6 -0.1**
CFR Carcaliu 76.08 319 ⇑*iP* **P 01 55 41.5 -0.1**
OJC Ojcow 76.09 327 *eP* **P 01 55 42.0 +0.3**
OJC Ojcow 76.09 327 *eP* **P 01 55 42.0 +0.3**
STHS Stebnicka Huta 76.10 325 *eP* **P 01 55 42.9 +1.1**
STHS pmax pmax
comp=Z,8.0nm,1.1s
STHS Stebnicka Huta 76.10 325 *eP* **P 01 55 42.8 +1.0**
STHS *ePP **PP 01 58 29.2 -3.0**
UZH Uzhgorod 76.24 324 *eP* **P 01 55 42.8 +0.2**
UZH *i* 01 56 00.0
TIRR Tirgusor 76.46 318 ⇑P **P 01 55 44.6 +0.7**
TIRR Tirgusor 76.46 318 ⇑*iP* **P 01 55 44.6 +0.7**
NIE Niedzica 76.49 326 *eP* **P 01 55 44.8 +0.7**
NIE Niedzica 76.49 326 *eP* **P 01 55 44.8 +0.7**
TRPA Tarpa 76.51 324 ⇓*iP* **P 01 55 45.1 +1.0**
HARR Harsova 76.53 319 ⇓P **P 01 55 44.8 +0.5**
HARR Harsova 76.53 319 ⇓*iP* **P 01 55 44.8 +0.5**
BSEG Bad Segeberg 76.63 334 *eP* **P 01 55 45.1 +0.5**
BSEG pmax pmax
comp=Z,20nm,1.0s
BSEG Bad Segeberg 76.63 334 *eP* **P 01 55 45.1 +0.5**
comp=Z,20nm,1.0s
PV01 Paradox Valley 76.77 51 *eP* **P 01 55 46.5 +0.4**
comp=Z,299nm,0.8s
WUAZ Wupatki 76.87 54 *eP* **P 01 55 47.3 +0.7**
comp=Z,10nm,1.1s
MLR Muntele Rosu 76.91 320 ⇓*iP* **P 01 55 47.2 +0.6**
KSP Ksiaz 77.00 329 *eP* **P 01 55 46.6 -0.2**
KSP *e*PP **pP 01 55 56.6 -0.2**
MSAB Monastry St. A 77.01 318 ⇓*iP* **P 01 55 48.0 +1.0**
BRTR Keskin Array B 77.04 312 P **P 01 55 47.0 -0.4**
BRTR pP **pP 01 55 55.6 -1.8**
BRTR PP **PP 01 58 40.5 0.0**
BRTR Keskin Array B 77.04 312 P **P 01 55 47.0 -0.4**
comp=Z,2.9nm,0.9s,baz=44,slow=4.1,SNR=13
BRTR pP **pP 01 55 55.6 -1.8**
comp=Z,2.0nm,0.9s,baz=50,slow=1.9,SNR=5.2
BRTR PP **PP 01 58 40.5 0.0**
comp=Z,1.6nm,0.8s,baz=74,slow=6.7,SNR=6.2
OKC Ostrava-Krasne 77.06 327 ⇑*iP* **P 01 55 47.5 +0.3**
OKC *e* 01 55 56.9
OKC Ostrava-Krasne 77.06 327 ⇑*iP* **P 01 55 47.5 +0.3**
OKC *ep*P **pP 01 55 56.9 -0.3**
KECS Kecovo 77.14 325 *eP* **P 01 55 47.4 -0.3**
KECS *e* 01 58 41.2
KECS Kecovo 77.14 325 *eP* **P 01 55 47.4 -0.3**
KECS *ePP **PP 01 58 41.2 +0.3**
ISCO Idaho Springs 77.29 48 *eP* **P 01 55 49.8 +0.7**
ISCO pmax pmax
comp=Z,6.0nm,1.0s
ISCO Idaho Springs 77.29 48 *eP* **P 01 55 49.8 +0.7**
comp=Z,5.7nm,1.0s
MORC Moravsky Berou 77.35 328 ⇓P **P 01 55 49.7 +0.8**
MORC Moravsky Berou 77.35 328 ⇓*iP* **P 01 55 49.7 +0.8**
MORC Moravsky Berou 77.35 328 *eP* **P 01 55 48.3 -0.6**
comp=Z,8.1nm,0.9s
UPC Upice 77.37 329 *eP* **P 01 55 49.7 +0.7**
UPC *e* 01 55 58.7
UPC Upice 77.37 329 ⇑*eP* **P 01 55 49.7 +0.7**
UPC *ex* x 01 55 54.7
UPC *ep*P **pP 01 55 58.7 -0.2**
VOIR 77.38 321 ⇓P **P 01 55 50.1 +0.9**
VOIR 77.38 321 ⇓*iP* **P 01 55 50.0 +0.9**
DPC Dobruska-Polom 77.38 329 ⇑*iP* **P 01 55 49.7 +0.7**
DPC *e* 01 55 54.9
DPC Dobruska-Polom 77.38 329 ⇑*iP* **P 01 55 49.7 +0.7**
DPC *ex* x 01 55 54.9
ANTO Ankara 77.41 313 ⇓P **P 01 55 50.5 +1.1**
ANTO Ankara 77.41 313 ⇓*iP* **P 01 55 50.5 +1.1**
ARR Arges 77.62 321 ⇓*iP* **P 01 55 52.1 +1.6**
PSZ Piszkesteto 77.82 325 *eP* **P 01 55 51.5 -0.1**
PSZ pmax pmax
comp=Z,9.0nm,1.0s
PSZ Piszkesteto 77.82 325 *eP* **P 01 55 51.5 -0.1**
comp=Z,9.4nm,1.0s
CLL Collm 77.86 331 ⇑*iP* **P 01 55 51.3 -0.3**
CLL *i* 01 56 00.9
CLL pmax pmax
comp=Z,18nm,0.9s
CLL Collm 77.86 331 *eP* **P 01 55 51.4 -0.2**
comp=Z,18nm,0.9s
CLL Collm 77.86 331 ⇑*iP* **P 01 55 51.3 -0.3**
comp=Z,18nm,0.9s
CLL *e* 01 55 56.0
CLL *i* PcP **PcP 01 56 00.9 -0.6**
comp=Z,16nm,1.0s
CLL *ePP **PP 01 58 48.0 +1.2**
BRG Berggiesshubel 77.87 330 *eP* **P 01 55 51.5 -0.2**
comp=Z,7.1nm,1.1s
BRG Berggiesshubel 77.87 330 *eP* **P 01 55 51.5 -0.2**
BRG pmax pmax
comp=Z,7.0nm,1.1s
BRG Berggiesshubel 77.87 330 *eP* **P 01 55 51.7 0.0**
comp=Z,7.0nm,1.1s
NRDL Niedersach Rie 77.90 333 *eP* **P 01 55 51.8 +0.1**
comp=Z,7.0nm,1.0s
PVCC Panska Ves 77.91 330 ⇑*iP* **P 01 55 52.6 +0.7**
PVCC Panska Ves 77.91 330 ⇑*iP* **P 01 55 52.6 +0.7**
VRAC Vranov 78.10 328 ⇓*iP* **P 01 55 53.6 +0.6**
CLZ Clausthal 78.35 333 *eP* **P 01 55 54.9 +0.5**
CLZ pmax pmax
comp=Z,13nm,0.8s
CLZ Clausthal 78.35 333 *eP* **P 01 55 54.9 +0.5**
comp=Z,13nm,0.8s
PRU Pruhonice 78.36 329 ⇑*iP* **P 01 55 54.7 +0.3**
PRU *e* 01 56 00.4
PRU *e* 01 56 04.2
PRU Pruhonice 78.36 329 ⇑*iP* **P 01 55 54.7 +0.3**
PRU *ex* x 01 56 00.4
PRU *ep*P **pP 01 56 04.2 -0.2**
SMOL Smolenice 78.39 327 *eP* **P 01 55 55.5 +0.9**
SMOL Smolenice 78.39 327 *eP* **P 01 55 55.5 +0.9**
GZR Gura Zlata 78.47 322 ⇓P **P 01 55 55.7 +0.5**
GZR Gura Zlata 78.47 322 ⇓*iP* **P 01 55 55.7 +0.5**
TREC Trest 78.55 328 *eP* **P 01 55 55.9 +0.4**
TREC Trest 78.55 328 ⇑*eP* **P 01 55 55.9 +0.4**
SDCO Great Sand Dun 78.79 49 *eP* **P 01 55 57.8 +0.3**
comp=Z,4.4nm,1.1s
MOX Moxa 78.91 331 *eP* **P 01 55 57.5 0.0**
MOX pmax pmax
comp=Z,7.0nm,0.9s
MOX Moxa 78.91 331 *eP* **P 01 55 57.5 0.0**
comp=Z,7.0nm,0.9s
RAO Raoul Island 79.05 146 LR LR 02 31 12.4
comp=Z,616nm,18.6s,baz=354,slow=36
ESK Eskdalemuir 79.27 341 *eP* **P 01 55 59.4 +0.1**
ESK pmax pmax
comp=Z,12nm,0.9s
ESK Eskdalemuir 79.27 341 *eP* **P 01 55 59.4 +0.1**
comp=Z,12nm,0.9s
UBBA Unterbreizbach 79.33 332 *eP* **P 01 55 59.4 -0.2**
comp=Z,6.0nm,1.0s
ROTZ Rotzenmuhle 79.41 330 *eP* **P 01 56 00.8 +0.6**
comp=Z,6.0nm,1.0s
KHC Kasperske Hory 79.42 329 *eP* **P 01 56 00.2 -0.1**
KHC pmax pmax
comp=Z,7.0nm,0.7s
KHC Kasperske Hory 79.42 329 ⇑*iP* **P 01 56 00.6 +0.3**
KHC *epP* **pP 01 56 09.9 -0.4**
KHC Kasperske Hory 79.42 329 *eP* **P 01 56 00.2 -0.1**
comp=Z,7.0nm,0.7s
GEC2 GERESS Array S 79.60 329 *eP* **P 01 56 01.4 -0.1**
GEC2 pmax pmax
comp=Z,4.0nm,0.9s
GEC2 GERESS Array S 79.60 329 *eP* **P 01 56 01.4 -0.1**
comp=Z,4.0nm,0.9s
GERES GERESS Array B 79.60 329 P **P 01 56 01.3 -0.1**
GERES pP **pP 01 56 10.8 -0.6**
GERES PP PP 01 59 08.9 +7.4
GERES GERESS Array B 79.60 329 P **P 01 56 01.3 -0.1**
comp=Z,2.4nm,0.8s,baz=28,slow=6.0,SNR=21
GERES pP **pP 01 56 10.8 -0.6**
comp=Z,1.7nm,0.9s,baz=28,slow=3.6,SNR=4.3
GERES PP PP 01 59 08.9 +7.4
comp=Z,0.6nm,0.7s,baz=39,slow=8.7,SNR=3.5
WET Wettzell 79.67 330 *eP* **P 01 56 02.3 +0.6**
WET pmax pmax
comp=Z,10.0nm,1.0s
WET Wettzell 79.67 330 *eP* **P 01 56 02.3 +0.6**
comp=Z,10.0nm,1.0s
BUG Bochum--Univer 79.73 334 *eP* **P 01 56 01.9 0.0**
comp=Z,5.0nm,0.9s
GRF Grafenberg Arr 79.84 331 *eP* **P 01 56 03.2 +0.6**
GRF *e*PP **pP 01 56 12.8 +0.2**
GRF pmax pmax
comp=Z,21nm,0.9s
GRF Grafenberg Arr 79.84 331 *eP* **P 01 56 03.2 +0.6**
comp=Z,21nm,0.9s
GRF *ep*P **pP 01 56 12.8 +0.2**
GRFO Grafenberg 79.84 331 *eP* **P 01 56 02.9 +0.3**
GRFO pmax pmax
comp=Z,13nm,0.8s
GRFO Grafenberg 79.84 331 *eP* **P 01 56 02.9 +0.3**
comp=Z,13nm,0.8s
SCHQ Schefferville 80.28 17 P **P 01 56 05.3 +0.4**
SCHQ Schefferville 80.28 17 P **P 01 56 05.3 +0.4**
comp=Z,10.0nm,1.0s,baz=301,slow=6.6,SNR=4.9
ASF Jabal al Asfar 80.33 305 P **P 01 56 06.5 +0.8**
ASF Jabal al Asfar 80.33 305 P **P 01 56 06.5 +0.8**
comp=Z,2.5nm,0.7s,baz=328,slow=5.5,SNR=7.0
TNS Taunus Mts 80.37 333 *eP* **P 01 56 05.4 -0.1**
TNS pmax pmax
comp=Z,11nm,1.1s
TNS Taunus Mts 80.37 333 *eP* **P 01 56 05.4 -0.1**
comp=Z,11nm,1.1s
VTS Vitosha 80.39 320 ⇓P **P 01 56 06.8 +1.0**
VTS Vitosha 80.39 320 ⇓*iP* **P 01 56 06.8 +1.0**
CSS Prodhromos 80.54 309 *eP* **P 01 56 06.5 0.0**
comp=Z,12nm,1.0s
BNM Barren Site 80.65 52 *eP* **P 01 56 08.0 +0.5**
comp=Z,2.3nm,0.8s
SOKA Soboth 80.83 327 ⇑*iP* **P 01 56 08.1 +0.1**
comp=Z,9.6nm,0.7s,SNR=6.8
MEM Membach 80.86 334 P **P 01 56 08.1 +0.1**
RJOB Jochberg 80.86 329 *eP* **P 01 56 08.7 +0.6**
comp=Z,10.0nm,0.8s
FUR Furstenfeldbru 81.08 330 *eP* **P 01 56 09.9 +0.6**
FUR pmax pmax
comp=Z,24nm,0.9s
FUR Furstenfeldbru 81.08 330 *eP* **P 01 56 09.9 +0.6**
comp=Z,24nm,0.9s
BCLA Clavier 81.25 335 P **P 01 56 09.9 -0.1**
STU Stuttgart 81.34 332 *eP* **P 01 56 10.7 +0.1**
STU Stuttgart 81.34 332 *eP* **P 01 56 10.7 +0.1**
GIVF Givet 81.68 335 *eP* **P 01 56 12.8 +0.5**
GIVF Givet 81.68 335 *eP* **P 01 56 12.8 +0.5**
GIVF Givet 81.68 335 *eP* **P 01 56 12.8 +0.5**
DOU Dourbes 81.75 335 P **P 01 56 12.7 0.0**
comp=Z,9.4nm,2.4s
MOTA Moosalm 81.83 330 ⇑*iP* **P 01 56 13.6 +0.2**
comp=Z,16nm,0.8s,SNR=14
BAIF Baives 81.91 335 *eP* **P 01 56 13.2 -0.4**
comp=Z,19nm,1.1s
BAIF Baives 81.91 335 *eP* **P 01 56 13.2 -0.4**
BAIF pmax pmax
comp=Z,19nm,1.1s
BAIF Baives 81.91 335 *eP* **P 01 56 13.2 -0.4**
comp=Z,19nm,1.1s
FETA Feichten 82.24 330 ⇑*iP* **P 01 56 15.5 -0.1**
comp=Z,8.1nm,0.9s
CDF Champ du Feu 82.32 332 *eP* **P 01 56 15.7 -0.2**
comp=Z,16nm,1.0s
CDF Champ du Feu 82.32 332 *eP* **P 01 56 15.7 -0.2**
CDF pmax pmax
comp=Z,16nm,1.0s
CDF Champ du Feu 82.32 332 *eP* **P 01 56 15.7 -0.2**
comp=Z,16nm,1.0s
DAVA Damuels 82.34 330 ⇓*iP* **P 01 56 16.4 +0.4**
comp=Z,14nm,1.1s
PAGF Fort de Pagny 82.72 333 ⇑*iP* **P 01 56 18.0 +0.1**
comp=Z,12nm,1.0s
PAGF Fort de Pagny 82.72 333 ⇑*iP* **P 01 56 18.0 +0.1**
comp=Z,12nm,1.0s
HINF Hinteralfeld 82.97 332 *eP* **P 01 56 18.6 -0.6**
comp=Z,7.7nm,0.8s
HINF Hinteralfeld 82.97 332 *eP* **P 01 56 18.6 -0.6**
HINF pmax pmax
comp=Z,8.0nm,0.8s
HINF Hinteralfeld 82.97 332 *eP* **P 01 56 18.6 -0.6**
comp=Z,7.7nm,0.8s
HAU Haudompre 82.98 333 *eP* **P 01 56 19.7 +0.4**
comp=Z,17nm,1.0s
HAU Haudompre 82.98 333 *eP* **P 01 56 19.7 +0.4**
HAU pmax pmax
comp=Z,17nm,1.0s
HAU Haudompre 82.98 333 *eP* **P 01 56 19.7 +0.4**
comp=Z,17nm,1.0s
MEZF Maizieres J'vi 82.99 334 ⇑*iP* **P 01 56 19.3 +0.1**
comp=Z,19nm,1.0s
MEZF Maizieres J'vi 82.99 334 ⇑*iP* **P 01 56 19.3 +0.1**
comp=Z,19nm,1.0s
MNTX Cornudas Mount 83.12 53 *eP* **P 01 56 20.9 +0.6**
comp=Z,3.7nm,1.2s
SFTF Sexfontaines 83.25 334 *eP* **P 01 56 20.5 -0.1**
comp=Z,18nm,1.0s
SFTF Sexfontaines 83.25 334 *eP* **P 01 56 20.5 -0.1**
comp=Z,18nm,1.0s
LOMF Lomont 83.38 332 PKP 02 14 49.3
LOR Lormes 84.46 334 ⇑*iP* **P 01 56 26.5 -0.3**
comp=Z,30nm,1.0s
LOR Lormes 84.46 334 ⇑*iP* **P 01 56 26.5 -0.3**
comp=Z,30nm,1.0s
FLN La Foliniere 84.48 337 *eP* **P 01 56 27.2 +0.3**
FLN La Foliniere 84.48 337 *eP* **P 01 56 27.2 +0.3**
FLN La Foliniere 84.48 337 *eP* **P 01 56 27.2 +0.3**
LDF La Druitiere 84.53 337 *eP* **P 01 56 27.1 0.0**
comp=Z,12nm,0.9s
LDF La Druitiere 84.53 337 *eP* **P 01 56 27.1 0.0**
LDF pmax pmax
comp=Z,12nm,0.9s
LDF La Druitiere 84.53 337 *eP* **P 01 56 27.1 0.0**
comp=Z,12nm,0.9s
SSF Saint Saulge 84.76 334 *eP* **P 01 56 28.1 -0.2**
comp=Z,14nm,0.9s
SSF Saint Saulge 84.76 334 *eP* **P 01 56 28.1 -0.2**
SSF pmax pmax
comp=Z,14nm,0.9s
SSF Saint Saulge 84.76 334 *eP* **P 01 56 28.1 -0.2**
comp=Z,14nm,0.9s
GRR Gorron 84.93 337 *eP* **P 01 56 29.0 -0.1**
comp=Z,25nm,1.1s
GRR Gorron 84.93 337 *eP* **P 01 56 29.0 -0.1**
GRR pmax pmax
comp=Z,25nm,1.1s
GRR Gorron 84.93 337 *eP* **P 01 56 29.0 -0.1**
comp=Z,25nm,1.1s
LPL La Plagne 84.99 331 ⇑*iP* **P 01 56 30.0 +0.2**
comp=Z,20nm,1.0s
LPL La Plagne 84.99 331 ⇑*iP* **P 01 56 30.0 +0.2**
LPL pmax pmax
comp=Z,20nm,1.0s
LPL La Plagne 84.99 331 ⇑*iP* **P 01 56 30.0 +0.2**
comp=Z,20nm,1.0s
LPG La Plagne 85.00 331 ⇑*iP* **P 01 56 30.2 +0.3**
comp=Z,19nm,0.9s
LPG La Plagne 85.00 331 ⇑*iP* **P 01 56 30.2 +0.3**
LPG pmax pmax
comp=Z,19nm,0.9s
LPG La Plagne 85.00 331 ⇑*iP* **P 01 56 30.2 +0.3**
comp=Z,19nm,0.9s
SMF Signal de Mont 85.01 334 ⇑*iP* **P 01 56 29.5 -0.1**
comp=Z,22nm,0.9s
SMF Signal de Mont 85.01 334 ⇑*iP* **P 01 56 29.5 -0.1**
SMF pmax pmax
comp=Z,22nm,0.9s
SMF Signal de Mont 85.01 334 ⇑*iP* **P 01 56 29.5 -0.1**
comp=Z,22nm,0.9s
IDI Anoyia 85.04 314 *eP* **P 01 56 28.7 -1.3**
comp=Z,15nm,0.9s
AVF Avril sur Loir 85.05 334 ⇑*iP* **P 01 56 29.7 0.0**
comp=Z,21nm,0.9s
AVF Avril sur Loir 85.05 334 ⇑*iP* **P 01 56 29.7 0.0**
AVF pmax pmax
comp=Z,21nm,0.9s
AVF Avril sur Loir 85.05 334 ⇑*iP* **P 01 56 29.7 0.0**
comp=Z,21nm,0.9s
BNI Bardonecchia 85.41 331 *eP* **P 01 56 31.8 0.0**
BNI pmax pmax
comp=Z,9.0nm,0.9s
BNI Bardonecchia 85.41 331 *eP* **P 01 56 31.8 0.0**
comp=Z,8.9nm,0.9s
SGMF Saint Gilles 85.53 338 *eP* **P 01 56 31.6 -0.5**
comp=Z,20nm,0.9s
SGMF Saint Gilles 85.53 338 *eP* **P 01 56 31.6 -0.5**
SGMF pmax pmax
comp=Z,20nm,0.9s
SGMF Saint Gilles 85.53 338 *eP* **P 01 56 31.6 -0.5**
comp=Z,20nm,0.9s
MBDF Montbardon 85.65 331 *eP* **P 01 56 32.5 -0.5**
comp=Z,15nm,0.8s
MBDF Montbardon 85.65 331 *eP* **P 01 56 32.5 -0.5**
MBDF pmax pmax
comp=Z,15nm,0.8s
MBDF Montbardon 85.65 331 *eP* **P 01 56 32.5 -0.5**
comp=Z,15nm,0.8s
ROSF Rostrenen 85.66 339 *eP* **P 01 56 32.9 +0.1**
comp=Z,7.1nm,0.8s
ROSF Rostrenen 85.66 339 *eP* **P 01 56 32.9 +0.1**
ROSF pmax pmax
comp=Z,7.0nm,0.8s
ROSF Rostrenen 85.66 339 *eP* **P 01 56 32.9 +0.1**
comp=Z,7.1nm,0.8s
GVD Gavdhos 85.81 314 *eP* **P 01 56 32.7 -1.0**
comp=Z,28nm,0.8s
ORIF Oris-en-Rattie 85.81 331 ⇑*iP* **P 01 56 33.9 +0.2**
comp=Z,12nm,0.8s
ORIF Oris-en-Rattie 85.81 331 ⇑*iP* **P 01 56 33.9 +0.2**
ORIF pmax pmax
comp=Z,12nm,0.8s
ORIF Oris-en-Rattie 85.81 331 ⇑*iP* **P 01 56 33.9 +0.2**
comp=Z,12nm,0.8s
TXAR Lajitas Array 85.84 54 P **P 01 56 35.1 +1.0**
TXAR pP **pP 01 56 43.5 -0.8**
TXAR Lajitas Array 85.84 54 P **P 01 56 35.1 +1.0**
comp=Z,1.0nm,0.6s,baz=294,slow=3.2,SNR=8.2
TXAR pP **pP 01 56 43.5 -0.8**
comp=Z,3.0nm,0.8s,baz=304,slow=3.7,SNR=13
TCF Toulx Ste Croi 85.86 334 *eP* **P 01 56 34.1 +0.2**
TCF Toulx Ste Croi 85.86 334 *eP* **P 01 56 34.1 +0.2**
TCF Toulx Ste Croi 85.86 334 *eP* **P 01 56 34.1 +0.2**
VIVF Saint-Julien-l 86.29 332 *eP* **P 01 56 36.2 +0.2**
comp=Z,27nm,1.0s
VIVF Saint-Julien-l 86.29 332 *eP* **P 01 56 36.2 +0.2**
VIVF pmax pmax
comp=Z,27nm,1.0s
VIVF Saint-Julien-l 86.29 332 *eP* **P 01 56 36.2 +0.2**
comp=Z,27nm,1.0s
MFF Saint Martin d 86.32 336 ⇑*iP* **P 01 56 36.5 +0.4**
comp=Z,26nm,0.9s
MFF Saint Martin d 86.32 336 ⇑*iP* **P 01 56 36.5 +0.4**
MFF pmax pmax
comp=Z,26nm,0.9s
MFF Saint Martin d 86.32 336 ⇑*iP* **P 01 56 36.5 +0.4**
comp=Z,26nm,0.9s
PGF Pioggiola 86.67 328 *eP* **P 01 56 38.7 +0.7**
comp=Z,6.2nm,0.8s
PGF Pioggiola 86.67 328 *eP* **P 01 56 38.7 +0.7**
PGF pmax pmax
comp=Z,6.0nm,0.8s
PGF Pioggiola 86.67 328 *eP* **P 01 56 38.7 +0.7**
comp=Z,6.2nm,0.8s
FRF La Foret Royal 86.70 330 *eP* **P 01 56 37.3 -0.7**
comp=Z,24nm,1.1s
FRF La Foret Royal 86.70 330 *eP* **P 01 56 37.3 -0.7**
FRF pmax pmax
comp=Z,24nm,1.1s
FRF La Foret Royal 86.70 330 *eP* **P 01 56 37.3 -0.7**
comp=Z,24nm,1.1s
LMR La Mourre 86.95 330 *eP* **P 01 56 38.9 -0.3**
comp=Z,21nm,1.0s
LMR La Mourre 86.95 330 *eP* **P 01 56 38.9 -0.3**
LMR pmax pmax
comp=Z,21nm,1.0s
LMR La Mourre 86.95 330 *eP* **P 01 56 38.9 -0.3**
comp=Z,21nm,1.0s
RJF Les Rejaudoux 86.96 334 ⇑*iP* **P 01 56 39.7 +0.4**
comp=Z,18nm,1.0s
RJF Les Rejaudoux 86.96 334 ⇑*iP* **P 01 56 39.7 +0.4**
RJF pmax pmax
comp=Z,18nm,1.0s
RJF Les Rejaudoux 86.96 334 ⇑*iP* **P 01 56 39.7 +0.4**
comp=Z,18nm,1.0s
CAF Calviac 87.12 334 ⇑*iP* **P 01 56 40.9 +0.8**
comp=Z,33nm,0.9s
CAF Calviac 87.12 334 ⇑*iP* **P 01 56 40.9 +0.8**
CAF pmax pmax
comp=Z,33nm,0.9s
CAF Calviac 87.12 334 ⇑*iP* **P 01 56 40.9 +0.8**
comp=Z,33nm,0.9s

LASF	Ste Croix	87.26	332	*e*P		P	01 56 41.2	+0.5
LASF	Ste Croix	87.26	332	*e*P		P	01 56 41.2	+0.5
LFF	La Frestale	87.53	335	*e*P		P	01 56 42.8	+0.8
	comp=Z,49nm,1.2s							
LFF	La Frestale	87.53	335	*e*P		P	01 56 42.8	+0.8
LFF				pmax	pmax			
	comp=Z,49nm,1.2s							
LFF	La Frestale	87.53	335	*e*P		P	01 56 42.8	+0.8
	comp=Z,49nm,1.2s							
MTLF	Montolieu	88.47	333	⇑*i*P		P	01 56 47.1	+0.6
	comp=Z,30nm,1.4s							
MTLF	Montolieu	88.47	333	⇑*i*P		P	01 56 47.1	+0.6
MTLF				pmax	pmax			
	comp=Z,30nm,1.4s							
MTLF	Montolieu	88.47	333	⇑*i*P		P	01 56 47.1	+0.6
	comp=Z,30nm,1.4s							
SSPA	Standing Stone	89.71	30	*e*P		P	01 56 52.5	+0.1
	comp=Z,12nm,1.3s							
ETSF	Etsaut	89.78	335	*e*P		P	01 56 53.3	+0.5
	comp=Z,7.5nm,0.8s							
ETSF	Etsaut	89.78	335	*e*P		P	01 56 53.3	+0.5
ETSF				pmax	pmax			
	comp=Z,8.0nm,0.8s							
ETSF	Etsaut	89.78	335	*e*P		P	01 56 53.3	+0.5
	comp=Z,7.5nm,0.8s							
SJPF	Ste Jean	89.80	335	*e*P		P	01 56 53.5	+0.7
SJPF	Ste Jean	89.80	335	*e*P		P	01 56 53.5	+0.7
SJPF	Ste Jean	89.80	335	*e*P		P	01 56 53.5	+0.7
ESDC	Sonseca Array	93.78	336	P		P	01 57 11.4	+0.1
ESDC	Sonseca Array	93.78	336	P		P	01 57 11.4	+0.1
	comp=Z,0.9nm,0.8s,baz=23,slow=3.9,SNR=6.6							
KMBO	Kilima Mbogo	103.01	280	*e*Pdif		Pdif	01 57 53.4	-0.1
	comp=Z,1.8nm,1.0s							
TORD	Torodi Ar. Bea	115.12	319	PKP		PKPdf	02 02 34.6	-1.3
TORD				PP		PP	02 03 26.7	-8.2
TORD	Torodi Ar. Bea	115.12	319	PKP		PKPdf	02 02 34.6	-1.3
	comp=Z,1.0nm,1.1s,baz=20,slow=2.0,SNR=3.5							
TORD				PP		PP	02 03 26.7	-8.2
	comp=Z,1.0nm,0.8s,baz=23,slow=6.7,SNR=3.7							
VNDA	Vanda	119.55	176	PKP		PKPdf	02 02 41.0	-1.4
VNDA	Vanda	119.55	176	PKP		PKPdf	02 02 41.0	-1.4
	comp=Z,0.4nm,0.3s,baz=183,slow=16,SNR=6.4							
SAML	Samuel	139.59	44	*e*PKPdf		PKPdf	02 03 21.8	-0.4
LPAZ	La Paz	142.66	57	*e*PKPdf		PKPdf	02 03 28.9	+0.4
H03N2	Juan Fernandez	145.48	90	T		T	04 46 32.1	
	baz=297,slow=0.7,SNR=52							
H03N3	Juan Fernandez	145.49	90	T		T	04 46 40.8	
	baz=297,slow=0.7,SNR=74							
H03N1	Juan Fernandez	145.49	90	T		T	04 46 19.3	
	baz=297,slow=0.7,SNR=41							
SNAA	Sanae	145.81	198	*e*P		PKPdf	02 03 31.3	-0.3
SNAA	Sanae	145.81	198	*e*P		PKPdf	02 03 31.3	-0.3
SNAA	Sanae	145.81	198	*e*PKPbc		PKPdf	02 03 31.0	-0.6
SIV	San Ignacio	146.59	47	PKPbc		PKPbc	02 03 35.8	-0.2
SIV	San Ignacio	146.59	47	PKPbc		PKPbc	02 03 35.8	-0.2
	comp=Z,2.6nm,0.8s,baz=301,slow=3.5,SNR=10							
VNA2	Neumayer--Watz	147.37	197	*e*P		PKPbc	02 03 36.6	-0.1
VNA2	Neumayer--Watz	147.37	197	*e*P		PKPbc	02 03 36.6	-0.1

JMA 02 01:45:57.5±0.2, 41.74N×143.82E, h39km±4km, M4.1, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	Erimo	0.57	299	P	Pn	01 46 08.5	-0.6
JCH	Churui	0.94	339	P	Pn	01 46 14.5	+0.3
JNBK	Urakawa-nobuka	0.96	305	P	Pn	01 46 15.6	+1.1
JOB	Onbets	1.16	1	P	Pn	01 46 18.2	+1.0
JAK	Akkeshi	1.41	27	P	Pn	01 46 20.7	0.0
JAK				*e*S	Sn	01 46 38.3	+0.3
JAR	Ashorobuto	1.56	359	P	Pn	01 46 22.8	+0.1

IDC ***02*** *01:55:01.6±0.5, 14.97S×173.57W, h0km, mb4.4/21, mb1 4.6/21, mb1mx4.5/26, mbtmp4.4/21, MS4.7/15, Ms1 4.8/15, ms1mx4.5/39, Error ellipse: s-maj=22.9km s-min=14.1km az=144.0*

SZGRF ***02*** *01:55:01.2, 17.61S×173.25W, h33km, Tonga Islands*

NEIC ***02*** *01:55:03.4±0.2, 14.93S×173.61W, h10km, mb5.1/53, Error ellipse: s-maj=10.0km s-min=5.3km az=151.0*

ISCJB ***02*** *01:55:04.9±0.3, 14.98S±0.07×173.60W±0.05, h30km, mb4.9/81, MS4.8/16, Error ellipse: s-maj=10.4km s-min=6.3km az=158.6*

MOS ***02*** *01:55:07.7±1.0, 14.54S×173.36W, h33km, mb5.3/19, Error ellipse: s-maj=13.5km s-min=10.0km az=56.0*

GCMT ***02*** *01:55:10.3±0.3, 14.84S×173.26W, h20km± 1km, MW5.3, Moment Tensor Solution. s23,c31; s61,c88; Moment tensor: Scale 10^16Nm; Mrr6.90±.71; Mθθ-3.83±.50; Mφφ-3.07±.43; Mrθ-3.93±1.04; Mθφ6.13±.30; Mrφ2.32±.86; Best double couple: M0 9.50000×10^16 NP1:φ304.00000°, δ60.00000°, λ79.00000°. NP2:φ145.00000°, δ32.00000°, λ108.00000°. Principal axes: T 8.2000, Plg73.0000°, Azm187.0000°; N 2.5000, Plg9.0000°, Azm310.0000°; P -10.7000, Plg14.0000°, Azm42.0000°; Data Used: IU G II CN IC.*

ISC 02 01:55:06.7±0.3, 15.07S±0.08×173.47W±0.07, h30km, n655, σ1§00/632, mb5.0/81, MS4.9/16, 127C-147D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.00	55	*e*Pn	Pn	01 55 29.6	-9.1
AFI				*e*Sn	Sn	01 55 50.5	-12
AFI	Afiamalu	2.00	55	Pn	Pn	01 55 30.0	-8.6
	181nm,0.3s,baz=232,slow=1.8,SNR=75						
AFI				Sn	Sn	01 55 51.0	-12
	904nm,0.3s,baz=233,slow=20,SNR=23						
AFI				LR	LR	01 56 09.6	
	comp=Z,7μm,18.4s,baz=57,slow=34						
MSVF	Nonsavu	8.56	251	*e*P	Pn	01 57 14.8	+6.1
MSVF				pmax	pmax		
	comp=Z,317nm,1.4s						
MSVF	Nonsavu	8.56	251	Pn	Pn	01 57 15.0	+6.3
	comp=Z,866nm,1.2s,SNR=14						
MSVF	Nonsavu	8.56	251	*e*Pn	Pn	01 57 14.8	+6.1
	comp=Z,317nm,1.4s						
RAR	Rarotonga	14.38	117	*e*Pn	Pn	01 58 31.0	+2.7
RAR	Rarotonga	14.38	117	LR	LR	02 02 41.9	
	comp=Z,2μm,18.9s,baz=94,slow=32						
RAO	Raoul Island	14.70	195	LR	LR	02 03 02.2	
	comp=Z,3μm,19.2s,baz=13,slow=32						
DZM	Mont Dzumac	20.26	247	*e*P	Pn	01 59 43.7	+1.6
	comp=Z,182nm,1.6s						
DZM				*e*LR	LR	02 04 33.4	
	comp=Z,3μm,27.0s						
DZM	Mont Dzumac	20.26	247	*e*P	P	01 59 39.4	-0.6
	comp=Z,129nm,1.5s						
DZM	Mont Dzumac	20.26	247	P	P	01 59 39.5	-0.6
	comp=Z,32nm,1.3s,baz=80,slow=16,SNR=12						
DZM				LR	LR	02 06 00.5	
	comp=Z,3μm,19.0s,baz=39,slow=33						
PPT	Papeete	23.06	99	LR	LR	02 07 10.0	
	comp=Z,1μm,19.1s,baz=62,slow=31						
PPT2	Papeete2	23.06	100	*e*LQ	LQ	02 04 35.1	
	comp=Z,3μm,27.8s						
PPT2				*e*LR	LR	02 05 37.0	
	comp=Z,1μm,26.5s						
XMAS	Kiritimati	23.25	44	*e*P	P	02 00 10.1	-1.7
	comp=Z,83nm,1.2s						
TBI	Tubuai	24.10	114	*e*LQ	LQ	02 05 04.3	
	comp=Z,2μm,26.8s						
TBI				*e*LR	LR	02 06 14.0	
	comp=Z,1μm,26.0s						
URZ	Urewera	24.56	198	LR	LR	02 08 54.3	
	comp=Z,2μm,20.3s,baz=152,slow=34						
HNR	Honiara	26.56	279	LR	LR	02 08 45.6	
	comp=Z,1μm,19.7s,baz=131,slow=31						
H11S2	WAKE ISLAND Hy	38.64	329	T	T	02 43 30.4	
	baz=152,slow=0.7,SNR=27						
CTAO	Charters Tower	38.65	257	*e*P	P	02 02 26.9	-1.0
CTAO				pmax	pmax		
	comp=Z,54nm,1.6s						
CTAO	Charters Tower	38.65	257	*e*P	P	02 02 26.9	-1.0
	comp=Z,54nm,1.6s						
H11S3	WAKE ISLAND Hy	38.66	329	T	T	02 43 21.2	
	baz=152,slow=0.7,SNR=32						
H11S1	WAKE ISLAND Hy	38.66	329	T	T	02 43 19.9	
	baz=152,slow=0.7,SNR=27						
PMG	Port Moresby	38.84	274	*e*P	P	02 02 28.9	-0.6
	comp=Z,20nm,1.2s						
PMG	Port Moresby	38.84	274	LR	LR	02 14 12.7	
	comp=Z,669nm,19.1s,baz=130,slow=30						
H11N3	WAKE ISLAND Hy	39.59	330	T	T	02 44 31.1	
	baz=152,slow=0.7,SNR=13						
H11N1	WAKE ISLAND Hy	39.59	330	T	T	02 44 32.2	
	baz=152,slow=0.7,SNR=24						
H11N2	WAKE ISLAND Hy	39.61	330	T	T	02 44 51.3	
	baz=152,slow=0.7,SNR=24						
COEN	Coen	41.94	266	*e*P	P	02 02 52.2	-2.9
STKA	Stephens Creek	44.14	240	P	P	02 03 10.7	-2.1
STKA	Stephens Creek	44.14	240	P	P	02 03 10.7	-2.1
	comp=Z,2.9nm,0.9s,baz=96,slow=9.2,SNR=3.7						
STKA				LR	LR	02 18 39.1	
	comp=Z,1μm,18.7s,baz=11,slow=32						
WRAB	Tennant Creek	49.84	257	*e*P	P	02 03 55.0	-2.5
WRAB				pmax	pmax		
	comp=Z,13nm,1.1s						
WRAB	Tennant Creek	49.84	257	*e*P	P	02 03 55.0	-2.5
	comp=Z,13nm,1.1s						
WRA	Warramunga Arr	49.85	256	P	P	02 03 54.5	-3.1
WRA	Warramunga Arr	49.85	256	P	P	02 03 54.5	-3.1
	comp=Z,3nm,0.4s,baz=93,slow=7.7,SNR=81						
AS31	Alice Springs	50.15	252	*e*P	P	02 03 56.4	-3.4
ASAR	Alice Springs	50.15	252	P	P	02 03 57.3	-2.5
ASAR	Alice Springs	50.15	252	P	P	02 03 57.3	-2.5
	comp=Z,14nm,0.7s,baz=87,slow=8.1,SNR=137						
ASAR				LR	LR	02 23 14.8	
	comp=Z,1μm,19.1s,baz=74,slow=34						
FORT	Forrest	55.51	243	*e*P	P	02 04 32.3	-6.9
	comp=Z,12nm,0.7s						
SBA	Scott Base	63.58	185	*e*P	P	02 05 42.2	+8.1
SBA				pmax	pmax		
	comp=Z,96nm,2.8s						
SBA	Scott Base	63.58	185	*e*P	P	02 05 42.2	+8.1
	comp=Z,96nm,2.8s						
VNDA	Vanda	63.70	186	P	P	02 05 36.1	+1.1
VNDA	Vanda	63.70	186	P	P	02 05 36.1	+1.1
	comp=Z,2.3nm,1.0s,baz=14,slow=7.1,SNR=8.5						
PETK	Petropavlovsk-	72.29	342	P	P	02 06 29.0	-0.2
PETK	Petropavlovsk-	72.29	342	P	P	02 06 29.0	-0.2
PETK	Petropavlovsk-	72.29	342	P	P	02 06 29.0	-0.2
	comp=Z,3.5nm,0.8s,baz=119,slow=9.0,SNR=3.9						
EDW2	Edels Air Fo	72.36	45	⇓P	P	02 06 30.7	+0.6
	baz=72						
MONP	Monument Peak	72.39	48	⇑P	P	02 06 30.6	+0.1
	baz=73						
ISA	Isabella	72.46	44	*e*P	P	02 06 26.6	-4.1
ISA	Isabella	72.46	44	*e*P	P	02 06 26.6	-4.1
ISA	Isabella	72.46	44	⇑P	P	02 06 30.9	+0.2
	baz=73						
CMB	Columbia Colle	72.56	41	*e*P	P	02 06 30.5	-0.7
CMB	Columbia Colle	72.56	41	*e*P	P	02 06 30.5	-0.7
PFO	Pinyon Flat Ob	72.75	47	P	P	02 06 23.0	-9.5
	comp=Z,31nm,0.2s,SNR=9.6						
SWSC	Sam W. Stewart	72.87	48	⇑P	P	02 06 33.7	+0.6
	baz=73						
RRX	Edison Barstow	73.04	46	⇓P	P	02 06 34.1	+0.1
	baz=73						
CWC	Cottonwood Cre	73.16	44	⇓P	P	02 06 34.8	-0.1
	baz=73						
BELC	Belle Mtn. Jos	73.28	47	⇑P	P	02 06 35.7	+0.1
	baz=73						
MPMC	Manual Prospec	73.35	45	⇓P	P	02 06 36.2	+0.1
	baz=74						
MTUM	Tungsten Hills	73.35	43	*e*P	P	02 06 36.8	+0.7
YBH	Yreka Blue Hor	73.38	37	*e*P	P	02 06 35.1	-0.8
	comp=Z,41nm,1.7s						
YBH	Yreka Blue Hor	73.38	37	P	P	02 06 35.6	-0.4
	comp=Z,3.3nm,0.7s,baz=194,slow=4.4,SNR=6.0						
YBH				LR	LR	02 31 35.9	
	comp=Z,890nm,18.6s,baz=264,slow=30						
GSC	Goldstone	73.40	45	*e*P	P	02 06 37.1	+0.8
GSC				pmax	pmax		
	comp=Z,41nm,2.1s						
GSC	Goldstone	73.40	45	*e*P	P	02 06 37.1	+0.8
	comp=Z,41nm,2.1s						
GSC	Goldstone	73.40	45	⇓P	P	02 06 36.3	0.0
	baz=74						
WAKR	Walker	73.44	41	*e*P	P	02 06 37.1	+0.5
HEC	Hector,Ludlow	73.48	46	⇑P	P	02 06 36.4	-0.4
	baz=74						
BC3	Big Chuckawall	73.48	48	⇑P	P	02 06 36.5	-0.3
	baz=74						
GLA	Glamis	73.62	48	⇓P	P	02 06 37.5	0.0
	baz=74						
BEKR	Beckworth	73.66	40	*e*P	P	02 06 37.7	-0.1
	comp=Z,12nm,1.5s						
HUMO	Hull Mountain	73.78	36	*e*P	P	02 06 38.5	+0.3
	comp=Z,44nm,1.9s						
GMRC	Granite Mounta	73.92	46	⇑P	P	02 06 39.1	-0.3
	baz=74						
GRAC	Grevevine Rang	73.94	44	⇑P	P	02 06 38.8	-0.6
	baz=74						
IRM	Iron Mountain	73.96	47	⇓P	P	02 06 39.5	0.0
	baz=74						
TUQ	Turquoise Moun	74.08	46	⇑P	P	02 06 40.3	0.0
	baz=74						
NVAR	Mina Array Bea	74.13	42	P	P	02 06 39.6	-1.0
NVAR	Mina Array Bea	74.13	42	P	P	02 06 39.6	-1.0
	comp=Z,1.8nm,0.8s,baz=227,slow=9.7,SNR=14						
NVAR				LR	LR	02 31 53.3	
	comp=Z,870nm,18.7s,baz=310,slow=30						
Y12C	Blythe	74.20	48	⇓P	P	02 06 41.0	+0.2
	baz=74						
214A	Organ Pipe Nat	74.55	50	⇓P	P	02 06 43.7	+0.6
	baz=75						
PDMCI	Parker Dam,Lak	74.75	48	⇓P	P	02 06 44.5	+0.4
	baz=75						
MOD	Modoc	74.90	38	*e*P	P	02 06 44.5	-0.5
QSPA	South Pole Qui	74.98	180	*e*P	P	02 06 44.9	-0.1
	comp=Z,13nm,1.1s						
K05A	Sumner Lake	75.05	37	*e*P	P	02 06 47.2	+1.3
	comp=Z,61nm,1.7s						
Z14A	Wintersburg	75.14	49	⇓P	P	02 06 46.8	+0.4
	baz=75						
SHPR	Sheep Range	75.17	45	*e*P	P	02 06 47.2	+0.6
W13A	Hualapai Mount	75.33	47	⇓P	P	02 06 47.2	-0.5
	baz=76						
Y14A	Wickenburg	75.38	48	⇑P	P	02 06 47.8	0.0
	baz=76						
H04A	Deer Lake	75.52	35	*e*P	P	02 06 49.0	+0.7
	comp=Z,46nm,1.8s						
R11A	Troy Canyon, C	75.87	43	⇓P	P	02 06 50.3	-0.3
	baz=76						
KSRS	Korea Array	75.87	316	P	P	02 06 49.5	-0.9
	comp=Z,3.2nm,1.1s,baz=134,slow=3.5,SNR=4.2						
KSAR	Wonju Array Be	75.89	316	P	P	02 06 49.5	-1.0
WVOR	Wild Horse Val	76.22	39	*e*P	P	02 06 51.6	-0.9
WVOR				pmax	pmax		
	comp=Z,44nm,1.8s						
WVOR	Wild Horse Val	76.22	39	*e*P	P	02 06 51.6	-0.9
	comp=Z,44nm,1.8s						
TUC	Tucson	76.23	51	*e*P	P	02 06 53.3	+0.6
TUC				pmax	pmax		
	comp=Z,24nm,1.5s						
TUC	Tucson	76.23	51	*e*P	P	02 06 53.3	+0.6
	comp=Z,24nm,1.5s						
I07A	Izee	76.67	37	*e*P	P	02 06 54.9	-0.2
	comp=Z,33nm,1.8s						
G06A	Carlson Farm,	76.73	35	*e*P	P	02 06 55.9	+0.7
	comp=Z,19nm,2.8s						
X16A	Lo Mia Camp, P	76.75	49	⇓P	P	02 06 55.9	+0.1
	baz=77						
J08A	Circle Bar Ran	76.85	38	*e*P	P	02 06 55.7	-0.3
	comp=Z,24nm,1.5s						
319A	Douglas	76.94	52	⇑P	P	02 06 56.9	+0.1
	baz=77						
CCUT	Cedar City	76.94	45	*e*P	P	02 06 57.3	+0.5
U15A	North Rim	77.12	46	⇑P	P	02 06 57.4	-0.5
	baz=77						
D05A	Enumclaw	77.21	33	*e*P	P	02 06 59.3	+1.5
	comp=Z,76nm,1.7s						
WUAZ	Wupatki	77.33	48	⇑P	P	02 06 59.0	0.0
	baz=78						
ELK	Elko	77.38	41	*e*P	P	02 06 58.3	-0.9
320A	Kipp Ranch, An	77.50	53	⇑P	P	02 07 00.1	+0.1
	baz=78						
G08A	Pilot Rock	77.71	36	*e*P	P	02 07 00.2	-0.6
	comp=Z,33nm,1.6s						
220A	Playas Peak, P	77.75	52	⇓P	P	02 07 00.9	-0.5
	baz=78,SNR=11						
X18A	Snowflake	77.89	49	⇑P	P	02 07 02.4	+0.3
	baz=78						
120A	U Bar Ranch, L	77.96	51	⇓P	P	02 07 02.9	+0.3
	baz=78						
HABR	Khabarovsk	78.02	328	*e*P	P	02 07 01.8	-0.4
HABR				*e*		02 07 11.2	
HABR				*e*S	S	02 16 55.5	+1.6
HABR				*e**SS	sS	02 17 00.9	-8.8
HABR				*e*SS	SS	02 21 56.1	0.0
HABR				pmax	pmax		
	comp=Z,45nm,1.8s						
HABR				MLR	MLR		
	comp=Z,393nm,16.0s						
HAWA	Hanford	78.04	35	*e*P	P	02 07 03.4	+0.9
Z20A	Nine Sixteen R	78.24	51	⇓P	P	02 07 04.3	+0.2
	baz=78						
MFID	Camas Ranch	78.47	39	⇓P	P	02 07 05.2	+0.1
	baz=79						
121A	Cookes Peak, D	78.59	52	⇓P	P	02 07 06.0	0.0
	baz=79						
DUG	Dugway	78.67	43	*e*P	P	02 07 05.6	-0.7
DUG				pmax	pmax		
	comp=Z,23nm,1.7s						
DUG	Dugway	78.67	43	*e*P	P	02 07 05.6	-0.7
	comp=Z,23nm,1.7s						
DUG	Dugway	78.67	43	⇑P	P	02 07 05.9	-0.3
	baz=79						
Y20A	Horse Springs,	78.76	50	⇑P	P	02 07 06.9	-0.1
	baz=79,SNR=9.6						
PMR	Palmer	78.81	12	*e*P	P	02 07 06.5	+0.2
PMR	Palmer	78.81	12	*e*P	P	02 07 06.5	+0.2
E09A	Wood Farm, Sta	78.89	35	*e*P	P	02 07 07.5	+0.4
BGU	Big Grassy Mou	78.90	42	*e*P	P	02 07 07.5	0.0
222A	Williams Famil	78.93	52	⇓P	P	02 07 08.4	+0.5
	baz=79						
X20A	Quemado	78.96	50	⇓P	P	02 07 07.8	-0.2
	baz=79,SNR=8.7						
Z21A	St. Cloud Mine	79.02	51	⇓P	P	02 07 08.5	0.0
	baz=79,SNR=12						
DIV	Divide	79.09	13	*e*P	P	02 07 07.0	-1.0
	comp=Z,20nm,1.1s						
F10A	Beach Ranch, E	79.09	36	*e*P	P	02 07 08.2	-0.2
BMRM	Bremner River	79.21	14	*e*P	P	02 07 07.2	-1.4
	comp=Z,38nm,1.4s						
W20A	Ramah	79.22	49	⇑P	P	02 07 09.6	+0.1
	baz=79,SNR=13						
TMUT	Trail Mountain	79.28	44	*e*P	P	02 07 09.6	-0.2
Y21A	Point of Rocks	79.33	50	⇓P	P	02 07 09.9	-0.2
	baz=80						
B08A	Colville Reser	79.34	33	*e*P	P	02 07 09.2	-0.4
HLID	Hailey	79.41	39	*e*P	P	02 07 10.1	-0.2
HLID	Hailey	79.41	39	⇑P	P	02 07 10.3	0.0
	baz=80						
X21A	Alamocita Cree	79.44	50	⇑P	P	02 07 10.6	-0.1
	baz=80,SNR=6.4						
HVU	Hansel Valley	79.50	42	*e*P	P	02 07 12.0	+1.2
HVU	Hansel Valley	79.50	42	*e*P	P	02 07 12.0	+1.2
Z22A	Elephant Butte	79.53	51	⇑P	P	02 07 11.0	-0.1
	baz=80,SNR=11						
V20A	Brimhall	79.55	49	⇓P	P	02 07 10.9	-0.3
	baz=80						
SRU	San Rafael	79.66	45	*e*P	P	02 07 11.2	-0.6
SRU				pmax	pmax		
	comp=Z,22nm,1.5s						
SRU	San Rafael	79.66	45	*e*P	P	02 07 11.2	-0.6
	comp=Z,22nm,1.5s						
JLU	Jordanelle	79.77	43	*e*P	P	02 07 11.9	-0.4
U20A	Newcomb	79.77	48	⇑P	P	02 07 12.4	0.0
	baz=80						
DAU	Daniels Canyon	79.80	43	*e*P	P	02 07 12.5	-0.1
DAU	Daniels Canyon	79.80	43	*e*P	P	02 07 12.5	-0.1
Y22A	Socorro	79.83	51	⇓P	P	02 07 12.4	-0.4
	baz=80						
324A	Moseley Ranch,	79.90	54	⇓P	P	02 07 12.5	-0.7
	baz=80,SNR=6.3						
LAZ	Ladron	79.90	50	*e*P	P	02 07 13.4	+0.3
	comp=Z,18nm,1.8s						
NJ2	Nanjing	79.91	307	*e*P	P	02 07 16.0	+3.0
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
LENM	Lemitar	79.92	51	*e*P	P	02 07 12.1	-1.2
425A	Indio Mountain	80.02	54	⇓P	P	02 07 13.1	-0.7
	baz=80,SNR=7.8						
MNTX	Cornudas Mount	80.08	53	*e*P	P	02 07 13.2	-0.8
	comp=Z,17nm,1.6s						
Z23A	Rita Site, Whi	80.09	52	⇑P	P	02 07 13.9	-0.2
	baz=80						
224A	Cornudas Mount	80.13	53	⇑P	P	02 07 13.8	-0.6
	baz=80,SNR=7.5						
PV05	Paradox Valley	80.15	46	*e*P	P	02 07 14.9	+0.5
MVCO	Mesa Verde	80.17	47	⇓P	P	02 07 14.3	-0.4
	baz=80						
BNM	Barren Site	80.17	51	*e*P	P	02 07 13.9	-0.8
	comp=Z,14nm,1.5s						
626A	Big Bend Ranch	80.20	56	⇓P	P	02 07 14.4	-0.3
	baz=80,SNR=7.9						
LPM	Los Pinos Moun	80.24	51	*e*P	P	02 07 14.7	-0.3
TRF	Thorofare Moun	80.31	10	*e*P	P	02 07 12.7	-2.0
	comp=Z,50nm,1.6s						
PV09	Paradox Valley	80.32	46	*e*P	P	02 07 16.1	+0.6
U21A	Nageezi	80.42	48	⇓P	P	02 07 15.5	-0.5
	baz=81,SNR=15						
526A	Mary Lane Ranc	80.43	55	⇑P	P	02 07 15.5	-0.5
	baz=81,SNR=5.4						
124A	Stringfield Ra	80.44	52	⇓P	P	02 07 15.9	-0.3
	baz=81						
NEW	Newport	80.47	34	*e*P	P	02 07 14.4	-1.3
	comp=Z,6.0nm,1.3s						
NEW	Newport	80.47	34	⇓P	P	02 07 15.6	-0.1
	baz=81						
TXAR	Lajitas Array	80.48	56	P	P	02 07 16.2	-0.1
TXAR	Lajitas Array	80.48	56	P	P	02 07 16.2	-0.1
	comp=Z,1.5nm,0.9s,baz=235,slow=4.4,SNR=14						
TXAR				LR	LR	02 36 57.5	
	comp=Z,796nm,18.4s,baz=270,slow=31						
Y23A	Lovelace Mesa,	80.51	51	⇓P	P	02 07 16.2	-0.3
	baz=81						
PV01	Paradox Valley	80.54	46	*e*P	P	02 07 15.9	-0.7
	comp=Z,2μm,1.6s						
S20A	Disappointment	80.55	47	⇑P	P	02 07 16.2	-0.5
	baz=81,SNR=7.4						
ANMO	Albuquerque	80.64	50	*e*P	P	02 07 16.9	-0.2
	comp=Z,18nm,1.6s						
ANMO

baz=81
MCMT McKenzie Canyo 81.04 39 eP P 02 07 17.6 -1.6
comp=Z,4.5nm,1.3s
GDL2 Guadalupe Moun 81.08 53 eP P 02 07 19.8 +0.3
Q20A Ridgley Place, 81.11 46 ⇑P P 02 07 19.0 -0.5
baz=81,SNR=8.8
628A Black Gap, Mar 81.17 56 ⇑P P 02 07 19.9 0.0
baz=81,SNR=9.6
O19A Miners Draw (B 81.17 44 ⇓P P 02 07 20.1 +0.2
baz=81
226B Tecolote Peak, 81.18 53 ⇑P P 02 07 19.7 -0.2
baz=81,SNR=10
V23A Ortiz Mt. (NFS 81.19 49 ⇓P P 02 07 20.4 +0.3
baz=81,SNR=9.1
T22A Edith 81.22 48 ⇓P P 02 07 20.3 0.0
baz=81,SNR=5.9
RRI2 Red Ridge 81.23 41 eP P 02 07 19.5 -0.7
comp=Z,12nm,1.2s
X24A Lazy VL Ranch, 81.24 51 ⇓P P 02 07 20.2 -0.2
baz=81
Z25A Roswell 81.25 52 ⇑P P 02 07 20.4 +0.1
baz=81
427A Hayter Ranch, 81.29 55 ⇑P P 02 07 20.4 -0.2
baz=81,SNR=7.2
P20A De Beque 81.30 45 ⇓P P 02 07 20.5 0.0
baz=82
R21A Cimarron 81.36 47 ⇑P P 02 07 20.9 -0.1
baz=82,SNR=6.4
DLBC Dease Lake 81.42 21 LR LR 02 33 58.2
comp=Z,795nm,21.3s,baz=329,slow=29
U23A El Rito 81.43 49 ⇑P P 02 07 21.1 -0.3
baz=82,SNR=6.1
MSO Missoula 81.46 37 eP P 02 07 20.3 -0.8
MSO Missoula 81.46 37 ⇓P P 02 07 20.7 -0.4
baz=82
528A Cox Ranch, San 81.51 56 ⇓P P 02 07 22.3 +0.5
baz=82
126A Clayton Basin, 81.52 53 ⇓P P 02 07 21.9 +0.1
baz=82
REDW Red Top Meadow 81.53 41 eP P 02 07 20.9 -0.8
comp=Z,37nm,1.6s
TPAW Teton Pass 81.53 41 eP P 02 07 21.0 -0.8
comp=Z,14nm,1.2s
Y25A Mesa, Roswell 81.53 52 ⇓P P 02 07 21.3 -0.5
baz=82,SNR=8.1
BSMT Bassoo Peak 81.53 36 eP P 02 07 20.0 -1.6
W24A Lazy 6 Ranch, 81.53 50 ⇓P P 02 07 21.9 0.0
baz=82
Q21A Lamborn Mesa, 81.56 46 ⇓P P 02 07 21.9 0.0
baz=82
S22A 4UR Ranch, Cre 81.59 47 ⇑P P 02 07 22.0 -0.3
baz=82,SNR=13
SNOW Snow King Moun 81.64 41 eP P 02 07 21.8 -0.6
comp=Z,10.0nm,1.0s
O20A White River Ci 81.69 45 ⇑P P 02 07 22.3 -0.3
baz=82
IMW Indian Meadow 81.74 40 eP P 02 07 21.7 -1.2
comp=Z,20nm,1.4s
LRM Limekiln Ridge 81.80 38 eP P 02 07 22.1 -1.0
X25A Clemmons Ranch 81.80 51 ⇑P P 02 07 22.3 -0.9
baz=82,SNR=8.7
Z26A Caprock 81.81 52 ⇑P P 02 07 22.5 -0.8
baz=82,SNR=12
LOHW Long Hollow 81.81 41 eP P 02 07 22.4 -0.8
comp=Z,19nm,1.5s
428A Kincaid Ranch, 81.81 55 ⇓P P 02 07 23.4 0.0
baz=82
V24A Rampart Ranch, 81.85 50 ⇓P P 02 07 23.1 -0.6
baz=82,SNR=6.7
T23A Casias Ranch, 81.85 48 ⇑P P 02 07 23.5 -0.1
baz=82
CHMT Chamberlain Mo 81.90 37 eP P 02 07 20.9 -2.7
comp=Z,4.4nm,1.3s
QLMT Earthquake Lak 81.91 39 eP P 02 07 23.4 -0.3
529A Stev Forest Ra 81.95 56 ⇑P P 02 07 24.1 +0.1
baz=82
P21A Newcastle 81.96 46 ⇑P P 02 07 24.0 -0.1
baz=82
328A Wristen Ranch, 81.97 55 ⇓P P 02 07 24.1 0.0
baz=82
FLWY Flagg Ranch 81.98 40 eP P 02 07 24.0 -0.1
comp=Z,24nm,1.3s
N20A Spence Gulch, 82.00 44 ⇓P P 02 07 23.7 -0.6
baz=82,SNR=6.5
Q22A Crested Butte, 82.03 46 ⇑P P 02 07 24.2 -0.4
baz=82,SNR=18
COLA College 82.05 11 eP P 02 07 22.8 -0.8
COLA pmax pmax
comp=Z,41nm,0.8s
COLA College 82.05 11 eP P 02 07 22.8 -0.8
comp=Z,41nm,0.8s
PDAR Pinedale Array 82.06 42 P P 02 07 23.4 -1.1
PDAR Pinedale Array 82.06 42 P P 02 07 23.4 -1.1
comp=Z,2.0nm,0.7s,baz=214,slow=2.3,SNR=14
SMCO Snowmass 82.13 46 eP P 02 07 24.6 -0.6
comp=Z,50nm,1.8s
ILAR Eielson Array 82.13 11 P P 02 07 22.4 -1.7
ILAR Eielson Array 82.13 11 P P 02 07 22.5 -1.7
comp=Z,2.6nm,0.9s,baz=216,slow=5.1,SNR=13
ILAR LR LR 02 41 09.1
comp=Z,410nm,18.6s,baz=30,slow=34
IM04 Indian Mountai 82.14 8 eP P 02 07 22.9 -1.3
SEY Seymchan 82.18 345 ⇓P P 02 07 24.1 -0.3
W25A X Bar L Ranch, 82.24 50 ⇓P P 02 07 25.2 -0.3
baz=82,SNR=7.5
IMA2 Indian Mountai 82.24 8 eP P 02 07 24.7 -0.1
T24B San Luis 82.34 48 ⇑P P 02 07 25.7 -0.5
baz=82
M20A Sweetwater, Wa 82.36 44 ⇓P P 02 07 25.6 -0.6
baz=82
V25A Rancho No Teng 82.38 50 ⇑P P 02 07 25.7 -0.6
baz=82,SNR=15
429A Davenport Ranc 82.40 56 ⇑P P 02 07 26.1 -0.3
baz=83
Z27A Tatum 82.41 53 ⇑P P 02 07 26.1 -0.4
baz=83
228A UT Block 9, Go 82.42 54 ⇓P P 02 07 26.6 +0.1
baz=83
X26A CR and CF Fran 82.45 51 ⇑P P 02 07 26.9 +0.2
baz=83
P22A Eagle 82.47 46 ⇓P P 02 07 26.4 -0.3
baz=83
L20A Wamsutter 82.50 43 ⇓P P 02 07 26.4 -0.4
baz=83,SNR=6.5
R23A Moffat 82.50 47 ⇓P P 02 07 26.7 -0.4
baz=83
K19A Absolon Red Bu 82.55 42 ⇑P P 02 07 26.7 -0.4
baz=83
HRY Holter Researc 82.63 38 eP P 02 07 26.3 -1.0
comp=Z,22nm,1.3s
J19A Crowheart 82.63 42 ⇑P P 02 07 27.4 0.0
baz=83
329A Wagon Wheel Ra 82.66 55 ⇓P P 02 07 27.5 -0.3
baz=83
530A J-C Ranch, Com 82.67 56 ⇓P P 02 07 27.7 -0.1
baz=83
Y27A Causey 82.68 52 ⇓P P 02 07 27.3 -0.5
baz=83
128A Castleberry Fa 82.70 54 ⇑P P 02 07 27.4 -0.6
baz=83
S24A Houchin Ranch, 82.70 48 ⇓P P 02 07 27.9 -0.3
baz=83,SNR=12
W26A Owens Ranch, T 82.71 51 ⇑P P 02 07 27.8 -0.2
baz=83
QIZ Qiongzhong 82.72 292 P P 02 07 30.4 +2.2
QIZ S S 02 17 48.7 +4.2
QIZ AMB AMB
comp=Z,19nm,1.5s
U25A Circle Dot Ran 82.77 49 ⇓P P 02 07 27.7 -0.6
baz=83,SNR=7.1
K20A Yellowstone Ra 82.80 42 ⇓P P 02 07 27.1 -1.2
baz=83,SNR=6.5
O22A Kremmling 82.86 45 ⇓P P 02 07 28.4 -0.5
baz=83,SNR=21
H18A Shoshone NF, C 82.92 40 ⇑P P 02 07 29.1 0.0
baz=83
M21A Separation Pea 82.96 44 ⇓P P 02 07 29.2 -0.1
baz=83
430A Baggett Ranch, 82.99 56 ⇑P P 02 07 29.3 -0.1
baz=83
P23A Jefferson 83.01 46 ⇑P P 02 07 29.8 0.0
baz=83,SNR=5.3
631A Perdido Creek 83.01 57 ⇑P P 02 07 29.2 -0.3
baz=83
MSTX Muleshoe 83.01 52 eP P 02 07 28.7 -0.9
MSTX Muleshoe 83.01 52 ⇑P P 02 07 29.3 -0.2
baz=83,SNR=6.6
R24A Sanders Place, 83.03 48 ⇑P P 02 07 29.7 0.0
baz=83,SNR=12
X27A F and S Farms, 83.03 51 ⇓P P 02 07 29.5 -0.1
baz=83
I19A Meeteetse 83.03 41 ⇓P P 02 07 28.9 -0.7
baz=83,SNR=6.6
Z28A Tucker Farm, M 83.04 53 ⇓P P 02 07 29.5 -0.2
baz=83
T25A Trinidad 83.07 49 ⇓P P 02 07 29.2 -0.8
baz=83,SNR=5.1
L21A Rawlins 83.12 43 ⇓P P 02 07 29.5 -0.5
baz=83
129A Stewart Farms, 83.19 54 ⇓P P 02 07 29.8 -0.7
baz=83
N22A Wattenberg Ran 83.21 45 ⇓P P 02 07 30.4 -0.2
baz=83,SNR=8.3
W27A Bowe Ranch, En 83.22 51 ⇓P P 02 07 29.4 -1.2
baz=83,SNR=7.0
U26A Atchley Ranch, 83.25 50 ⇓P P 02 07 29.8 -1.1
baz=83,SNR=12
330A Mertzon 83.27 55 ⇓P P 02 07 30.6 -0.3
baz=83
S25A Robets Cordova 83.27 48 ⇑P P 02 07 30.4 -0.5
baz=83
J20A Shoshoni 83.29 42 ⇑P P 02 07 30.0 -0.8
baz=83,SNR=8.1
EGAK Eagle 83.31 13 eP P 02 07 29.1 -1.1
comp=Z,40nm,1.9s
Q24A Divide 83.31 47 ⇓P P 02 07 31.0 -0.3
baz=84,SNR=8.6
O23A Lake Granby, G 83.32 45 ⇓P P 02 07 30.9 -0.4
baz=84
H19A Powell 83.34 40 ⇓P P 02 07 30.5 -0.6
baz=84,SNR=7.5
ISCO Idaho Springs 83.35 46 eP P 02 07 31.1 -0.3
ISCO pmax pmax
comp=Z,22nm,1.7s
ISCO Idaho Springs 83.35 46 eP P 02 07 31.1 -0.3
comp=Z,22nm,1.7s
ISCO Idaho Springs 83.35 46 ⇑P P 02 07 31.1 -0.3
baz=84
M22A Cedar Creek Ra 83.38 44 ⇑P P 02 07 31.5 0.0
baz=84
Y28A McKinney Farm, 83.39 52 ⇑P P 02 07 31.3 -0.2
baz=84
K21A Alcova 83.50 43 ⇑P P 02 07 31.0 -1.0
baz=84,SNR=12
I20A Worland 83.54 41 ⇑P P 02 07 31.2 -0.9
baz=84,SNR=9.8
Z29A Hungry Hill Ra 83.55 53 ⇑P P 02 07 32.4 +0.1
baz=84
R25A Fountain Ranch 83.58 48 ⇑P P 02 07 31.5 -0.9
baz=84,SNR=6.8
N23A Red Feather La 83.60 45 ⇓P P 02 07 31.9 -0.7
baz=84
V27A Dan Oppiter Fa 83.67 51 ⇓P P 02 07 32.9 0.0
baz=84
632A Uvalde 83.69 57 ⇓P P 02 07 33.2 +0.2
baz=84
L22A Ellis Ranch, M 83.77 44 ⇑P P 02 07 33.3 -0.2
baz=84
532A Rocksprings 83.81 57 ⇓P P 02 07 33.8 +0.1
baz=84
331A San Angelo 83.83 55 ⇑P P 02 07 33.7 0.0
baz=84
COLD Coldfoot 83.83 9 eP P 02 07 32.7 -0.1
comp=Z,24nm,1.6s
O24A Longmont 83.86 46 ⇓P P 02 07 33.8 -0.1
baz=84
H20A Greybull 83.88 41 ⇓P P 02 07 33.4 -0.4
baz=84
130A Snyder 83.88 54 ⇓P P 02 07 34.2 +0.2
baz=84
Q25A Bedland, Calha 83.93 47 ⇑P P 02 07 33.9 -0.4
baz=84
F19A Roth Farm, Mol 83.94 39 ⇑P P 02 07 33.4 -0.6
baz=84,SNR=9.6
U27A Thompson Grove 83.94 50 ⇓P P 02 07 33.9 -0.4
baz=84
S26A Kim 83.95 49 ⇓P P 02 07 33.3 -1.0
baz=84,SNR=7.3
K22A Casper 83.99 43 ⇓P P 02 07 34.0 -0.5
baz=84
M23A Laramie 84.00 44 ⇑P P 02 07 34.0 -0.7
baz=84
X29A Tulia 84.01 52 ⇓P P 02 07 34.1 -0.6
baz=84
I21A Big Trails, Te 84.02 42 ⇑P P 02 07 33.2 -1.3
baz=84,SNR=11
231A Bronte 84.14 55 ⇑P P 02 07 35.5 +0.1
baz=84
P25A Willow Gulch B 84.24 47 ⇑P P 02 07 35.3 -0.5
baz=84
R26A Arlington 84.25 48 ⇑P P 02 07 34.9 -0.9
baz=84,SNR=16
T27A Campo 84.27 49 ⇓P P 02 07 35.1 -0.9
baz=84,SNR=5.2
N24A Carr 84.30 45 ⇑P P 02 07 35.9 -0.2
baz=84
L23A Garrett 84.30 44 ⇓P P 02 07 35.5 -0.7
baz=84
W29A Amraillo 84.31 52 ⇓P P 02 07 36.1 -0.1
baz=84
E19A Rath Farm, Rou 84.32 39 ⇓P P 02 07 35.5 -0.5
baz=84,SNR=8.0
131A Roby 84.36 54 ⇑P P 02 07 36.3 -0.1
baz=84
J22A Midwest 84.36 42 ⇓P P 02 07 35.2 -1.1
baz=84,SNR=14
332A Millersview 84.40 56 ⇓P P 02 07 36.8 +0.2
baz=84
F20A Billings 84.40 40 ⇑P P 02 07 36.4 0.0
baz=84
Y30A Stafford Cattl 84.41 53 ⇓P P 02 07 36.5 -0.1
baz=85
Q26A Hugo 84.45 47 ⇓P P 02 07 36.8 -0.1
baz=85
H21A Big Horn, Sher 84.55 41 ⇓P P 02 07 37.2 0.0
baz=85
I22A 9 Mile Ranch, 84.57 42 ⇓P P 02 07 36.6 -0.8
baz=85,SNR=7.9
D19A Cripps Ranch, 84.61 38 ⇓P P 02 07 37.1 -0.2
baz=85,SNR=5.7
M24A Cheyenne 84.61 45 ⇓P P 02 07 37.2 -0.5
baz=85
K23A Bowen Ranch, D 84.63 43 ⇓P P 02 07 37.3 -0.4
baz=85
232A Coleman 84.66 55 ⇑P P 02 07 37.5 -0.5
baz=85
R27A Eads 84.71 48 ⇑P P 02 07 37.5 -0.6
baz=85,SNR=6.5
G21A Lodge Grass 84.72 41 ⇑P P 02 07 37.6 -0.4
baz=85
E20A Meyer Farm, Mu 84.74 39 ⇓P P 02 07 37.7 -0.3
baz=85
T28A Walsh 84.74 50 ⇓P P 02 07 37.7 -0.6
baz=85
C19A Slack Wire Ran 84.78 38 ⇑P P 02 07 37.5 -0.7
baz=85,SNR=8.4
Z31A Sharp Cattle R 84.79 54 ⇓P P 02 07 38.5 -0.1
baz=85
ABTX Abilene, Hawle 84.92 54 eP P 02 07 38.3 -0.9
ABTX Abilene, Hawle 84.92 54 ⇑P P 02 07 39.2 -0.1
baz=85
Y31A Rekieta Farm, 84.93 53 ⇓P P 02 07 39.2 -0.1
baz=85
D20A Manuel Ranch, 85.02 39 ⇓P P 02 07 39.0 -0.4
baz=85,SNR=6.9
K24A Anderson Ranch 85.15 44 ⇓P P 02 07 40.3 0.0
baz=85
B19A Brinkman Farms 85.19 37 ⇓P P 02 07 39.4 -0.8
baz=85,SNR=11
Z32A Haskell 85.30 54 ⇓P P 02 07 40.9 -0.2
baz=85
C20A Veseth Ranch, 85.39 38 ⇑P P 02 07 41.0 -0.3
baz=86,SNR=7.4
X31A McDonald Ranch 85.40 52 ⇓P P 02 07 41.4 -0.2
baz=86
R28A Tribune 85.44 48 ⇓P P 02 07 41.6 -0.2
baz=86,SNR=5.1
A19A Klindworth Far 85.54 37 ⇓P P 02 07 42.0 +0.1
baz=86
F22A Rosebud 85.56 40 ⇑P P 02 07 42.4 +0.2
baz=86
Y32A R-V Farms, Ver 85.58 53 ⇑P P 02 07 42.6 +0.1
baz=86
U30A WK&E Inc. Balk 85.60 51 ⇓P P 02 07 42.4 -0.2
baz=86
W31A Holland Ranch, 85.63 52 ⇑P P 02 07 42.3 -0.5
baz=86
D21A La Casta Ranch 85.70 39 ⇓P P 02 07 42.3 -0.6
baz=86
O27A Beecher Island 85.70 47 ⇓P P 02 07 43.2 +0.1
baz=86
B20A Solberg Farm, 85.72 37 ⇑P P 02 07 42.2 -0.7
baz=86
V31A Spring Creek L 85.92 51 ⇑P P 02 07 44.6 +0.4
baz=86
A20A Cobblestone Ra 85.99 37 ⇑P P 02 07 43.9 -0.3
baz=86,SNR=9.7
F23A Volborg 86.07 41 ⇑P P 02 07 45.0 +0.3
baz=86
H24A Dirks Ranch, A 86.19 42 ⇑P P 02 07 44.8 -0.6
baz=86,SNR=7.4
D22A Cohagen 86.23 39 ⇓P P 02 07 46.0 +0.6
baz=86
K26A Motz Farm, Whi 86.24 44 ⇑P P 02 07 45.9 +0.3
baz=86
RSSD Black Hills 86.26 43 eP P 02 07 44.9 -1.0
RSSD pmax pmax
comp=Z,93nm,1.5s
RSSD Black Hills 86.26 43 eP P 02 07 44.9 -1.0
comp=Z,93nm,1.5s
B21A Ellsworth Farm 86.31 38 ⇓P P 02 07 45.6 -0.1
baz=86
I25A Rochford 86.42 43 ⇓P P 02 07 46.7 0.0
baz=87
WHTX Lake Whitney 86.43 56 eP P 02 07 46.1 -0.6
WHTX Lake Whitney 86.43 56 ⇑P P 02 07 47.3 +0.6
baz=87
E23A Ismay 86.48 40 ⇓P P 02 07 47.1 +0.5
baz=87
T31A Randall Ranch, 86.53 50 ⇑P P 02 07 47.4 +0.3
baz=87
A21A Bergtoll Ranch 86.62 37 ⇓P P 02 07 47.3 0.0
baz=87
C22A Vida 86.68 39 ⇑P P 02 07 47.6 0.0
baz=87
D23A Lindsay 86.83 39 ⇓P P 02 07 48.3 -0.2
baz=87
B22A Reddig Ranch S 86.86 38 ⇓P P 02 07 49.2 +0.7
baz=87
HKT Hockley 87.06 58 eP P 02 07 50.1 +0.3
HKT pmax pmax
comp=Z,48nm,1.6s
HKT Hockley 87.06 58 eP P 02 07 50.1 +0.3
comp=Z,48nm,1.6s
B23A Brockton 87.53 38 ⇓P P 02 07 52.0 +0.3
baz=88
GYA Guiyang 87.83 298 eP P 02 07 56.8 +3.0
GYA PP PP 02 11 24.5 +4.4
GYA SKS SKSac 02 18 21.3 +0.9
GYA SS SS 02 24 27.5 +4.7
GYA AMB AMB
comp=Z,20nm,1.0s
GYA AMB AMB
comp=Z,120nm,6.0s
GYA LR LR
comp=Z,580nm,21.2s
GYA LR LR
comp=Z,470nm,22.4s
GYA LR LR
comp=Z,560nm,20.8s
INK Inuvik 87.96 14 eP P 02 07 52.5 -0.8
INK Inuvik 87.96 14 P P 02 07 52.7 -0.5
comp=Z,2.2nm,0.9s,baz=216,slow=5.7,SNR=4.5
MAW Mawson 88.08 199 P P 02 07 54.0 0.0
MAW Mawson 88.08 199 P P 02 07 54.0 0.0
comp=Z,3.3nm,0.7s,baz=123,slow=6.0,SNR=8.8
XAN Xi'an 88.38 306 P P 02 07 56.5 +0.4
XAN AMB AMB
comp=Z,2.0nm,1.3s
HHC Hu-ho-hao-te 88.75 313 eP P 02 07 59.9 +2.1
HHC SKS SKSac 02 18 22.6 -2.7
HHC S S 02 18 42.2 -0.9
HHC sS sS 02 18 56.8 -2.3
HHC AMB AMB
comp=Z,46nm,1.2s
HHC AMB AMB
comp=Z,790nm,5.5s
HHC LR LR
comp=Z,200nm,16.2s
HHC LR LR
comp=Z,450nm,15.2s
HHC LR LR
comp=Z,480nm,17.1s
YKA Yellowknife Ar 89.82 23 P P 02 08 01.3 -0.8
YKA Yellowknife Ar 89.82 23 P P 02 08 01.3 -0.8
comp=Z,2.1nm,0.8s,baz=250,slow=4.6,SNR=4.8
A28A Rude Farm, Bot 90.57 39 ⇓P P 02 08 06.8 +0.8
baz=91
MDND Maddock 90.58 40 ⇑P P 02 08 06.7 +0.7
baz=91
TEIG Tepich 90.73 69 eP P 02 08 07.2 -0.1
comp=Z,55nm,1.8s
TEIG Tepich 90.73 69 P P 02 08 07.3 -0.1
comp=Z,3.6nm,0.3s,baz=297,slow=2.3,SNR=4.2
KMI Kunming 90.82 296 P P 02 08 10.9 +2.9
KMI AMB AMB
comp=Z,9.0nm,0.5s
B29A Wagenman Farm, 90.96 40 ⇓P P 02 08 08.3 +0.4
baz=91
JTS JuntasAbangare 91.22 80 eP P 02 08 09.5 -0.3
comp=Z,270nm,1.4s
JTS JuntasAbangare 91.22 80 P P 02 08 09.6 -0.2
comp=Z,6.2nm,0.9s,baz=222,slow=8.4,SNR=4.2
CD2 Chengdu 91.58 301 P P 02 08 13.8 +2.6
CD2 AMB AMB
comp=Z,10.0nm,0.5s
CMAR Chiang Mai Arr 92.45 288 P P 02 08 16.3 +0.9
CMAR Chiang Mai Arr 92.45 288 P P 02 08 16.3 +0.9
comp=Z,0.9nm,0.4s,baz=122,slow=6.8,SNR=2.8
SYO Syowa Base 92.91 191 ⇑eP P 02 08 17.2 +0.7
LZH Lanzhou 92.97 306 eP P 02 08 21.8 +4.2
LZH pP pP 02 08 26.1 -1.2
LZH sP sP 02 08 28.4 -2.4
LZH AMB AMB
comp=Z,13nm,1.0s
OXF Oxford 93.62 55 eP P 02 08 19.7 -0.7
OXF pmax pmax
comp=Z,12nm,0.7s
OXF Oxford 93.62 55 eP P 02 08 19.7 -0.7
comp=Z,12nm,0.7s
SONM Songino Array 94.55 318 P P 02 08 24.7 +0.2
SONM Songino Array 94.55 318 P P 02 08 24.7 +0.2
comp=Z,0.9nm,1.1s,baz=124,slow=7.2,SNR=6.7
CFAA Coronel Fontan 94.70 124 P P 02 08 26.4 +0.8
CFAA Coronel Fontan 94.70 124 P P 02 08 26.4 +0.8
comp=Z,0.4nm,0.9s,baz=247,slow=5.3,SNR=5.4
KURK Kurchatov 112.85 319 i PKIKP PKiKP 02 13 40.0 -0.6
KURK Kurchatov 112.85 319 ePKP PKiKP 02 13 39.9 -0.6
BRVK Borovoye 117.63 322 ePKIKP PKPdf 02 13 50.2 +0.5
BRVK Borovoye 117.63 322 ePKPdf PKPdf 02 13 50.2 +0.5
ARU Arti 123.02 329 i PKIKP PKPdf 02 13 58.9 -1.0
ARU 02 15 39.2
ARU 02 20 59.7
ARU SS SS 02 32 19.3 -1.9
ARCES ARCESS Array B 124.27 352 PKP PKPdf 02 14 01.3 -0.7
ARCES ARCESS Array B 124.27 352 PKP PKPdf 02 14 01.3 -0.7
comp=Z,3.5nm,0.8s,baz=0.0,slow=0.9,SNR=7.6
ABKAR Akbulak array 124.92 320 ePKPdf PKPdf 02 14 03.8 0.0
KLMR Klimovskoe 128.46 340 ePKIKP PKPdf 02 14 08.0 -2.2
KLMR pmax pmax
comp=Z,34nm,1.4s
AKASG Malin Array Be 140.01 338 PKIKP PKPdf 02 14 31.4 -0.8
AKASG Malin Array Be 140.01 338 PKP PKPdf 02 14 31.4 -0.8
AKASG Malin Array Be 140.01 338 PKP PKPdf 02 14 31.3 -0.8
comp=Z,1.8nm,0.7s,baz=21,slow=1.8,SNR=11
KIEV Kiev 140.02 338 ePKIKP PKPdf 02 14 31.5 -0.6
KIEV Kiev 140.02 338 ePKPdf PKPdf 02 14 31.5 -0.6
CLL Collm 143.48 353 i PKIKP PKPdf 02 14 38.6 +0.3
CLL pmax pmax
comp=Z,3.0nm,0.7s
CLL Collm 143.48 353 ePKPbc PKPdf 02 14 37.4 -0.9
CLL Collm 143.48 353 i PKPdf PKPdf 02 14 38.6 +0.3
comp=Z,3.0nm,0.7s
CLL i pPKPdf PKiKP 02 14 40.1 -1.6
comp=Z,9.0nm,1.0s
MALT Malatya 143.58 316 ⇑PKIKP PKPdf 02 14 41.3 +2.2
MALT Malatya 143.58 316 ⇑iP PKPdf 02 14 41.3 +2.2
STHS Stebnicka Huta 143.69 344 ePKIKP PKPbc 02 14 36.2 -0.1
STHS Stebnicka Huta 143.69 344 ePKP PKPbc 02 14 36.2 -0.1
BRG Berggiesshubel 143.79 352 ePKP PKPdf 02 14 40.8 +1.9
comp=Z,3.9nm,0.9s
BRG Berggiesshubel 143.79 352 ePKIKP PKPdf 02 14 40.8 +1.9

BRG				pmax	pmax			
	comp=Z,4.0nm,1.0s							
KOLS	Kolonicke sedl	143.84	342	ePKIKP	PKPdf	02 14 39.9	+0.8	
KOLS	Kolonicke sedl	143.84	342	ePKP	PKPdf	02 14 39.9	+0.8	
DPC	Dobruska-Polom	143.92	349	ePKIKP	PKPbc	02 14 37.4	+0.4	
DPC	Dobruska-Polom	143.92	349	ePKP	PKPbc	02 14 37.4	+0.4	
PVCC	Panska Ves	144.03	351	ePKIKP	PKPdf	02 14 42.1	+2.8	
PVCC	Panska Ves	144.03	351	ePKP	PKPdf	02 14 42.1	+2.8	
OKC	Ostrava-Krasne	144.05	347	ePKIKP	PKPbc	02 14 38.1	+0.8	
OKC				e		02 14 42.9		
OKC	Ostrava-Krasne	144.05	347	ePKP	PKPbc	02 14 38.1	+0.8	
OKC				epPKP	PKiKP	02 14 42.9	0.0	
UZH	Uzhgorod	144.10	342	ePKIKP	PKPdf	02 14 40.2	+0.7	
UZH				i		02 14 53.8		
MORC	Moravsky Berou	144.24	348	ePKIKP	PKPbc	02 14 38.2	+0.2	
MORC	Moravsky Berou	144.24	348	ePKPdf	PKPbc	02 14 38.1	+0.2	
TRPA	Tarpa	144.47	341	⇓ePKPdf	PKPbc	02 14 39.0	+0.3	
PRU	Pruhonice	144.56	351	ePKIKP	PKPbc	02 14 39.0	+0.1	
PRU	Pruhonice	144.56	351	ePKP	PKPbc	02 14 39.0	+0.1	
PRU				epPKP	PKPdf	02 14 42.2	+1.9	
SNF	Seneffe	144.60	2	PKP	PKPdf	02 14 40.4	+0.1	
KECS	Kecovo	144.75	344	ePKIKP	PKPbc	02 14 40.2	+0.6	
KECS	Kecovo	144.75	344	ePKP	PKPbc	02 14 40.2	+0.6	
TNS	Taunus Mts	144.90	358	ePKIKP	PKPdf	02 14 40.7	-0.2	
TNS	Taunus Mts	144.90	358	ePKPbc	PKPdf	02 14 40.7	-0.2	
PLOR	Plostina	144.96	335	⇑PKIKP	PKPdf	02 14 41.7	+0.5	
PLOR	Plostina	144.96	335	⇑iP	PKPdf	02 14 41.7	+0.5	
ROTZ	Rotzenmuhle	145.08	354	ePKPbc	PKPdf	02 14 41.6	+0.4	
TREC	Trest	145.09	350	ePKIKP	PKPab	02 14 41.0	+0.3	
TREC	Trest	145.09	350	ePKP	PKPab	02 14 41.0	+0.3	
GRF	Grafenberg Arr	145.26	355	ePKIKP	PKPdf	02 14 42.0	+0.5	
GRF	Grafenberg Arr	145.26	355	ePKPbc	PKPdf	02 14 42.0	+0.5	
GRFO	Grafenberg	145.26	355	ePKIKP	PKPab	02 14 41.3	0.0	
GRFO	Grafenberg	145.26	355	ePKPdf	PKPab	02 14 41.3	0.0	
TIRR	Tirgusor	145.31	332	ePKIKP	PKPab	02 14 41.8	+0.1	
TIRR	Tirgusor	145.31	332	ePKPdf	PKPab	02 14 41.8	+0.1	
TLB	Topalu	145.38	333	⇑PKIKP	PKPdf	02 14 41.9	+0.1	
TLB	Topalu	145.38	333	⇑iP	PKPdf	02 14 41.9	+0.1	
PSZ	Piszkesteto	145.42	344	ePKIKP	PKPab	02 14 42.3	+0.2	
PSZ	Piszkesteto	145.42	344	⇑iP	PKPab	02 14 42.1	0.0	
PSZ	Piszkesteto	145.42	344	ePKPdf	PKPab	02 14 42.3	+0.2	
PSZ	Piszkesteto	145.42	344	⇓ePKPbc	PKPab	02 14 42.3	+0.2	
SMOL	Smolenice	145.46	347	ePKIKP	PKPab	02 14 42.2	+0.1	
SMOL	Smolenice	145.46	347	ePKP	PKPab	02 14 42.2	+0.1	
WLF	Walferdange	145.49	0	PKP	PKPab	02 14 42.7	+0.5	
WLF	Walferdange	145.49	0	ePKIKP	PKPab	02 14 42.2	0.0	
WLF	Walferdange	145.49	0	ePKPbc	PKPab	02 14 43.0	+0.8	
WLF	Walferdange	145.49	0	ePKPdf	PKPab	02 14 42.2	0.0	
MLR	Muntele Rosu	145.54	336	⇓iP	PKPab	02 14 42.9	+0.2	
KHC	Kasperske Hory	145.54	352	ePKIKP	PKPdf	02 14 41.7	-0.4	
KHC	Kasperske Hory	145.54	352	ePKP	PKPdf	02 14 41.7	-0.4	
KHC	Kasperske Hory	145.54	352	ePKPdf	PKPdf	02 14 41.2	-0.8	
DRGR		145.60	340	⇑PKIKP	PKPdf	02 14 42.3	0.0	
DRGR		145.60	340	⇑iP	PKPdf	02 14 42.3	0.0	
KMBO	Kilima Mbogo	145.62	245	ePKPbc	PKPdf	02 14 43.3	-0.2	
KMBO	Kilima Mbogo	145.62	245	PKPbc	PKPdf	02 14 43.4	-0.1	
	comp=Z,2.3nm,1.1s,baz=66,slow=24,SNR=6.2							
WET	Wettzell	145.62	353	ePKIKP	PKPdf	02 14 42.3	+0.1	
WET	Wettzell	145.62	353	ePKPbc	PKPdf	02 14 42.3	+0.1	
GEC2	GERESS Array S	145.80	352	ePKIKP	PKPdf	02 14 42.5	-0.1	
GEC2	GERESS Array S	145.80	352	ePKPbc	PKPdf	02 14 42.5	-0.1	
GERES	GERESS Array B	145.80	352	PKPbc	PKPdf	02 14 42.3	-0.3	
GERES	GERESS Array B	145.80	352	PKPdf	PKPdf	02 14 42.3	-0.3	
	comp=Z,5.1nm,1.1s,baz=45,slow=2.3,SNR=16							
ZST	Bratislava	145.83	347	ePKIKP	PKPab	02 14 44.4	+1.0	
ZST	Bratislava	145.83	347	ePKP	PKPab	02 14 44.4	+1.0	
BR131	Keskin Array S	145.86	321	ePKPbc	PKPdf	02 14 42.9	-0.2	
BRTR	Keskin Array B	145.86	321	PKPbc	PKPdf	02 14 43.2	+0.2	
BRTR	Keskin Array B	145.86	321	PKPdf	PKPdf	02 14 43.2	+0.2	
	comp=Z,9.2nm,0.9s,baz=105,slow=2.2,SNR=32							
VOIR		145.93	336	⇑PKIKP	PKPab	02 14 44.1	0.0	
VOIR		145.93	336	⇑iP	PKPab	02 14 44.0	0.0	
BUD	Budapest	146.05	345	⇓ePKPdf	PKPab	02 14 44.5	+0.2	
ARR	Arges	146.15	337	⇓iP	PKPab	02 14 45.1	+0.2	
LANF	Langenberg	146.16	358	PKP	PKPab	02 14 44.9	+0.2	
ANTO	Ankara	146.27	322	ePKP2	PKPbc	02 14 44.6	-0.2	
ANTO	Ankara	146.27	322	⇑iP	PKPbc	02 14 44.5	-0.2	
ANTO	Ankara	146.27	322	ePKPbc	PKPbc	02 14 44.6	-0.2	
PKSG		146.29	345	⇓ePKPdf	PKPdf	02 14 42.8	-0.5	
STU	Stuttgart	146.32	357	ePKP2	PKPab	02 14 46.1	+0.8	
STU	Stuttgart	146.32	357	ePKPbc	PKPab	02 14 45.4	+0.1	
STU	Stuttgart	146.32	357	ePKPdf	PKPab	02 14 46.1	+0.8	
CONA	Conrad Observa	146.33	349	⇑iPKPab	PKPdf	02 14 43.8	+0.3	
	comp=Z,49nm,1.3s,SNR=13							
PKSN	Nyarlorinc	146.37	343	⇓e	PKPab	02 14 47.9	+2.4	
SIRR	Siria	146.41	341	⇑iP	PKPdf	02 14 43.7	+0.1	
PKS7	Kunszentmiklos	146.42	344	⇓e	PKPbc	02 14 44.7	-0.1	
SOP	Sopron	146.43	348	⇓e	PKPab	02 14 46.7	+1.0	
PKST	T"s	146.50	346	⇓e	PKPbc	02 14 44.6	-0.5	
MOA	Molln	146.69	350	⇑iPKPdf	PKPdf	02 14 42.4	-1.6	
	comp=Z,29nm,1.4s,SNR=8.9							
FUR	Furstenfeldbru	146.76	354	ePKP2	PKPab	02 14 47.2	+0.1	
FUR	Furstenfeldbru	146.76	354	ePKPbc	PKPab	02 14 47.2	+0.1	
BFO	Black Forest	146.80	358	ePKP2	PKPbc	02 14 45.6	-0.4	
BFO	Black Forest	146.80	358	ePKPbc	PKPbc	02 14 45.6	-0.4	
BFO	Black Forest	146.80	358	ePKPdf	PKPbc	02 14 45.4	-0.6	
GZR	Gura Zlata	146.81	339	⇓PKIKP	PKPdf	02 14 44.0	-0.4	
GZR	Gura Zlata	146.81	339	⇓iP	PKPdf	02 14 44.0	-0.4	
PKS2	Kecel	146.92	344	⇓e	PKPbc	02 14 46.2	-0.1	
THEF	They Montfort	146.93	1	PKP	PKPbc	02 14 46.7	+0.4	
ECH	Echery	146.94	359	ePKP2	PKPbc	02 14 46.4	0.0	
ECH	Echery	146.94	359	ePKPbc	PKPbc	02 14 46.4	0.0	
BZS	Buzias	147.00	340	⇑PKP2	PKPab	02 14 48.1	0.0	
BZS	Buzias	147.00	340	⇑iP	PKPab	02 14 48.0	0.0	
RJOB	Jochberg	147.01	352	ePKPbc	PKPbc	02 14 47.4	+0.8	
PKS9	Tamasi	147.07	345	⇑e	PKPbc	02 14 47.3	+0.6	
FELD	Feldberg im Sc	147.26	358	PKP	PKPbc	02 14 48.0	+0.6	
MOF	Molkenrain	147.31	359	PKP	PKPbc	02 14 47.7	+0.2	
RETA	Reutte	147.48	355	⇑iPKPbc	PKPdf	02 14 46.8	+1.3	
	comp=Z,25nm,1.2s,SNR=6.2							
BEHE	Becsehely	147.54	347	⇑e	PKPdf	02 14 45.2	-0.2	
MOTA	Moosalm	147.59	354	⇑iPKPdf	PKPdf	02 14 44.6	-1.1	
	comp=Z,28nm,1.2s,SNR=7.1							
SOKA	Soboth	147.69	349	⇓iPKPdf	PKPdf	02 14 45.1	-0.7	
	comp=Z,40nm,1.3s,SNR=11							
DAVA	Damuels	147.75	356	⇑ipPKPdf	PKPbc	02 14 48.1	-0.7	
	comp=Z,50nm,1.8s,SNR=13							
FETA	Feichten	147.95	355	⇓iPKPdf	PKPdf	02 14 46.1	-0.2	
	comp=Z,33nm,1.3s,SNR=8.3							
MYKA	Terra Mystica	147.97	351	⇑iPKPbc	PKPdf	02 14 47.5	+1.3	
	comp=Z,22nm,1.1s,SNR=5.1							
ABTA	Abfaltersbach	148.02	352	⇑iPKPdf	PKPdf	02 14 46.1	-0.3	
	comp=Z,27nm,1.1s,SNR=6.3							
TUE	Stuetta	148.60	356	ePKPdf	PKPdf	02 14 48.3	+0.8	
TUE				ePKPbc	PKPbc	02 14 51.9	+0.7	
TUE				ePKPab	PKPab	02 14 54.4	-0.2	
CSS	Prodhromos	148.82	314	P	PKPdf	02 14 49.2	+1.2	
CSS	Prodhromos	148.82	314	ePKPbc	PKPbc	02 14 51.5	-0.4	
DIVS	Divibare	148.87	341	P	PKPdf	02 14 47.3	-0.5	
AGO	Saint Agoulin	148.98	5	PKP	PKPbc	02 14 52.3	+0.4	
VTS	Vitosha	149.04	335	P	PKPbc	02 14 51.5	-1.1	
VTS	Vitosha	149.04	336	PKP2	PKPbc	02 14 51.2	-1.1	
VTS	Vitosha	149.04	336	⇑iP	PKPbc	02 14 52.3	0.0	
VTS	Vitosha	149.04	336	P	PKPbc	02 14 51.2	-1.1	
PLDF	La Plantade	149.10	4	PKP	PKPbc	02 14 53.0	+0.7	
ALN	Alexandroupoli	149.17	330	eP	PKPbc	02 14 50.9	-1.6	
RDO	Rodhopi	149.22	331	P	PKPdf	02 14 47.5	-0.8	
RDO	Rodhopi	149.22	331	eP	PKPdf	02 14 48.9	+0.6	
RDO	Rodhopi	149.22	331	P	PKPdf	02 14 47.5	-0.8	
PYM	Petit Puy Mans	149.27	5	PKP	PKPbc	02 14 51.3	-1.4	
SMTH	Samothraki Isl	149.75	330	eP	PKPbc	02 14 52.3	-1.7	
NVR	Nevrokopi	149.80	334	P	PKPbc	02 14 52.3	-1.8	
NVR	Nevrokopi	149.80	334	eP	PKPdf	02 14 51.1	+1.7	
NVR	Nevrokopi	149.80	334	P	PKPbc	02 14 52.3	-1.8	
SSB	Saint Sauveur	149.84	3	ePKP2	PKPbc	02 14 55.2	+1.1	
SSB	Saint Sauveur	149.84	3	ePKPbc	PKPbc	02 14 55.2	+1.1	
BNI	Bardonecchia	150.11	360	ePKP2	PKPbc	02 14 56.1	+1.2	
BNI	Bardonecchia	150.11	360	ePKPbc	PKPbc	02 14 56.1	+1.2	
PRK	Paraskevi	150.32	328	P	PKPbc	02 14 54.3	-1.1	
PRK	Paraskevi	150.32	328	PKHKP	PKPbc	02 14 54.3	-1.1	
PRK	Paraskevi	150.32	328	eP	PKPbc	02 14 54.4	-1.0	
PRK	Paraskevi	150.32	328	P	PKPbc	02 14 54.3	-1.1	
LIA	Limnos Island	150.36	330	P	PKPbc	02 14 54.0	-1.4	
LIA	Limnos Island	150.36	330	eP	PKPbc	02 14 54.3	-1.1	
LIA	Limnos Island	150.36	330	P	PKPbc	02 14 54.0	-1.4	
SOH	Sokhos	150.46	334	eP	PKPbc	02 14 56.2	+0.5	
OUR	Ouranopolis	150.58	332	P	PKPbc	02 14 55.0	-0.9	
OUR	Ouranopolis	150.58	332	PKIKP	PKPbc	02 14 55.0	-0.9	
OUR	Ouranopolis	150.58	332	P	PKPbc	02 14 55.0	-0.9	
GRG	Griva	150.75	335	eP	PKPbc	02 14 55.0	-1.4	
PLG	Polygyros	150.78	333	eP	PKPbc	02 14 53.9	-2.6	
POLO	Lamas de Olo	150.99	23	ePKPbc	PKPbc	02 14 59.0	+2.0	
CHOS	Chios island	151.08	327	P	PKPbc	02 14 55.5	-1.8	
CHOS	Chios island	151.08	327	eP	PKPbc	02 14 56.4	-0.9	
CHOS	Chios island	151.08	327	P	PKPbc	02 14 55.5	-1.8	
TOUF	Mont Tournerai	151.14	359	PKP	PKPbc	02 14 59.2	+1.8	
SMG	Samos	151.15	325	eP	PKPbc	02 14 56.2	-1.2	
AUTN	L'Aution	151.16	359	PKP	PKPbc	02 14 59.2	+1.7	
SAOF	Saorge	151.16	358	PKP	PKPbc	02 14 59.0	+1.7	
LUCF	Luceram	151.26	359	PKP	PKPbc	02 14 59.4	+1.8	
FNA	Florina	151.30	336	P	PKPbc	02 14 56.2	-1.5	
FNA	Florina	151.30	336	PKIKP	PKPbc	02 14 56.2	-1.5	
FNA	Florina	151.30	336	eP	PKPbc	02 14 55.9	-1.8	
FNA	Florina	151.30	336	P	PKPbc	02 14 56.2	-1.5	
CALN	Calern	151.41	359	PKP	PKPbc	02 15 00.7	+2.7	
LIT	Litokhoron	151.42	334	P	PKPbc	02 14 56.9	-1.1	
LIT	Litokhoron	151.42	334	PKIKP	PKPbc	02 14 56.9	-1.1	
LIT	Litokhoron	151.42	334	eP	PKPbc	02 14 57.3	-0.7	
LIT	Litokhoron	151.42	334	P	PKPbc	02 14 56.9	-1.1	
ARG	Arkhangelos	151.44	321	P	PKPbc	02 14 57.4	-0.7	
ARG	Arkhangelos	151.44	321	PKIKP	PKPbc	02 14 57.4	-0.7	
ARG	Arkhangelos	151.44	321	eP	PKPbc	02 15 01.0	+2.9	
ARG	Arkhangelos	151.44	321	P	PKPbc	02 14 57.4	-0.7	
MVO	Moncorvo	151.46	22	ePKPbc	PKPbc	02 14 58.4	+0.3	
NIS1	Nisyros Isl.	151.74	323	P	PKPbc	02 14 58.3	-0.5	
NIS1	Nisyros Isl.	151.74	323	eP	PKPbc	02 14 57.6	-1.2	
NIS1	Nisyros Isl.	151.74	323	P	PKPbc	02 14 58.3	-0.5	
NEO	Neokhori	151.75	332	P	PKPdf	02 14 52.9	+0.5	
NEO	Neokhori	151.75	332	eP	PKPbc	02 14 57.3	-1.5	
NEO	Neokhori	151.75	332	P	PKPdf	02 14 52.9	+0.5	
PCAS	Casmilo, Conde	151.85	25	ePKPbc	PKPbc	02 15 01.3	+2.4	
MTE	Manteigas	151.93	23	ePKPbc	PKPbc	02 15 00.8	+1.6	
MTE	Manteigas	151.93	23	ePKPdf	PKPdf	02 14 53.7	+1.0	
MTE				ePKPbc	PKPbc	02 14 59.3	+0.1	
MTE				ePKPab	PKPab	02 15 07.0	-1.4	
THL	Klokotos Trika	152.07	334	eP	PKPdf	02 14 53.3	+0.5	
APE	Apeiranthos	152.33	326	P	PKPbc	02 14 57.4	-2.8	
APE	Apeiranthos	152.33	326	PKIKP	PKPbc	02 14 57.4	-2.8	
APE	Apeiranthos	152.33	326	eP	PKPbc	02 14 57.6	-2.6	
APE	Apeiranthos	152.33	326	P	PKPbc	02 14 57.4	-2.8	
AGG	Agios Georgios	152.38	333	eP	PKPbc	02 14 58.6	-1.6	
AXAR	Agios Charalam	152.45	332	P	PKPbc	02 15 00.3	0.0	
AXAR	Agios Charalam	152.45	332	P	PKPbc	02 15 00.3	0.0	
PTL	Penteli	152.45	329	P	PKPdf	02 14 53.0	-0.5	
PTL	Penteli	152.45	329	eP	PKPdf	02 14 52.9	-0.5	
PTL	Penteli	152.45	329	P	PKPdf	02 14 53.0	-0.5	
KARP	Karpathos	152.47	322	P	PKPbc	02 14 59.4	-1.1	
KARP	Karpathos	152.47	322	eP	PKPbc	02 14 58.8	-1.7	
KARP	Karpathos	152.47	322	P	PKPbc	02 14 59.4	-1.1	
MAKR	Makrakomi, Fth	152.48	333	P	PKPbc	02 14 59.5	-0.9	
MAKR	Makrakomi, Fth	152.48	333	P	PKPbc	02 14 59.5	-0.9	
EVR	Evrytania	152.70	333	P	PKPdf	02 14 57.0	+3.1	
EVR	Evrytania	152.70	333	eP	PKPbc	02 14 59.8	-1.2	
EVR	Evrytania	152.70	333	P	PKPdf	02 14 57.0	+3.1	
PMTG	Montargil	152.79	26	ePKPbc	PKPbc	02 15 01.4	+0.3	
PMRV	Marv??o	152.83	24	ePKPbc	PKPbc	02 15 03.5	+2.3	
LTK	Loutraki	152.90	331	eP	PKPdf	02 14 54.8	+0.7	
KALE	Kalithea	152.99	332	eP	PKPbc	02 15 01.5	-0.1	
TRIZ	Trizonia	153.04	332	eP	PKPbc	02 15 05.0	+3.4	
EFP	Efpalio	153.06	333	eP	PKPbc	02 15 01.5	-0.2	
PSA1	Psathopyrgos	153.16	333	eP	PKPbc	02 15 02.5	+0.6	
DID	Didima	153.18	330	eP	PKPbc	02 15 00.4	-1.6	
DIDY	Didyma	153.22	330	P	PKPdf	02 14 53.3	-1.4	
GUR	Goura	153.26	331	eP	PKPbc	02 15 01.2	-1.1	
VLX	Vlachokerasia	153.70	331	eP	PKPbc	02 15 04.7	+1.4	
LAST	Lasithi	153.73	323	P	PKPbc	02 15 00.6	-2.8	
LAST	Lasithi	153.73	323	eP	PKPab	02 15 15.4	-0.7	
LAST	Lasithi	153.73	323	P	PKPbc	02 15 00.6	-2.8	
ESDC	Sonseca Array	153.82	19	PKPbc	PKPbc	02 15 03.0	-0.4	
ESDC				PKPab	PKPab	02 15 14.9	-1.4	
ESDC	Sonseca Array	153.82	19	PKPbc	PKPbc	02 15 03.0	-0.4	
	comp=Z,1.1nm,0.9s,baz=327,slow=2.2,SNR=8.6							
ESDC				PKPab	PKPab	02 15 14.9	-1.4	
	comp=Z,1.1nm,0.8s,baz=327,slow=3.8,SNR=6.8							
VLI	Veliai	153.95	329	eP	PKPbc	02 15 01.7	-2.0	
IDI	Anoyia	153.98	324	P	PKPdf	02 14 55.6	-0.2	
IDI	Anoyia	153.98	324	eP	PKPbc	02 15 03.7	-0.2	
IDI	Anoyia	153.98	324	ePKPdf	PKPdf	02 14 56.0	+0.2	
IDI				ePKPbc	PKPbc	02 15 03.5	-0.4	
SIVA	Sivas	154.22	324	eP	PKPbc	02 15 06.1	+1.8	
PYL	PYLOS	154.39	331	eP	PKPdf	02 14 54.9	-1.4	
TORD	Torodi Ar. Bea	174.94	112	PKP	PKPdf	02 15 12.8	-1.9	
TORD				PKPab	PKPab	02 16 48.7	-0.9	
TORD	Torodi Ar. Bea	174.94	112	PKP	PKPdf	02 15 12.8	-1.9	
	comp=Z,3.0nm,1.1s,baz=319,slow=3.8,SNR=8.8							
TORD				PKPab	PKPab	02 16 48.7	-0.9	
	comp=Z,0.7nm,1.0s,baz=243,slow=4.7,SNR=3.7							

*ATH **02** 01:58:16.9,33.80N×25.61E,h9km±2km,MD3.6/7*
*CSEM **02** 01:58:24.5±0.5,34.26N×25.60E,h5km,ML2.6/1,Error ellipse: s-maj=10.8km s-min=4.8km az=13.0*
*THE **02** 01:58:27.4,34.45N×25.64E,h0km±2km,ML2.6/1,Error ellipse: s-maj=4.8km s-min=1.3km az=189.0*

ISC 02 01:58:17.7±2.8,33.9N±0.1×25.62E±0.04,h16km±10km, n33,σ1§45/42,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAST	Lasithi	1.31	355	P	Pb	01 58 42.0	0.0
LAST				S	Sb	01 58 52.9	-5.8
LAST	Lasithi	1.31	355	ePG	Pg	01 58 42.2	-0.8
LAST				eSB	Sg	01 59 01.5	+1.4
LAST	Lasithi	1.31	355	P	Pb	01 58 42.0	0.0
LAST				S	Sb	01 58 52.9	-5.8
SIVA	Sivas	1.34	330	P	Pg	01 58 44.3	+0.7
SIVA				S	Sb	01 58 58.6	-0.9
SIVA	Sivas	1.34	330	ePB	Pg	01 58 43.2	-0.4
SIVA				eSB	Sg	01 59 01.8	+0.8
SIVA	Sivas	1.34	330	ePb	Pg	01 58 43.2	-0.4
SIVA	Sivas	1.34	330	P	Pg	01 58 44.3	+0.7
SIVA				S	Sb	01 58 58.6	-0.9
SIVA				eSb	Sg	01 59 01.8	+0.8
ZKR	Zakros	1.35	21	P	Pg	01 58 43.1	-0.7
ZKR	Zakros	1.35	21	ePG	Pg	01 58 43.1	-0.7
ZKR				eSB	Sg	01 59 02.2	+0.9
ZKR	Zakros	1.35	21	P	Pg	01 58 43.1	-0.7
NPS	Neapolis	1.40	360	P	Pb	01 58 43.5	-0.1
NPS	Neapolis	1.40	360	ePB	Pb	01 58 43.6	-0.1
NPS				eSB	Sg	01 59 03.3	+0.2
NPS	Neapolis	1.40	360	P	Pb	01 58 43.5	-0.1
IDI	Anoyia	1.55	337	P	Pg	01 58 47.6	0.0
IDI				S	Sn	01 59 02.2	-2.5
IDI	Anoyia	1.55	337	ePG	Pg	01 58 46.6	-1.0
IDI	Anoyia	1.55	337	ePg	Pg	01 58 46.6	-1.0
IDI	Anoyia	1.55	337	P	Pg	01 58 47.6	0.0
IDI				S	Sn	01 59 02.2	-2.5
VAM	Vamos	1.94	323	ePN	Pg	01 58 53.2	-1.8
VAM	Vamos	1.94	323	ePn	Pg	01 58 53.2	-1.8
KARP	Karpathos	2.11	36	P	Pg	01 58 56.6	-1.7
KARP				S	Sn	01 59 19.3	+0.8
KARP	Karpathos	2.11	36	ePN	Pb	01 58 56.0	+0.3
KARP	Karpathos	2.11	36	ePn	Pb	01 58 56.0	+0.3
KARP	Karpathos	2.11	36	P	Pg	01 58 56.6	-1.7
KARP				S	Sn	01 59 19.3	+0.8
THR3	Thira Island,	2.56	356	P	Pb	01 59 01.4	-1.8
THR3	Thira Island,	2.56	356	P	Pb	01 59 01.4	-1.8
NIS3	Nisyros Isl.	2.99	24	P	Pn	01 59 07.2	+2.7
NIS2	Nisyros Isl.	3.00	25	P	Pb	01 59 07.7	-3.2
NIS1	Nisyros Isl.	3.02	24	P	Pb	01 59 08.0	-3.2
NIS1	Nisyros Isl.	3.02	24	P	Pb	01 59 08.0	-3.2
ARG	Arkhangelos	3.13	40	P	Pb	01 59 11.3	-1.7
ARG	Arkhangelos	3.13	40	P	Pb	01 59 11.3	-1.7
APE	Apeiranthos	3.21	359	P	Pn	01 59 10.2	+2.6
APE	Apeiranthos	3.21	359	P	Pn	01 59 10.2	+2.6

*IDC **02** 02:05:41.0±1.9, 15.14S×172.20W,h0km,mb4.1/6, mb1 4.4/6,mb1mx4.0/22,mbtmp4.1/6,Error ellipse: s-maj=116.5km s-min=21.9km az=146.0*
*NEIC **02** 02:05:42.2±0.3, 15.17S×172.22W,h10km,mb4.3/15, Error ellipse: s-maj=17.5km s-min=5.3km az=147.0*
*ISCJB **02** 02:05:44.4±0.5, 15.05S±0.1×172.4W±0.1, h35km,mb4.2/20, Error ellipse: s-maj=23.6km s-min=7.3km az=135.8*

ISC 02 02:05:46.2±0.7, 15.05S±0.2×172.3W±0.2, h35km, n51, σ0§81/53, mb4.2/20, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	1.16	26	ePn	Pn	02 06 01.9	-4.1
AFI				Sn	Sn	02 06 18.5	-2.2
AFI	Afiamalu	1.16	26	Pn	Pn	02 06 02.4	-3.6
	129nm,0.3s,baz=165,slow=1.6,SNR=7.4						
AFI				Sn	Sn	02 06 18.5	-2.2
	163nm,0.3s,baz=20,slow=24,SNR=8.0						
DZM	Mont Dzumac	21.35	247	eP	P	02 10 29.8	-0.9
	9.1nm,1.0s						
RPZ	Rata Peaks	32.00	203	eP	P	02 12 07.4	-1.8
	14nm,0.7s						
CTAO	Charters Tower	39.78	257	eP	P	02 13 15.6	-0.6
	6.5nm,1.1s						
PMG	Port Moresby	39.97	273	eP	P	02 13 18.5	+0.7
	13nm,0.9s						
WRAB	Tennant Creek	50.97	256	eP	P	02 14 43.6	-1.3
	4.6nm,1.2s						
WRA	Warramunga Arr	50.98	256	P	P	02 14 44.8	-0.2
WRA	Warramunga Arr	50.98	256	P	P	02 14 44.8	-0.2
	0.6nm,0.7s,baz=93,slow=7.1,SNR=5.2						
ASAR	Alice Springs	51.26	252	P	P	02 14 46.1	-0.9
ASAR	Alice Springs	51.26	252	P	P	02 14 46.1	-0.9
	3.5nm,0.7s,baz=85,slow=8.3,SNR=14						
KAPI	Kappang	67.44	271	eP	P	02 16 39.1	+0.2
	9.2nm,1.1s						
ISA	Isabella	71.59	44	eP	P	02 17 04.7	+0.4
	0.9nm,0.5s						
CMB	Columbia Colle	71.73	41	eP	P	02 17 05.1	+0.1
	1.9nm,0.9s						
YBH	Yreka Blue Hor	72.61	37	eP	P	02 17 10.

H11N3 **WAKE ISLAND Hy 39.63 331** T T 02 59 31.8
baz=152,slow=0.7,SNR=15
H11N1 **WAKE ISLAND Hy 39.64 331** T T 02 59 21.1
baz=152,slow=0.7,SNR=16
H11N2 **WAKE ISLAND Hy 39.65 331** T T 02 59 35.3
baz=152,slow=0.7,SNR=15
WRA Warramunga Arr 49.60 257 P P 02 18 50.2 -0.2
0.3nm,0.5s,baz=90,slow=7.0,SNR=12
ASAR Alice Springs 49.89 252 P P 02 18 52.1 -0.5
2.3nm,0.5s,baz=87,slow=7.8,SNR=35
NVAR **Mina Array Bea 74.40 42** P P 02 21 37.5 +0.3
0.4nm,0.7s,baz=229,slow=8.5,SNR=3.5
PDAR **Pinedale Array 82.34 42** P P 02 22 20.8 -0.3
0.3nm,0.5s,baz=190,slow=7.5,SNR=3.6
ILAR **Eielson Array 82.35 11** P P 02 22 19.2 -1.0
1.2nm,1.1s,baz=247,slow=7.9,SNR=4.8
BRTR **Keskin Array B 145.86 321** PKPbc PKPab 02 29 39.6 +0.4
1.1nm,0.9s,baz=186,slow=1.2,SNR=6.4
GERES **GERESS Array B 145.94 351** PKPbc PKPdf 02 29 37.9 -0.1
0.2nm,0.4s,baz=83,slow=4.2,SNR=3.8

SZGRF ***02*** *02:13:53.0, 16˚.63S×172˚.32W, h33km, Samoa Islands region*
BJI ***02*** *02:13:53.1, 15˚.40S×172˚.30W, h6km, mB5.5/9, mb5.0/20, Ms5.3/5, Ms7 4.9/5*
IDC ***02*** *02:13:54.8±0.5, 15˚.40S×172˚.20W, h0km, mb4.7/22, mb1 4.9/22, mb1mx4.7/31, mbtmp4.7/22, MS4.5/13, Ms1 4.6/13, ms1mx4.3/40, Error ellipse: s-maj=23.8km s-min=11.2km az=150.0*
ISCJB ***02*** *02:13:55.2±0.2, 15˚.41S±0˚.06×172˚.29W±0˚.04, h10km, mb4.9/97, MS4.6/15, Error ellipse: s-maj=9.9km s-min=4.4km az=151.4*
NEIC ***02*** *02:13:56.2±0.2, 15˚.44S×172˚.25W, h10km, mb4.9/68, Error ellipse: s-maj=9.7km s-min=3.6km az=148.0*
MOS ***02*** *02:13:59.1±1.4, 15˚.40S×172˚.27W, h33km, mb5.1/18, Error ellipse: s-maj=15.8km s-min=9.1km az=139.4*
GCMT ***02*** *02:14:01.5±0.4, 15˚.56S×171˚.79W, h31km±1km, MW5.3, Moment Tensor Solution. s17,c17; s64,c88; Moment tensor: Scale 10^{16}Nm; M_{rr}-4.65±.63; $M_{\theta\theta}$-1.70±.37; $M_{\phi\phi}$6.35±.39; $M_{r\theta}$-4.92±.57; $M_{\theta\phi}$1.22±.29; $M_{\phi r}$5.93±.51; Best double couple: $M_0$9.60000×10^{16} NP1:ϑ_s154.00000°, δ75.00000°, λ-116.00000°. NP2:ϑ_s36.00000°, δ30.00000°, λ-32.00000°. Principal axes: T 9.0000, Plg25.0000°, Azm264.0000°; N 1.2000, Plg25.0000°, Azm161.0000°; P -10.2000, Plg53.0000°, Azm32.0000°; Data Used: IU IC G II CN.*

ISC 02 02:13:57.5±0.5, 15˚.22S±0˚.06×172˚.26W±0˚.06, h16km±2km, h16km:pP-P,n520,σ1§14/522, mb4.9/97, MS4.7/15, 125C-119D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res	ISC
AFI	**Afiamalu**	**1.39**	**20**	*e*Pn	**Pn**	**02 14 19.6**	**-2.8**	
AFI				Sn	**Sn**	**02 14 38.1**	**-2.3**	
AFI	**Afiamalu**	**1.39**	**20**	Pn	**Pn**	**02 14 20.2**	**-2.2**	
	570nm,0.3s,baz=9.9,slow=2.0,SNR=52							
AFI				Sn	**Sn**	**02 14 38.1**	**-2.3**	
	6μm,0.3s,baz=143,slow=20,SNR=30							
AFI				LR	LR	02 15 01.5		
	comp=Z,5μm,20.8s,baz=20,slow=43							
MSVF	**Nonsavu**	**9.62**	**254**	*e*P	Pn	02 16 21.8	+6.3	
MSVF	**Nonsavu**	**9.62**	**254**	*e*Pn	Pn	02 16 21.8	+6.3	
RAR	**Rarotonga**	**13.28**	**118**	*e*Pn	Pn	02 16 55.8	-10	
	59nm,0.6s							
RAR	**Rarotonga**	**13.28**	**118**	Pn	Pn	02 16 56.3	-9.1	
	7.4nm,0.3s,baz=270,slow=6.4,SNR=10							
RAR				LR	LR	02 20 43.7		
	comp=Z,2μm,18.8s,baz=272,slow=31							
DZM	**Mont Dzumac**	**21.28**	**248**	*e*P	**P**	**02 18 44.0**	**+0.5**	
	98nm,1.2s							
DZM				*e*LR	LR	02 23 50.3		
	4μm,25.2s							
DZM	**Mont Dzumac**	**21.28**	**248**	*e*P	**P**	**02 18 41.2**	**-2.3**	
	29nm,0.8s							
DZM	**Mont Dzumac**	**21.28**	**248**	P	**P**	**02 18 41.3**	**-2.3**	
	30nm,0.8s,baz=70,slow=18,SNR=7.9							
DZM				LR	LR	02 25 00.8		
	comp=Z,229nm,21.4s,baz=296,slow=31							
PPT	**Papeete**	**21.89**	**99**	LR	LR	02 24 29.4		
	comp=Z,1μm,21.5s,baz=113,slow=29							
PPT2	**Papeete2**	**21.89**	**99**	*e*LQ	LQ	02 22 58.3		
	2μm,28.0s							
PPT2				*e*LR	LR	02 23 39.2		
	3μm,25.8s							
TVO	**Taravao**	**22.21**	**100**	*e*P	**P**	**02 18 51.7**	**-1.8**	
	165nm,1.1s							
XMAS	**Kiritimati**	**22.57**	**42**	*e*P	**P**	**02 18 59.0**	**+1.7**	
	50nm,1.0s							
TBI	**Tubuai**	**22.97**	**114**	*e*LQ	LQ	02 23 11.2		
	2μm,28.2s							
TBI				*e*LR	LR	02 24 13.5		
	2μm,26.2s							
PMOR	**Pomariorio Ree**	**23.53**	**93**	*e*P	**P**	**02 19 04.2**	**-2.9**	
	392nm,1.5s							
OUZ	**Omahuta**	**23.61**	**210**	*e*P	**P**	**02 19 09.3**	**+1.4**	
	49nm,0.8s							
URZ	**Urewera**	**24.79**	**200**	*e*P	**P**	**02 19 21.3**	**+2.6**	
	48nm,0.7s							
URZ	**Urewera**	**24.79**	**200**	P	**P**	**02 19 20.8**	**+2.1**	
	38nm,0.6s,baz=336,slow=4.3,SNR=26							
BKZ	**Black Stump Fm**	**25.82**	**200**	*e*P	**P**	**02 19 31.7**	**+3.6**	
	236nm,2.2s							
HNR	**Honiara**	**27.73**	**279**	LR	LR	02 29 17.0		
	comp=Z,1μm,18.6s,baz=311,slow=33							
KHZ	**Kahutara**	**29.73**	**201**	*e*P	P	02 20 09.8	+6.8	
	395nm,2.6s							
RPZ	**Rata Peaks**	**31.77**	**203**	*e*P	**P**	**02 20 24.1**	**+3.0**	
	44nm,0.9s							
RPZ	**Rata Peaks**	**31.77**	**203**	P	**P**	**02 20 23.2**	**+2.2**	
	14nm,0.6s,baz=16,slow=4.9,SNR=5.9							
EIDS	**Eidsvold**	**35.73**	**248**	*e*P	**P**	**02 20 53.3**	**-2.4**	
	15nm,0.8s							
RKT	**Rikitea**	**36.01**	**108**	*e*LR	LR	02 30 12.8		
	1μm,25.5s							
ARMA	**Armidale**	**36.37**	**239**	*e*P	**P**	**02 21 00.1**	**-1.2**	
	21nm,0.8s							
H11S2	**WAKE ISLAND Hy**	**39.39**	**328**	T	T	03 03 59.9		
	baz=149							
H11S3	**WAKE ISLAND Hy**	**39.40**	**328**	T	T	03 03 53.4		
	baz=149							
H11S1	**WAKE ISLAND Hy**	**39.41**	**328**	T	T	03 03 59.9		
	baz=149							
CTA	**Charters Tower**	**39.75**	**257**	P	**P**	**02 21 28.5**	**-1.3**	
CTA	**Charters Tower**	**39.75**	**257**	P	**P**	**02 21 28.5**	**-1.3**	
	9.4nm,0.7s,baz=79,slow=10.0,SNR=12							
CTAO	**Charters Tower**	**39.75**	**257**	*e*P	**P**	**02 21 28.6**	**-1.2**	
CTAO				pmax	pmax			
	comp=Z,10.0nm,0.8s							
CTAO	**Charters Tower**	**39.75**	**257**	*e*P	**P**	**02 21 28.6**	**-1.2**	
	comp=Z,10.0nm,0.8s							
CAN	**Canberra**	**40.01**	**233**	*e*P	**P**	**02 21 30.8**	**-1.0**	
CAN				pmax	pmax			
	comp=Z,14nm,0.8s							
CAN	**Canberra**	**40.01**	**233**	*e*P	**P**	**02 21 30.8**	**-1.0**	
	comp=Z,14nm,0.8s							
PMG	**Port Moresby**	**40.02**	**273**	P	**P**	**02 21 33.9**	**+1.9**	
PMG	**Port Moresby**	**40.02**	**273**	P	**P**	**02 21 33.9**	**+1.9**	
	comp=Z,11nm,0.7s,baz=55,slow=8.4,SNR=4.0							
PMG				LR	LR	02 36 02.8		
	comp=Z,772nm,18.0s,baz=291,slow=33							
H11N3	**WAKE ISLAND Hy**	**40.31**	**329**	T	T	03 05 03.8		
	baz=148,slow=0.7,SNR=20							
H11N1	**WAKE ISLAND Hy**	**40.32**	**329**	T	T	03 04 57.9		
	baz=148,slow=0.7,SNR=16							
H11N2	**WAKE ISLAND Hy**	**40.33**	**329**	T	T	03 05 06.3		
	baz=148,slow=0.7,SNR=9.6							
COEN	**Coen**	**43.09**	**266**	*e*P	**P**	**02 21 57.3**	**0.0**	
	comp=Z,113nm,0.9s							
STKA	**Stephens Creek**	**45.07**	**240**	P	**P**	**02 22 12.3**	**-0.7**	
STKA	**Stephens Creek**	**45.07**	**240**	P	**P**	**02 22 12.3**	**-0.7**	
	comp=Z,43nm,0.7s,baz=86,slow=8.9,SNR=82							
STKA				LR	LR	02 37 55.6		
	comp=Z,916nm,20.1s,baz=360,slow=32							
BBOO	**Buckleboo**	**49.85**	**240**	*e*P	**P**	**02 22 49.2**	**-1.0**	
	comp=Z,898nm,0.8s							
WRAB	**Tennant Creek**	**50.94**	**257**	*e*P	**P**	**02 22 57.0**	**-1.6**	
WRAB				pmax	pmax			
	comp=Z,19nm,0.8s							
WRAB	**Tennant Creek**	**50.94**	**257**	*e*P	**P**	**02 22 57.0**	**-1.6**	
	comp=Z,19nm,0.8s							
WRA	**Warramunga Arr**	**50.95**	**257**	P	**P**	**02 22 57.5**	**-1.2**	
WRA	**Warramunga Arr**	**50.95**	**257**	P	**P**	**02 22 57.5**	**-1.2**	
	comp=Z,19nm,0.8s,baz=93,slow=7.6,SNR=134							
WRA				LR	LR	02 40 45.5		
	comp=Z,831nm,18.8s,baz=95,slow=32							
ASAR	**Alice Springs**	**51.21**	**252**	P	**P**	**02 23 00.2**	**-0.4**	
ASAR	**Alice Springs**	**51.21**	**252**	P	**P**	**02 23 00.2**	**-0.4**	
	comp=Z,160nm,0.7s,baz=86,slow=8.0,SNR=186							
ASAR				LR	LR	02 42 49.8		
	comp=Z,769nm,21.8s,baz=46,slow=34							
FORT	**Forrest**	**56.47**	**243**	*e*P	**P**	**02 23 37.4**	**-1.6**	
FITZ	**Fitzroy Crossi**	**59.32**	**258**	P	**P**	**02 23 59.4**	**+0.3**	
FITZ	**Fitzroy Crossi**	**59.32**	**258**	P	**P**	**02 23 59.4**	**+0.3**	
	comp=Z,10nm,0.7s							
VNDA	**Vanda**	**63.66**	**186**	P	**P**	**02 24 27.2**	**-0.4**	
VNDA	**Vanda**	**63.66**	**186**	P	**P**	**02 24 27.2**	**-0.4**	
	comp=Z,2.0nm,0.9s,baz=4.7,slow=5.4,SNR=11							
NWAO	**Narrogin (SRO)**	**65.66**	**240**	P	**P**	**02 24 41.6**	**+0.2**	
NWAO	**Narrogin (SRO)**	**65.66**	**240**	P	**P**	**02 24 41.6**	**+0.2**	
	comp=Z,12nm,0.8s,baz=118,slow=5.2,SNR=7.1							
NWAO				LR	LR	02 53 16.9		
	comp=Z,502nm,20.5s,baz=250,slow=36							
KAPI	**Kappang**	**67.47**	**271**	*e*P	**P**	**02 24 53.6**	**+0.4**	
	comp=Z,7.9nm,0.8s							
KAPI	**Kappang**	**67.47**	**271**	P	**P**	**02 24 53.6**	**+0.4**	
	comp=Z,13nm,0.7s,baz=138,slow=4.0,SNR=8.7							
SCI	**San Clemente I**	**70.20**	**46**	⇓P	**P**	**02 25 11.3**	**+1.5**	
	baz=70							
PKM	**Peak Mountain**	**70.42**	**44**	⇓P	**P**	**02 25 12.9**	**+1.5**	
	baz=71							
SMMC	**Simmler**	**70.55**	**43**	⇓P	**P**	**02 25 13.5**	**+1.6**	
	baz=71							
ARVC	**Arvin**	**71.22**	**44**	⇓P	**P**	**02 25 17.4**	**+1.4**	
	baz=72							
MWC	**Mount Wilson**	**71.23**	**45**	*e*P	**P**	**02 25 15.7**	**-0.7**	
MWC				pmax	pmax			
	comp=Z,10.0nm,1.0s							
MWC	**Mount Wilson**	**71.23**	**45**	*e*P	**P**	**02 25 15.7**	**-0.7**	
	comp=Z,9.8nm,1.0s							
VES	**Vestal, Richgr**	**71.46**	**43**	⇓P	**P**	**02 25 18.2**	**+0.8**	
	baz=72							
MURC	**Murrieta**	**71.48**	**46**	⇓P	**P**	**02 25 18.9**	**+1.3**	
	baz=72							
MONP	**Monument Peak**	**71.64**	**47**	⇑P	**P**	**02 25 19.9**	**+1.0**	
	baz=72							
EDW2	**Edwards Air Fo**	**71.65**	**45**	⇓P	**P**	**02 25 19.9**	**+1.3**	
	baz=72							
ISA	**Isabella**	**71.77**	**44**	*e*P	**P**	**02 25 20.0**	**+0.6**	
ISA				pmax	pmax			
	comp=Z,28nm,1.5s							
ISA	**Isabella**	**71.77**	**44**	*e*P	**P**	**02 25 20.0**	**+0.6**	
	comp=Z,28nm,1.5s							
ISA	**Isabella**	**71.77**	**44**	⇓P	**P**	**02 25 20.6**	**+1.3**	
	baz=72							
CMB	**Columbia Colle**	**71.91**	**41**	*e*P	**P**	**02 25 20.4**	**+0.2**	
CMB				pmax	pmax			
	comp=Z,7.0nm,0.8s							
CMB	**Columbia Colle**	**71.91**	**41**	*e*P	**P**	**02 25 20.4**	**+0.2**	
	comp=Z,6.8nm,0.8s							
PFO	**Pinyon Flat Ob**	**72.00**	**47**	⇓P	**P**	**02 25 22.3**	**+1.4**	
	baz=72							
LRMC	**Laurel Mountai**	**72.19**	**44**	⇑P	**P**	**02 25 23.1**	**+1.1**	
	baz=72							
CWC	**Cottonwood Cre**	**72.47**	**43**	⇑P	**P**	**02 25 24.7**	**+1.0**	
	baz=73							
BELC	**Belle Mtn. Jos**	**72.53**	**46**	⇑P	**P**	**02 25 25.1**	**+1.0**	
	baz=73							
MPMC	**Manual Prospec**	**72.65**	**44**	⇑P	**P**	**02 25 25.8**	**+1.0**	
	baz=73							
GSC	**Goldstone**	**72.69**	**45**	⇑P	**P**	**02 25 25.6**	**+0.7**	
	baz=73							
TIN	**Tinemaha**	**72.72**	**43**	⇓P	**P**	**02 25 26.2**	**+1.1**	
	baz=73							
BC3	**Big Chuckawall**	**72.73**	**47**	⇑P	**P**	**02 25 26.3**	**+1.1**	
	baz=73							
HEC	**Hector,Ludlow**	**72.75**	**46**	⇑P	**P**	**02 25 26.4**	**+1.1**	
	baz=73							
WAKR	**Walker**	**72.79**	**41**	*e*P	**P**	**02 25 26.2**	**+0.6**	
	comp=Z,9.5nm,0.8s							
YBH	**Yreka Blue Hor**	**72.80**	**37**	*e*P	**P**	**02 25 26.7**	**+1.2**	
	comp=Z,11nm,0.8s							
YBH	**Yreka Blue Hor**	**72.80**	**37**	P	**P**	**02 25 26.0**	**+0.6**	
	comp=Z,9.5nm,0.7s,baz=217,slow=0.6,SNR=24							
GLA	**Glamis**	**72.86**	**48**	⇑P	**P**	**02 25 26.9**	**+1.0**	
	baz=73							
BEKR	**Beckworth**	**73.03**	**39**	*e*P	**P**	**02 25 27.5**	**+0.5**	
	comp=Z,3.6nm,0.8s							
GMRC	**Granite Mounta**	**73.19**	**46**	⇑P	**P**	**02 25 28.9**	**+0.9**	
	baz=74							
IRM	**Iron Mountain**	**73.21**	**47**	⇑P	**P**	**02 25 29.0**	**+1.0**	
	baz=74							
HUMO	**Hull Mountain**	**73.22**	**36**	*e*P	**P**	**02 25 29.1**	**+1.3**	
	comp=Z,8.9nm,0.9s							
GRAC	**Grapevine Rang**	**73.26**	**43**	⇑P	**P**	**02 25 29.3**	**+1.0**	
	baz=74							
FURC	**Furnace Creek,**	**73.30**	**44**	⇓P	**P**	**02 25 29.4**	**+1.0**	
	baz=74							
TUQ	**Turquoise Moun**	**73.36**	**45**	⇓P	**P**	**02 25 30.1**	**+1.2**	
	baz=74							
SHOC	**Shoshone**	**73.37**	**45**	⇑P	**P**	**02 25 29.7**	**+0.8**	
	baz=74							
Y12C	**Blythe**	**73.44**	**47**	⇑P	**P**	**02 25 30.5**	**+1.2**	
	baz=74							
NVAR	**Mina Array Bea**	**73.47**	**41**	P	**P**	**02 25 30.1**	**+0.4**	
NVAR	**Mina Array Bea**	**73.47**	**41**	P	**P**	**02 25 30.1**	**+0.4**	
	comp=Z,8.4nm,0.7s,baz=227,slow=10,SNR=73							
NVAR				LR	LR	02 51 45.5		
	comp=Z,1μm,18.6s,baz=315,slow=31							
113A	**Mohawk Valley,**	**73.47**	**49**	⇓P	**P**	**02 25 30.6**	**+1.1**	
	baz=74							
NV11	**Mina Array Sit**	**73.56**	**42**	*e*P	**P**	**02 25 30.6**	**+0.5**	
YSS	**Yuzh-Sakhalins**	**73.88**	**330**	*i* P	**P**	**02 25 33.6**	**+2.1**	
PDMCI	**Parker Dam,Lak**	**74.00**	**47**	⇓P	**P**	**02 25 34.0**	**+1.5**	
	baz=74							
Z14A	**Wintersburg**	**74.37**	**48**	⇑P	**P**	**02 25 35.9**	**+1.2**	
	baz=75							
SHPR	**Sheep Range**	**74.46**	**45**	*e*P	**P**	**02 25 36.2**	**+0.8**	
	comp=Z,23nm,1.5s							
W13A	**Hualapai Mount**	**74.59**	**46**	⇑P	**P**	**02 25 37.6**	**+1.3**	
	baz=75							
Y14A	**Wickenburg**	**74.62**	**48**	⇑P	**P**	**02 25 37.6**	**+1.3**	
	baz=75							
QSPA	**South Pole Qui**	**74.82**	**180**	*e*P	**P**	**02 25 35.6**	**-1.5**	
	comp=Z,12nm,0.9s							
R11A	**Troy Canyon, C**	**75.18**	**43**	⇓P	**P**	**02 25 40.8**	**+1.2**	
	baz=76							
TUC	**Tucson**	**75.43**	**50**	*e*P	**P**	**02 25 41.6**	**+0.6**	
TUC				pmax	pmax			
	comp=Z,4.0nm,1.1s							
TUC	**Tucson**	**75.43**	**50**	*e*P	**P**	**02 25 41.6**	**+0.6**	
	comp=Z,4.3nm,1.1s							
NACB	**Ninganchiao**	**75.50**	**300**	*e*P	**P**	**02 25 40.5**	**-0.9**	
WVOR	**Wild Horse Val**	**75.62**	**38**	*e*P	**P**	**02 25 42.3**	**+0.4**	
WVOR				pmax	pmax			
	comp=Z,10.0nm,1.0s							
WVOR	**Wild Horse Val**	**75.62**	**38**	*e*P	**P**	**02 25 42.3**	**+0.4**	
	comp=Z,10nm,1.0s							
TPUB	**Ta-pu**	**75.96**	**299**	*e*P	**P**	**02 25 44.6**	**+0.5**	
	comp=Z,23nm,0.8s							
X16A	**Lo Mia Camp, P**	**75.98**	**48**	⇓P	**P**	**02 25 45.7**	**+1.4**	
	baz=76							
319A	**Douglas**	**76.12**	**52**	⇓P	**P**	**02 25 46.3**	**+1.2**	
	baz=76							
U15A	**North Rim**	**76.39**	**46**	⇑P	**P**	**02 25 47.9**	**+1.2**	
	baz=77							
320A	**Kipp Ranch, An**	**76.67**	**52**	⇓P	**P**	**02 25 49.8**	**+1.5**	
	baz=77							
KSRS	**Korea Array**	**76.81**	**315**	P	**P**	**02 25 51.0**	**+2.4**	
	comp=Z,2.7nm,0.8s,baz=120,slow=5.7,SNR=9.3							
KSRS				LR	LR	02 53 53.3		
	comp=Z,139nm,20.7s,baz=20,slow=31							
KSAR	**Wonju Array Be**	**76.83**	**315**	P	**P**	**02 25 51.0**	**+2.2**	
220A	**Playas Peak, P**	**76.94**	**52**	⇑P	**P**	**02 25 51.1**	**+1.4**	
	baz=77							
120A	**U Bar Ranch, L**	**77.15**	**51**	⇑P	**P**	**02 25 52.7**	**+1.8**	
	baz=77							
Z20A	**Nine Sixteen R**	**77.44**	**50**	⇑P	**P**	**02 25 53.8**	**+1.3**	
	baz=78							
MVU	**Marysvale**	**77.51**	**44**	*e*P	**P**	**02 25 54.0**	**+1.1**	
	comp=Z,10.0nm,1.0s							
121A	**Cookes Peak, D**	**77.78**	**51**	⇑P	**P**	**02 25 55.7**	**+1.2**	
	baz=78							
MFID	**Camas Ranch**	**77.87**	**38**	⇓P	**P**	**02 25 55.9**	**+1.3**	
	baz=78							
Y20A	**Horse Springs,**	**77.97**	**50**	⇓P	**P**	**02 25 56.6**	**+1.1**	
	baz=78							
DUG	**Dugway**	**77.99**	**42**	*e*P	**P**	**02 25 55.8**	**+0.4**	
DUG				pmax	pmax			
	comp=Z,7.0nm,1.1s							
DUG	**Dugway**	**77.99**	**42**	*e*P	**P**	**02 25 55.8**	**+0.4**	
	comp=Z,6.8nm,1.1s							
DUG	**Dugway**	**77.99**	**42**	⇓P	**P**	**02 25 56.5**	**+1.1**	
	baz=78							
Z21A	**St. Cloud Mine**	**78.22**	**51**	⇓P	**P**	**02 25 58.5**	**+1.6**	
	baz=78							
KSM	**Kuching**	**78.26**	**275**	*e*P	**P**	**02 25 58.9**	**+1.6**	
	comp=Z,33nm,0.8s							
Q16A	**Castle Valley**	**78.42**	**44**	*e*P	**P**	**02 25 59.5**	**+1.7**	
W20A	**Ramah**	**78.44**	**49**	⇓P	**P**	**02 25 59.6**	**+1.4**	
	baz=79							
Y21A	**Point of Rocks**	**78.53**	**50**	⇓P	**P**	**02 25 60.0**	**+1.3**	
	baz=79							
TMUT	**Trail Mountain**	**78.58**	**44**	*e*P	**P**	**02 26 00.5**	**+1.5**	
	comp=Z,21nm,0.8s							
X21A	**Alamocita Cree**	**78.65**	**50**	⇑P	**P**	**02 26 00.2**	**+0.9**	
	baz=79							
MPU	**Maple Canyon**	**78.67**	**43**	*e*P	**P**	**02 26 00.2**	**+0.9**	
	comp=Z,8.3nm,1.1s							
Z22A	**Elephant Butte**	**78.72**	**51**	⇑P	**P**	**02 26 00.9**	**+1.3**	
	baz=79							
HLID	**Hailey**	**78.80**	**39**	*e*P	**P**	**02 26 00.4**	**+0.6**	
	comp=Z,9.4nm,0.9s							
HLID	**Hailey**	**78.80**	**39**	⇑P	**P**	**02 26 01.0**	**+1.1**	
	baz=79							
HVU	**Hansel Valley**	**78.85**	**41**	*e*P	**P**	**02 26 00.3**	**+0.2**	
HVU				pmax	pmax			
	comp=Z,19nm,1.4s							
HVU	**Hansel Valley**	**78.85**	**41**	*e*P	**P**	**02 26 00.3**	**+0.2**	
	comp=Z,19nm,1.4s							
SRU	**San Rafael**	**78.95**	**44**	*e*P	**P**	**02 26 01.2**	**+0.4**	
SRU				pmax	pmax			
	comp=Z,10.0nm,1.0s							
SRU	**San Rafael**	**78.95**	**44**	*e*P	**P**	**02 26 01.2**	**+0.4**	
	comp=Z,10nm,1.0s							
DIV	**Divide**	**78.98**	**13**	*e*P	**P**	**02 26 00.8**	**+0.5**	
	comp=Z,10.0nm,0.7s							
Y22A	**Socorro**	**79.03**	**50**	⇑P	**P**	**02 26 02.3**	**+1.0**	
	baz=79							
324A	**Moseley Ranch,**	**79.06**	**53**	⇑P	**P**	**02 26 02.2**	**+0.7**	
	baz=79							
BMRM	**Bremner River**	**79.09**	**13**	*e*P	**P**	**02 26 01.0**	**+0.2**	
	comp=Z,12nm,0.9s							
JLU	**Jordanelle**	**79.09**	**43**	*e*P	**P**	**02 26 01.9**	**+0.3**	
	comp=Z,7.2nm,0.9s							
LAZ	**Ladron**	**79.11**	**50**	*e*P	**P**	**02 26 02.4**	**+0.7**	
	comp=Z,9.4nm,1.6s							
DAU	**Daniels Canyon**	**79.12**	**43**	*e*P	**P**	**02 26 02.4**	**+0.6**	
DAU	**Daniels Canyon**	**79.12**	**43**	*e*P	**P**	**02 26 02.4**	**+0.6**	
425A	**Indio Mountain**	**79.17**	**54**	⇓P	**P**	**02 26 02.8**	**+0.7**	
	baz=79,SNR=5.7							
MNTX	**Cornudas Mount**	**79.24**	**53**	*e*P	**P**	**02 26 02.5**	**+0.2**	
	comp=Z,9.9nm,1.5s							
X22A	**Bernardo**	**79.25**	**50**	⇓P	**P**	**02 26 03.7**	**+1.2**	
	baz=80							
Z23A	**Rita Site, Whi**	**79.27**	**51**	⇑P	**P**	**02 26 03.8**	**+1.2**	
	baz=80							
224A	**Cornudas Mount**	**79.30**	**53**	⇑P	**P**	**02 26 03.8**	**+1.0**	
	baz=80,SNR=6.5							
626A	**Big Bend Ranch**	**79.32**	**55**	⇑P	**P**	**02 26 03.6**	**+0.7**	
	baz=80,SNR=6.3							
BNM	**Barren Site**	**79.37**	**50**	*e*P	**P**	**02 26 03.4**	**+0.1**	
LPM	**Los Pinos Moun**	**79.44**	**50**	*e*P	**P**	**02 26 04.3**	**+0.7**	
	comp=Z,2.0nm,0.7s							
526A	**Mary Lane Ranc**	**79.57**	**55**	⇓P	**P**	**02 26 05.0**	**+0.7**	
	baz=80,SNR=5.7							
TXAR	**Lajitas Array**	**79.61**	**56**	P	**P**	**02 26 04.9**	**+0.4**	
TXAR	**Lajitas Array**	**79.61**	**56**	P	**P**	**02 26 04.9**	**+0.4**	
	comp=Z,2.2nm,1.0s,baz=216,slow=6.2,SNR=17							
124A	**Stringfield Ra**	**79.62**	**52**	⇓P	**P**	**02 26 05.8**	**+1.1**	
	baz=80							
U21A	**Nageezi**	**79.65**	**48**	⇓P	**P**	**02 26 05.9**	**+1.2**	
	baz=80							
Y23A	**Lovelace Mesa,**	**79.70**	**51**	⇓P	**P**	**02 26 06.0**	**+1.0**	
	baz=80							
PV01	**Paradox Valley**	**79.81**	**46**	*e*P	**P**	**02 26 06.0**	**+0.4**	
S20A	**Disappointment**	**79.81**	**46**	⇓P	**P**	**02 26 06.5**	**+0.9**	
	baz=80							
225A	**Deer Hill, Car**	**79.85**	**53**	⇓P	**P**	**02 26 06.5**	**+0.7**	
	baz=80,SNR=6.1							
ANMO	**Albuquerque**	**79.85**	**50**	*e*P	**P**	**02 26 06.3**	**+0.5**	
	comp=Z,13nm,1.4s							
ANMO	**Albuquerque**	**79.85**	**50**	P	**P**	**02 26 05.3**	**-0.5**	
	comp=Z,2.3nm,0.7s,baz=231,slow=6.0,SNR=13							
426A	**McDonald Obser**	**79.86**	**54**	⇓P	**P**	**02 26 06.6**	**+0.6**	
	baz=80,SNR=11							
627A	**Terlingua Ranc**	**79.88**	**56**	⇑P	**P**	**02 26 06.7**	**+0.7**	
	baz=80,SNR=11							
NEW	**Newport**	**79.95**	**34**	*e*P	**P**	**02 26 06.1**	**+0.3**	
	comp=

TPAW	Teton Pass	80.89	40	eP		P	02 26 11.8	+0.4
	comp=Z,6.0nm,0.6s							
NJ2	Nanjing	80.94	307	eP		P	02 26 13.2	+1.8
NJ2				AMB		AMB		
	comp=Z,20nm,0.6s							
428A	Kincaid Ranch,	80.94	55	⇓P		P	02 26 12.3	+0.6
	baz=81,SNR=5.6							
Z26A	Caprock	80.98	52	⇑P		P	02 26 12.0	+0.1
	baz=81,SNR=9.4							
BSMT	Bassoo Peak	80.98	35	eP		P	02 26 12.0	+0.4
	comp=Z,9.8nm,1.0s							
O20A	White River Ci	80.99	44	⇓P		P	02 26 12.5	+0.7
	baz=81							
X25A	Clemmons Ranch	81.00	51	⇑P		P	02 26 12.5	+0.6
	baz=81							
SNOW	Snow King Moun	81.00	40	eP		P	02 26 12.7	+0.8
	comp=Z,11nm,0.9s							
M19A	Rock Springs	81.04	43	⇓P		P	02 26 12.9	+0.8
	baz=81							
V24A	Rampart Ranch,	81.06	49	⇓P		P	02 26 13.0	+0.6
	baz=81							
529A	Stev Forest Ra	81.07	56	⇑P		P	02 26 12.5	+0.2
	baz=81,SNR=9.3							
IMW	Indian Meadow	81.11	40	eP		P	02 26 13.2	+0.7
	comp=Z,5.3nm,0.6s							
328A	Wristen Ranch,	81.11	54	⇓P		P	02 26 13.0	+0.6
	baz=81							
MOOW	Moose Ponds	81.15	40	eP		P	02 26 13.4	+0.7
	comp=Z,20nm,1.8s							
LOHW	Long Hollow	81.17	40	eP		P	02 26 13.1	+0.3
	comp=Z,4.6nm,1.0s							
LRM	Limekiln Ridge	81.20	38	eP		P	02 26 13.6	+0.7
	comp=Z,17nm,0.9s							
P21A	Newcastle	81.24	45	⇑P		P	02 26 14.2	+1.1
	baz=82							
QLMT	Earthquake Lak	81.29	39	eP		P	02 26 14.8	+1.5
	comp=Z,0.6nm,0.7s							
Q22A	Crested Butte,	81.30	46	⇓P		P	02 26 14.6	+0.9
	baz=82							
N20A	Spence Gulch,	81.31	44	⇓P		P	02 26 14.4	+0.8
	baz=82							
CHMT	Chamberlain Mo	81.33	36	eP		P	02 26 12.8	-0.6
	comp=Z,4.2nm,1.0s							
FLWY	Flagg Ranch	81.35	40	eP		P	02 26 15.0	+1.3
	comp=Z,8.5nm,0.9s							
SLMT	Seeley Lake	81.37	36	eP		P	02 26 13.4	-0.2
SMCO	Snowmass	81.40	46	eP		P	02 26 14.9	+0.6
PDAR	Pinedale Array	81.41	41	P		P	02 26 14.2	+0.2
PDAR	Pinedale Array	81.41	41	P		P	02 26 14.2	+0.2
	comp=Z,3.1nm,0.9s,baz=224,slow=3.7,SNR=12							
W25A	X Bar L Ranch,	81.44	50	⇑P		P	02 26 14.9	+0.6
	baz=82							
429A	Davenport Ranc	81.53	55	⇑P		P	02 26 14.9	+0.2
	baz=82,SNR=20							
228A	UT Block 9, Go	81.58	54	⇑P		P	02 26 16.0	+1.0
	baz=82							
Z27A	Tatum	81.58	52	⇑P		P	02 26 15.9	+0.9
	baz=82							
H17A	Grant Village	81.59	40	⇑P		P	02 26 16.9	+1.9
	baz=82							
V25A	Rancho No Teng	81.59	49	⇑P		P	02 26 15.9	+0.8
	baz=82,SNR=6.6							
CN2	Changchun	81.66	320	eP		P	02 26 15.4	+0.4
CN2				eSP		sP	02 26 22.4	+0.2
CN2				eS		S	02 36 25.1	-1.8
CN2				AMB		AMB		
	comp=Z,10.0nm,0.7s							
CN2				AMB		AMB		
	comp=Z,300nm,4.0s							
CN2				LR		LR		
	comp=Z,500nm,17.0s							
CN2				LR		LR		
	comp=Z,300nm,17.0s							
CN2				LR		LR		
	comp=Z,400nm,17.0s							
M20A	Sweetwater, Wa	81.67	43	⇓P		P	02 26 16.9	+1.4
	baz=82							
P22A	Eagle	81.74	45	⇓P		P	02 26 17.0	+1.2
	baz=82							
R23A	Moffat	81.75	47	⇑P		P	02 26 17.1	+1.1
	baz=82							
530A	J-C Ranch, Com	81.79	56	⇑P		P	02 26 16.4	+0.3
	baz=82,SNR=7.7							
329A	Wagon Wheel Ra	81.80	54	⇑P		P	02 26 16.3	+0.2
	baz=82,SNR=8.1							
L20A	Wamsutter	81.82	43	⇓P		P	02 26 17.5	+1.3
	baz=82							
Y27A	Causey	81.86	52	⇓P		P	02 26 17.2	+0.7
	baz=82							
128A	Castleberry Fa	81.86	53	⇑P		P	02 26 17.2	+0.8
	baz=82							
K19A	Absolon Red Bu	81.89	42	⇑P		P	02 26 17.3	+0.8
	baz=82							
S24A	Houchin Ranch,	81.95	48	⇑P		P	02 26 18.5	+1.4
	baz=82							
J19A	Crowheart	81.97	41	⇓P		P	02 26 18.0	+1.0
	baz=82							
U25A	Circle Dot Ran	81.99	49	⇓P		P	02 26 18.1	+0.9
	baz=82							
COLA	College	81.99	10	eP		P	02 26 17.1	+0.9
COLA				pmax		pmax		
	comp=Z,53nm,1.0s							
COLA	College	81.99	10	eP		P	02 26 17.1	+0.9
	comp=Z,53nm,1.0s							
HRY	Holter Researc	82.04	37	eP		P	02 26 17.6	+0.5
	comp=Z,8.9nm,0.9s							
ILAR	Eielson Array	82.07	11	P		P	02 26 17.3	+0.6
ILAR	Eielson Array	82.07	11	P		P	02 26 17.3	+0.6
	comp=Z,2.7nm,0.7s,baz=220,slow=6.0,SNR=30							
430A	Baggett Ranch,	82.11	55	⇓P		P	02 26 18.3	+0.5
	baz=82							
631A	Perdido Creek	82.12	57	⇓P		P	02 26 18.0	+0.2
	baz=82,SNR=12							
K20A	Yellowstone Ra	82.13	42	⇑P		P	02 26 18.3	+0.5
	baz=82							
IM04	Indian Mountai	82.14	8	eP		P	02 26 18.5	+1.4
O22A	Kremmling	82.15	45	⇓P		P	02 26 19.2	+1.1
	baz=82,SNR=8.8							
V26A	Tequesquite Ra	82.19	50	⇓P		P	02 26 19.2	+1.0
	baz=82							
MSTX	Muleshoe	82.19	52	⇑P		P	02 26 19.0	+0.9
	baz=82							
Z28A	Tucker Farm, M	82.20	53	⇓P		P	02 26 19.3	+1.0
	baz=82							
IMA2	Indian Mountai	82.24	8	eP		P	02 26 18.1	+0.4
M21A	Separation Pea	82.27	43	⇓P		P	02 26 19.5	+0.9
	baz=83							
P23A	Jefferson	82.28	46	⇑P		P	02 26 20.5	+1.6
	baz=83							
R24A	Sanders Place,	82.28	47	⇑P		P	02 26 19.6	+0.9
	baz=83,SNR=7.3							
T25A	Trinidad	82.30	48	⇓P		P	02 26 20.0	+1.1
	baz=83							
129A	Stewart Farms,	82.34	53	⇓P		P	02 26 20.0	+1.0
	baz=83							
732A	Laxson Ranch,	82.35	58	⇑P		P	02 26 20.0	+1.0
	baz=83							
I19A	Meeteetse	82.39	41	⇓P		P	02 26 20.5	+1.4
	baz=83							
330A	Mertzon	82.40	55	⇓P		P	02 26 19.2	-0.1
	baz=83							
W27A	Bowe Ranch, En	82.42	51	⇑P		P	02 26 19.5	+0.1
	baz=83,SNR=6.4							
L21A	Rawlins	82.44	43	⇑P		P	02 26 20.1	+0.7
	baz=83							
U26A	Atchley Ranch,	82.47	49	⇑P		P	02 26 20.2	+0.5
	baz=83,SNR=7.9							
N22A	Wattenberg Ran	82.50	44	⇑P		P	02 26 21.1	+1.2
	baz=83							
S25A	Robets Cordova	82.51	48	⇓P		P	02 26 20.7	+0.8
	baz=83							
431A	Sonora	82.57	56	⇓P		P	02 26 20.6	+0.4
	baz=83							
Q24A	Divide	82.57	46	⇓P		P	02 26 21.5	+1.2
	baz=83							
O23A	Lake Granby, G	82.60	45	⇓P		P	02 26 21.6	+1.2
	baz=83							
ISCO	Idaho Springs	82.62	45	eP		P	02 26 21.2	+0.6
ISCO				pmax		pmax		
	comp=Z,11nm,1.4s							
ISCO	Idaho Springs	82.62	45	eP		P	02 26 21.2	+0.6
	comp=Z,11nm,1.4s							
ISCO	Idaho Springs	82.62	45	⇑P		P	02 26 21.6	+1.0
	baz=83							
J20A	Shoshoni	82.64	41	⇓P		P	02 26 21.9	+1.5
	baz=83							
230A	Sterling City	82.64	54	⇓P		P	02 26 21.3	+0.8
	baz=83							
H19A	Powell	82.71	40	⇑P		P	02 26 21.9	+1.2
	baz=83							
Z29A	Hungry Hill Ra	82.72	53	⇓P		P	02 26 21.4	+0.5
	baz=83							
632A	Uvalde	82.79	57	⇓P		P	02 26 21.9	+0.5
	baz=83,SNR=7.7							
R25A	Fountain Ranch	82.83	47	⇓P		P	02 26 22.3	+0.9
	baz=83							
K21A	Alcova	82.83	42	⇑P		P	02 26 22.2	+0.7
	baz=83							
N23A	Red Feather La	82.89	44	⇑P		P	02 26 22.9	+1.0
	baz=83							
I20A	Worland	82.89	41	⇑P		P	02 26 22.7	+1.1
	baz=83							
532A	Rocksprings	82.93	56	⇑P		P	02 26 22.3	+0.3
	baz=83,SNR=8.0							
331A	San Angelo	82.96	55	⇓P		P	02 26 22.7	+0.5
	baz=83							
DAWY	Dawson	82.98	14	eP		P	02 26 22.4	+0.9
130A	Snyder	83.03	54	⇑P		P	02 26 22.8	+0.3
	baz=83							
L22A	Ellis Ranch, M	83.08	43	⇓P		P	02 26 23.7	+0.9
	baz=83							
O24A	Longmont	83.14	45	⇑P		P	02 26 24.5	+1.5
	baz=84							
JCT	Junction City	83.14	56	⇑P		P	02 26 23.5	+0.4
	baz=83							
Z30A	Sanderson Ranc	83.17	53	⇑P		P	02 26 23.4	+0.2
	baz=83							
Q25A	Bedland, Calha	83.19	47	⇑P		P	02 26 24.2	+0.8
	baz=84							
S26A	Kim	83.19	48	⇓P		P	02 26 24.2	+0.9
	baz=84							
X29A	Tulia	83.19	52	⇓P		P	02 26 24.5	+1.1
	baz=84							
H20A	Greybull	83.23	40	⇑P		P	02 26 24.4	+1.0
	baz=83							
231A	Bronte	83.28	54	⇑P		P	02 26 23.4	-0.5
	baz=84,SNR=6.3							
432A	Menard	83.30	56	⇓P		P	02 26 24.4	+0.5
	baz=84							
M23A	Laramie	83.30	44	⇓P		P	02 26 24.9	+0.9
	baz=84							
K22A	Casper	83.31	43	⇓P		P	02 26 24.8	+0.9
	baz=84							
F19A	Roth Farm, Mol	83.32	39	⇑P		P	02 26 24.2	+0.4
	baz=84,SNR=7.6							
I21A	Big Trails, Te	83.36	41	⇓P		P	02 26 24.4	+0.3
	baz=84,SNR=6.3							
G20A	Bridger	83.46	40	⇓P		P	02 26 25.5	+0.9
	baz=84							
R26A	Arlington	83.49	48	⇓P		P	02 26 25.0	+0.1
	baz=84,SNR=7.5							
P25A	Willow Gulch B	83.50	46	⇑P		P	02 26 25.5	+0.6
	baz=84,SNR=6.4							
131A	Roby	83.51	54	⇓P		P	02 26 25.5	+0.5
	baz=84							
332A	Millersview	83.53	55	⇓P		P	02 26 25.6	+0.5
	baz=84,SNR=6.4							
Y30A	Stafford Cattl	83.58	52	⇑P		P	02 26 26.0	+0.6
	baz=84							
N24A	Carr	83.58	45	⇓P		P	02 26 26.4	+1.1
	baz=84							
L23A	Garrett	83.61	43	⇑P		P	02 26 26.0	+0.5
	baz=84,SNR=5.7							
J22A	Midwest	83.69	42	⇓P		P	02 26 26.6	+0.8
	baz=84,SNR=8.1							
Q26A	Hugo	83.70	47	⇑P		P	02 26 26.9	+1.0
	baz=84							
E19A	Rath Farm, Rou	83.72	38	⇓P		P	02 26 26.8	+1.0
	baz=84,SNR=5.9							
F20A	Billings	83.78	39	⇓P		P	02 26 27.2	+1.1
	baz=84							
232A	Coleman	83.79	55	⇑P		P	02 26 26.5	0.0
	baz=84,SNR=7.3							
COLD	Coldfoot	83.81	8	eP		P	02 26 26.5	+0.9
	comp=Z,4.3nm,1.1s							
X30A	Coker Ranch, T	83.82	52	⇑P		P	02 26 27.1	+0.5
	baz=84							
V29A	Stinnett	83.90	50	⇓P		P	02 26 28.6	+1.6
	baz=84							
H21A	Big Horn, Sher	83.90	41	⇑P		P	02 26 27.8	+0.9
	baz=84							
M24A	Cheyenne	83.90	44	⇓P		P	02 26 27.9	+0.9
	baz=84							
WHN	Wuhan	83.91	304	eP		P	02 26 22.7	-4.3
I22A	9 Mile Ranch,	83.91	42	⇓P		P	02 26 27.7	+0.8
	baz=84							
EGMT	Eagleton	83.93	37	⇓P		P	02 26 27.9	+1.0
	baz=84,SNR=5.2							
Z31A	Sharp Cattle R	83.94	53	⇑P		P	02 26 27.2	0.0
	baz=84							
R27A	Eads	83.95	48	⇓P		P	02 26 27.7	+0.5
	baz=84							
K23A	Bowen Ranch, D	83.95	43	⇑P		P	02 26 27.8	+0.6
	baz=84							
T28A	Walsh	83.96	49	⇓P		P	02 26 27.5	+0.2
	baz=84							
D19A	Cripps Ranch,	84.01	38	⇑P		P	02 26 28.1	+0.9
	baz=84,SNR=6.5							
ABTX	Abilene, Hawle	84.07	54	eP		P	02 26 27.3	-0.6
ABTX	Abilene, Hawle	84.07	54	⇑P		P	02 26 28.7	+0.9
	baz=84							
P26A	Davis Ranch, A	84.09	46	⇑P		P	02 26 29.5	+1.6
	baz=84							
Y31A	Rekieta Farm,	84.10	53	⇓P		P	02 26 29.0	+1.0
	baz=84							
E20A	Meyer Farm, Mu	84.13	39	⇑P		P	02 26 28.8	+0.9
	baz=84,SNR=6.1							
C19A	Slack Wire Ran	84.19	37	⇓P		P	02 26 29.1	+0.9
	baz=85,SNR=7.0							
H22A	Clearmont	84.32	41	⇑P		P	02 26 30.0	+1.1
	baz=85							
D20A	Manuel Ranch,	84.42	38	⇓P		P	02 26 30.2	+0.9
	baz=85,SNR=8.4							
Z32A	Haskell	84.45	53	⇑P		P	02 26 30.2	+0.4
	baz=85,SNR=13							
K24A	Anderson Ranch	84.47	43	⇓P		P	02 26 31.3	+1.5
	baz=85							
V30A	Spur Ranch, Mi	84.47	51	⇓P		P	02 26 31.1	+1.2
	baz=85							
X31A	McDonald Ranch	84.57	52	⇓P		P	02 26 30.9	+0.5
	baz=85							
B19A	Brinkman Farms	84.62	37	⇑P		P	02 26 31.6	+1.3
	baz=85							
G22A	Birney	84.65	40	⇓P		P	02 26 31.8	+1.2
	baz=85							
R28A	Tribune	84.68	48	⇓P		P	02 26 31.6	+0.7
	baz=85,SNR=7.4							
Y32A	R-V Farms, Ver	84.75	53	⇓P		P	02 26 31.8	+0.5
	baz=85							
C20A	Veseth Ranch,	84.80	38	⇑P		P	02 26 32.6	+1.4
	baz=85,SNR=6.1							
W31A	Holland Ranch,	84.81	52	⇓P		P	02 26 32.6	+1.0
	baz=85							
J24A	Dixon Ranch, L	84.84	43	⇑P		P	02 26 32.6	+1.0
	baz=85							
F22A	Rockhud	84.93	40	⇓P		P	02 26 33.1	+1.1
	baz=85							
A19A	Klindworth Far	84.97	36	⇑P		P	02 26 33.2	+1.1
	baz=85							
D21A	La Casta Ranch	85.09	39	⇑P		P	02 26 33.6	+0.9
	baz=85,SNR=5.2							
V31A	Spring Creek L	85.11	51	⇑P		P	02 26 34.1	+1.0
	baz=85,SNR=6.2							
B20A	Solberg Farm,	85.14	37	⇑P		P	02 26 34.2	+1.3
	baz=86							
G23A	Biddle	85.21	41	⇓P		P	02 26 34.7	+1.3
	baz=86							
A20A	Cobblestone Ra	85.41	37	⇓P		P	02 26 35.3	+1.0
	baz=86,SNR=6.5							
F23A	Volborg	85.44	40	⇑P		P	02 26 35.9	+1.5
	baz=86							
H24A	Dirks Ranch, A	85.54	41	⇑P		P	02 26 36.0	+0.9
	baz=86,SNR=5.5							
WHTX	Lake Whitney	85.56	55	eP		P	02 26 35.3	-0.1
WHTX	Lake Whitney	85.56	55	⇑P		P	02 26 36.1	+0.8
	baz=86							
RSSD	Black Hills	85.59	42	eP		P	02 26 35.7	+0.2
RSSD				pmax		pmax		
	comp=Z,16nm,0.9s							
RSSD	Black Hills	85.59	42	eP		P	02 26 35.7	+0.2
	comp=Z,16nm,0.9s							
D22A	Cohagen	85.62	39	⇑P		P	02 26 36.6	+1.2
	baz=86							
T31A	Randall Ranch,	85.74	50	⇑P		P	02 26 37.2	+1.0
	baz=86							
I25A	Rochford	85.75	42	⇑P		P	02 26 37.9	+1.7
	baz=86							
R30A	Dighton	85.76	49	⇓P		P	02 26 37.5	+1.3
	baz=86							
HKT	Hockley	86.16	58	eP		P	02 26 38.6	+0.3
HKT				pmax		pmax		
	comp=Z,39nm,1.8s							
HKT	Hockley	86.16	58	eP		P	02 26 38.5	+0.3
	comp=Z,39nm,1.8s							
APG	El Apazote	86.22	73	P		P	02 26 39.6	+0.4
APG	El Apazote	86.22	73	P		P	02 26 39.6	+0.4
	comp=Z,8.3nm,0.9s,baz=280,slow=5.2,SNR=9.6							
B22A	Reddig Ranch S	86.26	38	⇑P		P	02 26 40.1	+1.6
	baz=87							
R31A	Burdett	86.31	49	⇓P		P	02 26 39.8	+0.9
	baz=87							
C23A	Lambert	86.52	38	⇑P		P	02 26 40.6	+0.9
	baz=87							
F27A	Lemmon	87.63	41	⇓P		P	02 26 46.0	+0.8
	baz=88,SNR=5.0							
INK	Inuvik	87.84	13	eP		P	02 26 46.2	+0.6
	comp=Z,9.4nm,1.2s							
IPM	Ipoh	88.00	275	eP		P	02 26 48.4	+0.8
	comp=Z,21nm,0.9s							
MAW	Mawson	88.31	198	P		P	02 26 47.7	-0.3
MAW	Mawson	88.31	198	P		P	02 26 47.7	-0.3
	comp=Z,8.5nm,0.8s,baz=131,slow=6.6,SNR=26							
GYA	Guiyang	88.93	298	eP		P	02 26 54.0	+2.1
GYA				PP		PP	02 30 23.4	+1.7
GYA				SKS		SKSac	02 37 19.3	-2.2
GYA				S		ScS	02 37 43.0	-2.0
GYA				SS		SS	02 43 32.5	-0.4
GYA				AMB		AMB		
	comp=Z,20nm,1.0s							
GYA				AMB		AMB		
	comp=Z,120nm,6.4s							
GYA				LR		LR		
	comp=Z,490nm,21.0s							
GYA				LR		LR		
	comp=Z,440nm,22.6s							
GYA				LR		LR		
	comp=Z,510nm,20.4s							
PSI	Prapat	89.58	273	P		P	02 26 55.9	+0.6
PSI	Prapat	89.58	273	P		P	02 26 55.9	+0.6
	comp=Z,7.6nm,0.7s,baz=224,slow=1.3,SNR=5.3							
TEIG	Tepich	89.70	69	eP		P	02 26 56.3	+0.8
	comp=Z,24nm,1.5s							
TEIG	Tepich	89.70	69	P		P	02 26 56.5	+1.1
	comp=Z,8.9nm,1.1s,baz=97,slow=3.1,SNR=4.5							
HHC	Hu-ho-hao-te	89.71	313	eP		P	02 26 53.1	-2.1
HHC				sP		sP	02 27 00.8	-1.7
HHC				PP		PP	02 30 28.4	+0.8
HHC				SKS		SKSac	02 37 18.8	-6.6
HHC				S		SKKSac	02 37 41.6	+3.4
HHC				AMB		AMB		
	comp=Z,32nm,0.8s							
HHC				AMB		AMB		
	comp=Z,710nm,6.2s							
HHC				LR		LR		
	comp=Z,410nm,16.2s							
HHC				LR		LR		
	comp=Z,300nm,16.9s							
HHC				LR		LR		
	comp=Z,390nm,16.3s							
JTS	JuntasAbangare	90.10	79	eP		P	02 26 58.8	+1.3
	comp=Z,136nm,1.2s							
KMI	Kunming	91.94	295	P		P	02 27 07.6	+1.5
KMI				pP		pP	02 27 10.7	-0.7
KMI				sP		sP	02 27 11.9	-1.4
KMI				PP		PP	02 30 47.9	+2.1
KMI				S		S	02 38 05.1	-2.7
KMI				sS		ScS	02 38 10.3	0.0
KMI				SS		SS	02 44 16.0	-0.8
KMI				AMB		AMB		
	comp=Z,7.0nm,0.8s							
CD2	Chengdu	92.66	301	P		P	02 27 09.4	+0.3
CD2				AMB		AMB		
	comp=Z,10.0nm,0.5s							
SYO	Syowa Base	92.98	191	⇑eP		P	02 27 06.9	-2.9
SNAA	Sanae	93.02	177	eP		P	02 27 08.3	-1.7
SNAA	Sanae	93.02	177	eP		P	02 27 08.3	-1.7
SNAA	Sanae	93.02	177	eP		P	02 27 08.3	-1.7
SNAA	Sanae	93.02	177	eP		P	02 27 08.4	-1.6
	comp=Z,9.8nm,1.6s							
SNAA	Sanae	93.02	177	LR		LR	03 01 59.1	
	comp=Z,223nm,18.8s,baz=150,slow=31							
VNA2	Neumayer--Watz	93.44	175	eP		P	02 27 11.4	-0.5
VNA2	Neumayer--Watz	93.44	175	eP		P	02 27 11.4	-0.5
VNA2	Neumayer--Watz	93.44	175	eP		P	02 27 11.4	-0.5
CMAR	Chiang Mai Arr	93.60	288	P		P	02 27 14.1	+0.4
CMAR	Chiang Mai Arr	93.60	288	P		P	02 27 14.1	+0.4
	comp=Z,1.6nm,0.9s,baz=101,slow=3.8,SNR=3.9							
CMAR				LR		LR	03 02 22.7	
	comp=Z,159nm,20.8s,baz=270,slow=31							
VNA1	Neumayer--Stat	93.63	175	eP		P	02 27 13.1	+0.4
VNA1	Neumayer--Stat	93.63	175	eP		P	02 27 13.1	+0.4
VNA1	Neumayer--Stat	93.63	175	eP		P	02 27 13.1	+0.4
LZH	Lanzhou	94.00	306	eP		P	02 27 16.9	+1.6
LZH				pP		pP	02 27 20.6	0.0
LZH				sP		sP	02 27 22.4	-0.1
LZH				AMB		AMB		
	comp=Z,13nm,1.0s							
SONM	Songino Array	95.45	318	P		P	02 27 22.5	+0.9
SONM	Songino Array	95.45	318	P		P	02 27 22.5	+0.9
	comp=Z,0.2nm,0.5s,baz=150,slow=2.8,SNR=2.1							
ARCES	ARCESS Array B	124.58	353	PKP		PKPdf	02 32 53.6	-2.0
ARCES	ARCESS Array B	124.58	353	PKP		PKPdf	02 32 53.6	-2.0
	comp=Z,3.1nm,0.9s,baz=21,slow=7.7,SNR=2.9							
ABKAR	Akbulak array	125.78	320	ePKPdf		PKPdf	02 32 58.2	-0.3
FINES	FINESS Array B	132.00	348	PKP		PKPdf	02 33 09.9	0.0
FINES	FINESS Array B	132.00	348	PKP		PKPdf	02 33 09.9	0.0
	comp=Z,3.2nm,0.9s,baz=74,slow=3.7,SNR=3.4							
KWP	Kalwaria Pacla	143.58	344	ePKIKP		PKPbc	02 33 29.1	+0.2
KWP	Kalwaria Pacla	143.58	344	ePKPdf		PKPbc	02 33 29.1	+0.2
CLL	Collm	143.76	354	i PKIKP		PKPdf	02 33 32.7	+0.9
CLL				e			02 33 45.0	
CLL	Collm	143.76	354	i PKPdf		PKPdf	02 33 32.7	+0.9
CLL				e			02 33 45.0	
STHS	Stebnicka Huta	144.16	345	ePKIKP		PKPdf	02 33 32.1	-0.5
STHS	Stebnicka Huta	144.16	345	ePKP		PKPdf	02 33 32.1	-0.5
UPC	Upice	144.18	351	ePKHKP		PKPpre	02 33 26.5	
DPC	Dobruska-Polom	144.28	351	ePKIKP		PKPdf	02 33 32.0	-0.9
DPC				e			02 33 38.6	
DPC	Dobruska-Polom	144.28	351	ePKP		PKPdf	02 33 32.0	-0.9
DPC				epPKP		pPKPdf	02 33 38.6	+0.3
KOLS	Kolonicke sedl	144.33	344	ePKIK

KHC ex x 02 33 49.8
KHC Kasperske Hory 145.85 353 *e*PKPbc **PKPab 02 33 36.5 0.0**
SMOL Smolenice 145.86 348 *e*PKP2 **PKPab 02 33 38.4 +1.9**
SMOL Smolenice 145.86 348 *e*PKP **PKPab 02 33 38.4 +1.9**
PSZ Piszkesteto 145.88 345 *e*PKP2 **PKPab 02 33 37.1 +0.4**
PSZ Piszkesteto 145.88 345 ⇑ *i*P **PKPab 02 33 38.2 +1.5**
PSZ Piszkesteto 145.88 345 *e*PKPbc **PKPab 02 33 37.1 +0.4**
WET Wettzell 145.91 354 *e*PKP2 **PKPab 02 33 37.5 +0.8**
WET Wettzell 145.91 354 *e*PKPbc **PKPab 02 33 37.5 +0.8**
TLB Topalu 146.05 334 ⇑ *i*P PKPab 02 33 45.5 +8.2
GEC2 GERESS Array S 146.12 353 *e*PKP2 **PKPab 02 33 37.9 +0.3**
GEC2 GERESS Array S 146.12 353 *e*PKPbc **PKPab 02 33 37.9 +0.3**
GERES GERESS Array B 146.12 353 PKPbc **PKPab 02 33 37.5 -0.1**
GERES GERESS Array B 146.12 353 PKPbc **PKPab 02 33 37.5 -0.1**
comp=Z,1.5nm,0.8s,baz=8.1,slow=1.9,SNR=13
KMBO Kilima Mbogo 146.60 243 *e*PKPbc **PKPbc 02 33 39.7 0.0**
KMBO Kilima Mbogo 146.60 243 PKPbc **PKPbc 02 33 39.0 -0.6**
comp=Z,6.4nm,1.0s,baz=43,slow=5.3,SNR=14
BRTR Keskin Array B 146.70 322 PKPbc **PKPbc 02 33 39.6 +0.5**
BRTR Keskin Array B 146.70 322 PKPbc **PKPbc 02 33 39.6 +0.5**
comp=Z,2.7nm,0.7s,baz=112,slow=0.9,SNR=12
BFO Black Forest 146.98 359 *e*PKP2 **PKPab 02 33 39.7 +0.2**
BFO Black Forest 146.98 359 *e*PKPbc **PKPab 02 33 40.3 -0.6**
BFO Black Forest 146.98 359 *e*PKPbc **PKPab 02 33 39.7 +0.2**
FUR Furstenfeldbru 147.02 356 *e*PKP2 **PKPab 02 33 40.5 -0.5**
FUR Furstenfeldbru 147.02 356 *e*PKPbc **PKPab 02 33 40.5 -0.5**
ECH Echery 147.10 1 *e*PKP2 **PKPab 02 33 40.6 -0.7**
ECH Echery 147.10 1 *e*PKPbc **PKPab 02 33 40.6 -0.7**
ANTO Ankara 147.10 323 *e*PKP2 **PKPab 02 33 41.5 -0.2**
ANTO Ankara 147.10 323 ⇑ *i*P **PKPab 02 33 42.3 +0.6**
ANTO Ankara 147.10 323 *e*PKPbc **PKPab 02 33 41.5 -0.2**
RJOB Jochberg 147.31 354 *e*PKPbc **PKPbc 02 33 41.2 +0.7**
FELD Feldberg im Sc 147.44 360 PKP **PKPab 02 33 42.1 -0.7**
LOMF Lomont 147.96 1 PKP **PKPbc 02 33 42.1 -0.2**
DAVA Damuels 147.98 357 ⇑ *i*sPKPdf **PKPbc 02 33 42.9 +0.5**
comp=Z,5.6nm,0.9s
PERS Pernice 148.08 350 *i* PKPdf **PKPab 02 33 48.6 +3.3**
TUE Stuetta 148.82 358 *e*PKPbc **PKPbc 02 33 44.9 +0.2**
VISS Visnje 148.94 350 *i* PKPdf **PKPab 02 33 47.4 -1.3**
JAVS Javornik 148.97 351 *i* PKPdf **PKPab 02 33 47.3 -1.6**
AGO Saint Agoulin 149.02 6 PKP **PKPbc 02 33 45.1 +0.1**
BOJS Bojanci 149.16 350 PKPdf **PKPab 02 33 48.0 -1.6**
BOJS *i* 02 33 54.9
PYM Petit Puy Mans 149.31 6 PKP **PKPbc 02 33 46.1 +0.3**
CSS Prodhromos 149.76 315 *e*PKPdf **PKPdf 02 33 42.5 +0.1**
CSS *e*PKPbc **PKPbc 02 33 47.1 -0.1**
BNI Bardonecchia 150.25 2 *e*PKIKP **PKPbc 02 33 49.3 +1.1**
BNI Bardonecchia 150.25 2 *e*PKPbc **PKPbc 02 33 49.3 +1.1**
POLO Lamas de Olo 150.67 24 *e*PKPbc **PKPbc 02 33 49.5 +0.2**
PBRG Braganca 150.71 22 *e*PKPbc **PKPbc 02 33 50.1 +0.8**
MVO Moncorvo 151.15 24 *e*PKPbc **PKPbc 02 33 50.5 +0.1**
PCAS Casmilo, Conde 151.49 27 *e*PKPbc **PKPbc 02 33 52.0 +0.9**
MTE Manteigas 151.60 25 *e*PKPbc **PKPbc 02 33 51.8 +0.4**
MTE Manteigas 151.60 25 *e*PKPbc **PKPbc 02 33 51.9 +0.4**
PMTG Montargil 152.41 28 *e*PKPbc **PKPbc 02 33 54.2 +1.0**
PMRV Marv??o 152.48 26 *e*PKPbc **PKPbc 02 33 53.2 -0.2**
ESDC Sonseca Array 153.57 21 PKPbc **PKPbc 02 33 55.6 -0.2**
ESDC PKPab **PKPab 02 34 08.7 +0.5**
ESDC Sonseca Array 153.57 21 PKPbc **PKPbc 02 33 55.6 -0.2**
comp=Z,1.1nm,0.7s,baz=337,slow=2.7,SNR=9.4
ESDC PKPab **PKPab 02 34 08.7 +0.5**
comp=Z,1.5nm,0.7s,baz=332,slow=3.3,SNR=8.6
TORD Torodi Ar. Bea 173.79 109 PKP **PKPdf 02 34 05.2 -2.0**
TORD PKPab **PKPab 02 35 35.6 -1.8**
TORD Torodi Ar. Bea 173.79 109 PKP **PKPdf 02 34 05.2 -2.0**
comp=Z,0.6nm,0.8s,baz=329,slow=1.2,SNR=3.5
TORD PKPab **PKPab 02 35 35.6 -1.8**
comp=Z,0.8nm,0.8s,baz=261,slow=4.4,SNR=5.9

IDC 02 02:17:20.6±2.6, 15°.35S×172°.17W, h0km, mb4.3/4, mb1 4.5/4, mb1mx4.0/21, mbtmp4.3/4, MS4.5/1, Ms1 4.5/1, ms1mx3.7/40, Error ellipse: s-maj=159.3km s-min=26.5km az=141.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.48**	**15**	Pn	Pn	02 17 46.3	-2.3
	142nm,0.3s,baz=86,slow=14,SNR=6.8						
AFI				Sn	Sg	02 18 03.6	-4.9
	832nm,0.3s,baz=188,slow=22,SNR=9.6						
STKA	**Stephens Creek**	**45.09**	**240**	P	P	02 25 38.7	-0.1
	6.5nm,0.8s,baz=88,slow=11,SNR=4.3						
ASAR	**Alice Springs**	**51.26**	**252**	P	P	02 26 26.4	-0.2
	14nm,0.6s,baz=89,slow=7.7,SNR=29						
FITZ	**Fitzroy Crossi**	**59.38**	**258**	LR	LR	02 50 08.7	
	comp=Z,387nm,18.4s,baz=62,slow=33						
NVAR	**Mina Array Bea**	**73.50**	**41**	P	P	02 28 55.6	+0.1
	1.1nm,0.8s,baz=237,slow=7.2,SNR=5.0						
ILAR	**Eielson Array**	**82.17**	**11**	P	P	02 29 42.9	0.0
	0.4nm,0.7s,baz=218,slow=6.0,SNR=4.5						

BJI ***02*** *02:23:08.8, 6°.78S×131°.00E, h89km, mB5.4/22, mb5.0/45, Ms4.9/14, Ms7 4.6/13*
BKK ***02*** *02:23:08.0±0.3, 6°.5S×13°.1E±°, h10km, M5.5/19, mB6.0/5, mb5.4/19, Mw(mB)5.6/5*
MOS ***02*** *02:23:09.1±1.1, 6°.245S×130°.78E, h52km, mb5.3/19, Error ellipse: s-maj=13.1km s-min=6.4km az=119.3*
ISCJB ***02*** *02:23:12.3±0.5, 6°.41S±0°.03×130°.90E±0°.03, h92km±4km, mb5.0/71, Error ellipse: s-maj=5.7km s-min=5.3km az=41.8*
NEIC ***02*** *02:23:14.9±1.0, 6°.29S×130°.80E, h92km±8km, mb4.9/26, Error ellipse: s-maj=7.7km s-min=5.6km az=53.0*
IDC ***02*** *02:23:14.3±2.3, 6°.27S×130°.78E, h84km±20km, mb4.4/14, mb1 4.4/15, mb1mx4.3/20, mbtmp4.4/15, MS4.4/1, Ms1 4.4/1, ms1mx3.6/40, Error ellipse: s-maj=17.8km s-min=11.8km az=80.0*
DJA ***02*** *02:23:15.1±0.2, 6°.52±2°×13°.1E±°, h66km±5km, M5.2/16, mB5.5/6, mb5.2/16, MLv5.4/12, Mw(mB)5.0/6*
ISC 02 02:23:13.8±0.4, 6°.38S±0°.04×130°.88E±0°.05, h86km±2km, h86km:pP-P, n239, σ1s27/265, mb5.0/71, 8C-2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.64**	**165**	P	**Pn**	**02 23 43.4**	**+2.1**
SAUI				S	**Sn**	**02 24 04.3**	**+2.3**
TLE	**Tual**	**1.99**	**68**	P	**Pn**	**02 23 47.7**	**+1.9**
TLE				S	**Sn**	**02 24 09.4**	**-0.7**
BNDI	**Bandanaira**	**2.09**	**332**	P	**Pn**	**02 23 47.1**	**0.0**
BNDI				S	**Sn**	**02 24 11.7**	**-0.8**
MSAI	**Masohi**	**3.59**	**327**	P	**Pn**	**02 24 08.0**	**+0.7**
MSAI				S	**Sn**	**02 24 49.0**	**+0.3**
FAKI	**Fak Fak**	**3.70**	**22**	P	**Pn**	**02 24 07.6**	**-1.2**
AAI	**Ambon**	**3.79**	**315**	P	**Pn**	**02 24 10.2**	**+0.2**
KMPI	**Kaimana, Papua**	**3.90**	**46**	P	**Pn**	**02 24 11.4**	**-0.1**
NLAI	**Namlea**	**4.89**	**309**	P	**Pn**	**02 24 26.4**	**+1.4**
SWI	**Sorong**	**5.50**	**4**	P	**Pn**	**02 24 30.9**	**-2.3**
	491nm,0.5s						
LBMI	**Labuha**	**6.63**	**329**	P	**Pn**	**02 24 49.7**	**+1.0**
	267nm,0.8s,5μm1.5nm						
BAKI	**Biak**	**7.33**	**46**	P	**Pn**	**02 24 58.2**	**-0.1**
	567nm,0.6s,6μm1.9nm						
SOEI	**Soe**	**7.36**	**242**	P	**Pn**	**02 24 59.5**	**+0.8**
	335nm,0.8s,7μm3.4nm						
BATI	**Baumata**	**8.09**	**242**	P	**Pn**	**02 25 08.9**	**+0.3**
	208nm,0.6s,2μm						
BATI	**Baumata**	**8.09**	**242**	P	**Pn**	**02 25 09.2**	**+0.6**
BATI				S	**Sn**	**02 26 35.8**	**-2.7**
BATI	**Baumata**	**8.09**	**242**	P	**Pn**	**02 25 09.2**	**+0.6**
	77nm,0.3s,baz=139,slow=3.6,SNR=34						
BATI				S	**Sn**	**02 26 35.8**	**-2.7**
	77nm,0.3s,baz=58,slow=20,SNR=9.0						
BBSI	**Bau Bau**	**8.31**	**276**	P	Pn	02 25 15.5	+3.8
LUWI	**Luwuk**	**9.68**	**303**	P	**Pn**	**02 25 32.4**	**+2.2**
	141nm,0.9s						
BKSI	**Bulukumba**	**10.76**	**275**	P	Pn	02 25 48.4	+3.4
	49nm,0.6s						
KAPI	**Kappang**	**11.16**	**276**	*e*Pn	**Pn**	**02 25 51.6**	**+1.2**
MRSI	**Marisa**	**11.23**	**307**	P	**Pn**	**02 25 51.9**	**+0.5**
	164nm,0.7s						
SPSI	**Sidrap Palu**	**11.32**	**282**	P	Pn	02 25 56.1	+3.4
FITZ	**Fitzroy Crossi**	**12.72**	**203**	P	Pn	02 26 08.2	-3.3
FITZ				S	Sn	02 28 22.6	-8.8
FITZ	**Fitzroy Crossi**	**12.72**	**203**	P	Pn	02 26 08.2	-3.3
FITZ				S	Sn	02 28 22.6	-8.8
WRAB	**Tennant Creek**	**13.88**	**166**	*e*P	Pn	02 26 21.9	-5.0
WRAB	**Tennant Creek**	**13.88**	**166**	*e*Pn	Pn	02 26 21.9	-5.0
WRAB				*e*Sn	Sn	02 28 49.0	-11
WRA	**Warramunga Arr**	**13.89**	**166**	P	Pn	02 26 22.2	-4.7
WRA				S	Sn	02 28 46.5	-13
WRA	**Warramunga Arr**	**13.89**	**166**	P	Pn	02 26 22.2	-4.7
	6.8nm,0.3s,baz=351,slow=13,SNR=66						
WRA				S	Sn	02 28 46.5	-13
	18nm,0.3s,baz=6.0,slow=20,SNR=10						
COEN	**Coen**	**14.24**	**123**	*e*Pn	**Pn**	**02 26 29.0**	**-2.5**
	163nm,0.4s						
COEN				*e*Sn	Sn	02 28 55.0	-13
PMG	**Port Moresby**	**16.40**	**102**	P	**P**	**02 27 00.5**	**+0.3**
	67nm,0.8s						
PMG	**Port Moresby**	**16.40**	**102**	*e*P	**P**	**02 27 00.5**	**+0.3**
	48nm,0.8s						
PMG				S	Sn	02 29 50.7	-10
PMG	**Port Moresby**	**16.40**	**102**	P	**P**	**02 26 59.9**	**-0.2**
	4.3nm,0.3s,baz=269,slow=6.4,SNR=13						
PMG				S	Sn	02 29 50.7	-10
	0.9nm,0.3s,baz=180,slow=20,SNR=3.2						
TSM	**Tawau**	**16.77**	**309**	P	**P**	**02 27 04.1**	**-0.2**
MYLDM	**Lahad Datu**	**16.87**	**313**	P	**P**	**02 27 05.5**	**+0.1**
MYLDM	**Lahad Datu**	**16.87**	**313**	P	**P**	**02 27 06.8**	**+1.4**
	106nm,1.1s						
ASAR	**Alice Springs**	**17.43**	**171**	P	**Pn**	**02 27 09.7**	**-1.8**
ASAR				S	Sn	02 30 12.0	-13
ASAR	**Alice Springs**	**17.43**	**171**	P	**Pn**	**02 27 09.7**	**-1.8**
	8.2nm,0.3s,baz=342,slow=9.2,SNR=112						
ASAR				S	Sn	02 30 12.0	-13
	3.3nm,0.3s,baz=337,slow=19,SNR=8.3						
SDKM	**Sandakan**	**18.15**	**311**	P	**Pn**	**02 27 20.5**	**+0.2**
MBWA	**Marble Bar**	**18.23**	**215**	*e*P	**P**	**02 27 19.5**	**-0.8**
	74nm,0.8s						
KKM	**Kota Kinabalu**	**19.15**	**310**	P	**P**	**02 27 30.8**	**+0.2**
KKM	**Kota Kinabalu**	**19.15**	**310**	P	**P**	**02 27 30.8**	**+0.2**
	156nm,0.7s,2μm						
KKM	**Kota Kinabalu**	**19.15**	**310**	*e*P	**P**	**02 27 29.9**	**-0.6**
	85nm,0.4s						
KDM	**Kudat**	**19.26**	**313**	P	**P**	**02 27 32.1**	**+0.5**
BTM	**Bintulu**	**20.16**	**298**	P	**P**	**02 27 41.0**	**-0.4**
CTA	**Charters Tower**	**20.21**	**134**	P	Pn	02 27 45.0	+0.4
CTA				S	**S**	**02 31 21.7**	**-2.4**
CTA	**Charters Tower**	**20.21**	**134**	P	Pn	02 27 45.0	+0.4
	5.7nm,0.8s,baz=306,slow=12,SNR=6.2						
CTA				S	**S**	**02 31 21.7**	**-2.4**
	6.2nm,0.8s,baz=183,slow=17,SNR=2.1						
CTA				LR	LR	02 36 01.7	
	comp=Z,1μm,18.5s,baz=12,slow=38						
CTAO	**Charters Tower**	**20.21**	**134**	*e*P	Pn	02 27 44.3	-0.3
CTAO				pmax	pmax		
	comp=Z,12nm,0.6s						
CTAO	**Charters Tower**	**20.21**	**134**	*e*P	Pn	02 27 44.3	-0.3
	comp=Z,12nm,0.6s						
SBUM	**Sibu**	**20.59**	**295**	P	**P**	**02 27 46.0**	**-0.2**
SBUM	**Sibu**	**20.59**	**295**	P	**P**	**02 27 46.6**	**+0.5**
KSM	**Kuching**	**21.97**	**290**	P	**P**	**02 27 59.8**	**-1.1**
KSM	**Kuching**	**21.97**	**290**	*e*P	**P**	**02 28 00.3**	**-0.6**
	comp=Z,28nm,0.8s						
FORT	**Forrest**	**24.41**	**186**	*e*P	**P**	**02 28 25.0**	**+0.7**
	comp=Z,113nm,0.6s						
STKA	**Stephens Creek**	**27.27**	**160**	P	**P**	**02 28 51.0**	**+0.9**
STKA	**Stephens Creek**	**27.27**	**160**	P	**P**	**02 28 51.0**	**+0.9**
	comp=Z,3.1nm,0.6s,baz=336,slow=10,SNR=6.3						
NWAO	**Narrogin (SRO)**	**29.30**	**204**	P	**P**	**02 29 09.3**	**+1.1**
NWAO	**Narrogin (SRO)**	**29.30**	**204**	P	**P**	**02 29 09.3**	**+1.1**
	comp=Z,4.0nm,0.4s,baz=64,slow=7.9,SNR=5.9						
IPM	**Ipoh**	**31.70**	**289**	*e*P	**P**	**02 29 31.2**	**+1.5**
	comp=Z,11nm,0.7s						
KULM	**Kulim**	**32.33**	**290**	*e*P	**P**	**02 29 32.6**	**-2.5**
	comp=Z,19nm,0.8s						
QIZ	**Qiongzhong**	**32.67**	**321**	P	**P**	**02 29 38.4**	**+0.4**
QIZ				S	**S**	**02 34 50.2**	**+2.0**
QIZ				AMB	AMB		
	comp=Z,12nm,1.2s						
JOW	**Kunigami**	**33.12**	**356**	*e*P	**P**	**02 29 42.0**	**+0.2**
	comp=Z,12nm,1.0s						
UBPT	**Khng Chiam**	**33.13**	**311**	P	**P**	**02 29 41.5**	**-0.5**
	comp=Z,93nm,0.8s						
PSI	**Prapat**	**33.19**	**285**	P	**P**	**02 29 40.1**	**-2.6**
PSI	**Prapat**	**33.19**	**285**	P	**P**	**02 29 40.1**	**-2.6**
	comp=Z,28nm,0.8s,baz=150,slow=3.9,SNR=14						
PANO	**Nakornpanom**	**34.94**	**312**	P	**P**	**02 29 57.7**	**0.0**
	comp=Z,64nm,2.0s,comp=Z,4μm						
SKNT	**Sakolnakorn**	**35.30**	**311**	P	**P**	**02 30 00.3**	**-0.5**
	comp=Z,78nm,0.9s						
CHAI	**Chaiyaphum**	**36.18**	**308**	P	**P**	**02 30 07.2**	**-1.1**
	comp=Z,49nm,0.5s,comp=Z,522nm						
LOEI	**Loei**	**37.68**	**310**	P	P	02 30 17.8	-3.2
	comp=Z,98nm,0.7s,comp=Z,3μm						
JNU	**Nakatsue**	**39.29**	**360**	*e*P	**P**	**02 30 34.0**	**-0.4**
	comp=Z,6.3nm,0.8s						
JNU	**Nakatsue**	**39.29**	**360**	P	**P**	**02 30 33.6**	**-0.7**
	comp=Z,16nm,0.9s,baz=169,slow=11,SNR=4.6						
NJ2	**Nanjing**	**39.91**	**344**	*e*P	**P**	**02 30 38.9**	**-0.5**
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s						
WHN	**Wuhan**	**39.99**	**338**	P	**P**	**02 30 40.7**	**+0.6**
WHN				AMB	AMB		
	comp=Z,70nm,0.8s						
CMAR	**Chiang Mai Arr**	**40.02**	**309**	P	**P**	**02 30 40.5**	**-0.1**
CMAR				ScP	**ScP**	**02 36 25.1**	**-0.6**
CMAR	**Chiang Mai Arr**	**40.02**	**309**	P	**P**	**02 30 40.5**	**-0.1**
	comp=Z,30nm,0.6s,baz=135,slow=7.2,SNR=24						
CMAR				ScP	**ScP**	**02 36 25.1**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=152,slow=1.9,SNR=6.1						
GYA	**Guiyang**	**40.22**	**325**	⇑ *i*P	**P**	**02 30 41.6**	**-0.7**
GYA				pP	**pP**	**02 31 04.3**	**+1.6**
GYA				PP	**PnPn**	**02 32 19.3**	**-1.6**
GYA				PcP	**PcP**	**02 32 44.5**	**-0.4**
GYA				ScP	**ScP**	**02 36 27.7**	**+1.2**
GYA				PcS	**PcS**	**02 36 35.6**	**0.0**
GYA				S	**S**	**02 36 41.0**	**-2.2**
GYA				sS	**sS**	**02 37 20.4**	**+2.0**
GYA				ScS	**ScS**	**02 40 35.9**	**-4.7**
GYA				AMB	AMB		
	comp=Z,20nm,0.7s						
GYA				AMB	AMB		
	comp=Z,150nm,4.8s						
GYA				LR	LR		
	comp=Z,530nm,17.6s						
GYA				LR	LR		
	comp=Z,480nm,18.0s						
GYA				LR	LR		
	comp=Z,510nm,17.8s						
CHTO	**Chiang Mai**	**40.23**	**309**	*e*P	**P**	**02 30 42.0**	**-0.4**
CHTO	**Chiang Mai**	**40.23**	**309**	*e*P	**P**	**02 30 42.0**	**-0.4**
	comp=Z,194nm,0.7s						
CHTO	**Chiang Mai**	**40.23**	**309**	P	**P**	**02 30 41.9**	**-0.4**
	comp=Z,352nm,0.7s						
CMAI	**Chiengmai2**	**40.80**	**311**	P	**P**	**02 30 46.9**	**-0.3**
	comp=Z,76nm,0.9s						
KMI	**Kunming**	**41.60**	**320**	P	**P**	**02 30 53.0**	**-0.8**
KMI				pP	**pP**	**02 31 13.0**	**-1.3**
KMI				sP	**sP**	**02 31 23.9**	**-0.3**
KMI				AMB	AMB		
	comp=Z,16nm,1.1s						
ENH	**Enshi**	**41.83**	**332**	*e*P	**P**	**02 30 54.6**	**-0.7**
	comp=Z,17nm,0.8s						
MJAR	**Matsushiro Arr**	**43.25**	**9**	P	**P**	**02 31 05.3**	**-1.4**
MJAR	**Matsushiro Arr**	**43.25**	**9**	P	**P**	**02 31 05.3**	**-1.4**
	comp=Z,6.3nm,0.8s,baz=187,slow=9.8,SNR=15						
MAJO	**Matsushiro**	**43.25**	**9**	*e*P	**P**	**02 31 05.1**	**-1.6**
MAJO				pmax	pmax		
	comp=Z,11nm,0.8s						
MAJO	**Matsushiro**	**43.25**	**9**	*e*P	**P**	**02 31 05.1**	**-1.6**
	comp=Z,11nm,0.8s						
MAJO				*e*pP	pP	02 31 33.1	+5.7
MAT	**Matsushiro**	**43.25**	**9**	P	**P**	**02 31 05.5**	**-1.2**
KSAR	**Wonju Array Be**	**43.69**	**357**	P	**P**	**02 31 10.6**	**+0.4**
KSRS	**Korea Array**	**43.70**	**357**	P	**P**	**02 31 10.6**	**+0.4**
	comp=Z,6.1nm,0.6s,baz=172,slow=8.5,SNR=32						
XAN	**Xi'an**	**45.26**	**334**	P	**P**	**02 31 21.7**	**-1.2**
XAN				AMB	AMB		
	comp=Z,8.0nm,0.9s						
CD2	**Chengdu**	**45.27**	**327**	P	**P**	**02 31 25.3**	**+2.3**
CD2				pP	**pP**	**02 31 45.8**	**+2.0**
CD2				sP	**sP**	**02 31 56.0**	**+2.4**
CD2				PP	**PP**	**02 33 13.3**	**+2.8**
CD2				S	**S**	**02 37 58.9**	**+1.9**
CD2				sS	**sS**	**02 38 34.7**	**+2.0**
CD2				SS	**ScS**	**02 41 14.9**	**+3.3**
CD2				AMB	AMB		
	comp=Z,20nm,0.5s						
CD2				AMB	AMB		
	comp=Z,540nm,9.8s						
CD2				LR	LR		
	comp=Z,580nm,13.1s						
CD2				LR	LR		
	comp=Z,520nm,14.9s						
BJT	**Baijiatuan**	**48.13**	**345**	*e*P	**P**	**02 31 44.4**	**-0.7**
	comp=Z,27nm,0.6s						
BJI	**Beijing**	**48.15**	**345**	P	**P**	**02 31 44.9**	**-0.3**
BJI				AMB	AMB		
	comp=Z,52nm,0.6s						
LZH	**Lanzhou**	**49.28**	**331**	P	**P**	**02 31 54.8**	**+0.6**
LZH				pP	**pP**	**02 32 16.0**	**+0.7**
LZH				sP	**sP**	**02 32 27.7**	**+2.6**
LZH				AMB	AMB		
	comp=Z,35nm,1.0s						
LZH				AMB	AMB		
	comp=Z,170nm,5.0s						
CN2	**Changchun**	**50.19**	**355**	*e*P	P	02 32 04.4	+3.6
CN2				*e*S	**S**	**02 39 09.5**	**+3.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
HHC	**Hu-ho-hao-te**	**50.24**	**341**	*e*P	P	02 32 11.7	+10
HHC				pP	pP	02 32 29.6	+7.1
HHC				S	S	02 39 18.7	+11
HHC				sS	sS	02 39 50.8	+7.3
HHC				ScS	ScS	02 41 53.0	+8.7
HHC	**Hu-ho-hao-te**	**50.24**	**341**	SS	**SS**	**02 42 47.4**	**+5.3**
HHC				AMB	AMB		
	comp=Z,23nm,0.8s						
HHC				AMB	AMB		
	comp=Z,580nm,6.6s						
HHC				LR	LR		
	comp=N,440nm,15.7s						
HHC				LR	LR		
	comp=E,700nm,16.2s						
HHC				LR	LR		
	comp=Z,450nm,14.7s						
USRK	**Ussuriysk Arra**	**50.36**	**1**	P	**P**	**02 32 01.9**	**-0.1**
	comp=Z,8.6nm,0.6s,baz=186,slow=7.0,SNR=26						
MDJ	**Mudanjiang**	**50.78**	**359**	P	**P**	**02 32 07.2**	**+2.0**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.6s						
MDJ				AMB	AMB		
	comp=Z,250nm,8.5s						
PALK	**Pallekele**	**51.87**	**284**	*e*P	**P**	**02 32 12.8**	**-1.1**
	comp=Z,14nm,0.7s						
LSA	**Lhasa**	**52.37**	**315**	P	**P**	**02 32 17.6**	**-0.3**
LSA	**Lhasa**	**52.37**	**315**	*e*P	**P**	**02 32 17.9**	**0.0**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LSA	**Lhasa**	**52.37**	**315**	*e*P	**P**	**02 32 17.9**	**0.0**
	comp=Z,9.9nm,0.5s						
ODAN	**Odare**	**53.52**	**310**	*e*P	**P**	**02 32 25.5**	**-0.7**
	comp=Z,40nm,0.5s						
TAPN	**Taplejung**	**53.54**	**311**	*e*P	**P**	**02 32 25.7**	**-0.7**
	comp=Z,51nm,0.4s						
GTA	**Gaotai**	**53.87**	**330**	*e*P	**P**	**02 32 28.7**	**+0.4**
GTA				AMB	AMB		
	comp=Z,19nm,0.9s						
RAMN	**Ramite**	**54.17**	**310**	*e*P	**P**	**02 32 30.7**	**-0.2**
	comp=Z,83nm,0.4s						
HABR	**Khabarovsk**	**54.75**	**3**	*e*P	**P**	**02 32 32.9**	**-1.4**
HABR				*e**PP	**pP**	**02 32 52.4**	**-3.4**
HABR				*e*		02 33 34.3	
HABR				S	**S**	**02 40 07.6**	**-0.6**
HABR				*e*		02 42 13.8	
HABR				*e*SS	**SS**	**02 43 52.5**	**-0.2**
HABR				pmax	pmax		
	comp=Z,66nm,2.8s						
HABR				MLR	MLR		
	comp=Z,216nm,16.0s						
JIRN	**Jiri**	**54.85**	**310**	*e*P	**P**	**02 32 35.4**	**-0.6**
	comp=Z,28nm,0.5s						
GUN	**Gumba**	**55.22**	**310**	*e*P	**P**	**02 32 38.1**	**-0.5**
	comp=Z,46nm,0.4s						
PKI	**Pulchoki**	**55.40**	**310**	*e*P	**P**	**02 32 38.9**	**-1.0**
	comp=Z,14nm,0.4s						
PKIN	**Phulchoki**	**55.41**	**310**	*e*P	**P**	**02 32 39.1**	**-0.8**
	comp=Z,11nm,0.4s						
KKN	**Kakani**	**55.61**	**310**	*e*P	**P**	**02 32 40.6**	**-0.6**
	comp=Z,28nm,0.5s						
DMN	**Daman**	**55.65**	**310**	*e*P	**P**	**02 32 41.1**	**-0.5**
	comp=Z,41nm,0.5s						
GKN	**Gorkha**	**56.21**	**310**	*e*P	**P**	**02 32 44.9**	**-0.5**
	comp=Z,54nm,0.4s						
KOLN	**Koldanda**	**56.89**	**309**	*e*P	**P**	**02 32 49.9**	**-0.4**
	comp=Z,32nm,0.6s						
DANN	**Dangsing**	**57.05**	**310**	*e*P	**P**	**02 32 50.9**	**-0.7**
ULN	**Ulaanbaatar**	**57.96**	**341**	*e*P	**P**	**02 32 57.5**	**+0.1**
	comp=Z,24nm,0.7s						
SONM	**Songino Array**	**58.15**	**341**	P	**P**	**02 32 59.2**	**+0.5**
SONM	**Songino Array**	**58.15**	**341**	P	**P**	**02 32 59.2**	**+0.5**
	comp=Z,7.9nm,0.5s,baz=161,slow=6.6,SNR=70						
ZAK	**Zakamensk**	**61.38**	**340**	*e*P	**P**	**02 33 19.6**	**-1.2**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MOY	**Mondy**	**63.24**	**340**	*e*P	**P**	**02 33 34.4**	**+1.2**
MOY				pmax	pmax		
	comp=Z,18nm,1.8s						
WMQ	**Urumqi**	**63.36**	**326**	P	**P**	**02 33 34.7**	**+0.6**
WMQ				pP	**pP**	**02 33 54.3**	**-1.8**
WMQ				sP	**sP**	**02 34 02.9**	**-2.7**
WM

AAK	**Ala-Archa**	**70.64**	**319**	*e*P	**P**	**02 34 21.1**	**+0.8**
	comp=Z,20nm,0.7s						
CHMS	**Chumysh**	**70.65**	**320**	*i* P	**P**	**02 34 20.7**	**+0.4**
CHMS	**Chumysh**	**70.65**	**320**	P	**P**	**02 34 20.7**	**+0.4**
	SNR=8.1						
AML	**Almayashu**	**70.92**	**319**	*i* P	**P**	**02 34 23.5**	**+1.1**
AML	**Almayashu**	**70.92**	**319**	P	**P**	**02 34 23.5**	**+1.1**
	SNR=53						
USP	**Ospenovka**	**70.94**	**320**	*i* P	**P**	**02 34 22.8**	**+0.7**
USP	**Ospenovka**	**70.94**	**320**	P	**P**	**02 34 22.8**	**+0.7**
	SNR=36						
KBL	**Kabul**	**71.04**	**310**	*e*P	**P**	**02 34 22.7**	**-0.4**
KBL				pmax	pmax		
	comp=Z,15nm,0.8s						
KBL	**Kabul**	**71.04**	**310**	*e*P	**P**	**02 34 22.7**	**-0.4**
	comp=Z,15nm,0.8s						
SEY	**Seymchan**	**71.05**	**10**	ǁ *i* P	**P**	**02 34 23.3**	**+1.1**
EKS2	**Erkin-Say**	**71.12**	**319**	*e*P	**P**	**02 34 24.3**	**+1.1**
EKS2	**Erkin-Say**	**71.12**	**319**	P	**P**	**02 34 24.4**	**+1.1**
	SNR=32						
EKS2	**Erkin-Say**	**71.12**	**319**	*e*P	**P**	**02 34 24.3**	**+1.1**
ZAA0	**Zalesovo Array**	**71.42**	**333**	*e*P	**P**	**02 34 23.7**	**-1.0**
ZALV	**Zalesovo Beam**	**71.42**	**333**	P	**P**	**02 34 24.0**	**-0.7**
ZALV	**Zalesovo Beam**	**71.42**	**333**	P	**P**	**02 34 23.9**	**-0.7**
ZALV	**Zalesovo Beam**	**71.42**	**333**	P	**P**	**02 34 23.9**	**-0.7**
	comp=Z,10nm,0.7s,baz=109,slow=4.7,SNR=37						
KURK	**Kurchatov**	**72.45**	**328**	P	**P**	**02 34 30.8**	**-0.1**
	comp=Z,108nm,0.7s,SNR=19						
KURK	**Kurchatov**	**72.45**	**328**	*c i*P	**P**	**02 34 30.9**	**0.0**
KURK				pmax	pmax		
	comp=Z,21nm,1.2s						
KURK	**Kurchatov**	**72.45**	**328**	*e*P	**P**	**02 34 31.0**	**+0.2**
	comp=Z,13nm,0.8s						
NVS	**Novosibirsk**	**72.71**	**333**	*e*P	**P**	**02 34 31.5**	**-0.8**
NVS				pmax	pmax		
	comp=Z,14nm,0.8s						
NVS				pmax	pmax		
	comp=N,6.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,8.0nm,0.6s						
KK31	**Karatay Array**	**73.46**	**318**	*c e*P	**P**	**02 34 37.1**	**0.0**
KK31				pmax	pmax		
	comp=Z,16nm,0.8s						
KKAR	**Karatay Array**	**73.46**	**318**	*e*P	**P**	**02 34 37.3**	**+0.3**
KKAR				pmax	pmax		
	comp=Z,19nm,0.9s						
KKAR	**Karatay Array**	**73.46**	**318**	*e*P	**P**	**02 34 37.3**	**+0.3**
	comp=Z,19nm,0.9s						
MAW	**Mawson**	**75.84**	**201**	P	**P**	**02 34 51.9**	**+1.6**
MAW	**Mawson**	**75.84**	**201**	P	**P**	**02 34 51.9**	**+1.6**
	comp=Z,1.0nm,0.4s,baz=61,slow=6.5,SNR=5.8						
VOSK	**Vostochnaya**	**77.56**	**327**	*e*P	**P**	**02 34 59.8**	**-0.4**
VOSK				pmax	pmax		
	comp=Z,34nm,0.5s						
VOSK	**Vostochnaya**	**77.56**	**327**	*e*P	**P**	**02 34 59.8**	**-0.4**
	comp=Z,34nm,0.5s						
TIXI	**Tiksi**	**77.89**	**359**	*i* P	**P**	**02 35 00.2**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BRVK	**Borovoye**	**78.09**	**327**	*c i*P	**P**	**02 35 02.9**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,32nm,1.2s						
BRVK	**Borovoye**	**78.09**	**327**	*e*P	**P**	**02 35 03.0**	**-0.1**
	comp=Z,19nm,0.8s						
AB31	**Akbulak array**	**82.58**	**321**	*c e*P	**P**	**02 35 26.8**	**-0.5**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ABKAR	**Akbulak array**	**82.58**	**321**	*e*P	**P**	**02 35 26.8**	**-0.5**
ARU	**Arti**	**85.65**	**328**	*d i*P	**P**	**02 35 41.2**	**-1.6**
ARU						02 38 58.7	
ARU				S	**SKSac**	**02 45 58.3**	**-2.0**
ARU				pmax	pmax		
	comp=Z,8.0nm,0.7s						
RDF	**Al-Radifah**	**87.25**	**299**	*e*P	**P**	**02 35 50.3**	**-0.9**
RDF				AMb	AMB	02 35 51.6	
	comp=Z,48nm,1.5s						
NAY	**Al-Naaiem**	**87.56**	**300**	*e*P	**P**	**02 35 51.8**	**-1.0**
NAY				AMb	AMB	02 35 53.0	
	comp=Z,26nm,0.8s						
RST	**Umm Al-Ruwaisa**	**87.81**	**300**	*e*P	**P**	**02 35 52.7**	**-1.2**
RST				AMb	AMB	02 35 54.0	
	comp=Z,213nm,0.7s						
RAYN	**Ar Rayn**	**88.30**	**294**	*e*P	**P**	**02 35 56.5**	**+0.1**
	comp=Z,15nm,0.9s						
IMA2	**Indian Mountai**	**89.94**	**23**	*e*P	**P**	**02 36 02.7**	**-0.5**
MCK	**McKinley**	**91.35**	**26**	*e*P	**P**	**02 36 08.7**	**-1.0**
MCK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MCK	**McKinley**	**91.35**	**26**	*e*P	**P**	**02 36 08.7**	**-1.0**
	comp=Z,4.9nm,0.8s						
ILAR	**Eielson Array**	**92.42**	**25**	P	**P**	**02 36 13.2**	**-1.4**
ILAR	**Eielson Array**	**92.42**	**25**	P	**P**	**02 36 13.2**	**-1.4**
	comp=Z,2.0nm,0.7s,baz=274,slow=4.5,SNR=14						
KMBO	**Kilima Mbogo**	**93.48**	**268**	*e*P	**P**	**02 36 19.6**	**-1.4**
	comp=Z,2.0nm,0.9s						
EGAK	**Eagle**	**94.86**	**25**	*e*P	**P**	**02 36 26.0**	**+0.2**
INK	**Inuvik**	**97.97**	**22**	*e*P	**P**	**02 36 38.7**	**-1.1**
	comp=Z,2.9nm,1.0s						
ARCES	**ARCESS Array B**	**101.31**	**340**	P	**Pdif**	**02 36 53.6**	**-1.1**
ARCES	**ARCESS Array B**	**101.31**	**340**	P	**Pdif**	**02 36 53.7**	**-1.1**
	comp=Z,2.1nm,0.8s,baz=76,slow=5.1,SNR=6.3						
FINES	**FINESS Array B**	**102.64**	**332**	P	**Pdif**	**02 36 59.6**	**-1.2**
FINES	**FINESS Array B**	**102.64**	**332**	P	**Pdif**	**02 36 59.6**	**-1.2**
	comp=Z,2.6nm,0.7s,baz=36,slow=5.3,SNR=3.5						
TSUM	**Tsumeb**	**109.60**	**247**	*e*PKP	**PKiKP**	**02 41 35.9**	**+0.3**
CLL	**Collm**	**112.19**	**323**	*e*PKiKP	**PKiKP**	**02 41 40.0**	**+0.6**
GERES	**GERESS Array B**	**112.51**	**320**	PKiKP	**PKiKP**	**02 41 39.9**	**-0.4**
GERES	**GERESS Array B**	**112.51**	**320**	PKiKP	**PKiKP**	**02 41 39.9**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=90,slow=1.3,SNR=6.4						
PDAR	**Pinedale Array**	**115.84**	**45**	PKP	**PKPdf**	**02 41 47.3**	**+0.3**
PDAR	**Pinedale Array**	**115.84**	**45**	PKP	**PKPdf**	**02 41 47.3**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=204,slow=1.2,SNR=4.5						
WLF	**Walferdange**	**116.86**	**323**	*e*PKIKP	**PKPdf**	**02 41 47.8**	**-0.6**
WLF	**Walferdange**	**116.86**	**323**	*e*PKPdf	**PKPdf**	**02 41 47.8**	**-0.6**
LPG	**La Plagne**	**118.08**	**319**	*e*PKIKP	**PKPdf**	**02 41 51.2**	**-0.1**
	comp=Z,6.8nm,0.9s						
LPG	**La Plagne**	**118.08**	**319**	*e*PKIKP	**PKPdf**	**02 41 51.2**	**-0.1**
LPG	**La Plagne**	**118.08**	**319**	*e*PKPdf	**PKPdf**	**02 41 51.2**	**-0.1**
LPL	**La Plagne**	**118.09**	**319**	*e*PKIKP	**PKPdf**	**02 41 51.1**	**-0.1**
	comp=Z,2.4nm,0.5s						
LPL	**La Plagne**	**118.09**	**319**	*e*PKIKP	**PKPdf**	**02 41 51.1**	**-0.1**
LPL	**La Plagne**	**118.09**	**319**	*e*PKPdf	**PKPdf**	**02 41 51.1**	**-0.1**
CABF	**La Chapelle**	**118.10**	**320**	*e*PKIKP	**PKPdf**	**02 41 51.1**	**0.0**
CABF	**La Chapelle**	**118.10**	**320**	*e*PKIKP	**PKPdf**	**02 41 51.1**	**0.0**
CABF	**La Chapelle**	**118.10**	**320**	*e*PKPdf	**PKPdf**	**02 41 51.1**	**0.0**
ANMO	**Albuquerque**	**120.24**	**53**	PKP	**PKPdf**	**02 41 54.8**	**-0.9**
ANMO	**Albuquerque**	**120.24**	**53**	PKP	**PKPdf**	**02 41 54.8**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=156,slow=2.4,SNR=3.7						
GRR	**Gorron**	**121.56**	**324**	*e*PKIKP	**PKPdf**	**02 41 58.7**	**+1.2**
GRR	**Gorron**	**121.56**	**324**	*e*PKIKP	**PKPdf**	**02 41 58.7**	**+1.2**
GRR	**Gorron**	**121.56**	**324**	*e*PKPdf	**PKPdf**	**02 41 58.7**	**+1.2**
MFF	**Saint Martin d**	**121.99**	**322**	*e*PKIKP	**PKPdf**	**02 41 59.0**	**+0.6**
MFF	**Saint Martin d**	**121.99**	**322**	*e*PKIKP	**PKPdf**	**02 41 59.0**	**+0.6**
MFF	**Saint Martin d**	**121.99**	**322**	*e*PKPdf	**PKPdf**	**02 41 59.0**	**+0.6**
TXAR	**Lajitas Array**	**123.86**	**59**	PKP	**PKPdf**	**02 42 03.9**	**+1.2**
TXAR	**Lajitas Array**	**123.86**	**59**	PKP	**PKPdf**	**02 42 03.9**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=222,slow=1.7,SNR=6.0						
PLCA	**Paso Flores**	**129.14**	**159**	PKP	**PKPdf**	**02 42 13.7**	**+1.2**
PLCA	**Paso Flores**	**129.14**	**159**	PKP	**PKPdf**	**02 42 13.7**	**+1.2**
	comp=Z,0.9nm,0.6s,baz=330,slow=8.8,SNR=3.7						
TORD	**Torodi Ar. Bea**	**129.55**	**282**	PKP	**PKPdf**	**02 42 13.5**	**-0.3**
TORD	**Torodi Ar. Bea**	**129.55**	**282**	PKP	**PKPdf**	**02 42 13.5**	**-0.3**
	comp=Z,3.2nm,0.7s,baz=29,slow=1.4,SNR=21						
TRQA	**Tornquist**	**134.19**	**166**	*e*PKPdf	**PKPdf**	**02 42 22.6**	**+0.5**
DBIC	**Dimbokro**	**136.03**	**273**	*e*PKPdf	**PKPdf**	**02 42 27.5**	**+1.5**
DBIC	**Dimbokro**	**136.03**	**273**	PKP	**PKPdf**	**02 42 27.2**	**+1.2**
	comp=Z,3.4nm,0.5s,baz=96,slow=4.0,SNR=7.2						
LIC	**Lamto**	**136.19**	**272**	*e*PKIKP	**PKPdf**	**02 42 28.1**	**+1.8**
	comp=Z,11nm,0.6s						
LIC	**Lamto**	**136.19**	**272**	*e*PKPdf	**PKPdf**	**02 42 28.1**	**+1.8**
JTS	**JuntasAbangare**	**144.35**	**81**	*e*PKPdf	**PKPdf**	**02 42 41.3**	**+0.3**
LVC	**Limon Verde**	**145.28**	**147**	*e*PKPbc	**PKPdf**	**02 42 45.2**	**+2.4**
CPUP	**Villa Florida**	**146.52**	**167**	*e*PKPbc	**PKPab**	**02 42 47.0**	**+0.1**
CPUP	**Villa Florida**	**146.52**	**167**	PKPbc	**PKPab**	**02 42 46.9**	**0.0**
	comp=Z,1.8nm,0.6s,baz=160,slow=1.1,SNR=6.0						
LPAZ	**La Paz**	**150.65**	**140**	*e*PKPbc	**PKPbc**	**02 42 59.5**	**+1.8**
LPAZ	**La Paz**	**150.65**	**140**	PKPbc	**PKPbc**	**02 42 59.3**	**+1.6**
	comp=Z,5.4nm,0.8s,baz=97,slow=2.1,SNR=17						
SAML	**Samuel**	**159.30**	**137**	*e*PKPdf	**PKPdf**	**02 43 03.6**	**+0.3**

IDC ***02*** *02:23:20.6±0.7, 16°.50S×172°.87W, h0km, mb4.2/8, mb1 4.5/9, mb1mx4.3/23, mbtmp4.3/9, ML4.4/1, MS3.6/1, Ms1 3.6/1, ms1mx3.4/46, Error ellipse: s-maj=29.6km s-min=20.8km az=142.0*

NEIC ***02*** *02:23:21.9±0.3, 16°.47S×172°.93W, h10km, mb4.7/17, Error ellipse: s-maj=11.6km s-min=7.7km az=150.0*

SZGRF ***02*** *02:23:22.5, 16°.74S×173°.22W, h21km, Tonga Islands*

ISCJB ***02*** *02:23:23.8±0.4, 16°.65±0°.1×172°.91W±0°.09, h32km, mb4.6/25, Error ellipse: s-maj=17.0km s-min=9.2km az=143.5*

ISC 02 02:23:25.3±0.4,**16°.41S**±0°.08×**172°.82W**±0°.09,**h32**km, **n109**,σ0**97**/111,**mb4.6**/25,**11C-4D,Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.68**	**22**	*e*Pn	Pn	02 24 01.9	-4.5
AFI				Sn	**Sn**	**02 24 35.0**	**-2.7**
AFI	**Afiamalu**	**2.68**	**22**	Pn	Pn	02 24 01.8	-4.5
	8.5nm,0.3s,baz=234,slow=18,SNR=2.9						
AFI				Sn	**Sn**	**02 24 35.0**	**-2.7**
	63nm,0.3s,baz=31,slow=23,SNR=6.5						
AFI				LR	LR	02 24 55.7	
	comp=Z,1μm,18.9s,baz=118,slow=34						
RAR	**Rarotonga**	**13.24**	**113**	*e*Pn	**Pn**	**02 26 30.4**	**-0.8**
RAR	**Rarotonga**	**13.24**	**113**	Pn	**Pn**	**02 26 30.1**	**-1.1**
	2.0nm,0.3s,baz=270,slow=13,SNR=3.8						
DZM	**Mont Dzumac**	**20.37**	**251**	*e*P	**P**	**02 27 58.5**	**-1.1**
	39nm,1.3s						
DZM	**Mont Dzumac**	**20.37**	**251**	P	**P**	**02 27 59.0**	**-0.5**
	2.9nm,0.7s,baz=43,slow=23,SNR=3.9						
RPZ	**Rata Peaks**	**30.48**	**203**	*e*P	**P**	**02 29 35.3**	**+0.1**
	11nm,0.6s						
PMG	**Port Moresby**	**39.57**	**275**	*e*P	**P**	**02 30 55.2**	**+1.3**
	15nm,0.8s						
COEN	**Coen**	**42.48**	**267**	*e*P	**P**	**02 31 16.7**	**-1.3**
	385nm,1.0s						
ASAR	**Alice Springs**	**50.34**	**253**	P	**P**	**02 32 19.4**	**-0.2**
ASAR	**Alice Springs**	**50.34**	**253**	P	**P**	**02 32 19.4**	**-0.2**
	14nm,0.6s,baz=80,slow=8.9,SNR=3.2						
FORT	**Forrest**	**55.47**	**244**	*e*P	**P**	**02 32 55.9**	**-1.4**
	76nm,0.9s						
VNDA	**Vanda**	**62.44**	**186**	P	**P**	**02 33 44.5**	**-0.4**
VNDA	**Vanda**	**62.44**	**186**	P	**P**	**02 33 44.5**	**-0.4**
	0.9nm,1.0s,baz=2.1,slow=5.7,SNR=4.2						
KAPI	**Kappang**	**66.96**	**271**	*e*P	**P**	**02 34 15.1**	**-0.4**
	7.1nm,0.9s						
ISA	**Isabella**	**72.98**	**44**	*e*P	**P**	**02 34 53.9**	**+1.8**
	39nm,1.2s						
CMB	**Columbia Colle**	**73.15**	**41**	*e*P	**P**	**02 34 53.5**	**+0.5**
	2.9nm,1.0s						
QSPA	**South Pole Qui**	**73.64**	**180**	*e*P	**P**	**02 34 55.5**	**-0.1**
	4.9nm,1.1s						
PETK	**Petropavlovsk-**	**73.75**	**342**	P	**P**	**02 34 58.4**	**+2.3**
PETK	**Petropavlovsk-**	**73.75**	**342**	P	**P**	**02 34 58.4**	**+2.3**
	4.7nm,0.9s,baz=117,slow=5.4,SNR=2.7						
YBH	**Yreka Blue Hor**	**74.06**	**37**	*e*P	**P**	**02 34 59.7**	**+1.4**
	21nm,1.7s						
BEKR	**Beckworth**	**74.28**	**39**	*e*P	**P**	**02 35 01.2**	**+1.4**
	5.5nm,1.5s						
HUMO	**Hull Mountain**	**74.49**	**36**	*e*P	**P**	**02 35 02.7**	**+2.0**
	10nm,1.4s						
NVAR	**Mina Array Bea**	**74.70**	**42**	P	**P**	**02 35 04.0**	**+1.7**
NVAR	**Mina Array Bea**	**74.70**	**42**	P	**P**	**02 35 04.0**	**+1.7**
	2.5nm,0.9s,baz=227,slow=9.7,SNR=13						
SHPR	**Sheep Range**	**75.67**	**45**	*e*P	**P**	**02 35 09.7**	**+1.9**
TUC	**Tucson**	**76.59**	**50**	*e*P	**P**	**02 35 13.7**	**+0.6**
	8.7nm,1.4s						
WVOR	**Wild Horse Val**	**76.87**	**38**	*e*P	**P**	**02 35 15.6**	**+1.2**
	26nm,1.8s						
DUG	**Dugway**	**79.22**	**42**	*e*P	**P**	**02 35 28.7**	**+1.1**
	6.3nm,1.4s						
DIV	**Divide**	**80.24**	**13**	*e*P	**P**	**02 35 32.6**	**0.0**
	9.7nm,0.8s						
BMRM	**Bremner River**	**80.36**	**14**	*e*P	**P**	**02 35 33.8**	**+0.6**
	7.6nm,0.8s						
BNM	**Barren Site**	**80.53**	**50**	*e*P	**P**	**02 35 36.1**	**+1.2**
TXAR	**Lajitas Array**	**80.71**	**56**	P	**P**	**02 35 37.1**	**+1.3**
TXAR	**Lajitas Array**	**80.71**	**56**	P	**P**	**02 35 37.1**	**+1.3**
	0.6nm,1.0s,baz=217,slow=6.1,SNR=5.4						
IMW	**Indian Meadow**	**82.35**	**40**	*e*P	**P**	**02 35 45.8**	**+1.4**
	4.4nm,1.3s						
PDAR	**Pinedale Array**	**82.64**	**42**	P	**P**	**02 35 46.9**	**+1.0**
PDAR	**Pinedale Array**	**82.64**	**42**	P	**P**	**02 35 46.9**	**+1.0**
	2.3nm,0.9s,baz=224,slow=3.6,SNR=12						
COLA	**College**	**83.24**	**10**	*e*P	**P**	**02 35 47.6**	**-0.6**
	25nm,0.9s						
ILAR	**Eielson Array**	**83.32**	**11**	P	**P**	**02 35 48.1**	**-0.4**
ILAR	**Eielson Array**	**83.32**	**11**	P	**P**	**02 35 48.1**	**-0.4**
	0.7nm,0.7s,baz=232,slow=6.5,SNR=12						
DAWY	**Dawson**	**84.25**	**14**	*e*P	**P**	**02 35 53.5**	**+0.1**
ARCES	**ARCESS Array B**	**125.68**	**352**	PKP	**PKPdf**	**02 42 22.3**	**-0.7**
ARCES	**ARCESS Array B**	**125.68**	**352**	PKP	**PKPdf**	**02 42 22.3**	**-0.7**
	2.2nm,0.9s,baz=64,slow=2.1,SNR=3.2						
FINES	**FINESS Array B**	**133.04**	**348**	PKP	**PKPdf**	**02 42 37.5**	**+0.3**
FINES	**FINESS Array B**	**133.04**	**348**	PKP	**PKPdf**	**02 42 37.5**	**+0.3**
	2.2nm,1.0s,baz=45,slow=0.2,SNR=3.2						
AKASG	**Malin Array Be**	**141.48**	**337**	PKPpre	PKPpre	02 42 50.0	
AKASG	**Malin Array Be**	**141.48**	**337**	PKhKP	PKPpre	02 42 50.0	
	0.1nm,0.2s,baz=39,slow=2.7,SNR=4.0						
KWP	**Kalwaria Pacla**	**144.54**	**343**	*e*PKPdf	**PKPab**	**02 42 56.5**	**-0.5**
CLL	**Collm**	**144.87**	**354**	*e*PKPdf	**PKPab**	**02 42 57.0**	**-1.1**
	comp=Z,5.0nm,1.0s						
CLL				*i* PKiKP	**PKiKP**	**02 43 03.2**	**+0.4**
STHS	**Stebnicka Huta**	**145.15**	**344**	*e*PKP	**PKPbc**	**02 42 59.0**	**-0.2**
BRG	**Berggiesshubel**	**145.19**	**352**	*e*PKP	PKPpre	02 42 43.1	
	comp=Z,6.7nm,1.3s						
UPC	**Upice**	**145.25**	**350**	*e*PKP	**PKPbc**	**02 42 59.0**	**-0.4**
KOLS	**Kolonicke sedl**	**145.30**	**342**	*e*PKP	**PKPbc**	**02 42 59.2**	**-0.5**
DPC	**Dobruska-Polom**	**145.35**	**350**	*e*pPKP	PKPdf	02 43 05.2	+5.2
PVCC	**Panska Ves**	**145.44**	**352**	*e*PKP	**PKPbc**	**02 42 59.9**	**-0.1**
BUR08	**Bucovina Ar. S**	**145.49**	**338**	*e*PKPbc	**PKPdf**	**02 42 59.6**	**-0.7**
OKC	**Ostrava-Krasne**	**145.49**	**347**	*e*PKP	**PKPdf**	**02 42 59.8**	**-0.4**
OKC				*e*pPKP	**PKiKP**	**02 43 05.8**	**+1.7**
BURAR	**Bucovina Array**	**145.50**	**338**	ǁ *i*P	**PKPbc**	**02 43 00.4**	**-0.1**
KMBO	**Kilima Mbogo**	**145.59**	**242**	*e*PKPbc	**PKPdf**	**02 43 00.9**	**-0.9**
KMBO	**Kilima Mbogo**	**145.59**	**242**	PKPbc	**PKPdf**	**02 43 01.1**	**-0.7**
	comp=Z,3.2nm,0.9s,baz=65,slow=4.7,SNR=9.1						
MOX	**Moxa**	**145.66**	**355**	*e*PKPbc	**PKPdf**	**02 43 00.4**	**-0.1**
MORC	**Moravsky Berou**	**145.67**	**348**	ǁ *i*P	**PKPbc**	**02 43 00.9**	**0.0**
MORC	**Moravsky Berou**	**145.67**	**348**	*e*PKPbc	**PKPdf**	**02 43 00.1**	**-0.4**
WERD	**Werda**	**145.79**	**354**	*e*PKPbc	**PKPbc**	**02 43 01.1**	**-0.1**
TANN	**Tannenbergstha**	**145.81**	**354**	*e*PKPbc	**PKPbc**	**02 43 01.1**	**-0.2**
GUNZ	**Gunzen**	**145.87**	**354**	*e*PKPbc	**PKPbc**	**02 43 01.3**	**-0.2**
TRPA	**Tarpa**	**145.94**	**342**	ǁ *i*P	**PKPdf**	**02 43 01.0**	**0.0**
WERN	**Wernitzgruen**	**145.94**	**354**	*e*PKPbc	**PKPbc**	**02 43 01.8**	**+0.1**
PRU	**Pruhonice**	**145.98**	**352**	*e*PKP	**PKPbc**	**02 43 01.6**	**-0.1**
PRU				*e*pPKP	**PKiKP**	**02 43 07.1**	**+1.9**
KECS	**Kecovo**	**146.20**	**344**	*e*PKP	**PKPbc**	**02 43 02.3**	**-0.2**
KECS				*e*		02 43 08.3	
TNS	**Taunus Mts**	**146.25**	**359**	*e*PKPbc	**PKPbc**	**02 43 02.9**	**+0.3**
MANZ	**Manzenberg**	**146.27**	**354**	*e*PKPbc	**PKPbc**	**02 43 02.5**	**-0.2**
VRAC	**Vranov**	**146.30**	**349**	ǁ *i*P	**PKPdf**	**02 43 01.5**	**-0.1**
CFR	**Carcaliu**	**146.34**	**333**	ǁ *i*P	**PKPdf**	**02 43 02.0**	**+0.3**
VRI	**Vrincioaia**	**146.39**	**335**	ǁ *i*P	**PKPbc**	**02 43 03.3**	**+0.2**
ROTZ	**Rotzenmuhle**	**146.47**	**354**	*e*PKPbc	**PKPbc**	**02 43 03.6**	**+0.4**
TREC	**Trest**	**146.51**	**350**	*e*PKP	**PKPbc**	**02 43 02.8**	**-0.6**
GRF	**Grafenberg Arr**	**146.64**	**355**	*e*PKPbc	**PKPab**	**02 43 04.3**	**-0.5**
GRF				*e*pPKPbc	pPKPbc	02 43 10.6	-3.6
GRFO	**Grafenberg**	**146.64**	**355**	*e*PKPbc	**PKPab**	**02 43 05.0**	**+0.2**
WLF	**Walferdange**	**146.82**	**1**	*e*PKPbc	**PKPbc**	**02 43 04.7**	**+0.5**
PSZ	**Piszkesteto**	**146.88**	**344**	ǁ *i*P	PKPab	02 43 11.2	+5.3
PSZ	**Piszkesteto**	**146.88**	**344**	*e*PKPbc	**PKPbc**	**02 43 03.9**	**-0.7**
KHC	**Kasperske Hory**	**146.95**	**352**	*e*PKP	**PKPbc**	**02 43 04.3**	**-0.4**
KHC				*e*pPKP	**PKiKP**	**02 43 09.7**	**+2.5**
KHC	**Kasperske Hory**	**146.95**	**352**	*e*PKPbc	**PKPbc**	**02 43 04.3**	**-0.4**
MLR	**Muntele Rosu**	**147.01**	**335**	ǁ *i*P	**PKPbc**	**02 43 05.1**	**0.0**
DRGR		**147.07**	**340**	ǁ *i*P	**PKPbc**	**02 43 04.4**	**-0.7**
GEC2	**GERESS Array S**	**147.21**	**352**	*e*PKPbc	**PKPbc**	**02 43 05.4**	**-0.1**
GERES	**GERESS Array B**	**147.21**	**352**	PKPbc	**PKPbc**	**02 43 05.2**	**-0.3**
GERES	**GERESS Array B**	**147.21**	**352**	PKPbc	**PKPbc**	**02 43 05.2**	**-0.3**
	comp=Z,3.7nm,0.9s,baz=28,slow=3.2,SNR=19						
BR131	**Keskin Array S**	**147.28**	**321**	*e*PKPbc	**PKPbc**	**02 43 05.0**	**-1.1**
BRTR	**Keskin Array B**	**147.28**	**321**	PKPbc	**PKPbc**	**02 43 05.0**	**-1.1**
BRTR	**Keskin Array B**	**147.28**	**321**	PKPbc	**PKPbc**	**02 43 05.0**	**-1.1**
	comp=Z,2.1nm,0.8s,baz=116,slow=2.9,SNR=11						
ARR	**Arges**	**147.62**	**337**	ǁ *i*P	**PKPbc**	**02 43 07.5**	**+0.8**
ANTO	**Ankara**	**147.71**	**321**	*e*PKPbc	**PKPbc**	**02 43 06.7**	**-0.4**
CONA	**Conrad Observa**	**147.76**	**349**	ǁ *i*PKPdf	**PKPdf**	**02 43 04.0**	**-0.2**
	comp=Z,14nm,1.5s						
BFO	**Black Forest**	**148.15**	**359**	*e*PKPbc	**PKPbc**	**02 43 08.1**	**+0.1**
BFO	**Black Forest**	**148.15**	**359**	*e*PKPbc	**PKPbc**	**02 43 07.7**	**-0.2**
ECH	**Echery**	**148.28**	**0**	*e*PKPbc	**PKPbc**	**02 43 07.9**	**-0.4**
ECH				*e*PKPab	**PKPab**	**02 43 11.0**	**-0.3**
RJOB	**Jochberg**	**148.41**	**353**	*e*PKPbc	**PKPbc**	**02 43 08.8**	**+0.1**
BZS	**Buzias**	**148.46**	**340**	ǁ *i*P	**PKPbc**	**02 43 08.2**	**-0.6**
DAVA	**Damuels**	**149.13**	**356**	ǁ *i*pPKPdf	**PKPbc**	**02 43 09.1**	**-1.6**
	comp=Z,11nm,1.1s						
FETA	**Feichten**	**149.33**	**355**	ǁ *i*PKPbc	**PKPbc**	**02 43 10.7**	**-0.5**
	comp=Z,8.1nm,1.1s						
TUE	**Stuetta**	**149.97**	**357**	*e*PKPbc	**PKPbc**	**02 43 12.7**	**-0.2**
TUE				*e*PKPab	**PKPab**	**02 43 18.5**	**0.0**
CSS	**Prodhromos**	**150.20**	**313**	*e*PKPbc	**PKPbc**	**02 43 11.8**	**-1.7**
VTS	**Vitosha**	**150.52**	**336**	ǁ *i*P	**PKPbc**	**02 43 13.8**	**-0.4**
SSB	**Saint Sauveur**	**151.13**	**4**	*e*PKPbc	**PKPbc**	**02 43 15.4**	**-0.1**
BNI	**Bardonecchia**	**151.44**	**1**	*e*PKPbc	**PKPbc**	**02 43 16.1**	**-0.2**
BNI				*e*PKPab	**PKPab**	**02 43 23.6**	**-1.0**
TORD	**Torodi Ar. Bea**	**173.78**	**121**	PKPab	**PKPab**	**02 45 03.3**	**+0.6**
TORD	**Torodi Ar. Bea**	**173.78**	**121**	PKPab	**PKPab**	**02 45 03.3**	**+0.6**
	comp=Z,1.2nm,1.0s,baz=279,slow=7.3,SNR=4.0						

JMA 02 02:30:06.0±0.1,**26°.49N**×**129°.97E**,**h46**km,**M3.9, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMZ	**Minamidaito 2**	**1.31**	**120**	P	Pn	02 30 28.4	+0.6
JMZ				S	Sn	02 30 43.0	-1.1
JOW	**Kunigami**	**1.56**	**283**	P	Pn	02 30 31.9	+0.7
JOW				*e*S	Sn	02 30 50.5	+0.3
JTK	**

Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.96**	**157**	P	P	02 40 47.2	-1.8
	0.8nm,0.7s,baz=334,slow=11,SNR=7.7						
ASAR	**Alice Springs**	**26.23**	**161**	P	P	02 41 21.2	+1.4
	0.2nm,0.4s,baz=345,slow=12,SNR=3.1						
MKAR	**Makanchi Array**	**58.65**	**327**	P	P	02 45 41.9	-0.1
	0.2nm,0.3s,baz=118,slow=6.5,SNR=4.3						

*IDC **02** 02:46:45.0±0.4, 16°.65S×172°.75W, h0km, mb4.6/20, mb1 4.8/20, mb1mx4.8/25, mbtmp4.6/20, MS4.4/4, Ms1 4.4/4, ms1mx3.9/48, Error ellipse: s-maj=17.9km s-min=14.5km az=107.0*

*ISCJB **02** 02:46:45.7±0.2, 16°.66S±0°.06×172°.60W±0°.05, h10km, mb5.0/108, MS4.8/7, Error ellipse: s-maj=8.8km s-min=5.0km az=149.0*

*NEIC **02** 02:46:46.9±0.2, 16°.64S×172°.61W, h10km, mb5.1/77, Error ellipse: s-maj=8.2km s-min=4.8km az=137.0*

*DJA **02** 02:46:48.5±0.6, 17°.5±12°×17°.2W±1°.2, h15km, M5.2/8, mB6.5/1, mb5.1/8, MLv5.3/1, Mw(mB)6.3/1*

*MOS **02** 02:46:52.5±1.3, 15°.82S×172°.65W, h33km, mb5.3/26, Error ellipse: s-maj=14.0km s-min=8.8km az=55.8*

*SZGRF **02** 02:46:53.8, 16°.19S×172°.47W, h33km, Samoa Islands region*

*AUST **02** 02:47:17.1±7.1, 16°.71S×174°.18W, h198km±31km, Error ellipse: s-maj=78.8km s-min=15.2km az=78.0*

ISC 02 02:46:48.5±0.5, 16°.68S±0°.08×172°.53W±0°.07, h20km±2km, h20km:pP-P, n629, σ0°.76/623, mb5.1/108, MS4.9/7, 157C-154D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.85**	**15**	ePn	Pn	02 47 26.6	-6.4
AFI				Sn	Sn	02 47 55.4	-11
AFI	**Afiamalu**	**2.85**	**15**	Pn	Pn	02 47 26.7	-6.2
	42nm,0.3s,baz=4.7,slow=1.7,SNR=5.9						
AFI				Sn	Sn	02 47 55.4	-11
	84nm,0.3s,baz=74,slow=16,SNR=5.0						
AFI				LR	LR	02 48 38.3	
	comp=Z,4μm,19.5s,baz=175,slow=39						
MSVF	**Nonsavu**	**9.07**	**262**	eP	Pn	02 49 03.3	+4.9
MSVF				pmax	pmax		
	comp=Z,193nm,1.1s						
MSVF	**Nonsavu**	**9.07**	**262**	Pn	Pn	02 49 03.9	+5.5
	comp=Z,957nm,1.4s,SNR=21						
MSVF	**Nonsavu**	**9.07**	**262**	ePn	Pn	02 49 03.2	+4.9
	comp=Z,193nm,1.1s						
RAR	**Rarotonga**	**12.88**	**112**	ePn	Pn	02 49 45.7	-4.8
	comp=Z,132nm,1.1s						
RAR	**Rarotonga**	**12.88**	**112**	Pn	Pn	02 49 46.3	-4.2
	comp=Z,6.9nm,0.3s,baz=270,slow=3.4,SNR=5.8						
DZM	**Mont Dzumac**	**20.54**	**252**	eP	P	**02 51 26.3**	**+0.2**
	comp=Z,164nm,1.4s						
DZM				eLR	LR	02 56 17.3	
	comp=Z,1μm,22.1s						
DZM	**Mont Dzumac**	**20.54**	**252**	eP	P	**02 51 26.2**	**+0.2**
	comp=Z,98nm,1.4s						
DZM	**Mont Dzumac**	**20.54**	**252**	P	P	**02 51 26.4**	**+0.4**
	comp=Z,8.0nm,0.9s,baz=83,slow=19,SNR=4.0						
PPT2	**Papeete2**	**21.95**	**96**	eLQ	LQ	02 55 52.7	
	comp=Z,1μm,27.8s						
PPT2				eLR	LR	02 56 55.2	
	comp=Z,463nm,21.2s						
TBI	**Tubuai**	**22.65**	**111**	eLQ	LQ	02 56 21.1	
	comp=Z,724nm,33.0s						
TBI				eLR	LR	02 57 08.9	
	comp=Z,537nm,22.2s						
URZ	**Urewera**	**23.34**	**201**	eP	P	**02 51 54.6**	**-1.0**
	comp=Z,31nm,0.9s						
URZ	**Urewera**	**23.34**	**201**	P	P	**02 51 54.4**	**-1.1**
	comp=Z,7.0nm,0.5s,baz=357,slow=13,SNR=6.2						
HNR	**Honiara**	**27.74**	**282**	LR	LR	03 02 03.2	
	comp=Z,2μm,19.3s,baz=311,slow=33						
RKT	**Rikitea**	**35.81**	**106**	eLR	LR	03 03 13.7	
	comp=Z,398nm,21.0s						
CTA	**Charters Tower**	**39.19**	**259**	LR	LR	03 08 30.2	
	comp=Z,295nm,20.5s,baz=292,slow=34						
CTAO	**Charters Tower**	**39.19**	**259**	eP	P	**02 54 18.4**	**+2.8**
CTAO				pmax	pmax		
	comp=Z,9.0nm,1.1s						
CTAO	**Charters Tower**	**39.19**	**259**	eP	P	**02 54 18.4**	**+2.8**
	comp=Z,9.4nm,1.1s						
CMSA	**Cobar Meteorol**	**40.65**	**241**	↑P	P	**02 54 26.7**	**-0.8**
	baz=39,SNR=6.1						
TOO	**Toolangi**	**42.33**	**232**	↑P	P	**02 54 40.9**	**-0.3**
	baz=41,SNR=4.5						
COEN	**Coen**	**42.75**	**267**	eP	P	**02 54 45.4**	**+0.4**
	comp=Z,72nm,1.1s						
STKA	**Stephens Creek**	**44.14**	**241**	eP	P	**02 54 54.4**	**-1.6**
	comp=Z,11nm,1.5s						
STKA	**Stephens Creek**	**44.14**	**241**	↓P	P	**02 54 54.9**	**-1.1**
	baz=43,SNR=6.7						
STKA	**Stephens Creek**	**44.14**	**241**	P	P	**02 54 54.0**	**-2.0**
	comp=Z,10nm,1.0s,baz=80,slow=6.8,SNR=11						
JAY	**Jayapura**	**48.07**	**282**	↓P	P	**02 55 25.0**	**-2.1**
	baz=46,SNR=4.1						
WRAB	**Tennant Creek**	**50.37**	**258**	eP	P	02 55 41.2	-3.5
WRAB				pmax	pmax		
	comp=Z,8.0nm,1.3s						
WRAB	**Tennant Creek**	**50.37**	**258**	eP	P	02 55 41.2	-3.5
	comp=Z,7.8nm,1.3s						
WRA	**Warramunga Arr**	**50.38**	**258**	P	P	02 55 40.8	-4.0
WRA	**Warramunga Arr**	**50.38**	**258**	P	P	02 55 40.8	-4.0
	comp=Z,3.0nm,1.1s,baz=95,slow=6.7,SNR=14						
WRA				LR	LR	03 16 38.4	
	comp=Z,331nm,18.9s,baz=110,slow=36						
AS31	**Alice Springs**	**50.52**	**253**	eP	P	02 55 42.1	-3.7
ASAR	**Alice Springs**	**50.53**	**253**	P	P	02 55 42.4	-3.5
ASAR	**Alice Springs**	**50.53**	**253**	P	P	02 55 42.4	-3.5
	comp=Z,7.2nm,0.5s,baz=88,slow=8.3,SNR=135						
FORT	**Forrest**	**55.60**	**244**	eP	P	**02 56 21.5**	**-1.6**
	comp=Z,37nm,1.2s						
SBA	**Scott Base**	**62.05**	**185**	eP	P	**02 57 08.9**	**+1.8**
SBA				pmax	pmax		
	comp=Z,59nm,1.5s						
SBA	**Scott Base**	**62.05**	**185**	eP	P	**02 57 08.9**	**+1.8**
	comp=Z,59nm,1.5s						
VNDA	**Vanda**	**62.19**	**186**	eP	P	**02 57 09.3**	**+1.2**
	comp=Z,38nm,1.5s						
VNDA	**Vanda**	**62.19**	**186**	P	P	**02 57 09.3**	**+1.2**
	comp=Z,10nm,0.9s,baz=8.3,slow=6.6,SNR=51						
CASY	**Casey**	**69.60**	**205**	eP	P	**02 57 55.6**	**-0.4**
	comp=Z,57nm,1.7s						
MJAR	**Matsushiro Arr**	**70.46**	**320**	P	P	**02 57 59.4**	**-2.3**
MJAR	**Matsushiro Arr**	**70.46**	**320**	P	P	**02 57 59.4**	**-2.3**
	comp=Z,4.6nm,1.0s,baz=169,slow=5.7,SNR=7.2						
MAJO	**Matsushiro**	**70.46**	**320**	eP	P	**02 58 03.2**	**+1.5**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MAJO	**Matsushiro**	**70.46**	**320**	eP	P	**02 58 03.2**	**+1.5**
	comp=Z,3nm,0.8s						
MYLDM	**Lahad Datu**	**71.53**	**281**	P	P	**02 58 08.9**	**+0.3**
	comp=Z,50nm,1.5s						
PKM	**Peak Mountain**	**71.65**	**44**	↑P	P	**02 58 09.9**	**+0.7**
	baz=72						
CIS	**Catalina Islan**	**71.73**	**46**	↓P	P	**02 58 10.4**	**+0.9**
	baz=72						
SMMC	**Simmler**	**71.78**	**43**	↑P	P	**02 58 10.8**	**+1.1**
	baz=72,SNR=6.1						
109C	**Camp Elliot, M**	**72.33**	**47**	↓P	P	**02 58 13.9**	**+0.8**
	baz=72						
MWC	**Mount Wilson**	**72.43**	**45**	eP	P	**02 58 14.1**	**+0.2**
MWC				pmax	pmax		
	comp=Z,10.0nm,1.1s						
MWC	**Mount Wilson**	**72.43**	**45**	eP	P	**02 58 14.1**	**+0.2**
	comp=Z,9.7nm,1.1s						
ARVC	**Arvin**	**72.44**	**44**	↑P	P	**02 58 14.1**	**+0.5**
	baz=73						
MURC	**Murrieta**	**72.67**	**46**	↑P	P	**02 58 15.8**	**+0.7**
	baz=73						
VES	**Vestal, Richgr**	**72.69**	**43**	↑P	P	**02 58 15.3**	**+0.1**
	baz=73,SNR=9.6						
BFSC	**Mount Baldy Ra**	**72.71**	**45**	↓P	P	**02 58 15.5**	**-0.1**
	baz=73						
MONP	**Monument Peak**	**72.81**	**47**	↓P	P	**02 58 16.6**	**+0.4**
	baz=73						
EDW2	**Edwards Air Fo**	**72.86**	**44**	↓P	P	**02 58 16.6**	**+0.3**
	baz=73,SNR=16						
RCTC	**Rector, Farmer**	**72.87**	**43**	↓P	P	**02 58 16.8**	**+0.6**
	baz=73						
DVTC	**Desert V Tower**	**72.91**	**47**	↑P	P	**02 58 17.1**	**+0.5**
	baz=73						
ISA	**Isabella**	**72.99**	**44**	eP	P	**02 58 17.2**	**+0.1**
ISA				pmax	pmax		
	comp=Z,43nm,1.4s						
ISA	**Isabella**	**72.99**	**44**	eP	P	**02 58 17.2**	**+0.1**
	comp=Z,43nm,1.4s						
ISA	**Isabella**	**72.99**	**44**	↓P	P	**02 58 17.8**	**+0.7**
	baz=73,SNR=19						
CMB	**Columbia Colle**	**73.18**	**41**	eP	P	**02 58 18.2**	**+0.1**
CMB				pmax	pmax		
	comp=Z,24nm,1.4s						
CMB	**Columbia Colle**	**73.18**	**41**	eP	P	**02 58 18.2**	**+0.1**
	comp=Z,24nm,1.4s						
PFO	**Pinyon Flat Ob**	**73.19**	**46**	↓P	P	**02 58 18.7**	**+0.4**
	baz=73						
BBRC	**Big Bear Solar**	**73.23**	**46**	↓P	P	**02 58 19.2**	**+0.6**
	baz=73						
SWSC	**Sam W. Stewart**	**73.28**	**47**	↓P	P	**02 58 19.1**	**+0.4**
	baz=73						
QSPA	**South Pole Qui**	**73.37**	**180**	eP	P	**02 58 19.0**	**+0.1**
	comp=Z,38nm,1.1s						
QSPA	**South Pole Qui**	**73.37**	**180**	P	P	**02 58 19.0**	**+0.1**
	comp=Z,23nm,1.1s,baz=45,slow=2.6,SNR=39						
LRMC	**Laurel Mountai**	**73.40**	**44**	↑P	P	**02 58 19.9**	**+0.3**
	baz=74,SNR=14						
RRX	**Edison Barstow**	**73.53**	**45**	↓P	P	**02 58 20.4**	**+0.2**
	baz=74						
CWC	**Cottonwood Cre**	**73.70**	**43**	↑P	P	**02 58 21.7**	**+0.4**
	baz=74						
BELC	**Belle Mtn. Jos**	**73.72**	**46**	↓P	P	**02 58 21.8**	**+0.4**
	baz=74,SNR=9.6						
MPMC	**Manual Prospec**	**73.87**	**44**	↓P	P	**02 58 22.8**	**+0.5**
	baz=74,SNR=29						
GSC	**Goldstone**	**73.89**	**45**	eP	P	**02 58 22.6**	**+0.2**
GSC				pmax	pmax		
	comp=Z,28nm,1.4s						
GSC	**Goldstone**	**73.89**	**45**	eP	P	**02 58 22.6**	**+0.2**
	comp=Z,28nm,1.4s						
GSC	**Goldstone**	**73.89**	**45**	↓P	P	**02 58 22.7**	**+0.2**
	baz=74,SNR=12						
BC3	**Big Chuckawall**	**73.91**	**47**	↑P	P	**02 58 23.4**	**+0.9**
	baz=74,SNR=8.7						
MLAC	**Mammoth Lakes**	**73.91**	**42**	↑P	P	**02 58 23.4**	**+0.8**
	baz=74						
HEC	**Hector,Ludlow**	**73.95**	**45**	↑P	P	**02 58 23.0**	**+0.2**
	baz=74,SNR=10						
TIN	**Tinemaha**	**73.96**	**43**	↑P	P	**02 58 23.4**	**+0.6**
	baz=74						
GLA	**Glamis**	**74.02**	**48**	↓P	P	**02 58 23.7**	**+0.5**
	baz=74						
WAKR	**Walker**	**74.06**	**41**	eP	P	**02 58 23.7**	**+0.3**
	comp=Z,35nm,1.5s						
PETK	**Petropavlovsk-**	**74.10**	**342**	P	P	**02 58 23.0**	**-0.1**
PETK	**Petropavlovsk-**	**74.10**	**342**	P	P	**02 58 23.0**	**-0.1**
PETK	**Petropavlovsk-**	**74.10**	**342**	P	P	**02 58 23.0**	**-0.1**
	comp=Z,11nm,0.9s,baz=129,slow=12,SNR=7.1						
YBH	**Yreka Blue Hor**	**74.12**	**36**	eP	P	**02 58 24.5**	**+0.9**
	comp=Z,25nm,1.3s						
BEKR	**Beckworth**	**74.32**	**39**	eP	P	**02 58 25.0**	**+0.1**
	comp=Z,19nm,1.6s						
GMRC	**Granite Mounta**	**74.38**	**46**	↑P	P	**02 58 25.6**	**+0.3**
	baz=75,SNR=9.1						
IRM	**Iron Mountain**	**74.39**	**46**	↑P	P	**02 58 25.9**	**+0.6**
	baz=75,SNR=10						
GRAC	**Grapevine Rang**	**74.49**	**43**	↓P	P	**02 58 26.5**	**+0.7**
	baz=75,SNR=14						
FURC	**Fuace Creek,**	**74.52**	**44**	↑P	P	**02 58 26.2**	**+0.4**
	baz=75,SNR=9.3						
HUMO	**Hull Mountain**	**74.55**	**36**	eP	P	**02 58 26.5**	**+0.5**
	comp=Z,23nm,1.4s						
TUQ	**Turquoise Moun**	**74.57**	**45**	↓P	P	**02 58 26.7**	**+0.3**
	baz=75,SNR=9.1						
SHOC	**Shoshone**	**74.58**	**44**	↑P	P	**02 58 26.6**	**+0.3**
	baz=75,SNR=7.4						
Y12C	**Blythe**	**74.61**	**47**	↑P	P	**02 58 27.1**	**+0.6**
	baz=75,SNR=5.8						
113A	**Mohawk Valley,**	**74.63**	**48**	↑P	P	**02 58 27.0**	**+0.5**
	baz=75,SNR=10.0						
NVAR	**Mina Array Bea**	**74.72**	**41**	P	P	**02 58 27.7**	**+0.4**
NVAR	**Mina Array Bea**	**74.72**	**41**	P	P	**02 58 27.7**	**+0.4**
	comp=Z,10.0nm,0.9s,baz=227,slow=9.6,SNR=56						
NV11	**Mina Array Sit**	**74.82**	**41**	eP	P	**02 58 28.1**	**+0.3**
214A	**Organ Pipe Nat**	**74.89**	**49**	↓P	P	**02 58 28.8**	**+0.6**
	baz=75,SNR=6.6						
LDFC	**Landfair**	**74.92**	**46**	eP	P	**02 58 29.2**	**+0.8**
	comp=Z,50nm,1.3s						
YSS	**Yuzh-Sakhalins**	**75.01**	**330**	eP	P	**02 58 26.0**	**-2.5**
PDMCI	**Parker Dam,Lak**	**75.17**	**47**	↓P	P	**02 58 30.7**	**+0.9**
	baz=75						
Z14A	**Wintersburg**	**75.53**	**48**	↑P	P	**02 58 32.5**	**+0.7**
	baz=76						
MOD	**Modoc**	**75.61**	**38**	eP	P	**02 58 32.5**	**+0.2**
	comp=Z,139nm,1.4s						
SHPR	**Sheep Range**	**75.67**	**44**	eP	P	**02 58 33.2**	**+0.4**
	comp=Z,41nm,1.5s						
W13A	**Huai Mount**	**75.78**	**46**	↓P	P	**02 58 34.0**	**+0.5**
	baz=76,SNR=8.6						
Y14A	**Wickenburg**	**75.78**	**48**	↓P	P	**02 58 33.7**	**+0.4**
	baz=76,SNR=5.8						
R11A	**Troy Canyon, C**	**76.42**	**43**	↑P	P	**02 58 37.4**	**+0.4**
	baz=77						
TUC	**Tucson**	**76.56**	**50**	eP	P	**02 58 38.4**	**+0.6**
TUC				pmax	pmax		
	comp=Z,36nm,1.6s						
TUC	**Tucson**	**76.56**	**50**	eP	P	**02 58 38.4**	**+0.6**
	comp=Z,36nm,1.6s						
BMN	**Battle Mountai**	**76.58**	**40**	eP	P	**02 58 37.9**	**+0.1**
BMN				pmax	pmax		
	comp=Z,64nm,1.8s						
BMN	**Battle Mountai**	**76.58**	**40**	eP	P	**02 58 37.9**	**+0.1**
	comp=Z,64nm,1.8s						
WVOR	**Wild Horse Val**	**76.92**	**38**	eP	P	**02 58 39.7**	**0.0**
WVOR				pmax	pmax		
	comp=Z,33nm,1.4s						
WVOR	**Wild Horse Val**	**76.92**	**38**	eP	P	**02 58 39.7**	**0.0**
	comp=Z,33nm,1.4s						
VIPM	**Ingram Point**	**77.07**	**35**	P	P	**02 58 41.1**	**+0.5**
VIPM	**Ingram Point**	**77.07**	**35**	P	P	**02 58 41.1**	**+0.5**
X16A	**Lo Mia Camp, P**	**77.14**	**48**	↑P	P	**02 58 42.1**	**+1.0**
	baz=77,SNR=15						
319A	**Douglas**	**77.22**	**52**	↓P	P	**02 58 42.3**	**+0.7**
	baz=77,SNR=5.4						
FL2	**Flat Top 2**	**77.23**	**33**	P	P	**02 58 42.2**	**+0.9**
TDL	**Tradedollar La**	**77.40**	**33**	P	P	**02 58 43.2**	**+0.9**
ARUT	**Antelope Range**	**77.53**	**44**	eP	P	**02 58 43.8**	**+0.5**
ARUT	**Antelope Range**	**77.53**	**44**	eP	P	**02 58 43.8**	**+0.5**
	comp=Z,195nm,0.9s						
U15A	**North Rim**	**77.58**	**46**	↓P	P	**02 58 44.4**	**+0.7**
	baz=78,SNR=16						
KSRS	**Korea Array**	**77.66**	**315**	P	P	**02 58 44.1**	**+0.4**
	comp=Z,12nm,1.2s,baz=134,slow=5.9,SNR=18						
KSAR	**Wonju Array Be**	**77.68**	**315**	P	P	**02 58 44.1**	**+0.3**
WUAZ	**Wupatki**	**77.75**	**47**	↓P	P	**02 58 45.5**	**+0.9**
	baz=78,SNR=6.0						
320A	**Kipp Ranch, An**	**77.77**	**52**	↑P	P	**02 58 45.9**	**+1.2**
	baz=78,SNR=6.9						
WPW	**White Pass**	**77.97**	**33**	P	P	**02 58 45.6**	**+0.2**
ELK	**Elko**	**77.99**	**41**	eP	P	**02 58 45.9**	**0.0**
	comp=Z,19nm,1.3s						
220A	**Playas Peak, P**	**78.04**	**51**	↓P	P	**02 58 47.3**	**+1.1**
	baz=78,SNR=16						
KSM	**Kuching**	**78.14**	**275**	P	P	**02 58 47.8**	**+0.8**
	comp=Z,27nm,1.5s						
KSM	**Kuching**	**78.14**	**275**	eP	P	**02 58 48.2**	**+1.2**
	comp=Z,31nm,1.1s						
120A	**U Bar Ranch, L**	**78.26**	**51**	↑P	P	**02 58 48.3**	**+0.8**
	baz=78,SNR=8.4						
X18A	**Snowflake**	**78.26**	**48**	↓P	P	**02 58 48.4**	**+0.9**
	baz=78						
Z20A	**Nine Sixteen R**	**78.56**	**50**	↑P	P	**02 58 50.0**	**+0.9**
	baz=79,SNR=9.1						
221A	**Mesquite Ranch**	**78.65**	**52**	↑P	P	**02 58 50.6**	**+1.1**
	baz=79						
W18A	**Petrified Fore**	**78.70**	**48**	↓P	P	**02 58 51.1**	**+1.2**
	baz=79						
MVU	**Marysvale**	**78.72**	**44**	eP	P	**02 58 51.0**	**+1.0**
	comp=Z,37nm,1.4s						
121A	**Cookes Peak, D**	**78.89**	**51**	↑P	P	**02 58 52.1**	**+1.2**
	baz=79						
USRK	**Ussuriysk Arra**	**78.91**	**323**	P	P	**02 58 50.0**	**-0.5**
	comp=Z,3.2nm,0.9s,baz=131,slow=5.3,SNR=9.0						
Y20A	**Horse Springs,**	**79.10**	**50**	↑P	P	**02 58 53.4**	**+1.3**
	baz=79,SNR=13						
BMO	**Blue Mountains**	**79.14**	**37**	eP	P	**02 58 51.7**	**-0.2**
	comp=Z,23nm,1.4s						
MFID	**Camas Ranch**	**79.16**	**38**	↓P	P	**02 58 52.7**	**+0.6**
	baz=79						
222A	**Williams Famil**	**79.20**	**52**	↓P	P	**02 58 53.1**	**+0.6**
	baz=79						
DUG	**Dugway**	**79.23**	**42**	eP	P	**02 58 52.6**	**0.0**
DUG				pmax	pmax		
	comp=Z,16nm,1.3s						
DUG	**Dugway**	**79.23**	**42**	eP	P	**02 58 52.6**	**0.0**
	comp=Z,16nm,1.3s						
DUG	**Dugway**	**79.23**	**42**	↓P	P	**02 58 53.6**	**+1.0**
	baz=79						
X20A	**Quemado**	**79.31**	**49**	↓P	P	**02 58 54.2**	**+1.0**
	baz=80,SNR=10						
Z21A	**St. Cloud Mine**	**79.33**	**50**	↓P	P	**02 58 54.7**	**+1.3**
	baz=80,SNR=19						
122A	**Conniff Cattle**	**79.55**	**51**	↑P	P	**02 58 55.7**	**+1.2**
	baz=80						
W20A	**Ramah**	**79.59**	**49**	↑P	P	**02 58 55.8**	**+1.0**
	baz=80,SNR=19						
Q16A	**Castle Valley**	**79.64**	**44**	eP	P	**02 58 55.9**	**+1.0**
Q16A	**Castle Valley**	**79.64**	**44**	↓P	P	**02 58 56.2**	**+1.3**
	baz=80						
Y21A	**Point of Rocks**	**79.66**	**50**	↑P	P	**02 58 56.3**	**+1.2**
	baz=80,SNR=9.7						
X21A	**Alamocita Cree**	**79.78**	**49**	↓P	P	**02 58 56.9**	**+1.1**
	baz=80,SNR=9.7						
TMUT	**Trail Mountain**	**79.81**	**44**	eP	P	**02 58 56.9**	**+0.9**
	comp=Z,24nm,1.0s						
Z22A	**Elephant Butte**	**79.83**	**51**	↑P	P	**02 58 56.9**	**+0.8**
	baz=80,SNR=8.5						
V20A	**Brimhall**	**79.94**	**48**	↓P	P	**02 58 57.1**	**+0.4**
	baz=80						
HLID	**Hailey**	**80.09**	**39**	eP	P	**02 58 57.6**	**+0.4**
	comp=Z,28nm,1.4s						
HLID	**Hailey**	**80.09**	**39**	↑P	P	**02 58 57.7**	**+0.5**
	baz=80,SNR=23						
HVU	**Hansel Valley**	**80.11**	**41**	eP	P	**02 58 57.4**	**+0.1**
HVU				pmax	pmax		
	comp=Z,31nm,1.7s						
HVU	**Hansel Valley**	**80.11**	**41**	eP	P	**02 58 57.4**	**+0.1**
	comp=Z,31nm,1.7s						
324A	**Moseley Ranch,**	**80.13**	**53**	↑P	P	**02 58 58.0**	**+0.3**
	baz=80,SNR=6.2						
Y22A	**Socorro**	**80.15**	**50**	↓P	P	**02 58 58.7**	**+1.0**
	baz=80,SNR=7.3						
SRU	**San Rafael**	**80.17**	**44**	eP	P	**02 58 57.7**	**0.0**
SRU				pmax	pmax		
	comp=Z,26nm,1.3s						
SRU	**San Rafael**	**80.17**	**44**	eP	P	**02 58 57.7**	**0.0**
	comp=Z,26nm,1.3s						
U20A	**Newcomb**	**80.18**	**47**	↑P	P	**02 58 58.9**	**+1.0**
	baz=80						
PMR	**Palmer**	**80.21**	**11**	eP	P	**02 58 56.3**	**-0.9**
PMR				pmax	pmax		
	comp=Z,29nm,1.4s						
PMR	**Palmer**	**80.21**	**11**	eP	P	**02 58 56.3**	**-0.9**
	comp=Z,29nm,1.4s						
425A	**Indio Mountain**	**80.22**	**54**	↑P	P	**02 58 58.6**	**+0.4**
	baz=80						
LAZ	**Ladron**	**80.24**	**50**	eP	P	**02 58 59.1**	**+0.9**
	comp=Z,17nm,1.8s						
MNTX	**Cornudas Mount**	**80.32**	**53**	eP	P	**02 58 58.7**	**+0.2**
	comp=Z,22nm,1.7s						
626A	**Big Bend Ranch**	**80.36**	**55**	↓P	P	**02 58 59.7**	**+0.8**
	baz=80,SNR=10						
224A	**Cornudas Mount**	**80.38**	**52**	↓P	P	**02 58 59.5**	**+0.5**
	baz=80,SNR=12						
Z23A	**Rita Site, Whi**	**80.38**	**51**	↓P	P	**02 58 59.8**	**+0.9**
	baz=80						
DIV	**Divide**	**80.45**	**13**	eP	P	**02 58 58.1**	**-0.5**
	comp=Z,14nm,0.9s						
BNM	**Barren Site**	**80.49**	**50**	eP	P	**02 59 00.3**	**+0.6**
	comp=Z,13nm,1.4s						
MDJ	**Mudanjiang**	**80.55**	**322**	P	P	**02 59 00.6**	**+1.2**
MDJ				AMB	AMB		
	comp=Z,12nm,1.4s						
MDJ				AMB	AMB		
	comp=Z,250nm,8.2s						
BMRM	**Bremner River**	**80.56**	**13**	eP	P	**02 58 58.5**	**-0.7**
	comp=Z,71nm,1.6s						
MVCO	**Mesa Verde**	**80.60**	**47**	↓P	P	**02 59 01.0**	**+0.8**
	baz=81						
526A	**Mary Lane Ranc**	**80.61**	**55**	↑P	P	**02 59 00.6**	**+0.4**
	baz=81,SNR=9.9						
TXAR	**Lajitas Array**	**80.63**	**56**	P	P	**02 59 01.1**	**+0.8**
TXAR	**Lajitas Array**	**80.63**	**56**	P	P	**02 59 01.1**	**+0.8**
	comp=Z,6.4nm,1.1s,baz=224,slow=5.2,SNR=36						
124A	**Stringfield Ra**	**80.71**	**52**	↑P	P	**02 59 01.4**	**+0.6**
	baz=81,SNR=7.4						
W22A	**Albuquerque**	**80.75**	**49**	↑P	P	**02 59 02.1**	**+1.1**
	baz=81						
HWUT	**Hardware Ranch**	**80.78**	**42**	eP	P	**02 59 00.8**	**-0.3**
	comp=Z,1.9nm,0.4s						
U21A	**Nageezi**	**80.82**	**48**	↑P	P	**02 59 02.4**	**+1.0**
	baz=81,SNR=14						
Y23A	**Lovelace Mesa,**	**80.82**	**51**	↑P	P	**02 59 01.8**	**+0.4**
	baz=81,SNR=6.0						
627A	**Terlingua Ranc**	**80.90**	**56**	↓P	P	**02 59 02.6**	**+0.7**
	baz=81,SNR=12						
426A	**McDonald Obser**	**80.92**	**54**	↑P	P	**02 59 02.6**	**+0.6**
	baz=81,SNR=15						
225A	**Deer Hill, Car**	**80.93**	**53**	↑P	P	**02 59 02.7**	**+0.7**
	baz=81,SNR=8.6						
ANMO	**Albuquerque**	**80.98**	**49**	eP	P	**02 59 02.8**	**+0.6**
	comp=Z,14nm,1.4s						
S20A	**Disappointment**	**81.00**	**46**	↓P	P	**02 59 02.8**	**+0.5**
	baz=81,SNR=7.5						
PV01	**Paradox Valley**	**81.00**	**46**	eP	P	**02 59 02.3**	**0.0**
	comp=Z,2μm,1.4s						
527A	**Woodward Ranch**	**81.02**	**55**	↑P	P	**02 59 03.0**	**+0.5**
	baz=81,SNR=9.5						
**Z24

baz=82,SNR=16
Y25A Mesa, Roswell 81.83 51 ⇓P P 02 59 07.0 +0.3
baz=82,SNR=7.1
RRI2 Red Ridge 81.86 40 eP P 02 59 06.6 -0.2
comp=Z,27nm,1.4s
W24A Lazy 6 Ranch, 81.87 50 ⇓P P 02 59 07.0 +0.1
baz=82,SNR=5.6
L18A Fontenelle, Gr 81.93 42 ⇑P P 02 59 08.0 +0.9
baz=82
428A Kincaid Ranch, 81.99 55 ⇑P P 02 59 08.2 +0.7
baz=82,SNR=7.6
S22A 4UR Ranch, Cre 82.02 47 ⇑P P 02 59 08.7 +0.9
baz=82,SNR=25
Q21A Lamborn Mesa, 82.03 46 ⇑P P 02 59 08.7 +1.1
baz=82
KLR Kul'dur 82.05 327 eP P 02 58 59.2 -8.1
227A Bennet, Jal 82.06 53 ⇑P P 02 59 08.5 +0.7
baz=82
Z26A Caprock 82.07 52 ⇑P P 02 59 08.1 +0.2
baz=82,SNR=17
529A Stev Forest Ra 82.10 55 ⇓P P 02 59 08.2 +0.1
baz=82,SNR=7.8
X25A Clemmons Ranch 82.11 51 ⇑P P 02 59 08.6 +0.5
baz=82
REDW Red Top Meadow 82.16 40 eP P 02 59 08.6 +0.3
comp=Z,33nm,1.4s
TPAW Teton Pass 82.16 40 eP P 02 59 08.2 -0.1
comp=Z,33nm,1.5s
328A Wristen Ranch, 82.17 54 ⇓P P 02 59 08.8 +0.4
baz=82
DLMT Dillon 82.17 38 eP P 02 59 08.3 +0.1
comp=Z,25nm,1.4s
V24A Rampart Ranch, 82.20 49 ⇑P P 02 59 09.2 +0.4
baz=82
O20A White River Ci 82.20 44 ⇑P P 02 59 08.6 0.0
baz=82,SNR=5.5
MSO Missoula 82.21 36 ⇓P P 02 59 07.6 -0.7
baz=82,SNR=9.7
MCK McKinley 82.22 10 eP P 02 59 07.0 -0.9
MCK pmax pmax
comp=Z,47nm,1.1s
MCK McKinley 82.22 10 eP P 02 59 07.0 -0.9
comp=Z,47nm,1.1s
BPAW Bear Paw Mtn. 82.23 9 eP P 02 59 05.6 -2.3
comp=Z,11nm,1.4s
T23A Casias Ranch, 82.25 48 ⇓P P 02 59 09.5 +0.5
baz=82,SNR=6.6
SNOW Snow King Moun 82.27 40 eP P 02 59 09.2 +0.3
comp=Z,27nm,1.3s
M19A Rock Springs 82.28 43 ⇓P P 02 59 08.8 -0.2
baz=82,SNR=5.8
127A Arkansas Junct 82.29 53 ⇓P P 02 59 09.5 +0.4
baz=82
BSMT Bassoo Peak 82.32 35 eP P 02 59 08.3 -0.7
comp=Z,32nm,1.4s
IMW Indian Meadow 82.38 40 eP P 02 59 09.7 +0.2
comp=Z,31nm,1.4s
LOHW Long Hollow 82.44 40 eP P 02 59 09.6 -0.2
comp=Z,23nm,1.5s
P21A Newcastle 82.44 45 ⇓P P 02 59 10.3 +0.4
baz=83,SNR=9.4
Y26A Elida 82.47 51 ⇑P P 02 59 10.4 +0.3
baz=83
Q22A Crested Butte, 82.50 46 ⇓P P 02 59 10.8 +0.5
baz=83,SNR=22
LRM Limekiln Ridge 82.51 38 eP P 02 59 09.4 -0.7
comp=Z,154nm,1.5s
N20A Spence Gulch, 82.53 44 ⇓P P 02 59 10.6 +0.2
baz=83,SNR=14
429A Davenport Ranc 82.57 55 ⇑P P 02 59 10.5 0.0
baz=83,SNR=20
W25A X Bar L Ranch, 82.57 50 ⇓P P 02 59 10.4 -0.1
baz=83,SNR=8.5
QLMT Earthquake Lak 82.58 39 eP P 02 59 11.2 +0.8
comp=Z,5.1nm,1.4s
S23A Nye Farm, Mont 82.58 47 ⇓P P 02 59 12.2 +1.5
baz=83
SMCO Snowmass 82.60 46 eP P 02 59 11.3 +0.4
comp=Z,34nm,1.3s
CN2 Changchun 82.61 320 eP P 02 59 12.3 +2.0
CN2 esP sP 02 59 19.3 +0.1
CN2 AMB AMB
comp=Z,10.0nm,0.7s
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,400nm,15.0s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,400nm,16.0s
I17A Pilgrim Ck. 82.62 40 ⇓P P 02 59 11.0 +0.3
baz=83
FLWY Flagg Ranch 82.63 40 eP P 02 59 10.7 0.0
comp=Z,47nm,1.4s
228A UT Block 9, Go 82.64 53 ⇓P P 02 59 11.4 +0.5
baz=83
CHMT Chamberlain Mo 82.65 36 eP P 02 59 09.8 -0.9
comp=Z,13nm,1.3s
PDAR Pinedale Array 82.66 41 P P 02 59 10.4 -0.5
PDAR Pinedale Array 82.66 41 P P 02 59 10.4 -0.5
comp=Z,6.3nm,0.9s,baz=205,slow=3.1,SNR=37
Z27A Tatum 82.67 52 ⇑P P 02 59 10.9 -0.2
baz=83
SLMT Seeley Lake 82.69 36 eP P 02 59 09.8 -1.1
T24B San Luis 82.73 48 ⇑P P 02 59 12.4 +0.9
baz=83,SNR=7.9
V25A Rancho No Teng 82.73 49 ⇑P P 02 59 11.8 +0.3
baz=83,SNR=20
X26A CR and CF Fran 82.76 51 ⇓P P 02 59 11.4 -0.2
baz=83,SNR=6.0
O21A Pagoda 82.76 44 ⇓P P 02 59 12.0 +0.4
baz=83
YMR Madison River 82.77 39 eP P 02 59 12.4 +0.9
comp=Z,50nm,1.4s
530A J-C Ranch, Com 82.81 56 ⇑P P 02 59 12.0 +0.2
baz=83,SNR=9.2
329A Wagon Wheel Ra 82.85 54 ⇓P P 02 59 12.2 +0.2
baz=83,SNR=8.6
H17A Grant Village 82.87 40 ⇑P P 02 59 13.4 +1.4
baz=83
BOZ Bozeman (W) 82.90 38 eP P 02 59 12.0 0.0
BOZ pmax pmax
comp=Z,28nm,1.4s
BOZ Bozeman (W) 82.90 38 eP P 02 59 12.0 0.0
comp=Z,28nm,1.4s
M20A Sweetwater, Wa 82.91 43 ⇑P P 02 59 12.3 0.0
baz=83,SNR=6.0
R23A Moffat 82.93 47 ⇑P P 02 59 12.8 +0.2
baz=83,SNR=12
128A Castleberry Fa 82.93 53 ⇑P P 02 59 12.6 +0.2
baz=83,SNR=6.2
P22A Eagle 82.94 45 ⇑P P 02 59 12.9 +0.4
baz=83,SNR=13
Y27A Causey 82.95 52 ⇓P P 02 59 12.6 +0.1
baz=83,SNR=5.6
SDCO Great Sand Dun 82.95 47 eP P 02 59 12.8 +0.2
comp=Z,18nm,1.4s
YNR Norris Junctio 82.97 39 eP P 02 59 14.5 +2.0
comp=Z,21nm,1.2s
W26A Owens Ranch, T 83.02 50 ⇓P P 02 59 13.4 +0.5
baz=83
L20A Wamsutter 83.06 43 ⇑P P 02 59 13.2 +0.2
baz=83,SNR=15
S24A Houchin Ranch, 83.11 48 ⇑P P 02 59 14.1 +0.6
baz=83,SNR=12
631A Perdido Creek 83.12 57 ⇓P P 02 59 13.4 +0.1
baz=83,SNR=16
U25A Circle Dot Ran 83.13 49 ⇑P P 02 59 13.5 0.0
baz=83,SNR=14
K19A Absolon Red Bu 83.14 42 ⇑P P 02 59 12.8 -0.6
baz=83,SNR=11
430A Baggett Ranch, 83.15 55 ⇓P P 02 59 13.5 0.0
baz=83
J19A Crowheart 83.23 41 ⇓P P 02 59 13.6 -0.2
baz=83,SNR=7.9
MSTX Muleshoe 83.28 52 eP P 02 59 14.0 -0.2
MSTX Muleshoe 83.28 52 ⇑P P 02 59 14.3 +0.1
baz=83,SNR=9.1
Z28A Tucker Farm, M 83.29 52 ⇑P P 02 59 14.3 +0.1
baz=83,SNR=5.8
V26A Tequesquite Ra 83.32 50 ⇑P P 02 59 14.3 -0.1
baz=84,SNR=6.1
X27A F and S Farms, 83.33 51 ⇓P P 02 59 14.7 +0.2
baz=84
HRY Holter Researc 83.35 37 eP P 02 59 14.2 -0.1
comp=Z,53nm,1.4s
O22A Kremmling 83.36 45 ⇓P P 02 59 15.0 +0.3
baz=84,SNR=23
K20A Yellowstone Ra 83.38 42 ⇓P P 02 59 14.0 -0.6
baz=84,SNR=13
129A Stewart Farms, 83.41 53 ⇓P P 02 59 15.2 +0.3
baz=84
330A Mertzon 83.45 55 ⇓P P 02 59 15.0 0.0
baz=84
R24A Sanders Place, 83.45 47 ⇑P P 02 59 15.7 +0.6
baz=84,SNR=11
T25A Trinidad 83.46 48 ⇓P P 02 59 15.6 +0.4
baz=84
COLA College 83.46 10 eP P 02 59 13.4 -0.8
COLA College 83.46 10 eP P 02 59 13.4 -0.8
comp=Z,168nm,1.0s
P23A Jefferson 83.47 46 ⇓P P 02 59 16.3 +1.0
baz=84,SNR=5.7
M21A Separation Pea 83.50 43 ⇑P P 02 59 15.3 0.0
baz=84,SNR=14
W27A Bowe Ranch, En 83.53 51 ⇑P P 02 59 15.4 -0.1
baz=84,SNR=14
ILAR Eielson Array 83.54 11 P P 02 59 13.9 -0.8
ILAR Eielson Array 83.54 11 P P 02 59 13.9 -0.8
comp=Z,2.7nm,0.8s,baz=222,slow=5.6,SNR=19
431A Sonora 83.60 55 ⇑P P 02 59 16.1 +0.2
baz=84
U26A Atchley Ranch, 83.61 49 ⇑P P 02 59 15.9 0.0
baz=84,SNR=12
IM04 Indian Mountai 83.61 8 eP P 02 59 14.8 -0.2
Y28A McKinney Farm, 83.65 52 ⇓P P 02 59 16.2 +0.1
baz=84
I19A Meeteetse 83.66 41 ⇓P P 02 59 16.2 +0.2
baz=84,SNR=13
L21A Rawlins 83.67 43 ⇓P P 02 59 15.8 -0.3
baz=84,SNR=9.1
S25A Robets Cordova 83.67 48 ⇓P P 02 59 16.2 -0.1
baz=84
IMA2 Indn Mountai 83.71 8 eP P 02 59 15.3 -0.4
N22A Wattenberg Ran 83.72 44 ⇓P P 02 59 16.8 +0.3
baz=84,SNR=15
Q24A Divide 83.76 46 ⇓P P 02 59 16.8 0.0
baz=84,SNR=8.0
Z29A Hungry Hill Ra 83.79 53 ⇓P P 02 59 16.8 -0.1
baz=84
632A Uvalde 83.80 57 ⇑P P 02 59 17.1 +0.3
baz=84,SNR=6.6
O23A Lake Granby, G 83.80 45 ⇑P P 02 59 17.6 +0.6
baz=84,SNR=6.7
ISCO Idaho Springs 83.82 45 eP P 02 59 17.2 +0.1
ISCO pmax pmax
comp=Z,11nm,1.4s
ISCO Idaho Springs 83.82 45 eP P 02 59 17.2 +0.1
comp=Z,11nm,1.4s
ISCO Idaho Springs 83.82 45 ⇑P P 02 59 17.0 -0.1
baz=84
J20A Shoshoni 83.89 41 ⇑P P 02 59 17.4 +0.2
baz=84,SNR=13
M22A Cedar Creek Ra 83.91 44 ⇓P P 02 59 17.2 -0.3
baz=84,SNR=10
532A Rocksprings 83.94 56 ⇓P P 02 59 17.6 0.0
baz=84,SNR=7.6
SEY Seymchan 83.97 345 eP P 02 59 16.5 -0.4
H19A Powell 83.98 40 ⇑P P 02 59 18.1 +0.5
baz=84,SNR=11
331A San Angelo 84.00 55 ⇑P P 02 59 17.3 -0.5
baz=84
R25A Fountain Ranch 84.00 47 ⇑P P 02 59 17.6 -0.2
baz=84,SNR=13
V27A Dan Oppiter Fa 84.00 50 ⇑P P 02 59 17.9 0.0
baz=84,SNR=8.1
Y29A Porterfield Fa 84.07 52 ⇑P P 02 59 18.2 -0.1
baz=84,SNR=5.7
K21A Alcova 84.07 42 ⇓P P 02 59 17.9 -0.3
baz=84,SNR=16
130A Snyder 84.09 54 ⇓P P 02 59 18.1 -0.2
baz=84
N23A Red Feather La 84.11 44 ⇑P P 02 59 18.7 +0.3
baz=84,SNR=7.8
GCMT Greycliff 84.14 39 eP P 02 59 18.9 +0.5
comp=Z,17nm,1.3s
I20A Worland 84.16 41 ⇓P P 02 59 18.4 -0.1
baz=84,SNR=22
JCT Junction City 84.16 56 ⇑P P 02 59 18.3 -0.4
baz=84
QIZ Qiongzhong 84.16 292 P P 02 59 21.5 +2.6
QIZ S S 03 09 47.5 +4.2
QIZ AMB AMB
comp=Z,35nm,2.1s
Z30A Sanderson Ranc 84.25 53 ⇑P P 02 59 18.9 -0.2
baz=84
U27A Thompson Grove 84.29 49 ⇑P P 02 59 19.0 -0.3
baz=84,SNR=6.2
X29A Tulia 84.29 52 ⇓P P 02 59 19.2 -0.2
baz=84
J21A Lysite 84.29 42 ⇑P P 02 59 19.4 +0.1
baz=84
L22A Ellis Ranch, M 84.31 43 ⇑P P 02 59 19.7 +0.3
baz=84,SNR=7.7
432A Menard 84.32 56 ⇓P P 02 59 19.2 -0.3
baz=84
231A Bronte 84.33 54 ⇓P P 02 59 18.9 -0.6
baz=84,SNR=6.7
O24A Longmont 84.34 45 ⇑P P 02 59 20.0 +0.5
baz=84,SNR=5.3
S26A Kim 84.34 48 ⇑P P 02 59 19.1 -0.5
baz=84,SNR=10
Q25A Bedland, Calha 84.36 47 ⇑P P 02 59 19.8 +0.1
baz=84
V28A Channing 84.44 50 ⇑P P 02 59 20.3 +0.1
baz=85
DAWY Dawson 84.45 14 eP P 02 59 19.1 -0.3
H20A Greybull 84.50 40 ⇑P P 02 59 19.6 -0.6
baz=85,SNR=6.2
WHN Wuhan 84.50 304 P P 02 59 30.6 +10
M23A Laramie 84.52 44 ⇑P P 02 59 20.2 -0.3
baz=85,SNR=9.1
K22A Casper 84.55 43 ⇑P P 02 59 20.2 -0.4
baz=85,SNR=9.3
332A Millersview 84.56 55 ⇓P P 02 59 20.3 -0.4
baz=85,SNR=7.3
131A Roby 84.57 54 ⇑P P 02 59 20.6 -0.1
baz=85
W29A Amarillo 84.61 51 ⇓P P 02 59 20.8 -0.1
baz=85,SNR=6.7
F19A Roth Farm, Mol 84.61 39 ⇓P P 02 59 20.6 -0.1
baz=85,SNR=14
I21A Big Trails, Te 84.62 41 ⇓P P 02 59 20.2 -0.7
baz=85,SNR=18
T27A Campo 84.64 49 ⇓P P 02 59 21.2 +0.1
baz=85
R26A Arlington 84.65 48 ⇓P P 02 59 20.9 -0.2
baz=85,SNR=18
Y30A Stafford Cattl 84.66 52 ⇓P P 02 59 21.3 +0.1
baz=85
EGAK Eagle 84.67 13 eP P 02 59 19.9 -0.5
comp=Z,9.0nm,1.0s
P25A Willow Gulch B 84.69 46 ⇓P P 02 59 21.4 0.0
baz=85,SNR=8.0
N24A Carr 84.79 45 ⇓P P 02 59 21.8 0.0
baz=85,SNR=6.4
232A Coleman 84.83 55 ⇑P P 02 59 22.1 0.0
baz=85,SNR=5.6
L23A Garrett 84.83 43 ⇓P P 02 59 21.8 -0.3
baz=85,SNR=12
Q26A Hugo 84.88 47 ⇓P P 02 59 22.7 +0.4
baz=85
X30A Coker Ranch, T 84.91 52 ⇑P P 02 59 22.6 +0.1
baz=85
J22A Midwest 84.94 42 ⇓P P 02 59 22.0 -0.5
baz=85,SNR=16
E19A Rath Farm, Rou 85.01 38 ⇑P P 02 59 22.7 +0.1
baz=85,SNR=14
V29A Stinnett 85.01 50 ⇑P P 02 59 23.1 +0.2
baz=85
Z31A Sharp Cattle R 85.01 53 ⇑P P 02 59 22.4 -0.5
baz=85,SNR=6.7
F20A Billings 85.06 39 ⇑P P 02 59 23.5 +0.5
baz=85
T28A Walsh 85.10 49 ⇓P P 02 59 23.5 +0.1
baz=85
R27A Eads 85.11 48 ⇑P P 02 59 23.5 +0.1
baz=85
M24A Cheyenne 85.12 44 ⇓P P 02 59 24.2 +0.7
baz=85
ABTX Abilene, Hawle 85.13 54 eP P 02 59 23.5 0.0
ABTX Abilene, Hawle 85.13 54 ⇓P P 02 59 23.4 0.0
baz=85,SNR=7.4
I22A 9 Mile Ranch, 85.17 42 ⇓P P 02 59 23.3 -0.3
baz=85,SNR=9.8
H21A Big Horn, Sher 85.17 41 ⇓P P 02 59 23.9 +0.4
baz=85
Y31A Rekieta Farm, 85.18 53 ⇑P P 02 59 23.8 0.0
baz=85,SNR=5.4
K23A Bowen Ranch, D 85.18 43 ⇓P P 02 59 24.0 +0.2
baz=85
EGMT Eagleton 85.24 37 eP P 02 59 23.6 -0.2
comp=Z,26nm,1.4s
EGMT Eagleton 85.24 37 ⇑P P 02 59 24.0 +0.1
baz=85
COLD Coldfoot 85.28 9 eP P 02 59 23.4 0.0
comp=Z,11nm,1.0s
L24A Wheatland 85.31 44 ⇑P P 02 59 25.2 +0.8
baz=86
D19A Cripps Ranch, 85.31 38 ⇓P P 02 59 24.3 +0.1
baz=86,SNR=13
E20A Meyer Farm, Mu 85.42 39 ⇓P P 02 59 24.9 +0.2
baz=86,SNR=6.4
U29A Oasis Ranch, S 85.44 50 ⇓P P 02 59 25.2 +0.2
baz=86
S28A Manter 85.46 49 ⇓P P 02 59 25.4 +0.2
baz=86
C19A Slack Wire Ran 85.50 37 ⇑P P 02 59 25.7 +0.6
baz=86,SNR=19
Z32A Haskell 85.52 53 ⇑P P 02 59 25.6 +0.1
baz=86,SNR=23
H22A Clearmont 85.58 41 ⇑P P 02 59 26.4 +0.7
baz=86
V30A Spur Ranch, Mi 85.58 51 ⇓P P 02 59 26.7 +0.9
baz=86
X31A McDonald Ranch 85.66 52 ⇓P P 02 59 26.8 +0.6
baz=86
K24A Anderson Ranch 85.70 43 ⇓P P 02 59 26.6 +0.3
baz=86
D20A Manuel Ranch, 85.71 38 ⇑P P 02 59 26.2 +0.1
baz=86,SNR=16
Y32A R-V Farms, Ver 85.82 53 ⇑P P 02 59 26.8 -0.1
baz=86,SNR=11
R28A Tribune 85.83 48 ⇓P P 02 59 26.5 -0.5
baz=86,SNR=9.6
W31A Holland Ranch, 85.91 52 ⇑P P 02 59 27.9 +0.5
baz=86
U30A WK&E Inc. Balk 85.92 50 ⇑P P 02 59 28.0 +0.6
baz=86
B19A Brinkman Farms 85.93 37 ⇓P P 02 59 27.0 -0.2
baz=86,SNR=13
S29A Ulysses 86.03 49 ⇓P P 02 59 28.1 +0.1
baz=86
E21A Keefer Ranch, 86.08 39 ⇓P P 02 59 28.7 +0.8
baz=86
C20A Veseth Ranch, 86.10 38 ⇓P P 02 59 28.2 +0.1
baz=86,SNR=9.0
EDM Edmonton 86.14 31 eP P 02 59 27.4 -0.7
EDM Edmonton 86.14 31 eP P 02 59 27.4 -0.7
V31A Spring Creek L 86.22 51 ⇓P P 02 59 29.8 +0.9
baz=86,SNR=8.3
A19A Klindworth Far 86.29 36 ⇓P P 02 59 29.2 +0.3
baz=86
D21A La Casta Ranch 86.38 39 ⇓P P 02 59 30.4 +0.9
baz=86
P28A Saint Francis 86.39 47 ⇓P P 02 59 30.2 +0.4
baz=86
B20A Solberg Farm, 86.45 37 ⇓P P 02 59 29.4 -0.4
baz=87,SNR=7.1
S30A Montezuma 86.51 49 ⇓P P 02 59 30.6 +0.2
baz=87
WHTX Lake Whitney 86.59 55 eP P 02 59 30.7 0.0
WHTX Lake Whitney 86.59 55 ⇓P P 02 59 30.4 -0.4
baz=87,SNR=7.5
A20A Cobblestone Ra 86.73 37 ⇑P P 02 59 30.8 -0.4
baz=87,SNR=8.7
RSSD Black Hills 86.84 42 eP P 02 59 30.9 -1.1
RSSD pmax pmax
comp=Z,31nm,1.1s
RSSD Black Hills 86.84 42 eP P 02 59 30.9 -1.1
comp=Z,31nm,1.1s
MAW Mawson 86.85 198 P P 02 59 31.6 +0.2
MAW Mawson 86.85 198 ⇑P P 02 59 31.6 +0.2
baz=86,SNR=8.2
MAW Mawson 86.85 198 P P 02 59 31.6 +0.2
comp=Z,9.7nm,1.1s,baz=120,slow=5.9,SNR=13
T31A Randall Ranch, 86.87 50 ⇑P P 02 59 32.4 +0.4
baz=87
D22A Cohagen 86.91 39 ⇑P P 02 59 32.7 +0.7
baz=87
BJI Beijing 86.96 313 P P 02 59 33.2 +0.9
BJI AMB AMB
comp=Z,23nm,1.6s
BJI AMB AMB
comp=Z,160nm,3.8s
I25A Rochford 86.99 42 ⇑P P 02 59 32.7 +0.1
baz=87
B21A Ellsworth Farm 87.03 37 ⇓P P 02 59 32.4 -0.1
baz=87,SNR=5.7
P30A Selden 87.44 48 ⇑P P 02 59 35.4 +0.6
baz=88
D23A Lindsay 87.50 39 ⇓P P 02 59 36.0 +1.1
baz=88
PLCA Paso Flores 88.03 132 eP P 02 59 38.6 +0.8
comp=Z,23nm,1.6s
PLCA Paso Flores 88.03 132 P P 02 59 38.4 +0.6
comp=Z,3.4nm,1.0s,baz=245,slow=7.4,SNR=4.6
ENH Enshi 88.31 302 eP P 02 59 40.6 +1.4
GYA Guiyang 89.38 298 P P 02 59 45.7 +1.3
GYA PP PP 03 03 17.7 +2.0
GYA SKS SKSac 03 10 12.7 -1.3
GYA S S 03 10 32.2 -1.7
GYA SS SS 03 16 28.9 -0.6
GYA AMB AMB
comp=Z,20nm,1.0s
GYA AMB AMB
comp=Z,120nm,6.5s
GYA LR LR
comp=Z,590nm,20.4s
GYA LR LR
comp=Z,480nm,21.6s
GYA LR LR
comp=Z,560nm,20.6s
XAN Xi'an 90.06 306 P P 02 59 48.0 +0.7
XAN AMB AMB
comp=Z,61nm,1.1s
TEIG Tepich 90.45 69 eP P 02 59 50.0 +0.7
comp=Z,36nm,1.5s
HHC Hu-ho-hao-te 90.51 313 eP P 02 59 50.2 +0.9
HHC pP pP 02 59 54.6 -1.3
HHC SKS SKSac 03 10 19.8 -0.1
HHC S S 03 10 43.6 -0.2
HHC sS sS 03 10 54.3 -0.4
HHC AMB AMB
comp=Z,52nm,1.1s
HHC AMB AMB
comp=Z,400nm,5.9s
HHC LR LR
comp=Z,400nm,15.7s
HHC LR LR
comp=Z,420nm,14.9s
HHC LR LR
comp=Z,640nm,16.4s
JTS JuntasAbangare 90.61 80 eP P 02 59 51.4 +1.1
comp=Z,441nm,1.3s
LOEI Loei 91.42 288 P P 03 00 04.4 +10
SYO Syowa Base 91.51 191 eP P 02 59 51.2 -2.1
SNAA Sanae 91.59 177 eP P 02 59 53.7 -0.1
SNAA Sanae 91.59 177 eP P 02 59 53.7 -0.1
SNAA Sanae 91.59 177 eP P 02 59 53.3 -0.5
comp=Z,16nm,1.4s
SNAA Sanae 91.59 177 P P 02 59 53.6 -0.1
comp=Z,2.2nm,1.0s,baz=204,slow=3.8,SNR=13
LCO Las Campanas 91.97 121 eP P 02 59 56.1 -0.5
comp=Z,10nm,0.6s
VNA2 Neumayer--Watz 92.01 175 eP P 02 59 56.4 +0.7
VNA2 Neumayer--Watz 92.01 175 eP P 02 59 56.4 +0.7
VNA1 Neumayer--Stat 92.20 175 eP P 02 59 57.4 +0.9
VNA1 Neumayer--Stat 92.20 175 eP P 02 59 57.4 +0.9
NANT Nan 92.31 289 P P 03 00 03.0 +5.0
comp=Z,29nm,1.0s,comp=Z,3µm
KMI Kunming 92.33 295 P P 03 00 00.1 +1.8
KMI pP pP 03 00 06.6 +1.7
KMI sP sP 03 00 09.1 +1.9
KMI AMB AMB
comp=Z,15nm,1.1s
CFAA Coronel Fontan 93.04 124 P P 03 00 02.1 +0.8
CFAA Coronel Fontan 93.04 124 P P 03 00 02.1 +0.8
comp=Z,0.8nm,1.0s,baz=289,slow=4.3,SNR=6.8
CD2 Chengdu 93.19 301 P P 03 00 05.3 +3.4
CD2 AMB AMB
comp=Z,10.0nm,0.5s

OXF Oxford 93.79 55 eP P 03 00 05.2 +0.7
OXF Oxford 93.79 55 eP P 03 00 05.2 +0.7
CMAR Chiang Mai Arr 93.81 288 P P 03 00 04.5 -0.5
CMAR Chiang Mai Arr 93.81 288 P P 03 00 04.5 -0.5
comp=Z,1.0nm,0.3s,baz=104,slow=2.3,SNR=11
CHTO Chiang Mai 93.91 288 P P 03 00 10.7 +5.3
LZH Lanzhou 94.66 306 eP P 03 00 10.9 +2.2
LZH pP pP 03 00 14.4 -0.9
LZH sP sP 03 00 15.9 -1.7
LZH AMB AMB
comp=Z,13nm,1.0s
SONM Songino Arrav 96.36 318 P P 03 00 16.9 +0.8
SONM Songino Array 96.36 318 P P 03 00 16.9 +0.8
comp=Z,0.3nm,0.5s,baz=66,slow=7.0,SNR=3.1
TLY Talaya 99.16 321 eP Pdif 03 00 26.8 -1.7
TLY pmax pmax
comp=Z,3.0nm,0.8s
TLY MLR MLR
comp=Z,555nm,19.0s
MKAR Makanchi Array 112.32 314 PKIKP PKiKP 03 05 21.6 -1.4
MKAR Makanchi Array 112.32 314 PKiKP PKiKP 03 05 21.6 -1.4
MKAR Makanchi Array 112.32 314 PKiKP PKiKP 03 05 21.6 -1.4
comp=Z,0.9nm,0.9s,baz=82,slow=1.7,SNR=5.9
KURK Kurchatov 114.66 319 ePKIKP PKPdf 03 05 26.8 -0.5
KURK Kurchatov 114.66 319 ePKP PKPdf 03 05 26.8 -0.5
BRVK Borovoye 119.46 322 ⇑PKIKP PKPdf 03 05 37.4 +0.9
BRVK pmax pmax
comp=Z,4.0nm,1.2s
KBL Kabul 122.53 301 ePKIKP PKPdf 03 05 43.3 0.0
KBL Kabul 122.53 301 ePKPdf PKPdf 03 05 43.3 0.0
ARU Arti 124.87 328 i PKIKP PKPdf 03 05 47.2 +0.4
ARU 03 07 31.4
ARU 03 12 49.0
ABKAR Akbulak array 126.73 320 ePKPdf PKPdf 03 05 50.8 +0.2
AKASG Malin Array Be 141.84 338 PKIKP PKPdf 03 06 18.3 -0.5
AKASG Malin Array Be 141.84 338 PKP PKPdf 03 06 18.3 -0.5
AKASG Malin Array Be 141.84 338 PKP PKPdf 03 06 18.3 -0.5
comp=Z,2.2nm,1.0s,baz=32,slow=2.4,SNR=7.1
KIEV Kiev 141.85 338 ePKIKP PKPdf 03 06 16.5 -2.2
KIEV Kiev 141.85 338 ePKPdf PKPdf 03 06 16.5 -2.2
TSUM Tsumeb 142.98 196 ePKPdf PKPdf 03 06 18.7 -3.2
KWP Kalwaria Pacla 144.89 343 ePKIKP PKPab 03 06 23.2 -0.1
KWP Kalwaria Pacla 144.89 343 ePKPdf PKPab 03 06 23.2 -0.1
KWP Kalwaria Pacla 144.89 343 ePKP PKPab 03 06 23.1 -0.2
OJC Ojcow 145.10 346 ePKIKP PKPbc 03 06 23.5 -0.5
OJC Ojcow 145.10 346 ePKP PKPbc 03 06 23.5 -0.5
CLL Collm 145.18 354 ePKHKP PKPpre 03 06 21.0
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 145.18 354 ePKPbc PKPbc 03 06 23.8 -0.4
CLL Collm 145.18 354 ePKPdf PKPpre 03 06 21.0
comp=Z,7.0nm,1.0s
CLL e(PKiKP) 03 06 30.0
CLL i 03 07 22.5
CLL ePKSdf PKSdf 03 09 59.0 -0.9
KSP Ksiaz 145.20 350 ePKIKP PKPbc 03 06 24.0 -0.2
KSP Ksiaz 145.20 350 ePKP PKPab 03 06 24.3 0.0
MALT Malatya 145.36 315 ⇓PKIKP PKPab 03 06 26.3 +0.8
MALT Malatya 145.36 315 ⇓iP PKPab 03 06 26.3 +0.8
STHS Stebnicka Huta 145.49 344 ePKIKP PKPab 03 06 25.7 +0.2
STHS Stebnicka Huta 145.49 344 ePKP PKPab 03 06 25.7 +0.2
BRG Berggiesshubel 145.50 353 ePKP PKPab 03 06 26.1 +0.7
comp=Z,11nm,1.6s
BRG Berggiesshubel 145.50 353 ePKIKP PKPab 03 06 26.1 +0.7
BRG pmax pmax
comp=Z,11nm,1.6s
UPC Upice 145.57 350 ePKIKP PKPab 03 06 25.7 0.0
UPC e 03 06 32.0
UPC Upice 145.57 350 ePKP PKPab 03 06 25.7 0.0
UPC epPKP pPKPdf 03 06 32.0 -0.1
KOLS Kolonicke sedl 145.65 343 ePKIKP PKPab 03 06 26.0 -0.1
KOLS Kolonicke sedl 145.65 343 ePKP PKPab 03 06 26.0 -0.1
DPC Dobruska-Polom 145.67 350 ePKIKP PKPab 03 06 26.0 -0.2
DPC e 03 06 32.8
DPC Dobruska-Polom 145.67 350 ePKP PKPab 03 06 26.0 -0.2
DPC ex x 03 06 32.8
KMBO Kilima Mbogo 145.71 242 ePKPbc PKPab 03 06 28.1 +0.5
KMBO Kilima Mbogo 145.71 242 PKPbc PKPdf 03 06 26.1 -0.9
comp=Z,11nm,1.0s,baz=62,slow=3.5,SNR=27
NIE Niedzica 145.72 345 ePKIKP PKPdf 03 06 25.8 +0.1
NIE Niedzica 145.72 345 ePKP PKPdf 03 06 25.8 +0.1
PVCC Panska Ves 145.76 352 ePKIKP PKPbc 03 06 26.2 +0.2
PVCC e 03 06 33.4
PVCC Panska Ves 145.76 352 ePKP PKPbc 03 06 26.2 +0.2
PVCC ex x 03 06 33.4
OKC Ostrava-Krasne 145.82 348 ePKIKP PKPbc 03 06 26.3 0.0
OKC Ostrava-Krasne 145.82 348 ePKP PKPbc 03 06 26.3 0.0
BURAR Bucovina Array 145.87 338 ⇓PKIKP PKPab 03 06 26.9 -0.2
BURAR Bucovina Array 145.87 338 ⇓iP PKPab 03 06 26.9 -0.2
UZH Uzhgorod 145.91 342 ePKP2 PKPdf 03 06 25.0 -0.9
UZH i 03 06 26.6
UZH e 03 06 32.4
UZH e 03 06 40.0
MOX Moxa 145.96 355 ePKIKP PKPbc 03 06 26.8 +0.1
MOX Moxa 145.96 355 ePKPbc PKPbc 03 06 26.8 +0.1
MORC Moravsky Berou 146.00 348 ePKIKP PKPbc 03 06 26.6 -0.3
MORC Moravsky Berou 146.00 348 ⇑iP PKPbc 03 06 27.0 +0.1
MORC Moravsky Berou 146.00 348 ePKPbc PKPbc 03 06 26.6 -0.3
TANN Tannenbergstha 146.11 354 ePKPbc PKPbc 03 06 27.4 +0.2
MEM Membach 146.14 2 PKP PKPbc 03 06 27.2 0.0
TRPA Tarpa 146.29 342 ⇓iP PKPbc 03 06 27.7 0.0
TRPA Tarpa 146.29 342 ⇓ePKPdf PKPdf 03 06 27.1 +0.5
PRU Pruhonice 146.29 352 ePKIKP PKPbc 03 06 27.4 -0.3
PRU e 03 06 35.2
PRU Pruhonice 146.29 352 ePKP PKPbc 03 06 27.4 -0.3
PRU ex x 03 06 35.2
BCLA Clavier 146.30 3 PKP PKPbc 03 06 27.8 +0.1
TNS Taunus Mts 146.54 359 ePKP2 PKPbc 03 06 28.9 +0.4
TNS Taunus Mts 146.54 359 ePKPbc PKPbc 03 06 28.9 +0.4
KECS Kecovo 146.54 344 ePKP2 PKPbc 03 06 28.6 +0.1
KECS Kecovo 146.54 344 ePKP PKPbc 03 06 28.6 +0.1
DOU Dourbes 146.59 3 PKP PKPbc 03 06 28.4 -0.2
VRI Vrincioaia 146.76 335 ⇓PKP2 PKPab 03 06 38.1 +7.7
VRI Vrincioaia 146.76 335 ⇓iP PKPab 03 06 38.1 +7.7
ROTZ Rotzenmuhle 146.78 354 ePKPbc PKPab 03 06 29.8 -0.5
TREC Trest 146.83 350 ePKP2 PKPbc 03 06 29.3 0.0
TREC Trest 146.83 350 ePKP PKPbc 03 06 29.3 0.0
GRF Grafenberg Arr 146.94 356 ePKP2 PKPab 03 06 30.7 -0.3
GRF Grafenberg Arr 146.94 356 ePKPbc PKPab 03 06 30.7 -0.3
GRFO Grafenberg 146.94 356 ePKP2 PKPab 03 06 30.4 -0.5
GRFO Grafenberg 146.94 356 ePKPbc PKPab 03 06 30.4 -0.5
WLF Walferdange 147.09 2 PKP PKPab 03 06 31.8 +0.3
WLF Walferdange 147.09 2 ePKP2 PKPbc 03 06 30.5 +0.5
WLF Walferdange 147.09 2 ePKPbc PKPbc 03 06 30.5 +0.5
PSZ Piszkesteto 147.22 345 ePKP2 PKPbc 03 06 31.2 +0.7
PSZ Piszkesteto 147.22 345 ⇓iP PKPab 03 06 31.8 -0.4
PSZ Piszkesteto 147.22 345 ePKPbc PKPbc 03 06 31.2 +0.7
PSZ Piszkesteto 147.22 345 ⇓ePKPdf PKPbc 03 06 30.3 -0.2
TLB Topalu 147.22 332 ⇑PKP2 PKPbc 03 06 30.8 +0.3
TLB Topalu 147.22 332 ⇑iP PKPbc 03 06 30.8 +0.3
SMOL Smolenice 147.23 348 ePKP2 PKPab 03 06 32.4 +0.3
SMOL Smolenice 147.23 348 ePKP PKPab 03 06 32.4 +0.3
KHC Kasperske Hory 147.26 353 ePKIKP PKPdf 03 06 27.7 -0.6
KHC e 03 06 35.5
KHC Kasperske Hory 147.26 353 ePKP PKPdf 03 06 27.7 -0.6
KHC epPKP pPKPdf 03 06 35.5 +0.4
KHC ex x 03 06 45.0
KHC Kasperske Hory 147.26 353 ePKPbc PKPbc 03 06 30.7 +0.1
WET Wettzell 147.33 353 ePKP2 PKPbc 03 06 31.4 +0.7
WET Wettzell 147.33 353 ePKPbc PKPbc 03 06 31.4 +0.7
MLR Muntele Rosu 147.38 336 ⇑iP PKPbc 03 06 31.1 0.0
GEC2 GERESS Array S 147.52 352 ePKP2 PKPbc 03 06 31.8 +0.4
GEC2 GERESS Array S 147.52 352 ePKPbc PKPbc 03 06 31.8 +0.4
GERES GERESS Array B 147.52 352 PKPbc PKPdf 03 06 28.8 0.0
GERES GERESS Array B 147.52 352 PKPbc PKPdf 03 06 28.8 0.0
comp=Z,2.2nm,0.8s,baz=0.0,slow=3.2,SNR=19
ZST Bratislava 147.53 348 ePKP2 PKPbc 03 06 31.7 +0.3
ZST Bratislava 147.53 348 ePKPbc PKPbc 03 06 31.7 +0.3
BRTR Keskin Array B 147.68 321 PKPbc PKPbc 03 06 32.1 -0.1
BRTR Keskin Array B 147.68 321 PKPbc PKPbc 03 06 32.1 -0.1
comp=Z,14nm,1.2s,baz=125,slow=2.0,SNR=22
VOIR 147.77 337 ⇑PKP2 PKPbc 03 06 32.7 +0.6
VOIR 147.77 337 ⇑iP PKPbc 03 06 32.7 +0.6
LANF Langenberg 147.79 360 PKP PKPbc 03 06 32.6 +0.6
STU Stuttgart 147.97 358 ePKPbc PKPbc 03 06 32.9 +0.4
ARR Arges 147.99 337 ⇑iP PKPbc 03 06 33.8 +1.1
PKSG 148.08 346 ⇑ePKPdf PKPbc 03 06 33.2 +0.4
CONA Conrad Observa 148.09 349 i sPKPdf PKPbc 03 06 33.6 +0.7
comp=Z,26nm,1.8s,SNR=6.9
ANTO Ankara 148.10 321 ePKIKP PKPbc 03 06 32.4 -0.8
ANTO Ankara 148.10 321 ⇓iP PKPbc 03 06 33.5 +0.3
ANTO Ankara 148.10 321 ePKPbc PKPbc 03 06 32.4 -0.8
PKSN Nyarlorinc 148.17 344 ⇓e PKPab 03 06 34.5 -1.4
SOP Sopron 148.19 348 ⇓e PKPbc 03 06 34.2 +1.1
PKS7 Kunszentmiklos 148.21 345 ⇓e PKPbc 03 06 34.4 +1.3
SIRR Siria 148.22 341 ⇓iP PKPbc 03 06 33.5 +0.3
PKST T"s 148.28 346 ⇑e PKPbc 03 06 33.6 +0.2
BFO Black Forest 148.43 359 ePKP2 PKPbc 03 06 33.4 -0.3
BFO Black Forest 148.43 359 ePKPbc PKPbc 03 06 34.1 +0.4
BFO Black Forest 148.43 359 ePKPbc PKPbc 03 06 33.4 -0.3
FUR Furstenfeldbru 148.45 355 ePKP2 PKPbc 03 06 34.4 +0.6
FUR Furstenfeldbru 148.45 355 ePKPbc PKPbc 03 06 34.4 +0.6
THEF They Montfort 148.52 2 PKP PKPbc 03 06 34.3 +0.4
ECH Echery 148.55 0 ePKP2 PKPbc 03 06 33.6 -0.4
ECH Echery 148.55 0 PKP PKPbc 03 06 34.1 +0.1
ECH Echery 148.55 0 ePKPbc PKPbc 03 06 33.6 -0.4
PKS2 Kecel 148.72 344 ⇓e PKPbc 03 06 35.9 +1.5
RJOB Jochberg 148.72 353 ePKPbc PKPbc 03 06 34.9 +0.3
BZS Buzias 148.82 341 ⇑PKP2 PKPbc 03 06 34.6 -0.2
BZS Buzias 148.82 341 ⇑iP PKPbc 03 06 34.6 -0.2
PKS9 Tamasi 148.86 346 ⇓e PKPbc 03 06 35.7 +0.9
FELD Feldberg im Sc 148.89 359 PKP PKPdf 03 06 32.8 +1.7
RETA Reutte 149.16 356 ⇑isPKPdf PKPbc 03 06 35.7 0.0
comp=Z,16nm,1.4s,SNR=7.9
FETA Feichten 149.63 356 i PKiKP PKPbc 03 06 37.4 +0.4
comp=Z,15nm,1.4s,SNR=7.8
ABTA Abfaltersbach 149.73 353 ⇑i PKPbc PKPbc 03 06 36.6 -0.5
comp=Z,17nm,1.1s,SNR=5.5
TUE Stuetta 150.26 357 ePKPdf PKPdf 03 06 34.1 +0.7
TUE ePKPbc PKPbc 03 06 38.8 +0.2
TUE ePKPab PKPab 03 06 45.6 +0.9
VISS Visnje 150.32 350 i PKPdf PKPbc 03 06 38.3 -0.2
JAVS Javornik 150.36 351 i PKPdf PKPbc 03 06 38.4 -0.4
AGO Saint Agoulin 150.49 6 PKP PKPbc 03 06 39.0 +0.1
BOJS Bojanci 150.54 349 i PKPdf PKPbc 03 06 39.4 +0.4
CSS Prodhromos 150.59 313 ePKPbc PKPbc 03 06 39.4 -0.2
CSS ePKPab PKPab 03 06 47.2 +0.9
PLDF La Plantade 150.62 5 PKP PKPbc 03 06 40.1 +0.8
PYM Petit Puy Mans 150.78 6 PKP PKPbc 03 06 40.1 +0.4
VTS Vitosha 150.88 336 ⇑PKIKP PKPbc 03 06 40.3 +0.2
VTS Vitosha 150.88 336 ⇑iP PKPbc 03 06 40.3 +0.2
SSB Saint Sauveur 151.38 4 ePKIKP PKPdf 03 06 34.0 -1.0
SSB e 03 06 41.6
SSB Saint Sauveur 151.38 4 ePKPdf PKPdf 03 06 34.0 -1.0
SSB ePKPbc PKiKP 03 06 41.6 0.0
BNI Bardonecchia 151.71 1 ePKIKP PKPdf 03 06 36.0 +0.4
BNI e 03 06 43.0
BNI e 03 06 50.9
BNI Bardonecchia 151.71 1 ePKPdf PKPdf 03 06 36.0 +0.4
BNI ePKPbc PKiKP 03 06 43.0 +0.6
BNI ePKPab PKPab 03 06 50.9 +0.2
MVO Moncorvo 152.58 24 ePKPbc PKPbc 03 06 44.1 +0.2
MVO Moncorvo 152.58 24 ePKPab PKPab 03 06 52.6 -1.7
MTE Manteigas 153.02 26 ePKPab PKPab 03 06 52.6 -3.6
PMTG Montargil 153.81 29 ePKPbc PKPbc 03 06 46.1 -0.5
PBAR Barrancos 155.08 28 ePKPbc PKPdf 03 06 49.4 +8.9
PBAR Barrancos 155.08 28 ePKPab PKPab 03 07 05.0 +0.1
TORD Torodi Ar. Bea 173.40 121 PKP PKPdf 03 06 56.1 -1.3
TORD PKPab PKPab 03 08 25.4 -0.6
TORD PP PP 03 12 16.5 -1.1
TORD Torodi Ar. Bea 173.40 121 PKP PKPdf 03 06 56.1 -1.3
comp=Z,2.5nm,1.1s,baz=338,slow=1.7,SNR=8.8
TORD PKPab PKPab 03 08 25.4 -0.6
comp=Z,6.9nm,1.0s,baz=264,slow=5.3,SNR=17
TORD PP PP 03 12 16.5 -1.1
comp=Z,1.2nm,1.1s,baz=193,slow=5.8,SNR=5.0

SKHL 02 02:48:54.4±0.6, 55.89N×134.40E, h10km, mb3.7/1, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
CGD	Chagda	3.53	326	ePg		Pb	02 49 58.0	+1.2
CGD				eSg		Sg	02 50 44.4	-3.2
KROS	Kirovskiy	4.50	254	ePg		Pb	02 50 14.8	+1.3
KROS				AMB	AMB		02 50 16.4	
	2.0nm,0.5s							
KROS				AMB	AMB		02 50 16.4	
	6.0nm,0.5s							
KROS				eSg		Sb	02 51 13.1	+5.2
KROS				A	A		02 51 17.1	
	45nm,0.5s							
KROS				A	A		02 51 17.1	
	13nm,0.5s							
ZEA	Zeya	4.66	245	eSg		Sg	02 51 20.9	-3.2
ZEA				A	A		02 51 22.9	
	40nm,0.6s							
GRNR	Gornyy	5.27	166	erx		rx	02 51 35.0	
GRNR				eSg		Sg	02 51 39.5	-4.1
GRNR				A	A		02 51 45.9	
	20nm,0.5s							
IENR	Iengra	5.36	278	ePg		Pb	02 50 31.2	+3.0
IENR				eSg		Sg	02 51 42.3	-4.2
YAK	Yakutsk	6.62	340	eSg		Sg	02 52 19.4	-7.4
KLR	Kul'dur	6.86	195	eSg		Sg	02 52 28.1	-6.5

BJI 02 02:52:57.5, 16.10S×173.30W, h10km, mB5.1/3, mb5.1/4, Ms5.1/3, Ms7 4.8/3
IDC 02 02:52:57.2±0.5, 16.25S×173.27W, h0km, mb4.4/14, mb1 4.6/14, mb1mx4.4/26, mbtmp4.4/14, Error ellipse: s-maj=26.6km s-min=14.4km az=131.0
NEIC 02 02:52:58.5±0.2, 16.17S×173.34W, h10km, mb4.7/34, Error ellipse: s-maj=11.5km s-min=5.2km az=138.0
AUST 02 02:52:59.5±0.9, 15.82S×172.34W, h89km±8km, Error ellipse: s-maj=11.8km s-min=6.1km az=11.0
ISCJB 02 02:53:00.5±0.3, 16.14S±0.08×173.40W±0.08, h32km, mb4.6/48, MS4.8/2, Error ellipse: s-maj=14.3km s-min=6.2km az=137.3

ISC 02 02:53:02.3±0.4, 16.23S±0.09×173.26W±0.09, h32km, n130, σ1°05/128, mb4.6/48, 11C-3D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
AFI	Afiamalu	2.72	32	ePn		Pn	02 53 36.9	-7.0
AFI				Sn		Sn	02 54 04.2	-11
AFI	Afiamalu	2.72	32	Pn		Pn	02 53 37.0	-6.9
	59nm,0.3s,baz=5.7,slow=3.7,SNR=6.9							
AFI				Sn		Sn	02 54 04.2	-11
	389nm,0.3s,baz=42,slow=23,SNR=26							
NIUE	Niue	4.25	132	⇑P		Pn	02 53 59.0	-5.8
	baz=4.0,SNR=5.5							
DZM	Mont Dzumac	20.03	250	P		Pn	02 57 35.5	+0.8
DZM				ePn		P	02 57 36.2	+3.4
DZM	Mont Dzumac	20.03	250	P		Pn	02 57 35.5	+0.8
	15nm,0.8s,baz=71,slow=14,SNR=10							
URZ	Urewera	23.52	199	P		P	02 58 07.3	-2.3
URZ	Urewera	23.52	199	P		P	02 58 07.3	-2.3
	20nm,0.6s,baz=110,slow=4.9,SNR=7.0							
RPZ	Rata Peaks	30.47	203	eP		P	02 59 12.9	+0.7
	44nm,1.2s							
RPZ	Rata Peaks	30.47	203	P		P	02 59 15.8	+3.6
	13nm,0.7s,baz=56,slow=3.6,SNR=3.4							
ARMA	Armidale	35.04	240	⇓P		P	02 59 51.7	-0.8
	baz=36,SNR=7.2							
CNB	Canberra Magne	38.36	233	⇓P		P	03 00 19.6	-1.0
	baz=39,SNR=5.9							
CTA	Charters Tower	38.60	258	P		P	03 00 21.9	-0.9
CTA	Charters Tower	38.60	258	P		P	03 00 21.9	-0.9
	1.2nm,0.3s,baz=152,slow=6.0,SNR=4.2							
CTAO	Charters Tower	38.60	258	eP		P	03 00 21.7	-1.1
	3.4nm,0.8s							
H11S2	WAKE ISLAND Hy	39.75	329	T		T	03 42 55.2	
	baz=152,slow=0.7,SNR=9.1							
H11S3	WAKE ISLAND Hy	39.76	329	T		T	03 42 56.5	
	baz=152,slow=0.7,SNR=8.6							
H11S1	WAKE ISLAND Hy	39.76	329	T		T	03 42 46.5	
	baz=152,slow=0.7,SNR=12							
CMSA	Cobar Meteorol	40.26	240	⇑P		P	03 00 35.2	-1.2
	baz=41,SNR=11							
H11N3	WAKE ISLAND Hy	40.70	331	T		T	03 43 50.8	
	baz=152,slow=0.7,SNR=4.7							
H11N1	WAKE ISLAND Hy	40.70	331	T		T	03 43 54.6	
	baz=152,slow=0.7,SNR=3.9							
H11N2	WAKE ISLAND Hy	40.72	331	T		T	03 43 52.3	
	baz=152,slow=0.7,SNR=4.1							
TOO	Toolangi	42.05	231	⇑P		P	03 00 49.9	-1.3
	baz=43,SNR=4.4							
COEN	Coen	42.07	267	eP		P	03 00 52.1	+0.5
STKA	Stephens Creek	43.75	241	P		P	03 01 03.7	-1.3
STKA	Stephens Creek	43.75	241	⇑P		P	03 01 04.3	-0.7
	baz=45,SNR=4.6							
STKA	Stephens Creek	43.75	241	P		P	03 01 03.7	-1.3
	11nm,0.8s,baz=83,slow=9.1,SNR=17							
WRAB	Tennant Creek	49.78	257	eP		P	03 01 50.8	-1.6
	7.5nm,1.2s							
WRA	Warramunga Arr	49.79	257	P		P	03 01 51.3	-1.2
WRA	Warramunga Arr	49.79	257	P		P	03 01 51.3	-1.2
	0.9nm,0.6s,baz=95,slow=9.1,SNR=21							
AS31	Alice Springs	49.99	253	eP		P	03 01 52.7	-1.3
ASAR	Alice Springs	49.99	253	P		P	03 01 52.9	-1.1
ASAR	Alice Springs	49.99	253	P		P	03 01 52.9	-1.1
	18nm,0.7s,baz=88,slow=8.4,SNR=121							
FORT	Forrest	55.17	244	eP		P	03 02 30.3	-1.8
	15nm,0.7s							
VNDA	Vanda	62.57	186	eP		P	03 03 23.4	+0.7
	2.7nm,1.2s							
ISA	Isabella	73.15	44	eP		P	03 04 30.7	+0.6
	12nm,1.4s							
CMB	Columbia Colle	73.30	41	eP		P	03 04 30.0	-0.8
	4.2nm,0.9s							
PETK	Petropavlovsk-	73.46	342	P		P	03 04 32.5	+1.1
PETK	Petropavlovsk-	73.46	342	P		P	03 04 32.5	+1.1
	6.1nm,1.0s,baz=132,slow=6.2,SNR=4.0							
QSPA	South Pole Qui	73.82	180	eP		P	03 04 34.0	+0.4
QSPA	South Pole Qui	73.82	180	P		P	03 04 34.4	+0.8
	10nm,1.0s,baz=51,slow=1.7,SNR=31							
WAKR	Walker	74.18	41	eP		P	03 04 35.7	-0.5
	18nm,1.6s							
YBH	Yreka Blue Hor	74.18	37	eP		P	03 04 36.0	+0.1
	13nm,1.4s							
YBH	Yreka Blue Hor	74.18	37	P		P	03 04 35.6	-0.4
	4.5nm,0.8s,baz=212,slow=5.8,SNR=10							
BEKR	Beckworth	74.42	40	eP		P	03 04 37.0	-0.5
	8.3nm,1.6s							
HUMO	Hull Mountain	74.59	36	eP		P	03 04 38.6	+0.3
	17nm,1.5s							
NVAR	Mina Array Bea	74.85	42	P		P	03 04 39.9	-0.3
NVAR	Mina Array Bea	74.85	42	P		P	03 04 39.9	-0.3
	3.1nm,0.9s,baz=230,slow=9.2,SNR=16							
SHPR	Sheep Range	75.85	45	eP		P	03 04 45.5	-0.4
	9.9nm,1.4s							
TUC	Tucson	76.81	50	eP		P	03 04 50.9	-0.4
	8.5nm,1.6s							
WVOR	Wild Horse Val	77.00	38	eP		P	03 04 51.6	-0.5
	12nm,1.5s							
SEW	Seward	78.47	12	eP		P	03 04 57.8	-2.0
	25nm,1.2s							
DUG	Dugway	79.38	43	eP		P	03 05 05.1	-0.3
	4.7nm,1.3s							
MDJ	Mudanjiang	79.77	322	P		P	03 05 07.5	+0.3
MDJ				AMB	AMB			
	comp=Z,8.0nm,0.6s							
MDJ				AMB	AMB			
	comp=Z,140nm,6.8s							
TMUT	Trail Mountain	79.97	44	eP		P	03 05 09.3	+0.4
	7.0nm,1.2s							
DIV	Divide	80.17	13	eP		P	03 05 08.0	-1.2
	12nm,0.7s							
HLID	Hailey	80.18	39	eP		P	03 05 09.4	-0.3
	8.3nm,1.5s							
BMRM	Bremner River	80.29	14	eP		P	03 05 08.6	-1.2
	22nm,1.2s							
TXAR	Lajitas Array	80.96	56	P		P	03 05 13.7	-0.4
TXAR	Lajitas Array	80.96	56	P		P	03 05 13.7	-0.4
	1.5nm,1.1s,baz=236,slow=5.9,SNR=7.2							
PV01	Paradox Valley	81.20	46	eP		P	03 05 14.9	-0.5
	353nm,1.0s							
REDW	Red Top Meadow	82.27	41	eP		P	03 05 20.7	-0.3
	8.9nm,1.4s							
TPAW	Teton Pass	82.28	41	eP		P	03 05 21.0	0.0
	7.9nm,1.3s							
BSMT	Bassoo Peak	82.36	35	eP		P	03 05 19.7	-1.5
	8.3nm,1.2s							
SNOW	Snow King Moun	82.38	41	eP		P	03 05 21.4	-0.2
IMW	Indian Meadow	82.49	40	eP		P	03 05 21.8	-0.4
	7.9nm,1.3s							
LOHW	Long Hollow	82.56	41	eP		P	03 05 21.1	-1.3
	4.6nm,1.4s							
QLMT	Earthquake Lak	82.67	39	eP		P	03 05 22.9	-0.1
	0.2nm,0.3s							
FLWY	Flagg Ranch	82.74	40	eP		P	03 05 23.1	-0.2
	9.8nm,1.4s							
SMCO	Snowmass	82.79	46	eP		P	03 05 23.4	-0.5
	4.9nm,1.1s							
PDAR	Pinedale Array	82.79	42	P		P	03 05 23.1	-0.6
PDAR	Pinedale Array	82.79	42	P		P	03 05 23.1	-0.6
	2.6nm,0.8s,baz=223,slow=3.5,SNR=20							
COLA	College	83.15	11	eP		P	03 05 23.8	-0.9
	59nm,1.4s							
ILAR	Eielson Array	83.23	11	P		P	03 05 24.1	-1.0
ILAR	Eielson Array	83.23	11	P		P	03 05 24.1	-1.0
	2.4nm,0.6s,baz=231,slow=6.3,SNR=46							
IMA2	Indian Mountai	83.36	8	eP		P	03 05 25.1	-0.8
HRY	Holter Researc	83.42	37	eP		P	03 05 26.1	-0.6
	3.9nm,0.6s							
COLD	Coldfoot	84.94	9	eP		P	03 05 33.4	-0.4
	3.7nm,1.0s							
EGMT	Eagleton	85.31	37	eP		P	03 05 35.8	-0.4
WHTX	Lake Whitney	86.92	56	eP		P	03 05 44.8	+0.4
RSSD	Black Hills	86.98	42	eP		P	03 05 43.3	-1.4
MAW	Mawson	87.05	199	P		P	03 05 45.1	+0.7
MAW	Mawson	87.05	199	P		P	03 05 45.1	+0.7
	3.1nm,0.7s,baz=94,slow=3.9,SNR=8.6							
GYA	Guiyang	88.55	298	eP		P	03 05 53.2	+0.7
GYA				PP		PP	03 09 22.8	+1.5
GYA				SKS		SKSac	03 16 18.9	-0.9
GYA				S		S	03 16 37.4	+0.4
GYA				SS		SS	03 22 30.3	+1.8
GYA				AMB	AMB			
	comp=Z,10.0nm,1.0s							
GYA				AMB	AMB			
	comp=Z,90nm,6.2s							
GYA				LR	LR			
	comp=N,390nm,20.9s							
GYA				LR	LR			
	comp=E,280nm,21.6s							
GYA				LR	LR			
	comp=Z,360nm,20.0s							
INK	Inuvik	89.04	14	eP		P	03 05 52.2	-1.4
	8.4nm,1.3s							
HHC	Hu-ho-hao-te	89.69	313	eP		P	03 05 55.8	-1.7
HHC				pP		pP	03 06 00.7	-7.0
HHC				sP		sP	03 06 02.9	-8.5
HHC				PP		PP	03 09 30.1	+0.1
HHC				S		S	03 16 44.7	-2.3
HHC				SS		SS	03 22 44.6	+0.1
HHC				LR	LR			
	comp=N,300nm,16.6s							
HHC				LR	LR			
	comp=E,270nm,17.6s							
HHC				LR	LR			
	comp=Z,220nm,15.9s							
TEIG	Tepich	90.95	69	eP		P	03 06 05.0	+1.3
	30nm,1.7s							
SNAA	Sanae	92.07	177	eP		P	03 06 08.1	+0.1
SNAA	Sanae	92.07	177	eP		P	03 06 08.1	+0.1
SNAA	Sanae	92.07	177	eP		P	03 06 07.9	-0.1
	4.4

KHC **Kasperske Hory** **146.72 352** *e*PKP **PKPab** **03 12 42.3 +0.1**
KHC *ex* x 03 12 50.8
DRGR **146.76 340** ⇑*i*P **PKPbc** **03 12 41.2 -0.1**
BRTR **Keskin Array B** **146.88 320** PKPbc **PKPbc** **03 12 42.7 +0.8**
BRTR **Keskin Array B** **146.88 320** PKPbc **PKPbc** **03 12 42.7 +0.8**
3.3nm,0.9s,baz=110,slow=2.1,SNR=14
GERES **GERESS Array B** **146.98 352** PKPbc **PKPbc** **03 12 41.9 +0.1**
GERES **GERESS Array B** **146.98 352** PKPbc **PKPbc** **03 12 41.9 +0.1**
0.6nm,0.6s,baz=37,slow=3.3,SNR=6.9
VOIR **147.08 336** ⇑*i*P **PKPab** **03 12 43.6 -0.2**
ARR **Arges** **147.30 336** ⇓*i*P PKPab 03 12 54.2 +10
ANTO **Ankara** **147.31 321** ⇑*i*P PKPab 03 12 53.3 +8.4
ANTO **Ankara** **147.31 321** *e*PKPbc **PKPdf** **03 12 40.5 -0.2**
BFO **Black Forest** **147.97 358** *e*PKPbc **PKPbc** **03 12 43.1 -1.4**
ECH **Echery** **148.10 359** *e*PKPdf **PKPdf** **03 12 40.8 -0.8**
ECH *e*PKPbc **PKPbc** **03 12 45.5 +0.6**
DAVOX **Davos/Dischmat** **149.43 356** PKPbc **PKPbc** **03 12 49.1 +0.6**
DAVOX **Davos/Dischmat** **149.43 356** PKPbc **PKPbc** **03 12 49.1 +0.6**
2.0nm,0.7s,baz=352,slow=1.9,SNR=3.6
TUE **Stuetta** **149.77 356** *e*PKPdf **PKPdf** **03 12 44.0 -0.7**
TUE *e*PKPbc **PKiKP** **03 12 50.4 0.0**
TUE *e*PKPab **PKPab** **03 12 57.5 +2.8**
TRI **Trieste** **150.03 350** *e*PKPdf **PKPdf** **03 12 43.9 -0.8**
TRI *e*PKPbc **PKPbc** **03 12 49.2 -0.6**
TRI *e*PKPab **PKPab** **03 12 53.3 -2.2**
SSB **Saint Sauveur** **150.98 3** *e*PKPbc **PKPbc** **03 12 50.8 -1.3**
MTE **Manteigas** **152.91 24** *e*PKPdf **PKPdf** **03 12 49.1 -0.3**
MTE *e*PKPbc **PKPbc** **03 12 56.4 -0.2**

IDC 02 02:57:27.2±3.0,**15°.61S**×**173°.28W**,**h0**km,**mb3.7**/4,
mb1 4.1/4,**mb1mx3.8**/21,**mbtmp3.7**/4,**Error ellipse:**
s-maj=166.0km s-min=26.3km az=146.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.23**	**41**	Pn	Pn	02 57 57.5	-8.0
	81nm,0.3s,baz=16,slow=7.4,SNR=7.2						
AFI				Sn	Sn	02 58 15.5	-18
	397nm,0.3s,baz=80,slow=14,SNR=8.1						
WRA	**Warramunga Arr**	**49.91**	**257**	P	P	03 06 22.9	-0.3
	0.6nm,0.9s,baz=98,slow=6.0,SNR=6.2						
ASAR	**Alice Springs**	**50.16**	**252**	P	P	03 06 24.8	-0.2
	2.5nm,0.7s,baz=87,slow=8.0,SNR=14						
NVAR	**Mina Array Bea**	**74.40**	**42**	P	P	03 09 08.2	+0.7
	0.2nm,0.3s,baz=232,slow=8.7,SNR=2.9						
ILAR	**Eielson Array**	**82.63**	**11**	P	P	03 09 50.5	-1.5
	0.5nm,0.8s,baz=226,slow=7.4,SNR=6.9						
BRTR	**Keskin Array B**	**146.39**	**321**	PKPbc	PKPab	03 17 11.2	-0.4
	1.1nm,0.8s,baz=60,slow=3.0,SNR=5.8						

*CSEM **02** 03:04:07.5±0.1,43°.03N×0°.06E,h15km,ML0.9/2,Error ellipse: s-maj=4.6km s-min=1.9km az=169.0*
*LDG **02** 03:04:08.1±0.1,43°.03N×0°.06E,h10km,Md1.1/2,Ml0.9/2, Error ellipse: s-maj=1.8km s-min=0.8km az=167.0*
STR 02 03:04:08.3±0.1,**43°.02N×0°.01W**,**h5**km,**Ml1.3,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**66**	Pg	Pg	03 04 10.3	+0.3
LABF				Sg	Sg	03 04 11.8	+0.7
LABF	**Labassere**	**0.07**	**66**	Pg	Pg	03 04 10.3	+0.3
LABF				Sg	Sg	03 04 11.8	+0.7
VIEF	**Viey**	**0.14**	**170**	Pg	Pg	03 04 11.6	+0.3
VIEF				Sg	Sg	03 04 13.9	+0.7
VIEF	**Viey**	**0.14**	**170**	Pg	Pg	03 04 11.6	+0.3
VIEF				Sg	Sg	03 04 13.9	+0.7
EPF	**Esparros**	**0.26**	**87**	*e*Pg	Pg	03 04 12.6	-0.8
EPF				*e*Sg	Sg	03 04 15.8	-1.1
	1.4nm,0.2s						
EPF	**Esparros**	**0.26**	**87**	*e*Pg	Pg	03 04 12.6	-0.8
EPF				*e*Sg	Sg	03 04 15.8	-1.1
	0.7nm,0.2s						
ETSF	**Etsaut**	**0.42**	**253**	*e*Pg	Pg	03 04 17.4	+0.8
ETSF				*e*Sg	Sg	03 04 23.6	+1.4
	0.8nm,0.2s						
ETSF	**Etsaut**	**0.42**	**253**	*e*Pg	Pg	03 04 17.4	+0.8
ETSF				*e*Sg	Sg	03 04 23.6	+1.4
	0.4nm,0.2s						
SJPF	**Ste Jean**	**0.90**	**276**	*e*Sg	Sg	03 04 37.9	+0.7
	0.4nm,0.2s						
SJPF	**Ste Jean**	**0.90**	**276**	*e*Sg	Sg	03 04 37.9	+0.7
	0.2nm,0.2s						
MTLF	**Montolieu**	**1.66**	**78**	*e*Sg	Sn	03 04 58.8	-1.0
	0.1nm,0.2s						
MTLF	**Montolieu**	**1.66**	**78**	*e*Sg	Sn	03 04 58.8	-1.0
	0.1nm,0.2s						

*KRSC **02** 03:06:31.8±4.5,51°.70N×157°.90E,h141km±40km,ML4.2*
*MOS **02** 03:06:33.4±1.0,51°.88N×157°.49E,h125km,mb4.0/7,Error ellipse: s-maj=21.2km s-min=7.3km az=65.9*
*ISCJB **02** 03:06:34.3±0.3,51°.90N±0°.04×157°.42E±0°.09, h133km±2km,mb3.8/14,Error ellipse: s-maj=10.5km s-min=4.6km az=37.8*
*IDC **02** 03:06:36.4±0.9,52°.08N×157°.23E,h137km±7km,mb3.6/13, mb1 3.9/16,mb1mx3.6/31,mbtmp3.6/16,Error ellipse: s-maj=20.6km s-min=10.0km az=147.0*
ISC 02 03:06:34.9±0.6,**51°.84N**±0°.05×**157°.68E**±0°.06,**h130**km±5km,
n74,σ**1s54/96,mb3.8**/14,**2D,Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAK	**Asacha**	**0.56**	**14**	*e*P	**Pn**	**03 06 54.1**	**-0.3**
ASAK				*i* S	**Sn**	**03 07 08.9**	**-0.3**
PAU	**Pauzhetka**	**0.65**	**236**	PN	**Pn**	**03 06 54.4**	**-0.4**
PAU				S	**Sn**	**03 07 09.7**	**-0.2**
PAU	**Pauzhetka**	**0.65**	**236**	*e*P	**Pn**	**03 06 54.4**	**-0.4**
PAU				*i* S	**Sn**	**03 07 09.7**	**-0.2**
MIPR	**Malaya Ipel'ka**	**0.72**	**308**	*e*P	**Pn**	**03 06 54.1**	**-1.2**
MTVR	**Mutnovka**	**0.72**	**25**	*e*P	**Pn**	**03 06 55.2**	**-0.3**
MTVR				*i* S	**Sn**	**03 07 10.7**	**-0.5**
GRL	**Gorelyy**	**0.76**	**19**	*e*P	**Pn**	**03 06 55.8**	**0.0**
GRL				*i* S	**Sn**	**03 07 14.0**	**+2.4**
RUS	**Russkaya**	**0.79**	**40**	PN	**Pn**	**03 06 55.4**	**-0.4**
RUS				S	**Sn**	**03 07 11.0**	**-0.8**
RUS	**Russkaya**	**0.79**	**40**	*e*P	**Pn**	**03 06 55.4**	**-0.4**
RUS				*i* S	**Sn**	**03 07 11.0**	**-0.8**
APC	**Apacha**	**1.14**	**344**	*e*P	**Pn**	**03 06 57.9**	**-1.1**
APC				*i* S	**Sn**	**03 07 15.1**	**-2.3**
PETK	**Petropavlovsk-**	**1.27**	**1**	PN	**Pn**	**03 06 59.8**	**-0.7**
PETK				S	**Sn**	**03 07 19.4**	**-0.5**
PETK				pmax	pmax		
	comp=Z,29nm,0.3s						
PETK				smax	smax		
	comp=N,10.0nm,0.3s						
PETK	**Petropavlovsk-**	**1.27**	**1**	P	**Pn**	**03 06 59.8**	**-0.7**
	comp=N,29nm,0.3s,baz=178,slow=13,SNR=211						
PETK				S	**Sn**	**03 07 19.4**	**-0.5**
	comp=N,10nm,0.3s,baz=174,slow=16,SNR=11						
PET	**Petropavlovsk**	**1.33**	**26**	*e*PN	**Pn**	**03 07 00.5**	**-0.5**
PET				*e*S	**Sn**	**03 07 20.3**	**-0.7**
PET				pmax	pmax		
	comp=Z,59nm,0.6s						
PET				smax	smax		
	comp=N,426nm,0.6s						
PET				smax	smax		
	comp=E,600nm,0.7s						
PET				smax	smax		
	comp=E,679nm,0.6s						
PET	**Petropavlovsk**	**1.33**	**26**	*e*P	**Pn**	**03 07 00.8**	**-0.2**
PET				*i* S	**Sn**	**03 07 21.0**	**0.0**
SKR	**Severo-Kuril's**	**1.51**	**221**	⇓*i*PN	Pn	03 06 59.0	-4.0
SKR				*i* S	**Sn**	**03 07 20.5**	**-4.0**
SKR				pmax	pmax		
	comp=N,90nm,0.5s						
SKR				pmax	pmax		
	comp=E,170nm,0.5s						
SKR				pmax	pmax		
	comp=Z,420nm,0.5s						
SKR				smax	smax		
	comp=N,3μm,0.7s						
SKR				smax	smax		
	comp=E,850nm,0.5s						
SKR				smax	smax		
	comp=N,10μm,2.0s						
SKR				smax	smax		
	comp=E,2μm,2.0s						
SKR	**Severo-Kuril's**	**1.51**	**221**	*e*P	**Pn**	**03 07 03.1**	**+0.1**
SKR				*i* S	**Sn**	**03 07 24.7**	**+0.2**

UGLR **Uglovaya** **1.54** **27** *e*P **Pn** **03 07 04.4 +0.9**
UGLR *i* S **Sn** **03 07 26.6 +1.2**
AVH **Avacha** **1.57** **24** *e*P **Pn** **03 07 04.4 +0.6**
AVH *i* S **Sn** **03 07 28.1 +2.2**
KOK **Koryaka** **1.57** **21** *e*P **Pn** **03 07 04.8 +1.0**
KOK *i* S **Sn** **03 07 26.8 +0.9**
SMAR **Somma** **1.59** **25** *e*P **Pn** **03 07 04.3 +0.2**
SMAR *i* S **Sn** **03 07 26.4 0.0**
KRER **Koryakskii** **1.61** **24** *e*P **Pn** **03 07 05.1 +0.8**
KRER *i* S **Sn** **03 07 27.2 +0.3**
SDLR **Sedlovina** **1.62** **27** *e*P **Pn** **03 07 04.6 +0.2**
SDLR *i* S **Sn** **03 07 27.1 +0.1**
KRX **Arik** **1.64** **21** *e*P **Pn** **03 07 04.8 +0.2**
KRX *i* S **Sn** **03 07 28.9 +1.6**
NLC **Nalytchevo** **1.68** **37** PN **Pn** **03 07 03.7 -1.2**
NLC S **Sn** **03 07 25.4 -2.5**
NLC **Nalytchevo** **1.68** **37** *e*P **Pn** **03 07 03.7 -1.2**
NLC *i* S **Sn** **03 07 25.4 -2.5**
GNL **Ganaly** **1.87** **5** *e*P **Pn** **03 07 06.7 -0.6**
GNL *i* S **Sn** **03 07 31.3 -0.8**
MKZ **Mys Kozlova** **3.66** **40** PN **Pn** **03 07 29.2 -0.7**
MKZ S **Sn** **03 08 09.0 -3.6**
MKZ **Mys Kozlova** **3.66** **40** *e*P **Pn** **03 07 29.2 -0.7**
MKZ *i* S **Sn** **03 08 09.0 -3.6**
TUMR **Tumrok** **3.75** **22** *e*P **Pn** **03 07 32.3 +0.9**
TUMR *i* S **Sn** **03 08 14.8 -0.4**
ESO **Esso** **4.14** **8** PN **Pn** **03 07 37.2 +0.8**
ESO **Esso** **4.14** **8** *e*P **Pn** **03 07 37.2 +0.8**
KMNR **Kamenistaya** **4.21** **20** *e*P **Pn** **03 07 38.7 +1.3**
KIRR **Kirishev** **4.42** **20** *e*P **Pn** **03 07 41.4 +1.2**
KOZ **Kozyrevsk** **4.42** **16** *e*P **Pn** **03 07 41.5 +1.3**
KOZR **Kozyr** **4.44** **16** PN **Pn** **03 07 41.5 +1.2**
BZWR **Bezymyannyi-We** **4.46** **21** *e*P **Pn** **03 07 41.9 +1.1**
BZGR **Bezymyannyi-Gr** **4.48** **22** *e*P **Pn** **03 07 43.5 +2.5**
SRDR **Sredinnyy** **4.65** **14** *e*P **Pn** **03 07 44.1 +0.9**
BDR **Baidarnaya** **5.17** **22** *e*P **Pn** **03 07 51.0 +0.8**
SRKR **Sorokina** **5.24** **22** *e*P **Pn** **03 07 53.4 +2.3**
SMKR **Semkarok** **5.25** **24** *e*P **Pn** **03 07 51.8 +0.6**
KBTR **Krutoberegovo** **5.33** **33** PN **Pn** **03 07 51.7 -0.5**
KBTR S **Sn** **03 08 48.4 -4.0**
KBTR **Krutoberegovo** **5.33** **33** *e*P **Pn** **03 07 51.7 -0.5**
KBTR *i* S **Sn** **03 08 48.4 -4.0**
BKI **Bering** **5.99** **52** PN **Pn** **03 08 00.7 -0.3**
BKI **Bering** **5.99** **52** *e*P **Pn** **03 08 00.7 -0.3**
BKI *i* S Sn 03 09 02.5 -5.8
FX1 **Attu Island--F** **9.54** **78** P **Pn** **03 08 51.4 +2.6**
comp=E,3.2nm,0.3s,baz=356,slow=11,SNR=20
FX1 S **Sn** **03 10 30.2 -3.9**
comp=E,19nm,0.3s,baz=332,slow=22,SNR=15
ASAJ **Asahikawa** **12.70** **238** P **Pn** **03 09 31.5 +0.8**
comp=E,1.4nm,0.3s,baz=68,slow=13,SNR=8.7
YAK **Yakutsk** **18.21** **315** *e*P **P** **03 10 35.6 -1.9**
YAK pmax pmax
comp=Z,12nm,0.8s
USRK **Ussuriysk Arra** **18.74** **256** P **P** **03 10 41.6 -1.8**
comp=Z,0.1nm,0.3s,baz=54,slow=15,SNR=4.1
MJAO **Matsu Arr-Jizo** **20.59** **230** *e*P **P** **03 11 02.8 -0.7**
MJAO pmax pmax
comp=Z,4.0nm,0.6s
MAJO **Matsushiro** **20.61** **230** ⇓*e*P **P** **03 11 03.9 +0.3**
MAT **Matsushiro** **20.61** **230** P **P** **03 11 03.9 +0.3**
MJAR **Matsushiro Arr** **20.61** **230** P **P** **03 11 02.8 -0.8**
comp=Z,3.9nm,0.6s,baz=23,slow=9.4,SNR=13
KSRS **Korea Array** **25.37** **247** P **P** **03 11 50.8 +1.1**
comp=Z,0.8nm,0.7s,baz=36,slow=9.6,SNR=4.0
KDAK **Kodiak Island** **28.71** **58** P P 03 12 24.4 +5.0
comp=Z,5.3nm,0.6s,baz=15,slow=9.5,SNR=5.4
COLA **College** **30.33** **43** *i* P **P** **03 12 34.4 +0.7**
ILAR **Eielson Array** **30.75** **44** P **P** **03 12 37.6 +0.2**
comp=Z,4.8nm,0.7s,baz=263,slow=8.1,SNR=69
H11N2 **WAKE ISLAND Hy** **32.84** **164** T T 03 47 17.6
baz=352,slow=0.7,SNR=4.6
H11N3 **WAKE ISLAND Hy** **32.86** **164** T T 03 47 17.3
baz=352,slow=0.7,SNR=3.7
H11N1 **WAKE ISLAND Hy** **32.86** **164** T T 03 47 19.5
baz=352,slow=0.7,SNR=4.6
INK **Inuvik** **35.77** **36** P **P** **03 13 21.7 +1.0**
comp=Z,5.5nm,0.8s,baz=310,slow=5.9,SNR=14
YKA **Yellowknife Ar** **45.09** **41** P **P** **03 14 38.4 +1.0**
comp=Z,1.6nm,0.3s,baz=300,slow=7.2,SNR=14
KURK **Kurchatov** **47.14** **302** *i* P **P** **03 14 52.7 -0.9**
KURK pmax pmax
comp=Z,3.0nm,1.8s
KURBB **Kurchatov Arra** **47.24** **302** P **P** **03 14 52.4 -2.0**
comp=Z,0.3nm,0.5s,baz=64,slow=7.7,SNR=4.0
MKAR **Makanchi Array** **47.36** **295** P **P** **03 14 52.8 -2.7**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR **Makanchi Array** **47.36** **295** P **P** **03 14 52.8 -2.7**
comp=Z,0.9nm,0.5s,baz=56,slow=7.0,SNR=17
NVAR **Mina Array Bea** **57.58** **68** P **P** **03 16 13.3 +2.3**
comp=Z,0.9nm,0.7s,baz=298,slow=7.5,SNR=7.2
PDAR **Pinedale Array** **59.43** **59** P **P** **03 16 25.6 +1.8**
comp=Z,2.1nm,0.7s,baz=308,slow=2.8,SNR=13
TXAR **Lajitas Array** **72.50** **65** P **P** **03 17 49.1 +1.7**
comp=Z,2.5nm,0.5s,baz=299,slow=5.1,SNR=71
WRA **Warramunga Arr** **74.33** **209** P **P** **03 17 58.9 +1.0**
comp=Z,0.3nm,0.7s,baz=18,slow=5.8,SNR=5.5
ASAR **Alice Springs** **78.02** **202** P **P** **03 18 20.7 +1.9**
comp=Z,0.4nm,0.5s,baz=14,slow=5.0,SNR=12
ESDC **Sonseca Array** **87.47** **346** P **P** **03 19 06.0 -1.6**
comp=Z,0.3nm,0.5s,baz=5.6,slow=3.9,SNR=4.3
H03N2 **Juan Fernandez** **135.70** **88** T T 05 56 36.8
baz=312,slow=0.7,SNR=10.0
H03N1 **Juan Fernandez** **135.71** **88** T T 05 56 34.5
baz=312,slow=0.7,SNR=8.3
H03N3 **Juan Fernandez** **135.71** **88** T T 05 56 33.1
baz=312,slow=0.7,SNR=9.0

IDC 02 03:17:10.0±5.4,**24°.16S**×**179°.80W**,**h533**km±59km,
mb3.2/6,mb1 3.5/7,mb1mx3.2/19,mbtmp3.2/7,Error ellipse: s-maj=31.9km s-min=26.7km az=74.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.83**	**277**	P	P	03 19 57.1	-0.3
	0.8nm,0.3s,baz=90,slow=16,SNR=9.9						
STKA	**Stephens Creek**	**34.80**	**248**	P	P	03 23 16.1	-0.1
	1.9nm,0.5s,baz=76,slow=9.8,SNR=5.5						
ASAR	**Alice Springs**	**42.18**	**261**	P	P	03 24 16.2	0.0
	1.3nm,0.6s,baz=89,slow=8.6,SNR=12						
WRA	**Warramunga Arr**	**42.57**	**266**	P	P	03 24 19.1	-0.3
	2.7nm,0.4s,baz=98,slow=8.4,SNR=48						
QSPA	**South Pole Qui**	**65.93**	**180**	P	P	03 27 03.1	0.0
	1.9nm,0.7s,baz=97,slow=2.6,SNR=9.6						
TXAR	**Lajitas Array**	**90.41**	**58**	P	P	03 29 15.2	+0.2
	0.5nm,0.7s,baz=197,slow=7.2,SNR=4.5						
ILAR	**Eielson Array**	**92.23**	**13**	P	P	03 29 22.2	-0.2
	0.3nm,0.8s,baz=243,slow=4.0,SNR=3.7						
HFS	**Hagfors**	**142.83**	**349**	PKP	PKPdf	03 35 40.1	-2.2
	1.4nm,0.4s,baz=116,slow=3.4,SNR=12						
AKASG	**Malin Array Be**	**145.28**	**327**	PKPbc	PKPbc	03 35 47.7	-0.1
	0.6nm,0.5s,baz=46,slow=3.9,SNR=5.6						

*ISCJB **02** 03:17:58.4±0.4,19°.45S±0°.04×68°.76W±0°.05,h106km±4km, mb4.5/55,Error ellipse: s-maj=8.1km s-min=5.4km az=147.5*
*GUC **02** 03:18:01.3±0.8,19°.64S×69°.06W,h117km±8km,ML4.9*
*IDC **02** 03:18:02.3±0.6,19°.47S×68°.68W,h125km±4km,mb4.0/14, mb1 4.2/16,mb1mx4.1/23,mbtmp4.0/16,MS3.2/1, Ms1 3.2/1,ms1mx2.8/32,Error ellipse: s-maj=15.2km s-min=12.6km az=48.0*
*NEIC **02** 03:18:02.0±0.7,19°.49S×68°.64W,h127km±6km,mb4.4/43, Error ellipse: s-maj=8.5km s-min=5.2km az=75.0*
ISC 02 03:18:01.2±0.4,**19°.62S**±0°.04×**68°.91W**±0°.06,**h121**km±3km,
h121km:pP-P,n331,σ**0s93/347,mb4.4/55,109C-103D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNMC	**Minimini**	**0.81**	**307**	⇑*i*P	**Pn**	**03 18 21.1**	**-0.9**
MNMC				*i* S	**Sn**	**03 18 36.1**	**-1.4**
MNMC				AML	AML	03 18 37.7	
	comp=E,150μm,0.6s						
HMBC	**Humberstone**	**1.13**	**235**	⇑*i*P	**Pn**	**03 18 23.6**	**-1.1**
HMBC				*i* S	**Sn**	**03 18 40.8**	**-1.8**
HMBC				AML	AML	03 18 42.7	
	comp=E,17μm,0.4s						
PSGC	**Pisagua**	**1.14**	**271**	⇑*i*P	**Pn**	**03 18 23.5**	**-1.4**
PSGC				*i* S	**Sn**	**03 18 40.6**	**-2.2**
PSGC				AML	AML	03 18 41.3	
	comp=N,20μm,0.3s						
PB01	**Plate Boundary**	**1.51**	**201**	⇑*i*P	**Pn**	**03 18 28.9**	**-0.1**
PB01				*i* S	**Sn**	**03 18 49.8**	**-0.3**
PB01				AML	AML	03 18 50.8	
	comp=N,23μm,0.6s						
PB09	**Plate Boundary**	**2.18**	**188**	⇑*i*P	**Pn**	**03 18 37.6**	**+0.4**
PB09				*i* S	**Sn**	**03 19 05.2**	**+0.4**
PB09				AML	AML	03 19 11.5	
	comp=E,14μm,0.5s						
PB07	**Plate Boundary**	**2.28**	**203**	⇑*i*P	**Pn**	**03 18 37.7**	**-0.8**
PB07				*i* S	**Sn**	**03 19 05.4**	**-1.7**
PB07				AML	AML	03 19 14.4	
	comp=E,5μm,0.4s						
MACH	**Maria Elena**	**2.68**	**197**	⇓*i*P	**Pn**	**03 18 43.9**	**+0.3**
PB04	**Plate Boundary**	**2.68**	**192**	AML	AML	03 19 32.1	
	comp=E,3μm,0.2s						
LVC	**Limon Verde**	**2.97**	**180**	*e*Pn	**Pn**	**03 18 48.9**	**+1.4**
LVC				*e*Sn	**Sn**	**03 19 19.5**	**-3.6**
LPAZ	**La Paz**	**3.40**	**13**	P	**Pn**	**03 18 54.7**	**+1.2**
LPAZ				S	**Sn**	**03 19 34.9**	**+1.2**
LPAZ	**La Paz**	**3.40**	**13**	P	**Pn**	**03 18 54.7**	**+1.2**
	comp=E,119nm,0.3s,baz=198,slow=7.5,SNR=4029						
LPAZ				S	**Sn**	**03 19 34.9**	**+1.2**
	baz=260,slow=19,SNR=1.8						
SIV	**San Ignacio**	**8.29**	**65**	P	**Pn**	**03 19 55.8**	**-2.9**
SIV	**San Ignacio**	**8.29**	**65**	P	**Pn**	**03 19 55.8**	**-2.9**
	comp=E,20nm,0.3s,baz=263,slow=12,SNR=458						
SIV				LR	LR	03 22 35.3	
	comp=E,157nm,20.5s,slow=34						
LCO	**Las Campanas**	**9.49**	**190**	*e*Pn	Pn	03 20 18.9	+3.9
	comp=E,24nm,0.6s						
CFAA	**Coronel Fontan**	**11.95**	**177**	P	Pn	03 20 43.9	-3.9
CFAA				S	Sn	03 22 46.1	-13
CFAA	**Coronel Fontan**	**11.95**	**177**	P	Pn	03 20 43.9	-3.9
	comp=E,0.1nm,0.3s,baz=0.4,slow=12,SNR=16						
CFAA				S	Sn	03 22 46.1	-13
	comp=E,0.1nm,0.3s,baz=17,slow=19,SNR=4.3						
SAML	**Samuel**	**11.97**	**28**	*e*Pn	Pn	03 20 43.6	-4.5
	comp=E,25nm,0.6s						
CPUP	**Villa Florida**	**12.58**	**124**	P	**Pn**	**03 20 54.5**	**-1.4**
CPUP	**Villa Florida**	**12.58**	**124**	P	**Pn**	**03 20 54.5**	**-1.4**
	comp=E,1.4nm,0.3s,baz=284,slow=11,SNR=10						
TRQA	**Tornquist**	**19.33**	**163**	*e*P	**P**	**03 22 16.8**	**-0.3**
	comp=E,45nm,1.0s						
BDFB	**Brasilia**	**20.30**	**82**	P	**P**	**03 22 26.7**	**-1.1**
BDFB	**Brasilia**	**20.30**	**82**	P	**P**	**03 22 26.7**	**-1.1**
	comp=E,19nm,0.6s,baz=263,slow=12,SNR=15						
OTAV	**Otavalo**	**21.84**	**334**	*e*P	**P**	**03 22 47.4**	**+2.7**
	comp=E,24nm,1.0s						
ROSC	**El Rosal**	**24.90**	**347**	*e*P	**P**	**03 23 13.7**	**+0.2**
SDV	**Santo Domingo**	**28.38**	**356**	*e*P	**P**	**03 23 42.9**	**-1.6**
	comp=E,7.4nm,0.6s						
BCIP	**Isla Barro Col**	**30.57**	**338**	*e*P	**P**	**03 24 02.0**	**-1.7**
	comp=E,19nm,0.9s						
JTS	**JuntasAbangare**	**33.67**	**331**	*e*P	**P**	**03 24 32.1**	**+1.3**
	comp=E,120nm,1.3s						
OBIP	**Obispado Ponce**	**37.50**	**4**	*e*P	**P**	**03 25 02.5**	**-1.0**
	comp=E,59nm,0.9s						
SJG	**San Juan**	**37.60**	**4**	*e*P	P	03 25 01.0	-3.2
	comp=E,55nm,1.1s						
LRS	**Lares**	**37.73**	**3**	*e*P	**P**	**03 25 02.5**	**-2.9**
CBYP	**Canovanas**	**37.78**	**5**	*e*P	**P**	**03 25 02.7**	**-3.2**
	comp=E,71nm,1.0s						
APG	**El Apazote**	**40.42**	**327**	P	**P**	**03 25 29.1**	**+1.0**
APG	**El Apazote**	**40.42**	**327**	P	**P**	**03 25 29.1**	**+1.0**
	comp=E,6.4nm,0.8s,baz=152,slow=5.6,SNR=7.3						
KMSC	**Kings Mountain**	**55.73**	**348**	*e*P	**P**	**03 27 24.6**	**-0.7**
KMSC	**Kings Mountain**	**55.73**	**348**	⇓P	**P**	**03 27 24.1**	**-1.2**
	baz=56						
732A	**Laxson Ranch,**	**56.67**	**327**	⇑P	**P**	**03 27 31.3**	**-0.8**
	baz=57						
SWET	**Sewanee**	**56.88**	**343**	*e*P	**P**	**03 27 32.0**	**-1.5**
	comp=E,4.2nm,0.5s						
632A	**Uvalde**	**57.20**	**328**	⇓P	**P**	**03 27 35.3**	**-0.6**
	baz=58						
631A	**Perdido Creek**	**57.53**	**327**	⇓P	**P**	**03 27 37.4**	**-0.7**
	baz=58						
532A	**Rocksprings**	**57.77**	**328**	⇑P	**P**	**03 27 39.4**	**-0.5**
	baz=58						
JCT	**Junction City**	**58.01**	**328**	*e*P	**P**	**03 27 41.3**	**-0.2**
	comp=E,3.6nm,0.8s						
WHTX	**Lake Whitney**	**58.16**	**331**	⇑P	**P**	**03 27 42.1**	**-0.4**
	baz=58,SNR=5.3						
WVT	**Waverly**	**58.27**	**342**	*e*P	**P**	**03 27 41.5**	**-1.6**
	comp=E,2.7nm,0.6s						
432A	**Menard**	**58.33**	**329**	⇓P	**P**	**03 27 43.0**	**-0.7**
	baz=59,SNR=6.2						
530A	**J-C Ranch, Com**	**58.51**	**327**	⇑P	**P**	**03 27 44.4**	**-0.6**
	baz=59,SNR=5.9						
431A	**Sonora**	**58.57**	**328**	⇑P	**P**	**03 27 45.0**	**-0.5**
	baz=59						
332A	**Millersview**	**58.72**	**329**	⇓P	**P**	**03 27 45.5**	**-0.9**
	baz=59,SNR=5.9						
628A	**Black Gap, Mar**	**58.80**	**325**	⇓P	**P**	**03 27 47.0**	**0.0**
	baz=59,SNR=5.4						
529A	**Stev Forest Ra**	**58.95**	**326**	⇑P	**P**	**03 27 47.8**	**-0.3**
	baz=59,SNR=7.5						
430A	**Baggett Ranch,**	**58.97**	**328**	⇓P	**P**	**03 27 47.6**	**-0.7**
	baz=59,SNR=5.4						
331A	**San Angelo**	**58.99**	**329**	⇑P	**P**	**03 27 47.9**	**-0.5**
	baz=59						
627A	**Terlingua Ranc**	**59.04**	**325**	⇓P	**P**	**03 27 48.8**	**0.0**
	baz=59						
232A	**Coleman**	**59.09**	**330**	⇑P	**P**	**03 27 48.6**	**-0.5**
	baz=59						
TXAR	**Lajitas Array**	**59.10**	**325**	P	**P**	**03 27 48.8**	**-0.4**
TXAR				pP	**pP**	**03 28 19.2**	**+0.9**
TXAR	**Lajitas Array**	**59.10**	**325**	P	**P**	**03 27 48.8**	**-0.4**
	comp=E,0.7nm,0.8s,baz=145,slow=8.1,SNR=11						
TXAR				pP	**pP**	**03 28 19.2**	**+0.9**

	baz=61							
Y31A	Rekieta Farm,	61.09	330	⇓P	P	03	28	02.3 -0.3
	baz=61							
Z29A	Hungry Hill Ra	61.20	329	⇑P	P	03	28	03.0 -0.4
	baz=62							
226B	Tecolote Peak,	61.51	326	⇑P	P	03	28	05.8 +0.2
	baz=62							
X31A	McDonald Ranch	61.52	331	⇓P	P	03	28	04.8 -0.6
	baz=62,SNR=8.2							
127A	Arkansas Junct	61.56	327	⇓P	P	03	28	05.6 -0.3
	baz=62							
Z28A	Tucker Farm, M	61.56	328	⇑P	P	03	28	05.0 -0.9
	baz=62							
Y29A	Porterfield Fa	61.68	329	⇑P	P	03	28	05.9 -0.7
	baz=62							
324A	Moseley Ranch,	61.72	325	⇑P	P	03	28	06.3 -0.8
	baz=62,SNR=6.6							
X30A	Coker Ranch, T	61.78	330	⇓P	P	03	28	06.9 -0.3
	baz=62							
MNTX	Cornudas Mount	61.87	325	*e*P	P	03	28	06.7 -1.2
	comp=E,2.4nm,1.0s							
225A	Deer Hill, Car	61.88	326	⇓P	P	03	28	08.5 +0.3
	baz=62							
Y28A	McKinney Farm,	61.99	329	⇑P	P	03	28	08.0 -0.7
	baz=62							
Z27A	Tatum	62.00	328	⇑P	P	03	28	07.7 -1.2
	baz=62,SNR=6.2							
VNA1	Neumayer--Stat	62.05	161	*e*P	P	03	28	10.4 +1.9
125A	Gardner Draw,	62.22	326	⇑P	P	03	28	10.0 -0.4
	baz=62							
224A	Cornudas Mount	62.23	325	⇓P	P	03	28	09.9 -0.5
	baz=62,SNR=5.5							
MSTX	Muleshoe	62.30	328	*e*P	P	03	28	09.8 -1.0
MSTX	Muleshoe	62.30	328	⇑P	P	03	28	10.4 -0.4
	baz=63,SNR=7.0							
Z26A	Caprock	62.35	327	⇑P	P	03	28	11.2 +0.1
	baz=63							
V31A	Spring Creek L	62.41	332	⇑P	P	03	28	11.2 -0.2
	baz=63							
VNA2	Neumayer--Watz	62.41	161	*e*P	P	03	28	12.4 +1.4
Y27A	Causey	62.43	328	⇓P	P	03	28	10.8 -0.9
	baz=63,SNR=6.0							
124A	Stringfield Ra	62.68	326	⇑P	P	03	28	13.6 +0.1
	baz=63							
W29A	Amraillo	62.69	330	⇓P	P	03	28	13.1 -0.3
	baz=63							
Z25A	Roswell	62.74	327	⇓P	P	03	28	13.4 -0.3
	baz=63							
Z24A	Sheeppen Canyo	63.12	326	⇓P	P	03	28	16.1 -0.2
	baz=63							
Y25A	Mesa, Roswell	63.23	327	⇑P	P	03	28	16.4 -0.6
	baz=64							
X26A	CR and CF Fran	63.28	328	⇑P	P	03	28	17.1 -0.2
	baz=64							
W27A	Bowe Ranch, En	63.32	329	⇓P	P	03	28	17.5 -0.1
	baz=64							
T31A	Randall Ranch,	63.44	333	⇓P	P	03	28	18.1 -0.1
	baz=64							
Z23A	Rita Site, Whi	63.52	325	⇑P	P	03	28	18.8 -0.1
	baz=64							
220A	Playas Peak, P	63.77	323	⇑P	P	03	28	20.8 +0.2
	baz=64							
121A	Cookes Peak, D	63.82	324	⇑P	P	03	28	21.6 +0.7
	baz=64							
Z22A	Elephant Butte	63.91	325	⇓P	P	03	28	22.0 +0.4
	baz=64							
SNAA	Sanae	64.05	161	*e*P	P	03	28	22.9 +1.1
SNAA	Sanae	64.05	161	*e*P	P	03	28	22.4 +0.6
	comp=E,20nm,1.4s							
W25A	X Bar L Ranch,	64.13	328	⇓P	P	03	28	22.7 -0.2
	baz=64							
V26A	Tequesquite Ra	64.26	329	⇓P	P	03	28	23.3 -0.4
	baz=64,SNR=5.3							
120A	U Bar Ranch, L	64.31	323	⇓P	P	03	28	24.6 +0.4
	baz=65							
Z21A	St. Cloud Mine	64.34	324	⇑P	P	03	28	24.9 +0.5
	baz=65							
X23A	Hourglass Bar	64.52	326	⇑P	P	03	28	25.8 +0.3
	baz=65							
T28A	Walsh	64.54	331	⇑P	P	03	28	25.3 -0.2
	baz=65							
W24A	Lazy 6 Ranch,	64.60	327	⇑P	P	03	28	26.3 +0.2
	baz=65							
V25A	Rancho No Teng	64.70	328	⇓P	P	03	28	26.4 -0.3
	baz=65,SNR=5.3							
Z20A	Nine Sixteen R	64.70	324	⇓P	P	03	28	27.4 +0.7
	baz=65							
U26A	Atchley Ranch,	64.72	329	⇑P	P	03	28	26.7 -0.1
	baz=65,SNR=5.8							
T27A	Campo	64.78	331	⇑P	P	03	28	27.0 -0.1
	baz=65							
S28A	Manter	64.83	331	⇓P	P	03	28	27.8 +0.4
	baz=65							
ANMO	Albuquerque	64.94	326	*e*P	P	03	28	28.5 +0.2
	comp=E,1.4nm,0.8s							
ANMO	Albuquerque	64.94	326	P	P	03	28	28.1 -0.1
	comp=E,1.5nm,0.7s,baz=154,slow=7.9,SNR=7.1							
V24A	Rampart Ranch,	64.94	328	⇑P	P	03	28	28.4 +0.1
	baz=65							
W23A	Werner Place,	64.95	327	⇑P	P	03	28	28.6 +0.3
	baz=65							
U25A	Circle Dot Ran	65.05	329	⇑P	P	03	28	29.1 +0.2
	baz=65,SNR=7.9							
Y20A	Horse Springs,	65.18	324	⇑P	P	03	28	30.6 +0.8
	baz=65							
R29A	Marienthal	65.19	333	⇑P	P	03	28	29.6 0.0
	baz=65							
W22A	Albuquerque	65.25	326	⇓P	P	03	28	30.8 +0.5
	baz=66							
Q30A	Quinter	65.25	334	⇑P	P	03	28	30.3 +0.3
	baz=66							
X21A	Alamocita Cree	65.26	325	⇑P	P	03	28	30.8 +0.4
	baz=66							
R28A	Tribune	65.41	332	⇓P	P	03	28	30.7 -0.4
	baz=66							
V23A	Ortiz Mt. (NFS	65.42	327	⇑P	P	03	28	31.7 +0.4
	baz=66							
S26A	Kim	65.58	330	⇓P	P	03	28	32.6 +0.4
	baz=66,SNR=7.5							
T25A	Trinidad	65.64	329	⇑P	P	03	28	32.8 +0.1
	baz=66							
X20A	Quemado	65.72	325	⇑P	P	03	28	34.1 +0.8
	baz=66							
P30A	Selden	65.74	334	⇑P	P	03	28	33.2 +0.1
	baz=66							
R27A	Eads	65.81	331	⇑P	P	03	28	34.1 +0.4
	baz=66							
U23A	El Rito	65.88	328	⇓P	P	03	28	34.4 +0.2
	baz=66							
V22A	San Miguel Ran	65.92	327	⇓P	P	03	28	35.2 +0.6
	baz=66,SNR=7.1							
Q28A	Sharon Springs	66.02	332	⇑P	P	03	28	35.0 0.0
	baz=66							
S25A	Robets Cordova	66.06	330	⇓P	P	03	28	35.8 +0.4
	baz=66							
R26A	Arlington	66.12	331	⇑P	P	03	28	35.9 +0.2
	baz=66							
W20A	Ramah	66.16	325	⇓P	P	03	28	36.8 +0.7
	baz=66							
214A	Organ Pipe Nat	66.33	320	⇑P	P	03	28	38.5 +1.4
	baz=67							
R25A	Fountain Ranch	66.38	330	⇓P	P	03	28	37.6 +0.2
	baz=67							
S24A	Houchin Ranch,	66.42	329	⇓P	P	03	28	38.6 +0.7
	baz=67							
BGNE	Belgrade	66.50	336	*e*P	P	03	28	38.1 +0.1
BGNE	Belgrade	66.50	336	⇑P	P	03	28	38.1 +0.1
	baz=67							
SDCO	Great Sand Dun	66.64	329	*e*P	P	03	28	39.4 +0.1
	comp=E,6.2nm,1.1s							
V20A	Brimhall	66.65	326	⇓P	P	03	28	39.8 +0.6
	baz=67							
Q26A	Hugo	66.65	331	⇓P	P	03	28	39.4 +0.3
	baz=67							
U21A	Nageezi	66.70	327	⇑P	P	03	28	40.0 +0.5
	baz=67							
R24A	Sanders Place,	66.84	330	⇑P	P	03	28	40.5 +0.1
	baz=67,SNR=5.9							
O28A	Krutsinger Ran	66.87	333	⇑P	P	03	28	40.6 +0.2
	baz=67							
T21A	Navajo Lake	67.07	327	⇓P	P	03	28	42.6 +0.7
	baz=67							
U20A	Newcomb	67.11	326	⇓P	P	03	28	42.9 +0.8
	baz=67							
R23A	Moffat	67.15	329	⇓P	P	03	28	42.9 +0.5
	baz=67							
O27A	Beecher Island	67.23	333	⇓P	P	03	28	43.3 +0.6
	baz=68							
S22A	4UR Ranch, Cre	67.30	328	⇓P	P	03	28	43.7 +0.3
	baz=68							
P25A	Willow Gulch B	67.43	331	⇑P	P	03	28	44.8 +0.8
	baz=68							
Q24A	Divide	67.44	330	⇓P	P	03	28	45.0 +0.7
	baz=68							
MVCO	Mesa Verde	67.73	327	⇑P	P	03	28	46.5 +0.5
	baz=68							
Y14A	Wickenburg	67.83	321	⇑P	P	03	28	47.6 +1.1
	baz=68							
LIC	Lamto	67.88	74	*e*P	P	03	28	45.6 -1.6
	comp=E,53nm,0.6s							
WUAZ	Wupatki	68.03	324	⇓P	P	03	28	48.9 +1.0
	baz=68							
TIC	Toumodi	68.05	74	*e*P	P	03	28	46.8 -1.5
	comp=E,45nm,0.8s							
S20A	Disappointment	68.13	327	⇓P	P	03	28	49.4 +0.8
	baz=68							
R21A	Cimarron	68.14	328	⇑P	P	03	28	49.0 +0.4
	baz=68							
KIC	Kosan Boka	68.19	74	*e*P	P	03	28	47.9 -1.3
	comp=E,104nm,0.7s							
Q22A	Crested Butte,	68.20	329	⇑P	P	03	28	49.4 +0.4
	baz=68							
DBIC	Dimbokro	68.21	74	*e*P	P	03	28	47.8 -1.4
	comp=E,50nm,0.8s							
DBIC	Dimbokro	68.21	74	P	P	03	28	48.1 -1.1
	comp=E,42nm,0.6s,baz=227,slow=6.7,SNR=78							
ISCO	Idaho Springs	68.32	330	⇑P	P	03	28	49.9 +0.1
	baz=69							
R20A	Redvale	68.42	327	⇓P	P	03	28	51.2 +0.9
	baz=69,SNR=6.1							
PV01	Paradox Valley	68.47	327	*e*P	P	03	28	51.4 +0.7
	comp=E,366nm,1.1s							
SMCO	Snowmass	68.48	329	*e*P	P	03	28	51.6 +0.7
	comp=E,3.6nm,0.7s							
Y12C	Blythe	68.61	320	⇓P	P	03	28	52.8 +1.5
	baz=69							
P22A	Eagle	68.70	329	⇑P	P	03	28	52.7 +0.6
	baz=69							
O23A	Lake Granby, G	68.79	330	⇑P	P	03	28	53.3 +0.6
	baz=69,SNR=5.5							
P21A	Newcastle	68.98	329	⇑P	P	03	28	54.6 +0.8
	baz=69,SNR=5.4							
O22A	Kremmling	69.05	330	⇓P	P	03	28	54.7 +0.4
	baz=69,SNR=9.5							
BC3	Big Chuckawall	69.11	320	⇑P	P	03	28	56.0 +1.4
	baz=69							
W13A	Hualapai Mount	69.17	322	⇑P	P	03	28	56.4 +1.4
	baz=69							
U15A	North Rim	69.20	324	⇑P	P	03	28	56.3 +1.0
	baz=70,SNR=5.5							
IRM	Iron Mountain	69.27	320	⇑P	P	03	28	57.1 +1.7
	baz=70							
M24A	Cheyenne	69.30	332	⇓P	P	03	28	56.6 +0.9
	baz=70,SNR=5.7							
N23A	Red Feather La	69.35	331	⇓P	P	03	28	56.0 -0.1
	baz=70							
J28A	Allard Ranch,	69.41	335	⇓P	P	03	28	56.4 +0.2
	baz=70							
N22A	Wattenberg Ran	69.51	330	⇑P	P	03	28	57.7 +0.6
	baz=70							
J27A	Elkhorn Farm,	69.57	335	⇓P	P	03	28	57.8 +0.6
	baz=70							
PFO	Pinyon Flat Ob	69.69	319	⇓P	P	03	28	59.9 +1.7
	baz=70							
P19A	Cripple Cowboy	69.82	328	⇑P	P	03	28	59.7 +0.7
	baz=70,SNR=9.4							
GMRC	Granite Mounta	70.00	320	⇑P	P	03	29	00.9 +0.9
	baz=70							
N20A	Spence Gulch,	70.39	329	⇓P	P	03	29	02.9 +0.4
	baz=71							
O19A	Miners Draw (B	70.40	328	⇑P	P	03	29	03.0 +0.6
	baz=71							
Q16A	Castle Valley	70.41	326	⇑P	P	03	29	03.4 +0.9
	baz=71							
QSPA	South Pole Qui	70.56	180	*e*P	P	03	29	04.2 +1.2
	comp=E,15nm,1.1s							
QSPA				pP	pP	03	29	35.1 +2.1
QSPA	South Pole Qui	70.56	180	P	P	03	29	04.6 +1.6
	comp=E,9.3nm,0.8s,baz=150,slow=2.1,SNR=23							
QSPA				pP	pP	03	29	35.1 +2.1
	comp=E,7.2nm,1.0s,baz=165,slow=4.3,SNR=4.3							
M21A	Separation Pea	70.56	330	⇓P	P	03	29	04.1 +0.6
	baz=71							
MVU	Marysvale	70.66	325	*e*P	P	03	29	04.9 +0.8
	comp=E,5.9nm,0.9s							
L21A	Rawlins	70.85	331	⇓P	P	03	29	05.2 +0.1
	baz=71,SNR=6.6							
BFSC	Mount Baldy Ra	70.86	319	⇑P	P	03	29	07.2 +2.0
	baz=71							
M20A	Sweetwater, Wa	70.86	330	⇑P	P	03	29	06.0 +0.7
	baz=71							
SHPR	Sheep Range	70.89	322	*e*P	P	03	29	06.5 +1.0
	comp=E,2.7nm,0.8s							
K22A	Casper	71.00	332	⇑P	P	03	29	06.6 +0.6
	baz=71							
RSSD	Black Hills	71.12	334	*e*P	P	03	29	06.4 -0.3
K21A	Alcova	71.32	331	⇓P	P	03	29	08.6 +0.6
	baz=72,SNR=9.7							
L20A	Wamsutter	71.33	330	⇓P	P	03	29	08.7 +0.7
	baz=72							
EDW2	Edwards Air Fo	71.48	319	⇓P	P	03	29	10.1 +1.1
	baz=72							
J22A	Midwest	71.59	332	⇑P	P	03	29	09.8 +0.3
	baz=72							
K20A	Yellowstone Ra	71.84	330	⇑P	P	03	29	10.9 -0.1
	baz=72,SNR=5.0							
H24A	Dirks Ranch, A	71.84	334	⇓P	P	03	29	10.7 -0.2
	baz=72							
FURC	Furnace Creek,	71.86	321	⇓P	P	03	29	12.8 +1.7
	baz=72							
MPMC	Manual Prospec	71.96	320	⇑P	P	03	29	13.1 +1.2
	baz=72							
I22A	9 Mile Ranch,	71.97	332	⇑P	P	03	29	12.4 +0.6
	baz=72							
M17A	Scullys Gap (B	72.05	328	⇓P	P	03	29	12.9 +0.5
	baz=72							
L18A	Fontenelle, Gr	72.08	329	⇓P	P	03	29	13.0 +0.5
	baz=72							
K19A	Absolon Red Bu	72.20	330	⇓P	P	03	29	13.7 +0.4
	baz=72							
DUG	Dugway	72.20	326	*e*P	P	03	29	14.0 +0.8
	comp=E,5.1nm,1.0s							
DUG	Dugway	72.20	326	⇑P	P	03	29	14.1 +0.8
	baz=72							
I21A	Big Trails, Te	72.27	332	⇓P	P	03	29	13.8 +0.3
	baz=72,SNR=8.2							
ISA	Isabella	72.30	319	⇓P	P	03	29	15.4 +1.6
	baz=73							
F25A	Bowman	72.37	335	⇑P	P	03	29	14.1 +0.1
	baz=73							
R11A	Troy Canyon, C	72.41	323	⇑P	P	03	29	15.9 +1.4
	baz=73							
H22A	Clearmont	72.47	333	⇓P	P	03	29	15.1 +0.4
	baz=73							
PDAR	Pinedale Array	72.49	330	P	P	03	29	15.2 +0.2
PDAR	Pinedale Array	72.49	330	P	P	03	29	15.2 +0.2
	comp=E,1.2nm,0.8s,baz=119,slow=8.8,SNR=6.1							
BW06	Boulder Array	72.50	330	*e*P	P	03	29	14.9 -0.1
	comp=E,1.9nm,0.8s							
G23A	Biddle	72.56	334	⇑P	P	03	29	15.6 +0.4
	baz=73							
HWUT	Hardware Ranch	72.60	328	*e*P	P	03	29	15.7 +0.1
	comp=E,5.3nm,0.8s							
PKM	Peak Mountain	72.64	318	⇓P	P	03	29	17.5 +1.6
	baz=73							
J19A	Crowheart	72.64	330	⇓P	P	03	29	16.4 +0.6
	baz=73							
F24A	Ekalaka	72.70	335	⇑P	P	03	29	16.5 +0.5
	baz=73							
I20A	Worland	72.75	331	⇑P	P	03	29	16.7 +0.4
	baz=73							
VES	Vestal, Richgr	72.79	319	⇓P	P	03	29	18.0 +1.4
	baz=73							
F23A	Volborg	72.98	334	⇓P	P	03	29	17.6 0.0
	baz=73							
SMMC	Simmler	73.02	318	⇓P	P	03	29	19.8 +1.8
	baz=73							
H20A	Greybull	73.11	332	⇑P	P	03	29	18.5 +0.1
	baz=73							
I19A	Meeteetse	73.21	331	⇓P	P	03	29	19.9 +0.8
	baz=74							
F22A	Rosebud	73.38	334	⇓P	P	03	29	20.3 +0.3
	baz=74							
SNOW	Snow King Moun	73.59	330	*e*P	P	03	29	22.2 +0.7
	comp=E,5.0nm,0.8s							
LOHW	Long Hollow	73.63	330	*e*P	P	03	29	21.6 -0.1
	comp=E,1.9nm,0.8s							
H19A	Powell	73.69	331	⇑P	P	03	29	22.4 +0.5
	baz=74							
TPAW	Teton Pass	73.71	329	*e*P	P	03	29	22.8 +0.6
	comp=E,2.3nm,0.7s							
RRI2	Red Ridge	73.78	329	*e*P	P	03	29	23.0 +0.4
	comp=E,8.3nm,0.8s							
MOOW	Moose Ponds	73.80	330	*e*P	P	03	29	22.8 +0.1
	comp=E,2.1nm,0.8s							
ELK	Elko	73.89	325	*e*P	P	03	29	23.6 +0.4
	comp=E,2.0nm,0.9s							
H18A	Shoshone NF, C	74.01	331	⇓P	P	03	29	24.3 +0.5
	baz=74,SNR=6.7							
IMW	Indian Meadow	74.01	330	*e*P	P	03	29	24.8 +0.8
	comp=E,2.2nm,0.6s							
NVAR	Mina Array Bea	74.03	322	P	P	03	29	25.4 +1.3
NVAR	Mina Array Bea	74.03	322	P	P	03	29	25.4 +1.3
	comp=E,1.9nm,0.9s,baz=153,slow=6.4,SNR=11							
FLWY	Flagg Ranch	74.03	330	*e*P	P	03	29	24.7 +0.7
	comp=E,8.1nm,0.8s							
D23A	Lindsay	74.08	335	⇑P	P	03	29	24.6 +0.5
	baz=74							
SCHQ	Schefferville	74.17	1	P	P	03	29	23.4 -0.9
SCHQ	Schefferville	74.17	1	P	P	03	29	23.4 -0.9
	comp=E,5.7nm,0.8s,baz=216,slow=3.7,SNR=5.4							
F20A	Billings	74.21	333	⇑P	P	03	29	25.4 +0.6
	baz=74							
H17A	Grant Village	74.21	330	⇓P	P	03	29	26.7 +1.6
	baz=74							
E21A	Keefer Ranch,	74.33	334	⇓P	P	03	29	26.5 +1.0
	baz=75							
D22A	Cohagen	74.45	335	⇑P	P	03	29	26.6 +0.5
	baz=75							
F19A	Roth Farm, Mol	74.59	332	⇓P	P	03	29	27.8 +0.8
	baz=75							
D21A	La Casta Ranch	74.72	334	⇓P	P	03	29	28.2 +0.5
	baz=75,SNR=5.6							
E20A	Meyer Farm, Mu	74.75	333	⇑P	P	03	29	28.8 +0.9
	baz=75							
E19A	Rath Farm, Rou	75.00	333	⇓P	P	03	29	30.1 +0.7
	baz=75,SNR=8.2							
D20A	Manuel Ranch,	75.22	333	⇑P	P	03	29	31.2 +0.6
	baz=76,SNR=5.6							
HLID	Hailey	75.46	328	*e*P	P	03	29	33.0 +0.8
	comp=E,5.5nm,0.9s							
HLID	Hailey	75.46	328	⇓P	P	03	29	33.6 +1.3
	baz=76,SNR=9.9							
D19A	Cripps Ranch,	75.59	333	⇑P	P	03	29	33.6 +0.9
	baz=76							
MCMT	McKenzie Canyo	75.61	329	*e*P	P	03	29	34.2 +1.1
	comp=E,2.2nm,0.9s							
BOZ	Bozeman (W)	75.65	331	*e*P	P	03	29	33.5 +0.3
C20A	Veseth Ranch,	75.65	334	⇓P	P	03	29	33.9 +0.9
	baz=76							
A22A	Carney Farms,	75.84	336	⇑P	P	03	29	35.1 +1.0
	baz=76							
MFID	Camas Ranch	76.08	327	⇑P	P	03	29	36.7 +1.1
	baz=76,SNR=5.4							
C19A	Slack Wire Ran	76.11	333	⇓P	P	03	29	36.7 +1.1
	baz=76							
A20A	Cobblestone Ra	76.54	335	⇓P	P	03	29	38.8 +0.8
	baz=77							
B19A	Brinkman Farms	76.62	334	⇑P	P	03	29	39.5 +1.0
	baz=77							
EGMT	Eagleton	76.63	333	⇑P	P	03	29	39.3 +0.7
	baz=77							
TORD	Torodi Ar. Bea	76.73	71	P	P	03	29	38.4 -1.4
TORD				pP	pP	03	30	09.5 -0.8
TORD	Torodi Ar. Bea	76.73	71	P	P	03	29	38.4 -1.4
	comp=E,5.6nm,0.4s,baz=261,slow=6.3,SNR=194							
TORD				pP	pP	03	30	09.5 -0.8
	comp=E,5.0nm,1.0s,baz=257,slow=5.5,SNR=3.2							
MSO	Missoula	77.60	330	⇓P	P	03	29	45.4 +1.3
	baz=78							
BMO	Blue Mountains	77.85	327	*e*P	P	03	29	46.3 +0.8
	comp=E,4.0nm,0.8s							
VNDA	Vanda	78.69	190	*e*P	P	03	29	51.3 +1.8
	comp=E,4.2nm,1.5s							
VNDA	Vanda	78.69	190	P	P	03	29	51.9 +2.3
	comp=E,1.7nm,0.9s,baz=121,slow=4.3,SNR=8.2							
NEW	Newport	80.14	330	*e*P	P	03	29	58.3 +0.5
	comp=E,3.2nm,1.1s							
MDT	Midelt	80.55	50	P	P	03	29	59.9 -0.6
MDT	Midelt	80.55	50	P	P	03	29	59.9 -0.6
	comp=E,3.9nm,0.8s,baz=246,slow=7.8,SNR=12							
EDM	Edmonton	82.07	335	*e*P	P	03	30	07.5 -0.5
EDM				*e*pP	pP	03	30	38.6 -0.2
TAM	Tamanrasset	83.98	63	*e*P	P	03	30	17.9 -0.8
	comp=E,2.2nm,1.0s							
TAM				*e*pP	pP	03	30	50.3 +0.8
PAB	San Pablo	84.18	45	*e*P	P	03	30	18.7 -0.5
	comp=E,44nm,1.1s							
PAB				*e*pP	pP	03	30	50.7 +0.6
ESDC	Sonseca Array	84.50	45	P	P	03	30	20.7 0.0
ESDC				pP	pP	03	30	53.1 +1.4
ESDC	Sonseca Array	84.50	45	P	P	03	30	20.7 0.0
	comp=E,1.7nm,0.7s,baz=242,slow=5.6,SNR=8.9							
ESDC				pP	pP	03	30	53.1 +1.4
	comp=E,3.5nm,0.9s,baz=252,slow=5.3,SNR=6.3							
LBTB	Lobatse	85.80	115	*e*P	P	03	30	26.9 -0.9
	comp=E,6.4nm,1.1s							
MAW	Mawson	86.12	163	P	P	03	30	29.2 +0.9
MAW	Mawson	86.12	163	P	P	03	30	29.2 +0.9
	comp=E,1.2nm,0.7s,baz=203,slow=6.5,SNR=3.7							
YKA	Yellowknife Ar	89.43	341	P	P	03	30	44.2 +0.3
YKA	Yellowknife Ar	89.43	341	P	P	03	30	44.2 +0.3
	comp=E,2.9n

mb1mx3.6/23, mbtmp3.7/5, Error ellipse: s-maj=143.1km s-min=21.6km az=59.0

*DJA **02** 03:22:53.6±0.7, 1°S±7°×10°E±°, h34km±9km, M4.0/4, MLv4.0/4*

ISC 02 03:22:46.0±1.1, 1°1S±0°1×99°40E±0°09, h35km, n15, σ2s09/14, mb3.6/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**1.07**	**82**	P	**Pn**	**03 23 07.7**	**+3.1**
PDSI				S	**Sn**	**03 23 18.5**	**+0.3**
PPI	**Padang Panjang**	**1.16**	**59**	P	**Pn**	**03 23 07.9**	**+2.1**
PPI				S	**Sn**	**03 23 18.9**	**-1.6**
BKNI	**Bangkinang**	**2.14**	**50**	P	**Pn**	**03 23 21.4**	**+2.1**
BKNI				S	**Sn**	**03 23 42.5**	**-2.2**
GSI	**Gunungsitoli**	**2.98**	**322**	P	Pn	03 23 38.9	+8.1
RGRI	**Rengat**	**3.02**	**76**	P	**Pn**	**03 23 33.9**	**+2.6**
PSI	**Prapat**	**3.87**	**353**	Pn	**Pn**	**03 23 45.8**	**+2.6**
	3.0nm,0.3s,baz=340,slow=7.6,SNR=8.1						
H08S2	**Diego Garcia H**	**27.60**	**256**	T	T	03 56 35.5	
	baz=77,slow=0.7,SNR=18						
H08S3	**Diego Garcia H**	**27.61**	**256**	T	T	03 56 35.7	
	baz=77,slow=0.7,SNR=23						
H08S1	**Diego Carcia H**	**27.62**	**256**	T	T	03 56 47.9	
	baz=77,slow=0.7,SNR=9.9						
WRA	**Warramunga Arr**	**38.98**	**121**	P	**P**	**03 30 07.2**	**-2.1**
	0.5nm,0.4s,baz=302,slow=9.0,SNR=9.7						
ASAR	**Alice Springs**	**40.28**	**127**	P	**P**	**03 30 18.6**	**-1.5**
	0.4nm,0.5s,baz=299,slow=7.7,SNR=5.3						
SONM	**Songino Array**	**49.08**	**6**	P	**P**	**03 31 28.9**	**-1.2**
	0.4nm,0.6s,baz=191,slow=9.0,SNR=3.1						
MKAR	**Makanchi Array**	**49.98**	**345**	P	**P**	**03 31 37.2**	**+0.5**
	1.1nm,0.6s,baz=152,slow=8.4,SNR=12						
STKA	**Stephens Creek**	**50.21**	**132**	P	**P**	**03 31 39.1**	**+0.3**
	0.9nm,0.4s,baz=333,slow=4.5,SNR=3.3						
TXAR	**Lajitas Array**	**144.31**	**36**	PKP	**PKPab**	**03 42 17.0**	**-0.3**
	0.3nm,0.5s,baz=225,slow=0.4,SNR=9.3						

*CSEM **02** 03:42:30.7, 37°36N×36°24E, h7km, ML2.8, After DDA*

DDA 02 03:42:30.7, 37°36N×36°24E, h7km, ML2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANDN	**Andirin**	**0.24**	**21**	*i* P	Pg	03 42 35.8	+0.1
ANDN				*i* S	Sg	03 42 39.7	+0.7
ANDN	**Andirin**	**0.24**	**21**	*i* P	Pg	03 42 35.8	+0.1
ANDN				*i* S	Sg	03 42 39.7	+0.7
AYKD	**Aykdinkavak**	**0.46**	**83**	*i* P	Pg	03 42 39.7	0.0
AYKD				*i* S	Sg	03 42 46.8	+1.1
KUZU	**Kuzuini**	**0.89**	**131**	*i* P	Pn	03 42 49.3	-0.5
KUZU				*i* S	Sb	03 43 01.3	+0.6
KUZU	**Kuzuini**	**0.89**	**131**	*i* P	Pn	03 42 49.3	-0.4
KUZU				*i* S	Sb	03 43 01.3	+0.6
GZT	**Gaziantep**	**1.06**	**90**	*i* P	Pn	03 42 52.0	-0.2
GZT				*i* S	Sn	03 43 06.8	-0.6

IDC 02 03:51:48.6±1.9, 16°16S×173°05W, h0km, mb3.5/6, mb1 3.9/6, mb1mx3.7/21, mbtmp3.5/6, MS3.0/1, Ms1 3.0/1, ms1mx2.7/26, Error ellipse: s-maj=123.0km s-min=22.3km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.55**	**29**	Pn	Pn	03 52 22.8	-8.5
	20nm,0.3s,baz=347,slow=14,SNR=3.2						
AFI					Sn	03 52 50.2	-13
	37nm,0.3s,baz=43,slow=21,SNR=6.7						
AFI					LR	03 53 03.3	
	comp=Z,258nm,19.2s,baz=7.3,slow=29						
H11S2	**WAKE ISLAND Hy**	**39.78**	**329**	T	T	04 41 48.1	
	baz=152						
H11S3	**WAKE ISLAND Hy**	**39.80**	**329**	T	T	04 41 35.7	
	baz=152						
H11S1	**WAKE ISLAND Hy**	**39.80**	**329**	T	T	04 41 33.8	
	baz=152						
H11N3	**WAKE ISLAND Hy**	**40.73**	**330**	T	T	04 42 57.6	
	baz=156						
H11N1	**WAKE ISLAND Hy**	**40.74**	**330**	T	T	04 42 44.0	
	baz=156						
H11N2	**WAKE ISLAND Hy**	**40.75**	**330**	T	T	04 42 56.4	
	baz=156						
WRA	**Warramunga Arr**	**50.01**	**257**	P	P	04 00 44.9	-0.3
	0.3nm,0.4s,baz=91,slow=6.8,SNR=8.2						
ASAR	**Alice Springs**	**50.21**	**252**	P	P	04 00 46.6	0.0
	1.4nm,0.6s,baz=87,slow=8.7,SNR=3.4						
NVAR	**Mina Array Bea**	**74.66**	**42**	P	P	04 03 30.3	0.0
	0.4nm,0.7s,baz=225,slow=8.7,SNR=3.4						
TXAR	**Lajitas Array**	**80.75**	**56**	P	P	04 04 04.6	+0.3
	0.1nm,0.6s,baz=226,slow=7.4,SNR=2.8						
PDAR	**Pinedale Array**	**82.60**	**42**	P	P	04 04 13.7	-0.4
	0.4nm,0.8s,baz=205,slow=8.0,SNR=3.5						
ILAR	**Eielson Array**	**83.12**	**11**	P	P	04 04 16.1	+0.2
	0.2nm,0.6s,baz=224,slow=6.4,SNR=4.9						
BRTR	**Keskin Array B**	**146.96**	**321**	PKPbc	PKPbc	04 11 32.9	-0.8
	1.1nm,0.9s,baz=43,slow=2.4,SNR=5.0						

PGC 02 03:52:02.4±0.1, 62°27N×124°51W, h10km, ML3.6/7, 8D, 179km west of Fort Simpson, Nt Northwest Territories, Canada, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FNBB	**Fort Nelson**	**3.47**	**167**	Pn	Pn	03 52 55.5	-0.9
ROMN	**Roman Lake**	**3.58**	**52**	⇑Pn	Pn	03 52 57.2	-0.6
ROMN				⇑Sn	Sn	03 53 38.1	-2.0
GALN	**Gameti Lake**	**3.75**	**57**	⇓Pn	Pn	03 52 59.4	-0.8
CTLN	**Castor Lake**	**4.40**	**57**	⇓Pn	Pn	03 53 08.2	-0.9
CTLN				⇓Sn	Sn	03 53 57.2	-3.1
CTLN				⇑Sg	Sg	03 54 18.6	-4.9
YKW3	**Yellowknife Ar**	**4.61**	**82**	⇓Pn	Pn	03 53 11.0	-1.0
YKW3				⇓Sn	Sn	03 54 02.8	-2.8
DLBC	**Dease Lake**	**4.72**	**218**	⇓Pn	Pn	03 53 13.1	-0.5
DLBC				⇑Sg	Sg	03 54 29.7	-4.3
WHY	**Whitehorse**	**5.23**	**257**	Pn	Pn	03 53 18.9	-1.7
DAWY	**Dawson**	**6.97**	**292**	⇓Pn	Pn	03 53 44.1	-0.4
DAWY				⇑Sg	Sg	03 55 38.3	-7.8
INK	**Inuvik**	**7.13**	**332**	⇓Pn	Pn	03 53 44.8	-1.8
INK				⇑Sn	Sn	03 55 00.8	-6.8

IDC 02 04:00:43.2±2.0, 15°93S×173°28W, h0km, mb3.7/6, mb1 4.1/6, mb1mx3.9/21, mbtmp3.7/6, Error ellipse: s-maj=116.8km s-min=23.4km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.48**	**36**	Pn	Pn	04 01 17.3	-7.7
	12nm,0.3s,baz=270,slow=17,SNR=2.6						
AFI					Sn	04 01 40.6	-15
	51nm,0.3s,baz=87,slow=20,SNR=7.3						
H11S2	**WAKE ISLAND Hy**	**39.48**	**329**	T	T	04 49 54.7	
	baz=152,slow=0.7,SNR=17						
H11S3	**WAKE ISLAND Hy**	**39.49**	**329**	T	T	04 49 54.2	
	baz=152,slow=0.7,SNR=16						
H11S1	**WAKE ISLAND Hy**	**39.49**	**329**	T	T	04 49 56.0	
	baz=152,slow=0.7,SNR=17						
H11N3	**WAKE ISLAND Hy**	**40.43**	**331**	T	T	04 51 10.1	
	baz=152,slow=0.7,SNR=14						
H11N1	**WAKE ISLAND Hy**	**40.43**	**330**	T	T	04 51 06.7	
	baz=152,slow=0.7,SNR=8.7						
H11N2	**WAKE ISLAND Hy**	**40.45**	**330**	T	T	04 51 08.5	
	baz=152,slow=0.7,SNR=12						
WRA	**Warramunga Arr**	**49.84**	**257**	P	P	04 09 37.8	-0.8
	0.4nm,0.7s,baz=96,slow=7.7,SNR=5.4						
ASAR	**Alice Springs**	**50.06**	**252**	P	P	04 09 39.9	-0.3
	2.7nm,0.7s,baz=85,slow=8.1,SNR=36						
NVAR	**Mina Array Bea**	**74.64**	**42**	P	P	04 12 25.1	+0.2
	0.6nm,0.6s,baz=221,slow=13,SNR=4.8						
TXAR	**Lajitas Array**	**80.81**	**56**	P	P	04 12 59.6	+0.3
	0.4nm,0.9s,baz=224,slow=5.2,SNR=3.9						
PDAR	**Pinedale Array**	**82.58**	**42**	P	P	04 13 07.5	-1.1
	0.4nm,0.5s,baz=205,slow=6.6,SNR=4.1						
ILAR	**Eielson Array**	**82.94**	**11**	P	P	04 13 08.8	-0.8
	0.4nm,0.6s,baz=232,slow=6.5,SNR=11						
BRTR	**Keskin Array B**	**146.64**	**321**	PKPbc	PKPab	04 20 28.4	-0.1
	0.3nm,0.4s,baz=46,slow=5.9,SNR=3.3						
GERES	**GERESS Array B**	**146.68**	**352**	PKPbc	PKPbc	04 20 27.1	0.0
	0.7nm,0.9s,baz=2.4,slow=7.1,SNR=3.1						

*NEIC **02** 04:09:04.5±0.6, 14°54S×175°62W, h10km, mb4.6/17, Error ellipse: s-maj=35.7km s-min=17.1km az=123.0*

*IDC **02** 04:09:07.6±0.8, 14°86S×173°95W, h0km, mb4.1/8, mb1 4.4/8, mb1mx4.2/19, mbtmp4.1/8, MS4.0/8, Ms1 4.0/8, ms1mx3.7/37, Error ellipse: s-maj=40.3km s-min=20.6km az=143.0*

ISC 02 04:09:10.6±0.8, 14°8S±0°2×174°8W±0°4, h35km, n77, σ1s84/42, mb4.5/24, MS4.0/8, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.07**	**73**	*e*Pn	Pn	04 09 38.5	-18
AFI				S	Sn	04 09 59.1	-33
AFI	**Afiamalu**	**3.07**	**73**	Pn	Pn	04 09 38.9	-18
	58nm,0.3s,baz=254,slow=2.1,SNR=13						
AFI					Sn	04 09 59.1	-33
	252nm,0.3s,baz=96,slow=12,SNR=16						
DZM	**Mont Dzumac**	**19.19**	**245**	*e*P	Pn	04 13 47.0	+14
	40nm,1.4s						
PPT2	**Papeete2**	**24.37**	**100**	*e*LR	LR	04 19 50.1	
	716nm,25.2s						
TBI	**Tubuai**	**25.37**	**113**	*e*LR	LR	04 20 23.1	
	536nm,28.0s						
H11S2	**WAKE ISLAND Hy**	**37.79**	**331**	T	T	04 57 21.9	
	baz=152,slow=0.7,SNR=90						
H11S3	**WAKE ISLAND Hy**	**37.80**	**331**	T	T	04 57 19.6	
	baz=152,slow=0.7,SNR=112						
H11S1	**WAKE ISLAND Hy**	**37.81**	**331**	T	T	04 57 20.0	
	baz=152,slow=0.7,SNR=118						
RKT	**Rikitea**	**38.46**	**109**	*e*LR	LR	04 26 22.7	
	462nm,27.0s						
H11N3	**WAKE ISLAND Hy**	**38.76**	**332**	T	T	04 58 30.2	
	baz=152,slow=0.7,SNR=24						
H11N1	**WAKE ISLAND Hy**	**38.76**	**332**	T	T	04 58 37.8	
	baz=152,slow=0.7,SNR=87						
H11N2	**WAKE ISLAND Hy**	**38.77**	**332**	T	T	04 58 32.8	
	baz=152,slow=0.7,SNR=76						
WRA	**Warramunga Arr**	**48.66**	**256**	P	P	04 17 59.5	+7.9
WRA	**Warramunga Arr**	**48.66**	**256**	P	P	04 17 59.5	+7.9
	1.2nm,0.5s,baz=89,slow=7.1,SNR=18						
WRA					LR	04 35 38.3	
	comp=Z,189nm,19.3s,baz=45,slow=32						
AS31	**Alice Springs**	**49.01**	**251**	*e*P	P	04 18 01.7	+7.4
ASAR	**Alice Springs**	**49.01**	**251**	P	P	04 18 01.5	+7.2
ASAR	**Alice Springs**	**49.01**	**251**	P	P	04 18 01.5	+7.2
	6.2nm,0.6s,baz=89,slow=7.8,SNR=31						
VNDA	**Vanda**	**63.81**	**186**	*e*P	**P**	**04 19 40.9**	**+2.0**
	5.7nm,1.6s						
VNDA	**Vanda**	**63.81**	**186**	P	**P**	**04 19 41.8**	**+3.0**
	0.8nm,1.0s,baz=9.6,slow=6.5,SNR=3.5						
MJAR	**Matsushiro Arr**	**67.63**	**320**	LR	LR	04 43 47.3	
	comp=Z,85nm,20.2s,baz=210,slow=30						
ASAJ	**Asahikawa**	**70.34**	**329**	LR	LR	04 45 00.4	
	comp=Z,90nm,20.5s,baz=162,slow=30						
PETK	**Petropavlovsk-**	**71.68**	**343**	LR	LR	04 48 55.2	
	comp=Z,54nm,21.0s,baz=342,slow=33						
YBH	**Yreka Blue Hor**	**73.97**	**38**	*e*P	P	04 20 44.4	+1.8
	4.8nm,1.3s						
KSRS	**Korea Array**	**74.81**	**316**	LR	LR	04 47 09.5	
	comp=Z,60nm,21.2s,baz=262,slow=30						
NVAR	**Mina Array Bea**	**74.82**	**43**	P	**P**	**04 20 46.6**	**-1.1**
NVAR	**Mina Array Bea**	**74.82**	**43**	P	**P**	**04 20 46.6**	**-1.1**
	1.1nm,0.7s,baz=224,slow=3.8,SNR=4.4						
QSPA	**South Pole Qui**	**75.22**	**180**	*e*P	**P**	**04 20 47.1**	**-2.4**
	5.7nm,1.3s						
USRK	**Ussuriysk Arra**	**76.12**	**324**	P	P	04 21 00.3	+5.5
	0.6nm,0.4s,baz=102,slow=13,SNR=3.4						
WVOR	**Wild Horse Val**	**76.83**	**39**	*e*P	**P**	**04 20 59.1**	**0.0**
	30nm,2.3s						
TUC	**Tucson**	**77.08**	**51**	*e*P	**P**	**04 21 00.7**	**0.0**
	1.8nm,0.9s						
DIV	**Divide**	**79.16**	**14**	*e*P	**P**	**04 21 12.5**	**+1.0**
	16nm,1.1s						
BMRM	**Bremner River**	**79.29**	**14**	*e*P	P	04 21 14.6	+2.4
	12nm,1.0s						
DUG	**Dugway**	**79.37**	**43**	*e*P	**P**	**04 21 12.7**	**-0.5**
	7.2nm,1.4s						
TMUT	**Trail Mountain**	**80.01**	**45**	*e*P	**P**	**04 21 17.1**	**+0.1**
	6.3nm,0.9s						
HLID	**Hailey**	**80.05**	**40**	*e*P	**P**	**04 21 17.8**	**+1.0**
	7.2nm,1.4s						
SRU	**San Rafael**	**80.39**	**45**	*e*P	**P**	**04 21 18.0**	**-0.9**
	6.4nm,1.2s						
LAZ	**Ladron**	**80.74**	**51**	*e*P	**P**	**04 21 21.2**	**+0.4**
BPAW	**Bear Paw Mtn.**	**80.78**	**10**	*e*P	**P**	**04 21 18.3**	**-1.8**
	34nm,2.0s						
MCK	**McKinley**	**80.82**	**11**	*e*P	P	04 21 21.9	+1.5
	15nm,1.2s						
MNTX	**Cornudas Mount**	**80.97**	**54**	*e*P	**P**	**04 21 20.5**	**-1.4**
	4.1nm,1.4s						
BNM	**Barren Site**	**81.02**	**51**	*e*P	**P**	**04 21 21.6**	**-0.8**
PV09	**Paradox Valley**	**81.08**	**46**	*e*P	**P**	**04 21 22.8**	**+0.2**
TXAR	**Lajitas Array**	**81.42**	**57**	P	**P**	**04 21 23.2**	**-1.2**
TXAR	**Lajitas Array**	**81.42**	**57**	P	**P**	**04 21 23.2**	**-1.2**
	2.1nm,1.1s,baz=222,slow=5.0,SNR=9.6						
PV15	**Paradox Valley**	**81.47**	**47**	*e*P	**P**	**04 21 24.9**	**+0.2**
ANMO	**Albuquerque**	**81.47**	**51**	*e*P	**P**	**04 21 24.5**	**-0.2**
	21nm,2.0s						
RRI2	**Red Ridge**	**81.89**	**41**	*e*P	**P**	**04 21 27.6**	**+0.8**
ILAR	**Eielson Array**	**82.15**	**12**	P	**P**	**04 21 28.5**	**+1.1**
ILAR	**Eielson Array**	**82.15**	**12**	P	**P**	**04 21 28.5**	**+1.1**
	4.1nm,1.1s,baz=213,slow=5.4,SNR=15						
TPAW	**Teton Pass**	**82.19**	**41**	*e*P	**P**	**04 21 28.5**	**+0.1**
PDAR	**Pinedale Array**	**82.75**	**42**	P	**P**	**04 21 30.6**	**-0.7**
PDAR	**Pinedale Array**	**82.75**	**42**	P	**P**	**04 21 30.6**	**-0.7**
	0.8nm,0.6s,baz=214,slow=2.0,SNR=6.8						
SMCO	**Snowmass**	**82.89**	**46**	*e*P	**P**	**04 21 32.1**	**-0.2**
	16nm,1.6s						
HRY	**Holter Researc**	**83.22**	**38**	*e*P	**P**	**04 21 33.7**	**+0.2**
	3.2nm,0.9s						
ABTX	**Abilene, Hawle**	**85.83**	**55**	*e*P	**P**	**04 21 46.4**	**-0.5**
H03N2	**Juan Fernandez**	**86.75**	**124**	T	T	05 58 02.8	
	baz=265						
H03N3	**Juan Fernandez**	**86.75**	**124**	T	T	05 57 59.7	
	baz=265						
H03N1	**Juan Fernandez**	**86.76**	**124**	T	T	05 57 60.0	
	baz=265						
PLCA	**Paso Flores**	**90.90**	**133**	LR	LR	04 54 07.1	
	comp=Z,181nm,20.0s,baz=135,slow=30						
CMAR	**Chiang Mai Arr**	**91.15**	**299**	LR	LR	04 57 49.6	
	comp=Z,34nm,20.6s,baz=110,slow=32						
ATAH	**Atahualpa**	**94.34**	**99**	LR	LR	04 57 35.1	
	comp=Z,88nm,18.6s,baz=82,slow=31						
BUR08	**Bucovina Ar. S**	**143.31**	**337**	*e*PKPdf	PKPab	04 28 34.4	-2.9
MORC	**Moravsky Berou**	**143.72**	**346**	*e*PKPdf	PKPbc	04 28 38.3	-1.2
KMBO	**Kilima Mbogo**	**144.55**	**246**	*e*PKPdf	**PKPab**	**04 28 41.1**	**-2.1**
PSZ	**Piszkesteto**	**144.83**	**343**	*e*PKPdf	PKPbc	04 28 41.4	-1.7
BRTR	**Keskin Array B**	**144.86**	**320**	PKPbc	PKPdf	04 28 49.0	+4.5
BRTR	**Keskin Array B**	**144.86**	**320**	PKPbc	PKPdf	04 28 49.0	+4.5
	3.8nm,0.9s,baz=126,slow=1.7,SNR=13						
GRFO	**Grafenberg**	**144.88**	**353**	*e*PKPdf	PKPbc	04 28 41.3	-1.8
GERES	**GERESS Array B**	**145.36**	**350**	PKPbc	**PKPdf**	**04 28 48.5**	**+3.6**
GERES	**GERESS Array B**	**145.36**	**350**	PKPbc	**PKPdf**	**04 28 48.5**	**+3.6**
	0.3nm,0.6s,baz=23,slow=5.3,SNR=2.8						
BFO	**Black Forest**	**146.49**	**356**	*e*PKPbc	**PKPdf**	**04 28 44.6**	**-2.2**
ECH	**Echery**	**146.66**	**358**	*e*PKPbc	**PKPdf**	**04 28 44.7**	**-2.4**
TUE	**Stuetta**	**148.26**	**355**	*e*PKPbc	**PKPdf**	**04 28 47.5**	**-2.5**
SSB	**Saint Sauveur**	**149.64**	**1**	*e*PKPbc	**PKPdf**	**04 28 49.8**	**-2.2**
BNI	**Bardonecchia**	**149.84**	**358**	*e*PKPbc	**PKPbc**	**04 28 53.6**	**-3.7**
ESDC	**Sonseca Array**	**153.97**	**16**	PKPbc	**PKPbc**	**04 29 10.1**	**+3.3**
ESDC				PKPab	**PKPab**	**04 29 21.8**	**+1.8**
ESDC	**Sonseca Array**	**153.97**	**16**	PKPbc	**PKPbc**	**04 29 10.1**	**+3.3**
	0.8nm,0.9s,baz=349,slow=4.8,SNR=4.4						
ESDC				PKPab	**PKPab**	**04 29 21.8**	**+1.8**
	1.4nm,1.0s,baz=330,slow=4.6,SNR=5.4						

IDC 02 04:26:14.5±2.0, 15°54S×173°58W, h0km, mb3.6/6, mb1 4.0/7, mb1mx3.8/21, mbtmp3.6/7, ML1.7/1, MS3.6/1, Ms1 3.6/1, ms1mx2.9/33, Error ellipse: s-maj=123.3km s-min=20.6km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.38**	**47**	Pn	Pn	04 26 53.9	-1.1
	9.5nm,0.3s,baz=219,slow=14,SNR=4.9						
AFI					Sn	04 27 19.2	-5.8
	18nm,0.3s,baz=217,slow=23,SNR=9.2						
HNR	**Honiara**	**26.53**	**280**	LR	LR	04 40 02.7	
	comp=Z,127nm,21.3s,baz=318,slow=31						
H11S2	**WAKE ISLAND Hy**	**38.99**	**329**	T	T	05 15 22.6	
	baz=150,slow=0.7						
H11S3	**WAKE ISLAND Hy**	**39.00**	**329**	T	T	05 15 22.7	
	baz=150						
H11S1	**WAKE ISLAND Hy**	**39.01**	**329**	T	T	05 15 24.7	
	baz=150,slow=0.7						
H11N3	**WAKE ISLAND Hy**	**39.94**	**331**	T	T	05 16 33.7	
	baz=252,slow=0.6,SNR=3.9						
H11N1	**WAKE ISLAND Hy**	**39.95**	**331**	T	T	05 16 33.8	
	baz=252,slow=0.6,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**39.96**	**331**	T	T	05 16 34.5	
	baz=252,slow=0.6,SNR=4.3						
WRA	**Warramunga Arr**	**49.64**	**257**	P	P	04 35 09.1	+0.8
	0.4nm,0.7s,baz=96,slow=7.8,SNR=7.6						
ASAR	**Alice Springs**	**49.90**	**252**	P	P	04 35 09.2	-1.1
	1.1nm,0.8s,baz=84,slow=8.3,SNR=13						
NVAR	**Mina Array Bea**	**74.55**	**42**	P	P	04 37 56.2	+0.6
	0.5nm,0.7s,baz=228,slow=11,SNR=3.6						
TXAR	**Lajitas Array**	**80.83**	**56**	P	P	04 38 31.1	+0.3
	0.3nm,0.9s,baz=216,slow=2.9,SNR=3.9						
PDAR	**Pinedale Array**	**82.48**	**42**	P	P	04 38 39.1	-0.3
	0.7nm,0.9s,baz=224,slow=2.5,SNR=4.4						
ILAR	**Eielson Array**	**82.61**	**11**	P	P	04 38 39.3	+0.1
	0.4nm,1.0s,baz=218,slow=6.7,SNR=3.7						

IDC 02 04:29:00.4±11.0, 14°96S×171°55W, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/21, mbtmp3.7/4, Error ellipse: s-maj=268.4km s-min=48.5km az=33.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.06**	**348**	Pn	Pn	04 29 28.8	+6.1
	23nm,0.3s,baz=166,slow=4.2,SNR=3.6						
AFI					Sn	04 29 44.3	+6.1
	304nm,0.3s,baz=271,slow=4.5,SNR=14						
H11S2	**WAKE ISLAND Hy**	**39.54**	**326**	T	T	05 17 13.9	
	baz=154						
H11S3	**WAKE ISLAND Hy**	**39.55**	**326**	T	T	05 17 16.0	
	baz=154						
H11S1	**WAKE ISLAND Hy**	**39.56**	**326**	T	T	05 17 15.2	
	baz=154						
STKA	**Stephens Creek**	**45.80**	**240**	P	P	04 37 24.4	+0.3
	2.2nm,0.9s,baz=194,slow=8.2,SNR=3.1						
WRA	**Warramunga Arr**	**51.68**	**256**	P	P	04 38 09.2	-0.4
	0.3nm,0.8s,baz=97,slow=6.7,SNR=4.1						
ASAR	**Alice Springs**	**51.94**	**252**	P	P	04 38 11.2	-0.3
	0.7nm,0.5s,baz=89,slow=8.0,SNR=7.8						
VNDA	**Vanda**	**64.00**	**186**	P	P	04 39 35.3	0.0
	0.3nm,0.6s,baz=45,slow=2.9,SNR=6.8						

IDC 02 04:31:52.1±2.4, 16°38S×172°77W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/21, mbtmp3.5/3, MS3.5/1, Ms1 3.5/1, ms1mx3.1/28, Error ellipse: s-maj=64.6km s-min=46.8km az=48.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.63**	**21**	Pn	Pn	04 32 23.2	-13
	51nm,0.3s,baz=207,slow=16,SNR=12						
AFI					Sn	04 32 40.7	-28
	195nm,0.3s,baz=212,slow=19,SNR=14						
DZM	**Mont Dzumac**	**20.42**	**251**	LR	LR	04 42 45.9	
	comp=Z,162nm,22.0s,baz=194,slow=32						
H11S2	**WAKE ISLAND Hy**	**40.11**	**329**	T	T	05 20 54.0	
	baz=152,slow=0.7,SNR=1.3						
H11S3	**WAKE ISLAND Hy**	**40.13**	**329**	T	T	05 20 41.5	
	baz=152,slow=0.7,SNR=4.4						
H11S1	**WAKE ISLAND Hy**	**40.13**	**329**	T	T	05 20 55.0	
	baz=152,slow=0.7,SNR=4.6						
H11N3	**WAKE ISLAND Hy**	**41.06**	**330**	T	T	05 22 04.3	
	baz=153,slow=0.7,SNR=7.1						
H11N1	**WAKE ISLAND Hy**	**41.06**	**330**	T	T	05 21 54.8	
	baz=153,slow=0.7,SNR=7.9						
H11N2	**WAKE ISLAND Hy**	**41.08**	**330**	T	T	05 22 07.1	
	baz=153,slow=0.7,SNR=5.9						
WRA	**Warramunga Arr**	**50.22**	**257**	P	P	04 40 50.2	-0.2
	0.3nm,0.7s,baz=85,slow=7.4,SNR=5.5						
ASAR	**Alice Springs**	**50.40**	**253**	P	P	04 40 51.6	-0.1
	0.7nm,0.6s,baz=90,slow=7.8,SNR=6.4						
VNDA	**Vanda**	**62.47**	**186**	P	P	04 42 16.8	0.0
	0.4nm,0.7s,baz=40,slow=7.9,SNR=3.0						
BRTR	**Keskin Array B**	**147.30**	**321**	PKPbc	PKPbc	04 51 37.4	-0.8
	1.5nm,1.0s,baz=31,slow=3.4,SNR=4.9						

*NEIC **02** 04:42:05.7±0.2, 14°67N×91°02W, mb4.8/159, MD4.9(MEX), Error ellipse: s-maj=5.3km s-min=3.3km az=26.0*

*ISCJB **02** 04:42:06.0±0.2, 14°82N±0°03×90°98W±0°02, h180km±1km, mb4.7/183, Error ellipse: s-maj=5.2km s-min=2.3km az=37.6*

*IDC **02** 04:42:06.7±0.4, 14°

PNIG *i* S Sn 04 44 57.6 -7.1
VCR Vista de Mar 7.00 130 ⇓*i*P **Pn** **04 43 48.1 +2.1**
VCR *e*S **Sn** **04 45 00.4 -4.6**
TPIG Tehuac#an 7.07 303 *i* P **Pn** **04 43 45.3 -1.7**
TPIG Tehuac#an 7.07 303 *i* P **Pn** **04 43 45.3 -1.7**
JTS JuntasAbangare 7.41 125 *e*Pn **Pn** **04 43 53.0 +1.5**
JTS S **Sn** **04 45 10.6 -4.3**
JTS JuntasAbangare 7.41 125 P **Pn** **04 43 53.4 +1.9**
comp=Z,245nm,0.3s,baz=328,slow=10,SNR=616
JTS S **Sn** **04 45 10.6 -4.3**
comp=Z,16nm,0.3s,baz=287,slow=19,SNR=1.7
JCR Jicaral 7.56 129 ⇓*i*P **Pn** **04 43 55.6 +2.1**
JCR *e*S **Sn** **04 45 13.9 -4.5**
CAO Cobano 7.67 130 *e*P **Pn** **04 43 55.6 +0.8**
CAO *e*S **Sn** **04 45 15.9 -5.0**
CGA2 Cerro Gallo 2 7.96 125 ⇓*e*P **Pn** **04 44 00.6 +1.8**
CGA2 *e*S **Sn** **04 45 24.4 -3.8**
SJS Escuela Geolog 8.34 124 ⇑*e*P **Pn** **04 44 05.8 +2.0**
SJS *e*S **Sn** **04 45 37.4 +0.4**
PPM Popocatepetl 8.43 302 *e*P **Pn** **04 44 05.8 +0.5**
PPM Popocatepetl 8.43 302 *e*P **Pn** **04 44 05.8 +0.5**
QCR Quepos 8.55 127 ⇓*e*P **Pn** **04 44 08.2 +1.7**
QCR *e*S **Sn** **04 45 38.4 -3.7**
URSC Urasca 8.62 123 ⇓*e*P **Pn** **04 44 09.4 +1.9**
URSC *e*S **Sn** **04 45 45.6 +1.8**
YAIG Yautepec 8.70 300 *e*P **Pn** **04 44 08.7 +0.2**
YAIG Yautepec 8.70 300 *e*P **Pn** **04 44 08.7 +0.2**
BUS Buena Vista 8.79 125 ⇓*e*P **Pn** **04 44 12.2 +2.1**
BUS *e*S **Sn** **04 45 44.7 -3.8**
PLIG Platanillo 8.87 296 *i* P **Pn** **04 44 11.1 +0.3**
PLIG Platanillo 8.87 296 *i* P **Pn** **04 44 11.1 +0.3**
CAIG El Cayaco 9.14 286 *i* P **Pn** **04 44 11.3 -3.0**
CAIG El Cayaco 9.14 286 *i* P **Pn** **04 44 11.3 -3.0**
DEIG Demacu 9.41 308 *e*P **Pn** **04 44 18.4 +0.4**
DEIG Demacu 9.41 308 *e*P **Pn** **04 44 18.4 +0.4**
ARIG Puente Sto Nin 9.57 293 *i* P **Pn** **04 44 20.6 +0.7**
ACR Cerro Adams 9.80 127 *e*P **Pn** **04 44 23.9 +0.9**
ACR *e*S **Sn** **04 46 10.0 -2.1**
CNI Changuinola 9.88 121 *e*P **Pn** **04 44 25.9 +1.8**
CTCR Cotoan 9.98 124 *e*P **Pn** **04 44 26.5 +1.0**
CTCR *e*S **Sn** **04 46 14.7 -1.8**
BRU2 Volcan 10.09 125 ⇓*i*P **Pn** **04 44 28.6 +1.6**
TBS2 10.12 124 *e*P **Pn** **04 44 28.6 +1.2**
BRU Baru 10.19 124 *e*P **Pn** **04 44 30.7 +2.2**
ZIIG Zihuatanejo 10.38 288 *e*P **Pn** **04 44 30.8 +0.2**
ZIIG Zihuatanejo 10.38 288 *e*P **Pn** **04 44 30.8 +0.2**
MOIG Morelia 10.85 299 *e*P **Pn** **04 44 38.6 +1.6**
MOIG Morelia 10.85 299 *e*P **Pn** **04 44 38.6 +1.6**
MMIG Aquila 12.29 289 *e*P **Pn** **04 44 55.4 +0.1**
MMIG Aquila 12.29 289 *e*P **Pn** **04 44 55.4 +0.1**
BCIP Isla Barro Col 12.30 115 *e*P **Pn** **04 44 53.4 -2.1**
BCIP *e*S **Pn** **04 44 57.0 +1.5**
BCIP Isla Barro Col 12.30 115 *e*Pn **Pn** **04 44 56.5 +1.0**
ZAIG Zacatecas 13.52 308 *e*P **P** **04 45 13.5 -1.0**
ZAIG Zacatecas 13.52 308 *e*P **P** **04 45 13.5 -1.0**
HKT Hockley 15.81 345 *e*P **Pn** **04 45 39.2 0.0**
comp=Z,78nm,1.3s
732A Laxson Ranch, 16.22 331 ⇓P **P** **04 45 43.8 -0.3**
baz=16,SNR=35
BRAL Brewton 16.67 12 *e*P **Pn** **04 45 53.0 +3.4**
comp=Z,626nm,1.4s
632A Uvalde 16.80 333 ⇑P **Pn** **04 45 51.0 -0.2**
baz=17,SNR=34
631A Perdido Creek 17.08 331 ⇓P **P** **04 45 53.9 +0.3**
baz=17,SNR=47
NATX Nacogdoches 17.31 350 *e*P **Pn** **04 45 57.0 -0.3**
comp=Z,94nm,0.6s
532A Rocksprings 17.38 334 ⇓P **P** **04 45 56.6 -0.4**
baz=18,SNR=54
VBMS Vicksburg 17.46 2 *e*P **Pn** **04 45 59.6 +0.5**
comp=Z,176nm,0.8s
JCT Junction City 17.65 334 *e*P **Pn** **04 46 00.8 -0.6**
comp=Z,89nm,1.1s
JCT Junction City 17.65 334 ⇑P **P** **04 46 00.4 +0.5**
baz=18,SNR=30
432A Menard 17.99 335 ⇑P **P** **04 46 03.8 +0.2**
baz=18,SNR=24
TIGA Tifton 18.04 21 *e*P **Pn** **04 46 06.0 +0.1**
TIGA Tifton 18.04 21 ⇑P **Pn** **04 46 06.3 +0.4**
baz=18,SNR=80
530A J-C Ranch, Com 18.05 330 ⇓P **Pn** **04 46 06.0 -0.2**
baz=18,SNR=62
431A Sonora 18.17 333 ⇑P **P** **04 46 06.2 +0.6**
baz=18,SNR=54
WHTX Lake Whitney 18.18 342 *e*P **P** **04 46 05.6 -0.1**
WHTX Lake Whitney 18.18 342 ⇑P **P** **04 46 05.3 -0.4**
baz=18,SNR=23
WHTX ⇑S **S** **04 49 23.2 -1.8**
baz=18
628A Black Gap, Mar 18.32 325 ⇓P **Pn** **04 46 09.0 -0.3**
baz=18,SNR=36
332A Millersview 18.42 336 ⇑P **P** **04 46 08.5 +0.2**
baz=18,SNR=56
529A Stev Forest Ra 18.47 328 ⇓P **P** **04 46 09.4 +0.5**
baz=19,SNR=47
430A Baggett Ranch, 18.54 332 ⇑P **P** **04 46 10.7 +1.1**
baz=19,SNR=64
627A Terlingua Ranc 18.58 324 ⇑P **Pn** **04 46 11.9 -0.5**
baz=19,SNR=57
331A San Angelo 18.63 334 ⇑P **P** **04 46 10.8 +0.2**
baz=19,SNR=104
LRAL Lakeview Retre 18.64 11 *e*P **Pn** **04 46 12.8 -0.3**
comp=Z,140nm,0.9s
TXAR Lajitas Array 18.64 324 P **Pn** **04 46 13.3 +0.2**
TXAR sP **sP** **04 47 04.5 +3.3**
TXAR PcP **PcP** **04 50 32.9 +0.9**
TXAR ScP **ScP** **04 53 54.0 +2.2**
TXAR Lajitas Array 18.64 324 P **Pn** **04 46 13.3 +0.2**
comp=Z,3.8nm,0.3s,baz=150,slow=12,SNR=291
TXAR sP **sP** **04 47 04.5 +3.3**
baz=156,slow=9.6,SNR=1.7
TXAR PcP **PcP** **04 50 32.9 +0.9**
comp=Z,0.1nm,0.3s,baz=160,slow=2.9,SNR=5.4
TXAR ScP **ScP** **04 53 54.0 +2.2**
comp=Z,0.0nm,0.3s,baz=160,slow=4.0,SNR=8.4
429A Davenport Ranc 18.72 330 ⇓P **P** **04 46 12.2 +0.6**
baz=19,SNR=69
528A Cox Ranch, San 18.80 327 ⇑P **Pn** **04 46 13.8 -1.2**
baz=19,SNR=11
232A Coleman 18.83 337 ⇑P **P** **04 46 12.2 -0.5**
baz=19,SNR=37
OTAV Otavalo 19.03 138 *e*P **Pn** **04 46 18.9 +0.6**
comp=Z,19nm,1.2s
330A Mertzon 19.04 333 ⇓P **P** **04 46 15.0 0.0**
baz=19,SNR=108
626A Big Bend Ranch 19.08 323 ⇓P **P** **04 46 16.8 +1.3**
baz=19,SNR=79
231A Bronte 19.13 335 ⇑P **P** **04 46 15.6 -0.4**
baz=19,SNR=50
ROSC El Rosal 19.17 119 *e*P **Pn** **04 46 24.4 +4.6**
ROSC El Rosal 19.17 119 P **Pn** **04 46 19.4 -0.4**
comp=Z,0.9nm,0.3s,baz=98,slow=17,SNR=4.0
428A Kincaid Ranch, 19.19 328 ⇓P **P** **04 46 17.6 +0.8**
baz=19,SNR=17
527A Woodward Ranch 19.23 325 ⇑P **P** **04 46 18.1 +0.9**
baz=19,SNR=61
230A Sterling City 19.42 334 ⇑P **P** **04 46 18.6 -0.5**
baz=20,SNR=32
SDDR Presa de Saban 19.43 75 *e*P **Pn** **04 46 21.1 -1.3**
comp=Z,37nm,1.0s
526A Mary Lane Ranc 19.43 324 ⇓P **Pn** **04 46 21.0 -1.5**
baz=20,SNR=22
329A Wagon Wheel Ra 19.47 331 ⇓P **P** **04 46 20.1 +0.3**
baz=20,SNR=47
ABTX Abilene, Hawle 19.48 338 *e*P **P** **04 46 19.6 -0.2**
ABTX Abilene, Hawle 19.48 338 ⇑P **P** **04 46 19.4 -0.4**
baz=20,SNR=53
427A Hayter Ranch, 19.66 327 ⇑P **P** **04 46 22.8 +0.9**
baz=20
328A Wristen Ranch, 19.79 329 ⇑P **P** **04 46 23.3 +0.2**
baz=20,SNR=159
OXF Oxford 19.80 4 *e*P **P** **04 46 23.0 -0.2**
comp=Z,64nm,0.5s
131A Roby 19.81 336 ⇑P **P** **04 46 23.8 +0.5**
baz=20,SNR=16
426A McDonald Obser 19.86 325 ⇑P **P** **04 46 24.6 +0.5**
baz=20,SNR=61
GOGA Godfrey 19.89 19 *e*P **P** **04 46 25.0 +1.0**
comp=Z,194nm,0.9s
130A Snyder 19.97 335 ⇑P **P** **04 46 23.8 -1.3**
baz=20,SNR=22
UALR University of 20.04 357 *e*P **P** **04 46 26.3 +0.7**
comp=Z,276nm,0.8s
Z32A Haskell 20.04 339 ⇑P **P** **04 46 25.2 -0.6**
baz=20,SNR=107

327A Balmorhea Ranc 20.12 328 ⇑P **P** **04 46 26.7 -0.1**
baz=20
228A UT Block 9, Go 20.29 331 ⇑P **P** **04 46 27.7 -0.8**
baz=20,SNR=24
Z31A Sharp Cattle R 20.29 338 ⇓P **P** **04 46 27.3 -1.1**
baz=20,SNR=102
326A Caldwell Ranch 20.34 327 ⇑P **P** **04 46 29.3 +0.3**
baz=20,SNR=119
129A Stewart Farms, 20.39 333 ⇑P **P** **04 46 28.5 -1.0**
baz=20,SNR=37
425A Indio Mountain 20.49 324 ⇓P **P** **04 46 31.3 +0.6**
baz=21,SNR=63
227A Bennet, Jal 20.54 329 ⇓P **P** **04 46 31.3 +0.2**
baz=21,SNR=15
Z30A Sanderson Ranc 20.64 336 ⇑P **P** **04 46 30.6 -1.6**
baz=21,SNR=26
128A Castleberry Fa 20.66 332 ⇑P **P** **04 46 31.2 -1.2**
baz=21,SNR=35
Y32A R-V Farms, Ver 20.67 340 ⇓P **P** **04 46 31.8 -0.6**
baz=21,SNR=12
HBAR Harrisburg 20.79 1 *e*P **P** **04 46 33.9 +0.3**
SDV Santo Domingo 20.83 104 *e*P **P** **04 46 34.3 -0.3**
comp=Z,20nm,0.7s
Z29A Hungry Hill Ra 20.86 334 ⇑P **P** **04 46 32.9 -1.7**
baz=21,SNR=42
Y31A Rekieta Farm, 20.91 338 ⇑P **P** **04 46 34.1 -1.0**
baz=21,SNR=75
SWET Sewanee 20.97 12 *e*P **P** **04 46 36.6 +1.0**
comp=Z,155nm,0.8s
226B Tecolote Peak, 21.03 328 ⇓P **P** **04 46 36.5 0.0**
baz=21,SNR=44
Y30A Stafford Cattl 21.07 337 ⇑P **P** **04 46 35.1 -1.7**
baz=21,SNR=12
127A Arkansas Junct 21.11 330 ⇑P **P** **04 46 36.4 -0.9**
baz=21,SNR=14
WMOK Wichita Mounta 21.14 342 *e*P **P** **04 46 35.2 -2.3**
comp=Z,5nm,0.8s
Z28A Tucker Farm, M 21.17 333 ⇑P **P** **04 46 36.6 -1.4**
baz=21,SNR=20
GNAR Gosnell 21.21 2 *e*P **P** **04 46 38.3 +0.1**
comp=Z,1μm,0.8s
324A Moseley Ranch, 21.26 324 ⇓P **P** **04 46 38.6 -0.3**
baz=21,SNR=28
Y29A Porterfield Fa 21.36 335 ⇓P **P** **04 46 38.7 -1.2**
baz=22,SNR=15
MNTX Cornudas Mount 21.39 325 *e*P **P** **04 46 39.8 -0.4**
comp=Z,28nm,0.9s
225A Deer Hill, Car 21.40 326 ⇑P **P** **04 46 40.3 -0.3**
baz=22,SNR=46
126A Clayton Basin, 21.41 329 ⇑P **P** **04 46 39.5 -1.0**
baz=22,SNR=10
X31A McDonald Ranch 21.42 340 ⇓P **P** **04 46 38.9 -1.6**
baz=22,SNR=46
CPCT Cooper Cave 21.50 15 *e*P **P** **04 46 42.3 +1.0**
TUL1 Tulsa 21.55 350 *e*P **P** **04 46 40.2 -1.7**
TUL1 Tulsa 21.55 350 ⇑P **P** **04 46 39.7 -2.2**
baz=22,SNR=22
WVT Waverly 21.56 7 *e*P **P** **04 46 40.7 -1.1**
comp=Z,36nm,0.8s
Z27A Tatum 21.57 331 ⇓P **P** **04 46 40.1 -2.0**
baz=22,SNR=21
X30A Coker Ranch, T 21.57 338 ⇑P **P** **04 46 40.6 -1.5**
baz=22,SNR=40
Y28A McKinney Farm, 21.64 334 ⇑P **P** **04 46 41.5 -1.4**
baz=22,SNR=24
125A Gardner Draw, 21.75 328 ⇑P **P** **04 46 43.5 -0.5**
baz=22,SNR=16
224A Cornudas Mount 21.76 325 ⇑P **P** **04 46 43.6 -0.6**
baz=22,SNR=52
X29A Tulia 21.89 336 ⇓P **P** **04 46 43.7 -1.7**
baz=22,SNR=17
Z26A Caprock 21.90 330 ⇓P **P** **04 46 43.9 -1.6**
baz=22,SNR=19
W31A Holland Ranch, 21.91 340 ⇑P **P** **04 46 44.0 -1.7**
baz=22,SNR=5.4
MSTX Muleshoe 21.92 333 *e*P **P** **04 46 43.4 -2.4**
MSTX Muleshoe 21.92 333 ⇑P **P** **04 46 44.0 -1.8**
baz=22,SNR=15
PARMO Parma 21.92 3 *e*P **P** **04 46 45.9 +0.3**
Y27A Causey 22.02 332 ⇓P **P** **04 46 45.7 -1.1**
baz=22,SNR=34
W30A Crocket Farms 22.12 339 ⇑P **P** **04 46 46.1 -1.6**
baz=22
X28A Dimmitt 22.15 335 ⇓P **P** **04 46 47.0 -1.0**
baz=22,SNR=8.4
KMSC Kings Mountain 22.18 22 *e*P **P** **04 46 48.5 +0.3**
KMSC Kings Mountain 22.18 22 ⇑P **P** **04 46 48.6 +0.3**
baz=22,SNR=74
124A Stringfield Ra 22.20 326 ⇓P **P** **04 46 48.7 0.0**
baz=22,SNR=37
Z25A Roswell 22.27 329 ⇓P **P** **04 46 48.2 -1.0**
baz=22,SNR=13
Y26A Elida 22.36 331 ⇑P **P** **04 46 48.3 -1.8**
baz=22,SNR=13
V31A Spring Creek L 22.42 341 ⇑P **P** **04 46 49.2 -1.3**
baz=22,SNR=20
W29A Amraillo 22.46 337 ⇑P **P** **04 46 49.3 -1.6**
baz=23,SNR=11
123A Bell Site, Whi 22.59 325 ⇓P **P** **04 46 52.1 -0.1**
baz=23
X27A F and S Farms, 22.64 334 ⇑P **P** **04 46 51.0 -1.7**
baz=23,SNR=7.8
Z24A Sheppen Canyo 22.64 328 ⇑P **P** **04 46 52.3 -0.4**
baz=23,SNR=25
V30A Spur Ranch, Mi 22.69 339 ⇑P **P** **04 46 52.9 -0.1**
baz=23
Y25A Mesa, Roswell 22.77 330 ⇓P **P** **04 46 53.3 -0.6**
baz=23,SNR=27
TZTN Tazewell 22.79 16 *e*P **P** **04 46 54.4 +0.6**
comp=Z,187nm,0.8s
W28A Vega 22.80 336 ⇑P **P** **04 46 53.4 -0.6**
baz=23
X26A CR and CF Fran 22.87 332 ⇓P **P** **04 46 52.9 -1.9**
baz=23,SNR=8.8
W27A Bowe Ranch, En 22.98 334 ⇑P **P** **04 46 54.0 -1.8**
baz=23,SNR=20
SIUC Southern Illin 23.00 4 *e*P **P** **04 46 55.8 +0.1**
comp=Z,133nm,0.8s
221A Mesquite Ranch 23.02 321 ⇓P **P** **04 46 57.5 +1.4**
baz=23,SNR=32
320A Kipp Ranch An 23.02 319 ⇑P **P** **04 46 57.4 +1.3**
baz=23,SNR=39
Z23A Rita Site, Whi 23.05 326 ⇑P **P** **04 46 56.9 +0.6**
baz=23,SNR=25
122A Conniff Cattle 23.05 324 ⇓P **P** **04 46 58.4 +1.9**
baz=23
Y24A Capitan 23.14 328 ⇓P **P** **04 46 57.7 +0.4**
baz=23,SNR=20
V28A Channing 23.23 337 ⇑P **P** **04 46 57.7 -0.4**
baz=23,SNR=11
X25A Clemmons Ranch 23.25 331 ⇓P **P** **04 46 58.1 -0.1**
baz=23,SNR=9.4
W26A Owens Ranch, T 23.30 333 ⇓P **P** **04 46 58.2 -0.5**
baz=23,SNR=5.9
U30A WK&E Inc. Balk 23.37 340 ⇑P **P** **04 46 59.2 -0.1**
baz=24,SNR=16
USIN University of 23.39 7 *e*P **P** **04 46 59.8 +0.6**
comp=Z,176nm,1.4s
121A Cookes Peak, D 23.39 322 ⇑P **P** **04 47 00.9 +1.4**
baz=24,SNR=29
220A Playas Peak, P 23.40 320 ⇓P **P** **04 47 01.3 +1.6**
baz=24,SNR=109
Z22A Elephant Butte 23.44 325 ⇑P **P** **04 47 01.9 +1.9**
baz=24
Y23A Lovelace Mesa, 23.47 327 ⇑P **P** **04 47 00.8 +0.5**
baz=24,SNR=22
U29A Oasis Ranch, S 23.51 339 ⇑P **P** **04 47 00.1 -0.4**
baz=24,SNR=9.3
319A Douglas 23.53 318 ⇑P **P** **04 47 01.8 +1.0**
baz=24,SNR=19
T31A Randall Ranch, 23.60 343 ⇓P **P** **04 47 00.8 -0.4**
baz=24,SNR=7.9
X24A Lazy VL Ranch, 23.65 329 ⇑P **P** **04 47 02.0 0.0**
baz=24
CNNC Cliffs of the 23.66 28 *e*P **P** **04 47 02.7 +1.0**
comp=Z,368nm,0.6s
W25A X Bar L Ranch, 23.72 332 ⇑P **P** **04 47 02.5 0.0**
baz=24,SNR=24
T30A Plains 23.81 341 ⇓P **P** **04 47 02.4 -0.8**
baz=24
WCI Wyandotte Cave 23.83 9 *e*P **P** **04 47 03.1 -0.2**
comp=Z,187nm,0.9s
SLM Saint Louis 23.87 2 *e*P **P** **04 47 03.8 +0.1**
comp=Z,147nm,0.6s
Z21A St. Cloud Mine 23.88 324 ⇑P **P** **04 47 05.2 +1.1**
baz=24,SNR=20
120A U Bar Ranch, L 23.91 321 ⇓P **P** **04 47 05.9 +1.6**
baz=24,SNR=74

V26A Tequesquite Ra 23.91 334 ⇓P **P** **04 47 05.5 +1.3**
baz=24,SNR=8.4
Y22A Socorro 23.95 326 ⇑P **P** **04 47 05.6 +0.9**
baz=24,SNR=19
S31A Mullinville 24.03 343 ⇓P **P** **04 47 05.9 +0.7**
baz=24
X23A Hourglass Bar 24.04 328 ⇑P **P** **04 47 05.6 +0.1**
baz=24
U27A Thompson Grove 24.05 336 ⇓P **P** **04 47 04.9 -0.6**
baz=24,SNR=17
LPM Los Pinos Moun 24.06 327 *e*P **P** **04 47 07.2 +1.5**
OLIL Olney 24.10 6 *e*P **P** **04 47 06.0 +0.3**
comp=Z,64nm,0.8s
LENM Lemitar 24.13 326 *e*P **P** **04 47 08.7 +2.4**
T29A Hugoton 24.16 340 ⇓P **P** **04 47 06.3 -0.1**
baz=24,SNR=9.3
W24A Lazy 6 Ranch, 24.16 330 ⇑P **P** **04 47 06.4 -0.1**
baz=24,SNR=18
SJG San Juan 24.16 78 P **P** **04 47 08.4 +1.9**
SJG San Juan 24.16 78 P **P** **04 47 08.4 +1.9**
comp=Z,2.9nm,0.3s,baz=291,slow=7.7,SNR=3.9
Z20A Nine Sixteen R 24.28 322 ⇑P **P** **04 47 09.3 +1.6**
baz=24,SNR=43
V25A Rancho No Teng 24.31 333 ⇑P **P** **04 47 07.8 -0.1**
baz=24,SNR=14
S30A Montezuma 24.33 342 ⇓P **P** **04 47 07.2 -0.8**
baz=24,SNR=11
BLA Blacksburg 24.36 21 *e*P **P** **04 47 08.9 +0.7**
comp=Z,79nm,0.9s
Y21A Point of Rocks 24.40 325 ⇑P **P** **04 47 10.6 +1.8**
baz=24,SNR=22
U26A Atchley Ranch, 24.40 335 ⇑P **P** **04 47 08.7 -0.1**
baz=24,SNR=28
T28A Walsh 24.41 338 ⇓P **P** **04 47 07.5 -1.2**
baz=24,SNR=5.6
ANMO Albuquerque 24.46 328 *e*P **P** **04 47 10.0 +0.7**
comp=Z,5.1nm,0.9s
ANMO pP **pP** **04 47 45.2 +2.0**
ANMO Albuquerque 24.46 328 P **P** **04 47 10.1 +0.7**
comp=Z,4.1nm,0.8s,baz=150,slow=12,SNR=16
ANMO pP **pP** **04 47 45.2 +2.0**
comp=Z,3.0nm,0.8s,baz=138,slow=11,SNR=3.9
W23A Werner Place, 24.48 329 ⇓P **P** **04 47 10.0 +0.5**
baz=25
V24A Rampart Ranch, 24.51 331 ⇑P **P** **04 47 09.4 -0.4**
baz=25,SNR=7.7
S29A Ulysses 24.52 341 ⇑P **P** **04 47 08.8 -0.8**
baz=25,SNR=8.0
VWCC Virginia Weste 24.55 22 *e*P **P** **04 47 10.4 +0.6**
T27A Campo 24.58 337 ⇓P **P** **04 47 09.1 -1.1**
baz=25
R31A Burdett 24.67 344 ⇓P **P** **04 47 10.1 -0.9**
baz=25,SNR=6.5
U25A Circle Dot Ran 24.69 334 ⇓P **P** **04 47 11.0 -0.3**
baz=25,SNR=22
Y20A Horse Springs, 24.72 324 ⇑P **P** **04 47 12.4 +0.7**
baz=25,SNR=35
BLO Bloomington 24.72 9 *e*P **P** **04 47 11.6 +0.2**
comp=Z,45nm,0.7s
MTP Monte Pirata 24.73 79 *e*P **P** **04 47 10.8 -0.9**
S28A Manter 24.75 339 ⇓P **P** **04 47 10.3 -1.5**
baz=25,SNR=6.4
W22A Albuquerque 24.77 328 ⇓P **P** **04 47 12.4 +0.2**
baz=25
X21A Alamocita Cree 24.79 326 ⇓P **P** **04 47 13.5 +1.2**
baz=25,SNR=18
KSU1 Kansas State U 24.80 350 *e*P **P** **04 47 10.7 -1.4**
comp=Z,70nm,0.7s
R30A Dighton 24.87 343 ⇓P **P** **04 47 11.7 -1.2**
baz=25,SNR=20
V23A Ortiz Mt. (NFS 24.96 330 ⇓P **P** **04 47 14.8 +1.0**
baz=25
ATAH Atahualpa 25.07 149 P **P** **04 47 14.9 -0.3**
ATAH Atahualpa 25.07 149 P **P** **04 47 14.9 -0.3**
comp=Z,2.0nm,0.5s,baz=15,slow=6.7,SNR=2.1
U24A Moreno Valley 25.08 332 ⇓P **P** **04 47 16.1 +1.1**
baz=25
TUC Tucson 25.11 318 *e*P **P** **04 47 16.5 +1.5**
comp=Z,26nm,0.9s
TUC *e*PcP **PcP** **04 50 45.4 +0.5**
X20A Quemado 25.25 325 ⇑P **P** **04 47 17.6 +1.1**
baz=25,SNR=17
R29A Marienthal 25.26 341 ⇓P **P** **04 47 15.3 -1.1**
baz=25,SNR=8.9
Q31A Ellis 25.31 345 ⇓P **P** **04 47 16.0 -0.8**
baz=25,SNR=5.8
T25A Trinidad 25.31 334 ⇓P **P** **04 47 17.0 0.0**
baz=25,SNR=9.7
S26A Kim 25.35 337 ⇓P **P** **04 47 17.0 -0.3**
baz=26
R28A Tribune 25.40 340 ⇑P **P** **04 47 16.7 -1.0**
baz=26,SNR=11
U23A El Rito 25.44 331 ⇓P **P** **04 47 18.4 +0.2**
baz=26,SNR=23
V22A San Miguel Ran 25.45 329 ⇑P **P** **04 47 19.0 +0.7**
baz=26
Q30A Quinter 25.50 343 ⇓P **P** **04 47 17.9 -0.7**
baz=26
T24B San Luis 25.67 333 ⇓P **P** **04 47 21.2 +0.9**
baz=26
W20A Ramah 25.68 326 ⇑P **P** **04 47 22.0 +1.6**
baz=26,SNR=9.1
R27A Eads 25.69 338 ⇑P **P** **04 47 19.6 -0.7**
baz=26
JSRW J. Sargeant Re 25.74 25 *e*P **P** **04 47 21.2 +0.6**
S25A Robets Cordova 25.77 335 ⇑P **P** **04 47 20.9 -0.2**
baz=26
P31A Stockton 25.79 345 ⇓P **P** **04 47 22.2 +1.1**
baz=26
U22A Llaves 25.79 330 ⇑P **P** **04 47 21.8 +0.5**
baz=26,SNR=5.5
SFIN Scholer Farm 25.84 7 *e*P **P** **04 47 21.2 -0.2**
SFIN Scholer Farm 25.84 7 ⇑P **P** **04 47 20.9 -0.5**
baz=26,SNR=8.7
T23A Casias Ranch, 25.94 332 ⇑P **P** **04 47 23.4 +0.7**
baz=26
R26A Arlington 25.94 337 ⇑P **P** **04 47 23.2 +0.6**
baz=26,SNR=8.1
P30A Selden 26.04 344 ⇓P **P** **04 47 22.8 -0.5**
baz=26
Q28A Sharon Springs 26.06 341 ⇓P **P** **04 47 23.1 -0.5**
baz=26,SNR=7.4
X18A Snowflake 26.07 323 ⇓P **P** **04 47 25.1 +1.2**
baz=26,SNR=17
S24A Houchin Ranch, 26.08 334 ⇓P **P** **04 47 24.6 +0.6**
baz=26
R25A Fountain Ranch 26.13 336 ⇓P **P** **04 47 24.6 +0.3**
baz=26,SNR=6.5
V20A Brimhall 26.17 327 ⇓P **P** **04 47 25.4 +0.7**
baz=26
U21A Nageezi 26.23 329 ⇓P **P** **04 47 26.0 +0.7**
baz=26,SNR=6.0
O32A Brockman Farm, 26.25 347 ⇓P **P** **04 47 25.4 +0.2**
baz=26
214A Organ Pipe Nat 26.25 315 ⇑P **P** **04 47 26.7 +1.4**
baz=26,SNR=16
P29A Atwood 26.29 343 ⇑P **P** **04 47 25.0 -0.6**
baz=26
SDCO Great Sand Dun 26.29 334 *e*P **P** **04 47 25.9 0.0**
comp=Z,8.4nm,1.0s
T22A Edith 26.32 331 ⇓P **P** **04 47 27.7 +1.6**
baz=26
W18A Petrified Fore 26.37 324 *e*P **P** **04 47 28.2 +1.6**
W18A Petrified Fore 26.37 324 ⇓P **P** **04 47 28.1 +1.6**
baz=26
ACSO Alum Creek Sta 26.42 14 *e*P **P** **04 47 27.2 +0.5**
comp=Z,103nm,0.8s
P28A Saint Francis 26.50 341 ⇓P **P** **04 47 27.0 -0.6**
baz=27,SNR=5.4
Q26A Hugo 26.52 338 ⇑P **P** **04 47 27.5 -0.3**
baz=27
R24A Sanders Place, 26.53 335 ⇑P **P** **04 47 28.1 +0.1**
baz=27,SNR=6.3
O30A MW Ranch, Wils 26.59 345 ⇓P **P** **04 47 27.8 -0.4**
baz=27
T21A Navajo Lake 26.61 330 ⇓P **P** **04 47 29.7 +1.0**
baz=27
U20A Newcomb 26.63 327 ⇑P **P** **04 47 29.7 +0.9**
baz=27
O29A 4D Ranch, Culb 26.73 343 ⇓P **P** **04 47 28.6 -0.9**
baz=27
Q25A Bedland, Calha 26.78 337 ⇑P **P** **04 47 29.9 -0.2**
baz=27,SNR=9.7
R23A Moffat 26.80 334 ⇑P **P** **04 47 30.6 +0.2**
baz=27,SNR=7.1
S22A 4UR Ranch, Cre 26.88 332 ⇑P **P** **04 47 31.7 +0.5**
baz=27,SNR=8.1
X16A Lo Mia Camp, P 26.90 321 ⇓P **P** **04 47 32.7 +1.4**

baz=27,SNR=47
O28A Krutsinger Ran 27.02 342 ⇑P P 04 47 32.8 +0.7
baz=27
P26A Davis Ranch, A 27.02 339 ⇑P P 04 47 32.7 +0.5
baz=27
Z14A Wintersburg 27.18 317 ⇑P P 04 47 35.1 +1.5
baz=27,SNR=7.5
SCIA State Center 27.19 357 eP P 04 47 33.0 -0.5
comp=Z,43nm,0.4s
MVCO Mesa Verde 27.26 329 eP P 04 47 35.5 +0.9
comp=Z,8.4nm,0.9s
MVCO Mesa Verde 27.26 329 ⇓P P 04 47 35.0 +0.4
baz=27,SNR=6.8
P25A Willow Gulch B 27.27 338 ⇑P P 04 47 34.7 +0.2
baz=27
O27A Beecher Island 27.30 341 ⇑P P 04 47 34.7 0.0
baz=27
113A Mohawk Valley, 27.38 315 ⇑P P 04 47 37.1 +1.8
baz=28
Y14A Wickenburg 27.57 318 ⇑P P 04 47 38.0 +0.8
baz=28,SNR=14
WUAZ Wupatki 27.60 322 eP P 04 47 39.1 +1.6
comp=Z,26nm,1.0s
WUAZ Wupatki 27.60 322 ⇑P P 04 47 38.7 +1.2
baz=28,SNR=17
SDMD Soldier's Deli 27.63 24 eP P 04 47 38.7 +1.2
comp=Z,44nm,0.8s
S20A Disappointment 27.68 330 ⇓P P 04 47 39.7 +1.4
baz=28
R21A Cimarron 27.72 331 ⇑P P 04 47 40.0 +1.4
baz=28
O25A Wiggins 27.78 338 ⇓P P 04 47 40.1 +1.1
baz=28
P23A Jefferson 27.80 335 ⇑P P 04 47 40.0 +0.6
baz=28,SNR=11
Q22A Crested Butte, 27.83 333 ⇑P P 04 47 40.3 +0.6
baz=28
N27A Anderson Farm, 27.87 341 ⇑P P 04 47 40.5 +0.8
baz=28
R20A Redvale 27.97 330 ⇑P P 04 47 41.7 +1.0
baz=28
PV01 Paradox Valley 28.02 330 eP P 04 47 42.4 +1.2
comp=Z,530nm,1.0s
ISCO Idaho Springs 28.08 336 eP P 04 47 41.2 -0.6
comp=Z,9.9nm,1.4s
ISCO Idaho Springs 28.08 336 ⇓P P 04 47 42.0 +0.1
baz=28
SMCO Snowmass 28.12 333 eP P 04 47 42.7 +0.4
comp=Z,12nm,1.3s
PV15 Paradox Valley 28.14 330 eP P 04 47 44.2 +1.8
JFWS Jewell Farm 28.14 1 eP P 04 47 42.2 +0.2
comp=Z,16nm,0.6s
O24A Longmont 28.14 337 ⇓P P 04 47 42.7 +0.5
baz=28
PV05 Paradox Valley 28.23 329 eP P 04 47 44.1 +0.9
GLA Glamis 28.27 314 eP P 04 47 44.7 +1.4
comp=Z,38nm,1.1s
GLA ePcP PcP 04 50 53.1 +0.8
GLA Glamis 28.27 314 ⇑P P 04 47 44.5 +1.2
baz=28,SNR=12
SSPA Standing Stone 28.31 22 eP P 04 47 44.1 +0.7
comp=Z,139nm,1.7s
MVL Millersville 28.33 24 eP P 04 47 44.7 +1.0
comp=Z,36nm,0.9s
P22A Eagle 28.37 334 ⇑P P 04 47 44.5 +0.1
baz=28,SNR=6.0
Y12C Blythe 28.46 316 ⇑P P 04 47 46.1 +1.1
baz=29,SNR=6.2
PDMCI Parker Dam,Lak 28.54 317 ⇑P P 04 47 46.9 +1.3
baz=29,SNR=15
PV09 Paradox Valley 28.58 329 eP P 04 47 48.1 +1.8
P21A Newcastle 28.61 333 ⇑P P 04 47 48.9 +2.4
baz=29
O22A Kremmling 28.76 335 ⇑P P 04 47 48.0 +0.1
baz=29
U15A North Rim 28.77 323 ⇓P P 04 47 49.4 +1.5
baz=29,SNR=21
W13A Hualapai Mount 28.87 319 ⇓P P 04 47 50.2 +1.4
baz=29,SNR=26
SWSC Sam W. Stewart 28.88 313 ⇓P P 04 47 49.9 +1.2
baz=29,SNR=12
P20A De Beque 29.02 332 ⇑P P 04 47 50.7 +0.6
baz=29
BC3 Big Chuckawall 29.04 315 ⇑P P 04 47 51.3 +1.1
baz=29,SNR=30
IRM Iron Mountain 29.13 316 ⇑P P 04 47 51.6 +0.8
baz=29,SNR=18
N23A Red Feather La 29.14 336 ⇓P P 04 47 51.4 +0.2
baz=29
M24A Cheyenne 29.23 339 ⇓P P 04 47 52.4 +0.5
baz=29
N22A Wattenberg Ran 29.27 336 ⇑P P 04 47 52.6 +0.3
baz=29,SNR=7.0
MONP Monument Peak 29.30 313 ⇓P P 04 47 54.2 +1.6
baz=29,SNR=7.9
ECSD EROS Data Cent 29.34 352 eP P 04 47 51.9 -0.7
comp=Z,11nm,0.9s
P19A Cripple Cowboy 29.40 331 ⇓P P 04 47 55.1 +1.7
baz=30
O20A White River Ci 29.46 333 eP P 04 47 54.0 +0.1
O20A White River Ci 29.46 333 ⇓P P 04 47 54.5 +0.5
baz=30,SNR=6.4
L25A Engebretsen Ra 29.55 340 ⇓P P 04 47 54.9 +0.2
baz=30
M23A Laramie 29.55 337 ⇓P P 04 47 54.8 0.0
baz=30
BELC Belle Mtn. Jos 29.61 315 ⇓P P 04 47 56.7 +1.4
baz=30,SNR=14
LDFC Landfair 29.64 318 eP P 04 47 58.4 +2.9
comp=Z,60nm,0.8s
PFO Pinyon Flat Ob 29.71 314 eP P 04 47 57.3 +1.1
comp=Z,25nm,1.2s
PFO Pinyon Flat Ob 29.71 314 ⇑P P 04 47 57.8 +1.7
baz=30,SNR=11
PFO Pinyon Flat Ob 29.71 314 P P 04 47 57.0 +0.8
comp=Z,13nm,1.0s,baz=111,slow=8.1,SNR=10.0
SRU San Rafael 29.74 329 eP P 04 47 57.2 +0.8
comp=Z,26nm,1.7s
BBSR BB Station 29.80 49 eP P 04 47 57.9 +1.1
comp=Z,65nm,1.1s
GMRC Granite Mounta 29.83 317 ⇓P P 04 47 58.8 +1.6
baz=30,SNR=28
M22A Cedar Creek Ra 29.83 336 ⇑P P 04 47 58.4 +1.1
baz=30
Q16A Castle Valley 29.93 328 eP P 04 47 59.6 +1.5
Q16A Castle Valley 29.93 328 ⇓P P 04 47 59.9 +1.8
baz=30
CPNY Central Park 29.99 27 eP P 04 47 59.1 +0.8
comp=Z,32nm,0.8s
O19A Miners Draw (B 29.99 332 ⇓P P 04 47 58.4 -0.2
baz=30
N20A Spence Gulch, 30.04 333 ⇑P P 04 47 59.5 +0.3
baz=30,SNR=15
L23A Garrett 30.11 338 ⇓P P 04 47 59.9 +0.2
baz=30,SNR=15
CCUT Cedar City 30.16 323 eP P 04 48 02.5 +2.4
comp=Z,13nm,1.0s
CCUT ePcP PcP 04 50 57.9 +0.6
MVU Marysvale 30.18 326 eP P 04 48 02.1 +1.7
comp=Z,105nm,2.7s
MVU ePcP PcP 04 50 58.5 +1.2
MVU eScP ScP 04 54 26.2 +2.5
PAL Palisades 30.19 26 eP P 04 48 00.9 +0.8
comp=Z,254nm,0.8s
MURC Murrieta 30.23 313 ⇓P P 04 48 02.6 +2.0
baz=30,SNR=6.7
TMUT Trail Mountain 30.23 328 eP P 04 48 04.1 +3.2
comp=Z,4.5nm,0.8s
I29A Vivian Onida 30.28 347 ⇑P P 04 48 01.1 +0.2
baz=30
HEC Hector,Ludlow 30.31 316 ⇑P P 04 48 03.5 +2.1
baz=30,SNR=6.7
L22A Ellis Ranch, M 30.31 337 ⇓P P 04 48 02.3 +0.9
baz=30
M21A Separation Pea 30.31 335 ⇑P P 04 48 01.9 +0.4
baz=30,SNR=5.8
RWWY Rawlins 30.32 336 eP P 04 48 08.8 +7.2
comp=Z,19nm,0.8s
J26A Sides Ranch, S 30.33 343 ⇑P P 04 48 02.3 +0.9
baz=30
BINY Binghamton 30.36 23 eP P 04 48 01.9 +0.2
comp=Z,66nm,0.9s
BBRC Big Bear Solar 30.39 314 ⇓P P 04 48 03.8 +1.5
baz=30,SNR=5.3
TUQ Turquoise Moun 30.39 317 ⇓P P 04 48 03.0 +0.8
baz=30,SNR=11
SPMN St. Paul 30.48 358 eP P 04 48 01.9 -0.6
SPMN St. Paul 30.48 358 ⇑P P 04 48 01.9 -0.6
baz=31,SNR=17
M20A Sweetwater, Wa 30.55 334 ⇓P P 04 48 03.8 +0.2
baz=31
SHPR Sheep Range 30.56 320 eP P 04 48 05.5 +1.8
SHPR ePcP PcP 04 50 59.3 +1.0
SHPR eScP ScP 04 54 25.1 +0.2
J25A Sunshine Ranch 30.61 342 ⇓P P 04 48 04.0 0.0
baz=31
L21A Rawlins 30.61 336 ⇓P P 04 48 04.0 -0.1
baz=31,SNR=16
K23A Bowen Ranch, D 30.64 339 ⇓P P 04 48 04.6 +0.3
baz=31,SNR=6.9
J24A Dixon Ranch, L 30.83 340 ⇑P P 04 48 07.5 +1.6
baz=31
YLE Yale 30.86 27 eP P 04 48 06.2 +0.2
comp=Z,54nm,0.8s
K22A Casper 30.88 338 ⇓P P 04 48 06.3 -0.1
baz=31,SNR=10
BFSC Mount Baldy Ra 30.89 314 ⇑P P 04 48 08.1 +1.5
baz=31,SNR=10
GSC Goldstone 30.90 316 eP P 04 48 05.8 -0.7
comp=Z,17nm,1.3s
GSC ePcP PcP 04 51 00.8 +1.7
GSC eScP ScP 04 54 20.5 -5.5
GSC Goldstone 30.90 316 ⇓P P 04 48 07.3 +0.7
baz=31
SHOC Shoshone 30.90 318 ⇑P P 04 48 07.8 +1.3
baz=31,SNR=6.0
MPU Maple Canyon 30.99 328 eP P 04 48 08.6 +1.2
comp=Z,26nm,1.6s
L20A Wamsutter 31.05 335 ⇑P P 04 48 08.4 +0.5
baz=31
DAU Daniels Canyon 31.10 329 eP P 04 48 09.4 +0.9
comp=Z,11nm,1.1s
G30A Faulkton 31.11 349 ⇓P P 04 48 08.1 0.0
baz=31
K21A Alcova 31.14 337 ⇑P P 04 48 08.4 -0.3
baz=31
MWC Mount Wilson 31.16 313 eP P 04 48 10.9 +1.9
comp=Z,37nm,1.1s
JLU Jordanelle 31.34 329 eP P 04 48 11.1 +0.6
comp=Z,3.3nm,0.7s
RSSD Black Hills 31.35 342 eP P 04 48 10.3 -0.2
comp=Z,14nm,0.6s
DECC Green Verdugo 31.37 313 ⇓P P 04 48 12.9 +2.3
baz=32
EDW2 Edwards Air Fo 31.47 315 ⇓P P 04 48 12.6 +1.1
baz=32,SNR=14
J22A Midwest 31.52 338 ⇑P P 04 48 11.8 -0.2
baz=32,SNR=9.8
K20A Yellowstone Ra 31.59 335 ⇑P P 04 48 12.9 +0.3
baz=32
LRMC Laurel Mountai 31.59 316 ⇑P P 04 48 14.4 +1.7
baz=32,SNR=17
FURC Furnace Creek, 31.62 318 ⇓P P 04 48 14.7 +2.0
baz=32,SNR=11
M17A Scullys Gap (B 31.64 331 ⇓P P 04 48 13.4 +0.3
baz=32
H25A Fruitdale 31.68 343 ⇓P P 04 48 13.9 +0.7
baz=32
L18A Fontenelle, Gr 31.71 333 ⇓P P 04 48 13.9 +0.2
baz=32
TRY Troy 31.72 25 eP P 04 48 14.2 +0.7
comp=Z,197nm,1.1s
DUG Dugway 31.73 327 eP P 04 48 15.0 +1.2
comp=Z,34nm,2.3s
DUG Dugway 31.73 327 ⇓P P 04 48 15.0 +1.2
baz=32
MPMC Manual Prospec 31.79 317 ⇓P P 04 48 15.9 +1.4
baz=32,SNR=28
J21A Lysite 31.82 337 ⇓P P 04 48 14.9 +0.2
baz=32
OSI Osito Adit 31.84 314 eP P 04 48 15.8 +1.1
comp=Z,13nm,0.3s
OSI Osito Adit 31.84 314 ⇑P P 04 48 16.7 +2.0
baz=32
QUA2 Belchertown 31.90 27 eP P 04 48 15.3 +0.1
comp=Z,96nm,1.0s
F29A Eureka 31.91 348 ⇑P P 04 48 14.8 -0.4
baz=32
K19A Absolon Red Bu 31.93 335 ⇓P P 04 48 15.1 -0.5
baz=32
I22A 9 Mile Ranch, 31.94 339 ⇓P P 04 48 15.5 -0.2
baz=32,SNR=13
BRYW Bryant College 31.98 28 eP P 04 48 15.8 0.0
comp=Z,114nm,1.2s
R11A Troy Canyon, C 32.00 322 eP P 04 48 18.2 +1.9
R11A Troy Canyon, C 32.00 322 ⇓P P 04 48 18.1 +1.9
baz=32,SNR=22
J20A Shoshoni 32.07 336 ⇑P P 04 48 17.2 +0.4
baz=32,SNR=7.3
H24A Dirks Ranch, A 32.07 342 ⇓P P 04 48 16.6 -0.1
baz=32,SNR=12
F28A McLaughlin 32.13 347 ⇓P P 04 48 17.1 0.0
baz=32
I21A Big Trails, Te 32.16 338 ⇑P P 04 48 17.4 -0.2
baz=32,SNR=5.6
HWUT Hardware Ranch 32.16 330 eP P 04 48 18.1 +0.4
comp=Z,5.3nm,0.7s
HWUT ePcP PcP 04 51 02.3 -0.2
HWUT eScP ScP 04 54 29.9 -0.3
ARVC Arvin 32.18 314 ⇓P P 04 48 18.9 +1.2
baz=32
BW06 Boulder Array 32.18 334 eP P 04 48 17.0 -0.8
comp=Z,2.1nm,0.6s
PDAR Pinedale Array 32.18 334 P P 04 48 17.4 -0.5
PDAR PcP PcP 04 51 01.9 -0.7
PDAR ScP ScP 04 54 30.4 0.0
PDAR Pinedale Array 32.18 334 P P 04 48 17.4 -0.5
comp=Z,2.0nm,0.5s,baz=130,slow=11,SNR=22
PDAR PcP PcP 04 51 01.9 -0.7
comp=Z,1.0nm,0.5s,baz=135,slow=4.5,SNR=5.2
PDAR ScP ScP 04 54 30.4 0.0
comp=Z,1.5nm,0.8s,baz=148,slow=5.3,SNR=9.7
ISA Isabella 32.23 315 eP P 04 48 19.3 +1.1
comp=Z,20nm,1.1s
ISA ePcP PcP 04 51 04.1 +1.5
ISA Isabella 32.23 315 ⇑P P 04 48 20.2 +2.0
baz=32,SNR=13
GRAC Grapevine Rang 32.26 318 ⇓P P 04 48 20.7 +2.3
baz=32,SNR=10
ACCN Adirondack Com 32.27 24 eP P 04 48 18.6 +0.4
comp=Z,43nm,1.0s
SPUT South Promonto 32.37 329 eP P 04 48 19.6 +0.1
comp=Z,4.4nm,0.6s
BGU Big Grassy Mou 32.37 328 eP P 04 48 20.6 +1.1
comp=Z,4.5nm,0.6s
BGU ePcP PcP 04 51 03.8 +0.7
J19A Crowheart 32.38 335 ⇑P P 04 48 19.0 -0.5
baz=32,SNR=5.5
HRV Adam Dziewonsk 32.43 27 eP P 04 48 20.2 +0.5
comp=Z,76nm,1.0s
WES Weston 32.44 28 eP P 04 48 20.0 +0.1
comp=Z,119nm,1.1s
NCB Newcomb 32.55 23 eP P 04 48 20.9 +0.1
comp=Z,103nm,1.4s
I20A Worland 32.59 337 ⇑P P 04 48 21.5 +0.2
baz=33,SNR=19
G23A Biddle 32.74 341 ⇓P P 04 48 21.6 -0.9
baz=33
VES Vestal, Richgr 32.74 315 ⇑P P 04 48 24.9 +2.4
baz=33,SNR=15
PKM Peak Mountain 32.75 313 ⇑P P 04 48 24.8 +1.9
baz=33,SNR=13
H21A Big Horn, Sher 32.78 339 ⇑P P 04 48 22.3 -0.6
baz=33,SNR=5.3
E28A Huff 32.80 348 ⇑P P 04 48 23.2 +0.3
baz=33
HVU Hansel Valley 32.88 329 eP P 04 48 24.0 +0.1
comp=Z,8.0nm,1.0s
D30A Buchanan 32.95 350 ⇓P P 04 48 23.2 -1.1
baz=33,SNR=9.5
LONY Lake Ozonia 32.97 22 eP P 04 48 24.6 +0.2
comp=Z,152nm,1.4s
MDV Middlebury 32.97 24 eP P 04 48 24.7 +0.3
I19A Meeteetse 33.00 336 ⇑P P 04 48 25.9 +0.9
baz=33,SNR=14
H20A Greybull 33.00 338 ⇑P P 04 48 24.5 -0.3
baz=33,SNR=10
F24A Ekalaka 33.04 343 ⇑P P 04 48 24.7 -0.4
baz=33,SNR=5.1
G22A Birney 33.04 340 ⇑P P 04 48 24.6 -0.5
baz=33
SMMC Simmler 33.09 314 ⇓P P 04 48 27.8 +2.1
baz=33,SNR=8.3
RCTC Rector, Farmer 33.10 316 ⇓P P 04 48 27.9 +2.3
baz=33,SNR=14
F23A Volborg 33.21 342 ⇑P P 04 48 25.9 -0.6
baz=33,SNR=8.3
MTUM Tungsten Hills 33.24 318 eP P 04 48 29.4 +2.2
SNOW Snow King Moun 33.26 333 eP P 04 48 27.9 +0.7
comp=Z,33nm,0.6s
LOHW Long Hollow 33.31 334 eP P 04 48 27.8 +0.1
comp=Z,9.1nm,0.7s
E25A Miller Ranch, 33.36 344 ⇓P P 04 48 27.8 0.0
baz=34
G21A Lodge Grass 33.36 339 ⇓P P 04 48 27.7 -0.2
baz=34
D28A Regan 33.36 348 ⇓P P 04 48 27.5 -0.3
baz=34
TPAW Teton Pass 33.37 333 eP P 04 48 28.8 +0.6
comp=Z,7.9nm,0.6s
ELK Elko 33.41 326 eP P 04 48 30.3 +1.7
comp=Z,5.3nm,0.8s
ELK ePcP PcP 04 51 07.7 +1.6
RRI2 Red Ridge 33.41 333 eP P 04 48 29.2 +0.6
comp=Z,7.7nm,0.8s
RRI2 epP pP 04 49 05.7 +1.3
RRI2 esP sP 04 49 24.7 +0.8
D27A Center 33.48 347 ⇑P P 04 48 28.9 +0.1
baz=34
MOOW Moose Ponds 33.48 334 eP P 04 48 29.4 +0.3
comp=Z,4.5nm,0.8s
MOOW epP pP 04 49 05.7 +0.8
MOOW esP sP 04 49 24.6 +0.2
C30A Mose, Pekin 33.49 351 ⇑P P 04 48 28.2 -0.7
baz=34,SNR=6.4
H19A Powell 33.53 337 ⇑P P 04 48 29.7 +0.3
baz=34,SNR=6.6
I17A Pilgrim Ck. 33.55 334 ⇓P P 04 48 30.3 +0.5
baz=34
D26A Manning 33.61 346 ⇓P P 04 48 29.3 -0.7
baz=34
E24A Baker 33.66 343 ⇑P P 04 48 30.4 0.0
baz=34,SNR=9.6
LBNH Liebon 33.68 25 eP P 04 48 30.6 +0.1
comp=Z,46nm,1.3s
IMW Indian Meadow 33.69 334 eP P 04 48 31.2 +0.2
comp=Z,6.5nm,0.6s
IMW ePcP PcP 04 51 07.3 +0.4
IMW eScP ScP 04 54 36.8 +1.1
G20A Bridger 33.71 338 ⇑P P 04 48 30.3 -0.7
baz=34
NVAR Mina Array Bea 33.71 320 P P 04 48 33.7 +2.5
NVAR PcP PcP 04 51 08.0 +1.0
NVAR ScP ScP 04 54 37.4 +1.7
NVAR Mina Array Bea 33.71 320 P P 04 48 33.7 +2.5
comp=Z,37nm,0.7s,baz=133,slow=8.6,SNR=291
NVAR PcP PcP 04 51 08.0 +1.0
comp=Z,5.4nm,0.7s,baz=134,slow=3.4,SNR=13
NVAR ScP ScP 04 54 37.4 +1.7
comp=Z,1.7nm,0.8s,baz=142,slow=4.0,SNR=7.2
FLWY Flagg Ranch 33.73 334 eP P 04 48 31.9 +0.6
comp=Z,81nm,2.5s
AGMN Agassiz Nation 33.75 354 eP P 04 48 30.3 -0.8
comp=Z,37nm,0.8s
H18A Shoshone NF, C 33.80 336 ⇓P P 04 48 31.7 -0.2
baz=34,SNR=24
MDND Maddock 33.81 350 eP P 04 48 30.9 -0.8
MDND Maddock 33.81 350 ⇓P P 04 48 31.1 -0.6
baz=34,SNR=10
C28A Hausauer Farms 33.83 349 ⇑P P 04 48 31.2 -0.6
baz=34,SNR=6.6
E23A Ismay 33.88 342 ⇑P P 04 48 31.5 -0.9
baz=34,SNR=6.2
D24A Glendive 34.17 344 ⇑P P 04 48 34.6 -0.2
baz=34
F20A Billings 34.19 339 ⇓P P 04 48 34.7 -0.3
baz=34
B30A Myrvik Farm, E 34.20 351 ⇓P P 04 48 34.2 -0.8
baz=34,SNR=13
BMN Battle Mountai 34.32 323 eP P 04 48 38.3 +1.9
comp=Z,13nm,0.8s
YMR Madison River 34.32 335 eP P 04 48 36.9 +0.5
comp=Z,9.3nm,0.8s
B29A Wagenman Farm, 34.37 350 ⇓P P 04 48 35.9 -0.6
baz=34,SNR=7.9
C25A Freed Ranch, W 34.45 345 ⇓P P 04 48 36.8 -0.4
baz=35
D23A Lindsay 34.47 343 ⇓P P 04 48 36.7 -0.6
baz=35,SNR=6.9
E21A Keefer Ranch, 34.47 340 ⇑P P 04 48 37.3 -0.1
baz=35
WAKR Walker 34.47 319 eP P 04 48 40.0 +2.3
WAKR ePcP PcP 04 51 09.9 +0.8
F19A Roth Farm, Mol 34.52 338 ⇓P P 04 48 37.3 -0.6
baz=35,SNR=8.1
B28A Dugan Ranch, T 34.53 349 ⇓P P 04 48 37.6 -0.2
baz=35,SNR=8.4
C24A Savage 34.58 344 ⇑P P 04 48 37.8 -0.5
baz=35,SNR=5.9
QLMT Earthquake Lak 34.65 334 eP P 04 48 40.6 +1.4
B27A Peters Farms, 34.66 348 ⇓P P 04 48 39.0 0.0
baz=35
A30A Hoffart Farm, 34.67 352 ⇓P P 04 48 38.7 -0.3
baz=35,SNR=9.9
D22A Cohagen 34.73 342 ⇑P P 04 48 39.2 -0.4
baz=35,SNR=13
E20A Meyer Farm, Mu 34.79 339 ⇑P P 04 48 39.6 -0.6
baz=35,SNR=12
A29A Manning Farm, 34.79 351 ⇑P P 04 48 39.1 -1.0
baz=35,SNR=8.7
CMB Columbia Colle 34.82 317 eP P 04 48 41.7 +1.2
comp=Z,11nm,0.9s
CMB ePcP PcP 04 51 10.5 +0.6
D21A La Casta Ranch 34.91 341 ⇓P P 04 48 41.9 +0.7
baz=35
WVL Waterville 34.91 27 eP P 04 48 41.4 +0.3
comp=Z,188nm,1.2s
B25A Knox Farm, Ray 34.95 346 ⇓P P 04 48 41.2 -0.2
baz=35
A28A Rude Farm, Bot 34.95 349 ⇑P P 04 48 41.0 -0.5
baz=35
E19A Rath Farm, Rou 34.98 338 ⇑P P 04 48 41.4 -0.5
baz=35,SNR=6.5
HLID Hailey 35.02 330 eP P 04 48 42.9 +0.6
comp=Z,3.8nm,0.8s
HLID ePcP PcP 04 51 11.2 +0.6
HLID Hailey 35.02 330 ⇑P P 04 48 42.7 +0.4
baz=35,SNR=9.1
C23A Lambert 35.03 343 ⇑P P 04 48 42.0 -0.3
baz=35,SNR=7.0
PAHR Pah Rah Range 35.15 321 eP P 04 48 45.6 +2.1
comp=Z,14nm,0.9s
C22A Vida 35.18 343 ⇑P P 04 48 43.6 +0.1
baz=35
MCMT McKenzie Canyo 35.26 333 eP P 04 48 45.4 +0.9
comp=Z,10.0nm,0.7s
MCMT epP pP 04 49 22.0 +1.5
MCMT esP sP 04 49 40.3 +0.4
D20A Manuel Ranch, 35.30 340 ⇓P P 04 48 44.1 -0.4
baz=35,SNR=13
DGMT Dagmar 35.38 345 eP P 04 48 45.2 +0.1
comp=Z,21nm,0.8s
DGMT Dagmar 35.38 345 ⇓P P 04 48 45.3 +0.1
baz=36
BOZ Bozeman (W) 35.39 335 eP P 04 48 45.3 -0.1
comp=Z,4.4nm,0.8s
BOZ ePP PnPn 04 50 10.9 +0.7
A25A Svangstu Ranch 35.56 346 ⇑P P 04 48 46.6 -0.1
baz=36
DLMT Dillon 35.57 334 eP P 04 48 48.0 +1.0
comp=Z,5.5nm,0.8s
DLMT epP pP 04 49 24.4 +1.4
DLMT ePcP PcP 04 51 13.1 +1.0
B23A Brockton 35.59 344 ⇑P P 04 48 47.3 +0.4
baz=36
MFID Camas Ranch 35.61 328 ⇓P P 04 48 47.8 +0.5
baz=36,SNR=7.9
C21A Desert Coulee 35.61 341 ⇑P P 04 48 47.8 +0.6
baz=36
D19A Cripps Ranch, 35.62 339 ⇓P P 04 48 46.9 -0.3
baz=36,SNR=15
PKME Peaks-Kenny Pk 35.62 27 eP P 04 48 48.0 +0.9
comp=Z,93nm,1.1s
ULM Lac du Bonnet 35.68 355 eP P 04 48 46.6 -1.0
comp=Z,40nm,0.8s
ULM Lac du Bonnet 35.68 355 P P 04 48 46.6 -1.0
comp=Z,48nm,0.8s,baz=174,slow=9.5,SNR=34
B22A Reddig Ranch S 35.71 343 ⇓P P 04 48 48.0 0.0
baz=36
C20A Veseth Ranch, 35.80 340 ⇑P P 04 48 48.6 -0.2
baz=36,SNR=5.1
BEKR Beckworth 35.85 320 eP P 04 48 50.9 +1.5
comp=Z,13nm,1.1s

LRM **Limekiln Ridge** 35.87 334 *e*P P 04 48 50.3 +0.6
LRM *e*pP **pP** 04 49 26.4 +0.7
LRM *e*PcP **PcP** 04 51 13.3 +0.2
A23A Redstone 36.01 345 ⇓P P 04 48 50.8 +0.2
baz=36
EMMW East Machias 36.02 29 *e*P P 04 48 50.7 +0.1
comp=Z,616nm,1.6s
C19A Slack Wire Ran 36.17 339 ⇑P P 04 48 52.1 +0.2
baz=36
SAML Samuel 36.29 129 *e*P P 04 48 52.0 -1.3
comp=Z,16nm,1.1s
SAML *e*pP **pP** 04 49 27.3 -2.1
SAML *e*PcP **PcP** 04 51 13.8 -0.8
A22A Carney Farms, 36.32 343 ⇑P P 04 48 53.5 +0.3
baz=36
HRY Holter Researc 36.34 336 *e*P P 04 48 53.8 +0.3
WVOR Wild Horse Val 36.43 325 *e*P P 04 48 54.8 +0.5
comp=Z,16nm,0.9s
WVOR *e*PcP **PcP** 04 51 15.4 +0.7
B20A Solberg Farm, 36.45 341 ⇑P P 04 48 54.6 +0.3
baz=37
A21A Bergtoll Ranch 36.60 342 ⇓P P 04 48 56.0 +0.4
baz=37
EGMT Eagleton 36.66 339 *e*P P 04 48 55.7 -0.4
comp=Z,19nm,1.2s
EGMT *e*pP **pP** 04 49 33.4 +1.0
EGMT *e*sP **sP** 04 49 52.5 +0.8
EGMT *e*PcP **PcP** 04 51 15.4 +0.1
EGMT Eagleton 36.66 339 ⇑P P 04 48 55.8 -0.4
baz=37,SNR=7.2
B19A Brinkman Farms 36.76 340 ⇑P P 04 48 56.9 +0.1
baz=37
A20A Cobblestone Ra 36.80 341 ⇓P P 04 48 57.3 +0.1
baz=37,SNR=8.2
J08A Circle Bar Ran 36.96 326 *e*P P 04 48 58.9 +0.1
comp=Z,28nm,0.6s
J08A *e*ScP **ScP** 04 54 40.9 -6.4
MOD Modoc 37.05 323 *e*P P 04 49 00.4 +0.8
comp=Z,79nm,1.4s
MOD *e*ScP **ScP** 04 54 44.2 -3.5
CHMT Chamberlain Mo 37.08 335 *e*P P 04 48 59.5 -0.3
comp=Z,1.3nm,0.6s
A19A Klindworth Far 37.10 341 ⇓P P 04 48 59.9 0.0
baz=37
MSO Missoula 37.30 334 *e*P P 04 49 01.7 +0.1
comp=Z,36nm,1.8s
MSO Missoula 37.30 334 ⇑P P 04 49 01.4 -0.2
baz=37,SNR=9.1
BMO Blue Mountains 37.38 329 *e*P P 04 49 01.8 -0.5
comp=Z,5.2nm,0.8s
SLMT Seeley Lake 37.44 335 *e*P P 04 49 02.5 -0.3
SLMT *e*PcP **PcP** 04 51 17.5 -0.2
SWMT Swartz Lake 37.86 335 *e*P P 04 49 06.2 -0.1
SWMT *e*PcP **PcP** 04 51 18.5 -0.5
K05A Summer Lake 37.90 323 *e*P P 04 49 07.5 +0.7
comp=Z,125nm,2.5s
I07A Izee 38.00 326 *e*P P 04 49 07.4 -0.1
comp=Z,10nm,1.0s
F10A Beach Ranch, E 38.15 330 *e*P P 04 49 08.8 +0.1
comp=Z,38nm,0.7s
F10A *e*ScP **ScP** 04 54 52.6 +0.9
LPAZ La Paz 38.23 143 *e*P P 04 49 11.6 +1.4
comp=Z,3.0nm,0.8s
LPAZ pP **pP** 04 49 47.8 +1.1
LPAZ *e*PcP **PcP** 04 51 22.3 +1.0
LPAZ ScP **S** 04 54 51.4 -0.5
LPAZ La Paz 38.23 143 P P 04 49 11.2 +1.0
comp=Z,2.4nm,0.8s,baz=343,slow=8.5,SNR=14
LPAZ pP **pP** 04 49 47.8 +1.1
comp=Z,1.6nm,0.7s,baz=316,slow=8.7,SNR=3.3
LPAZ PcP **PcP** 04 51 22.2 +1.0
comp=Z,3.0nm,0.5s,baz=342,slow=3.5,SNR=12
LPAZ ScP **S** 04 54 51.4 -0.5
comp=Z,1.0nm,0.3s,baz=255,slow=4.6,SNR=12
YBH Yreka Blue Hor 38.38 321 *e*P P 04 49 10.3 -0.4
comp=Z,5.3nm,0.8s
BSMT Bassoo Peak 38.46 334 *e*P P 04 49 11.9 +0.5
G08A Pilot Rock 38.53 328 *e*P P 04 49 11.7 -0.2
comp=Z,32nm,2.1s
G08A *e*PcP **PcP** 04 51 21.9 +0.7
G08A *e*ScP ScP 04 54 45.6 -7.6
KHMM Horse Mountain 38.54 319 *e*P P 04 49 14.0 +1.9
comp=Z,36nm,0.9s
PINOR Pine Mountain 38.57 325 *e*P P 04 49 13.0 +0.9
comp=Z,14nm,0.7s
E09A Wood Farm, Sta 38.98 330 *e*P P 04 49 14.8 -0.6
comp=Z,8.1nm,1.0s
WALA Waterton Lakes 39.06 336 *e*P P 04 49 16.5 +0.3
comp=Z,0.3nm,1.0s
G06A Carlson Farm, 39.37 327 *e*P P 04 49 19.5 +0.8
HAWA Hanford 39.58 329 *e*P P 04 49 20.2 -0.2
comp=Z,4.9nm,0.6s
KBO Bosley Butte 39.59 320 *e*P P 04 49 22.1 +1.4
comp=Z,75nm,1.2s
NEW Newport 39.79 333 *e*P P 04 49 22.0 -0.2
comp=Z,5.1nm,0.6s
NEW *e*PcP **PcP** 04 51 23.8 -1.1
NEW Newport 39.79 333 ⇓P P 04 49 21.7 -0.4
baz=40,SNR=7.8
H04A Detroit Lake 39.85 325 *e*P P 04 49 23.5 +0.7
comp=Z,45nm,1.1s
VFP Flag Point 39.86 326 P P 04 49 24.5 +1.5
OD2 Odessa Site #2 39.88 331 P P 04 49 23.1 +0.2
C09A Chrisman Ranch 39.97 331 *e*P P 04 49 24.1 -0.4
comp=Z,22nm,0.6s
KEBM Edson Butte 40.02 321 *e*P P 04 49 26.3 +2.1
comp=Z,132nm,1.0s
VLL Laurance Lake 40.07 326 P P 04 49 26.4 +1.8
EBG Ellensburg 40.45 329 P P 04 49 28.9 +1.2
LTY Liberty 40.74 329 *e*P P 04 49 30.2 +0.2
comp=Z,11nm,0.5s
WPW White Pass 40.81 328 P P 04 49 31.8 +1.1
ETW Entiat 40.81 330 P P 04 49 30.9 +0.2
FFC Flin Flon 40.85 350 *e*P P 04 49 30.9 +0.1
comp=Z,37nm,1.0s
B08A Colville Reser 40.86 331 *e*P P 04 49 31.0 0.0
comp=Z,6.9nm,0.8s
LON Longmire 40.98 328 *e*P P 04 49 32.5 +0.4
comp=Z,10nm,0.8s
LON *e*PcP **PcP** 04 51 28.3 -0.6
D05A Enumclaw 41.36 328 *e*P P 04 49 35.7 +0.7
comp=Z,19nm,1.1s
F03A Seaside 41.39 325 *e*P P 04 49 37.2 +1.9
comp=Z,38nm,0.9s
E03A Lebam 41.77 326 *e*P P 04 49 39.4 +1.1
comp=Z,25nm,0.6s
RPW Rockport 41.97 330 P P 04 49 40.0 0.0
EDM Edmonton 42.28 340 *e*P P 04 49 42.1 -0.4
SIV San Ignacio 42.53 135 ScP **ScP** 04 55 11.9 +2.7
SIV San Ignacio 42.53 135 ScP **ScP** 04 55 11.9 +2.7
comp=Z,2.2nm,0.8s,baz=289,slow=2.1,SNR=6.0
A05A Maple Falls 42.62 330 *e*P P 04 49 45.3 +0.2
comp=Z,18nm,0.5s
LVC Limon Verde 42.96 149 *e*PcP **PcP** 04 51 38.3 +2.3
FCC Fort Churchill 44.06 358 *e*P P 04 49 55.5 -1.0
comp=Z,1.3nm,0.8s
SCHQ Schefferville 44.28 20 *e*P P 04 49 58.0 -0.5
comp=Z,66nm,0.8s
SCHQ Schefferville 44.28 20 P P 04 49 58.3 -0.1
comp=Z,64nm,0.7s,baz=220,slow=6.7,SNR=84
H03N2 Juan Fernandez 49.24 167 T T 05 42 46.2
baz=348
H03N1 Juan Fernandez 49.25 167 T T 05 42 54.8
baz=348
H03N3 Juan Fernandez 49.26 167 T T 05 42 34.8
baz=348
YKA Yellowknife Ar 50.57 346 P P 04 50 46.2 -0.5
YKA pP **pP** 04 51 25.8 +0.8
YKA Yellowknife Ar 50.57 346 P P 04 50 46.2 -0.5
comp=Z,13nm,0.6s,baz=147,slow=7.8,SNR=26
YKA pP **pP** 04 51 25.8 +0.8
comp=Z,5.9nm,0.8s,baz=146,slow=7.6,SNR=3.4
YKW3 Yellowknife Ar 50.63 346 *e*P P 04 50 46.7 -0.5
BDFB Brasilia 52.15 124 P P 04 50 58.6 -0.7
BDFB Brasilia 52.15 124 P P 04 50 58.6 -0.7
comp=Z,5.6nm,0.8s,baz=286,slow=12,SNR=7.6
CPUP Villa Florida 52.34 141 *e*P P 04 51 00.0 -0.4
comp=Z,25nm,0.9s
CPUP pP **pP** 04 51 37.9 -1.1
CPUP PcP **PcP** 04 52 10.1 +0.9
CPUP Villa Florida 52.34 141 P P 04 50 59.5 -1.0
comp=Z,4.0nm,0.8s,baz=314,slow=7.2,SNR=10.0
CPUP pP **pP** 04 51 37.9 -1.1
comp=Z,1.3nm,0.6s,baz=0.7,slow=4.2,SNR=2.3
CPUP PcP **PcP** 04 52 10.1 +0.9
comp=Z,5.2nm,0.7s,baz=309,slow=2.5,SNR=9.6

DLBC Dease Lake 52.40 335 *e*P P 04 51 01.7 +1.2
PLCA Paso Flores 58.34 162 P P 04 51 44.3 +1.2
PLCA pP **pP** 04 52 22.5 0.0
PLCA PcP **PcP** 04 52 33.6 +1.4
PLCA Paso Flores 58.34 162 P P 04 51 44.3 +1.2
comp=Z,1.3nm,0.5s,baz=350,slow=12,SNR=4.8
PLCA pP **pP** 04 52 22.5 0.0
comp=Z,4.7nm,1.1s,baz=359,slow=11,SNR=3.8
PLCA PcP **PcP** 04 52 33.6 +1.4
comp=Z,2.0nm,0.8s,baz=283,slow=7.2,SNR=3.8
BMRM Bremner River 59.96 333 *e*P P 04 51 55.0 +0.9
comp=Z,12nm,0.7s
INK Inuvik 60.04 343 *e*P P 04 51 53.5 -0.9
comp=Z,14nm,0.7s
PAX Paxson 61.21 335 *e*P P 04 52 02.5 0.0
comp=Z,8.4nm,0.6s
PMR Palmer 62.21 333 *e*P P 04 52 09.1 +0.1
comp=Z,9.0nm,0.7s
ILAR Eielson Array 62.57 336 P P 04 52 10.7 -0.7
ILAR sP **sP** 04 53 12.0 +2.2
ILAR Eielson Array 62.57 336 P P 04 52 10.7 -0.7
comp=Z,5.7nm,0.6s,baz=168,slow=4.9,SNR=74
ILAR sP **sP** 04 53 12.0 +2.2
comp=Z,2.2nm,1.0s,baz=134,slow=4.8,SNR=2.8
MCK McKinley 62.95 335 *e*P P 04 52 13.8 -0.2
comp=Z,9.1nm,0.8s
COLA College 62.98 336 *e*P P 04 52 22.3 +8.2
comp=Z,19nm,0.3s
SPU Mount Spurr 63.39 332 *e*P P 04 52 16.9 0.0
TRF Throfare Moun 63.40 334 *e*P P 04 52 17.0 -0.1
comp=Z,12nm,0.8s
RSO Redoubt South 63.49 331 *e*P P 04 52 17.8 0.0
BPAW Bear Paw Mtn. 63.93 335 *e*P P 04 52 20.1 -0.4
comp=Z,10.0nm,0.6s
CAST Castle Rocks 64.15 334 *e*P P 04 52 21.1 -0.8
comp=Z,8.9nm,0.8s
COLD Coldfoot 64.82 338 *e*P P 04 52 26.9 +0.8
comp=Z,26nm,1.6s
SVW2 Sparrevohn 65.00 331 *e*P P 04 52 26.7 -0.7
comp=Z,8.9nm,0.6s
SUMG Summit 65.35 15 *i* P P 04 52 29.6 -0.3
comp=Z,18nm,0.7s
SUMG Summit 65.35 15 *e*P P 04 52 29.5 -0.4
CHGN Chignik 65.35 326 *e*P P 04 52 29.4 -0.2
IMA2 Indian Mountai 65.69 337 *e*P P 04 52 31.9 0.0
SCO Scoresbysund 69.33 20 *i* P P 04 52 47.9 -6.5
comp=Z,18nm,1.2s
DAG Danmarks Havn 71.80 13⇑*i*P P 04 53 08.1 -1.2
comp=Z,12nm,0.6s
PCAS Casmilo, Conde 75.09 52 *e*P P 04 53 28.2 -1.1
PCAS *e*pP **pP** 04 54 09.9 -0.6
MORF Marmelete 75.31 55 *e*P P 04 53 29.7 -0.9
comp=Z,12nm,1.6s
PMTG Montargil 75.42 53 *e*P P 04 53 29.1 -2.1
comp=Z,16nm,1.7s
PMTG *e*pP **pP** 04 54 12.9 +0.5
EVOP Sao Brissos 75.57 53 *e*P P 04 53 30.4 -1.6
comp=Z,9.5nm,0.8s
EVOP *e*pP **pP** 04 54 12.1 -1.2
EVO Evora 75.66 53 *e*P P 04 53 30.4 -2.1
comp=Z,9.5nm,0.8s
EVO *e*pP **pP** 04 54 12.1 -1.7
EVO Evora 75.66 53 *e*P P 04 53 30.4 -2.1
comp=Z,7.7nm,2.1s
MTE Manteigas 75.78 52 *e*P P 04 53 31.8 -1.4
comp=Z,16nm,1.7s
MTE *e*pP **pP** 04 54 13.8 -0.7
PMRV Marv??o 76.02 52 *e*P P 04 53 33.2 -1.4
comp=Z,13nm,1.7s
PMRV *e*pP **pP** 04 54 15.8 -0.1
MVO Moncorvo 76.07 51 *e*P P 04 53 33.6 -1.3
comp=Z,13nm,1.6s
PBAR Barrancos 76.46 54 *e*P P 04 53 36.0 -1.1
comp=Z,8.1nm,1.2s
PBAR *e*pP **pP** 04 54 16.8 -1.6
ESK Eskdalemuir 76.87 36 *e*P P 04 53 37.9 -1.1
QUIF Quistinic 77.88 43 *e*P P 04 53 43.1 -1.6
QUIF Quistinic 77.88 43 *e*P P 04 53 43.1 -1.6
SGMF Saint Gilles 78.23 43 *e*P P 04 53 45.2 -1.5
SGMF Saint Gilles 78.23 43 *e*P P 04 53 45.2 -1.5
ESDC Sonseca Array 78.60 52 P P 04 53 47.1 -1.9
ESDC pP **pP** 04 54 29.3 -1.3
ESDC sP **sP** 04 54 47.6 -1.0
ESDC Sonseca Array 78.60 52 P P 04 53 47.1 -1.9
comp=Z,1.9nm,0.6s,baz=286,slow=5.6,SNR=18
ESDC pP **pP** 04 54 29.3 -1.3
comp=Z,0.7nm,0.4s,baz=283,slow=5.0,SNR=5.0
ESDC sP **sP** 04 54 47.6 -1.0
comp=Z,0.3nm,0.5s,baz=288,slow=6.8,SNR=1.7
GRR Gorron 79.33 43⇑*i*P P 04 53 51.1 -1.6
comp=Z,16nm,0.6s
GRR Gorron 79.33 43⇑*i*P P 04 53 51.1 -1.6
comp=Z,16nm,0.6s
FLN La Foliniere 79.51 42⇑*i*P P 04 53 52.2 -1.4
comp=Z,12nm,0.6s
FLN La Foliniere 79.51 42⇑*i*P P 04 53 52.2 -1.4
comp=Z,12nm,0.6s
LDF La Druitiere 79.78 42⇑*i*P P 04 53 53.5 -1.6
comp=Z,6.7nm,0.6s
LDF La Druitiere 79.78 42⇑*i*P P 04 53 53.5 -1.6
comp=Z,6.7nm,0.6s
SJPF Ste Jean 80.03 48 *e*P P 04 53 55.3 -1.3
SJPF Ste Jean 80.03 48 *e*P P 04 53 55.3 -1.3
ETSF Etsaut 80.55 48 *e*P P 04 53 57.1 -2.3
ETSF Etsaut 80.55 48 *e*P P 04 53 57.1 -2.3
LFF La Frestale 81.06 46 *e*P P 04 54 00.3 -1.7
LFF La Frestale 81.06 46 *e*P P 04 54 00.3 -1.7
RJF Les Rejaudoux 81.52 45 *e*P P 04 54 02.7 -1.8
comp=Z,3.4nm,0.6s
RJF Les Rejaudoux 81.52 45 *e*P P 04 54 02.7 -1.8
comp=Z,3.4nm,0.6s
TCF Toulx Ste Croi 81.79 44 *e*P P 04 54 03.3 -2.6
comp=Z,4.1nm,0.7s
TCF Toulx Ste Croi 81.79 44 *e*P P 04 54 03.3 -2.6
comp=Z,4.1nm,0.6s
HYF Humbligny 81.86 43 *e*P P 04 54 04.7 -1.5
HYF Humbligny 81.86 43 *e*P P 04 54 04.7 -1.5
CAF Calviac 81.98 46 *e*P P 04 54 05.0 -1.9
comp=Z,17nm,1.2s
CAF Calviac 81.98 46 *e*P P 04 54 05.0 -1.9
comp=Z,17nm,1.2s
AVF Avril sur Loir 82.44 44 *e*P P 04 54 07.7 -1.5
AVF Avril sur Loir 82.44 44 *e*P P 04 54 07.7 -1.5
DOU Dourbes 82.48 40 P P 04 54 08.0 -1.3
SSF Saint Saulge 82.48 43 *e*P P 04 54 07.3 -2.1
comp=Z,8.8nm,0.8s
SSF Saint Saulge 82.48 43 *e*P P 04 54 07.3 -2.1
comp=Z,8.8nm,0.8s
LOR Lormes 82.67 43 *e*P P 04 54 08.6 -1.8
comp=Z,17nm,1.0s
LOR *e*pP **pP** 04 54 50.5 -1.9
LOR Lormes 82.67 43 *e*P P 04 54 08.6 -1.8
comp=Z,17nm,1.0s
LOR *e*pP **pP** 04 54 50.5 -1.9
SMF Signal de Mont 82.80 44⇑*i*P P 04 54 08.9 -2.2
comp=Z,6.0nm,0.7s
SMF *e*pP **pP** 04 54 49.8 -3.3
SMF Signal de Mont 82.80 44⇑*i*P P 04 54 08.9 -2.2
comp=Z,6.0nm,0.7s
SMF *e*pP **pP** 04 54 49.8 -3.3
BCLA Clavier 82.84 40 P P 04 54 09.9 -1.3
NAO01 NORSAR Array S 83.03 29 *e*P P 04 54 11.2 -0.7
comp=Z,14nm,1.1s
NB2 NORSAR Subarra 83.13 29 P P 04 54 12.2 -0.3
comp=Z,1.3nm,0.7s,baz=290,slow=5.3
NOA NORSAR Array B 83.13 29 P P 04 54 12.5 0.0
NOA pP **pP** 04 54 54.1 -0.4
NOA NORSAR Array B 83.13 29 P P 04 54 12.5 0.0
comp=Z,1.5nm,0.7s,baz=289,slow=5.3,SNR=7.8
NOA pP **pP** 04 54 54.1 -0.4
comp=Z,1.5nm,0.8s,baz=288,slow=5.3,SNR=2.4
SFTF Sexfontaines 83.22 42 *e*P P 04 54 11.5 -1.7
comp=Z,6.9nm,0.6s
SFTF Sexfontaines 83.22 42 *e*P P 04 54 11.5 -1.7
comp=Z,6.9nm,0.6s
PAGF Fort de Pagny 83.57 42⇑*i*P P 04 54 13.7 -1.3
comp=Z,2.9nm,0.5s
PAGF Fort de Pagny 83.57 42⇑*i*P P 04 54 13.7 -1.3
comp=Z,2.9nm,0.5s
VIVF Saint-Julien-l 83.80 45 *e*P P 04 54 15.2 -1.1
VIVF Saint-Julien-l 83.80 45 *e*P P 04 54 15.2 -1.1
HAU Haudompre 84.12 42⇑*i*P P 04 54 16.2 -1.6
comp=Z,8.4nm,0.5s
HAU *e*pP **pP** 04 54 57.2 -2.7
HAU Haudompre 84.12 42⇑*i*P P 04 54 16.2 -1.6
comp=Z,8.4nm,0.5s

HAU *e*pP **pP** 04 54 57.2 -2.7
CABF La Chapelle 84.31 43 *e*P P 04 54 17.4 -1.5
CABF La Chapelle 84.31 43 *e*P P 04 54 17.4 -1.5
HINF Hinteralfeld 84.49 42 *e*P P 04 54 17.9 -1.8
comp=Z,4.6nm,0.6s
HINF Hinteralfeld 84.49 42 *e*P P 04 54 17.9 -1.8
comp=Z,4.6nm,0.6s
HFS Hagfors 84.58 29 P P 04 54 19.2 -0.7
HFS Hagfors 84.58 29 P P 04 54 19.2 -0.7
comp=Z,9.9nm,0.7s,baz=256,slow=6.0,SNR=10
CDF Champ du Feu 84.61 41 *e*P P 04 54 18.8 -1.5
comp=Z,3.6nm,0.6s
CDF Champ du Feu 84.61 41 *e*P P 04 54 18.8 -1.5
comp=Z,3.6nm,0.6s
ORIF Oris-en-Rattie 84.62 45 *e*P P 04 54 18.7 -1.8
ORIF Oris-en-Rattie 84.62 45 *e*P P 04 54 18.7 -1.8
SENIN Lac Senin/Sane 85.19 43 *e*P P 04 54 22.9 -0.6
comp=Z,20nm,1.7s
ARCES ARCESS Array B 85.22 18 P P 04 54 21.9 -1.0
ARCES pP **pP** 04 55 04.7 -0.3
ARCES PP **PP** 04 57 40.0 -2.3
ARCES ARCESS Array B 85.22 18 P P 04 54 21.9 -1.0
comp=Z,3.7nm,0.7s,baz=288,slow=4.4,SNR=20
ARCES pP **pP** 04 55 04.7 -0.3
comp=Z,3.2nm,0.9s,baz=5.7,slow=6.1,SNR=2.1
ARCES PP **PP** 04 57 40.0 -2.3
comp=Z,5.5nm,0.9s,baz=306,slow=11,SNR=4.8
MBDF Montbardon 85.28 45 *e*P P 04 54 22.7 -1.1
comp=Z,9.4nm,0.8s
MBDF Montbardon 85.28 45 *e*P P 04 54 22.7 -1.1
comp=Z,9.4nm,0.8s
LMR La Mourre 85.48 47 *e*P P 04 54 22.5 -2.1
LMR La Mourre 85.48 47 *e*P P 04 54 22.5 -2.1
FRF La Foret Royal 85.51 46 *e*P P 04 54 23.4 -1.4
comp=Z,12nm,0.7s
FRF La Foret Royal 85.51 46 *e*P P 04 54 23.4 -1.4
comp=Z,12nm,0.6s
TUE Stuetta 86.51 43 *e*P P 04 54 29.5 -0.5
comp=Z,8.3nm,1.0s
GRF Grafenberg Arr 86.70 39 *e*P pP 04 55 13.7 +0.8
comp=Z,11nm,1.1s
DAVOX Davos/Dischmat 86.77 43 P P 04 54 30.2 -1.0
DAVOX Davos/Dischmat 86.77 43 P P 04 54 30.2 -1.0
comp=Z,2.7nm,0.7s,baz=307,slow=15,SNR=4.1
CLL Collm 87.24 38 *e*P P 04 54 33.0 -0.1
CLL *i* pP pP 04 54 15.2 -60
comp=Z,10.0nm,1.0s
CLL *e*sP sP 04 55 33.0 -0.3
CLL *e*PP **PP** 04 57 59.0 0.0
GERES GERESS Array B 88.52 40 P P 04 54 37.9 -1.4
GERES pP **pP** 04 55 21.4 -0.4
GERES GERESS Array B 88.52 40 P P 04 54 37.9 -1.4
comp=Z,0.5nm,0.6s,baz=329,slow=1.6,SNR=3.9
GERES pP **pP** 04 55 21.4 -0.4
comp=Z,1.0nm,0.8s,baz=289,slow=4.1,SNR=4.1
TORD Torodi Ar. Bea 89.36 77 P P 04 54 40.8 -3.0
TORD Torodi Ar. Bea 89.36 77 P P 04 54 40.8 -3.0
comp=Z,0.3nm,0.5s,baz=294,slow=5.3,SNR=6.0
FINES FINESS Array B 89.51 25 P P 04 54 42.1 -1.4
FINES FINESS Array B 89.51 25 P P 04 54 42.1 -1.4
comp=Z,2.4nm,0.8s,baz=321,slow=15,SNR=5.0
KEST Kesra 89.78 53 *e*P P 04 54 45.9 +0.4
KEST Kesra 89.78 53 P P 04 54 44.0 -1.5
comp=Z,1.3nm,0.8s,baz=220,slow=7.9,SNR=3.6
VRAC Vranov 90.11 39 P P 04 54 45.2 -1.5
VRAC Vranov 90.11 39 P P 04 54 45.2 -1.5
comp=Z,1.8nm,0.4s,baz=135,slow=8.6,SNR=2.0
PETK Petropavlovsk- 90.58 326 P P 04 54 50.0 +1.3
PETK Petropavlovsk- 90.58 326 P P 04 54 50.0 +1.3
comp=Z,2.1nm,0.7s,baz=127,slow=9.6,SNR=3.3
STHS Stebnicka Huta 92.83 37 *e*P P 04 54 58.2 -1.0
AKASG Malin Array Be 96.67 34 PP PP 04 59 12.9 0.0
AKASG Malin Array Be 96.67 34 PP PP 04 59 12.9 0.0
comp=Z,0.3nm,0.3s,baz=303,slow=6.9,SNR=4.4
CN2 Changchun 112.91 332 *e*PKP **PKiKP** 05 00 25.6 +2.8
KURK Kurchatov 114.26 7 PKP PKPdf 05 00 24.3 -0.9
KURBB Kurchatov Arra 114.34 7 PKP PKPdf 05 00 24.3 -1.1
comp=Z,0.5nm,0.4s,baz=8.3,slow=1.6,SNR=3.7
SONM Songino Array 115.83 347 PKP **PKPdf** 05 00 28.0 -0.5
SONM Songino Array 115.83 347 PKP **PKPdf** 05 00 28.0 -0.5
comp=Z,0.3nm,0.2s,baz=35,slow=35,SNR=2.7
KSRS Korea Array 116.48 326 PKP **PKPdf** 05 00 29.5 -0.3
comp=Z,1.9nm,0.8s,baz=172,slow=0.9,SNR=5.4
KSAR Wonju Array Be 116.51 326 PKP **PKPdf** 05 00 29.5 -0.4
MKAR Makanchi Array 118.52 5 PKP **PKPdf** 05 00 31.5 -2.0
MKAR Makanchi Array 118.52 5 PKP **PKPdf** 05 00 31.5 -2.0
comp=Z,0.3nm,0.6s,baz=13,slow=2.6,SNR=3.6
BOSA Boshof 119.84 115 *e*PKPdf **PKPdf** 05 00 36.1 -0.5
BOSA Boshof 119.84 115 PKP **PKPdf** 05 00 36.2 -0.5
comp=Z,3.2nm,0.9s,baz=270,slow=5.1,SNR=5.0
HHC Hu-ho-hao-te 120.89 340 *e*PKP **PKPdf** 05 00 36.3 -2.1
HHC SKS **SKSdf** 05 07 32.3 -2.4
HHC SKKS SKKSac 05 08 43.1 -9.0
HHC PPMZ
comp=Z,210nm,8.1s
HHC LR LR
comp=Z,210nm,19.8s
HHC LR LR
comp=Z,230nm,19.4s
HHC LR LR
comp=Z,89nm,19.2s
TKM2 Tokmak 2 121.39 11 *e*PKPdf **PKPdf** 05 00 39.6 +0.2
WMQ Urumqi 121.77 1 *e*PKP **PKPdf** 05 00 41.8 +1.9
PMG Port Moresby 122.92 268 *e*PKPdf **PKPdf** 05 00 43.6 +0.8
MAW Mawson 124.46 168 PKP **PKPdf** 05 00 44.5 +0.3
MAW Mawson 124.46 168 PKP **PKPdf** 05 00 44.5 +0.3
comp=Z,4.5nm,0.7s,baz=203,slow=2.6,SNR=9.3
CTAO Charters Tower 125.23 256 *e*PKPdf **PKPdf** 05 00 47.6 +0.6
LZH Lanzhou 127.57 345 *e*PKP **PKPdf** 05 00 52.0 +0.6
LZH sPKP 05 01 55.9
STKA Stephens Creek 129.16 241 PKP **PKPdf** 05 00 54.6 +0.3
STKA Stephens Creek 129.16 241 PKP **PKPdf** 05 00 54.6 +0.3
comp=Z,3.4nm,0.8s,baz=91,slow=3.3,SNR=7.0
CD2 Chengdu 132.47 343 PKP **PKPdf** 05 00 59.7 -1.0
GYA Guiyang 135.61 337 *e*Pdif **Pdif** 04 58 07.9 -2.8
GYA PKP **PKPdf** 05 01 06.0 -0.8
GYA sPKP 05 02 11.4
GYA PP **PP** 05 03 47.5 +2.9
GYA PPMZ
comp=Z,110nm,7.9s
WRAB Tennant Creek 136.40 256 *e*PKPdf **PKPdf** 05 01 08.8 +0.6
WRA Warramunga Arr 136.41 256 PKPpre PKPpre 05 00 57.4
WRA PKP **PKiKP** 05 01 09.2 -0.8
WRA SKPbc **SKPbc** 05 04 26.5 +1.7
WRA Warramunga Arr 136.41 256 PKhKP PKPpre 05 00 57.4
comp=Z,1.0nm,0.7s,baz=85,slow=3.1,SNR=7.8
WRA PKP **PKiKP** 05 01 09.2 -0.8
comp=Z,5.3nm,0.6s,baz=89,slow=2.4,SNR=28
WRA SKPbc **SKPbc** 05 04 26.5 +1.7
comp=Z,0.5nm,0.8s,baz=95,slow=3.3,SNR=3.2
ASAR Alice Springs 136.72 251 PKPpre PKPpre 05 00 56.5
ASAR PKP **PKPdf** 05 01 09.6 +0.8
ASAR SKPbc **SKPbc** 05 04 27.6 +1.9
ASAR Alice Springs 136.72 251 PKPpre 05 00 56.5
comp=Z,1.0nm,0.6s,baz=105,slow=3.8,SNR=10
ASAR PKP **PKPdf** 05 01 09.6 +0.8
comp=Z,3.4nm,0.7s,baz=87,slow=2.0,SNR=5.6
ASAR SKPbc **SKPbc** 05 04 27.6 +1.9
comp=Z,1.0nm,1.0s,baz=106,slow=2.2,SNR=4.4
KMI Kunming 138.20 341 PKP **PKPdf** 05 01 09.4 -2.3
FORT Forrest 140.73 239 *e*PKPdf **PKPdf** 05 01 16.2 +0.3
FITZ Fitzroy Crossi 144.64 259 *e*PKPdf **PKPdf** 05 01 22.9 -0.2
CHTO Chiang Mai 145.28 343 *e*PKPbc **PKPdf** 05 01 22.8 -1.4
CMAR Chiang Mai Arr 145.62 343 PKPbc **PKPdf** 05 01 24.4 -0.4
CMAR Chiang Mai Arr 145.62 343 PKPbc **PKPdf** 05 01 24.4 -0.4
comp=Z,4.7nm,0.5s,baz=340,slow=3.3,SNR=29
KKM Kota Kinabalu 145.98 305 *e*PKPbc **PKPab** 05 01 27.6 +0.1
KAPI Kappang 148.17 284 *e*PKPbc **PKPbc** 05 01 31.9 -0.7
MBWA Marble Bar 150.01 253 *e*PKPbc **PKPbc** 05 01 36.6 -0.4
KSM Kuching 153.42 305 *e*PKPbc **PKPbc** 05 01 45.7 +0.7
KSM *e*PKPab **PKPab** 05 01 58.6 +0.9

*IDC **02** 04:42:42.1±0.6, 16°.12S×173°.42W, h0km, mb4.2/14, mb1 4.4/14, mb1mx4.2/23, mbtmp4.1/14, MS3.7/2, Ms1 3.7/2, ms1mx3.3/30, Error ellipse: s-maj=28.5km s-min=14.9km az=131.0*
*NEIC **02** 04:42:43.4±0.2, 16°.13S×173°.46W, h10km, mb4.5/20, Error ellipse: s-maj=13.7km s-min=5.9km az=139.0*
*ISCJB **02** 04:42:50.7±0.3, 16°.2S±0°.1×173°.5W±0°.1, h79km, mb4.2/33, Error ellipse: s-maj=19.9km s-min=8.5km az=137.6*
ISC 02 04:42:52.3±0.5, 16°.2S±0°.1×173°.4W±0°.1, h79km, n90, σ0=96/79, mb4.3/33, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.75**	**36**	*e*Pn	Pn	04 43 23.6	-11
AFI				Sn	Sn	04 43 52.4	-14
AFI	**Afiamalu**	**2.75**	**36**	Pn	Pn	04 43 24.0	-10
	35nm,0.3s,baz=171,slow=1.1,SNR=12						
AFI				Sn	Sn	04 43 52.4	-14
	160nm,0.3s,baz=195,slow=22,SNR=11						
AFI				LR	LR	04 44 28.7	
	comp=Z,712nm,19.4s,baz=333,slow=39						
DZM	**Mont Dzumac**	**19.90**	**250**	*e*P	**Pn**	**04 47 24.0**	**+3.9**
	26nm,0.8s						
DZM				*e*LR	LR	04 52 12.3	
	676nm,26.1s						
DZM	**Mont Dzumac**	**19.90**	**250**	*e*P	P	04 47 13.0	-4.8
	13nm,0.8s						
DZM	**Mont Dzumac**	**19.90**	**250**	P	**Pn**	**04 47 19.7**	**-0.4**
	0.1nm,0.3s,baz=72,slow=20,SNR=2.9						
PPT2	**Papeete2**	**22.86**	**97**	*e*LR	LR	04 52 56.2	
	332nm,25.5s						
URZ	**Urewera**	**23.54**	**199**	P	**P**	**04 47 53.9**	**-1.7**
URZ	**Urewera**	**23.54**	**199**	P	**P**	**04 47 53.9**	**-1.7**
	3.1nm,0.3s,baz=351,slow=9.4,SNR=3.9						
TBI	**Tubuai**	**23.63**	**111**	*e*LR	LR	04 53 23.2	
	387nm,27.2s						
H11S2	**WAKE ISLAND Hy**	**39.61**	**330**	T	T	05 31 58.0	
	baz=158						
H11S3	**WAKE ISLAND Hy**	**39.62**	**330**	T	T	05 32 00.3	
	baz=158						
H11S1	**WAKE ISLAND Hy**	**39.63**	**330**	T	T	05 31 59.6	
	baz=158						
H11N3	**WAKE ISLAND Hy**	**40.56**	**331**	T	T	05 33 06.9	
	baz=148						
H11N1	**WAKE ISLAND Hy**	**40.57**	**331**	T	T	05 33 10.5	
	baz=148						
H11N2	**WAKE ISLAND Hy**	**40.58**	**331**	T	T	05 33 09.4	
	baz=148						
STKA	**Stephens Creek**	**43.64**	**241**	*e*P	**P**	**04 50 48.4**	**-0.9**
	2.0nm,1.2s						
STKA	**Stephens Creek**	**43.64**	**241**	P	**P**	**04 50 46.9**	**-2.4**
	4.3nm,1.1s,baz=76,slow=8.3,SNR=3.1						
WRAB	**Tennant Creek**	**49.64**	**257**	*e*P	**P**	**04 51 37.7**	**+1.3**
	2.1nm,0.8s						
WRA	**Warramunga Arr**	**49.65**	**257**	P	**P**	**04 51 36.4**	**-0.1**
WRA	**Warramunga Ar**	**49.65**	**257**	P	**P**	**04 51 36.4**	**-0.1**
	0.6nm,0.4s,baz=96,slow=7.3,SNR=18						
WRA				LR	LR	05 11 43.5	
	comp=Z,137nm,19.9s,baz=75,slow=35						
AS31	**Alice Springs**	**49.86**	**253**	*e*P	**P**	**04 51 37.0**	**-1.0**
ASAR	**Alice Springs**	**49.86**	**253**	P	**P**	**04 51 36.9**	**-1.1**
ASAR	**Alice Springs**	**49.86**	**253**	P	**P**	**04 51 36.9**	**-1.1**
	5.1nm,0.6s,baz=86,slow=8.3,SNR=28						
VNDA	**Vanda**	**62.62**	**186**	*e*P	**P**	**04 53 08.9**	**+1.0**
	2.6nm,1.1s						
VNDA	**Vanda**	**62.62**	**186**	P	**P**	**04 53 09.7**	**+1.9**
	0.4nm,0.8s,baz=347,slow=9.3,SNR=2.9						
MWC	**Mount Wilson**	**72.68**	**46**	*e*P	**P**	**04 54 11.7**	**-0.4**
ISA	**Isabella**	**73.21**	**44**	*e*P	**P**	**04 54 14.9**	**-0.2**
	5.5nm,1.3s						
CMB	**Columbia Colle**	**73.35**	**41**	*e*P	**P**	**04 54 15.1**	**-0.7**
	4.0nm,1.1s						
PETK	**Petropavlovsk-**	**73.35**	**342**	P	**P**	**04 54 16.5**	**+1.1**
PETK	**Petropavlovsk-**	**73.35**	**342**	P	**P**	**04 54 16.5**	**+1.1**
	2.9nm,0.9s,baz=166,slow=13,SNR=4.0						
PFO	**Pinyon Flat Ob**	**73.46**	**47**	P	**P**	**04 54 16.1**	**-0.5**
PFO	**Pinyon Flat Ob**	**73.46**	**47**	P	**P**	**04 54 16.1**	**-0.5**
	4.1nm,1.1s,baz=250,slow=4.5,SNR=3.6						
QSPA	**South Pole Qui**	**73.88**	**180**	*e*P	**P**	**04 54 18.8**	**+0.1**
	6.9nm,1.3s						
YBH	**Yreka Blue Hor**	**74.22**	**37**	*e*P	**P**	**04 54 21.0**	**+0.1**
	6.3nm,1.0s						
WAKR	**Walker**	**74.23**	**41**	*e*P	**P**	**04 54 21.3**	**+0.2**
BEKR	**Beckworth**	**74.47**	**40**	*e*P	**P**	**04 54 22.1**	**-0.3**
	2.4nm,1.1s						
HUMO	**Hull Mountain**	**74.64**	**36**	*e*P	**P**	**04 54 23.7**	**+0.5**
	7.2nm,1.2s						
NVAR	**Mina Array Bea**	**74.91**	**42**	P	**P**	**04 54 25.1**	**+0.1**
NVAR	**Mina Array Bea**	**74.91**	**42**	P	**P**	**04 54 25.1**	**+0.1**
	3.4nm,0.9s,baz=231,slow=10,SNR=16						
SHPR	**Sheep Range**	**75.91**	**45**	*e*P	**P**	**04 54 30.8**	**0.0**
TUC	**Tucson**	**76.89**	**51**	*e*P	**P**	**04 54 36.5**	**+0.2**
	11nm,1.8s						
WVOR	**Wild Horse Val**	**77.04**	**38**	*e*P	**P**	**04 54 37.0**	**0.0**
	9.5nm,1.4s						
ARUT	**Antelope Range**	**77.76**	**45**	*e*P	**P**	**04 54 41.4**	**+0.2**
	73nm,1.0s						
DUG	**Dugway**	**79.43**	**43**	*e*P	**P**	**04 54 50.1**	**-0.2**
	2.9nm,1.0s						
TMUT	**Trail Mountain**	**80.03**	**44**	*e*P	**P**	**04 54 54.8**	**+1.0**
	3.8nm,0.9s						
BMRM	**Bremner River**	**80.26**	**14**	*e*P	**P**	**04 54 54.5**	**+0.3**
	18nm,1.4s						
BNM	**Barren Site**	**80.83**	**51**	*e*P	**P**	**04 54 57.9**	**-0.1**
TXAR	**Lajitas Array**	**81.05**	**56**	P	**P**	**04 54 59.2**	**+0.1**
TXAR	**Lajitas Array**	**81.05**	**56**	P	**P**	**04 54 59.2**	**+0.1**
	1.1nm,1.0s,baz=225,slow=6.5,SNR=6.2						
PV01	**Paradox Valley**	**81.26**	**46**	*e*P	**P**	**04 54 59.8**	**-0.5**
	389nm,1.2s						
ANMO	**Albuquerque**	**81.31**	**50**	P	**P**	**04 55 00.2**	**-0.3**
ANMO	**Albuquerque**	**81.31**	**50**	P	**P**	**04 55 00.2**	**-0.3**
	1.7nm,1.0s,baz=269,slow=3.9,SNR=3.6						
DLMT	**Dillon**	**82.30**	**38**	*e*P	**P**	**04 55 04.8**	**-0.7**
	16nm,1.9s						
SNOW	**Snow King Moun**	**82.44**	**41**	*e*P	**P**	**04 55 06.6**	**+0.3**
	4.6nm,1.0s						
IMW	**Indian Meadow**	**82.54**	**40**	*e*P	**P**	**04 55 07.0**	**+0.1**
	11nm,1.4s						
PDAR	**Pinedale Array**	**82.85**	**42**	P	**P**	**04 55 07.7**	**-0.8**
PDAR	**Pinedale Array**	**82.85**	**42**	P	**P**	**04 55 07.7**	**-0.8**
	2.8nm,0.9s,baz=219,slow=3.4,SNR=13						
SMCO	**Snowmass**	**82.86**	**46**	*e*P	**P**	**04 55 08.4**	**-0.4**
	7.8nm,1.2s						
ILAR	**Eielson Array**	**83.20**	**11**	P	**P**	**04 55 09.1**	**-0.4**
ILAR	**Eielson Array**	**83.20**	**11**	P	**P**	**04 55 09.1**	**-0.4**
	0.5nm,0.5s,baz=237,slow=6.4,SNR=8.1						
HRY	**Holter Researc**	**83.46**	**38**	*e*P	**P**	**04 55 11.0**	**-0.4**
	1.9nm,0.6s						
MAW	**Mawson**	**87.06**	**199**	P	**P**	**04 55 28.6**	**-0.3**
MAW	**Mawson**	**87.06**	**199**	P	**P**	**04 55 28.6**	**-0.3**
	0.8nm,0.4s,baz=100,slow=6.1,SNR=2.9						
SONM	**Songino Array**	**95.40**	**318**	P	**P**	**04 56 07.3**	**-0.8**
SONM	**Songino Array**	**95.40**	**318**	P	**P**	**04 56 07.3**	**-0.8**
	0.2nm,0.3s,baz=129,slow=3.9,SNR=2.8						
ARCES	**ARCESS Array B**	**125.36**	**352**	PKP	**PKPdf**	**05 01 44.6**	**+1.1**
ARCES	**ARCESS Array B**	**125.36**	**352**	PKP	**PKPdf**	**05 01 44.6**	**+1.1**
	2.8nm,0.8s,baz=298,slow=2.6,SNR=4.2						
SUR	**Sutherland**	**129.84**	**196**	*e*PKPdf	**PKPdf**	**05 01 54.5**	**+1.0**
TSUM	**Tsumeb**	**143.22**	**198**	*e*PKPdf	**PKPdf**	**05 02 18.2**	**-0.2**
STHS	**Stebnicka Huta**	**144.75**	**343**	*e*PKP	**PKPdf**	**05 02 21.3**	**+1.2**
STHS				*e*		05 02 36.1	
KOLS	**Kolonicke sedl**	**144.89**	**342**	*e*PKP	**PKPdf**	**05 02 21.6**	**+1.3**
BUR08	**Bucovina Ar. S**	**145.05**	**338**	*e*PKPdf	**PKPdf**	**05 02 21.3**	**+0.6**
KMBO	**Kilima Mbogo**	**145.18**	**243**	*e*PKPbc	**PKPdf**	**05 02 23.5**	**+1.3**
KMBO	**Kilima Mbogo**	**145.18**	**243**	PKPbc	**PKPdf**	**05 02 23.6**	**+1.5**
	0.9nm,0.5s,baz=61,slow=2.5,SNR=3.7						
MORC	**Moravsky Berou**	**145.31**	**347**	*e*PKPbc	**PKPdf**	**05 02 21.4**	**+0.3**
VRAC	**Vranov**	**145.95**	**348**	PKPbc	**PKPab**	**05 02 22.4**	**-1.1**
VRAC	**Vranov**	**145.95**	**348**	PKPbc	**PKPab**	**05 02 22.4**	**-1.1**
	1.9nm,0.4s,baz=27,slow=4.5,SNR=3.4						
GRFO	**Grafenberg**	**146.35**	**355**	*e*PKPbc	**PKPab**	**05 02 23.6**	**-1.4**
WLF	**Walferdange**	**146.59**	**1**	*e*PKPbc	**PKPdf**	**05 02 23.2**	**0.0**
BRTR	**Keskin Array B**	**146.73**	**320**	PKPbc	**PKPab**	**05 02 26.0**	**-1.0**
BRTR	**Keskin Array B**	**146.73**	**320**	PKPbc	**PKPab**	**05 02 26.0**	**-1.0**
	1.7nm,0.8s,baz=156,slow=2.3,SNR=6.1						
GERES	**GERESS Array B**	**146.89**	**351**	PKPbc	**PKPab**	**05 02 26.8**	**-0.5**
GERES	**GERESS Array B**	**146.89**	**351**	PKPbc	**PKPab**	**05 02 26.8**	**-0.5**
	0.7nm,0.5s,baz=48,slow=2.0,SNR=6.8						
BFO	**Black Forest**	**147.89**	**358**	*e*PKPbc	**PKPbc**	**05 02 28.4**	**-0.1**
ECH	**Echery**	**148.04**	**359**	*e*PKPbc	**PKPbc**	**05 02 27.5**	**-1.3**
DAVOX	**Davos/Dischmat**	**149.35**	**356**	PKPbc	**PKPbc**	**05 02 33.8**	**+1.3**
DAVOX	**Davos/Dischmat**	**149.35**	**356**	PKPbc	**PKPbc**	**05 02 33.8**	**+1.3**
	1.6nm,0.4s,baz=180,slow=1.0,SNR=2.8						
TUE	**Stuetta**	**149.70**	**356**	*e*PKPbc	**PKPbc**	**05 02 33.3**	**-0.1**
ESDC	**Sonseca Array**	**154.84**	**19**	PKPab	**PKPab**	**05 02 59.7**	**-0.5**
ESDC	**Sonseca Array**	**154.84**	**19**	PKPab	**PKPab**	**05 02 59.7**	**-0.5**
	0.1nm,0.3s,baz=57,slow=4.7,SNR=2.7						

*THR **02** 04:47:43.8±1.0,30°.15N×57°.80E,h15km,ML3.5*
*ISCJB **02** 04:47:45.1±0.9,30°.22N±0°.07×57°.62E±0°.07,h10km,Error ellipse: s-maj=11.3km s-min=7.8km az=141.3*
*CSEM **02** 04:47:46.0±0.5,30°.22N×57°.63E,h10km,ML3.6,Error ellipse: s-maj=15.1km s-min=9.0km az=152.0*
*TEH **02** 04:47:49.4,30°.50N×57°.51E,h10km,ML3.6*
ISC 02 04:47:46.5±1.3,**30°.24N**±0°.04×**57°.60E**±0°.05,**h10**km,**n26,**
σ0s74/33,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**2.21**	**308**	*e*Pn	**Pn**	**04 48 21.9**	**-1.5**
IBAF				*e*Sg	**Sn**	**04 48 51.4**	**+0.6**
IBAF				*e*		04 48 55.5	
	comp=Z,4μm,0.2s						
IBAF	**Bafgh**	**2.21**	**308**	*e*Pn	**Pn**	**04 48 21.9**	**-1.5**
IBAF				*e*Sg	**Sn**	**04 48 51.4**	**+0.6**
IKOO	**Kooshah**	**2.49**	**28**	*e*Pn	**Pn**	**04 48 26.5**	**-0.9**
IKOO				*e*		04 49 13.1	
	comp=Z,6μm,0.2s						
IKOO	**Kooshah**	**2.49**	**28**	*e*Pn	**Pn**	**04 48 26.5**	**-0.9**
IMEH	**Mehriz**	**2.82**	**295**	*e*Pn	**Pn**	**04 48 32.1**	**+0.3**
IMEH				*e*Sg	**Sb**	**04 49 11.6**	**-0.1**
IMEH				*e*		04 49 16.9	
	comp=Z,2μm,0.2s						
IMEH	**Mehriz**	**2.82**	**295**	*e*Pn	**Pn**	**04 48 32.1**	**+0.3**
IMEH				*e*Sg	**Sb**	**04 49 11.6**	**-0.1**
ITEG	**Tejag**	**2.83**	**20**	*e*Pn	**Pn**	**04 48 31.1**	**-0.8**
ITEG				*e*		04 49 21.0	
	comp=Z,3μm,0.3s						
ITEG	**Tejag**	**2.83**	**20**	*e*Pn	**Pn**	**04 48 31.1**	**-0.8**
BNDS	**Bandar-Abbas**	**3.09**	**204**	*e*Pn	**Pn**	**04 48 34.8**	**-0.7**
BNDS				*e*Sg	**Sb**	**04 49 19.9**	**+0.4**
BNDS	**Bandar-Abbas**	**3.09**	**204**	*e*Pn	**Pn**	**04 48 34.8**	**-0.7**
BNDS				*e*Sg	**Sb**	**04 49 20.0**	**+0.4**
IDAH	**Dahanechah**	**3.16**	**37**	*e*Pn	**Pn**	**04 48 37.3**	**+0.8**
IDAH				*e*		04 49 31.4	
	comp=Z,1μm,0.2s						
IDAH	**Dahanechah**	**3.16**	**37**	*e*Pn	**Pn**	**04 48 37.3**	**+0.8**
ICHK	**Chekchek**	**3.39**	**307**	*e*Pn	**Pn**	**04 48 39.2**	**-0.5**
ICHK				*e*Sg	**Sb**	**04 49 28.6**	**+0.4**
ICHK				*e*		04 49 37.5	
	comp=Z,1μm,0.3s						
ICHK	**Chekchek**	**3.39**	**307**	*e*Pn	**Pn**	**04 48 39.2**	**-0.5**
ICHK				*e*Sg	**Sb**	**04 49 28.6**	**+0.4**
TABS	**Tabas**	**3.43**	**353**	*e*Pn	**Pn**	**04 48 39.6**	**-0.5**
TABS				Sn	**Sn**	**04 49 21.7**	**+0.8**
TABS				AML	AML	04 49 45.1	
	comp=N,121nm,0.4s						
TABS	**Tabas**	**3.43**	**353**	*e*Pn	**Pn**	**04 48 39.6**	**-0.5**
IMON	**Monand**	**3.43**	**30**	*e*Pn	**Pn**	**04 48 40.3**	**0.0**
IMON				*e*		04 48 56.9	
	comp=Z,1μm,0.2s						
IMON	**Monand**	**3.43**	**30**	*e*Pn	**Pn**	**04 48 40.3**	**0.0**
ISAD	**Sadrabad**	**3.75**	**297**	*e*Pn	**Pn**	**04 48 44.7**	**0.0**
ISAD				*e*		04 49 44.3	
	comp=Z,861nm,0.4s						
ISAD	**Sadrabad**	**3.75**	**297**	*e*Pn	**Pn**	**04 48 44.7**	**0.0**
SHRT	**Shahrakht**	**4.10**	**33**	*e*Pn	**Pn**	**04 48 48.0**	**-1.3**
SHRT	**Shahrakht**	**4.10**	**33**	*e*Pn	**Pn**	**04 48 48.0**	**-1.3**
NASN	**Na'in**	**4.83**	**303**	*e*Pn	Pn	04 49 01.5	+2.0
NASN				AML	AML	04 50 22.4	
	comp=N,20nm,0.6s						
NASN	**Na'in**	**4.83**	**303**	*e*Pn	Pn	04 49 01.5	+2.0
IZEF	**Zefreh**	**5.22**	**302**	*e*Pn	**Pn**	**04 49 04.3**	**-0.6**
IZEF				*e*		04 50 38.2	
	comp=Z,266nm,0.5s						
IZEF	**Zefreh**	**5.22**	**302**	*e*Pn	**Pn**	**04 49 04.3**	**-0.6**

*IDC **02** 04:47:40.9±0.7,15°.04S×173°.77W,h0km,mb4.2/11, mb1 4.5/11,mb1mx4.3/21,mbtmp4.2/11,MS3.8/8, Ms1 3.8/8,ms1mx3.5/29,Error ellipse: s-maj=33.9km s-min=18.4km az=140.0*
*NEIC **02** 04:47:42.3±0.3, 15°.12S×173°.84W,h10km,mb4.5/20, Error ellipse: s-maj=15.8km s-min=7.1km az=146.0*
*ISCJB **02** 04:47:49.0±0.3,15°.09S±0°.09×173°.98W±0°.07,h73km, mb4.3/31,Error ellipse: s-maj=14.3km s-min=8.0km az=151.8*
ISC 02 04:47:50.4±0.4,**15°.1S**±0°.1×**173°.92W**±0°.09,**h73**km,**n258,**
σ0s52/236,mb4.3/31,76C-94D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.39**	**60**	*e*Pn	Pn	04 48 11.6	-16
AFI				Sn	Sn	04 48 33.1	-23
AFI	**Afiamalu**	**2.39**	**60**	Pn	Pn	04 48 12.8	-15
	72nm,0.3s,baz=117,slow=16,SNR=6.6						
AFI				Sn	Sn	04 48 33.1	-23
	136nm,0.3s,baz=22,slow=23,SNR=6.5						
RAO	**Raoul Island**	**14.55**	**194**	LR	LR	04 55 20.8	
	comp=Z,139nm,18.1s,baz=57,slow=31						
RAR	**Rarotonga**	**14.74**	**116**	*e*Pn	**Pn**	**04 51 14.0**	**-1.1**
RAR	**Rarotonga**	**14.74**	**116**	LR	LR	04 54 15.7	
	comp=Z,116nm,21.4s,baz=269,slow=27						
DZM	**Mont Dzumac**	**19.85**	**247**	*e*P	Pn	04 52 23.7	+5.8
	39nm,1.4s						
DZM				*e*LR	LR	04 57 16.7	
	450nm,25.9s						
DZM	**Mont Dzumac**	**19.85**	**247**	*e*P	**P**	**04 52 14.4**	**-1.3**
	32nm,1.4s						
PPT	**Papeete**	**23.48**	**99**	LR	LR	04 58 43.3	
	comp=Z,324nm,20.0s,baz=150,slow=28						
PPT2	**Papeete2**	**23.48**	**99**	*e*LR	LR	04 58 19.0	
	379nm,27.5s						
URZ	**Urewera**	**24.39**	**197**	LR	LR	05 01 17.0	
	comp=Z,242nm,18.5s,baz=290,slow=33						
TBI	**Tubuai**	**24.48**	**113**	*e*LR	LR	04 58 54.9	
	369nm,27.8s						
RPZ	**Rata Peaks**	**31.27**	**201**	LR	LR	05 06 00.5	
	comp=Z,418nm,19.5s,baz=218,slow=35						
CTAO	**Charters Tower**	**38.22**	**257**	*e*P	**P**	**04 55 03.1**	**-0.4**
PMG	**Port Moresby**	**38.41**	**274**	*e*P	**P**	**04 55 04.4**	**-0.8**
	7.0nm,0.7s						
H11S2	**WAKE ISLAND Hy**	**38.46**	**330**	T	T	05 35 55.2	
	baz=152,slow=0.7,SNR=45						
H11S3	**WAKE ISLAND Hy**	**38.47**	**330**	T	T	05 35 51.7	
	baz=152,slow=0.7,SNR=44						
H11S1	**WAKE ISLAND Hy**	**38.48**	**330**	T	T	05 35 50.7	
	baz=152,slow=0.7,SNR=44						
H11N3	**WAKE ISLAND Hy**	**39.41**	**331**	T	T	05 37 05.0	
	baz=152,slow=0.7,SNR=44						
H11N1	**WAKE ISLAND Hy**	**39.42**	**331**	T	T	05 37 07.4	
	baz=152,slow=0.7,SNR=63						
H11N2	**WAKE ISLAND Hy**	**39.43**	**331**	T	T	05 37 06.1	
	baz=152,slow=0.7,SNR=54						
WRAB	**Tennant Creek**	**49.41**	**257**	*e*P	**P**	**04 56 33.5**	**+0.2**
	7.8nm,1.1s						
WRA	**Warramunga Arr**	**49.42**	**257**	P	**P**	**04 56 33.7**	**+0.3**
WRA	**Warramunga Ar**	**49.42**	**257**	P	**P**	**04 56 33.7**	**+0.3**
	1.0nm,0.5s,baz=89,slow=7.0,SNR=39						
ASAR	**Alice Springs**	**49.73**	**252**	P	**P**	**04 56 35.6**	**0.0**
ASAR	**Alice Springs**	**49.73**	**252**	P	**P**	**04 56 35.6**	**0.0**
	5.2nm,0.5s,baz=86,slow=8.1,SNR=78						
VNDA	**Vanda**	**63.61**	**186**	*e*P	**P**	**04 58 13.2**	**0.0**
	2.5nm,1.1s						
VNDA	**Vanda**	**63.61**	**186**	P	**P**	**04 58 14.7**	**+1.5**
	1.5nm,1.0s,baz=18,slow=7.1,SNR=4.2						
MJAR	**Matsushiro Arr**	**68.40**	**320**	LR	LR	05 22 23.7	
	comp=Z,69nm,19.8s,baz=100,slow=30						
PETK	**Petropavlovsk-**	**72.20**	**342**	P	**P**	**04 59 07.5**	**+0.1**
PETK	**Petropavlovsk-**	**72.20**	**342**	P	**P**	**04 59 07.5**	**+0.1**
	3.3nm,0.8s,baz=127,slow=12,SNR=3.0						
CMB	**Columbia Colle**	**72.88**	**42**	*e*P	**P**	**04 59 10.9**	**-0.9**
	1.0nm,0.7s						
PFO	**Pinyon Flat Ob**	**73.09**	**47**	⇑P	**P**	**04 59 14.1**	**+0.9**
	baz=73						
YBH	**Yreka Blue Hor**	**73.67**	**37**	*e*P	**P**	**04 59 16.8**	**+0.4**
	3.6nm,0.9s						
MPMC	**Manual Prospec**	**73.68**	**45**	⇓P	**P**	**04 59 17.5**	**+0.8**
	baz=74						
GSC	**Goldstone**	**73.74**	**46**	⇑P	**P**	**04 59 17.3**	**+0.3**
	baz=74						
BEKR	**Beckworth**	**73.97**	**40**	*e*P	**P**	**04 59 18.3**	**0.0**
	0.8nm,0.6s						
HUMO	**Hull Mountain**	**74.07**	**37**	*e*P	**P**	**04 59 20.0**	**+1.3**
	10nm,1.4s						
IRM	**Iron Mountain**	**74.31**	**47**	⇑P	**P**	**04 59 20.5**	**+0.3**
	baz=74						
NVAR	**Mina Array Bea**	**74.45**	**42**	P	**P**	**04 59 20.9**	**-0.3**
NVAR	**Mina Array Bea**	**74.45**	**42**	P	**P**	**04 59 20.9**	**-0.3**
	1.6nm,0.8s,baz=231,slow=9.7,SNR=9.6						
QSPA	**South Pole Qui**	**74.93**	**180**	*e*P	**P**	**04 59 24.5**	**+1.1**
	4.1nm,1.1s						
KSRS	**Korea Array**	**75.60**	**316**	LR	LR	05 26 06.9	
	comp=Z,39nm,19.8s,baz=188,slow=30						
R11A	**Troy Canyon, C**	**76.19**	**44**	⇓P	**P**	**04 59 31.1**	**0.0**
	baz=76						
WVOR	**Wild Horse Val**	**76.52**	**39**	*e*P	**P**	**04 59 32.4**	**-0.4**
	4.1nm,1.1s						
TUC	**Tucson**	**76.60**	**51**	*e*P	**P**	**04 59 33.7**	**+0.2**
	2.0nm,0.9s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USRK	**Ussuriysk Arra**	**76.85**	**323**	LR	LR	05 28 22.7	
	comp=Z,73nm,20.6s,baz=287,slow=32						
X16A	**Lo Mia Camp, P**	**77.10**	**49**	⇑P	**P**	**04 59 36.3**	**0.0**
	baz=77						
319A	**Douglas**	**77.31**	**52**	⇑P	**P**	**04 59 37.9**	**+0.3**
	baz=77						
220A	**Playas Peak, P**	**78.12**	**52**	⇑P	**P**	**04 59 42.4**	**+0.4**
	baz=78						
X18A	**Snowflake**	**78.24**	**49**	⇑P	**P**	**04 59 42.7**	**0.0**
	baz=78						
120A	**U Bar Ranch, L**	**78.33**	**52**	⇓P	**P**	**04 59 43.5**	**+0.3**
	baz=78						
MFID	**Camas Ranch**	**78.78**	**39**	⇓P	**P**	**04 59 45.3**	**-0.1**
	baz=79						
121A	**Cookes Peak, D**	**78.96**	**52**	⇓P	**P**	**04 59 47.5**	**+0.7**
	baz=79						
DUG	**Dugway**	**78.99**	**43**	*e*P	**P**	**04 59 46.0**	**-0.7**
	4.4nm,1.1s						
DUG	**Dugway**	**78.99**	**43**	⇑P	**P**	**04 59 46.7**	**+0.1**
	baz=79						
Y20A	**Horse Springs,**	**79.12**	**50**	⇓P	**P**	**04 59 48.0**	**+0.3**
	baz=79						
DIV	**Divide**	**79.23**	**13**	*e*P	**P**	**04 59 47.0**	**-0.4**
	15nm,1.0s						
BMRM	**Bremner River**	**79.36**	**14**	*e*P	**P**	**04 59 48.1**	**+0.1**
	11nm,0.9s						
Z21A	**St. Cloud Mine**	**79.39**	**51**	⇓P	**P**	**04 59 49.6**	**+0.5**
	baz=80						
W20A	**Ramah**	**79.57**	**49**	⇓P	**P**	**04 59 50.4**	**+0.4**
	baz=80						
TMUT	**Trail Mountain**	**79.62**	**45**	*e*P	**P**	**04 59 51.0**	**+0.7**
	5.1nm,0.8s						
Y21A	**Point of Rocks**	**79.69**	**51**	⇓P	**P**	**04 59 51.3**	**+0.5**
	baz=80						
HLID	**Hailey**	**79.72**	**40**	⇑P	**P**	**04 59 50.5**	**-0.1**
	baz=80						
X21A	**Alamocita Cree**	**79.80**	**50**	⇓P	**P**	**04 59 51.9**	**+0.6**
	baz=80						
JLU	**Jordanelle**	**80.10**	**43**	*e*P	**P**	**04 59 52.4**	**-0.4**
	3.4nm,1.0s						
Y22A	**Socorro**	**80.19**	**51**	⇓P	**P**	**04 59 53.2**	**-0.2**
	baz=80						
324A	**Moseley Ranch,**	**80.27**	**54**	⇓P	**P**	**04 59 53.5**	**-0.3**
	baz=80						
425A	**Indio Mountain**	**80.39**	**55**	⇑P	**P**	**04 59 54.8**	**+0.3**
	baz=80						
224A	**Cornudas Mount**	**80.50**	**53**	⇑P	**P**	**04 59 55.4**	**+0.3**
	baz=81						
MVCO	**Mesa Verde**	**80.52**	**47**	⇑P	**P**	**04 59 54.7**	**-0.4**
	baz=81						
BNM	**Barren Site**	**80.53**	**51**	*e*P	**P**	**04 59 55.0**	**-0.3**
626A	**Big Bend Ranch**	**80.58**	**56**	⇓P	**P**	**04 59 55.8**	**+0.4**
	baz=81						
NEW	**Newport**	**80.75**	**35**	⇓P	**P**	**04 59 55.2**	**-0.6**
	baz=81						
U21A	**Nageezi**	**80.77**	**48**	⇓P	**P**	**04 59 56.7**	**+0.3**
	baz=81,SNR=9.3						
124A	**Stringfield Ra**	**80.81**	**53**	⇓P	**P**	**04 59 57.0**	**+0.2**
	baz=81						
526A	**Mary Lane Ranc**	**80.81**	**56**	⇓P	**P**	**04 59 56.7**	**0.0**
	baz=81						
TXAR	**Lajitas Array**	**80.87**	**56**	P	**P**	**04 59 57.0**	**0.0**
TXAR	**Lajitas Array**	**80.87**	**56**	P	**P**	**04 59 57.0**	**0.0**
	1.4nm,0.9s,baz=230,slow=5.9,SNR=11						
Y23A	**Lovelace Mesa,**	**80.87**	**51**	⇓P	**P**	**04 59 56.8**	**-0.2**
	baz=81						
PV01	**Paradox Valley**	**80.89**	**47**	*e*P	**P**	**04 59 57.0**	**0.0**
	168n

	baz=83							
V25A	Rancho No Teng	82.74	50	⇑P	P	05 00 07.0	+0.2	
	baz=83							
429A	Davenport Ranc	82.78	56	⇓P	P	05 00 06.7	-0.3	
	baz=83							
Z27A	Tatum	82.78	53	⇓P	P	05 00 06.7	-0.3	
	baz=83							
228A	UT Block 9, Go	82.80	54	⇓P	P	05 00 07.5	+0.5	
	baz=83							
P22A	Eagle	82.81	46	⇓P	P	05 00 07.0	-0.1	
	baz=83							
X26A	CR and CF Fran	82.82	51	⇓P	P	05 00 07.3	+0.1	
	baz=83							
L20A	Wamsutter	82.83	43	⇑P	P	05 00 07.2	+0.1	
	baz=83							
R23A	Moffat	82.85	47	⇑P	P	05 00 06.7	-0.7	
	baz=83							
SDCO	Great Sand Dun	82.89	48	eP	P	05 00 07.6	-0.1	
	2.2nm,1.1s							
J19A	Crowheart	82.95	42	⇑P	P	05 00 06.9	-0.8	
	baz=83							
329A	Wagon Wheel Ra	83.04	55	⇓P	P	05 00 08.7	+0.4	
	baz=83							
Y27A	Causey	83.05	52	⇓P	P	05 00 07.8	-0.6	
	baz=83							
530A	J-C Ranch, Com	83.05	56	⇓P	P	05 00 07.7	-0.6	
	baz=83							
S24A	Houchin Ranch,	83.06	48	⇓P	P	05 00 08.7	+0.1	
	baz=83							
128A	Castleberry Fa	83.08	54	⇑P	P	05 00 08.2	-0.3	
	baz=83							
U25A	Circle Dot Ran	83.12	50	⇓P	P	05 00 08.5	-0.3	
	baz=83							
K20A	Yellowstone Ra	83.12	43	⇑P	P	05 00 08.4	-0.3	
	baz=83							
O22A	Kremmling	83.20	45	⇑P	P	05 00 09.0	-0.2	
	baz=83,SNR=6.3							
M21A	Separation Pea	83.29	44	⇑P	P	05 00 08.9	-0.7	
	baz=83,SNR=6.8							
V26A	Tequesquite Ra	83.34	50	⇑P	P	05 00 09.7	-0.1	
	baz=83							
I19A	Meeteetse	83.35	41	⇑P	P	05 00 09.8	0.0	
	baz=84							
MSTX	Muleshoe	83.38	52	⇑P	P	05 00 10.2	+0.2	
	baz=83							
R24A	Sanders Place,	83.38	48	⇑P	P	05 00 10.4	+0.3	
	baz=84							
631A	Perdido Creek	83.40	57	⇑P	P	05 00 10.1	0.0	
	baz=83							
X27A	F and S Farms,	83.40	52	⇑P	P	05 00 10.4	+0.2	
	baz=84							
Z28A	Tucker Farm, M	83.41	53	⇓P	P	05 00 09.7	-0.5	
	baz=84							
T25A	Trinidad	83.43	49	⇓P	P	05 00 10.3	0.0	
	baz=84							
L21A	Rawlins	83.45	44	⇓P	P	05 00 10.0	-0.3	
	baz=84							
N22A	Wattenberg Ran	83.55	45	⇓P	P	05 00 10.8	-0.1	
	baz=84							
129A	Stewart Farms,	83.56	54	⇓P	P	05 00 11.1	+0.2	
	baz=84							
W27A	Bowe Ranch, En	83.59	51	⇓P	P	05 00 11.1	0.0	
	baz=84							
U26A	Atchley Ranch,	83.61	50	⇓P	P	05 00 11.2	-0.1	
	baz=84							
J20A	Shoshoni	83.61	42	⇑P	P	05 00 11.1	0.0	
	baz=84							
S25A	Robets Cordova	83.62	48	⇑P	P	05 00 11.1	-0.2	
	baz=84							
O23A	Lake Granby, G	83.66	46	⇑P	P	05 00 11.6	0.0	
	baz=84							
H19A	Powell	83.66	41	⇑P	P	05 00 11.5	+0.2	
	baz=84							
Q24A	Divide	83.66	47	⇑P	P	05 00 11.4	-0.2	
	baz=84							
ISCO	Idaho Springs	83.69	46	⇓P	P	05 00 11.8	0.0	
	baz=84							
M22A	Cedar Creek Ra	83.72	44	⇑P	P	05 00 11.8	0.0	
	baz=84							
Y28A	McKinney Farm,	83.76	53	⇑P	P	05 00 11.6	-0.3	
	baz=84							
K21A	Alcova	83.83	43	⇑P	P	05 00 11.7	-0.6	
	baz=84							
I20A	Worland	83.86	41	⇓P	P	05 00 11.6	-0.7	
	baz=84,SNR=5.6							
Z29A	Hungry Hill Ra	83.92	53	⇑P	P	05 00 12.5	-0.3	
	baz=84							
N23A	Red Feather La	83.94	45	⇓P	P	05 00 12.7	-0.3	
	baz=84							
R25A	Fountain Ranch	83.94	48	⇑P	P	05 00 12.6	-0.2	
	baz=84							
X28A	Dimmitt	84.03	52	⇓P	P	05 00 13.2	-0.1	
	baz=84							
632A	Uvalde	84.07	57	⇑P	P	05 00 14.0	+0.4	
	baz=84							
L22A	Ellis Ranch, M	84.10	44	⇑P	P	05 00 13.1	-0.6	
	baz=84							
Y29A	Porterfield Fa	84.18	53	⇑P	P	05 00 14.1	0.0	
	baz=84							
H20A	Greybull	84.19	41	⇑P	P	05 00 13.7	-0.3	
	baz=84							
532A	Rocksprings	84.20	57	⇑P	P	05 00 14.4	+0.2	
	baz=84							
O24A	Longmont	84.20	46	⇓P	P	05 00 14.6	+0.4	
	baz=84							
F19A	Roth Farm, Mol	84.25	40	⇓P	P	05 00 14.1	0.0	
	baz=84							
130A	Snyder	84.25	54	⇓P	P	05 00 14.5	0.0	
	baz=84							
U27A	Thompson Grove	84.30	50	⇓P	P	05 00 14.3	-0.4	
	baz=84							
S26A	Kim	84.31	49	⇓P	P	05 00 14.8	0.0	
	baz=84							
K22A	Casper	84.32	43	⇓P	P	05 00 14.4	-0.3	
	baz=84							
M23A	Laramie	84.33	45	⇑P	P	05 00 14.8	-0.1	
	baz=84							
I21A	Big Trails, Te	84.34	42	⇓P	P	05 00 13.9	-0.9	
	baz=84,SNR=6.0							
X29A	Tulia	84.38	52	⇓P	P	05 00 14.7	-0.4	
	baz=84							
Z30A	Sanderson Ranc	84.38	54	⇓P	P	05 00 14.7	-0.4	
	baz=84							
231A	Bronte	84.52	55	⇓P	P	05 00 15.8	0.0	
	baz=85							
432A	Menard	84.56	56	⇓P	P	05 00 16.0	0.0	
	baz=85							
P25A	Willow Gulch B	84.58	47	⇓P	P	05 00 16.0	-0.1	
	baz=85							
R26A	Arlington	84.60	48	⇓P	P	05 00 15.9	-0.3	
	baz=85							
L23A	Garrett	84.63	44	⇓P	P	05 00 15.8	-0.6	
	baz=85,SNR=5.6							
E19A	Rath Farm, Rou	84.63	39	⇓P	P	05 00 16.3	+0.2	
	baz=85							
N24A	Carr	84.63	45	⇓P	P	05 00 16.7	+0.3	
	baz=85							
W29A	Amraillo	84.68	52	⇓P	P	05 00 16.7	+0.1	
	baz=85							
J22A	Midwest	84.69	43	⇓P	P	05 00 15.9	-0.6	
	baz=85,SNR=5.2							
131A	Roby	84.73	54	⇑P	P	05 00 17.0	+0.1	
	baz=85							
332A	Millersview	84.78	56	⇑P	P	05 00 17.6	+0.5	
	baz=85							
Q26A	Hugo	84.80	48	⇓P	P	05 00 17.3	0.0	
	baz=85							
EGMT	Eagleton	84.80	37	⇑P	P	05 00 17.0	+0.1	
	baz=85							
O25A	Wiggins	84.86	46	⇓P	P	05 00 17.2	-0.2	
	baz=85							
I22A	9 Mile Ranch,	84.89	42	⇑P	P	05 00 17.2	-0.3	
	baz=85							
D19A	Cripps Ranch,	84.91	38	⇓P	P	05 00 17.5	+0.1	
	baz=85							
K23A	Bowen Ranch, D	84.96	43	⇑P	P	05 00 17.3	-0.6	
	baz=85							
G21A	Lodge Grass	85.03	41	⇑P	P	05 00 17.7	-0.4	
	baz=85							
232A	Coleman	85.03	55	⇑P	P	05 00 18.3	-0.1	
	baz=85							
E20A	Meyer Farm, Mu	85.05	39	⇑P	P	05 00 17.6	-0.5	
	baz=85							
R27A	Eads	85.06	48	⇑P	P	05 00 18.0	-0.5	
	baz=85							
C19A	Slack Wire Ran	85.08	38	⇓P	P	05 00 18.4	+0.1	
	baz=85							
Z31A	Sharp Cattle R	85.16	54	⇓P	P	05 00 19.2	+0.2	
	baz=85							
P26A	Davis Ranch, A	85.18	47	⇓P	P	05 00 19.2	+0.1	
	baz=85							
ABTX	Abilene, Hawle	85.30	55	eP	P	05 00 19.3	-0.4	
ABTX	Abilene, Hawle	85.30	55	⇑P	P	05 00 19.7	0.0	
	baz=85							
Y31A	Rekieta Farm,	85.31	53	⇓P	P	05 00 19.9	+0.2	
	baz=85							
D20A	Manuel Ranch,	85.32	39	⇑P	P	05 00 19.5	0.0	
	baz=85							
B19A	Brinkman Farms	85.49	37	⇓P	P	05 00 20.2	0.0	
	baz=86							
Z32A	Haskell	85.68	54	⇑P	P	05 00 21.6	0.0	
	baz=86							
C20A	Veseth Ranch,	85.69	38	⇓P	P	05 00 21.6	+0.3	
	baz=86							
A19A	Klindworth Far	85.83	37	⇑P	P	05 00 22.8	+0.8	
	baz=86							
H03N2	Juan Fernandez	85.88	123	T	T	06 35 01.1		
	baz=248							
H03N3	Juan Fernandez	85.88	123	T	T	06 35 01.8		
	baz=248							
H03N1	Juan Fernandez	85.89	123	T	T	06 35 02.4		
	baz=248							
W31A	Holland Ranch,	86.00	52	⇓P	P	05 00 23.2	+0.1	
	baz=86							
D21A	La Casta Ranch	86.00	39	⇑P	P	05 00 22.6	-0.3	
	baz=86							
B20A	Solberg Farm,	86.02	38	⇓P	P	05 00 22.6	-0.3	
	baz=86							
A20A	Cobblestone Ra	86.28	37	⇓P	P	05 00 23.9	-0.3	
	baz=86							
F23A	Volborg	86.39	41	⇑P	P	05 00 24.5	-0.3	
	baz=86							
H24A	Dirks Ranch, A	86.52	42	⇓P	P	05 00 25.4	-0.1	
	baz=87							
APG	El Apazote	87.72	74	P	P	05 00 31.3	-0.8	
APG	El Apazote	87.72	74	P	P	05 00 31.3	-0.8	
	3.4nm,1.0s,baz=276,slow=9.2,SNR=3.5							
MAW	Mawson	87.91	199	P	P	05 00 32.1	+0.4	
MAW	Mawson	87.91	199	P	P	05 00 32.1	+0.4	
	2.4nm,0.8s,baz=104,slow=4.5,SNR=5.3							
J29A	Okreek	88.77	44	⇓P	P	05 00 35.5	-0.7	
	baz=89							
TSUM	Tsumeb	144.07	199	ePKPdf	PKPbc	05 07 17.3	+0.5	
TIRR	Tirgusor	145.15	332	ePKPbc	PKPbc	05 07 19.0	-0.3	
KMBO	Kilima Mbogo	145.21	245	ePKPbc	PKPdf	05 07 21.8	+0.8	
WLF	Walferdange	145.54	360	ePKPbc	PKPab	05 07 21.9	+1.1	
BRT31	Keskin Array S	145.62	321	ePKPbc	PKPab	05 07 22.8	+1.2	
BRTR	Keskin Array B	145.62	321	PKPbc	PKPab	05 07 21.6	+0.1	
BRTR	Keskin Array B	145.62	321	PKPbc	PKPab	05 07 21.7	+0.1	
	2.9nm,0.8s,baz=87,slow=1.1,SNR=11							
GERES	GERESS Array B	145.78	351	PKPbc	PKPab	05 07 21.8	0.0	
GERES	GERESS Array B	145.78	351	PKPbc	PKPab	05 07 21.8	0.0	
	0.4nm,0.3s,baz=9.5,slow=3.2,SNR=4.5							
BFO	Black Forest	146.82	357	ePKPbc	PKPdf	05 07 22.7	+0.2	
MMAI	Mount Meron Ar	148.00	309	PKPbc	PKPab	05 07 30.8	-0.1	
MMAI	Mount Meron Ar	148.00	309	PKPbc	PKPab	05 07 30.8	-0.1	
	0.8nm,0.4s,baz=50,slow=5.5,SNR=4.0							
TUE	Stuetta	148.61	356	ePKPbc	PKPbc	05 07 31.0	+1.5	
SSB	Saint Sauveur	149.90	2	ePKPbc	PKPab	05 07 35.2	-2.9	
MTE	Manteigas	152.14	23	ePKPdf	PKPdf	05 07 31.8	+0.6	
MTE				ePKPbc	PKiKP	05 07 38.2	-0.1	
ESDC	Sonseca Array	153.99	18	PKPab	PKPab	05 07 56.6	+1.1	
ESDC	Sonseca Array	153.99	18	PKPab	PKPab	05 07 56.6	+1.1	
	0.1nm,0.3s,baz=330,slow=4.3,SNR=4.9							
TORD	Torodi Ar. Bea	175.32	114	PKP	PKPdf	05 07 51.6	-1.4	
TORD	Torodi Ar. Bea	175.32	114	PKP	PKPdf	05 07 51.6	-1.4	
	0.4nm,0.8s,baz=262,slow=2.8,SNR=3.1							

IDC 02 04:59:56.1±0.8, 15°.81S×173°.71W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.8/21, mbtmp3.8/5, Error ellipse: s-maj=39.9km s-min=27.0km az=128.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.65	45	Pn	Pn	Pn	05 00 37.2	-3.0
	6.1nm,0.3s,baz=221,slow=11,SNR=3.7							
AFI				Sn	Sn	Sn	05 01 04.8	-8.4
	26nm,0.3s,baz=248,slow=19,SNR=7.3							
H11S2	WAKE ISLAND Hy	39.16	330	T	T	T	05 49 39.8	
	baz=152,slow=0.7,SNR=5.1							
H11S3	WAKE ISLAND Hy	39.17	330	T	T	T	05 49 36.7	
	baz=152,slow=0.7,SNR=4.1							
H11S1	WAKE ISLAND Hy	39.18	330	T	T	T	05 49 41.2	
	baz=152,slow=0.7,SNR=3.9							
H11N3	WAKE ISLAND Hy	40.12	331	T	T	T	05 50 46.7	
	baz=156							
H11N1	WAKE ISLAND Hy	40.12	331	T	T	T	05 50 48.3	
	baz=156							
H11N2	WAKE ISLAND Hy	40.13	331	T	T	T	05 50 49.0	
	baz=156							
ASAR	Alice Springs	49.70	252	P	P	P	05 08 49.5	-0.9
	1.3nm,0.7s,baz=86,slow=8.6,SNR=11							
QSPA	South Pole Qui	74.24	180	P	P	P	05 11 35.9	+1.0
	0.8nm,0.9s,baz=58,slow=2.1,SNR=7.0							
NVAR	Mina Array Bea	74.83	42	P	P	P	05 11 39.1	+0.4
	0.7nm,0.8s,baz=232,slow=10,SNR=5.2							
PDAR	Pinedale Array	82.77	42	P	P	P	05 12 21.9	-0.4
	0.5nm,0.7s,baz=231,slow=2.9,SNR=3.9							
ILAR	Eielson Array	82.90	11	P	P	P	05 12 22.8	+0.6
	0.4nm,0.6s,baz=232,slow=6.0,SNR=9.7							
BRTR	Keskin Array B	146.28	320	PKPbc	PKPab	PKPab	05 19 40.5	+0.6
	1.3nm,0.8s,baz=146,slow=3.1,SNR=5.7							
GERES	GERESS Array B	146.50	351	PKPbc	PKPdf	PKPdf	05 19 36.8	-1.3
	0.2nm,0.2s,baz=36,slow=5.2,SNR=2.9							
TORD	Torodi Ar. Bea	174.82	120	PKPab	PKPab	PKPab	05 21 41.6	-1.6
	0.6nm,1.0s,baz=224,slow=8.1,SNR=2.8							

CSEM 02 05:03:20.3±0.1, 42°.25N×13°.51E, h8km, ML3.5/7, Error ellipse: s-maj=3.7km s-min=2.8km az=60.0
ROM 02 05:03:20.1±0.1, 42°.25N×13°.52E, h10km, Md3.1/25, Ml3.0/22, Error ellipse: s-maj=1.1km s-min=0.9km az=66.0
LDG 02 05:03:20.3±0.1, 42°.22N×13°.57E, h2km, Ml3.0/5, Error ellipse: s-maj=4.6km s-min=3.0km az=59.0

ISC 02 05:03:19.4±0.8, 42°.26N±0°.02×13°.52E±0°.02, h14km±5km, n69, σ0s85/88, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FAGN	Fagnano	0.05	80	Pg	Pg	Pg	05 03 22.3	+0.2
FAGN				Sg	Sg	Sg	05 03 23.2	-0.7
	10μm,0.4s							
FAGN	Fagnano	0.05	80	Pg	Pg	Pg	05 03 22.3	+0.2
FAGN				Sg	Sg	Sg	05 03 23.2	-0.7
	10μm,0.4s							
PTQR	Pietraquaria	0.25	200	Pg	Pb	Pb	05 03 25.8	+0.1
PTQR				Sg	Sb	Sb	05 03 30.7	+0.7
PTQR	Pietraquaria	0.25	200	Pg	Pb	Pb	05 03 25.8	+0.1
VCEL	Villa Celiera	0.28	60	Pg	Pb	Pb	05 03 26.6	+0.3
VCEL				Sg	Sb	Sb	05 03 31.0	+0.1
	4μm,0.5s							
VCEL	Villa Celiera	0.28	60	Pg	Pb	Pb	05 03 26.6	+0.3
VCEL				Sg	Sb	Sb	05 03 31.0	+0.1
	4μm,0.5s							
FIAM	Fiamignano	0.30	272	Pg	Pb	Pb	05 03 26.7	+0.2
FIAM				Sg	Sb	Sb	05 03 31.8	+0.4
	2μm,0.6s							
FIAM	Fiamignano	0.30	272	Pg	Pb	Pb	05 03 26.7	+0.2
FIAM				Sg	Sb	Sb	05 03 31.8	+0.4
	2μm,0.6s							
TERO	Teramo	0.37	10	Pg	Pb	Pb	05 03 27.9	+0.1
TERO				Sg	Sb	Sb	05 03 33.8	+0.3
	1μm,0.3s							
TERO	Teramo	0.37	10	Pg	Pb	Pb	05 03 27.9	+0.1
TERO				Sg	Sb	Sb	05 03 33.8	+0.3
	1μm,0.3s							
INTR	Introdacqua	0.38	130	Pg	Pb	Pb	05 03 28.0	0.0
INTR				Sg	Sb	Sb	05 03 34.2	+0.5
	2μm,1.0s							
INTR	Introdacqua	0.38	130	Pg	Pb	Pb	05 03 28.0	0.0
INTR				Sg	Sb	Sb	05 03 34.2	+0.5
	2μm,1.0s							
VVLD	Villa Vallelon	0.39	168	Pg	Pb	Pb	05 03 28.1	-0.1
	697nm,0.4s							
VVLD	Villa Vallelon	0.39	168	Pg	Pb	Pb	05 03 28.1	-0.1
	697nm,0.4s							
GUAR	Guarcino	0.49	198	Pg	Pb	Pb	05 03 29.7	-0.1
	987nm,0.9s							
GUAR	Guarcino	0.49	198	Pg	Pb	Pb	05 03 29.7	-0.1
	987nm,0.9s							
LNSS	Leonessa	0.49	315	Pg	Pb	Pb	05 03 30.4	+0.5
	1μm,0.5s							
LNSS	Leonessa	0.49	315	Pg	Pb	Pb	05 03 30.4	+0.5
	1μm,0.5s							
CERT	Cerreto	0.50	232	Pg	Pb	Pb	05 03 30.1	+0.1
	670nm,0.5s							
CERT	Cerreto	0.50	232	Pg	Pb	Pb	05 03 30.1	+0.1
	670nm,0.5s							
LPEL	Lama dei Pelig	0.54	113	Pg	Pb	Pb	05 03 30.7	0.0
LPEL				Sg	Sb	Sb	05 03 38.8	+0.5
	1μm,0.7s							
LPEL	Lama dei Pelig	0.54	113	Pg	Pb	Pb	05 03 30.7	0.0
LPEL				Sg	Sb	Sb	05 03 38.8	+0.5
	1μm,0.7s							
POFI	Posta Fibreno	0.56	165	Pg	Pg	Pg	05 03 30.7	+0.3
	403nm,0.6s							
POFI	Posta Fibreno	0.56	165	Pg	Pg	Pg	05 03 30.7	+0.3
	403nm,0.6s							
SDI	San Donato	0.59	158	Pg	Pg	Pg	05 03 31.2	+0.3
	204nm,0.3s							
SDI	San Donato	0.59	158	Pg	Pg	Pg	05 03 31.2	+0.3
	204nm,0.3s							
CAFR	Castel Frentan	0.62	92	Pg	Pb	Pb	05 03 32.8	+0.8
CAFR	Castel Frentan	0.62	92	Pg	Pb	Pb	05 03 32.8	+0.8
MTCE	Montecelio	0.62	248	Pg	Pb	Pb	05 03 32.1	+0.1
	578nm,0.8s							
MTCE	Montecelio	0.62	248	Pg	Pb	Pb	05 03 32.1	+0.1
	578nm,0.8s							
NRCA	Norcia	0.65	333	Pg	Pb	Pb	05 03 32.8	+0.2
NRCA				Sg	Sb	Sb	05 03 43.2	+1.7
	493nm,0.2s							
NRCA	Norcia	0.65	333	Pg	Pb	Pb	05 03 32.8	+0.2
NRCA				Sg	Sb	Sb	05 03 43.2	+1.7
	493nm,0.2s							
OFFI	Offida	0.69	10	Pg	Pn	Pn	05 03 34.5	-0.3
	2μm,0.8s							
OFFI	Offida	0.69	10	Pg	Pn	Pn	05 03 34.5	-0.3
	2μm,0.8s							
GIUL	Giuliano Di Ro	0.72	196	Pg	Pb	Pb	05 03 33.8	0.0
	371nm,0.7s							
GIUL	Giuliano Di Ro	0.72	196	Pg	Pb	Pb	05 03 33.8	0.0
	371nm,0.7s							
RNI2	Rionero Sannit	0.73	139	Pg	Pb	Pb	05 03 34.4	+0.5
RNI2	Rionero Sannit	0.73	139	Pg	Pb	Pb	05 03 34.4	+0.5
CERA	Filignano	0.76	150	Pg	Pg	Pg	05 03 34.0	-0.1
	492nm,0.5s							
CERA	Filignano	0.76	150	Pg	Pg	Pg	05 03 34.0	-0.1
	492nm,0.5s							
MIDA	Miranda	0.83	138	Pg	Pg	Pg	05 03 35.3	-0.1
	239nm,0.6s							
MIDA	Miranda	0.83	138	Pg	Pg	Pg	05 03 35.3	-0.1
	239nm,0.6s							
FDMO	Fiordimonte	0.84	338	Pg	Pg	Pg	05 03 35.9	+0.2
	268nm,0.4s							
FDMO	Fiordimonte	0.84	338	Pg	Pg	Pg	05 03 35.9	+0.2
	268nm,0.4s							
GUMA	Gualdo di Mace	0.86	21	Pg	Pg	Pg	05 03 36.2	+0.1
	1μm,0.4s							
GUMA	Gualdo di Mace	0.86	21	Pg	Pg	Pg	05 03 36.2	+0.1
	1μm,0.4s							
CESI	CESI - Serrava	0.87	329	Pg	Pb	Pb	05 03 36.8	+0.4
	149nm,0.6s							
CESI	CESI - Serrava	0.87	329	Pg	Pb	Pb	05 03 36.8	+0.4
	149nm,0.6s							
SGG	Gregorio Mates	1.08	143	Pg	Pg	Pg	05 03 40.7	+0.4
	274nm,0.9s							
SGG	Gregorio Mates	1.08	143	Pg	Pg	Pg	05 03 40.7	+0.4
	274nm,0.9s							
CING	Cingoli	1.14	348	Pg	Pg	Pg	05 03 41.8	+0.4
	188nm,0.5s							
CING	Cingoli	1.14	348	Pg	Pg	Pg	05 03 41.8	+0.4
	188nm,0.5s							
NVLJ	Novalja	2.51	23	ePn	Pn	Pn	05 04 01.9	+2.2
NVLJ				Sn	Sb	Sb	05 04 34.7	-0.3
NVLJ	Novalja	2.51	23	ePn	Pn	Pn	05 04 01.9	+2.2
NVLJ				Sn	Sb	Sb	05 04 34.6	-0.3
PGF	Pioggiola	3.36	276	eP	Pn	Pn	05 04 15.4	+3.9
PGF				eSn	Sn	Sn	05 04 51.3	+0.1
	3.5nm,0.4s							
PGF	Pioggiola	3.36	276	eP	Pn	Pn	05 04 15.4	+3.9
PGF				eSn	Sn	Sn	05 04 51.3	+0.1
	1.8nm,0.4s							
SBF	Sospel	4.74	292	eP	Pn	Pn	05 04 34.9	+4.5
SBF				eSn	Sn	Sn	05 05 24.3	-0.9
	7.1nm,0.6s							
SBF	Sospel	4.74	292	eP	Pn	Pn	05 04 34.9	+4.5
SBF				eSn	Sn	Sn	05 05 24.3	-0.9
	3.5nm,0.6s							
FRF	La Foret Royal	5.21	287	ePn	Pn	Pn	05 04 37.5	+0.6
FRF	La Foret Royal	5.21	287	ePn	Pn	Pn	05 04 37.5	+0.6
LMR	La Mourre	5.27	284	ePn	Pn	Pn	05 04 38.5	+0.9
LMR	La Mourre	5.27	284	ePn	Pn	Pn	05 04 38.5	+0.9
MBDF	Montbardon	5.49	299	eP	Pn	Pn	05 04 45.9	+5.0
HINF	Hinteralfeld	7.29	322	ePn	Pn	Pn	05 05 06.0	+0.5
HINF				eSn	Sn	Sn	05 06 25.0	-3.0
	2.0nm,0.3s							
HINF	Hinteralfeld	7.29	322	ePn	Pn	Pn	05 05 06.0	+0.5
CDF	Champ du Feu	7.56	327	ePn	Pn	Pn	05 05 09.8	+0.6
CDF				eSn	Sn	Sn	05 06 31.7	-3.1
	1.0nm,0.2s							
CDF	Champ du Feu	7.56	327	ePn	Pn	Pn	05 05 09.8	+0.6
HAU	Haudompre	7.66	321	ePn	Pn	Pn	05 05 11.5	+1.0
HAU				eSn	Sn	Sn	05 06 33.5	-3.6
	2.6nm,0.4s							
HAU	Haudompre	7.66	321	ePn	Pn	Pn	05 05 11.5	+1.0

IDC 02 05:05:08.2±0.6, 16°.25S×173°.46W, h0km, mb4.3/13, mb1 4.5/13, mb1mx4.3/24, mbtmp4.3/13, MS4.0/19, Ms1 4.0/19, ms1mx3.9/32, Error ellipse: s-maj=26.2km s-min=15.6km az=138.0
BJI 02 05:05:10.4, 15°.70S×173°.30W, h10km, mB5.2/5, mb4.9/14, Ms5.1/4, Ms7 4.8/4
*NEIC 02 05:05:11.2±0.4, 16°.04S×173°.61W, h10km, mb4.9/70, Error

STKA	**Stephens Creek**	**43.62**	**241**	P		**P**	**05 13 13.1**	**-2.6**
	8.5nm,0.9s,baz=56,slow=9.4,SNR=7.3							
STKA				LR		LR	05 28 38.8	
	comp=Z,293nm,20.1s,baz=27,slow=32							
WRA	**Warramunga Arr**	**49.73**	**258**	P		**P**	**05 14 03.2**	**-0.5**
WRA				PcP		**PcP**	**05 15 23.0**	**-1.0**
WRA	**Warramunga Arr**	**49.73**	**258**	P		**P**	**05 14 03.2**	**-0.5**
	0.7nm,0.4s,baz=94,slow=7.9,SNR=3.3							
WRA				PcP		**PcP**	**05 15 23.0**	**-1.0**
	1.2nm,0.9s,baz=91,slow=3.7,SNR=2.8							
WRA				LR		LR	05 33 42.8	
	comp=Z,307nm,19.1s,baz=175,slow=35							
ASAR	**Alice Springs**	**49.91**	**253**	P		P	05 14 01.9	-3.2
ASAR	**Alice Springs**	**49.91**	**253**	P		P	05 14 01.9	-3.2
	12nm,0.7s,baz=85,slow=8.5,SNR=21							
ASAR				LR		LR	05 34 25.8	
	comp=Z,204nm,20.5s,baz=89,slow=35							
VNDA	**Vanda**	**62.33**	**186**	*e*P		P	05 15 38.7	+6.1
	6.6nm,1.6s							
VNDA	**Vanda**	**62.33**	**186**	P		**P**	**05 15 34.8**	**+2.2**
	0.6nm,0.7s,baz=328,slow=4.4,SNR=4.5							
VNDA				LR		LR	05 39 37.2	
	comp=Z,111nm,18.6s,baz=2.6,slow=33							
MJAR	**Matsushiro Arr**	**69.84**	**320**	LR		LR	05 41 54.7	
	comp=Z,22nm,20.4s,baz=95,slow=32							
FX1	**Attu Island--F**	**70.06**	**351**	LR		LR	05 39 59.5	
	comp=Z,134nm,21.1s,baz=342,slow=30							
SAO	**San Andreas Ge**	**72.04**	**42**	*e*P		**P**	**05 16 36.6**	**+1.9**
	14nm,0.9s							
ASAJ	**Asahikawa**	**72.52**	**328**	LR		LR	05 48 15.9	
	comp=Z,42nm,18.1s,baz=173,slow=36							
MWC	**Mount Wilson**	**72.79**	**45**	*e*P		**P**	**05 16 41.5**	**+2.0**
	9.4nm,0.9s							
ISA	**Isabella**	**73.33**	**44**	*e*P		**P**	**05 16 41.9**	**-0.6**
	13nm,1.2s							
CMB	**Columbia Colle**	**73.48**	**41**	*e*P		**P**	**05 16 43.5**	**+0.2**
	11nm,1.0s							
CHGN	**Chignik**	**73.56**	**9**	*e*P		**P**	**05 16 42.0**	**-1.3**
QSPA	**South Pole Qui**	**73.58**	**180**	*e*P		P	05 16 52.3	+8.7
	2.1nm,0.7s							
QSPA	**South Pole Qui**	**73.58**	**180**	P		**P**	**05 16 44.2**	**+0.7**
	1.1nm,0.9s,baz=98,slow=3.4,SNR=3.0							
PETK	**Petropavlovsk-**	**73.69**	**342**	P		**P**	**05 16 41.6**	**-2.5**
PETK	**Petropavlovsk-**	**73.69**	**342**	P		**P**	**05 16 41.6**	**-2.5**
	0.7nm,0.4s,baz=131,slow=7.9,SNR=2.2							
PETK				LR		LR	05 44 34.4	
	comp=Z,28nm,19.3s,baz=238,slow=32							
MTUM	**Tungsten Hills**	**74.24**	**43**	*e*P		**P**	**05 16 47.8**	**-0.2**
GSC	**Goldstone**	**74.25**	**45**	*e*P		**P**	**05 16 48.4**	**+0.5**
	11nm,1.1s							
WAKR	**Walker**	**74.36**	**41**	*e*P		**P**	**05 16 46.8**	**-1.8**
YBH	**Yreka Blue Hor**	**74.37**	**37**	*e*P		**P**	**05 16 48.5**	**0.0**
	12nm,0.9s							
BEKR	**Beckworth**	**74.61**	**40**	*e*P		**P**	**05 16 51.2**	**+1.2**
	4.8nm,0.9s							
HUMO	**Hull Mountain**	**74.79**	**36**	*e*P		**P**	**05 16 52.0**	**+1.2**
	25nm,1.3s							
NVAR	**Mina Array Bea**	**75.04**	**42**	P		**P**	**05 16 52.0**	**-0.6**
NVAR	**Mina Array Bea**	**75.04**	**42**	P		**P**	**05 16 52.0**	**-0.6**
	2.6nm,0.8s,baz=226,slow=9.5,SNR=14							
NVAR				LR		LR	05 43 47.5	
	comp=Z,229nm,18.6s,baz=134,slow=31							
PAHR	**Pah Rah Range**	**75.11**	**40**	*e*P		**P**	**05 16 53.2**	**+0.4**
	11nm,1.1s							
LDFC	**Landfair**	**75.29**	**46**	*e*P		**P**	**05 16 53.9**	**-0.1**
	19nm,1.2s							
MOD	**Modoc**	**75.88**	**38**	*e*P		**P**	**05 16 57.3**	**0.0**
	30nm,0.8s							
SHPR	**Sheep Range**	**76.02**	**45**	*e*P		**P**	**05 16 59.0**	**+0.8**
K05A	**Summer Lake**	**76.05**	**37**	*e*P		**P**	**05 16 58.6**	**+0.4**
	28nm,1.0s							
H04A	**Detroit Lake**	**76.56**	**35**	*e*P		**P**	**05 17 00.5**	**-0.3**
PINOR	**Pine Mountain**	**76.73**	**36**	*e*P		**P**	**05 17 02.3**	**+0.5**
	21nm,1.0s							
R11A	**Troy Canyon, C**	**76.75**	**43**	*e*P		**P**	**05 17 01.6**	**-0.7**
TUC	**Tucson**	**76.97**	**50**	*e*P		**P**	**05 17 02.2**	**-1.3**
	6.2nm,1.0s							
KSRS	**Korea Array**	**77.02**	**316**	LR		LR	05 50 39.5	
	comp=Z,17nm,18.1s,baz=119,slow=36							
E03A	**Lebam**	**77.03**	**33**	*e*P		**P**	**05 17 02.5**	**-0.9**
	27nm,0.9s							
WVOR	**Wild Horse Val**	**77.19**	**38**	*e*P		**P**	**05 17 04.0**	**-0.6**
	14nm,1.1s							
I07A	**Izee**	**77.68**	**37**	*e*P		**P**	**05 17 07.8**	**+0.5**
	14nm,1.1s							
G06A	**Carlson Farm,**	**77.76**	**35**	*e*P		**P**	**05 17 07.8**	**+0.2**
	51nm,2.0s							
CCUT	**Cedar City**	**77.80**	**45**	*e*P		**P**	**05 17 09.6**	**+1.4**
	9.6nm,1.1s							
J08A	**Circle Bar Ran**	**77.84**	**38**	*e*P		**P**	**05 17 08.2**	**0.0**
	16nm,1.2s							
ARUT	**Antelope Range**	**77.87**	**44**	*e*P		**P**	**05 17 08.3**	**-0.3**
	205nm,1.0s							
LON	**Longmire**	**78.08**	**33**	*e*P		P	05 17 14.2	+4.8
	32nm,1.9s							
D05A	**Enumclaw**	**78.27**	**33**	*e*P		P	05 17 14.8	+4.5
	51nm,1.4s							
ELK	**Elko**	**78.30**	**41**	*e*P		**P**	**05 17 11.2**	**+0.3**
	7.6nm,1.0s							
G08A	**Pilot Rock**	**78.72**	**36**	*e*P		**P**	**05 17 12.4**	**-0.6**
	16nm,1.1s							
LTY	**Liberty**	**79.01**	**33**	*e*P		**P**	**05 17 14.7**	**+0.2**
	15nm,1.4s							
MVU	**Marysvale**	**79.07**	**44**	*e*P		**P**	**05 17 15.3**	**+0.1**
	9.7nm,0.9s							
HAWA	**Hanford**	**79.08**	**35**	*e*P		**P**	**05 17 14.9**	**+0.1**
	19nm,1.3s							
BMO	**Blue Mountains**	**79.40**	**37**	*e*P		**P**	**05 17 15.6**	**-1.1**
	8.6nm,1.1s							
DUG	**Dugway**	**79.56**	**43**	*e*P		**P**	**05 17 18.6**	**+0.9**
	8.3nm,1.1s							
E09A	**Wood Farm, Sta**	**79.92**	**35**	*e*P		**P**	**05 17 20.1**	**+0.8**
	15nm,1.3s							
Q16A	**Castle Valley**	**79.98**	**44**	*e*P		**P**	**05 17 22.1**	**+2.0**
F10A	**Beach Ranch, E**	**80.11**	**36**	*e*P		**P**	**05 17 19.8**	**-0.7**
	12nm,1.0s							
PMR	**Palmer**	**80.14**	**11**	*e*P		**P**	**05 17 19.0**	**-1.2**
	16nm,1.1s							
TMUT	**Trail Mountain**	**80.15**	**44**	*e*P		**P**	**05 17 22.8**	**+1.6**
	17nm,0.9s							
HLID	**Hailey**	**80.37**	**39**	*e*P		**P**	**05 17 21.7**	**-0.4**
	7.4nm,0.9s							
B08A	**Colville Reser**	**80.40**	**33**	*e*P		**P**	**05 17 22.1**	**+0.1**
	11nm,1.1s							
DIV	**Divide**	**80.41**	**13**	*e*P		**P**	**05 17 23.4**	**+1.7**
	21nm,0.8s							
HVU	**Hansel Valley**	**80.42**	**41**	*e*P		**P**	**05 17 22.6**	**+0.3**
	9.5nm,1.0s							
SRU	**San Rafael**	**80.51**	**45**	*e*P		**P**	**05 17 25.8**	**+2.9**
	7.3nm,1.0s							
BMRM	**Bremner River**	**80.53**	**14**	*e*P		**P**	**05 17 21.6**	**-0.7**
	21nm,1.0s							
C09A	**Chrisman Ranch**	**80.62**	**34**	*e*P		**P**	**05 17 22.9**	**-0.2**
	14nm,1.2s							
JLU	**Jordanelle**	**80.66**	**43**	*e*P		**P**	**05 17 25.2**	**+1.4**
	6.3nm,1.0s							
BNM	**Barren Site**	**80.91**	**50**	*e*P		**P**	**05 17 27.1**	**+1.9**
	2.1nm,0.8s							
NJ2	**Nanjing**	**80.92**	**307**	*e*P		**P**	**05 17 23.8**	**-1.2**
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.8s							
PV05	**Paradox Valley**	**80.97**	**46**	*e*P		P	05 17 31.5	+6.0
TXAR	**Lajitas Array**	**81.10**	**56**	P		**P**	**05 17 25.5**	**-0.7**
TXAR	**Lajitas Array**	**81.10**	**56**	P		**P**	**05 17 25.5**	**-0.7**
	4.6nm,1.4s,baz=236,slow=6.4,SNR=4.8							
TXAR				LR		LR	05 46 04.9	
	comp=Z,88nm,18.6s,baz=350,slow=30							
PV09	**Paradox Valley**	**81.16**	**46**	*e*P		P	05 17 31.1	+4.5
PV10	**Paradox Valley**	**81.16**	**46**	*e*P		**P**	**05 17 28.5**	**+1.9**
	128nm,0.9s							
CAST	**Castle Rocks**	**81.33**	**9**	*e*P		**P**	**05 17 25.3**	**-1.3**
	5.6nm,0.8s							
PV01	**Paradox Valley**	**81.37**	**46**	*e*P		**P**	**05 17 26.5**	**-1.1**
	1µm,1.2s							
ANMO	**Albuquerque**	**81.39**	**50**	*e*P		**P**	**05 17 29.4**	**+1.7**
	3.6nm,0.9s							
TRF	**Thorofare Moun**	**81.65**	**10**	*e*P		**P**	**05 17 26.6**	**-1.8**
	14nm,0.8s							
CN2	**Changchun**	**81.99**	**320**	*e*P		**P**	**05 17 31.2**	**+0.8**
CN2				*e*S		**S**	**05 27 40.9**	**+1.5**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.7s							
CN2				AMB		AMB		
	comp=Z,200nm,4.0s							
CN2				LR		LR		
	comp=N,300nm,16.0s							
CN2				LR		LR		
	comp=E,300nm,16.0s							
CN2				LR		LR		
	comp=Z,300nm,18.0s							
MCMT	**McKenzie Canyo**	**82.01**	**39**	*e*P		**P**	**05 17 30.2**	**-0.6**
	4.4nm,1.1s							
PAX	**Paxson**	**82.12**	**12**	*e*P		**P**	**05 17 31.7**	**+0.9**
	7.1nm,0.9s							
MCK	**McKinley**	**82.15**	**11**	*e*P		**P**	**05 17 29.9**	**-0.9**
	22nm,0.8s							
RRI2	**Red Ridge**	**82.16**	**41**	*e*P		**P**	**05 17 31.8**	**+0.1**
	12nm,1.0s							
DLMT	**Dillon**	**82.44**	**38**	*e*P		**P**	**05 17 34.0**	**+1.1**
	11nm,1.1s							
REDW	**Red Top Meadow**	**82.46**	**41**	*e*P		**P**	**05 17 33.0**	**-0.2**
	13nm,1.3s							
TPAW	**Teton Pass**	**82.46**	**41**	*e*P		**P**	**05 17 35.5**	**+2.2**
	10nm,0.9s							
MENT	**Mentasta**	**82.47**	**13**	*e*P		**P**	**05 17 33.8**	**+1.3**
BSMT	**Bassoo Peak**	**82.56**	**35**	*e*P		**P**	**05 17 33.5**	**-0.1**
SNOW	**Snow King Moun**	**82.57**	**41**	*e*P		**P**	**05 17 35.0**	**+1.2**
	15nm,1.0s							
IMW	**Indian Meadow**	**82.68**	**40**	*e*P		**P**	**05 17 33.8**	**-0.6**
	13nm,1.1s							
MOOW	**Moose Ponds**	**82.72**	**40**	*e*P		**P**	**05 17 36.6**	**+2.1**
	6.7nm,1.2s							
LOHW	**Long Hollow**	**82.74**	**41**	*e*P		**P**	**05 17 35.5**	**+0.9**
	5.3nm,1.0s							
LRM	**Limekiln Ridge**	**82.78**	**38**	*e*P		**P**	**05 17 35.9**	**+1.1**
QLMT	**Earthquake Lak**	**82.86**	**39**	*e*P		**P**	**05 17 36.5**	**+1.2**
CHMT	**Chamberlain Mo**	**82.90**	**37**	*e*P		**P**	**05 17 35.1**	**-0.2**
	4.4nm,0.9s							
FLWY	**Flagg Ranch**	**82.92**	**40**	*e*P		**P**	**05 17 35.3**	**-0.3**
	20nm,1.0s							
SMCO	**Snowmass**	**82.96**	**46**	*e*P		**P**	**05 17 35.6**	**-0.5**
	20nm,1.4s							
BW06	**Boulder Array**	**82.97**	**42**	*e*P		**P**	**05 17 34.5**	**-1.5**
	7.3nm,0.8s							
PDAR	**Pinedale Array**	**82.97**	**42**	P		**P**	**05 17 35.3**	**-0.6**
PDAR	**Pinedale Array**	**82.97**	**42**	P		**P**	**05 17 35.3**	**-0.6**
	3.6nm,0.9s,baz=212,slow=3.2,SNR=18							
PDAR				LR		LR	05 48 09.2	
	comp=Z,178nm,18.0s,baz=266,slow=31							
BOZ	**Bozeman (W)**	**83.17**	**38**	*e*P		**P**	**05 17 35.9**	**-0.9**
	7.2nm,1.0s							
SDCO	**Great Sand Dun**	**83.34**	**48**	*e*P		**P**	**05 17 39.7**	**+1.8**
	7.5nm,1.4s							
COLA	**College**	**83.39**	**11**	*e*P		**P**	**05 17 37.3**	**+0.2**
	32nm,0.9s							
QIZ	**Qiongzhong**	**83.43**	**292**	P		**P**	**05 17 37.8**	**-0.6**
QIZ				S		**S**	**05 27 57.1**	**+2.1**
QIZ				AMB		AMB		
	comp=Z,24nm,1.9s							
ILAR	**Eielson Array**	**83.47**	**11**	P		**P**	**05 17 36.0**	**-1.6**
ILAR	**Eielson Array**	**83.47**	**11**	P		**P**	**05 17 36.0**	**-1.6**
	1.7nm,0.8s,baz=233,slow=6.1,SNR=24							
ILAR				LR		LR	05 46 28.6	
	comp=Z,122nm,21.1s,baz=231,slow=30							
IM04	**Indian Mountai**	**83.50**	**8**	*e*P		**P**	**05 17 36.8**	**-1.0**
IMA2	**Indian Mountai**	**83.60**	**8**	*e*P		**P**	**05 17 37.8**	**-0.6**
HRY	**Holter Researc**	**83.62**	**37**	*e*P		**P**	**05 17 38.1**	**-0.9**
MSTX	**Muleshoe**	**83.71**	**52**	*e*P		**P**	**05 17 40.5**	**+0.8**
WALA	**Waterton Lakes**	**83.72**	**35**	*e*P		**P**	**05 17 39.9**	**+0.5**
	0.2nm,1.1s							
DAWY	**Dawson**	**84.42**	**14**	*e*P		**P**	**05 17 41.8**	**-0.8**
EGAK	**Eagle**	**84.63**	**13**	*e*P		**P**	**05 17 42.3**	**-1.2**
	8.4nm,0.9s							
EDM	**Edmonton**	**86.33**	**31**	*e*P		**P**	**05 17 52.4**	**+0.1**
MAW	**Mawson**	**86.82**	**199**	LR		LR	05 51 59.6	
	comp=Z,187nm,22.0s,baz=143,slow=32							
GYA	**Guiyang**	**88.66**	**298**	*e*P		**P**	**05 18 04.0**	**-0.2**
GYA				PP		**PP**	**05 21 33.7**	**-0.2**
GYA				SKS		**SKSac**	**05 28 31.4**	**+3.1**
GYA				S		**S**	**05 28 47.2**	**+1.1**
GYA				SS		**SS**	**05 34 40.0**	**+0.9**
GYA				AMB		AMB		
	comp=Z,10.0nm,1.0s							
GYA				AMB		AMB		
	comp=Z,90nm,6.0s							
GYA				LR		LR		
	comp=N,420nm,20.5s							
GYA				LR		LR		
	comp=E,390nm,21.3s							
GYA				LR		LR		
	comp=Z,430nm,20.8s							
INK	**Inuvik**	**89.28**	**14**	*e*P		**P**	**05 18 07.0**	**+1.0**
	4.9nm,0.9s							
HHC	**Hu-ho-hao-te**	**89.85**	**313**	*e*P		**P**	**05 18 08.0**	**-1.5**
HHC				pP		**PcP**	**05 18 12.7**	**+2.0**
HHC				PP		**PP**	**05 21 41.3**	**-1.7**
HHC				SKS		**SKSac**	**05 28 35.2**	**+0.6**
HHC				S		**S**	**05 28 54.2**	**-2.4**
HHC				sS		ScS	05 29 08.5	+7.8
HHC				AMB		AMB		
	comp=Z,25nm,0.7s							
HHC				AMB		AMB		
	comp=Z,180nm,6.4s							
HHC				LR		LR		
	comp=N,220nm,15.7s							
HHC				LR		LR		
	comp=E,150nm,16.7s							
HHC				LR		LR		
	comp=Z,130nm,15.6s							
KMI	**Kunming**	**91.61**	**296**	P		**P**	**05 18 19.4**	**+1.3**
KMI				sP		sP	05 18 25.1	-19
KMI				AMB		AMB		
	comp=Z,5.0nm,0.8s							
CD2	**Chengdu**	**92.48**	**301**	P		**P**	**05 18 22.7**	**+0.9**
CD2				AMB		AMB		
	comp=Z,8.0nm,0.5s							
ULM	**Lac du Bonnet**	**94.68**	**39**	LR		LR	05 54 40.7	
	comp=Z,224nm,19.4s,baz=262,slow=31							
ARCES	**ARCESS Array B**	**125.69**	**352**	PKP		**PKPdf**	**05 24 09.7**	**-1.4**
ARCES	**ARCESS Array B**	**125.69**	**352**	PKP		**PKPdf**	**05 24 09.7**	**-1.4**
	2.7nm,0.9s,baz=15,slow=3.7,SNR=5.5							
AKASG	**Malin Array Be**	**141.38**	**337**	PKP		**PKPdf**	**05 24 40.1**	**-0.8**
AKASG	**Malin Array Be**	**141.38**	**337**	PKP		**PKPdf**	**05 24 40.1**	**-0.8**
	0.2nm,0.3s,baz=216,slow=6.8,SNR=3.2							
KWP	**Kalwaria Pacla**	**144.48**	**342**	⇑*i*P		**PKPab**	**05 24 44.7**	**-0.2**
MALT	**Malatya**	**144.71**	**314**	⇓*i*P		PKPdf	05 24 53.1	+5.8
OJC	**Ojcow**	**144.73**	**345**	*e*PKPdf		**PKPab**	**05 24 44.9**	**-0.8**
CLL	**Collm**	**144.89**	**353**	⇓*i*PKiKP		**PKiKP**	**05 24 51.0**	**+0.1**
	comp=Z,17nm,1.1s							
STHS	**Stebnicka Huta**	**145.09**	**343**	*e*PKP		**PKPdf**	**05 24 50.0**	**+2.5**
KMBO	**Kilima Mbogo**	**145.18**	**243**	PKPbc		**PKPab**	**05 24 49.0**	**+0.2**
KMBO				*e*PKPdf		**PKPdf**	**05 24 50.7**	**+1.7**
KMBO	**Kilima Mbogo**	**145.18**	**243**	PKPbc		**PKPab**	**05 24 49.0**	**+0.2**
	comp=Z,5.9nm,0.9s,baz=61,slow=5.6,SNR=7.5							
BRG	**Berggiesshubel**	**145.20**	**352**	*e*PKP		**PKPdf**	**05 24 51.9**	**+4.3**
	comp=Z,5.9nm,0.9s							
KOLS	**Kolonicke sedl**	**145.23**	**342**	*e*PKP		**PKPbc**	**05 24 47.2**	**-0.3**
KOLS				*e*			05 24 52.6	
UPC	**Upice**	**145.24**	**350**	*e*PKP		**PKPbc**	**05 24 47.6**	**+0.1**
UPC				*ep*PKP		**PKiKP**	**05 24 52.5**	**+0.8**
DPC	**Dobruska-Polom**	**145.34**	**349**	*e*PKP		**PKPbc**	**05 24 47.3**	**-0.6**
DPC				*ep*PKP		**PKiKP**	**05 24 52.6**	**+0.7**
NIE	**Niedzica**	**145.34**	**344**	*e*PKPdf		**PKPbc**	**05 24 46.0**	**-1.9**
BURAR	**Bucovina Array**	**145.41**	**338**	⇑*i*P		**PKPdf**	**05 24 46.6**	**-1.6**
PVCC	**Panska Ves**	**145.45**	**351**	*e*PKP		**PKPbc**	**05 24 48.4**	**+0.3**
PVCC				*ep*PKP		**PKiKP**	**05 24 53.5**	**+1.4**
OKC	**Ostrava-Krasne**	**145.46**	**347**	*e*PKP		**PKPdf**	**05 24 47.3**	**-0.8**
UBBA	**Unterbreizbach**	**145.64**	**356**	*e*PKPbc		**PKPdf**	**05 24 48.2**	**0.0**
MORC	**Moravsky Berou**	**145.65**	**348**	⇑*i*P		**PKPab**	**05 24 49.4**	**+0.2**
MORC	**Moravsky Berou**	**145.65**	**348**	*e*PKPdf		**PKPdf**	**05 24 48.6**	**+0.1**
MOX	**Moxa**	**145.69**	**354**	*e*PKPbc		**PKPdf**	**05 24 48.4**	**-0.1**
TANN	**Tannenbergstha**	**145.83**	**353**	*e*PKPbc		**PKPdf**	**05 24 49.1**	**+0.3**
TRPA	**Tarpa**	**145.87**	**341**	⇑*i*P		**PKPdf**	**05 24 48.3**	**-0.5**
TLCR		**145.90**	**332**	⇑*i*P		**PKPbc**	**05 24 49.9**	**+0.2**
MEM	**Membach**	**145.95**	**1**	PKP		**PKPab**	**05 24 50.4**	**+0.2**
PRU	**Pruhonice**	**145.98**	**351**	*e*PKP		**PKPbc**	**05 24 49.9**	**+0.1**
PRU				*ep*PKP		**PKiKP**	**05 24 54.6**	**+1.4**
SNF	**Seneffe**	**145.99**	**3**	PKP		**PKPab**	**05 24 51.5**	**+1.2**
SNF				APKP		**PKiKP**	**05 24 55.7**	**+2.5**
BCLA	**Clavier**	**146.12**	**2**	PKP		**PKPab**	**05 24 51.4**	**+0.5**
BCLA				APKP		**PKiKP**	**05 24 55.9**	**+2.5**
KECS	**Kecovo**	**146.15**	**344**	*e*PKP		**PKPbc**	**05 24 50.7**	**+0.3**
KECS				*e*			05 24 56.5	
CFR	**Carcaliu**	**146.21**	**332**	⇑*i*P		**PKPab**	**05 24 51.5**	**+0.1**
VRI	**Vrincioaia**	**146.27**	**335**	⇑*i*P		**PKPdf**	**05 24 49.7**	**0.0**
VRAC	**Vranov**	**146.28**	**348**	⇓*i*P		**PKPab**	**05 24 52.3**	**+0.7**
TNS	**Taunus Mts**	**146.31**	**358**	*e*PKPbc		**PKPbc**	**05 24 50.8**	**-0.1**
DOU	**Dourbes**	**146.42**	**2**	PKP		**PKPab**	**05 24 54.0**	**+1.9**
DOU				APKP		**PKiKP**	**05 24 57.0**	**+3.0**
ROTZ	**Rotzenmuhle**	**146.50**	**354**	*e*PKPbc		**PKPbc**	**05 24 51.6**	**+0.2**
GRF	**Grafenberg Arr**	**146.67**	**355**	*e*PKPbc		**PKPbc**	**05 24 52.1**	**+0.2**
GRFO	**Grafenberg**	**146.67**	**355**	*e*PKPdf		**PKPab**	**05 24 53.2**	**+0.1**
TLB	**Topalu**	**146.71**	**332**	⇑*i*P		**PKPbc**	**05 24 51.9**	**-0.2**
PSZ	**Piszkesteto**	**146.83**	**344**	⇑*i*P		**PKPab**	**05 24 56.2**	**+2.4**
PSZ	**Piszkesteto**	**146.83**	**344**	*e*PKPbc		**PKPab**	**05 24 55.0**	**+1.1**
WLF	**Walferdange**	**146.89**	**1**	APKP		**PKPab**	**05 24 57.1**	**+3.2**
WLF	**Walferdange**	**146.89**	**1**	*e*PKPbc		**PKPbc**	**05 24 53.5**	**+1.0**
MLR	**Muntele Rosu**	**146.89**	**335**	⇑*i*P		**PKPbc**	**05 24 53.2**	**+0.4**
KHC	**Kasperske Hory**	**146.96**	**352**	*e*PKP		**PKPbc**	**05 24 52.7**	**-0.1**
KHC				*ep*PKP		**PKiKP**	**05 24 57.6**	**+2.3**
KHC	**Kasperske Hory**	**146.96**	**352**	*e*PKPdf		**PKPbc**	**05 24 52.6**	**-0.1**
DRGR		**146.99**	**340**	⇑*i*P		**PKPbc**	**05 24 52.6**	**-0.4**
WET	**Wettzell**	**147.03**	**353**	*e*PKPbc		**PKPbc**	**05 24 53.0**	**0.0**
BRTR	**Keskin Array B**	**147.07**	**320**	PKPbc		**PKPbc**	**05 24 54.1**	**+0.6**
BRTR	**Keskin Array B**	**147.07**	**320**	PKPbc		**PKPbc**	**05 24 54.1**	**+0.6**
	comp=Z,6.5nm,0.9s,baz=90,slow=1.1,SNR=10							
GEC2	**GERESS Array S**	**147.22**	**351**	*e*PKPbc		**PKPbc**	**05 24 53.4**	**-0.2**
GERES	**GERESS Array B**	**147.22**	**351**	PKPbc		**PKPdf**	**05 24 52.6**	**+1.4**
GERES	**GERESS Array B**	**147.22**	**351**	PKPbc		**PKPdf**	**05 24 52.6**	**+1.4**
	comp=Z,9.4nm,0.8s,baz=45,slow=2.1,SNR=11							
ZST	**Bratislava**	**147.24**	**347**	*e*PKP		**PKPbc**	**05 24 54.5**	**+1.0**
ZST				*e*			05 25 01.7	
VOIR		**147.30**	**336**	⇑*i*P		**PKPbc**	**05 24 54.8**	**+0.9**
MTUR	**Matau**	**147.47**	**336**	⇑*i*P		**PKPab**	**05 24 55.9**	**-0.6**
ARR	**Arges**	**147.52**	**336**	⇑*i*P		**PKPab**	**05 24 56.0**	**-0.6**
CONA	**Conrad Observa**	**147.75**	**348**	⇑*i*pPKPdf		**PKPbc**	**05 24 55.0**	**0.0**
	comp=Z,18nm,0.8s							
SIRR	**Siria**	**147.79**	**340**	⇑*i*P		**PKPbc**	**05 24 55.1**	**0.0**
GZR	**Gura Zlata**	**148.18**	**338**	⇑*i*P		**PKPab**	**05 24 58.7**	**-0.6**
BFO	**Black Forest**	**148.21**	**358**	*e*PKPbc		**PKPbc**	**05 24 56.8**	**+0.6**
BFO	**Black Forest**	**148.21**	**358**	*e*PKPbc		**PKPbc**	**05 24 57.2**	**+1.0**
ECH	**Echery**	**148.34**	**359**	*e*PKPdf		**PKPbc**	**05 24 57.2**	**+0.7**
BZS	**Buzias**	**148.38**	**340**	⇑*i*P		**PKPab**	**05 24 59.3**	**-0.7**
RJOB	**Jochberg**	**148.43**	**352**	*e*PKPbc		**PKPbc**	**05 24 57.4**	**+0.6**
DAVA	**Damuels**	**149.17**	**356**	⇑*i*sPKPdf		**PKPbc**	**05 24 58.7**	**-0.2**
	comp=Z,27nm,1.0s,SNR=5.9							
FETA	**Feichten**	**149.36**	**355**	⇑*i*PKPbc		**PKPbc**	**05 24 58.1**	**-1.2**
	comp=Z,20nm,1.0s,SNR=5.4							
ABTA	**Abfaltersbach**	**149.44**	**352**	⇑*i*PKPbc		**PKPbc**	**05 24 58.8**	**-0.7**
	comp=Z,20nm,0.8s,SNR=5.5							
VTS	**Vitosha**	**150.40**	**335**	⇓*i*P		**PKPbc**	**05 25 02.3**	**+0.3**
BNI	**Bardonecchia**	**151.51**	**0**	*e*PKPbc		**PKPbc**	**05 25 05.7**	**+1.2**
ESDC	**Sonseca Array**	**155.07**	**20**	PKPab		**PKPab**	**05 25 27.3**	**-0.8**
ESDC	**Sonseca Array**	**155.07**	**20**	PKPab		**PKPab**	**05 25 27.3**	**-0.8**
	comp=Z,0.2nm,0.2s,baz=316,slow=5.4,SNR=2.6							
TORD	**Torodi Ar. Bea**	**174.11**	**123**	PKP		**PKPdf**	**05 25 20.1**	**-0.6**

ZRHB				Pmax			
	136nm,0.1s						
ZRHB				Smax			
	4μm,0.7s						
TRG	**Tyrgan**	**0.64**	**358**	⇑*i*Pg	Pb	05 35 32.9	+0.1
TRG				*e*Pb	Pn	05 35 35.3	+1.7
TRG				*e*		05 35 38.3	
TRG				*i* Sg	Sn	05 35 42.4	-0.6
TRG				max			
	644nm,0.1s						
TRG				Smax			
	3μm,0.1s						
UUDB	**Ulan-Yde**	**0.83**	**107**	⇓*i*Pg	Pb	05 35 35.4	-0.5
	113nm,0.3s						
UUDB				⇑*i*Pg	Pb	05 35 35.4	-0.5
	136nm,0.3s						
UUDB				⇑*i*Pg	Pb	05 35 35.4	-0.5
	320nm,0.3s						
UUDB				*i* Sg	Sb	05 35 46.4	-0.3
UUDB				*e*Sb	Sn	05 35 50.1	+2.6
UUDB				Pmax			
	171nm,0.3s						
UUDB				max			
	461nm,0.1s						
LSTR	**Listvyanka**	**1.00**	**256**	⇓*i*Pg	Pb	05 35 38.8	+0.1
LSTR				*i* Sg	Sn	05 35 52.1	+0.5
LSTR				*e*Sb	Sb	05 35 55.6	+4.1
LSTR				Pmax			
	35nm,0.5s						
LSTR				Smax			
	298nm,0.4s						
IRK	**Irkutsk**	**1.31**	**276**	*e*Sg	Sb	05 36 01.5	+1.0
IRK				*e*		05 36 16.1	
IRK				max			
	2μm,0.7s						
OGRR	**Ongureny**	**1.69**	**25**	*e*Pg	Pb	05 35 49.6	-1.0
OGRR				*i* Sg	Sb	05 36 11.4	-0.1
OGRR				*e*		05 36 14.0	
OGRR				*e*		05 36 18.6	
OGRR				Pmax			
	33nm,0.5s						
OGRR				max			
	290nm,0.3s						
TLY	**Talaya**	**1.76**	**257**	*e*Pn	Pn	05 35 49.7	+0.8
TLY				*e*Pg	Pb	05 35 52.2	+0.5
TLY				*i* Sg	Sb	05 36 14.6	+1.2
TLY				Pmax			
	18nm,0.4s						
TLY				Smax			
	162nm,0.3s						
MXMB	**Maximikha**	**1.83**	**50**	*e*Sg	Sb	05 36 17.8	+2.2
MXMB				Smax			
	277nm,0.4s						
ARS	**Arshan**	**2.46**	**267**	*e*Pg	Pb	05 36 05.1	+1.4
ARS				*e*PgPg	PnPn	05 36 10.3	+4.6
ARS				*e*Sg	Sb	05 36 36.5	+2.9
ARS				Pmax			
	23nm,0.7s						
ARS				Smax			
	349nm,0.8s						
ZAK	**Zakamensk**	**2.62**	**230**	*e*Pn	Pn	05 36 02.7	+1.9
ZAK				*e*Pg	Pb	05 36 06.9	+0.5
ZAK				*e*Sg	Sb	05 36 41.3	+3.1
SYVR	**Suvo**	**2.67**	**53**	⇑*i*Pn	Pn	05 36 02.8	+1.3
SYVR				⇓*i*Pg	Pb	05 36 07.8	+0.5
SYVR				*e*		05 36 13.0	
SYVR				*e*		05 36 36.4	
SYVR				*i* Sg	Sb	05 36 43.8	+4.1
SYVR				max			
	9.0nm,0.3s						
SYVR				Smax			
	47nm,0.3s						
MOY	**Mondy**	**3.37**	**264**	*e*	Pb	05 36 15.9	-3.5
MOY				*e*Pg	Pn	05 36 20.7	+9.5
MOY				*e*		05 36 26.2	
MOY				*e*		05 36 58.9	
MOY				*e*Sg	Sb	05 37 04.5	+4.5
MOY				max			
	10.0nm,0.5s						
MOY				Smax			
	97nm,0.6s						
YLYR	**Ulyunkhan**	**3.97**	**44**	⇑*i*Pn	Pn	05 36 20.5	+1.2
YLYR				*e*Pg	Pb	05 36 31.1	+1.8
YLYR				*e*		05 37 05.5	
YLYR				*i* Sg	Sb	05 37 22.4	+5.5
YLYR				Pmax			
	2.0nm,0.4s						
YLYR				Smax			
	31nm,1.5s						
ORL	**Orlik**	**4.06**	**279**	*e*Pn	Pn	05 36 19.9	-0.8
ORL				*e*		05 36 26.5	
ORL				*e*Pg	Pb	05 36 33.0	+2.0
ORL				*e*Sn	Sn	05 37 08.6	+1.2
ORL				*i* Sg	Sb	05 37 26.0	+6.3
ORL				Pmax			
	6.0nm,0.9s						
ORL				Smax			
	72nm,0.9s						
NIZ	**Nizh Angarsk**	**4.11**	**26**	*e*Pn	Pn	05 36 22.7	+1.5
NIZ				*e*		05 36 31.9	
NIZ				*e*		05 37 11.6	
NIZ				*e*Sg	Sb	05 37 26.5	+5.6
NIZ				Smax			
	50nm,0.7s						
KPC	**Khapcheranga**	**4.50**	**120**	*e*Pn	Pn	05 36 27.7	+1.1
KPC				*e*		05 36 36.6	
KPC				*e*Pg	Pb	05 36 40.5	+2.1
KPC				*e*		05 37 21.4	
KPC				*e*		05 37 26.7	
KPC				*e*Sg	Sb	05 37 38.1	+5.9
KPC				Pmax			
	15nm,0.6s						
KPC				Smax			
	88nm,1.1s						
KMO	**Kumora**	**4.72**	**35**	*e*Pg	Pb	05 36 45.0	+2.9
KMO				*e*		05 37 25.3	
KMO				*e*Sg	Sb	05 37 45.7	+7.2
KMO				Pmax			
	5.0nm,0.5s						
KMO				Smax			
	34nm,1.0s						
UKT	**Uakit**	**5.46**	**49**	*e*Sg	Sb	05 38 09.1	+9.3
UKT				*e*		05 38 11.1	
SVKR	**Severomuysk**	**5.81**	**44**	*e*Sg	Sb	05 38 21.0	+11
SVKR				Smax			
	87nm,0.3s						
BOD	**Bodaibo**	**7.20**	**34**	*e*Sg	Sb	05 38 59.9	+10
CRS	**Chara**	**8.40**	**51**	*e*Sg	Sb	05 39 40.9	+17
CRS				Smax			
	10.0nm,0.8s						
TUP	**Tupik**	**8.45**	**69**	*e*Sg	Sb	05 39 44.2	+19
TUP				Smax			
	21nm,0.9s						

*IDC **02** 05:38:16.6±1.0,54°.97N×164°.24E,h0km,mb3.7/5, mb1 3.9/7,mb1mx3.6/30,mbtmp3.6/7,ML3.2/2,MS3.6/2, Ms1 3.6/2,ms1mx2.8/38,Error ellipse: s-maj=35.3km s-min=15.1km az=7.0*

*KRSC **02** 05:38:16.4±4.0,54°.85N×164°.18E,h11km±10km,ML3.7*

*ISCJB **02** 05:38:17.7±0.5,54°.80N±0°.04×164°.18E±0°.04,h24km, mb3.7/5,MS3.6/2,Error ellipse: s-maj=5.7km s-min=3.4km az=148.2*

ISC 02 05:38:18.8±0.7,54°.98N±0°.05×164°.12E±0°.04,h24km,n38, σ1§67/47,mb3.6/5,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.09**	**77**	*e*P	**Pn**	**05 38 37.7**	**-0.8**
BKI				*e*S	**Sb**	**05 38 50.6**	**-2.0**
KBTR	**Krutoberegovo**	**1.44**	**330**	*e*P	**Pb**	**05 38 43.5**	**-1.4**
KBTR				*e*S	**Sb**	**05 39 01.6**	**-1.2**
MKZ	**Mys Kozlova**	**1.45**	**254**	*e*P	**Pn**	**05 38 42.9**	**-0.6**
MKZ				*e*S	**Sn**	**05 39 00.2**	**-1.5**
BZGR	**Bezymyannyi-Gr**	**2.18**	**298**	*e*P	**Pb**	**05 38 55.6**	**-2.0**
SMKR	**Semkarok**	**2.20**	**318**	*e*P	**Pb**	**05 38 56.2**	**-1.7**
SMKR				*e*S	**Sb**	**05 39 23.1**	**-1.6**
BZWR	**Bezymyannyi-We**	**2.29**	**297**	*e*P	**Pb**	**05 38 57.3**	**-2.2**
BDR	**Baidarnaya**	**2.29**	**315**	*e*P	**Pb**	**05 38 57.5**	**-2.0**
BDR				*e*S	**Sb**	**05 39 25.5**	**-1.9**
KMNR	**Kamenistaya**	**2.35**	**291**	*e*P	**Pb**	**05 38 58.5**	**-2.0**
KIRR	**Kirishev**	**2.37**	**296**	*e*P	**Pb**	**05 38 58.8**	**-2.0**
KRSR	**Krestovskiy**	**2.37**	**303**	*e*P	**Pb**	**05 38 58.0**	**-2.8**
KLY	**Klyuchi**	**2.38**	**306**	*e*P	**Pn**	**05 38 56.7**	**+0.4**
KLY				*e*S	**Sn**	**05 39 24.6**	**-0.1**
KPT	**Kopyto**	**2.43**	**296**	*e*P	**Pb**	**05 39 00.0**	**-1.9**
KOZ	**Kozyrevsk**	**2.65**	**296**	*e*P	**Pb**	**05 39 03.2**	**-2.3**
KII	**Karymskiy**	**2.88**	**253**	*e*P	**Pn**	**05 39 04.8**	**+1.5**
ESO	**Esso**	**3.23**	**289**	*e*P	**Pn**	**05 39 09.6**	**+1.6**
SDLR	**Sedlovina**	**3.52**	**243**	*e*P	**Pn**	**05 39 12.6**	**+0.5**
SDLR				*e*S	**Sn**	**05 39 51.1**	**-1.9**
SMAR	**Somma**	**3.57**	**243**	*e*S	**Sn**	**05 39 53.3**	**-1.1**
KRER	**Koryakskii**	**3.58**	**244**	*e*P	**Pn**	**05 39 14.0**	**+1.1**
KRER				*e*S	**Sn**	**05 39 53.3**	**-1.2**
KRX	**Arik**	**3.60**	**246**	*e*P	**Pn**	**05 39 14.0**	**+0.8**
KRX				*e*S	**Sn**	**05 39 54.0**	**-1.0**
AVH	**Avacha**	**3.60**	**244**	*e*P	**Pn**	**05 39 14.5**	**+1.3**
AVH				*e*S	**Sn**	**05 39 54.0**	**-0.9**
KOK	**Koryaka**	**3.64**	**245**	*e*P	**Pn**	**05 39 14.5**	**+0.8**
KOK				*e*S	**Sn**	**05 39 53.9**	**-2.0**
PET	**Petropavlovsk**	**3.77**	**241**	*e*S	**Sn**	**05 39 57.9**	**-1.1**
GNL	**Ganaly**	**3.84**	**253**	*e*P	**Pn**	**05 39 17.8**	**+1.4**
RUS	**Russkaya**	**4.20**	**235**	*e*S	**Sn**	**05 40 08.5**	**-0.9**
PETK	**Petropavlovsk-** 0.9nm,0.3s,baz=77,slow=20,SNR=6.5	**4.22**	**246**	Pn	**Pn**	**05 39 23.1**	**+1.4**
PETK				Sn	**Sn**	**05 40 11.0**	**+0.8**
	1.3nm,0.3s,baz=286,slow=21,SNR=5.4						
MTVR	**Mutnovka**	**4.32**	**237**	*e*P	**Pn**	**05 39 23.1**	**0.0**
MTVR				*e*S	**Sn**	**05 40 09.0**	**-3.8**
ASAK	**Asacha**	**4.52**	**237**	*e*P	**Pn**	**05 39 26.3**	**+0.5**
ASAK				*e*S	**Sn**	**05 40 14.9**	**-2.7**
FX1	**Attu Island--F** 2.4nm,0.3s,baz=308,slow=23,SNR=18	**5.74**	**108**	Pn	**Pn**	**05 39 40.5**	**-2.0**
FX1				Sn	Sn	05 40 40.2	-7.3
	8.0nm,0.3s,baz=138,slow=22,SNR=15						
ILAR	**Eielson Array** 0.4nm,0.7s,baz=251,slow=8.5,SNR=5.2	**25.79**	**48**	P	**P**	**05 43 48.2**	**+0.7**
H11N2	**WAKE ISLAND Hy** baz=360	**35.25**	**175**	T	T	06 23 56.6	
H11N3	**WAKE ISLAND Hy** baz=360	**35.26**	**175**	T	T	06 24 03.0	
H11N1	**WAKE ISLAND Hy** baz=360	**35.27**	**175**	T	T	06 24 03.1	
KURBB	**Kurchatov Arra** 1.3nm,0.6s,baz=56,slow=8.1,SNR=5.1	**48.84**	**302**	P	**P**	**05 47 02.9**	**+1.0**
ARCES	**ARCESS Array B** comp=Z,52nm,20.8s,baz=154,slow=39	**52.21**	**343**	LR	LR	06 12 24.9	
NVAR	**Mina Array Bea** 0.4nm,0.8s,baz=303,slow=8.3,SNR=3.1	**52.90**	**74**	P	**P**	**05 47 34.5**	**+1.7**
FINES	**FINESS Array B** comp=Z,50nm,18.8s,baz=202,slow=43	**59.30**	**338**	LR	LR	06 20 46.6	
CMAR	**Chiang Mai Arr** 1.3nm,0.4s,baz=35,slow=6.9,SNR=3.9	**60.87**	**261**	P	**P**	**05 48 31.6**	**+2.3**
TXAR	**Lajitas Array** 0.3nm,0.6s,baz=307,slow=5.0,SNR=5.7	**67.74**	**71**	P	**P**	**05 49 15.6**	**+1.3**

*IDC **02** 05:38:47.5±1.7,30°.92S×177°.62W,h0km,mb4.0/5, mb1 4.2/5,mb1mx3.9/19,mbtmp4.0/5,Error ellipse: s-maj=38.9km s-min=24.7km az=127.0*

*ISCJB **02** 05:38:49.9±0.8,31°.07S±0°.06×177°.7W±0°.2,h27km, mb4.1/8,Error ellipse: s-maj=19.0km s-min=7.1km az=14.3*

*NEIC **02** 05:38:51.5±3.5,30°.99S×177°.60W,h27km±26km,mb4.3/5, Error ellipse: s-maj=23.3km s-min=11.6km az=114.0*

ISC 02 05:38:51.1±0.9,31°.03S±0°.07×177°.6W±0°.1,h27km,n23, σ1§36/26,mb4.2/8,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.80**	**350**	*e*Pn	**Pn**	**05 39 19.0**	**-1.5**
RAO				Sn	**Sn**	**05 39 41.9**	**-0.4**
RAO	**Raoul Island** 80nm,0.3s,baz=198,slow=20,SNR=3.2	**1.80**	**350**	Pn	**Pn**	**05 39 18.3**	**-2.1**
RAO				Sn	**Sn**	**05 39 41.9**	**-0.4**
	266nm,0.3s,baz=62,slow=23,SNR=6.8						
URZ	**Urewera**	**8.45**	**210**	*e*Pn	**Pn**	**05 40 51.7**	**0.0**
URZ				*e*Sn	**Sn**	**05 42 23.5**	**-2.6**
OUZ	**Omahuta**	**8.52**	**238**	*e*Pn	**Pn**	**05 40 55.6**	**+2.9**
KHZ	**Kahutara**	**13.41**	**210**	*e*Pn	**Pn**	**05 41 58.0**	**-1.6**
AFI	**Afiamalu** 23nm,0.7s	**17.85**	**19**	*e*P	**P**	**05 42 58.8**	**+0.6**
CTA	**Charters Tower**	**34.28**	**280**	P	**P**	**05 45 34.1**	**-1.1**
CTA	**Charters Tower** 3.2nm,0.7s,baz=153,slow=2.3,SNR=6.2	**34.28**	**280**	P	**P**	**05 45 34.1**	**-1.1**
STKA	**Stephens Creek** 4.7nm,1.8s	**34.72**	**258**	*e*P	**P**	**05 45 40.4**	**+1.5**
STKA	**Stephens Creek** 1.4nm,0.5s,baz=105,slow=5.5,SNR=5.2	**34.72**	**258**	P	**P**	**05 45 40.5**	**+1.7**
ASAR	**Alice Springs**	**43.46**	**267**	P	**P**	**05 46 51.1**	**-1.1**
ASAR	**Alice Springs** 1.1nm,0.6s,baz=103,slow=7.3,SNR=6.1	**43.46**	**267**	P	**P**	**05 46 51.1**	**-1.1**
WRAB	**Tennant Creek** 3.0nm,0.9s	**44.50**	**273**	*e*P	**P**	**05 47 01.0**	**+0.5**
WRA	**Warramunga Arr**	**44.51**	**273**	P	**P**	**05 47 00.9**	**+0.3**
WRA	**Warramunga Arr** 1.0nm,0.3s,baz=111,slow=8.2,SNR=11	**44.51**	**273**	P	**P**	**05 47 00.9**	**+0.3**
FITZ	**Fitzroy Crossi** 13nm,1.6s	**52.74**	**270**	*e*P	**P**	**05 48 03.7**	**-0.2**
QSPA	**South Pole Qui** 1.6nm,0.5s	**59.08**	**180**	*e*P	**P**	**05 48 50.3**	**+1.5**
NVAR	**Mina Array Bea**	**88.44**	**42**	P	**P**	**05 51 42.5**	**+1.4**
NVAR	**Mina Array Bea** 0.2nm,0.5s,baz=228,slow=9.1,SNR=2.8	**88.44**	**42**	P	**P**	**05 51 42.5**	**+1.4**
FINES	**FINESS Array B**	**145.87**	**340**	PKPbc	**PKPdf**	**05 58 26.3**	**-0.3**
FINES	**FINESS Array B** 1.4nm,0.4s,baz=46,slow=4.0,SNR=11	**145.87**	**340**	PKPbc	**PKPdf**	**05 58 26.3**	**-0.3**
AKASG	**Malin Array Be**	**152.03**	**322**	PKPbc	**PKPbc**	**05 58 42.8**	**-0.6**
AKASG	**Malin Array Be** 0.3nm,0.4s,baz=46,slow=2.5,SNR=2.4	**152.03**	**322**	PKPbc	**PKPbc**	**05 58 42.8**	**-0.6**

IDC 02 06:22:52.4±1.9,4°.72S×151°.18E,h0km,mb3.7/4, mb1 4.0/4,mb1mx3.6/19,mbtmp3.8/4,Error ellipse: s-maj=110.9km s-min=26.1km az=127.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 1.1nm,0.3s,baz=36,slow=14,SNR=3.0	**6.13**	**220**	Pn	Pn	06 24 27.9	+3.5
PMG				Sn	Sn	06 25 39.0	+3.7
	1.4nm,0.3s,baz=133,slow=18,SNR=3.4						
WRA	**Warramunga Arr** 0.8nm,0.8s,baz=52,slow=10,SNR=8.3	**22.32**	**226**	P	P	06 27 52.2	+0.4
ASAR	**Alice Springs** 2.4nm,0.7s,baz=56,slow=9.1,SNR=26	**25.15**	**220**	P	P	06 28 19.4	-0.1
FITZ	**Fitzroy Crossi** 2.0nm,0.8s,baz=66,slow=10.0,SNR=4.4	**28.30**	**240**	P	P	06 28 47.7	-0.2
ILAR	**Eielson Array** 0.3nm,0.6s,baz=257,slow=5.6,SNR=6.9	**82.69**	**22**	P	P	06 35 17.9	+0.3
TORD	**Torodi Ar. Bea** 0.9nm,0.7s,baz=62,slow=1.9,SNR=4.6	**148.75**	**288**	PKPbc	PKPbc	06 42 42.0	-0.9

IDC 02 06:27:09.4±2.0,16°.28S×173°.10W,h0km,mb3.8/7, mb1 4.1/7,mb1mx3.9/22,mbtmp3.8/7,MS3.0/1,Ms1 3.0/1, ms1mx2.8/34,Error ellipse: s-maj=126.2km s-min=20.0km az=147.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 66nm,0.3s,baz=207,slow=2.5,SNR=20	**2.68**	**29**	Pn	Pn	06 27 49.7	-4.2
AFI				Sn	Sn	06 28 15.2	-12
	122nm,0.3s,baz=72,slow=20,SNR=12						
AFI				LR	LR	06 28 19.5	
	comp=Z,313nm,20.1s,baz=264,slow=26						
STKA	**Stephens Creek** 2.2nm,0.9s,baz=75,slow=12,SNR=3.4	**43.85**	**241**	P	P	06 35 17.9	+0.2
WRA	**Warramunga Arr** 0.6nm,0.4s,baz=91,slow=6.7,SNR=24	**49.93**	**257**	P	P	06 36 04.9	-0.5
WRA				PcP	PcP	06 37 26.1	+0.2
	0.3nm,0.6s,baz=96,slow=3.0,SNR=2.9						
ASAR	**Alice Springs** 2.2nm,0.6s,baz=83,slow=8.3,SNR=27	**50.12**	**253**	P	P	06 36 06.4	-0.4
FITZ	**Fitzroy Crossi** 0.7nm,0.4s,baz=45,slow=8.6,SNR=4.5	**58.31**	**259**	P	P	06 37 06.2	-0.4
NVAR	**Mina Array Bea** 0.3nm,0.7s,baz=230,slow=7.0,SNR=3.0	**74.79**	**42**	P	P	06 38 51.4	-0.4
PDAR	**Pinedale Array** 0.6nm,1.0s,baz=264,slow=0.9,SNR=3.0	**82.73**	**42**	P	P	06 39 35.5	0.0
ILAR	**Eielson Array** 0.2nm,0.7s,baz=235,slow=6.0,SNR=5.5	**83.25**	**11**	P	P	06 39 37.3	-0.1
BRTR	**Keskin Array B** 0.4nm,0.4s,baz=85,slow=2.9,SNR=4.0	**147.01**	**320**	PKPbc	PKPab	06 46 55.4	-0.7

*BJI **02** 06:30:37.6,16°.50S×173°.30W,h8km,mB5.4/11,mb5.1/15, Ms5.0/7,Ms7 4.7/7*

*IDC **02** 06:30:37.1±0.5,16°.42S×173°.26W,h0km,mb4.4/18, mb1 4.6/18,mb1mx4.5/27,mbtmp4.4/18,MS4.3/23, Ms1 4.3/23,ms1mx4.2/30,Error ellipse: s-maj=20.9km s-min=14.8km az=141.0*

*NEIC **02** 06:30:38.9±0.3,16°.47S×173°.37W,h10km,mb4.7/55, Error ellipse: s-maj=15.4km s-min=6.4km az=144.0*

*ISCJB **02** 06:30:44.9±0.3,16°.45S±0°.09×173°.40W±0°.07,h66km, mb4.6/78,Error ellipse: s-maj=14.2km s-min=6.4km az=146.7*

*GCMT **02** 06:30:45.8±0.3,16°.41S×172°.83W,h35km±1km,MW5.0, Moment Tensor Solution. s26,c31; s47,c71; Moment tensor: Scale 10^16^Nm; Mrr2.98±.22; Mθθ-0.03±.13; Mφφ-2.95±.14; Mrθ-0.15±.12; Mθφ-0.53±.09; Mφr2.03±.12; Best double couple: M0 3.60000×10^16^ NP1:φs2.00000°, δ62.00000°,λ83.00000°. NP2:φs198.00000°,δ29.00000°, λ104.00000°. Principal axes: T 3.6300, Plg72.0000°, Azm255.0000°; N 0.0000, Plg7.0000°, Azm6.0000°; P -3.6400, Plg17.0000°, Azm98.0000°; Data Used: II IU CN IC G. Surface wave period40 sec.*

*SZGRF **02** 06:30:58.6,15°.92S×173°.65W,h33km,Tonga Islands*

ISC 02 06:30:46.3±0.4,16°.63S±0°.09×173°.27W±0°.09,h66km, n181,σ1§45/157,mb4.6/78,9C-2D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.06**	**28**	*e*Pn	Pn	06 31 19.4	-13
AFI				Sn	Sn	06 31 49.5	-19
AFI				*e*Sn	Sn	06 31 54.2	-14
AFI	**Afiamalu** 47nm,0.3s,baz=241,slow=16,SNR=7.3	**3.06**	**28**	Pn	Pn	06 31 19.5	-13
AFI				Sn	Sn	06 31 49.5	-19
	174nm,0.3s,baz=45,slow=22,SNR=6.2						
MSVF	**Nonsavu**	**8.37**	**261**	*e*Pn	Pn	06 32 50.6	+5.5
RAR	**Rarotonga**	**13.56**	**112**	*e*Pn	Pn	06 33 46.5	-9.2
RAR	**Rarotonga** 4.1nm,0.3s,baz=270,slow=7.5,SNR=14	**13.56**	**112**	Pn	Pn	06 33 46.8	-8.9
RAR				LR	LR	06 37 37.1	
	comp=Z,2μm,21.3s,baz=270,slow=31						
DZM	**Mont Dzumac** 112nm,1.3s	**19.89**	**251**	*e*P	Pn	06 35 26.8	+12
DZM				*e*LR	LR	06 40 29.0	
	3μm,24.6s						
DZM	**Mont Dzumac** 36nm,1.0s	**19.89**	**251**	*e*P	**Pn**	**06 35 13.8**	**-0.9**
DZM	**Mont Dzumac** 0.6nm,0.3s,baz=82,slow=17,SNR=9.3	**19.89**	**251**	P	**Pn**	**06 35 14.6**	**-0.1**
DZM				LR	LR	06 41 02.0	
	comp=Z,376nm,20.5s,baz=36,slow=31						
PPT2	**Papeete2** 480nm,28.2s	**22.66**	**96**	*e*LQ	LQ	06 39 54.0	
PPT2				*e*LR	LR	06 40 48.0	
	2μm,24.8s,baz=261						
PPT	**Papeete**	**22.66**	**96**	LR	LR	06 41 54.3	
	comp=Z,960nm,18.6s,baz=234,slow=30						
URZ	**Urewera** 36nm,1.0s	**23.15**	**200**	*e*P	**P**	**06 35 45.8**	**-1.3**
URZ	**Urewera** 10.0nm,0.5s,baz=11,slow=1.7,SNR=11	**23.15**	**200**	P	**P**	**06 35 47.8**	**+0.7**
TBI	**Tubuai** 881nm,29.8s	**23.33**	**110**	*e*LQ	LQ	06 40 17.2	
TBI				*e*LR	LR	06 41 14.2	
	2μm,26.8s,baz=285						
HNR	**Honiara** comp=Z,2μm,20.6s,baz=119,slow=33	**27.04**	**282**	LR	LR	06 45 32.2	
RPZ	**Rata Peaks**	**30.10**	**203**	P	P	06 36 54.8	+5.2
RPZ	**Rata Peaks** 19nm,0.8s,baz=120,slow=4.2,SNR=4.2	**30.10**	**203**	P	P	06 36 54.8	+5.2
ARMA	**Armidale** 12nm,0.8s	**34.83**	**240**	*e*P	**P**	**06 37 29.6**	**-1.7**
RKT	**Rikitea** 952nm,25.2s	**36.51**	**106**	*e*LR	LR	06 47 19.2	
CTA	**Charters Tower**	**38.51**	**259**	P	**P**	**06 38 00.1**	**-2.5**
CTA	**Charters Tower** 3.3nm,0.7s,baz=99,slow=10.0,SNR=5.0	**38.51**	**259**	P	**P**	**06 38 00.1**	**-2.5**
CTAO	**Charters Tower** 5.0nm,0.9s	**38.51**	**259**	*e*P	**P**	**06 38 01.1**	**-1.4**
PMG	**Port Moresby** 26nm,1.0s	**39.16**	**276**	*e*P	**P**	**06 38 07.9**	**-0.2**
PMG	**Port Moresby** 18nm,0.9s,baz=80,slow=6.7,SNR=5.3	**39.16**	**276**	P	**P**	**06 38 08.4**	**+0.3**
PMG				LR	LR	06 51 16.6	
	comp=Z,274nm,21.4s,baz=252,slow=32						
H11S2	**WAKE ISLAND Hy** baz=145,slow=0.7	**40.08**	**330**	T	T	07 20 00.8	
H11S3	**WAKE ISLAND Hy** baz=145	**40.09**	**330**	T	T	07 20 04.1	
H11S1	**WAKE ISLAND Hy** baz=145,slow=0.7	**40.10**	**330**	T	T	07 19 58.4	
H11N3	**WAKE ISLAND Hy** baz=153,slow=0.7,SNR=9.5	**41.04**	**331**	T	T	07 21 08.6	
H11N1	**WAKE ISLAND Hy** baz=153,slow=0.7,SNR=4.9	**41.04**	**331**	T	T	07 21 09.1	
H11N2	**WAKE ISLAND Hy** baz=153,slow=0.7,SNR=5.8	**41.05**	**331**	T	T	07 21 10.0	
STKA	**Stephens Creek** 3.1nm,0.9s	**43.54**	**241**	*e*P	**P**	**06 38 42.9**	**-0.9**
STKA	**Stephens Creek** 16nm,0.9s,baz=79,slow=12,SNR=21	**43.54**	**241**	P	**P**	**06 38 42.9**	**-0.9**
STKA				LR	LR	06 54 11.8	
	comp=Z,419nm,21.8s,baz=282,slow=32						
WRAB	**Tennant Creek** 6.3nm,1.0s	**49.69**	**258**	*e*P	**P**	**06 39 31.8**	**-0.3**
WRA	**Warramunga Arr**	**49.70**	**258**	P	**P**	**06 39 30.2**	**-1.9**
WRA	**Warramunga Arr** 3.7nm,0.9s,baz=91,slow=6.8,SNR=20	**49.70**	**258**	P	**P**	**06 39 30.2**	**-1.9**
WRA				LR	LR	06 59 06.1	
	comp=Z,482nm,20.2s,baz=100,slow=34						
AS31	**Alice Springs**	**49.86**	**253**	*e*P	**P**	**06 39 31.7**	**-1.7**
ASAR	**Alice Springs**	**49.86**	**253**	P	**P**	**06 39 31.7**	**-1.6**
ASAR	**Alice Springs** 18nm,0.8s,baz=88,slow=8.2,SNR=193	**49.86**	**253**	P	**P**	**06 39 31.7**	**-1.6**
ASAR				LR	LR	06 59 48.2	
	comp=Z,501nm,20.8s,baz=105,slow=35						
FITZ	**Fitzroy Crossi**	**58.09**	**259**	P	**P**	**06 40 33.3**	**0.0**
FITZ	**Fitzroy Crossi** 1.9nm,0.8s,baz=90,slow=13,SNR=3.8	**58.09**	**259**	P	**P**	**06 40 33.3**	**0.0**
FITZ				LR	LR	07 04 25.5	
	comp=Z,470nm,20.5s,baz=105,slow=35						
BATI	**Baumata**	**61.48**	**267**	LR	LR	07 06 34.7	
	comp=Z,260nm,19.2s,baz=138,slow=35						
MJAR	**Matsushiro Arr**	**69.95**	**320**	LR	LR	07 09 02.2	
	comp=Z,77nm,21.1s,baz=130,slow=33						
ASAJ	**Asahikawa** comp=Z,70nm,20.4s,baz=340,slow=30	**72.64**	**328**	LR	LR	07 07 14.0	
QSPA	**South Pole Qui**	**73.42**	**180**	*e*P	**P**	**06 42 13.0**	**+1.6**
QSPA	**South Pole Qui** 7.5nm,1.1s,baz=18,slow=3.0,SNR=6.3	**73.42**	**180**	P	**P**	**06 42 12.7**	**+1.3**
ISA	**Isabella** 7.6nm,1.1s	**73.44**	**44**	*e*P	**P**	**06 42 13.9**	**+2.0**
CMB	**Columbia Colle** 6.4nm,1.0s	**73.60**	**41**	*e*P	**P**	**06 42 11.3**	**-1.4**
PETK	**Petropavlovsk-**	**73.83**	**342**	P	**P**	**06 42 12.5**	**-1.

WVOR	Wild Horse Val	77.31	38	eP		P	06 42 33.4	-0.6
	7.5nm,1.2s								
KSM	Kuching	77.42	275	eP		P	06 42 35.4	+0.3
	46nm,1.5s								
I07A	Izee	77.81	36	eP		P	06 42 36.9	+0.2
	13nm,1.4s								
CCUT	Cedar City	77.91	45	eP		P	06 42 37.1	-0.4
	5.7nm,1.0s								
J08A	Circle Bar Ran	77.96	38	eP		P	06 42 40.6	+3.0
	9.1nm,1.2s								
ARUT	Antelope Range	77.98	44	eP		P	06 42 39.4	+1.5
	171nm,1.1s								
D05A	Enumclaw	78.40	33	eP		P	06 42 41.5	+1.7
	40nm,1.4s								
USRK	Ussuriysk Arra	78.44	323	P		P	06 42 39.9	-0.1
	2.0nm,0.7s,baz=86,slow=6.1,SNR=5.0								
G08A	Pilot Rock	78.85	36	eP		P	06 42 41.5	-0.9
MVU	Marysvale	79.18	44	eP		P	06 42 44.0	-0.6
	11nm,1.1s								
HAWA	Hanford	79.21	35	eP		P	06 42 45.9	+1.7
	9.9nm,1.1s								
BMO	Blue Mountains	79.53	37	eP		P	06 42 45.5	-0.6
	6.7nm,1.2s								
DUG	Dugway	79.67	43	eP		P	06 42 49.2	+2.2
	9.2nm,1.1s								
E09A	Wood Farm, Sta	80.04	35	eP		P	06 42 47.5	-1.3
	18nm,1.8s								
F10A	Beach Ranch, E	80.23	36	eP		P	06 42 48.5	-1.4
	6.9nm,1.0s								
TMUT	Trail Mountain	80.26	44	eP		P	06 42 50.5	0.0
	14nm,1.1s								
HLID	Hailey	80.50	39	eP		P	06 42 50.5	-0.9
	87nm,2.7s								
B08A	Colville Reser	80.53	33	eP		P	06 42 50.5	-0.8
	6.1nm,1.0s								
SRU	San Rafael	80.63	45	eP		P	06 42 55.4	+3.1
	5.2nm,0.8s								
C09A	Chrisman Ranch	80.75	34	eP		P	06 42 51.2	-1.3
	6.4nm,0.9s								
JLU	Jordanelle	80.77	43	eP		P	06 42 57.1	+4.0
	8.3nm,1.2s								
MNTX	Cornudas Mount	80.86	53	eP		P	06 42 55.1	+1.6
	1.4nm,0.8s								
NJ2	Nanjing	81.00	307	eP		P	06 42 55.0	+0.8
NJ2					AMB	AMB			
	comp=Z,10.0nm,0.5s								
TXAR	Lajitas Array	81.19	56	P		P	06 42 54.8	-0.6
TXAR	Lajitas Array	81.19	56	P		P	06 42 54.8	-0.6
	0.8nm,0.8s,baz=210,slow=7.2,SNR=7.0								
TXAR					LR	LR	07 12 00.1		
	comp=Z,179nm,18.3s,baz=220,slow=31								
PV09	Paradox Valley	81.27	46	eP		P	06 42 58.5	+2.7
PV10	Paradox Valley	81.27	46	eP		P	06 42 54.0	-1.8
	125nm,0.7s								
PV01	Paradox Valley	81.48	46	eP		P	06 42 55.5	-1.5
	490nm,0.9s								
ANMO	Albuquerque	81.49	50	eP		P	06 42 58.0	+1.0
	4.9nm,1.0s								
PV15	Paradox Valley	81.64	46	eP		P	06 42 58.0	+0.3
TRF	Thorofare Moun	81.81	10	eP		P	06 42 56.3	-1.6
	24nm,1.4s								
CN2	Changchun	82.11	320	eP		P	06 42 58.8	-0.9
CN2				epP		PcP	06 43 03.6	-1.4
CN2				esP		sP	06 43 05.9	-19
CN2				eS		SKSac	06 53 11.5	-3.0
CN2					AMB	AMB			
	comp=Z,10.0nm,1.0s								
CN2					AMB	AMB			
	comp=Z,200nm,4.0s								
CN2					LR	LR			
	comp=N,200nm,17.0s								
CN2					LR	LR			
	comp=E,300nm,17.0s								
CN2					LR	LR			
	comp=Z,300nm,18.0s								
MCMT	McKenzie Canyo	82.13	39	eP		P	06 42 59.2	-0.9
	3.7nm,1.3s								
RRI2	Red Ridge	82.28	41	eP		P	06 43 01.8	+0.7
	7.0nm,1.1s								
MCK	McKinley	82.30	11	eP		P	06 42 59.2	-1.2
	14nm,1.0s								
DLMT	Dillon	82.57	38	eP		P	06 43 01.8	-0.6
	6.7nm,1.1s								
REDW	Red Top Meadow	82.58	41	eP		P	06 43 02.4	-0.2
	18nm,1.5s								
TPAW	Teton Pass	82.58	41	eP		P	06 43 01.5	-1.1
	5.9nm,1.0s								
MSO	Missoula	82.59	37	eP		P	06 43 07.6	+5.3
	18nm,1.5s								
SNOW	Snow King Moun	82.69	41	eP		P	06 43 03.7	+0.6
	76nm,2.5s								
IMW	Indian Meadow	82.80	40	eP		P	06 43 02.8	-1.0
	12nm,1.3s								
MOOW	Moose Ponds	82.84	40	eP		P	06 43 03.2	-0.7
	50nm,2.6s								
LOHW	Long Hollow	82.86	41	eP		P	06 43 04.5	+0.5
	8.0nm,1.3s								
QLMT	Earthquake Lak	82.99	39	eP		P	06 43 04.3	-0.3
FLWY	Flagg Ranch	83.05	40	eP		P	06 43 04.0	-0.9
	12nm,1.0s								
SMCO	Snowmass	83.07	46	eP		P	06 43 04.3	-1.1
	11nm,1.1s								
BW06	Boulder Array	83.09	42	eP		P	06 43 02.8	-2.4
	4.5nm,1.0s								
PDAR	Pinedale Array	83.09	42	P		P	06 43 03.3	-1.9
PDAR	Pinedale Array	83.09	42	P		P	06 43 03.3	-1.9
	1.6nm,0.7s,baz=213,slow=3.1,SNR=16								
PDAR					LR	LR	07 14 33.2		
	comp=Z,231nm,18.5s,baz=243,slow=32								
BOZ	Bozeman (W)	83.30	38	eP		P	06 43 04.3	-1.8
	6.8nm,1.3s								
SDCO	Great Sand Dun	83.44	48	eP		P	06 43 09.5	+2.3
	5.0nm,1.1s								
COLA	College	83.54	11	eP		P	06 43 05.5	-1.1
	13nm,0.8s								
ILAR	Eielson Array	83.62	11	P		P	06 43 05.3	-1.8
ILAR	Eielson Array	83.62	11	P		P	06 43 05.3	-1.8
	1.9nm,0.7s,baz=226,slow=5.7,SNR=41								
ILAR					LR	LR	07 16 29.5		
	comp=Z,69nm,19.1s,baz=220,slow=33								
HRY	Holter Researc	83.74	37	eP		P	06 43 07.0	-1.3
IMA2	Indian Mountai	83.75	8	eP		P	06 43 06.9	-1.0
MSTX	Muleshoe	83.81	52	eP		P	06 43 08.1	-0.9
WHN	Wuhan	83.88	304	eP		P	06 43 13.4	+4.2
DAWY	Dawson	84.58	14	eP		P	06 43 11.2	-0.8
ABTX	Abilene, Hawle	85.67	54	eP		P	06 43 16.7	-1.5
MAW	Mawson	86.67	199	P		P	06 43 23.9	+1.4
MAW	Mawson	86.67	199	P		P	06 43 23.9	+1.4
	2.5nm,0.8s,baz=114,slow=3.2,SNR=5.5								
MAW					LR	LR	07 22 45.8		
	comp=Z,159nm,19.8s,baz=298,slow=36								
PLCA	Paso Flores	88.60	132	P		P	06 43 33.0	+0.6
PLCA	Paso Flores	88.60	132	P		P	06 43 33.0	+0.6
	1.4nm,0.8s,baz=216,slow=7.7,SNR=3.8								
PLCA					LR	LR	07 14 37.7		
	comp=Z,243nm,20.9s,baz=313,slow=30								
GYA	Guiyang	88.73	298	eP		P	06 43 33.0	-0.3
GYA				PP		PP	06 47 04.3	+1.2
GYA				SKS		SKSac	06 54 00.5	+3.1
GYA				S		ScS	06 54 18.2	-2.6
GYA				SS		SS	07 00 12.7	+3.9
GYA					AMB	AMB			
	comp=Z,10.0nm,1.0s								
GYA					AMB	AMB			
	comp=Z,90nm,6.1s								
GYA					LR	LR			
	comp=N,420nm,20.5s								
GYA					LR	LR			
	comp=E,380nm,21.0s								
GYA					LR	LR			
	comp=Z,440nm,20.4s								
HHC	Hu-ho-hao-te	89.95	313	eP		P	06 43 36.6	-2.0
HHC				pP		PcP	06 43 40.7	+0.8
HHC				PP		PP	06 47 14.4	+1.9
HHC				SKS		SKSac	06 54 06.7	+2.8
HHC				S		S	06 54 25.8	-0.5
HHC				sS		ScS	06 54 36.5	+6.2
HHC					AMB	AMB			
	comp=Z,32nm,0.7s								
HHC					AMB	AMB			
	comp=Z,140nm,5.0s								
HHC					LR	LR			
	comp=N,160nm,15.9s								
HHC					LR	LR			
	comp=E,190nm,16.7s								
HHC					LR	LR			
	comp=Z,160nm,16.5s								

KMI	Kunming	91.67	296	P		P	06 43 48.0	+0.9
KMI				pP		PcP	06 43 50.7	+2.7
KMI				sP		sP	06 43 52.0	-21
KMI				S		ScS	06 54 43.6	-1.9
KMI				AMB	AMB			
	comp=Z,6.0nm,1.1s								
KMI				LR	LR				
	comp=N,110nm,17.3s								
KMI				LR	LR				
	comp=E,150nm,19.4s								
KMI				LR	LR				
	comp=Z,120nm,19.0s								
SNAA	Sanae	91.68	177	P		P	06 43 46.9	+0.7
SNAA	Sanae	91.68	177	P		P	06 43 46.9	+0.7
	0.8nm,1.0s,baz=176,slow=2.7,SNR=10								
CD2	Chengdu	92.56	301	P		P	06 43 51.7	+0.8
CD2				AMB	AMB				
	comp=Z,7.0nm,0.5s								
CMAR	Chiang Mai Arr	93.12	288	P		P	06 43 54.6	+1.0
CMAR	Chiang Mai Arr	93.12	288	P		P	06 43 54.6	+1.0
	2.1nm,0.7s,baz=96,slow=2.5,SNR=11								
CMAR				LR	LR		07 20 55.7		
	comp=Z,86nm,21.6s,baz=160,slow=32								
ULM	Lac du Bonnet	94.80	39	LR	LR		07 19 45.7		
	comp=Z,274nm,21.4s,baz=256,slow=31								
LPAZ	La Paz	99.28	110	LR	LR		07 19 07.4		
	comp=Z,148nm,20.6s,baz=156,slow=29								
AKASG	Malin Array Be	141.51	337	PKP		PKPdf	06 50 09.2	-0.7
AKASG	Malin Array Be	141.51	337	PKP		PKPdf	06 50 09.2	-0.7
	0.3nm,0.5s,baz=52,slow=2.7,SNR=3.3								
KWP	Kalwaria Pacla	144.62	342	iP		PKPbc	06 50 14.1	-0.2
MALT	Malatya	144.81	314	iP		PKPdf	06 50 17.2	+1.0
KMBO	Kilima Mbogo	145.10	243	ePKPdf		PKPdf	06 50 18.4	+0.7
KMBO					PKPbc	PKPdf	06 50 18.6	+1.0
KMBO	Kilima Mbogo	145.10	243	PKPbc		PKPdf	06 50 18.6	+1.0
	9.1nm,0.9s,baz=54,slow=4.8,SNR=20								
STHS	Stebnicka Huta	145.24	343	ePKP		PKPdf	06 50 16.6	+0.1
KOLS	Kolonicke sedl	145.38	342	ePKP		PKPdf	06 50 17.1	+0.4
UPC	Upice	145.39	350	ePKP		PKPbc	06 50 16.1	-0.6
DPC	Dobruska-Polom	145.49	349	ePKP		PKPab	06 50 17.1	-0.2
DPC				ex		x	06 50 29.7		
BURAR	Bucovina Array	145.55	338	iP		PKPdf	06 50 15.8	-1.4
UBBA	Unterbreizbach	145.79	356	ePKPbc		PKPab	06 50 30.1	+12
MORC	Moravsky Berou	145.80	348	iP		PKPab	06 50 18.4	-0.1
MORC	Moravsky Berou	145.80	348	ePKPdf		PKPbc	06 50 17.8	-0.3
MOX	Moxa	145.84	354	ePKPbc		PKPab	06 50 30.5	+12
TANN	Tannenbergstha	145.98	353	ePKPbc		PKPab	06 50 31.3	+12
PRU	Pruhonice	146.13	351	ePKP		PKPbc	06 50 18.8	-0.2
PRU				ex		x	06 50 32.2		
KECS	Kecovo	146.29	343	ePKP		PKPab	06 50 20.2	-0.2
KECS				e			06 50 32.7		
VRI	Vrincioaia	146.40	334	iP		PKPab	06 50 22.2	+1.3
TNS	Taunus Mts	146.46	358	ePKPbc		PKPab	06 50 32.9	+12
ROTZ	Rotzenmuhle	146.65	354	ePKPbc		PKPab	06 50 33.9	+12
GRF	Grafenberg Arr	146.82	355	ePKPbc		PKPab	06 50 34.5	+12
MLR	Muntele Rosu	147.03	335	iP		PKPab	06 50 22.5	-1.0
WLF	Walferdange	147.05	1	ePKPbc		PKPab	06 50 35.4	+12
KHC	Kasperske Hory	147.11	352	ePKP		PKPbc	06 50 21.8	-0.1
KHC				ex		x	06 50 35.2		
KHC	Kasperske Hory	147.11	352	ePKPdf		PKPbc	06 50 20.9	-1.0
DRGR		147.13	340	iP		PKPbc	06 50 22.4	+0.3
BRTR	Keskin Array B	147.18	320	PKPbc		PKPbc	06 50 22.4	-0.2
BRTR	Keskin Array B	147.18	320	PKPbc		PKPbc	06 50 22.4	-0.2
	2.2nm,0.7s,baz=93,slow=2.9,SNR=7.8								
WET	Wettzell	147.19	353	ePKPbc		PKPab	06 50 35.1	+11
GEC2	GERESS Array S	147.37	351	ePKPbc		PKPab	06 50 35.6	+11
GERES	GERESS Array B	147.37	351	PKPbc		PKPbc	06 50 21.3	-1.4
GERES	GERESS Array B	147.37	351	PKPbc		PKPbc	06 50 21.3	-1.4
	2.5nm,0.9s,baz=5.7,slow=2.7,SNR=9.1								
ZST	Bratislava	147.39	347	ePKP		PKPab	06 50 24.0	-0.6
ZST				e			06 50 38.1		
VOIR		147.43	336	iP		PKPab	06 50 23.9	-1.1
GZR	Gura Zlata	148.32	338	iP		PKPbc	06 50 25.5	+0.2
BFO	Black Forest	148.36	358	ePKPbc		PKPab	06 50 38.4	+10
BFO	Black Forest	148.36	358	ePKPbc		PKPbc	06 50 24.7	-0.6
RJOB	Jochberg	148.58	352	ePKPbc		PKPab	06 50 39.0	+10
SOKA	Soboth	149.25	349	iPKPbc		PKPbc	06 50 26.7	-1.0
	5.7nm,1.0s								
FETA	Feichten	149.51	355	iPKPdf		PKPbc	06 50 27.9	-0.5
	20nm,1.4s								
TUE	Stuetta	150.16	356	ePKPab		PKPab	06 50 37.8	+1.7
SSB	Saint Sauveur	151.38	3	ePKPbc		PKPbc	06 50 33.1	+0.3
BNI	Bardonecchia	151.66	0	ePKPab		PKPab	06 50 41.2	-1.1
TORD	Torodi Ar. Bea	174.03	125	PKP		PKPdf	06 50 50.9	+1.5
TORD				PKPab		PKPab	06 52 19.9	-0.8
TORD	Torodi Ar. Bea	174.03	125	PKP		PKPdf	06 50 50.9	+1.5
	0.6nm,0.9s,baz=230,slow=2.6,SNR=2.6								
TORD					PKPab	PKPab	06 52 19.9	-0.8	
	1.0nm,0.8s,baz=265,slow=5.5,SNR=4.4								

*ISCJB **02** 06:31:13.9±0.4,52.˚33S±0.˚06×13.˚5E±0.˚2,h10km, mb4.5/18,MS4.4/21,Error ellipse: s-maj=13.6km s-min=8.6km az=7.0*

*IDC **02** 06:31:13.8±0.6,52.˚37S×13.˚52E,h0km,mb4.4/16, mb1 4.5/16,mb1mx4.4/22,mbtmp4.4/16,MS4.4/20, Ms1 4.4/20,ms1mx4.2/32,Error ellipse: s-maj=19.2km s-min=14.7km az=88.0*

*NEIC **02** 06:31:15.6±0.3,52.˚34S×13.˚61E,h10km,mb4.8/12,Error ellipse: s-maj=13.5km s-min=9.7km az=88.0*

*GCMT **02** 06:31:18.6±0.3,52.˚40S×13.˚67E,h12km,MW5.0,Moment Tensor Solution. s17,c18; s64,c96; Moment tensor: Scale 10^{16}Nm; M_{rr}-3.10±.15; $M_{\theta\theta}$4.37±.11; $M_{\phi\phi}$-1.26±.16; $M_{r\theta}$1.37±.37; $M_{\theta\phi}$-0.47±.12; $M_{\phi r}$1.04±.60; Best double couple: M_o4.20000×10^{16} NP1:ϕ_s253.00000°,δ59.00000°, λ-118.00000°. NP2:ϕ_s119.00000°,δ41.00000°, λ-52.00000°. Principal axes: T 4.6300, Plg10.0000°, Azm3.0000°; N -0.7900, Plg24.0000°, Azm269.0000°; P -3.8200, Plg64.0000°, Azm114.0000°; Data Used: ll G IU IC CN.*

ISC 02 06:31:15.7±0.4,52.˚26S±0.˚07×13.˚57E±0.˚09,h10km,n90, σ1s75/75,mb4.5/18,MS4.4/21,Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	Sutherland	20.55	18	eP	Pn	06 35 55.7	-1.1
	61nm,0.8s						
SUR				S	S	06 39 38.4	-6.0
SUR	Sutherland	20.55	18	P	Pn	06 35 55.7	-1.1
	62nm,0.9s,baz=204,slow=8.5,SNR=13						
SUR				S	S	06 39 38.4	-6.0
	6.6nm,0.8s,baz=88,slow=21,SNR=3.4						
SUR				LR	LR	06 41 50.3	
	comp=Z,1μm,21.8s,baz=214,slow=31						
SNAA	Sanae	20.80	195	eP	P	06 35 55.7	-1.2
SNAA	Sanae	20.80	195	eP	P	06 35 55.6	-1.2
	65nm,0.8s						
SNAA	Sanae	20.80	195	P	P	06 35 55.8	-1.0
	20nm,0.9s,baz=29,slow=9.8,SNR=245						
SNAA				LR	LR	06 42 20.5	
	comp=Z,366nm,18.5s,baz=348,slow=32						
VNA1	Neumayer--Stat	20.96	200	eP	P	06 35 58.4	0.0
VNA2	Neumayer--Watz	20.99	199	eP	P	06 35 57.9	-0.9
BOSA	Boshof	25.17	25	P	P	06 36 42.5	+1.2
BOSA	Boshof	25.17	25	P	P	06 36 42.5	+1.2
	10nm,1.0s,baz=217,slow=10.0,SNR=7.9						
BOSA				LR	LR	06 44 55.3	
	comp=Z,1μm,20.4s,baz=184,slow=32						
MAW	Mawson	28.10	142	eP	P	06 37 07.3	+0.2
	3.5nm,1.4s						
MAW	Mawson	28.10	142	P	P	06 37 07.2	+0.1
	1.8nm,0.7s,baz=270,slow=12,SNR=5.3						
MAW				LR	LR	06 46 06.4	
	comp=Z,780nm,19.4s,baz=292,slow=32						
LBTB	Lobatse	28.70	23	P	P	06 37 13.7	+0.7
	15nm,1.4s						
LBTB	Lobatse	28.70	23	P	P	06 37 12.3	-0.7
	3.6nm,0.9s,baz=181,slow=6.9,SNR=4.3						
LBTB				LR	LR	06 46 50.5	
	comp=Z,774nm,21.6s,baz=207,slow=32						
TSUM	Tsumeb	33.14	7	eP	P	06 37 53.0	+0.8
	6.4nm,1.0s						
QSPA	South Pole Qui	37.98	180	P	P	06 38 31.6	-1.8
QSPA	South Pole Qui	37.98	180	P	P	06 38 31.6	-1.8
	11nm,1.0s,baz=222,slow=5.2,SNR=20						
CASY	Casey	46.28	146	eP	P	06 39 40.6	-0.2
VNDA	Vanda	48.99	171	eP	P	06 40 00.6	-1.2
	19nm,1.6s						
VNDA	Vanda	48.99	171	P	P	06 40 00.1	-1.6
	2.7nm,0.9s,baz=228,slow=6.2,SNR=14						
VNDA				LR	LR	06 59 39.2	
	comp=Z,891nm,19.7s,baz=188,slow=35						

SBA	Scott Base	49.11	173	eP		P	06 40 02.4	-0.3
	5.5nm,1.0s								
PLCA	Paso Flores	55.90	246	eP		P	06 40 55.8	+2.2
	6.4nm,1.1s								
PLCA	Paso Flores	55.90	246	P		P	06 40 51.8	-1.8
	3.0nm,1.0s,baz=72,slow=17,SNR=2.7								
CPUP	Villa Florida	58.09	267	eP		P	06 41 08.6	-0.6
	41nm,1.0s								
CPUP	Villa Florida	58.09	267	P		P	06 41 08.8	-0.4
	7.6nm,0.9s,baz=92,slow=19,SNR=11								
CPUP				LR		LR	07 02 17.8		
	comp=Z,128nm,20.0s,baz=268,slow=32								
BDFB	Brasilia	60.45	283	P		P	06 41 26.3	+0.6
BDFB	Brasilia	60.45	283	P		P	06 41 26.3	+0.6
	3.5nm,0.9s,baz=163,slow=5.3,SNR=3.9								
BDFB				LR		LR	07 01 30.6		
	comp=Z,158nm,19.4s,baz=167,slow=30								
DBIC	Dimbokro	60.77	339	LR		LR	07 05 34.1		
	comp=Z,238nm,18.2s,baz=133,slow=34								
H08N3	Diego Garcia H	65.45	67	T		T	07 53 28.4		
	baz=216,slow=0.7,SNR=12								
H08N1	Diego Garcia H	65.46	67	T		T	07 53 29.8		
	baz=216,slow=0.7,SNR=13								
H08N2	Diego Garcia H	65.47	67	T		T	07 53 30.3		
	baz=216,slow=0.7,SNR=11								
TORD	Torodi Ar. Bea	65.94	347	P		P	06 42 00.8	-1.0
TORD	Torodi Ar. Bea	65.94	347	P		P	06 42 00.8	-1.0
	0.6nm,0.6s,baz=188,slow=6.3,SNR=4.1								
LVC	Limon Verde	67.92	261	eP		P	06 42 17.2	+2.3
	12nm,1.2s								
H01W2	Cape Leeuwin H	69.11	120	T		T	07 58 37.3		
	baz=221,slow=0.7,SNR=18								
H01W3	Cape Leeuwin H	69.12	120	T		T	07 58 46.6		
	baz=221,slow=0.7,SNR=19								
H01W1	Cape Leeuwin H	69.12	120	T		T	07 58 49.3		
	baz=221,slow=0.7,SNR=19								
LPAZ	La Paz	72.23	266	eP		P	06 42 41.5	-0.4
	18nm,1.0s								
LPAZ	La Paz	72.23	266	P		P	06 42 41.7	-0.2
	12nm,0.8s,baz=103,slow=5.1,SNR=22								
SAML	Samuel	74.86	275	eP		P	06 42 55.6	-0.9
	12nm,1.1s								
RPZ	Rata Peaks	82.45	164	LR		LR	07 15 59.2		
	comp=Z,982nm,18.9s,baz=191,slow=33								
EIL	Elat	83.70	19	LR		LR	07 20 45.4		
	comp=Z,361nm,19.1s,baz=266,slow=36								
STKA	Stephens Creek	84.70	138	P		P	06 43 49.4	-0.4
STKA	Stephens Creek	84.70	138	P		P	06 43 49.4	-0.4
	9.4nm,1.1s,baz=298,slow=3.2,SNR=5.3								
ASF	Jabal al Asfar	86.52	20	LR		LR	07 23 37.5		
	comp=Z,176nm,18.4s,baz=242,slow=36								
MMAI	Mount Meron Ar	87.04	18	LR		LR	07 23 43.3		
	comp=Z,296nm,18.4s,baz=205,slow=36								
KEST	Kesra	87.70	357	LR		LR	07 22 06.5		
	comp=Z,75nm,19.2s,baz=86,slow=35								
IDI	Anoyia	87.74	9	LR		LR	07 27 24.2		
	comp=Z,211nm,18.8s,baz=360,slow=38								
ASAR	Alice Springs	88.27	128	P		P	06 44 07.0	-0.4
ASAR	Alice Springs	88.27	128	P		P	06 44 07.0	-0.4
	5.2nm,0.9s,baz=207,slow=5.4,SNR=32								
AS31	Alice Springs	88.27	128	eP		P	06 44 07.0	-0.5
URZ	Urewera	88.72	167	LR		LR	07 24 29.1		
	comp=Z,319nm,18.8s,baz=151,slow=36								
WRA	Warramunga Arr	91.63	126	P		P	06 44 22.2	-0.9
WRA	Warramunga Arr	91.63	126	P		P	06 44 22.2	-0.9
	1.2nm,0.9s,baz=203,slow=2.9,SNR=5.9								
WRA				LR		LR	07 17 13.1		
	comp=Z,162nm,21.5s,baz=130,slow=30								
ESDC	Sonseca Array	92.82	347	P		P	06 44 30.1	+2.1
ESDC	Sonseca Array	92.82	347	P		P	06 44 30.1	+2.1
	0.1nm,0.3s,baz=140,slow=8.2,SNR=2.9								
ESDC				LR		LR	07 21 10.6		
	comp=Z,76nm,21.1s,baz=130,slow=32								
BRTR	Keskin Array B	93.26	15	LR		LR	07 31 50.9		
	comp=Z,124nm,18.1s,baz=18,slow=39								
KBZ	Khabaz	98.91	21	LR		LR	07 32 27.1		
	comp=Z,108nm,18.4s,baz=192,slow=37								
DZM	Mont Dzumac	102.29	154	eLR		LR	07 18 50.7		
	237nm,29.1s								
TBI	Tubuai	103.27	196	eLR		LR	07 19 15.2		
	312nm,29.2s								
PPT2	Papeete2	108.92	197	eLR		LR	07 21 59.6		
	280nm,27.0s								
GYA	Guiyang	112.29	75	ePdif		Pdif	06 45 56.6	+1.0
GYA				PKP		PKiKP	06 49 50.8	-0.8
GYA				PP		PP	06 50 41.9	+4.7
CD2	Chengdu	113.89	70	PKP		PKiKP	06 49 54.6	+0.2
HHC	Hu-ho-hao-te	125.37	67	ePKP		PKPdf	06 50 16.4	+0.1
HHC				PP		PP	06 52 09.5	+2.0
HHC				SKS		SKSdf	06 57 27.3	-0.6
HHC				SKKS		SKKSac	06 59 02.4	-2.5
HHC				SS		SS	07 09 08.6	+2.9
HHC				LR	LR				
	comp=N,170nm,20.2s								
HHC				LR	LR				
	comp=E,180nm,20.0s								
HHC				LR	LR				
	comp=Z,120nm,19.0s								
TXAR	Lajitas Array	129.05	269	PKP		PKPdf	06 50 22.4	-1.2
TXAR	Lajitas Array	129.05	269	PKP		PKPdf	06 50 22.4	-1.2
	0.7nm,1.1s

H11S3	**WAKE ISLAND Hy 37.84 330** baz=152,slow=0.7,SNR=4.7	T	T	07 21 51.4			
H11S1	**WAKE ISLAND Hy 37.85 330** baz=152,slow=0.7,SNR=2.9	T	T	07 21 52.5			
H11N3	**WAKE ISLAND Hy 38.78 331** baz=152,slow=0.7,SNR=5.4	T	T	07 23 02.5			
H11N1	**WAKE ISLAND Hy 38.79 331** baz=152,slow=0.7,SNR=9.6	T	T	07 23 01.5			
H11N2	**WAKE ISLAND Hy 38.80 331** baz=152,slow=0.7,SNR=7.0	T	T	07 23 03.4			
WRA	**Warramunga Arr 49.33 256** 0.4nm,0.8s,baz=89,slow=7.0,SNR=5.5	P	P	06 42 32.5	+0.4		
ASAR	**Alice Springs 49.68 251** 2.0nm,0.6s,baz=87,slow=7.9,SNR=9.3	P	P	06 42 34.3	-0.5		
NVAR	**Mina Array Bea 74.18 43** 0.5nm,0.7s,baz=239,slow=6.2,SNR=3.6	P	P	06 45 20.4	+0.8		
TXAR	**Lajitas Array 80.75 57** 0.7nm,1.0s,baz=232,slow=4.4,SNR=3.9	P	P	06 45 56.4	-0.1		
ILAR	**Eielson Array 81.73 11** 0.5nm,1.0s,baz=194,slow=5.6,SNR=4.3	P	P	06 46 00.6	-0.2		
PDAR	**Pinedale Array 82.11 42** 0.3nm,0.6s,baz=226,slow=3.6,SNR=3.4	P	P	06 46 03.1	-0.5		

IDC 02 06:35:05.6±3.1, 15°50S×173°08W, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.7/22, mbtmp3.7/4, Error ellipse: s-maj=179.0km s-min=23.9km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu 2.02 39** baz=200,slow=16,SNR=1.4			Pn	Pn	06 35 39.5	-1.5
AFI	209nm,0.3s,baz=82,slow=19,SNR=6.7			Sn	Sn	06 35 58.5	-8.5
WRA	**Warramunga Arr 50.13 257** 0.2nm,0.7s,baz=96,slow=6.2,SNR=4.6	P		P		06 44 02.8	-0.4
ASAR	**Alice Springs 50.38 252** 1.3nm,0.7s,baz=86,slow=8.9,SNR=20	P		P		06 44 04.2	-0.9
PDAR	**Pinedale Array 82.13 42** 0.4nm,0.8s,baz=216,slow=4.5,SNR=3.0	P		P		06 47 28.9	+0.3
BRTR	**Keskin Array B 146.43 321** 0.6nm,0.7s,baz=23,slow=4.7,SNR=2.4	PKPbc		PKPab		06 54 49.7	-0.4

*IDC **02** 06:42:07.2±1.0, 16°42S×173°31W, h0km, mb3.9/7, mb1 4.2/7, mb1mx3.9/22, mbtmp3.9/7, Error ellipse: s-maj=51.7km s-min=20.1km az=137.0*
*NEIC **02** 06:42:09.2±0.5, 16°38S×173°44W, h10km, mb4.5/4, Error ellipse: s-maj=22.1km s-min=8.9km az=132.0*
*ISCJB **02** 06:42:15.8±0.7, 16°3S±0°2×173°5W±0°2, h79km, mb4.0/10, Error ellipse: s-maj=28.7km s-min=13.4km az=136.5*
ISC 02 06:42:16.6±0.8, 16°2S±0°2×173°3W±0°2, h79km, n24, σ1s85/24, mb4.2/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu 2.69 33**			*e*Pn	**Pn**	**06 42 57.4**	**-0.5**
AFI				*e*Sn	**Sn**	**06 43 24.7**	**-4.8**
AFI	**Afiamalu 2.69 33** 16nm,0.3s,baz=267,slow=23,SNR=3.7			Pn	Pn	06 42 51.6	-6.2
AFI	59nm,0.3s,baz=66,slow=20,SNR=5.7			Sn	Sn	06 43 19.8	-10
URZ	**Urewera 23.56 199** 9.7nm,0.8s	*e*P		**P**		**06 47 17.9**	**-2.2**
URZ	**Urewera 23.56 199** 6.3nm,0.5s,baz=83,slow=9.5,SNR=6.6	P		**P**		**06 47 17.4**	**-2.7**
STKA	**Stephens Creek 43.74 241**	P		**P**		**06 50 12.5**	**-1.8**
STKA	**Stephens Creek 43.74 241** 3.4nm,0.9s,baz=102,slow=2.1,SNR=4.3	P		**P**		**06 50 12.5**	**-1.8**
WRAB	**Tennant Creek 49.76 257** 2.5nm,1.0s	*e*P		**P**		**06 51 01.2**	**-0.3**
WRA	**Warramunga Arr 49.77 257**	P		**P**		**06 51 01.1**	**-0.5**
WRA	**Warramunga Arr 49.77 257** 0.6nm,0.5s,baz=95,slow=6.1,SNR=11	P		**P**		**06 51 01.1**	**-0.5**
AS31	**Alice Springs 49.97 253**	*e*P		**P**		**06 51 03.0**	**-0.1**
ASAR	**Alice Springs 49.97 253**	P		**P**		**06 51 02.9**	**-0.2**
ASAR	**Alice Springs 49.97 253** 4.8nm,0.6s,baz=89,slow=8.2,SNR=37	P		**P**		**06 51 02.9**	**-0.2**
FORT	**Forrest 55.16 244** 5.8nm,0.5s	*e*P		**P**		**06 51 40.2**	**-1.0**
QSPA	**South Pole Qui 73.87 180** 8.2nm,1.5s	*e*P		**P**		**06 53 43.7**	**+0.9**
NVAR	**Mina Array Bea 74.84 42**	P		**P**		**06 53 51.0**	**+2.0**
NVAR	**Mina Array Bea 74.84 42** 0.2nm,0.4s,baz=223,slow=9.9,SNR=2.4	P		**P**		**06 53 51.0**	**+2.0**
PDAR	**Pinedale Array 82.78 42**	P		**P**		**06 54 34.2**	**+1.9**
PDAR	**Pinedale Array 82.78 42** 0.5nm,0.7s,baz=245,slow=2.8,SNR=3.6	P		**P**		**06 54 34.2**	**+1.9**
ILAR	**Eielson Array 83.18 11**	P		**P**		**06 54 35.5**	**+1.9**
ILAR	**Eielson Array 83.18 11** 0.3nm,0.7s,baz=212,slow=5.3,SNR=5.1	P		**P**		**06 54 35.5**	**+1.9**
BRTR	**Keskin Array B 146.82 320**	PKPbc		**PKPab**		**07 01 53.1**	**+1.5**
BRTR	**Keskin Array B 146.82 320** 1.0nm,0.9s,baz=90,slow=1.9,SNR=3.6	PKPbc		**PKPab**		**07 01 53.1**	**+1.5**
GERES	**GERESS Array B 146.92 352**	PKPbc		**PKPab**		**07 01 52.3**	**+0.7**
GERES	**GERESS Array B 146.92 352** 0.3nm,0.2s,baz=11,slow=1.0,SNR=3.1	PKPbc		**PKPab**		**07 01 52.3**	**+0.7**

*IDC **02** 06:44:26.4±1.4, 16°26S×173°40W, h0km, mb3.8/7, mb1 4.2/7, mb1mx4.0/20, mbtmp3.8/7, Error ellipse: s-maj=94.8km s-min=19.8km az=148.0*
*NEIC **02** 06:44:27.8±0.6, 16°25S×173°44W, h10km, mb4.3/2, Error ellipse: s-maj=31.6km s-min=11.0km az=135.0*
*ISCJB **02** 06:44:34.3±0.7, 16°1S±0°2×173°6W±0°2, h79km, mb3.8/9, Error ellipse: s-maj=35.6km s-min=11.4km az=137.1*
ISC 02 06:44:36.1±0.8, 16°1S±0°2×173°4W±0°2, h79km, n32, σ1s69/22, mb3.8/9, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu 2.70 36**			*e*Pn	Pn	06 45 12.6	-4.8
AFI				*e*Sn	**Sn**	**06 45 45.7**	**-3.6**
AFI	**Afiamalu 2.70 36** 17nm,0.3s,baz=218,slow=19,SNR=5.5			Pn	Pn	06 45 08.7	-8.7
AFI	76nm,0.3s,baz=52,slow=20,SNR=8.6			Sn	Sn	06 45 38.2	-11
DZM	**Mont Dzumac 19.94 250** 910nm,25.2s	*e*LR		LR		06 54 45.8	
PPT2	**Papeete2 22.84 97** 442nm,24.8s	*e*LR		LR		06 54 53.2	
URZ	**Urewera 23.58 199** 16nm,1.1s	*e*P		**P**		**06 49 37.0**	**-2.6**
TBI	**Tubuai 23.62 112** 516nm,28.0s	*e*LR		LR		06 55 07.0	
RKT	**Rikitea 36.77 107** 268nm,28.2s	*e*LR		LR		07 01 08.0	
H11N3	**WAKE ISLAND Hy 40.54 331** baz=153	T		T		07 35 25.3	
H11N1	**WAKE ISLAND Hy 40.55 331** baz=153	T		T		07 35 33.0	
H11N2	**WAKE ISLAND Hy 40.56 331** baz=153	T		T		07 35 36.3	
STKA	**Stephens Creek 43.68 241**	P		**P**		**06 52 32.6**	**-0.7**
STKA	**Stephens Creek 43.68 241** 3.0nm,1.0s,baz=58,slow=4.5,SNR=2.8	P		**P**		**06 52 32.6**	**-0.7**
WRAB	**Tennant Creek 49.68 257** 2.7nm,1.1s	*e*P		**P**		**06 53 18.6**	**-1.8**
WRA	**Warramunga Arr 49.69 257**	P		**P**		**06 53 19.2**	**-1.3**
WRA	**Warramunga Arr 49.69 257** 0.7nm,0.7s,baz=94,slow=6.6,SNR=7.1	P		**P**		**06 53 19.2**	**-1.3**
ASAR	**Alice Springs 49.90 252**	P		**P**		**06 53 20.8**	**-1.2**
ASAR	**Alice Springs 49.90 252** 3.3nm,0.6s,baz=90,slow=8.1,SNR=14	P		**P**		**06 53 20.8**	**-1.2**
NVAR	**Mina Array Bea 74.86 42**	P		**P**		**06 56 08.8**	**+0.3**
NVAR	**Mina Array Bea 74.86 42** 0.7nm,0.8s,baz=232,slow=7.2,SNR=4.1	P		**P**		**06 56 08.8**	**+0.3**
TXAR	**Lajitas Array 81.01 56**	P		**P**		**06 56 43.9**	**+1.2**
TXAR	**Lajitas Array 81.01 56** 0.5nm,1.1s,baz=238,slow=5.2,SNR=3.1	P		**P**		**06 56 43.9**	**+1.2**
PDAR	**Pinedale Array 82.80 42**	P		**P**		**06 56 52.8**	**+0.8**
PDAR	**Pinedale Array 82.80 42** 0.4nm,0.6s,baz=208,slow=3.1,SNR=3.5	P		**P**		**06 56 52.8**	**+0.8**
ILAR	**Eielson Array 83.15 11**	P		P		06 56 54.0	+1.1
ILAR	**Eielson Array 83.15 11** 0.3nm,0.6s,baz=243,slow=6.2,SNR=4.3	P		P		06 56 54.0	+1.1
KMBO	**Kilima Mbogo 145.22 243**	PKPbc		**PKPab**		**07 04 08.1**	**+2.2**
KMBO	**Kilima Mbogo 145.22 243** 0.5nm,0.4s,baz=39,slow=23,SNR=3.4	PKPbc		**PKPab**		**07 04 08.1**	**+2.2**
BRTR	**Keskin Array B 146.72 320**	PKPbc		**PKPab**		**07 04 11.6**	**+0.9**
BRTR	**Keskin Array B 146.72 320** 1.2nm,0.8s,baz=100,slow=3.0,SNR=5.1	PKPbc		**PKPab**		**07 04 11.6**	**+0.9**
GERES	**GERESS Array B 146.86 351**	PKPbc		**PKPab**		**07 04 12.8**	**+2.0**
GERES	**GERESS Array B 146.86 351** 0.3nm,0.2s,baz=38,slow=1.7,SNR=2.4	PKPbc		**PKPab**		**07 04 12.8**	**+2.0**
PKST	**T"s 147.54 345**	*e*SKKPdf	SKKPdf	07 16 32.3	-3.0		
PKST		*e*SKKPdf	**SKKPdf**	**07 16 34.9**	**-0.4**		

IDC 02 06:44:40.0±1.6, 16°06S×173°49W, h0km, mb3.9/4, mb1 4.3/4, mb1mx4.0/19, mbtmp3.9/4, Error ellipse: s-maj=101.8km s-min=28.7km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr 49.61 257** 1.3nm,0.8s,baz=90,slow=3.6,SNR=5.7	PcP		PcP		06 54 55.1	-0.2
ASAR	**Alice Springs 49.83 252** 5.4nm,0.6s,baz=85,slow=8.4,SNR=4.7	P		P		06 53 33.5	-1.7
ASAR	1.1nm,0.8s,baz=96,slow=4.9,SNR=4.5	PcP		PcP		06 54 55.6	-0.4
NVAR	**Mina Array Bea 74.88 42** 0.8nm,0.7s,baz=230,slow=12,SNR=5.2	P		P		06 56 22.0	-1.0
TXAR	**Lajitas Array 81.05 56** 0.3nm,0.7s,baz=223,slow=6.8,SNR=4.0	P		P		06 56 57.4	0.0
ILAR	**Eielson Array 83.11 11** 0.8nm,0.8s,baz=228,slow=6.2,SNR=7.5	P		P		06 57 07.1	-0.1
KMBO	**Kilima Mbogo 145.17 243** 4.3nm,0.9s,baz=57,slow=3.1,SNR=7.2	PKPbc		PKPdf		07 04 20.9	-0.1
BRTR	**Keskin Array B 146.61 320** 3.4nm,1.0s,baz=134,slow=3.6,SNR=6.5	PKPbc		PKPbc		07 04 24.4	+0.3
GERES	**GERESS Array B 146.78 351** 0.4nm,0.2s,baz=45,slow=2.6,SNR=5.1	PKPbc		PKPbc		07 04 24.2	+0.1

IDC 02 06:44:53.2±2.9, 51°97S×159°63E, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.7/14, mbtmp3.7/3, ML4.1/1, Error ellipse: s-maj=67.7km s-min=45.4km az=171.0, North of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks 11.27 47** 1.2nm,0.3s,baz=156,slow=20,SNR=3.3	P		Pn		06 47 35.8	+0.5
ASAR	**Alice Springs 34.45 315** 0.4nm,0.6s,baz=147,slow=7.9,SNR=3.6	P		P		06 51 43.1	+0.6
H01W1	**Cape Leeuwin H 36.48 280** baz=132,slow=0.7,SNR=568	T		T		07 31 05.5	
H01W2	**Cape Leeuwin H 36.49 280** baz=132,slow=0.7,SNR=616	T		T		07 31 05.5	
H01W3	**Cape Leeuwin H 36.50 280** baz=132,slow=0.7,SNR=521	T		T		07 31 05.5	
WRA	**Warramunga Arr 37.57 319** 0.6nm,0.8s,baz=153,slow=7.6,SNR=4.6	P		P		06 52 08.3	-0.9
H03N3	**Juan Fernandez 80.72 134** baz=213	T		T		08 25 35.0	
H03N2	**Juan Fernandez 80.73 134** baz=213	T		T		08 25 33.9	
H03N1	**Juan Fernandez 80.74 134** baz=213	T		T		08 25 34.9	
H08S2	**Diego Garcia H 82.27 268** baz=142	T		T		08 27 59.7	
H08S1	**Diego Carcia H 82.28 268** baz=142	T		T		08 28 00.7	
H08S3	**Diego Garcia H 82.29 268** baz=142	T		T		08 28 01.6	
AKASG	**Malin Array Be 149.47 288** 0.4nm,0.3s,baz=100,slow=2.3,SNR=3.1	PKPbc		PKPbc		07 04 42.7	-0.6

IDC 02 06:46:46.0±3.2, 9°64S×155°02E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.6/17, mbtmp3.6/5, MS4.0/1, Ms1 4.0/1, ms1mx3.1/23, Error ellipse: s-maj=94.6km s-min=27.3km az=107.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac 16.52 140** comp=Z,556nm,20.4s,baz=36,slow=32	LR		LR		06 55 38.2	
WRA	**Warramunga Arr 22.44 241** 0.6nm,0.9s,baz=64,slow=10,SNR=3.2	P		P		06 51 46.6	-0.2
ASAR	**Alice Springs 24.52 233** 0.7nm,0.7s,baz=65,slow=9.1,SNR=3.5	P		P		06 52 07.6	+0.1
STKA	**Stephens Creek 25.39 207** 2.9nm,0.8s,baz=39,slow=13,SNR=5.1	P		P		06 52 15.2	+0.1
SONM	**Songino Array 71.57 328** 0.3nm,0.3s,baz=140,slow=3.2,SNR=3.0	P		P		06 58 09.7	+0.5
MKAR	**Makanchi Array 85.40 319** 0.3nm,0.7s,baz=95,slow=3.3,SNR=3.3	P		P		06 59 24.9	-0.6

IDC 02 06:49:13.1±2.5, 13°70N×124°03E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/25, mbtmp3.6/4, Error ellipse: s-maj=167.6km s-min=24.3km az=66.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi 31.64 177** 1.2nm,0.7s,baz=5.3,slow=9.3,SNR=3.1	P		P		06 55 37.5	-0.6
WRA	**Warramunga Arr 34.94 163** 0.2nm,0.4s,baz=345,slow=10,SNR=9.2	P		P		06 56 06.0	-0.9
ASAR	**Alice Springs 38.37 165** 0.7nm,0.4s,baz=343,slow=7.0,SNR=11	P		P		06 56 37.3	+1.1
MKAR	**Makanchi Array 47.99 322** 0.3nm,0.4s,baz=116,slow=8.1,SNR=8.8	P		P		06 57 53.6	-0.2

CASC 02 06:58:02.3±1.2, 13°59N×90°80W, h43km±53km, MD3.6, ML3.6, 1C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCG	**Pacaya 0.82 13**	*e*P		Pn		06 58 17.8	0.0
FUG	**Fuego 3 0.85 357**	*e*P		Pn		06 58 18.0	-0.2
JAT	**Jato 1.09 312**	*i*P		Pn		06 58 22.1	+1.1
NBG	**Las Nubes 1.09 24**	*e*P		Pn		06 58 22.2	+0.7
NBG		*e*S		Sn		06 58 36.8	+1.2
RTR	**El Retiro 1.17 75**	*i*P		Pn		06 58 22.8	+0.4
SBLS	**San Blas 1.17 78**	*i*P		Pn		06 58 22.2	-0.4
SNJE	**San Jose 1.20 76**	*e*P		Pn		06 58 22.6	-0.3
SNJE		*e*S		Sn		06 58 39.1	+1.0
RBDL	**Robledal 1.20 64**	*e*P		Pn		06 58 22.6	-0.4
RBDL		*e*S		Sn		06 58 39.1	+0.9
BOQS	**Boqueron 1.49 84**	*e*P		Pn		06 58 26.7	-0.2
BOQS		*e*S		Sn		06 58 45.9	+0.6
SNET	**Serv Nac Est T 1.53 86** comp=Z,972nm,0.2s	AML		AML		06 58 54.7	
LFU	**La Fuente 1.65 84**	*e*P		Pn		06 58 29.1	+0.2
LFRS	**El Faro 1.69 89**	*e*P		Pn		06 58 29.6	+0.1
LFRS		*e*S		Sn		06 58 51.0	+0.9
LBRS	**Las Brisas 1.72 85**	*e*P		Pn		06 58 30.0	+0.1
MRL	**Marmol 1.82 36**	*e*P		Pn		06 58 31.8	+0.4
SNVI	**San Vicente 1.91 89**	*e*P		Pn		06 58 33.0	+0.4
SNVI		*e*S		Sn		06 58 57.4	+1.8
VSM	**San Miguel 2.46 93**	*e*P		Pn		06 58 40.9	+0.5
CNCH	**Conchagua 2.91 96**	*e*P		Pn		06 58 46.4	+0.1
COPN	**Copaltepe 4.34 108**	*e*P		Pn		06 59 05.5	-0.3

IDC 02 07:01:48.1±1.9, 15°28S×173°86W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.8/19, mbtmp3.7/5, Error ellipse: s-maj=121.8km s-min=24.1km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu 2.43 56** 11nm,0.3s,baz=45,slow=6.8,SNR=6.3			Pn	Pn	07 02 21.6	-7.7
AFI	27nm,0.3s,baz=30,slow=23,SNR=4.3			Sn	Sn	07 02 41.1	-19
H11S2	**WAKE ISLAND Hy 38.63 330** baz=152,slow=0.7,SNR=34	T		T		07 50 00.8	
H11S3	**WAKE ISLAND Hy 38.65 330** baz=152,slow=0.7,SNR=40	T		T		07 50 01.7	
H11S1	**WAKE ISLAND Hy 38.65 330** baz=152,slow=0.7,SNR=27	T		T		07 50 02.6	
H11N3	**WAKE ISLAND Hy 39.59 331** baz=152,slow=0.7,SNR=52	T		T		07 51 13.5	
H11N1	**WAKE ISLAND Hy 39.59 331** baz=152,slow=0.7,SNR=42	T		T		07 51 14.0	
H11N2	**WAKE ISLAND Hy 39.61 331** baz=152,slow=0.7,SNR=61	T		T		07 51 15.0	
WRA	**Warramunga Arr 49.44 257** 0.5nm,0.9s,baz=97,slow=7.9,SNR=5.2	P		P		07 10 40.4	-0.1
ASAR	**Alice Springs 49.73 252** 2.9nm,0.9s,baz=85,slow=8.4,SNR=29	P		P		07 10 41.9	-0.7
NVAR	**Mina Array Bea 74.53 42** 0.3nm,0.7s,baz=213,slow=6.5,SNR=3.2	P		P		07 13 28.6	-0.6
TXAR	**Lajitas Array 80.91 56** 0.9nm,1.0s,baz=237,slow=6.9,SNR=5.7	P		P		07 14 05.3	+0.5
ILAR	**Eielson Array 82.41 11** 0.7nm,0.9s,baz=208,slow=6.0,SNR=4.8	P		P		07 14 11.1	-0.6

BRTR	**Keskin Array B 145.78 321** 0.7nm,0.6s,baz=5.7,slow=4.3,SNR=3.7	PKPbc	PKPab	07 21 31.1	+0.9		

*IDC **02** 07:03:59.9±0.9, 15°38S×172°94W, h0km, mb3.8/9, mb1 4.1/9, mb1mx4.0/23, mbtmp3.9/9, Error ellipse: s-maj=47.6km s-min=17.4km az=141.0*
*NEIC **02** 07:04:01.4±0.7, 15°24S×172°91W, h10km, mb4.1/2, Error ellipse: s-maj=33.0km s-min=12.5km az=139.0*
*ISCJB **02** 07:04:02.6±0.6, 15°2S±0°2×173°0W±0°1, h29km, mb3.8/10, Error ellipse: s-maj=28.6km s-min=11.9km az=140.9*
ISC 02 07:04:04.7±0.7, 15°3S±0°2×173°0W±0°2, h29km, n27, σ0s90/25, mb4.0/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu 1.84 40**			*e*Pn	Pn	07 04 28.4	-6.0
AFI	**Afiamalu 1.84 40** 69nm,0.3s,baz=16,slow=13,SNR=8.9			Pn	Pn	07 04 28.0	-6.4
AFI	323nm,0.3s,baz=58,slow=23,SNR=18			Sn	Sn	07 04 46.2	-11
DZM	**Mont Dzumac 20.58 248**	P		**P**		**07 08 42.3**	**+0.8**
DZM	**Mont Dzumac 20.58 248** 8.0nm,1.1s,baz=81,slow=19,SNR=2.4	P		**P**		**07 08 42.3**	**+0.8**
URZ	**Urewera 24.45 199**	P		**P**		**07 09 20.3**	**-0.8**
URZ	**Urewera 24.45 199** 6.5nm,1.0s,baz=320,slow=2.6,SNR=3.5	P		**P**		**07 09 20.3**	**-0.8**
STKA	**Stephens Creek 44.40 240**	P		**P**		**07 12 12.7**	**-0.4**
STKA	**Stephens Creek 44.40 240** 1.2nm,0.6s,baz=112,slow=5.4,SNR=2.8	P		**P**		**07 12 12.7**	**-0.4**
WRAB	**Tennant Creek 50.22 257** 1.7nm,0.7s	*e*P		**P**		**07 12 59.1**	**+0.5**
WRA	**Warramunga Arr 50.23 257**	P		**P**		**07 12 57.4**	**-1.2**
WRA	**Warramunga Arr 50.23 257** 1.3nm,0.7s,baz=82,slow=6.1,SNR=13	P		**P**		**07 12 57.4**	**-1.2**
AS31	**Alice Springs 50.49 252**	*e*P		**P**		**07 13 01.8**	**+1.2**
ASAR	**Alice Springs 50.50 252**	P		**P**		**07 12 59.9**	**-0.7**
ASAR	**Alice Springs 50.50 252** 5.2nm,0.6s,baz=88,slow=8.1,SNR=38	P		**P**		**07 12 59.8**	**-0.7**
NVAR	**Mina Array Bea 74.02 42**	P		**P**		**07 15 37.0**	**-1.1**
NVAR	**Mina Array Bea 74.02 42** 0.3nm,0.7s,baz=218,slow=6.7,SNR=2.6	P		**P**		**07 15 37.0**	**-1.1**
QSPA	**South Pole Qui 74.71 180** 2.4nm,1.0s	*e*P		**P**		**07 15 42.4**	**+0.7**
TXAR	**Lajitas Array 80.25 56**	P		**P**		**07 16 14.3**	**+1.1**
TXAR	**Lajitas Array 80.25 56** 0.3nm,0.8s,baz=250,slow=3.6,SNR=3.9	P		**P**		**07 16 14.3**	**+1.1**
PDAR	**Pinedale Array 81.96 42**	P		**P**		**07 16 21.0**	**-1.2**
PDAR	**Pinedale Array 81.96 42** 0.3nm,0.6s,baz=175,slow=2.3,SNR=2.7	P		**P**		**07 16 21.0**	**-1.2**
ILAR	**Eielson Array 82.30 11**	P		**P**		**07 16 23.1**	**-0.1**
ILAR	**Eielson Array 82.30 11** 0.4nm,0.7s,baz=224,slow=6.3,SNR=7.0	P		**P**		**07 16 23.1**	**-0.1**
GERES	**GERESS Array B 146.13 352**	PKPbc		**PKPab**		**07 23 43.6**	**+0.8**
GERES	**GERESS Array B 146.13 352** 0.3nm,0.3s,baz=16,slow=6.0,SNR=3.5	PKPbc		**PKPab**		**07 23 43.6**	**+0.8**
BRTR	**Keskin Array B 146.34 321**	PKPbc		**PKPab**		**07 23 44.1**	**+0.1**
BRTR	**Keskin Array B 146.34 321** 1.3nm,0.8s,baz=90,slow=1.2,SNR=5.0	PKPbc		**PKPab**		**07 23 44.1**	**+0.1**

NNC 02 07:07:52.4±0.6, 49°92N×78°69E, h0km, mb3.5, mpv3.3, 14C-6D, Error ellipse: s-maj=8.5km s-min=3.1km az=84.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR10	**Kurchatov Arra 0.61 349**	P		Pb		07 08 05.2	-0.8
KUR10		S		Sg		07 08 13.6	+1.4
KUR09	**Kurchatov Arra 0.63 349**	P		Pb		07 08 05.5	-0.9
KUR09		S		Sg		07 08 14.2	+1.4
KUR08	**Kurchatov Arra 0.65 350**	P		Pb		07 08 05.9	-0.8
KUR08		S		Sg		07 08 14.2	+0.8
KUR07	**Kurchatov Arra 0.67 351**	P		Pb		07 08 06.2	-0.7
KUR07		S		Sg		07 08 14.7	+0.7
KUR11	**Kurchatov Arra 0.68 360**	P		Pg		07 08 06.3	+0.8
KUR11		S		Sg		07 08 15.0	+0.7
KUR12	**Kurchatov Arra 0.69 358**	P		Pg		07 08 06.3	+0.7
KUR12		S		Sg		07 08 14.2	-0.2
KUR06	**Kurchatov Arra 0.69 351**	P		Pg		07 08 06.4	+0.8
KUR06		S		Sg		07 08 15.8	+1.2
KUR13	**Kurchatov Arra 0.69 357**	P		Pg		07 08 06.4	+0.8
KUR13		S		Sg		07 08 14.6	0.0
KUR14	**Kurchatov Arra 0.70 355**	P		Pg		07 08 06.5	+0.8
KUR14		S		Sg		07 08 15.1	+0.4
KUR15	**Kurchatov Arra 0.70 353**	P		Pg		07 08 06.6	+0.7
KUR15		S		Sg		07 08 16.1	+1.1
KURBB	**Kurchatov Arra 0.71 352** 82nm,0.3s	⇓P		Pg		07 08 06.7	+0.8
KURBB	521nm,0.7s	⇑S		Sg		07 08 15.9	+0.7
KUR16	**Kurchatov Arra 0.72 350**	P		Pb		07 08 07.0	-0.7
KUR16		S		Sg		07 08 16.2	+0.8
KUR17	**Kurchatov Arra 0.72 349**	P		Pb		07 08 07.2	-0.7
KUR17		S		Sg		07 08 16.6	+0.9
KUR05	**Kurchatov Arra 0.73 352**	P		Pb		07 08 07.2	-0.8
KUR05		S		Sg		07 08 15.9	+0.1
KUR18	**Kurchatov Arra 0.73 347**	P		Pg		07 08 07.2	+0.8
KUR18		S		Sg		07 08 16.9	+1.0
KUR19	**Kurchatov Arra 0.74 346**	P		Pg		07 08 07.2	+0.6
KUR19		S		Sb		07 08 17.7	-1.2
KUR04	**Kurchatov Arra 0.75 353**	P		Pb		07 08 07.6	-0.7
KUR04		S		Sg		07 08 16.5	+0.1
KUR20	**Kurchatov Arra 0.75 345**	P		Pg		07 08 07.0	+0.2
KUR20		S		Sb		07 08 18.3	-0.8
KUR03	**Kurchatov Arra 0.77 353**	P		Pb		07 08 08.0	-0.6
KUR03		S		Sg		07 08 17.2	+0.2
KUR02	**Kurchatov Arra 0.79 354**	P		Pb		07 08 08.3	-0.6
KUR02		S		Sg		07 08 17.7	+0.1
KURK	**Kurchatov** 20nm,0.3s	⇑P		Pg		07 08 08.2	+0.5
KURK	49nm,0.5s	⇑S		Sg		07 08 17.2	-0.8
KUR01	**Kurchatov Arra 0.80 354**	P		Pb		07 08 08.8	-0.4
KUR01		S

58nm,0.3s,baz=187,slow=23,SNR=9.8
H11S2 WAKE ISLAND Hy 38.35 330 T T 08 03 43.2
baz=152,slow=0.7,SNR=17
H11S3 WAKE ISLAND Hy 38.36 330 T T 08 03 43.0
baz=152,slow=0.7,SNR=17
H11S1 WAKE ISLAND Hy 38.36 330 T T 08 03 45.1
baz=152,slow=0.7,SNR=22
H11N3 WAKE ISLAND Hy 39.30 331 T T 08 05 04.9
baz=152,slow=0.7,SNR=16
H11N1 WAKE ISLAND Hy 39.30 331 T T 08 05 05.2
baz=152,slow=0.7,SNR=21
H11N2 WAKE ISLAND Hy 39.32 331 T T 08 05 02.4
baz=152,slow=0.7,SNR=18
WRA Warramunga Arr 49.41 256 P P 07 24 21.2 -0.5
0.2nm,0.6s,baz=96,slow=6.3,SNR=5.4
ASAR Alice Springs 49.72 252 P P 07 24 23.8 -0.3
1.4nm,0.6s,baz=85,slow=8.0,SNR=20
TXAR Lajitas Array 80.84 56 P P 07 27 46.1 +0.2
0.1nm,0.4s,baz=268,slow=5.3,SNR=2.4
ILAR Eielson Array 82.16 11 P P 07 27 51.0 -1.0
0.4nm,1.0s,baz=203,slow=6.6,SNR=2.8
BRTR Keskin Array B 145.51 321 PKPbc PKPab 07 35 11.9 +1.3
0.6nm,0.6s,baz=64,slow=3.4,SNR=3.6

IDC 02 07:17:33.8±1.6, 24°09N×36°55E, h0km, mb3.5/4, mb1 3.5/6, mb1mx3.4/28, mbtmp3.5/6, ML2.9/2, Error ellipse: s-maj=28.7km s-min=25.1km az=147.0, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EIL	**Elat**		**5.74**	**346**	Pn	Pn		07 19 00.9	+0.6
	0.2nm,0.3s,baz=131,slow=19,SNR=3.7								
EIL					Lg	Lg		07 20 34.4	
	0.5nm,0.3s,baz=164,slow=15,SNR=2.1								
ASF	**Jabal al Asfar**		**8.06**	**2**	Pn	Pn		07 19 32.7	+0.4
	0.3nm,0.3s,baz=298,slow=15,SNR=4.0								
ASF					Lg	Lg		07 21 41.2	
	0.4nm,0.3s,baz=147,slow=22,SNR=4.4								
TORD	**Torodi Ar. Bea**		**34.69**	**258**	P	P		07 24 24.8	-0.7
	0.4nm,0.6s,baz=57,slow=8.4,SNR=4.4								
ESDC	**Sonseca Array**		**37.41**	**304**	P	P		07 24 49.1	+0.5
	0.2nm,0.4s,baz=89,slow=8.6,SNR=3.0								
MKAR	**Makanchi Array**		**42.85**	**46**	P	P		07 25 33.6	-0.1
	0.4nm,0.6s,baz=249,slow=7.2,SNR=4.0								
SONM	**Songino Array**		**59.20**	**47**	P	P		07 27 36.6	-0.2
	0.7nm,0.8s,baz=266,slow=5.8,SNR=3.5								

IDC 02 07:21:50.1±6.6, 17°69S×179°73W, h630km±82km, mb3.1/8, mb1 3.3/8, mb1mx3.1/20, mbtmp3.1/8, Error ellipse: s-maj=33.0km s-min=25.3km az=91.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**		**37.63**	**241**	P	P		07 28 14.2	+0.4
	1.9nm,0.4s,baz=86,slow=6.5,SNR=7.4								
WRA	**Warramunga Arr**		**43.43**	**259**	P	P		07 28 59.1	-0.7
	0.9nm,0.4s,baz=96,slow=7.1,SNR=44								
ASAR	**Alice Springs**		**43.64**	**254**	P	P		07 29 01.6	+0.2
	13nm,0.6s,baz=89,slow=8.0,SNR=217								
ASAR					PcP	PcP		07 30 34.4	+0.2
	0.6nm,0.5s,baz=99,slow=3.8,SNR=4.9								
FITZ	**Fitzroy Crossi**		**51.82**	**261**	P	P		07 30 02.4	+0.3
	1.3nm,0.5s,baz=177,slow=5.8,SNR=7.5								
VNDA	**Vanda**		**60.55**	**185**	P	P		07 31 00.8	0.0
	0.5nm,0.4s,baz=8.3,slow=8.6,SNR=8.9								
NVAR	**Mina Array Bea**		**80.15**	**44**	P	P		07 32 57.5	+0.7
	0.3nm,0.8s,baz=224,slow=7.6,SNR=3.9								
MAW	**Mawson**		**83.63**	**200**	P	P		07 33 13.4	-0.2
	1.8nm,0.6s,baz=148,slow=6.3,SNR=10.0								
ILAR	**Eielson Array**		**85.97**	**13**	P	P		07 33 24.2	-0.5
	0.1nm,0.3s,baz=219,slow=6.3,SNR=3.3								

IDC 02 07:27:56.6±2.9, 8.°73S×113.°92E, h0km, mb3.1/3, mb1 3.4/3, mb1mx3.3/21, mbtmp3.2/3, Error ellipse: s-maj=171.3km s-min=26.3km az=48.0
ISCJB 02 07:28:03.6±0.8, 9.°23S±0.°08×113.°46E±0.°06, h73km, mb3.1/3, Error ellipse: s-maj=12.4km s-min=7.7km az=24.2
DJA 02 07:28:04.9±1.2, 9.°S±7.°×11.°3E±.°, h25km±10km, M3.7/11, MLv3.7/11

ISC 02 07:28:04.3±1.3, 9°2S±0.°1×113°46E±0.°06, h73km, n13, σ1°47/15, mb3.2/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**		**0.92**	**359**	P	**Pn**		**07 28 20.4**	**-1.5**
GMJI					S	**Sn**		**07 28 33.0**	**-2.0**
KRKI	**Karangkates**		**1.43**	**316**	P	**Pn**		**07 28 28.7**	**+0.3**
BLJI	**Banyuglugur**		**1.45**	**5**	P	**Pn**		**07 28 29.7**	**+1.0**
ABJI	**Asem Bagus**		**1.59**	**29**	P	**Pn**		**07 28 32.9**	**+2.4**
PWJI	**Pagerwojo**		**2.01**	**305**	P	**Pn**		**07 28 36.0**	**-0.1**
PWJI					S	**Sn**		**07 29 00.0**	**-0.3**
SRBI	**Singaraja**		**2.06**	**58**	P	**Pn**		**07 28 37.6**	**+0.8**
SJI	**Sawahan**		**2.21**	**311**	P	**Pn**		**07 28 40.6**	**+1.6**
PCJI	**Pacitan**		**2.46**	**294**	P	**Pn**		**07 28 42.5**	**+0.3**
GRJI	**Gresik**		**2.46**	**337**	P	**Pn**		**07 28 44.0**	**+1.7**
UGM	**Wanagama**		**3.17**	**294**	P	**Pn**		**07 28 53.4**	**+1.5**
WRA	**Warramunga Arr**		**22.83**	**120**	P	**P**		**07 32 59.6**	**-1.9**
	0.6nm,0.6s,baz=298,slow=11,SNR=4.8								
ASAR	**Alice Springs**		**24.27**	**129**	P	**P**		**07 33 15.2**	**+0.3**
	0.2nm,0.4s,baz=300,slow=8.6,SNR=4.4								
MKAR	**Makanchi Array**		**62.28**	**336**	P	**P**		**07 38 19.0**	**+0.3**
	0.2nm,0.6s,baz=146,slow=6.6,SNR=2.7								

IDC 02 07:38:17.3±1.6, 15°21S×177°39W, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.9/19, mbtmp3.9/7, MS3.9/7, Ms1 3.8/7, ms1mx3.5/28, Error ellipse: s-maj=74.3km s-min=25.4km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**		**5.59**	**77**	LR	LR		07 41 27.2	
	comp=Z,592nm,19.5s,baz=273,slow=34								
RAO	**Raoul Island**		**13.99**	**182**	LR	LR		07 46 09.1	
	comp=Z,415nm,22.0s,baz=75,slow=34								
DZM	**Mont Dzumac**		**16.76**	**244**	LR	LR		07 47 34.0	
	comp=Z,537nm,18.7s,baz=30,slow=33								
HNR	**Honiara**		**22.86**	**282**	LR	LR		07 50 38.0	
	comp=Z,112nm,19.7s,baz=16,slow=32								
URZ	**Urewera**		**23.47**	**191**	LR	LR		07 51 43.3	
	comp=Z,261nm,20.9s,baz=251,slow=34								
STKA	**Stephens Creek**		**40.82**	**239**	P	P		07 46 00.6	-0.2
	6.0nm,1.1s,baz=63,slow=2.3,SNR=4.8								
STKA					LR	LR		08 00 49.4	
	comp=Z,255nm,18.3s,baz=27,slow=33								
ASAR	**Alice Springs**		**46.51**	**252**	P	P		07 46 46.0	-0.8
	0.6nm,0.7s,baz=80,slow=8.2,SNR=5.2								
PETK	**Petropavlovsk-**		**71.34**	**344**	P	P		07 49 38.5	-0.3
	2.7nm,0.8s,baz=108,slow=9.3,SNR=3.6								
NVAR	**Mina Array Bea**		**76.81**	**44**	P	P		07 50 11.3	-0.1
	1.5nm,1.0s,baz=233,slow=10.0,SNR=3.9								
ILAR	**Eielson Array**		**83.05**	**13**	P	P		07 50 42.3	-2.0
	1.0nm,1.0s,baz=226,slow=6.1,SNR=6.0								
PDAR	**Pinedale Array**		**84.73**	**43**	P	P		07 50 54.5	+0.8
	0.5nm,0.8s,baz=221,slow=3.6,SNR=3.8								
MAW	**Mawson**		**86.72**	**199**	LR	LR		08 26 59.3	
	comp=Z,97nm,18.1s,baz=16,slow=34								
SONM	**Songino Array**		**92.15**	**319**	P	P		07 51 30.3	+1.4
	0.3nm,0.5s,baz=93,slow=5.1,SNR=3.8								
GERES	**GERESS Array B**		**145.24**	**347**	PKPbc	PKPdf		07 57 57.2	0.0
	0.2nm,0.4s,baz=46,slow=2.8,SNR=8.0								

IDC 02 07:40:56.7±5.2, 6.°05S×130.°74E, h54km±51km, mb3.8/7, mb1 3.9/10, mb1mx3.7/20, mbtmp3.8/10, ML3.8/3, MS2.9/1, Ms1 2.9/1, ms1mx2.5/33, Error ellipse: s-maj=46.2km s-min=23.8km az=58.0
ISCJB 02 07:40:57.8±0.5, 6.°42S±0.°04×130.°65E±0.°08, h90km, mb4.0/8, Error ellipse: s-maj=11.3km s-min=5.3km az=166.6
NEIC 02 07:40:58.6±2.5, 6.°17S×130.°56E, h74km±26km, mb4.5/1, Error ellipse: s-maj=22.7km s-min=16.6km az=51.0
AUST 02 07:41:03.1±0.6, 6.°27S×130.°55E, h129km±14km, Error ellipse: s-maj=11.1km s-min=8.6km az=86.0

ISC 02 07:40:58.7±0.6, 6°55S±0.°06×130°61E±0.°09, h90km, n31, σ1°63/32, mb4.0/8, 1C-5D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TLE	**Tual**		**2.30**	**67**	⇓P	Pn		07 41 42.1	+7.2
	baz=2.3,SNR=13								
FAKI	**Fak Fak**		**3.96**	**24**	⇓P	**Pn**		**07 41 58.0**	**+0.8**
	baz=3.8,SNR=10								
SWI	**Sorong**		**5.69**	**7**	⇓P	**Pn**		**07 42 21.0**	**+0.3**
	baz=5.5,SNR=4.2								
SOEI	**Soe**		**7.04**	**243**	⇑P	Pn		07 42 45.7	+6.5
	baz=7.1,SNR=3.7								
BATI	**Baumata**		**7.77**	**242**	LR	LR		07 46 29.0	
	comp=Z,84nm,19.0s,baz=137,slow=41								
FITZ	**Fitzroy Crossi**		**12.46**	**202**	*e*Pn	Pn		07 43 57.8	+5.0
	4.1nm,0.5s								
FITZ					*e*Sn	**Sn**		**07 46 14.0**	**+4.2**
FITZ	**Fitzroy Crossi**		**12.46**	**202**	P	Pn		07 43 57.8	+5.0
	1.4nm,0.3s,baz=32,slow=10,SNR=29								
FITZ					S	**Sn**		**07 46 07.6**	**-2.2**
	0.5nm,0.3s,baz=43,slow=9.7,SNR=3.5								
WRAB	**Tennant Creek**		**13.79**	**165**	*e*Pn	**P**		**07 44 14.7**	**-1.0**
WRAB					*e*Sn	**Sn**		**07 46 44.2**	**+2.2**
WRA	**Warramunga Arr**		**13.79**	**165**	P	**P**		**07 44 14.2**	**-1.5**
WRA					S	**Sn**		**07 46 43.4**	**+1.3**
WRA	**Warramunga Arr**		**13.79**	**165**	P	**P**		**07 44 14.2**	**-1.5**
	0.2nm,0.3s,baz=330,slow=14,SNR=19								
WRA					S	**Sn**		**07 46 43.4**	**+1.3**
	1.2nm,0.3s,baz=350,slow=20,SNR=8.1								
COEN	**Coen**		**14.38**	**122**	*e*P	**P**		**07 44 23.3**	**+1.0**
COEN					*e*S	**Sn**		**07 46 55.5**	**-0.9**
ASAR	**Alice Springs**		**17.31**	**170**	P	P		07 45 02.2	+7.4
ASAR					S	**Sn**		**07 48 05.1**	**-2.0**
ASAR	**Alice Springs**		**17.31**	**170**	P	P		07 45 02.2	+7.4
	0.2nm,0.3s,baz=355,slow=12,SNR=19								
ASAR					S	**Sn**		**07 48 05.1**	**-2.0**
	0.2nm,0.3s,baz=350,slow=27,SNR=7.1								
BTDF	**Bukit Timah Da**		**27.92**	**285**	⇓P	**P**		**07 46 41.1**	**+0.4**
	baz=28,SNR=6.7								
BTDF					⇓P	**P**		**07 46 41.1**	**+0.4**
	baz=28,SNR=6.7								
CMAR	**Chiang Mai Arr**		**39.92**	**309**	P	**P**		**07 48 24.1**	**-0.2**
CMAR	**Chiang Mai Arr**		**39.92**	**309**	P	**P**		**07 48 24.1**	**-0.2**
	0.9nm,0.3s,baz=128,slow=6.9,SNR=5.4								
SONM	**Songino Array**		**58.22**	**341**	P	**P**		**07 50 42.9**	**-0.8**
SONM	**Songino Array**		**58.22**	**341**	P	**P**		**07 50 42.9**	**-0.8**
	0.6nm,0.6s,baz=153,slow=7.1,SNR=3.3								
PETK	**Petropavlovsk-**		**63.72**	**18**	P	**P**		**07 51 20.0**	**-0.6**
PETK	**Petropavlovsk-**		**63.72**	**18**	P	**P**		**07 51 20.0**	**-0.6**
	1.4nm,0.6s,baz=183,slow=2.5,SNR=3.0								
MKAR	**Makanchi Array**		**68.19**	**326**	P	**P**		**07 51 50.0**	**+0.6**
MKAR	**Makanchi Array**		**68.19**	**326**	P	**P**		**07 51 50.0**	**+0.6**
	3.4nm,0.5s,baz=113,slow=9.1,SNR=32								
ZALV	**Zalesovo Beam**		**71.46**	**333**	P	**P**		**07 52 08.1**	**-1.2**
ZALV	**Zalesovo Beam**		**71.46**	**333**	P	**P**		**07 52 08.1**	**-1.2**
	0.8nm,0.3s,baz=126,slow=7.3,SNR=3.2								
BVAR	**Borovoye Array**		**78.01**	**328**	P	**P**		**07 52 47.0**	**-0.2**
BVAR	**Borovoye Array**		**78.01**	**328**	P	**P**		**07 52 47.0**	**-0.2**
	0.7nm,0.4s,baz=128,slow=11,SNR=3.6								
QSPA	**South Pole Qui**		**83.42**	**180**	*e*P	P		07 53 19.7	+3.7
	8.1nm,1.7s								
ILAR	**Eielson Array**		**92.69**	**25**	P	**P**		**07 53 58.6**	**-1.6**
ILAR	**Eielson Array**		**92.69**	**25**	P	**P**		**07 53 58.6**	**-1.6**
	0.2nm,0.6s,baz=290,slow=5.3,SNR=3.8								
LPAZ	**La Paz**		**150.69**	**141**	*e*PKPbc	**PKPbc**		**08 00 45.3**	**+3.1**
LPAZ	**La Paz**		**150.69**	**141**	PKPbc	**PKPbc**		**08 00 45.4**	**+3.2**
	1.5nm,0.4s,baz=337,slow=2.1,SNR=26								

DDA 02 07:47:51.0, 37.°57N×35.°65E, h7km, MD2.8
CSEM 02 07:47:51.0, 37.°57N×35.°65E, h7km, MD2.8, After DDA

ISC 02 07:47:51.3±1.0, 37°52N±0.°06×35°68E±0.°03, h13km±10km, n9, σ0°39/14, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**		**0.12**	**110**	*e*PG	**Pg**		**07 47 55.4**	**-0.2**
KOZT					*e*SG	**Sg**		**07 47 57.5**	**+0.5**
ANDN	**Andirin**		**0.53**	**84**	*i* P	**Pg**		**07 48 01.4**	**-0.4**
ANDN	**Andirin**		**0.53**	**84**	*i* P	**Pg**		**07 48 01.4**	**-0.4**
KARA	**Karaisali**		**0.56**	**242**	*e*PG	**Pg**		**07 48 02.0**	**-0.4**
GULE	**Gulek**		**0.76**	**252**	*i* P	**Pg**		**07 48 05.6**	**-0.5**
GULE					*i* S	**Sb**		**07 48 17.0**	**+0.2**
GULE	**Gulek**		**0.76**	**252**	*i* P	**Pg**		**07 48 05.6**	**-0.5**
GULE					*i* S	**Sb**		**07 48 17.0**	**+0.2**
AYKD	**Aykdinkavak**		**0.90**	**97**	*e*P	**Pn**		**07 48 10.2**	**+0.4**
AVNT	**Avonos**		**1.41**	**333**	*e*P	**Pb**		**07 48 17.8**	**+0.1**
AVNT					*i* S	**Sb**		**07 48 35.5**	**-0.2**
AVNT	**Avonos**		**1.41**	**333**	*e*P	**Pb**		**07 48 17.8**	**+0.1**
AVNT					*i* S	**Sb**		**07 48 35.6**	**-0.2**

IDC 02 07:57:23.4±0.6, 15.°55S×173.°73W, h0km, mb4.1/12, mb1 4.4/12, mb1mx4.2/22, mbtmp4.1/12, MS3.6/2, Ms1 3.6/2, ms1mx3.0/32, Error ellipse: s-maj=31.4km s-min=15.8km az=133.0
NEIC 02 07:57:24.9±0.2, 15.°54S×173.°75W, h10km, mb4.5/9, Error ellipse: s-maj=12.9km s-min=6.6km az=134.0
ISCJB 02 07:57:27.7±0.4, 15.°6S±0.°1×173.°8W±0.°1, h42km, mb4.3/19, MS3.5/2, Error ellipse: s-maj=20.0km s-min=8.7km az=136.6

ISC 02 07:57:29.3±0.6, 15°6S±0.°1×173°7W±0.°1, h42km, n53, σ0°66/44, mb4.3/19, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**		**2.48**	**49**	*e*Pn	Pn		07 57 58.5	-8.9
AFI					*e*Sn	**Sn**		**07 58 34.9**	**-1.7**
AFI	**Afiamalu**		**2.48**	**49**	Pn	Pn		07 57 58.4	-8.9
	16nm,0.3s,baz=42,slow=4.7,SNR=17								
AFI					Sn	Sn		07 58 24.1	-12
	107nm,0.3s,baz=20,slow=22,SNR=12								
URZ	**Urewera**		**24.02**	**198**	P	**P**		**08 02 40.9**	**+0.6**
URZ	**Urewera**		**24.02**	**198**	P	**P**		**08 02 40.9**	**+0.6**
	3.3nm,0.7s,baz=12,slow=9.3,SNR=2.5								
HNR	**Honiara**		**26.42**	**280**	LR	LR		08 11 27.1	
	comp=Z,174nm,18.8s,baz=256,slow=32								
H11S2	**WAKE ISLAND Hy 38.95 330**				T	T		08 46 27.6	
	baz=153,slow=0.7,SNR=38								
H11S3	**WAKE ISLAND Hy 38.96 330**				T	T		08 46 28.2	
	baz=153,slow=0.7,SNR=62								
H11S1	**WAKE ISLAND Hy 38.97 330**				T	T		08 46 28.9	
	baz=153,slow=0.7,SNR=42								
H11N3	**WAKE ISLAND Hy 39.31 331**				T	T		08 47 38.4	
	baz=152,slow=0.7,SNR=98								
H11N1	**WAKE ISLAND Hy 39.91 331**				T	T		08 47 35.7	
	baz=152,slow=0.7,SNR=88								
H11N2	**WAKE ISLAND Hy 39.92 331**				T	T		08 47 39.8	
	baz=152,slow=0.7,SNR=98								
STKA	**Stephens Creek**		**43.70**	**240**	P	**P**		**08 05 29.5**	**-1.0**
STKA	**Stephens Creek**		**43.70**	**240**	P	**P**		**08 05 29.5**	**-1.0**
	4.7nm,0.9s,baz=61,slow=8.2,SNR=3.7								
WRAB	**Tennant Creek**		**49.51**	**257**	*e*P	**P**		**08 06 15.6**	**-0.6**
	18nm,1.5s								
WRA	**Warramunga Arr**		**49.52**	**257**	P	**P**		**08 06 15.3**	**-1.0**
WRA	**Warramunga Arr**		**49.52**	**257**	P	**P**		**08 06 15.3**	**-1.0**
	1.9nm,0.6s,baz=94,slow=7.9,SNR=24								
AS31	**Alice Springs**		**49.78**	**252**	*e*P	**P**		**08 06 18.1**	**-0.2**
ASAR	**Alice Springs**		**49.78**	**252**	P	**P**		**08 06 17.4**	**-0.8**
ASAR	**Alice Springs**		**49.78**	**252**	P	**P**		**08 06 17.4**	**-0.8**
	16nm,0.7s,baz=85,slow=8.0,SNR=144								
MBWA	**Marble Bar**		**63.03**	**254**	*e*P	**P**		**08 07 52.7**	**+0.1**
	10nm,0.8s								
SBA	**Scott Base**		**63.07**	**185**	*e*P	**P**		**08 07 52.9**	**+1.0**
	2.3nm,0.8s								
VNDA	**Vanda**		**63.19**	**186**	*e*P	**P**		**08 07 52.9**	**+0.2**
	1.1nm,0.7s								
VNDA	**Vanda**		**63.19**	**186**	P	**P**		**08 07 52.8**	**+0.2**
	1.1nm,0.7s,baz=1.5,slow=8.2,SNR=6.3								
PETK	**Petropavlovsk-**		**72.69**	**342**	P	**P**		**08 08 53.7**	**+1.0**
PETK	**Petropavlovsk-**		**72.69**	**342**	P	**P**		**08 08 53.7**	**+1.0**
	1.8nm,0.7s,baz=144,slow=11,SNR=3.1								
YBH	**Yreka Blue Hor**		**73.90**	**37**	P	**P**		**08 09 00.8**	**+0.6**
YBH	**Yreka Blue Hor**		**73.90**	**37**	P	**P**		**08 09 00.8**	**+0.6**
	3.2nm,0.9s,baz=263,slow=6.2,SNR=5.0								
QSPA	**South Pole Qui**		**74.48**	**180**	*e*P	**P**		**08 09 02.5**	**-0.8**
	3.9nm,1.0s								
NVAR	**Mina Array Bea**		**74.64**	**42**	P	**P**		**08 09 04.8**	**0.0**
NVAR	**Mina Array Bea**		**74.64**	**42**	P	**P**		**08 09 04.8**	**0.0**
	1.2nm,0.7s,baz=230,slow=8.9,SNR=8.9								
MOD	**Modoc**		**75.43**	**38**	*e*P	**P**		**08 09 09.9**	**+0.8**
	6.8nm,0.8s								
KSRS	**Korea Array**		**76.07**	**316**	LR	LR		08 37 59.9	
	comp=Z,22nm,20.6s,baz=80,slow=32								
WVOR	**Wild Horse Val**		**76.74**	**39**	*e*P	**P**		**08 09 17.1**	**+0.6**
	3.2nm,1.0s								
TXAR	**Lajitas Array**		**80.94**	**56**	P	**P**		**08 09 40.4**	**+0.6**
TXAR	**Lajitas Array**		**80.94**	**56**	P	**P**		**08 09 40.4**	**+0.6**
	1.2nm,1.1s,baz=227,slow=8.3,SNR=6.8								
ANMO	**Albuquerque**		**81.13**	**50**	*e*P	**P**		**08 09 40.3**	**-0.5**
	3.9nm,1.4s								
ANMO	**Albuquerque**		**81.13**	**50**	P	**P**		**08 09 41.1**	**+0.3**
	0.4nm,0.3s,baz=216,slow=8.7,SNR=3.0								
COLA	**College**		**82.57**	**11**	*e*P	**P**		**08 09 47.8**	**+0.4**
	24nm,1.1s								
PDAR	**Pinedale Array**		**82.58**	**42**	P	**P**		**08 09 47.6**	**-0.8**
PDAR	**Pinedale Array**		**82.58**	**42**	P	**P**		**08 09 47.6**	**-0.8**
	1.0nm,0.9s,baz=198,slow=3.9,SNR=7.5								
ILAR	**Eielson Array**		**82.66**	**11**	P	**P**		**08 09 48.0**	**0.0**
ILAR	**Eielson Array**		**82.66**	**11**	P	**P**		**08 09 48.0**	**0.0**
	0.6nm,0.9s,baz=221,slow=6.2,SNR=5.1								
HRY	**Holter Researc**		**83.15**	**38**	*e*P	**P**		**08 09 51.1**	**+0.1**
ABTX	**Abilene, Hawle**		**85.39**	**54**	*e*P	**P**		**08 10 02.6**	**-0.1**
KMBO	**Kilima Mbogo**		**145.20**	**244**	PKPbc	**PKPdf**		**08 17 04.0**	**+0.2**
KMBO	**Kilima Mbogo**		**145.20**	**244**	PKPbc	**PKPdf**		**08 17 04.0**	**+0.2**
	0.7nm,0.6s,baz=66,slow=10,SNR=2.8								
BR131	**Keskin Array S**		**146.09**	**321**	*e*PKPbc	**PKPab**		**08 17 06.1**	**+0.2**
BRTR	**Keskin Array B**		**146.09**	**321**	PKPbc	**PKPab**		**08 17 05.9**	**-0.1**
BRTR	**Keskin Array B**		**146.09**	**321**	PKPbc	**PKPab**		**08 17 05.9**	**-0.1**
	3.5nm,0.9s,baz=85,slow=2.9,SNR=12								
GERES	**GERESS Array B**		**146.25**	**351**	PKPbc	**PKPbc**		**08 17 05.1**	**-0.3**
GERES	**GERESS Array B**		**146.25**	**351**	PKPbc	**PKPbc**		**08 17 05.1**	**-0.3**
	0.3nm,0.2s,baz=64,slow=6.1,SNR=5.3								
DAVOX	**Davos/Dischmat**		**148.73**	**355**	PKPbc	**PKPbc**		**08 17 13.0**	**+0.6**
DAVOX	**Davos/Dischmat**		**148.73**	**355**	PKPbc	**PKPbc**		**08 17 13.0**	**+0.6**
	3.2nm,0.7s,baz=355,slow=12,SNR=4.2								

IDC 02 08:00:06.8±3.2, 52°49N×34°95E, h0km, mb1 3.8/2, mb1mx3.3/25, mbtmp3.8/2, ML3.1/3, Error ellipse: s-maj=34.9km s-min=11.3km az=111.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**		**4.00**	**246**	Pn	Pn		08 01 06.9	-2.3
	0.8nm,0.3s,baz=62,slow=16,SNR=3.9								
AKASG					Pg	Pb		08 01 17.6	-0.4
	2.4nm,0.3s,baz=58,slow=16,SNR=8.2								
AKASG					Sn	Sn		08 01 55.0	-1.8
	1.5nm,0.3s,baz=57,slow=19,SNR=4.4								
AKASG					Lg	Lg		08 02 11.3	
	1.7nm,0.3s,baz=68,slow=30,SNR=4.2								
FINES	**FINESS Array B**		**10.19**	**335**	Pn	Pn		08 02 30.2	-3.9
	0.2nm,0.3s,baz=141,slow=14,SNR=4.4								
FINES					Sn	Sn		08 04 19.5	-9.4
	0.2nm,0.3s,baz=150,slow=23,SNR=4.3								
FINES					Lg	Lg		08 05 25.6	
	0.2nm,0.3s,baz=161,slow=31,SNR=2.4								
ARCES	**ARCESS Array B**		**17.66**	**349**	P	Pn		08 04 12.1	-1.9
	0.3nm,0.3s,baz=159,slow=10,SNR=12								

IDC 02 08:11:35.2±0.6, 17.°78S×173.°43W, h0km, mb4.0/12, mb1 4.3/12, mb1mx4.1/21, mbtmp4.0/12, MS3.8/9, Ms1 3.8/9, ms1mx3.4/37, Error ellipse: s-maj=23.8km s-min=15.2km az=141.0
NEIC 02 08:11:37.3±0.4, 17.°88S×172.°59W, h10km, mb4.6/7, Error ellipse: s-maj=13.2km s-min=11.2km az=113.0
ISCJB 02 08:11:39.2±0.5, 17.°71S±0.°09×173.°4W±0.°1, h39km, mb4.3/17, MS3.9/9, Error ellipse: s-maj=17.5km s-min=10.6km az=36.5

ISC 02 08:11:40.7±0.5, 17°7S±0.°1×173°3W±0.°1, h39km, n57, σ1°12/46, mb4.3/17, MS3.8/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**		**4.03**	**22**	*e*Pn	**Pn**		**08 12 39.5**	**-0.5**
AFI					*e*Sn	Sn		08 13 13.6	-13
AFI	**Afiamalu**		**4.03**	**22**	Pn	**Pn**		**08 12 37.4**	**-2.6**
	7.7nm,0.3s,baz=45,slow=20,SNR=3.1								
AFI					Sn	Sn		08 13 13.6	-13

comp=Z,53nm,21.3s,baz=46,slow=29
KMBO Kilima Mbogo 144.56 241 *e*PKPdf **PKPdf 08 31 14.8 +0.4**
KMBO PKP **PKPdf 08 31 15.2 +0.8**
KMBO Kilima Mbogo 144.56 241 PKP **PKPdf 08 31 15.2 +0.8**
1.4nm,0.5s,baz=58,slow=7.8,SNR=6.1
CLL Collm 146.07 353 *i* PKPbc **PKPab 08 31 17.7 +0.7**
comp=Z,14nm,1.4s
BRTR Keskin Array B 147.94 319 PKPbc **PKPab 08 31 23.0 -1.9**
BRTR Keskin Array B 147.94 319 PKPbc **PKPab 08 31 23.0 -1.9**
comp=Z,1.6nm,0.9s,baz=128,slow=3.4,SNR=5.4
GERES GERESS Array B 148.39 351 PKPbc **PKPab 08 31 25.1 -1.2**
GERES GERESS Array B 148.39 351 PKPbc **PKPab 08 31 25.1 -1.2**
comp=Z,0.5nm,0.5s,baz=18,slow=4.8,SNR=5.2
TORD Torodi Ar. Bea 173.42 132 PKPab **PKPab 08 33 14.2 -1.2**
TORD Torodi Ar. Bea 173.42 132 PKPab **PKPab 08 33 14.2 -1.2**
comp=Z,0.2nm,0.6s,baz=257,slow=5.3,SNR=2.6

IDC 02 08:16:25.5±1.4, 4°88'N×78°74'W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.5/22, mbtmp3.7/3, ML2.1/1, MS3.2/1, Ms1 3.3/1, ms1mx2.4/34, Error ellipse: s-maj=45.1km s-min=27.6km az=39.0, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**4.40**	**90**	Pn	Pn	08 17 33.6	-0.5
	2.1nm,0.3s,baz=62,slow=10,SNR=4.5						
ROSC				Sn	Sn	08 18 27.5	+1.1
	2.7nm,0.3s,baz=88,slow=23,SNR=5.6						
LPAZ	**La Paz**	**23.51**	**154**	P	P	08 21 38.5	+0.4
	0.9nm,0.6s,baz=340,slow=13,SNR=4.9						
LPAZ				LR	LR	08 31 15.3	
	comp=Z,52nm,19.1s,baz=80,slow=38						
ILAR	**Eielson Array**	**76.39**	**336**	P	P	08 28 16.9	+0.4
	0.7nm,0.6s,baz=109,slow=4.3,SNR=13						
ASAR	**Alice Springs**	**143.42**	**236**	PKP	PKPbc	08 36 00.1	0.0
	1.2nm,0.8s,baz=123,slow=4.1,SNR=10						
WRA	**Warramunga Arr**	**144.50**	**242**	PKP	PKPbc	08 36 04.0	+0.5
	2.2nm,0.8s,baz=106,slow=3.1,SNR=16						

WEL 02 08:19:53.1±0.1, 42°98S×171°47E, h5km, ML3.5/10, 4C-2D, Error ellipse: s-maj=0.7km s-min=0.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXZ	**Oxford**	**0.54**	**130**	⇓Pg	Pg	08 20 03.6	+0.1
OXZ				SG	Sg	08 20 11.1	+0.5
WVZ	**Waitaha Valley**	**0.55**	**260**	⇑Pg	Pg	08 20 03.9	+0.3
WVZ				SG	Sg	08 20 10.7	0.0
WVZ				AML	AML	08 20 10.9	
LTZ	**Lake Taylor**	**0.62**	**71**	⇑P*	Pg	08 20 05.3	+0.2
LTZ				SG	Sg	08 20 13.5	+0.2
LTZ				AML	AML	08 20 13.9	
RPZ	**Rata Peaks**	**0.79**	**202**	P*	Pg	08 20 08.6	+0.2
RPZ				AML	AML	08 20 24.0	
RPZ				AML	AML	08 20 26.1	
CRLZ	**Canterbury Las**	**1.03**	**126**	P*	Pg	08 20 12.8	-0.1
CRLZ				AML	AML	08 20 13.7	
CRLZ				AML	AML	08 20 30.2	
MQZ	**McQueen's Vall**	**1.13**	**130**	⇓P*	Pg	08 20 13.9	-0.9
MQZ				S*	Sb	08 20 29.8	-0.2
DSZ	**Denniston Nort**	**1.26**	**11**	P*	Pg	08 20 16.5	-0.8
FOZ	**Fox Glacier**	**1.42**	**245**	P*	Pn	08 20 17.9	-1.7
FOZ				AML	AML	08 20 37.8	
FOZ				AML	AML	08 20 37.8	
FOZ				AML	AML	08 20 38.1	
FOZ				AML	AML	08 20 38.1	
THZ	**Tophouse**	**1.62**	**42**	⇑PN	Pn	08 20 21.7	-0.7
THZ				AML	AML	08 20 47.0	
THZ				AML	AML	08 20 48.4	
KHZ	**Kahutara**	**1.63**	**70**	PN	Pn	08 20 22.1	-0.3
LBZ	**Lake Benmore**	**1.68**	**213**	⇑PN	Pn	08 20 22.7	-0.6
LBZ				AML	AML	08 20 26.5	
LBZ				AML	AML	08 20 26.5	
LBZ				AML	AML	08 20 27.8	
LBZ				AML	AML	08 20 31.7	
ODZ	**Otahua Downs**	**2.15**	**196**	PN	Pn	08 20 28.4	-1.2
JCZ	**Jackson Bay**	**2.25**	**240**	PN	Pn	08 20 30.7	-0.5
JCZ				AML	AML	08 21 01.9	
JCZ				AML	AML	08 21 07.4	
NNZ	**Nelson**	**2.27**	**40**	PN	Pn	08 20 31.6	+0.4
QRZ	**Quartz Range**	**2.29**	**21**	PN	Pn	08 20 31.9	+0.3
WKZ	**Wanaka**	**2.56**	**223**	PN	Pn	08 20 34.2	-1.1
WKZ				AML	AML	08 20 47.2	
EAZ	**Earnscleugh**	**2.73**	**214**	PN	Pn	08 20 36.5	-1.2
EAZ				AML	AML	08 21 29.5	
TUZ	**Tuapeka**	**3.25**	**203**	PN	Pn	08 20 43.3	-1.4
MLZ	**Mavora Lakes**	**3.35**	**224**	PN	Pn	08 20 45.9	-0.3
SYZ	**Scrubby Hill**	**3.92**	**204**	PN	Pn	08 20 51.8	-2.1

*IDC **02** 08:38:29.7±1.0, 27°27N×91°45E, h0km, mb3.8/11, mb1 4.0/12, mb1mx3.8/29, mbtmp3.8/12, ML4.2/1, Error ellipse: s-maj=33.1km s-min=20.4km az=56.0*
*ISCJB **02** 08:38:32.9±0.7, 27°3N±0°1×91°4E±0°2, h33km, mb3.8/10, Error ellipse: s-maj=26.5km s-min=10.0km az=144.8*
ISC 02 08:38:35.0±0.8, 27°3N±0°2×91°5E±0°2, h35km, n14, σ0s67/13, mb3.7/10, Bhutan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**3.36**	**138**	*e*P	**Pn**	**08 39 26.0**	**+0.9**
IMP				*e*S	Sn	08 40 16.0	+12
CMAR	**Chiang Mai Arr**	**11.19**	**140**	Pn	**Pn**	**08 41 11.7**	**-0.8**
	0.5nm,0.3s,baz=337,slow=8.8,SNR=6.8						
AAK	**Ala-Archa**	**20.60**	**322**	P	Pn	08 43 13.4	-0.3
	0.9nm,0.4s,baz=218,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**20.75**	**342**	P	**P**	**08 43 12.8**	**+0.2**
	3.3nm,0.6s,baz=150,slow=13,SNR=44						
SONM	**Songino Array**	**23.58**	**26**	P	**P**	**08 43 41.8**	**-0.7**
	0.4nm,0.5s,baz=213,slow=10,SNR=3.2						
KURBB	**Kurchatov Arra**	**25.28**	**341**	P	**P**	**08 43 58.3**	**+0.4**
	0.8nm,0.6s,baz=156,slow=9.2,SNR=5.2						
ZALV	**Zalesovo Beam**	**27.06**	**351**	P	**P**	**08 44 15.2**	**+1.3**
	0.8nm,0.3s,baz=169,slow=8.2,SNR=4.0						
AKASG	**Malin Array Be**	**51.99**	**314**	P	**P**	**08 47 40.2**	**-0.5**
	1.2nm,0.4s,baz=82,slow=7.1,SNR=4.3						
FINES	**FINESS Array B**	**54.66**	**328**	P	**P**	**08 48 00.5**	**+0.3**
	9.6nm,0.9s,baz=104,slow=8.0,SNR=4.6						
ARCES	**ARCESS Array B**	**56.31**	**337**	P	**P**	**08 48 11.4**	**-0.5**
	0.8nm,0.7s,baz=105,slow=6.9,SNR=3.6						
GERES	**GERESS Array B**	**62.14**	**313**	P	**P**	**08 48 53.0**	**+0.3**
	0.7nm,0.4s,baz=71,slow=5.8,SNR=5.8						
WRA	**Warramunga Arr**	**62.70**	**134**	P	**P**	**08 48 56.7**	**+0.1**
	0.5nm,1.0s,baz=326,slow=6.9,SNR=4.7						
ILAR	**Eielson Array**	**77.75**	**22**	P	**P**	**08 50 28.0**	**-0.1**
	0.2nm,0.5s,baz=321,slow=6.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**83.88**	**282**	P	**P**	**08 51 01.6**	**-0.1**
	0.1nm,0.4s,baz=57,slow=5.3,SNR=3.3						

*ISCJB **02** 08:42:40.1±0.5, 48°86N±0°07×155°8E±0°1, h34km, mb3.9/13, MS3.4/7, Error ellipse: s-maj=13.3km s-min=4.9km az=136.2*
*MOS **02** 08:42:41.0±1.6, 48°97N×155°73E, h45km, mb4.1/7, Error ellipse: s-maj=16.9km s-min=8.4km az=62.0*
*IDC **02** 08:42:42.6±0.7, 48°89N×155°62E, h45km±6km, mb3.6/12, mb1 3.9/17, mb1mx3.8/33, mbtmp3.8/17, ML3.9/4, MS3.3/8, Ms1 3.4/8, ms1mx3.0/62, Error ellipse: s-maj=22.1km s-min=11.9km az=149.0*
ISC 02 08:42:42.2±0.6, 48°88N±0°09×155°79E±0°09, h34km, n45, σ1s79/33, mb4.0/13, MS3.4/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.82**	**7**	*e*PN	Pn	08 43 05.0	-6.1
SKR				*e*		08 43 26.5	
SKR				pmax	pmax		
	comp=N,90nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,170nm,0.5s						
SKR				pmax	pmax		
	comp=E,1μm,0.3s						
SKR				pmax	pmax		
	comp=N,2μm,0.5s						
SKR				pmax	pmax		
	comp=N,2μm,2.0s						
SKR				pmax	pmax		
	comp=E,2μm,2.0s						
PETK	**Petropavlovsk-**	**4.41**	**15**	*e*PN	**Pn**	**08 43 47.5**	**+0.8**
PETK				pmax	pmax		
	comp=Z,5.0nm,0.3s						
PETK	**Petropavlovsk-**	**4.41**	**15**	P	**Pn**	**08 43 47.5**	**+0.8**
	comp=Z,4.5nm,0.3s,baz=173,slow=13,SNR=97						
PETK				LR	LR	08 45 51.2	
	comp=Z,198nm,18.6s,baz=341,slow=43						
PET	**Petropavlovsk**	**4.53**	**22**	*e*PN	**Pn**	**08 43 49.0**	**+0.7**
PET				*e*S	**Sn**	**08 44 41.0**	**+1.2**
PET				pmax	pmax		
	comp=Z,33nm,0.5s						
PET				smax	smax		
	comp=E,207nm,0.5s						
PET				smax	smax		
	comp=N,303nm,0.6s						
KUR	**Kuril'sk**	**6.52**	**239**	PN	**Pn**	**08 44 16.8**	**+1.1**
KUR				S	**Sn**	**08 45 31.5**	**+2.7**
KUR				pmax	pmax		
	comp=Z,16nm,1.1s						
KUR				pmax	pmax		
	comp=E,34nm,1.2s						
KUR				pmax	pmax		
	comp=N,21nm,0.1s						
KUR				smax	smax		
	comp=N,44nm,1.7s						
KUR				smax	smax		
	comp=E,22nm,0.8s						
YSS	**Yuzh-Sakhalins**	**8.96**	**263**	*e*PN	**Pn**	**08 44 52.3**	**+3.1**
ASAJ	**Asahikawa**	**10.26**	**247**	P	**Pn**	**08 45 06.7**	**-0.2**
	comp=E,1.4nm,0.3s,baz=58,slow=10.0,SNR=20						
ERM	**Erimo**	**11.21**	**237**	*i* PN	Pn	08 45 23.3	+3.4
FX1	**Attu Island--F**	**11.68**	**63**	P	**Pn**	**08 45 27.1**	**+0.8**
	comp=E,3.4nm,0.3s,baz=266,slow=4.4,SNR=11						
FX1				S	Sn	08 47 26.7	-8.7
	comp=E,6.7nm,0.3s,baz=45,slow=22,SNR=13						
SEY	**Seymchan**	**14.22**	**354**	*e*P	**Pn**	**08 46 01.2**	**+0.3**
KLR	**Kul'dur**	**15.75**	**280**	*e*P	Pn	08 46 14.3	-7.0
USRK	**Ussuriysk Arra**	**17.00**	**263**	P	**Pn**	**08 46 36.0**	**-1.2**
	comp=E,0.1nm,0.3s,baz=58,slow=12,SNR=11						
MJAO	**Matsu Ar-Jizo**	**17.78**	**235**	*e*P	**P**	**08 46 52.0**	**+4.5**
MJAR	**Matsushiro Arr**	**17.80**	**233**	P	**Pn**	**08 46 47.0**	**-0.2**
	comp=E,0.2nm,0.3s,baz=19,slow=12,SNR=3.7						
MAJO	**Matsushiro**	**17.80**	**233**	*e*P	**Pn**	**08 46 47.6**	**+0.4**
KSRS	**Korea Array**	**23.18**	**251**	P	**P**	**08 47 45.8**	**+0.1**
	comp=E,3.1nm,0.8s,baz=42,slow=11,SNR=7.2						
H11N2	**WAKE ISLAND Hy**	**30.42**	**159**	T	T	09 21 15.0	
	baz=348,slow=0.7,SNR=11						
H11N1	**WAKE ISLAND Hy**	**30.44**	**159**	T	T	09 21 23.5	
	baz=348,slow=0.7,SNR=11						
H11N3	**WAKE ISLAND Hy**	**30.44**	**159**	T	T	09 21 31.6	
	baz=348,slow=0.7,SNR=15						
H11S1	**WAKE ISLAND Hy**	**31.56**	**160**	T	T	09 22 39.1	
	baz=349,slow=0.7,SNR=137						
H11S3	**WAKE ISLAND Hy**	**31.57**	**160**	T	T	09 22 31.4	
	baz=349,slow=0.7,SNR=263						
H11S2	**WAKE ISLAND Hy**	**31.57**	**160**	T	T	09 22 35.7	
	baz=349,slow=0.7,SNR=108						
ILAR	**Eielson Array**	**33.76**	**40**	P	**P**	**08 49 19.8**	**-0.5**
	comp=E,0.5nm,0.7s,baz=253,slow=7.7,SNR=5.8						
ILAR				pP	**pP**	**08 49 30.6**	**+0.6**
	comp=E,0.8nm,0.7s,baz=267,slow=6.5,SNR=5.7						
INK	**Inuvik**	**38.89**	**34**	P	**P**	**08 50 03.6**	**-0.3**
	comp=E,1.5nm,0.8s,baz=288,slow=6.4,SNR=2.1						
ZALV	**Zalesovo Beam**	**42.85**	**305**	LR	LR	09 09 01.6	
	comp=E,36nm,18.6s,baz=250,slow=37						
MKAR	**Makanchi Array**	**47.58**	**297**	P	**P**	**08 51 12.1**	**-2.2**
MKAR				MLR	MLR		
	comp=Z,67nm,21.3s						
MKAR	**Makanchi Array**	**47.58**	**297**	P	**P**	**08 51 12.1**	**-2.2**
	comp=Z,0.4nm,0.7s,baz=65,slow=7.5,SNR=4.7						
MKAR				LR	LR	09 11 59.3	
	comp=Z,67nm,21.3s,baz=244,slow=37						
KURK	**Kurchatov**	**47.70**	**303**	*i* P	**P**	**08 51 12.2**	**-3.0**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURBB	**Kurchatov Arra**	**47.80**	**303**	P	**P**	**08 51 12.9**	**-3.0**
	comp=Z,1.3nm,0.6s,baz=70,slow=8.6,SNR=2.2						
CMAR	**Chiang Mai Arr**	**54.61**	**257**	P	**P**	**08 52 06.7**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=32,slow=8.6,SNR=4.3						
ARCES	**ARCESS Array B**	**56.43**	**341**	LR	LR	09 18 37.8	
	comp=Z,41nm,21.8s,baz=37,slow=38						
NVAR	**Mina Array Bea**	**59.88**	**65**	P	**P**	**08 52 45.0**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=292,slow=7.1,SNR=6.8						
NVAR				pP	**pP**	**08 52 57.2**	**+2.2**
	comp=Z,0.8nm,0.8s,baz=297,slow=6.5,SNR=4.1						
PDAR	**Pinedale Array**	**62.05**	**56**	P	**P**	**08 52 59.7**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=253,slow=1.1,SNR=5.2						
PDAR				pP	**pP**	**08 53 12.3**	**+2.5**
	comp=Z,1.6nm,0.9s,baz=298,slow=3.2,SNR=8.0						
FINES	**FINESS Array B**	**62.87**	**335**	LR	LR	09 21 55.6	
	comp=Z,23nm,19.0s,baz=21,slow=38						
NOA	**NORSAR Array B**	**66.78**	**342**	LR	LR	09 25 10.2	
	comp=Z,20nm,18.4s,baz=0.0,slow=38						
HFS	**Hagfors**	**67.07**	**340**	LR	LR	09 26 37.1	
	comp=Z,18nm,20.5s,baz=249,slow=39						
WRA	**Warramunga Arr**	**71.13**	**201**	P	**P**	**08 53 55.0**	**-2.1**
	comp=Z,0.9nm,0.6s,baz=146,slow=5.1,SNR=11						
GNI	**Garni**	**72.50**	**311**	LR	LR	09 28 06.4	
	comp=Z,28nm,18.0s,baz=272,slow=38						
ASAR	**Alice Springs**	**74.82**	**201**	P	**P**	**08 54 17.4**	**-1.5**
	comp=Z,0.7nm,0.7s,baz=12,slow=5.5,SNR=17						
TXAR	**Lajitas Array**	**74.90**	**63**	P	**P**	**08 54 19.7**	**0.0**
	comp=Z,1.4nm,0.7s,baz=302,slow=4.4,SNR=20						
TXAR				pP	**PcP**	**08 54 32.6**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=304,slow=4.1,SNR=8.5						
MMAI	**Mount Meron Ar**	**82.72**	**313**	P	**P**	**08 55 00.7**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=34,slow=9.0,SNR=2.6						
H03N2	**Juan Fernandez**	**136.96**	**90**	T	T	11 34 38.0	
	baz=308,slow=0.7,SNR=6.8						
H03N1	**Juan Fernandez**	**136.97**	**90**	T	T	11 34 24.8	
	baz=308,slow=0.7,SNR=7.7						
H03N3	**Juan Fernandez**	**136.97**	**90**	T	T	11 34 54.7	
	baz=308,slow=0.7,SNR=6.8						
PLCA	**Paso Flores**	**146.57**	**94**	PKPbc	**PKPdf**	**09 02 17.5**	**-0.6**
	comp=Z,2.3nm,0.8s,baz=352,slow=5.5,SNR=5.1						

IDC 02 08:48:21.5±1.0, 15°04S×173°68W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.8/20, mbtmp3.8/5, MS3.8/1, Ms1 3.8/1, ms1mx3.0/41, Error ellipse: s-maj=46.7km s-min=25.2km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.16**	**59**	Pn	Pn	08 48 50.5	-8.4
	33nm,0.3s,baz=47,slow=1.1,SNR=14						
AFI				Sn	Sn	08 49 09.1	-17
	106nm,0.3s,baz=261,slow=21,SNR=15						
URZ	**Urewera**	**24.52**	**198**	LR	LR	09 01 33.0	
	comp=Z,208nm,18.4s,baz=31,slow=32						
H11S2	**WAKE ISLAND Hy**	**38.52**	**329**	T	T	09 36 42.5	
	baz=152,slow=0.7,SNR=9.6						
H11S3	**WAKE ISLAND Hy**	**38.53**	**329**	T	T	09 36 43.7	
	baz=152,slow=0.7,SNR=23						
H11S1	**WAKE ISLAND Hy**	**38.54**	**329**	T	T	09 36 41.3	
	baz=152,slow=0.7,SNR=11						
H11N3	**WAKE ISLAND Hy**	**39.47**	**330**	T	T	09 37 57.2	
	baz=148,SNR=7.6						
H11N1	**WAKE ISLAND Hy**	**39.47**	**330**	T	T	09 37 48.2	
	baz=148,SNR=16						
H11N2	**WAKE ISLAND Hy**	**39.49**	**330**	T	T	09 38 00.0	
	baz=148,SNR=8.9						
WRA	**Warramunga Arr**	**49.66**	**256**	P	P	08 57 15.2	-0.2
	0.5nm,0.5s,baz=90,slow=7.0,SNR=26						
ASAR	**Alice Springs**	**49.96**	**252**	P	P	08 57 17.6	-0.2
	2.0nm,0.5s,baz=87,slow=7.6,SNR=31						
NVAR	**Mina Array Bea**	**74.25**	**42**	P	P	09 00 00.7	-0.2
	0.6nm,0.8s,baz=236,slow=9.6,SNR=2.4						
QSPA	**South Pole Qui**	**75.00**	**180**	P	P	09 00 04.7	+0.1
	1.2nm,1.0s,baz=40,slow=7.0,SNR=5.2						
ILAR	**Eielson Array**	**82.15**	**11**	P	P	09 00 43.9	+0.1
	0.2nm,0.5s,baz=223,slow=6.1,SNR=4.9						
BRTR	**Keskin Array B**	**145.71**	**321**	PKPbc	PKPdf	09 08 02.6	0.0
	1.7nm,0.8s,baz=74,slow=3.6,SNR=7.7						

IDC 02 08:53:13.4±4.1, 15°27S×173°02W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.7/21, mbtmp4.0/3, Error ellipse: s-maj=223.7km s-min=25.5km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.81**	**42**	Pn	Pn	08 53 45.9	-0.1
	29nm,0.3s,baz=2.2,slow=2.9,SNR=7.2						
AFI				Sn	Sn	08 54 04.7	-4.9
	86nm,0.3s,baz=60,slow=24,SNR=7.2						
H11S2	**WAKE ISLAND Hy**	**39.04**	**329**	T	T	09 42 09.4	
	baz=148						
H11S3	**WAKE ISLAND Hy**	**39.05**	**329**	T	T	09 42 13.0	
	baz=148						
H11S1	**WAKE ISLAND Hy**	**39.06**	**329**	T	T	09 42 09.6	
	baz=148						
H11N3	**WAKE ISLAND Hy**	**39.98**	**330**	T	T	09 43 28.2	
	baz=148,SNR=4.1						
H11N1	**WAKE ISLAND Hy**	**39.98**	**330**	T	T	09 43 32.8	
	baz=148,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**40.00**	**330**	T	T	09 43 25.3	
	baz=148,SNR=3.9						
STKA	**Stephens Creek**	**44.42**	**240**	P	P	09 01 26.3	+0.1
	0.9nm,0.5s,baz=70,slow=10,SNR=3.5						
WRA	**Warramunga Arr**	**50.23**	**257**	P	P	09 02 11.6	-0.1
	0.7nm,0.6s,baz=90,slow=6.6,SNR=26						
ASAR	**Alice Springs**	**50.50**	**252**	P	P	09 02 13.6	-0.2
	2.6nm,0.6s,baz=88,slow=8.4,SNR=34						

*DJA **02** 08:56:04.2±0.9, 9°S±5°×111°1E±°, h10km, M3.5/7, MLv3.5/7*
*IDC **02** 08:56:05.1±3.1, 8°84S×111°08E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/21, mbtmp3.2/3, Error ellipse: s-maj=166.7km s-min=26.5km az=48.0*
*ISCJB **02** 08:56:06.8±1.0, 9°09S±0°07×110°53E±0°08, h51km, mb3.2/3, Error ellipse: s-maj=12.3km s-min=8.5km az=152.5*
ISC 02 08:56:08.2±1.7, 9°0S±0°1×110°53E±0°08, h51km, n10, σ1s13/12, mb3.2/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**1.04**	**38**	P	**Pn**	**08 56 25.1**	**-1.5**
PCJI				S	**Sn**	**08 56 40.2**	**+0.1**
UGM	**Wanagama**	**1.10**	**360**	P	**Pn**	**08 56 25.9**	**-1.6**
UGM				S	**Sn**	**08 56 42.7**	**+1.0**
YOGI	**Yogyakarta**	**1.22**	**349**	P	**Pn**	**08 56 27.8**	**-1.2**
YOGI				S	**Sn**	**08 56 46.1**	**+1.6**
PWJI	**Pagerwojo**	**1.61**	**52**	P	**Pn**	**08 56 34.1**	**-0.1**
SJI	**Sawahan**	**1.77**	**44**	P	**Pn**	**08 56 37.1**	**+0.5**
BJII	**Banjamegara**	**1.87**	**334**	P	**Pn**	**08 56 37.6**	**-0.3**
KPJI	**Karang Pucung**	**2.31**	**317**	P	**Pn**	**08 56 43.5**	**-0.3**
WRA	**Warramunga Arr**	**25.44**	**118**	P	**P**	**09 01 30.9**	**-0.7**
	0.4nm,0.6s,baz=292,slow=11,SNR=6.5						
ASAR	**Alice Springs**	**26.68**	**126**	P	**P**	**09 01 43.5**	**+0.8**
	0.4nm,0.5s,baz=296,slow=8.5,SNR=6.4						
MKAR	**Makanchi Array**	**61.01**	**338**	P	P	09 06 20.6	+4.1
	0.1nm,0.4s,baz=153,slow=5.7,SNR=2.7						

IDC 02 08:56:39.2±0.8, 15°46S×173°39W, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.9/22, mbtmp3.9/8, MS3.2/1, Ms1 3.2/1, ms1mx2.7/34, Error ellipse: s-maj=38.9km s-min=20.6km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.19**	**46**	Pn	Pn	08 57 10.9	-6.1
	70nm,0.3s,baz=4.9,slow=2.4,SNR=14						
AFI				Sn	Sn	08 57 30.2	-15
	265nm,0.3s,baz=98,slow=22,SNR=5.5						
AFI				LR	LR	08 57 47.9	
	comp=Z,484nm,19.7s,baz=312,slow=31						
DZM	**Mont Dzumac**	**20.19**	**248**	*e*LR	LR	09 05 18.8	
	240nm,25.7s						
PPT2	**Papeete2**	**22.92**	**99**	*e*LR	LR	09 07 13.4	
	132nm,24.2s						
TBI	**Tubuai**	**23.87**	**113**	*e*LR	LR	09 07 43.9	
	192nm,26.0s						
H11S2	**WAKE ISLAND Hy**	**39.02**	**329**	T	T	09 45 33.8	
	baz=152,slow=0.7,SNR=4.5						
H11S3	**WAKE ISLAND Hy**	**39.03**	**329**	T	T	09 45 33.2	
	baz=152,slow=0.7,SNR=6.1						
H11S1	**WAKE ISLAND Hy**	**39.03**	**329**	T	T	09 45 36.6	
	baz=152,slow=0.7,SNR=6.7						
H11N3	**WAKE ISLAND Hy**	**39.97**	**330**	T	T	09 46 51.2	
	baz=152,slow=0.7,SNR=5.7						
H11N1	**WAKE ISLAND Hy**	**39.97**	**330**	T	T	09 46 48.5	
	baz=152,slow=0.7,SNR=7.5						
H11N2	**WAKE ISLAND Hy**	**39.98**	**330**	T	T	09 46 50.2	
	baz=152,slow=0.7,SNR=5.7						
STKA	**Stephens Creek**	**44.02**	**240**	P	P	09 04 49.1	+0.3
	1.4nm,0.7s,baz=111,slow=17,SNR=4.0						
WRA	**Warramunga Arr**	**49.84**	**257**	P	P	09 05 33.9	-0.6
	0.7nm,0.4s,baz=92,slow=6.8,SNR=26						
ASAR	**Alice Springs**	**50.10**	**252**	P	P	09 05 35.9	-0.6
	3.4nm,0.8s,baz=87,slow=8.8,SNR=33						
PETK	**Petropavlovsk-**	**72.69**	**342**	P	P	09 08 09.6	+0.9
	2.5nm,0.9s,baz=156,slow=11,SNR=3.6						
QSPA	**South Pole Qui**	**74.59**	**180**	P	P	09 08 20.3	+0.3
	3.0nm,1.0s,baz=24,slow=2.3,SNR=5.9						
TXAR	**Lajitas Array**	**80.63**	**56**	P	P	09 08 54.5	+0.2
	0.3nm,0.9s,baz=217,slow=2.8,SNR=3.3						
PDAR	**Pinedale Array**	**82.30**	**42**	P	P	09 09 02.4	-0.7
	0.7nm,1.0s,baz=216,slow=4.3,SNR=4.0						
ILAR	**Eielson Array**	**82.50**	**11**	P	P	09 09 02.6	-0.7
	0.3nm,0.9s,baz=193,slow=3.7,SNR=2.8						
GERES	**GERESS Array B**	**146.30**	**352**	PKPbc	PKPbc	09 16 21.5	-0.2
	0.3nm,0.2s,baz=12,slow=5.3,SNR=3.4						
BRTR	**Keskin Array B**	**146.21**	**321**	PKPbc	PKPbc	09 16 21.9	-0.2
	1.7nm,0.9s,baz=33,slow=2.9,SNR=5.8						

**ID

ellipse: s-maj=12.3km s-min=6.3km az=128.0
*DJA **02** 09:00:41.9±0.9,8˚S±5˝×10˚7E±˚, h16km±9km, M5.0/27, mb5.3/8, mB5.5/4, MLv4.9/27, Mw(mB)4.9/4*
*ISCJB **02** 09:00:42.4±0.3,8˚13S±0˙04×107˚28E±0˙03, h62km, mb4.4/19, Error ellipse: s-maj=5.7km s-min=4.1km az=13.5*

ISC 02 09:00:43.8±0.4,8˚08S±0˙05×107˚27E±0˙05, h62km, n138, σ1°29/118, mb4.2/19, 16C-16D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.75**	**46**	P		**Pn**	**09 00 57.3**	**-1.5**
CISI	**Cisompet, Garu** baz=0.8	**0.75**	**46**	⇓P		**Pn**	**09 00 56.7**	**-2.1**
SKJI	**Sukabumi**	**1.28**	**326**	P		**Pn**	**09 01 05.0**	**-0.5**
LEM	**Lembang**	**1.29**	**16**	P		**Pn**	**09 01 06.9**	**+1.0**
LEM	**Lembang** baz=1.4,SNR=214	**1.29**	**16**	⇑P		**Pn**	**09 01 07.1**	**+1.3**
DBJI	**Dramaga**	**1.60**	**341**	P		**Pn**	**09 01 10.9**	**+1.0**
CLJI	**Cilicap**	**1.77**	**79**	P		**Pn**	**09 01 13.1**	**+1.0**
KPJI	**Karang Pucung**	**1.81**	**66**	P		**Pn**	**09 01 12.5**	**-0.1**
TGJI	**Tegal**	**2.20**	**57**	P		**Pn**	**09 01 18.4**	**+0.5**
SBJI	**Serang**	**2.25**	**330**	P		**Pn**	**09 01 20.2**	**+1.6**
BJII	**Banjamegara**	**2.53**	**73**	P		**Pn**	**09 01 22.0**	**-0.6**
XMI	**Christmas Isla** baz=2.8,SNR=11	**2.83**	**213**	⇑P		**Pn**	**09 01 25.5**	**-1.1**
XMIS	**Christmas Isla**	**2.87**	**214**	*e*Pn		**Pn**	**09 01 25.9**	**-1.3**
XMIS				*e*Sn		**Sn**	**09 01 56.8**	**-3.8**
XMIS	**Christmas Isla** baz=2.8,SNR=44	**2.87**	**214**	⇓P		**Pn**	**09 01 25.6**	**-1.6**
YOGI	**Yogyakarta**	**3.01**	**85**	P		**Pn**	**09 01 28.1**	**-1.0**
UGM	**Wanagama**	**3.23**	**87**	P		**Pn**	**09 01 31.0**	**-1.1**
UGM	**Wanagama** baz=3.2,SNR=98	**3.23**	**87**	⇓P		**Pn**	**09 01 30.9**	**-1.1**
BLSI	**Bandar Lampung**	**3.36**	**323**	P		Pn	09 01 37.7	+3.9
WOJI	**Wonogiri, Jawa**	**3.63**	**86**	P		**Pn**	**09 01 36.2**	**-1.3**
KASI	**Kota Agung**	**3.74**	**313**	P		**Pn**	**09 01 39.9**	**+0.8**
PCJI	**Pacitan**	**3.87**	**92**	P		**Pn**	**09 01 40.3**	**-0.6**
KLI	**Kotabumi**	**3.99**	**323**	P		Pn	09 01 45.9	+3.4
NGJI	**Ngawi**	**4.22**	**81**	P		Pn	09 01 51.9	+6.4
LWLI	**Liwa**	**4.40**	**313**	P		Pn	09 01 55.1	+6.9
SJI	**Sawahan**	**4.47**	**86**	P		**Pn**	**09 01 49.5**	**+0.4**
PWJI	**Pagerwojo**	**4.49**	**90**	P		**Pn**	**09 01 49.0**	**-0.3**
MDSI	**Maura Dua**	**4.71**	**319**	P		**Pn**	**09 01 53.9**	**+1.6**
KRKI	**Karangkates**	**5.13**	**91**	P		**Pn**	**09 02 00.7**	**+2.6**
GRJI	**Gresik** 157nm,0.6s,2μm0.7nm	**5.30**	**78**	P		**Pn**	**09 02 00.1**	**-0.2**
EGSI	**Enggano, Bengk** 406nm,0.9s,16μm	**5.65**	**298**	P		**Pn**	**09 02 05.7**	**+0.5**
MNAI	**Manna** 271nm,0.8s,1.5nm	**5.66**	**310**	P		**Pn**	**09 02 06.2**	**+0.9**
PPBI	**Pangkal Pinang**	**5.98**	**349**	P		Pn	09 02 20.0	+10
GMJI	**Gumukmas** 104nm,0.7s,3μm0.5nm	**6.12**	**92**	P		**Pn**	**09 02 11.5**	**-0.1**
BLJI	**Banyuglugur**	**6.28**	**87**	P		Pn	09 02 27.5	+14
KSI	**Kapahiang**	**6.40**	**313**	P		Pn	09 02 26.6	+11
ABJI	**Asem Bagus** 324nm,0.5s,1.5nm	**6.91**	**88**	P		**Pn**	**09 02 23.4**	**+1.0**
SRBI	**Singaraja** 106nm,0.8s,2μm0.4nm	**7.87**	**91**	P		**Pn**	**09 02 35.3**	**-0.3**
PPI	**Padang Panjang**	**10.21**	**318**	P		**Pn**	**09 03 05.0**	**-2.6**
GSI	**Gunungsitoli**	**13.43**	**314**	P		**Pn**	**09 03 51.6**	**+0.1**
BATI	**Baumata**	**16.33**	**99**	Pn		**Pn**	**09 04 25.9**	**-3.3**
BATI	**Baumata** 5.9nm,0.3s,baz=292,slow=17,SNR=2.6	**16.33**	**99**	Pn		**Pn**	**09 04 25.9**	**-3.3**
FITZ	**Fitzroy Crossi**	**20.46**	**121**	*e*P		**P**	**09 05 17.2**	**+0.7**
FITZ	**Fitzroy Crossi** 6.1nm,0.7s,baz=276,slow=4.9,SNR=15	**20.46**	**121**	P		**P**	**09 05 16.6**	**+0.2**
KDU	**Kakadu** baz=25,SNR=4.8	**25.20**	**103**	⇑P		**P**	**09 06 02.7**	**-1.2**
FAKI	**Fak Fak** baz=25,SNR=4.6	**25.38**	**80**	P		**P**	**09 06 05.9**	**+0.4**
H01W3	**Cape Leeuwin H** baz=344,slow=0.7,SNR=5.7	**27.42**	**168**	T		T	09 36 36.9	
H01W1	**Cape Leeuwin H** baz=344,slow=0.7,SNR=5.4	**27.43**	**168**	T		T	09 36 08.6	
H01W2	**Cape Leeuwin H** baz=344,slow=0.7,SNR=7.6	**27.43**	**168**	T		T	09 36 14.4	
CMAR	**Chiang Mai Arr**	**27.62**	**343**	P		**P**	**09 06 23.0**	**-2.6**
CMAR	**Chiang Mai Arr** 1.2nm,0.3s,baz=179,slow=9.0,SNR=2.8	**27.62**	**343**	P		**P**	**09 06 23.0**	**-2.6**
WRA	**Warramunga Arr**	**28.74**	**117**	P		**P**	**09 06 36.0**	**+0.3**
WRA				PcP		**PcP**	**09 09 45.0**	**+0.2**
WRA	**Warramunga Arr** 1.1nm,0.8s,baz=288,slow=10.0,SNR=11	**28.74**	**117**	P		**P**	**09 06 36.0**	**+0.3**
WRA				PcP		**PcP**	**09 09 45.0**	**+0.2**
WRAB	**Tennant Creek** 0.5nm,0.5s,baz=300,slow=2.4,SNR=4.5	**28.75**	**117**	*e*P		**P**	**09 06 36.0**	**+0.3**
ASAR	**Alice Springs** 1.0nm,0.4s	**29.86**	**124**	P		**P**	**09 06 47.1**	**+1.5**
ASAR				PcP		**PcP**	**09 09 48.1**	**+0.5**
ASAR	**Alice Springs** 0.5nm,0.5s,baz=304,slow=9.1,SNR=6.9	**29.86**	**124**	P		**P**	**09 06 47.1**	**+1.5**
ASAR				PcP		**PcP**	**09 09 48.1**	**+0.5**
H08S2	**Diego Garcia H** baz=92,slow=0.7,SNR=6.4	**34.44**	**268**	T		T	09 43 59.6	
H08S3	**Diego Garcia H** baz=92,slow=0.7,SNR=3.5	**34.45**	**268**	T		T	09 43 53.4	
H08S1	**Diego Garcia H** baz=92,slow=0.7,SNR=4.4	**34.46**	**268**	T		T	09 43 56.1	
COEN	**Coen** baz=36	**35.70**	**103**	⇑P		**P**	**09 07 36.3**	**-0.3**
H08N1	**Diego Garcia H** baz=316	**36.00**	**270**	T		T	09 46 17.3	
H08N2	**Diego Garcia H** baz=316	**36.02**	**270**	T		T	09 46 19.5	
H08N3	**Diego Garcia H** baz=316	**36.02**	**270**	T		T	09 46 16.1	
STKA	**Stephens Creek** 2.9nm,0.5s	**39.73**	**131**	*e*P		**P**	**09 08 11.7**	**+1.3**
STKA				PcP		**PcP**	**09 10 16.6**	**+0.6**
STKA	**Stephens Creek** baz=40,SNR=36	**39.73**	**131**	P		**P**	**09 08 11.8**	**+1.3**
STKA	**Stephens Creek** 14nm,0.4s,baz=310,slow=7.9,SNR=57	**39.73**	**131**	P		**P**	**09 08 11.8**	**+1.3**
STKA				PcP		**PcP**	**09 10 16.6**	**+0.6**
STKA	2.4nm,0.7s,baz=339,slow=4.9,SNR=3.2			LR		LR	09 23 37.2	
CMSA	comp=Z,243nm,21.2s,baz=257,slow=35 **Cobar Meteorol** baz=43,SNR=11	**42.69**	**128**	P		**P**	**09 08 36.8**	**+2.1**
YNG	**Young** baz=46,SNR=7.0	**45.91**	**131**	P		**P**	**09 09 02.4**	**+1.9**
JCJ	**Chichijima** comp=Z,47nm,21.8s,baz=163,slow=35	**48.65**	**43**	LR		LR	09 29 05.6	
SONM	**Songino Array**	**55.67**	**359**	P		**P**	**09 10 13.2**	**-0.5**
SONM				PcP		**PcP**	**09 11 12.0**	**-0.5**
SONM	**Songino Array** 0.6nm,0.5s,baz=165,slow=6.2,SNR=4.4	**55.67**	**359**	P		**P**	**09 10 13.2**	**-0.5**
SONM				PcP		**PcP**	**09 11 12.0**	**-0.5**
MKAR	1.0nm,0.4s,baz=179,slow=3.9,SNR=6.7 **Makanchi Array**	**58.98**	**340**	P		**P**	**09 10 35.5**	**-1.4**
MKAR	**Makanchi Array** 0.6nm,0.5s,baz=157,slow=8.0,SNR=8.4	**58.98**	**340**	P		**P**	**09 10 35.5**	**-1.4**
MAW	**Mawson**	**66.42**	**197**	P		**P**	**09 11 28.6**	**+2.6**
MAW	**Mawson** 4.7nm,0.6s,baz=52,slow=6.7,SNR=18	**66.42**	**197**	P		**P**	**09 11 28.6**	**+2.6**
BVAR	**Borovoye Array**	**68.46**	**337**	P		**P**	**09 11 38.1**	**-1.0**
BVAR	**Borovoye Array** 1.0nm,0.4s,baz=139,slow=9.3,SNR=4.6	**68.46**	**337**	P		**P**	**09 11 38.1**	**-1.0**
NAY	**Al-Naaiem** comp=Z,12nm,1.6s	**68.62**	**306**	*e*P		**P**	**09 11 40.3**	**-0.4**
NAY				AMb		AMB	09 11 49.2	
RST	**Umm Al-Ruwaisa** comp=Z,138nm,0.8s	**68.92**	**306**	*e*P		**P**	**09 11 42.2**	**-0.3**
RST				AMb		AMB	09 11 43.1	
ABKAR	**Akbulak array** comp=Z,3.1nm,0.4s	**70.47**	**329**	*e*P		**P**	**09 11 50.9**	**-0.7**
FUNA	**Funafuti** comp=Z,539nm,0.3s	**71.07**	**96**	*e*P		**P**	**09 11 54.8**	**-1.3**
PETK	**Petropavlovsk-** comp=Z,1.4nm,0.6s,baz=204,slow=4.8,SNR=4.2	**74.40**	**29**	P		**P**	**09 12 12.8**	**-2.2**
PETK	**Petropavlovsk-**	**74.40**	**29**	P		**P**	**09 12 12.8**	**-2.2**
SYO	**Syowa Base**	**74.59**	**200**	⇑*e*P		**P**	**09 12 16.5**	**+0.7**
VNDA	**Vanda**	**74.87**	**169**	P		**P**	**09 12 18.6**	**+1.3**
VNDA	**Vanda** comp=Z,0.9nm,0.9s,baz=337,slow=4.0,SNR=3.7	**74.87**	**169**	P		**P**	**09 12 18.6**	**+1.3**
LSZ	**Lusaka**	**77.43**	**256**	P		**P**	**09 12 34.8**	**+1.6**
LSZ	**Lusaka** comp=Z,2.8nm,0.6s,baz=88,slow=7.2,SNR=6.6	**77.43**	**256**	P		**P**	**09 12 34.8**	**+1.6**
BOSA	**Boshof**	**79.19**	**242**	P		**P**	**09 12 44.9**	**+2.2**
BOSA	**Boshof** comp=Z,1.6nm,0.5s,baz=140,slow=5.4,SNR=6.7	**79.19**	**242**	P		**P**	**09 12 44.9**	**+2.2**
QSPA	**South Pole Qui**	**81.92**	**180**	P		**P**	**09 12 57.8**	**+1.2**
QSPA	**South Pole Qui** comp=Z,2.5nm,0.8s,baz=355,slow=2.0,SNR=15	**81.92**	**180**	P		**P**	**09 12 57.7**	**+1.2**
BRTR	**Keskin Array B**	**82.74**	**312**	P		**P**	**09 12 59.8**	**-1.5**
BRTR	**Keskin Array B** comp=Z,2.6nm,0.9s,baz=104,slow=4.2,SNR=11	**82.74**	**312**	P		**P**	**09 12 59.8**	**-1.5**
129A	**Stewart Farms,** baz=143	**143.59**	**44**	⇑P		PKPbc	09 20 10.2	+0.4
626A	**Big Bend Ranch** baz=143	**143.60**	**50**	⇑P		**PKPdf**	**09 20 12.2**	**-0.2**
328A	**Wristen Ranch,** baz=143	**143.63**	**46**	P		PKPbc	09 20 11.0	+1.1
Z30A	**Sanderson Ranc** baz=143	**143.69**	**42**	⇑P		PKPbc	09 20 10.8	+0.8
527A	**Woodward Ranch** baz=143	**143.70**	**49**	⇑P		PKPbc	09 20 11.4	+1.2
229A	**Bryant Ranch,** baz=144	**144.01**	**45**	P		**PKPdf**	**09 20 13.1**	**0.0**
TXAR	**Lajitas Array**	**144.06**	**50**	PKP		PKPbc	09 20 11.9	+0.6
TXAR	**Lajitas Array** comp=Z,0.5nm,0.5s,baz=247,slow=0.9,SNR=11	**144.06**	**50**	PKP		PKPbc	09 20 11.9	+0.6
428A	**Kincaid Ranch,** baz=144	**144.07**	**47**	⇑P		**PKPdf**	**09 20 12.7**	**-0.5**
329A	**Wagon Wheel Ra** baz=144	**144.16**	**45**	P		**PKPdf**	**09 20 12.5**	**-0.8**
627A	**Terlingua Ranc** baz=144	**144.22**	**50**	⇑P		**PKPdf**	**09 20 13.3**	**-0.2**
130A	**Snyder** baz=144	**144.22**	**43**	P		PKPbc	09 20 12.1	+0.4
Z31A	**Sharp Cattle R** baz=144	**144.33**	**41**	⇓P		PKPbc	09 20 12.1	+0.2
Y32A	**R-V Farms, Ver** baz=144,SNR=5.3	**144.34**	**40**	⇑P		PKPbc	09 20 12.0	0.0
230A	**Sterling City** baz=144	**144.54**	**44**	P		**PKPdf**	**09 20 13.4**	**-0.5**
131A	**Roby** baz=144	**144.56**	**42**	⇓P		PKPbc	09 20 13.2	+0.5
628A	**Black Gap, Mar** baz=144,SNR=5.1	**144.57**	**49**	⇑P		**PKPdf**	**09 20 13.6**	**-0.5**
429A	**Davenport Ranc** baz=144	**144.70**	**47**	⇓P		PKPbc	09 20 13.6	+0.3
529A	**Stev Forest Ra** baz=144	**144.73**	**48**	⇓P		**PKPdf**	**09 20 14.1**	**-0.3**
Z32A	**Haskell** baz=144,SNR=17	**144.77**	**41**	⇓P		**PKPdf**	**09 20 13.9**	**-0.4**
330A	**Mertzon** baz=144,SNR=5.7	**144.77**	**45**	⇓P		PKPbc	09 20 13.5	+0.1
231A	**Bronte** baz=145,SNR=7.2	**145.05**	**43**	⇓P		**PKPdf**	**09 20 14.6**	**-0.3**
430A	**Baggett Ranch,** baz=145,SNR=6.7	**145.08**	**46**	⇓P		**PKPdf**	**09 20 15.1**	**+0.1**
ABTX	**Abilene, Hawle**	**145.09**	**42**	*e*PKPdf		**PKPdf**	**09 20 14.7**	**-0.1**
ABTX	**Abilene, Hawle** baz=145	**145.09**	**42**	P		**PKPdf**	**09 20 14.7**	**-0.1**
TUL1	**Tulsa**	**145.20**	**34**	*e*PKPdf		**PKPbc**	**09 20 14.4**	**-0.2**
TUL1	**Tulsa** baz=145	**145.20**	**34**	P		**PKPbc**	**09 20 14.4**	**-0.2**
331A	**San Angelo** baz=145,SNR=11	**145.35**	**44**	⇓P		**PKPdf**	**09 20 15.3**	**0.0**
530A	**J-C Ranch, Com** baz=145,SNR=27	**145.36**	**47**	⇓P		**PKPab**	**09 20 16.2**	**+0.7**
SFIN	**Scholer Farm** baz=145	**145.37**	**19**	P		**PKPab**	**09 20 15.1**	**0.0**
232A	**Coleman** baz=145	**145.54**	**43**	P		**PKPab**	**09 20 16.7**	**+0.5**
431A	**Sonora** baz=145,SNR=7.6	**145.59**	**45**	⇑P		**PKPab**	**09 20 16.5**	**+0.1**
332A	**Millersview** baz=146,SNR=21	**145.78**	**44**	⇑P		**PKPab**	**09 20 17.2**	**+0.2**
531A	**Rocksprings** baz=146	**145.92**	**46**	P		**PKPab**	**09 20 17.9**	**+0.3**
BDFB	**Brasilia**	**146.02**	**226**	PKPbc		**PKPab**	**09 20 19.0**	**+0.6**
BDFB	**Brasilia** comp=Z,2.4nm,0.5s,baz=130,slow=5.7,SNR=4.9	**146.02**	**226**	PKPbc		**PKPab**	**09 20 19.0**	**+0.6**
432A	**Menard** baz=146,SNR=6.5	**146.04**	**44**	⇓P		**PKPbc**	**09 20 17.7**	**+0.2**
JCT	**Junction City**	**146.27**	**45**	*e*PKPbc		**PKPab**	**09 20 18.6**	**-0.4**
JCT	**Junction City** baz=146,SNR=13	**146.27**	**45**	⇓P		**PKPab**	**09 20 18.7**	**-0.2**
631A	**Perdido Creek** baz=146	**146.32**	**47**	⇑P		**PKPbc**	**09 20 18.6**	**+0.4**
532A	**Rocksprings** baz=146	**146.40**	**46**	⇓P		**PKPbc**	**09 20 18.5**	**0.0**
632A	**Uvalde** baz=146	**146.84**	**46**	P		**PKPbc**	**09 20 20.1**	**+0.3**
WVT	**Waverly**	**148.86**	**24**	*e*PKPbc		**PKPbc**	**09 20 24.8**	**-0.1**
LPAZ	**La Paz**	**155.37**	**191**	PKPab		**PKPab**	**09 20 59.8**	**+2.6**
LPAZ	**La Paz** comp=Z,1.4nm,0.7s,baz=144,slow=4.9,SNR=6.4	**155.37**	**191**	PKPab		**PKPab**	**09 20 59.8**	**+2.6**

*IDC **02** 09:12:09.4±4.6,37˚42N×72˚37E, h155km±42km, mb3.5/5, mb1 3.4/11, mb1mx3.2/33, mbtmp3.4/11, Error ellipse: s-maj=35.5km s-min=20.8km az=30.0*
*ISCJB **02** 09:12:10.3±0.5,37˚54N±0˙04×72˚33E±0˙09, h176km, mb3.7/5, Error ellipse: s-maj=10.3km s-min=3.9km az=155.5*
*NNC **02** 09:12:27.4±4.1,39˚25N×72˚01E, h0km, mb4.3, mpv3.6, Error ellipse: s-maj=31.6km s-min=20.0km az=5.0*

ISC 02 09:12:11.3±0.7,37˚56N±0˙06×72˚53E±0˙10, h176km, n41, σ1°33/41, mb3.7/5, 5C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=25	**4.66**	**11**	P		**Pn**	**09 13 21.8**	**+0.7**
UCH	**Uchtor** SNR=14	**4.91**	**18**	P		**Sn**	**09 14 19.9**	**-1.8**
KZA	**Kyzart** SNR=5.6	**4.98**	**24**	P		**Pn**	**09 13 25.9**	**+0.6**
EKS2	**Erkin-Say** SNR=25	**5.19**	**10**	P		**Pn**	**09 13 29.2**	**+1.5**
AAK	**Ala-Archa** SNR=22	**5.29**	**16**	P		**Pn**	**09 13 30.4**	**+1.3**
AAK	**Ala-Archa** 6.6nm,0.3s,baz=165,slow=6.6,SNR=40	**5.29**	**16**	P		**Pn**	**09 13 30.3**	**+1.3**
AAK				S		**Sn**	**09 14 28.5**	**-1.6**
ULHL	5.9nm,0.3s,baz=332,slow=19,SNR=17 **Ulahol** SNR=7.2	**5.49**	**30**	P		**Pn**	**09 13 32.8**	**+1.1**
THN	**Thein Dam**	**5.74**	**152**	*e*P		**Pn**	**09 13 35.2**	**+0.3**
THN				*e*S		**Sn**	**09 14 40.5**	**-0.1**
KK31	**Karatay Array** 6.4nm,0.3s,baz=168,slow=13,SNR=106	**5.75**	**345**	Pn		**Pn**	**09 13 34.5**	**-0.5**
KK31				⇓Sn		Sn	09 14 24.4	-16
KK31	4.0nm,0.3s			Lg		Lg	09 14 34.4	
TKM2	238nm,0.7s,baz=169,slow=22,SNR=63 **Tokmak 2** 2.6nm,0.3s	**5.85**	**23**	⇑Pn		**Pn**	**09 13 37.5**	**+1.0**
TKM2	12nm,0.8s			⇑Sn		Sn	09 14 31.2	-12
TKM2	8.4nm,0.6s			⇓Lg		Lg	09 14 53.3	
TKM2	**Tokmak 2** SNR=7.0	**5.85**	**23**	P		**Pn**	**09 13 37.9**	**+1.5**
SMLA	**Simla**	**7.47**	**148**	*i* P		**Pn**	**09 13 59.5**	**+1.8**
SMLA				*i* S		**Sn**	**09 15 19.4**	**-2.2**
SMLA				*i* S		**Sn**	**09 15 19.8**	**-1.8**
KKR	**Kurukshetra**	**8.37**	**153**	*e*S		**Sn**	**09 15 39.7**	**-3.5**
KALG	**Kalgarh**	**9.56**	**145**	*e*4		Sn	09 15 49.9	-22
KALG	comp=E,60nm,0.4s			AML		AML	09 16 00.3	
AYAN	**Aya Nagar**	**9.84**	**156**	*e*S		Sn	09 16 10.3	-7.9
SONA	**Sohna**	**10.04**	**156**	*e*S		Sn	09 16 14.1	-8.9
SONA	comp=E,36nm,0.1s			AML		AML	09 16 19.4	
SONA	comp=N,16nm,0.3s			AML		AML	09 16 19.6	
AGRA	**Agra**	**11.26**	**155**	*e*S		Sn	09 16 43.8	-8.7
AGRA	comp=N,70nm,0.5s			AML		AML	09 16 50.3	
AGRA	comp=E,53nm,0.0s			AML		AML	09 16 57.1	
MKAR	**Makanchi Array** comp=E,0.1nm,0.3s,baz=214,slow=14,SNR=2.5	**11.72**	**35**	P		**Pn**	**09 14 53.5**	**+0.3**
DANN	**Dangsing** comp=E,23nm,0.3s	**13.15**	**131**	*e*P		**Pn**	**09 15 12.3**	**+0.5**
KOLN	**Koldanda** comp=E,26nm,0.5s	**13.49**	**133**	*e*P		**Pn**	**09 15 16.9**	**+0.9**
KURBB	**Kurchatov Arra** comp=E,0.2nm,0.3s,baz=205,slow=10,SNR=5.9	**13.75**	**16**	P		**Pn**	**09 15 19.2**	**+0.3**
GKN	**Gorkha** comp=E,21nm,0.3s	**13.94**	**130**	*e*P		**Pn**	**09 15 22.6**	**+1.1**
KKN	**Kakani** comp=E,14nm,0.4s	**14.48**	**129**	*e*P		**Pn**	**09 15 28.7**	**+0.3**
DMN	**Daman**	**14.51**	**129**	*e*P		**Pn**	**09 15 29.1**	**+0.4**
PKIN	comp=E,19nm,0.6s **Phulchoki** comp=E,14nm,0.3s	**14.71**	**129**	*e*P		**P**	**09 15 32.9**	**+0.1**
PKI	**Pulchoki** comp=E,31nm,0.5s	**14.72**	**129**	*e*P		**P**	**09 15 32.9**	**-0.1**
GUN	**Gumba** comp=E,30nm,0.5s	**14.78**	**127**	*e*P		**P**	**09 15 33.3**	**-0.4**
AB31	**Akbulak array** comp=E,3.7nm,0.5s,baz=140,slow=13,SNR=66	**14.82**	**326**	Pn		**P**	**09 15 32.1**	**-1.5**
AB31				⇑Sn		Sn	09 18 01.2	-16
JIRN	comp=E,4.5nm,0.5s,baz=140,slow=24,SNR=25 **Jiri** comp=E,85nm,0.4s	**15.15**	**127**	*e*P		**P**	**09 15 38.7**	**+0.9**
BVAR	**Borovoye Array** comp=E,0.5nm,0.3s,baz=140,slow=11,SNR=4.4	**15.54**	**355**	P		**Pn**	**09 15 39.7**	**-1.2**
RAMN	**Ramite** comp=E,30nm,0.6s	**15.90**	**128**	*e*P		**P**	**09 15 47.9**	**+1.9**
TAPN	**Taplejung** comp=E,10nm,0.3s	**16.34**	**124**	*e*P		**Pn**	**09 15 53.6**	**+2.3**
ODAN	**Odare**	**16.47**	**126**	*e*P		**Pn**	**09 15 54.8**	**+2.1**
AKTO	**Aktyubinsk** comp=E,8.5nm,0.7s	**16.54**	**326**	⇑Pn		**Pn**	**09 15 54.2**	**+1.2**
AKTO				⇑Sn		S	09 18 46.4	-9.2
AKTO	comp=E,3.8nm,0.6s **Aktyubinsk** comp=E,1.2nm,0.3s,baz=127,slow=11,SNR=33	**16.54**	**326**	P		**P**	**09 15 51.3**	**-1.2**
AKTO				S		S	09 18 46.5	-9.0
ZALV	comp=E,0.5nm,0.3s,baz=343,slow=20,SNR=7.0 **Zalesovo Beam** comp=E,0.3nm,0.3s,baz=230,slow=11,SNR=2.9	**18.46**	**23**	P		**Pn**	**09 16 14.9**	**-0.8**
FINES	**FINESS Array B** comp=E,2.0nm,0.8s,baz=110,slow=10,SNR=4.3	**37.31**	**325**	P		**P**	**09 19 06.7**	**+0.6**
ARCES	**ARCESS Array B** comp=E,3.3nm,0.7s,baz=111,slow=8.3,SNR=13	**40.65**	**337**	P		**P**	**09 19 34.6**	**+0.9**
HFS	**Hagfors** comp=E,0.9nm,0.4s,baz=102,slow=13,SNR=6.6	**43.00**	**321**	P		**P**	**09 19 53.3**	**+0.4**
TORD	**Torodi Ar. Bea** comp=E,0.7nm,0.5s,baz=41,slow=5.3,SNR=18	**66.96**	**269**	P		**P**	**09 22 44.7**	**-0.5**
WRA	**Warramunga Arr** comp=E,0.4nm,0.5s,baz=327,slow=5.2,SNR=11	**81.53**	**123**	P		**P**	**09 24 09.9**	**+0.6**

*BJI **02** 09:17:07.4, 40˚40N×126˚60W, h10km, mB5.3/2, mb4.9/4, Ms5.0/1, Ms7 4.6/2*
*IDC **02** 09:17:11.8±0.8, 40˚51N×126˚09W, h0km, mb4.2/11, mb1 4.4/17, mb1mx4.2/34, mbtmp4.2/17, ML4.1/5, MS3.6/15, Ms1 3.6/15, ms1mx3.4/58, Error ellipse: s-maj=14.4km s-min=10.0km az=27.0*
*NEIC **02** 09:17:12.7±0.7, 40˚49N×126˚51W, h10km, mb4.5/24, MW4.7(BRK), Error ellipse: s-maj=8.6km s-min=4.5km az=66.0*
NEIC Felt at Arcata.

ISC 02 09:17:14.5±3.0, 40˚44N±0˙05×126˚47W±0˙07, h32km±21km, n577, σ1°31/554, mb4.5/28, MS3.6/9, 169C-159D, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KHMM	**Horse Mountain**	**2.13**	**77**	*e*Pn		**Pn**	09 17 45.5	-2.4
KHMM				*e*Sn		**Sn**	**09 18 11.8**	**-1.6**
KRMB	**Red Mountain**	**2.23**	**60**	*e*Pn		Pn	09 17 47.1	-2.1
KCPM	**Cahto Peak**	**2.34**	**108**	*e*Pn		Pn	09 17 48.5	-2.3
KCPM				*e*Sn		**Sn**	**09 18 15.8**	**-2.7**
KIPM	**Iron Peak**	**2.38**	**104**	*e*Pn		**Pn**	**09 17 49.4**	**-1.9**
KSXB	**Camp Six Broad**	**2.41**	**54**	P		**Pn**	**09 17 49.6**	**-2.1**
KBO	**Bosley Butte**	**2.45**	**43**	*e*Pn		**Pn**	**09 17 50.4**	**-1.9**
KBO				*e*Sn		**Sn**	**09 18 19.6**	**-1.6**
KTRM	**Thompson Ridge**	**2.76**	**57**	P		**Pn**	**09 17 54.8**	**-1.9**
KEBM	**Edson Butte**	**2.91**	**33**	*e*Pn		**Pn**	**09 17 56.5**	**-2.1**
KEBM				*e*Sn		**Sn**	**09 18 34.9**	**+2.4**
HOPS	**Hopland**	**2.99**	**118**	*e*Pn		Pn	09 17 56.9	-2.8
HOPS				*e*Sn		Sn	09 18 29.6	-4.8
WDC	**Whiskeytown Da**	**3.00**	**86**	*e*Pn		**Pn**	**09 17 57.7**	**-2.1**
WDC				*e*Sn		**Sn**	**09 18 32.1**	**-2.5**
YBH	**Yreka Blue Hor**	**3.12**	**64**	*e*Pn		**Pn**	**09 17 59.9**	**-1.6**
YBH				*e*Sn		**Sn**	**09 18 39.1**	**+1.4**
YBH	**Yreka Blue Hor** 170nm,0.3s,baz=265,slow=8.9,SNR=1206	**3.12**	**64**	Pn		**Pn**	**09 17 59.9**	**-1.6**
YBH	35nm,0.3s,baz=172,slow=18,SNR=3.4			Sn		**Sn**	**09 18 34.1**	**-3.7**
YBH	comp=Z,970nm,20.9s,baz=241,slow=40			LR		LR	09 19 03.9	
HUMO	**Hull Mountain**	**3.42**	**49**	*e*Pn		**Pn**	**09 18 04.5**	**-1.0**
HUMO				*e*Sn		**Sn**	**09 18 43.1**	**-1.8**
MCCM	**Marconi Confer**	**3.61**	**128**	*e*Pn		Pn	09 18 04.9	-3.2
MCCM				*e*Sn		**Sn**	**09 18 51.9**	**+2.4**
DBO	**Dodson Butte**	**3.61**	**41**	P		**Pn**	**09 18 07.3**	**-0.9**
BBOR	**Butler Butte**	**3.75**	**48**	P		**Pn**	**09 18 09.7**	**-0.5**
OHCM	**Honcut**	**3.99**	**104**	*e*Pn		**Pn**	**09 18 11.7**	**-1.7**
SAC	**San Andreas**	**4.25**	**131**	*e*Pn		Pn	09 18 14.0	-3.0
SAC				*e*Sn		**Sn**	**09 19 03.7**	**-1.8**
BEKR	**Beckworth**	**4.72**	**95**	*e*Pn		**Pn**	**09 18 22.4**	**-1.1**
BEKR				*e*Sn		**Sn**	**09 19 18.4**	**+1.2**
IRO	**Indian

OSI	**Osito Adit** 75nm,0.6s	8.46	131	ePn	Pn	09 19 13.9	-1.0
OSI				eSn	Sn	09 20 51.5	+2.3
OSI	**Osito Adit** baz=8.5,SNR=7.8	8.46	131	⇓P	Pn	09 19 13.7	-1.1
MFID	**Camas Ranch** baz=8.5,SNR=39	8.47	66	⇑P	Pn	09 19 14.6	-0.5
FURC	**Furnace Creek,** baz=8.5,SNR=19	8.52	115	P	Pn	09 19 18.4	+3.0
LRMC	**Laurel Mountai** baz=8.6,SNR=105	8.52	123	P	Pn	09 19 14.9	-0.7
ELK	**Elko**	8.55	84	ePn	Pn	09 19 17.5	+1.3
E09A	**Wood Farm, Sta**	8.57	42	ePn	Pn	09 19 15.6	-0.6
BLG	**Laguna Peak** baz=8.7	8.64	135	⇓P	Pn	09 19 14.8	-2.5
R11A	**Troy Canyon, C**	8.68	100	ePn	Pn	09 19 18.0	+0.1
R11A	**Troy Canyon, C** baz=8.7,SNR=8.8	8.68	100	P	Pn	09 19 18.1	+0.1
EDW2	**Edwards Air Fo** baz=8.8,SNR=56	8.72	127	P	Pn	09 19 16.7	-1.6
F10A	**Beach Ranch, E**	8.73	48	ePn	Pn	09 19 20.0	+1.6
DECC	**Green Verdugo** baz=9.0	8.95	131	⇓P	Pn	09 19 20.4	-1.1
A05A	**Maple Falls**	9.11	19	ePn	Pn	09 19 23.9	+0.3
MWC	**Mount Wilson** 35nm,0.7s	9.13	130	ePn	Pn	09 19 23.1	-1.0
MWC				eSn	Sn	09 21 06.3	+0.5
GSC	**Goldstone**	9.20	121	ePn	Pn	09 19 24.5	-0.4
GSC	**Goldstone** baz=9.2,SNR=76	9.20	121	⇓P	Pn	09 19 24.5	-0.4
RRX	**Edison Barstow** baz=9.4	9.33	123	⇑P	Pn	09 19 26.5	-0.2
BFSC	**Mount Baldy Ra** baz=9.4,SNR=24	9.35	129	P	Pn	09 19 25.4	-1.7
B08A	**Colville Reser**	9.42	30	ePn	Pn	09 19 28.6	+0.7
C09A	**Chrisman Ranch**	9.43	36	ePn	Pn	09 19 27.4	-0.5
HLID	**Hailey** baz=9.5,SNR=60	9.51	67	P	Pn	09 19 30.6	+1.3
CIS	**Catalina Islan** baz=9.6	9.53	135	⇑P	Pn	09 19 26.5	-3.0
CIS	baz=9.6			⇓S	Sn	09 21 09.9	-5.6
SHPR	**Sheep Range**	9.70	110	ePn	Pn	09 19 35.7	+3.8
TUQ	**Turquoise Moun** baz=9.7,SNR=28	9.71	118	⇑P	Pn	09 19 32.5	+0.5
BBRC	**Big Bear Solar** baz=9.8,SNR=12	9.78	126	P	Pn	09 19 31.5	-1.6
SCI	**San Clemente I** baz=9.8,SNR=7.5	9.79	137	⇑P	Pn	09 19 30.8	-2.1
HEC	**Hector,Ludlow** baz=9.8,SNR=139	9.80	122	P	Pn	09 19 32.5	-0.7
MURC	**Murrieta** baz=10,SNR=5.6	10.07	130	⇑P	Pn	09 19 34.2	-2.7
BGU	**Big Grassy Mou**	10.22	83	ePn	Pn	09 19 40.3	+1.3
GMRC	**Granite Mounta** baz=10,SNR=26	10.27	120	P	Pn	09 19 38.8	-0.8
NEW	**Newport**	10.29	37	ePn	Pn	09 19 40.3	+0.5
NEW	**Newport** baz=10,SNR=10	10.29	37	⇑P	Pn	09 19 39.6	-0.2
NEW	**Newport** 0.7nm,0.3s,baz=210,slow=13,SNR=16	10.29	37	Pn	Pn	09 19 38.8	-1.0
NEW	comp=Z,266nm,19.5s,baz=226,slow=38			LR	LR	09 23 35.9	
HVU	**Hansel Valley**	10.43	78	ePn	Pn	09 19 43.4	+1.6
DUG	**Dugway**	10.44	87	ePn	Pn	09 19 43.1	+1.2
DUG	**Dugway** baz=10,SNR=51	10.44	87	P	Pn	09 19 43.5	+1.6
LDFC	**Landfair**	10.46	117	ePn	Pn	09 19 42.5	+0.2
ARUT	**Antelope Range** 126nm,0.7s	10.47	100	ePn	Pn	09 19 43.6	+1.2
PFO	**Pinyon Flat Ob**	10.51	127	ePn	Pn	09 19 41.5	-1.5
PFO				eSn	Sn	09 21 39.9	+0.3
PFO	**Pinyon Flat Ob** baz=11,SNR=12	10.51	127	P	Pn	09 19 41.7	-1.3
PFO	**Pinyon Flat Ob** 2.3nm,0.3s,baz=303,slow=10,SNR=25	10.51	127	Pn	Pn	09 19 41.7	-1.3
PFO	comp=Z,358nm,18.0s,baz=133,slow=38			LR	LR	09 23 43.0	
BELC	**Belle Mtn. Jos** baz=11,SNR=26	10.53	124	P	Pn	09 19 41.8	-1.5
CCUT	**Cedar City**	10.60	102	ePn	Pn	09 19 46.7	+2.4
MCMT	**McKenzie Canyo** 40nm,0.9s	10.95	62	ePn	Pn	09 19 49.4	+0.4
IRM	**Iron Mountain** baz=11,SNR=12	10.97	121	P	Pn	09 19 48.2	-1.1
NLU	**North Lily Min**	11.03	88	ePn	Pn	09 19 52.5	+2.4
MONP	**Monument Peak** baz=11,SNR=23	11.03	130	⇑P	Pn	09 19 48.8	-1.4
BAR	**Barrett** 12nm,0.7s	11.04	131	ePn	Pn	09 19 47.9	-2.3
MSO	**Missoula** baz=11,SNR=76	11.10	51	P	Pn	09 19 51.9	+1.0
BC3	**Big Chuckawall** baz=11,SNR=14	11.10	124	P	Pn	09 19 49.1	-1.9
BSMT	**Bassoo Peak**	11.19	45	ePn	Pn	09 19 52.7	+0.4
MVU	**Marysvale**	11.19	95	ePn	Pn	09 19 54.1	+1.7
W13A	**Hualapai Mount** baz=11,SNR=43	11.29	114	P	Pn	09 19 56.8	+3.0
DLMT	**Dillon**	11.30	60	ePn	Pn	09 19 54.3	+0.6
MPU	**Maple Canyon**	11.36	87	ePn	Pn	09 19 57.1	+2.6
DVTC	**Desert V Tower** baz=11,SNR=6.2	11.39	130	⇓P	Pn	09 19 54.8	-0.1
JTMT	**Jette**	11.40	46	ePn	Pn	09 19 55.1	0.0
SWMT	**Swartz Lake**	11.43	48	ePn	Pn	09 19 55.4	0.0
JLU	**Jordanelle**	11.44	84	ePn	Pn	09 19 57.7	+1.9
BLMT	**Blacktail Moun**	11.52	45	ePn	Pn	09 19 57.0	+0.3
CHMT	**Chamberlain Mo**	11.55	52	ePn	Pn	09 19 57.9	+0.7
PDMCI	**Parker Dam,Lak** baz=12,SNR=8.9	11.56	118	⇑P	Pn	09 19 57.8	+0.6
LRM	**Limekiln Ridge**	11.57	58	ePn	Pn	09 19 57.7	+0.2
SLMT	**Seeley Lake**	11.57	50	ePn	Pn	09 19 57.7	+0.2
DAU	**Daniels Canyon**	11.60	85	ePn	Pn	09 20 00.5	+2.4
YBMT	**Yellow Bay** 11nm,0.7s	11.62	46	ePn	Pn	09 19 58.6	+0.5
Y12C	**Blythe** baz=12,SNR=6.1	11.64	121	P	Pn	09 19 57.3	-1.0
RRI2	**Red Ridge**	11.66	71	ePn	Pn	09 20 00.9	+2.0
TMUT	**Trail Mountain**	11.79	91	ePn	Pn	09 20 04.0	+3.5
BBB	**Bella Bella** comp=Z,101nm,20.5s,baz=15,slow=31	11.81	355	LR	LR	09 23 18.3	
U15A	**North Rim** baz=12	11.82	105	⇑P	Pn	09 20 05.7	+4.8
GLA	**Glamis**	11.89	125	ePn	Pn	09 19 59.9	-1.9
GLA	**Glamis** baz=12,SNR=9.5	11.89	125	P	Pn	09 19 59.9	-1.9
Q16A	**Castle Valley**	11.89	92	ePn	Pn	09 20 05.7	+3.8
Q16A	**Castle Valley** baz=12	11.89	92	⇑P	Pn	09 20 05.4	+3.5
QLMT	**Earthquake Lak**	11.92	63	ePn	Pn	09 20 03.2	+1.0
TPAW	**Teton Pass**	11.95	70	ePn	Pn	09 20 05.5	+2.7
M17A	**Scullys Gap (B** baz=12	12.00	80	⇓P	Pn	09 20 03.4	0.0
REDW	**Red Top Meadow** 22nm,1.1s	12.00	71	ePn	Pn	09 20 05.9	+2.4
IMW	**Indian Meadow**	12.03	68	ePn	Pn	09 20 05.6	+1.7
BOZ	**Bozeman (W)** 23nm,1.0s	12.04	59	ePn	Pn	09 20 04.4	+0.6
SNOW	**Snow King Moun**	12.09	70	ePn	Pn	09 20 06.6	+2.0
MOOW	**Moose Ponds**	12.14	69	ePn	Pn	09 20 06.7	+1.3
YMR	**Madison River** 36nm,1.0s	12.19	65	ePn	Pn	09 20 08.8	+2.8
LOHW	**Long Hollow**	12.22	70	ePn	Pn	09 20 08.1	+1.6
YFT	**Old Faithful** 21nm,1.0s	12.23	66	ePn	Pn	09 20 10.2	+3.7
I17A	**Pilgrim Ck.** baz=12,SNR=12	12.30	68	⇑P	Pn	09 20 10.3	+2.9
HRY	**Holter Researc**	12.32	55	ePn	Pn	09 20 08.3	+0.6
SRU	**San Rafael**	12.35	91	ePn	Pn	09 20 11.0	+2.9
H17A	**Grant Village**	12.39	66	ePn	Pn	09 20 11.1	+2.3
H17A	**Grant Village** baz=12	12.39	66	⇓P	Pn	09 20 11.2	+2.3
WALA	**Waterton Lakes** 0.6nm,0.8s	12.40	42	ePn	Pn	09 20 09.5	+0.8
YNR	**Norris Junctio** 23nm,1.1s	12.40	65	ePn	Pn	09 20 12.6	+3.7
L18A	**Fontenelle, Gr** baz=12	12.48	78	⇑P	Pn	09 20 10.6	+0.7
Y14A	**Wickenburg** baz=13,SNR=18	12.54	117	P	Pn	09 20 11.8	+1.1
BW06	**Boulder Array** 10.0nm,0.9s	12.88	74	ePn	Pn	09 20 16.2	+0.8
PDAR	**Pinedale Array**	12.88	74	Pn	Pn	09 20 14.9	-0.5
PDAR	**Pinedale Array** 0.1nm,0.3s,baz=274,slow=10,SNR=17	12.88	74	Pn	Pn	09 20 14.9	-0.5
PDAR	comp=Z,357nm,21.1s,baz=88,slow=39			LR	LR	09 25 26.1	
WUAZ	**Wupatki** 26nm,1.0s	12.88	108	ePn	Pn	09 20 17.9	+2.4
WUAZ	**Wupatki** baz=13,SNR=26	12.88	108	⇓P	Pn	09 20 18.4	+3.0
Z14A	**Wintersburg** baz=13,SNR=7.3	12.92	119	⇑P	Pn	09 20 16.0	+0.3
H18A	**Shoshone NF, C** baz=13	13.09	66	⇑P	Pn	09 20 19.2	+0.9
O19A	**Miners Draw (B** baz=13	13.23	85	⇓P	Pn	09 20 21.4	+1.2
J19A	**Crowheart** baz=13,SNR=8.5	13.29	72	⇑P	Pn	09 20 22.7	+1.7
X16A	**Lo Mia Camp, P** baz=13,SNR=32	13.37	112	⇑P	Pn	09 20 25.4	+3.3
GCMT	**Greycliff** 13nm,1.0s	13.39	61	ePn	Pn	09 20 22.1	-0.1
K19A	**Absolon Red Bu** baz=13,SNR=8.7	13.40	74	P	Pn	09 20 22.7	+0.2
P19A	**Cripple Cowboy** baz=13,SNR=10	13.43	88	⇑P	Pn	09 20 24.0	+1.0
I19A	**Meeteetse** baz=13,SNR=9.6	13.44	69	⇓P	Pn	09 20 23.5	+0.5
RLMT	**Red Lodge** 16nm,0.8s	13.47	64	ePn	Pn	09 20 26.4	+2.9
PV09	**Paradox Valley**	13.54	93	ePn	Pn	09 20 28.1	+3.6
H19A	**Powell** baz=14,SNR=14	13.56	66	⇑P	Pn	09 20 26.1	+1.4
PV05	**Paradox Valley**	13.67	94	ePn	Pn	09 20 29.6	+3.4
L20A	**Wamsutter** baz=14	13.74	78	⇓P	Pn	09 20 26.5	-0.7
K20A	**Yellowstone Ra** baz=14,SNR=7.6	13.76	75	P	Pn	09 20 27.1	-0.3
N20A	**Spence Gulch,** baz=14,SNR=6.2	13.84	82	⇓P	Pn	09 20 29.4	+0.9
M20A	**Sweetwater, Wa** baz=14	13.86	80	⇑P	Pn	09 20 28.7	-0.1
F19A	**Roth Farm, Mol** baz=14,SNR=5.4	13.89	61	⇓P	Pn	09 20 30.3	+1.3
214A	**Organ Pipe Nat** baz=14	13.89	123	⇓P	Pn	09 20 29.7	+0.6
P20A	**De Beque** baz=14	13.90	88	⇑P	Pn	09 20 30.7	+1.3
O20A	**White River Ci**	13.93	85	ePn	Pn	09 20 31.3	+1.6
O20A	**White River Ci** baz=14,SNR=9.0	13.93	85	⇓P	Pn	09 20 30.1	+0.4
J20A	**Shoshoni** baz=14,SNR=9.7	14.00	72	⇑P	Pn	09 20 31.6	+0.9
I20A	**Worland** baz=14,SNR=8.2	14.04	70	⇑P	Pn	09 20 32.5	+1.3
PV01	**Paradox Valley** 1µm,1.1s	14.06	94	ePn	Pn	09 20 33.4	+1.8
PV15	**Paradox Valley**	14.07	93	ePn	Pn	09 20 33.3	+1.6
Q20A	**Ridgley Place,** baz=14,SNR=21	14.08	90	P	Pn	09 20 33.6	+1.9
EGMT	**Eagleton**	14.17	52	ePn	Pn	09 20 32.3	-0.5
EGMT	**Eagleton** baz=14,SNR=42	14.17	52	⇑P	Pn	09 20 32.8	0.0
E19A	**Rath Farm, Rou** baz=14	14.18	59	⇓P	Pn	09 20 32.1	-0.8
R20A	**Redvale** baz=14,SNR=12	14.19	93	⇑P	Pn	09 20 34.8	+1.5
G20A	**Bridger** baz=14,SNR=11	14.22	64	⇑P	Pn	09 20 33.8	+0.2
H20A	**Greybull** baz=14,SNR=10	14.22	67	⇓P	Pn	09 20 34.0	+0.4
S20A	**Disappointment** baz=14,SNR=10	14.30	95	⇓P	Pn	09 20 35.7	+0.9
D19A	**Cripps Ranch,** baz=14,SNR=14	14.36	56	⇓P	Pn	09 20 35.5	0.0
X18A	**Snowflake** baz=14	14.38	109	⇑P	Pn	09 20 35.6	-0.2
MVCO	**Mesa Verde**	14.38	97	ePn	Pn	09 20 37.7	+1.8
MVCO	**Mesa Verde** baz=14	14.38	97	⇑P	Pn	09 20 36.4	+0.5
F20A	**Billings** baz=14,SNR=8.5	14.41	62	⇑P	Pn	09 20 35.4	-0.7
L21A	**Rawlins** baz=14,SNR=9.4	14.47	78	P	Pn	09 20 36.6	-0.4
J21A	**Lysite** baz=14	14.47	72	⇑P	Pn	09 20 37.2	+0.1
C19A	**Slack Wire Ran** baz=14,SNR=13	14.47	54	P	Pn	09 20 36.5	-0.4
M21A	**Separation Pea** baz=14	14.48	79	⇑P	Pn	09 20 36.6	-0.6
O21A	**Pagoda** baz=14,SNR=8.7	14.50	85	⇑P	Pn	09 20 37.8	+0.2
K21A	**Alcova** baz=14,SNR=5.9	14.56	75	⇓P	Pn	09 20 37.0	-1.4
P21A	**Newcastle** baz=15,SNR=14	14.62	87	⇑P	Pn	09 20 39.5	+0.4
E20A	**Meyer Farm, Mu** baz=15,SNR=12	14.62	59	P	Pn	09 20 38.0	-1.0
I21A	**Big Trails, Te** baz=15,SNR=8.3	14.63	70	⇑P	Pn	09 20 38.7	-0.5
Q21A	**Lamborn Mesa,** baz=15	14.65	90	⇑P	Pn	09 20 39.7	+0.1
R21A	**Cimarron** baz=15	14.78	92	⇓P	Pn	09 20 42.6	+1.3
D20A	**Manuel Ranch,** baz=15,SNR=5.1	14.81	57	⇓P	Pn	09 20 41.2	-0.3
B19A	**Brinkman Farms** baz=15,SNR=33	14.84	52	P	Pn	09 20 40.9	-1.0
V20A	**Brimhall** baz=15	14.91	102	⇑P	Pn	09 20 42.8	-0.2
G21A	**Lodge Grass** baz=15	14.92	65	⇑P	Pn	09 20 43.5	+0.5
H21A	**Big Horn, Sher** baz=15	14.92	67	⇓P	Pn	09 20 43.6	+0.6
TUC	**Tucson** 10nm,1.0s	15.00	118	ePn	Pn	09 20 45.5	+1.3
SMCO	**Snowmass** 6.3nm,0.8s	15.04	88	ePn	Pn	09 20 46.1	+1.1
M22A	**Cedar Creek Ra** baz=15	15.06	80	⇑P	Pn	09 20 45.4	+0.3
K22A	**Casper** baz=15,SNR=7.0	15.10	75	P	Pn	09 20 44.5	-1.0
F21A	**Absaloka Mine,** baz=15,SNR=5.3	15.11	63	⇓P	Pn	09 20 45.6	+0.1
C20A	**Veseth Ranch,** baz=15	15.12	55	⇓P	Pn	09 20 45.9	+0.3
P22A	**Eagle** baz=15	15.13	87	⇑P	Pn	09 20 45.8	-0.2
Q22A	**Crested Butte,** baz=15	15.15	90	⇓P	Pn	09 20 46.8	+0.4
W20A	**Ramah** baz=15,SNR=8.3	15.16	105	⇑P	Pn	09 20 46.3	-0.2
L22A	**Ellis Ranch, M** baz=15	15.16	77	⇑P	Pn	09 20 46.5	+0.1
A19A	**Klindworth Far** baz=15	15.18	50	⇓P	Pn	09 20 47.0	+0.6
J22A	**Midwest** baz=15,SNR=6.1	15.18	72	⇑P	Pn	09 20 45.2	-1.3
T21A	**Navajo Lake** baz=15,SNR=8.0	15.18	97	⇑P	Pn	09 20 48.3	+1.7
N22A	**Wattenberg Ran** baz=15	15.21	82	⇓P	Pn	09 20 46.7	-0.4
O22A	**Kremmling** baz=15	15.21	85	⇑P	Pn	09 20 46.7	-0.4
I22A	**9 Mile Ranch,** baz=15,SNR=11	15.22	70	⇓P	Pn	09 20 46.5	-0.5
U21A	**Nageezi** baz=15,SNR=8.1	15.28	99	⇑P	Pn	09 20 48.5	+0.6
E21A	**Keefer Ranch,** baz=15,SNR=11	15.33	60	⇓P	Pn	09 20 47.8	-0.6
B20A	**Solberg Farm,** baz=15	15.39	53	⇑P	Pn	09 20 48.2	-1.0
H22A	**Clearmont** baz=15	15.40	68	⇑P	Pn	09 20 49.0	-0.4
X20A	**Quemado** baz=15,SNR=22	15.43	107	⇓P	Pn	09 20 51.0	+1.1
S22A	**4UR Ranch, Cre** baz=16,SNR=12	15.49	94	⇑P	Pn	09 20 50.2	-0.5
D21A	**La Casta Ranch** baz=16,SNR=16	15.54	58	P	Pn	09 20 50.1	-1.0
G22A	**Birney** baz=16,SNR=8.4	15.55	65	⇓P	Pn	09 20 51.5	+0.2
N23A	**Red Feather La** baz=16,SNR=8.8	15.59	82	⇓P	Pn	09 20 51.1	-0.9
EDM	**Edmonton**	15.59	31	ePn	Pn	09 20 50.5	-1.2
A20A	**Cobblestone Ra** baz=16,SNR=31	15.64	51	P	Pn	09 20 51.0	-1.3
T22A	**Edith** baz=16,SNR=7.0	15.65	96	⇑P	Pn	09 20 52.3	-0.5
O23A	**Lake Granby, G** baz=16	15.68	84	⇓P	Pn	09 20 53.1	-0.1
F22A	**Rosebud** baz=16,SNR=13	15.69	63	⇑P	Pn	09 20 52.1	-1.0
L23A	**Garrett**	15.71	77	P	Pn	09 20 52.1	-1.4
M23A	**Laramie** baz=16	15.71	79	⇓P	Pn	09 20 52.9	-0.6
C21A	**Desert Coulee** baz=16,SNR=13	15.73	56	⇑P	Pn	09 20 53.5	0.0
K23A	**Bowen Ranch, D** baz=16	15.77	75	⇑P	Pn	09 20 53.8	-0.4
W21A	**San Fidel** baz=16	15.80	104	⇑P	Pn	09 20 53.9	-0.8
Y20A	**Horse Springs,** baz=16,SNR=9.3	15.82	109	⇓P	Pn	09 20 54.9	0.0
U22A	**Llaves** baz=16,SNR=11	15.90	98	⇓P	Pn	09 20 57.6	+1.6
PHWY	**Pilot Hill**	15.92	80	ePn	Pn	09 20 55.6	-0.7
LAO	**LASA Array** 130nm,1.0s	15.93	60	ePn	Pn	09 20 57.1	+0.9
ISCO	**Idaho Springs** 4.8nm,0.9s	15.97	86	ePn	Pn	09 20 58.5	+1.5
ISCO	**Idaho Springs** baz=16	15.97	86	⇓P	Pn	09 20 57.8	+0.8
X21A	**Alamocita Cree** baz=16,SNR=10	15.99	106	⇓P	Pn	09 20 58.8	+1.6
B21A	**Ellsworth Farm** baz=16	16.00	54	⇑P	Pn	09 20 56.8	-0.2
V22A	**San Miguel Ran** baz=16,SNR=13	16.03	100	⇑P	Pn	09 20 59.4	+1.7
E22A	**Miles City** baz=16,SNR=9.5	16.05	61	P	Pn	09 20 56.3	-1.4
Z20A	**Nine Sixteen R** baz=16	16.07	111	⇓P	Pn	09 20 57.1	-1.0
D22A	**Cohagen** baz=16,SNR=26	16.09	59	⇑P	Pn	09 20 57.9	-0.3
S23A	**Nye Farm, Mont** baz=16,SNR=9.0	16.13	93	⇑P	P	09 21 01.6	-0.3
R23A	**Moffat** baz=16	16.14	91	⇑P	Pn	09 20 58.8	-0.3
G23A	**Biddle** baz=16,SNR=8.3	16.17	66	⇓P	Pn	09 20 58.0	-1.3
F23A	**Volborg** baz=16,SNR=14	16.26	64	P	Pn	09 20 58.9	-1.5
Y21A	**Point of Rocks** baz=16,SNR=25	16.28	107	⇑P	Pn	09 21 01.0	+0.1
A21A	**Bergtoll Ranch** baz=16,SNR=22	16.28	52	P	Pn	09 20 59.2	-1.4
L24A	**Wheatland** baz=16	16.28	77	⇑P	Pn	09 20 59.8	-1.0
T23A	**Casias Ranch,** baz=16,SNR=5.7	16.30	95	⇑P	Pn	09 21 03.4	+2.3
O24A	**Longmont** baz=16	16.34	84	⇓P	Pn	09 21 01.0	-0.5
120A	**U Bar Ranch, L** baz=16	16.35	113	⇓P	Pn	09 21 02.6	+0.9
M24A	**Cheyenne** baz=16	16.39	79	⇑P	Pn	09 21 01.5	-0.7
N24A	**Carr** baz=16	16.39	82	⇓P	Pn	09 21 01.7	-0.6
U23A	**El Rito** baz=16,SNR=9.8	16.42	98	⇑P	Pn	09 21 03.6	+1.0
C22A	**Vida** baz=16,SNR=6.1	16.47	57	⇑P	Pn	09 21 01.3	-1.7
Q24A	**Divide** baz=16,SNR=8.4	16.48	88	⇑P	Pn	09 21 02.0	-1.4
LAZ	**Ladron** 16nm,1.7s	16.49	105	ePn	P	09 21 05.9	0.0
J24A	**Dixon Ranch, L** baz=16	16.49	73	⇓P	Pn	09 21 02.8	-0.7
E23A	**Ismay** baz=16	16.50	61	⇓P	Pn	09 21 02.5	-0.8
SDCO	**Great Sand Dun** 31nm,1.3s	16.50	93	ePn	Pn	09 21 05.9	+2.2
I24A	**Kuemmerle Ranc** baz=16	16.55	71	⇑P	Pn	09 21 03.3	-0.9
319A	**Douglas** baz=17,SNR=12	16.58	118	⇑P	Pn	09 21 04.1	-0.5
B22A	**Reddig Ranch S** baz=16	16.59	55	⇑P	Pn	09 21 04.2	-0.3
Z21A	**St. Cloud Mine** baz=17,SNR=9.4	16.63	109	⇓P	Pn	09 21 04.6	-0.6
V23A	**Ortiz Mt. (NFS** baz=17,SNR=9.0	16.64	100	⇓P	Pn	09 21 05.4	0.0
R24A	**Sanders Place,** baz=17	16.67	91	⇓P	Pn	09 21 05.0	-0.8
H24A	**Dirks Ranch, A** baz=17,SNR=13	16.69	68	⇓P	Pn	09 21 03.7	-2.2
LENM	**Lemitar**	16.72	106	ePn	P	09 21 08.7	+0.3
D23A	**Lindsay** baz=17,SNR=6.6	16.74	59	⇓P	Pn	09 21 06.1	-0.3
S24A	**Houchin Ranch,** baz=17,SNR=7.1	16.75	93	⇓P	Pn	09 21 06.7	-0.1
ANMO	**Albuquerque**	16.75	103	ePn	P	09 21 09.5	+0.7
ANMO	**Albuquerque** 0.1nm,0.3s,baz=314,slow=12,SNR=15	16.75	103	Pn	Pn	09 21 08.6	+1.8
ANMO	comp=Z,226nm,18.1s,baz=115,slow=39			LR	LR	09 27 54.3	
220A	**Playas Peak, P** baz=17,SNR=14	16.79	115	⇓P	P	09 21 09.3	+0.2
T24B	**San Luis** baz=17	16.79	95	⇑P	Pn	09 21 07.5	+0.1
Y22A	**Socorro** baz=17,SNR=10.0	16.83	106	⇑P	P	09 21 10.1	+0.4
G24A	**Alzada** baz=17	16.87	66	⇓P	Pn	09 21 07.1	-1.0
A22A	**Carney Farms,** baz=17	16.89	53	⇑P	Pn	09 21 07.7	-0.6
W23A	**Werner Place,** baz=17,SNR=11	16.89	102	⇑P	P	09 21 10.6	+0.2
LPM	**Los Pinos Moun**	16.90	105	eP	P	09 21 12.8	+2.4
C23A	**Lambert** baz=17,SNR=45	16.93	57	⇑P	Pn	09 21 08.9	0.0
F24A	**Ekalaka** baz=17,SNR=5.7	16.94	64	⇓P	Pn	09 21 07.2	-1.9
121A	**Cookes Peak, D** baz=17	16.95	112	⇑P	Pn	09 21 09.2	-0.1
BNM	**Barren Site** 50nm,1.9s	16.98	105	eP	P	09 21 14.0	+2.7
RSSD	**Black Hills** 36nm,1.0s	17.00	70	ePn	Pn	09 21 11.7	+1.8
U24A	**Moreno Valley** baz=17	17.08	97	⇑P	Pn	09 21 10.5	-0.5
X23A	**Hourglass Bar** baz=17,SNR=11	17.11	104	⇓P	Pn	09 21 10.2	-1.1
320A	**Kipp Ranch, An** baz=17	17.12	116	⇑P	Pn	09 21 10.9	-0.5
P25A	**Willow Gulch B** baz=17,SNR=7.1	17.12	86	⇓P	Pn	09 21 11.2	-0.1
J25A	**Sunshine Ranch** baz=17,SNR=11	17.12	73	P	Pn	09 21 09.6	-1.7
Z22A	**Elephant Butte** baz=17,SNR=9.7	17.16	109	⇑P	Pn	09 21 10.4	-1.6
Q25A	**Bedland, Calha** baz=17,SNR=6.6	17.18	88	⇑P	Pn	09 21 10.4	-1.7
E24A	**Baker** baz=17	17.18	62	⇑P	Pn	09 21 11.4	-0.6
I25A	**Rochford** baz=17	17.21	71	⇑P	Pn	09 21 11.8	-0.7
B23A	**Brockton** baz=17,SNR=15	17.27	55	P	Pn	09 21 11.2	-1.8
V24A	**Rampart Ranch,** baz=17	17.33	99	⇓P	Pn	09 21 14.1	+0.1
S25A	**Robets Cordova** baz=17	17.34	92	⇓P	Pn	09 21 14.4	+0.3
C24A	**Savage** baz=17,SNR=18	17.35	59	P	Pn	09 21 13.0	-1.0
H25A	**Fruitdale** baz=17	17.36	69	⇓P	Pn	09 21 13.5	-0.7
W24A	**Lazy 6 Ranch,** baz=17,SNR=15	17.43	101	⇑P	P	09 21 16.9	+0.6
Y23A	**Lovelace Mesa,** baz=18	17.50	105	⇑P	Pn	09 21 16.6	+0.4
T25A	**Trinidad** baz=18,SNR=9.0	17.51	94	⇑P	Pn	09 21 17.6	+1.3
A23A	**Redstone** baz=18	17.51	54	⇑P	Pn	09 21 15.6	-0.5
G25A	**Newell** baz=18,SNR=9.6	17.55	67	⇑P	Pn	09 21 15.7	-0.8
K26A	**Motz Farm, Whi** baz=18,SNR=5.2	17.57	75	⇓P	Pn	09 21 17.0	+0.

	baz=18							
Q26A	Hugo	17.73	87	⇓P	Pn	09 21 18.9	0.0	
	baz=18							
P26A	Davis Ranch, A	17.74	85	⇓P	Pn	09 21 19.4	+0.4	
	baz=18							
U25A	Circle Dot Ran	17.74	96	⇓P	P	09 21 21.1	+1.4	
	baz=18,SNR=40							
DGMT	Dagmar	17.77	56	eP	P	09 21 21.4	+1.6	
	210nm,1.6s							
DGMT	Dagmar	17.77	56	⇓P	Pn	09 21 20.4	+1.2	
	baz=18,SNR=8.6							
E25A	Miller Ranch,	17.78	62	⇑P	Pn	09 21 17.7	-1.7	
	baz=18,SNR=5.3							
V25A	Rancho No Teng	17.78	98	⇑P	P	09 21 21.1	+0.9	
	baz=18,SNR=13							
I26A	New Underwood	17.84	71	⇓P	Pn	09 21 20.2	+0.1	
	baz=18							
G27A	Dupree	17.92	66	⇑P	P	09 21 28.3	+6.9	
	baz=19,SNR=5.1							
R26A	Arlington	17.93	89	⇓P	Pn	09 21 21.8	+0.5	
	baz=18							
H26A	Fairpoint	17.94	69	⇓P	Pn	09 21 21.8	+0.5	
	baz=18							
Y24A	Capitan	17.96	105	⇑P	Pn	09 21 22.1	+0.3	
	baz=18							
D25A	Fairfield	17.98	60	⇑P	Pn	09 21 20.4	-1.3	
	baz=18,SNR=7.0							
S26A	Kim	18.08	92	⇓P	Pn	09 21 22.6	-0.6	
	baz=18							
G26A	Maurine	18.14	67	⇓P	Pn	09 21 24.1	+0.4	
	baz=18							
W25A	X Bar L Ranch,	18.14	100	⇓P	Pn	09 21 24.7	+0.8	
	baz=18,SNR=8.1							
C25A	Freed Ranch, W	18.16	59	⇑P	Pn	09 21 23.7	-0.3	
	baz=18							
DLBC	Dease Lake	18.16	354	P	P	09 21 26.4	+2.3	
DLBC	Dease Lake	18.16	354	P	P	09 21 26.4	+2.3	
	0.1nm,0.3s,baz=174,slow=11,SNR=9.1							
F26A	Lodgepole	18.16	65	⇑P	Pn	09 21 23.9	-0.2	
	baz=18							
N27A	Anderson Farm,	18.17	81	⇓P	Pn	09 21 23.8	-0.5	
	baz=18							
U26A	Atchley Ranch,	18.25	95	⇓P	P	09 21 26.4	+1.0	
	baz=18,SNR=14							
K27A	Fluecklnger Fa	18.26	75	⇑P	P	09 21 25.4	0.0	
	baz=18							
X25A	Clemmons Ranch	18.27	102	⇑P	P	09 21 25.3	-0.2	
	baz=18							
O27A	Beecher Island	18.29	83	⇑P	P	09 21 25.9	+0.2	
	baz=18							
P27A	Ficken Ranch,	18.32	85	⇓P	P	09 21 26.4	+0.4	
	baz=18,SNR=7.9							
B25A	Knox Farm, Ray	18.37	57	⇓P	P	09 21 26.8	+0.4	
	baz=18							
KSCO	Kaye Shedlock'	18.39	87	eP	Pn	09 21 28.4	+1.4	
KSCO	Kaye Shedlock'	18.39	87	⇓P	P	09 21 26.6	-0.2	
	baz=18,SNR=7.7							
E26A	Carlson Angus	18.41	63	⇓P	P	09 21 26.1	-0.8	
	baz=18							
I27A	Quinn	18.42	71	⇑P	P	09 21 25.9	-1.1	
	baz=18,SNR=8.0							
R27A	Eads	18.42	89	⇑P	P	09 21 27.3	+0.1	
	baz=18,SNR=11							
J27A	Elkhorn Farm,	18.43	73	⇓P	P	09 21 27.0	-0.1	
	baz=18,SNR=9.0							
V26A	Tequesquite Ra	18.43	97	⇓P	P	09 21 27.6	+0.4	
	baz=18,SNR=13							
H27A	Howes	18.44	69	⇑P	P	09 21 26.9	-0.3	
	baz=18,SNR=5.4							
Y25A	Mesa, Roswell	18.51	104	⇑P	P	09 21 27.9	-0.3	
	baz=18							
124A	Stringfield Ra	18.54	108	⇓P	P	09 21 28.9	+0.3	
	baz=18							
D26A	Manning	18.54	61	⇓P	P	09 21 27.9	-0.3	
	baz=18,SNR=6.9							
A25A	Svangstu Ranch	18.60	55	⇑P	P	09 21 29.3	+0.4	
	baz=18,SNR=12							
F27A	Lemmon	18.62	65	⇓P	P	09 21 28.9	-0.2	
	baz=19,SNR=6.2							
W26A	Owens Ranch, T	18.71	99	⇑P	P	09 21 31.1	+0.8	
	baz=19							
Z25A	Roswell	18.79	105	⇑P	P	09 21 32.0	+0.7	
	baz=19							
224A	Cornudas Mount	18.81	110	⇑P	P	09 21 31.8	+0.3	
	baz=19							
T27A	Campo	18.82	93	⇑P	Pn	09 21 33.1	+1.0	
	baz=19,SNR=8.7							
O28A	Krutsinger Ran	18.84	83	⇓P	P	09 21 31.8	+0.2	
	baz=19,SNR=9.2							
X26A	CR and CF Fran	18.90	101	⇑P	P	09 21 33.1	+0.7	
	baz=19							
K28A	Ten Mile Ranch	18.90	75	⇓P	P	09 21 33.3	+0.9	
	baz=19							
N28A	Pribbeno Ranch	18.93	81	⇓P	P	09 21 33.2	+0.5	
	baz=19							
U27A	Thompson Grove	18.94	95	⇓P	Pn	09 21 34.9	+1.2	
	baz=19,SNR=9.4							
P28A	Saint Francis	18.94	85	⇓P	P	09 21 33.4	+0.5	
	baz=19,SNR=18							
J28A	Allard Ranch,	18.99	73	⇑P	P	09 21 34.1	+0.8	
	baz=19							
E27A	Carson	19.02	63	⇓P	P	09 21 34.1	+0.6	
	baz=19							
I28A	Midland	19.05	71	⇑P	P	09 21 34.3	+0.4	
	baz=19							
MNTX	Cornudas Mount	19.12	111	eP	Pn	09 21 39.7	+4.0	
	3.8nm,0.9s							
125A	Gardner Draw,	19.14	107	⇑P	P	09 21 35.9	+0.8	
	baz=19,SNR=9.0							
Y26A	Elida	19.16	103	⇓P	P	09 21 36.5	+1.2	
	baz=19							
V27A	Dan Oppiter Fa	19.16	97	⇓P	P	09 21 36.4	+1.2	
	baz=19							
D27A	Center	19.16	61	⇓P	P	09 21 36.2	+1.1	
	baz=19							
R28A	Tribune	19.16	88	⇓P	P	09 21 36.5	+1.3	
	baz=19,SNR=11							
324A	Moseley Ranch,	19.18	111	⇓P	Pn	09 21 37.6	+1.0	
	baz=19,SNR=6.7							
T28A	Walsh	19.26	92	⇓P	Pn	09 21 38.4	+0.9	
	baz=19,SNR=16							
A26A	Wade Farm, Ken	19.27	56	⇓P	P	09 21 37.4	+1.2	
	baz=19							
S28A	Manter	19.29	91	⇓P	Pn	09 21 38.6	+0.7	
	baz=19,SNR=25							
G28A	Parade	19.30	68	⇑P	P	09 21 36.4	-0.2	
	baz=19							
225A	Deer Hill, Car	19.30	109	⇑P	P	09 21 37.1	+0.3	
	baz=19							
C27A	Sayler Ranch,	19.30	60	⇓P	P	09 21 37.4	+0.8	
	baz=19							
Z26A	Caprock	19.34	105	⇓P	P	09 21 38.7	+1.5	
	baz=19,SNR=11							
U28A	Mallet	19.41	94	⇓P	P	09 21 39.4	+1.4	
	baz=19							
F28A	McLaughlin	19.46	65	⇑P	Pn	09 21 40.2	+0.5	
	baz=19							
M29A	Burnside Ranch	19.49	79	⇑P	P	09 21 40.0	+1.3	
	baz=19							
O29A	4D Ranch, Culb	19.57	83	⇓P	P	09 21 40.8	+1.1	
	baz=20							
GDL2	Guadalupe Moun	19.59	108	eP	Pn	09 21 43.5	+2.1	
	1.9nm,0.5s							
L29A	Maesberg Ranch	19.59	77	⇓P	P	09 21 41.0	+1.2	
	baz=20							
B27A	Peters Farms,	19.63	58	⇑P	P	09 21 41.1	+0.9	
	baz=20,SNR=6.4							
V28A	Channing	19.63	96	⇓P	P	09 21 41.2	+0.8	
	baz=20							
E28A	Huff	19.63	63	⇓P	P	09 21 40.9	+0.7	
	baz=20,SNR=5.9							
R29A	Marienthal	19.66	88	⇑P	P	09 21 41.5	+0.9	
	baz=20							
Y27A	Causey	19.67	102	⇓P	Pn	09 21 42.9	+0.5	
	baz=20,SNR=7.7							
K29A	Lazy Trails An	19.67	75	⇓P	P	09 21 41.4	+0.7	
	baz=20							
I29A	Vivian Onida	19.68	71	⇑P	P	09 21 41.4	+0.6	
	baz=20							
H29A	Onida	19.77	69	⇑P	P	09 21 42.7	+1.0	
	baz=20,SNR=7.7							
A27A	Ledoux Ranch,	19.79	56	⇓P	P	09 21 43.5	+1.7	
	baz=20,SNR=16							
226B	Tecolote Peak,	19.79	108	⇓P	P	09 21 43.4	+1.3	
	baz=20							
D28A	Regan	19.82	61	⇓P	P	09 21 43.3	+1.0	
	baz=20							
W28A	Vega	19.82	97	⇓P	P	09 21 43.4	+0.9	
	baz=20,SNR=5.2							
T29A	Hugoton	19.88	91	⇓P	Pn	09 21 45.2	+0.4	
	baz=20,SNR=11							
S29A	Ulysses	19.88	90	⇓P	P	09 21 44.6	+1.5	
	baz=20,SNR=9.8							
Z27A	Tatum	19.89	104	⇓P	P	09 21 44.6	+1.4	
	baz=20,SNR=14							
425A	Indio Mountain	19.91	112	⇑P	P	09 21 44.9	+1.4	
	baz=20							
MSTX	Muleshoe	19.92	101	eP	Pn	09 21 46.2	+0.8	
MSTX	Muleshoe	19.92	101	⇓P	Pn	09 21 46.0	+0.6	
	baz=20							
C28A	Hausauer Farms	20.04	60	⇓P	Pn	09 21 47.2	+0.6	
	baz=20							
127A	Arkansas Junct	20.08	105	⇓P	Pn	09 21 47.7	+0.4	
	baz=20							
P30A	Selden	20.09	84	⇑P	P	09 21 47.0	+1.7	
	baz=20,SNR=10.0							
U29A	Oasis Ranch, S	20.11	93	⇑P	P	09 21 46.7	+1.1	
	baz=20,SNR=6.7							
V29A	Stinnett	20.12	95	⇑P	P	09 21 46.9	+1.2	
	baz=20,SNR=7.7							
X28A	Dimmitt	20.12	99	⇑P	P	09 21 46.1	+0.3	
	baz=20,SNR=5.8							
O30A	MW Ranch, Wils	20.13	82	⇓P	P	09 21 46.7	+1.0	
	baz=20							
F29A	Eureka	20.13	66	⇓P	P	09 21 46.2	+0.6	
	baz=20							
L30A	Spencer Herefo	20.16	77	⇑P	P	09 21 46.6	+0.5	
	baz=20							
K30A	Basset	20.20	75	⇑P	P	09 21 47.7	+1.3	
	baz=20							
B28A	Dugan Ranch, T	20.22	58	⇑P	P	09 21 47.9	+1.3	
	baz=20,SNR=13							
Q30A	Quinter	20.23	86	⇑P	P	09 21 48.1	+1.3	
	baz=20,SNR=26							
J30A	Dallas	20.26	73	⇑P	P	09 21 48.2	+1.0	
	baz=20,SNR=16							
Y28A	McKinney Farm,	20.34	101	⇑P	P	09 21 49.9	+1.8	
	baz=20,SNR=11							
R30A	Dighton	20.35	88	⇑P	P	09 21 49.8	+1.7	
	baz=20,SNR=14							
E29A	Napoleon	20.35	64	⇑P	P	09 21 49.2	+1.2	
	baz=20							
S30A	Montezuma	20.37	89	⇓P	P	09 21 50.3	+1.9	
	baz=20							
A28A	Rude Farm, Bot	20.39	57	⇓P	P	09 21 49.7	+1.2	
	baz=20,SNR=6.3							
D29A	Pettibone, Tap	20.45	62	⇑P	P	09 21 50.2	+1.0	
	baz=20,SNR=10.0							
T30A	Plains	20.49	91	⇑P	P	09 21 51.5	+1.8	
	baz=20,SNR=10							
Z28A	Tucker Farm, M	20.51	103	⇓P	P	09 21 49.9	-0.1	
	baz=20							
X29A	Tulia	20.53	99	P	P	09 21 52.3	+2.2	
	baz=20,SNR=33							
G30A	Faulkton	20.55	68	⇓P	P	09 21 50.4	+0.2	
	baz=20							
U30A	WK&E Inc. Balk	20.56	93	⇑P	P	09 21 52.2	+1.8	
	baz=20,SNR=23							
MDND	Maddock	20.59	60	⇓P	Pn	09 21 53.6	+0.6	
	baz=20							
426A	McDonald Obser	20.65	111	⇑P	Pn	09 21 54.5	+0.4	
	baz=21,SNR=8.6							
BRSD	Miller	20.66	70	P	P	09 21 52.5	+1.2	
	baz=21,SNR=5.4							
O31A	Woolen Ranch,	20.68	82	P	P	09 21 53.6	+1.9	
	baz=21,SNR=6.6							
128A	Castleberry Fa	20.75	104	⇓P	P	09 21 53.7	+1.2	
	baz=21							
P31A	Stockton	20.76	84	⇓P	P	09 21 54.1	+1.5	
	baz=21,SNR=13							
M31A	Lambtecht Ranc	20.78	78	⇑P	P	09 21 54.4	+1.6	
	baz=21							
Y29A	Porterfield Fa	20.79	101	⇓P	P	09 21 54.6	+1.6	
	baz=21,SNR=18							
L31A	Butterfield Fa	20.80	76	⇓P	P	09 21 53.5	+0.6	
	baz=21							
E30A	Jud	20.84	64	⇓P	P	09 21 54.5	+1.1	
	baz=21,SNR=15							
Q31A	Ellis	20.85	85	⇑P	P	09 21 55.2	+1.7	
	baz=21,SNR=6.6							
B29A	Wagenman Farm,	20.88	58	⇑P	P	09 21 56.0	+2.3	
	baz=21,SNR=12							
R31A	Burdett	20.92	87	P	P	09 21 56.4	+2.1	
	baz=21,SNR=30							
228A	UT Block 9, Go	20.92	106	⇓P	P	09 21 55.9	+1.5	
	baz=21							
526A	Mary Lane Ranc	20.95	113	⇑P	P	09 21 57.2	+2.3	
	baz=21,SNR=10							
427A	Hayter Ranch,	21.00	110	⇑P	P	09 21 57.5	+2.2	
	baz=21,SNR=18							
D30A	Buchanan	21.03	62	⇑P	P	09 21 56.5	+1.1	
	baz=21,SNR=14							
Z29A	Hungry Hill Ra	21.03	102	⇑P	P	09 21 57.0	+1.4	
	baz=21							
A29A	Manning Farm,	21.06	57	P	P	09 21 57.2	+1.6	
	baz=21,SNR=18							
W30A	Crocket Farms	21.09	96	⇑P	P	09 21 57.7	+1.6	
	baz=21							
S31A	Mullinville	21.13	89	⇑P	P	09 21 58.1	+1.5	
	baz=21							
T31A	Randall Ranch,	21.13	90	⇓P	P	09 21 57.9	+1.3	
	baz=21,SNR=7.1							
328A	Wristen Ranch,	21.14	108	⇓P	P	09 21 57.8	+1.0	
	baz=21							
X30A	Coker Ranch, T	21.15	98	⇑P	P	09 21 58.5	+1.7	
	baz=21							
LPIG	La Paz	21.20	135	P	P	09 22 02.6	+5.2	
LPIG	La Paz	21.20	135	P	P	09 22 02.6	+5.2	
	35nm,1.1s,baz=152,slow=4.4,SNR=4.0							
LPIG				LR	LR	09 28 20.4		
	comp=Z,169nm,20.9s,baz=332,slow=32							
129A	Stewart Farms,	21.21	104	⇓P	P	09 21 59.3	+1.9	
	baz=21,SNR=5.9							
626A	Big Bend Ranch	21.22	114	⇑P	P	09 22 00.3	+2.7	
	baz=21,SNR=14							
U31A	Nine Bar Ranch	21.22	92	⇓P	P	09 21 59.5	+1.9	
	baz=21,SNR=6.1							
527A	Woodward Ranch	21.24	112	⇓P	P	09 22 00.6	+2.7	
	baz=21,SNR=10							
C30A	Mose, Pekin	21.31	61	⇑P	P	09 22 00.6	+2.3	
	baz=21,SNR=6.0							
N32A	Stulken Farm,	21.36	80	⇑P	P	09 22 00.8	+1.8	
	baz=21							
Y30A	Stafford Cattl	21.37	100	⇓P	P	09 22 00.7	+1.6	
	baz=21							
BGNE	Belgrade	21.39	78	eP	P	09 22 01.2	+2.0	
BGNE	Belgrade	21.39	78	⇑P	P	09 22 00.8	+1.5	
	baz=21							
V31A	Spring Creek L	21.43	94	⇑P	P	09 22 01.6	+1.8	
	baz=21,SNR=12							
Z30A	Sanderson Ranc	21.45	101	⇑P	P	09 22 01.4	+1.3	
	baz=21							
O32A	Brockman Farm,	21.46	81	P	P	09 22 01.6	+1.5	
	baz=21,SNR=6.8							
B30A	Myrvik Farm, E	21.54	59	⇓P	P	09 22 02.0	+1.1	
	baz=22,SNR=12							
W31A	Holland Ranch,	21.57	96	⇑P	P	09 22 02.6	+1.4	
	baz=22,SNR=14							
428A	Kincaid Ranch,	21.58	109	⇑P	P	09 22 04.0	+2.5	
	baz=22,SNR=17							
A30A	Hoffart Farm,	21.66	57	⇑P	P	09 22 03.4	+1.3	
	baz=22,SNR=6.9							
TXAR	Lajitas Array	21.68	114	P	P	09 22 05.3	+2.8	
TXAR	Lajitas Array	21.68	114	P	P	09 22 05.3	+2.8	
	2.3nm,0.7s,baz=299,slow=8.9,SNR=26							
TXAR				LR	LR	09 30 26.4		
	comp=Z,113nm,19.0s,baz=0.0,slow=37							
329A	Wagon Wheel Ra	21.69	107	⇓P	P	09 22 04.5	+1.9	
	baz=22							
FFC	Flin Flon	21.69	41	eP	P	09 22 02.8	+0.4	
	86nm,0.8s							
X31A	McDonald Ranch	21.75	97	⇓P	P	09 22 05.1	+1.9	
	baz=22							
627A	Terlingua Ranc	21.80	113	⇓P	P	09 22 06.0	+2.1	
	baz=22,SNR=7.6							
Y31A	Rekieta Farm,	21.81	99	P	P	09 22 05.7	+1.8	
	baz=22,SNR=14							
130A	Snyder	21.89	103	⇓P	P	09 22 06.4	+1.6	
	baz=22							
230A	Sterling City	22.12	105	⇓P	P	09 22 09.0	+1.7	
	baz=22							
628A	Black Gap, Mar	22.14	112	⇑P	P	09 22 10.1	+2.7	
	baz=22,SNR=17							
Z31A	Sharp Cattle R	22.18	100	⇓P	P	09 22 08.9	+1.1	
	baz=22,SNR=5.4							
429A	Davenport Ranc	22.21	108	⇓P	P	09 22 09.8	+1.6	
	baz=22,SNR=11							
529A	Stev Forest Ra	22.25	110	⇓P	P	09 22 10.9	+2.3	
	baz=22,SNR=21							
131A	Roby	22.29	102	P	P	09 22 10.9	+1.9	
	baz=22,SNR=10							
330A	Mertzon	22.32	106	P	P	09 22 11.2	+1.8	
	baz=22,SNR=17							
ECSD	EROS Data Cent	22.35	72	eP	P	09 22 09.4	-0.1	
	72nm,1.1s							
Y32A	R-V Farms, Ver	22.41	98	⇓P	P	09 22 11.4	+1.1	
	baz=22							
430A	Baggett Ranch,	22.60	107	⇑P	P	09 22 14.2	+1.8	
	baz=23,SNR=19							
WMOK	Wichita Mounta	22.62	96	eP	P	09 22 14.1	+1.5	
	10nm,0.8s							
Z32A	Haskell	22.68	100	P	P	09 22 14.8	+1.6	
	baz=23,SNR=15							
231A	Bronte	22.69	104	⇓P	P	09 22 14.0	+0.7	
	baz=23							
ABTX	Abilene, Hawle	22.87	101	eP	P	09 22 16.1	+0.9	
ABTX	Abilene, Hawle	22.87	101	⇓P	P	09 22 16.0	+0.8	
	baz=23							
530A	J-C Ranch, Com	22.87	109	⇑P	P	09 22 15.9	+0.7	
	baz=23							
331A	San Angelo	22.92	105	⇓P	P	09 22 16.7	+0.9	
	baz=23							
KSU1	Kansas State U	22.95	84	eP	P	09 22 17.3	+1.4	
	77nm,1.2s							
431A	Sonora	23.11	107	⇑P	P	09 22 19.5	+1.8	
	baz=23,SNR=14							
AGMN	Agassiz Nation	23.14	60	eP	P	09 22 18.7	+1.0	
	34nm,0.9s							
332A	Millersview	23.39	104	⇓P	P	09 22 22.0	+1.6	
	baz=23,SNR=16							
ULM	Lac du Bonnet	23.49	55	eP	P	09 22 22.3	+1.2	
ULM	Lac du Bonnet	23.49	55	P	P	09 22 21.4	+0.3	
	67nm,0.9s,baz=262,slow=10,SNR=36							
ULM				LR	LR	09 31 51.4		
	comp=Z,244nm,20.5s,baz=235,slow=38							
432A	Menard	23.61	105	⇓P	P	09 22 23.6	+1.0	
	baz=24							
JCT	Junction City	23.81	106	eP	P	09 22 27.9	+3.5	
	7.7nm,0.8s							
JCT	Junction City	23.81	106	⇓P	P	09 22 25.7	+1.2	
	baz=24							
631A	Perdido Creek	23.83	109	P	P	09 22 26.2	+1.6	
	baz=24,SNR=8.6							
532A	Rocksprings	23.92	107	⇑P	P	09 22 26.9	+1.4	
	baz=24,SNR=11							
632A	Uvalde	24.35	108	⇓P	P	09 22 30.4	+1.0	
	baz=24,SNR=12							
TUL1	Tulsa	24.47	91	eP	P	09 22 31.9	+1.4	
TUL1	Tulsa	24.47	91	⇑P	P	09 22 31.6	+1.1	
	baz=24							
732A	Laxson Ranch,	24.65	110	⇓P	P	09 22 33.2	+1.1	
	baz=25							
MENT	Mentasta	24.78	341	eP	P	09 22 36.0	+2.9	
WHTX	Lake Whitney	24.80	101	eP	P	09 22 36.3	+2.8	
WHTX	Lake Whitney	24.80	101	⇑P	P	09 22 34.4	+1.0	
	baz=25							
DAWY	Dawson	24.85	346	eP	P	09 22 35.9	+2.2	
SCIA	State Center	24.99	76	eP	P	09 22 38.3	+3.1	
	13nm,0.8s							
SPMN	St. Paul	25.04	68	eP	P	09 22 35.3	-0.2	
SPMN	St. Paul	25.04	68	⇑P	P	09 22 36.2	+0.7	
	baz=25							
HKT	Hockley	27.02	103	eP	P	09 22 56.0	+2.5	
	25nm,1.3s							
JFWS	Jewell Farm	27.04	73	eP	P	09 22 55.8	+2.1	
ILAR	Eielson Array	27.09	341	P	P	09 22 55.2	+1.4	
ILAR	Eielson Array	27.09	341	P	P	09 22 55.2	+1.4	
	2.2nm,1.0s,baz=158,slow=7.9,SNR=16							
FCC	Fort Churchill	27.46	37	eP	P	09 23 07.2	+10	
	0.9nm,0.8s							
SFIN	Scholer Farm	29.81	77	⇓P	P	09 23 18.9	+0.5	
	baz=30							
IMA2	Indian Mountai	29.91	338	eP	P	09 23 20.8	+1.7	
WVT	Waverly	30.47	86	eP	P	09 23 25.6	+1.4	
	4.5nm,0.8s							
LRAL	Lakeview Retre	32.28	91	eP	P	09 23 41.6	+1.5	
	12nm,0.9s							
CPCT	Cooper Cave	33.23	85	eP	P	09 23 48.8	+0.4	
TIGA	Tifton	35.57	91	⇓P	P	09 24 08.8	+0.1	
	baz=36							
BLA	Blacksburg	35.71	80	eP	P	09 24 11.6	+1.6	
	7.3nm,0.7s							
KMSC	Kings Mountain	35.76	84	eP	P	09 24 11.3	+0.9	
KMSC	Kings Mountain	35.76	84	⇓P	P	09 24 10.8	+0.4	
	baz=36							
VWCC	Virginia Weste	36.03	80	eP	P	09 24 14.3	+1.6	
BINY	Binghamton	37.51	70	eP	P	09 24 26.6	+1.3	
	15nm,0.9s							
SCHQ	Schefferville	41.40	49	P	P	09 24 57.5	0.0	
SCHQ	Schefferville	41.40	49	P	P	09 24 57.5	0.0	
	7.4nm,0.7s,baz=274,slow=8.6,SNR=12							
PETK	Petropavlovsk-	51.09	311	P	P	09 26 18.4	+4.8	
PETK	Petropavlovsk-	51.09	311	P	P	09 26 18.4	+4.8	
	3.6nm,1.0s,baz=78,slow=10,SNR=3.7							
PETK				LR	LR	09 43 06.0		
	comp=Z,42nm,19.6s,baz=105,slow=30							
USRK	Ussuriysk Arra	70.18	311	P	P	09 28 28.3	+4.4	
	1.5nm,0.8s,baz=66,slow=3.5,SNR=4.1							
NOA	NORSAR Array B	73.16	20	P	P	09 28 42.8	+1.3	
NOA	NORSAR Array B	73.16	20	P	P	09 28 42.8	+1.3	
	1.7nm,0.8s,baz=329,slow=5.5,SNR=2.8							
NOA				LR	LR	10 00 51.1		
	comp=Z,20nm,20.9s,baz=270,slow=36							
CN2	Changchun	74.09	314	eP	P	09 28 46.0	-1.2	
CN2				AMB	AMB			
	comp=Z,10.0nm,0.5s							
HFS	Hagfors	74.58	19	LR	LR	09 59 51.5		
	comp=Z,61nm,19.1s,baz=68,slow=34							
LPAZ	La Paz	78.19	123	P	P	09 29 11.8	+0.3	
LPAZ	La Paz	78.19	123	P	P	09 29 11.8	+0.3	
	1.1nm,0.7s,baz=319,slow=3.7,SNR=7.6							
SONM	Songino Array	80.39	327	P	P	09 29 27.6	+5.0	
SONM	Songino Array	80.39	327	P	P	09 29 27.6	+5.0	
	0.5n

JCR	**Jicaral**	**0.72 278**	⇓*i*P	Pn	09 24 40.7	0	0.0
JCR			*e*S	Sn	09 24 52.6	+1.6	
CASO	**Castillo**	**0.76 333**	*i* P	Pn	09 24 41.3	+0.1	
FORC	**Fortuna**	**0.76 339**	*i* P	Pn	09 24 41.4	+0.1	
FORC			*i* S	Sn	09 24 53.0	+1.1	
CEDE	**Laguna Cedˆ–o**	**0.79 337**	*i* P	Pn	09 24 41.8	+0.1	
AMAS	**Alto Masis**	**1.04 325**	⇓*i*P	Pn	09 24 44.7	-0.3	
AMAS			*i* S	Sn	09 25 00.2	+1.5	
PTEN	**Parque Tenorio**	**1.12 328**	⇓*i*P	Pn	09 24 46.0	-0.1	
PTEN			*i* S	Sn	09 25 01.6	+1.1	
CUI	**Cuipilapa**	**1.18 320**	⇓*i*P	Pn	09 24 46.7	-0.2	
CUI			*i* S	Sn	09 25 02.5	+0.6	
COLC	**Colonia**	**1.21 319**	⇓*i*P	Pn	09 24 47.0	-0.3	
HORNC	**Hornillas**	**1.23 321**	⇓*i*P	Pn	09 24 47.2	-0.4	
HORNC			*i* S	Sn	09 25 02.9	-0.3	
GUAB	**Guayabo de Bag**	**1.26 319**	*i* P	Pn	09 24 47.6	-0.4	
MESS	**Mesas**	**1.26 321**	⇓*i*P	Pn	09 24 47.7	-0.3	
MESS			*i* S	Sn	09 25 04.6	+0.7	
LIM1	**Limonal**	**1.27 318**	⇓*i*P	Pn	09 24 47.7	-0.4	
VCR	**Vista de Mar**	**1.28 287**	⇓*i*P	Pn	09 24 47.6	-0.7	
VCR			*e*S	Sn	09 25 02.5	-2.0	
GPS3	**Bodega del ICE**	**1.38 316**	⇓*i*P	Pn	09 24 49.3	-0.4	
GPS3			*i* S	Sn	09 25 07.0	+0.1	
GPS1	**Guardaparques**	**1.39 317**	⇓*i*P	Pn	09 24 49.1	-0.6	
NY14	**Universidad de**	**1.44 308**	⇓*i*P	Pn	09 24 50.5	+0.2	
LAPC	**Finca la Perla**	**1.44 315**	⇓*i*P	Pn	09 24 49.7	-0.7	
BUEV	**Buena Vista**	**1.44 316**	⇓*i*P	Pn	09 24 50.0	-0.5	
GB1A	**Borinquen Arri**	**1.45 317**	⇓*i*P	Pn	09 24 50.1	-0.6	
GBS3	**Finca Las Imˆ¡**	**1.46 314**	⇓*i*P	Pn	09 24 50.1	-0.6	
GBS2	**Las Lilas**	**1.50 316**	⇓*i*P	Pn	09 24 50.7	-0.6	
ACR	**Cerro Adams**	**1.63 132**	⇓*i*P	Pn	09 24 52.6	-0.4	
ACR			*e*S	Sn	09 25 11.4	-1.5	
CTCR	**Cotoan**	**1.82 118**	⇓*i*P	Pn	09 24 55.8	0.0	
CNI	**Changuinola**	**1.88 100**	*i* P	Pn	09 24 56.5	+0.2	
BRU2	**Volcan**	**1.93 120**	*e*P	Pn	09 24 57.2	0.0	
BRU2			*e*S	Sn	09 25 23.4	+3.0	
TBS2		**1.96 119**	*e*P	Pn	09 24 57.9	+0.2	
TBS2			*e*S	Sn	09 25 22.6	+1.4	
BRU	**Baru**	**2.04 117**	*e*P	Pn	09 24 59.7	+0.7	
ZANG	**Zanguenga, Cho**	**4.53 100**	*e*P	Pn	09 25 32.5	-0.2	
CNCH	**Conchagua**	**4.86 316**	*e*P	Pn	09 25 38.8	+1.4	
BLLM	**Bellamira**	**5.26 315**	*e*P	Pn	09 25 45.6	+2.8	
VSM	**San Miguel**	**5.27 314**	*e*P	Pn	09 25 44.9	+1.7	
SNVI	**San Vicente**	**5.80 312**	*e*S	Sn	09 26 51.0	-4.9	
LFRS	**El Faro**	**5.98 310**	*e*P	Pn	09 25 54.5	+1.8	
LFU	**La Fuente**	**6.10 311**	*e*P	Pn	09 25 56.2	+1.9	
SNET	**Serv Nac Est T**	**6.14 310**	AML	AML	09 25 57.3		
	comp=Z,315nm,0.4s						
BOQS	**Boqueron**	**6.21 310**	*e*P	Pn	09 25 58.0	+1.9	
SBLS	**San Blas**	**6.54 309**	*e*P	Pn	09 26 02.4	+1.9	
SNJE	**San Jose**	**6.54 309**	*e*P	Pn	09 26 02.5	+1.9	
RTR	**El Retiro**	**6.59 309**	*e*P	Pn	09 26 03.3	+2.1	

IDC 02 09:24:58.7±1.9, 15°04S×174°15W, h0km, mb3.9/5, mb1 4.3/6, mb1mx3.9/20, mbtmp3.9/6, MS3.5/3, Ms1 3.5/3, ms1mx3.2/34, Error ellipse: s-maj=111.6km s-min=20.3km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.56**	**64**	Pn	Pn	09 25 39.6	-2.0
	78nm,0.3s,baz=6.0,slow=3.3,SNR=18						
AFI				Sn	Sn	09 26 05.5	-8.1
	63nm,0.3s,baz=237,slow=23,SNR=6.1						
RAR	**Rarotonga**	**14.98**	**116**	LR	LR	09 32 53.5	
	comp=Z,249nm,19.2s,baz=270,slow=32						
PPT	**Papeete**	**23.72**	**99**	LR	LR	09 36 28.0	
	comp=Z,210nm,19.7s,baz=140,slow=29						
PPT2	**Papeete2**	**23.72**	**100**	*e*LQ	LQ	09 34 56.7	
	294nm,25.5s						
PPT2				*e*LR	LR	09 35 56.5	
	225nm,27.8s						
TBI	**Tubuai**	**24.71**	**113**	*e*LR	LR	09 36 31.1	
	300nm,27.8s						
HNR	**Honiara**	**25.91**	**279**	LR	LR	09 37 22.5	
	comp=Z,56nm,21.8s,baz=116,slow=29						
WRA	**Warramunga Arr**	**49.22**	**257**	P	P	09 33 49.1	-0.2
	0.5nm,0.7s,baz=89,slow=7.2,SNR=7.0						
ASAR	**Alice Springs**	**49.53**	**252**	P	P	09 33 51.0	-0.6
	5.6nm,0.7s,baz=85,slow=8.0,SNR=74						
NVAR	**Mina Array Bea**	**74.55**	**42**	P	P	09 36 40.3	+0.5
	1.6nm,0.7s,baz=227,slow=9.5,SNR=12						
ILAR	**Eielson Array**	**82.24**	**11**	P	P	09 37 20.4	-1.1
	0.3nm,0.6s,baz=224,slow=6.5,SNR=8.0						
PDAR	**Pinedale Array**	**82.49**	**42**	P	P	09 37 24.8	+1.2
	0.4nm,0.9s,baz=257,slow=2.4,SNR=3.3						
BRTR	**Keskin Array B**	**145.42**	**321**	PKPbc	PKPbc	09 44 38.9	-0.2
	6.2nm,0.9s,baz=62,slow=1.9,SNR=17						

IDC 02 09:25:34.0±1.7, 13°48N×92°78E, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.6/27, mbtmp3.8/5, ML4.1/1, MS3.8/1, Ms1 3.8/1, ms1mx2.7/47, Error ellipse: s-maj=58.8km s-min=23.6km az=66.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.72**	**49**	Pn	Pn	09 27 28.3	+0.5
	0.8nm,0.3s,baz=238,slow=15,SNR=13						
H08S3	**Diego Garcia H**	**29.09**	**225**	T	T	10 02 32.7	
	baz=41,slow=0.7,SNR=4.3						
H08S2	**Diego Garcia H**	**29.09**	**225**	T	T	10 02 41.0	
	baz=41,slow=0.7,SNR=8.5						
H08S1	**Diego Garcia H**	**29.11**	**225**	T	T	10 02 47.5	
	baz=41						
MKAR	**Makanchi Array**	**34.36**	**347**	P	P	09 32 22.1	-0.5
	0.2nm,0.5s,baz=161,slow=9.2,SNR=3.0						
FITZ	**Fitzroy Crossi**	**45.12**	**133**	P	P	09 33 52.4	-0.1
	1.5nm,0.7s,baz=327,slow=11,SNR=4.4						
JCJ	**Chichijima**	**47.99**	**66**	LR	LR	09 53 05.5	
	comp=Z,110nm,21.5s,baz=151,slow=34						
WRA	**Warramunga Arr**	**52.68**	**128**	P	P	09 34 50.2	-0.4
	1.1nm,0.6s,baz=309,slow=9.9,SNR=20						
WRA				PcP	PcP	09 36 00.9	+0.2
	0.3nm,0.4s,baz=318,slow=2.9,SNR=7.6						
ASAR	**Alice Springs**	**54.59**	**132**	P	P	09 35 04.7	+0.1
	2.0nm,0.5s,baz=308,slow=7.1,SNR=51						

HEL 02 09:26:06.0±0.8, 67°62N×34°32E, h0km, ML2.1, Explosion
NAO 02 09:26:07.3±1.7, 67°52N×33°89E, ML2.7
CSEM 02 09:26:11.2±0.3, 67°68N×33°30E, h2km, ML2.7, Error ellipse: s-maj=5.4km s-min=4.2km az=76.0, Mining explosion.

ISC 02 09:26:04.5±2.2, 67°62N±0°05×34°5E±0°1, h0km, n25, σ1°52/38, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.56**	**270**	Pg	**Pg**	**09 26 14.2**	**-1.1**
	baz=108,slow=16						
APA0				Lg	Lg	09 26 19.2	
	baz=102,slow=37						
APA0				Rg	Rg	09 26 21.4	
	baz=80,slow=37						
APA0	**Apatity Array**	**0.56**	**270**	Pg	**Pg**	**09 26 14.2**	**-1.1**
	baz=108,slow=16						
APA0				Lg	Lg	09 26 19.2	
	baz=102,slow=37						
APA0				Rg	Rg	09 26 21.4	
	baz=80,slow=37						
APA0	**Apatity Array**	**0.56**	**270**	Pg	**Pg**	**09 26 14.1**	**-1.1**
	baz=108,slow=15,SNR=353						
APA0				Lg	Lg	09 26 19.2	
	baz=102,slow=32,SNR=50						
VRF	**Varrio**	**1.86**	**276**	PG	**Pn**	**09 26 37.4**	**-0.2**
VRF				SG	**Sn**	**09 26 58.4**	**-3.3**
VRF				MSG		09 26 58.4	
	comp=Z,15nm,0.4s						
VRF	**Varrio**	**1.86**	**276**	Pg	**Pn**	**09 26 37.4**	**-0.2**
VRF				Sg	**Sn**	**09 26 58.4**	**-3.3**
KU6	**Riekki**	**2.41**	**231**	PN	**Pb**	**09 26 48.3**	**-0.4**
KU6				SG	**Sb**	**09 27 19.2**	**+0.2**
KU6				MSG		09 27 19.2	
	comp=Z,6.0nm,0.2s						
KU6	**Riekki**	**2.41**	**231**	Pn	**Pb**	**09 26 48.3**	**-0.4**
KU6				Sg	**Sb**	**09 27 19.2**	**+0.2**
MSF	**Maaselka**	**2.75**	**234**	SG	**Sb**	**09 27 29.4**	**+0.8**
MSF				MSG		09 27 29.4	
	comp=Z,2.1nm,0.4s						
MSF	**Maaselka**	**2.75**	**234**	Sg	**Sb**	**09 27 29.4**	**+0.8**
SGF	**Sodankyl**	**3.05**	**270**	PN	**Pn**	**09 26 54.7**	**+0.7**
	baz=83						
SGF				SG	**Sn**	**09 27 33.6**	**+2.5**
SGF				MSG		09 27 33.6	
	comp=Z,6.2nm,0.4s						
SGF	**Sodankyl**	**3.05**	**270**	Pn	**Pn**	**09 26 54.7**	**+0.7**
SGF				Sg	**Sn**	**09 27 33.6**	**+2.5**
RNF	**Rovaniemi**	**3.45**	**257**	PN	**Pn**	**09 27 00.3**	**+0.9**
	baz=63						
RNF	**Rovaniemi**	**3.45**	**257**	Pn	**Pn**	**09 27 00.3**	**+0.9**
KEV	**Kevo**	**3.47**	**312**	PN	**Pn**	**09 27 01.3**	**+1.6**
KEV				SG	**Sb**	**09 27 50.2**	**+1.0**
KEV				MSG		09 27 50.2	
	comp=Z,6.4nm,0.4s						
KEV	**Kevo**	**3.47**	**312**	Pn	**Pn**	**09 27 01.2**	**+1.6**
KEV				Sg	**Sb**	**09 27 50.2**	**+1.0**
ARA0	**ARCESS Array S**	**3.81**	**304**	Pn	**Pn**	**09 27 04.9**	**+0.6**
	baz=123,slow=16						
ARA0				Sn	**Sn**	**09 27 47.5**	**-2.3**
	baz=128,slow=28						
ARA0				Lg	Lg	09 27 58.8	
	baz=118,slow=37						
ARA0	**ARCESS Array S**	**3.81**	**304**	Pn	**Pn**	**09 27 04.9**	**+0.6**
	baz=123,slow=16						
ARA0				Sn	**Sn**	**09 27 47.5**	**-2.3**
	baz=128,slow=28						
ARA0				Lg	Lg	09 27 58.8	
	baz=118,slow=37						
ARA0	**ARCESS Array S**	**3.81**	**304**	PN	**Pn**	**09 27 04.5**	**+0.2**
ARA0				SG	**Sb**	**09 27 59.6**	**+0.5**
ARA0				MSG		09 27 59.6	
	comp=Z,9.3nm,0.4s						
ARA0	**ARCESS Array S**	**3.81**	**304**	Pn	**Pn**	**09 27 04.9**	**+0.6**
	baz=123,slow=15,SNR=360						
ARA0				Sn	**Sn**	**09 27 47.5**	**-2.3**
	baz=128,slow=24,SNR=7.3						
ARA0				Lg	Lg	09 27 58.8	
	baz=118,slow=34,SNR=50						
ARA0				Sg	**Sb**	**09 27 59.6**	**+0.5**
HEF	**Hetta**	**4.14**	**286**	PN	**Pn**	**09 27 09.9**	**+1.0**
	baz=104						
HEF				SG	**Sb**	**09 28 11.0**	**+2.4**
HEF				MSG		09 28 11.0	
	comp=Z,3.9nm,0.4s						
HEF	**Hetta**	**4.14**	**286**	Pn	**Pn**	**09 27 09.9**	**+1.0**
HEF				Sg	**Sb**	**09 28 11.0**	**+2.4**
FIA0	**FINESS Array S**	**7.17**	**214**	Lg	Lg	09 29 42.4	
FIA0	**FINESS Array S**	**7.17**	**214**	Lg	Lg	09 29 42.4	
SPA0	**Spitsbergen Ar**	**11.77**	**342**	Pn	**Pn**	**09 28 54.1**	**+0.8**
	baz=146,slow=18						
SPA0	**Spitsbergen Ar**	**11.77**	**342**	Pn	**Pn**	**09 28 54.1**	**+0.8**
	baz=146,slow=18						

IDC 02 09:41:59.8±0.7, 15°18S×173°57W, h0km, mb4.0/11, mb1 4.3/11, mb1mx4.1/21, mbtmp4.0/11, Error ellipse: s-maj=32.7km s-min=16.6km az=134.0
NEIC 02 09:42:01.3±0.4, 15°13S×173°62W, h10km, mb4.7/3, Error ellipse: s-maj=16.0km s-min=8.6km az=134.0
ISCJB 02 09:42:02.7±0.5, 15°1S±0°1×173°7W±0°1, h30km, mb4.1/13, Error ellipse: s-maj=23.9km s-min=12.1km az=44.6

ISC 02 09:42:04.3±0.6, 15°1S±0°2×173.7W±0°2, h30km, n38, σ0°66/30, mb4.2/13, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.19**	**56**	Pn	Pn	09 42 28.1	-11
AFI				Sn	Sn	09 42 46.4	-19
AFI	**Afiamalu**	**2.19**	**56**	Pn	Pn	09 42 28.1	-11
	56nm,0.3s,baz=13,slow=1.9,SNR=23						
AFI				Sn	Sn	09 42 46.4	-19
	158nm,0.3s,baz=49,slow=19,SNR=15						
DZM	**Mont Dzumac**	**20.07**	**247**	P	**P**	**09 46 34.7**	**-0.8**
DZM	**Mont Dzumac**	**20.07**	**247**	P	**P**	**09 46 34.7**	**-0.8**
	8.4nm,1.1s,baz=67,slow=15,SNR=2.7						
URZ	**Urewera**	**24.44**	**198**	*e*P	**P**	**09 47 20.2**	**-0.1**
URZ	**Urewera**	**24.44**	**198**	P	**P**	**09 47 19.5**	**-0.9**
	5.9nm,0.6s,baz=90,slow=4.0,SNR=3.0						
H11S2	**WAKE ISLAND Hy**	**38.61**	**329**	T	T	10 31 04.7	
	baz=146						
H11S3	**WAKE ISLAND Hy**	**38.62**	**329**	T	T	10 30 54.9	
	baz=146,SNR=15						
H11S1	**WAKE ISLAND Hy**	**38.63**	**329**	T	T	10 31 06.2	
	baz=146						
H11N3	**WAKE ISLAND Hy**	**39.56**	**331**	T	T	10 32 14.1	
	baz=56,slow=0.7,SNR=32						
H11N1	**WAKE ISLAND Hy**	**39.56**	**330**	T	T	10 32 16.7	
	baz=56,slow=0.7,SNR=26						
H11N2	**WAKE ISLAND Hy**	**39.58**	**331**	T	T	10 32 02.0	
	baz=56,slow=0.7,SNR=27						
STKA	**Stephens Creek**	**43.95**	**240**	P	**P**	**09 50 08.2**	**-0.6**
STKA	**Stephens Creek**	**43.95**	**240**	P	**P**	**09 50 08.2**	**-0.6**
	2.7nm,0.7s,baz=81,slow=3.7,SNR=6.4						
WRA	**Warramunga Arr**	**49.66**	**257**	P	**P**	**09 50 54.2**	**+0.6**
WRA	**Warramunga Arr**	**49.66**	**257**	P	**P**	**09 50 54.2**	**+0.6**
	0.7nm,0.4s,baz=95,slow=6.9,SNR=28						
AS31	**Alice Springs**	**49.95**	**252**	*e*P	**P**	**09 50 56.7**	**+0.8**
ASAR	**Alice Springs**	**49.95**	**252**	P	**P**	**09 50 56.6**	**+0.7**
ASAR	**Alice Springs**	**49.95**	**252**	P	**P**	**09 50 56.6**	**+0.7**
	3.4nm,0.5s,baz=86,slow=8.1,SNR=53						
VNDA	**Vanda**	**63.61**	**186**	P	**P**	**09 52 32.7**	**+0.8**
VNDA	**Vanda**	**63.61**	**186**	P	**P**	**09 52 32.7**	**+0.8**
	2.1nm,1.0s,baz=3.3,slow=6.2,SNR=8.4						
NVAR	**Mina Array Bea**	**74.30**	**42**	P	**P**	**09 53 39.9**	**+0.7**
NVAR	**Mina Array Bea**	**74.30**	**42**	P	**P**	**09 53 39.9**	**+0.7**
	0.3nm,0.6s,baz=218,slow=6.8,SNR=4.5						
QSPA	**South Pole Qui**	**74.91**	**180**	*e*P	**P**	**09 53 42.2**	**0.0**
	4.5nm,0.9s						
TXAR	**Lajitas Array**	**80.67**	**56**	P	**P**	**09 54 14.1**	**-0.8**
TXAR	**Lajitas Array**	**80.67**	**56**	P	**P**	**09 54 14.1**	**-0.8**
	0.3nm,0.9s,baz=203,slow=5.9,SNR=3.2						
COLA	**College**	**82.15**	**11**	*e*P	**P**	**09 54 21.8**	**+0.1**
	18nm,0.8s						
ILAR	**Eielson Array**	**82.24**	**11**	P	**P**	**09 54 21.8**	**-0.5**
ILAR	**Eielson Array**	**82.24**	**11**	P	**P**	**09 54 21.8**	**-0.5**
	0.9nm,0.7s,baz=225,slow=6.0,SNR=9.3						
PDAR	**Pinedale Array**	**82.24**	**42**	P	**P**	**09 54 23.1**	**+0.1**
PDAR	**Pinedale Array**	**82.24**	**42**	P	**P**	**09 54 23.1**	**+0.1**
	0.1nm,0.3s,baz=196,slow=6.3,SNR=3.2						
HRY	**Holter Researc**	**82.79**	**38**	*e*P	**P**	**09 54 25.0**	**-0.7**
	3.3nm,0.8s						
MAW	**Mawson**	**87.96**	**199**	P	**P**	**09 54 51.1**	**+0.1**
MAW	**Mawson**	**87.96**	**199**	P	**P**	**09 54 51.1**	**+0.1**
	3.4nm,0.8s,baz=94,slow=4.9,SNR=8.5						
BRTR	**Keskin Array B**	**145.79**	**321**	PKPbc	**PKPab**	**10 01 42.5**	**+1.1**
BRTR	**Keskin Array B**	**145.79**	**321**	PKPbc	**PKPab**	**10 01 42.5**	**+1.1**
	3.7nm,0.8s,baz=106,slow=2.3,SNR=17						
GERES	**GERESS Array B**	**145.84**	**351**	PKPbc	**PKPab**	**10 01 41.1**	**-0.1**
GERES	**GERESS Array B**	**145.84**	**351**	PKPbc	**PKPab**	**10 01 41.1**	**-0.1**
	0.3nm,0.4s,baz=323,slow=1.5,SNR=3.5						

IDC 02 09:45:17.9±1.9, 14°77S×173°88W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.8/19, mbtmp3.7/5, MS3.4/1, Ms1 3.4/1, ms1mx3.1/29, Error ellipse: s-maj=112.9km s-min=24.0km az=150.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.21**	**67**	LR	LR	09 46 50.3	
	comp=Z,850nm,21.1s,baz=200,slow=42						
H11S2	**WAKE ISLAND Hy**	**38.19**	**329**	T	T	10 33 27.8	
	baz=149,slow=0.7,SNR=17						
H11S3	**WAKE ISLAND Hy**	**38.20**	**329**	T	T	10 33 30.9	
	baz=149						
H11S1	**WAKE ISLAND Hy**	**38.21**	**329**	T	T	10 33 29.2	
	baz=149,slow=0.7,SNR=20						
H11N3	**WAKE ISLAND Hy**	**39.14**	**331**	T	T	10 34 42.1	
	baz=152						
H11N1	**WAKE ISLAND Hy**	**39.15**	**331**	T	T	10 34 51.6	
	baz=152						
H11N2	**WAKE ISLAND Hy**	**39.16**	**331**	T	T	10 34 43.7	
	baz=152						
WRA	**Warramunga Arr**	**49.54**	**256**	P	P	09 54 11.0	0.0
	0.3nm,0.5s,baz=90,slow=6.9,SNR=10						
ASAR	**Alice Springs**	**49.87**	**251**	P	P	09 54 13.2	-0.3
	1.9nm,0.5s,baz=89,slow=7.7,SNR=19						
TXAR	**Lajitas Array**	**80.65**	**56**	P	P	09 57 33.6	+0.4
	0.8nm,1.0s,baz=237,slow=5.0,SNR=4.9						
ILAR	**Eielson Array**	**81.92**	**11**	P	P	09 57 39.0	0.0
	0.4nm,0.9s,baz=215,slow=4.4,SNR=3.8						
PDAR	**Pinedale Array**	**82.11**	**42**	P	P	09 57 40.4	-0.4
	0.4nm,0.8s,baz=232,slow=3.0,SNR=3.5						
BRTR	**Keskin Array B**	**145.38**	**321**	PKPbc	PKPbc	10 04 57.7	-0.6
	0.6nm,0.8s,baz=126,slow=1.2,SNR=2.4						

BJI 02 09:45:53.5, 14°90S×174°10W, h10km, mB5.4/10, mb5.0/14, Ms5.2/9, Ms7 4.9/9
IDC 02 09:45:53.6±0.7, 14°93S×173°91W, h0km, mb4.3/9, mb1 4.6/9, mb1mx4.3/19, mbtmp4.3/9, MS4.7/3, Ms1 4.7/3, ms1mx3.8/28, Error ellipse: s-maj=34.1km s-min=18.9km az=135.0
NEIC 02 09:45:55.5±0.2, 14°96S×174°00W, h10km, mb4.8/39, Error ellipse: s-maj=11.8km s-min=5.2km az=143.0
ISCJB 02 09:46:01.8±0.3, 15°02S±0°09×174°07W±0°07, h73km, mb4.6/54, Error ellipse: s-maj=14.0km s-min=7.9km az=150.9

ISC 02 09:46:03.6±0.5, 15°1S±0°1×173°9W±0°1, h73km, n326, σ0°66/318, mb4.7/54, 109C-106D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.35**	**61**	*e*Pn	Pn	09 46 33.4	-6.7
AFI				*e*Sn	Sn	09 46 56.0	-12
AFI	**Afiamalu**	**2.35**	**61**	Sn	Sn	09 46 45.2	-23
	243nm,0.3s,baz=4.3,slow=22,SNR=5.0						
MSVF	**Nonsavu**	**8.17**	**250**	*e*Pn	Pn	09 47 53.3	-6.3
DZM	**Mont Dzumac**	**19.89**	**247**	*e*P	Pn	09 50 36.5	+5.0
	62nm,1.6s						
DZM				*e*LR	LR	09 55 32.7	
	964nm,26.1s						
DZM	**Mont Dzumac**	**19.89**	**247**	LR	LR	09 55 13.8	
	comp=Z,70nm,19.6s,baz=27,slow=28						
PPT2	**Papeete2**	**23.46**	**99**	*e*LR	LR	09 56 30.4	
	840nm,26.8s						
TBI	**Tubuai**	**24.47**	**113**	*e*LQ	LQ	09 55 51.5	
	328nm,28.2s						
TBI				*e*LR	LR	09 57 05.6	
	772nm,26.8s						
RPZ	**Rata Peaks**	**31.31**	**201**	LR	LR	10 04 31.9	
	comp=Z,647nm,19.0s,baz=61,slow=36						
RKT	**Rikitea**	**37.55**	**108**	*e*LR	LR	10 03 01.4	
	564nm,31.2s						
CTA	**Charters Tower**	**38.25**	**257**	LR	LR	10 06 41.3	
	comp=Z,817nm,20.7s,baz=8.5,slow=33						
H11S2	**WAKE ISLAND Hy**	**38.44**	**330**	T	T	10 34 06.7	
	baz=154						
H11S3	**WAKE ISLAND Hy**	**38.45**	**330**	T	T	10 34 03.7	
	baz=154,SNR=21						
H11S1	**WAKE ISLAND Hy**	**38.46**	**330**	T	T	10 34 04.1	
	baz=154						
H11N3	**WAKE ISLAND Hy**	**39.39**	**331**	T	T	10 35 15.2	
	baz=152,slow=0.7,SNR=39						
H11N1	**WAKE ISLAND Hy**	**39.40**	**331**	T	T	10 35 17.2	
	baz=152,slow=0.7,SNR=47						
H11N2	**WAKE ISLAND Hy**	**39.41**	**331**	T	T	10 35 16.6	
	baz=152,slow=0.7,SNR=38						
WRA	**Warramunga Arr**	**49.46**	**257**	P	**P**	**09 54 45.8**	**-1.0**
WRA	**Warramunga Arr**	**49.46**	**257**	P	**P**	**09 54 45.8**	**-1.0**
	1.1nm,0.6s,baz=90,slow=6.8,SNR=15						
AS31	**Alice Springs**	**49.76**	**252**	*e*P	**P**	**09 54 48.0**	**-1.1**
ASAR	**Alice Springs**	**49.76**	**252**	P	**P**	**09 54 48.2**	**-0.9**
ASAR	**Alice Springs**	**49.76**	**252**	P	**P**	**09 54 48.2**	**-0.9**
	5.3nm,0.6s,baz=85,slow=8.1,SNR=30						
ASAR				LR	LR	10 13 24.6	
	comp=Z,2μm,18.0s,baz=144,slow=33						
FITZ	**Fitzroy Crossi**	**57.81**	**258**	*e*P	P	09 55 44.4	-3.5
	11nm,1.6s						
SBA	**Scott Base**	**63.54**	**184**	*e*P	**P**	**09 56 27.8**	**+2.0**
	22nm,1.8s						
VNDA	**Vanda**	**63.65**	**186**	*e*P	**P**	**09 56 27.4**	**+0.8**
	3.2nm,1.1s						
VNDA	**Vanda**	**63.65**	**186**	P	**P**	**09 56 27.6**	**+1.0**
	3.2nm,1.1s,baz=8.0,slow=4.4,SNR=5.2						
PETK	**Petropavlovsk-**	**72.17**	**342**	P	**P**	**09 57 18.6**	**-1.7**
PETK	**Petropavlovsk-**	**72.17**	**342**	P	**P**	**09 57 18.6**	**-1.7**
	3.1nm,0.9s,baz=132,slow=8.5,SNR=6.9						
EDW2	**Edwards Air Fo**	**72.65**	**46**	⇑P	**P**	**09 57 23.9**	**+0.2**
	baz=73						
MONP	**Monument Peak**	**72.70**	**48**	⇓P	**P**	**09 57 24.5**	**+0.3**
	baz=73						
ISA	**Isabella**	**72.75**	**45**	*e*P	**P**	**09 57 25.5**	**+1.2**
	3.4nm,1.0s						
ISA	**Isabella**	**72.75**	**45**	⇓P	**P**	**09 57 25.1**	**+0.9**
	baz=73						
PFO	**Pinyon Flat Ob**	**73.05**	**47**	*e*P	**P**	**09 57 27.0**	**+0.9**
LRMC	**Laurel Mountai**	**73.18**	**45**	⇓P	**P**	**09 57 26.7**	**-0.2**
	baz=73						
BELC	**Belle Mtn. Jos**	**73.58**	**47**	⇓P	**P**	**09 57 29.9**	**+0.6**
	baz=74						
MPMC	**Manual Prospec**	**73.64**	**45**	⇑P	**P**	**09 57 29.9**	**+0.2**
	baz=74						
GSC	**Goldstone**	**73.70**	**46**	⇓P	**P**	**09 57 30.5**	**+0.6**
	baz=74						
BC3	**Big Chuckawall**	**73.79**	**48**	⇓P	**P**	**09 57 30.9**	**+0.4**
	baz=74						
GLA	**Glamis**	**73.93**	**49**

baz=79
DUG Dugway 78.94 43 ⇓P P 09 57 59.8 +0.2
baz=79
Y20A Horse Springs, 79.08 50 ⇓P P 09 58 01.3 +0.7
baz=79
X20A Quemado 79.27 50 ⇓P P 09 58 02.2 +0.6
baz=79
BMRM Bremner River 79.31 14 eP P 09 58 00.4 -0.5
F10A Beach Ranch, E 79.33 36 eP P 09 58 00.2 -1.3
65nm,2.8s
Z21A St. Cloud Mine 79.34 51 ⇓P P 09 58 02.6 +0.6
baz=80
Q16A Castle Valley 79.41 45 eP P 09 58 02.6 +0.4
W20A Ramah 79.53 49 ⇓P P 09 58 03.5 +0.5
baz=80
B08A Colville Reser 79.57 34 eP P 09 58 02.2 -0.4
54nm,2.8s
TMUT Trail Mountain 79.57 45 eP P 09 58 03.5 +0.3
11nm,1.0s
122A Conniff Cattle 79.59 52 ⇑P P 09 58 03.9 +0.7
baz=80
NJ2 Nanjing 79.59 307 eP P 09 58 01.6 -1.4
NJ2 AMB AMB
comp=Z,20nm,0.9s
Y21A Point of Rocks 79.64 51 ⇑P P 09 58 04.5 +0.8
baz=80
HLID Hailey 79.68 40 eP P 09 58 03.6 0.0
7.7nm,1.0s
HLID Hailey 79.68 40 ⇓P P 09 58 03.9 +0.4
baz=80
X21A Alamocita Cree 79.75 50 ⇓P P 09 58 04.3 +0.1
baz=80
Z22A Elephant Butte 79.85 52 ⇑P P 09 58 04.2 -0.4
baz=80,SNR=5.4
V20A Brimhall 79.86 49 ⇑P P 09 58 05.0 +0.3
baz=80
SRU San Rafael 79.95 45 eP P 09 58 04.8 -0.3
9.3nm,1.3s
JLU Jordanelle 80.05 43 eP P 09 58 05.5 -0.2
9.2nm,1.1s
Y22A Socorro 80.14 51 ⇑P P 09 58 06.1 -0.2
baz=80
324A Moseley Ranch, 80.23 54 ⇓P P 09 58 06.4 -0.3
baz=80,SNR=5.8
425A Indio Mountain 80.35 55 ⇑P P 09 58 07.2 -0.2
baz=80,SNR=9.5
PV05 Paradox Valley 80.44 46 eP P 09 58 08.4 +0.5
224A Cornudas Mount 80.46 53 ⇑P P 09 58 07.8 -0.2
baz=81,SNR=6.2
V21A Milan 80.46 49 ⇑P P 09 58 08.1 +0.1
baz=81
MVCO Mesa Verde 80.47 47 ⇓P P 09 58 07.7 -0.3
baz=81
CN2 Changchun 80.53 320 eP P 09 58 08.8 +0.9
CN2 eS S 10 08 13.1 +4.3
CN2 AMB AMB
comp=Z,10.0nm,0.8s
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,400nm,12.0s
CN2 LR LR
comp=E,300nm,12.0s
CN2 LR LR
comp=Z,400nm,15.0s
626A Big Bend Ranch 80.54 56 ⇑P P 09 58 08.1 -0.3
baz=81,SNR=6.5
LPM Los Pinos Moun 80.55 51 eP P 09 58 09.1 +0.6
5.8nm,1.2s
PV09 Paradox Valley 80.62 46 eP P 09 58 09.0 +0.2
NEW Newport 80.71 34 ⇓P P 09 58 09.0 +0.2
baz=81
U21A Nageezi 80.72 48 ⇓P P 09 58 09.9 +0.5
baz=81
124A Stringfield Ra 80.77 53 ⇑P P 09 58 09.9 +0.2
baz=81
526A Mary Lane Ranc 80.77 56 ⇑P P 09 58 09.5 -0.1
baz=81,SNR=6.1
TXAR Lajitas Array 80.83 56 P P 09 58 09.8 -0.1
TXAR Lajitas Array 80.83 56 P P 09 58 09.8 -0.1
2.4nm,0.9s,baz=224,slow=5.2,SNR=19
Y23A Lovelace Mesa, 80.83 51 ⇓P P 09 58 10.0 0.0
baz=81
PV01 Paradox Valley 80.84 47 eP P 09 58 09.6 -0.4
394nm,1.1s
S20A Disappointment 80.85 47 ⇑P P 09 58 09.9 -0.1
baz=81
MCK McKinley 80.89 11 eP P 09 58 08.9 -0.5
16nm,1.0s
ANMO Albuquerque 80.96 50 eP P 09 58 10.7 +0.1
40nm,2.6s
M17A Scullys Gap (B 80.99 43 ⇑P P 09 58 10.6 -0.1
baz=81
PV15 Paradox Valley 81.00 46 eP P 09 58 10.7 -0.1
R20A Redvale 81.00 47 ⇑P P 09 58 11.0 +0.2
baz=81
225A Deer Hill, Car 81.01 53 ⇓P P 09 58 10.8 -0.1
baz=81,SNR=5.2
V22A San Miguel Ran 81.04 49 ⇓P P 09 58 11.2 +0.1
baz=81
426A McDonald Obser 81.06 55 ⇑P P 09 58 11.1 -0.2
baz=81,SNR=11
T21A Navajo Lake 81.06 48 ⇑P P 09 58 11.6 +0.4
baz=81
627A Terlingua Ranc 81.09 56 ⇓P P 09 58 11.1 -0.2
baz=81,SNR=7.7
Z24A Sheeppen Canyo 81.10 52 ⇓P P 09 58 11.6 +0.2
baz=81
527A Woodward Ranch 81.19 56 ⇓P P 09 58 11.4 -0.5
baz=81,SNR=8.9
P19A Cripple Cowboy 81.25 45 ⇑P P 09 58 12.3 +0.2
baz=81
W23A Werner Place, 81.28 50 ⇓P P 09 58 12.5 +0.1
baz=81
Y24A Capitan 81.29 51 ⇓P P 09 58 12.0 -0.4
baz=81,SNR=5.1
326A Caldwell Ranch 81.36 54 ⇓P P 09 58 12.5 -0.2
baz=82
125A Gardner Draw, 81.36 53 ⇑P P 09 58 12.6 -0.2
baz=82
Q20A Ridgley Place, 81.41 46 ⇓P P 09 58 12.5 -0.4
baz=82,SNR=7.3
O19A Miners Draw (B 81.46 44 ⇓P P 09 58 12.9 -0.2
baz=82
RRI2 Red Ridge 81.50 41 eP P 09 58 13.3 -0.1
12nm,1.1s
V23A Ortiz Mt. (NFS 81.50 50 ⇓P P 09 58 13.8 +0.3
baz=82
628A Black Gap, Mar 81.51 56 ⇓P P 09 58 13.2 -0.3
baz=82
226B Tecolote Peak, 81.51 54 ⇓P P 09 58 13.2 -0.3
baz=82,SNR=11
T22A Edith 81.53 48 ⇑P P 09 58 13.6 0.0
baz=82
X24A Lazy VL Ranch, 81.56 51 ⇑P P 09 58 13.7 -0.1
baz=82
Z25A Roswell 81.57 52 ⇓P P 09 58 13.8 0.0
baz=82
P20A De Beque 81.59 45 ⇑P P 09 58 14.0 +0.1
baz=82
427A Hayter Ranch, 81.63 55 ⇓P P 09 58 13.6 -0.6
baz=82,SNR=6.6
R21A Cimarron 81.66 47 ⇓P P 09 58 14.2 -0.1
baz=82,SNR=6.8
MSO Missoula 81.70 37 eP P 09 58 13.9 -0.3
18nm,1.8s
MSO Missoula 81.70 37 ⇓P P 09 58 13.9 -0.3
baz=82
DLMT Dillon 81.73 39 eP P 09 58 14.4 0.0
22nm,1.7s
U23A El Rito 81.74 49 ⇓P P 09 58 14.7 -0.1
baz=82,SNR=10
BSMT Bassoo Peak 81.77 36 eP P 09 58 14.4 -0.2
REDW Red Top Meadow 81.80 41 eP P 09 58 14.6 -0.3
9.7nm,1.3s
TPAW Teton Pass 81.80 41 eP P 09 58 15.0 0.0
11nm,1.1s
W24A Lazy 6 Ranch, 81.85 50 ⇑P P 09 58 14.8 -0.5
baz=82,SNR=5.8
528A Cox Ranch, San 81.85 56 ⇓P P 09 58 15.2 -0.1
baz=82,SNR=7.2
126A Clayton Basin, 81.85 53 ⇑P P 09 58 15.4 +0.1
baz=82
Y25A Mesa, Roswell 81.85 52 ⇓P P 09 58 15.4 +0.1
baz=82
Q21A Lamborn Mesa, 81.86 46 ⇓P P 09 58 15.1 -0.2
baz=82
S22A 4UR Ranch, Cre 81.90 48 ⇑P P 09 58 15.6 -0.1
baz=82,SNR=15
SNOW Snow King Moun 81.91 41 eP P 09 58 15.4 -0.1
14nm,1.1s
O20A White River Ci 81.98 45 ⇓P P 09 58 16.3 +0.4
baz=82
IMW Indian Meadow 82.01 41 eP P 09 58 16.1 +0.1
MOOW Moose Ponds 82.06 41 eP P 09 58 16.0 -0.3
4.3nm,1.2s
LOHW Long Hollow 82.08 41 eP P 09 58 16.2 -0.2
6.2nm,1.2s
COLA College 82.13 11 eP P 09 58 15.4 -0.4
19nm,0.8s
Z26A Caprock 82.13 53 ⇓P P 09 58 16.6 -0.2
baz=82,SNR=5.9
428A Kincaid Ranch, 82.15 55 ⇑P P 09 58 17.2 +0.3
baz=82
CHMT Chamberlain Mo 82.15 37 eP P 09 58 16.2 -0.5
V24A Rampart Ranch, 82.16 50 ⇑P P 09 58 17.4 +0.3
baz=82
227A Bennet, Jal 82.17 54 ⇑P P 09 58 17.4 +0.5
baz=82
QLMT Earthquake Lak 82.17 40 eP P 09 58 17.9 +1.1
IM04 Indian Mountai 82.20 8 eP P 09 58 16.5 +0.2
ILAR Eielson Array 82.22 11 P P 09 58 15.2 -1.1
ILAR Eielson Array 82.22 11 P P 09 58 15.2 -1.1
5.6nm,1.2s,baz=212,slow=6.1,SNR=16
I17A Pilgrim Ck. 82.25 41 ⇓P P 09 58 17.8 +0.5
baz=82
FLWY Flagg Ranch 82.25 40 eP P 09 58 17.7 +0.5
14nm,1.1s
P21A Newcastle 82.25 46 ⇓P P 09 58 17.9 +0.6
baz=82
529A Stev Forest Ra 82.29 56 ⇓P P 09 58 17.3 -0.3
baz=82
N20A Spence Gulch, 82.29 44 ⇑P P 09 58 17.3 -0.3
baz=82,SNR=5.4
328A Wristen Ranch, 82.30 55 ⇓P P 09 58 17.5 -0.1
baz=82
IMA2 Indian Mountai 82.30 8 eP P 09 58 17.1 +0.2
Q22A Crested Butte, 82.33 46 ⇑P P 09 58 18.1 +0.2
baz=82,SNR=11
PDAR Pinedale Array 82.34 42 P P 09 58 17.0 -0.8
PDAR Pinedale Array 82.34 42 P P 09 58 17.0 -0.8
3.1nm,1.0s,baz=222,slow=2.0,SNR=15
127A Arkansas Junct 82.38 53 ⇑P P 09 58 18.0 0.0
baz=82
SMCO Snowmass 82.43 46 eP P 09 58 18.6 0.0
7.5nm,1.0s
H17A Grant Village 82.48 40 ⇑P P 09 58 18.9 +0.4
baz=83
Y26A Elida 82.51 52 ⇓P P 09 58 18.7 -0.1
baz=83
W25A X Bar L Ranch, 82.56 51 ⇓P P 09 58 18.3 -0.7
baz=83,SNR=6.6
M20A Sweetwater, Wa 82.64 44 ⇓P P 09 58 19.5 +0.1
baz=83
T24B San Luis 82.64 49 ⇓P P 09 58 19.4 -0.2
baz=83,SNR=5.8
V25A Rancho No Teng 82.69 50 ⇑P P 09 58 19.3 -0.5
baz=83,SNR=9.0
Z27A Tatum 82.74 53 ⇑P P 09 58 19.5 -0.4
baz=83
429A Davenport Ranc 82.74 56 ⇑P P 09 58 19.4 -0.5
baz=83,SNR=11
228A UT Block 9, Go 82.76 54 ⇑P P 09 58 20.0 0.0
baz=83
P22A Eagle 82.76 46 ⇑P P 09 58 19.8 -0.2
baz=83,SNR=6.0
X26A CR and CF Fran 82.78 51 ⇑P P 09 58 19.9 -0.2
baz=83
L20A Wamsutter 82.78 43 ⇓P P 09 58 20.0 0.0
baz=83,SNR=8.6
R23A Moffat 82.81 47 ⇑P P 09 58 20.3 0.0
baz=83,SNR=5.4
K19A Absolon Red Bu 82.83 42 ⇓P P 09 58 19.9 -0.3
baz=83
HRY Holter Researc 82.88 38 eP P 09 58 20.0 -0.3
J19A Crowheart 82.90 42 ⇑P P 09 58 20.5 -0.1
baz=83
329A Wagon Wheel Ra 83.00 55 ⇑P P 09 58 20.8 -0.4
baz=83,SNR=5.1
Y27A Causey 83.00 52 ⇑P P 09 58 20.6 -0.7
baz=83,SNR=6.9
530A J-C Ranch, Com 83.01 56 ⇑P P 09 58 21.1 -0.1
baz=83
S24A Houchin Ranch, 83.01 48 ⇑P P 09 58 21.1 -0.3
baz=83,SNR=6.8
W26A Owens Ranch, T 83.02 51 ⇓P P 09 58 21.2 -0.2
baz=83
128A Castleberry Fa 83.03 54 ⇑P P 09 58 20.9 -0.5
baz=83,SNR=5.1
K20A Yellowstone Ra 83.08 43 ⇓P P 09 58 20.6 -0.9
baz=83,SNR=5.6
U25A Circle Dot Ran 83.08 50 ⇓P P 09 58 21.2 -0.5
baz=83,SNR=7.6
O22A Kremmling 83.16 45 ⇓P P 09 58 21.9 -0.3
baz=83,SNR=13
DAWY Dawson 83.22 15 eP P 09 58 21.7 +0.1
M21A Separation Pea 83.25 44 ⇓P P 09 58 22.1 -0.4
baz=83,SNR=5.6
V26A Tequesquite Ra 83.29 50 ⇑P P 09 58 22.6 -0.2
baz=83
I19A Meeteetse 83.30 41 ⇑P P 09 58 22.1 -0.6
baz=84,SNR=6.0
MSTX Muleshoe 83.33 52 eP P 09 58 22.6 -0.4
MSTX Muleshoe 83.33 52 ⇓P P 09 58 22.6 -0.4
baz=84,SNR=8.7
R24A Sanders Place, 83.33 48 ⇓P P 09 58 22.7 -0.3
baz=84,SNR=6.4
X27A F and S Farms, 83.35 52 ⇑P P 09 58 23.0 0.0
baz=84
631A Perdido Creek 83.35 57 ⇓P P 09 58 22.8 -0.2
baz=84
Z28A Tucker Farm, M 83.37 53 ⇑P P 09 58 22.7 -0.4
baz=84
T25A Trinidad 83.38 49 ⇑P P 09 58 22.7 -0.6
baz=84
L21A Rawlins 83.40 44 ⇓P P 09 58 22.6 -0.7
baz=84
N22A Wattenberg Ran 83.50 45 ⇓P P 09 58 23.8 -0.1
baz=84,SNR=8.2
W27A Bowe Ranch, En 83.54 51 ⇓P P 09 58 23.4 -0.7
baz=84,SNR=7.1
U26A Atchley Ranch, 83.57 50 ⇑P P 09 58 23.5 -0.7
baz=84,SNR=5.6
J20A Shoshoni 83.57 42 ⇓P P 09 58 23.6 -0.4
baz=84,SNR=7.8
S25A Robets Cordova 83.58 48 ⇑P P 09 58 23.8 -0.5
baz=84,SNR=8.7
330A Mertzon 83.60 55 ⇑P P 09 58 23.9 -0.4
baz=84
H19A Powell 83.61 41 ⇓P P 09 58 23.9 -0.3
baz=84,SNR=6.0
O23A Lake Granby, G 83.61 46 ⇓P P 09 58 23.9 -0.5
baz=84
Q24A Divide 83.61 47 ⇓P P 09 58 24.5 -0.1
baz=84
ISCO Idaho Springs 83.64 46 eP P 09 58 24.7 0.0
6.3nm,1.3s
ISCO Idaho Springs 83.64 46 ⇓P P 09 58 24.6 0.0
baz=84
M22A Cedar Creek Ra 83.67 44 ⇓P P 09 58 24.2 -0.5
baz=84
K21A Alcova 83.78 43 ⇑P P 09 58 24.3 -0.9
baz=84,SNR=9.0
I20A Worland 83.82 41 ⇓P P 09 58 25.3 +0.1
baz=84
Z29A Hungry Hill Ra 83.88 53 ⇓P P 09 58 25.2 -0.5
baz=84
N23A Red Feather La 83.89 45 ⇑P P 09 58 25.5 -0.4
baz=84
R25A Fountain Ranch 83.89 48 ⇑P P 09 58 25.0 -0.8
baz=84,SNR=7.2
COLD Coldfoot 83.89 9 eP P 09 58 26.3 +1.4
14nm,1.2s
J21A Lysite 83.98 42 ⇑P P 09 58 25.8 -0.4
baz=84,SNR=8.6
V27A Dan Oppiter Fa 83.99 51 ⇑P P 09 58 25.9 -0.4
baz=84,SNR=5.4
X28A Dimmitt 83.99 52 ⇓P P 09 58 26.1 -0.2
baz=84
632A Uvalde 84.03 57 ⇑P P 09 58 26.6 +0.1
baz=84
L22A Ellis Ranch, M 84.06 44 ⇑P P 09 58 26.6 0.0
baz=84,SNR=5.6
Y29A Porterfield Fa 84.14 53 ⇑P P 09 58 26.4 -0.6
baz=84,SNR=7.8
H20A Greybull 84.15 41 ⇑P P 09 58 26.0 -0.9
baz=84,SNR=6.2
532A Rocksprings 84.16 57 ⇑P P 09 58 27.0 -0.2
baz=84
O24A Longmont 84.16 46 ⇑P P 09 58 27.2 +0.1
baz=84
331A San Angelo 84.16 56 ⇓P P 09 58 26.4 -0.8
baz=84
F19A Roth Farm, Mol 84.20 40 ⇑P P 09 58 27.0 -0.1
baz=84,SNR=7.0
Q25A Bedland, Calha 84.23 47 ⇑P P 09 58 26.9 -0.7
baz=84
U27A Thompson Grove 84.26 50 ⇓P P 09 58 26.9 -0.8
baz=84
S26A Kim 84.26 49 ⇑P P 09 58 26.9 -0.8
baz=84,SNR=5.1
W28A Vega 84.26 51 ⇑P P 09 58 27.5 -0.2
baz=84
K22A Casper 84.27 43 ⇑P P 09 58 27.2 -0.5
baz=84
M23A Laramie 84.29 45 ⇑P P 09 58 27.5 -0.3
baz=84
I21A Big Trails, Te 84.29 42 ⇓P P 09 58 26.9 -0.8
baz=84,SNR=11
X29A Tulia 84.34 52 ⇑P P 09 58 27.8 -0.3
baz=84
Z30A Sanderson Ranc 84.34 54 ⇓P P 09 58 27.4 -0.6
baz=84
G20A Bridger 84.35 40 ⇓P P 09 58 27.4 -0.5
baz=84
231A Bronte 84.48 55 ⇑P P 09 58 28.1 -0.6
baz=85
432A Menard 84.51 56 ⇑P P 09 58 28.6 -0.4
baz=85
P25A Willow Gulch B 84.53 47 ⇑P P 09 58 28.5 -0.5
baz=85,SNR=5.4
R26A Arlington 84.55 48 ⇑P P 09 58 28.5 -0.6
baz=85,SNR=14
E19A Rath Farm, Rou 84.58 39 ⇓P P 09 58 29.2 +0.2
baz=85
L23A Garrett 84.58 44 ⇑P P 09 58 28.5 -0.8
baz=85,SNR=7.8
T27A Campo 84.59 50 ⇑P P 09 58 28.5 -0.8
baz=85
N24A Carr 84.59 45 ⇑P P 09 58 29.1 -0.1
baz=85
W29A Amraillo 84.63 52 ⇑P P 09 58 29.3 -0.3
baz=85
J22A Midwest 84.64 43 ⇓P P 09 58 28.6 -0.8
baz=85,SNR=8.9
F20A Billings 84.66 40 ⇓P P 09 58 29.4 -0.1
baz=85
131A Roby 84.69 54 ⇓P P 09 58 29.7 -0.1
baz=85
332A Millersview 84.73 56 ⇑P P 09 58 29.8 -0.3
baz=85
Y30A Stafford Cattl 84.74 53 ⇑P P 09 58 29.8 -0.3
baz=85
Q26A Hugo 84.75 48 ⇑P P 09 58 30.1 0.0
baz=85
O25A Wiggins 84.82 46 ⇓P P 09 58 30.3 -0.1
baz=85
H21A Big Horn, Sher 84.82 41 ⇑P P 09 58 30.4 +0.1
baz=85
I22A 9 Mile Ranch, 84.85 42 ⇓P P 09 58 30.5 +0.1
baz=85
D19A Cripps Ranch, 84.86 38 ⇓P P 09 58 30.2 -0.2
baz=85,SNR=7.2
M24A Cheyenne 84.90 45 ⇑P P 09 58 30.9 +0.1
baz=85
K23A Bowen Ranch, D 84.91 43 ⇑P P 09 58 31.0 +0.2
baz=85
232A Coleman 84.99 55 ⇓P P 09 58 31.0 -0.4
baz=85
E20A Meyer Farm, Mu 85.00 39 ⇓P P 09 58 31.3 +0.2
baz=85
R27A Eads 85.02 48 ⇓P P 09 58 30.9 -0.5
baz=85
C19A Slack Wire Ran 85.03 38 ⇑P P 09 58 31.3 +0.1
baz=85,SNR=6.6
T28A Walsh 85.06 50 ⇓P P 09 58 31.3 -0.4
baz=85
L24A Wheatland 85.07 44 ⇑P P 09 58 31.3 -0.3
baz=85
Z31A Sharp Cattle R 85.12 54 ⇓P P 09 58 31.5 -0.5
baz=85
P26A Davis Ranch, A 85.13 47 ⇓P P 09 58 32.0 0.0
baz=85
ABTX Abilene, Hawle 85.26 55 eP P 09 58 32.2 -0.5
ABTX Abilene, Hawle 85.26 55 ⇓P P 09 58 32.5 -0.1
baz=85
Y31A Rekieta Farm, 85.26 53 ⇓P P 09 58 32.4 -0.2
baz=85
D20A Manuel Ranch, 85.27 39 ⇑P P 09 58 32.6 +0.2
baz=85,SNR=5.8
EDM Edmonton 85.46 32 eP P 09 58 32.2 -0.9
Z32A Haskell 85.63 54 ⇓P P 09 58 34.8 +0.3
baz=86
C20A Veseth Ranch, 85.64 38 ⇓P P 09 58 34.7 +0.5
baz=86
B20A Solberg Farm, 85.97 38 ⇑P P 09 58 35.8 0.0
baz=86
A20A Cobblestone Ra 86.24 37 ⇑P P 09 58 37.5 +0.4
baz=86
V31A Spring Creek L 86.25 52 ⇑P P 09 58 38.0 +0.5
baz=86
E22A Miles City 86.32 40 ⇑P P 09 58 37.8 +0.2
baz=86
F23A Volborg 86.34 41 ⇑P P 09 58 37.7 -0.1
baz=86
H24A Dirks Ranch, A 86.47 42 ⇓P P 09 58 38.8 +0.4
baz=87
D22A Cohagen 86.49 39 ⇓P P 09 58 38.6 +0.2
baz=87
B21A Ellsworth Farm 86.56 38 ⇓P P 09 58 39.2 +0.5
baz=87
E23A Ismay 86.74 40 ⇑P P 09 58 39.9 +0.2
baz=87
GYA Guiyang 87.47 298 eP P 09 58 41.2 -2.5
GYA PP PP 10 02 08.7 -0.9
GYA SKS SKSac 10 09 07.2 +1.6
GYA S S 10 09 21.0 +1.6
GYA SS SS 10 15 08.4 +1.9
GYA AMB AMB
comp=Z,10.0nm,1.0s
GYA AMB AMB
comp=Z,90nm,6.1s
GYA LR LR
comp=N,450nm,20.3s
GYA LR LR
comp=E,410nm,21.6s
GYA LR LR
comp=Z,430nm,20.8s
MAW Mawson 87.95 199 P P 09 58 44.6 -0.5
MAW Mawson 87.95 199 P P 09 58 44.6 -0.5
3.6nm,1.0s,baz=103,slow=10,SNR=5.5
DGMT Dagmar 88.27 39 ⇑P P 09 58 48.0 +1.1
baz=88
HHC Hu-ho-hao-te 88.45 313 eP P 09 58 45.8 -2.3
HHC pP PcP 09 58 50.4 +0.7
HHC PP PP 10 02 14.4 -2.8
HHC SKS SKSac 10 09 12.4 +1.5
HHC S S 10 09 29.4 +1.3
HHC sS ScS 10 09 36.4 +2.7
HHC SS SS 10 15 23.3 +3.0
HHC AMB AMB
comp=Z,25nm,0.9s
HHC AMB AMB
comp=Z,140nm,6.5s
HHC LR LR
comp=N,180nm,17.6s
HHC LR LR
comp=E,250nm,15.7s
HHC LR LR
comp=Z,200nm,17.3s
K29A Lazy Trails An 88.49 45 ⇑P P 09 58 49.7 +1.6
baz=89
KMI Kunming 90.46 296 P P 09 58 53.9 -4.0
KMI AMB AMB
comp=Z,6.0nm,0.9s
CD2 Chengdu 91.23 302 P P 09 59 01.0 -0.2
CD2 AMB AMB
comp=Z,9.0nm,0.5s
HYB Hyderabad 110.80 283 i PKP PKiKP 10 04 29.0 -0.1
BCLA Clavier 144.74 1 PKP PKPdf 10 05 33.0 +1.1
DOU Dourbes 145.05 2 PKP PKPdf 10 05 32.0 -0.5
WLF Walferdange 145.50 360 PKP PKPab 10 05 34.5 +0.7
BR131 Keskin Array S 145.60 321 ePKPbc PKPab 10 05 36.9 +2.2

BRTR	Keskin Array B	145.60	321	PKPbc	PKPab	10 05 35.5	+0.8
BRTR	Keskin Array B	145.60	321	PKPbc	PKPab	10 05 35.5	+0.8
	4.5nm,0.8s,baz=99,slow=0.7,SNR=14						
GERES	GERESS Array B	145.75	351	PKPbc	PKPab	10 05 34.2	-0.6
GERES	GERESS Array B	145.75	351	PKPbc	PKPab	10 05 34.2	-0.6
	0.4nm,0.4s,baz=58,slow=5.3,SNR=6.1						
ESDC	Sonseca Array	153.95	18	PKPab	PKPab	10 06 08.1	-0.4
	0.2nm,0.3s,baz=327,slow=3.3,SNR=5.8						

IPEC ***02*** *09:54:29.8±0.2, 51°.21N×19°.09E, h0km, ML2.9/3, Error ellipse: s-maj=2.3km s-min=1.7km az=143.0*
IDC ***02*** *09:54:30.5±1.4, 51°.19N×19°.17E, h0km, mb3.2/1, mb1 3.5/7, mb1mx3.3/27, mbtmp3.4/7, ML3.2/6, Error ellipse: s-maj=26.9km s-min=7.1km az=116.0*
CSEM ***02*** *09:54:30.3±0.5, 51°.18N×19°.06E, h1km, ML3.5/7, Error ellipse: s-maj=10.2km s-min=4.7km az=16.0*
VIE ***02*** *09:54:32.8±0.3, 51°.11N×18°.70E, h0km, mb2.4/4, ML3.1/4, Error ellipse: s-maj=2.8km s-min=2.0km az=125.0 95 km SW of Lodz Suspected Mining induced.*
PRU ***02*** *09:54:32.5, 51°.11N×19°.04E, h0km, Belchatow*
BGR ***02*** *09:54:32.7±0.6, 51°.11N×19°.11E, h1km, ML3.1/12, Error ellipse: s-maj=8.9km s-min=4.4km az=25.0*
ISC 02 09:54:27.9±0.7,**51°.29N**±0°.04×**19°.20E**±0°.02,**h0km**,**n70,** σ1§**63**/112,**8C-2D,Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**1.14**	**160**	*e*Pg		**Pb**	**09 54 50.9**	**+0.5**
	SNR=50							
OJC				*e*Sg		**Sg**	**09 55 05.5**	**+1.2**
OJC	**Ojcow**	**1.14**	**160**	*i* Pg		**Pg**	**09 54 50.7**	**+1.1**
OJC				*e*			09 55 05.1	
OJC				*i* Sg		**Sb**	**09 55 05.8**	**+0.1**
OJC	**Ojcow**	**1.14**	**160**	*e*Pb		**Pg**	**09 54 50.1**	**+0.5**
OJC	**Ojcow**	**1.14**	**160**	Pg		**Pb**	**09 54 50.9**	**+0.5**
	SNR=50							
OJC				Sg		**Sg**	**09 55 05.5**	**+1.2**
RAC	**Raciborz**	**1.37**	**208**	*e*Pg		**Pb**	**09 54 56.6**	**+2.3**
OKC	**Ostrava-Krasne**	**1.60**	**205**	*e*Pn		**Pn**	**09 54 58.0**	**+0.6**
	SNR=3.2							
OKC				*e*Sg		**Sn**	**09 55 18.7**	**0.0**
OKC	**Ostrava-Krasne**	**1.60**	**205**	*e*PG		**Pn**	**09 54 57.9**	**+0.5**
OKC				*e*SG		**Sn**	**09 55 16.1**	**-2.7**
	comp=Z,69nm,0.5s							
OKC	**Ostrava-Krasne**	**1.60**	**205**	Pg		**Pn**	**09 54 57.9**	**+0.5**
OKC				Sg		**Sn**	**09 55 16.1**	**-2.7**
	69nm,0.5s							
MORC	**Moravsky Berou**	**1.85**	**216**	*e*Pn		**Pn**	**09 55 01.1**	**+0.2**
	SNR=21							
MORC				*e*Sg		**Sn**	**09 55 23.7**	**-1.2**
MORC	**Moravsky Berou**	**1.85**	**216**	*i* P		**Pn**	**09 55 01.3**	**+0.4**
MORC	**Moravsky Berou**	**1.85**	**216**	S		**Sb**	**09 55 26.3**	**+0.1**
MORC	**Moravsky Berou**	**1.85**	**216**	Pn		**Pn**	**09 55 01.1**	**+0.2**
	SNR=21							
MORC				Sg		**Sn**	**09 55 23.7**	**-1.2**
KSP	**Ksiaz**	**1.89**	**257**	*e*Sg		**Sg**	**09 55 30.9**	**+2.3**
KSP	**Ksiaz**	**1.89**	**257**	*e*Pn		**Pn**	**09 55 01.9**	**+0.6**
KSP				*e*Pg		**Pg**	**09 55 05.0**	**+1.0**
KSP				*e*Sn		**Sg**	**09 55 30.3**	**+1.7**
KSP				*e*Sg		**Sb**	**09 55 32.4**	**+5.0**
KSP	**Ksiaz**	**1.89**	**257**	*e*Pn		**Pn**	**09 55 02.0**	**+0.6**
KSP	**Ksiaz**	**1.89**	**257**	*e*Pg		**Pg**	**09 55 05.1**	**+1.0**
KSP				Sg		**Sg**	**09 55 30.9**	**+2.3**
KRLC	**Kraliky**	**1.96**	**233**	*e*PG		**Pn**	**09 55 03.3**	**+0.9**
KRLC	**Kraliky**	**1.96**	**233**	Pg		**Pn**	**09 55 03.3**	**+0.9**
NIE	**Niedzica**	**2.00**	**159**	*e*Pg		**Pg**	**09 55 07.1**	**+0.9**
NIE				*e*			09 55 32.3	
NIE				*e*Sg		**Sg**	**09 55 34.2**	**+2.0**
NIE	**Niedzica**	**2.00**	**159**	*e*Pg		**Pg**	**09 55 07.1**	**+0.9**
NIE				*e*Sg		**Sg**	**09 55 34.2**	**+2.0**
DPC	**Dobruska-Polom**	**2.06**	**244**	*e*Pn		**Pn**	**09 55 04.7**	**+1.0**
	SNR=12							
DPC				*e*Sn		**Sn**	**09 55 29.5**	**-0.5**
DPC	**Dobruska-Polom**	**2.06**	**244**	*e*PG		**Pn**	**09 55 04.5**	**+0.8**
DPC	**Dobruska-Polom**	**2.06**	**244**	Pg		**Pn**	**09 55 04.5**	**+0.8**
DPC				Sn		**Sn**	**09 55 29.5**	**-0.5**
STHS	**Stebnicka Huta**	**2.29**	**144**	*e*PN		**Pb**	**09 55 10.5**	**+0.5**
STHS				*e*SG		**Sg**	**09 55 43.6**	**+2.4**
STHS	**Stebnicka Huta**	**2.29**	**144**	*e*Pn		**Pb**	**09 55 10.5**	**+0.5**
STHS				*e*Sg		**Sg**	**09 55 43.6**	**+2.4**
VRAC	**Vranov**	**2.59**	**221**	*e*Pn		**Pn**	**09 55 12.5**	**+1.4**
	SNR=8.2							
VRAC				*e*Sg		**Sb**	**09 55 49.6**	**+1.9**
VRAC	**Vranov**	**2.59**	**221**	⇑*i*P		**Pn**	**09 55 12.6**	**+1.4**
VRAC	**Vranov**	**2.59**	**221**	S		**Sb**	**09 55 48.3**	**+0.6**
VRAC	**Vranov**	**2.59**	**221**	*e*Pn		**Pn**	**09 55 11.5**	**+0.4**
	baz=39							
VRAC	**Vranov**	**2.59**	**221**	⇑*i*P		**Pn**	**09 55 12.6**	**+1.4**
VRAC				Sg		**Sb**	**09 55 49.6**	**+1.9**
VRAC	**Vranov**	**2.59**	**221**	Pn		**Pn**	**09 55 12.4**	**+1.4**
	1.4nm,0.3s,baz=55,slow=15,SNR=3.6							
VRAC				Pg		**Pg**	**09 55 17.4**	**-0.2**
	4.6nm,0.3s,baz=45,slow=14,SNR=20							
VRAC				Sn		**Sn**	**09 55 41.3**	**-2.0**
	5.1nm,0.3s,baz=47,slow=9.8,SNR=5.2							
VRAC				Lg		Lg	09 55 48.9	
	19nm,0.3s,baz=119,slow=17,SNR=13							
JAVC	**Velka Javorina**	**2.62**	**203**	*e*Pn		**Pn**	**09 55 14.2**	**+2.6**
	SNR=1.5							
KRUC	**Moravsky**	**2.87**	**220**	*e*Pn		**Pn**	**09 55 15.6**	**+0.7**
	SNR=3.1							
KRUC				*e*Sg		**Sb**	**09 55 57.0**	**+1.5**
KRUC	**Moravsky**	**2.87**	**220**	Pn		**Pn**	**09 55 15.6**	**+0.7**
	SNR=3.1							
KRUC				Sg		**Sb**	**09 55 57.0**	**+1.5**
KECS	**Kecovo**	**2.93**	**163**	*e*PN		**Pn**	**09 55 16.9**	**+1.2**
KECS				*e*			09 55 27.1	
KECS	**Kecovo**	**2.93**	**163**	*e*SN		**Sn**	**09 55 49.2**	**-2.3**
KECS				*e*SG		**Sg**	**09 56 03.8**	**+1.9**
KECS	**Kecovo**	**2.93**	**163**	*e*Pn		**Pn**	**09 55 16.9**	**+1.2**
KECS				*e*Sn		**Sn**	**09 55 49.2**	**-2.3**
KECS				*e*Sg		**Sg**	**09 56 03.8**	**+1.9**
PVCC	**Panska Ves**	**3.03**	**257**	*e*SG		**Sg**	**09 56 05.3**	**+0.1**
	comp=Z,60nm,0.5s							
PVCC	**Panska Ves**	**3.03**	**257**	Sg		**Sg**	**09 56 05.3**	**+0.1**
	60nm,0.5s							
KOLS	**Kolonicke sedl**	**3.08**	**139**	*e*PN		**Pb**	**09 55 25.0**	**+1.5**
KOLS				*e*SN		**Sn**	**09 55 53.0**	**-2.2**
TREC	**Trest**	**3.11**	**231**	*e*SG		**Sg**	**09 56 05.6**	**-2.1**
	comp=Z,22nm,0.5s							
TREC	**Trest**	**3.11**	**231**	Sg		**Sg**	**09 56 05.6**	**-2.1**
	22nm,0.5s							
PRU	**Pruhonice**	**3.24**	**248**	*e*Pn		**Pn**	**09 55 20.7**	**+0.8**
	SNR=2.0							
PRU	**Pruhonice**	**3.24**	**248**	*e*SG		**Sg**	**09 56 10.3**	**-1.6**
	comp=Z,17nm,0.6s							
PRU	**Pruhonice**	**3.24**	**248**	Pn		**Pn**	**09 55 20.7**	**+0.8**
	SNR=2.0							
PRU				Sg		**Sg**	**09 56 10.3**	**-1.6**
	17nm,0.6s							
BRG	**Berggiesshubel**	**3.34**	**265**	PN		**Pb**	**09 55 26.7**	**-1.3**
BRG				PG		**Pg**	**09 55 32.8**	**+0.9**
BRG				SG		**Sg**	**09 56 15.6**	**+0.4**
	20nm,0.4s							
BRG	**Berggiesshubel**	**3.34**	**265**	*e*Sg		**Sg**	**09 56 16.0**	**+0.8**
BRG	**Berggiesshubel**	**3.34**	**265**	Sg		**Sg**	**09 56 16.0**	**+0.8**
CLL	**Collm**	**3.89**	**273**	*e*Pg		**Pg**	**09 55 43.0**	**+0.6**
CLL				*e*Sg		**Sg**	**09 56 36.0**	**+3.2**
	comp=Z,21nm,1.2s							
CONA	**Conrad Observa**	**4.00**	**214**	⇑*i*Pn		**Pn**	**09 55 31.3**	**+0.7**
CONA				⇑*i*Sn		**Sn**	**09 56 16.2**	**-2.0**
CONA	**Conrad Observa**	**4.00**	**214**	Pn		**Pn**	**09 55 31.3**	**+0.7**
CONA				Sn		**Sn**	**09 56 16.2**	**-2.0**
KHC	**Kasperske Hory**	**4.21**	**241**	*e*Pn		**Pn**	**09 55 33.9**	**+0.6**
	SNR=2.1							
KHC	**Kasperske Hory**	**4.21**	**241**	*e*PN		**Pn**	**09 55 32.5**	**-0.8**
KHC				*e*PG		**Pg**	**09 55 51.0**	**+2.5**
KHC				*e*SG		**Sg**	**09 56 40.6**	**-2.4**
	comp=Z,16nm,0.4s							
KHC	**Kasperske Hory**	**4.21**	**241**	Pn		**Pn**	**09 55 32.5**	**-0.8**
KHC				Sg		**Sg**	**09 56 40.6**	**-2.4**
	comp=Z,16nm,0.4s							
GERES	**GERESS Array B**	**4.31**	**238**	Pn		**Pn**	**09 55 35.4**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=50,slow=14,SNR=8.7							
GERES				Pg		**Pg**	**09 55 52.9**	**+2.5**
	comp=Z,1.4nm,0.3s,baz=45,slow=15,SNR=9.9							
GERES				Sn		**Sn**	**09 56 25.1**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=49,slow=22,SNR=4.5							
GERES				Lg		Lg	09 56 43.4	
	comp=Z,3.5nm,0.3s,baz=55,slow=26,SNR=8.3							
TANN	**Tannenbergstha**	**4.36**	**261**	*e*Sg		**Sg**	**09 56 49.3**	**+1.4**
TANN	**Tannenbergstha**	**4.36**	**261**	Sg		**Sg**	**09 56 49.3**	**+1.4**
MOA	**Molln**	**4.71**	**225**	⇑*i*Pn		**Pn**	**09 55 40.6**	**+0.4**
MOA				⇓*i*Sn		**Sn**	**09 56 32.6**	**-2.9**
	comp=Z,8.7nm,0.5s							
MOA				⇑*i*Sg		**Sg**	**09 56 56.9**	**-2.2**
	comp=Z,10nm,0.4s							
MOA	**Molln**	**4.71**	**225**	Pn		**Pn**	**09 55 40.6**	**+0.4**
MOA				Sn		**Sn**	**09 56 32.6**	**-2.9**
	comp=Z,8.7nm,0.5s							
MOA				Sg		**Sg**	**09 56 56.9**	**-2.2**
	comp=Z,10nm,0.4s							
DRGR		**5.06**	**152**	⇑*i*P		**Pn**	**09 55 45.7**	**+0.7**
DRGR		**5.06**	**152**	S		**Sn**	**09 56 41.1**	**-3.0**
DRGR		**5.06**	**152**	⇑*i*P		**Pn**	**09 55 45.7**	**+0.7**
DRGR				S		**Sn**	**09 56 41.1**	**-3.0**
AKASG	**Malin Array Be**	**6.35**	**91**	Pg		**Pb**	**09 56 17.6**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=277,slow=13,SNR=2.8							
AKASG				Lg		Lg	09 57 45.7	
	comp=Z,1.4nm,0.3s,baz=276,slow=28,SNR=5.3							
DAVOX	**Davos/Dischmat**	**7.61**	**237**	Lg		Lg	09 58 31.1	
	comp=Z,0.5nm,0.3s,baz=222,slow=13,SNR=4.2							
HFS	**Hagfors**	**9.39**	**343**	Pn		**Pn**	**09 56 44.2**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=150,slow=12,SNR=19							
NOA	**NORSAR Array B**	**10.73**	**339**	Pn		Pn	09 57 00.2	-2.5
	comp=Z,0.4nm,0.3s,baz=162,slow=12,SNR=7.1							
FINES	**FINESS Array B**	**10.86**	**18**	Pn		**Pn**	**09 57 03.5**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=209,slow=11,SNR=7.3							
EKA	**Eskdalemuir Ar**	**13.95**	**296**	Pn		**Pn**	**09 57 44.6**	**-1.9**
	baz=102,slow=13,SNR=3.2							
ARCES	**ARCESS Array B**	**18.55**	**7**	Pn		**P**	**09 58 42.7**	**-3.1**
	comp=Z,0.2nm,0.3s,baz=191,slow=14,SNR=7.5							
TORD	**Torodi Ar. Bea**	**40.60**	**207**	P		**P**	**10 02 09.9**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=14,slow=9.8,SNR=2.3							

IDC ***02*** *09:57:11.9±0.4, 5°.98S×151°.42E, h0km, mb4.7/25, mb1 4.8/28, mb1mx4.8/29, mbtmp4.7/28, ML4.1/3, MS4.3/13, Ms1 4.3/13, ms1mx4.1/26, Error ellipse: s-maj=13.2km s-min=9.0km az=115.0*
ISCJB ***02*** *09:57:13.0±1.4, 6°.05S±0°.03×151°.41E±0°.04, h15km±10km, mb5.1/104, MS4.4/28, Error ellipse: s-maj=6.4km s-min=5.2km az=35.3*
MOS ***02*** *09:57:15.4±1.2, 5°.99S×151°.31E, h33km, mb5.4/23, Error ellipse: s-maj=11.2km s-min=7.3km az=88.2*
NEIC ***02*** *09:57:16.3±0.2, 6°.03S×151°.37E, mb5.4/48, Error ellipse: s-maj=8.1km s-min=6.1km az=106.0*
AUST ***02*** *09:57:17.6±1.1, 6°.15S×151°.65E, h45km±13km, Error ellipse: s-maj=13.6km s-min=9.8km az=81.0*
BJI ***02*** *09:57:17.4, 6°.10S×151°.40E, h49km, mB5.2/35, mb4.9/44, Ms4.9/36, MS7 4.5/38*
GCMT ***02*** *09:57:18.3±0.2, 6°.37S×151°.64E, h22km±1km, MW5.1, Moment Tensor Solution. s47,c60; s69,c101; Moment tensor: Scale 10^16 Nm; Mrr2.80±.20; Mθθ-3.48±.13; Mφφ0.68±.13; Mrθ2.97±.25; Mrφ-1.20±.11; Mθφ1.38±.31; Best double couple: M0 5.10000×10^16 NP1:φs56.00000°, δ71.00000°, λ73.00000°. NP2:φs279.00000°, δ26.00000°, λ131.00000°. Principal axes: T 4.8200, Plg60.0000°, Azm300.0000°; N 0.5400, Plg16.0000°, Azm61.0000°; P -5.3600, Plg24.0000°, Azm159.0000°; Data Used: II IU IC G CN.*
DJA ***02*** *09:57:29.6±0.8, 7°.5S×15°.1E±°, h103km±8km, M5.3/25, mB5.7/6, mb5.1/25, MLv5.5/1, Mw(mB)5.3/6*
ISC 02 09:57:18.0±0.3,**6°.10S**±0°.04×**151°.56E**±0°.04,**h42**km±1**km,** h**42**km:**pP-P,n383,** σ1§**97**/454,**mb5.2**/103,**MS4.4**/29,
10C-14D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.99**	**18**	⇑P		**Pn**	**09 57 47.4**	**-1.8**
	baz=2.0,SNR=140							
PMG	**Port Moresby**	**5.46**	**233**	P		**Pn**	**09 58 37.5**	**+0.6**
PMG	**Port Moresby**	**5.46**	**233**	*e*Pn		**Pn**	**09 58 36.8**	**-0.2**
PMG				*e*Sn		**Sn**	**09 59 38.6**	**+0.1**
PMG	**Port Moresby**	**5.46**	**233**	Pn		**Pn**	**09 58 34.8**	**-2.2**
	29nm,0.3s,baz=50,slow=9.0,SNR=85							
PMG				Sn		**Sn**	**09 59 36.4**	**-2.1**
	18nm,0.3s,baz=120,slow=16,SNR=5.0							
MANU	**Manus Island**	**5.80**	**314**	⇓P		Pn	09 58 45.6	+3.9
	baz=5.9,SNR=6.9							
HNR	**Honiara**	**8.95**	**112**	Pn		**Pn**	**09 59 24.6**	**-0.2**
HNR	**Honiara**	**8.95**	**112**	Pn		**Pn**	**09 59 24.6**	**-0.2**
	11nm,0.3s,baz=270,slow=20,SNR=4.3							
COEN	**Coen**	**11.36**	**226**	*e*Pn		**Pn**	**09 59 56.7**	**-1.2**
COEN	**Coen**	**11.36**	**226**	⇓P		**Pn**	**09 59 57.2**	**-0.7**
	baz=11,SNR=11							
CTA	**Charters Tower**	**14.83**	**200**	Pn		**Pn**	**10 00 43.4**	**-1.7**
CTA	**Charters Tower**	**14.83**	**200**	Pn		**Pn**	**10 00 43.4**	**-1.7**
	0.2nm,0.3s,baz=21,slow=15,SNR=12							
CTAO	**Charters Tower**	**14.83**	**200**	*e*P		**Pn**	**10 00 44.0**	**-1.1**
CTAO	**Charters Tower**	**14.83**	**200**	*e*Pn		**Pn**	**10 00 44.0**	**-1.1**
TLE	**Tual**	**18.73**	**270**	P		**Pn**	**10 01 37.8**	**+3.7**
	117nm,1.4s							
EIDS	**Eidsvold**	**19.17**	**181**	*e*P		**P**	**10 01 37.8**	**-0.4**
	129nm,1.4s							
EIDS	**Eidsvold**	**19.17**	**181**	P		**P**	**10 01 38.4**	**+0.3**
	baz=19,SNR=10							
FAKI	**Fak Fak**	**19.50**	**278**	P		Pn	10 01 54.1	+11
KDU	**Kakadu**	**19.93**	**249**	⇓P		**P**	**10 01 46.7**	**+0.1**
	baz=20,SNR=19							
RMQ	**Roma**	**20.45**	**187**	⇓P		**P**	**10 01 53.1**	**+1.0**
	baz=20,SNR=69							
GUMO	**Guam**	**20.65**	**341**	*e*P		**P**	**10 01 53.8**	**-0.6**
	106nm,0.7s							
DZM	**Mont Dzumac**	**21.43**	**139**	*e*P		**P**	**10 02 02.7**	**-0.1**
	134nm,1.5s							
DZM	**Mont Dzumac**	**21.43**	**139**	P		**P**	**10 02 03.0**	**+0.2**
	20nm,1.0s,baz=339,slow=15,SNR=7.7							
DZM				LR		LR	10 08 50.1	
	comp=Z,2μm,19.8s,baz=15,slow=32							
QLP	**Quilpie**	**21.54**	**198**	P		**P**	**10 02 03.9**	**+0.1**
	baz=22,SNR=63							
BNDI	**Bandanaira**	**21.62**	**273**	P		P	10 02 09.7	+4.9
	196nm,1.8s,5μm							
PALU	**Palau**	**21.65**	**308**	P		**P**	**10 02 05.0**	**-0.2**
	baz=22,SNR=11							
WRAB	**Tennant Creek**	**21.65**	**229**	P		**P**	**10 02 04.0**	**-1.1**
	430nm,1.2s,SNR=31							
WRA	**Warramunga Arr**	**21.67**	**229**	P		**P**	**10 02 04.4**	**-0.9**
WRA				S		**S**	**10 06 01.6**	**-1.5**
WRA				ScP		**ScP**	**10 09 43.5**	**+3.8**
WRA	**Warramunga Arr**	**21.67**	**229**	P		**P**	**10 02 04.4**	**-0.9**
	49nm,1.0s,baz=52,slow=10.0,SNR=55							
WRA				S		**S**	**10 06 01.6**	**-1.5**
	9.7nm,1.0s,baz=51,slow=18,SNR=8.1							
WRA				ScP		**ScP**	**10 09 43.5**	**+3.8**
	4.3nm,1.0s,baz=45,slow=2.5,SNR=6.1							
TARA	**Tarawa**	**22.58**	**72**	*e*P		**P**	**10 02 17.1**	**+2.0**
	148nm,1.2s							
ARMA	**Armidale**	**24.20**	**180**	*e*P		**P**	**10 02 30.7**	**-0.2**
	162nm,1.8s							
ARMA	**Armidale**	**24.20**	**180**	⇑P		**P**	**10 02 30.6**	**-0.2**
	baz=24,SNR=5.2							
KNRA	**Kununurra**	**24.30**	**245**	P		**P**	**10 02 30.8**	**-1.0**
	baz=24,SNR=20							
AS31	**Alice Springs**	**24.36**	**222**	*e*P		**P**	**10 02 32.1**	**-0.4**
ASAR	**Alice Springs**	**24.36**	**222**	P		**P**	**10 02 32.1**	**-0.3**
ASAR				S		S	10 06 58.7	+9.4
ASAR				ScP		**ScP**	**10 09 52.8**	**+5.9**
ASAR	**Alice Springs**	**24.36**	**222**	P		**P**	**10 02 32.1**	**-0.3**
	59nm,0.8s,baz=54,slow=9.2,SNR=344							
ASAR				S		S	10 06 58.7	+9.4
	12nm,1.2s,baz=33,slow=20,SNR=5.8							
ASAR				ScP		**ScP**	**10 09 52.8**	**+5.9**
	4.0nm,1.0s,baz=62,slow=2.5,SNR=8.3							
CMSA	**Cobar Meteorol**	**25.90**	**192**	P		**P**	**10 02 45.1**	**-1.1**
	baz=26,SNR=35							
SOEI	**Soe**	**27.27**	**261**	P		P	10 03 04.8	+5.9
STKA	**Stephens Creek**	**27.29**	**199**	*e*P		**P**	**10 02 57.2**	**-1.5**
	12nm,1.0s							
STKA	**Stephens Creek**	**27.29**	**199**	P		**P**	**10 02 57.5**	**-1.2**
	baz=27,SNR=32							
STKA	**Stephens Creek**	**27.29**	**199**	P		**P**	**10 02 59.6**	**+0.9**
	33nm,0.9s,baz=10,slow=10,SNR=36							
STKA				LR		LR	10 13 43.1	
	comp=Z,581nm,19.1s,baz=158,slow=36							
BATI	**Baumata**	**27.91**	**260**	P		**P**	**10 03 03.8**	**-0.8**
BATI	**Baumata**	**27.91**	**260**	P		**P**	**10 03 03.8**	**-0.8**
	49nm,0.8s,baz=9.2,slow=1.1,SNR=6.6							
FITZ	**Fitzroy Crossi**	**27.96**	**242**	*e*P		**P**	**10 03 03.9**	**-1.1**
	76nm,1.3s							
FITZ	**Fitzroy Crossi**	**27.96**	**242**	P		**P**	**10 03 03.8**	**-1.1**
	baz=28,SNR=32							
FITZ	**Fitzroy Crossi**	**27.96**	**242**	P		**P**	**10 03 03.8**	**-1.1**
	16nm,0.6s,baz=74,slow=6.9,SNR=51							
MMRI	**Maumere**	**29.18**	**263**	*e*P		**P**	**10 03 14.2**	**-1.6**
BBOO	**Buckleboo**	**30.25**	**207**	*e*P		**P**	**10 03 23.0**	**-2.1**
	3μm,1.8s							
BBOO	**Buckleboo**	**30.25**	**207**	P		**P**	**10 03 24.2**	**-0.9**
	baz=30,SNR=5.3							
KAPI	**Kappang**	**31.67**	**270**	P		**P**	**10 03 38.8**	**+0.9**
KAPI	**Kappang**	**31.67**	**270**	P		**P**	**10 03 38.8**	**+0.9**
	11nm,0.8s,baz=71,slow=9.4,SNR=3.8							
ARPS	**Mount Arapiles**	**31.80**	**195**	⇓P		**P**	**10 03 38.6**	**-0.1**
	baz=32,SNR=8.8							
FORT	**Forrest**	**33.01**	**219**	*e*P		**P**	**10 03 48.5**	**-0.9**
	40nm,0.8s							
FORT	**Forrest**	**33.01**	**219**	⇓P		**P**	**10 03 48.5**	**-0.9**
	baz=33,SNR=16							
MBWA	**Marble Bar**	**34.26**	**241**	*e*P		**P**	**10 04 02.9**	**+2.5**
	230nm,2.0s							
MTNI	**Mataram**	**35.18**	**264**	P		**P**	**10 04 07.3**	**-1.1**
	113nm,1.0s							
OUZ	**Omahuta**	**35.39**	**148**	*e*P		**P**	**10 04 11.6**	**+1.7**
	678nm,2.8s							
RAO	**Raoul Island**	**36.88**	**132**	LR		LR	10 17 23.9	
	comp=Z,391nm,18.6s,baz=297,slow=33							
MEEK	**Meekatharra**	**37.44**	**233**	P		**P**	**10 04 26.8**	**-0.8**
	baz=38,SNR=16							
PIP	**Pasuquin**	**38.99**	**309**	⇓*i*P		sP	10 04 58.9	+1.7
PWJI	**Pagerwojo**	**39.49**	**265**	P		**P**	**10 04 44.0**	**-0.9**
	136nm,1.4s							
URZ	**Urewera**	**39.53**	**148**	P		**P**	**10 04 45.7**	**+0.8**
URZ	**Urewera**	**39.53**	**148**	P		**P**	**10 04 45.7**	**+0.8**
	12nm,1.0s,baz=3.4,slow=5.7,SNR=3.8							
URZ				LR		LR	10 17 44.7	
	comp=Z,269nm,21.2s,baz=134,slow=31							
PCJI	**Pacitan**	**40.11**	**265**	P		**P**	**10 04 48.7**	**-1.4**
	277nm,1.6s,6μm							
KLBR	**Kellerberrin**	**40.52**	**227**	⇓P		**P**	**10 04 52.6**	**-0.7**
	baz=41,SNR=4.2							
MORW	**Morawa**	**40.58**	**231**	⇓P		**P**	**10 04 53.2**	**-0.6**
	baz=41,SNR=5.8							
RPZ	**Rata Peaks**	**41.21**	**158**	P		**P**	**10 04 59.6**	**+0.8**
RPZ	**Rata Peaks**	**41.21**	**158**	P		**P**	**10 04 59.6**	**+0.8**
	18nm,0.8s,baz=146,slow=6.2,SNR=4.0							
RPZ				LR		LR	10 18 51.9	
	comp=Z,1μm,19.0s,baz=279,slow=31							
YULB	**Yu-li**	**41.62**	**316**	*e*P		**P**	**10 05 01.1**	**-1.4**
	91nm,1.4s							
NACB	**Ninganchiao**	**41.94**	**317**	*e*P		**P**	**10 05 03.8**	**-1.2**
	454nm,2.2s							
TPUB	**Ta-pu**	**42.03**	**315**	*e*P		**P**	**10 05 04.3**	**-1.5**
	78nm,1.3s							
SSLB	**Suanglung**	**42.12**	**316**	*e*P		**P**	**10 05 06.4**	**-0.1**
	111nm,1.6s							
SSLB				*e*pP		**pP**	**10 05 15.6**	**-2.6**
SSLB				*e*sP		**sP**	**10 05 20.1**	**-3.0**
KPJI	**Karang Pucung**	**42.34**	**266**	P		**P**	**10 05 09.1**	**+0.6**
	128nm,1.2s							
YHNB	**Yeheng**	**42.41**	**317**	*e*P		P	10 05 05.7	-3.2
	246nm,1.5s							
CISI	**Cisompet, Garu**	**43.44**	**265**	P		**P**	**10 05 17.2**	**-0.3**
	199nm,1.5s,3μm							
JNU	**Nakatsue**	**43.67**	**335**	P		**P**	**10 05 17.8**	**-1.1**
JNU	**Nakatsue**	**43.67**	**335**	P		**P**	**10 05 17.8**	**-1.1**
	15nm,1.1s,baz=176,slow=13,SNR=2.5							
MJAR	**Matsushiro Arr**	**44.22**	**345**	P		**P**	**10 05 22.1**	**-1.1**
MJAR				ScP		**ScP**	**10 10 59.0**	**+

comp=Z,300nm,12.0s
CN2 LR LR
comp=Z,400nm,15.0s
NANT Nan 55.88 297 P **P** 10 06 54.7 +2.6
comp=Z,30nm,0.6s,comp=Z,1µm
HABR Khabarovsk 56.24 347 *ce*P **P** **10 06 51.9 -2.1**
HABR *e**PP **pP** **10 07 07.8 +1.8**
HABR *e*PPP PPP 10 10 13.1
HABR *e* 10 16 35.6
HABR *e*SS **SS** **10 18 27.1 -1.0**
HABR pmax pmax
comp=Z,26nm,1.5s
HABR pmax pmax
comp=E,46nm,2.1s
HABR pmax pmax
comp=N,21nm,2.2s
HABR MLR MLR
comp=Z,243nm,18.0s
CRAI Chiangrai 56.70 299 P **P** **10 06 59.6 +1.7**
comp=Z,9.6nm,1.0s
KMI Kunming 56.70 305 P **P** **10 06 58.7 +0.6**
KMI pP **pP** **10 07 10.1 0.0**
KMI sP **sP** **10 07 14.4 -0.6**
KMI PP **PP** **10 09 05.5 +0.9**
KMI S **S** **10 14 50.3 +2.1**
KMI sS **sS** **10 15 10.2 +2.0**
KMI AMB AMB
comp=Z,15nm,1.0s
KMI AMB AMB
comp=Z,180nm,5.7s
KMI LR LR
comp=Z,180nm,20.5s
KMI LR LR
comp=Z,230nm,19.0s
KMI LR LR
comp=Z,240nm,19.5s
XAN Xi'an 56.72 318 P **P** **10 06 55.7 -2.1**
XAN pP **pP** **10 07 09.0 -0.9**
XAN PP **PP** **10 09 03.0 -1.4**
XAN S S 10 14 40.5 -7.3
XAN sS **sS** **10 15 02.7 -5.2**
XAN SS SS 10 18 28.7 -7.7
XAN AMB AMB
comp=Z,3.0nm,0.8s
XAN AMB AMB
comp=Z,33nm,5.8s
XAN LR LR
comp=Z,160nm,16.5s
XAN LR LR
comp=Z,82nm,14.3s
XAN LR LR
comp=Z,81nm,15.0s
PAYA Payao 56.82 298 P P 10 07 07.8 +9.1
comp=Z,4.4nm,1.1s
CMAR Chiang Mai Arr 57.32 296 P **P** **10 07 01.7 -0.6**
CMAR Chiang Mai Arr 57.32 296 P **P** **10 07 01.7 -0.6**
comp=Z,1.1nm,0.3s,baz=119,slow=6.5,SNR=6.0
CHTO Chiang Mai 57.44 297 *e*P **P** **10 07 04.5 +1.3**
CHTO pmax pmax
comp=Z,56nm,1.3s
CHTO Chiang Mai 57.44 297 *e*P **P** **10 07 04.5 +1.3**
comp=Z,56nm,1.3s
CHTO Chiang Mai 57.44 297 P **P** **10 07 05.4 +2.2**
comp=Z,37nm,1.3s
KLR Kul'dur 57.75 345 *e*P P 10 07 00.0 -4.7
KLR *e* 10 08 02.0
CD2 Chengdu 58.65 312 pP **pP** **10 07 23.5 -0.1**
CD2 sP sP 10 07 29.1 +0.7
CD2 PP **PP** **10 09 22.0 +0.3**
CD2 S **S** **10 15 09.5 -3.8**
CD2 sS sS 10 15 32.0 -1.4
CD2 SS **SS** **10 19 04.6 -2.3**
CD2 AMB AMB
comp=Z,20nm,0.8s
CD2 AMB AMB
comp=Z,210nm,6.7s
CD2 LR LR
comp=Z,410nm,11.9s
CD2 LR LR
comp=Z,380nm,19.0s
PET Petropavlovsk 59.20 5 *e*P P 10 07 02.7 -12
PET *e*S S 10 15 11.6 -7.8
PET *e*SS **SS** **10 19 12.1 -2.5**
PET pmax pmax
comp=Z,100nm,15.9s
PETK Petropavlovsk- 59.21 4 P **P** **10 07 13.4 -1.4**
PETK Petropavlovsk- 59.21 4 P **P** **10 07 13.4 -1.4**
PETK Petropavlovsk- 59.21 4 P **P** **10 07 13.4 -1.4**
comp=Z,3.6nm,0.6s,baz=182,slow=8.8,SNR=4.8
PETK LR LR 10 31 46.4
comp=Z,133nm,18.9s,baz=8.3,slow=35
HHC Hu-ho-hao-te 59.39 325 *e*P **P** **10 07 16.6 +0.1**
HHC pP **pP** **10 07 28.7 +0.1**
HHC PP **PP** **10 09 28.3 +0.2**
HHC PcS **PcS** **10 12 01.6 -4.5**
HHC S **S** **10 15 18.0 -4.6**
HHC sS **sS** **10 15 41.0 -1.7**
HHC ScS **ScS** **10 16 59.0 -4.5**
HHC SS **SS** **10 19 17.8 -0.5**
HHC AMB AMB
comp=Z,48nm,1.0s
HHC AMB AMB
comp=Z,330nm,6.1s
HHC LR LR
comp=Z,400nm,15.5s
HHC LR LR
comp=Z,460nm,16.3s
HHC LR LR
comp=Z,520nm,17.4s
LZH Lanzhou 61.31 317 *e*P **P** **10 07 31.0 +1.3**
LZH pP **pP** **10 07 42.3 +0.4**
LZH sP **sP** **10 07 48.7 +2.0**
LZH S **S** **10 15 48.1 +0.6**
LZH sS **sS** **10 16 09.6 +1.9**
LZH SS **SS** **10 19 49.1 +0.4**
LZH AMB AMB
comp=Z,37nm,1.1s
LZH AMB AMB
comp=Z,170nm,6.2s
LZH LR LR
comp=Z,280nm,14.2s
LZH LR LR
comp=Z,320nm,14.4s
LZH LR LR
comp=Z,480nm,15.6s
FX1 Attu Island--F 61.55 15 LR LR 10 34 41.3
comp=Z,108nm,18.5s,baz=54,slow=37
GTA Gaotai 65.78 318 *e*P **P** **10 07 58.8 -0.4**
GTA S **S** **10 16 47.6 +4.7**
GTA SS **SS** **10 20 59.6 +1.3**
GTA AMB AMB
comp=Z,2.0nm,0.8s
GTA AMB AMB
comp=Z,180nm,5.2s
GTA LR LR
comp=Z,140nm,15.2s
GTA LR LR
comp=Z,160nm,15.7s
GTA LR LR
comp=Z,260nm,15.4s
SHL Shillong 65.91 301 *e*P **P** **10 08 00.0 -0.3**
ULN Ulaanbaatar 66.45 329 *e*P **P** **10 08 02.8 -0.5**
comp=Z,4.6nm,0.6s
ULN *ep*P **pP** **10 08 13.3 -2.4**
SONM Songino Array 66.77 329 P **P** **10 08 04.6 -0.8**
SONM Songino Array 66.77 329 P **P** **10 08 04.6 -0.8**
comp=Z,7.2nm,1.0s,baz=131,slow=5.6,SNR=21
SEY Seymchan 68.83 0 ⇓*e*P **P** **10 08 19.6 +1.8**
ZAK Zakamensk 69.96 329 *e*P **P** **10 08 23.3 -1.9**
ZAK pmax pmax
comp=Z,12nm,1.5s
TAPN Taplejung 70.02 302 *e*P **P** **10 08 25.1 -1.2**
comp=Z,30nm,1.0s
ODAN Odare 70.14 301 *e*P **P** **10 08 25.6 -1.4**
comp=Z,40nm,0.9s
TLY Talaya 70.58 331 *e*P **P** **10 08 28.6 -0.3**
TLY *e*S **S** **10 17 35.8 -3.8**
TLY *e* 10 18 30.1
TLY pmax pmax
comp=Z,11nm,1.4s
TLY MLR MLR
comp=Z,143nm,14.0s
RAMN Ramite 70.84 301 *e*P **P** **10 08 29.8 -1.5**
JIRN Jiri 71.40 302 *e*P **P** **10 08 33.6 -1.2**
VNDA Vanda 71.59 178 P **P** **10 08 35.0 +0.4**
comp=Z,7.2nm,0.9s,baz=335,slow=7.3,SNR=19
VNDA LR LR 10 39 34.1
comp=Z,183nm,18.3s,baz=343,slow=35
GUN Gumba 71.74 302 *e*P **P** **10 08 35.6 -1.2**
comp=Z,38nm,0.8s
MOY Mondy 71.89 330 *e*P **P** **10 08 36.5 -0.4**
PKI Pulchoki 72.04 301 *e*P **P** **10 08 36.8 -1.8**
SBA Scott Base 72.16 177 *e*P **P** **10 08 39.5 +1.5**
SBA pmax pmax
comp=Z,71nm,1.6s
SBA Scott Base 72.16 177 *e*P **P** **10 08 39.5 +1.5**
comp=Z,71nm,1.6s
KKN Kakani 72.21 302 *e*P **P** **10 08 38.2 -1.3**
DMN Daman 72.31 301 *e*P **P** **10 08 38.9 -1.2**
comp=Z,53nm,1.0s
GKN Gorkha 72.82 302 *e*P **P** **10 08 41.5 -1.5**
comp=Z,30nm,0.8s
KOLN Koldanda 73.63 301 *e*P **P** **10 08 46.3 -1.6**
comp=Z,31nm,0.7s
DANN Dangsing 73.66 302 *e*P **P** **10 08 46.3 -1.8**
comp=Z,22nm,0.8s
CHGN Chignik 74.42 26 *e*P **P** **10 08 51.3 -0.2**
CHGN *ep*P **pP** **10 09 01.8 -2.3**
HVS Khovu-Aksy 75.44 327 ⇓*i*P **P** **10 08 57.1 -0.6**
HVS pmax pmax
comp=Z,50nm,1.5s
WMQ Urumqi 75.86 318 P **P** **10 09 02.1 +1.8**
WMQ pP **pP** **10 09 15.2 +2.4**
WMQ sP **sP** **10 09 20.5 +3.0**
WMQ PP **PP** **10 11 54.4 +3.4**
WMQ S **S** **10 18 39.4 -0.4**
WMQ sS **sS** **10 19 01.7 +1.1**
WMQ SS **SS** **10 23 34.7 +1.8**
WMQ AMB AMB
comp=Z,11nm,0.8s
WMQ AMB AMB
comp=Z,170nm,4.6s
WMQ LR LR
comp=Z,170nm,5.8s
WMQ LR LR
comp=Z,150nm,5.2s
WMQ LR LR
comp=Z,89nm,23.6s
OHAK Old Harbor 77.26 27 *e*P **P** **10 09 08.3 +0.5**
comp=Z,37nm,0.8s
OHAK *ep*P **PcP** **10 09 19.0 +0.7**
SEW Seward 80.48 26 *e*P **P** **10 09 25.8 +0.4**
comp=Z,33nm,0.8s
SEW *ep*P **pP** **10 09 36.8 -1.1**
MK31 Makanchi Array 80.49 319 *ce*P **P** **10 09 24.3 -1.5**
MK31 pmax pmax
comp=Z,2.0nm,0.5s
MK31 Makanchi Array 80.49 319 *e*P **P** **10 09 24.3 -1.5**
MKAR Makanchi Array 80.49 319 P **P** **10 09 24.5 -1.3**
MKAR Makanchi Array 80.49 319 P **P** **10 09 24.5 -1.3**
MKAR Makanchi Array 80.49 319 P **P** **10 09 24.5 -1.3**
comp=Z,3.2nm,0.9s,baz=103,slow=5.5,SNR=16
MKAR LR LR 10 46 32.7
comp=Z,130nm,18.3s,baz=259,slow=37
PPLA Purkeypile 80.84 23 *e*P **P** **10 09 27.7 +0.2**
comp=Z,134nm,1.7s
PPLA *ep*P **pP** **10 09 37.5 -2.5**
PMR Palmer 81.37 25 *e*P **P** **10 09 30.0 -0.1**
PMR *e**PP **pP** **10 09 40.3 -2.4**
PMR pmax pmax
comp=Z,84nm,1.6s
PMR Palmer 81.37 25 *e*P **P** **10 09 30.0 -0.1**
comp=Z,84nm,1.6s
PMR *ep*P **pP** **10 09 40.3 -2.4**
ZAA0 Zalesovo Array 81.54 327 *e*P **P** **10 09 28.8 -2.4**
ZAA0 *ep*P **PcP** **10 09 37.6 +0.6**
ZAA0 *es*P sP 10 09 41.7 -6.8
ZALV Zalesovo Beam 81.54 327 P **P** **10 09 28.9 -2.3**
ZALV Zalesovo Beam 81.54 327 P **P** **10 09 28.9 -2.3**
ZALV Zalesovo Beam 81.54 327 P **P** **10 09 28.9 -2.3**
comp=Z,2.7nm,0.6s,baz=112,slow=6.7,SNR=9.3
ZALV LR LR 10 49 07.2
comp=Z,172nm,18.3s,baz=69,slow=38
TRF Thorofare Moun 81.86 23 *e*P **P** **10 09 31.6 -1.3**
comp=Z,14nm,0.8s
TRF *ep*P **PcP** **10 09 41.0 +2.5**
BPAW Bear Paw Mtn. 81.94 22 *e*P **P** **10 09 32.7 -0.5**
comp=Z,41nm,1.4s
BPAW *ep*P **pP** **10 09 42.9 -2.8**
IM04 Indian Mountai 82.00 20 *e*P **P** **10 09 33.2 -0.2**
IM04 *ep*P **pP** **10 09 43.3 -2.7**
IMA2 Indian Mountai 82.08 20 *e*P **P** **10 09 33.6 -0.4**
IMA2 *ep*P **pP** **10 09 43.7 -2.8**
MCK McKinley 82.53 23 *e*P **P** **10 09 35.5 -0.7**
MCK pmax pmax
comp=Z,52nm,0.9s
MCK McKinley 82.53 23 *e*P **P** **10 09 35.5 -0.7**
comp=Z,52nm,0.9s
DIV Divide 82.57 26 *e*P **P** **10 09 37.4 +0.8**
comp=Z,125nm,1.6s
DIV *ep*P **pP** **10 09 46.9 -2.2**
NVS Novosibirsk 82.74 327 *e*P **P** **10 09 35.1 -2.3**
NVS pmax pmax
comp=Z,26nm,1.7s
NVS pmax pmax
comp=N,10.0nm,1.6s
NVS pmax pmax
comp=E,17nm,1.6s
KSH Kashi 82.84 311 P **P** **10 09 38.8 +0.3**
KSH pP **pP** **10 09 54.7 +3.6**
KSH sP **sP** **10 09 57.2 +1.4**
KSH PP **PP** **10 12 51.3 +2.0**
KSH S **S** **10 19 55.3 +1.1**
KSH SS **SS** **10 25 21.1 +3.2**
KSH AMB AMB
comp=E,15nm,1.2s
KSH AMB AMB
comp=E,130nm,4.7s
KSH LR LR
comp=E,76nm,5.2s
KSH LR LR
comp=E,77nm,5.5s
KSH LR LR
comp=E,96nm,7.0s
BMRM Bremner River 83.00 26 *e*P **P** **10 09 39.6 +0.8**
comp=E,142nm,1.5s
BMRM *ep*P **pP** **10 09 49.5 -1.9**
COLA College 83.51 22 *e*P **P** **10 09 40.6 -0.5**
COLA College 83.51 22 *e*P **P** **10 09 40.6 -0.5**
comp=E,115nm,0.8s
PAX Paxson 83.53 24 *e*P **P** **10 09 41.8 +0.3**
PAX *e**PP **pP** **10 09 50.7 -3.4**
PAX pmax pmax
comp=Z,36nm,1.5s
PAX Paxson 83.53 24 *e*P **P** **10 09 41.8 +0.3**
comp=Z,36nm,1.5s
PAX *ep*P **pP** **10 09 50.7 -3.4**
ILAR Eielson Array 83.82 22 P **P** **10 09 41.2 -1.6**
ILAR Eielson Array 83.82 22 P **P** **10 09 41.2 -1.6**
comp=Z,20nm,0.7s,baz=247,slow=5.1,SNR=195
ILAR LR LR 10 47 02.4
comp=Z,182nm,18.2s,baz=268,slow=36
QSPA South Pole Qui 83.87 180 *e*P **P** **10 09 43.5 +0.2**
comp=Z,38nm,1.1s
QSPA South Pole Qui 83.87 180 LR LR 10 46 27.4
comp=Z,165nm,18.1s,baz=172,slow=35
COLD Coldfoot 83.88 19 *e*P **P** **10 09 44.0 +1.0**
comp=Z,86nm,1.7s
COLD *ep*P **pP** **10 09 54.0 -1.7**
MAW Mawson 83.91 203 P **P** **10 09 43.5 +0.3**
MAW Mawson 83.91 203 ⇑P **P** **10 09 43.3 +0.1**
baz=84,SNR=9.3
MAW Mawson 83.91 203 P **P** **10 09 43.5 +0.3**
comp=Z,4.4nm,0.6s,baz=91,slow=6.3,SNR=12
MAW LR LR 10 43 22.2
comp=Z,255nm,21.9s,baz=79,slow=33
TKM2 Tokmak 2 83.94 314 *i* P **P** **10 09 42.0 -2.2**
TKM2 pmax pmax
comp=Z,11nm,1.3s
TKM2 Tokmak 2 83.94 314 *e*P **P** **10 09 43.3 -0.9**
comp=Z,3.7nm,0.7s
KURK Kurchatov 84.03 322 P **P** **10 09 41.1 -3.0**
comp=Z,26nm,0.9s,SNR=8.0
KURK Kurchatov 84.03 322 ⇑*i*P **P** **10 09 42.4 -1.7**
KURK pmax pmax
comp=Z,4.0nm,1.0s
KURK Kurchatov 84.03 322 *e*P **P** **10 09 42.0 -2.1**
comp=Z,8.9nm,1.3s
KURK *ep*P **pP** **10 09 54.1 -2.6**
MENT Mentasta 84.24 25 *e*P **P** **10 09 45.5 +0.5**
MENT *ep*P **pP** **10 09 55.8 -1.8**
FRU Bishkek 84.62 314 *e*P **P** **10 09 46.0 -1.4**
FRU *e* 10 12 58.0
FRU *e*S **S** **10 20 10.0 -1.7**
FRU pmax pmax
comp=Z,120nm,2.1s
FRU smax smax
comp=E,370nm,4.2s
AAK Ala-Archa 84.66 314 ⇓*i*P **P** **10 09 47.6 -0.2**
AAK pmax pmax
comp=Z,24nm,1.2s
AAK Ala-Archa 84.66 314 *e*P **P** **10 09 47.6 -0.2**
comp=Z,48nm,1.6s
AAK *ep*P **pP** **10 09 57.7 -2.7**
EKS2 Erkin-Say 85.18 314 *e*P **P** **10 09 50.1 -0.3**
EKS2 *e**PP **pP** **10 10 00.4 -2.6**
EKS2 pmax pmax
comp=Z,92nm,1.8s
EKS2 Erkin-Say 85.18 314 *e*P **P** **10 09 50.1 -0.3**
comp=Z,92nm,1.8s
EKS2 *ep*P **pP** **10 10 00.4 -2.6**
EGAK Eagle 86.03 23 *e*P **P** **10 09 54.3 +0.4**
comp=Z,31nm,0.9s
EGAK *ep*P **pP** **10 10 04.5 -2.0**
SKAG Skagway 86.74 29 *e*P **P** **10 09 58.5 +1.0**
comp=Z,19nm,1.0s
WRAK Wrangell Islan 87.42 33 *e*P **P** **10 10 02.7 +1.9**
comp=Z,216nm,1.6s
WRAK *ep*P **pP** **10 10 11.8 -1.7**
KK31 Karatay Array 87.62 314 *ce*P **P** **10 09 59.9 -2.3**
KK31 pmax pmax
comp=Z,7.0nm,0.9s
KKAR Karatay Array 87.62 314 *e*P **P** **10 09 59.9 -2.3**
KKAR pmax pmax
comp=Z,8.0nm,1.0s
KKAR Karatay Array 87.62 314 *e*P **P** **10 09 59.9 -2.3**
comp=Z,7.8nm,1.0s
DLBC Dease Lake 89.12 31 *e*P **P** **10 10 11.0 +2.0**
DLBC *ep*P **pP** **10 10 19.9 -1.9**
BRVK Borovoye 89.60 323 ⇑*i*P **P** **10 10 11.1 -0.2**
BRVK pmax pmax
comp=Z,7.0nm,1.7s
INK Inuvik 90.10 21 *e*P **P** **10 10 12.9 -0.3**
comp=Z,75nm,1.6s
INK *ep*P **pP** **10 10 22.4 -3.5**
HUMO Hull Mountain 90.77 47 *e*P **P** **10 10 19.0 +2.0**
comp=Z,10nm,1.0s
YBH Yreka Blue Hor 90.83 48 P **P** **10 10 19.6 +2.1**
YBH Yreka Blue Hor 90.83 48 P **P** **10 10 19.6 +2.1**
comp=Z,5.6nm,1.0s,baz=182,slow=2.7,SNR=6.2
SYO Syowa Base 92.04 200 ⇓*e*P **P** **10 10 20.9 -1.4**
SYO Syowa Base 92.04 200 ⇓*e*PcP **PcP** **10 10 26.0 +2.9**
HAWA Hanford 93.61 44 *e*P **P** **10 10 31.8 +1.7**
comp=Z,65nm,2.1s
HAWA *ep*P **pP** **10 10 40.6 -2.1**
MWC Mount Wilson 93.70 56 *e*P **P** **10 10 31.3 +0.3**
MWC pmax pmax
comp=Z,28nm,1.4s
MWC Mount Wilson 93.70 56 *e*P **P** **10 10 31.3 +0.3**
comp=Z,28nm,1.4s
NVAR Mina Array Bea 93.85 52 P **P** **10 10 33.1 +1.5**
NVAR Mina Array Bea 93.85 52 P **P** **10 10 33.1 +1.5**
comp=Z,3.7nm,0.9s,baz=246,slow=5.6,SNR=11
NV11 Mina Array Sit 93.97 52 *e*P **P** **10 10 32.8 +0.7**
PFO Pinyon Flat Ob 94.98 57 P **P** **10 10 38.1 +1.3**
PFO Pinyon Flat Ob 94.98 57 P **P** **10 10 38.1 +1.3**
comp=Z,1.9nm,1.0s,baz=235,slow=6.2,SNR=2.9
BMO Blue Mountains 95.06 46 *e*P **P** **10 10 38.3 +1.4**
BMO *e**PP **pP** **10 10 49.7 +0.1**
BMO pmax pmax
comp=Z,25nm,1.8s
BMO Blue Mountains 95.06 46 *e*P **P** **10 10 38.3 +1.4**
comp=Z,25nm,1.8s
BMO *ep*P **pP** **10 10 49.7 +0.1**
NEW Newport 95.38 42 *e*P **P** **10 10 39.7 +1.5**
comp=Z,36nm,1.9s
AB31 Akbulak array 95.63 319 *ce*P **P** **10 10 37.0 -2.2**
ABKAR Akbulak array 95.63 319 *e*P **P** **10 10 37.2 -1.9**
comp=Z,1.2nm,0.7s
SHPR Sheep Range 96.22 54 *e*P **P** **10 10 45.4 +2.9**
comp=Z,41nm,1.9s
YKA Yellowknife Ar 97.14 28 P **P** **10 10 45.4 -0.3**
YKA Yellowknife Ar 97.14 28 P **P** **10 10 45.4 -0.3**
comp=Z,4.2nm,0.7s,baz=276,slow=4.3,SNR=5.2
WALA Waterton Lakes 97.53 41 *e*P Pdif 10 10 51.3 +3.2
comp=Z,2.1nm,1.9s
WALA *ep*P pP 10 11 00.8 0.0
ARUT Antelope Range 97.65 53 *e*P **P** **10 10 48.3 -0.6**
ARUT *e**PP **pP** **10 10 58.0 -3.6**
ARUT Antelope Range 97.65 53 *e*P **P** **10 10 48.3 -0.6**
comp=Z,209nm,1.5s
ARUT *ep*P **pP** **10 10 58.0 -3.6**
EDM Edmonton 97.89 37 *e*P Pdif 10 10 51.1 +1.6
EDM *e**PP pP 10 11 00.5 -1.7
EDM Edmonton 97.89 37 *e*P Pdif 10 10 51.1 +1.6
EDM *ep*P pP 10 11 00.5 -1.7
SNAA Sanae 100.58 188 *e*P **PP** **10 15 09.2 +1.4**
PDAR Pinedale Array 100.63 48 P **Pdif** **10 11 01.1 -1.1**
PDAR Pinedale Array 100.63 48 P **Pdif** **10 11 01.1 -1.1**
comp=Z,0.4nm,0.8s,baz=219,slow=7.0,SNR=3.3
VNA2 Neumayer--Watz 101.86 187 *e*P **PP** **10 15 17.1 -0.2**
VNA1 Neumayer--Stat 102.22 187 *e*P PP 10 15 07.2 -13
TXAR Lajitas Array 105.83 61 PKKPab PKKPab 10 27 19.1 +1.3
TXAR Lajitas Array 105.83 61 PKKPab PKKPab 10 27 19.1 +1.3
comp=Z,0.3nm,0.8s,baz=39,slow=3.5,SNR=3.6
AKASG Malin Array Be 114.81 324 PKIKP PKPdf 10 15 53.6 -0.6
AKASG Malin Array Be 114.81 324 PKP PKPdf 10 15 53.6 -0.6
AKASG Malin Array Be 114.81 324 PKP PKPdf 10 15 53.6 -0.6
comp=Z,0.8nm,0.5s,baz=68,slow=2.0,SNR=4.2
BRTR Keskin Array B 115.23 311 PKP **PKPdf** **10 15 55.5 0.0**
BRTR Keskin Array B 115.23 311 PKP **PKPdf** **10 15 55.5 0.0**
comp=Z,0.7nm,0.8s,baz=76,slow=5.2,SNR=3.6
PLCA Paso Flores 119.48 144 PKP **PKPdf** **10 16 04.2 +0.5**
PLCA Paso Flores 119.48 144 PKP **PKPdf** **10 16 04.2 +0.5**
comp=Z,1.6nm,0.8s,baz=246,slow=6.7,SNR=2.9
KOLS Kolonicke sedl 119.64 324 *e*PKIKP **PKPdf** **10 16 04.4 +0.8**
KOLS Kolonicke sedl 119.64 324 *e*PKP **PKPdf** **10 16 04.4 +0.8**
UZH Uzhgorod 119.77 324 *e*PKIKP PKPdf 10 16 11.4 +7.6
UZH *e* 10 16 18.8
UZH *i* 10 16 26.2
STHS Stebnicka Huta 120.00 325 *e*PKIKP **PKPdf** **10 16 05.9 +1.6**
STHS Stebnicka Huta 120.00 325 *e*PKP **PKPdf** **10 16 05.9 +1.6**
IDI Anoyia 123.13 308 *e*PKPdf **PKPdf** **10 16 11.4 +0.7**
BRG Berggiesshubel 123.16 329 *e*PKP **PKPdf** **10 16 10.3 0.0**
comp=Z,11nm,1.4s
BRG *e* 10 16 19.7
comp=Z,26nm,1.6s
BRG Berggiesshubel 123.16 329 *e*PKIKP **PKPdf** **10 16 10.3 0.0**
BRG *e* 10 16 19.7
BRG pmax pmax
comp=Z,11nm,1.4s
BRG pmax pmax
comp=Z,26nm,1.6s
CLL Collm 123.37 330 *e*PKIKP **PKPdf** **10 16 11.0 +0.4**
CLL Collm 123.37 330 *e*PKPdf **PKPdf** **10 16 11.0 +0.4**
CLL *ep*PKPdf **pPKPdf** **10 16 20.0 -3.8**
KHC Kasperske Hory 124.39 328 *e*PKIKP **PKPdf** **10 16 14.0 +1.2**
KHC Kasperske Hory 124.39 328 *e*PKPdf **PKPdf** **10 16 13.9 +1.2**
GERES GERESS Array B 124.49 327 PKP **PKPdf** **10 16 13.1 +0.1**
GERES GERESS Array B 124.49 327 PKP **PKPdf** **10 16 13.1 +0.1**
comp=Z,1.9nm,0.6s,baz=90,slow=1.6,SNR=11
GRF Grafenberg Arr 125.26 329 *e*PKIKP **PKPdf** **10 16 17.7 +3.3**
GRF Grafenberg Arr 125.26 329 *e*PKP **PKPdf** **10 16 17.7 +3.3**
CFAA Coronel Fontan 126.65 137 PKP **PKPdf** **10 16 17.6 -0.1**
CFAA Coronel Fontan 126.65 137 PKP **PKPdf** **10 16 17.6 -0.1**
comp=Z,0.5nm,0.8s,baz=259,slow=1.8,SNR=8.1
BCLA Clavier 127.59 333 E pPKPdf 10 16 28.2 -3.7
WLF Walferdange 127.74 332 PKP **PKPdf** **10 16 22.9 +3.8**
WLF Walferdange 127.74 332 APKP pPKPdf 10 16 29.8 -2.4
GIVF Givet 128.03 333 *e*PKIKP **PKPdf** **10 16 17.2 -2.4**
GIVF Givet 128.03 333 *e*PKP **PKPdf** **10 16 17.2 -2.4**
GIVF Givet 128.03 333 *e*PKPdf **PKPdf** **10 16 17.2 -2.4**
CDF Champ du Feu 128.07 330 *e*PKIKP **PKPdf** **10 16 16.9 -3.0**
comp=Z,56nm,1.8s
CDF Champ du Feu 128.07 330 *e*PKIKP **PKPdf** **10 16 16.9 -3.0**
CDF Champ du Feu 128.07 330 *e*PKPdf **PKPdf** **10 16 16.9 -3.0**
DOU Dourbes 128.14 333 E pPKPdf 10 16 30.6 -2.4
TUE Stuetta 128.27 327 *e*PKPdf **PKPdf** **10 16 22.0 +1.5**
BAIF Baives 128.34 334 *e*PKIKP **PKPdf** **10 16 17.9 -2.3**
comp=Z,135nm,1.8s
BAIF Baives 128.34 334 *e*PKIKP **PKPdf** **10 16 17.9 -2.3**
BAIF Baives 128.34 334 *e*PKPdf **PKPdf** **10 16 17.9 -2.3**
ATAH Atahualpa 128.46 104 PKP **PKPdf** **10 16 22.6 +0.6**

ATAH	**Atahualpa**	**128.46 104**	PKP		**PKPdf**	**10 16 22.6**	**+0.6**
	comp=Z,4.7nm,0.8s,baz=337,slow=7.7,SNR=5.0						
HINF	**Hinteralfeld**	**128.68 330**	*e*PKIKP		**PKPdf**	**10 16 18.0**	**-3.0**
	comp=Z,87nm,1.6s						
HINF	**Hinteralfeld**	**128.68 330**	*e*PKIKP		**PKPdf**	**10 16 18.0**	**-3.0**
HINF	**Hinteralfeld**	**128.68 330**	*e*PKPdf		**PKPdf**	**10 16 18.0**	**-3.0**
HAU	**Haudompre**	**128.80 331**	*e*PKIKP		**PKPdf**	**10 16 18.4**	**-2.8**
	comp=Z,105nm,1.7s						
HAU	**Haudompre**	**128.80 331**	*e*PKIKP		**PKPdf**	**10 16 18.4**	**-2.8**
HAU	**Haudompre**	**128.80 331**	*e*PKPdf		**PKPdf**	**10 16 18.4**	**-2.8**
MEZF	**Maizieres J'vi**	**129.07 332**	*e*PKIKP		**PKPdf**	**10 16 19.5**	**-2.2**
	comp=Z,185nm,1.9s						
MEZF	**Maizieres J'vi**	**129.07 332**	*e*PKPdf		**PKPdf**	**10 16 19.5**	**-2.2**
SFTF	**Sexfontaines**	**129.29 332**	*e*PKIKP		**PKPdf**	**10 16 19.7**	**-2.4**
SFTF	**Sexfontaines**	**129.29 332**	*e*PKPdf		**PKPdf**	**10 16 19.7**	**-2.4**
CABF	**La Chapelle**	**129.88 329**	*e*PKIKP		**PKPdf**	**10 16 21.2**	**-2.2**
	comp=Z,181nm,1.8s						
CABF	**La Chapelle**	**129.88 329**	*e*PKIKP		**PKPdf**	**10 16 21.2**	**-2.2**
CABF	**La Chapelle**	**129.88 329**	*e*PKPdf		**PKPdf**	**10 16 21.2**	**-2.2**
LPL	**La Plagne**	**130.28 328**	*e*PKIKP		**PKPdf**	**10 16 22.1**	**-2.3**
	comp=Z,50nm,1.7s						
LPL	**La Plagne**	**130.28 328**	*e*PKIKP		**PKPdf**	**10 16 22.1**	**-2.3**
LPL	**La Plagne**	**130.28 328**	*e*PKPdf		**PKPdf**	**10 16 22.1**	**-2.3**
LPG	**La Plagne**	**130.28 328**	*e*PKIKP		**PKPdf**	**10 16 22.1**	**-2.3**
LPG	**La Plagne**	**130.28 328**	*e*PKIKP		**PKPdf**	**10 16 22.1**	**-2.3**
LPG	**La Plagne**	**130.28 328**	*e*PKPdf		**PKPdf**	**10 16 22.1**	**-2.3**
LOR	**Lormes**	**130.52 331**	*e*PKIKP		**PKPdf**	**10 16 22.0**	**-2.5**
	comp=Z,111nm,1.8s						
LOR	**Lormes**	**130.52 331**	*e*PKPdf		**PKPdf**	**10 16 22.0**	**-2.5**
MBDF	**Montbardon**	**130.78 327**	*e*PKIKP		**PKPdf**	**10 16 22.4**	**-2.8**
	comp=Z,39nm,1.5s						
MBDF	**Montbardon**	**130.78 327**	*e*PKIKP		**PKPdf**	**10 16 22.4**	**-2.8**
MBDF	**Montbardon**	**130.78 327**	*e*PKPdf		**PKPdf**	**10 16 22.4**	**-2.8**
SSF	**Saint Saulge**	**130.83 331**	*e*PKIKP		**PKPdf**	**10 16 22.7**	**-2.4**
	comp=Z,122nm,1.9s						
SSF	**Saint Saulge**	**130.83 331**	*e*PKIKP		**PKPdf**	**10 16 22.7**	**-2.4**
SSF	**Saint Saulge**	**130.83 331**	*e*PKPdf		**PKPdf**	**10 16 22.7**	**-2.4**
PGF	**Pioggiola**	**130.88 324**	*e*PKIKP		**PKPdf**	**10 16 22.6**	**-2.8**
	comp=Z,132nm,1.7s						
PGF	**Pioggiola**	**130.88 324**	*e*PKIKP		**PKPdf**	**10 16 22.6**	**-2.8**
PGF	**Pioggiola**	**130.88 324**	*e*PKPdf		**PKPdf**	**10 16 22.6**	**-2.8**
SBF	**Sospel**	**130.97 326**	*e*PKIKP		**PKPdf**	**10 16 22.6**	**-2.9**
SBF	**Sospel**	**130.97 326**	*e*PKIKP		**PKPdf**	**10 16 22.6**	**-2.9**
SBF	**Sospel**	**130.97 326**	*e*PKPdf		**PKPdf**	**10 16 22.6**	**-2.9**
SMF	**Signal de Mont**	**130.97 331**	*e*PKIKP		**PKPdf**	**10 16 22.7**	**-2.7**
	comp=Z,77nm,1.6s						
SMF	**Signal de Mont**	**130.97 331**	*e*PKIKP		**PKPdf**	**10 16 22.7**	**-2.7**
SMF	**Signal de Mont**	**130.97 331**	*e*PKPdf		**PKPdf**	**10 16 22.7**	**-2.7**
AVF	**Avril sur Loir**	**131.10 331**	*e*PKIKP		**PKPdf**	**10 16 22.8**	**-2.8**
AVF	**Avril sur Loir**	**131.10 331**	*e*PKIKP		**PKPdf**	**10 16 22.8**	**-2.8**
AVF	**Avril sur Loir**	**131.10 331**	*e*PKPdf		**PKPdf**	**10 16 22.8**	**-2.8**
ORIF	**Oris-en-Rattie**	**131.13 328**	*e*PKIKP		**PKPdf**	**10 16 23.2**	**-2.6**
	comp=Z,67nm,1.6s						
ORIF	**Oris-en-Rattie**	**131.13 328**	*e*PKIKP		**PKPdf**	**10 16 23.2**	**-2.6**
ORIF	**Oris-en-Rattie**	**131.13 328**	*e*PKPdf		**PKPdf**	**10 16 23.2**	**-2.6**
LDF	**La Druitiere**	**131.30 335**	*e*PKIKP		**PKPdf**	**10 16 23.5**	**-2.4**
	comp=Z,134nm,1.7s						
LDF	**La Druitiere**	**131.30 335**	*e*PKIKP		**PKPdf**	**10 16 23.5**	**-2.4**
LDF	**La Druitiere**	**131.30 335**	*e*PKPdf		**PKPdf**	**10 16 23.5**	**-2.4**
FLN	**La Foliniere**	**131.32 336**	*e*PKIKP		**PKPdf**	**10 16 23.3**	**-2.6**
	comp=Z,159nm,1.7s						
FLN	**La Foliniere**	**131.32 336**	*e*PKIKP		**PKPdf**	**10 16 23.3**	**-2.6**
FLN	**La Foliniere**	**131.32 336**	*e*PKPdf		**PKPdf**	**10 16 23.3**	**-2.6**
FRF	**La Foret Royal**	**131.60 326**	*e*PKIKP		**PKPdf**	**10 16 23.9**	**-2.7**
	comp=Z,65nm,1.3s						
FRF	**La Foret Royal**	**131.60 326**	*e*PKIKP		**PKPdf**	**10 16 23.9**	**-2.7**
FRF	**La Foret Royal**	**131.60 326**	*e*PKPdf		**PKPdf**	**10 16 23.9**	**-2.7**
GRR	**Gorron**	**131.77 336**	*e*PKIKP		**PKPdf**	**10 16 24.4**	**-2.4**
	comp=Z,99nm,1.6s						
GRR	**Gorron**	**131.77 336**	*e*PKIKP		**PKPdf**	**10 16 24.4**	**-2.4**
GRR	**Gorron**	**131.77 336**	*e*PKPdf		**PKPdf**	**10 16 24.4**	**-2.4**
VIVF	**Saint-Julien-l**	**131.80 329**	*e*PKIKP		**PKPdf**	**10 16 24.5**	**-2.5**
	comp=Z,94nm,1.8s						
VIVF	**Saint-Julien-l**	**131.80 329**	*e*PKIKP		**PKPdf**	**10 16 24.5**	**-2.5**
VIVF	**Saint-Julien-l**	**131.80 329**	*e*PKPdf		**PKPdf**	**10 16 24.5**	**-2.5**
LMR	**La Mourre**	**131.82 326**	*e*PKIKP		**PKPdf**	**10 16 24.3**	**-2.7**
	comp=Z,67nm,1.3s						
LMR	**La Mourre**	**131.82 326**	*e*PKIKP		**PKPdf**	**10 16 24.3**	**-2.7**
LMR	**La Mourre**	**131.82 326**	*e*PKPdf		**PKPdf**	**10 16 24.3**	**-2.7**
SMRF	**Simiane la Rot**	**131.92 327**	*e*PKIKP		**PKPdf**	**10 16 24.9**	**-2.4**
	comp=Z,107nm,1.6s						
SMRF	**Simiane la Rot**	**131.92 327**	*e*PKPdf		**PKPdf**	**10 16 24.9**	**-2.4**
TCF	**Toulx Ste Croi**	**132.01 332**	*e*PKIKP		**PKPdf**	**10 16 25.0**	**-2.4**
	comp=Z,94nm,1.7s						
TCF	**Toulx Ste Croi**	**132.01 332**	*e*PKIKP		**PKPdf**	**10 16 25.0**	**-2.4**
TCF	**Toulx Ste Croi**	**132.01 332**	*e*PKPdf		**PKPdf**	**10 16 25.0**	**-2.4**
SGMF	**Saint Gilles**	**132.56 337**	*e*PKIKP		**PKPdf**	**10 16 25.8**	**-2.5**
	comp=Z,120nm,1.6s						
SGMF	**Saint Gilles**	**132.56 337**	*e*PKIKP		**PKPdf**	**10 16 25.8**	**-2.5**
SGMF	**Saint Gilles**	**132.56 337**	*e*PKPdf		**PKPdf**	**10 16 25.8**	**-2.5**
RJF	**Les Rejaudoux**	**133.06 331**	*e*PKIKP		**PKPdf**	**10 16 27.3**	**-2.0**
RJF	**Les Rejaudoux**	**133.06 331**	*e*PKIKP		**PKPdf**	**10 16 27.3**	**-2.0**
RJF	**Les Rejaudoux**	**133.06 331**	*e*PKPdf		**PKPdf**	**10 16 27.3**	**-2.0**
CAF	**Calviac**	**133.07 330**	*e*PKIKP		**PKPdf**	**10 16 27.5**	**-1.9**
	comp=Z,50nm,1.7s						
CAF	**Calviac**	**133.07 330**	*e*PKIKP		**PKPdf**	**10 16 27.5**	**-1.9**
CAF	**Calviac**	**133.07 330**	*e*PKPdf		**PKPdf**	**10 16 27.5**	**-1.9**
QUIF	**Quistinic**	**133.07 337**	*e*PKIKP		**PKPdf**	**10 16 26.8**	**-2.4**
	comp=Z,100nm,1.6s						
QUIF	**Quistinic**	**133.07 337**	*e*PKIKP		**PKPdf**	**10 16 26.8**	**-2.4**
QUIF	**Quistinic**	**133.07 337**	*e*PKPdf		**PKPdf**	**10 16 26.8**	**-2.4**
LPAZ	**La Paz**	**134.87 120**	PKP		**PKPdf**	**10 16 35.5**	**+1.3**
LPAZ			*e*PKPdf		**PKPdf**	**10 16 35.6**	**+1.3**
LPAZ	**La Paz**	**134.87 120**	PKP		**PKPdf**	**10 16 35.5**	**+1.3**
	comp=Z,3.4nm,1.0s,baz=340,slow=0.5,SNR=9.1						
CPUP	**Villa Florida**	**137.29 140**	PKP		**PKPdf**	**10 16 40.2**	**+2.4**
CPUP	**Villa Florida**	**137.29 140**	PKP		**PKPdf**	**10 16 40.2**	**+2.4**
	comp=Z,1.5nm,0.6s,baz=262,slow=3.1,SNR=5.0						
PBRG	**Braganca**	**139.54 335**	*e*PP	PP		10 20 17.0	+41
ESDC	**Sonseca Array**	**139.96 330**	PKP		**PKPdf**	**10 16 41.0**	**-1.4**
ESDC	**Sonseca Array**	**139.96 330**	PKP		**PKPdf**	**10 16 41.0**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=55,slow=4.4,SNR=4.4						
PGAV	**Gavieira, Arco**	**140.03 336**	*e*PP	PP		10 20 20.7	+42
MVO	**Moncorvo**	**140.19 334**	*e*PP	PP		10 20 21.5	+42
POLO	**Lamas de Olo**	**140.34 335**	*e*PP	PP		10 20 23.2	+43
SIV	**San Ignacio**	**140.95 125**	PKPpre	PKPpre		10 16 37.8	
SIV	**San Ignacio**	**140.95 125**	PKhKP	PKPpre		10 16 37.8	
	comp=Z,0.9nm,0.6s,baz=254,slow=9.3,SNR=4.3						
MTE	**Manteigas**	**141.04 334**	*e*PP	PP		10 20 20.5	+36
PCAS	**Casmilo, Conde**	**141.73 335**	*e*PP	PP		10 20 20.7	+32
PMRV	**Marv??o**	**141.77 333**	*e*PP	PP		10 20 19.4	+30
PESTR	**Estremoz**	**142.31 333**	*e*PP	PP		10 20 18.7	+26
PBAR	**Barrancos**	**142.62 332**	*e*PP	PP		10 20 22.7	+28
EVO	**Evora**	**142.78 333**	*e*PKIKP		**PKPdf**	**10 16 49.5**	**+2.1**
	comp=Z,77nm,1.6s						
EVOP	**Sao Brissos**	**142.83 333**	*e*PKIKP		**PKPdf**	**10 16 49.5**	**+2.0**
EVOP	**Sao Brissos**	**142.83 333**	*e*PKPdf		**PKPdf**	**10 16 49.5**	**+2.0**
PMAFR	**Mafra**	**142.98 335**	*e*PP	PP		10 20 28.7	+32
TAM	**Tamanrasset**	**143.30 300**	*e*PKIKP		PKPbc	10 16 46.3	+0.3
TAM	**Tamanrasset**	**143.30 300**	*e*PKPdf		PKPbc	10 16 46.3	+0.2
PCVE	**Castro Verde**	**143.52 332**	*e*PP	PP		10 20 34.7	+35
SPB	**Sao Paulo**	**145.15 149**	*e*PKPbc		**PKPdf**	**10 16 52.3**	**+0.4**
MDT	**Midelt**	**145.37 323**	PKPbc		**PKPab**	**10 16 52.7**	**+0.4**
MDT	**Midelt**	**145.37 323**	PKPbc		**PKPab**	**10 16 52.7**	**+0.4**
	comp=Z,4.2nm,0.9s,baz=56,slow=3.4,SNR=11						
TOA0	**Torodi Ar. Sit**	**149.50 286**	*e*PKPbc		**PKPbc**	**10 17 02.9**	**-1.0**
TOA0			*e*PKPab		**PKPab**	**10 17 07.5**	**-1.3**
TORD	**Torodi Ar. Bea**	**149.50 286**	PKPbc		**PKPbc**	**10 17 03.0**	**-0.9**
TORD	**Torodi Ar. Bea**	**149.50 286**	PKPbc		**PKPbc**	**10 17 03.0**	**-0.9**
	comp=Z,22nm,0.7s,baz=49,slow=1.8,SNR=114						
PMPST	**Porto Santo, M**	**150.88 339**	*e*PKPdf		**PKPbc**	**10 17 08.0**	**+1.2**
PMPS	**Porto Santo**	**150.90 339**	*e*PKPdf		**PKPbc**	**10 17 07.4**	**+0.6**
BDFB	**Brasilia**	**150.98 138**	PKPbc		**PKPbc**	**10 17 06.5**	**-1.0**
BDFB	**Brasilia**	**150.98 138**	PKPbc		**PKPbc**	**10 17 06.5**	**-1.0**
	comp=Z,12nm,0.8s,baz=209,slow=3.3,SNR=15						
PMOZ	**Porto Moniz, M**	**151.42 340**	*e*PKPdf		**PKPbc**	**10 17 09.7**	**+1.5**
DBIC	**Dimbokro**	**156.55 273**	PKPab		**PKPab**	**10 17 37.1**	**-1.6**
DBIC	**Dimbokro**	**156.55 273**	PKPab		**PKPab**	**10 17 37.1**	**-1.6**
	comp=Z,8.2nm,0.9s,baz=167,slow=1.2,SNR=5.7						

IDC 02 10:14:35.8±4.4, 15°.84S×173°.20W, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.7/22, mbtmp3.9/4, ML1.6/1, MS3.2/1, Ms1 3.2/1, ms1mx3.0/33, Error ellipse: s-maj=205.3km s-min=26.4km az=137.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.36**	**36**	Pn	Pn	10 15 14.4	-1.6
	8.2nm,0.3s,baz=37,slow=20,SNR=6.5						
AFI				Sn	Sn	10 15 39.9	-5.8
	23nm,0.3s,baz=244,slow=23,SNR=8.6						
AFI				LR	LR	10 15 45.3	
	comp=Z,444nm,18.3s,baz=293,slow=29						
H11S2	**WAKE ISLAND Hy**	**39.43 329**		T	T	11 03 42.0	
	baz=153,slow=0.7,SNR=27						
H11S3	**WAKE ISLAND Hy**	**39.45 329**		T	T	11 03 43.8	
	baz=153,slow=0.7,SNR=28						
H11S1	**WAKE ISLAND Hy**	**39.45 329**		T	T	11 03 43.3	
	baz=153,slow=0.7,SNR=33						
H11N3	**WAKE ISLAND Hy**	**40.38 330**		T	T	11 04 52.9	
	baz=152,slow=0.7,SNR=50						
H11N1	**WAKE ISLAND Hy**	**40.39 330**		T	T	11 04 55.9	
	baz=152,slow=0.7,SNR=38						
H11N2	**WAKE ISLAND Hy**	**40.40 330**		T	T	11 04 56.9	
	baz=152,slow=0.7,SNR=53						
STKA	**Stephens Creek**	**43.98 240**		P	P	10 22 44.7	-0.4
	1.4nm,0.8s,baz=67,slow=7.7,SNR=2.0						
WRA	**Warramunga Arr**	**49.93 257**		P	P	10 23 31.6	-0.3
	0.5nm,0.6s,baz=95,slow=7.8,SNR=9.3						
ASAR	**Alice Springs**	**50.16 252**		P	P	10 23 33.0	-0.6
	3.6nm,0.7s,baz=86,slow=8.0,SNR=70						
BRTR	**Keskin Array B**	**146.62 321**		PKPbc	PKPab	10 34 21.2	+0.2
	0.9nm,0.8s,baz=46,slow=6.2,SNR=3.8						

IDC 02 10:17:02.6±11.0, 15°.53S×172°.90W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/21, mbtmp3.8/3, Error ellipse: s-maj=504.1km s-min=23.9km az=138.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.95**	**34**	Pn	Pn	10 17 35.4	-1.6
	40nm,0.3s,baz=95,slow=18,SNR=13						
AFI				Sn	Sn	10 17 54.9	-7.4
	101nm,0.3s,baz=24,slow=20,SNR=6.7						
H11S2	**WAKE ISLAND Hy**	**39.33 329**		T	T	11 05 29.7	
	baz=152,slow=0.7,SNR=6.4						
H11S3	**WAKE ISLAND Hy**	**39.34 329**		T	T	11 05 25.9	
	baz=152,slow=0.7,SNR=8.1						
H11S1	**WAKE ISLAND Hy**	**39.34 329**		T	T	11 05 24.5	
	baz=152,slow=0.7,SNR=7.9						
H11N3	**WAKE ISLAND Hy**	**40.27 330**		T	T	11 06 44.8	
	baz=156						
H11N1	**WAKE ISLAND Hy**	**40.27 330**		T	T	11 06 46.8	
	baz=156						
H11N2	**WAKE ISLAND Hy**	**40.28 330**		T	T	11 06 46.8	
	baz=156						
WRA	**Warramunga Arr**	**50.28 257**		P	P	10 26 00.8	-0.4
	0.5nm,0.5s,baz=90,slow=7.1,SNR=13						
ASAR	**Alice Springs**	**50.53 252**		P	P	10 26 02.8	-0.4
	3.3nm,0.7s,baz=87,slow=7.8,SNR=26						
ILAR	**Eielson Array**	**82.48 11**		P	P	10 29 27.7	+1.1
	0.2nm,0.6s,baz=233,slow=4.4,SNR=3.3						
GERES	**GERESS Array B**	**146.34 352**		PKPbc	PKPab	10 36 47.7	+1.4
	0.3nm,0.5s,baz=318,slow=3.6,SNR=4.2						
BRTR	**Keskin Array B**	**146.56 321**		PKPbc	PKPab	10 36 49.5	+2.0
	1.3nm,0.7s,baz=104,slow=2.1,SNR=4.0						

IDC 02 10:22:28.3±1.0, 3°.67N×126°.29E, h0km, mb3.5/7, mb1 3.6/7, mb1mx3.5/25, mbtmp3.5/7, Error ellipse: s-maj=70.9km s-min=16.6km az=75.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.64 182**		P	P	10 27 21.5	+1.0
	0.9nm,0.8s,baz=40,slow=7.9,SNR=3.7						
WRA	**Warramunga Arr**	**24.76 162**		P	P	10 27 51.3	-0.6
	0.8nm,0.7s,baz=339,slow=10,SNR=18						
ASAR	**Alice Springs**	**28.16 165**		P	P	10 28 22.6	-0.1
	0.1nm,0.3s,baz=345,slow=9.5,SNR=4.6						
KSRS	**Korea Array**	**33.66**	**2**	P	P	10 29 11.0	+0.1
	0.5nm,0.6s,baz=177,slow=10,SNR=3.4						
SONM	**Songino Array**	**47.22 342**		P	P	10 31 03.0	-0.2
	0.3nm,0.5s,baz=169,slow=8.7,SNR=2.2						
MKAR	**Makanchi Array**	**57.35 325**		P	P	10 32 18.2	-0.2
	0.5nm,0.5s,baz=125,slow=8.8,SNR=7.9						
KURBB	**Kurchatov Arra**	**61.55 328**		P	P	10 32 47.3	0.0
	0.7nm,0.5s,baz=130,slow=6.4,SNR=11						

*NEIC **02** 10:24:16.6±0.4, 2°.57S×101°.57E, h10km, mb4.5/8, Error ellipse: s-maj=17.4km s-min=8.1km az=59.0*
*DJA **02** 10:24:19.9±0.4, 3°.5±4°×10°1E±°, h20km, M5.0/8, mb4.9/5, mB5.3/2, MLv5.0/8, Mw(mB)4.7/2*
*BKK **02** 10:24:19.5±0.6, 3°.5±6°×10°1E±°, h10km, M5.0/7, mb4.8/6, mB5.2/1, MLv5.0/7, Mw(mB)4.5/1*
*IDC **02** 10:24:20.2±3.5, 2°.46S±101°.63E, h33km±26km, mb3.9/19, mb1 4.1/21, mb1mx4.0/27, mbtmp4.0/21, ML3.9/2, MS4.0/9, Ms1 4.0/9, ms1mx3.6/44, Error ellipse: s-maj=20.4km s-min=11.2km az=59.0*
*ISCJB **02** 10:24:20.2±0.6, 2°.46S±0°.04×101°.71E±0°.05, h51km±6km, mb4.2/24, MS3.9/8, Error ellipse: s-maj=10.4km s-min=4.5km az=142.9*
*AUST **02** 10:24:22.2±0.7, 2°.62S×101°.65E, h51km±8km, Error ellipse: s-maj=23.5km s-min=5.1km az=55.0*

ISC 02 10:24:21.8±1.0, 2°.49S±0°.05×101°.69E±0°.06, h46km±9km, n99, σ1.9 17/87, mb4.3/24, MS4.0/8, 1C-2D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.46 142**		P	**Pn**	**10 24 44.1**	**-1.7**
KSI				S	**Sn**	**10 25 04.5**	**+0.7**
MNAI	**Manna**	**2.24 146**		P	**Pn**	**10 24 55.3**	**-1.2**
MNAI				S	Sn	10 25 28.0	+5.0
MNAI	**Manna**	**2.24 146**		P	**Pn**	**10 24 55.2**	**-1.2**
	baz=2.2,SNR=87						
PPI	**Padang Panjang**	**2.40 327**		P	**Pn**	**10 24 59.6**	**+1.0**
PPI	**Padang Panjang**	**2.40 327**		P	**Pn**	**10 24 59.5**	**+1.0**
	baz=2.5,SNR=78						
BKNI	**Bangkinang**	**2.88 347**		P	Pn	10 25 08.8	+3.6
BKNI				S	Sn	10 25 51.2	+13
BKNI	**Bangkinang**	**2.88 347**		⇓P	Pn	10 25 08.7	+3.6
	baz=3.0,SNR=22						
PMBI	**Palembang**	**3.11 98**		P	Pn	10 25 12.2	+3.9
PMBI				S	**Sn**	**10 25 43.1**	**-1.1**
LWLI	**Liwa**	**3.44 137**		P	**Pn**	**10 25 14.1**	**+1.0**
LWLI				S	Sn	10 25 58.7	+6.0
KGM	**Kluang**	**4.76 20**		P	**Pn**	**10 25 31.3**	**+0.2**
MYKOM	**Kota Tinggi**	**4.77 27**		P	**Pn**	**10 25 31.4**	**+0.2**
MYKOM	**Kota Tinggi**	**4.77 27**		P	**Pn**	**10 25 30.5**	**-0.7**
	176nm,1.1s,7μm2.5nm						
GSI	**Gunungsitoli**	**5.58 312**		P	**Pn**	**10 25 41.1**	**-1.2**
	108nm,0.8s,0.6nm						
GSI				S	**Sn**	**10 26 45.6**	**+0.3**
	108nm,0.8s,0.6nm						
FRIM	**Kepong**	**5.69 359**		P	**Pn**	**10 25 44.2**	**+0.4**
PSI	**Prapat**	**5.94 332**		Pn	**Pn**	**10 25 45.6**	**-1.8**
PSI	**Prapat**	**5.94 332**		P	**Pn**	**10 25 49.3**	**+1.9**
	baz=8.0,SNR=8.8						
PSI	**Prapat**	**5.94 332**		Pn	**Pn**	**10 25 45.6**	**-1.8**
	1.5nm,0.3s,baz=158,slow=13,SNR=11						
TPI	**Tanjungpandan**	**5.96 93**		P	**Pn**	**10 25 46.3**	**-1.2**
	63nm,0.5s,787nm0.4nm						
TPI				S	Sn	10 27 26.3	+32
	63nm,0.5s,787nm0.4nm						
IPM	**Ipoh**	**6.96 354**		P	**Pn**	**10 26 03.5**	**+2.3**
IPM	**Ipoh**	**6.96 354**		P	**Pn**	**10 26 02.4**	**+1.2**
	32nm,1.0s						
IPM	**Ipoh**	**6.96 354**		*e*Pn	**Pn**	**10 26 02.7**	**+1.4**
	32nm,0.6s						
KULM	**Kulim**	**7.80 352**		P	**Pn**	**10 26 10.2**	**-2.6**
KULM	**Kulim**	**7.80 352**		P	**Pn**	**10 26 14.1**	**+1.3**
KULM	**Kulim**	**7.80 352**		*e*Pn	**Pn**	**10 26 14.0**	**+1.3**
	55nm,1.0s						
KTGM	**Kuala Trenggan**	**7.90 10**		P	**Pn**	**10 26 16.0**	**+1.9**
KTGM	**Kuala Trenggan**	**7.90 10**		P	**Pn**	**10 26 16.2**	**+2.1**
CISI	**Cisompet, Garu**	**7.90 130**		P	**Pn**	**10 26 13.8**	**-0.4**
	baz=7.9,SNR=4.5						
KPJI	**Karang Pucung**	**8.67 124**		P	**Pn**	**10 26 25.0**	**+0.4**
UGM	**Wanagama**	**10.31 122**		P	**Pn**	**10 26 47.5**	**+0.3**
UGM	**Wanagama**	**10.31 122**		P	**Pn**	**10 26 48.3**	**+1.1**
	baz=10,SNR=4.5						
CHBT	**CHBT**	**15.16**	**2**	P	P	10 28 04.9	+7.6
KAPI	**Kappang**	**18.19**	**98**	*e*P	**Pn**	**10 28 31.2**	**+0.2**
	75nm,1.1s						
KAPI	**Kappang**	**18.19**	**98**	P	**Pn**	**10 28 31.6**	**+0.5**
	1.0nm,0.3s,baz=291,slow=7.6,SNR=10						
KAPI				LR	LR	10 37 49.1	
	comp=Z,365nm,18.8s,baz=260,slow=44						
PANO	**Nakornpanom**	**19.73**	**8**	P	Pn	10 28 57.8	+8.4
CMAR	**Chiang Mai Arr**	**20.99 353**		P	**P**	**10 29 00.3**	**-1.2**
CMAR	**Chiang Mai Arr**	**20.99 353**		P	**P**	**10 29 00.3**	**-1.2**
	0.6nm,0.4s,baz=178,slow=9.8,SNR=4.0						
CMAR				LR	LR	10 36 33.9	
	comp=Z,203nm,21.3s,baz=168,slow=35						
BATI	**Baumata**	**23.12 110**		LR	LR	10 39 24.3	
	comp=Z,448nm,20.1s,baz=202,slow=39						
FITZ	**Fitzroy Crossi**	**28.14 125**		P	**P**	**10 30 10.1**	**+0.3**
FITZ	**Fitzroy Crossi**	**28.14 125**		⇓P	**P**	**10 30 09.6**	**-0.2**
	baz=28,SNR=4.5						
FITZ	**Fitzroy Crossi**	**28.14 125**		P	**P**	**10 30 10.1**	**+0.3**
	1.9nm,0.7s,baz=294,slow=6.4,SNR=4.2						
FITZ				LR	LR	10 41 27.9	
	comp=Z,157nm,18.6s,baz=299,slow=36						
MEEK	**Meekatharra**	**28.98 147**		P	**P**	**10 30 17.1**	**-0.1**
	baz=29,SNR=3.3						
H08S2	**Diego Garcia H**	**29.52 259**		T	T	10 59 56.1	
	baz=82,slow=0.7,SNR=134						
H08S3	**Diego Garcia H**	**29.53 259**		T	T	10 59 45.4	
	baz=82,slow=0.7,SNR=70						
H08S1	**Diego Garcia H**	**29.54 259**		T	T	10 59 46.0	
	baz=82,slow=0.7,SNR=64						
NWAO	**Narrogin (SRO)**	**33.60 156**		*e*P	**P**	**10 30 58.4**	**+0.6**
	5.7nm,0.4s						
NWAO	**Narrogin (SRO)**	**33.60 156**		P	**P**	**10 30 58.6**	**+0.9**
	15nm,0.8s,baz=334,slow=8.1,SNR=8.8						
NWAO				LR	LR	10 42 48.0	
	comp=Z,399nm,20.2s,baz=188,slow=33						
WRA	**Warramunga Arr**	**36.29 121**		P	**P**	**10 31 20.1**	**-1.1**
WRA	**Warramunga Arr**	**36.29 121**		P	**P**	**10 31 20.1**	**-1.1**
	1.1nm,0.6s,baz=301,slow=8.7,SNR=7.3						
WRA				LR	LR	10 45 18.4	
	comp=Z,181nm,21.0s,baz=310,slow=35						
WRAB	**Tennant Creek**	**36.29 121**		*e*P	**P**	**10 31 21.4**	**+0.2**
	2.2nm,0.6s						
ASAR	**Alice Springs**	**37.60 127**		P	**P**	**10 31 31.1**	**-1.3**
ASAR				ScP	**ScP**	**10 37 35.1**	**+1.8**
ASAR	**Alice Springs**	**37.60 127**		P	**P**	**10 31 31.1**	**-1.3**
	1.9nm,0.5s,baz=298,slow=7.6,SNR=29						
ASAR				ScP	**ScP**	**10 37 35.1**	**+1.8**
	0.5nm,0.8s,baz=321,slow=

EAZ	**Earnscleugh**	**2.52**	**72**	PN	Pn	10 36 42.2 +2.2
EAZ				AML	AML	10 37 19.1
EAZ				AML	AML	10 37 20.4
EAZ				AML	AML	10 37 20.4
EAZ				AML	AML	10 37 22.0
TUZ	**Tuapeka**	**2.59**	**89**	PN	Pn	10 36 42.8 +1.8
TUZ				AML	AML	10 37 18.6
TUZ				AML	AML	10 37 24.2
JCZ	**Jackson Bay**	**2.83**	**46**	AML	AML	10 37 37.2
JCZ				AML	AML	10 37 38.8
LBZ	**Lake Benmore**	**3.45**	**62**	PN	Pn	10 36 53.5 +0.6
LBZ				AML	AML	10 37 58.2
LBZ				AML	AML	10 38 10.8
ODZ	**Otahua Downs**	**3.47**	**75**	PN	Pn	10 36 53.4 +0.2
OXZ	**Oxford**	**5.15**	**60**	PN	Pn	10 37 15.7 -0.5

IDC 02 10:41:56.6±2.5, 15°69S×172°82W, h0km, mb3.8/4, mb1 4.2/5, mb1mx3.8/20, mbtmp3.9/5, Error ellipse: s-maj=119.9km s-min=21.6km az=142.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.04**	**30**	Pn	Pn	10 42 30.5	-1.7
	51nm,0.3s,baz=128,slow=0.9,SNR=14						
AFI				Sn	Sn	10 42 49.1	-9.4
	212nm,0.3s,baz=90,slow=20,SNR=18						
WRA	**Warramunga Arr**	**50.32**	**257**	P	P	10 50 54.6	-1.0
	0.7nm,0.7s,baz=92,slow=6.8,SNR=11						
ASAR	**Alice Springs**	**50.55**	**252**	P	P	10 50 56.9	-0.5
	3.9nm,0.7s,baz=86,slow=8.2,SNR=79						
NVAR	**Mina Array Bea**	**74.17**	**42**	P	P	10 53 34.8	-0.7
	0.4nm,0.9s,baz=239,slow=10,SNR=2.6						
TXAR	**Lajitas Array**	**80.31**	**56**	P	P	10 54 16.4	+6.4
	1.1nm,1.0s,baz=216,slow=6.2,SNR=6.5						
PDAR	**Pinedale Array**	**82.11**	**42**	P	P	10 54 23.9	+4.5
	1.0nm,0.9s,baz=222,slow=4.0,SNR=7.3						
ILAR	**Eielson Array**	**82.62**	**11**	P	P	10 54 22.9	+1.6
	0.9nm,1.0s,baz=217,slow=6.9,SNR=5.0						
BRTR	**Keskin Array B**	**146.73**	**321**	PKPbc	PKPab	11 01 42.0	-0.2
	0.5nm,0.5s,baz=48,slow=4.0,SNR=2.9						

WEL 02 10:48:00.7±0.3, 36°80S×177°51E, h147km±3km, ML3.5/12, 1C-2D, Error ellipse: s-maj=2.2km s-min=2.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.99**	**141**	*e*Pn	Pn	10 48 25.5	+0.4
MXZ				SN	Sn	10 48 44.0	+0.3
PUZ	**Puketiti**	**1.41**	**155**	Pn	Pn	10 48 28.6	-0.4
PUZ				SN	Sn	10 48 50.1	-0.7
KUZ	**Kuaotunu**	**1.44**	**271**	⇑Pn	Pn	10 48 29.2	-0.1
URZ	**Urewera**	**1.50**	**192**	⇓PN	Pn	10 48 29.9	0.0
URZ				SN	Sn	10 48 52.4	0.0
URZ				AML	AML	10 48 53.6	
MWZ	**Matawai**	**1.54**	**179**	PN	Pn	10 48 30.8	+0.4
MWZ				SN	Sn	10 48 53.2	-0.1
MWZ				AML	AML	10 49 01.1	
CNGZ	**Carnagh Statio**	**1.77**	**162**	PN	Pn	10 48 33.1	+0.1
PRGZ	**Paritu Road**	**2.15**	**172**	PN	Pn	10 48 36.6	-0.7
KNZ	**Kokohu**	**2.23**	**177**	PN	Pn	10 48 37.4	-0.8
NMHZ	**Naumai**	**2.37**	**193**	PN	Pn	10 48 40.4	+0.4
MHGZ	**Mahia Peninsul**	**2.38**	**173**	PN	Pn	10 48 39.7	-0.4
BKZ	**Black Stump Fm**	**2.50**	**198**	PN	Pn	10 48 40.9	-0.8
MCHZ	**McNeill Hill**	**2.72**	**193**	PN	Pn	10 48 44.0	-0.3
KAHZ	**Kahuranaki**	**3.04**	**189**	PN	Pn	10 48 47.1	-1.3
PXZ	**Pawanui**	**3.27**	**189**	⇓PN	Pn	10 48 49.4	-2.0
PNHZ	**Pukenui**	**3.28**	**198**	PN	Pn	10 48 49.4	-2.1
TSZ	**Takapari Road**	**3.48**	**200**	AML	AML	10 48 58.6	
MRZ	**Mangatainoka R**	**4.10**	**201**	PN	Pn	10 48 59.4	-3.3
HOWZ	**Holdsworth Sta**	**4.38**	**200**	PN	Pn	10 49 02.5	-3.4
OGWZ	**Otaki Gorge**	**4.41**	**204**	PN	Pn	10 49 02.8	-3.4
KIW	**Kapiti Island**	**4.54**	**206**	PN	Pn	10 49 04.4	-3.5
TCW	**Tory Channel**	**5.08**	**209**	PN	Pn	10 49 10.9	-4.1
TUWZ	**Tuamarina**	**5.39**	**210**	PN	Pn	10 49 15.1	-4.1
NNZ	**Nelson**	**5.46**	**215**	PN	Pn	10 49 16.6	-3.5
THZ	**Tophouse**	**6.11**	**214**	PN	Pn	10 49 24.8	-4.0
KHZ	**Kahutara**	**6.40**	**207**	PN	Pn	10 49 27.6	-4.9

*IDC **02** 10:58:21.9±0.7, 15°.13S×173°.74W, h0km, mb4.1/7, mb1 4.5/7, mb1mx4.2/19, mbtmp4.1/7, MS3.9/4, Ms1 3.9/4, ms1mx3.5/33, Error ellipse: s-maj=42.0km s-min=21.3km az=127.0*

*NEIC **02** 10:58:23.8±0.4, 15°.15S×173°.83W, h10km, mb4.8/16, Error ellipse: s-maj=19.0km s-min=9.5km az=134.0*

*ISCJB **02** 10:58:30.3±0.4, 15°.2S±0°.1×173°.9W±0°.1, h73km, mb4.3/22, Error ellipse: s-maj=20.5km s-min=12.0km az=144.1*

ISC 02 10:58:31.9±0.6, 15°.1S±0°.2×173°.9W±0°.2, h73km, n214, σ0°.69/199, mb4.6/23, 74C-83D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.38**	**60**	*e*Pn	Pn	10 58 54.0	-15
AFI				*e*Sn	Sn	10 59 15.8	-22
AFI	**Afiamalu**	**2.38**	**60**	Pn	Pn	10 58 53.9	-15
	82nm,0.3s,baz=333,slow=3.1,SNR=37						
AFI				Sn	Sn	10 59 14.0	-23
	170nm,0.3s,baz=22,slow=23,SNR=26						
RAO	**Raoul Island**	**14.53**	**194**	LR	LR	11 06 46.2	
	comp=Z,280nm,19.5s,baz=127,slow=35						
RAR	**Rarotonga**	**14.71**	**116**	LR	LR	11 05 57.8	
	comp=Z,429nm,18.3s,baz=270,slow=31						
PPT	**Papeete**	**23.46**	**99**	LR	LR	11 09 40.7	
	comp=Z,338nm,20.1s,baz=272,slow=29						
PPT2	**Papeete2**	**23.46**	**99**	*e*LQ	LQ	11 08 00.8	
	476nm,25.2s						
PPT2				*e*LR	LR	11 09 02.0	
	385nm,26.8s						
URZ	**Urewera**	**24.37**	**197**	LR	LR	11 12 11.2	
	comp=Z,469nm,18.6s,baz=17,slow=34						
TBI	**Tubuai**	**24.45**	**113**	*e*LQ	LQ	11 08 27.6	
	341nm,25.5s						
TBI				*e*LR	LR	11 09 38.2	
	504nm,27.5s						
H11S2	**WAKE ISLAND Hy**	**38.49**	**330**	T	T	11 46 34.4	
	baz=152,slow=0.7,SNR=71						
H11S3	**WAKE ISLAND Hy**	**38.51**	**330**	T	T	11 46 35.2	
	baz=152,slow=0.7,SNR=92						
H11S1	**WAKE ISLAND Hy**	**38.51**	**330**	T	T	11 46 35.7	
	baz=152,slow=0.7,SNR=83						
H11N3	**WAKE ISLAND Hy**	**39.45**	**331**	T	T	11 47 54.7	
	baz=152,slow=0.7,SNR=51						
H11N1	**WAKE ISLAND Hy**	**39.45**	**331**	T	T	11 47 46.5	
	baz=152,slow=0.7,SNR=76						
H11N2	**WAKE ISLAND Hy**	**39.47**	**331**	T	T	11 47 51.3	
	baz=152,slow=0.7,SNR=64						
WRAB	**Tennant Creek**	**49.43**	**257**	*e*P	P	11 07 02.4	-13
AS31	**Alice Springs**	**49.74**	**252**	*e*P	P	**11 07 17.6**	**+0.3**
ASAR	**Alice Springs**	**49.74**	**252**	P	P	**11 07 17.1**	**-0.2**
ASAR	**Alice Springs**	**49.74**	**252**	P	P	**11 07 17.1**	**-0.2**
	5.5nm,0.7s,baz=87,slow=7.9,SNR=100						
VNDA	**Vanda**	**63.59**	**186**	P	P	**11 08 54.1**	**-0.4**
VNDA	**Vanda**	**63.59**	**186**	P	P	**11 08 54.1**	**-0.4**
	0.7nm,0.8s,baz=39,slow=6.5,SNR=3.3						
MPMC	**Manual Prospec**	**73.68**	**45**	⇓P	P	**11 09 58.2**	**0.0**
	baz=74						
NVAR	**Mina Array Bea**	**74.45**	**42**	P	P	**11 10 02.2**	**-0.5**
NVAR	**Mina Array Bea**	**74.45**	**42**	P	P	**11 10 02.2**	**-0.5**
	0.9nm,0.6s,baz=230,slow=9.5,SNR=7.4						
Y12C	**Blythe**	**74.55**	**48**	⇓P	P	**11 10 03.2**	**+0.1**
	baz=75						
113A	**Mohawk Valley,**	**74.60**	**49**	⇑P	P	**11 10 03.4**	**0.0**
	baz=75						
MOD	**Modoc**	**75.21**	**38**	*e*P	P	**11 10 07.9**	**+1.0**
	281nm,3.0s						
R11A	**Troy Canyon, C**	**76.20**	**44**	⇓P	P	**11 10 12.9**	**+0.2**
	baz=76						
X16A	**Lo Mia Camp, P**	**77.10**	**49**	⇓P	P	**11 10 17.8**	**0.0**
	baz=77						
319A	**Douglas**	**77.31**	**52**	⇓P	P	**11 10 19.1**	**+0.1**
	baz=77						
U15A	**North Rim**	**77.47**	**47**	⇑P	P	**11 10 19.8**	**-0.2**
	baz=78						
320A	**Kipp Ranch, An**	**77.87**	**53**	⇑P	P	**11 10 22.5**	**+0.3**
	baz=78						
G08A	**Pilot Rock**	**78.00**	**36**	*e*P	P	**11 10 23.1**	**+0.5**
	8.5nm,1.6s						
220A	**Playas Peak, P**	**78.12**	**52**	⇑P	P	**11 10 23.6**	**0.0**
	baz=78						
120A	**U Bar Ranch, L**	**78.32**	**52**	⇓P	P	**11 10 24.8**	**+0.1**
	baz=78						
Z20A	**Nine Sixteen R**	**78.60**	**51**	⇓P	P	**11 10 26.3**	**+0.1**
	baz=79						
MFID	**Camas Ranch**	**78.78**	**39**	⇑P	P	**11 10 26.8**	**-0.1**
	baz=79						
121A	**Cookes Peak, D**	**78.96**	**52**	⇓P	P	**11 10 28.0**	**-0.2**
	baz=79						
PMR	**Palmer**	**78.96**	**12**	*e*P	P	**11 10 27.9**	**+0.7**
	17nm,1.3s						
DUG	**Dugway**	**78.99**	**43**	⇑P	P	**11 10 27.7**	**-0.5**
	baz=79						
Y20A	**Horse Springs,**	**79.12**	**50**	⇓P	P	**11 10 29.0**	**-0.1**
	baz=79						
X20A	**Quemado**	**79.31**	**50**	⇓P	P	**11 10 30.2**	**0.0**
	baz=79						
Z21A	**St. Cloud Mine**	**79.38**	**51**	⇑P	P	**11 10 30.9**	**+0.3**
	baz=80						
Q16A	**Castle Valley**	**79.46**	**45**	⇓P	P	**11 10 30.5**	**-0.3**
	baz=80						
W20A	**Ramah**	**79.57**	**49**	⇓P	P	**11 10 31.4**	**-0.1**
	baz=80						
HLID	**Hailey**	**79.73**	**40**	*e*P	P	**11 10 32.3**	**+0.2**
	34nm,2.5s						
HLID	**Hailey**	**79.73**	**40**	⇑P	P	**11 10 32.4**	**+0.2**
	baz=80						
X21A	**Alamocita Cree**	**79.80**	**50**	⇓P	P	**11 10 33.4**	**+0.6**
	baz=80						
Z22A	**Elephant Butte**	**79.89**	**52**	⇑P	P	**11 10 33.4**	**+0.1**
	baz=80						
V20A	**Brimhall**	**79.90**	**49**	⇓P	P	**11 10 33.5**	**+0.3**
	baz=80						
JLU	**Jordanelle**	**80.10**	**43**	*e*P	P	**11 10 34.1**	**-0.2**
	3.2nm,0.9s						
Y22A	**Socorro**	**80.19**	**51**	⇑P	P	**11 10 34.7**	**-0.2**
	baz=80						
324A	**Moseley Ranch,**	**80.27**	**54**	⇓P	P	**11 10 35.5**	**+0.2**
	baz=80						
425A	**Indio Mountain**	**80.39**	**55**	⇑P	P	**11 10 36.4**	**+0.5**
	baz=80						
TRF	**Thorofare Moun**	**80.45**	**11**	*e*P	P	**11 10 34.8**	**-0.8**
	82nm,2.4s						
224A	**Cornudas Mount**	**80.50**	**53**	⇑P	P	**11 10 36.7**	**+0.1**
	baz=81						
626A	**Big Bend Ranch**	**80.57**	**56**	⇑P	P	**11 10 37.2**	**+0.3**
	baz=81						
U21A	**Nageezi**	**80.77**	**48**	⇓P	P	**11 10 37.8**	**-0.2**
	baz=81,SNR=5.2						
124A	**Stringfield Ra**	**80.81**	**53**	⇑P	P	**11 10 38.5**	**+0.3**
	baz=81						
526A	**Mary Lane Ranc**	**80.81**	**56**	⇑P	P	**11 10 38.6**	**+0.3**
	baz=81						
TXAR	**Lajitas Array**	**80.86**	**56**	P	P	**11 10 38.0**	**-0.4**
TXAR	**Lajitas Array**	**80.86**	**56**	P	P	**11 10 38.0**	**-0.4**
	1.2nm,1.0s,baz=227,slow=6.3,SNR=9.2						
S20A	**Disappointment**	**80.89**	**47**	⇑P	P	**11 10 38.9**	**+0.3**
	baz=81						
MCK	**McKinley**	**80.95**	**11**	*e*P	P	**11 10 37.3**	**-0.7**
	12nm,1.0s						
M17A	**Scullys Gap (B**	**81.04**	**43**	⇑P	P	**11 10 39.0**	**-0.3**
	baz=81						
225A	**Deer Hill, Car**	**81.05**	**53**	⇓P	P	**11 10 39.6**	**+0.1**
	baz=81						
V22A	**San Miguel Ran**	**81.08**	**49**	⇑P	P	**11 10 39.6**	**-0.1**
	baz=81						
426A	**McDonald Obser**	**81.10**	**55**	⇓P	P	**11 10 39.5**	**-0.3**
	baz=81,SNR=8.4						
T21A	**Navajo Lake**	**81.11**	**48**	⇓P	P	**11 10 39.8**	**+0.1**
	baz=81						
627A	**Terlingua Ranc**	**81.13**	**56**	⇓P	P	**11 10 40.1**	**+0.2**
	baz=81						
527A	**Woodward Ranch**	**81.22**	**56**	⇓P	P	**11 10 40.2**	**-0.2**
	baz=81						
P19A	**Cripple Cowboy**	**81.29**	**45**	⇑P	P	**11 10 40.1**	**-0.6**
	baz=81						
W23A	**Werner Place,**	**81.32**	**50**	⇑P	P	**11 10 40.8**	**0.0**
	baz=81						
U22A	**Llaves**	**81.33**	**49**	⇓P	P	**11 10 40.8**	**-0.1**
	baz=81						
Y24A	**Capitan**	**81.33**	**51**	⇓P	P	**11 10 40.9**	**-0.1**
	baz=81						
326A	**Caldwell Ranch**	**81.39**	**54**	⇑P	P	**11 10 40.8**	**-0.4**
	baz=82						
125A	**Gardner Draw,**	**81.41**	**53**	⇑P	P	**11 10 41.1**	**-0.2**
	baz=82						
Q20A	**Ridgley Place,**	**81.45**	**46**	⇓P	P	**11 10 41.2**	**-0.3**
	baz=82						
O19A	**Miners Draw (B**	**81.51**	**44**	⇓P	P	**11 10 41.4**	**-0.3**
	baz=82						
V23A	**Ortiz Mt. (NFS**	**81.54**	**50**	⇓P	P	**11 10 42.1**	**+0.1**
	baz=82						
RRI2	**Red Ridge**	**81.55**	**41**	*e*P	P	**11 10 42.0**	**0.0**
	7.4nm,1.3s						
628A	**Black Gap, Mar**	**81.55**	**56**	⇑P	P	**11 10 42.2**	**+0.2**
	baz=82,SNR=5.2						
226B	**Tecolote Peak,**	**81.55**	**54**	⇑P	P	**11 10 41.7**	**-0.3**
	baz=82,SNR=6.9						
T22A	**Edith**	**81.57**	**48**	⇑P	P	**11 10 42.1**	**-0.1**
	baz=82						
Z25A	**Roswell**	**81.61**	**52**	⇑P	P	**11 10 42.4**	**0.0**
	baz=82						
P20A	**De Beque**	**81.64**	**45**	⇑P	P	**11 10 42.3**	**-0.2**
	baz=82						
427A	**Hayter Ranch,**	**81.67**	**55**	⇓P	P	**11 10 42.2**	**-0.5**
	baz=82,SNR=5.4						
R21A	**Cimarron**	**81.71**	**47**	⇑P	P	**11 10 43.0**	**+0.1**
	baz=82						
MSO	**Missoula**	**81.76**	**37**	⇑P	P	**11 10 42.6**	**-0.2**
	baz=82						
DLMT	**Dillon**	**81.78**	**39**	*e*P	P	**11 10 43.1**	**+0.1**
	6.4nm,1.4s						
U23A	**El Rito**	**81.79**	**49**	⇓P	P	**11 10 43.6**	**+0.3**
	baz=82						
TPAW	**Teton Pass**	**81.85**	**41**	*e*P	P	**11 10 43.7**	**+0.1**
	22nm,2.1s						
528A	**Cox Ranch, San**	**81.89**	**56**	⇓P	P	**11 10 44.3**	**+0.5**
	baz=82						
W24A	**Lazy 6 Ranch,**	**81.89**	**50**	⇓P	P	**11 10 43.6**	**-0.3**
	baz=82						
126A	**Clayton Basin,**	**81.89**	**53**	⇑P	P	**11 10 43.6**	**-0.2**
	baz=82						
Y25A	**Mesa, Roswell**	**81.89**	**52**	⇑P	P	**11 10 43.5**	**-0.3**
	baz=82						
S22A	**4UR Ranch, Cre**	**81.94**	**48**	⇑P	P	**11 10 44.4**	**+0.2**
	baz=82,SNR=5.6						
SNOW	**Snow King Moun**	**81.96**	**41**	*e*P	P	**11 10 44.3**	**+0.2**
	12nm,1.5s						
IMW	**Indian Meadow**	**82.06**	**41**	*e*P	P	**11 10 44.9**	**+0.2**
	6.0nm,1.2s						
Z26A	**Caprock**	**82.17**	**53**	⇓P	P	**11 10 45.4**	**+0.1**
	baz=82						
428A	**Kincaid Ranch,**	**82.19**	**55**	⇓P	P	**11 10 45.5**	**+0.1**
	baz=82						
COLA	**College**	**82.19**	**11**	*e*P	P	**11 10 44.1**	**-0.3**
	17nm,0.9s						
T23A	**Casias Ranch,**	**82.20**	**48**	⇑P	P	**11 10 45.1**	**-0.4**
	baz=82						
V24A	**Rampart Ranch,**	**82.21**	**50**	⇑P	P	**11 10 45.3**	**-0.3**
	baz=82						
IM04	**Indian Mountai**	**82.27**	**8**	*e*P	P	**11 10 45.2**	**+0.3**
ILAR	**Eielson Array**	**82.28**	**11**	P	P	**11 10 44.2**	**-0.8**
ILAR	**Eielson Array**	**82.28**	**11**	P	P	**11 10 44.2**	**-0.8**
	3.4nm,1.1s,baz=210,slow=6.3,SNR=17						
529A	**Stev Forest Ra**	**82.33**	**56**	⇓P	P	**11 10 46.0**	**-0.1**
	baz=82						
N20A	**Spence Gulch,**	**82.34**	**44**	⇑P	P	**11 10 46.2**	**+0.1**
	baz=82						
328A	**Wristen Ranch,**	**82.34**	**55**	⇑P	P	**11 10 46.0**	**-0.1**
	baz=82						
IMA2	**Indian Mountai**	**82.37**	**8**	*e*P	P	**11 10 46.1**	**+0.5**
Q22A	**Crested Butte,**	**82.38**	**46**	⇓P	P	**11 10 46.4**	**-0.1**
	baz=82,SNR=5.5						
PDAR	**Pinedale Array**	**82.39**	**42**	P	P	**11 10 45.6**	**-0.7**
PDAR	**Pinedale Array**	**82.39**	**42**	P	P	**11 10 45.6**	**-0.7**
	1.0nm,0.7s,baz=218,slow=3.9,SNR=8.8						
SMCO	**Snowmass**	**82.47**	**46**	*e*P	P	**11 10 47.3**	**+0.2**
	14nm,1.6s						
W25A	**X Bar L Ranch,**	**82.60**	**51**	⇓P	P	**11 10 47.1**	**-0.4**
	baz=83						
T24B	**San Luis**	**82.69**	**49**	⇓P	P	**11 10 48.0**	**-0.1**
	baz=83						
M20A	**Sweetwater, Wa**	**82.69**	**44**	⇓P	P	**11 10 47.8**	**-0.2**
	baz=83						
V25A	**Rancho No Teng**	**82.74**	**50**	⇑P	P	**11 10 48.1**	**-0.2**
	baz=83						
429A	**Davenport Ranc**	**82.78**	**56**	⇑P	P	**11 10 47.5**	**-0.9**
	baz=83,SNR=8.9						
Z27A	**Tatum**	**82.78**	**53**	⇑P	P	**11 10 48.4**	**-0.1**
	baz=83						
P22A	**Eagle**	**82.81**	**46**	⇑P	P	**11 10 48.3**	**-0.3**
	baz=83						
L20A	**Wamsutter**	**82.83**	**43**	⇓P	P	**11 10 48.7**	**+0.1**
	baz=83						
R23A	**Moffat**	**82.85**	**47**	⇓P	P	**11 10 48.7**	**-0.2**
	baz=83						
K19A	**Absolon Red Bu**	**82.88**	**42**	⇓P	P	**11 10 48.6**	**-0.2**
	baz=83						
J19A	**Crowheart**	**82.95**	**42**	⇓P	P	**11 10 48.5**	**-0.7**
	baz=83						
329A	**Wagon Wheel Ra**	**83.03**	**55**	⇑P	P	**11 10 49.4**	**-0.3**
	baz=83						
Y27A	**Causey**	**83.04**	**52**	⇑P	P	**11 10 49.9**	**0.0**
	baz=83						
530A	**J-C Ranch, Com**	**83.04**	**56**	⇓P	P	**11 10 50.0**	**+0.1**
	baz=83						
S24A	**Houchin Ranch,**	**83.05**	**48**	⇑P	P	**11 10 50.1**	**+0.1**
	baz=83						
128A	**Castleberry Fa**	**83.07**	**54**	⇓P	P	**11 10 49.6**	**-0.4**
	baz=83						
U25A	**Circle Dot Ran**	**83.12**	**50**	⇓P	P	**11 10 49.9**	**-0.4**
	baz=83						
K20A	**Yellowstone Ra**	**83.13**	**43**	⇓P	P	**11 10 49.5**	**-0.6**
	baz=83						
O22A	**Kremmling**	**83.20**	**45**	⇑P	P	**11 10 50.1**	**-0.6**
	baz=83,SNR=5.7						
DAWY	**Dawson**	**83.28**	**15**	*e*P	P	**11 10 50.4**	**+0.2**
M21A	**Separation Pea**	**83.29**	**44**	⇑P	P	**11 10 50.6**	**-0.5**
	baz=83						
I19A	**Meeteetse**	**83.35**	**41**	⇑P	P	**11 10 51.3**	**0.0**
	baz=84						
MSTX	**Muleshoe**	**83.37**	**52**	*e*P	P	**11 10 51.5**	**0.0**
	10nm,1.2s						
MSTX	**Muleshoe**	**83.37**	**52**	⇓P	P	**11 10 51.3**	**-0.2**
	baz=84						
R24A	**Sanders Place,**	**83.38**	**48**	⇑P	P	**11 10 51.9**	**+0.3**
	baz=84						
631A	**Perdido Creek**	**83.39**	**57**	⇑P	P	**11 10 51.7**	**+0.1**
	baz=84						
X27A	**F and S Farms,**	**83.39**	**52**	⇓P	P	**11 10 51.5**	**-0.1**
	baz=84						
Z28A	**Tucker Farm, M**	**83.41**	**53**	⇓P	P	**11 10 51.9**	**+0.2**
	baz=84						
T25A	**Trinidad**	**83.42**	**49**	⇑P	P	**11 10 51.4**	**-0.4**
	baz=84						
L21A	**Rawlins**	**83.45**	**44**	⇓P	P	**11 10 51.4**	**-0.4**
	baz=84						
N22A	**Wattenberg Ran**	**83.55**	**45**	⇑P	P	**11 10 52.2**	**-0.3**
	baz=84						
W27A	**Bowe Ranch, En**	**83.58**	**51**	⇓P	P	**11 10 52.1**	**-0.5**
	baz=84						
U26A	**Atchley Ranch,**	**83.61**	**50**	⇓P	P	**11 10 52.6**	**-0.1**
	baz=84						
J20A	**Shoshoni**	**83.62**	**42**	⇑P	P	**11 10 52.0**	**-0.6**
	baz=84						
S25A	**Robets Cordova**	**83.62**	**48**	⇓P	P	**11 10 52.8**	**0.0**
	baz=84						
Q24A	**Divide**	**83.66**	**47**	⇓P	P	**11 10 52.7**	**-0.4**
	baz=84						
H19A	**Powell**	**83.66**	**41**	⇑P	P	**11 10 52.8**	**+0.1**
	baz=84						
ISCO	**Idaho Springs**	**83.69**	**46**	⇓P	P	**11 10 53.4**	**+0.1**
	baz=84						
Y28A	**McKinney Farm,**	**83.75**	**53**	⇓P	P	**11 10 53.2**	**-0.2**
	baz=84						
431A	**Sonora**	**83.83**	**56**	⇑P	P	**11 10 54.0**	**+0.2**
	baz=84						
K21A	**Alcova**	**83.83**	**43**	⇓P	P	**11 10 53.6**	**-0.2**
	baz=84						
I20A	**Worland**	**83.86**	**41**	⇓P	P	**11 10 53.8**	**-0.1**
	baz=84						
Z29A	**Hungry Hill Ra**	**83.92**	**53**	⇓P	P	**11 10 54.1**	**-0.2**
	baz=84						
R25A	**Fountain Ranch**	**83.93**	**48**	⇑P	P	**11 10 54.1**	**-0.2**
	baz=84						
N23A	**Red Feather La**	**83.94**	**45**	⇓P	P	**11 10 54.2**	**-0.3**
	baz=84						
COLD	**Coldfoot**	**83.96**	**9**	*e*P	P	**11 10 55.1**	**+1.5**
	6.7nm,1.0s						
X28A	**Dimmitt**	**84.03**	**52**	⇓P	P	**11 10 54.6**	**-0.2**
	baz=84						
J21A	**Lysite**	**84.03**	**42**	⇓P	P	**11 10 54.2**	**-0.5**
	baz=84						
632A	**Uvalde**	**84.07**	**57**	⇑P	P	**11 10 55.1**	**0.0**
	baz=84						
L22A	**Ellis Ranch, M**	**84.10**	**44**	⇓P	P	**11 10 54.7**	**-0.5**
	baz=84						
Y29A	**Porterfield Fa**	**84.18**	**53**	⇑P	P	**11 10 55.3**	**-0.3**
	baz=84						
532A	**Rocksprings**	**84.19**	**57**	⇑P	P	**11 10 55.4**	**-0.3**
	baz=84						
F19A	**Roth Farm, Mol**	**84.25**	**40**	⇓P	P	**11 10 55.2**	**-0.5**
	baz=84						
U27A	**Thompson Grove**	**84.30**	**50**	⇑P	P	**11 10 55.8**	**-0.5**
	baz=84						
S26A	**Kim**	**84.31**	**49**	⇓P	P	**11 10 55.5**	**-0.7**
	baz=84						
M23A	**Laramie**	**84.34**	**45**	⇓P	P	**11 10 55.7**	**-0.7**
	baz=84						
I21A	**Big Trails, Te**	**84.34**	**42**	⇑P	P	**11 10 55.6**	**-0.7**
	baz=84						
X29A	**Tulia**	**84.38**	**52**	⇓P	P	**11 10 56.4**	**-0.2**
	baz=84						
Z30A	**Sanderson Ranc**	**84.38**	**54**	⇑P	P	**11 10 56.3**	**-0.3**
	baz=84						
231A	**Bronte**	**84.52**	**55**	⇑P	P	**11 10 56.9**	**-0.3**
	baz=85						
R26A	**Arlington**	**84.60**	**48**	⇑P	P	**11 10 57.3**	**-0.4**
	baz=85						
T27A	**Campo**	**84.63**	**50**	⇑P	P	**11 10 57.5**	**-0.4**
	baz=85						
L23A	**Garrett**	**84.63**	**44**	⇓P	P	**11 10 57.6**	**-0.2**

MAW	**Mawson**	**87.89**	**199**	P	**P**	**11 11 13.3**	**+0.2**
MAW	**Mawson**	**87.89**	**199**	P	**P**	**11 11 13.3**	**+0.2**
	3.1nm,0.9s,baz=84,slow=10,SNR=3.5						
MPR	**Mayaguez**	**110.19**	**76**	*e*Pdif	**Pdif**	**11 13 02.7**	**+7.7**
BRTR	**Keskin Array B**	**145.65**	**321**	PKPbc	**PKPab**	**11 18 04.5**	**+1.3**
BRTR	**Keskin Array B**	**145.65**	**321**	PKPbc	**PKPab**	**11 18 04.5**	**+1.3**
	3.4nm,0.9s,baz=112,slow=1.3,SNR=13						
GERES	**GERESS Array B**	**145.81**	**351**	PKPbc	**PKPdf**	**11 18 01.8**	**-0.6**
GERES	**GERESS Array B**	**145.81**	**351**	PKPbc	**PKPdf**	**11 18 01.8**	**-0.6**
	0.7nm,0.6s,baz=43,slow=2.4,SNR=4.2						
ESDC	**Sonseca Array**	**154.01**	**18**	PKPab	**PKPab**	**11 18 35.7**	**-1.3**
ESDC	**Sonseca Array**	**154.01**	**18**	PKPab	**PKPab**	**11 18 35.7**	**-1.3**
	0.2nm,0.3s,baz=349,slow=3.5,SNR=4.6						

IDC ***02*** *11:02:09.5±1.1,6.01S×151.61E,h0km,mb4.2/5, mb1 4.5/6,mb1mx4.0/19,mbtmp4.3/6,ML3.0/1,Error ellipse: s-maj=58.9km s-min=22.1km az=130.0*

ISCJB ***02*** *11:02:14.3±0.6,6.1S±0.1×151.5E±0.1,h41km,mb4.4/8, Error ellipse: s-maj=21.3km s-min=7.6km az=38.3*

NEIC ***02*** *11:02:14.8±0.5,6.15S×151.62E,h35km,mb4.9/4,Error ellipse: s-maj=27.3km s-min=9.1km az=125.0*

AUST ***02*** *11:02:16.0±2.1,6.28S×151.84E,h42km±23km,Error ellipse: s-maj=30.8km s-min=15.6km az=106.0*

ISC 02 11:02:15.4±0.8,6.2S±0.1×151.7E±0.2,h41km,n29, σ0892/29,mb4.3/8,1C-1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.02**	**13**	⇓P		**Pn**	**11 02 46.4**	**-0.7**
	baz=2.1,SNR=28							
PMG	**Port Moresby**	**5.52**	**234**	*e*Pn		**Pn**	**11 03 34.4**	**-0.7**
	73nm,0.8s							
PMG				*e*Sn		**Sn**	**11 04 38.9**	**+1.6**
PMG	**Port Moresby**	**5.52**	**234**	Pn		**Pn**	**11 03 35.0**	**-0.2**
	3.1nm,0.3s,baz=44,slow=8.2,SNR=24							
PMG				Sn		**Sn**	**11 04 35.8**	**-1.6**
	2.1nm,0.3s,baz=133,slow=20,SNR=5.9							
MANU	**Manus Island**	**5.95**	**313**	P		Pn	11 03 46.9	+5.8
	baz=6.2,SNR=4.8							
CTA	**Charters Tower**	**14.81**	**200**	Pn		**P**	**11 05 47.7**	**+0.3**
CTA	**Charters Tower**	**14.81**	**200**	Pn		**P**	**11 05 47.7**	**+0.3**
	0.2nm,0.3s,baz=27,slow=13,SNR=5.7							
CTAO	**Charters Tower**	**14.81**	**200**	*e*Pn		**Pn**	**11 05 40.7**	**-1.4**
KDU	**Kakadu**	**20.02**	**250**	P		**P**	**11 06 45.8**	**+0.8**
	baz=20,SNR=5.6							
RMQ	**Roma**	**20.39**	**188**	P		Pn	11 06 51.5	+0.2
	baz=20,SNR=16							
QLP	**Quilpie**	**21.51**	**198**	P		**P**	**11 07 02.9**	**+2.0**
	baz=22,SNR=7.9							
WRA	**Warramunga Arr**	**21.72**	**229**	P		**P**	**11 07 02.2**	**-1.0**
WRA	**Warramunga Arr**	**21.72**	**229**	P		**P**	**11 07 02.2**	**-1.0**
	5.1nm,0.9s,baz=56,slow=11,SNR=37							
KNRA	**Kununurra**	**24.39**	**245**	⇑P		**P**	**11 07 30.4**	**+0.3**
	baz=24,SNR=3.1							
ASAR	**Alice Springs**	**24.40**	**223**	P		**P**	**11 07 30.9**	**+0.7**
ASAR	**Alice Springs**	**24.40**	**223**	P		**P**	**11 07 30.9**	**+0.7**
	10nm,0.8s,baz=52,slow=9.5,SNR=46							
STKA	**Stephens Creek**	**27.26**	**199**	P		**P**	**11 07 56.7**	**+0.8**
STKA	**Stephens Creek**	**27.26**	**199**	P		**P**	**11 07 56.7**	**+0.8**
	3.5nm,0.8s,baz=12,slow=13,SNR=5.3							
FITZ	**Fitzroy Crossi**	**28.05**	**243**	*e*P		**P**	**11 08 02.1**	**-0.9**
	2.0nm,0.6s							
FITZ	**Fitzroy Crossi**	**28.05**	**243**	P		**P**	**11 08 02.3**	**-0.8**
	baz=28,SNR=5.8							
FITZ	**Fitzroy Crossi**	**28.05**	**243**	P		**P**	**11 08 02.3**	**-0.8**
	2.4nm,0.7s,baz=95,slow=10.0,SNR=11							
RSO	**Redoubt South**	**79.29**	**25**	*e*P		**P**	**11 14 15.9**	**-0.7**
	28nm,0.6s							
MCK	**McKinley**	**82.55**	**23**	*e*P		**P**	**11 14 34.7**	**+1.0**
	9.6nm,1.4s							
COLA	**College**	**83.53**	**22**	*e*P		**P**	**11 14 38.9**	**+0.2**
	12nm,0.8s							
ILAR	**Eielson Array**	**83.84**	**22**	P		**P**	**11 14 40.1**	**-0.2**
ILAR	**Eielson Array**	**83.84**	**22**	P		**P**	**11 14 40.1**	**-0.2**
	1.6nm,0.8s,baz=248,slow=5.2,SNR=16							
TORD	**Torodi Ar. Bea**	**149.64**	**285**	PKPbc		**PKPbc**	**11 22 01.6**	**0.0**
TORD	**Torodi Ar. Bea**	**149.64**	**285**	PKPbc		**PKPbc**	**11 22 01.6**	**0.0**
	2.0nm,0.8s,baz=56,slow=2.6,SNR=8.8							
BDFB	**Brasilia**	**150.83**	**138**	PKPbc		**PKPbc**	**11 22 05.2**	**+0.5**
BDFB	**Brasilia**	**150.83**	**138**	PKPbc		**PKPbc**	**11 22 05.2**	**+0.5**
	1.8nm,0.4s,baz=149,slow=5.9,SNR=3.1							

SKHL 02 11:03:06.5±0.3,46.77N×142.08E,h10km,mb4.2/2,1D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.50**	**68**	⇓*i*Pg		Pg	11 03 15.9	-0.3
YSS				AMB		AMB	11 03 16.4	
	140nm,0.2s							
YSS				*ep*P		Pb	11 03 18.5	+1.1
YSS				*e*Sg		Sg	11 03 22.8	0.0
YSS				A		A	11 03 23.8	
	2μm,0.4s							
YSS				AMS		AMS	11 03 42.0	
	600nm,4.0s							
YSS				AMS		AMS	11 03 42.0	
	400nm,4.0s							
UGL	**Uglegorsk**	**2.31**	**360**	*e*Pg		Pg	11 03 52.5	+1.7
UGL				AMB		AMB	11 03 54.0	
	30nm,0.5s							
UGL				*e*Sg		Sg	11 04 24.3	+3.6
UGL				A		A	11 04 26.0	
	70nm,0.5s							

ISCJB ***02*** *11:05:15.5±0.4,6.16S±0.07×151.49E±0.07,h41km, mb4.4/19,MS3.7/5,Error ellipse: s-maj=11.7km s-min=7.9km az=39.3*

NEIC ***02*** *11:05:16.4±0.4,6.11S×151.49E,h35km,mb4.8/6,Error ellipse: s-maj=13.6km s-min=9.8km az=117.0*

IDC ***02*** *11:05:20.2±2.6,6.26S×151.47E,h75km±23km,mb3.9/13, mb1 4.1/16,mb1mx4.0/22,mbtmp4.0/16,MS3.7/5, Ms1 3.7/5,ms1mx3.4/30,Error ellipse: s-maj=18.3km s-min=15.2km az=137.0*

ISC 02 11:05:16.6±0.5,6.20S±0.08×151.57E±0.10,h41km,n53, σ1961/54,mb4.3/19,MS3.6/5,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.41**	**234**	*e*Pn		**Pn**	**11 06 37.3**	**+2.5**
PMG				*e*Sn		**Sn**	**11 07 31.3**	**-4.6**
PMG	**Port Moresby**	**5.41**	**234**	P		**Pn**	**11 06 36.0**	**+1.2**
	22nm,0.3s,baz=52,slow=7.1,SNR=29							
PMG				S		**Sn**	**11 07 36.8**	**+1.0**
	20nm,0.3s,baz=142,slow=21,SNR=7.5							
HNR	**Honiara**	**8.90**	**112**	P		Pn	11 07 27.1	+4.4
HNR	**Honiara**	**8.90**	**112**	P		Pn	11 07 27.1	+4.4
	3.1nm,0.3s,baz=217,slow=3.6,SNR=3.7							
CTA	**Charters Tower**	**14.74**	**200**	P		**Pn**	**11 08 43.2**	**+0.7**
CTA	**Charters Tower**	**14.74**	**200**	P		**Pn**	**11 08 43.2**	**+0.7**
	0.1nm,0.3s,baz=36,slow=19,SNR=3.0							
CTAO	**Charters Tower**	**14.74**	**200**	*e*Pn		**Pn**	**11 08 43.2**	**+0.7**
	35nm,1.6s							
DZM	**Mont Dzumac**	**21.34**	**139**	P		**P**	**11 10 01.7**	**+1.2**
DZM	**Mont Dzumac**	**21.34**	**139**	P		**P**	**11 10 01.7**	**+1.2**
	6.0nm,0.9s,baz=307,slow=10,SNR=2.9							
WRA	**Warramunga Arr**	**21.61**	**229**	P		**P**	**11 10 03.1**	**-0.1**
WRA	**Warramunga Arr**	**21.61**	**229**	P		**P**	**11 10 03.1**	**-0.1**
	20nm,1.1s,baz=55,slow=10,SNR=21							
AS31	**Alice Springs**	**24.30**	**223**	*e*P		**P**	**11 10 30.6**	**+0.2**
ASAR	**Alice Springs**	**24.30**	**223**	P		**P**	**11 10 30.4**	**-0.1**
ASAR	**Alice Springs**	**24.30**	**223**	P		**P**	**11 10 30.4**	**-0.1**
	25nm,0.9s,baz=55,slow=9.3,SNR=60							
STKA	**Stephens Creek**	**27.20**	**199**	P		**P**	**11 10 56.8**	**+0.2**
STKA				*e*P		pP	11 10 59.2	-8.5
STKA	**Stephens Creek**	**27.20**	**199**	P		**P**	**11 10 56.8**	**+0.2**
	7.2nm,0.9s,baz=14,slow=9.7,SNR=10							
STKA				LR		LR	11 22 24.6	
	comp=Z,106nm,20.4s,baz=29,slow=38							
BATI	**Baumata**	**27.90**	**260**	P		**P**	**11 11 05.8**	**+2.8**
BATI	**Baumata**	**27.90**	**260**	P		**P**	**11 11 05.8**	**+2.8**
	21nm,0.8s,baz=82,slow=7.1,SNR=3.4							
FITZ	**Fitzroy Crossi**	**27.93**	**243**	*e*P		**P**	**11 11 02.6**	**-0.6**
	12nm,0.7s							
FITZ	**Fitzroy Crossi**	**27.93**	**243**	P		**P**	**11 11 02.7**	**-0.5**
	6.0nm,0.5s,baz=76,slow=7.9,SNR=19							
JCJ	**Chichijima**	**34.32**	**345**	LR		LR	11 23 45.8	
	comp=Z,138nm,21.9s,baz=118,slow=32							
NWAO	**Narrogin (SRO)**	**41.54**	**226**	LR		LR	11 29 12.2	
	comp=Z,212nm,20.1s,baz=53,slow=35							
JNU	**Nakatsue**	**43.76**	**335**	LR		LR	11 28 42.7	
	comp=Z,63nm,19.4s,baz=332,slow=32							
ASAJ	**Asahikawa**	**50.73**	**352**	LR		LR	11 34 14.3	
	comp=Z,82nm,20.1s,baz=172,slow=34							
PETK	**Petropavlovsk-**	**59.31**	**4**	P		**P**	**11 15 15.7**	**+1.5**
PETK	**Petropavlovsk-**	**59.31**	**4**	P		**P**	**11 15 15.7**	**+1.5**
	1.1nm,0.5s,baz=166,slow=8.8,SNR=3.1							
SONM	**Songino Array**	**66.86**	**329**	P		**P**	**11 16 05.5**	**+0.9**
SONM	**Songino Array**	**66.86**	**329**	P		**P**	**11 16 05.5**	**+0.9**
	1.2nm,0.8s,baz=128,slow=5.0,SNR=5.3							
VNDA	**Vanda**	**71.49**	**178**	*e*P		**P**	**11 16 32.7**	**+0.1**
VNDA	**Vanda**	**71.49**	**178**	P		**P**	**11 16 31.0**	**-1.6**
	1.3nm,1.1s,baz=356,slow=8.6,SNR=3.5							
MKAR	**Makanchi Array**	**80.58**	**319**	P		**P**	**11 17 23.1**	**-1.7**
MKAR	**Makanchi Array**	**80.58**	**319**	P		**P**	**11 17 23.1**	**-1.7**
	0.3nm,0.7s,baz=92,slow=7.2,SNR=2.9							
ZALV	**Zalesovo Beam**	**81.64**	**327**	P		**P**	**11 17 29.8**	**-0.5**
ZALV	**Zalesovo Beam**	**81.64**	**327**	P		**P**	**11 17 29.8**	**-0.5**
	0.9nm,0.6s,baz=103,slow=6.4,SNR=2.4							
MCK	**McKinley**	**82.61**	**23**	*e*P		**P**	**11 17 35.2**	**-0.1**
	6.7nm,0.9s							
COLA	**College**	**83.59**	**22**	*e*P		**P**	**11 17 41.0**	**+0.7**
	17nm,0.7s							
QSPA	**South Pole Qui**	**83.77**	**180**	*e*P		**P**	**11 17 42.0**	**+0.6**
	14nm,1.1s							
QSPA				*ep*P		**pP**	**11 17 51.8**	**-2.0**
MAW	**Mawson**	**83.82**	**203**	P		**P**	**11 17 40.4**	**-1.0**
MAW	**Mawson**	**83.82**	**203**	P		**P**	**11 17 40.4**	**-1.0**
	1.3nm,0.6s,baz=48,slow=4.3,SNR=3.4							
ILAR	**Eielson Array**	**83.91**	**22**	P		**P**	**11 17 40.4**	**-1.5**
ILAR	**Eielson Array**	**83.91**	**22**	P		**P**	**11 17 40.4**	**-1.5**
	3.7nm,0.7s,baz=246,slow=5.2,SNR=28							
KURK	**Kurchatov**	**84.11**	**322**	*e*P		**P**	**11 17 43.4**	**+0.2**
	3.2nm,1.1s							
KURK				*ep*P		**PcP**	**11 17 50.2**	**+3.2**
EKS2	**Erkin-Say**	**85.26**	**314**	*e*P		**P**	**11 17 49.5**	**+0.1**
	16nm,1.6s							
EKS2				*ep*P		**pP**	**11 17 57.2**	**-4.7**
DAWY	**Dawson**	**86.56**	**24**	*e*P		**P**	**11 17 56.3**	**+1.1**
DAWY				*ep*P		**pP**	**11 18 06.3**	**-1.4**
INK	**Inuvik**	**90.19**	**21**	*e*P		**P**	**11 18 11.9**	**-0.4**
INK				*ep*P		**pP**	**11 18 21.9**	**-2.9**
NVAR	**Mina Array Bea**	**93.90**	**52**	P		**P**	**11 18 31.7**	**+1.2**
NVAR	**Mina Array Bea**	**93.90**	**52**	P		**P**	**11 18 31.7**	**+1.2**
	0.6nm,0.7s,baz=267,slow=6.3,SNR=5.5							
GERES	**GERESS Array B**	**124.58**	**327**	PKP		**PKPdf**	**11 24 12.2**	**+0.4**
GERES	**GERESS Array B**	**124.58**	**327**	PKP		**PKPdf**	**11 24 12.2**	**+0.4**
	0.4nm,0.5s,baz=64,slow=3.1,SNR=4.6							
TORD	**Torodi Ar. Bea**	**149.53**	**285**	PKPbc		**PKPbc**	**11 25 01.2**	**-1.4**
TORD	**Torodi Ar. Bea**	**149.53**	**285**	PKPbc		**PKPbc**	**11 25 01.2**	**-1.4**
	5.1nm,0.7s,baz=56,slow=2.2,SNR=22							
BDFB	**Brasilia**	**150.90**	**138**	PKPbc		**PKPbc**	**11 25 04.7**	**-1.4**
BDFB	**Brasilia**	**150.90**	**138**	PKPbc		**PKPbc**	**11 25 04.7**	**-1.4**
	2.2nm,0.5s,baz=160,slow=4.4,SNR=3.6							

ISCJB ***02*** *11:09:31.4±0.2,14.98S±0.07×173.57W±0.05,h10km, mb4.8/100,MS4.5/16,Error ellipse: s-maj=10.7km s-min=6.0km az=155.7*

IDC ***02*** *11:09:31.0±0.6,15.05S×173.50W,h0km,mb4.4/17, mb1 4.6/17,mb1mx4.6/22,mbtmp4.4/17,MS4.3/12, Ms1 4.3/12,ms1mx4.2/17,Error ellipse: s-maj=21.2km s-min=14.3km az=132.0*

NEIC ***02*** *11:09:32.9±0.2,14.93S×173.58W,h10km,mb5.0/74, Error ellipse: s-maj=8.2km s-min=4.4km az=142.0*

SZGRF ***02*** *11:09:34.5,15.86S×172.96W,h33km,Samoa Islands region*

BJI ***02*** *11:09:34.4,14.56S×173.98W,h8km,mB5.5/15,mb5.0/24, Ms5.2/10,Ms7 4.8/12*

ISC 02 11:09:33.7±0.8,15.01S±0.09×173.47W±0.09,h15km±4km, n460,σ0665/451,mb4.9/100,MS4.5/16,105C-139D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.97**	**56**	*e*Pn		Pn	11 09 59.1	-7.6
AFI				Sn		Sn	11 10 17.4	-14
AFI				*e*Sn		Sb	11 10 19.2	-15
AFI	**Afiamalu**	**1.97**	**56**	Pn		Pn	11 09 59.1	-7.6
	185nm,0.3s,baz=179,slow=1.1,SNR=66							
AFI				Sn		Sn	11 10 17.4	-14
	874nm,0.3s,baz=171,slow=19,SNR=23							
MSVF	**Nonsavu**	**8.58**	**250**	*e*Pn		Pn	11 11 43.9	+6.4
RAR	**Rarotonga**	**14.40**	**117**	Pn		Pn	11 12 49.8	-7.4
RAR	**Rarotonga**	**14.40**	**117**	Pn		Pn	11 12 49.7	-7.4
	2.1nm,0.3s,baz=270,slow=11,SNR=4.8							
RAR				LR		LR	11 16 49.1	
	comp=Z,724nm,19.5s,baz=270,slow=30							
RAO	**Raoul Island**	**14.76**	**195**	LR		LR	11 18 04.7	
	comp=Z,850nm,18.4s,baz=47,slow=35							
DZM	**Mont Dzumac**	**20.29**	**247**	*e*P		Pn	11 14 15.0	+3.8
	112nm,1.4s							
DZM	**Mont Dzumac**	**20.29**	**247**	*e*P		Pn	11 14 15.1	+3.9
DZM	**Mont Dzumac**	**20.29**	**247**	P		**P**	**11 14 10.1**	**+0.9**
	8.9nm,1.1s,baz=14,slow=11,SNR=3.0							
PPT	**Papeete**	**23.07**	**100**	LR		LR	11 22 22.3	
	comp=Z,447nm,19.0s,baz=147,slow=33							
PPT2	**Papeete2**	**23.07**	**100**	*e*LQ		LQ	11 19 00.6	
	1μm,26.8s							
PPT2				*e*LR		LR	11 20 05.3	
	642nm,25.5s							
TBI	**Tubuai**	**24.12**	**114**	*e*LQ		LQ	11 19 29.4	
	926nm,27.8s							
TBI				*e*LR		LR	11 20 40.3	
	877nm,25.2s							
URZ	**Urewera**	**24.61**	**198**	P		**P**	**11 14 53.0**	**-0.4**
URZ	**Urewera**	**24.61**	**198**	P		**P**	**11 14 53.0**	**-0.4**
	4.1nm,0.5s,baz=90,slow=20,SNR=2.1							
URZ				LR		LR	11 23 00.9	
	comp=Z,1μm,20.6s,baz=28,slow=33							
RKT	**Rikitea**	**37.18**	**109**	*e*LR		LR	11 26 42.5	
	339nm,25.2s							
H11S2	**WAKE ISLAND Hy**	**38.60**	**329**	T		T	11 57 26.4	
	baz=153,SNR=10							
H11S3	**WAKE ISLAND Hy**	**38.61**	**329**	T		T	11 58 04.5	
	baz=153,slow=0.7,SNR=12							
H11S1	**WAKE ISLAND Hy**	**38.62**	**329**	T		T	11 58 09.2	
	baz=153,slow=0.7,SNR=16							
CTA	**Charters Tower**	**38.67**	**257**	P		**P**	**11 16 55.5**	**-1.6**
CTA	**Charters Tower**	**38.67**	**257**	P		**P**	**11 16 55.5**	**-1.6**
	2.4nm,0.8s,baz=90,slow=10,SNR=2.6							
CTAO	**Charters Tower**	**38.67**	**257**	*e*P		**P**	**11 16 55.9**	**-1.2**
H11N3	**WAKE ISLAND Hy**	**39.54**	**330**	T		T	11 59 25.5	
	baz=152,slow=0.7,SNR=9.1							
H11N1	**WAKE ISLAND Hy**	**39.55**	**330**	T		T	11 59 08.8	
	baz=152,slow=0.7,SNR=14							
H11N2	**WAKE ISLAND Hy**	**39.56**	**330**	T		T	11 59 23.9	
	baz=152,slow=0.7,SNR=9.7							
STKA	**Stephens Creek**	**44.18**	**240**	*e*P		**P**	**11 17 44.5**	**+2.3**
STKA	**Stephens Creek**	**44.18**	**240**	P		**P**	**11 17 40.0**	**-2.2**
	4.2nm,1.0s,baz=68,slow=10,SNR=4.7							
WRAB	**Tennant Creek**	**49.86**	**256**	*e*P		**P**	**11 18 25.0**	**-1.8**
	21nm,4s							
WRA	**Warramunga Arr**	**49.87**	**256**	P		**P**	**11 18 25.5**	**-1.4**
WRA	**Warramunga Arr**	**49.87**	**256**	P		**P**	**11 18 25.5**	**-1.4**
	3.8nm,0.9s,baz=100,slow=5.9,SNR=29							
AS31	**Alice Springs**	**50.17**	**252**	*e*P		**P**	**11 18 26.9**	**-2.2**
ASAR	**Alice Springs**	**50.17**	**252**	P		**P**	**11 18 27.1**	**-2.0**
ASAR	**Alice Springs**	**50.17**	**252**	P		**P**	**11 18 27.1**	**-2.0**
	13nm,0.7s,baz=85,slow=8.4,SNR=101							
SBA	**Scott Base**	**63.63**	**185**	*e*P		**P**	**11 20 06.0**	**+2.3**
	8.7nm,1.0s							
VNDA	**Vanda**	**63.76**	**186**	P		**P**	**11 20 05.4**	**+0.8**
VNDA	**Vanda**	**63.76**	**186**	P		**P**	**11 20 05.4**	**+0.8**
	3.8nm,1.0s,baz=12,slow=6.3,SNR=11							
MJAR	**Matsushiro Arr**	**68.60**	**320**	P		**P**	**11 20 36.0**	**-0.3**
MJAR	**Matsushiro Arr**	**68.60**	**320**	P		**P**	**11 20 36.0**	**-0.3**
	10.0nm,1.2s,baz=158,slow=6.1,SNR=9.9							
MAJO	**Matsushiro**	**68.60**	**320**	*e*P		**P**	**11 20 36.5**	**+0.2**
	21nm,1.4s							
MAT	**Matsushiro**	**68.60**	**320**	P		**P**	**11 20 35.8**	**-0.5**
MAT				*e*S		**S**	**11 29 36.6**	**-1.9**
PETK	**Petropavlovsk-**	**72.24**	**342**	P		**P**	**11 20 58.4**	**+0.3**
PETK	**Petropavlovsk-**	**72.24**	**342**	P		**P**	**11 20 58.4**	**+0.3**
	9.8nm,0.9s,baz=144,slow=10,SNR=9.7							
PETK				LR		LR	11 52 45.7	
	comp=Z,83nm,18.0s,baz=146,slow=36							
EDW2	**Edwards Air Fo**	**72.32**	**45**	⇓P		**P**	**11 20 59.5**	**+0.4**
	baz=72							
MONP	**Monument Peak**	**72.35**	**48**	⇓P		**P**	**11 21 00.0**	**+0.5**
	baz=72							
PFO	**Pinyon Flat Ob**	**72.71**	**47**	⇓P		**P**	**11 21 01.9**	**+0.4**
	baz=73							
SWSC	**Sam W. Stewart**	**72.83**	**48**	⇓P		**P**	**11 21 02.2**	**+0.2**
	baz=73							
LRMC	**Laurel Mountai**	**72.85**	**45**	⇓P		**P**	**11 21 02.7**	**+0.4**
	baz=73							
BELC	**Belle Mtn. Jos**	**73.23**	**47**	⇑P		**P**	**11 21 04.4**	**-0.2**
	baz=73							
MPMC	**Manual Prospec**	**73.31**	**45**	⇓P		**P**	**11 21 05.2**	**+0.1**
	baz=74							
GSC	**Goldstone**	**73.36**	**45**	⇓P		**P**	**11 21 05.4**	**+0.1**
	baz=74							
BC3	**Big Chuckawall**	**73.44**	**48**	⇓P		**P**	**11 21 06.4**	**+0.5**
	baz=74							
GLA	**Glamis**	**73.58**	**48**	⇑P		**P**	**11 21 07.0**	**+0.4**
	baz=74							
GMRC	**Granite Mounta**	**73.88**	**46**	⇑P		**P**	**11 21 08.6**	**+0.2**
	baz=74							
IRM	**Iron Mountain**	**73.92**	**47**	⇓P		**P**	**11 21 09.0**	**+0.4**
	baz=74							
TUQ	**Turquoise Moun**	**74.04**	**46**	⇓P		**P**	**11 21 09.9**	**+0.6**
	baz=74							
SHOC	**Shoshone**	**74.04**	**45**	⇑P		**P**	**11 21 09.7**	**+0.5**
	baz=74							
NVAR	**Mina Array Bea**	**74.08**	**42**	P		**P**	**11 21 09.4**	**-0.2**
NVAR	**Mina Array Bea**	**74.08**	**42**	P		**P**	**11 21 09.4**	**-0.2**
	1.9nm,0.8s,baz=230,slow=9.6,SNR=9.3							
PAHR	**Pah Rah Range**	**74.13**	**41**	*e*P		**P**	**11 21 09.8**	**0.0**
	21nm,1.6s							
Y12C	**Blythe**	**74.16**	**48**	⇑P		**P**	**11 21 10.1**	**+0.2**
	baz=74							
NV11	**Mina Array Sit**	**74.18**	**42**	*e*P		**P**	**11 21 09.9**	**-0.2**
NV11				*ep*PcP		**PcP**	**11 21 25.7**	**+0.6**
113A	**Mohawk Valley,**	**74.21**	**49**	⇑P		**P**	**11 21 10.4**	**+0.2**
	baz=74							
LDFC	**Landfair**	**74.42**	**46**	*e*P		**P**	**11 21 11.7**	**+0.1**
	18nm,1.3s							
214A	**Organ Pipe Nat**	**74.52**	**50**	⇓P		**P**	**11 21 12.0**	**0.0**
	baz=75							
PDMCI	**Parker Dam,Lak**	**74.71**	**48**	⇑P		**P**	**11 21 13.4**	**+0.3**
	baz=75							
MOD	**Modoc**	**74.86**	**38**	*e*P		**P**	**11 21 13.1**	**-0.8**
	101nm,1.5s							
K05A	**Summer Lake**	**75.00**	**37**	*e*P		**P**	**11 21 15.3**	**+0.4**
	42nm,1.5s							
QSPA	**South Pole Qui**	**75.03**	**180**	*e*P		**P**	**11 21 16.0**	**+1.4**
QSPA	**South Pole Qui**	**75.03**	**180**	LR		LR	11 47 27.1	
	comp=Z,262nm,20.8s,baz=221,slow=30							
Z14A	**Wintersburg**	**75.10**	**49**	⇓P		**P**	**11 21 15.7**	**+0.3**
	baz=75							
SHPR	**Sheep Range**	**75.13**	**45**	*e*P		**P**	**11 21 15.8**	**+0.1**
	6.3nm,1.4s							
W13A	**Hualapai Mount**	**75.29**	**47**	⇑P		**P**	**11 21 16.7**	**-0.1**
	baz=76							
Y14A	**Wickenburg**	**75.34**	**48**	⇑P		**P**	**11 21 17.1**	**+0.2**
	baz=76							
H04A	**Detroit Lake**	**75.47**	**35**	*e*P		**P**	**11 21 17.6**	**+0.2**
	32nm,1.5s							
PINOR	**Pine Mountain**	**75.68**	**36**	*e*P		**P**	**11 21 19.1**	**+0.7**
	37nm,1.5s							
R11A	**Troy Canyon, C**	**75.82**	**43**	*e*P		**P**	**11 21 19.5**	**-0.2**
	21nm,2.1s							
R11A	**Troy Canyon, C**	**75.82**	**43**	⇑P		**P**	**11 21 19.9**	**+0.2**
	baz=76							
KSRS	**Korea Array**	**75.84**	**316**	P		**P**	**11 21 19.9**	**+0.5**
	2.5nm,1.0s,baz=134,slow=10,SNR=5.4							
KSAR	**Wonju Array Be**	**75.86**	**315**	P		**P**	**11 21 19.9**	**+0.3**
WVOR	**Wild Horse Val**	**76.17**	**39**	*e*P		**P**	**11 21 21.4**	**0.0**
	16nm,1.4s							
TUC	**Tucson**	**76.19**	**51**	*e*P		**P**	**11 21 22.2**	**+0.4**
	11nm,1.3s							
I07A	**Izee**	**76.63**	**37**	*e*P		**P**	**11 21 24.2**	**+0.2**
	14nm,1.4s							
G06A	**Carlson Farm,**	**76.68**	**35**	*e*P		**P**	**11 21 24.6**	**+0.4**

baz=80
X21A **Alamocita Cree** 79.40 50 ⇓P P 11 21 40.0 +0.2
baz=80
HVU **Hansel Valley** 79.46 42 eP P 11 21 40.6 +0.7
11nm,1.2s
Z22A **Elephant Butte** 79.49 51 ⇑P P 11 21 40.8 +0.5
baz=80,SNR=5.5
V20A **Brimhall** 79.51 49 ⇑P P 11 21 40.5 +0.2
baz=80
C09A **Chrisman Ranch** 79.53 34 eP P 11 21 39.5 -0.3
18nm,1.6s
SRU **San Rafael** 79.61 45 eP P 11 21 41.5 +0.7
21nm,1.5s
JLU **Jordanelle** 79.72 43 eP P 11 21 41.4 0.0
11nm,1.2s
U20A **Newcomb** 79.73 48 ⇑P P 11 21 41.8 +0.3
baz=80
DAU **Daniels Canyon** 79.76 43 eP P 11 21 41.7 0.0
21nm,1.6s
Y22A **Socorro** 79.79 51 ⇓P P 11 21 41.9 0.0
baz=80,SNR=5.6
W21A **San Fidel** 79.80 49 ⇓P P 11 21 42.1 +0.1
baz=80
LAZ **Ladron** 79.86 50 eP P 11 21 42.9 +0.7
8.8nm,1.6s
324A **Moseley Ranch,** 79.86 54 ⇑P P 11 21 42.0 -0.3
baz=80,SNR=8.1
NJ2 **Nanjing** 79.88 307 eP P 11 21 43.6 +1.5
NJ2 AMB AMB
comp=Z,10.0nm,0.7s
CAST **Castle Rocks** 79.92 10 eP P 11 21 39.9 -1.8
51nm,2.2s
425A **Indio Mountain** 79.98 54 ⇑P P 11 21 43.0 +0.1
baz=80,SNR=6.8
Z23A **Rita Site, Whi** 80.05 52 ⇓P P 11 21 43.4 +0.2
baz=80
224A **Cornudas Mount** 80.09 53 ⇑P P 11 21 43.5 0.0
baz=80,SNR=6.4
PV05 **Paradox Valley** 80.11 46 eP P 11 21 44.4 +0.8
V21A **Milan** 80.11 49 ⇑P P 11 21 44.3 +0.6
baz=80
MVCO **Mesa Verde** 80.13 47 ⇓P P 11 21 44.6 +0.9
baz=80
BNM **Barren Site** 80.13 51 eP P 11 21 44.1 +0.3
6.4nm,1.4s
626A **Big Bend Ranch** 80.16 56 ⇑P P 11 21 44.3 +0.4
baz=80
LPM **Los Pinos Moun** 80.20 51 eP P 11 21 44.5 +0.4
9.7nm,1.3s
TRF **Thorofare Moun** 80.25 10 eP P 11 21 42.8 -0.9
22nm,1.2s
PV09 **Paradox Valley** 80.28 46 eP P 11 21 45.6 +1.1
U21A **Nageezi** 80.38 48 ⇑P P 11 21 45.3 +0.3
baz=80,SNR=12
526A **Mary Lane Ranc** 80.40 55 ⇓P P 11 21 45.5 +0.3
baz=81,SNR=6.2
124A **Stringfield Ra** 80.41 52 ⇑P P 11 21 45.4 +0.2
baz=81
NEW **Newport** 80.42 34 ⇓P P 11 21 45.0 +0.2
baz=81
TXAR **Lajitas Array** 80.45 56 P P 11 21 45.6 +0.2
TXAR **Lajitas Array** 80.45 56 P P 11 21 45.6 +0.2
5.9nm,1.2s,baz=224,slow=3.5,SNR=20
TXAR LR LR 11 51 30.1
comp=Z,121nm,18.1s,baz=15,slow=31
Y23A **Lovelace Mesa,** 80.47 51 ⇓P P 11 21 45.7 +0.1
baz=81
PV01 **Paradox Valley** 80.50 46 eP P 11 21 45.9 +0.2
2µm,1.5s
S20A **Disappointment** 80.51 47 ⇓P P 11 21 45.8 0.0
baz=81,SNR=8.3
ANMO **Albuquerque** 80.60 50 eP P 11 21 46.5 +0.3
75nm,2.7s
225A **Deer Hill, Car** 80.65 53 ⇓P P 11 21 46.7 +0.2
baz=81
PV15 **Paradox Valley** 80.66 46 eP P 11 21 47.1 +0.5
R20A **Redvale** 80.66 46 ⇓P P 11 21 46.5 -0.1
baz=81
M17A **Scullys Gap (B** 80.67 43 ⇓P P 11 21 46.3 -0.2
baz=81
426A **McDonald Obser** 80.69 55 ⇓P P 11 21 46.7 -0.1
baz=81,SNR=12
V22A **San Miguel Ran** 80.69 49 ⇓P P 11 21 46.9 +0.1
baz=81
T21A **Navajo Lake** 80.72 48 ⇓P P 11 21 47.1 +0.3
baz=81
627A **Terlingua Ranc** 80.72 56 ⇓P P 11 21 47.2 +0.3
baz=81,SNR=10
Z24A **Sheeppen Canyo** 80.74 52 ⇑P P 11 21 47.2 +0.2
baz=81
BPAW **Bear Paw Mtn.** 80.74 10 eP P 11 21 45.0 -1.1
18nm,1.5s
PAX **Paxson** 80.74 13 eP P 11 21 45.5 -0.7
48nm,2.2s
CN2 **Changchun** 80.75 320 eP P 11 21 47.3 +0.8
CN2 epP pP 11 21 52.0 +0.5
CN2 eS S 11 31 53.4 -0.6
CN2 AMB AMB
comp=Z,20nm,1.0s
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,12.0s
CN2 LR LR
comp=E,200nm,12.0s
CN2 LR LR
comp=Z,300nm,18.0s
MCK **McKinley** 80.75 11 eP P 11 21 45.7 -0.4
28nm,1.0s
527A **Woodward Ranch** 80.81 55 ⇓P P 11 21 47.1 -0.3
baz=81,SNR=6.5
P19A **Cripple Cowboy** 80.91 45 ⇑P P 11 21 47.9 +0.1
baz=81
W23A **Werner Place,** 80.92 50 ⇓P P 11 21 48.3 +0.4
baz=81
Y24A **Capitan** 80.93 51 ⇓P P 11 21 48.0 0.0
baz=81,SNR=5.9
U22A **Llaves** 80.93 49 ⇓P P 11 21 48.5 +0.5
baz=81
326A **Caldwell Ranch** 80.99 54 ⇑P P 11 21 48.4 +0.2
baz=81
MCMT **McKenzie Canyo** 80.99 39 eP P 11 21 48.5 +0.3
6.5nm,1.2s
125A **Gardner Draw,** 81.00 53 ⇑P P 11 21 48.6 +0.3
baz=81
GDL2 **Guadalupe Moun** 81.04 53 eP P 11 21 49.0 +0.5
8.7nm,1.2s
Q20A **Ridgley Place,** 81.07 46 ⇓P P 11 21 48.5 -0.1
baz=81,SNR=8.2
MENT **Mentasta** 81.09 13 eP P 11 21 48.0 0.0
O19A **Miners Draw (B** 81.13 44 ⇓P P 11 21 49.0 +0.1
baz=81
628A **Black Gap, Mar** 81.13 56 ⇑P P 11 21 49.0 -0.1
baz=81,SNR=6.6
226B **Tecolote Peak,** 81.14 53 ⇓P P 11 21 49.1 +0.1
baz=81,SNR=12
V23A **Ortiz Mt. (NFS** 81.15 49 ⇓P P 11 21 49.7 +0.5
baz=81,SNR=6.5
T22A **Edith** 81.18 48 ⇑P P 11 21 49.5 +0.1
baz=81,SNR=6.8
RRI2 **Red Ridge** 81.18 41 eP P 11 21 49.4 +0.1
18nm,1.2s
Z25A **Roswell** 81.21 52 ⇓P P 11 21 49.6 +0.2
baz=81
427A **Hayter Ranch,** 81.25 55 ⇓P P 11 21 49.2 -0.5
baz=81,SNR=6.5
P20A **De Beque** 81.25 45 ⇓P P 11 21 50.0 +0.4
baz=81,SNR=5.6
R21A **Cimarron** 81.32 47 ⇑P P 11 21 50.4 +0.3
baz=82,SNR=13
U23A **El Rito** 81.39 49 ⇑P P 11 21 50.6 +0.1
baz=82,SNR=9.2
MSO **Missoula** 81.41 37 eP P 11 21 49.4 -0.8
22nm,1.4s
MSO **Missoula** 81.41 37 ⇓P P 11 21 50.0 -0.2
baz=82,SNR=7.3
DLMT **Dillon** 81.42 39 eP P 11 21 50.3 0.0
16nm,1.3s
528A **Cox Ranch, San** 81.47 56 ⇑P P 11 21 51.0 +0.1
baz=82,SNR=7.9
BSMT **Bassoo Peak** 81.48 36 eP P 11 21 50.2 -0.5
24nm,1.5s
REDW **Red Top Meadow** 81.48 41 eP P 11 21 50.6 -0.2
21nm,1.4s
TPAW **Teton Pass** 81.48 41 eP P 11 21 51.0 +0.1
18nm,1.2s
126A **Clayton Basin,** 81.49 53 ⇓P P 11 21 51.5 +0.6
baz=82
Y25A **Mesa, Roswell** 81.49 52 ⇑P P 11 21 51.2 +0.3
baz=82
W24A **Lazy 6 Ranch,** 81.49 50 ⇓P P 11 21 51.4 +0.4
baz=82
Q21A **Lamborn Mesa,** 81.52 46 ⇓P P 11 21 51.8 +0.7
baz=82
S22A **4UR Ranch, Cre** 81.55 47 ⇑P P 11 21 51.7 +0.3
baz=82,SNR=16
SNOW **Snow King Moun** 81.59 41 eP P 11 21 51.1 -0.3
14nm,1.1s
O20A **White River Ci** 81.65 45 ⇑P P 11 21 52.1 +0.4
baz=82
IMW **Indian Meadow** 81.69 40 eP P 11 21 51.8 -0.2
16nm,1.3s
MOOW **Moose Ponds** 81.74 41 eP P 11 21 52.0 -0.2
12nm,1.4s
SWMT **Swartz Lake** 81.74 36 eP P 11 21 51.8 -0.1
4.2nm,1.3s
LOHW **Long Hollow** 81.77 41 eP P 11 21 52.2 -0.1
19nm,1.4s
Z26A **Caprock** 81.77 52 ⇑P P 11 21 52.3 -0.1
baz=82,SNR=6.6
428A **Kincaid Ranch,** 81.78 55 ⇓P P 11 21 52.7 +0.3
baz=82,SNR=6.1
V24A **Rampart Ranch,** 81.81 50 ⇓P P 11 21 52.9 +0.2
baz=82
CHMT **Chamberlain Mo** 81.85 37 eP P 11 21 51.9 -0.8
P21A **Newcastle** 81.91 46 ⇓P P 11 21 53.4 +0.2
baz=82
529A **Stev Forest Ra** 81.92 56 ⇑P P 11 21 52.8 -0.3
baz=82,SNR=6.5
328A **Wristen Ranch,** 81.93 55 ⇓P P 11 21 53.4 +0.2
baz=82
I17A **Pilgrim Ck.** 81.93 41 ⇓P P 11 21 53.6 +0.4
baz=82
FLWY **Flagg Ranch** 81.94 40 eP P 11 21 53.7 +0.5
24nm,1.3s
N20A **Spence Gulch,** 81.96 44 ⇑P P 11 21 53.6 +0.2
baz=82,SNR=7.0
Q22A **Crested Butte,** 81.99 46 ⇓P P 11 21 53.8 +0.1
baz=82,SNR=19
COLA **College** 81.99 11 eP P 11 21 51.5 -1.1
129nm,1.0s
127A **Arkansas Junct** 82.01 53 ⇓P P 11 21 54.1 +0.4
baz=82
PDAR **Pinedale Array** 82.02 42 P P 11 21 53.0 -0.7
PDAR **Pinedale Array** 82.02 42 P P 11 21 53.0 -0.7
1.9nm,0.9s,baz=228,slow=3.8,SNR=15
PDAR LR LR 11 53 16.5
comp=Z,194nm,18.9s,baz=239,slow=32
ILAR **Eielson Array** 82.08 11 P P 11 21 52.0 -1.1
ILAR **Eielson Array** 82.08 11 P P 11 21 52.0 -1.1
3.7nm,0.9s,baz=205,slow=5.9,SNR=26
SMCO **Snowmass** 82.09 46 eP P 11 21 54.5 +0.2
21nm,1.4s
U24A **Moreno Valley** 82.09 49 ⇓P P 11 21 54.5 +0.3
baz=82
S23A **Nye Farm, Mont** 82.13 48 ⇓P P 11 21 55.1 +0.7
baz=82
BOZ **Bozeman (W)** 82.15 39 eP P 11 21 53.9 -0.3
19nm,1.5s
H17A **Grant Village** 82.17 40 ⇓P P 11 21 55.0 +0.5
baz=82
IMA2 **Indian Mountai** 82.19 8 eP P 11 21 53.6 -0.3
W25A **X Bar L Ranch,** 82.20 50 ⇓P P 11 21 54.5 -0.2
baz=82,SNR=6.1
O21A **Pagoda** 82.21 45 ⇓P P 11 21 54.7 -0.1
baz=82
T24B **San Luis** 82.30 48 ⇑P P 11 21 55.2 -0.1
baz=82,SNR=8.2
M20A **Sweetwater, Wa** 82.31 44 ⇓P P 11 21 55.3 +0.1
baz=82,SNR=5.0
V25A **Rancho No Teng** 82.34 50 ⇓P P 11 21 55.5 0.0
baz=82,SNR=14
429A **Davenport Ranc** 82.37 56 ⇓P P 11 21 55.6 0.0
baz=82,SNR=12
Z27A **Tatum** 82.37 53 ⇑P P 11 21 55.4 -0.2
baz=82
228A **UT Block 9, Go** 82.39 54 ⇓P P 11 21 55.6 -0.1
baz=82
X26A **CR and CF Fran** 82.42 51 ⇑P P 11 21 55.5 -0.3
baz=83,SNR=5.4
P22A **Eagle** 82.42 46 ⇓P P 11 21 56.1 +0.3
baz=83
L20A **Wamsutter** 82.45 43 ⇓P P 11 21 56.2 +0.3
baz=83,SNR=12
R23A **Moffat** 82.46 47 ⇑P P 11 21 56.3 +0.2
baz=83,SNR=7.8
SDCO **Great Sand Dun** 82.50 48 eP P 11 21 56.0 -0.3
16nm,1.5s
K19A **Absolon Red Bu** 82.51 42 ⇑P P 11 21 55.6 -0.6
baz=83,SNR=6.5
HRY **Holter Researc** 82.58 38 eP P 11 21 56.2 -0.2
J19A **Crowheart** 82.58 42 ⇑P P 11 21 56.1 -0.4
baz=83,SNR=6.1
329A **Wagon Wheel Ra** 82.62 55 ⇓P P 11 21 56.7 -0.2
baz=83
530A **J-C Ranch, Com** 82.63 56 ⇓P P 11 21 56.8 -0.1
baz=83
Y27A **Causey** 82.64 52 ⇑P P 11 21 56.6 -0.3
baz=83,SNR=5.3
S24A **Houchin Ranch,** 82.66 48 ⇓P P 11 21 57.3 0.0
baz=83,SNR=9.8
128A **Castleberry Fa** 82.67 54 ⇑P P 11 21 57.3 +0.2
baz=83
W26A **Owens Ranch, T** 82.67 51 ⇑P P 11 21 57.3 +0.2
baz=83
QIZ **Qiongzhong** 82.70 292 P P 11 21 54.0 -3.4
QIZ S S 11 32 15.9 +0.8
QIZ AMB AMB
comp=Z,20nm,2.3s
QIZ LR LR
comp=Z,170nm,21.9s
U25A **Circle Dot Ran** 82.73 49 ⇓P P 11 21 57.3 -0.1
baz=83,SNR=7.2
K20A **Yellowstone Ra** 82.76 42 ⇑P P 11 21 56.8 -0.7
baz=83,SNR=9.4
O22A **Kremmling** 82.82 45 ⇑P P 11 21 57.8 -0.2
baz=83,SNR=19
M21A **Separation Pea** 82.92 44 ⇑P P 11 21 58.1 -0.3
baz=83,SNR=11
V26A **Tesequite Ra** 82.94 50 ⇑P P 11 21 58.2 -0.3
baz=83
430A **Baggett Ranch,** 82.95 56 ⇓P P 11 21 58.4 -0.2
baz=83
P23A **Jefferson** 82.97 46 ⇑P P 11 21 59.3 +0.5
baz=83
MSTX **Muleshoe** 82.97 52 eP P 11 21 58.8 +0.1
MSTX **Muleshoe** 82.97 52 ⇓P P 11 21 58.3 -0.3
baz=83,SNR=7.6
631A **Perdido Creek** 82.97 57 ⇑P P 11 21 58.6 0.0
baz=83
I19A **Meeteetse** 82.99 41 ⇓P P 11 21 58.5 -0.2
baz=83,SNR=9.3
R24A **Sanders Place,** 82.99 48 ⇓P P 11 21 58.9 +0.2
baz=83,SNR=11
X27A **F and S Farms,** 82.99 51 ⇓P P 11 21 58.7 -0.1
baz=83
Z28A **Tucker Farm, M** 83.00 53 ⇓P P 11 21 58.7 -0.1
baz=83
T25A **Trinidad** 83.03 49 ⇑P P 11 21 58.5 -0.5
baz=83,SNR=5.8
RWWY **Rawlins** 83.06 44 eP P 11 22 04.9 +5.8
41nm,1.3s
DAWY **Dawson** 83.06 14 eP P 11 21 58.1 -0.3
L21A **Rawlins** 83.08 43 ⇑P P 11 21 58.7 -0.5
baz=83,SNR=8.3
129A **Stewart Farms,** 83.15 54 ⇓P P 11 21 59.6 +0.1
baz=83
N22A **Wattenberg Ran** 83.17 45 ⇓P P 11 21 60.0 +0.3
baz=83,SNR=10
W27A **Bowe Ranch, En** 83.19 51 ⇑P P 11 21 59.4 -0.3
baz=83,SNR=7.3
U26A **Atchley Ranch,** 83.21 50 ⇑P P 11 21 59.7 -0.2
baz=83,SNR=9.5
330A **Mertzon** 83.23 55 ⇑P P 11 21 59.8 -0.2
baz=83
S25A **Robets Cordova** 83.23 48 ⇓P P 11 21 59.9 -0.1
baz=83,SNR=13
J20A **Shoshoni** 83.25 42 ⇑P P 11 21 59.9 0.0
baz=83,SNR=17
EGAK **Eagle** 83.26 13 eP P 11 21 59.4 +0.1
18nm,1.3s
Q24A **Divide** 83.27 47 ⇓P P 11 22 00.4 0.0
baz=83,SNR=9.2
O23A **Lake Granby, G** 83.28 45 ⇑P P 11 22 00.5 +0.2
baz=83,SNR=6.2
H19A **Powell** 83.30 40 ⇓P P 11 22 00.6 +0.4
baz=84,SNR=10.0
ISCO **Idaho Springs** 83.31 46 eP P 11 22 00.2 -0.4
30nm,1.9s
ISCO **Idaho Springs** 83.31 46 ⇓P P 11 22 00.3 -0.2
baz=84
M22A **Cedar Creek Ra** 83.34 44 ⇓P P 11 22 00.8 +0.2
baz=84,SNR=6.5
Y28A **McKinney Farm,** 83.35 52 ⇑P P 11 22 00.7 +0.1
baz=84
K21A **Alcova** 83.46 43 ⇑P P 11 22 00.8 -0.3
baz=84,SNR=15
I20A **Worland** 83.50 41 ⇑P P 11 22 01.0 -0.2
baz=84,SNR=15
Z29A **Hungry Hill Ra** 83.52 53 ⇓P P 11 22 01.0 -0.4
baz=84
R25A **Fountain Ranch** 83.54 48 ⇑P P 11 22 01.4 -0.1
baz=84,SNR=12
N23A **Red Feather La** 83.56 45 ⇑P P 11 22 01.6 -0.1
baz=84,SNR=6.8
X28A **Dimmitt** 83.62 52 ⇓P P 11 22 01.8 -0.2
baz=84
632A **Uvalde** 83.65 57 ⇓P P 11 22 02.0 -0.2
baz=84
J21A **Lysite** 83.66 42 ⇓P P 11 22 02.1 +0.1
baz=84,SNR=8.5
L22A **Ellis Ranch, M** 83.73 44 ⇓P P 11 22 02.6 +0.1
baz=84,SNR=6.6
COLD **Coldfoot** 83.77 9 eP P 11 22 02.5 +0.7
20nm,1.2s
Y29A **Porterfield Fa** 83.77 53 ⇑P P 11 22 03.0 +0.2
baz=84
532A **Rocksprings** 83.78 57 ⇓P P 11 22 02.7 -0.1
baz=84
O24A **Longmont** 83.82 46 ⇑P P 11 22 03.2 +0.3
baz=84
H20A **Greybull** 83.83 41 ⇓P P 11 22 02.3 -0.6
baz=84,SNR=6.5
Q25A **Bedland, Calha** 83.89 47 ⇓P P 11 22 02.9 -0.5
baz=84,SNR=5.3
F19A **Roth Farm, Mol** 83.89 39 ⇓P P 11 22 03.0 -0.1
baz=84,SNR=12
U27A **Thompson Grove** 83.90 50 ⇑P P 11 22 03.0 -0.4
baz=84
W28A **Vega** 83.91 51 ⇑P P 11 22 03.0 -0.4
baz=84
S26A **Kim** 83.91 49 ⇑P P 11 22 02.9 -0.5
baz=84,SNR=6.8
K22A **Casper** 83.94 43 ⇑P P 11 22 03.2 -0.3
baz=84,SNR=6.2
I21A **Big Trails, Te** 83.97 42 ⇑P P 11 22 03.1 -0.5
baz=84,SNR=20
X29A **Tulia** 83.97 52 ⇓P P 11 22 03.5 -0.3
baz=84
Z30A **Sanderson Ranc** 83.97 53 ⇓P P 11 22 03.0 -0.8
baz=84,SNR=8.6
G20A **Bridger** 84.04 40 ⇓P P 11 22 04.0 +0.1
baz=84
PHWY **Pilot Hill** 84.06 45 eP P 11 22 03.8 -0.5
9.6nm,1.1s
231A **Bronte** 84.11 55 ⇓P P 11 22 04.2 -0.3
baz=84
432A **Menard** 84.14 56 ⇑P P 11 22 04.3 -0.3
baz=84
R26A **Arlington** 84.21 48 ⇑P P 11 22 04.4 -0.5
baz=84,SNR=12
T27A **Campo** 84.23 49 ⇓P P 11 22 04.8 -0.3
baz=84
N24A **Carr** 84.25 45 ⇓P P 11 22 05.3 +0.1
baz=84,SNR=8.3
L23A **Garrett** 84.25 44 ⇓P P 11 22 04.8 -0.4
baz=84,SNR=12
W29A **Amraillo** 84.27 52 ⇑P P 11 22 05.0 -0.3
baz=84,SNR=7.0
E19A **Rath Farm, Rou** 84.28 39 ⇑P P 11 22 05.1 0.0
baz=84,SNR=11
J22A **Midwest** 84.32 42 ⇑P P 11 22 04.9 -0.5
baz=84,SNR=18
131A **Roby** 84.32 54 ⇓P P 11 22 05.1 -0.4
baz=84
F20A **Billings** 84.35 40 ⇓P P 11 22 05.3 -0.1
baz=84
332A **Millersview** 84.36 56 ⇓P P 11 22 05.1 -0.7
baz=84
Y30A **Stafford Cattl** 84.37 53 ⇓P P 11 22 05.5 -0.3
baz=84
Q26A **Hugo** 84.41 47 ⇑P P 11 22 05.6 -0.4
baz=85,SNR=5.9
EGMT **Eagleton** 84.46 37 eP P 11 22 05.7 -0.2
17nm,1.3s
EGMT **Eagleton** 84.46 37 ⇓P P 11 22 06.1 +0.2
baz=85
H21A **Big Horn, Sher** 84.50 41 ⇑P P 11 22 06.1 -0.2
baz=85,SNR=5.6
I22A **9 Mile Ranch,** 84.53 42 ⇑P P 11 22 06.2 -0.2
baz=85,SNR=11
D19A **Cripps Ranch,** 84.56 38 ⇑P P 11 22 06.6 +0.2
baz=85,SNR=14
M24A **Cheyenne** 84.57 45 ⇑P P 11 22 06.7 0.0
baz=85,SNR=5.3
K23A **Bowen Ranch, D** 84.58 43 ⇓P P 11 22 06.5 -0.3
baz=85,SNR=6.4
232A **Coleman** 84.62 55 ⇓P P 11 22 06.9 -0.2
baz=85
R27A **Eads** 84.67 48 ⇓P P 11 22 06.8 -0.5
baz=85,SNR=6.4
E20A **Meyer Farm, Mu** 84.70 39 ⇑P P 11 22 07.4 +0.3
baz=85,SNR=6.9
T28A **Walsh** 84.70 50 ⇑P P 11 22 06.6 -0.9
baz=85
C19A **Slack Wire Ran** 84.73 38 ⇓P P 11 22 07.4 +0.1
baz=85,SNR=12
L24A **Wheatland** 84.74 44 ⇓P P 11 22 07.7 +0.2
baz=85,SNR=5.6
Z31A **Sharp Cattle R** 84.75 54 ⇑P P 11 22 07.0 -0.6
baz=85
ABTX **Abilene, Hawle** 84.89 54 eP P 11 22 07.5 -0.9
ABTX **Abilene, Hawle** 84.89 54 ⇓P P 11 22 08.0 -0.4
baz=85
Y31A **Rekieta Farm,** 84.90 53 ⇓P P 11 22 08.1 -0.2
baz=85
H22A **Clearmont** 84.93 41 ⇑P P 11 22 08.2 -0.2
baz=85,SNR=5.9
D20A **Manuel Ranch,** 84.97 39 ⇑P P 11 22 08.5 0.0
baz=85,SNR=11
S28A **Manter** 85.05 49 ⇓P P 11 22 08.9 -0.2
baz=85
G22A **Birney** 85.25 41 ⇑P P 11 22 10.3 +0.3
baz=85
Z32A **Haskell** 85.27 54 ⇓P P 11 22 10.4 +0.1
baz=85
C20A **Veseth Ranch,** 85.34 38 ⇓P P 11 22 10.5 +0.2
baz=86,SNR=12
X31A **McDonald Ranch** 85.36 52 ⇑P P 11 22 10.5 -0.2
baz=86
R28A **Tribune** 85.40 48 ⇑P P 11 22 10.9 0.0
baz=86
A19A **Klindworth Far** 85.49 37 ⇑P P 11 22 10.9 -0.2
baz=86,SNR=7.2
F22A **Rosebud** 85.52 40 ⇓P P 11 22 11.0 -0.2
baz=86
Y32A **R-V Farms, Ver** 85.55 53 ⇑P P 11 22 11.4 -0.2
baz=86
W31A **Holland Ranch,** 85.59 52 ⇑P P 11 22 11.6 -0.2
baz=86
D21A **La Casta Ranch** 85.65 39 ⇓P P 11 22 12.0 +0.1
baz=86,SNR=6.3
G23A **Biddle** 85.81 41 ⇑P P 11 22 12.7 -0.1
baz=86
V31A **Spring Creek L** 85.89 51 ⇑P P 11 22 13.6 +0.3
baz=86
C21A **Desert Coulee** 85.94 38 ⇓P P 11 22 13.7 +0.4
baz=86
A20A **Cobblestone Ra** 85.94 37 ⇓P P 11 22 13.2 0.0
baz=86,SNR=9.2
LAO **LASA Array** 85.95 40 eP P 11 22 13.9 +0.5
52nm,1.8s
F23A **Volborg** 86.03 41 ⇑P P 11 22 13.3 -0.5
baz=86,SNR=6.1
H24A **Dirks Ranch, A** 86.15 42 ⇓P P 11 22 14.4 -0.1
baz=86,SNR=9.7
D22A **Cohagen** 86.18 39 ⇓P P 11 22 14.7 +0.2
baz=86
K26A **Motz Farm, Whi** 86.19 44 ⇓P P 11 22 14.5 -0.3
baz=86
RSSD **Black Hills** 86.22 43 eP P 11 22 14.0 -1.0
58nm,1.3s
B21A **Ellsworth Farm** 86.26 38 ⇑P P 11 22 14.7 -0.2
baz=86,SNR=12

I25A	**Rochford**	**86.37**	**43**	⇑P		**P**	**11 22 15.0**	**-0.7**
	baz=86,SNR=5.4								
WHTX	**Lake Whitney**	**86.40**	**56**	*e*P		**P**	**11 22 15.6**	**-0.3**
WHTX	**Lake Whitney**	**86.40**	**56**	⇓P		**P**	**11 22 15.6**	**-0.3**
	baz=87								
A21A	**Bergtoll Ranch**	**86.58**	**37**	⇑P		**P**	**11 22 15.9**	**-0.5**
	baz=87,SNR=5.8								
D23A	**Lindsay**	**86.79**	**39**	⇓P		**P**	**11 22 17.5**	**0.0**
	baz=87								
B22A	**Reddig Ranch S**	**86.81**	**38**	⇓P		**P**	**11 22 17.4**	**-0.2**
	baz=87,SNR=5.7								
C23A	**Lambert**	**87.08**	**39**	⇓P		**P**	**11 22 19.3**	**+0.4**
	baz=87								
J27A	**Elkhorn Farm,**	**87.20**	**44**	⇓P		**P**	**11 22 19.6**	**0.0**
	baz=87								
C24A	**Savage**	**87.42**	**39**	⇓P		**P**	**11 22 21.1**	**+0.5**
	baz=88								
B23A	**Brockton**	**87.48**	**38**	⇑P		**P**	**11 22 20.6**	**-0.2**
	baz=88								
GYA	**Guiyang**	**87.80**	**298**	*e*P		**P**	**11 22 24.0**	**+1.0**
GYA					PP	**PP**	**11 25 52.4**	**+3.3**
GYA					SKS	**SKSac**	**11 32 49.6**	**-1.6**
GYA					S	**S**	**11 33 05.0**	**-0.6**
GYA					AMB	AMB			
	comp=Z,20nm,1.0s								
GYA					AMB	AMB			
	comp=Z,120nm,6.6s								
GYA					LR	LR			
	comp=N,490nm,20.0s								
GYA					LR	LR			
	comp=E,430nm,21.8s								
GYA					LR	LR			
	comp=Z,470nm,20.4s								
DGMT	**Dagmar**	**87.96**	**39**	*e*P		**P**	**11 22 23.2**	**+0.1**
	24nm,1.0s								
MAW	**Mawson**	**88.14**	**199**	P		**P**	**11 22 23.4**	**-0.2**
MAW	**Mawson**	**88.14**	**199**	P		**P**	**11 22 23.4**	**-0.2**
	2.1nm,0.8s,baz=122,slow=4.7,SNR=5.5								
MAW					LR	LR	11 59 12.2		
	comp=Z,310nm,19.3s,baz=50,slow=34								
HHC	**Hu-ho-hao-te**	**88.72**	**313**	*e*P		**P**	**11 22 26.4**	**-0.5**
HHC					pP	**PcP**	**11 22 30.8**	**+2.3**
HHC					SKS	**SKSac**	**11 32 55.9**	**-0.2**
HHC					S	**S**	**11 33 14.4**	**+0.7**
HHC					AMB	AMB			
	comp=Z,36nm,0.9s								
HHC					AMB	AMB			
	comp=Z,190nm,5.2s								
HHC					LR	LR			
	comp=N,180nm,15.2s								
HHC					LR	LR			
	comp=E,260nm,15.6s								
HHC					LR	LR			
	comp=Z,200nm,15.1s								
PLCA	**Paso Flores**	**89.82**	**132**	LR		LR	11 53 06.4		
	comp=Z,187nm,19.3s,baz=316,slow=29								
KMI	**Kunming**	**90.80**	**296**	P		**P**	**11 22 36.8**	**-0.4**
KMI					pP	**pP**	**11 22 41.8**	**-0.4**
KMI					sP	sP	11 22 43.4	-0.5
KMI					AMB	AMB			
	comp=Z,5.0nm,0.7s								
KMI					LR	LR			
	comp=Z,59nm,20.8s								
A29A	**Manning Farm,**	**91.16**	**39**	⇓P		**P**	**11 22 37.1**	**-1.0**
	baz=91								
CD2	**Chengdu**	**91.55**	**301**	P		**P**	**11 22 42.3**	**+1.9**
CD2					AMB	AMB			
	comp=Z,10.0nm,0.5s								
CMAR	**Chiang Mai Arr**	**92.43**	**288**	LR		LR	11 57 32.7		
	comp=Z,72nm,20.8s,baz=354,slow=31								
ULM	**Lac du Bonnet**	**93.67**	**39**	LR		LR	12 00 35.6		
	comp=Z,266nm,18.0s,baz=268,slow=33								
SONM	**Songino Array**	**94.51**	**318**	P		**P**	**11 22 53.9**	**+0.1**
SONM	**Songino Array**	**94.51**	**318**	P		**P**	**11 22 53.9**	**+0.1**
	0.2nm,0.3s,baz=119,slow=8.9,SNR=3.6								
AKASG	**Malin Array Be**	**139.96**	**338**	PKP		**PKPdf**	**11 28 59.9**	**-1.6**
AKASG	**Malin Array Be**	**139.96**	**338**	PKP		**PKPdf**	**11 28 59.9**	**-1.6**
	0.3nm,0.3s,baz=5.3,slow=1.7,SNR=6.3								
STHS	**Stebnicka Huta**	**143.64**	**344**	*e*PKP	PKPbc		11 29 05.3	-0.2	
KOLS	**Kolonicke sedl**	**143.78**	**342**	*e*PKP	PKPdf		**11 29 08.6**	**+0.2**	
KECS	**Kecovo**	**144.69**	**344**	*e*PKP	PKPbc		11 29 09.0	+0.2	
TNS	**Taunus Mts**	**144.85**	**358**	*e*PKPbc	**PKPab**		**11 29 08.9**	**-0.3**	
DOU	**Dourbes**	**144.97**	**2**	PKP	**PKPab**		**11 29 09.6**	**0.0**	
ROTZ	**Rotzenmuhle**	**145.03**	**354**	*e*PKPbc	**PKPab**		**11 29 10.0**	**+0.2**	
GRF	**Grafenberg Arr**	**145.20**	**355**	*e*PKPbc	**PKPbc**		**11 29 10.4**	**0.0**	
PSZ	**Piszkesteto**	**145.37**	**344**	*e*PKPbc	**PKPab**		**11 29 11.4**	**+0.2**	
PSZ	**Piszkesteto**	**145.37**	**344**	‖*e*PKPbc	**PKPbc**		**11 29 11.1**	**0.0**	
WLF	**Walferdange**	**145.44**	**0**	PKP	**PKPab**		**11 29 11.4**	**+0.2**	
WLF	**Walferdange**	**145.44**	**0**	*e*PKPbc	**PKPab**		**11 29 11.5**	**+0.2**	
WLF	**Walferdange**	**145.44**	**0**	*e*PKPbc	**PKPab**		**11 29 11.5**	**+0.2**	
KHC	**Kasperske Hory**	**145.49**	**352**	*e*PKP	**PKPdf**		**11 29 11.0**	**-0.4**	
KHC	**Kasperske Hory**	**145.49**	**352**	*e*PKPbc	**PKPab**		**11 29 11.8**	**+0.2**	
MLR	**Muntele Rosu**	**145.49**	**336**	PKP	**PKPdf**		**11 29 09.3**	**-2.3**	
MLR	**Muntele Rosu**	**145.49**	**336**	PKP	**PKPdf**		**11 29 09.3**	**-2.3**	
	2.8nm,0.9s,baz=104,slow=3.6,SNR=10								
WET	**Wettzell**	**145.55**	**355**	*e*PKPbc	**PKPdf**		**11 29 11.5**	**0.0**	
GEC2	**GERESS Array S**	**145.75**	**352**	PKPbc	**PKPdf**		**11 29 12.1**	**+0.2**	
GERES	**GERESS Array B**	**145.75**	**352**	PKPbc	**PKPbc**		**11 29 12.3**	**+0.1**	
GERES	**GERESS Array B**	**145.75**	**352**	PKPbc	**PKPbc**		**11 29 12.3**	**+0.1**	
	5.9nm,1.1s,baz=29,slow=3.0,SNR=19								
ZST	**Bratislava**	**145.78**	**347**	*e*PKP	**PKPdf**		**11 29 12.1**	**+0.3**	
BR131	**Keskin Array S**	**145.81**	**321**	*e*PKPbc	**PKPbc**		**11 29 13.0**	**+0.1**	
BRTR	**Keskin Array B**	**145.81**	**321**	PKPbc	**PKPdf**		**11 29 12.4**	**+0.1**	
BRTR	**Keskin Array B**	**145.81**	**321**	PKPbc	**PKPdf**		**11 29 12.4**	**+0.1**	
	7.0nm,0.8s,baz=108,slow=2.7,SNR=30								
BUD	**Budapest**	**146.00**	**345**	‖*e*PKPdf	**PKPdf**		**11 29 12.4**	**+0.2**	
LANF	**Langenberg**	**146.11**	**358**	PKP	**PKPab**		**11 29 13.7**	**-0.2**	
ANTO	**Ankara**	**146.23**	**322**	*e*PKPbc	**PKPbc**		**11 29 13.9**	**-0.2**	
STU	**Stuttgart**	**146.26**	**357**	*e*PKPbc	**PKPbc**		**11 29 13.9**	**+0.2**	
SOP	**Sopron**	**146.38**	**348**	*e*	**PKPbc**		**11 29 14.0**	**-0.1**	
BFO	**Black Forest**	**146.74**	**358**	*e*PKPbc	**PKPbc**		**11 29 15.0**	**-0.1**	
BFO	**Black Forest**	**146.74**	**358**	*e*PKPbc	**PKPbc**		**11 29 15.1**	**-0.1**	
THEF	**They Montfort**	**146.88**	**1**	PKP	**PKPbc**		**11 29 15.8**	**+0.3**	
ECH	**Echery**	**146.88**	**359**	PKP	**PKPdf**		**11 29 14.3**	**+0.5**	
ECH	**Echery**	**146.88**	**359**	*e*PKPbc	**PKPbc**		**11 29 15.6**	**0.0**	
RJOB	**Jochberg**	**146.96**	**352**	*e*PKPbc	**PKPbc**		**11 29 15.9**	**0.0**	
FELD	**Feldberg im Sc**	**147.21**	**358**	PKP	**PKPdf**		**11 29 14.3**	**-0.2**	
MOF	**Molkenrain**	**147.25**	**359**	PKP	**PKPbc**		**11 29 16.7**	**0.0**	
PERS	**Pernice**	**147.66**	**349**	*i* PKPdf	**PKPbc**		**11 29 18.0**	**+0.2**	
DAVOX	**Davos/Dischmat**	**148.20**	**356**	PKPbc	**PKPbc**		**11 29 19.8**	**+0.3**	
DAVOX	**Davos/Dischmat**	**148.20**	**356**	PKPbc	**PKPbc**		**11 29 19.8**	**+0.3**	
	3.2nm,0.4s,baz=353,slow=8.6,SNR=6.1								
TUE	**Stuetta**	**148.54**	**356**	*e*PKPbc	**PKPbc**		**11 29 20.3**	**-0.1**	
JAVS	**Javornik**	**148.57**	**350**	*i* PKPdf	**PKPbc**		**11 29 19.8**	**-0.6**	
BOJS	**Bojanci**	**148.72**	**348**	*i* PKPdf	**PKPbc**		**11 29 18.9**	**-1.7**	
AGO	**Saint Agoulin**	**148.92**	**5**	PKP	**PKPbc**		**11 29 21.0**	**-0.1**	
PYM	**Petit Puy Mans**	**149.21**	**5**	PKP	**PKPbc**		**11 29 20.1**	**-1.9**	
BNI	**Bardonecchia**	**150.05**	**360**	*e*PKPdf	**PKPdf**		**11 29 18.9**	**-0.3**	
BNI				*e*PKPbc	**PKiKP**		**11 29 25.1**	**+0.1**	
BNI				*e*PKPab	**PKPab**		**11 29 28.9**	**-0.9**	
PBRG	**Braganca**	**150.94**	**21**	*e*PKPab	**PKPab**		**11 29 33.4**	**-0.1**	
POLO	**Lamas de Olo**	**150.94**	**23**	*e*P	**PKPbc**		**11 29 27.8**	**+1.5**	
POLO	**Lamas de Olo**	**150.94**	**23**	*e*PKPab	**PKPab**		**11 29 32.4**	**-1.2**	
SAOF	**Saorge**	**151.11**	**358**	PKP	**PKPbc**		**11 29 26.7**	**+0.2**	
MVIF	**Mont Vial**	**151.21**	**359**	PKP	**PKPbc**		**11 29 26.2**	**-0.7**	
MVO	**Moncorvo**	**151.40**	**22**	*e*P	**PKPbc**		**11 29 28.1**	**+0.8**	
MVO	**Moncorvo**	**151.40**	**22**	*e*PKPab	**PKPab**		**11 29 33.3**	**-2.2**	
PMTG	**Montargil**	**152.74**	**26**	*e*PKPab	**PKPab**		**11 29 40.7**	**-0.3**	
PMRV	**Marv??o**	**152.78**	**24**	*e*PKPab	**PKPab**		**11 29 40.9**	**-0.3**	
PNCL	**Nicolau / Gran**	**153.41**	**27**	*e*PKPab	**PKPab**		**11 29 41.5**	**-2.4**	
ESDC	**Sonseca Array**	**153.76**	**19**	PKPab	**PKPab**		**11 29 45.2**	**-0.1**	
ESDC	**Sonseca Array**	**153.76**	**19**	PKPab	**PKPab**		**11 29 45.2**	**-0.1**	
	0.2nm,0.3s,baz=321,slow=3.3,SNR=11								
PCVE	**Castro Verde**	**154.03**	**27**	*e*P	**PKPbc**		**11 29 34.5**	**+1.3**	
PCVE	**Castro Verde**	**154.03**	**27**	*e*PKPab	**PKPab**		**11 29 46.6**	**+0.1**	
PBDV	**Barranco-do-Ve**	**154.40**	**27**	*e*PKPab	**PKPab**		**11 29 48.3**	**+0.2**	
TORD	**Torodi Ar. Bea**	**174.95**	**111**	PKPab	**PKPab**		**11 31 17.5**	**-1.5**	
TORD	**Torodi Ar. Bea**	**174.95**	**111**	PKPab	**PKPab**		**11 31 17.5**	**-1.5**	
	0.6nm,0.9s,baz=245,slow=3.0,SNR=3.4								

*CSEM **02** 11:12:40.4,40.98N×15.03E,h10km,MD1.9/6,After ROM*
ROM 02 11:12:40.4±0.2,40.98N×15.03E,h10km±1km,Md1.9/6, Ml2.0/3,Error ellipse: s-maj=3.2km s-min=1.8km az=37.0,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAL	**S. Angelo Dei**	**0.14**	**113**	Pg	Pg	11 12 44.2	+0.4
SNAL				Sg	Sg	11 12 47.3	+1.2
	375nm,0.3s						
SNAL	**S. Angelo Dei**	**0.14**	**113**	Pg	Pg	11 12 44.2	+0.4
SNAL				Sg	Sg	11 12 47.3	+1.2
	375nm,0.3s						
CAFE	**Carife**	**0.16**	**73**	Pg	Pg	11 12 44.4	+0.3
CAFE				Sg	Sg	11 12 47.6	+0.9
	421nm,0.5s						
CAFE	**Carife**	**0.16**	**73**	Pg	Pg	11 12 44.4	+0.3
CAFE				Sg	Sg	11 12 47.6	+0.9
	421nm,0.5s						
SGTA	**Sant Agata di**	**0.29**	**58**	Pg	Pg	11 12 47.0	+0.5
SGTA				Sg	Sb	11 12 52.0	-0.9
SGTA	**Sant Agata di**	**0.29**	**58**	Pg	Pg	11 12 47.0	+0.5
SGTA				Sg	Sb	11 12 52.0	-0.9
PSB1	**Pescosannita**	**0.29**	**325**	Pg	Pg	11 12 47.1	+0.7
PSB1				Sg	Sb	11 12 52.1	-0.8
PSB1	**Pescosannita**	**0.29**	**325**	Pg	Pg	11 12 47.1	+0.7
PSB1				Sg	Sb	11 12 52.1	-0.8
MRLC	**Muro Lucano**	**0.41**	**123**	Pg	Pg	11 12 48.7	+0.1
MRLC				Sg	Sb	11 12 56.2	0.0
	63nm,0.4s						
MRLC	**Muro Lucano**	**0.41**	**123**	Pg	Pg	11 12 48.7	+0.1
MRLC				Sg	Sb	11 12 56.2	0.0
	63nm,0.4s						
VULT	**Monte Vulture**	**0.44**	**93**	Pg	Pg	11 12 49.1	-0.1
VULT				Sg	Sg	11 12 55.6	+0.4
VULT	**Monte Vulture**	**0.44**	**93**	Pg	Pg	11 12 49.1	-0.1
VULT				Sg	Sg	11 12 55.6	+0.4

*AUST **02** 11:19:22.6±3.4,6.87S×155.57E,h58km±12km,Error ellipse: s-maj=45.8km s-min=12.5km az=37.0*
*IDC **02** 11:19:29.8±2.9,7.10S×154.81E,h67km±26km,mb4.1/11, mb1 4.2/14,mb1mx4.0/22,mbtmp4.1/14,MS3.9/5, Ms1 3.9/5,ms1mx3.6/23,Error ellipse: s-maj=23.3km s-min=16.1km az=126.0*
*NEIC **02** 11:19:31.1±1.5,7.16S×154.91E,h79km±14km,mb4.6/3, Error ellipse: s-maj=15.9km s-min=10.7km az=149.0*
ISC 02 11:19:27.4±0.6,6.91S±0.09×154.60E±0.07,h39km,n52, σ1950/46,mb4.4/16,MS3.9/5,1D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.86**	**116**	P	**Pn**	**11 20 50.6**	**-1.2**
HNR				S	**Sn**	**11 22 00.8**	**+3.2**
HNR	**Honiara**	**5.86**	**116**	P	**Pn**	**11 20 50.6**	**-1.2**
	8.8nm,0.3s,baz=248,slow=11,SNR=4.2						
HNR				S	**Sn**	**11 22 00.8**	**+3.2**
	14nm,0.3s,baz=293,slow=15,SNR=3.2						
PMG	**Port Moresby**	**7.77**	**251**	*e*Pn	Pn	11 21 24.6	+6.5
PMG				S	Sn	11 22 56.9	+12
PMG	**Port Moresby**	**7.77**	**251**	P	Pn	11 21 23.9	+5.9
	2.7nm,0.3s,baz=67,slow=9.0,SNR=11						
PMG				S	Sn	11 22 56.9	+12
	baz=223,slow=19,SNR=2.2						
CTA	**Charters Tower**	**15.40**	**211**	P	**Pn**	**11 23 03.7**	**+1.7**
CTA	**Charters Tower**	**15.40**	**211**	P	**Pn**	**11 23 03.7**	**+1.7**
	0.1nm,0.3s,baz=33,slow=18,SNR=2.9						
CTAO	**Charters Tower**	**15.40**	**211**	*e*Pn	**Pn**	**11 23 03.7**	**+1.7**
RMQ	**Roma**	**20.25**	**195**	P	**P**	**11 23 57.9**	**-1.6**
	baz=21,SNR=13						
QLP	**Quilpie**	**21.91**	**206**	⇓P	**P**	**11 24 15.5**	**-1.9**
	baz=22,SNR=10						
KDU	**Kakadu**	**22.54**	**254**	P	**P**	**11 24 26.4**	**+2.2**
	baz=24,SNR=4.4						
WRAB	**Tennant Creek**	**23.53**	**235**	*e*P	**P**	**11 24 34.7**	**+0.5**
	35nm,1.1s						
WRA	**Warramunga Arr**	**23.54**	**235**	P	**P**	**11 24 34.5**	**+0.1**
WRA	**Warramunga Arr**	**23.54**	**235**	P	**P**	**11 24 34.5**	**+0.1**
	17nm,0.9s,baz=61,slow=9.6,SNR=29						
WRA				LR	LR	11 33 40.7	
	comp=Z,181nm,20.4s,baz=65,slow=36						
CMSA	**Cobar Meteorol**	**25.88**	**198**	P	**P**	**11 24 53.4**	**-2.2**
	baz=26,SNR=14						
AS31	**Alice Springs**	**25.93**	**228**	*e*P	**P**	**11 24 55.6**	**-0.7**
ASAR	**Alice Springs**	**25.94**	**228**	P	**P**	**11 24 55.6**	**-0.7**
ASAR	**Alice Springs**	**25.94**	**228**	P	**P**	**11 24 55.6**	**-0.7**
	6.4nm,0.9s,baz=56,slow=8.9,SNR=20						
STKA	**Stephens Creek**	**27.65**	**204**	P	**P**	**11 25 09.3**	**-2.2**
STKA	**Stephens Creek**	**27.65**	**204**	P	**P**	**11 25 10.8**	**-0.7**
	baz=28,SNR=5.2						
STKA	**Stephens Creek**	**27.65**	**204**	P	**P**	**11 25 09.3**	**-2.2**
	8.0nm,1.0s,baz=22,slow=9.2,SNR=8.7						
STKA				LR	LR	11 34 12.6	
	comp=Z,311nm,21.2s,baz=28,slow=32						
FITZ	**Fitzroy Crossi**	**30.33**	**246**	*e*P	**P**	**11 25 36.5**	**+1.0**
FITZ	**Fitzroy Crossi**	**30.33**	**246**	P	**P**	**11 25 36.3**	**+0.7**
	baz=31,SNR=12						
FITZ	**Fitzroy Crossi**	**30.33**	**246**	P	**P**	**11 25 36.0**	**+0.5**
	8.3nm,0.7s,baz=91,slow=7.0,SNR=19						
AFI	**Afiamalu**	**33.70**	**105**	LR	LR	11 37 28.4	
	comp=Z,203nm,18.0s,baz=252,slow=32						
KAPI	**Kappang**	**34.70**	**271**	P	P	11 26 19.1	+5.2
KAPI	**Kappang**	**34.70**	**271**	P	P	11 26 19.1	+5.2
	12nm,0.9s,baz=161,slow=6.1,SNR=4.0						
MEEK	**Meekatharra**	**39.43**	**236**	P	**P**	**11 26 54.7**	**+0.7**
	baz=40,SNR=3.5						
RAR	**Rarotonga**	**46.31**	**113**	LR	LR	11 42 27.4	
	comp=Z,192nm,20.7s,baz=84,slow=30						
PETK	**Petropavlovsk-**	**59.84**	**2**	P	**P**	**11 29 29.1**	**+0.3**
PETK	**Petropavlovsk-**	**59.84**	**2**	P	**P**	**11 29 29.1**	**+0.3**
	4.4nm,0.8s,baz=155,slow=9.1,SNR=16						
CMAR	**Chiang Mai Arr**	**60.39**	**296**	P	P	11 29 37.3	+4.1
CMAR	**Chiang Mai Arr**	**60.39**	**296**	P	P	11 29 37.3	+4.1
	1.0nm,0.3s,baz=126,slow=4.7,SNR=11						
SONM	**Songino Array**	**69.05**	**327**	P	**P**	**11 30 31.1**	**+1.8**
SONM	**Songino Array**	**69.05**	**327**	P	**P**	**11 30 31.1**	**+1.8**
	1.2nm,0.8s,baz=134,slow=6.4,SNR=5.2						
IMA2	**Indian Mountai**	**81.85**	**19**	*e*P	**P**	**11 31 41.4**	**-0.9**
MCK	**McKinley**	**82.12**	**22**	*e*P	**P**	**11 31 42.1**	**-1.6**
	7.4nm,0.9s						
QSPA	**South Pole Qui**	**83.07**	**180**	*e*P	**P**	**11 31 48.7**	**-0.1**
QSPA	**South Pole Qui**	**83.07**	**180**	P	**P**	**11 31 47.9**	**-0.9**
	3.1nm,1.0s,baz=286,slow=3.4,SNR=4.6						
MK31	**Makanchi Array**	**83.08**	**319**	*e*P	**P**	**11 31 50.8**	**+1.7**
MKAR	**Makanchi Array**	**83.08**	**319**	P	**P**	**11 31 50.6**	**+1.6**
MKAR	**Makanchi Array**	**83.08**	**319**	P	**P**	**11 31 50.6**	**+1.6**
	2.5nm,1.1s,baz=100,slow=5.0,SNR=6.4						
MKAR				LR	LR	12 10 21.9	
	comp=Z,54nm,19.5s,baz=161,slow=37						
ILAR	**Eielson Array**	**83.44**	**22**	P	**P**	**11 31 48.5**	**-2.0**
ILAR	**Eielson Array**	**83.44**	**22**	P	**P**	**11 31 48.5**	**-2.0**
	1.4nm,0.4s,baz=246,slow=5.3,SNR=17						
MAW	**Mawson**	**84.32**	**203**	P	**P**	**11 31 53.5**	**-1.5**
MAW	**Mawson**	**84.32**	**203**	P	**P**	**11 31 53.5**	**-1.5**
	3.3nm,0.9s,baz=75,slow=3.1,SNR=5.8						
INK	**Inuvik**	**89.78**	**21**	*e*P	**P**	**11 32 20.0**	**-1.4**
	1.9nm,0.5s						
NVAR	**Mina Array Bea**	**91.98**	**52**	P	**P**	**11 32 31.6**	**-0.9**
NVAR	**Mina Array Bea**	**91.98**	**52**	P	**P**	**11 32 31.6**	**-0.9**
	0.7nm,0.9s,baz=252,slow=3.0,SNR=5.8						
BDFB	**Brasilia**	**148.32**	**135**	PKPbc	**PKPbc**	**11 39 10.5**	**-0.1**
BDFB	**Brasilia**	**148.32**	**135**	PKPbc	**PKPbc**	**11 39 10.5**	**-0.1**
	2.2nm,0.5s,baz=0.0,slow=2.0,SNR=4.0						
TORD	**Torodi Ar. Bea**	**152.62**	**285**	PKPbc	**PKPbc**	**11 39 20.7**	**-0.2**
TORD	**Torodi Ar. Bea**	**152.62**	**285**	PKPbc	**PKPbc**	**11 39 20.7**	**-0.2**
	1.1nm,0.8s,baz=26,slow=2.3,SNR=6.4						

IDC 02 11:24:55.1±3.9,62.50S×149.75E,h0km,mb3.5/2, mb1 3.9/3,mb1mx3.7/13,mbtmp3.6/3,ML3.8/1,Error ellipse: s-maj=412.9km s-min=40.5km az=76.0,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**15.58**	**170**	Pn	Pn	11 28 35.8	+0.1
	0.4nm,0.3s,baz=333,slow=14,SNR=12						
VNDA				Sn	Sn	11 31 20.5	-8.1
	0.3nm,0.3s,baz=170,slow=6.1,SNR=6.0						
H01W1	**Cape Leeuwin H**	**35.45**	**304**	T	T	12 07 53.1	
	baz=154,slow=0.7,SNR=6.9						
H01W2	**Cape Leeuwin H**	**35.45**	**304**	T	T	12 07 51.4	
	baz=154,slow=0.7,SNR=6.0						
H01W3	**Cape Leeuwin H**	**35.46**	**304**	T	T	12 07 50.0	
	baz=154,slow=0.7,SNR=5.5						
ASAR	**Alice Springs**	**40.27**	**337**	P	P	11 32 33.5	-0.2
	0.6nm,0.8s,baz=167,slow=8.6,SNR=5.8						
WRA	**Warramunga Arr**	**43.84**	**339**	P	P	11 33 02.8	-0.1
	0.6nm,0.6s,baz=168,slow=7.1,SNR=8.0						

IDC 02 11:49:20.7±14.0,18.07S×167.05E,h0km,mb4.0/3, mb1 4.1/4,mb1mx3.7/19,mbtmp3.9/4,ML3.3/1,MS2.8/1, Ms1 2.8/1,ms1mx2.6/32,Error ellipse: s-maj=236.6km s-min=37.6km az=68.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.02**	**188**	Pn	Pn	11 50 23.7	-0.1
	1.9nm,0.3s,baz=348,slow=14,SNR=20						
DZM				Sn	Sn	11 51 10.6	-1.2
	4.6nm,0.3s,baz=311,slow=23,SNR=8.7						
DZM				LR	LR	11 51 32.7	
	comp=Z,132nm,19.8s,baz=207,slow=33						
STKA	**Stephens Creek**	**26.78**	**234**	P	P	11 55 04.4	+1.9
	1.1nm,0.5s,baz=67,slow=13,SNR=3.1						
WRA	**Warramunga Arr**	**30.96**	**261**	P	P	11 55 39.0	-0.9
	0.9nm,0.7s,baz=92,slow=8.9,SNR=13						
ASAR	**Alice Springs**	**31.42**	**254**	P	P	11 55 43.7	-0.3
	1.4nm,0.5s,baz=84,slow=8.3,SNR=28						

*BJI **02** 12:01:07.9,15.39S×172.70W,h9km,mB5.5/25,mb5.1/28, Ms5.3/21,Ms7 4.9/22*
*ISCJB **02** 12:01:08.7±0.2,15.52S±0.05×173.23W±0.03,h10km, mb5.2/159,MS4.9/19,Error ellipse: s-maj=7.6km s-min=4.2km az=158.5*
*IDC **02** 12:01:08.8±0.4,15.51S×173.25W,h0km,mb4.8/26, mb1 4.9/26,mb1mx4.9/27,mbtmp4.8/26,MS4.6/6, Ms1 4.6/6,ms1mx4.2/34,Error ellipse: s-maj=15.4km s-min=11.1km az=129.0*
*NEIC **02** 12:01:10.6±0.2,15.49S×173.17W,h10km,mb5.4/105, Error ellipse: s-maj=7.5km s-min=4.3km az=147.0*
*MOS **02** 12:01:13.7±1.0,15.31S×173.08W,h33km,mb5.5/33, MS5.1/6,Error ellipse: s-maj=12.0km s-min=7.6km az=57.0*
*SZGRF **02** 12:01:14.4,15.82S×172.44W,h33km,Samoa Islands region*
*GCMT **02** 12:01:14.7±0.2,15.42S×172.93W,h12km,MW5.3, Moment Tensor Solution. s69,c118; s99,c205; Moment tensor: Scale 10^{17}Nm; M_{rr}-0.96±.02; $M_{\theta\theta}$1.03±.02; $M_{\phi\phi}$-0.06±.02; $M_{r\theta}$0.63±.04; $M_{\theta\phi}$-0.07±.02; $M_{r\phi}$0.22±.05; Best double couple: $M_0$1.20000×10^{17} NP1:ϕ_s261.00000°, δ62.00000°,λ-103.00000°. NP2:ϕ_s107.00000°, δ31.00000°,λ-67.00000°. Principal axes: T 1.2100, Plg16.0000°, Azm0.0000°; N -0.0200, Plg11.0000°, Azm267.0000°; P -1.1900, Plg70.0000°, Azm144.0000°; Data Used: ll IU IC G CN. Surface waves from 108 sta.*
*AUST **02** 12:01:15.1±2.3,15.65S×172.58W,h85km±12km Error ellipse: s-maj=35.6km s-min=7.3km az=30.0*
ISC 02 12:01:10.3±0.3,15.57S±0.06×173.13W±0.05,h11km±1km, h12km:pP-P,n897,σ0883/920,mb5.4/158,MS4.9/19, 219C-200D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.10**	**39**	*e*Pn	Pn	12 01 37.5	-8.0
AFI				Pn	Pb	12 01 37.8	-11
AFI				Sn	Sn	12 01 57.7	-14
AFI				*e*Sn	Sb	12 02 05.1	-10
AFI				TT		12 03 37.8	
AFI	**Afiamalu**	**2.10**	**39**	Pn	Pn	12 01 37.8	-7.7
	75nm,0.3s,baz=238,slow=14,SNR=30						
AFI				Sn	Sn	12 01 57.7	-14
	528nm,0.3s,baz=217,slow=20,SNR=13						
AFI				T	T	12 03 37.8	
	355nm,0.3s,baz=115,slow=23,SNR=3.7						
NIUE	**Niue**	**4.64**	**139**	⇓P	Pn	12 02 16.8	-3.5
	baz=4.3,SNR=30						
MSVF	**Nonsavu**	**8.73**	**255**	*e*P	Pn	12 03 22.5	+5.9

BBOO Buckleboo 48.95 240 P P 12 09 55.6 -1.2
baz=49,SNR=6.2
WRAB Tennant Creek 50.05 257 P P 12 10 03.4 -2.0
comp=Z,102nm,0.9s,SNR=5.1
WRA Warramunga Ar 50.06 257 P P 12 10 03.6 -1.9
WRA PcP PcP 12 11 25.5 +0.2
WRA Warramunga Arr 50.06 257 P P 12 10 03.6 -1.9
comp=Z,11nm,0.9s,baz=90,slow=6.7,SNR=66
WRA PcP PcP 12 11 25.5 +0.2
comp=Z,4.9nm,0.8s,baz=89,slow=3.7,SNR=7.4
AS17 Alice Springs 50.23 252 ⇑P P 12 10 04.8 -2.0
baz=51
ASAR Alice Springs 50.31 252 P P 12 10 05.6 -1.8
ASAR PcP PcP 12 11 26.2 0.0
ASAR Alice Springs 50.31 252 P P 12 10 05.6 -1.8
comp=Z,24nm,0.7s,baz=87,slow=8.4,SNR=85
ASAR PcP PcP 12 11 26.2 0.0
comp=Z,6.0nm,0.9s,baz=90,slow=6.5,SNR=4.1
ASAR LR LR 12 29 52.7
comp=Z,961nm,21.5s,baz=94,slow=34
KDU Kakadu 52.72 266 ⇑P P 12 10 24.8 -0.6
baz=53
FORT Forrest 55.57 243 eP P 12 10 45.7 -0.4
comp=Z,20nm,0.8s
FORT Forrest 55.57 243 ⇑P P 12 10 45.0 -1.0
baz=56
KNRA Kununurra 55.80 261 ⇑P P 12 10 47.5 -0.4
baz=56,SNR=3.9
FITZ Fitzroy Crossi 58.43 258 P P 12 11 05.1 -1.4
FITZ eP pP 12 11 09.9 -0.2
FITZ Fitzroy Crossi 58.43 258 P P 12 11 05.1 -1.4
comp=Z,1.2nm,0.7s,baz=80,slow=6.1,SNR=4.0
DRV Dumont d'Urvil 59.52 200 S S 12 19 13.0 -10
DRV L L 12 26 00.0
DRV R 12 29 00.0
SBA Scott Base 63.10 185 eP P 12 11 41.0 +3.6
SBA pmax pmax
comp=Z,141nm,2.0s
SBA Scott Base 63.10 185 eP P 12 11 41.0 +3.6
comp=Z,141nm,2.0s
VNDA Vanda 63.23 186 P P 12 11 40.4 +2.1
VNDA eP pP 12 11 41.1 -0.8
VNDA Vanda 63.23 186 P P 12 11 40.4 +2.1
comp=Z,3.3nm,0.8s,baz=14,slow=8.0,SNR=16
MEEK Meekatharra 63.99 248 ⇑P P 12 11 42.6 -1.6
baz=64,SNR=6.6
KLBR Kellerberrin 64.39 242 P P 12 11 46.0 -0.7
baz=65,SNR=8.2
NWAO Narrogin (SRO) 64.77 241 LR LR 12 36 55.6
comp=Z,394nm,19.2s,baz=99,slow=33
MJAR Matsushiro Arr 69.24 320 P P 12 12 16.9 -0.5
MJAR Matsushiro Arr 69.24 320 P P 12 12 16.9 -0.5
comp=Z,4.4nm,1.1s,baz=159,slow=6.3,SNR=5.2
H06N1 SOCORRO T-PHAS 70.08 63 T T 13 28 39.5
SNR=6.4
H06E1 SOCORRO T-PHAS 70.09 63 T T 13 29 37.3
SNR=1.9
SCI San Clemente I 71.04 46 ⇓P P 12 12 28.3 -0.1
baz=71
PKM Peak Mountain 71.25 44 ⇑P P 12 12 30.8 +0.8
baz=71
SMMC Simmler 71.37 44 ⇓P P 12 12 31.5 +1.0
baz=72
CIS Catalina Islan 71.37 46 ⇓P P 12 12 31.6 +1.0
baz=72
PTRM Twissleman Ran 71.43 43 eP P 12 12 32.6 +1.8
FMP Fort Macarthur 71.62 46 ⇓P P 12 12 33.2 +1.3
baz=72
ASAJ Asahikawa 71.82 328 P P 12 12 32.2 -0.7
ASAJ eP pP 12 12 34.3 -2.4
ASAJ Asahikawa 71.82 328 P P 12 12 32.2 -0.7
comp=Z,20nm,1.0s,baz=180,slow=6.1,SNR=7.5
ARVC Arvin 72.05 44 ⇑P P 12 12 34.8 +0.3
baz=72
MWC Mount Wilson 72.07 46 eP P 12 12 35.8 +0.9
MWC pmax pmax
comp=Z,43nm,1.5s
MWC Mount Wilson 72.07 46 eP P 12 12 35.8 +0.9
comp=Z,43nm,1.5s
BAR Barrett 72.19 48 eP P 12 12 35.8 +0.3
comp=Z,38nm,1.9s
VES Vestal, Richgr 72.28 44 ⇑P P 12 12 36.0 +0.1
baz=72,SNR=7.2
MURC Murrieta 72.32 47 ⇑P P 12 12 36.2 0.0
baz=72
BFSC Mount Baldy Ra 72.35 46 ⇓P P 12 12 36.1 -0.4
baz=72,SNR=6.1
EDW2 Edwards Air Fo 72.48 45 ⇓P P 12 12 37.0 -0.2
baz=73,SNR=14
MONP Monument Peak 72.49 48 ⇓P P 12 12 36.8 -0.7
baz=73,SNR=7.8
ISA Isabella 72.59 44 eP P 12 12 38.0 +0.1
ISA pmax pmax
comp=Z,47nm,1.5s
ISA Isabella 72.59 44 eP P 12 12 38.0 +0.1
comp=Z,47nm,1.5s
ISA Isabella 72.59 44 ⇑P P 12 12 38.2 +0.3
baz=73,SNR=17
DVTC Desert V Tower 72.59 48 ⇑P P 12 12 38.2 +0.2
baz=73,SNR=6.4
CHGN Chignik 72.66 9 eP P 12 12 36.8 -0.9
CMB Columbia Colle 72.72 41 eP P 12 12 39.1 +0.6
CMB pmax pmax
comp=Z,65nm,2.0s
CMB Columbia Colle 72.72 41 eP P 12 12 39.1 +0.6
comp=Z,65nm,2.0s
PFO Pinyon Flat Ob 72.85 47 eP P 12 12 39.6 +0.1
comp=Z,41nm,1.7s
PFO P P 12 12 39.9 +0.4
PFO Pinyon Flat Ob 72.85 47 ⇑P P 12 12 39.2 -0.3
baz=73,SNR=6.4
PFO Pinyon Flat Ob 72.85 47 P P 12 12 39.9 +0.4
comp=Z,3.4nm,0.7s,baz=289,slow=2.9,SNR=8.1
PETK Petropavlovsk- 72.87 342 P P 12 12 39.1 +0.1
PETK Petropavlovsk- 72.87 342 P P 12 12 39.1 +0.1
PETK Petropavlovsk- 72.87 342 P P 12 12 39.1 +0.1
comp=Z,11nm,0.9s,baz=138,slow=9.1,SNR=11
WDC Whiskeytown Da 72.95 38 eP P 12 12 41.2 +1.4
WDC pmax pmax
comp=Z,23nm,1.4s
WDC Whiskeytown Da 72.95 38 eP P 12 12 41.2 +1.4
comp=Z,23nm,1.4s
SWSC Sam W. Stewart 72.96 48 ⇑P P 12 12 39.8 -0.1
baz=73,SNR=6.3
LRMC Laurel Mountai 73.02 45 ⇓P P 12 12 40.5 0.0
baz=73,SNR=14
CWC Cottonwood Cre 73.29 44 ⇑P P 12 12 42.0 -0.2
baz=73,SNR=9.3
BELC Belle Mtn. Jos 73.38 47 ⇑P P 12 12 42.5 -0.2
baz=74,SNR=10
MPMC Manual Prospec 73.47 44 ⇑P P 12 12 43.2 -0.1
baz=74,SNR=32
MTUM Tungsten Hills 73.49 43 eP P 12 12 44.3 +0.9
GSC Goldstone 73.52 45 eP P 12 12 43.8 +0.4
GSC pmax pmax
comp=Z,43nm,1.4s
GSC Goldstone 73.52 45 eP P 12 12 43.8 +0.4
comp=Z,43nm,1.4s
GSC Goldstone 73.52 45 ⇓P P 12 12 43.2 -0.2
baz=74,SNR=12
YBH Yreka Blue Hor 73.58 37 P P 12 12 44.4 +0.8
YBH eP pP 12 12 44.8 -2.5
YBH Yreka Blue Hor 73.58 37 P P 12 12 44.4 +0.8
comp=Z,9.9nm,0.8s,baz=171,slow=4.7,SNR=20
BC3 Big Chuckawall 73.58 47 ⇑P P 12 12 43.8 0.0
baz=74,SNR=10
HEC Hector,Ludlow 73.59 46 ⇓P P 12 12 43.4 -0.4
baz=74,SNR=12
WAKR Walker 73.60 41 eP P 12 12 44.8 +0.8
GLA Glamis 73.71 48 eP P 12 12 45.5 +1.0
GLA pmax pmax
comp=Z,64nm,1.8s
GLA Glamis 73.71 48 eP P 12 12 45.5 +1.0
comp=Z,64nm,1.8s
GLA Glamis 73.71 48 ⇑P P 12 12 44.4 -0.1
baz=74,SNR=6.1
YSS Yuzh-Sakhalins 73.76 330 ⇓eP P 12 12 45.0 +0.6
YSS e 12 13 02.0
YSS MLR MLR
comp=Z,400nm,18.0s
HUMO Hull Mountain 73.99 36 eP P 12 12 47.0 +1.1
comp=Z,25nm,1.3s
GMRC Granite Mounta 74.03 46 ⇓P P 12 12 46.0 -0.4
baz=74,SNR=12
IRM Iron Mountain 74.06 47 ⇑P P 12 12 46.6 +0.1
baz=74,SNR=13
GRAC Grapevine Rang 74.08 43 ⇓P P 12 12 46.7 +0.1
baz=74,SNR=10
FURC Furnace Creek, 74.12 44 ⇓P P 12 12 46.8 +0.1
baz=74,SNR=12
TUQ Turquoise Moun 74.20 46 ⇓P P 12 12 47.3 -0.2
baz=74,SNR=17
SHOC Shoshone 74.20 45 ⇑P P 12 12 47.2 -0.1
baz=74,SNR=12
NVAR Mina Array Bea 74.28 42 P P 12 12 48.4 +0.5
NVAR Mina Array Bea 74.28 42 P P 12 12 48.4 +0.5
comp=Z,7.8nm,0.9s,baz=226,slow=8.6,SNR=46
NVAR LR LR 12 37 52.8
comp=Z,891nm,20.2s,baz=124,slow=30
Y12C Blythe 74.29 48 ⇓P P 12 12 47.8 0.0
baz=74,SNR=7.9
113A Mohawk Valley, 74.33 49 ⇑P P 12 12 48.0 0.0
baz=74
PAHR Pah Rah Range 74.34 40 eP P 12 12 48.8 +0.7
comp=Z,30nm,1.3s
LDFC Landfair 74.57 46 eP P 12 12 50.7 +1.1
comp=Z,110nm,1.5s
214A Organ Pipe Nat 74.62 50 ⇓P P 12 12 50.1 +0.2
baz=75,SNR=5.0
PDMCI Parker Dam,Lak 74.84 47 ⇑P P 12 12 50.9 -0.1
baz=75,SNR=6.2
KDAK Kodiak Island 75.04 11 P P 12 12 52.6 +1.1
comp=Z,269nm,0.7s,SNR=7.1
KDAK Kodiak Island 75.04 11 eP P 12 12 52.2 +0.7
comp=Z,43nm,0.8s
MOD Modoc 75.09 38 eP P 12 12 52.9 +0.4
comp=Z,110nm,1.0s
Z14A Wintersburg 75.22 49 ⇓P P 12 12 53.3 +0.1
baz=75
K05A Summer Lake 75.25 37 eP P 12 12 54.5 +1.1
comp=Z,54nm,1.1s
SHPR Sheep Range 75.29 45 eP P 12 12 54.2 +0.5
W13A Hualapai Mount 75.44 47 ⇑P P 12 12 54.4 -0.3
baz=76,SNR=7.7
Y14A Wickenburg 75.47 48 ⇑P P 12 12 54.7 0.0
baz=76,SNR=13
H04A Detroit Lake 75.74 35 eP P 12 12 55.8 -0.2
comp=Z,43nm,1.1s
BKCOR Black Crater 75.77 35 P P 12 12 57.2 +0.9
PINOR Pine Mountain 75.93 36 eP P 12 12 58.4 +1.3
comp=Z,48nm,1.0s
R11A Troy Canyon, C 76.00 43 eP P 12 12 58.2 +0.4
R11A Troy Canyon, C 76.00 43 ⇓P P 12 12 57.5 -0.3
baz=76,SNR=15
BMN Battle Mountai 76.11 41 eP P 12 12 59.8 +1.4
BMN pmax pmax
comp=Z,19nm,0.9s
BMN Battle Mountai 76.11 41 eP P 12 12 59.8 +1.4
comp=Z,18nm,0.9s
E03A Lebam 76.21 33 eP P 12 12 59.6 +1.0
comp=Z,60nm,1.1s
TUC Tucson 76.29 51 eP P 12 13 00.1 +0.6
TUC Tucson 76.29 51 eP P 12 13 00.1 +0.6
KSRS Kosa Array 76.46 315 P P 12 13 00.8 +0.6
comp=Z,1.6nm,0.9s,baz=130,slow=5.9,SNR=2.7
KSAR Wonju Array Be 76.48 315 P P 12 13 00.8 +0.5
FL2 Flat Top 2 76.62 34 P P 12 13 01.9 +0.8
TDL Tradedollar La 76.79 34 P P 12 13 02.8 +0.7
X16A Lo Mia Camp, P 76.83 48 ⇓P P 12 13 02.8 +0.2
baz=77,SNR=34
I07A Izee 76.88 37 eP P 12 13 02.9 +0.3
comp=Z,54nm,1.3s
G06A Carlson Farm, 76.95 35 eP P 12 13 02.7 -0.2
comp=Z,50nm,1.4s
319A Doss 76.99 52 ⇑P P 12 13 03.8 +0.3
baz=77,SNR=8.9
J08A Circle Bar Ran 77.05 38 eP P 12 13 03.8 +0.2
comp=Z,64nm,1.3s
CCUT Cedar City 77.07 45 eP P 12 13 05.0 +1.1
comp=Z,26nm,1.2s
ARUT Antelope Range 77.14 45 eP P 12 13 04.9 +0.6
ARUT Antelope Range 77.14 45 eP P 12 13 04.9 +0.6
comp=Z,655nm,1.3s
U15A North Rim 77.23 46 ⇑P P 12 13 05.3 +0.4
baz=77
LON Longmire 77.26 33 eP P 12 13 05.0 +0.4
LON pmax pmax
comp=Z,63nm,1.9s
LON Longmire 77.26 33 eP P 12 13 05.0 +0.4
comp=Z,63nm,1.9s
WPW White Pass 77.37 34 P P 12 13 05.1 -0.2
WUAZ Wupatki 77.42 47 ⇑P P 12 13 06.5 +0.6
baz=78
D05A Enumclaw 77.45 33 eP P 12 13 06.7 +1.1
comp=Z,136nm,1.4s
RSO Redoubt South 77.53 10 eP P 12 13 06.2 +0.2
ELK Elko 77.54 41 eP P 12 13 07.0 +0.5
comp=Z,43nm,1.4s
320A Kipp Ranch, An 77.54 52 ⇑P P 12 13 07.0 +0.3
baz=78,SNR=14
PGC Sidney 77.65 31 eP P 12 13 07.5 +0.9
comp=Z,1.8nm,0.9s
USRK Ussuriysk Arra 77.68 323 P P 12 13 07.7 +0.8
comp=Z,10nm,1.1s,baz=106,slow=5.1,SNR=14
SVW2 Sparrevohn 77.69 9 eP P 12 13 06.0 -0.6
comp=Z,12nm,0.9s
220A Playas Peak, P 77.80 52 ⇑P P 12 13 08.3 +0.2
baz=78,SNR=29
G08A Pilot Rock 77.92 36 eP P 12 13 08.5 +0.1
X18A Snowflake 77.96 49 ⇑P P 12 13 09.0 +0.1
baz=78,SNR=15
120A U Bar Ranch, L 78.01 51 ⇓P P 12 13 09.6 +0.3
baz=78,SNR=16
CMW Cultus Mountai 78.17 32 P P 12 13 10.6 +0.9
LTY Liberty 78.19 33 eP P 12 13 10.1 +0.3
comp=Z,28nm,1.2s
HAWA Hanford 78.27 35 eP P 12 13 10.2 +0.1
comp=Z,56nm,1.3s
Z20A Nine Sixteen R 78.30 51 ⇓P P 12 13 11.5 +0.7
baz=78,SNR=21
SPU Mount Spurr 78.32 10 eP P 12 13 09.4 -0.7
MVU Marysvale 78.33 44 eP P 12 13 12.3 +1.3
comp=Z,32nm,1.0s
221A Mesquite Ranch 78.42 52 ⇓P P 12 13 11.3 -0.2
baz=78,SNR=8.7
RPW Rockport 78.50 32 P P 12 13 11.5 +0.1
A05A Maple Falls 78.56 32 eP P 12 13 12.5 +0.8
comp=Z,52nm,1.7s
HABR Khabarovsk 78.62 328 eP P 12 13 11.0 -1.0
HABR *i* 12 13 19.9
HABR *e*S S 12 23 06.5 -2.2
HABR *e* 12 23 31.0
HABR *e*SS SS 12 28 09.9 -3.2
HABR pmax pmax
comp=E,53nm,2.6s
HABR pmax pmax
comp=Z,124nm,2.3s
HABR pmax pmax
comp=N,45nm,2.6s
HABR MLR MLR
comp=Z,381nm,21.0s
121A Cookes Peak, D 78.64 52 ⇓P P 12 13 13.2 +0.4
baz=79,SNR=21
MFID Camas Ranch 78.65 39 ⇑P P 12 13 12.2 -0.3
baz=79,SNR=31
DUG Dugway 78.81 43 eP P 12 13 14.0 +0.5
DUG pmax pmax
comp=Z,32nm,1.2s
DUG Dugway 78.81 43 eP P 12 13 14.0 +0.5
comp=Z,32nm,1.2s
DUG Dugway 78.81 43 ⇑P P 12 13 13.6 +0.1
baz=79,SNR=28
Y20A Horse Springs, 78.83 50 ⇓P P 12 13 14.9 +1.1
baz=79,SNR=37
X20A Quinado 79.03 49 ⇑P P 12 13 15.5 +0.6
baz=79,SNR=29
BGU Big Grassy Mou 79.05 42 eP P 12 13 15.3 +0.5
comp=Z,88nm,2.1s
Z21A St. Cloud Mine 79.08 51 ⇑P P 12 13 15.8 +0.6
baz=79,SNR=34
E09A Wood Farm, Sta 79.11 35 eP P 12 13 14.4 -0.3
comp=Z,40nm,1.1s
NLU North Lily Min 79.17 43 eP P 12 13 15.6 0.0
comp=Z,130nm,2.5s
PMR Palmer 79.23 11 eP P 12 13 15.1 0.0
PMR Palmer 79.23 11 eP P 12 13 15.1 0.0
comp=Z,494nm,0.3s
Q16A Castle Valley 79.25 44 ⇑P P 12 13 16.6 +0.6
baz=79,SNR=10
W20A Ramah 79.30 49 ⇑P P 12 13 17.2 +0.9
baz=79,SNR=37
F10A Beach Ranch, E 79.30 36 eP P 12 13 15.8 -0.2
comp=Z,36nm,0.9s
122A Conniff Cattle 79.31 52 ⇓P P 12 13 16.8 +0.4
baz=79
MDJ Mudanjiang 79.32 322 P P 12 13 16.8 +0.8
MDJ pP pP 12 13 20.1 +0.4
MDJ sP sP 12 13 21.3 +0.2
MDJ PcP PcP 12 13 24.7 +0.6
MDJ PP PP 12 16 16.1 0.0
MDJ S S 12 23 15.8 -0.6
MDJ ScS ScS 12 23 38.2 -0.7
MDJ SS SS 12 28 21.7 -2.1
MDJ AMB AMB
comp=Z,15nm,1.7s
MDJ AMB AMB
comp=Z,110nm,4.1s
MDJ LR LR
comp=Z,380nm,21.5s
MDJ LR LR
comp=Z,390nm,22.1s
MDJ LR LR
comp=Z,650nm,22.7s
Y21A Point of Rocks 79.39 50 ⇑P P 12 13 17.8 +0.8
baz=80,SNR=13
TMUT Trail Mountain 79.41 44 eP P 12 13 18.0 +1.0
comp=Z,58nm,1.0s
MPU Maple Canyon 79.49 43 eP P 12 13 18.3 +1.0
comp=Z,32nm,1.2s
DIV Divide 79.50 13 eP P 12 13 16.7 0.0
comp=Z,42nm,0.8s
X21A Alamocita Cree 79.51 50 ⇓P P 12 13 18.1 +0.6
baz=80,SNR=21
B08A Colville Reser 79.58 33 eP P 12 13 17.3 -0.1
comp=Z,26nm,1.0s
Z22A Elephant Butte 79.58 51 ⇓P P 12 13 18.2 +0.3
baz=80,SNR=25
HLID Hailey 79.59 39 eP P 12 13 18.3 +0.6
comp=Z,50nm,1.1s
HLID Hailey 79.59 39 ⇑P P 12 13 17.5 -0.2
baz=80,SNR=64
BMRM Bremner River 79.62 14 eP P 12 13 17.2 -0.1
comp=Z,59nm,1.0s
V20A Brimhall 79.63 48 ⇓P P 12 13 18.2 0.0
baz=80,SNR=8.4
HVU Hansel Valley 79.66 41 eP P 12 13 18.9 +0.8
HVU pmax pmax
comp=Z,43nm,1.2s
HVU Hansel Valley 79.66 41 eP P 12 13 18.9 +0.8
comp=Z,43nm,1.2s
SRU San Rafael 79.78 45 eP P 12 13 19.7 +0.8
SRU pmax pmax
comp=Z,41nm,1.1s
SRU San Rafael 79.78 45 eP P 12 13 19.7 +0.8
comp=Z,40nm,1.1s
C09A Chrisman Ranch 79.80 34 eP P 12 13 19.1 +0.6
comp=Z,30nm,0.9s
123A Bell Site, Whi 79.84 52 ⇓P P 12 13 20.3 +1.1
baz=80
U20A Newcomb 79.86 48 ⇓P P 12 13 19.7 +0.3
baz=80,SNR=18
Y22A Socorro 79.89 51 ⇑P P 12 13 19.6 0.0
baz=80,SNR=20
JLU Jordanelle 79.91 43 eP P 12 13 20.3 +0.7
comp=Z,33nm,1.1s
W21A San Fidel 79.91 49 ⇓P P 12 13 20.0 +0.2
baz=80
324A Moseley Ranch, 79.93 53 ⇓P P 12 13 19.4 -0.4
baz=80,SNR=27
DAU Daniels Canyon 79.94 43 eP P 12 13 20.6 +0.8
DAU Daniels Canyon 79.94 43 eP P 12 13 20.6 +0.8
LAZ Ladron 79.97 50 eP P 12 13 20.9 +0.9
comp=Z,34nm,1.6s
Y22D IRIS PASSCAL I 79.98 50 ⇑P P 12 13 20.1 +0.1
baz=80
LENM Lemitar 79.98 50 eP P 12 13 21.2 +1.1
425A Indio Mountain 80.04 54 ⇓P P 12 13 20.4 0.0
baz=80,SNR=45
X22A Bernardo 80.11 50 ⇑P P 12 13 21.4 +0.7
baz=80,SNR=9.0
MNTX Cornudas Mount 80.12 53 eP P 12 13 20.9 +0.2
comp=Z,52nm,1.4s
Z23A Rita Site, Whi 80.14 51 ⇑P P 12 13 21.3 +0.4
baz=80,SNR=12
224A Cornudas Mount 80.17 53 ⇑P P 12 13 21.3 +0.2
baz=80,SNR=36
626A Big Bend Ranch 80.20 56 ⇓P P 12 13 21.8 +0.5
baz=80,SNR=37
BNM Barren Site 80.23 51 eP P 12 13 22.0 +0.6
comp=Z,58nm,1.6s
V21A Milan 80.23 49 ⇑P P 12 13 22.2 +0.7
baz=80
PV05 Paradox Valley 80.26 46 eP P 12 13 22.4 +0.9
MVCO Mesa Verde 80.27 47 eP P 12 13 22.3 +0.7
comp=Z,25nm,1.3s
MVCO Mesa Verde 80.27 47 ⇓P P 12 13 21.7 +0.1
baz=80,SNR=10
LPM Los Pinos Moun 80.30 50 eP P 12 13 22.8 +1.0
CAST Castle Rocks 80.42 9 eP P 12 13 20.6 -0.9
comp=Z,9.7nm,0.9s
PV09 Paradox Valley 80.43 46 eP P 12 13 23.6 +1.1
526A Mary Lane Ranc 80.45 55 ⇓P P 12 13 23.0 +0.3
baz=81,SNR=34
W22A Albuquerque 80.46 50 ⇑P P 12 13 23.7 +1.0
baz=81,SNR=6.2
NJ2 Nanjing 80.48 307 eP P 12 13 23.1 +0.6
NJ2 AMB AMB
comp=Z,20nm,0.8s
124A Stringfield Ra 80.49 52 ⇓P P 12 13 23.2 +0.3
baz=81,SNR=22
TXAR Lajitas Array 80.49 56 P P 12 13 23.4 +0.6
TXAR Lajitas Array 80.49 56 P P 12 13 23.4 +0.6
comp=Z,24nm,1.1s,baz=218,slow=5.5,SNR=91
TXAR LR LR 12 40 09.8
comp=Z,391nm,21.0s,baz=50,slow=29
U21A Nageezi 80.50 48 ⇓P P 12 13 23.3 +0.4
baz=81,SNR=89
Y23A Lovelace Mesa, 80.56 51 ⇓P P 12 13 23.3 +0.1
baz=81,SNR=17
PV01 Paradox Valley 80.65 46 eP P 12 13 23.7 +0.1
comp=Z,4µm,1.1s
S20A Disappointment 80.65 47 ⇓P P 12 13 23.6 -0.1
baz=81,SNR=39
NEW Newport 80.70 34 eP P 12 13 22.7 -0.7
comp=Z,14nm,0.9s
NEW Newport 80.70 34 ⇑P P 12 13 22.6 -0.9
baz=81,SNR=12
ANMO Albuquerque 80.71 50 eP P 12 13 24.4 +0.4
comp=Z,30nm,1.1s
225A Deer Hill, Car 80.72 53 ⇓P P 12 13 24.3 +0.2
baz=81,SNR=32
426A McDonald Obser 80.74 55 ⇓P P 12 13 24.4 +0.1
baz=81,SNR=64
TRF Thorofare Moun 80.75 10 eP P 12 13 22.5 -1.0
comp=Z,32nm,1.0s
X23A Hourglass Bar 80.75 50 ⇓P P 12 13 24.7 +0.5
baz=81,SNR=7.8
627A Terlingua Ranc 80.76 56 ⇑P P 12 13 24.2 0.0
baz=81,SNR=60
KLR Kul'dur 80.80 327 eP P 12 13 20.3 -3.6
KLR *e* 12 23 32.0
KLR pmax pmax
comp=Z,200nm,2.8s
R20A Redvale 80.81 46 ⇓P P 12 13 24.5 0.0
baz=81,SNR=16
PV15 Paradox Valley 80.81 46 eP P 12 13 24.7 +0.2
V22A San Miguel Ran 80.81 49 ⇓P P 12 13 24.6 +0.1
baz=81,SNR=12
SKAG Skagway 80.82 18 eP P 12 13 24.9 +1.2
comp=Z,33nm,1.2s
Z24A Sheeppen Canyo 80.82 52 ⇑P P 12 13 24.5 -0.2
baz=81,SNR=12
T21A Navajo Lake 80.85 48 ⇓P P 12 13 25.1 +0.4
baz=81,SNR=15
527A Woodward Ranch 80.86 55 ⇑P P 12 13 24.8 0.0
baz=81,SNR=31
M17A Scullys Gap (B 80.86 42 ⇓P P 12 13 24.5 -0.1
baz=81,SNR=7.2
Y24A Capitan 81.03 51 ⇑P P 12 13 26.0 +0.3
baz=81,SNR=40
W23A Werner Place, 81.03 50 ⇑P P 12 13 25.9 +0.2
baz=81,SNR=22
326A Caldwell Ranch 81.05 54 ⇑P P 12 13 25.8 0.0
baz=81,SNR=9.9
U22A Llaves 81.06 48 ⇓P P 12 13 26.2 +0.4
baz=81
125A Gardner Draw, 81.08 53 ⇑P P 12 13 26.1 +0.2
baz=81,SNR=17
P19A Cripple Cowboy 81.08 45 ⇓P P 12 13 25.9 +0.1
baz=81,SNR=20
GDL2 Guadalupe Moun 81.11 53 eP P 12 13 27.0 +0.9

628A	Black Gap, Mar	81.17	56	⇑P		P		12 13 26.6	+0.2	
	baz=81,SNR=36									
226B	Tecolote Peak,	81.21	53	⇓P		P		12 13 26.9	+0.3	
	baz=81,SNR=62									
PAX	Paxson	81.22	12	*e*P		P		12 13 25.5	-0.4	
PAX					pmax	pmax				
	comp=Z,17nm,1.1s									
PAX	Paxson	81.22	12	*e*P		P		12 13 25.5	-0.4	
	comp=Z,17nm,1.1s									
MCMT	McKenzie Canyo	81.22	39	P		P		12 13 26.8	+0.2	
Q20A	Ridgley Place,	81.22	46	⇑P		P		12 13 26.9	+0.2	
	baz=81,SNR=30									
BPAW	Bear Paw Mtn.	81.23	10	*e*P		P		12 13 25.1	-0.8	
	comp=Z,20nm,1.3s									
MCK	McKinley	81.24	11	*e*P		P		12 13 25.2	-0.8	
MCK					pmax	pmax				
	comp=Z,48nm,1.0s									
MCK	McKinley	81.24	11	*e*P		P		12 13 25.1	-0.8	
	comp=Z,48nm,1.0s									
V23A	Ortiz Mt. (NFS	81.26	49	⇑P		P		12 13 27.8	+0.8	
	baz=81,SNR=30									
Z25A	Roswell	81.29	52	⇑P		P		12 13 27.6	+0.5	
	baz=81,SNR=22									
X24A	Lazy VL Ranch,	81.30	51	⇓P		P		12 13 26.9	-0.3	
	baz=81									
O19A	Miners Draw (B	81.30	44	⇑P		P		12 13 26.8	-0.2	
	baz=81,SNR=12									
427A	Hayter Ranch,	81.31	55	⇑P		P		12 13 27.5	+0.4	
	baz=81,SNR=36									
T22A	Edith	81.31	48	⇑P		P		12 13 27.4	+0.2	
	baz=81,SNR=21									
CN2	Changchun	81.39	320	*e*P		P		12 13 27.7	+0.6	
CN2				*ep*P		PcP		12 13 32.4	-0.8	
CN2				*es*P		sP		12 13 34.6	+2.4	
CN2				*e*S		S		12 23 36.8	-1.3	
CN2					AMB	AMB				
	comp=Z,20nm,1.2s									
CN2					AMB	AMB				
	comp=Z,200nm,4.0s									
CN2					LR	LR				
	comp=Z,300nm,16.0s									
CN2					LR	LR				
	comp=Z,400nm,16.0s									
CN2					LR	LR				
	comp=Z,400nm,21.0s									
P20A	De Beque	81.42	45	⇓P		P		12 13 27.9	+0.2	
	baz=82,SNR=42									
R21A	Cimarron	81.47	46	⇓P		P		12 13 28.4	+0.4	
	baz=82,SNR=63									
L18A	Fontenelle, Gr	81.49	42	⇓P		P		12 13 28.0	0.0	
	baz=82									
CLNB	Carlsbad	81.51	53	*e*P		P		12 13 29.0	+0.8	
	comp=Z,2.4nm,0.7s									
U23A	El Rito	81.51	49	⇓P		P		12 13 28.8	+0.5	
	baz=82,SNR=24									
528A	Cox Ranch, San	81.52	56	⇓P		P		12 13 28.4	+0.1	
	baz=82,SNR=40									
MENT	Mentasta	81.56	13	*e*P		P		12 13 27.8	+0.1	
126A	Clayton Basin,	81.56	53	⇑P		P		12 13 28.3	-0.2	
	baz=82,SNR=20									
Y25A	Mesa, Roswell	81.58	51	⇑P		P		12 13 28.9	+0.3	
	baz=82,SNR=24									
W24A	Lazy 6 Ranch,	81.60	50	⇑P		P		12 13 28.8	+0.1	
	baz=82,SNR=22									
DLMT	Dillon	81.66	38	*e*P		P		12 13 29.1	+0.3	
	comp=Z,44nm,1.1s									
MSO	Missoula	81.66	37	*e*P		P		12 13 28.0	-0.6	
	comp=Z,64nm,1.3s									
MSO	Missoula	81.66	37	⇑P		P		12 13 28.0	-0.6	
	baz=82,SNR=30									
Q21A	Lamborn Mesa,	81.67	46	⇓P		P		12 13 29.4	+0.4	
	baz=82,SNR=15									
S22A	4UR Ranch, Cre	81.69	47	⇑P		P		12 13 29.7	+0.4	
	baz=82,SNR=80									
TPAW	Teton Pass	81.69	41	*e*P		P		12 13 29.3	+0.2	
	comp=Z,65nm,1.3s									
BSMT	Bassoo Peak	81.75	35	*e*P		P		12 13 29.1	-0.1	
SNOW	Snow King Moun	81.80	41	*e*P		P		12 13 30.7	+1.0	
	comp=Z,99nm,1.4s									
O20A	White River Ci	81.82	45	*e*P		P		12 13 30.1	+0.4	
O20A	White River Ci	81.82	45	⇓P		P		12 13 29.5	-0.3	
	baz=82,SNR=10									
428A	Kincaid Ranch,	81.83	55	⇑P		P		12 13 30.8	+0.9	
	baz=82,SNR=28									
Z26A	Caprock	81.85	52	⇑P		P		12 13 29.8	-0.2	
	baz=82,SNR=46									
M19A	Rock Springs	81.86	43	⇑P		P		12 13 29.5	-0.5	
	baz=82,SNR=6.6									
X25A	Clemmons Ranch	81.86	51	⇑P		P		12 13 30.1	0.0	
	baz=82									
227A	Bennet, Jal	81.86	54	⇓P		P		12 13 30.0	-0.1	
	baz=82									
IMW	Indian Meadow	81.91	40	*e*P		P		12 13 30.6	+0.4	
	comp=Z,68nm,1.3s									
V24A	Rampart Ranch,	81.92	50	⇑P		P		12 13 30.6	+0.2	
	baz=82,SNR=18									
T23A	Casias Ranch,	81.94	48	⇓P		P		12 13 31.0	+0.4	
	baz=82,SNR=29									
MOOW	Moose Ponds	81.95	40	*e*P		P		12 13 30.4	0.0	
	comp=Z,43nm,1.4s									
529A	Stev Forest Ra	81.96	56	⇓P		P		12 13 30.2	-0.3	
	baz=82,SNR=30									
JTMT	Jette	81.97	36	*e*P		P		12 13 29.5	-0.8	
LOHW	Long Hollow	81.97	41	*e*P		P		12 13 30.7	+0.2	
	comp=Z,55nm,1.4s									
328A	Wristen Ranch,	81.99	54	⇓P		P		12 13 30.2	-0.4	
	baz=82,SNR=19									
LRM	Limekiln Ridge	81.99	38	*e*P		P		12 13 30.4	-0.1	
SWMT	Swartz Lake	82.00	36	*e*P		P		12 13 29.9	-0.5	
P21A	Newcastle	82.07	45	⇑P		P		12 13 30.8	-0.3	
	baz=82,SNR=26									
BLMT	Blacktail Moun	82.07	35	*e*P		P		12 13 30.6	-0.4	
127A	Arkansas Junct	82.08	53	⇓P		P		12 13 30.4	-0.8	
	baz=82,SNR=7.6									
QLMT	Earthquake Lak	82.08	39	*e*P		P		12 13 31.9	+0.8	
CHMT	Chamberlain Mo	82.10	37	*e*P		P		12 13 30.5	-0.6	
N20A	Spence Gulch,	82.13	44	⇑P		P		12 13 30.8	-0.7	
	baz=82,SNR=36									
Q22A	Crested Butte,	82.14	46	⇑P		P		12 13 31.9	+0.3	
	baz=82,SNR=70									
SLMT	Seeley Lake	82.14	36	*e*P		P		12 13 30.7	-0.5	
I17A	Pilgrim Ck.	82.15	40	⇑P		P		12 13 32.1	+0.6	
	baz=82,SNR=8.0									
FLWY	Flagg Ranch	82.15	40	*e*P		P		12 13 32.5	+1.1	
	comp=Z,91nm,1.2s									
YBMT	Yellow Bay	82.19	36	*e*P		P		12 13 31.0	-0.4	
	comp=Z,13nm,1.1s									
U24A	Moreno Valley	82.21	49	⇑P		P		12 13 32.7	+0.6	
	baz=82,SNR=8.3									
BW06	Boulder Array	82.22	42	*e*P		P		12 13 31.3	-0.5	
	comp=Z,61nm,1.4s									
PDAR	Pinedale Array	82.22	42	P		P		12 13 31.6	-0.3	
PDAR	Pinedale Array	82.22	42	P		P		12 13 31.6	-0.3	
	comp=Z,20nm,1.1s,baz=207,slow=3.8,SNR=73									
PDAR					LR	LR		12 43 35.7		
	comp=Z,584nm,20.5s,baz=248,slow=31									
Y26A	Elida	82.24	52	⇓P		P		12 13 31.8	-0.2	
	baz=82,SNR=14									
SMCO	Snowmass	82.24	46	*e*P		P		12 13 32.6	+0.4	
	comp=Z,44nm,0.9s									
S23A	Nye Farm, Mont	82.26	48	⇓P		P		12 13 32.8	+0.6	
	baz=82,SNR=12									
YMR	Madison River	82.28	40	*e*P		P		12 13 33.3	+1.1	
	comp=Z,113nm,1.3s									
W25A	X Bar L Ranch,	82.30	50	⇓P		P		12 13 32.3	-0.1	
	baz=82,SNR=30									
O21A	Pagoda	82.38	45	⇑P		P		12 13 32.8	0.0	
	baz=82,SNR=7.1									
BOZ	Bozeman (W)	82.39	38	*e*P		P		12 13 32.5	-0.1	
BOZ					pmax	pmax				
	comp=Z,66nm,1.4s									
BOZ	Bozeman (W)	82.39	38	*e*P		P		12 13 32.5	-0.1	
	comp=Z,66nm,1.4s									
H17A	Grant Village	82.39	40	*e*P		P		12 13 34.0	+1.2	
H17A	Grant Village	82.39	40	⇓P		P		12 13 33.9	+1.2	
	baz=82,SNR=17									
429A	Davenport Ranc	82.41	55	⇑P		P		12 13 32.8	-0.1	
	baz=82,SNR=60									
T24B	San Luis	82.42	48	⇓P		P		12 13 33.8	+0.6	
	baz=82,SNR=11									
228A	UT Block 9, Go	82.45	54	⇓P		P		12 13 32.7	-0.5	
	baz=83,SNR=12									
V25A	Rancho No Teng	82.45	50	⇑P		P		12 13 33.3	+0.1	
	baz=83,SNR=79									
Z27A	Tatum	82.45	52	⇓P		P		12 13 32.7	-0.5	
	baz=83,SNR=21									
COLA	College	82.48	11	*e*P		P		12 13 31.7	-0.7	
COLA					pmax	pmax				
	comp=Z,45nm,0.8s									
COLA	College	82.48	11	*e*P		P		12 13 31.7	-0.7	
	comp=Z,45nm,0.8s									
YNR	Norris Junctio	82.48	40	*e*P		P		12 13 35.3	+2.1	
	comp=Z,84nm,1.4s									
M20A	Sweetwater, Wa	82.50	43	⇑P		P		12 13 33.5	+0.2	
	baz=83,SNR=30									
X26A	CR and CF Fran	82.51	51	⇓P		P		12 13 33.1	-0.3	
	baz=83,SNR=17									
ILAR	Eielson Array	82.56	11	P		P		12 13 31.9	-0.9	
ILAR	Eielson Array	82.56	11	P		P		12 13 31.9	-0.9	
	comp=Z,6.6nm,0.8s,baz=218,slow=6.0,SNR=66									
P22A	Eagle	82.58	46	⇓P		P		12 13 34.2	+0.4	
	baz=83,SNR=36									
LKWY	Lake	82.58	40	*e*P		P		12 13 35.2	+1.5	
LKWY					pmax	pmax				
	comp=Z,75nm,1.1s									
LKWY	Lake	82.58	40	*e*P		P		12 13 35.2	+1.5	
	comp=Z,75nm,1.1s									
R23A	Moffat	82.60	47	⇓P		P		12 13 34.2	+0.2	
	baz=83,SNR=44									
SDCO	Great Sand Dun	82.63	48	*e*P		P		12 13 34.0	-0.2	
	comp=Z,40nm,1.2s									
L20A	Wamsutter	82.64	43	⇑P		P		12 13 34.4	+0.3	
	baz=83,SNR=48									
530A	J-C Ranch, Com	82.67	56	⇑P		P		12 13 33.9	-0.3	
	baz=83,SNR=22									
329A	Wagon Wheel Ra	82.68	55	⇓P		P		12 13 34.2	-0.1	
	baz=83,SNR=26									
IMA2	Indian Mountai	82.69	8	*e*P		P		12 13 33.8	+0.2	
K19A	Absolon Red Bu	82.70	42	⇑P		P		12 13 33.7	-0.6	
	baz=83,SNR=26									
Y27A	Causey	82.72	52	⇑P		P		12 13 34.1	-0.5	
	baz=83,SNR=21									
128A	Castleberry Fa	82.73	53	⇓P		P		12 13 34.4	-0.2	
	baz=83,SNR=23									
SEY	Seymchan	82.75	345	⇑P		P		12 13 34.0	+0.2	
W26A	Owens Ranch, T	82.77	51	⇓P		P		12 13 34.5	-0.2	
	baz=83,SNR=16									
J19A	Crowheart	82.78	41	⇑P		P		12 13 34.3	-0.5	
	baz=83,SNR=20									
S24A	Houchin Ranch,	82.79	48	⇑P		P		12 13 35.6	+0.5	
	baz=83,SNR=46									
HRY	Holter Researc	82.82	37	*e*P		P		12 13 34.6	-0.1	
U25A	Circle Dot Ran	82.84	49	⇑P		P		12 13 35.1	-0.1	
	baz=83,SNR=58									
WALA	Waterton Lakes	82.90	35	*e*P		P		12 13 35.2	0.0	
	comp=Z,1.9nm,1.4s									
Q23A	Hartsel	82.91	46	⇓P		P		12 13 35.8	+0.1	
	baz=83									
K20A	Yellowstone Ra	82.95	42	⇑P		P		12 13 34.9	-0.7	
	baz=83,SNR=43									
O22A	Kremmling	82.98	45	⇑P		P		12 13 36.0	0.0	
	baz=83,SNR=76									
430A	Baggett Ranch,	83.00	55	⇓P		P		12 13 35.6	-0.3	
	baz=83,SNR=5.3									
631A	Perdido Creek	83.00	57	⇓P		P		12 13 35.7	-0.3	
	baz=83,SNR=33									
V26A	Tequesquite Ra	83.05	50	⇓P		P		12 13 35.9	-0.3	
	baz=83,SNR=24									
MSTX	Muleshoe	83.06	52	*e*P		P		12 13 36.2	-0.1	
MSTX	Muleshoe	83.06	52	⇑P		P		12 13 36.2	-0.1	
	baz=83,SNR=41									
Z28A	Tucker Farm, M	83.08	53	⇓P		P		12 13 36.2	-0.2	
	baz=83,SNR=25									
X27A	F and S Farms,	83.08	51	⇓P		P		12 13 36.4	0.0	
	baz=83,SNR=18									
H18A	Shoshone NF, C	83.09	40	⇑P		P		12 13 36.5	+0.1	
	baz=83,SNR=15									
M21A	Separation Pea	83.09	44	⇑P		P		12 13 36.2	-0.2	
	baz=83,SNR=43									
P23A	Jefferson	83.11	46	⇑P		P		12 13 37.6	+0.8	
	baz=83,SNR=16									
R24A	Sanders Place,	83.13	47	⇓P		P		12 13 37.0	+0.4	
	baz=83,SNR=42									
T25A	Trinidad	83.15	49	⇓P		P		12 13 36.9	+0.1	
	baz=83,SNR=25									
I19A	Meeteetse	83.19	41	⇑P		P		12 13 36.8	-0.1	
	baz=83,SNR=32									
QIZ	Qiongzhong	83.21	292	P		P		12 13 37.0	-0.2	
QIZ				S		S		12 23 57.1	-0.8	
QIZ					AMB	AMB				
	comp=Z,22nm,2.1s									
QIZ					AMB	AMB				
	comp=Z,160nm,5.3s									
QIZ					LR	LR				
	comp=Z,400nm,22.1s									
QIZ					LR	LR				
	comp=Z,320nm,20.8s									
129A	Stewart Farms,	83.22	54	⇓P		P		12 13 36.8	-0.3	
	baz=83,SNR=8.7									
RWWY	Rawlins	83.23	44	*e*P		P		12 13 37.7	+0.5	
	comp=Z,105nm,1.1s									
732A	Lason Ranch,	83.24	58	⇓P		P		12 13 37.1	0.0	
	baz=83,SNR=6.0									
L21A	Rawlins	83.26	43	⇑P		P		12 13 36.7	-0.6	
	baz=83,SNR=23									
W27A	Bowe Ranch, En	83.28	51	⇑P		P		12 13 37.3	-0.1	
	baz=83,SNR=42									
330A	Mertzon	83.28	55	⇑P		P		12 13 36.8	-0.6	
	baz=83,SNR=8.4									
U26A	Atchley Ranch,	83.33	49	⇓P		P		12 13 37.4	-0.3	
	baz=83,SNR=74									
N22A	Wattenberg Ran	83.33	45	⇑P		P		12 13 37.8	+0.1	
	baz=84,SNR=51									
S25A	Robets Cordova	83.36	48	⇓P		P		12 13 38.0	+0.1	
	baz=84,SNR=56									
Q24A	Divide	83.42	47	⇓P		P		12 13 38.6	+0.4	
	baz=84,SNR=18									
Y28A	McKinney Farm,	83.43	52	⇓P		P		12 13 37.7	-0.5	
	baz=84,SNR=11									
O23A	Lake Granby, G	83.43	45	⇑P		P		12 13 38.4	0.0	
	baz=84,SNR=30									
J20A	Shoshoni	83.44	42	⇑P		P		12 13 38.0	-0.1	
	baz=84,SNR=73									
431A	Sonora	83.46	56	⇓P		P		12 13 37.9	-0.5	
	baz=84,SNR=6.3									
ISCO	Idaho Springs	83.46	46	*e*P		P		12 13 38.7	+0.2	
ISCO					pmax	pmax				
	comp=Z,27nm,1.0s									
ISCO	Idaho Springs	83.46	46	*e*P		P		12 13 38.7	+0.2	
	comp=Z,27nm,1.0s									
ISCO	Idaho Springs	83.46	46	⇓P		P		12 13 38.5	0.0	
	baz=84,SNR=20									
H19A	Powell	83.51	40	⇑P		P		12 13 38.9	+0.5	
	baz=84,SNR=56									
M22A	Cedar Creek Ra	83.51	44	⇓P		P		12 13 38.1	-0.5	
	baz=84,SNR=26									
230A	Sterling City	83.52	55	⇑P		P		12 13 38.3	-0.3	
	baz=84									
DAWY	Dawson	83.52	14	*e*P		P		12 13 37.7	-0.2	
RLMT	Red Lodge	83.56	40	*e*P		P		12 13 38.8	0.0	
	comp=Z,42nm,1.1s									
Z29A	Hungry Hill Ra	83.59	53	⇑P		P		12 13 38.5	-0.5	
	baz=84,SNR=18									
GCMT	Greycliff	83.64	39	*e*P		P		12 13 39.8	+0.7	
	comp=Z,51nm,1.2s									
K21A	Alcova	83.65	43	⇑P		P		12 13 38.8	-0.4	
	baz=84,SNR=56									
R25A	Fountain Ranch	83.67	48	⇓P		P		12 13 39.2	-0.2	
	baz=84,SNR=15									
632A	Uvalde	83.68	57	⇓P		P		12 13 39.7	+0.3	
	baz=84,SNR=21									
I20A	Worland	83.70	41	⇓P		P		12 13 39.3	0.0	
	baz=84,SNR=78									
X28A	Dimmitt	83.71	52	⇓P		P		12 13 39.5	-0.1	
	baz=84,SNR=26									
N23A	Red Feather La	83.72	45	⇑P		P		12 13 39.9	+0.2	
	baz=84,SNR=41									
EGAK	Eagle	83.72	13	*e*P		P		12 13 39.0	+0.1	
	comp=Z,25nm,1.1s									
V27A	Dan Oppiter Fa	83.73	50	⇓P		P		12 13 39.6	-0.1	
	baz=84,SNR=8.6									
532A	Rocksprings	83.81	57	⇓P		P		12 13 39.9	-0.2	
	baz=84,SNR=25									
P24A	Kohler Place,	83.82	46	⇑P		P		12 13 40.2	0.0	
	baz=84									
331A	San Angelo	83.84	55	⇓P		P		12 13 39.6	-0.7	
	baz=84,SNR=6.2									
Y29A	Porterfield Fa	83.85	53	⇑P		P		12 13 40.2	-0.1	
	baz=84,SNR=11									
J21A	Lysite	83.85	42	⇑P		P		12 13 40.1	-0.1	
	baz=84,SNR=5.7									
130A	Snyder	83.90	54	⇓P		P		12 13 40.5	-0.1	
	baz=84,SNR=6.8									
L22A	Ellis Ranch, M	83.91	43	⇓P		P		12 13 40.8	+0.2	
	baz=84,SNR=26									
O24A	Longmont	83.97	46	⇑P		P		12 13 41.2	+0.3	
	baz=84,SNR=9.4									
W28A	Vega	84.00	51	⇑P		P		12 13 40.8	-0.3	
	baz=84,SNR=10									
U27A	Thompson Grove	84.01	50	⇓P		P		12 13 40.4	-0.7	
	baz=84,SNR=16									
JCT	Junction City	84.02	56	*e*P		P		12 13 41.1	-0.1	
JCT					pmax	pmax				
	comp=Z,234nm,2.5s									
JCT	Junction City	84.02	56	*e*P		P		12 13 41.1	-0.1	
	comp=Z,234nm,2.5s									
JCT	Junction City	84.02	56	⇓P		P		12 13 39.9	-1.3	
	baz=84,SNR=12									
Q25A	Bedland, Calha	84.03	47	⇑P		P		12 13 40.5	-0.8	
	baz=84,SNR=7.5									
S26A	Kim	84.04	48	⇑P		P		12 13 40.6	-0.7	
	baz=84,SNR=36									
H20A	Greybull	84.04	41	⇓P		P		12 13 40.2	-0.9	
	baz=84,SNR=31									
Z30A	Sanderson Ranc	84.04	53	⇑P		P		12 13 40.7	-0.6	
	baz=84,SNR=36									
X29A	Tulia	84.06	52	⇑P		P		12 13 41.1	-0.3	
	baz=84,SNR=20									
F19A	Roth Farm, Mol	84.11	39	⇓P		P		12 13 41.4	0.0	
	baz=84,SNR=68									
M23A	Laramie	84.13	44	⇓P		P		12 13 41.5	-0.2	
	baz=84,SNR=9.1									
K22A	Casper	84.13	43	⇓P		P		12 13 41.1	-0.5	
	baz=84,SNR=21									
231A	Bronte	84.16	55	⇓P		P		12 13 41.0	-0.9	
	baz=84,SNR=15									
I21A	Big Trails, Te	84.17	42	⇑P		P		12 13 41.3	-0.5	
	baz=84,SNR=66									
432A	Menard	84.18	56	⇓P		P		12 13 41.2	-0.8	
	baz=84,SNR=11									
V28A	Channing	84.18	51	⇑P		P		12 13 41.6	-0.5	
	baz=84,SNR=7.2									
PHWY	Pilot Hill	84.23	44	*e*P		P		12 13 42.1	-0.3	
	comp=Z,31nm,0.8s									
G20A	Bridger	84.25	40	⇑P		P		12 13 41.8	-0.4	
	baz=84,SNR=14									
COLD	Coldfoot	84.27	9	*e*P		P		12 13 42.6	+1.0	
	comp=Z,33nm,1.3s									
R26A	Arlington	84.34	48	⇓P		P		12 13 42.2	-0.5	
	baz=84,SNR=55									
P25A	Willow Gulch B	84.34	47	⇑P		P		12 13 42.8	0.0	
	baz=84,SNR=17									
T27A	Campo	84.35	49	⇓P		P		12 13 42.4	-0.5	
	baz=84,SNR=24									
W29A	Amraillo	84.37	51	⇑P		P		12 13 42.7	-0.2	
	baz=84,SNR=17									
131A	Roby	84.38	54	⇑P		P		12 13 42.4	-0.6	
	baz=84,SNR=9.8									
332A	Millersview	84.41	55	⇓P		P		12 13 42.6	-0.6	
	baz=84,SNR=32									
L23A	Garrett	84.43	44	⇓P		P		12 13 43.0	-0.2	
	baz=85,SNR=61									
Y30A	Stafford Cattl	84.45	53	⇑P		P		12 13 43.2	-0.2	
	baz=85,SNR=21									
S27A	Las Animas	84.48	49	⇓P		P		12 13 43.2	-0.3	
	baz=85									
E19A	Rath Farm, Rou	84.51	39	⇓P		P		12 13 43.4	+0.1	
	baz=85,SNR=42									
J22A	Midwest	84.51	42	⇓P		P		12 13 42.7	-0.9	
	baz=85,SNR=58									
Q26A	Hugo	84.55	47	⇓P		P		12 13 43.3	-0.6	
	baz=85,SNR=22									
F20A	Billings	84.57	40	⇑P		P		12 13 43.8	0.0	
	baz=85,SNR=21									
O25A	Wiggins	84.63	46	⇑P		P		12 13 44.0	-0.2	
	baz=85,SNR=6.9									
232A	Coleman	84.67	55	⇓P		P		12 13 44.0	-0.5	
	baz=85,SNR=22									
X30A	Coker Ranch, T	84.69	52	⇓P		P		12 13 44.1	-0.4	
	baz=85,SNR=19									
EGMT	Eagleton	84.71	37	*e*P		P		12 13 44.6	+0.2	
	comp=Z,60nm,1.0s									
EGMT	Eagleton	84.71	37	⇑P		P		12 13 44.0	-0.3	
	baz=85,SNR=20									
H21A	Big Horn, Sher	84.71	41	⇓P		P		12 13 44.4	-0.1	
	baz=85,SNR=22									
I22A	9 Mile Ranch,	84.72	42	⇓P		P		12 13 44.5	-0.1	
	baz=85,SNR=37									
M24A	Cheyenne	84.73	45	⇑P		P		12 13 44.7	-0.1	
	baz=85,SNR=14									
V29A	Stinnett	84.76	51	⇓P		P		12 13 44.6	-0.3	
	baz=85,SNR=9.5									
K23A	Bowen Ranch, D	84.77	43	⇑P		P		12 13 44.6	-0.3	
	baz=85,SNR=22									
D19A	Cripps Ranch,	84.79	38	⇓P		P		12 13 44.7

baz=86,SNR=9.3
BJI Beijing 85.78 313 P P 12 13 50.2 +0.5
BJI AMB AMB
comp=Z,210nm,3.7s
O27A Beecher Island 85.80 46 ⇑P P 12 13 50.1 +0.1
baz=86
Q28A Sharon Springs 85.80 48 ⇓P P 12 13 50.3 +0.2
baz=86
K25A Mack Ranch, Ha 85.87 44 ⇓P P 12 13 50.0 -0.4
baz=86
D21A La Casta Ranch 85.88 39 ⇓P P 12 13 50.1 -0.1
baz=86,SNR=29
I24A Kuemmerle Ranc 85.91 42 ⇑P P 12 13 50.4 -0.1
baz=86
B20A Solberg Farm, 85.92 37 ⇑P P 12 13 50.3 0.0
baz=86
T30A Plains 85.95 50 ⇑P P 12 13 50.8 0.0
baz=86
V31A Spring Creek L 85.98 51 ⇑P P 12 13 51.1 +0.2
baz=86,SNR=26
G23A Biddle 86.01 41 ⇓P P 12 13 50.5 -0.4
baz=86,SNR=15
N27A Anderson Farm, 86.02 46 ⇑P P 12 13 50.6 -0.5
baz=86
R29A Marienthal 86.05 48 ⇓P P 12 13 51.0 -0.3
baz=86
P28A Saint Francis 86.06 47 ⇓P P 12 13 50.9 -0.4
baz=86
LAO LASA Array 86.17 39 eP P 12 13 52.2 +0.5
comp=Z,127nm,1.5s
C21A Desert Coulee 86.17 38 ⇑P P 12 13 51.8 +0.2
baz=86,SNR=7.8
A20A Cobblestone Ra 86.19 37 ⇑P P 12 13 51.4 -0.3
baz=86,SNR=53
E22A Miles City 86.22 40 ⇓P P 12 13 51.8 -0.1
baz=86,SNR=7.1
S30A Montezuma 86.23 49 ⇑P P 12 13 51.6 -0.5
baz=86
F23A Volborg 86.24 41 ⇑P P 12 13 51.3 -0.7
baz=86,SNR=20
J25A Sunshine Ranch 86.25 43 ⇓P P 12 13 51.4 -0.7
baz=86
O28A Krutsinger Ran 86.27 47 ⇑P P 12 13 51.5 -0.9
baz=86,SNR=5.7
H24A Dirks Ranch, A 86.35 42 ⇓P P 12 13 51.6 -1.1
baz=86,SNR=22
K26A Motz Farm, Whi 86.37 44 ⇑P P 12 13 52.4 -0.3
baz=86,SNR=8.2
WMOK Wichita Mounta 86.40 53 eP P 12 13 52.4 -0.6
WMOK pmax pmax
comp=Z,29nm,1.3s
WMOK Wichita Mounta 86.40 53 eP P 12 13 52.4 -0.6
comp=Z,29nm,1.3s
RSSD Black Hills 86.41 42 eP P 12 13 52.3 -0.8
RSSD pmax pmax
comp=Z,206nm,1.4s
RSSD Black Hills 86.41 42 eP P 12 13 52.2 -0.8
comp=Z,206nm,1.4s
D22A Cohagen 86.41 39 ⇓P P 12 13 52.6 -0.2
baz=86,SNR=22
WHTX Lake Whitney 86.44 56 eP P 12 13 53.3 0.0
WHTX Lake Whitney 86.44 56 ⇓P P 12 13 52.8 -0.4
baz=86,SNR=13
B21A Ellsworth Farm 86.50 38 ⇑P P 12 13 53.2 0.0
baz=87,SNR=18
I25A Rochford 86.56 43 ⇑P P 12 13 52.7 -1.1
baz=87,SNR=12
T31A Randall Ranch, 86.60 50 ⇑P P 12 13 53.6 -0.4
baz=87,SNR=9.9
R30A Dighton 86.61 49 ⇓P P 12 13 53.1 -0.9
baz=87,SNR=11
E23A Ismay 86.65 40 ⇑P P 12 13 53.8 -0.2
baz=87
A21A Bergtoll Ranch 86.82 37 ⇓P P 12 13 54.4 -0.4
baz=87,SNR=25
F24A Ekalaka 86.90 41 ⇑P P 12 13 54.9 -0.4
baz=87,SNR=6.7
S31A Mullinville 86.94 50 ⇑P P 12 13 54.9 -0.8
baz=87,SNR=5.5
O29A 4D Ranch, Culb 86.96 47 ⇑P P 12 13 55.7 0.0
baz=87
K27A Flueckinger Fa 87.00 44 ⇓P P 12 13 55.8 -0.1
baz=87
D23A Lindsay 87.01 39 ⇓P P 12 13 56.3 +0.5
baz=87,SNR=12
B22A Reddig Ranch S 87.05 38 ⇑P P 12 13 55.6 -0.3
baz=87,SNR=10
HKT Hockley 87.05 58 eP P 12 13 56.0 -0.1
HKT Hockley 87.05 58 eP P 12 13 56.0 -0.1
P30A Selden 87.12 48 ⇑P P 12 13 55.8 -0.6
baz=87,SNR=7.7
G25A Newell 87.27 42 ⇑P P 12 13 56.9 -0.2
baz=87
E24A Baker 87.30 40 ⇑P P 12 13 56.8 -0.4
baz=87
C23A Lambert 87.31 39 ⇑P P 12 13 57.1 -0.1
baz=87,SNR=13
J27A Elkhorn Farm, 87.38 44 ⇑P P 12 13 57.0 -0.7
baz=88,SNR=9.6
A22A Carney Farms, 87.41 37 ⇓P P 12 13 57.1 -0.6
baz=88,SNR=6.5
H26A Fairpoint 87.44 42 ⇓P P 12 13 57.6 -0.3
baz=88
M29A Burnside Ranch 87.55 46 ⇓P P 12 13 58.4 -0.1
baz=88
F25A Bowman 87.55 41 ⇓P P 12 13 58.4 0.0
baz=88
K28A Ten Mile Ranch 87.59 44 ⇓P P 12 13 58.5 -0.2
baz=88
C24A Savage 87.65 39 ⇓P P 12 13 59.0 +0.2
baz=88
MAW Mawson 87.72 199 P P 12 13 59.8 +1.1
MAW eP PcP 12 14 00.5 -0.2
MAW Mawson 87.72 199 P P 12 13 59.8 +1.1
comp=Z,21nm,1.1s,baz=119,slow=5.9,SNR=24
B23A Brockton 87.72 38 ⇑P P 12 13 59.2 +0.1
baz=88,SNR=14
H27A Howes 87.90 43 ⇓P P 12 13 59.3 -0.8
baz=88,SNR=6.1
J28A Allard Ranch, 87.96 44 ⇑P P 12 14 00.3 -0.1
baz=88
A23A Redstone 88.01 38 ⇑P P 12 14 00.8 +0.3
baz=88
O31A Woolen Ranch, 88.01 47 ⇓P P 12 14 00.2 -0.5
baz=88
D25A Fairfield 88.16 40 ⇑P P 12 14 01.5 +0.2
baz=88
DGMT Dagmar 88.20 38 eP P 12 14 01.9 +0.5
comp=Z,85nm,1.1s
DGMT Dagmar 88.20 38 ⇑P P 12 14 01.2 -0.2
baz=88,SNR=11
I28A Midland 88.24 43 ⇓P P 12 14 01.5 -0.2
baz=88
G27A Dupree 88.30 42 ⇓P P 12 14 01.8 -0.2
baz=88
K29A Lazy Trails An 88.32 45 ⇑P P 12 14 02.0 -0.1
baz=88
GYA Guiyang 88.36 298 P P 12 14 03.8 +1.0
GYA PP PP 12 17 33.2 +2.6
GYA SKS SKSac 12 24 30.0 -2.1
GYA S S 12 24 46.7 -1.7
GYA SS SS 12 30 38.9 +0.4
GYA AMB AMB
comp=Z,30nm,1.0s
GYA AMB AMB
comp=Z,140nm,6.5s
GYA LR LR
comp=Z,780nm,21.4s
GYA LR LR
comp=Z,570nm,22.8s
GYA LR LR
comp=Z,660nm,20.6s
INK Inuvik 88.37 14 eP P 12 14 01.4 -0.3
comp=Z,6.6nm,0.8s
C25A Freed Ranch, W 88.44 39 ⇑P P 12 14 02.8 +0.3
baz=89
NATX Nacogdoches 88.60 57 eP P 12 14 04.2 +0.6
comp=Z,37nm,1.0s
D26A Manning 88.66 40 ⇓P P 12 14 03.5 -0.1
baz=89,SNR=8.2
O32A Brockman Farm, 88.80 48 ⇓P P 12 14 04.2 -0.3
baz=89
XAN Xi'an 88.94 306 P P 12 14 10.7 +5.4
XAN AMB AMB
comp=Z,2.0nm,1.3s
XAN AMB AMB
comp=Z,13nm,4.1s
A25A Svangstu Ranch 89.05 38 ⇑P P 12 14 05.3 -0.1
baz=89
TUL1 Tulsa 89.10 52 eP P 12 14 07.0 +1.1
comp=Z,38nm,1.3s
TUL1 Tulsa 89.10 52 ⇑P P 12 14 05.5 -0.4
baz=89
PLCA Paso Flores 89.20 132 P P 12 14 08.0 +1.4
PLCA eP P 12 14 08.7 +2.2
PLCA Paso Flores 89.20 132 P P 12 14 08.0 +1.4
comp=Z,1.4nm,0.5s,baz=281,slow=6.5,SNR=4.1
HHC Hu-ho-hao-te 89.33 313 eP P 12 14 05.9 -1.1
HHC pP pP 12 14 10.4 -0.4
HHC PP PP 12 17 39.4 +1.3
HHC S S 12 24 53.5 -3.5
HHC AMB AMB
comp=Z,34nm,0.7s
HHC AMB AMB
comp=Z,300nm,5.8s
HHC LR LR
comp=Z,410nm,16.1s
HHC LR LR
comp=Z,420nm,17.8s
HHC LR LR
comp=Z,410nm,15.7s
B26A Jensen Ranch, 89.34 39 ⇓P P 12 14 06.8 0.0
baz=90
YAK Yakutsk 89.37 337 eP P 12 14 03.3 -3.2
YAK pmax pmax
comp=Z,14nm,1.4s
YAK pmax pmax
comp=Z,12nm,1.6s
KSU1 Kansas State U 89.58 49 eP P 12 14 08.2 +0.1
comp=E,23nm,1.1s
YKA Yellowknife Ar 90.15 23 P P 12 14 10.1 -0.1
YKA Yellowknife Ar 90.15 23 P P 12 14 10.1 -0.1
comp=E,8.0nm,0.8s,baz=239,slow=4.3,SNR=11
A27A Ledoux Ranch, 90.18 39 ⇑P P 12 14 10.4 -0.2
baz=90,SNR=5.4
D29A Pettibone, Tap 90.45 41 ⇓P P 12 14 11.6 -0.4
baz=91
B28A Dugan Ranch, T 90.51 39 ⇑P P 12 14 11.9 -0.4
baz=91
TEIG Tepich 90.60 69 eP P 12 14 14.1 +0.8
comp=E,51nm,1.1s
E30A Jud 90.68 42 ⇑P P 12 14 12.4 -0.7
baz=91
MDND Maddock 90.75 40 eP P 12 14 13.1 -0.3
MDND Maddock 90.75 40 ⇓P P 12 14 12.7 -0.6
baz=91
A28A Rude Farm, Bot 90.75 39 ⇓P P 12 14 13.0 -0.4
baz=91,SNR=5.9
JTS JuntasAbangare 90.98 80 eP P 12 14 16.9 +1.8
comp=E,486nm,1.1s
D30A Buchanan 91.00 41 ⇑P P 12 14 14.0 -0.5
baz=91
B29A Wagenman Farm, 91.14 40 ⇓P P 12 14 14.8 -0.4
baz=91
ECSD EROS Data Cent 91.19 45 eP P 12 14 14.7 -0.8
comp=E,36nm,1.5s
KMI Kunming 91.34 296 P P 12 14 17.7 +0.8
KMI pP pP 12 14 21.0 +0.3
KMI sP sP 12 14 22.3 +0.3
KMI SKS SKSac 12 24 48.1 -1.7
KMI S S 12 25 14.1 -2.3
KMI AMB AMB
comp=E,6.0nm,1.2s
KMI LR LR
comp=E,260nm,22.8s
KMI LR LR
comp=E,190nm,20.2s
KMI LR LR
comp=E,450nm,33.4s
A29A Manning Farm, 91.38 39 ⇑P P 12 14 16.0 -0.2
baz=92
C30A Mose, Pekin 91.40 41 ⇓P P 12 14 16.1 -0.3
baz=92
UALR University of 91.40 54 eP P 12 14 17.5 +0.9
comp=E,37nm,1.0s
B30A Myrvik Farm, E 91.77 40 ⇓P P 12 14 17.4 -0.6
baz=92
A30A Hoffart Farm, 91.96 40 ⇓P P 12 14 18.8 -0.1
baz=92
FFC Flin Flon 92.10 33 ceP P 12 14 19.4 0.0
FFC Flin Flon 92.10 33 eP P 12 14 19.2 -0.2
comp=E,70nm,1.5s
CD2 Chengdu 92.12 301 P P 12 14 21.6 +1.4
CD2 pP pP 12 14 26.4 +2.4
CD2 sP sP 12 14 28.6 +3.3
CD2 S S 12 25 21.1 -1.8
CD2 sS sS 12 25 28.5 -0.7
CD2 SS SS 12 31 33.4 +0.6
CD2 AMB AMB
comp=E,10.0nm,0.5s
CD2 AMB AMB
comp=E,160nm,7.1s
CD2 LR LR
comp=E,310nm,10.1s
CD2 LR LR
comp=E,320nm,10.1s
SYO Syowa Base 92.48 191 ⇓eX P 12 14 20.0 -1.0
SNAA Sanae 92.72 177 eP P 12 14 23.0 +0.8
CMAR Chiang Mai Arr 92.92 288 P P 12 14 24.2 +0.1
CMAR Chiang Mai Arr 92.92 288 P P 12 14 24.2 +0.1
comp=E,1.9nm,1.0s,baz=98,slow=2.7,SNR=5.4
HBAR Harrisburg 92.95 54 eP P 12 14 24.7 +0.9
LCO Las Campanas 93.03 121 eP P 12 14 27.5 +2.7
AGMN Agassiz Nation 93.25 41 eP P 12 14 24.0 -0.9
comp=E,22nm,1.3s
LZH Lanzhou 93.54 306 eP P 12 14 26.6 -0.1
LZH pP pP 12 14 29.9 -0.6
LZH sP sP 12 14 32.2 +0.3
LZH AMB AMB
comp=E,13nm,0.9s
OXF Oxford 93.63 55 eP P 12 14 27.7 +0.7
OXF pmax pmax
comp=Z,69nm,1.2s
OXF Oxford 93.63 55 eP P 12 14 27.7 +0.7
comp=Z,69nm,1.2s
ULM Lac du Bonnet 93.90 39 P P 12 14 26.9 -0.9
ULM eP P 12 14 27.1 -0.8
ULM Lac du Bonnet 93.90 39 P P 12 14 26.9 -0.9
comp=Z,12nm,0.9s,baz=245,slow=6.1,SNR=8.0
PARMO Parma 93.97 53 eP P 12 14 28.7 +0.3
SPMN St. Paul 94.26 44 eP P 12 14 29.9 +0.3
SPMN St. Paul 94.26 44 ⇑P P 12 14 29.5 -0.1
94
SIUC Southern Illin 94.67 52 eP P 12 14 32.5 +0.8
comp=Z,26nm,0.9s
SONM Songino Array 95.15 318 P P 12 14 34.3 +0.5
SONM Songino Array 95.15 318 P P 12 14 34.3 +0.5
comp=Z,0.8nm,0.8s,baz=129,slow=3.9,SNR=3.9
JFWS Jewell Farm 95.35 47 eP P 12 14 34.7 0.0
JFWS pmax pmax
comp=Z,43nm,0.8s
JFWS Jewell Farm 95.35 47 eP P 12 14 34.6 0.0
comp=Z,42nm,0.8s
SWET Sewanee 96.58 55 eP P 12 14 40.0 -0.5
comp=Z,14nm,1.1s
SFIN Scholer Farm 96.96 50 ⇓P P 12 14 42.1 +0.1
baz=97
ZAK Zakamensk 97.82 320 eP P 12 14 44.6 -1.2
ZAK pmax pmax
comp=Z,2.0nm,1.6s
TLY Talaya 97.93 321 eP Pdif 12 14 47.6 +1.4
TLY eS S 12 26 01.4 -11
TLY pmax pmax
comp=Z,5.0nm,1.1s
LPAZ La Paz 99.50 110 P Pdif 12 14 56.1 +1.3
LPAZ ePdif pP 12 14 57.1 -1.6
LPAZ La Paz 99.50 110 P Pdif 12 14 56.1 +1.3
comp=Z,2.0nm,1.0s,baz=268,slow=4.5,SNR=5.1
WMQ Urumqi 107.18 312 ePdif Pdif 12 15 28.8 +1.2
WMQ PP PP 12 19 58.7 +4.0
WMQ S Sdif 12 27 24.5 -5.8
WMQ SS SS 12 34 59.7 -3.0
WMQ PPMZ
comp=Z,150nm,5.0s
WMQ LR LR
comp=Z,230nm,21.6s
WMQ LR LR
comp=Z,230nm,24.2s
WMQ LR LR
comp=Z,300nm,23.4s
ZALV Zalesovo Beam 109.52 322 PKiKP PKiKP 12 19 40.9 +0.1
ZALV Zalesovo Beam 109.52 322 PKiKP PKiKP 12 19 40.9 +0.1
comp=Z,0.5nm,0.3s,baz=170,slow=0.9,SNR=2.9
MKAR Makanchi Array 111.13 315 PKiKP PKiKP 12 19 44.2 +0.1
comp=Z,0.8nm,0.7s,baz=64,slow=2.8,SNR=8.0
KURK Kurchatov 113.44 319 PKiKP PKiKP 12 19 47.9 -0.4
KURK PP PP 12 20 33.2 -6.4
KURBB Kurchatov Arra 113.50 319 PKiKP PKiKP 12 19 47.9 -0.5
comp=Z,2.0nm,0.9s,baz=92,slow=1.7,SNR=13
KURBB PP PP 12 20 33.2 -6.8
comp=Z,0.3nm,0.6s,baz=90,slow=6.0,SNR=4.9
BVAR Borovoye Array 118.18 322 PKiKP PKPdf 12 19 57.4 +0.1
BVAR Borovoye Array 118.18 322 PKP PKPdf 12 19 57.4 +0.1
BVAR Borovoye Array 118.18 322 PKP PKPdf 12 19 57.4 +0.1
comp=Z,2.7nm,0.7s,baz=122,slow=1.9,SNR=9.5
BRVK Borovoye 118.23 322 ⇓iPKiKP PKPdf 12 19 58.3 +0.9
BRVK pmax pmax
comp=Z,9.0nm,1.2s
SOKR Solikamsk 123.05 332 iPKiKP PKPdf 12 20 06.8 +0.4
SOKR pmax pmax
comp=Z,20nm,0.9s
ARU Arti 123.62 328 iPKiKP PKPdf 12 20 08.6 +0.9
ARU 12 21 48.7
ARU 12 27 09.2
APA Apatity 125.26 348 ⇓iPKiKP PKPdf 12 20 07.4 -3.1
APA MLR MLR
comp=Z,1μm,23.0s
ABKAR Akbulak array 125.52 320 ePKPdf PKPdf 12 20 12.1 +0.6
AKTO Aktyubinsk 126.28 322 PKiKP PKPdf 12 20 13.2 +0.2
AKTO Aktyubinsk 126.28 322 PKP PKPdf 12 20 13.2 +0.2
AKTO Aktyubinsk 126.28 322 PKP PKPdf 12 20 13.2 +0.2
comp=Z,2.0nm,0.7s,baz=75,slow=2.7,SNR=8.3
KLMR Klimovskoe 129.04 340 ePKiKP PKPdf 12 20 16.5 -1.4
KLMR pmax pmax
comp=Z,27nm,1.4s
KLMR MLR MLR
comp=Z,736nm,22.0s
OBN Obninsk 134.37 337 iPKiKP PKPdf 12 20 29.8 +1.7
OBN pmax pmax
comp=Z,13nm,1.3s
AKASG Malin Array Be 140.60 338 PKiKP PKPdf 12 20 39.7 -0.1
AKASG Malin Array Be 140.60 338 PKP PKPdf 12 20 39.7 -0.1
AKASG Malin Array Be 140.60 338 PKP PKPdf 12 20 39.7 -0.1
comp=Z,3.3nm,0.7s,baz=30,slow=2.0,SNR=19
LSZ Lusaka 142.81 215 ePKPdf PKPdf 12 20 44.1 -0.9
LVV L'vov 143.10 341 ePKiKP PKPdf 12 20 44.9 +0.6
KWP Kalwaria Pacla 143.66 343 ⇓iP PKPab 12 20 41.1 -0.8
KWP Kalwaria Pacla 143.66 343 ePKP PKPbc 12 20 43.1 +0.4
KIS Kishinev 143.74 334 ePKP PKPab 12 20 40.0 -2.3
KIS eL L 13 14 05.0
KIS LRM MLR 13 22 28.0
comp=Z,700nm,25.0s
TSUM Tsumeb 143.87 197 ePKPdf PKPdf 12 20 45.7 -1.1
OJC Ojcow 143.89 346 ePKiKP PKPab 12 20 42.6 -0.2
OJC Ojcow 143.89 346 ePKPdf PKPab 12 20 42.6 -0.2
KSP Ksiaz 144.01 350 ePKiKP PKPbc 12 20 44.2 +0.5
KSP MLR MLR
comp=Z,1μm,23.3s
KSP Ksiaz 144.01 350 ePKP PKPbc 12 20 44.7 +1.0
CLL Collm 144.01 353 ⇓iPKiKP PKPbc 12 20 44.2 +0.5
CLL pmax pmax
comp=Z,19nm,1.3s
CLL Collm 144.01 353 ⇓iPKPdf PKPbc 12 20 44.2 +0.5
comp=Z,19nm,1.3s
CLL eSSS SSS 12 48 12.0
MALT Malatya 144.17 315 ⇓iP PKPdf 12 20 48.3 +1.6
STHS Stebnicka Huta 144.26 344 ePKiKP PKPbc 12 20 45.0 +0.4
STHS Stebnicka Huta 144.26 344 ePKP PKPbc 12 20 45.0 +0.4
BRG Berggiesshubel 144.33 352 ePKP PKPdf 12 20 47.3 +0.9
comp=Z,11nm,1.0s
BRG Berggiesshubel 144.33 352 ePKiKP PKPdf 12 20 47.3 +0.9
BRG pmax pmax
comp=Z,11nm,1.0s
UPC Upice 144.38 350 ePKiKP PKPdf 12 20 45.9 -0.6
UPC Upice 144.38 350 ePKP PKPdf 12 20 45.9 -0.6
KOLS Kolonicke sedl 144.42 342 ePKiKP PKPbc 12 20 45.3 +0.2
KOLS Kolonicke sedl 144.42 342 ePKP PKPbc 12 20 45.3 +0.2
DPC Dobruska-Polom 144.48 350 ePKiKP PKPbc 12 20 45.9 +0.6
DPC Dobruska-Polom 144.48 350 ePKP PKPbc 12 20 45.9 +0.6
NIE Niedzica 144.50 345 ePKiKP PKPbc 12 20 45.3 -0.1
NIE Niedzica 144.50 345 ePKPdf PKPbc 12 20 45.3 -0.1
PVCC Panska Ves 144.58 352 ePKiKP PKPdf 12 20 47.9 +1.0
PVCC Panska Ves 144.58 352 ePKP PKPdf 12 20 47.9 +1.0
BUR08 Bucovina Ar. S 144.60 338 ePKPdf PKPdf 12 20 46.7 -0.5
OKC Ostrava-Krasne 144.61 347 ePKiKP PKPbc 12 20 46.3 +0.7
OKC e 12 20 54.8
OKC Ostrava-Krasne 144.61 347 ePKP PKPbc 12 20 46.3 +0.7
OKC ex x 12 20 54.8
BURAR Bucovina Array 144.62 338 ⇑iP PKPab 12 20 44.6 -1.1
BOYT Boyabat 144.65 322 iP PKPdf 12 20 48.5 +1.2
UZH Uzhgorod 144.68 342 ePKHKP PKPpre 12 20 42.6
UZH i 12 20 45.8
UZH i 12 20 53.4
MORC Moravsky Berou 144.80 348 ePKiKP PKPbc 12 20 46.3 0.0
MORC Moravsky Berou 144.80 348 ⇑iP PKPbc 12 20 46.8 +0.5
MORC Moravsky Berou 144.80 348 ePKPdf PKPab 12 20 46.2 0.0
MOX Moxa 144.81 355 ePKiKP PKPab 12 20 46.2 0.0
MOX Moxa 144.81 355 ePKPbc PKPab 12 20 46.2 0.0
ATD Arta Tunnel 144.82 268 PKP PKPdf 12 20 48.8 +0.4
ATD Arta Tunnel 144.82 268 PKP PKPdf 12 20 48.8 +0.4
comp=Z,2.7nm,0.3s,baz=98,slow=7.1,SNR=2.4
BEBN Eben Emael 144.85 1 PKP PKPbc 12 20 46.7 +0.3
TANN Tannenbergstha 144.95 354 ePKPbc PKPbc 12 20 47.0 +0.2
TESR Tescani 145.01 336 ⇑iP PKPbc 12 20 46.5 -0.6
MEM Membach 145.04 1 PKP PKPab 12 20 47.1 +0.1
PRA Prague 145.05 351 PKP PKPdf 12 20 48.0 +0.3
TRPA Tarpa 145.06 342 ⇓iP PKPbc 12 20 47.1 0.0
TRPA Tarpa 145.06 342 ⇓e PKPbc 12 20 46.8 -0.3
SNF Seneffe 145.09 3 PKP PKPdf 12 20 47.6 -0.2
PRU Pruhonice 145.11 351 ePKiKP PKPab 12 20 47.4 +0.1
PRU e 12 20 55.0
PRU Pruhonice 145.11 351 ePKP PKPab 12 20 47.4 +0.1
PRU epPKP pPKiKP 12 20 55.0 -0.6
TLCR 145.16 332 ⇑iP PKPdf 12 20 47.9 -0.1
CTKT Corum 145.21 321 iP PKPdf 12 20 49.3 +0.8
BCLA Clavier 145.22 2 PKP PKPab 12 20 47.7 0.0
BCLA APKP PKiKP 12 20 50.6 -1.2
GZT Gaziantep 145.24 314 iP PKPdf 12 20 49.3 +0.6
KECS Kecovo 145.32 344 ePKiKP PKPdf 12 20 48.5 +0.3
KECS Kecovo 145.32 344 ePKP PKPdf 12 20 48.5 +0.3
TNS Taunus Mts 145.41 358 ePKiKP PKPab 12 20 48.8 +0.3
TNS Taunus Mts 145.41 358 ePKPbc PKPab 12 20 48.8 +0.3
VRAC Vranov 145.43 349 ⇑iP PKPab 12 20 49.0 +0.5
VRAC Vranov 145.43 349 PKPbc PKPab 12 20 48.4 0.0
VRAC Vranov 145.43 349 PKPbc PKPbc 12 20 48.4 0.0
comp=Z,23nm,1.1s,baz=28,slow=2.9,SNR=27
CFR Carcaliu 145.47 333 ⇑iP PKPab 12 20 49.2 +0.5
VRI Vrincioaia 145.51 335 ⇑iP PKPab 12 20 49.4 +0.5
DOU Dourbes 145.51 3 PKP PKPab 12 20 48.8 +0.1
DOU APKP PKiKP 12 20 53.1 +0.6
PLOR Plostina 145.55 335 ⇑iP PKPbc 12 20 49.0 +0.1
ILGA Ilgaz 145.57 323 iP PKPdf 12 20 48.8 -0.4
ROTZ Rotzenmuhle 145.62 354 ePKPbc PKPab 12 20 49.8 +0.6
TREC Trest 145.64 350 ePKiKP PKPbc 12 20 49.0 0.0
TREC Trest 145.64 350 ePKP PKPbc 12 20 49.0 0.0
KMBO Kilima Mbogo 145.70 244 PKPbc PKPbc 12 20 50.7 +0.1
KMBO ePKPdf PKPab 12 20 52.0 +1.2
KMBO Kilima Mbogo 145.70 244 PKPbc PKPbc 12 20 50.7 +0.1
comp=Z,17nm,1.1s,baz=84,slow=3.5,SNR=30
AYKD Aykdinkavak 145.73 315 iP PKPbc 12 20 49.6 -0.1
GRF Grafenberg Arr 145.78 355 ePKP2 PKPab 12 20 50.3 +0.5
GRF Grafenberg Arr 145.78 355 ePKPbc PKPab 12 20 50.3 +0.5
GRFO Grafenberg 145.79 355 ePKP2 PKPab 12 20 50.1 +0.3
GRFO Grafenberg 145.79 355 ePKPdf PKPab 12 20 50.1 +0.3
TIRR Tirgusor 145.91 332 ePKP2 PKPab 12 20 50.5 +0.1
TIRR Tirgusor 145.91 332 ⇑iP PKPab 12 20 50.7 +0.3
TIRR Tirgusor 145.91 332 ePKPbc PKPab 12 20 50.5 +0.1
HARR Harsova 145.94 333 ⇓iP PKPab 12 20 51.7 +1.2
ANDN Andirin 145.96 316 iP PKPab 12 20 51.2 +0.2
TLB Topalu 145.98 333 ⇑iP PKPab 12 20 51.2 +0.6
WLF Walferdange 145.99 1 PKP PKPab 12 20 51.0 +0.5
WLF Walferdange 145.99 1 ePKP2 PKPab 12 20 51.1 +0.5
WLF Walferdange 145.99 1 ePKPbc PKPab 12 20 51.1 +0.5
WLF Walferdange 145.99 1 ePKPdf PKPab 12 20 51.1 +0.5
PSZ Piszkesteto 146.00 344 ePKP2 PKPbc 12 20 49.9 -0.3
PSZ Piszkesteto 146.00 344 ⇑iP PKPbc 12 20 50.2 0.0
PSZ Piszkesteto 146.00 344 ePKPdf PKPbc 12 20 49.9 -0.3
PSZ Piszkesteto 146.00 344 ⇑e PKPab 12 20 51.5 +0.8
CDAG Cicekdag 146.07 320 iP PKPab 12 20 51.1 -0.2
KHC Kasperske Hory 146.08 352 ePKP2 PKPbc 12 20 50.7 +0.3
KHC Kasperske Hory 146.08 352 ePKP PKPbc 12 20 50.7 +0.3
KHC ex x 12 20 59.9
KHC Kasperske Hory 146.08 352 ePKPdf PKPbc 12 20 50.6 +0.3
MLR Muntele Rosu 146.13 336 ⇑iP PKPbc 12 20 51.1 +0.3

MLR	**Muntele Rosu**	**146.13 336**	PKPbc	**PKPbc**	**12 20 50.7**	**-0.1**
MLR	**Muntele Rosu**	**146.13 336**	PKPbc	**PKPbc**	**12 20 50.7**	**-0.1**
	comp=Z,16nm,1.1s,baz=59,slow=2.7,SNR=32					
WET	**Wettzell**	**146.16 353**	*e*PKP2	**PKPab**	**12 20 51.6**	**+0.3**
WET	**Wettzell**	**146.16 353**	*e*PKPbc	**PKPab**	**12 20 51.6**	**+0.3**
DRGR		**146.19 340**	⇓*i*P	**PKPbc**	**12 20 50.7**	**-0.2**
ISR	**Istrita**	**146.19 335**	⇑*i*P	**PKPab**	**12 20 52.1**	**+0.5**
AVNT	**Avonos**	**146.26 319**	*i* P	**PKPdf**	**12 20 50.5**	**+0.2**
GEC2	**GERESS Array S**	**146.35 352**	*e*PKP2	**PKPab**	**12 20 52.0**	**-0.1**
GEC2	**GERESS Array S**	**146.35 352**	*e*PKPbc	**PKPab**	**12 20 52.0**	**-0.1**
GERES	**GERESS Array B**	**146.35 352**	PKPbc	**PKPbc**	**12 20 50.8**	**-0.5**
GERES	**GERESS Array B**	**146.35 352**	PKPbc	**PKPbc**	**12 20 50.8**	**-0.5**
	comp=Z,16nm,1.1s,baz=29,slow=3.0,SNR=46					
ZST	**Bratislava**	**146.39 348**	*e*PKIKP	**PKPdf**	**12 20 49.9**	**-0.1**
ZST	**Bratislava**	**146.39 348**	*e*PKP	**PKPdf**	**12 20 49.9**	**-0.1**
BR131	**Keskin Array S**	**146.45 321**	*e*PKPbc	**PKPab**	**12 20 53.1**	**+0.2**
BRTR	**Keskin Array B**	**146.45 321**	PKPbc	**PKPdf**	**12 20 51.1**	**+0.4**
BRTR	**Keskin Array B**	**146.45 321**	PKPbc	**PKPdf**	**12 20 51.1**	**+0.4**
	comp=Z,58nm,1.1s,baz=96,slow=2.5,SNR=71					
VOIR		**146.53 337**	⇓*i*P	**PKPab**	**12 20 52.8**	**-0.1**
BUD	**Budapest**	**146.62 345**	⇓*e*	**PKPbc**	**12 20 52.4**	**+0.4**
LANF	**Langenberg**	**146.67 359**	PKP	**PKPab**	**12 20 52.9**	**-0.3**
PKSG		**146.86 346**	⇑*e*	**PKPab**	**12 20 53.7**	**-0.3**
ANTO	**Ankara**	**146.87 322**	*e*PKP2	**PKPab**	**12 20 54.2**	**-0.2**
ANTO	**Ankara**	**146.87 322**	⇑*i*P	**PKPbc**	**12 20 52.3**	**-0.8**
ANTO	**Ankara**	**146.87 322**	*e*PKPbc	**PKPab**	**12 20 54.2**	**-0.2**
CONA	**Conrad Observa**	**146.89 349**	⇑*i*PKPbc	**PKPdf**	**12 20 51.6**	**+0.6**
	comp=Z,36nm,1.3s,SNR=13					
YAYL	**Yayladag**	**146.92 314**	*i* P	**PKPdf**	**12 20 50.6**	**-0.9**
PKSN	**Nyarlorinc**	**146.94 344**	⇑*e*	**PKPab**	**12 20 54.3**	**0.0**
SIRR	**Síria**	**146.99 341**	⇓*i*P	**PKPab**	**12 20 54.3**	**-0.2**
SOP	**Sopron**	**146.99 348**	⇓*e*	**PKPdf**	**12 20 51.4**	**+0.3**
PKS7	**Kunszentmiklos**	**146.99 345**	⇑*e*	**PKPab**	**12 20 53.9**	**-0.6**
LOT	**Lotru**	**146.99 338**	⇓*i*P	**PKPbc**	**12 20 52.9**	**-0.4**
PKST	**T''s**	**147.07 346**	⇑*e*	**PKPbc**	**12 20 53.9**	**+0.6**
GULE	**Gulek**	**147.16 316**	*i* P	**PKPdf**	**12 20 51.6**	**-0.3**
MOA	**Molln**	**147.24 351**	⇑*i*PKPbc	**PKPbc**	**12 20 53.1**	**-0.7**
	comp=Z,46nm,1.6s,SNR=12					
FUR	**Furstenfeldbru**	**147.29 355**	*e*PKP2	**PKPbc**	**12 20 54.5**	**+0.6**
FUR	**Furstenfeldbru**	**147.29 355**	*e*PKPbc	**PKPbc**	**12 20 54.5**	**+0.6**
BFO	**Black Forest**	**147.31 358**	*e*PKP2	**PKPbc**	**12 20 54.1**	**+0.1**
BFO	**Black Forest**	**147.31 358**	*e*PKPbc	**PKPbc**	**12 20 54.7**	**+0.7**
BFO	**Black Forest**	**147.31 358**	*e*PKPbc	**PKPbc**	**12 20 54.1**	**+0.1**
GZR	**Gura Zlata**	**147.39 339**	⇓*i*P	**PKPbc**	**12 20 55.2**	**+0.9**
ECH	**Echery**	**147.45 360**	*e*PKP2	**PKPbc**	**12 20 54.3**	**-0.1**
ECH	**Echery**	**147.45 360**	PKP	**PKPbc**	**12 20 54.5**	**+0.1**
ECH	**Echery**	**147.45 360**	*e*PKPbc	**PKPbc**	**12 20 54.3**	**-0.1**
PKS2	**Kecel**	**147.49 344**	⇑*e*	**PKPbc**	**12 20 55.3**	**+0.8**
RJOB	**Jochberg**	**147.55 353**	*e*PKPbc	**PKPbc**	**12 20 55.4**	**+0.7**
BZS	**Buzias**	**147.58 341**	⇓*i*P	**PKPbc**	**12 20 55.2**	**+0.4**
ARSA	**Arzberg**	**147.60 349**	⇑*i*PKPdf	**PKPbc**	**12 20 55.2**	**+0.3**
	comp=Z,20nm,1.1s,SNR=7.3					
PKS9	**Tamasi**	**147.64 345**	⇑*e*	**PKPbc**	**12 20 55.2**	**+0.3**
FELD	**Feldberg im Sc**	**147.77 359**	PKP	**PKPbc**	**12 20 55.7**	**+0.3**
MOF	**Molkenrain**	**147.81 360**	PKP	**PKPbc**	**12 20 55.7**	**+0.3**
RETA	**Reutte**	**148.01 355**	*i* sPKPdf	**PKPbc**	**12 20 56.3**	**+0.3**
	comp=Z,29nm,1.2s,SNR=9.2					
KIZK	**Mersin**	**148.03 316**	*i* P	**PKPbc**	**12 20 54.8**	**-1.5**
BEHE	**Becsehely**	**148.10 347**	⇓*e*	**PKPbc**	**12 20 56.1**	**0.0**
MOTA	**Moosalm**	**148.12 355**	⇑*i*sPKPdf	**PKPbc**	**12 20 56.5**	**+0.1**
	comp=Z,26nm,1.2s,SNR=7.2					
BORA	**Eskisehir**	**148.22 324**	*i* P	**PKPbc**	**12 20 55.6**	**-1.2**
SOKA	**Soboth**	**148.25 349**	⇓*i*pPKPdf	**PKPbc**	**12 20 56.1**	**-0.5**
	comp=Z,28nm,1.2s,SNR=5.1					
BUY	**Buyukada**	**148.26 327**	*i* P	**PKPbc**	**12 20 56.7**	**-0.1**
PERS	**Pernice**	**148.27 349**	*i* PKPbc	**PKPbc**	**12 20 56.9**	**+0.2**
DAVA	**Damuels**	**148.28 356**	⇑*i*sPKPdf	**PKPbc**	**12 20 57.3**	**+0.5**
	comp=Z,33nm,1.1s,SNR=8.3					
LOMF	**Lomont**	**148.31 0**	PKP	**PKPbc**	**12 20 57.7**	**+0.9**
FETA	**Feichten**	**148.48 355**	*i* sPKPdf	**PKPbc**	**12 20 58.0**	**+0.7**
	comp=Z,21nm,1.1s,SNR=7.1					
ABTA	**Abfaltersbach**	**148.56 353**	⇑*i*PKPdf	**PKPdf**	**12 20 54.5**	**+0.7**
	comp=Z,30nm,1.0s,SNR=5.4					
ERMK	**Ermenek**	**148.76 317**	*i* P	**PKPbc**	**12 20 58.3**	**-0.1**
DAVOX	**Davos/Dischmat**	**148.78 356**	PKPbc	**PKPbc**	**12 20 58.2**	**+0.1**
DAVOX	**Davos/Dischmat**	**148.78 356**	PKPbc	**PKPbc**	**12 20 58.2**	**+0.1**
	comp=Z,11nm,0.8s,baz=36,slow=2.9,SNR=14					
TUE	**Stuetta**	**149.12 357**	*e*PKPdf	**PKPdf**	**12 20 55.9**	**+1.0**
TUE			*e*PKPbc	**PKPbc**	**12 20 59.6**	**+0.5**
TUE			*e*PKPab	**PKPab**	**12 21 04.5**	**+1.3**
VISS	**Visnje**	**149.13 349**	*i* PKPbc	**PKPbc**	**12 20 59.5**	**+0.7**
JAVS	**Javornik**	**149.17 350**	*i* PKPbc	**PKPbc**	**12 20 59.2**	**+0.2**
GDZ	**Gediz**	**149.31 324**	*i* P	**PKPbc**	**12 20 59.4**	**-0.2**
BOJS	**Bojanci**	**149.34 348**	*i* PKPdf	**PKPdf**	**12 20 54.4**	**-0.6**
BOJS			*i* PKPbc	**PKPbc**	**12 20 59.9**	**+0.6**
GAZI	**Gazipasa**	**149.38 317**	*i* P	**PKPbc**	**12 20 58.4**	**-1.3**
CSS	**Prodhromos**	**149.41 314**	*e*PKPdf	**PKPdf**	**12 20 56.2**	**+0.7**
CSS			*e*PKPbc	**PKPbc**	**12 20 59.6**	**-0.3**
CSS			*e*PKPab	**PKPab**	**12 21 04.1**	**-0.5**
AGO	**Saint Agoulin**	**149.45 5**	PKP	**PKPbc**	**12 21 00.2**	**+0.6**
DURS	**Dursunbey**	**149.50 326**	*i* P	**PKPbc**	**12 20 59.7**	**-0.4**
VTS	**Vitosha**	**149.64 336**	*i* P	**PKPbc**	**12 21 00.3**	**-0.1**
PYM	**Petit Puy Mans**	**149.74 5**	PKP	**PKPbc**	**12 21 01.1**	**+0.7**
ALN	**Alexandroupoli**	**149.77 330**	*e*P	**PKPbc**	**12 20 58.9**	**-1.6**
KHAL	**Karahalli**	**149.79 323**	*i* P	**PKPdf**	**12 20 58.2**	**+2.1**
BALY	**Balya**	**149.86 327**	*i* P	**PKPbc**	**12 21 00.2**	**-0.7**
MMB	**Musomiste**	**150.26 334**	*i* P	**PKPbc**	**12 21 01.7**	**-0.1**
KKB	**Krupnik**	**150.30 335**	*i* P	**PKPbc**	**12 21 02.5**	**+0.7**
SMTH	**Samothraki Isl**	**150.35 330**	*e*P	**PKPbc**	**12 21 01.2**	**-0.8**
AKHS	**Akhisar**	**150.38 326**	*i* P	**PKPbc**	**12 21 01.3**	**-0.8**
NVR	**Nevrokopi**	**150.40 334**	*e*P	**PKPbc**	**12 21 01.4**	**-0.7**
DNZL	**Cakiroluk**	**150.51 323**	*i* P	**PKPdf**	**12 20 59.5**	**+2.2**
BNI	**Bardonecchia**	**150.61 0**	*e*PKIKP	**PKPdf**	**12 20 58.9**	**+1.7**
BNI			*e*		12 21 03.9	
BNI			*e*		12 21 10.7	
BNI	**Bardonecchia**	**150.61 0**	*e*PKPdf	**PKPdf**	**12 20 58.9**	**+1.7**
BNI			*e*PKPbc	**PKiKP**	**12 21 03.9**	**+0.6**
BNI			*e*PKPab	**PKPab**	**12 21 10.7**	**+1.4**
PRK	**Paraskevi**	**150.92 328**	*e*P	**PKPbc**	**12 21 03.4**	**0.0**
PCAB	**Cabril**	**150.95 23**	*e*PKPbc	**PKPbc**	**12 21 04.2**	**+0.8**
LIA	**Limnos Island**	**150.96 330**	*e*P	**PKPbc**	**12 21 02.8**	**-0.6**
AKAS	**Kas**	**151.12 320**	*i* P	**PKPbc**	**12 21 03.3**	**-0.9**
POLO	**Lamas de Olo**	**151.32 23**	*e*PKPbc	**PKPbc**	**12 21 04.4**	**0.0**
PBRG	**Braganca**	**151.34 22**	*e*PKPbc	**PKPbc**	**12 21 03.9**	**-0.4**
PVRL	**Vila Real**	**151.44 23**	*e*PKPbc	**PKPbc**	**12 21 04.8**	**+0.2**
PAIG	**Paliouri**	**151.64 332**	*e*P	**PKPbc**	**12 21 04.5**	**-0.5**
TOUF	**Mont Tournerai**	**151.65 359**	PKP	**PKPbc**	**12 21 05.7**	**+0.5**
AUTN	**L'Aution**	**151.66 359**	PKP	**PKPbc**	**12 21 05.7**	**+0.5**
SAOF	**Saorge**	**151.67 359**	PKP	**PKPbc**	**12 21 05.5**	**+0.5**
MVIF	**Mont Vial**	**151.77 360**	PKP	**PKPbc**	**12 21 05.9**	**+0.5**
MVO	**Moncorvo**	**151.79 23**	*e*PKPbc	**PKPbc**	**12 21 06.1**	**+0.7**
PVIS	**Viseu**	**151.85 24**	*e*PKPbc	**PKPbc**	**12 21 06.0**	**+0.4**
BDRM	**Kayabasi**	**151.87 323**	*i* P	**PKPdf**	**12 20 58.2**	**-1.0**
LIT	**Litokhoron**	**152.02 334**	*e*P	**PKPbc**	**12 21 05.5**	**-0.4**
KZN	**Kozani**	**152.15 335**	*e*P	**PKPbc**	**12 21 07.2**	**+0.9**
AOS	**Alonnisos**	**152.16 331**	*e*P	**PKPbc**	**12 21 04.9**	**-1.3**
MTE	**Manteigas**	**152.26 24**	*e*PKPbc	**PKPbc**	**12 21 06.3**	**-0.2**
PTOM	**Tomar**	**152.56 26**	*e*PKPbc	**PKPbc**	**12 21 06.8**	**-0.3**
AGG	**Agios Georgios**	**152.98 333**	*e*P	**PKPbc**	**12 21 07.0**	**-1.1**
KARP	**Karpathos**	**153.07 321**	*e*P	**PKPbc**	**12 21 08.2**	**-0.2**
PMRV	**Marv??o**	**153.15 25**	*e*PKPbc	**PKPbc**	**12 21 08.3**	**-0.1**
LTK	**Loutraki**	**153.50 331**	*e*P	**PKPdf**	**12 21 01.3**	**-0.3**
ESDC	**Sonseca Array**	**154.18 19**	PKP	**PKPdf**	**12 21 02.7**	**+0.1**
ESDC			PKPbc	**PKPbc**	**12 21 10.7**	**-0.1**
ESDC			PKPab	**PKPab**	**12 21 24.3**	**-0.1**
ESDC	**Sonseca Array**	**154.18 19**	PKP	**PKPdf**	**12 21 02.7**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=339,slow=2.2,SNR=6.5					
ESDC			PKPbc	**PKPbc**	**12 21 10.7**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=346,slow=2.3,SNR=9.5					
ESDC			PKPab	**PKPab**	**12 21 24.3**	**-0.1**
	comp=Z,6.1nm,1.0s,baz=327,slow=4.1,SNR=15					
DBIC	**Dimbokro**	**165.49 126**	PKPab	**PKPab**	**12 22 15.0**	**+0.8**
DBIC	**Dimbokro**	**165.49 126**	PKPab	**PKPab**	**12 22 15.0**	**+0.8**
	comp=Z,9.9nm,1.1s,baz=245,slow=5.1,SNR=4.5					
TAM	**Tamanrasset**	**172.70 10**	*e*PKIKP	**PKPdf**	**12 21 21.5**	**+1.0**
TAM	**Tamanrasset**	**172.70 10**	*e*PKPdf	**PKPdf**	**12 21 21.5**	**+1.0**
TORD	**Torodi Ar. Bea**	**174.43 115**	PKP	**PKPdf**	**12 21 20.3**	**-0.8**
TORD			PKPab	**PKPab**	**12 22 53.5**	**-0.3**
TORD			PP	**PP**	**12 26 44.0**	**-2.1**
TORD	**Torodi Ar. Bea**	**174.43 115**	PKP	**PKPdf**	**12 21 20.3**	**-0.8**
	comp=Z,6.1nm,1.1s,baz=297,slow=1.9,SNR=16					
TORD			PKPab	**PKPab**	**12 22 53.5**	**-0.3**
	comp=Z,8.5nm,1.1s,baz=262,slow=5.1,SNR=16					
TORD			PP	**PP**	**12 26 44.0**	**-2.1**
	comp=Z,3.8nm,1.2s,baz=262,slow=5.1,SNR=6.8					

*IDC **02** 12:07:25.7±1.0, 1°.63S×100°.84E, h0km, mb3.9/7, mb1 3.9/7, mb1mx3.7/25, mbtmp3.9/7, Error ellipse: s-maj=57.3km s-min=18.5km az=51.0*
*ISCJB **02** 12:07:33.3±0.6, 1°.80S±0°.05×100°.45E±0°.07, h56km, mb4.1/8, Error ellipse: s-maj=10.6km s-min=4.4km az=150.3*
*AUST **02** 12:07:33.4±0.0, 1°.70S×100°.79E, h0km±1km, Error ellipse: s-maj=2.8km s-min=1.1km az=245.0*
*DJA **02** 12:07:35.3±0.4, 2°S±4°×10°E±°, h49km±12km, M4.4/8, mb4.5/2, MLv4.4/8*

ISC 02 12:07:34.0±0.7, **1°.74S**±0°.05×**100°.51E**±0°.08, **h56km, n46,** σ1°.**87**/37, **mb4.1/8, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.83**	**356**	P		**Pn**	**12 07 51.9**	**+2.2**
PDSI				S		**Sn**	**12 08 03.6**	**+2.4**
KRJI	**Kerinci**	**1.01**	**110**	S		**Sn**	**12 08 07.1**	**+1.6**
PPI	**Padang Panjang**	**1.28**	**355**	P		**Pn**	**12 07 57.8**	**+2.1**
PPI	**Padang Panjang**	**1.28**	**355**	P		**Pn**	**12 07 57.9**	**+2.2**
	baz=1.3,SNR=93							
BKNI	**Bangkinang**	**2.12**	**14**	P		**Pn**	**12 08 07.7**	**+0.6**
BKNI				S		Sn	12 08 27.3	-5.1
BKNI	**Bangkinang**	**2.12**	**14**	P		**Pn**	**12 08 09.0**	**+1.8**
	baz=2.0,SNR=12							
MASI	**Maura Aman, Be**	**2.21**	**129**	P		**Pn**	**12 08 10.4**	**+2.0**
MASI				S		**Sn**	**12 08 39.3**	**+4.6**
KSI	**Kapahiang**	**2.81**	**132**	P		Pn	12 08 20.1	+3.5
MNAI	**Manna**	**3.56**	**137**	P		**Pn**	**12 08 27.6**	**+0.7**
MNAI				S		**Sn**	**12 09 10.4**	**+2.6**
MNAI	**Manna**	**3.56**	**137**	P		**Pn**	**12 08 28.2**	**+1.3**
	baz=3.4,SNR=21							
EGSI	**Enggano, Bengk**	**3.99**	**154**	P		**Pn**	**12 08 31.8**	**-1.0**
GSI	**Gunungsitoli**	**4.22**	**316**	P		**Pn**	**12 08 38.7**	**+2.8**
BTDF	**Bukit Timah Da**	**4.49**	**47**	P		**Pn**	**12 08 39.9**	**+0.3**
	baz=4.3,SNR=3.3							
BTDF				P		**Pn**	**12 08 39.9**	**+0.3**
	baz=4.3,SNR=3.3							
MDSI	**Maura Dua**	**4.56**	**127**	P		**Pn**	**12 08 41.2**	**+0.7**
KGM	**Kluang**	**4.67**	**37**	P		**Pn**	**12 08 42.2**	**+0.2**
PSI	**Prapat**	**4.79**	**341**	P		Pn	12 08 47.8	+4.0
	baz=4.8,SNR=8.4							
PSI	**Prapat**	**4.79**	**341**	Pn		**Pn**	**12 08 44.8**	**+1.0**
	3.0nm,0.3s,baz=160,slow=13,SNR=11							
LWLI	**Liwa**	**4.81**	**133**	P		**Pn**	**12 08 45.1**	**+1.1**
MYKOM	**Kota Tinggi**	**4.84**	**44**	P		**Pn**	**12 08 44.0**	**-0.4**
MYKOM	**Kota Tinggi**	**4.84**	**44**	P		**Pn**	**12 08 44.5**	**+0.1**
FRIM	**Kepong**	**5.07**	**13**	P		**Pn**	**12 08 49.2**	**+1.6**
KASI	**Kota Agung**	**5.47**	**133**	P		**Pn**	**12 08 52.3**	**-0.7**
KCSI	**Kotacane, Aceh**	**5.91**	**332**	P		**Pn**	**12 08 58.1**	**-0.9**
IPM	**Ipoh**	**6.20**	**5**	P		Pn	12 09 07.4	+4.3
IPM	**Ipoh**	**6.20**	**5**	P		Pn	12 09 06.7	+3.6
	30nm,0.7s,0.2nm							
KULM	**Kulim**	**6.99**	**1**	P		**Pn**	**12 09 16.8**	**+3.0**
KULM	**Kulim**	**6.99**	**1**	P		**Pn**	**12 09 15.2**	**+1.4**
KTGM	**Kuala Trenggan**	**7.50**	**20**	P		**Pn**	**12 09 23.5**	**+2.7**
BTM	**Bintulu**	**13.49**	**69**	P		Pn	12 10 40.0	-2.8
TSM	**Tawau**	**18.35**	**71**	P		**P**	**12 11 41.5**	**-2.7**
H08S2	**Diego Garcia H**	**28.52**	**257**	T		T	12 42 53.0	
	baz=81,slow=0.7,SNR=49							
H08S3	**Diego Garcia H**	**28.53**	**257**	T		T	12 42 49.9	
	baz=81,slow=0.7,SNR=50							
H08S1	**Diego Garcia H**	**28.54**	**257**	T		T	12 42 52.7	
	baz=81,slow=0.7,SNR=62							
H01W3	**Cape Leeuwin H**	**35.33**	**160**	T		T	12 51 17.7	
	baz=337							
H01W2	**Cape Leeuwin H**	**35.34**	**160**	T		T	12 51 17.1	
	baz=337							
H01W1	**Cape Leeuwin H**	**35.34**	**160**	T		T	12 51 16.5	
	baz=337							
WRA	**Warramunga Arr**	**37.68**	**121**	P		**P**	**12 14 41.4**	**-3.0**
	0.3nm,0.3s,baz=304,slow=8.8,SNR=10.0							
ASAR	**Alice Springs**	**38.99**	**127**	P		P	12 14 52.2	-3.1
	0.6nm,0.6s,baz=302,slow=7.9,SNR=12							
MKAR	**Makanchi Array**	**50.92**	**344**	P		**P**	**12 16 28.6**	**-1.1**
	1.2nm,0.7s,baz=148,slow=7.9,SNR=13							
KURBB	**Kurchatov Arra**	**55.45**	**343**	P		**P**	**12 17 01.6**	**-1.3**
	1.8nm,0.9s,baz=162,slow=6.8,SNR=14							
ZALV	**Zalesovo Beam**	**57.02**	**349**	P		**P**	**12 17 12.7**	**-1.2**
	0.9nm,0.3s,baz=162,slow=6.3,SNR=7.4							
BRTR	**Keskin Array B**	**73.53**	**312**	P		**P**	**12 19 00.7**	**-0.7**
	0.8nm,0.7s,baz=120,slow=5.7,SNR=3.4							
FINES	**FINESS Array B**	**84.12**	**332**	P		**P**	**12 20 00.1**	**+1.3**
	4.5nm,1.1s,baz=131,slow=3.8,SNR=4.1							
VRAC	**Vranov**	**87.34**	**319**	P		**P**	**12 20 16.2**	**+1.1**
	4.6nm,0.4s,baz=169,slow=3.4,SNR=3.6							
TXAR	**Lajitas Array**	**144.19**	**38**	PKP		**PKPab**	**12 27 01.4**	**-0.9**
	0.6nm,0.5s,baz=236,slow=0.6,SNR=14							
CPUP	**Villa Florida**	**144.83**	**216**	PKPbc		PKPbc	12 27 04.7	0.0
	2.6nm,0.7s,baz=125,slow=3.4,SNR=5.8							

*AUST **02** 12:08:28.4±0.6, 16°.54S×172°.42W, h0km, Error ellipse: s-maj=14.2km s-min=10.3km az=56.0*
*BJI **02** 12:08:29.7, 16°.40S×172°.70W, h4km, mB5.7/33, mb5.3/43, Ms5.3/33, Ms7 4.9/33*
*ISCJB **02** 12:08:29.5±0.1, 16°.52S±0°.04×172°.65W±0°.03, h10km, mb5.3/215, MS5.0/26, Error ellipse: s-maj=6.5km s-min=3.1km az=154.7*
*IDC **02** 12:08:29.5±0.3, 16°.49S×172°.71W, h0km, mb5.1/32, mb1 5.2/32, mb1mx5.2/34, mbtmp5.1/32, MS5.0/3, Ms1 5.0/3, ms1mx4.5/14, Error ellipse: s-maj=14.7km s-min=10.8km az=143.0*
*NEIC **02** 12:08:31.3±0.1, 16°.48S×172°.67W, h10km, mb5.4/144, Error ellipse: s-maj=6.0km s-min=3.3km az=145.0*
*DJA **02** 12:08:32.8±0.3, 17°S±7°×17°W±°, h10km, M5.5/16, mB5.8/5, mb5.3/16, MLv5.7/1, Mw(mB)5.3/5*
*GCMT **02** 12:08:35.2±0.2, 16°.50S×172°.55W, h12km, MW5.4, Moment Tensor Solution. s62,c97; s99,c210; Moment tensor: Scale 10^17^Nm; Mrr-1.27±.02; Mθθ1.42±.02; Mφφ-0.14±.02; Mrθ0.60±.05; Mθφ0.17±.02; Mφr0.64±.07; Best double couple: M0 1.60000×10^17^ NP1:φ244.00000°, δ62.00000°, λ-112.00000°. NP2:φ103.00000°, δ35.00000°, λ-56.00000°. Principal axes: T 1.6100, Plg14.0000°, Azm349.0000°; N 0.0300, Plg19.0000°, Azm254.0000°; P -1.6300, Plg66.0000°, Azm113.0000°; Data Used: II IU IC G CN. Surface waves from 104 sta.*
*MOS **02** 12:08:35.6±0.9, 15°.93S×172°.62W, h33km, mb5.6/59, MS5.0/9 Error ellipse: s-maj=10.4km s-min=7.6km az=66.7*
*SZGRF **02** 12:08:37.8, 15°.81S×172°.20W, h33km, Samoa Islands region*

ISC 02 12:08:31.7±0.4, **16°.46S**±0°.05×**172°.59W**±0°.05, **h13**km±1km, **n1008,** σ0°.**98**/1064, **mb5.4**/215, **MS5.1**/27, **187C-221D, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op		ISC		
AFI	**Afiamalu**	**2.65**	**17**	Sn		Sn	12 09 37.1	-9.3
AFI				TT			12 11 52.9	
AFI	**Afiamalu**	**2.65**	**17**	Sn		Sn	12 09 37.1	-9.3
	226nm,0.3s,baz=208,slow=19,SNR=3.9							
AFI				T		T	12 11 52.9	
	116nm,0.3s,baz=110,slow=18,SNR=4.9							
NIUE	**Niue**	**3.63**	**136**	⇓P		Pn	12 09 23.1	-4.5
	baz=3.5,SNR=16							
MSVF	**Nonsavu**	**9.04**	**261**	*e*P		Pn	12 10 47.5	+5.4
MSVF	**Nonsavu**	**9.04**	**261**	Pn		Pn	12 10 47.2	+5.1
	1µm,1.4s,SNR=24							
MSVF	**Nonsavu**	**9.04**	**261**	*e*Pn		Pn	12 10 47.5	+5.4
RAR	**Rarotonga**	**13.02**	**113**	*e*Pn		**Pn**	**12 11 33.9**	**-2.5**
RAR				Sn		**Sn**	**12 13 57.6**	**-3.6**
RAR				TT			12 24 52.2	
RAR	**Rarotonga**	**13.02**	**113**	Pn		Pn	12 11 32.0	-4.5
	5.2nm,0.3s,baz=270,slow=7.2,SNR=5.7							
RAR				Sn		**Sn**	**12 13 57.6**	**-3.6**
	2.7nm,0.3s,baz=270,slow=19,SNR=2.6							
RAR				T		T	12 24 52.2	
	13nm,0.3s,baz=90,slow=20,SNR=8.6							
KNTN	**Kanton**	**13.63**	**4**	*e*Pn		**Pn**	**12 11 44.4**	**-0.4**
DZM	**Mont Dzumac**	**20.56**	**251**	*e*P		Pn	12 13 13.1	+0.5
	302nm,1.2s							
DZM				*e*LR		LR	12 18 07.1	
	4µm,20.9s							
DZM	**Mont Dzumac**	**20.56**	**251**	*e*P		**P**	**12 13 11.1**	**+0.7**
DZM	**Mont Dzumac**	**20.56**	**251**	P		**P**	**12 13 08.3**	**-2.1**
	18nm,0.9s,baz=79,slow=19,SNR=5.8							
PPT2	**Papeete2**	**22.03**	**96**	*e*LQ		LQ	12 17 39.8	
	6µm,26.5s							
PPT2				*e*LR		LR	12 18 31.4	
	2µm,24.0s							
OUZ	**Omahuta**	**22.40**	**211**	*e*P		**P**	**12 13 29.9**	**0.0**
	372nm,1.7s							
TARA	**Tarawa**	**22.76**	**320**	*e*P		**P**	**12 13 35.5**	**+1.5**
	219nm,1.3s							

TBI	**Tubuai**	**22.78 111**	*e*LQ		LQ	12 18 01.9	
	9µm,28.0s						
URZ	**Urewera**	**23.53 201**	*e*P		**P**	**12 13 41.8**	**+0.2**
URZ			S		**S**	**12 18 00.2**	**+4.9**
URZ	**Urewera**	**23.53 201**	P		**P**	**12 13 41.5**	**-0.1**
	42nm,0.6s,baz=35,slow=6.5,SNR=17						
URZ			S		**S**	**12 18 00.2**	**+4.9**
	16nm,0.7s,baz=139,slow=19,SNR=8.0						
XMAS	**Kiritimati**	**23.70 40**	*e*P		**P**	**12 13 44.4**	**+0.9**
	82nm,0.8s						
BKZ	**Black Stump Fm**	**24.56 201**	*e*P		**P**	**12 13 51.3**	**0.0**
	53nm,1.1s						
BFZ	**Birch Farm**	**26.00 200**	*e*P		**P**	**12 14 07.7**	**+3.3**
HNR	**Honiara**	**27.64 281**	P		**P**	**12 14 18.6**	**-0.8**
HNR	**Honiara**	**27.64 281**	P		**P**	**12 14 18.5**	**-0.8**
	20nm,0.3s,baz=228,slow=8.5,SNR=4.0						
HNR			LR		LR	12 23 49.3	
	comp=Z,3µm,19.5s,baz=115,slow=33						
RPZ	**Rata Peaks**	**30.51 204**	P		**P**	**12 14 44.1**	**-0.6**
RPZ	**Rata Peaks**	**30.51 204**	P		**P**	**12 14 44.1**	**-0.6**
	23nm,0.7s,baz=54,slow=8.7,SNR=3.2						
EIDS	**Eidsvold**	**34.98 249**	*e*P		**P**	**12 15 21.9**	**-2.1**
	14nm,1.0s						
ARMA	**Armidale**	**35.48 240**	*e*P		**P**	**12 15 26.7**	**-1.7**
	30nm,0.8s						
ARMA	**Armidale**	**35.48 240**	⇓P		**P**	**12 15 26.0**	**-2.3**
	baz=36,SNR=16						
RKT	**Rikitea**	**35.93 107**	*e*LR		LR	12 25 06.0	
	776nm,23.2s						
RMQ	**Roma**	**37.20 248**	P		**P**	**12 15 41.1**	**-1.8**
	baz=37,SNR=6.9						
CNB	**Canberra Magne**	**38.74 234**	P		**P**	**12 15 54.3**	**-1.6**
	baz=39,SNR=12						
CTAO	**Charters Tower**	**39.18 258**	*e*P		P

MAT S S 12 28 55.4 -1.0
ERM Erimo 71.08 327 eP P 12 19 49.7 +0.1
ERM pmax pmax
comp=Z,61nm,1.3s
KUR Kuril'sk 71.12 332 ⇓iP P 12 19 50.8 +1.0
KUR S S 12 29 07.6 +1.5
KUR pmax pmax
comp=Z,300nm,1.7s
KUR pmax pmax
comp=N,215nm,1.7s
KUR MLR MLR
comp=E,2μm,17.0s
KUR MLR MLR
comp=Z,437nm,17.0s
KUR MLR MLR
comp=N,2μm,19.0s
SCI San Clemente I 71.27 46 ⇓P P 12 19 51.7 +0.7
baz=72
SBC Santa Barbara 71.33 44 ⇑P P 12 19 51.9 +0.6
baz=72
MYLDM Lahad Datu 71.42 281 P P 12 19 55.3 +3.0
comp=N,66nm,1.2s
PKM Peak Mountain 71.53 44 ⇑P P 12 19 54.1 +1.4
baz=72,SNR=7.0
BLG Laguna Peak 71.57 45 ⇓P P 12 19 53.4 +0.6
baz=72
SAO San Andreas Ge 71.60 41 eP P 12 19 54.2 +1.3
SAO pmax pmax
comp=Z,60nm,1.3s
SAO San Andreas Ge 71.60 41 eP P 12 19 54.2 +1.3
comp=Z,60nm,1.3s
CIS Catalina Islan 71.62 46 ⇓P P 12 19 53.3 +0.2
baz=72,SNR=5.6
SMMC Simmler 71.65 43 ⇑P P 12 19 54.1 +0.7
baz=72,SNR=9.6
PTRM Twissleman Ran 71.72 43 eP P 12 19 54.9 +1.2
FMP Fort Macarthur 71.87 45 ⇓P P 12 19 54.8 +0.2
baz=72
OSI Osito Adit 72.09 44 eP P 12 19 57.9 +1.9
comp=Z,11nm,0.4s
OSI Osito Adit 72.09 44 ⇑P P 12 19 56.2 +0.2
baz=72
DECC Green Verdugo 72.15 45 ⇑P P 12 19 56.2 -0.1
baz=72
109C Camp Elliot, M 72.22 47 ⇓P P 12 19 56.9 +0.2
baz=72
MWC Mount Wilson 72.32 45 eP P 12 19 58.0 +0.5
MWC pmax pmax
comp=Z,31nm,0.9s
MWC Mount Wilson 72.32 45 eP P 12 19 58.0 +0.5
comp=Z,31nm,0.9s
ARVC Arvin 72.32 44 ⇓P P 12 19 57.5 +0.2
baz=73,SNR=6.9
BAR Barrett 72.41 47 eP P 12 19 58.4 +0.4
comp=Z,92nm,2.2s
MURC Murrieta 72.55 46 ⇓P P 12 19 58.9 +0.1
baz=73,SNR=7.6
VES Vestal, Richgr 72.57 43 ⇑P P 12 19 58.8 0.0
baz=73,SNR=16
BFSC Mount Baldy Ra 72.60 45 ⇓P P 12 19 58.8 -0.4
baz=73,SNR=13
MONP Monument Peak 72.70 47 ⇓P P 12 19 59.8 -0.1
baz=73,SNR=22
EDW2 Edwards Air Fo 72.74 45 ⇑P P 12 20 00.4 +0.5
baz=73,SNR=50
RCTC Rector, Farmer 72.74 43 ⇑P P 12 19 59.4 -0.4
baz=73
DVTC Desert V Tower 72.80 47 ⇓P P 12 20 00.6 +0.3
baz=73,SNR=14
ASAJ Asahikawa 72.85 328 eP P 12 20 01.5 +1.3
ASAJ Asahikawa 72.85 328 P P 12 20 00.6 +0.3
comp=Z,29nm,1.0s,baz=207,slow=7.8,SNR=9.1
ISA Isabella 72.87 44 eP P 12 20 00.9 +0.3
ISA pmax pmax
comp=Z,51nm,1.1s
ISA Isabella 72.87 44 eP P 12 20 00.9 +0.3
comp=Z,51nm,1.1s
ISA Isabella 72.87 44 ⇓P P 12 20 00.9 +0.3
baz=73,SNR=45
CMB Columbia Colle 73.05 41 eP P 12 20 02.3 +0.7
CMB pmax pmax
comp=Z,31nm,1.1s
CMB Columbia Colle 73.05 41 eP P 12 20 02.3 +0.7
comp=Z,31nm,1.1s
PFO Pinyon Flat Ob 73.08 46 P P 12 20 02.0 0.0
comp=Z,109nm,1.1s,SNR=13
PFO Pinyon Flat Ob 73.08 46 eP P 12 20 02.7 +0.7
PFO Pinyon Flat Ob 73.08 46 ⇑P P 12 20 02.0 0.0
baz=73,SNR=17
PFO Pinyon Flat Ob 73.08 46 P P 12 20 02.5 +0.5
comp=Z,16nm,1.0s,baz=253,slow=3.5,SNR=21
JNU Nakatsue 73.09 313 P P 12 20 01.7 -0.3
JNU Nakatsue 73.09 313 P P 12 20 01.7 -0.3
comp=Z,26nm,1.1s,baz=122,slow=8.1,SNR=4.2
BBRC Big Bear Solar 73.12 46 ⇓P P 12 20 02.6 +0.3
baz=73
KRMB Red Mountain 73.16 36 eP P 12 20 03.8 +1.5
comp=Z,252nm,1.8s
SWSC Sam W. Stewart 73.17 47 ⇑P P 12 20 02.4 0.0
baz=73,SNR=11
OHCM Honcut 73.17 39 eP P 12 20 03.1 +0.9
LRMC Laurel Mountai 73.28 44 ⇓P P 12 20 03.4 +0.2
baz=74,SNR=36
WDC Whiskeytown Da 73.33 38 eP P 12 20 04.0 +0.9
WDC pmax pmax
comp=Z,57nm,1.4s
WDC Whiskeytown Da 73.33 38 eP P 12 20 04.0 +0.9
comp=Z,57nm,1.4s
RRX Edison Barstow 73.41 45 ⇓P P 12 20 03.7 -0.1
baz=74
CHGN Chignik 73.45 8 eP P 12 20 02.8 -0.7
CWC Cottonwood Cre 73.58 43 ⇑P P 12 20 05.1 +0.2
baz=74,SNR=25
QSPA South Pole Qui 73.59 180 eP P 12 20 04.7 +0.1
comp=Z,54nm,0.9s
BELC Belle Mtn. Jos 73.61 46 ⇓P P 12 20 05.2 +0.1
baz=74,SNR=26
MPMC Manual Prospec 73.75 44 ⇑P P 12 20 06.1 +0.1
baz=74,SNR=80
GSC Goldstone 73.78 45 eP P 12 20 06.3 +0.3
GSC pmax pmax
comp=Z,37nm,1.1s
GSC Goldstone 73.78 45 eP P 12 20 06.3 +0.3
comp=Z,37nm,1.1s
GSC Goldstone 73.78 45 ⇑P P 12 20 06.1 +0.1
baz=74,SNR=24
MLAC Mammoth Lakes 73.78 42 ⇑P P 12 20 06.6 +0.4
baz=74,SNR=9.2
MTUM Tungsten Hills 73.80 42 eP P 12 20 06.7 +0.5
BC3 Big Chuckawall 73.80 47 ⇑P P 12 20 06.7 +0.5
baz=74,SNR=21
HEC Hector,Ludlow 73.84 45 ⇑P P 12 20 06.3 -0.1
baz=74,SNR=11
TIN Tinemaha 73.84 43 ⇓P P 12 20 06.6 +0.2
baz=74
PEA0B Petropavlovsk- 73.88 342 eP P 12 20 06.4 +0.3
PETK Petropavlovsk- 73.88 342 P P 12 20 06.2 +0.1
PETK Petropavlovsk- 73.88 342 P P 12 20 06.2 +0.1
PETK Petropavlovsk- 73.88 342 P P 12 20 06.2 +0.1
comp=Z,33nm,0.9s,baz=131,slow=7.9,SNR=31
GLA Glamis 73.92 48 eP P 12 20 08.1 +1.2
GLA pmax pmax
comp=Z,47nm,1.1s
GLA Glamis 73.92 48 eP P 12 20 08.1 +1.2
comp=Z,47nm,1.1s
GLA Glamis 73.92 48 ⇑P P 12 20 06.6 -0.2
baz=74,SNR=14
WAKR Walker 73.92 41 eP P 12 20 07.4 +0.4
YBH Yreka Blue Hor 73.97 37 eP P 12 20 07.8 +0.8
YBH Yreka Blue Hor 73.97 37 P P 12 20 07.6 +0.6
comp=Z,28nm,1.1s,baz=175,slow=6.3,SNR=24
BEKR Beckworth 74.18 39 eP P 12 20 08.6 +0.2
comp=Z,21nm,1.3s
LBCM Butte Creek Ri 74.19 38 P P 12 20 09.0 +0.6
GMRC Granite Mounta 74.27 46 ⇓P P 12 20 08.6 -0.4
baz=74,SNR=21
IRM Iron Mountain 74.28 47 ⇓P P 12 20 09.3 +0.3
baz=74,SNR=32
LTIM Timbered Crate 74.33 38 P P 12 20 09.9 +0.8
GRAC Grapevine Rang 74.37 43 ⇑P P 12 20 09.3 -0.1
baz=75,SNR=24
FURC Furnace Creek, 74.40 44 ⇑P P 12 20 09.4 -0.1
baz=75,SNR=31
HUMO Hull Mountain 74.40 36 eP P 12 20 10.4 +0.9
comp=Z,47nm,1.3s
TUQ Turquoise Moun 74.45 45 ⇑P P 12 20 09.8 -0.2
baz=75,SNR=32

SHOC Shoshone 74.47 45 ⇑P P 12 20 09.9 -0.1
baz=75,SNR=30
Y12C Blythe 74.50 47 ⇓P P 12 20 10.4 +0.3
baz=75,SNR=6.0
113A Mohawk Valley, 74.52 48 ⇑P P 12 20 10.2 -0.1
baz=75,SNR=11
NVAR Mina Array Bea 74.59 41 P P 12 20 11.3 +0.4
NVAR Mina Array Bea 74.59 41 P P 12 20 11.3 +0.4
comp=Z,22nm,0.9s,baz=229,slow=8.2,SNR=87
NVAR LR LR 12 48 20.8
comp=Z,1μm,18.4s,baz=313,slow=32
PAHR Pah Rah Range 74.68 40 eP P 12 20 12.1 +0.8
comp=Z,56nm,1.3s
NV11 Mina Array Sit 74.69 41 eP P 12 20 11.5 +0.1
BBOR Butler Butte 74.74 36 P P 12 20 12.8 +1.2
YSS Yuzh-Sakhalins 74.79 330 eP P 12 20 10.6 -0.9
YSS e*SP sP 12 20 24.6 +7.2
YSS eS S 12 29 47.0 -0.8
YSS pmax pmax
comp=Z,90nm,0.9s
YSS MLR MLR
comp=Z,400nm,18.0s
214A Organ Pipe Nat 74.80 50 ⇓P P 12 20 12.3 +0.4
baz=75,SNR=22
LDFC Landfair 74.81 46 eP P 12 20 11.2 -0.9
comp=Z,112nm,1.3s
PDMCI Parker Dam,Lak 75.06 47 ⇑P P 12 20 13.7 +0.3
baz=75,SNR=13
OHAK Old Harbor 75.15 11 eP P 12 20 13.2 -0.2
comp=Z,650nm,3.0s
Z14A Wintersburg 75.42 48 ⇓P P 12 20 15.6 +0.1
baz=76,SNR=13
MOD Modoc 75.47 38 eP P 12 20 16.1 +0.2
comp=Z,197nm,1.2s
SHPR Sheep Range 75.56 45 eP P 12 20 16.8 +0.3
K05A Summer Lake 75.65 37 eP P 12 20 17.4 +0.5
comp=Z,89nm,1.2s
W13A Hualapai Mount 75.67 46 ⇓P P 12 20 17.5 +0.3
baz=76,SNR=20
Y14A Wickenburg 75.68 48 ⇑P P 12 20 17.0 0.0
baz=76,SNR=28
KDAK Kodiak Island 75.81 11 P P 12 20 17.0 -0.1
comp=Z,215nm,1.6s,SNR=7.8
KDAK Kodiak Island 75.81 11 eP P 12 20 18.0 +1.0
comp=Z,40nm,1.0s
H04A Detroit Lake 76.17 34 eP P 12 20 19.5 -0.1
comp=Z,70nm,1.4s
TPUB Ta-pu 76.29 300 eP P 12 20 19.4 -1.4
comp=Z,81nm,1.3s
R11A Troy Canyon, C 76.30 43 eP P 12 20 20.7 0.0
R11A Troy Canyon, C 76.30 43 ⇓P P 12 20 20.6 0.0
baz=76
PINOR Pine Mountain 76.34 36 eP P 12 20 21.5 +1.0
comp=Z,59nm,1.1s
BMN Battle Mountai 76.45 40 eP P 12 20 22.2 +0.8
BMN pmax pmax
comp=Z,36nm,1.1s
BMN Battle Mountai 76.45 40 eP P 12 20 22.2 +0.8
comp=Z,36nm,1.1s
TUC Tucson 76.46 50 eP P 12 20 22.1 +0.5
TUC pmax pmax
comp=Z,49nm,1.1s
TUC Tucson 76.46 50 eP P 12 20 22.1 +0.5
comp=Z,49nm,1.1s
SBUM Sibu 76.53 277 P P 12 20 24.8 +2.5
comp=Z,14nm,1.8s,comp=Z,565nm
SBUM Sibu 76.53 277 eP P 12 20 24.7 +2.5
comp=Z,23nm,1.3s
E03A Leam 76.67 32 eP P 12 20 24.0 +1.7
comp=Z,70nm,1.1s
WVOR Wild Horse Val 76.78 38 eP P 12 20 23.3 +0.1
WVOR pmax pmax
comp=Z,45nm,1.2s
WVOR Wild Horse Val 76.78 38 eP P 12 20 23.3 +0.1
comp=Z,45nm,1.2s
VIPM Ingram Point 76.92 35 P P 12 20 24.1 +0.1
VIPM Ingram Point 76.92 35 P P 12 20 24.1 +0.1
X16A Lo Mia Camp, P 77.03 48 ⇓P P 12 20 25.3 +0.4
baz=77,SNR=42
NLWA Neilton Lookou 77.08 32 eP P 12 20 26.2 +1.6
comp=Z,43nm,1.1s
319A Douglas 77.13 52 ⇑P P 12 20 25.6 +0.2
baz=77,SNR=26
TDL Tradedollar La 77.24 33 P P 12 20 26.2 +0.4
I07A Izee 77.28 36 eP P 12 20 26.4 +0.4
comp=Z,38nm,1.2s
CCUT Cedar City 77.33 44 eP P 12 20 27.3 +0.8
comp=Z,42nm,1.2s
G06A Carlson Farm, 77.37 35 eP P 12 20 26.9 +0.6
comp=Z,198nm,2.3s
ARUT Antelope Range 77.41 44 eP P 12 20 27.2 +0.3
ARUT Antelope Range 77.41 44 eP P 12 20 27.1 +0.3
comp=Z,457nm,0.8s
J08A Circle Bar Ran 77.43 37 eP P 12 20 27.2 +0.3
comp=Z,62nm,1.3s
KSRS Korea Array 77.46 315 P P 12 20 28.2 +1.3
comp=Z,15nm,1.1s,baz=125,slow=6.3,SNR=26
U15A North Rim 77.47 46 ⇓P P 12 20 28.0 +0.6
baz=78
KSAR Wonju Array Be 77.48 315 P P 12 20 28.2 +1.2
WUAZ Wupatki 77.64 47 eP P 12 20 29.3 +1.1
comp=Z,33nm,1.2s
WUAZ Wupatki 77.64 47 ⇑P P 12 20 28.5 +0.2
baz=78
HDW Hoodsport 77.67 32 P P 12 20 28.7 +0.7
320A Kipp Ranch, An 77.68 52 ⇑P P 12 20 29.4 +0.9
baz=78,SNR=25
LON Longmire 77.72 33 eP P 12 20 28.3 0.0
LON pmax pmax
comp=Z,45nm,1.6s
LON Longmire 77.72 33 eP P 12 20 28.3 0.0
comp=Z,45nm,1.6s
WPW White Pass 77.82 33 P P 12 20 28.9 0.0
ELK Elko 77.86 41 eP P 12 20 30.0 +0.6
comp=Z,37nm,1.2s
D05A Enumclaw 77.91 33 eP P 12 20 29.9 +0.7
comp=Z,130nm,1.3s
220A Playas Peak, P 77.94 51 ⇑P P 12 20 31.0 +1.0
baz=78,SNR=44
KSM Kuching 78.06 275 P P 12 20 31.3 +0.4
comp=Z,62nm,1.1s,comp=Z,760nm
KSM Kuching 78.06 275 eP P 12 20 31.6 +0.7
comp=Z,56nm,1.0s
KSM Kuching 78.06 275 ⇓P P 12 20 31.6 +0.7
baz=78,SNR=8.9
PGC Sidney 78.14 31 eP P 12 20 31.2 +0.7
comp=Z,3.3nm,1.1s
X18A Snowflake 78.16 49 ⇑P P 12 20 31.2 0.0
baz=78
120A U Bar Ranch, L 78.17 51 ⇓P P 12 20 32.0 +0.7
baz=78,SNR=19
RSO Redoubt South 78.31 10 eP P 12 20 31.5 +0.1
G08A Pilot Rock 78.33 35 eP P 12 20 32.4 +0.6
comp=Z,60nm,1.3s
INCN Inchon 78.35 315 eP P 12 20 33.7 +1.8
comp=Z,68nm,1.1s
Z20A Nine Sixteen R 78.46 50 ⇑P P 12 20 33.9 +1.0
baz=79,SNR=35
SVW2 Sparrevohn 78.48 8 eP P 12 20 31.7 -0.4
comp=Z,20nm,1.0s
221A Mesquite Ranch 78.56 52 ⇑P P 12 20 34.2 +0.9
baz=79,SNR=9.1
SEW Seward 78.56 12 eP P 12 20 33.0 +0.4
comp=Z,534nm,2.7s
W18A Petrified Fore 78.60 48 eP P 12 20 34.7 +1.1
W18A Petrified Fore 78.60 48 ⇑P P 12 20 34.3 +0.7
baz=79
MVU Marysvale 78.61 44 eP P 12 20 34.5 +0.9
comp=Z,42nm,0.9s
LTY Liberty 78.64 33 eP P 12 20 33.6 +0.2
comp=Z,37nm,1.3s
USRK Ussuriysk Arra 78.70 323 P P 12 20 33.8 +0.1
comp=Z,13nm,1.1s,baz=113,slow=5.0,SNR=22
HAWA Hanford 78.70 34 eP P 12 20 33.9 +0.2
comp=Z,49nm,1.3s
121A Cookes Peak, D 78.79 51 ⇓P P 12 20 35.4 +0.7
baz=79,SNR=22
Y20A Horse Springs, 79.00 50 ⇓P P 12 20 36.7 +0.8
baz=79,SNR=47
BMO Blue Mountains 79.00 37 eP P 12 20 35.1 -0.4
comp=Z,32nm,1.2s
MFID Camas Ranch 79.02 38 ⇓P P 12 20 35.7 0.0
baz=79,SNR=28
ETW Entiat 79.04 33 P P 12 20 35.6 -0.1
A05A Maple Falls 79.05 31 eP P 12 20 35.9 +0.5
comp=Z,40nm,1.3s
SPU Mount Spurr 79.10 10 eP P 12 20 34.7 -0.9

DUG Dugway 79.11 42 eP P 12 20 36.3 +0.1
DUG pmax pmax
comp=Z,25nm,1.0s
DUG Dugway 79.11 42 eP P 12 20 36.3 +0.1
comp=Z,25nm,1.0s
DUG Dugway 79.11 42 ⇑P P 12 20 36.4 +0.1
baz=79,SNR=33
X20A Quemado 79.21 49 ⇑P P 12 20 37.9 +0.8
baz=79,SNR=22
Z21A St. Cloud Mine 79.24 51 ⇑P P 12 20 37.7 +0.5
baz=80,SNR=39
BGU Big Grassy Mou 79.36 42 eP P 12 20 38.0 +0.4
comp=Z,14nm,1.1s
122A Conniff Cattle 79.46 51 ⇑P P 12 20 38.8 +0.5
baz=80
NLU North Lily Min 79.46 43 eP P 12 20 39.2 +1.0
comp=Z,219nm,2.8s
W20A Ramah 79.49 49 ⇑P P 12 20 39.5 +0.9
baz=80,SNR=47
Q16A Castle Valley 79.52 44 eP P 12 20 39.3 +0.7
Q16A Castle Valley 79.52 44 ⇑P P 12 20 39.2 +0.6
baz=80,SNR=25
E09A Wood Farm, Sta 79.53 35 eP P 12 20 38.4 +0.2
comp=Z,35nm,1.1s
Y21A Point of Rocks 79.56 50 ⇓P P 12 20 39.6 +0.6
baz=80,SNR=23
HABR Khabarovsk 79.65 328 eP P 12 20 36.6 -2.1
HABR e 12 20 44.2
HABR e 12 23 36.2
HABR ePPP PPP 12 25 25.0
HABR eS S 12 30 38.2 -2.3
HABR e 12 30 59.4
HABR eSS SS 12 35 46.1 -3.4
HABR MLR MLR
comp=Z,276nm,18.0s
X21A Alamocita Cree 79.68 49 ⇓P P 12 20 40.3 +0.7
baz=80,SNR=14
TMUT Trail Mountain 79.69 44 eP P 12 20 40.7 +1.0
comp=Z,59nm,0.9s
F10A Beach Ranch, E 79.71 36 eP P 12 20 39.3 -0.1
comp=Z,42nm,1.1s
Z22A Elephant Butte 79.74 51 ⇑P P 12 20 40.4 +0.6
baz=80,SNR=28
MPU Maple Canyon 79.78 43 eP P 12 20 40.2 +0.3
comp=Z,27nm,1.0s
V20A Brimhall 79.83 48 ⇑P P 12 20 40.9 +0.5
baz=80
SPUT South Promonto 79.94 42 eP P 12 20 41.2 +0.4
comp=Z,25nm,1.2s
HLID Hailey 79.95 39 eP P 12 20 41.1 +0.3
comp=Z,37nm,0.9s
HLID Hailey 79.95 39 ⇑P P 12 20 41.1 +0.3
baz=80,SNR=76
123A Bell Site, Whi 79.98 52 ⇑P P 12 20 41.2 +0.1
baz=80
HVU Hansel Valley 79.98 41 eP P 12 20 41.5 +0.5
HVU pmax pmax
comp=Z,25nm,1.0s
HVU Hansel Valley 79.98 41 eP P 12 20 41.5 +0.5
comp=Z,25nm,1.0s
PMR Palmer 80.00 11 eP P 12 20 40.0 -0.4
PMR pmax pmax
comp=Z,65nm,1.4s
PMR Palmer 80.00 11 eP P 12 20 40.0 -0.4
comp=Z,65nm,1.4s
B08A Colville Reser 80.03 33 eP P 12 20 40.4 -0.6
comp=Z,49nm,1.3s
324A Moseley Ranch, 80.04 53 ⇓P P 12 20 41.7 +0.2
baz=80,SNR=17
SRU San Rafael 80.05 44 eP P 12 20 41.9 +0.5
SRU pmax pmax
comp=Z,35nm,1.0s
SRU San Rafael 80.05 44 eP P 12 20 41.9 +0.5
comp=Z,34nm,1.0s
Y22A Socorro 80.05 50 ⇓P P 12 20 41.9 +0.3
baz=80,SNR=18
U20A Newcomb 80.07 47 ⇑P P 12 20 41.9 +0.3
baz=80,SNR=14
W21A San Fidel 80.10 49 ⇑P P 12 20 42.3 +0.4
baz=80
LAZ Ladron 80.14 50 eP P 12 20 42.6 +0.6
comp=Z,20nm,1.5s
425A Indio Mountain 80.14 54 ⇓P P 12 20 42.1 0.0
baz=80,SNR=38
LENM Lemitar 80.15 50 eP P 12 20 43.3 +1.2
JLU Jordanelle 80.21 43 eP P 12 20 42.9 +0.6
comp=Z,25nm,1.0s
DAU Daniels Canyon 80.23 43 eP P 12 20 43.3 +0.8
DAU Daniels Canyon 80.23 43 eP P 12 20 43.3 +0.8
MNTX Cornudas Mount 80.23 53 eP P 12 20 42.6 +0.2
comp=Z,25nm,1.2s
C09A Chrisman Ranch 80.25 34 eP P 12 20 42.8 +0.7
comp=Z,47nm,1.2s
DIV Divide 80.25 13 eP P 12 20 41.6 -0.2
comp=Z,52nm,1.0s
626A Big Bend Ranch 80.28 55 ⇑P P 12 20 43.0 +0.3
baz=80,SNR=18
X22A Bernardo 80.28 50 ⇓P P 12 20 43.6 +0.9
baz=80,SNR=8.1
Z23A Rita Site, Whi 80.29 51 ⇑P P 12 20 43.3 +0.5
baz=80,SNR=9.4
224A Cornudas Mount 80.29 52 ⇑P P 12 20 43.3 +0.4
baz=80,SNR=22
MDJ Mudanjiang 80.34 322 P P 12 20 42.6 0.0
MDJ pP pP 12 20 45.9 -1.1
MDJ sP sP 12 20 47.2 -1.4
MDJ PP PP 12 23 43.8 -2.0
MDJ S S 12 30 48.3 +0.2
MDJ ScS ScS 12 31 07.5 -0.6
MDJ SS SS 12 35 57.5 -2.6
MDJ AMB AMB
comp=Z,19nm,1.4s
MDJ AMB AMB
comp=Z,280nm,4.7s
MDJ LR LR
comp=Z,380nm,20.1s
MDJ LR LR
comp=Z,390nm,21.4s
MDJ LR LR
comp=Z,580nm,22.0s
MDJ Mudanjiang 80.34 322 eP P 12 20 44.0 +1.4
comp=Z,90nm,1.6s
BMRM Bremner River 80.36 13 eP P 12 20 42.7 +0.2
comp=Z,68nm,1.2s
BNM Barren Site 80.40 50 eP P 12 20 44.4 +0.9
comp=Z,20nm,1.1s
V21A Milan 80.43 48 ⇓P P 12 20 44.4 +0.8
baz=81
LPM Los Pinos Moun 80.47 50 eP P 12 20 44.5 +0.7
MVCO Mesa Verde 80.49 47 eP P 12 20 44.0 +0.1
comp=Z,12nm,1.0s
MVCO Mesa Verde 80.49 47 ⇑P P 12 20 44.3 +0.4
baz=81,SNR=6.6
PV05 Paradox Valley 80.50 46 eP P 12 20 44.8 +0.9
526A Mary Lane Ranc 80.53 55 ⇓P P 12 20 44.6 +0.5
baz=81,SNR=19
TXAR Lajitas Array 80.56 56 P P 12 20 44.9 +0.6
TXAR Lajitas Array 80.56 56 P P 12 20 44.9 +0.6
comp=Z,12nm,0.9s,baz=220,slow=7.2,SNR=51
124A Stringfield Ra 80.62 52 ⇓P P 12 20 45.3 +0.6
baz=81,SNR=14
W22A Albuquerque 80.64 49 ⇓P P 12 20 45.1 +0.3
baz=81
PV09 Paradox Valley 80.68 45 eP P 12 20 46.3 +1.3
PPLA Purkeypile 80.70 9 eP P 12 20 45.3 +0.9
comp=Z,20nm,1.0s
U21A Nageezi 80.71 48 ⇑P P 12 20 45.8 +0.7
baz=81,SNR=51
Y23A Lovelace Mesa, 80.72 51 ⇓P P 12 20 45.2 0.0
baz=81,SNR=11
627A Terlingua Ranc 80.83 56 ⇓P P 12 20 46.0 +0.2
baz=81,SNR=31
426A McDonald Obser 80.83 54 ⇑P P 12 20 45.6 -0.2
baz=81,SNR=45
225A Deer Hill, Car 80.84 53 ⇓P P 12 20 46.2 +0.4
baz=81,SNR=23
ANMO Albuquerque 80.89 50 eP P 12 20 46.4 +0.4
comp=Z,28nm,1.1s
S20A Disappointment 80.89 46 ⇓P P 12 20 46.1 +0.1
baz=81,SNR=23
PV01 Paradox Valley 80.89 46 eP P 12 20 45.4 -0.7
comp=Z,5μm,1.2s
X23A Hourglass Bar 80.92 50 ⇓P P 12 20 46.3 0.0
baz=81,SNR=6.7
527A Woodward Ranch 80.94 55 ⇑P P 12 20 46.2 -0.2
baz=81,SNR=24
Z24A Sheeppen Canyo 80.97 51 ⇓P P 12 20 46.8 +0.2

baz=81,SNR=6.9
V22A **San Miguel Ran** 81.00 48 ⇑P P 12 20 47.1 +0.4
baz=81
R20A **Redvale** 81.05 46 ⇓P P 12 20 47.0 +0.1
baz=81
PV15 **Paradox Valley** 81.05 46 eP P
T21A **Navajo Lake** 81.06 47 ⇓P P 12 20 47.3 +0.3
baz=81,SNR=12
NEW **Newport** 81.14 34 eP P 12 20 46.7 -0.2
comp=Z,16nm,1.2s
NEW **Newport** 81.14 34 ⇓P P 12 20 46.5 -0.4
baz=81,SNR=10
326A **Caldwell Ranch** 81.15 54 ⇑P P 12 20 47.4 +0.1
baz=81,SNR=5.7
M17A **Scullys Gap (B** 81.16 42 ⇓P P 12 20 46.9 -0.5
baz=81,SNR=12
Y24A **Capitan** 81.18 51 ⇓P P 12 20 48.1 +0.5
baz=81,SNR=27
125A **Gardner Draw,** 81.20 52 ⇑P P 12 20 47.8 +0.1
baz=81,SNR=11
W23A **Werner Place,** 81.21 49 ⇓P P 12 20 47.8 0.0
baz=81,SNR=16
CAST **Castle Rocks** 81.21 9 eP P 12 20 45.3 -1.6
comp=Z,20nm,1.2s
628A **Black Gap, Mar** 81.24 56 ⇑P P 12 20 48.3 +0.4
baz=81,SNR=19
U22A **Llaves** 81.26 48 ⇑P P 12 20 48.6 +0.5
baz=82,SNR=6.3
226B **Tecolote Peak,** 81.33 53 ⇓P P 12 20 48.7 +0.3
baz=82,SNR=28
P19A **Cripple Cowboy** 81.34 44 ⇑P P 12 20 48.6 +0.2
baz=82,SNR=19
427A **Hayter Ranch,** 81.40 54 ⇑P P 12 20 49.1 +0.4
baz=82,SNR=32
NJ2 **Nanjing** 81.42 307 eP P 12 20 48.6 -0.1
NJ2 AMB AMB
comp=Z,20nm,1.0s
Z25A **Roswell** 81.43 52 ⇓P P 12 20 49.5 +0.6
baz=82,SNR=11
V23A **Ortiz Mt. (NFS** 81.45 49 ⇓P P 12 20 49.8 +0.8
baz=82,SNR=17
X24A **Lazy VL Ranch,** 81.46 50 ⇓P P 12 20 49.3 +0.1
baz=82
Q20A **Ridgley Place,** 81.48 45 ⇑P P 12 20 49.3 +0.2
baz=82,SNR=32
T22A **Edith** 81.52 48 ⇑P P 12 20 49.9 +0.4
baz=82,SNR=14
TRF **Thorofare Moun** 81.53 10 eP P 12 20 48.1 -0.7
comp=Z,37nm,1.0s
O19A **Miners Draw (B** 81.58 44 ⇑P P 12 20 50.2 +0.6
baz=82
MCMT **McKenzie Canyo** 81.59 38 eP P 12 20 49.9 +0.3
comp=Z,19nm,1.1s
528A **Cox Ranch, San** 81.59 55 ⇑P P 12 20 50.2 +0.3
baz=82,SNR=22
P20A **De Beque** 81.68 45 ⇓P P 12 20 50.7 +0.6
baz=82,SNR=14
126A **Clayton Basin,** 81.68 53 ⇑P P 12 20 50.4 +0.2
baz=82,SNR=16
R21A **Cimarron** 81.71 46 ⇓P P 12 20 50.7 +0.3
baz=82,SNR=41
U23A **El Rito** 81.71 48 ⇑P P 12 20 50.8 +0.4
baz=82,SNR=30
RRI2 **Red Ridge** 81.73 40 eP P 12 20 50.8 +0.4
comp=Z,51nm,1.3s
Y25A **Mesa, Roswell** 81.73 51 ⇑P P 12 20 50.5 +0.1
baz=82,SNR=23
W24A **Lazy 6 Ranch,** 81.77 50 ⇓P P 12 20 50.8 0.0
baz=82,SNR=15
L18A **Fontenelle, Gr** 81.80 42 ⇓P P 12 20 50.8 0.0
baz=82,SNR=6.8
KLR **Kul'dur** 81.83 327 eP P 12 20 48.4 -2.0
KLR pmax pmax
comp=Z,92nm,1.8s
428A **Kincaid Ranch,** 81.91 55 ⇑P P 12 20 51.8 +0.4
baz=82,SNR=13
Q21A **Lamborn Mesa,** 81.91 46 ⇑P P 12 20 51.6 +0.2
baz=82,SNR=14
S22A **4UR Ranch, Cre** 81.91 47 ⇑P P 12 20 51.8 +0.2
baz=82,SNR=57
PAX **Paxson** 81.97 12 eP P 12 20 50.3 -0.7
PAX pmax pmax
comp=Z,33nm,1.3s
PAX **Paxson** 81.97 12 eP P 12 20 50.3 -0.7
comp=Z,33nm,1.3s
227A **Bennet, Jal** 81.97 53 ⇑P P 12 20 51.5 -0.2
baz=82
Z26A **Caprock** 81.98 52 ⇓P P 12 20 51.7 -0.1
baz=82,SNR=30
MCK **McKinley** 82.02 10 eP P 12 20 50.8 -0.3
MCK pmax pmax
comp=Z,83nm,1.0s
MCK **McKinley** 82.02 10 eP P 12 20 50.8 -0.3
comp=Z,83nm,1.0s
X25A **Clemmons Ranch** 82.02 51 ⇓P P 12 20 51.9 -0.1
baz=82
BPAW **Bear Paw Mtn.** 82.02 9 eP P 12 20 49.8 -1.4
comp=Z,20nm,1.2s
529A **Stev Forest Ra** 82.03 55 ⇓P P 12 20 52.2 +0.1
baz=82,SNR=21
TPAW **Teton Pass** 82.03 40 eP P 12 20 52.2 +0.2
comp=Z,34nm,1.0s
DLMT **Dillon** 82.03 38 eP P 12 20 52.0 +0.2
comp=Z,40nm,1.1s
MSO **Missoula** 82.06 36 eP P 12 20 51.6 -0.3
comp=Z,45nm,1.3s
MSO **Missoula** 82.06 36 ⇑P P 12 20 51.1 -0.8
baz=82,SNR=22
328A **Wristen Ranch,** 82.08 54 ⇓P P 12 20 52.2 -0.1
baz=82,SNR=14
O20A **White River Ci** 82.09 44 eP P 12 20 52.2 -0.1
O20A **White River Ci** 82.09 44 ⇓P P 12 20 52.1 -0.2
baz=82,SNR=8.0
V24A **Rampart Ranch,** 82.10 49 ⇓P P 12 20 52.9 +0.4
baz=82,SNR=16
SNOW **Snow King Moun** 82.14 40 eP P 12 20 53.2 +0.7
comp=Z,40nm,1.0s
T23A **Casias Ranch,** 82.14 48 ⇓P P 12 20 53.5 +0.7
baz=82,SNR=21
M19A **Rock Springs** 82.16 43 ⇓P P 12 20 52.4 -0.3
baz=82,SNR=7.7
BSMT **Bassoo Peak** 82.17 35 eP P 12 20 52.0 -0.5
127A **Arkansas Junct** 82.20 53 ⇓P P 12 20 52.8 -0.2
baz=82,SNR=5.9
IMW **Indian Meadow** 82.25 40 eP P 12 20 53.2 +0.1
comp=Z,74nm,1.4s
MOOW **Moose Ponds** 82.29 40 eP P 12 20 53.7 +0.4
comp=Z,34nm,1.4s
MENT **Mentasta** 82.31 13 eP P 12 20 52.7 0.0
LOHW **Long Hollow** 82.31 40 eP P 12 20 53.8 +0.4
comp=Z,37nm,1.3s
P21A **Newcastle** 82.33 45 ⇓P P 12 20 53.5 -0.1
baz=83,SNR=28
LRM **Limekiln Ridge** 82.37 38 eP P 12 20 53.5 -0.2
Y26A **Elida** 82.38 51 ⇓P P 12 20 53.9 0.0
baz=83
Q22A **Crested Butte,** 82.38 46 ⇓P P 12 20 54.3 +0.2
baz=83,SNR=59
JTMT **Jette** 82.39 35 eP P 12 20 53.1 -0.5
CN2 **Changchun** 82.40 320 ⇑P P 12 20 54.0 +0.5
CN2 epP PcP 12 20 58.8 +0.1
CN2 esP sP 12 21 01.0 +1.5
CN2 eS S 12 31 09.1 -0.4
CN2 AMB AMB
comp=Z,30nm,1.0s
CN2 AMB AMB
comp=Z,400nm,5.0s
CN2 LR LR
comp=Z,300nm,19.0s
CN2 LR LR
comp=Z,400nm,19.0s
CN2 LR LR
comp=Z,400nm,23.0s
U24A **Moreno Valley** 82.40 49 ⇑P P 12 20 54.6 +0.4
baz=83,SNR=8.5
N20A **Spence Gulch,** 82.41 44 ⇑P P 12 20 54.1 0.0
baz=83,SNR=40
SWMT **Swartz Lake** 82.41 36 eP P 12 20 53.1 -0.6
QLMT **Earthquake Lak** 82.44 39 eP P 12 20 54.8 +0.7
W25A **X Bar L Ranch,** 82.47 50 ⇓P P 12 20 54.2 -0.2
baz=83,SNR=16
S23A **Nye Farm, Mont** 82.48 47 ⇑P P 12 20 55.1 +0.6
baz=83,SNR=14
DL2 **Dalian** 82.48 314 P P 12 20 55.2 +1.1
DL2 S S 12 31 12.8 +2.3
DL2 AMB AMB
comp=Z,54nm,1.4s
DL2 AMB AMB
comp=Z,230nm,5.4s
DL2 LR LR
comp=Z,260nm,13.7s
DL2 LR LR
comp=Z,240nm,18.6s
SMCO **Snowmass** 82.49 46 eP P 12 20 54.9 +0.2
comp=Z,44nm,0.9s
I17A **Pilgrim Ck.** 82.49 40 ⇑P P 12 20 54.8 +0.5
baz=83,SNR=9.7
429A **Davenport Ranc** 82.49 55 ⇓P P 12 20 54.3 -0.1
baz=83,SNR=46
FLWY **Flagg Ranch** 82.50 40 eP P 12 20 55.0 +0.6
comp=Z,70nm,1.1s
CHMT **Chamberlain Mo** 82.50 36 eP P 12 20 53.6 -0.7
BW06 **Boulder Array** 82.53 41 eP P 12 20 54.1 -0.5
comp=Z,34nm,1.1s
PDAR **Pinedale Array** 82.53 41 P P 12 20 54.4 -0.3
PDAR PKKPbc PKKPbc 12 39 20.9 -1.3
PDAR **Pinedale Array** 82.53 41 P P 12 20 54.4 -0.3
comp=Z,22nm,1.0s,baz=221,slow=3.6,SNR=97
PDAR PKKPbc PKKPbc 12 39 20.9 -1.3
comp=Z,1.0nm,1.0s,baz=88,slow=4.9,SNR=5.0
SLMT **Seeley Lake** 82.55 36 eP P 12 20 53.8 -0.7
228A **UT Block 9, Go** 82.56 54 ⇓P P 12 20 54.6 -0.2
baz=83,SNR=7.1
Z27A **Tatum** 82.58 52 ⇑P P 12 20 54.7 -0.2
baz=83,SNR=8.1
SNY **Shenyang** 82.58 317 ⇓P P 12 20 55.4 +0.9
SNY S S 12 31 18.5 +7.1
SNY AMB AMB
comp=Z,33nm,1.6s
SNY AMB AMB
comp=Z,400nm,4.4s
SNY LR LR
comp=Z,340nm,13.5s
SNY LR LR
comp=Z,340nm,22.3s
SNY LR LR
comp=Z,450nm,26.5s
YFT **Old Faithful** 82.60 40 eP P 12 20 57.5 +2.5
comp=Z,50nm,1.1s
YBMT **Yellow Bay** 82.61 35 eP P 12 20 54.6 -0.1
comp=Z,9.6nm,1.0s
T24B **San Luis** 82.62 48 ⇑P P 12 20 55.7 +0.4
baz=83,SNR=21
V25A **Rancho No Teng** 82.63 49 ⇑P P 12 20 54.9 -0.3
baz=83,SNR=43
YMR **Madison River** 82.64 39 eP P 12 20 56.2 +1.1
comp=Z,59nm,1.2s
O21A **Pagoda** 82.64 44 ⇓P P 12 20 55.1 -0.1
baz=83,SNR=11
X26A **CR and CF Fran** 82.66 51 ⇓P P 12 20 55.2 -0.2
baz=83,SNR=8.5
H17A **Grant Village** 82.73 40 eP P 12 20 57.1 +1.5
H17A **Grant Village** 82.73 40 ⇑P P 12 20 56.6 +1.0
baz=83,SNR=21
530A **J-O Ranch, Com** 82.73 56 ⇓P P 12 20 55.5 -0.2
baz=83,SNR=8.1
BOZ **Bozeman (W)** 82.76 38 eP P 12 20 55.5 -0.1
BOZ pmax pmax
comp=Z,48nm,1.2s
BOZ **Bozeman (W)** 82.76 38 eP P 12 20 55.5 -0.1
comp=Z,48nm,1.2s
329A **Wagon Wheel Ra** 82.77 54 ⇓P P 12 20 55.7 -0.2
baz=83,SNR=14
M20A **Sweetwater, Wa** 82.78 43 ⇑P P 12 20 56.4 +0.4
baz=83
R23A **Moffat** 82.82 47 ⇓P P 12 20 56.6 +0.4
baz=83,SNR=31
P22A **Eagle** 82.83 45 ⇑P P 12 20 56.6 +0.3
baz=83,SNR=28
128A **Castleberry Fa** 82.85 53 ⇑P P 12 20 56.3 +0.1
baz=83,SNR=16
SDCO **Great Sand Dun** 82.85 47 eP P 12 20 56.2 -0.2
comp=Z,22nm,1.0s
Y27A **Causey** 82.86 52 ⇓P P 12 20 55.8 -0.6
baz=83,SNR=12
W26A **Owens Ranch, T** 82.93 50 ⇑P P 12 20 56.7 0.0
baz=83,SNR=11
LKWY **Lake** 82.93 40 eP P 12 20 58.4 +1.7
LKWY pmax pmax
comp=Z,66nm,1.1s
LKWY **Lake** 82.93 40 eP P 12 20 58.4 +1.7
comp=Z,66nm,1.1s
L20A **Wainsutter** 82.94 43 ⇑P P 12 20 56.7 0.0
baz=83,SNR=54
S24A **Houchin Ranch,** 83.00 48 ⇑P P 12 20 57.6 +0.3
baz=83,SNR=32
K19A **Absolon Red Bu** 83.02 42 ⇓P P 12 20 56.2 -0.9
baz=83,SNR=29
U25A **Circle Dot Ran** 83.03 49 ⇑P P 12 20 57.3 0.0
baz=83,SNR=38
631A **Perdido Creek** 83.05 57 ⇑P P 12 20 57.2 -0.1
baz=83,SNR=12
430A **Baggett Ranch,** 83.07 55 ⇓P P 12 20 57.6 +0.1
baz=83
J19A **Crowheart** 83.10 41 ⇑P P 12 20 57.3 -0.2
baz=83,SNR=31
Q23A **Hartsel** 83.14 46 ⇑P P 12 20 57.9 0.0
baz=83
MSTX **Muleshoe** 83.19 52 eP P 12 20 58.0 -0.1
MSTX **Muleshoe** 83.19 52 ⇑P P 12 20 58.0 -0.1
baz=83,SNR=16
Z28A **Tucker Farm, M** 83.20 53 ⇑P P 12 20 57.7 -0.5
baz=83,SNR=13
HRY **Holter Researc** 83.21 37 eP P 12 20 58.2 +0.3
V26A **Tequesquite Ra** 83.22 50 ⇓P P 12 20 57.7 -0.5
baz=83,SNR=15
X27A **F and S Farms,** 83.23 51 ⇓P P 12 20 58.1 -0.2
baz=83,SNR=5.9
O22A **Kremmling** 83.24 45 ⇑P P 12 20 58.3 -0.1
baz=84,SNR=52
COLA **College** 83.26 10 eP P 12 20 56.7 -0.8
COLA pmax pmax
comp=Z,99nm,1.1s
COLA **College** 83.26 10 eP P 12 20 56.7 -0.8
comp=Z,99nm,1.1s
K20A **Yellowstone Ra** 83.26 42 ⇑P P 12 20 57.5 -0.7
baz=84,SNR=31
732A **Laxson Ranch,** 83.27 58 ⇑P P 12 20 58.6 +0.2
baz=84
129A **Stewart Farms,** 83.33 53 ⇑P P 12 20 58.8 0.0
baz=84
ILAR **Eielson Array** 83.33 11 P P 12 20 57.2 -0.7
ILAR **Eielson Array** 83.33 11 P P 12 20 57.2 -0.7
comp=Z,20nm,1.2s,baz=208,slow=5.6,SNR=51
ILAR LR LR 12 56 36.7
comp=Z,356nm,18.3s,baz=28,slow=35
WALA **Waterton Lakes** 83.34 34 eP P 12 20 58.1 -0.3
comp=Z,1.5nm,1.4s
R24A **Sanders Place,** 83.34 47 ⇑P P 12 20 59.3 +0.4
baz=84,SNR=29
T25A **Trinidad** 83.35 48 ⇓P P 12 20 58.6 -0.4
baz=84,SNR=17
P23A **Jefferson** 83.36 46 ⇑P P 12 21 00.0 +0.9
baz=84,SNR=13
330A **Mertzon** 83.37 55 ⇓P P 12 20 57.9 -1.1
baz=84,SNR=6.7
M21A **Separation Pea** 83.38 43 ⇑P P 12 20 58.8 -0.2
baz=84,SNR=51
IM04 **Indian Mountai** 83.40 8 eP P 12 20 58.0 -0.3
W27A **Bowe Ranch, En** 83.44 51 ⇓P P 12 20 58.9 -0.4
baz=84,SNR=27
H18A **Shoshone NF, C** 83.44 40 ⇓P P 12 20 59.2 0.0
baz=84,SNR=14
IMA2 **Indian Mountai** 83.50 8 eP P 12 20 58.7 -0.2
U26A **Atchley Ranch,** 83.51 49 ⇑P P 12 20 59.6 -0.1
baz=84,SNR=35
RWWY **Rawlins** 83.52 43 eP P 12 21 05.9 +6.2
comp=Z,78nm,1.0s
431A **Sonora** 83.53 56 ⇑P P 12 20 59.4 -0.4
baz=84
I19A **Meeteetse** 83.53 41 ⇑P P 12 20 59.4 -0.2
baz=84,SNR=38
L21A **Rawlins** 83.55 43 ⇓P P 12 20 59.7 -0.2
baz=84,SNR=27
Y28A **McKinney Farm,** 83.56 52 ⇓P P 12 20 59.4 -0.6
baz=84,SNR=6.5
S25A **Robets Cordova** 83.57 48 ⇓P P 12 21 00.1 +0.1
baz=84,SNR=30
N22A **Wattenberg Ran** 83.60 44 ⇑P P 12 21 00.4 +0.2
baz=84,SNR=46
230A **Sterling City** 83.61 54 ⇑P P 12 20 60.0 -0.2
baz=84
Q24A **Divide** 83.65 46 ⇓P P 12 21 00.6 +0.1
baz=84,SNR=21
O23A **Lake Granby, G** 83.69 45 ⇓P P 12 21 01.0 +0.3
baz=84,SNR=20
ISCO **Idaho Springs** 83.71 46 eP P 12 21 01.1 +0.2
ISCO pmax pmax
comp=Z,16nm,1.0s
ISCO **Idaho Springs** 83.71 46 eP P 12 21 01.1 +0.2
comp=Z,16nm,1.0s
ISCO **Idaho Springs** 83.71 46 ⇓P P 12 21 01.1 +0.2
baz=84,SNR=9.7
Z29A **Hungry Hill Ra** 83.71 53 ⇓P P 12 21 00.3 -0.5
baz=84,SNR=9.2
632A **Uvalde** 83.72 57 ⇑P P 12 21 00.9 +0.1
baz=84,SNR=10
SEY **Seymchan** 83.74 345 ⇑i P P 12 21 00.1 +0.1
J20A **Shoshoni** 83.76 41 ⇓P P 12 21 00.8 -0.1
baz=84,SNR=60
M22A **Cedar Creek Ra** 83.79 44 ⇓P P 12 21 00.8 -0.4
baz=84,SNR=26
H19A **Powell** 83.85 40 ⇓P P 12 21 01.8 +0.6
baz=84,SNR=25
X28A **Dimmitt** 83.85 51 ⇑P P 12 21 01.3 -0.2
baz=84,SNR=12
532A **Rocksprings** 83.87 56 ⇓P P 12 21 01.2 -0.4
baz=84,SNR=16
R25A **Fountain Ranch** 83.89 47 ⇑P P 12 21 01.1 -0.5
baz=84,SNR=9.5
RLMT **Red Lodge** 83.91 40 eP P 12 21 02.0 +0.4
comp=Z,29nm,1.1s
331A **San Angelo** 83.92 55 ⇑P P 12 21 01.4 -0.4
baz=84
K21A **Alcova** 83.95 42 ⇑P P 12 21 01.4 -0.4
baz=84,SNR=42
Y29A **Porterfield Fa** 83.98 52 ⇑P P 12 21 02.0 -0.1
baz=84,SNR=7.9
N23A **Red Feather La** 83.99 44 ⇓P P 12 21 02.1 -0.1
baz=84,SNR=27
GCMT **Greycliff** 84.00 39 eP P 12 21 02.2 +0.2
comp=Z,36nm,1.1s
130A **Snyder** 84.01 54 ⇑P P 12 21 01.9 -0.3
baz=84
QIZ **Qiongzhong** 84.03 292 P P 12 21 03.1 +0.6
QIZ pP PcP 12 21 05.5 -0.9
QIZ sP sP 12 21 07.5 -1.0
QIZ S S 12 31 26.9 -0.1
QIZ sS sS 12 31 33.6 -0.7
QIZ AMB AMB
comp=Z,21nm,2.0s
QIZ LR LR
comp=Z,430nm,25.9s
I20A **Worland** 84.03 41 ⇓P P 12 21 01.9 -0.3
baz=84,SNR=57
P24A **Kohler Place,** 84.06 46 ⇑P P 12 21 02.4 -0.2
baz=84
JCT **Junction City** 84.08 56 eP P 12 21 03.2 +0.5
JCT pmax pmax
comp=Z,20nm,1.0s
JCT **Junction City** 84.08 56 eP P 12 21 03.2 +0.5
comp=Z,20nm,1.0s
JCT **Junction City** 84.08 56 ⇑P P 12 21 02.1 -0.5
baz=84,SNR=8.9
W28A **Vega** 84.15 51 ⇓P P 12 21 02.3 -0.7
baz=84
Z30A **Sanderson Ranc** 84.16 53 ⇓P P 12 21 02.4 -0.6
baz=84,SNR=13
J21A **Lysite** 84.17 42 ⇓P P 12 21 02.5 -0.4
baz=84,SNR=13
U27A **Thompson Grove** 84.19 50 ⇓P P 12 21 02.2 -0.9
baz=84,SNR=18
L22A **Ellis Ranch, M** 84.19 43 ⇓P P 12 21 03.4 +0.3
baz=84,SNR=27
X29A **Tulia** 84.20 52 ⇑P P 12 21 02.8 -0.5
baz=84,SNR=7.3
O24A **Longmont** 84.22 45 ⇓P P 12 21 03.7 +0.4
baz=84,SNR=7.9
S26A **Kim** 84.24 48 ⇓P P 12 21 02.4 -1.0
baz=84,SNR=20
432A **Menard** 84.25 56 ⇓P P 12 21 02.6 -0.9
baz=84,SNR=19
231A **Bronte** 84.25 54 ⇑P P 12 21 02.7 -0.7
baz=84,SNR=15
DAWY **Dawson** 84.25 14 eP P 12 21 02.2 -0.5
Q25A **Bedland, Calha** 84.25 47 ⇑P P 12 21 03.0 -0.6
baz=84,SNR=11
MYKOM **Kota Tinggi** 84.33 274 P P 12 21 05.1 +0.9
comp=Z,44nm,1.2s
WHN **Wuhan** 84.33 304 P P 12 21 08.2 +4.4
WHN S S 12 31 31.3 +1.7
WHN LR LR
comp=Z,880nm,20.0s
V28A **Channing** 84.35 50 ⇓P P 12 21 03.2 -0.8
baz=85,SNR=8.4
H20A **Greybull** 84.37 41 ⇑P P 12 21 03.2 -0.6
baz=85,SNR=34
M23A **Laramie** 84.40 44 ⇓P P 12 21 04.0 -0.3
baz=85,SNR=9.7
K22A **Casper** 84.43 43 ⇓P P 12 21 03.7 -0.5
baz=85,SNR=18
EGAK **Eagle** 84.47 13 eP P 12 21 04.1 +0.4
comp=Z,42nm,1.2s
F19A **Roth Farm, Mol** 84.47 39 ⇓P P 12 21 03.9 -0.5
baz=85,SNR=47
332A **Millersview** 84.48 55 ⇓P P 12 21 04.3 -0.4
baz=85,SNR=28
131A **Roby** 84.48 54 ⇑P P 12 21 04.4 -0.2
baz=85
I21A **Big Trails, Te** 84.49 41 ⇓P P 12 21 04.1 -0.5
baz=85,SNR=42
PHWY **Pilot Hill** 84.50 44 eP P 12 21 05.0 +0.1
comp=Z,27nm,1.3s
W29A **Amraillo** 84.51 51 ⇓P P 12 21 04.4 -0.4
baz=85,SNR=20
T27A **Campo** 84.53 49 ⇓P P 12 21 04.4 -0.6
baz=85,SNR=8.5
R26A **Arlington** 84.55 48 ⇓P P 12 21 04.2 -0.7
baz=85,SNR=38
P25A **Willow Gulch B** 84.57 46 ⇑P P 12 21 04.9 -0.2
baz=85,SNR=18
Y30A **Stafford Cattl** 84.57 53 ⇓P P 12 21 04.4 -0.7
baz=85,SNR=5.8
G20A **Bridger** 84.60 40 ⇑P P 12 21 04.8 -0.3
baz=85,SNR=7.2
U28A **Mallet** 84.61 50 ⇑P P 12 21 04.5 -0.8
baz=85
N24A **Carr** 84.67 45 ⇓P P 12 21 05.3 -0.2
baz=85,SNR=7.3
L23A **Garrett** 84.71 43 ⇓P P 12 21 05.1 -0.8
baz=85,SNR=40
232A **Coleman** 84.75 55 ⇓P P 12 21 05.5 -0.5
baz=85,SNR=20
Q26A **Hugo** 84.77 47 ⇓P P 12 21 05.7 -0.4
baz=85,SNR=13
J22A **Midwest** 84.82 42 ⇓P P 12 21 05.4 -0.8
baz=85,SNR=47
X30A **Coker Ranch, T** 84.82 52 ⇑P P 12 21 06.1 -0.2
baz=85,SNR=11
E19A **Rath Farm, Rou** 84.87 39 ⇓P P 12 21 06.4 0.0
baz=85,SNR=36
V29A **Stinnett** 84.92 50 ⇑P P 12 21 06.5 -0.3
baz=85,SNR=6.9
F20A **Billings** 84.93 39 ⇑P P 12 21 06.5 -0.1
baz=85,SNR=12
Z31A **Sharp Cattle R** 84.93 53 ⇓P P 12 21 06.3 -0.6
baz=85,SNR=12
M24A **Cheyenne** 85.00 44 ⇓P P 12 21 07.0 -0.2
baz=85,SNR=10
T28A **Walsh** 85.00 49 ⇓P P 12 21 06.4 -0.8
baz=85,SNR=8.2
R27A **Eads** 85.00 48 ⇑P P 12 21 06.6 -0.6
baz=85,SNR=12
H21A **Big Horn, Sher** 85.04 41 ⇓P P 12 21 07.1 -0.2
baz=85,SNR=16
I22A **9 Mile Ranch,** 85.04 42 ⇓P P 12 21 07.2 -0.1
baz=85,SNR=19
ABTX **Abilene, Hawle** 85.04 54 eP P 12 21 07.2 -0.2
ABTX **Abilene, Hawle** 85.04 54 ⇓P P 12 21 07.0 -0.5
baz=85,SNR=10
K23A **Bowen Ranch, D** 85.06 43 ⇑P P 12 21 07.2 -0.3
baz=85,SNR=15
COLD **Coldfoot** 85.07 9 eP P 12 21 07.5 +0.8
comp=Z,42nm,1.3s
Y31A **Rekieta Farm,** 85.09 53 ⇑P P 12 21 07.2 -0.4
baz=85,SNR=5.8
EGMT **Eagleton** 85.10 37 eP P 12 21 07.4 0.0
comp=Z,46nm,1.2s
EGMT **Eagleton** 85.10 37 ⇑P P 12 21 07.1 -0.3
baz=85,SNR=18
P26A **Davis Ranch, A** 85.17 47 ⇓P P 12 21 07.5 -0.5
baz=85
D19A **Cripps Ranch,** 85.17 38 ⇓P P 12 21 07.7 -0.1

baz=85,SNR=40
L24A Wheatland 85.19 44 ⇓P P 12 21 08.2 +0.1
baz=85,SNR=6.9
G21A Lodge Grass 85.22 40 ⇑P P 12 21 08.6 +0.5
baz=86
E20A Meyer Farm, Mu 85.29 39 ⇓P P 12 21 08.6 +0.2
baz=86,SNR=22
U29A Oasis Ranch, S 85.34 50 ⇓P P 12 21 08.9 0.0
baz=86
S28A Manter 85.35 49 ⇑P P 12 21 09.2 +0.2
baz=86
C19A Slack Wire Ran 85.36 37 ⇑P P 12 21 08.8 +0.1
baz=86,SNR=50
KSCO Kaye Shedlock' 85.43 47 *e*P P 12 21 09.5 +0.2
KSCO Kaye Shedlock' 85.43 47 ⇓P P 12 21 09.1 -0.3
baz=86,SNR=5.7
Z32A Haskell 85.44 53 ⇑P P 12 21 09.6 +0.2
baz=86,SNR=50
H22A Clearmont 85.46 41 ⇓P P 12 21 08.9 -0.4
baz=86,SNR=8.1
V30A Spur Ranch, Mi 85.49 51 ⇑P P 12 21 09.4 -0.3
baz=86,SNR=9.0
F21A Absaloka Mine, 85.56 40 ⇑P P 12 21 09.6 -0.2
baz=86
X31A McDonald Ranch 85.57 52 ⇓P P 12 21 09.1 -0.9
baz=86,SNR=7.5
D20A Manuel Ranch, 85.58 38 ⇓P P 12 21 09.2 -0.6
baz=86,SNR=32
T29A Hugoton 85.61 49 ⇑P P 12 21 09.7 -0.5
baz=86
R28A Tribune 85.73 48 ⇓P P 12 21 09.9 -0.9
baz=86,SNR=25
Y32A R-V Farms, Ver 85.73 53 ⇓P P 12 21 10.4 -0.4
baz=86,SNR=9.0
B19A Brinkman Farms 85.79 37 ⇑P P 12 21 10.3 -0.5
baz=86,SNR=19
G22A Birney 85.79 40 ⇑P P 12 21 10.9 -0.1
baz=86
W31A Holland Ranch, 85.82 52 ⇑P P 12 21 10.3 -0.9
baz=86,SNR=12
S29A Ulysses 85.93 49 ⇓P P 12 21 11.8 0.0
baz=86
E21A Keefer Ranch, 85.94 39 ⇓P P 12 21 11.4 -0.2
baz=86,SNR=6.6
J24A Dixon Ranch, L 85.95 43 ⇑P P 12 21 11.6 -0.3
baz=86
C20A Veseth Ranch, 85.96 38 ⇓P P 12 21 11.5 -0.2
baz=86,SNR=25
EDM Edmonton 85.98 31 *e*P P 12 21 10.9 -0.7
EDM Edmonton 85.98 31 *e*P P 12 21 10.9 -0.7
F22A Rosebud 86.08 40 ⇓P P 12 21 12.3 0.0
baz=86
V31A Spring Creek L 86.13 51 ⇓P P 12 21 12.9 +0.1
baz=86,SNR=13
A19A Klindworth Far 86.14 36 ⇑P P 12 21 12.2 -0.4
baz=86,SNR=13
D21A La Casta Ranch 86.24 39 ⇓P P 12 21 13.1 0.0
baz=86,SNR=14
P28A Saint Francis 86.28 47 ⇑P P 12 21 13.2 -0.4
baz=86,SNR=8.8
G23A Biddle 86.34 41 ⇑P P 12 21 13.5 -0.2
baz=87
O28A Krutsinger Ran 86.50 47 ⇑P P 12 21 14.9 +0.3
baz=87
WHTX Lake Whitney 86.52 55 *e*P P 12 21 15.2 +0.5
WHTX Lake Whitney 86.52 55 ⇑P P 12 21 14.9 +0.1
baz=87
WMOK Wichita Mounta 86.52 52 *e*P P 12 21 13.8 -0.9
WMOK pmax pmax
comp=Z,19nm,1.4s
WMOK Wichita Mounta 86.52 52 *e*P P 12 21 13.8 -0.9
comp=Z,19nm,1.4s
LAO LASA Array 86.53 39 *e*P P 12 21 15.5 +0.9
comp=Z,22nm,1.2s
J25A Sunshine Ranch 86.54 43 ⇓P P 12 21 14.6 -0.1
baz=87
C21A Desert Coulee 86.55 38 ⇑P P 12 21 14.7 +0.1
baz=87
F23A Volborg 86.58 40 ⇓P P 12 21 14.4 -0.4
baz=87,SNR=8.8
E22A Miles City 86.58 39 ⇓P P 12 21 14.8 0.0
baz=87
A20A Cobblestone Ra 86.58 37 ⇑P P 12 21 14.3 -0.4
baz=87,SNR=22
K26A Motz Farm, Whi 86.65 44 ⇓P P 12 21 14.7 -0.5
baz=87,SNR=6.2
H24A Dirks Ranch, A 86.66 41 ⇑P P 12 21 14.3 -1.0
baz=87,SNR=12
RSSD Black Hills 86.71 42 *e*P P 12 21 15.6 -0.1
RSSD pmax pmax
comp=Z,52nm,0.8s
RSSD Black Hills 86.71 42 *e*P P 12 21 15.6 -0.1
comp=Z,52nm,0.8s
BJT Baijiatuau 86.76 313 *e*P P 12 21 16.6 +0.9
comp=Z,50nm,1.0s
BJI Beijing 86.76 313 P P 12 21 16.5 +0.8
BJI AMB AMB
comp=Z,45nm,1.4s
BJI AMB AMB
comp=Z,330nm,3.9s
T31A Randall Ranch, 86.77 50 ⇓P P 12 21 15.6 -0.3
baz=87
D22A Cohagen 86.77 39 ⇓P P 12 21 15.8 +0.2
baz=87,SNR=8.9
UBPT Khong Chiam 86.79 287 P P 12 21 18.6 +2.2
comp=Z,30nm,1.4s
UBPT Khong Chiam 86.79 287 P P 12 21 18.5 +2.2
comp=Z,44nm,1.1s
R30A Dighton 86.81 49 ⇓P P 12 21 15.5 -0.6
baz=87,SNR=7.0
I25A Rochford 86.86 42 ⇑P P 12 21 15.3 -1.1
baz=87,SNR=8.3
E23A Ismay 87.00 40 ⇑P P 12 21 16.7 -0.1
baz=87
MAW Mawson 87.04 198 P P 12 21 16.4 -0.2
MAW Mawson 87.04 198 P P 12 21 16.4 -0.2
comp=Z,24nm,1.0s,baz=122,slow=5.4,SNR=32
S31A Mullinville 87.12 50 ⇓P P 12 21 17.0 -0.6
baz=87
O29A 4D Ranch, Culb 87.18 47 ⇓P P 12 21 17.9 0.0
baz=87
A21A Bergtoll Ranch 87.22 37 ⇓P P 12 21 17.5 -0.3
baz=88,SNR=13
C22A Vida 87.23 38 ⇓P P 12 21 18.2 +0.3
baz=88
F24A Ekalaka 87.23 41 ⇑P P 12 21 18.2 +0.2
baz=88
K27A Flueckinger Fa 87.27 44 ⇓P P 12 21 18.7 +0.4
baz=88
P30A Selden 87.33 48 ⇑P P 12 21 18.0 -0.6
baz=88,SNR=6.7
R31A Burdett 87.35 49 ⇓P P 12 21 18.7 0.0
baz=88
D23A Lindsay 87.37 39 ⇓P P 12 21 18.8 +0.2
baz=88,SNR=6.4
B22A Reddig Ranch S 87.43 38 ⇑P P 12 21 19.2 +0.4
baz=88
E24A Baker 87.64 40 ⇓P P 12 21 20.0 +0.1
baz=88
J27A Elkhorn Farm, 87.66 44 ⇑P P 12 21 19.8 -0.3
baz=88,SNR=5.5
C23A Lambert 87.67 39 ⇑P P 12 21 20.0 0.0
baz=88,SNR=12
IPM Ipoh 87.80 275 *e*P P 12 21 22.5 +1.1
comp=Z,41nm,0.9s
A22A Carney Farms, 87.80 37 ⇑P P 12 21 20.9 +0.3
baz=88
B23A Brockton 88.09 38 ⇑P P 12 21 21.9 -0.1
baz=88,SNR=10
PANO Nakornpanom 88.14 288 P P 12 21 25.0 +2.1
comp=Z,24nm,1.2s
ENH Enshi 88.14 302 *e*P P 12 21 24.2 +1.6
comp=Z,19nm,1.0s
G26A Maurine 88.15 42 ⇓P P 12 21 22.3 -0.1
baz=88
PLCA Paso Flores 88.22 132 *e*P P 12 21 24.7 +1.7
PLCA Paso Flores 88.22 132 P P 12 21 23.8 +0.7
comp=Z,9.5nm,0.7s,baz=226,slow=4.6,SNR=24
J28A Allard Ranch, 88.24 44 ⇓P P 12 21 22.9 +0.1
baz=88
KULM Kulim 88.39 276 *e*P P 12 21 25.6 +1.4
comp=Z,276nm,2.5s
HIA Hailar 88.51 323 *e*P P 12 21 24.9 +1.0
comp=Z,30nm,1.1s
I28A Midland 88.53 43 ⇓P P 12 21 24.0 -0.1
baz=89
DGMT Dagmar 88.57 38 *e*P P 12 21 25.0 +0.8
comp=Z,34nm,0.9s

DGMT Dagmar 88.57 38 ⇑P P 12 21 24.1 -0.1
baz=89,SNR=7.8
G27A Dupree 88.61 42 ⇑P P 12 21 24.6 0.0
baz=89
SKNT Sakolnakorn 88.66 288 P P 12 21 26.9 +1.5
comp=Z,35nm,2.0s
SKLT Songkhla 88.95 278 P P 12 21 28.9 +2.1
comp=Z,90nm,1.4s,comp=Z,1μm
SKLT Songkhla 88.95 278 P P 12 21 29.3 +2.5
comp=Z,90nm,1.4s,comp=Z,1μm
D26A Manning 89.00 40 ⇓P P 12 21 27.0 +0.7
baz=89
INK Inuvik 89.11 14 *e*P P 12 21 25.7 -0.5
comp=Z,70nm,1.9s
TUL1 Tulsa 89.23 52 ⇑P P 12 21 28.1 +0.5
baz=89
GYA Guiyang 89.23 298 P P 12 21 29.3 +1.3
GYA PP PP 12 25 00.7 +1.9
GYA SKS SKSac 12 31 59.1 +0.9
GYA S S 12 32 15.8 -1.7
GYA SS SS 12 38 10.5 -1.7
GYA AMB AMB
comp=Z,30nm,1.1s
GYA AMB AMB
comp=Z,130nm,5.6s
GYA LR LR
comp=Z,690nm,19.3s
GYA LR LR
comp=Z,520nm,20.0s
GYA LR LR
comp=Z,650nm,19.9s
PSI Prapat 89.34 273 ⇑P P 12 21 29.2 +0.4
baz=90,SNR=23
A25A Svangstu Ranch 89.42 38 ⇓P P 12 21 28.7 +0.5
baz=90
CLNS Chul'man 89.54 331 *e*P P 12 21 27.3 -1.3
CLNS pmax pmax
comp=Z,18nm,1.3s
CLNS pmax pmax
comp=E,9.0nm,1.0s
CLNS pmax pmax
comp=N,12nm,1.2s
D27A Center 89.60 40 ⇑P P 12 21 29.8 +0.7
baz=90
B26A Jensen Ranch, 89.70 39 ⇑P P 12 21 29.8 +0.2
baz=90
NONG Nongkai 89.75 289 P P 12 21 32.2 +1.8
comp=N,100nm,2.0s
XAN Xi'an 89.88 306 P P 12 21 31.4 +0.6
XAN AMB AMB
comp=N,7.0nm,1.5s
XAN AMB AMB
comp=N,54nm,4.6s
A26A Wade Farm, Ken 90.04 38 ⇑P P 12 21 31.4 +0.2
baz=90
CHAI Chaiyaphum 90.18 286 P P 12 21 34.4 +1.9
comp=N,7.0nm,1.0s
HHC Hu-ho-hao-te 90.32 313 *e*P P 12 21 32.7 0.0
HHC pP pP 12 21 36.8 -0.4
HHC PP PP 12 25 08.9 +1.8
HHC SKS SKSac 12 32 03.5 -0.4
HHC S S 12 32 24.8 -2.2
HHC sS sS 12 32 34.9 +0.5
HHC AMB AMB
comp=N,64nm,1.1s
HHC AMB AMB
comp=N,530nm,5.9s
HHC LR LR
comp=N,340nm,15.9s
HHC LR LR
comp=N,520nm,17.3s
HHC LR LR
comp=N,600nm,15.3s
SRIT Nakonsritamara 90.32 279 P P 12 21 35.8 +2.6
comp=N,60nm,1.3s,comp=N,5μm
YAK Yakutsk 90.39 337 *e*P P 12 21 30.9 -1.5
YAK pmax pmax
comp=Z,17nm,1.0s
TEIG Tepich 90.43 69 *e*P P 12 21 34.9 +1.4
comp=Z,70nm,1.2s
A27A Ledoux Ranch, 90.54 39 ⇓P P 12 21 33.6 +0.1
baz=91
JTS JuntasAbangare 90.63 80 P P 12 21 36.4 +1.8
comp=Z,599nm,1.1s,SNR=12
JTS JuntasAbangare 90.63 80 *e*P P 12 21 36.5 +1.8
YKA Yellowknife Ar 90.76 23 P P 12 21 34.0 -0.1
YKA Yellowknife Ar 90.76 23 P P 12 21 34.0 -0.1
comp=Z,7.2nm,1.1s,baz=239,slow=4.7,SNR=7.0
E30A Jud 90.99 42 ⇓P P 12 21 35.5 -0.1
baz=91
MDND Maddock 91.09 40 ⇓P P 12 21 36.0 -0.1
baz=91
A28A Rude Farm, Bot 91.11 39 ⇓P P 12 21 36.1 -0.1
baz=91
LOEI Loei 91.30 288 P P 12 21 37.5 -0.2
comp=Z,30nm,1.0s
BTO Baotou 91.33 312 *e*P P 12 21 38.7 +1.3
D30A Buchanan 91.33 41 ⇑P P 12 21 37.0 -0.1
baz=92
ECSD EROS Data Cent 91.45 45 *e*P P 12 21 38.6 +0.7
comp=Z,10nm,1.0s
B29A Wagenman Farm, 91.49 40 ⇑P P 12 21 37.8 -0.1
baz=92
UALR University of 91.49 54 *e*P P 12 21 39.6 +1.5
comp=Z,26nm,1.1s
PHET Kaeng Krachan 91.51 283 P P 12 21 41.9 +3.2
comp=Z,189nm,1.1s
SYO Syowa Base 91.72 191 ⇑ *e*P P 12 21 36.4 -2.2
C30A Mose, Pekin 91.73 41 ⇓P P 12 21 38.9 -0.1
baz=92
A29A Manning Farm, 91.74 39 ⇓P P 12 21 39.1 +0.1
baz=92
SNAA Sanae 91.81 177 *e*P P 12 21 38.9 -0.2
comp=Z,19nm,1.1s
LCO Las Campanas 92.13 121 *e*P P 12 21 43.1 +1.4
comp=Z,40nm,1.0s
NANT Nan 92.18 289 P P 12 21 43.1 +1.4
comp=Z,118nm,1.1s,comp=Z,2μm
KMI Kunming 92.19 295 P P 12 21 43.3 +1.4
KMI pP pP 12 21 50.7 +4.3
KMI sP sP 12 21 53.5 +5.6
KMI PP PP 12 25 27.6 +5.2
KMI SKS SKSac 12 32 14.8 -0.7
KMI S S 12 32 43.7 -1.3
KMI SS SS 12 38 56.1 +0.9
KMI AMB AMB
comp=Z,28nm,1.3s
KMI AMB AMB
comp=Z,180nm,3.6s
KMI LR LR
comp=Z,220nm,16.2s
KMI LR LR
comp=Z,270nm,20.6s
KMI LR LR
comp=Z,410nm,20.5s
A30A Hoffart Farm, 92.31 39 ⇓P P 12 21 41.8 +0.2
baz=92
FFC Flin Flon 92.56 33 *ce*P P 12 21 42.7 +0.1
FFC Flin Flon 92.56 33 *e*P P 12 21 42.0 -0.7
comp=Z,57nm,1.4s
CRAI Chiangrai 92.88 290 P P 12 21 45.0 0.0
comp=Z,9.9nm,1.5s
MAIT Maitri 92.94 181 *e*P P 12 21 40.9 -3.4
CD2 Chengdu 93.03 301 P P 12 21 46.3 +0.8
CD2 pP pP 12 21 51.1 +1.2
CD2 sP sP 12 21 53.3 +1.8
CD2 PP PP 12 25 32.2 +3.5
CD2 SKS SKSac 12 32 18.8 -0.8
CD2 S S 12 32 50.1 -1.8
CD2 sS sS 12 32 57.6 -1.6
CD2 SS SS 12 39 08.7 +1.9
CD2 AMB AMB
comp=Z,20nm,0.5s
CD2 AMB AMB
comp=Z,220nm,5.3s
CD2 LR LR
comp=Z,430nm,10.1s
CD2 LR LR
comp=Z,400nm,14.9s
AGMN Agassiz Nation 93.58 41 *e*P P 12 21 47.1 -0.5
comp=Z,136nm,2.5s
CM31 Chiang Mai Arr 93.69 288 *e*P P 12 21 50.9 +2.2
comp=Z,21nm,0.9s
CMAR Chiang Mai Arr 93.69 288 P P 12 21 48.5 -0.2
CMAR Chiang Mai Arr 93.69 288 P P 12 21 48.5 -0.2
comp=Z,22nm,1.0s,baz=105,slow=2.3,SNR=64

CHTO Chiang Mai 93.78 288 *e*P P 12 21 49.9 +0.8
CHTO Chiang Mai 93.78 288 *e*P P 12 21 49.9 +0.8
comp=Z,111nm,1.1s
CHTO Chiang Mai 93.78 288 P P 12 21 50.4 +1.3
comp=Z,116nm,1.1s
CMAI Chiengmai2 94.00 289 P P 12 21 52.2 +1.9
comp=Z,49nm,0.9s,comp=Z,4μm
PARMO Parma 94.08 53 *e*P P 12 21 50.6 +0.5
ULM Lac du Bonnet 94.26 39 *e*P P 12 21 50.0 -0.6
ULM Lac du Bonnet 94.26 39 P P 12 21 49.7 -0.9
comp=Z,10nm,1.0s,baz=207,slow=4.5,SNR=5.6
LZH Lanzhou 94.48 306 *e*P P 12 21 53.8 +1.6
LZH pP pP 12 21 57.9 +1.3
LZH sP sP 12 21 59.9 +1.7
LZH SKS SKSac 12 32 27.0 -0.5
LZH S S 12 33 03.0 -1.6
LZH sS sS 12 33 10.2 -1.8
LZH AMB AMB
comp=Z,77nm,1.6s
LZH AMB AMB
comp=Z,200nm,4.6s
LZH LR LR
comp=Z,320nm,13.9s
LZH LR LR
comp=Z,310nm,14.4s
LZH LR LR
comp=Z,440nm,14.8s
SPMN St. Paul 94.53 44 *e*P P 12 21 52.1 +0.2
SPMN St. Paul 94.53 44 ⇓P P 12 21 52.0 0.0
baz=95
JFWS Jewell Farm 95.57 47 *e*P P 12 21 56.7 -0.1
JFWS pmax pmax
comp=Z,29nm,0.8s
JFWS Jewell Farm 95.57 47 *e*P P 12 21 56.7 -0.1
comp=Z,29nm,0.8s
ULN Ulaanbaatar 95.74 318 *e*P P 12 21 58.3 +0.6
comp=Z,11nm,1.3s
LVC Limon Verde 95.85 116 *e*P P 12 21 55.6 -3.3
comp=Z,28nm,1.2s
SONM Songino Array 96.15 318 P P 12 21 58.9 -0.6
SONM PP PP 12 25 54.3 +1.6
SONM Songino Array 96.15 318 P P 12 21 58.9 -0.6
comp=Z,2.0nm,0.8s,baz=116,slow=3.4,SNR=6.0
SONM PP PP 12 25 54.3 +1.6
comp=Z,0.8nm,0.8s,baz=111,slow=8.2,SNR=2.4
TIXI Tiksi 96.23 344 *e*P P 12 21 59.9 +0.8
TIXI pmax pmax
comp=Z,15nm,1.4s
SWET Sewanee 96.65 55 *e*P P 12 22 02.4 +0.5
comp=Z,16nm,1.4s
GTA Gaotai 98.45 309 *e*P Pdif 12 22 10.9 +0.8
GTA pP pP 12 22 15.3 +0.8
GTA sP sP 12 22 18.2 +2.1
GTA S S 12 33 35.0 -3.6
GTA sS sS 12 33 43.5 -2.5
GTA SS SS 12 40 23.5 0.0
GTA AMB AMB
comp=Z,5.0nm,1.1s
GTA AMB AMB
comp=Z,110nm,5.2s
GTA LR LR
comp=Z,250nm,14.7s
GTA LR LR
comp=Z,330nm,17.6s
GTA LR LR
comp=Z,440nm,23.3s
LPAZ La Paz 98.72 110 *e*P Pdif 12 22 14.8 +2.4
LPAZ La Paz 98.72 110 P Pdif 12 22 12.7 +0.3
comp=Z,2.5nm,0.9s,baz=225,slow=1.4,SNR=5.6
ZAK Zakamensk 98.83 320 *e*P P 12 22 10.4 -1.1
ZAK pmax pmax
comp=Z,3.0nm,1.4s
TLY Talaya 98.95 321 *e*P Pdif 12 22 12.0 +0.1
TLY pmax pmax
comp=Z,10.0nm,1.5s
WMQ Urumqi 108.15 311 *e*Pdif **Pdif** 12 23 02.3 +9.2
WMQ PP PP 12 27 35.1 +12
WMQ Urumqi 108.15 311 SKS **SKSdf** 12 34 14.8 +3.3
WMQ Urumqi 108.15 311 SS SS 12 42 43.9 +7.0
WMQ PPMZ
comp=Z,120nm,4.6s
WMQ LR LR
comp=N,250nm,22.6s
WMQ LR LR
comp=E,250nm,24.0s
WMQ LR LR
comp=Z,320nm,23.2s
ZALV Zalesovo Beam 110.54 322 PKIKP **PKiKP** 12 27 03.4 -0.3
ZALV 12 27 36.5
ZALV Zalesovo Beam 110.54 322 PKiKP **PKiKP** 12 27 03.4 -0.3
ZALV PP PP 12 27 36.5 -3.4
ZALV Zalesovo Beam 110.54 322 PKiKP **PKiKP** 12 27 03.4 -0.3
comp=Z,0.9nm,0.6s,baz=96,slow=1.4,SNR=3.2
ZALV PP PP 12 27 36.5 -3.4
comp=Z,0.4nm,0.3s,baz=54,slow=7.7,SNR=3.9
MK31 Makanchi Array 112.12 314 *e*PKiKP **PKiKP** 12 27 06.6 -0.5
MK31 Makanchi Array 112.12 314 *e*KPdif **PKiKP** 12 27 06.6 -0.5
MKAR Makanchi Array 112.12 314 PKiKP **PKiKP** 12 27 06.8 -0.3
MKAR Makanchi Array 112.12 314 PKiKP **PKiKP** 12 27 06.8 -0.3
MKAR Makanchi Array 112.12 314 PKiKP **PKiKP** 12 27 06.8 -0.3
comp=Z,2.6nm,0.8s,baz=81,slow=1.9,SNR=16
KURK Kurchatov 114.45 319 *c i* PKiKP PKPdf 12 27 10.9 -0.4
KURK pmax pmax
comp=Z,4.0nm,1.0s
KURK Kurchatov 114.45 319 *e*PKPdf PKPdf 12 27 11.4 +0.1
KURK PP **PP** **12 28 06.8 -1.0**
KURBB Kurchatov Arra 114.51 319 PKP PKPdf 12 27 11.1 -0.3
comp=Z,2.7nm,0.8s,baz=89,slow=1.8,SNR=19
KURBB PP **PP** **12 28 06.8 -1.5**
comp=Z,1.5nm,0.7s,baz=85,slow=7.4,SNR=4.3
KSH Kashi 116.73 306 PKP **PKPdf** 12 27 18.2 +1.9
KSH PKS PKSdf 12 30 47.5 -5.5
KSH SKS **SKSdf** **12 34 30.1 +1.8**
KSH PPMZ
comp=Z,120nm,5.7s
KSH LR LR
comp=Z,63nm,5.0s
KSH LR LR
comp=Z,130nm,3.9s
KSH LR LR
comp=Z,160nm,6.0s
TKM2 Tokmak 2 116.94 310 *e*PKiKP **PKPdf** 12 27 16.5 -0.2
TKM2 Tokmak 2 116.94 310 *e*PKPdf **PKPdf** 12 27 16.5 -0.2
AAK Ala-Archa 117.76 310 ⇑ *i* PKiKP **PKPdf** 12 27 18.2 0.0
AAK pmax pmax
comp=Z,16nm,2.5s
AAK Ala-Archa 117.76 310 PKP **PKPdf** 12 27 18.1 -0.1
AAK *e*PKPdf **PKiKP** 12 27 18.8 +0.6
AAK Ala-Archa 117.76 310 PKP **PKPdf** 12 27 18.1 -0.1
comp=Z,1.3nm,0.3s,baz=256,slow=4.2,SNR=4.4
EKS2 Erkin-Say 118.29 310 *e*PKiKP **PKPdf** 12 27 19.6 +0.4
EKS2 Erkin-Say 118.29 310 *e*PKPdf **PKPdf** 12 27 19.6 +0.4
BVAR Borovoye Array 119.20 322 PKiKP **PKPdf** 12 27 20.3 -0.1
BVAR Borovoye Array 119.20 322 PKP **PKPdf** 12 27 20.3 -0.1
BVAR Borovoye Array 119.20 322 PKP **PKPdf** 12 27 20.3 -0.1
comp=Z,5.1nm,1.0s,baz=77,slow=3.3,SNR=13
BRVK Borovoye 119.25 322 *e*PKiKP **PKPdf** 12 27 20.8 +0.3
BRVK Borovoye 119.25 322 *e*PKPdf **PKPdf** 12 27 20.8 +0.3
KKAR Karatay Array 120.64 311 *e*PKiKP **PKPdf** 12 27 23.6 +0.1
KKAR Karatay Array 120.64 311 *e*PKPdf **PKPdf** 12 27 23.6 +0.1
KBL Kabul 122.37 301 *e*PKiKP **PKPdf** 12 27 28.4 +1.0
KBL Kabul 122.37 301 *e*PKPdf **PKPdf** 12 27 28.4 +1.0
SVE Sverdlovsk 123.44 328 *e*PKiKP **PKPdf** 12 27 28.2 -0.2
SVE pmax pmax
comp=Z,18nm,1.4s
SOKR Solikamsk 124.07 332 *e*PKiKP **PKPdf** 12 27 30.2 +0.7
SOKR pmax pmax
comp=Z,10.0nm,0.5s
ARU Arti 124.65 328 *i* PKiKP **PKPdf** 12 27 30.7 0.0
ARU 12 29 14.9
ARU 12 34 32.5
ARCES ARCESS Array B 125.76 352 PKP **PKPdf** 12 27 32.5 -0.1
ARCES ARCESS Array B 125.76 352 PKP **PKPdf** 12 27 32.5 -0.1
comp=Z,2.5nm,0.8s,baz=66,slow=1.5,SNR=6.9
ABKAR Akbulak array 126.53 320 *e*PKPdf **PKPdf** 12 27 34.6 0.0
AKTO Aktyubinsk 127.30 322 PKiKP **PKPdf** 12 27 35.8 -0.2
AKTO Aktyubinsk 127.30 322 PKP **PKPdf** 12 27 35.8 -0.2
AKTO Aktyubinsk 127.30 322 PKP **PKPdf** 12 27 35.8 -0.2
comp=Z,3.9nm,0.9s,baz=63,slow=2.6,SNR=7.6
OPO Ambohidratompo 127.62 230 PKP **PKPdf** 12 27 37.9 +0.1
OPO Ambohidratompo 127.62 230 PKP **PKPdf** 12 27 37.9 +0.1
comp=Z,4.3nm,0.7s,baz=333,slow=2.9,SNR=4.5
KLMR Klimovskoe 130.05 340 *e*PKiKP **PKPdf** 12 27 39.3 -1.6
KLMR pmax pmax
comp=Z,27nm,1.4s

FINES	FINESS Array B	133.14	348		PKPpre	PKPpre	12 27 41.5	
FINES	FINESS Array B	133.14	348		PKhKP	PKPpre	12 27 41.5	
	comp=Z,3.8nm,1.0s,baz=204,slow=3.0,SNR=2.1							
OBN	Obninsk	135.39	337	⇊	iPKIKP	PKPdf	12 27 51.3	+0.2
OBN					pmax	pmax		
	comp=Z,18nm,1.4s							
OBN					MLR	MLR		
	comp=Z,400nm,20.0s							
AKASG	Malin Array Be	141.61	338		PKHKP	PKPpre	12 27 56.1	
AKASG							12 28 02.2	
AKASG	Malin Array Be	141.61	338		PKPpre	PKPpre	12 27 56.1	
AKASG					PKP	PKPdf	12 28 02.2	-0.5
AKASG	Malin Array Be	141.61	338		PKhKP	PKPpre	12 27 56.1	
	comp=Z,1.0nm,0.4s,baz=26,slow=2.0,SNR=5.1							
AKASG					PKP	PKPdf	12 28 02.2	-0.5
	comp=Z,0.4nm,0.2s,baz=39,slow=1.9,SNR=4.2							
ANN	Anapa	142.12	325	*i*	PKIKP	PKPdf	12 28 02.4	-1.4
ANN					pmax	pmax		
	comp=Z,204nm,1.6s							
LSZ	Lusaka	142.38	214		PKPpre	PKPpre	12 28 00.1	
LSZ	Lusaka	142.38	214		PKhKP	PKPpre	12 28 00.1	
	comp=Z,0.8nm,0.4s,baz=69,slow=4.5,SNR=3.8							
TSUM	Tsumeb	143.18	196	*e*	PKPdf	PKPbc	12 28 03.1	-0.4
TSUM					PKP	PKPdf	12 28 04.6	-2.1
TSUM	Tsumeb	143.18	196		PKP	PKPbc	12 28 04.6	+1.1
	comp=Z,13nm,1.0s,baz=163,slow=3.3							
DODT	Dodoma, Tanzan	144.05	233	*i*	P	PKPbc	12 28 06.2	-0.1
DODT				*i*	S	SKiKP	12 31 54.5	+6.5
LVV	L'vov	144.11	342	*e*	PKHKP	PKPab	12 28 04.1	-0.6
KEMA	Kemaliye	144.63	316	*i*	P	PKPdf	12 28 08.1	-0.5
KWP	Kalwaria Pacla	144.66	343	*e*	PKIKP	PKPab	12 28 06.8	0.0
KWP	Kalwaria Pacla	144.66	343	⇊	iP	PKPab	12 28 06.7	0.0
KWP	Kalwaria Pacla	144.66	343	*e*	PKPdf	PKPab	12 28 06.8	0.0
KWP	Kalwaria Pacla	144.66	343	*e*	PKP	PKPab	12 28 06.6	-0.2
ELZG	Elazig	144.69	315	*e*	PKP	PKPdf	12 28 08.8	0.0
KIS	Kishinev	144.76	334	*e*	PKIKP	PKPab	12 28 06.0	-1.2
KIS	Kishinev	144.76	334	*e*	PP	PP	12 31 26.0	+1.2
KIS				*e*	L	L	13 14 06.0	
KIS					LRM	MLR	13 30 48.0	
	comp=Z,400nm,22.0s							
KIS	Kishinev	144.76	334	*e*	PKIKP	PKPab	12 28 06.0	-1.2
KIS				*e*			12 31 26.0	
KIS					MLR	MLR		
	comp=Z,400nm,22.0s							
KIS					MLR	MLR		
	comp=E,500nm,21.0s							
OJC	Ojcow	144.87	346	*e*	PKIKP	PKPab	12 28 07.2	-0.3
OJC	Ojcow	144.87	346	*e*	PKP	PKPab	12 28 07.2	-0.3
CLL	Collm	144.95	354	⇑	iPKIKP	PKPab	12 28 07.2	-0.5
CLL				*i*			12 28 12.9	
CLL					pmax	pmax		
	comp=Z,14nm,0.9s							
CLL					MLR	MLR		
	comp=Z,300nm,21.8s							
CLL	Collm	144.95	354	*e*	PKPbc	PKPab	12 28 06.8	-0.9
CLL	Collm	144.95	354	⇑	iPKPdf	PKPab	12 28 07.2	-0.5
	comp=Z,14nm,0.9s							
CLL				*i*	PKiKP	PKiKP	12 28 12.9	+0.5
CLL				*e*	SSS	SSS	12 56 06.0	
CLL					LV		13 25 00.0	
	comp=Z,300nm,21.8s							
KSP	Ksiaz	144.97	350	*e*	PKIKP	PKPbc	12 28 08.2	+0.3
KSP	Ksiaz	144.97	350	*e*	PKP	PKPab	12 28 07.8	-0.1
BUG	Bochum--Univer	145.10	0	*e*	PKPbc	PKPbc	12 28 07.4	-0.8
MALT	Malatya	145.16	315	⇊	iP	PKPdf	12 28 10.1	+0.6
SCER	sogukcermik	145.21	318	*i*	P	PKPdf	12 28 10.1	+0.5
STHS	Stebnicka Huta	145.26	344	*e*	PKIKP	PKPdf	12 28 09.3	+0.1
STHS	Stebnicka Huta	145.26	344	*e*	PKP	PKPdf	12 28 09.3	+0.1
SHEL	Horse Pasture	145.27	157	*e*	PKIKP	PKPdf	12 28 11.4	+1.1
SHEL	Horse Pasture	145.27	157	*e*	PKPbc	PKPdf	12 28 11.4	+1.1
BRG	Berggiesshubel	145.27	353	*e*	PKP	PKPbc	12 28 08.7	-0.1
	comp=Z,21nm,1.4s							
BRG								
	comp=N,601nm,27.1s							
BRG								
	comp=E,284nm,25.1s							
BRG								
	comp=Z,522nm,25.6s							
BRG	Berggiesshubel	145.27	353	*e*	PKIKP	PKPbc	12 28 08.7	-0.1
BRG	Berggiesshubel	145.27	353	*e*	PKPbc	PKPbc	12 28 08.3	-0.5
ATD	Arta Tunnel	145.30	267		PKPbc	PKPab	12 28 10.2	-0.1
ATD	Arta Tunnel	145.30	267		PKPbc	PKPab	12 28 10.2	-0.1
	comp=Z,121nm,1.0s,baz=104,slow=4.2,SNR=50							
UPC	Upice	145.34	350	*e*	PKIKP	PKPdf	12 28 09.6	+0.3
UPC	Upice	145.34	350	*e*	PKP	PKPdf	12 28 09.6	+0.3
RAC	Raciborz	145.35	348	*e*	PKIKP	PKPbc	12 28 09.1	0.0
KOLS	Kolonicke sedl	145.42	343	*e*	PKIKP	PKPab	12 28 09.6	0.0
KOLS	Kolonicke sedl	145.42	343	*e*	PKP	PKPab	12 28 09.6	0.0
LEOM	Leova	145.42	334	⇊	iP	PKPab	12 28 10.6	+1.0
DPC	Dobruska-Polom	145.44	350	*e*	PKIKP	PKPbc	12 28 09.4	-0.1
DPC				*e*			12 28 24.3	
DPC	Dobruska-Polom	145.44	350	*e*	PKP	PKPbc	12 28 09.4	-0.1
DPC				*ex*		x	12 28 24.3	
DPC					AMS	AMS	13 28 30.0	
NIE	Niedzica	145.49	345	*e*	PKIKP	PKPab	12 28 10.0	+0.1
NIE	Niedzica	145.49	345	*e*	PKP	PKPab	12 28 10.0	+0.1
PVCC	Panska Ves	145.53	352	*e*	PKIKP	PKPab	12 28 10.0	+0.1
PVCC					MLR	MLR		
	comp=Z,600nm,18.7s							
PVCC	Panska Ves	145.53	352	*e*	PKP	PKPab	12 28 10.0	+0.1
PVCC					AMS	AMS	13 26 00.0	
	comp=Z,600nm,18.7s							
OKC	Ostrava-Krasne	145.59	348	*e*	PKIKP	PKPdf	12 28 09.7	0.0
OKC					MLR	MLR		
	comp=Z,400nm,17.5s							
OKC	Ostrava-Krasne	145.59	348	*e*	PKP	PKPdf	12 28 09.7	0.0
OKC					AMS	AMS	13 27 10.0	
	comp=Z,400nm,17.5s							
BUR08	Bucovina Ar. S	145.62	339	*e*	PKPdf	PKPbc	12 28 10.2	0.0
KRLC	Kraliky	145.62	349	*e*	PKIKP	PKPab	12 28 10.6	+0.2
KRLC	Kraliky	145.62	349	*e*	PKP	PKPab	12 28 10.6	+0.2
BURAR	Bucovina Array	145.64	339	⇊	iP	PKPab	12 28 10.5	-0.1
UBBA	Unterbreizbach	145.66	357	*e*	PKPbc	PKPdf	12 28 09.7	0.0
BOYT	Boyabat	145.67	322	*i*	P	PKPab	12 28 12.1	+1.3
UZH	Uzhgorod	145.68	342	⇊	iPKIKP	PKPbc	12 28 10.2	0.0
UZH				*i*			12 28 16.4	
BEBN	Eben Emael	145.72	2		PKP	PKPab	12 28 10.4	-0.1
MOX	Moxa	145.73	355	*e*	PKIKP	PKPdf	12 28 10.0	0.0
MOX	Moxa	145.73	355	*e*	PKPbc	PKPdf	12 28 10.0	0.0
KMBO	Kilima Mbogo	145.76	242		PKPbc	PKPdf	12 28 11.5	0.0
KMBO				*e*	PKPdf	PKPab	12 28 12.4	+0.2
KMBO	Kilima Mbogo	145.76	242		PKPbc	PKPdf	12 28 11.5	0.0
	comp=Z,27nm,1.1s,baz=76,slow=2.4,SNR=53							
MORC	Moravsky Berou	145.77	348	*e*	PKIKP	PKPdf	12 28 10.2	+0.1
MORC	Moravsky Berou	145.77	348	⇊	iP	PKPbc	12 28 10.5	0.0
MORC	Moravsky Berou	145.77	348	*e*	PKPdf	PKPdf	12 28 10.2	+0.1
TANN	Tannenbergstha	145.89	354	*e*	PKPbc	PKPbc	12 28 10.7	-0.2
MEM	Memback	145.92	2		PKP	PKPdf	12 28 10.4	+0.2
SNF	Seneffe	145.94	4		PKP	PKPab	12 28 11.3	-0.1
PRA	Prague	146.00	352		PKP	PKPab	12 28 12.0	+0.3
TESR	Tescani	146.03	336	⇑	iP	PKPbc	12 28 11.6	+0.2
TRPA	Tarpa	146.06	342	⇑	iP	PKPab	12 28 11.9	0.0
TRPA	Tarpa	146.06	342	⇊	*e*	PKPbc	12 28 11.2	-0.2
PRU	Pruhonice	146.06	352	*e*	PKP2	PKPbc	12 28 11.2	-0.2
PRU					MLR	MLR		
	comp=Z,500nm,18.9s							
PRU	Pruhonice	146.06	352	*e*	PKP	PKPbc	12 28 11.2	-0.2
PRU				*ex*		x	12 28 24.8	
PRU				*ex*		x	12 56 09.9	
PRU					AMS	AMS	13 31 20.0	
	comp=Z,500nm,18.9s							
BCLA	Clavier	146.08	2		PKP	PKPab	12 28 11.8	-0.2
GHRR		146.10	335	⇊	iP	PKPab	12 28 13.3	+1.1
TLCR		146.19	332	⇊	iP	PKPab	12 28 12.7	+0.2
CTKT	Corum	146.22	321	*i*	P	PKPab	12 28 13.3	+0.2
GZT	Gaziantep	146.23	314	*i*	P	PKPbc	12 28 12.7	+0.2
TNS	Taunus Mts	146.31	359	*e*	PKP2	PKPbc	12 28 12.3	+0.1
TNS	Taunus Mts	146.31	359	*e*	PKPbc	PKPbc	12 28 12.3	+0.1
KECS	Kecovo	146.31	344	*e*	PKP2	PKPbc	12 28 12.2	0.0
KECS	Kecovo	146.31	344	*e*	PKP	PKPbc	12 28 12.2	0.0
PINB	Pinarbasi	146.33	317	*i*	P	PKPbc	12 28 13.2	+0.3
DOU	Dourbes	146.37	3		PKP	PKPbc	12 28 12.7	+0.4
VRAC	Vranov	146.40	349	⇑	iP	PKPab	12 28 12.9	-0.3
VRAC	Vranov	146.40	349		PKPbc	PKPbc	12 28 12.1	-0.4
VRAC	Vranov	146.40	349		PKPbc	PKPbc	12 28 12.1	-0.4
	comp=Z,27nm,1.1s,baz=15,slow=4.4,SNR=28							
CFR	Carcaliu	146.50	333	⇊	iP	PKPab	12 28 13.9	+0.2
VRI	Vrincioaia	146.53	335	⇊	iP	PKPbc	12 28 12.9	0.0
ROTZ	Rotzenmuhle	146.55	354	*e*	PKPbc	PKPbc	12 28 13.0	+0.2
PLOR	Plostina	146.57	335	⇊	iP	PKPbc	12 28 13.0	-0.1
TREC	Trest	146.60	350	*e*	PKP2	PKPbc	12 28 13.4	+0.4
TREC					MLR	MLR		
	comp=Z,700nm,21.1s							
TREC	Trest	146.60	350	*e*	PKP	PKPbc	12 28 13.4	+0.4
TREC					AMS	AMS	13 24 00.0	
	comp=Z,700nm,21.1s							
GRF	Grafenberg Arr	146.71	355	*e*	PKP2	PKPbc	12 28 13.7	+0.4
GRF	Grafenberg Arr	146.71	355	*e*	PKPbc	PKPbc	12 28 13.7	+0.4
GRFO	Grafenberg	146.71	355	*e*	PKP2	PKPab	12 28 14.3	-0.1
GRFO	Grafenberg	146.71	355	*e*	PKPbc	PKPab	12 28 14.3	-0.1
AYKD	Aykdinkavak	146.72	315	*i*	P	PKPbc	12 28 14.0	+0.2
GRER		146.83	334	⇊	iP	PKPab	12 28 16.6	+1.6
KUZU	Kuzuini	146.86	313	*i*	P	PKPbc	12 28 14.8	+0.6
WLF	Walferdange	146.87	2		PKP	PKPab	12 28 14.8	-0.2
WLF	Walferdange	146.87	2	*e*	PKP2	PKPbc	12 28 13.9	+0.2
WLF	Walferdange	146.87	2	*e*	PKPbc	PKPbc	12 28 14.1	+0.4
WLF	Walferdange	146.87	2	*e*	PKPbc	PKPbc	12 28 13.9	+0.2
ANDN	Andirin	146.95	315	*i*	P	PKPbc	12 28 14.9	+0.4
HARR	Harsova	146.97	333	⇊	iP	PKPab	12 28 15.2	-0.4
DOPR	Dopca	146.97	337	⇊	iP	PKPab	12 28 15.4	-0.2
PSZ	Piszkesteto	146.99	345	*e*	PKIKP	PKPdf	12 28 12.9	+0.6
PSZ				*e*			12 28 14.4	
PSZ	Piszkesteto	146.99	345	⇑	iP	PKPbc	12 28 14.4	+0.1
PSZ	Piszkesteto	146.99	345	*e*	PKPdf	PKPdf	12 28 12.9	+0.6
PSZ				*e*	PKPbc	PKPbc	12 28 14.4	+0.1
SMOL	Smolenice	147.00	348	*e*	PKP2	PKPab	12 28 15.4	-0.2
SMOL	Smolenice	147.00	348	*e*	PKP	PKPab	12 28 15.4	-0.2
TLB	Topalu	147.00	332	⇊	iP	PKPbc	12 28 14.6	+0.3
KHC	Kasperske Hory	147.03	353	*e*	PKIKP	PKPdf	12 28 12.3	0.0
KHC				*e*			12 28 14.5	
KHC				*e*			12 28 16.6	
KHC	Kasperske Hory	147.03	353	*e*	PKP	PKPbc	12 28 14.9	+0.6
KHC				*ex*		x	12 28 28.5	
KHC				*ex*		x	12 56 28.6	
KHC					AMS	AMS	13 27 20.0	
	comp=Z,700nm,22.5s							
KHC	Kasperske Hory	147.03	353	*e*	PKPdf	PKPdf	12 28 12.3	0.0
KHC				*e*	PKPbc	PKPbc	12 28 14.5	+0.2
KHC				*e*	PKPab	PKiKP	12 28 16.6	-0.2
CDAG	Cicekdag	147.08	320	*i*	P	PKPbc	12 28 14.8	-0.1
WET	Wettzell	147.10	353	*e*	PKP2	PKPbc	12 28 14.6	+0.1
WET	Wettzell	147.10	353	*e*	PKPbc	PKPbc	12 28 14.6	+0.1
MLR	Muntele Rosu	147.15	336	⇊	iP	PKPbc	12 28 14.4	-0.5
MLR	Muntele Rosu	147.15	336		PKPbc	PKPbc	12 28 14.6	-0.2
MLR	Muntele Rosu	147.15	336		PKPbc	PKPbc	12 28 14.6	-0.2
	comp=Z,10.0nm,1.1s,baz=48,slow=1.4,SNR=26							
DRGR		147.20	340	⇊	iP	PKPbc	12 28 15.5	+0.6
ISR	Istrita	147.22	335	⇊	iP	PKPab	12 28 16.2	-0.4
GEC2	GERESS Array S	147.30	352	*e*	PKP2	PKPbc	12 28 15.2	+0.1
GEC2	GERESS Array S	147.30	352	*e*	PKPbc	PKPbc	12 28 15.2	+0.1
GERES	GERESS Array B	147.30	352		PKPbc	PKPbc	12 28 14.4	-0.7
GERES	GERESS Array B	147.30	352		PKPbc	PKPbc	12 28 14.4	-0.7
	comp=Z,5.1nm,0.8s,baz=29,slow=2.2,SNR=27							
ZST	Bratislava	147.37	348	*e*	PKP2	PKPab	12 28 16.7	-0.3
ZST	Bratislava	147.37	348	*e*	PKP	PKPab	12 28 16.7	-0.3
BR131	Keskin Array S	147.47	321	*e*	PKPdf	PKPdf	12 28 14.0	+0.5
BR131				*e*	PKPbc	PKPbc	12 28 16.3	+0.4
BR131				*e*	PKPab	PKiKP	12 28 18.1	-0.1
BRTR	Keskin Array B	147.47	321		PKPbc	PKPbc	12 28 15.2	-0.8
BRTR	Keskin Array B	147.47	321		PKPbc	PKPbc	12 28 15.2	-0.8
	comp=Z,40nm,1.0s,baz=135,slow=2.1,SNR=74							
MSAB	Monastry St. A	147.49	332	⇊	iP	PKPab	12 28 17.0	-0.6
VOIR		147.54	337	⇊	iP	PKPab	12 28 17.1	-0.8
COBT	Iskenderun	147.56	314	*i*	P	PKPbc	12 28 16.8	+0.4
LANF	Langenberg	147.56	360		PKP	PKPbc	12 28 16.1	+0.4
BUD	Budapest	147.61	345	⇊	*e*	PKPbc	12 28 16.2	+0.3
PSN	Preselentsi	147.64	331	*i*	P	PKPbc	12 28 16.7	+0.6
ARR	Arges	147.76	337	⇊	iP	PKPab	12 28 18.5	-0.3
PKSG		147.85	346	⇊	*e*	PKPbc	12 28 16.3	-0.2
CONA	Conrad Observa	147.86	349	*i*	sPKPdf	PKPbc	12 28 17.3	+0.7
	comp=Z,63nm,1.7s,SNR=15							
ANTO	Ankara	147.89	322	*e*	PKIKP	PKPdf	12 28 15.0	+1.0
ANTO				*e*			12 28 17.7	
ANTO				*e*			12 28 19.9	
ANTO	Ankara	147.89	322	⇊	iP	PKPbc	12 28 17.3	+0.3
ANTO	Ankara	147.89	322	*e*	PKPdf	PKPdf	12 28 15.0	+1.0
ANTO				*e*	PKPbc	PKPbc	12 28 17.7	+0.7
ANTO				*e*	PKPab	PKPab	12 28 19.9	+0.4
BBAL	Bala	147.90	321	*i*	P	PKPbc	12 28 16.6	-0.5
YAYL	Yayladag	147.91	313	*i*	P	PKPbc	12 28 16.9	-0.3
PKSN	Nyarlorinc	147.94	344	⇑	*e*	PKPab	12 28 18.1	-1.2
SOP	Sopron	147.96	348	⇊	*e*	PKPbc	12 28 17.1	+0.3
PKS7	Kunszentmiklos	147.98	345	⇑	*e*	PKPbc	12 28 17.4	+0.5
SIRR	Siria	148.00	341	⇊	iP	PKPdf	12 28 14.9	+1.0
LOT	Lotru	148.01	338	⇊	iP	PKPbc	12 28 17.7	+0.5
PKST	T``s	148.06	346	⇑	*e*	PKPbc	12 28 17.4	+0.3
GULE	Gulek	148.16	316	*i*	P	PKPbc	12 28 18.1	+0.1
MOA	Molln	148.19	351	⇑	sPKPdf	PKPbc	12 28 18.0	+0.6
	comp=Z,32nm,1.8s,SNR=7.5							
BFO	Black Forest	148.21	359	*e*	PKP2	PKPbc	12 28 17.6	+0.1
BFO	Black Forest	148.21	359	*e*	PKPdf	PKPdf	12 28 15.1	+0.8
BFO				*e*	PKPbc	PKPbc	12 28 17.5	+0.1
BFO				*e*	PKPab	PKPab	12 28 20.5	+0.1
ECH	Echery	148.33	0	*e*	PKP2	PKPbc	12 28 17.5	-0.3
ECH	Echery	148.33	0	PKP		PKPbc	12 28 18.2	+0.4
ECH	Echery	148.33	0	*e*	PKPbc	PKPbc	12 28 17.5	-0.3
ECH				*e*	PKPab	PKPab	12 28 21.3	+0.4
PRD	Provadia	148.38	332	*i*	P	PKPbc	12 28 18.2	+0.2
GZR	Gura Zlata	148.41	339	⇊	iP	PKPdf	12 28 16.1	+1.4
PKS2	Kecel	148.49	344	⇑	*e*	PKPbc	12 28 19.1	+0.9
RJOB	Jochberg	148.50	353	*e*	PKPbc	PKPbc	12 28 18.4	-0.1
ARSA	Arzberg	148.57	349	*i*	sPKPdf	PKPbc	12 28 18.8	+0.3
	comp=Z,29nm,1.6s,SNR=7.7							
PKS9	Tamasi	148.63	346	⇊	*e*	PKPbc	12 28 19.6	+1.0
FELD	Feldberg im Sc	148.67	359		PKP	PKPbc	12 28 19.1	+0.2
MOF	Molkenrain	148.70	0		PKP	PKPbc	12 28 19.1	+0.2
RETA	Reutte	148.94	356	*i*	PKiKP	PKPbc	12 28 19.9	+0.4
	comp=Z,30nm,1.5s,SNR=8.3							
KIZK	Mersin	149.03	315	*i*	P	PKPbc	12 28 19.8	-0.2
ASF	Jabal al Asfar	149.05	306		PKPbc	PKPdf	12 28 17.3	+1.1
ASF	Jabal al Asfar	149.05	306		PKPbc	PKPdf	12 28 17.3	+1.1
	baz=140,slow=3.8							
BEHE	Becsehely	149.08	347	⇊	*e*	PKPbc	12 28 19.9	+0.1
LCHF	La Chataignera	149.12	11		PKP	PKPbc	12 28 20.0	+0.1
DAVA	Damuels	149.19	357	*i*	PKiKP	PKPbc	12 28 20.7	+0.5
	comp=Z,40nm,1.2s,SNR=8.4							
LOMF	Lomont	149.19	1		PKP	PKPbc	12 28 20.8	+0.7
SOKA	Soboth	149.21	350	*i*	sPKPdf	PKPbc	12 28 20.2	0.0
	comp=Z,43nm,1.3s,SNR=7.6							
PERS	Pernice	149.24	350	*i*	PKPdf	PKPbc	12 28 20.4	+0.1
BORA	Eskisehir	149.24	324	*i*	P	PKPbc	12 28 20.0	-0.5
SEYT	Eskypehyr	149.25	323	*i*	P	PKPbc	12 28 21.2	+0.6
FETA	Feichten	149.40	356	*i*	PKiKP	PKPbc	12 28 21.2	+0.4
	comp=Z,43nm,2.0s,SNR=9.3							
MYKA	Terra Mystica	149.48	352	*i*	sPKPdf	PKPbc	12 28 20.6	-0.3
	comp=Z,41nm,1.5s,SNR=7.8							
ABTA	Abfaltersbach	149.50	353	⇑	*i*sPKPdf	PKPbc	12 28 20.4	-0.6
	comp=Z,53nm,1.5s,SNR=11							
DAVOX	Davos/Dischmat	149.70	357		PKPbc	PKPbc	12 28 21.5	0.0
DAVOX	Davos/Dischmat	149.70	357		PKPbc	PKPbc	12 28 21.5	0.0
	comp=Z,12nm,0.9s,baz=340,slow=3.2,SNR=11							
MMAI	Mount Meron Ar	149.84	308		PKPbc	PKPbc	12 28 22.4	+0.2
MMAI	Mount Meron Ar	149.84	308		PKPbc	PKPbc	12 28 22.4	+0.2
	baz=48,slow=2.1							
TUE	Stuetta	150.03	357	*e*	PKPdf	PKPdf	12 28 18.9	+1.5
TUE				*e*	PKPbc	PKiKP	12 28 22.9	-0.4
TUE				*e*	PKPab	PKPab	12 28 28.1	0.0
VISS	Visnje	150.09	350	*i*	PKPbc	PKPbc	12 28 22.4	+0.1
JAVS	Javornik	150.13	351	*i*	PKPbc	PKPab	12 28 27.7	-0.7
AGO	Saint Agoulin	150.28	6		PKP	PKPbc	12 28 23.4	+0.6
BOJS	Bojanci	150.31	349	*i*	PKPdf	PKPdf	12 28 19.4	+1.8
BOJS				*i*	PKPbc	PKiKP	12 28 24.1	+0.5
GDZ	Gediz	150.33	324	*i*	P	PKPbc	12 28 23.1	-0.2
GAZI	Gazipasa	150.39	316	*i*	P	PKPbc	12 28 22.3	-1.1
CSS	Prodhromos	150.40	313	*e*	PKPdf	PKPdf	12 28 18.3	+0.2
CSS				*e*	PKPbc	PKPbc	12 28 23.6	+0.2
CSS				*e*	PKPab	PKPab	12 28 29.6	-0.2
DURS	Dursunbey	150.53	326	*i*	P	PKPbc	12 28 23.1	-0.5
PYM	Petit Puy Mans	150.57	6		PKP	PKPbc	12 28 24.1	+0.6
VTS	Vitosha	150.66	336	⇊	iP	PKPbc	12 28 24.8	+0.8
VTS	Vitosha	150.66	336		iP	PKPbc	12 28 23.7	-0.3
KHAL	Karahalli	150.81	323	*i*	P	PKPdf	12 28 18.5	-0.3
BALY	Balya	150.88	327	*i*	P	PKPbc	12 28 23.5	-1.0
SSB	Saint Sauveur	151.17	4	*e*	PKIKP	PKPdf	12 28 20.5	+1.4
SSB				*e*			12 28 25.4	
SSB				*e*			12 28 32.4	
SSB	Saint Sauveur	151.17	4	*e*	PKPdf	PKPdf	12 28 20.5	+1.4
SSB				*e*	PKPbc	PKiKP	12 28 25.4	0.0
SSB				*e*	PKPab	PKPab	12 28 32.4	-0.2
PGAV	Gavieira, Arco	151.23	25	*e*	PKPbc	PKPbc	12 28 27.3	+2.1
MMB	Musomiste	151.28	334	*i*	P	PKPbc	12 28 24.9	-0.4
KKB	Krupnik	151.32	335	*i*	P	PKPbc	12 28 24.9	-0.4
AKHS	Akhisar	151.40	325	*i*	P	PKPbc	12 28 25.3	-0.3
BNI	Bardonecchia	151.49	1	*e*	PKIKP	PKPdf	12 28 20.2	+0.5
BNI				*e*			12 28 26.9	
BNI				*e*			12 28 35.4	
BNI	Bardonecchia	151.49	1	*e*	PKPdf	PKPdf	12 28 20.2	+0.5
BNI				*e*	PKPbc	PKiKP	12 28 26.9	+0.6
BNI				*e*	PKPab	PKPab	12 28 35.4	+1.3
DNZL	Cakiroluk	151.53	322	*i*	P	PKPbc	12 28 26.2	0.0
EIL	Elat	151.54	302		PKPbc	PKPbc	12 28 26.4	+0.2
EIL	Elat	151.54	302		PKPbc	PKPbc	12 28 26.4	+0.2
	comp=Z,28nm,1.0s,baz=353,slow=3.6,SNR=4.1							
PCAB	Cabril	151.54	25	*e*	PKPbc	PKPbc	12 28 25.1	-0.8
POLO	Lamas de Olo	151.92	25	*e*	PKPbc	PKPbc	12 28 27.8	+0.9
AKAS	Kas	152.13	319	*i*	P	PKPdf	12 28 19.6	-1.3
MVO	Moncorvo	152.40	24	*e*	PKPbc	PKPbc	12 28 28.8	+0.9
TOUF	Mont Tournerai	152.53	0		PKP	PKPbc	12 28 28.4	+0.1
SAOF	Saorge	152.56	360		PKP	PKPbc	12 28 25.8	-2.3
CALN	Calern	152.79	1		PKP	PKPdf	12 28 25.2	+3.5
PMRV	Marv??o	153.72	27	*e*	PKPbc	PKPbc	12 28 30.4	-0.4
ESDC	Sonseca Array	154.83	21		PKP	PKPdf	12 28 24.7	+0.1
ESDC					PKPbc	PKiKP	12 28 33.7	+0.5
ESDC	Sonseca Array	154.83	21		PKP	PKPdf	12 28 24.7	+0.1
	comp=Z,0.1nm,0.3s,baz=72,slow=4.2,SNR=3.1							
ESDC					PKPbc	PKiKP	12 28 33.7	+0.5
	comp=Z,0.5nm,0.5s,baz=331,slow=2.8,SNR=4.4							
LIC	Lamto	164.13	128	*e*	PKP2	PKPab

48nm,1.0s
YHNB Yeheng 23.64 343 *e*P P 12 31 42.2 -0.9
31nm,0.6s
MYKOM **Kota Tinggi 25.01 270** P P 12 31 56.6 +1.0
KGM Kluang 25.54 270 P P 12 32 01.0 +0.6
KTGM Kuala Trenggan 25.89 278 P P 12 32 04.6 +1.0
AS15 Alice Springs 25.99 169 ⇑P P 12 32 05.2 +0.9
baz=26
AS31 Alice Springs 26.01 169 *e*P P 12 32 04.7 +0.1
ASAR Alice Springs 26.02 169 P P 12 32 04.7 0.0
ASAR ScP **ScP** 12 39 10.8 +5.9
ASAR Alice Springs 26.02 169 P P 12 32 04.7 0.0
2.4nm,0.5s,baz=353,slow=7.7,SNR=51
ASAR ScP **ScP** 12 39 10.8 +5.9
0.7nm,0.8s,baz=346,slow=2.3,SNR=5.8
FRIM Kepong 27.25 273 P P 12 32 14.5 -1.3
CTA Charters Tower 27.82 143 P P 12 32 22.1 +1.2
CTA Charters Tower 27.82 143 P P 12 32 22.1 +1.2
1.4nm,0.7s,baz=4.8,slow=12,SNR=2.0
CTAO Charters Tower 27.82 143 *e*P P 12 32 27.0 +6.2
11nm,1.0s
IPM Ipoh 27.91 276 P P 12 32 21.8 +0.1
JCJ Chichijima 27.99 26 P P 12 32 20.6 -1.7
51nm,0.8s,baz=273,slow=19,SNR=3.5
CBIJ Chichi jima 27.99 26 P P 12 32 20.6 -1.7
PSI Prapat 29.93 272 P P 12 32 38.8 -1.0
PSI Prapat 29.93 272 P P 12 32 38.8 -1.0
5.5nm,0.8s,baz=162,slow=6.4,SNR=5.6
MEEK Meekatharra 30.18 198 P P 12 32 41.4 -0.4
baz=30,SNR=6.2
NJ2 Nanjing 31.31 343 *e*P P 12 32 55.3 +3.7
NJ2 AMB AMB
comp=Z,10.0nm,0.5s
WHN Wuhan 31.52 336 ⇓P P 12 32 54.0 +0.6
GYA Guiyang 32.32 321 *e*P P 12 33 03.8 +3.1
GYA pP **pP** 12 33 22.0 +4.2
GYA sP sP 12 33 31.5 +5.4
GYA PP **PP** 12 34 14.5 -0.5
GYA S **S** 12 38 12.3 +2.6
GYA sS sS 12 38 44.0 +5.1
GYA AMB AMB
comp=Z,10.0nm,0.8s
FORT Forrest 32.64 181 *e*P P 12 33 03.3 0.0
FORT Forrest 32.64 181 P P 12 33 03.5 +0.2
baz=33,SNR=7.9
HNR Honiara 32.98 111 P P 12 33 06.2 -0.3
HNR Honiara 32.98 111 P P 12 33 06.2 -0.3
83nm,0.4s,baz=231,slow=10,SNR=7.0
MORW Morawa 33.29 201 P P 12 33 08.4 -0.5
baz=33,SNR=5.2
ENH Enshi 33.56 329 *e*P P 12 33 11.2 -0.2
13nm,0.9s
CMAR Chiang Mai Arr 33.57 301 P P 12 33 11.0 -0.7
CMAR Chiang Mai Arr 33.57 301 P P 12 33 11.0 -0.7
1.3nm,0.4s,baz=121,slow=7.2,SNR=10
CHTO Chiang Mai 33.73 302 *e*P P 12 33 12.9 0.0
40nm,1.4s
KMI Kunming 34.09 315 P P 12 33 16.9 +0.7
KMI pP **pP** 12 33 33.8 +0.5
KMI sP **sP** 12 33 42.3 +0.6
KMI AMB AMB
comp=Z,10.0nm,0.7s
BLDU Ballidu 34.48 199 P P 12 33 18.8 -0.5
baz=35,SNR=8.1
EIDS Eidsvold 34.72 143 *e*P P 12 33 24.0 +2.6
25nm,0.8s
KLBR Kellerberrin 35.08 197 P P 12 33 24.4 -0.1
baz=35,SNR=9.9
KSAR Wonju Array Be 35.24 359 P P 12 33 24.1 -1.7
KSRS Korea Array 35.25 359 P P 12 33 24.1 -1.8
5.7nm,0.8s,baz=174,slow=9.8,SNR=14
MAJO Matsushiro 35.40 13 *e*P P 12 33 24.9 -2.2
14nm,0.8s
MAT Matsushiro 35.40 13 P P 12 33 25.0 -2.2
MJAR Matsushiro Arr 35.40 13 P P 12 33 24.8 -2.4
MJAR Matsushiro Arr 35.40 13 P P 12 33 24.8 -2.4
3.5nm,0.7s,baz=184,slow=10,SNR=8.1
STKA Stephens Creek 35.83 161 *e*P P 12 33 31.0 +0.2
5.3nm,0.9s
STKA *ep*P pP 12 33 38.2 -10
STKA *es*P sP 12 33 42.9 -13
STKA Stephens Creek 35.83 161 P P 12 33 31.3 +0.5
baz=36,SNR=26
STKA Stephens Creek 35.83 161 P P 12 33 31.1 +0.2
6.3nm,0.5s,baz=331,slow=9.1,SNR=20
NWAO Narrogin (SRO) 36.48 197 P P 12 33 36.4 0.0
NWAO Narrogin (SRO) 36.48 197 P P 12 33 36.4 0.0
15nm,0.8s,baz=26,slow=8.7,SNR=4.4
XAN Xi'an 36.90 332 P P 12 33 38.6 -1.4
XAN AMB AMB
comp=Z,7.0nm,0.9s
XAN AMB AMB
comp=Z,57nm,14.3s
CD2 Chengdu 37.27 323 P P 12 33 43.1 -0.1
CD2 pP **pP** 12 34 01.2 +0.7
CD2 sP **sP** 12 34 10.3 +1.5
CD2 PP **PnPn** 12 35 12.8 +2.0
CD2 S **S** 12 39 25.0 -0.6
CD2 SS **SnSn** 12 42 00.6 -7.4
CD2 AMB AMB
comp=Z,30nm,0.7s
CD2 AMB AMB
comp=Z,180nm,7.8s
CD2 LR LR
comp=N,440nm,8.9s
CD2 LR LR
comp=Z,240nm,13.1s
RKGY Rocky Gully 38.13 196 ⇑P P 12 33 51.2 +0.8
baz=38,SNR=6.9
BJT Baijiatuau 39.53 345 *e*P P 12 34 01.3 -0.7
13nm,0.6s
BJI Beijing 39.55 345 P P 12 34 01.0 -1.1
BJI AMB AMB
comp=Z,37nm,0.9s
BJI AMB AMB
comp=Z,190nm,8.3s
H11S3 WAKE ISLAND Hy 40.50 64 T T 13 17 05.5
baz=250
H11S2 WAKE ISLAND Hy 40.52 64 T T 13 17 07.3
baz=250
H11S1 WAKE ISLAND Hy 40.52 64 T T 13 17 06.9
baz=250
LZH Lanzhou 41.05 329 *e*P P 12 34 15.1 +0.3
LZH pP **pP** 12 34 33.6 +1.3
LZH sP **sP** 12 34 40.5 0.0
LZH AMB AMB
comp=Z,26nm,0.8s
LZH AMB AMB
comp=Z,130nm,4.3s
LZH LR LR
comp=N,320nm,13.9s
LZH LR LR
comp=E,310nm,14.4s
LZH LR LR
comp=Z,440nm,14.8s
HHC Hu-ho-hao-te 41.69 340 *e*P P 12 34 24.3 +4.4
HHC pP pP 12 34 42.6 +5.2
HHC S **S** 12 40 35.7 +4.1
HHC SS **SS** 12 43 38.9 -0.8
HHC ScS **ScS** 12 44 15.7 -0.8
HHC AMB AMB
comp=Z,25nm,0.8s
HHC AMB AMB
comp=Z,260nm,6.9s
HHC LR LR
comp=N,390nm,15.3s
HHC LR LR
comp=E,500nm,15.9s
HHC LR LR
comp=Z,440nm,15.2s
CN2 Changchun 41.70 356 *e*P P 12 34 26.8 +7.0
CN2 AMB AMB
comp=Z,10.0nm,0.6s
USRK Ussuriysk Arra 42.07 3 P P 12 34 21.9 -0.9
comp=Z,3.2nm,0.6s,baz=198,slow=9.1,SNR=6.6
MDJ Mudanjiang 42.40 1 P P 12 34 31.3 +5.8
MDJ pP pP 12 34 48.6 +5.5
MDJ sP sP 12 34 56.9 +5.6
MDJ AMB AMB
comp=Z,11nm,1.3s
MDJ AMB AMB
comp=Z,62nm,5.0s
SHL Shillong 42.60 307 *e*P P 12 34 28.0 +0.3
ASAJ Asahikawa 43.63 14 P P 12 34 35.1 -0.4
ASAJ Asahikawa 43.63 14 P P 12 34 35.1 -0.4
comp=Z,7.4nm,0.9s,baz=235,slow=12,SNR=4.9
GTA Gaotai 45.65 328 *e*P P 12 34 51.5 -0.3
GTA AMB AMB
comp=Z,10.0nm,0.8s
TAPN Taplejung 46.74 306 *e*P P 12 35 00.8 +0.1
ODAN Odare 46.79 306 *e*P P 12 35 01.1 0.0
comp=Z,40nm,1.0s
RAMN Ramite 47.47 305 *e*P P 12 35 06.6 +0.2
comp=Z,50nm,1.0s
JIRN Jiri 48.09 306 *e*P P 12 35 11.3 0.0
comp=Z,16nm,0.5s
GUN Gumba 48.45 306 *e*P P 12 35 13.9 -0.1
comp=Z,33nm,0.6s
PKI Pulchoki 48.69 306 *e*P P 12 35 15.3 -0.6
KKN Kakani 48.88 306 *e*P P 12 35 16.7 -0.5
comp=Z,16nm,0.7s
DMN Daman 48.95 306 *e*P P 12 35 17.5 -0.3
comp=Z,16nm,0.7s
ULN Ulaanbaatar 49.40 341 *e*P P 12 35 20.2 -0.5
comp=Z,17nm,0.8s
SONM Songino Array 49.59 340 P P 12 35 21.2 -1.0
SONM Songino Array 49.59 340 P P 12 35 21.2 -1.0
comp=Z,7.4nm,0.8s,baz=151,slow=8.9,SNR=33
KOLN Koldanda 50.24 305 *e*P P 12 35 27.6 0.0
comp=Z,46nm,0.7s
DANN Dangsing 50.34 306 *e*P P 12 35 28.2 -0.2
comp=Z,37nm,0.6s
WMQ Urumqi 55.33 325 P P 12 36 04.6 -0.1
WMQ pP **pP** 12 36 23.7 +0.8
WMQ sP **sP** 12 36 32.5 +1.5
WMQ PP **PP** 12 38 11.1 +2.0
WMQ S **S** 12 43 41.6 -2.0
WMQ ScS **ScS** 12 45 42.9 -4.6
WMQ AMB AMB
comp=Z,19nm,0.6s
WMQ AMB AMB
comp=Z,140nm,4.6s
WMQ LR LR
comp=Z,210nm,26.0s
WMQ LR LR
comp=Z,230nm,25.0s
WMQ LR LR
comp=Z,290nm,22.8s
PETK Petropavlovsk- 56.22 20 P P 12 36 10.2 -0.5
PETK pP pP 12 36 17.9 -11
PETK Petropavlovsk- 56.22 20 P P 12 36 10.2 -0.5
comp=Z,4.4nm,0.8s,baz=172,slow=4.0,SNR=12
PETK pP pP 12 36 17.9 -11
comp=Z,9.1nm,0.7s,baz=194,slow=6.5,SNR=11
MK31 Makanchi Array 60.16 325 *e*P P 12 36 37.7 -0.7
MKAR Makanchi Array 60.16 325 P P 12 36 37.8 -0.6
MKAR pP pP 12 36 45.2 -12
MKAR Makanchi Array 60.16 325 ⇑P P 12 36 37.7 -0.6
baz=60
MKAR Makanchi Array 60.16 325 P P 12 36 37.8 -0.6
comp=Z,8.1nm,0.7s,baz=120,slow=8.3,SNR=83
MKAR pP pP 12 36 45.2 -12
comp=Z,2.4nm,0.5s,baz=117,slow=8.1,SNR=7.7
KSH Kashi 60.75 315 P P 12 36 44.2 +1.5
KSH pP pP 12 37 08.4 +7.2
KSH sP sP 12 37 18.1 +8.9
KSH PP **PP** 12 39 02.2 +4.9
KSH ScP **ScP** 12 41 20.5 -0.8
KSH S **S** 12 44 50.1 -4.5
KSH SS **SS** 12 48 58.2 +3.7
KSH AMB AMB
comp=Z,6.0nm,1.1s
KSH AMB AMB
comp=Z,33nm,3.0s
KSH LR LR
comp=Z,120nm,4.8s
KSH LR LR
comp=Z,160nm,4.7s
KSH LR LR
comp=Z,150nm,5.2s
TKM2 Tokmak 2 62.42 318 *e*P P 12 36 53.9 -0.1
comp=Z,2.8nm,0.7s
AAK Ala-Archa 63.04 318 P P 12 36 56.6 -1.5
AAK Ala-Archa 63.04 318 P P 12 36 56.6 -1.5
comp=Z,1.0nm,0.4s,baz=140,slow=7.9,SNR=3.5
ZAA0 Zalesovo Array 63.06 333 *e*P P 12 36 56.3 -1.4
ZALV Zalesovo Beam 63.06 333 P P 12 36 56.2 -1.5
ZALV Zalesovo Beam 63.06 333 P P 12 36 56.2 -1.5
comp=Z,3.4nm,0.6s,baz=116,slow=6.8,SNR=13
EKS2 Erkin-Say 63.54 317 *e*P P 12 37 01.5 +0.2
comp=Z,3.0nm,0.7s
KURBB **Kurchatov Arra 64.31 327** P P 12 37 05.3 -0.8
comp=Z,9.7nm,0.7s,baz=123,slow=6.9,SNR=88
KURK Kurchatov 64.31 327 P P 12 37 05.3 -0.8
KKAR Karatay Array 65.92 317 *e*P P 12 37 16.1 -0.6
comp=Z,4.7nm,0.8s
BVAR Borovoye Array 69.90 327 P P 12 37 40.6 -0.8
BVAR Borovoye Array 69.90 327 P P 12 37 40.6 -0.8
comp=Z,6.0nm,0.7s,baz=122,slow=7.9,SNR=24
IMYA Miami 71.76 308 *e*P P 12 37 52.5 -0.8
IKRD Kardeh 73.10 308 *e*P P 12 37 55.9 -5.4
ABKAR **Akbulak array 74.81 321** *e*P P 12 38 09.9 -0.8
comp=Z,2.4nm,0.7s
AKTO Aktyubinsk 76.31 322 P P 12 38 18.4 -0.9
AKTO Aktyubinsk 76.31 322 P P 12 38 18.4 -0.9
comp=Z,2.6nm,0.6s,baz=113,slow=6.0,SNR=12
VNDA Vanda 81.50 173 P P 12 38 47.9 +0.8
VNDA pP **PcP** 12 38 55.2 +2.3
VNDA Vanda 81.50 173 P P 12 38 47.9 +0.8
comp=Z,6.6nm,0.8s,baz=315,slow=5.9,SNR=37
VNDA pP **PcP** 12 38 55.2 +2.3
comp=Z,11nm,0.9s,baz=316,slow=5.6,SNR=24
MAW Mawson 82.93 201 P P 12 38 55.5 +0.8
MAW Mawson 82.93 201 P P 12 38 55.5 +0.8
comp=Z,1.2nm,0.6s,baz=38,slow=7.0,SNR=3.9
ILAR Eielson Array 85.70 25 P P 12 39 08.7 -0.2
ILAR pP **PcP** 12 39 15.8 +4.2
ILAR Eielson Array 85.70 25 P P 12 39 08.7 -0.2
comp=Z,1.7nm,0.9s,baz=239,slow=5.6,SNR=15
ILAR pP **PcP** 12 39 15.8 +4.2
comp=Z,3.4nm,0.8s,baz=248,slow=5.6,SNR=15
ASF Jabal al Asfar 90.60 302 P P 12 39 33.4 +0.3
ASF Jabal al Asfar 90.60 302 P P 12 39 33.4 +0.3
comp=Z,2.4nm,0.7s,baz=129,slow=7.7,SNR=5.0
BRTR Keskin Array B 92.74 310 P P 12 39 42.1 -0.8
BRTR Keskin Array B 92.74 310 P P 12 39 42.1 -0.8
comp=Z,0.9nm,0.9s,baz=21,slow=4.8,SNR=2.9
ARCES **ARCESS Array B 92.76 340** P P 12 39 42.2 0.0
ARCES **ARCESS Array B 92.76 340** P P 12 39 42.2 0.0
comp=Z,8.0nm,1.1s,baz=93,slow=5.3,SNR=5.1
TORD Torodi Ar. Bea 125.47 288 PKP **PKPdf** 12 45 31.9 -0.2
TORD Torodi Ar. Bea 125.47 288 PKP **PKPdf** 12 45 31.9 -0.2
comp=Z,1.5nm,0.8s,baz=17,slow=1.9,SNR=7.1
CPUP Villa Florida 155.12 167 PKPab **PKPab** 12 46 49.6 +1.2
CPUP Villa Florida 155.12 167 PKPab **PKPab** 12 46 49.6 +1.2
comp=Z,0.8nm,0.5s,baz=79,slow=5.2,SNR=3.9

IDC 02 12:27:25.3±1.4, 0.33N×30.00E, h0km, mb3.9/7, mb1 4.1/9, mb1mx3.9/28, mbtmp3.9/9, ML3.7/2, MS3.6/4, Ms1 3.6/4, ms1mx3.2/38, Error ellipse: s-maj=30.7km s-min=27.5km az=76.0, Uganda

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**7.39**	**101**	Pn	Pn	12 29 14.8	-0.1
	0.7nm,0.3s,baz=275,slow=14,SNR=3.5						
KMBO				Sn	Sn	12 30 34.5	-5.3
	1.6nm,0.3s,baz=258,slow=16,SNR=3.7						
KMBO				Lg	Lg	12 31 12.3	
	5.4nm,0.3s,baz=22,slow=23,SNR=11						
LSZ	**Lusaka**	**15.61**	**187**	Pn	Pn	12 31 08.0	+1.0
	0.1nm,0.3s,baz=17,slow=13,SNR=2.6						
LSZ				Lg	Lg	12 35 40.2	
	0.3nm,0.3s,baz=288,slow=23,SNR=5.8						
ATD	**Arta Tunnel**	**16.93**	**48**	LR	LR	12 37 25.2	
	comp=Z,61nm,21.1s,baz=155,slow=35						
TSUM	**Tsumeb**	**22.92**	**211**	Lg	Lg	12 39 37.4	
	2.6nm,0.9s,baz=273,slow=20,SNR=3.3						
OPO	**Ambohidratompo**	**25.26**	**139**	LR	LR	12 42 39.6	
	comp=Z,86nm,22.0s,baz=10,slow=36						
TORD	**Torodi Ar. Bea**	**30.80**	**296**	P	P	12 33 42.8	-0.3
	2.0nm,0.7s,baz=106,slow=7.6,SNR=9.8						
TORD				Lg	Lg	12 43 47.1	
	10nm,1.3s,baz=126,slow=31,SNR=6.2						
BRTR	**Keskin Array B**	**39.35**	**4**	P	P	12 34 56.7	+0.1
	0.6nm,0.7s,baz=204,slow=9.5,SNR=3.7						
ESDC	**Sonseca Array**	**49.93**	**326**	P	P	12 36 21.3	+0.2
	1.1nm,0.8s,baz=133,slow=6.5,SNR=6.9						
VRAC	**Vranov**	**50.14**	**349**	LR	LR	12 57 10.8	
	comp=Z,97nm,19.6s,baz=286,slow=36						
GERES **GERESS Array B 50.33 346** P P 12 36 24.6 +0.6
0.7nm,0.6s,baz=178,slow=6.7,SNR=3.9
AKTO Aktyubinsk 55.33 21 P P 12 37 00.3 -0.4
0.6nm,0.3s,baz=250,slow=12,SNR=4.2
NOA NORSAR Array B 62.24 350 P P 12 37 48.3 -0.5
1.6nm,0.8s,baz=160,slow=6.7,SNR=5.1
MKAR Makanchi Array 64.89 37 LR LR 13 10 48.4
comp=Z,192nm,19.1s,baz=82,slow=40
ARCES **ARCESS Array B 69.15 358** P P 12 38 33.0 -0.1
2.5nm,0.8s,baz=178,slow=7.2,SNR=3.9

IDC 02 12:32:48.2±4.2, 16.46S×172.84W, h0km, mb3.8/3, mb1 4.2/3, mb1mx3.7/21, mbtmp3.8/3, Error ellipse: s-maj=272.1km s-min=32.7km az=150.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.74**	**22**	Pn	Pn	12 33 20.0	-14
	83nm,0.3s,baz=108,slow=1.0,SNR=55						
AFI				Sn	Sn	12 33 34.5	-33
	408nm,0.3s,baz=66,slow=20,SNR=51						
WRA	**Warramunga Arr**	**50.13**	**258**	P	P	12 41 45.5	-0.2
	0.8nm,0.8s,baz=94,slow=7.5,SNR=16						
ASAR	**Alice Springs**	**50.30**	**253**	P	P	12 41 46.9	-0.1
	1.7nm,0.6s,baz=88,slow=8.5,SNR=47						
PDAR	**Pinedale Array**	**82.70**	**42**	P	P	12 45 13.9	-0.2
	0.5nm,0.8s,baz=199,slow=4.1,SNR=4.1						
BRTR	**Keskin Array B**	**147.31**	**320**	PKPbc	PKPbc	12 52 33.8	-0.5
	1.6nm,0.8s,baz=60,slow=1.8,SNR=7.1						

*BJI **02** 13:08:02.9, 14.80S×173.10W, h6km, mB5.2/3, mb4.9/12, Ms7 4.8/1*
*IDC **02** 13:08:02.9±0.5, 15.08S×173.53W, h0km, mb4.4/19, mb1 4.6/19, mb1mx4.6/22, mbtmp4.3/19, MS4.3/18, Ms1 4.3/18, ms1mx4.1/31, Error ellipse: s-maj=21.5km s-min=14.7km az=130.0*
*NEIC **02** 13:08:04.7±0.2, 15.08S×173.64W, h10km, mb4.9/54, Error ellipse: s-maj=10.1km s-min=4.9km az=142.0*
*ISCJB **02** 13:08:06.3±0.2, 15.07S±0.07×173.64W±0.06, h30km, mb4.6/77, MS4.4/16, Error ellipse: s-maj=11.2km s-min=6.4km az=151.2*
*SZGRF **02** 13:08:07.4, 15.85S×172.78W, h33km, Samoa Islands region*
*MOS **02** 13:08:08.1±1.0, 14.85S×173.58W, h33km, mb5.0/22, Error ellipse: s-maj=17.6km s-min=10.9km az=68.7*
*GCMT **02** 13:08:11.4±0.3, 14.87S×173.26W, h17km±1km, MW5.0, Moment Tensor Solution. s32,c41; s77,c109; Moment tensor: Scale 10^16 Nm; Mrr 3.72±.23; Mθθ -2.48±.15; Mφφ -1.24±.13; Mrθ -1.93±.38; Mθφ 1.64±.09; Mrφ 0.50±.37; Best double couple: M0 4.20000×10^16 NP1: ϕ 296.00000°, δ 59.00000°, λ 81.00000°. NP2: ϕ 33.00000°, δ 32.00000°, λ 105.00000°. Principal axes: T 4.2700, Plg74.0000°, Azm181.0000°; N -0.2000, Plg8.0000°, Azm300.0000°; P -4.0700, Plg14.0000°, Azm32.0000°; Data Used: IU II G IC CN.*

ISC 02 13:08:08.1±0.3, 15.10S±0.09×173.62W±0.09, h30km, n489, σ0.71/469, mb4.8/77, MS4.4/16, 129C-133D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.14**	**57**	Pn	Pn	13 08 32.0	-10
AFI				Sn	Sn	13 08 54.3	-13
AFI	**Afiamalu**	**2.14**	**57**	Pn	Pn	13 08 32.0	-10
	104nm,0.3s,baz=252,slow=20,SNR=43						
AFI				Sn	Sn	13 08 54.3	-13
	602nm,0.3s,baz=234,slow=19,SNR=15						
AFI				LR	LR	13 08 57.2	
	comp=Z,985nm,18.1s,baz=84,slow=26						
RAR	**Rarotonga**	**14.49**	**117**	Pn	Pn	13 11 23.5	-7.7
RAR				T	T	13 26 09.7	
RAR	**Rarotonga**	**14.49**	**117**	Pn	Pn	13 11 23.5	-7.7
	1.6nm,0.3s,baz=270,slow=5.1,SNR=3.2						
RAR				T	T	13 26 09.7	
	19nm,0.3s,baz=90,slow=12,SNR=7.1						
RAO	**Raoul Island**	**14.63**	**195**	LR	LR	13 16 05.7	
	comp=Z,908nm,20.2s,baz=359,slow=33						
DZM	**Mont Dzumac**	**20.12**	**247**	*e*P	Pn	13 12 46.6	+4.8
	119nm,1.4s						
DZM				*e*LR	LR	13 17 26.7	
	2μm,27.2s						
DZM	**Mont Dzumac**	**20.12**	**247**	P	P	**13 12 38.4**	**-1.4**
DZM	**Mont Dzumac**	**20.12**	**247**	P	P	**13 12 38.4**	**-1.4**
	4.4nm,0.8s,baz=47,slow=19,SNR=2.3						
DZM				LR	LR	13 18 50.2	
	comp=Z,939nm,20.2s,baz=209,slow=32						
PPT2	**Papeete2**	**23.20**	**99**	*e*S	S	**13 17 25.1**	**+2.2**
	1μm,28.2s						
PPT2				*e*LR	LR	13 18 35.8	
	392nm,29.0s						
TBI	**Tubuai**	**24.21**	**113**	*e*LQ	LQ	13 18 05.2	
	855nm,26.0s						
TBI				*e*LR	LR	13 19 13.3	
	217nm,30.8s						
URZ	**Urewera**	**24.48**	**198**	P	P	**13 13 24.3**	**-0.2**
URZ	**Urewera**	**24.48**	**198**	P	P	**13 13 24.3**	**-0.2**
	8.1nm,0.9s,baz=346,slow=17,SNR=2.8						
URZ				LR	LR	13 21 55.4	
	comp=Z,901nm,18.4s,baz=282,slow=34						
HNR	**Honiara**	**26.42**	**279**	LR	LR	13 22 12.1	
	comp=Z,259nm,18.2s,baz=311,slow=32						
RPZ	**Rata Peaks**	**31.38**	**202**	LR	LR	13 26 50.3	
	comp=Z,698nm,18.1s,baz=240,slow=36						
H11S2	**WAKE ISLAND Hy**	**38.60**	**329**	T	T	13 56 20.9	
	baz=152,slow=0.7,SNR=32						
H11S3	**WAKE ISLAND Hy**	**38.61**	**329**	T	T	13 56 36.0	
	baz=152,slow=0.7,SNR=30						
H11S1	**WAKE ISLAND Hy**	**38.62**	**329**	T	T	13 56 22.3	
	baz=152,slow=0.7,SNR=32						
PMG	**Port Moresby**	**38.70**	**274**	LR	LR	13 27 21.5	
	comp=Z,102nm,20.1s,baz=310,slow=30						
H11N3	**WAKE ISLAND Hy**	**39.55**	**330**	T	T	13 57 43.1	
	baz=152,slow=0.7,SNR=20						
H11N1	**WAKE ISLAND Hy**	**39.55**	**330**	T	T	13 57 43.5	
	baz=152,slow=0.7,SNR=22						
H11N2	**WAKE ISLAND Hy**	**39.57**	**330**	T	T	13 57 53.6	
	baz=152,slow=0.7,SNR=24						
STKA	**Stephens Creek**	**44.00**	**240**	P	P	**13 16 13.9**	**+0.9**
STKA	**Stephens Creek**	**44.00**	**240**	P	P	**13 16 13.9**	**+0.9**
	2.7nm,0.7s,baz=63,slow=6.8,SNR=3.7						
STKA				LR	LR	13 32 24.7	
	comp=Z,285nm,20.5s,baz=278,slow=33						
WRAB	**Tennant Creek**	**49.70**	**257**	*e*P	P	**13 16 56.3**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,21nm,1.4s						
WRAB	**Tennant Creek**	**49.70**	**257**	*e*P	P	**13 16 56.3**	**-1.5**
	comp=Z,21nm,1.4s						
WRA	**Warramunga Arr**	**49.71**	**257**	P	P	**13 16 57.0**	**-0.8**
WRA				PcP	PcP	**13 18 18.8**	**-0.1**
WRA	**Warramunga Arr**	**49.71**	**257**	P	P	**13 16 57.0**	**-0.8**
	comp=Z,3.5nm,0.6s,baz=89,slow=7.6,SNR=66						
WRA				PcP	PcP	**13 18 18.8**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=86,slow=3.5,SNR=3.6						
WRA				LR	LR	13 34 28.9	
	comp=Z,249nm,18.5s,baz=90,slow=32						
AS31	**Alice Springs**	**50.00**	**252**	*e*P	P	**13 16 59.1**	**-1.0**
ASAR	**Alice Springs**	**50.00**	**252**	P	P	**13 16 59.1**	**-1.0**
ASAR				PcP	PcP	**13 18 19.7**	**-0.2**
ASAR	**Alice Springs**	**50.00**	**252**	P	P	**13 16 59.1**	**-1.0**
	comp=Z,18nm,0.8s,baz=90,slow=7.3,SNR=116						
ASAR				PcP	PcP	**13 18 19.7**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=103,slow=3.9,SNR=1.4						
ASAR				LR	LR	13 34 46.1	
	comp=Z,418nm,20.6s,baz=94,slow=32						
SBA	**Scott Base**	**63.53**	**185**	*e*P	P	13 18 39.0	+3.9
SBA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
SBA	**Scott Base**	**63.53**	**185**	*e*P	P	13 18 39.0	+3.9
	comp=Z,6.7nm,1.1s						
VNDA	**Vanda**	**63.65**	**186**	P	P	**13 18 35.2**	**-0.7**
VNDA	**Vanda**	**63.65**	**186**	P	P	**13 18 35.2**	**-0.7**
	comp=Z,1.6nm,1.0s,baz=27,slow=4.5,SNR=6.2						
VNDA				LR	LR	13 42 39.8	
	comp=Z,76nm,18.1s,baz=352,slow=33						
MJAR	**Matsushiro Arr**	**68.58**	**320**	P	P	**13 19 07.9**	**-0.3**
MJAR	**Matsushiro Arr**	**68.58**	**320**	P	P	**13 19 07.9**	**-0.3**
	comp=Z,1.9nm,0.9s,baz=109,slow=9.4,SNR=4.0						
PETK	**Petropavlovsk-**	**72.28**	**342**	P	P	**13 19 30.0**	**-0.5**
PETK	**Petropavlovsk-**	**72.28**	**342**	P	P	**13 19 30.0**	**-0.5**
PETK	**Petropavlovsk-**	**72.28**	**342**	P	P	**13 19 30.0**	**-0.5**

comp=Z,8.5nm,0.9s,baz=126,slow=9.9,SNR=10
EDW2 Edwards Air Fo 72.49 45 ⇑P P 13 19 32.2 +0.1
baz=73
MONP Monument Peak 72.52 48 ⇑P P 13 19 32.6 0.0
baz=73
ISA Isabella 72.59 44 eP P 13 19 32.8 0.0
ISA pmax pmax
comp=Z,11nm,1.4s
ISA Isabella 72.59 44 eP P 13 19 32.8 0.0
comp=Z,11nm,1.4s
CMB Columbia Colle 72.68 41 eP P 13 19 33.0 -0.3
CMB pmax pmax
comp=Z,24nm,1.8s
CMB Columbia Colle 72.68 41 eP P 13 19 33.0 -0.3
comp=Z,24nm,1.8s
PFO Pinyon Flat Ob 72.88 47 ⇑P P 13 19 34.0 -0.6
baz=73
PFO Pinyon Flat Ob 72.88 47 LR LR 13 44 24.7
comp=Z,458nm,19.1s,baz=69,slow=30
LRMC Laurel Mountai 73.02 45 ⇑P P 13 19 35.2 -0.2
baz=73
YSS Yuzh-Sakhalins 73.12 330 eP P 13 19 35.4 -0.1
YSS pmax pmax
comp=Z,20nm,0.9s
BELC Belle Mtn. Jos 73.41 47 ⇓P P 13 19 37.7 0.0
baz=74
MPMC Manual Prospec 73.47 45 ⇑P P 13 19 38.1 -0.1
baz=74
YBH Yreka Blue Hor 73.49 37 eP P 13 19 37.7 -0.3
comp=Z,6.4nm,1.0s
YBH Yreka Blue Hor 73.49 37 LR LR 13 43 45.9
comp=Z,369nm,21.8s,baz=313,slow=29
GSC Goldstone 73.53 46 eP P 13 19 39.6 +1.2
GSC pmax pmax
comp=Z,8.0nm,1.3s
GSC Goldstone 73.53 46 eP P 13 19 39.6 +1.2
comp=Z,8.3nm,1.3s
GSC Goldstone 73.53 46 ⇑P P 13 19 38.2 -0.2
baz=74
BC3 Big Chuckawall 73.61 48 ⇓P P 13 19 38.6 -0.4
baz=74
GLA Glamis 73.75 48 ⇑P P 13 19 39.9 +0.2
baz=74
BEKR Beckworth 73.78 40 eP P 13 19 38.8 -1.1
comp=Z,4.3nm,1.1s
HUMO Hull Mountain 73.89 36 eP P 13 19 39.9 -0.4
GMRC Granite Mounta 74.05 47 ⇓P P 13 19 41.6 +0.1
baz=74
IRM Iron Mountain 74.09 47 ⇓P P 13 19 41.6 -0.1
baz=74
TUQ Turquoise Moun 74.21 46 ⇑P P 13 19 42.3 -0.1
baz=74
NVAR Mina Array Bea 74.25 42 P P 13 19 41.6 -1.1
NVAR Mina Array Bea 74.25 42 P P 13 19 41.6 -1.1
comp=Z,6.2nm,1.1s,baz=228,slow=8.8,SNR=18
NVAR LR LR 13 44 12.6
comp=Z,412nm,20.4s,baz=112,slow=29
PAHR Pah Rah Range 74.29 41 eP P 13 19 42.8 0.0
comp=Z,14nm,1.2s
NV11 Mina Array Sit 74.35 42 eP P 13 19 42.1 -1.1
LDFC Landfair 74.59 47 eP P 13 19 43.6 -1.0
comp=Z,14nm,1.0s
QSPA South Pole Qui 74.94 180 eP P 13 19 46.2 0.0
comp=Z,5.4nm,0.8s
MOD Modoc 75.02 38 eP P 13 19 46.9 -0.1
comp=Z,42nm,1.0s
K05A Summer Lake 75.17 37 eP P 13 19 48.1 +0.2
comp=Z,206nm,2.8s
W13A Hualapai Mount 75.46 47 ⇑P P 13 19 49.7 -0.1
baz=76
Y14A Wickenburg 75.51 48 ⇑P P 13 19 49.5 -0.4
baz=76
H04A Detroit Lake 75.63 35 eP P 13 19 51.2 +0.9
comp=Z,15nm,1.3s
KSRS Korea Array 75.80 316 P P 13 19 51.4 +0.1
comp=Z,5.6nm,1.1s,baz=130,slow=6.8,SNR=10
KSAR Wonju Array Be 75.82 316 P P 13 19 51.4 -0.1
PINOR Pine Mountain 75.84 36 eP P 13 19 51.3 -0.1
comp=Z,15nm,1.0s
R11A Troy Canyon, C 75.99 43 eP P 13 19 52.3 -0.4
comp=Z,4.7nm,1.1s
R11A Troy Canyon, C 75.99 43 ⇓P P 13 19 51.7 -1.0
baz=76
WVOR Wild Horse Val 76.33 39 eP P 13 19 53.7 -0.8
WVOR pmax pmax
comp=Z,10.0nm,1.2s
WVOR Wild Horse Val 76.33 39 eP P 13 19 53.7 -0.8
comp=Z,10nm,1.2s
TUC Tucson 76.37 51 eP P 13 19 55.1 +0.3
TUC pmax pmax
comp=Z,18nm,1.6s
TUC Tucson 76.37 51 eP P 13 19 55.1 +0.3
comp=Z,18nm,1.6s
I07A Izee 76.79 37 eP P 13 19 56.5 -0.5
G06A Carlson Farm, 76.84 35 eP P 13 19 56.8 -0.4
comp=Z,69nm,2.3s
X16A Lo Mia Camp, P 76.88 49 ⇓P P 13 19 57.9 +0.1
baz=77
J08A Circle Bar Ran 76.97 38 eP P 13 19 57.6 -0.4
comp=Z,14nm,1.4s
USRK Ussuriysk Arra 77.02 323 P P 13 19 58.5 +0.3
comp=Z,0.6nm,0.6s,baz=131,slow=5.8,SNR=5.7
CCUT Cedar City 77.07 45 eP P 13 19 59.4 +0.5
comp=Z,7.1nm,1.2s
319A Douglas 77.08 52 ⇓P P 13 19 59.0 +0.1
baz=77
U15A North Rim 77.25 47 ⇓P P 13 19 59.7 -0.3
baz=77
WUAZ Wupatki 77.45 48 ⇓P P 13 20 00.9 -0.1
baz=78
ELK Elko 77.50 42 eP P 13 20 00.5 -0.8
comp=Z,3.7nm,0.9s
320A Kipp Ranch, An 77.64 53 ⇑P P 13 20 02.1 0.0
baz=78
G08A Pilot Rock 77.82 36 eP P 13 20 01.9 -0.9
comp=Z,53nm,2.3s
220A Playas Peak, P 77.89 52 ⇓P P 13 20 03.4 -0.1
baz=78
LTY Liberty 78.06 34 eP P 13 20 06.7 +2.7
120A U Bar Ranch, L 78.09 51 ⇓P P 13 20 04.5 -0.1
baz=78
MVU Marysvale 78.34 45 eP P 13 20 05.8 -0.1
comp=Z,11nm,1.4s
Z20A Nine Sixteen R 78.38 51 ⇓P P 13 20 06.0 -0.2
baz=78
MFID Camas Ranch 78.59 39 ⇑P P 13 20 06.6 -0.4
baz=79
121A Cookes Peak, D 78.73 52 ⇑P P 13 20 08.0 -0.2
baz=79
DUG Dugway 78.79 43 eP P 13 20 08.0 -0.3
DUG pmax pmax
comp=Z,15nm,1.5s
DUG Dugway 78.79 43 eP P 13 20 08.0 -0.3
comp=Z,15nm,1.5s
DUG Dugway 78.79 43 ⇑P P 13 20 08.0 -0.3
baz=79
PMR Palmer 78.87 12 eP P 13 20 09.5 +1.5
PMR pmax pmax
comp=Z,23nm,1.4s
PMR Palmer 78.87 12 eP P 13 20 09.5 +1.5
comp=Z,22nm,1.4s
Y20A Horse Springs, 78.89 50 ⇑P P 13 20 08.5 -0.6
baz=79
222A Williams Famil 79.06 52 ⇓P P 13 20 10.0 +0.1
baz=79
X20A Quemado 79.09 50 ⇑P P 13 20 09.4 -0.7
baz=79
Z21A St. Cloud Mine 79.16 51 ⇓P P 13 20 09.6 -0.9
baz=79
DIV Divide 79.16 13 eP P 13 20 09.0 -0.7
comp=Z,27nm,1.3s
BMRM Bremner River 79.28 14 eP P 13 20 10.4 0.0
comp=Z,22nm,1.2s
W20A Ramah 79.35 49 ⇓P P 13 20 11.1 -0.5
baz=80
TMUT Trail Mountain 79.41 44 eP P 13 20 12.8 +0.9
comp=Z,20nm,1.2s
B08A Colville Reser 79.45 33 eP P 13 20 11.9 +0.3
comp=Z,5.3nm,1.0s
Y21A Point of Rocks 79.46 50 ⇑P P 13 20 11.3 -0.9
baz=80
HLID Hailey 79.53 39 eP P 13 20 11.9 -0.5
comp=Z,9.6nm,1.1s
HLID Hailey 79.53 39 ⇓P P 13 20 11.8 -0.5
baz=80
X21A Alamocita Cree 79.57 50 ⇓P P 13 20 12.4 -0.4
baz=80
HVU Hansel Valley 79.62 42 eP P 13 20 12.7 -0.1
HVU pmax pmax
comp=Z,18nm,1.6s
HVU Hansel Valley 79.62 42 eP P 13 20 12.7 -0.1
comp=Z,18nm,1.6s
Z22A Elephant Butte 79.67 51 ⇑P P 13 20 13.1 -0.2
baz=80
V20A Brimhall 79.68 49 ⇓P P 13 20 13.0 -0.3
baz=80
SRU San Rafael 79.78 45 eP P 13 20 13.8 0.0
SRU pmax pmax
comp=Z,10.0nm,1.1s
SRU San Rafael 79.78 45 eP P 13 20 13.8 0.0
comp=Z,10nm,1.1s
JLU Jordanelle 79.89 43 eP P 13 20 14.4 0.0
comp=Z,4.6nm,0.7s
U20A Newcomb 79.90 48 ⇑P P 13 20 14.6 +0.1
baz=80
Y22A Socorro 79.96 51 ⇓P P 13 20 14.4 -0.5
baz=80
LAZ Ladron 80.03 50 eP P 13 20 14.7 -0.5
comp=Z,13nm,1.8s
324A Moseley Ranch, 80.03 54 ⇓P P 13 20 15.5 +0.2
baz=80
425A Indio Mountain 80.16 54 ⇑P P 13 20 16.2 +0.3
baz=80
MNTX Cornudas Mount 80.22 53 eP P 13 20 14.9 -1.2
comp=Z,3.8nm,1.1s
224A Cornudas Mount 80.27 53 ⇓P P 13 20 16.2 -0.3
baz=80
626A Big Bend Ranch 80.34 56 ⇑P P 13 20 16.8 0.0
baz=80
TRF Thorofare Moun 80.37 10 eP P 13 20 16.3 0.0
comp=Z,10nm,0.9s
U21A Nageezi 80.55 48 ⇑P P 13 20 17.7 -0.3
baz=81
526A Mary Lane Ranc 80.57 55 ⇓P P 13 20 18.2 0.0
baz=81
124A Stringfield Ra 80.58 53 ⇑P P 13 20 17.9 -0.3
baz=81
TXAR Lajitas Array 80.62 56 P P 13 20 17.7 -0.7
TXAR Lajitas Array 80.62 56 P P 13 20 17.7 -0.7
comp=Z,1.3nm,0.8s,baz=224,slow=6.3,SNR=10
TXAR LR LR 13 47 30.1
comp=Z,231nm,19.6s,baz=125,slow=29
Y23A Lovelace Mesa, 80.64 51 ⇓P P 13 20 18.3 -0.2
baz=81
S20A Disappointment 80.68 47 ⇑P P 13 20 18.4 -0.4
baz=81
CN2 Changchun 80.72 320 eP P 13 20 19.4 +0.9
CN2 AMB AMB
comp=Z,10.0nm,0.7s
ANMO Albuquerque 80.77 50 eP P 13 20 18.9 -0.3
comp=Z,9.5nm,1.3s
225A Deer Hill, Car 80.82 53 ⇓P P 13 20 19.3 -0.3
baz=81
PV15 Paradox Valley 80.83 46 eP P 13 20 19.5 0.0
R20A Redvale 80.83 46 ⇑P P 13 20 18.8 -0.7
baz=81
M17A Scullys Gap (B 80.84 43 ⇓P P 13 20 19.0 -0.5
baz=81
426A McDonald Obser 80.86 55 ⇓P P 13 20 19.0 -0.8
baz=81,SNR=9.5
V22A San Miguel Ran 80.86 49 ⇑P P 13 20 18.9 -0.8
baz=81
MCK McKinley 80.87 11 eP P 13 20 17.6 -1.3
MCK pmax pmax
comp=Z,21nm,1.0s
MCK McKinley 80.87 11 eP P 13 20 17.6 -1.3
comp=Z,21nm,1.0s
T21A Navajo Lake 80.89 48 ⇓P P 13 20 19.1 -0.7
baz=81
627A Terlingua Ranc 80.89 56 ⇑P P 13 20 19.3 -0.6
baz=81,SNR=7.1
Z24A Sheeppen Canyo 80.91 52 ⇓P P 13 20 20.0 0.0
baz=81
527A Woodward Ranch 80.98 56 ⇑P P 13 20 19.8 -0.6
baz=81
P19A Cripple Cowboy 81.08 45 ⇓P P 13 20 20.2 -0.6
baz=81
W23A Werner Place, 81.09 50 ⇑P P 13 20 20.8 -0.2
baz=81
U22A Llaves 81.10 49 ⇓P P 13 20 20.8 -0.2
baz=81
Y24A Capitan 81.10 51 ⇑P P 13 20 19.8 -1.2
baz=81,SNR=5.3
326A Caldwell Ranch 81.16 54 ⇑P P 13 20 20.8 -0.4
baz=81
125A Gardner Draw, 81.17 53 ⇑P P 13 20 21.1 -0.2
baz=81
GDL2 Guadalupe Moun 81.21 53 eP P 13 20 22.2 +0.7
Q20A Ridgley Place, 81.24 46 ⇓P P 13 20 20.9 -0.7
baz=81
628A Black Gap, Mar 81.31 56 ⇓P P 13 20 21.7 -0.3
baz=81
226B Tecolote Peak, 81.32 54 ⇓P P 13 20 21.9 -0.2
baz=81
V23A Ortiz Mt. (NFS 81.32 49 ⇓P P 13 20 22.8 +0.7
baz=82
RRI2 Red Ridge 81.35 41 eP P 13 20 22.3 +0.1
comp=Z,10nm,1.1s
T22A Edith 81.35 48 ⇑P P 13 20 22.3 0.0
baz=82
427A Hayter Ranch, 81.43 55 ⇓P P 13 20 22.0 -0.7
baz=82,SNR=7.6
R21A Cimarron 81.49 47 ⇑P P 13 20 22.4 -0.7
baz=82
MSO Missoula 81.57 37 eP P 13 20 21.6 -1.4
comp=Z,12nm,1.4s
MSO Missoula 81.57 37 ⇓P P 13 20 22.4 -0.7
baz=82
DLMT Dillon 81.59 39 eP P 13 20 22.8 -0.4
comp=Z,49nm,2.3s
BSMT Bassoo Peak 81.64 36 eP P 13 20 22.4 -1.2
528A Cox Ranch, San 81.65 56 ⇑P P 13 20 23.3 -0.6
baz=82,SNR=7.4
TPAW Teton Pass 81.65 41 eP P 13 20 23.2 -0.5
comp=Z,10nm,1.0s
126A Clayton Basin, 81.66 53 ⇑P P 13 20 23.6 -0.3
baz=82
W24A Lazy 6 Ranch, 81.67 50 ⇑P P 13 20 22.5 -1.5
baz=82,SNR=7.1
Y25A Mesa, Roswell 81.67 52 ⇑P P 13 20 23.6 -0.4
baz=82
S22A 4UR Ranch, Cre 81.72 47 ⇓P P 13 20 23.5 -0.9
baz=82,SNR=9.9
SNOW Snow King Moun 81.76 41 eP P 13 20 24.6 +0.2
comp=Z,11nm,0.9s
O20A White River Ci 81.82 45 ⇑P P 13 20 24.3 -0.4
baz=82
M19A Rock Springs 81.85 43 ⇑P P 13 20 24.4 -0.4
baz=82
IMW Indian Meadow 81.86 40 eP P 13 20 24.4 -0.5
comp=Z,7.2nm,1.0s
MOOW Moose Ponds 81.91 41 eP P 13 20 24.3 -0.8
comp=Z,9.4nm,1.4s
LRM Limekiln Ridge 81.91 38 eP P 13 20 24.9 -0.2
LOHW Long Hollow 81.93 41 eP P 13 20 24.6 -0.6
comp=Z,14nm,1.5s
X25A Clemmons Ranch 81.94 51 ⇓P P 13 20 25.2 -0.2
baz=82
Z26A Caprock 81.94 52 ⇓P P 13 20 25.3 -0.1
baz=82
428A Kincaid Ranch, 81.95 55 ⇓P P 13 20 25.4 0.0
baz=82
V24A Rampart Ranch, 81.98 50 ⇓P P 13 20 25.5 -0.2
baz=82
QLMT Earthquake Lak 82.03 39 eP P 13 20 26.4 +0.7
P21A Newcastle 82.08 46 ⇑P P 13 20 25.1 -1.0
baz=82
529A Stev Forest Ra 82.09 56 ⇑P P 13 20 25.6 -0.5
baz=82
I17A Pilgrim Ck. 82.10 41 ⇓P P 13 20 25.1 -1.0
baz=82
FLWY Flagg Ranch 82.10 40 eP P 13 20 25.5 -0.6
comp=Z,13nm,1.1s
328A Wristen Ranch, 82.10 55 ⇓P P 13 20 25.6 -0.6
baz=82
COLA College 82.11 11 eP P 13 20 24.2 -1.1
COLA pmax pmax
comp=Z,18nm,0.8s
COLA College 82.11 11 eP P 13 20 24.2 -1.1
comp=Z,18nm,0.8s
N20A Spence Gulch, 82.13 44 ⇑P P 13 20 25.2 -1.1
baz=82,SNR=5.6
Q22A Crested Butte, 82.16 46 ⇑P P 13 20 25.7 -1.0
baz=82,SNR=8.9
SEY Seymchan 82.18 345 ⇑iP P 13 20 25.2 -0.5
PDAR Pinedale Array 82.19 42 P P 13 20 25.4 -1.2
PDAR Pinedale Array 82.19 42 P P 13 20 25.4 -1.2
comp=Z,2.7nm,0.9s,baz=211,slow=3.1,SNR=16
PDAR LR LR 13 52 33.6
comp=Z,285nm,18.1s,baz=288,slow=32
ILAR Eielson Array 82.19 11 P P 13 20 24.5 -1.3
ILAR Eielson Array 82.19 11 P P 13 20 24.5 -1.3
comp=Z,2.2nm,1.0s,baz=224,slow=5.7,SNR=16
SMCO Snowmass 82.26 46 eP P 13 20 26.9 -0.3
comp=Z,16nm,1.3s
S23A Nye Farm, Mont 82.30 48 ⇑P P 13 20 26.2 -1.1
baz=82
IMA2 Indian Mountai 82.30 8 eP P 13 20 26.0 -0.4
Y26A Elida 82.32 52 ⇓P P 13 20 26.8 -0.5
baz=82
H17A Grant Village 82.33 40 ⇑P P 13 20 26.6 -0.8
baz=82
W25A X Bar L Ranch, 82.37 51 ⇑P P 13 20 27.3 -0.3
baz=82
T24B San Luis 82.47 49 ⇑P P 13 20 27.7 -0.6
baz=83
M20A Sweetwater, Wa 82.48 44 ⇓P P 13 20 27.6 -0.5
baz=83
V25A Rancho No Teng 82.51 50 ⇑P P 13 20 27.4 -1.1
baz=83,SNR=12
429A Davenport Ranc 82.54 56 ⇓P P 13 20 27.4 -1.1
baz=83,SNR=10
Z27A Tatum 82.55 53 ⇑P P 13 20 28.4 -0.1
baz=83
228A UT Block 9, Go 82.56 54 ⇓P P 13 20 29.0 +0.4
baz=83
P22A Eagle 82.59 46 ⇓P P 13 20 28.4 -0.4
baz=83
L20A Wamsutter 82.62 43 ⇓P P 13 20 28.1 -0.8
baz=83,SNR=8.2
R23A Moffat 82.63 47 ⇑P P 13 20 28.5 -0.6
baz=83
K19A Absolon Red Bu 82.67 42 ⇓P P 13 20 27.8 -1.2
baz=83
HRY Holter Researc 82.74 38 eP P 13 20 29.0 -0.2
J19A Crowheart 82.75 42 ⇑P P 13 20 28.8 -0.6
baz=83
WHN Wuhan 82.75 304 P P 13 20 36.3 +6.8
329A Wagon Wheel Ra 82.80 55 ⇑P P 13 20 29.8 -0.1
baz=83
530A J-C Ranch, Com 82.81 56 ⇓P P 13 20 29.3 -0.6
baz=83
Y27A Causey 82.81 52 ⇑P P 13 20 29.7 -0.2
baz=83
S24A Houchin Ranch, 82.83 48 ⇓P P 13 20 29.5 -0.6
baz=83,SNR=7.9
128A Castleberry Fa 82.84 54 ⇑P P 13 20 29.3 -0.7
baz=83,SNR=5.5
U25A Circle Dot Ran 82.90 49 ⇓P P 13 20 29.4 -1.0
baz=83
K20A Yellowstone Ra 82.92 42 ⇑P P 13 20 28.6 -1.7
baz=83,SNR=6.7
O22A Kremmling 82.99 45 ⇓P P 13 20 29.6 -1.3
baz=83,SNR=14
M21A Separation Pea 83.08 44 ⇑P P 13 20 30.3 -1.0
baz=83,SNR=5.3
V26A Tequesquite Ra 83.11 50 ⇓P P 13 20 30.8 -0.7
baz=83
P23A Jefferson 83.14 46 ⇓P P 13 20 31.4 -0.4
baz=83
MSTX Muleshoe 83.14 52 eP P 13 20 31.6 0.0
MSTX Muleshoe 83.14 52 ⇑P P 13 20 31.0 -0.6
baz=83,SNR=6.4
631A Perdido Creek 83.15 57 ⇑P P 13 20 31.5 -0.1
baz=83,SNR=6.3
I19A Meeteetse 83.15 41 ⇓P P 13 20 31.0 -0.6
baz=83
R24A Sanders Place, 83.16 48 ⇑P P 13 20 31.2 -0.5
baz=83,SNR=7.7
Z28A Tucker Farm, M 83.17 53 ⇑P P 13 20 31.2 -0.6
baz=83
T25A Trinidad 83.20 49 ⇓P P 13 20 31.6 -0.4
baz=83
L21A Rawlins 83.24 43 ⇓P P 13 20 31.1 -1.0
baz=83
N22A Wattenberg Ran 83.34 45 ⇑P P 13 20 32.0 -0.7
baz=84,SNR=9.1
W27A Bowe Ranch, En 83.36 51 ⇓P P 13 20 31.9 -0.8
baz=84
EGAK Eagle 83.38 13 eP P 13 20 31.8 -0.2
comp=Z,14nm,1.4s
U26A Atchley Ranch, 83.39 50 ⇑P P 13 20 32.4 -0.5
baz=84,SNR=6.7
S25A Robets Cordova 83.40 48 ⇓P P 13 20 32.5 -0.4
baz=84,SNR=11
330A Mertzon 83.40 55 ⇑P P 13 20 32.8 -0.1
baz=84
J20A Shoshoni 83.42 42 ⇓P P 13 20 32.4 -0.4
baz=84,SNR=8.1
Q24A Divide 83.44 47 ⇓P P 13 20 32.7 -0.6
baz=84,SNR=9.9
O23A Lake Granby, G 83.44 45 ⇓P P 13 20 32.9 -0.3
baz=84
ISCO Idaho Springs 83.48 46 ⇑P P 13 20 32.8 -0.6
baz=84
M22A Cedar Creek Ra 83.51 44 ⇓P P 13 20 33.0 -0.5
baz=84
Y28A McKinney Farm, 83.52 52 ⇓P P 13 20 33.4 -0.1
baz=84
K21A Alcova 83.63 43 ⇓P P 13 20 32.9 -1.1
baz=84,SNR=9.5
I20A Worland 83.67 41 ⇓P P 13 20 33.4 -0.6
baz=84,SNR=9.1
Z29A Hungry Hill Ra 83.69 53 ⇓P P 13 20 33.8 -0.6
baz=84
R25A Fountain Ranch 83.71 48 ⇑P P 13 20 33.6 -0.9
baz=84,SNR=5.2
N23A Red Feather La 83.72 45 ⇓P P 13 20 33.8 -0.8
baz=84,SNR=6.0
X28A Dimmitt 83.80 52 ⇓P P 13 20 34.4 -0.5
baz=84
V27A Dan Oppiter Fa 83.80 51 ⇓P P 13 20 34.5 -0.5
baz=84
J21A Lysite 83.82 42 ⇓P P 13 20 34.5 -0.5
baz=84
632A Uvalde 83.83 57 ⇓P P 13 20 35.2 +0.1
baz=84
COLD Coldfoot 83.88 9 eP P 13 20 35.1 +0.6
comp=Z,15nm,1.3s
L22A Ellis Ranch, M 83.90 44 ⇑P P 13 20 34.9 -0.5
baz=84
Y29A Porterfield Fa 83.94 53 ⇓P P 13 20 35.6 -0.1
baz=84
532A Rocksprings 83.95 57 ⇑P P 13 20 35.4 -0.3
baz=84
H20A Greybull 84.00 41 ⇓P P 13 20 34.7 -1.0
baz=84,SNR=6.5
130A Snyder 84.02 54 ⇓P P 13 20 35.2 -0.8
baz=84
F19A Roth Farm, Mol 84.06 39 ⇓P P 13 20 35.1 -0.9
baz=84,SNR=8.2
Q25A Bedland, Calha 84.06 47 ⇑P P 13 20 35.6 -0.8
baz=84
U27A Thompson Grove 84.08 50 ⇑P P 13 20 35.4 -1.0
baz=84
S26A Kim 84.08 49 ⇓P P 13 20 35.6 -0.8
baz=84,SNR=5.6
K22A Casper 84.11 43 ⇑P P 13 20 35.6 -0.9
baz=84
M23A Laramie 84.13 44 ⇓P P 13 20 35.8 -0.8
baz=84
I21A Big Trails, Te 84.14 42 ⇓P P 13 20 35.3 -1.2
baz=84,SNR=13
Z30A Sanderson Ranc 84.15 53 ⇑P P 13 20 35.7 -1.0
baz=84,SNR=6.8
G20A Bridger 84.20 40 ⇑P P 13 20 35.8 -1.1
baz=84
231A Bronte 84.28 55 ⇓P P 13 20 36.5 -0.9
baz=84
P25A Willow Gulch B 84.36 47 ⇓P P 13 20 37.3 -0.5
baz=84,SNR=7.5
R26A Arlington 84.38 48 ⇓P P 13 20 36.8 -1.1
baz=84,SNR=12
T27A Campo 84.41 49 ⇓P P 13 20 37.4 -0.7
baz=84
N24A Carr 84.42 45 ⇑P P 13 20 37.5 -0.5
baz=85,SNR=5.3
L23A Garrett 84.42 44 ⇑P P 13 20 37.1 -1.0
baz=85,SNR=9.6
W29A Amraillo 84.45 52 ⇓P P 13 20 37.6 -0.6
baz=85
J22A Midwest 84.48 42 ⇓P P 13 20 37.4 -0.9
baz=85,SNR=13
131A Roby 84.50 54 ⇓P P 13 20 37.8 -0.7

	baz=85								
332A	**Millersview**	84.53	56	⇑P		P		13 20 38.0	-0.7
	baz=85								
Y30A	**Stafford Cattl**	84.55	53	⇓P		P		13 20 38.1	-0.7
	baz=85								
Q26A	**Hugo**	84.58	47	⇓P		P		13 20 38.3	-0.6
	baz=85								
H21A	**Big Horn, Sher**	84.67	41	⇑P		P		13 20 38.9	-0.2
	baz=85								
I22A	**9 Mile Ranch,**	84.69	42	⇓P		P		13 20 38.5	-0.9
	baz=85,SNR=7.0								
D19A	**Cripps Ranch,**	84.72	38	⇓P		P		13 20 38.8	-0.5
	baz=85,SNR=6.7								
M24A	**Cheyenne**	84.73	45	⇓P		P		13 20 38.8	-0.8
	baz=85								
K23A	**Bowen Ranch, D**	84.75	43	⇓P		P		13 20 39.0	-0.7
	baz=85								
X30A	**Coker Ranch, T**	84.78	52	⇑P		P		13 20 39.6	-0.3
	baz=85								
232A	**Coleman**	84.79	55	⇑P		P		13 20 39.5	-0.5
	baz=85								
G21A	**Lodge Grass**	84.84	41	⇑P		P		13 20 39.5	-0.5
	baz=85								
R27A	**Eads**	84.84	48	⇓P		P		13 20 39.1	-1.1
	baz=85								
E20A	**Meyer Farm, Mu**	84.86	39	⇓P		P		13 20 39.4	-0.7
	baz=85								
T28A	**Walsh**	84.88	50	⇑P		P		13 20 39.7	-0.7
	baz=85								
C19A	**Slack Wire Ran**	84.90	38	⇑P		P		13 20 39.8	-0.4
	baz=85,SNR=8.7								
L24A	**Wheatland**	84.91	44	⇑P		P		13 20 39.9	-0.5
	baz=85								
Z31A	**Sharp Cattle R**	84.92	54	⇓P		P		13 20 40.0	-0.6
	baz=85,SNR=6.1								
ABTX	**Abilene, Hawle**	85.06	54	⇑P		P		13 20 40.8	-0.5
	baz=85,SNR=7.2								
Y31A	**Rekieta Farm,**	85.07	53	⇑P		P		13 20 40.5	-0.8
	baz=85								
H22A	**Clearmont**	85.09	41	⇓P		P		13 20 40.9	-0.4
	baz=85								
D20A	**Manuel Ranch,**	85.13	39	⇓P		P		13 20 40.5	-0.9
	baz=85,SNR=5.6								
S28A	**Manter**	85.22	49	⇑P		P		13 20 41.5	-0.6
	baz=85								
O26A	**Horse Wrangler**	85.27	46	⇑P		P		13 20 41.9	-0.4
	baz=85								
K24A	**Anderson Ranch**	85.28	44	⇓P		P		13 20 41.6	-0.7
	baz=85								
B19A	**Brinkman Farms**	85.31	37	⇓P		P		13 20 41.5	-0.6
	baz=86								
EDM	**Edmonton**	85.34	32	*e*P		P		13 20 41.3	-0.9
EDM	**Edmonton**	85.34	32	*e*P		P		13 20 41.3	-0.9
G22A	**Birney**	85.41	41	⇑P		P		13 20 42.0	-0.9
	baz=86								
Z32A	**Haskell**	85.44	54	⇑P		P		13 20 42.5	-0.6
	baz=86,SNR=15								
P27A	**Ficken Ranch,**	85.50	47	⇓P		P		13 20 42.9	-0.5
	baz=86								
C20A	**Veseth Ranch,**	85.51	38	⇓P		P		13 20 42.4	-0.8
	baz=86,SNR=9.0								
R28A	**Tribune**	85.57	49	⇓P		P		13 20 43.2	-0.6
	baz=86,SNR=7.1								
L25A	**Engebretsen Ra**	85.61	44	⇑P		P		13 20 43.4	-0.6
	baz=86								
J24A	**Dixon Ranch, L**	85.64	43	⇓P		P		13 20 43.2	-0.8
	baz=86								
A19A	**Klindworth Far**	85.65	37	⇑P		P		13 20 43.5	-0.4
	baz=86								
F22A	**Rosebud**	85.69	40	⇑P		P		13 20 43.7	-0.5
	baz=86								
Y32A	**R-V Farms, Ver**	85.72	53	⇓P		P		13 20 44.3	-0.2
	baz=86								
W31A	**Holland Ranch,**	85.77	52	⇓P		P		13 20 44.0	-0.8
	baz=86								
D21A	**La Casta Ranch**	85.81	39	⇑P		P		13 20 44.0	-0.7
	baz=86								
O27A	**Beecher Island**	85.83	47	⇓P		P		13 20 44.6	-0.4
	baz=86								
B20A	**Solberg Farm,**	85.84	37	⇓P		P		13 20 44.1	-0.7
	baz=86								
G23A	**Biddle**	85.97	41	⇑P		P		13 20 45.1	-0.5
	baz=86								
V31A	**Spring Creek L**	86.06	52	⇑P		P		13 20 46.0	-0.2
	baz=86								
C21A	**Desert Coulee**	86.10	38	⇓P		P		13 20 46.3	+0.1
	baz=86								
A20A	**Cobblestone Ra**	86.10	37	⇑P		P		13 20 45.4	-0.7
	baz=86,SNR=5.7								
F23A	**Volborg**	86.19	41	⇓P		P		13 20 45.8	-0.9
	baz=86								
H24A	**Dirks Ranch, A**	86.32	42	⇑P		P		13 20 46.1	-1.2
	baz=86,SNR=7.2								
D22A	**Cohagen**	86.35	39	⇑P		P		13 20 46.9	-0.5
	baz=86								
K26A	**Motz Farm, Whi**	86.36	44	⇓P		P		13 20 47.5	-0.1
	baz=86								
RSSD	**Black Hills**	86.39	43	*e*P		P		13 20 47.3	-0.6
RSSD				pmax		pmax			
	comp=Z,46nm,1.2s								
RSSD	**Black Hills**	86.39	43	*e*P		P		13 20 47.2	-0.6
	comp=Z,46nm,1.2s								
B21A	**Ellsworth Farm**	86.42	38	⇓P		P		13 20 47.3	-0.4
	baz=87								
I25A	**Rochford**	86.54	43	⇓P		P		13 20 47.6	-1.0
	baz=87,SNR=5.9								
WHTX	**Lake Whitney**	86.57	56	⇑P		P		13 20 48.6	-0.2
	baz=87								
ENH	**Enshi**	86.58	302	*e*P		P		13 20 51.4	+2.5
	comp=Z,9.1nm,1.3s								
T31A	**Randall Ranch,**	86.67	50	⇓P		P		13 20 48.4	-0.8
	baz=87								
A21A	**Bergtoll Ranch**	86.74	37	⇓P		P		13 20 48.6	-0.7
	baz=87								
C22A	**Vida**	86.79	39	⇓P		P		13 20 48.9	-0.7
	baz=87								
H25A	**Fruitdale**	86.88	42	⇑P		P		13 20 50.2	+0.1
	baz=87								
D23A	**Lindsay**	86.95	39	⇓P		P		13 20 50.5	+0.1
	baz=87								
B22A	**Reddig Ranch S**	86.97	38	⇑P		P		13 20 50.2	-0.2
	baz=87								
C23A	**Lambert**	87.24	39	⇓P		P		13 20 51.7	0.0
	baz=87								
B23A	**Brockton**	87.65	38	⇑P		P		13 20 53.3	-0.4
	baz=88								
MAW	**Mawson**	88.01	199	P		P		13 20 55.5	+0.5
MAW	**Mawson**	88.01	199	P		P		13 20 55.5	+0.5
	comp=Z,4.8nm,0.6s,baz=119,slow=5.9,SNR=16								
MAW				LR		LR		13 57 19.6	
	comp=Z,207nm,19.6s,baz=36,slow=34								
XAN	**Xi'an**	88.29	306	P		P		13 20 59.0	+2.0
XAN				AMB		AMB			
	comp=Z,3.0nm,1.3s								
XAN				AMB		AMB			
	comp=Z,12nm,4.6s								
A26A	**Wade Farm, Ken**	89.61	39	⇑P		P		13 21 02.5	-0.3
	baz=90								
YKA	**Yellowknife Ar**	89.91	23	P		P		13 21 02.6	-1.2
YKA	**Yellowknife Ar**	89.91	23	P		P		13 21 02.6	-1.2
	comp=Z,2.8nm,0.8s,baz=235,slow=4.3,SNR=3.8								
TEIG	**Tepich**	90.88	69	*e*P		P		13 21 10.6	+1.2
	comp=Z,17nm,1.2s								
A29A	**Manning Farm,**	91.33	39	⇑P		P		13 21 10.1	-0.8
	baz=92								
FFC	**Flin Flon**	91.97	33	*ce*P		P		13 21 14.8	+1.1
CMAR	**Chiang Mai Arr**	92.32	288	P		P		13 21 17.1	+1.0
CMAR	**Chiang Mai Arr**	92.32	288	P		P		13 21 17.1	+1.0
	comp=Z,0.3nm,0.3s,baz=91,slow=3.6,SNR=4.3								
SNAA	**Sanae**	93.21	177	P		P		13 21 19.5	+0.2
SNAA	**Sanae**	93.21	177	P		P		13 21 19.5	+0.2
	comp=Z,0.6nm,1.1s,baz=205,slow=8.2,SNR=3.5								
ULM	**Lac du Bonnet**	93.83	39	LR		LR		13 58 36.0	
	comp=Z,377nm,18.8s,baz=268,slow=32								
SONM	**Songino Array**	94.48	318	P		P		13 21 25.2	-0.4
SONM	**Songino Array**	94.48	318	P		P		13 21 25.2	-0.4
	comp=Z,0.7nm,0.8s,baz=127,slow=3.8,SNR=4.5								
ZAK	**Zakamensk**	97.16	320	*e*P		P		13 21 37.6	-0.1
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.5s								
TLY	**Talaya**	97.27	321	*e*P		P		13 21 37.9	-0.2
TLY				pmax		pmax			
	comp=Z,3.0nm,1.3s								
ZALV	**Zalesovo Beam**	108.86	322	PKiKP		PKiKP		13 26 34.9	+0.7
ZALV	**Zalesovo Beam**	108.86	322	PKiKP		PKiKP		13 26 34.9	+0.7
	comp=Z,0.3nm,0.3s,baz=222,slow=1.9,SNR=2.9								
MKAR	**Makanchi Array**	110.47	315	PKiKP		PKiKP		13 26 36.8	-0.8
MKAR	**Makanchi Array**	110.47	315	PKiKP		PKiKP		13 26 36.8	-0.8
MKAR	**Makanchi Array**	110.47	315	PKiKP		PKiKP		13 26 36.8	-0.8
	comp=Z,1.1nm,1.1s,baz=57,slow=5.3,SNR=5.7								
KURK	**Kurchatov**	112.78	319	⇑*i*PKiKP		PKiKP		13 26 42.9	+1.1
KURK				pmax		pmax			
	comp=Z,2.0nm,1.0s								
AAK	**Ala-Archa**	116.13	310	⇑*i*PKiKP		PKPdf		13 26 50.3	+1.6
AAK				pmax		pmax			
	comp=Z,12nm,2.5s								
VOSK	**Vostochnaya**	117.23	322	*e*PKiKP		PKPdf		13 26 50.6	+0.3
VOSK	**Vostochnaya**	117.23	322	*e*PKPdf		PKPdf		13 26 50.5	+0.3
BRVK	**Borovoye**	117.57	322	⇓*i*PKiKP		PKPdf		13 26 51.6	+0.7
BRVK				pmax		pmax			
	comp=Z,6.0nm,1.0s								
ARU	**Arti**	122.98	328	*i* PKiKP		PKPdf		13 27 01.8	+0.6
ARU								13 28 37.0	
ARU								13 34 01.1	
ARCES	**ARCESS Array B**	124.29	352	PKP		PKPdf		13 27 03.0	-0.4
ARCES	**ARCESS Array B**	124.29	352	PKP		PKPdf		13 27 03.0	-0.4
	comp=Z,7.3nm,0.9s,baz=336,slow=2.0,SNR=7.3								
ABKAR	**Akbulak array**	124.85	320	*e*PKPdf		PKPdf		13 27 06.2	+1.1
KLMR	**Klimovskoe**	128.44	340	*e*PKiKP		PKPdf		13 27 09.7	-1.8
KLMR				pmax		pmax			
	comp=Z,28nm,1.7s								
OBN	**Obninsk**	133.76	336	⇑*i*PKiKP		PKPdf		13 27 24.3	+2.6
OBN				pmax		pmax			
	comp=Z,24nm,1.5s								
AKASG	**Malin Array Be**	139.98	337	PKhKP		PKPpre		13 27 26.2	
	comp=Z,0.6nm,0.4s,baz=32,slow=2.3,SNR=5.3								
AKASG				PKP		PKPdf		13 27 33.1	-0.4
	comp=Z,5.9nm,0.9s,baz=32,slow=2.1,SNR=13								
KIEV	**Kiev**	140.00	337	*e*PKiKP		PKPdf		13 27 34.1	+0.6
KIEV	**Kiev**	140.00	337	*e*PKPdf		PKPdf		13 27 34.0	+0.6
KWP	**Kalwaria Pacla**	143.07	342	⇑*i*P		PKPdf		13 27 37.9	-1.2
CLL	**Collm**	143.49	353	*e*PKiKP		PKPbc		13 27 37.0	0.0
CLL				*e*				13 27 44.0	
CLL	**Collm**	143.49	353	*e*PKPdf		PKPbc		13 27 37.0	0.0
	comp=Z,11nm,0.9s								
CLL				*e*PKiKP		PKiKP		13 27 44.0	+0.9
MALT	**Malatya**	143.50	315	⇑*i*P		PKPdf		13 27 40.5	+0.2
BRG	**Berggiesshubel**	143.80	352	*e*PKP		PKPdf		13 27 39.7	-0.6
	comp=Z,9.4nm,1.1s								
BRG	**Berggiesshubel**	143.80	352	*e*PKiKP		PKPdf		13 27 39.7	-0.6
BRG				pmax		pmax			
	comp=Z,9.0nm,1.1s								
UPC	**Upice**	143.83	350	*e*PKiKP		PKPbc		13 27 39.1	+1.1
UPC	**Upice**	143.83	350	*e*PKP		PKPbc		13 27 39.1	+1.1
DPC	**Dobruska-Polom**	143.93	349	*e*PKiKP		PKPbc		13 27 39.2	+0.8
DPC	**Dobruska-Polom**	143.93	349	*e*PKP		PKPbc		13 27 39.2	+0.8
DPC	**Dobruska-Polom**	143.93	349	*e*PKPdf		PKPbc		13 27 39.1	+0.7
UZH	**Uzhgorod**	144.09	342	*e*PKHKP		PKPpre		13 27 35.2	
UZH				*i*				13 27 37.8	
UZH				*i*				13 27 42.6	
UZH				*i*				13 27 49.2	
UZH				*e*				13 31 02.6	
TRPA	**Tarpa**	144.46	341	⇓*e*PKPdf		PKPdf		13 27 40.9	-0.6
PRU	**Pruhonice**	144.58	351	*e*PKiKP		PKPdf		13 27 42.6	+0.9
PRU	**Pruhonice**	144.58	351	*e*PKP		PKPdf		13 27 42.6	+0.9
VRAC	**Vranov**	144.88	348	⇑*i*P		PKPdf		13 27 41.9	-0.3
VRI	**Vrincioaia**	144.89	335	⇑*i*P		PKPdf		13 27 42.7	+0.3
PLOR	**Plostina**	144.93	335	⇓*i*P		PKPab		13 27 41.3	-0.4
TNS	**Taunus Mts**	144.93	358	*e*PKiKP		PKPbc		13 27 41.7	+0.1
TNS	**Taunus Mts**	144.93	358	*e*PKPbc		PKPbc		13 27 41.7	+0.1
ROTZ	**Rotzenmuhle**	145.10	353	*e*PKPbc		PKPdf		13 27 42.7	+0.1
TIRR	**Tirgusor**	145.27	332	⇑*i*P		PKPbc		13 27 42.3	-0.4
GRF	**Grafenberg Arr**	145.28	354	*e*PKiKP		PKPdf		13 27 43.2	+0.3
GRF	**Grafenberg Arr**	145.28	354	*e*PKPbc		PKPdf		13 27 43.2	+0.3
TLB	**Topalu**	145.34	332	⇓*i*P		PKPdf		13 27 44.4	+1.3
PSZ	**Piszkesteto**	145.42	344	*e*PKiKP		PKPab		13 27 43.7	+0.2
PSZ	**Piszkesteto**	145.42	344	⇑*i*P		PKPab		13 27 43.6	+0.2
PSZ	**Piszkesteto**	145.42	344	*e*PKPdf		PKPab		13 27 43.7	+0.2
PSZ	**Piszkesteto**	145.42	344	⇑*e*PKPbc		PKPab		13 27 43.9	+0.5
KMBO	**Kilima Mbogo**	145.47	245	PKPbc		PKPdf		13 27 43.8	-0.8
KMBO				*e*PKPab		PKPab		13 27 46.2	+1.3
KMBO	**Kilima Mbogo**	145.47	245	PKPbc		PKPdf		13 27 43.8	-0.8
	comp=Z,2.9nm,0.9s,baz=138,slow=2.1,SNR=3.2								
MLR	**Muntele Rosu**	145.51	335	⇑*i*P		PKPab		13 27 43.9	0.0
WLF	**Walferdange**	145.53	0	*e*PKPbc		PKPab		13 27 44.0	+0.3
KHC	**Kasperske Hory**	145.56	352	*e*PKiKP		PKPab		13 27 44.0	+0.2
KHC	**Kasperske Hory**	145.56	352	*e*PKP		PKPab		13 27 44.0	+0.2
KHC	**Kasperske Hory**	145.56	352	*e*PKPab		PKPab		13 27 44.0	+0.2
ISR	**Istrita**	145.57	334	⇑*i*P		PKPbc		13 27 43.7	-0.1
DRGR		145.59	340	⇑*i*P		PKPbc		13 27 43.9	+0.1
WET	**Wettzell**	145.64	352	*e*PKiKP		PKPab		13 27 44.2	+0.1
WET	**Wettzell**	145.64	352	*e*PKPbc		PKPab		13 27 44.2	+0.1
BRTR	**Keskin Array B**	145.79	321	PKPbc		PKPab		13 27 45.0	-0.2
BRTR	**Keskin Array B**	145.79	321	PKPbc		PKPab		13 27 45.0	-0.2
	comp=Z,10nm,0.8s,baz=108,slow=2.3,SNR=52								
GEC2	**GERESS Array S**	145.82	351	*e*PKP2		PKPab		13 27 44.7	-0.2
GEC2	**GERESS Array S**	145.82	351	*e*PKPbc		PKPab		13 27 44.7	-0.2
GEC2	**GERESS Array S**	145.82	351	*e*PKPab		PKPab		13 27 44.8	-0.2
GERES	**GERESS Array B**	145.82	351	PKPbc		PKPdf		13 27 43.3	-0.7
GERES	**GERESS Array B**	145.82	351	PKPbc		PKPdf		13 27 43.3	-0.7
	comp=Z,11nm,1.0s,baz=38,slow=2.4,SNR=41								
VOIR		145.91	336	⇑*i*P		PKPab		13 27 45.9	+0.6
BUD	**Budapest**	146.05	345	*e*PKPdf		PKPab		13 27 46.1	+0.5
ARR	**Arges**	146.13	337	⇑*i*P		PKPab		13 27 46.5	+0.4
LANF	**Langenberg**	146.19	358	PKP		PKPbc		13 27 45.8	+0.3
ANTO	**Ankara**	146.21	322	*e*PKP2		PKPab		13 27 47.3	+0.6
ANTO	**Ankara**	146.21	322	⇓*i*P		PKPab		13 27 47.3	+0.6
ANTO	**Ankara**	146.21	322	*e*PKPab		PKPab		13 27 47.3	+0.6
PKSG		146.29	345	⇓*e*		PKPab		13 27 47.4	+0.8
CONA	**Conrad Observa**	146.34	348	⇑*i*PKPab		PKPbc		13 27 45.8	-0.3
	comp=Z,45nm,1.4s,SNR=16								
STU	**Stuttgart**	146.34	357	*e*PKPbc		PKPab		13 27 46.6	-0.2
PKSN	**Nyarlorinc**	146.36	343	⇓*e*		PKPab		13 27 47.7	+0.9
SIRR	**Siria**	146.39	341	⇑*i*P		PKPbc		13 27 45.9	-0.3
PKS7	**Kunszentmiklos**	146.41	344	⇓*e*		PKPbc		13 27 46.5	+0.3
SOP	**Sopron**	146.43	348	⇓*e*		PKPab		13 27 47.5	+0.4
PKST	**T`s**	146.50	346	⇓*e*		PKPab		13 27 47.8	+0.4
MOA	**Molln**	146.70	350	⇑*i*PKPab		PKPbc		13 27 46.7	-0.4
	comp=Z,24nm,1.3s								
FUR	**Furstenfeldbru**	146.78	354	*e*PKP2		PKPab		13 27 48.0	-0.5
FUR	**Furstenfeldbru**	146.78	354	*e*PKPbc		PKPab		13 27 48.0	-0.5
GZR	**Gura Zlata**	146.79	339	⇓*i*P		PKPbc		13 27 46.8	-0.6
BFO	**Black Forest**	146.83	358	*e*PKP2		PKPbc		13 27 47.6	+0.2
BFO	**Black Forest**	146.83	358	*e*PKPbc		PKPbc		13 27 47.6	+0.2
BFO	**Black Forest**	146.83	358	*e*PKPab		PKPab		13 27 48.2	-0.5
PKS2	**Kecel**	146.91	344	⇓*e*		PKPbc		13 27 47.4	-0.2
THEF	**They Montfort**	146.97	0	PKP		PKPbc		13 27 48.2	+0.4
ECH	**Echery**	146.97	359	PKP		PKPbc		13 27 48.4	+0.6
BZS	**Buzias**	146.98	340	⇓*i*P		PKPdf		13 27 46.3	+0.4
RJOB	**Jochberg**	147.03	352	*e*PKPbc		PKPbc		13 27 48.5	+0.5
PKS9	**Tamasi**	147.07	345	⇓*e*PKPdf		PKPdf		13 27 47.0	+1.0
FELD	**Feldberg im Sc**	147.29	358	PKP		PKPbc		13 27 49.0	+0.1
MOF	**Molkenrain**	147.34	359	PKP		PKPbc		13 27 49.0	0.0
RETA	**Reutte**	147.50	354	⇑*i*pPKPdf		PKPbc		13 27 48.8	-0.6
	comp=Z,36nm,1.2s,SNR=13								
BEHE	**Becsehely**	147.54	347	⇑*e*PKPdf		PKPdf		13 27 47.5	+0.7
MOTA	**Moosalm**	147.61	354	⇓*i*PKPab		PKPbc		13 27 50.5	+0.7
	comp=Z,44nm,1.4s,SNR=7.7								
DAVA	**Damuels**	147.78	356	⇑*i*PKPab		PKPbc		13 27 50.6	+0.3
	comp=Z,27nm,1.0s,SNR=6.5								
LOMF	**Lomont**	147.84	359	PKP		PKPbc		13 27 50.8	+0.5
LCHF	**La Chataignera**	147.97	9	PKP		PKPbc		13 27 51.3	+0.7
FETA	**Feichten**	147.97	354	*i* PKPbc		PKPdf		13 27 49.0	+1.3
	comp=Z,30nm,1.2s,SNR=8.9								
CSS	**Prodhromos**	148.75	314	*e*PKPab		PKPbc		13 27 54.7	+1.7
SENIN	**Lac Senin/Sane**	148.82	359	*e*PKPab		PKPbc		13 27 54.4	+1.2
AGO	**Saint Agoulin**	149.02	4	PKP		PKPbc		13 27 53.6	+0.2
PYM	**Petit Puy Mans**	149.31	5	PKP		PKPbc		13 27 54.6	+0.4
PBRG	**Braganca**	151.07	21	*e*PKPbc		PKPbc		13 27 58.6	+0.1
POLO	**Lamas de Olo**	151.08	22	*e*PKPbc		PKPbc		13 27 59.5	+0.9
AUTN	**L'Aution**	151.19	358	PKP		PKPbc		13 27 59.4	+0.5
MVO	**Moncorvo**	151.54	22	*e*PKPbc		PKPbc		13 28 00.4	+0.8
MTE	**Manteigas**	152.02	23	*e*PKPbc		PKPbc		13 28 01.5	+0.7
PMRV	**Marv??o**	152.92	24	*e*PKPbc		PKPbc		13 28 01.6	-1.1
ESDC	**Sonseca Array**	153.90	18	PKP		PKPdf		13 27 56.9	-0.1
ESDC				PKPbc		PKPbc		13 28 04.6	-0.3
ESDC				PKPab		PKPab		13 28 17.5	-0.5
ESDC	**Sonseca Array**	153.90	18	PKP		PKPdf		13 27 56.9	-0.1
	comp=Z,0.1nm,0.3s,baz=333,slow=1.7,SNR=2.7								
ESDC				PKPbc		PKPbc		13 28 04.6	-0.3
	comp=Z,0.3nm,0.4s,baz=353,slow=2.5,SNR=6.8								
ESDC				PKPab		PKPab		13 28 17.5	-0.5
	comp=Z,3.0nm,0.8s,baz=332,slow=3.8,SNR=13								
TORD	**Torodi Ar. Bea**	175.06	113	PKP		PKPdf		13 28 14.9	-1.1
TORD				PKPab		PKPab		13 29 50.2	-1.3
TORD	**Torodi Ar. Bea**	175.06	113	PKP		PKPdf		13 28 14.9	-1.1
	comp=Z,2.8nm,1.1s,baz=319,slow=1.6,SNR=9.6								
TORD				PKPab		PKPab		13 29 50.2	-1.3
	comp=Z,1.4nm,0.9s,baz=255,slow=3.8,SNR=5.0								

IDC 02 13:20:07.7±3.0, 15°60S×172°87W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/21, mbtmp3.9/4, Error ellipse: s-maj=142.1km s-min=21.2km az=138.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**1.98**	**32**	Pn		Pn	13 20 41.6	-1.0
	68nm,0.3s,baz=217,slow=5.1,SNR=42							
AFI				Sn		Sn	13 21 00.8	-7.5
	140nm,0.3s,baz=217,slow=20,SNR=8.9							
H11S2	**WAKE ISLAND Hy**	**39.39**	**329**	T		T	14 08 45.0	
	baz=160							
H11S3	**WAKE ISLAND Hy**	**39.41**	**329**	T		T	14 08 45.5	
	baz=160,slow=0.7							
H11S1	**WAKE ISLAND Hy**	**39.41**	**329**	T		T	14 08 45.9	
	baz=160,slow=0.7							
H11N3	**WAKE ISLAND Hy**	**40.33**	**330**	T		T	14 10 14.5	
	baz=147,slow=0.7							
H11N1	**WAKE ISLAND Hy**	**40.34**	**330**	T		T	14 10 14.3	
	baz=147							
H11N2	**WAKE ISLAND Hy**	**40.35**	**330**	T		T	14 10 17.0	
	baz=147,slow=0.7							
STKA	**Stephens Creek**	**44.38**	**240**	P		P	13 28 20.5	+0.3
	1.0nm,0.5s,baz=79,slow=10,SNR=3.5							
WRA	**Warramunga Arr**	**50.30**	**257**	P		P	13 29 05.8	-0.8
	0.9nm,0.4s,baz=90,slow=6.7,SNR=48							
ASAR	**Alice Springs**	**50.53**	**252**	P		P	13 29 07.8	-0.5
	2.4nm,0.5s,baz=90,slow=7.7,SNR=24							
ILAR	**Eielson Array**	**82.54**	**11**	P		P	13 32 33.2	+1.1
	0.2nm,0.7s,baz=218,slow=5.7,SNR=3.0							
BRTR	**Keskin Array B**	**146.63**	**321**	PKPbc		PKPab	13 39 53.3	+0.4
	0.9nm,0.6s,baz=42,slow=4.0,SNR=4.1							
IDI	**Anoyia**	**154.75**	**324**	PKPab		PKPab	13 40 25.3	-1.0
	9.4nm,1.1s,baz=16,slow=11,SNR=3.6							
MDT	**Midelt**	**159.81**	**30**	PKPab		PKPab	13 40 46.9	-1.4
	2.2nm,0.7s,baz=239,slow=5.7,SNR=7.2							

IDC 02 13:23:03.3±4.7, 15°78S×173°60W, h0km, mb3.8/2, mb1 4.2/2, mb1mx3.6/20, mbtmp3.8/2, Error ellipse: s-maj=300.0km s-min=37.8km az=148.0, Tonga Islands

| Code | Station Name | Δ° | AZ° | Phase | ID | | Time | Res |

1.6nm,0.8s,baz=90,slow=7.0,SNR=18
ASAR Alice Springs 49.98 252 P P 13 45 06.6 -0.7
5.7nm,0.8s,baz=85,slow=7.9,SNR=50
NVAR Mina Array Bea 74.23 42 P P 13 47 49.9 -0.2
1.5nm,0.9s,baz=220,slow=8.3,SNR=5.5
TXAR Lajitas Array 80.62 56 P P 13 48 25.7 -0.3
0.2nm,0.4s,baz=254,slow=6.4,SNR=3.6
ANMO Albuquerque 80.77 50 LR LR 14 16 51.3
comp=Z,171nm,18.6s,baz=250,slow=30
ILAR Eielson Array 82.13 11 P P 13 48 32.1 -0.9
0.8nm,1.0s,baz=206,slow=5.7,SNR=6.0
PDAR Pinedale Array 82.16 42 P P 13 48 33.3 -0.8
0.8nm,0.7s,baz=228,slow=3.8,SNR=4.2
APG El Apazote 87.47 74 LR LR 14 19 52.3
comp=Z,100nm,19.1s,baz=304,slow=30
MAW Mawson 88.06 199 P P 13 49 03.0 0.0
2.4nm,0.9s,baz=162,slow=6.4,SNR=4.7
ATAH Atahualpa 93.24 98 LR LR 14 21 09.8
comp=Z,84nm,19.2s,baz=174,slow=29
KHC Kasperske Hory 145.47 352 *e*P PKPab 13 55 51.5 +0.3
BRTR Keskin Array B 145.70 321 PKPbc PKPab 13 55 53.1 +0.5
3.6nm,0.8s,baz=116,slow=2.9,SNR=14
GERES GERESS Array B 145.73 351 PKPbc PKPab 13 55 52.3 0.0
2.7nm,1.0s,baz=29,slow=3.0,SNR=10
TORD Torodi Ar. Bea 175.13 112 PKP PKPdf 13 56 25.0 +1.1
0.7nm,0.9s,baz=300,slow=3.9,SNR=3.7

IDC 02 13:44:57.7±9.9, 16°.10S×173°.14W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/21, mbtmp3.4/2, Error ellipse: s-maj=471.0km s-min=61.9km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.54**	**31**	Pn	Pn	13 45 31.7	-8.6
	17nm,0.3s,baz=221,slow=9.3,SNR=5.5						
AFI				Sn	Sn	13 45 52.3	-20
	52nm,0.3s,baz=359,slow=22,SNR=18						
H11N3	**WAKE ISLAND Hy**	**40.64**	**330**	T	T	14 34 31.1	
	baz=153,slow=0.7,SNR=7.8						
H11N1	**WAKE ISLAND Hy**	**40.65**	**330**	T	T	14 34 23.6	
	baz=153,slow=0.7,SNR=8.8						
H11N2	**WAKE ISLAND Hy**	**40.66**	**330**	T	T	14 34 30.6	
	baz=153,slow=0.7,SNR=7.2						
WRA	**Warramunga Arr**	**49.94**	**257**	P	P	13 53 53.4	-0.3
	0.3nm,0.8s,baz=95,slow=6.6,SNR=3.6						
ASAR	**Alice Springs**	**50.14**	**252**	P	P	13 53 55.2	0.0
	0.8nm,0.8s,baz=86,slow=8.4,SNR=7.2						
BRTR	**Keskin Array B**	**146.86**	**321**	PKPbc	PKPbc	14 04 41.6	-0.8
	0.4nm,0.6s,baz=57,slow=5.3,SNR=2.5						

*ISCJB **02** 13:47:02.4±1.0, 49°.1S±0°.3×3°.1E±°, h10km, mb3.9/3, Error ellipse: s-maj=104.9km s-min=16.2km az=161.2*
*IDC **02** 13:47:03.1±1.3, 48°.97S×31°.05E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.8/20, mbtmp3.9/4, Error ellipse: s-maj=155.1km s-min=22.5km az=68.0*

ISC 02 13:47:04.5±1.2, 49°.0S±0°.3×30°.8E±0°.7, h10km, n9, σ0s89/5, mb4.0/3, 1C-1D, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYO	**Syowa Base**	**20.49**	**171**	⇓*e*P	**P**	**13 51 41.6**	**-0.5**
SYO	**Syowa Base**	**20.49**	**171**	⇓*e*P	Pn	13 51 47.3	+3.1
BOSA	**Boshof**	**20.84**	**346**	P	**P**	**13 51 45.5**	**-0.8**
	4.3nm,0.7s,baz=177,slow=14,SNR=2.8						
MAW	**Mawson**	**24.60**	**151**	P	**P**	**13 52 24.7**	**+0.3**
	3.8nm,0.9s,baz=310,slow=13,SNR=8.9						
VNDA	**Vanda**	**50.13**	**168**	P	**P**	**13 55 59.2**	**-0.1**
	1.0nm,0.7s,baz=241,slow=6.7,SNR=5.9						
H10S2	**ASCENSION HYDR**	**55.08**	**301**	T	T	14 56 17.6	
	baz=146						
H10S3	**ASCENSION HYDR**	**55.09**	**301**	T	T	14 56 15.9	
	baz=146						
H10S1	**ASCENSION HYDR**	**55.09**	**301**	T	T	14 56 16.5	
	baz=146						
TORD	**Torodi Ar. Bea**	**67.06**	**329**	P	**P**	**13 57 58.5**	**+0.7**
	0.6nm,0.6s,baz=173,slow=6.7,SNR=5.7						

*BJI **02** 13:49:08.9, 39°.62N×96°.10E, h4km, mB4.9/29, mb4.9/46, ML5.2/9, Ms5.2/62, Ms7 4.9/55*
*IDC **02** 13:49:08.5±0.4, 39°.51N×96°.19E, h0km, mb4.4/29, mb1 4.5/34, mb1mx4.5/38, mbtmp4.4/34, ML4.6/5, MS4.5/25, Ms1 4.5/25, ms1mx4.4/38, Error ellipse: s-maj=13.3km s-min=8.7km az=43.0*
*ISCJB **02** 13:49:09.5±0.1, 39°.57N±0°.02×95°.99E±0°.02, h10km, mb4.8/117, MS4.7/44, Error ellipse: s-maj=3.0km s-min=2.3km az=18.3*
*NEIC **02** 13:49:10.4±0.2, 39°.49N×96°.07E, h10km, mb5.1/45, Error ellipse: s-maj=6.6km s-min=5.2km az=203.0*
*MOS **02** 13:49:11.7±1.5, 39°.51N×96°.16E, h33km, mb4.9/49, MS4.6/33, Error ellipse: s-maj=6.9km s-min=4.8km az=109.5*
*GCMT **02** 13:49:11.1±0.2, 39°.62N×96°.12E, h20km±1km, MW5.0, Moment Tensor Solution. s29,c39; s90,c150; Moment tensor: Scale 10^16 Nm; Mrr 0.58±.16; Mθθ 1.71±.12; Mφφ -2.29±.13; Mrθ -0.60±.22; Mθφ 3.82±.11; Mφr 0.26±.23; Best double couple: M0 4.40000×10^16 NP1: φ284.00000°, δ90.00000°, λ8.00000°. NP2: φ194.00000°, δ82.00000°, λ180.00000°. Principal axes: T 4.0600, Plg6.0000°, Azm149.0000°; N 0.5900, Plg81.0000°, Azm286.0000°; P -4.6600, Plg6.0000°, Azm59.0000°; Data Used: IU II CN G IC.*
*DJA **02** 13:49:12.3±0.3, 40°.N±6°×9°.6E±°, h10km, M4.8/10, mB5.2/4, mb4.9/10, Mw(mB)4.6/4*
*BKK **02** 13:49:13.9±0.3, 40°.N±5°×9°.6E±°, h10km, M4.9/17, mB5.4/7, mb4.9/17, Mw(mB)4.8/7*
*NNC **02** 13:49:16.9±3.1, 40°.36N×95°.60E, h0km, mb4.9, Error ellipse: s-maj=51.0km s-min=26.4km az=32.0*
*SZGRF **02** 13:49:36.7, 41°.17N×93°.23E, h33km, mb4.9, Southern Xinjiang, China*

ISC 02 13:49:11.5±0.4, 39°.57N±0°.03×95°.94E±0°.03, h13km±2km, h12km: pP-P, n348, σ2s13/395, mb4.8/117, MS4.6/46, 17C-12D, Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.00**	**92**	Pn	**Pn**	**13 49 57.1**	**-1.8**
GTA				Pg	Pb	13 50 00.0	-4.9
GTA				Sn	**Sn**	**13 50 31.6**	**-3.3**
GTA				Sg	**Sb**	**13 50 37.9**	**-3.7**
GTA				SMN			
	comp=Z,7μm,1.1s						
GTA				SME			
	comp=Z,3μm,0.9s						
GTA				LR	LR		
	comp=N,58μm,10.2s						
GTA				LR	LR		
	comp=E,21μm,7.6s						
GTA				LR	LR		
	comp=Z,12μm,5.9s						
LZH	**Lanzhou**	**7.16**	**117**	*e*Pn	**Pn**	**13 50 56.3**	**+0.2**
LZH				Sn	**Sn**	**13 52 19.8**	**+2.5**
LZH				SMN			
	comp=Z,1μm,1.1s						
LZH				SME			
	comp=Z,420nm,1.0s						
LZH				LR	LR		
	comp=N,16μm,8.0s						
LZH				LR	LR		
	comp=E,14μm,6.8s						
LZH				LR	LR		
	comp=Z,15μm,8.3s						
WMQ	**Urumqi**	**7.49**	**307**	Pn	**Pn**	**13 51 00.5**	**0.0**
WMQ				Sn	**Sn**	**13 52 25.3**	**+0.1**
WMQ				LR	LR		
	comp=N,26μm,8.0s						
WMQ				LR	LR		
	comp=E,16μm,4.6s						
WMQ				LR	LR		
	comp=Z,5μm,14.0s						
LSA	**Lhasa**	**10.61**	**203**	P	**Pn**	**13 51 45.0**	**+1.4**
LSA				LR	LR		
	comp=N,1μm,9.6s						
LSA				LR	LR		
	comp=E,2μm,8.9s						
LSA				LR	LR		
	comp=Z,2μm,6.9s						
LSA	**Lhasa**	**10.61**	**203**	*e*P	**Pn**	**13 51 42.3**	**-1.3**
LSA				pmax	pmax		
	comp=Z,85nm,1.3s						
LSA	**Lhasa**	**10.61**	**203**	*e*Pn	**Pn**	**13 51 42.3**	**-1.3**
	comp=Z,85nm,1.3s						
CD2	**Chengdu**	**10.75**	**141**	P	**Pn**	**13 51 47.1**	**+1.9**
CD2				pP		13 51 50.3	
CD2				sP		13 51 53.4	
CD2				PP	**PnPn**	**13 51 55.5**	**+2.7**
CD2				S	**Sn**	**13 53 44.6**	**-0.7**
CD2				sS		13 53 54.5	
CD2				SS	**SnSn**	**13 54 03.2**	**+6.1**
CD2				AMB	AMB		
	comp=Z,60nm,0.8s						
CD2				AMB	AMB		
	comp=Z,220nm,8.3s						
CD2				LR	LR		
	comp=Z,8μm,7.7s						
CD2				LR	LR		
	comp=Z,8μm,10.1s						
BTO	**Baotou**	**10.84**	**80**	*e*P	Pn	13 51 42.0	-4.5
SONM	**Songino Array**	**11.19**	**39**	Pn	**Pn**	**13 51 48.8**	**-2.5**
SONM				Sn	Sn	13 53 40.1	-16
SONM				Lg	Lg	13 54 55.5	
SONM	**Songino Array**	**11.19**	**39**	Pn	**Pn**	**13 51 48.8**	**-2.5**
	comp=Z,9.7nm,0.3s,baz=220,slow=15,SNR=116						
SONM				Sn	Sn	13 53 40.1	-16
	comp=Z,1.8nm,0.3s,baz=219,slow=30,SNR=2.5						
SONM				Lg	Lg	13 54 55.5	
	comp=Z,7.1nm,0.3s,baz=211,slow=30,SNR=5.7						
ULN	**Ulaanbaatar**	**11.54**	**40**	P	**Pn**	**13 51 57.5**	**+1.5**
	comp=Z,28nm,0.9s,comp=Z,449nm						
HVS	**Khovu-Aksy**	**11.67**	**353**	⇓*i*P	**Pn**	**13 51 58.6**	**+0.9**
XAN	**Xi'an**	**11.78**	**114**	P	**Pn**	**13 51 56.3**	**-3.0**
XAN				S	Sn	13 54 04.3	-6.3
XAN				AMB	AMB		
	comp=Z,15nm,3.9s						
XAN				LR	LR		
	comp=Z,11μm,14.5s						
XAN				LR	LR		
	comp=Z,4μm,15.3s						
XAN				LR	LR		
	comp=Z,2μm,9.2s						
ZAK	**Zakamensk**	**11.98**	**23**	*e*P	**Pn**	**13 52 00.6**	**-1.5**
ZAK				*e*		13 54 22.6	
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.3s						
HHC	**Hu-ho-hao-te**	**12.02**	**79**	*e*P	**Pn**	**13 52 05.2**	**+2.6**
HHC				sP		13 52 09.0	
HHC				S	**Sn**	**13 54 20.2**	**+3.7**
HHC				sS		13 54 25.8	
HHC				AMB	AMB		
	comp=Z,42nm,1.0s						
HHC				AMB	AMB		
	comp=Z,370nm,5.7s						
HHC				LR	LR		
	comp=Z,4μm,6.9s						
HHC				LR	LR		
	comp=Z,4μm,8.3s						
HHC				LR	LR		
	comp=Z,3μm,8.4s						
MK31	**Makanchi Array**	**12.29**	**310**	Pn	**Pn**	**13 52 04.1**	**-2.1**
	comp=Z,32nm,0.8s,baz=118,slow=13,SNR=177						
MK31				⇑Sn	Sn	13 54 16.2	-6.8
	comp=Z,116nm,1.0s,baz=120,slow=24,SNR=6.4						
MK31				⇑Lg	Lg	13 55 22.8	
	comp=Z,539nm,1.4s,baz=127,slow=30,SNR=4.7						
MK31	**Makanchi Array**	**12.29**	**310**	*e*P	**Pn**	**13 52 04.7**	**-1.5**
MK31				*e*		13 54 20.0	
MK31	**Makanchi Array**	**12.29**	**310**	*e*Pn	**Pn**	**13 52 04.7**	**-1.5**
MK31				*e*Sn	**Sn**	**13 54 19.9**	**-3.1**
MKAR	**Makanchi Array**	**12.29**	**310**	P	**Pn**	**13 52 04.1**	**-2.1**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MKAR	**Makanchi Array**	**12.29**	**310**	Pn	**Pn**	**13 52 04.1**	**-2.1**
MKAR				Sn	**Sn**	**13 54 20.4**	**-2.6**
MKAR				Lg	Lg	13 55 44.4	
MKAR	**Makanchi Array**	**12.29**	**310**	Pn	**Pn**	**13 52 04.1**	**-2.1**
	comp=Z,3.8nm,0.3s,baz=117,slow=14,SNR=83						
MKAR				Sn	**Sn**	**13 54 20.4**	**-2.6**
	comp=Z,2.2nm,0.3s,baz=118,slow=23,SNR=5.4						
MKAR				Lg	Lg	13 55 44.4	
	comp=Z,0.7nm,0.3s,baz=116,slow=32,SNR=3.0						
MOY	**Mondy**	**12.60**	**15**	*e*P	**Pn**	**13 52 12.3**	**+1.9**
MOY				pmax	pmax		
	comp=Z,33nm,1.4s						
TLY	**Talaya**	**13.24**	**21**	*e*P	Pn	13 52 22.6	+3.4
TLY				*e*S	Sn	13 54 37.7	-8.5
TLY				pmax	pmax		
	comp=Z,9.0nm,1.3s						
TLY				MLR	MLR		
	comp=Z,2μm,8.0s						
IRK	**Irkutsk**	**13.92**	**22**	*e*P	**Pn**	**13 52 29.8**	**+1.4**
IRK				pmax	pmax		
	comp=Z,40nm,1.4s						
TAPN	**Taplejung**	**13.98**	**212**	*e*P	**Pn**	**13 52 31.3**	**+1.7**
	comp=Z,103nm,1.0s						
GUN	**Gumba**	**14.32**	**219**	*e*P	**Pn**	**13 52 35.5**	**+1.2**
	comp=Z,65nm,0.6s						
SHL	**Shillong**	**14.38**	**195**	*e*P	**Pn**	**13 52 32.0**	**-2.9**
SHL				*ex*	x	13 57 08.0	
JIRN	**Jiri**	**14.38**	**217**	*e*P	**Pn**	**13 52 35.1**	**-0.1**
	comp=Z,97nm,0.9s						
ENH	**Enshi**	**14.46**	**126**	*e*Pn	**Pn**	**13 52 33.3**	**-2.7**
	comp=Z,16nm,0.8s						
ODAN	**Odare**	**14.55**	**212**	*e*P	**Pn**	**13 52 36.4**	**-0.9**
	comp=Z,170nm,0.8s						
KKN	**Kakani**	**14.71**	**220**	*e*P	**Pn**	**13 52 39.3**	**-0.2**
	comp=Z,48nm,0.5s						
AAA	**Alma-Ata**	**14.72**	**291**	*i*P	**Pn**	**13 52 39.1**	**-0.3**
AAA				*i*S	**Sn**	**13 55 23.6**	**+1.3**
AAA				pmax	pmax		
	comp=Z,200nm,3.1s						
AAA				smax	smax		
	comp=E,600nm,3.3s						
AAA				MLR	MLR		
	comp=Z,4μm,9.0s						
RAMN	**Ramite**	**14.80**	**215**	*e*P	**Pn**	**13 52 39.3**	**-1.5**
	comp=Z,83nm,1.0s						
PKI	**Pulchoki**	**14.83**	**219**	*e*P	**Pn**	**13 52 40.3**	**-0.9**
	comp=Z,40nm,0.6s						
PKIN	**Phulchoki**	**14.83**	**219**	*e*P	**Pn**	**13 52 40.5**	**-0.7**
	comp=Z,29nm,0.6s						
GKN	**Gorkha**	**14.87**	**222**	*e*P	**Pn**	**13 52 40.7**	**-0.9**
	comp=Z,198nm,1.4s						
DMN	**Daman**	**14.95**	**220**	*e*P	**Pn**	**13 52 40.8**	**-2.0**
	comp=Z,277nm,1.6s						
DANN	**Dangsing**	**15.06**	**226**	*e*P	**Pn**	**13 52 43.3**	**-1.1**
	comp=Z,33nm,0.7s						
KSH	**Kashi**	**15.41**	**276**	P	**P**	**13 52 51.3**	**-2.0**
KSH				pP	**pP**	**13 52 55.0**	**-1.9**
KSH				S	**Sn**	**13 55 41.9**	**+2.7**
KSH				AMB	AMB		
	comp=Z,67nm,0.9s						
KSH				LR	LR		
	comp=Z,3μm,12.4s						
KMI	**Kunming**	**15.50**	**156**	P	**Pn**	**13 52 48.0**	**-2.1**
KMI				pP	**P**	**13 52 52.8**	**-1.7**
KMI				sP	**sP**	**13 52 55.5**	**-4.3**
KMI				PP	**PnPn**	**13 53 03.8**	**+5.4**
KMI				S	**Sn**	**13 55 43.9**	**+2.0**
KMI				sS	S	13 55 48.4	-9.2
KMI				SS	**SnSn**	**13 56 02.1**	**+7.4**
KMI				AMB	AMB		
	comp=Z,7.0nm,1.1s						
KMI				AMB	AMB		
	comp=Z,150nm,4.6s						
KMI				LR	LR		
	comp=Z,850nm,8.9s						
KMI				LR	LR		
	comp=Z,2μm,9.2s						
KMI				LR	LR		
	comp=Z,2μm,14.5s						
BJT	**Baijiatuan**	**15.56**	**82**	*e*P	**Pn**	**13 52 48.6**	**-1.9**
BJI	**Beijing**	**15.56**	**82**	P	**Pn**	**13 52 48.9**	**-1.7**
BJI				S	**Sn**	**13 55 49.5**	**+6.7**
BJI				AMB	AMB		
	comp=Z,40nm,1.5s						
BJI				AMB	AMB		
	comp=Z,310nm,5.1s						
BJI				LR	LR		
	comp=Z,5μm,16.3s						
BJI				LR	LR		
	comp=Z,4μm,12.0s						
BJI				LR	LR		
	comp=Z,3μm,21.0s						
KOLN	**Koldanda**	**15.60**	**225**	*e*P	**Pn**	**13 52 47.6**	**-3.8**
	comp=Z,21nm,0.6s						
TKM2	**Tokmak 2**	**15.66**	**289**	⇓P	**Pn**	**13 52 48.7**	**-3.3**
	comp=Z,87nm,1.1s						
TKM2				⇓S	**Sn**	**13 55 45.0**	**-0.5**
	comp=Z,86nm,1.2s						
TKM2	**Tokmak 2**	**15.66**	**289**	*e*P	**Pn**	**13 52 48.4**	**-3.6**
TKM2				pmax	pmax		
	comp=Z,65nm,1.0s						
TKM2	**Tokmak 2**	**15.66**	**289**	*e*Pn	**Pn**	**13 52 48.4**	**-3.6**
	comp=Z,65nm,1.0s						
GYA	**Guiyang**	**15.86**	**142**	P	**Pn**	**13 52 55.5**	**+0.9**
GYA				PP	**PnPn**	**13 53 03.6**	**+0.5**
GYA				S	**Sn**	**13 55 50.1**	**-0.2**
GYA				SS	**S**	**13 56 08.5**	**+3.8**
GYA				AMB	AMB		
	comp=Z,30nm,0.9s						
GYA				AMB	AMB		
	comp=Z,180nm,6.1s						
GYA				LR	LR		
	comp=Z,2μm,10.6s						
GYA				LR	LR		
	comp=Z,2μm,13.4s						
GYA				LR	LR		
	comp=Z,4μm,13.4s						
ZAA0	**Zalesovo Array**	**16.24**	**336**	*e*Pn	**Pn**	**13 52 56.7**	**-2.5**
ZALV	**Zalesovo Beam**	**16.24**	**336**	P	**Pn**	**13 52 59.0**	**-0.2**
ZALV						13 56 05.0	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV				MLR	MLR		
	comp=Z,2μm,20.8s						
ZALV	**Zalesovo Beam**	**16.24**	**336**	Pn	**Pn**	**13 52 59.0**	**-0.2**
ZALV				Sn	**Sn**	**13 56 05.0**	**+5.9**
ZALV				Lg	Lg	13 57 38.1	
ZALV	**Zalesovo Beam**	**16.24**	**336**	Pn	**Pn**	**13 52 59.0**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=139,slow=11,SNR=20						
ZALV				Sn	**Sn**	**13 56 05.0**	**+5.9**
	comp=Z,0.1nm,0.3s,baz=163,slow=15,SNR=3.1						
ZALV				Lg	Lg	13 57 38.1	
	comp=Z,0.2nm,0.3s,baz=137,slow=26,SNR=3.7						
ZALV				LR	LR	13 59 24.6	
	comp=Z,2μm,20.8s,baz=72,slow=38						
FRU	**Bishkek**	**16.37**	**288**	*e*P	**Pn**	**13 52 58.0**	**-3.0**
FRU				*i*S	**Sn**	**13 55 58.0**	**-4.4**
FRU				pmax	pmax		
	comp=Z,90nm,2.6s						
FRU				MLR	MLR		
	comp=Z,3μm,16.0s						
AAK	**Ala-Archa**	**16.45**	**288**	P	**Pn**	**13 53 01.7**	**-0.4**
AAK						13 56 08.4	
AAK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AAK				MLR	MLR		
	comp=Z,3μm,18.9s						
AAK	**Ala-Archa**	**16.45**	**288**	Pn	**Pn**	**13 53 01.7**	**-0.4**
	comp=Z,2.6nm,0.8s						
AAK				Sn	**Sn**	**13 56 08.4**	**+3.9**
AAK				Lg	Lg	13 57 58.1	
AAK	**Ala-Archa**	**16.45**	**288**	Pn	**Pn**	**13 53 01.7**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=85,slow=12,SNR=16						
AAK				Sn	**Sn**	**13 56 08.4**	**+3.9**
	comp=Z,0.4nm,0.3s,baz=156,slow=20,SNR=3.9						
AAK				Lg	Lg	13 57 58.1	
	comp=Z,0.3nm,0.3s,baz=246,slow=18,SNR=2.8						
AAK				LR	LR	13 59 13.4	
	comp=Z,3μm,18.9s,baz=76,slow=36						
KURBB	**Kurchatov Arra**	**16.48**	**318**	⇑P	**Pn**	**13 52 58.9**	**-3.4**
	comp=Z,39nm,0.7s						
KURBB				⇓S	**Sn**	**13 55 58.3**	**-6.7**
	comp=Z,24nm,0.7s						
KURBB	**Kurchatov Arra**	**16.48**	**318**	Pn	**Pn**	**13 52 59.4**	**-2.9**
	comp=Z,1.6nm,0.3s,baz=124,slow=13,SNR=51						
KURBB				Sn	**Sn**	**13 55 58.3**	**-6.7**
	baz=118,slow=23,SNR=2.5						
KURBB				Lg	Lg	13 57 53.1	
	comp=Z,0.2nm,0.3s,baz=116,slow=23,SNR=4.5						
KURK	**Kurchatov**	**16.49**	**318**	⇑P	**Pn**	**13 52 58.9**	**-3.5**
	comp=Z,21nm,0.8s						
KURK				⇑S	**Sn**	**13 55 58.3**	**-6.9**
	comp=Z,20nm,1.2s						
KURK	**Kurchatov**	**16.49**	**318**	*i*P	**Pn**	**13 52 59.6**	**-2.8**
KURK				pmax	pmax		
	comp=Z,32nm,1.7s						
KURK	**Kurchatov**	**16.49**	**318**	Pn	**Pn**	**13 52 59.4**	**-3.0**
EKS2	**Erkin-Say**	**16.98**	**288**	*e*P	Pn	13 53 03.3	-5.5
EKS2				pmax	pmax		
	comp=Z,17nm,0.8s						
EKS2	**Erkin-Say**	**16.98**	**288**	*e*Pn	Pn	13 53 03.3	-5.5
	comp=Z,17nm,0.8s						
TIA	**Tai'an**	**17.05**	**95**	*e*P	**P**	**13 53 10.6**	**-0.8**
TIA				LR	LR		
	comp=Z,10μm,15.2s						
TIA				LR	LR		
	comp=Z,5μm,13.2s						
TIA				LR	LR		
	comp=Z,6μm,12.2s						
CIT	**Chita**	**17.43**	**39**	*e*P	**P**	**13 53 14.9**	**-0.6**
CIT				pmax	pmax		
	comp=Z,64nm,1.5s						
SMLA	**Simla**	**17.46**	**247**	*e*P	**P**	**13 53 15.7**	**-0.1**
SMLA				AMB	AMB	13 53 57.1	
	comp=Z,32nm,1.0s						
DHRM	**DHARAMSHALA**	**17.49**	**251**	*e*P	**Pn**	**13 53 15.2**	**-0.1**
DHRM				AMB	AMB	13 53 20.0	
	comp=Z,38nm,0.5s						
NVS	**Novosibirsk**	**17.50**	**335**	⇑*i*P	**Pn**	**13 53 13.1**	**-1.9**
NVS				*e*		13 56 24.8	
WHN	**Wuhan**	**17.54**	**115**	⇓P	**P**	**13 53 16.9**	**+0.2**
WHN				S	**Sn**	**13 56 29.3**	**-1.5**
WHN				LR	LR		
	comp=Z,5μm,8.5s						
WHN				LR	LR		
	comp=Z,7μm,9.9s						
WHN				LR	LR		
	comp=Z,7μm,9.6s						
BOK	**Bokaro**	**17.89**	**211**	*e*P	**Pn**	**13 53 20.5**	**+0.5**
BOK				AMB	AMB	13 53 22.6	
	comp=Z,55nm,0.3s						
NDI	**New Delhi**	**18.89**	**241**	*e*4	**P**	**13 53 28.0**	**-3.7**
CHCP	**Chirah Chowk**	**19.11**	**259**	P	**P**	**13 53 34.2**	**0.0**
KK31	**Karatay Array**	**19.39**	**289**	P	**Pn**	**13 53 38.2**	**-0.1**
	comp=Z,18nm,1.2s,baz=90,slow=11,SNR=55						
KK31				⇑S	**Sn**	**13 57 14.4**	**-1.2**
	comp=Z,18nm,1.3s						
KK31	**Karatay Array**	**19.39**	**289**	*i*P	**Pn**	**13 53 38.2**	**-0.1**
KK31				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KKAR	**Karatay Array**	**19.39**	**289**	*e*P	**P**	**13 53 34.0**	**-3.1**
KKAR	**Karatay Array**	**19.39**	**289**	*e*Pn	**P**	**13 53 34.0**	**-3.1**
CMAI	**Chiengmai2**	**19.76**	**171**	P	**Pn**	**13 53 43.9**	**+1.0**
	comp=Z,31nm,1.0s,comp=Z,4μm						
DL2	**Dalian**	**19.89**	**84**	P	**Pn**	**13 53 43.8**	**-0.4**
DL2				S	**Sn**	**13 57 29.7**	**+2.0**
DL2				AMB	AMB		
	comp=Z,130nm,1.0s						
DL2				AMB	AMB		
	comp=Z,190nm,5.3s						
DL2				LR	LR		
	comp=Z,2μm,10.3s						
DL2				LR	LR		
	comp=Z,1μm,21.1s						
NJ2	**Nanjing**	**20.01**	**105**	*e*P	**Pn**	**13 53 45.3**	**-0.4**
NJ2				pP	**pP**	**13 53 49.6**	**+2.0**
NJ2				S	**Sn**	**13 57 32.0**	**+1.5**
NJ2				AMB	AMB		
	comp=Z,20nm,1.1s						
NJ2				AMB	AMB		
	comp=Z,2μm,5.8s						
NJ2				LR	LR		
	comp=Z,8μm,12.2s						
NJ2				LR	LR		
	comp=Z,5μm,16.5s						
NJ2				LR	LR		
	comp=Z,9μm,12.9s						
CEP	**Cherat**	**20.08**	**261**	P	**P**	**13 53 44.5**	**-0.3**
THW	**Thamme Wali**	**20.64**	**258**	P	**P**	**13 53 51.4**	**+0.6**
CHTO	**Chiang Mai**	**20.85**	**172**	*e*P	**P**	**13 53 51.2**	**-1.9**
CHTO				pmax	pmax		
	comp=Z,154nm,1.4s						
CHTO	**Chiang Mai**	**20.85**	**172**	P	**P**	**13 53 51.9**	**-1.2**
	comp=Z,103nm,1.2s,comp=Z,2μm						
CHTO	**Chiang Mai**	**20.85**	**172**	*e*P	**P**	**13 53 51.2**	**-1.9**
	comp=Z,154nm,1.4s						
CHTO	**Chiang Mai**	**20.85**	**172**	P	**P**	**13 53 51.9**	**-1.2**
	comp=

SNY AMB AMB
comp=Z,190nm,3.5s
SNY LR LR
comp=Z,4μm,7.7s
SNY LR LR
comp=Z,1μm,7.7s
SNY LR LR
comp=Z,3μm,14.4s
CM31 Chiang Mai Arr 21.20 172 *e*P **P** **13 53 55.2 -1.7**
comp=Z,18nm,0.6s
CMAR S **S** **13 57 51.4 -1.0**
CMAR Chiang Mai Arr 21.20 172 P **P** **13 53 55.2 -1.7**
comp=Z,18nm,0.7s,baz=343,slow=9.9,SNR=40
CMAR S **S** **13 57 51.4 -1.0**
comp=Z,0.5nm,0.7s,baz=347,slow=20,SNR=2.2
CMAR LR LR 14 02 52.7
comp=Z,1μm,19.7s,baz=351,slow=39
VOSK Vostochnaya 21.59 316 ⇑P **P** **13 53 59.6 -1.2**
comp=Z,35nm,1.2s
VOSK ⇓S **S** **13 57 59.7 +0.1**
comp=Z,14nm,1.2s
VOSK Vostochnaya 21.59 316 *e*P **P** **13 54 00.0 -0.8**
VOSK pmax pmax
comp=Z,46nm,1.3s
VOSK Vostochnaya 21.59 316 *e*P **P** **13 54 00.0 -0.8**
comp=Z,46nm,1.3s
KBL Kabul 22.01 265 *e*P **P** **13 54 05.6 -0.1**
KBL pmax pmax
comp=Z,194nm,1.6s
KBL Kabul 22.01 265 *e*P **P** **13 54 05.6 -0.1**
comp=Z,194nm,1.6s
BVA0 Borovoye Array 22.04 316 P **P** **13 54 04.8 -0.9**
comp=Z,33nm,0.9s,baz=106,slow=11,SNR=75
BVA0 ⇓S **S** **13 58 02.1 -6.3**
comp=Z,11nm,1.4s
BVAR Borovoye Array 22.04 316 P **P** **13 54 05.3 -0.4**
BVAR S **S** **13 58 13.0 +4.5**
BVAR pmax pmax
comp=Z,13nm,0.6s
BVAR smax smax
comp=N,1.0nm,0.7s
BVAR Borovoye Array 22.04 316 P **P** **13 54 05.3 -0.4**
BVAR S **S** **13 58 13.0 +4.5**
BVAR Lg Lg 14 00 44.9
BVAR Borovoye Array 22.04 316 P **P** **13 54 05.3 -0.4**
comp=N,13nm,0.6s,baz=120,slow=8.7,SNR=38
BVAR S **S** **13 58 13.0 +4.5**
comp=N,1.4nm,0.7s,baz=110,slow=20,SNR=2.6
BVAR Lg Lg 14 00 44.9
comp=N,5.1nm,0.9s,baz=131,slow=31,SNR=2.9
GZH Guangzhou 22.10 133 P **P** **13 54 05.9 -0.6**
GZH S **S** **13 58 07.9 -1.9**
GZH LR LR
comp=N,5μm,11.1s
GZH LR LR
comp=N,3μm,11.2s
BRVK Borovoye 22.12 316 ⇑P **P** **13 54 04.4 -2.1**
comp=N,47nm,0.8s
BRVK ⇓S **S** **13 58 10.0 +0.2**
comp=N,15nm,1.2s
BRVK Borovoye 22.12 316 ⇑*i*P **P** **13 54 05.3 -1.2**
BRVK pmax pmax
comp=Z,77nm,2.2s
BRVK Borovoye 22.12 316 P **P** **13 54 06.6 +0.1**
comp=Z,193nm,0.7s,SNR=8.1
BRVK Borovoye 22.12 316 *e*P **P** **13 54 06.0 -0.5**
comp=Z,34nm,1.0s
SSE Sheshan 22.21 105 P **P** **13 54 09.5 +1.8**
SSE sP **sP** **13 54 13.8 +0.8**
SSE S **S** **13 58 12.6 +0.6**
SSE AMB AMB
comp=Z,35nm,0.8s
SSE AMB AMB
comp=Z,110nm,3.3s
SSE LR LR
comp=Z,4μm,14.4s
SSE LR LR
comp=Z,2μm,14.4s
SSE LR LR
comp=Z,2μm,9.6s
NONG Nongkai 22.33 162 P **P** **13 54 13.3 +4.3**
comp=Z,33nm,0.7s,comp=Z,3μm
CN2 Changchun 22.38 70 ⇑P **P** **13 54 07.3 -2.1**
CN2 *ep*P **pP** **13 54 11.6 -1.5**
CN2 *es*P **sP** **13 54 14.2 -0.5**
CN2 *e*S **S** **13 58 09.4 -5.5**
CN2 AMB AMB
comp=Z,30nm,1.0s
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,6μm,11.0s
CN2 LR LR
comp=Z,2μm,11.0s
CN2 LR LR
comp=Z,7μm,12.0s
LOEI Loei 22.47 167 P **P** **13 54 14.3 +3.8**
comp=Z,35nm,0.9s
BHPL Bhopal 22.62 229 *e*P **P** **13 54 11.9 -0.2**
BHPL AMB AMB 13 54 13.7
comp=Z,113nm,1.1s
NGP Nagpur 23.37 223 *e*P **P** **13 54 19.4 -0.4**
NGP AMB AMB 13 54 20.0
comp=Z,70nm,1.1s
SKNT Sakolnakorn 23.58 160 P **P** **13 54 23.4 +1.4**
comp=Z,55nm,1.0s
PANO Nakornpanom 23.59 159 P **P** **13 54 23.8 +1.8**
comp=Z,467nm,1.3s,comp=Z,27μm
QIZ Qiongzhong 23.74 146 P **P** **13 54 24.5 +1.0**
QIZ S **S** **13 58 41.2 +2.8**
QIZ sS **sS** **13 58 48.1 +3.2**
QIZ LR LR
comp=Z,2μm,13.2s
QIZ LR LR
comp=Z,2μm,16.7s
QZH Quanzhou 23.99 121 *e*P **P** **13 54 27.3 +1.5**
QZH S **S** **13 58 41.6 -0.8**
QZH LR LR
comp=Z,10μm,17.6s
QZH LR LR
comp=Z,7μm,15.2s
QZH LR LR
comp=Z,4μm,10.4s
INCN Inchon 24.05 85 *e*P **P** **13 54 24.6 -1.8**
comp=Z,82nm,1.3s
CHAI Chaiyaphum 24.17 166 P P 13 54 41.4 +14
AKL Akola 24.84 226 *e*P **P** **13 54 33.2 -0.5**
AKL AMB AMB 13 54 36.9
comp=Z,107nm,1.5s
KSAR Wonju Array Be 25.02 85 P **P** **13 54 31.9 -3.3**
KSAR S S 13 59 07.2 +8.3
KSRS Korea Array 25.05 85 P **P** **13 54 31.9 -3.5**
comp=Z,21nm,0.9s,baz=282,slow=8.8,SNR=39
KSRS S S 13 59 07.2 +7.9
comp=Z,1.2nm,0.8s,baz=230,slow=28,SNR=2.9
MDJ Mudanjiang 25.36 68 P **P** **13 54 40.2 +2.0**
MDJ pP **pP** **13 54 43.2 +1.1**
MDJ sP **sP** **13 54 44.6 +0.9**
MDJ S **S** **13 59 08.7 +4.5**
MDJ sS **sS** **13 59 14.5 +3.9**
MDJ ScP **ScP** **14 01 49.5 +0.1**
MDJ AMB AMB
comp=Z,13nm,1.1s
MDJ AMB AMB
comp=Z,38nm,3.9s
MDJ LR LR
comp=Z,1μm,8.2s
MDJ LR LR
comp=Z,2μm,12.8s
MDJ LR LR
comp=Z,2μm,13.5s
MDJ Mudanjiang 25.36 68 *e*P **P** **13 54 37.7 -0.5**
comp=Z,22nm,1.1s
CLNS Chul'man 25.61 38 *e*P **P** **13 54 40.8 +0.4**
CLNS pmax pmax
comp=Z,27nm,1.2s
CLNS pmax pmax
comp=N,22nm,1.2s
CLNS pmax pmax
comp=E,27nm,1.2s
USRK Ussuriysk Arra 27.09 68 P **P** **13 54 52.5 -1.3**
comp=E,2.6nm,0.9s,baz=248,slow=7.6,SNR=5.6
USRK S **S** **13 59 36.1 +4.6**
comp=E,0.5nm,0.5s,baz=262,slow=28,SNR=2.2
USRK LR LR 14 06 52.2
comp=E,858nm,19.0s,baz=102,slow=40
KLR Kul'dur 27.12 57 *e*P **P** **13 54 51.8 -2.3**
AB31 Akbulak array 27.24 303 ⇑P **P** **13 54 57.3 +2.1**
comp=E,8.2nm,0.8s,baz=99,slow=10,SNR=7.2
AB31 ⇑S **S** **13 59 35.7 +1.9**
comp=E,8.1nm,1.4s
ABKAR Akbulak array 27.24 303 *e*P **P** **13 54 56.0 +0.8**
comp=E,11nm,0.9s
POO Poona 28.36 229 *e*P **P** **13 55 05.3 -0.2**
AKTO Aktyubinsk 28.63 305 ⇑P **P** **13 55 08.8 +1.2**
AKTO ⇓S **S** **13 59 55.1 -0.6**
comp=E,8.1nm,1.4s
AKTO Aktyubinsk 28.63 305 P **P** **13 55 09.1 +1.5**
AKTO pmax pmax
comp=Z,1.0nm,0.5s
AKTO MLR MLR
comp=Z,710nm,19.0s
AKTO Aktyubinsk 28.63 305 P **P** **13 55 09.1 +1.5**
AKTO S S 14 00 08.4 +13
AKTO Aktyubinsk 28.63 305 P **P** **13 55 09.1 +1.5**
comp=Z,1.4nm,0.5s,baz=126,slow=8.8,SNR=7.1
AKTO S S 14 00 08.4 +13
comp=Z,0.5nm,0.3s,baz=37,slow=20,SNR=1.4
AKTO LR LR 14 06 57.7
comp=Z,710nm,19.0s,baz=106,slow=37
SVE Sverdlovsk 28.74 319 *e*P **P** **13 55 10.5 +2.1**
SVE *e*S **S** **13 59 59.8 +2.6**
SVE pmax pmax
comp=Z,37nm,1.5s
SVE MLR MLR
comp=Z,1μm,13.0s
JNU Nakatsue 28.74 92 LR LR 14 06 56.7
comp=Z,2μm,20.1s,baz=25,slow=37
HABR Khabarovsk 29.23 59 *e*P P 13 55 09.4 -3.4
HABR *e* 13 56 01.9
HABR *e*S **S** **14 00 02.5 -2.5**
HABR *e* 14 05 52.1
HABR pmax pmax
comp=N,30nm,2.1s
HABR MLR MLR
comp=Z,1μm,16.0s
ARU Arti 29.68 317 *d*iP **P** **13 55 16.4 -0.4**
ARU PPP PPP 13 56 18.7
ARU S **S** **14 00 13.8 +1.8**
ARU SS **SnSn** **14 01 43.8 +2.9**
ARU pmax pmax
comp=Z,60nm,2.5s
ARU MLR MLR
comp=Z,901nm,17.0s
YAK Yakutsk 30.39 31 *e*P **P** **13 55 22.3 -0.7**
YAK *e* 13 56 18.1
YAK *e* 13 58 24.4
YAK *e*S **S** **14 00 24.1 +1.1**
YAK *e*SSS SSS 14 02 15.6
YAK *e* 14 05 51.0
YAK pmax pmax
comp=E,12nm,1.4s
YAK pmax pmax
comp=N,7.0nm,1.2s
YAK pmax pmax
comp=Z,17nm,1.5s
YAK pmax pmax
comp=Z,260nm,5.2s
YAK pmax pmax
comp=N,156nm,3.4s
YAK pmax pmax
comp=E,198nm,5.4s
YAK smax smax
comp=E,130nm,3.4s
YAK smax smax
comp=N,161nm,2.7s
YAK MLR MLR
comp=N,872nm,13.0s
YAK MLR MLR
comp=Z,860nm,13.0s
YAK MLR MLR
comp=E,399nm,12.0s
SOKR Solikamsk 31.66 322 *e*P P 13 55 37.9 +3.7
SOKR pmax pmax
comp=Z,10.0nm,1.3s
SOKR MLR MLR
comp=Z,980nm,19.0s
MJAR Matsushiro Arr 33.20 82 P **P** **13 55 46.5 -1.6**
MJAR S **S** **14 01 10.6 +3.1**
MJAR Matsushiro Arr 33.20 82 P **P** **13 55 46.5 -1.6**
comp=Z,1.6nm,0.8s,baz=295,slow=10,SNR=5.3
MJAR S **S** **14 01 10.6 +3.1**
comp=Z,0.6nm,0.6s,baz=94,slow=11,SNR=2.7
MJAR LR LR 14 09 34.7
comp=Z,681nm,19.1s,baz=305,slow=37
ASAJ Asahikawa 34.69 67 P **P** **13 55 58.5 -2.4**
ASAJ Asahikawa 34.69 67 P **P** **13 55 58.5 -2.4**
comp=Z,8.9nm,0.8s,baz=278,slow=7.1,SNR=5.4
ASAJ LR LR 14 11 35.0
comp=Z,653nm,18.4s,baz=194,slow=39
IDMV Damavand 34.77 278 *e*P P 13 56 06.0 +4.0
ISFB Sefidab 35.04 275 *e*P P 13 56 07.4 +3.3
IPAR Pars 36.28 268 *e*P P 13 56 18.5 +3.5
ISRV Sarvestan 36.44 267 *e*P **P** **13 56 17.7 +1.3**
YUK Yuzh-Kuril'sk 37.02 66 P **P** **13 56 21.1 +0.3**
YUK S **S** **14 02 08.8 +2.8**
YUK MLR MLR
comp=Z,1μm,14.0s
YUK MLR MLR
comp=E,1μm,14.0s
IKAZ Kazeroun 37.24 269 *e*P P 13 56 26.5 +3.2
IMRD Marand 38.56 285 *e*P **P** **13 56 35.7 +1.6**
ZEI Tsey 38.79 292 *e*P P 13 56 41.0 +5.0
ZEI pmax pmax
comp=Z,3.0nm,0.5s
VRHR Novokhopersk 39.03 306 *e*P **P** **13 56 39.4 +1.7**
VRHR pmax pmax
comp=Z,10.0nm,0.5s
VRHR pmax pmax
comp=N,10.0nm,1.3s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR MLR MLR
comp=Z,760nm,14.0s
VRHR MLR MLR
comp=N,100nm,17.0s
VRHR MLR MLR
comp=E,440nm,12.0s
IVIS Veis 39.11 278 *e*P **P** **13 56 40.7 +2.0**
KBZ Khabaz 39.29 294 P **P** **13 56 42.5 +2.6**
KBZ pmax pmax
comp=Z,5.0nm,1.0s
KBZ MLR MLR
comp=Z,815nm,18.4s
KBZ Khabaz 39.29 294 P **P** **13 56 42.5 +2.6**
KBZ Khabaz 39.29 294 P **P** **13 56 42.5 +2.6**
comp=Z,3.1nm,0.8s,baz=76,slow=8.9,SNR=4.5
KBZ LR LR 14 15 17.9
comp=Z,815nm,18.4s,baz=274,slow=40
KIV Kislovodsk 39.39 294 ⇑*e*P **P** **13 56 43.9 +3.0**
KIV *e* 13 58 13.6
KIV pmax pmax
comp=Z,11nm,0.7s
KIV MLR MLR
comp=Z,1μm,18.0s
IGHG Ghaleghazi 39.40 278 *e*P **P** **13 56 44.5 +3.2**
MYLDM Lahad Datu 39.84 143 P P 13 56 48.5 +3.7
comp=Z,36nm,1.4s
JCJ Chichijima 40.18 94 LR LR 14 12 42.1
comp=Z,528nm,20.1s,baz=275,slow=35
KLMR Klimovskoe 40.31 321 *e*P **P** **13 56 48.1 -0.1**
KLMR pmax pmax
comp=Z,54nm,1.5s
VORD Divnogorie 40.51 306 *e*P **P** **13 56 50.6 +0.6**
VORD pmax pmax
comp=Z,10.0nm,1.4s
VORD pmax pmax
comp=E,10.0nm,0.8s
VORD MLR MLR
comp=Z,620nm,13.0s
VORD MLR MLR
comp=E,850nm,18.0s
VSR Storozhevoye 40.56 306 *e*P **P** **13 56 52.0 +1.6**
VSR pmax pmax
comp=Z,7.0nm,0.5s
VSR pmax pmax
comp=N,7.0nm,0.4s
VSR pmax pmax
comp=E,20nm,1.5s
VSR MLR MLR
comp=Z,910nm,15.0s
VSR MLR MLR
comp=N,970nm,22.0s
VSR MLR MLR
comp=E,2μm,22.0s
SEY Seymchan 40.56 36*c**e*P **P** **13 56 50.0 -0.3**
RDF Al-Radifah 40.95 270 *e*P **P** **13 56 55.4 +1.5**
RDF AMb AMB 13 57 04.7
comp=Z,41nm,1.3s
NAY Al-Naaiem 41.04 271 *e*P **P** **13 56 55.6 +0.9**
NAY AMb AMB 13 57 05.5
comp=Z,46nm,0.9s
RST Umm Al-Ruwaisa 41.11 271 *e*P **P** **13 56 55.7 +0.5**
RST AMb AMB 13 56 59.4
comp=Z,378nm,0.8s
MOS Moscow 41.16 313 *e*P **P** **13 56 55.8 +0.5**
MOS *e* 13 58 51.1
MOS pmax pmax
comp=Z,32nm,0.8s
MOS pmax pmax
comp=Z,200nm,2.2s
OBN Obninsk 41.79 312 ⇑*i*P **P** **13 57 01.2 +0.8**
OBN pmax pmax
comp=Z,37nm,1.5s
OBN MLR MLR
comp=Z,1μm,19.0s
ANN Anapa 42.86 297 *e*P P 13 57 13.7 +4.4
ANN pmax pmax
comp=Z,84nm,1.0s
ANN MLR MLR
comp=N,376nm,14.0s
ANN MLR MLR
comp=Z,505nm,14.0s
PETK Petropavlovsk- 43.39 51 P **P** **13 57 11.7 -1.8**
PETK pmax pmax
comp=Z,2.0nm,0.9s
PETK MLR MLR
comp=Z,760nm,18.5s
PETK Petropavlovsk- 43.39 51 P **P** **13 57 11.7 -1.8**
PETK Petropavlovsk- 43.39 51 P **P** **13 57 11.7 -1.8**
comp=Z,1.8nm,0.9s,baz=226,slow=3.3,SNR=5.3
PETK LR LR 14 16 55.4
comp=Z,760nm,18.5s,baz=288,slow=38
RAYN Ar Rayn 45.28 265 *e*P **P** **13 57 27.2 -1.8**
comp=Z,13nm,1.4s
ARCES ARCESS Array B 46.76 333 P **P** **13 57 40.5 +0.4**
ARCES PcP **PcP** **13 59 12.4 -0.8**
ARCES ARCESS Array B 46.76 333 P **P** **13 57 40.5 +0.4**
comp=Z,7.3nm,1.0s,baz=84,slow=8.3,SNR=8.9
ARCES PcP **PcP** **13 59 12.4 -0.8**
comp=Z,2.7nm,0.5s,baz=69,slow=4.0,SNR=9.4
ARCES LR LR 14 19 39.2
comp=Z,493nm,19.0s,baz=341,slow=39
FINES FINESS Array B 46.82 322 P **P** **13 57 40.2 -0.3**
FINES FINESS Array B 46.82 322 P **P** **13 57 40.2 -0.3**
comp=Z,4.5nm,0.8s,baz=91,slow=7.2,SNR=11
FINES LR LR 14 18 29.7
comp=Z,817nm,18.1s,baz=82,slow=38
AKASG Malin Array Be 46.84 307 P **P** **13 57 41.6 +0.6**
AKASG pmax pmax
comp=Z,8.0nm,0.8s
AKASG MLR MLR
comp=Z,1μm,18.4s
AKASG Malin Array Be 46.84 307 P **P** **13 57 41.6 +0.6**
AKASG Malin Array Be 46.84 307 P **P** **13 57 41.6 +0.6**
comp=Z,3.5nm,0.7s,baz=65,slow=8.1,SNR=12
AKASG LR LR 14 18 24.6
comp=Z,1μm,18.4s,baz=70,slow=37
KIEV Kiev 46.85 307 *e*P **P** **13 57 42.1 +1.1**
KIEV pmax pmax
comp=Z,8.0nm,0.8s
KIEV Kiev 46.85 307 *e*P **P** **13 57 42.1 +1.1**
comp=Z,8.0nm,0.8s
BR131 Keskin Array S 47.08 291 *e*P **P** **13 57 42.5 -0.6**
comp=Z,8.6nm,0.7s
BRTR Keskin Array B 47.08 291 P **P** **13 57 42.8 -0.4**
BRTR Keskin Array B 47.08 291 P **P** **13 57 42.8 -0.4**
comp=Z,1.8nm,0.4s,baz=97,slow=7.1,SNR=14
BRTR LR LR 14 18 48.1
comp=Z,250nm,21.7s,baz=242,slow=38
KIS Kishinev 48.07 302 *e*P **P** **13 57 50.0 -0.5**
KIS Kishinev 48.07 302 *e*P **P** **13 57 50.0 -0.5**
KIS *e* 13 58 03.0
KIS MLR MLR
comp=E,800nm,19.0s
KIS MLR MLR
comp=E,800nm,17.0s
KWP Kalwaria Pacla 51.17 307 *e*P **P** **13 58 16.8 +2.6**
UZH Uzhgorod 51.74 306 *e*P P 13 58 15.2 -3.3
UZH *i* 13 58 29.6
STHS Stebnicka Huta 52.14 307 *e*P **P** **13 58 19.8 -1.6**
STHS Stebnicka Huta 52.14 307 *e*P **P** **13 58 19.8 -1.6**
OJC Ojcow 52.76 308 *e*P **P** **13 58 26.5 +0.5**
OJC pmax pmax
comp=Z,10.0nm,0.7s
OJC Ojcow 52.76 308 *e*P **P** **13 58 26.5 +0.5**
comp=Z,10.0nm,0.7s
KECS Kecovo 52.92 306 *e*P **P** **13 58 27.2 0.0**
KECS Kecovo 52.92 306 *e*P **P** **13 58 27.2 0.0**
HFS Hagfors 53.02 322 P **P** **13 58 28.5 +0.7**
HFS Hagfors 53.02 322 P **P** **13 58 28.5 +0.7**
comp=Z,7.8nm,0.8s,baz=75,slow=7.8,SNR=6.3
NB2 NORSAR Subarra 53.92 323 P **P** **13 58 33.7 -0.7**
comp=Z,5.9nm,0.8s,baz=72,slow=7.4
NOA NORSAR Array B 53.92 323 P **P** **13 58 33.9 -0.5**
NOA NORSAR Array B 53.92 323 P **P** **13 58 33.9 -0.5**
comp=Z,1.6nm,0.6s,baz=70,slow=6.7,SNR=9.9
NOA LR LR 14 22 41.3
comp=Z,644nm,18.9s,baz=75,slow=37
MORC Moravsky Berou 54.27 309 *e*P P 13 58 32.7 -4.5
MORC pmax pmax
comp=Z,7.0nm,0.9s
MORC Moravsky Berou 54.27 309 *e*P P 13 58 32.7 -4.5
comp=Z,7.2nm,0.9s
DPC Dobruska-Polom 54.80 310 *e*P **P** **13 58 43.7 +2.7**
DPC pmax pmax
comp=Z,67nm,0.9s
DPC Dobruska-Polom 54.80 310 *e*P **P** **13 58 43.7 +2.7**
comp=Z,67nm,0.9s
BRG Berggiesshubel 56.01 311 *e*P **P** **13 58 51.8 +2.2**
comp=Z,11nm,1.4s
BRG Berggiesshubel 56.01 311 *e*P **P** **13 58 51.8 +2.2**
BRG pmax pmax
comp=Z,11nm,1.4s
BRG Berggiesshubel 56.01 311 *e*P **P** **13 58 52.1 +2.5**
comp=Z,11nm,1.4s
CLL Collm 56.38 312 *e*P **P** **13 58 53.0 +0.7**
CLL *i* 13 59 00.0
CLL *e*S **S** **14 06 47.0 +4.6**
CLL pmax pmax
comp=Z,17nm,1.4s
CLL Collm 56.38 312 *e*P **P** **13 58 54.0 +1.7**
comp=Z,17nm,1.4s
CLL Collm 56.38 312 *e*P **P** **13 58 53.0 +0.7**
comp=Z,17nm,1.4s
CLL *i* sP **sP** **13 59 00.0 +2.0**
comp=Z,14nm,1.2s
CLL *e*S **S** **14 06 47.0 +4.6**
CLL Lm MLR 14 23 00.0
comp=N,500nm,19.5s
CLL Lm MLR 14 23 00.0
comp=E,500nm,18.6s
BSEG Bad Segeberg 56.87 315 *e*P **P** **13 58 58.0 +2.4**
BSEG pmax pmax
comp=Z,32nm,1.7s
BSEG Bad Segeberg 56.87 315 *e*P **P** **13 58 58.0 +2.4**
comp=Z,32nm,1.7s
GEC2 GERESS Array S 56.95 309 *e*P **P** **13 58 58.9 +2.4**
GEC2 pmax pmax
comp=Z,14nm,1.6s
GEC2 GERESS Array S 56.95 309 *e*P **P** **13 58 58.9 +2.4**
comp=Z,14nm,1.6s
GERES GERESS Array B 56.95 309 P **P** **13 58 58.1 +1.5**
GERES GERESS Array B 56.95 309 P **P** **13 58 58.1 +1.5**
comp=Z,0.8nm,0.6s,baz=64,slow=6.1,SNR=5.4
GERES LR LR 14 24 40.1
comp=Z,1μm,18.8s,baz=68,slow=37
TANN Tannenbergstha 57.05 311 *e*P **P** **13 58 59.1 +1.9**
comp=Z,14nm,1.4s
WET Wettzell 57.33 309 *e*P **P** **13 59 01.8 +2.7**
WET pmax pmax
comp=Z,11nm,1.4s
WET Wettzell 57.33 309 *e*P **P** **13 59 01.8 +2.7**
comp=Z,11nm,1.4s
MOX Moxa 57.45 311 *e*P **P** **13 59 02.1 +2.2**
MOX pmax pmax
comp=Z,13nm,1.5s

MOX MLR MLR
comp=Z,2µm,21.9s
MOX Moxa 57.45 311 *eP* **P 13 59 02.1 +2.2**
comp=Z,13nm,1.5s
ROTZ Rotzenmuhle 57.47 310 *eP* **P 13 59 02.9 +2.9**
comp=Z,15nm,1.5s
NRDL Niedersach Rie 57.56 314 *eP* **P 13 59 03.4 +2.9**
comp=Z,33nm,1.6s
RJOB Jochberg 57.96 308 *eP* **P 13 59 06.0 +2.4**
comp=Z,18nm,1.8s
GRF Grafenberg Arr 58.08 310 *eP* **P 13 59 07.2 +2.9**
GRF pmax pmax
comp=Z,32nm,1.6s
GRF Grafenberg Arr 58.08 310 *eP* **P 13 59 07.2 +2.9**
comp=Z,32nm,1.6s
UBBA Unterbreizbach 58.31 312 *eP* **P 13 59 07.9 +2.1**
comp=Z,20nm,1.8s
IMA2 Indian Mountai 61.99 26 *eP* **P 13 59 30.3 -0.8**
IM04 Indian Mountai 62.02 26 *eP* **P 13 59 30.2 -0.8**
COLD Coldfoot 62.44 24 *eP* **P 13 59 33.4 -0.4**
comp=Z,12nm,0.9s
LPG La Plagne 62.69 308 *eP* **P 13 59 37.1 +0.8**
LPG La Plagne 62.69 308 *eP* **P 13 59 37.1 +0.8**
LPG La Plagne 62.69 308 *eP* **P 13 59 37.1 +0.8**
BNI Bardonecchia 62.96 307 *eP* **P 13 59 36.6 -1.3**
BNI pmax pmax
comp=Z,21nm,1.5s
BNI Bardonecchia 62.96 307 *eP* **P 13 59 36.6 -1.3**
comp=Z,21nm,1.5s
MBDF Montbardon 63.06 307 *eP* **P 13 59 39.0 +0.4**
comp=Z,6.6nm,0.7s
MBDF Montbardon 63.06 307 *eP* **P 13 59 39.0 +0.4**
MBDF pmax pmax
comp=Z,7.0nm,0.7s
MBDF Montbardon 63.06 307 *eP* **P 13 59 39.0 +0.4**
comp=Z,6.6nm,0.7s
EKA Eskdalemuir Ar 63.20 321 P **P 13 59 38.8 -0.3**
EKA Eskdalemuir Ar 63.20 321 P **P 13 59 38.8 -0.3**
comp=Z,4.7nm,0.9s,baz=61,slow=6.9,SNR=5.4
ORIF Oris-en-Rattie 63.52 307 *eP* **P 13 59 41.6 +0.1**
ORIF Oris-en-Rattie 63.52 307 *eP* **P 13 59 41.6 +0.1**
ORIF Oris-en-Rattie 63.52 307 *eP* **P 13 59 41.6 +0.1**
FITZ Fitzroy Crossi 63.73 148 *eP* **P 13 59 40.9 -2.0**
comp=Z,58nm,2.3s
SMF Signal de Mont 63.87 310 *eP* **P 13 59 43.9 +0.2**
SMF Signal de Mont 63.87 310 *eP* **P 13 59 43.9 +0.2**
SMF Signal de Mont 63.87 310 *eP* **P 13 59 43.9 +0.2**
AVF Avril sur Loir 64.08 310 *eP* **P 13 59 45.1 0.0**
AVF Avril sur Loir 64.08 310 *eP* **P 13 59 45.1 0.0**
AVF Avril sur Loir 64.08 310 *eP* **P 13 59 45.1 0.0**
BPAW Bear Paw Mtn. 64.09 27 *eP* **P 13 59 44.5 -0.4**
comp=Z,34nm,1.4s
CAST Castle Rocks 64.12 28 *eP* **P 13 59 46.3 +1.2**
comp=Z,42nm,0.6s
SVW2 Sparrevohn 64.18 31 *eP* **P 13 59 45.7 +0.2**
comp=Z,85nm,0.7s
VIVF Saint-Julien-l 64.28 308 *eP* **P 13 59 46.6 +0.1**
VIVF Saint-Julien-l 64.28 308 *eP* **P 13 59 46.6 +0.1**
VIVF Saint-Julien-l 64.28 308 *eP* **P 13 59 46.6 +0.1**
MBWA Marble Bar 64.38 155 *eP* **P 13 59 45.2 -2.0**
PPLA Purkeypile 64.39 28 *eP* **P 13 59 45.5 -1.5**
COLA College 64.66 25 *eP* **P 13 59 48.6 +0.1**
TRF Thorofare Moun 64.73 27 *eP* **P 13 59 48.9 -0.4**
TCF Toulx Ste Croi 65.02 310 *eP* **P 13 59 51.6 +0.3**
comp=Z,23nm,1.2s
TCF Toulx Ste Croi 65.02 310 *eP* **P 13 59 51.6 +0.3**
TCF pmax pmax
comp=Z,23nm,1.2s
TCF Toulx Ste Croi 65.02 310 *eP* **P 13 59 51.6 +0.3**
comp=Z,23nm,1.2s
ILAR Eielson Array 65.04 25 P **P 13 59 50.1 -1.0**
ILAR Eielson Array 65.04 25 P **P 13 59 50.1 -1.0**
comp=Z,1.7nm,0.6s,baz=302,slow=4.8,SNR=24
ILAR LR LR 14 28 44.8
comp=Z,354nm,20.1s,baz=150,slow=37
LDF La Druitiere 65.14 313 *eP* **P 13 59 53.5 +1.5**
LDF La Druitiere 65.14 313 *eP* **P 13 59 53.5 +1.5**
LDF La Druitiere 65.14 313 *eP* **P 13 59 53.5 +1.5**
LASF Ste Croix 65.19 307 *eP* **P 13 59 52.9 +0.5**
comp=Z,42nm,1.3s
LASF Ste Croix 65.19 307 *eP* **P 13 59 52.9 +0.5**
comp=Z,42nm,1.3s
GRR Gorron 65.67 313 *eP* **P 13 59 55.5 +0.1**
comp=Z,33nm,1.1s
GRR Gorron 65.67 313 *eP* **P 13 59 55.5 +0.1**
GRR pmax pmax
comp=Z,33nm,1.1s
GRR Gorron 65.67 313 *eP* **P 13 59 55.5 +0.1**
comp=Z,33nm,1.1s
RSO Redoubt South 65.67 30 *eP* **P 13 59 54.7 -0.8**
KEST Kesra 66.03 297 LR LR 14 33 40.6
comp=Z,105nm,18.6s,baz=333,slow=40
INK Inuvik 66.28 18 P **P 13 59 58.0 -1.0**
INK Inuvik 66.28 18 P **P 13 59 58.0 -1.0**
comp=Z,4.5nm,0.9s,baz=300,slow=6.7,SNR=5.2
PMR Palmer 66.33 28 *eP* **P 13 59 58.1 -1.3**
PMR Palmer 66.33 28 *eP* **P 13 59 58.0 -1.3**
SGMF Saint Gilles 66.69 314 *eP* **P 14 00 02.4 +0.5**
SGMF Saint Gilles 66.69 314 *eP* **P 14 00 02.4 +0.5**
SGMF Saint Gilles 66.69 314 *eP* **P 14 00 02.4 +0.5**
EGAK Eagle 66.83 23 *eP* **P 14 00 02.8 +0.2**
comp=Z,26nm,0.6s
KMBO Kilima Mbogo 67.09 248 P **P 14 00 06.6 +1.3**
KMBO Kilima Mbogo 67.09 248 P **P 14 00 06.6 +1.3**
comp=Z,3.2nm,0.8s,baz=101,slow=5.2,SNR=6.8
SEW Seward 67.17 30 *eP* **P 14 00 03.4 -1.4**
QUIF Quistinic 67.22 314 *eP* **P 14 00 05.5 +0.2**
QUIF Quistinic 67.22 314 *eP* **P 14 00 05.5 +0.2**
QUIF Quistinic 67.22 314 *eP* **P 14 00 05.5 +0.2**
KDAK Kodiak Island 67.41 33 P **P 14 00 03.8 -2.5**
comp=Z,561nm,0.4s,SNR=28
DIV Divide 67.85 27 *eP* **P 14 00 09.9 +0.7**
BMRM Bremner River 68.38 27 *eP* **P 14 00 13.4 +1.0**
comp=Z,31nm,0.6s
WRAB Tennant Creek 69.22 141⇓ *eP* **P 14 00 15.5 -2.6**
WRA Warramunga Arr 69.22 141 P **P 14 00 16.2 -1.9**
WRA Warramunga Arr 69.22 141 P **P 14 00 16.3 -1.9**
comp=Z,2.3nm,0.9s,baz=336,slow=6.9,SNR=5.6
SFJD Kangerlussuaq 70.73 347 LR LR 14 33 26.3
comp=Z,450nm,20.7s,baz=358,slow=38
ASAR Alice Springs 72.22 144 P **P 14 00 33.6 -2.7**
ASAR Alice Springs 72.22 144 P **P 14 00 33.6 -2.7**
comp=Z,1.1nm,0.6s,baz=338,slow=5.8,SNR=8.5
ESDC Sonseca Array 72.49 307 P **P 14 00 37.8 -0.2**
ESDC Sonseca Array 72.49 307 P **P 14 00 37.8 -0.2**
comp=Z,2.0nm,0.6s,baz=45,slow=6.2,SNR=18
ESDC LR LR 14 34 47.3
comp=Z,398nm,18.9s,baz=110,slow=38
PAB San Pablo 72.80 307 *eP* P 14 00 36.0 -3.9
PAB San Pablo 72.80 307 *eP* P 14 00 36.0 -3.9
comp=Z,468nm,2.6s
MVO Moncorvo 73.43 310 *eP* **P 14 00 45.7 +2.1**
comp=Z,13nm,1.6s
PMRV Marv??o 74.73 309 *eP* P 14 00 57.8 +6.7
comp=Z,12nm,1.2s
PESTR Estremoz 75.20 308 *eP* P 14 01 00.5 +6.7
PBAR Barrancos 75.30 307 *eP* **P 14 00 56.5 +2.1**
comp=Z,11nm,1.6s
PMTG Montargil 75.46 309 *eP* **P 14 00 57.7 +2.4**
comp=Z,14nm,1.9s
EVO Evora 75.67 308 *eP* **P 14 00 58.9 +2.4**
comp=Z,12nm,0.8s
CTAO Charters Tower 75.69 132 *eP* **P 14 00 57.2 +0.5**
CTAO pmax pmax
comp=Z,12nm,1.3s
CTAO Charters Tower 75.69 132 *eP* **P 14 00 57.2 +0.5**
comp=Z,12nm,1.3s
EVOP Sao Brissos 75.74 308 *eP* **P 14 00 58.9 +2.0**
EVOP pmax pmax
comp=Z,12nm,0.8s
EVOP Sao Brissos 75.74 308 *eP* **P 14 00 58.9 +2.0**
comp=Z,12nm,0.8s
PCVE Castro Verde 76.26 308 *eP* **P 14 01 02.5 +2.6**
comp=Z,17nm,1.7s
STKA Stephens Creek 82.75 142 *eP* **P 14 01 33.6 -1.4**
STKA Stephens Creek 82.75 142 P **P 14 01 33.1 -2.0**
comp=Z,13nm,0.9s,baz=330,slow=7.0,SNR=14
SCHQ Schefferville 84.81 350 P **P 14 01 44.8 -0.7**
SCHQ Schefferville 84.81 350 P **P 14 01 44.8 -0.7**
comp=Z,5.2nm,0.9s,baz=342,slow=6.4,SNR=5.0
SCHQ LR LR 14 41 47.0
comp=Z,246nm,19.7s,baz=78,slow=37
TORD Torodi Ar. Bea 84.97 283 P **P 14 01 46.2 -0.7**
TORD Torodi Ar. Bea 84.97 283 P **P 14 01 46.2 -0.7**
comp=Z,2.4nm,1.1s,baz=49,slow=3.1,SNR=7.2
TORD LR LR 14 48 42.1
comp=Z,177nm,18.0s,baz=40,slow=42
C09A Chrisman Ranch 87.84 22 *eP* **P 14 02 02.9 +2.4**
comp=Z,15nm,1.4s
YBMT Yellow Bay 88.96 20 *eP* **P 14 02 06.1 +0.2**
comp=Z,7.4nm,0.6s
JTMT Jette 89.00 20 *eP* **P 14 02 06.3 +0.2**
E09A Wood Farm, Sta 89.04 23 *eP* **P 14 02 07.7 +1.6**
comp=Z,13nm,1.3s
SWMT Swartz Lake 89.29 20 *eP* **P 14 02 06.7 -0.8**
SLMT Seeley Lake 89.67 20 *eP* **P 14 02 09.3 -0.1**
comp=Z,15nm,1.0s
F10A Beach Ranch, E 89.80 22 *eP* **P 14 02 12.0 +2.1**
comp=Z,19nm,1.4s
EGMT Eagleton 89.84 17 *eP* **P 14 02 11.2 +1.1**
comp=Z,21nm,1.4s
MSO Missoula 89.93 20 *eP* **P 14 02 12.9 +2.4**
comp=Z,10.0nm,1.3s
KEBM Edson Butte 90.19 28 *eP* **P 14 02 10.3 -1.4**
comp=Z,121nm,1.5s
PINOR Pine Mountain 90.59 26 *eP* P 14 02 17.6 +4.2
comp=Z,27nm,1.8s
I07A Izee 90.80 25 *eP* P 14 02 18.2 +3.7
comp=Z,6.8nm,1.2s
HUMO Hull Mountain 90.92 28 *eP* P 14 02 18.9 +3.8
comp=Z,15nm,1.3s
DLMT Dillon 91.64 20 *eP* **P 14 02 21.2 +2.7**
comp=Z,17nm,1.7s
HLID Hailey 92.81 22 *eP* **P 14 02 27.0 +3.0**
comp=Z,7.4nm,1.5s
IMW Indian Meadow 93.44 19 *eP* **P 14 02 25.0 -2.0**
DBIC Dimbokro 94.05 282 P **P 14 02 30.7 +0.8**
DBIC Dimbokro 94.05 282 P **P 14 02 30.7 +0.8**
comp=Z,4.1nm,0.9s,baz=42,slow=8.3,SNR=3.0
BOSA Boshof 94.44 236 *eP* **P 14 02 28.9 -2.5**
comp=Z,18nm,0.8s
BOSA Boshof 94.44 236 LR LR 14 40 56.9
comp=Z,177nm,20.3s,baz=37,slow=33
PDAR Pinedale Array 94.84 19 P **P 14 02 32.5 -0.9**
PDAR Pinedale Array 94.84 19 P **P 14 02 32.5 -0.9**
comp=Z,0.5nm,0.6s,baz=358,slow=4.5,SNR=3.8
PDAR LR LR 14 49 19.5
comp=Z,177nm,19.6s,baz=354,slow=38
NVAR Mina Array Bea 96.26 26 P **P 14 02 38.9 -1.1**
NVAR Mina Array Bea 96.26 26 P **P 14 02 38.8 -1.1**
comp=Z,0.3nm,0.7s,baz=316,slow=2.5,SNR=3.0
GLA Glamis 102.32 26 *eP* **Pdif 14 03 02.3 -4.6**
GLA Glamis 102.32 26 *e*Pdif **Pdif 14 03 02.3 -4.6**
VNDA Vanda 123.42 166 PKP **PKPdf 14 08 06.0 -1.0**
VNDA Vanda 123.42 166 PKP **PKPdf 14 08 06.0 -1.0**
comp=Z,1.1nm,0.8s,baz=207,slow=2.3,SNR=5.0
LPAZ La Paz 152.95 325 PKPbc **PKPbc 14 09 07.4 -2.3**
LPAZ La Paz 152.95 325 PKPbc **PKPbc 14 09 07.4 -2.3**
comp=Z,1.8nm,0.4s,baz=319,slow=5.1,SNR=8.2
CPUP Villa Florida 154.08 293 PKPbc **PKPbc 14 09 11.0 -0.2**
CPUP Villa Florida 154.08 293 PKPbc **PKPbc 14 09 11.0 -0.2**
comp=Z,0.5nm,0.4s,baz=288,slow=9.6,SNR=3.4

MOS ***02*** *13:56:31.7±0.9,51˚.74N×176˚.80W,h46km,mb5.0/45, Error ellipse: s-maj=9.1km s-min=8.0km az=143.7*
NEIC ***02*** *13:56:32.6,51˚.22N×176˚.84W,h5km,mb4.9/58, ML4.9(AEIC),After AEIC.*
ISCJB ***02*** *13:56:33.9±0.4,51˚.65N±0˚.04×176˚.80W±0˚.02,h66km±3km, mb4.7/106,Error ellipse: s-maj=7.2km s-min=2.2km az=175.8*
BJI ***02*** *13:56:34.3,51˚.90N×177˚.05W,h63km,mB5.3/24, mb5.1/41,Ms4.9/17,Ms7 4.6/16*
IDC ***02*** *13:56:34.2±0.7,51˚.70N×176˚.78W,h54km±5km,mb4.4/32, mb1 4.5/35,mb1mx4.5/38,mbtmp4.4/35,MS4.0/12, Ms1 4.0/12,ms1mx3.7/52,Error ellipse: s-maj=13.2km s-min=7.8km az=166.0*
AUST ***02*** *13:56:43.8±5.4,51˚.22N×176˚.67W,h143km±42km,Error ellipse: s-maj=26.7km s-min=14.6km az=87.0*
ISC 02 13:56:35.1±0.4,51.54N±0.07×176.83W±0.03,h65km±2km, h64km;pP-P,n664,σ0≡98/723,mb4.8/106,176C-190D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CERAA	**Semis' Rag'd T**	**2.20**	**281**	P		**Pn**	**13 57 09.1**	**-0.2**
CESW	**Semis' Southwe**	**2.27**	**281**	P		**Pn**	**13 57 10.0**	**-0.3**
CEAP	**Semis' Anvil P**	**2.28**	**283**	P		**Pn**	**13 57 10.3**	**-0.1**
CETU	**Semis' Tuman**	**2.33**	**282**	P		**Pn**	**13 57 11.3**	**+0.3**
AMKA	**Amchitka**	**2.43**	**268**	P		**Pn**	**13 57 11.2**	**-1.2**
AMKA				S		**Sn**	**13 57 41.2**	**+0.3**
LSSE	**Little Sitkin**	**2.89**	**280**	P		**Pn**	**13 57 18.7**	**+0.1**
LSNW	**Little Sitkin**	**2.92**	**280**	P		**Pn**	**13 57 18.8**	**-0.4**
LSSA	**Little Sitkin**	**2.92**	**280**	P		**Pn**	**13 57 19.2**	**+0.1**
NIKH	**Nikolski High**	**5.10**	**71**	P		**Pn**	**13 57 49.7**	**+0.8**
NIKH				S		**Sn**	**13 58 50.4**	**+4.0**
OKSP	**Okmok Steeple**	**5.50**	**69**	P		**Pn**	**13 57 54.7**	**+0.3**
OKSO	**Okmok South**	**5.60**	**68**	P		**Pn**	**13 57 56.7**	**+0.9**
OKCE	**Okmok Cone E**	**5.62**	**67**	P		**Pn**	**13 57 57.4**	**+1.5**
OKCE				S		**Sn**	**13 59 04.3**	**+5.2**
OKTU	**Okmok Mt. Tuli**	**5.68**	**68**	P		**Pn**	**13 57 56.9**	**+0.1**
SMY	**Shemya**	**5.71**	**286**	*e*P		**Pn**	**13 57 56.7**	**-0.5**
SMY	**Shemya**	**5.71**	**286**	*e*Pn		**Pn**	**13 57 56.7**	**-0.5**
FX1	**Attu Island--F**	**6.30**	**286**	P		**Pn**	**13 58 04.1**	**-1.1**
FX1				S		**Sn**	**13 59 16.2**	**+0.5**
FX1	**Attu Island--F**	**6.30**	**286**	P		**Pn**	**13 58 04.1**	**-1.1**
	26nm,0.3s,baz=219,slow=3.8,SNR=38							
FX1				S		**Sn**	**13 59 16.2**	**+0.5**
	8.5nm,0.3s,baz=229,slow=20,SNR=2.3							
UNV	**Unalaska Valle**	**6.69**	**66**	P		**Pn**	**13 58 10.9**	**+0.4**
UNV				S		**Sn**	**13 59 27.6**	**+2.4**
SPIA	**Saint Paul Isl**	**6.83**	**32**	P		**Pn**	**13 58 14.3**	**+1.9**
ZRO	**Akutan Zero**	**7.05**	**65**	P		**Pn**	**13 58 15.8**	**+0.3**
AKGG	**Akutan Green G**	**7.08**	**64**	P		**Pn**	**13 58 16.4**	**+0.5**
AKUT	**Akutan**	**7.18**	**64**	P		**Pn**	**13 58 17.7**	**+0.4**
AKUT				*e*Sn		Sn	13 59 44.2	+6.9
FALS	**False Pass**	**8.71**	**62**	P		**Pn**	**13 58 37.4**	**-0.7**
DTNA	**Dutton South F**	**9.43**	**62**	P		**Pn**	**13 58 46.2**	**-1.9**
CHGN	**Chignik**	**11.84**	**59**	*e*Pn		**Pn**	**13 59 18.9**	**-2.0**
OHAK	**Old Harbor**	**14.80**	**58**	*e*Pn		Pn	13 59 55.6	-4.9
	69nm,0.5s							
PET	**Petropavlovsk**	**15.06**	**285**	*e*P		**P**	**14 00 09.5**	**+1.7**
PET				*e*S		**Sn**	**14 02 55.4**	**+6.0**
PET				MLR	MLR			
	comp=Z,400nm,18.0s							
PET				MLR	MLR			
	comp=Z,700nm,20.0s							
SVW2	**Sparrevohn**	**15.11**	**42**	*e*P		**P**	**14 00 08.0**	**-0.3**
	comp=Z,85nm,0.7s							
KDAK	**Kodiak Island**	**15.30**	**56**	*e*P		**Pn**	**14 00 03.0**	**-3.9**
	comp=Z,71nm,0.7s							
KDAK	**Kodiak Island**	**15.30**	**56**	P		**Pn**	**14 00 03.1**	**-3.8**
KDAK				S		**Sn**	**14 02 52.1**	**-3.1**
KDAK	**Kodiak Island**	**15.30**	**56**	P		**Pn**	**14 00 03.1**	**-3.8**
	comp=Z,4.6nm,0.3s,baz=251,slow=4.4,SNR=60							
KDAK				S		**Sn**	**14 02 52.1**	**-3.1**
	comp=Z,0.7nm,0.3s,baz=282,slow=20,SNR=3.5							
PEA0B	**Petropavlovsk-**	**15.63**	**286**	*e*Pn		**Pn**	**14 00 12.6**	**+1.4**
PETK	**Petropavlovsk-**	**15.63**	**286**	P		**Pn**	**14 00 11.1**	**-0.1**
PETK				S		**Sn**	**14 03 03.4**	**+0.1**
PETK				pmax	pmax			
	comp=Z,1.0nm,0.3s							
PETK				MLR	MLR			
	comp=Z,315nm,21.0s							
PETK	**Petropavlovsk-**	**15.63**	**286**	P		**Pn**	**14 00 11.1**	**-0.1**
PETK				S		**Sn**	**14 03 03.4**	**+0.1**
PETK	**Petropavlovsk-**	**15.63**	**286**	P		**Pn**	**14 00 11.1**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=95,slow=13,SNR=20							
PETK				S		**Sn**	**14 03 03.4**	**+0.1**
	comp=Z,0.0nm,0.3s,baz=88,slow=18,SNR=2.4							
PETK				LR	LR		14 05 54.6	
	comp=Z,315nm,21.0s,baz=95,slow=36							
SPU	**Mount Spurr**	**16.67**	**45**	*e*Pn		**P**	**14 00 27.3**	**+1.7**
SKR	**Severo-Kuril's**	**16.98**	**278**	*e*P		**Pn**	**14 00 27.5**	**-0.5**
SKR				pmax	pmax			
	comp=Z,180nm,1.0s							
PPLA	**Purkeypile**	**17.39**	**40**	*e*Pn		**P**	**14 00 35.4**	**+1.7**
SEW	**Seward**	**17.49**	**50**	*e*Pn		**Pn**	**14 00 31.7**	**-2.5**
PMR	**Palmer**	**18.13**	**46**	*e*P		**P**	**14 00 40.1**	**-1.5**
PMR	**Palmer**	**18.13**	**46**	*e*P		**P**	**14 00 40.1**	**-1.5**
TRF	**Thorofare Moun**	**18.42**	**39**	*e*P		**P**	**14 00 45.2**	**+0.2**
BPAW	**Bear Paw Mtn.**	**18.47**	**37**	*e*P		**P**	**14 00 45.6**	**+0.2**
IM04	**Indian Mountai**	**18.59**	**30**	*e*P		**Pn**	**14 00 47.5**	**0.0**
IMA2	**Indian Mountai**	**18.68**	**30**	*e*P		**Pn**	**14 00 48.4**	**-0.3**
MCK	**McKinley**	**19.08**	**40**	*e*P		**P**	**14 00 51.2**	**-0.9**
MCK	**McKinley**	**19.08**	**40**	*e*P		**P**	**14 00 51.2**	**-0.9**
DIV	**Divide**	**19.52**	**49**	*e*P		**P**	**14 00 55.4**	**-1.5**
	comp=Z,15nm,0.6s							
SEY	**Seymchan**	**19.96**	**317**⇓	*i*P		**Pn**	**14 01 03.9**	**+0.1**
COLA	**College**	**20.03**	**37**	*e*P		**P**	**14 01 00.7**	**-1.6**
COLA	**College**	**20.03**	**37**	*e*P		**P**	**14 01 00.7**	**-1.6**
BMRM	**Bremner River**	**20.03**	**49**	*e*P		**P**	**14 01 01.1**	**-1.3**
PAX	**Paxson**	**20.22**	**43**	*e*P		**P**	**14 01 04.1**	**-0.4**
PAX				pmax	pmax			
	comp=Z,57nm,0.6s							
PAX	**Paxson**	**20.22**	**43**	*e*P		**P**	**14 01 04.1**	**-0.4**
	comp=Z,57nm,0.6s							
ILAR	**Eielson Array**	**20.35**	**38**	P		**P**	**14 01 03.7**	**-2.1**
ILAR				S		**S**	**14 04 49.1**	**-0.8**
ILAR				PcP		**PcP**	**14 05 15.8**	**-0.2**
ILAR				ScP		**ScP**	**14 08 47.0**	**+0.5**
ILAR	**Eielson Array**	**20.35**	**38**	P		**P**	**14 01 03.7**	**-2.1**
	comp=Z,11nm,0.6s,baz=237,slow=9.6,SNR=34							
ILAR				S		**S**	**14 04 49.2**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=238,slow=18,SNR=3.4							
ILAR				PcP		**PcP**	**14 05 15.8**	**-0.2**
	comp=Z,2.5nm,0.6s,baz=281,slow=3.4,SNR=8.2							
ILAR				ScP		**ScP**	**14 08 47.0**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=289,slow=2.8,SNR=3.5							
ILAR				LR	LR		14 10 02.2	
	comp=Z,287nm,18.1s,baz=108,slow=40							
COLD	**Coldfoot**	**20.49**	**30**	*e*P		**P**	**14 01 07.6**	**+0.3**
MENT	**Mentasta**	**20.96**	**44**	*e*P		Pn	14 01 14.8	-0.9
EGAK	**Eagle**	**22.62**	**41**	*e*P		**P**	**14 01 29.1**	**-1.1**
YSS	**Yuzh-Sakhalins**	**26.53**	**276**⇑	*e*P		**P**	**14 02 07.0**	**+0.6**
YSS				*e*			14 08 05.0	
YSS				pmax	pmax			
	comp=Z,40nm,1.0s							
YSS				MLR	MLR			
	comp=Z,2µm,16.0s							
INK	**Inuvik 26.62**	**35**	*e*P		**P**	**14 02 05.6**	**-1.4**
	comp=Z,10nm,0.9s							
INK	**Inuvik 26.62**	**35**	P		**P**	**14 02 05.7**	**-1.3**
	comp=Z,4.0nm,0.4s,baz=234,slow=9.8,SNR=22							
INK				PcP		**PcP**	**14 05 29.4**	**+0.3**
	comp=Z,4.4nm,0.4s,baz=300,slow=1.9,SNR=17							
DLBC	**Dease Lake**	**27.24**	**57**	P		**P**	**14 02 12.0**	**-0.7**
DLBC	**Dease Lake**	**27.24**	**57**	P		**P**	**14 02 12.0**	**-0.7**
	comp=Z,1.9nm,0.8s,baz=212,slow=9.5,SNR=2.5							
ASAJ	**Asahikawa**	**27.94**	**271**	P		**P**	**14 02 19.6**	**+0.6**
ASAJ	**Asahikawa**	**27.94**	**271**	P		**P**	**14 02 19.6**	**+0.6**
	comp=Z,20nm,1.0s,baz=35,slow=9.7,SNR=11							
BBB	**Bella Bella**	**29.64**	**69**	P		**P**	**14 02 33.8**	**-0.2**
BBB	**Bella Bella**	**29.64**	**69**	P		**P**	**14 02 33.8**	**-0.2**
	comp=Z,13nm,0.9s,baz=323,slow=10,SNR=6.7							
YAK	**Yakutsk**	**30.24**	**311**	*e*P		P	14 02 53.1	+14
YAK				pmax	pmax			
	comp=Z,14nm,1.3s							
HABR	**Khabarovsk**	**30.64**	**284**	*e*P		**P**	**14 02 43.2**	**+0.3**
HABR				*e**PP		**pP**	**14 03 01.8**	**+3.2**
HABR				*e*			14 03 46.1	
HABR				*e*			14 05 38.9	
HABR				*e*S		**S**	**14 07 40.9**	**+0.6**
HABR				*e*			14 09 22.8	
HABR				pmax	pmax			
	comp=Z,16nm,1.0s							
KLR	**Kul'dur**	**32.32**	**287**	*e*P		**P**	**14 02 54.9**	**-2.8**
KLR				*e*			14 04 00.0	
KLR				pmax	pmax			
	comp=E,30nm,1.2s							
KLR				pmax	pmax			
	comp=Z,43nm,1.2s							
NLWA	**Neilton Lookou**	**34.04**	**76**	*e*P		**P**	**14 03 11.7**	**-1.0**
YKA	**Yellowknife Ar**	**34.22**	**47**	P		**P**	**14 03 13.2**	**-0.9**
YKA				PcP		**PcP**	**14 05 49.1**	**0.0**
YKA	**Yellowknife Ar**	**34.22**	**47**	P		**P**	**14 03 13.2**	**-0.9**
	comp=Z,2.1nm,0.6s,baz=280,slow=7.8,SNR=5.7							
YKA				PcP		**PcP**	**14 05 49.1**	**0.0**
	comp=Z,1.9nm,0.3s,baz=281,slow=3.0,SNR=16							
H11N2	**WAKE ISLAND Hy**	**34.23**	**208**	T		T	14 39 37.0	
	baz=20,slow=0.7							
H11N3	**WAKE ISLAND Hy**	**34.23**	**208**	T		T	14 39 39.0	
	baz=20,slow=0.7							
H11N1	**WAKE ISLAND Hy**	**34.24**	**208**	T		T	14 39 42.4	
	baz=20,slow=0.7							
USRK	**Ussuriysk Arra**	**34.50**	**278**	P		**P**	**14 03 16.6**	**0.0**
	comp=Z,14nm,0.5s,baz=55,slow=10.0,SNR=52							
USRK				LR	LR		14 15 52.0	
	comp=Z,224nm,21.4s,baz=205,slow=34							
MBW	**Mount Baker**	**34.60**	**72**	P		**P**	**14 03 18.7**	**+1.0**
MJAR	**Matsushiro Arr**	**35.03**	**263**	P		**P**	**14 03 22.1**	**+0.7**
MJAR	**Matsushiro Arr**	**35.03**	**263**	P		**P**	**14 03 22.1**	**+0.7**
	comp=Z,9.0nm,0.7s,baz=49,slow=7.2,SNR=26							
MAJO	**Matsushiro**	**35.03**	**263**	*e*P		**P**	**14 03 21.0**	**-0.4**
MAJO				pmax	pmax			
	comp=Z,17nm,0.8s							
MAJO	**Matsushiro**	**35.03**	**263**	*e*P		**P**	**14 03 21.0**	**-0.4**
	comp=Z,17nm,0.8s							
MAT	**Matsushiro**	**35.03**	**263**	P		**P**	**14 03 22.2**	**+0.9**
H11S1	**WAKE ISLAND Hy**	**35.04**	**208**	T		T	14 41 12.0	
	baz=19,slow=0.7,SNR=4465							
H11S2	**WAKE ISLAND Hy**	**35.46**	**208**	T		T	14 41 11.6	
	baz=19,slow=0.7,SNR=1137							
H11S3	**WAKE ISLAND Hy**	**35.46**	**208**	T		T	14 41 13.4	
	baz=19,slow=0.7,SNR=228							
FMW	**Mount Fremont**	**35.58**	**75**	P		**P**	**14 03 27.5**	**+1.4**
LON	**Longmire**	**35.58**	**76**	*e*P		**P**	**14 03 25.6**	**-0.5**
LON				pmax	pmax			
	comp=Z,16nm,0.6s							
LON	**Longmire**	**35.58**	**76**	*e*P		**P**	**14 03 25.6**	**-0.5**
	comp=Z,16nm,0.6s							
WPW	**White Pass**	**35.77**	**75**	P		**P**	**14 03 28.6**	**+0.9**
ETW	**Entiat**	**36.07**	**73**	P		**P**	**14 03 31.3**	**+1.0**
HAWA	**Hanford**	**37.13**	**75**	*e*P		**P**	**14 03 38.8**	**-0.4**
	comp=Z,32nm,0.6s							
OD2	**Odessa Site #2**	**37.14**	**73**	P		**P**	**14 03 39.8**	**+0.5**
YBH	**Yreka Blue Hor**	**37.63**	**83**	*e*P		**P**	**14 03 44.4**	**+0.8**
	comp=Z,7.3nm,1.0s							
EDM	**Edmonton**	**37.65**	**62**	*e*P		**P**	**14 03 42.8**	**-0.7**
EDM	**Edmonton**	**37.65**	**62**	*e*P		**P**	**14 03 42.8**	**-0.7**
NEW	**Newport**	**37.67**	**71**	*e*P		**P**	**14 03 43.1**	**-0.6**
	comp=Z,14nm,0.6s							
NEW	**Newport**	**37.67**	**71**	⇑P		**P**	**14 03 43.9**	**+0.1**
	ba

comp=Z,6.0nm,0.6s
BMN **Battle Mountai** 41.78 81 *e*P P 14 04 17.7 -0.4
comp=Z,5.6nm,0.6s
JNU **Nakatsue** 41.82 265 P P 14 04 19.2 +0.9
JNU **Nakatsue** 41.82 265 P P 14 04 19.2 +0.9
comp=Z,31nm,0.8s,baz=57,slow=9.4,SNR=15
MCMT **McKenzie Canyo** 41.95 73 *e*P P 14 04 19.5 -0.1
comp=Z,6.5nm,0.6s
EGMT **Eagleton** 42.08 67 *e*P P 14 04 19.8 -0.5
comp=Z,20nm,0.7s
EGMT **Eagleton** 42.08 67 ⇓P P 14 04 20.0 -0.4
baz=42,SNR=16
A19A **Klindworth Far** 42.20 66 ⇓P P 14 04 20.8 -0.5
baz=42,SNR=16
BOZ **Bozeman (W)** 42.23 71 *e*P P 14 04 22.0 +0.2
BOZ pmax pmax
comp=Z,9.0nm,0.7s
BOZ **Bozeman (W)** 42.23 71 *e*P P 14 04 22.0 +0.2
comp=Z,8.9nm,0.7s
NVAR **Mina Array Bea** 42.31 84 P P 14 04 23.1 +0.6
NVAR PcP PcP 14 06 15.8 +0.8
NVAR **Mina Array Bea** 42.31 84 P P 14 04 23.1 +0.6
comp=Z,7.1nm,0.9s,baz=293,slow=7.8,SNR=32
NVAR PcP PcP 14 06 15.8 +0.8
comp=Z,3.1nm,0.8s,baz=294,slow=2.6,SNR=5.9
B19A **Brinkman Farms** 42.33 66 ⇓P P 14 04 22.3 0.0
baz=42,SNR=7.9
C19A **Slack Wire Ran** 42.64 67 ⇓P P 14 04 25.6 +0.8
baz=42,SNR=56
A20A **Cobblestone Ra** 42.69 65 ⇑P P 14 04 25.1 -0.1
baz=42,SNR=32
QLMT **Earthquake Lak** 42.80 72 *e*P P 14 04 26.3 -0.1
comp=Z,0.8nm,0.6s
ELK **Elko** 42.81 80 *e*P P 14 04 26.8 +0.2
comp=Z,6.9nm,0.7s
B20A **Solberg Farm,** 42.86 66 ⇓P P 14 04 26.4 -0.2
baz=43
D19A **Cripps Ranch,** 43.03 68 ⇑P P 14 04 28.1 0.0
baz=43,SNR=20
YMR **Madison River** 43.16 72 *e*P P 14 04 29.4 0.0
comp=Z,17nm,0.9s
A21A **Bergtoll Ranch** 43.20 65 ⇓P P 14 04 29.1 -0.3
baz=43,SNR=18
C20A **Veseth Ranch,** 43.25 67 ⇑P P 14 04 30.1 +0.3
baz=43,SNR=23
GCMT **Greycliff** 43.31 70 *e*P P 14 04 30.7 +0.2
B21A **Ellsworth Farm** 43.44 65 ⇑P P 14 04 31.0 -0.2
baz=43,SNR=16
E19A **Rath Farm, Rou** 43.47 69 ⇑P P 14 04 31.8 +0.3
baz=43,SNR=11
D20A **Manuel Ranch,** 43.50 68 ⇓P P 14 04 31.1 -0.7
baz=43
H17A **Grant Village** 43.55 72 ⇓P P 14 04 34.1 +1.6
baz=43
CWC **Cottonwood Cre** 43.68 86 ⇓P P 14 04 34.2 +0.6
baz=44
RRI2 **Red Ridge** 43.69 74 *e*P P 14 04 33.9 +0.2
F19A **Roth Farm, Mol** 43.70 70 ⇓P P 14 04 33.3 -0.3
baz=44,SNR=9.9
C21A **Desert Coulee** 43.71 66 ⇓P P 14 04 33.4 -0.1
baz=44,SNR=16
HVU **Hansel Valley** 43.71 77 *e*P P 14 04 34.2 +0.5
HVU pmax pmax
comp=Z,17nm,0.6s
HVU **Hansel Valley** 43.71 77 *e*P P 14 04 34.2 +0.5
comp=Z,17nm,0.6s
A22A **Carney Farms,** 43.77 64 ⇓P P 14 04 33.9 0.0
baz=44,SNR=13
E20A **Meyer Farm, Mu** 43.82 68 ⇓P P 14 04 34.1 -0.4
baz=44,SNR=8.1
TPAW **Teton Pass** 43.83 74 *e*P P 14 04 33.7 -1.1
comp=Z,5.9nm,0.8s
H18A **Shoshone NF, C** 43.93 71 ⇑P P 14 04 35.2 -0.3
baz=44,SNR=5.3
ISA **Isabella** 43.93 88 *e*P P 14 04 34.6 -0.8
ISA pmax pmax
comp=Z,7.0nm,0.7s
ISA **Isabella** 43.93 88 *e*P P 14 04 34.6 -0.8
comp=Z,6.6nm,0.7s
ISA **Isabella** 43.93 88 ⇑P P 14 04 35.3 -0.1
baz=44,SNR=5.1
LOHW **Long Hollow** 43.97 73 *e*P P 14 04 36.4 +0.6
comp=Z,2.8nm,0.6s
R11A **Troy Canyon, C** 44.04 83 *e*P P 14 04 35.9 -0.5
R11A **Troy Canyon, C** 44.04 83 ⇑P P 14 04 36.4 0.0
baz=44,SNR=18
BGU **Big Grassy Mou** 44.06 78 *e*P P 14 04 36.9 +0.4
comp=Z,7.1nm,0.8s
B22A **Reddig Ranch S** 44.08 65 ⇓P P 14 04 36.2 -0.3
baz=44,SNR=12
D21A **La Casta Ranch** 44.18 67 ⇓P P 14 04 36.9 -0.4
baz=44,SNR=15
F20A **Billings** 44.20 69 ⇑P P 14 04 38.2 +0.7
baz=44
MPMC **Manual Prospec** 44.29 86 ⇓P P 14 04 38.7 +0.2
baz=44,SNR=6.3
H19A **Powell** 44.33 71 ⇑P P 14 04 39.3 +0.7
baz=44
A23A **Redstone** 44.36 64 ⇑P P 14 04 38.3 -0.4
baz=44,SNR=7.9
E21A **Keefer Ranch,** 44.41 68 ⇓P P 14 04 39.8 +0.6
baz=44
FURC **Furnace Creek,** 44.42 86 ⇑P P 14 04 39.9 +0.7
baz=44
C22A **Vida** 44.44 66 ⇓P P 14 04 39.0 -0.4
baz=44,SNR=15
G20A **Bridger** 44.48 70 ⇓P P 14 04 39.7 -0.1
baz=44,SNR=21
LRMC **Laurel Mountai** 44.54 87 ⇓P P 14 04 40.6 +0.2
baz=44
B23A **Brockton** 44.56 64 ⇑P P 14 04 39.9 -0.4
baz=44,SNR=19
BLG **Laguna Peak** 44.57 90 ⇓P P 14 04 41.4 +0.9
baz=44
D22A **Cohagen** 44.60 67 ⇓P P 14 04 41.2 +0.6
baz=44,SNR=40
DUG **Dugway** 44.63 79 *e*P P 14 04 41.0 0.0
DUG pmax pmax
comp=Z,21nm,1.1s
DUG **Dugway** 44.63 79 *e*P P 14 04 41.0 0.0
comp=Z,21nm,1.1s
DUG **Dugway** 44.63 79 ⇑P P 14 04 41.5 +0.5
baz=44,SNR=19
I19A **Meeteetse** 44.69 72 ⇑P P 14 04 42.2 +0.6
baz=44
EDW2 **Edwards Air Fo** 44.74 88 ⇑P P 14 04 41.8 -0.1
baz=45
C23A **Lambert** 44.81 65 ⇓P P 14 04 42.5 +0.2
baz=45,SNR=37
DGMT **Dagmar** 45.01 64 ⇓P P 14 04 43.5 -0.3
baz=45
H20A **Greybull** 45.02 71 ⇓P P 14 04 43.7 -0.4
baz=45,SNR=5.0
G21A **Lodge Grass** 45.07 69 ⇓P P 14 04 44.1 -0.3
baz=45,SNR=8.1
PDAR **Pinedale Array** 45.08 74 P P 14 04 44.8 +0.1
PDAR PcP PcP 14 06 24.5 +0.2
PDAR **Pinedale Array** 45.08 74 P P 14 04 44.8 +0.1
comp=Z,18nm,0.7s,baz=303,slow=3.7,SNR=93
PDAR PcP PcP 14 06 24.5 +0.2
comp=Z,2.9nm,0.9s,baz=249,slow=1.7,SNR=4.5
PDAR LR LR 14 20 58.8
comp=Z,195nm,19.5s,baz=349,slow=32
J19A **Crowheart** 45.09 73 ⇑P P 14 04 44.9 +0.2
baz=45
E22A **Miles City** 45.12 67 ⇓P P 14 04 44.7 0.0
baz=45,SNR=18
D23A **Lindsay** 45.14 66 ⇓P P 14 04 45.1 +0.2
baz=45,SNR=18
SHOC **Shoshone** 45.15 86 ⇑P P 14 04 45.4 +0.3
baz=45,SNR=6.0
M17A **Scullys Gap (B** 45.17 76 ⇓P P 14 04 45.3 -0.2
baz=45,SNR=9.5
GSC **Goldstone** 45.21 87 *e*P P 14 04 45.9 +0.3
GSC **Goldstone** 45.21 87 *e*P P 14 04 45.9 +0.3
GSC **Goldstone** 45.21 87 ⇑P P 14 04 45.6 0.0
baz=45,SNR=12
I20A **Worland** 45.25 71 ⇑P P 14 04 45.9 0.0
baz=45,SNR=8.6
L18A **Fontenelle, Gr** 45.29 75 ⇓P P 14 04 46.1 -0.2
baz=45,SNR=8.2
F22A **Rosebud** 45.31 68 ⇓P P 14 04 46.3 0.0
baz=45,SNR=12
A25A **Svangstu Ranch** 45.36 63 ⇑P P 14 04 46.2 -0.4
baz=45,SNR=22
BFSC **Mount Baldy Ra** 45.37 89 ⇓P P 14 04 47.0 +0.1
baz=45,SNR=6.5
C24A **Savage** 45.39 65 ⇓P P 14 04 47.2 +0.3
baz=45
E23A **Ismay** 45.46 67 ⇓P P 14 04 47.5 +0.1
baz=45,SNR=14
SHPR **Sheep Range** 45.46 84 *e*P P 14 04 48.5 +0.8
comp=Z,3.5nm,0.8s
K19A **Absolon Red Bu** 45.47 73 ⇑P P 14 04 47.7 -0.1
baz=45,SNR=22
H21A **Big Horn, Sher** 45.50 70 ⇓P P 14 04 47.7 -0.2
baz=45,SNR=6.4
G22A **Birney** 45.60 69 ⇑P P 14 04 48.6 -0.1
baz=45,SNR=9.0
J20A **Shoshoni** 45.62 72 ⇓P P 14 04 48.9 +0.1
baz=46,SNR=8.9
TUQ **Turquoise Moun** 45.67 86 ⇑P P 14 04 49.8 +0.5
baz=46
B25A **Knox Farm, Ray** 45.70 64 ⇓P P 14 04 49.6 +0.3
baz=46
HEC **Hector,Ludlow** 45.81 87 ⇑P P 14 04 50.6 +0.2
baz=46,SNR=5.3
BBRC **Big Bear Solar** 45.81 88 ⇓P P 14 04 51.1 +0.6
baz=46
I21A **Big Trails, Te** 45.82 71 ⇓P P 14 04 50.1 -0.3
baz=46,SNR=9.8
F23A **Volborg** 45.84 68 ⇓P P 14 04 50.3 -0.2
baz=46,SNR=17
K20A **Yellowstone Ra** 45.87 73 ⇑P P 14 04 50.7 -0.2
baz=46,SNR=12
H22A **Clearmont** 45.93 70 ⇑P P 14 04 51.0 -0.2
baz=46,SNR=6.2
C25A **Freed Ranch, W** 45.95 64 ⇑P P 14 04 51.3 +0.1
baz=46
A26A **Wade Farm, Ken** 45.98 62 ⇑P P 14 04 51.3 -0.2
baz=46
E24A **Baker** 45.99 66 ⇓P P 14 04 52.0 +0.3
baz=46,SNR=18
J21A **Lysite** 46.00 72 ⇑P P 14 04 52.1 +0.1
baz=46
MVU **Marysvale** 46.03 80 *e*P P 14 04 52.4 +0.1
comp=Z,9.0nm,0.9s
MURC **Murrieta** 46.07 89 ⇓P P 14 04 52.9 +0.5
baz=46
G23A **Biddle** 46.14 68 ⇑P P 14 04 52.7 -0.2
baz=46,SNR=8.9
B26A **Jensen Ranch,** 46.16 63 ⇓P P 14 04 52.8 -0.1
baz=46
TMUT **Trail Mountain** 46.16 79 *e*P P 14 04 52.9 -0.5
comp=Z,22nm,0.8s
I22A **9 Mile Ranch,** 46.25 70 ⇑P P 14 04 53.7 -0.1
baz=46,SNR=12
L20A **Wamsutter** 46.26 74 ⇓P P 14 04 54.2 +0.3
baz=46
GMRC **Granite Mounta** 46.26 86 ⇓P P 14 04 54.1 +0.1
baz=46,SNR=7.1
F24A **Ekalaka** 46.32 67 ⇓P P 14 04 54.1 -0.2
baz=46,SNR=13
A27A **Ledoux Ranch,** 46.39 62 ⇑P P 14 04 54.5 -0.2
baz=46
LDFC **Landfair** 46.41 86 *e*P P 14 04 55.0 -0.2
comp=Z,20nm,0.9s
Q16A **Castle Valley** 46.41 79 ⇓P P 14 04 55.8 +0.6
baz=46
PFO **Pinyon Flat Ob** 46.53 88 ⇑P P 14 04 56.3 +0.2
baz=46
J22A **Midwest** 46.54 71 ⇑P P 14 04 56.1 0.0
baz=46,SNR=22
C26A **Wahner Farm, P** 46.54 64 ⇑P P 14 04 55.9 +0.1
baz=46
K21A **Alcova** 46.54 72 ⇑P P 14 04 56.1 0.0
baz=46
BJI **Beijing** 46.54 283 P P 14 04 57.3 +1.4
BJI AMB AMB
comp=Z,71nm,0.9s
BJI AMB AMB
comp=Z,330nm,5.8s
E25A **Miller Ranch,** 46.55 66 ⇑P P 14 04 56.4 +0.4
baz=46
BELC **Belle Mtn. Jos** 46.56 88 ⇓P P 14 04 56.6 +0.3
baz=46
BJT **Baijiatuau** 46.56 283 *e*P P 14 04 54.1 -2.0
G24A **Alzada** 46.63 68 ⇑P P 14 04 56.8 0.0
baz=46
B27A **Peters Farms,** 46.68 62 ⇑P P 14 04 57.1 +0.2
baz=46,SNR=6.6
SRU **San Rafael** 46.69 78 *e*P P 14 04 57.1 -0.3
SRU pmax pmax
comp=Z,17nm,0.8s
SRU **San Rafael** 46.69 78 *e*P P 14 04 57.1 -0.3
comp=Z,17nm,0.8s
D26A **Manning** 46.79 65 ⇑P P 14 04 57.5 -0.4
baz=47
O19A **Miners Draw (B** 46.81 76 ⇓P P 14 04 58.6 +0.4
baz=47,SNR=15
F25A **Bowman** 46.84 66 ⇑P P 14 04 58.5 +0.2
baz=47,SNR=5.6
L21A **Rawlins** 46.86 73 ⇓P P 14 04 58.3 -0.4
baz=47,SNR=15
H24A **Dirks Ranch, A** 46.89 68 ⇑P P 14 04 58.0 -0.7
baz=47,SNR=9.3
C27A **Sayler Ranch,** 46.93 63 ⇓P P 14 04 59.0 +0.1
baz=47
A28A **Rude Farm, Bot** 46.95 61 ⇓P P 14 04 59.1 0.0
baz=47
K22A **Casper** 46.96 72 ⇑P P 14 04 59.5 +0.1
baz=47
IRM **Iron Mountain** 46.98 87 ⇑P P 14 04 59.7 +0.2
baz=47
N20A **Spence Gulch,** 47.01 75 ⇑P P 14 04 59.4 -0.5
baz=47,SNR=11
MONP **Monument Peak** 47.03 89 ⇓P P 14 05 00.3 +0.2
baz=47
M21A **Separation Pea** 47.08 74 ⇓P P 14 05 00.3 -0.2
baz=47
J23A **Dilts Ranch, B** 47.09 70 ⇑P P 14 05 00.3 -0.1
baz=47
E26A **Carlson Angus** 47.09 65 ⇓P P 14 04 59.7 -0.6
baz=47,SNR=20
BC3 **Big Chuckawall** 47.13 87 ⇓P P 14 05 01.0 +0.3
baz=47
B28A **Dugan Ranch, T** 47.15 62 ⇓P P 14 05 00.6 -0.1
baz=47
W13A **Hualapai Mount** 47.16 85 ⇑P P 14 05 00.9 -0.1
baz=47,SNR=14
D27A **Center** 47.26 64 ⇓P P 14 05 01.0 -0.6
baz=47,SNR=5.9
G25A **Newell** 47.28 67 ⇑P P 14 05 01.2 -0.6
baz=47,SNR=5.5
U15A **North Rim** 47.29 82 ⇑P P 14 05 03.0 +0.8
baz=47,SNR=39
P19A **Cripple Cowboy** 47.31 77 ⇑P P 14 05 02.1 -0.1
baz=47,SNR=19
F26A **Lodgepole** 47.33 66 ⇓P P 14 05 01.8 -0.3
baz=47
I24A **Kuemmerle Ranc** 47.36 69 ⇑P P 14 05 02.1 -0.3
baz=47
L22A **Ellis Ranch, M** 47.38 72 ⇑P P 14 05 03.2 +0.5
baz=47
SWSC **Sam W. Stewart** 47.39 88 ⇑P P 14 05 03.5 +0.9
baz=47
K23A **Bowen Ranch, D** 47.43 71 ⇑P P 14 05 03.1 0.0
baz=47
O20A **White River Ci** 47.45 76 *e*P P 14 05 02.3 -0.9
O20A **White River Ci** 47.45 76 ⇑P P 14 05 03.3 +0.1
baz=47,SNR=8.3
A29A **Manning Farm,** 47.51 61 ⇓P P 14 05 03.1 -0.2
baz=47
H25A **Fruitdale** 47.51 68 ⇓P P 14 05 03.5 -0.1
baz=47
PDMCI **Parker Dam,Lak** 47.52 86 ⇓P P 14 05 04.0 +0.4
baz=47
C28A **Hausauer Farms** 47.55 63 ⇑P P 14 05 03.2 -0.6
baz=47
RSSD **Black Hills** 47.55 69 *e*P P 14 05 03.5 -0.6
RSSD pmax pmax
comp=Z,33nm,0.5s
RSSD **Black Hills** 47.55 69 *e*P P 14 05 03.5 -0.6
comp=Z,33nm,0.5s
E27A **Carson** 47.63 65 ⇑P P 14 05 04.4 0.0
baz=47
Y12C **Blythe** 47.64 87 ⇑P P 14 05 05.0 +0.4
baz=48
J24A **Dixon Ranch, L** 47.66 70 ⇑P P 14 05 04.9 +0.2
baz=48
M22A **Cedar Creek Ra** 47.66 73 ⇓P P 14 05 04.9 -0.1
baz=48,SNR=6.9
SONM **Songino Array** 47.67 297 P P 14 05 04.9 +0.1
SONM PcP PcP 14 06 32.9 -0.3
SONM ScP ScP 14 10 23.3 +1.8
SONM **Songino Array** 47.67 297 P P 14 05 04.9 +0.1
comp=Z,6.0nm,0.7s,baz=58,slow=7.1,SNR=18
SONM PcP PcP 14 06 32.9 -0.3
comp=Z,8.7nm,0.8s,baz=55,slow=2.7,SNR=15
SONM ScP ScP 14 10 23.3 +1.8
comp=Z,0.9nm,0.7s,baz=33,slow=4.1,SNR=4.7
F27A **Lemmon** 47.69 66 ⇓P P 14 05 04.7 -0.2
baz=48,SNR=5.1
B29A **Wagaman Farm,** 47.70 61 ⇓P P 14 05 04.9 0.0
baz=48
G26A **Maurine** 47.70 67 ⇓P P 14 05 04.5 -0.4
baz=48,SNR=11
P20A **De Beque** 47.75 76 ⇓P P 14 05 05.3 -0.3
baz=48,SNR=15
D28A **Regan** 47.75 64 ⇓P P 14 05 05.3 0.0
baz=48,SNR=6.1
L23A **Garrett** 47.77 72 ⇓P P 14 05 05.3 -0.4
baz=48,SNR=16
I25A **Rochford** 47.79 69 ⇓P P 14 05 05.5 -0.3
baz=48,SNR=5.5
O21A **Pagoda** 47.86 75 ⇑P P 14 05 06.7 +0.1
baz=48
MDND **Maddock** 47.91 62 ⇑P P 14 05 06.4 -0.1
baz=48
GLA **Glamis** 47.92 88 ⇓P P 14 05 07.3 +0.5
baz=48
H26A **Fairpoint** 47.99 68 ⇑P P 14 05 06.9 -0.3
baz=48
A30A **Hoffart Farm,** 48.00 60 ⇑P P 14 05 07.2 0.0
baz=48
G27A **Dupree** 48.03 66 ⇑P P 14 05 07.2 -0.3
baz=48,SNR=9.0
E28A **Huff** 48.03 64 ⇓P P 14 05 07.4 -0.1
baz=48
N22A **Wattenberg Ran** 48.12 74 ⇓P P 14 05 08.1 -0.5
baz=48,SNR=7.7
J25A **Sunshine Ranch** 48.12 69 ⇑P P 14 05 08.5 +0.2
baz=48
Q20A **Ridgley Place,** 48.15 77 ⇑P P 14 05 08.5 -0.1
baz=48
B30A **Myrvik Farm, E** 48.27 61 ⇑P P 14 05 08.9 -0.4
baz=48
P21A **Newcastle** 48.30 76 ⇓P P 14 05 10.1 +0.1
baz=48,SNR=7.9
N23A **Red Feather La** 48.36 73 ⇑P P 14 05 10.5 0.0
baz=48,SNR=6.1
D29A **Pettibone, Tap** 48.37 63 ⇑P P 14 05 10.6 +0.5
baz=48
F28A **McLaughlin** 48.40 65 ⇓P P 14 05 10.5 +0.2
baz=48
WUAZ **Wupatki** 48.44 83 *e*P P 14 05 11.4 +0.4
comp=Z,19nm,0.8s
WUAZ **Wupatki** 48.44 83 ⇑P P 14 05 11.6 +0.6
baz=48,SNR=14
O22A **Kremmling** 48.45 75 ⇑P P 14 05 10.9 -0.2
baz=48,SNR=7.2
Y14A **Wickenburg** 48.47 85 ⇓P P 14 05 11.3 +0.3
baz=48,SNR=5.9
K25A **Mack Ranch, Ha** 48.55 70 ⇑P P 14 05 11.7 0.0
baz=48
ULM **Lac du Bonnet** 48.56 58 PcP PcP 14 06 35.8 -0.4
ULM **Lac du Bonnet** 48.56 58 PcP PcP 14 06 35.8 -0.4
comp=Z,3.7nm,0.6s,baz=217,slow=1.2,SNR=2.9
R20A **Redvale** 48.58 78 ⇑P P 14 05 12.0 -0.1
baz=48,SNR=5.8
Q21A **Lamborn Mesa,** 48.66 77 ⇑P P 14 05 12.8 +0.2
baz=48
P22A **Eagle** 48.68 75 ⇑P P 14 05 12.9 +0.1
baz=48
M24A **Cheyenne** 48.68 72 ⇑P P 14 05 12.9 +0.1
baz=48
I27A **Quinn** 48.73 68 ⇓P P 14 05 12.9 -0.1
baz=49,SNR=6.5
113A **Mohawk Valley,** 48.77 87 ⇑P P 14 05 13.7 +0.5
baz=49
L25A **Engebretsen Ra** 48.77 71 ⇓P P 14 05 13.4 0.0
baz=49
G28A **Parade** 48.79 66 ⇓P P 14 05 13.1 -0.2
baz=49
O23A **Lake Granby, G** 48.80 74 ⇓P P 14 05 14.2 +0.4
baz=49,SNR=10
D30A **Buchanan** 48.81 63 ⇓P P 14 05 12.5 -1.0
baz=49,SNR=5.4
SMCO **Snowmass** 48.81 76 *e*P P 14 05 11.2 -2.8
comp=Z,4.9nm,0.7s
S20A **Disappointment** 48.81 78 ⇑P P 14 05 13.7 -0.2
baz=49,SNR=17
HHC **Hu-ho-hao-te** 48.83 287 *e*P P 14 05 14.4 +0.6
HHC pP pP 14 05 30.2 -0.1
HHC PP PP 14 07 08.7 +1.5
HHC PcS PcS 14 10 33.3 -0.6
HHC S S 14 12 12.0 -0.2
HHC sS sS 14 12 37.8 -2.4
HHC ScS ScS 14 14 58.5 -1.3
HHC SS SS 14 15 37.8 -5.1
HHC AMB AMB
comp=Z,36nm,1.1s
HHC AMB AMB
comp=Z,450nm,5.1s
HHC LR LR
comp=Z,340nm,13.9s
HHC LR LR
comp=Z,560nm,14.3s
HHC LR LR
comp=Z,470nm,14.2s
Z14A **Wintersburg** 48.88 86 ⇓P P 14 05 14.6 +0.4
baz=49
K26A **Motz Farm, Whi** 48.90 70 ⇑P P 14 05 14.4 +0.1
baz=49
F29A **Eureka** 48.96 65 ⇑P P 14 05 14.4 -0.2
baz=49
H28A **Mission Ridge** 48.97 66 ⇑P P 14 05 14.5 -0.2
baz=49,SNR=7.0
R21A **Cimarron** 48.97 77 ⇓P P 14 05 15.2 +0.1
baz=49,SNR=7.2
Q22A **Crested Butte,** 49.05 76 ⇓P P 14 05 15.9 +0.2
baz=49,SNR=6.9
E30A **Jud** 49.08 63 ⇓P P 14 05 15.2 -0.3
baz=49
X16A **Lo Mia Camp, P** 49.12 84 ⇓P P 14 05 16.7 +0.5
baz=49,SNR=6.8
MVCO **Mesa Verde** 49.12 79 ⇓P P 14 05 16.2 -0.1
baz=49
M25A **Palm-Egli Farm** 49.16 72 ⇓P P 14 05 16.2 -0.1
baz=49
ISCO **Idaho Springs** 49.24 74 *e*P P 14 05 17.7 +0.5
ISCO pmax pmax
comp=Z,6.0nm,0.9s
ISCO **Idaho Springs** 49.24 74 *e*P P 14 05 17.6 +0.5
comp=Z,5.6nm,0.9s
ISCO **Idaho Springs** 49.24 74 ⇓P P 14 05 16.8 -0.4
baz=49
G29A **Hoven** 49.28 65 ⇓P P 14 05 16.9 -0.2
baz=49
I28A **Midland** 49.29 67 ⇓P P 14 05 16.9 -0.3
baz=49,SNR=17
H29A **Onida** 49.46 66 ⇓P P 14 05 18.5 +0.1
baz=49
J28A **Allard Ranch,** 49.59 68 ⇑P P 14 05 19.9 +0.3
baz=49
W18A **Petrified Fore** 49.72 82 *e*P P 14 05 20.7 -0.1
W18A **Petrified Fore** 49.72 82 ⇓P P 14 05 21.2 +0.4
baz=50
G30A **Faulkton** 49.76 65 ⇓P P 14 05 20.2 -0.6
baz=50,SNR=5.8
I29A **Vivian Onida** 49.77 67 ⇓P P 14 05 20.8 0.0
baz=50
L27A **T5 Ranch, Ells** 49.78 70 ⇑P P 14 05 21.2 +0.2
baz=50
S22A **4UR Ranch, Cre** 49.80 77 ⇑P P 14 05 21.8 +0.3
baz=50,SNR=13
T21A **Navajo Lake** 49.85 78 ⇑P P 14 05 22.5 +0.7
baz=50
214A **Organ Pipe Nat** 49.91 87 ⇓P P 14 05 22.5 +0.4
baz=50
O25A **Wiggins** 49.94 73 ⇓P P 14 05 23.0 +0.7
baz=50
K28A **Ten Mile Ranch** 49.95 69 ⇑P P 14 05 22.7 +0.4
baz=50
X18A **Snowflake** 49.97 83 ⇓P P 14 05 23.3 +0.6
baz=50
NJ2 **Nanjing** 50.04 273 *e*P P 14 05 22.0 -0.9
NJ2 AMB AMB
comp=Z,20nm,1.0s
V20A **Brimhall** 50.05 80 ⇓P P 14 05 23.8 +0.5
baz=50
M27A **Reverse DX Ran** 50.09 71 ⇑P P 14 05 23.4 +0.1
baz=50
R23A **Moffat** 50.13 76 ⇓P P 14 05 24.1 +0.2

	baz=50									
J29A	Okreek	50.13	67	⇑P		P		14 05 23.9	+0.3	
	baz=50									
U21A	Nageezi	50.14	79	⇑P		P		14 05 24.2	+0.2	
	baz=50,SNR=32									
T22A	Edith	50.23	78	⇓P		P		14 05 24.9	+0.3	
	baz=50,SNR=17									
BRSD	Miller	50.28	66	*e*P		P		14 05 23.9	-0.8	
BRSD	Miller	50.28	66	⇓P		P		14 05 24.1	-0.6	
	baz=50,SNR=7.3									
P25A	Willow Gulch B	50.29	74	⇑P		P		14 05 25.6	+0.6	
	baz=50,SNR=8.8									
I30A	Oacoma	50.34	66	⇑P		P		14 05 25.3	+0.2	
	baz=50									
O26A	Horse Wrangler	50.34	72	⇓P		P		14 05 25.6	+0.3	
	baz=50									
W20A	Ramah	50.48	81	⇓P		P		14 05 26.6	+0.1	
	baz=50,SNR=6.4									
K29A	Lazy Trails An	50.53	68	⇓P		P		14 05 26.8	+0.2	
	baz=50									
R24A	Sanders Place,	50.54	76	⇑P		P		14 05 27.2	+0.3	
	baz=50,SNR=5.3									
V21A	Milan	50.56	80	⇓P		P		14 05 27.5	+0.3	
	baz=50									
SDCO	Great Sand Dun	50.61	76	*e*P		P		14 05 27.9	+0.3	
	comp=Z,8.6nm,0.9s									
Q25A	Bedland, Calha	50.62	74	⇓P		P		14 05 27.9	+0.4	
	baz=50									
J30A	Dallas	50.66	67	⇓P		P		14 05 27.8	+0.2	
	baz=50									
U22A	Llaves	50.67	79	⇓P		P		14 05 28.1	+0.2	
	baz=50,SNR=14									
T23A	Casias Ranch,	50.74	77	⇓P		P		14 05 29.4	+0.9	
	baz=51									
S24A	Houchin Ranch,	50.85	76	⇓P		P		14 05 29.8	+0.4	
	baz=51,SNR=5.9									
X20A	Quemado	50.86	82	⇑P		P		14 05 29.9	+0.5	
	baz=51,SNR=14									
O27A	Beecher Island	50.87	72	⇓P		P		14 05 29.7	+0.4	
	baz=51									
L29A	Maesberg Ranch	50.87	69	⇓P		P		14 05 29.1	-0.1	
	baz=51									
TUC	Tucson	50.94	85	*e*P		P		14 05 28.9	-1.0	
TUC				pmax		pmax				
	comp=Z,8.0nm,0.8s									
TUC	Tucson	50.94	85	*e*P		P		14 05 28.9	-1.0	
	comp=Z,8.0nm,0.8s									
V22A	San Miguel Ran	50.94	79	⇓P		P		14 05 29.9	-0.1	
	baz=51,SNR=6.9									
K30A	Basset	50.99	68	⇓P		P		14 05 30.3	+0.2	
	baz=51									
Q26A	Hugo	51.05	74	⇓P		P		14 05 30.8	+0.1	
	baz=51									
R25A	Fountain Ranch	51.09	75	⇑P		P		14 05 31.3	+0.3	
	baz=51,SNR=11									
U23A	El Rito	51.10	78	⇑P		P		14 05 31.5	+0.3	
	baz=51,SNR=23									
T24B	San Luis	51.12	77	⇑P		P		14 05 31.9	+0.4	
	baz=51,SNR=6.0									
M29A	Burnside Ranch	51.13	70	⇓P		P		14 05 30.8	-0.4	
	baz=51									
S25A	Robets Cordova	51.31	76	⇑P		P		14 05 32.8	0.0	
	baz=51,SNR=11									
O28A	Krutsinger Ran	51.33	72	⇑P		P		14 05 32.9	+0.2	
	baz=51									
Y20A	Horse Springs,	51.36	82	⇑P		P		14 05 33.8	+0.6	
	baz=51,SNR=14									
X21A	Alamocita Cree	51.37	81	⇑P		P		14 05 33.7	+0.5	
	baz=51,SNR=13									
V23A	Ortiz Mt. (NFS	51.49	79	⇓P		P		14 05 34.7	+0.6	
	baz=51,SNR=11									
R26A	Arlington	51.49	74	⇑P		P		14 05 33.8	-0.1	
	baz=51,SNR=7.8									
T25A	Trinidad	51.66	76	⇓P		P		14 05 35.9	+0.5	
	baz=52,SNR=13									
P28A	Saint Francis	51.69	72	⇓P		P		14 05 35.6	+0.2	
	baz=52									
Y21A	Point of Rocks	51.73	81	⇓P		P		14 05 36.4	+0.5	
	baz=52,SNR=7.8									
L31A	Butterfield Fa	51.75	68	⇓P		P		14 05 36.2	+0.4	
	baz=52									
Z20A	Nine Sixteen R	51.76	83	⇑P		P		14 05 36.1	0.0	
	baz=52,SNR=6.1									
LAZ	Ladron	51.79	81	*e*P		P		14 05 35.6	-0.8	
	comp=Z,7.1nm,0.9s									
X22A	Bernardo	51.80	81	⇑P		P		14 05 37.6	+1.2	
	baz=52,SNR=13									
ANMO	Albuquerque	51.85	80	*e*P		P		14 05 37.0	+0.2	
R27A	Eads	51.89	74	⇑P		P		14 05 37.3	+0.4	
	baz=52,SNR=8.1									
W23A	Werner Place,	51.90	79	⇑P		P		14 05 37.1	0.0	
	baz=52,SNR=7.3									
S26A	Kim	51.92	75	⇓P		P		14 05 37.3	+0.1	
	baz=52,SNR=9.0									
Q28A	Sharon Springs	51.97	73	⇑P		P		14 05 37.6	+0.1	
	baz=52									
ECSD	EROS Data Cent	52.05	65	*e*P		P		14 05 35.5	-2.5	
	comp=Z,16nm,0.9s									
V24A	Rampart Ranch,	52.06	78	⇓P		P		14 05 39.1	+0.7	
	baz=52,SNR=20									
120A	U Bar Ranch, L	52.11	84	⇑P		P		14 05 39.2	+0.5	
	baz=52,SNR=5.4									
U25A	Circle Dot Ran	52.15	77	⇑P		P		14 05 39.2	+0.2	
	baz=52,SNR=20									
Z21A	St. Cloud Mine	52.20	82	⇓P		P		14 05 39.7	+0.3	
	baz=52,SNR=7.9									
Y22A	Socorro	52.21	81	⇑P		P		14 05 40.0	+0.6	
	baz=52,SNR=6.2									
W24A	Lazy 6 Ranch,	52.32	79	⇑P		P		14 05 40.7	+0.5	
	baz=52,SNR=15									
V25A	Rancho No Teng	52.39	78	⇑P		P		14 05 41.2	+0.4	
	baz=52,SNR=16									
R28A	Tribune	52.45	73	⇓P		P		14 05 41.0	0.0	
	baz=52,SNR=5.2									
319A	Douglas	52.51	85	⇓P		P		14 05 42.2	+0.6	
	baz=52									
U26A	Atchley Ranch,	52.55	76	⇓P		P		14 05 42.0	+0.1	
	baz=52,SNR=15									
P30A	Selden	52.60	71	⇑P		P		14 05 42.9	+0.7	
	baz=52									
220A	Playas Peak, P	52.62	84	⇑P		P		14 05 42.4	-0.1	
	baz=52,SNR=9.3									
121A	Cookes Peak, D	52.65	83	⇑P		P		14 05 43.1	+0.4	
	baz=52,SNR=5.7									
Z22A	Elephant Butte	52.67	82	⇑P		P		14 05 43.5	+0.7	
	baz=52									
X24A	Lazy VL Ranch,	52.73	79	⇓P		P		14 05 43.9	+0.6	
	baz=53,SNR=5.1									
O31A	Woolen Ranch,	52.76	70	⇓P		P		14 05 43.8	+0.6	
	baz=53									
Y23A	Lovelace Mesa,	52.77	80	⇓P		P		14 05 44.2	+0.5	
	baz=53,SNR=11									
R29A	Marienthal	52.80	73	⇓P		P		14 05 44.2	+0.6	
	baz=53									
S28A	Manter	52.89	74	⇑P		P		14 05 44.8	+0.5	
	baz=53									
W25A	X Bar L Ranch,	52.90	78	⇓P		P		14 05 44.6	+0.2	
	baz=53,SNR=26									
V26A	Tequesquite Ra	52.92	77	⇓P		P		14 05 44.5	-0.1	
	baz=53,SNR=22									
N32A	Stulken Farm,	52.97	69	⇑P		P		14 05 44.8	+0.1	
	baz=53									
320A	Kipp Ranch, An	53.00	85	⇓P		P		14 05 45.6	+0.3	
	baz=53,SNR=6.0									
221A	Mesquite Ranch	53.01	83	⇑P		P		14 05 45.9	+0.6	
	baz=53									
122A	Conniff Cattle	53.02	82	⇓P		P		14 05 46.3	+0.9	
	baz=53									
T28A	Walsh	53.06	75	⇓P		P		14 05 45.6	0.0	
	baz=53,SNR=5.7									
U27A	Thompson Grove	53.09	76	⇑P		P		14 05 45.5	-0.4	
	baz=53,SNR=5.5									
Z23A	Rita Site, Whi	53.12	81	⇑P		P		14 05 46.9	+0.9	
	baz=53									
P31A	Stockton	53.13	71	⇓P		P		14 05 46.4	+0.4	
	baz=53									
Y24A	Capitan	53.16	80	⇑P		P		14 05 47.2	+0.8	
	baz=53,SNR=45									
SPMN	St. Paul	53.23	61	⇓P		P		14 05 46.4	-0.3	
	baz=53									
R30A	Dighton	53.40	72	⇑P		P		14 05 48.5	+0.5	
	baz=53									
W26A	Owens Ranch, T	53.41	78	⇓P		P		14 05 48.8	+0.7	
	baz=53									
Z24A	Sheeppen Canyo	53.60	80	⇑P		P		14 05 50.1	+0.4	
	baz=54,SNR=9.3									
Y25A	Mesa, Roswell	53.62	79	⇑P		P		14 05 49.7	-0.1	
	baz=54,SNR=9.2									
S30A	Montezuma	53.71	73	⇑P		P		14 05 50.9	+0.6	
	baz=54									
X26A	CR and CF Fran	53.74	78	⇑P		P		14 05 50.7	0.0	
	baz=54,SNR=9.5									
R31A	Burdett	53.84	72	⇑P		P		14 05 51.5	+0.3	
	baz=54									
W27A	Bowe Ranch, En	53.85	77	⇓P		P		14 05 51.5	0.0	
	baz=54,SNR=6.2									
WHN	Wuhan	53.87	275		P	P		14 05 52.6	+1.1	
V28A	Channing	53.90	76	⇓P		P		14 05 52.3	+0.5	
	baz=54									
124A	Stringfield Ra	53.98	81	⇑P		P		14 05 52.5	0.0	
	baz=54,SNR=7.0									
Z25A	Roswell	54.04	80	⇑P		P		14 05 53.4	+0.6	
	baz=54									
T30A	Plains	54.06	74	⇓P		P		14 05 53.4	+0.5	
	baz=54									
X27A	F and S Farms,	54.11	78	⇓P		P		14 05 53.5	+0.2	
	baz=54									
Y26A	Elida	54.15	79	⇑P		P		14 05 53.8	+0.2	
	baz=54,SNR=6.9									
W28A	Vega	54.24	77	⇓P		P		14 05 54.9	+0.7	
	baz=54									
U30A	WK&E Inc. Balk	54.33	74	⇑P		P		14 05 55.0	+0.2	
	baz=54									
224A	Cornudas Mount	54.36	82	⇑P		P		14 05 55.4	+0.2	
	baz=54,SNR=10									
125A	Gardner Draw,	54.50	81	⇓P		P		14 05 56.4	+0.3	
	baz=54,SNR=16									
Z26A	Caprock	54.50	80	⇑P		P		14 05 56.4	+0.2	
	baz=54,SNR=13									
Y27A	Causey	54.58	78	⇓P		P		14 05 56.8	+0.1	
	baz=54,SNR=28									
MNTX	Cornudas Mount	54.70	82	*e*P		P		14 05 57.3	-0.3	
	comp=Z,9.3nm,0.9s									
MSTX	Muleshoe	54.76	78	*e*P		P		14 05 57.6	-0.5	
MSTX	Muleshoe	54.76	78	⇑P		P		14 05 58.0	-0.1	
	baz=55,SNR=5.6									
225A	Deer Hill, Car	54.77	81	⇓P		P		14 05 58.5	+0.3	
	baz=55,SNR=9.9									
ZALV	Zalesovo Beam	54.81	314		PcP	PcP		14 06 59.4	-0.1	
ZALV	Zalesovo Beam	54.81	314		PcP	PcP		14 06 59.4	-0.1	
	comp=Z,13nm,0.7s,baz=34,slow=4.3,SNR=27									
ZALV					LR	LR		14 31 39.5		
	comp=Z,175nm,18.1s,baz=249,slow=38									
324A	Moseley Ranch,	54.82	82	⇑P		P		14 05 58.4	-0.1	
	baz=55,SNR=6.3									
V30A	Spur Ranch, Mi	54.82	75	⇑P		P		14 05 58.8	+0.4	
	baz=55									
XAN	Xi'an	54.84	282		P	P		14 05 59.1	+0.6	
XAN					AMB	AMB				
	comp=Z,14nm,0.8s									
XAN					AMB	AMB				
	comp=Z,60nm,11.9s									
126A	Clayton Basin,	54.90	80	⇑P		P		14 05 59.0	0.0	
	baz=55,SNR=7.2									
NVS	Novosibirsk	54.92	316	*e*P		P		14 05 55.7	-3.0	
NVS				*e*				14 06 58.6		
Z27A	Tatum	54.94	79	⇓P		P		14 05 59.0	-0.3	
	baz=55,SNR=9.5									
X29A	Tulia	55.09	77	⇓P		P		14 06 00.4	-0.1	
	baz=55									
Y28A	McKinney Farm,	55.12	78	⇑P		P		14 06 00.5	-0.2	
	baz=55,SNR=5.8									
SCIA	State Center	55.14	65	*e*P		P		14 05 60.0	-0.5	
	comp=Z,24nm,0.4s									
226B	Tecolote Peak,	55.20	81	⇑P		P		14 06 01.1	-0.1	
	baz=55,SNR=16									
127A	Arkansas Junct	55.28	80	⇓P		P		14 06 01.6	-0.3	
	baz=55									
Z28A	Tucker Farm, M	55.46	78	⇑P		P		14 06 03.3	+0.2	
	baz=55									
425A	Indio Mountain	55.58	82	⇑P		P		14 06 04.7	+0.7	
	baz=55,SNR=14									
X30A	Coker Ranch, T	55.60	76	⇓P		P		14 06 04.2	+0.2	
	baz=55									
W31A	Holland Ranch,	55.66	75	⇓P		P		14 06 04.9	+0.5	
	baz=56									
326A	Caldwell Ranch	55.84	81	⇓P		P		14 06 05.8	+0.1	
	baz=56,SNR=16									
128A	Castleberry Fa	55.86	79	⇑P		P		14 06 05.8	-0.1	
	baz=56,SNR=14									
Z29A	Hungry Hill Ra	55.90	78	⇓P		P		14 06 05.8	-0.4	
	baz=56,SNR=7.0									
Y30A	Stafford Cattl	55.97	77	⇓P		P		14 06 06.6	0.0	
	baz=56,SNR=9.9									
X31A	McDonald Ranch	56.01	76	⇑P		P		14 06 06.8	-0.1	
	baz=56,SNR=6.2									
228A	UT Block 9, Go	56.14	80	⇓P		P		14 06 07.9	0.0	
	baz=56									
129A	Stewart Farms,	56.23	79	⇓P		P		14 06 08.6	0.0	
	baz=56									
Z30A	Sanderson Ranc	56.23	78	⇓P		P		14 06 08.3	-0.2	
	baz=56,SNR=9.1									
426A	McDonald Obser	56.25	82	⇓P		P		14 06 08.6	-0.3	
	baz=56,SNR=12									
328A	Wristen Ranch,	56.51	80	⇑P		P		14 06 10.1	-0.4	
	baz=56,SNR=14									
427A	Hayter Ranch,	56.51	81	⇓P		P		14 06 10.3	-0.3	
	baz=56,SNR=7.6									
LZH	Lanzhou	56.52	287	⇑P		P		14 06 12.3	+1.6	
LZH				pP		pP		14 06 29.8	+2.2	
LZH				sP		sP		14 06 37.4	+2.5	
LZH				AMB		AMB				
	comp=Z,44nm,1.0s									
LZH				AMB		AMB				
	comp=Z,160nm,4.3s									
526A	Mary Lane Ranc	56.64	82	⇑P		P		14 06 11.6	0.0	
	baz=56,SNR=18									
GTA	Gaotai	56.65	293	*e*P		P		14 06 12.3	+0.8	
GTA				AMB		AMB				
	comp=Z,6.0nm,0.6s									
WMOK	Wichita Mounta	56.66	75	*e*P		P		14 06 11.6	0.0	
WMOK				pmax		pmax				
	comp=Z,6.0nm,0.7s									
WMOK	Wichita Mounta	56.66	75	*e*P		P		14 06 11.6	0.0	
	comp=Z,5.7nm,0.7s									
Y32A	R-V Farms, Ver	56.77	76	⇑P		P		14 06 12.2	-0.1	
	baz=57,SNR=10									
130A	Snyder	56.80	78	⇓P		P		14 06 12.9	+0.3	
	baz=57									
Z31A	Sharp Cattle R	56.81	77	⇑P		P		14 06 12.9	+0.3	
	baz=57									
527A	Woodward Ranch	56.88	82	⇓P		P		14 06 13.0	-0.2	
	baz=57,SNR=9.1									
329A	Wagon Wheel Ra	56.95	80	⇓P		P		14 06 13.3	-0.3	
	baz=57,SNR=5.4									
626A	Big Bend Ranch	56.97	83	⇑P		P		14 06 13.7	-0.1	
	baz=57,SNR=21									
LPIG	La Paz	57.01	92		LR	LR		14 25 26.1		
	comp=Z,84nm,18.8s,baz=84,slow=30									
428A	Kincaid Ranch,	57.04	81	⇓P		P		14 06 14.3	-0.1	
	baz=57,SNR=18									
ENH	Enshi	57.08	278	*e*P		P		14 06 14.1	-0.4	
	comp=Z,7.3nm,0.4s									
131A	Roby	57.10	78	⇑P		P		14 06 14.7	0.0	
	baz=57									
230A	Sterling City	57.20	79	⇓P		P		14 06 15.3	-0.1	
	baz=57,SNR=17									
Z32A	Haskell	57.22	76	⇓P		P		14 06 15.3	-0.2	
	baz=57,SNR=11									
528A	Cox Ranch, San	57.37	81	⇓P		P		14 06 17.0	+0.3	
	baz=57,SNR=15									
TXAR	Lajitas Array	57.41	83		P	P		14 06 17.1	+0.1	
TXAR	Lajitas Array	57.41	83		P	P		14 06 17.1	+0.1	
	comp=Z,7.0nm,0.7s,baz=300,slow=5.5,SNR=51									
330A	Mertzon	57.50	79	⇓P		P		14 06 17.7	+0.2	
	baz=57									
627A	Terlingua Ranc	57.50	82	⇑P		P		14 06 17.4	-0.2	
	baz=57,SNR=11									
ABTX	Abilene, Hawle	57.59	77	*e*P		P		14 06 17.5	-0.6	
ABTX	Abilene, Hawle	57.59	77	⇓P		P		14 06 18.0	-0.1	
	baz=57,SNR=5.1									
429A	Davenport Ranc	57.60	80	⇓P		P		14 06 17.7	-0.5	
	baz=57,SNR=6.6									
231A	Bronte	57.66	78	⇓P		P		14 06 18.3	-0.3	
	baz=58									
529A	Stev Forest Ra	57.75	81	⇑P		P		14 06 19.1	-0.1	
	baz=58									
628A	Black Gap, Mar	57.78	82	⇑P		P		14 06 19.6	0.0	
	baz=58,SNR=18									
430A	Baggett Ranch,	57.89	80	⇓P		P		14 06 20.2	-0.1	
	baz=58,SNR=17									
331A	San Angelo	58.02	79	⇓P		P		14 06 21.3	+0.1	
	baz=58									
232A	Coleman	58.10	78	⇓P		P		14 06 21.5	-0.2	
	baz=58,SNR=11									
ARCES	ARCESS Array B	58.13	351		P	P		14 06 20.0	-1.3	
ARCES					PcP	PcP		14 07 11.9	-0.3	
ARCES	ARCESS Array B	58.13	351		P	P		14 06 20.0	-1.3	
	comp=Z,1.8nm,0.5s,baz=21,slow=8.3,SNR=11									
ARCES					PcP	PcP		14 07 11.9	-0.3	
	comp=Z,4.4nm,0.8s,baz=34,slow=4.5,SNR=4.1									
530A	J-C Ranch, Com	58.28	80	⇑P		P		14 06 22.9	0.0	
	baz=58,SNR=24									
431A	Sonora	58.35	79	⇓P		P		14 06 23.1	-0.4	
	baz=58,SNR=16									
332A	Millersview	58.39	78	⇑P		P		14 06 23.3	-0.4	
	baz=58,SNR=9.6									
432A	Menard	58.72	79	⇑P		P		14 06 25.8	-0.2	
	baz=59									
JCT	Junction City	58.99	79	⇑P		P		14 06 27.5	-0.4	
	baz=59									
SCHQ	Schefferville	59.10	39		P	P		14 06 27.2	-1.1	
SCHQ	Schefferville	59.10	39		P	P		14 06 27.2	-1.1	
	comp=Z,6.0nm,0.7s,baz=312,slow=7.5,SNR=6.4									
532A	Rocksprings	59.17	79	⇑P		P		14 06 28.8	-0.4	
	baz=59									
631A	Perdido Creek	59.26	80	⇓P		P		14 06 28.9	-0.8	
	baz=59,SNR=7.1									
WHTX	Lake Whitney	59.36	76	⇓P		P		14 06 30.7	+0.3	
	baz=59									
SFIN	Scholer Farm	59.59	62	*e*P		P		14 06 31.8	0.0	
SFIN	Scholer Farm	59.59	62	⇓P		P		14 06 31.8	0.0	
	baz=59									
632A	Uvalde	59.68	80	⇑P		P		14 06 32.2	-0.5	
	baz=60									
KURK	Kurchatov	59.79	315		P	P		14 06 33.1	0.0	
KURK								14 07 19.4		
KURK					pmax	pmax				
	comp=Z,8.0nm,0.5s									
KURK	Kurchatov	59.79	315		P	P		14 06 33.0	0.0	
KURK					PcP	PcP		14 07 19.4	+0.3	
KURBB	Kurchatov Arra	59.90	315		P	P		14 06 33.0	-0.7	
	comp=Z,7.4nm,0.5s,baz=43,slow=6.7,SNR=12									
KURBB					PcP	PcP		14 07 19.4	-0.1	
	comp=Z,3.4nm,0.6s,baz=43,slow=3.2,SNR=7.6									
732A	Laxson Ranch,	60.12	81	⇓P		P		14 06 35.6	0.0	
	baz=60,SNR=6.0									
CD2	Chengdu	60.14	283		P	P		14 06 37.0	+1.1	
CD2					pP	pP		14 06 54.6	+1.7	
CD2					sP	sP		14 07 02.2	+2.0	
CD2					PP	PP		14 08 51.7	+2.9	
CD2					S	S		14 14 42.2	-2.1	
CD2					sS	sS		14 15 12.3	-0.9	
CD2					SS	SS		14 18 40.6	-1.1	
CD2					AMB	AMB				
	comp=Z,110nm,0.8s									
CD2					LR	LR				
	comp=Z,330nm,9.5s									
CD2					LR	LR				
	comp=Z,210nm,10.1s									
OLIL	Olney	60.16	64	*e*P		P		14 06 35.6	-0.2	
	comp=Z,66nm,0.9s									
WMQ	Urumqi	60.28	304	*e*P		P		14 06 37.3	+0.7	
H06N1	SOCORRO T-PHAS	60.46	97		T	T		15 12 38.1		
MK31	Makanchi Array	60.89	309	*e*P		P		14 06 38.2	-2.5	
MK31	Makanchi Array	60.89	309	*e*P		P		14 06 38.2	-2.5	
MKAR	Makanchi Array	60.89	309		P	P		14 06 39.6	-1.1	
MKAR								14 07 23.6		
MKAR					pmax	pmax				
	comp=Z,1.0nm,0.3s									
MKAR	Makanchi Array	60.89	309		P	P		14 06 39.6	-1.1	
MKAR					PcP	PcP		14 07 23.6	-0.1	
MKAR	Makanchi Array	60.89	309	⇑P		P		14 06 40.3	-0.4	
	baz=61									
MKAR	Makanchi Array	60.89	309		P	P		14 06 39.6	-1.1	
	comp=Z,1.1nm,0.3s,baz=43,slow=6.7,SNR=31									
MKAR					PcP	PcP		14 07 23.6	-0.1	
	comp=Z,2.7nm,0.5s,baz=39,slow=3.3,SNR=7.6									
MKAR					LR	LR		14 32 30.9		
	comp=Z,120nm,18.0s,baz=8.3,slow=36									
USIN	University of	60.94	65	*e*P		P		14 06 40.3	-0.8	
	comp=Z,56nm,0.9s									
GYA	Guiyang	61.53	277		P	P		14 06 45.7	+0.3	
GYA					pP	pP		14 07 03.5	+1.0	
GYA					sP	sP		14 07 12.0	+2.2	
GYA					PP	PP		14 09 02.5	+1.3	
GYA					ScP	ScP		14 11 20.4	-2.0	
GYA					S	S		14 14 58.7	-3.5	
GYA					sS	sS		14 15 29.0	-2.1	
GYA					AMB	AMB				
	comp=Z,10.0nm,0.9s									
GYA					AMB	AMB				
	comp=Z,80nm,6.0s									
WCI	Wyandotte Cave	61.53	64	*e*P		P		14 06 44.3	-0.8	
WCI					pmax	pmax				
	comp=Z,26nm,0.8s									
WCI	Wyandotte Cave	61.53	64	*e*P		P		14 06 44.3	-0.8	
	comp=Z,26nm,0.8s									
BVAR	Borovoye Array	61.55	321		P	P		14 06 44.7	-0.3	
BVAR					*PP	pP		14 06 58.2	-3.9	
BVAR								14 07

comp=Z,8.1nm,0.5s
KSH **Kashi** 69.38 308 P P 14 07 39.7 +3.8
KSH pP **PcP** **14 07 56.5 -2.5**
KSH sP sP 14 08 04.3 +3.8
KSH PP PP 14 10 17.3 +7.9
KSH S **S** **14 16 42.2 +4.4**
KSH ScS **ScS** **14 17 34.3 +2.9**
KSH SS **SS** **14 21 08.7 +3.7**
KSH AMB AMB
comp=Z,7.0nm,0.5s
KSH AMB AMB
comp=Z,330nm,4.4s
KSH LR LR
comp=Z,96nm,5.8s
KSH LR LR
comp=Z,59nm,5.3s
KSH LR LR
comp=Z,140nm,5.8s
PMOR **Pomariorio Ree** 70.90 150 *e*T T 15 25 23.0
comp=Z,24nm,0.2s
TLE **Tual** 71.36 234 ⇓P **P** **14 07 49.3 +1.3**
baz=71
CHTO **Chiang Mai** 71.95 278 *e*P **P** **14 07 51.5 -0.1**
CHTO pmax pmax
comp=Z,40nm,1.1s
CHTO **Chiang Mai** 71.95 278 *e*P **P** **14 07 51.5 -0.1**
comp=Z,40nm,1.1s
CM31 **Chiang Mai Arr** 72.22 277 *e*P **P** **14 07 53.9 +0.6**
comp=Z,9.8nm,0.6s
CMAR **Chiang Mai Arr** 72.22 277 P **P** **14 07 53.9 +0.7**
CMAR pP **pP** **14 08 09.2 -1.6**
CMAR **Chiang Mai Arr** 72.22 277 P **P** **14 07 53.9 +0.7**
comp=Z,13nm,0.8s,baz=27,slow=6.8,SNR=71
CMAR pP **pP** **14 08 09.2 -1.6**
comp=Z,7.9nm,0.9s,baz=32,slow=6.9,SNR=7.1
CMAR LR LR 14 41 29.4
comp=Z,56nm,19.6s,baz=95,slow=37
TAPN **Taplejung** 72.30 292 *e*P **P** **14 07 55.0 +1.0**
comp=Z,52nm,0.7s
PPT2 **Papeete2** 72.84 153 *e*LR LR 14 30 20.5
comp=Z,159nm,25.0s
PPT2 **Papeete2** 72.84 153 *e*T T 15 27 49.5
comp=Z,12nm,0.3s
ODAN **Odare** 72.86 292 *e*P **P** **14 07 58.5 +1.3**
comp=Z,21nm,0.6s
LUWI **Luwuk** 72.88 245 ⇑P **P** **14 07 56.8 -0.4**
baz=73,SNR=3.9
PAE **Paea** 72.91 153 *e*T T 15 27 54.2
comp=Z,3.1nm,0.3s
GUN **Gumba** 72.93 293 *e*P **P** **14 07 58.7 +0.9**
comp=Z,78nm,0.3s
JIRN **Jiri** 72.94 293 *e*P **P** **14 07 58.9 +1.0**
comp=Z,63nm,0.5s
RAMN **Ramite** 73.25 292 *e*P **P** **14 08 00.4 +0.9**
comp=Z,88nm,0.5s
KKN **Kakani** 73.37 294 *e*P **P** **14 08 01.1 +0.9**
comp=Z,37nm,0.8s
PKI **Pulchoki** 73.46 293 *e*P **P** **14 08 01.4 +0.5**
PKIN **Phulchoki** 73.46 293 *e*P **P** **14 08 02.1 +1.3**
comp=Z,7.5nm,0.4s
GKN **Gorkha** 73.57 294 *e*P **P** **14 08 02.2 +0.9**
comp=Z,31nm,0.7s
DMN **Daman** 73.60 294 *e*P **P** **14 08 02.7 +1.0**
DANN **Dangsing** 73.80 295 *e*P **P** **14 08 03.7 +0.8**
comp=Z,48nm,0.7s
RAR **Rarotonga** 73.97 163 LR LR 14 37 04.4
comp=Z,335nm,18.3s,baz=91,slow=33
KOLN **Koldanda** 74.34 295 *e*P **P** **14 08 06.6 +0.7**
comp=Z,18nm,0.5s
AKASG **Malin Array Be** 75.76 343 P **P** **14 08 12.1 -1.3**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG **Malin Array Be** 75.76 343 P **P** **14 08 12.1 -1.3**
AKASG **Malin Array Be** 75.76 343 P **P** **14 08 12.1 -1.3**
comp=Z,0.8nm,0.3s,baz=20,slow=5.6,SNR=8.3
KBL **Kabul** 76.70 309 *e*P **P** **14 08 18.3 -1.0**
KBL pmax pmax
comp=Z,9.0nm,0.8s
KBL **Kabul** 76.70 309 *e*P **P** **14 08 18.2 -1.0**
comp=Z,8.9nm,0.8s
KDU **Kakadu** 77.55 231 ⇓P **P** **14 08 24.2 +0.3**
baz=78,SNR=5.5
TBI **Tubuai** 78.35 154 *e*T T 15 34 42.1
comp=Z,12nm,0.4s
KOLS **Kolonicke sedl** 78.58 347 *e*P **P** **14 08 31.7 +2.4**
KOLS **Kolonicke sedl** 78.58 347 *e*P **P** **14 08 31.7 +2.4**
KIV **Kislovodsk** 78.92 332⇑ *e*P **P** **14 08 33.8 +2.5**
KIV pmax pmax
comp=Z,6.0nm,0.6s
KBZ **Khabaz** 79.06 332 P **P** **14 08 32.5 +0.6**
KBZ pmax pmax
comp=Z,2.0nm,0.6s
KBZ **Khabaz** 79.06 332 P **P** **14 08 32.5 +0.6**
KBZ **Khabaz** 79.06 332 P **P** **14 08 32.5 +0.6**
comp=Z,2.4nm,0.6s,baz=78,slow=4.6,SNR=5.2
GERES **GERESS Array B** 79.59 353 P **P** **14 08 34.5 -0.4**
GERES **GERESS Array B** 79.59 353 P **P** **14 08 34.5 -0.4**
comp=Z,0.4nm,0.4s,baz=31,slow=5.9,SNR=3.4
ZEI **Tsey** 79.62 331 *e*P **P** **14 08 35.6 +0.3**
ZEI pmax pmax
comp=Z,9.0nm,0.6s
RAO **Raoul Island** 80.45 181 LR LR 14 37 39.8
comp=Z,137nm,20.9s,baz=260,slow=31
KNRA **Kununurra** 81.93 232 ⇑P **P** **14 08 48.0 +0.5**
baz=82,SNR=4.0
RKT **Rikitea** 82.92 142 *e*T T 15 40 25.1
comp=Z,5.2nm,0.2s
WRA **Warramunga Arr** 83.00 226 P **P** **14 08 52.9 -0.2**
WRA PKKPbc **PKKPbc** **14 27 14.3 +0.6**
WRA **Warramunga Arr** 83.00 226 P **P** **14 08 52.9 -0.2**
comp=Z,4.9nm,0.7s,baz=36,slow=6.0,SNR=29
WRA PKKPbc **PKKPbc** **14 27 14.3 +0.6**
comp=Z,0.4nm,0.6s,baz=218,slow=2.1,SNR=3.0
PSI **Prapat** 84.24 267 ⇑P **P** **14 09 00.6 +0.8**
baz=84,SNR=12
BSI **Banda Aceh** 84.41 272 ⇑P **P** **14 09 02.2 +1.6**
baz=84
QLP **Quilpie** 84.99 214 ⇓P **P** **14 09 03.9 +0.9**
baz=85,SNR=4.7
BR131 **Keskin Array S** 85.29 337 *e*P **P** **14 09 05.0 +0.2**
comp=Z,6.0nm,0.6s
BRTR **Keskin Array B** 85.29 337 P **P** **14 09 05.0 +0.2**
BRTR **Keskin Array B** 85.29 337 P **P** **14 09 05.0 +0.2**
comp=Z,8.2nm,0.6s,baz=31,slow=2.7,SNR=46
FITZ **Fitzroy Crossi** 85.55 234 *e*P **P** **14 09 05.0 -0.9**
comp=Z,16nm,0.9s
FITZ **Fitzroy Crossi** 85.55 234 ⇑P **P** **14 09 06.9 +0.9**
baz=86,SNR=17
AS06 **Alice Springs** 86.41 224 ⇑P **P** **14 09 10.8 +0.6**
baz=86
ASAR **Alice Springs** 86.45 224 P **P** **14 09 10.9 +0.5**
ASAR PKKPbc **PKKPbc** **14 27 05.6 0.0**
ASAR **Alice Springs** 86.45 224 P **P** **14 09 10.9 +0.5**
comp=Z,7.9nm,0.9s,baz=29,slow=4.6,SNR=64
ASAR PKKPbc **PKKPbc** **14 27 05.6 0.0**
comp=Z,0.2nm,0.4s,baz=195,slow=2.0,SNR=3.0
ESDC **Sonseca Array** 88.95 6 P **P** **14 09 21.9 -0.5**
ESDC **Sonseca Array** 88.95 6 P **P** **14 09 21.9 -0.5**
comp=Z,0.2nm,0.3s,baz=354,slow=4.5,SNR=4.5
CMSA **Cobar Meteorol** 89.05 211 ⇑P **P** **14 09 23.5 +1.0**
baz=89
STKA **Stephens Creek** 90.75 214 P **P** **14 09 31.2 +0.8**
STKA pP **pP** **14 09 47.7 -0.8**
STKA **Stephens Creek** 90.75 214 ⇑P **P** **14 09 31.6 +1.1**
baz=91,SNR=5.5
STKA **Stephens Creek** 90.75 214 P **P** **14 09 31.2 +0.8**
comp=Z,4.8nm,0.8s,baz=335,slow=6.1,SNR=8.5
STKA pP **pP** **14 09 47.7 -0.8**
comp=Z,4.5nm,0.6s,baz=343,slow=5.2,SNR=5.6
HTT **Hallett** 93.11 216 ⇓P **P** **14 09 42.2 +0.7**
baz=93
MEEK **Meekatharra** 96.21 234 ⇓P **P** **14 09 55.6 -0.2**
baz=96
TORD **Torodi Ar. Bea** 115.57 2 PKP **PKPdf** **14 15 09.5 -0.4**
TORD PKKPbc **PKKPbc** **14 25 40.1 -0.6**
TORD **Torodi Ar. Bea** 115.57 2 PKP **PKPdf** **14 15 09.5 -0.4**
comp=Z,1.8nm,0.6s,baz=328,slow=2.6,SNR=18
TORD PKKPbc **PKKPbc** **14 25 40.2 -0.6**
comp=Z,0.5nm,0.6s,baz=174,slow=2.5,SNR=8.0
H03N2 **Juan Fernandez** 120.01 107 T T 16 26 53.2
baz=315,slow=0.7,SNR=620
H03N1 **Juan Fernandez** 120.02 107 T T 16 26 53.8
baz=315,slow=0.7,SNR=436
H03N3 **Juan Fernandez** 120.02 107 T T 16 26 54.4
baz=315,slow=0.7,SNR=412
DBIC **Dimbokro** 121.61 9 PKP **PKPdf** **14 15 21.5 0.0**
DBIC **Dimbokro** 121.61 9 PKP **PKPdf** **14 15 21.5 0.0**
comp=Z,4.5nm,0.5s,baz=340,slow=2.8,SNR=13
TIC **Toumodi** 121.62 10 *e*PKIKP **PKPdf** **14 15 21.3 -0.3**
comp=Z,12nm,0.4s
KIC **Kosan Boka** 121.93 9 *e*PKIKP **PKPdf** **14 15 22.0 -0.1**
comp=Z,68nm,1.3s
LIC **Lamto** 122.03 10 *e*PKIKP **PKPdf** **14 15 22.1 -0.2**
comp=Z,25nm,0.7s
KMBO **Kilima Mbogo** 122.17 319 PKP **PKPdf** **14 15 23.0 +0.1**
KMBO **Kilima Mbogo** 122.17 319 PKP **PKPdf** **14 15 23.0 +0.1**
comp=Z,1.7nm,0.7s,baz=49,slow=11,SNR=4.6
CFAA **Coronel Fontan** 125.25 98 PKP **PKPdf** **14 15 27.9 -0.1**
CFAA **Coronel Fontan** 125.25 98 PKP **PKPdf** **14 15 27.9 -0.1**
comp=Z,0.2nm,0.4s,baz=0.0,slow=1.0,SNR=3.9
VNDA **Vanda** 129.48 186 PKP **PKPdf** **14 15 34.1 -0.4**
VNDA SKPbc SKPbc 14 18 52.9 +2.3
VNDA **Vanda** 129.48 186 PKP **PKPdf** **14 15 34.1 -0.4**
comp=Z,0.5nm,0.6s,baz=319,slow=3.9,SNR=3.4
VNDA SKPbc SKPbc 14 18 52.9 +2.3
comp=Z,2.3nm,0.9s,baz=328,slow=6.3,SNR=8.7
PLCA **Paso Flores** 129.84 108 PKP **PKPdf** **14 15 36.3 -0.2**
PLCA **Paso Flores** 129.84 108 PKP **PKPdf** **14 15 36.3 -0.2**
comp=Z,2.8nm,0.8s,baz=72,slow=0.9,SNR=5.8
MAW **Mawson** 147.37 218 PKPbc **PKPbc** **14 16 10.5 +0.7**
MAW **Mawson** 147.37 218 PKPbc **PKPbc** **14 16 10.5 +0.7**
comp=Z,19nm,0.9s,baz=86,slow=2.8,SNR=38
BOSA **Boshof** 151.75 316 PKPbc **PKPbc** **14 16 22.4 +0.3**
BOSA **Boshof** 151.75 316 PKPbc **PKPbc** **14 16 22.4 +0.3**
comp=Z,14nm,0.4s,baz=32,slow=2.2,SNR=51

*ISCJB **02** 14:11:01.4±0.3, 10°.21N±0°.07×84°.21W±0°.05, h103km±4km, mb3.9/14, Error ellipse: s-maj=13.8km s-min=3.3km az=35.6*
*IDC **02** 14:11:01.1±1.2, 10°.30N×84°.12W, h84km±17km, mb3.8/13, mb1 4.0/13, mb1mx3.8/24, mbtmp3.8/13, MS3.4/1, Ms1 3.4/1, ms1mx2.9/29, Error ellipse: s-maj=44.5km s-min=21.1km az=31.0*
*NEIC **02** 14:11:01.4±1.2, 9°.88N×84°.34W, h108km±8km, mb4.0/1, Error ellipse: s-maj=29.1km s-min=13.0km az=209.0*
NEIC Felt [II] at Carrizal. Also felt at San Jose.
*CASC **02** 14:11:02.4±1.3, 10°.22N×84°.19W, h91km±4km, MD4.1*
ISC 02 14:11:01.9±0.7, 10°.16N±0°.06×84°.24W±0°.05, h96km±6km, n71, σ0°84/88, mb4.1/14, **6C-18D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CGA2	**Cerro Gallo 2**	**0.27**	**237**	⇑*i*P		**Pn**	**Pn**	**14 11 16.4**	**+0.4**
SJS	**Escuela Geolog**	**0.29**	**141**	⇑*i*P		**Pn**	**Pn**	**14 11 16.5**	**+0.4**
FORC	**Fortuna**	**0.52**	**306**	*i* P		**Pn**	**Pn**	**14 11 17.8**	**+0.4**
FORC				*i* S		**Sn**	**Sn**	**14 11 29.5**	**+0.5**
CEDE	**Laguna Cedeˆ–o**	**0.56**	**305**	*i* P		**Pn**	**Pn**	**14 11 18.2**	**+0.4**
CEDE				*i* S		**Sn**	**Sn**	**14 11 30.0**	**+0.3**
URSC	**Urasca**	**0.56**	**126**	⇑*i*P		**Pn**	**Pn**	**14 11 18.5**	**+0.6**
JTS	**JuntasAbangare**	**0.71**	**280**	P		**Pn**	**Pn**	**14 11 19.5**	**+0.4**
JTS				S		**Sn**	**Sn**	**14 11 32.3**	**+0.3**
JTS	**JuntasAbangare**	**0.71**	**280**	P		**Pn**	**Pn**	**14 11 19.5**	**+0.4**
	376nm,0.3s,baz=80,slow=8.5,SNR=1250								
JTS				S		**Sn**	**Sn**	**14 11 32.3**	**+0.3**
	1um,0.3s,baz=9.6,slow=18,SNR=67								
QCR	**Quepos**	**0.74**	**174**	⇑*i*P		**Pn**	**Pn**	**14 11 20.1**	**+0.7**
QCR				*e*S		**Sn**	**Sn**	**14 11 30.9**	**-1.4**
BUS	**Buena Vista**	**0.77**	**142**	⇑*i*P		**Pn**	**Pn**	**14 11 20.5**	**+0.4**
BUS				*e*S		**Sn**	**Sn**	**14 11 34.2**	**+0.5**
AMAS	**Alto Masis**	**0.86**	**301**	*i* P		**Pn**	**Pn**	**14 11 21.4**	**+0.7**
JCR	**Jicaral**	**0.91**	**250**	⇓*i*P		**Pn**	**Pn**	**14 11 22.1**	**+0.9**
PTEN	**Parque Tenorio**	**0.92**	**307**	*i* P		**Pn**	**Pn**	**14 11 21.3**	**+0.1**
PTEN				*i* S		**Sn**	**Sn**	**14 11 36.0**	**+0.3**
CAO	**Cobano**	**0.97**	**242**	⇑*i*P		**Pn**	**Pn**	**14 11 22.4**	**+0.7**
CUI	**Cuipilapa**	**1.03**	**298**	⇓*i*P		**Pn**	**Pn**	**14 11 23.0**	**+0.5**
CUI				*i* S		**Sn**	**Sn**	**14 11 38.6**	**+0.7**
COLC	**Colonia**	**1.07**	**298**	⇓*i*P		**Pn**	**Pn**	**14 11 23.4**	**+0.5**
COLC				*i* S		**Sn**	**Sn**	**14 11 39.1**	**+0.5**
HORNC	**Hornillas**	**1.07**	**301**	⇓*i*P		**Pn**	**Pn**	**14 11 23.2**	**+0.2**
HORNC				*i* S		**Sn**	**Sn**	**14 11 39.1**	**+0.4**
MESS	**Mesas**	**1.10**	**302**	⇓*i*P		**Pn**	**Pn**	**14 11 23.7**	**+0.4**
LIM1	**Limonal**	**1.13**	**298**	⇓*i*P		**Pn**	**Pn**	**14 11 23.9**	**+0.4**
GPS1	**Guardaparques**	**1.25**	**299**	⇓*i*P		**Pn**	**Pn**	**14 11 25.5**	**+0.5**
BUEV	**Buena Vista**	**1.31**	**299**	⇓*i*P		**Pn**	**Pn**	**14 11 26.2**	**+0.4**
GB1A	**Borinquen Arri**	**1.31**	**300**	⇓*i*P		**Pn**	**Pn**	**14 11 26.4**	**+0.6**
LAPC	**Finca la Perla**	**1.32**	**297**	⇓*i*P		**Pn**	**Pn**	**14 11 25.9**	**+0.2**
LAPC				*i* S		**Sn**	**Sn**	**14 11 44.5**	**+0.7**
GBS3	**Finca Las lmˆ¡**	**1.34**	**297**	⇓*i*P		**Pn**	**Pn**	**14 11 26.4**	**+0.3**
GBS3				*i* S		**Sn**	**Sn**	**14 11 45.4**	**+1.0**
NY14	**Universidad de**	**1.36**	**291**	⇓*i*P		**Pn**	**Pn**	**14 11 26.9**	**+0.7**
NY14				*i* S		**Sn**	**Sn**	**14 11 46.0**	**+1.4**
GBS2	**Las Lilas**	**1.37**	**299**	⇓*i*P		**Pn**	**Pn**	**14 11 26.8**	**+0.5**
GBS2				*i* S		**Sn**	**Sn**	**14 11 46.3**	**+1.4**
VCR	**Vista de Mar**	**1.37**	**269**	⇓*i*P		**Pn**	**Pn**	**14 11 26.9**	**+0.4**
ACR	**Cerro Adams**	**1.84**	**145**	⇓*i*P		**Pn**	**Pn**	**14 11 32.2**	**-0.1**
ACR				*e*S		**Sn**	**Sn**	**14 11 54.8**	**-0.6**
CNI	**Changuinola**	**1.85**	**113**	⇓*i*P		**Pn**	**Pn**	**14 11 33.3**	**+0.8**
CTCR	**Cotoan**	**1.93**	**131**	⇓*i*P		**Pn**	**Pn**	**14 11 34.5**	**+0.9**
BRU2	**Volcan**	**2.05**	**132**	⇓*i*P		**Pn**	**Pn**	**14 11 36.2**	**+1.1**
BRU2				*e*S		**Sn**	**Sn**	**14 12 01.9**	**+1.5**
TBS2		**2.07**	**131**	*e*P		**Pn**	**Pn**	**14 11 36.5**	**+1.1**
TBS2				*e*S		**Sn**	**Sn**	**14 12 01.8**	**+0.8**
BCIP	**Isla Barro Col**	**4.45**	**102**	*i* P		**Pn**	**Pn**	**14 12 07.9**	**+0.7**
BCIP				*e*S		**Sn**	**Sn**	**14 12 57.0**	**-1.0**
BCIP	**Isla Barro Col**	**4.45**	**102**	*e*Pn		**Pn**	**Pn**	**14 12 07.5**	**+0.3**
BCIP				*e*Sn		**Sn**	**Sn**	**14 12 57.6**	**-0.4**
ZANG	**Zanguenga, Cho**	**4.48**	**105**	*e*P		**Pn**	**Pn**	**14 12 08.4**	**+0.8**
TGUH	**Tegucigalpa,Un**	**4.88**	**323**	*e*Pn		**Pn**	**Pn**	**14 12 14.2**	**+1.3**
APG	**El Apazote**	**7.75**	**309**	P		**Pn**	**Pn**	**14 12 54.1**	**+1.8**
APG	**El Apazote**	**7.75**	**309**	P		**Pn**	**Pn**	**14 12 54.1**	**+1.8**
	1.1nm,0.3s,baz=144,slow=20,SNR=11								
LRAL	**Lakeview Retre**	**22.90**	**354**	*e*P		**P**		**14 15 58.7**	**+1.0**
	5.1nm,0.7s								
TXAR	**Lajitas Array**	**26.34**	**319**	P		**P**		**14 16 31.2**	**+2.0**
TXAR	**Lajitas Array**	**26.34**	**319**	P		**P**		**14 16 31.2**	**+2.0**
	0.3nm,0.4s,baz=145,slow=11,SNR=5.1								
TXAR				LR		LR		14 30 26.3	
	comp=Z,69nm,18.5s,baz=185,slow=44								
SADO	**Sadowa**	**34.76**	**6**	P		**P**		**14 17 42.7**	**-0.3**
SADO	**Sadowa**	**34.76**	**6**	P		**P**		**14 17 42.7**	**-0.3**
	4.8nm,0.7s,baz=132,slow=16,SNR=3.3								
PDAR	**Pinedale Array**	**39.29**	**330**	P		**P**		**14 18 20.4**	**-1.3**
PDAR	**Pinedale Array**	**39.29**	**330**	P		**P**		**14 18 20.5**	**-1.3**
	0.2nm,0.6s,baz=145,slow=6.4,SNR=2.1								
NVAR	**Mina Array Bea**	**41.49**	**318**	P		**P**		**14 18 40.7**	**+0.7**
NVAR	**Mina Array Bea**	**41.49**	**318**	P		**P**		**14 18 40.7**	**+0.7**
	0.3nm,0.4s,baz=179,slow=7.7,SNR=3.0								
SCHQ	**Schefferville**	**46.65**	**14**	P		**P**		**14 19 19.3**	**-1.3**
SCHQ	**Schefferville**	**46.65**	**14**	P		**P**		**14 19 19.3**	**-1.3**
	1.7nm,0.4s,baz=160,slow=6.5,SNR=5.9								
YKA	**Yellowknife Ar**	**56.66**	**344**	P		**P**		**14 20 34.5**	**-0.5**
YKA	**Yellowknife Ar**	**56.66**	**344**	P		**P**		**14 20 34.5**	**-0.5**
	1.9nm,0.7s,baz=133,slow=8.3,SNR=3.3								
INK	**Inuvik**	**66.33**	**342**	P		**P**		**14 21 39.5**	**-0.4**
INK	**Inuvik**	**66.33**	**342**	P		**P**		**14 21 39.5**	**-0.4**
	2.5nm,0.7s,baz=98,slow=0.6,SNR=4.5								
ILAR	**Eielson Array**	**69.37**	**336**	P		**P**		**14 21 58.7**	**-0.5**
ILAR	**Eielson Array**	**69.37**	**336**	P		**P**		**14 21 58.7**	**-0.5**
	1.1nm,0.7s,baz=122,slow=4.4,SNR=14								
ESDC	**Sonseca Array**	**76.12**	**52**	P		**P**		**14 22 39.4**	**-0.3**
ESDC	**Sonseca Array**	**76.12**	**52**	P		**P**		**14 22 39.4**	**-0.3**
	2.2nm,0.6s,baz=280,slow=5.7,SNR=15								
DBIC	**Dimbokro**	**78.44**	**85**	P		**P**		**14 22 53.7**	**+0.7**
DBIC	**Dimbokro**	**78.44**	**85**	P		**P**		**14 22 53.7**	**+0.7**
	4.3nm,0.8s,baz=333,slow=2.8,SNR=3.8								
TORD	**Torodi Ar. Bea**	**83.82**	**78**	P		**P**		**14 23 20.9**	**-0.6**
TORD	**Torodi Ar. Bea**	**83.82**	**78**	P		**P**		**14 23 20.9**	**-0.6**
	1.2nm,0.6s,baz=288,slow=5.5,SNR=11								
NB2	**NORSAR Subarra**	**83.82**	**29**	P		**P**		**14 23 20.4**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=282,slow=5.1								
NOA	**NORSAR Array B**	**83.82**	**29**	P		**P**		**14 23 20.1**	**-0.7**
NOA	**NORSAR Array B**	**83.82**	**29**	P		**P**		**14 23 20.1**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=283,slow=5.3,SNR=6.0								
ARCES	**ARCESS Array B**	**87.30**	**19**	P		**P**		**14 23 36.3**	**-1.4**
ARCES	**ARCESS Array B**	**87.30**	**19**	P		**P**		**14 23 36.3**	**-1.4**
	comp=Z,4.2nm,1.1s,baz=270,slow=4.2,SNR=4.1								
ASAR	**Alice Springs**	**141.25**	**245**	PKPpre	PKPpre			14 30 17.6	
ASAR	**Alice Springs**	**141.25**	**245**	PKhKP	PKPpre			14 30 17.6	
	comp=Z,0.7nm,0.6s,baz=112,slow=3.4,SNR=9.6								
WRA	**Warramunga Arr**	**141.58**	**251**	PKPpre	PKPpre			14 30 18.2	
WRA	**Warramunga Arr**	**141.58**	**251**	PKhKP	PKPpre			14 30 18.2	
	comp=Z,0.6nm,0.5s,baz=95,slow=2.7,SNR=12								
CMAR	**Chiang Mai Arr**	**151.39**	**354**	PKP	**PKPdf**			**14 30 40.1**	**+0.6**
CMAR				PKPbc	**PKPbc**			**14 30 45.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**151.39**	**354**	PKP	**PKPdf**			**14 30 40.1**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=318,slow=1.2,SNR=3.8								
CMAR				PKPbc	**PKPbc**			**14 30 45.0**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=324,slow=2.5,SNR=4.8								

IDC 02 14:11:24.1±9.3, 16°.85N×145°.57E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/25, mbtmp3.5/3, MS3.3/1, Ms1 3.3/1, ms1mx2.8/29, Error ellipse: s-maj=341.4km s-min=30.5km az=79.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**23.89**	**267**	LR		LR		14 25 05.7	
	comp=Z,60nm,18.3s,baz=206,slow=34								
WRA	**Warramunga Arr**	**38.19**	**197**	P		P		14 18 45.9	+0.2
	0.5nm,0.5s,baz=19,slow=8.8,SNR=7.4								
ASAR	**Alice Springs**	**41.85**	**196**	P		P		14 19 15.5	-0.6
	0.2nm,0.5s,baz=19,slow=7.1,SNR=4.0								
MKAR	**Makanchi Array**	**59.66**	**315**	P		P		14 21 30.3	0.0
	0.3nm,0.3s,baz=90,slow=8.1,SNR=8.8								

IDC 02 14:13:20.0±3.9, 16°.32S×172°.78W, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.6/21, mbtmp3.6/3, Error ellipse: s-maj=269.1km s-min=31.2km az=150.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.59**	**22**	Pn		Pn		14 13 57.1	-6.1
	4.3nm,0.3s,baz=229,slow=9.3,SNR=1.7								
AFI				Sn		Sn		14 14 20.8	-15
	24nm,0.3s,baz=208,slow=22,SNR=7.8								
AFI				T		T		14 16 24.2	
	36nm,0.3s,baz=110,slow=23,SNR=5.8								
H11S2	**WAKE ISLAND Hy**	**40.06**	**329**	T		T		15 04 36.3	
	baz=152,slow=0.7,SNR=20								
H11S3	**WAKE ISLAND Hy**	**40.07**	**329**	T		T		15 04 37.2	
	baz=152,slow=0.7,SNR=9.5								
H11S1	**WAKE ISLAND Hy**	**40.08**	**329**	T		T		15 04 37.6	
	baz=152,slow=0.7,SNR=14								
H11N3	**WAKE ISLAND Hy**	**41.01**	**330**	T		T		15 05 47.1	
	baz=152,slow=0.7,SNR=9.1								
H11N1	**WAKE ISLAND Hy**	**41.01**	**330**	T		T		15 05 47.6	
	baz=152,slow=0.7,SNR=10								
H11N2	**WAKE ISLAND Hy**	**41.02**	**330**	T		T		15 05 46.4	
	baz=152,slow=0.7,SNR=8.8								
WRA	**Warramunga Arr**	**50.22**	**257**	P		P		14 22 18.6	+0.4
	0.3nm,0.8s,baz=96,slow=7.8,SNR=5.8								
ASAR	**Alice Springs**	**50.40**	**253**	P		P		14 22 19.4	-0.2
	1.0nm,0.6s,baz=89,slow=8.3,SNR=27								
PDAR	**Pinedale Array**	**82.55**	**42**	P		P		14 25 45.5	+0.3
	0.5nm,0.9s,baz=213,slow=8.1,SNR=3.0								
BRTR	**Keskin Array B**	**147.25**	**321**	PKPbc	PKPdf			14 33 03.9	+0.3
	0.9nm,0.9s,baz=94,slow=5.8,SNR=2.0								

*ISCJB **02** 14:17:35.9±0.5, 4°.71S±0°.06×153°.81E±0°.06, h100km, mb3.9/12, Error ellipse: s-maj=8.9km s-min=8.2km az=158.2*
*IDC **02** 14:17:39.6±0.9, 4°.82S×153°.87E, h121km±6km, mb3.7/12, mb1 3.9/14, mb1mx3.8/20, mbtmp3.8/14, Error ellipse: s-maj=25.4km s-min=12.4km az=113.0*
*AUST **02** 14:18:17.1, 7°.10S×152°.18E, h300km*
ISC 02 14:17:37.9±0.6, 4°.74S±0°.08×153°.85E±0°.09, h100km, n27, σ18°70/33, mb3.8/12, **6C-5D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.63**	**128**	S		**Sn**	**Sn**	**14 20 52.9**	**+1.5**
	13nm,0.3s,baz=6.7,slow=18,SNR=3.6								
PMG	**Port Moresby**	**8.10**	**235**	P		**Pn**	**Pn**	**14 19 34.5**	**+1.7**
	26nm,0.3s,baz=53,slow=6.4,SNR=70								
PMG				S		**Sn**	**Sn**	**14 21 02.5**	**-0.2**
	3.3nm,0.3s,baz=60,slow=20,SNR=4.4								
CTA	**Charters Tower**	**16.95**	**205**	P		**P**	**P**	**14 21 30.6**	**+1.2**
	0.2nm,0.3s,baz=21,slow=15,SNR=3.5								
EIDS	**Eidsvold**	**20.68**	**187**	⇓P		**P**	**P**	**14 22 10.6**	**+0.6**
	baz=18,SNR=3.2								
RMQ	**Roma**	**22.16**	**192**	⇓P		**P**	**P**	**14 22 25.3**	**-0.5**
	baz=20,SNR=7.9								
KDU	**Kakadu**	**22.54**	**248**	⇑P		**P**	**P**	**14 22 28.0**	**-1.8**
	baz=20,SNR=8.7								
QLP	**Quilpie**	**23.58**	**202**	⇑P		**P**	**P**	**14 22 38.8**	**-0.8**
	baz=21,SNR=24								
WRA	**Warramunga Arr**	**24.27**	**230**	P		**P**	**P**	**14 22 45.4**	**-0.6**
	15nm,0.7s,baz=53,slow=9.7,SNR=116								
WRA				pP		**pP**	**pP**	**14 23 11.4**	**+3.7**
	4.9nm,0.8s,baz=56,slow=11,SNR=6.2								
WRA				PcP		**PcP**	**PcP**	**14 26 22.7**	**-1.1**
	0.5nm,0.6s,baz=56,slow=3.0,SNR=2.9								
ARMA	**Armidale**	**25.63**	**184**	⇓P		**P**	**P**	**14 22 58.7**	**+0.5**
	ba

0.6nm,0.8s,baz=235,slow=3.2,SNR=3.7
PDAR Pinedale Array 82.39 42 P P 14 42 04.8 -1.0
0.9nm,1.0s,baz=223,slow=3.4,SNR=3.6
ILAR Eielson Array 82.40 11 P P 14 42 04.2 -0.8
0.6nm,0.8s,baz=208,slow=6.3,SNR=4.0
BRTR Keskin Array B 145.88 321 PKPbc PKPab 14 49 24.3 +0.6
0.9nm,0.7s,baz=72,slow=4.7,SNR=4.9
GERES GERESS Array B 145.99 351 PKPbc PKPbc 14 49 23.4 +0.1
0.2nm,0.3s,baz=28,slow=6.0,SNR=4.3

IDC 02 14:30:54.0±0.9, 34.07°N×37.51°W, h0km, mb3.8/13, mb1 4.0/13, mb1mx3.9/29, mbtmp3.8/13, Error ellipse: s-maj=27.5km s-min=18.6km az=169.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07N1	**FLORES T-PHASE**	**7.59**	**41**	T	T	14 40 26.9	
	SNR=4.6						
NB2	**NORSAR Subarra**	**41.09**	**34**	P	P	14 38 39.8	+0.5
	comp=Z,1.0nm,0.7s,baz=252,slow=8.6						
NOA	**NORSAR Array B**	**41.09**	**34**	P	P	14 38 39.0	-0.3
	comp=Z,2.7nm,0.9s,baz=253,slow=8.5,SNR=4.6						
TORD	**Torodi Ar. Bea**	**41.18**	**111**	P	P	14 38 40.7	+0.2
	comp=Z,0.3nm,0.6s,baz=299,slow=8.6,SNR=2.3						
H10N2	**ASCENSION HYDR**	**47.04**	**148**	T	T	15 29 49.6	
	baz=334,slow=0.7,SNR=44						
H10N3	**ASCENSION HYDR**	**47.04**	**148**	T	T	15 29 47.9	
	baz=334,slow=0.7,SNR=49						
H10N1	**ASCENSION HYDR**	**47.06**	**148**	T	T	15 29 50.9	
	baz=334,slow=0.7,SNR=61						
H10S1	**ASCENSION HYDR**	**47.96**	**149**	T	T	15 30 36.4	
	baz=334,slow=0.7,SNR=100						
H10S3	**ASCENSION HYDR**	**47.97**	**149**	T	T	15 30 36.7	
	baz=334,slow=0.7,SNR=107						
H10S2	**ASCENSION HYDR**	**47.98**	**149**	T	T	15 30 37.7	
	baz=334,slow=0.7,SNR=109						
FINES	**FINESS Array B**	**48.20**	**35**	P	P	14 39 35.9	-0.1
	comp=Z,1.7nm,0.7s,baz=265,slow=11,SNR=3.9						
ARCES	**ARCESS Array B**	**49.12**	**24**	P	P	14 39 42.4	-0.5
	comp=Z,3.6nm,1.0s,baz=243,slow=8.0,SNR=5.6						
AKASG	**Malin Array Be**	**50.29**	**49**	P	P	14 39 52.0	-0.1
	comp=Z,0.2nm,0.2s,baz=270,slow=7.3,SNR=5.2						
PDAR	**Pinedale Array**	**55.55**	**302**	P	P	14 40 30.9	-0.6
	comp=Z,1.6nm,0.7s,baz=75,slow=8.4,SNR=12						
TXAR	**Lajitas Array**	**55.62**	**285**	P	P	14 40 32.2	+0.3
	comp=Z,0.4nm,0.6s,baz=92,slow=5.4,SNR=3.5						
BRTR	**Keskin Array B**	**55.82**	**62**	P	P	14 40 33.0	-0.3
	comp=Z,0.6nm,0.5s,baz=282,slow=2.4,SNR=4.2						
LPAZ	**La Paz**	**57.95**	**215**	P	P	14 40 48.8	-0.4
	comp=Z,1.0nm,0.7s,baz=22,slow=3.7,SNR=4.3						
NVAR	**Mina Array Bea**	**63.29**	**300**	P	P	14 41 24.9	-0.2
	comp=Z,0.7nm,0.7s,baz=91,slow=10,SNR=4.0						
ILAR	**Eielson Array**	**67.31**	**334**	P	P	14 41 51.3	+1.0
	comp=Z,0.4nm,0.8s,baz=62,slow=3.6,SNR=4.6						
ZALV	**Zalesovo Beam**	**79.20**	**31**	P	P	14 43 00.6	-0.1
	comp=Z,0.7nm,0.7s,baz=306,slow=5.2,SNR=3.6						
MKAR	**Makanchi Array**	**83.01**	**37**	P	P	14 43 21.3	+0.1
	comp=Z,1.9nm,0.9s,baz=316,slow=5.5,SNR=16						

IDC 02 14:35:38.8±4.7, 14.44S×173.74W, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.8/19, mbtmp3.7/3, Error ellipse: s-maj=177.3km s-min=73.3km az=177.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.97**	**75**	Sn	Sn	14 36 24.1	-15
	49nm,0.3s,baz=285,slow=20,SNR=4.2						
H11S2	**WAKE ISLAND Hy**	**37.97**	**329**	T	T	15 23 44.1	
	baz=152,slow=0.7,SNR=38						
H11S3	**WAKE ISLAND Hy**	**37.99**	**329**	T	T	15 23 44.6	
	baz=152,slow=0.7,SNR=36						
H11S1	**WAKE ISLAND Hy**	**37.99**	**329**	T	T	15 23 44.3	
	baz=152,slow=0.7,SNR=36						
H11N3	**WAKE ISLAND Hy**	**38.92**	**330**	T	T	15 24 58.4	
	baz=152,slow=0.7,SNR=16						
H11N1	**WAKE ISLAND Hy**	**38.92**	**330**	T	T	15 24 53.8	
	baz=152,slow=0.7,SNR=24						
H11N2	**WAKE ISLAND Hy**	**38.93**	**330**	T	T	15 24 59.1	
	baz=152,slow=0.7,SNR=26						
TXAR	**Lajitas Array**	**80.35**	**56**	P	P	14 47 53.0	+0.5
	0.2nm,0.5s,baz=248,slow=6.6,SNR=4.2						
ILAR	**Eielson Array**	**81.57**	**11**	P	P	14 47 58.3	+0.3
	0.6nm,1.0s,baz=218,slow=5.7,SNR=4.0						
PDAR	**Pinedale Array**	**81.77**	**42**	P	P	14 47 59.1	-0.8
	0.3nm,0.3s,baz=212,slow=3.2,SNR=3.8						
BRTR	**Keskin Array B**	**145.21**	**322**	PKPbc	PKPbc	14 55 17.6	-0.9
	0.8nm,0.8s,baz=48,slow=2.1,SNR=5.0						

*IDC **02** 14:38:26.2±0.8, 5.18S×140.42E, h0km, mb4.0/9, mb1 4.1/13, mb1mx4.1/17, mbtmp4.0/13, ML4.1/3, MS3.7/6, Ms1 3.7/6, ms1mx3.3/34, Error ellipse: s-maj=25.9km s-min=12.1km az=98.0*
*NEIC **02** 14:38:28.7±0.4, 5.28S×140.29E, h10km, mb4.6/10, Error ellipse: s-maj=11.7km s-min=7.8km az=91.0*
*ISCJB **02** 14:38:30.1±0.3, 5.37S±0.03×140.45E±0.05, h33km, mb4.3/18, MS3.6/4, Error ellipse: s-maj=7.4km s-min=5.0km az=4.5*
*DJA **02** 14:38:31.1±2.8, 5°S±19'×14°1E±2', h114km, M4.9/4, mB5.1/3, mb4.9/4, MLv4.9/3, Mw(mB)4.5/3*
*AUST **02** 14:38:31.0±1.4, 5.31S×140.53E, h23km, Error ellipse: s-maj=1.0km s-min=0.8km az=326.0*

ISC 02 14:38:32.3±0.4, 5.34S±0.05×140.25E±0.06, h35km, n83, σ1996/78, mb4.2/18, MS3.7/4, 1C, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.84**	**9**	P	Pn	14 39 11.1	-4.1
JAY	**Jayapura**	**2.84**	**9**	P	**Pn**	**14 39 12.7**	**-2.5**
	baz=2.8,SNR=11						
MMPI	**Merauke**	**3.11**	**178**	P	Pn	14 39 32.3	+13
MMPI	**Merauke**	**3.11**	**178**	P	Pn	14 39 31.3	+12
	baz=3.2,SNR=5.7						
SRPI	**Serui, Papua**	**5.28**	**311**	P	**Pn**	**14 39 51.0**	**+2.3**
	192nm,0.7s,5μm1.7nm						
BAKI	**Biak**	**5.83**	**315**	P	**Pn**	**14 39 58.1**	**+1.8**
	200nm,0.7s,2μm0.7nm						
TLE	**Tual**	**7.48**	**267**	P	Pn	14 40 24.6	+5.6
	78nm,0.8s						
TLE	**Tual**	**7.48**	**267**	P	Pn	14 40 23.6	+4.6
	baz=7.8,SNR=8.1						
MANU	**Manus Island**	**7.82**	**66**	P	**Pn**	**14 40 22.2**	**-1.4**
	baz=7.6,SNR=8.1						
PMG	**Port Moresby**	**7.96**	**121**	Pn	Pn	14 40 21.4	-4.2
PMG				Sn	Sn	14 41 46.1	-8.3
PMG	**Port Moresby**	**7.96**	**121**	Pn	Pn	14 40 21.4	-4.2
	0.6nm,0.3s,baz=305,slow=16,SNR=2.9						
PMG				Sn	Sn	14 41 46.1	-8.3
	0.3nm,0.3s,baz=204,slow=18,SNR=2.0						
FAKI	**Fak Fak**	**8.33**	**286**	P	Pn	14 40 36.7	+6.0
FAKI	**Fak Fak**	**8.33**	**286**	P	**Pn**	**14 40 33.1**	**+2.5**
	baz=8.6,SNR=15						
COEN	**Coen**	**9.04**	**162**	*e*Pn	**Pn**	**14 40 40.5**	**+0.1**
	97nm,0.6s						
COEN				*e*Sn	**Sn**	**14 42 18.6**	**-2.4**
COEN	**Coen**	**9.04**	**162**	P	**Pn**	**14 40 41.2**	**+0.8**
	baz=9.0,SNR=10.0						
KDU	**Kakadu**	**10.60**	**226**	P	**Pn**	**14 41 02.6**	**+0.9**
	baz=11,SNR=69						
KNRA	**Kununurra**	**15.26**	**227**	P	**P**	**14 42 08.5**	**-1.2**
	baz=16,SNR=11						
WRAB	**Tennant Creek**	**15.60**	**201**	*e*Pn	**Pn**	**14 42 09.6**	**-0.1**
	61nm,1.0s						
WRAB				*e*Sn	**Sn**	**14 45 04.0**	**+2.4**
WRA	**Warramunga Arr**	**15.62**	**201**	Pn	**Pn**	**14 42 08.5**	**-1.4**
WRA				Sn	**Sn**	**14 44 59.0**	**-2.9**
WRA				Lg	Lg	14 46 46.9	
WRA	**Warramunga Arr**	**15.62**	**201**	Pn	**Pn**	**14 42 08.5**	**-1.4**
	0.6nm,0.3s,baz=16,slow=12,SNR=24						
WRA				Sn	**Sn**	**14 44 59.0**	**-2.9**
	0.7nm,0.3s,baz=16,slow=23,SNR=4.0						
WRA				Lg	Lg	14 46 46.9	
	1.4nm,0.3s,baz=21,slow=35,SNR=6.0						
CTA	**Charters Tower**	**15.79**	**159**	Pn	**P**	**14 42 15.9**	**+0.3**
CTA	**Charters Tower**	**15.79**	**159**	Pn	**P**	**14 42 15.9**	**+0.3**
	0.4nm,0.3s,baz=348,slow=13,SNR=9.9						
CTA				Lg	Lg	14 46 48.5	
	0.2nm,0.3s,baz=244,slow=22,SNR=4.5						
CTAO	**Charters Tower**	**15.79**	**159**	*e*Pn	**Pn**	**14 42 12.5**	**+0.4**
	18nm,1.2s						
SOEI	**Soe**	**16.44**	**254**	P	**P**	**14 42 24.1**	**+1.2**
	baz=17,SNR=12						
BATI	**Baumata**	**17.12**	**253**	Pn	**Pn**	**14 42 27.4**	**-1.7**
BATI				Sn	**Sn**	**14 45 35.9**	**-2.8**
BATI	**Baumata**	**17.12**	**253**	Pn	**Pn**	**14 42 27.4**	**-1.7**
	0.6nm,0.3s,baz=97,slow=19,SNR=1.8						
BATI				Sn	**Sn**	**14 45 35.9**	**-2.8**
	0.3nm,0.3s,baz=102,slow=20,SNR=3.6						
FITZ	**Fitzroy Crossi**	**19.10**	**227**	P	**Pn**	**14 42 53.4**	**+0.2**
FITZ				S	**Sn**	**14 46 20.0**	**-6.3**
FITZ	**Fitzroy Crossi**	**19.10**	**227**	P	**Pn**	**14 42 53.8**	**+0.6**
	baz=19,SNR=18						
FITZ	**Fitzroy Crossi**	**19.10**	**227**	P	**Pn**	**14 42 53.4**	**+0.2**
	0.6nm,0.3s,baz=49,slow=9.3,SNR=20						
FITZ				S	**Sn**	**14 46 20.0**	**-6.3**
	1.1nm,0.3s,baz=129,slow=6.5,SNR=5.6						
FITZ				LR	LR	14 51 18.3	
	comp=Z,142nm,21.7s,baz=50,slow=40						
AS31	**Alice Springs**	**19.22**	**198**	*e*P	**Pn**	**14 42 54.4**	**-0.3**
ASAR	**Alice Springs**	**19.22**	**198**	P	**Pn**	**14 42 55.4**	**+0.6**
ASAR				S	**S**	**14 46 34.1**	**+4.5**
ASAR				Lg	Lg	14 48 41.5	
ASAR	**Alice Springs**	**19.22**	**198**	P	**Pn**	**14 42 55.4**	**+0.6**
	0.9nm,0.3s,baz=26,slow=7.8,SNR=76						
ASAR				S	**S**	**14 46 34.1**	**+4.5**
	0.2nm,0.3s,baz=11,slow=27,SNR=4.1						
ASAR				Lg	Lg	14 48 41.5	
	0.1nm,0.3s,baz=13,slow=28,SNR=4.1						
ASAR				LR	LR	14 51 03.7	
	comp=Z,213nm,21.8s,baz=231,slow=39						
CTBH	**Cotabato--PC H**	**20.26**	**308**	*i*P	Pn	14 43 09.8	+2.8
KAPI	**Kappang**	**20.41**	**270**	P	**P**	**14 43 06.1**	**-0.5**
KAPI	**Kappang**	**20.41**	**270**	P	**P**	**14 43 06.1**	**-0.5**
	4.9nm,0.5s,baz=66,slow=20,SNR=3.4						
QLP	**Quilpie**	**21.47**	**170**	P	P	14 43 24.4	+6.6
	baz=22,SNR=9.6						
MBWA	**Marble Bar**	**25.36**	**230**	*e*P	**P**	**14 43 57.2**	**+0.8**
STKA	**Stephens Creek**	**26.43**	**177**	P	**P**	**14 44 07.9**	**+2.0**
STKA				Lg	Lg	14 52 50.1	
STKA	**Stephens Creek**	**26.43**	**177**	P	**P**	**14 44 09.7**	**+3.7**
	baz=27,SNR=4.4						
STKA	**Stephens Creek**	**26.43**	**177**	P	**P**	**14 44 07.9**	**+2.0**
	1.7nm,0.6s,baz=308,slow=6.5,SNR=5.2						
STKA				Lg	Lg	14 52 50.1	
	1.5nm,0.8s,baz=311,slow=20,SNR=1.7						
STKA				LR	LR	14 55 36.8	
	comp=Z,326nm,18.6s,baz=190,slow=39						
JCJ	**Chichijima**	**32.29**	**3**	LR	LR	14 58 03.5	
	comp=Z,50nm,18.5s,baz=132,slow=37						
KLBR	**Kellerberrin**	**33.57**	**216**	P	P	14 45 03.2	-5.9
	baz=34,SNR=5.8						
JNU	**Nakatsue**	**39.27**	**348**	LR	LR	14 59 22.3	
	comp=Z,117nm,18.6s,baz=319,slow=32						
MAJO	**Matsushiro**	**41.70**	**358**	*e*P	**P**	**14 46 20.1**	**+2.3**
PSI	**Prapat**	**42.06**	**280**	P	**P**	**14 46 21.4**	**+0.2**
	baz=42,SNR=3.9						
KSAR	**Wonju Array Be**	**44.09**	**346**	P	**P**	**14 46 39.5**	**+2.5**
KSRS	**Korea Array**	**44.09**	**346**	P	**P**	**14 46 39.5**	**+2.5**
	2.8nm,0.6s,baz=168,slow=8.8,SNR=12						
KSRS				LR	LR	15 03 35.2	
	comp=Z,93nm,19.2s,baz=360,slow=34						
ENH	**Enshi**	**46.06**	**322**	*e*P	**P**	**14 46 52.1**	**-0.8**
	7.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**47.08**	**301**	P	**P**	**14 47 01.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**47.08**	**301**	P	**P**	**14 47 01.1**	**-0.1**
	2.5nm,1.0s,baz=105,slow=6.3,SNR=6.0						
USRK	**Ussuriysk Arra**	**49.87**	**352**	P	**P**	**14 47 24.1**	**+2.0**
	0.9nm,0.6s,baz=168,slow=7.4,SNR=2.2						
PETK	**Petropavlovsk-**	**60.07**	**12**	P	**P**	**14 48 33.6**	**-2.1**
PETK	**Petropavlovsk-**	**60.07**	**12**	P	**P**	**14 48 33.6**	**-2.1**
	0.9nm,0.7s,baz=177,slow=7.2,SNR=2.4						
ULN	**Ulaanbaatar**	**60.48**	**335**	*e*P	**P**	**14 48 39.5**	**+0.7**
	2.6nm,0.8s						
SONM	**Songino Array**	**60.73**	**335**	P	**P**	**14 48 39.9**	**-0.7**
SONM	**Songino Array**	**60.73**	**335**	P	**P**	**14 48 39.9**	**-0.7**
	0.3nm,0.5s,baz=155,slow=7.9,SNR=2.5						
FX1	**Attu Island--F**	**64.34**	**21**	*e*P	**P**	**14 49 04.6**	**+0.3**
MK31	**Makanchi Array**	**72.79**	**322**	*e*P	**P**	**14 49 57.0**	**-0.3**
MKAR	**Makanchi Array**	**72.79**	**322**	*e*P	**P**	**14 49 57.1**	**-0.3**
MKAR	**Makanchi Array**	**72.79**	**322**	P	**P**	**14 49 57.0**	**-0.3**
	1.2nm,0.7s,baz=96,slow=9.1,SNR=25						
ZALV	**Zalesovo Beam**	**74.96**	**330**	P	**P**	**14 50 08.3**	**-1.5**
ZALV	**Zalesovo Beam**	**74.96**	**330**	P	**P**	**14 50 08.3**	**-1.5**
	1.1nm,0.8s,baz=110,slow=6.5,SNR=5.5						
TKM2	**Tokmak 2**	**75.49**	**317**	*e*P	**P**	**14 50 13.2**	**-0.1**
	2.7nm,0.8s						
EKS2	**Erkin-Say**	**76.65**	**316**	*e*P	**P**	**14 50 20.9**	**+1.0**
	2.5nm,0.8s						
MAW	**Mawson**	**80.29**	**202**	P	**P**	**14 50 39.8**	**+0.5**
MAW	**Mawson**	**80.29**	**202**	P	**P**	**14 50 40.8**	**+1.6**
	baz=80,SNR=8.9						
MAW	**Mawson**	**80.29**	**202**	P	**P**	**14 50 39.8**	**+0.5**
	1.3nm,0.6s,baz=43,slow=8.2,SNR=3.7						
VOSK	**Vostochnaya**	**81.89**	**325**	*e*P	P	14 50 52.3	+4.2
CAST	**Castle Rocks**	**84.97**	**25**	*e*P	P	14 51 07.0	+3.3
IMA2	**Indian Mountai**	**85.39**	**22**	*e*P	**P**	**14 51 08.3**	**+2.4**
TRF	**Thorofare Moun**	**85.73**	**25**	*e*P	**P**	**14 51 08.9**	**+1.2**
	5.8nm,0.9s						
MCK	**McKinley**	**86.40**	**25**	*e*P	**P**	**14 51 10.3**	**-0.5**
	7.8nm,0.8s						
COLD	**Coldfoot**	**87.11**	**21**	*e*P	**P**	**14 51 14.6**	**+0.4**
	5.1nm,1.0s						
ILAR	**Eielson Array**	**87.58**	**24**	P	**P**	**14 51 14.3**	**-2.2**
ILAR	**Eielson Array**	**87.58**	**24**	P	**P**	**14 51 14.3**	**-2.2**
	1.7nm,1.1s,baz=267,slow=4.8,SNR=4.0						
ABKAR	**Akbulak array**	**87.70**	**320**	*e*P	**P**	**14 51 18.2**	**+0.8**
EGAK	**Eagle**	**89.95**	**25**	*e*P	**P**	**14 51 28.0**	**+0.3**
	5.3nm,1.0s						
TORD	**Torodi Ar. Bea**	**138.41**	**284**	PKP	**PKPdf**	**14 57 54.8**	**-0.4**
	0.6nm,0.8s,baz=15,slow=1.7,SNR=3.2						
LPAZ	**La Paz**	**144.65**	**128**	PKP	**PKPab**	**14 58 05.2**	**-0.5**
	1.2nm,0.5s,baz=255,slow=7.3,SNR=7.8						
KIC	**Kosan Boka**	**145.16**	**273**	*e*PKIKP	**PKPbc**	**14 58 06.3**	**-0.6**
	110nm,1.1s						
DBIC	**Dimonoo**	**145.27**	**274**	PKPbc	**PKPbc**	**14 58 06.6**	**-0.6**
	1.5nm,0.4s,baz=116,slow=5.0,SNR=4.9						
TIC	**Toumodi**	**145.44**	**274**	*e*PKIKP	**PKPdf**	**14 58 06.7**	**-1.1**
	9.2nm,0.3s						
LIC	**Lamto**	**145.44**	**273**	*e*PKIKP	**PKPdf**	**14 58 06.7**	**-1.1**
	28nm,0.9s						

IDC 02 14:46:35.2±12.0, 15.06S×173.61W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.8/19, mbtmp3.9/3, Error ellipse: s-maj=570.1km s-min=38.4km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.11**	**57**	Pn	Pn	14 47 04.7	-7.2
	54nm,0.3s,baz=274,slow=1.3,SNR=14						
AFI				Sn	Sn	14 47 23.7	-15
	109nm,0.3s,baz=281,slow=16,SNR=10						
WRA	**Warramunga Arr**	**49.73**	**256**	P	P	14 55 29.5	-0.2
	1.0nm,0.6s,baz=90,slow=6.9,SNR=3.4						
ASAR	**Alice Springs**	**50.03**	**252**	P	P	14 55 31.9	0.0
	3.1nm,0.7s,baz=86,slow=8.4,SNR=16						
ILAR	**Eielson Array**	**82.16**	**11**	P	P	14 58 57.5	0.0
	0.4nm,0.6s,baz=239,slow=6.1,SNR=4.4						

IDC 02 14:46:55.4±2.6, 15.25S×173.34W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/21, mbtmp4.0/4, Error ellipse: s-maj=104.6km s-min=36.0km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy**	**38.87**	**329**	T	T	15 35 26.5	
	baz=151,slow=0.7,SNR=16						
H11S3	**WAKE ISLAND Hy**	**38.88**	**329**	T	T	15 35 30.8	
	baz=151,slow=0.7,SNR=15						
H11S1	**WAKE ISLAND Hy**	**38.88**	**329**	T	T	15 35 29.0	
	baz=151,slow=0.7,SNR=18						
H11N3	**WAKE ISLAND Hy**	**39.81**	**330**	T	T	15 36 31.7	
	baz=152,slow=0.7,SNR=9.3						
H11N1	**WAKE ISLAND Hy**	**39.82**	**330**	T	T	15 36 35.0	
	baz=152,slow=0.7,SNR=14						
H11N2	**WAKE ISLAND Hy**	**39.83**	**330**	T	T	15 36 33.1	
	baz=152,slow=0.7,SNR=12						
ASAR	**Alice Springs**	**50.22**	**252**	P	P	14 55 53.4	-0.2
	2.4nm,0.5s,baz=84,slow=8.4,SNR=7.0						
PETK	**Petropavlovsk-**	**72.51**	**342**	P	P	14 58 24.6	+0.8
	2.5nm,1.0s,baz=134,slow=6.2,SNR=3.6						
PDAR	**Pinedale Array**	**82.11**	**42**	P	P	14 59 18.9	+0.6
	0.4nm,0.7s,baz=224,slow=6.2,SNR=3.5						
ILAR	**Eielson Array**	**82.29**	**11**	P	P	14 59 17.0	-1.4
	0.5nm,0.8s,baz=224,slow=6.3,SNR=3.1						

IDC 02 14:47:50.5±6.6, 6.65S×128.28E, h292km±73km, mb3.1/4, mb1 3.6/8, mb1mx3.3/21, mbtmp3.5/8, Error ellipse: s-maj=79.4km s-min=16.4km az=53.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.78**	**232**	P	Pn	14 49 17.5	+0.5
	24nm,0.3s,baz=86,slow=2.0,SNR=33						
BATI				S	S	14 50 25.9	-0.7
	3.8nm,0.3s,baz=338,slow=19,SNR=4.5						
FITZ	**Fitzroy Crossi**	**11.67**	**193**	P	P	14 50 30.4	-0.8
	0.6nm,0.3s,baz=10,slow=12,SNR=8.1						
WRA	**Warramunga Arr**	**14.46**	**157**	P	P	14 51 00.4	-1.8
	1.6nm,0.3s,baz=332,slow=12,SNR=32						
WRA				S	S	14 53 39.6	-1.8
	0.4nm,0.3s,baz=343,slow=22,SNR=6.7						
ASAR	**Alice Springs**	**17.76**	**163**	P	P	14 51 38.9	+0.7
	2.8nm,0.3s,baz=342,slow=11,SNR=57						
STKA	**Stephens Creek**	**28.01**	**155**	P	P	14 53 14.8	-0.3
	2.4nm,0.9s,baz=341,slow=13,SNR=3.6						
SONM	**Songino Array**	**57.59**	**343**	P	P	14 57 09.7	-0.7
	0.5nm,1.0s,baz=134,slow=4.2,SNR=2.7						
MKAR	**Makanchi Array**	**67.01**	**328**	P	P	14 58 13.1	+0.7
	0.3nm,0.4s,baz=126,slow=7.7,SNR=8.8						
ZALV	**Zalesovo Beam**	**70.52**	**334**	P	P	14 58 33.0	-0.8
	0.6nm,0.5s,baz=134,slow=4.2,SNR=2.9						

IDC 02 14:53:42.1±27.0, 18.38S×171.65W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/22, mbtmp4.0/4, MS3.5/1, Ms1 3.5/1, ms1mx2.9/39, Error ellipse: s-maj=514.9km s-min=167.1km az=74.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**22.11**	**204**	LR	LR	15 05 30.5	
	comp=Z,102nm,18.4s,baz=99,slow=32						
CTA	**Charters Tower**	**39.71**	**260**	P	P	15 01 16.4	-0.2
	0.9nm,0.4s,baz=100,slow=6.1,SNR=4.2						
STKA	**Stephens Creek**	**44.09**	**243**	P	P	15 01 51.7	-0.6
	1.1nm,0.4s,baz=83,slow=9.1,SNR=6.7						
ASAR	**Alice Springs**	**50.85**	**254**	P	P	15 02 45.0	0.0
	1.5nm,0.5s,baz=93,slow=8.0,SNR=8.4						
WRA	**Warramunga Arr**	**50.86**	**259**	P	P	15 02 45.4	+0.2
	0.5nm,0.3s,baz=95,slow=6.6,SNR=9.1						

*AUST **02** 14:54:06.8±2.3, 2.73S×101.49E, h3km, Error ellipse: s-maj=1.6km s-min=0.7km az=243.0*
*NEIC **02** 14:54:06.2±0.5, 2.50S×101.70E, h10km, mb4.5/3, Error ellipse: s-maj=24.3km s-min=9.1km az=61.0*
*ISCJB **02** 14:54:09.3±0.5, 2.49S±0.04×101.58E±0.06, h49km±4km, mb4.2/19, MS3.6/3, Error ellipse: s-maj=10.6km s-min=4.0km az=150.4*
*IDC **02** 14:54:09.8±3.6, 2.39S×101.81E, h33km±27km, mb4.0/15, mb1 4.1/16, mb1mx4.0/25, mbtmp4.0/16, ML3.7/1, MS3.6/3, Ms1 3.6/3, ms1mx3.1/39, Error ellipse: s-maj=24.7km s-min=12.1km az=58.0*
*DJA **02** 14:54:09.2±0.4, 3°S±2'×10°2E±', h10km, M4.9/18, mb5.1/4, mB5.0/1, MLv4.8/18, Mw(mB)4.4/1*

ISC 02 14:54:09.4±1.0, 2.50S±0.04×101.68E±0.05, h30km±7km, n98, σ1955/92, mb4.3/19, MS3.7/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRJI	**Kerinci**	**0.46**	**332**	P	**Pb**	**14 54 18.5**	**-0.8**
KRJI				S	**Sb**	**14 54 24.8**	**-1.2**
MASI	**Maura Aman, Be**	**0.85**	**139**	P	**Pb**	**14 54 24.4**	**-1.3**
MASI				S	**Sn**	**14 54 38.5**	**+1.7**
KSI	**Kapahiang**	**1.46**	**142**	P	**Pn**	**14 54 34.2**	**+0.3**
KSI				S	**Sb**	**14 54 55.3**	**+1.0**
PDSI	**Padang**	**1.99**	**322**	P	**Pb**	**14 54 43.0**	**-2.0**
PDSI				S	**Sb**	**14 55 08.9**	**-0.6**
RGRI	**Rengat**	**2.23**	**17**	P	**Pn**	**14 54 45.8**	**+1.4**
RGRI				S	**Sb**	**14 55 14.8**	**-1.5**
MNAI	**Manna**	**2.25**	**146**	P	**Pn**	**14 54 45.5**	**+0.9**
MNAI				S	**Sb**	**14 55 16.4**	**-0.3**
MNAI	**Manna**	**2.25**	**146**	P	**Pn**	**14 54 45.3**	**+0.7**
	baz=2.2,SNR=18						
PPI	**Padang Panjang**	**2.40**	**328**	P	**Pn**	**14 54 48.8**	**+2.1**
PPI	**Padang Panjang**	**2.40**	**328**	P	**Pn**	**14 54 48.8**	**+2.1**
	baz=2.5,SNR=52						
BKNI	**Bangkinang**	**2.88**	**347**	P	**Pb**	**14 54 59.0**	**-1.1**
BKNI				S	**Sb**	**14 55 40.3**	**+5.4**
BKNI	**Bangkinang**	**2.88**	**347**	P	**Pb**	**14 54 58.7**

H01W2	**Cape Leeuwin H**	**34.26**	**162**	T	T	15 35 28.4		
	baz=336							
H01W1	**Cape Leeuwin H**	**34.26**	**162**	T	T	15 35 30.2		
	baz=336							
WRA	**Warramunga Arr**	**36.30**	**121**	P	**P**	**15 01 09.5**	**-1.2**	
WRA	**Warramunga Arr**	**36.30**	**121**	P	**P**	**15 01 09.5**	**-1.2**	
	2.5nm,0.9s,baz=303,slow=8.5,SNR=83							
ASAR	**Alice Springs**	**37.61**	**127**	P	**P**	**15 01 20.8**	**-1.0**	
ASAR				PcP	**PcP**	**15 03 38.6**	**-0.7**	
ASAR				ScP	**ScP**	**15 07 23.7**	**-1.1**	
ASAR	**Alice Springs**	**37.61**	**127**	P	**P**	**15 01 20.8**	**-1.0**	
	1.1nm,0.6s,baz=301,slow=7.6,SNR=21							
ASAR				PcP	**PcP**	**15 03 38.6**	**-0.7**	
	0.3nm,0.4s,baz=314,slow=3.0,SNR=2.7							
ASAR				ScP	**ScP**	**15 07 23.7**	**-1.1**	
	0.3nm,0.6s,baz=300,slow=3.5,SNR=4.5							
AS31	**Alice Springs**	**37.61**	**127**	*e*P	**P**	**15 01 22.8**	**+0.9**	
KSRS	**Korea Array**	**46.62**	**29**	P	P	15 02 40.5	+5.5	
	3.1nm,0.9s,baz=220,slow=9.3,SNR=8.1							
KSRS				LR	LR	15 24 23.7		
	comp=Z,22nm,21.3s,baz=235,slow=39							
STKA	**Stephens Creek**	**47.57**	**132**	P	**P**	**15 02 42.7**	**+0.1**	
STKA	**Stephens Creek**	**47.57**	**132**	P	**P**	**15 02 43.0**	**+0.4**	
	baz=48,SNR=5.6							
STKA	**Stephens Creek**	**47.57**	**132**	P	**P**	**15 02 42.7**	**+0.1**	
	5.9nm,0.9s,baz=318,slow=8.0,SNR=6.1							
STKA				LR	LR	15 21 15.1		
	comp=Z,180nm,21.3s,baz=24,slow=34							
SONM	**Songino Array**	**50.30**	**4**	P	**P**	**15 03 03.5**	**+0.2**	
SONM	**Songino Array**	**50.30**	**4**	P	**P**	**15 03 03.5**	**+0.2**	
	0.8nm,0.5s,baz=185,slow=11,SNR=7.8							
CMSA	**Cobar Meteorol**	**50.50**	**130**	P	**P**	**15 03 05.2**	**+0.1**	
	baz=51,SNR=7.3							
TKM2	**Tokmak 2**	**50.97**	**335**	*e*P	**P**	**15 03 07.5**	**-1.1**	
	4.5nm,0.8s							
EKS2	**Erkin-Say**	**51.54**	**334**	*e*P	**P**	**15 03 11.6**	**-1.2**	
	5.3nm,0.8s							
MK31	**Makanchi Array**	**51.97**	**343**	*e*P	**P**	**15 03 14.2**	**-1.6**	
MKAR	**Makanchi Array**	**51.97**	**343**	P	**P**	**15 03 13.8**	**-2.0**	
MKAR	**Makanchi Array**	**51.97**	**343**	P	**P**	**15 03 13.8**	**-2.0**	
	1.0nm,0.6s,baz=150,slow=8.5,SNR=13							
KKAR	**Karatay Array**	**53.37**	**332**	*e*P	**P**	**15 03 25.3**	**-1.0**	
USRK	**Ussuriysk Arra**	**53.82**	**27**	P	**P**	**15 03 29.8**	**+0.3**	
	3.2nm,0.6s,baz=225,slow=6.4,SNR=9.1							
OPO	**Ambohidratompo**	**55.66**	**249**	P	**P**	**15 03 45.1**	**+1.6**	
OPO	**Ambohidratompo**	**55.66**	**249**	P	**P**	**15 03 45.1**	**+1.6**	
	2.1nm,0.3s,baz=93,slow=17,SNR=5.5							
ZALV	**Zalesovo Beam**	**57.98**	**348**	P	**P**	**15 03 57.4**	**-1.7**	
ZALV	**Zalesovo Beam**	**57.98**	**348**	P	**P**	**15 03 57.4**	**-1.7**	
	0.8nm,0.3s,baz=175,slow=6.7,SNR=6.3							
ABKAR	**Akbulak array**	**62.89**	**331**	*e*P	**P**	**15 04 30.6**	**-2.1**	
	3.5nm,0.7s							
KBZ	**Khabaz**	**69.79**	**319**	P	**P**	**15 05 17.4**	**+0.4**	
KBZ	**Khabaz**	**69.79**	**319**	P	**P**	**15 05 17.4**	**+0.4**	
	2.5nm,0.8s,baz=104,slow=8.7,SNR=4.9							
BRTR	**Keskin Array B**	**74.90**	**312**	P	**P**	**15 05 46.9**	**-0.9**	
BRTR	**Keskin Array B**	**74.90**	**312**	P	**P**	**15 05 46.9**	**-0.9**	
	1.4nm,0.6s,baz=112,slow=6.1,SNR=7.3							
VNDA	**Vanda**	**81.35**	**169**	P	**P**	**15 06 23.4**	**+0.7**	
VNDA	**Vanda**	**81.35**	**169**	P	**P**	**15 06 23.4**	**+0.7**	
	0.3nm,0.5s,baz=304,slow=6.3,SNR=4.6							
FINES	**FINESS Array B**	**85.33**	**332**	P	**P**	**15 06 44.3**	**+0.9**	
FINES	**FINESS Array B**	**85.33**	**332**	P	**P**	**15 06 44.3**	**+0.9**	
	1.3nm,0.7s,baz=126,slow=3.3,SNR=3.4							
ARCES	**ARCESS Array B**	**87.51**	**340**	P	**P**	**15 06 52.8**	**-1.2**	
ARCES	**ARCESS Array B**	**87.51**	**340**	P	**P**	**15 06 52.8**	**-1.2**	
	2.9nm,0.9s,baz=63,slow=5.6,SNR=5.5							
TXAR	**Lajitas Array**	**144.04**	**40**	PKP	**PKPdf**	**15 13 42.6**	**-0.4**	
	0.6nm,0.5s,baz=337,slow=1.2,SNR=6.5							
CPUP	**Villa Florida**	**144.88**	**214**	PKPbc	**PKPdf**	**15 13 44.3**	**-0.1**	
	1.5nm,0.5s,baz=112,slow=5.5,SNR=6.5							

SKHL 02 14:57:18.4±0.1, 55.86N×134.49E, h10km, mb4.0/4, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BMKR	**Bomnak**	**3.43**	**253**	*e*Pn	Pn	14 59 13.1	+1.2
BMKR				*e*Pg	Pb	14 58 20.1	+0.9
BMKR				AMB	AMB	14 58 22.0	
	15nm,0.4s						
BMKR				AMB	AMB	14 58 22.0	
	26nm,0.4s						
BMKR				*e*rx	rx	14 58 26.9	
BMKR				*e*Sn	Sn	14 58 50.6	-1.9
BMKR				*e*Sg	Sb	14 59 04.6	+3.7
BMKR				A	A	14 59 06.6	
	180nm,0.3s						
CGD	**Chagda**	**3.58**	**326**	*e*rx	rx	14 58 18.6	
CGD				*e*Pg	Pb	14 58 23.0	+1.3
CGD				AMB	AMB	14 58 26.8	
	8.0nm,0.3s						
CGD				*e*Sg	Sg	14 59 09.4	-3.9
CGD				A	A	14 59 12.1	
	170nm,0.3s						
NKL	**Nikolayevsk**	**4.51**	**124**	*e*Sg	Sb	14 59 33.6	+1.5
NKL				A	A	14 59 36.2	
	24nm,0.5s						
KROS	**Kirovskiy**	**4.54**	**255**	*e*Pg	Pb	14 58 40.1	+1.9
KROS				AMB	AMB	14 58 41.7	
	5.0nm,0.4s						
KROS				AMB	AMB	14 58 41.7	
	16nm,0.4s						
KROS				AMB	AMB	14 58 41.7	
	15nm,0.4s						
KROS				*e*rx	rx	14 58 42.5	
KROS				*e*Sg	Sb	14 59 38.0	+5.0
KROS				A	A	14 59 42.6	
	82nm,0.6s						
KROS				A	A	14 59 42.6	
	27nm,0.6s						
ZEA	**Zeya**	**4.70**	**246**	*e*Pg	Pb	14 58 43.0	+2.2
ZEA				AMB	AMB	14 58 44.7	
	10.0nm,0.4s						
ZEA				*e*Sg	Sg	14 59 44.2	-5.0
ZEA				A	A	14 59 47.7	
	59nm,0.5s						
ZEA				A	A	14 59 47.7	
	39nm,0.5s						
GRNR	**Gornyy**	**5.23**	**166**	*e*rx	rx	14 58 57.0	
GRNR				*e*Sg	Sg	15 00 01.5	-4.8
GRNR				A	A	15 00 07.5	
	23nm,0.4s						
IENR	**Iengra**	**5.41**	**278**	*e*rx	rx	14 58 43.3	
IENR				*e*Pg	Pb	14 58 57.1	+4.0
IENR				*e*Sg	Sg	15 00 06.8	-5.5
IENR				A	A	15 00 11.6	
	40nm,0.8s						
YAK	**Yakutsk**	**6.67**	**340**	*e*Sg	Sg	15 00 44.4	-7.8
YAK				A	A	15 00 47.5	
	27nm,0.5s						

*IDC **02** 15:08:43.3±7.1, 1°.06S×100°.35E, h45km±66km, mb3.9/15, mb1 4.0/16, mb1mx3.8/26, mbtmp3.9/16, ML4.2/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/41, Error ellipse: s-maj=30.4km s-min=12.5km az=62.0*

*NEIC **02** 15:08:46.1±1.3, 0°.94S×100°.45E, h74km±10km, mb4.5/4, Error ellipse: s-maj=17.0km s-min=7.0km az=57.0*

*AUST **02** 15:08:48.4±1.1, 1°.03S×100°.37E, h94km, Error ellipse: s-maj=2.3km s-min=0.8km az=242.0*

*DJA **02** 15:08:50.4±0.6, 1°.5S×10°.0E±°, h38km±5km, M4.3/4, mb4.6/3, mB5.0/2, MLv4.1/4, Mw(mB)4.3/2*

ISC 02 15:08:44.3±0.5, 1°.18S±0°.08×100°.08E±0°.08, h57km, n93, σ1°42/81, mb4.3/18, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**0.47**	**55**	P	**Pn**	**15 08 58.7**	**+3.0**
PPI	**Padang Panjang**	**0.79**	**24**	P	**Pn**	**15 09 01.6**	**+2.2**
PPI	**Padang Panjang**	**0.79**	**24**	P	**Pn**	**15 09 02.1**	**+2.7**
	baz=0.6,SNR=705						
BKNI	**Bangkinang**	**1.78**	**33**	P	**Pn**	**15 09 14.6**	**+1.9**
BKNI	**Bangkinang**	**1.78**	**33**	P	**Pn**	**15 09 14.8**	**+2.1**
	baz=1.5,SNR=26						
RGRI	**Rengat**	**2.40**	**70**	P	**Pn**	**15 09 23.2**	**+2.0**
GSI	**Gunungsitoli**	**3.51**	**315**	P	Pn	15 09 42.5	+6.1
KSI	**Kapahiang**	**3.51**	**134**	P	Pn	15 09 43.6	+7.1
PSI	**Prapat**	**4.12**	**344**	P	**Pn**	**15 09 45.7**	**+0.8**
PSI	**Prapat**	**4.12**	**344**	P	**Pn**	**15 09 46.3**	**+1.5**
	baz=4.0,SNR=10.0						
PSI	**Prapat**	**4.12**	**344**	P	**Pn**	**15 09 45.7**	**+0.8**
	10nm,0.3s,baz=142,slow=19,SNR=22						
PSI				LR	LR	15 11 36.3	
	comp=Z,230nm,21.7s,baz=286,slow=43						
MNAI	**Manna**	**4.27**	**138**	P	Pn	15 09 50.5	+3.7
	baz=4.2,SNR=14						
BTDF	**Bukit Timah Da**	**4.47**	**56**	P	**Pn**	**15 09 51.1**	**+1.5**
	baz=4.2,SNR=6.1						
BTDF				P	**Pn**	**15 09 51.1**	**+1.5**
	baz=4.2,SNR=6.1						
KGM	**Kluang**	**4.54**	**46**	P	**Pn**	**15 09 52.5**	**+2.0**
FRIM	**Kepong**	**4.65**	**19**	P	**Pn**	**15 09 54.7**	**+2.6**
MYKOM	**Kota Tinggi**	**4.79**	**52**	P	**Pn**	**15 09 56.2**	**+2.3**
KCSI	**Kotacane, Aceh**	**5.21**	**334**	P	Pn	15 10 04.7	+5.0
	46nm,1.0s,2μm						
MDSI	**Maura Dua**	**5.25**	**129**	P	Pn	15 10 05.1	+4.9
	64nm,1.0s,1μm						
IPM	**Ipoh**	**5.70**	**10**	P	Pn	15 10 10.6	+4.2
IPM	**Ipoh**	**5.70**	**10**	*e*Pn	**Pn**	**15 10 05.2**	**-1.2**
KULM	**Kulim**	**6.45**	**5**	P	**Pn**	**15 10 19.7**	**+3.0**
KULM	**Kulim**	**6.45**	**5**	P	**Pn**	**15 10 19.9**	**+3.2**
KULM	**Kulim**	**6.45**	**5**	*e*Pn	Pn	15 10 13.2	-3.5
KTGM	**Kuala Trenggan**	**7.15**	**25**	P	**Pn**	**15 10 29.5**	**+3.2**
CISI	**Cisompet, Garu**	**9.98**	**130**	P	**Pn**	**15 11 04.6**	**-0.5**
	baz=9.9,SNR=5.5						
CMAR	**Chiang Mai Arr**	**19.55**	**357**	P	**P**	**15 13 06.8**	**-0.6**
CMAR	**Chiang Mai Arr**	**19.55**	**357**	P	**P**	**15 13 06.7**	**-0.6**
	0.3nm,0.3s,baz=188,slow=9.7,SNR=14						
H08S2	**Diego Garcia H**	**28.23**	**256**	T	T	15 42 57.6	
	baz=77,slow=0.7,SNR=23						
H08S3	**Diego Garcia H**	**28.23**	**256**	T	T	15 42 55.4	
	baz=77,slow=0.7,SNR=24						
H08S1	**Diego Garcia H**	**28.25**	**256**	T	T	15 42 55.5	
	baz=77,slow=0.7,SNR=18						
H08N1	**Diego Garcia H**	**29.44**	**259**	T	T	15 45 02.8	
	baz=147						
H08N2	**Diego Garcia H**	**29.45**	**259**	T	T	15 45 03.0	
	baz=147						
H08N3	**Diego Garcia H**	**29.46**	**259**	T	T	15 44 58.9	
	baz=147						
FITZ	**Fitzroy Crossi**	**30.21**	**125**	*e*P	**P**	**15 14 48.4**	**-1.3**
FITZ	**Fitzroy Crossi**	**30.21**	**125**	P	**P**	**15 14 47.8**	**-1.8**
	1.3nm,0.8s,baz=294,slow=10.0,SNR=2.6						
ODAN	**Odare**	**30.44**	**337**	*e*P	**P**	**15 14 52.7**	**+0.8**
	5.9nm,0.4s						
TAPN	**Taplejung**	**30.76**	**338**	*e*P	**P**	**15 14 56.3**	**+1.5**
RAMN	**Ramite**	**30.84**	**336**	*e*P	**P**	**15 14 56.5**	**+1.2**
JIRN	**Jiri**	**31.63**	**336**	*e*P	**P**	**15 15 03.7**	**+1.2**
	10nm,0.5s						
LSA	**Lhasa**	**31.87**	**345**	*e*P	**P**	**15 15 02.9**	**-1.8**
	4.9nm,0.6s						
GUN	**Gumba**	**31.98**	**336**	*e*P	**P**	**15 15 06.5**	**+1.0**
	18nm,0.5s						
KKN	**Kakani**	**32.12**	**335**	*e*P	**P**	**15 15 07.3**	**+0.7**
	7.8nm,0.5s						
GKN	**Gorkha**	**32.59**	**334**	*e*P	**P**	**15 15 11.4**	**+0.8**
KOLN	**Koldanda**	**32.85**	**332**	*e*P	**P**	**15 15 14.0**	**+1.0**
	10nm,0.6s						
DANN	**Dangsing**	**33.27**	**333**	*e*P	**P**	**15 15 17.6**	**+0.8**
	13nm,0.4s						
H01W3	**Cape Leeuwin H**	**36.01**	**160**	T	T	15 54 03.2	
	baz=334						
H01W2	**Cape Leeuwin H**	**36.02**	**160**	T	T	15 54 05.9	
	baz=334						
H01W1	**Cape Leeuwin H**	**36.02**	**160**	T	T	15 54 05.7	
	baz=334						
WRA	**Warramunga Arr**	**38.34**	**121**	P	**P**	**15 15 58.5**	**-1.5**
WRA				PcP	**PcP**	**15 18 12.2**	**-0.8**
WRA	**Warramunga Arr**	**38.34**	**121**	P	**P**	**15 15 58.5**	**-1.5**
	1.3nm,0.6s,baz=300,slow=9.1,SNR=21						
WRA				PcP	**PcP**	**15 18 12.2**	**-0.8**
	0.3nm,0.5s,baz=313,slow=2.3,SNR=3.0						
ASAR	**Alice Springs**	**39.67**	**127**	P	**P**	**15 16 09.8**	**-1.3**
ASAR				PcP	**PcP**	**15 18 17.1**	**-0.1**
ASAR	**Alice Springs**	**39.67**	**127**	P	**P**	**15 16 09.8**	**-1.3**
	2.6nm,0.8s,baz=302,slow=8.1,SNR=27						
ASAR				PcP	**PcP**	**15 18 17.1**	**-0.1**
	0.4nm,0.5s,baz=315,slow=2.9,SNR=4.3						
AS31	**Alice Springs**	**39.67**	**127**	*e*P	**P**	**15 16 09.7**	**-1.4**
KSAR	**Wonju Array Be**	**46.25**	**31**	P	**P**	**15 17 01.6**	**-2.4**
KSRS	**Korea Array**	**46.28**	**31**	P	P	15 17 01.6	-2.6
	1.0nm,0.6s,baz=225,slow=8.0,SNR=7.0						
TKM2	**Tokmak 2**	**49.12**	**336**	*e*P	**P**	**15 17 25.6**	**-0.9**
	4.8nm,0.8s						
SONM	**Songino Array**	**49.12**	**6**	P	**P**	**15 17 25.6**	**-0.7**
SONM	**Songino Array**	**49.12**	**6**	P	**P**	**15 17 25.6**	**-0.7**
	2.6nm,0.6s,baz=187,slow=9.9,SNR=16						
AAK	**Ala-Archa**	**49.33**	**335**	*e*P	**P**	**15 17 28.8**	**+0.8**
	1.1nm,0.4s						
AAK	**Ala-Archa**	**49.33**	**335**	P	**P**	**15 17 29.3**	**+1.2**
	1.1nm,0.4s,baz=170,slow=6.8,SNR=4.9						
STKA	**Stephens Creek**	**49.64**	**132**	P	**P**	**15 17 29.8**	**-0.6**
STKA	**Stephens Creek**	**49.64**	**132**	P	**P**	**15 17 30.2**	**-0.2**
	baz=50,SNR=15						
STKA	**Stephens Creek**	**49.64**	**132**	P	**P**	**15 17 29.8**	**-0.6**
	4.6nm,0.5s,baz=310,slow=7.5,SNR=19						
EKS2	**Erkin-Say**	**49.66**	**335**	*e*P	**P**	**15 17 30.3**	**-0.2**
	7.4nm,0.6s						
MK31	**Makanchi Array**	**50.27**	**344**	*e*P	**P**	**15 17 33.4**	**-1.5**
MKAR	**Makanchi Array**	**50.27**	**344**	*e*P	**P**	**15 17 35.1**	**+0.2**
MKAR	**Makanchi Array**	**50.27**	**344**	P	**P**	**15 17 35.0**	**+0.2**
	3.6nm,0.6s,baz=158,slow=8.7,SNR=57						
CMSA	**Cobar Meteorol**	**52.57**	**130**	P	**P**	**15 17 52.5**	**+0.1**
	baz=52,SNR=13						
USRK	**Ussuriysk Arra**	**53.40**	**28**	P	**P**	**15 17 57.6**	**-0.6**
	2.7nm,0.6s,baz=211,slow=8.1,SNR=6.0						
KURK	**Kurchatov**	**54.85**	**343**	*e*P	**P**	**15 18 07.0**	**-1.6**
ZAA0	**Zalesovo Array**	**56.38**	**349**	*e*P	**P**	**15 18 18.1**	**-1.5**
ZALV	**Zalesovo Beam**	**56.38**	**349**	P	**P**	**15 18 18.7**	**-0.9**
ZALV	**Zalesovo Beam**	**56.38**	**349**	P	**P**	**15 18 18.7**	**-0.9**
	1.7nm,0.5s,baz=175,slow=7.3,SNR=12						
VOSK	**Vostochnaya**	**58.99**	**340**	*e*P	**P**	**15 18 36.8**	**-1.2**
BRVK	**Borovoye**	**59.51**	**340**	*e*P	**P**	**15 18 40.0**	**-1.5**
ABKAR	**Akbulak array**	**60.96**	**331**	*e*P	**P**	**15 18 50.1**	**-1.5**
BRTR	**Keskin Array B**	**72.83**	**312**	P	**P**	**15 20 07.8**	**+0.4**
BRTR	**Keskin Array B**	**72.83**	**312**	P	**P**	**15 20 07.8**	**+0.4**
	0.7nm,0.7s,baz=101,slow=6.5,SNR=3.7						
BOSA	**Boshof**	**76.12**	**241**	P	**P**	**15 20 28.4**	**+1.8**
BOSA	**Boshof**	**76.12**	**241**	P	**P**	**15 20 28.4**	**+1.8**
	3.1nm,0.7s,baz=27,slow=2.3,SNR=5.0						
VNDA	**Vanda**	**82.95**	**169**	P	**P**	**15 21 04.1**	**+1.5**
VNDA	**Vanda**	**82.95**	**169**	P	**P**	**15 21 04.1**	**+1.5**
	0.9nm,0.6s,baz=311,slow=5.4,SNR=12						
FINES	**FINESS Array B**	**83.43**	**332**	P	**P**	**15 21 05.4**	**0.0**
FINES	**FINESS Array B**	**83.43**	**332**	P	**P**	**15 21 05.4**	**0.0**
	0.8nm,0.6s,baz=97,slow=5.7,SNR=4.5						
ARCES	**ARCESS Array B**	**85.73**	**340**	P	**P**	**15 21 16.6**	**-0.2**
ARCES	**ARCESS Array B**	**85.73**	**340**	P	**P**	**15 21 16.6**	**-0.2**
	0.6nm,0.3s,baz=100,slow=6.7,SNR=6.0						
NIUE	**Niue**	**89.61**	**109**	P	**P**	**15 21 36.7**	**+0.2**
	baz=89,SNR=4.5						
TXAR	**Lajitas Array**	**144.00**	**37**	PKP	**PKPab**	**15 28 12.3**	**+0.6**
TXAR	**Lajitas Array**	**144.00**	**37**	PKP	**PKPab**	**15 28 12.3**	**+0.6**
	0.3nm,0.4s,baz=286,slow=1.4,SNR=7.0						
BDFB	**Brasilia**	**144.31**	**241**	PKP	**PKPdf**	**15 28 15.2**	**0.0**
BDFB	**Brasilia**	**144.31**	**241**	PKP	**PKPdf**	**15 28 15.2**	**0.0**
	2.1nm,0.6s,baz=153,slow=6.8,SNR=3.0						
CPUP	**Villa Florida**	**145.02**	**217**	PKPbc	**PKPdf**	**15 28 16.9**	**+0.9**
CPUP	**Villa Florida**	**145.02**	**217**	PKPbc	**PKPdf**	**15 28 16.9**	**+0.9**
	1.3nm,0.5s,baz=108,slow=7.1,SNR=5.3						

*NIED **02** 15:43:00, 37°.30N×135°.00E, h400km, Mw4.2 Best double couple: M0 1.95000×10^15 NP1:φ353.00000°, δ89.00000°, λ-92.00000°. NP2:φ232.00000°, δ3.00000°, λ-31.00000°.*

*ISCJB **02** 15:43:54.4±0.3, 37°.32N±0°.06×134°.97E±0°.06, h394km±4km, mb3.4/14, Error ellipse: s-maj=9.4km s-min=6.9km az=153.9*

*JMA **02** 15:43:54.1±0.2, 37°.35N×134°.98E, h398km±2km, M3.6*

*IDC **02** 15:43:55.4±0.9, 37°.36N×134°.87E, h389km±10km, mb3.2/14, mb1 3.4/19, mb1mx3.4/31, mbtmp3.3/19, Error ellipse: s-maj=12.4km s-min=10.9km az=100.0*

ISC 02 15:43:55.0±0.6, 37°.31N±0°.07×134°.96E±0°.06, h388km±6km, n48, σ0°56/59, mb3.5/14, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJH	**Hakui**	**1.50**	**104**	P	**Pn**	**15 44 47.3**	**+0.4**
JKG	**Kaga**	**1.51**	**133**	P	**Pn**	**15 44 47.2**	**+0.2**
JHG	**Hegura jima**	**1.64**	**70**	P	**Pn**	**15 44 47.4**	**-0.2**
JHG				S	**S**	**15 45 30.4**	**+0.3**
SAI	**Saigo**	**1.71**	**230**	P	**Pn**	**15 44 48.6**	**+0.5**
JSZ	**Suzu**	**1.92**	**85**	P	**Pn**	**15 44 49.7**	**+0.5**
JSZ				S	**S**	**15 45 33.7**	**+0.7**
JWT	**Wachi**	**2.06**	**170**	P	**Pn**	**15 44 50.8**	**+0.5**
JWT				S	**S**	**15 45 34.5**	**-0.3**
JGM	**Miyama**	**2.14**	**138**	P	**Pn**	**15 44 51.0**	**+0.1**
JGM				S	**S**	**15 45 34.9**	**-1.0**
MAT	**Matsushiro**	**2.71**	**106**	P	**Pn**	**15 44 55.0**	**+0.1**
MAT				S	**S**	**15 45 43.4**	**0.0**
MAT	**Matsushiro**	**2.71**	**106**	P	**Pn**	**15 44 55.1**	**+0.1**
MJAR	**Matsushiro Arr**	**2.71**	**106**	P	**Pn**	**15 44 55.6**	**+0.6**
	18nm,0.3s,baz=281,slow=8.3,SNR=387						
JSD	**Sado**	**2.71**	**74**	P	**Pn**	**15 44 54.8**	**-0.1**
JHS	**Saijyo**	**2.75**	**213**	P	**Pn**	**15 44 55.2**	**-0.2**
JGT	**Gotsu**	**3.12**	**224**	P	**Pn**	**15 44 58.9**	**+0.6**
JGT				S	**S**	**15 45 49.8**	**+0.4**
JWY	**Kouya**	**3.13**	**170**	P	**Pn**	**15 44 59.0**	**+0.4**
JWY				eS	**S**	**15 45 48.6**	**-1.3**
JIE	**Ise**	**3.24**	**154**	P	**Pn**	**15 45 00.1**	**+0.7**
JIE				S	**S**	**15 45 50.7**	**-0.7**
JRY	**Ryogami san**	**3.42**	**111**	P	**Pn**	**15 45 01.8**	**+0.8**
JRY				S	**S**	**15 45 54.1**	**-0.2**
JOD2	**Odawara 2**	**3.91**	**120**	P	**Pn**	**15 45 05.7**	**+0.2**
JOD2				S	**S**	**15 46 02.3**	**-0.3**
JNU	**Nakatsue**	**5.35**	**220**	P	**Pn**	**15 45 20.9**	**+0.6**
	1.9nm,0.3s,baz=51,slow=8.0,SNR=24						
BSO1	**Boso 1**	**5.55**	**117**	P	**Pn**	**15 45 20.9**	**-0.8**
KSRS	**Korea Array**	**5.61**	**274**	P	**Pn**	**15 45 23.9**	**+1.1**
	0.6nm,0.3s,baz=91,slow=11,SNR=39						
USRK	**Ussuriysk Arra**	**7.24**	**343**	P	**P**	**15 45 41.6**	**0.0**
	1.1nm,0.3s,baz=169,slow=11,SNR=23						
ASAJ	**Asahikawa**	**8.93**	**38**	P	**Pn**	**15 46 00.1**	**-0.3**
	11nm,0.3s,baz=231,slow=11,SNR=89						
ASAJ				S	S	15 47 35.2	-8.0
	3.6nm,0.3s,baz=71,slow=32,SNR=11						
PETK	**Petropavlovsk-**	**22.35**	**38**	P	**P**	**15 48 22.7**	**+1.4**
	2.5nm,0.8s,baz=194,slow=5.5,SNR=4.7						
SONM	**Songino Array**	**23.39**	**306**	P	**P**	**15 48 30.2**	**-0.9**
	1.9nm,0.8s,baz=97,slow=10.0,SNR=8.0						
CMAR	**Chiang Mai Arr**	**36.67**	**249**	P	**P**	**15 50 26.7**	**-0.1**
	1.4nm,0.7s,baz=46,slow=7.7,SNR=8.4						
ZALV	**Zalesovo Beam**	**37.92**	**312**	P	**P**	**15 50 35.4**	**-1.2**
	0.5nm,0.4s,baz=94,slow=6.2,SNR=4.2						
MKAR	**Makanchi Array**	**39.58**	**301**	P	**P**	**15 50 49.7**	**-0.7**
	0.9nm,0.6s,baz=92,slow=9.8,SNR=14						
MKAR				ScP	**ScP**	**15 55 59.7**	**+0.1**
	0.2nm,0.5s,baz=65,slow=3.8,SNR=3.1						
TAPN	**Taplejung**	**40.78**	**270**	*e*P	**P**	**15 51 00.9**	**+0.2**
	9.9nm,0.3s						
ODAN	**Odare**	**41.26**	**270**	*e*P	**P**	**15 51 04.7**	**+0.3**
	12nm,0.5s						
RAMN	**Ramite**	**41.84**	**270**	*e*P	**P**	**15 51 09.3**	**+0.1**
	23nm,0.7s						
JIRN	**Jiri**	**41.86**	**271**	*e*P	**P**	**15 51 10.0**	**+0.6**
	31nm,0.7s						
GUN	**Gumba**	**42.00**	**272**	*e*P	**P**	**15 51 10.9**	**+0.4**
	26nm,0.7s						
PKI	**Pulchoki**	**42.52**	**272**	*e*P	**P**	**15 51 14.6**	**0.0**
KKN	**Kakani**	**42.53**	**272**	*e*P	**P**	**15 51 14.5**	**-0.1**
	18nm,0.7s						
PKIN	**Phulchoki**	**42.53**	**272**	*e*P	**P**	**15 51 14.8**	**+0.2**
	4.9nm,0.6s						
DMN	**Daman**	**42.74**	**272**	*e*P	**P**	**15 51 16.6**	**+0.3**
	11nm,0.7s						
GKN	**Gorkha**	**42.95**	**273**	*e*P	**P**	**15 51 17.4**	**-0.4**
	33nm,0.8s						
DANN	**Dangsing**	**43.49**	**274**	*e*P	**P**	**15 51 22.5**	**+0.2**
	42nm,0.7s						
KOLN	**Koldanda**	**43.87**	**273**	*e*P	**P**	**15 51 24.7**	**-0.5**
ILAR	**Eielson Array**	**52.01**	**32**	P	**P**	**15 52 25.9**	**0.0**
	1.3nm,0.7s,baz=269,slow=5.8,SNR=16						
WRA	**Warramunga Arr**	**56.95**	**181**	P	**P**	**15 53 01.9**	**+0.3**
	1.1nm,0.4s,baz=357,slow=7.4,SNR=24						
ASAR	**Alice Springs**	**60.66**	**181**	P	**P**	**15 53 27.4**	**+0.7**
	0.1nm,0

171C-172D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.16**	**236**	*e*Pn		**Pn**		**15 49 23.9**	**+1.4**
	2μm,1.5s								
DZM				*e*LR		LR		15 51 42.3	
	114μm,25.9s								
DZM	**Mont Dzumac**	**9.16**	**236**	Pn		**Pn**		**15 49 24.1**	**+1.6**
DZM	**Mont Dzumac**	**9.16**	**236**	Pn		**Pn**		**15 49 24.1**	**+1.6**
	1.5nm,0.3s,baz=69,slow=17,SNR=30								
NFK	**Norfolk Island**	**13.38**	**206**	⇑P		P		15 50 25.4	-3.9
	baz=14,SNR=4.1								
AFI	**Afiamalu**	**13.49**	**78**	LR		LR		15 54 30.4	
	comp=Z,19μm,18.5s,baz=124,slow=33								
RAO	**Raoul Island**	**13.90**	**152**	*e*Pn		**Pn**		**15 50 26.6**	**-0.7**
	2μm,1.2s								
HNR	**Honiara**	**16.18**	**296**	Pn		**Pn**		**15 50 57.8**	**+0.3**
HNR	**Honiara**	**16.18**	**296**	Pn		**Pn**		**15 50 57.8**	**+0.3**
	1.4nm,0.3s,baz=121,slow=13,SNR=11								
HNR				LR		LR		15 56 08.3	
	comp=Z,23μm,21.8s,baz=127,slow=34								
OUZ	**Omahuta**	**18.08**	**183**	*e*Pn		**P**		**15 51 23.7**	**+2.4**
	817nm,1.8s								
TARA	**Tarawa**	**18.41**	**355**	*e*Pn		**P**		**15 51 23.9**	**-1.2**
	860nm,1.6s								
KNTN	**Kanton**	**19.56**	**45**	*e*P		**P**		**15 51 37.4**	**-0.4**
	207nm,1.1s								
URZ	**Urewera**	**21.20**	**175**	P		**P**		**15 51 56.0**	**+0.7**
URZ	**Urewera**	**21.20**	**175**	P		**P**		**15 51 56.0**	**+0.7**
	103nm,0.8s,baz=1.7,slow=3.6,SNR=21								
BKZ	**Black Stump Fm**	**22.05**	**176**	*e*P		**P**		**15 52 05.5**	**+0.9**
	155nm,1.0s								
EIDS	**Eidsvold**	**23.41**	**245**	*e*P		**P**		**15 52 17.7**	**-1.1**
	2μm,3.0s								
BFZ	**Birch Farm**	**23.55**	**177**	*e*P		**P**		**15 52 19.8**	**-0.1**
	240nm,0.9s								
SNZO	**South Karori**	**24.13**	**180**	*e*P		**P**		**15 52 26.0**	**+0.6**
	268nm,1.1s								
SNZO				LR		LR			
	comp=Z,18μm,20.0s								
RAR	**Rarotonga**	**24.52**	**104**	*e*P		**P**		**15 52 27.6**	**-1.6**
RAR				LR		LR			
	comp=Z,9μm,20.0s								
RAR	**Rarotonga**	**24.52**	**104**	P		**P**		**15 52 27.6**	**-1.6**
	comp=Z,56nm,0.8s,baz=273,slow=0.3,SNR=3.1								
ARMA	**Armidale**	**24.81**	**234**	*e*P		**P**		**15 52 31.6**	**-0.3**
	comp=Z,333nm,1.7s								
ARMA	**Armidale**	**24.81**	**234**	⇓P		**P**		**15 52 33.3**	**+1.4**
	baz=25,SNR=11								
KHZ	**Kahutara**	**25.26**	**182**	*e*P		**P**		**15 52 35.9**	**+0.3**
	comp=Z,1μm,2.1s								
RMQ	**Roma**	**25.73**	**244**	⇓P		**P**		**15 52 41.3**	**+1.2**
	baz=26,SNR=7.5								
RPZ	**Rata Peaks**	**26.71**	**186**	P		**P**		**15 52 49.1**	**+0.3**
RPZ	**Rata Peaks**	**26.71**	**186**	P		**P**		**15 52 49.1**	**+0.3**
	comp=Z,34nm,1.0s,baz=18,slow=3.2,SNR=4.1								
RPZ				LR		LR		16 02 19.1	
	comp=Z,20μm,18.9s,baz=4.6,slow=34								
CTA	**Charters Tower**	**27.04**	**259**	P		**P**		**15 52 52.6**	**+0.6**
CTA	**Charters Tower**	**27.04**	**259**	P		**P**		**15 52 52.6**	**+0.6**
	comp=Z,18nm,1.0s,baz=76,slow=12,SNR=10								
CTA				LR		LR		16 02 10.9	
	comp=Z,9μm,19.7s,baz=82,slow=33								
CTAO	**Charters Tower**	**27.04**	**259**	*e*P		**P**		**15 52 51.0**	**-1.0**
CTAO				pmax		pmax			
	comp=Z,139nm,1.5s								
CTAO				MLR		MLR			
	comp=Z,10μm,20.0s								
CTAO	**Charters Tower**	**27.04**	**259**	*e*P		**P**		**15 52 51.0**	**-1.0**
	comp=Z,139nm,1.5s								
CTAO				LR		LR			
	comp=Z,10μm,20.0s								
PMG	**Port Moresby**	**27.77**	**282**	P		**P**		**15 53 01.0**	**+2.3**
	comp=Z,65nm,1.9s,comp=Z,2μm								
PMG	**Port Moresby**	**27.77**	**282**	*e*P		**P**		**15 52 57.0**	**-1.6**
	comp=Z,53nm,1.0s								
PMG	**Port Moresby**	**27.77**	**282**	P		**P**		**15 52 58.6**	**-0.1**
	comp=Z,18nm,0.9s,baz=108,slow=8.7,SNR=8.4								
PATS	**Pohnpei**	**28.73**	**325**	⇓P		**P**		**15 53 07.0**	**-0.1**
	baz=29,SNR=6.1								
CAN	**Canberra**	**29.15**	**227**	PFAKE				15 53 20.0	+9.2
CAN				LR		LR			
	comp=Z,10μm,20.0s								
COEN	**Coen**	**30.44**	**271**	*e*P		**P**		**15 53 20.3**	**-2.1**
	comp=Z,372nm,1.4s								
MANU	**Manus Island**	**30.68**	**296**	⇓P		**P**		**15 53 25.9**	**+1.4**
	baz=31,SNR=4.2								
TOO	**Toolangi**	**32.73**	**226**	⇓P		**P**		**15 53 44.8**	**+2.5**
	baz=33,SNR=5.0								
STKA	**Stephens Creek**	**33.31**	**238**	*e*P		**P**		**15 53 47.7**	**+0.3**
	comp=Z,14nm,0.9s								
STKA	**Stephens Creek**	**33.31**	**238**	⇑P		**P**		**15 53 48.1**	**+0.7**
	baz=34,SNR=22								
STKA	**Stephens Creek**	**33.31**	**238**	P		**P**		**15 53 47.9**	**+0.5**
	comp=Z,29nm,0.8s,baz=67,slow=8.0,SNR=26								
STKA				LR		LR		16 06 32.1	
	comp=Z,17μm,18.2s,baz=65,slow=35								
XMAS	**Kiritimati**	**33.48**	**58**	*e*P		**P**		**15 53 47.4**	**-1.6**
	comp=Z,63nm,1.0s								
XMAS				LR		LR			
	comp=Z,10μm,20.0s								
PPT2	**Papeete2**	**34.15**	**96**	*e*S		S		15 59 05.6	-14
	comp=Z,3μm,25.2s								
PPT2				*e*LQ		LQ		16 01 22.3	
	comp=Z,49μm,26.5s								
PPT2				*e*LR		LR		16 02 45.1	
	comp=Z,13μm,23.5s,baz=262								
TBI	**Tubuai**	**34.21**	**106**	*e*S		S		15 59 09.1	-11
	comp=Z,3μm,26.5s								
TBI				*e*LQ		LQ		16 01 26.3	
	comp=Z,39μm,30.2s								
TBI				*e*LR		LR		16 02 52.5	
	comp=Z,20μm,30.8s								
TAU	**Tasmania Unive**	**34.66**	**216**	PFAKE				15 54 10.0	+11
TAU				LR		LR			
	comp=Z,12μm,20.0s								
H11S2	**WAKE ISLAND Hy**	**36.21**	**347**	T		T		16 33 03.7	
	baz=170								
H11S3	**WAKE ISLAND Hy**	**36.22**	**347**	T		T		16 33 04.3	
	baz=170								
H11S1	**WAKE ISLAND Hy**	**36.23**	**347**	T		T		16 33 03.7	
	baz=170								
JAY	**Jayapura**	**36.33**	**290**	P		**P**		**15 54 16.8**	**+3.1**
	comp=Z,32nm,1.6s,comp=Z,2μm								
JAY	**Jayapura**	**36.33**	**290**	⇓P		**P**		**15 54 13.9**	**+0.2**
	baz=37,SNR=4.4								
WAKE	**Wake Island**	**36.99**	**347**	PFAKE				15 54 30.0	+11
WAKE				LR		LR			
	comp=Z,5μm,20.0s								
H11N1	**WAKE ISLAND Hy**	**37.36**	**348**	T		T		16 33 58.3	
	baz=172								
H11N3	**WAKE ISLAND Hy**	**37.36**	**348**	T		T		16 34 01.6	
	baz=172								
H11N2	**WAKE ISLAND Hy**	**37.38**	**348**	T		T		16 34 02.6	
	baz=172								
BBOO	**Buckleboo**	**38.06**	**238**	*e*P		**P**		**15 54 27.8**	**-0.4**
	comp=Z,1μm,1.1s								
BBOO	**Buckleboo**	**38.06**	**238**	⇓P		**P**		**15 54 28.2**	**0.0**
	baz=38,SNR=5.3								
WRAB	**Tennant Creek**	**38.23**	**259**	*e*P		**P**		**15 54 27.8**	**-2.0**
WRAB				pmax		pmax			
	comp=Z,25nm,0.9s								
WRAB				MLR		MLR			
	comp=Z,6μm,20.0s								
WRAB	**Tennant Creek**	**38.23**	**259**	*e*P		**P**		**15 54 27.8**	**-2.0**
	comp=Z,25nm,0.9s								
WRAB				LR		LR			
	comp=Z,6μm,20.0s								
WRA	**Warramunga Arr**	**38.24**	**259**	P		**P**		**15 54 28.1**	**-1.8**
WRA	**Warramunga Arr**	**38.24**	**259**	P		**P**		**15 54 28.1**	**-1.8**
	comp=Z,12nm,0.7s,baz=91,slow=9.0,SNR=36								
AS31	**Alice Springs**	**38.62**	**253**	*e*P		**P**		**15 54 31.7**	**-1.4**
ASAR	**Alice Springs**	**38.62**	**253**	P		**P**		**15 54 31.8**	**-1.3**
ASAR				PcP		**PcP**		**15 56 43.6**	**-1.5**
ASAR	**Alice Springs**	**38.62**	**253**	P		**P**		**15 54 31.8**	**-1.3**
	comp=Z,28nm,0.7s,baz=83,slow=8.8,SNR=54								
ASAR				PcP		**PcP**		**15 56 43.6**	**-1.5**
	comp=Z,5.5nm,1.0s,baz=96,slow=3.3,SNR=2.9								
KDU	**Kakadu**	**40.91**	**270**	⇑P		**P**		**15 54 52.1**	**0.0**
	baz=41,SNR=3.3								
GUMO	**Guam**	**42.34**	**314**	PFAKE				15 55 10.0	+6.2
GUMO				LR		LR			
	comp=Z,6μm,21.0s								
KNRA	**Kununurra**	**43.94**	**265**	⇑P		**P**		**15 55 16.5**	**-0.3**
	baz=44,SNR=5.8								
FORT	**Forrest**	**44.38**	**243**	*e*P		**P**		**15 55 19.6**	**-0.6**
	comp=Z,77nm,0.9s								
FORT	**Forrest**	**44.38**	**243**	⇓P		**P**		**15 55 19.9**	**-0.2**
	baz=45,SNR=12								
MIDW	**Midway**	**45.71**	**10**	PFAKE				15 55 40.0	+9.5
MIDW				LR		LR			
	comp=Z,3μm,20.0s								
PALU	**Palau**	**46.52**	**298**	⇓P		**P**		**15 55 38.4**	**+1.1**
	baz=47,SNR=8.9								
FITZ	**Fitzroy Crossi**	**46.59**	**261**	P		**P**		**15 55 37.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**46.59**	**261**	⇓P		**P**		**15 55 37.7**	**-0.1**
	baz=47,SNR=7.3								
FITZ	**Fitzroy Crossi**	**46.59**	**261**	P		**P**		**15 55 37.4**	**-0.4**
	comp=Z,6.7nm,1.0s,baz=83,slow=7.9,SNR=7.9								
KIP	**Kipapa**	**46.74**	**36**	PFAKE				15 55 50.0	+11
KIP				LR		LR			
	comp=Z,4μm,20.0s								
RKT	**Rikitea**	**47.53**	**106**	*e*S		S		16 02 26.7	-12
	comp=Z,2μm,26.5s								
RKT				*e*LR		LR		16 09 02.9	
	comp=Z,13μm,29.5s								
BATI	**Baumata**	**49.88**	**271**	P		**P**		**15 56 03.3**	**0.0**
BATI	**Baumata**	**49.88**	**271**	P		**P**		**15 56 03.3**	**0.0**
	comp=Z,18nm,0.8s,baz=112,slow=3.8,SNR=4.1								
MBWA	**Marble Bar**	**51.81**	**256**	*e*P		**P**		**15 56 17.7**	**0.0**
	comp=Z,94nm,1.3s								
MBWA				LR		LR			
	comp=Z,4μm,20.0s								
MEEK	**Meekatharra**	**52.49**	**249**	⇑P		**P**		**15 56 22.1**	**-0.6**
	baz=53,SNR=6.4								
KLBR	**Kellerberrin**	**53.24**	**243**	⇓P		**P**		**15 56 27.4**	**-0.8**
	baz=53,SNR=20								
NWAO	**Narrogin (SRO)**	**53.73**	**241**	P		**P**		**15 56 31.1**	**-0.7**
NWAO	**Narrogin (SRO)**	**53.73**	**241**	P		**P**		**15 56 31.1**	**-0.7**
	comp=Z,27nm,1.0s,baz=87,slow=7.5,SNR=8.7								
NWAO				LR		LR		16 17 59.2	
	comp=Z,19μm,20.9s,baz=83,slow=34								
DAV	**Davao City (W)**	**54.09**	**292**	PFAKE				15 56 50.0	+15
DAV				LR		LR			
	comp=Z,5μm,19.0s								
BLDU	**Ballidu**	**54.12**	**244**	⇓P		**P**		**15 56 34.6**	**0.0**
	baz=54,SNR=5.3								
DRV	**Dumont d'Urvil**	**54.44**	**196**	PP		PP		15 58 23.0	-16
DRV				S		**S**		**16 04 12.0**	**-0.6**
DRV				SS		**SS**		**16 07 55.0**	**0.0**
DRV				L		L		16 09 00.0	
DRV				R				16 12 00.0	
MORW	**Morawa**	**54.71**	**246**	P		**P**		**15 56 38.4**	**-0.5**
	baz=55,SNR=7.1								
KAPI	**Kappang**	**54.99**	**276**	PFAKE				15 56 50.0	+8.8
KAPI				LR		LR			
	comp=Z,2μm,21.0s								
VNDA	**Vanda**	**60.79**	**183**	*e*P		**P**		**15 57 21.0**	**+0.2**
VNDA	**Vanda**	**60.79**	**183**	P		**P**		**15 57 18.9**	**-1.9**
	comp=Z,6.1nm,1.0s,baz=348,slow=7.9,SNR=8.2								
SBA	**Scott Base**	**60.91**	**182**	*e*P		**P**		**15 57 22.4**	**+0.7**
SBA				pmax		pmax			
	comp=Z,61nm,0.9s								
SBA				MLR		MLR			
	comp=Z,3μm,20.0s								
SBA	**Scott Base**	**60.91**	**182**	*e*P		**P**		**15 57 22.4**	**+0.7**
	comp=Z,61nm,0.9s								
SBA				LR		LR			
	comp=Z,3μm,20.0s								
MJAR	**Matsushiro Arr**	**63.47**	**328**	P		**P**		**15 57 37.8**	**-1.6**
MJAR	**Matsushiro Arr**	**63.47**	**328**	P		**P**		**15 57 37.8**	**-1.6**
	comp=Z,6.2nm,0.8s,baz=158,slow=7.3,SNR=12								
MAJO	**Matsushiro**	**63.47**	**328**	*e*P		**P**		**15 57 37.0**	**-2.4**
MAJO				pmax		pmax			
	comp=Z,199nm,1.9s								
MAJO				MLR		MLR			
	comp=Z,4μm,21.0s								
MAJO	**Matsushiro**	**63.47**	**328**	*e*P		**P**		**15 57 37.0**	**-2.4**
	comp=Z,199nm,1.9s								
MAJO				LR		LR			
	comp=Z,4μm,21.0s								
MAT	**Matsushiro**	**63.47**	**328**	P		**P**		**15 57 37.2**	**-2.2**
MAT				S		**S**		**16 06 10.6**	**+0.1**
CASY	**Casey**	**64.13**	**204**	*e*P		**P**		**15 57 42.7**	**-0.7**
	comp=Z,38nm,0.9s								
CASY				LR		LR			
	comp=Z,3μm,22.0s								
JNU	**Nakatsue**	**65.11**	**320**	P		**P**		**15 57 49.7**	**-0.5**
JNU	**Nakatsue**	**65.11**	**320**	P		**P**		**15 57 49.7**	**-0.5**
	comp=Z,19nm,0.9s,baz=39,slow=6.7,SNR=6.2								
ERM	**Erimo**	**65.60**	**335**	PFAKE				15 58 00.0	+6.8
ERM				LR		LR			
	comp=Z,7μm,20.0s								
KSM	**Kuching**	**65.98**	**280**	P		**P**		**15 57 58.2**	**+1.9**
KSM	**Kuching**	**65.98**	**280**	*e*P		**P**		**15 57 57.8**	**+1.5**
	comp=Z,65nm,1.1s								
KSM				LR		LR			
	comp=Z,1μm,21.0s								
YUK	**Yuzh-Kuril'sk**	**66.28**	**338**	*i* S		**S**		**16 06 48.1**	**+3.5**
YUK				*i*				16 07 01.9	
TPUB	**Ta-pu**	**66.29**	**306**	*e*P		**P**		**15 57 57.0**	**-1.1**
	comp=Z,65nm,0.9s								
YHNB	**Yeheng**	**66.46**	**307**	*e*P		**P**		**15 57 59.1**	**-0.1**
	comp=Z,91nm,1.3s								
YHNB				LR		LR			
	comp=Z,13μm,22.0s								
TATO	**Taipei**	**66.54**	**308**	PFAKE				15 58 10.0	+10
TATO				LR		LR			
	comp=Z,13μm,22.0s								
KUR	**Kuril'sk**	**66.63**	**340**	⇑*i*P		P		15 57 53.7	-6.0
KUR				pmax		pmax			
	comp=E,166nm,2.5s								
KUR				pmax		pmax			
	comp=Z,196nm,2.5s								
KUR				pmax		pmax			
	comp=N,566nm,2.5s								
KUR				MLR		MLR			
	comp=N,2μm,21.0s								
KUR				MLR		MLR			
	comp=E,3μm,21.0s								
KUR				MLR		MLR			
	comp=Z,2μm,21.0s								
ASAJ	**Asahikawa**	**67.58**	**336**	P		**P**		**15 58 05.4**	**-0.4**
ASAJ	**Asahikawa**	**67.58**	**336**	P		**P**		**15 58 05.4**	**-0.4**
	comp=Z,10.0nm,0.8s,baz=214,slow=4.8,SNR=6.1								
QZH	**Quanzhou**	**68.74**	**306**	⇓*i*P		**P**		**15 58 13.1**	**-0.4**
QZH				S		**S**		**16 07 13.0**	**-1.9**
QZH				LR		LR			
	comp=Z,12μm,22.0s								
QZH				LR		LR			
	comp=Z,7μm,20.5s								
QZH				LR		LR			
	comp=Z,14μm,31.7s								
SKR	**Severo-Kuril's**	**69.42**	**348**	P		P		15 58 12.0	-5.1
SKR				*e*PS		PnS		16 08 06.0	+15
SKR				pmax		pmax			
	comp=Z,480nm,1.5s								
SKR				MLR		MLR			
	comp=N,3μm,20.0s								
SKR				MLR		MLR			
	comp=Z,3μm,20.0s								
KSRS	**Korea Array**	**69.81**	**322**	P		**P**		**15 58 19.8**	**-0.1**
	comp=Z,9.3nm,1.1s,baz=141,slow=6.1,SNR=8.8								
KSAR	**Wonju Array Be**	**69.83**	**322**	P		**P**		**15 58 19.8**	**-0.2**
YSS	**Yuzh-Sakhalins**	**69.91**	**337**	*e*P		**P**		**15 58 17.0**	**-3.2**
YSS				*e*				15 58 22.9	
YSS				*e*				15 58 40.0	
YSS				*e*S		**S**		**16 07 28.0**	**+0.2**
YSS				*e*PS		PnS		16 07 45.0	-12
YSS				*e*PS				16 08 05.0	
YSS				*e*SS		**SS**		**16 11 58.0**	**+0.3**
SSE	**Sheshan**	**70.21**	**313**	P		**P**		**15 58 22.2**	**-0.2**
SSE				pP		**pP**		**15 58 36.1**	**+3.7**
SSE				S		**S**		**16 07 36.0**	**+4.0**
SSE				AMB		AMB			
	comp=Z,12nm,0.8s								
SSE				AMB		AMB			
	comp=Z,300nm,5.8s								
SSE				LR		LR			
	comp=Z,2μm,25.0s								
SSE				LR		LR			
	comp=Z,2μm,25.0s								
SSE				LR		LR			
	comp=Z,3μm,25.6s								
INCN	**Inchon**	**70.60**	**321**	PFAKE				15 58 40.0	+15
INCN				LR		LR			
	comp=Z,2μm,20.0s								
PET	**Petropavlovsk**	**71.18**	**350**	*e*P		**P**		**15 58 26.4**	**-1.4**
PET				*e*S		**S**		**16 07 41.5**	**-0.9**
PET				*e*PS		**PnS**		**16 08 12.3**	**-1.8**
PET				*e*PS				16 08 21.9	
PET				*e*SS		**SS**		**16 12 17.9**	**+0.8**
PET				pmax		pmax			
	comp=Z,400nm,17.5s								
PET				MLR		MLR			
	comp=Z,2μm,17.0s								
PET				MLR		MLR			
	comp=Z,2μm,18.0s								
PEA0B	**Petropavlovsk-**	**71.43**	**349**	*e*P		**P**		**15 58 26.3**	**-3.1**
PETK	**Petropavlovsk-**	**71.43**	**349**	P		**P**		**15 58 28.5**	**-0.8**
PETK	**Petropavlovsk-**	**71.43**	**349**	P		**P**		**15 58 28.5**	**-0.8**
PETK	**Petropavlovsk-**	**71.43**	**349**	P		**P**		**15 58 28.5**	**-0.8**
	comp=Z,33nm,0.9s,baz=116,slow=6.8,SNR=17								
GZH	**Guangzhou**	**71.98**	**302**	P		**P**		**15 58 35.1**	**+1.8**
GZH				S		S		16 07 59.1	+6.2
GZH				LR		LR			
	comp=Z,3μm,18.8s								
GZH				LR		LR			
	comp=Z,5μm,21.6s								
GZH				LR		LR			
	comp=Z,6μm,19.4s								
USRK	**Ussuriysk Arra**	**72.36**	**329**	P		**P**		**15 58 35.1**	**0.0**
	comp=Z,3.9nm,0.7s,baz=107,slow=2.0,SNR=13								
NJ2	**Nanjing**	**72.39**	**313**	*e*P		**P**		**15 58 34.4**	**-1.2**
NJ2				pP		**pP**		**15 58 43.0**	**-2.6**
NJ2				sP		**sP**		**15 58 48.0**	**-1.4**
NJ2				PcP		**PcP**		**15 58 51.0**	**-2.4**
NJ2				S		**S**		**16 07 59.0**	**+1.8**
NJ2				sS		**sS**		**16 08 16.0**	**+2.2**
NJ2				AMB		AMB			
	comp=Z,30nm,0.9s								
NJ2				AMB		AMB			
	comp=Z,2μm,10.0s								
NJ2				LR		LR			
	comp=Z,8μm,22.2s								
NJ2				LR		LR			
	comp=Z,10μm,19.5s								
NJ2				LR		LR			
	comp=Z,12μm,22.1s								
QSPA	**South Pole Qui**	**72.95**	**180**	*e*P		**P**		**15 58 37.5**	**-1.1**
	comp=Z,90nm,1.1s								
QSPA				LR		LR			
	comp=Z,3μm,20.0s								
QIZ	**Qiongzhong**	**73.09**	**297**	PFAKE				15 58 50.0	+10
QIZ				LR		LR			
	comp=Z,3μm,20.0s								
MDJ	**Mudanjiang**	**73.84**	**328**	P		**P**		**15 58 46.4**	**+2.5**
MDJ				pP		**pP**		**15 58 55.8**	**+1.8**
MDJ				sP		**sP**		**15 58 59.6**	**+1.8**
MDJ				PP		**PP**		**16 01 30.8**	**+1.6**
MDJ				S		**S**		**16 08 13.8**	**+0.5**
MDJ				SS		**SS**		**16 12 58.8**	**+0.6**
MDJ				AMB		AMB			
	comp=Z,12nm,0.8s								
MDJ				AMB		AMB			
	comp=Z,440nm,5.9s								
MDJ				LR		LR			
	comp=Z,2μm,19.8s								
MDJ				LR		LR			
	comp=Z,1μm,17.9s								
MDJ				LR		LR			
	comp=Z,2μm,21.8s								
MDJ	**Mudanjiang**	**73.84**	**328**	*e*P		**P**		**15 58 41.4**	**-2.5**
	comp=Z,23nm,1.0s								
MDJ				LR		LR			
	comp=Z,2μm,20.0s								
HABR	**Khabarovsk**	**74.19**	**334**	*e*P		**P**		**15 58 44.4**	**-1.4**
HABR				*e**PP		**pP**		**15 58 55.0**	**-0.9**
HABR				*e*				15 58 59.0	
HABR				*e*				16 01 30.1	
HABR				PPP		PPP		16 03 16.0	
HABR				*e*S		**S**		**16 08 16.2**	**-0.7**
HABR				*e*				16 08 52.2	
HABR				*e*SS		**SS**		**16 13 02.9**	**-0.3**
HABR				pmax		pmax			
	comp=E,91nm,2.8s								
HABR				pmax		pmax			
	comp=Z,148nm,1.7s								
HABR				pmax		pmax			
	comp=N,59nm,2.0s								
HABR				MLR		MLR			
	comp=Z,2μm,19.0s								
DL2	**Dalian**	**74.55**	**320**	P		**P**		**15 58 48.5**	**+0.4**
DL2				S		**S**		**16 08 20.8**	**-0.6**
DL2				SS		**SS**		**16 13 08.7**	**-0.5**
DL2				AMB		AMB			
	comp=Z,80nm,1.6s								
DL2				AMB		AMB			
	comp=Z,410nm,5.7s								
DL2				LR		LR			
	comp=Z,980nm,18.4s								
DL2				LR		LR			
	comp=Z,1μm,19.1s								
WHN	**Wuhan**	**74.84**	**309**	⇑P		**P**		**15 58 49.6**	**-0.4**
WHN				S		**S**		**16 08 25.7**	**+0.7**
WHN				LR		LR			
	comp=Z,3μm,15.5s								
WHN				LR		LR			
	comp=Z,9μm,19.8s								
WHN				LR		LR			
	comp=Z,18μm,24.6s								
COCO	**West Island**	**74.98**	**262**	PFAKE				15 59 00.0	+8.8
COCO				LR		LR			
	comp=Z,2μm,21.0s								
SNY	**Shenyang**	**75.21**	**323**	⇓P		**P**		**15 58 52.4**	**+0.5**
SNY				AMB		AMB			
	comp=Z,15nm,1.5s								
SNY				AMB		AMB			
	comp=Z,360nm,11.9s								
SNY				LR		LR			
	comp=Z,2μm,21.6s								
SNY				LR		LR			
	comp=Z,1μm,20.4s								
SNY				LR		LR			
	comp=Z,2μm,25.2s								
CN2	**Changchun**	**75.45**	**326**	⇑P		**P**		**15 58 53.0**	**-0.2**
CN2				*e*pP		**pP**		**15 59 03.1**	**-0.3**
CN2				*e*sP		**sP**		**15 59 07.3**	**+0.2**
CN2				*e*S		**S**		**16 08 30.2**	**-1.1**
CN2				SS		**SS**		**16 13 23.6**	**+0.9**
CN2				AMB		AMB			
	comp=Z,40nm,1.2s								
CN2				AMB		AMB			
	comp=Z,900nm,6.0s								
CN2				LR		LR			
	comp=Z,2μm,16.0s								
CN2				LR		LR			
	comp=Z,2μm,16.0s

GYA sS **sS** 16 09 23.0 -3.7
GYA SS **SS** 16 14 12.5 -3.4
GYA AMB AMB
comp=Z,60nm,1.0s
GYA AMB AMB
comp=Z,320nm,5.1s
GYA LR LR
comp=Z,2µm,22.3s
GYA LR LR
comp=Z,2µm,23.1s
GYA LR LR
comp=Z,3µm,23.1s
KDAK Kodiak Island 79.40 17 eP **P** 15 59 14.7 -0.4
comp=Z,44nm,0.9s
KDAK LR LR
comp=Z,2µm,20.0s
KDAK Kodiak Island 79.40 17 P **P** 15 59 14.6 -0.4
comp=Z,17nm,0.8s,baz=233,slow=0.0
XAN Xi'an 80.56 310 P **P** 15 59 22.0 +0.1
XAN pP **pP** 15 59 33.0 +0.9
XAN sP **sP** 15 59 37.0 +1.2
XAN S **SKSac** 16 09 32.7 -5.3
XAN AMB AMB
comp=Z,5.0nm,1.3s
XAN AMB AMB
comp=Z,120nm,7.4s
XAN LR LR
comp=Z,2µm,22.1s
XAN LR LR
comp=Z,2µm,25.5s
XAN LR LR
comp=Z,2µm,25.5s
SAO San Andreas Ge 80.60 47 eP **P** 15 59 21.1 -0.9
SAO pmax pmax
comp=Z,488nm,2.7s
SAO San Andreas Ge 80.60 47 eP **P** 15 59 21.1 -0.9
comp=Z,488nm,2.7s
SBC Santa Barbara 80.72 50 ⇓P **P** 15 59 24.7 +2.0
baz=81
KIPM Iron Peak 80.75 44 eP **P** 15 59 25.6 +2.7
comp=Z,94nm,1.2s
PKM Peak Mountain 80.86 49 ⇓P **P** 15 59 25.1 +1.4
baz=81,SNR=5.5
SCI San Clemente I 80.91 51 ⇓P **P** 15 59 24.3 +0.6
baz=81
SMMC Simmler 80.92 49 ⇓P **P** 15 59 26.1 +2.2
baz=81
BLG Laguna Peak 81.05 50 ⇓P **P** 15 59 26.2 +1.7
baz=81
KHMM Horse Mountain 81.14 42 eP **P** 15 59 26.0 +1.0
comp=Z,180nm,1.8s
CIS Catalina Island 81.21 51 ⇑P **P** 15 59 27.4 +2.0
baz=81
KRMB Red Mountain 81.37 42 eP P 15 59 30.0 +3.8
comp=Z,228nm,2.0s
FMP Fort Macarthur 81.43 51 ⇑P **P** 15 59 28.2 +1.7
baz=82
SVW2 Sparrevohn 81.50 14 eP **P** 15 59 26.3 0.0
comp=Z,25nm,1.3s
OSI Osito Adit 81.53 50 ⇑P **P** 15 59 28.8 +1.8
baz=82
KMI Kunming 81.59 299 P **P** 15 59 28.7 +0.9
KMI pP **pP** 15 59 38.5 +0.5
KMI sP **sP** 15 59 42.1 +0.3
KMI PP **PP** 16 02 38.5 +3.7
KMI S **S** 16 09 40.5 +2.2
KMI SS **SS** 16 14 55.9 -0.3
KMI AMB AMB
comp=Z,25nm,1.4s
KMI AMB AMB
comp=Z,390nm,4.0s
KMI LR LR
comp=Z,2µm,17.4s
KMI LR LR
comp=Z,2µm,20.3s
KMI LR LR
comp=Z,3µm,21.3s
RSO Redoubt South 81.64 16 eP **P** 15 59 29.0 +1.7
DECC Green Verdugo 81.65 50 ⇓P **P** 15 59 29.2 +1.5
baz=82
SEY Seymchan 81.65 350 ⇓eP **P** 15 59 26.8 -0.2
ARVC Arvin 81.69 49 ⇓P **P** 15 59 29.2 +1.3
baz=82
WDC Whiskeytown Da 81.77 43 eP **P** 15 59 26.8 -1.3
WDC pmax pmax
comp=Z,51nm,1.4s
WDC Whiskeytown Da 81.77 43 eP **P** 15 59 26.8 -1.3
comp=Z,51nm,1.4s
VES Vestal, Richgr 81.83 49 ⇑P **P** 15 59 29.3 +0.7
baz=82
MWC Mount Wilson 81.84 51 eP **P** 15 59 29.9 +1.0
MWC pmax pmax
comp=Z,158nm,1.6s
MWC Mount Wilson 81.84 51 eP **P** 15 59 29.9 +1.0
comp=Z,158nm,1.6s
OHCM Honcut 81.84 45 eP **P** 15 59 29.3 +0.7
RCTC Rector, Farmer 81.94 48 ⇓P **P** 15 59 30.9 +1.7
baz=82
CMB Columbia Colle 81.95 46 eP **P** 15 59 29.6 +0.3
CMB pmax pmax
comp=Z,37nm,1.2s
CMB Columbia Colle 81.95 46 eP **P** 15 59 29.6 +0.3
comp=Z,37nm,1.2s
109C Camp Elliot, M 81.95 52 ⇑P **P** 15 59 31.0 +1.7
baz=82
HIA Hailar 81.97 327 PFAKE 15 59 40.0 +11
HIA LR LR
comp=Z,3µm,20.0s
HHC Hu-ho-hao-te 82.05 317 eP **P** 15 59 29.9 +0.2
HHC pP **pP** 15 59 40.6 +0.6
HHC sP **sP** 15 59 44.6 +0.9
HHC S **S** 16 09 40.0 -2.1
HHC SKS **SKSac** 16 09 44.4 -3.6
HHC sS **ScS** 16 09 56.7 -1.6
HHC AMB AMB
comp=Z,66nm,1.1s
HHC AMB AMB
comp=Z,810nm,6.0s
HHC LR LR
comp=Z,3µm,17.3s
HHC LR LR
comp=Z,3µm,18.0s
HHC LR LR
comp=Z,5µm,18.6s
BFSC Mount Baldy Ra 82.14 51 ⇓P **P** 15 59 31.6 +1.1
baz=82,SNR=8.7
EDW2 Edwards Air Fo 82.19 50 ⇓P **P** 15 59 31.8 +1.2
baz=82,SNR=14
ISA Isabella 82.19 49 eP **P** 15 59 30.3 -0.3
ISA pmax pmax
comp=Z,61nm,1.3s
ISA Isabella 82.19 49 eP **P** 15 59 30.3 -0.3
comp=Z,61nm,1.3s
ISA Isabella 82.19 49 ⇓P **P** 15 59 31.8 +1.2
baz=82,SNR=18
BAR Barrett 82.19 52 eP **P** 15 59 33.2 +2.6
comp=Z,144nm,2.0s
MURC Murrieta 82.20 51 ⇑P **P** 15 59 32.4 +1.7
baz=82
SEW Seward 82.24 17 eP **P** 15 59 31.4 +1.3
comp=Z,62nm,1.2s
YBH Yreka Blue Hor 82.25 42 eP **P** 15 59 31.1 +0.4
comp=Z,22nm,0.9s
YBH Yreka Blue Hor 82.25 42 P **P** 15 59 31.1 +0.4
comp=Z,8.3nm,0.8s,baz=334,slow=0.0
MAW Mawson 82.30 201 P **P** 15 59 30.0 -0.4
MAW Mawson 82.30 201 ⇓P **P** 15 59 29.7 -0.7
baz=82,SNR=18
MAW Mawson 82.30 201 P **P** 15 59 30.0 -0.4
comp=Z,20nm,0.9s,baz=107,slow=6.7,SNR=15
CM31 Chiang Mai Arr 82.38 292 eP **P** 15 59 32.2 +0.4
comp=Z,37nm,0.9s
CMAR Chiang Mai Arr 82.38 292 P **P** 15 59 32.0 +0.2
CMAR Chiang Mai Arr 82.38 292 P **P** 15 59 32.0 +0.2
comp=Z,36nm,1.0s,baz=117,slow=3.5,SNR=36
SPU Mount Spurr 82.44 16 eP **P** 15 59 31.3 0.0
MONP Monument Peak 82.47 52 ⇑P **P** 15 59 33.3 +1.0
baz=83,SNR=21
CHTO Chiang Mai 82.50 292 eP **P** 15 59 32.7 +0.2
CHTO MLR MLR
comp=Z,2µm,22.0s
CHTO Chiang Mai 82.50 292 eP **P** 15 59 32.6 +0.2
comp=Z,351nm,1.3s
CHTO LR LR
comp=Z,2µm,22.0s
HUMO Hull Mountain 82.54 41 eP **P** 15 59 33.2 +1.0
comp=Z,26nm,1.0s

DVTC Desert V Tower 82.62 53 ⇓P **P** 15 59 34.8 +1.9
baz=83
LRMC Laurel Mountai 82.67 50 ⇓P **P** 15 59 34.4 +1.2
baz=83,SNR=16
LBCM Butte Creek Ri 82.68 43 P **P** 15 59 32.6 -0.5
BBRC Big Bear Solar 82.70 51 ⇑P **P** 15 59 35.2 +1.7
baz=83
PFO Pinyon Flat Ob 82.76 52 P **P** 15 59 33.0 -0.7
PFO LR LR
comp=Z,3µm,21.0s
PFO Pinyon Flat Ob 82.76 52 ⇑P **P** 15 59 34.1 +0.5
baz=83,SNR=7.8
PFO Pinyon Flat Ob 82.76 52 P **P** 15 59 33.0 -0.7
comp=Z,6.1nm,0.8s,baz=194,slow=0.0
CWC Cottonwood Cre 82.83 49 ⇑P **P** 15 59 34.4 +0.4
baz=83,SNR=10
WAKR Walker 82.83 46 eP **P** 15 59 34.6 +0.6
MLAC Mammoth Lakes 82.84 47 ⇓P **P** 15 59 35.3 +1.2
baz=83
BEKR Beckworth 82.86 45 eP **P** 15 59 34.3 +0.2
comp=Z,94nm,1.9s
MTUM Tungsten Hills 82.91 48 eP **P** 15 59 35.1 +0.6
RRX Edison Barstow 82.91 50 ⇑P **P** 15 59 35.6 +1.3
baz=83
SWSC Sam W. Stewart 82.97 53 ⇑P **P** 15 59 35.1 +0.5
baz=83
MPMC Manual Prospec 83.08 49 ⇓P **P** 15 59 36.1 +0.7
baz=83,SNR=22
CD2 Chengdu 83.10 305 ⇑eP **P** 15 59 36.1 +0.7
CD2 pP **pP** 15 59 43.1 -2.5
CD2 sP **sP** 15 59 46.0 -3.3
CD2 PP **PP** 16 02 48.9 +2.0
CD2 SKS **SKSac** 16 09 55.7 +0.4
CD2 S **SKKSac** 16 09 58.6 -0.9
CD2 sS **sS** 16 10 10.0 -0.1
CD2 SS **SS** 16 15 20.1 +2.0
CD2 AMB AMB
comp=Z,70nm,1.1s
CD2 AMB AMB
comp=Z,710nm,7.1s
CD2 LR LR
comp=Z,4µm,23.8s
CD2 LR LR
comp=Z,4µm,23.2s
GSC Goldstone 83.24 50 eP **P** 15 59 36.6 +0.5
GSC pmax pmax
comp=Z,67nm,1.3s
GSC Goldstone 83.24 50 eP **P** 15 59 36.6 +0.5
comp=Z,67nm,1.3s
GSC Goldstone 83.24 50 ⇓P **P** 15 59 36.6 +0.5
baz=83,SNR=10.0
BELC Belle Mtn. Jos 83.27 52 ⇑P **P** 15 59 37.4 +1.1
baz=84,SNR=31
HEC Hector,Ludlow 83.39 51 ⇑P **P** 15 59 37.6 +0.8
baz=84,SNR=7.5
PAHR Pah Rah Range 83.44 45 eP **P** 15 59 37.9 +0.8
comp=Z,462nm,2.5s
TNA Tin City 83.46 7 eP **P** 15 59 34.4 -1.9
comp=Z,26nm,0.8s
H02S1 DAWSON INLET T 83.48 29 T T 17 31 24.6
BC3 Big Chuckawall 83.53 52 ⇓P **P** 15 59 38.2 +0.6
baz=84,SNR=15
PMR Palmer 83.56 17 eP **P** 15 59 36.7 -0.2
PMR pmax pmax
comp=Z,458nm,2.2s
PMR Palmer 83.56 17 eP **P** 15 59 36.6 -0.2
comp=Z,458nm,2.2s
NVAR Mina Array Bea 83.59 47 P **P** 15 59 37.4 -0.5
NVAR Mina Array Bea 83.59 47 P **P** 15 59 37.4 -0.5
comp=Z,6.6nm,0.8s,baz=227,slow=8.7,SNR=23
NVAR LR LR 16 28 07.9
comp=Z,4µm,21.6s,baz=100,slow=29
GRAC Grapevine Rang 83.59 48 ⇓P **P** 15 59 38.8 +1.0
baz=84
NV11 Mina Array Sit 83.69 47 eP **P** 15 59 38.5 +0.1
FURC Furnace Creek, 83.72 49 ⇓P **P** 15 59 39.4 +1.1
baz=84,SNR=8.9
GLA Glamis 83.75 53 eP **P** 15 59 40.1 +1.4
GLA pmax pmax
comp=Z,71nm,1.1s
GLA Glamis 83.75 53 eP **P** 15 59 40.0 +1.4
comp=Z,71nm,1.1s
GLA Glamis 83.75 53 ⇓P **P** 15 59 39.5 +0.8
baz=84
GMRC Granite Mounta 83.86 51 ⇑P **P** 15 59 39.8 +0.5
baz=84,SNR=25
PPLA Purkeypile 83.87 15 eP **P** 15 59 39.4 +0.7
comp=Z,40nm,1.2s
RAGM Ragged Mountai 83.89 19 eP P 15 59 45.9 +7.1
comp=Z,33nm,1.0s
MOD Modoc 83.89 43 eP **P** 15 59 41.4 +2.1
comp=Z,718nm,1.8s
SHOC Shoshone 83.89 50 ⇑P **P** 15 59 39.6 +0.3
baz=84
K05A Summer Lake 83.91 42 eP **P** 15 59 40.0 +0.5
comp=Z,115nm,1.3s
TUQ Turquoise Moun 83.95 50 ⇓P **P** 15 59 40.5 +0.7
baz=84,SNR=19
IRM Iron Mountain 83.98 52 ⇑P **P** 15 59 40.4 +0.6
baz=84,SNR=26
H04A Detroit Lake 84.09 40 eP **P** 15 59 40.2 +0.1
comp=Z,62nm,1.0s
DIV Divide 84.14 18 eP **P** 15 59 39.6 -0.4
comp=Z,47nm,1.0s
TPH Tonopah 84.18 47 PFAKE 15 59 50.0 +9.0
TPH LR LR
comp=Z,3µm,21.0s
E03A Lebam 84.24 38 eP **P** 15 59 41.5 +0.7
comp=Z,87nm,0.9s
Y12C Blythe 84.28 52 ⇓P **P** 15 59 42.3 +1.0
baz=84,SNR=10.0
CAST Castle Rocks 84.34 14 eP **P** 15 59 39.2 -1.7
comp=Z,53nm,1.0s
BMRM Bremner River 84.36 19 eP **P** 15 59 40.7 -0.5
comp=Z,70nm,1.2s
LDFC Landfair 84.40 51 eP **P** 15 59 41.6 -0.5
comp=Z,214nm,1.3s
113A Mohawk Valley, 84.45 53 ⇑P **P** 15 59 42.6 +0.5
baz=85
CLNS Chul'man 84.51 335 eP **P** 15 59 42.2 +0.2
CLNS e*PP **pP** 15 59 52.6 +0.4
CLNS e 16 02 58.7
CLNS ePPP PPP 16 04 51.0
CLNS eS **S** 16 10 02.5 -3.7
CLNS e 16 11 04.8
CLNS eSS **SS** 16 15 38.3 +0.4
CLNS eSSS SSS 16 19 08.6
CLNS pmax pmax
comp=E,8.0nm,1.0s
CLNS pmax pmax
comp=Z,15nm,0.8s
CLNS pmax pmax
comp=N,14nm,0.9s
CLNS pmax pmax
comp=Z,3.0nm,0.8s
CLNS pmax pmax
comp=N,6.0nm,0.8s
CLNS pmax pmax
comp=E,3.0nm,0.8s
CLNS smax smax
comp=N,841nm,11.8s
CLNS smax smax
comp=E,300nm,10.8s
NLWA Neilton Lookou 84.52 37 eP **P** 15 59 45.0 +2.7
comp=E,96nm,1.6s
NLWA LR LR
comp=Z,3µm,21.0s
FL2 Flat Top 2 84.77 38 P **P** 15 59 43.9 +0.2
PDMCI Parker Dam,Lak 84.79 52 ⇓P **P** 15 59 44.2 +0.4
baz=85,SNR=13
TRF Thorofare Moun 84.80 15 eP **P** 15 59 41.9 -1.6
214A Organ Pipe Nat 84.86 55 ⇓P **P** 15 59 44.9 +0.6
baz=85
TDL Tradedollar La 84.93 38 P **P** 15 59 44.5 +0.1
BBB Bella Bella 84.94 31 P **P** 15 59 44.3 +0.2
BBB Bella Bella 84.94 31 P **P** 15 59 44.3 +0.2
comp=Z,12nm,0.9s
SHPR Sheep Range 84.97 50 eP **P** 15 59 45.6 +0.6
VIPM Ingram Point 84.97 41 P **P** 15 59 44.7 -0.1
VIPM Ingram Point 84.97 41 P **P** 15 59 44.7 -0.1
BPAW Bear Paw Mtn. 85.18 14 eP **P** 15 59 43.5 -1.7
LZH Lanzhou 85.20 310 ⇑P **P** 15 59 47.1 +1.0
LZH pP **pP** 15 59 58.1 +1.8
LZH sP **sP** 16 00 02.0 +2.0
LZH PP **PP** 16 03 06.8 +2.7
LZH S **S** 16 10 12.0 -2.2

LZH sS **sS** 16 10 30.0 -1.2
LZH SS **SS** 16 15 50.0 +0.8
LZH AMB AMB
comp=Z,100nm,1.0s
LZH AMB AMB
comp=Z,600nm,4.6s
LZH LR LR
comp=Z,2µm,18.8s
LZH LR LR
comp=Z,4µm,18.0s
LZH LR LR
comp=Z,8µm,20.0s
WVOR Wild Horse Val 85.23 43 eP **P** 15 59 45.8 -0.3
WVOR pmax pmax
comp=Z,109nm,1.4s
WVOR MLR MLR
comp=Z,2µm,19.0s
WVOR Wild Horse Val 85.23 43 eP **P** 15 59 45.8 -0.3
comp=Z,109nm,1.4s
WVOR LR LR
comp=Z,2µm,19.0s
BMN Battle Mountai 85.25 45 eP **P** 15 59 47.2 +1.0
BMN pmax pmax
comp=Z,81nm,1.2s
BMN MLR MLR
comp=Z,3µm,22.0s
BMN Battle Mountai 85.25 45 eP **P** 15 59 47.2 +1.0
comp=Z,81nm,1.2s
BMN LR LR
comp=Z,3µm,22.0s
W13A Hualapai Mount 85.32 51 ⇓P **P** 15 59 47.8 +1.0
baz=86,SNR=18
Z14A Wintersburg 85.32 53 ⇓P **P** 15 59 48.1 +1.5
baz=86,SNR=8.1
G06A Carlson Farm, 85.32 40 eP **P** 15 59 48.3 +1.9
comp=Z,390nm,2.5s
MCK McKinley 85.37 15 eP **P** 15 59 46.9 +0.8
MCK pmax pmax
comp=Z,26nm,0.9s
MCK McKinley 85.37 15 eP **P** 15 59 46.9 +0.8
comp=Z,26nm,0.9s
LON Longmire 85.38 38 eP **P** 15 59 49.5 +2.9
LON pmax pmax
comp=Z,65nm,1.9s
LON Longmire 85.38 38 eP **P** 15 59 49.5 +2.9
comp=Z,65nm,1.9s
R11A Troy Canyon, C 85.46 48 eP **P** 15 59 47.4 0.0
R11A Troy Canyon, C 85.46 48 ⇓P **P** 15 59 47.9 +0.5
baz=86
I07A Izee 85.46 41 eP **P** 15 59 47.1 -0.1
comp=Z,90nm,1.4s
D05A Enumclaw 85.50 38 eP P 15 59 50.6 +3.5
comp=Z,141nm,1.4s
Y14A Wickenburg 85.50 53 ⇓P **P** 15 59 48.0 +0.5
baz=86,SNR=17
WPW White Pass 85.51 38 P **P** 15 59 46.8 -0.5
WRAK Wrangell Islan 85.60 26 PFAKE 16 00 00.0 +13
WRAK LR LR
comp=Z,2µm,19.0s
PAX Paxson 85.68 17 eP **P** 15 59 45.9 -1.9
PAX pmax pmax
comp=Z,22nm,1.3s
PAX Paxson 85.68 17 eP **P** 15 59 45.9 -1.9
comp=Z,22nm,1.3s
J08A Circle Bar Ran 85.77 42 eP **P** 15 59 48.5 -0.2
IM04 Indian Mountai 86.16 12 eP **P** 15 59 49.0 -1.0
PAF Port-aux-Franc 86.25 219 PFAKE 16 00 00.0 +9.1
PAF LR LR
comp=Z,4µm,22.0s
IMA2 Indian Mountai 86.26 12 eP **P** 15 59 51.6 +1.0
LTY Liberty 86.31 38 eP **P** 15 59 53.2 +2.0
comp=Z,36nm,1.2s
G08A Pilot Rock 86.38 40 eP **P** 15 59 51.4 -0.3
comp=Z,76nm,1.3s
SKAG Skagway 86.42 23 eP P 15 59 58.5 +7.1
YAK Yakutsk 86.47 341 eP **P** 15 59 49.5 -2.0
YAK e*PP **pP** 15 59 59.9 -1.9
YAK e 16 03 09.6
YAK eS **SKSac** 16 10 12.0 -3.3
YAK eSS **SS** 16 15 59.6 -6.8
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,13nm,1.5s
YAK pmax pmax
comp=N,186nm,2.8s
YAK pmax pmax
comp=Z,371nm,4.2s
YAK pmax pmax
comp=E,182nm,3.3s
YAK smax smax
comp=N,329nm,4.8s
YAK smax smax
comp=E,204nm,3.9s
YAK MLR MLR
comp=Z,1µm,16.0s
YAK MLR MLR
comp=N,1µm,19.0s
YAK MLR MLR
comp=E,551nm,20.0s
HAWA Hanford 86.56 39 eP **P** 15 59 53.1 +0.8
comp=E,118nm,1.5s
HAWA LR LR
comp=Z,2µm,20.0s
TUC Tucson 86.58 55 eP **P** 15 59 54.3 +1.4
TUC pmax pmax
comp=Z,52nm,1.2s
TUC MLR MLR
comp=Z,3µm,20.0s
TUC Tucson 86.58 55 eP **P** 15 59 54.2 +1.4
comp=Z,52nm,1.2s
TUC LR LR
comp=Z,3µm,20.0s
COLA College 86.58 15 eP **P** 15 59 50.7 -1.3
COLA pmax pmax
comp=Z,59nm,0.7s
COLA MLR MLR
comp=Z,1µm,20.0s
COLA College 86.58 15 eP **P** 15 59 50.7 -1.3
comp=Z,59nm,0.7s
COLA LR LR
comp=Z,1µm,20.0s
CCUT Cedar City 86.71 49 eP **P** 15 59 54.5 +0.9
comp=Z,53nm,1.1s
ELK Elko 86.74 46 eP **P** 15 59 53.3 -0.4
comp=Z,59nm,1.4s
ILAR Eielson Array 86.74 15 P **P** 15 59 50.6 -2.2
ILAR Eielson Array 86.74 15 P **P** 15 59 50.6 -2.2
comp=Z,7.2nm,0.8s,baz=236,slow=5.5,SNR=22
X16A Lo Mia Camp, P 86.88 53 ⇑P **P** 15 59 55.0 +0.5
baz=87,SNR=22
U15A North Rim 87.04 51 ⇓P **P** 15 59 55.3 -0.1
baz=87
PMSA Palmer Station 87.08 158 P **P** 15 59 56.3 +1.6
PMSA Palmer Station 87.08 158 P **P** 15 59 56.3 +1.6
comp=Z,16nm,0.9s,baz=216,slow=8.7,SNR=3.8
BMO Blue Mountains 87.21 41 eP **P** 15 59 54.2 -1.5
comp=Z,55nm,1.5s
BMO LR LR
comp=Z,3µm,19.0s
WUAZ Wupatki 87.36 52 eP **P** 15 59 57.1 +0.3
comp=Z,53nm,1.0s
WUAZ LR LR
comp=Z,3µm,22.0s
WUAZ Wupatki 87.36 52 ⇓P **P** 15 59 57.5 +0.7
baz=88,SNR=20
319A Douglas 87.41 56 ⇑P **P** 15 59 57.4 +0.4
baz=88
MFID Camas Ranch 87.51 43 ⇑P **P** 15 59 57.4 +0.2
baz=88,SNR=14
B08A Colville Reser 87.64 38 eP **P** 15 59 57.5 -0.1
comp=Z,67nm,1.4s
F10A Beach Ranch, E 87.78 40 eP **P** 15 59 57.4 -1.0
comp=Z,887nm,2.6s
DLBC Dease Lake 87.85 26 eP **P** 15 59 58.4 0.0
MVU Marysvale 87.93 49 eP **P** 16 00 00.5 +1.0
comp=Z,42nm,1.2s
MVU LR LR
comp=Z,4µm,20.0s
COLD Coldfoot 87.98 13 eP P 16 00 03.5 +4.7
C09A Chrisman Ranch 87.99 38 eP **P** 16 00 02.2 +2.9
comp=Z,110nm,1.9s
320A Kipp Ranch, An 88.00 56 ⇓P **P** 16 00 00.2 +0.3
baz=88
X18A Snowflake 88.06 53 ⇓P **P** 16 00 01.4 +1.2
baz=88,SNR=9.3
DUG Dugway 88.19 47 eP **P** 16 00 02.7 +2.1

DUG pmax pmax
comp=Z,66nm,1.4s
DUG MLR MLR
comp=Z,4µm,21.0s
DUG Dugway 88.19 47 *e*P **P 16 00 02.7 +2.1**
comp=Z,66nm,1.4s
DUG LR LR
comp=Z,4µm,21.0s
DUG Dugway 88.19 47 ⇑P **P 16 00 01.0 +0.4**
baz=88
220A Playas Peak, P 88.20 56 ⇓P **P 16 00 01.1 +0.2**
baz=88,SNR=16
DAWY Dawson 88.29 18 *e*P **P 15 59 58.8 -1.6**
ULN Ulaanbaatar 88.30 321 *e*P **P 16 00 00.3 -0.7**
comp=Z,61nm,1.3s
ULN LR LR
comp=Z,2µm,22.0s
EGAK Eagle 88.30 17 *e*P **P 15 59 59.1 -1.2**
EGAK LR LR
comp=Z,1µm,21.0s
BGU Big Grassy Mou 88.33 46 *e*P **P 16 00 01.5 +0.2**
comp=Z,44nm,1.3s
120A U Bar Ranch, L 88.35 55 ⇑P **P 16 00 02.0 +0.4**
baz=88,SNR=12
SYO Syowa Base 88.35 195 ⇓*e*P P 16 00 06.2 +5.5
W18A Petrified Fore 88.45 53 *e*P **P 16 00 02.1 +0.2**
W18A Petrified Fore 88.45 53 ⇑P **P 16 00 02.2 +0.2**
baz=89
HLID Hailey 88.50 43 *e*P **P 16 00 01.5 -0.5**
comp=Z,39nm,0.8s
HLID LR LR
comp=Z,3µm,22.0s
HLID Hailey 88.50 43 ⇓P **P 16 00 02.6 +0.5**
baz=89,SNR=39
Z20A Nine Sixteen R 88.59 55 ⇓P **P 16 00 03.3 +0.6**
baz=89,SNR=18
NLU North Lily Min 88.61 47 *e*P **P 16 00 05.8 +3.1**
comp=Z,195nm,2.2s
SONM Songino Array 88.67 321 P **P 16 00 01.9 -0.8**
SONM Songino Array 88.67 321 P **P 16 00 01.9 -0.8**
comp=Z,15nm,1.0s,baz=131,slow=2.5,SNR=33
221A Mesquite Ranch 88.84 56 ⇓P **P 16 00 03.7 -0.2**
baz=89
Q16A Castle Valley 88.84 49 *e*P **P 16 00 04.9 +1.2**
Q16A Castle Valley 88.84 49 ⇓P **P 16 00 04.0 +0.3**
baz=89
HVU Hansel Valley 88.86 46 *e*P **P 16 00 04.8 +1.0**
HVU pmax pmax
comp=Z,131nm,1.3s
HVU Hansel Valley 88.86 46 *e*P **P 16 00 04.8 +1.0**
comp=Z,131nm,1.3s
NEW Newport 88.89 38 P **P 16 00 03.0 -0.6**
NEW LR LR
comp=Z,2µm,22.0s
NEW Newport 88.89 38 ⇓P **P 16 00 04.8 +1.2**
baz=89,SNR=5.4
NEW Newport 88.89 38 P **P 16 00 03.0 -0.6**
SPUT South Promonto 88.89 46 *e*P **P 16 00 03.4 -0.5**
comp=Z,111nm,1.4s
MPU Maple Canyon 88.94 48 *e*P **P 16 00 05.3 +1.1**
comp=Z,112nm,1.4s
TMUT Trail Mountain 88.96 48 *e*P **P 16 00 05.9 +1.4**
comp=Z,95nm,1.1s
121A Cookes Peak, D 89.02 56 ⇓P **P 16 00 05.5 +0.8**
baz=89,SNR=14
Y20A Horse Springs, 89.05 54 ⇓P **P 16 00 05.3 +0.4**
baz=89,SNR=20
CTU Camp Tracy 89.13 47 *e*pP pP 16 00 13.2 -2.2
X20A Quemado 89.18 54 ⇓P **P 16 00 06.5 +1.0**
baz=89,SNR=16
JLU Jordanelle 89.30 47 *e*P **P 16 00 06.9 +1.0**
comp=Z,73nm,1.2s
DAU Daniels Canyon 89.36 47 *e*P **P 16 00 07.5 +1.2**
DAU Daniels Canyon 89.36 47 *e*P **P 16 00 07.5 +1.2**
SRU San Rafael 89.38 49 *e*P **P 16 00 07.0 +0.7**
SRU pmax pmax
comp=Z,95nm,1.1s
SRU San Rafael 89.38 49 *e*P **P 16 00 07.0 +0.7**
comp=Z,95nm,1.1s
Z21A St. Cloud Mine 89.38 55 ⇑P **P 16 00 07.0 +0.5**
baz=90,SNR=10
W20A Ramah 89.39 53 ⇓P **P 16 00 07.4 +0.9**
baz=90,SNR=24
222A Williams Famil 89.41 56 ⇑P **P 16 00 06.3 -0.2**
baz=90
GTA Gaotai 89.46 312 *e*P **P 16 00 07.0 +0.4**
GTA pP **pP 16 00 17.2 +0.3**
GTA sP **sP 16 00 21.8 +1.2**
GTA SKS **SKSac 16 10 32.5 -2.2**
GTA S **S 16 10 53.2 -1.8**
GTA sS **sS 16 11 11.5 -0.6**
GTA SS **SS 16 16 50.9 -0.4**
GTA AMB AMB
comp=Z,21nm,1.2s
GTA AMB AMB
comp=Z,450nm,5.7s
GTA LR LR
comp=Z,2µm,24.7s
GTA LR LR
comp=Z,1µm,24.9s
GTA LR LR
comp=Z,3µm,27.6s
Y21A Point of Rocks 89.63 54 ⇑P **P 16 00 07.6 0.0**
baz=90,SNR=21
V20A Brimhall 89.66 52 ⇓P **P 16 00 08.1 +0.4**
baz=90,SNR=9.6
122A Conniff Cattle 89.69 56 ⇓P **P 16 00 08.2 +0.3**
baz=90
X21A Alamocita Cree 89.70 54 ⇓P **P 16 00 08.9 +1.0**
baz=90,SNR=16
U20A Newcomb 89.83 52 ⇑P **P 16 00 09.2 +0.7**
baz=90,SNR=14
Z22A Elephant Butte 89.92 55 ⇓P **P 16 00 09.3 +0.4**
baz=90,SNR=26
MCMT McKenzie Canyo 90.06 43 *e*P **P 16 00 08.8 -0.6**
comp=Z,32nm,1.1s
BSMT Bassoo Peak 90.11 39 *e*P **P 16 00 09.1 -0.4**
MVCO Mesa Verde 90.15 51 *e*P **P 16 00 12.9 +2.9**
comp=Z,30nm,1.0s
MVCO LR LR
comp=Z,3µm,20.0s
MVCO Mesa Verde 90.15 51 ⇓P **P 16 00 10.4 +0.4**
baz=90
Y22A Socorro 90.15 55 ⇑P **P 16 00 10.4 +0.4**
baz=90,SNR=19
PV09 Paradox Valley 90.16 50 *e*P **P 16 00 13.2 +3.1**
M17A Scullys Gap (B 90.19 46 ⇑P **P 16 00 10.4 +0.4**
baz=90,SNR=6.9
MSO Missoula 90.19 41 *e*P **P 16 00 11.1 +1.3**
comp=Z,21nm,1.1s
MSO Missoula 90.19 41 ⇓P **P 16 00 10.4 +0.7**
baz=90
LENM Lemitar 90.23 54 *e*P **P 16 00 13.1 +2.7**
Y22D IRIS PASSCAL I 90.24 54 ⇑P **P 16 00 10.1 -0.3**
baz=90
123A Bell Site, Whi 90.26 56 ⇓P **P 16 00 10.7 +0.2**
baz=90
V21A Milan 90.29 53 ⇑P **P 16 00 10.4 -0.2**
baz=90
X22A Bernardo 90.32 54 ⇓P **P 16 00 10.9 +0.2**
baz=90,SNR=5.6
JTMT Jette 90.37 40 *e*P **P 16 00 11.8 +1.2**
AHID Auburn Hatcher 90.39 45 PFAKE 16 00 20.0 +9.0
AHID LR LR
comp=Z,2µm,22.0s
PV01 Paradox Valley 90.43 50 *e*P **P 16 00 11.5 +0.2**
comp=Z,5µm,1.2s
DLMT Dillon 90.44 42 *e*P **P 16 00 11.8 +0.7**
comp=Z,93nm,1.4s
SWMT Swartz Lake 90.45 40 *e*P **P 16 00 12.6 +1.6**
RRI2 Red Ridge 90.47 45 *e*P **P 16 00 11.6 +0.2**
comp=Z,57nm,0.8s
324A Moseley Ranch, 90.47 57 ⇑P **P 16 00 12.4 +0.9**
baz=91,SNR=17
S20A Disappointment 90.48 50 ⇑P **P 16 00 11.9 +0.4**
baz=91,SNR=33
BNM Barren Site 90.49 54 *e*P **P 16 00 12.1 +0.5**
comp=Z,82nm,1.5s
Z23A Rita Site, Whi 90.50 55 ⇑P **P 16 00 11.6 +0.1**
baz=91,SNR=7.6
U21A Nageezi 90.50 52 ⇑P **P 16 00 12.0 +0.4**
baz=91,SNR=40
LPM Los Pinos Moun 90.54 54 *e*P **P 16 00 14.2 +2.4**
PV15 Paradox Valley 90.58 50 *e*P **P 16 00 09.9 -2.1**
PV15 *e*pP pP 16 00 30.4 +8.2
R20A Redvale 90.59 50 ⇑P **P 16 00 12.6 +0.6**
baz=91,SNR=9.9
W22A Albuquerque 90.62 54 ⇑P **P 16 00 12.2 0.0**
baz=91
MNTX Cornudas Mount 90.64 57 *e*P **P 16 00 11.2 -0.9**
comp=Z,72nm,1.6s
MNTX LR LR
comp=Z,2µm,20.0s
SLMT Seeley Lake 90.64 40 *e*P **P 16 00 14.3 +2.4**
224A Cornudas Mount 90.66 57 ⇓P **P 16 00 13.4 +1.0**
baz=91,SNR=21
425A Indio Mountain 90.66 58 ⇑P **P 16 00 12.9 +0.5**
baz=91,SNR=17
CHMT Chamberlain Mo 90.66 41 *e*P **P 16 00 11.5 -0.6**
P19A Cripple Cowboy 90.68 49 ⇓P **P 16 00 13.5 +1.1**
baz=91,SNR=22
LRM Limekiln Ridge 90.72 42 *e*P **P 16 00 14.8 +2.4**
TPAW Teton Pass 90.78 45 *e*P **P 16 00 15.6 +2.8**
comp=Z,29nm,1.2s
REDW Red Top Meadow 90.79 45 *e*P **P 16 00 13.5 +0.7**
comp=Z,102nm,1.4s
T21A Navajo Lake 90.79 52 ⇑P **P 16 00 12.8 -0.2**
baz=91,SNR=21
L18A Fontenelle, Gr 90.80 46 ⇑P **P 16 00 13.1 +0.3**
baz=91
O19A Miners Draw (B 90.83 48 ⇑P **P 16 00 13.9 +0.9**
baz=91,SNR=24
Y23A Lovelace Mesa, 90.86 55 ⇑P **P 16 00 14.5 +1.1**
baz=91,SNR=5.0
V22A San Miguel Ran 90.89 53 ⇓P **P 16 00 13.8 +0.4**
baz=91
SNOW Snow King Moun 90.90 45 *e*P P 16 00 17.7 +4.4
ANMO Albuquerque 90.90 54 *e*P **P 16 00 14.2 +0.7**
comp=Z,54nm,1.0s
ANMO LR LR
comp=Z,2µm,20.0s
124A Stringfield Ra 90.92 56 ⇑P **P 16 00 14.3 +0.7**
baz=91,SNR=10.0
Q20A Ridgley Place, 90.93 49 ⇑P **P 16 00 14.5 +1.0**
baz=91,SNR=22
IMW Indian Meadow 90.94 44 *e*P **P 16 00 14.5 +0.9**
comp=Z,57nm,1.2s
626A Big Bend Ranch 90.95 59 ⇓P **P 16 00 15.2 +1.5**
baz=91,SNR=24
X23A Hourglass Bar 90.98 54 ⇓P **P 16 00 15.1 +1.2**
baz=91,SNR=22
QLMT Earthquake Lak 90.98 43 *e*P P 16 00 16.9 +3.2
MOOW Moose Ponds 91.01 44 *e*P **P 16 00 14.0 +0.1**
comp=Z,63nm,1.7s
LOHW Long Hollow 91.06 45 *e*P **P 16 00 16.7 +2.7**
comp=Z,52nm,1.5s
P20A De Beque 91.06 49 ⇓P **P 16 00 15.9 +1.8**
baz=91,SNR=7.1
U22A Llaves 91.09 52 ⇓P **P 16 00 14.7 +0.4**
baz=91,SNR=16
526A Mary Lane Ranc 91.15 59 ⇑P **P 16 00 14.5 -0.1**
baz=91,SNR=20
WALA Waterton Lakes 91.15 39 *e*P **P 16 00 13.7 -0.5**
comp=Z,1.0nm,1.2s
FLWY Flagg Ranch 91.17 44 *e*P **P 16 00 17.7 +3.2**
comp=Z,106nm,1.8s
BOZ Bozeman (W) 91.17 42 *e*P **P 16 00 14.5 0.0**
BOZ pmax pmax
comp=Z,42nm,1.4s
BOZ MLR MLR
comp=Z,3µm,22.0s
BOZ Bozeman (W) 91.17 42 *e*P **P 16 00 14.5 0.0**
comp=Z,42nm,1.4s
BOZ LR LR
comp=Z,3µm,22.0s
I17A Pilgrim Ck. 91.19 44 ⇑P **P 16 00 15.1 +0.4**
baz=91
Z24A Sheeppen Canyo 91.20 56 ⇓P **P 16 00 15.0 +0.1**
baz=91
W23A Werner Place, 91.21 54 ⇑P **P 16 00 15.4 +0.5**
baz=91,SNR=15
225A Deer Hill, Car 91.23 57 ⇓P **P 16 00 15.4 +0.3**
baz=91,SNR=11
M19A Rock Springs 91.25 47 ⇓P **P 16 00 15.1 +0.1**
baz=91
TXAR Lajitas Array 91.26 60 P **P 16 00 14.9 -0.2**
TXAR PKKPbc **PKKPdf 16 17 34.9 -0.3**
TXAR Lajitas Array 91.26 60 P **P 16 00 14.9 -0.2**
comp=Z,5.5nm,0.8s,baz=235,slow=4.4,SNR=28
TXAR PKKPbc **PKKPdf 16 17 34.9 -0.3**
comp=Z,0.1nm,0.6s,baz=44,slow=2.7,SNR=2.1
TXAR LR LR 16 32 39.6
comp=Z,4µm,20.9s,baz=335,slow=30
R21A Cimarron 91.27 50 ⇓P **P 16 00 15.7 +0.5**
baz=91,SNR=21
T22A Edith 91.27 52 ⇓P **P 16 00 15.4 +0.1**
baz=91,SNR=21
Y24A Capitan 91.34 55 ⇑P **P 16 00 15.9 +0.4**
baz=92,SNR=23
H17A Grant Village 91.38 44 ⇑P **P 16 00 16.4 +0.9**
baz=92
V23A Ortiz Mt. (NFS 91.38 53 ⇑P **P 16 00 17.1 +1.4**
baz=92,SNR=22
426A McDonald Obser 91.40 58 ⇑P **P 16 00 16.8 +0.9**
baz=92,SNR=32
O20A White River Ci 91.40 48 ⇑P **P 16 00 16.8 +1.1**
baz=92,SNR=5.8
Q21A Lamborn Mesa, 91.42 50 ⇑P **P 16 00 16.4 +0.6**
baz=92
SNAA Sanae 91.44 181 *e*P **P 16 00 12.8 -2.4**
comp=Z,44nm,1.4s
BW06 Boulder Array 91.44 46 PFAKE 16 00 30.0 +14
BW06 LR LR
comp=Z,2µm,21.0s
PDAR Pinedale Array 91.44 46 P **P 16 00 15.1 -0.8**
PDAR Pinedale Array 91.44 46 P **P 16 00 15.1 -0.8**
comp=Z,2.0nm,0.7s,baz=228,slow=4.1,SNR=11
HRY Holter Researc 91.47 41 *e*P **P 16 00 16.2 +0.5**
627A Terlingua Ranc 91.53 60 ⇑P **P 16 00 17.3 +0.9**
baz=92,SNR=33
125A Gardner Draw, 91.54 56 ⇓P **P 16 00 17.2 +0.8**
baz=92,SNR=17
MAIT Maitri 91.55 186 *e*P P 16 00 11.7 -3.9
LKWY Lake 91.56 44 PFAKE 16 00 30.0 +14
LKWY LR LR
comp=Z,3µm,20.0s
527A Woodward Ranch 91.57 59 ⇓P **P 16 00 17.3 +0.7**
baz=92,SNR=27
U23A El Rito 91.57 53 ⇑P **P 16 00 17.6 +1.0**
baz=92,SNR=24
S22A 4UR Ranch, Cre 91.58 51 ⇑P **P 16 00 17.2 +0.4**
baz=92,SNR=23
GDL2 Guadalupe Moun 91.62 57 *e*P **P 16 00 20.0 +3.2**
N20A Spence Gulch, 91.63 48 ⇓P **P 16 00 16.8 0.0**
baz=92,SNR=19
ZAK Zakamensk 91.64 323 *e*P **P 16 00 15.4 -1.0**
ZAK pmax pmax
comp=Z,23nm,1.5s
326A Caldwell Ranch 91.65 58 ⇑P **P 16 00 16.7 -0.2**
baz=92
Z25A Roswell 91.70 56 ⇑P **P 16 00 17.6 +0.4**
baz=92
226B Tecolote Peak, 91.74 57 ⇑P **P 16 00 17.2 -0.2**
baz=92,SNR=30
P21A Newcastle 91.75 49 ⇑P **P 16 00 17.5 +0.2**
baz=92
W24A Lazy 6 Ranch, 91.80 54 ⇓P **P 16 00 17.5 -0.1**
baz=92,SNR=19
IRK Irkutsk 91.87 325 *e*P P 16 00 13.8 -3.5
IRK pmax pmax
comp=Z,38nm,1.3s
Q22A Crested Butte, 91.91 50 ⇑P **P 16 00 18.2 -0.1**
baz=92,SNR=13
M20A Sweetwater, Wa 91.92 47 ⇓P **P 16 00 18.3 +0.2**
baz=92
Y25A Mesa, Roswell 91.93 55 ⇓P **P 16 00 17.5 -0.7**
baz=92,SNR=20
T23A Casias Ranch, 91.93 52 ⇓P **P 16 00 17.9 -0.4**
baz=92
K19A Absolon Red Bu 91.95 46 ⇓P **P 16 00 17.7 -0.5**
baz=92,SNR=7.2
628A Black Gap, Mar 91.95 60 ⇑P **P 16 00 18.4 +0.1**
baz=92,SNR=23
427A Hayter Ranch, 91.97 58 ⇓P **P 16 00 18.8 +0.4**
baz=92,SNR=28
J19A Crowheart 91.97 45 ⇓P **P 16 00 18.1 -0.2**
baz=92,SNR=10.0
SMCO Snowmass 91.97 50 *e*P **P 16 00 20.9 +2.3**
comp=Z,37nm,1.1s
O21A Pagoda 91.98 49 ⇑P **P 16 00 18.3 -0.1**
baz=92
TLY Talaya 91.98 324 *e*P **P 16 00 17.5 -0.3**
TLY *e*S **SKSac 16 10 49.4 +1.0**
TLY *e*SS **SS 16 17 29.8 +2.9**
TLY pmax pmax
comp=Z,30nm,1.4s
TLY MLR MLR
comp=Z,1µm,19.0s
TLY Talaya 91.98 324 P **P 16 00 17.2 -0.6**
comp=Z,96nm,1.3s,SNR=5.3
L20A Wamsutter 92.00 47 ⇓P **P 16 00 18.2 -0.3**
baz=92,SNR=20
126A Clayton Basin, 92.04 57 ⇑P **P 16 00 19.2 +0.4**
baz=92
327A Balmorhea Ranc 92.06 58 ⇑P **P 16 00 18.9 +0.1**
baz=92
V24A Rampart Ranch, 92.07 53 ⇑P **P 16 00 18.9 -0.1**
baz=92
H18A Shoshone NF, C 92.08 44 ⇑P **P 16 00 18.8 0.0**
baz=92
X25A Clemmons Ranch 92.15 55 ⇑P **P 16 00 19.0 -0.2**
baz=92
K20A Yellowstone Ra 92.24 46 ⇑P **P 16 00 19.0 -0.4**
baz=92,SNR=15
528A Cox Ranch, San 92.25 59 ⇑P **P 16 00 19.7 0.0**
baz=92
P22A Eagle 92.27 49 ⇑P **P 16 00 19.1 -0.7**
baz=92,SNR=12
Z26A Caprock 92.28 56 ⇓P **P 16 00 19.5 -0.3**
baz=92,SNR=19
I19A Meeteetse 92.29 45 ⇓P **P 16 00 20.0 +0.3**
baz=92
227A Bennet, Jal 92.42 57 ⇑P **P 16 00 20.7 +0.2**
baz=93
T24B San Luis 92.43 52 ⇓P **P 16 00 20.4 -0.2**
baz=93,SNR=16
R23A Moffat 92.48 51 ⇓P **P 16 00 21.4 +0.6**
baz=93
428A Kincaid Ranch, 92.51 59 ⇑P **P 16 00 21.3 +0.4**
baz=93,SNR=9.8
RLMT Red Lodge 92.51 43 PFAKE 16 00 30.0 +9.3
RLMT LR LR
comp=Z,2µm,22.0s
W25A X Bar L Ranch, 92.53 54 ⇑P **P 16 00 21.4 +0.4**
baz=93,SNR=27
H19A Powell 92.53 44 ⇓P **P 16 00 21.1 +0.4**
baz=93
M21A Separation Pea 92.54 47 ⇑P **P 16 00 21.2 +0.2**
baz=93,SNR=16
SDCO Great Sand Dun 92.57 51 *e*P **P 16 00 21.3 0.0**
comp=Z,36nm,1.2s
SDCO LR LR
comp=Z,3µm,21.0s
127A Arkansas Junct 92.58 57 ⇑P **P 16 00 21.6 +0.4**
baz=93,SNR=6.4
Y26A Elida 92.61 55 ⇓P **P 16 00 21.4 0.0**
baz=93
V25A Rancho No Teng 92.61 53 ⇓P **P 16 00 22.3 +0.9**
baz=93,SNR=24
328A Wristen Ranch, 92.62 58 ⇑P **P 16 00 20.9 -0.4**
baz=93,SNR=14
O22A Kremmling 92.62 49 ⇓P **P 16 00 21.7 +0.2**
baz=93,SNR=16
J20A Shoshoni 92.66 45 ⇓P **P 16 00 22.0 +0.6**
baz=93,SNR=18
L21A Rawlins 92.66 47 ⇑P **P 16 00 21.7 +0.2**
baz=93,SNR=5.8
RWWY Rawlins 92.68 47 *e*pP pP 16 00 29.9 -2.0
529A Stev Forest Ra 92.71 59 ⇑P **P 16 00 22.1 +0.3**
baz=93,SNR=21
Q23A Hartsel 92.71 50 ⇑P **P 16 00 21.6 -0.3**
baz=93
S24A Houchin Ranch, 92.75 52 ⇓P **P 16 00 22.5 +0.4**
baz=93,SNR=21
X26A CR and CF Fran 92.82 55 ⇑P **P 16 00 22.9 +0.5**
baz=93
LSA Lhasa 92.83 300 *e*P **P 16 00 22.6 -0.3**
LSA pmax pmax
comp=Z,31nm,0.9s
LSA MLR MLR
comp=Z,4µm,22.0s
LSA Lhasa 92.83 300 *e*P **P 16 00 22.6 -0.3**
comp=Z,31nm,0.9s
LSA LR LR
comp=Z,4µm,22.0s
I20A Worland 92.84 45 ⇓P **P 16 00 22.9 +0.7**
baz=93,SNR=7.6
P23A Jefferson 92.87 50 ⇓P **P 16 00 22.9 +0.2**
baz=93
Z27A Tatum 92.90 56 ⇑P **P 16 00 23.0 +0.3**
baz=93,SNR=7.0
N22A Wattenberg Ran 92.91 48 ⇓P **P 16 00 23.5 +0.7**
baz=93,SNR=13
U25A Circle Dot Ran 92.95 53 ⇓P **P 16 00 23.5 +0.5**
baz=93,SNR=18
K21A Alcova 92.98 46 ⇓P **P 16 00 23.3 +0.4**
baz=93,SNR=17
F19A Roth Farm, Mol 92.99 43 ⇑P **P 16 00 23.2 +0.4**
baz=93,SNR=6.0
M22A Cedar Creek Ra 93.01 48 ⇑P **P 16 00 23.6 +0.4**
baz=93,SNR=5.5
228A UT Block 9, Go 93.02 57 ⇑P **P 16 00 23.3 0.0**
baz=93
R24A Sanders Place, 93.03 51 ⇓P **P 16 00 23.5 +0.3**
baz=93
W26A Owens Ranch, T 93.03 54 ⇓P **P 16 00 23.3 +0.1**
baz=93
O23A Lake Granby, G 93.09 49 ⇓P **P 16 00 23.2 -0.4**
baz=93
J21A Lysite 93.09 46 ⇓P **P 16 00 23.7 +0.3**
baz=93,SNR=5.5
Y27A Causey 93.12 56 ⇓P **P 16 00 24.2 +0.5**
baz=93,SNR=17
H20A Greybull 93.12 44 ⇑P **P 16 00 23.5 0.0**
baz=93
429A Davenport Ranc 93.13 59 ⇑P **P 16 00 24.9 +1.2**
baz=93,SNR=24
ISCO Idaho Springs 93.17 49 *e*P P 16 00 27.6 +3.5
ISCO pmax pmax
comp=Z,68nm,2.3s
ISCO Idaho Springs 93.17 49 *e*P P 16 00 27.6 +3.5
comp=Z,68nm,2.3s
ISCO Idaho Springs 93.17 49 ⇓P **P 16 00 24.0 -0.1**
baz=93
T25A Trinidad 93.19 52 ⇑P **P 16 00 24.7 +0.6**
baz=93,SNR=7.1
EDM Edmonton 93.21 35 *e*P **P 16 00 24.6 +1.0**
EDM Edmonton 93.21 35 *e*P **P 16 00 24.6 +1.0**
Q24A Divide 93.24 50 ⇓P **P 16 00 24.9 +0.5**
baz=93
V26A Tequesquite Ra 93.24 54 ⇑P **P 16 00 25.3 +1.1**
baz=93,SNR=8.1
G20A Bridger 93.24 44 ⇑P **P 16 00 24.7 +0.7**
baz=93
128A Castleberry Fa 93.26 57 ⇓P **P 16 00 24.6 +0.3**
baz=93
EGMT Eagleton 93.28 41 *e*P **P 16 00 24.6 +0.6**
comp=Z,15nm,0.9s
EGMT LR LR
comp=Z,2µm,20.0s
EGMT Eagleton 93.28 41 ⇑P **P 16 00 25.0 +1.0**
baz=93
N23A Red Feather La 93.30 48 ⇑P **P 16 00 25.7 +1.1**
baz=94,SNR=7.5
E19A Rath Farm, Rou 93.32 42 ⇑P **P 16 00 25.6 +1.3**
baz=94,SNR=6.9
329A Wagon Wheel Ra 93.32 58 ⇑P **P 16 00 25.9 +1.3**
baz=94,SNR=5.5
L22A Ellis Ranch, M 93.34 47 ⇓P **P 16 00 26.1 +1.4**
baz=94,SNR=5.9
S25A Robets Cordova 93.34 52 ⇓P **P 16 00 25.1 +0.4**
baz=94,SNR=19
I21A Big Trails, Te 93.36 45 ⇓P **P 16 00 25.1 +0.4**
baz=94,SNR=7.2
X27A F and S Farms, 93.41 55 ⇓P **P 16 00 25.2 +0.2**
baz=94
530A J-C Ranch, Com 93.44 60 ⇑P **P 16 00 25.3 +0.2**
baz=94,SNR=5.5
MSTX Muleshoe 93.45 56 *e*P **P 16 00 25.4 +0.1**
MSTX Muleshoe 93.45 56 ⇑P **P 16 00 25.3 +0.1**
baz=94
U26A Atchley Ranch, 93.46 53 ⇑P **P 16 00 25.9 +0.6**
baz=94,SNR=13
MOY Mondy 93.48 323 *e*P **P 16 00 25.6 +0.7**
MOY pmax pmax
comp=Z,38nm,2.2s
K22A Casper 93.49 46 ⇑P **P 16 00 26.1 +0.9**
baz=94,SNR=5.6
F20A Billings 93.49 43 ⇓P **P 16 00 26.4 +1.3**
baz=94
D19A Cripps Ranch, 93.51 42 ⇑P **P 16 00 26.0 +0.8**
baz=94,SNR=8.1

Z28A	**Tucker Farm, M**	**93.55**	**56**	⇑P		**P**		**16 00 26.3**	**+0.7**
	baz=94,SNR=6.0								
W27A	**Bowe Ranch, En**	**93.57**	**55**	⇑P		**P**		**16 00 26.5**	**+0.8**
	baz=94								
C19A	**Slack Wire Ran**	**93.61**	**41**	⇓P		**P**		**16 00 26.8**	**+1.2**
	baz=94,SNR=5.6								
R25A	**Fountain Ranch**	**93.61**	**51**	⇑P		**P**		**16 00 26.6**	**+0.7**
	baz=94								
M23A	**Laramie**	**93.65**	**48**	⇓P		**P**		**16 00 26.6**	**+0.5**
	baz=94,SNR=5.3								
O24A	**Longmont**	**93.67**	**49**	⇑P		**P**		**16 00 26.6**	**+0.5**
	baz=94								
430A	**Baggett Ranch,**	**93.72**	**59**	⇑P		**P**		**16 00 27.5**	**+1.0**
	baz=94,SNR=5.8								
E20A	**Meyer Farm, Mu**	**93.75**	**42**	⇑P		**P**		**16 00 27.2**	**+1.0**
	baz=94								
129A	**Stewart Farms,**	**93.76**	**57**	⇑P		**P**		**16 00 27.2**	**+0.5**
	baz=94,SNR=5.7								
J22A	**Midwest**	**93.78**	**46**	⇓P		**P**		**16 00 27.1**	**+0.5**
	baz=94,SNR=19								
Y28A	**McKinney Farm,**	**93.85**	**56**	⇓P		**P**		**16 00 27.2**	**+0.2**
	baz=94								
631A	**Perdido Creek**	**93.85**	**61**	⇑P		**P**		**16 00 28.0**	**+0.9**
	baz=94,SNR=17								
L23A	**Garrett**	**93.88**	**47**	⇓P		**P**		**16 00 27.7**	**+0.5**
	baz=94,SNR=17								
Q25A	**Bedland, Calha**	**93.89**	**51**	⇑P		**P**		**16 00 27.6**	**+0.4**
	baz=94								
G21A	**Lodge Grass**	**93.91**	**44**	⇓P		**P**		**16 00 27.7**	**+0.6**
	baz=94								
B19A	**Brinkman Farms**	**93.94**	**40**	⇓P		**P**		**16 00 27.7**	**+0.6**
	baz=94								
I22A	**9 Mile Ranch,**	**93.94**	**45**	⇓P		**P**		**16 00 27.2**	**-0.1**
	baz=94								
330A	**Mertzon**	**93.95**	**59**	⇑P		**P**		**16 00 28.4**	**+0.9**
	baz=94								
D20A	**Manuel Ranch,**	**93.96**	**42**	⇓P		**P**		**16 00 28.0**	**+0.8**
	baz=94,SNR=7.2								
S26A	**Kim**	**94.06**	**52**	⇑P		**P**		**16 00 29.4**	**+1.4**
	baz=94								
Z29A	**Hungry Hill Ra**	**94.08**	**57**	⇓P		**P**		**16 00 29.6**	**+1.5**
	baz=94								
531A	**Rocksprings**	**94.10**	**60**	⇓P		**P**		**16 00 29.5**	**+1.3**
	baz=94								
P25A	**Willow Gulch B**	**94.14**	**50**	⇓P		**P**		**16 00 29.8**	**+1.5**
	baz=94								
230A	**Sterling City**	**94.15**	**58**	⇓P		**P**		**16 00 29.8**	**+1.4**
	baz=94								
K23A	**Bowen Ranch, D**	**94.15**	**47**	⇑P		**P**		**16 00 30.0**	**+1.7**
	baz=94								
732A	**Laxson Ranch,**	**94.16**	**61**	⇑P		**P**		**16 00 29.8**	**+1.4**
	baz=94								
U27A	**Thompson Grove**	**94.17**	**53**	⇑P		**P**		**16 00 29.5**	**+1.0**
	baz=94								
431A	**Sonora**	**94.20**	**59**	⇑P		**P**		**16 00 29.9**	**+1.3**
	baz=94								
A19A	**Klindworth Far**	**94.23**	**40**	⇑P		**P**		**16 00 29.7**	**+1.4**
	baz=94								
C20A	**Veseth Ranch,**	**94.26**	**41**	⇓P		**P**		**16 00 29.8**	**+1.2**
	baz=94,SNR=6.5								
H22A	**Clearmont**	**94.27**	**45**	⇑P		**P**		**16 00 30.4**	**+1.7**
	baz=94								
R26A	**Arlington**	**94.29**	**51**	⇑P		**P**		**16 00 30.5**	**+1.6**
	baz=94								
Y29A	**Porterfield Fa**	**94.29**	**56**	⇓P		**P**		**16 00 29.6**	**+0.5**
	baz=94,SNR=5.4								
O25A	**Wiggins**	**94.36**	**49**	⇑P		**P**		**16 00 30.7**	**+1.5**
	baz=94								
Q26A	**Hugo**	**94.43**	**51**	⇓P		**P**		**16 00 30.8**	**+1.2**
	baz=95								
X29A	**Tulia**	**94.44**	**55**	⇓P		**P**		**16 00 31.1**	**+1.4**
	baz=95								
E21A	**Keefer Ranch,**	**94.45**	**43**	⇑P		**P**		**16 00 31.5**	**+2.1**
	baz=95								
T27A	**Campo**	**94.45**	**53**	⇓P		**P**		**16 00 31.3**	**+1.5**
	baz=95								
130A	**Snyder**	**94.48**	**57**	⇑P		**P**		**16 00 30.9**	**+1.1**
	baz=95								
B20A	**Solberg Farm,**	**94.51**	**41**	⇓P		**P**		**16 00 31.7**	**+2.1**
	baz=95								
G22A	**Birney**	**94.52**	**44**	⇓P		**P**		**16 00 31.8**	**+2.0**
	baz=95								
331A	**San Angelo**	**94.54**	**59**	⇑P		**P**		**16 00 31.6**	**+1.4**
	baz=95								
632A	**Uvalde**	**94.54**	**61**	⇑P		**P**		**16 00 31.8**	**+1.6**
	baz=95								
Z30A	**Sanderson Ranc**	**94.55**	**57**	⇑P		**P**		**16 00 31.8**	**+1.6**
	baz=95								
532A	**Rocksprings**	**94.62**	**60**	⇑P		**P**		**16 00 31.0**	**+0.4**
	baz=95,SNR=5.7								
U28A	**Mallet**	**94.62**	**54**	⇑P		**P**		**16 00 31.1**	**+0.5**
	baz=95								
PAYG	**Puerto Ayora**	**94.67**	**92**		PFAKE			16 00 40.0	+8.8
PAYG					LR	LR			
	comp=Z,2µm,22.0s								
D21A	**La Casta Ranch**	**94.68**	**42**	⇓P		**P**		**16 00 31.3**	**+0.8**
	baz=95								
W29A	**Amraillo**	**94.69**	**55**	⇓P		**P**		**16 00 31.8**	**+0.9**
	baz=95								
K24A	**Anderson Ranch**	**94.70**	**47**	⇑P		**P**		**16 00 31.9**	**+1.1**
	baz=95								
A20A	**Cobblestone Ra**	**94.72**	**40**	⇑P		**P**		**16 00 32.3**	**+1.7**
	baz=95								
F22A	**Rosebud**	**94.73**	**44**	⇓P		**P**		**16 00 32.6**	**+1.9**
	baz=95								
R27A	**Eads**	**94.77**	**52**	⇑P		**P**		**16 00 32.2**	**+1.1**
	baz=95								
JCT	**Junction City**	**94.81**	**60**	*e*P		**P**		**16 00 34.3**	**+2.9**
JCT				pmax		pmax			
	comp=Z,28nm,1.2s								
JCT				MLR		MLR			
	comp=Z,4µm,20.0s								
JCT	**Junction City**	**94.81**	**60**	*e*P		**P**		**16 00 34.3**	**+2.9**
	comp=Z,28nm,1.2s								
JCT				LR		LR			
	comp=Z,4µm,20.0s								
JCT	**Junction City**	**94.81**	**60**	⇑P		**P**		**16 00 32.6**	**+1.1**
	baz=95								
231A	**Bronte**	**94.81**	**58**	⇓P		**P**		**16 00 31.7**	**+0.3**
	baz=95,SNR=5.4								
C21A	**Desert Coulee**	**94.88**	**41**	⇓P		**P**		**16 00 32.8**	**+1.5**
	baz=95								
Y30A	**Stafford Cattl**	**94.91**	**56**	⇓P		**P**		**16 00 32.3**	**+0.4**
	baz=95,SNR=16								
432A	**Menard**	**94.93**	**59**	⇓P		**P**		**16 00 32.7**	**+0.8**
	baz=95,SNR=19								
T28A	**Walsh**	**94.93**	**53**	⇑P		**P**		**16 00 33.1**	**+1.2**
	baz=95								
131A	**Roby**	**94.97**	**57**	⇑P		**P**		**16 00 32.3**	**+0.2**
	baz=95,SNR=9.1								
J24A	**Dixon Ranch, L**	**95.00**	**46**	⇑P		**P**		**16 00 33.3**	**+1.2**
	baz=95								
LAO	**LASA Array**	**95.05**	**43**		PFAKE			16 00 40.0	+7.8
LAO					LR	LR			
	comp=Z,3µm,21.0s								
X30A	**Coker Ranch, T**	**95.10**	**56**	⇓P		**P**		**16 00 34.2**	**+1.6**
	baz=95								
G23A	**Biddle**	**95.11**	**44**	⇓P		**P**		**16 00 34.0**	**+1.5**
	baz=95								
332A	**Millersview**	**95.12**	**59**	⇓P		**P**		**16 00 33.6**	**+0.8**
	baz=95,SNR=7.5								
E22A	**Miles City**	**95.15**	**43**	⇑P		**P**		**16 00 34.0**	**+1.4**
	baz=95								
D22A	**Cohagen**	**95.23**	**42**	⇑P		**P**		**16 00 34.5**	**+1.6**
	baz=95								
S28A	**Manter**	**95.23**	**52**	⇓P		**P**		**16 00 34.8**	**+1.6**
	baz=95								
F23A	**Volborg**	**95.27**	**44**	⇓P		**P**		**16 00 35.1**	**+1.9**
	baz=95								
P27A	**Ficken Ranch,**	**95.32**	**50**	⇓P		**P**		**16 00 35.1**	**+1.4**
	baz=96								
K25A	**Mack Ranch, Ha**	**95.33**	**47**	⇑P		**P**		**16 00 35.5**	**+1.8**
	baz=96								
232A	**Coleman**	**95.34**	**58**	⇓P		**P**		**16 00 34.7**	**+0.9**
	baz=96								
Z31A	**Sharp Cattle R**	**95.35**	**57**	⇑P		**P**		**16 00 34.8**	**+0.9**
	baz=96,SNR=16								
A21A	**Bergtoll Ranch**	**95.38**	**40**	⇑P		**P**		**16 00 35.1**	**+1.5**
	baz=96								
Y31A	**Rekieta Farm,**	**95.44**	**56**	⇑P		**P**		**16 00 35.4**	**+1.2**
	baz=96								
M26A	**McRoberts Ranc**	**95.49**	**48**	⇑P		**P**		**16 00 35.4**	**+1.0**
	baz=96								
R28A	**Tribune**	**95.53**	**52**	⇓P		**P**		**16 00 34.9**	**+0.3**
	baz=96								
H24A	**Dirks Ranch, A**	**95.53**	**45**	⇓P		**P**		**16 00 34.8**	**+0.3**
	baz=96,SNR=13								
ABTX	**Abilene, Hawle**	**95.55**	**58**	*e*P		**P**		**16 00 35.7**	**+0.9**
	baz=96,SNR=6.2								
ABTX	**Abilene, Hawle**	**95.55**	**58**	⇓P		**P**		**16 00 36.1**	**+1.3**
	baz=96,SNR=6.2								
T29A	**Hugoton**	**95.57**	**53**	⇓P		**P**		**16 00 36.1**	**+1.3**
	baz=96								
KVTX	**Kingsville**	**95.58**	**63**		PFAKE			16 00 50.0	+15
KVTX					LR	LR			
	comp=Z,3µm,19.0s								
J25A	**Sunshine Ranch**	**95.62**	**46**	⇓P		**P**		**16 00 36.0**	**+1.1**
	baz=96								
C22A	**Vida**	**95.62**	**42**	⇓P		**P**		**16 00 35.9**	**+1.2**
	baz=96								
RSSD	**Black Hills**	**95.68**	**46**	*e*P		**P**		**16 00 35.4**	**0.0**
RSSD				pmax		pmax			
	comp=Z,84nm,0.9s								
RSSD	**Black Hills**	**95.68**	**46**	*e*P		**P**		**16 00 35.4**	**0.0**
	comp=Z,84nm,0.9s								
X31A	**McDonald Ranch**	**95.86**	**56**	⇑P		**P**		**16 00 36.2**	**+0.1**
	baz=96								
I25A	**Rochford**	**95.86**	**46**	⇑P		**P**		**16 00 36.8**	**+0.7**
	baz=96								
D23A	**Lindsay**	**95.87**	**43**	⇑P		**P**		**16 00 36.8**	**+0.9**
	baz=96								
Z32A	**Haskell**	**95.88**	**57**	⇓P		**P**		**16 00 36.5**	**+0.3**
	baz=96,SNR=22								
W31A	**Holland Ranch,**	**96.04**	**55**	⇓P		**P**		**16 00 37.3**	**+0.3**
	baz=96,SNR=12								
C23A	**Lambert**	**96.08**	**42**	⇓P		**P**		**16 00 38.0**	**+1.2**
	baz=96								
Y32A	**R-V Farms, Ver**	**96.11**	**56**	⇑P		**P**		**16 00 38.7**	**+1.4**
	baz=96,SNR=5.2								
OGNE	**Ogallala**	**96.13**	**49**		PFAKE			16 00 50.0	+13
OGNE					LR	LR			
	comp=Z,1µm,22.0s								
H25A	**Fruitdale**	**96.14**	**45**	⇑P		**P**		**16 00 37.4**	**+0.2**
	baz=96								
YKA	**Yellowknife Ar**	**96.46**	**26**	P		**P**		**16 00 41.0**	**+2.8**
YKA	**Yellowknife Ar**	**96.46**	**26**	P		**P**		**16 00 40.9**	**+2.8**
	comp=Z,3.6nm,0.8s,baz=246,slow=4.0,SNR=3.7								
WMOK	**Wichita Mounta**	**96.83**	**56**	*e*P		**P**		**16 00 39.9**	**-0.6**
WMOK				pmax		pmax			
	comp=Z,9.0nm,0.9s								
WMOK				MLR		MLR			
	comp=Z,3µm,20.0s								
WMOK	**Wichita Mounta**	**96.83**	**56**	*e*P		**P**		**16 00 39.9**	**-0.6**
	comp=Z,8.7nm,0.9s								
WMOK				LR		LR			
	comp=Z,3µm,20.0s								
DGMT	**Dagmar**	**96.92**	**41**		PFAKE			16 00 50.0	+9.4
DGMT					LR	LR			
	comp=Z,2µm,22.0s								
HVS	**Khovu-Aksy**	**97.57**	**321**	*i*P		**P**		**16 00 43.1**	**-0.4**
HVS				pmax		pmax			
	comp=Z,63nm,1.6s								
EFI	**East Falkland**	**97.61**	**150**		PFAKE			16 01 00.0	+16
EFI					LR	LR			
	comp=Z,2µm,21.0s								
DGAR	**Diego Garcia**	**99.35**	**259**		PFAKE			16 01 00.0	+7.7
DGAR					LR	LR			
	comp=Z,3µm,20.0s								
NATX	**Nacogdoches**	**99.40**	**60**		PFAKE			16 01 00.0	+7.9
NATX					LR	LR			
	comp=Z,5µm,20.0s								
WMQ	**Urumqi**	**99.47**	**313**		P	**Pdif**		**16 00 53.0**	**+0.8**
WMQ					pP	**pP**		**16 00 59.4**	**-3.1**
WMQ					sP	**sP**		**16 01 02.1**	**-4.1**
WMQ					PP	**PP**		**16 04 58.4**	**+2.2**
WMQ					SKS	**SKSac**		**16 11 29.1**	**+0.7**
WMQ					S	**ScS**		**16 12 20.2**	**-2.4**
WMQ					sS	S		16 12 31.0	+8.3
WMQ					SS	**SS**		**16 19 13.3**	**-0.3**
WMQ					AMB	AMB			
	comp=Z,17nm,1.0s								
WMQ					AMB	AMB			
	comp=Z,210nm,5.2s								
WMQ					LR	LR			
	comp=Z,1µm,20.4s								
WMQ					LR	LR			
	comp=Z,1µm,20.0s								
WMQ					LR	LR			
	comp=Z,4µm,29.2s								
KSU1	**Kansas State U**	**99.65**	**52**		PFAKE			16 01 00.0	+7.0
KSU1					LR	LR			
	comp=Z,3µm,22.0s								
FFC	**Flin Flon**	**100.03**	**36**		PFAKE			16 01 10.0	+16
FFC					LR	LR			
	comp=Z,1µm,20.0s								
ECSD	**EROS Data Cent**	**100.74**	**48**		PFAKE			16 01 10.0	+12
ECSD					LR	LR			
	comp=Z,3µm,20.0s								
TGUH	**Tegucigalpa,Un**	**101.62**	**79**		PFAKE			16 01 10.0	+7.7
TGUH					LR	LR			
	comp=Z,2µm,19.0s								
LCO	**Las Campanas**	**102.05**	**126**		PFAKE			16 01 20.0	+16
LCO					LR	LR			
	comp=Z,2µm,20.0s								
TEIG	**Tepich**	**102.21**	**72**		PFAKE			16 01 20.0	+15
TEIG					LR	LR			
	comp=Z,3µm,21.0s								
AGMN	**Agassiz Nation**	**102.25**	**43**		PFAKE			16 01 20.0	+16
AGMN					LR	LR			
	comp=Z,4µm,22.0s								
SCIA	**State Center**	**102.79**	**50**		PFAKE			16 01 20.0	+13
SCIA					LR	LR			
	comp=Z,3µm,20.0s								
JTS	**JuntasAbangare**	**102.84**	**83**		PFAKE			16 01 20.0	+12
JTS					LR	LR			
	comp=Z,5µm,22.0s								
VBMS	**Vicksburg**	**102.93**	**60**		PFAKE			16 01 20.0	+12
VBMS					LR	LR			
	comp=Z,4µm,20.0s								
ZALV	**Zalesovo Beam**	**103.51**	**323**		P	**Pdif**		**16 01 08.7**	**-1.1**
ZALV	**Zalesovo Beam**	**103.51**	**323**		Pdif	**Pdif**		**16 01 08.7**	**-1.1**
ZALV	**Zalesovo Beam**	**103.51**	**323**		Pdiff	**Pdif**		**16 01 08.7**	**-1.1**
	comp=Z,2.3nm,0.9s,baz=95,slow=5.2,SNR=4.7								
TRQA	**Tornquist**	**103.67**	**137**		PFAKE			16 01 20.0	+8.9
TRQA					LR	LR			
	comp=Z,4µm,22.0s								
MK31	**Makanchi Array**	**103.83**	**315**	*e*P		**Pdif**		**16 01 11.4**	**-0.1**
MK31	**Makanchi Array**	**103.83**	**315**	*e*Pdif		**Pdif**		**16 01 11.4**	**-0.1**
MKAR	**Makanchi Array**	**103.83**	**315**	P		**Pdif**		**16 01 11.4**	**0.0**
MKAR	**Makanchi Array**	**103.83**	**315**	Pdif		**Pdif**		**16 01 11.4**	**0.0**
MKAR				PKKPbc		**PKKPbc**		**16 17 02.0**	**-1.6**
MKAR	**Makanchi Array**	**103.83**	**315**	Pdiff		**Pdif**		**16 01 11.4**	**0.0**
	comp=Z,4.9nm,0.9s,baz=99,slow=6.3,SNR=10								
MKAR				PKKPbc		**PKKPbc**		**16 17 02.0**	**-1.6**
	comp=Z,0.9nm,0.9s,baz=340,slow=1.6,SNR=5.0								
OXF	**Oxford**	**104.30**	**58**		PFAKE			16 01 30.0	+16
OXF					LR	LR			
	comp=Z,3µm,20.0s								
NVS	**Novosibirsk**	**104.58**	**323**	*e*P		**Pdif**		**16 01 12.4**	**-2.1**
EYMN	**Ely**	**105.06**	**44**		PFAKE			16 05 40.0	
EYMN					LR	LR			
	comp=Z,3µm,20.0s								
JFWS	**Jewell Farm**	**105.13**	**49**		PFAKE			16 05 40.0	
JFWS					LR	LR			
	comp=Z,3µm,19.0s								
HDIL	**Hopedale**	**105.45**	**52**		PFAKE			16 05 40.0	
HDIL					LR	LR			
	comp=Z,2µm,19.0s								
LRAL	**Lakeview Retre**	**106.00**	**60**		PFAKE			16 05 50.0	
LRAL					LR	LR			
	comp=Z,3µm,20.0s								
OTAV	**Otavalo**	**106.24**	**95**		PFAKE			16 05 50.0	
OTAV					LR	LR			
	comp=Z,2µm,21.0s								
LVC	**Limon Verde**	**106.39**	**120**		PFAKE			16 05 50.0	
LVC					LR	LR			
	comp=Z,1µm,19.0s								
KURK	**Kurchatov**	**106.80**	**319**	P		**Pdif**		**16 01 22.9**	**-1.6**
KURK				MLR		MLR			
	comp=Z,663nm,19.0s								
KURK	**Kurchatov**	**106.80**	**319**	Pdif		**Pdif**		**16 01 22.9**	**-1.6**
KURK				PKKPbc		**PKKPbc**		**16 16 51.2**	**-3.4**
KURK				LR		LR			
	comp=Z,663nm,19.0s								
KURBB	**Kurchatov Arra**	**106.85**	**319**	Pdiff		**Pdif**		**16 01 22.9**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=79,slow=3.4,SNR=2.9								
KURBB				PKKPbc		**PKKPbc**		**16 16 51.2**	**-3.2**
	comp=Z,1.1nm,0.9s,baz=275,slow=3.4,SNR=4.1								
BCIP	**Isla Barro Col**	**107.42**	**86**		PFAKE			16 05 50.0	
BCIP					LR	LR			
	comp=Z,1µm,21.0s								
TKM2	**Tokmak 2**	**107.96**	**310**		PFAKE			16 05 50.0	
TKM2					LR	LR			
	comp=Z,2µm,19.0s								
AAK	**Ala-Archa**	**108.74**	**310**		PFAKE			16 05 50.0	
AAK					LR	LR			
	comp=Z,2µm,22.0s								
RER	**Riviere de l'E**	**109.04**	**240**		PFAKE			16 05 50.0	
RER					LR	LR			
	comp=Z,3µm,20.0s								
EKS2	**Erkin-Say**	**109.27**	**310**		PFAKE			16 05 50.0	
EKS2					LR	LR			
	comp=Z,2µm,22.0s								
ACSO	**Alum Creek Sta**	**110.19**	**53**		PFAKE			16 05 50.0	
ACSO					LR	LR			
	comp=Z,2µm,21.0s								
BLA	**Blacksburg**	**111.90**	**56**		PFAKE			16 06 00.0	
BLA					LR	LR			
	comp=Z,2µm,20.0s								
BRVK	**Borovoye**	**112.08**	**321**		PFAKE			16 06 00.0	
BRVK					LR	LR			
	comp=Z,3µm,19.0s								
MCWV	**Mont Chateau**	**112.55**	**54**		PFAKE			16 06 00.0	
MCWV					LR	LR			
	comp=Z,3µm,20.0s								
ERPA	**Erie**	**112.59**	**51**		PFAKE			16 06 00.0	
ERPA					LR	LR			
	comp=Z,2µm,21.0s								
CNNC	**Cliffs of the**	**113.77**	**59**		PFAKE			16 06 00.0	
CNNC					LR	LR			
	comp=Z,4µm,20.0s								
CBN	**Corbin**	**114.39**	**55**		PFAKE			16 06 00.0	+11
CBN					LR	LR			
	comp=Z,3µm,20.0s								
BINY	**Binghamton**	**115.56**	**51**		PFAKE			16 06 00.0	+8.5
BINY					LR	LR			
	comp=Z,2µm,19.0s								
SDV	**Santo Domingo**	**116.13**	**88**		PFAKE			16 06 10.0	+16
SDV					LR	LR			
	comp=Z,700nm,21.0s								
MSEY	**Mahe Island**	**116.14**	**256**		PFAKE			16 06 10.0	+17
MSEY					LR	LR			
	comp=Z,1µm,20.0s								
LONY	**Lake Ozonia**	**116.55**	**48**		PFAKE			16 06 10.0	+17
LONY					LR	LR			
	comp=Z,3µm,20.0s								
NCB	**Newcomb**	**116.83**	**49**		PFAKE			16 06 10.0	+16
NCB					LR	LR			
	comp=Z,2µm,20.0s								
ABPO	**Ambohimpanom**	**117.05**	**238**		PFAKE			16 06 10.0	+15
ABPO					LR	LR			
	comp=Z,3µm,20.0s								
SAML	**Samuel**	**117.28**	**110**		PFAKE			16 06 10.0	+14
SAML					LR	LR			
	comp=Z,1µm,22.0s								
KBS	**Kingsbay**	**117.59**	**356**		PFAKE			16 06 10.0	+16
KBS					LR	LR			
	comp=Z,1µm,22.0s								
SDDR	**Presa de Saban**	**117.64**	**77**		PFAKE			16 06 10.0	+14
SDDR					LR	LR			
	comp=Z,3µm,20.0s								
GRTK	**Grand Turk**	**118.18**	**74**		PFAKE			16 06 10.0	+13
GRTK					LR	LR			
	comp=Z,2µm,20.0s								
LBNH	**Lisbon**	**118.47**	**49**		PFAKE			16 06 10.0	+13
LBNH					LR	LR			
	comp=Z,3µm,20.0s								
SOKR	**Solikamsk**	**118.60**	**329**	*e*PKIKP		PKPdf		16 05 50.6	-6.0
SOKR				pmax		pmax			
	comp=Z,10.0nm,0.7s								
PKME	**Peaks-Kenny Pk**	**120.26**	**47**		PFAKE			16 06 10.0	+10
PKME					LR	LR			
	comp=Z,4µm,21.0s								
SFJD	**Kangerlussuaq**	**122.23**	**19**		PFAKE			16 06 20.0	+17
SFJD					LR	LR			
	comp=Z,1µm,20.0s								
SJG	**San Juan**	**122.31**	**79**		PFAKE			16 06 20.0	+15
SJG					LR	LR			
	comp=Z,1µm,22.0s								
SPB	**Sao Paulo**	**122.36**	**133**		PFAKE			16 06 20.0	+15
SPB					LR	LR			
	comp=Z,3µm,22.0s								
KEV	**Kevo**	**123.71**	**347**	*e*PKIKP		PKPdf		16 06 12.3	+6.1
KEV				pmax		pmax			
	comp=Z,30nm,1.3s								
KEV	**Kevo**	**123.71**	**347**	*e*p		PKPdf		16 06 12.3	+6.1
	comp=Z,30nm,1.3s								
KEV	**Kevo**	**123.71**	**347**		PFAKE			16 06 20.0	+14
KEV					LR	LR			
	comp=Z,2µm,20.0s								
ARCES	**ARCESS Array B**	**124.20**	**347**		PKP	**PKPdf**		**16 06 06.6**	**-0.6**
ARCES	**ARCESS Array B**	**124.20**	**347**		PKP	**PKPdf**		**16 06 06.6**	**-0.6**
	comp=Z,8.6nm,1.0s,baz=311,slow=5.9,SNR=4.2								
BBSR	**BB Station**	**124.66**	**62**		PFAKE			16 06 20.0	+11
BBSR					LR	LR			
	comp=Z,1µm,20.0s								
SUR	**Sutherland**	**124.78**	**207**		PFAKE			16 06 20.0	+10
SUR					LR	LR			
	comp=Z,2µm,22.0s								
GRGR	**Grenville**	**125.47**	**87**		PFAKE			16 06 20.0	+8.8
GRGR					LR	LR			
	comp=Z,739nm,22.0s								
KLMR	**Klimovskoe**	**125.90**	**335**	*e*PKIKP		**PKPdf**		**16 06 09.6**	**-1.1**
KLMR				pmax		pmax			
	comp=Z,27nm,1.3s								
ANWB	**Willy Bob**	**126.35**	**80**		PFAKE			16 06 30.0	+17
ANWB					LR	LR			
	comp=Z,930nm,22.0s								
JOF	**Joensuu**	**127.64**	**340**	*e*PKIKP		**PKPdf**		**16 06 16.7**	**+2.7**
JOF				pmax		pmax			
	comp=Z,10.0nm,0.8s								
JOF	**Joensuu**	**127.64**	**340**	*e*p		**PKPdf**		**16 06 16.7**	**+2.7**
	comp=Z,10nm,0.8s								
BBGH	**Gun Hill**	**127.68**	**86**		PFAKE			16 06 30.0	+15
BBGH					LR	LR			
	comp=Z,2µm,22.0s		

comp=E,10.0nm,0.9s
VORD MLR MLR
comp=Z,2µm,23.0s
VORD MLR MLR
comp=E,1µm,22.0s
GNI Garni 131.12 309 *e*PKPdf **PKPdf 16 06 22.7 +1.2**
GNI LR LR
comp=Z,838nm,20.0s
ONI Oni 131.44 312 P PKPdf 16 06 29.2 +7.3
KIV Kislovodsk 131.58 314 *i* PKIKP **PKPdf 16 06 25.0 +2.8**
KIV *i* 16 06 29.6
KIV *e* 16 08 43.0
KIV *e*PS PS 16 20 33.0 +96
KIV *i* SS SS 16 26 39.5 +25
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=E,1µm,18.0s
KMBO Kilima Mbogo 134.25 251 *e*PKPdf **PKPdf 16 06 27.9 -0.4**
KMBO LR LR
comp=E,1µm,19.0s
NB2 NORSAR Subarra134.53 349 PKP **PKPdf 16 06 29.5 +2.4**
comp=Z,7.1nm,1.2s,baz=16,slow=3.2
NOA NORSAR Array B134.53 349 PKP **PKPdf 16 06 27.2 +0.1**
NOA NORSAR Array B134.53 349 PKP **PKPdf 16 06 27.2 +0.1**
comp=E,1.2nm,0.8s,baz=29,slow=2.0,SNR=3.9
NACGM Naroch 134.92 334 *e* PKPdf 16 06 34.0 +6.0
KONO Kongsberg 136.12 349 PFAKE 16 06 40.0 +10
KONO LR LR
comp=E,1µm,19.0s
AKASG Malin Array Be 136.56 328 PKIKP **PKPdf 16 06 30.8 -0.3**
AKASG 16 09 15.7
AKASG Malin Array Be 136.56 328 PKP **PKPdf 16 06 30.8 -0.3**
AKASG PP **PP 16 09 15.7 +3.0**
AKASG Malin Array Be 136.56 328 PKP **PKPdf 16 06 30.8 -0.3**
comp=E,1.2nm,0.6s,baz=49,slow=2.3,SNR=5.0
AKASG PP **PP 16 09 15.7 +3.0**
comp=E,0.2nm,0.3s,baz=43,slow=5.8,SNR=5.9
KIEV Kiev 136.57 328 *e*PKIKP **PKPdf 16 06 31.3 +0.1**
KIEV MLR MLR
comp=E,3µm,21.0s
KIEV Kiev 136.57 328 *e*PKPdf **PKPdf 16 06 31.3 +0.1**
KIEV LR LR
comp=E,3µm,21.0s
SIM Simferopol' 136.87 319 PKIKP PKPdf 16 06 38.4 +6.5
SIM pmax pmax
comp=E,12nm,0.9s
TSUM Tsumeb 137.45 213 PFAKE 16 06 50.0 +16
TSUM LR LR
comp=E,3µm,19.0s
KIS Kishinev 138.97 324 *e*PKP **PKPdf 16 06 40.0 +4.3**
KIS Kishinev 138.97 324 *e*PP PP 16 09 25.0 -2.9
KIS Kishinev 138.97 324 *e*PS PS 16 20 08.0 +8.8
KIS *e*L L 16 55 05.0
KIS LRM MLR 17 06 10.0
comp=Z,2µm,22.0s
KIS Kishinev 138.97 324 *e*PKIKP **PKPdf 16 06 40.0 +4.3**
KIS MLR MLR
comp=Z,2µm,22.0s
KIS MLR MLR
comp=Z,2µm,21.0s
BRTR Keskin Array B 139.38 312 PKP **PKPdf 16 06 34.7 -2.2**
BRTR Keskin Array B 139.38 312 PKP **PKPdf 16 06 34.7 -2.2**
comp=Z,0.8nm,0.8s,baz=80,slow=2.9,SNR=3.8
ANTO Ankara 139.92 312 PFAKE 16 06 50.0 +12
ANTO LR LR
comp=Z,925nm,22.0s
MBAR Mbarara 140.31 247 PFAKE 16 06 50.0 +11
MBAR LR LR
comp=Z,587nm,21.0s
CFR Carcaliu 140.40 322⇑ *i*P PKPdf 16 06 47.1 +8.7
KWP Kalwaria Pacla 140.41 331 PFAKE 16 06 50.0 +12
KWP LR LR
comp=Z,2µm,21.0s
BURAR Bucovina Array 140.54 327⇑ *i*P **PKPdf 16 06 35.6 -3.1**
KOLS Kolonicke sedl 141.10 331 *e*PKIKP **PKPdf 16 06 37.8 -1.8**
KOLS *e* 16 06 44.3
KOLS Kolonicke sedl 141.10 331 *e*PKP **PKPdf 16 06 37.8 -1.8**
KOLS *e* 16 06 44.3
CSS Prodhromos 141.22 305 *e*P **PKPdf 16 06 40.0 -0.3**
CSS LR LR
comp=Z,1µm,22.0s
STHS Stebnicka Huta 141.22 332 *e*PKIKP **PKPdf 16 06 40.5 +0.7**
STHS Stebnicka Huta 141.22 332 *e*PKP **PKPdf 16 06 40.5 +0.7**
UZH Uzhgorod 141.31 330 *e*PKIKP **PKPdf 16 06 40.0 +0.1**
UZH *i* 16 06 49.6
MLR Muntele Rosu 141.47 324⇑ *i*P **PKPdf 16 06 39.5 -1.0**
ESK Eskdalemuir 141.81 358 PFAKE 16 06 50.0 +9.4
ESK LR LR
comp=Z,966nm,19.0s
KSP Ksiaz 142.13 338 *e*PKIKP **PKPdf 16 06 40.3 -1.0**
KSP *e* 16 06 48.4
KSP *e* 16 09 44.0
KSP MLR MLR
comp=Z,6µm,20.9s
KSP Ksiaz 142.13 338 *e*PKP PKPdf 16 06 48.5 +7.2
RCBR Riachuelo 142.20 124 PFAKE 16 07 00.0 +17
RCBR LR LR
comp=Z,1µm,19.0s
KECS Kecovo 142.25 332 *e*PKIKP **PKPdf 16 06 39.8 -1.8**
KECS Kecovo 142.25 332 *e*PKP **PKPdf 16 06 39.8 -1.8**
ARR Arges 142.28 325⇓ *i*P **PKPdf 16 06 41.4 -0.5**
ISP Isparta 142.36 310 PFAKE 16 06 50.0 +7.7
ISP LR LR
comp=Z,1µm,20.0s
DRGR 142.37 328⇑ *i*P **PKPdf 16 06 38.4 -3.6**
UPC Upice 142.51 338 *e*PKIKP **PKPdf 16 06 40.4 -1.6**
UPC *e* 16 06 48.8
UPC Upice 142.51 338 *e*PKP **PKPdf 16 06 40.4 -1.6**
UPC *e*pPKP **PKiKP 16 06 44.2 -0.9**
UPC *ex* x 16 06 48.8
MORC Moravsky Berou 142.51 335⇓ *i*P **PKPdf 16 06 43.6 +1.5**
DPC Dobruska-Polom 142.52 337 *e*PKIKP **PKPdf 16 06 40.0 -2.1**
DPC *e* 16 06 47.6
DPC *e* 16 28 24.1
DPC Dobruska-Polom 142.52 337 *e*PKP **PKPdf 16 06 40.0 -2.1**
DPC *e*pPKP **PKiKP 16 06 47.6 +2.4**
DPC *e*SS SS 16 28 24.1 +1.5
DPC AMS AMS 17 08 00.0
LOT Lotru 142.70 326⇑ *i*P PKPdf 16 06 48.1 +5.4
CLL Collm 142.85 341 *e*PKIKP **PKPdf 16 06 39.0 -3.6**
CLL *i* 16 06 45.2
CLL pmax pmax
comp=Z,10.0nm,1.2s
CLL MLR MLR
comp=Z,1µm,18.6s
BRG Berggiesshubel 142.93 340 *e*PKP **PKPdf 16 06 42.2 -0.5**
comp=Z,5.9nm,1.0s
BRG *i* 16 06 51.2
comp=Z,19nm,1.4s
BRG SS SS 16 29 27.0 +60
BRG
comp=N,1µm,21.4s
BRG
comp=E,1µm,19.8s
BRG
comp=Z,2µm,23.2s
BRG Berggiesshubel 142.93 340 *e*PKIKP **PKPdf 16 06 42.2 -0.5**
BRG *i* 16 06 51.2
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG MLR MLR
comp=N,1µm,21.4s
BRG MLR MLR
comp=E,1µm,19.8s
BRG MLR MLR
comp=Z,2µm,23.2s
PSZ Piszkesteto 142.93 332 PFAKE 16 06 50.0 +7.0
PSZ LR LR
comp=Z,3µm,22.0s
PSZ Piszkesteto 142.93 332⇓ *e* PKPdf 16 06 48.4 +5.4
PVCC Panska Ves 143.00 339 *e*PKIKP **PKPdf 16 06 43.0 +0.1**
PVCC *e* 16 06 51.4
PVCC MLR MLR
comp=Z,3µm,22.3s
PVCC Panska Ves 143.00 339 *e*PKP **PKPdf 16 06 43.0 +0.1**
PVCC *e*pPKP **PKiKP 16 06 46.9 +0.8**
PVCC *ex* x 16 06 51.4
PVCC AMS AMS 17 07 40.0
comp=Z,3µm,22.3s
SIRR Siria 143.26 328⇓ *i*P **PKPdf 16 06 44.6 +1.1**
VRAC Vranov 143.26 336⇑ *i*P **PKPdf 16 06 44.3 +0.9**
PRA Prague 143.44 338 PKP **PKPdf 16 06 44.0 +0.3**
PRA AMS AMS 17 08 30.0

PRU Pruhonice 143.47 338 *e*PKIKP **PKPdf 16 06 43.4 -0.3**
PRU *e* 16 06 50.4
PRU MLR MLR
comp=Z,3µm,24.4s
PRU Pruhonice 143.47 338 *e*PKP **PKPdf 16 06 43.4 -0.3**
PRU *e*pPKP **PKiKP 16 06 50.4 +3.3**
PRU *ex* x 16 23 48.3
PRU *e*SS SS 16 28 43.8 +10
PRU AMS AMS 17 07 20.0
comp=Z,3µm,24.4s
BUD Budapest 143.65 332⇓ *e* PKPdf 16 06 52.3 +8.2
TREC Trest 143.70 337 *e*PKIKP PKPab 16 06 41.3 +0.4
TREC *e* 16 06 49.7
TREC MLR MLR
comp=Z,2µm,22.4s
TREC Trest 143.70 337 *e*PKP PKPab 16 06 41.3 +0.4
TREC *e*pPKP **PKiKP 16 06 49.7 +2.1**
TREC AMS AMS 17 08 00.0
comp=Z,2µm,22.4s
BZS Buzias 143.73 327⇑ *i*P **PKPdf 16 06 43.7 -0.6**
MOX Moxa 143.86 342 *e*L L 17 09 45.9
comp=Z,1µm,21.9s
ZST Bratislava 143.94 334 *e*PKIKP PKPdf 16 06 53.1 +8.5
ZST Bratislava 143.94 334 *e*PKP PKPdf 16 06 53.1 +8.5
ALN Alexandroupoli 144.02 318 *e*P **PKPdf 16 06 44.3 -0.7**
PLD Plovdiv 144.19 320 P **PKPdf 16 06 47.1 +1.9**
PLD Plovdiv 144.19 320 PKIKP **PKPdf 16 06 47.1 +1.9**
PLD Plovdiv 144.19 320 P **PKPdf 16 06 47.1 +1.9**
PGB Panagyurishte 144.26 321 *e*P PKPbc 16 06 44.0 +0.3
RZN Rozhen 144.42 320 *e*P PKPbc 16 06 44.8 +0.4
ROTZ Rotzenmuhle 144.44 340 *e*PKPbc PKPbc 16 06 44.6 +0.6
KHC Kasperske Hory 144.53 338 *e*PKIKP **PKPab 16 06 43.8 -0.3**
KHC Kasperske Hory 144.53 338 *e*PKP PKPbc 16 06 44.4 +0.1
KHC *e*pPKP **PKiKP 16 06 49.7 +0.3**
KHC *ex* x 16 06 57.5
KHC *ex* x 16 23 52.0
KHC *e*SS SS 16 28 42.9 -2.7
KHC AMS AMS 17 08 30.0
comp=Z,3µm,24.1s
KHC Kasperske Hory 144.53 338 *e*PKPdf **PKPab 16 06 43.8 -0.3**
SOP Sopron 144.57 334⇑ **PKPdf 16 06 47.9 +2.2**
SMTH Samothraki Isl 144.57 317 P **PKPab 16 06 44.5 0.0**
SMTH Samothraki Isl 144.57 317 *e*P **PKPab 16 06 43.6 -0.9**
SMTH Samothraki Isl 144.57 317 P **PKPab 16 06 44.5 0.0**
CONA Conrad Observa 144.66 335⇓ *i*PKPdf PKPbc 16 06 45.2 +0.3
comp=Z,53nm,1.0s,SNR=13
PRK Paraskevi 144.71 315 P PKPbc 16 06 45.2 +0.1
PRK Paraskevi 144.71 315 PKIKP PKPbc 16 06 45.2 +0.1
PRK Paraskevi 144.71 315 *e*P **PKPab 16 06 44.7 -0.3**
PRK Paraskevi 144.71 315 P PKPbc 16 06 45.2 +0.1
GEC2 GERESS Array S 144.73 338 *e*PKIKP PKPbc 16 06 45.2 +0.2
GEC2 GERESS Array S 144.73 338 *e*PKPbc PKPbc 16 06 45.2 +0.2
GERES GERESS Array B 144.73 338 PKP **PKPab 16 06 44.4 -0.5**
GERES GERESS Array B 144.73 338 PKP **PKPab 16 06 44.4 -0.5**
comp=Z,16nm,0.9s,baz=46,slow=3.9,SNR=28
ARG Arkhangelos 144.76 309 P **PKPdf 16 06 49.7 +3.3**
ARG Arkhangelos 144.76 309 PKIKP **PKPdf 16 06 49.7 +3.3**
ARG Arkhangelos 144.76 309 *e*P **PKPdf 16 06 47.6 +1.2**
ARG Arkhangelos 144.76 309 P **PKPdf 16 06 49.7 +3.3**
WET Wettzell 144.76 339 *e*PKIKP PKPbc 16 06 45.5 +0.5
WET Wettzell 144.76 339 *e*PKPbc PKPbc 16 06 45.5 +0.5
VTS Vitosha 144.80 322 P **PKPab 16 06 45.2 -0.2**
VTS Vitosha 144.80 322 PKIKP **PKPab 16 06 45.2 -0.2**
VTS Vitosha 144.80 322⇑ *i*P **PKPab 16 06 45.4 0.0**
VTS Vitosha 144.80 322 *e*P **PKPab 16 06 45.2 -0.2**
VTS Vitosha 144.80 322 P **PKPab 16 06 45.2 -0.2**
GRF Grafenberg Arr 144.82 341 *e*PKIKP **PKPdf 16 06 46.0 -0.1**
GRF MLR MLR
comp=Z,2µm,21.4s
GRF Grafenberg Arr 144.82 341 *e*PKPbc **PKPdf 16 06 46.0 -0.1**
GRF *e*L L 17 14 48.1
comp=Z,2µm,21.4s
GRFO Grafenberg 144.82 341 *e*PKIKP PKPbc 16 06 45.2 0.0
GRFO Grafenberg 144.82 341 *e*PKPdf PKPbc 16 06 45.2 0.0
KAVA Kavala 144.94 319 P **PKPab 16 06 44.9 -0.9**
KAVA Kavala 144.94 319 P **PKPab 16 06 44.9 -0.9**
SMG Samos 145.05 312 P **PKPdf 16 06 49.3 +2.4**
SMG Samos 145.05 312 P **PKPdf 16 06 49.3 +2.4**
MMB Musomiste 145.09 320 *e*P **PKPdf 16 06 46.7 -0.2**
LIA Limnos Island 145.10 317 P **PKPdf 16 06 48.4 +1.5**
LIA Limnos Island 145.10 317 *e*P **PKPdf 16 06 49.4 +2.5**
LIA Limnos Island 145.10 317 P **PKPdf 16 06 48.4 +1.5**
TNS Taunus Mts 145.13 344 *e*PKIKP **PKPdf 16 06 46.6 -0.1**
TNS Taunus Mts 145.13 344 *e*PKPbc **PKPdf 16 06 46.6 -0.1**
NVR Nevrokopi 145.14 320 P **PKPdf 16 06 49.7 +2.7**
NVR Nevrokopi 145.14 320 *e*P **PKPdf 16 06 47.0 0.0**
NVR Nevrokopi 145.14 320 P **PKPdf 16 06 49.7 +2.7**
HGN Heimansgroeve 145.21 347 *e*PKPdf **PKPdf 16 06 50.3 +3.6**
comp=Z,341nm,2.3s
CHOS Chios island 145.28 314 P **PKPdf 16 06 47.5 +0.1**
CHOS Chios island 145.28 314 *e*P **PKPdf 16 06 47.5 +0.1**
CHOS Chios island 145.28 314 P **PKPdf 16 06 47.5 +0.1**
NIS2 Nisyros Isl. 145.30 310 P **PKPdf 16 06 47.6 +0.2**
KKB Krupnik 145.31 321 *e*P **PKPbc 16 06 47.0 0.0**
NIS3 Nisyros Isl. 145.32 310 P **PKPdf 16 06 51.0 +3.6**
ARSA Arzberg 145.34 335⇑ *i*PKPdf **PKPab 16 06 47.0 -0.1**
comp=Z,63nm,1.9s,SNR=11
MEM Membach 145.34 347 PKP **PKPdf 16 06 47.0 0.0**
MOA Molln 145.35 337⇓ *i*PKPdf **PKPab 16 06 47.3 +0.2**
comp=Z,81nm,1.0s,SNR=18
BEHE Becsehely 145.42 333⇓ *e* **PKPab 16 06 51.8 +4.4**
SRS Serrai 145.44 320 P **PKPbc 16 06 46.8 -0.7**
SRS Serrai 145.44 320 PKIKP **PKPbc 16 06 46.8 -0.7**
SRS Serrai 145.44 320 P **PKPbc 16 06 46.8 -0.7**
DIVS Divibare 145.61 327 P **PKPbc 16 06 48.0 0.0**
OUR Ouranopolis 145.64 318 P **PKPdf 16 06 47.5 -0.3**
OUR Ouranopolis 145.64 318 PKIKP **PKPdf 16 06 47.5 -0.3**
OUR Ouranopolis 145.64 318 P **PKPdf 16 06 47.5 -0.3**
BCLA Clavier 145.66 348 PKP **PKPab 16 06 48.3 +0.1**
KARP Karpathos 145.75 309 P **PKPdf 16 06 48.1 -0.1**
KARP Karpathos 145.75 309 *e*P **PKPdf 16 06 48.2 0.0**
KARP Karpathos 145.75 309 P **PKPdf 16 06 48.1 -0.1**
SOH Sokhos 145.76 320 *e*P **PKPab 16 06 50.5 +1.6**
SNF Seneffe 145.78 349 PKP **PKPab 16 06 48.1 0.0**
KNT Kendrikon 145.84 320 P **PKPab 16 06 50.7 +1.5**
KNT Kendrikon 145.84 320 PKP2 **PKPab 16 06 50.7 +1.5**
KNT Kendrikon 145.84 320 P **PKPab 16 06 50.7 +1.5**
VAY Valandovo 145.94 321 *e*PKP **PKPdf 16 06 46.3 -2.0**
PLG Polygyros 145.96 319 P **PKPab 16 06 50.2 +0.5**
PLG Polygyros 145.96 319 PKP2 **PKPab 16 06 50.2 +0.5**
PLG Polygyros 145.96 319 *e*P **PKPab 16 06 50.0 +0.3**
PLG Polygyros 145.96 319 P **PKPab 16 06 50.2 +0.5**
RJOB Jochberg 145.99 338 *e*PKPbc **PKPab 16 06 49.5 0.0**
PERS Pernice 146.00 334 *i* PKPdf **PKPbc 16 06 49.2 +0.1**
SOKA Soboth 146.00 335⇑ *i*PKPab **PKPbc 16 06 48.9 -0.2**
comp=Z,85nm,1.0s,SNR=24
PAIG Palilouri 146.06 318 P **PKPab 16 06 52.5 +2.5**
PAIG Palilouri 146.06 318 PKP2 **PKPab 16 06 52.5 +2.5**
PAIG Palilouri 146.06 318 *e*P **PKPab 16 06 50.3 +0.3**
PAIG Palilouri 146.06 318 P **PKPab 16 06 52.5 +2.5**
MENF Mencas 146.07 351 PKP **PKPdf 16 06 48.4 +0.2**
DOU Dourbes 146.11 348 PKP **PKPbc 16 06 49.2 0.0**
FUR Furstenfeldbru 146.14 340 *e*PKP2 **PKPab 16 06 50.2 +0.1**
FUR Furstenfeldbru 146.14 340 *e*PKPbc **PKPab 16 06 50.2 +0.1**
WLF Walferdange 146.20 346 PKP **PKPab 16 06 50.3 0.0**
WLF Walferdange 146.20 346 *e*PKP2 **PKPbc 16 06 49.0 -0.5**
WLF MLR MLR
comp=Z,2µm,22.0s
WLF Walferdange 146.20 346 *e*PKPdf **PKPbc 16 06 49.0 -0.5**
WLF *e*PKPbc **PKPab 16 06 50.2 0.0**
WLF LR LR
comp=Z,2µm,22.0s
SKO Skopje 146.21 323 P **PKPab 16 06 54.2 +3.7**
SKO Skopje 146.21 323 PKP2 **PKPab 16 06 54.2 +3.7**
SKO Skopje 146.21 323 P **PKPab 16 06 54.2 +3.7**
SKO Skopje 146.21 323 *e*PKP **PKPdf 16 06 49.1 +0.3**
STU Stuttgart 146.25 343 *e*PKP2 **PKPab 16 06 50.2 -0.2**
STU Stuttgart 146.25 343 *e*PKPbc **PKPab 16 06 50.4 0.0**
STU Stuttgart 146.25 343 *e*PKPdf **PKPab 16 06 50.2 -0.2**
GRG Griva 146.26 321 *e*P **PKPab 16 06 52.8 +2.0**
AOS Alonnisos 146.34 317 *e*P **PKPab 16 06 55.9 +4.8**
LANF Langenberg 146.44 344 PKP **PKPab 16 06 51.0 -0.1**
MYKA Terra Mystica 146.59 336⇑ *i*PKPbc **PKPdf 16 06 49.3 0.0**
comp=Z,29nm,0.8s,SNR=10
ZKR Zakros 146.63 309 P **PKPab 16 06 54.5 +2.1**
ZKR Zakros 146.63 309 P **PKPab 16 06 54.5 +2.1**
XOR Xorichti 146.68 318 P **PKPbc 16 06 50.7 -0.6**
XOR Xorichti 146.68 318 P **PKPbc 16 06 50.7 -0.6**
LIT Litokhoron 146.71 319 P **PKPbc 16 06 50.9 -0.5**
LIT Litokhoron 146.71 319 PKP2 **PKPbc 16 06 50.9 -0.5**
LIT Litokhoron 146.71 319 *e*P **PKPbc 16 06 50.7 -0.7**

LIT Litokhoron 146.71 319 P **PKPbc 16 06 50.9 -0.5**
WATA Walderalm 146.76 339⇑ *i*PKPbc **PKPdf 16 06 50.5 +0.8**
comp=Z,34nm,0.9s,SNR=10.0
VISS Visnje 146.78 334 *i* PKPbc **PKPab 16 06 54.8 +2.2**
BOJS Bojanci 146.84 333 *i* PKPdf **PKPab 16 06 52.3 -0.5**
BOJS *i* PKPbc **PKiKP 16 06 57.5 +3.3**
BIA Bitola 146.88 322 *e*PKP **PKPbc 16 06 51.5 -0.3**
BFO Black Forest 146.89 343 *e*PKIKP **PKPdf 16 06 49.3 -0.4**
BFO *e* 16 06 51.9
BFO MLR MLR
comp=Z,1µm,22.0s
BFO Black Forest 146.89 343 *e*PKP2 **PKPbc 16 06 52.0 +0.4**
BFO Black Forest 146.89 343 *e*PKPbc **PKPbc 16 06 52.0 +0.4**
BFO Black Forest 146.89 343 *e*PKPdf **PKPdf 16 06 49.3 -0.4**
BFO *e*PKPbc **PKPbc 16 06 51.9 +0.4**
BFO LR LR
comp=Z,1µm,22.0s
RETA Reutte 146.90 340⇑ *i*PKPab **PKPbc 16 06 51.7 0.0**
comp=Z,54nm,1.0s,SNR=17
MOTA Moosalm 146.91 339⇑ *i*PKPab **PKPbc 16 06 51.6 -0.3**
comp=Z,86nm,0.9s,SNR=20
ABTA Abfaltersbach 146.93 337⇓ *i*PKPbc **PKPbc 16 06 50.9 -0.9**
comp=Z,58nm,0.9s,SNR=20
PHP Peshkopia 146.97 323 P **PKPab 16 06 57.0 +3.5**
PHP Peshkopia 146.97 323 PKP2 **PKPab 16 06 57.0 +3.5**
PHP Peshkopia 146.97 323 P **PKPab 16 06 57.0 +3.5**
VOY Vojsko 146.99 335 *e*PKPdf **PKPbc 16 06 51.7 -0.3**
VOY *e* 16 06 54.2
VOY *e* 16 06 57.3
VOY *e* 16 07 08.3
VOY *e* 16 07 25.8
FNA Florina 146.99 321 P **PKPbc 16 06 52.7 +0.5**
FNA Florina 146.99 321 PKP2 **PKPbc 16 06 52.7 +0.5**
FNA Florina 146.99 321 P **PKPbc 16 06 52.7 +0.5**
NPS Neapolis 147.01 309 P **PKPab 16 06 53.2 -0.7**
NPS Neapolis 147.01 309 PKP2 **PKPab 16 06 53.2 -0.7**
NPS Neapolis 147.01 309 *e*P **PKPab 16 06 52.7 +0.3**
NPS Neapolis 147.01 309 P **PKPab 16 06 53.2 -0.7**
JAVS Javornik 147.03 335 *i* PKPdf **PKPbc 16 06 52.8 +0.6**
SHEL Horse Pasture 147.15 179 PFAKE 16 07 00.0 +5.2
SHEL LR LR
comp=Z,1µm,19.0s
LAST Lasithi 147.16 309 P **PKPab 16 06 55.1 +0.6**
LAST Lasithi 147.16 309 *e*P **PKPbc 16 06 52.9 0.0**
LAST Lasithi 147.16 309 P **PKPab 16 06 55.1 +0.6**
ECH Echery 147.31 344 *e*PKP2 **PKPbc 16 06 52.7 -0.1**
ECH MLR MLR
comp=Z,2µm,22.0s
ECH Echery 147.31 344 PKP **PKPbc 16 06 52.7 -0.1**
ECH Echery 147.31 344 *e*PKPbc **PKPbc 16 06 52.7 -0.1**
ECH LR LR
comp=Z,2µm,22.0s
FETA Feichten 147.32 339⇓ *i*pPKPdf **PKPbc 16 06 53.3 +0.3**
comp=Z,50nm,0.9s,SNR=16
THL Klokotos Trika 147.32 319 *e*P **PKPab 16 06 56.0 +1.1**
AXAR Agios Charalam 147.36 317 P **PKPab 16 06 56.7 +1.6**
AXAR Agios Charalam 147.36 317 P **PKPab 16 06 56.7 +1.6**
DAVA Damuels 147.37 341⇑ *i*pPKPdf **PKPbc 16 06 53.3 +0.1**
comp=Z,76nm,0.9s,SNR=16
FELD Feldberg im Sc 147.39 343 PKP **PKPbc 16 06 53.1 -0.1**
NEST Nestorio 147.41 321 P **PKPab 16 06 55.6 +0.2**
AGG Agios Georgios 147.43 318 *e*P **PKPab 16 06 56.8 +1.4**
KBN Korca 147.44 321 P **PKPbc 16 06 54.1 +0.6**
KBN Korca 147.44 321 PKP2 **PKPbc 16 06 54.1 +0.6**
KBN Korca 147.44 321 P **PKPbc 16 06 54.1 +0.6**
TIR Tirane 147.52 323 PFAKE 16 07 00.0 +4.4
TIR LR LR
comp=Z,2µm,20.0s
IDI Anoyia 147.54 310 P **PKPab 16 06 56.0 0.0**
IDI Anoyia 147.54 310 *e*P **PKPab 16 06 57.0 +1.0**
IDI Anoyia 147.54 310 *e*PKPdf **PKPdf 16 06 51.5 +0.2**
IDI *e*PKPbc **PKPbc 16 06 54.4 +0.5**
LTK Loutraki 147.56 316 *e*P **PKPdf 16 06 52.4 +1.2**
MAKR Makrakomi, Fth 147.56 318 P **PKPab 16 06 56.7 +0.8**
MAKR Makrakomi, Fth 147.56 318 P **PKPab 16 06 56.7 +0.8**
THEF They Montfort 147.59 346 PKP **PKPbc 16 06 54.0 +0.5**
DID Didima 147.65 315 *e*P **PKPdf 16 06 52.2 +0.9**
MOF Molkenrain 147.65 344 PKP **PKPbc 16 06 54.2 +0.4**
DIDY Didyma 147.68 315 P **PKPbc 16 06 53.0 -1.3**
ACOR Acrocorinthos 147.69 316 P **PKPbc 16 06 53.2 -1.0**
SIVA Sivas 147.71 309 P **PKPbc 16 06 54.6 +0.3**
SIVA Sivas 147.71 309 *e*P **PKPbc 16 06 54.5 +0.3**
SIVA Sivas 147.71 309 P **PKPbc 16 06 54.6 +0.3**
KALE Kalithea 147.91 317 P **PKPab 16 06 56.2 -1.2**
KALE Kalithea 147.91 317 *e*P **PKPbc 16 06 54.1 -0.7**
KALE Kalithea 147.91 317 P **PKPab 16 06 56.2 -1.2**
TRIZ Trizonia 147.96 317 P **PKPbc 16 06 54.0 -0.8**
TRIZ Trizonia 147.96 317 *e*P **PKPbc 16 06 54.6 -0.2**
VAM Vamos 147.99 310 P **PKPbc 16 06 55.2 +0.2**
VAM Vamos 147.99 310 PKP2 **PKPbc 16 06 55.2 +0.2**
VAM Vamos 147.99 310 *e*P **PKPbc 16 06 55.1 +0.1**
VAM Vamos 147.99 310 P **PKPbc 16 06 55.2 +0.2**
JAN Janina 147.99 320 *e*P **PKPab 16 06 58.0 +0.4**
GUR Goura 148.02 316 *e*P **PKPab 16 06 57.6 -0.3**
EFP Efpalio 148.04 317 *e*P **PKPab 16 07 01.2 +3.4**
KLV Kalavryta, Ach 148.09 316 P **PKPbc 16 06 54.8 -0.5**
KLV Kalavryta, Ach 148.09 316 *e*P **PKPdf 16 06 53.5 +1.4**
KLV Kalavryta, Ach 148.09 316 P **PKPbc 16 06 54.8 -0.5**
LAKA Lakka 148.10 317 P **PKPab 16 06 58.0 -0.1**
LAKA Lakka 148.10 317 *e*P **PKPab 16 06 57.8 -0.3**
LAKA Lakka 148.10 317 P **PKPab 16 06 58.0 -0.1**
PSA1 Psathopyrgos 148.11 317 *e*P **PKPab 16 06 58.0 -0.1**
LOMF Lomont 148.19 344 PKP **PKPbc 16 06 54.0 -1.3**
KARN Karanos 148.20 311 P **PKPab 16 06 57.5 -1.1**
KARN Karanos 148.20 311 *e*P **PKPab 16 06 58.5 -0.1**
KARN Karanos 148.20 311 P **PKPab 16 06 57.5 -1.1**
VLI Veliai 148.26 314 P **PKPab 16 06 58.2 -0.5**
VLI Veliai 148.26 314 *e*P **PKPab 16 06 57.3 -1.4**
VLI Veliai 148.26 314 P **PKPab 16 06 58.2 -0.5**
TUE Stuetta 148.26 340 *e*PKPbc **PKPbc 16 06 56.0 +0.3**
TUE LR LR
comp=Z,3µm,22.0s
VLX Vlachokerasia 148.30 315 *e*P **PKPab 16 06 58.7 -0.3**
GVD Gavdhos 148.32 310 P **PKPab 16 06 58.7 -0.3**
GVD Gavdhos 148.32 310 *e*P **PKPab 16 06 58.8 -0.3**
GVD Gavdhos 148.32 310 P **PKPab 16 06 58.7 -0.3**
IGT Igoumenitsa 148.39 320 P **PKPab 16 07 00.2 +1.0**
IGT Igoumenitsa 148.39 320 PKP2 **PKPab 16 07 00.2 +1.0**
IGT Igoumenitsa 148.39 320 P **PKPab 16 07 00.2 +1.0**
ANKY Antikythira Is 148.42 312 P **PKPab 16 06 59.4 0.0**
ANKY Antikythira Is 148.42 312 *e*P **PKPdf 16 06 54.3 +1.7**
ANKY Antikythira Is 148.42 312 P **PKPab 16 06 59.4 0.0**
RLS Riolos of Patr 148.53 317 P **PKPab 16 07 01.1 +1.3**
RLS Riolos of Patr 148.53 317 *e*P **PKPab 16 07 00.7 +0.9**
RLS Riolos of Patr 148.53 317 P **PKPab 16 07 01.1 +1.3**
AMT Artemida-Makis 148.66 316 *e*P **PKPab 16 07 02.1 +1.7**
ITM Ithomi 148.71 315 P **PKPbc 16 06 56.6 -0.3**
ITM Ithomi 148.71 315 *e*P **PKPab 16 06 59.1 -1.5**
ITM Ithomi 148.71 315 P **PKPbc 16 06 56.6 -0.3**
BST Brest 148.86 358 PKP **PKPdf 16 06 50.3 -2.6**
PYL PYLOS 148.98 315 *e*P **PKPbc 16 06 56.9 -0.6**
VLS Valsamata 149.03 318 *e*P **PKPbc 16 06 57.4 -0.2**
OG01 Vacheresse 149.17 344 PKP **PKPbc 16 06 58.3 +0.5**
RSL Roselend 149.78 343 PKP **PKPbc 16 06 59.6 +0.2**
VLC Villacollemand 149.91 337 PFAKE 16 07 10.0 +4.8
VLC LR LR
comp=Z,2µm,22.0s
PLDF La Plantade 150.25 347 PKP **PKPbc 16 07 00.1 -0.4**
LCHF La Chataignera 150.26 354 PKP **PKPbc 16 07 01.0 +0.7**
AGO Saint Agoulin 150.27 348 PKP **PKPbc 16 06 59.8 -0.6**
BNI Bardonecchia 150.35 343 *e*PKIKP **PKPdf 16 06 56.4 +0.8**
BNI *e* 16 07 01.2
BNI MLR MLR
comp=Z,2µm,20.0s
BNI Bardonecchia 150.35 343 *e*PKPdf **PKPdf 16 06 56.4 +0.8**
BNI *e*PKPbc **PKPbc 16 07 01.2 +0.4**
BNI LR LR
comp=Z,2µm,20.0s
PYM Petit Puy Mans 150.58 348 PKP **PKPbc 16 07 00.1 -1.2**
VERF Verneugheol 150.68 349 PKP **PKPbc 16 07 02.0 +0.5**
SSB Saint Sauveur 150.70 346 *e*PKIKP **PKPbc 16 07 01.9 +0.4**
SSB MLR MLR
comp=Z,990nm,20.0s
SSB Saint Sauveur 150.70 346 PKP **PKPbc 16 07 01.9 +0.4**
SSB Saint Sauveur 150.70 346 *e*PKPbc **PKPbc 16 07 01.9 +0.4**
SSB LR LR
comp=Z,990nm,20.0s
CUC Castrocucco 150.70 325 *e*PKPdf **PKPdf 16 06 56.2 0.0**
CUC *e*PKPbc **PKiKP 16 07 02.9 +0.5**
CUC LR LR
comp=Z,1µm,22.0s

SURF	**Saint Ours**	**150.83**	**342**	PKP	**PKPbc**	**16 07 00.1**	**-1.9**
FRNF	**Fournols**	**151.02**	**348**	PKP	**PKPbc**	**16 07 02.8**	**+0.5**
SAOF	**Saorge**	**151.05**	**341**	PKP	**PKPbc**	**16 07 01.2**	**-1.2**
AUTN	**L'Aution**	**151.08**	**341**	PKP	**PKPbc**	**16 07 04.4**	**+1.7**
TOUF	**Mont Tournerai**	**151.12**	**341**	PKP	**PKPbc**	**16 07 02.5**	**-0.2**
OG26	**St.-Nazaire-De**	**151.16**	**344**	PKP	**PKPbc**	**16 07 01.0**	**-1.7**
LUCF	**Luceram**	**151.20**	**341**	PKP	**PKPbc**	**16 07 00.8**	**-2.0**
MVIF	**Mont Vial**	**151.25**	**341**	PKP	**PKPbc**	**16 07 01.4**	**-1.6**
CEL	**Celeste**	**151.85**	**323**	PFAKE		16 07 10.0	-3.5
CEL				LR	LR		
	comp=Z,1μm,20.0s						
ASCN	**Ascension**	**153.59**	**160**	PFAKE		16 07 10.0	+1.1
ASCN				LR	LR		
	comp=Z,556nm,21.0s						
VSL	**Villasalto**	**154.25**	**333**	PFAKE		16 07 10.0	+0.4
VSL				LR	LR		
	comp=Z,2μm,20.0s						
PGAV	**Gavieira, Arco**	**155.09**	**5**	*e*SS	SS	16 30 48.8	+5.9
PGAV	**Gavieira, Arco**	**155.09**	**5**	*e*LQ	LQ	16 51 52.9	
PGAV	**Gavieira, Arco**	**155.09**	**5**	*e*LR	LR	17 02 24.0	
	comp=Z,1μm,20.0s						
MVO	**Moncorvo**	**155.97**	**3**	*e*SS	SS	16 30 56.4	+4.1
MVO	**Moncorvo**	**155.97**	**3**	*e*LQ	LQ	16 52 19.0	
MVO				*e*LR	LR	17 01 41.4	
	comp=Z,1μm,20.0s						
PVIS	**Viseu**	**156.36**	**5**	*e*PKPab	PKPab	16 07 38.3	+5.9
MTE	**Manteigas**	**156.70**	**4**	*e*SS	SS	16 31 04.8	+4.6
MTE	**Manteigas**	**156.70**	**4**	*e*LQ	LQ	16 51 21.1	
MTE	**Manteigas**	**156.70**	**4**	*e*LR	LR	17 02 19.0	
	comp=Z,1μm,20.0s						
MTE	**Manteigas**	**156.70**	**4**	PFAKE		16 07 20.0	-14
MTE				LR	LR		
	comp=Z,1μm,20.0s						
KEST	**Kesra**	**157.28**	**328**	PKP	**PKPdf**	**16 07 05.3**	**-0.3**
KEST				PKPab	**PKPab**	**16 07 36.2**	**-0.5**
KEST	**Kesra**	**157.28**	**328**	PKP	**PKPdf**	**16 07 05.3**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=338,slow=5.4,SNR=2.0						
KEST				PKPab	**PKPab**	**16 07 36.2**	**-0.5**
	comp=Z,2.3nm,0.8s,baz=62,slow=17,SNR=2.6						
ESDC	**Sonseca Array**	**157.47**	**357**	PKPab	**PKPab**	**16 07 35.5**	**-1.7**
ESDC				PP	**PP**	**16 11 18.4**	**+3.2**
ESDC	**Sonseca Array**	**157.47**	**357**	PKPab	**PKPab**	**16 07 35.5**	**-1.7**
	comp=Z,3.0nm,0.8s,baz=1.9,slow=3.3,SNR=5.9						
ESDC				PP	**PP**	**16 11 18.4**	**+3.2**
	comp=Z,0.2nm,0.3s,baz=21,slow=6.3,SNR=4.2						
PAB	**San Pablo**	**157.61**	**358**	PFAKE		16 07 20.0	+14
PAB				LR	LR		
	comp=Z,3μm,21.0s						
PMRV	**Marv??o**	**157.68**	**4**	*e*PKPab	**PKPab**	**16 07 40.1**	**+2.0**
PMRV	**Marv??o**	**157.68**	**4**	*e*SS	SS	16 31 16.0	+5.5
PMRV	**Marv??o**	**157.68**	**4**	*e*LQ	LQ	16 53 00.7	
PMRV				*e*LR	LR	17 02 45.2	
	comp=Z,1μm,20.0s						
LIS	**Lisbon**	**158.21**	**8**	*e*P	**PKPdf**	**16 07 06.9**	**+0.3**
LIS	**Lisbon**	**158.21**	**8**	*e*P	**PKPdf**	**16 07 06.9**	**+0.3**
PESTR	**Estremoz**	**158.22**	**5**	*e*PKPab	PKPab	16 07 46.1	+5.6
PBAR	**Barrancos**	**158.95**	**4**	*e*PKPab	**PKPab**	**16 07 43.0**	**-0.6**
PVAQ	**Vaqueiros**	**159.66**	**5**	*e*SS	SS	16 31 45.1	+14
PVAQ	**Vaqueiros**	**159.66**	**5**	*e*LQ	LQ	16 52 16.2	
PVAQ	**Vaqueiros**	**159.66**	**5**	*e*LR	LR	17 02 53.8	
	comp=Z,2μm,20.0s						
PMOZ	**Porto Moniz, M**	**161.05**	**32**	*e*LR	LR	17 05 54.2	
	comp=Z,1μm,20.0s						
TAM	**Tamanrasset**	**168.29**	**301**	PFAKE		16 07 30.0	+13
TAM				LR	LR		
	comp=Z,2μm,20.0s						
DBIC	**Dimbokro**	**169.63**	**183**	PKP	**PKPdf**	**16 07 19.5**	**+1.8**
DBIC	**Dimbokro**	**169.63**	**183**	PKP	**PKPdf**	**16 07 19.5**	**+1.8**
	comp=Z,4.2nm,1.0s,baz=90,slow=19,SNR=3.1						
TOAO	**Torodi Ar. Sit**	**172.12**	**241**	*e*PKPdf	**PKPdf**	**16 07 19.4**	**+0.4**
TORD	**Torodi Ar. Bea**	**172.12**	**241**	PKP	**PKPdf**	**16 07 17.1**	**-1.9**
TORD				PKPab	**PKPab**	**16 08 42.2**	**-0.2**
TORD	**Torodi Ar. Bea**	**172.12**	**241**	PKP	**PKPdf**	**16 07 17.1**	**-1.9**
	comp=Z,2.9nm,1.0s,baz=335,slow=1.9,SNR=9.4						
TORD				PKPab	**PKPab**	**16 08 42.2**	**-0.2**
	comp=Z,3.5nm,1.1s,baz=108,slow=2.2,SNR=4.4						

IDC 02 15:49:38.4±0.9, 16.62S×172.28W, *h*0km, mb4.2/5, mb1 4.5/5, mb1mx4.1/21, mbtmp4.2/5, MS5.4/1, Ms1 5.3/1, ms1mx4.1/36, Error ellipse: s-maj=38.0km s-min=27.1km az=140.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.74**	**10**	Sn	Sn	15 50 49.0	-8.8
	9.7nm,0.3s,baz=156,slow=19,SNR=2.2						
WRA	**Warramunga Arr**	**50.62**	**258**	P	P	15 58 39.0	-0.7
	1.9nm,1.1s,baz=96,slow=7.1,SNR=5.4						
ASAR	**Alice Springs**	**50.77**	**253**	P	P	15 58 40.2	-0.6
	4.2nm,0.8s,baz=87,slow=8.3,SNR=7.0						
VNDA	**Vanda**	**62.28**	**186**	P	P	16 00 02.7	+0.9
	3.7nm,0.8s,baz=22,slow=8.5,SNR=7.1						
NVAR	**Mina Array Bea**	**74.52**	**41**	P	P	16 01 19.4	0.0
	2.1nm,0.8s,baz=210,slow=7.0,SNR=2.6						
ILAR	**Eielson Array**	**83.44**	**11**	P	P	16 02 07.0	-0.4
	1.0nm,0.8s,baz=225,slow=4.4,SNR=2.9						
ULM	**Lac du Bonnet**	**94.20**	**39**	LR	LR	16 40 40.7	
	comp=Z,2μm,20.1s,baz=150,slow=32						
GERES	**GERESS Array B**	**147.50**	**353**	PKPbc	PKPbc	16 09 25.0	+0.4
	1.1nm,0.8s,baz=31,slow=4.6,SNR=2.8						
BRTR	**Keskin Array B**	**147.78**	**321**	PKPbc	PKPbc	16 09 26.2	+0.4
	1.3nm,0.8s,baz=66,slow=3.6,SNR=3.5						
TORD	**Torodi Ar. Bea**	**173.23**	**120**	PKPab	PKPab	16 11 16.6	-1.8
	1.0nm,0.9s,baz=247,slow=5.9,SNR=3.4						

*BJI **02** 15:53:49.4, 1.54S×122.02E, h50km, mB5.3/34, mb5.2/49, Ms5.1/38, MS7 4.8/36*

*IDC **02** 15:53:50.2±0.5, 0.69S×121.80E, h0km, mb4.7/23, mb1 4.7/25, mb1mx4.7/31, mbtmp4.7/25, ML4.1/2, MS4.2/1, Ms1 4.2/1, ms1mx3.8/34, Error ellipse: s-maj=18.6km s-min=11.2km az=75.0*

*MOS **02** 15:53:53.7±0.9, 0.63S×121.82E, h33km, mb5.5/30, MS5.4/7, Error ellipse: s-maj=13.7km s-min=6.0km az=116.5*

*BKK **02** 15:53:55.2±0.2, 1.3S×122.2E±.3, h10km, M5.2/21, mB5.5/13, mb5.3/21, MLv5.5/6, Mw(mB)5.0/13*

*DJA **02** 15:53:55.1±0.2, 1.5S×122.2E±.3, h10km, M5.5/22, mb5.7/11, mB5.8/9, MLv5.5/22, Mw(mB)5.4/9*

*ISCJB **02** 15:53:55.5±0.3, 0.77S±0.02×121.76E±0.03, h52km±3km, mb5.1/82, MS4.9/13, Error ellipse: s-maj=4.3km s-min=3.6km az=170.9*

*NEIC **02** 15:53:57.2±0.6, 0.82S×121.73E, h54km±6km, mb5.2/22, Error ellipse: s-maj=6.3km s-min=4.5km az=65.0*

*AUST **02** 15:53:58.4±0.6, 0.70S×122.20E, h70km, Error ellipse: s-maj=14.9km s-min=12.6km az=19.0*

ISC 02 15:53:57.4±0.3, 0.82S±0.03×121.81E±0.04, h52km±2km, n300, σ1s51/344, mb5.1/82, MS4.8/13, 20C-17D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APSI	**Ampana**	**0.19**	**240**	P	Pn	15 53 56.5	-9.3
LUWI	**Luwuk**	**0.99**	**103**	P	**Pn**	**15 54 13.7**	**-1.2**
LUWI				S	**Sn**	**15 54 29.4**	**+1.5**
MRSI	**Marisa**	**1.29**	**6**	P	Pn	15 54 13.2	-5.9
TOLI	**Toli-Toli**	**2.18**	**332**	P	Pn	15 54 27.6	-3.6
KMSI	**Cibinong**	**2.57**	**58**	P	**Pn**	**15 54 37.7**	**+1.1**
KKSI	**Kolaka, Sulawe**	**3.34**	**183**	P	**Pn**	**15 54 45.9**	**-1.2**
SPSI	**Sidrap Palu**	**3.73**	**213**	P	**Pn**	**15 54 51.5**	**-1.0**
SPSI				S	**Sn**	**15 55 38.1**	**+2.8**
MJSI	**Majene**	**3.92**	**226**	P	**Pn**	**15 54 55.6**	**+0.5**
BNSI	**Bone**	**3.95**	**206**	P	Pn	**15 54 54.7**	**-0.7**
SGKI	**Sangatta, Kali**	**4.22**	**274**	P	Pn	15 55 04.6	+5.5
KAPI	**Kappang**	**4.65**	**206**	P	**Pn**	**15 55 03.1**	**-2.0**
	SNR=15						
KAPI	**Kappang**	**4.65**	**206**	Pn	**Pn**	**15 55 03.3**	**-1.8**
	4μm,0.9s,SNR=28						
KAPI	**Kappang**	**4.65**	**206**	P	**Pn**	**15 55 02.7**	**-2.3**
KAPI	**Kappang**	**4.65**	**206**	Pn	**Pn**	**15 55 02.8**	**-2.3**
KAPI	**Kappang**	**4.65**	**206**	Pn	**Pn**	**15 55 02.8**	**-2.3**
	38nm,0.3s,baz=24,slow=8.4,SNR=99						
BBSI	**Bau Bau**	**4.70**	**171**	P	**Pn**	**15 55 05.8**	**0.0**
BKSI	**Bulukumba**	**4.78**	**201**	P	**Pn**	**15 55 05.7**	**-1.2**
BKB	**Balikpapan**	**4.93**	**265**	P	**Pn**	**15 55 07.9**	**-1.1**
LBMI	**Labuha**	**5.69**	**88**	P	**Pn**	**15 55 18.7**	**-0.7**
	1μm,0.8s,21μm6.4nm						
TNTI	**Ternate**	**5.78**	**74**	P	**Pn**	**15 55 22.3**	**+1.8**
	442nm,1.1s,8μm2.5nm						
TNTI	**Ternate**	**5.78**	**74**	*e*Pn	**Pn**	**15 55 21.8**	**+1.3**
NLAI	**Namlea**	**5.81**	**115**	P	**Pn**	**15 55 22.1**	**+1.1**
	346nm,0.5s,7μm2.4nm						
SGSI	**Sangihe**	**5.81**	**40**	P	**Pn**	**15 55 20.7**	**-0.4**
	960nm,0.8s,11μm4.6nm						
TSM	**Tawau**	**6.42**	**322**	P	Pn	15 55 26.0	-3.4
MYLDM	**Lahad Datu**	**6.81**	**331**	P	**Pn**	**15 55 34.5**	**-0.2**
MYLDM	**Lahad Datu**	**6.81**	**331**	P	**Pn**	**15 55 35.1**	**+0.3**
	998nm,1.4s,10μm4.0nm						
MTKI	**Muara Teweh, K**	**6.92**	**269**	P	**Pn**	**15 55 39.3**	**+3.1**
	498nm,0.7s,2.3nm						
AAI	**Ambon**	**6.99**	**114**	P	**Pn**	**15 55 39.7**	**+2.5**
	682nm,0.9s,5μm1.8nm						
GSPH	**General Santos**	**7.54**	**25**	*e*P	**Pn**	**15 55 45.1**	**+0.2**
MSAI	**Masohi**	**7.54**	**110**	P	**Pn**	**15 55 47.8**	**+3.0**
	108nm,0.8s,801nm0.3nm						
MMRI	**Maumere**	**7.78**	**177**	P	**Pn**	**15 55 47.8**	**-0.3**
	304nm,1.1s,4μm						
MMRI	**Maumere**	**7.78**	**177**	*e*Pn	**Pn**	**15 55 47.7**	**-0.4**
SDKM	**Sandakan**	**7.90**	**324**	P	**Pn**	**15 55 49.1**	**-0.6**
CTBH	**Cotabato--PC H**	**8.35**	**17**	⇑*i*P	**Pn**	**15 55 55.0**	**-0.8**
IPIL	**Ipil**	**8.58**	**5**	*e*P	**Pn**	**15 55 59.1**	**+0.1**
DAV	**Davao City (W)**	**8.69**	**26**	P	Pn	15 56 04.6	+4.1
	SNR=7.5						
DAV	**Davao City (W)**	**8.69**	**26**	*e*Pn	**Pn**	**15 56 02.9**	**+2.4**
PAGZ	**Pagadian**	**8.75**	**10**	*e*P	**Pn**	**15 55 59.6**	**-1.7**
KKM	**Kota Kinabalu**	**8.81**	**321**	P	**Pn**	**15 56 03.6**	**+1.3**
KKM	**Kota Kinabalu**	**8.81**	**321**	*e*Pn	**Pn**	**15 56 02.5**	**+0.2**
MATI	**Mati**	**8.89**	**30**	*e*P	**Pn**	**15 56 03.9**	**+0.6**
KDM	**Kudat**	**9.15**	**327**	P	**Pn**	**15 56 05.9**	**-0.9**
BUKP	**Musuan**	**9.22**	**21**	*e*P	**Pn**	**15 56 07.4**	**-0.5**
SWI	**Sorong**	**9.45**	**90**	⇑P	**Pn**	**15 56 13.2**	**+2.3**
	baz=46,SNR=7.9						
DCPH	**Dipolog City**	**9.46**	**9**	⇑*e*P	**Pn**	**15 56 13.0**	**+1.9**
BATI	**Baumata**	**9.51**	**169**	LR	LR	16 01 24.0	
	comp=Z,1μm,19.2s,baz=116,slow=47						
BTM	**Bintulu**	**9.59**	**295**	P	Pn	15 56 16.2	+3.3
SBUM	**Sibu**	**10.12**	**289**	P	**Pn**	**15 56 22.9**	**+2.8**
SBUM	**Sibu**	**10.12**	**289**	*e*Pn	**Pn**	**15 56 19.3**	**-0.8**
BUTP	**Butuan**	**10.44**	**21**	*e*P	**Pn**	**15 56 23.7**	**-0.7**
FAKI	**Fak Fak**	**10.64**	**101**	P	**Pn**	**15 56 29.2**	**+2.0**
CUYO	**Cuyo Island**	**11.62**	**356**	*e*P	**Pn**	**15 56 42.2**	**+1.6**
KSM	**Kuching**	**11.72**	**281**	P	Pn	15 56 47.4	+5.3
KSM	**Kuching**	**11.72**	**281**	*e*Pn	**Pn**	**15 56 40.2**	**-1.8**
ENPP	**El Nido**	**12.18**	**349**	*e*P	**Pn**	**15 56 49.1**	**+0.9**
RCP	**Roxas**	**12.33**	**4**	⇓*e*P	**Pn**	**15 56 52.9**	**+2.6**
CISI	**Cisompet, Garu**	**15.47**	**244**	⇑P	**P**	**15 57 39.9**	**+3.8**
	baz=16						
FITZ	**Fitzroy Crossi**	**17.59**	**168**	P	**Pn**	**15 57 58.0**	**-0.9**
FITZ	**Fitzroy Crossi**	**17.59**	**168**	⇑P	**P**	**15 58 01.6**	**+2.3**
	baz=18						
FITZ	**Fitzroy Crossi**	**17.59**	**168**	P	**Pn**	**15 57 58.0**	**-0.9**
	0.2nm,0.3s,baz=0.0,slow=14,SNR=2.7						
MYKOM	**Kota Tinggi**	**18.14**	**278**	P	**Pn**	**15 58 08.6**	**+2.8**
BTDF	**Bukit Timah Da**	**18.16**	**277**	⇓P	Pn	15 58 11.5	+5.4
	baz=18						
BTDF				⇓P	Pn	15 58 11.5	+5.4
	baz=18						
KGM	**Kluang**	**18.70**	**279**	P	**Pn**	**15 58 12.5**	**-0.1**
KTGM	**Kuala Trenggan**	**19.63**	**288**	P	**P**	**15 58 22.1**	**+0.3**
FRIM	**Kepong**	**20.57**	**281**	P	**P**	**15 58 32.9**	**+0.7**
PPI	**Padang Panjang**	**21.41**	**271**	P	P	15 58 46.3	+5.1
	baz=22						
IPM	**Ipoh**	**21.42**	**284**	P	**P**	**15 58 41.8**	**+0.5**
IPM	**Ipoh**	**21.42**	**284**	*e*P	**P**	**15 58 41.0**	**-0.3**
	184nm,1.2s						
KULM	**Kulim**	**21.99**	**286**	P	**P**	**15 58 47.7**	**+0.4**
KULM	**Kulim**	**21.99**	**286**	*e*P	**P**	**15 58 45.9**	**-1.4**
	85nm,1.1s						
SKLT	**Songkhla**	**22.58**	**291**	P	**P**	**15 58 57.4**	**+3.7**
	63nm,1.2s,1μm						
WRAB	**Tennant Creek**	**22.62**	**148**	*e*P	**P**	**15 58 53.6**	**-0.4**
WRAB	**Tennant Creek**	**22.62**	**148**	*e*P	**P**	**15 58 53.6**	**-0.4**
WRA	**Warramunga Arr**	**22.62**	**148**	P	**P**	**15 58 54.3**	**+0.3**
WRA	**Warramunga Arr**	**22.62**	**148**	P	**P**	**15 58 54.3**	**+0.3**
	9.2nm,0.9s,baz=335,slow=9.1,SNR=16						
UBPT	**Khong Chiam**	**22.73**	**315**	P	**P**	**15 58 55.0**	**-0.2**
	77nm,1.1s						
GIRL	**Giralia**	**22.91**	**198**	⇓P	**P**	**15 58 58.7**	**+1.7**
	baz=23						
QIZ	**Qiongzhong**	**22.96**	**330**	P	**P**	**15 58 58.4**	**+0.9**
QIZ				pP	**pP**	**15 59 09.6**	**0.0**
QIZ				sP	**sP**	**15 59 14.3**	**-1.7**
QIZ				S	**S**	**16 03 07.1**	**+3.0**
QIZ				sS	**sS**	**16 03 24.7**	**-0.9**
QIZ				AMB	AMB		
	comp=Z,50nm,1.2s						
QIZ	**Qiongzhong**	**22.96**	**330**	*e*P	**P**	**15 58 56.2**	**-1.4**
	32nm,0.8s						
PSI	**Prapat**	**23.16**	**279**	P	**P**	**15 58 58.5**	**-1.2**
PSI	**Prapat**	**23.16**	**279**	P	**P**	**15 58 58.5**	**-1.2**
	14nm,1.1s,baz=74,slow=12						
TWG	**Pinlang**	**23.50**	**358**	*e*P	**P**	**15 59 03.3**	**+0.5**
	346nm,1.2s						
CHBT	**CHBT**	**23.57**	**306**	P	**P**	**15 59 03.0**	**-0.5**
	204nm,0.9s,2μm						
TPUB	**Ta-pu**	**24.00**	**357**	*e*P	**P**	**15 59 07.5**	**+0.1**
	64nm,0.8s						
YULB	**Yu-li**	**24.07**	**359**	*e*P	**P**	**15 59 07.3**	**-0.7**
	73nm,1.1s						
SSLB	**Suanglung**	**24.47**	**358**	*e*P	**P**	**15 59 11.9**	**+0.2**
	146nm,1.4s						
PKDT	**Phuket**	**24.95**	**291**	P	P	15 59 22.2	+6.0
AS31	**Alice Springs**	**25.57**	**154**	*e*P	**P**	**15 59 22.4**	**+0.7**
ASAR	**Alice Springs**	**25.57**	**154**	P	**P**	**15 59 22.7**	**+1.0**
ASAR	**Alice Springs**	**25.57**	**154**	P	**P**	**15 59 22.7**	**+1.0**
	8.7nm,1.0s,baz=345,slow=12,SNR=14						
PHET	**Kaeng Krachan**	**25.89**	**303**	P	**P**	**15 59 23.2**	**-1.4**
	615nm,0.8s,5μm						
PMG	**Port Moresby**	**26.63**	**110**	*e*P	**P**	**15 59 29.6**	**-1.8**
	182nm,2.0s						
MORW	**Morawa**	**28.63**	**191**	⇓P	**P**	**15 59 49.3**	**+0.2**
	baz=29						
BLDU	**Ballidu**	**30.03**	**189**	⇑P	**P**	**16 00 00.8**	**-0.7**
	baz=30,SNR=4.8						
GYA	**Guiyang**	**30.80**	**333**	⇑*i*P	**P**	**16 00 09.4**	**+0.9**
GYA				pP	**pP**	**16 00 21.3**	**-0.5**
GYA				PP	**PnPn**	**16 01 10.8**	**+0.4**
GYA				S	**S**	**16 05 04.9**	**-3.7**
GYA				AMB	AMB		
	comp=Z,40nm,1.0s						
GYA				AMB	AMB		
	comp=Z,170nm,4.7s						
GYA				LR	LR		
	comp=N,490nm,15.6s						
GYA				LR	LR		
	comp=E,550nm,16.0s						
GYA				LR	LR		
	comp=Z,1μm,15.0s						
KLBR	**Kellerberrin**	**30.85**	**187**	⇑P	**P**	**16 00 08.8**	**0.0**
	baz=31						
KMI	**Kunming**	**31.71**	**326**	P	**P**	**16 00 15.5**	**-1.2**
KMI				pP	**pP**	**16 00 30.0**	**0.0**
KMI				sP	**sP**	**16 00 38.1**	**+2.0**
KMI				PP	**PP**	**16 01 27.3**	**-1.8**
KMI				S	**S**	**16 05 25.0**	**+1.9**
KMI				AMB	AMB		
	comp=Z,22nm,1.1s						
KMI				AMB	AMB		
	comp=Z,200nm,4.4s						
KMI				LR	LR		
	comp=N,340nm,13.7s						
KMI				LR	LR		
	comp=E,410nm,12.9s						
KMI				LR	LR		
	comp=Z,380nm,11.4s						
DGPR	**DIGLIPUR**	**31.83**	**297**	*e*P	**P**	**16 00 15.7**	**-1.8**
WHN	**Wuhan**	**31.98**	**348**	⇑*i*P	**P**	**16 00 20.5**	**+1.8**
NJ2	**Nanjing**	**32.81**	**355**	*e*P	**P**	**16 00 26.0**	**+0.1**
NJ2				pP	**pP**	**16 00 37.2**	**-2.0**
NJ2				sP	**sP**	**16 00 43.1**	**-2.2**
NJ2				PP	**PP**	**16 01 43.2**	**+2.3**
NJ2				S	**S**	**16 05 42.0**	**+2.5**
NJ2				sS	**sS**	**16 06 01.0**	**-1.0**
NJ2				AMB	AMB		
	comp=Z,60nm,1.2s						
NJ2				AMB	AMB		
	comp=Z,3μm,10.0s						
NJ2				LR	LR		
	comp=N,6μm,22.2s						
NJ2				LR	LR		
	comp=E,6μm,18.5s						
NJ2				LR	LR		
	comp=Z,9μm,22.9s						
ENH	**Enshi**	**33.07**	**340**	*e*P	**P**	**16 00 28.4**	**+0.1**
	151nm,0.8s						
RKGY	**Rocky Gully**	**33.92**	**187**	⇓P	**P**	**16 00 36.4**	**+0.8**
	baz=34						
BBOO	**Buckleboo**	**34.54**	**159**	⇑P	**P**	**16 00 41.6**	**+0.6**
	baz=35						
CD2	**Chengdu**	**35.92**	**333**	⇓*i*P	**P**	**16 00 52.8**	**-0.1**
CD2				pP	**pP**	**16 01 05.8**	**-0.5**
CD2				sP	**sP**	**16 01 11.7**	**-0.7**
CD2				PP	**PP**	**16 02 16.0**	**+0.6**
CD2				PcP	**PcP**	**16 03 18.4**	**-0.8**
CD2				S	**S**	**16 06 27.9**	**+0.2**
CD2				sS	**sS**	**16 06 49.1**	**-1.2**
CD2				AMB	AMB		
	comp=Z,70nm,0.6s						
CD2				AMB	AMB		
	comp=Z,270nm,4.9s						
CD2				LR	LR		
	comp=N,1μm,13.1s						
CD2				LR	LR		
	comp=Z,620nm,17.3s						
STKA	**Stephens Creek**	**36.11**	**151**	P	**P**	**16 00 55.3**	**+0.8**
STKA	**Stephens Creek**	**36.11**	**151**	⇓P	**P**	**16 00 55.0**	**+0.5**
	baz=36,SNR=4.7						
STKA	**Stephens Creek**	**36.11**	**151**	P	**P**	**16 00 55.3**	**+0.8**
	7.3nm,1.0s,baz=342,slow=10,SNR=5.5						
HTT	**Hallett**	**36.21**	**155**	⇓P	**P**	**16 00 56.0**	**+0.6**
	baz=36						
XAN	**Xi'an**	**36.73**	**342**	P	**P**	**16 00 59.5**	**-0.3**
XAN				pP	**pP**	**16 01 12.5**	**-0.7**
XAN				S	**S**	**16 06 41.7**	**+1.8**
XAN				sS	**sS**	**16 07 03.0**	**+0.4**
XAN				AMB	AMB		
	comp=Z,13nm,0.8s						
XAN				AMB	AMB		
	comp=Z,85nm,7.5s						
XAN				LR	LR		
	comp=N,1μm,19.4s						
XAN				LR	LR		
	comp=E,440nm,19.4s						
XAN				LR	LR		
	comp=Z,790nm,18.3s						
CMSA	**Cobar Meteorol**	**38.00**	**146**	⇓P	**P**	**16 01 11.6**	**+1.0**
	baz=38						
JWT	**Wachi**	**38.09**	**18**	P	**P**	**16 01 09.3**	**-1.9**
KSAR	**Wonju Array Be**	**38.48**	**8**	P	**P**	**16 01 13.3**	**-1.1**
KSRS	**Korea Array**	**38.50**	**8**	P	**P**	**16 01 13.3**	**-1.2**
	1.5nm,0.7s,baz=182,slow=8.2,SNR=8.2						
HNR	**Honiara**	**38.90**	**104**	P	**P**	**16 01 18.1**	**-0.2**
HNR	**Honiara**	**38.90**	**104**	P	**P**	**16 01 18.1**	**-0.2**
	31nm,0.6s,baz=232,slow=9.5,SNR=4.1						
SHL	**Shillong**	**39.05**	**314**	*e*P	**P**	**16 01 18.0**	**-1.6**
SHL				*e*4		16 10 14.0	
JRY	**Ryogami san**	**39.95**	**22**	P	**P**	**16 01 25.0**	**-1.9**
MAJO	**Matsushiro**	**40.17**	**21**	*e*P	**P**	**16 01 27.5**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,14nm,0.9s						
MAJO	**Matsushiro**	**40.17**	**21**	*e*P	**P**	**16 01 27.5**	**-1.2**
	comp=Z,14nm,0.9s						
MAT	**Matsushiro**	**40.17**	**21**	P	**P**	**16 01 26.1**	**-2.5**
MAT	**Matsushiro**	**40.17**	**21**	P	**P**	**16 01 26.1**	**-2.5**
MJAR	**Matsushiro Arr**	**40.17**	**21**	P	**P**	**16 01 26.4**	**-2.2**
MJAR	**Matsushiro Arr**	**40.17**	**21**	P	**P**	**16 01 26.4**	**-2.2**
	comp=Z,12nm,0.9s,baz=191,slow=9.0,SNR=9.9						
ARPS	**Mount Arapiles**	**40.29**	**155**	⇓P	**P**	**16 01 30.5**	**+0.9**
	baz=40						
BJT	**Baijiatuan**	**40.97**	**353**	*e*P	**P**	**16 01 34.6**	**-0.5**
	comp=Z,29nm,0.5s						
BJI	**Beijing**	**40.99**	**353**	P	**P**	**16 01 34.7**	**-0.5**
BJI				AMB	AMB		
	comp=Z,41nm,1.1s						
BJI				AMB	AMB		
	comp=Z,250nm,7.0s						
LSA	**Lhasa**	**42.15**	**319**	*e*P	**P**	**16 01 45.6**	**0.0**
LSA				pmax	pmax		
	comp=Z,17nm,0.6s						
LSA	**Lhasa**	**42.15**	**319**	*e*P	**P**	**16 01 45.6**	**0.0**
	comp=Z,18nm,0.6s						
JMM	**Marumori**	**42.30**	**22**	P	**P**	**16 01 44.8**	**-1.2**
HHC	**Hu-ho-hao-te**	**42.51**	**348**	*e*P	**P**	**16 01 47.7**	**-0.1**
HHC				pP	**pP**	**16 02 00.0**	**-1.5**
HHC				S	**S**	**16 08 06.4**	**-0.1**
HHC				sS	**sS**	**16 08 30.4**	**+0.9**
HHC				ScS	**ScS**	**16 11 40.0**	**-5.0**
HHC				AMB	AMB		
	comp=Z,83nm,1.1s						
HHC				AMB	AMB		
	comp=Z,500nm,5.7s						
HHC				LR	LR		

HYB Hyderabad 46.29 295 *i* P **P** 16 02 18.0 -0.3
HYB *eS* **S** 16 09 06.0 +4.0
KOLN Koldanda 46.40 311 *eP* **P** 16 02 18.9 -0.4
comp=Z,44nm,0.7s
DANN Dangsing 46.58 312 *eP* **P** 16 02 20.2 -0.6
comp=Z,74nm,0.7s
NGP Nagpur 47.14 300 *eP* **P** 16 02 22.8 -2.1
NGP AMB AMB 16 02 27.7
comp=Z,26nm,1.6s
LATR Latur 48.40 296 AMB AMB 16 02 28.8
comp=Z,30nm,1.4s
LATR *eP* P 16 02 29.1 -5.6
ASAJ Asahikawa 48.43 20 P **P** 16 02 33.8 -0.7
ASAJ Asahikawa 48.43 20 *eP* **P** 16 02 33.9 -0.7
comp=Z,12nm,0.8s
ASAJ Asahikawa 48.43 20 P **P** 16 02 34.0 -0.6
comp=Z,22nm,0.7s,baz=219,slow=10.0,SNR=15
JMP Maruseppu 48.60 21 P **P** 16 02 34.7 -1.2
AKL Akola 48.75 299 *eP* **P** 16 02 35.7 -1.7
AKL AMB AMB 16 02 49.6
comp=Z,41nm,2.3s
BHPL Bhopal 49.33 302 *eP* **P** 16 02 40.9 -0.9
BHPL AMB AMB 16 02 50.9
comp=Z,33nm,3.6s
ULN Ulaanbaatar 50.16 347 P **P** 16 02 48.0 +0.2
SNR=14
ULN Ulaanbaatar 50.16 347 *eP* **P** 16 02 47.1 -0.7
comp=Z,73nm,0.9s
SONM Songino Array 50.28 347 P **P** 16 02 48.8 0.0
SONM Songino Array 50.28 347 P **P** 16 02 48.8 0.0
comp=Z,45nm,0.8s,baz=165,slow=9.0,SNR=88
HABR Khabarovsk 50.42 11 P **P** 16 02 47.2 -2.4
HABR *e*PP pP 16 02 56.7 -6.8
HABR *e*SP sP 16 03 01.2 -8.3
HABR *e* 16 04 05.4
HABR *e* 16 04 42.5
HABR *eS* **S** **16 09 57.9 -1.3**
HABR *e*SS sS 16 10 14.0 -8.7
HABR *e* 16 12 35.0
HABR *eSS* **SS** **16 13 32.6 -1.2**
HABR pmax pmax
comp=Z,24nm,1.7s
HABR MLR MLR
comp=Z,4μm,21.0s
YSS Yuzh-Sakhalins 50.99 18 *eP* P 16 02 47.8 -6.1
NDI New Delhi 51.77 308 *ex* P 16 02 55.0 -5.1
SMLA Simla 52.93 311 *i* P **P** 16 03 07.4 -1.3
SMLA AMB AMB 16 03 12.8
comp=Z,485nm,0.6s
SMLA *i* 4 x 16 18 55.5
ZAK Zakamensk 53.41 345 *eP* **P** 16 03 10.8 -1.2
ZAK pmax pmax
comp=Z,28nm,1.1s
WMQ Urumqi 53.88 330 P **P** 16 03 16.4 +0.9
WMQ pP **pP** 16 03 29.0 -0.6
WMQ sP **sP** 16 03 34.3 -1.2
WMQ PP **PP** 16 05 19.6 +2.4
WMQ PcS **PcS** 16 08 19.4 -0.4
WMQ S **S** 16 10 46.7 -0.4
WMQ sS **sS** 16 11 07.4 -3.3
WMQ SS **SS** 16 14 27.7 -1.2
WMQ AMB AMB
comp=Z,26nm,0.8s
WMQ AMB AMB
comp=Z,200nm,4.6s
WMQ LR LR
comp=Z,570nm,17.0s
WMQ LR LR
comp=Z,670nm,19.2s
WMQ LR LR
comp=Z,870nm,23.8s
DHRM DHARAMSHALA 54.11 312 *eP* **P** 16 03 17.1 -0.5
DHRM AMB AMB 16 03 20.4
comp=Z,82nm,0.3s
TLY Talaya 54.52 346 *eP* **P** 16 03 20.6 +0.7
TLY pmax pmax
comp=Z,46nm,0.8s
TLY Talaya 54.52 346 P **P** 16 03 20.2 +0.3
comp=Z,294nm,0.7s,SNR=11
THN Thein Dam 54.63 312 *ex* **P** 16 03 18.0 -3.1
IRK Irkutsk 54.89 347 *eP* **P** 16 03 21.8 -0.8
IRK pmax pmax
comp=Z,39nm,1.3s
MOY Mondy 55.18 344 *eP* **P** 16 03 24.6 -0.2
MOY pmax pmax
comp=Z,60nm,1.4s
HVS Khovu-Aksy 57.00 339⇓ *i* P **P** 16 03 37.9 +0.1
HVS pmax pmax
comp=Z,480nm,1.5s
KSH Kashi 58.00 319 P **P** 16 03 45.6 +0.5
KSH pP **pP** 16 04 00.9 +1.5
KSH sP **sP** 16 04 07.0 +1.7
KSH PP **PP** 16 05 58.7 +4.5
KSH S **S** 16 11 38.4 -3.7
KSH sS **sS** 16 12 09.9 +3.9
KSH ScS **ScS** 16 13 29.1 -1.5
KSH SS **SS** 16 15 38.6 +4.5
KSH AMB AMB
comp=Z,14nm,0.9s
KSH AMB AMB
comp=Z,96nm,2.8s
KSH LR LR
comp=Z,160nm,9.5s
KSH LR LR
comp=Z,180nm,8.2s
KSH LR LR
comp=Z,180nm,8.9s
MK31 Makanchi Array 58.69 329 *eP* **P** 16 03 49.6 -0.1
MK31 Makanchi Array 58.69 329 *eP* **P** 16 03 49.6 -0.1
MKAR Makanchi Array 58.69 329 P **P** 16 03 49.6 -0.1
MKAR Makanchi Array 58.69 329 P **P** 16 03 49.6 -0.1
MKAR Makanchi Array 58.69 329⇓ **P** 16 03 49.5 -0.2
baz=59
MKAR Makanchi Array 58.69 329 P **P** 16 03 49.6 -0.1
comp=Z,22nm,0.8s,baz=133,slow=7.8,SNR=137
KZA Kyzart 59.84 321 P **P** 16 03 58.6 +0.4
SNR=18
TKM2 Tokmak 2 60.09 322 *eP* **P** 16 03 59.8 +0.2
TKM2 pmax pmax
comp=Z,71nm,1.5s
TKM2 Tokmak 2 60.09 322 P **P** 16 03 59.8 +0.2
SNR=36
TKM2 Tokmak 2 60.09 322 *eP* **P** 16 03 59.8 +0.2
comp=Z,71nm,1.5s
KBK Karagaybulak 60.34 322 *i* P **P** 16 04 01.9 +0.5
KBK Karagaybulak 60.34 322 P **P** 16 04 01.9 +0.5
SNR=21
KBL Kabul 60.56 311 *eP* **P** 16 04 02.3 -0.7
KBL pmax pmax
comp=Z,72nm,0.8s
KBL Kabul 60.56 311 *eP* **P** 16 04 02.3 -0.7
comp=Z,72nm,0.8s
AAK Ala-Archa 60.61 321 *d i*P **P** 16 04 03.7 +0.5
AAK pmax pmax
comp=Z,121nm,1.7s
AAK Ala-Archa 60.61 321 P **P** 16 04 03.8 +0.6
SNR=26
AAK Ala-Archa 60.61 321 P **P** 16 04 03.5 +0.3
SNR=26
AAK Ala-Archa 60.61 321 *eP* **P** 16 04 02.7 -0.5
comp=Z,24nm,0.8s
AAK Ala-Archa 60.61 321 P **P** 16 04 02.9 -0.3
comp=Z,19nm,0.7s,baz=126,slow=5.8,SNR=64
FRU Bishkek 60.64 322 *eP* **P** 16 04 03.0 -0.2
FRU *e* 16 06 16.0
FRU pmax pmax
comp=Z,50nm,2.1s
CHMS Chumysh 60.65 322 *i* P **P** 16 04 03.1 -0.2
CHMS Chumysh 60.65 322 P **P** 16 04 03.0 -0.2
SNR=8.3
AML Almayashu 60.85 321 *i* P **P** 16 04 05.4 +0.3
AML Almayashu 60.85 321 P **P** 16 04 05.4 +0.3
SNR=18
USP Ospenovka 60.95 322 *i* P **P** 16 04 05.3 0.0
USP Ospenovka 60.95 322 P **P** 16 04 05.3 0.0
SNR=18
EKS2 Erkin-Say 61.08 321 *eP* **P** 16 04 05.6 -0.7
EKS2 pmax pmax
comp=Z,47nm,1.3s
EKS2 Erkin-Say 61.08 321 P **P** 16 04 06.7 +0.4
SNR=30
EKS2 Erkin-Say 61.08 321 *eP* **P** 16 04 05.6 -0.7
comp=Z,47nm,1.3s
PEA0B Petropavlovsk- 61.50 24 *eP* **P** 16 04 08.7 -0.1
PETK Petropavlovsk- 61.50 24 P **P** 16 04 08.5 -0.3
PETK Petropavlovsk- 61.50 24 P **P** 16 04 08.5 -0.3
comp=Z,9.0nm,0.8s,baz=200,slow=3.2,SNR=14
ZAA0 Zalesovo Array 62.57 336 *eP* **P** 16 04 14.6 -1.3
ZALV Zalesovo Beam 62.57 336 P **P** 16 04 15.0 -0.9
ZALV Zalesovo Beam 62.57 336 P **P** 16 04 14.9 -0.9
ZALV Zalesovo Beam 62.57 336 P **P** 16 04 14.9 -0.9
comp=Z,37nm,0.9s,baz=123,slow=5.5,SNR=97
YAK Yakutsk 62.97 4 *eP* **P** 16 04 17.1 -1.3
YAK *e*PP pP 16 04 26.9 -5.8
YAK *e* 16 04 55.0
YAK *e* 16 06 34.9
YAK *eS* **S** **16 12 44.9 +0.4**
YAK *e*SS sS 16 13 14.0 +5.4
YAK *e* 16 14 03.5
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=Z,26nm,0.8s
YAK pmax pmax
comp=N,13nm,1.4s
YAK pmax pmax
comp=Z,246nm,4.5s
YAK pmax pmax
comp=E,113nm,2.3s
YAK pmax pmax
comp=N,176nm,2.6s
YAK smax smax
comp=E,109nm,2.2s
YAK smax smax
comp=N,354nm,4.5s
YAK MLR MLR
comp=E,1μm,14.0s
YAK MLR MLR
comp=Z,2μm,18.0s
YAK MLR MLR
comp=N,1μm,19.0s
KURBB Kurchatov Arra 63.08 331 P **P** 16 04 18.7 -0.6
comp=N,31nm,0.8s,baz=142,slow=6.1,SNR=235
KURK Kurchatov 63.09 331 *d* iP **P** 16 04 18.9 -0.5
KURK pmax pmax
comp=Z,73nm,1.0s
KURK Kurchatov 63.09 331 P **P** 16 04 19.2 -0.3
SNR=32
KURK Kurchatov 63.09 331 *eP* **P** 16 04 18.4 -1.1
KK31 Karatay Array 63.37 320 *ce*P **P** 16 04 20.5 -1.0
KK31 pmax pmax
comp=Z,19nm,0.7s
KKAR Karatay Array 63.37 320 *eP* **P** 16 04 20.9 -0.6
KKAR Karatay Array 63.37 320 *eP* **P** 16 04 20.9 -0.6
NVS Novosibirsk 63.85 336⇑ *i*P **P** 16 04 23.2 -1.2
NVS *eS* **S** **16 12 53.9 -1.9**
NVS pmax pmax
comp=N,19nm,1.1s
NVS pmax pmax
comp=E,23nm,1.1s
NVS pmax pmax
comp=Z,36nm,1.1s
NVS smax smax
comp=N,17nm,2.2s
NVS smax smax
comp=E,18nm,1.7s
CASY Casey 65.82 185 *eP* **P** 16 04 37.2 +0.3
IDAH Dahanechah 67.12 306 *eP* **P** 16 04 45.1 -1.2
IDAH Dahanechah 67.12 306 *eP* **P** 16 04 45.2 -1.1
SEY Seymchan 67.59 15⇓ *i*P **P** 16 04 48.9 +0.6
IMYA Miami 68.02 310 *eP* **P** 16 04 49.8 -2.0
ITEG Tejag 68.07 306 *eP* **P** 16 04 50.3 -1.9
VOSK Vostochnaya 68.11 329 *eP* **P** 16 04 50.4 -1.4
VOSK pmax pmax
comp=Z,22nm,0.7s
VOSK Vostochnaya 68.11 329 *eP* **P** 16 04 50.4 -1.4
comp=Z,22nm,0.7s
BVAR Borovoye Array 68.57 330 P **P** 16 04 54.2 -0.5
BVAR Borovoye Array 68.57 330 P **P** 16 04 54.2 -0.5
BVAR Borovoye Array 68.57 330 P **P** 16 04 54.2 -0.5
comp=Z,15nm,0.7s,baz=133,slow=8.7,SNR=70
BRVK Borovoye 68.64 330 *d i*P **P** 16 04 54.2 -0.9
BRVK pmax pmax
comp=Z,25nm,0.8s
BRVK Borovoye 68.64 330 P **P** 16 04 55.1 0.0
SNR=11
BRVK Borovoye 68.64 330 P **P** 16 04 54.3 -0.9
comp=Z,156nm,0.6s,SNR=16
BRVK Borovoye 68.64 330 *eP* **P** 16 04 54.1 -1.0
IKRD Kardeh 69.37 310 *eP* P 16 04 53.5 -6.8
ISRV Sarvestan 71.93 301 *eP* **P** 16 05 13.5 -2.6
TIXI Tiksi 72.49 2⇓ *i*P **P** 16 05 17.1 -1.0
TIXI pmax pmax
comp=Z,25nm,1.2s
AB31 Akbulak array 72.65 323 *ce*P **P** 16 05 18.4 -1.2
AB31 pmax pmax
comp=Z,6.0nm,0.7s
ABKAR Akbulak array 72.65 323 *eP* **P** 16 05 18.6 -1.0
IFIR Firoozkooh 73.57 308 *eP* **P** 16 05 24.8 -0.9
AKTO Aktyubinsk 74.25 323 *i* P **P** 16 05 27.2 -1.8
AKTO pmax pmax
comp=Z,22nm,1.5s
IPIR Pirpir 74.45 304 *eP* **P** 16 05 29.1 -1.8
IMHD Mahdasht 75.23 307 *eP* **P** 16 05 34.2 -0.9
SVE Sverdlovsk 75.33 330 *eP* **P** 16 05 33.9 -1.2
SVE pmax pmax
comp=Z,35nm,1.4s
ARU Arti 76.22 329 *c i*P **P** 16 05 39.1 -1.0
ARU 16 08 28.8
ARU PPP PPP 16 10 11.9
ARU S **S** **16 15 22.4 +2.0**
ARU pmax pmax
comp=Z,27nm,1.7s
RAYN Ar Rayn 77.78 294 *eP* **P** 16 05 48.1 -1.7
comp=Z,7.2nm,0.9s
MAW Mawson 77.83 200 P **P** 16 05 50.4 +1.4
MAW Mawson 77.83 200⇑ **P** 16 05 50.1 +1.1
baz=78
MAW Mawson 77.83 200 P **P** 16 05 50.4 +1.4
comp=Z,7.0nm,1.0s,baz=21,slow=6.3,SNR=7.5
IVIS Veis 78.10 305 *eP* **P** 16 05 49.3 -2.0
VNDA Vanda 79.61 172 P **P** 16 06 00.5 +1.8
VNDA Vanda 79.61 172 P **P** 16 06 00.5 +1.8
comp=Z,0.9nm,0.7s,baz=326,slow=6.1,SNR=6.3
IMRD Marand 79.69 309 *eP* **P** 16 05 59.3 -0.8
DGRG David-gareji 80.39 312 P **P** 16 05 00.5 +1.4
TBLG Delisi 80.91 312 P **P** 16 06 06.2 -0.1
ZEI Tsey 81.69 313 *eP* **P** 16 06 08.7 -2.0
ZEI pmax pmax
comp=Z,31nm,2.1s
AKH Akhalkalaki 81.78 312 P **P** 16 06 10.8 -0.4
KBZ Khabaz 82.55 314 P **P** 16 06 14.4 -0.5
KBZ Khabaz 82.55 314 P **P** 16 06 14.3 -0.5
KBZ Khabaz 82.55 314 P **P** 16 06 14.3 -0.5
comp=Z,2.2nm,0.7s,baz=55,slow=3.1,SNR=4.4
KMBO Kilima Mbogo 84.54 269 P **P** 16 06 25.8 -0.3
KMBO Kilima Mbogo 84.54 269 P **P** 16 06 25.8 -0.3
comp=Z,1.1nm,0.8s,baz=158,slow=5.4,SNR=3.1
MALT Malatya 85.30 308⇑ *i*P **P** 16 06 26.5 -2.7
SYO Syowa Base 86.45 201⇑ *e*P **P** 16 06 35.3 +1.2
ANN Anapa 86.57 315 *i* P **P** 16 06 38.3 +3.1
ANN pmax pmax
comp=Z,81nm,1.3s
ANN MLR MLR
comp=Z,2μm,21.0s
KDAK Kodiak Island 88.33 32 P **P** 16 06 43.6 +0.3
KDAK Kodiak Island 88.33 32 P **P** 16 06 43.6 +0.3
comp=Z,7.4nm,1.1s,baz=342,slow=19,SNR=3.0
IMA2 Indian Mountai 88.50 24 *eP* **P** 16 06 45.0 +0.8
CAST Castle Rocks 88.97 27 *eP* **P** 16 06 47.9 +1.5
QSPA South Pole Qui 89.12 180 *eP* **P** 16 06 46.2 -0.9
comp=Z,8.1nm,0.9s
CSS Prodhromos 89.21 305 P **P** 16 06 46.4 -1.7
CSS Prodhromos 89.21 305 P **P** 16 06 46.4 -1.7
ANTO Ankara 89.76 310⇑ *i*P **P** 16 06 46.6 -4.0
ANTO Ankara 89.76 310 *eP* **P** 16 06 46.4 -4.3
APA Apatity 90.14 337⇑ *i*P **P** 16 06 51.8 +0.2
ILAR Eielson Array 91.29 25 P **P** 16 06 55.3 -1.8
ILAR Eielson Array 91.29 25 P **P** 16 06 55.3 -1.8
comp=Z,0.6nm,0.5s,baz=241,slow=5.5,SNR=5.0
FINES FINESS Array B 93.46 331 P **P** 16 07 05.2 -1.9
FINES FINESS Array B 93.46 331 P **P** 16 07 05.2 -1.9
comp=Z,2.6nm,0.8s,baz=91,slow=5.6,SNR=2.7
CLL Collm 102.32 323 *eP*P PP 16 11 55.0 -4.9
CLL epPP 16 12 09.0
NVAR Mina Array Bea 113.58 48 PKiKP **PKiKP** **16 12 30.4 -0.3**
NVAR Mina Array Bea 113.58 48 PKiKP **PKiKP** **16 12 30.4 -0.3**
comp=Z,0.6nm,0.7s,baz=236,slow=2.8,SNR=4.6
PDAR Pinedale Array 117.99 41 PKP **PKPdf** **16 12 37.3 -1.8**
PDAR PKKPbc **PKKPbc** **16 22 58.6 -1.7**
PDAR Pinedale Array 117.99 41 PKP **PKPdf** **16 12 37.3 -1.8**
comp=Z,0.2nm,0.5s,baz=148,slow=5.3,SNR=2.9
PDAR PKKPbc **PKKPbc** **16 22 58.6 -1.7**
comp=Z,0.4nm,0.7s,baz=116,slow=2.1,SNR=2.5
TORD Torodi Ar. Bea 119.47 285 PKP **PKPdf** **16 12 41.1 -1.1**
TORD Torodi Ar. Bea 119.47 285 PKP **PKPdf** **16 12 41.1 -1.1**
comp=Z,1.1nm,0.6s,baz=17,slow=0.5,SNR=7.5
TXAR Lajitas Array 128.25 52 PKP **PKPdf** **16 12 59.2 +0.3**
TXAR Lajitas Array 128.25 52 PKP **PKPdf** **16 12 59.2 +0.3**
comp=Z,0.7nm,0.7s,baz=235,slow=1.7,SNR=6.7
JCT Junction City 130.73 49 *e*PKIKP **PKPdf** **16 13 03.9 +0.4**
JCT Junction City 130.73 49 *e*PKPdf **PKPdf** **16 13 03.9 +0.4**
CPUP Villa Florida 153.00 182 PKPbc **PKPbc** **16 13 49.6 -0.3**
CPUP Villa Florida 153.00 182 PKPbc **PKPbc** **16 13 49.6 -0.3**
comp=Z,2.1nm,0.7s,baz=90,slow=1.4,SNR=6.2
LPAZ La Paz 160.38 150 PKP **PKPdf** **16 13 54.6 +1.6**
LPAZ La Paz 160.38 150 PKP **PKPdf** **16 13 54.6 +1.6**
comp=Z,2.3nm,0.9s,baz=276,slow=10,SNR=8.1

IDC 02 15:56:53.6±1.8, 14.75°S×174.08°W, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.6/20, mbtmp3.6/4, ML1.2/1, Error ellipse: s-maj=96.9km s-min=24.4km az=154.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.38**	**70**	Pn	Pn	15 57 33.7	-0.3
	3.2nm,0.3s,baz=259,slow=16,SNR=2.6						
AFI				Sn	Sn	15 57 57.8	-6.2
	11nm,0.3s,baz=252,slow=19,SNR=4.1						
WRA	**Warramunga Arr**	**49.36**	**256**	P	P	16 05 44.3	-0.9
	0.5nm,0.7s,baz=92,slow=9.0,SNR=4.6						
ASAR	**Alice Springs**	**49.70**	**251**	P	P	16 05 48.4	+0.6
	1.0nm,0.6s,baz=84,slow=8.9,SNR=12						
ILAR	**Eielson Array**	**81.94**	**11**	P	P	16 09 14.8	+0.1
	0.4nm,0.8s,baz=202,slow=4.5,SNR=4.2						

IDC 02 16:01:45.8±3.2, 31.77°S×177.18°W, h0km, mb3.6/2, mb1 3.9/4, mb1mx3.7/20, mbtmp3.8/4, ML3.6/2, Error ellipse: s-maj=71.9km s-min=33.0km az=110.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.59**	**346**	Pn	Pn	16 02 29.0	+0.1
	20nm,0.3s,baz=60,slow=20,SNR=2.9						
RAO				Sn	Sn	16 02 58.2	-2.8
	190nm,0.3s,baz=285,slow=23,SNR=6.0						
URZ	**Urewera**	**7.99**	**214**	Pn	Pn	16 03 42.7	-0.4
	0.5nm,0.3s,baz=127,slow=20,SNR=9.9						
URZ				Sn	Sn	16 05 11.6	-2.7
	1.6nm,0.3s,baz=194,slow=15,SNR=6.4						
ASAR	**Alice Springs**	**43.75**	**268**	P	P	16 09 52.7	-0.5
	0.4nm,0.6s,baz=104,slow=7.3,SNR=9.7						
WRA	**Warramunga Arr**	**44.86**	**273**	P	P	16 10 02.5	+0.3
	0.2nm,0.4s,baz=111,slow=8.2,SNR=10.0						
FINES	**FINESS Array B**	**146.67**	**340**	PKPbc	PKPdf	16 21 27.9	+0.7
	1.9nm,0.8s,baz=82,slow=2.9,SNR=5.2						

IDC 02 16:06:11.5±5.6, 18.91°S×168.56°E, h104km±41km, mb3.8/8, mb1 3.9/9, mb1mx3.7/20, mbtmp3.8/9, Error ellipse: s-maj=46.0km s-min=35.8km az=74.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.72**	**212**	P	Pn	16 07 08.3	+1.2
	7.9nm,0.3s,baz=56,slow=17,SNR=50						
DZM				S	Sn	16 07 49.9	-0.3
	55nm,0.3s,baz=290,slow=20,SNR=19						
CTA	**Charters Tower**	**21.06**	**263**	P	P	16 10 48.3	+0.9
	2.3nm,0.6s,baz=100,slow=11,SNR=5.3						
STKA	**Stephens Creek**	**27.48**	**237**	P	P	16 11 48.9	+0.9
	2.8nm,0.6s,baz=45,slow=6.7,SNR=11						
WRA	**Warramunga Arr**	**32.26**	**262**	P	P	16 12 28.7	-1.7
	1.1nm,0.9s,baz=80,slow=6.1,SNR=7.5						
ASAR	**Alice Springs**	**32.59**	**255**	P	P	16 12 33.1	-0.2
	5.5nm,0.7s,baz=82,slow=8.6,SNR=64						
FITZ	**Fitzroy Crossi**	**40.64**	**264**	P	P	16 13 41.9	+0.3
	12nm,0.8s,baz=124,slow=6.3,SNR=30						
CMAR	**Chiang Mai Arr**	**77.78**	**294**	P	P	16 17 58.7	+0.9
	0.9nm,0.8s,baz=129,slow=5.1,SNR=5.3						
MAW	**Mawson**	**78.50**	**202**	P	P	16 18 00.8	0.0
	3.1nm,1.1s,baz=73,slow=9.6,SNR=3.9						
SONM	**Songino Array**	**86.57**	**323**	P	P	16 18 41.6	-1.5
	0.6nm,0.8s,baz=131,slow=7.2,SNR=3.5						

IDC 02 16:10:41.6±1.4, 50.10°S×120.03°E, h0km, mb4.1/6, mb1 4.3/6, mb1mx4.0/15, mbtmp4.1/6, Error ellipse: s-maj=47.1km s-min=24.5km az=91.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.79**	**342**	T	T	16 30 34.5	
	baz=165,slow=0.7,SNR=62						
H01W1	**Cape Leeuwin H**	**15.79**	**342**	T	T	16 30 33.3	
	baz=165,slow=0.7,SNR=70						
H01W3	**Cape Leeuwin H**	**15.81**	**342**	T	T	16 30 34.7	
	baz=165,slow=0.7,SNR=69						
STKA	**Stephens Creek**	**24.28**	**50**	P	P	16 16 00.5	0.0
	5.3nm,0.9s,baz=193,slow=9.2,SNR=9.5						
ASAR	**Alice Springs**	**28.53**	**27**	P	P	16 16 39.2	+0.4
	3.7nm,0.9s,baz=200,slow=8.7,SNR=25						
VNDA	**Vanda**	**31.67**	**164**	P	P	16 17 06.5	+0.4
	2.2nm,1.0s,baz=290,slow=9.9,SNR=6.2						
WRA	**Warramunga Arr**	**32.18**	**26**	P	P	16 17 10.5	-0.6
	1.7nm,1.1s,baz=199,slow=8.2,SNR=3.8						
FITZ	**Fitzroy Crossi**	**32.24**	**10**	P	P	16 17 12.4	+0.8
	2.3nm,0.8s,baz=182,slow=11,SNR=3.5						
CMAR	**Chiang Mai Arr**	**70.76**	**339**	P	P	16 21 59.4	-0.1
	3.1nm,1.1s,baz=193,slow=6.5,SNR=8.0						
PDAR	**Pinedale Array**	**145.59**	**83**	PKPbc	PKPdf	16 30 20.2	-1.3
	3.2nm,1.2s,baz=224,slow=4.1,SNR=8.0						

IDC 02 16:14:48.0±0.6, 16.64°S×172.30°W, h0km, mb4.2/11, mb1 4.4/12, mb1mx4.2/24, mbtmp4.2/12, ML1.9/1, Error ellipse: s-maj=25.4km s-min=15.7km az=131.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.76**	**11**	Pn	Pn	16 15 33.9	+0.2
	12nm,0.3s,baz=190,slow=11,SNR=4.5						
AFI				Sn	Sn	16 15 59.0	-8.9
	55nm,0.3s,baz=151,slow=22,SNR=13						
DZM	**Mont Dzumac**	**20.76**	**252**	P	P	16 19 29.6	-1.2
	5.1nm,0.8s,baz=91,slow=15,SNR=2.6						
STKA	**Stephens Creek**	**44.35**	**241**	P	P	16 22 60.0	-0.3
	3.3nm,1.0s,baz=79,slow=11,SNR=4.8						
WRA	**Warramunga Arr**	**50.62**	**249**	P	P	16 23 48.8	-0.3
	1.1nm,0.6s,baz=96,slow=8.1,SNR=15						
ASAR	**Alice Springs**	**50.75**	**253**	P	P	16 23 50.0	-0.2
	9.4nm,0.6s,baz=88,slow=8.4,SNR=233						
VNDA	**Vanda**	**62.26**	**186**	P	P	16 25 11.3	0.0
	1.5nm,0.9s,baz=0.8,slow=6.2,SNR=7.2						
QSPA	**South Pole Qui**	**73.41**	**180**	P	P	16 26 22.2	+0.3
	3.4nm,0.8s,baz=43,slow=3.0,SNR=23						
PETK	**Petropavlovsk-**	**74.13**	**342**	P	P	16 26 26.0	0.0
	4.1nm,0.9s,baz=142,slow=7.5,SNR=4.1						
NVAR	**Mina Array Bea**	**74.55**	**41**	P	P	16 26 29.1	0.0
	3.5nm,0.8s,baz=228,slow=9.9,SNR=21						
TXAR	**Lajitas Array**	**80.43**	**56**	P	P	16 27 02.5	+0.4
	1.1nm,0.8s,baz=218,slow=7.9,SNR=6.9						
PDAR	**Pinedale Array**	**82.48**	**41**	P	P	16 27 12.2	-0.7
	0.6nm,0.8s,baz=180,slow=1.5,SNR=4.1						
ILAR	**Eielson Array**	**83.46**	**11**	P	P	16 27 16.2	-0.8
	0.8nm,0.7s,baz=222,slow=6.2,SNR=10.0						
MKAR	**Makanchi Array**	**112.45**	**314**	PKiKP	PKiKP	16 33 25.8	-0.4
	0.4nm,0.8s,baz=337,slow=3.3,SNR=3.2						
FINES	**FINESS Array B**	**133.37**	**348**	PKP	PKPdf	16 34 06.1	+0.4
	2.9nm,1.1s,baz=71,slow=6.0,SNR=3.3						
KMBO	**Kilima Mbogo**	**145.92**	**242**	PKPbc	PKPab	16 34 31.2	-0.1
	2.7nm,0.8s,baz=86,slow=6.2,SNR=7.7						
GERES	**GERESS Array B**	**147.51**	**353**	PKPbc	PKPbc	16 34 34.2	0.0
	1.1nm,0.7s,baz=32,slow=3.5,SNR=10.0						
BRTR	**Keskin Array B**	**147.78**	**321**	PKPbc	PKPbc	16 34 35.6	+0.3
	1.8nm,0.9s,baz=92,slow=2.8,SNR=9.1						
TORD	**Torodi Ar. Bea**	**173.23**	**120**	PKP	PKPdf	16 34 59.0	-1.3
	0.8nm,0.9s,baz=342,slow=1.6,SNR=4.1						
TORD				PKPab	PKPab	16 36 26.6	-1.4

1.3nm,0.9s,baz=258,slow=6.1,SNR=6.7

IDC 02 16:22:22.4±2.5, 15.05S×173.30W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/21, mbtmp4.0/3, Error ellipse: s-maj=164.1km s-min=20.3km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.86**	**53**	Pn	Pn		16 22 54.5	-1.1
	8.3nm,0.3s,baz=221,slow=19,SNR=4.6							
AFI				Sn	Sn		16 23 20.1	+0.2
	67nm,0.3s,baz=58,slow=23,SNR=10							
STKA	**Stephens Creek**	**44.30**	**240**	P	P		16 30 35.4	+1.2
	2.6nm,0.9s,baz=87,slow=7.1,SNR=3.1							
WRA	**Warramunga Arr**	**50.02**	**256**	P	P		16 31 17.8	-1.3
	1.0nm,0.9s,baz=92,slow=6.7,SNR=3.7							
ASAR	**Alice Springs**	**50.31**	**252**	P	P		16 31 20.2	-1.1
	3.3nm,0.7s,baz=85,slow=8.0,SNR=30							
BRTR	**Keskin Array B**	**145.95**	**321**	PKPbc	PKPab		16 42 05.7	+0.8
	0.2nm,0.3s,baz=144,slow=1.9,SNR=2.4							

IDC 02 16:22:33.7±0.9, 19.21N×145.64E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/26, mbtmp3.8/7, Error ellipse: s-maj=43.7km s-min=19.1km az=105.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.46**	**196**	P	P		16 30 14.7	+0.5
	1.7nm,0.6s,baz=18,slow=8.9,SNR=21							
FITZ	**Fitzroy Crossi**	**41.96**	**209**	P	P		16 30 26.2	-0.4
	1.2nm,0.3s,baz=32,slow=9.0,SNR=22							
ASAR	**Alice Springs**	**44.13**	**196**	P	P		16 30 43.7	-0.5
	0.5nm,0.5s,baz=16,slow=7.7,SNR=12							
MKAR	**Makanchi Array**	**58.07**	**314**	P	P		16 32 29.8	+1.0
	0.2nm,0.6s,baz=81,slow=8.9,SNR=3.0							
ILAR	**Eielson Array**	**63.21**	**26**	P	P		16 33 03.5	0.0
	0.3nm,0.6s,baz=267,slow=4.5,SNR=3.0							
NVAR	**Mina Array Bea**	**82.87**	**52**	P	P		16 35 01.4	+0.6
	0.4nm,0.5s,baz=256,slow=7.2,SNR=4.1							
FINES	**FINESS Array B**	**86.39**	**335**	P	P		16 35 15.8	-2.0
	0.5nm,0.4s,baz=46,slow=5.5,SNR=4.1							

*IDC **02** 16:23:12.3±5.3, 5.72S×151.01E, h72km±45km, mb3.7/4, mb1 4.0/5, mb1mx3.4/19, mbtmp3.8/5, ML3.0/1, Error ellipse: s-maj=95.6km s-min=31.0km az=131.0*
*AUST **02** 16:23:36.6, 6.23S×148.12E, h100km*
ISC 02 16:23:11.1±2.3, 5.9S±0.7×151.3E±0.8, h65km, n7, σ0s64/8, mb3.9/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.38**	**229**	P	**Pn**		**16 24 29.3**	**+0.5**
	3.7nm,0.3s,baz=40,slow=9.5,SNR=21							
PMG				S	**Sn**		**16 25 29.4**	**0.0**
	0.9nm,0.3s,baz=79,slow=10,SNR=3.4							
WRA	**Warramunga Arr**	**21.60**	**228**	P	**P**		**16 27 55.1**	**-0.7**
	3.2nm,0.9s,baz=54,slow=10,SNR=16							
ASAR	**Alice Springs**	**24.34**	**222**	P	**P**		**16 28 22.9**	**-0.2**
	3.0nm,0.8s,baz=50,slow=9.6,SNR=32							
FITZ	**Fitzroy Crossi**	**27.80**	**242**	P	**P**		**16 28 55.1**	**+0.7**
	baz=25,SNR=6.1							
FITZ	**Fitzroy Crossi**	**27.80**	**242**	P	**P**		**16 28 53.7**	**-0.7**
	1.7nm,0.6s,baz=79,slow=6.0,SNR=10							
ILAR	**Eielson Array**	**83.71**	**22**	P	**P**		**16 35 32.9**	**+0.2**
	1.1nm,0.8s,baz=246,slow=5.5,SNR=8.0							
TORD	**Torodi Ar. Bea**	**149.13**	**286**	PKPbc	**PKPbc**		**16 42 52.9**	**-0.3**
	1.1nm,0.7s,baz=2.9,slow=2.2,SNR=6.0							

IDC 02 16:24:44.9±2.1, 15.97S×173.34W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.8/21, mbtmp3.7/5, Error ellipse: s-maj=123.4km s-min=25.6km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy**	**39.48**	**329**	T	T		17 12 57.8	
	baz=152,slow=0.7,SNR=15							
H11S3	**WAKE ISLAND Hy**	**39.49**	**329**	T	T		17 12 58.8	
	baz=152,slow=0.7,SNR=16							
H11S1	**WAKE ISLAND Hy**	**39.50**	**329**	T	T		17 12 59.7	
	baz=152,slow=0.7,SNR=20							
H11N3	**WAKE ISLAND Hy**	**40.44**	**331**	T	T		17 14 12.7	
	baz=152,slow=0.7,SNR=5.5							
H11N1	**WAKE ISLAND Hy**	**40.44**	**331**	T	T		17 14 09.9	
	baz=152,slow=0.7,SNR=11							
H11N2	**WAKE ISLAND Hy**	**40.45**	**331**	T	T		17 14 14.0	
	baz=152,slow=0.7,SNR=6.9							
WRA	**Warramunga Arr**	**49.77**	**257**	P	P		16 33 39.4	-0.3
	0.3nm,0.6s,baz=89,slow=6.9,SNR=4.2							
ASAR	**Alice Springs**	**49.99**	**252**	P	P		16 33 41.0	-0.3
	1.5nm,0.6s,baz=86,slow=8.0,SNR=9.4							
TXAR	**Lajitas Array**	**80.88**	**56**	P	P		16 37 01.7	+0.3
	0.4nm,0.9s,baz=222,slow=1.7,SNR=4.1							
PDAR	**Pinedale Array**	**82.65**	**42**	P	P		16 37 10.1	-0.5
	1.0nm,1.1s,baz=169,slow=1.5,SNR=4.2							
ILAR	**Eielson Array**	**82.99**	**11**	P	P		16 37 11.2	-0.4
	0.3nm,0.7s,baz=223,slow=6.1,SNR=3.6							
BRTR	**Keskin Array B**	**146.63**	**320**	PKPbc	PKPab		16 44 29.6	-0.5
	0.4nm,0.4s,baz=64,slow=2.9,SNR=4.1							

*ISCJB **02** 16:26:01.0±2.4, 30.06S±0.08×176.6W±0.2, h24km, mb3.8/3, Error ellipse: s-maj=29.1km s-min=9.8km az=167.6*
*IDC **02** 16:26:00.7±2.0, 29.92S×176.82W, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/19, mbtmp3.8/4, ML3.4/1, Error ellipse: s-maj=38.7km s-min=27.3km az=67.0*
ISC 02 16:26:03.5±1.8, 29.9S±0.1×176.7W±0.2, h24km, n7, σ1s29/9, mb4.0/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.25**	**303**	Pn	**Pn**		**16 26 24.8**	**-0.7**
	77nm,0.3s,baz=107,slow=19,SNR=2.7							
RAO				Sn	**Sb**		**16 26 42.6**	**+0.5**
	130nm,0.3s,baz=95,slow=22,SNR=4.0							
URZ	**Urewera**	**9.75**	**210**	Pn	**Pn**		**16 28 21.8**	**-0.4**
	0.4nm,0.3s,baz=108,slow=20,SNR=2.7							
URZ				Sn	**Sn**		**16 30 10.9**	**-0.1**
	0.8nm,0.3s,baz=258,slow=18,SNR=6.2							
NFK	**Norfolk Island**	**13.40**	**270**	P	P		16 29 31.1	+10
	baz=30,SNR=3.4							
STKA	**Stephens Creek**	**35.67**	**256**	P	**P**		**16 33 01.1**	**+1.2**
	1.4nm,0.6s,baz=102,slow=14,SNR=4.7							
ASAR	**Alice Springs**	**44.25**	**266**	P	**P**		**16 34 10.9**	**-0.4**
	0.4nm,0.7s,baz=107,slow=7.5,SNR=3.1							
ASAR				PcP	**PcP**		**16 35 57.9**	**+2.3**
	0.3nm,0.8s,baz=107,slow=3.6,SNR=3.9							
WRA	**Warramunga Arr**	**45.20**	**271**	P	**P**		**16 34 17.7**	**-1.2**
	1.7nm,0.7s,baz=110,slow=8.0,SNR=14							
FINES	**FINESS Array B**	**145.08**	**341**	PKPbc	**PKPdf**		**16 45 37.2**	**-1.0**
	1.2nm,0.6s,baz=27,slow=3.8,SNR=7.8							

IDC 02 16:36:16.1±5.2, 16.22S×172.22W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.5/22, mbtmp3.6/3, Error ellipse: s-maj=169.5km s-min=31.3km az=126.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.34**	**11**	Pn	Pn		16 36 55.9	0.0
	17nm,0.3s,baz=94,slow=16,SNR=4.5							
AFI				Sn	Sn		16 37 16.6	-8.8
	32nm,0.3s,baz=202,slow=23,SNR=8.0							
WRA	**Warramunga Arr**	**50.77**	**257**	P	P		16 45 18.6	+0.1
	0.2nm,0.5s,baz=89,slow=7.1,SNR=4.9							
ASAR	**Alice Springs**	**50.95**	**253**	P	P		16 45 19.5	-0.3
	1.0nm,0.7s,baz=87,slow=7.9,SNR=21							
BRTR	**Keskin Array B**	**147.51**	**321**	PKPbc	PKPbc		16 56 01.8	-0.8
	0.3nm,0.5s,baz=323,slow=3.6,SNR=2.7							

MAN 02 16:40:38, 8.86N×122.93E, h32km, mb4.1, ML3.0, MS2.7, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.50**	**123**	*i*P	*e*P	Pn	16 40 49.2	+0.3
DCPH					*e*S	Sn	16 40 57.7	+1.3
SNPH	**Sibulan**	**0.57**	**32**	*i*P		Pn	16 40 55.2	+5.3
PAGZ	**Pagadian**	**1.10**	**156**	*e*P		Pb	16 40 58.6	+0.1
IPIL	**Ipil**	**1.12**	**199**	*e*P		Pn	16 40 57.5	0.0
IPIL				*e*S		Sn	16 41 12.1	+0.2
TBP	**Tagbilaran**	**1.23**	**48**	*e*P		Pb	16 41 01.4	+0.6
TBP				*e*S		Sb	16 41 19.3	+2.9
GUIM	**Jordan**	**1.79**	**349**	*e*P		Pn	16 41 07.6	+0.9
CUYO	**Cuyo Island**	**2.73**	**317**	*e*P		Pn	16 41 19.9	+0.2

IDC 02 16:41:45.7±1.2, 31.18S×178.86W, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/20, mbtmp3.9/5, ML4.0/1, MS3.5/1, Ms1 3.5/1, ms1mx3.2/29, Error ellipse: s-maj=31.9km s-min=22.2km az=119.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.08**	**23**	Pn	Pn		16 42 23.2	-1.2
	46nm,0.3s,baz=114,slow=20,SNR=1.9							
RAO				LR	LR		16 42 48.9	
	comp=Z,1μm,18.8s,baz=331,slow=30							
RAO				Sn	Sb		16 42 51.2	+0.4
	60nm,0.3s,baz=342,slow=20,SNR=2.1							
URZ	**Urewera**	**7.80**	**204**	Pn	Pn		16 43 34.6	-6.0
	1.3nm,0.3s,baz=50,slow=4.5,SNR=14							
URZ				Sn	Sn		16 44 56.0	-14
	1.9nm,0.3s,baz=177,slow=18,SNR=11							
ASAR	**Alice Springs**	**42.33**	**268**	P	P		16 49 41.5	-0.2
	0.7nm,0.5s,baz=106,slow=7.6,SNR=19							
WRA	**Warramunga Arr**	**43.39**	**273**	P	P		16 49 50.5	+0.2
	2.2nm,0.5s,baz=113,slow=8.0,SNR=63							
FITZ	**Fitzroy Crossi**	**51.62**	**271**	P	P		16 50 54.8	+0.5
	0.6nm,0.6s,baz=90,slow=5.1,SNR=2.8							
QSPA	**South Pole Qui**	**58.94**	**180**	P	P		16 51 46.9	+0.3
	0.8nm,0.5s,baz=55,slow=8.5,SNR=16							
FINES	**FINESS Array B**	**145.61**	**339**	PKPbc	PKPdf		17 01 22.4	-2.9
	2.1nm,0.7s,baz=54,slow=2.9,SNR=8.3							

IDC 02 16:49:32.6±1.8, 31.39S×177.04W, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/21, mbtmp3.8/5, ML4.4/1, Error ellipse: s-maj=43.7km s-min=24.6km az=72.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.26**	**340**	Pn	Pn		16 50 09.8	-1.4
	99nm,0.3s,baz=263,slow=22,SNR=3.5							
RAO				Sn	Sn		16 50 40.1	+0.3
	466nm,0.3s,baz=149,slow=20,SNR=8.5							
URZ	**Urewera**	**8.38**	**213**	Pn	Pn		16 51 28.0	-7.3
	0.8nm,0.3s,baz=347,slow=15,SNR=8.1							
URZ				Sn	Sn		16 52 57.5	-13
	2.7nm,0.3s,baz=199,slow=18,SNR=9.2							
CTA	**Charters Tower**	**34.78**	**280**	P	P		16 56 26.4	+1.4
	0.7nm,0.4s,baz=99,slow=13,SNR=3.1							
ASAR	**Alice Springs**	**43.89**	**268**	P	P		16 57 40.4	-0.8
	0.2nm,0.4s,baz=103,slow=6.9,SNR=5.7							
WRA	**Warramunga Arr**	**44.97**	**273**	P	P		16 57 49.1	-0.7
	0.5nm,0.5s,baz=111,slow=8.2,SNR=15							
QSPA	**South Pole Qui**	**58.73**	**180**	P	P		16 59 31.3	-0.7
	1.7nm,1.1s,baz=56,slow=1.1,SNR=5.9							
FINES	**FINESS Array B**	**146.35**	**340**	PKPbc	PKPbc		17 09 14.9	+0.3
	1.5nm,0.9s,baz=29,slow=4.4,SNR=7.6							

SKHL 02 16:51:44.3±0.7, 55.88N×134.42E, h10km, mb3.7/3, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BMKR	**Bomnak**	**3.40**	**252**	*e*Pn	Pn		16 52 38.6	+1.3
BMKR				*e*Pg	Pb		16 52 45.0	+0.4
BMKR				AMB	AMB		16 52 46.6	
	11nm,0.4s							
BMKR				*e*Sg	Sb		16 53 29.2	+3.3
BMKR				A	A		16 53 31.3	
	105nm,0.5s							
CGD	**Chagda**	**3.54**	**326**	*e*rx	rx		16 52 43.4	
CGD				*e*Pg	Pb		16 52 47.6	+0.6
CGD				AMB	AMB		16 52 57.3	
	7.0nm,0.2s							
CGD				*e*Sg	Sg		16 53 34.4	-3.5
CGD				A	A		16 53 36.6	
	137nm,0.4s							
KROS	**Kirovskiy**	**4.51**	**254**	*e*Pg	Pb		16 53 05.1	+1.5
KROS				AMB	AMB		16 53 06.1	
	5.0nm,0.5s							
KROS				*e*rx	rx		16 53 08.1	
KROS				*e*Sn	Sn		16 53 43.5	-1.7
KROS				*e*Sg	Sg		16 54 03.6	-5.6
KROS				A	A		16 54 07.1	
	63nm,0.6s							
KROS				A	A		16 54 07.1	
	22nm,0.6s							
ZEA	**Zeya**	**4.67**	**246**	*e*rx	rx		16 53 10.9	
ZEA				*e*Sg	Sg		16 54 10.2	-4.0
ZEA				A	A		16 54 13.2	
	60nm,0.7s							
GRNR	**Gornyy**	**5.26**	**166**	*e*rx	rx		16 54 26.0	
GRNR				*e*Sg	Sg		16 54 29.1	-4.0
GRNR				A	A		16 54 34.7	
	19nm,0.5s							
IENR	**Iengra**	**5.37**	**278**	*e*rx	rx		16 53 08.9	
IENR				*e*Pg	Pb		16 53 22.1	+3.8
IENR				*e*Sg	Sg		16 54 32.1	-4.7
IENR				A	A		16 54 36.6	
	22nm,0.9s							
YAK	**Yakutsk**	**6.64**	**340**	*e*Sg	Sg		16 55 09.6	-7.5

IDC 02 16:52:03.5±1.5, 16.27S×174.24E, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.9/17, mbtmp3.8/6, MS3.8/2, Ms1 3.8/2, ms1mx3.4/31, Error ellipse: s-maj=103.0km s-min=21.7km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.35**	**231**	LR	LR		16 57 05.1	
	comp=Z,566nm,18.6s,baz=137,slow=32							
STKA	**Stephens Creek**	**33.45**	**236**	P	P		16 58 42.3	-2.0
	2.7nm,0.8s,baz=90,slow=7.1,SNR=3.4							
STKA				LR	LR		17 09 23.6	
	comp=Z,201nm,21.6s,baz=23,slow=31							
WRA	**Warramunga Arr**	**38.03**	**258**	P	P		16 59 24.6	+0.7
	0.6nm,0.6s,baz=90,slow=8.7,SNR=6.5							
ASAR	**Alice Springs**	**38.51**	**252**	P	P		16 59 28.5	+0.6
	1.7nm,0.7s,baz=84,slow=9.0,SNR=20							
CMAR	**Chiang Mai Arr**	**81.73**	**292**	P	P		17 04 28.3	+3.8
	1.2nm,0.8s,baz=115,slow=5.4,SNR=3.7							
NVAR	**Mina Array Bea**	**83.29**	**47**	P	P		17 04 33.0	+0.4
	0.2nm,0.4s,baz=246,slow=7.8,SNR=2.6							
ILAR	**Eielson Array**	**86.05**	**16**	P	P		17 04 44.5	-1.1
	0.6nm,1.0s,baz=227,slow=4.8,SNR=2.2							
TXAR	**Lajitas Array**	**91.17**	**60**	P	P		17 05 11.8	+0.8
	0.6nm,0.9s,baz=224,slow=2.5,SNR=3.4							
GERES	**GERESS Array B**	**143.83**	**338**	PKP	PKPbc		17 11 39.0	+0.5
	0.2nm,0.6s,baz=307,slow=1.9,SNR=3.5							

*IDC **02** 16:54:12.3±7.2, 39.21N×96.39E, h0km, mb1 3.4/3, mb1mx3.1/30, mbtmp3.4/3, ML3.5/3, Error ellipse: s-maj=76.4km s-min=31.7km az=176.0*
*ISCJB **02** 16:54:15.6±2.2, 40.0N±0.3×96.14E±0.10, h10km, Error ellipse: s-maj=38.6km s-min=6.5km az=13.0*
*BJI **02** 16:54:16.0, 39.56N×96.11E, h6km, mb4.0/2, ML3.7/9, Ms3.5/1, Ms7 3.4/2*
*NNC **02** 16:54:21.8±6.7, 39.16N×94.31E, h0km, mb3.6, Error ellipse: s-maj=609.3km s-min=55.6km az=43.0*
ISC 02 16:54:20.2±1.7, 40.1N±0.2×96.09E±0.09, h10km, n9, σ1s18/14, 2C-1D, Gansu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**2.95**	**102**	Pg	**Pn**		**16 55 06.7**	**-0.5**
GTA				Sg	**Sn**		**16 55 44.2**	**+1.5**
GTA				SMN				
	430nm,0.8s							
GTA				SME				
	220nm,1.0s							
GTA				LR	LR			
	comp=N,600nm,8.8s							
GTA				LR	LR			
	comp=E,290nm,6.4s							
GTA				LR	LR			
	comp=Z,270nm,7.4s							
WMQ	**Urumqi**	**7.29**	**304**	Pn	**Pn**		**16 56 07.6**	**+0.8**
WMQ				Sg	Sg		16 58 07.2	-7.0
WMQ				SMN				
	comp=Z,51nm,0.7s							
WMQ				SME				
	comp=Z,64nm,0.9s							
SONM	**Songino Array**	**10.74**	**40**	Pn	**Pn**		**16 56 55.3**	**+1.2**
	0.3nm,0.3s,baz=221,slow=15,SNR=7.2							
SONM				Lg	Lg		17 00 10.4	
	0.4nm,0.3s,baz=221,slow=33,SNR=11							
HHC	**Hu-ho-hao-te**	**11.82**	**81**	*e*P	Pn		16 57 05.4	-3.5
HHC				PP	**PnPn**		**16 57 15.3**	**-1.2**
HHC				S	**Sn**		**16 59 19.0**	**-1.9**
HHC				SS	**SnSn**		**16 59 33.9**	**+1.3**
MK31	**Makanchi Array**	**12.07**	**308**	Pn	**Pn**		**16 57 11.4**	**-0.8**
	0.4nm,0.4s,baz=120,slow=14,SNR=20							
MK31				⇑Sn	**Sn**		**16 59 26.0**	**-0.8**
	1.3nm,0.8s,baz=115,slow=28,SNR=3.8							
MKAR	**Makanchi Array**	**12.07**	**308**	Pn	**Pn**		**16 57 11.7**	**-0.4**
	0.3nm,0.3s,baz=119,slow=14,SNR=16							
MKAR				Sn	**Sn**		**16 59 27.5**	**+0.7**
	0.1nm,0.3s,baz=123,slow=23,SNR=3.6							
MKAR				Lg	Lg		17 00 59.8	
	0.1nm,0.3s,baz=118,slow=30,SNR=4.0							
ZALV	**Zalesovo Beam**	**15.84**	**335**	Pn	**P**		**16 58 06.1**	**-0.8**
	0.1nm,0.3s,baz=134,slow=12,SNR=2.1							
KURBB	**Kurchatov Arra**	**16.20**	**316**	⇓P	**P**		**16 58 11.6**	**+0.7**
	2.6nm,1.1s							
KURK	**Kurchatov**	**16.20**	**317**	⇑P	**Pn**		**16 58 06.8**	**-1.0**
	1.3nm,1.3s							

IDC 02 17:02:42.0±10.0, 15.36S×173.02W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.5/21, mbtmp3.6/2, Error ellipse: s-maj=523.3km s-min=25.7km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.88**	**40**	Pn	Pn		17 03 14.3	-1.3
	37nm,0.3s,baz=52,slow=0.4,SNR=23							
AFI				Sn	Sn		17 03 33.6	-6.4
	146nm,0.3s,baz=60,slow=22,SNR=12							
WRA	**Warramunga Arr**	**50.21**	**257**	P	P		17 11 39.3	-0.9
	0.3nm,0.6s,baz=90,slow=6.8,SNR=2.5							
ASAR	**Alice Springs**	**50.47**	**252**	P	P		17 11 41.7	-0.5
	0.7nm,0.7s,baz=88,slow=7.7,SNR=11							
BRTR	**Keskin Array B**	**146.36**	**321**	PKPbc	PKPab		17 22 26.9	+0.8
	0.8nm,0.8s,baz=74,slow=1.8,SNR=3.7							

*AUST **02** 17:11:14.8±2.8, 16.89S×171.91W, h0km, Error ellipse: s-maj=1.5km s-min=1.1km az=43.0*
*IDC **02** 17:11:17.8±0.6, 16.96S×172.75W, h0km, mb4.3/19, mb1 4.5/19, mb1mx4.5/26, mbtmp4.4/19, MS4.1/4, Ms1 4.1/4, ms1mx3.6/36, Error ellipse: s-maj=21.4km s-min=14.9km az=133.0*
*ISCJB **02** 17:11:19.1±0.5, 16.92S±0.09×172.87W±0.10, h17km, mb4.5/23, MS4.1/3, Error ellipse: s-maj=15.1km s-min=10.8km az=40.3*
*NEIC **02** 17:11:19.4±0.4, 16.91S×172.85W, h10km, mb5.0/7, Error ellipse: s-maj=13.8km s-min=9.4km az=135.0*
ISC 02 17:11:20.6±0.5, 17.0S±0.1×172.7W±0.1, h17km, n96, σ1s08/88, mb4.4/23, MS4.1/3, 7C-3D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.17**	**17**	*e*Pn	Pn		17 12 03.4	-6.5
AFI					Sn	Sn	17 12 37.2	-10
AFI	**Afiamalu**	**3.17**	**17**	Pn	Pn		17 12 04.0	-5.8
	15nm,0.3s,baz=28,slow=13,SNR=14							
AFI					Sn	Sn	17 12 37.2	-10
	29nm,0.3s,baz=201,slow=22,SNR=5.3							
NIUE	**Niue**	**3.40**	**129**	P	Pn		17 12 05.3	-7.6
	baz=2.9,SNR=40							
RAR	**Rarotonga**	**12.96**	**111**	Pn	Pn		17 14 16.2	-7.9
RAR	**Rarotonga**	**12.96**	**111**	Pn	Pn		17 14 16.2	-7.9
	2.5nm,0.3s,baz=270,slow=9.9,SNR=4.6							
RAR					LR	LR	17 17 47.8	
	comp=Z,622nm,19.6s,baz=271,slow=30							
DZM	**Mont Dzumac**	**20.26**	**252**	*e*P	**P**		**17 15 54.8**	**-0.7**
	47nm,1.1s							
DZM				*e*LR	LR		17 20 34.0	
	567nm,25.8s							
DZM	**Mont Dzumac**	**20.26**	**252**	P	**P**		**17 15 55.5**	**0.0**
DZM	**Mont Dzumac**	**20.26**	**252**	P	**P**		**17 15 55.5**	**0.0**
	8.5nm,0.8s,baz=76,slow=15,SNR=4.7							
PPT2	**Papeete2**	**22.13**	**95**	*e*LR	LR		17 21 15.5	
	590nm,26.8s							
PPT	**Papeete**	**22.13**	**95**	LR	LR		17 21 45.0	
	comp=Z,474nm,19.7s,baz=117,slow=28							
TBI	**Tubuai**	**22.74**	**110**	*e*LR	LR		17 21 22.4	
	612nm,29.2s							
URZ	**Urewera**	**23.01**	**201**	*e*Pn	**P**		**17 16 24.1**	**-0.6**
	36nm,0.7s							
URZ	**Urewera**	**23.01**	**201**	P	**P**		**17 16 24.3**	**-0.4**
	19nm,0.6s,baz=49,slow=2.2,SNR=16							
HNR	**Honiara**	**27.60**	**282**	LR	LR		17 26 24.6	
	comp=Z,605nm,19.1s,baz=282,slow=33							
EIDS	**Eidsvold**	**34.67**	**250**	P	**P**		**17 18 07.8**	**-1.7**
CTA	**Charters Tower**	**38.94**	**259**	P	**P**		**17 18 44.5**	**-1.4**
CTA	**Charters Tower**	**38.94**	**259**	P	**P**		**17 18 44.5**	**-1.4**
	2.9nm,0.7s,baz=95,slow=8.6,SNR=6.4							
CTAO	**Charters Tower**	**38.94**	**259**	*e*P	**P**		**17 18 44.4**	**-1.4**
	4.8nm,0.7s							
QLP	**Quilpie**	**40.92**	**249**	P	**P**		**17 19 01.3**	**-1.1**
	baz=42,SNR=6.5							
STKA	**Stephens Creek**	**43.83**	**241**	P	**P**		**17 19 24.6**	**-1.3**
STKA	**Stephens Creek**	**43.83**	**241**	P	**P**		**17 19 26.2**	**+0.3**
	baz=44,SNR=4.7							
STKA	**Stephens Creek**	**43.83**	**241**	P	**P**		**17 19 24.6**	**-1.3**
	3.8nm,0.9s,baz=86,slow=4.3,SNR=6.7							
STKA					LR	LR	17 34 23.8	
	comp=Z,235nm,19.3s,baz=283,slow=32							
BBOO	**Buckleboo**	**48.60**	**241**	P	**P**		**17 20 03.1**	**-0.4**
	baz=49,SNR=5.8							
WRAB	**Tennant Creek**	**50.11**	**258**	*e*P	**P**		**17 20 13.4**	**-1.9**
	7.1nm,1.0s							
WRA	**Warramunga Arr**	**50.12**	**258**	P	**P**		**17 20 13.9**	**-1.5**
WRA	**Warramunga Arr**	**

2.0nm,1.1s,baz=236,slow=5.8,SNR=8.3
PDAR Pinedale Array 83.00 41 P **P** 17 23 45.0 **-0.3**
PDAR Pinedale Array 83.00 41 P **P** 17 23 45.0 **-0.3**
1.4nm,1.0s,baz=220,slow=3.5,SNR=7.0
ILAR Eielson Array 83.85 11 P **P** 17 23 49.0 **+0.1**
ILAR Eielson Array 83.85 11 P **P** 17 23 49.0 **+0.1**
0.6nm,0.7s,baz=211,slow=6.3,SNR=6.1
MAW Mawson 86.52 198 P **P** 17 24 03.1 **+0.8**
MAW Mawson 86.52 198 P **P** 17 24 03.1 **+0.8**
6.9nm,1.0s,baz=101,slow=5.1,SNR=8.4
PSI Prapat 89.22 273 P **P** 17 24 17.7 **+1.2**
PSI Prapat 89.22 273 P **P** 17 24 17.7 **+1.2**
5.5nm,0.3s,baz=198,slow=7.8,SNR=4.4
CMAR Chiang Mai Arr 93.70 288 P **P** 17 24 36.3 **-0.6**
CMAR Chiang Mai Arr 93.70 288 P **P** 17 24 36.3 **-0.6**
1.8nm,0.9s,baz=82,slow=2.3,SNR=8.9
MKAR Makanchi Array 112.37 314 PKiKP **PKiKP** 17 29 55.5 **-0.2**
MKAR Makanchi Array 112.37 314 PKiKP **PKiKP** 17 29 55.5 **-0.2**
0.7nm,0.9s,baz=121,slow=0.7,SNR=3.3
AKASG Malin Array Be 142.02 337 PKPpre PKPpre 17 30 46.8
AKASG Malin Array Be 142.02 337 PKhKP PKPpre 17 30 46.8
0.1nm,0.4s,baz=103,slow=26,SNR=3.6
KMBO Kilima Mbogo 145.39 242 PKPbc **PKPab** 17 31 00.5 **+1.5**
KMBO *e*PKPdf **PKiKP** 17 31 01.0 **-2.0**
KMBO Kilima Mbogo 145.39 242 PKPbc **PKPab** 17 31 00.5 **+1.5**
7.8nm,0.9s,baz=51,slow=3.7,SNR=22
MALT Malatya 145.41 314 ⇑*i*P **PKPab** 17 31 00.6 **+2.4**
CLL Collm 145.43 354 *e*PKPdf **PKPab** 17 30 58.0 **+0.3**
CLL ⇓*i*PKiKP **PKiKP** 17 31 01.4 **-0.2**
comp=Z,22nm,1.7s
UPC Upice 145.81 350 *e*PKP **PKPab** 17 31 00.6 **+1.4**
DPC Dobruska-Polom 145.90 350 *e*PKP **PKPab** 17 31 01.5 **+1.9**
DPC *ex* x 17 31 24.4
PVCC Panska Ves 146.00 352 *e*PKP **PKPab** 17 31 01.0 **+1.1**
PVCC *ex* x 17 31 28.4
BURAR Bucovina Array 146.05 338 ⇑*i*P **PKPab** 17 31 01.2 **+0.9**
OKC Ostrava-Krasne 146.05 347 *e*PKP **PKPab** 17 31 02.1 **+2.0**
MORC Moravsky Berou 146.23 348 ⇑*i*P PKPab 17 31 09.2 +8.4
PRU Pruhonice 146.54 351 *e*PKP **PKPab** 17 31 02.4 **+0.5**
PRU *ex* x 17 31 25.3
TLB Topalu 147.37 332 ⇑*i*P **PKPab** 17 31 04.5 **-0.9**
KHC Kasperske Hory 147.51 352 *e*PKP **PKPbc** 17 31 04.6 **+0.8**
KHC *ex* x 17 31 17.1
MLR Muntele Rosu 147.54 335 ⇑*i*P **PKPab** 17 31 05.7 **-0.5**
DRGR 147.62 340 ⇓*i*P **PKPbc** 17 31 05.0 **+0.8**
BR131 Keskin Array S 147.76 320 *e*PKPbc **PKPbc** 17 31 05.6 **+0.6**
BRTR Keskin Array B 147.76 320 PKPbc **PKPbc** 17 31 05.9 **+1.0**
BRTR Keskin Array B 147.76 320 PKPbc **PKPbc** 17 31 05.9 **+1.0**
comp=Z,4.2nm,0.8s,baz=132,slow=1.7,SNR=16
GERES GERESS Array B 147.77 352 PKPbc **PKPbc** 17 31 04.9 **+0.3**
GERES GERESS Array B 147.77 352 PKPbc **PKPbc** 17 31 04.9 **+0.3**
comp=Z,1.0nm,0.8s,baz=343,slow=2.8,SNR=5.9
VOIR 147.94 336 ⇓*i*P **PKPab** 17 31 06.6 **-1.1**
ARR Arges 148.16 336 ⇑*i*P **PKPab** 17 31 07.5 **-1.1**
BFO Black Forest 148.70 359 PKPbc **PKPbc** 17 31 05.0 **-2.0**
BZS Buzias 149.01 340 ⇑*i*P **PKPbc** 17 31 08.5 **+0.7**
TOA0 Torodi Ar. Sit 173.42 124 *e*PKP **PKPdf** 17 31 31.0 **+1.0**
TORD Torodi Ar. Bea 173.42 124 PKP **PKPdf** 17 31 29.1 **-0.9**
TORD PKPab **PKPab** 17 32 57.0 **-1.5**
TORD Torodi Ar. Bea 173.42 124 PKP **PKPdf** 17 31 29.1 **-0.9**
comp=Z,0.6nm,0.9s,baz=270,slow=2.5,SNR=4.3
TORD PKPab **PKPab** 17 32 57.0 **-1.5**
comp=Z,1.4nm,0.8s,baz=257,slow=5.2,SNR=6.2

IDC 02 17:17:38.7±1.1,2.87N×127.27E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/23, mbtmp3.8/7, Error ellipse: s-maj=107.5km s-min=16.5km az=71.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.90**	**184**	P	P	17 22 23.1	+0.3
	1.9nm,0.7s,baz=30,slow=6.6,SNR=7.9						
WRA	**Warramunga Arr**	**23.71**	**163**	P	P	17 22 52.0	-0.6
	0.9nm,0.5s,baz=338,slow=10,SNR=22						
ASAR	**Alice Springs**	**27.16**	**167**	P	P	17 23 24.1	+0.1
	0.5nm,0.6s,baz=345,slow=7.1,SNR=7.9						
ASAR				PcP	PcP	17 26 44.6	-0.2
	0.1nm,0.6s,baz=351,slow=1.8,SNR=4.1						
STKA	**Stephens Creek**	**37.14**	**160**	P	P	17 24 51.4	0.0
	2.4nm,0.6s,baz=355,slow=7.5,SNR=6.6						
SONM	**Songino Array**	**48.28**	**341**	P	P	17 26 22.4	+0.6
	0.3nm,0.3s,baz=156,slow=8.5,SNR=4.2						
MKAR	**Makanchi Array**	**58.56**	**325**	P	P	17 27 37.2	-0.1
	1.0nm,0.4s,baz=120,slow=8.0,SNR=26						
ZALV	**Zalesovo Beam**	**61.59**	**333**	P	P	17 27 57.1	-0.7
	0.4nm,0.3s,baz=93,slow=5.9,SNR=4.5						

*IDC **02** 17:30:43.0±1.8, 15.52S×176.63W, h0km, mb3.8/6, mb1 4.2/6, mb1mx3.9/19, mbtmp3.8/6, MS4.0/9, Ms1 4.0/9, ms1mx3.8/38, Error ellipse: s-maj=114.9km s-min=23.2km az=152.0*

ISC 02 17:30:48.3±1.9, 15.6S±0.7×176.6W±0.4, h35km, n26, σ1§63/7, mb3.9/6, MS4.0/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**13.67**	**185**	LR	LR	17 37 52.0	
	comp=Z,336nm,19.8s,baz=338,slow=31						
RAR	**Rarotonga**	**16.96**	**112**	LR	LR	17 39 47.7	
	comp=Z,928nm,18.5s,baz=269,slow=32						
DZM	**Mont Dzumac**	**17.26**	**245**	*e*P	P	17 34 55.5	+7.5
	38nm,1.6s						
DZM				*e*LR	LR	17 38 51.9	
	593nm,24.2s						
DZM	**Mont Dzumac**	**17.26**	**245**	LR	LR	17 38 58.4	
	comp=Z,136nm,20.2s,baz=354,slow=29						
URZ	**Urewera**	**23.27**	**193**	LR	LR	17 43 36.1	
	comp=Z,379nm,19.4s,baz=289,slow=33						
HNR	**Honiara**	**23.64**	**282**	LR	LR	17 43 39.6	
	comp=Z,585nm,18.7s,baz=166,slow=33						
PPT	**Papeete**	**26.01**	**98**	LR	LR	17 43 13.3	
	comp=Z,356nm,19.1s,baz=226,slow=29						
PPT2	**Papeete2**	**26.01**	**98**	*e*LR	LR	17 42 57.4	
	687nm,26.2s,baz=263						
TBI	**Tubuai**	**26.74**	**111**	*e*LR	LR	17 43 29.1	
	969nm,26.2s,baz=285						
H11S2	**WAKE ISLAND Hy**	**37.61**	**334**	T	T	18 16 56.7	
	baz=158,slow=0.7,SNR=12						
H11S3	**WAKE ISLAND Hy**	**37.62**	**334**	T	T	18 16 56.7	
	baz=158,slow=0.7,SNR=9						
H11S1	**WAKE ISLAND Hy**	**37.63**	**334**	T	T	18 17 00.1	
	baz=158,slow=0.7,SNR=13						
H11N3	**WAKE ISLAND Hy**	**38.62**	**335**	T	T	18 18 11.3	
	baz=156,slow=0.7,SNR=5.5						
H11N1	**WAKE ISLAND Hy**	**38.62**	**335**	T	T	18 18 12.9	
	baz=156,slow=0.7,SNR=21						
H11N2	**WAKE ISLAND Hy**	**38.63**	**335**	T	T	18 18 14.8	
	baz=156,slow=0.7,SNR=8.0						
RKT	**Rikitea**	**39.92**	**107**	*e*LR	LR	17 49 41.0	
	492nm,27.0s						
STKA	**Stephens Creek**	**41.26**	**239**	LR	LR	17 52 54.2	
	comp=Z,238nm,21.4s,baz=215,slow=32						
WRA	**Warramunga Arr**	**46.76**	**257**	P	P	17 39 15.0	+0.3
	1.7nm,0.9s,baz=90,slow=8.2,SNR=3.7						
WRA				LR	LR	17 57 04.6	
	comp=Z,278nm,20.3s,baz=95,slow=34						
ASAR	**Alice Springs**	**47.09**	**252**	P	P	17 39 17.6	+0.5
	1.5nm,0.7s,baz=85,slow=8.9,SNR=7.5						
KDAK	**Kodiak Island**	**75.75**	**13**	LR	LR	18 08 23.8	
	comp=Z,259nm,21.1s,baz=73,slow=30						
NVAR	**Mina Array Bea**	**76.57**	**43**	P	P	17 42 36.6	+1.1
	1.8nm,1.0s,baz=230,slow=8.7,SNR=6.8						
ILAR	**Eielson Array**	**83.25**	**12**	P	P	17 43 11.6	+0.9
	0.5nm,0.9s,baz=205,slow=4.0,SNR=3.7						
TXAR	**Lajitas Array**	**83.32**	**57**	P	P	17 43 11.9	-0.1
	0.2nm,0.7s,baz=224,slow=2.5,SNR=2.7						
PDAR	**Pinedale Array**	**84.50**	**43**	P	P	17 43 17.6	-0.3
	0.7nm,0.9s,baz=197,slow=4.6,SNR=4.4						
BRTR	**Keskin Array B**	**144.26**	**318**	PKP	PKPbc	17 50 19.8	+0.4
	1.2nm,0.9s,baz=156,slow=3.7,SNR=4.7						
GERES	**GERESS Array B**	**145.75**	**348**	PKPbc	**PKPbc**	17 50 20.9	**-2.9**
	0.1nm,0.3s,baz=39,slow=2.8,SNR=2.6						

DJA 02 17:32:29.9±0.4, 1°S±3°×12°2E±°, h10km, M4.4/12, mb4.5/3, mB5.1/3, MLv4.3/12, Mw(mB)4.5/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**0.19**	**186**	P	Pg	17 32 33.3	-0.7
LUWI	**Luwuk**	**1.15**	**106**	P	Pb	17 32 50.7	-1.1
MRSI	**Marisa**	**1.22**	**13**	P	Pn	17 32 51.4	-1.6
TOLI	**Toli-Toli**	**2.03**	**334**	P	Pn	17 33 04.9	+0.7
KMSI	**Cibinong**	**2.64**	**61**	P	Pb	17 33 15.2	-2.2
SPSI	**Sidrap Palu**	**3.74**	**210**	P	Pn	17 33 29.0	+1.3
BNSI	**Bone**	**3.98**	**203**	P	Pn	17 33 33.2	+2.2
BBSI	**Bau Bau**	**4.82**	**169**	P	Pn	17 33 42.7	+0.1
BKSI	**Bulukumba**	**4.83**	**199**	P	Pn	17 33 43.1	+0.4
NLAI	**Namlea**	**5.97**	**115**	P	Pn	17 33 58.6	+0.1
	37nm,0.7s,2µm0.4nm						
AAI	**Ambon**	**7.15**	**114**	P	Pn	17 34 15.9	+1.2

*IDC **02** 17:32:43.4±0.7, 6.16S×150.67E, h0km, mb4.0/11, mb1 4.2/12, mb1mx4.0/20, mbtmp4.0/12, ML2.9/1, MS3.2/1, Ms1 3.2/1, ms1mx2.9/36, Error ellipse: s-maj=24.5km s-min=15.6km az=108.0*

*ISCJB **02** 17:32:46.9±0.5, 6.16S±0.07×150.57E±0.08, h33km, mb4.0/12, Error ellipse: s-maj=13.1km s-min=8.0km az=33.5*

*NEIC **02** 17:32:46.6±4.2, 6.20S×150.65E, h21km±29km, mb4.5/3, Error ellipse: s-maj=13.5km s-min=12.5km az=98.0*

*AUST **02** 17:32:54.6, 6.18S×150.63E, h100km*

ISC 02 17:32:48.3±0.5, 6.19S±0.08×150.65E±0.10, h33km, n48, σ0§85/47, mb4.1/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.49**	**37**	P	**Pb**	**17 33 31.5**	**-0.9**
	baz=2.5,SNR=8.3						
PMG	**Port Moresby**	**4.71**	**227**	Pn	**Pn**	**17 33 58.0**	**+0.9**
PMG				*e*Sn	**Sn**	**17 34 49.6**	**-1.0**
PMG				Sn	**Sn**	**17 34 50.5**	**-0.1**
PMG	**Port Moresby**	**4.71**	**227**	Pn	**Pn**	**17 33 58.0**	**+0.9**
	3.6nm,0.3s,baz=58,slow=5.2,SNR=20						
PMG				Sn	**Sn**	**17 34 50.5**	**-0.1**
	8.3nm,0.3s,baz=129,slow=13,SNR=8.3						
PMG				LR	LR	17 36 07.4	
	comp=Z,219nm,18.0s,baz=348,slow=43						
MANU	**Manus Island**	**5.27**	**321**	P	Pb	17 34 14.1	-5.6
	baz=5.3,SNR=4.4						
CTAO	**Charters Tower**	**14.46**	**197**	Pn	**Pn**	**17 36 08.1**	**-2.6**
	9.4nm,1.1s						
KDU	**Kakadu**	**19.05**	**249**	P	**P**	**17 37 08.2**	**+0.2**
	baz=19,SNR=3.9						
RMQ	**Roma**	**20.26**	**185**	P	Pn	17 37 22.7	-0.5
	baz=20,SNR=17						
WRAB	**Tennant Creek**	**20.92**	**228**	*e*P	**P**	**17 37 27.8**	**-0.5**
	5.8nm,0.6s						
WRA	**Warramunga Arr**	**20.93**	**228**	P	**P**	**17 37 28.6**	**+0.2**
WRA	**Warramunga Arr**	**20.93**	**228**	P	**P**	**17 37 28.6**	**+0.2**
	6.4nm,0.5s,baz=52,slow=11,SNR=46						
QLP	**Quilpie**	**21.18**	**196**	P	**P**	**17 37 33.2**	**+2.2**
	baz=21,SNR=10						
DZM	**Mont Dzumac**	**21.95**	**138**	P	**P**	**17 37 39.9**	**+0.5**
DZM	**Mont Dzumac**	**21.95**	**138**	P	**P**	**17 37 39.9**	**+0.5**
	4.8nm,0.6s,baz=17,slow=16,SNR=9.7						
KNRA	**Kununurra**	**23.45**	**245**	P	**P**	**17 37 56.0**	**+1.0**
	baz=23,SNR=3.3						
AS31	**Alice Springs**	**23.69**	**221**	*e*P	**P**	**17 37 56.9**	**-0.5**
ASAR	**Alice Springs**	**23.69**	**221**	P	**P**	**17 37 57.4**	**+0.1**
ASAR	**Alice Springs**	**23.69**	**221**	P	**P**	**17 37 57.4**	**+0.1**
	3.8nm,0.6s,baz=55,slow=8.9,SNR=99						
STKA	**Stephens Creek**	**26.92**	**197**	P	**P**	**17 38 25.7**	**-0.9**
STKA	**Stephens Creek**	**26.92**	**197**	P	**P**	**17 38 26.6**	**0.0**
	baz=27,SNR=4.3						
STKA	**Stephens Creek**	**26.92**	**197**	P	**P**	**17 38 25.7**	**-0.9**
	2.9nm,0.7s,baz=24,slow=14,SNR=9.0						
FITZ	**Fitzroy Crossi**	**27.12**	**242**	P	**P**	**17 38 28.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**27.12**	**242**	P	**P**	**17 38 28.5**	**-0.1**
	baz=27,SNR=14						
FITZ	**Fitzroy Crossi**	**27.12**	**242**	P	**P**	**17 38 28.5**	**-0.1**
	3.4nm,0.5s,baz=62,slow=6.8,SNR=24						
MBWA	**Marble Bar**	**33.43**	**241**	P	**P**	**17 39 23.7**	**-0.6**
	16nm,1.2s						
MEEK	**Meekatharra**	**36.66**	**233**	P	**P**	**17 39 52.4**	**+0.2**
	baz=37,SNR=6.7						
CISI	**Cisompet, Garu**	**42.54**	**266**	P	**P**	**17 40 40.9**	**-0.4**
	baz=42,SNR=4.4						
KSRS	**Korea Array**	**48.33**	**336**	P	**P**	**17 41 26.4**	**-0.2**
	0.7nm,0.6s,baz=144,slow=9.9,SNR=4.2						
KSAR	**Wonju Array Be**	**48.33**	**336**	P	**P**	**17 41 26.4**	**-0.3**
PETK	**Petropavlovsk-**	**59.38**	**5**	P	**P**	**17 42 45.9**	**-1.3**
PETK	**Petropavlovsk-**	**59.38**	**5**	P	**P**	**17 42 45.9**	**-1.3**
	1.9nm,1.0s,baz=188,slow=7.1,SNR=3.3						
SONM	**Songino Array**	**66.39**	**329**	P	**P**	**17 43 35.0**	**+0.8**
SONM	**Songino Array**	**66.39**	**329**	P	**P**	**17 43 35.0**	**+0.8**
	0.3nm,0.6s,baz=148,slow=8.5,SNR=2.4						
VNDA	**Vanda**	**71.53**	**177**	P	**P**	**17 44 05.8**	**+0.3**
VNDA	**Vanda**	**71.53**	**177**	P	**P**	**17 44 05.8**	**+0.3**
	0.5nm,0.6s,baz=331,slow=9.5,SNR=6.2						
QSPA	**South Pole Qui**	**83.78**	**180**	*e*P	**P**	**17 45 14.4**	**+0.3**
	2.9nm,0.8s						
ILAR	**Eielson Array**	**84.25**	**22**	P	**P**	**17 45 16.0**	**-0.3**
ILAR	**Eielson Array**	**84.25**	**22**	P	**P**	**17 45 16.0**	**-0.3**
	0.4nm,0.7s,baz=251,slow=5.6,SNR=3.0						
NVAR	**Mina Array Bea**	**94.62**	**52**	P	**P**	**17 46 08.2**	**+1.7**
NVAR	**Mina Array Bea**	**94.62**	**52**	P	**P**	**17 46 08.2**	**+1.7**
	0.8nm,0.7s,baz=253,slow=6.7,SNR=6.4						
AKASG	**Malin Array Be**	**114.36**	**323**	PKP	PKPdf	17 51 24.2	-0.4
AKASG	**Malin Array Be**	**114.36**	**323**	PKP	PKPdf	17 51 24.2	-0.4
	0.3nm,0.5s,baz=118,slow=1.1,SNR=4.2						
GERES	**GERESS Array B**	**124.08**	**327**	PKP	**PKPdf**	**17 51 44.2**	**+0.6**
GERES	**GERESS Array B**	**124.08**	**327**	PKP	**PKPdf**	**17 51 44.2**	**+0.6**
	0.8nm,0.6s,baz=90,slow=1.7,SNR=6.7						
TOA0	**Torodi Ar. Sit**	**148.65**	**285**	*e*PKPbc	**PKPbc**	**17 52 33.0**	**-0.1**
TORD	**Torodi Ar. Bea**	**148.65**	**285**	PKPbc	**PKPbc**	**17 52 33.5**	**+0.4**
TORD	**Torodi Ar. Bea**	**148.65**	**285**	PKPbc	**PKPbc**	**17 52 33.5**	**+0.4**
	3.4nm,0.6s,baz=42,slow=2.5,SNR=22						
BDFB	**Brasilia**	**151.50**	**140**	PKPbc	**PKPbc**	**17 52 40.0**	**-0.2**
BDFB	**Brasilia**	**151.50**	**140**	PKPbc	**PKPbc**	**17 52 40.0**	**-0.2**
	2.5nm,0.6s,baz=205,slow=2.0,SNR=3.7						

IDC 02 17:36:35.6±1.4, 26.27N×106.37E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/26, mbtmp3.5/4, Error ellipse: s-maj=86.7km s-min=26.4km az=64.0, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**21.52**	**0**	P	P	17 41 26.4	0.0
	0.5nm,0.4s,baz=166,slow=10,SNR=5.7						
MKAR	**Makanchi Array**	**27.98**	**323**	P	P	17 42 26.4	-1.7
	0.3nm,0.4s,baz=128,slow=9.3,SNR=6.3						
ASAR	**Alice Springs**	**56.34**	**149**	P	P	17 46 18.4	-0.3
	0.2nm,0.8s,baz=341,slow=6.9,SNR=4.9						
FINES	**FINESS Array B**	**62.69**	**328**	P	P	17 47 03.1	+1.2
	1.8nm,0.9s,baz=108,slow=8.6,SNR=9.2						

*NNC **02** 17:40:00.7±4.4, 39.83N×73.69E, h0km, mb4.0, mpv3.5, Error ellipse: s-maj=44.1km s-min=19.0km az=15.0*

ISC 02 17:40:02.3±2.7, 39.9N±0.2×73.60E±0.07, h14km, n20, σ1§26/20, 10C-7D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.22**	**2**	P	**Pg**	**17 40 44.9**	**-0.1**
	SNR=24						
UCH	**Uchtor**	**2.42**	**16**	P	**Pg**	**17 40 49.1**	**+0.4**
	SNR=9.2						
KZA	**Kyzart**	**2.50**	**29**	P	**Pb**	**17 40 48.1**	**+0.8**
	SNR=30						
EKS2	**Erkin-Say**	**2.75**	**3**	P	**Pb**	**17 40 52.5**	**+1.1**
	SNR=38						
AAK	**Ala-Archa**	**2.81**	**14**	P	**Pb**	**17 40 53.5**	**+1.2**
	SNR=28						
KBK	**Karagaybulak**	**2.93**	**20**	P	**Pb**	**17 40 55.4**	**+1.0**
	SNR=18						
ULHL	**Ulahol**	**3.07**	**40**	P	**Pb**	**17 40 56.5**	**-0.3**
	SNR=13						
CHMS	**Chumysh**	**3.21**	**15**	P	**Pb**	**17 40 59.7**	**+0.6**
	SNR=6.3						
TKM2	**Tokmak 2**	**3.36**	**26**	⇑Pn	**Pb**	**17 41 00.2**	**-1.7**
	8.1nm,0.5s						
TKM2				⇑Lg	Lg	17 41 52.9	
	27nm,0.7s						
TKM2	**Tokmak 2**	**3.36**	**26**	P	**Pb**	**17 41 00.5**	**-1.4**
	SNR=13						
USP	**Ospenovka**	**3.42**	**11**	P	**Pb**	**17 41 01.7**	**-1.0**
	SNR=7.5						
KK31	**Karatay Array**	**3.94**	**325**	⇓Pn	Pb	17 41 07.5	-4.1
	2.7nm,0.3s,baz=130,slow=12,SNR=189						
KK31				Pg	**Pg**	**17 41 17.8**	**0.0**
	4.1nm,0.3s,baz=139,slow=16,SNR=8.3						
KK31				⇓Sn	**Sb**	**17 41 57.0**	**-2.1**
	3.7nm,0.3s						
KK31				⇓Lg	Lg	17 42 11.6	
	8.9nm,0.3s,baz=127,slow=28,SNR=4.8						
MK31	**Makanchi Array**	**9.35**	**40**	⇓Pn	**Pn**	**17 42 16.3**	**-0.3**
	1.2nm,0.9s,baz=117,slow=10,SNR=6.0						
MK31				⇑Lg	Lg	17 44 55.0	
	2.1nm,0.8s						
KURBB	**Kurchatov Arra**	**11.26**	**16**	⇓Lg	Lg	17 46 02.4	
	8.1nm,0.8s						
KURK	**Kurchatov**	**11.37**	**16**	⇑Lg	Lg	17 46 04.7	
	8.8nm,1.6s						
VOSK	**Vostochnaya**	**12.94**	**353**	⇑Pn	**Pn**	**17 43 05.7**	**0.0**
	3.6nm,1.4s						
VOSK				⇑Lg	Lg	17 46 57.2	
	1.7nm,0.9s						
BVA0	**Borovoye Array**	**13.30**	**352**	⇑Pn	**Pn**	**17 43 12.8**	**+2.2**
	2.5nm,0.6s,baz=164,slow=12,SNR=14						
BVA0				⇑Lg	Lg	17 47 06.0	
	4.0nm,1.4s,baz=156,slow=29,SNR=3.6						
BRVK	**Borovoye**	**13.35**	**351**	⇓Pn	**Pn**	**17 43 13.1**	**+1.9**
	8.7nm,0.7s						
BRVK				⇑Lg	Lg	17 47 04.9	
	8.8nm,1.2s						
AB31	**Akbulak array**	**13.47**	**318**	Pn	**Pn**	**17 43 14.2**	**+1.2**
	0.6nm,0.5s,baz=127,slow=12,SNR=14						
AB31				⇓Sn	**Sn**	**17 45 42.5**	**+0.1**
	0.6nm,0.6s						
AKTO	**Aktyubinsk**	**15.18**	**319**	⇑Pn	**P**	**17 43 39.8**	**-1.3**
	1.3nm,0.6s						

IDC 02 17:44:33.0±2.4, 14.91S×172.46W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/20, mbtmp3.7/5, Error ellipse: s-maj=117.6km s-min=16.1km az=137.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.19**	**34**	Pn	Pn	17 44 57.0	-0.1
	34nm,0.3s,baz=168,slow=1.9,SNR=13						
AFI				Sn	Sn	17 45 15.1	+1.0
	185nm,0.3s,baz=194,slow=19,SNR=21						
STKA	**Stephens Creek**	**45.06**	**240**	P	P	17 52 50.5	-0.5
	1.5nm,0.8s,baz=112,slow=21,SNR=3.6						
WRA	**Warramunga Arr**	**50.84**	**256**	P	P	17 53 35.2	-0.7
	0.4nm,0.8s,baz=89,slow=8.8,SNR=4.0						
ASAR	**Alice Springs**	**51.12**	**252**	P	P	17 53 38.2	+0.2
	1.9nm,0.7s,baz=90,slow=7.9,SNR=33						
NVAR	**Mina Array Bea**	**73.36**	**42**	P	P	17 56 07.2	0.0
	0.5nm,0.7s,baz=231,slow=9.2,SNR=3.8						
ILAR	**Eielson Array**	**81.79**	**11**	P	P	17 56 52.8	-0.6
	0.3nm,0.7s,baz=217,slow=7.2,SNR=3.8						
BRTR	**Keskin Array B**	**146.33**	**322**	PKPbc	PKPab	18 04 16.9	-0.1
	0.8nm,0.8s,baz=132,slow=3.9,SNR=5.2						

*ISCJB **02** 18:16:43.6±0.5, 50.16S±0.08×120.1E±0.2, h10km, mb4.3/14, MS4.1/3, Error ellipse: s-maj=23.6km s-min=9.3km az=15.7*

*IDC **02** 18:16:44.4±0.9, 50.09S×120.12E, h0km, mb4.2/9, mb1 4.4/9, mb1mx4.1/18, mbtmp4.2/9, MS4.2/4, Ms1 4.1/4, ms1mx3.7/24, Error ellipse: s-maj=38.5km s-min=16.0km az=103.0*

*NEIC **02** 18:16:45.3±0.4, 50.16S×120.06E, h10km, mb4.6/9, Error ellipse: s-maj=17.2km s-min=6.9km az=107.0*

ISC 02 18:16:45.6±0.6, 50.20S±0.09×120.2E±0.2, h10km, n39, σ1§05/31, mb4.3/14, MS4.0/3, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.92**	**342**	T	T	18 36 37.9	
	baz=164,slow=0.7,SNR=74						
H01W1	**Cape Leeuwin H**	**15.92**	**342**	T	T	18 36 37.3	
	baz=164,slow=0.7,SNR=85						
H01W3	**Cape Leeuwin H**	**15.94**	**342**	T	T	18 36 31.5	
	baz=164,slow=0.7,SNR=93						
CASY	**Casey**	**16.87**	**194**	*e*Pn	**Pn**	**18 20 40.1**	**-1.3**
	19nm,1.5s						
NWAO	**Narrogin (SRO)**	**17.40**	**352**	Pn	**P**	**18 20 53.2**	**+3.6**
NWAO	**Narrogin (SRO)**	**17.40**	**352**	LR	LR	18 25 43.5	
	comp=Z,761nm,21.1s,baz=186,slow=31						
DRV	**Dumont d'Urvil**	**19.34**	**156**	P	P	18 21 00.0	-11
DRV				R		18 26 00.0	
STKA	**Stephens Creek**	**24.26**	**49**	P	**P**	**18 22 02.6**	**-0.1**
STKA	**Stephens Creek**	**24.26**	**49**	P	**P**	**18 22 02.6**	**-0.1**
	5.8nm,0.8s,baz=195,slow=9.9,SNR=12						
ASAR	**Alice Springs**	**28.57**	**27**	P	**P**	**18 22 41.4**	**-0.2**
ASAR	**Alice Springs**	**28.57**	**27**	P	**P**	**18 22 41.4**	**-0.2**
	4.7nm,0.9s,baz=202,slow=8.7,SNR=38						
AS31	**Alice Springs**	**28.57**	**27**	*e*P	**P**	**18 22 41.5**	**-0.1**
VNDA	**Vanda**	**31.54**	**164**	*e*P	**P**	**18 23 08.2**	**+0.8**
	12nm,1.4s						
VNDA	**Vanda**	**31.54**	**164**	P	**P**	**18 23 09.4**	**+2.1**
	2.4nm,0.9s,baz=302,slow=9.9,SNR=8.1						
VNDA				LR

PBA eS Sn 18 30 09.3 +1.8
PBA e4 18 31 28.9
CMBY CAMPBELL BAY 6.96 172 eP Pn 18 30 40.1 -4.7
CMBY eS **Sn** **18 31 59.9 -3.1**
CM31 Chiang Mai Arr 7.33 51 ePn **Pn** **18 30 50.3 +0.3**
18nm,0.4s
CM31 eSn **Sn** **18 32 08.8 -3.3**
CMAR Chiang Mai Arr 7.33 51 Pn **Pn** **18 30 50.1 +0.1**
CMAR Sn **Sn** **18 32 07.5 -4.7**
CMAR Chiang Mai Arr 7.33 51 Pn **Pn** **18 30 50.1 +0.1**
0.4nm,0.3s,baz=241,slow=15,SNR=11
CMAR Sn **Sn** **18 32 07.5 -4.7**
3.5nm,0.3s,baz=247,slow=24,SNR=8.5
CMAR LR LR 18 34 31.5
comp=Z,815nm,18.1s,baz=302,slow=45
CHTO Chiang Mai 7.55 49 eP **Pn** **18 30 53.2 +0.2**
CHTO e 18 32 11.1
CHTO pmax pmax
comp=Z,75nm,0.6s
CHTO Chiang Mai 7.55 49 ePn **Pn** **18 30 53.2 +0.2**
comp=Z,75nm,0.6s
CHTO eSn Sn 18 32 11.1 -6.4
CHTO Chiang Mai 7.55 49 P Pn 18 31 02.0 +9.0
comp=Z,117nm,0.9s,comp=Z,3µmcomp=Z,1.1nm
CMAI Chiengmai2 8.36 44 P Pb 18 31 19.6 -10
comp=Z,26nm,1.0s,comp=Z,0.2nm
PAYA Payao 8.57 50 P Pn 18 31 12.2 +5.1
LOEI Loei 8.79 65 P Pn 18 31 23.9 +14
comp=Z,84nm,0.7s,comp=Z,5µmcomp=Z,0.4nm
CHAI Chaiyaphum 8.98 76 P Pn 18 31 25.6 +13
comp=Z,7.6nm,1.0s,comp=Z,0.0nm
CRAI Chiangrai 9.48 48 P Pn 18 31 34.8 +15
comp=Z,225nm,1.0s,comp=Z,10µmcomp=Z,1.0nm
VIS Vishakhapatnam 9.96 293 ex **Pn** **18 31 24.8 -1.3**
VIS AMB AMB 18 31 37.2
comp=Z,150nm,1.0s
KULM Kulim 11.49 138 ePn **Pn** **18 31 49.7 +2.6**
SHL Shillong 11.61 355 eP Pn 18 31 42.0 -6.8
SHL e4 Sn 18 33 47.0 -10
BOK Bokaro 11.84 327 eP **Pn** **18 31 50.1 -1.7**
BOK AMB AMB 18 32 01.9
comp=Z,40nm,1.6s
PSI Prapat 12.56 151 Pn Pn 18 32 05.7 +3.9
PSI Prapat 12.56 151 Pn Pn 18 32 05.7 +3.9
comp=Z,0.4nm,0.3s,baz=311,slow=13,SNR=6.1
PSI LR LR 18 37 31.8
comp=Z,279nm,19.3s,baz=320,slow=40
PALK Pallekele 13.71 242 ePn **Pn** **18 32 15.5 -1.9**
PALK eSn Sn 18 34 37.2 -11
ODAN Odare 13.85 339 eP Pn 18 32 14.9 -4.7
comp=Z,46nm,0.5s
TAPN Taplejung 14.20 341 eP Pn 18 32 20.2 -4.1
RAMN Ramite 14.23 336 eP Pn 18 32 19.9 -4.8
comp=Z,92nm,0.6s
HYB Hyderabad 14.25 286 *i* P **Pn** **18 32 25.0 +0.1**
HYB eS **Sn** **18 35 04.0 +2.0**
KMI Kunming 14.47 38 P **Pn** **18 32 30.6 +2.7**
KMI pP P 18 32 39.1 +4.8
KMI sP 18 32 45.2
KMI S **Sn** **18 35 12.5 +5.1**
KMI sS **S** **18 35 24.9 -1.5**
KMI SS **SnSn** **18 35 28.9 +8.6**
KMI AMB AMB
comp=Z,3.0nm,1.0s
KMI AMB AMB
comp=Z,91nm,5.3s
KMI LR LR
comp=Z,370nm,16.4s
KMI LR LR
comp=Z,190nm,14.8s
KMI LR LR
comp=Z,280nm,16.4s
JIRN Jiri 15.02 336 eP Pn 18 32 30.5 -5.0
comp=Z,139nm,0.9s
NGP Nagpur 15.03 300 ex **Pn** **18 32 33.8 -1.5**
PKI Pulchoki 15.26 334 eP Pn 18 32 32.8 -5.9
comp=Z,116nm,0.9s
PKIN Phulchoki 15.27 334 eP Pn 18 32 32.9 -5.9
GUN Gumba 15.37 336 eP **Pn** **18 32 35.4 -4.7**
comp=Z,80nm,0.7s
DMN Daman 15.43 333 eP Pn 18 32 35.1 -5.7
comp=Z,154nm,0.7s
KKN Kakani 15.51 334 eP **Pn** **18 32 37.3 -4.5**
comp=Z,117nm,0.8s
LSA Lhasa 15.77 354 P Pn 18 32 40.1 -5.3
LSA Lhasa 15.77 354 eP **Pn** **18 32 45.5 +0.1**
LSA pmax pmax
comp=Z,28nm,0.8s
LSA Lhasa 15.77 354 eP **Pn** **18 32 45.5 +0.1**
comp=Z,28nm,0.8s
LSA eSn Sn 18 35 20.7 -19
GKN Gorkha 15.97 332 eP **Pn** **18 32 44.1 -3.6**
comp=Z,109nm,0.6s
KOLN Koldanda 16.27 329 eP **Pn** **18 32 49.3 -2.2**
comp=Z,144nm,0.6s
AKL Akola 16.59 296 eP **P** **18 32 57.1 -0.6**
AKL AMB AMB 18 33 03.0
comp=Z,29nm,1.0s
DANN Dangsing 16.68 331 eP **Pn** **18 32 54.2 -2.6**
comp=Z,108nm,0.8s
QIZ Qiongzhong 17.00 70 P **Pn** **18 33 01.3 +0.7**
QIZ S **Sn** **18 36 11.1 +2.3**
QIZ LR LR
comp=Z,240nm,18.5s
QIZ LR LR
comp=Z,210nm,16.5s
QIZ LR LR
comp=Z,460nm,16.9s
BHPL Bhopal 17.34 304 eP **P** **18 33 06.5 +0.5**
GYA Guiyang 17.91 44 P **Pn** **18 33 11.5 -0.5**
GYA pP **pP** **18 33 19.4 -1.5**
GYA PP **PnPn** **18 33 26.4 +3.2**
GYA S **Sn** **18 36 27.4 -3.6**
GYA SS **SnSn** **18 36 49.0 +4.1**
GYA AMB AMB
comp=Z,10.0nm,0.8s
GYA AMB AMB
comp=Z,70nm,4.3s
GYA LR LR
comp=Z,960nm,16.1s
GYA LR LR
comp=Z,940nm,16.3s
GYA LR LR
comp=Z,2µm,16.7s
POO Poona 18.86 287 ex **P** **18 33 20.3 -2.5**
POO AMB AMB 18 33 37.5
comp=Z,30nm,0.0s
POO *i* x x 18 33 43.0
CD2 Chengdu 19.62 29⇑ *i*P Pn 18 33 40.1 +7.6
CD2 pP pP 18 33 49.3 +10
CD2 sP sP 18 33 54.5 +11
CD2 PP PnPn 18 33 59.0 +12
CD2 S **Sn** **18 37 14.3 +2.4**
CD2 sS sS 18 37 28.1 +3.8
CD2 SS SnSn 18 37 42.2 +16
CD2 AMB AMB
comp=Z,70nm,0.7s
CD2 AMB AMB
comp=Z,180nm,5.3s
CD2 LR LR
comp=N,310nm,10.1s
CD2 LR LR
comp=Z,220nm,11.3s
NDI New Delhi 20.68 318 eP **P** **18 33 41.0 -1.5**
KSM Kuching 21.20 124 eP **P** **18 33 50.2 +2.0**
comp=Z,7.0nm,0.7s
DDI Dehra Dun 21.30 322 eP **P** **18 33 47.8 -1.4**
ENH Enshi 22.31 41 eP **P** **18 33 59.0 -1.1**
comp=Z,22nm,0.8s
ENH ePcP **PcP** **18 37 55.2 0.0**
SMLA Simla 22.41 322 eP **P** **18 34 00.3 -0.8**
SMLA AMB AMB 18 34 05.7
comp=Z,30nm,1.8s
DHRM DHARAMSHALA 23.73 323 eP **P** **18 34 11.9 -2.8**
LZH Lanzhou 24.14 22 P **P** **18 34 18.7 +0.3**
LZH pP **pP** **18 34 28.2 +0.5**
LZH sP **sP** **18 34 32.8 +1.2**
LZH S **S** **18 38 29.5 -5.0**
LZH sS **sS** **18 38 46.2 -3.4**
LZH SS **SnSn** **18 39 25.0 +7.5**
LZH AMB AMB
comp=Z,20nm,1.0s
LZH AMB AMB
comp=Z,97nm,4.0s
LZH LR LR
comp=Z,260nm,11.6s
LZH LR LR
comp=Z,200nm,15.5s
LZH LR LR
comp=Z,380nm,12.6s
WHN Wuhan 25.74 47 P **P** **18 34 33.3 +0.4**
GTA Gaotai 26.09 12 eP **P** **18 34 37.0 +0.9**
GTA pP **pP** **18 34 46.3 +1.0**
GTA sP **sP** **18 34 50.8 +1.6**
GTA PcP **PcP** **18 38 04.2 +0.9**
GTA S **S** **18 39 07.9 +2.4**
GTA sS **sS** **18 39 24.6 +3.8**
GTA AMB AMB
comp=Z,5.0nm,0.9s
GTA AMB AMB
comp=Z,140nm,5.9s
GTA LR LR
comp=Z,280nm,15.7s
GTA LR LR
comp=Z,140nm,11.6s
GTA LR LR
comp=Z,170nm,15.0s
YHNB Yeheng 28.84 64 P **P** **18 35 02.5 +1.5**
H08S3 Diego Garcia H 29.50 225 T T 19 05 59.9
baz=42,slow=0.7,SNR=71
H08S2 Diego Garcia H 29.51 225 T T 19 06 06.7
baz=42,slow=0.7,SNR=72
H08S1 Diego Carcia H 29.52 225 T T 19 06 00.1
baz=42,slow=0.7,SNR=38
KSH Kashi 29.52 333 P **P** **18 35 05.3 -1.5**
KSH pP **pP** **18 35 18.4 +2.3**
KSH sP **sP** **18 35 22.5 +2.5**
KSH PP **PnPn** **18 36 04.1 +2.2**
KSH S **S** **18 39 58.6 -1.0**
KSH AMB AMB
comp=Z,7.0nm,0.6s
KSH AMB AMB
comp=Z,88nm,4.8s
KSH LR LR
comp=Z,110nm,5.8s
KSH LR LR
comp=Z,89nm,5.0s
KSH LR LR
comp=Z,97nm,5.2s
KBL Kabul 29.77 318 P **P** **18 35 08.1 -1.1**
KBL Kabul 29.77 318 P **P** **18 35 08.1 -1.1**
NJ2 Nanjing 29.79 48 eP **P** **18 35 10.5 +1.4**
NJ2 AMB AMB
comp=Z,10.0nm,0.7s
WMQ Urumqi 30.11 352 eP **P** **18 35 13.1 +1.2**
WMQ pP **pP** **18 35 22.7 +1.5**
WMQ sP **sP** **18 35 26.7 +1.6**
WMQ S **S** **18 40 08.3 -0.3**
WMQ sS sS 18 40 30.4 +6.4
WMQ AMB AMB
comp=Z,10.0nm,0.4s
WMQ AMB AMB
comp=Z,170nm,4.8s
WMQ LR LR
comp=Z,190nm,5.2s
WMQ LR LR
comp=Z,110nm,5.0s
WMQ LR LR
comp=Z,150nm,23.6s
HHC Hu-ho-hao-te 31.37 28 eP **P** **18 35 23.6 +0.5**
HHC pP **pP** **18 35 35.0 +2.6**
HHC S **S** **18 40 29.4 +0.9**
HHC sS **sS** **18 40 46.6 +2.8**
HHC SS **SnSn** **18 42 15.9 +2.2**
HHC ScS **ScS** **18 45 51.9 -3.0**
HHC AMB AMB
comp=Z,34nm,0.6s
HHC AMB AMB
comp=Z,320nm,5.8s
HHC LR LR
comp=Z,320nm,13.1s
HHC LR LR
comp=Z,390nm,14.9s
HHC LR LR
comp=Z,250nm,13.5s
TKM2 Tokmak 2 32.51 336 eP **P** **18 35 33.9 +0.7**
TKM2 e*PP **pP** **18 35 44.0 +1.5**
TKM2 pmax pmax
comp=Z,2.0nm,0.6s
TKM2 Tokmak 2 32.51 336 eP **P** **18 35 33.9 +0.7**
comp=Z,1.7nm,0.6s
TKM2 epP **pP** **18 35 44.0 +1.5**
AAK Ala-Archa 32.72 334 eP **P** **18 35 35.9 +0.9**
AAK pmax pmax
comp=Z,5.0nm,0.9s
AAK Ala-Archa 32.72 334 eP **P** **18 35 35.9 +0.9**
comp=Z,4.7nm,0.9s
AAK Ala-Archa 32.72 334 LR LR 18 50 04.1
comp=Z,244nm,21.7s,baz=146,slow=38
EKS2 Erkin-Say 33.05 334 eP **P** **18 35 38.1 +0.3**
EKS2 e*PP **pP** **18 35 49.6 +2.5**
EKS2 e 18 38 21.5
EKS2 pmax pmax
comp=Z,4.0nm,0.8s
EKS2 Erkin-Say 33.05 334 eP **P** **18 35 38.1 +0.3**
comp=Z,4.2nm,0.8s
EKS2 epP **pP** **18 35 49.6 +2.5**
EKS2 ePcP **PcP** **18 38 21.5 +0.5**
MK31 Makanchi Array 33.94 347 eP **P** **18 35 45.6 +0.1**
MK31 e*PP **pP** **18 35 55.4 +0.6**
MK31 Makanchi Array 33.94 347 eP **P** **18 35 45.6 +0.1**
MK31 epP **pP** **18 35 55.4 +0.6**
MKAR Makanchi Array 33.94 347 P **P** **18 35 45.8 +0.3**
MKAR Makanchi Array 33.94 347 P **P** **18 35 45.8 +0.3**
MKAR Makanchi Array 33.94 347 P **P** **18 35 45.8 +0.3**
comp=Z,6.1nm,0.7s,baz=162,slow=8.9,SNR=48
KKAR Karatay Array 34.87 331 eP **P** **18 35 52.3 -1.3**
KKAR pmax pmax
comp=Z,2.0nm,0.7s
KKAR Karatay Array 34.87 331 eP **P** **18 35 52.3 -1.3**
comp=Z,2.2nm,0.7s
SONM Songino Array 35.61 16 P **P** **18 36 00.2 +0.3**
SONM pP **pP** **18 36 09.6 +0.3**
SONM PcP **PcP** **18 38 28.8 +0.6**
SONM Songino Array 35.61 16 P **P** **18 36 00.2 +0.3**
comp=Z,2.8nm,0.7s,baz=197,slow=8.2,SNR=22
SONM pP **pP** **18 36 09.6 +0.3**
comp=Z,10nm,1.0s,baz=199,slow=9.1,SNR=21
SONM PcP **PcP** **18 38 28.8 +0.6**
comp=Z,2.5nm,0.8s,baz=199,slow=3.5,SNR=7.5
SONM LR LR 18 51 54.1
comp=Z,141nm,21.8s,baz=197,slow=38
ULN Ulaanbaatar 35.81 16 eP **P** **18 36 01.7 0.0**
comp=Z,12nm,1.1s
ULN epP **pP** **18 36 12.2 +1.1**
HVS Khovu-Aksy 37.10 1*d* *i*P **pP** **18 36 23.8 +1.8**
HVS pmax pmax
comp=Z,75nm,1.2s
ZAK Zakamensk 37.31 11 eP **P** **18 36 14.7 +0.3**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
MOY Mondy 38.19 8 eP pP 18 36 33.6 +2.4
KURBB Kurchatov Arra 38.41 345 P **P** **18 36 23.7 +0.2**
comp=Z,5.5nm,0.7s,baz=164,slow=8.0,SNR=81
KURBB pP **pP** **18 36 34.5 +1.6**
comp=Z,14nm,0.9s,baz=161,slow=7.7,SNR=33
KURBB PcP **PcP** **18 38 36.0 -0.5**
comp=Z,0.9nm,0.5s,baz=164,slow=2.5,SNR=5.7
KURK Kurchatov 38.47 345 eP **P** **18 36 23.6 -0.4**
KURK *P **pP** **18 36 34.5 +1.0**
KURK e*PP **pP** **18 36 34.9 +1.4**
KURK 18 38 36.0
KURK pmax pmax
comp=Z,17nm,1.2s
KURK Kurchatov 38.47 345 eP **P** **18 36 23.6 -0.4**
comp=Z,17nm,1.2s
KURK pP **pP** **18 36 34.5 +1.0**
KURK epP **pP** **18 36 34.9 +1.4**
KURK PcP **PcP** **18 36 36.0 -0.6**
TLY Talaya 38.62 11 eP **pP** **18 36 37.3 +2.5**
TLY pmax pmax
comp=Z,8.0nm,1.0s
KSAR Wonju Array Be 38.91 47 P **P** **18 36 26.6 -1.2**
KSAR pP **pP** **18 36 37.6 +0.3**
KSRS Korea Array 38.94 47 P **P** **18 36 26.6 -1.5**
comp=Z,2.4nm,0.8s,baz=245,slow=8.9,SNR=6.7
KSRS pP **pP** **18 36 37.6 0.0**
comp=Z,2.0nm,0.8s,baz=247,slow=9.3,SNR=4.9
KSRS LR LR 18 55 10.3
comp=Z,268nm,18.1s,baz=235,slow=40
ISRV Sarvestan 39.84 299 eP **P** **18 36 35.1 -1.1**
IPAR Pars 40.00 300 eP **P** **18 36 39.3 +1.8**
ZAA0 Zalesovo Array 40.42 353 eP **P** **18 36 39.9 -0.4**
ZAA0 epP **pP** **18 36 49.9 +0.1**
ZALV Zalesovo Beam 40.42 353 P **P** **18 36 40.2 -0.1**
ZALV *PP **pP** **18 36 50.1 +0.4**
ZALV Zalesovo Beam 40.42 353 P **P** **18 36 40.1 -0.1**
ZALV pP **pP** **18 36 50.0 +0.4**
ZALV Zalesovo Beam 40.42 353 P **P** **18 36 40.1 -0.1**
comp=Z,6.9nm,0.6s,baz=178,slow=8.6,SNR=44
ZALV pP **pP** **18 36 50.0 +0.4**
comp=Z,8.4nm,0.8s,baz=169,slow=8.5,SNR=13
CN2 Changchun 40.73 37 eP **P** **18 36 43.2 +0.2**
CN2 esP **sP** **18 36 57.0 +0.7**
CN2 eS **S** **18 42 51.8 +0.4**
CN2 AMB AMB
comp=Z,10.0nm,0.8s
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,200nm,13.0s
CN2 LR LR
comp=Z,200nm,13.0s
CN2 LR LR
comp=Z,200nm,14.0s
IVRN Varamin 42.56 307 eP **P** **18 36 59.2 +1.0**
BVAR Borovoye Array 42.90 340 P **P** **18 37 00.3 -0.3**
BVAR *PP **pP** **18 37 11.8 +1.7**
BVAR 18 38 50.5
BVAR Borovoye Array 42.90 340 P **P** **18 37 00.3 -0.3**
BVAR pP **pP** **18 37 11.8 +1.7**
BVAR PcP **PcP** **18 38 50.5 -0.5**
BVAR Borovoye Array 42.90 340 P **P** **18 37 00.3 -0.3**
comp=Z,1.1nm,0.6s,baz=138,slow=7.6,SNR=8.4
BVAR pP **pP** **18 37 11.8 +1.7**
comp=Z,3.4nm,0.8s,baz=140,slow=9.4,SNR=9.8
BVAR PcP **PcP** **18 38 50.5 -0.5**
comp=Z,1.3nm,0.8s,baz=172,slow=4.5,SNR=4.0
BVAR LR LR 18 59 00.6
comp=Z,82nm,18.1s,baz=32,slow=42
BRVK Borovoye 42.97 340 eP **P** **18 37 00.6 -0.5**
BRVK e*PP **pP** **18 37 11.8 +1.2**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BRVK Borovoye 42.97 340 eP **P** **18 37 00.6 -0.5**
comp=Z,6.3nm,1.0s
BRVK epP **pP** **18 37 11.8 +1.2**
ABKAR Akbulak array 44.39 329 eP **P** **18 37 13.1 +0.4**
comp=Z,11nm,1.0s
USRK Ussuriysk Arra 44.89 40 P **P** **18 37 16.5 -0.2**
comp=Z,1.4nm,0.6s,baz=254,slow=8.1,SNR=3.6
AKTO Aktyubinsk 46.11 329 P **P** **18 37 26.3 0.0**
AKTO Aktyubinsk 46.11 329 P **P** **18 37 26.2 0.0**
AKTO Aktyubinsk 46.11 329 P **P** **18 37 26.2 0.0**
comp=Z,1.1nm,0.5s,baz=131,slow=7.3,SNR=7.6
MJAR Matsushiro Arr 46.22 52 P **P** **18 37 26.1 -1.3**
MJAR PcP **PcP** **18 39 02.6 -0.1**
MJAR Matsushiro Arr 46.22 52 P **P** **18 37 26.1 -1.3**
comp=Z,1.6nm,0.7s,baz=260,slow=9.1,SNR=5.6
MJAR PcP **PcP** **18 39 02.6 -0.1**
comp=Z,1.0nm,0.4s,baz=213,slow=2.8,SNR=11
IDHR Dehrash 46.68 305 eP **P** **18 37 30.2 -1.1**
SVE Sverdlovsk 49.36 337‖ eP **P** **18 37 51.8 +0.4**
SVE pmax pmax
comp=Z,34nm,1.4s
GNI Garni 49.45 311 P **P** **18 37 53.6 +1.1**
GNI epP **pP** **18 38 05.8 +3.6**
GNI Garni 49.45 311 P **P** **18 37 53.6 +1.1**
comp=Z,2.5nm,0.5s,baz=29,slow=4.8,SNR=3.4
ARU Arti 49.88 336*d* *i*P **pP** **18 38 07.0 +2.0**
ARU S S 18 45 16.9 +14
ARU pmax pmax
comp=Z,25nm,2.5s
ZEI Tsey 50.89 314 eP **P** **18 38 03.7 +0.2**
ZEI pmax pmax
comp=Z,7.0nm,0.7s
NWAO Narrogin (SRO) 52.08 154 eP **P** **18 38 11.4 -0.7**
comp=Z,18nm,1.0s
KIV Kislovodsk 52.11 315*c* eP **pP** **18 38 23.0 +0.9**
KIV *e* 18 38 40.3
KIV pmax pmax
comp=Z,13nm,1.0s
SOKR Solikamsk 52.77 338 eP **P** **18 38 16.9 0.0**
SOKR *e* 18 38 28.7
SOKR pmax pmax
comp=Z,8.0nm,0.6s
WRA Warramunga Arr 52.86 129 P **P** **18 38 17.1 -1.1**
WRA PcP **PcP** **18 39 26.9 -0.3**
WRA Warramunga Arr 52.86 129 P **P** **18 38 17.1 -1.1**
comp=Z,4.5nm,0.8s,baz=305,slow=7.6,SNR=20
WRA PcP **PcP** **18 39 26.9 -0.3**
comp=Z,2.9nm,0.8s,baz=317,slow=3.4,SNR=7.7
WRAB Tennant Creek 52.87 129 eP **P** **18 38 17.3 -0.9**
WRAB *e* 18 39 25.1
WRAB pmax pmax
comp=Z,6.0nm,0.9s
WRAB Tennant Creek 52.87 129 eP **P** **18 38 17.3 -0.9**
comp=Z,6.0nm,0.9s
WRAB ePcP **PcP** **18 39 25.1 -2.1**
ASF Jabal al Asfar 54.05 300 LR LR 19 03 53.1
comp=Z,52nm,19.8s,baz=273,slow=39
YAK Yakutsk 54.70 20 eP **P** **18 38 29.0 -2.0**
YAK pmax pmax
comp=Z,12nm,1.1s
AS31 Alice Springs 54.80 133 eP **P** **18 38 31.3 -1.1**
AS31 ePcP **PcP** **18 39 32.8 -1.7**
ASAR Alice Springs 54.80 133 P **P** **18 38 31.7 -0.7**
ASAR PcP **PcP** **18 39 34.4 -0.2**
ASAR ScP **ScP** **18 43 27.8 -3.1**
ASAR Alice Springs 54.80 133 P **P** **18 38 31.7 -0.7**
comp=Z,2.3nm,0.4s,baz=310,slow=7.1,SNR=113
ASAR PcP **PcP** **18 39 34.4 -0.2**
comp=Z,2.8nm,0.8s,baz=313,slow=3.9,SNR=9.0
ASAR ScP **ScP** **18 43 27.8 -3.1**
comp=Z,1.1nm,1.1s,baz=316,slow=5.2,SNR=5.0
OPO Ambohidratompo 55.45 236 P **P** **18 38 37.1 -0.2**
OPO Ambohidratompo 55.45 236 P **P** **18 38 37.1 -0.2**
comp=Z,2.7nm,0.7s,baz=295,slow=14,SNR=3.9
KMBO Kilima Mbogo 57.12 259 P **P** **18 38 48.0 -1.4**
KMBO ePcP **PcP** **18 39 44.0 0.0**
KMBO Kilima Mbogo 57.12 259 P **P** **18 38 48.0 -1.4**
comp=Z,1.2nm,0.6s,baz=59,slow=12,SNR=5.8
BR131 Keskin Array S 57.66 308 eP **P** **18 38 51.0 -1.7**
comp=Z,4.2nm,0.8s
BR131 epP **pP** **18 39 02.8 +0.2**
BRTR Keskin Array B 57.66 308 P **P** **18 38 51.0 -1.8**
BRTR pP **pP** **18 39 02.6 +0.1**
BRTR Keskin Array B 57.66 308 P **P** **18 38 51.0 -1.8**
comp=Z,4.0nm,0.7s,baz=122,slow=7.7,SNR=29
BRTR pP **pP** **18 39 02.6 +0.1**
comp=Z,4.3nm,0.8s,baz=127,slow=7.3,SNR=11
BRTR LR LR 19 07 06.4
comp=Z,71nm,22.0s,baz=98,slow=40
PMG Port Moresby 58.60 110 P **P** **18 38 59.3 -0.2**
PMG Port Moresby 58.60 110 P **P** **18 38 59.3 -0.2**
comp=Z,13nm,0.8s,baz=153,slow=20,SNR=4.8
OBN Obninsk 59.66 326 eP **pP** **18 39 16.8 +0.8**
OBN pmax pmax
comp=Z,7.0nm,0.6s
TIXI Tiksi 61.58 12‖ eP **pP** **18 39 26.9 -1.9**
TIXI pmax pmax
comp=Z,24nm,1.7s
CTA Charters Tower 62.41 122 P **P** **18 39 25.6 +0.2**
CTA Charters Tower 62.41 122 P **P** **18 39 25.6 +0.2**
comp=Z,5.3nm,0.7s,baz=295,slow=7.2,SNR=9.8
CTAO Charters Tower 62.41 122 eP **P** **18 39 24.9 -0.5**
CTAO pmax pmax
comp=Z,7.0nm,0.8s
CTAO Charters Tower 62.41 122 eP **P** **18 39 24.9 -0.5**
comp=Z,6.9nm,0.8s
CFR Carcaliu 62.49 314⇑ *i*P **P** **18 39 25.6 0.0**
AKASG Malin Array Be 62.72 320 P **P** **18 39 25.2 -1.7**
AKASG *PP **pP** **18 39 37.3 +0.5**
AKASG Malin Array Be 62.72 320 P **P** **18 39 25.2 -1.7**
AKASG pP **pP** **18 39 37.3 +0.5**
AKASG Malin Array Be 62.72 320 P **P** **18 39 25.2 -1.7**
comp=Z,0.4nm,0.3s,baz=79,slow=7.2,SNR=6.7
AKASG pP **pP** **18 39 37.3 +0.5**
comp=Z,1.3nm,0.7s,baz=87,slow=5.3,SNR=4.0
VRI Vrincioaia 63.56 314⇑ *i*P **P** **18 39 33.4 +0.7**
PLOR Plostina 63.62 314‖ *i*P **P** **18 39 33.0 -0.1**
TESR Tescani 63.70 315⇑ *i*P **P** **18 39 33.4 -0.2**
PETK Petropavlovsk- 63.87 37 P **P** **18 39 33.4 -1.2**
PETK Petropavlovsk- 63.87 37 P **P** **18 39 33.4 -1.2**

PETK	**Petropavlovsk-**	**63.87**	**37**	P		**P**	**18 39 33.4**	**-1.2**
	comp=Z,2.0nm,0.9s,baz=21,slow=22,SNR=4.3							
MLR	**Muntele Rosu**	**64.06**	**314**	⇑*i*P		**P**	**18 39 35.3**	**-0.9**
MLR	**Muntele Rosu**	**64.06**	**314**	P		**P**	**18 39 36.6**	**+0.4**
MLR	**Muntele Rosu**	**64.06**	**314**	P		**P**	**18 39 36.6**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=105,slow=3.8,SNR=7.5							
IDI	**Anoyia**	**64.22**	**303**	P		**P**	**18 39 36.7**	**-0.6**
IDI	**Anoyia**	**64.22**	**303**	P		**P**	**18 39 36.7**	**-0.6**
	comp=Z,5.3nm,0.6s,baz=102,slow=14,SNR=3.9							
VOIR		**64.69**	**314**	⇑*i*P		**P**	**18 39 39.5**	**-0.7**
BURAR	**Bucovina Array**	**64.81**	**316**	⇑*i*P		**P**	**18 39 41.3**	**+0.3**
JOF	**Joensuu**	**64.90**	**334**	*e*P		**pP**	**18 39 49.6**	**-1.4**
JOF					pmax	pmax		
	comp=Z,5.0nm,0.7s							
JOF	**Joensuu**	**64.90**	**334**	*ep*		pP	18 39 49.6	-1.4
	comp=Z,5.1nm,0.7s							
STKA	**Stephens Creek**	**65.19**	**135**	P		**P**	**18 39 43.4**	**-0.1**
STKA	**Stephens Creek**	**65.19**	**135**	P		**P**	**18 39 43.4**	**-0.1**
	comp=Z,4.6nm,0.7s,baz=286,slow=6.9,SNR=19							
VTS	**Vitosha**	**65.79**	**311**	⇑*i*P		**P**	**18 39 47.3**	**-0.2**
KWP	**Kalwaria Pacla**	**66.69**	**318**	⇑*i*P		**P**	**18 39 52.0**	**-1.0**
FINES	**FINESS Array B**	**66.83**	**331**	P		**P**	**18 39 53.1**	**-0.5**
FINES				pP		**pP**	**18 40 03.2**	**-0.3**
FINES	**FINESS Array B**	**66.83**	**331**	P		**P**	**18 39 53.1**	**-0.5**
	comp=Z,4.5nm,0.6s,baz=97,slow=6.4,SNR=23							
FINES				pP		**pP**	**18 40 03.2**	**-0.3**
	comp=Z,4.5nm,0.7s,baz=98,slow=12,SNR=5.4							
KAF	**Kangasniemi**	**66.89**	**332**	*e*P		P	18 39 58.7	+4.8
KAF	**Kangasniemi**	**66.89**	**332**	*ep*		P	18 39 58.7	+4.8
KOLS	**Kolonicke sedl**	**66.91**	**317**	*e*P		**P**	**18 39 54.0**	**-0.4**
KOLS	**Kolonicke sedl**	**66.91**	**317**	*e*P		**P**	**18 39 54.0**	**-0.4**
STHS	**Stebnicka Huta**	**67.62**	**318**	*e*P		**P**	**18 39 58.9**	**0.0**
STHS	**Stebnicka Huta**	**67.62**	**318**	*e*P		**P**	**18 39 58.9**	**0.0**
KEV	**Kevo**	**68.75**	**340**	*e*P		**P**	**18 40 04.6**	**-0.9**
KEV	**Kevo**	**68.75**	**340**	*ep*		**P**	**18 40 04.6**	**-0.9**
ARCES	**ARCESS Array B**	**69.19**	**340**	P		**P**	**18 40 08.2**	**-0.1**
ARCES				pP		**pP**	**18 40 17.7**	**-0.6**
ARCES	**ARCESS Array B**	**69.19**	**340**	P		**P**	**18 40 08.2**	**-0.1**
	comp=Z,2.0nm,0.5s,baz=87,slow=6.3,SNR=22							
ARCES				pP		**pP**	**18 40 17.7**	**-0.6**
	comp=Z,2.5nm,0.7s,baz=79,slow=6.3,SNR=2.7							
ARCES				LR		LR	19 14 04.8	
	comp=Z,126nm,18.8s,baz=40,slow=39							
MORC	**Moravsky Berou**	**70.05**	**318**	⇑*i*P		**P**	**18 40 14.3**	**+0.3**
BRG	**Berggiesshubel**	**72.37**	**319**	*e*(P)		pP	18 40 37.9	-0.1
	comp=Z,3.6nm,0.9s							
BRG	**Berggiesshubel**	**72.37**	**319**	*e*P		**pP**	**18 40 37.9**	**-0.1**
BRG				pmax		pmax		
	comp=Z,4.0nm,0.9s							
GEC2	**GERESS Array S**	**72.56**	**317**	*e*P		**P**	**18 40 29.2**	**-0.1**
GEC2				pmax		pmax		
	comp=Z,10.0nm,1.2s							
GEC2	**GERESS Array S**	**72.56**	**317**	*e*P		**P**	**18 40 29.2**	**-0.1**
	comp=Z,10.0nm,1.2s							
GERES	**GERESS Array B**	**72.56**	**317**	P		**P**	**18 40 29.1**	**-0.2**
GERES	**GERESS Array B**	**72.56**	**317**	P		**P**	**18 40 29.1**	**-0.2**
	comp=Z,3.6nm,0.8s,baz=90,slow=5.7,SNR=26							
HFS	**Hagfors**	**72.65**	**329**	P		**P**	**18 40 29.0**	**-0.5**
HFS				pP		**pP**	**18 40 39.8**	**+0.3**
HFS	**Hagfors**	**72.65**	**329**	P		**P**	**18 40 29.0**	**-0.5**
	comp=Z,5.0nm,0.7s,baz=122,slow=5.6,SNR=14							
HFS				pP		**pP**	**18 40 39.8**	**+0.3**
	comp=Z,5.2nm,0.7s,baz=107,slow=5.1,SNR=6.9							
CLL	**Collm**	**72.96**	**320**	*e*P		**pP**	**18 40 41.0**	**-0.5**
CLL				pmax		pmax		
	comp=Z,4.0nm,1.2s							
CLL	**Collm**	**72.96**	**320**	*e*P		**P**	**18 40 31.0**	**-0.4**
	comp=Z,8.0nm,1.2s							
CLL				*e*pP		**pP**	**18 40 41.0**	**-0.5**
WET	**Wettzell**	**73.09**	**317**	*e*P		**P**	**18 40 31.9**	**-0.4**
WET				*e**PP		**pP**	**18 40 43.1**	**+0.7**
WET				pmax		pmax		
	comp=Z,14nm,1.4s							
WET	**Wettzell**	**73.09**	**317**	*e*P		**P**	**18 40 31.9**	**-0.4**
	comp=Z,14nm,1.4s							
WET				*e*pP		**pP**	**18 40 43.1**	**+0.7**
RJOB	**Jochberg**	**73.20**	**316**	*e*P		**P**	**18 40 33.2**	**+0.2**
	comp=Z,6.0nm,1.3s							
ROTZ	**Rotzenmuhle**	**73.51**	**318**	*e*P		**P**	**18 40 35.3**	**+0.5**
	comp=Z,14nm,1.2s							
NB2	**NORSAR Subarra**	**73.90**	**330**	P		**P**	**18 40 35.7**	**-1.2**
	comp=Z,1.7nm,0.6s,baz=89,slow=5.9							
NOA	**NORSAR Array B**	**73.90**	**330**	P		**P**	**18 40 36.0**	**-0.9**
NOA				pP		**pP**	**18 40 46.4**	**-0.5**
NOA	**NORSAR Array B**	**73.90**	**330**	P		**P**	**18 40 36.0**	**-0.9**
	comp=Z,1.9nm,0.6s,baz=90,slow=5.8,SNR=11							
NOA				pP		**pP**	**18 40 46.4**	**-0.5**
	comp=Z,3.1nm,0.7s,baz=90,slow=5.8,SNR=8.2							
NOA				LR		LR	19 15 03.6	
	comp=Z,38nm,19.7s,baz=100,slow=37							
LBTB	**Lobatse**	**76.17**	**240**	*e*P		**P**	**18 40 51.2**	**+0.6**
	comp=Z,16nm,1.0s							
CDF	**Champ du Feu**	**76.84**	**317**	*e*P		**P**	**18 40 53.0**	**-1.1**
CDF	**Champ du Feu**	**76.84**	**317**	*e*P		**P**	**18 40 53.0**	**-1.1**
CDF	**Champ du Feu**	**76.84**	**317**	*e*P		**P**	**18 40 53.0**	**-1.1**
KEST	**Kesra**	**76.84**	**304**	P		**P**	**18 40 54.1**	**-0.2**
KEST	**Kesra**	**76.84**	**304**	P		**P**	**18 40 54.1**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=265,slow=5.5,SNR=3.9							
SBF	**Sospel**	**77.25**	**312**	*e*P		**P**	**18 40 55.5**	**-1.0**
SBF	**Sospel**	**77.25**	**312**	*e*P		**P**	**18 40 55.5**	**-1.0**
SBF	**Sospel**	**77.25**	**312**	*e*P		**P**	**18 40 55.5**	**-1.0**
HAU	**Haudompre**	**77.50**	**317**	*e*P		**P**	**18 40 56.6**	**-1.1**
HAU	**Haudompre**	**77.50**	**317**	*e*P		**P**	**18 40 56.6**	**-1.1**
HAU	**Haudompre**	**77.50**	**317**	*e*P		**P**	**18 40 56.6**	**-1.1**
LPG	**La Plagne**	**77.53**	**314**	*e*P		**P**	**18 40 57.7**	**-0.6**
	comp=Z,16nm,0.7s							
LPG	**La Plagne**	**77.53**	**314**	*e*P		**P**	**18 40 57.7**	**-0.6**
LPG				pmax		pmax		
	comp=Z,16nm,0.7s							
LPG	**La Plagne**	**77.53**	**314**	*e*P		**P**	**18 40 57.7**	**-0.6**
	comp=Z,16nm,0.7s							
LPL	**La Plagne**	**77.54**	**314**	*e*P		**P**	**18 40 57.7**	**-0.6**
	comp=Z,25nm,0.7s							
LPL	**La Plagne**	**77.54**	**314**	*e*P		**P**	**18 40 57.7**	**-0.6**
LPL				pmax		pmax		
	comp=Z,25nm,0.7s							
LPL	**La Plagne**	**77.54**	**314**	*e*P		**P**	**18 40 57.7**	**-0.6**
	comp=Z,25nm,0.7s							
PAGF	**Fort de Pagny**	**77.84**	**317**	*e*P		**P**	**18 40 58.8**	**-0.8**
PAGF	**Fort de Pagny**	**77.84**	**317**	*e*P		**P**	**18 40 58.8**	**-0.8**
CABF	**La Chapelle**	**77.85**	**315**	*e*P		**P**	**18 40 59.2**	**-0.6**
	comp=Z,18nm,0.9s							
CABF	**La Chapelle**	**77.85**	**315**	*e*P		**P**	**18 40 59.2**	**-0.6**
CABF				pmax		pmax		
	comp=Z,18nm,0.9s							
CABF	**La Chapelle**	**77.85**	**315**	*e*P		**P**	**18 40 59.2**	**-0.6**
	comp=Z,18nm,0.9s							
BOSA	**Boshof**	**77.85**	**236**	P		**P**	**18 41 00.7**	**+0.6**
BOSA	**Boshof**	**77.85**	**236**	P		**P**	**18 41 00.7**	**+0.6**
	comp=Z,21nm,0.7s,baz=75,slow=4.9,SNR=55							
BOSA				LR		LR	19 13 08.9	
	comp=Z,77nm,19.7s,baz=250,slow=34							
VIVF	**Saint-Julien-l**	**79.08**	**314**	*e*P		**P**	**18 41 05.7**	**-0.8**
VIVF	**Saint-Julien-l**	**79.08**	**314**	*e*P		**P**	**18 41 05.7**	**-0.8**
VIVF	**Saint-Julien-l**	**79.08**	**314**	*e*P		**P**	**18 41 05.7**	**-0.8**
LOR	**Lormes**	**79.27**	**316**	*e*P		**P**	**18 41 06.3**	**-1.2**
	comp=Z,18nm,1.1s							
LOR	**Lormes**	**79.27**	**316**	*e*P		**P**	**18 41 06.3**	**-1.2**
	comp=Z,18nm,1.1s							
SMF	**Signal de Mont**	**79.38**	**316**	*e*P		**P**	**18 41 07.0**	**-1.1**
	comp=Z,12nm,0.8s							
SMF	**Signal de Mont**	**79.38**	**316**	*e*P		**P**	**18 41 07.0**	**-1.1**
SMF				pmax		pmax		
	comp=Z,12nm,0.8s							
SMF	**Signal de Mont**	**79.38**	**316**	*e*P		**P**	**18 41 07.0**	**-1.1**
	comp=Z,12nm,0.8s							
SSF	**Saint Saulge**	**79.54**	**316**	*e*P		**P**	**18 41 08.0**	**-1.0**
SSF	**Saint Saulge**	**79.54**	**316**	*e*P		**P**	**18 41 08.0**	**-1.0**
SSF	**Saint Saulge**	**79.54**	**316**	*e*P		**P**	**18 41 08.0**	**-1.0**
AVF	**Avril sur Loir**	**79.69**	**316**	*e*P		**P**	**18 41 08.6**	**-1.1**
	comp=Z,8.5nm,0.8s							
AVF	**Avril sur Loir**	**79.69**	**316**	*e*P		**P**	**18 41 08.6**	**-1.1**
AVF				pmax		pmax		
	comp=Z,9.0nm,0.8s							
AVF	**Avril sur Loir**	**79.69**	**316**	*e*P		**P**	**18 41 08.6**	**-1.1**
	comp=Z,8.5nm,0.8s							
TCF	**Toulx Ste Croi**	**80.55**	**315**	*e*P		**P**	**18 41 13.8**	**-0.7**
	comp=Z,18nm,1.0s							
TCF	**Toulx Ste Croi**	**80.55**	**315**	*e*P		**P**	**18 41 13.8**	**-0.7**
TCF				pmax		pmax		
	comp=Z,18nm,1.0s							
TCF	**Toulx Ste Croi**	**80.55**	**315**	*e*P		**P**	**18 41 13.8**	**-0.7**
	comp=Z,18nm,1.0s							
CASY	**Casey**	**81.06**	**173**	*e*P		P	18 41 12.3	-4.2
MTLF	**Montolieu**	**81.08**	**312**	*e*P		**P**	**18 41 16.7**	**-0.6**
	comp=Z,7.8nm,0.8s							
MTLF	**Montolieu**	**81.08**	**312**	*e*P		**P**	**18 41 16.7**	**-0.6**
MTLF				pmax		pmax		
	comp=Z,8.0nm,0.8s							
MTLF	**Montolieu**	**81.08**	**312**	*e*P		**P**	**18 41 16.7**	**-0.6**
	comp=Z,7.8nm,0.8s							
TSUM	**Tsumeb**	**81.14**	**248**	*e*P		**P**	**18 41 19.1**	**+0.9**
RJF	**Les Rejaudoux**	**81.20**	**314**	*e*P		**P**	**18 41 17.6**	**-0.4**
	comp=Z,7.8nm,0.7s							
RJF	**Les Rejaudoux**	**81.20**	**314**	*e*P		**P**	**18 41 17.6**	**-0.4**
RJF				pmax		pmax		
	comp=Z,8.0nm,0.7s							
RJF	**Les Rejaudoux**	**81.20**	**314**	*e*P		**P**	**18 41 17.6**	**-0.4**
	comp=Z,7.8nm,0.7s							
LDF	**La Druitiere**	**81.67**	**318**	*e*P		**P**	**18 41 19.4**	**-0.9**
	comp=Z,16nm,0.8s							
LDF	**La Druitiere**	**81.67**	**318**	*e*P		**P**	**18 41 19.4**	**-0.9**
LDF				pmax		pmax		
	comp=Z,16nm,0.8s							
LDF	**La Druitiere**	**81.67**	**318**	*e*P		**P**	**18 41 19.4**	**-0.9**
	comp=Z,16nm,0.8s							
FLN	**La Foliniere**	**81.87**	**318**	*e*P		**P**	**18 41 20.5**	**-0.9**
	comp=Z,8.3nm,0.7s							
FLN	**La Foliniere**	**81.87**	**318**	*e*P		**P**	**18 41 20.5**	**-0.9**
FLN				pmax		pmax		
	comp=Z,8.0nm,0.7s							
FLN	**La Foliniere**	**81.87**	**318**	*e*P		**P**	**18 41 20.5**	**-0.9**
	comp=Z,8.3nm,0.7s							
EKA	**Eskdalemuir Ar**	**82.08**	**325**	P		**P**	**18 41 21.8**	**-0.6**
EKA	**Eskdalemuir Ar**	**82.08**	**325**	P		**P**	**18 41 21.8**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=87,slow=5.9,SNR=7.1							
MFF	**Saint Martin d**	**82.09**	**316**	*e*P		**P**	**18 41 21.6**	**-1.0**
MFF	**Saint Martin d**	**82.09**	**316**	*e*P		**P**	**18 41 21.6**	**-1.0**
MFF	**Saint Martin d**	**82.09**	**316**	*e*P		**P**	**18 41 21.6**	**-1.0**
GRR	**Gorron**	**82.19**	**318**	*e*P		**P**	**18 41 22.3**	**-0.8**
GRR	**Gorron**	**82.19**	**318**	*e*P		**P**	**18 41 22.3**	**-0.8**
GRR	**Gorron**	**82.19**	**318**	*e*P		**P**	**18 41 22.3**	**-0.8**
SUR	**Sutherland**	**82.83**	**234**	P		**P**	**18 41 28.1**	**+1.2**
	comp=Z,6.2nm,0.7s							
SUR	**Sutherland**	**82.83**	**234**	P		**P**	**18 41 28.5**	**+1.6**
	comp=Z,5.3nm,0.9s,baz=258,slow=16,SNR=5.8							
SGMF	**Saint Gilles**	**83.33**	**318**	*e*P		**P**	**18 41 28.2**	**-0.8**
	comp=Z,10nm,0.8s							
SGMF	**Saint Gilles**	**83.33**	**318**	*e*P		**P**	**18 41 28.2**	**-0.8**
SGMF				pmax		pmax		
	comp=Z,10.0nm,0.8s							
SGMF	**Saint Gilles**	**83.33**	**318**	*e*P		**P**	**18 41 28.2**	**-0.8**
	comp=Z,10nm,0.8s							
QUIF	**Quistinic**	**83.80**	**318**	*e*P		**P**	**18 41 30.3**	**-1.1**
QUIF	**Quistinic**	**83.80**	**318**	*e*P		**P**	**18 41 30.3**	**-1.1**
QUIF	**Quistinic**	**83.80**	**318**	*e*P		**P**	**18 41 30.3**	**-1.1**
MAW	**Mawson**	**84.21**	**191**	P		**P**	**18 41 33.8**	**+0.9**
MAW	**Mawson**	**84.21**	**191**	P		**P**	**18 41 33.8**	**+0.9**
	comp=Z,4.5nm,0.8s,baz=19,slow=6.7,SNR=14							
ESDC	**Sonseca Array**	**86.42**	**310**	P		**P**	**18 41 44.4**	**-0.4**
ESDC				pP		**pP**	**18 41 54.6**	**-0.4**
ESDC	**Sonseca Array**	**86.42**	**310**	P		**P**	**18 41 44.4**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=60,slow=4.7,SNR=16							
ESDC				pP		**pP**	**18 41 54.6**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=59,slow=5.0,SNR=3.6							
TOA0	**Torodi Ar. Sit**	**88.05**	**283**	*e*P		**P**	**18 41 53.0**	**-0.1**
TOA0				*e*pP		**pP**	**18 42 04.3**	**+1.0**
TORD	**Torodi Ar. Bea**	**88.05**	**283**	P		**P**	**18 41 53.1**	**0.0**
TORD				pP		**pP**	**18 42 04.2**	**+0.9**
TORD	**Torodi Ar. Bea**	**88.05**	**283**	P		**P**	**18 41 53.1**	**0.0**
	comp=Z,4.6nm,0.9s,baz=74,slow=3.4,SNR=22							
TORD				pP		**pP**	**18 42 04.2**	**+0.9**
	comp=Z,3.8nm,0.9s,baz=81,slow=3.2,SNR=13							
BPAW	**Bear Paw Mtn.**	**88.43**	**23**	*e*P		**P**	**18 41 54.4**	**+0.5**
	comp=Z,5.5nm,0.9s							
MCK	**McKinley**	**89.39**	**23**	*e*P		**P**	**18 41 58.5**	**0.0**
MCK	**McKinley**	**89.39**	**23**	*e*P		**P**	**18 41 58.5**	**0.0**
ILAR	**Eielson Array**	**89.60**	**22**	P		**P**	**18 41 58.0**	**-1.3**
ILAR				pP		**pP**	**18 42 11.0**	**+1.4**
ILAR	**Eielson Array**	**89.60**	**22**	P		**P**	**18 41 58.0**	**-1.3**
	comp=Z,1.6nm,0.7s,baz=295,slow=4.3,SNR=15							
ILAR				pP		**pP**	**18 42 11.0**	**+1.4**
	comp=Z,1.3nm,0.8s,baz=292,slow=4.8,SNR=5.9							
PMR	**Palmer**	**90.42**	**25**	*e*P		**P**	**18 42 03.5**	**+0.2**
PMR	**Palmer**	**90.42**	**25**	*e*P		**P**	**18 42 03.5**	**+0.2**
PDAR	**Pinedale Array**	**119.92**	**19**	PKP		**PKPdf**	**18 47 52.0**	**-1.0**
PDAR	**Pinedale Array**	**119.92**	**19**	PKP		**PKPdf**	**18 47 52.0**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=329,slow=1.6,SNR=2.6							
NVAR	**Mina Array Bea**	**120.26**	**28**	PKP		**PKPdf**	**18 47 54.7**	**+0.9**
NVAR	**Mina Array Bea**	**120.26**	**28**	PKP		**PKPdf**	**18 47 54.7**	**+0.9**
	comp=Z,1.6nm,0.6s,baz=303,slow=2.3,SNR=16							
ECSD	**EROS Data Cent**	**121.95**	**8**	*e*PKPdf		**PKPdf**	**18 47 56.0**	**-0.6**
MVU	**Marysvale**	**122.77**	**23**	*e*PKPdf		**PKPdf**	**18 47 59.8**	**+1.2**
ARUT	**Antelope Range**	**122.90**	**25**	*e*PKIKP		**PKPdf**	**18 47 55.6**	**-3.2**
ARUT	**Antelope Range**	**122.90**	**25**	*e*PKPdf		**PKPdf**	**18 47 55.6**	**-3.2**
SMCO	**Snowmass**	**123.99**	**19**	*e*PKPpre		PKPpre	18 47 55.8	
ANMO	**Albuquerque**	**128.02**	**20**	PKP		**PKPdf**	**18 48 09.6**	**+0.9**
ANMO	**Albuquerque**	**128.02**	**20**	PKP		**PKPdf**	**18 48 09.6**	**+0.9**
	comp=Z,1.7nm,0.6s,baz=309,slow=3.1,SNR=5.8							
TXAR	**Lajitas Array**	**134.10**	**20**	PKP		**PKPdf**	**18 48 21.6**	**+1.3**
TXAR	**Lajitas Array**	**134.10**	**20**	PKP		**PKPdf**	**18 48 21.6**	**+1.3**
	comp=Z,1.2nm,0.7s,baz=148,slow=1.0,SNR=10							
TEIG	**Tepich**	**146.03**	**2**	*e*PKPdf		**PKPbc**	**18 48 42.5**	**0.0**
CPUP	**Villa Florida**	**149.55**	**242**	*e*PKPbc		**PKPbc**	**18 48 51.1**	**-0.9**
CPUP	**Villa Florida**	**149.55**	**242**	PKPbc		**PKPbc**	**18 48 51.2**	**-0.8**
	comp=Z,4.1nm,0.7s,baz=83,slow=4.3,SNR=8.4							
PLCA	**Paso Flores**	**149.65**	**205**	PKPbc		**PKPbc**	**18 48 51.9**	**0.0**
PLCA	**Paso Flores**	**149.65**	**205**	PKPbc		**PKPbc**	**18 48 51.9**	**0.0**
	comp=Z,3.7nm,0.8s,baz=188,slow=3.5,SNR=4.2							

AUST ***02*** *18:43:40.2,2°.91S×141°.52E, h25km*
IDC ***02*** *18:43:46.3±3.3,3°.37S×140°.60E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.6/18, mbtmp3.8/4, ML3.4/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/33, Error ellipse: s-maj=102.0km s-min=28.0km az=94.0*

ISC 02 18:43:42.8±1.0, 3°.6S±0°.1×141°.42E±0°.09, h33km, n14, σ2s29/10, mb3.6/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**6.14**	**75**	P	**Pn**	**18 45 09.7**	**-1.7**
	baz=5.9,SNR=3.7						
PMG	**Port Moresby**	**8.09**	**135**	LR	LR	18 48 45.8	
	comp=Z,125nm,20.1s,baz=36,slow=34						
FAKI	**Fak Fak**	**9.18**	**274**	P	**Pn**	**18 45 52.0**	**-1.1**
	baz=9.3,SNR=3.4						
SWI	**Sorong**	**10.51**	**285**	P	**Pn**	**18 46 10.8**	**-0.6**
	baz=10,SNR=3.9						
KDU	**Kadau**	**12.62**	**224**	P	Pn	18 46 43.4	+3.2
	baz=13,SNR=9.5						
KNRA	**Kununurra**	**17.28**	**225**	P	**P**	**18 47 45.0**	**+2.1**
	baz=18,SNR=6.1						
WRA	**Warramunga Arr**	**17.63**	**203**	P	P	18 47 51.5	+4.7
	0.1nm,0.3s,baz=17,slow=12,SNR=6.0						
WRA				S	**Sn**	**18 50 59.0**	**-2.6**
	0.1nm,0.3s,baz=8.0,slow=22,SNR=3.0						
SOEI	**Soe**	**18.08**	**249**	P	**P**	**18 47 54.1**	**+2.1**
	baz=18,SNR=5.6						
FITZ	**Fitzroy Crossi**	**21.11**	**226**	P	**P**	**18 48 28.3**	**+3.4**
	2.0nm,0.9s,baz=41,slow=11,SNR=4.3						
FITZ				S	S	18 52 06.0	-12
	5.7nm,1.0s,baz=154,slow=13,SNR=4.2						
ASAR	**Alice Springs**	**21.21**	**199**	P	P	18 48 34.2	+8.2
	4.7nm,0.7s,baz=28,slow=10,SNR=39						
ASAR				S	**S**	**18 52 19.3**	**-0.8**
	0.4nm,0.9s,baz=17,slow=24,SNR=3.0						
WSI	**Waingapu**	**21.81**	**253**	P	**P**	**18 48 31.3**	**-1.1**
	baz=22,SNR=3.8						
LEM	**Lembang**	**33.80**	**263**	P	P	18 50 35.7	+13
	baz=34,SNR=3.5						
NIUE	**Niue**	**49.91**	**112**	P	**P**	**18 52 35.6**	**+1.9**
	baz=50,SNR=3.8						
MKAR	**Makanchi Array**	**72.17**	**322**	P	P	18 55 09.0	+4.5
	0.6nm,0.9s,baz=116,slow=5.0,SNR=3.9						

IDC 02 18:45:14.2±3.1, 6°.16S×146°.87E, h0km, mb3.1/1, mb1 3.4/3, mb1mx3.2/18, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=70.2km s-min=34.9km az=82.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.24**	**175**	Pn	Pn	18 46 07.3	+0.9
	8.0nm,0.3s,baz=352,slow=7.1,SNR=19						
PMG				Sn	Sn	18 46 46.0	+0.3
	6.2nm,0.3s,baz=35,slow=22,SNR=3.6						
WRA	**Warramunga Arr**	**18.33**	**220**	P	Pn	18 49 28.1	-2.0
	0.2nm,0.3s,baz=44,slow=12,SNR=5.2						

ASAR	**Alice Springs**	**21.42**	**214**	P		P	18 50 05.0	+1.1
	0.3nm,0.3s,baz=50,slow=9.0,SNR=5.7							
TORD	**Torodi Ar. Bea**	**145.00**	**284**	PKPbc		PKPbc	19 04 52.6	-1.2
	0.7nm,0.7s,baz=72,slow=2.5,SNR=4.2							

MAN 02 18:52:25, 5°.02N×125°.37E, h25km, mb4.8, ML3.7, MS3.7, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.14**	**338**	*e*P	Pn	18 52 44.4	-1.2
KCP	**Kidapawan**	**2.00**	**352**	⇓*e*P	Pn	18 52 58.3	+1.0
MATI	**Mati**	**2.11**	**25**	*e*P	Pn	18 52 56.7	-2.0
MATI				*e*S	Sn	18 53 15.6	-8.6
CTBH	**Cotabato--PC H**	**2.46**	**333**	⇓*i*P	Pn	18 53 05.0	+1.5
BUKP	**Musuan**	**2.86**	**354**	*e*P	Pn	18 53 11.9	+2.7
PAGZ	**Pagadian**	**3.44**	**325**	*e*P	Pn	18 53 18.9	+1.9
IPIL	**Ipil**	**3.92**	**315**	*e*P	Pn	18 53 24.7	+1.1

SKHL 02 19:03:53.4±0.6, 53°.82N×125°.51E, h6km±1km, mb3.7/4, 1D, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZEA	**Zeya**	**1.04**	**94**	⇓*i*Pg	Pg	19 04 12.7	-0.6
ZEA				AMB	AMB	19 04 13.0	
	53nm,0.2s						
ZEA				pPg	Pn	19 04 14.2	-0.3
ZEA				*e*Sg	Sg	19 04 26.6	-0.1
ZEA				A	A	19 04 30.2	
	148nm,0.2s						
KROS	**Kirovskiy**	**1.06**	**54**	*e*Pg	Pg	19 04 12.8	-0.9
KROS				AMB	AMB	19 04 13.3	
	13nm,0.2s						
KROS				pPg	Pn	19 04 14.6	-0.2
KROS				*i* Sg	Sg	19 04 26.7	-0.8
KROS				A	A	19 04 27.4	
	110nm,0.4s						
KROS				A	A	19 04 27.4	
	130nm,0.4s						
KROS				A	A	19 04 27.4	
	73nm,0.4s						
BMKR	**Bomnak**	**2.15**	**64**	*e*Pn	Pn	19 04 29.0	-0.8
BMKR				*e*Pg	Pb	19 04 31.6	-1.1
BMKR				AMB	AMB	19 04 32.5	
	11nm,0.4s						
BMKR				*e*Sn	Sn	19 04 56.9	+0.2
BMKR				*e*Sg	Sb	19 05 00.0	+0.4
BMKR				A	A	19 05 02.0	
	44nm,0.5s						
TUP	**Tupik**	**3.33**	**283**	*e*Pn	Pn	19 04 48.3	+2.3
TUP				*e*Pg	Pg	19 04 55.1	-2.1
TUP				AMB	AMB	19 05 00.8	
	5.0nm,0.4s						
TUP				*e*

DIDY	**Didyma**	**0.98**	**91**	P	**Pg**	19 25 36.2	-0.4
DIDY				S	**Sn**	19 25 51.4	-0.6
DIDY	**Didyma**	**0.98**	**91**	P	**Pg**	19 25 36.2	-0.4
DIDY				S	**Sn**	19 25 51.4	-0.6
DID	**Didima**	**1.00**	**89**	*e*PB	**Pg**	19 25 36.2	-0.8
VLI	**Veliai**	**1.09**	**135**	P	**Pg**	19 25 38.6	-0.1
VLI	**Veliai**	**1.09**	**135**	*e*Pn	**Pg**	19 25 38.2	-0.5
VLI	**Veliai**	**1.09**	**135**	*e*Pn	**Pg**	19 25 38.2	-0.5
VLI	**Veliai**	**1.09**	**135**	P	**Pg**	19 25 38.6	-0.1
VLS	**Valsamata**	**1.29**	**302**	P	**Pn**	19 25 42.0	-0.2
VLS				S	**Sn**	19 26 00.4	+0.7
VLS	**Valsamata**	**1.29**	**302**	*e*PB	**Pb**	19 25 42.5	+0.1
VLS	**Valsamata**	**1.29**	**302**	P	**Pn**	19 25 42.0	-0.2
VLS	**Valsamata**	**1.29**	**302**	*e*Pb	**Pb**	19 25 42.5	+0.1
VLS				S	**Sn**	19 26 00.4	+0.7
AXAR	**Agios Charalam**	**1.37**	**23**	P	**Pn**	19 25 43.0	-0.3
AXAR				S	**Sg**	19 26 03.3	+1.3
AXAR	**Agios Charalam**	**1.37**	**23**	P	**Pn**	19 25 43.0	-0.3
AXAR				S	**Sg**	19 26 03.3	+1.3
LKR	**Lokris**	**1.40**	**35**	P	**Pn**	19 25 43.8	+0.1
LKR				S	**Sg**	19 26 04.2	+1.3
LKR	**Lokris**	**1.40**	**35**	*e*PG	**Pn**	19 25 43.4	-0.3
LKR				*e*SB	**Sg**	19 26 03.3	+0.4
LKR	**Lokris**	**1.40**	**35**	*e*Pg	**Pn**	19 25 43.4	-0.3
LKR	**Lokris**	**1.40**	**35**	P	**Pn**	19 25 43.8	+0.1
LKR				*e*Sb	**Sg**	19 26 03.3	+0.4
LKR				S	**Sg**	19 26 04.2	+1.3
EVR	**Evrytania**	**1.42**	**354**	P	**Pn**	19 25 44.0	0.0
EVR	**Evrytania**	**1.42**	**354**	*e*PG	**Pn**	19 25 44.1	0.0
EVR				*e*SB	**Sg**	19 26 04.2	+0.6
EVR	**Evrytania**	**1.42**	**354**	P	**Pn**	19 25 44.0	0.0
EVR				*e*Sb	**Sg**	19 26 04.2	+0.6
ATH	**Athens Observa**	**1.45**	**70**	P	**Pn**	19 25 44.5	+0.2
ATH	**Athens Observa**	**1.45**	**70**	*e*PB	**Pb**	19 25 44.8	-0.3
ATH	**Athens Observa**	**1.45**	**70**	P	**Pn**	19 25 44.5	+0.2
ATH	**Athens Observa**	**1.45**	**70**	*e*Pb	**Pb**	19 25 44.8	-0.3
KYTH	**Kithira**	**1.48**	**145**	P	**Pb**	19 25 45.5	-0.1
KYTH	**Kithira**	**1.48**	**145**	P	**Pb**	19 25 45.5	-0.1
ATHU	**Athens Univers**	**1.50**	**71**	P	**Pn**	19 25 45.4	+0.4
ATHU	**Athens Univers**	**1.50**	**71**	P	**Pn**	19 25 45.4	+0.4
AGG	**Agios Georgios**	**1.55**	**10**	P	**Pn**	19 25 45.8	+0.1
AGG				S	**Sg**	19 26 07.4	-0.2
AGG	**Agios Georgios**	**1.55**	**10**	*e*PG	**Pn**	19 25 45.7	+0.1
AGG	**Agios Georgios**	**1.55**	**10**	P	**Pn**	19 25 45.8	+0.1
AGG				S	**Sg**	19 26 07.4	-0.2
PTL	**Penteli**	**1.59**	**69**	P	**Pb**	19 25 47.0	-0.4
PTL	**Penteli**	**1.59**	**69**	*e*PB	**Pn**	19 25 46.8	+0.5
PTL	**Penteli**	**1.59**	**69**	P	**Pb**	19 25 47.0	-0.4
ERET	**Eretria**	**1.72**	**56**	P	**Pb**	19 25 49.1	-0.6
ERET	**Eretria**	**1.72**	**56**	P	**Pb**	19 25 49.1	-0.6
ANKY	**Antikythira Is**	**1.94**	**147**	*e*PN	**Pn**	19 25 52.2	+1.1
ANKY	**Antikythira Is**	**1.94**	**147**	*e*Pn	**Pn**	19 25 52.2	+1.1
SKIA	**Skiathos**	**2.03**	**35**	P	**Pn**	19 25 53.0	+0.7
SKIA	**Skiathos**	**2.03**	**35**	P	**Pn**	19 25 53.0	+0.7
NEO	**Neokhori**	**2.05**	**28**	P	**Pn**	19 25 52.6	0.0
NEO	**Neokhori**	**2.05**	**28**	*e*PN	**Pn**	19 25 53.3	+0.7
NEO	**Neokhori**	**2.05**	**28**	P	**Pn**	19 25 52.6	0.0
NEO	**Neokhori**	**2.05**	**28**	*e*Pn	**Pn**	19 25 53.3	+0.7
THL	**Klokotos Trika**	**2.06**	**1**	P	**Pn**	19 25 53.4	+0.7
THL	**Klokotos Trika**	**2.06**	**1**	*e*PN	**Pn**	19 25 53.4	+0.7
THL	**Klokotos Trika**	**2.06**	**1**	P	**Pn**	19 25 53.4	+0.7
XOR	**Xorichti**	**2.09**	**27**	P	**Pn**	19 25 53.4	+0.2
XOR				S	**Sb**	19 26 21.0	-1.2
XOR	**Xorichti**	**2.09**	**27**	P	**Pn**	19 25 53.4	+0.2
XOR				S	**Sb**	19 26 21.0	-1.2
AOS	**Alonnisos**	**2.24**	**41**	P	**Pn**	19 25 55.2	0.0
AOS				S	**Sb**	19 26 25.1	-1.3
AOS	**Alonnisos**	**2.24**	**41**	*e*PB	**Pn**	19 25 55.7	+0.5
AOS	**Alonnisos**	**2.24**	**41**	P	**Pn**	19 25 55.2	0.0
AOS	**Alonnisos**	**2.24**	**41**	*e*Pb	**Pn**	19 25 55.7	+0.5
AOS				S	**Sb**	19 26 25.0	-1.3
LIT	**Litokhoron**	**2.63**	**8**	P	**Pn**	19 26 01.1	+0.5
LIT				S	**Sn**	19 26 34.4	+1.8
LIT	**Litokhoron**	**2.63**	**8**	P	**Pn**	19 26 01.1	+0.5
LIT				S	**Sn**	19 26 34.4	+1.8
VAM	**Vamos**	**2.75**	**139**	*e*PB	**Pn**	19 26 04.0	+1.9
VAM	**Vamos**	**2.75**	**139**	*e*Pb	**Pn**	19 26 04.0	+1.9
PAIG	**Paliouri**	**2.77**	**28**	P	**Pn**	19 26 02.4	0.0
PAIG	**Paliouri**	**2.77**	**28**	*e*PN	**Pn**	19 26 03.3	+0.9
PAIG	**Paliouri**	**2.77**	**28**	P	**Pn**	19 26 02.4	0.0
PAIG	**Paliouri**	**2.77**	**28**	*e*Pn	**Pn**	19 26 03.3	+0.9
APE	**Apeiranthos**	**2.86**	**98**	P	**Pn**	19 26 04.1	+0.3
APE	**Apeiranthos**	**2.86**	**98**	⇓*i*P	**Pb**	19 26 10.2	+1.1
APE	**Apeiranthos**	**2.86**	**98**	P	**Pn**	19 26 04.1	+0.3
PLG	**Polygyros**	**3.09**	**21**	P	**Pn**	19 26 07.3	+0.4
PLG	**Polygyros**	**3.09**	**21**	P	**Pn**	19 26 07.3	+0.4
IDI	**Anoyia**	**3.22**	**132**	P	**Pn**	19 26 10.0	+1.3
IDI	**Anoyia**	**3.22**	**132**	P	**Pn**	19 26 10.0	+1.3
IDI	**Anoyia**	**3.22**	**132**	P	**Pb**	19 26 12.4	-2.9
	2.1nm,0.3s,baz=312,slow=15,SNR=19						
IDI				S	**Sn**	19 26 50.3	+3.0
	8.5nm,0.3s,baz=65,slow=20,SNR=8.9						
OUR	**Ouranopolis**	**3.23**	**28**	P	**Pn**	19 26 09.1	+0.3
OUR	**Ouranopolis**	**3.23**	**28**	P	**Pn**	19 26 09.1	+0.3
LIA	**Limnos Island**	**3.46**	**45**	P	**Pn**	19 26 12.6	+0.6
LIA	**Limnos Island**	**3.46**	**45**	P	**Pn**	19 26 12.6	+0.6
LAST	**Lasithi**	**3.66**	**129**	P	**Pn**	19 26 16.5	+1.7
LAST	**Lasithi**	**3.66**	**129**	P	**Pn**	19 26 16.5	+1.7
KNT	**Kendrikon**	**3.73**	**11**	P	**Pn**	19 26 16.7	+1.1
KNT	**Kendrikon**	**3.73**	**11**	P	**Pn**	19 26 16.7	+1.1
SRS	**Serrai**	**3.82**	**19**	P	**Pn**	19 26 18.0	+1.0
SRS	**Serrai**	**3.82**	**19**	P	**Pn**	19 26 18.0	+1.0
MMB	**Musomiste**	**4.30**	**18**	P	**Pn**	19 26 24.1	+0.5
MMB	**Musomiste**	**4.30**	**18**	P	**Pn**	19 26 24.1	+0.5
KKB	**Krupnik**	**4.45**	**11**	P	**Pn**	19 26 26.6	+1.1
KKB	**Krupnik**	**4.45**	**11**	P	**Pn**	19 26 26.6	+1.1
RZN	**Rozhen**	**4.69**	**26**	P	Pn	19 26 33.0	+4.0
RZN	**Rozhen**	**4.69**	**26**	P	Pn	19 26 33.0	+4.0
KDZ	**Kurdzhali**	**4.92**	**32**	P	Pn	19 26 35.3	+3.2
KDZ	**Kurdzhali**	**4.92**	**32**	P	Pn	19 26 35.3	+3.2
VTS	**Vitosha**	**5.17**	**10**	⇓*i*P	**Pn**	19 26 38.4	+2.8
VTS	**Vitosha**	**5.17**	**10**	P	**Pn**	19 26 37.4	+1.8
MPEP	**Malo Peshtene**	**6.00**	**12**	P	**Pn**	19 26 48.1	+1.2
VOIR		**8.26**	**15**	⇑*i*P	**Pn**	19 27 20.2	+2.3
MLR	**Muntele Rosu**	**8.52**	**19**	⇑*i*P	Pn	19 27 26.3	+4.8
MLR	**Muntele Rosu**	**8.52**	**19**	P	**Pn**	19 27 24.1	+2.5
	0.0nm,0.3s,baz=134,slow=12,SNR=3.2						
PLOR	**Plostina**	**9.04**	**21**	⇓*i*P	Pn	19 27 33.2	+4.5
VRI	**Vrincioaia**	**9.08**	**21**	⇓*i*P	Pn	19 27 35.3	+6.2
BRTR	**Keskin Array B**	**9.39**	**73**	P	**Pn**	19 27 36.6	+3.0
	0.1nm,0.3s,baz=257,slow=13,SNR=7.0						
MMAI	**Mount Meron Ar**	**11.84**	**108**	P	**Pn**	19 28 06.1	-0.9
	baz=284,slow=8.8,SNR=2.4						
GERES	**GERESS Array B**	**12.84**	**335**	P	**Pn**	19 28 22.7	+2.1
	0.1nm,0.3s,baz=158,slow=14,SNR=2.7						
AKASG	**Malin Array Be**	**14.18**	**19**	P	**Pn**	19 28 38.9	+0.2
	0.2nm,0.3s,baz=209,slow=12,SNR=4.1						
HFS	**Hagfors**	**23.27**	**349**	P	**P**	19 30 25.3	-0.2
	0.6nm,0.4s,baz=155,slow=11,SNR=5.3						
NOA	**NORSAR Array B**	**24.52**	**347**	P	**P**	19 30 38.7	+1.1
	0.4nm,0.5s,baz=159,slow=11,SNR=5.2						
NOA				LR	LR	19 40 59.7	
	comp=Z,11nm,18.7s,baz=20,slow=38						
EKA	**Eskdalemuir Ar**	**24.65**	**324**	P	**P**	19 30 39.7	+1.0
	1.8nm,0.7s,baz=119,slow=6.7,SNR=4.7						
ARCES	**ARCESS Array B**	**32.15**	**2**	P	**P**	19 31 44.2	-1.3
	1.9nm,0.9s,baz=185,slow=9.1,SNR=3.1						
MKAR	**Makanchi Array**	**44.67**	**58**	P	**P**	19 33 29.9	-1.0
	0.2nm,0.5s,baz=270,slow=7.4,SNR=4.8						
ZALV	**Zalesovo Beam**	**45.29**	**48**	P	**P**	19 33 34.7	-1.0
	0.6nm,0.6s,baz=289,slow=9.0,SNR=3.3						

***GUC* 02 19:34:49.3±0.6, 23°.38S×70°.39W, h35^{km}±3^{km}, MD4.0, ML3.2, 3C-1D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**0.18**	**95**	*e*P	Pn	19 34 54.5	-2.3
CEN1				*i* S	Sn	19 34 59.5	-3.1
CEN1				AML	AML	19 34 60.0	
	comp=E,5μm,0.2s						
PB10	**Plate Boundary**	**0.20**	**227**	⇑*i*P	Pn	19 34 55.6	-1.1
PB10				*i* S	Sn	19 35 00.7	-1.6
PB10				AML	AML	19 35 00.7	
	comp=E,4μm,0.3s						
ANCH	**Antofagasta**	**0.31**	**183**	⇑*i*P	Pn	19 34 56.9	-0.4
ANCH				*e*S	Sn	19 35 02.3	-0.8
ANCH				AML	AML	19 35 02.7	
	comp=N,18μm,0.1s						
PB04	**Plate Boundary**	**1.38**	**37**	⇓*i*P	Pn	19 35 08.4	-3.7
PB04				*e*S	Sn	19 35 22.9	-6.2
PB04				AML	AML	19 35 24.0	
	comp=N,534nm,0.3s						
PB07	**Plate Boundary**	**1.71**	**16**	*e*P	Pn	19 35 17.5	+0.7
PB07				*e*S	Sn	19 35 39.9	+2.4
PB07				AML	AML	19 35 48.7	
	comp=E,170nm,0.5s						
PB09	**Plate Boundary**	**1.90**	**34**	*e*P	Pn	19 35 21.5	+2.0
PB09				*e*S	Sn	19 35 45.9	+3.6
PB09				AML	AML	19 35 50.8	
	comp=E,458nm,0.6s						
PB01	**Plate Boundary**	**2.47**	**20**	⇑*i*P	Pn	19 35 28.2	+1.0
PB01				*i* S	Sn	19 35 58.1	+1.9
PB01				AML	AML	19 36 07.2	
	comp=E,87nm,0.5s						

NEIC ***02*** *19:41:36.3, 52°.22N×168°.53W, h8^{km}, ML3.0(AEIC), After AEIC.*

IDC ***02*** *19:41:38.7±25.0, 52°.03N×167°.80W, h68^{km}±87^{km}, mb3.4/6, mb1 3.4/7, mb1mx3.2/31, mbtmp3.3/7, ML3.3/1, Error ellipse: s-maj=428.8km s-min=32.3km az=158.0*

ISC 02 19:41:34.0±4.0, 52°.2N±0°.1×168°.55W±0°.10, h14^{km}±24^{km}, n17, σ0^{s}.78/21, mb3.8/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.82**	**347**	P	**Pn**	**19 41 50.9**	**-0.3**
NIKH				S	**Sn**	**19 42 03.4**	**+0.3**
OKSP	**Okmok Steeple**	**1.09**	**8**	P	**Pb**	**19 41 54.8**	**+0.1**
OKSO	**Okmok South**	**1.21**	**11**	P	**Pn**	**19 41 56.2**	**-0.4**
OKSO				S	**Sb**	**19 42 12.5**	**+0.3**
OKTU	**Okmok Mt. Tuli**	**1.25**	**14**	P	**Pb**	**19 41 57.8**	**+0.3**
OKFG	**Magazine Ridge**	**1.30**	**17**	P	**Pn**	**19 41 57.7**	**0.0**
OKFG				S	**Sb**	**19 42 15.4**	**+0.7**
MREP	**Makushin Rep't**	**1.97**	**33**	P	**Pn**	**19 42 07.7**	**+0.7**
MSW	**Makushin Switc**	**2.04**	**31**	P	**Pn**	**19 42 08.2**	**+0.2**
MSW				S	**Sn**	**19 42 33.4**	**+0.1**
UNV	**Unalaska Valle**	**2.08**	**36**	P	**Pn**	**19 42 08.4**	**0.0**
UNV				S	**Sn**	**19 42 33.8**	**-0.4**
MTBL	**Makushin Table**	**2.12**	**31**	P	**Pn**	**19 42 09.8**	**+0.7**
AKRB	**Akutan Reef Bi**	**2.46**	**36**	P	**Pn**	**19 42 14.6**	**+0.9**
ILAR	**Eielson Array**	**16.84**	**33**	P	**Pn**	**19 45 26.7**	**-2.3**
	0.0nm,0.3s,baz=232,slow=10,SNR=3.8						
PETK	**Petropavlovsk-**	**20.40**	**286**	P	Pn	19 46 16.8	+4.4
	2.3nm,0.8s,baz=85,slow=14,SNR=3.6						
SONM	**Songino Array**	**51.83**	**301**	P	**P**	**19 50 42.5**	**+1.1**
	0.2nm,0.5s,baz=54,slow=7.3,SNR=2.8						
BVAR	**Borovoye Array**	**64.15**	**325**	P	**P**	**19 52 08.2**	**+0.6**
	0.3nm,0.5s,baz=46,slow=6.2,SNR=3.5						
MKAR	**Makanchi Array**	**64.31**	**314**	P	**P**	**19 52 08.1**	**-0.6**
	0.2nm,0.6s,baz=54,slow=6.2,SNR=3.8						
FINES	**FINESS Array B**	**66.13**	**352**	P	**P**	**19 52 19.9**	**-0.4**
	2.9nm,0.9s,baz=14,slow=7.6,SNR=13						
HFS	**Hagfors**	**68.03**	**359**	P	**P**	**19 52 32.1**	**-0.3**
	1.3nm,0.5s,baz=19,slow=6.1,SNR=9.6						

BJI ***02*** *19:58:50.7, 14°.23S×172°.24E, h598^{km}, mB4.7/25, mb4.7/42*

IDC ***02*** *19:58:50.5±0.8, 14°.71S×172°.04E, h588^{km}±8^{km}, mb4.2/31, mb1 4.3/34, mb1mx4.3/34, mbtmp4.2/34, Error ellipse: s-maj=9.3km s-min=7.9km az=171.0*

NEIC ***02*** *19:58:51.7±0.6, 14°.73S×171°.99E, h607^{km}±7^{km}, mb4.7/70, Error ellipse: s-maj=6.0km s-min=4.5km az=160.0*

ISCJB ***02*** *19:58:51.4±0.7, 14°.73S±0°.05×171°.94E±0°.03, h612^{km}±9^{km}, mb4.7/119, Error ellipse: s-maj=7.7km s-min=4.1km az=172.6*

AUST ***02*** *19:58:52.8±0.7, 14°.75S×172°.03E, h615^{km}, Error ellipse: s-maj=1.2km s-min=1.0km az=345.0*

DJA ***02*** *19:58:53.8±2.5, 15°.S±.9°×17°.2E±1°.9, h621^{km}±24^{km}, M4.8/25, mB5.3/6, mb5.1/25, Mw(mB)4.7/6*

ISC 02 19:58:51.5±0.3, 14°.73S±0°.05×172°.05E±0°.04, h603^{km}±2^{km}, h604^{km}: pP-P, n455, σ1^{s}.00/518, mb4.7/119, 71C-78D, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.49**	**118**	⇓*i*P	**P**	**20 00 38.8**	**+1.6**
	800nm,0.7s						
DZM	**Mont Dzumac**	**9.04**	**215**	P	**P**	**20 01 02.4**	**+1.5**
DZM				S	**S**	**20 02 47.5**	**+0.4**
DZM	**Mont Dzumac**	**9.04**	**215**	P	**P**	**20 01 02.4**	**+1.5**
	5.0nm,0.3s,baz=56,slow=14,SNR=44						
DZM				S	**S**	**20 02 47.5**	**+0.4**
	0.2nm,0.3s,baz=268,slow=24,SNR=4.7						
HNR	**Honiara**	**12.95**	**293**	P	**P**	**20 01 38.4**	**-1.5**
HNR				S	**S**	**20 03 57.6**	**-0.7**
HNR	**Honiara**	**12.95**	**293**	P	**P**	**20 01 38.4**	**-1.5**
	9.3nm,0.3s,baz=175,slow=3.3,SNR=6.1						
HNR				S	**S**	**20 03 57.6**	**-0.7**
	2.8nm,0.3s,baz=292,slow=19,SNR=5.2						
AFI	**Afiamalu**	**15.69**	**89**	P	**P**	**20 02 02.2**	**-3.9**
	158nm,0.8s						
AFI	**Afiamalu**	**15.69**	**89**	P	**P**	**20 02 05.5**	**-0.6**
	8.4nm,0.3s,baz=162,slow=7.0,SNR=4.8						
RAO	**Raoul Island**	**17.17**	**149**	P	**P**	**20 02 20.8**	**+1.4**
RAO	**Raoul Island**	**17.17**	**149**	P	**P**	**20 02 20.8**	**+1.4**
	57nm,0.3s,baz=92,slow=21,SNR=5.9						
NIUE	**Niue**	**17.78**	**107**	P	**P**	**20 02 26.1**	**+1.0**
	baz=18,SNR=4.8						
EIDS	**Eidsvold**	**22.33**	**238**	*e*P	**P**	**20 03 05.4**	**-0.6**
	72nm,0.8s						
EIDS	**Eidsvold**	**22.33**	**238**	P	**P**	**20 03 06.0**	**0.0**
	baz=22,SNR=14						
URZ	**Urewera**	**23.86**	**170**	*e*P	**P**	**20 03 17.0**	**-2.4**
	43nm,1.0s						
URZ	**Urewera**	**23.86**	**170**	P	**P**	**20 03 17.9**	**-1.5**
	26nm,0.8s,baz=336,slow=2.1,SNR=11						
ARMA	**Armidale**	**24.42**	**227**	*e*P	**P**	**20 03 25.1**	**+0.6**
	79nm,1.2s						
ARMA	**Armidale**	**24.42**	**227**	P	**P**	**20 03 25.3**	**+0.7**
	baz=24,SNR=12						
RMQ	**Roma**	**24.70**	**238**	P	**P**	**20 03 27.9**	**+0.9**
	baz=25,SNR=25						
PMG	**Port Moresby**	**24.90**	**279**	P	**P**	**20 03 29.5**	**+0.6**
	88nm,1.1s,989nm						
PMG	**Port Moresby**	**24.90**	**279**	P	**P**	**20 03 29.4**	**+0.5**
PMG	**Port Moresby**	**24.90**	**279**	P	**P**	**20 03 29.4**	**+0.5**
	70nm,0.9s,baz=75,slow=4.3,SNR=19						
CTA	**Charters Tower**	**25.17**	**254**	P	**P**	**20 03 31.3**	**+0.1**
CTA				ScP	**ScP**	**20 09 27.2**	**+0.5**
CTA	**Charters Tower**	**25.17**	**254**	P	**P**	**20 03 31.3**	**+0.1**
	45nm,0.8s,baz=82,slow=11,SNR=56						
CTA				ScP	**ScP**	**20 09 27.2**	**+0.5**
	5.7nm,0.7s,baz=351,slow=7.5,SNR=6.1						
CTAO	**Charters Tower**	**25.17**	**254**	*e*P	**P**	**20 03 31.0**	**-0.2**
	55nm,0.9s						
CTAO				*e*ScP	**ScP**	**20 09 27.1**	**+0.3**
MGCD	**Mangrove Creek**	**26.45**	**222**	P	**P**	**20 03 43.6**	**+1.3**
	baz=26,SNR=9.4						
SNZO	**South Karori**	**26.59**	**176**	P	**P**	**20 03 40.5**	**-2.8**
RAR	**Rarotonga**	**27.54**	**108**	*e*P	**P**	**20 03 52.5**	**+0.6**
	76nm,1.1s						
RAR	**Rarotonga**	**27.54**	**108**	P	**P**	**20 03 52.7**	**+0.7**
	35nm,0.8s,baz=270,slow=4.5,SNR=8.2						
COEN	**Coen**	**27.98**	**268**	*e*P	**P**	**20 03 55.6**	**-0.2**
	311nm,0.9s						
COEN	**Coen**	**27.98**	**268**	P	**P**	**20 03 56.0**	**+0.1**
	baz=28,SNR=24						
QLP	**Quilpie**	**28.51**	**241**	P	**P**	**20 04 00.3**	**+0.1**
	baz=28,SNR=113						
CNB	**Canberra Magne**	**28.90**	**221**	P	**P**	**20 04 04.7**	**+1.0**
	baz=29,SNR=33						
YNG	**Young**	**28.91**	**223**	P	**P**	**20 04 04.6**	**+1.0**
	baz=29,SNR=20						
CMSA	**Cobar Meteorol**	**29.34**	**231**	P	**P**	**20 04 07.6**	**+0.2**
	baz=29,SNR=56						
MILA	**Mila**	**30.16**	**218**	P	**P**	**20 04 15.8**	**+1.3**
	baz=30,SNR=6.1						
STKA	**Stephens Creek**	**32.61**	**233**	⇓*i*P	**P**	**20 04 35.5**	**+0.2**
	16nm,0.9s						
STKA				PcP	**PcP**	**20 07 03.1**	**+0.3**
STKA				ScP	**ScP**	**20 09 51.5**	**+1.0**
STKA	**Stephens Creek**	**32.61**	**233**	P	**P**	**20 04 35.9**	**+0.6**
	baz=33,SNR=77						
STKA	**Stephens Creek**	**32.61**	**233**	P	**P**	**20 04 35.9**	**+0.6**
	55nm,0.7s,baz=53,slow=6.8,SNR=99						
STKA				PcP	**PcP**	**20 07 03.1**	**+0.3**
	5.7nm,0.6s,baz=290,slow=2.0,SNR=3.3						
STKA				ScP	**ScP**	**20 09 51.5**	**+1.0**
	9.0nm,0.6s,baz=74,slow=3.7,SNR=14						
TOO	**Toolangi**	**32.75**	**221**	P	**P**	**20 04 37.3**	**+0.9**
	baz=33,SNR=30						
JAY	**Jayapura**	**33.22**	**288**	P	**P**	**20 04 40.3**	**-0.4**
	56nm,1.0s,2μm						
JAY	**Jayapura**	**33.22**	**288**	P	**P**	**20 04 40.1**	**-0.6**
	baz=33,SNR=12						
MOO	**Moorlands**	**34.95**	**213**	P	**P**	**20 04 55.7**	**+1.1**
	baz=35,SNR=4.6						
TAU	**Tasmania Unive**	**35.21**	**212**	*e*P	**P**	**20 04 57.2**	**+0.4**
	43nm,1.0s						
WRAB	**Tennant Creek**	**36.31**	**256**	⇓*i*P	**P**	**20 05 04.5**	**-1.7**
	100nm,0.8s						
WRAB				*e*ScP	**S**	**20 10 05.0**	**-0.6**
WRA	**Warramunga Arr**	**36.32**	**256**	P	**P**	**20 05 05.1**	**-1.2**
WRA				ScP	**S**	**20 10 05.1**	**-0.7**
WRA	**Warramunga Arr**	**36.32**	**256**	P	**P**	**20 05 05.1**	**-1.2**
	95nm,0.8s,baz=89,slow=8.5,SNR=204						
WRA				ScP	**S**	**20 10 05.1**	**-0.7**
	12nm,0.9s,baz=83,slow=4.1,SNR=15						
PPT	**Papeete**	**36.93**	**100**	P	**P**	**20 05 11.4**	**+0.2**
PPT	**Papeete**	**36.93**	**100**	P	**P**	**20 05 11.4**	**+0.2**
	60nm,0.5s,baz=81,slow=5.1,SNR=4.8						
AS31	**Alice Springs**	**37.01**	**250**	*e*P	**P**	**20 05 10.8**	**-1.1**
AS31				*e*ScP	**ScP**	**20 10 07.5**	**+0.7**
ASAR	**Alice Springs**	**37.01**	**250**	P	**P**	**20 05 11.3**	**-0.6**
ASAR				ScP	**ScP**	**20 10 07.5**	**+0.7**
ASAR	**Alice Springs**	**37.01**	**250**	P	**P**	**20 05 11.3**	**-0.6**
	68nm,0.7s,baz=73,slow=10,SNR=448						
ASAR				ScP	**ScP**	**20 10 07.5**	**+0.7**
	15nm,0.7s,baz=90,slow=3.8,SNR=33						
BBOO	**Buckleboo**	**37.30**	**235**	*e*P	**P**	**20 05 14.1**	**0.0**
	2μm,0.9s						
BBOO				*e*pP	**pP**	**20 06 56.4**	**+1.7**
BBOO	**Buckleboo**	**37.30**	**235**	P	**P**	**20 05 14.1**	**0.0**
	baz=37,SNR=22						
BAKI	**Biak**	**37.97**	**287**	P	**P**	**20 05 20.9**	**+1.2**
	196nm,0.9s						
KDU	**Kakadu**	**38.47**	**268**	P	**P**	**20 05 23.5**	**-0.3**
	baz=38,SNR=56						
SAUI	**Saumlaki**	**40.46**	**275**	P	**P**	**20 05 40.6**	**+0.9**
FAKI	**Fak Fak**	**40.96**	**283**	P	**P**	**20 05 42.9**	**-0.8**
FAKI	**Fak Fak**	**40.96**	**283**	P	**P**	**20 05 43.2**	**-0.5**
	baz=41,SNR=5.3						
KNRA	**Kununurra**	**41.73**	**263**	P	**P**	**20 05 49.2**	**-0.5**
	baz=42,SNR=83						
SWI	**Sorong**	**42.59**	**285**	P	**P**	**20 05 56.4**	**0.0**
	baz=43,SNR=15						
BNDI	**Bandanaira**	**42.70**	**279**	P	**P**	**20 05 57.1**	**-0.2**
	baz=43,SNR=5.9						
PALU	**Palau**	**43.23**	**298**	P	**P**	**20 06 02.0**	**+0.5**
	baz=43,SNR=15						
FORT	**Forrest**	**43.30**	**241**	*e*P	**P**	**20 06 01.1**	**-0.7**
	86nm,0.8s						
FORT				*e*PcP	**PcP**	**20 07 34.2**	**-2.5**
FORT				*e*ScP	**ScP**	**20 10 32.4**	**+0.9**
FORT	**Forrest**	**43.30**	**241**	P	**P**	**20 06 01.3**	**-0.5**
	baz=43,SNR=44						
FITZ	**Fitzroy Crossi**	**44.56**	**259**	⇓*i*P	**P**	**20 06 11.7**	**+0.1**
	78nm,0.8s						
FITZ				*e*PP	**pP**	**20 08 02.2**	**+4.6**
FITZ				*e*ScP	**ScP**	**20 10 37.5**	**+0.7**

KTGM **Kuala Trenggan** 71.14 281 P P 20 09 11.1 0.0
WHN **Wuhan** 71.44 310⇑ *i*P P 20 09 12.2 -0.2
WHN AMB AMB
comp=Z,54nm,0.7s
FRIM **Kepong** 71.97 278 P P 20 09 16.1 +0.1
CN2 **Changchun** 72.11 326 *e*P P 20 09 16.5 +0.4
CN2 *es*P **sP** 20 12 21.0 +0.1
CN2 *e*S **S** 20 17 53.1 +2.2
CN2 AMB AMB
comp=Z,30nm,0.9s
CN2 AMB AMB
comp=Z,200nm,5.0s
IPM **Ipoh** 72.90 279 P P 20 09 21.2 -0.1
IPM **Ipoh** 72.90 279 P P 20 09 21.2 -0.1
72nm,1.1s,761nm
IPM **Ipoh** 72.90 279 *e*P P 20 09 20.9 -0.4
25nm,0.6s
KULM **Kulim** 73.49 280 *e*P P 20 09 23.7 -0.8
13nm,0.7s
PANO **Nakornpanom** 73.69 293 P P 20 09 26.0 +0.4
126nm,0.9s
SKNT **Sakolnakorn** 74.19 293 P P 20 09 28.4 0.0
70nm,0.9s
PSI **Prapat** 74.44 277 P P 20 09 29.2 -0.9
baz=74,SNR=14
ENH **Enshi** 74.99 307 *e*P P 20 09 32.5 -0.2
39nm,1.2s
BJT **Baijiatuau** 75.23 319 *e*P P 20 09 33.0 -0.8
13nm,0.8s
BJI **Beijing** 75.24 319 P P 20 09 34.3 +0.5
BJI AMB AMB
comp=Z,25nm,1.0s
BJI AMB AMB
comp=Z,140nm,6.3s
QSPA **South Pole Qui** 75.30 180 *e*P P 20 09 33.4 -0.5
12nm,1.0s
GYA **Guiyang** 75.56 303⇓ *i*P P 20 09 36.3 +0.2
GYA pP **pP** 20 11 41.2 +0.7
GYA sP **sP** 20 12 42.0 -0.1
GYA S **S** 20 18 30.4 +0.9
GYA SKS **SKSac** 20 18 47.6 -2.0
GYA sS **sS** 20 22 10.0 -1.2
GYA AMB AMB
comp=Z,20nm,1.0s
GYA AMB AMB
comp=Z,50nm,5.6s
CHAI **Chaiyaphum** 75.60 291 P P 20 09 36.6 +0.3
4.8nm,0.8s
LOEI **Loei** 76.80 292 P P 20 09 41.4 -1.5
30nm,1.1s
XAN **Xi'an** 77.15 311 P P 20 09 44.8 +0.3
XAN AMB AMB
comp=Z,6.0nm,1.0s
OHAK **Old Harbor** 77.24 18 *e*P P 20 09 43.2 -1.1
14nm,0.9s
NANT **Nan** 77.75 293 P P 20 09 48.3 +0.3
90nm,0.8s
UTHA **Uthaitani** 77.79 290 P P 20 09 49.4 +1.2
8.3nm,1.0s
KDAK **Kodiak Island** 77.92 18 P P 20 09 48.1 +0.2
KDAK **Kodiak Island** 77.92 18 P P 20 09 48.1 +0.2
10nm,0.8s,baz=289,slow=5.8,SNR=6.3
KMI **Kunming** 78.28 300 P P 20 09 51.8 +0.8
KMI PcP **PcP** 20 09 58.9 +1.3
KMI pP **pP** 20 11 56.2 -0.4
KMI sP **sP** 20 12 57.4 -0.5
KMI S **S** 20 19 00.8 +2.4
KMI SS **SS** 20 24 15.8 -3.3
KMI AMB AMB
comp=Z,16nm,1.4s
KMI AMB AMB
comp=Z,61nm,4.2s
CRAI **Chiangrai** 78.53 295 P P 20 09 51.2 -1.0
134nm,2.0s
HHC **Hu-ho-hao-te** 78.64 318 *e*P P 20 09 52.1 -0.3
HHC pP **pP** 20 11 57.1 -1.1
HHC PP **PP** 20 13 03.7 +1.6
HHC S **S** 20 19 00.5 -0.8
HHC SKS **SKSac** 20 19 08.8 -2.0
HHC sS **sS** 20 22 44.1 -1.3
HHC SS **SS** 20 24 28.8 +5.1
HHC AMB AMB
comp=Z,31nm,0.8s
HHC AMB AMB
comp=Z,240nm,5.4s
HIA **Hailar** 78.66 328 *e*P P 20 09 52.2 0.0
PAYA **Payao** 78.68 294 P P 20 09 53.6 +0.6
13nm,0.9s
CM31 **Chiang Mai Arr** 79.20 292 *e*P P 20 09 56.7 +1.0
22nm,0.9s
CMAR **Chiang Mai Arr** 79.20 292 P P 20 09 56.6 +0.9
CMAR **Chiang Mai Arr** 79.20 292 P P 20 09 56.6 +0.9
18nm,0.8s,baz=123,slow=3.9,SNR=14
CHTO **Chiang Mai** 79.32 293 P P 20 09 56.9 +0.6
118nm,1.1s
CHTO **Chiang Mai** 79.32 293 *e*P P 20 09 56.6 +0.3
111nm,1.1s
CHTO **Chiang Mai** 79.32 293 P P 20 09 56.9 +0.6
118nm,1.1s
CMAI **Chiengmai2** 79.60 294 P P 20 09 59.8 +1.8
45nm,0.9s
CD2 **Chengdu** 79.72 306 P P 20 09 58.7 +0.5
CD2 pP **pP** 20 12 05.7 +1.2
CD2 sP **sP** 20 13 05.2 -0.4
CD2 PP **PP** 20 13 12.3 +1.3
CD2 S **S** 20 19 13.0 +0.3
CD2 sS **sS** 20 22 56.0 -1.6
CD2 SS **SS** 20 24 43.7 +3.7
CD2 AMB AMB
comp=Z,30nm,1.2s
CD2 AMB AMB
comp=Z,170nm,5.1s
RSO **Redoubt South** 80.07 17 *e*P P 20 09 59.1 -0.4
58nm,0.9s
PKM **Peak Mountain** 81.23 51 ⇓P P 20 10 07.0 +0.9
baz=81,SNR=7.4
SCI **San Clemente I** 81.42 53 ⇓P P 20 10 07.4 +0.5
baz=82
WDC **Whiskeytown Da** 81.78 44 *e*P P 20 10 09.2 +0.7
18nm,1.2s
LZH **Lanzhou** 81.79 311 ⇓P P 20 10 10.4 +1.5
LZH pP **pP** 20 12 17.8 +1.7
LZH sP **sP** 20 13 19.1 +2.2
LZH PP **PP** 20 13 30.3 +2.5
LZH *e*S **S** 20 19 33.4 -0.2
LZH sS **sS** 20 23 19.3 -0.8
LZH SS **SS** 20 25 15.3 +4.9
LZH AMB AMB
comp=Z,52nm,1.0s
LZH AMB AMB
comp=Z,220nm,4.3s
FMP **Fort Macarthur** 81.90 52 ⇑P P 20 10 10.1 +0.7
baz=82
PMR **Palmer** 82.03 18 *e*P P 20 10 09.1 -0.2
5.7nm,0.7s
ARVC **Arvin** 82.07 51 ⇑P P 20 10 11.0 +0.8
baz=82
CMB **Columbia Colle** 82.15 47 *e*P P 20 10 10.7 +0.1
22nm,1.2s
VES **Vestal, Richgr** 82.17 50 ⇓P P 20 10 11.3 +0.6
baz=82
YBH **Yreka Blue Hor** 82.19 43 P P 20 10 11.8 +1.0
YBH **Yreka Blue Hor** 82.19 43 P P 20 10 11.8 +1.0
12nm,0.8s,baz=116,slow=0.5,SNR=20
MWC **Mount Wilson** 82.29 52 *e*P P 20 10 11.7 +0.2
11nm,0.5s
HUMO **Hull Mountain** 82.44 42 *e*P P 20 10 12.5 +0.6
26nm,1.0s
ISA **Isabella** 82.55 50 *e*P P 20 10 13.2 +0.5
44nm,1.2s
ISA **Isabella** 82.55 50 ⇓P P 20 10 13.3 +0.5
baz=83,SNR=18
BFSC **Mount Baldy Ra** 82.60 52 ⇑P P 20 10 13.2 +0.1
baz=83,SNR=13
EDW2 **Edwards Air Fo** 82.60 51 ⇑P P 20 10 13.5 +0.6
baz=83,SNR=21
DIV **Divide** 82.70 19 *e*P P 20 10 12.6 -0.2
10nm,0.6s
MURC **Murrieta** 82.70 53 ⇓P P 20 10 13.9 +0.5
baz=83
LBCM **Butte Creek Ri** 82.70 45 P P 20 10 14.1 +0.6
BUOR **Burton Butte** 82.75 43 P P 20 10 14.5 +0.9
BMRM **Bremner River** 82.95 20 *e*P P 20 10 13.4 -0.6
12nm,0.7s
BEKR **Beckworth** 82.96 46 *e*P P 20 10 15.3 +0.5
8.9nm,0.9s

WAKR **Walker** 83.02 47 *e*P P 20 10 15.9 +0.7
MONP **Monument Peak** 83.03 54 ⇓P P 20 10 16.1 +0.8
baz=83
LRMC **Laurel Mountai** 83.06 51 ⇑P P 20 10 15.9 +0.6
baz=83,SNR=9.1
MLAC **Mammoth Lakes** 83.09 48 ⇑P P 20 10 16.4 +0.9
baz=83
CWC **Cottonwood Cre** 83.16 50 ⇑P P 20 10 16.6 +0.8
baz=83
DVTC **Desert V Tower** 83.19 54 ⇑P P 20 10 16.8 +0.9
baz=83
TRF **Thorofare Moun** 83.19 16 *e*P P 20 10 13.6 -1.7
7.4nm,0.9s
PFO **Pinyon Flat Ob** 83.27 53 *e*P P 20 10 16.5 +0.1
5.8nm,0.6s
PFO **Pinyon Flat Ob** 83.27 53 ⇑P P 20 10 16.9 +0.5
baz=84
PFO **Pinyon Flat Ob** 83.27 53 P P 20 10 16.9 +0.5
12nm,0.7s,baz=279,slow=4.1,SNR=11
MPMC **Manual Prospec** 83.44 50 ⇓P P 20 10 18.0 +0.7
baz=84,SNR=11
SWSC **Sam W. Stewart** 83.53 54 ⇓P P 20 10 18.4 +0.9
baz=84
IRO **Indian Ridge** 83.54 41 P P 20 10 17.9 +0.4
MAW **Mawson** 83.60 201 P P 20 10 17.2 0.0
MAW **Mawson** 83.60 201 P P 20 10 17.6 +0.5
baz=83,SNR=7.8
MAW **Mawson** 83.60 201 P P 20 10 17.2 0.0
7.5nm,0.9s,baz=107,slow=6.5,SNR=12
GSC **Goldstone** 83.66 51 *e*P P 20 10 18.8 +0.6
8.0nm,0.9s
GSC **Goldstone** 83.66 51 ⇓P P 20 10 18.7 +0.6
baz=84,SNR=6.7
BELC **Belle Mtn. Jos** 83.78 53 ⇓P P 20 10 19.7 +0.8
baz=84,SNR=37
MCK **McKinley** 83.78 16 *e*P P 20 10 16.6 -1.5
6.3nm,0.7s
NVAR **Mina Array Bea** 83.80 48 P P 20 10 19.8 +0.7
NVAR **Mina Array Bea** 83.80 48 P P 20 10 19.8 +0.7
18nm,0.8s,baz=229,slow=8.9,SNR=90
HEC **Hector,Ludlow** 83.84 52 ⇑P P 20 10 19.6 +0.5
baz=84,SNR=11
MOD **Modoc** 83.88 44 *e*P P 20 10 19.4 +0.1
125nm,1.2s
GRAC **Grapevine Rang** 83.91 49 ⇑P P 20 10 20.4 +1.1
baz=84
NV11 **Mina Array Sit** 83.91 48 *e*P P 20 10 19.8 +0.3
NV11 pP **pP** 20 12 27.1 -0.4
BC3 **Big Chuckawall** 84.06 53 ⇓P P 20 10 21.2 +0.9
baz=84
FURC **Furnace Creek,** 84.07 50 ⇑P P 20 10 21.0 +1.0
baz=84
SHOC **Shoshone** 84.28 51 ⇑P P 20 10 21.8 +0.6
baz=84
GMRC **Granite Mounta** 84.33 52 ⇑P P 20 10 22.1 +0.6
baz=84,SNR=11
GLA **Glamis** 84.33 54 *e*P P 20 10 22.4 +0.9
30nm,0.9s
GLA **Glamis** 84.33 54 ⇑P P 20 10 22.7 +1.2
baz=84
TUQ **Turquoise Moun** 84.38 51 ⇑P P 20 10 22.4 +0.7
baz=85,SNR=9.4
IRM **Iron Mountain** 84.49 53 ⇓P P 20 10 23.1 +0.9
baz=85,SNR=15
FL2 **Flat Top 2** 84.50 39 P P 20 10 23.1 +1.0
TDL **Tradedollar La** 84.65 39 P P 20 10 23.6 +0.7
Y12C **Blythe** 84.82 53 ⇓P P 20 10 24.9 +1.1
baz=85
ULN **Ulaanbaatar** 84.92 322 P P 20 10 24.4 +0.2
ULN **Ulaanbaatar** 84.92 322 *e*P P 20 10 24.1 -0.1
6.7nm,0.9s
COLA **College** 84.98 16 *e*P P 20 10 22.6 -1.2
28nm,0.9s
113A **Mohawk Valley,** 85.06 54 ⇓P P 20 10 26.0 +1.0
baz=85
ILAR **Eielson Array** 85.16 16 P P 20 10 23.2 -1.5
ILAR **Eielson Array** 85.16 16 P P 20 10 23.2 -1.5
6.5nm,0.7s,baz=234,slow=5.3,SNR=50
WVOR **Wild Horse Val** 85.23 44 *e*P P 20 10 26.3 +0.5
20nm,1.2s
SONM **Songino Array** 85.29 322 P P 20 10 25.6 -0.3
SONM **Songino Array** 85.29 322 P P 20 10 25.6 -0.3
3.6nm,1.0s,baz=134,slow=5.5,SNR=19
PDMCI **Parker Dam,Lak** 85.32 53 ⇓P P 20 10 27.0 +0.8
baz=86
SHPR **Sheep Range** 85.35 51 *e*P P 20 10 27.3 +0.8
11nm,0.9s
BMN **Battle Mountai** 85.38 46 *e*P P 20 10 27.2 +0.7
32nm,1.3s
214A **Organ Pipe Nat** 85.53 55 ⇑P P 20 10 28.3 +1.0
baz=86
R11A **Troy Canyon, C** 85.73 49 *e*P P 20 10 28.5 +0.2
R11A *e*PP **PP** 20 13 58.0 -1.4
R11A **Troy Canyon, C** 85.73 49 ⇑P P 20 10 28.7 +0.4
baz=86
W13A **Hualapai Mount** 85.80 52 ⇑P P 20 10 29.5 +0.8
baz=86,SNR=11
Z14A **Wintersburg** 85.91 54 ⇑P P 20 10 30.1 +1.0
baz=86
RPW **Rockport** 86.04 38 P P 20 10 29.5 +0.1
GTA **Gaotai** 86.05 312 P P 20 10 30.6 +0.9
GTA pP **pP** 20 12 40.1 +1.4
GTA sP **sP** 20 13 39.3 +0.2
GTA AMB AMB
comp=Z,24nm,0.8s
Y14A **Wickenburg** 86.07 54 ⇓P P 20 10 30.4 +0.5
baz=86
HAWA **Hanford** 86.33 40 *e*P P 20 10 31.3 +0.6
14nm,1.0s
ETW **Entiat** 86.37 39 P P 20 10 31.4 +0.3
EGAK **Eagle** 86.81 18 *e*P P 20 10 31.2 -1.3
5.5nm,0.8s
ELK **Elko** 86.89 47 *e*P P 20 10 34.4 +0.6
16nm,1.0s
CCUT **Cedar City** 87.07 50 *e*P P 20 10 35.6 +0.9
25nm,0.9s
BMO **Blue Mountains** 87.10 42 *e*P P 20 10 34.6 +0.1
16nm,0.4s
TUC **Tucson** 87.27 56 *e*P P 20 10 36.4 +0.8
22nm,1.2s
X16A **Lo Mia Camp, P** 87.45 54 ⇑P P 20 10 37.8 +1.2
baz=88,SNR=22
U15A **North Rim** 87.48 51 ⇑P P 20 10 37.9 +1.2
baz=88,SNR=46
MFID **Camas Ranch** 87.51 44 ⇑P P 20 10 37.2 +0.7
baz=88
WUAZ **Wupatki** 87.87 53 *e*P P 20 10 39.3 +0.9
34nm,0.9s
WUAZ **Wupatki** 87.87 53 ⇓P P 20 10 39.5 +1.1
baz=88,SNR=22
319A **Douglas** 88.18 57 ⇓P P 20 10 41.1 +1.2
baz=88
MVU **Marysvale** 88.26 50 *e*P P 20 10 41.1 +0.9
8.5nm,1.0s
DUG **Dugway** 88.41 48 *e*P P 20 10 41.4 +0.6
7.4nm,0.9s
DUG **Dugway** 88.41 48 ⇑P P 20 10 41.4 +0.6
baz=89
BGU **Big Grassy Mou** 88.52 47 *e*P P 20 10 41.7 +0.4
8.8nm,0.9s
HLID **Hailey** 88.52 44 *e*P P 20 10 42.1 +0.9
15nm,0.8s
HLID **Hailey** 88.52 44 ⇑P P 20 10 42.2 +0.9
baz=89
NEW **Newport** 88.60 39 *e*P P 20 10 41.2 -0.2
7.3nm,0.9s
NEW **Newport** 88.60 39 ⇓P P 20 10 41.5 +0.1
baz=89
NEW **Newport** 88.60 39 P P 20 10 41.4 +0.1
7.1nm,0.7s,baz=222,slow=4.2,SNR=8.1
X18A **Snowflake** 88.65 54 ⇓P P 20 10 43.1 +1.0
baz=89,SNR=8.0
320A **Kipp Ranch, An** 88.78 57 ⇓P P 20 10 44.1 +1.4
baz=89
220A **Playas Peak, P** 88.96 57 ⇓P P 20 10 44.6 +1.1
baz=89,SNR=8.5
HVU **Hansel Valley** 89.00 46 *e*P P 20 10 44.1 +0.6
32nm,1.3s
W18A **Petrified Fore** 89.01 53 *e*P P 20 10 44.5 +0.8
W18A **Petrified Fore** 89.01 53 ⇑P P 20 10 44.8 +1.1
baz=89,SNR=5.6
120A **U Bar Ranch, L** 89.07 56 ⇓P P 20 10 45.2 +1.1
baz=89,SNR=12
Q16A **Castle Valley** 89.16 49 ⇓P P 20 10 45.8 +1.4
baz=89
Z20A **Nine Sixteen R** 89.28 56 ⇓P P 20 10 45.8 +0.8
baz=89

LSA **Lhasa** 89.51 301 P P 20 10 47.0 +0.5
LSA AMB AMB
comp=Z,20nm,0.8s
LSA **Lhasa** 89.51 301 *e*P P 20 10 47.0 +0.5
13nm,0.7s
221A **Mesquite Ranch** 89.59 57 ⇓P P 20 10 47.5 +1.0
baz=90,SNR=6.3
Y20A **Horse Springs,** 89.69 55 ⇓P P 20 10 48.1 +1.1
baz=90,SNR=14
SRU **San Rafael** 89.70 49 *e*P P 20 10 46.6 -0.3
3.9nm,0.7s
121A **Cookes Peak, D** 89.75 56 ⇑P P 20 10 48.4 +1.2
baz=90,SNR=8.9
X20A **Quemado** 89.79 54 ⇓P P 20 10 48.5 +1.0
baz=90,SNR=7.3
BSMT **Bassoo Peak** 89.88 40 *e*P P 20 10 47.0 -0.5
6.1nm,1.0s
W20A **Ramah** 89.97 54 ⇑P P 20 10 49.0 +0.8
baz=90,SNR=7.8
SYO **Syowa Base** 89.98 195‖ *e*P P 20 10 45.4 -1.9
MCMT **McKenzie Canyo** 90.03 43 *e*P P 20 10 48.3 0.0
1.7nm,0.8s
MSO **Missoula** 90.04 41 ⇑P P 20 10 48.6 +0.5
baz=90
Z21A **St. Cloud Mine** 90.07 56 ⇓P P 20 10 49.8 +1.1
baz=90,SNR=5.4
222A **Williams Famil** 90.17 57 ⇓P P 20 10 49.9 +0.8
baz=90,SNR=5.6
PMSA **Palmer Station** 90.17 159 *e*P P 20 10 48.2 -0.1
13nm,0.8s
V20A **Brimhall** 90.20 53 ⇑P P 20 10 49.8 +0.6
baz=90
Y21A **Point of Rocks** 90.28 55 ⇑P P 20 10 50.7 +1.0
baz=90,SNR=19
X21A **Alamocita Cree** 90.32 55 ⇑P P 20 10 50.6 +0.7
baz=90,SNR=7.8
U20A **Newcomb** 90.34 52 ⇓P P 20 10 49.9 +0.1
baz=90
M17A **Scullys Gap (B** 90.38 47 ⇑P P 20 10 49.6 -0.4
baz=91
DLMT **Dillon** 90.38 43 *e*P P 20 10 48.4 -1.4
14nm,1.0s
122A **Conniff Cattle** 90.43 56 ⇓P P 20 10 51.4 +1.1
baz=91
RRI2 **Red Ridge** 90.55 45 *e*P P 20 10 49.9 -0.9
13nm,0.8s
RRI2 *ep*P **pP** 20 13 03.5 +2.4
PV10 **Paradox Valley** 90.57 50 *e*P P 20 10 51.3 +0.4
176nm,0.8s
MVCO **Mesa Verde** 90.61 52 ⇑P P 20 10 52.0 +0.8
baz=91
Z22A **Elephant Butte** 90.62 56 ⇑P P 20 10 51.9 +0.6
baz=91,SNR=9.5
Y22A **Socorro** 90.82 55 ⇓P P 20 10 52.7 +0.6
baz=91,SNR=6.2
PV01 **Paradox Valley** 90.84 51 *e*P P 20 10 51.8 -0.4
S20A **Disappointment** 90.91 51 ⇑P P 20 10 53.4 +0.8
baz=91
X22A **Bernardo** 90.95 55 ⇑P P 20 10 53.5 +0.8
baz=91
P19A **Cripple Cowboy** 91.00 49 ⇓P P 20 10 53.7 +0.8
baz=91
R20A **Redvale** 91.00 51 ⇓P P 20 10 53.5 +0.6
baz=91
U21A **Nageezi** 91.02 53 ⇓P P 20 10 53.7 +0.7
baz=91
Z23A **Rita Site, Whi** 91.21 56 ⇓P P 20 10 54.7 +0.8
baz=91
Q20A **Ridgley Place,** 91.30 50 ⇓P P 20 10 54.9 +0.7
baz=92
324A **Moseley Ranch,** 91.30 58 ⇑P P 20 10 54.6 +0.2
baz=92,SNR=6.2
P20A **De Beque** 91.40 50 ⇓P P 20 10 54.9 +0.3
baz=92
224A **Cornudas Mount** 91.45 57 ⇓P P 20 10 55.4 +0.3
baz=92,SNR=9.3
M19A **Rock Springs** 91.46 47 ⇑P P 20 10 55.4 +0.4
baz=92
ANMO **Albuquerque** 91.52 54 *e*P P 20 10 55.4 0.0
2.1nm,0.5s
ANMO **Albuquerque** 91.52 54 P P 20 10 55.6 +0.3
4.8nm,0.7s,baz=256,slow=4.0,SNR=13
425A **Indio Mountain** 91.53 59 ⇑P P 20 10 55.9 +0.4
baz=92,SNR=10.0
Y23A **Lovelace Mesa,** 91.54 55 ⇑P P 20 10 55.4 -0.1
baz=92
PDAR **Pinedale Array** 91.58 46 P P 20 10 55.1 -0.4
PDAR **Pinedale Array** 91.58 46 P P 20 10 55.1 -0.4
2.0nm,0.6s,baz=170,slow=2.4,SNR=4.6
U22A **Llaves** 91.62 53 ⇓P P 20 10 55.9 +0.1
baz=92
X23A **Hourglass Bar** 91.62 55 ⇓P P 20 10 56.2 +0.3
baz=92
R21A **Cimarron** 91.68 51 ⇑P P 20 10 56.3 +0.3
baz=92
O20A **White River Ci** 91.70 49 ⇓P P 20 10 56.5 +0.4
baz=92
626A **Big Bend Ranch** 91.90 60 ⇓P P 20 10 57.8 +0.7
baz=92,SNR=11
225A **Deer Hill, Car** 92.03 57 ⇓P P 20 10 58.4 +0.7
baz=92
Y24A **Capitan** 92.03 56 ⇑P P 20 10 58.5 +0.7
baz=92
S22A **4UR Ranch, Cre** 92.04 52 ⇑P P 20 10 58.5 +0.6
baz=92
526A **Mary Lane Ranc** 92.07 60 ⇓P P 20 10 58.5 +0.5
baz=92,SNR=7.4
M20A **Sweetwater, Wa** 92.15 48 ⇑P P 20 10 58.5 +0.4
baz=92
L20A **Wamsutter** 92.20 47 ⇓P P 20 10 59.4 +1.1
baz=92
TXAR **Lajitas Array** 92.23 60 P P 20 10 59.5 +0.9
TXAR **Lajitas Array** 92.23 60 P P 20 10 59.5 +0.9
6.8nm,0.7s,baz=223,slow=5.5,SNR=52
426A **McDonald Obser** 92.29 59 ⇑P P 20 10 59.4 +0.4
baz=92,SNR=8.5
125A **Gardner Draw,** 92.31 57 ⇑P P 20 10 59.3 +0.3
baz=92
SMCO **Snowmass** 92.35 50 *e*P P 20 10 57.7 -1.6
6.2nm,0.9s
W24A **Lazy 6 Ranch,** 92.42 54 ⇓P P 20 10 59.7 +0.2
baz=93
527A **Woodward Ranch** 92.50 60 ⇑P P 20 11 00.1 +0.2
baz=93,SNR=8.7
627A **Terlingua Ranc** 92.50 60 ⇑P P 20 11 00.3 +0.4
baz=93,SNR=8.9
226B **Tecolote Peak,** 92.56 58 ⇑P P 20 10 60.0 -0.1
baz=93
Y25A **Mesa, Roswell** 92.63 56 ⇑P P 20 11 00.5 +0.1
baz=93
427A **Hayter Ranch,** 92.86 59 ⇑P P 20 11 02.0 +0.6
baz=93
628A **Black Gap, Mar** 92.93 60 ⇑P P 20 11 02.6 +0.8
baz=93
F19A **Roth Farm, Mol** 92.96 43 ⇓P P 20 11 02.0 +0.3
baz=93
Z26A **Caprock** 93.03 57 ⇓P P 20 11 01.9 -0.3
baz=93,SNR=5.8
W25A **X Bar L Ranch,** 93.16 55 ⇑P P 20 11 03.1 +0.2
baz=93
528A **Cox Ranch, San** 93.19 60 ⇑P P 20 11 03.3 +0.3
baz=93,SNR=5.9
V25A **Rancho No Teng** 93.21 54 ⇓P P 20 11 03.1 0.0
baz=93
G20A **Bridger** 93.26 44 ⇓P P 20 11 04.3 +1.3
baz=93
Y26A **Elida** 93.32 56 ⇓P P 20 11 03.6 0.0
baz=94
127A **Arkansas Junct** 93.37 57 ⇑P P 20 11 04.0 +0.2
baz=94
328A **Wristen Ranch,** 93.48 59 ⇓P P 20 11 04.5 +0.2
baz=94
X26A **CR and CF Fran** 93.50 55 ⇑P P 20 11 04.2 -0.2
baz=94
N23A **Red Feather La** 93.60 49 ⇓P P 20 11 05.1 +0.2
baz=94
529A **Stev Forest Ra** 93.65 60 ⇓P P 20 11 05.1 0.0
baz=94
Z27A **Tatum** 93.66 57 ⇑P P 20 11 05.3 +0.2
baz=94
W26A **Owens Ranch, T** 93.68 55 ⇑P P 20 11 05.5 +0.3
baz=94
SNAA **Sanae** 93.74 182 *e*P P 20 11 03.2 -1.4
4.9nm,1.2s
S25A **Robets Cordova** 93.84 52 ⇓P P 20 11 06.4 +0.5
baz=94
Y27A **Causey** 93.84 56 ⇓P P 20 11 06.4 +0.4
baz=94

228A	**UT Block 9, Go** baz=94	**93.85**	**58**	⇓P		**P**	**20 11 06.3**	**+0.3**
D20A	**Manuel Ranch,** baz=94	**93.87**	**42**	⇓P		**P**	**20 11 06.5**	**+0.8**
429A	**Davenport Ranc** baz=94,SNR=8.8	**94.05**	**60**	⇑P		**P**	**20 11 06.6**	**-0.3**
128A	**Castleberry Fa** baz=94	**94.07**	**57**	⇓P		**P**	**20 11 07.4**	**+0.4**
MSTX	**Muleshoe** baz=94	**94.18**	**56**	⇑P		**P**	**20 11 07.3**	**-0.1**
329A	**Wagon Wheel Ra** baz=94	**94.20**	**59**	⇓P		**P**	**20 11 07.5**	**0.0**
Y28A	**McKinney Farm,** baz=95	**94.59**	**56**	⇑P		**P**	**20 11 09.8**	**+0.6**
430A	**Baggett Ranch,** baz=95	**94.64**	**60**	⇓P		**P**	**20 11 09.8**	**+0.2**
631A	**Perdido Creek** baz=95	**94.86**	**61**	⇓P		**P**	**20 11 10.8**	**+0.3**
531A	**Rocksprings** baz=95	**95.07**	**60**	⇑P		**P**	**20 11 11.7**	**+0.2**
331A	**San Angelo** baz=96	**95.44**	**59**	⇑P		**P**	**20 11 13.0**	**-0.2**
YKA	**Yellowknife Ar**	**95.45**	**27**	P		**P**	**20 11 12.4**	**+0.1**
YKA	**Yellowknife Ar** 4.0nm,0.7s,baz=257,slow=4.9,SNR=8.2	**95.45**	**27**	P		**P**	**20 11 12.4**	**+0.1**
231A	**Bronte** baz=96	**95.68**	**59**	⇑P		**P**	**20 11 13.8**	**-0.4**
A22A	**Carney Farms,** baz=96	**95.84**	**41**	⇓P		**P**	**20 11 12.9**	**-1.6**
432A	**Menard** baz=96	**95.87**	**60**	⇑P		**P**	**20 11 14.6**	**-0.5**
R28A	**Tribune** baz=96	**96.02**	**52**	⇑Pdiff		**P**	**20 11 16.5**	**+0.9**
332A	**Millersview** baz=96	**96.03**	**59**	⇓Pdiff		**P**	**20 11 16.1**	**+0.4**
WMQ	**Urumqi**	**96.05**	**314**	*e*P		**P**	**20 11 15.5**	**-0.1**
Z31A	**Sharp Cattle R** baz=96	**96.15**	**57**	⇓Pdiff		**P**	**20 11 15.7**	**-0.6**
232A	**Coleman** baz=96	**96.22**	**59**	⇓Pdiff		**P**	**20 11 16.6**	**-0.1**
ABTX	**Abilene, Hawle** baz=96	**96.40**	**58**	⇓Pdiff		**P**	**20 11 16.9**	**-0.4**
Z32A	**Haskell** baz=97	**96.69**	**57**	⇑Pdiff		**P**	**20 11 19.2**	**+0.5**
L28A	**Connealy Angus** baz=97	**97.09**	**49**	⇑Pdiff		**P**	**20 11 21.0**	**+0.7**
ZAA0	**Zalesovo Array**	**100.14**	**323**	*e*Pdif		**Pdif**	**20 11 32.7**	**-0.8**
ZALV	**Zalesovo Beam**	**100.14**	**323**	P		**Pdif**	**20 11 32.5**	**-0.9**
ZALV	**Zalesovo Beam** 1.2nm,0.7s,baz=127,slow=5.3,SNR=5.5	**100.14**	**323**	P		**Pdif**	**20 11 32.5**	**-0.9**
MK31	**Makanchi Array**	**100.41**	**316**	*e*P		**Pdif**	**20 11 33.2**	**-1.7**
MKAR	**Makanchi Array**	**100.41**	**316**	P		**Pdif**	**20 11 35.3**	**+0.4**
MKAR	**Makanchi Array** 1.6nm,0.7s,baz=90,slow=5.7,SNR=14	**100.41**	**316**	P		**Pdif**	**20 11 35.3**	**+0.4**
KURK	**Kurchatov**	**103.40**	**319**	PP		PP	20 16 09.9	-3.6
KURK				PKKPbc		**PKKPbc**	**20 27 40.6**	**-0.3**
KURBB	**Kurchatov Arra** 0.7nm,0.8s,baz=100,slow=7.0,SNR=6.0	**103.45**	**319**	PP		PP	20 16 09.9	-3.9
KURBB				PKKPbc		**PKKPbc**	**20 27 40.6**	**-0.1**
	0.2nm,0.7s,baz=275,slow=3.4,SNR=9.5							
AKTO	**Aktyubinsk**	**116.50**	**319**	PKP		**PKPdf**	**20 16 26.8**	**-1.0**
AKTO	**Aktyubinsk** 1.4nm,0.6s,baz=97,slow=1.9,SNR=5.8	**116.50**	**319**	PKP		**PKPdf**	**20 16 26.8**	**-1.0**
KEV	**Kevo**	**120.85**	**347**	*ep*		**PKPdf**	**20 16 34.4**	**-1.2**
ARCES	**ARCESS Array B**	**121.36**	**347**	PKP		**PKPdf**	**20 16 36.0**	**-0.6**
ARCES	**ARCESS Array B** 3.5nm,0.5s,baz=78,slow=2.9,SNR=35	**121.36**	**347**	PKP		**PKPdf**	**20 16 36.0**	**-0.6**
JOF	**Joensuu** 1.0nm,0.3s	**124.58**	**339**	*ep*		**PKPdf**	**20 16 41.8**	**-1.1**
BOSA	**Boshof**	**126.26**	**217**	PKP		**PKPdf**	**20 16 47.5**	**0.0**
BOSA	**Boshof** 1.0nm,0.4s,baz=346,slow=18,SNR=10.0	**126.26**	**217**	PKP		**PKPdf**	**20 16 47.5**	**0.0**
KAF	**Kangasniemi** 1.5nm,0.4s	**126.80**	**341**	*ep*		**PKPdf**	**20 16 45.1**	**-2.1**
FINES	**FINESS Array B**	**127.36**	**340**	PKP		**PKPdf**	**20 16 47.4**	**-0.9**
FINES	**FINESS Array B** 1.7nm,0.5s,baz=40,slow=1.7,SNR=14	**127.36**	**340**	PKP		**PKPdf**	**20 16 47.4**	**-0.9**
GNI	**Garni**	**127.72**	**310**	*e*PKPdf		**PKPdf**	**20 16 47.8**	**-2.0**
BDFB	**Brasilia**	**130.22**	**126**	PKP		**PKPdf**	**20 16 55.8**	**+0.6**
BDFB				SKPbc		**SKPab**	**20 19 24.5**	**+1.1**
BDFB	**Brasilia** 2.4nm,0.6s,baz=228,slow=3.4,SNR=3.2	**130.22**	**126**	PKP		**PKPdf**	**20 16 55.8**	**+0.6**
BDFB				SKPbc		**SKPab**	**20 19 24.5**	**+1.1**
	12nm,0.8s,baz=258,slow=3.3,SNR=13							
NB2	**NORSAR Subarra** comp=Z,0.6nm,0.5s,baz=31,slow=1.9	**131.72**	**348**	PKPdf		**PKPdf**	**20 16 56.1**	**-0.5**
NOA	**NORSAR Array B**	**131.72**	**348**	PKP		**PKPdf**	**20 16 55.8**	**-0.8**
NOA				SKPbc		**SKPab**	**20 19 28.3**	**-0.1**
NOA	**NORSAR Array B** comp=Z,1.1nm,0.7s,baz=26,slow=1.9,SNR=6.0	**131.72**	**348**	PKP		**PKPdf**	**20 16 55.8**	**-0.8**
NOA				SKPbc		**SKPab**	**20 19 28.3**	**-0.1**
	comp=Z,5.8nm,0.8s,baz=26,slow=3.0,SNR=17							
KMBO	**Kilima Mbogo**	**132.59**	**254**	*e*PKPdf		**PKPdf**	**20 16 59.7**	**-0.2**
KMBO				*e*SKP			20 19 31.8	
KMBO				SKPbc		**SKPab**	**20 19 33.3**	**-0.6**
KMBO	**Kilima Mbogo** comp=Z,1.8nm,0.7s,baz=44,slow=5.4,SNR=6.9	**132.59**	**254**	PKP		**PKPdf**	**20 16 59.8**	**-0.2**
KMBO				SKPbc		**SKPab**	**20 19 33.3**	**-0.6**
	comp=Z,7.1nm,0.9s,baz=63,slow=7.0,SNR=12							
AKASG	**Malin Array Be**	**133.25**	**328**	PKP		**PKPdf**	**20 16 59.1**	**-0.6**
AKASG				SKPbc		**SKPbc**	**20 19 32.6**	**+0.3**
AKASG	**Malin Array Be** comp=Z,0.4nm,0.4s,baz=156,slow=7.3,SNR=3.7	**133.25**	**328**	PKP		**PKPdf**	**20 16 59.1**	**-0.6**
AKASG				SKPbc		**SKPbc**	**20 19 32.6**	**+0.3**
	comp=Z,2.2nm,0.6s,baz=44,slow=4.4,SNR=9.3							
BRTR	**Keskin Array B**	**135.97**	**313**	PKPpre		PKPpre	20 16 55.2	
BRTR				PKP		**PKPdf**	**20 17 04.6**	**-0.8**
BRTR				SKPbc		**SKPbc**	**20 19 42.1**	**+0.6**
BRTR	**Keskin Array B** comp=Z,0.5nm,0.7s,baz=318,slow=1.7,SNR=3.9	**135.97**	**313**	PKhKP		PKPpre	20 16 55.2	
BRTR				PKP		**PKPdf**	**20 17 04.6**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=173,slow=4.6,SNR=4.2							
BRTR				SKPbc		**SKPbc**	**20 19 42.1**	**+0.6**
	comp=Z,2.7nm,0.8s,baz=129,slow=5.0,SNR=6.5							
KOLS	**Kolonicke sedl**	**137.84**	**330**	*e*PKP		**PKPdf**	**20 17 08.7**	**+0.3**
CSS	**Prodhromos**	**137.84**	**306**	*e*PKPdf		**PKPdf**	**20 17 07.9**	**-0.9**
CSS				*e*SKP			20 19 46.9	
STHS	**Stebnicka Huta**	**137.98**	**332**	*e*PKP		**PKPdf**	**20 17 10.7**	**+2.1**
EKA	**Eskdalemuir Ar**	**139.31**	**356**	SKPbc		**SKPbc**	**20 19 50.5**	**+0.3**
EKA	**Eskdalemuir Ar** comp=Z,1.3nm,0.6s,baz=26,slow=2.1,SNR=4.5	**139.31**	**356**	SKPbc		**SKPbc**	**20 19 50.5**	**+0.3**
CLL	**Collm** comp=Z,10.0nm,1.3s	**139.80**	**340**	*i* SKPbc		**SKPbc**	**20 19 51.6**	**-0.1**
CLL				*e*(PP)			20 20 13.0	
GERES	**GERESS Array B**	**141.60**	**337**	PKPpre		PKPpre	20 17 10.2	
GERES				SKPbc		**SKPbc**	**20 19 56.5**	**0.0**
GERES	**GERESS Array B** comp=Z,0.6nm,0.6s,baz=55,slow=5.1,SNR=7.6	**141.60**	**337**	PKhKP		PKPpre	20 17 10.2	
GERES				SKPbc		**SKPbc**	**20 19 56.5**	**0.0**
	comp=Z,1.4nm,0.8s,baz=29,slow=3.0,SNR=9.7							
NVR	**Nevrokopi**	**141.75**	**320**	*e*P		**PKPdf**	**20 17 11.2**	**-4.5**
MEM	**Membach**	**142.47**	**345**	PKP		**PKPdf**	**20 17 16.0**	**-0.6**
PLG	**Polygyros**	**142.56**	**319**	*e*P		**PKPdf**	**20 17 13.3**	**-3.9**
GRG	**Griva**	**142.88**	**321**	*e*P		**PKPdf**	**20 17 14.7**	**-3.0**
SNF	**Seneffe**	**142.96**	**347**	PKP		**PKPdf**	**20 17 17.0**	**-0.4**
DOU	**Dourbes**	**143.28**	**346**	PKP		PKPbc	20 17 17.0	+0.4
NEO	**Neokhori**	**143.29**	**318**	*e*P		PKPab	20 17 15.7	-1.1
WLF	**Walferdange**	**143.30**	**345**	PKP		**PKPdf**	**20 17 17.6**	**-0.5**
LIT	**Litokhoron**	**143.32**	**319**	*e*P		PKPab	20 17 16.1	-0.8
NPS	**Neapolis**	**143.61**	**310**	*e*P		PKPbc	20 17 17.4	-0.8
ABTA	**Abfaltersbach** comp=Z,24nm,0.6s,SNR=7.7	**143.78**	**336**	⇑*i*PKPdf		PKPbc	20 17 17.9	-0.5
MOTA	**Moosalm** comp=Z,17nm,0.7s,SNR=12	**143.82**	**338**	⇓*i*PKPdf		PKPbc	20 17 18.3	-0.3
RETA	**Reutte** comp=Z,19nm,1.0s,SNR=6.7	**143.82**	**338**	*i* PKPdf		PKPab	20 17 18.7	0.0
BFO	**Black Forest**	**143.90**	**341**	*e*PKPdf		PKPbc	20 17 18.4	-0.2
LTK	**Loutraki**	**144.15**	**316**	*e*P		PKPbc	20 17 18.4	-1.4
FETA	**Feichten** comp=Z,19nm,0.7s,SNR=10	**144.23**	**338**	*i* PKPab		**PKPab**	**20 17 20.2**	**-0.1**
DID	**Didima**	**144.24**	**315**	*e*P		PKPbc	20 17 17.8	-2.3
DAVA	**Damuels** comp=Z,16nm,0.6s,SNR=8.6	**144.30**	**339**	*i* PKPab		**PKPdf**	**20 17 20.3**	**+0.2**
ECH	**Echery**	**144.35**	**343**	*e*PKPdf		**PKPdf**	**20 17 19.8**	**-0.2**
KALE	**Kalithea**	**144.50**	**317**	*e*P		**PKPdf**	**20 17 20.2**	**-0.4**
VAM	**Vamos**	**144.58**	**311**	*e*P		PKPbc	20 17 21.4	+0.3
GUR	**Goura**	**144.61**	**316**	*e*P		**PKPdf**	**20 17 20.2**	**-0.7**
EFP	**Efpalio**	**144.63**	**318**	*e*P		PKPbc	20 17 21.2	0.0
LAKA	**Lakka**	**144.69**	**317**	*e*P		PKPbc	20 17 21.4	0.0
DAVOX	**Davos/Dischmat**	**144.74**	**339**	PKP		**PKPdf**	**20 17 21.1**	**+0.1**
DAVOX	**Davos/Dischmat** comp=Z,14nm,0.6s,baz=334,slow=1.6,SNR=25	**144.74**	**339**	PKP		**PKPdf**	**20 17 21.1**	**+0.1**
VLI	**Velia**	**144.84**	**314**	*e*P		**PKPdf**	**20 17 20.5**	**-0.7**
VLX	**Vlachokerasia**	**144.89**	**316**	*e*P		PKPbc	20 17 21.8	-0.3
ANKY	**Antikythira Is**	**145.01**	**313**	*e*P		**PKPbc**	**20 17 22.5**	**+0.1**
TUE	**Stuetta**	**145.19**	**339**	*e*PKPdf		**PKPbc**	**20 17 23.1**	**+0.2**
AMT	**Artemida-Makis**	**145.25**	**316**	*e*P		**PKPab**	**20 17 24.9**	**+0.4**
PYL	**PYLOS**	**145.57**	**315**	*e*P		**PKPdf**	**20 17 23.0**	**+0.6**
RCBR	**Riachuelo**	**145.57**	**124**	*e*PKPdf		**PKPbc**	**20 17 24.2**	**-0.6**
BNI	**Bardonecchia**	**147.33**	**341**	*e*PKPbc		**PKPbc**	**20 17 29.0**	**+0.3**
ESDC	**Sonseca Array**	**154.90**	**353**	PKPab		**PKPab**	**20 18 04.2**	**-0.3**
ESDC	**Sonseca Array** comp=Z,0.4nm,0.5s,baz=359,slow=3.4,SNR=5.6	**154.90**	**353**	PKPab		**PKPab**	**20 18 04.2**	**-0.3**
TORD	**Torodi Ar. Bea**	**170.51**	**262**	PKP		**PKPdf**	**20 17 51.3**	**-0.9**
TORD				PKPab		**PKPab**	**20 19 13.7**	**-0.3**
TORD	**Torodi Ar. Bea** comp=Z,0.8nm,0.8s,baz=130,slow=1.4,SNR=5.2	**170.51**	**262**	PKP		**PKPdf**	**20 17 51.3**	**-0.9**
TORD				PKPab		**PKPab**	**20 19 13.7**	**-0.3**
	comp=Z,12nm,0.8s,baz=89,slow=2.9,SNR=51							

DJA 02 20:02:41.9±0.2, 0˚S±2˚×12˚3E±˚, h48km±13km, M4.5/13, mb4.8/11, mB5.0/8, MLv4.6/13, Mw(mB)4.3/8, 1C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.62**	**195**	P	Pn	20 02 55.3	+0.8
MRSI	**Marisa**	**1.34**	**313**	P	Pn	20 03 02.9	-1.4
MRSI				S	Sn	20 03 20.4	-0.6
APSI	**Ampana**	**1.36**	**250**	P	Pn	20 03 05.0	+0.5
KMSI	**Cibinong**	**1.46**	**46**	P	Pn	20 03 04.8	-1.0
KMSI				S	Sn	20 03 24.3	+0.6
TOLI	**Toli-Toli**	**2.64**	**306**	P	Pn	20 03 22.0	0.0
PCI	**Palu**	**3.13**	**261**	P	Px	20 03 52.5	
KKSI	**Kolaka, Sulawe**	**3.92**	**199**	P	Pn	20 03 40.3	+0.7
LBMI	**Labuha**	**4.58**	**92**	P	Pn	20 03 48.3	-0.3
LBMI				S	Sn	20 04 42.1	+1.5
TNTI	**Ternate**	**4.60**	**75**	P	Pn	20 03 48.9	0.0
TNTI				S	Sn	20 04 41.5	+0.4
SPSI	**Sidrap Palu**	**4.71**	**222**	P	Pn	20 03 51.2	+0.7
SPSI				S	Sn	20 04 44.3	+0.3
BNSI	**Bone**	**4.84**	**216**	P	Pn	20 03 53.1	+0.8
BNSI				S	Sn	20 04 48.3	+1.2
SGSI	**Sangihe**	**4.85**	**32**	P	Pn	20 03 51.8	-0.6
NLAI	**Namlea** 161nm,0.7s,2µm0.5nm	**5.01**	**124**	P	Pn	20 03 53.6	-1.0
NLAI				S	Sn	20 04 49.5	-1.7
	161nm,0.7s,2µm0.5nm						
MJSI	**Majene** 73nm,0.9s	**5.01**	**232**	P	Pn	20 03 55.5	+0.9
MJSI				S	Sn	20 04 51.8	+0.5
	73nm,0.9s						
BBSI	**Bau Bau** 61nm,0.9s,2µm	**5.03**	**184**	P	Pn	20 03 56.2	+1.4
BBSI				S	Sn	20 04 53.2	+1.5
	61nm,0.9s,2µm						
SGKI	**Sangatta, Kali** 148nm,1.2s	**5.33**	**269**	P	Pn	20 03 58.9	-0.1
KAPI	**Kappang** 78nm,0.9s,741nm0.3nm	**5.54**	**215**	P	Pn	20 04 01.5	-0.4
BKSI	**Bulukumba** 32nm,0.6s,624nm	**5.60**	**210**	P	Pn	20 04 03.6	+0.9
BKSI				S	Sn	20 05 07.2	+1.4
	32nm,0.6s,624nm						
AAI	**Ambon** 113nm,0.8s,945nm	**6.17**	**122**	P	Pn	20 04 11.0	+0.5
MSAI	**Masohi**	**6.65**	**116**	P	Pn	20 04 17.6	+0.4
MYLDM	**Lahad Datu** 63nm,1.0s,1µm0.5nm	**7.12**	**322**	P	Pn	20 04 23.9	+0.3
CTBH	**Cotabato--PC H**	**7.72**	**10**	⇑*i*P	Pn	20 04 28.8	-3.0
BNDI	**Bandanaira**	**8.06**	**120**	P	Pn	20 04 36.6	+0.1
MMRI	**Maumere**	**8.17**	**185**	P	Pn	20 04 38.9	+0.9
SWI	**Sorong**	**8.34**	**93**	P	Pn	20 04 40.9	+0.6
TLE	**Tual** 310nm,1.0s,3µm	**11.07**	**118**	P	Pn	20 05 16.3	-1.4
TLE	**Tual** baz=40,SNR=4.5	**11.07**	**118**	P	Pn	20 05 16.8	-0.9
SBUM	**Sibu**	**11.09**	**285**	P	Pn	20 05 18.2	+0.3

*IDC **02** 20:03:00.7±0.4, 17˚.20S×172˚.61W, h0km, mb4.7/26, mb1 4.9/26, mb1mx4.8/29, mbtmp4.7/26, MS4.6/22, Ms1 4.6/22, ms1mx4.5/28, Error ellipse: s-maj=18.4km s-min=12.4km az=138.0*

*ISCJB **02** 20:03:01.4±4.3, 17˚.21S±0˚.06×172˚.60W±0˚.04, h13km±26km, mb5.0/91, MS4.7/36, Error ellipse: s-maj=10.7km s-min=6.2km az=157.8*

*BJI **02** 20:03:01.9, 16˚.58S×172˚.47W, h4km, mB5.7/30, mb5.2/37, Ms5.2/27, Ms7 4.8/29*

*NEIC **02** 20:03:02.2±0.2, 17˚.15S×172˚.63W, h10km, mb5.1/47, Error ellipse: s-maj=9.9km s-min=5.4km az=141.0*

*MOS **02** 20:03:06.0±2.4, 17˚.11S×172˚.69W, h33km, mb5.2/22, MS4.7/4, Error ellipse: s-maj=11.6km s-min=9.4km az=48.7*

*SZGRF **02** 20:03:07.5, 17˚.19S×173˚.01W, h33km, Tonga Islands*

*GCMT **02** 20:03:07.1±0.2, 17˚.25S×172˚.22W, h12km, MW5.1, Moment Tensor Solution. s40,c54; s85,c126; Moment tensor: Scale 10^16Nm; Mrr3.99±.09; Mθθ-0.46±.10; Mϕϕ-3.53±.09; Mrθ2.49±.32; Mrϕ-0.13±.08; Mθϕ2.42±.33; Best double couple: Mo5.00000×10^16 NP1:ϕ28.00000°, δ66.00000°, λ.108.00000°. NP2:ϕ169.00000°, δ29.00000°, λ55.00000°. Principal axes: T 5.6200, Plg64.0000°, Azm327.0000°; N -1.1700, Plg16.0000°, Azm200.0000°; P -4.4500, Plg19.0000°, Azm105.0000°; Data Used: lI lU IC G CN.*

ISC 02 20:03:03.1±0.4, 17˚.27S±0˚.07×172˚.60W±0˚.06, h14km±1km, h14km:pP-P,n557,σ1§16/575, mb5.0/91, MS4.7/36, 134C-109D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.43**	**13**	*e*Pn	Pn	20 03 47.8	-8.5
AFI				Sn	Sn	20 04 25.5	-11
AFI	**Afiamalu** 25nm,0.3s,baz=255,slow=23,SNR=7.3	**3.43**	**13**	Pn	Pn	20 03 47.9	-8.3
AFI				Sn	Sn	20 04 25.5	-11
	115nm,0.3s,baz=250,slow=22,SNR=7.7						
MSVF	**Nonsavu**	**8.93**	**266**	⇑*e*P	Pn	20 05 17.1	+5.2
MSVF	**Nonsavu** 886nm,1.2s,SNR=15	**8.93**	**266**	Pn	Pn	20 05 18.0	+6.2
MSVF	**Nonsavu**	**8.93**	**266**	⇑*e*Pn	Pn	20 05 17.1	+5.2
RAR	**Rarotonga** 340nm,1.5s	**12.73**	**110**	*e*Pn	Pn	20 05 57.1	-6.8
RAR	**Rarotonga** 4.0nm,0.3s,baz=270,slow=6.9,SNR=7.3	**12.73**	**110**	Pn	Pn	20 05 57.0	-6.8
DZM	**Mont Dzumac** 157nm,1.9s	**20.30**	**253**	*e*P	Pn	20 07 42.1	+1.3
DZM				*e*LR	LR	20 12 31.2	
	3µm,26.1s						
DZM	**Mont Dzumac** comp=Z,2µm,21.1s,baz=179,slow=32	**20.30**	**253**	LR	LR	20 13 56.0	
PPT2	**Papeete2** 1µm,25.2s	**21.97**	**94**	*e*S	**S**	**20 11 53.0**	**-6.2**
PPT2				*e*LR	LR	20 12 43.5	
	2µm,27.8s						
PPT	**Papeete** comp=Z,983nm,21.4s,baz=79,slow=32	**21.97**	**94**	LR	LR	20 14 42.3	
URZ	**Urewera**	**22.78**	**201**	P	**P**	**20 08 05.4**	**+0.2**
URZ	**Urewera** 20nm,0.5s,baz=18,slow=4.2,SNR=14	**22.78**	**201**	P	**P**	**20 08 05.4**	**+0.2**
HNR	**Honiara** comp=Z,2µm,20.4s,baz=104,slow=33	**27.80**	**283**	LR	LR	20 18 08.9	
RKT	**Rikitea** 1µm,27.8s	**35.72**	**106**	*e*LR	LR	20 19 09.9	
CTA	**Charters Tower**	**39.01**	**259**	P	**P**	**20 10 27.4**	**-2.0**
CTA	**Charters Tower** 2.8nm,0.6s,baz=92,slow=14,SNR=7.0	**39.01**	**259**	P	**P**	**20 10 27.4**	**-2.0**
CTAO	**Charters Tower**	**39.01**	**259**	*e*P	**P**	**20 10 26.6**	**-2.9**
CTAO				pmax	pmax		
	comp=Z,26nm,1.4s						
CTAO	**Charters Tower** comp=Z,26nm,1.4s	**39.01**	**259**	*e*P	**P**	**20 10 26.6**	**-2.9**
PMG	**Port Moresby**	**39.86**	**276**	P	P	20 10 30.7	-5.9
TAU	**Tasmania Unive**	**42.50**	**224**	P	P	20 10 54.1	-3.9
TAU	**Tasmania Unive**	**42.50**	**224**	P	P	20 10 54.1	-3.9
STKA	**Stephens Creek**	**43.80**	**242**	P	**P**	**20 11 08.3**	**-0.4**
STKA	**Stephens Creek** comp=Z,7.3nm,0.8s,baz=71,slow=9.4,SNR=8.0	**43.80**	**242**	P	**P**	**20 11 08.3**	**-0.4**
STKA				LR	LR	20 28 23.0	
	comp=Z,714nm,18.7s,baz=52,slow=35						
WRAB	**Tennant Creek**	**50.18**	**258**	*e*P	**P**	**20 11 56.2**	**-2.5**
WRAB				pmax	pmax		
	comp=Z,38nm,1.4s						
WRAB	**Tennant Creek** comp=Z,98nm,1.1s,SNR=5.4	**50.18**	**258**	P	**P**	**20 11 56.1**	**-2.6**
WRAB	**Tennant Creek** comp=Z,38nm,1.4s	**50.18**	**258**	*e*P	**P**	**20 11 56.2**	**-2.6**
WRA	**Warramunga Arr**	**50.19**	**258**	P	**P**	**20 11 56.8**	**-2.0**
WRA	**Warramunga Arr** comp=Z,9.0nm,0.8s,baz=96,slow=6.7,SNR=22	**50.19**	**258**	P	**P**	**20 11 56.8**	**-2.0**
WRA				LR	LR	20 33 10.7	
	comp=Z,950nm,18.3s,baz=110,slow=36						
AS31	**Alice Springs**	**50.29**	**253**	*e*P	**P**	**20 11 57.7**	**-1.8**
ASAR	**Alice Springs**	**50.29**	**253**	P	**P**	**20 11 57.9**	**-1.6**
ASAR				S	**S**	**20 19 07.9**	**-4.2**
ASAR	**Alice Springs** comp=Z,14nm,0.7s,baz=89,slow=8.6,SNR=76	**50.29**	**253**	P	**P**	**20 11 57.9**	**-1.6**
ASAR				S	**S**	**20 19 07.9**	**-4.2**
	comp=Z,1.6nm,0.9s,baz=89,slow=14,SNR=11						
ASAR				LR	LR	20 32 40.4	
	comp=Z,421nm,20.0s,baz=193,slow=35						
FITZ	**Fitzroy Crossi**	**58.59**	**259**	P	**P**	**20 13 00.3**	**+0.4**
FITZ	**Fitzroy Crossi** comp=Z,1.7nm,0.7s,baz=146,slow=3.6,SNR=3.2	**58.59**	**259**	P	**P**	**20 13 00.3**	**+0.4**
SBA	**Scott Base**	**61.46**	**185**	*e*P	**P**	**20 13 21.4**	**+2.7**
SBA				pmax	pmax		
	comp=Z,70nm,1.8s						
SBA	**Scott Base** comp=Z,70nm,1.8s	**61.46**	**185**	*e*P	**P**	**20 13 21.4**	**+2.7**
VNDA	**Vanda**	**61.61**	**186**	P	**P**	**20 13 21.2**	**+1.5**
VNDA	**Vanda** comp=Z,4.3nm,0.9s,baz=12,slow=7.1,SNR=12	**61.61**	**186**	P	**P**	**20 13 21.2**	**+1.5**
JCJ	**Chichijima** comp=Z,405nm,19.5s,baz=130,slow=33	**62.20**	**314**	LR	LR	20 37 09.7	
MBWA	**Marble Bar**	**63.59**	**255**	P	**P**	**20 13 34.0**	**+0.1**
CASY	**Casey** comp=Z,36nm,1.4s	**69.04**	**205**	*e*P	**P**	**20 14 08.7**	**+0.6**
MJAR	**Matsushiro Arr**	**70.85**	**320**	P	**P**	**20 14 19.1**	**-0.5**
MJAR	**Matsushiro Arr** comp=Z,6.5nm,1.2s,baz=159,slow=5.9,SNR=6.5	**70.85**	**320**	P	**P**	**20 14 19.1**	**-0.5**
MJAR				LR	LR	20 41 50.0	
	comp=Z,142nm,19.2s,baz=140,slow=33						
MAJO	**Matsushiro**	**70.85**	**320**	P	**P**	**20 14 19.1**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,19nm,1.1s						
MAJO	**Matsushiro** comp=Z,19nm,1.1s	**70.85**	**320**	P	**P**	**20 14 19.1**	**-0.5**
MAT	**Matsushiro**	**70.85**	**320**	P	**P**	**20 14 18.2**	**-1.4**
MAT				S	**S**	**20 23 37.8**	**+3.3**
SCI	**San Clemente I** baz=72	**71.84**	**46**	⇑P	**P**	**20 14 25.8**	**+0.1**
PKM	**Peak Mountain** baz=72	**72.12**	**43**	⇓P	**P**	**20 14 27.5**	**0.0**
QSPA	**South Pole Qui** comp=Z,36nm,1.2s	**72.79**	**180**	*e*P	**P**	**20 14 31.9**	**+0.9**
QSPA	**South Pole Qui** comp=Z,101nm,21.8s,baz=223,slow=29	**72.79**	**180**	LR	LR	20 38 31.1	
VES	**Vestal, Richgr** baz=73	**73.16**	**43**	⇑P	**P**	**20 14 33.9**	**+0.5**
BFSC	**Mount Baldy Ra** baz=73	**73.17**	**45**	⇓P	**P**	**20 14 34.0**	**+0.2**
MONP	**Monument Peak** baz=73	**73.26**	**47**	⇑P	**P**	**20 14 34.3**	**0.0**
EDW2	**Edwards Air Fo** baz=73	**73.32**	**44**	⇓P	**P**	**20 14 34.6**	**+0.1**
DVTC	**Desert V Tower** baz=74	**73.36**	**47**	⇑P	**P**	**20 14 35.0**	**+0.2**
ISA	**Isabella**	**73.46**	**43**	*e*P	**P**	**20 14 34.2**	**-1.1**
ISA				pmax	pmax		
	comp=Z,20nm,1.4s						
ISA	**Isabella** comp=Z,20nm,1.4s	**73.46**	**43**	*e*P	**P**	**20 14 34.2**	**-1.1**
ISA	**Isabella** baz=74	**73.46**	**43**	⇓P	**P**	**20 14 35.8**	**+0.5**
PFO	**Pinyon Flat Ob** comp=Z,9.5nm,1.1s	**73.64**	**46**	*e*P	**P**	**20 14 35.9**	**-0.6**
PFO	**Pinyon Flat Ob** baz=74	**73.64**	**46**	⇑P	**P**	**20 14 36.9**	**+0.5**
CMB	**Columbia Colle**	**73.66**	**41**	*e*P	**P**	**20 14 34.8**	**-1.6**
CMB				pmax	pmax		
	comp=Z,12nm,1.1s						
CMB	**Columbia Colle** comp=Z,12nm,1.1s	**73.66**	**41**	*e*P	**P**	**20 14 34.8**	**-1.6**
SWSC	**Sam W. Stewart** baz=74	**73.73**	**47**	⇑P	**P**	**20 14 37.3**	**+0.5**

baz=78
KSRS Korea Array 78.02 316 P P 20 15 01.9 +0.7
comp=Z,13nm,1.2s,baz=133,slow=5.9,SNR=14
KSRS LR LR 20 45 24.9
comp=Z,152nm,19.5s,baz=126,slow=33
U15A North Rim 78.04 46 ⇓P P 20 15 01.9 +0.1
baz=78
KSAR Wonju Array Be 78.04 315 P P 20 15 01.9 +0.6
KSM Kuching 78.12 275 eP P 20 15 02.9 +0.5
comp=Z,52nm,1.2s
KSM ePcP PcP 20 15 12.5 +0.6
320A Kipp Ranch, An 78.18 52 ⇓P P 20 15 02.6 +0.1
baz=78
WUAZ Wupatki 78.19 47 ⇓P P 20 15 02.9 +0.4
baz=78
220A Playas Peak, P 78.45 51 ⇓P P 20 15 04.3 +0.3
baz=79
120A U Bar Ranch, L 78.68 51 ⇓P P 20 15 05.2 -0.1
baz=79
X18A Snowflake 78.70 48 ⇑P P 20 15 05.3 -0.1
baz=79
Z20A Nine Sixteen R 78.99 50 ⇑P P 20 15 07.3 +0.4
baz=79
221A Mesquite Ranch 79.06 52 ⇑P P 20 15 07.9 +0.5
baz=79
MVU Marysvale 79.19 44 eP P 20 15 07.4 -0.6
comp=Z,17nm,1.2s
121A Cookes Peak, D 79.31 51 ⇑P P 20 15 08.5 -0.3
baz=79
USRK Ussuriysk Arra 79.33 323 P P 20 15 08.3 0.0
comp=Z,3.7nm,1.0s,baz=104,slow=6.1,SNR=9.1
USRK LR LR 20 51 17.2
comp=Z,415nm,18.1s,baz=39,slow=36
Y20A Horse Springs, 79.53 50 ⇑P P 20 15 09.7 -0.3
baz=80
222A Williams Famil 79.61 52 ⇑P P 20 15 09.9 -0.5
baz=80
BMO Blue Mountains 79.65 36 eP P 20 15 08.7 -1.5
comp=Z,16nm,1.3s
BMO ePcP PcP 20 15 18.8 +0.8
MFID Camas Ranch 79.66 38 ⇑P P 20 15 09.7 -0.6
baz=80,SNR=5.3
SSE Sheshan 79.69 307 P P 20 15 09.0 -1.6
SSE S S 20 25 16.4 +3.6
SSE AMB AMB
comp=Z,19nm,0.7s
SSE AMB AMB
comp=Z,130nm,5.9s
SSE LR LR
comp=Z,79nm,24.9s
SSE LR LR
comp=Z,55nm,24.5s
SSE LR LR
comp=Z,140nm,29.1s
DUG Dugway 79.71 42 eP P 20 15 09.3 -1.4
DUG pmax pmax
comp=Z,9.0nm,1.1s
DUG Dugway 79.71 42 eP P 20 15 09.3 -1.4
comp=Z,9.0nm,1.1s
DUG Dugway 79.71 42 ⇑P P 20 15 10.5 -0.2
baz=80
X20A Quemado 79.75 49 ⇓P P 20 15 11.1 0.0
baz=80
Z21A St. Cloud Mine 79.76 50 ⇓P P 20 15 11.2 0.0
baz=80
W20A Ramah 80.03 48 ⇓P P 20 15 12.4 -0.3
baz=80
Y21A Point of Rocks 80.09 50 ⇓P P 20 15 12.8 -0.2
baz=80
Q16A Castle Valley 80.10 44 ⇓P P 20 15 13.2 +0.3
baz=80
X21A Alamocita Cree 80.22 49 ⇓P P 20 15 13.6 0.0
baz=80
Z22A Elephant Butte 80.25 51 ⇓P P 20 15 13.7 -0.1
baz=80,SNR=10
TMUT Trail Mountain 80.28 44 eP P 20 15 12.8 -1.1
comp=Z,19nm,1.0s
HABR Khabarovsk 80.32 328 eP P 20 15 12.7 -0.8
HABR e 20 15 19.5
HABR e 20 18 14.9
HABR eS S 20 25 18.3 -0.4
HABR e*SS sS 20 25 24.1 -2.4
HABR eSS SS 20 30 30.0 -0.6
HABR pmax pmax
comp=Z,49nm,3.3s
HABR MLR MLR
comp=Z,157nm,19.0s
V20A Brimhall 80.38 48 ⇑P P 20 15 14.7 +0.2
baz=80
324A Moseley Ranch, 80.54 53 ⇑P P 20 15 14.6 -0.8
baz=81,SNR=11
Y22A Socorro 80.57 50 ⇓P P 20 15 15.5 0.0
baz=81
HLID Hailey 80.59 39 eP P 20 15 14.9 -0.5
comp=Z,120nm,1.2s
HLID Hailey 80.59 39 ⇓P P 20 15 14.7 -0.7
baz=81,SNR=7.2
425A Indio Mountain 80.62 54 ⇑P P 20 15 15.3 -0.5
baz=81
SRU San Rafael 80.63 44 eP P 20 15 15.7 -0.1
SRU pmax pmax
comp=Z,12nm,1.0s
SRU San Rafael 80.63 44 eP P 20 15 15.7 -0.1
comp=Z,12nm,1.0s
626A Big Bend Ranch 80.75 55 ⇑P P 20 15 15.8 -0.6
baz=81,SNR=9.5
PMR Palmer 80.79 11 eP P 20 15 15.3 -0.5
PMR pmax pmax
comp=Z,6.0nm,0.8s
PMR Palmer 80.79 11 eP P 20 15 15.3 -0.5
comp=Z,5.7nm,0.8s
224A Cornudas Mount 80.79 52 ⇓P P 20 15 16.4 -0.3
baz=81,SNR=6.7
Z23A Rita Site, Whi 80.80 51 ⇑P P 20 15 16.5 -0.2
baz=81
MDJ Mudanjiang 80.96 322 P P 20 15 18.1 +1.0
MDJ pP pP 20 15 21.4 -0.5
MDJ sP sP 20 15 22.7 -0.9
MDJ PP PP 20 18 21.4 -0.7
MDJ S S 20 25 28.0 +2.3
MDJ SS SS 20 30 37.5 -3.0
MDJ AMB AMB
comp=Z,19nm,1.7s
MDJ AMB AMB
comp=Z,93nm,3.3s
MDJ LR LR
comp=Z,160nm,17.1s
MDJ LR LR
comp=Z,220nm,20.2s
MDJ LR LR
comp=Z,360nm,17.8s
MDJ Mudanjiang 80.96 322 eP P 20 15 16.8 -0.3
comp=Z,15nm,1.1s
V21A Milan 80.97 48 ⇓P P 20 15 17.5 -0.3
baz=81
526A Mary Lane Ranc 81.00 55 ⇓P P 20 15 17.3 -0.6
baz=81,SNR=8.2
TXAR Lajitas Array 81.02 56 P P 20 15 17.6 -0.3
TXAR Lajitas Array 81.02 56 P P 20 15 17.6 -0.3
comp=Z,9.9nm,1.1s,baz=232,slow=6.2,SNR=25
TXAR LR LR 20 46 56.4
comp=Z,312nm,18.2s,baz=355,slow=32
DIV Divide 81.03 13 eP P 20 15 16.7 -0.5
comp=Z,16nm,0.9s
124A Stringfield Ra 81.12 52 ⇓P P 20 15 17.9 -0.7
baz=81
Y23A Lovelace Mesa, 81.24 51 ⇑P P 20 15 18.5 -0.7
baz=81
PV10 Paradox Valley 81.26 45 eP P 20 15 18.3 -0.9
comp=Z,116nm,1.0s
U21A Nageezi 81.26 48 ⇓P P 20 15 19.0 -0.3
baz=81,SNR=8.0
627A Terlingua Ranc 81.29 56 ⇓P P 20 15 19.1 -0.3
baz=81,SNR=18
426A McDonald Obser 81.31 54 ⇑P P 20 15 19.2 -0.4
baz=81,SNR=15
225A Deer Hill, Car 81.34 53 ⇓P P 20 15 19.5 -0.2
baz=81,SNR=8.7
527A Woodward Ranch 81.41 55 ⇑P P 20 15 19.7 -0.3
baz=82,SNR=12
ANMO Albuquerque 81.42 49 P P 20 15 19.2 -0.9
ANMO Albuquerque 81.42 49 P P 20 15 19.2 -0.9
comp=Z,5.6nm,1.0s,baz=220,slow=6.0,SNR=7.2
X23A Hourglass Bar 81.44 50 ⇑P P 20 15 19.5 -0.7
baz=82
S20A Disappointment 81.45 46 ⇓P P 20 15 19.7 -0.5
baz=82
PV01 Paradox Valley 81.46 46 eP P 20 15 20.7 +0.5
comp=Z,2μm,1.4s
Z24A Sheeppen Canyo 81.48 51 ⇓P P 20 15 19.7 -0.7
baz=82
V22A San Miguel Ran 81.55 48 ⇓P P 20 15 20.4 -0.4
baz=82
R20A Redvale 81.62 46 ⇑P P 20 15 20.9 -0.2
baz=82,SNR=5.2
326A Caldwell Ranch 81.63 54 ⇑P P 20 15 20.8 -0.4
baz=82
Y24A Capitan 81.69 51 ⇓P P 20 15 21.0 -0.5
baz=82,SNR=12
628A Black Gap, Mar 81.70 56 ⇓P P 20 15 21.1 -0.4
baz=82,SNR=8.1
125A Gardner Draw, 81.71 52 ⇓P P 20 15 21.0 -0.5
baz=82,SNR=8.6
GDL2 Guadalupe Moun 81.73 53 eP P 20 15 18.9 -2.7
comp=Z,9.9nm,0.7s
W23A Werner Place, 81.74 49 ⇑P P 20 15 21.0 -0.8
baz=82
U22A Llaves 81.81 48 ⇓P P 20 15 22.1 0.0
baz=82
NEW Newport 81.82 34 P P 20 15 20.8 -0.9
NEW Newport 81.82 34 ⇑P P 20 15 21.7 +0.1
baz=82
NEW Newport 81.82 34 P P 20 15 20.8 -0.9
comp=Z,2.9nm,0.7s,baz=50,slow=15,SNR=3.7
226B Tecolote Peak, 81.82 53 ⇓P P 20 15 21.9 -0.2
baz=82,SNR=16
427A Hayter Ranch, 81.88 54 ⇑P P 20 15 22.2 -0.3
baz=82,SNR=12
NJ2 Nanjing 81.90 307 eP P 20 15 22.2 -0.2
NJ2 AMB AMB
comp=Z,20nm,0.6s
P19A Cripple Cowboy 81.93 44 ⇓P P 20 15 22.0 -0.7
baz=82
Z25A Roswell 81.94 52 ⇑P P 20 15 21.9 -0.8
baz=82
V23A Ortiz Mt. (NFS 81.99 49 ⇓P P 20 15 22.3 -0.8
baz=82
Q20A Ridgley Place, 82.05 45 ⇑P P 20 15 23.0 -0.2
baz=82,SNR=6.9
528A Cox Ranch, San 82.06 55 ⇑P P 20 15 22.9 -0.6
baz=82,SNR=11
O19A Miners Draw (B 82.17 44 ⇑P P 20 15 23.4 -0.4
baz=82
126A Clayton Basin, 82.18 52 ⇓P P 20 15 23.3 -0.7
baz=82
MCMT McKenzie Canyo 82.23 38 eP P 20 15 23.1 -1.0
comp=Z,7.3nm,1.1s
Y25A Mesa, Roswell 82.25 51 ⇑P P 20 15 23.6 -0.7
baz=82,SNR=6.4
P20A De Beque 82.26 45 ⇓P P 20 15 24.0 -0.4
baz=82
R21A Cimarron 82.27 46 ⇓P P 20 15 23.8 -0.7
baz=82,SNR=10
W24A Lazy 6 Ranch, 82.30 50 ⇑P P 20 15 24.2 -0.5
baz=82
TRF Thorofare Moun 82.32 10 eP P 20 15 22.1 -2.0
comp=Z,23nm,1.2s
RRI2 Red Ridge 82.35 40 eP P 20 15 25.1 +0.3
comp=Z,15nm,1.0s
428A Kincaid Ranch, 82.38 55 ⇓P P 20 15 24.4 -0.7
baz=82
S22A 4UR Ranch, Cre 82.47 47 ⇓P P 20 15 25.0 -0.7
baz=83,SNR=18
Q21A Lamborn Mesa, 82.48 46 ⇑P P 20 15 25.4 -0.2
baz=83
Z26A Caprock 82.49 52 ⇓P P 20 15 25.1 -0.5
baz=83,SNR=16
529A Stev Forest Ra 82.49 55 ⇑P P 20 15 25.0 -0.6
baz=83,SNR=7.9
KLR Kul'dur 82.49 327 eP P 20 15 21.7 -3.4
KLR pmax pmax
comp=Z,45nm,1.6s
X25A Clemmons Ranch 82.54 51 ⇓P P 20 15 25.5 -0.4
baz=83
328A Wristen Ranch, 82.56 54 ⇑P P 20 15 25.4 -0.6
baz=83
DLMT Dillon 82.67 38 eP P 20 15 25.1 -1.2
comp=Z,14nm,1.2s
MSO Missoula 82.72 36 ⇓P P 20 15 26.4 -0.1
baz=83
R22A Saguache, Gunn 82.75 46 ⇑P P 20 15 27.2 0.0
baz=83
M19A Rock Springs 82.76 43 ⇑P P 20 15 26.6 -0.4
baz=83
MCK McKinley 82.81 10 eP P 20 15 24.6 -1.9
MCK pmax pmax
comp=Z,26nm,1.0s
MCK McKinley 82.81 10 eP P 20 15 24.6 -1.9
comp=Z,26nm,1.0s
BSMT Basoo Peak 82.83 35 eP P 20 15 25.3 -1.9
comp=Z,16nm,1.0s
BSMT e 20 15 35.3
IMW Indian Meadow 82.88 40 eP P 20 15 27.2 -0.4
comp=Z,22nm,1.3s
Y26A Elida 82.89 51 ⇓P P 20 15 27.1 -0.6
baz=83
P21A Newcastle 82.90 45 ⇑P P 20 15 27.2 -0.6
baz=83
LOHW Long Hollow 82.93 40 eP P 20 15 27.8 -0.1
comp=Z,13nm,1.3s
Q22A Crested Butte, 82.95 46 ⇑P P 20 15 27.6 -0.6
baz=83,SNR=9.4
429A Davenport Ranc 82.96 55 ⇑P P 20 15 27.3 -0.8
baz=83,SNR=14
W25A X Bar L Ranch, 83.00 50 ⇓P P 20 15 27.8 -0.5
baz=83
CN2 Changchun 83.00 320 eP P 20 15 28.5 +0.6
CN2 epP pP 20 15 33.3 +0.7
CN2 esP sP 20 15 35.5 +1.2
CN2 eS S 20 25 45.5 -1.2
CN2 AMB AMB
comp=Z,20nm,1.5s
CN2 AMB AMB
comp=Z,300nm,4.0s
CN2 LR LR
comp=Z,300nm,19.0s
CN2 LR LR
comp=Z,200nm,19.0s
CN2 LR LR
comp=Z,300nm,18.0s
N20A Spence Gulch, 83.00 44 ⇓P P 20 15 28.0 -0.3
baz=83
228A UT Block 9, Go 83.04 53 ⇓P P 20 15 28.5 0.0
baz=83
SMCO Snowmass 83.06 45 eP P 20 15 27.7 -1.1
comp=Z,31nm,1.3s
QLMT Earthquake Lak 83.08 39 eP P 20 15 29.0 +0.5
comp=Z,3.5nm,1.1s
Z27A Tatum 83.08 52 ⇓P P 20 15 28.8 +0.1
baz=83
MENT Mentasta 83.09 13 eP P 20 15 27.9 -0.1
FLWY Flagg Ranch 83.12 40 eP P 20 15 27.5 -1.2
comp=Z,10nm,1.0s
PDAR Pinedale Array 83.14 41 P P 20 15 28.1 -0.8
PDAR Pinedale Array 83.14 41 P P 20 15 28.1 -0.8
comp=Z,8.8nm,1.0s,baz=242,slow=2.5,SNR=10.0
PDAR LR LR 20 50 55.7
comp=Z,327nm,18.1s,baz=248,slow=35
CHMT Chamberlain Mo 83.16 36 eP P 20 15 26.7 -2.2
comp=Z,8.5nm,1.0s
V25A Rancho No Teng 83.16 49 ⇓P P 20 15 28.6 -0.5
baz=83,SNR=9.7
SNY Shenyang 83.16 318 ⇑P P 20 15 29.2 +0.5
SNY AMB AMB
comp=Z,25nm,1.7s
T24B San Luis 83.17 48 ⇑P P 20 15 29.3 0.0
baz=83
530A J-C Ranch, Com 83.20 56 ⇑P P 20 15 29.3 0.0
baz=83
O21A Pagoda 83.22 44 ⇑P P 20 15 29.4 -0.1
baz=83
329A Wagon Wheel Ra 83.25 54 ⇑P P 20 15 29.3 -0.3
baz=83
YMR Madison River 83.27 39 eP P 20 15 30.1 +0.5
comp=Z,36nm,1.4s
128A Castleberry Fa 83.34 53 ⇓P P 20 15 29.5 -0.5
baz=83,SNR=9.9
H17A Grant Village 83.36 40 ⇓P P 20 15 30.1 0.0
baz=84
Y27A Causey 83.37 52 ⇓P P 20 15 30.1 -0.1
baz=84
M20A Sweetwater, Wa 83.38 43 ⇓P P 20 15 29.9 -0.3
baz=84
R23A Moffat 83.38 47 ⇓P P 20 15 30.1 -0.2
baz=84
SDCO Great Sand Dun 83.40 47 eP P 20 15 30.6 +0.1
P22A Eagle 83.40 45 ⇓P P 20 15 30.3 -0.1
baz=84
W26A Owens Ranch, T 83.45 50 ⇓P P 20 15 30.5 -0.1
baz=84
631A Perdido Creek 83.50 57 ⇑P P 20 15 30.8 0.0
baz=84
L20A Wamsutter 83.54 43 ⇑P P 20 15 30.7 -0.2
baz=84,SNR=14
430A Baggett Ranch, 83.54 55 ⇓P P 20 15 31.0 0.0
baz=84
S24A Houchin Ranch, 83.56 48 ⇑P P 20 15 30.9 -0.4
baz=84
U25A Circle Dot Ran 83.56 49 ⇓P P 20 15 31.0 -0.3
baz=84,SNR=5.5
K19A Absolon Red Bu 83.62 42 ⇑P P 20 15 30.5 -0.8
baz=84
MSTX Muleshoe 83.70 52 ⇓P P 20 15 31.2 -0.6
baz=84,SNR=5.5
J19A Crowheart 83.72 41 ⇑P P 20 15 31.5 -0.3
baz=84,SNR=5.2
V26A Tequesquite Ra 83.75 50 ⇓P P 20 15 31.6 -0.5
baz=84,SNR=5.4
X27A F and S Farms, 83.75 51 ⇑P P 20 15 31.9 -0.2
baz=84
129A Stewart Farms, 83.82 53 ⇑P P 20 15 32.1 -0.4
baz=84
O22A Kremmling 83.82 45 ⇓P P 20 15 32.3 -0.3
baz=84
531A Rocksprings 83.83 56 ⇓P P 20 15 32.1 -0.4
baz=84
330A Mertzon 83.84 55 ⇓P P 20 15 32.2 -0.4
baz=84
K20A Yellowstone Ra 83.86 42 ⇓P P 20 15 32.1 -0.4
baz=84
T25A Trinidad 83.90 48 ⇑P P 20 15 32.4 -0.5
baz=84
R24A Sanders Place, 83.90 47 ⇓P P 20 15 32.1 -0.9
baz=84,SNR=5.3
W27A Bowe Ranch, En 83.96 51 ⇑P P 20 15 32.2 -1.0
baz=84,SNR=9.4
M21A Separation Pea 83.97 43 ⇑P P 20 15 32.7 -0.6
baz=84
431A Sonora 83.99 55 ⇓P P 20 15 32.8 -0.5
baz=84
WALA Waterton Lakes 84.01 34 eP P 20 15 31.8 -1.3
comp=Z,0.9nm,1.5s
U26A Atchley Ranch, 84.04 49 ⇑P P 20 15 32.8 -0.9
baz=84,SNR=6.4
COLA College 84.05 10 eP P 20 15 30.9 -1.8
COLA College 84.05 10 eP P 20 15 30.9 -1.8
comp=Z,121nm,1.0s
S25A Robets Cordova 84.11 48 ⇓P P 20 15 33.6 -0.4
baz=84,SNR=5.4
ILAR Eielson Array 84.12 11 P P 20 15 31.6 -1.6
ILAR Eielson Array 84.12 11 P P 20 15 31.6 -1.6
comp=Z,2.6nm,0.8s,baz=219,slow=5.3,SNR=16
ILAR LR LR 20 49 42.3
comp=Z,332nm,19.0s,baz=224,slow=33
L21A Rawlins 84.14 43 ⇓P P 20 15 33.7 -0.4
baz=84
I19A Meeteetse 84.15 40 ⇓P P 20 15 34.1 0.0
baz=84
632A Uvalde 84.17 57 ⇓P P 20 15 33.9 -0.4
baz=84
N22A Wattenberg Ran 84.19 44 ⇑P P 20 15 34.0 -0.4
baz=84
IM04 Indian Mountai 84.19 8 eP P 20 15 33.7 +0.1
Z29A Hungry Hill Ra 84.20 53 ⇓P P 20 15 34.2 -0.2
baz=84
Q24A Divide 84.21 46 ⇑P P 20 15 33.9 -0.7
baz=84
IMA2 Indian Mountai 84.30 8 eP P 20 15 33.7 -0.5
QIZ Qiongzhong 84.31 292 P P 20 15 35.2 +0.1
QIZ pP PcP 20 15 38.5 -0.4
QIZ S S 20 26 01.1 +0.2
QIZ sS sS 20 26 08.1 -0.6
QIZ AMB AMB
comp=Z,220nm,9.2s
QIZ LR LR
comp=Z,280nm,19.6s
532A Rocksprings 84.32 56 ⇓P P 20 15 34.3 -0.8
baz=84
J20A Shoshoni 84.37 41 ⇓P P 20 15 34.1 -1.0
baz=84,SNR=5.7
331A San Angelo 84.39 55 ⇓P P 20 15 35.1 -0.3
baz=84
R25A Fountain Ranch 84.44 47 ⇓P P 20 15 35.3 -0.3
baz=84
H19A Powell 84.47 40 ⇓P P 20 15 35.4 -0.2
baz=85
SEY Seymchan 84.51 345 ⇑P P 20 15 35.5 +0.4
JCT Junction City 84.55 56 ⇑P P 20 15 35.6 -0.5
baz=85
K21A Alcova 84.55 42 ⇑P P 20 15 35.5 -0.6
baz=85,SNR=5.4
I20A Worland 84.64 41 ⇓P P 20 15 35.7 -0.7
baz=85
Z30A Sanderson Ranc 84.65 53 ⇑P P 20 15 36.0 -0.7
baz=85,SNR=5.5
432A Menard 84.71 56 ⇑P P 20 15 36.2 -0.8
baz=85
U27A Thompson Grove 84.72 49 ⇑P P 20 15 36.8 -0.2
baz=85
231A Bronte 84.73 54 ⇓P P 20 15 36.4 -0.6
baz=85
WHN Wuhan 84.77 304 ⇑P P 20 15 39.7 +2.5
WHN S S 20 26 08.0 +3.0
WHN LR LR
comp=Z,520nm,13.5s
J21A Lysite 84.77 42 ⇑P P 20 15 37.2 0.0
baz=85,SNR=6.5
S26A Kim 84.78 48 ⇓P P 20 15 37.0 -0.3
baz=85
L22A Ellis Ranch, M 84.79 43 ⇑P P 20 15 37.7 +0.3
baz=85
332A Millersview 84.95 55 ⇓P P 20 15 37.7 -0.5
baz=85
H20A Greybull 84.99 40 ⇓P P 20 15 38.4 +0.3
baz=85
T27A Campo 85.07 49 ⇑P P 20 15 38.2 -0.6
baz=85
Y30A Stafford Cattl 85.07 52 ⇑P P 20 15 38.5 -0.2
baz=85
I21A Big Trails, Te 85.10 41 ⇑P P 20 15 38.5 -0.3
baz=85
R26A Arlington 85.10 48 ⇓P P 20 15 38.5 -0.4
baz=85,SNR=6.7
F19A Roth Farm, Mol 85.11 39 ⇑P P 20 15 38.9 +0.2
baz=85
S27A Las Animas 85.22 48 ⇓P P 20 15 38.9 -0.6
baz=85
232A Coleman 85.23 55 ⇓P P 20 15 39.6 0.0
baz=85
EGAK Eagle 85.25 13 eP P 20 15 38.0 -0.8
comp=Z,22nm,1.3s
L23A Garrett 85.31 43 ⇑P P 20 15 40.0 0.0
baz=85
Q26A Hugo 85.32 47 ⇑P P 20 15 40.1 0.0
baz=85
X30A Coker Ranch, T 85.33 52 ⇓P P 20 15 40.4 +0.4
baz=85
Z31A Sharp Cattle R 85.42 53 ⇑P P 20 15 40.8 +0.3
baz=86
E19A Rath Farm, Rou 85.51 38 ⇓P P 20 15 40.8 +0.1
baz=86
ABTX Abilene, Hawle 85.53 54 ⇑P P 20 15 40.5 -0.5
baz=86
T28A Walsh 85.54 49 ⇑P P 20 15 40.5 -0.6
baz=86
R27A Eads 85.55 48 ⇑P P 20 15 40.3 -0.8
baz=86
F20A Billings 85.56 39 ⇑P P 20 15 40.9 -0.1
baz=86
Y31A Rekieta Farm, 85.59 53 ⇓P P 20 15 41.2 -0.1
baz=86
D19A Cripps Ranch, 85.81 38 ⇓P P 20 15 42.9 +0.7
baz=86
Z32A Haskell 85.92 53 ⇑P P 20 15 43.3 +0.3
baz=86
X31A McDonald Ranch 86.08 52 ⇓P P 20 15 43.5 -0.2
baz=86
D20A Manuel Ranch, 86.21 38 ⇑P P 20 15 44.4 +0.3
baz=86
Y32A R-V Farms, Ver 86.23 53 ⇓P P 20 15 44.5 +0.1
baz=86
MAW Mawson 86.28 198 P P 20 15 44.7 +0.7
MAW Mawson 86.28 198 P P 20 15 44.7 +0.7

comp=Z,5.0nm,0.8s,baz=106,slow=6.8,SNR=11
MAW LR LR 20 53 34.4
comp=Z,728nm,18.1s,baz=119,slow=35
W31A Holland Ranch, 86.33 52 ⇑P **P 20 15 44.9 -0.1**
baz=86
C20A Veseth Ranch, 86.61 38 ⇑P **P 20 15 46.2 +0.2**
baz=87
V31A Spring Creek L 86.64 51 ⇓P **P 20 15 46.5 +0.1**
baz=87
WHTX Lake Whitney 86.98 55 ⇓P **P 20 15 47.7 -0.5**
baz=87
APG El Apazote 87.11 73 P P **P 20 15 49.3 -0.1**
APG El Apazote 87.11 73 P P **P 20 15 49.3 -0.1**
comp=Z,12nm,1.2s,baz=266,slow=16,SNR=6.5
BJI Beijing 87.30 313 P **P 20 15 50.1 +0.6**
BJI S **S 20 26 30.6 +1.2**
BJI SS **SS 20 32 16.1 +1.7**
BJI AMB AMB
comp=Z,26nm,1.4s
BJI AMB AMB
comp=Z,210nm,3.6s
BJI LR LR
comp=Z,120nm,26.2s
BJI LR LR
comp=Z,220nm,25.5s
BJI LR LR
comp=Z,81nm,25.7s
PLCA Paso Flores 87.70 132 *e*P **P 20 15 50.7 -1.0**
comp=Z,111nm,1.2s
PLCA Paso Flores 87.70 132 P **P 20 15 51.0 -0.7**
comp=Z,4.7nm,0.9s,baz=198,slow=2.6,SNR=5.1
PLCA LR LR 20 48 12.6
comp=Z,510nm,18.6s,baz=318,slow=31
ENH Enshi 88.56 302 *e*P **P 20 15 56.0 +0.2**
comp=Z,41nm,1.5s
B23A Brockton 88.73 38 ⇑P **P 20 15 56.8 +0.6**
baz=89
SKNT Sakolnakorn 88.90 288 P P 20 16 03.6 +6.0
comp=Z,31nm,2.6s
GYA Guiyang 89.59 298 P **P 20 16 02.1 +1.2**
GYA PP **PP 20 19 36.0 +3.2**
GYA SKS **SKSac 20 26 31.8 +0.4**
GYA S **S 20 26 51.5 -0.5**
GYA SS **SS 20 32 51.3 +2.8**
GYA AMB AMB
comp=Z,20nm,1.0s
GYA AMB AMB
comp=Z,130nm,6.3s
GYA LR LR
comp=Z,500nm,18.5s
GYA LR LR
comp=Z,470nm,21.3s
GYA LR LR
comp=Z,520nm,20.4s
INK Inuvik 89.89 14 P **P 20 16 00.5 -0.5**
INK Inuvik 89.89 14 P **P 20 16 00.5 -0.5**
comp=Z,6.1nm,0.7s,baz=243,slow=6.4,SNR=7.2
XAN Xi'an 90.34 306 P **P 20 16 05.6 +1.5**
XAN pP **pP 20 16 13.8 +4.9**
XAN AMB AMB
comp=Z,6.0nm,1.5s
XAN AMB AMB
comp=Z,28nm,4.4s
JTS JuntasAbangare 90.79 80 P **P 20 16 06.9 +0.4**
JTS JuntasAbangare 90.79 80 P **P 20 16 06.9 +0.4**
comp=Z,11nm,1.0s,baz=253,slow=5.2,SNR=3.7
HHC Hu-ho-hao-te 90.85 313 *e*P **P 20 16 04.9 -1.5**
HHC pP **pP 20 16 09.8 -1.4**
HHC PP **PP 20 19 41.9 -0.6**
HHC SKS **SKSac 20 26 35.6 -2.4**
HHC S **SKKSac 20 26 57.1 +4.4**
HHC sS **sS 20 27 10.1 -0.8**
HHC AMB AMB
comp=Z,20nm,1.1s
HHC AMB AMB
comp=Z,270nm,4.8s
HHC LR LR
comp=Z,290nm,16.6s
HHC LR LR
comp=Z,310nm,17.5s
HHC LR LR
comp=Z,280nm,16.6s
SYO Syowa Base 90.93 191 ⇓*e*P **P 20 16 04.6 -1.5**
SNAA Sanae 91.01 177 *e*P **P 20 16 06.7 +0.1**
comp=Z,35nm,1.8s
YAK Yakutsk 91.12 337 *e*P P 20 16 11.9 +5.0
YAK pmax pmax
comp=Z,12nm,1.0s
YKA Yellowknife Ar 91.50 23 P **P 20 16 08.4 -0.3**
YKA Yellowknife Ar 91.50 23 P **P 20 16 08.4 -0.3**
comp=Z,4.7nm,0.9s,baz=243,slow=4.1,SNR=6.7
LOEI Loei 91.53 288 P **P 20 16 10.7 +0.8**
comp=Z,82nm,1.9s
NANT Nan 92.43 289 P **P 20 16 16.5 +2.4**
comp=Z,42nm,1.1s
KMI Kunming 92.52 295 P **P 20 16 16.6 +2.0**
KMI pP **pP 20 16 20.7 +1.3**
KMI sP **sP 20 16 23.0 +1.9**
KMI PP **PP 20 19 55.5 -0.7**
KMI SKS **SKSac 20 26 51.1 +2.7**
KMI S **S 20 27 17.0 -2.0**
KMI sS **sS 20 27 26.0 -0.9**
KMI SS **SS 20 33 31.5 +0.4**
KMI AMB AMB
comp=Z,21nm,1.4s
KMI AMB AMB
comp=Z,190nm,4.5s
KMI LR LR
comp=Z,170nm,17.3s
KMI LR LR
comp=Z,300nm,18.4s
KMI LR LR
comp=Z,320nm,16.7s
FFC Flin Flon 93.23 33 *i*P **P 20 16 17.7 +0.8**
PAYA Payao 93.34 289 P P 20 16 21.6 +3.3
comp=Z,3.9nm,1.4s
CD2 Chengdu 93.43 301 P **P 20 16 18.9 +0.4**
CD2 AMB AMB
comp=Z,10.0nm,0.5s
CMAR Chiang Mai Arr 93.92 288 P **P 20 16 22.7 +1.7**
CMAR Chiang Mai Arr 93.92 288 P **P 20 16 22.7 +1.7**
comp=Z,3.4nm,1.0s,baz=98,slow=3.2,SNR=14
CMAR LR LR 20 54 07.1
comp=Z,140nm,20.6s,baz=266,slow=33
CHTO Chiang Mai 94.02 288 *e*P **P 20 16 22.6 +1.2**
CHTO pmax pmax
comp=Z,47nm,1.3s
CHTO Chiang Mai 94.02 288 *e*P **P 20 16 22.6 +1.2**
comp=Z,47nm,1.3s
CHTO Chiang Mai 94.02 288 P **P 20 16 24.5 +3.1**
ULM Lac du Bonnet 94.90 39 LR LR 20 55 54.0
comp=Z,659nm,18.3s,baz=258,slow=34
LZH Lanzhou 94.94 306 *e*P **P 20 16 26.9 +1.4**
LZH pP **pP 20 16 30.7 +0.5**
LZH sP **sP 20 16 32.6 +0.7**
LZH *e*SKS **SKSac 20 27 02.0 +0.9**
LZH *e*S **S 20 27 35.6 -4.1**
LZH sS **sS 20 27 45.0 -2.7**
LZH SS **SS 20 34 00.3 -4.9**
LZH AMB AMB
comp=Z,28nm,1.3s
LZH AMB AMB
comp=Z,140nm,5.8s
LZH LR LR
comp=Z,140nm,15.6s
LZH LR LR
comp=Z,290nm,16.6s
LZH LR LR
comp=Z,390nm,17.6s
SONM Songino Array 96.74 318 LR LR 21 02 52.3
comp=Z,198nm,18.1s,baz=91,slow=37
ROSC El Rosal 99.31 88 LR LR 20 51 15.6
comp=Z,94nm,19.4s,baz=342,slow=29
ZAK Zakamensk 99.44 320 *e*P **Pdif 20 16 40.0 -5.3**
ZAK pmax pmax
comp=Z,2.0nm,1.7s
KURK Kurchatov 115.04 318 PKIKP **PKPdf 20 21 42.5 -1.1**
KURK Kurchatov 115.04 318 PKP **PKPdf 20 21 42.5 -1.1**
KURBB Kurchatov Arra 115.10 318 PKP **PKPdf 20 21 42.5 -1.2**
comp=Z,1.0nm,0.9s,baz=90,slow=1.8,SNR=8.4
AAK Ala-Archa 118.26 309 ⇑*i*PKIKP **PKPdf 20 21 51.9 +1.6**
AAK pmax pmax
comp=Z,2.0nm,0.8s
BVAR Borovoye Array 119.82 322 PKIKP **PKPdf 20 21 52.2 -0.5**
BVAR Borovoye Array 119.82 322 PKP **PKPdf 20 21 52.2 -0.5**
BVAR Borovoye Array 119.82 322 PKP **PKPdf 20 21 52.2 -0.5**
comp=Z,2.1nm,0.8s,baz=207,slow=1.0,SNR=10.0
BRVK Borovoye 119.87 322 ⇓*i*PKIKP **PKPdf 20 21 54.8 +2.0**
BRVK pmax pmax
comp=Z,8.0nm,2.5s
SVE Sverdlovsk 124.11 328 *e*PKIKP **PKPdf 20 22 00.6 -0.3**
SVE pmax pmax
comp=Z,12nm,1.0s
ARU Arti 125.32 328 *i* PKIKP **PKPdf 20 22 04.7 +1.5**
ARU 20 23 54.1
ARU 20 29 07.8
ARCES ARCESS Array B 126.55 352 PKP **PKPdf 20 22 04.5 -0.8**
ARCES ARCESS Array B 126.55 352 PKP **PKPdf 20 22 04.5 -0.8**
comp=Z,2.7nm,0.8s,baz=300,slow=2.4,SNR=4.6
AKTO Aktyubinsk 127.92 321 PKIKP **PKPdf 20 22 09.4 +1.0**
AKTO Aktyubinsk 127.92 321 PKP **PKPdf 20 22 09.4 +1.0**
AKTO Aktyubinsk 127.92 321 PKP **PKPdf 20 22 09.4 +1.0**
comp=Z,1.2nm,0.7s,baz=299,slow=5.3,SNR=5.0
KLMR Klimovskoe 130.80 340 *e*PKIKP PKPdf 20 22 20.1 +6.6
KLMR pmax pmax
comp=Z,22nm,1.4s
FINES FINESS Array B 133.92 348 PKP **PKPdf 20 22 17.4 -1.9**
FINES FINESS Array B 133.92 348 PKP **PKPdf 20 22 17.4 -1.9**
comp=Z,2.6nm,0.9s,baz=129,slow=2.7,SNR=3.8
OBN Obninsk 136.12 336 *e*PKIKP **PKPdf 20 22 25.4 +1.8**
OBN pmax pmax
comp=Z,7.0nm,1.4s
AKASG Malin Array Be 142.35 337 PKHKP PKPpre 20 22 30.0
AKASG 20 22 35.0
AKASG Malin Array Be 142.35 337 PKPpre PKPpre 20 22 30.0
AKASG PKP **PKPdf 20 22 35.0 -0.2**
AKASG Malin Array Be 142.35 337 PKhKP PKPpre 20 22 30.0
comp=Z,0.3nm,0.3s,baz=42,slow=5.8,SNR=5.9
AKASG PKP **PKPdf 20 22 35.0 -0.2**
comp=Z,0.4nm,0.3s,baz=36,slow=2.8,SNR=6.1
ANN Anapa 142.76 324 *i* PKIKP PKPdf 20 22 45.9 +10
ANN pmax pmax
comp=Z,90nm,1.2s
LVV L'vov 144.86 341 *e*PKIKP **PKPab 20 22 37.7 -1.0**
KMBO Kilima Mbogo 145.37 241 *e*PKPdf **PKPdf 20 22 43.5 +1.5**
KMBO Kilima Mbogo 145.37 241 PKPbc **PKPdf 20 22 43.5 +1.5**
comp=Z,10nm,1.0s,baz=52,slow=3.2,SNR=24
KWP Kalwaria Pacla 145.42 342 *e*PKP2 **PKPbc 20 22 40.1 -0.5**
KWP Kalwaria Pacla 145.42 342 ⇑*i*P **PKPbc 20 22 40.6 0.0**
KWP Kalwaria Pacla 145.42 342 *e*PKPdf **PKPbc 20 22 40.1 -0.5**
KWP Kalwaria Pacla 145.42 342 *e*PKP **PKPbc 20 22 40.5 0.0**
KIS Kishinev 145.48 334 *e*PKP **PKPdf 20 22 37.0 -3.8**
KIS *e*L L 21 31 25.0
KIS LRM MLR 21 34 05.0
comp=Z,500nm,18.0s
OJC Ojcow 145.65 346 *i* PKIKP **PKPab 20 22 42.0 +0.5**
OJC Ojcow 145.65 346 *e*PKiKP **PKPab 20 22 42.0 +0.5**
MALT Malatya 145.71 314 ⇑*i*P **PKPab 20 22 43.6 +1.3**
CLL Collm 145.75 354 *i* PKP2 **PKPab 20 22 41.9 +0.1**
CLL pmax pmax
comp=Z,43nm,1.6s
CLL Collm 145.75 354 *e*PKPbc **PKPab 20 22 41.9 +0.1**
CLL Collm 145.75 354 *i* PKPbc **PKPab 20 22 41.9 +0.1**
comp=Z,43nm,1.6s
CLL *i* 20 22 51.9
comp=Z,27nm,1.3s
CLL *i* 20 22 58.0
CLL *e*PKPlp 20 23 02.0
comp=Z,100nm,16.5s
CLL *e*PP **PP 20 26 06.0 +4.5**
CLL *e*PKSdf **PKSdf 20 26 18.0 +1.7**
CLL *e*PSKS 20 36 26.0
CLL *e*SSS SSS 20 50 30.0
CLL LmH 21 36 00.0
comp=N,100nm,18.8s
CLL LmH 21 36 00.0
comp=E,100nm,18.5s
CLL LmV 21 41 00.0
comp=Z,100nm,18.3s
KSP Ksiaz 145.75 350 *e*PKP2 **PKPdf 20 22 41.1 -0.1**
KSP Ksiaz 145.75 350 *e*PKP **PKPab 20 22 42.7 +0.8**
STHS Stebnicka Huta 146.03 344 *e*PKP2 **PKPbc 20 22 42.6 +0.1**
STHS Stebnicka Huta 146.03 344 *e*PKP **PKPbc 20 22 42.6 +0.1**
BRG Berggiesshubel 146.07 353 *e*PKP **PKPbc 20 22 42.6 +0.1**
comp=Z,13nm,1.2s
BRG *i* 20 22 59.3
comp=Z,54nm,1.8s
BRG Berggiesshubel 146.07 353 *e*PKP2 **PKPbc 20 22 42.6 +0.1**
BRG pmax pmax
comp=Z,13nm,1.2s
BRG Berggiesshubel 146.07 353 *e*PKPbc **PKPab 20 22 42.8 -0.3**
UPC Upice 146.13 350 *e*PKP2 **PKPab 20 22 43.9 +0.6**
UPC Upice 146.13 350 *e*PKP **PKPab 20 22 43.9 +0.6**
KOLS Kolonicke sedl 146.18 342 *e*PKP2 **PKPab 20 22 43.6 0.0**
KOLS Kolonicke sedl 146.18 342 *e*PKP **PKPab 20 22 43.6 0.0**
DPC Dobruska-Polom 146.23 350 *e*PKP2 **PKPbc 20 22 43.3 +0.2**
DPC Dobruska-Polom 146.23 350 *e*PKP **PKPbc 20 22 43.3 +0.2**
DPC *ex* x 20 22 52.0
NIE Niedzica 146.26 345 *i* PKP2 **PKPab 20 22 43.6 -0.3**
NIE Niedzica 146.26 345 *e*PKiKP **PKPab 20 22 43.6 -0.3**
PVCC Panska Ves 146.32 352 *e*PKP2 **PKPab 20 22 44.8 +0.7**
PVCC Panska Ves 146.32 352 *e*PKP **PKPab 20 22 44.8 +0.7**
PVCC *ex* x 20 22 52.5
BUR08 Bucovina Ar. S 146.36 338 *e*PKPdf **PKPdf 20 22 42.5 0.0**
OKC Ostrava-Krasne 146.37 347 *e*PKP2 **PKPbc 20 22 43.4 -0.1**
OKC Ostrava-Krasne 146.37 347 *e*PKP **PKPbc 20 22 43.4 -0.1**
BURAR Bucovina Array 146.38 338 ⇑*i*P **PKPab 20 22 45.5 +1.0**
UZH Uzhgorod 146.44 342 *e*PKHKP PKPpre 20 22 39.0
UZH *i* 20 22 42.4
UZH *i* 20 22 47.0
UZH *e* 20 22 59.0
UBBA Unterbreizbach 146.46 357 *e*PKPbc **PKPab 20 22 44.2 -0.2**
MOX Moxa 146.53 355 *e*PKP2 **PKPbc 20 22 44.3 +0.4**
MOX Moxa 146.53 355 *e*PKPbc **PKPbc 20 22 44.3 +0.4**
MORC Moravsky Berou 146.55 348 *e*PKP2 **PKPbc 20 22 43.5 -0.5**
MORC Moravsky Berou 146.55 348 ⇓*i*P **PKPbc 20 22 44.1 0.0**
MORC Moravsky Berou 146.55 348 *e*PKPbc **PKPbc 20 22 43.5 -0.5**
TANN Tannenbergstha 146.68 354 *e*PKPbc **PKPbc 20 22 45.0 +0.6**
MEM Membach 146.72 2 PKP **PKPbc 20 22 44.7 +0.3**
TESR Tescani 146.76 335 ⇑*i*P **PKPbc 20 22 44.2 -0.5**
GHRR 146.81 334 ⇓*i*P **PKPbc 20 22 45.0 +0.1**
TRPA Tarpa 146.82 341 ⇑*i*P **PKPab 20 22 45.7 -0.3**
TRPA Tarpa 146.82 341 ⇓*e* **PKPbc 20 22 45.0 +0.2**
PRU Pruhonice 146.85 352 *e*PKP2 **PKPbc 20 22 45.3 +0.4**
PRU MLR MLR
comp=Z,300nm,17.1s
PRU Pruhonice 146.85 352 *e*PKP **PKPbc 20 22 45.3 +0.4**
PRU AMS AMS 21 32 20.0
comp=Z,300nm,17.1s
BCLA Clavier 146.88 2 E **PKPab 20 22 48.7 +2.5**
TLCR 146.89 332 ⇑*i*P **PKPbc 20 22 45.3 +0.2**
KECS Kecovo 147.08 344 *e*PKP2 **PKPbc 20 22 44.7 -0.9**
KECS Kecovo 147.08 344 *e*PKP **PKPbc 20 22 44.7 -0.9**
TNS Taunus Mts 147.11 359 *e*PKP2 **PKPbc 20 22 46.5 -0.7**
TNS Taunus Mts 147.11 359 *e*PKPbc **PKPab 20 22 46.5 -0.7**
ARCR ARCALIA 147.13 338 ⇑*i*P **PKPab 20 22 47.0 -0.3**
PETR Petresti 147.16 334 ⇑*i*P **PKPab 20 22 47.5 +0.1**
DOU Dourbes 147.17 3 PKP **PKPbc 20 22 46.1 +0.4**
VRAC Vranov 147.18 349 ⇑*i*P **PKPab 20 22 48.5 +1.0**
VRAC Vranov 147.18 349 PKPbc **PKPbc 20 22 45.9 0.0**
VRAC Vranov 147.18 349 PKPbc **PKPbc 20 22 45.9 0.0**
comp=Z,3.6nm,0.7s,baz=1.4,slow=5.9,SNR=6.2
CFR Carcaliu 147.20 332 ⇑*i*P **PKPbc 20 22 45.9 -0.1**
VRI Vrincioaia 147.25 335 ⇑*i*P **PKPbc 20 22 47.0 +0.9**
PLOR Plostina 147.30 335 ⇑*i*P **PKPbc 20 22 46.0 -0.3**
TREC Trest 147.39 350 *e*PKP2 **PKPab 20 22 47.4 -0.9**
TREC MLR MLR
comp=Z,200nm,17.9s
TREC Trest 147.39 350 *e*PKP **PKPab 20 22 47.4 -0.9**
TREC *ex* x 20 22 54.7
TREC AMS AMS 21 32 20.0
comp=Z,200nm,17.9s
GRF Grafenberg Arr 147.51 355 *e*PKP2 **PKPbc 20 22 47.2 +0.5**
GRF Grafenberg Arr 147.51 355 *e*PKPbc **PKPbc 20 22 47.2 +0.5**
GRER 147.54 334 ⇑*i*P **PKPab 20 22 48.4 -0.6**
TIRR Tirgusor 147.63 331 ⇑*i*P **PKPab 20 22 48.4 -1.0**
WLF Walferdange 147.67 2 E **PKPab 20 22 49.1 -0.2**
HARR Harsova 147.67 332 ⇓*i*P **PKPbc 20 22 48.3 +1.0**
DOPR Dopca 147.70 336 ⇑*i*P **PKPbc 20 22 48.0 +0.6**
TLB Topalu 147.71 332 ⇑*i*P **PKPbc 20 22 47.5 +0.1**
PSZ Piszkesteto 147.76 344 *e*PKP2 **PKPbc 20 22 46.6 -1.0**
PSZ Piszkesteto 147.76 344 ⇑*i*P **PKPbc 20 22 47.3 -0.2**
PSZ Piszkesteto 147.76 344 *e*PKPbc **PKPbc 20 22 46.6 -1.0**
PSZ Piszkesteto 147.76 344 ⇓*e* **PKPab 20 22 49.6 -0.3**
KHC Kasperske Hory 147.82 352 *e*PKP2 **PKPbc 20 22 47.5 -0.2**
KHC Kasperske Hory 147.82 352 *e*PKP **PKPab 20 22 49.0 -1.0**
KHC *ex* x 20 22 55.3
KHC Kasperske Hory 147.82 352 *e*PKPbc **PKPbc 20 22 47.5 -0.2**
MLR Muntele Rosu 147.88 335 ⇑*i*P **PKPbc 20 22 49.1 +1.1**
MLR Muntele Rosu 147.88 335 PKPbc **PKPbc 20 22 48.6 +0.5**
MLR Muntele Rosu 147.88 335 PKPbc **PKPbc 20 22 48.6 +0.5**
comp=Z,3.6nm,1.0s,baz=351,slow=2.4,SNR=15
WET Wettzell 147.90 353 *e*PKP2 **PKPbc 20 22 48.5 +0.7**
WET Wettzell 147.90 353 *e*PKPbc **PKPbc 20 22 48.5 +0.7**
DRGR 147.95 340 ⇑*i*P **PKPbc 20 22 48.1 0.0**
BR131 Keskin Array S 148.08 320 *e*PKPbc **PKPbc 20 22 48.8 0.0**
BRTR Keskin Array B 148.08 320 PKPbc **PKPbc 20 22 49.3 +0.5**
BRTR Keskin Array B 148.08 320 PKPbc **PKPbc 20 22 49.3 +0.5**
comp=Z,11nm,0.9s,baz=135,slow=2.3,SNR=31
GEC2 GERESS Array S 148.09 352 *e*PKP2 **PKPbc 20 22 49.1 +0.7**
GEC2 GERESS Array S 148.09 352 *e*PKPbc **PKPbc 20 22 49.1 +0.7**
GERES GERESS Array B 148.09 352 PKPbc **PKPbc 20 22 48.5 +0.1**
GERES GERESS Array B 148.09 352 PKPbc **PKPbc 20 22 48.5 +0.1**
comp=Z,5.2nm,1.0s,baz=28,slow=3.2,SNR=21
ZST Bratislava 148.15 348 *e*PKP2 **PKPab 20 22 50.9 -0.4**
ZST Bratislava 148.15 348 *e*PKP **PKPab 20 22 50.8 -0.5**
VOIR 148.27 336 ⇑*i*P **PKPbc 20 22 49.4 +0.4**
LANF Langenberg 148.37 359 PKP **PKPbc 20 22 50.6 +1.5**
FURI Furi 148.46 259 P **PKPab 20 22 53.4 -0.6**
ARR Arges 148.49 336 ⇑*i*P **PKPbc 20 22 50.7 +1.1**
ANTO Ankara 148.50 321 *e*PKP2 **PKPbc 20 22 50.2 +0.4**
ANTO Ankara 148.50 321 ⇑*i*P **PKPbc 20 22 50.1 +0.4**
ANTO Ankara 148.50 321 *e*PKPbc **PKPbc 20 22 50.2 +0.4**
PKSG 148.62 346 ⇓*e* **PKPab 20 22 55.5 +2.3**
CONA Conrad Observa 148.64 349 ⇑*i*PKiKP **PKPbc 20 22 50.4 +0.5**
comp=Z,33nm,1.3s,SNR=9.7
PKSN Nyarlorinc 148.71 343 ⇑*e* **PKPab 20 22 52.1 -1.4**
SOP Sopron 148.75 348 ⇑*e* **PKPbc 20 22 50.6 +0.6**
SIRR Siria 148.75 341 ⇑*i*P **PKPbc 20 22 51.2 +1.1**
PKS7 Kunszentmiklos 148.75 344 ⇑*e* **PKPab 20 22 51.9 -1.8**
PKST T"s 148.83 346 ⇓*e* **PKPab 20 22 50.8 +0.5**
BFO Black Forest 149.01 359 *e*PKP2 **PKPbc 20 22 49.9 -0.8**
BFO Black Forest 149.01 359 *e*PKPbc **PKPbc 20 22 51.4 +0.7**
BFO Black Forest 149.01 359 *e*PKPbc **PKPbc 20 22 49.9 -0.8**
FUR Furstenfeldbru 149.02 355 *e*PKP2 **PKPbc 20 22 51.6 +0.8**
FUR Furstenfeldbru 149.02 355 *e*PKPbc **PKPbc 20 22 51.6 +0.8**
ECH Echery 149.13 0 PKP **PKPbc 20 22 49.7 -1.4**
PKS2 Kecel 149.25 344 ⇓*e* **PKPab 20 22 56.5 +0.7**
RJOB Jochberg 149.29 353 *e*PKPbc **PKPbc 20 22 52.0 +0.5**
BZS Buzias 149.34 340 ⇑*i*P **PKPbc 20 22 52.5 +0.9**
PKS9 Tamasi 149.40 345 ⇓*e* **PKPab 20 22 52.1 +0.4**
FELD Feldberg im Sc 149.47 359 PKP **PKPbc 20 22 51.2 -0.9**
MOF Molkenrain 149.50 0 PKP **PKPbc 20 22 53.4 +1.3**
RETA Reutte 149.74 355 ⇑*i*PKiKP **PKPbc 20 22 52.4 -0.3**
comp=Z,16nm,1.2s,SNR=5.1
MOTA Moosalm 149.85 355 ⇑*i*PKiKP **PKPbc 20 22 52.8 -0.2**
comp=Z,21nm,1.1s,SNR=8.0
LOMF Lomont 150.00 1 PKP **PKPbc 20 22 54.9 +1.6**
FETA Feichten 150.20 355 ⇑*i*PKiKP **PKPbc 20 22 53.7 -0.2**
comp=Z,19nm,1.1s,SNR=6.0
DAVOX Davos/Dischmat 150.50 357 PKPbc **PKPbc 20 22 55.0 +0.4**
DAVOX Davos/Dischmat 150.50 357 PKPbc **PKPbc 20 22 55.0 +0.4**
comp=Z,12nm,0.8s,baz=19,slow=4.9,SNR=14
TUE Stuetta 150.83 357 *e*PKPbc **PKPbc 20 22 55.6 +0.1**
VISS Visnje 150.88 349 *i* PKPdf **PKPbc 20 22 55.3 -0.1**
JAVS Javornik 150.92 350 *i* PKPdf **PKPbc 20 22 55.8 +0.2**
CSS Prodhromos 150.93 312 *e*PKPbc **PKPbc 20 22 55.9 +0.1**
AGO Saint Agoulin 151.08 6 PKP **PKPbc 20 22 57.5 +1.7**
BOJS Bojanci 151.09 349 *i* PKPdf **PKPbc 20 22 56.7 +0.9**
PLDF La Plantade 151.21 5 PKP **PKPbc 20 22 57.5 +1.3**
VTS Vitosha 151.38 335 ⇑*i*P **PKPbc 20 22 57.8 +1.0**
PGAV Gavieira, Arco 151.96 25 *e*PKPbc **PKPbc 20 23 00.1 +2.0**
PGAV Gavieira, Arco 151.96 25 *e*LR LR 21 21 24.0
comp=Z,242nm,18.0s
SSB Saint Sauveur 151.97 4 *e*PKiKP **PKPbc 20 22 57.9 -0.1**
SSB Saint Sauveur 151.97 4 *e*PKPbc **PKPbc 20 22 57.9 -0.1**
PCAB Cabril 152.28 25 *e*PKPbc **PKPbc 20 22 59.2 +0.5**
PCAB Cabril 152.28 25 *e*PKPab **PKPab 20 23 08.9 +0.4**
POLO Lamas de Olo 152.65 25 *e*PKPbc **PKPbc 20 23 01.8 +2.1**
POLO Lamas de Olo 152.65 25 *e*PKPab **PKPab 20 23 10.4 +0.2**
PBRG Braganca 152.70 23 *e*PKPbc **PKPbc 20 22 59.9 +0.2**
PBRG Braganca 152.70 23 *e*PKPab **PKPab 20 23 09.1 -1.2**
PVRL Vila Real 152.77 25 *e*PKPbc **PKPbc 20 23 01.5 +1.7**
PVRL Vila Real 152.77 25 *e*PKPab **PKPab 20 23 10.3 -0.3**
MVO Moncorvo 153.14 25 *e*PKPbc **PKPbc 20 23 02.8 +2.1**
MVO Moncorvo 153.14 25 *e*PKPab **PKPab 20 23 11.5 -0.7**
MVO Moncorvo 153.14 25 *e*LR LR 21 21 57.1
comp=Z,165nm,20.0s
MTE Manteigas 153.57 26 *e*LR LR 21 20 16.4
comp=Z,164nm,18.0s
PTOM Tomar 153.83 28 *e*PKPbc **PKPbc 20 23 03.0 +0.8**
PTOM Tomar 153.83 28 *e*PKPab **PKPab 20 23 12.6 -2.5**
PCBR Castelo Branco 154.06 27 *e*PKPbc **PKPbc 20 23 04.3 +1.7**
PCBR Castelo Branco 154.06 27 *e*PKPab **PKPab 20 23 13.5 -2.5**
PMTG Montargil 154.36 29 *e*PKPbc **PKPbc 20 23 05.9 +2.6**
PMTG Montargil 154.36 29 *e*PKPab **PKPab 20 23 13.7 -3.6**
PMRV Marv??o 154.44 27 *e*PKPbc **PKPbc 20 23 04.8 +1.3**
PMRV Marv??o 154.44 27 *e*PKPab **PKPab 20 23 17.2 -0.5**
PMRV Marv??o 154.44 27 *e*LR LR 21 21 34.1
comp=Z,125nm,20.0s
ESDC Sonseca Array 155.59 22 PKPbc PKPbc 20 23 08.1
ESDC PKPab **PKPab 20 23 22.1 -0.5**
ESDC Sonseca Array 155.59 22 PKPbc PKPbc 20 23 08.1
comp=Z,0.3nm,0.6s,baz=337,slow=4.6,SNR=6.3
ESDC PKPab **PKPab 20 23 22.1 -0.5**
comp=Z,2.1nm,0.9s,baz=322,slow=3.9,SNR=8.2
PVAQ Vaqueiros 155.92 31 *e*LR LR 21 21 19.3
comp=Z,239nm,18.0s
TORD Torodi Ar. Bea 173.14 126 PKP **PKPdf 20 23 11.7 -1.2**
TORD PKPab **PKPab 20 24 39.6 -0.7**
TORD Torodi Ar. Bea 173.14 126 PKP **PKPdf 20 23 11.7 -1.2**
comp=Z,2.2nm,1.0s,baz=39,slow=1.3,SNR=6.0
TORD PKPab **PKPab 20 24 39.6 -0.7**
comp=Z,0.6nm,0.7s,baz=264,slow=4.8,SNR=6.1

GUC 02 20:10:29.6±0.7, 22°.86S×68°.87W, h95km±5km, ML3.7, 5C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPCH	**San Pedro de A**	**0.62**	**95**	⇑*i*P	Pn	20 10 46.7	+0.4
SPCH				*i* S	Sn	20 10 59.7	+1.0
SPCH				AML	AML	20 11 00.1	
comp=E,6μm,0.3s							
PB04	**Plate Boundary**	**0.82**	**316**	⇑*i*P	Pn	20 10 53.9	+6.2
PB04				*i* S	Sn	20 11 12.4	+11
PB04				AML	AML	20 11 14.2	
comp=N,1μm,0.2s							
MACH	**Maria Elena**	**1.05**	**308**	*e*P	Pn	20 10 51.2	+0.7
MACH				*e*S	Sn	20 11 07.5	+1.2
PB09	**Plate Boundary**	**1.11**	**342**	*i* P	Pn	20 10 52.1	+1.0
PB09				*e*S	Sn	20 11 08.9	+1.6
PB09				AML	AML	20 11 10.9	
comp=N,6μm,0.8s							
CEN1	**Los Morros**	**1.34**	**246**	*e*P	Pn	20 10 56.7	+2.9
CEN1				*i* S	Sn	20 11 17.3	+5.3
CEN1				AML	AML	20 11 22.5	
comp=N,221nm,0.2s							
PB07	**Plate Boundary**	**1.47**	**320**	⇑*i*P	Pn	20 10 56.1	+0.6
PB07				*e*S	Sn	20 11 15.9	+0.9
PB07				AML	AML	20 11 16.8	
comp=N,2μm,0.4s							
ANCH	**Antofagasta**	**1.64**	**240**	⇑*i*P	Pn	20 10 58.5	+1.1
ANCH				*i* S	Sn	20 11 19.5	+1.1
PB10	**Plate Boundary**	**1.68**	**247**	⇑*i*P	Pn	20 10 58.1	+0.2

WEL 02 20:22:32.6±0.6, 47°.47S×165°.56E, h33km, ML3.5/3, Error ellipse: s-maj=7.0km s-min=4.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APZ	**The Paps**	**1.78**	**70**	PN	Pn	20 22 59.7	-1.4
SYZ	**Scrubby Hill**	**2.62**	**70**	PN	Pn	20 23 12.2	-0.4
SYZ				SN	Sn	20 23 41.3	-2.0
MLZ	**Mavora Lakes**	**2.79**	**41**	PN	Pn	20 23 14.2	-0.9
MLZ				SN	Sn	20 23 45.0	-2.6
TUZ	**Tuapeka**	**3.19**	**63**	PN	Pn	20 23 19.6	-0.8
TUZ				SN	Sn	20 23 55.3	-1.9
EAZ	**Earnscleugh**	**3.43**	**51**	PN	Pn	20 23 22.2	-1.5
EAZ				SN	Sn	20 24 01.1	-2.1

CASC 02 21:02:29.3±1.9, 13°.02N×89°.21W, h37km±138km, MD3.8, ML4.5, 1C-9D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	**0.62**	**13**	⇓*i*P	Pn	21 02 41.7	-0.2

SNET	**Serv Nac Est T**	**0.67**	**358**	⇓*i*P	Pn	21 02 42.4	-0.1
SNET				*e*S	Sn	21 02 52.8	+1.0
SNET				AML	AML	21 02 54.5	
	comp=Z,19µm,0.2s						
SNVI	**San Vicente**	**0.69**	**31**	⇓*e*P	Pn	21 02 42.7	-0.2
BOQS	**Boqueron**	**0.72**	**354**	⇑*i*P	Pn	21 02 43.4	+0.1
BOQS				*e*S	Sn	21 02 54.0	+0.8
LBRS	**Las Brisas**	**0.73**	**13**	⇓*i*P	Pn	21 02 43.6	+0.4
SBLS	**San Blas**	**0.91**	**334**	⇓*e*P	Pn	21 02 45.8	-0.2
SNJE	**San Jose**	**0.93**	**335**	⇓*e*P	Pn	21 02 46.0	-0.2
RTR	**El Retiro**	**0.97**	**334**	⇓*e*P	Pn	21 02 46.7	+0.1
VSM	**San Miguel**	**1.00**	**66**	⇓*i*P	Pn	21 02 46.9	-0.2
RBDL	**Robledal**	**1.19**	**337**	⇓*i*P	Pn	21 02 50.0	+0.5
CAHU	**Cacacuatique**	**1.23**	**57**	*e*P	Pn	21 02 50.7	+0.5
CNCH	**Conchagua**	**1.36**	**79**	*e*P	Pn	21 02 51.5	-0.4
CNCH				*e*S	Sn	21 03 09.7	+0.9
IXG	**Ixpaco**	**1.67**	**314**	*e*P	Pn	21 02 56.8	+0.5
IXG				*e*S	Sn	21 03 17.1	+0.5
NBG	**Las Nubes**	**1.91**	**325**	*e*P	Pn	21 03 01.1	+1.3
MRL	**Marmol**	**2.09**	**347**	*e*P	Pn	21 03 04.1	+2.1
FUG	**Fuego 3**	**2.13**	**312**	*e*P	Pn	21 03 03.5	+0.9
FUG				*e*S	Sn	21 03 28.7	+0.7
VCR	**Vista de Mar**	**4.53**	**129**	*e*P	Pn	21 03 34.6	-0.9
VCR				*e*S	Sn	21 04 20.4	-6.7
JCR	**Jicaral**	**5.10**	**128**	*e*P	Pn	21 03 42.8	-0.5
CGA2	**Cerro Gallo 2**	**5.52**	**122**	*e*P	Pn	21 03 50.4	+1.2
URSC	**Urasca**	**6.19**	**120**	*e*P	Pn	21 04 01.5	+3.0
BUS	**Buena Vista**	**6.36**	**122**	*e*P	Pn	21 04 02.7	+1.6
BUS				*e*S	Sn	21 05 09.1	-3.7

IDC 02 21:08:22.1±1.4, 1°.48N×127°.03E, h0km, mb3.7/4, mb1 4.1/5, mb1mx3.7/23, mbtmp4.0/5, ML4.7/1, Error ellipse: s-maj=89.4km s-min=19.7km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**12.08**	**196**	Pn	Pn	21 11 17.1	+1.4
	4.6nm,0.3s,baz=270,slow=4.0,SNR=4.3						
WRA	**Warramunga Arr**	**22.46**	**162**	P	P	21 13 22.6	-0.4
	1.6nm,0.6s,baz=338,slow=10,SNR=15						
ASAR	**Alice Springs**	**25.87**	**165**	P	P	21 13 55.6	-0.2
	0.9nm,0.6s,baz=342,slow=9.8,SNR=13						
MKAR	**Makanchi Array**	**59.57**	**326**	P	P	21 18 28.1	+0.4
	0.8nm,0.6s,baz=122,slow=8.5,SNR=6.7						
KURBB	**Kurchatov Arra**	**63.79**	**328**	P	P	21 18 55.8	-0.3
	0.7nm,0.6s,baz=128,slow=6.2,SNR=9.7						

IDC 02 21:13:51.3±1.8, 15°.73S×172°.01W, h0km, mb3.8/4, mb1 4.2/4, mb1mx3.8/20, mbtmp3.8/4, MS3.6/1, Ms1 3.6/1, ms1mx2.8/40, Error ellipse: s-maj=58.9km s-min=21.8km az=127.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.82**	**7**	Pn	Pn	21 14 24.2	+0.2
	10nm,0.3s,baz=352,slow=5.7,SNR=3.7						
AFI				Sn	Sn	21 14 48.2	+0.3
	15nm,0.3s,baz=195,slow=23,SNR=4.3						
HNR	**Honiara**	**28.06**	**280**	LR	LR	21 29 01.1	
	comp=Z,122nm,18.4s,baz=305,slow=32						
WRA	**Warramunga Arr**	**51.08**	**257**	P	P	21 22 54.4	-1.6
	1.3nm,1.1s,baz=94,slow=6.0,SNR=3.6						
ASAR	**Alice Springs**	**51.29**	**252**	P	P	21 22 58.6	+1.0
	3.5nm,0.9s,baz=84,slow=8.6,SNR=22						
PDAR	**Pinedale Array**	**81.62**	**41**	P	P	21 26 10.9	-0.7
	0.5nm,0.7s,baz=197,slow=4.5,SNR=4.3						
ILAR	**Eielson Array**	**82.51**	**11**	P	P	21 26 16.3	+0.8
	0.5nm,0.8s,baz=208,slow=6.2,SNR=4.7						

IDC 02 21:27:11.2±1.9, 12°.76N×143°.80E, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.5/25, mbtmp3.6/4, Error ellipse: s-maj=182.2km s-min=25.5km az=113.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.80**	**196**	P	P	21 33 55.0	-0.3
	0.6nm,0.7s,baz=22,slow=9.7,SNR=5.0						
ASAR	**Alice Springs**	**37.47**	**195**	P	P	21 34 26.7	-0.1
	0.2nm,0.6s,baz=18,slow=13,SNR=5.2						
ILAR	**Eielson Array**	**69.76**	**25**	P	P	21 38 22.3	-0.7
	0.4nm,0.6s,baz=258,slow=5.7,SNR=5.0						
NVAR	**Mina Array Bea**	**88.25**	**51**	P	P	21 40 06.1	+0.9
	0.9nm,0.7s,baz=264,slow=6.1,SNR=5.8						

*ISCJB **02** 21:44:34.9±0.2, 43°.67N±0°.01×105°.32W±0°.02, h0km, mb4.2/1, Error ellipse: s-maj=1.9km s-min=1.9km az=22.3*
*IDC **02** 21:44:35.5±1.8, 44°.00N×105°.69W, h0km, mb4.0/1, mb1 4.0/3, mb1mx3.4/27, mbtmp3.8/3, ML3.3/2, Error ellipse: s-maj=58.7km s-min=9.4km az=148.0*
*NEIC **02** 21:44:35.5±0.5, 43°.65N×105°.16W, h0km, ML3.2, Error ellipse: s-maj=8.5km s-min=6.4km az=158.0, Suspected Mining explosion.*
NEIC 75 km [45 miles] SSE of Gillette.

ISC 02 21:44:34.5±0.6, 43°.71N±0°.02×105°.34W±0°.02, h0km, n87, σ1§57/118, 32C-26D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.27**	**340**	P	**Pg**	**21 44 42.1**	**+2.4**
	baz=0.4,SNR=27						
I23A				⇑S	**Sg**	**21 44 45.5**	**+2.3**
	baz=0.4						
J23A	**Dilts Ranch, B**	**0.34**	**208**	P	**Pg**	**21 44 42.3**	**+1.3**
	baz=0.4,SNR=186						
J23A				⇑S	**Sg**	**21 44 45.7**	**+0.3**
	baz=0.4						
I24A	**Kuemmerle Ranc**	**0.54**	**73**	⇓P	**Pg**	**21 44 45.9**	**+1.1**
	baz=0.4,SNR=36						
I24A				⇑S	**Sg**	**21 44 53.3**	**+1.5**
	baz=0.4						
J24A	**Dixon Ranch, L**	**0.62**	**127**	P	**Pg**	**21 44 46.9**	**+0.6**
	baz=0.5,SNR=9.0						
J24A				⇓S	**Sg**	**21 44 54.6**	**+0.2**
	baz=0.5						
I22A	**9 Mile Ranch,**	**0.85**	**283**	P	**Pb**	**21 44 52.1**	**-0.2**
	baz=1.0,SNR=170						
I22A				⇓S	**Sb**	**21 45 03.1**	**-1.2**
	baz=1.0						
H23A	**Clabaugh Cattl**	**0.86**	**357**	P	**Pb**	**21 44 52.1**	**-0.3**
	baz=0.9,SNR=13						
J22A	**Midwest**	**0.88**	**251**	P	**Pg**	**21 44 52.0**	**+0.6**
	baz=1.0,SNR=67						
J22A				⇑S	**Sg**	**21 45 03.6**	**+0.8**
	baz=1.0						
K23A	**Bowen Ranch, D**	**0.97**	**193**	⇓S	**Sg**	**21 45 06.4**	**+0.6**
	baz=1.0						
RSSD	**Black Hills**	**1.03**	**66**	*e*Pg	**Pg**	**21 44 54.4**	**+0.2**
RSSD				*e*Sg	**Sg**	**21 45 06.2**	**-1.2**
K24A	**Anderson Ranch**	**1.05**	**159**	⇑P	**Pg**	**21 44 55.0**	**+0.3**
	baz=1.0,SNR=10						
K24A				⇓Sb	**Sg**	**21 45 10.1**	**+1.8**
	baz=1.0						
H22A	**Clearmont**	**1.15**	**321**	⇑P	**Pb**	**21 44 57.6**	**+0.3**
	baz=1.3,SNR=15						
H22A				⇓Sb	**Sn**	**21 45 14.9**	**+0.3**
	baz=1.3						
J25A	**Sunshine Ranch**	**1.16**	**105**	⇓P	**Pg**	**21 44 56.9**	**+0.2**
	baz=1.0,SNR=25						
H24A	**Dirks Ranch, A**	**1.18**	**28**	P	**Pg**	**21 44 57.5**	**+0.3**
	baz=1.2,SNR=121						
H24A				⇓S	**Sb**	**21 45 13.8**	**0.0**
	baz=1.2						
I25A	**Rochford**	**1.20**	**74**	P	**Pg**	**21 44 57.7**	**+0.2**
	baz=1.1,SNR=31						
I25A				⇓S	**Sg**	**21 45 14.0**	**+0.9**
	baz=1.1						
K22A	**Casper**	**1.37**	**220**	⇓P	**Pg**	**21 45 00.4**	**-0.3**
	baz=1.4						
K22A				⇓Sb	**Sb**	**21 45 19.8**	**+0.7**
	baz=1.4						
I21A	**Big Trails, Te**	**1.42**	**275**	⇑P	**Pn**	**21 45 01.3**	**-0.5**
	baz=1.5						
I21A				⇑S	**Sn**	**21 45 21.4**	**+0.2**
	baz=1.5						
G23A	**Biddle**	**1.50**	**358**	⇑P	**Pb**	**21 45 03.1**	**-0.1**
	baz=1.6,SNR=36						
G23A				⇓S	**Sn**	**21 45 24.7**	**+1.7**
	baz=1.6						
K25A	**Mack Ranch, Ha**	**1.53**	**135**	⇑Pb	**Pn**	**21 45 03.7**	**+0.5**
	baz=1.4,SNR=16						
K25A				⇓S	**Sn**	**21 45 23.6**	**-0.3**
	baz=1.4						
H21A	**Big Horn, Sher**	**1.54**	**307**	⇑Pb	**Pg**	**21 45 04.4**	**+0.4**
	baz=1.7,SNR=61						
H21A				⇓S	**Sn**	**21 45 24.8**	**+0.7**
	baz=1.7						
H25A	**Fruitdale**	**1.55**	**53**	⇑Pb	**Pg**	**21 45 04.6**	**+0.4**
	baz=1.5						
H25A				⇑S	**Sg**	**21 45 25.7**	**+1.4**
	baz=1.5						
J21A	**Lysite**	**1.58**	**258**	⇑P	**Pn**	**21 45 04.0**	**+0.1**
	baz=1.7,SNR=12						
L23A	**Garrett**	**1.61**	**190**	⇓P	**Pn**	**21 45 04.5**	**0.0**
	baz=1.6,SNR=69						
L23A				⇑S	**Sn**	**21 45 25.8**	**-0.3**
	baz=1.6						
G22A	**Birney**	**1.66**	**336**	⇑Pb	**Pg**	**21 45 06.6**	**+0.3**
	baz=1.8,SNR=17						
G22A				⇓Sb	**Sg**	**21 45 30.1**	**+2.2**
	baz=1.8						
L24A	**Wheatland**	**1.69**	**170**	⇑P	**Pn**	**21 45 05.3**	**-0.1**
	baz=1.6						
J26A	**Sides Ranch, S**	**1.69**	**103**	⇓Pb	**Pn**	**21 45 06.4**	**+1.0**
	baz=1.6,SNR=14						
J26A				⇑Sb	**Sg**	**21 45 30.0**	**+1.2**
	baz=1.6						
G24A	**Alzada**	**1.75**	**22**	⇓Pb	**Pg**	**21 45 07.9**	**-0.1**
	baz=1.8						
K21A	**Alcova**	**1.77**	**233**	⇑Pb	**Pn**	**21 45 07.5**	**+1.0**
	baz=1.8,SNR=32						
I26A	**New Underwood**	**1.82**	**79**	⇓Pb	**Pb**	**21 45 08.7**	**0.0**
	baz=1.7						
L25A	**Engebretsen Ra**	**1.85**	**147**	⇑Pb	**Pb**	**21 45 09.3**	**0.0**
	baz=1.7,SNR=19						
L22A	**Ellis Ranch, M**	**1.86**	**206**	⇓Pb	**Pn**	**21 45 09.0**	**+1.1**
	baz=1.9,SNR=7.9						
F23A	**Volborg**	**2.02**	**359**	⇓P	**Pb**	**21 45 11.2**	**-0.9**
	baz=2.1,SNR=11						
G25A	**Newell**	**2.02**	**42**	⇑Pb	**Pb**	**21 45 12.7**	**+0.4**
	baz=2.0,SNR=5.2						
G21A	**Lodge Grass**	**2.03**	**319**	⇑P	**Pb**	**21 45 11.4**	**-0.9**
	baz=2.1,SNR=12						
J20A	**Shoshoni**	**2.03**	**261**	⇑Pb	**Pb**	**21 45 12.6**	**+0.3**
	baz=2.1						
I20A	**Worland**	**2.04**	**278**	⇓Pb	**Pb**	**21 45 12.5**	**0.0**
	baz=2.2,SNR=202						
H26A	**Fairpoint**	**2.06**	**63**	⇑Pb	**Pb**	**21 45 13.0**	**+0.3**
	baz=2.0						
F22A	**Rosebud**	**2.17**	**343**	⇓P	**Pn**	**21 45 12.9**	**+0.9**
	baz=2.3,SNR=38						
F24A	**Ekalaka**	**2.23**	**16**	⇓Pb	**Pb**	**21 45 16.2**	**+0.4**
	baz=2.3						
M23A	**Laramie**	**2.25**	**187**	⇑Pb	**Pb**	**21 45 15.7**	**-0.6**
	baz=2.2,SNR=16						
M24A	**Cheyenne**	**2.27**	**170**	⇑Pb	**Pb**	**21 45 16.5**	**+0.1**
	baz=2.2						
L21A	**Rawlins**	**2.30**	**221**	⇓P	**Pn**	**21 45 15.3**	**+1.4**
	baz=2.3,SNR=21						
PHWY	**Pilot Hill**	**2.41**	**182**	*e*Pn	**Pn**	**21 45 16.9**	**+1.5**
PHWY				*e*Sn	**Sn**	**21 45 43.9**	**-1.8**
K20A	**Yellowstone Ra**	**2.44**	**246**	⇓Pb	**Pb**	**21 45 18.9**	**-0.4**
	baz=2.5						
RWWY	**Rawlins**	**2.44**	**215**	*e*Pn	**Pg**	**21 45 24.3**	**+3.0**
RWWY				*e*Sn	**Sn**	**21 45 46.4**	**-0.3**
M22A	**Cedar Creek Ra**	**2.48**	**202**	⇑P	**Pn**	**21 45 18.5**	**+2.1**
	baz=2.5						
G20A	**Bridger**	**2.56**	**307**	P	**Pn**	**21 45 18.2**	**+0.9**
	baz=2.7,SNR=57						
M21A	**Separation Pea**	**2.58**	**216**	⇑P	**Pn**	**21 45 20.2**	**+2.5**
	baz=2.6,SNR=15						
I19A	**Meeteetse**	**2.67**	**278**	⇑P	**Pn**	**21 45 21.0**	**+2.0**
	baz=2.8,SNR=18						
H19A	**Powell**	**2.80**	**291**	⇑P	**Pn**	**21 45 22.5**	**+1.9**
	baz=2.9,SNR=13						
F20A	**Billings**	**2.90**	**317**	P	**Pn**	**21 45 22.8**	**+0.8**
	baz=3.0,SNR=6.3						
LAO	**LASA Array**	**3.05**	**348**	*e*Pn	**Pb**	**21 45 27.8**	**-1.9**
LAO				*e*Sn	**Sn**	**21 46 02.7**	**+1.5**
RLMT	**Red Lodge**	**3.15**	**298**	*e*Pn	**Pn**	**21 45 26.8**	**+1.2**
RLMT				*e*Sn	**Sn**	**21 46 07.0**	**+2.9**
PD31	**Pinedale Array**	**3.23**	**255**	*e*Pn	**Pn**	**21 45 28.2**	**+1.6**
PD31				*e*Sn	**Sb**	**21 46 12.4**	**-0.3**
PDAR	**Pinedale Array**	**3.23**	**255**	Pn	**Pn**	**21 45 28.2**	**+1.6**
	1.8nm,0.3s,baz=71,slow=15,SNR=39						
PDAR				Lg	Lg	21 46 12.4	
	8.7nm,0.3s,baz=67,slow=32,SNR=16						
BW06	**Boulder Array**	**3.23**	**255**	*e*Pn	**Pn**	**21 45 27.5**	**+0.8**
BW06				*e*Sn	**Sn**	**21 46 05.2**	**-0.7**
H18A	**Shoshone NF, C**	**3.26**	**289**	⇑P	**Pn**	**21 45 28.2**	**+1.1**
	baz=3.4,SNR=14						
F19A	**Roth Farm, Mol**	**3.35**	**311**	⇑P	**Pn**	**21 45 29.7**	**+1.4**
	baz=3.5,SNR=42						
GCMT	**Greycliff**	**3.72**	**306**	*e*Pn	**Pn**	**21 45 34.8**	**+1.4**
GCMT				*e*Sn	**Sn**	**21 46 18.5**	**+0.5**
LKWY	**Lake**	**3.75**	**285**	*e*Pn	**Pb**	**21 45 38.6**	**-3.0**
LOHW	**Long Hollow**	**3.83**	**270**	*e*Pn	**Pn**	**21 45 38.1**	**+3.2**
LOHW				*e*Sn	**Sn**	**21 46 18.2**	**-2.4**
H17A	**Grant Village**	**3.84**	**282**	*e*Pn	**Pn**	**21 45 38.2**	**+3.0**
ISCO	**Idaho Springs**	**3.91**	**183**	*e*Pn	**Pn**	**21 45 35.5**	**-0.6**
ISCO				*e*Sn	**Sn**	**21 46 22.4**	**-0.4**
MOOW	**Moose Ponds**	**3.92**	**272**	*e*Pn	**Pn**	**21 45 37.8**	**+1.6**
SNOW	**Snow King Moun**	**3.94**	**268**	*e*Pn	**Pb**	**21 45 42.7**	**-2.4**
REDW	**Red Top Meadow**	**4.03**	**267**	*e*Pn	**Pb**	**21 45 44.5**	**-2.0**
YFT	**Old Faithful**	**4.03**	**283**	*e*Pn	Pn	21 45 41.7	+4.0
IMW	**Indian Meadow**	**4.06**	**275**	*e*Pn	**Pn**	**21 45 40.0**	**+1.8**
IMW				*e*Sn	**Sn**	**21 46 24.0**	**-2.6**
TPAW	**Teton Pass**	**4.08**	**269**	*e*Pn	Pn	21 45 42.9	+4.4
TPAW				*e*Sn	**Sn**	**21 46 23.4**	**-3.7**
RRI2	**Red Ridge**	**4.37**	**267**	*e*Pn	**Pn**	**21 45 44.1**	**+1.7**
RRI2				*e*Sn	**Sn**	**21 46 28.8**	**-5.3**
BRSD	**Miller**	**4.66**	**79**	*e*Pb	**Pb**	**21 45 54.9**	**-2.1**
BRSD				*e*Sg	**Sg**	**21 47 01.3**	**-2.7**
DGMT	**Dagmar**	**4.83**	**9**	*e*Pn	Pb	21 45 56.1	-3.9
DGMT				*e*Sg	**Sg**	**21 47 04.8**	**-4.8**
BOZ	**Bozeman (W)**	**4.89**	**296**	*e*Pn	**Pb**	**21 45 58.2**	**-2.9**
SPUT	**South Promonto**	**5.78**	**248**	*e*Pn	**Pn**	**21 46 04.0**	**+2.4**
PV10	**Paradox Valley**	**6.01**	**209**	*e*Pn	**Pn**	**21 46 07.3**	**+2.3**
SRU	**San Rafael**	**6.02**	**222**	*e*Pn	**Pn**	**21 46 05.8**	**+0.8**
PV01	**Paradox Valley**	**6.08**	**205**	*e*Pn	**Pn**	**21 46 07.6**	**+1.7**
ECSD	**EROS Data Cent**	**6.32**	**87**	*e*Pn	**Pn**	**21 46 09.8**	**+0.9**
CHMT	**Chamberlain Mo**	**6.44**	**303**	*e*Pn	**Pn**	**21 46 12.4**	**+1.6**
DUG	**Dugway**	**6.59**	**240**	*e*Pn	**Pn**	**21 46 14.0**	**+1.3**
SWMT	**Swartz Lake**	**7.17**	**305**	*e*Pn	**Pn**	**21 46 20.9**	**+0.2**
YBMT	**Yellow Bay**	**7.35**	**307**	*e*Pn	**Pn**	**21 46 25.3**	**+2.1**
ULM	**Lac du Bonnet**	**9.20**	**41**	*e*Pn	**Pn**	**21 46 47.3**	**-1.0**
ULM	**Lac du Bonnet**	**9.20**	**41**	Pn	**Pn**	**21 46 47.3**	**-1.0**
	1.3nm,0.3s,baz=226,slow=13,SNR=5.8						
LEOC	**Leona Valley**	**13.53**	**232**	*e*Pn	**Pn**	**21 47 47.8**	**+0.1**
YUH	**Yuha Desert**	**13.81**	**220**	*e*Pn	**Pn**	**21 47 51.3**	**-0.2**
ARA0	**ARCESS Array S**	**61.46**	**18**	*e*P	**P**	**21 54 51.4**	**-0.9**
ARCES	**ARCESS Array B**	**61.46**	**18**	P	**P**	**21 54 51.4**	**-0.9**
	1.7nm,0.8s,baz=341,slow=6.9,SNR=4.6						

IDC 02 21:49:04.6±1.1, 14°.91S×173°.39W, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.8/20, mbtmp4.0/4, MS3.8/4, Ms1 3.7/4, ms1mx3.3/31, Error ellipse: s-maj=48.4km s-min=29.8km az=138.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.86**	**58**	Pn	Pn	21 49 31.2	-6.6
	57nm,0.3s,baz=264,slow=2.2,SNR=22						
AFI				Sn	Sn	21 49 48.9	-13
	466nm,0.3s,baz=150,slow=20,SNR=37						
H11S2	**WAKE ISLAND Hy**	**38.55**	**329**	T	T	22 37 04.3	
	baz=150,slow=0.7,SNR=11						
H11S3	**WAKE ISLAND Hy**	**38.57**	**329**	T	T	22 37 08.6	
	baz=150,slow=0.7,SNR=7.8						
H11S1	**WAKE ISLAND Hy**	**38.57**	**329**	T	T	22 37 10.2	
	baz=150,slow=0.7,SNR=8.4						
STKA	**Stephens Creek**	**44.29**	**240**	LR	LR	22 11 58.8	
	comp=Z,114nm,19.6s,baz=27,slow=31						
WRA	**Warramunga Arr**	**49.96**	**256**	P	P	21 58 01.9	+1.1
	1.1nm,0.7s,baz=90,slow=7.2,SNR=5.4						
ASAR	**Alice Springs**	**50.27**	**252**	P	P	21 58 01.2	-1.9
	4.1nm,0.8s,baz=86,slow=7.2,SNR=23						
VNDA	**Vanda**	**63.86**	**186**	P	P	21 59 38.9	+0.4
	0.9nm,0.9s,baz=339,slow=11,SNR=4.9						
PFO	**Pinyon Flat Ob**	**72.59**	**47**	LR	LR	22 27 04.0	
	comp=Z,68nm,19.3s,baz=218,slow=31						
YBH	**Yreka Blue Hor**	**73.21**	**37**	LR	LR	22 27 27.7	
	comp=Z,23nm,20.2s,baz=266,slow=32						
PDAR	**Pinedale Array**	**81.90**	**42**	P	P	22 01 25.4	-1.0
	0.6nm,0.8s,baz=204,slow=3.3,SNR=5.4						
MAW	**Mawson**	**88.25**	**199**	LR	LR	22 38 53.8	
	comp=Z,84nm,20.3s,baz=314,slow=34						
GERES	**GERESS Array B**	**145.66**	**352**	PKPbc	PKPdf	22 08 44.1	-1.1
	0.4nm,0.7s,baz=37,slow=3.8,SNR=5.0						
BRTR	**Keskin Array B**	**145.79**	**321**	PKPbc	PKPab	22 08 47.2	+0.7
	2.4nm,0.8s,baz=100,slow=1.5,SNR=16						

IDC 02 21:53:00.0±8.3, 16°.47S×172°.71W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.7/20, mbtmp4.0/2, MS3.6/2, Ms1 3.6/2, ms1mx3.1/39, Error ellipse: s-maj=436.1km s-min=45.2km az=144.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.70**	**20**	Pn	Pn	21 53 33.5	-11
	9.1nm,0.3s,baz=146,slow=15,SNR=2.5						
AFI				Sn	Sn	21 53 55.5	-23
	39nm,0.3s,baz=198,slow=20,SNR=5.3						
PPT	**Papeete**	**22.14**	**96**	LR	LR	22 04 47.6	
	comp=Z,164nm,20.4s,baz=355,slow=32						
HNR	**Honiara**	**27.53**	**281**	LR	LR	22 06 56.9	
	comp=Z,129nm,19.5s,baz=175,slow=30						
WRA	**Warramunga Arr**	**50.26**	**258**	P	P	22 01 57.4	-1.1
	1.6nm,0.9s,baz=95,slow=6.0,SNR=5.8						
ASAR	**Alice Springs**	**50.42**	**253**	P	P	22 02 00.1	+0.4
	1.9nm,0.5s,baz=86,slow=8.0,SNR=23						
GERES	**GERESS Array B**	**147.29**	**352**	PKPbc	PKPdf	22 12 43.5	+0.2
	0.1nm,0.4s,baz=47,slow=4.3,SNR=3.9						
BRTR	**Keskin Array B**	**147.40**	**321**	PKPbc	PKPbc	22 12 47.0	+0.6
	0.5nm,0.6s,baz=61,slow=4.2,SNR=3.2						

*IDC **02** 21:53:18.5±3.7, 38°.22N×97°.16E, h0km, mb3.3/2, mb1 3.4/6, mb1mx3.2/31, mbtmp3.4/6, ML3.3/4, Error ellipse: s-maj=78.9km s-min=27.1km az=20.0*

ISC 02 21:53:18.8±1.4, 38°.1N±0°.1×97°.04E±0°.09, h10km, n8, σ1§13/10, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**2.51**	**59**	Pg	**Pn**	**21 54 00.7**	**+0.8**
GTA				Sg	**Sn**	**21 54 30.6**	**0.0**
GTA				SMN			
	160nm,1.5s						
GTA				SME			
	180nm,0.9s						
LZH	**Lanzhou**	**5.81**	**109**	*e*Pg	**Pn**	**21 54 46.3**	**+1.1**
LZH				Sg	**Sg**	**21 56 23.9**	**-1.5**
LZH				SMN			
	27nm,0.8s						
LZH				SME			
	24nm,0.7s						
SONM	**Songino Array**	**11.86**	**32**	Pn	**Pn**	**21 56 07.7**	**-0.3**
	0.1nm,0.3s,baz=215,slow=14,SNR=6.5						
MKAR	**Makanchi Array**	**13.89**	**313**	Pn	**Pn**	**21 56 33.9**	**-1.7**
	0.1nm,0.3s,baz=126,slow=14,SNR=3.1						
ZALV	**Zalesovo Beam**	**17.90**	**336**	P	**Pn**	**21 57 27.8**	**0.0**
	0.1nm,0.3s,baz=127,slow=12,SNR=3.6						
KURBB	**Kurchatov Arra**	**18.12**	**319**	P	**Pn**	**21 57 30.4**	**-0.1**
	0.1nm,0.3s,baz=127,slow=12,SNR=3.7						
BVAR	**Borovoye Array**	**23.68**	**318**	P	**P**	**21 58 31.7**	**+1.3**
	0.6nm,0.8s,baz=95,slow=11,SNR=3.8						
KSRS	**Korea Array**	**24.36**	**82**	P	**P**	**21 58 37.0**	**0.0**
	0.6nm,0.5s,baz=280,slow=9.8,SNR=4.3						

IDC 02 22:24:25.7±1.3, 16°.84S×172°.17W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/20, mbtmp4.0/5, Error ellipse: s-maj=59.9km s-min=28.4km az=156.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.94**	**7**	Sn	Sn	22 25 41.1	-8.7
	24nm,0.3s,baz=56,slow=19,SNR=6.6						
DZM	**Mont Dzumac**	**20.82**	**252**	P	P	22 29 09.6	+0.6
	5.7nm,0.9s,baz=61,slow=18,SNR=3.8						
STKA	**Stephens Creek**	**44.37**	**241**	P	P	22 32 37.4	-0.6
	1.7nm,0.8s,baz=117,slow=6.8,SNR=3.6						
WRA	**Warramunga Arr**	**50.68**	**258**	P	P	22 33 27.1	-0.3
	0.6nm,0.3s,baz=96,slow=7.3,SNR=3.1						
ASAR	**Alice Springs**	**50.81**	**253**	P	P	22 33 27.8	-0.5
	5.4nm,0.7s,baz=89,slow=8.5,SNR=53						
ILAR	**Eielson Array**	**83.63**	**11**	P	P	22 36 54.4	-1.2
	0.3nm,0.5s,baz=203,slow=6.7,SNR=3.6						
BRTR	**Keskin Array B**	**148.01**	**321**	PKPbc	PKPab	22 44 15.1	-1.1
	0.6nm,0.8s,baz=79,

LTK				*e*SB	**Sb**	**22 27 30.4**	**-0.2**	
LTK	**Loutraki**	**0.30**	**162**	*e*Pb	**Pg**	**22 27 25.2**	**0.0**	
LKR	**Lokris**	**0.36**	**19**	*e*PB	**Pg**	**22 27 25.8**	**-0.5**	
LKR				*e*SB	**Sg**	**22 27 31.6**	**+0.2**	
LKR	**Lokris**	**0.36**	**19**	*e*Pb	**Pg**	**22 27 25.8**	**-0.5**	
LKR				*e*Sb	**Sg**	**22 27 31.6**	**+0.2**	
GUR	**Goura**	**0.55**	**227**	*e*PN	**Pg**	**22 27 29.3**	**-0.4**	
GUR				*e*SN	**Sb**	**22 27 38.0**	**+0.2**	
GUR	**Goura**	**0.55**	**227**	*e*Pn	**Pg**	**22 27 29.3**	**-0.4**	
GUR				*e*Sn	**Sb**	**22 27 38.0**	**+0.2**	
KALE	**Kalithea**	**0.56**	**279**	*e*PN	**Pg**	**22 27 29.4**	**-0.7**	
KALE				*e*SN	**Sg**	**22 27 37.7**	**+0.1**	
KALE	**Kalithea**	**0.56**	**279**	*e*Pn	**Pg**	**22 27 29.4**	**-0.7**	
KALE				*e*Sn	**Sg**	**22 27 37.7**	**+0.1**	
KLV	**Kalavryta, Ach**	**0.61**	**245**	*e*PB	**Pg**	**22 27 30.4**	**-0.5**	
KLV	**Kalavryta, Ach**	**0.61**	**245**	*e*Pn	**Pg**	**22 27 30.4**	**-0.5**	
TRIZ	**Trizonia**	**0.61**	**276**	*e*PB	**Pg**	**22 27 30.1**	**-0.8**	
TRIZ				*e*SN	**Sb**	**22 27 40.2**	**+0.5**	
TRIZ	**Trizonia**	**0.61**	**276**	*e*Pb	**Pg**	**22 27 30.1**	**-0.8**	
TRIZ				*e*Sn	**Sb**	**22 27 40.2**	**+0.5**	
LAKA	**Lakka**	**0.69**	**265**	*e*PN	**Pg**	**22 27 31.8**	**-0.6**	
LAKA				*e*SN	**Sb**	**22 27 42.6**	**+0.7**	
LAKA	**Lakka**	**0.69**	**265**	*e*Pn	**Pg**	**22 27 31.8**	**-0.6**	
LAKA				*e*Sn	**Sb**	**22 27 42.6**	**+0.7**	
NAIG	**Nisos Aigina**	**0.75**	**137**	*e*PN	**Pb**	**22 27 33.4**	**-0.1**	
NAIG	**Nisos Aigina**	**0.75**	**137**	*e*Pn	**Pb**	**22 27 33.4**	**-0.1**	
EFP	**Efpalio**	**0.75**	**279**	*e*PN	**Pg**	**22 27 33.2**	**-0.3**	
EFP				*e*SN	**Sg**	**22 27 43.2**	**-0.3**	
EFP	**Efpalio**	**0.75**	**279**	*e*Pn	**Pg**	**22 27 33.2**	**-0.3**	
EFP				*e*Sn	**Sg**	**22 27 43.2**	**-0.3**	
PSA1	**Psathopyrgos**	**0.76**	**272**	*e*PN	**Pg**	**22 27 33.5**	**-0.2**	
ATH	**Athens Observa**	**0.76**	**116**	*e*PN	**Pb**	**22 27 33.7**	**-0.1**	
ATH				*e*SN	**Sb**	**22 27 44.5**	**+0.6**	
ATH	**Athens Observa**	**0.76**	**116**	*e*Pn	**Pb**	**22 27 33.7**	**-0.1**	
ATH				*e*Sn	**Sb**	**22 27 44.5**	**+0.6**	
AGG	**Agios Georgios**	**0.82**	**330**	*e*PN	**Pb**	**22 27 34.5**	**-0.3**	
AGG	**Agios Georgios**	**0.82**	**330**	*e*Pn	**Pb**	**22 27 34.5**	**-0.3**	
PTL	**Penteli**	**0.84**	**108**	*e*PN	**Pb**	**22 27 35.0**	**-0.1**	
PTL				*e*SN	**Sb**	**22 27 46.3**	**+0.1**	
PTL	**Penteli**	**0.84**	**108**	*e*Pn	**Pb**	**22 27 35.0**	**-0.1**	
PTL				*e*Sn	**Sb**	**22 27 46.3**	**+0.1**	
DID	**Didima**	**0.86**	**159**	*e*PN	**Pb**	**22 27 35.2**	**-0.2**	
DID	**Didima**	**0.86**	**159**	*e*Pn	**Pb**	**22 27 35.2**	**-0.2**	
VLX	**Vlachokerasia**	**1.01**	**202**	*e*PN	**Pb**	**22 27 38.2**	**+0.2**	
VLX	**Vlachokerasia**	**1.01**	**202**	*e*Pn	**Pb**	**22 27 38.2**	**+0.2**	
EVR	**Evrytania**	**1.02**	**307**	*e*PN	**Pb**	**22 27 38.0**	**-0.2**	
EVR	**Evrytania**	**1.02**	**307**	*e*Pn	**Pb**	**22 27 38.0**	**-0.2**	
NEO	**Neokhori**	**1.04**	**16**	*e*PN	**Pb**	**22 27 38.1**	**-0.4**	
NEO	**Neokhori**	**1.04**	**16**	*e*Pn	**Pb**	**22 27 38.1**	**-0.4**	
RLS	**Riolos of Patr**	**1.12**	**257**	*e*PN	**Pb**	**22 27 39.4**	**-0.5**	
RLS	**Riolos of Patr**	**1.12**	**257**	*e*Pn	**Pb**	**22 27 39.4**	**-0.5**	
AOS	**Alonnisos**	**1.18**	**43**	*e*PN	**Pn**	**22 27 39.8**	**-1.0**	
AOS	**Alonnisos**	**1.18**	**43**	*e*Pn	**Pn**	**22 27 39.8**	**-1.0**	
AMT	**Artemida-Makis**	**1.19**	**230**	*e*PN	**Pb**	**22 27 41.4**	**+0.3**	
AMT	**Artemida-Makis**	**1.19**	**230**	*e*Pn	**Pb**	**22 27 41.4**	**+0.3**	
ITM	**Ithomi**	**1.34**	**213**	*e*PN	**Pb**	**22 27 44.1**	**+0.4**	
ITM	**Ithomi**	**1.34**	**213**	*e*Pn	**Pb**	**22 27 44.1**	**+0.4**	
THL	**Klokotos Trika**	**1.41**	**333**	*e*PN	**Pn**	**22 27 44.2**	**+0.2**	
THL	**Klokotos Trika**	**1.41**	**333**	*e*Pn	**Pn**	**22 27 44.2**	**+0.2**	
VLI	**Veliai**	**1.59**	**177**	*e*PB	**Pn**	**22 27 46.6**	**+0.2**	
VLI	**Veliai**	**1.59**	**177**	*e*Pb	**Pn**	**22 27 46.6**	**+0.2**	
PYL	**PYLOS**	**1.66**	**212**	*e*PN	**Pb**	**22 27 49.7**	**+0.6**	
PYL	**PYLOS**	**1.66**	**212**	*e*Pn	**Pb**	**22 27 49.7**	**+0.6**	
VLS	**Valsamata**	**1.78**	**266**	*e*PN	**Pb**	**22 27 50.9**	**-0.3**	
VLS	**Valsamata**	**1.78**	**266**	*e*Pn	**Pb**	**22 27 50.9**	**-0.3**	
LIT	**Litokhoron**	**1.81**	**351**	*e*PN	**Pn**	**22 27 50.2**	**+0.7**	
LIT	**Litokhoron**	**1.81**	**351**	*e*Pn	**Pn**	**22 27 50.2**	**+0.7**	
KYTH	**Kithira**	**2.03**	**176**	*e*PN	**Pn**	**22 27 53.6**	**+1.1**	
KYTH	**Kithira**	**2.03**	**176**	*e*Pn	**Pn**	**22 27 53.6**	**+1.1**	
JAN	**Janina**	**2.06**	**311**	*e*PB	**Pn**	**22 27 53.7**	**+0.8**	
PLG	**Polygyros**	**2.11**	**12**	*e*PN	**Pn**	**22 27 53.1**	**-0.6**	
PLG	**Polygyros**	**2.11**	**12**	*e*Pn	**Pn**	**22 27 53.1**	**-0.6**	
KZN	**Kozani**	**2.16**	**338**	*e*PN	**Pn**	**22 27 55.3**	**+0.9**	
KZN	**Kozani**	**2.16**	**338**	*e*Pn	**Pn**	**22 27 55.3**	**+0.9**	
LIA	**Limnos Island**	**2.41**	**48**	*e*PN	**Pn**	**22 27 57.6**	**-0.1**	
LIA	**Limnos Island**	**2.41**	**48**	*e*Pn	**Pn**	**22 27 57.6**	**-0.1**	
APE	**Apeiranthos**	**2.46**	**119**	⇓*i*P	**Pn**	**22 27 58.9**	**+0.5**	
APE				S	**Sg**	**22 28 36.6**	**-1.4**	
APE	**Apeiranthos**	**2.46**	**119**	⇓*i*P	**Pn**	**22 27 58.9**	**+0.5**	
ANKY	**Antikythira Is**	**2.46**	**171**	*e*PN	**Pn**	**22 27 59.1**	**+0.7**	
ANKY	**Antikythira Is**	**2.46**	**171**	*e*Pn	**Pn**	**22 27 59.1**	**+0.7**	
SOH	**Sokhos**	**2.54**	**9**	*e*PN	**Pn**	**22 28 00.1**	**+0.6**	
SOH	**Sokhos**	**2.54**	**9**	*e*Pn	**Pn**	**22 28 00.1**	**+0.6**	
KEK	**Kerkira**	**2.76**	**301**	*e*PB	**Pn**	**22 28 05.3**	**-2.6**	
BIA	**Bitola**	**2.95**	**337**	*e*Pn	**Pn**	**22 28 01.1**	**-4.1**	
BIA				*e*Sn	**Sn**	**22 28 42.3**	**+2.0**	
BIA	**Bitola**	**2.95**	**337**	*e*Pn	**Pn**	**22 28 06.6**	**+1.4**	
BIA				*e*Sn	**Sn**	**22 28 41.8**	**+1.4**	
VAY	**Valandovo**	**3.02**	**356**	*e*Pn	Pn	22 28 01.7	-4.4	
IDI	**Anoyia**	**3.43**	**151**	Pn	**Pn**	**22 28 12.1**	**+0.3**	
	1.7nm,0.3s,baz=296,slow=16,SNR=13							
IDI				Sn	**Sn**	**22 28 51.2**	**-1.0**	
	5.4nm,0.3s,baz=91,slow=23,SNR=3.6							
VTS	**Vitosha**	**4.29**	**4**	⇑*i*P	**Pn**	**22 28 24.5**	**+0.9**	
VTS	**Vitosha**	**4.29**	**4**	⇑*i*P	**Pn**	**22 28 24.5**	**+0.9**	
IVAS	**Ivanjica**	**5.64**	**340**	*e*Pn	**Pn**	**22 28 44.3**	**+2.1**	
GRUS	**Gruza**	**5.80**	**345**	*e*Pn	**Pn**	**22 28 47.1**	**+2.8**	
STON	**Ston**	**6.01**	**321**	*i* Pn	**Pn**	**22 28 47.3**	**+0.2**	
STON				Sn	**Sn**	**22 29 51.8**	**-3.9**	
STON	**Ston**	**6.01**	**321**	*i* Pn	**Pn**	**22 28 47.3**	**+0.2**	
BBLS	**Lazići**	**6.13**	**336**	⇓*i*Pn	**Pn**	**22 28 51.3**	**+2.4**	
DIVS	**Divibare**	**6.17**	**340**	*e*Pn	**Pn**	**22 28 51.0**	**+1.5**	
GZR	**Gura Zlata**	**7.08**	**360**	⇑*i*P	**Pn**	**22 29 03.2**	**+1.3**	
GZR	**Gura Zlata**	**7.08**	**360**	⇑*i*P	**Pn**	**22 29 03.2**	**+1.3**	
LOT	**Lotru**	**7.17**	**5**	⇓*i*P	**Pn**	**22 29 04.2**	**+1.1**	
LOT	**Lotru**	**7.17**	**5**	⇓*i*P	**Pn**	**22 29 04.2**	**+1.1**	
ARR	**Arges**	**7.18**	**10**	⇓*i*P	**Pn**	**22 29 04.2**	**+1.0**	
ARR	**Arges**	**7.18**	**10**	⇓*i*P	**Pn**	**22 29 04.2**	**+1.0**	
VOIR		**7.31**	**12**	⇓*i*P	**Pn**	**22 29 06.7**	**+1.6**	
VOIR		**7.31**	**12**	⇓*i*P	**Pn**	**22 29 06.7**	**+1.6**	
MLR	**Muntele Rosu**	**7.54**	**17**	⇑*i*P	**Pn**	**22 29 10.2**	**+2.0**	
MLR	**Muntele Rosu**	**7.54**	**17**	⇑*i*P	**Pn**	**22 29 10.2**	**+2.0**	
MLR	**Muntele Rosu**	**7.54**	**17**	Pn	**Pn**	**22 29 09.6**	**+1.3**	
	baz=180,slow=20							
MLR				Sn	**Sn**	**22 30 35.6**	**+2.1**	
	baz=317,slow=19							
DOPR	**Dopca**	**7.88**	**13**	⇑*i*P	**Pn**	**22 29 14.8**	**+1.9**	
DOPR	**Dopca**	**7.88**	**13**	⇑*i*P	**Pn**	**22 29 14.8**	**+1.9**	
PLOR	**Plostina**	**8.05**	**19**	⇑*i*P	Pn	22 29 18.4	+3.2	
PLOR	**Plostina**	**8.05**	**19**	⇑*i*P	Pn	22 29 18.4	+3.2	
VRI	**Vrincioaia**	**8.08**	**20**	⇑*i*P	**Pn**	**22 29 16.1**	**+0.5**	
VRI	**Vrincioaia**	**8.08**	**20**	⇑*i*P	**Pn**	**22 29 16.1**	**+0.5**	
UDBI	**Udbina**	**8.18**	**322**	*e*Pn	**Pn**	**22 29 18.4**	**+1.4**	
UDBI				Sn	**Sn**	**22 30 47.7**	**-1.4**	
UDBI	**Udbina**	**8.18**	**322**	*e*Pn	**Pn**	**22 29 18.4**	**+1.4**	
BRTR	**Keskin Array B**	**8.52**	**77**	Pn	**Pn**	**22 29 23.4**	**+1.7**	
	0.1nm,0.3s,baz=253,slow=11,SNR=9.7							
NVLJ	**Novalja**	**8.65**	**319**	*e*Pn	**Pn**	**22 29 23.0**	**-0.5**	
NVLJ				Sn	Sn	22 30 54.2	-6.5	
NVLJ	**Novalja**	**8.65**	**319**	*e*Pn	**Pn**	**22 29 22.9**	**-0.5**	
MMAI	**Mount Meron Ar**	**11.49**	**114**	Pn	**Pn**	**22 30 03.0**	**+0.5**	
	baz=310,slow=11,SNR=2.9							
GERES	**GERESS Array B**	**12.44**	**331**	Pn	**Pn**	**22 30 16.4**	**+1.2**	
	0.1nm,0.3s,baz=130,slow=17,SNR=2.3							
GERES				Sn	**Sn**	**22 32 29.5**	**-3.9**	
	0.1nm,0.3s,baz=150,slow=18,SNR=3.7							
EIL	**Elat**	**13.22**	**127**	Pn	**Pn**	**22 30 23.4**	**-2.6**	
	0.2nm,0.3s,baz=346,slow=18,SNR=2.5							
ESDC	**Sonseca Array**	**20.86**	**282**	P	**P**	**22 32 00.6**	**+0.4**	
	0.7nm,0.6s,baz=76,slow=11,SNR=6.8							
HFS	**Hagfors**	**22.61**	**348**	P	**P**	**22 32 20.4**	**+1.8**	
	1.2nm,0.8s,baz=156,slow=13,SNR=3.4							
FINES	**FINESS Array B**	**23.25**	**4**	P	**P**	**22 32 24.3**	**-1.0**	
	2.8nm,1.0s,baz=170,slow=9.2,SNR=2.8							
EKA	**Eskdalemuir Ar**	**24.41**	**323**	P	**P**	**22 32 36.9**	**+0.5**	
	2.1nm,0.5s,baz=117,slow=9.6,SNR=4.3							
ARCES	**ARCESS Array B**	**31.32**	**2**	P	**P**	**22 33 40.6**	**+2.5**	
	3.6nm,1.0s,baz=185,slow=9.7,SNR=2.5							
TORD	**Torodi Ar. Bea**	**31.32**	**223**	P	**P**	**22 33 37.9**	**-0.7**	
	0.4nm,0.6s,baz=27,slow=9.4,SNR=3.6							
MKAR	**Makanchi Array**	**43.67**	**59**	P	**P**	**22 35 23.3**	**+0.5**	
	0.3nm,0.4s,baz=266,slow=7.5,SNR=10							
ZALV	**Zalesovo Beam**	**44.24**	**48**	P	**P**	**22 35 27.2**	**0.0**	
	0.9nm,0.6s,baz=280,slow=8.9,SNR=5.2							
SONM	**Songino Array**	**58.95**	**51**	P	**P**	**22 37 17.1**	**-0.4**	
	0.3nm,0.6s,baz=300,slow=6.5,SNR=2.8							
SCHQ	**Schefferville**	**59.60**	**318**	P	**P**	**22 37 21.3**	**-0.5**	
	2.1nm,0.8s,baz=56,slow=3.6,SNR=3.3							
BOSA	**Boshof**	**66.61**	**178**	P	**P**	**22 38 07.5**	**-1.1**	
	1.9nm,1.0s,baz=60,slow=8.1,SNR=3.0							

MAN 02 22:33:32.9±0.23N×125.71E,h6km,mb3.9,ML2.7,MS2.4, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.28**	**198**	*e*P	Pg	22 33 38.1	+0.7
BUTP				*e*S	Sg	22 33 42.1	+0.9
SCPH	**Surigao**	**0.59**	**338**	*e*P	Pb	22 33 44.4	-0.3
SCPH				*e*S	Sb	22 33 54.9	+1.6
BUKP	**Musuan**	**1.49**	**206**	*e*P	Pn	22 33 59.1	-0.4
BUKP				*e*S	Sg	22 34 20.2	+0.1
PAGZ	**Pagadian**	**2.68**	**239**	*e*P	Pn	22 34 16.4	+0.6

AUST ***02*** *22:38:32.9±0.8, 17.59S×172.29W, h0km, Error ellipse: s-maj=25.8km s-min=6.1km az=27.0*
IDC ***02*** *22:38:36.9±0.4, 17.95S×172.78W, h0km, mb4.8/22, mb1 5.0/23,mb1mx4.9/26,mbtmp4.8/23,ML3.5/1, MS4.4/16, Ms1 4.5/16,ms1mx4.3/29, Error ellipse: s-maj=17.8km s-min=10.9km az=115.0*
NEIC ***02*** *22:38:38.0±2.0, 17.84S×172.77W, h10km±2km, mb5.4/123, Error ellipse: s-maj=18.4km s-min=15.1km az=122.0*
ISCJB ***02*** *22:38:40.4±0.1, 17.88S±0.05×172.85W±0.04, h33km, mb5.2/147, MS4.5/26, Error ellipse: s-maj=7.4km s-min=3.5km az=146.7*
DJA ***02*** *22:38:43.0±0.9, 18˚S±19˚×17˚2W±1˚1, h70km, M5.2/7, mB5.7/2, mb5.1/7, MLv5.3/1, Mw(mB)5.2/2*
BJI ***02*** *22:38:43.5, 17.49S×172.33W, h44km, mB5.7/34, mb5.1/37, Ms5.2/29, Ms7 4.8/30*
MOS ***02*** *22:38:43.2±1.3, 17.13S×172.71W, h33km, mb5.5/38, MS4.6/4, Error ellipse: s-maj=15.1km s-min=8.8km az=55.8*
SZGRF ***02*** *22:38:44.3, 17.35S×172.54W, h35km, Tonga Islands region*

ISC 02 22:38:43.5±0.4, 18.08S±0.06×172.56W±0.05, h46km±2km, h46km:pP-P,n730,σ1ꝉ18/764, mb5.2/146**, MS4.6**/26**, 148C-150D, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.69**	**112**	⇓P	Pn	22 39 19.1	-5.2
	baz=2.7,SNR=85						
AFI	**Afiamalu**	**4.21**	**10**	*e*Pn	Pn	22 39 33.5	-12
AFI				*e*Sn	Sn	22 40 21.2	-12
AFI	**Afiamalu**	**4.21**	**10**	Pn	Pn	22 39 33.2	-12
	41nm,0.3s,baz=88,slow=1.5,SNR=13						
AFI				Sn	Sn	22 40 16.4	-17
	102nm,0.3s,baz=65,slow=20,SNR=4.2						
AFI				LR	LR	22 40 35.4	
	comp=Z,1μm,20.5s,baz=198,slow=29						
MSVF	**Nonsavu**	**8.95**	**271**	*e*P	**Pn**	**22 40 49.6**	**-0.6**
MSVF	**Nonsavu**	**8.95**	**271**	Pn	**Pn**	**22 40 51.7**	**+1.5**
	1μm,1.3s,SNR=16						
MSVF	**Nonsavu**	**8.95**	**271**	*e*Pn	**Pn**	**22 40 49.6**	**-0.6**
RAR	**Rarotonga**	**12.45**	**107**	Pn	Pn	22 41 32.7	-5.3
	7.8nm,0.3s,baz=270,slow=7.6,SNR=20						
RAR				LR	LR	22 45 51.5	
	comp=Z,1μm,18.3s,baz=269,slow=34						
DZM	**Mont Dzumac**	**20.11**	**255**	*e*P	**P**	**22 43 13.1**	**-0.6**
	60nm,1.0s						
DZM				*e*LR	LR	22 47 54.5	
	939nm,22.0s						
DZM	**Mont Dzumac**	**20.11**	**255**	P	**P**	**22 43 11.4**	**-2.2**
	0.1nm,0.3s,baz=87,slow=14,SNR=5.1						
OUZ	**Omahuta**	**21.05**	**213**	*e*P	**P**	**22 43 23.4**	**-0.1**
	77nm,1.0s						
PPT2	**Papeete2**	**21.89**	**92**	*e*S	**S**	**22 47 33.6**	**+1.4**
	3μm,25.5s						
PPT2				*e*LR	LR	22 48 52.9	
	407nm,20.5s						
PPT	**Papeete**	**21.89**	**92**	LR	LR	22 50 00.8	
	comp=Z,481nm,21.2s,baz=228,slow=31						
URZ	**Urewera**	**22.04**	**202**	*e*P	**P**	**22 43 34.4**	**+0.2**
	105nm,0.7s						
URZ				*e*S	**S**	**22 47 38.2**	**+3.6**
URZ	**Urewera**	**22.04**	**202**	P	**P**	**22 43 34.6**	**+0.4**
	90nm,0.7s,baz=8.7,slow=6.6,SNR=43						
URZ				S	**S**	**22 47 38.3**	**+3.6**
	8.8nm,0.6s,baz=72,slow=19,SNR=5.9						
BKZ	**Black Stump Fm**	**23.07**	**202**	*e*P	**P**	**22 43 44.9**	**-0.2**
	38nm,0.7s						
BFZ	**Birch Farm**	**24.50**	**201**	*e*P	**P**	**22 43 59.7**	**+1.2**
	84nm,1.2s						
KHZ	**Kahutara**	**27.00**	**203**	*e*P	**P**	**22 44 22.6**	**+1.7**
	49nm,1.0s						
HNR	**Honiara**	**28.02**	**284**	LR	LR	22 54 01.3	
	comp=Z,1μm,19.3s,baz=116,slow=33						
RPZ	**Rata Peaks**	**29.06**	**205**	*e*P	**P**	**22 44 41.2**	**+1.8**
	313nm,1.8s						
WHZ	**Wether Hill Ro**	**32.11**	**206**	*e*P	**P**	**22 45 08.1**	**+1.8**
	50nm,0.7s						
EIDS	**Eidsvold**	**34.47**	**251**	*e*P	**P**	**22 45 24.3**	**-2.8**
	83nm,2.1s						
RKT	**Rikitea**	**35.47**	**105**	*e*LR	LR	22 54 45.0	
	441nm,28.0s						
CNB	**Canberra Magne**	**37.83**	**235**	⇑P	**P**	**22 45 55.3**	**-0.5**
	baz=38						
MILA	**Mila**	**38.52**	**233**	⇓P	**P**	**22 46 00.5**	**-1.1**
	baz=39						
CTA	**Charters Tower**	**38.91**	**260**	⇓P	**P**	**22 46 02.5**	**-2.5**
	baz=39						
CTAO	**Charters Tower**	**38.91**	**260**	*e*P	**P**	**22 46 02.5**	**-2.5**
CTAO				pmax	pmax		
	comp=Z,22nm,1.1s						
CTAO	**Charters Tower**	**38.91**	**260**	*e*P	**P**	**22 46 02.5**	**-2.5**
	comp=Z,22nm,1.1s						
CMSA	**Cobar Meteorol**	**39.96**	**242**	⇑P	**P**	**22 46 11.7**	**-1.9**
	baz=40,SNR=6.9						
PMG	**Port Moresby**	**39.99**	**277**	P	P	22 46 19.8	+5.8
TOO	**Toolangi**	**41.46**	**233**	⇓P	**P**	**22 46 24.5**	**-1.5**
	baz=42,SNR=7.3						
KIP	**Kipapa**	**41.76**	**21**	⇓*e*P	**P**	**22 46 28.9**	**+0.5**
KIP				pmax	pmax		
	comp=Z,202nm,1.9s						
COEN	**Coen**	**42.67**	**269**	*e*P	**P**	**22 46 33.2**	**-2.8**
	comp=Z,78nm,0.8s						
COEN	**Coen**	**42.67**	**269**	⇑P	**P**	**22 46 33.5**	**-2.6**
	baz=43,SNR=6.9						
STKA	**Stephens Creek**	**43.46**	**243**	*e*P	**P**	**22 46 41.0**	**-1.2**
	comp=Z,6.9nm,1.3s						
STKA	**Stephens Creek**	**43.46**	**243**	⇓P	**P**	**22 46 40.4**	**-1.8**
	baz=44,SNR=5.0						
STKA	**Stephens Creek**	**43.46**	**243**	P	**P**	**22 46 40.2**	**-2.0**
	comp=Z,4.5nm,0.8s,baz=75,slow=9.3,SNR=9.3						
ARPS	**Mount Arapiles**	**44.09**	**236**	⇓P	**P**	**22 46 46.6**	**-0.6**
	baz=45						
HTT	**Hallett**	**45.89**	**241**	⇓P	**P**	**22 47 01.0**	**-0.7**
	baz=46						
BBOO	**Buckleboo**	**48.22**	**242**	*e*P	**P**	**22 47 18.0**	**-1.8**
	comp=Z,310nm,1.3s						
BBOO	**Buckleboo**	**48.22**	**242**	⇓P	**P**	**22 47 17.6**	**-2.2**
	baz=49,SNR=11						
AS17	**Alice Springs**	**50.02**	**254**	⇓P	**P**	**22 47 30.7**	**-3.0**
	baz=50						
AS01	**Alice Springs**	**50.05**	**254**	*e*P	**P**	**22 47 31.7**	**-2.3**
WRAB	**Tennant Creek**	**50.06**	**259**	*e*P	**P**	**22 47 31.0**	**-3.0**
WRAB				pmax	pmax		
	comp=Z,227nm,2.4s						
WRAB	**Tennant Creek**	**50.06**	**259**	P	P	22 47 30.4	-3.6
	comp=Z,133nm,0.8s,SNR=7.9						
WRAB	**Tennant Creek**	**50.06**	**259**	*e*P	**P**	**22 47 31.0**	**-3.0**
	comp=Z,227nm,2.4s						
WRA	**Warramunga Arr**	**50.07**	**259**	*e*P	P	22 47 30.7	-3.4
WRA	**Warramunga Arr**	**50.07**	**259**	P	P	22 47 30.7	-3.4
	comp=Z,13nm,0.8s,baz=95,slow=8.2,SNR=20						
AS12	**Alice Springs**	**50.10**	**254**	*e*P	**P**	**22 47 31.5**	**-2.8**
AS12				*e*S	S	22 54 36.6	-6.2
ASAR	**Alice Springs**	**50.10**	**254**	P	**P**	**22 47 31.5**	**-2.8**
	comp=Z,27nm,0.7s,baz=86,slow=8.4,SNR=131						
ASAR				S	S	22 54 36.6	-6.2
	comp=Z,1.9nm,1.1s,baz=89,slow=15,SNR=7.8						
KNRA	**Kununurra**	**56.00**	**263**	⇑P	**P**	**22 48 15.3**	**-2.5**
	baz=56,SNR=4.3						
FITZ	**Fitzroy Crossi**	**58.48**	**260**	⇓P	**P**	**22 48 33.7**	**-1.6**
	baz=59						
SBA	**Scott Base**	**60.66**	**185**	*e*P	**P**	**22 48 52.5**	**+3.1**
SBA				pmax	pmax		
	comp=Z,36nm,1.2s						
SBA	**Scott Base**	**60.66**	**185**	*e*P	**P**	**22 48 52.5**	**+3.1**
	comp=Z,36nm,1.2s						
VNDA	**Vanda**	**60.81**	**186**	*e*P	**P**	**22 48 51.5**	**+1.0**
	comp=Z,16nm,1.0s						
VNDA	**Vanda**	**60.81**	**186**	P	**P**	**22 48 52.1**	**+1.6**
	comp=Z,12nm,0.9s,baz=12,slow=6.3,SNR=15						
JCJ	**Chichijima**	**62.79**	**315**	LR	LR	23 12 38.8	
	comp=Z,445nm,18.5s,baz=138,slow=33						
MBWA	**Marble Bar**	**63.42**	**255**	*e*P	**P**	**22 49 06.9**	**-1.9**
	comp=Z,56nm,1.3s						
MEEK	**Meekatharra**	**63.57**	**249**	⇓P	**P**	**22 49 08.1**	**-1.8**
	baz=64,SNR=4.5						
KLBR	**Kellerberrin**	**63.73**	**243**	⇑P	**P**	**22 49 09.6**	**-1.2**
	baz=64						
MORW	**Morawa**	**65.50**	**246**	⇓P	**P**	**22 49 21.2**	**-1.1**
	baz=66						
MJAR	**Matsushiro Arr**	**71.49**	**320**	P	**P**	**22 49 57.2**	**-2.3**
	comp=Z,7.0nm,1.0s,baz=162,slow=6.1,SNR=9.5						
MJAR				LR	LR	23 17 23.0	
	comp=Z,216nm,19.2s,baz=115,slow=33						
MAJO	**Matsushiro**	**71.49**	**320**	*e*P	**P**	**22 49 56.8**	**-2.7**
MAJO				pmax	pmax		
	comp=Z,151nm,2.4s						
MAJO	**Matsushiro**	**71.49**	**320**	*e*P	**P**	**22 49 56.8**	**-2.7**
	comp=Z,151nm,2.4s						
MAT	**Matsushiro**	**71.49**	**320**	P	**P**	**22 49 56.9**	**-2.6**
MAT				S	**S**	**22 59 16.4**	**+1.5**
MYLDM	**Lahad Datu**	**71.77**	**282**	P	**P**	**22 50 02.2**	**+0.6**
	comp=Z,40nm,1.4s						
MYLDM	**Lahad Datu**	**71.77**	**282**	*e*P	**P**	**22 50 00.7**	**-0.9**
	comp=Z,94nm,1.5s						
QSPA	**South Pole Qui**	**71.98**	**180**	*e*P	**P**	**22 50 02.4**	**+0.2**
	comp=Z,31nm,1.2s						
SCI	**San Clemente I**	**72.38**	**46**	⇑P	**P**	**22 50 05.3**	**+0.5**
	baz=72						
YUK	**Yuzh-Kuril'sk**	**72.56**	**330**	*d* iP	**P**	**22 50 04.3**	**-1.4**
YUK				*i* S	**S**	**22 59 28.5**	**+1.7**
PKM	**Peak Mountain**	**72.68**	**43**	⇓P	**P**	**22 50 07.5**	**+0.6**
	baz=73						
SMMC	**Simmler**	**72.81**	**43**	⇓P	**P**	**22 50 08.7**	**+1.2**
	baz=73						
MWC	**Mount Wilson**	**73.44**	**45**	*e*P	**P**	**22 50 10.2**	**-1.2**
MWC				pmax	pmax		
	comp=Z,229nm,2.6s						
MWC	**Mount Wilson**	**73.44**	**45**	*e*P	**P**	**22 50 10.2**	**-1.2**
	comp=Z,228nm,2.6s						
EML	**El Monte Cty P**	**73.49**	**46**	*e*PKiKP	**PKiKP**	**22 56 10.3**	**+1.9**
LRRC	**Littlerock Res**	**73.64**	**44**	*e*PKiKP	**PKiKP**	**22 56 12.3**	**+3.7**
MURC	**

W13A **Hualapai Mount** 76.76 46 ⇑P P 22 50 30.7 +0.2
baz=77,SNR=11
K05A **Summer Lake** 76.92 36 eP P 22 50 30.8 -0.4
comp=Z,47nm,1.3s
KDAK **Kodiak Island** 77.38 11 LR LR 23 16 51.6
comp=Z,324nm,21.1s,baz=154,slow=30
R11A **Troy Canyon, C** 77.46 42 eP P 22 50 33.1 -1.2
R11A **Troy Canyon, C** 77.46 42 ⇑P P 22 50 34.5 +0.2
baz=78
TUC **Tucson** 77.47 50 eP P 22 50 33.9 -0.5
TUC pmax pmax
comp=Z,15nm,1.0s
TUC **Tucson** 77.47 50 eP P 22 50 33.9 -0.5
comp=Z,15nm,1.0s
H04A **Detroit Lake** 77.49 34 eP P 22 50 32.9 -1.3
comp=Z,151nm,2.5s
PINOR **Pine Mountain** 77.63 36 eP P 22 50 34.5 -0.4
comp=Z,20nm,0.9s
BMN **Battle Mountai** 77.66 40 eP P 22 50 35.3 -0.1
BMN pmax pmax
comp=Z,14nm,0.9s
BMN **Battle Mountai** 77.66 40 eP P 22 50 35.2 -0.1
comp=Z,14nm,0.9s
WVOR **Wild Horse Val** 78.03 38 eP P 22 50 36.8 -0.6
WVOR pmax pmax
comp=Z,12nm,0.9s
WVOR **Wild Horse Val** 78.03 38 eP P 22 50 36.8 -0.6
comp=Z,12nm,0.9s
X16A **Lo Mia Camp, P** 78.09 48 ⇓P P 22 50 38.8 +0.8
baz=78,SNR=16
319A **Douglas** 78.11 51 ⇓P P 22 50 39.2 +1.2
baz=78
KSM **Kuching** 78.23 275 P P 22 50 39.7 +0.7
KSM **Kuching** 78.23 275 eP P 22 50 39.2 +0.3
comp=Z,153nm,1.4s
CCUT **Cedar City** 78.46 44 eP P 22 50 39.8 -0.2
comp=Z,16nm,1.3s
I07A **Izee** 78.57 36 eP P 22 50 39.7 -0.6
comp=Z,17nm,1.1s
U15A **North Rim** 78.57 46 ⇓P P 22 50 41.2 +0.5
baz=79,SNR=11
KSRS **Korea Array** 78.62 316 P P 22 50 40.5 0.0
KSRS LR LR 23 23 48.4
comp=Z,16nm,1.0s,baz=132,slow=6.0,SNR=23
comp=Z,114nm,19.0s,baz=313,slow=35
KS15 **Wonju Array Si** 78.64 316 eP P 22 50 40.5 -0.2
320A **Kipp Ranch, An** 78.65 52 ⇓P P 22 50 42.2 +1.2
baz=79
KS01 **Wonju Array Si** 78.65 316 eP P 22 50 40.0 -0.7
G06A **Carlson Farm,** 78.68 35 eP P 22 50 40.3 -0.5
comp=Z,249nm,2.9s
J08A **Circle Bar Ran** 78.70 37 eP P 22 50 40.2 -0.7
comp=Z,274nm,2.8s
WUAZ **Wupatki** 78.72 47 eP P 22 50 41.3 -0.1
comp=Z,13nm,1.1s
WUAZ **Wupatki** 78.72 47 ⇑P P 22 50 42.1 +0.7
baz=79,SNR=8.2
220A **Playas Peak, P** 78.93 51 ⇓P P 22 50 43.9 +1.3
baz=79
ELK **Elko** 79.06 41 eP P 22 50 42.5 -0.7
comp=Z,11nm,1.0s
120A **U Bar Ranch, L** 79.17 51 ⇑P P 22 50 44.9 +1.0
baz=79
X18A **Snowflake** 79.21 48 ⇓P P 22 50 44.8 +0.7
baz=79,SNR=6.3
D05A **Enumclaw** 79.25 32 eP P 22 50 44.1 +0.3
comp=Z,46nm,1.3s
Z20A **Nine Sixteen R** 79.47 50 ⇓P P 22 50 46.6 +1.0
baz=80
INCN **Inchon** 79.50 315 eP P 22 50 44.1 -1.3
comp=Z,90nm,1.5s
221A **Mesquite Ranch** 79.53 51 ⇑P P 22 50 47.2 +1.3
baz=80
G08A **Pilot Rock** 79.63 35 eP P 22 50 45.5 -0.5
comp=Z,20nm,1.1s
W18A **Petrified Fore** 79.66 48 ⇓P P 22 50 47.7 +1.2
baz=80
MVU **Marysvale** 79.75 44 eP P 22 50 47.4 +0.4
comp=Z,12nm,1.0s
121A **Cookes Peak, D** 79.78 51 ⇑P P 22 50 47.9 +0.6
baz=80,SNR=11
USRK **Ussuriysk Arra** 79.99 323 P P 22 50 48.5 +0.6
USRK LR LR 23 24 10.5
comp=Z,4.1nm,1.0s,baz=106,slow=6.8,SNR=7.4
comp=Z,349nm,20.1s,baz=97,slow=34
HAWA **Hanford** 80.02 34 eP P 22 50 46.7 -1.2
comp=Z,154nm,2.4s
Y20A **Horse Springs,** 80.02 49 ⇓P P 22 50 49.5 +1.0
baz=80,SNR=8.4
Z21A **St. Cloud Mine** 80.24 50 ⇑P P 22 50 50.7 +1.0
baz=80,SNR=9.4
X20A **Quemado** 80.25 49 ⇑P P 22 50 50.6 +0.9
baz=80,SNR=12
MFID **Camas Ranch** 80.27 38 ⇓P P 22 50 49.1 -0.4
baz=80,SNR=11
BMO **Blue Mountains** 80.28 36 eP P 22 50 48.9 -0.7
comp=Z,172nm,2.7s
DUG **Dugway** 80.28 42 eP P 22 50 48.5 -1.2
DUG pmax pmax
comp=Z,11nm,1.3s
DUG **Dugway** 80.28 42 eP P 22 50 48.5 -1.2
comp=Z,11nm,1.3s
DUG **Dugway** 80.28 42 ⇓P P 22 50 50.1 +0.4
baz=80
W20A **Ramah** 80.54 48 ⇑P P 22 50 51.9 +0.6
baz=81,SNR=13
BGU **Big Grassy Mou** 80.55 41 eP P 22 50 50.4 -0.7
comp=Z,73nm,2.5s
Y21A **Point of Rocks** 80.58 50 ⇓P P 22 50 52.4 +0.8
baz=81,SNR=12
Q16A **Castle Valley** 80.65 44 eP P 22 50 52.5 +0.6
comp=Z,74nm,2.1s
Q16A **Castle Valley** 80.65 44 ⇓P P 22 50 52.6 +0.7
baz=81
SPU **Mount Spurr** 80.68 10 eP P 22 50 48.8 -2.4
X21A **Alamocita Cree** 80.71 49 ⇓P P 22 50 53.5 +1.2
baz=81
Z22A **Elephant Butte** 80.74 51 ⇓P P 22 50 53.1 +0.8
baz=81,SNR=15
D08A **Wollman Farm,** 80.76 34 eP P 22 50 51.6 -0.4
comp=Z,257nm,2.6s
TMUT **Trail Mountain** 80.83 44 eP P 22 50 51.8 -1.1
comp=Z,24nm,1.1s
E09A **Wood Farm, Sta** 80.84 35 eP P 22 50 50.8 -1.6
comp=Z,272nm,2.9s
V20A **Brimhall** 80.89 48 ⇓P P 22 50 54.0 +0.8
baz=81
MPU **Maple Canyon** 80.94 43 eP P 22 50 52.6 -0.8
comp=Z,14nm,1.0s
324A **Moseley Ranch,** 80.99 53 ⇑P P 22 50 54.2 +0.5
baz=81,SNR=9.6
F10A **Beach Ranch, E** 81.01 36 eP P 22 50 52.2 -1.2
comp=Z,26nm,1.1s
HABR **Khabarovsk** 81.02 328 eP P 22 50 50.6 -2.6
HABR e*PP PcP 22 51 00.9 +1.4
HABR e*SP sP 22 51 04.8 -7.3
HABR e 22 53 53.8
HABR eS S 23 00 55.8 -3.1
HABR e 23 01 09.0
HABR pmax pmax
comp=Z,137nm,2.0s
HABR MLR MLR
comp=Z,122nm,18.0s
Y22A **Socorro** 81.06 50 ⇓P P 22 50 54.7 +0.6
baz=81,SNR=11
425A **Indio Mountain** 81.07 54 ⇓P P 22 50 54.5 +0.4
baz=81,SNR=20
SPUT **South Promonto** 81.12 41 eP P 22 50 53.9 -0.4
comp=Z,191nm,2.9s
U20A **Newcomb** 81.14 47 ⇑P P 22 50 55.2 +0.7
baz=81,SNR=8.7
LAZ **Ladron** 81.16 50 eP P 22 50 55.4 +0.7
LENM **Lemitar** 81.16 50 eP P 22 50 54.3 -0.4
626A **Big Bend Ranch** 81.18 55 ⇓P P 22 50 55.6 +0.9
baz=81,SNR=17
HVU **Hansel Valley** 81.18 41 eP P 22 50 53.8 -0.7
HVU pmax pmax
comp=Z,178nm,2.7s
HVU **Hansel Valley** 81.18 41 eP P 22 50 53.8 -0.7
comp=Z,178nm,2.7s
SRU **San Rafael** 81.18 44 eP P 22 50 54.6 0.0
SRU pmax pmax
comp=Z,202nm,2.7s
SRU **San Rafael** 81.18 44 eP P 22 50 54.6 0.0
comp=Z,202nm,2.7s
MNTX **Cornudas Mount** 81.19 53 eP P 22 50 54.6 0.0
comp=Z,10nm,1.1s

HLID **Hailey** 81.19 39 eP P 22 50 53.6 -0.9
comp=Z,13nm,1.0s
HLID **Hailey** 81.19 39 ⇑P P 22 50 54.8 +0.2
baz=81,SNR=20
224A **Cornudas Mount** 81.25 52 ⇓P P 22 50 55.6 +0.5
baz=81,SNR=12
Z23A **Rita Site, Whi** 81.28 51 ⇑P P 22 50 55.9 +0.7
baz=81,SNR=6.3
X22A **Bernardo** 81.30 50 ⇓P P 22 50 56.6 +1.3
baz=82
B08A **Colville Reser** 81.37 33 eP P 22 50 53.6 -1.6
comp=Z,20nm,1.2s
JLU **Jordanelle** 81.37 42 eP P 22 50 55.0 -0.6
comp=Z,7.1nm,1.0s
RAGM **Ragged Mountai** 81.38 14 eP P 22 50 53.8 -1.1
comp=Z,40nm,1.3s
DAU **Daniels Canyon** 81.40 43 eP P 22 50 55.3 -0.6
DAU **Daniels Canyon** 81.40 43 eP P 22 50 55.3 -0.6
BNM **Barren Site** 81.41 50 eP P 22 50 56.1 +0.1
526A **Mary Lane Ranc** 81.44 55 ⇓P P 22 50 56.8 +0.7
baz=82,SNR=11
TXAR **Lajitas Array** 81.44 55 P P 22 50 56.7 +0.6
comp=Z,5.6nm,1.0s,baz=218,slow=7.8,SNR=35
LTX **Lajitas** 81.44 55 eP P 22 50 56.7 +0.6
LTX **Lajitas** 81.44 55 eP P 22 50 56.7 +0.6
LPM **Los Pinos Moun** 81.48 50 eP P 22 50 56.7 +0.3
V21A **Milan** 81.48 48 ⇑P P 22 50 57.5 +1.1
baz=82,SNR=7.4
PMR **Palmer** 81.57 11 eP P 22 50 54.3 -1.6
PMR pmax pmax
comp=Z,39nm,1.2s
PMR **Palmer** 81.57 11 eP P 22 50 54.3 -1.6
comp=Z,39nm,1.2s
MVCO **Mesa Verde** 81.58 47 ⇑P P 22 50 57.5 +0.6
baz=82
124A **Stringfield Ra** 81.59 52 ⇓P P 22 50 57.7 +0.7
baz=82,SNR=9.0
PV05 **Paradox Valley** 81.61 46 eP P 22 50 54.8 -2.2
MDJ **Mudanjiang** 81.62 322 P P 22 50 57.7 +1.1
MDJ pP pP 22 51 09.9 -0.3
MDJ sP sP 22 51 14.6 -0.8
MDJ PP PP 22 54 02.6 -1.3
MDJ S S 23 01 08.7 +3.3
MDJ sS sS 23 01 28.4 +0.2
MDJ SS SS 23 06 22.1 -1.8
MDJ AMB AMB
comp=Z,18nm,1.4s
MDJ AMB AMB
comp=Z,350nm,5.3s
MDJ LR LR
comp=Z,130nm,17.5s
MDJ LR LR
comp=Z,170nm,19.0s
MDJ LR LR
comp=Z,310nm,19.9s
627A **Terlingua Ranc** 81.71 55 ⇑P P 22 50 58.2 +0.6
baz=82,SNR=9.7
Y23A **Lovelace Mesa,** 81.72 50 ⇑P P 22 50 58.0 +0.4
baz=82,SNR=8.4
426A **McDonald Obser** 81.75 54 ⇑P P 22 50 58.5 +0.6
baz=82,SNR=22
U21A **Nageezi** 81.78 48 ⇓P P 22 50 58.5 +0.6
baz=82,SNR=27
PV09 **Paradox Valley** 81.80 45 eP P 22 50 58.0 0.0
225A **Deer Hill, Car** 81.80 53 ⇑P P 22 50 58.6 +0.6
baz=82,SNR=11
PV10 **Paradox Valley** 81.80 45 eP P 22 50 57.2 -0.8
DIV **Divide** 81.81 13 eP P 22 50 55.2 -2.0
comp=Z,42nm,1.1s
527A **Woodward Ranch** 81.84 55 ⇓P P 22 50 58.7 +0.5
baz=82,SNR=11
ANMO **Albuquerque** 81.91 49 eP P 22 50 58.6 0.0
comp=Z,16nm,1.1s
BMRM **Bremner River** 81.92 13 eP P 22 50 56.1 -1.7
comp=Z,60nm,1.2s
X23A **Hourglass Bar** 81.93 50 ⇑P P 22 50 59.6 +0.8
baz=82
Z24A **Sheeppen Canyo** 81.95 51 ⇑P P 22 50 59.5 +0.7
baz=82,SNR=5.4
S20A **Disappointment** 81.98 46 ⇓P P 22 50 59.3 +0.4
baz=82,SNR=10
PV01 **Paradox Valley** 81.99 46 eP P 22 50 58.7 -0.2
V22A **San Miguel Ran** 82.05 48 ⇑P P 22 51 00.1 +0.7
baz=82
326A **Caldwell Ranch** 82.08 54 ⇑P P 22 51 00.1 +0.7
baz=82
628A **Black Gap, Mar** 82.12 56 ⇑P P 22 51 00.3 +0.7
baz=82
T21A **Navajo Lake** 82.14 47 ⇑P P 22 51 00.3 +0.5
baz=82
R20A **Redvale** 82.15 46 ⇓P P 22 50 59.7 -0.1
baz=82,SNR=7.2
PV15 **Paradox Valley** 82.16 46 eP P 22 50 59.4 -0.4
125A **Gardner Draw,** 82.17 52 ⇓P P 22 51 00.4 +0.6
baz=82,SNR=7.6
Y24A **Capitan** 82.18 51 ⇓P P 22 51 00.7 +0.7
baz=82,SNR=17
W23A **Werner Place,** 82.23 49 ⇑P P 22 51 01.0 +0.7
baz=82,SNR=5.2
226B **Tecolote Peak,** 82.28 53 ⇓P P 22 51 00.6 +0.2
baz=82,SNR=18
U22A **Llaves** 82.31 48 ⇓P P 22 51 01.2 +0.5
baz=82
427A **Hayter Ranch,** 82.32 54 ⇓P P 22 51 01.2 +0.5
baz=82,SNR=11
M17A **Scullys Gap (B** 82.34 42 ⇑P P 22 51 00.8 +0.1
baz=82
Z25A **Roswell** 82.41 52 ⇓P P 22 51 01.7 +0.6
baz=83,SNR=6.6
NEW **Newport** 82.47 34 eP P 22 50 59.9 -1.1
comp=Z,13nm,1.3s
NEW **Newport** 82.47 34 ⇓P P 22 51 00.9 -0.1
baz=83
P19A **Cripple Cowboy** 82.48 44 ⇑P P 22 51 01.5 +0.1
baz=83,SNR=9.5
V23A **Ortiz Mt. (NFS** 82.49 49 ⇓P P 22 51 02.5 +0.9
baz=83,SNR=5.5
528A **Cox Ranch, San** 82.49 55 ⇓P P 22 51 02.0 +0.4
baz=83,SNR=5.9
T22A **Edith** 82.59 47 ⇑P P 22 51 02.4 +0.2
baz=83,SNR=7.8
Q20A **Ridgley Place,** 82.59 45 ⇑P P 22 51 02.5 +0.5
baz=83,SNR=14
126A **Clayton Basin,** 82.64 52 ⇑P P 22 51 03.0 +0.7
baz=83
Y25A **Mesa, Roswell** 82.72 51 ⇑P P 22 51 03.3 +0.5
baz=83,SNR=8.2
O19A **Miners Draw (B** 82.72 44 ⇓P P 22 51 02.4 -0.2
baz=83,SNR=5.5
U23A **El Rito** 82.76 48 ⇑P P 22 51 03.6 +0.6
baz=83,SNR=14
CAST **Castle Rocks** 82.79 9 eP P 22 50 60.0 -2.3
comp=Z,14nm,0.8s
W24A **Lazy 6 Ranch,** 82.80 50 ⇑P P 22 51 03.6 +0.4
baz=83
P20A **De Beque** 82.80 45 ⇑P P 22 51 03.6 +0.5
baz=83,SNR=17
R21A **Cimarron** 82.81 46 ⇓P P 22 51 03.9 +0.6
baz=83,SNR=28
428A **Kincaid Ranch,** 82.82 55 ⇑P P 22 51 04.3 +1.0
baz=83
MCMT **McKenzie Canyo** 82.84 38 eP P 22 51 02.3 -1.0
529A **Stev Forest Ra** 82.92 55 ⇓P P 22 51 04.2 +0.4
baz=83,SNR=6.9
RRI2 **Red Ridge** 82.94 40 eP P 22 51 03.7 -0.1
comp=Z,26nm,1.2s
Z26A **Caprock** 82.96 52 ⇑P P 22 51 04.5 +0.6
baz=83,SNR=16
S22A **4UR Ranch, Cre** 83.00 47 ⇓P P 22 51 05.0 +0.7
baz=83,SNR=23
328A **Wristen Ranch,** 83.01 54 ⇓P P 22 51 04.4 +0.2
baz=83,SNR=5.3
SKAG **Skagway** 83.01 18 eP P 22 51 02.8 -0.6
comp=Z,23nm,1.1s
Q21A **Lamborn Mesa,** 83.02 45 ⇓P P 22 51 05.1 +0.8
baz=83,SNR=6.2
X25A **Clemmons Ranch** 83.02 50 ⇑P P 22 51 04.4 0.0
baz=83,SNR=8.5
TRF **Thorofare Moun** 83.10 10 eP P 22 51 02.3 -1.8
comp=Z,31nm,1.2s
127A **Arkansas Junct** 83.16 53 ⇑P P 22 51 05.9 +0.9
baz=83
T23A **Casias Ranch,** 83.21 48 ⇑P P 22 51 06.2 +0.8
baz=83
O20A **White River Ci** 83.22 44 eP P 22 51 04.8 -0.5
O20A **White River Ci** 83.22 44 ⇓P P 22 51 05.4 +0.1
baz=83,SNR=5.3

REDW **Red Top Meadow** 83.23 40 eP P 22 51 04.8 -0.6
comp=Z,42nm,1.4s
TPAW **Teton Pass** 83.24 40 eP P 22 51 05.0 -0.4
comp=Z,230nm,2.8s
R22A **Saguache, Gunn** 83.28 46 ⇓P P 22 51 06.8 +1.0
baz=83
DLMT **Dillon** 83.28 38 eP P 22 51 05.1 -0.3
comp=Z,235nm,2.7s
M19A **Rock Springs** 83.32 43 ⇓P P 22 51 06.3 +0.5
baz=84
MSO **Missoula** 83.34 36 eP P 22 51 04.0 -1.6
comp=Z,42nm,1.8s
MSO **Missoula** 83.34 36 ⇑P P 22 51 05.8 +0.1
baz=84
SNOW **Snow King Moun** 83.35 40 eP P 22 51 05.7 -0.3
comp=Z,340nm,2.8s
Y26A **Elida** 83.36 51 ⇑P P 22 51 07.0 +0.9
baz=84
429A **Davenport Ranc** 83.39 55 ⇑P P 22 51 06.3 +0.1
baz=84,SNR=18
P21A **Newcastle** 83.44 45 ⇑P P 22 51 06.8 +0.3
baz=84,SNR=10
IMW **Indian Meadow** 83.47 40 eP P 22 51 06.6 0.0
comp=Z,21nm,1.1s
BSMT **Bassoo Peak** 83.47 35 eP P 22 51 05.7 -0.7
Q22A **Crested Butte,** 83.48 46 ⇓P P 22 51 07.0 +0.2
baz=84,SNR=20
W25A **X Bar L Ranch,** 83.49 50 ⇑P P 22 51 07.2 +0.5
baz=84
228A **UT Block 9, Go** 83.49 53 ⇑P P 22 51 07.3 +0.6
baz=84
MOOW **Moose Ponds** 83.51 40 eP P 22 51 06.5 -0.2
comp=Z,112nm,2.6s
LOHW **Long Hollow** 83.52 40 eP P 22 51 06.4 -0.4
comp=Z,163nm,2.7s
HYT **Haines Junctio** 83.53 16 eP P 22 51 05.3 -1.0
PAX **Paxson** 83.54 12 eP P 22 51 04.6 -1.6
PAX pmax pmax
comp=Z,125nm,2.6s
PAX **Paxson** 83.54 12 eP P 22 51 04.6 -1.6
comp=Z,125nm,2.6s
Z27A **Tatum** 83.55 52 ⇑P P 22 51 07.7 +0.7
baz=84
N20A **Spence Gulch,** 83.56 43 ⇑P P 22 51 07.1 +0.1
baz=84,SNR=15
MCK **McKinley** 83.59 10 eP P 22 51 05.0 -1.4
MCK pmax pmax
comp=Z,41nm,1.0s
MCK **McKinley** 83.59 10 eP P 22 51 05.0 -1.4
comp=Z,41nm,1.0s
SMCO **Snowmass** 83.59 45 eP P 22 51 06.5 -0.9
comp=Z,18nm,0.9s
530A **J-C Ranch, Com** 83.62 56 ⇑P P 22 51 07.8 +0.4
baz=84
LRM **Limekiln Ridge** 83.62 38 eP P 22 51 06.3 -0.9
CN2 **Changchun** 83.64 320 ⇓P P 22 51 08.2 +1.1
CN2 esP sP 22 51 26.6 +0.6
CN2 eS SKSac 23 01 25.6 -0.4
CN2 AMB AMB
comp=Z,20nm,0.6s
CN2 AMB AMB
comp=Z,400nm,6.0s
CN2 LR LR
comp=Z,300nm,14.0s
CN2 LR LR
comp=Z,200nm,14.0s
CN2 LR LR
comp=Z,300nm,15.0s
V25A **Rancho No Teng** 83.66 49 ⇓P P 22 51 08.1 +0.5
baz=84,SNR=8.9
X26A **CR and CF Fran** 83.66 51 ⇓P P 22 51 07.9 +0.3
baz=84,SNR=6.4
QLMT **Earthquake Lak** 83.68 39 eP P 22 51 07.2 -0.4
T24B **San Luis** 83.68 48 ⇓P P 22 51 08.9 +1.0
baz=84
329A **Wagon Wheel Ra** 83.69 54 ⇓P P 22 51 07.9 +0.2
baz=84,SNR=9.0
SWMT **Swartz Lake** 83.70 36 eP P 22 51 05.8 -1.6
FLWY **Flagg Ranch** 83.71 40 eP P 22 51 06.5 -1.2
comp=Z,34nm,1.1s
BW06 **Boulder Array** 83.72 41 eP P 22 51 06.8 -1.1
PD31 **Pinedale Array** 83.72 41 eP P 22 51 07.5 -0.4
PDAR **Pinedale Array** 83.72 41 P P 22 51 07.5 -0.4
comp=Z,8.6nm,0.9s,baz=213,slow=3.3,SNR=43
PDAR LR LR 23 24 23.0
comp=Z,330nm,18.4s,baz=246,slow=33
O21A **Pagoda** 83.77 44 ⇑P P 22 51 08.8 +0.6
baz=84
CHMT **Chamberlain Mo** 83.78 36 eP P 22 51 06.4 -1.6
SNY **Shenyang** 83.78 318 ⇑P P 22 51 08.2 +0.4
SNY AMB AMB
comp=Z,27nm,1.4s
128A **Castleberry Fa** 83.80 53 ⇑P P 22 51 08.8 +0.6
baz=84,SNR=8.4
YFT **Old Faithful** 83.83 39 eP P 22 51 08.8 +0.5
comp=Z,24nm,1.2s
SLMT **Seeley Lake** 83.83 36 eP P 22 51 06.5 -1.7
Y27A **Causey** 83.84 52 ⇓P P 22 51 08.8 +0.3
baz=84,SNR=9.8
YMR **Madison River** 83.87 39 eP P 22 51 07.3 -1.3
comp=Z,77nm,1.7s
DLBC **Dease Lake** 83.89 21 eP P 22 51 07.0 -1.1
DLBC **Dease Lake** 83.89 21 P P 22 51 07.7 -0.4
comp=Z,4.9nm,0.9s,baz=229,slow=5.4,SNR=6.8
R23A **Moffat** 83.91 47 ⇓P P 22 51 09.9 +0.9
baz=84
631A **Perdido Creek** 83.92 57 ⇑P P 22 51 09.8 +1.0
baz=84
SDCO **Great Sand Dun** 83.92 47 eP P 22 51 08.1 -1.0
comp=Z,13nm,1.2s
W26A **Owens Ranch, T** 83.93 50 ⇑P P 22 51 09.9 +0.9
baz=84
M20A **Sweetwater, Wa** 83.94 43 ⇓P P 22 51 09.7 +0.7
baz=84
P22A **Eagle** 83.94 45 ⇑P P 22 51 09.5 +0.4
baz=84,SNR=6.5
H17A **Grant Village** 83.96 40 eP P 22 51 10.8 +1.8
H17A **Grant Village** 83.96 40 ⇑P P 22 51 09.6 +0.6
baz=84
430A **Baggett Ranch,** 83.97 55 ⇑P P 22 51 09.7 +0.6
baz=84
BOZ **Bozeman (W)** 84.01 38 eP P 22 51 08.2 -0.9
BOZ pmax pmax
comp=Z,22nm,1.1s
BOZ **Bozeman (W)** 84.01 38 eP P 22 51 08.2 -0.9
comp=Z,22nm,1.1s
229A **Bryant Ranch,** 84.03 54 ⇓P P 22 51 10.3 +0.8
baz=84
U25A **Circle Dot Ran** 84.07 49 ⇓P P 22 51 10.1 +0.4
baz=84,SNR=10
YNR **Norris Junctio** 84.07 39 eP P 22 51 09.7 +0.1
comp=Z,16nm,1.1s
S24A **Houchin Ranch,** 84.07 47 ⇑P P 22 51 10.6 +0.8
baz=84,SNR=8.7
L20A **Wamsutter** 84.11 42 ⇑P P 22 51 10.1 +0.3
baz=84,SNR=14
732A **Laxson Ranch,** 84.12 57 ⇓P P 22 51 10.8 +1.0
baz=84
Z28A **Tucker Farm, M** 84.16 52 ⇑P P 22 51 10.8 +0.7
baz=84
MSTX **Muleshoe** 84.17 52 eP P 22 51 08.0 -2.1
MSTX **Muleshoe** 84.17 52 ⇑P P 22 51 10.2 +0.1
baz=84,SNR=7.4
K19A **Absolon Red Bu** 84.20 42 ⇑P P 22 51 09.5 -0.7
baz=84,SNR=5.8
X27A **F and S Farms,** 84.23 51 ⇓P P 22 51 11.3 +0.8
baz=84
531A **Rocksprings** 84.25 56 ⇓P P 22 51 11.5 +0.9
baz=84
330A **Mertzon** 84.28 55 ⇓P P 22 51 11.8 +1.1
baz=84,SNR=5.9
J19A **Crowheart** 84.30 41 ⇑P P 22 51 10.4 -0.3
baz=84,SNR=18
O22A **Kremmling** 84.36 45 ⇓P P 22 51 11.6 +0.3
baz=84,SNR=14
T25A **Trinidad** 84.40 48 ⇑P P 22 51 11.5 +0.1
baz=85,SNR=5.5
431A **Sonora** 84.42 55 ⇓P P 22 51 11.9 +0.4
baz=85
R24A **Sanders Place,** 84.42 47 ⇓P P 22 51 12.0 +0.5
baz=85,SNR=8.1
K20A **Yellowstone Ra** 84.44 42 ⇓P P 22 51 10.8 -0.6
baz=85,SNR=8.6
W27A **Bowe Ranch, En** 84.44 51 ⇓P P 22 51 11.6 +0.1
baz=85,SNR=12
P23A **Jefferson** 84.46 46 ⇓P P 22 51 12.3 +0.5
baz=85

230A Sterling City 84.53 54 ⇑P P 22 51 12.9 +0.9
baz=85
Y28A McKinney Farm, 84.53 52 ⇓P P 22 51 12.6 +0.6
baz=85
M21A Separation Pea 84.53 43 ⇑P P 22 51 11.3 -0.7
baz=85,SNR=12
U26A Atchley Ranch, 84.54 49 ⇑P P 22 51 12.2 +0.1
baz=85,SNR=7.8
632A Uvalde 84.58 57 ⇑P P 22 51 13.3 +1.1
baz=85
S25A Robets Cordova 84.63 48 ⇓P P 22 51 12.8 +0.3
baz=85,SNR=9.2
QIZ Qiongzhong 84.64 292 P P 22 51 13.3 +0.6
QIZ pP **pP** 22 51 26.3 -0.1
QIZ sP **sP** 22 51 31.4 -0.2
QIZ S **SKKSac** 23 01 38.5 -0.8
QIZ sS **sS** 23 01 59.6 -0.4
QIZ AMB AMB
comp=Z,17nm,2.0s
QIZ AMB AMB
comp=Z,330nm,11.6s
WALA Waterton Lakes 84.65 34 *e*P P 22 51 10.8 -1.5
H18A Shoshone NF, C 84.66 40 ⇑P P 22 51 13.4 +0.9
baz=85
Z29A Hungry Hill Ra 84.66 53 ⇓P P 22 51 13.3 +0.7
baz=85
L21A Rawlins 84.71 43 ⇓P P 22 51 12.3 -0.5
baz=85,SNR=6.1
I19A Meeteetse 84.73 40 ⇓P P 22 51 12.6 -0.4
baz=85,SNR=9.2
N22A Wattenberg Ran 84.74 44 ⇓P P 22 51 13.9 +0.9
baz=85
Q24A Divide 84.74 46 ⇑P P 22 51 13.6 +0.4
baz=85,SNR=9.6
532A Rocksprings 84.74 56 ⇓P P 22 51 13.5 +0.4
baz=85,SNR=8.6
O23A Lake Granby, G 84.81 45 ⇓P P 22 51 13.9 +0.4
baz=85
ISCO Idaho Springs 84.82 45 *e*P P 22 51 13.5 -0.1
ISCO pmax pmax
comp=Z,80nm,2.6s
ISCO Idaho Springs 84.82 45 *e*P P 22 51 13.5 -0.1
comp=Z,80nm,2.6s
ISCO Idaho Springs 84.82 45 ⇑P P 22 51 14.2 +0.7
baz=85
331A San Angelo 84.82 55 ⇓P P 22 51 14.5 +1.1
baz=85
COLA College 84.83 10 *e*P P 22 51 11.3 -1.3
COLA pmax pmax
comp=Z,50nm,1.0s
COLA College 84.83 10 *e*P P 22 51 11.3 -1.3
comp=Z,50nm,1.0s
IL1 Eielson Array 84.91 11 *e*P P 22 51 11.4 -1.6
ILAR Eielson Array 84.91 11 P P 22 51 12.1 -0.9
comp=Z,3.7nm,0.8s,baz=211,slow=6.0,SNR=26
ILAR LR LR 23 27 59.7
comp=Z,149nm,18.2s,baz=215,slow=35
ILB Eielson Array 84.91 11 *e*P P 22 51 12.1 -0.9
V27A Dan Oppiter Fa 84.91 50 ⇑P P 22 51 14.8 +0.9
baz=85
M22A Cedar Creek Ra 84.94 44 ⇓P P 22 51 14.8 +0.8
baz=85
130A Snyder 84.94 54 ⇑P P 22 51 14.9 +0.8
baz=85
Y29A Porterfield Fa 84.94 52 ⇓P P 22 51 15.0 +0.9
baz=85
J20A Shoshoni 84.95 41 ⇓P P 22 51 13.9 0.0
baz=85,SNR=8.8
R25A Fountain Ranch 84.96 47 ⇓P P 22 51 14.1 0.0
baz=85,SNR=7.0
JCT Junction City 84.97 56 *e*P P 22 51 14.5 +0.3
JCT pmax pmax
comp=Z,25nm,1.4s
JCT Junction City 84.97 56 *e*P P 22 51 14.5 +0.3
comp=Z,25nm,1.4s
JCT Junction City 84.97 56 ⇓P P 22 51 15.1 +0.9
baz=85
H19A Powell 85.07 40 ⇑P P 22 51 15.2 +0.7
baz=85
Z30A Sanderson Ranc 85.11 53 ⇑P P 22 51 14.7 -0.2
baz=85,SNR=9.1
K21A Alcova 85.12 42 ⇓P P 22 51 14.2 -0.6
baz=85,SNR=9.3
N23A Red Feather La 85.12 44 ⇓P P 22 51 15.4 +0.4
baz=85
RLMT Red Lodge 85.13 39 *e*P P 22 51 15.8 +0.9
comp=Z,10nm,0.6s
432A Menard 85.13 56 ⇑P P 22 51 15.6 +0.6
baz=85
231A Bronte 85.16 54 ⇑P P 22 51 15.1 0.0
baz=85,SNR=11
X29A Tulia 85.17 52 ⇓P P 22 51 15.5 +0.3
baz=85
U27A Thompson Grove 85.22 49 ⇑P P 22 51 15.0 -0.4
baz=85,SNR=5.3
I20A Worland 85.23 41 ⇓P P 22 51 15.0 -0.3
baz=85,SNR=5.6
GCMT Greycliff 85.24 39 *e*P P 22 51 13.7 -1.6
WHN Wuhan 85.25 304 ⇓P P 22 51 17.0 +1.5
WHN S **S** 23 01 44.3 +1.7
WHN LR LR
comp=Z,410nm,19.6s
S26A Kim 85.29 48 ⇑P P 22 51 15.5 -0.3
baz=85,SNR=6.4
SEY Seymchan 85.30 345 ⇑*i*P P 22 51 15.3 +0.3
Q25A Bedland, Calha 85.34 47 ⇑P P 22 51 16.6 +0.5
baz=86
L22A Ellis Ranch, M 85.35 43 ⇑P P 22 51 16.9 +0.8
baz=86
J21A Lysite 85.35 42 ⇓P P 22 51 15.9 -0.1
baz=86,SNR=7.4
332A Millersview 85.38 55 ⇓P P 22 51 16.4 +0.2
baz=86,SNR=7.1
W29A Amraillo 85.51 51 ⇑P P 22 51 17.7 +0.8
baz=86
MAW Mawson 85.52 198 P P 22 51 16.8 +0.6
comp=Z,6.1nm,1.0s,baz=110,slow=3.0,SNR=9.1
Y30A Stafford Cattl 85.53 52 ⇑P P 22 51 17.4 +0.5
baz=86
M23A Laramie 85.54 44 ⇑P P 22 51 17.5 +0.4
baz=86
T27A Campo 85.57 49 ⇓P P 22 51 17.5 +0.3
baz=86
R26A Arlington 85.61 47 ⇑P P 22 51 17.0 -0.4
baz=86,SNR=7.8
PHWY Pilot Hill 85.64 44 *e*P P 22 51 15.5 -2.1
comp=Z,95nm,2.4s
232A Coleman 85.66 55 ⇑P P 22 51 17.6 -0.1
baz=86,SNR=13
P25A Willow Gulch B 85.67 46 ⇓P P 22 51 18.6 +0.9
baz=86
I21A Big Trails, Te 85.68 41 ⇑P P 22 51 18.0 +0.4
baz=86
F19A Roth Farm, Mol 85.71 39 ⇓P P 22 51 17.8 +0.2
baz=86
X30A Coker Ranch, T 85.79 52 ⇓P P 22 51 18.8 +0.6
baz=86
DAWY Dawson 85.81 14 *e*P P 22 51 16.8 -0.8
G20A Bridger 85.82 40 ⇓P P 22 51 18.5 +0.2
baz=86
L23A Garrett 85.87 43 ⇓P P 22 51 19.1 +0.4
baz=86
Z31A Sharp Cattle R 85.87 53 ⇑P P 22 51 19.2 +0.6
baz=86
ABTX Abilene, Hawle 85.97 54 *e*P P 22 51 18.9 -0.2
ABTX Abilene, Hawle 85.97 54 ⇑P P 22 51 19.3 +0.2
baz=86,SNR=6.6
EGAK Eagle 86.03 13 *e*P P 22 51 17.2 -1.4
comp=Z,207nm,2.5s
T28A Walsh 86.03 49 ⇑P P 22 51 19.9 +0.5
baz=86
Y31A Rekieta Farm, 86.05 53 ⇑P P 22 51 20.4 +0.9
baz=86
R27A Eads 86.06 48 ⇓P P 22 51 20.3 +0.7
baz=86
E19A Rath Farm, Rou 86.12 38 ⇓P P 22 51 20.2 +0.6
baz=86
F20A Billings 86.16 39 ⇑P P 22 51 20.6 +0.8
baz=86
EGMT Eagleton 86.37 37 *e*P P 22 51 19.5 -1.3
comp=Z,37nm,1.8s
EGMT Eagleton 86.37 37 ⇓P P 22 51 21.5 +0.7
baz=86
Z32A Haskell 86.37 53 ⇑P P 22 51 21.3 +0.2
baz=86,SNR=14
D19A Cripps Ranch, 86.43 38 ⇑P P 22 51 22.0 +1.0
baz=86

V30A Spur Ranch, Mi 86.49 51 ⇑P P 22 51 23.4 +1.7
baz=87
C19A Slack Wire Ran 86.62 37 ⇓P P 22 51 22.8 +0.7
baz=87
COLD Coldfoot 86.65 9 *e*P P 22 51 21.1 -0.5
comp=Z,19nm,1.3s
Y32A R-V Farms, Ver 86.69 53 ⇓P P 22 51 23.2 +0.6
baz=87
R28A Tribune 86.78 48 ⇓P P 22 51 23.9 +0.9
baz=87
W31A Holland Ranch, 86.80 52 ⇑P P 22 51 24.0 +0.9
baz=87
D20A Manuel Ranch, 86.82 38 ⇑P P 22 51 23.9 +0.8
baz=87
B19A Brinkman Farms 87.06 37 ⇓P P 22 51 24.9 +0.8
baz=87
V31A Spring Creek L 87.12 51 ⇑P P 22 51 26.1 +1.4
baz=87
PLCA Paso Flores 87.13 132 *e*P P 22 51 25.3 +0.4
comp=Z,218nm,1.0s
PLCA Paso Flores 87.13 132 P P 22 51 27.1 +2.3
comp=Z,7.0nm,1.0s,baz=238,slow=4.4,SNR=7.1
PLCA LR LR 23 23 08.4
comp=Z,387nm,20.7s,baz=317,slow=31
C20A Veseth Ranch, 87.22 38 ⇓P P 22 51 25.4 +0.5
baz=87
EDM Edmonton 87.34 31 *e*P P 22 51 24.3 -1.1
EDM Edmonton 87.34 31 *e*P P 22 51 24.3 -1.1
WHTX Lake Whitney 87.41 55 *e*P P 22 51 25.5 -0.7
WHTX Lake Whitney 87.41 55 ⇓P P 22 51 26.9 +0.7
baz=88
D21A La Casta Ranch 87.48 39 ⇑P P 22 51 26.9 +0.7
baz=88
WMOK Wichita Mounta 87.48 52 *e*P P 22 51 25.1 -1.4
WMOK pmax pmax
comp=Z,68nm,2.8s
WMOK Wichita Mounta 87.48 52 *e*P P 22 51 25.1 -1.4
comp=Z,68nm,2.8s
T31A Randall Ranch, 87.79 50 ⇓P P 22 51 29.1 +1.3
baz=88
H24A Dirks Ranch, A 87.85 41 ⇑P P 22 51 28.3 +0.2
baz=88
A20A Cobblestone Ra 87.86 37 ⇓P P 22 51 28.4 +0.5
baz=88
BJI Beijing 87.88 313 P P 22 51 29.6 +1.4
BJI S **S** 23 02 10.1 +2.4
BJI SS **SS** 23 07 58.6 +2.3
BJI AMB AMB
comp=Z,23nm,2.0s
BJI AMB AMB
comp=Z,550nm,4.7s
BJI LR LR
comp=Z,180nm,25.0s
BJI LR LR
comp=Z,160nm,25.0s
BJI LR LR
comp=Z,80nm,24.0s
RSSD Black Hills 87.89 42 *e*P P 22 51 25.9 -2.5
RSSD pmax pmax
comp=Z,27nm,1.0s
RSSD Black Hills 87.89 42 *e*P P 22 51 25.9 -2.5
comp=Z,27nm,1.0s
I25A Rochford 88.03 42 ⇑P P 22 51 28.9 -0.2
baz=88
ENH Enshi 89.02 302 *e*P P 22 51 34.4 +0.6
comp=Z,75nm,1.7s
SKNT Sakolnakorn 89.18 288 P P 22 51 38.8 +4.0
comp=Z,24nm,0.9s
B23A Brockton 89.35 38 ⇑P P 22 51 36.3 +1.3
baz=90
PSI Prapat 89.45 273 *e*P P 22 51 36.0 -0.3
PSI Prapat 89.45 273 P P 22 51 36.0 -0.3
comp=Z,6.1nm,0.4s,baz=191,slow=5.7,SNR=9.8
DGMT Dagmar 89.82 38 *e*P P 22 51 34.5 -2.6
comp=Z,31nm,1.2s
DGMT Dagmar 89.82 38 ⇓P P 22 51 37.6 +0.5
baz=90
GYA Guiyang 90.00 298 ⇓*i*P P 22 51 40.7 +2.1
GYA pP **pP** 22 51 54.2 +1.8
GYA PP **PP** 22 55 16.4 +4.0
GYA SKS **SKSac** 23 02 04.3 -1.9
GYA S **S** 23 02 28.0 -0.5
GYA sS **sS** 23 02 50.7 -1.0
GYA SS **SS** 23 08 30.5 +2.6
GYA AMB AMB
comp=Z,20nm,1.0s
GYA AMB AMB
comp=Z,210nm,8.4s
GYA LR LR
comp=Z,120nm,20.8s
GYA LR LR
comp=Z,40nm,21.6s
GYA LR LR
comp=Z,150nm,20.3s
SYO Syowa Base 90.14 191 ⇑*e*P P 22 51 37.0 -1.3
SNAA Sanae 90.20 177 *e*P P 22 51 38.8 0.0
comp=Z,17nm,1.1s
INK Inuvik 90.67 14 *e*P P 22 51 39.2 -1.4
comp=Z,103nm,2.3s
INK Inuvik 90.67 14 P P 22 51 40.0 -0.5
comp=Z,1.7nm,0.3s,baz=223,slow=6.8,SNR=7.8
XAN Xi'an 90.84 306 P P 22 51 43.8 +1.5
XAN AMB AMB
comp=Z,4.0nm,1.5s
XAN AMB AMB
comp=Z,72nm,5.0s
JTS JuntasAbangare 90.90 80 P P 22 51 45.3 +2.3
comp=Z,212nm,1.1s,SNR=5.1
JTS JuntasAbangare 90.90 80 *e*P P 22 51 44.0 +1.1
comp=Z,131nm,1.3s
HHC Hu-ho-hao-te 91.42 313 *e*P P 22 51 45.4 +0.5
HHC pP **pP** 22 51 59.8 +1.1
HHC SKS **SKSac** 23 02 14.0 +0.3
HHC S **S** 23 02 36.6 -4.3
HHC sS sS 23 02 57.3 -6.9
HHC AMB AMB
comp=Z,35nm,0.8s
HHC AMB AMB
comp=Z,430nm,5.4s
HHC LR LR
comp=Z,280nm,17.7s
HHC LR LR
comp=Z,290nm,17.0s
HHC LR LR
comp=Z,200nm,16.6s
LOEI Loei 91.81 288 P P 22 51 47.7 +0.6
comp=Z,73nm,0.9s
YKA Yellowknife Ar 92.22 23 P P 22 51 48.0 0.0
comp=Z,5.0nm,0.9s,baz=242,slow=4.1,SNR=6.0
YKB5 Yellowknife Ar 92.22 23 *e*P P 22 51 47.1 -0.8
UALR University of 92.41 54 *e*P P 22 51 49.0 -0.5
comp=Z,22nm,1.1s
ECSD EROS Data Cent 92.58 45 *e*P P 22 51 49.6 -0.4
comp=Z,9.2nm,1.0s
NANT Nan 92.72 289 P P 22 51 53.6 +2.3
comp=Z,31nm,1.0s
KMI Kunming 92.90 295 P P 22 51 53.8 +1.6
KMI pP **pP** 22 52 08.1 +2.0
KMI sP **sP** 22 52 13.6 +2.4
KMI SKS **SKSac** 23 02 25.1 +2.2
KMI S **S** 23 02 53.3 -1.7
KMI sS **sS** 23 03 16.0 -2.3
KMI SS **SS** 23 09 15.3 +5.3
KMI AMB AMB
comp=Z,11nm,1.6s
KMI AMB AMB
comp=Z,230nm,4.7s
KMI LR LR
comp=Z,130nm,21.2s
KMI LR LR
comp=Z,130nm,26.0s
KMI LR LR
comp=Z,160nm,18.4s
PAYA Payao 93.64 289 P P 22 51 59.9 +4.4
comp=Z,3.2nm,1.1s,comp=Z,244nm
CD2 Chengdu 93.88 301 P P 22 51 57.7 +1.3
CD2 pP **pP** 22 52 11.3 +1.1
CD2 sP **sP** 22 52 16.6 +1.2
CD2 PP **PP** 22 55 46.5 +3.7
CD2 SKS **SKSac** 23 02 27.0 -0.7
CD2 S **S** 23 03 00.9 -2.2
CD2 sS **sS** 23 03 24.2 -2.2
CD2 SS **SS** 23 09 24.8 +1.3
CD2 AMB AMB
comp=Z,10.0nm,0.5s
CD2 AMB AMB
comp=Z,210nm,5.3s
CD2 LR LR
comp=Z,530nm,5.9s
CD2 LR LR
comp=Z,170nm,8.3s
CM01 Chiang Mai Arr 94.18 288 *e*P P 22 51 53.7 -4.3
CMAR Chiang Mai Arr 94.21 288 P P 22 51 59.1 +0.9
comp=Z,3.5nm,0.8s,baz=109,slow=3.1,SNR=15
CMAR LR LR 23 31 22.3
comp=Z,100nm,19.0s,baz=156,slow=34
CM31 Chiang Mai Arr 94.21 288 *e*P P 22 51 59.1 +0.9
CHTO Chiang Mai 94.31 288 *e*P P 22 51 54.1 -4.5
CHTO pmax pmax
comp=Z,53nm,1.3s
CHTO Chiang Mai 94.31 288 *e*P P 22 51 54.1 -4.5
comp=Z,53nm,1.3s
CHTO Chiang Mai 94.31 288 P P 22 52 02.7 +4.1
LVC Limon Verde 95.14 116 *e*P P 22 52 01.0 -1.8
comp=Z,104nm,2.6s
LZH Lanzhou 95.44 306 *e*P P 22 52 05.8 +2.2
LZH pP **pP** 22 52 19.3 +1.8
LZH sP **sP** 22 52 25.2 +2.6
LZH PP **PP** 22 55 57.2 +2.1
LZH SKS **SKSac** 23 02 37.3 +1.1
LZH *e*S **ScS** 23 03 17.9 +0.3
LZH sS **sS** 23 03 41.0 +0.9
LZH SS **SS** 23 09 47.8 +2.0
LZH AMB AMB
comp=Z,42nm,1.6s
LZH AMB AMB
comp=Z,120nm,4.1s
ULM Lac du Bonnet 95.50 39 LR LR 23 32 07.9
comp=Z,461nm,18.1s,baz=42,slow=34
SPMN St. Paul 95.66 44 *e*P P 22 52 01.5 -2.6
comp=Z,50nm,1.8s
SONA1 Songino Array 97.36 318 *e*P P 22 52 10.7 -1.3
SONA0 Songino Array 97.36 318 *e*PP PP 22 56 09.8 +0.3
SONM Songino Array 97.36 318 P Pdif 22 52 12.4 +0.3
comp=Z,0.5nm,0.8s,baz=116,slow=4.2,SNR=2.8
SONM PP **PP** 22 56 09.8 +0.3
comp=Z,1.7nm,1.1s,baz=106,slow=4.7,SNR=6.9
SONM LR LR 23 29 44.1
comp=Z,144nm,21.4s,baz=79,slow=32
WMQ Urumqi 109.23 311 *e*Pdif **Pdif** 22 53 05.4 +0.5
WMQ LR LR
comp=Z,40nm,19.2s
WMQ LR LR
comp=Z,47nm,28.4s
WMQ LR LR
comp=Z,56nm,20.0s
ZAA0 Zalesovo Array 111.81 322 *e*PKiKP **PKiKP** 22 57 11.2 -1.8
ZALV Zalesovo Beam 111.81 322 Pdiff **Pdif** 22 53 12.2 -3.7
comp=Z,0.2nm,0.3s,baz=240,slow=2.8,SNR=2.3
ZALV PKiKP **PKiKP** 22 57 12.4 -0.6
comp=Z,1.1nm,0.7s,baz=126,slow=2.0,SNR=5.3
MK01 Makanchi Array 113.25 314 *e*PKiKP **PKiKP** 22 57 15.0 -1.1
MK32 Makanchi Array 113.26 314 *e*PKiKP **PKiKP** 22 57 15.3 -0.7
MKAR Makanchi Array 113.26 314 PKiKP **PKiKP** 22 57 15.3 -0.7
comp=Z,1.6nm,0.8s,baz=90,slow=2.4,SNR=8.8
KURK Kurchatov 115.67 318 *e*PKiKP **PKPdf** 22 57 19.3 -1.2
KURK Kurchatov 115.67 318 *e*PKPdf **PKPdf** 22 57 19.3 -1.2
KURBB Kurchatov Arra 115.73 318 PKP **PKPdf** 22 57 19.4 -1.2
comp=Z,0.7nm,0.3s,baz=91,slow=2.0,SNR=9.4
KSH Kashi 117.69 306 PKP **PKPdf** 22 57 26.8 +1.8
KSH sPKP 22 57 43.0
KSH PP **PP** 22 58 42.4 +3.9
KSH PKS **PKSdf** 23 01 00.6 -1.1
KSH SKS **SKSdf** 23 04 35.0 +1.5
KSH SKKS **SKKSac** 23 05 34.5 -0.8
KSH SS **SS** 23 14 54.3 +6.3
KSH PPMZ
comp=Z,200nm,5.5s
KSH LR LR
comp=Z,94nm,6.5s
KSH LR LR
comp=Z,100nm,5.3s
KSH LR LR
comp=Z,120nm,6.4s
AAK Ala-Archa 118.80 309 ⇑*i*PKiKP **PKPdf** 22 57 27.3 +0.2
VOSK Vostochnaya 120.17 321 *e*PKiKP **PKPdf** 22 57 27.9 -1.2
VOSK Vostochnaya 120.17 321 *e*PKPdf **PKPdf** 22 57 27.9 -1.2
BVAR Borovoye Array 120.47 321 PKP **PKPdf** 22 57 29.8 +0.1
comp=Z,3.6nm,0.8s,baz=90,slow=1.5,SNR=21
BRVK Borovoye 120.53 321 *e*PKiKP **PKPdf** 22 57 27.9 -1.9
BRVK Borovoye 120.53 321 *e*PKPdf **PKPdf** 22 57 27.9 -1.9
KKAR Karatay Array 121.70 310 *e*PKiKP **PKPdf** 22 57 31.3 -1.1
KKAR Karatay Array 121.70 310 *e*PKPdf **PKPdf** 22 57 31.2 -1.1
KBL Kabul 123.20 300 *e*PKiKP **PKPdf** 22 57 34.5 -1.3
KBL Kabul 123.20 300 *e*PKPdf **PKPdf** 22 57 34.5 -1.3
ARU Arti 126.02 328 *i* PKiKP **PKPdf** 22 57 41.8 +1.6
ARU 22 59 33.8
ARU 23 04 42.7
ARU SS SS 23 16 22.5 -10
ARA0 ARCESS Array S 127.36 352 *e*PKPdf **PKPdf** 22 57 42.2 -0.2
ARCES ARCESS Array B 127.36 352 PKP **PKPdf** 22 57 42.2 -0.3
comp=Z,3.8nm,0.8s,baz=344,slow=1.3,SNR=12
ABKAR Akbulak array 127.76 319 *e*PKPdf **PKPdf** 22 57 43.2 -0.6
BOSA Boshof 130.49 201 *e*PKPdf **PKPdf** 22 57 51.0 +1.1
BOSA Boshof 130.49 201 PKP **PKPdf** 22 57 51.0 +1.1
comp=Z,3.2nm,0.9s,baz=173,slow=7.0,SNR=3.6
FIA0 FINESS Array S 134.72 348 *e*PKiKP **PKPdf** 22 57 57.4 +0.8
FIA0 FINESS Array S 134.72 348 *e*PKPdf **PKPdf** 22 57 57.4 +0.8
FINES FINESS Array B 134.72 348 PKP **PKPdf** 22 57 57.4 +0.8
comp=Z,3.5nm,1.0s,baz=44,slow=4.2,SNR=3.3
ZEI Tsey 140.53 317 *e*PKiKP **PKPdf** 22 58 08.9 +0.7
ZEI pmax pmax
comp=Z,7.0nm,1.0s
KBZ Khabaz 140.73 318 *e*PKiKP **PKPdf** 22 58 07.3 -0.9
KBZ Khabaz 140.73 318 *e*PKPdf **PKPdf** 22 58 07.3 -0.9
KBZ Khabaz 140.73 318 PKP **PKPdf** 22 58 07.3 -0.9
comp=Z,3.7nm,1.0s,baz=145,slow=7.2,SNR=3.6
AKASG Malin Array Be 143.10 337 PKhKP PKPpre 22 58 07.6
comp=Z,0.7nm,0.4s,baz=20,slow=3.6,SNR=7.0
AKBB Malin Array Si 143.10 337 *e*PKHKP PKPpre 22 58 07.6
AKBB Malin Array Si 143.10 337 *e*PKPpre PKPpre 22 58 07.6
ANN Anapa 143.43 323 *i* PKiKP PKPbc 22 58 10.2 0.0
ANN pmax pmax
comp=Z,60nm,1.2s
RAYN Ar Rayn 144.08 285 *e*PKPdf **PKPdf** 22 58 14.1 -0.8
DAMY Dhamar 144.40 270 *e*PKPdf **PKPab** 22 58 12.0 -2.2
BEL Belsk 144.70 346 *e*PKP PKPbc 22 58 14.0 +0.1
KMBO Kilima Mbogo 145.00 240 *e*PKPdf **PKPdf** 22 58 17.1 +0.1
KMBO Kilima Mbogo 145.00 240 PKP **PKPdf** 22 58 17.6 +0.6
comp=Z,16nm,1.0s,baz=71,slow=3.1,SNR=40
NRDL Niedersach Rie 145.59 357 *e*PKPbc **PKPdf** 22 58 16.2 -0.2
NRDL *ep*PKPbc pPKPbc 22 58 27.1 -3.7
LVV L'vov 145.64 341 *e*PKiKP **PKPdf** 22 58 15.6 -1.1
IBBN Ibbenburen 145.84 360 *e*PKPbc **PKPbc** 22 58 17.6 +0.1
IBBN *ep*PKPbc pPKPbc 22 58 28.2 -3.4
KWP Kalwaria Pacla 146.20 342 ⇓*i*P **PKPab** 22 58 19.5 0.0
KWP Kalwaria Pacla 146.20 342 *e*PKP **PKPbc** 22 58 18.8 +0.1
KIS Kishinev 146.22 333 *e*PKP PKPpre 22 58 14.0
KIS LRM MLR 00 10 30.0
comp=Z,300nm,18.0s
KIS Kishinev 146.22 333 *e*PKHKP PKPpre 22 58 14.0
KIS *e* 22 58 17.0
CLZ Clausthal 146.23 357 *e*PKiKP **PKPab** 22 58 19.2 -0.3
CLZ *e* 22 58 29.7
CLZ Clausthal 146.23 357 *e*PKPbc **PKPab** 22 58 19.2 -0.3
CLZ *ep*PKPbc pPKPbc 22 58 29.7 -3.2
MALT Malatya 146.29 313 ⇓*i*P **PKPab** 22 58 20.9 +0.6
OJC Ojcow 146.44 346 *e*PKiKP **PKPbc** 22 58 19.1 -0.3
OJC Ojcow 146.44 346 *e*PKPdf **PKPbc** 22 58 19.1 -0.3
OJC Ojcow 146.44 346 *e*PKP **PKPab** 22 58 20.0 -0.3
DYA Yadsworthy 146.46 13 *e*PKPdf **PKPbc** 22 58 19.8 +0.4
CLL Collm 146.55 354 ⇓*i*PKP2 **PKPbc** 22 58 19.7 +0.1
CLL pmax pmax
comp=Z,87nm,1.1s
CLL MLR MLR
comp=Z,200nm,18.9s
CLL Collm 146.55 354 *e*PKPbc **PKPbc** 22 58 19.8 +0.1
CLL *ep*PKPbc pPKPbc 22 58 30.2 -3.6
CLL Collm 146.55 354 ⇓*i*PKPbc **PKPbc** 22 58 19.7 +0.1
comp=Z,87nm,1.1s
CLL *i* 22 58 29.6
CLL *e* 23 02 06.0
CLL *e*PSKS 23 12 06.0
CLL *e* 23 25 12.0
CLL *e*SSS SSS 23 26 06.0
CLL Lm MLR 00 07 00.0
comp=N,100nm,19.2s
CLL Lm MLR 00 07 00.0
comp=E,100nm,20.5s
CLL Lm MLR 00 07 00.0

	comp=Z,200nm,18.9s						
KSP	Ksiaz	146.55	350	ePKP2	PKPbc	22 58 19.4	-0.3
KSP	Ksiaz	146.55	350	ePKP	PKPab	22 58 20.5	-0.2
BUG	Bochum--Univer	146.71	0	ePKPbc	PKPbc	22 58 20.2	+0.1
STHS	Stebnicka Huta	146.81	343	ePKP2	PKPbc	22 58 21.1	+0.6
STHS	Stebnicka Huta	146.81	343	ePKP	PKPbc	22 58 21.1	+0.6
BRG	Berggiesshubel	146.87	352	i PKP	PKPbc	22 58 20.9	+0.3
	comp=Z,52nm,1.4s						
BRG				i		22 58 31.3	
	comp=Z,60nm,1.3s						
BRG	Berggiesshubel	146.87	352	i PKP2	PKPbc	22 58 20.9	+0.3
BRG				pmax	pmax		
	comp=Z,52nm,1.4s						
BRG	Berggiesshubel	146.87	352	ePKPbc	PKPbc	22 58 20.8	+0.2
BRG				epPKPbc	pPKPbc	22 58 31.5	-3.3
UPC	Upice	146.93	350	ePKP2	PKPbc	22 58 21.5	+0.7
UPC	Upice	146.93	350	ePKP	PKPbc	22 58 21.5	+0.7
UPC				ex	x	22 58 32.4	
KOLS	Kolonicke sedl	146.95	342	ePKP2	PKPbc	22 58 20.2	-0.7
KOLS	Kolonicke sedl	146.95	342	ePKP	PKPbc	22 58 20.2	-0.7
DPC	Dobruska-Polom	147.02	350	ePKIKP	PKPdf	22 58 19.4	+0.3
DPC	Dobruska-Polom	147.02	350	ePKP	PKPdf	22 58 20.1	+1.0
DPC				ex	x	22 58 32.4	
DPC	Dobruska-Polom	147.02	350	ePKPdf	PKPdf	22 58 19.0	+0.3
NIE	Niedzica	147.05	344	ePKP2	PKPbc	22 58 20.8	-0.4
NIE	Niedzica	147.05	344	ePKP	PKPbc	22 58 20.8	-0.4
PVCC	Panska Ves	147.12	352	ePKP2	PKPab	22 58 22.2	-0.8
PVCC	Panska Ves	147.12	352	ePKP	PKPab	22 58 22.2	-0.8
PVCC				ex	x	22 58 32.0	
BUR04	Bucovina Ar. S	147.13	338	ePKPdf	PKPdf	22 58 18.3	-1.1
BURAR	Bucovina Array	147.14	338	i/P	PKPab	22 58 23.5	+0.2
OKC	Ostrava-Krasne	147.16	347	ePKP2	PKPbc	22 58 22.0	+0.5
OKC	Ostrava-Krasne	147.16	347	ePKP	PKPbc	22 58 22.0	+0.5
UZH	Uzhgorod	147.22	342	ePKP2	PKPdf	22 58 20.4	+1.0
UBBA	Unterbreizbach	147.27	357	ePKPbc	PKPbc	22 58 21.6	0.0
BEBN	Eben Emael	147.32	2	PKP	PKPab	22 58 23.5	-0.2
MOX	Moxa	147.34	355	ePKP2	PKPbc	22 58 21.9	0.0
MOX	Moxa	147.34	355	ePKPbc	PKPbc	22 58 21.9	0.0
MORC	Moravsky Berou	147.35	348	ePKIKP	PKPdf	22 58 19.4	-0.2
MORC	Moravsky Berou	147.35	348	i/P	PKPbc	22 58 22.6	+0.5
MORC	Moravsky Berou	147.35	348	ePKPdf	PKPdf	22 58 19.4	-0.2
TANN	Tannenbergstha	147.49	354	ePKPbc	PKPbc	22 58 22.6	+0.2
TESR	Tescani	147.50	335	i/P	PKPbc	22 58 22.7	+0.2
MEM	Membach	147.52	2	PKP	PKPbc	22 58 22.9	+0.4
MEM				APKP	pPKPdf	22 58 33.7	-0.4
SNF	Seneffe	147.54	4	PKP	PKPab	22 58 24.7	+0.1
GHRR		147.55	334	i/P	PKPab	22 58 24.4	-0.4
TRPA	Tarpa	147.59	341	i/P	PKPbc	22 58 23.1	+0.4
TRPA	Tarpa	147.59	341	e	PKPbc	22 58 23.1	+0.4
PRA	Prague	147.59	352	PKP	PKPbc	22 58 22.0	-0.6
PRU	Pruhonice	147.66	351	ePKP2	PKPbc	22 58 21.8	-1.0
PRU	Pruhonice	147.66	351	ePKP	PKPbc	22 58 21.8	-1.0
PRU				ex	x	22 58 33.6	
KECS	Kecovo	147.87	344	ePKP2	PKPbc	22 58 24.1	+0.6
KECS	Kecovo	147.87	344	ePKP	PKPbc	22 58 24.0	+0.6
TNS	Taunus Mts	147.92	359	ePKP2	PKPbc	22 58 23.9	+0.3
TNS	Taunus Mts	147.92	359	ePKPbc	PKPbc	22 58 23.9	+0.3
DOU	Dourbes	147.97	3	PKP	PKPbc	22 58 23.5	-0.1
DOU				APKP	pPKPdf	22 58 34.1	-0.8
VRAC	Vranov	147.98	349	i/P	PKPbc	22 58 24.7	+1.0
VRI	Vrincioaia	147.99	334	i/P	PKPbc	22 58 24.3	+0.4
PLOR	Plostina	148.04	334	i/P	PKPbc	22 58 24.8	+0.7
ROTZ	Rotzenmuhle	148.15	354	ePKPbc	PKPbc	22 58 24.5	+0.3
TREC	Trest	148.19	350	ePKP2	PKPbc	22 58 23.6	-0.7
TREC	Trest	148.19	350	ePKP	PKPbc	22 58 23.6	-0.7
TREC				ex	x	22 58 32.3	
GRF	Grafenberg Arr	148.31	355	ePKP2	PKPbc	22 58 25.3	+0.7
GRF	Grafenberg Arr	148.31	355	ePKPbc	PKPbc	22 58 25.3	+0.7
GRFO	Grafenberg	148.31	355	ePKIKP	PKPdf	22 58 21.7	+0.5
GRFO	Grafenberg	148.31	355	ePKPdf	PKPdf	22 58 21.7	+0.5
FURI	Furi	148.33	257	P	PKPbc	22 58 25.9	-0.2
FURI				S	pPKPbc	22 58 37.6	-2.7
TLB	Topalu	148.43	331	i/P	PKPbc	22 58 24.5	-0.5
WLF	Walferdange	148.47	2	PKP	PKPbc	22 58 26.1	+1.1
WLF	Walferdange	148.47	2	ePKIKP	PKPdf	22 58 22.0	+0.6
WLF	Walferdange	148.47	2	ePKPbc	PKPbc	22 58 26.1	+1.1
WLF	Walferdange	148.47	2	ePKPdf	PKPdf	22 58 22.0	+0.6
PSZ	Piszkesteto	148.54	344	ePKIKP	PKPdf	22 58 21.4	-0.3
PSZ	Piszkesteto	148.54	344	i/P	PKPbc	22 58 25.0	-0.3
PSZ	Piszkesteto	148.54	344	ePKPdf	PKPdf	22 58 21.4	-0.3
PSZ	Piszkesteto	148.54	344	e	PKPbc	22 58 26.6	+1.3
SMOL	Smolenice	148.57	347	ePKP2	PKPbc	22 58 26.5	+1.2
SMOL	Smolenice	148.57	347	ePKP	PKPbc	22 58 26.5	+1.2
MLR	Muntele Rosu	148.62	335	i/P	PKPbc	22 58 26.1	+0.4
KHC	Kasperske Hory	148.63	352	ePKIKP	PKPdf	22 58 22.1	+0.3
KHC	Kasperske Hory	148.63	352	ePKP	PKPbc	22 58 26.1	+0.6
KHC				ex	x	22 58 36.4	
KHC	Kasperske Hory	148.63	352	ePKPdf	PKPdf	22 58 22.1	+0.3
WET	Wettzell	148.70	353	ePKP2	PKPbc	22 58 25.9	+0.3
WET	Wettzell	148.70	353	ePKPbc	PKPbc	22 58 25.9	+0.3
BR101	Keskin Array S	148.71	319	ePKPbc	PKPbc	22 58 26.4	+0.3
BRTR	Keskin Array B	148.71	319	PKPbc	PKPbc	22 58 26.4	+0.3
	comp=Z,8.2nm,0.8s,baz=56,slow=3.1,SNR=17						
DRGR		148.72	340	i/P	PKPbc	22 58 26.3	+0.5
GEC2	GERESS Array S	148.89	352	ePKIKP	PKPdf	22 58 21.8	-0.5
GEC2	GERESS Array S	148.89	352	ePKPbc	PKPbc	22 58 26.5	+0.3
GEC2	GERESS Array S	148.89	352	ePKPdf	PKPdf	22 58 21.8	-0.5
GERES	GERESS Array B	148.89	352	PKPbc	PKPbc	22 58 26.5	+0.3
	comp=Z,7.0nm,0.9s,baz=29,slow=3.0,SNR=43						
ZST	Bratislava	148.94	347	ePKP2	PKPab	22 58 33.7	+3.4
ZST	Bratislava	148.94	347	ePKP	PKPab	22 58 33.7	+3.4
VOIR		149.02	336	i/P	PKPbc	22 58 27.1	+0.4
ANTO	Ankara	149.15	320	i/P	PKPdf	22 58 23.7	+0.8
ANTO	Ankara	149.15	320	ePKPdf	PKPdf	22 58 22.5	-0.4
BUD	Budapest	149.17	345	e	PKPbc	22 58 28.2	+1.4
LANF	Langenberg	149.17	360	PKP	PKPbc	22 58 28.0	+1.2
BR231	Keskin MP Arra	149.18	320	ePKPdf	PKPdf	22 58 22.6	-0.5
ARR	Arges	149.24	336	i/P	PKPbc	22 58 25.8	-1.4
PKSG		149.41	345	e	PKPbc	22 58 29.6	+2.2
CONA	Conrad Observa	149.44	349	i/pPKPbc	PKPbc	22 58 28.6	+0.9
	comp=Z,24nm,1.2s,SNR=7.4						
PKSN	Nyarlorinc	149.49	343	e	PKPbc	22 58 29.9	+2.3
PKS7	Kunszentmiklos	149.54	344	ef	PKPbc	22 58 28.6	+0.9
SOP	Sopron	149.54	348	e	PKPbc	22 58 27.6	-0.1
PKST	T"s	149.62	346	e	PKPbc	22 58 28.8	+0.8
BFO	Black Forest	149.81	359	ePKIKP	PKPbc	22 58 26.8	-1.7
BFO	Black Forest	149.81	359	ePKPbc	PKPbc	22 58 28.8	+0.3
BFO	Black Forest	149.81	359	ePKPdf	PKPbc	22 58 26.8	-1.7
FUR	Furstenfeldbru	149.83	355	ePKP2	PKPbc	22 58 29.1	+0.6
FUR	Furstenfeldbru	149.83	355	ePKPbc	PKPbc	22 58 29.1	+0.6
THEF	They Montfort	149.90	2	PKP	PKPbc	22 58 29.5	+0.8
GZR	Gura Zlata	149.91	338	i/P	PKPbc	22 58 29.4	+0.6
ECH	Echery	149.94	0	PKP	PKPbc	22 58 29.1	+0.3
RJOB	Jochberg	150.09	353	ePKPbc	PKPbc	22 58 29.3	+0.1
BZS	Buzias	150.11	340	i/P	PKPbc	22 58 27.6	-1.6
PKS9	Tamasi	150.19	345	e	PKPbc	22 58 29.9	+0.5
FELD	Feldberg im Sc	150.27	359	PKP	PKPbc	22 58 30.6	+0.9
MOTA	Moosalm	150.66	355	i/PKiKP	PKPbc	22 58 30.9	+0.2
	comp=Z,21nm,0.9s,SNR=11						
DAVA	Damuels	150.80	357	i pPKPbc	PKPbc	22 58 31.8	+0.8
	comp=Z,26nm,1.0s,SNR=7.7						
LOMF	Lomont	150.80	1	PKP	PKPbc	22 58 31.7	+0.8
FETA	Feichten	151.01	355	i/PKiKP	PKiKP	22 58 32.1	0.0
	comp=Z,25nm,1.1s,SNR=7.5						
ABTA	Abfaltersbach	151.10	353	i/PKiKP	PKPbc	22 58 31.3	-0.3
	comp=Z,27nm,0.9s,SNR=10.0						
CSS	Prodhromos	151.50	311	ePKPdf	PKPdf	22 58 25.4	-1.3
TUE	Stuetta	151.64	357	ePKPdf	PKPdf	22 58 26.5	-0.3
VISS	Visnje	151.68	349	i PKPdf	PKPbc	22 58 33.5	+0.6
JAVS	Javornik	151.72	350	i PKPdf	PKPbc	22 58 33.4	+0.2
SENIN	Lac Senin/Sane	151.79	0	ePKPbc	PKPbc	22 58 33.6	+0.1
AGO	Saint Agoulin	151.87	6	PKP	PKPbc	22 58 33.7	+0.3
BOJS	Bojanci	151.89	348	i PKPdf	PKPbc	22 58 34.3	+1.0
PLDF	La Plantade	152.00	6	PKP	PKPbc	22 58 34.2	+0.5
VTS	Vitosha	152.13	335	i/P	PKPbc	22 58 33.7	-0.5
PYM	Petit Puy Mans	152.16	7	PKP	PKPbc	22 58 34.5	+0.4
PCAB	Cabril	152.98	26	ePKPbc	PKPbc	22 58 36.0	0.0
PCAB	Cabril	152.98	26	ePKPab	PKPab	22 58 46.1	-1.2
BNI	Bardonecchia	153.10	1	ePKIKP	PKPdf	22 58 28.5	-0.4
BNI	Bardonecchia	153.10	1	ePKPdf	PKPdf	22 58 28.5	-0.4
POLO	Lamas de Olo	153.36	26	ePKPbc	PKPbc	22 58 38.0	+1.1
POLO	Lamas de Olo	153.36	26	ePKPab	PKPab	22 58 49.0	0.0
PBRG	Braganca	153.42	24	ePKPab	PKPab	22 58 48.5	-0.7
PVRL	Vila Real	153.47	26	ePKPab	PKPab	22 58 47.9	-1.5
MVO	Moncorvo	153.85	25	ePKPbc	PKPbc	22 58 37.8	-0.2
MVO	Moncorvo	153.85	25	ePKPab	PKPab	22 58 51.5	+0.5
PVIS	Viseu	153.86	27	ePKPab	PKPab	22 58 49.9	-1.2
PCAS	Casmilo, Conde	154.13	29	ePKPab	PKPab	22 58 52.2	0.0
MTE	Manteigas	154.27	27	ePKPdf	PKPdf	22 58 32.2	+1.6
MTE	Manteigas	154.27	27	ePKPbc	PKPbc	22 58 38.5	-0.4
MTE	Manteigas	154.27	27	ePKPab	PKPab	22 58 52.6	-0.2
MTE	Manteigas	154.27	27	ePKPdf	PKPdf	22 58 31.1	+0.4
PTOM	Tomar	154.51	29	ePKPab	PKPab	22 58 53.1	-0.7
PCBR	Castelo Branco	154.76	28	ePKPab	PKPab	22 58 53.9	-0.9
PMTG	Montargil	155.04	30	ePKPbc	PKPbc	22 58 41.1	
PMTG	Montargil	155.04	30	ePKPab	PKPab	22 58 55.9	-0.2
PMRV	Marv??o	155.13	28	ePKPdf	PKPdf	22 58 30.8	-1.0
PMRV	Marv??o	155.13	28	ePKPab	PKPab	22 58 56.6	+0.1
PESTR	Estremoz	155.50	29	ePKPdf	PKPdf	22 58 31.1	-1.2
PESTR	Estremoz	155.50	29	ePKPab	PKPab	22 58 57.2	-0.9
PNCL	Nicolau / Gran	155.64	32	ePKPab	PKPab	22 58 58.3	-0.4
PTEO	Sao Teotonio	155.97	33	ePKPdf	PKPdf	22 58 30.1	-2.8
PCVE	Castro Verde	156.25	32	ePKPab	PKPab	22 59 01.4	+0.1
PBAR	Barrancos	156.31	29	ePKPab	PKPab	22 59 00.8	-0.7
ES19	SONSECA Array	156.32	22	ePKPab	PKPab	22 58 59.9	-1.7
ESDC	Sonseca Array	156.32	22	ePKPab	PKPab	22 59 01.5	-0.1
ESDC	Sonseca Array	156.32	22	PKPab	PKPab	22 59 01.5	-0.1
	comp=Z,2.6nm,0.9s,baz=319,slow=3.7,SNR=10.0						
PVAQ	Vaqueiros	156.59	32	ePKPab	PKPab	22 59 02.6	-0.2
TOA0	Torodi Ar. Sit	172.61	131	ePKPdf	PKPdf	22 58 46.5	-1.9
TOA0				ePKPab	PKPab	23 00 13.1	-0.6
TORD	Torodi Ar. Bea	172.61	131	PKP	PKPdf	22 58 46.9	-1.5
	comp=Z,1.6nm,0.9s,baz=290,slow=2.1,SNR=7.8						
TORD				PKPab	PKPab	23 00 14.7	+1.0
	comp=Z,7.5nm,1.0s,baz=257,slow=4.5,SNR=13						

IDC 02 22:40:17.7±8.0, 7°33S×130°16E, h52km±91km, mb3.3/1, mb1 3.5/4, mb1mx3.3/20, mbtmpg3.4/4, ML3.5/3, Error ellipse: s-maj=74.8km s-min=29.4km az=14.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	Baumata	7.03	246	P		Pn		22 41 59.0	+0.8
	2.3nm,0.3s,baz=70,slow=12,SNR=2.9								
BATI				S		Sn		22 43 17.2	+0.3
	2.9nm,0.3s,baz=43,slow=13,SNR=4.0								
WRA	Warramunga Arr	13.18	163	P		Pn		22 43 20.8	-1.4
	0.2nm,0.3s,baz=342,slow=14,SNR=4.7								
WRA				S		Sn		22 45 38.1	-9.2
	0.6nm,0.3s,baz=336,slow=22,SNR=7.5								
ASAR	Alice Springs	16.64	168	P		P		22 44 08.5	-0.7
	0.1nm,0.3s,baz=350,slow=10,SNR=7.9								
ASAR				S		Sn		22 47 03.0	-8.5
	0.2nm,0.3s,baz=359,slow=29,SNR=5.1								
MKAR	Makanchi Array	68.59	327	P		P		22 51 15.1	-0.1
	0.3nm,0.5s,baz=113,slow=7.9,SNR=4.4								

*NEIC **02** 22:48:23.7±2.6, 33°.10S×178°.89W, h30km±6km, mb4.8/7, Error ellipse: s-maj=75.6km s-min=23.2km az=135.0*
*IDC **02** 22:48:25.2±0.6, 33°.16S×178°.99W, h0km, mb4.5/12, mb1 4.6/13, mb1mx4.4/21, mbtmp4.5/13, ML5.0/2, MS4.2/9, Ms1 4.2/9, ms1mx4.0/23, Error ellipse: s-maj=18.5km s-min=16.2km az=123.0*
*AUST **02** 22:48:27.6, 33°.54S×178°.61W, h30km*
*BJI **02** 22:48:27.1, 33°.30S×179°.00W, h19km, mB5.4/2, mb5.0/2, Ms5.1/1, Ms7 4.7/1*
*ISCJB **02** 22:48:28.6±0.5, 33°.58S±0°.05×179°.04W±0°.08, h33km, mb4.6/18, MS4.3/7, Error ellipse: s-maj=10.4km s-min=5.9km az=21.7*

ISC 02 22:48:31.2±0.5, 33°.24S±0°.06×178°.96W±0°.07, h45km, n95, σ1°52/78, mb4.6/17, MS4.3/7, 2C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	4.08	13	ePn		Pn		22 49 29.2	-1.8
RAO				eSn		Sn		22 50 17.4	0.0
RAO	Raoul Island	4.08	13	Pn		Pn		22 49 28.7	-2.3
	208nm,0.3s,baz=83,slow=22,SNR=20								
RAO				Sn		Sn		22 50 17.4	0.0
	610nm,0.3s,baz=81,slow=23,SNR=6.6								
URZ	Urewera	5.94	211	ePn		Pn		22 49 54.8	-1.8
URZ				eSn		Sn		22 51 04.0	+0.8
URZ	Urewera	5.94	211	Pn		Pn		22 49 55.6	-0.9
	19nm,0.3s,baz=314,slow=2.1,SNR=38								
URZ				Sn		Sn		22 51 04.1	+0.8
	21nm,0.3s,baz=160,slow=16,SNR=5.3								
URZ				LR		LR		22 51 51.8	
	comp=Z,683nm,19.3s,baz=272,slow=34								
OUZ	Omahuta	6.47	250	ePn		Pn		22 50 06.1	+2.2
OUZ				eSn		Sn		22 51 14.4	-2.1
BKZ	Black Stump Fm	6.96	211	ePn		Pn		22 50 07.1	-3.5
BFZ	Birch Farm	8.36	206	ePn		Pn		22 50 27.4	-2.3
BFZ				eSn		Sn		22 51 55.9	-6.8
SNZO	South Karori	9.50	210	ePn		Pn		22 50 40.5	-4.8
SNZO				eSn		Sn		22 52 22.7	-8.0
KHZ	Kahutara	10.91	211	ePn		Pn		22 50 59.2	-5.4
KHZ				eSn		Sn		22 52 55.2	-10
RPZ	Rata Peaks	13.05	214	ePn		Pn		22 51 29.2	-4.7
RPZ				eSn		Sn		22 53 42.7	-15
RPZ	Rata Peaks	13.05	214	Pn		Pn		22 51 26.2	-7.7
	2.1nm,0.3s,baz=147,slow=14,SNR=6.3								
RPZ				Sn		Sn		22 53 42.7	-15
	2.5nm,0.3s,baz=228,slow=22,SNR=6.3								
RPZ				LR		LR		22 56 30.9	
	comp=Z,944nm,19.7s,baz=35,slow=37								
MSVF	Nonsavu	15.67	349	ePn		P		22 52 11.4	-1.1
	25nm,0.7s								
DZM	Mont Dzumac	17.04	307	eP		P		22 52 29.3	+1.7
	105nm,1.4s								
DZM				eLR		LR		22 56 31.2	
	2µm,24.5s								
DZM	Mont Dzumac	17.04	307	Pn		P		22 52 28.3	+0.7
	baz=121,slow=13,SNR=8.0								
DZM				LR		LR		22 57 45.7	
	comp=Z,1µm,19.0s,baz=208,slow=33								
PPT2	Papeete2	30.64	67	eLQ		LQ		23 00 57.5	
	473nm,27.0s								
PPT2				eLR		LR		23 02 35.3	
	539nm,27.2s								
PPT	Papeete	30.65	67	eScS		ScS		23 05 04.3	-10
PPT	Papeete	30.65	67	LR		LR		23 05 04.3	
	comp=Z,304nm,18.1s,baz=5.4,slow=33								
STKA	Stephens Creek	33.14	261	eP		P		22 55 04.3	+1.1
STKA	Stephens Creek	33.14	261	P		P		22 55 04.3	+1.1
	0.6nm,0.4s,baz=135,slow=4.3,SNR=2.3								
CTA	Charters Tower	33.57	284	eP		P		22 55 08.5	+1.4
CTA	Charters Tower	33.57	284	P		P		22 55 08.5	+1.4
	4.9nm,0.5s,baz=115,slow=11,SNR=12								
PMG	Port Moresby	39.18	299	P		P		22 55 56.1	+1.1
	9.0nm,0.6s,baz=103,slow=6.3,SNR=5.6								
PMG				LR		LR		23 07 55.7	
	comp=Z,463nm,18.8s,baz=332,slow=30								
COEN	Coen	39.37	290	eP		P		22 55 56.0	-0.5
	74nm,1.2s								
COEN	Coen	39.37	290	P		P		22 55 57.7	+1.2
	baz=40,SNR=10								
RKT	Rikitea	39.81	87	eLR		LR		23 06 46.0	
	557nm,25.8s								
AS01	Alice Springs	42.19	271	eP		P		22 56 19.7	-0.1
AS12	Alice Springs	42.23	270	eP		P		22 56 20.1	+0.1
AS12				eS		S		23 02 33.1	-4.4
ASAR	Alice Springs	42.23	270	P		P		22 56 20.1	+0.1
	6.1nm,0.7s,baz=108,slow=7.6,SNR=51								
ASAR				S		S		23 02 33.1	-4.4
	0.7nm,0.8s,baz=117,slow=15,SNR=4.7								
WRAB	Tennant Creek	43.47	276	eP		P		22 56 29.7	-0.4
	6.6nm,0.6s								
WRA	Warramunga Arr	43.47	276	eP		P		22 56 29.8	-0.4
WRA	Warramunga Arr	43.47	276	P		P		22 56 29.8	-0.4
	6.2nm,0.5s,baz=118,slow=7.6,SNR=20								
MANU	Manus Island	44.25	307	P		P		22 56 39.0	+2.6
	baz=45,SNR=8.9								
VNDA	Vanda	45.20	186	LR		LR		23 12 00.0	
	comp=Z,318nm,19.9s,baz=15,slow=31								
KNRA	Kununurra	50.17	277	P		P		22 57 22.3	-0.2
	baz=50,SNR=5.2								
FITZ	Fitzroy Crossi	51.60	273	eP		P		22 57 32.8	-0.5
FITZ	Fitzroy Crossi	51.60	273	P		P		22 57 32.8	-0.5
	4.8nm,1.0s,baz=190,slow=9.1,SNR=8.6								
CASY	Casey	52.26	209	eP		P		22 57 37.0	-0.5
	13nm,1.1s								
MEEK	Meekatharra	53.80	259	P		P		22 57 50.2	+0.7
	baz=54,SNR=4.0								
MORW	Morawa	54.98	256	P		P		22 57 56.0	-2.1
	baz=55,SNR=3.6								
QSPA	South Pole Qui	56.88	180	eP		P		22 58 12.1	+0.9
	11nm,0.9s								
QSPA	South Pole Qui	56.88	180	P		P		22 58 13.4	+2.2
	8.9nm,0.7s,baz=16,slow=1.6,SNR=63								
MAW	Mawson	69.37	201	P		P		22 59 34.4	+0.6
	1.0nm,0.5s,baz=105,slow=13,SNR=5.1								
SYO	Syowa Base	74.17	193	ePKP		P		23 00 01.6	-0.9
SYO	Syowa Base	74.17	193	epP		P		23 00 07.5	+5.0
H03N3	Juan Fernandez	79.79	123	T		T		00 29 11.1	
	baz=240,slow=0.7								
H03N2	Juan Fernandez	79.79	123	T		T		00 29 19.2	
	baz=240								
H03N1	Juan Fernandez	79.81	123	T		T		00 29 28.9	
	baz=240,slow=0.7								
MJAR	Matsushiro Arr	80.12	326	LR		LR		23 30 16.9	
	comp=Z,142nm,20.0s,baz=130,slow=31								
PLCA	Paso Flores	81.17	133	P		P		23 00 44.7	+2.5
	4.8nm,1.0s,baz=199,slow=4.8,SNR=3.8								
PETK	Petropavlovsk-	88.36	346	P		P		23 01 18.2	+0.5
	2.4nm,0.6s,baz=148,slow=8.4,SNR=4.9								
CRY	Cary Ranch	88.52	48	eP		P		23 01 12.3	-6.7
ISA	Isabella	88.88	45	eP		P		23 01 18.9	-1.8
	24nm,1.8s								
MDJ	Mudanjiang	90.51	326	P		P		23 01 31.4	+3.5
MDJ				AMB		AMB			
	comp=Z,5.0nm,0.6s								
MDJ				AMB		AMB			
	comp=Z,81nm,4.0s								
NV01	Mina Array Sit	90.87	43	eP		P		23 01 30.6	+0.5
NVAR	Mina Array Bea	90.87	43	P		P		23 01 31.8	+1.7
	2.6nm,0.9s,baz=218,slow=8.1,SNR=12								
GYA	Guiyang	92.26	300	eP		P		23 01 38.0	+1.3
GYA				AMB		AMB			
	comp=Z,10.0nm,1.0s								
TXAR	Lajitas Array	94.60	58	LR		LR		23 39 44.0	
	comp=Z,65nm,18.2s,baz=180,slow=33								
ELU	Electric Lake	95.84	46	eP		P		23 01 48.2	-4.9
EPU	East Promontor	96.23	44	eP		P		23 01 43.5	-11
ROA	Roan Cliffs	96.36	46	epP		P		23 01 55.9	+0.4
HHC	Hu-ho-hao-te	97.62	314	eP		P		23 02 00.4	-0.4
HHC				PP		PP		23 06 05.1	+5.7
HHC				SKS		SKSac		23 12 34.5	0.0
HHC				S		ScS		23 13 22.7	0.0
HHC				SS		SS		23 20 05.7	+1.8
HHC				LR		LR			
	comp=N,220nm,15.9s								
HHC				LR		LR			
	comp=E,220nm,18.5s								
HHC				LR		LR			
	comp=Z,210nm,16.1s								
PDAR	Pinedale Array	98.74	44	P		Pdif		23 02 08.0	+2.0
	0.4nm,0.8s,baz=207,slow=3.8,SNR=3.3								
PDAR				LR		LR		23 42 59.3	
	comp=Z,101nm,18.6s,baz=249,slow=33								
CRMT	Chrome Mountai	100.05	42	ePdif		Pdif		23 02 06.0	-5.9
ILAR	Eielson Array	100.87	13	P		Pdif		23 02 16.2	+1.6
	0.4nm,0.8s,baz=209,slow=7.2,SNR=4.0								

Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.09**	**37**	P	Pn	23 21 03.5	0.0
	6.1nm,0.3s,baz=207,slow=16,SNR=5.5						
AFI				S	Sn	23 21 46.3	-4.2
	36nm,0.3s,baz=233,slow=23,SNR=11						
URZ	**Urewera**	**22.27**	**198**	P	P	23 24 51.4	-0.1
	3.1nm,0.4s,baz=338,slow=19,SNR=3.4						
STKA	**Stephens Creek**	**42.41**	**241**	P	P	23 27 47.6	+0.3
	0.5nm,0.4s,baz=76,slow=12,SNR=3.0						
WRA	**Warramunga Arr**	**48.62**	**258**	P	P	23 28 36.0	-0.5
	0.7nm,0.5s,baz=96,slow=6.8,SNR=6.4						
ASAR	**Alice Springs**	**48.76**	**253**	P	P	23 28 37.4	-0.1
	3.8nm,0.5s,baz=88,slow=8.7,SNR=46						
PDAR	**Pinedale Array**	**84.18**	**42**	P	P	23 32 22.8	-0.2
	0.4nm,0.6s,baz=190,slow=4.6,SNR=5.0						
ILAR	**Eielson Array**	**84.39**	**11**	P	P	23 32 23.3	+0.1
	0.1nm,0.4s,baz=232,slow=5.6,SNR=3.4						

*IDC **02** 23:29:19.0±0.7, 3°.39S×131°.03E, h0km, mb4.2/15, mb1 4.3/16, mb1mx4.2/22, mbtmp4.2/16, MS3.6/4, Ms1 3.6/4, ms1mx3.2/31, Error ellipse: s-maj=27.8km s-min=13.9km az=70.0*

*ISCJB **02** 23:29:21.5±0.3, 3°.53S±0°.03×131°.06E±0°.05, h30km, mb4.4/22, MS3.9/5, Error ellipse: s-maj=6.5km s-min=4.8km az=174.9*

*AUST **02** 23:29:22.9, 3°.48S×131°.01E, h25km*

*DJA **02** 23:29:22.5±0.4, 3°.5S×13°.1E±°, h30km, M4.3/6, MLv4.3/6*

*BJI **02** 23:29:23.1, 3°.50S×131°.20E, h37km, mB5.1/10, mb4.6/16, Ms4.7/5, Ms7 4.3/5*

*NEIC **02** 23:29:24.3±2.2, 3°.49S×131°.01E, h42km±7km, mb4.7/11, Error ellipse: s-maj=17.5km s-min=13.8km az=72.0*

ISC 02 23:29:23.5±0.4, 3°.54S±0°.04×131°.08E±0°.04, h30km, n86, σ1§92/94, mb4.5/22, MS3.6/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.32**	**62**	P	**Pn**	**23 29 45.5**	**-0.4**
FAKI	**Fak Fak**	**1.32**	**62**	P	**Pn**	**23 29 45.5**	**-0.4**
	baz=1.4,SNR=121						
BNDI	**Bandanaira**	**1.53**	**230**	P	**Pb**	**23 29 51.2**	**0.0**
BNDI				S	**Sn**	**23 30 06.7**	**-0.9**
BNDI	**Bandanaira**	**1.53**	**230**	P	**Pb**	**23 29 51.1**	**0.0**
	baz=1.5,SNR=19						
MSAI	**Masohi**	**2.15**	**275**	P	**Pn**	**23 29 58.0**	**+0.6**
KMPI	**Kaimana, Papua**	**2.63**	**93**	P	**Pn**	**23 30 05.3**	**+1.4**
SWI	**Sorong**	**2.66**	**4**	P	**Pn**	**23 30 01.3**	**-3.1**
SWI	**Sorong**	**2.66**	**4**	P	**Pn**	**23 30 02.1**	**-2.3**
	baz=2.6,SNR=15						
TLE	**Tual**	**2.67**	**142**	P	**Pb**	**23 30 10.3**	**-0.3**
	baz=2.8,SNR=6.1						
AAI	**Ambon**	**2.88**	**267**	P	**Pn**	**23 30 08.3**	**+0.9**
AAI				S	Sn	23 30 19.6	-21
AAI	**Ambon**	**2.88**	**267**	P	**Pn**	**23 30 08.8**	**+1.4**
	baz=2.8,SNR=15						
SOEI	**Soe**	**9.16**	**227**	P	Pn	23 31 43.2	+9.4
	baz=9.2,SNR=5.7						
KDU	**Kakadu**	**9.20**	**171**	P	**Pn**	**23 31 34.2**	**0.0**
	baz=9.3,SNR=35						
BATI	**Baumata**	**9.90**	**228**	Pn	Pn	23 31 48.0	+4.1
	4.6nm,0.3s,baz=176,slow=1.0,SNR=15						
BATI				LR	LR	23 35 52.1	
	comp=Z,404nm,19.9s,baz=303,slow=39						
KAPI	**Kappang**	**11.39**	**262**	*e*Pn	Pn	23 32 09.3	+5.0
KAPI	**Kappang**	**11.39**	**262**	Pn	**Pn**	**23 32 04.1**	**-0.2**
	baz=100,slow=19,SNR=2.6						
KNRA	**Kununurra**	**12.28**	**191**	P	**Pn**	**23 32 14.5**	**-1.9**
	baz=12,SNR=18						
MYLDM	**Lahad Datu**	**15.26**	**305**	*e*Pn	**Pn**	**23 32 57.4**	**+0.4**
	27nm,1.0s						
FITZ	**Fitzroy Crossi**	**15.43**	**200**	*e*Pn	**Pn**	**23 32 55.9**	**-3.2**
FITZ				*e*Sn	Sn	23 35 37.4	-12
FITZ	**Fitzroy Crossi**	**15.43**	**200**	Pn	**Pn**	**23 32 55.9**	**-3.2**
	1.1nm,0.3s,baz=34,slow=11,SNR=18						
FITZ				Sn	Sn	23 35 37.4	-12
	0.3nm,0.3s,baz=142,slow=17,SNR=2.5						
COEN	**Coen**	**15.81**	**132**	*e*Pn	**Pn**	**23 33 04.7**	**+0.6**
	38nm,0.8s						
COEN	**Coen**	**15.81**	**132**	P	Pn	23 33 05.1	+1.1
	baz=16,SNR=5.3						
WRAB	**Tennant Creek**	**16.61**	**169**	*e*Pn	Pn	23 33 09.3	-5.0
	14nm,0.7s						
WRA	**Warramunga Arr**	**16.61**	**169**	*e*Pn	**Pn**	**23 33 10.5**	**-3.9**
WRA				*e*Sn	Sn	23 36 08.6	-10
WRA	**Warramunga Arr**	**16.61**	**169**	Pn	**Pn**	**23 33 10.5**	**-3.9**
	0.8nm,0.3s,baz=345,slow=13,SNR=6.2						
WRA				Sn	Sn	23 36 08.5	-10
	1.3nm,0.3s,baz=354,slow=23,SNR=6.1						
AS12	**Alice Springs**	**20.20**	**172**	*e*P	Pn	23 33 57.5	-0.6
AS12				*e*S	**S**	**23 37 35.5**	**-5.8**
ASAR	**Alice Springs**	**20.20**	**172**	P	Pn	23 33 57.5	-0.6
	9.5nm,0.4s,baz=351,slow=10,SNR=70						
ASAR				S	**S**	**23 37 35.5**	**-5.8**
	1.4nm,0.6s,baz=352,slow=26,SNR=5.2						
AS01	**Alice Springs**	**20.20**	**172**	*e*P	**P**	**23 33 57.0**	**+0.9**
MBWA	**Marble Bar**	**20.70**	**211**	*e*P	**P**	**23 33 59.8**	**-1.7**
	100nm,1.8s						
KSM	**Kuching**	**21.35**	**283**	*e*P	**P**	**23 34 07.9**	**-0.5**
	34nm,0.9s						
KSM	**Kuching**	**21.35**	**283**	P	**P**	**23 34 09.2**	**+0.7**
	baz=21,SNR=7.6						
CTA	**Charters Tower**	**22.13**	**139**	*e*P	**P**	**23 34 18.2**	**+1.3**
CTA	**Charters Tower**	**22.13**	**139**	P	**P**	**23 34 18.2**	**+1.3**
	1.5nm,0.4s,baz=316,slow=14,SNR=5.2						
MEEK	**Meekatharra**	**25.89**	**206**	P	**P**	**23 34 51.8**	**-1.1**
	baz=26,SNR=8.8						
QLP	**Quilpie**	**26.16**	**152**	P	P	23 35 00.6	+5.3
	baz=26,SNR=4.2						
FORT	**Forrest**	**27.25**	**186**	*e*P	**P**	**23 35 05.2**	**+0.1**
	18nm,0.8s						
MORW	**Morawa**	**29.14**	**208**	P	**P**	**23 35 21.4**	**-0.6**
	baz=29,SNR=3.7						
BBOO	**Buckleboo**	**29.50**	**171**	*e*P	**P**	**23 35 25.3**	**+0.2**
	196nm,1.4s						
STKA	**Stephens Creek**	**29.88**	**162**	*e*P	**P**	**23 35 27.7**	**-0.8**
	17nm,2.5s						
STKA	**Stephens Creek**	**29.88**	**162**	P	**P**	**23 35 30.1**	**+1.5**
	baz=30,SNR=7.8						
STKA	**Stephens Creek**	**29.88**	**162**	P	**P**	**23 35 29.9**	**+1.3**
	1.9nm,0.4s,baz=331,slow=7.5,SNR=9.7						
BLDU	**Ballidu**	**30.16**	**205**	P	**P**	**23 35 31.8**	**+0.7**
	baz=30,SNR=11						
KLBR	**Kellerberrin**	**30.60**	**203**	P	**P**	**23 35 35.7**	**+0.8**
	baz=31,SNR=6.1						
PPI	**Padang Panjang**	**30.81**	**275**	P	**P**	**23 35 37.2**	**+0.2**
	baz=31,SNR=3.2						
NWAO	**Narrogin (SRO)**	**31.98**	**202**	*e*P	**P**	**23 35 47.1**	**0.0**
	30nm,1.3s						
NWAO	**Narrogin (SRO)**	**31.98**	**202**	P	**P**	**23 35 47.2**	**+0.1**
	5.4nm,0.6s,baz=46,slow=21,SNR=6.2						
PSI	**Prapat**	**32.75**	**281**	*e*P	**P**	**23 35 52.9**	**-1.3**
PSI	**Prapat**	**32.75**	**281**	P	**P**	**23 35 52.9**	**-1.3**
	3.9nm,0.4s,baz=174,slow=3.9,SNR=6.4						
RKGY	**Rocky Gully**	**33.58**	**201**	P	**P**	**23 36 02.1**	**+1.1**
	baz=34,SNR=5.1						
GYA	**Guiyang**	**38.04**	**323**	P	**P**	**23 36 40.8**	**+1.3**
GYA				pP	**pP**	**23 36 51.2**	**+2.8**
GYA				PP	**PnPn**	**23 38 11.4**	**+3.1**
GYA				PcP	**PcP**	**23 38 55.0**	**+0.3**
GYA				S	**S**	**23 42 31.2**	**+0.8**
GYA				ScP	**ScP**	**23 42 39.7**	**-0.7**
GYA				sS	sS	23 42 50.9	+5.9
GYA				SS	**SnSn**	**23 45 08.4**	**-6.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
GYA				AMB	AMB		
	comp=Z,90nm,4.8s						
GYA				LR	LR		
	comp=N,470nm,17.9s						
GYA				LR	LR		
	comp=E,380nm,18.0s						
GYA				LR	LR		
	comp=Z,450nm,17.6s						
LHI	**Lord Howe Isla**	**38.32**	**140**	P	P	23 36 49.3	+7.7
	baz=38,SNR=3.9						
CM31	**Chiang Mai Arr**	**38.46**	**306**	*e*P	**P**	**23 36 42.5**	**-0.5**
CMAR	**Chiang Mai Arr**	**38.46**	**306**	P	**P**	**23 36 42.5**	**-0.5**
	1.2nm,0.3s,baz=132,slow=6.8,SNR=7.2						
KS15	**Wonju Array Si**	**40.88**	**356**	*e*P	**P**	**23 37 01.8**	**-1.1**
KSRS	**Korea Array**	**40.89**	**356**	P	**P**	**23 37 01.8**	**-1.1**
	0.6nm,0.8s,baz=174,slow=8.6,SNR=4.2						
KSRS				LR	LR	23 54 15.2	
	comp=Z,77nm,18.7s,baz=44,slow=37						
LZH	**Lanzhou**	**46.93**	**330**	*e*P	**P**	**23 37 53.1**	**+1.4**
LZH				pP	**pP**	**23 38 03.5**	**+2.7**
LZH				sP	**sP**	**23 38 07.6**	**+3.2**
LZH				AMB	AMB		
	comp=Z,13nm,0.9s						
HHC	**Hu-ho-hao-te**	**47.64**	**340**	*e*P	**P**	**23 37 58.2**	**+1.1**
HHC				pP	**pP**	**23 38 08.1**	**+1.9**
HHC				sP	**sP**	**23 38 12.0**	**+2.2**
HHC				PP	**PP**	**23 39 49.4**	**+0.3**
HHC				S	**S**	**23 44 52.1**	**+1.1**
HHC				sS	**sS**	**23 45 08.2**	**+2.2**
HHC				SS	**SS**	**23 48 14.3**	**-5.4**
HHC				AMB	AMB		
	comp=Z,18nm,1.0s						
HHC				AMB	AMB		
	comp=Z,100nm,6.0s						
HHC				LR	LR		
	comp=N,260nm,14.5s						
HHC				LR	LR		
	comp=E,250nm,13.0s						
HHC				LR	LR		
	comp=Z,150nm,15.9s						
MDJ	**Mudanjiang**	**47.95**	**359**	P	**P**	**23 38 00.7**	**+1.4**
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.5s						
MDJ				AMB	AMB		
	comp=Z,65nm,5.8s						
SONM	**Songino Array**	**55.54**	**340**	P	**P**	**23 38 55.8**	**-0.3**
	1.2nm,1.0s,baz=170,slow=9.0,SNR=7.5						
SONM				LR	LR	00 04 29.2	
	comp=Z,54nm,19.6s,baz=38,slow=38						
SONA1	**Songino Array**	**55.55**	**340**	*e*P	**P**	**23 38 55.1**	**-1.1**
PETK	**Petropavlovsk-**	**60.72**	**18**	LR	LR	00 01 43.5	
	comp=Z,41nm,19.2s,baz=289,slow=32						
WMQ	**Urumqi**	**61.13**	**325**	*e*P	**P**	**23 39 38.2**	**+3.0**
MK01	**Makanchi Array**	**65.94**	**326**	*e*P	**P**	**23 40 05.4**	**-1.5**
MK32	**Makanchi Array**	**65.96**	**326**	*e*P	**P**	**23 40 06.3**	**-0.7**
MKAR	**Makanchi Array**	**65.96**	**326**	*e*P	**P**	**23 40 06.8**	**-0.2**
MKAR	**Makanchi Array**	**65.96**	**326**	P	**P**	**23 40 06.3**	**-0.7**
	2.8nm,0.8s,baz=124,slow=7.1,SNR=17						
ZAA0	**Zalesovo Array**	**68.99**	**333**	*e*P	**P**	**23 40 23.8**	**-2.1**
ZALV	**Zalesovo Beam**	**68.99**	**333**	P	**P**	**23 40 24.5**	**-1.4**
	1.3nm,0.7s,baz=104,slow=6.3,SNR=8.2						
KURK	**Kurchatov**	**70.16**	**328**	*e*P	**P**	**23 40 31.4**	**-1.9**
VOSK	**Vostochnaya**	**75.28**	**327**	*e*P	**P**	**23 41 01.6**	**-2.0**
	3.3nm,0.6s						
VNDA	**Vanda**	**75.74**	**173**	*e*P	**P**	**23 41 07.2**	**+1.4**
VNDA	**Vanda**	**75.74**	**173**	P	**P**	**23 41 07.2**	**+1.4**
	1.2nm,0.8s,baz=314,slow=4.8,SNR=9.1						
BRVK	**Borovoye**	**75.81**	**327**	*e*P	**P**	**23 41 05.2**	**-1.5**
IKOO	**Kooshah**	**76.87**	**304**	*e*P	**P**	**23 41 13.1**	**-0.4**
IMYA	**Miami**	**76.91**	**308**	*e*P	**P**	**23 41 12.4**	**-1.1**
MAW	**Mawson**	**78.55**	**201**	P	**P**	**23 41 22.8**	**+1.1**
	0.9nm,0.5s,baz=112,slow=5.4,SNR=3.8						
ABKAR	**Akbulak array**	**80.49**	**321**	*e*P	**P**	**23 41 31.0**	**-1.7**
ILAR	**Eielson Array**	**89.78**	**25**	P	**P**	**23 42 18.2**	**-0.6**
	0.5nm,0.8s,baz=262,slow=5.2,SNR=3.0						
ILB	**Eielson Array**	**89.78**	**25**	*e*P	**P**	**23 42 18.2**	**-0.6**
KMBO	**Kilima Mbogo**	**93.75**	**269**	P	**P**	**23 42 39.1**	**+0.4**
	0.9nm,0.8s,baz=53,slow=20,SNR=2.9						
ARA0	**ARCESS Array S**	**98.72**	**340**	*e*P	**P**	**23 42 58.3**	**-1.4**
ARCES	**ARCESS Array B**	**98.72**	**340**	P	**P**	**23 42 58.3**	**-1.4**
	1.3nm,0.8s,baz=61,slow=7.5,SNR=3.8						
STHS	**Stebnicka Huta**	**105.52**	**320**	PDIF	**Pdif**	**23 43 31.7**	**+1.2**
TOA0	**Torodi Ar. Sit**	**129.10**	**284**	*e*PKPdf	**PKPdf**	**23 48 29.4**	**-0.3**
TORD	**Torodi Ar. Bea**	**129.10**	**284**	PKP	**PKPdf**	**23 48 29.4**	**-0.3**
	0.5nm,0.7s,baz=158,slow=0.7,SNR=4.3						
CPUP	**Villa Florida**	**149.22**	**165**	PKPbc	**PKPbc**	**23 49 10.8**	**+0.8**
	1.3nm,0.6s,baz=214,slow=11,SNR=4.0						

IDC 02 23:43:01.4±1.9, 48°.81S×106°.58E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/17, mbtmp3.9/6, MS3.8/11, Ms1 3.8/11, ms1mx3.6/26, Error ellipse: s-maj=77.0km s-min=20.8km az=123.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**14.98**	**25**	T	T	00 02 02.4	
	baz=199,slow=0.7,SNR=65						
H01W1	**Cape Leeuwin H**	**14.99**	**25**	T	T	00 01 59.1	
	baz=199,slow=0.7,SNR=68						
H01W3	**Cape Leeuwin H**	**15.00**	**25**	T	T	00 01 52.7	
	baz=199,slow=0.7,SNR=59						
NWAO	**Narrogin (SRO)**	**17.77**	**31**	LR	LR	23 51 42.1	
	comp=Z,195nm,21.4s,baz=32,slow=29						
MAW	**Mawson**	**28.82**	**213**	LR	LR	23 57 41.5	
	comp=Z,164nm,18.6s,baz=237,slow=30						
STKA	**Stephens Creek**	**31.25**	**70**	P	P	23 49 22.4	-0.3
	1.7nm,0.8s,baz=148,slow=19,SNR=3.3						
STKA				LR	LR	23 58 49.7	
	comp=Z,126nm,20.7s,baz=205,slow=30						
ASAR	**Alice Springs**	**33.07**	**50**	P	P	23 49 38.7	0.0
	1.2nm,0.8s,baz=210,slow=8.3,SNR=12						
ASAR				LR	LR	00 01 27.1	
	comp=Z,212nm,19.3s,baz=162,slow=33						
FITZ	**Fitzroy Crossi**	**34.31**	**33**	LR	LR	00 02 44.0	
	comp=Z,152nm,18.6s,baz=152,slow=34						
VNDA	**Vanda**	**35.48**	**162**	P	P	23 49 59.1	0.0
	1.7nm,1.1s,baz=272,slow=10,SNR=4.6						
VNDA				LR	LR	00 03 01.5	
	comp=Z,157nm,18.2s,baz=298,slow=34						
WRA	**Warramunga Arr**	**36.42**	**48**	P	P	23 50 07.9	+0.3
	1.8nm,0.8s,baz=212,slow=8.1,SNR=6.2						
WRA				LR	LR	00 03 11.7	
	comp=Z,146nm,19.3s,baz=170,slow=33						
BATI	**Baumata**	**41.05**	**26**	LR	LR	00 07 56.2	
	comp=Z,128nm,18.0s,baz=191,slow=36						
CTA	**Charters Tower**	**42.74**	**62**	P	P	23 51 00.7	+0.4
	3.2nm,0.9s,baz=220,slow=12,SNR=5.0						
KAPI	**Kappang**	**45.06**	**19**	LR	LR	00 06 31.7	
	comp=Z,144nm,19.9s,baz=133,slow=31						
SNAA	**Sanae**	**50.04**	**203**	P	P	23 51 57.3	+0.2
	0.5nm,0.7s,baz=143,slow=9.6,SNR=11						
PMG	**Port Moresby**	**51.88**	**55**	LR	LR	00 15 20.1	
	comp=Z,77nm,18.1s,baz=136,slow=37						
CMAR	**Chiang Mai Arr**	**67.31**	**352**	LR	LR	00 20 41.1	
	comp=Z,38nm,18.9s,baz=343,slow=34						
NVAR	**Mina Array Bea**	**146.34**	**91**	PKPbc	PKPdf	00 02 41.8	-0.8
	0.9nm,0.9s,baz=224,slow=5.0,SNR=6.6						
TXAR	**Lajitas Array**	**149.81**	**119**	PKPbc	PKPbc	00 02 52.8	-0.4
	1.1nm,0.8s,baz=197,slow=6.8,SNR=11						

IDC 03 00:02:05.3±1.6, 3°.56S×142°.21E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/19, mbtmp3.8/5, ML3.9/1, Error ellipse: s-maj=63.9km s-min=24.0km az=111.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.00**	**205**	P	Pn	00 06 16.8	-0.3
	0.4nm,0.3s,baz=27,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**21.54**	**201**	P	P	00 06 58.0	+1.6
	0.4nm,0.6s,baz=28,slow=11,SNR=6.2						
FITZ	**Fitzroy Crossi**	**21.73**	**227**	P	P	00 06 56.6	-1.7
	2.7nm,0.8s,baz=48,slow=11,SNR=4.9						
MKAR	**Makanchi Array**	**72.61**	**321**	P	P	00 13 35.4	+0.7
	1.0nm,0.7s,baz=108,slow=7.5,SNR=9.6						
ILAR	**Eielson Array**	**85.17**	**24**	P	P	00 14 42.7	-0.6
	1.6nm,0.7s,baz=257,slow=4.7,SNR=14						

IDC 03 00:07:05.2±7.8, 16°.94S×173°.00W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.7/20, mbtmp3.9/2, Error ellipse: s-maj=374.7km s-min=59.5km az=143.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.89**	**258**	P	P	00 16 00.7	-0.2
	0.2nm,0.4s,baz=96,slow=7.7,SNR=2.3						
ASAR	**Alice Springs**	**50.02**	**253**	P	P	00 16 01.9	0.0
	2.8nm,0.5s,baz=88,slow=8.5,SNR=41						
BRTR	**Keskin Array B**	**147.58**	**320**	PKPbc	PKPbc	00 26 51.2	-0.8
	0.3nm,0.7s,baz=64,slow=3.4,SNR=2.5						

IDC 03 00:07:41.5±1.9, 14°.71S×174°.07W, h0km, mb3.9/6, mb1 4.3/6, mb1mx3.9/19, mbtmp3.9/6, Error ellipse: s-maj=115.5km s-min=22.7km az=150.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N3	**WAKE ISLAND Hy**	**39.00**	**331**	T	T	00 57 08.8	
	baz=152,slow=0.7						
H11N1	**WAKE ISLAND Hy**	**39.01**	**331**	T	T	00 57 05.8	
	baz=152,slow=0.7						
H11N2	**WAKE ISLAND Hy**	**39.02**	**331**	T	T	00 57 13.2	
	baz=152,slow=0.7						
WRA	**Warramunga Arr**	**49.37**	**256**	P	P	00 16 33.8	+0.5
	0.9nm,0.9s,baz=89,slow=7.1,SNR=2.9						
ASAR	**Alice Springs**	**49.71**	**251**	P	P	00 16 34.9	-0.9
	2.3nm,0.6s,baz=86,slow=8.1,SNR=13						
NVAR	**Mina Array Bea**	**74.26**	**42**	P	P	00 19 22.7	+1.8
	0.4nm,0.5s,baz=237,slow=7.4,SNR=3.1						
TXAR	**Lajitas Array**	**80.77**	**56**	P	P	00 19 56.4	-1.0
	0.7nm,0.9s,baz=233,slow=7.7,SNR=3.8						
ILAR	**Eielson Array**	**81.90**	**11**	P	P	00 20 01.1	-1.4
	0.5nm,0.8s,baz=205,slow=4.0,SNR=4.0						
PDAR	**Pinedale Array**	**82.19**	**42**	P	P	00 20 04.2	-0.6
	0.4nm,0.2s,baz=215,slow=5.5,SNR=4.8						
BRTR	**Keskin Array B**	**145.22**	**321**	PKPbc	PKPdf	00 27 22.0	+0.3
	0.7nm,0.8s,baz=116,slow=2.9,SNR=4.4						

IDC 03 00:08:59.4±1.8, 15°.06S×173°.87W, h0km, mb3.8/6, mb1 4.2/6, mb1mx3.9/19, mbtmp3.8/6, MS3.5/2, Ms1 3.5/2, ms1mx2.9/32, Error ellipse: s-maj=108.5km s-min=22.1km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**26.18**	**279**	LR	LR	00 22 33.2	
	comp=Z,93nm,18.3s,baz=288,slow=31						
H11S2	**WAKE ISLAND Hy**	**38.44**	**329**	T	T	00 57 12.5	
	baz=152,slow=0.7						
H11S3	**WAKE ISLAND Hy**	**38.45**	**329**	T	T	00 57 15.2	
	baz=152,slow=0.7						
PMG	**Port Moresby**	**38.45**	**274**	LR	LR	00 28 59.6	
	comp=Z,62nm,18.9s,baz=60,slow=31						
H11S1	**WAKE ISLAND Hy**	**38.46**	**330**	T	T	00 57 13.9	
	baz=152,slow=0.7						
H11N3	**WAKE ISLAND Hy**	**39.39**	**331**	T	T	00 58 30.1	
	baz=152,slow=0.7						
H11N1	**WAKE ISLAND Hy**	**39.40**	**331**	T	T	00 58 24.7	
	baz=152,slow=0.7						
H11N2	**WAKE ISLAND Hy**	**39.41**	**331**	T	T	00 58 30.6	
	baz=152,slow=0.7						
WRA	**Warramunga Arr**	**49.48**	**257**	P	P	00 17 50.6	-1.3
	0.5nm,0.5s,baz=88,slow=6.7,SNR=3.9						
ASAR	**Alice Springs**	**49.78**	**252**	P	P	00 17 54.5	+0.2
	2.7nm,0.5s,baz=90,slow=7.6,SNR=16						
NVAR	**Mina Array Bea**	**74.39**	**42**	P	P	00 20 39.2	-0.4
	0.4nm,0.7s,baz=244,slow=7.9,SNR=2.4						
TXAR	**Lajitas Array**	**80.80**	**56**	P	P	00 21 15.8	+0.3
	0.3nm,0.7s,baz=231,slow=5.7,SNR=3.7						
ILAR	**Eielson Array**	**82.20**	**11**	P	P	00 21 21.1	-0.8
	2.3nm,1.2s,baz=226,slow=7.7,SNR=6.4						
PDAR	**Pinedale Array**	**82.32**	**42**	P	P	00 21 23.1	-0.2
	0.5nm,0.6s,baz=193,slow=3.7,SNR=3.3						
BRTR	**Keskin Array B**	**145.61**	**321**	PKPbc	PKPab	00 28 41.5	+0.8
	1.5nm,0.8s,baz=54,slow=1.3,SNR=8.3						
GERES	**GERESS Array B**	**145.74**	**351**	PKPbc	PKPdf	00 28 40.1	0.0
	0.3nm,0.5s,baz=35,slow=4.9,SNR=5.0						

IDC 03 00:19:49.4±3.1, 16°.05S×172°.62W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.8/20, mbtmp3.7/4, Error ellipse: s-maj=170.7km s-min=26.2km az=146.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**50.43**	**257**	P	P	00 28 48.4	-0.8
	0.9nm,1.1s,baz=94,slow=8.3,SNR=3.0						
ASAR	**Alice Springs**	**50.63**	**252**	P	P	00 28 50.7	0.0
	1.1nm,0.6s,baz=86,slow=8.2,SNR=12						
NVAR	**Mina Array Bea**	**74.31**	**42**	P	P	00 31 28.9	-0.2
	0.2nm,0.3s,baz=234,slow=7.7,SNR=3.0						
ILAR	**Eielson Array**	**82.94**	**11**	P	P	00 32 15.2	-0.6
	0.2nm,0.5s,baz=221,slow=5.2,SNR=3.6						
BRTR	**Keskin Array B**	**147.13**	**321**	PKPbc	PKPab	00 39 36.2	-0.3
	0.4nm,0.5s,baz=117,slow=4.3,SNR=4.8						

IDC 03 00:23:10.1±5.6, 15°.79S×173°.36W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/20, mbtmp3.8/3, Error ellipse: s-maj=234.6km s-min=55.2km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.41**	**39**	Pn	Pn	00 23 40.1	-11
	8.9nm,0.3s,baz=41,slow=20,SNR=1.7						
AFI				Sn	Sn	00 24 02.1	-19
	31nm,0.3s,baz=52,slow=23,SNR=4.4						
STKA	**Stephens Creek**	**43.88**	**240**	P	P	00 31 18.4	-0.1
	1.1nm,0.6s,baz=96,slow=9.2,SNR=3.0						
WRA	**Warramunga Arr**	**49.80**	**257**	P	P	00 32 05.0	0.0
	0.5nm,0.7s,baz=92,slow=8.1,SNR=2.7						
ASAR	**Alice Springs**	**50.03**	**252**	P	P	00 32 06.6	-0.2
	0.9nm,0.5s,baz=89,slow=7.7,SNR=12						
BRTR	**Keskin Array B**	**146.49**

BRU2				*e*S	Sn	00 27 45.7 +1.0
TBS2		**2.65**	**124**	*e*P	Pn	00 27 14.9 +0.6
TBS2				*e*S	Sn	00 27 45.7 +0.3
BRU	**Baru**	**2.72**	**123**	*e*P	Pn	00 27 16.7 +1.1
BRU				*e*S	Sn	00 27 50.2 +2.4

NIED ***03*** *00:38:00,44.˝70N×149.˝80E,h32km,Mw3.6 Best double couple: M₀2.73000×10¹⁴ NP1:φs244.00000°,δ70.00000°, λ-151.00000°. NP2:φs144.00000°,δ63.00000°, λ-22.00000°.*

JMA 03 00:38:55.0±0.6, 44.˝69N×149.˝82E, h30km, M3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**3.23**	**247**	P	Pn	00 39 42.5	-1.0
NEM2				*e*S	Sn	00 40 17.8	-3.1
JRA	**Rausu**	**3.46**	**259**	P	Pn	00 39 48.6	+1.9
JAK	**Akkeshi**	**4.08**	**247**	P	Pn	00 39 54.9	-0.3
JAK				*e*S	Sn	00 40 39.3	-2.6
JTKR	**Abashiri--Toko**	**4.30**	**262**	P	Pn	00 40 00.8	+2.5
JAR	**Ashorobuto**	**4.58**	**254**	P	Pn	00 40 03.4	+1.2
JAR				*e*S	Sn	00 40 53.6	-0.8
JCH	**Churui**	**5.12**	**248**	P	Pn	00 40 09.5	-0.2
JCH				*e*S	Sn	00 41 04.9	-2.9
JNBK	**Urakawa-nobuka**	**5.68**	**247**	P	Pn	00 40 16.5	-0.8
JNBK				*e*S	Sn	00 41 16.9	-4.5
JNB	**Noboribetsu**	**6.75**	**254**	P	Pn	00 40 32.4	+0.4
JNB				*e*S	Sn	00 41 46.5	-1.4
JKB	**Kayabe**	**7.00**	**249**	P	Pn	00 40 34.9	-0.4
JANG	**Nango**	**7.50**	**238**	*e*S	Sn	00 41 56.8	-9.4
JTM	**Tenmabayashi**	**7.53**	**242**	*e*S	Sn	00 41 58.7	-8.3
JTH	**Tanohata**	**7.57**	**234**	*e*S	Sn	00 41 57.8	-10

MDD ***03*** *00:41:10.0±2.0,36.˝61N×9.˝83W,h39km±27km,mb3.8/6, Error ellipse: s-maj=18.9km s-min=13.0km az=36.0, PRXIMO*

INMG ***03*** *00:41:11.3±1.0,36.˝68N×9.˝71W,h20km±3km,ML1.6,Error ellipse: s-maj=4.7km s-min=3.3km az=53.0*

CSEM ***03*** *00:41:11.5±0.4,36.˝72N×9.˝63W,h30km,ML2.7/8,Error ellipse: s-maj=6.7km s-min=5.1km az=40.0*

ISC 03 00:41:09.2±2.8, 36.˝65N±0.˝09×9.˝72W±0.˝10, h30km±13km, n54,σ1§14/93, 1C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.87**	**56**	*e*P	**Pn**	**00 41 26.5**	**+1.2**
PFVI				*e*S	**Sn**	**00 41 38.1**	**+1.1**
PFVI				A	A	00 41 38.8	
	16nm,0.1s						
PFVI	**Vila Bisbo**	**0.87**	**56**	⇑P	**Pn**	**00 41 26.5**	**+1.2**
	6.9nm,0.1s,SNR=18						
PFVI				S	**Sn**	**00 41 37.9**	**+0.9**
	26nm,0.2s,SNR=14						
PFVI	**Vila Bisbo**	**0.87**	**56**	P	**Pn**	**00 41 26.5**	**+1.2**
	6.9nm,0.1s,SNR=18						
PFVI				*e*S	**Sn**	**00 41 38.1**	**+1.1**
	16nm,0.1s						
MORF	**Marmelete**	**1.08**	**52**	*e*P	**Pb**	**00 41 29.5**	**+0.2**
MORF				*e*S	**Sn**	**00 41 43.5**	**+1.1**
MORF				A	A	00 41 45.5	
	11nm,0.1s						
MORF	**Marmelete**	**1.08**	**52**	P	**Pb**	**00 41 29.5**	**+0.2**
MORF				S	**Sn**	**00 41 43.5**	**+1.1**
	11nm,0.1s						
MORF	**Marmelete**	**1.08**	**52**	*e*P	**Pb**	**00 41 29.5**	**+0.2**
MORF				S	**Sn**	**00 41 43.5**	**+1.1**
	11nm,0.1s						
PTEO	**Sao Teotonio**	**1.20**	**41**	*e*P	**Pb**	**00 41 31.3**	**0.0**
PTEO				*e*S	**Sb**	**00 41 46.1**	**-0.4**
PTEO				A	A	00 41 46.7	
	6.1nm,0.5s						
PTEO	**Sao Teotonio**	**1.20**	**41**	*e*P	**Pb**	**00 41 31.3**	**0.0**
PTEO				*e*S	**Sb**	**00 41 46.1**	**-0.4**
	6.1nm,0.5s						
PBDV	**Barranco-do-Ve**	**1.56**	**67**	*e*P	**Pb**	**00 41 36.2**	**-1.1**
PBDV				*e*S	**Sn**	**00 41 54.4**	**+0.4**
PBDV				A	A	00 41 56.9	
	2.3nm,0.1s						
PCVE	**Castro Verde**	**1.67**	**53**	*e*S	**Sn**	**00 41 57.6**	**+0.9**
PCVE				A	A	00 41 59.0	
	2.6nm,0.2s						
PCVE	**Castro Verde**	**1.67**	**53**	*e*S	**Sn**	**00 41 57.6**	**+0.9**
	2.6nm,0.2s						
PNCL	**Nicolau / Gran**	**1.75**	**33**	*e*Pn	**Pn**	**00 41 38.5**	**+1.1**
PNCL				*e*Sn	**Sn**	**00 41 58.8**	**+0.2**
PNCL				A	A	00 42 00.4	
	4.2nm,0.1s						
PNCL	**Nicolau / Gran**	**1.75**	**33**	*e*Pn	**Pn**	**00 41 38.5**	**+1.1**
PNCL				*e*Sn	**Sn**	**00 41 58.8**	**+0.2**
	4.2nm,0.1s						
PVAQ	**Vaqueiros**	**1.77**	**64**	*e*Pn	**Pn**	**00 41 39.1**	**+1.3**
PVAQ				*e*Sn	**Sn**	**00 41 59.8**	**+0.5**
PVAQ				A	A	00 42 01.3	
	3.2nm,0.1s						
PVAQ	**Vaqueiros**	**1.77**	**64**	*e*Pn	**Pn**	**00 41 39.1**	**+1.3**
PVAQ				*e*Sn	**Sn**	**00 41 59.8**	**+0.5**
	3.2nm,0.1s						
EGRO	**El Granado**	**2.00**	**63**	P	**Pn**	**00 41 41.6**	**+0.7**
	0.2nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**00 42 06.3**	**+1.4**
	1.9nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.00**	**63**	P	**Pn**	**00 41 41.6**	**+0.7**
	0.2nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**00 42 06.3**	**+1.4**
	1.9nm,0.1s,SNR=7.9						
MOE	**Montemor**	**2.17**	**30**	*e*S	**Sn**	**00 42 09.3**	**+0.3**
MOE	**Montemor**	**2.17**	**30**	*e*S	**Sn**	**00 42 09.3**	**+0.3**
PACT	**Alcochete**	**2.23**	**18**	*e*Pn	**Pn**	**00 41 45.6**	**+1.5**
PACT				*e*Sn	**Sn**	**00 42 11.4**	**+0.8**
PACT				A	A	00 42 17.0	
	12nm,0.8s						
PACT	**Alcochete**	**2.23**	**18**	*e*Pn	**Pn**	**00 41 45.6**	**+1.5**
PACT				*e*Sn	**Sn**	**00 42 11.4**	**+0.8**
	12nm,0.8s						
PMAFR	**Mafra**	**2.33**	**8**	*e*Pn	**Pn**	**00 41 46.2**	**+0.7**
PMAFR				*e*Sn	**Sn**	**00 42 12.5**	**-0.6**
PMAFR				A	A	00 42 14.8	
	7.4nm,0.4s						
PMAFR	**Mafra**	**2.33**	**8**	P	**Pn**	**00 41 46.1**	**+0.6**
	1.6nm,0.1s,SNR=8.5						
PMAFR				S	**Sn**	**00 42 13.0**	**-0.1**
	8.4nm,0.2s,SNR=6.4						
PMAFR	**Mafra**	**2.33**	**8**	*e*Pn	**Pn**	**00 41 46.2**	**+0.7**
PMAFR				*e*Sn	**Sn**	**00 42 12.5**	**-0.6**
	7.4nm,0.4s						
PMAFR				S	**Sn**	**00 42 13.0**	**-0.1**
	8.4nm,0.2s,SNR=6.4						
PBAR	**Barrancos**	**2.63**	**54**	*e*Pn	**Pn**	**00 41 50.7**	**+1.2**
PBAR				*e*Sn	**Sn**	**00 42 20.3**	**-0.1**
PBAR				A	A	00 42 22.6	
	1.0nm,0.2s						
PBAR	**Barrancos**	**2.63**	**54**	*e*Pn	**Pn**	**00 41 50.7**	**+1.2**
PBAR				*e*Sn	**Sn**	**00 42 20.3**	**-0.1**
	1.0nm,0.2s						
EMIN	**Mina Concepcio**	**2.68**	**64**	P	**Pn**	**00 41 51.1**	**+0.9**
	0.3nm,0.1s,SNR=7.5						
EMIN				S	**Sn**	**00 42 22.1**	**+0.4**
	1.0nm,0.1s						
EMIN	**Mina Concepcio**	**2.68**	**64**	P	**Pn**	**00 41 51.1**	**+0.9**
	0.3nm,0.1s,SNR=7.5						
EMIN				S	**Sn**	**00 42 22.1**	**+0.4**
	1.0nm,0.1s						
PMTG	**Montargil**	**2.69**	**26**	*e*Pn	**Pn**	**00 41 51.6**	**+1.2**
PMTG				*e*Sn	**Sn**	**00 42 20.9**	**-1.1**
PMTG				A	A	00 42 22.8	
	1.7nm,0.1s						
PMTG	**Montargil**	**2.69**	**26**	*e*Pn	**Pn**	**00 41 51.6**	**+1.2**
PMTG				*e*Sn	**Sn**	**00 42 20.9**	**-1.1**
	1.7nm,0.1s						
PESTR	**Estremoz**	**2.79**	**37**	*e*Pn	**Pn**	**00 41 52.9**	**+1.2**
PESTR				*e*Sn	**Sn**	**00 42 23.7**	**-0.7**
PESTR				A	A	00 42 25.4	
	0.6nm,0.1s						
PESTR	**Estremoz**	**2.79**	**37**	*e*Pn	**Pn**	**00 41 52.9**	**+1.2**
PESTR				*e*Sn	**Sn**	**00 42 23.7**	**-0.7**
	0.6nm,0.1s						
EBAD	**Badajoz**	**3.01**	**45**	P	**Pn**	**00 41 55.5**	**+0.7**
	0.2nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**00 42 28.9**	**-0.9**
	3.4nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**3.01**	**45**	P	**Pn**	**00 41 55.5**	**+0.7**
	0.2nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**00 42 28.9**	**+0.3**
	3.4nm,0.2s,SNR=7.9						
ESPR	**Espera**	**3.11**	**85**	P	**Pn**	**00 41 57.1**	**+0.9**
	0.8nm,0.1s,SNR=5.8						
ESPR				S	**Sn**	**00 42 32.3**	**-0.1**
	18nm,0.3s						
ESPR	**Espera**	**3.11**	**85**	P	**Pn**	**00 41 57.1**	**+0.9**
	0.8nm,0.1s,SNR=5.8						
ESPR				S	**Sn**	**00 42 32.3**	**-0.1**
	18nm,0.3s						
PMRV	**Marv??o**	**3.33**	**33**	*e*Pn	**Pn**	**00 42 00.2**	**+1.0**
PMRV				*e*Sn	**Sn**	**00 42 36.4**	**-1.4**
PMRV				A	A	00 42 38.6	
	0.9nm,0.1s						
PMRV	**Marv??o**	**3.33**	**33**	*e*Pn	**Pn**	**00 42 00.2**	**+1.0**
PMRV				*e*Sn	**Sn**	**00 42 36.4**	**-1.4**
	0.9nm,0.1s						
ECAB	**El Cabril**	**3.71**	**66**	P	**Pn**	**00 42 05.4**	**+0.9**
	0.3nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**00 42 45.7**	**-1.6**
	0.5nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**3.71**	**66**	P	**Pn**	**00 42 05.4**	**+0.9**
	0.3nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**00 42 45.7**	**-1.6**
	0.5nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.37**	**68**	P	**Pn**	**00 42 14.2**	**+0.7**
	0.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**00 43 02.2**	**-1.2**
	0.7nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.37**	**68**	P	**Pn**	**00 42 14.2**	**+0.7**
	0.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**00 43 02.2**	**-1.2**
	0.7nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**4.46**	**39**	S	**Sn**	**00 43 04.3**	**-1.2**
	1.8nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**4.46**	**39**	S	**Sn**	**00 43 04.3**	**-1.2**
	1.8nm,0.1s,SNR=7.9						
ELUQ	**Luque**	**4.46**	**77**	S	**Sn**	**00 43 03.3**	**-2.3**
	0.9nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**4.46**	**77**	S	**Sn**	**00 43 03.3**	**-2.3**
	0.9nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**4.98**	**24**	P	**Pn**	**00 42 22.3**	**+0.4**
	0.8nm,0.2s,SNR=7.9						
MVO				S	**Sn**	**00 43 15.6**	**-2.8**
	0.4nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**4.98**	**24**	P	**Pn**	**00 42 22.3**	**+0.4**
	0.8nm,0.2s,SNR=7.9						
MVO				S	**Sn**	**00 43 15.6**	**-2.8**
	0.4nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.37**	**13**	S	Sn	00 43 23.8	-4.4
	0.9nm,0.4s,SNR=7.9						
ELOB	**Lobios**	**5.37**	**13**	S	Sn	00 43 23.8	-4.4
	0.9nm,0.4s,SNR=7.9						
EQES	**Quesada**	**5.43**	**76**	S	**Sn**	**00 43 27.0**	**-2.7**
	0.4nm,0.1s,SNR=7.9						
EQES	**Quesada**	**5.43**	**76**	S	**Sn**	**00 43 27.0**	**-2.7**
	0.4nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**5.45**	**55**	P	**Pn**	**00 42 29.4**	**+1.0**
	0.7nm,0.1s,baz=240,slow=14,SNR=7.1						
ESDC	**Sonseca Array**	**5.45**	**55**	P	**Pn**	**00 42 29.4**	**+1.0**
	0.7nm,0.1s,baz=240,slow=14,SNR=7.1						

ISCJB ***03*** *00:41:21.6±0.8,38.˝52N±0.˝04×31.˝43E±0.˝04,h0km±7km, Error ellipse: s-maj=6.0km s-min=5.2km az=173.2*

CSEM ***03*** *00:41:21.9±0.2,38.˝52N×31.˝45E,h2km,MD3.0,Error ellipse: s-maj=5.5km s-min=5.1km az=173.0*

DDA ***03*** *00:41:21.7,38.˝49N×31.˝49E,h16km,MD3.0*

ISK ***03*** *00:41:22.3,38.˝49N×31.˝54E,h9km,MD3.0*

ISC 03 00:41:20.9±1.2, 38.˝53N±0.˝03×31.˝48E±0.˝03, h8km±13km, n36,σ1§12/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLV	**Bolvadin**	**0.46**	**295**	*i* P	**Pg**	**00 41 29.0**	**-0.8**
BOLV				*i* S	**Sg**	**00 41 34.8**	**-1.0**
BOLV	**Bolvadin**	**0.46**	**295**	*i* P	**Pg**	**00 41 29.0**	**-0.8**
BOLV				*i* S	**Sg**	**00 41 34.8**	**-1.0**
KIZT	**Kizilcal**	**0.47**	**42**	*e*PG	**Pb**	**00 41 32.0**	**+0.4**
KIZT				*e*SG	**Sb**	**00 41 39.1**	**+0.4**
KIZT	**Kizilcal**	**0.47**	**42**	*e*Pg	**Pb**	**00 41 32.0**	**+0.4**
KIZT				*e*Sg	**Sb**	**00 41 39.1**	**+0.4**
KONT	**Konya--Tatoy**	**0.91**	**130**	*e*PG	**Pn**	**00 41 38.9**	**-1.1**
KONT	**Konya--Tatoy**	**0.91**	**130**	*e*Pg	**Pn**	**00 41 38.9**	**-1.1**
SVRH	**Sivrihisar-ESK**	**0.92**	**2**	*e*PG	**Pn**	**00 41 41.0**	**+0.8**
SVRH	**Sivrihisar-ESK**	**0.92**	**2**	*e*Pg	**Pn**	**00 41 41.0**	**+0.8**
ISP	**Isparta**	**1.03**	**227**	*e*PG	**Pg**	**00 41 42.9**	**+2.2**
ISP	**Isparta**	**1.03**	**227**	*e*Pg	**Pg**	**00 41 42.9**	**+2.2**
ESKT	**Eskisehir**	**1.10**	**334**	*e*PN	**Pg**	**00 41 44.4**	**+2.3**
ESKT	**Eskisehir**	**1.10**	**334**	*e*Pn	**Pg**	**00 41 44.4**	**+2.3**
SEYT	**Eskypehyr**	**1.10**	**334**	*i* P	**Pn**	**00 41 41.5**	**-1.3**
SEYT				*i* S	**Sb**	**00 41 54.6**	**-2.3**
SEYT	**Eskypehyr**	**1.10**	**334**	*i* P	**Pn**	**00 41 41.5**	**-1.3**
SEYT				*i* S	**Sb**	**00 41 54.6**	**-2.3**
BCK	**Bucak**	**1.28**	**214**	*e*PN	**Pg**	**00 41 46.9**	**+1.6**
BCK	**Bucak**	**1.28**	**214**	*e*Pn	**Pg**	**00 41 46.9**	**+1.6**
AFSR	**Af˙ar-Bala (A**	**1.54**	**53**	*e*PN	**Pg**	**00 41 50.4**	**-0.1**
AFSR	**Af˙ar-Bala (A**	**1.54**	**53**	*e*Pn	**Pg**	**00 41 50.4**	**-0.1**
KHL	**Karahalli**	**1.55**	**263**	*e*PN	**Pg**	**00 41 51.4**	**+0.8**
KHL	**Karahalli**	**1.55**	**263**	*e*Pn	**Pg**	**00 41 51.4**	**+0.8**
BORA	**Eskisehir**	**1.57**	**330**	*i* P	**Pb**	**00 41 50.5**	**+0.3**
BORA				*i* S	**Sb**	**00 42 11.0**	**+0.8**
BORA	**Eskisehir**	**1.57**	**330**	*i* P	**Pb**	**00 41 50.5**	**+0.3**
BORA				*i* S	**Sb**	**00 42 11.0**	**+0.8**
KHAL	**Karahalli**	**1.57**	**265**	*i* P	**Pb**	**00 41 49.9**	**-0.3**
KHAL				*i* S	**Sb**	**00 42 10.9**	**+0.7**
KHAL	**Karahalli**	**1.57**	**265**	*i* P	**Pb**	**00 41 49.9**	**-0.3**
KHAL				*i* S	**Sb**	**00 42 10.9**	**+0.7**
SULT	**Sultanhani-AKS**	**1.64**	**101**	*e*PN	**Pb**	**00 41 51.4**	**0.0**
SULT	**Sultanhani-AKS**	**1.64**	**101**	*e*Pn	**Pb**	**00 41 51.4**	**0.0**
ANTO	**Ankara**	**1.69**	**37**	*e*PN	**Pb**	**00 41 52.8**	**+0.6**
ANTO	**Ankara**	**1.69**	**37**	*e*Pn	**Pb**	**00 41 52.8**	**+0.6**
HDMB	**Hadim**	**1.75**	**153**	*e*PN	**Pb**	**00 41 52.9**	**-0.6**
HDMB	**Hadim**	**1.75**	**153**	*e*Pn	**Pb**	**00 41 52.9**	**-0.6**
MDUB	**Mudurnu**	**1.95**	**354**	*e*PN	**Pb**	**00 41 57.1**	**+0.4**
MDUB	**Mudurnu**	**1.95**	**354**	*e*Pn	**Pb**	**00 41 57.2**	**+0.4**
GPA	**Golpazari**	**1.98**	**333**	*e*PN	**Pb**	**00 41 57.4**	**+0.2**
GPA	**Golpazari**	**1.98**	**333**	*e*Pn	**Pb**	**00 41 57.4**	**+0.2**
GULT	**Gulveren**	**2.04**	**339**	*e*PN	**Pb**	**00 41 58.6**	**+0.3**
GULT	**Gulveren**	**2.04**	**339**	*e*Pn	**Pb**	**00 41 58.6**	**+0.3**

IDC ***03*** *00:43:59.8±0.9,39.˝21N×41.˝46E,h0km,mb3.7/7, mb1 3.6/15,mb1mx3.5/35,mbtmp3.5/15,ML3.1/6,MS3.2/1, Ms1 3.2/1,ms1mx2.2/50,Error ellipse: s-maj=15.1km s-min=9.9km az=162.0*

DDA ***03*** *00:43:59.4,39.˝24N×41.˝33E,h19km,MD3.7*

CSEM ***03*** *00:43:59.6±0.1,39.˝23N×41.˝36E,h2km,ML3.8,Error ellipse: s-maj=3.0km s-min=2.6km az=13.0*

ISK ***03*** *00:43:59.0,39.˝24N×41.˝33E,h6km,ML3.8*

ISC 03 00:43:59.5±1.1, 39.˝24N±0.˝02×41.˝34E±0.˝02, h1km±9km, n121,σ1§04/144, mb3.7/7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRTB	**Varto-Mus**	**0.12**	**132**	*e*PG	**Pg**	**00 44 02.8**	**+1.0**
VRTB	**Varto-Mus**	**0.12**	**132**	*e*Pg	**Pg**	**00 44 02.8**	**+1.0**
BNGL	**BINGOL**	**0.33**	**207**	*i* P	**Pg**	**00 44 06.1**	**+0.4**
BNGL				*i* S	**Sb**	**00 44 11.8**	**-2.3**
EKAR	**Karacoban**	**0.56**	**88**	*i* P	**Pb**	**00 44 11.6**	**-0.7**
EKAR				*i* S	**Sn**	**00 44 22.7**	**-2.3**
EKAR	**Karacoban**	**0.56**	**88**	*i* P	**Pb**	**00 44 11.6**	**-0.7**
BNGB	**Bing˜¶l**	**0.57**	**244**	*e*PG	**Pg**	**00 44 09.5**	**-1.0**
BNGB				*e*SG	**Sb**	**00 44 18.8**	**-2.4**
ERZM	**Erzurum**	**0.66**	**2**	*i* P	**Pg**	**00 44 12.4**	**+0.2**
ERZM	**Erzurum**	**0.66**	**2**	*i* P	**Pg**	**00 44 12.4**	**+0.2**
EZM	**Erzurum**	**0.66**	**1**	*e*PG	**Pg**	**00 44 12.2**	**0.0**
EZM	**Erzurum**	**0.66**	**1**	*e*Pg	**Pg**	**00 44 12.2**	**0.0**
HOMI	**Horasan**	**0.91**	**28**	*i* P	**Pg**	**00 44 16.7**	**-0.3**
HOMI				*i* S	**Sb**	**00 44 31.3**	**+0.2**
KOPT	**Kop Dagi**	**1.01**	**320**	*i* P	**Pg**	**00 44 18.5**	**-0.4**
KOPT	**Kop Dagi**	**1.01**	**320**	*i* P	**Pg**	**00 44 18.5**	**-0.4**
TATV	**Tatvan**	**1.03**	**135**	*i* P	**Pg**	**00 44 18.0**	**-1.2**
TATV				*i* S	**Sg**	**00 44 32.2**	**-0.3**
TATV	**Tatvan**	**1.03**	**135**	*i* P	**Pg**	**00 44 18.0**	**-1.2**
TATV				*i* S	**Sg**	**00 44 32.2**	**-0.3**
BTMT	**Batman**	**1.05**	**174**	*e*PG	**Pg**	**00 44 19.4**	**-0.2**
BTMT	**Batman**	**1.05**	**174**	*e*Pg	**Pg**	**00 44 19.4**	**-0.2**
TUTA	**Tutak**	**1.15**	**82**	*i* P	**Pg**	**00 44 20.7**	**-0.9**
TUTA				*i* S	**Sb**	**00 44 37.7**	**-0.2**
TUTA	**Tutak**	**1.15**	**82**	*i* P	**Pg**	**00 44 20.7**	**-0.9**
TUTA				*i* S	**Sb**	**00 44 37.7**	**-0.2**
ERZN	**Erzincan**	**1.30**	**286**	*e*PN	**Pn**	**00 44 23.3**	**-1.6**
AGRB	**Hanur-Agry**	**1.32**	**75**	*e*PN	**Pn**	**00 44 23.9**	**-1.4**
AGRB	**Hanur-Agry**	**1.32**	**75**	*e*Pn	**Pn**	**00 44 23.9**	**-1.4**
BEST	**Besiri**	**1.35**	**182**	*i* P	**Pg**	**00 44 25.0**	**-0.3**
BEST				*i* S	**Sn**	**00 44 44.9**	**+0.7**
PTK	**Pertek**	**1.56**	**258**	*e*PN	**Pn**	**00 44 27.2**	**-1.3**
PTK	**Pertek**	**1.56**	**258**	*e*Pn	**Pn**	**00 44 27.2**	**-1.3**
DIY	**Diyarbakir**	**1.60**	**213**	*e*PN	**Pb**	**00 44 28.8**	**-1.1**
DIY	**Diyarbakir**	**1.60**	**213**	*e*Pn	**Pb**	**00 44 28.8**	**-1.1**
EZC	**Erzincan**	**1.62**	**289**	*e*PN	**Pn**	**00 44 28.7**	**-0.7**
EZC	**Erzincan**	**1.62**	**289**	*e*Pn	**Pn**	**00 44 28.7**	**-0.7**
DIYA	**Diyarbakir**	**1.63**	**216**	*i* P	**Pb**	**00 44 29.7**	**-0.6**
DIYA				*i* S	**Sg**	**00 44 52.9**	**+1.2**
DIYA	**Diyarbakir**	**1.63**	**216**	*i* P	**Pb**	**00 44 29.7**	**-0.6**
DIYA				*i* S	**Sg**	**00 44 52.9**	**+1.2**
GEVA	**Gevas**	**1.63**	**124**	*i* P	**Pn**	**00 44 29.2**	**-0.3**
GEVA				*i* S	**Sg**	**00 44 53.1**	**+1.3**
GEVA	**Gevas**	**1.63**	**124**	*i* P	**Pn**	**00 44 29.2**	**-0.3**
GEVA				*i* S	**Sg**	**00 44 53.1**	**+1.3**
DDEM	**Demirkent**	**1.68**	**11**	*i* P	**Pb**	**00 44 30.5**	**-0.8**
DDEM				*i* S	**Sg**	**00 44 53.9**	**+0.5**
DDEM	**Demirkent**	**1.68**	**11**	*i* P	**Pb**	**00 44 30.5**	**-0.8**
DDEM				*i* S	**Sg**	**00 44 53.9**	**+0.5**
DBAD	**Bademkaya**	**1.80**	**9**	*i* P	**Pb**	**00 44 32.2**	**-1.1**
DBAD				*i* S	**Sg**	**00 44 57.5**	**+0.3**
DBAD	**Bademkaya**	**1.80**	**9**	*i* P	**Sg**	**00 44 57.5**	**+0.3**
DBAD	**Bademkaya**	**1.80**	**9**	*i* P	**Pb**	**00 44 32.2**	**-1.1**
DYDN	**Diyadin**	**1.84**	**80**	*i* P	**Pb**	**00 44 32.9**	**-1.2**
DYDN				*i* S	**Sb**	**00 44 57.9**	**+0.1**
DYDN	**Diyadin**	**1.84**	**80**	*i* P	**Sb**	**00 44 32.9**	**-1.2**
DYDN				*i* S	**Sb**	**00 44 57.9**	**+0.1**
KELT	**Kelkit**	**1.85**	**300**	*i* P	**Pn**	**00 44 32.4**	**-0.2**
KELT				*i* S	**Sg**	**00 45 02.6**	**+3.8**
KELT	**Kelkit**	**1.85**	**300**	*i* P	**Pn**	**00 44 32.4**	**-0.2**
GUMT	**Gumushane**	**1.88**	**311**	*e*PN	**Pb**	**00 44 33.1**	**-1.6**
GUMT	**Gumushane**	**1.88**	**311**	*e*Pn	**Pb**	**00 44 33.1**	**-1.6**
DAGI	**Agillar**	**1.89**	**13**	*i* P	**Pb**	**00 44 33.3**	**-1.5**
DAGI				*i* S	**Sg**	**00 44 59.2**	**-0.8**
MAZI	**Mazidag**	**1.91**	**202**	*e*PN	**Pn**	**00 44 33.2**	**-0.2**
MAZI	**Mazidag**	**1.91**	**202**	*e*Pn	**Pn**	**00 44 33.2**	**-0.2**
KARS	**Kars**	**1.92**	**43**	*e*PN	**Pn**	**00 44 33.0**	**-0.5**
KARS	**Kars**	**1.92**	**43**	*e*Pn	**Pn**	**00 44 33.0**	**-0.5**
SIRT	**Sirnak**	**1.94**	**153**	*e*PN	**Pn**	**00 44 33.2**	**-0.5**
SIRT	**Sirnak**	**1.94**	**153**	*e*Pn	**Pn**	**00 44 33.2**	**-0.5**
DIGO	**Kars**	**1.96**	**53**	*i* P	**Pn**	**00 44 34.3**	**+0.2**
DIGO	**Kars**	**1.96**	**53**	*i* P	**Pn**	**00 44 34.3**	**+0.2**
MARD	**Mardin**	**1.97**	**193**	*i* P	**Pn**	**00 44 34.3**	**+0.1**
MARD				*i* S	**Sg**	**00 45 02.8**	**0.0**
ELZG	**Elazig**	**1.98**	**249**	*i* P	**Pb**	**00 44 34.6**	**-1.9**
ELZG	**Elazig**	**1.98**	**249**	*i* P	**Pb**	**00 44 34.6**	**-1.9**
ARTV	**Artvin**	**1.99**	**13**	*i* P	**Pn**	**00 44 34.5**	**-0.1**
ARTV				*i* S	**Sg**	**00 45 03.8**	**+0.3**
ARTV	**Artvin**	**1.99**	**13**	*i* S	**Sg**	**00 45 03.8**	**+0.3**
ARTV	**Artvin**	**1.99**	**13**	*i* P	**Pn**	**00 44 34.5**	**-0.1**
CLDR	**Caldiran**	**2.00**	**92**	*e*PN	**Pn**	**00 44 34.4**	**-0.3**
CLDR	**Caldiran**	**2.00**	**92**	*e*Pn	**Pn**	**00 44 34.4**	**-0.3**
MACK	**Trabzon**	**2.08**	**325**	*i* P	**Pb**	**00 44 36.9**	**-1.2**
MACK				*i* S	**Sg**	**00 45 08.5**	**+2.0**
MACK	**Trabzon**	**2.08**	**325**	*i* P	**Pb**	**00 44 36.9**	**-1.2**
DBOC	**Borcka**	**2.12**	**7**	*i* P	**Pb**	**00 44 36.5**	**-2.

s-min=8.3km az=76.0
FUNV 03 00:50:13.7, 6°77N 73°12W, h169km, MW5.2
ISC 03 00:50:13.1±0.4, **6°77N**±0'04 **72°91W**±0'04, **h157**km±3km, **h157km:pP-P, n632, c0@92/668, mb4.7**/123, **203C-171D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.24**	**29**	*i*P	**Pn**	**00 50 42.8**	**+1.9**
CAPV				*e*S	**Sn**	**00 51 04.0**	**+1.7**
ROSC	**El Rosal**	**2.37**	**217**	*e*Pn	**Pn**	**00 50 54.5**	**+1.1**
ROSC				*e*Sn	**Sn**	**00 51 22.2**	**-2.3**
ROSC	**El Rosal**	**2.37**	**217**	P	**Pn**	**00 50 54.5**	**+1.1**
	1µm,0.3s,baz=294,slow=16,SNR=1397						
ROSC				S	**Sn**	**00 51 24.3**	**-0.2**
	667nm,0.3s,baz=94,slow=20,SNR=8.9						
SOCV	**Socops**	**2.53**	**54**	⇑*i*P	**Pn**	**00 50 57.1**	**+2.0**
VIGV	**El Vigia**	**2.56**	**37**	⇑*i*P	**Pn**	**00 50 57.3**	**+1.8**
SDV	**Santo Domingo**	**3.08**	**47**	*e*Pn	**Pn**	**00 51 04.0**	**+2.0**
SDV				*e*Sn	**Sn**	**00 51 41.4**	**+1.5**
ELOV	**Elorza**	**3.41**	**86**	*e*P	**Pn**	**00 51 09.1**	**+3.1**
ELOV				*e*S	**Sn**	**00 51 49.0**	**+2.0**
VIRV	**Villa del Rosa**	**3.74**	**8**	⇓*i*P	**Pn**	**00 51 09.6**	**-0.7**
VIRV				*e*S	**Sn**	**00 51 52.2**	**-2.5**
QARV	**Quebrada Arrib**	**4.15**	**35**	*e*S	**Sn**	**00 52 04.1**	**-0.2**
CURV	**Curarigua**	**4.35**	**42**	⇑*i*P	**Pn**	**00 51 19.6**	**+1.3**
CURV				*e*S	**Sn**	**00 52 07.0**	**-1.9**
TEPV	**Terepaima**	**4.86**	**49**	⇑*i*P	**Pn**	**00 51 26.5**	**+1.6**
TEPV				*e*S	**Sn**	**00 52 19.5**	**-1.4**
SIQV	**Siquisique**	**4.92**	**38**	⇑*i*P	**Pn**	**00 51 26.7**	**+0.9**
SIQV				*e*S	**Sn**	**00 52 20.7**	**-1.8**
BAUV	**El Baul**	**5.29**	**66**	⇑*i*P	**Pn**	**00 51 30.9**	**+0.4**
BAUV				*e*S	**Sn**	**00 52 29.5**	**-1.4**
JACV	**Jacura**	**5.89**	**43**	*e*P	**Pn**	**00 51 39.9**	**+1.4**
JACV				*e*S	**Sn**	**00 52 42.3**	**-3.0**
IMOV	**Isla Los Monje**	**5.89**	**20**	*e*P	**Pn**	**00 51 38.4**	**-0.2**
MONV	**Montecano**	**5.91**	**29**	*e*P	**Pn**	**00 51 38.7**	**0.0**
MONV				*e*S	**Sn**	**00 52 41.9**	**-3.9**
TURV	**Turiamo**	**6.21**	**54**	⇑*i*P	**Pn**	**00 51 43.1**	**+0.4**
TURV				*e*S	**Sn**	**00 52 49.7**	**-3.2**
FUNV	**FUNVISIS**	**7.06**	**58**	*e*P	**Pn**	**00 51 54.6**	**+0.4**
FUNV				*e*S	**Sn**	**00 53 08.9**	**-4.7**
BCIP	**Isla Barro Col**	**7.26**	**290**	*e*Pn	Pn	00 51 52.6	-4.1
BCIP				*e*Sn	**Sn**	**00 53 14.4**	**-3.7**
BIRV	**Birongo**	**7.53**	**60**	⇑*i*P	**Pn**	**00 52 00.6**	**+0.3**
BIRV				*e*S	**Sn**	**00 53 20.8**	**-3.8**
CUPV	**Cœpira**	**7.77**	**65**	⇑*i*P	**Pn**	**00 52 04.0**	**+0.5**
OTAV	**Otavalo**	**8.52**	**221**	*e*Pn	**Pn**	**00 52 12.6**	**-1.4**
OTAV				*e*Sn	**Sn**	**00 53 45.3**	**-3.9**
PCRV	**Puerto La Cruz**	**8.86**	**67**	*e*P	**Pn**	**00 52 18.4**	**+0.3**
ORIV	**Oritupano**	**9.69**	**76**	*e*P	**Pn**	**00 52 29.3**	**+0.3**
HOJ	**Hope**	**11.77**	**342**	*i* P	**Pn**	**00 52 58.6**	**+2.3**
GWJ	**Greenwich**	**11.83**	**342**	*i* P	**Pn**	**00 52 58.5**	**+1.2**
STH	**Stony Hill**	**11.86**	**342**	*i* P	**Pn**	**00 52 58.5**	**+1.0**
MCJ	**Malvern**	**12.02**	**338**	*i* P	**Pn**	**00 53 01.0**	**+1.3**
SDDR	**Presa de Saban**	**12.24**	**7**	*e*Pn	**Pn**	**00 53 03.0**	**+0.5**
BBJ	**Bamboo Saint A**	**12.29**	**340**	*i* P	**Pn**	**00 53 05.3**	**+2.2**
GRGR	**Grenville**	**12.31**	**64**	*e*Pn	**Pn**	**00 53 03.3**	**-0.1**
JTS	**JuntasAbangare**	**12.41**	**287**	*e*Sn	**Sn**	**00 55 23.0**	**+0.9**
JTS	**JuntasAbangare**	**12.41**	**287**	P	**Pn**	**00 53 05.0**	**+0.4**
	1.3nm,0.3s,baz=67,slow=3.1,SNR=15						
JTS				S	**Sn**	**00 55 23.0**	**+0.9**
	0.3nm,0.3s,baz=317,slow=19,SNR=2.1						
CRPR	**Cabo Rojo, PR**	**12.52**	**26**	*e*Pn	**Pn**	**00 53 06.0**	**0.0**
MBJ	**Montego Bay**	**12.53**	**338**	*i* S	Sn	00 55 16.1	-8.8
LSP	**Las Mesas**	**12.68**	**26**	*e*Pn	**Pn**	**00 53 07.7**	**-0.4**
MPR	**Mayaguez**	**12.69**	**26**	*e*Pn	**Pn**	**00 53 06.2**	**-1.9**
CELP	**Cerrillos**	**12.82**	**28**	*e*Pn	**Pn**	**00 53 08.7**	**-1.1**
AGP	**Aguadilla**	**12.86**	**25**	*e*Pn	**Pn**	**00 53 11.0**	**+0.6**
LRS	**Lares**	**12.89**	**27**	*e*Pn	**Pn**	**00 53 10.4**	**-0.3**
AOPR	**Arecibo Observ**	**12.98**	**27**	*e*Pn	**Pn**	**00 53 11.6**	**-0.3**
SJG	**San Juan**	**13.06**	**30**	*e*Pn	**Pn**	**00 53 12.0**	**-0.9**
SJG				*e*Sn	Sn	00 55 25.6	-12
SJG				*e*PcP	PcP	00 58 23.1	-10
SJG	**San Juan**	**13.06**	**30**	P	**Pn**	**00 53 12.4**	**-0.5**
	0.2nm,0.3s,baz=206,slow=10,SNR=17						
SJG				S	Sn	00 55 25.6	-12
	baz=353,slow=19,SNR=3.8						
SJG				LR	LR	00 58 23.1	
	comp=Z,138nm,18.3s,baz=91,slow=38						
CPD	**Cerro la Pandu**	**13.11**	**31**	*e*Pn	**Pn**	**00 53 12.3**	**-1.3**
GTBY	**Guantanamo Bay**	**13.25**	**351**	*e*Pn	**Pn**	**00 53 16.2**	**+0.9**
CBYP	**Canovanas**	**13.34**	**30**	*e*Pn	**Pn**	**00 53 16.4**	**-0.1**
MTP	**Monte Pirata**	**13.35**	**32**	*e*Pn	**Pn**	**00 53 16.6**	**0.0**
CDVI	**St. Croix**	**13.50**	**35**	*e*Pn	**Pn**	**00 53 18.9**	**+0.4**
STVI	**Saint Thomas**	**13.88**	**33**	*e*Pn	**Pn**	**00 53 22.9**	**-0.4**
BBGH	**Gun Hill**	**14.59**	**63**	*e*P	**P**	**00 53 33.9**	**-0.6**
GRTK	**Grand Turk**	**14.75**	**7**	*e*Pn	**Pn**	**00 53 33.7**	**-0.5**
ATAH	**Atahualpa**	**14.86**	**202**	P	**P**	**00 53 37.5**	**-0.4**
	1.5nm,0.3s,baz=81,slow=3.4,SNR=10						
ATAH				S	**Sn**	**00 56 24.3**	**+2.8**
	0.1nm,0.3s,baz=119,slow=19,SNR=1.9						
ATAH				LR	LR	00 59 43.9	
	comp=Z,88nm,20.6s,baz=213,slow=38						
ANWB	**Willy Bob**	**15.34**	**44**	*e*Pn	**Pn**	**00 53 41.8**	**+0.3**
	57nm,0.8s						
TGUH	**Tegucigalpa,Un**	**15.86**	**298**	*e*Pn	**Pn**	**00 53 46.3**	**-1.7**
	103nm,1.3s						
SAML	**Samuel**	**18.38**	**148**	*e*P	**P**	**00 54 16.9**	**+0.7**
	95nm,1.4s						
PAYG	**Puerto Ayora**	**18.85**	**248**	*e*P	**P**	**00 54 22.3**	**+1.0**
	108nm,1.3s						
APG	**El Apazote**	**19.06**	**297**	P	**P**	**00 54 22.1**	**-1.8**
	1.1nm,0.3s,baz=139,slow=7.4,SNR=18						
TEIG	**Tepich**	**20.02**	**313**	*e*P	**P**	**00 54 34.2**	**+0.2**
	44nm,0.7s						
TEIG				*e*S	**S**	**00 58 12.0**	**+1.4**
TEIG	**Tepich**	**20.02**	**313**	P	**P**	**00 54 33.9**	**-0.1**
	43nm,0.5s,baz=133,slow=5.9,SNR=24						
TEIG				S	**S**	**00 58 12.0**	**+1.4**
	4.1nm,1.0s,baz=49,slow=19,SNR=3.3						
LPAZ	**La Paz**	**23.40**	**168**	*e*P	**P**	**00 55 08.7**	**0.0**
	191nm,1.9s						
SIV	**San Ignacio**	**25.48**	**153**	*e*P	**P**	**00 55 27.6**	**+0.7**
SIV	**San Ignacio**	**25.48**	**153**	P	**P**	**00 55 27.6**	**+0.7**
	3.7nm,1.0s,baz=332,slow=10,SNR=7.2						
TIGA	**Tifton**	**26.49**	**339**	*e*P	**P**	**00 55 34.4**	**-1.6**
TIGA	**Tifton**	**26.49**	**339**	⇑P	**P**	**00 55 36.5**	**+0.5**
	baz=27						
LRAL	**Lakeview Retre**	**29.23**	**335**	*e*P	**P**	**00 56 00.7**	**+0.5**
	13nm,0.8s						
VBMS	**Vicksburg**	**30.17**	**329**	*e*P	**P**	**00 56 07.6**	**-0.9**
	45nm,0.6s						
TKL	**Tuckaleechee C**	**30.43**	**342**	*e*P	**P**	**00 56 09.4**	**-1.4**
CPCT	**Cooper Cave**	**30.47**	**341**	*e*P	**P**	**00 56 10.2**	**-1.0**
SWET	**Sewanee**	**30.74**	**339**	*e*P	**P**	**00 56 14.1**	**+0.5**
	8.8nm,0.7s						
TZTN	**Tazewell**	**31.19**	**343**	*e*P	**P**	**00 56 17.5**	**0.0**
	11nm,0.7s						
HKT	**Hockley**	**31.56**	**320**	*e*P	**P**	**00 56 20.8**	**0.0**
	23nm,1.6s						
WVT	**Waverly**	**32.26**	**337**	*e*P	**P**	**00 56 27.4**	**+0.6**
	28nm,0.6s						
HALT	**Halls**	**32.68**	**335**	*e*P	**P**	**00 56 30.5**	**0.0**
HBAR	**Harrisburg**	**32.96**	**333**	*e*P	**P**	**00 56 32.5**	**-0.4**
GNAR	**Gosnell**	**33.02**	**334**	*e*P	**P**	**00 56 31.7**	**-1.8**
MVL	**Millersville**	**33.23**	**355**	*e*P	**P**	**00 56 36.2**	**+1.0**
	19nm,1.4s						
BDFB	**Brasilia**	**33.23**	**132**	*e*P	**P**	**00 56 36.7**	**+1.1**
BDFB	**Brasilia**	**33.23**	**132**	P	**P**	**00 56 36.8**	**+1.1**
	6.0nm,0.5s,baz=302,slow=11,SNR=12						
WCI	**Wyandotte Cave**	**33.58**	**341**	*e*P	**P**	**00 56 37.9**	**-0.5**
	21nm,0.8s						
732A	**Laxson Ranch,**	**33.62**	**314**	⇑P	**P**	**00 56 37.8**	**-0.9**
	baz=34						
LUPA	**Lehigh Univers**	**33.75**	**357**	*e*P	**P**	**00 56 40.0**	**+0.3**
	26nm,1.1s						
USIN	**University of**	**33.81**	**339**	*e*P	**P**	**00 56 39.5**	**-0.9**
	126nm,1.3s						
PBMO	**Poplar Bluff**	**33.88**	**334**	*e*P	**P**	**00 56 40.4**	**-0.5**
	33nm,0.7s						
632A	**Uvalde**	**33.94**	**315**	⇑P	**P**	**00 56 40.8**	**-0.8**
	baz=34						
WHTX	**Lake Whitney**	**33.96**	**321**	⇓P	**P**	**00 56 41.7**	**0.0**
	baz=34						
SSPA	**Standing Stone**	**34.01**	**353**	*e*P	**P**	**00 56 42.4**	**+0.4**
	14nm,1.1s						
SIUC	**Southern Illin**	**34.18**	**337**	*e*P	**P**	**00 56 43.8**	**+0.3**
	41nm,0.6s						
ODNJ	**Ogdensburg**	**34.20**	**358**	*e*P	**P**	**00 56 44.4**	**+0.8**
	32nm,1.4s						
532A	**Rocksprings**	**34.39**	**316**	⇑P	**P**	**00 56 44.8**	**-0.7**
	baz=34,SNR=16						
631A	**Perdido Creek**	**34.44**	**314**	⇑P	**P**	**00 56 45.3**	**-0.6**
	baz=34,SNR=9.4						
BLO	**Bloomington**	**34.51**	**341**	*e*P	**P**	**00 56 47.4**	**+1.0**
	44nm,0.7s						
JCT	**Junction City**	**34.53**	**316**	⇓P	**P**	**00 56 46.2**	**-0.5**
	baz=35						
OLIL	**Olney**	**34.65**	**339**	*e*P	**P**	**00 56 47.4**	**-0.1**
	29nm,0.6s						
432A	**Menard**	**34.77**	**317**	⇑P	**P**	**00 56 48.4**	**-0.4**
	baz=35						
531A	**Rocksprings**	**34.86**	**315**	⇓P	**P**	**00 56 49.1**	**-0.5**
	baz=35						
332A	**Millersview**	**35.05**	**318**	⇑P	**P**	**00 56 50.3**	**-0.8**
	baz=35,SNR=10						
431A	**Sonora**	**35.21**	**316**	⇓P	**P**	**00 56 51.8**	**-0.7**
	baz=35,SNR=6.7						
232A	**Coleman**	**35.30**	**319**	⇓P	**P**	**00 56 52.8**	**-0.5**
	baz=35,SNR=13						
BINY	**Binghamton**	**35.38**	**356**	*e*P	**P**	**00 56 55.0**	**+1.2**
	22nm,1.1s						
530A	**J-C Ranch, Com**	**35.41**	**315**	⇓P	**P**	**00 56 53.8**	**-0.4**
	baz=36,SNR=26						
331A	**San Angelo**	**35.46**	**317**	⇓P	**P**	**00 56 54.2**	**-0.5**
	baz=36,SNR=6.6						
WES	**Weston**	**35.49**	**2**	*e*P	**P**	**00 56 54.9**	**+0.2**
430A	**Baggett Ranch,**	**35.71**	**316**	⇑P	**P**	**00 56 56.2**	**-0.6**
	baz=36						
ABTX	**Abilene, Hawle**	**35.77**	**320**	*e*P	**P**	**00 56 56.1**	**-1.2**
ABTX	**Abilene, Hawle**	**35.77**	**320**	⇑P	**P**	**00 56 57.1**	**-0.1**
	baz=36,SNR=8.4						
231A	**Bronte**	**35.78**	**318**	⇓P	**P**	**00 56 56.7**	**-0.6**
	baz=36,SNR=5.8						
TUL1	**Tulsa**	**35.79**	**327**	*e*P	**P**	**00 56 55.6**	**-1.7**
TUL1	**Tulsa**	**35.79**	**327**	⇓P	**P**	**00 56 56.6**	**-0.8**
	baz=36,SNR=6.5						
SFIN	**Scholer Farm**	**35.79**	**341**	*e*P	**P**	**00 56 56.6**	**-0.7**
SFIN	**Scholer Farm**	**35.79**	**341**	⇓P	**P**	**00 56 57.9**	**+0.6**
	baz=36,SNR=14						
529A	**Stev Forest Ra**	**36.02**	**314**	⇑P	**P**	**00 56 58.5**	**-0.9**
	baz=36,SNR=8.8						
330A	**Mertzon**	**36.03**	**317**	⇑P	**P**	**00 56 58.7**	**-0.8**
	baz=36						
429A	**Davenport Ranc**	**36.07**	**315**	⇑P	**P**	**00 56 59.0**	**-0.9**
	baz=36,SNR=7.2						
MMNY	**Mt. Morris Dam**	**36.08**	**354**	*e*P	**P**	**00 57 00.6**	**+0.9**
	55nm,1.2s						
Z32A	**Haskell**	**36.11**	**321**	⇑P	**P**	**00 57 00.2**	**+0.1**
	baz=36,SNR=15						
628A	**Black Gap, Mar**	**36.15**	**312**	⇑P	**P**	**00 57 00.1**	**-0.5**
	baz=36,SNR=7.3						
CPUP	**Villa Florida**	**36.22**	**156**	LR	LR	01 12 37.0	
	comp=Z,80nm,21.6s,baz=178,slow=37						
230A	**Sterling City**	**36.28**	**317**	⇑P	**P**	**00 57 01.0**	**-0.7**
	baz=36,SNR=7.0						
131A	**Roby**	**36.29**	**319**	⇓P	**P**	**00 57 01.7**	**0.0**
	baz=36						
528A	**Cox Ranch, San**	**36.45**	**313**	⇑P	**P**	**00 57 02.6**	**-0.6**
	baz=36,SNR=14						
ACCN	**Adirondack Com**	**36.47**	**359**	*e*P	**P**	**00 57 04.6**	**+1.6**
	27nm,1.4s						
627A	**Terlingua Ranc**	**36.50**	**312**	⇓P	**P**	**00 57 03.3**	**-0.4**
	baz=37,SNR=25						
Z31A	**Sharp Cattle R**	**36.54**	**320**	⇓P	**P**	**00 57 03.9**	**+0.1**
	baz=37,SNR=5.3						
Y32A	**R-V Farms, Ver**	**36.55**	**321**	⇓P	**P**	**00 57 04.0**	**+0.1**
	baz=37,SNR=6.0						
130A	**Snyder**	**36.62**	**318**	⇑P	**P**	**00 57 04.2**	**-0.3**
	baz=37,SNR=6.7						
329A	**Wagon Wheel Ra**	**36.63**	**316**	⇓P	**P**	**00 57 04.2**	**-0.5**
	baz=37,SNR=18						
WMOK	**Wichita Mounta**	**36.64**	**323**	*e*P	**P**	**00 57 03.9**	**-0.8**
	9.9nm,0.7s						
TXAR	**Lajitas Array**	**36.65**	**312**	P	**P**	**00 57 04.6**	**-0.2**
	7.6nm,0.7s,baz=127,slow=9.2,SNR=124						
TXAR				PcP	**PcP**	**00 59 25.9**	**+1.3**
	3.7nm,0.7s,baz=132,slow=6.0,SNR=10						
LTX	**Lajitas**	**36.65**	**312**	*e*P	**P**	**00 57 04.6**	**-0.2**
LTX				*e*PcP	**PcP**	**00 59 25.9**	**+1.3**
428A	**Kincaid Ranch,**	**36.69**	**314**	⇓P	**P**	**00 57 05.2**	**0.0**
	baz=37,SNR=16						
229A	**Bryant Ranch,**	**36.80**	**317**	⇓P	**P**	**00 57 05.9**	**-0.1**
	baz=37,SNR=14						
Y31A	**Rekieta Farm,**	**37.03**	**321**	⇓P	**P**	**00 57 08.2**	**+0.3**
	baz=37,SNR=21						
527A	**Woodward Ranch**	**37.04**	**313**	⇑P	**P**	**00 57 08.4**	**+0.2**
	baz=37,SNR=20						
NCB	**Newcomb**	**37.07**	**358**	*e*P	**P**	**00 57 09.9**	**+1.8**
	26nm,1.3s						
626A	**Big Bend Ranch**	**37.11**	**312**	⇓P	**P**	**00 57 08.6**	**-0.2**
	baz=37,SNR=11						
328A	**Wristen Ranch,**	**37.15**	**315**	⇑P	**P**	**00 57 08.5**	**-0.5**
	baz=37,SNR=16						
Z30A	**Sanderson Ranc**	**37.15**	**319**	⇑P	**P**	**00 57 08.7**	**-0.3**
	baz=37,SNR=17						
129A	**Stewart Farms,**	**37.24**	**318**	⇓P	**P**	**00 57 09.8**	**0.0**
	baz=37,SNR=6.1						
427A	**Hayter Ranch,**	**37.27**	**314**	⇑P	**P**	**00 57 09.7**	**-0.4**
	baz=37,SNR=25						
X31A	**McDonald Ranch**	**37.30**	**322**	⇑P	**P**	**00 57 09.7**	**-0.5**
	baz=37,SNR=5.4						
LBNH	**Lisbon**	**37.33**	**1**	*e*P	**P**	**00 57 10.6**	**+0.3**
526A	**Mary Lane Ranc**	**37.34**	**312**	⇑P	**P**	**00 57 10.6**	**-0.1**
	baz=37,SNR=16						
Y30A	**Stafford Cattl**	**37.38**	**320**	⇑P	**P**	**00 57 10.9**	**0.0**
	baz=38,SNR=5.4						
Z29A	**Hungry Hill Ra**	**37.52**	**318**	⇓P	**P**	**00 57 11.7**	**-0.4**
	baz=38,SNR=24						
426A	**McDonald Obser**	**37.62**	**313**	⇓P	**P**	**00 57 12.9**	**-0.3**
	baz=38,SNR=16						
W31A	**Holland Ranch,**	**37.65**	**322**	⇑P	**P**	**00 57 12.7**	**-0.5**
	baz=38,SNR=7.1						
128A	**Castleberry Fa**	**37.65**	**317**	⇓P	**P**	**00 57 13.2**	**-0.1**
	baz=38,SNR=32						
PTN	**Potsdam (NY)**	**37.69**	**358**	*e*P	**P**	**00 57 14.7**	**+1.4**
	34nm,0.8s						
LONY	**Lake Ozonia**	**37.73**	**358**	*e*P	**P**	**00 57 14.5**	**+0.9**
	21nm,1.2s						
X30A	**Coker Ranch, T**	**37.73**	**321**	⇑P	**P**	**00 57 14.0**	**+0.2**
	baz=38,SNR=12						
WVL	**Waterville**	**37.75**	**4**	*e*P	**P**	**00 57 13.8**	**0.0**
Y29A	**Porterfield Fa**	**37.87**	**319**	⇑P	**P**	**00 57 15.3**	**+0.2**
	baz=38,SNR=14						
FRNY	**Flat Rock**	**37.92**	**359**	*e*P	**P**	**00 57 16.0**	**+0.8**
	18nm,1.0s						
326A	**Caldwell Ranch**	**37.94**	**314**	⇑P	**P**	**00 57 15.6**	**-0.1**
	baz=38,SNR=6.5						
V31A	**Spring Creek L**	**37.98**	**323**	⇑P	**P**	**00 57 16.0**	**+0.1**
	baz=38						
Z28A	**Tucker Farm, M**	**37.98**	**318**	⇑P	**P**	**00 57 15.5**	**-0.5**
	baz=38,SNR=8.8						
EMMW	**East Machias**	**38.09**	**6**	*e*P	**P**	**00 57 17.6**	**+1.0**
X29A	**Tulia**	**38.25**	**320**	⇓P	**P**	**00 57 18.2**	**-0.1**
	baz=38,SNR=6.3						
Y28A	**McKinney Farm,**	**38.27**	**319**	⇑P	**P**	**00 57 18.0**	**-0.5**
	baz=38,SNR=18						
127A	**Arkansas Junct**	**38.28**	**316**	⇑P	**P**	**00 57 18.4**	**-0.1**
	baz=38						
425A	**Indio Mountain**	**38.38**	**313**	⇓P	**P**	**00 57 19.1**	**-0.4**
	baz=38,SNR=18						
PKME	**Peaks-Kenny Pk**	**38.47**	**4**	*e*P	**P**	**00 57 20.5**	**+0.7**
226B	**Tecolote Peak,**	**38.49**	**315**	⇑P	**P**	**00 57 20.3**	**-0.1**
	baz=39,SNR=8.5						
Z27A	**Tatum**	**38.55**	**317**	⇑P	**P**	**00 57 20.4**	**-0.5**
	baz=39,SNR=42						
KSU1	**Kansas State U**	**38.63**	**330**	*e*P	**P**	**00 57 20.4**	**-0.8**
	27nm,0.7s						
W29A	**Amraillo**	**38.65**	**321**	⇑P	**P**	**00 57 22.3**	**+0.7**
	baz=39						
MSTX	**Muleshoe**	**38.65**	**319**	*e*P	**P**	**00 57 20.1**	**-1.5**
MSTX	**Muleshoe**	**38.65**	**319**	⇑P	**P**	**00 57 21.1**	**-0.5**
	baz=39,SNR=6.5						
GDL2	**Guadalupe Moun**	**38.70**	**315**	*e*P	**P**	**00 57 22.8**	**+0.7**
126A	**Clayton Basin,**	**38.72**	**316**	⇑P	**P**	**00 57 22.4**	**+0.3**
	baz=39						
T31A	**Randall Ranch,**	**38.80**	**325**	⇓P	**P**	**00 57 23.0**	**+0.3**
	baz=39						
Y27A	**Causey**	**38.86**	**318**	⇓P	**P**	**00 57 22.7**	**-0.7**
	baz=39,SNR=18						
U30A	**WK&E Inc. Balk**	**38.98**	**323**	⇓P	**P**	**00 57 24.6**	**+0.3**
	baz=39						
225A	**Deer Hill, Car**	**38.98**	**315**	⇑P	**P**	**00 57 24.7**	**+0.2**
	baz=39,SNR=12						
Z26A	**Caprock**	**39.05**	**317**	⇑P	**P**	**00 57 24.6**	**-0.3**
	baz=39,SNR=33						
S31A	**Mullinville**	**39.06**	**326**	⇓P	**P**	**00 57 25.1**	**+0.2**
	baz=39						
V29A	**Stinnett**	**39.06**	**322**	⇓P	**P**	**00 57 25.8**	**+0.9**
	baz=39,SNR=9.8						
324A	**Moseley Ranch,**	**39.09**	**313**	⇑P	**P**	**00 57 25.1**	**-0.3**
	baz=39,SNR=38						
JFWS	**Jewell Farm**	**39.11**	**340**	*e*P	**P**	**00 57 23.8**	**-1.4**
	44nm,0.6s						
MNTX	**Cornudas Mount**	**39.15**	**314**	*e*P	**P**	**00 57 25.0**	**-0.8**
	14nm,0.6s						
125A	**Gardner Draw,**	**39.16**	**315**	⇓P	**P**	**00 57 26.0**	**0.0**
	baz=39,SNR=24						
T30A	**Plains**	**39.26**	**324**	⇓P	**P**	**00 57 27.3**	**+0.7**
	baz=39						
X27A	**F and S Farms,**	**39.28**	**319**	⇓P	**P**	**00 57 27.1**	**+0.2**
	baz=39						
Y26A	**Elida**	**39.32**	**318**	⇓P	**P**	**00 57 27.1**	**-0.2**
	baz=39,SNR=12						
SCIA	**State Center**	**39.36**	**336**	*e*P	**P**	**00 57 26.0**	**-1.2**
	43nm,0.6s						
224A	**Cornudas Mount**	**39.46**	**314**	⇓P	**P**	**00 57 28.6**	**+0.2**
	baz=40,SNR=65						
W27A	**Bowe Ranch, En**	**39.51**	**320**	⇑P	**P**	**00 57 28.6**	**-0.2**
	baz=40,SNR=17						
Z25A	**Roswell**	**39.56**	**316**	⇓P	**P**	**00 57 29.5**	**+0.3**
	baz=40,SNR=22						
R31A	**Burdett**	**39.56**	**326**	⇑P	**P**	**00 57 29.2**	**+0.2**
	baz=40						
S30A	**Montezuma**	**39.63**	**325**	⇓P	**P**	**00 57 30.1**	**+0.5**
	baz=40						
X26A	**CR and CF Fran**	**39.69**	**318**	⇓P	**P**	**00 57 30.2**	**-0.1**
	baz=40,SNR=7.5						
124A	**Stringfield Ra**	**39.75**	**315**	⇑P	**P**	**00 57 32.1**	**+1.2**
	baz=40,SNR=13						
T29A	**Hugoton**	**39.78**	**324**	⇑P	**P**	**00 57 31.5**	**+0.6**
	baz=40						
V27A	**Dan Oppiter Fa**	**39.80**	**321**	⇑P	**P**	**00 57 31.5**	**+0.4**
	baz=40						
Y25A	**Mesa, Roswell**	**39.91**	**317**	⇓P	**P**	**00 57 32.4**	**+0.3**
	baz=40,SNR=12						
R30A	**Dighton**	**39.97**	**326**	⇑P	**P**	**00 57 32.5**	**+0.1**
	baz=40,SNR=6.3						
W26A	**Owens Ranch, T**	**39.98**	**319**	⇑P	**P**	**00 57 32.8**	**+0.1**
	baz=40,SNR=9.4						
S29A	**Ulysses**	**39.99**	**324**	⇓P	**P**	**00 57 33.2**	**+0.6**
	baz=40						
Z24A	**Sheeppen Canyo**	**40.03**	**316**	⇑P	**P**	**00 57 33.2**	**0.0**
	baz=40,SNR=10						
223A	**Chaparral, Ant**	**40.07**	**313**	⇑P	**P**	**00 57 33.8**	**+0.3**
	baz=40						
U27A	**Thompson Grove**	**40.22**	**321**	⇑P	**P**	**00 57 34.7**	**+0.1**
	baz=40,SNR=5.7						
X25A	**Clemmons Ranch**	**40.24**	**318**	⇓P	**P**	**00 57 35.2**	**+0.4**
	baz=40						
T28A	**Walsh**	**40.24**	**323**	⇑P	**P**	**00 57 34.9**	**+0.2**
	baz=40						
Y24A	**Capitan**	**40.42**	**316**	⇓P	**P**	**00 57 36.9**	**+0.6**
	baz=40,SNR=37						
S28A	**Manter**	**40.42**	**324**	⇓P	**P**	**00 57 36.7**	**+0.4**
	baz=40,SNR=6.5						
Q30A	**Quinter**	**40.43**	**327**	⇓P	**P**	**00 57 36.5**	**+0.3**
	baz=40						
V26A	**Tequesquite Ra**	**40.43**	**320**	⇑P	**P**	**00 57 36.8**	**+0.4**
	baz=40,SNR=9.4						
W25A	**X Bar L Ranch,**	**40.52**	**319**	⇑P	**P**	**00 57 37.4**	**+0.3**
	baz=41,SNR=17						
R29A	**Marienthal**	**40.55**	**325**	⇑P	**P**	**00 57 37.9**	**+0.6**
	baz=41					

baz=43,SNR=9.1
Q25A **Bedland, Calha** 42.69 323 ⇑P P 00 57 55.7 +0.9
baz=43
SDCO **Great Sand Dun** 42.72 321 eP P 00 57 55.1 0.0
9.3nm,0.8s
U22A **Llaves** 42.77 318 ⇑P P 00 57 56.7 +1.2
baz=43
R24A **Sanders Place,** 42.77 322 ⇓P P 00 57 56.6 +1.2
baz=43,SNR=20
L29A **Maesberg Ranch** 42.80 330 ⇑P P 00 57 55.6 +0.2
baz=43
K30A **Basset** 42.83 331 ⇓P P 00 57 55.7 +0.1
baz=43
X20A **Quemado** 42.88 315 ⇓P P 00 57 57.3 +0.9
baz=43,SNR=12
V21A **Milan** 42.97 317 ⇓P P 00 57 57.9 +0.8
baz=43,SNR=7.3
N27A **Anderson Farm,** 42.98 327 ⇑P P 00 57 57.4 +0.4
baz=43
O26A **Horse Wrangler** 43.02 325 ⇑P P 00 57 58.0 +0.6
baz=43
P25A **Willow Gulch B** 43.03 324 ⇑P P 00 57 58.1 +0.6
baz=43,SNR=5.3
T22A **Edith** 43.17 319 ⇓P P 00 57 59.7 +1.0
baz=43
W20A **Ramah** 43.19 316 ⇑P P 00 57 59.6 +0.8
baz=43,SNR=5.3
R23A **Moffat** 43.19 321 ⇑P P 00 57 60.0 +1.0
baz=43
Q24A **Divide** 43.26 323 ⇑P P 00 58 00.3 +0.8
baz=43
J30A **Dallas** 43.26 332 ⇓P P 00 57 58.4 -0.7
baz=43,SNR=5.1
M27A **Reverse DX Ran** 43.40 327 ⇓P P 00 58 00.9 +0.5
baz=44
TUC **Tucson** 43.43 311 eP P 00 58 00.5 -0.2
8.5nm,0.8s
S22A **4UR Ranch, Cre** 43.55 320 ⇓P P 00 58 02.4 +0.6
baz=44,SNR=13
T21A **Navajo Lake** 43.57 319 ⇑P P 00 58 02.6 +0.7
baz=44,SNR=5.7
I30A **Oacoma** 43.68 332 ⇑P P 00 58 02.2 -0.3
baz=44
J29A **Okreek** 43.72 331 ⇓P P 00 58 02.1 -0.6
baz=44,SNR=12
K28A **Ten Mile Ranch** 43.72 329 ⇓P P 00 58 03.2 +0.4
baz=44
L27A **T5 Ranch, Ells** 43.76 328 ⇓P P 00 58 03.1 0.0
baz=44
M26A **McRoberts Ranc** 43.77 327 ⇓P P 00 58 04.0 +0.7
baz=44
R22A **Saguache, Gunn** 43.80 321 ⇑P P 00 58 04.7 +0.9
baz=44
BRSD **Miller** 43.87 333 eP P 00 58 02.9 -1.1
BRSD **Miller** 43.87 333 ⇑P P 00 58 03.6 -0.3
baz=44,SNR=14
U20A **Newcomb** 43.88 317 ⇓P P 00 58 04.8 +0.5
baz=44
X18A **Snowflake** 43.90 314 ⇑P P 00 58 05.2 +0.6
baz=44,SNR=8.0
P23A **Jefferson** 43.93 323 ⇓P P 00 58 05.8 +0.8
baz=44,SNR=6.4
O24A **Longmont** 43.96 324 ⇑P P 00 58 05.8 +0.9
baz=44
EYMN **Ely** 43.98 342 eP P 00 58 04.7 -0.1
42nm,0.6s
W18A **Petrified Fore** 44.04 315 eP P 00 58 05.1 -0.6
W18A **Petrified Fore** 44.04 315 ⇑P P 00 58 06.8 +1.1
baz=44
ISCO **Idaho Springs** 44.07 323 eP P 00 58 06.4 +0.4
12nm,0.9s
ISCO **Idaho Springs** 44.07 323 ⇓P P 00 58 06.7 +0.8
baz=44,SNR=19
K27A **Flueckinger Fa** 44.16 329 ⇓P P 00 58 06.5 +0.1
baz=44
J28A **Allard Ranch,** 44.18 330 ⇓P P 00 58 06.3 -0.2
baz=44,SNR=10.0
M25A **Palm-Egli Farm** 44.24 326 ⇑P P 00 58 07.6 +0.4
baz=44
Q22A **Crested Butte,** 44.27 321 ⇑P P 00 58 08.2 +0.6
baz=44,SNR=17
DRLN **Deer Lake** 44.29 14 eP P 00 58 07.2 +0.1
110nm,1.5s
N24A **Carr** 44.30 325 ⇑P P 00 58 08.8 +1.1
baz=44
MVCO **Mesa Verde** 44.33 318 eP P 00 58 07.5 -0.5
7.6nm,0.7s
MVCO **Mesa Verde** 44.33 318 ⇓P P 00 58 07.8 -0.1
baz=44,SNR=6.8
R21A **Cimarron** 44.38 320 ⇑P P 00 58 09.6 +1.2
baz=44
G30A **Faulkton** 44.49 333 ⇑P P 00 58 08.6 -0.3
baz=45,SNR=5.6
SMCO **Snowmass** 44.50 322 eP P 00 58 09.3 -0.3
4.2nm,0.7s
O23A **Lake Granby, G** 44.51 323 ⇑P P 00 58 10.8 +1.4
baz=45
I28A **Midland** 44.57 331 ⇑P P 00 58 09.3 -0.2
baz=45,SNR=8.9
H29A **Onida** 44.59 332 ⇑P P 00 58 09.1 -0.6
baz=45,SNR=8.8
S20A **Disappointment** 44.59 319 ⇑P P 00 58 10.9 +0.9
baz=45,SNR=22
P22A **Eagle** 44.63 322 ⇓P P 00 58 10.7 +0.3
baz=45,SNR=5.3
M24A **Cheyenne** 44.70 326 ⇓P P 00 58 11.7 +0.9
baz=45
R20A **Redvale** 44.81 320 ⇑P P 00 58 12.6 +0.8
baz=45,SNR=11
214A **Organ Pipe Nat** 44.82 309 ⇑P P 00 58 11.9 +0.2
baz=45,SNR=8.8
O22A **Kremmling** 44.85 323 ⇑P P 00 58 12.5 +0.4
baz=45,SNR=29
G29A **Hoven** 44.89 333 ⇓P P 00 58 12.1 +0.1
baz=45
PV01 **Paradox Valley** 44.90 319 eP P 00 58 12.0 -0.5
X16A **Lo Mia Camp, P** 44.91 313 ⇓P P 00 58 13.2 +0.6
baz=45,SNR=15
PHWY **Pilot Hill** 44.95 325 eP P 00 58 12.4 -0.4
4.4nm,0.6s
K25A **Mack Ranch, Ha** 44.95 327 ⇓P P 00 58 13.2 +0.5
baz=45
PV15 **Paradox Valley** 44.96 320 eP P 00 58 13.0 +0.1
N23A **Red Feather La** 44.96 324 ⇓P P 00 58 13.5 +0.6
baz=45,SNR=11
F30A **Leola** 44.99 334 ⇓P P 00 58 13.3 +0.5
baz=45
H28A **Mission Ridge** 45.00 332 ⇓P P 00 58 13.0 +0.1
baz=45
P21A **Newcastle** 45.01 322 ⇓P P 00 58 14.2 +0.9
baz=45,SNR=8.1
J26A **Sides Ranch, S** 45.02 329 ⇑P P 00 58 13.5 +0.3
baz=45,SNR=6.3
I27A **Quinn** 45.05 330 ⇑P P 00 58 13.1 -0.3
baz=45,SNR=5.3
Q20A **Ridgley Place,** 45.20 320 ⇑P P 00 58 16.1 +1.3
baz=45,SNR=16
N22A **Wattenberg Ran** 45.20 324 ⇓P P 00 58 16.7 +1.8
baz=45
M23A **Laramie** 45.20 325 ⇑P P 00 58 15.7 +0.9
baz=45
PV05 **Paradox Valley** 45.21 319 eP P 00 58 13.8 -1.1
G28A **Parade** 45.25 332 ⇓P P 00 58 14.9 0.0
baz=45
PV10 **Paradox Valley** 45.34 319 eP P 00 58 16.2 +0.2
F29A **Eureka** 45.34 334 ⇑P P 00 58 15.4 -0.2
baz=46,SNR=5.3
WUAZ **Wupatki** 45.40 315 eP P 00 58 16.5 +0.1
31nm,0.9s
WUAZ **Wupatki** 45.40 315 ⇓P P 00 58 17.1 +0.7
baz=46,SNR=26
O21A **Pagoda** 45.44 322 ⇓P P 00 58 17.9 +1.2
baz=46
J25A **Sunshine Ranch** 45.45 328 ⇓P P 00 58 16.9 +0.3
baz=46
E30A **Jud** 45.47 335 ⇓P P 00 58 16.4 -0.2
baz=46,SNR=5.0
PV09 **Paradox Valley** 45.47 319 eP P 00 58 16.4 -0.7
H27A **Howes** 45.48 331 ⇓P P 00 58 15.9 -0.8
baz=46,SNR=6.2
Z14A **Wintersburg** 45.53 311 ⇑P P 00 58 17.6 +0.3
baz=46,SNR=8.4
P20A **De Beque** 45.58 321 ⇑P P 00 58 18.3 +0.5
baz=46
L23A **Garrett** 45.62 326 ⇑P P 00 58 18.2 +0.2
baz=46,SNR=8.5
AGMN **Agassiz Nation** 45.74 339 eP P 00 58 18.1 -0.6
20nm,0.6s
TRQA **Tornquist** 45.75 168 eP P 00 58 17.0 -1.9
42nm,2.0s
F28A **McLaughlin** 45.79 333 ⇓P P 00 58 19.0 -0.1
baz=46,SNR=5.2
E29A **Napoleon** 45.83 334 ⇑P P 00 58 19.5 +0.1
baz=46,SNR=5.9
Y14A **Wickenburg** 45.83 312 ⇓P P 00 58 19.8 +0.1
baz=46,SNR=20
I25A **Rochford** 45.86 329 ⇑P P 00 58 20.4 +0.5
baz=46,SNR=12
O20A **White River Ci** 45.86 322 eP P 00 58 19.8 -0.2
O20A **White River Ci** 45.86 322 ⇑P P 00 58 20.9 +0.9
baz=46,SNR=7.0
J24A **Dixon Ranch, L** 45.87 328 ⇓P P 00 58 21.6 +1.7
baz=46
D30A **Buchanan** 45.89 335 ⇓P P 00 58 19.8 0.0
baz=46,SNR=7.1
113A **Mohawk Valley,** 45.89 310 ⇑P P 00 58 20.3 +0.2
baz=46
G27A **Dupree** 45.96 332 ⇑P P 00 58 20.3 -0.1
baz=46,SNR=10
L22A **Ellis Ranch, M** 45.97 325 ⇑P P 00 58 22.3 +1.5
baz=46
K23A **Bowen Ranch, D** 46.00 326 ⇑P P 00 58 21.8 +0.9
baz=46
P19A **Cripple Cowboy** 46.02 321 ⇓P P 00 58 21.6 +0.3
baz=45
RSSD **Black Hills** 46.09 329 eP P 00 58 21.4 -0.3
38nm,1.2s
D29A **Pettibone, Tap** 46.20 335 ⇓P P 00 58 22.2 -0.1
baz=46,SNR=11
I24A **Kuemmerle Ranc** 46.21 328 ⇓P P 00 58 23.0 +0.4
baz=46,SNR=5.8
G26A **Maurine** 46.21 331 ⇓P P 00 58 21.3 -1.2
baz=46,SNR=6.2
H25A **Fruitdale** 46.22 330 ⇑P P 00 58 22.3 -0.2
baz=46
M21A **Separation Pea** 46.24 324 ⇓P P 00 58 23.7 +0.7
baz=46
C30A **Mose, Pekin** 46.25 336 ⇑P P 00 58 22.4 -0.2
baz=46,SNR=10
E28A **Huff** 46.30 334 ⇑P P 00 58 23.5 +0.5
baz=46
N20A **Spence Gulch,** 46.30 323 ⇑P P 00 58 24.1 +0.7
baz=46,SNR=9.8
F27A **Lemmon** 46.37 332 ⇑P P 00 58 23.7 +0.1
baz=46,SNR=14
J23A **Dilts Ranch, B** 46.39 327 ⇓P P 00 58 25.2 +1.2
baz=46
K22A **Casper** 46.43 326 ⇓P P 00 58 25.1 +0.8
baz=46
L21A **Rawlins** 46.47 324 ⇑P P 00 58 25.1 +0.3
baz=47
U15A **North Rim** 46.50 315 ⇑P P 00 58 25.8 +0.6
baz=47,SNR=20
O19A **Miners Draw (B** 46.50 321 ⇑P P 00 58 25.1 +0.2
baz=47,SNR=9.1
G25A **Newell** 46.54 330 ⇑P P 00 58 24.8 -0.2
baz=47,SNR=10
E27A **Carson** 46.57 333 ⇑P P 00 58 25.6 +0.3
baz=47,SNR=8.5
M20A **Sweetwater, Wa** 46.65 323 ⇓P P 00 58 26.5 +0.4
baz=47
F26A **Lodgepole** 46.66 332 ⇑P P 00 58 26.3 +0.4
baz=47
SRU **San Rafael** 46.71 319 eP P 00 58 26.3 -0.3
11nm,0.8s
I23A **Meade Ranch, G** 46.72 328 ⇓P P 00 58 27.7 +1.2
baz=47
H24A **Dirks Ranch, A** 46.79 329 ⇑P P 00 58 27.1 +0.1
baz=47
B30A **Myrvik Farm, E** 46.80 337 ⇑P P 00 58 27.1 +0.2
baz=47,SNR=7.6
GLA **Glamis** 46.82 310 eP P 00 58 26.8 -0.6
16nm,0.7s
GLA **Glamis** 46.82 310 ⇓P P 00 58 27.8 +0.4
baz=47,SNR=10
MDND **Maddock** 46.82 335 eP P 00 58 26.5 -0.6
MDND **Maddock** 46.82 335 ⇓P P 00 58 27.8 +0.7
baz=47,SNR=9.1
K21A **Alcova** 46.83 325 ⇑P P 00 58 28.1 +0.7
baz=47,SNR=17
PDMCI **Parker Dam,Lak** 46.84 312 ⇓P P 00 58 27.7 +0.3
baz=47
Y12C **Blythe** 46.89 311 ⇓P P 00 58 28.0 +0.2
baz=47
J22A **Midwest** 46.90 327 ⇓P P 00 58 28.5 +0.5
baz=47,SNR=16
W13A **Hualapai Mount** 47.01 313 ⇓P P 00 58 29.3 +0.3
baz=47,SNR=5.4
E26A **Carlson Angus** 47.02 332 ⇓P P 00 58 29.0 +0.3
baz=47,SNR=13
Q16A **Castle Valley** 47.03 319 eP P 00 58 28.6 -0.5
102nm,3.0s
Q16A **Castle Valley** 47.03 319 ⇓P P 00 58 29.7 +0.6
baz=47
C28A **Hausauer Farms** 47.05 335 ⇑P P 00 58 29.8 +0.9
baz=47
L20A **Wamsutter** 47.06 324 ⇓P P 00 58 29.8 +0.5
baz=47
D27A **Center** 47.07 333 ⇓P P 00 58 29.9 +0.8
baz=47
F25A **Bowman** 47.09 331 ⇑P P 00 58 29.5 +0.2
baz=47
A30A **Hoffart Farm,** 47.18 337 ⇑P P 00 58 30.1 +0.2
baz=47,SNR=7.1
B29A **Wagenman Farm,** 47.21 336 ⇓P P 00 58 30.6 +0.5
baz=47,SNR=27
I22A **9 Mile Ranch,** 47.22 327 ⇑P P 00 58 31.1 +0.6
baz=47,SNR=4
M19A **Rock Springs** 47.24 323 ⇓P P 00 58 31.2 +0.5
baz=47
TMUT **Trail Mountain** 47.26 319 eP P 00 58 31.2 +0.2
8.1nm,1.0s
PLCA **Paso Flores** 47.32 178 eP P 00 58 29.6 -1.5
PLCA **Paso Flores** 47.32 178 LR LR 01 18 28.0
comp=Z,164nm,19.5s,baz=345,slow=36
J21A **Lysite** 47.39 326 ⇑P P 00 58 32.3 +0.4
baz=48,SNR=6.0
ULM **Lac du Bonnet** 47.40 340 eP P 00 58 30.4 -1.1
24nm,0.7s
ULM **Lac du Bonnet** 47.40 340 P P 00 58 30.8 -0.7
22nm,0.5s,baz=145,slow=7.0,SNR=45
D26A **Manning** 47.42 333 ⇑P P 00 58 32.2 +0.4
baz=48
K20A **Yellowstone Ra** 47.46 325 ⇑P P 00 58 32.7 +0.3
baz=48,SNR=9.3
E25A **Miller Ranch,** 47.48 332 ⇑P P 00 58 32.5 +0.2
baz=48,SNR=9.0
MVU **Marysvale** 47.50 318 eP P 00 58 31.5 -1.3
18nm,0.8s
F24A **Ekalaka** 47.51 330 ⇑P P 00 58 32.5 -0.1
baz=48,SNR=5.4
SWSC **Sam W. Stewart** 47.52 309 ⇓P P 00 58 33.1 +0.3
baz=48
C27A **Sayler Ranch,** 47.52 334 ⇑P P 00 58 33.1 +0.6
baz=48,SNR=5.1
A29A **Hoffman Farm,** 47.53 337 ⇑P P 00 58 32.7 +0.1
baz=48,SNR=13
IRM **Iron Mountain** 47.53 311 ⇓P P 00 58 33.0 +0.1
baz=48,SNR=6.1
G23A **Biddle** 47.53 329 ⇑P P 00 58 32.9 +0.2
baz=48
BC3 **Big Chuckawall** 47.55 310 ⇓P P 00 58 33.0 -0.1
baz=48,SNR=6.1
I21A **Big Trails, Te** 47.61 326 ⇓P P 00 58 33.7 +0.3
baz=48,SNR=16
B28A **Dugan Ranch, T** 47.61 335 ⇓P P 00 58 34.0 +0.9
baz=48,SNR=6.4
L19A **Farson** 47.72 323 ⇑P P 00 58 34.8 +0.4
baz=48
J20A **Shoshoni** 47.76 325 ⇑P P 00 58 35.4 +0.9
baz=48,SNR=19
CCUT **Cedar City** 47.80 316 eP P 00 58 34.4 -0.7
3.8nm,0.7s
K19A **Absolon Red Bu** 47.86 324 ⇑P P 00 58 35.7 +0.3
baz=48,SNR=9.5
C26A **Wahner Farm, P** 47.87 334 ⇑P P 00 58 36.3 +1.0
baz=48
LDFC **Landfair** 47.90 312 eP P 00 58 36.4 +0.7
21nm,0.4s
F23A **Volborg** 47.90 330 ⇓P P 00 58 35.7 +0.1
baz=48,SNR=5.6
DAU **Daniels Canyon** 47.90 320 eP P 00 58 35.5 -0.5
D25A **Fairfield** 47.92 332 ⇑P P 00 58 36.5 +0.9
baz=48
MPU **Maple Canyon** 47.92 320 eP P 00 58 35.3 -0.7
14nm,1.0s
A28A **Rude Farm, Bot** 47.93 336 ⇑P P 00 58 36.3 +0.6
baz=48
B27A **Peters Farms,** 47.95 335 ⇑P P 00 58 36.9 +1.1
baz=48
E24A **Baker** 47.95 331 ⇑P P 00 58 36.6 +0.7
baz=48
ARUT **Antelope Range** 47.97 316 eP P 00 58 34.8 -1.5
MONP **Monument Peak** 47.98 309 ⇓P P 00 58 36.9 +0.4
baz=48
G22A **Birney** 48.01 328 ⇓P P 00 58 36.7 +0.2
baz=48,SNR=8.0
H21A **Big Horn, Sher** 48.01 327 ⇑P P 00 58 36.5 +0.1
baz=48,SNR=7.5
L18A **Fontenelle, Gr** 48.02 323 ⇑P P 00 58 37.1 +0.4
baz=48,SNR=12
BELC **Belle Mtn. Jos** 48.10 310 ⇑P P 00 58 37.0 -0.4
baz=48
JLU **Jordanelle** 48.13 320 eP P 00 58 36.9 -0.7
6.1nm,0.9s
M17A **Scullys Gap (B** 48.14 322 ⇑P P 00 58 37.9 +0.3
baz=48
I20A **Worland** 48.16 326 ⇑P P 00 58 38.0 +0.3
baz=48,SNR=6.1
SCHQ **Schefferville** 48.17 5 eP P 00 58 38.1 +0.7
23nm,0.8s
SCHQ **Schefferville** 48.17 5 P P 00 58 38.1 +0.7
21nm,0.7s,baz=189,slow=6.3,SNR=22
GMRC **Granite Mounta** 48.18 311 ⇓P P 00 58 37.7 -0.2
baz=48
NLU **North Lily Min** 48.18 319 eP P 00 58 36.6 -1.4
7.9nm,0.9s
BW06 **Boulder Array** 48.24 324 eP P 00 58 38.2 -0.2
PD31 **Pinedale Array** 48.24 324 eP P 00 58 38.2 -0.2
PDAR **Pinedale Array** 48.24 324 P P 00 58 38.2 -0.2
6.0nm,0.6s,baz=128,slow=8.8,SNR=37
J19A **Crowheart** 48.25 325 ⇑P P 00 58 38.7 +0.3
baz=48,SNR=11
C25A **Freed Ranch, W** 48.30 333 ⇓P P 00 58 39.7 +1.1
baz=48
B26A **Jensen Ranch,** 48.35 334 ⇑P P 00 58 39.4 +0.6
baz=48,SNR=5.2
D24A **Glendive** 48.36 332 P P 00 58 40.2 +1.1
baz=48
A27A **Ledoux Ranch,** 48.37 335 ⇑P P 00 58 40.0 +1.0
baz=48
F22A **Rosebud** 48.37 329 ⇑P P 00 58 39.4 +0.2
baz=48,SNR=7.5
E23A **Ismay** 48.39 330 ⇓P P 00 58 39.4 +0.1
baz=48,SNR=6.0
H20A **Greybull** 48.43 327 ⇓P P 00 58 39.9 +0.2
baz=48,SNR=13
G21A **Lodge Grass** 48.49 328 ⇑P P 00 58 40.3 +0.1
baz=49,SNR=24
SHPR **Sheep Range** 48.57 314 eP P 00 58 40.6 -0.4
TUQ **Turquoise Moun** 48.65 312 ⇑P P 00 58 41.7 +0.1
baz=49,SNR=10
A26A **Wade Farm, Ken** 48.66 335 ⇑P P 00 58 42.0 +0.8
baz=49,SNR=7.1
E22A **Miles City** 48.67 330 ⇑P P 00 58 41.4 0.0
baz=49,SNR=6.5
B25A **Knox Farm, Ray** 48.67 333 ⇓P P 00 58 42.6 +1.2
baz=49,SNR=15
HEC **Hector,Ludlow** 48.70 311 ⇑P P 00 58 42.4 +0.5
baz=49,SNR=6.6
I19A **Meeteetse** 48.70 326 ⇓P P 00 58 42.5 +0.7
baz=49,SNR=9.3
C24A **Savage** 48.71 332 ⇓P P 00 58 42.8 +1.2
baz=49
DUG **Dugway** 48.78 319 eP P 00 58 41.7 -0.8
7.4nm,0.8s
DUG **Dugway** 48.78 319 ⇓P P 00 58 43.2 +0.7
baz=49,SNR=10.0
D23A **Lindsay** 48.82 331 ⇓P P 00 58 43.6 +1.0
baz=49
MURC **Murrieta** 48.86 309 ⇓P P 00 58 43.4 +0.3
baz=49
LAO **LASA Array** 48.98 330 eP P 00 58 42.9 -0.9
21nm,1.3s
G20A **Bridger** 49.03 327 ⇓P P 00 58 44.2 -0.1
baz=49,SNR=26
H19A **Powell** 49.09 326 ⇑P P 00 58 45.3 +0.5
baz=49
SHOC **Shoshone** 49.11 312 ⇑P P 00 58 45.5 +0.6
baz=49
AHID **Auburn Hatcher** 49.15 323 eP P 00 58 44.1 -1.2
11nm,0.9s
A25A **Svangstu Ranch** 49.15 334 ⇑P P 00 58 46.1 +1.1
baz=49,SNR=8.5
GSC **Goldstone** 49.25 312 eP P 00 58 45.2 -0.8
12nm,0.8s
GSC **Goldstone** 49.25 312 ⇓P P 00 58 46.3 +0.2
baz=49,SNR=12
C23A **Lambert** 49.26 332 ⇑P P 00 58 46.8 +0.9
baz=49,SNR=10
D22A **Cohagen** 49.28 330 ⇓P P 00 58 47.2 +1.2
baz=49,SNR=29
DGMT **Dagmar** 49.29 333 eP P 00 58 45.7 -0.3
75nm,0.6s
DGMT **Dagmar** 49.29 333 ⇑P P 00 58 46.9 +0.9
baz=49,SNR=21
BGU **Big Grassy Mou** 49.31 320 eP P 00 58 45.7 -0.8
16nm,0.7s
REDW **Red Top Meadow** 49.35 324 eP P 00 58 46.8 -0.1
18nm,0.6s
SNOW **Snow King Moun** 49.36 324 eP P 00 58 47.1 +0.2
12nm,0.6s
LOHW **Long Hollow** 49.36 324 eP P 00 58 45.9 -1.0
9.8nm,0.6s
F20A **Billings** 49.37 328 ⇑P P 00 58 47.5 +0.7
baz=50,SNR=16
H18A **Shoshone NF, C** 49.47 326 ⇑P P 00 58 47.6 -0.1
baz=50,SNR=12
TPAW **Teton Pass** 49.49 324 eP P 00 58 47.4 -0.5
11nm,0.7s
MOOW **Moose Ponds** 49.52 324 eP P 00 58 47.7 -0.5
7.4nm,0.8s
A24A **Westby** 49.53 333 ⇑P P 00 58 49.3 +1.4
baz=50
RLMT **Red Lodge** 49.53 327 eP P 00 58 48.2 0.0
22nm,1.6s
C22A **Vida** 49.55 331 ⇓P P 00 58 48.9 +0.8
baz=50,SNR=14
HVU **Hansel Valley** 49.62 321 eP P 00 58 48.9 +0.1
5.7nm,0.7s
RRI2 **Red Ridge** 49.62 323 eP P 00 58 49.1 +0.1
23nm,0.7s
D21A **La Casta Ranch** 49.62 330 ⇓P P 00 58 49.6 +0.9
baz=50,SNR=26
B23A **Brocton** 49.65 332 ⇑P P 00 58 50.1 +1.4
baz=50,SNR=13
FLWY **Flagg Ranch** 49.70 325 eP P 00 58 49.2 -0.2
113nm,3.0s
R11A **Troy Canyon, C** 49.72 316 eP P 00 58 49.5 -0.3
R11A **Troy Canyon, C** 49.72 316 ⇑P P 00 58 50.1 +0.4
baz=50,SNR=15
IMW **Indian Meadow** 49.72 324 eP P 00 58 49.5 -0.2
11nm,0.6s
FURC **Furnace Creek,** 49.78 313 ⇑P P 00 58 50.6 +0.7
baz=50,SNR=7.0
H17A **Grant Village** 49.81 325 ⇑P P 00 58 51.5 +1.1
baz=50
E20A **Meyer Farm, Mu** 49.82 329 ⇑P P 00 58 51.2 +1.0
baz=50,SNR=26
F19A **Roth Farm, Mol** 49.83 327 ⇓P P 00 58 50.6 +0.3
baz=50,SNR=5.1
A23A **Redstone** 49.95 333 ⇑P P 00 58 52.4 +1.3
baz=50,SNR=8.7
EDW2 **Edwards Air Fo** 49.96 311 ⇓P P 00 58 51.2 -0.3
baz=50,SNR=6.5
LRMC **Laurel Mountai** 49.98 311 ⇓P P 00 58 51.6 0.0
baz=50
B22A **Reddig Ranch S** 50.00 332 ⇓P P 00 58 52.6 +1.1
baz=50,SNR=9.9
MPMC **Manual Prospec** 50.07 312 ⇑P P 00 58 52.2 -0.2
baz=50
E19A **Rath Farm, Rou** 50.14 328 ⇑P P 00 58 53.2 +0.6
baz=50,SNR=8.5
GCMT **Greycliff** 50.18 327 eP P 00 58 53.0 0.0
C21A **Desert Coulee** 50.20 330 ⇑P P 00 58 53.5 +0.6
baz=50,SNR=7.7
D20A **Manuel Ranch,** 50.22 329 ⇑P P 00 58 53.9 +0.8
baz=50,SNR=14
GRAC **Grapevine Rang** 50.38 313 ⇑P P 00 58 55.1 +0.6
baz=50
A22A **Carney Farms,** 50.45 332 ⇑P P 00 58 56.3 +1.4
baz=51,SNR=29
BLG **Laguna Peak** 50.49 309 ⇑P P 00 58 55.8 +0.5
baz=50

QLMT	Earthquake Lak	50.56	325	*eP*	P		00 58 56.0	+0.1
C20A	Veseth Ranch, baz=51,SNR=9.6	50.57	330	⇓P	P		00 58 56.2	+0.4
B21A	Ellsworth Farm baz=51	50.57	331	⇑P	P		00 58 57.4	+1.6
ISA	Isabella baz=51	50.64	311	⇑P	P		00 58 56.7	+0.2
D19A	Cripps Ranch, baz=51,SNR=31	50.65	329	⇑P	P		00 58 57.3	+1.0
ELK	Elko 3.3nm,0.8s	50.65	319	*eP*	P		00 58 55.5	-1.3
CWC	Cottonwood Cre baz=51	50.66	312	⇓P	P		00 58 57.1	+0.3
ARVC	Arvin baz=51	50.70	310	⇑P	P		00 58 57.3	+0.5
A21A	Bergtoll Ranch baz=51,SNR=11	50.92	332	⇓P	P		00 58 59.6	+1.2
B20A	Solberg Farm, baz=51,SNR=10	51.07	331	⇓P	P		00 59 00.4	+1.0
C19A	Slack Wire Ran baz=51,SNR=12	51.11	329	⇑P	P		00 59 00.5	+0.7
VES	Vestal, Richgr baz=51	51.16	311	⇓P	P		00 59 01.2	+0.9
BOZ	Bozeman (W) 7.9nm,0.6s	51.17	326	*eP*	P		00 58 59.1	-1.2
A20A	Cobblestone Ra baz=51,SNR=14	51.32	331	⇑P	P		00 59 02.1	+0.8
PKM	Peak Mountain baz=51	51.36	310	⇑P	P		00 59 02.7	+0.6
MCMT	McKenzie Canyo	51.38	324	*eP*	P		00 59 02.6	+0.6
DLMT	Dillon 7.8nm,1.0s	51.54	325	*eP*	P		00 59 02.5	-0.7
HLID	Hailey 7.0nm,0.8s	51.60	322	*eP*	P		00 59 03.4	-0.3
HLID	Hailey baz=52,SNR=20	51.60	322	⇓P	P		00 59 04.0	+0.3
SMMC	Simmler baz=52	51.65	310	⇓P	P		00 59 04.5	+0.5
EGMT	Eagleton 8.7nm,0.6s	51.66	329	*eP*	P		00 59 03.0	-0.9
EGMT	Eagleton baz=52,SNR=5.7	51.66	329	⇓P	P		00 59 04.1	+0.2
NV01	Mina Array Sit	51.66	315	*eP*	P		00 59 03.7	-0.6
NV01				*ePcP*	PcP		01 00 16.4	+0.7
NVAR	Mina Array Bea 5.8nm,0.8s,baz=126,slow=7.2,SNR=41	51.66	315	P	P		00 59 04.6	+0.3
NVAR	1.6nm,0.8s,baz=131,slow=8.1,SNR=2.7			pP	pP		00 59 40.4	+0.3
NVAR	2.9nm,0.7s,baz=128,slow=5.1,SNR=6.8			PcP	PcP		01 00 16.2	+0.4
LRM	Limekiln Ridge	51.73	325	*eP*	P		00 59 03.9	-0.8
A19A	Klindworth Far baz=52	51.75	331	⇓P	P		00 59 05.6	+1.0
BMN	Battle Mountai 6.5nm,0.8s	51.82	317	*eP*	P		00 59 05.0	-0.3
PTRM	Twisslemann Ran	51.94	311	*eP*	P		00 59 05.4	-0.8
MFID	Camas Ranch baz=52,SNR=26	52.39	321	⇓P	P		00 59 09.9	+0.5
SLMT	Seeley Lake	53.15	326	*eP*	P		00 59 14.2	-0.9
MSO	Missoula 4.7nm,0.8s	53.16	326	*eP*	P		00 59 14.2	-0.8
MSO	Missoula baz=53	53.16	326	⇓P	P		00 59 15.5	+0.5
FFC	Flin Flon 67nm,1.5s	53.20	339	*eP*	P		00 59 14.0	-1.0
WVOR	Wild Horse Val 12nm,0.9s	53.70	319	*eP*	P		00 59 18.5	-0.6
BEKR	Beckworth 6.6nm,1.3s	53.72	315	*eP*	P		00 59 18.8	-0.5
J08A	Circle Bar Ran 5.5nm,0.8s	54.03	320	*eP*	P		00 59 20.9	-0.5
BMO	Blue Mountains 2.3nm,0.6s	54.05	322	*eP*	P		00 59 21.0	-0.6
F10A	Beach Ranch, E 11nm,0.6s	54.58	323	*eP*	P		00 59 24.8	-0.5
I07A	Izee 8.8nm,0.8s	55.04	320	*eP*	P		00 59 28.4	-0.3
G08A	Pilot Rock 17nm,0.6s	55.28	322	*eP*	P		00 59 30.4	0.0
E09A	Wood Farm, Sta 8.5nm,0.8s	55.41	323	*eP*	P		00 59 30.8	-0.4
NEW	Newport 4.3nm,0.6s	55.75	326	*eP*	P		00 59 33.0	-0.6
NEW	Newport baz=56,SNR=5.2	55.75	326	⇓P	P		00 59 33.5	-0.1
PINOR	Pine Mountain 29nm,0.8s	55.79	319	*eP*	P		00 59 34.7	+0.9
YBH	Yreka Blue Hor 56nm,2.2s	56.12	316	*eP*	P		00 59 34.4	-2.0
D08A	Wollman Farm, 5.0nm,0.7s	56.14	324	*eP*	P		00 59 36.2	-0.2
DPW	Davenport	56.15	325	*eP*	P		00 59 36.8	+0.3
C09A	Chrisman Ranch 18nm,0.8s	56.15	325	*eP*	P		00 59 35.9	-0.5
G06A	Carlson Farm, 7.7nm,0.7s	56.29	321	*eP*	P		00 59 37.8	+0.3
EDM	Edmonton	56.76	332	*eP*	P		00 59 40.0	-0.7
H04A	Detroit Lake 17nm,0.8s	57.02	320	*eP*	P		00 59 42.7	0.0
B08A	Colville Reser 9.4nm,0.6s	57.05	325	*eP*	P		00 59 42.7	-0.1
ETW	Entiat	57.25	324	*eP*	P		00 59 44.8	+0.5
LTY	Liberty 12nm,0.7s	57.28	323	*eP*	P		00 59 45.1	+0.6
WPW	White Pass	57.54	322	*eP*	P		00 59 46.9	+0.5
LON	Longmire 3.7nm,0.8s	57.72	322	*eP*	P		00 59 47.3	-0.3
YKA	Yellowknife Ar 18nm,0.5s,baz=133,slow=6.5,SNR=92	63.38	340	P	P		01 00 25.3	-0.2
YKA	2.6nm,0.6s,baz=128,slow=7.0,SNR=2.2			pP	pP		01 01 03.0	+0.3
YKB5	Yellowknife Ar	63.38	340	*eP*	P		01 00 25.2	-0.3
BBB	Bella Bella	63.81	326	*eP*	P		01 00 29.5	+1.0
BBB	Bella Bella 11nm,0.8s,baz=118,slow=5.6,SNR=4.4	63.81	326	P	P		01 00 29.5	+1.0
TIC	Toumodi 15nm,0.7s	67.37	86	*eP*	pP		01 01 34.3	+4.5
LIC	Lamto 23nm,0.6s	67.40	86	*eP*	pP		01 01 34.6	+4.7
DLBC	Dease Lake	67.46	331	*eP*	P		01 00 52.8	+0.9
DBIC	Dimbokro 12nm,0.9s	67.53	86	*eP*	P		01 00 52.5	-0.6
DBIC	Dimbokro 5.5nm,0.8s,baz=278,slow=3.5,SNR=12	67.53	86	P	P		01 00 52.5	-0.6
DBIC	9.5nm,0.7s,baz=267,slow=6.2,SNR=6.3			pP	pP		01 01 30.4	-0.3
KIC	Kosan Boka 30nm,0.9s	67.67	86	*eP*	pP		01 01 36.5	+4.8
SUMG	Summit 26nm,0.9s	69.00	11	*i* P	P		01 01 02.3	+0.7
SUMG				*i*			01 02 09.7	
SUMG	Summit 33nm,0.9s	69.00	11	*eP*	P		01 01 01.4	-0.2
ESDC	Sonseca Array	69.53	50	*eP*	P		01 01 05.0	-0.1
ESDC				*ePP*	pP		01 01 42.8	-0.2
ESDC	Sonseca Array 0.1nm,0.4s,baz=257,slow=5.6,SNR=3.3	69.53	50	P	P		01 01 05.0	-0.1
ESDC	0.3nm,0.6s,baz=257,slow=5.7,SNR=2.4			pP	pP		01 01 42.8	-0.2
INK	Inuvik 8.2nm,0.6s	73.14	340	*eP*	P		01 01 26.7	+0.5
TOA0	Torodi Ar. Sit	73.55	78	*eP*	P		01 01 29.1	-0.4
TOA0				*ePP*	pP		01 02 06.6	-1.2
TORD	Torodi Ar. Bea 0.5nm,0.5s,baz=284,slow=7.4,SNR=22	73.55	78	P	P		01 01 29.0	-0.6
TORD	0.7nm,0.7s,baz=284,slow=8.1,SNR=3.0			pP	pP		01 02 06.6	-1.2
DAWY	Dawson	73.77	335	*eP*	P		01 01 30.4	+0.4
EGAK	Eagle 15nm,1.4s	74.72	336	*eP*	P		01 01 36.1	+0.8
BMRM	Bremner River 12nm,0.6s	75.26	331	*eP*	P		01 01 37.8	-0.8
PAX	Paxson 6.3nm,0.9s	76.10	333	*eP*	P		01 01 43.1	-0.3
IL1	Eielson Array	77.09	335	*eP*	P		01 01 48.3	-0.5
ILAR	Eielson Array 2.2nm,0.6s,baz=111,slow=4.4,SNR=26	77.09	335	P	P		01 01 48.6	-0.3
ILAR	1.1nm,0.8s,baz=101,slow=2.6,SNR=2.7			pP	pP		01 02 25.7	-1.7
ILB	Eielson Array	77.09	335	*eP*	P		01 01 48.6	-0.3
ILB				*ePP*	pP		01 02 25.7	-1.7
TRF	Thorofare Moun 63nm,2.0s	78.33	333	*eP*	P		01 01 56.6	+0.6
COLD	Coldfoot 4.4nm,0.7s	78.87	337	*eP*	P		01 01 59.6	+1.0
PPLA	Purkeypile 18nm,0.5s	79.12	333	*eP*	P		01 02 00.3	+0.1
RSO	Redoubt South	79.13	330	*eP*	P		01 02 01.2	+0.7
NB200	NORSAR Array S	81.27	29	*eP*	P		01 02 12.4	+0.8
NOA	NORSAR Array B 0.6nm,0.4s,baz=268,slow=5.4,SNR=3.7	81.27	29	P	P		01 02 12.4	+0.8
HFS	Hagfors 1.4nm,0.7s,baz=222,slow=2.0,SNR=4.4	82.48	30	P	P		01 02 18.1	+0.2
GERES	GERESS Array B 0.4nm,0.6s,baz=258,slow=3.7,SNR=6.1	82.72	42	P	P		01 02 19.6	0.0
ARA0	ARCESS Array S	86.64	20	*eP*	P		01 02 39.0	+0.3
ARCES	ARCESS Array B 2.4nm,0.8s,baz=272,slow=4.2,SNR=29	86.64	20	P	P		01 02 39.0	+0.3
FIA0	FINESS Array S	88.39	28	*eP*	P		01 02 47.5	+0.4
FINES	FINESS Array B 1.7nm,0.8s,baz=190,slow=5.6,SNR=4.1	88.39	28	P	P		01 02 47.5	+0.4
ZALV	Zalesovo Beam 1.2nm,0.4s,baz=230,slow=2.4,SNR=7.6	116.66	15	PKP	PKPdf		01 08 38.8	+0.2
KURBB	Kurchatov Arra 0.7nm,0.6s,baz=320,slow=2.2,SNR=10	117.73	20	PKP	PKPdf		01 08 41.0	+0.2
MKAR	Makanchi Array 0.8nm,0.4s,baz=294,slow=2.6,SNR=20	122.30	20	PKP	PKPdf		01 08 49.5	-0.3
SONM	Songino Array 0.7nm,0.4s,baz=294,slow=2.0,SNR=6.5	125.62	1	PKP	PKPdf		01 08 56.8	+0.5
WMQ	Urumqi	126.67	17	*e*PKP	PKPdf		01 08 58.4	+0.1
HHC	Hu-ho-hao-te	132.43	355	*e*PKP	PKPdf		01 09 08.7	-0.7
HHC				sPKP			01 10 07.9	
HHC				PP	PP		01 11 37.4	+4.5
HHC				SKS	SKSdf		01 16 01.5	-4.9
HHC				SKKS	SKKSac		01 18 11.0	-4.0
HHC				SS	SS		01 29 00.1	+1.5
HHC	190nm,8.8s			PPMZ				
HHC	comp=N,250nm,19.7s			LR	LR			
HHC	comp=E,350nm,19.1s			LR	LR			
HHC	comp=Z,120nm,19.6s			LR	LR			
LZH	Lanzhou	137.26	4	*e*PKP	PKPdf		01 09 18.5	-0.1
LZH				sPKP			01 10 17.1	
STKA	Stephens Creek 2.2nm,0.6s,baz=26,slow=2.0,SNR=5.6	139.27	228	PKP	PKPdf		01 09 22.0	-0.2
CTA	Charters Tower 1.4nm,0.2s,baz=54,slow=4.3,SNR=3.9	139.79	247	PKP	PKPdf		01 09 23.4	0.0
NJ2	Nanjing	139.79	344	*e*PKP	PKPdf		01 09 21.2	-1.9
CD2	Chengdu	142.40	5	PKP	PKPdf		01 09 27.1	-0.8
SHL	Shillong	144.62	24	*ex*	PKPdf		01 09 33.0	+0.9
GYA	Guiyang	146.96	1	*e*PKPbc	PKPdf		01 09 33.7	-2.3
GYA				pPKP	pPKPdf		01 10 16.9	-0.7
GYA				sPKP			01 10 33.4	
GYA				PP	PP		01 13 04.5	+2.5
GYA	70nm,7.9s			PPMZ				
ASAR	Alice Springs 14nm,0.7s,baz=119,slow=2.6,SNR=82	149.25	234	PKPbc	PKPbc		01 09 43.4	-0.8
WRA	Warramunga Arr 10nm,0.6s,baz=111,slow=2.4,SNR=9.0	150.49	241	PKPbc	PKPbc		01 09 46.4	-0.9
WRA	5.1nm,0.8s,baz=109,slow=3.5,SNR=9.3			PKPab	PKPab		01 09 54.0	-0.3
WRA	2.3nm,0.5s,baz=276,slow=1.0,SNR=2.3			pPKPbc	pPKPbc		01 10 27.6	-0.9
CMAR	Chiang Mai Arr 1.1nm,0.4s,baz=308,slow=1.8,SNR=4.2	153.67	18	PKP	PKPdf		01 09 46.9	+0.3
CMAR	2.8nm,0.5s,baz=324,slow=3.4,SNR=8.1			PKPbc	PKiKP		01 09 55.2	+0.7
FITZ	Fitzroy Crossi 7.4nm,1.0s,baz=181,slow=5.9,SNR=6.2	158.70	236	PKPab	PKPab		01 10 28.9	-0.3

IDC 03 00:57:03.3±3.1, 21.51N×144.23E, h116km±26km, mb3.5/8, mb1 3.6/9, mb1mx3.4/28, mbtmp3.5/9, Error ellipse: s-maj=36.2km s-min=16.0km az=84.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	Chichijima 4.2nm,0.3s,baz=218,slow=19,SNR=4.1	5.86	342	P	Pn	00 58 28.8	+0.9
JCJ	8.5nm,0.3s,baz=289,slow=22,SNR=6.5			S	Sn	00 59 33.2	-0.6
KSRS	Korea Array 1.9nm,0.4s,baz=147,slow=8.8,SNR=20	21.25	322	P	P	01 01 43.6	+3.5
WRA	Warramunga Arr 0.7nm,0.4s,baz=16,slow=8.8,SNR=4.7	42.32	194	P	P	01 04 45.8	-0.1
ASAR	Alice Springs 0.3nm,0.3s,baz=15,slow=6.4,SNR=6.0	46.02	193	P	P	01 05 14.8	-0.5
ZALV	Zalesovo Beam 0.5nm,0.5s,baz=120,slow=8.5,SNR=2.8	54.96	322	P	P	01 06 22.4	+0.2
MKAR	Makanchi Array 0.4nm,0.5s,baz=85,slow=8.5,SNR=5.9	55.54	313	P	P	01 06 27.5	+1.0
KURBB	Kurchatov Arra 1.6nm,0.5s,baz=93,slow=8.0,SNR=39	58.33	317	P	P	01 06 46.4	+0.4
ILAR	Eielson Array 0.2nm,0.5s,baz=240,slow=7.2,SNR=3.4	61.76	27	P	P	01 07 09.7	+0.4
BVAR	Borovoye Array 0.9nm,0.4s,baz=96,slow=7.7,SNR=11	63.45	320	P	P	01 07 20.1	-0.5
FINES	FINESS Array B 0.7nm,0.3s,baz=65,slow=4.6,SNR=16	83.77	335	P	P	01 09 18.1	-1.1

IDC 03 01:01:18.5±3.1, 33.39S×179.01W, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.7/17, mbtmp3.9/3, ML4.0/1, Error ellipse: s-maj=72.4km s-min=46.1km az=118.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera 4.0nm,0.3s,baz=265,slow=3.4,SNR=23	5.79	212	Pn	Pn	01 02 45.2	-0.5
URZ	1.1nm,0.3s,baz=180,slow=20,SNR=4.8			Sn	Sn	01 03 47.4	-5.4
ASAR	Alice Springs 0.5nm,0.5s,baz=114,slow=7.0,SNR=8.1	42.19	271	P	P	01 09 13.2	-0.1
WRA	Warramunga Arr 0.6nm,0.3s,baz=116,slow=8.5,SNR=4.9	43.45	276	P	P	01 09 23.6	0.0
FINES	FINESS Array B 2.0nm,0.9s,baz=42,slow=2.3,SNR=4.8	147.62	338	PKPbc	PKPbc	01 21 03.2	-0.8

*BJI **03** 01:09:16.1,36.40N×117.90W,h2km,mb4.7/3,Ms7 4.5/1*
*IDC **03** 01:09:18.2±0.6,36.33N×117.94W,h0km,mb4.0/5, mb1 4.1/12,mb1mx3.9/32,mbtmp3.9/12,ML3.8/6,MS3.3/1, Ms1 3.3/1,ms1mx3.1/38,Error ellipse: s-maj=14.7km s-min=6.1km az=74.0*
*NEIC **03** 01:09:19.1,36.39N×117.86W,h2km,mb4.4/12, ML4.7(PAS),After PAS.*
NEIC Felt at Bishop, Exeter, Lone Pine, North Fork and Visalia.
*GCMT **03** 01:09:23.9±0.4,36.41N×117.82W,h21km±1km,MW4.9, Moment Tensor Solution. s11,c12; s60,c82; Moment tensor: Scale 10¹⁶Nm; Mrr-1.50±.26; Mθθ-1.39±.13; Mφφ2.89±.19; Mrθ0.76±.25; Mθφ-0.08±.11; Mφr-0.20±.21; Best double couple: Mo2.60000×10¹⁶ NP1:φs325.00000°, δ61.00000°,λ-141.00000°. NP2:φs214.00000°, δ56.00000°,λ-36.00000°. Principal axes: T 2.9000, Plg3.0000°, Azm88.0000°; N -0.6900, Plg43.0000°, Azm356.0000°; P -2.2100, Plg47.0000°, Azm182.0000°; Data Used: IU II IC G CN. Surface wave period40 sec.*

ISC 03 01:09:18.6±0.7, 36.39N±0.02×117.85W±0.02, h0km±4km, n129,σ1s63/188, mb4.4/18, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISA	Isabella	0.89	215	*e*Pg	Pg	01 09 35.2	-0.4
ISA				*e*Sg	Sg	01 09 46.5	-0.6
GSC	Goldstone	1.38	142	*e*Pg	Pg	01 09 44.0	-1.0
GSC				*e*Sg	Sg	01 10 03.5	+0.6
OSI	Osito Adit	1.91	202	*e*Pn	Pn	01 09 52.8	+0.3
OSI				*e*Sn	Sn	01 10 15.3	-1.9
NV11	Mina Array Sit	2.05	353	*e*Pn	Pn	01 09 53.7	-0.8
NV11				*e*Pg	Pb	01 09 57.0	+0.2
NV11				*e*Sg	Sn	01 10 22.1	+1.3
NVAR	Mina Array Bea	2.07	350	Pn	Pn	01 09 54.6	-0.1
NVAR				Pg	Pb	01 09 57.4	+0.2
NVAR				Lg	Lg	01 10 25.0	
NVAR	Mina Array Bea 105nm,0.3s,baz=175,slow=15,SNR=450	2.07	350	Pn	Pn	01 09 54.6	-0.1
NVAR	212nm,0.3s,baz=174,slow=19,SNR=724			Pg	Pb	01 09 57.4	+0.2
NVAR	239nm,0.3s,baz=134,slow=6.4,SNR=6.3			Lg	Lg	01 10 25.0	
MWC	Mount Wilson	2.17	185	*e*Pn	Pn	01 09 55.5	-0.6
MWC				*e*Pg	Pb	01 09 59.2	+0.4
MWC				*e*Sg	Sg	01 10 27.9	-0.4
SHPR	Sheep Range	2.17	86	*e*Pn	Pn	01 09 55.9	-0.3
SHPR				*e*Sn	Sn	01 10 22.2	-1.5
SHPR				*e*Sg	Sb	01 10 26.9	+0.6
WAKR	Walker	2.46	330	*e*Pn	Pn	01 10 00.4	+0.3
WAKR				*e*Pg	Pb	01 10 04.6	+0.8
WAKR				*e*Sg	Sb	01 10 35.1	+0.3
LDFC	Landfair	2.58	120	*e*Pn	Pn	01 09 59.5	-2.2
LDFC				*e*Pb	Pb	01 10 04.5	-1.4
LDFC				*e*Pg	Pg	01 10 07.1	-1.1
LDFC				*e*Sn	Sn	01 10 33.7	-0.2
LDFC				*e*Sg	Sb	01 10 39.8	+1.6
CMB	Columbia Colle	2.61	310	*e*Pn	Pn	01 10 01.4	-0.6
CMB				*e*Pg	Pb	01 10 05.5	-0.8
CMB				*e*Sg	Sb	01 10 38.5	-0.3
R11A	Troy Canyon, C	2.66	42	*e*Pn	Pn	01 10 01.8	-1.0
R11A				*e*Pg	Pb	01 10 07.9	+0.7
R11A				*e*Sg	Sg	01 10 43.2	-0.9
SAO	San Andreas Ge	2.92	278	*e*Pn	Pn	01 10 05.4	-0.9
SAO				*e*Pg	Pg	01 10 13.5	-1.1
SAO				*e*Sg	Sg	01 10 51.4	-1.1
PFO	Pinyon Flat Ob	3.00	157	*e*Pn	Pn	01 10 06.2	-1.3
PFO				*e*Pg	Pg	01 10 15.1	-1.1
PFO				Lg	Lg	01 10 53.1	
PFO				*e*Sg	Sg	01 10 53.7	-1.4
PFO	Pinyon Flat Ob 12nm,0.3s,baz=347,slow=11,SNR=95	3.00	157	Pn	Pn	01 10 06.9	-0.6
PFO	103nm,0.3s,baz=338,slow=14,SNR=112			Pg	Pb	01 10 14.1	+1.1
PFO	128nm,0.3s,baz=258,slow=23,SNR=10			Lg	Lg	01 10 53.1	
PAHR	Pah Rah Range	3.52	340	*e*Pn	Pn	01 10 14.5	-0.2
PAHR				*e*Pg	Pb	01 10 24.1	+2.1
CCUT	Cedar City	3.77	71	*e*Pn	Pn	01 10 17.8	-0.5
CCUT				*e*Pg	Pg	01 10 29.1	-1.9
CCUT				*e*Sg	Sg	01 11 17.7	-2.1
ARUT	Antelope Range	3.79	67	*e*Pn	Pn	01 10 18.0	-0.4
ARUT				*e*Pg	Pg	01 10 29.8	-1.5
ARUT				*e*Sg	Sg	01 11 19.9	-0.5
BAR	Barrett	3.83	165	*e*Pn	Pn	01 10 18.2	-0.5
BAR				*e*Pg	Pb	01 10 28.1	+1.0
BAR				*e*Sn	Sn	01 11 03.7	-0.7
BAR				*e*Sg	Sb	01 11 16.8	+2.9
SAC	San Andreas	3.85	289	*e*Pn	Pn	01 10 18.7	-0.3
SAC				*e*Pg	Pg	01 10 31.4	-0.9
SAC				*e*Sg	Sb	01 11 18.4	+4.0
BEKR	Beckworth	4.00	331	*e*Pn	Pn	01 10 21.0	-0.2
BEKR				*e*Pg	Pb	01 10 32.2	+2.3
BEKR				*e*Sg	Sg	01 11 25.6	-1.3
BMN	Battle Mountai 6.5nm,0.8s	4.06	7	*e*Pn	Pn	01 10 22.0	-0.2
BMN				*e*Pg	Pg	01 10 34.7	-1.8
BMN				*e*Sn	Sn	01 11 09.5	-1.0
GLA	Glamis	4.16	142	*e*Pn	Pn	01 10 21.6	-1.7
GLA				*e*Pg	Pg	01 10 36.2	-2.1
MCCM	Marconi Confer	4.38	295	*e*Pn	Pn	01 10 26.0	-0.3
MCCM				*e*Pg	Pb	01 10 36.8	+0.4
MCCM				*e*Sn	Sn	01 11 16.2	-1.8
MCCM				*e*Sg	Sb	01 11 33.4	+3.7
ELK	Elko 3.3nm,0.8s	4.80	24	*e*Pn	Pn	01 10 32.2	-0.1
ELK				*e*Pg	Pg	01 10 48.3	-2.3
ELK				*e*Sg	Sg	01 11 49.7	-3.3
HOPS	Hopland 9.3nm,1.1s	4.89	304	*e*Pn	Pn	01 10 36.0	+2.6
HOPS				*e*Pg	Pg	01 10 51.2	-1.2
HOPS				*e*Sg	Sb	01 11 48.1	+3.6
MVU	Marysvale	4.96	63	*e*Pn	Pn	01 10 34.7	+0.2
MVU				*e*Pg	Pg	01 10 51.7	-1.9
MVU				*e*Sg	Sg	01 11 57.2	-0.7
WUAZ	Wupatki 713nm,1.2s	5.32	98	*e*Pn	Pn	01 10 40.3	+0.8
WUAZ				*e*Pg	Pg	01 10 58.0	-2.7
WUAZ				*e*Sg	Sg	01 12 04.1	-5.5
DUG	Dugway 66nm,0.6s	5.49	45	*e*Pn	Pn	01 10 43.7	+2.0
DUG				*e*Pg	Pg	01 11 00.9	-2.9
DUG				*e*Sg	Sb	01 12 08.0	+6.2
WDC	Whiskeytown Da 55nm,0.6s	5.57	320	*e*Pn	Pn	01 10 44.1	+1.4
WDC				*e*Pg	Pg	01 11 01.6	-3.8
WDC				*e*Sn	Sn	01 11 46.2	-1.3
WDC				*e*Sg	Sb	01 12 06.0	+2.0
KIPM	Iron Peak 63nm,0.7s	5.60	309	*e*Pn	Pn	01 10 44.4	+1.1
KIPM				*e*Sg	Sb	01 12 06.4	+1.3
NLU	North Lily Min 93nm,1.1s	5.77	50	*e*Pn	Pn	01 10 47.3	+1.6
NLU				*e*Pg	Pg	01 11 07.1	-2.2
NLU				*e*Sg	Sg	01 12 21.1	-3.0
MOD	Modoc 319nm,0.6s	5.83	342	*e*Pn	Pn	01 10 50.4	+4.0
MOD				*e*Pg	Pg	01 11 06.1	-4.1
MOD				*e*Sg	Sb	01 12 15.0	+3.5
Q16A	Castle Valley	5.87	63	*e*Pn	Pn	01 10 47.1	+0.1
Q16A				*e*Pg	Pg	01 11 09.0	-2.0
Q16A				*e*Sg	Sb	01 12 19.0	+6.3
BGU	Big Grassy Mou 76nm,1.0s	5.89	38	*e*Pn	Pn	01 10 47.0	-0.2
BGU				*e*Pg	Pg	01 11 11.4	-0.1
BGU				*e*Sg	Sb	01 12 20.5	+7.1
TMUT	Trail Mountain 68nm,0.7s	6.00	59	*e*Pn	Pn	01 10 52.7	+3.8
TMUT				*e*Pg	Pg	01 11 10.1	-3.6
TMUT				*e*Sg	Sb	01 12 19.6	+2.8
WVOR	Wild Horse Val 46nm,0.9s	6.07	354	*e*Pn	Pn	01 10 49.1	-0.5
WVOR				*e*Pb	Pb	01 11 05.5	+0.3
WVOR				*e*Pg	Pg	01 11 11.5	-3.4
WVOR				*e*Sn	Sn	01 11 59.4	-0.4
WVOR				*e*Sg	Sb	01 12 20.3	+1.9
MPU	Maple Canyon 35nm,0.8s	6.09	52	*e*Pn	Pn	01 10 50.9	+0.9
MPU				*e*Pg	Pg	01 11 14.2	-1.0
MPU				*e*Sg	Sb	01 12 21.9	+2.9
SRU	San Rafael 57nm,1.5s	6.41	63	*e*Pn	Pn	01 10 56.8	+2.5
SRU				*e*Pg	Pg	01 11 20.0	-1.4
SRU				*e*Sg	Sb	01 12 29.6	+1.3
KHMM	Horse Mountain 33nm,0.7s	6.42	316	*e*Pn	Pn	01 10 59.4	+4.8
KHMM				*e*Pg	Pb	01 11 13.8	+2.5
KHMM				*e*Sg	Sb	01 12 34.9	+6.3
SPUT	South Promonto 35nm,0.6s	6.47	39	*e*Pn	Pn	01 10 58.9	+3.7
SPUT				*e*Pg	Pg	01 11 21.2	-1.3
YBH	Yreka Blue Hor 17nm,0.7s	6.54	326	*e*Pn	Pn	01 10 58.9	+2.8
YBH				*e*Pg	Pg	01 11 19.1	-4.7
YBH				*e*Sg	Sg	01 12 41.3	-7.3
YBH	Yreka Blue Hor 0.2nm,0.3s,baz=152,slow=11,SNR=4.2	6.54	326	Pn	Pn	01 10 58.3	+2.3
YBH	2.0nm,0.3s,baz=97,slow=10.0,SNR=5.5			Lg	Lg	01 12 41.2	
JLU	Jordanelle 22nm,0.6s	6.54	48	*e*Pn	Pn	01 10 58.9	+2.6
JLU				*e*Pg	Pg	01 11 20.6	-3.5
DAU	Daniels Canyon 40nm

RRI2	**Red Ridge**	**8.57**	**34**	*e*Pn	Pn	01 11 28.0	+3.9
	3µm,2.0s						
RRI2				*e*Pg	Pg	01 11 57.9	-4.8
RRI2				*e*Sg	**Sg**	**01 13 49.9**	**-3.8**
REDW	**Red Top Meadow**	**8.79**	**36**	*e*Pn	**Pn**	**01 11 28.2**	**+1.0**
	25nm,1.4s						
TPAW	**Teton Pass**	**8.85**	**35**	*e*Pn	**Pn**	**01 11 26.9**	**-1.0**
	15nm,0.8s						
SNOW	**Snow King Moun**	**8.92**	**35**	*e*Pn	**Pn**	**01 11 28.8**	**-0.1**
	14nm,0.7s						
BW06	**Boulder Array**	**9.02**	**43**	*e*Pn	**Pn**	**01 11 31.1**	**+0.7**
	1µm,1.6s						
PDAR	**Pinedale Array**	**9.02**	**43**	Pn	Pn	01 11 33.7	+3.4
PDAR				Lg	Lg	01 14 03.5	
PDAR	**Pinedale Array**	**9.02**	**43**	Pn	Pn	01 11 33.7	+3.4
	0.1nm,0.3s,baz=229,slow=12,SNR=12						
PDAR				Lg	Lg	01 14 03.5	
	0.4nm,0.3s,baz=220,slow=17,SNR=3.3						
PDAR				LR	LR	01 14 38.7	
	comp=Z,198nm,20.3s,baz=242,slow=35						
SMCO	**Snowmass**	**9.05**	**69**	*e*Pn	**Pn**	**01 11 32.7**	**+1.9**
	28nm,1.3s						
LOHW	**Long Hollow**	**9.10**	**35**	*e*Pn	**Pn**	**01 11 33.2**	**+1.8**
	7.7nm,0.7s						
MOOW	**Moose Ponds**	**9.14**	**34**	*e*Pn	**Pn**	**01 11 32.6**	**+0.7**
	8.5nm,0.8s						
IMW	**Indian Meadow**	**9.17**	**33**	*e*Pn	**Pn**	**01 11 34.2**	**+1.8**
	10nm,0.7s						
MCMT	**McKenzie Canyo**	**9.24**	**23**	*e*Pn	Pn	01 11 37.8	+4.5
	6.8nm,0.8s						
ANMO	**Albuquerque**	**9.38**	**95**	*e*Pn	**Pn**	**01 11 36.7**	**+1.5**
	17nm,1.0s						
ANMO				Pg		01 12 11.8	
ANMO				Lg	Lg	01 14 11.2	
ANMO	**Albuquerque**	**9.38**	**95**	Pn	**Pn**	**01 11 37.2**	**+2.0**
	0.1nm,0.3s,baz=284,slow=12,SNR=4.5						
ANMO				Pg		01 12 11.8	
	0.6nm,0.3s,baz=277,slow=14,SNR=12						
ANMO				Lg	Lg	01 14 11.2	
	baz=155,slow=16,SNR=2.2						
FLWY	**Flagg Ranch**	**9.43**	**33**	*e*Pn	Pn	01 11 39.2	+3.4
	17nm,0.8s						
BNM	**Barren Site**	**9.44**	**100**	*e*Pn	**Pn**	**01 11 36.2**	**+0.2**
	85nm,1.5s						
DLMT	**Dillon**	**9.80**	**22**	*e*Pn	**Pn**	**01 11 41.3**	**+0.4**
	9.7nm,0.9s						
RWWY	**Rawlins**	**9.82**	**54**	*e*Pn	**Pn**	**01 11 43.7**	**+2.5**
	6.3nm,0.8s						
ISCO	**Idaho Springs**	**10.22**	**67**	*e*Pn	**Pn**	**01 11 46.0**	**-0.9**
	5.5nm,0.8s						
LRM	**Limekiln Ridge**	**10.26**	**22**	*e*Pn	**Pn**	**01 11 48.6**	**+1.4**
	143nm,1.9s						
CHMT	**Chamberlain Mo**	**11.06**	**17**	*e*Pn	**Pn**	**01 11 58.5**	**+0.3**
	10nm,1.4s						
MNTX	**Cornudas Mount**	**11.35**	**111**	*e*Pn	Pn	01 12 05.6	+3.7
	4.2nm,0.9s						
NEW	**Newport**	**11.88**	**2**	Pn	**Pn**	**01 12 12.1**	**+2.9**
NEW				Lg	Lg	01 15 32.4	
NEW	**Newport**	**11.88**	**2**	Pn	**Pn**	**01 12 12.1**	**+2.9**
	0.1nm,0.3s,baz=66,slow=20,SNR=2.4						
NEW				Lg	Lg	01 15 32.4	
	0.1nm,0.3s,baz=106,slow=14,SNR=1.7						
EGMT	**Eagleton**	**13.07**	**25**	*e*Pn	**Pn**	**01 12 28.2**	**+2.7**
	40nm,1.5s						
TXAR	**Lajitas Array**	**13.83**	**117**	Pn	Pn	01 12 38.8	+2.8
TXAR	**Lajitas Array**	**13.83**	**117**	Pn	Pn	01 12 38.8	+2.8
	0.1nm,0.3s,baz=291,slow=11,SNR=32						
ABTX	**Abilene, Hawle**	**15.47**	**99**	*e*Pn	**Pn**	**01 12 58.0**	**-0.1**
DGMT	**Dagmar**	**15.70**	**35**	*e*Pn	**Pn**	**01 13 01.5**	**+0.5**
	21nm,1.0s						
JCT	**Junction City**	**16.17**	**106**	*e*Pn	**Pn**	**01 13 07.0**	**-0.2**
	11nm,1.0s						
EDM	**Edmonton**	**17.12**	**9**	*e*Pn	**P**	**01 13 22.6**	**+1.6**
WHTX	**Lake Whitney**	**17.43**	**99**	*e*Pn	**Pn**	**01 13 23.5**	**+0.4**
ULM	**Lac du Bonnet**	**21.05**	**42**	P	**P**	**01 14 05.0**	**+1.0**
ULM	**Lac du Bonnet**	**21.05**	**42**	P	**P**	**01 14 05.0**	**+1.0**
	6.3nm,0.7s,baz=244,slow=8.2,SNR=5.7						
FFC	**Flin Flon**	**21.35**	**26**	*e*P	**P**	**01 14 08.6**	**+1.5**
	15nm,0.8s						
JFWS	**Jewell Farm**	**22.17**	**64**	*e*P	**P**	**01 14 15.2**	**-0.9**
	27nm,1.1s						
DLBC	**Dease Lake**	**23.47**	**344**	*e*P	**P**	**01 14 30.3**	**+0.7**
WVT	**Waverly**	**24.16**	**82**	*e*P	**P**	**01 14 35.6**	**-0.8**
	3.6nm,1.1s						
SFIN	**Scholer Farm**	**24.37**	**71**	*e*P	**P**	**01 14 37.5**	**-0.7**
WCI	**Wyandotte Cave**	**25.11**	**76**	*e*P	**P**	**01 14 44.6**	**-0.4**
	5.2nm,0.9s						
TKL	**Tuckaleechee C**	**27.49**	**81**	*e*P	**P**	**01 15 06.8**	**+0.2**
BMRM	**Bremner River**	**29.88**	**334**	*e*P	**P**	**01 15 30.0**	**+2.5**
	5.9nm,0.8s						
INK	**Inuvik**	**33.16**	**349**	*e*P	**P**	**01 15 56.2**	**0.0**
	10.0nm,1.4s						
ILAR	**Eielson Array**	**33.27**	**338**	P	**P**	**01 15 56.5**	**-0.9**
ILAR	**Eielson Array**	**33.27**	**338**	P	**P**	**01 15 56.5**	**-0.9**
	1.9nm,1.0s,baz=151,slow=6.8,SNR=10						
BPAW	**Bear Paw Mtn.**	**34.16**	**335**	*e*P	**P**	**01 16 06.4**	**+1.2**
	4.0nm,0.9s						
SDPT	**Sand Point**	**34.52**	**317**	*e*P	**P**	**01 16 09.4**	**+1.2**
	102nm,0.9s						
SCHQ	**Schefferville**	**39.15**	**45**	P	**P**	**01 16 48.2**	**+0.5**
SCHQ	**Schefferville**	**39.15**	**45**	P	**P**	**01 16 48.2**	**+0.5**
	3.4nm,0.7s,baz=276,slow=11,SNR=5.4						
SAML	**Samuel**	**68.30**	**120**	*e*P	**P**	**01 20 20.2**	**-1.5**
	1.8nm,1.1s						
LPAZ	**La Paz**	**70.34**	**129**	*e*P	**P**	**01 20 34.6**	**-0.4**
	3.9nm,0.9s						
LVC	**Limon Verde**	**74.70**	**134**	*e*P	**P**	**01 21 01.8**	**+1.3**
	6.1nm,1.0s						
SIV	**San Ignacio**	**74.72**	**123**	P	**P**	**01 20 59.3**	**-1.2**
SIV	**San Ignacio**	**74.72**	**123**	P	**P**	**01 20 59.3**	**-1.2**
	4.5nm,0.9s,baz=314,slow=4.1,SNR=12						
CN2	**Changchun**	**81.67**	**319**	*e*P	P	01 21 35.3	-3.3
ESDC	**Sonseca Array**	**82.91**	**45**	P	**P**	**01 21 45.4**	**+0.1**
ESDC	**Sonseca Array**	**82.91**	**45**	P	**P**	**01 21 45.4**	**+0.1**
	0.4nm,0.7s,baz=297,slow=4.9,SNR=4.9						
SONM	**Songino Array**	**87.30**	**332**	P	**P**	**01 22 09.6**	**+2.3**
SONM	**Songino Array**	**87.30**	**332**	P	**P**	**01 22 09.6**	**+2.3**
	0.3nm,0.5s,baz=31,slow=3.8,SNR=3.6						
BUR08	**Bucovina Ar. S**	**90.05**	**24**	*e*P	**P**	**01 22 22.3**	**+2.0**
HHC	**Hu-ho-hao-te**	**90.77**	**325**	*e*P	**P**	**01 22 22.6**	**-1.1**
HHC				PP	**PP**	**01 26 00.3**	**+2.0**
HHC				SKS	**SKSac**	**01 32 53.0**	**-3.9**
HHC				S	**S**	**01 33 17.1**	**-4.2**
HHC				LR	LR		
	comp=Z,160nm,17.2s						
NJ2	**Nanjing**	**93.68**	**315**	*e*P	**P**	**01 22 34.5**	**-2.7**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
ABKAR	**Akbulak array**	**94.70**	**1**	*e*P	**P**	**01 22 41.6**	**0.0**
WMQ	**Urumqi**	**96.86**	**342**	*e*P	**P**	**01 22 52.2**	**+0.6**
CD2	**Chengdu**	**102.51**	**324**	P	**Pdif**	**01 23 16.4**	**-0.7**
WRA	**Warramunga Arr**	**115.63**	**263**	PKP	**PKPdf**	**01 28 00.6**	**-2.5**
WRA	**Warramunga Arr**	**115.63**	**263**	PKP	**PKPdf**	**01 28 00.6**	**-2.5**
	0.5nm,0.7s,baz=56,slow=1.7,SNR=3.7						
ASAR	**Alice Springs**	**117.87**	**260**	PKP	**PKPdf**	**01 28 06.5**	**-0.9**
ASAR	**Alice Springs**	**117.87**	**260**	PKP	**PKPdf**	**01 28 06.5**	**-0.9**
	0.4nm,0.8s,baz=72,slow=3.0,SNR=3.1						
QSPA	**South Pole Qui**	**126.22**	**180**	PKP	**PKPdf**	**01 28 22.9**	**+0.8**
QSPA	**South Pole Qui**	**126.22**	**180**	PKP	**PKPdf**	**01 28 22.9**	**+0.8**
	0.9nm,0.7s,baz=301,slow=4.5,SNR=4.4						
BOSA	**Boshof**	**148.08**	**87**	PKPbc	**PKPbc**	**01 29 05.8**	**-0.7**
BOSA	**Boshof**	**148.08**	**87**	PKPbc	**PKPbc**	**01 29 05.8**	**-0.7**
	2.6nm,1.0s,baz=242,slow=17,SNR=3.7						
MAW	**Mawson**	**148.74**	**181**	PKPbc	**PKPbc**	**01 29 05.9**	**-0.8**
MAW	**Mawson**	**148.74**	**181**	PKPbc	**PKPbc**	**01 29 05.9**	**-0.8**
	5.8nm,0.8s,baz=183,slow=4.1,SNR=11						

*BJI **03** 01:10:22.1,36˚.40N×117˚.90W,h3km,mB4.8/3,mb4.7/3, Ms5.1/1,Ms7 4.7/1*
*IDC **03** 01:10:25.5±0.7,36˚.37N×118˚.11W,h0km,mb4.1/7, mb1 4.3/10,mb1mx4.0/29,mbtmp4.1/10,ML4.1/3,MS3.9/1, Ms1 3.9/1,ms1mx3.1/44,Error ellipse: s-maj=18.7km s-min=7.3km az=74.0*
*NEIC **03** 01:10:26.1,36˚.39N×117˚.87W,h4km,mb4.3/12, ML4.9(PAS),After PAS.*
NEIC Felt [II] at Arnold, Bakersfield and Mariposa. Also felt at Bishop, Burbank, Columbia, El Portal, Exeter, Fowler, Glendale, Hanford, Independence, Kings Canyon National Park, Lone Pine, Mammoth Lakes, Mi-Wuk Village, Mokelumne Hill, Pioneer, Placerville, Porterville, San Luis Obispo, Santa Barbara, Sonora, Springville, Trona, Twain Harte and Yosemite National Park.

ISC 03 01:10:25.5±0.8,36˚.41N±0˚.02×117˚.85W±0˚.02,h1km±5km, n88,σ1°60/115,mb4.3/17,1C-1D,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ISA	**Isabella**	**0.90**	**214**	*e*Pg		**Pg**	**01 10 42.2**	**-0.5**
ISA				*e*Sg		**Sg**	**01 10 53.5**	**-0.9**
GSC	**Goldstone**	**1.40**	**142**	*e*Pn		**Pn**	**01 10 50.7**	**-1.5**
GSC				*e*Sg		**Sg**	**01 11 09.8**	**-0.5**
OSI	**Osito Adit**	**1.93**	**202**	*e*Pn		**Pn**	**01 10 58.2**	**-1.2**
OSI				*e*Pg		**Pb**	**01 11 01.8**	**+0.4**
OSI				*e*Sg		**Sb**	**01 11 25.6**	**-0.4**
NV11	**Mina Array Sit**	**2.03**	**353**	*e*Pn		**Pn**	**01 11 01.2**	**+0.2**
NV11				*e*Pg		**Pb**	**01 11 04.0**	**+0.7**
NV11				*e*Sg		**Sb**	**01 11 30.7**	**+1.7**
NVAR	**Mina Array Bea**	**2.05**	**350**	Pg		**Pb**	**01 11 03.4**	**-0.2**
NVAR				Lg			01 11 31.3	
NVAR	**Mina Array Bea**	**2.05**	**350**	Pg		**Pb**	**01 11 03.4**	**-0.2**
	229nm,0.3s,baz=179,slow=17,SNR=5.4							
NVAR				Lg		Lg	01 11 31.3	
	258nm,0.3s,baz=162,slow=29,SNR=3.5							
SHPR	**Sheep Range**	**2.17**	**87**	*e*Pn		**Pn**	**01 11 02.9**	**0.0**
SHPR				*e*Pg		**Pb**	**01 11 07.0**	**+1.3**
MWC	**Mount Wilson**	**2.19**	**184**	*e*Pn		**Pn**	**01 11 02.6**	**-0.6**
MWC				*e*Pg		**Pb**	**01 11 06.2**	**+0.2**
MWC				*e*Sn		**Sn**	**01 11 29.2**	**-1.8**
MWC				*e*Sg		**Sg**	**01 11 35.0**	**-0.8**
CMB	**Columbia Colle**	**2.59**	**309**	*e*Pn		**Pn**	**01 11 10.6**	**+2.0**
CMB				*e*Sg		**Sb**	**01 11 45.2**	**+0.1**
LDFC	**Landfair**	**2.60**	**120**	*e*Pn		**Pn**	**01 11 08.5**	**-0.3**
LDFC				*e*Pg		**Pg**	**01 11 16.2**	**+0.9**
LDFC				*e*Sg		**Sb**	**01 11 46.9**	**+1.6**
R11A	**Troy Canyon, C**	**2.65**	**42**	*e*Sg		**Sb**	**01 11 50.0**	**+3.2**
SAO	**San Andreas Ge**	**2.92**	**278**	*e*Pn		**Pn**	**01 11 12.7**	**-0.2**
SAO				*e*Pg		**Pb**	**01 11 20.1**	**+1.8**
SAO				*e*Sg		**Sb**	**01 11 56.9**	**+2.5**
PFO	**Pinyon Flat Ob**	**3.02**	**157**	*e*Pn		**Pn**	**01 11 14.8**	**+0.2**
PFO				Pg		**Pb**	**01 11 21.2**	**+1.1**
PFO				*e*Pg		**Pg**	**01 11 21.8**	**-1.6**
PFO				*e*Sg		**Sg**	**01 12 00.3**	**-2.3**
PFO				Lg		Lg	01 12 00.8	
PFO	**Pinyon Flat Ob**	**3.02**	**157**	Pg		**Pb**	**01 11 21.2**	**+1.1**
	213nm,0.3s,baz=340,slow=14,SNR=12							
PFO				Lg		Lg	01 12 00.8	
	204nm,0.3s,baz=89,slow=12,SNR=6.4							
PFO				LR		LR	01 12 48.2	
	comp=Z,2µm,18.2s,baz=315,slow=46							
PAHR	**Pah Rah Range**	**3.50**	**340**	*e*Pn		**Pn**	**01 11 20.0**	**-1.2**
CCUT	**Cedar City**	**3.77**	**71**	*e*Pn		**Pn**	**01 11 24.8**	**-0.2**
CCUT				*e*Pg		Pb	01 11 36.4	+3.4
CCUT				*e*Sg		**Sb**	**01 12 23.8**	**+4.6**
BAR	**Barrett**	**3.85**	**165**	*e*Pn		**Pn**	**01 11 25.6**	**-0.3**
BAR				*e*Pg		**Pb**	**01 11 34.8**	**+0.6**
BAR				*e*Sg		**Sb**	**01 12 24.7**	**+3.4**
BEKR	**Beckworth**	**3.98**	**331**	*e*Sg		**Sg**	**01 12 31.9**	**-1.3**
BMN	**Battle Mountai**	**4.04**	**7**	*e*Pn		**Pn**	**01 11 29.7**	**+1.1**
BMN				*e*Sg		**Sg**	**01 12 35.2**	**-0.2**
GLA	**Glamis**	**4.18**	**143**	*e*Pn		**Pn**	**01 11 30.4**	**0.0**
GLA				*e*Sg		**Sg**	**01 12 38.0**	**-1.7**
ELK	**Elko**	**4.79**	**25**	*e*Pn		**Pn**	**01 11 39.5**	**+0.5**
ELK				*e*Sg		**Sg**	**01 12 56.3**	**-2.9**
MVU	**Marysvale**	**4.95**	**63**	*e*Pn		**Pn**	**01 11 40.1**	**-1.0**
MVU				*e*Sg		**Sg**	**01 13 03.6**	**-0.8**
WUAZ	**Wupatki**	**5.33**	**98**	*e*Pn		**Pn**	**01 11 45.0**	**-1.3**
WUAZ				*e*Sg		**Sg**	**01 13 13.5**	**-1.2**
DUG	**Dugway**	**5.47**	**45**	*e*Pn		**Pn**	**01 11 50.2**	**+1.9**
DUG				*e*Sg		**Sg**	**01 13 19.0**	**-2.3**
NLU	**North Lily Min**	**5.76**	**50**	*e*Pn		**Pn**	**01 11 53.2**	**+0.9**
NLU				*e*Sg		**Sg**	**01 13 26.9**	**-3.7**
BGU	**Big Grassy Mou**	**5.88**	**38**	*e*Pn		Pn	01 11 49.8	-4.0
BGU				*e*Sg		**Sg**	**01 13 32.9**	**-1.3**
SRU	**San Rafael**	**6.40**	**63**	*e*Pn		**Pn**	**01 11 59.9**	**-1.2**
SRU				*e*Sg		**Sg**	**01 13 49.2**	**-1.8**
YBH	**Yreka Blue Hor**	**6.52**	**326**	Pn		**Pn**	**01 12 04.7**	**+2.1**
YBH				Lg		Lg	01 13 50.9	
YBH	**Yreka Blue Hor**	**6.52**	**326**	Pn		**Pn**	**01 12 04.7**	**+2.1**
	1.6nm,0.3s,baz=114,slow=12,SNR=3.2							
YBH				Lg		Lg	01 13 50.9	
	2.7nm,0.3s,baz=323,slow=20,SNR=2.8							
JLU	**Jordanelle**	**6.53**	**48**	*e*Pn		**Pn**	**01 12 03.4**	**+0.5**
JLU				*e*Pg		**Pg**	**01 12 29.0**	**-1.7**
JLU				*e*Sg		**Sg**	**01 13 51.4**	**-3.9**
HVU	**Hansel Valley**	**6.66**	**35**	*e*Pn		**Pn**	**01 12 05.7**	**+1.2**
HVU				*e*Pg		Pb	01 12 28.3	+6.3
HVU				*e*Sg		**Sg**	**01 13 55.9**	**-3.3**
TUC	**Tucson**	**7.13**	**123**	*e*Pn		**Pn**	**01 12 10.3**	**-0.7**
TUC				*e*Pg		Pb	01 12 35.5	+5.4
TUC				*e*Sg		Sg	01 14 08.1	-6.5
HLID	**Hailey**	**7.61**	**19**	*e*Pn		**Pn**	**01 12 17.9**	**+0.2**
HLID				*e*Pg		Pg	01 12 46.7	-4.6
HLID				*e*Sg		**Sg**	**01 14 25.9**	**-4.0**
PDAR	**Pinedale Array**	**9.01**	**43**	Pn		Pn	01 12 43.1	+6.3
PDAR				Lg		Lg	01 15 08.8	
PDAR	**Pinedale Array**	**9.01**	**43**	Pn		Pn	01 12 43.1	+6.3
	0.2nm,0.3s,baz=246,slow=14,SNR=4.0							
PDAR				Lg		Lg	01 15 08.8	
	0.1nm,0.3s,baz=231,slow=12,SNR=3.1							
ANMO	**Albuquerque**	**9.39**	**96**	Pg		Pn	01 13 21.8	+40
ANMO				Lg		Lg	01 15 20.2	
ANMO	**Albuquerque**	**9.39**	**96**	Pg		Pn	01 13 21.8	+40
	0.7nm,0.3s,baz=276,slow=13,SNR=9.0							
ANMO				Lg		Lg	01 15 20.2	
	0.1nm,0.3s,baz=195,slow=19,SNR=2.0							
EGMT	**Eagleton**	**13.05**	**25**	*e*Pn		**Pn**	**01 13 31.8**	**-0.3**
	47nm,1.7s							
TXAR	**Lajitas Array**	**13.85**	**117**	Pn		P	01 13 47.8	-3.8
TXAR	**Lajitas Array**	**13.85**	**117**	Pn		P	01 13 47.8	-3.8
	0.2nm,0.3s,baz=295,slow=12,SNR=12							
EDM	**Edmonton**	**17.10**	**9**	*e*Pn		**Pn**	**01 14 27.1**	**+1.4**
TUL1	**Tulsa**	**17.82**	**85**	*e*P		**P**	**01 14 36.3**	**+0.8**
HKT	**Hockley**	**19.50**	**103**	*e*P		**Pn**	**01 14 55.0**	**-0.2**
	11nm,1.2s							
SCIA	**State Center**	**19.85**	**66**	*e*P		**P**	**01 14 58.4**	**+0.7**
SPMN	**St. Paul**	**20.84**	**57**	*e*P		**P**	**01 15 08.8**	**+0.4**
ULM	**Lac du Bonnet**	**21.03**	**42**	*e*P		**P**	**01 15 11.0**	**+0.4**
	21nm,1.3s							
ULM	**Lac du Bonnet**	**21.03**	**42**	P		**P**	**01 15 11.8**	**+1.2**
	5.0nm,0.7s,baz=238,slow=9.6,SNR=2.5							
FFC	**Flin Flon**	**21.33**	**26**	*e*P		**P**	**01 15 13.9**	**+0.2**
	20nm,0.8s							
JFWS	**Jewell Farm**	**22.16**	**64**	*e*P		**P**	**01 15 24.1**	**+1.4**
	11nm,0.8s							
DLBC	**Dease Lake**	**23.45**	**344**	*e*P		**P**	**01 15 37.1**	**+0.9**
WVT	**Waverly**	**24.16**	**82**	*e*P		**P**	**01 15 41.8**	**-1.4**
	3.8nm,0.9s							
WCI	**Wyandotte Cave**	**25.10**	**76**	*e*P		**P**	**01 15 51.8**	**+0.1**
	6.8nm,0.8s							
TKL	**Tuckaleechee C**	**27.49**	**81**	*e*P		**P**	**01 16 12.8**	**-0.5**
DAWY	**Dawson**	**30.60**	**342**	*e*P		**P**	**01 16 42.5**	**+1.9**
INK	**Inuvik**	**33.13**	**349**	*e*P		**P**	**01 17 03.0**	**+0.2**
	6.0nm,1.3s							
ILAR	**Eielson Array**	**33.25**	**338**	P		**P**	**01 17 03.1**	**-0.8**
ILAR	**Eielson Array**	**33.25**	**338**	P		**P**	**01 17 03.1**	**-0.8**
	1.8nm,0.9s,baz=157,slow=7.4,SNR=5.9							
BPAW	**Bear Paw Mtn.**	**34.14**	**335**	*e*P		**P**	**01 17 11.6**	**-0.2**
	8.9nm,1.2s							
SCHQ	**Schefferville**	**39.14**	**45**	P		**P**	**01 17 54.7**	**+0.3**
SCHQ	**Schefferville**	**39.14**	**45**	P		**P**	**01 17 54.7**	**+0.3**
	7.2nm,0.8s,baz=238,slow=8.1,SNR=3.6							
OTAV	**Otavalo**	**51.26**	**126**	*e*P		**P**	**01 19 32.4**	**+0.7**
	1.7nm,0.8s							
SAML	**Samuel**	**68.31**	**120**	*e*P		**P**	**01 21 26.4**	**-2.1**
	0.9nm,0.7s							
LPAZ	**La Paz**	**70.36**	**129**	*e*P		**P**	**01 21 40.9**	**-1.0**
	2.6nm,0.9s							
NB2	**NORSAR Subarra**	**74.40**	**23**	P		P	01 22 10.6	+5.8
	comp=Z,3.7nm,1.0s,baz=320,slow=5.9							
NOA	**NORSAR Array B**	**74.40**	**23**	P		**P**	**01 22 07.6**	**+2.9**
NOA	**NORSAR Array B**	**74.40**	**23**	P		**P**	**01 22 07.6**	**+2.9**
	comp=Z,1.9nm,0.9s,baz=318,slow=5.8,SNR=3.9							
LVC	**Limon Verde**	**74.71**	**134**	*e*P		**P**	**01 22 07.4**	**+0.1**
	comp=Z,6.0nm,0.9s							
SIV	**San Ignacio**	**74.74**	**123**	P		**P**	**01 22 07.2**	**0.0**
SIV	**San Ignacio**	**74.74**	**123**	P		**P**	**01 22 07.2**	**0.0**
	comp=Z,2.4nm,0.8s,baz=295,slow=5.8,SNR=6.8							
CN2	**Changchun**	**81.65**	**319**	*e*P		**P**	**01 22 42.7**	**-2.6**
ESDC	**Sonseca Array**	**82.89**	**45**	P		**P**	**01 22 52.4**	**+0.5**
ESDC	**Sonseca Array**	**82.89**	**45**	P		**P**	**01 22 52.4**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=312,slow=6.7,SNR=2.9							
AKASG	**Malin Array Be**	**88.54**	**20**	P		**P**	**01 23 21.9**	**+2.3**
AKASG	**Malin Array Be**	**88.54**	**20**	P		**P**	**01 23 22.0**	**+2.3**
	comp=Z,1.2nm,0.7s,baz=331,slow=3.9,SNR=4.3							

NJ2	**Nanjing**	**93.66**	**315**	*e*P	**P**	**01 23 41.2**	**-2.6**
LZH	**Lanzhou**	**98.12**	**327**	*e*P	**P**	**01 24 01.8**	**-2.5**
LZH				pP	Pdif	01 24 04.3	0.0
LZH				sP	**sP**	**01 24 06.1**	**+1.2**
WRA	**Warramunga Arr**	**115.63**	**263**	PKP	**PKPdf**	**01 29 09.6**	**-0.2**
WRA	**Warramunga Arr**	**115.63**	**263**	PKP	**PKPdf**	**01 29 09.6**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=76,slow=3.3,SNR=2.7						
ASAR	**Alice Springs**	**117.87**	**260**	PKP	**PKPdf**	**01 29 13.2**	**-0.9**
ASAR	**Alice Springs**	**117.87**	**260**	PKP	**PKPdf**	**01 29 13.2**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=93,slow=2.1,SNR=3.3						
QSPA	**South Pole Qui**	**126.24**	**180**	PKP	**PKPdf**	**01 29 28.9**	**+0.1**
QSPA	**South Pole Qui**	**126.24**	**180**	PKP	**PKPdf**	**01 29 28.9**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=268,slow=1.3,SNR=4.3						
SYO	**Syowa Base**	**145.06**	**166**	*e*P	**PKPbc**	**01 30 01.0**	**-1.9**
SYO	**Syowa Base**	**145.06**	**166**	*e*P	**PKPdf**	**01 30 04.1**	**+0.7**
BOSA	**Boshof**	**148.08**	**87**	PKPbc	**PKPdf**	**01 30 11.7**	**+1.7**
BOSA	**Boshof**	**148.08**	**87**	PKPbc	**PKPdf**	**01 30 11.7**	**+1.7**
	comp=Z,0.8nm,0.5s,baz=348,slow=4.1,SNR=2.8						
MAW	**Mawson**	**148.76**	**181**	PKPbc	**PKPbc**	**01 30 12.6**	**-0.9**
MAW	**Mawson**	**148.76**	**181**	PKPbc	**PKPbc**	**01 30 12.6**	**-0.9**
	comp=Z,3.9nm,0.8s,baz=110,slow=3.4,SNR=6.8						

*NIED **03** 01:13:00,33˚.80N×139˚.40E,h5km,Mw4.0 Best double couple: M0 1.06000×10^15 NP1:φs331.00000°,δ71.00000°, λ-110.00000°. NP2:φs199.00000°,δ27.00000°, λ-45.00000°.*
*ISCJB **03** 01:13:16.8±0.5,33˚.82N±0˚.04×139˚.42E±0˚.08,h29km±4km, mb3.8/7,Error ellipse: s-maj=11.5km s-min=4.7km az=157.6*
*JMA **03** 01:13:17.2,33˚.82N×139˚.37E,h22km±1km,M3.5*
JMA Felt I J1.
*IDC **03** 01:13:21.9±2.6,33˚.58N×139˚.13E,h62km±23km,mb3.6/7, mb1 3.7/10,mb1mx3.5/28,mbtmp3.6/10,ML3.4/3,MS2.7/2, Ms1 2.7/2,ms1mx2.4/44,Error ellipse: s-maj=26.2km s-min=14.5km az=98.0*

ISC 03 01:13:14.9±1.7,33˚.75N±0˚.06×139˚.39E±0˚.06,h10km±11km, n23,σ1°12/30,mb4.0/7,3C-1D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JMY	**Miyakejima3**	**0.34**	**17**	P		**Pb**	**01 13 23.6**	**+0.5**
JMY				S		**Sb**	**01 13 28.0**	**-0.6**
JKO	**Kozu shima**	**0.49**	**334**	⇑P		**Pb**	**01 13 25.7**	**+0.1**
JKO				S		**Sg**	**01 13 31.4**	**+0.6**
JHJ2	**Mitsune**	**0.72**	**151**	⇓P		**Pn**	**01 13 32.0**	**+0.8**
JHJ2				S		**Sn**	**01 13 43.3**	**+0.9**
JHCJ	**Hachijojimakas**	**0.75**	**153**	P		**Pn**	**01 13 32.5**	**+0.9**
JHCJ				S		**Sn**	**01 13 43.2**	**+0.1**
JIM2	**Oshima 3**	**0.97**	**2**	⇑P		**Pg**	**01 13 33.8**	**+0

WAKR eSg **Sb** **01 17 17.7 +1.9**
LDFC Landfair 2.58 120 ePn **Pn** **01 16 41.5 -1.5**
LDFC ePg **Pg** **01 16 48.7 -1.9**
LDFC eSn **Sn** **01 17 14.1 -0.4**
LDFC eSg **Sg** **01 17 22.1 -1.8**
SAO San Andreas Ge 2.94 278 ePn **Pn** **01 16 47.1 -1.0**
SAO ePg **Pb** **01 16 54.2 +0.5**
SAO eSn **Sn** **01 17 20.9 -2.5**
SAO eSg **Sb** **01 17 30.1 +0.4**
PFO Pinyon Flat Ob 3.02 158 Pn **Pn** **01 16 48.1 -1.0**
PFO Pg **Pb** **01 16 56.3 +1.2**
PFO Lg Lg 01 17 34.9
PFO Pinyon Flat Ob 3.02 158 Pn **Pn** **01 16 48.1 -1.0**
22nm,0.3s,baz=346,slow=11,SNR=71
PFO Pg **Pb** **01 16 56.3 +1.2**
379nm,0.3s,baz=337,slow=15,SNR=185
PFO Lg Lg 01 17 34.9
305nm,0.3s,baz=66,slow=16,SNR=15
PAHR Pah Rah Range 3.51 340 ePn **Pn** **01 16 56.1 +0.1**
PAHR ePg **Pb** **01 17 05.3 +1.8**
CCUT Cedar City 3.74 71 ePn **Pn** **01 16 59.5 +0.3**
CCUT ePg **Pg** **01 17 10.6 -2.3**
CCUT eSg **Sg** **01 18 02.8 +1.4**
ARUT Antelope Range 3.76 67 ePn **Pn** **01 16 59.8 +0.5**
ARUT ePg **Pg** **01 17 11.1 -2.1**
BAR Barrett 3.84 165 ePn **Pn** **01 16 59.6 -0.9**
BAR ePg **Pb** **01 17 09.7 +0.6**
BAR eSg **Sb** **01 17 59.1 +3.3**
SAC San Andreas 3.86 289 ePn **Pn** **01 16 59.0 -1.7**
SAC eSg **Sb** **01 17 59.8 +3.6**
BMN Battle Mountai 4.04 6 ePn **Pn** **01 17 03.7 +0.5**
BMN ePg **Pg** **01 17 15.9 -2.6**
BMN eSn **Sn** **01 17 51.0 +0.4**
BMN eSg **Sb** **01 18 06.1 +4.8**
MCCM Marconi Confer 4.39 295 ePn **Pn** **01 17 07.6 -0.3**
MCCM ePg **Pb** **01 17 17.6 -0.8**
MCCM eSg **Sb** **01 18 10.6 -0.8**
HOPS Hopland 4.90 303 ePn **Pn** **01 17 16.3 +1.4**
HOPS ePg **Pb** **01 17 27.0 -0.1**
HOPS eSg **Sb** **01 18 29.2 +3.2**
DUG Dugway 5.45 45 ePn **Pb** **01 17 34.9 -1.7**
DUG ePg **Pg** **01 17 44.3 -1.3**
DUG eSg **Sg** **01 18 55.4 -0.7**
WDC Whiskeytown Da 5.57 320 ePn **Pn** 01 17 27.3 +3.2
752nm,1.2s
WDC ePg **Pb** **01 17 37.9 -0.5**
WDC eSg Sg 01 18 52.8 -7.1
KCPM Cahto Peak 5.60 307 ePn **Pn** **01 17 23.9 -0.7**
117nm,1.2s
KCPM ePg **Pb** **01 17 37.0 -2.1**
KCPM eSg Sb 01 18 52.8 +6.5
KIPM Iron Peak 5.61 309 ePn **Pn** **01 17 22.2 -2.5**
164nm,0.9s
KIPM eSg **Sg** **01 18 56.3 -4.8**
NLU North Lily Min 5.74 50 ePn **Pn** **01 17 26.6 0.0**
576nm,1.1s
NLU ePg **Pg** **01 17 49.4 -1.7**
NLU eSg **Sg** **01 19 01.9 -3.5**
MOD Modoc 5.81 341 ePn **Pn** **01 17 29.4 +1.9**
685nm,1.2s
MOD ePg Pb 01 17 46.7 +4.0
Q16A Castle Valley 5.83 63 ePn **Pn** **01 17 29.2 +1.3**
Q16A ePg **Pg** **01 17 51.5 -1.3**
Q16A eSg **Sg** **01 19 06.8 -1.6**
BGU Big Grassy Mou 5.86 38 ePn **Pn** **01 17 30.2 +2.1**
530nm,1.1s
BGU ePg Pg 01 17 49.9 -3.4
BGU eSg **Sg** **01 19 08.4 -0.7**
TMUT Trail Mountain 5.97 59 ePn **Pn** **01 17 32.4 +2.5**
185nm,0.6s
WVOR Wild Horse Val 6.04 354 ePn **Pn** **01 17 33.6 +2.9**
713nm,1.2s
WVOR ePg Pg 01 17 52.5 -4.4
WVOR eSg **Sg** **01 19 12.1 -3.1**
MPU Maple Canyon 6.05 52 ePn **Pn** **01 17 31.9 +1.0**
174nm,0.8s
MPU ePg **Pg** **01 17 55.7 -1.4**
MPU eSg **Sg** **01 19 11.3 -4.1**
SRU San Rafael 6.37 63 ePn **Pn** **01 17 35.5 +0.2**
20nm,0.7s
SRU ePg Pg 01 17 59.8 -3.4
SRU eSg **Sg** **01 19 24.4 -1.3**
CTU Camp Tracy 6.39 46 ePn **Pn** **01 17 35.1 -0.4**
53nm,1.0s
CTU ePg **Pg** **01 18 00.9 -2.6**
KHMM Horse Mountain 6.42 316 ePn **Pn** **01 17 34.2 -1.7**
80nm,0.9s
KHMM ePg Pb 01 17 57.5 +4.4
KHMM eSg **Sg** **01 19 28.2 +1.0**
SPUT South Promonto 6.43 39 ePn **Pn** **01 17 39.1 +3.0**
116nm,0.7s
SPUT ePg Pg 01 18 01.3 -3.1
SPUT eSg **Sg** **01 19 26.9 -0.7**
JLU Jordanelle 6.51 48 ePn Pn 01 17 40.7 +3.4
139nm,0.8s
JLU ePg **Pg** **01 18 05.3 -0.5**
JLU eSg **Sg** **01 19 29.1 -1.0**
DAU Daniels Canyon 6.51 50 ePn Pn 01 17 40.9 +3.5
191nm,0.8s
YBH Yreka Blue Hor 6.53 326 ePn Pn 01 17 40.7 +3.3
466nm,1.2s
YBH ePg Pg 01 18 02.3 -3.9
YBH eSg Sb 01 19 21.8 +8.7
YBH Lg Lg 01 19 22.5
YBH Yreka Blue Hor 6.53 326 Pn Pn 01 17 41.8 +4.4
0.3nm,0.3s,baz=134,slow=12,SNR=9.3
YBH Lg Lg 01 19 22.5
1.5nm,0.3s,baz=84,slow=11,SNR=5.0
YBH LR LR 01 19 48.9
comp=Z,3µm,18.5s,baz=156,slow=35
HVU Hansel Valley 6.63 35 ePn **Pn** **01 17 41.7 +2.8**
162nm,0.7s
HVU ePg **Pg** **01 18 05.3 -2.9**
W18A Petrified Fore 6.70 99 ePn **Pn** **01 17 40.2 +0.5**
W18A ePg Pg 01 18 05.5 -3.9
W18A eSg **Sb** **01 19 20.7 +2.8**
KRMB Red Mountain 6.96 319 ePn **Pn** **01 17 43.9 +0.5**
109nm,1.5s
KRMB ePg Pb 01 18 06.8 +4.4
KRMB eSg **Sg** **01 19 41.8 -2.9**
HUMO Hull Mountain 7.35 329 ePn Pn 01 17 54.0 +5.5
284nm,1.8s
HUMO eSg Sb 01 19 44.2 +7.7
PV01 Paradox Valley 7.57 74 ePn **Pn** **01 17 53.4 +1.6**
29µm,1.1s
PV01 ePg **Pg** **01 18 23.4 -2.7**
PV01 eSg Sg 01 19 55.8 -8.3
AHID Auburn Hatcher 8.19 37 ePn **Pn** **01 18 01.6 +1.4**
89nm,1.2s
AHID ePb **Pb** **01 18 22.0 -1.2**
AHID ePg Pg 01 18 34.4 -3.5
AHID eSg **Sg** **01 20 20.2 -3.7**
BMO Blue Mountains 8.44 2 ePn **Pn** **01 18 06.2 +2.7**
37nm,1.2s
BMO ePg Pg 01 18 37.5 -5.1
BMO eSg Sg 01 20 23.2 -8.6
TPAW Teton Pass 8.81 35 ePn Pn 01 18 13.6 +4.8
19nm,1.2s
TPAW ePg **Pg** **01 18 47.5 -2.4**
TPAW eSg **Sg** **01 20 47.7 +3.8**
SNOW Snow King Moun 8.88 35 ePn **Pn** **01 18 10.3 +0.5**
48nm,2.1s
SNOW ePg Pg 01 18 45.6 -5.5
LAZ Ladron 8.95 100 ePn Pn 01 18 16.5 +5.9
69nm,1.0s
LAZ eLg Lg 01 20 40.0
PDAR Pinedale Array 8.99 43 Pn Pn 01 18 15.3 +4.1
PDAR Lg Lg 01 20 43.9
PDAR Pinedale Array 8.99 43 Pn Pn 01 18 15.3 +4.1
0.3nm,0.3s,baz=222,slow=11,SNR=13
PDAR Lg Lg 01 20 43.9
0.8nm,0.3s,baz=220,slow=31,SNR=4.8
LOHW Long Hollow 9.07 35 ePn Pn 01 18 16.5 +4.2
541nm,1.6s
LOHW eLg Lg 01 20 52.5
MOOW Moose Ponds 9.11 34 ePn Pn 01 18 17.3 +4.5
19nm,1.2s
MOOW eLg Lg 01 20 46.5
IMW Indian Meadow 9.14 33 ePn Pn 01 18 17.6 +4.3
22nm,0.5s
LENM Lemitar 9.14 101 ePn Pn 01 18 18.8 +5.4
149nm,1.2s
LENM eLg Lg 01 20 52.1

MCMT McKenzie Canyo 9.21 23 ePn Pn 01 18 20.5 +6.3
ANMO Albuquerque 9.36 96 Pn **Pn** **01 18 18.9 +2.7**
ANMO Pg 01 18 52.1
ANMO Lg Lg 01 20 55.9
ANMO Albuquerque 9.36 96 Pn **Pn** **01 18 18.9 +2.7**
0.5nm,0.3s,baz=282,slow=11,SNR=11
ANMO Pg 01 18 52.1
0.8nm,0.3s,baz=293,slow=8.9,SNR=5.2
ANMO Lg Lg 01 20 55.9
0.6nm,0.3s,baz=107,slow=20,SNR=3.3
LPM Los Pinos Moun 9.37 100 ePn Pn 01 18 21.3 +4.8
85nm,1.1s
LPM eLg Lg 01 21 05.2
FLWY Flagg Ranch 9.39 33 ePn Pn 01 18 21.3 +4.6
28nm,1.3s
BNM Barren Site 9.42 101 ePn Pn 01 18 23.9 +6.7
58nm,0.8s
BNM eLg Lg 01 20 58.3
YFT Old Faithful 9.62 31 ePn Pn 01 18 26.5 +6.6
65nm,0.8s
H17A Grant Village 9.69 32 ePn **Pn** **01 18 22.3 +1.4**
QLMT Earthquake Lak 9.70 28 ePn Pn 01 18 24.6 +3.7
17nm,1.3s
QLMT eLg Lg 01 21 06.4
DLMT Dillon 9.77 22 ePn Pn 01 18 26.3 +4.4
84nm,1.2s
RWWY Rawlins 9.78 54 ePn Pn 01 18 27.4 +5.2
95nm,1.2s
YNR Norris Junctio 9.90 31 ePn Pn 01 18 28.8 +5.0
63nm,1.3s
SDCO Great Sand Dun 9.93 79 ePn Pn 01 18 29.2 +5.0
83nm,1.4s
HAWA Hanford 10.05 353 ePn **Pn** **01 18 27.1 +1.5**
67nm,1.4s
ISCO Idaho Springs 10.19 67 ePn Pn 01 18 31.0 +3.2
LRM Limekiln Ridge 10.23 22 ePn Pn 01 18 32.9 +4.7
416nm,1.3s
LRM eLg Lg 01 21 21.3
BOZ Bozeman (W) 10.33 25 ePn Pn 01 18 33.8 +4.2
71nm,1.7s
BOZ eLg Lg 01 21 17.5
PHWY Pilot Hill 10.80 59 ePn **Pn** **01 18 39.0 +2.9**
26nm,1.1s
CHMT Chamberlain Mo 11.03 17 ePn Pn 01 18 43.1 +4.0
18nm,1.0s
GCMT Greycliff 11.20 31 ePn Pn 01 18 47.8 +6.4
21nm,1.6s
SLMT Seeley Lake 11.28 15 ePn Pn 01 18 46.5 +4.0
37nm,1.1s
SLMT eLg Lg 01 22 03.3
MNTX Cornudas Mount 11.33 111 ePn Pn 01 18 46.8 +3.6
151nm,1.2s
SWMT Swartz Lake 11.44 13 ePn Pn 01 18 49.7 +5.0
66nm,2.2s
BSMT Bassoo Peak 11.64 10 ePn Pn 01 18 52.1 +4.6
47nm,1.5s
NEW Newport 11.85 2 Pn Pn 01 18 53.7 +3.5
NEW Lg Lg 01 22 20.2
NEW Newport 11.85 2 Pn Pn 01 18 53.7 +3.5
0.1nm,0.3s,baz=196,slow=15,SNR=1.9
NEW Lg Lg 01 22 20.2
0.1nm,0.3s,baz=78,slow=16,SNR=3.0
GDL2 Guadalupe Moun 11.89 107 ePn Pn 01 18 58.0 +7.1
53nm,1.0s
WALA Waterton Lakes 12.95 12 ePn Pn 01 19 09.7 +4.3
0.6nm,0.9s
EGMT Eagleton 13.04 25 ePn Pn 01 19 10.4 +4.0
268nm,1.8s
TXAR Lajitas Array 13.82 117 Pn **Pn** **01 19 19.0 +1.7**
TXAR Lajitas Array 13.82 117 Pn **Pn** **01 19 19.0 +1.7**
0.1nm,0.3s,baz=293,slow=12,SNR=3.7
DGMT Dagmar 15.66 35 ePn **P** **01 19 44.4 -1.6**
49nm,0.9s
BRSD Miller 16.42 55 ePn **Pn** **01 19 52.8 +1.1**
KSU1 Kansas State U 16.98 75 ePn **P** **01 20 00.1 -0.6**
134nm,1.3s
EDM Edmonton 17.09 9 ePn **Pn** **01 20 01.0 +0.8**
WHTX Lake Whitney 17.41 99 ePn **Pn** **01 20 04.2 +0.1**
MDND Maddock 17.64 44 ePn **Pn** **01 20 04.7 -2.3**
ECSD EROS Data Cent 17.77 59 ePn **Pn** **01 20 06.9 -1.7**
36nm,1.4s
TUL1 Tulsa 17.79 85 ePn **Pn** **01 20 07.2 -1.7**
HKT Hockley 19.48 103 eP **P** **01 20 26.5 -1.6**
252nm,2.4s
SCIA State Center 19.82 66 eP **P** **01 20 31.0 -0.9**
45nm,0.9s
AGMN Agassiz Nation 20.02 47 eP **P** **01 20 33.9 -0.2**
25nm,1.1s
SPMN St. Paul 20.81 57 eP **P** **01 20 43.1 +0.5**
ULM Lac du Bonnet 21.01 42 eP **P** **01 20 44.9 +0.1**
28nm,1.1s
ULM Lac du Bonnet 21.01 42 P **P** **01 20 45.3 +0.6**
23nm,1.0s,baz=238,slow=8.9,SNR=13
ULM LR LR 01 28 58.7
comp=Z,590nm,19.2s,baz=54,slow=37
FFC Flin Flon 21.31 26 eP **P** **01 20 48.3 +0.4**
113nm,1.0s
JFWS Jewell Farm 22.13 64 eP **P** **01 20 57.8 +1.0**
32nm,0.9s
SIUC Southern Illin 22.82 78 eP **P** **01 21 03.9 -0.3**
17nm,0.8s
DLBC Dease Lake 23.45 344 eP **P** **01 21 07.0 -3.6**
DLBC Dease Lake 23.45 344 P **P** **01 21 12.1 +1.5**
5.8nm,0.9s,baz=175,slow=7.2,SNR=9.3
USIN University of 24.02 77 eP **P** **01 21 16.6 +0.4**
57nm,1.1s
WVT Waverly 24.14 82 eP **P** **01 21 17.8 +0.5**
8.9nm,0.9s
SFIN Scholer Farm 24.34 71 eP **P** **01 21 18.5 -0.6**
WCI Wyandotte Cave 25.07 76 eP **P** **01 21 25.3 -0.5**
14nm,0.8s
YKA Yellowknife Ar 26.18 3 P **P** **01 21 36.9 +1.4**
YKA Yellowknife Ar 26.18 3 P **P** **01 21 36.9 +1.4**
1.4nm,0.8s,baz=178,slow=10,SNR=3.3
FCC Fort Churchill 27.22 27 eP **P** **01 21 42.9 -2.0**
0.6nm,1.1s
TKL Tuckaleechee C 27.46 81 eP **P** **01 21 47.6 +0.3**
TKL Tuckaleechee C 27.46 81 P **P** **01 21 48.1 +0.7**
7.7nm,1.0s,baz=256,slow=8.4,SNR=5.3
TKL LR LR 01 32 57.8
comp=Z,1µm,20.9s,baz=276,slow=37
SADO Sadowa 30.30 62 LR LR 01 35 07.3
comp=Z,2µm,19.5s,baz=284,slow=38
DAWY Dawson 30.61 341 eP **P** **01 22 17.4 +2.4**
KDAK Kodiak Island 31.34 324 LR LR 01 33 57.1
comp=Z,862nm,18.0s,baz=127,slow=34
APG El Apazote 32.39 124 LR LR 01 37 34.3
comp=Z,2µm,18.8s,baz=295,slow=40
INK Inuvik 33.13 349 eP **P** **01 22 38.9 +1.8**
31nm,1.5s
INK Inuvik 33.13 349 LR LR 01 38 23.9
comp=Z,2µm,18.7s,baz=167,slow=40
MCK McKinley 33.22 335 eP **P** **01 22 41.1 +3.1**
26nm,1.4s
ILAR Eielson Array 33.26 338 P **P** **01 22 41.1 +2.8**
ILAR Eielson Array 33.26 338 P **P** **01 22 41.1 +2.8**
3.9nm,0.8s,baz=150,slow=7.5,SNR=28
TRF Thorofare Moun 33.51 334 eP **P** **01 22 42.7 +2.0**
25nm,1.5s
BPAW Bear Paw Mtn. 34.15 335 eP **P** **01 22 48.6 +2.4**
7.6nm,0.9s
SCHQ Schefferville 39.11 45 eP **P** **01 23 28.2 -0.3**
35nm,1.0s
SCHQ Schefferville 39.11 45 P **P** **01 23 28.9 +0.3**
29nm,1.0s,baz=286,slow=8.5,SNR=16
SCHQ LR LR 01 39 21.0
comp=Z,1µm,18.2s,baz=88,slow=36
JTS JuntasAbangare 39.49 123 LR LR 01 41 09.6
comp=Z,1µm,20.0s,baz=309,slow=38
FX1 Attu Island--F 49.82 312 LR LR 01 42 24.8
comp=Z,90nm,19.6s,baz=103,slow=32
ROSC El Rosal 50.74 118 LR LR 01 47 49.1
comp=Z,428nm,18.7s,baz=189,slow=38
OTAV Otavalo 51.24 126 eP **P** **01 25 05.6 -0.2**
8.5nm,1.2s
SUMG Summit 52.52 22 *i* P **P** **01 25 15.7 +1.2**
6.0nm,0.8s
PETK Petropavlovsk- 58.78 315 P **P** **01 26 00.4 +1.0**
PETK Petropavlovsk- 58.78 315 P **P** **01 26 00.4 +1.0**
3.1nm,0.8s,baz=98,slow=11,SNR=4.6
PETK LR LR 01 46 36.8
comp=Z,80nm,19.4s,baz=260,slow=31
RKT Rikitea 61.39 198 eLR LR 01 44 29.0
820nm,28.2s
PPT Papeete 61.52 215 LR LR 01 48 27.9
comp=Z,346nm,18.3s,baz=6.1,slow=32
PPT2 Papeete2 61.53 215 eLR LR 01 44 32.7
540nm,24.2s
SAML Samuel 68.29 120 eP **P** **01 27 01.3 -1.3**
1.2nm,0.5s
LPAZ La Paz 70.34 129 eP **P** **01 27 15.9 -0.1**
2.8nm,0.8s
ARCES ARCESS Array B 70.99 13 P **P** **01 27 19.9 +1.3**
ARCES ARCESS Array B 70.99 13 P **P** **01 27 19.9 +1.3**
2.7nm,0.8s,baz=355,slow=9.0,SNR=3.3
ARCES LR LR 01 58 28.5
comp=Z,572nm,21.3s,baz=331,slow=36
NB2 NORSAR Subarra 74.39 23 P **P** **01 27 40.0 +1.0**
comp=Z,17nm,1.4s,baz=319,slow=5.9
NOA NORSAR Array B 74.39 23 P **P** **01 27 40.0 +1.0**
NOA NORSAR Array B 74.39 23 P **P** **01 27 39.9 +1.0**
comp=Z,3.0nm,0.8s,baz=319,slow=5.6,SNR=8.4
NOA LR LR 01 58 10.9
comp=Z,326nm,21.1s,baz=320,slow=34
LVC Limon Verde 74.69 134 eP **P** **01 27 42.2 +0.8**
comp=Z,5.4nm,0.9s
SIV San Ignacio 74.72 124 P **P** **01 27 40.2 -1.2**
SIV San Ignacio 74.72 124 P **P** **01 27 40.2 -1.2**
comp=Z,1.0nm,0.6s,baz=293,slow=7.7,SNR=4.0
QUIF Quistinic 77.82 39 eP **P** **01 27 57.9 -0.7**
comp=Z,19nm,1.1s
QUIF Quistinic 77.82 39 eP **P** **01 27 57.9 -0.7**
comp=Z,19nm,1.1s
USRK Usuriysk Arra 77.86 316 P **P** **01 28 00.0 +1.1**
comp=Z,3.6nm,0.9s,baz=30,slow=1.8,SNR=4.1
FINES FINESS Array B 78.16 17 P **P** **01 28 01.4 +1.2**
FINES FINESS Array B 78.16 17 P **P** **01 28 01.4 +1.2**
comp=Z,1.5nm,0.7s,baz=336,slow=3.0,SNR=3.2
FINES LR LR 02 02 03.6
comp=Z,815nm,20.1s,baz=339,slow=35
BAIF Baives 79.85 34 eP **P** **01 28 09.3 -0.4**
comp=Z,30nm,1.4s
BAIF Baives 79.85 34 eP **P** **01 28 09.3 -0.4**
comp=Z,30nm,1.4s
GIVF Givet 80.09 33 eP **P** **01 28 10.7 -0.4**
GIVF Givet 80.09 33 eP **P** **01 28 10.7 -0.4**
MFF Saint Martin d 80.22 38 eP **P** **01 28 11.3 -0.5**
comp=Z,9.3nm,0.9s
MFF Saint Martin d 80.22 38 eP **P** **01 28 11.3 -0.5**
comp=Z,9.3nm,0.9s
EVOP Sao Brissos 81.17 48 eP P 01 28 14.2 -2.9
comp=Z,18nm,1.2s
EVO Evora 81.24 48 eP P 01 28 14.2 -3.2
comp=Z,18nm,1.2s
PAGF Fort de Pagny 81.62 34 eP **P** **01 28 18.8 -0.5**
comp=Z,5.1nm,1.1s
PAGF Fort de Pagny 81.62 34 eP **P** **01 28 18.8 -0.5**
comp=Z,5.1nm,1.0s
CN2 Changchun 81.67 319 eP **P** **01 28 17.9 -1.7**
SSF Saint Saulge 81.68 36 eP **P** **01 28 18.9 -0.7**
SSF Saint Saulge 81.68 36 eP **P** **01 28 18.9 -0.7**
LOR Lormes 81.70 36 eP **P** **01 28 19.0 -0.8**
comp=Z,13nm,0.9s
LOR Lormes 81.70 36 eP **P** **01 28 19.0 -0.8**
comp=Z,13nm,0.9s
AVF Avril sur Loir 81.80 36 eP **P** **01 28 19.3 -1.0**
comp=Z,46nm,1.7s
AVF Avril sur Loir 81.80 36 eP **P** **01 28 19.3 -1.0**
comp=Z,46nm,1.7s
HAU Haudompre 82.31 34 eP **P** **01 28 22.1 -0.9**
HAU Haudompre 82.31 34 eP **P** **01 28 22.1 -0.9**
CDF Champ du Feu 82.42 33 eP **P** **01 28 22.9 -0.7**
CDF Champ du Feu 82.42 33 eP **P** **01 28 22.9 -0.7**
CLL Collm 82.58 29 e(P) P 01 28 30.0 +5.8
CLL eS S 01 38 52.0 +11
CLL e 01 45 06.0
CLL eSSSS 01 50 42.0
CLL LmH 02 01 00.0
comp=N,800nm,21.3s
CLL LmH 02 01 00.0
comp=E,300nm,20.4s
CLL LV 02 07 00.0
comp=Z,400nm,19.4s
HINF Hinteralfeld 82.68 34 eP **P** **01 28 24.1 -0.8**
HINF Hinteralfeld 82.68 34 eP **P** **01 28 24.1 -0.8**
ESDC Sonseca Array 82.87 45 P **P** **01 28 26.4 +0.4**
ESDC Sonseca Array 82.87 45 P **P** **01 28 26.4 +0.4**
comp=Z,1.0nm,0.7s,baz=305,slow=5.6,SNR=7.1
GRF Grafenberg Arr 83.13 31 eP **P** **01 28 30.1 +2.9**
comp=Z,11nm,1.4s
BRG Berggiesshubel 83.28 28 eP **P** **01 28 30.2 +2.3**
comp=Z,13nm,1.7s
BDFB Brasilia 83.69 115 LR LR 02 08 25.1
comp=Z,515nm,18.9s,baz=74,slow=38
LPG La Plagne 84.36 36 eP **P** **01 28 32.7 -1.2**
comp=Z,31nm,1.4s
LPG La Plagne 84.36 36 eP **P** **01 28 32.7 -1.2**
comp=Z,31nm,1.4s
CPUP Villa Florida 84.50 128 eP **P** **01 28 35.0 +0.6**
comp=Z,9.7nm,0.8s
CPUP Villa Florida 84.50 128 P **P** **01 28 35.6 +1.3**
comp=Z,1.8nm,0.7s,baz=270,slow=20,SNR=2.3
CPUP LR LR 02 05 43.1
comp=Z,220nm,20.8s,baz=324,slow=35
KSRS Korea Array 84.60 313 P **P** **01 28 34.5 -0.3**
comp=Z,0.8nm,0.7s,baz=5.6,slow=27,SNR=4.3
KSAR Wonju Array Be 84.63 313 P **P** **01 28 34.5 -0.5**
BNI Bardonecchia 84.66 36 eP **P** **01 28 33.9 -1.3**
comp=Z,7.2nm,1.1s
GERES GERESS Array B 84.81 30 P **P** **01 28 37.1 +1.2**
GERES GERESS Array B 84.81 30 P **P** **01 28 37.1 +1.2**
comp=Z,1.3nm,1.0s,baz=316,slow=5.6,SNR=6.2
GERES LR LR 02 06 01.8
comp=Z,776nm,19.6s,baz=321,slow=35
MORC Moravsky Berou 85.53 27 eP **P** **01 28 40.5 +1.1**
comp=Z,5.5nm,1.3s
SONM Songino Array 87.29 332 P **P** **01 28 49.7 +1.4**
SONM Songino Array 87.29 332 P **P** **01 28 49.7 +1.4**
comp=Z,1.5nm,0.8s,baz=359,slow=3.6,SNR=8.3
SONM LR LR 02 07 28.5
comp=Z,289nm,21.5s,baz=23,slow=35
ZALV Zalesovo Beam 87.90 347 P **P** **01 28 51.4 +0.6**
ZALV Zalesovo Beam 87.90 347 P **P** **01 28 51.4 +0.6**
comp=Z,1.3nm,0.8s,baz=32,slow=5.8,SNR=5.1
ZALV LR LR 02 14 55.9
comp=Z,195nm,18.9s,baz=250,slow=40
AKASG Malin Array Be 88.52 20 P **P** **01 28 54.1 +0.3**
AKASG Malin Array Be 88.52 20 P **P** **01 28 54.1 +0.3**
comp=Z,0.9nm,0.6s,baz=335,slow=3.7,SNR=6.6
AKASG LR LR 02 08 32.9
comp=Z,304nm,19.2s,baz=290,slow=36
HNR Honiara 89.35 258 LR LR 02 02 09.6
comp=Z,389nm,18.6s,baz=244,slow=31
BUR08 Bucovina Ar. S 90.01 24 eP **P** **01 29 02.7 +1.7**
BRVK Borovoye 90.62 355 eP **P** **01 29 04.8 +1.2**
comp=Z,6.7nm,0.9s
HHC Hu-ho-hao-te 90.76 325 eP **P** **01 29 03.8 -0.9**
HHC S **S** **01 39 57.7 -3.5**
HHC AMB AMB
comp=Z,25nm,1.2s
HHC LR LR
comp=Z,580nm,17.3s
HHC LR LR
comp=Z,510nm,15.5s
HHC LR LR
comp=Z,480nm,16.5s
KURK Kurchatov 92.04 350 eP **P** **01 29 10.8 +0.5**
comp=Z,1.0nm,0.9s
DZM Mont Dzumac 92.09 244 eLR LR 01 58 38.5
comp=Z,215nm,22.2s
DZM Mont Dzumac 92.09 244 LR LR 02 04 35.9
comp=Z,224nm,18.2s,baz=190,slow=32
KEST Kesra 93.03 40 eP **P** **01 29 14.4 -0.8**
KEST Kesra 93.03 40 LR LR 02 10 57.9
comp=Z,164nm,19.2s,baz=271,slow=35
NJ2 Nanjing 93.68 315 eP **P** **01 29 15.6 -2.5**
NJ2 AMB AMB
comp=Z,10.0nm,1.0s
ABKAR Akbulak array 94.68 1 eP **P** **01 29 22.8 +0.4**
comp=Z,2.2nm,1.0s
MKAR Makanchi Array 95.22 346 LR LR 02 18 21.5
comp=Z,243nm,19.4s,baz=11,slow=39
WMQ Urumqi 96.84 342 P **P** **01 29 32.9 +0.4**
WMQ pP **pP** **01 29 37.7 +1.9**
WMQ sP **sP** **01 29 39.9 +2.9**
WMQ PP **PP** **01 33 30.5 +4.0**
WMQ S **S** **01 40 53.9 -0.7**
WMQ sS **sS** **01 40 59.0 -1.2**
WMQ SS **SS** **01 47 30.0 +2.1**
WMQ AMB AMB
comp=Z,5.0nm,0.5s
WMQ LR LR
comp=Z,470nm,28.4s

WMQ					LR	LR		
	comp=Z,360nm,28.0s							
WMQ					LR	LR		
	comp=Z,330nm,27.2s							
LZH	**Lanzhou**	**98.14**	**327**	*e*P	P		01 29 34.9	-3.7
LZH				pP	Pdif		01 29 38.2	-0.4
LZH				AMB	AMB			
	comp=Z,14nm,0.9s							
KBZ	**Khabaz**	**98.33**	**14**	LR	LR		02 18 47.8	
	comp=Z,394nm,19.1s,baz=184,slow=38							
BRTR	**Keskin Array B**	**99.80**	**22**	LR	LR		02 17 23.9	
	comp=Z,224nm,19.5s,baz=320,slow=37							
CD2	**Chengdu**	**102.50**	**324**	P	**Pdif**		**01 29 57.3**	**-0.7**
QIZ	**Qiongzhong**	**108.81**	**312**	Pdif	**Pdif**		**01 30 23.9**	**-2.3**
QIZ				PP	**PP**		**01 34 54.2**	**-2.7**
QIZ				S	**Sdif**		**01 42 32.4**	**-3.1**
QIZ				LR	LR			
	comp=Z,180nm,12.2s							
ASAR	**Alice Springs**	**117.90**	**260**	PKP	**PKPdf**		**01 34 48.1**	**-0.2**
ASAR	**Alice Springs**	**117.90**	**260**	PKP	**PKPdf**		**01 34 48.1**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=68,slow=2.5,SNR=3.3							
QSPA	**South Pole Qui**	**126.24**	**180**	PKP	**PKPdf**		**01 35 03.7**	**+0.6**
QSPA	**South Pole Qui**	**126.24**	**180**	PKP	**PKPdf**		**01 35 03.7**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=228,slow=18,SNR=4.3							
LBTB	**Lobatse**	**146.74**	**80**	*e*PKPbc	**PKPbc**		**01 35 44.4**	**+0.6**
BOSA	**Boshof**	**148.05**	**87**	PKPbc	**PKPbc**		**01 35 46.9**	**-0.4**
BOSA	**Boshof**	**148.05**	**87**	PKPbc	**PKPbc**		**01 35 46.9**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=84,slow=15,SNR=2.9							
MAW	**Mawson**	**148.76**	**181**	PKPbc	**PKPbc**		**01 35 46.2**	**-1.5**
MAW	**Mawson**	**148.76**	**181**	PKPbc	**PKPbc**		**01 35 46.2**	**-1.5**
	comp=Z,2.2nm,0.6s,baz=214,slow=8.1,SNR=6.4							

NIED ***03*** *01:16:00,41˚.40N×142˚.20E,h50km,Mw3.9 Best double couple: M₀7.32000×10¹⁴ NP1:φ₀28.00000°,δ67.00000°, λ72.00000°. NP2:φ₀248.00000°,δ29.00000°,λ127.00000°.*
ISCJB ***03*** *01:16:03.4±0.5,41˚.38N±0˚.04×142˚.24E±0˚.06,h62km±6km, mb3.6/5,Error ellipse: s-maj=8.4km s-min=4.6km az=33.2*
JMA ***03*** *01:16:03.9±0.1,41˚.40N×142˚.25E,h50km±4km,M3.8*
JMA Felt I J1.
IDC ***03*** *01:16:05.5±2.1,41˚.36N×142˚.31E,h68km±21km,mb3.4/5, mb1 3.6/8,mb1mx3.3/27,mbtmp3.4/8,Error ellipse: s-maj=31.1km s-min=15.5km az=97.0*

ISC 03 01:16:04.2±1.1,41˚.39N±0˚.04×142˚.24E±0˚.05,h50km±12km, n26,σ1§90/28,mb3.3/5,3C-2D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.90**	**270**	⇑P	**Pn**	**01 16 20.4**	**-0.1**
JOT				*e*S	**Sn**	**01 16 32.7**	**+0.2**
JEM	**Erimo**	**0.93**	**47**	⇑P	**Pn**	**01 16 20.3**	**-0.7**
JEM				S	**Sn**	**01 16 32.7**	**-0.6**
JNBK	**Urakawa-nobuka**	**0.97**	**23**	P	**Pn**	**01 16 20.9**	**-0.6**
JKB	**Kayabe**	**1.03**	**299**	P	**Pn**	**01 16 21.5**	**-0.8**
JKB				S	**Sn**	**01 16 35.1**	**-0.6**
JTM	**Tenmabayashi**	**1.07**	**236**	⇑P	**Pn**	**01 16 23.3**	**+0.5**
JTM				S	**Sn**	**01 16 37.5**	**+0.9**
JANG	**Nango**	**1.15**	**209**	⇓P	**Pn**	**01 16 23.8**	**-0.2**
JANG				S	**Sn**	**01 16 38.2**	**-0.4**
JBT2	**Biratori 2**	**1.39**	**4**	⇓P	**Pn**	**01 16 27.0**	**-0.2**
JBT2				*e*S	**Sn**	**01 16 44.2**	**-0.3**
JCH	**Churui**	**1.48**	**34**	P	**Pn**	**01 16 28.9**	**+0.4**
JCH				S	**Sn**	**01 16 47.9**	**+1.2**
JEW	**Eniwo**	**1.57**	**338**	P	**Pn**	**01 16 30.0**	**+0.4**
JEW				S	**Sn**	**01 16 49.2**	**+0.5**
JFR	**Furan**	**1.79**	**8**	P	**Pn**	**01 16 32.7**	**0.0**
JOM	**Ohasama**	**2.04**	**201**	P	**Pn**	**01 16 37.1**	**+1.0**
ASAJ	**Asahikawa**	**2.74**	**5**	P	**Pn**	**01 16 47.0**	**+1.4**
	35nm,0.3s,baz=223,slow=12,SNR=69						
ASAJ				S	**Sn**	**01 17 20.4**	**+2.9**
	14nm,0.3s,baz=80,slow=29,SNR=6.9						
MJAR	**Matsushiro Arr**	**5.77**	**214**	P	**Pn**	**01 17 29.2**	**+2.0**
	0.7nm,0.3s,baz=49,slow=11,SNR=3.3						
USRK	**Ussuriysk Arra**	**8.04**	**294**	P	**Pn**	**01 17 59.2**	**+0.9**
	0.2nm,0.3s,baz=101,slow=15,SNR=3.3						
KSRS	**Korea Array**	**11.75**	**255**	P	Pn	01 18 55.0	+6.1
	0.4nm,0.3s,baz=64,slow=14,SNR=6.8						
SONM	**Songino Array**	**26.15**	**296**	P	**P**	**01 21 34.4**	**+0.7**
	0.4nm,0.5s,baz=83,slow=9.5,SNR=3.2						
H11N2	**WAKE ISLAND Hy**	**30.09**	**128**	T	T	01 53 29.8	
	baz=326,slow=0.7,SNR=20						
H11N1	**WAKE ISLAND Hy**	**30.10**	**128**	T	T	01 53 35.1	
	baz=326,slow=0.7,SNR=16						
H11N3	**WAKE ISLAND Hy**	**30.11**	**128**	T	T	01 53 31.2	
	baz=326,slow=0.7,SNR=26						
H11S1	**WAKE ISLAND Hy**	**30.93**	**130**	T	T	01 54 46.6	
	baz=327,slow=0.7,SNR=17						
H11S3	**WAKE ISLAND Hy**	**30.94**	**130**	T	T	01 54 50.6	
	baz=327,slow=0.7,SNR=10						
H11S2	**WAKE ISLAND Hy**	**30.95**	**130**	T	T	01 54 48.3	
	baz=327,slow=0.7,SNR=11						
MKAR	**Makanchi Array**	**42.48**	**298**	P	**P**	**01 23 54.0**	**-0.3**
	0.5nm,0.7s,baz=77,slow=12,SNR=4.5						
WRA	**Warramunga Arr**	**61.45**	**188**	P	**P**	**01 26 14.4**	**-1.0**
	0.5nm,0.3s,baz=6.5,slow=6.8,SNR=3.1						
ASAR	**Alice Springs**	**65.18**	**188**	P	**P**	**01 26 39.5**	**-0.6**
	0.1nm,0.3s,baz=21,slow=6.4,SNR=4.7						
FINES	**FINESS Array B**	**65.28**	**332**	P	**P**	**01 26 39.7**	**-0.5**
	3.8nm,1.1s,baz=28,slow=8.6,SNR=3.6						

IDC 03 01:16:14.4±55.0,23˚.65S×176˚.09W,h0km,mb4.2/3, mb1 4.4/3,mb1mx3.9/18,mbtmp4.2/3,MS4.1/3,Ms1 4.1/3, ms1mx3.2/37,Error ellipse: s-maj=1025.0km s-min=159.0km az=88.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.14**	**248**	P	P	01 23 34.6	-0.9
	1.7nm,0.4s,baz=99,slow=13,SNR=11						
ASAR	**Alice Springs**	**45.60**	**259**	P	P	01 24 36.8	0.0
	1.1nm,0.4s,baz=90,slow=7.2,SNR=27						
WRA	**Warramunga Arr**	**45.99**	**265**	P	P	01 24 40.5	+0.6
	1.4nm,0.4s,baz=102,slow=8.2,SNR=10						
BATI	**Baumata**	**58.79**	**272**	LR	LR	01 50 42.7	
	comp=Z,123nm,19.0s,baz=144,slow=35						
TGY	**Tagaytay City**	**72.08**	**295**	LR	LR	01 57 37.9	
	comp=Z,64nm,19.5s,baz=73,slow=34						
USRK	**Ussuriysk Arra**	**82.55**	**325**	LR	LR	02 05 16.8	
	comp=Z,169nm,18.4s,baz=166,slow=36						

IDC ***03*** *01:21:15.6±3.1,16˚.11S×173˚.00W,h0km,mb4.3/5, mb1 4.4/5,mb1mx4.1/20,mbtmp4.3/5,MS3.9/2,Ms1 3.9/2, ms1mx3.2/34,Error ellipse: s-maj=126.8km s-min=25.9km az=134.0*
NEIC ***03*** *01:21:16.4±0.6,16˚.11S×172˚.90W,h10km,mb4.4/9,Error ellipse: s-maj=27.1km s-min=10.3km az=140.0*

ISC 03 01:21:18.7±0.8,15˚.8S±0˚.2×172˚.9W±0˚.2,h26km,n39, σ1§57/40,mb4.5/15,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.16**	**30**	*e*Pn	**Pn**	**01 21 50.6**	**-2.4**
AFI				Sn	**Sn**	**01 22 16.4**	**-2.6**
AFI	**Afiamalu**	**2.16**	**30**	Pn	**Pn**	**01 21 51.7**	**-1.3**
	18nm,0.3s,baz=5.2,slow=5.1,SNR=10						
AFI				Sn	**Sn**	**01 22 16.4**	**-2.6**
	100nm,0.3s,baz=58,slow=20,SNR=12						
AFI				LR	LR	01 22 39.7	
	comp=Z,732nm,18.1s,baz=254,slow=34						
DZM	**Mont Dzumac**	**20.52**	**249**	*e*P	**P**	**01 25 53.0**	**-2.3**
	18nm,1.4s						
CTAO	**Charters Tower**	**39.05**	**257**	*e*P	**P**	**01 28 42.5**	**-1.2**
	1.8nm,0.6s						
STKA	**Stephens Creek**	**44.28**	**240**	P	**P**	**01 29 25.1**	**-1.3**
STKA	**Stephens Creek**	**44.28**	**240**	P	**P**	**01 29 25.1**	**-1.3**
	3.2nm,0.7s,baz=83,slow=9.4,SNR=7.2						
WRAB	**Tennant Creek**	**50.24**	**257**	*e*P	**P**	**01 30 12.5**	**-0.6**
	2.9nm,0.7s						
WRA	**Warramunga Arr**	**50.25**	**257**	P	**P**	**01 30 12.0**	**-1.1**
WRA	**Warramunga Arr**	**50.25**	**257**	P	**P**	**01 30 12.0**	**-1.1**
	1.3nm,0.5s,baz=96,slow=6.9,SNR=13						
AS31	**Alice Springs**	**50.47**	**252**	*e*P	**P**	**01 30 13.4**	**-1.4**
ASAR	**Alice Springs**	**50.47**	**252**	P	**P**	**01 30 13.8**	**-1.1**
ASAR	**Alice Springs**	**50.47**	**252**	P	**P**	**01 30 13.8**	**-1.1**
	3.6nm,0.6s,baz=86,slow=8.2,SNR=39						
FORT	**Forrest**	**55.69**	**243**	*e*P	**P**	**01 30 51.7**	**-1.5**
	13nm,0.7s						
VNDA	**Vanda**	**63.03**	**186**	*e*P	**P**	**01 31 41.5**	**-1.6**
	1.7nm,1.1s						
PETK	**Petropavlovsk-**	**73.16**	**342**	P	**P**	**01 32 49.8**	**+2.9**
PETK	**Petropavlovsk-**	**73.16**	**342**	P	**P**	**01 32 49.8**	**+2.9**
	4.2nm,0.8s,baz=120,slow=8.8,SNR=4.9						

BBB	**Bella Bella**	**78.01**	**26**	LR	LR		02 02 17.4	
	comp=Z,157nm,18.4s,baz=87,slow=31							
MCK	**McKinley**	**81.42**	**11**	*e*P	**P**		**01 33 34.9**	**+1.9**
	5.2nm,0.8s							
SDCO	**Great Sand Dun**	**82.61**	**48**	*e*P	**P**		**01 33 40.7**	**+0.5**
	1.7nm,0.7s							
COLA	**College**	**82.66**	**10**	*e*P	**P**		**01 33 41.0**	**+1.6**
	27nm,0.9s							
ILAR	**Eielson Array**	**82.74**	**11**	P	**P**		**01 33 41.5**	**+1.7**
ILAR	**Eielson Array**	**82.74**	**11**	P	**P**		**01 33 41.5**	**+1.7**
	0.8nm,0.7s,baz=220,slow=5.7,SNR=9.4							
ISCO	**Idaho Springs**	**83.44**	**46**	*e*P	**P**		**01 33 45.3**	**+0.8**
	3.1nm,0.9s							
KULM	**Kulim**	**88.04**	**276**	*e*P	**P**		**01 34 08.3**	**+0.8**
	51nm,1.5s							
HHC	**Hu-ho-hao-te**	**89.67**	**313**	SS	SS		01 51 10.1	+8.2
HHC				AMB	AMB			
	comp=Z,28nm,0.9s							
HHC				AMB	AMB			
	comp=Z,150nm,5.6s							
HHC				LR	LR			
	comp=N,220nm,14.9s							
HHC				LR	LR			
	comp=E,210nm,14.6s							
HHC				LR	LR			
	comp=Z,250nm,15.1s							
YKW3	**Yellowknife Ar**	**90.30**	**23**	*e*P	**P**		**01 34 16.6**	**-0.3**
KURK	**Kurchatov**	**113.77**	**319**	*e*PKP	**PKiKP**		**01 39 56.0**	**+1.1**
EKS2	**Erkin-Say**	**117.66**	**310**	*e*PKPdf	**PKPdf**		**01 40 05.1**	**+2.2**
ABKAR	**Akbulak array**	**125.85**	**320**	*e*PKPdf	**PKPdf**		**01 40 18.8**	**+0.6**
BUR08	**Bucovina Ar. S**	**144.90**	**339**	*e*PKPbc	**PKPdf**		**01 40 54.9**	**+1.2**
MORC	**Moravsky Berou**	**145.07**	**348**	*e*PKPbc	**PKPdf**		**01 40 55.3**	**+1.5**
KMBO	**Kilima Mbogo**	**145.81**	**243**	*e*PKPbc	**PKPab**		**01 40 59.1**	**+1.7**
PSZ	**Piszkesteto**	**146.28**	**344**	*e*PKPbc	**PKPab**		**01 40 57.6**	**-0.2**
GERES	**GERESS Array B**	**146.61**	**352**	PKPbc	**PKPab**		**01 40 59.5**	**+0.4**
GERES	**GERESS Array B**	**146.61**	**352**	PKPbc	**PKPab**		**01 40 59.5**	**+0.4**
	comp=Z,0.6nm,0.9s,baz=50,slow=2.3,SNR=5.2							
BR131	**Keskin Array S**	**146.78**	**321**	*e*PKPbc	**PKPab**		**01 41 01.1**	**+0.9**
BRTR	**Keskin Array B**	**146.78**	**321**	PKPbc	**PKPab**		**01 41 01.1**	**+0.9**
BRTR	**Keskin Array B**	**146.78**	**321**	PKPbc	**PKPab**		**01 41 01.1**	**+0.9**
	comp=Z,3.8nm,0.9s,baz=119,slow=1.7,SNR=22							
CSS	**Prodhromos**	**149.74**	**314**	*e*PKPbc	**PKPbc**		**01 41 05.4**	**-1.4**
CSS				*e*PKPab	**PKPab**		**01 41 11.6**	**-0.4**

IDC ***03*** *01:30:31.8±0.7,36˚.59N×117˚.21W,h0km,mb3.3/1, mb1 3.5/6,mb1mx3.3/30,mbtmp3.2/6,ML3.2/4,MS3.0/2, Ms1 3.1/2,ms1mx2.8/21,Error ellipse: s-maj=18.6km s-min=6.0km az=70.0*
NEIC ***03*** *01:30:31.9,36˚.40N×117˚.85W,h2km,mb4.2/7, ML4.1(PAS),After PAS.*
NEIC Felt at Sequoia National Park.

ISC 03 01:30:31.9±0.5,36˚.45N±0˚.02×117˚.73W±0˚.02,h10km,n69, σ1§90/131,mb4.1/7,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISA	**Isabella**	**0.99**	**218**	*e*Pg	**Pg**	**01 30 48.4**	**-2.6**
ISA				*e*Sg	**Sg**	**01 30 59.9**	**-4.0**
GSC	**Goldstone**	**1.37**	**147**	*e*Pn	**Pn**	**01 30 56.9**	**-0.4**
GSC				*e*Sg	**Sg**	**01 31 16.3**	**+0.2**
NV11	**Mina Array Sit**	**2.00**	**350**	*e*Pn	**Pn**	**01 31 06.2**	**+0.2**
NV11				*e*Pg	**Pg**	**01 31 09.5**	**-0.9**
NV11				*e*Sn	**Sb**	**01 31 32.5**	**-1.1**
NV11				*e*Sg	**Sg**	**01 31 38.3**	**+2.0**
OSI	**Osito Adit**	**2.01**	**204**	*e*Pn	**Pn**	**01 31 05.2**	**-0.7**
OSI				*e*Pg	**Pb**	**01 31 08.4**	**-0.2**
NVAR	**Mina Array Bea**	**2.02**	**347**	Pn	**Pn**	**01 31 07.0**	**+0.6**
NVAR				Pg	**Pg**	**01 31 10.2**	**-0.6**
NVAR				Lg	Lg	01 31 36.3	
NVAR	**Mina Array Bea**	**2.02**	**347**	Pn	**Pn**	**01 31 07.0**	**+0.6**
	60nm,0.3s,baz=174,slow=14,SNR=291						
NVAR				Pg	**Pg**	**01 31 10.2**	**-0.6**
	102nm,0.3s,baz=173,slow=19,SNR=259						
NVAR				Lg	Lg	01 31 36.3	
	122nm,0.3s,baz=169,slow=29,SNR=8.0						
NVAR				LR	LR	01 31 41.3	
	comp=Z,356nm,18.6s,baz=314,slow=35						
SHPR	**Sheep Range**	**2.07**	**88**	*e*Pn	**Pb**	**01 31 08.4**	**-1.4**
SHPR				*e*Pg	**Pg**	**01 31 12.7**	**+1.0**
SHPR				*e*Sn	**Sb**	**01 31 36.2**	**+0.6**
SHPR				*e*Sg	**Sg**	**01 31 39.9**	**+1.2**
MWC	**Mount Wilson**	**2.24**	**187**	*e*Pn	**Pn**	**01 31 08.7**	**-0.6**
MWC				*e*Pg	**Pb**	**01 31 12.4**	**-0.2**
MWC				*e*Sn	**Sn**	**01 31 36.6**	**-0.5**
MWC				*e*Sg	**Sb**	**01 31 41.7**	**+1.2**
WAKR	**Walker**	**2.46**	**327**	*e*Pn	**Pn**	**01 31 12.5**	**+0.2**
WAKR				*e*Pg	**Pb**	**01 31 17.4**	**+1.1**
WAKR				*e*Sg	**Sb**	**01 31 48.8**	**+2.1**
LDFC	**Landfair**	**2.54**	**122**	*e*Pn	**Pn**	**01 31 12.4**	**-0.8**
LDFC				*e*Pb	**Pb**	**01 31 17.5**	**-0.1**
LDFC				*e*Pg	**Pg**	**01 31 19.2**	**-1.3**
LDFC				*e*Sn	**Sn**	**01 31 45.2**	**+0.9**
LDFC				*e*Sg	**Sg**	**01 31 51.9**	**-1.6**
R11A	**Troy Canyon, C**	**2.55**	**41**	*e*Pn	**Pb**	**01 31 16.6**	**-1.3**
R11A				*e*Pb	**Pg**	**01 31 19.8**	**-1.0**
R11A				*e*Pg	Pn	01 31 22.9	+9.4
R11A				*e*Sn	**Sb**	**01 31 48.0**	**-1.3**
R11A				*e*Sg	**Sg**	**01 31 55.4**	**+1.5**
CMB	**Columbia Colle**	**2.64**	**307**	*e*Pn	**Pn**	**01 31 16.2**	**+1.6**
CMB				*e*Sg	**Sb**	**01 31 51.5**	**-0.4**
SAO	**San Andreas Ge**	**3.00**	**277**	*e*Pn	**Pn**	**01 31 18.7**	**-1.0**
SAO				*e*Pg	**Pb**	**01 31 24.9**	**-0.7**
SAO				*e*Sn	**Sn**	**01 31 55.4**	**-0.3**
SAO				*e*Sg	**Sg**	**01 32 05.2**	**-3.2**
PFO	**Pinyon Flat Ob**	**3.03**	**159**	*e*Pn	**Pn**	**01 31 19.7**	**-0.3**
PFO				Pg	**Pg**	**01 31 27.5**	**-2.4**
PFO				*e*Pg	**Pb**	**01 31 27.9**	**+1.9**
PFO				*e*Sg	**Sb**	**01 32 04.8**	**+1.8**
PFO				Lg	Lg	01 32 05.9	
PFO	**Pinyon Flat Ob**	**3.03**	**159**	Pn	**Pn**	**01 31 19.8**	**-0.3**
	3.7nm,0.3s,baz=349,slow=9.6,SNR=44						
PFO				Pg	**Pg**	**01 31 27.5**	**-2.4**
	26nm,0.3s,baz=338,slow=16,SNR=83						
PFO				Lg	Lg	01 32 05.9	
	29nm,0.3s,baz=61,slow=19,SNR=12						
PFO				LR	LR	01 32 30.5	
	comp=Z,271nm,19.2s,baz=252,slow=39						
PAHR	**Pah Rah Range**	**3.50**	**339**	*e*Pn	**Pn**	**01 31 27.4**	**+0.9**
PAHR				*e*Pg	**Pb**	**01 31 36.2**	**+2.1**
CCUT	**Cedar City**	**3.67**	**71**	*e*Pn	Pn	01 31 32.2	+3.3
CCUT				*e*Pg	**Pg**	**01 31 41.6**	**-0.6**
CCUT				*e*Sn	**Sn**	**01 32 15.9**	**+3.6**
CCUT				*e*Sg	**Sg**	**01 32 27.7**	**-2.0**
ARUT	**Antelope Range**	**3.68**	**68**	*e*Pn	**Pn**	**01 31 7.7**	**+2.7**
ARUT				*e*Pg	**Pg**	**01 31 42.5**	**+0.1**
ARUT				*e*Sg	**Sg**	**01 32 32.3**	**+2.2**
BAR	**Barrett**	**3.87**	**167**	*e*Pn	**Pn**	**01 31 31.4**	**-0.1**
BAR				*e*Pg	**Pb**	**01 31 40.6**	**+0.4**
BAR				*e*Sg	**Sb**	**01 32 30.1**	**+3.0**
SAC	**San Andreas**	**3.92**	**288**	*e*Pn	**Pn**	**01 31 32.7**	**+0.6**
SAC				*e*Pg	**Pb**	**01 31 42.0**	**+0.9**
BEKR	**Beckworth**	**3.99**	**330**	*e*Pn	Pn	01 31 36.5	+3.3
BEKR				*e*Pg	**Pb**	**01 31 44.2**	**+1.8**
BEKR				*e*Sn	**Sn**	**01 32 20.6**	**+0.4**
BEKR				*e*Sg	**Sg**	**01 32 37.8**	**-2.2**
BMN	**Battle Mountai**	**3.99**	**6**	*e*Pn	**Pn**	**01 31 34.4**	**+1.0**
BMN				*e*Pg	Pg	01 31 45.6	-2.8
BMN				*e*Sn	**Sn**	**01 32 22.2**	**+1.9**
BMN				*e*Sg	**Sg**	**01 32 38.0**	**-2.1**
GLA	**Glamis**	**4.15**	**144**	*e*Pn	**Pn**	**01 31 34.2**	**-1.2**
GLA				*e*Pg	**Pg**	**01 31 49.5**	**-2.0**
GLA				*e*Sg	**Sg**	**01 32 43.6**	**-1.7**
ELK	**Elko**	**4.71**	**24**	*e*Pn	**Pn**	**01 31 45.5**	**+2.2**
ELK				*e*Pg	**Pg**	**01 32 01.0**	**-1.1**
ELK				*e*Sg	**Sg**	**01 33 01.9**	**-1.2**
MVU	**Marysvale**	**4.84**	**63**	*e*Pn	Pn	01 31 49.2	+4.0
MVU				*e*Pg	**Pg**	**01 32 03.9**	**-0.8**
MVU				*e*Sg	**Sg**	**01 33 10.1**	**+2.6**
WUAZ	**Wupatki**	**5.24**	**98**	*e*Pn	Pn	01 31 53.5	+3.0
	37nm,0.6s						
WUAZ				*e*Pg	Pg	01 32 09.4	-2.9
WUAZ				*e*Sg	**Sg**	**01 33 20.6**	**+0.4**
DUG	**Dugway**	**5.38**	**45**	*e*Pn	**Pn**	**01 31 54.7**	**+2.3**
	30nm,0.8s						
DUG				*e*Pg	**Pg**	**01 32 13.0**	**-1.9**
DUG				*e*Sg	**Sg**	**01 33 19.9**	**-4.7**
WDC	**Whiskeytown Da**	**5.58**	**319**	*e*Pn	**Pn**	**01 31 55.9**	**+0.8**
	18nm,0.8s						
WDC				*e*Pg	Pb	01 32 12.6	+3.1
WDC				*e*Sg	**Sb**	**01 33 20.0**	**+3.5**
NLU	**North Lily Min**	**5.66**	**50**	*e*Pn	Pn	01 32 00.6	+4.3
	18nm,0.6s						
NLU				*e*Pg	**Pg**	**01 32 20.1**	**-0.2**
NLU				*e*Sg	**Sg**	**01 33 32.4**	**-1.3**
Q16A	**Castle Valley**	**5.75**	**63**	*e*Pn	**Pn**	**01 32 00.3**	**+2.7**
Q16A				*e*Pg	**Pg**	**01 32 21.1**	**-1.0**
Q16A				*e*Sg	**Sg**	**01 33 34.4**	**-2.3**
BGU	**Big Grassy Mou**	**5.78**	**38**	*e*Pn	**Pn**	**01 32 00.5**	**+2.6**
	23nm,0.9s						
BGU				*e*Pg	**Pg**	**01 32 21.8**	**-0.9**
BGU				*e*Sg	**Sg**	**01 33 38.0**	**+0.4**
MOD	**Modoc**	**5.79**	**341**	*e*Pn	Pn	01 32 01.9	+3.8
	76nm,0.7s						
MOD				*e*Pg	Pb	01 32 16.3	+3.1
MOD				*e*Sg	Sg	01 33 31.4	-6.6
TMUT	**Trail Mountain**	**5.89**	**59**	*e*Pn	**Pn**	**01 32 01.4**	**+1.9**
TMUT				*e*Pg	**Pg**	**01 32 22.9**	**-1.8**
TMUT				*e*Sg	**Sg**	**01 33 37.3**	**-3.7**
MPU	**Maple Canyon**	**5.97**	**52**	*e*Pn	**Pn**	**01 32 02.5**	**+2.0**
	18nm,0.9s						
MPU				*e*Pg	**Pg**	**01 32 26.5**	**+0.2**
MPU				*e*Sg	**Sg**	**01 33 41.7**	**-2.0**
WVOR	**Wild Horse Val**	**6.01**	**354**	*e*Pn	**Pn**	**01 32 03.0**	**+1.9**
	12nm,0.9s						
WVOR				*e*Pg	Pg	01 32 22.9	-4.1
WVOR				*e*Sg	Sg	01 33 39.3	-5.6
SRU	**San Rafael**	**6.29**	**63**	*e*Pn	**Pn**	**01 32 07.2**	**+2.2**
	18nm,0.6s						
SRU				*e*Pg	**Pg**	**01 32 30.2**	**-2.3**
SRU				*e*Sn	**Sn**	**01 33 21.0**	**+4.0**
SRU				*e*Sg	**Sg**	**01 33 51.2**	**-2.7**
SPUT	**South Promonto**	**6.36**	**39**	*e*Pn	Pn	01 32 08.8	+2.9
	8.9nm,0.7s						
SPUT				*e*Pg	Pg	01 32 30.9	-2.9
SPUT				*e*Sg	**Sg**	**01 33 53.3**	**-2.9**
JLU	**Jordanelle**	**6.43**	**48**	*e*Pn	Pn	01 32 10.7	+3.7
	12nm,0.7s						
JLU				*e*Pg	**Pg**	**01 32 34.4**	**-0.7**
JLU				*e*Sg	**Sg**	**01 33 56.4**	**-2.1**
DAU	**Daniels Canyon**	**6.44**	**50**	*e*Pn	Pn	01 32 11.6	+4.5
	19nm,0.9s						
DAU				*e*Pg	**Pg**	**01 32 34.4**	**-0.8**
DAU				*e*Sg	**Sg**	**01 33 59.7**	**+1.1**
YBH	**Yreka Blue Hor**	**6.54**	**325**	Pn	Pn	01 32 12.3	+4.1
YBH				Lg	Lg	01 33 53.6	
YBH	**Yreka Blue Hor**	**6.54**	**325**	Pn	Pn	01 32 12.3	+4.1
	0.1nm,0.3s,baz=110,slow=12,SNR=2.6						
YBH				Lg	Lg	01 33 53.6	
	0.5nm,0.3s,baz=165,slow=22,SNR=5.8						
HVU	**Hansel Valley**	**6.57**	**34**	*e*Pn	**Pn**	**01 32 10.6**	**+1.9**
	18nm,0.7s						
HVU				*e*Pg	**Pg**	**01 32 37.3**	**-0.4**
HVU				*e*Sg	**Sg**	**01 34 01.9**	**-0.8**
W18A	**Petrified Fore**	**6.63**	**99**	*e*Pg	**Pg**	**01 32 36.4**	**-2.6**
TUC	**Tucson**	**7.08**	**124**	*e*Pn	**Pn**	**01 32 16.4**	**+0.8**
TUC				*e*Pg	Pg	01 32 41.7	-5.7
TUC				*e*Sg	**Sg**	**01 34 14.2**	**-4.8**
PV01	**Paradox Valley**	**7.49**	**74**	*e*Pn	Pn	01 32 24.8	+3.3
	2μm,0.7s						
PV01				*e*Pg	**Pg**	**01 32 52.8**	**-2.6**
PV01				*e*Sg	**Sg**	**01 34 34.5**	**+2.0**
HLID	**Hailey**	**7.54**	**19**	*e*Pn	Pn	01 32 25.5	+3.4
	7.6nm,0.6s						
HLID				*e*Pg	**Pg**	**01 32 54.8**	**-1.5**
HLID				*e*Sg	**Sg**	**01 34 30.8**	**-3.1**
RRI2	**Red Ridge**	**8.46**	**34**	*e*Pn	Pn	01 32 39.9	+5.1
	5.7nm,0.7s						
RRI2				*e*Pg	**Pg**	**01 33 13.7**	**-0.3**
RRI2				*e*Sg	**Sg**	**01 34

R11A				*e*Sn		Sn	01 33 00.5	-0.3
R11A				*e*Sg		Sb	01 33 07.2	+1.6
SAO	**San Andreas Ge**	**2.92**	**278**	*e*Pn		Pn	01 32 31.2	-0.2
SAO				*e*Sg		Sb	01 33 14.6	+1.6
PFO	**Pinyon Flat Ob**	**3.02**	**157**	*e*Sg		Sg	01 33 19.2	-2.1
CCUT	**Cedar City**	**3.77**	**71**	*e*Sg		Sg	01 33 43.0	-2.6
ARUT	**Antelope Range**	**3.78**	**67**	*e*Pn		Pn	01 32 41.9	-1.7
ARUT				*e*Sg		Sg	01 33 42.8	-3.3
BAR	**Barrett**	**3.84**	**165**	*e*Pn		Pn	01 32 43.3	-0.8
BAR				*e*Sg		Sb	01 33 41.5	+1.9
KIPM	**Iron Peak**	**5.59**	**309**	*e*Pn		Pn	01 33 08.2	-0.1
KIPM				*e*Pg		Pg	01 33 29.3	-2.1
KIPM				*e*Sg		Sg	01 34 39.6	-4.4
BMO	**Blue Mountains** 213nm,1.2s	**8.45**	**3**	*e*Pn		Pn	01 33 47.3	-0.2
TPAW	**Teton Pass**	**8.83**	**35**	*e*Sg		Sn	01 35 08.7	-25
ULM	**Lac du Bonnet** 6.7nm,1.1s	**21.04**	**42**	*e*P		P	01 36 29.3	+0.3
INK	**Inuvik** 1.8nm,0.9s	**33.14**	**349**	*e*P		P	01 38 21.9	+0.7
LPAZ	**La Paz** 2.0nm,1.1s	**70.35**	**129**	*e*P		P	01 42 58.7	-1.5
LVC	**Limon Verde**	**74.71**	**134**	*e*P		P	01 43 24.9	-0.7

IDC ***03*** *01:34:04.5±0.9,2˝.49S×101˝.39E, h0km, mb4.0/12, mb1 4.1/13,mb1mx4.0/24,mbtmp4.0/13,ML4.5/1,MS3.9/2, Ms1 3.9/2,ms1mx3.2/37,Error ellipse: s-maj=35.3km s-min=15.2km az=53.0*

NEIC ***03*** *01:34:06.3±0.5,2˝.48S×101˝.51E, h10km, mb4.4/10, Error ellipse: s-maj=14.5km s-min=7.4km az=49.0*

ISCJB ***03*** *01:34:08.2±0.4,2˝.44S±0˝.04×101˝.41E±0˝.06, h33km, mb4.1/19,MS4.5/1, Error ellipse: s-maj=9.4km s-min=5.0km az=154.9*

DJA ***03*** *01:34:11.4±0.4,2˝.5±3˝×10˝1E±˚, h20km, M4.3/9, MLv4.3/9*

ISC 03 01:34:10.2±0.5,**2˝.43S**±0˝.05×**101˝.51E**±0˝.08,**h35km, n69,** σ1^{9}**14/65, mb4.3/19, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRJI	**Kerinci**	**0.34**	**353**	P	**Pn**	**01 34 17.2**	**-1.5**
MASI	**Maura Aman, Be**	**1.02**	**134**	P	**Pn**	**01 34 27.2**	**-0.9**
KSI	**Kapahiang**	**1.63**	**138**	P	**Pn**	**01 34 37.4**	**+0.9**
KSI				S	**Sn**	**01 34 59.5**	**+3.2**
PDSI	**Padang**	**1.83**	**325**	P	Pn	01 34 43.0	+3.8
RGRI	**Rengat**	**2.22**	**22**	P	**Pn**	**01 34 44.7**	**+0.1**
RGRI				S	**Sn**	**01 35 13.0**	**+2.2**
PPI	**Padang Panjang**	**2.25**	**330**	P	Pn	01 34 48.9	+4.0
PMBI	**Palembang**	**3.30**	**99**	P	Pn	01 35 09.1	+10
PMBI				S	Sn	01 35 45.2	+7.7
MDSI	**Maura Dua**	**3.36**	**128**	P	**Pn**	**01 35 02.8**	**+2.6**
MDSI				S	Sn	01 35 52.3	+13
LWLI	**Liwa**	**3.62**	**135**	P	Pn	01 35 09.4	+5.5
KASI	**Kota Agung**	**4.29**	**136**	P	Pn	01 35 18.1	+5.1
KGM	**Kluang**	**4.77**	**22**	P	**Pn**	**01 35 20.2**	**+0.6**
MYKOM	**Kota Tinggi**	**4.80**	**29**	P	**Pn**	**01 35 19.9**	**-0.1**
FRIM	**Kepong**	**5.63**	**1**	P	**Pn**	**01 35 32.7**	**+1.2**
PSI	**Prapat**	**5.80**	**334**	Pn	**Pn**	**01 35 34.8**	**+0.9**
PSI				Lg	Lg	01 37 05.7	
PSI	**Prapat** 0.6nm,0.3s,baz=163,slow=12,SNR=7.6	**5.80**	**334**	Pn	**Pn**	**01 35 34.8**	**+0.9**
PSI	0.5nm,0.3s,baz=356,slow=19,SNR=2.6			Lg	Lg	01 37 05.7	
PSI	comp=Z,306nm,19.6s,baz=137,slow=44			LR	LR	01 38 16.8	
IPM	**Ipoh**	**6.88**	**356**	*e*Pn	**Pn**	**01 35 51.1**	**+2.5**
KULM	**Kulim**	**7.71**	**354**	*e*Pn	**Pn**	**01 36 01.0**	**+1.0**
KTGM	**Kuala Trenggan**	**7.87**	**12**	P	**Pn**	**01 36 04.2**	**+1.9**
KKM	**Kota Kinabalu**	**16.93**	**60**	*e*Pn	**Pn**	**01 38 03.4**	**-1.2**
KAPI	**Kappang** 28nm,1.1s	**18.39**	**99**	*e*P	**Pn**	**01 38 23.1**	**+0.5**
KAPI	**Kappang** 1.7nm,0.3s,baz=269,slow=12,SNR=7.1	**18.39**	**99**	P	**Pn**	**01 38 23.3**	**+0.8**
CMAR	**Chiang Mai Arr**	**20.91**	**353**	P	**P**	**01 38 48.3**	**-1.4**
CMAR	**Chiang Mai Arr** 1.3nm,0.3s,baz=179,slow=12,SNR=5.1	**20.91**	**353**	P	**P**	**01 38 48.3**	**-1.4**
H08S2	**Diego Garcia H** baz=82,slow=0.7,SNR=8.3	**29.35**	**259**	T	T	02 09 38.4	
H08S3	**Diego Garcia H** baz=82,slow=0.7,SNR=8.6	**29.36**	**259**	T	T	02 09 38.9	
H08S1	**Diego Carcia H** baz=82,slow=0.7,SNR=6.2	**29.37**	**259**	T	T	02 09 39.9	
WRA	**Warramunga Arr**	**36.48**	**121**	P	**P**	**01 41 12.0**	**-0.4**
WRA				PcP	**PcP**	**01 43 35.4**	**-0.5**
WRA	**Warramunga Arr** 1.6nm,0.9s,baz=296,slow=9.6,SNR=5.5	**36.48**	**121**	P	**P**	**01 41 12.0**	**-0.4**
WRA	0.3nm,0.3s,baz=312,slow=2.3,SNR=2.7			PcP	**PcP**	**01 43 35.4**	**-0.5**
WRAB	**Tennant Creek** 5.6nm,1.2s	**36.49**	**121**	*e*P	**P**	**01 41 11.9**	**-0.5**
ASAR	**Alice Springs**	**37.79**	**127**	P	**P**	**01 41 22.4**	**-1.1**
ASAR				PcP	**PcP**	**01 43 40.5**	**+0.7**
ASAR	**Alice Springs** 1.9nm,0.7s,baz=303,slow=7.8,SNR=22	**37.79**	**127**	P	**P**	**01 41 22.4**	**-1.1**
ASAR	0.5nm,0.8s,baz=298,slow=1.9,SNR=5.3			PcP	**PcP**	**01 43 40.5**	**+0.7**
AS31	**Alice Springs**	**37.79**	**127**	*e*P	**P**	**01 41 23.8**	**+0.4**
PMG	**Port Moresby** 9.6nm,0.9s	**45.90**	**101**	*e*P	**P**	**01 42 29.9**	**+0.1**
CTAO	**Charters Tower**	**47.06**	**115**	*e*P	**P**	**01 42 38.6**	**-0.2**
STKA	**Stephens Creek**	**47.75**	**132**	P	**P**	**01 42 43.6**	**-0.5**
STKA	**Stephens Creek** 2.3nm,0.8s,baz=320,slow=17,SNR=4.7	**47.75**	**132**	P	**P**	**01 42 43.6**	**-0.5**
SONM	**Songino Array**	**50.24**	**4**	P	**P**	**01 43 03.6**	**+0.7**
SONM	**Songino Array** 1.0nm,0.7s,baz=187,slow=7.3,SNR=4.7	**50.24**	**4**	P	**P**	**01 43 03.6**	**+0.7**
TKM2	**Tokmak 2** 3.6nm,0.9s	**50.83**	**336**	*e*P	**P**	**01 43 07.7**	**+0.1**
EKS2	**Erkin-Say** 4.0nm,0.8s	**51.39**	**334**	*e*P	**P**	**01 43 12.0**	**+0.2**
MAJO	**Matsushiro** 5.9nm,0.6s	**51.67**	**38**	*e*P	**P**	**01 43 11.2**	**-2.6**
MK31	**Makanchi Array**	**51.85**	**343**	*e*P	**P**	**01 43 13.9**	**-1.1**
MKAR	**Makanchi Array**	**51.85**	**343**	P	**P**	**01 43 13.8**	**-1.2**
MKAR	**Makanchi Array** 0.6nm,0.7s,baz=160,slow=7.4,SNR=7.6	**51.85**	**343**	P	**P**	**01 43 13.8**	**-1.2**
USRK	**Ussuriysk Arra** 2.2nm,0.7s,baz=232,slow=7.4,SNR=6.4	**53.84**	**27**	P	**P**	**01 43 30.3**	**+0.6**
KURK	**Kurchatov** 0.6nm,0.7s	**56.45**	**343**	*e*P	**P**	**01 43 47.4**	**-0.9**
ZALV	**Zalesovo Beam**	**57.87**	**348**	P	**P**	**01 43 57.2**	**-1.2**
ZALV	**Zalesovo Beam** 2.3nm,0.8s,baz=162,slow=4.9,SNR=9.0	**57.87**	**348**	P	**P**	**01 43 57.2**	**-1.2**
ABKAR	**Akbulak array** 2.6nm,0.9s	**62.74**	**331**	*e*P	**P**	**01 44 31.0**	**-0.7**
PETK	**Petropavlovsk-**	**72.45**	**32**	P	**P**	**01 45 33.9**	**+0.9**
PETK	**Petropavlovsk-** 1.8nm,0.8s,baz=231,slow=9.1,SNR=2.9	**72.45**	**32**	P	**P**	**01 45 33.9**	**+0.9**
BR131	**Keskin Array S** 1.2nm,0.8s	**74.72**	**312**	*e*P	**P**	**01 45 47.3**	**+0.5**
BRTR	**Keskin Array B**	**74.72**	**312**	P	**P**	**01 45 47.1**	**+0.3**
BRTR	**Keskin Array B** 1.3nm,0.8s,baz=129,slow=7.3,SNR=9.6	**74.72**	**312**	P	**P**	**01 45 47.1**	**+0.3**
AKASG	**Malin Array Be**	**80.74**	**322**	P	**P**	**01 46 19.2**	**-0.7**
AKASG	**Malin Array Be** 0.2nm,0.3s,baz=86,slow=4.8,SNR=3.1	**80.74**	**322**	P	**P**	**01 46 19.2**	**-0.7**
VNDA	**Vanda** comp=Z,183nm,18.5s,baz=113,slow=32	**81.46**	**169**	LR	LR	02 16 45.6	
BUR08	**Bucovina Ar. S**	**82.59**	**319**	*e*P	**P**	**01 46 30.3**	**+0.4**
TSUM	**Tsumeb**	**83.47**	**251**	*e*P	**P**	**01 46 36.3**	**+1.2**
ARCES	**ARCESS Array B**	**87.38**	**340**	P	**P**	**01 46 54.7**	**+1.3**
ARCES	**ARCESS Array B** 1.7nm,0.9s,baz=102,slow=4.2,SNR=3.6	**87.38**	**340**	P	**P**	**01 46 54.7**	**+1.3**
MORC	**Moravsky Berou** 2.0nm,0.9s	**87.93**	**320**	*e*P	**P**	**01 46 57.4**	**+0.9**
ULM	**Lac du Bonnet**	**130.12**	**15**	*e*PKPdf	**PKPdf**	**01 53 16.1**	**-0.5**
TXAR	**Lajitas Array**	**144.10**	**39**	PKP	PKPbc	01 53 41.9	+0.8
TXAR	**Lajitas Array** 0.7nm,0.8s,baz=302,slow=0.6,SNR=8.8	**144.10**	**39**	PKP	PKPbc	01 53 41.9	+0.8
CPUP	**Villa Florida**	**144.84**	**214**	PKP	**PKPdf**	**01 53 44.5**	**+0.2**
CPUP				*e*PKPdf	**PKiKP**	**01 53 46.2**	**-1.9**
CPUP	**Villa Florida** 1.7nm,0.7s,baz=97,slow=18,SNR=5.0	**144.84**	**214**	PKP	**PKPdf**	**01 53 44.5**	**+0.2**
WVT	**Waverly**	**145.37**	**13**	*e*PKPbc	**PKPbc**	**01 53 44.3**	**-0.5**
JCT	**Junction City**	**145.57**	**34**	*e*PKPbc	**PKPbc**	**01 53 45.8**	**+0.1**

NEIC ***03*** *01:47:55.4,36˝.40N×117˝.85W, h2km, mb4.1/9, ML4.2(PAS), After PAS.*

NEIC Felt [II] at Fresno. Also felt at Bakersfield, Friant, Hanford, Kings Canyon National Park, Lake Isabella, Lone Pine and Tulare.

IDC ***03*** *01:47:55.7±0.7,36˝.42N×117˝.75W, h0km, mb3.8/2, mb1 3.8/8,mb1mx3.6/31,mbtmp3.5/8,ML3.4/6,MS2.9/1, Ms1 2.9/1,ms1mx2.6/44,Error ellipse: s-maj=15.5km s-min=5.7km az=70.0*

ISC 03 01:47:55.5±0.5,**36˝.41N**±0˝.02×**117˝.82W**±0˝.02,**h10km, n85,** σ1^{9}**89/146, mb4.0/11, California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OSI	**Osito Adit**	**1.94**	**203**	*e*Pn	**Pn**	**01 48 28.6**	**+0.1**
OSI				*e*Pg	**Pg**	**01 48 31.7**	**-0.9**
OSI				*e*Sn	**Sb**	**01 48 53.8**	**-1.4**
NV11	**Mina Array Sit**	**2.04**	**353**	*e*Pn	**Pn**	**01 48 30.2**	**+0.2**
NV11				*e*Pg	**Pb**	**01 48 33.2**	**+0.5**
NV11				*e*Sn	**Sn**	**01 48 56.1**	**+0.6**
NV11				*e*Sg	**Sg**	**01 49 01.5**	**+0.5**
NVAR	**Mina Array Bea**	**2.05**	**349**	Pn	**Pn**	**01 48 31.2**	**+0.9**
NVAR				Pg	**Pb**	**01 48 33.8**	**+0.8**
NVAR				Lg	Lg	01 49 00.7	
NVAR	**Mina Array Bea** 82nm,0.3s,baz=173,slow=15,SNR=239	**2.05**	**349**	Pn	**Pn**	**01 48 31.2**	**+0.9**
NVAR	109nm,0.3s,baz=171,slow=18,SNR=362			Pg	**Pb**	**01 48 33.8**	**+0.8**
NVAR	81nm,0.3s,baz=143,slow=35,SNR=6.8			Lg	Lg	01 49 00.6	
SHPR	**Sheep Range**	**2.14**	**87**	*e*Pn	**Pn**	**01 48 32.0**	**+0.5**
SHPR				*e*Pg	**Pg**	**01 48 37.1**	**+0.5**
SHPR				*e*Sn	**Sn**	**01 48 59.5**	**+1.3**
SHPR				*e*Sg	**Sg**	**01 49 03.4**	**-1.0**
MWC	**Mount Wilson**	**2.19**	**185**	*e*Pn	**Pn**	**01 48 31.9**	**-0.3**
MWC				*e*Pg	**Pg**	**01 48 35.9**	**-1.6**
MWC				*e*Sn	**Sn**	**01 48 59.2**	**-0.1**
MWC				*e*Sg	**Sg**	**01 49 04.2**	**-1.7**
WAKR	**Walker**	**2.46**	**329**	*e*Pn	**Pn**	**01 48 36.5**	**+0.7**
WAKR				*e*Pg	**Pb**	**01 48 41.0**	**+1.1**
WAKR				*e*Sn	**Sb**	**01 49 08.1**	**-2.1**
WAKR				*e*Sg	**Sg**	**01 49 14.3**	**-0.2**
LDFC	**Landfair**	**2.57**	**120**	*e*Pn	**Pn**	**01 48 36.0**	**-1.3**
LDFC				*e*Pg	**Pb**	**01 48 42.9**	**+1.1**
LDFC				*e*Sg	**Sg**	**01 49 16.3**	**-1.8**
CMB	**Columbia Colle**	**2.62**	**309**	*e*Pg	**Pb**	**01 48 40.4**	**-2.1**
CMB				*e*Sg	**Sb**	**01 49 14.3**	**-0.4**
R11A	**Troy Canyon, C**	**2.63**	**42**	*e*Pn	**Pn**	**01 48 39.4**	**+1.2**
R11A				*e*Pb	**Pb**	**01 48 43.8**	**+1.0**
R11A				*e*Pg	**Pg**	**01 48 46.3**	**+0.4**
R11A				*e*Sn	**Sn**	**01 49 12.4**	**+2.2**
R11A				*e*Sg	**Sg**	**01 49 19.2**	**-0.8**
SAO	**San Andreas Ge**	**2.94**	**278**	*e*Pn	**Pn**	**01 48 43.8**	**+1.5**
SAO				*e*Pg	**Pg**	**01 48 50.9**	**-1.0**
SAO				*e*Sn	**Sn**	**01 49 18.3**	**+0.6**
SAO				*e*Sg	**Sg**	**01 49 28.3**	**-1.7**
PFO	**Pinyon Flat Ob**	**3.01**	**158**	*e*Pn	**Pn**	**01 48 43.2**	**-0.1**
PFO				Pg	**Pb**	**01 48 50.7**	**+1.4**
PFO				*e*Pg	**Pg**	**01 48 51.3**	**-1.8**
PFO				*e*Sn	**Sn**	**01 49 20.2**	**+0.7**
PFO				*e*Sg	**Sg**	**01 49 29.4**	**-2.8**
PFO	**Pinyon Flat Ob** 3.0nm,0.3s,baz=350,slow=9.6,SNR=20	**3.01**	**158**	Pn	**Pn**	**01 48 43.2**	**-0.1**
PFO	27nm,0.3s,baz=336,slow=16,SNR=94			Pg	**Pb**	**01 48 50.7**	**+1.4**
PFO	61nm,0.3s,baz=109,slow=11,SNR=11			Lg	Lg	01 49 29.4	
PAHR	**Pah Rah Range**	**3.52**	**340**	*e*Pn	**Pn**	**01 48 51.5**	**+1.1**
PAHR				*e*Pg	**Pb**	**01 49 00.0**	**+2.1**
PAHR				*e*Sg	**Sg**	**01 49 46.6**	**-1.9**
CCUT	**Cedar City**	**3.74**	**71**	*e*Pn	**Pn**	**01 48 54.3**	**+0.8**
CCUT				*e*Pg	**Pg**	**01 49 05.4**	**-1.8**
CCUT				*e*Sg	**Sg**	**01 49 52.8**	**-2.9**
ARUT	**Antelope Range**	**3.76**	**67**	*e*Pn	**Pn**	**01 48 54.6**	**+0.9**
ARUT				*e*Pg	**Pg**	**01 49 06.0**	**-1.5**
ARUT				*e*Sn	**Sn**	**01 49 38.8**	**+0.7**
ARUT				*e*Sg	**Sg**	**01 49 55.8**	**-0.5**
BAR	**Barrett**	**3.84**	**165**	*e*Pn	**Pn**	**01 48 54.9**	**+0.3**
BAR				*e*Pg	**Pb**	**01 49 04.4**	**+1.1**
BAR				*e*Sn	**Sn**	**01 49 40.6**	**+0.8**
BAR				*e*Sg	**Sb**	**01 49 52.4**	**+2.5**
SAC	**San Andreas**	**3.86**	**289**	*e*Pn	**Pn**	**01 48 56.1**	**+1.1**
SAC				*e*Pg	**Pg**	**01 49 06.5**	**-3.0**
BMN	**Battle Mountai**	**4.04**	**6**	*e*Pn	**Pn**	**01 48 58.6**	**+1.0**
BMN				*e*Pb	**Pb**	**01 49 07.2**	**+0.3**
BMN				*e*Pg	**Pg**	**01 49 11.3**	**-1.6**
GLA	**Glamis**	**4.16**	**143**	*e*Pn	**Pn**	**01 48 58.2**	**-0.8**
GLA				*e*Pg	**Pg**	**01 49 12.6**	**-2.5**
GLA				*e*Sg	**Sg**	**01 50 07.2**	**-1.7**
MCCM	**Marconi Confer**	**4.39**	**295**	*e*Pn	**Pn**	**01 49 03.1**	**+0.9**
MCCM				*e*Sn	**Sn**	**01 49 52.9**	**-0.6**
MCCM				*e*Sg	**Sb**	**01 50 06.8**	**+3.1**
ELK	**Elko**	**4.78**	**24**	*e*Pn	**Pn**	**01 49 09.1**	**+1.4**
ELK				*e*Pg	**Pg**	**01 49 24.7**	**-2.3**
ELK				*e*Sg	**Sg**	**01 50 26.4**	**-2.4**
HOPS	**Hopland**	**4.90**	**303**	*e*Pg	Pg	01 49 25.7	-3.7
HOPS				*e*Sg	**Sb**	**01 50 21.5**	**+1.1**
MVU	**Marysvale**	**4.92**	**63**	*e*Pn	**Pn**	**01 49 11.7**	**+1.9**
MVU				*e*Pg	**Pg**	**01 49 27.9**	**-1.9**
MVU				*e*Sg	**Sg**	**01 50 32.7**	**-0.9**
WUAZ	**Wupatki** 118nm,0.8s	**5.30**	**98**	*e*Pn	**Pn**	**01 49 17.6**	**+2.7**
WUAZ				*e*Pg	Pg	01 49 33.5	-3.5
DUG	**Dugway** 76nm,1.0s	**5.46**	**45**	*e*Pn	Pn	01 49 20.8	+3.8
DUG				*e*Pg	**Pg**	**01 49 37.7**	**-2.3**
DUG				*e*Sn	**Sn**	**01 50 21.6**	**+1.7**
DUG				*e*Sg	**Sg**	**01 50 48.2**	**-2.5**
WDC	**Whiskeytown Da** 16nm,0.7s	**5.57**	**320**	*e*Pn	**Pn**	**01 49 18.9**	**+0.4**
WDC				*e*Pg	Pb	01 49 36.0	+3.2
WDC				*e*Sg	**Sb**	**01 50 44.3**	**+4.6**
NLU	**North Lily Min** 38nm,1.0s	**5.74**	**50**	*e*Pn	**Pn**	**01 49 23.2**	**+2.2**
NLU				*e*Pg	**Pg**	**01 49 42.5**	**-2.9**
NLU				*e*Sg	**Sg**	**01 50 57.5**	**-2.4**
MOD	**Modoc**	**5.81**	**341**	*e*Pg	**Pn**	**01 49 23.4**	**+1.5**
MOD				*e*Sg	Sg	01 50 55.2	-6.9
Q16A	**Castle Valley**	**5.84**	**63**	*e*Pn	**Pn**	**01 49 25.6**	**+0.2**
Q16A				*e*Pg	**Pg**	**01 49 44.6**	**-2.6**
Q16A				*e*Sg	**Sg**	**01 50 58.8**	**-4.1**
BGU	**Big Grassy Mou** 65nm,1.0s	**5.86**	**38**	*e*Pn	**Pn**	**01 49 25.4**	**+2.8**
BGU				*e*Pg	Pg	01 49 44.2	-3.6
BGU				*e*Sn	**Sn**	**01 50 31.6**	**+1.7**
BGU				*e*Sg	**Sg**	**01 51 00.4**	**-3.2**
TMUT	**Trail Mountain** 62nm,0.9s	**5.97**	**59**	*e*Pn	**Pn**	**01 49 24.2**	**0.0**
TMUT				*e*Pg	**Pg**	**01 49 47.8**	**-2.1**
TMUT				*e*Sg	**Sg**	**01 51 03.6**	**-3.6**
WVOR	**Wild Horse Val** 14nm,0.8s	**6.05**	**354**	*e*Pn	**Pn**	**01 49 26.1**	**+1.0**
WVOR				*e*Pg	Pg	01 49 47.6	-3.7
WVOR				*e*Sg	**Sg**	**01 51 06.3**	**-3.4**
MPU	**Maple Canyon** 30nm,0.9s	**6.05**	**52**	*e*Pn	**Pn**	**01 49 23.0**	**-2.3**
MPU				*e*Pg	Pg	01 49 47.8	-3.6
MPU				*e*Sg	Sg	01 51 04.2	-5.6
SRU	**San Rafael** 29nm,0.7s	**6.38**	**63**	*e*Pn	**Pn**	**01 49 31.8**	**+2.1**
SRU				*e*Pg	**Pg**	**01 49 54.9**	**-2.7**
SRU				*e*Sg	**Sg**	**01 51 17.3**	**-2.8**
CTU	**Camp Tracy** 76nm,1.0s	**6.39**	**46**	*e*Pg	Pg	01 49 53.9	-4.0
CTU				*e*Sg	Sb	01 51 12.0	+8.5
SPUT	**South Promonto** 18nm,0.6s	**6.44**	**39**	*e*Pn	Pn	01 49 33.8	+3.3
SPUT				*e*Pg	**Pg**	**01 49 55.7**	**-3.1**
SPUT				*e*Sg	**Sg**	**01 51 21.5**	**-0.7**
JLU	**Jordanelle** 15nm,0.7s	**6.51**	**48**	*e*Pn	Pn	01 49 35.9	+4.2
JLU				*e*Pg	**Pg**	**01 50 00.7**	**+0.5**
JLU				*e*Sg	**Sg**	**01 51 20.3**	**-4.3**
DAU	**Daniels Canyon** 16nm,0.7s	**6.52**	**50**	*e*Pn	**Pn**	**01 49 34.5**	**+2.7**
DAU				*e*Pg	**Pg**	**01 49 57.8**	**-2.5**
DAU				*e*Sg	**Sg**	**01 51 23.4**	**-1.3**
YBH	**Yreka Blue Hor**	**6.54**	**326**	Pn	Pn	01 49 35.1	+3.3
YBH				Lg	Lg	01 51 16.2	
YBH	**Yreka Blue Hor** 0.1nm,0.3s,baz=139,slow=7.9,SNR=2.2	**6.54**	**326**	Pn	Pn	01 49 35.1	+3.3
YBH	0.1nm,0.3s,baz=120,slow=13,SNR=4.5			Lg	Lg	01 51 16.3	
YBH	comp=Z,96nm,19.2s,baz=334,slow=35			LR	LR	01 51 42.8	
HVU	**Hansel Valley** 23nm,0.6s	**6.64**	**35**	*e*Pn	**Pn**	**01 49 32.2**	**-1.1**
HVU				*e*Pg	Pg	01 49 58.2	-4.4
HVU				*e*Sg	**Sg**	**01 51 25.5**	**-3.2**
W18A	**Petrified Fore**	**6.70**	**99**	*e*Pn	**Pn**	**01 49 35.6**	**+1.6**
W18A				*e*Pg	Pg	01 49 59.6	-4.1
W18A				*e*Sg	Sg	01 51 23.0	-7.4
TUC	**Tucson** 8.9nm,0.7s	**7.11**	**123**	*e*Pn	**Pn**	**01 49 39.8**	**+0.2**
TUC				*e*Pg	Pg	01 50 05.7	-5.9
TUC				*e*Sn	**Sn**	**01 51 01.9**	**+1.4**
TUC				*e*Sg	**Sg**	**01 51 40.9**	**-2.8**
HUMO	**Hull Mountain**	**7.35**	**329**	*e*Pg	**Pb**	**01 50 00.8**	**-2.4**
HUMO				*e*Sg	**Sg**	**01 51 47.5**	**-3.9**
MVCO	**Mesa Verde** 30nm,0.6s	**7.52**	**81**	*e*Pn	Pn	01 49 49.0	+3.6
MVCO				*e*Pg	Pb	01 50 10.7	+4.6
PV01	**Paradox Valley** 2μm,0.7s	**7.57**	**74**	*e*Pn	**Pn**	**01 49 48.3**	**+2.2**
PV01				*e*Pg	Pg	01 50 14.6	-5.9
PV01				*e*Sg	Sb	01 51 48.1	+10
HLID	**Hailey** 18nm,0.6s	**7.61**	**19**	*e*Pn	Pn	01 49 51.8	+5.3
HLID				*e*Pg	**Pg**	**01 50 18.7**	**-2.4**
HLID				*e*Sg	Sg	01 51 52.3	-7.2
O20A	**White River Ci**	**8.40**	**61**	*e*Pn	**Pn**	**01 49 58.3**	**+0.8**
O20A				*e*Pg	**Pg**	**01 50 33.2**	**-3.1**
O20A				*e*Sg	**Sg**	**01 52 20.4**	**-4.6**
RRI2	**Red Ridge** 13nm,0.7s	**8.54**	**34**	*e*Pn	**Pn**	**01 50 02.2**	**+2.8**
RRI2				*e*Pg	**Pg**	**01 50 36.1**	**-2.8**
RRI2				*e*Sg	**Sg**	**01 52 25.7**	**-3.7**
REDW	**Red Top Meadow** 7.5nm,0.8s	**8.77**	**35**	*e*Pn	**Pn**	**01 50 03.4**	**+0.9**
REDW				*e*Pg	**Pg**	**01 50 41.1**	**-2.1**
REDW				*e*Sg	**Sg**	**01 52 34.9**	**-1.9**
TPAW	**Teton Pass** 8.0nm,0.8s	**8.82**	**35**	*e*Pn	Pn	01 50 06.3	+3.1
TPAW				*e*Lg	Lg	01 52 35.9	
SNOW	**Snow King Moun** 33nm,1.8s	**8.89**	**35**	*e*Pn	Pn	01 50 07.2	+3.0
LAZ	**Ladron** 7.1nm,1.0s	**8.95**	**100**	*e*Pn	**Pn**	**01 50 06.5**	**+1.6**
PDAR	**Pinedale Array**	**8.99**	**43**	Pn	Pn	01 50 09.2	+3.5
PDAR				Lg	Lg	01 52 35.9	
PDAR	**Pinedale Array** 0.1nm,0.3s,baz=228,slow=11,SNR=6.8	**8.99**	**43**	Pn	Pn	01 50 09.2	+3.5
PDAR	0.1nm,0.3s,baz=209,slow=32,SNR=3.1			Lg	Lg	01 52 35.9	
SMCO	**Snowmass** 11nm,0.9s	**9.02**	**69**	*e*Pn	**Pn**	**01 50 08.8**	**+2.7**
SMCO				*e*Lg	Lg	01 52 43.8	
LOHW	**Long Hollow** 6.3nm,0.8s	**9.07**	**35**	*e*Pn	Pn	01 50 11.8	+5.1
MOOW	**Moose Ponds** 2.6nm,0.9s	**9.11**	**34**	*e*Pn	Pn	01 50 12.9	+5.7
IMW	**Indian Meadow** 7.6nm,0.7s	**9.14**	**33**	*e*Pn	Pn	01 50 11.1	+3.4
MCMT	**McKenzie Canyo** 3.6nm,0.7s	**9.22**	**23**	*e*Pn	Pn	01 50 14.4	+5.8
ANMO	**Albuquerque** 9.8nm,1.0s	**9.36**	**96**	*e*Pn	**Pn**	**01 50 11.4**	**+0.8**
ANMO				Pg		01 50 47.1	
ANMO				Lg	Lg	01 52 47.5	
ANMO	**Albuquerque** 0.1nm,0.3s,baz=293,slow=12,SNR=5.6	**9.36**	**96**	Pn	**Pn**	**01 50 13.1**	**+2.5**
ANMO	0.3nm,0.3s,baz=284,slow=14,SNR=12			Pg		01 50 47.1	
ANMO	0.1nm,0.3s,baz=105,slow=12,SNR=2.1			Lg	Lg	01 52 47.5	
FLWY	**Flagg Ranch** 5.5nm,0.9s	**9.40**	**33**	*e*Pn	**Pn**	**01 50 12.7**	**+1.6**
SDCO	**Great Sand Dun** 4.7nm,1.0s	**9.93**	**79**	*e*Pn	**Pn**	**01 50 18.8**	**+0.3**
BOZ	**Bozeman (W)**	**10.34**	**25**	*e*Pn	Pn	01 50 31.6	+7.6
CHMT	**Chamberlain Mo**	**11.04**	**17**	*e*Pn	**Pn**	**01 50 34.6**	**+1.1**
MNTX	**Cornudas Mount** 7.9nm,1.5s	**11.33**	**111**	*e*Pn	Pn	01 50 41.5	+4.0
TXAR	**Lajitas Array**	**13.82**	**117**	Pn	Pn	01 51 14.9	+3.4
TXAR	**Lajitas Array** 0.0nm,0.3s,baz=292,slow=8.7,SNR=15	**13.82**	**117**	Pn	Pn	01 51 14.9	+3.4
ULM	**Lac du Bonnet** 6.7nm,1.0s	**21.02**	**42**	*e*P	**P**	**01 52 40.1**	**+1.0**
**FFC

	comp=N,23nm,0.2s							
BIA	**Bitola**	**0.38**	**338**	*e*Sg	**Sb**	**01 52 32.1**	**+0.1**
BIA				*e*Lg	Lg	01 52 32.4	
	comp=N,23nm,0.2s							
BIA	**Bitola**	**0.38**	**338**	P	**Pg**	**01 52 25.5**	**-0.6**
KZN	**Kozani**	**0.41**	**151**	P	**Pg**	**01 52 26.4**	**-0.1**
KZN				S	**Sb**	**01 52 32.8**	**+0.1**
KZN	**Kozani**	**0.41**	**151**	P	**Pg**	**01 52 26.4**	**-0.1**
KZN				S	**Sb**	**01 52 32.8**	**+0.1**
NEST	**Nestorio**	**0.43**	**235**	P	**Pg**	**01 52 26.6**	**-0.4**
NEST				S	**Sb**	**01 52 33.9**	**+0.4**
NEST	**Nestorio**	**0.43**	**235**	P	**Pg**	**01 52 26.6**	**-0.4**
NEST				S	**Sb**	**01 52 33.9**	**+0.4**
KBN	**Korca**	**0.56**	**266**	P	**Pb**	**01 52 29.2**	**-0.1**
KBN	**Korca**	**0.56**	**266**	P	**Pb**	**01 52 29.2**	**-0.1**

*IDC **03** 01:54:46.5±1.6, 15°.15S×173°.67W, h0km, mb4.3/7, mb1 4.7/7, mb1mx4.2/19, mbtmp4.3/7, MS3.9/6, Ms1 3.9/6, ms1mx3.6/28, Error ellipse: s-maj=94.2km s-min=20.9km az=151.0*

*NEIC **03** 01:54:47.8±0.3, 15°.30S×173°.65W, h10km, mb4.6/31, Error ellipse: s-maj=17.4km s-min=7.6km az=145.0*

*SZGRF **03** 01:54:47.3, 15°.87S×173°.07W, h33km, Tonga Islands*

*ISCJB **03** 01:54:50.2±0.4, 15°.1S±0°.1×173°.82W±0°.09, h33km, mb4.6/44, MS4.0/7, Error ellipse: s-maj=20.5km s-min=9.9km az=153.5*

*BJI **03** 01:54:52.3, 15°.10S×173°.70W, h10km, mB4.9/1, mb4.9/6, Ms7 4.7/1*

ISC 03 01:54:51.1±0.7, 15°.3S±0°.2×173°.6W±0°.1, h30km, n338, σ0°68/321, mb4.6/44, MS4.0/7, 109C-115D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.21**	**51**	*e*Pn	Pn	01 55 16.9	-8.9
AFI				Sn	Sn	01 55 36.8	-15
AFI	**Afiamalu**	**2.21**	**51**	Pn	Pn	01 55 17.2	-8.6
	43nm,0.3s,baz=86,slow=13,SNR=14						
AFI				Sn	Sn	01 55 36.8	-15
	167nm,0.3s,baz=119,slow=20,SNR=11						
MSVF	**Nonsavu**	**8.41**	**252**	*e*Pn	Pb	01 57 04.3	-12
PMG	**Port Moresby**	**38.78**	**274**	LR	LR	02 14 10.7	
	comp=Z,221nm,20.6s,baz=103,slow=30						
H11S2	**WAKE ISLAND Hy**	**38.80**	**329**	T	T	02 43 02.9	
	baz=152,slow=0.7,SNR=51						
H11S3	**WAKE ISLAND Hy**	**38.82**	**329**	T	T	02 43 03.1	
	baz=152,slow=0.7,SNR=43						
H11S1	**WAKE ISLAND Hy**	**38.82**	**329**	T	T	02 43 06.4	
	baz=152,slow=0.7,SNR=57						
H11N3	**WAKE ISLAND Hy**	**39.75**	**330**	T	T	02 44 18.5	
	baz=152,slow=0.7,SNR=32						
H11N1	**WAKE ISLAND Hy**	**39.76**	**330**	T	T	02 44 15.4	
	baz=152,slow=0.7,SNR=44						
H11N2	**WAKE ISLAND Hy**	**39.77**	**330**	T	T	02 44 21.2	
	baz=152,slow=0.7,SNR=30						
WRAB	**Tennant Creek**	**49.71**	**257**	*e*P	**P**	**02 03 39.9**	**-1.0**
	2.3nm,0.6s						
WRA	**Warramunga Arr**	**49.72**	**257**	P	**P**	**02 03 39.8**	**-1.2**
WRA	**Warramunga Arr**	**49.72**	**257**	P	**P**	**02 03 39.8**	**-1.2**
	1.9nm,0.7s,baz=90,slow=7.3,SNR=18						
AS31	**Alice Springs**	**50.00**	**252**	*e*P	**P**	**02 03 41.5**	**-1.6**
ASAR	**Alice Springs**	**50.00**	**252**	P	**P**	**02 03 42.1**	**-0.9**
ASAR	**Alice Springs**	**50.00**	**252**	P	**P**	**02 03 42.1**	**-0.9**
	9.2nm,0.7s,baz=88,slow=7.9,SNR=101						
VNDA	**Vanda**	**63.46**	**186**	*e*P	P	02 05 14.5	-3.2
	3.3nm,1.3s						
KAPI	**Kappang**	**66.23**	**271**	*e*P	P	02 05 31.3	-5.5
	54nm,1.6s						
MJAR	**Matsushiro Arr**	**68.77**	**320**	LR	LR	02 28 09.7	
	comp=Z,89nm,21.6s,baz=145,slow=29						
PETK	**Petropavlovsk-**	**72.49**	**342**	LR	LR	02 35 11.4	
	comp=Z,36nm,20.2s,baz=214,slow=34						
EDW2	**Edwards Air Fo**	**72.58**	**45**	⇑P	**P**	**02 06 16.8**	**+1.0**
	baz=73						
MONP	**Monument Peak**	**72.61**	**48**	⇓P	**P**	**02 06 16.5**	**+0.3**
	baz=73						
SWSC	**Sam W. Stewart**	**73.08**	**48**	⇓P	**P**	**02 06 19.2**	**+0.5**
	baz=73						
YBH	**Yreka Blue Hor**	**73.61**	**37**	*e*P	**P**	**02 06 22.1**	**+0.4**
	5.6nm,1.1s						
HEC	**Hector,Ludlow**	**73.70**	**46**	⇑P	**P**	**02 06 23.0**	**+0.6**
	baz=74						
BEKR	**Beckworth**	**73.89**	**40**	*e*P	**P**	**02 06 23.8**	**+0.3**
	1.4nm,0.9s						
NVAR	**Mina Array Bea**	**74.36**	**42**	P	**P**	**02 06 26.2**	**-0.1**
NVAR	**Mina Array Bea**	**74.36**	**42**	P	**P**	**02 06 26.2**	**-0.1**
	1.2nm,0.8s,baz=232,slow=7.3,SNR=5.4						
Y12C	**Blythe**	**74.41**	**48**	⇓P	**P**	**02 06 27.1**	**+0.6**
	baz=75						
QSPA	**South Pole Qui**	**74.74**	**180**	*e*P	**P**	**02 06 30.1**	**+2.1**
	3.5nm,1.0s						
214A	**Organ Pipe Nat**	**74.77**	**50**	⇓P	**P**	**02 06 29.4**	**+0.8**
	baz=75						
MOD	**Modoc**	**75.14**	**38**	*e*P	**P**	**02 06 30.8**	**+0.1**
W13A	**Hualapai Mount**	**75.55**	**47**	⇓P	**P**	**02 06 33.8**	**+0.5**
	baz=76						
Y14A	**Wickenburg**	**75.60**	**48**	⇑P	**P**	**02 06 33.9**	**+0.5**
	baz=76						
PINOR	**Pine Mountain**	**75.96**	**36**	*e*P	**P**	**02 06 36.0**	**+0.9**
KSRS	**Korea Array**	**75.98**	**316**	LR	LR	02 36 55.2	
	comp=Z,63nm,19.2s,baz=156,slow=33						
R11A	**Troy Canyon, C**	**76.09**	**43**	⇑P	**P**	**02 06 36.3**	**+0.1**
	baz=76						
TUC	**Tucson**	**76.44**	**51**	*e*P	**P**	**02 06 39.5**	**+1.2**
	4.1nm,1.0s						
WVOR	**Wild Horse Val**	**76.45**	**39**	*e*P	**P**	**02 06 37.7**	**-0.4**
	3.5nm,0.9s						
I07A	**Izee**	**76.91**	**37**	*e*P	**P**	**02 06 41.0**	**+0.2**
	4.4nm,1.1s						
X16A	**Lo Mia Camp, P**	**76.96**	**49**	⇑P	**P**	**02 06 42.0**	**+0.7**
	baz=77						
J08A	**Circle Bar Ran**	**77.09**	**38**	*e*P	**P**	**02 06 42.4**	**+0.7**
	50nm,2.5s						
319A	**Douglas**	**77.15**	**52**	⇓P	**P**	**02 06 43.1**	**+0.7**
	baz=77						
USRK	**Uesuriysk Arra**	**77.22**	**323**	LR	LR	02 37 01.9	
	comp=Z,81nm,21.5s,baz=328,slow=33						
U15A	**North Rim**	**77.34**	**46**	⇑P	**P**	**02 06 44.1**	**+0.6**
	baz=78						
WUAZ	**Wupatki**	**77.54**	**48**	⇑P	**P**	**02 06 45.1**	**+0.6**
	baz=78						
ELK	**Elko**	**77.61**	**41**	*e*P	**P**	**02 06 45.3**	**+0.4**
	5.1nm,1.2s						
320A	**Kipp Ranch, An**	**77.71**	**53**	⇑P	**P**	**02 06 46.6**	**+1.1**
	baz=78						
G08A	**Pilot Rock**	**77.94**	**36**	*e*P	**P**	**02 06 46.2**	**-0.2**
	4.2nm,1.0s						
220A	**Playas Peak, P**	**77.96**	**52**	⇑P	**P**	**02 06 47.8**	**+0.9**
	baz=78						
X18A	**Snowflake**	**78.10**	**49**	⇓P	**P**	**02 06 48.2**	**+0.6**
	baz=78						
120A	**U Bar Ranch, L**	**78.17**	**51**	⇓P	**P**	**02 06 48.7**	**+0.7**
	baz=78						
MVU	**Marysvale**	**78.43**	**45**	*e*P	**P**	**02 06 50.4**	**+0.9**
Z20A	**Nine Sixteen R**	**78.45**	**51**	⇑P	**P**	**02 06 50.3**	**+0.7**
	baz=79						
W18A	**Petrified Fore**	**78.53**	**49**	⇓P	**P**	**02 06 51.0**	**+0.9**
	baz=79						
A05A	**Maple Falls**	**78.55**	**32**	*e*P	**P**	**02 06 48.5**	**-1.0**
MFID	**Camas Ranch**	**78.70**	**39**	⇑P	**P**	**02 06 50.8**	**+0.1**
	baz=79						
121A	**Cookes Peak, D**	**78.80**	**52**	⇑P	**P**	**02 06 52.1**	**+0.5**
	baz=79						
DUG	**Dugway**	**78.89**	**43**	*e*P	**P**	**02 06 52.0**	**+0.1**
	3.6nm,0.9s						
DUG	**Dugway**	**78.89**	**43**	⇓P	**P**	**02 06 52.1**	**+0.2**
	baz=79						
Y20A	**Horse Springs,**	**78.97**	**50**	⇓P	**P**	**02 06 52.8**	**+0.2**
	baz=79						
X20A	**Quemado**	**79.17**	**50**	⇑P	**P**	**02 06 54.1**	**+0.5**
	baz=79						
Z21A	**St. Cloud Mine**	**79.23**	**51**	⇓P	**P**	**02 06 55.2**	**+1.2**
	baz=79						
DIV	**Divide**	**79.34**	**13**	*e*P	**P**	**02 06 52.6**	**-1.1**
	11nm,0.9s						
Q16A	**Castle Valley**	**79.34**	**45**	⇓P	**P**	**02 06 54.9**	**+0.5**
	baz=80						
W20A	**Ramah**	**79.43**	**49**	⇓P	**P**	**02 06 55.6**	**+0.6**
	baz=80						
BMRM	**Bremner River**	**79.46**	**14**	*e*P	**P**	**02 06 53.7**	**-0.7**
	9.3nm,0.9s						
TMUT	**Trail Mountain**	**79.51**	**44**	*e*P	**P**	**02 06 56.0**	**+0.5**
	5.9nm,0.8s						
HLID	**Hailey**	**79.65**	**39**	*e*P	**P**	**02 06 55.7**	**-0.3**
	6.5nm,0.9s						
HLID	**Hailey**	**79.65**	**39**	⇑P	**P**	**02 06 56.4**	**+0.5**
	baz=80						
X21A	**Alamocita Cree**	**79.65**	**50**	⇓P	**P**	**02 06 56.6**	**+0.3**
	baz=80						
Z22A	**Elephant Butte**	**79.74**	**51**	⇓P	**P**	**02 06 57.2**	**+0.5**
	baz=80						
V20A	**Brimhall**	**79.76**	**49**	⇓P	**P**	**02 06 57.4**	**+0.7**
	baz=80						
SRU	**San Rafael**	**79.88**	**45**	*e*P	**P**	**02 06 57.8**	**+0.5**
	5.0nm,1.1s						
NJ2	**Nanjing**	**79.99**	**307**	*e*P	P	02 07 02.3	+4.5
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
U20A	**Newcomb**	**79.99**	**48**	⇓P	**P**	**02 06 58.6**	**+0.7**
	baz=80						
JLU	**Jordanelle**	**79.99**	**43**	*e*P	**P**	**02 06 58.6**	**+0.7**
	4.2nm,0.8s						
Y22A	**Socorro**	**80.04**	**51**	⇓P	**P**	**02 06 58.7**	**+0.4**
	baz=80						
324A	**Moseley Ranch,**	**80.10**	**54**	⇓P	**P**	**02 06 59.2**	**+0.5**
	baz=80						
425A	**Indio Mountain**	**80.22**	**54**	⇓P	**P**	**02 07 00.2**	**+0.9**
	baz=80						
X22A	**Bernardo**	**80.25**	**50**	⇓P	**P**	**02 06 59.6**	**+0.2**
	baz=80						
Z23A	**Rita Site, Whi**	**80.30**	**52**	⇓P	**P**	**02 07 00.1**	**+0.4**
	baz=80						
224A	**Cornudas Mount**	**80.34**	**53**	⇑P	**P**	**02 07 00.8**	**+0.9**
	baz=80						
V21A	**Milan**	**80.37**	**49**	⇓P	**P**	**02 07 01.1**	**+1.0**
	baz=81						
PV05	**Paradox Valley**	**80.37**	**46**	*e*P	**P**	**02 07 01.1**	**+1.1**
BNM	**Barren Site**	**80.38**	**51**	*e*P	**P**	**02 07 00.6**	**+0.4**
MVCO	**Mesa Verde**	**80.39**	**47**	⇓P	**P**	**02 07 00.9**	**+0.7**
	baz=81						
626A	**Big Bend Ranch**	**80.39**	**56**	⇓P	**P**	**02 07 00.9**	**+0.7**
	baz=81						
PV09	**Paradox Valley**	**80.54**	**46**	*e*P	**P**	**02 07 01.7**	**+0.6**
TRF	**Thorofare Moun**	**80.56**	**10**	*e*P	**P**	**02 06 59.2**	**-1.2**
U21A	**Nageezi**	**80.63**	**48**	⇓P	**P**	**02 07 02.3**	**+0.9**
	baz=81						
526A	**Mary Lane Ranc**	**80.63**	**55**	⇑P	**P**	**02 07 02.4**	**+0.8**
	baz=81						
124A	**Stringfield Ra**	**80.65**	**52**	⇓P	**P**	**02 07 02.5**	**+0.8**
	baz=81						
TXAR	**Lajitas Array**	**80.68**	**56**	P	**P**	**02 07 02.4**	**+0.6**
TXAR	**Lajitas Array**	**80.68**	**56**	P	**P**	**02 07 02.4**	**+0.6**
	1.8nm,1.0s,baz=240,slow=5.0,SNR=12						
Y23A	**Lovelace Mesa,**	**80.72**	**51**	⇑P	**P**	**02 07 02.6**	**+0.6**
	baz=81						
PV01	**Paradox Valley**	**80.76**	**46**	*e*P	**P**	**02 07 02.2**	**+0.1**
	449nm,1.3s						
S20A	**Disappointment**	**80.77**	**47**	⇑P	**P**	**02 07 02.8**	**+0.6**
	baz=81						
ANMO	**Albuquerque**	**80.85**	**50**	*e*P	**P**	**02 07 03.4**	**+0.7**
	40nm,2.7s						
225A	**Deer Hill, Car**	**80.89**	**53**	⇓P	**P**	**02 07 03.7**	**+0.8**
	baz=81						
R20A	**Redvale**	**80.92**	**46**	⇑P	**P**	**02 07 03.5**	**+0.5**
	baz=81						
426A	**McDonald Obser**	**80.92**	**55**	⇓P	**P**	**02 07 03.8**	**+0.6**
	baz=81						
V22A	**San Miguel Ran**	**80.94**	**49**	⇑P	**P**	**02 07 03.6**	**+0.5**
	baz=81						
627A	**Terlingua Ranc**	**80.95**	**56**	⇓P	**P**	**02 07 03.5**	**+0.2**
	baz=81,SNR=5.8						
T21A	**Navajo Lake**	**80.97**	**48**	⇑P	**P**	**02 07 03.9**	**+0.6**
	baz=81						
Z24A	**Sheeppen Canyo**	**80.98**	**52**	⇑P	**P**	**02 07 04.0**	**+0.6**
	baz=81						
527A	**Woodward Ranch**	**81.05**	**55**	⇓P	**P**	**02 07 03.7**	**0.0**
	baz=81,SNR=6.1						
MCK	**McKinley**	**81.06**	**11**	*e*P	**P**	**02 07 02.0**	**-0.8**
HYT	**Haines Junctio**	**81.16**	**17**	*e*P	**P**	**02 07 03.6**	**0.0**
W23A	**Werner Place,**	**81.17**	**50**	⇓P	**P**	**02 07 04.5**	**+0.1**
	baz=81						
Y24A	**Capitan**	**81.18**	**51**	⇑P	**P**	**02 07 04.6**	**+0.2**
	baz=81,SNR=5.8						
P19A	**Cripple Cowboy**	**81.18**	**45**	⇓P	**P**	**02 07 04.5**	**+0.2**
	baz=81						
326A	**Caldwell Ranch**	**81.22**	**54**	⇑P	**P**	**02 07 04.6**	**+0.1**
	baz=81						
125A	**Gardner Draw,**	**81.24**	**53**	⇑P	**P**	**02 07 05.2**	**+0.5**
	baz=82						
MCMT	**McKenzie Canyo**	**81.27**	**39**	*e*P	**P**	**02 07 04.7**	**0.0**
	2.2nm,1.0s						
GDL2	**Guadalupe Moun**	**81.28**	**53**	*e*P	**P**	**02 07 05.5**	**+0.6**
Q20A	**Ridgley Place,**	**81.33**	**46**	⇓P	**P**	**02 07 05.6**	**+0.5**
	baz=82						
628A	**Black Gap, Mar**	**81.36**	**56**	⇓P	**P**	**02 07 05.6**	**+0.3**
	baz=82						
226B	**Tecolote Peak,**	**81.39**	**53**	⇑P	**P**	**02 07 06.0**	**+0.6**
	baz=82,SNR=7.8						
O19A	**Miners Draw (B**	**81.40**	**44**	⇓P	**P**	**02 07 05.8**	**+0.4**
	baz=82						
V23A	**Ortiz Mt. (NFS**	**81.40**	**49**	⇓P	**P**	**02 07 06.3**	**+0.7**
	baz=82						
T22A	**Edith**	**81.44**	**48**	⇓P	**P**	**02 07 05.7**	**0.0**
	baz=82						
X24A	**Lazy VL Ranch,**	**81.45**	**51**	⇓P	**P**	**02 07 06.4**	**+0.6**
	baz=82						
Z25A	**Roswell**	**81.45**	**52**	⇓P	**P**	**02 07 06.6**	**+0.8**
	baz=82						
RRI2	**Red Ridge**	**81.46**	**41**	*e*P	**P**	**02 07 05.5**	**-0.3**
	6.5nm,1.0s						
427A	**Hayter Ranch,**	**81.49**	**55**	⇓P	**P**	**02 07 06.8**	**+0.8**
	baz=82						
P20A	**De Beque**	**81.52**	**45**	⇓P	**P**	**02 07 06.9**	**+0.8**
	baz=82						
R21A	**Cimarron**	**81.58**	**47**	⇓P	**P**	**02 07 07.5**	**+1.0**
	baz=82						
U23A	**El Rito**	**81.65**	**49**	⇑P	**P**	**02 07 07.9**	**+1.0**
	baz=82						
MSO	**Missoula**	**81.69**	**37**	⇓P	**P**	**02 07 06.7**	**-0.1**
	baz=82						
528A	**Cox Ranch, San**	**81.71**	**56**	⇓P	**P**	**02 07 07.6**	**+0.4**
	baz=82,SNR=5.6						
126A	**Clayton Basin,**	**81.73**	**53**	⇑P	**P**	**02 07 07.8**	**+0.6**
	baz=82						
Y25A	**Mesa, Roswell**	**81.74**	**52**	⇑P	**P**	**02 07 07.7**	**+0.4**
	baz=82						
W24A	**Lazy 6 Ranch,**	**81.74**	**50**	⇑P	**P**	**02 07 07.9**	**+0.5**
	baz=82						
REDW	**Red Top Meadow**	**81.76**	**41**	*e*P	**P**	**02 07 07.5**	**+0.1**
	8.5nm,1.2s						
TPAW	**Teton Pass**	**81.76**	**41**	*e*P	**P**	**02 07 07.7**	**+0.3**
	5.8nm,0.9s						
Q21A	**Lamborn Mesa,**	**81.78**	**46**	⇑P	**P**	**02 07 08.3**	**+0.8**
	baz=82						
S22A	**4UR Ranch, Cre**	**81.81**	**47**	⇑P	**P**	**02 07 08.2**	**+0.4**
	baz=82,SNR=9.0						
SNOW	**Snow King Moun**	**81.87**	**41**	*e*P	**P**	**02 07 08.1**	**+0.2**
	6.0nm,0.8s						
IMW	**Indian Meadow**	**81.97**	**40**	*e*P	**P**	**02 07 08.9**	**+0.4**
	6.2nm,1.0s						
Z26A	**Caprock**	**82.01**	**52**	⇓P	**P**	**02 07 08.9**	**+0.2**
	baz=82,SNR=7.8						
LOHW	**Long Hollow**	**82.04**	**41**	*e*P	**P**	**02 07 08.8**	**+0.1**
V24A	**Rampart Ranch,**	**82.06**	**50**	⇑P	**P**	**02 07 09.8**	**+0.7**
	baz=82						
R22A	**Saguache, Gunn**	**82.08**	**47**	⇑P	**P**	**02 07 09.7**	**+0.5**
	baz=82,SNR=5.8						
L19A	**Farson**	**82.10**	**43**	⇑P	**P**	**02 07 09.7**	**+0.6**
	baz=82						
529A	**Stev Forest Ra**	**82.15**	**56**	⇑P	**P**	**02 07 09.6**	**+0.2**
	baz=82,SNR=5.2						
328A	**Wristen Ranch,**	**82.17**	**55**	⇑P	**P**	**02 07 09.6**	**+0.1**
	baz=82						
P21A	**Newcastle**	**82.18**	**46**	⇑P	**P**	**02 07 10.1**	**+0.5**
	baz=82						
FLWY	**Flagg Ranch**	**82.21**	**40**	*e*P	**P**	**02 07 10.2**	**+0.5**
N20A	**Spence Gulch,**	**82.23**	**44**	⇑P	**P**	**02 07 10.4**	**+0.5**
	baz=82						
127A	**Arkansas Junct**	**82.25**	**53**	⇑P	**P**	**02 07 10.2**	**+0.2**
	baz=82						
Q22A	**Crested Butte,**	**82.25**	**46**	⇓P	**P**	**02 07 10.6**	**+0.5**
	baz=82,SNR=5.7						
PDAR	**Pinedale Array**	**82.29**	**42**	P	**P**	**02 07 09.6**	**-0.5**
PDAR	**Pinedale Array**	**82.29**	**42**	P	**P**	**02 07 09.6**	**-0.5**
	2.6nm,0.9s,baz=224,slow=4.1,SNR=14						
COLA	**College**	**82.29**	**11**	*e*P	**P**	**02 07 08.3**	**-1.0**
	72nm,0.9s						
SMCO	**Snowmass**	**82.35**	**46**	*e*P	**P**	**02 07 10.5**	**-0.2**
	6.3nm,1.1s						
ILAR	**Eielson Array**	**82.38**	**11**	P	**P**	**02 07 08.7**	**-1.1**
ILAR	**Eielson Array**	**82.38**	**11**	P	**P**	**02 07 08.7**	**-1.1**
	2.4nm,0.9s,baz=208,slow=6.1,SNR=17						
Y26A	**Elida**	**82.40**	**52**	⇑P	**P**	**02 07 11.0**	**+0.3**
	baz=83						
H17A	**Grant Village**	**82.45**	**40**	⇓P	**P**	**02 07 11.5**	**+0.5**
	baz=83						
W25A	**X Bar L Ranch,**	**82.45**	**50**	⇓P	**P**	**02 07 11.4**	**+0.4**
	baz=83						
T24B	**San Luis**	**82.55**	**48**	⇑P	**P**	**02 07 12.4**	**+0.7**
	baz=83						
M20A	**Sweetwater, Wa**	**82.58**	**44**	⇓P	**P**	**02 07 12.5**	**+0.8**
	baz=83						
V25A	**Rancho No Teng**	**82.59**	**50**	⇓P	**P**	**02 07 12.0**	**+0.2**
	baz=83,SNR=6.5						
429A	**Davenport Ranc**	**82.60**	**56**	⇑P	**P**	**02 07 12.0**	**+0.2**
	baz=83,SNR=11						
Z27A	**Tatum**	**82.62**	**53**	⇓P	**P**	**02 07 12.4**	**+0.5**
	baz=83						
228A	**UT Block 9, Go**	**82.63**	**54**	⇓P	**P**	**02 07 12.6**	**+0.7**
	baz=83						
X26A	**CR and CF Fran**	**82.66**	**51**	⇑P	**P**	**02 07 12.9**	**+0.8**
	baz=83						
P22A	**Eagle**	**82.69**	**46**	⇓P	**P**	**02 07 13.0**	**+0.7**
	baz=83						
R23A	**Moffat**	**82.72**	**47**	⇑P	**P**	**02 07 13.3**	**+0.8**
	baz=83						
L20A	**Wamsutter**	**82.72**	**43**	⇓P	**P**	**02 07 12.9**	**+0.6**
	baz=83						
SDCO	**Great Sand Dun**	**82.76**	**48**	*e*P	**P**	**02 07 11.5**	**-1.3**
	16nm,1.8s						
K19A	**Absolon Red Bu**	**82.78**	**42**	⇑P	**P**	**02 07 12.4**	**-0.3**
	baz=83						
J19A	**Crowheart**	**82.86**	**42**	⇓P	**P**	**02 07 12.5**	**-0.5**
	baz=83,SNR=5.1						
329A	**Wagon Wheel Ra**	**82.86**	**55**	⇑P	**P**	**02 07 13.2**	**0.0**
	baz=83						
530A	**J-C Ranch, Com**	**82.86**	**56**	⇓P	**P**	**02 07 13.3**	**+0.2**
	baz=83						
Y27A	**Causey**	**82.88**	**52**	⇑P	**P**	**02 07 12.7**	**-0.6**
	baz=83,SNR=5.1						
128A	**Castleberry Fa**	**82.91**	**54**	⇓P	**P**	**02 07 13.7**	**+0.3**
	baz=83						
S24A	**Houchin Ranch,**	**82.92**	**48**	⇑P	**P**	**02 07 13.9**	**+0.2**
	baz=83,SNR=5.0						
U25A	**Circle Dot Ran**	**82.98**	**49**	⇓P	**P**	**02 07 13.9**	**+0.1**
	baz=83						
K20A	**Yellowstone Ra**	**83.03**	**42**	⇓P	**P**	**02 07 13.8**	**-0.1**
	baz=83						
O22A	**Kremmling**	**83.08**	**45**	⇓P	**P**	**02 07 14.4**	**0.0**
	baz=83,SNR=8.0						
H18A	**Shoshone NF, C**	**83.15**	**40**	⇑P	**P**	**02 07 15.1**	**+0.6**
	baz=83						
229A	**Bryant Ranch,**	**83.18**	**54**	⇓P	**P**	**02 07 15.1**	**+0.3**
	baz=83						
430A	**Baggett Ranch,**	**83.18**	**56**	⇓P	**P**	**02 07 15.2**	**+0.4**
	baz=83						
M21A	**Separation Pea**	**83.19**	**44**	⇑P	**P**	**02 07 15.3**	**+0.5**
	baz=83						
V26A	**Tequesquite Ra**	**83.19**	**50**	⇑P	**P**	**02 07 15.0**	**+0.2**
	baz=83						
631A	**Perdido Creek**	**83.20**	**57**	⇑P	**P**	**02 07 15.1**	**+0.2**
	baz=83						
MSTX	**Muleshoe**	**83.22**	**52**	*e*P	**P**	**02 07 15.2**	**+0.2**
MSTX	**Muleshoe**	**83.22**	**52**	⇓P	**P**	**02 07 15.8**	**+0.8**
	baz=83						
P23A	**Jefferson**	**83.23**	**46**	⇓P	**P**	**02 07 16.0**	**+0.8**
	baz=83						
X27A	**F and S Farms,**	**83.24**	**51**	⇑P	**P**	**02 07 15.9**	**+0.8**
	baz=83						
Z28A	**Tucker Farm, M**	**83.24**	**53**	⇑P	**P**	**02 07 15.5**	**+0.4**
	baz=83						
R24A	**Sanders Place,**	**83.25**	**48**	⇓P	**P**	**02 07 15.9**	**+0.7**
	baz=84						
I19A	**Meeteetse**	**83.26**	**41**	⇑P	**P**	**02 07 15.5**	**+0.3**
	baz=84						
T25A	**Trinidad**	**83.29**	**49**	⇓P	**P**	**02 07 15.1**	**-0.3**
	baz=84						
L21A	**Rawlins**	**83.34**	**43**	⇓P	**P**	**02 07 15.4**	**-0.2**
	baz=84						
W27A	**Bowe Ranch, En**	**83.43**	**51**	⇓P	**P**	**02 07 16.0**	**-0.1**
	baz=84,SNR=5.1						
N22A	**Wattenberg Ran**	**83.43**	**45**	⇑P	**P**	**02 07 16.4**	**+0.2**
	baz=84,SNR=9.1						
330A	**Mertzon**	**83.47**	**55**	⇓P	**P**	**02 07 16.4**	**+0.2**
	baz=84						
U26A	**Atchley Ranch,**	**83.47**	**50**	⇑P	**P**	**02 07 16.0**	**-0.3**
	baz=84,SNR=5.5						
S25A	**Robets Cordova**	**83.49**	**48**	⇑P	**P**	**02 07 16.5**	**+0.1**
	baz=84,SNR=5.9						
531A	**Rocksprings**	**83.50**	**56**	⇑P	**P**	**02 07 16.9**	**+0.4**
	baz=84						
J20A	**Shoshoni**	**83.52**	**42**	⇓P	**P**	**02 07 16.4**	**0.0**
	baz=84,SNR=7.2						
Q24A	**Divide**	**83.53**	**47**	⇓P	**P**	**02 07 16.7**	**0.0**
	baz=84,SNR=6.2						
O23A	**Lake Granby, G**	**83.54**	**45**	⇓P	**P**	**02 07 16.9**	**+0.1**
	baz=84						
EGAK	**Eagle**	**83.56**	**

baz=85,SNR=5.6
131A Roby 84.56 54 ⇓P P 02 07 22.0 +0.2
baz=85
J22A Midwest 84.59 42 ⇑P P 02 07 21.4 -0.4
baz=85,SNR=8.8
332A Millersview 84.59 56 ⇑P P 02 07 22.4 +0.4
baz=85
Q26A Hugo 84.67 47 ⇑P P 02 07 22.7 +0.4
baz=85
EGMT Eagleton 84.74 37 ⇑P P 02 07 22.7 +0.3
baz=85
H21A Big Horn, Sher 84.78 41 ⇑P P 02 07 23.3 +0.5
baz=85
I22A 9 Mile Ranch, 84.80 42 ⇑P P 02 07 22.6 -0.2
baz=85,SNR=5.0
D19A Cripps Ranch, 84.84 38 ⇑P P 02 07 22.9 0.0
baz=85,SNR=6.0
X30A Coker Ranch, T 84.85 52 ⇓P P 02 07 23.6 +0.3
baz=85
232A Coleman 84.86 55 ⇑P P 02 07 23.5 +0.2
baz=85
K23A Bowen Ranch, D 84.86 43 ⇑P P 02 07 23.7 +0.4
baz=85
T28A Walsh 84.96 50 ⇓P P 02 07 23.8 0.0
baz=85
E20A Meyer Farm, Mu 84.97 39 ⇓P P 02 07 24.4 +0.7
baz=85
Z31A Sharp Cattle R 84.99 54 ⇓P P 02 07 24.0 +0.1
baz=85
L24A Wheatland 85.01 44 ⇑P P 02 07 24.9 +0.9
baz=85
C19A Slack Wire Ran 85.02 38 ⇑P P 02 07 24.5 +0.8
baz=85
P26A Davis Ranch, A 85.05 47 ⇑P P 02 07 25.2 +0.9
baz=85
ABTX Abilene, Hawle 85.13 54 *e*P P 02 07 24.5 -0.2
ABTX Abilene, Hawle 85.13 54 ⇓P P 02 07 25.4 +0.8
baz=85
Y31A Rekieta Farm, 85.14 53 ⇓P P 02 07 24.8 +0.1
baz=85
D20A Manuel Ranch, 85.25 39 ⇑P P 02 07 26.2 +1.3
baz=86
Z32A Haskell 85.50 54 ⇑P P 02 07 26.9 +0.4
baz=86
R28A Tribune 85.66 48 ⇓P P 02 07 27.7 +0.4
baz=86
A19A Klindworth Far 85.77 37 ⇑P P 02 07 27.9 +0.4
baz=86
Y32A R-V Farms, Ver 85.79 53 ⇑P P 02 07 28.3 +0.5
baz=86
U30A WK&E Inc. Balk 85.81 51 ⇑P P 02 07 28.2 +0.2
baz=86
W31A Holland Ranch, 85.84 52 ⇓P P 02 07 28.6 +0.4
baz=86
D21A La Casta Ranch 85.93 39 ⇑P P 02 07 28.6 +0.2
baz=86
B20A Solberg Farm, 85.96 37 ⇑P P 02 07 28.8 +0.4
baz=86
N27A Anderson Farm, 86.13 46 ⇓P P 02 07 30.0 +0.4
baz=86
A20A Cobblestone Ra 86.22 37 ⇓P P 02 07 29.9 +0.1
baz=86
F23A Volborg 86.30 41 ⇑P P 02 07 30.4 +0.2
baz=86
H24A Dirks Ranch, A 86.42 42 ⇑P P 02 07 31.3 +0.4
baz=87
WHTX Lake Whitney 86.63 56 ⇓P P 02 07 32.4 +0.3
baz=87
I25A Rochford 86.64 43 ⇓P P 02 07 32.0 -0.1
baz=87
E23A Ismay 86.71 40 ⇓P P 02 07 32.8 +0.6
baz=87
A21A Bergtoll Ranch 86.86 37 ⇓P P 02 07 33.1 +0.3
baz=87
D23A Lindsay 87.07 39 ⇑P P 02 07 34.8 +0.8
baz=87
B22A Reddig Ranch S 87.09 38 ⇑P P 02 07 34.4 +0.4
baz=87
C23A Lambert 87.36 39 ⇑P P 02 07 36.1 +0.9
baz=88
B23A Brockton 87.76 38 ⇑P P 02 07 37.9 +0.7
baz=88
GYA Guiyang 87.87 298 *e*P P 02 07 43.6 +5.3
GYA AMB AMB
comp=Z,10.0nm,1.0s
DGMT Dagmar 88.24 39 ⇓P P 02 07 40.2 +0.7
baz=88
HHC Hu-ho-hao-te 88.85 313 *e*P P 02 07 46.6 +4.0
HHC pP pP 02 07 50.7 -1.6
HHC sP sP 02 07 53.1 -2.7
HHC PP PP 02 11 18.1 +5.7
HHC SKS **SKSac** 02 18 12.9 +2.6
HHC S **ScS** 02 18 30.9 -2.8
HHC sS sS 02 18 39.3 -5.1
HHC SS **SS** 02 24 24.5 +3.0
HHC AMB AMB
comp=Z,21nm,1.2s
HHC LR LR
comp=Z,240nm,16.8s
PLCA Paso Flores 89.69 132 LR LR 02 38 54.3
comp=Z,79nm,19.4s,baz=316,slow=30
YKA Yellowknife Ar 90.07 23 P P 02 07 46.8 -0.9
YKA Yellowknife Ar 90.07 23 P P 02 07 46.7 -0.9
2.4nm,0.8s,baz=241,slow=4.8,SNR=4.2
D29A Pettibone, Tap 90.52 41 ⇓P P 02 07 51.0 +0.8
baz=91
A28A Rude Farm, Bot 90.80 39 ⇓P P 02 07 51.9 +0.4
baz=91
D30A Buchanan 91.07 41 ⇑P P 02 07 52.9 +0.2
baz=91
CD2 Chengdu 91.63 301 P P 02 08 00.7 +4.9
CD2 AMB AMB
comp=Z,10.0nm,0.5s
ARCES ARCESS Array B 124.49 352 PKP **PKPdf** 02 13 46.4 -0.4
ARCES ARCESS Array B 124.49 352 PKP **PKPdf** 02 13 46.4 -0.4
3.4nm,0.8s,baz=289,slow=3.7,SNR=5.7
CLL Collm 143.70 353 *e*PKPdf **PKPdf** 02 14 22.0 -1.1
BUR08 Bucovina Ar. S 144.20 338 *e*PKPdf PKPbc 02 14 21.9 -0.5
VRI Vrincioaia 145.09 335 ⇑*i*P PKPbc 02 14 24.7 -0.5
GRF Grafenberg Arr 145.48 355 *e*PKPbc **PKPab** 02 14 26.6 +0.1
TLB Topalu 145.55 332 ⇓*i*P **PKPab** 02 14 26.6 -0.3
PSZ Piszkesteto 145.63 344 ⇑*i*P **PKPdf** 02 14 25.6 -1.1
PSZ Piszkesteto 145.63 344 *e*PKPdf **PKPbc** 02 14 26.3 -0.6
MLR Muntele Rosu 145.72 335 ⇑*i*P **PKPab** 02 14 27.8 +0.1
WLF Walferdange 145.73 0 PKP **PKPab** 02 14 27.5 +0.1
WLF Walferdange 145.73 0 *e*PKPbc **PKPab** 02 14 27.3 -0.1
WLF Walferdange 145.73 0 *e*PKPdf **PKPab** 02 14 27.6 +0.2
KHC Kasperske Hory 145.76 352 *e*PKP **PKPab** 02 14 27.5 -0.1
KHC Kasperske Hory 145.76 352 *e*PKPdf **PKPab** 02 14 27.6 -0.1
DRGR 145.80 340 ⇑*i*P **PKPab** 02 14 27.6 -0.3
BR131 Keskin Array S 145.99 321 *e*PKPbc **PKPab** 02 14 28.7 -0.2
BRTR Keskin Array B 145.99 321 PKPbc **PKPab** 02 14 29.1 +0.1
BRTR Keskin Array B 145.99 321 PKPbc **PKPab** 02 14 29.1 +0.1
2.2nm,0.7s,baz=110,slow=1.8,SNR=17
GEC2 GERESS Array S 146.02 351 *e*PKPbc **PKPab** 02 14 28.1 -0.6
GERES GERESS Array B 146.02 351 PKPbc **PKPab** 02 14 27.8 -0.9
GERES GERESS Array B 146.02 351 PKPbc **PKPab** 02 14 27.8 -0.9
2.4nm,0.9s,baz=29,slow=3.0,SNR=20
ARR Arges 146.34 337 ⇓*i*P **PKPab** 02 14 30.4 +0.5
ANTO Ankara 146.41 322 *e*PKPbc **PKPab** 02 14 31.7 +1.3
STU Stuttgart 146.55 357 *e*PKPbc **PKPab** 02 14 30.0 -0.6
STU Stuttgart 146.55 357 *e*PKPbc **PKPab** 02 14 30.8 +0.2
MOA Molln 146.91 350 ⇑*i*PKPdf **PKPdf** 02 14 28.2 -0.6
6.8nm,1.1s,SNR=4.7
FUR Furstenfeldbru 146.99 354 *e*PKPbc **PKPab** 02 14 31.0 -1.3
GZR Gura Zlata 147.00 339 ⇓*i*P **PKPab** 02 14 31.2 -1.3
BFO Black Forest 147.03 358 *e*PKPbc **PKPbc** 02 14 31.2 -1.3
BFO Black Forest 147.03 358 *e*PKPbc **PKPbc** 02 14 30.9 -0.1
ECH Echery 147.17 359 *e*PKPbc **PKPbc** 02 14 31.6 +0.2
BZS Buzias 147.19 340 ⇑*i*P **PKPab** 02 14 31.7 -1.5
RJOB Jochberg 147.23 352 *e*PKPbc **PKPab** 02 14 32.0 -1.3
MOTA Moosalm 147.82 354 ⇓*i*pPKPdf **PKPbc** 02 14 33.0 -0.3
7.3nm,0.9s,SNR=4.2
SOKA Soboth 147.91 349 ⇑*i*pPKPdf **PKPbc** 02 14 33.2 -0.3
11nm,1.0s,SNR=4.7
FETA Feichten 148.17 354 ⇑*i*PKPbc **PKPbc** 02 14 32.4 -2.0
12nm,1.2s,SNR=7.4
TUE Stuetta 148.83 356 *e*PKPbc **PKPbc** 02 14 36.7 +0.6
CSS Prodhromos 148.93 314 *e*PKPbc **PKPbc** 02 14 37.0 +0.5
SSB Saint Sauveur 150.07 3 *e*PKPdf **PKPdf** 02 14 32.0 -2.0
SSB *e*PKPbc **PKiKP** 02 14 39.8 -0.2
BNI Bardonecchia 150.34 360 *e*PKPbc **PKPbc** 02 14 41.2 +1.4
ESDC Sonseca Array 154.06 19 PKPbc **PKPbc** 02 14 48.7 +0.4
ESDC PKPab **PKPab** 02 15 01.0 -0.7
ESDC Sonseca Array 154.06 19 PKPbc **PKPbc** 02 14 48.7 +0.4
0.2nm,0.4s,baz=328,slow=4.6,SNR=3.6

ESDC PKPab **PKPab** 02 15 01.0 -0.7
0.7nm,0.7s,baz=314,slow=3.2,SNR=5.3

WEL 03 01:56:12.1±1.6, 47.73S×165.67E, h33km, ML3.5/3, Error ellipse: s-maj=18.6km s-min=12.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APZ	**The Paps**	**1.82**	**61**	PN	Pn	01 56 41.1	0.0
APZ				SN	Sn	01 57 01.3	-1.8
MLZ	**Mavora Lakes**	**2.94**	**37**	PN	Pn	01 56 55.5	-1.1
MLZ				SN	Sn	01 57 28.6	-2.3
TUZ	**Tuapeka**	**3.25**	**58**	PN	Pn	01 57 00.9	+0.2
TUZ				AML	AML	01 58 07.3	
EAZ	**Earnscleugh**	**3.54**	**47**	PN	Pn	01 57 03.2	-1.6
EAZ				AML	AML	01 57 45.6	
ODZ	**Otahua Downs**	**4.37**	**54**	PN	Pn	01 57 14.2	-1.9

IDC 03 02:07:34.9±4.9, 15.56S×173.67W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/19, mbtmp3.8/4, Error ellipse: s-maj=220.0km s-min=33.0km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**43.73**	**240**	P	P	02 15 42.1	0.0
	0.9nm,0.5s,baz=56,slow=7.3,SNR=4.2						
WRA	**Warramunga Arr**	**49.55**	**257**	P	P	02 16 26.5	-1.5
	0.3nm,0.5s,baz=96,slow=6.9,SNR=3.2						
ASAR	**Alice Springs**	**49.81**	**252**	P	P	02 16 31.1	+1.1
	1.9nm,0.6s,baz=88,slow=8.3,SNR=23						
ILAR	**Eielson Array**	**82.65**	**11**	P	P	02 20 00.0	+0.2
	0.5nm,1.0s,baz=226,slow=6.2,SNR=4.4						
BRTR	**Keskin Array B**	**146.12**	**321**	PKPbc	PKPdf	02 27 16.3	-0.3
	0.5nm,0.8s,baz=86,slow=3.2,SNR=4.7						

IDC 03 02:17:23.2±2.0, 15.38S×173.51W, h0km, mb3.9/5, mb1 4.3/5, mb1mx3.9/19, mbtmp3.9/5, MS3.9/3, Ms1 3.9/3, ms1mx3.3/28, Error ellipse: s-maj=115.4km s-min=24.2km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.22**	**49**	Pn	Pn	02 17 52.9	-8.6
	102nm,0.3s,baz=17,slow=3.3,SNR=18						
AFI				Sn	Sn	02 18 12.4	-17
	183nm,0.3s,baz=147,slow=14,SNR=9.7						
DZM	**Mont Dzumac**	**20.11**	**248**	LR	LR	02 26 58.7	
	comp=Z,108nm,18.2s,baz=202,slow=29						
H11S2	**WAKE ISLAND Hy**	**38.89**	**329**	T	T	03 05 45.9	
	baz=152,slow=0.7,SNR=4.9						
H11S3	**WAKE ISLAND Hy**	**38.90**	**329**	T	T	03 05 42.7	
	baz=152,slow=0.7,SNR=4.8						
H11S1	**WAKE ISLAND Hy**	**38.91**	**329**	T	T	03 05 42.2	
	baz=152,slow=0.7,SNR=4.7						
H11N3	**WAKE ISLAND Hy**	**39.84**	**330**	T	T	03 06 59.4	
	baz=152,slow=0.7,SNR=3.8						
H11N1	**WAKE ISLAND Hy**	**39.84**	**330**	T	T	03 06 58.0	
	baz=152,slow=0.7,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**39.85**	**330**	T	T	03 06 57.8	
	baz=152,slow=0.7,SNR=4.9						
STKA	**Stephens Creek**	**43.95**	**240**	LR	LR	02 42 49.5	
	comp=Z,134nm,19.1s,baz=28,slow=35						
WRA	**Warramunga Arr**	**49.74**	**257**	P	P	02 26 17.1	-0.7
	1.0nm,0.4s,baz=90,slow=7.4,SNR=14						
ASAR	**Alice Springs**	**50.02**	**252**	P	P	02 26 19.4	-0.5
	5.7nm,0.6s,baz=86,slow=8.1,SNR=83						
TXAR	**Lajitas Array**	**80.69**	**56**	P	P	02 29 38.9	+0.2
	0.3nm,0.7s,baz=222,slow=6.5,SNR=4.0						
PDAR	**Pinedale Array**	**82.32**	**42**	P	P	02 29 46.5	-0.7
	0.9nm,0.8s,baz=234,slow=3.1,SNR=5.4						
ILAR	**Eielson Array**	**82.44**	**11**	P	P	02 29 45.6	-1.4
	0.9nm,1.0s,baz=230,slow=7.0,SNR=5.4						
ATAH	**Atahualpa**	**93.03**	**98**	LR	LR	03 02 21.4	
	comp=Z,208nm,20.9s,baz=275,slow=29						
BRTR	**Keskin Array B**	**146.07**	**321**	PKPbc	PKPab	02 37 06.3	+0.1
	2.3nm,0.8s,baz=100,slow=2.4,SNR=16						
GERES	**GERESS Array B**	**146.10**	**351**	PKPbc	PKPab	02 37 06.3	+0.3
	0.8nm,0.6s,baz=34,slow=3.8,SNR=11						

*IDC **03** 02:22:35.4±1.5, 41.23N×20.12E, h0km, mb3.3/4, mb1 3.5/8, mb1mx3.4/29, mbtmp3.3/8, ML3.0/4, Error ellipse: s-maj=19.8km s-min=16.5km az=2.0*
*TIR **03** 02:22:37.8±1.0, 41.47N×20.42E, h10km±13km, ML3.4*
*PDG **03** 02:22:38.6±0.4, 41.45N×20.46E, h7km, MD3.5/3, ML3.4/11, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
*ATH **03** 02:22:38.1, 41.59N×20.48E, h4km±3km, MD3.5/16*
*THE **03** 02:22:38.9, 41.49N×20.48E, h0km±2km, ML3.3/3, Error ellipse: s-maj=2.9km s-min=0.8km az=307.0*
*SKO **03** 02:22:38.1, 41.44N×20.42E, h31km, M2.8, ML3.2*
*BEO **03** 02:22:39.3±0.4, 41.44N×20.47E, h2km±3km, ML3.2/1*
*CSEM **03** 02:22:39.5±0.1, 41.47N×20.45E, h2km, ML3.3/3, Error ellipse: s-maj=3.9km s-min=2.4km az=52.0*
*PRU **03** 02:22:44.2, 41.71N×20.75E, h0km*

ISC 03 02:22:39.0±1.0, 41.47N±0.01×20.46E±0.01, h1km±8km, n196, σ1$34/255, 29C-19D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.21**	**356**	*e*PG	**Pg**	**02 22 43.0**	**-0.2**
PHP				*e*SG	**Sg**	**02 22 46.3**	**+0.3**
PHP	**Peshkopia**	**0.21**	**356**	P	**Pg**	**02 22 43.0**	**-0.2**
PHP				S	**Sg**	**02 22 46.3**	**+0.3**
PHP	**Peshkopia**	**0.21**	**356**	P	**Pg**	**02 22 43.0**	**-0.2**
PHP				S	**Sg**	**02 22 46.3**	**+0.3**
TIR	**Tirane**	**0.47**	**255**	*e*PG	**Pg**	**02 22 47.2**	**-0.7**
TIR				*e*SG	**Sg**	**02 22 53.4**	**-0.6**
TIR	**Tirane**	**0.47**	**255**	P	**Pg**	**02 22 47.7**	**-0.2**
TIR				S	**Sg**	**02 22 55.3**	**+1.3**
TIR	**Tirane**	**0.47**	**255**	⇑*i*Pg	**Pg**	**02 22 46.8**	**-1.1**
TIR	**Tirane**	**0.47**	**255**	*e*Pg	**Pg**	**02 22 47.2**	**-0.7**
	SNR=97						
TIR				*e*Sg	**Sg**	**02 22 53.4**	**-0.6**
	SNR=97						
TIR				*e*Sb	**Sg**	**02 22 55.2**	**+1.3**
PUK	**Puka**	**0.71**	**324**	*e*PG	**Pg**	**02 22 51.6**	**-1.1**
PUK				*e*SG	**Sg**	**02 23 01.6**	**-0.3**
PUK	**Puka**	**0.71**	**324**	*e*Pg	**Pg**	**02 22 51.6**	**-1.1**
	SNR=94						
PUK				*e*Sg	**Sg**	**02 23 01.6**	**-0.3**
	SNR=94						
PRZK	**Prizren**	**0.77**	**17**	P	**Pg**	**02 22 53.6**	**-0.2**
BIA	**Bitola**	**0.79**	**124**	P	**Pg**	**02 22 53.4**	**-0.8**
BIA				S	**Sb**	**02 23 05.8**	**-1.0**
BIA	**Bitola**	**0.79**	**124**	*i* Pg	**Pg**	**02 22 53.9**	**-0.3**
BIA				*e*Lg	Lg	02 23 01.1	
	comp=N,485nm,0.5s						
BIA				*e*Sg	**Sg**	**02 23 01.2**	**-3.3**
BIA				*e*Lg	Lg	02 23 01.7	
	comp=E,422nm,0.4s						
BIA	**Bitola**	**0.79**	**124**	P	**Pg**	**02 22 53.4**	**-0.8**
BIA				S	**Sb**	**02 23 05.8**	**-1.0**
KBN	**Korca**	**0.88**	**164**	*e*PG	**Pg**	**02 22 56.2**	**+0.3**
KBN				*e*SG	**Sg**	**02 23 08.1**	**+0.8**
KBN	**Korca**	**0.88**	**164**	P	**Pg**	**02 22 56.4**	**+0.5**
KBN				S	**Sn**	**02 23 10.0**	**-2.0**
KBN	**Korca**	**0.88**	**164**	*e*Pg	**Pg**	**02 22 56.2**	**+0.3**
	SNR=93						
KBN				*e*Sg	**Sg**	**02 23 08.1**	**+0.8**
	SNR=93						
SKO	**Skopje**	**0.89**	**55**	P	**Pg**	**02 22 55.5**	**-0.5**
SKO	**Skopje**	**0.89**	**55**	⇑*i*Pg	**Pg**	**02 22 54.9**	**-1.1**
SKO				*e*Sg	**Sg**	**02 23 08.1**	**+0.5**
SKO	**Skopje**	**0.89**	**55**	*i* Pg	**Pg**	**02 22 56.3**	**+0.2**
SKO				*i* Sg	Sg	02 23 01.4	-6.2
SKO				*e*Lg	Lg	02 23 01.6	
	comp=N,1μm,0.6s						
SKO				*e*Lg	Lg	02 23 01.8	
	comp=E,689nm,0.5s						
SKO	**Skopje**	**0.89**	**55**	⇑*i*Pg	**Pg**	**02 22 54.9**	**-1.1**
SKO	**Skopje**	**0.89**	**55**	P	**Pg**	**02 22 55.5**	**-0.5**
SKO				*e*Sg	**Sg**	**02 23 08.1**	**+0.5**
BCI	**Bajram Curri**	**0.94**	**342**	*e*PG	**Pg**	**02 22 56.3**	**-0.8**
BCI				*e*SG	**Sb**	**02 23 10.3**	**-0.8**
BCI	**Bajram Curri**	**0.94**	**342**	*e*Pg	**Pg**	**02 22 56.3**	**-0.8**
	SNR=93						
BCI				*e*Sg	**Sb**	**02 23 10.3**	**-0.8**
	SNR=93						
FNA	**Florina**	**0.97**	**134**	P	**Pg**	**02 22 57.1**	**-0.6**

FNA S **Sb** 02 23 11.9 -0.2
FNA Florina 0.97 134 *e*PB **Pg** 02 22 57.5 -0.2
FNA *e*SG **Sn** 02 23 12.4 -1.9
FNA Florina 0.97 134 P **Pg** 02 22 57.1 -0.6
FNA Florina 0.97 134 *e*Pg **Pg** 02 22 57.5 -0.2
FNA S **Sb** 02 23 11.9 -0.2
FNA *e*Sb **Sn** 02 23 12.4 -1.9
ULC Ulcinj 1.03 299 ⇑*i*Pg **Pg** 02 22 57.4 -1.4
ULC *e*Sg **Sn** 02 23 13.8 -2.0
ULC Ulcinj 1.03 299 P **Pg** 02 22 57.5 -1.4
ULC *e*Sg **Sn** 02 23 13.8 -2.0
NEST Nestorio 1.15 157 P **Pb** 02 23 00.8 -0.8
NEST S **Sn** 02 23 17.2 -1.4
NEST Nestorio 1.15 157 P **Pb** 02 23 00.8 -0.8
NEST S **Sn** 02 23 17.2 -1.4
PEJK Peje 1.18 353 P **Pn** 02 23 01.7 -1.0
PVY Plav 1.18 342 ⇑*i*Pg **Pb** 02 23 01.4 -0.9
PVY *e*Sg **Sn** 02 23 19.4 -0.2
PVY Plav 1.18 342 ⇑*i*Pg **Pb** 02 23 01.4 -0.9
PVY *e*Sg **Sn** 02 23 19.4 -0.2
DRME Dracevica, Mon 1.19 307 ⇓*i*Pg **Pb** 02 23 00.4 -2.0
DRME *e*Sg **Sn** 02 23 19.4 -0.2
DRME Dracevica, Mon 1.19 307 ⇓*i*Pg **Pb** 02 23 00.4 -2.0
DRME *e*Sg **Sn** 02 23 19.4 -0.2
PDG Podgorica 1.31 317 *e*Pg **Pn** 02 23 02.4 -2.1
PDG *e*Sg **Sg** 02 23 21.4 +0.1
PDG Podgorica 1.31 317 ⇑*i*Pg **Pn** 02 23 02.6 -1.9
PDG *e*Sg **Sg** 02 23 21.4 +0.1
TTG Podgorica 1.31 317 ⇑*i*Pg **Pn** 02 23 02.6 -1.9
TTG *e*Sg **Sg** 02 23 23.0 +1.7
BUM Brajici-Budva 1.43 306 ⇓*i*Pg **Pn** 02 23 05.1 -1.1
BUM *e*Sg **Sg** 02 23 28.8 +3.0
BUM Brajici-Budva 1.43 306 ⇓*i*Pg **Pn** 02 23 05.1 -1.1
BUM *e*Sg **Sg** 02 23 28.1 +3.0
SMRK Smrekonice 1.45 14 P **Pg** 02 23 07.4 +0.7
SMRK S **Sg** 02 23 28.2 +2.7
BEY Berane 1.46 343 ⇑*i*Pg **Pb** 02 23 06.1 -1.0
BEY Berane 1.46 343 P **Pg** 02 23 07.2 +0.1
BEY *e*Sg **Sg** 02 23 28.8 +2.8
IVA Berane 1.46 343 ⇑*i*Pg **Pb** 02 23 06.1 -1.0
IVA *e*Sg **Sg** 02 23 28.8 +2.8
KZN Kozani 1.53 139 P **Pb** 02 23 08.1 -0.1
KZN Kozani 1.53 139 *e*PB **Pg** 02 23 08.3 0.0
KZN *e*SB **Sg** 02 23 30.7 +2.5
KZN Kozani 1.53 139 *e*Pb **Pg** 02 23 08.3 0.0
KZN *e*Sb **Sg** 02 23 30.7 +2.5
GRG Griva 1.55 109 P **Pb** 02 23 07.7 -0.8
GRG S **Sb** 02 23 28.0 -0.7
GRG Griva 1.55 109 *e*PB **Pb** 02 23 07.7 -0.8
GRG *e*SB **Sg** 02 23 29.5 +0.6
GRG Griva 1.55 109 P **Pb** 02 23 07.7 -0.8
GRG S **Sb** 02 23 28.0 -0.7
GRG *e*Sb **Sg** 02 23 29.5 +0.6
VAY Valandovo 1.59 95 P **Pn** 02 23 07.2 -1.1
VAY Valandovo 1.59 95 ⇑*i*Pn **Pn** 02 23 07.0 -1.3
VAY *e*Sg **Sb** 02 23 29.7 -0.1
VAY Valandovo 1.59 95 *e*Pn **Pn** 02 23 01.6 -6.7
VAY *e*Sn **Sb** 02 23 28.9 -1.0
VAY *e*Lg Lg 02 23 30.2
comp=E,192nm,0.6s
VAY *e*Lg Lg 02 23 30.2
comp=N,332nm,0.8s
VAY Valandovo 1.59 95 P **Pn** 02 23 07.2 -1.1
VAY *e*Sg **Sb** 02 23 29.7 -0.1
SRN Sarande 1.63 193 P **Pg** 02 23 10.1 -0.1
SRN Sarande 1.63 193 P **Pg** 02 23 10.1 -0.1
NKME Niksic 1.71 320 ⇓*i*Pn **Pn** 02 23 09.8 -0.2
NKME *e*Sn **Sg** 02 23 35.1 +1.0
NKME Niksic 1.71 320 ⇓*i*Pn **Pn** 02 23 09.8 -0.2
NKME *e*Sn **Sg** 02 23 35.1 +1.0
NKY Niksic 1.73 321 ⇑*i*Pn **Pn** 02 23 10.2 -0.1
NKY *e*Sn **Sg** 02 23 35.1 +0.5
NKY Niksic 1.73 321 ⇑*i*Pn **Pn** 02 23 10.2 -0.1
NKY *e*Sn **Sg** 02 23 35.1 +0.5
HCY Herceg Novi 1.76 304 ⇓*i*Pn **Pn** 02 23 10.5 -0.1
HCY *e*Sn **Sg** 02 23 36.0 +0.4
HCY Herceg Novi 1.76 304 ⇓*i*Pn **Pn** 02 23 10.5 -0.1
HCY *e*Sn **Sg** 02 23 36.0 +0.4
SELS Selova 1.81 15 *e*Pn **Pn** 02 23 10.7 -0.7
SJES Sjenica 1.82 349 ⇑*i*Pn **Pn** 02 23 11.4 -0.2
KER Kerkira 1.83 196 *e*PN **Pb** 02 23 13.4 +0.2
KEK *e*SN **Sg** 02 23 39.8 +2.1
KEK Kerkira 1.83 196 *e*Pg **Pb** 02 23 13.4 +0.2
KEK *e*Sn **Sg** 02 23 39.8 +2.1
JAN Janina 1.84 171 P **Pg** 02 23 15.3 +1.1
JAN Janina 1.84 171 *e*PG **Pg** 02 23 14.3 +0.1
JAN *e*SN **Sg** 02 23 39.8 +1.8
JAN Janina 1.84 171 *e*Pg **Pg** 02 23 14.3 +0.1
JAN *e*Sn **Sg** 02 23 39.8 +1.8
IGT Igoumenitsa 1.94 183 P **Pb** 02 23 14.7 -0.4
IGT Igoumenitsa 1.94 183 P **Pb** 02 23 14.7 -0.4
TREB Trebinje 2.00 309 ⇑*i*Pn **Pb** 02 23 14.5 -1.7
TREB *e*SG **Sg** 02 23 44.4 +1.0
TREB Trebinje 2.00 309 ⇑*i*Pn **Pb** 02 23 14.5 -1.7
TREB *e*SG **Sg** 02 23 44.4 +1.0
PLE Pljevlja 2.02 337 ⇑*i*Pn **Pb** 02 23 14.8 -1.8
PLE *e*Sn **Sb** 02 23 42.4 +0.1
PLE Pljevlja 2.02 337 ⇑*i*Pn **Pb** 02 23 14.8 -1.8
PLE *e*Sn **Sb** 02 23 42.4 +0.1
LIT Litokhoron 2.06 131 *e*PN **Pb** 02 23 16.6 -0.6
LIT Litokhoron 2.06 131 *e*Pn **Pb** 02 23 16.6 -0.6
UPM Unac-Piva 2.08 327 ⇓*i*Pn **Pn** 02 23 15.4 +0.2
UPM *e*Sn **Sb** 02 23 44.0 0.0
UPM Unac-Piva 2.08 327 ⇓*i*Pn **Pn** 02 23 15.4 +0.2
UPM Unac-Piva 2.08 327 P **Pg** 02 23 18.8 -0.1
UPM *e*Sn **Sb** 02 23 44.0 0.0
IVAS Ivanjica 2.12 354 *e*Pn **Pn** 02 23 15.7 +0.1
IVAS Ivanjica 2.12 354 *e*Pn **Pn** 02 23 15.7 +0.1
SOH Sokhos 2.28 106 *e*PN **Pb** 02 23 18.9 -2.0
SOH Sokhos 2.28 106 *e*Pn **Pb** 02 23 18.9 -2.0
VTS Vitosha 2.33 60 ⇑*i*Pn **Pn** 02 23 19.6 +1.0
VTS *e*Sn **Sb** 02 23 49.7 -1.6
VTS Vitosha 2.33 60 ⇓*i*P **Pb** 02 23 19.8 -2.1
VTS Vitosha 2.33 60 S **Sg** 02 23 53.8 -0.2
VTS Vitosha 2.33 60 ⇑*i*Pn **Pn** 02 23 19.6 +1.0
VTS *e*Sn **Sb** 02 23 49.7 -1.6
SRS Serrai 2.39 97 P **Pn** 02 23 19.4 +0.2
SRS Serrai 2.39 97 P **Pn** 02 23 19.4 +0.2
ZAPS Zavoj 2.42 41 *e*Pn **Pb** 02 23 21.8 -1.5
ZAPS Zavoj 2.42 41 *e*Pn **Pb** 02 23 21.8 -1.5
GRUS Gruza 2.42 4 ⇑*i*Pn **Pn** 02 23 20.5 +0.8
GRUS Gruza 2.42 4 ⇑*i*Pn **Pn** 02 23 20.5 +0.8
STON Ston 2.48 305 *e*Pn **Pn** 02 23 20.5 0.0
STON Sn **Sb** 02 23 54.1 -1.3
STON Ston 2.48 305 *e*Pn **Pb** 02 23 22.2 -2.2
STON Ston 2.48 305 *e*Pn **Pn** 02 23 20.5 0.0
STON Sn **Sb** 02 23 54.1 -1.3
PLG Polygyros 2.51 115 *e*PB **Pb** 02 23 22.4 -2.5
PLG Polygyros 2.51 115 *e*Pn **Pb** 02 23 22.4 -2.5
BBLS Lazi?i 2.52 342 *e*Pn **Pb** 02 23 23.6 -1.4
BBLS Lazi?i 2.52 342 *e*Pn **Pb** 02 23 23.6 -1.4
NVR Nevrokopi 2.56 92 P **Pn** 02 23 22.3 +0.6
NVR Nevrokopi 2.56 92 *e*PN **Pn** 02 23 22.9 +1.2
NVR Nevrokopi 2.56 92 P **Pn** 02 23 22.3 +0.6
NVR Nevrokopi 2.56 92 *e*Pn **Pn** 02 23 22.9 +1.2
BOLS Boljevac 2.60 25 *e*Pn **Pn** 02 23 21.1 -1.1
BOLS Boljevac 2.60 25 *e*Pn **Pn** 02 23 21.1 -1.1
DIVS Divibare 2.65 353 *e*Pn **Pn** 02 23 23.4 +0.5
DIVS Divibare 2.65 353 *e*Pn **Pn** 02 23 23.4 +0.5
TRUS Trudelj 2.75 359 *e*Pn **Pn** 02 23 23.8 -0.4
TRUS Trudelj 2.75 359 *e*Pn **Pn** 02 23 23.8 -0.4
EVR Evrytania 2.75 158 *e*PB **Pb** 02 23 28.

KLV	**Kalavryta, Ach**	**3.66**	**159**	*e*PB	Pb	02 23 40.5	-4.0
KLV	**Kalavryta, Ach**	**3.66**	**159**	*e*Pb	Pb	02 23 40.5	-4.0
FGSL	**Fruska Gora**	**3.71**	**353**	*e*Pn	**Pn**	**02 23 38.4**	**+0.9**
FRGS	**Fruska Gora**	**3.72**	**353**	*e*Pn	**Pn**	**02 23 38.4**	**+0.9**
GUR	**Goura**	**3.82**	**157**	*e*PN	Pn	02 23 42.2	+3.2
GUR	**Goura**	**3.82**	**157**	*e*Pn	Pn	02 23 42.2	+3.2
BZS	**Buzias**	**4.23**	**11**	*e*Pn	**Pn**	**02 23 44.9**	**+0.4**
BZS	**Buzias**	**4.23**	**11**	*i*P	**Pn**	**02 23 44.1**	**-0.4**
BZS	**Buzias**	**4.23**	**11**	S	**Sn**	**02 24 35.1**	**+0.6**
BZS	**Buzias**	**4.23**	**11**	*i*P	**Pn**	**02 23 44.1**	**-0.4**
BZS	**Buzias**	**4.23**	**11**	*e*Pn	**Pn**	**02 23 44.9**	**+0.4**
ALN	**Alexandroupoli**	**4.25**	**96**	*e*PN	**Pn**	**02 23 45.5**	**+0.6**
ALN	**Alexandroupoli**	**4.25**	**96**	*e*Pn	**Pn**	**02 23 45.5**	**+0.6**
GZR	**Gura Zlata**	**4.27**	**22**	*i*P	**Pn**	**02 23 45.6**	**+0.5**
GZR	**Gura Zlata**	**4.27**	**22**	*i*P	**Pn**	**02 23 45.6**	**+0.5**
DID	**Didima**	**4.50**	**151**	*e*PN	Pn	02 23 50.7	+2.3
DID	**Didima**	**4.50**	**151**	*e*Pn	Pn	02 23 50.7	+2.3
UDBI	**Udbina**	**4.60**	**313**	*e*Pn	**Pn**	**02 23 51.2**	**+1.5**
UDBI					Sn	**Sn**	**02 24 47.2**	**+3.4**
UDBI	**Udbina**	**4.60**	**313**	*e*Pn	**Pn**	**02 23 51.2**	**+1.5**
UDBI					Sn	**Sn**	**02 24 47.2**	**+3.4**
PKS2	**Kecel**	**5.10**	**350**	*e*pn	**Pn**	**02 23 58.6**	**+2.1**
PKS2				*e*Sn	**Sn**	**02 24 57.8**	**+1.9**
NVLJ	**Novalja**	**5.13**	**309**	*e*Pn	**Pn**	**02 23 57.5**	**+0.5**
NVLJ					Sn	**Sn**	**02 24 56.8**	**0.0**
NVLJ	**Novalja**	**5.13**	**309**	*e*Pn	**Pn**	**02 23 57.4**	**+0.5**
NVLJ					Sn	**Sn**	**02 24 56.7**	**0.0**
VOIR		**5.18**	**39**	*i*P	**Pn**	**02 23 59.9**	**+2.2**
VOIR		**5.18**	**39**	*i*P	**Pn**	**02 23 59.9**	**+2.2**
PKS9	**Tamasi**	**5.35**	**344**	*e*pn	Pn	02 24 02.4	+2.5
PKS9				*e*Sn	**Sn**	**02 25 05.9**	**+3.8**
PKS9	**Tamasi**	**5.35**	**344**	*e*Pn	Pn	02 24 02.4	+2.5
PKS9				*e*Sn	**Sn**	**02 25 05.9**	**+3.8**
PKSN	**Nyarlorinc**	**5.44**	**356**	*e*pn	**Pn**	**02 24 03.2**	**+2.0**
PKSN				*e*Sn	Sn	02 24 57.5	-6.9
PKSN	**Nyarlorinc**	**5.44**	**356**	*e*Pn	**Pn**	**02 24 03.2**	**+2.0**
DRGR		**5.56**	**16**	⇑*i*P	**Pn**	**02 24 02.6**	**-0.3**
DRGR		**5.56**	**16**	⇑*i*P	**Pn**	**02 24 02.6**	**-0.3**
PKS7	**Kunszentmiklos**	**5.65**	**351**	⇑*e*pn	Pb	02 24 12.7	-5.7
PKS7				*e*sn	**Sn**	**02 25 12.4**	**+2.9**
MLR	**Muntele Rosu**	**5.66**	**43**	⇑*i*P	Pn	02 24 07.1	+2.8
MLR	**Muntele Rosu**	**5.66**	**43**	S	**Sn**	**02 25 12.4**	**+2.4**
MLR	**Muntele Rosu**	**5.66**	**43**	⇑*i*P	Pn	02 24 07.1	+2.8
MLR	**Muntele Rosu**	**5.66**	**43**	Pn	Pn	02 24 07.3	+3.0
	comp=N,0.1nm,0.3s,baz=178,slow=17,SNR=12						
MLR					Sn	Sn	02 25 15.8	+5.8
	comp=N,0.0nm,0.3s,baz=143,slow=20,SNR=2.5						
PKSG		**6.10**	**347**	*e*pn	Pn	02 24 12.7	+2.5
PKSG				*e*sn	**Sn**	**02 25 23.0**	**+2.4**
PKSG		**6.10**	**347**	*e*Pn	Pn	02 24 12.7	+2.5
PKSG				*e*Sn	**Sn**	**02 25 23.0**	**+2.4**
JAVS	**Javornik**	**6.41**	**316**	*i* Pn	**Pn**	**02 24 15.4**	**+0.9**
JAVS				*i* Sn	**Sn**	**02 25 27.5**	**-0.8**
JAVS	**Javornik**	**6.41**	**316**	*i* Pn	**Pn**	**02 24 15.4**	**+0.9**
JAVS				*i* Sn	**Sn**	**02 25 27.5**	**-0.8**
PSZ	**Piszkesteto**	**6.46**	**357**	⇑*i*P	**Pn**	**02 24 16.1**	**+0.9**
PSZ	**Piszkesteto**	**6.46**	**357**	S	**Sn**	**02 25 30.0**	**+0.4**
PSZ	**Piszkesteto**	**6.46**	**357**	*e*pn	**Pn**	**02 24 16.8**	**+1.6**
PSZ				*e*Sn	**Sn**	**02 25 28.4**	**-1.2**
PSZ	**Piszkesteto**	**6.46**	**357**	⇑*i*P	**Pn**	**02 24 16.1**	**+0.9**
PSZ	**Piszkesteto**	**6.46**	**357**	*e*Pn	**Pn**	**02 24 16.8**	**+1.6**
PSZ				*e*Sn	**Sn**	**02 25 28.4**	**-1.2**
SOKA	**Soboth**	**6.51**	**325**	⇓*i*Pn	**Pn**	**02 24 16.9**	**+1.0**
	SNR=7.7						
SOKA	**Soboth**	**6.51**	**325**	Pn	**Pn**	**02 24 16.9**	**+1.0**
	SNR=7.7						
VOY	**Vojsko**	**6.59**	**316**	*e*Pn	**Pn**	**02 24 18.2**	**+1.2**
VOY				*e*Sn	**Sn**	**02 25 34.7**	**+2.0**
KECS	**Kecovo**	**7.01**	**0**	*e*PN	**Pn**	**02 24 24.7**	**+2.0**
IDI	**Anoyia**	**7.08**	**149**	Pn	Pn	02 24 19.4	-4.5
	comp=N,0.2nm,0.3s,baz=300,slow=16,SNR=2.4						
IDI					Sn	**Sn**	**02 25 41.6**	**-3.4**
	comp=N,0.1nm,0.3s,baz=315,slow=19,SNR=2.0						
KOLS	**Kolonicke sedl**	**7.57**	**9**	*e*PN	**Pn**	**02 24 32.5**	**+2.1**
KOLS	**Kolonicke sedl**	**7.57**	**9**	*e*Pn	**Pn**	**02 24 32.5**	**+2.1**
STHS	**Stebnicka Huta**	**7.96**	**4**	*e*PN	**Pn**	**02 24 36.9**	**+1.1**
STHS				*e*		02 26 10.0	
STHS	**Stebnicka Huta**	**7.96**	**4**	*e*Pn	**Pn**	**02 24 36.9**	**+1.1**
GERES	**GERESS Array B**	**8.78**	**329**	Pn	**Pn**	**02 24 45.9**	**-1.2**
	comp=N,0.1nm,0.3s,baz=149,slow=13,SNR=9.6						
MOTA	**Moosalm**	**8.90**	**314**	⇓*i*Pn	**Pn**	**02 24 49.7**	**+0.9**
	SNR=4.5						
MOTA	**Moosalm**	**8.90**	**314**	Pn	**Pn**	**02 24 49.7**	**+0.9**
	SNR=4.5						
KHC	**Kasperske Hory**	**9.06**	**330**	*e*PN	Pn	02 24 54.4	+3.5
KHC	**Kasperske Hory**	**9.06**	**330**	*e*Pn	**Pn**	02 24 54.4	+3.5
DAVOX	**Davos/Dischmat**	**9.27**	**308**	Pn	**Pn**	**02 24 53.4**	**-0.5**
	comp=N,0.5nm,0.3s,baz=142,slow=19,SNR=6.7						
DAVOX					Sn	**Sn**	**02 26 37.3**	**-1.7**
	comp=N,0.2nm,0.3s,baz=276,slow=19,SNR=2.3						
HFS	**Hagfors**	**19.15**	**350**	P	**P**	**02 27 01.6**	**-1.8**
	comp=N,0.2nm,0.3s,baz=160,slow=11,SNR=6.5						
FINES	**FINESS Array B**	**20.29**	**8**	P	Pn	02 27 15.9	-1.9
	comp=N,1.0nm,0.7s,baz=172,slow=11,SNR=3.1						
NB2	**NORSAR Subarra**	**20.39**	**347**	P	**P**	**02 27 16.6**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=156,slow=11						
NB2	**NORSAR Subarra**	**20.39**	**347**	P	**P**	**02 27 16.6**	**-0.5**
	comp=Z,1.5nm,0.7s,SNR=4.4						
NOA	**NORSAR Array B**	**20.39**	**347**	P	**P**	**02 27 16.5**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=151,slow=9.7,SNR=4.5						
MKAR	**Makanchi Array**	**43.69**	**61**	P	**P**	**02 30 45.2**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=268,slow=9.5,SNR=4.2						
TXAR	**Lajitas Array**	**92.67**	**314**	P	P	02 35 48.3	-4.5
	comp=Z,0.1nm,0.3s,baz=60,slow=3.6,SNR=2.4						

IDC 03 02:28:49.8±4.9, 6°21S×131°83E, h0km, mb3.4/1, mb1 3.3/3, mb1mx3.2/17, mbtmp3.2/3, ML3.0/2, Error ellipse: s-maj=343.2km s-min=32.0km az=74.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
WRA	**Warramunga Arr**	**13.86**	**170**	Pn		Pn	02 32 08.0	+0.3
	0.1nm,0.3s,baz=350,slow=13,SNR=3.8							
WRA				Sn		Sn	02 34 35.4	-7.2
	0.2nm,0.3s,baz=342,slow=22,SNR=8.5							
ASAR	**Alice Springs**	**17.47**	**174**	P		Pn	02 32 54.8	-0.2
	0.1nm,0.3s,baz=349,slow=9.5,SNR=4.5							
MKAR	**Makanchi Array**	**68.58**	**326**	P		P	02 39 54.6	0.0
	0.1nm,0.4s,baz=109,slow=7.9,SNR=4.0							

IDC 03 02:51:20.5±1.1, 30°08N×87°84E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.4/29, mbtmp3.6/6, ML3.3/1, Error ellipse: s-maj=37.2km s-min=23.6km az=62.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SHL	**Shillong**	**5.75**	**140**	*e*P		Pn	02 52 47.0	-0.4
SHL				*e*S		Sn	02 53 52.0	-2.3
MKAR	**Makanchi Array**	**17.23**	**347**	P		P	02 55 24.3	+0.1
	0.1nm,0.3s,baz=157,slow=12,SNR=5.8							
KURBB	**Kurchatov Arra**	**21.67**	**344**	P		P	02 56 11.9	-0.7
	2.6nm,0.8s,baz=156,slow=11,SNR=13							
SONM	**Songino Array**	**22.76**	**34**	P		P	02 56 24.7	+0.2
	0.3nm,0.4s,baz=219,slow=12,SNR=4.2							
WRA	**Warramunga Arr**	**66.91**	**132**	P		P	03 02 14.8	-0.1
	0.5nm,0.8s,baz=328,slow=6.4,SNR=5.2							
ASAR	**Alice Springs**	**69.37**	**135**	P		P	03 02 30.5	+0.1
	0.2nm,0.9s,baz=325,slow=6.4,SNR=4.8							
TORD	**Torodi Ar. Bea**	**80.24**	**280**	P		P	03 03 33.6	0.0
	0.6nm,0.6s,baz=52,slow=4.8,SNR=11							

*LDG **03** 03:11:53.7±0.1, 48°58N×6°29E, h2km, Md2.6/2, Ml2.2/7, Error ellipse: s-maj=1.1km s-min=1.0km az=140.0*
*STR **03** 03:11:59.3±0.3, 48°68N×6°63E, h5km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

CSEM 03 03:11:53.9±0.2, 48°57N×6°23E, h1km, ML2.0/8, Error ellipse: s-maj=4.5km s-min=3.8km az=6.0, France

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PAGF	**Fort de Pagny**	**0.34**	**268**	*e*Pg		Pg	03 12 01.3	+0.9
	baz=84							
PAGF				*e*Sg		Sg	03 12 05.1	+0.3
	5.2nm,0.5s,baz=79							
PAGF	**Fort de Pagny**	**0.34**	**268**	*e*Pg		Pg	03 12 01.3	+0.9
	baz=84							
PAGF				*e*Sg		Sg	03 12 05.1	+0.3
	2.6nm,0.5s,baz=79							
HAU	**Haudompre**	**0.57**	**172**	*e*Pg		Pg	03 12 04.8	-0.1
HAU				*e*Sg		Sg	03 12 12.2	-0.1
	6.5nm,0.4s							
HAU	**Haudompre**	**0.57**	**172**	*e*Pg		Pg	03 12 04.8	-0.1
HAU				*e*Sg		Sg	03 12 12.2	-0.1
	3.2nm,0.4s							
CDF	**Champ du Feu**	**0.71**	**102**	*e*Pg		Pg	03 12 06.4	-1.3
CDF				*e*Sg		Sg	03 12 15.3	-1.8
	4.3nm,0.5s							
CDF	**Champ du Feu**	**0.71**	**102**	*e*Pg		Pg	03 12 06.4	-1.3
CDF				*e*Sg		Sg	03 12 15.3	-1.8
	2.2nm,0.5s							
MEZF	**Maizieres J'vi**	**0.79**	**265**	*e*Pg		Pg	03 12 09.2	+0.2
MEZF				*e*Sn		Sb	03 12 22.6	+1.0
	8.0nm,0.4s,baz=78							
MEZF	**Maizieres J'vi**	**0.79**	**265**	*e*Pg		Pg	03 12 09.2	+0.2
MEZF				*e*Sn		Sb	03 12 22.6	+1.0
	4.0nm,0.4s,baz=78							
HINF	**Hinteralfeld**	**0.86**	**151**	*e*Pg		Pg	03 12 10.0	-0.5
HINF				*e*Sn		Sb	03 12 23.5	-0.3
	13nm,0.5s							
HINF	**Hinteralfeld**	**0.86**	**151**	*e*Pg		Pg	03 12 10.0	-0.5
HINF				*e*Sn		Sb	03 12 23.5	-0.3
	6.7nm,0.5s							
SFTF	**Sexfontaines**	**0.88**	**246**	*e*Pg		Pg	03 12 10.8	+0.1
SFTF				*e*Sn		Sb	03 12 24.9	+0.8
	15nm,0.5s,baz=70							
SFTF	**Sexfontaines**	**0.88**	**246**	*e*Pg		Pg	03 12 10.8	+0.1
SFTF				*e*Sn		Sb	03 12 24.9	+0.8
	7.7nm,0.5s,baz=70							
MOF	**Molkenrain**	**0.94**	**140**	Pg		Pn	03 12 16.7	+2.3
MOF				Sg		Sn	03 12 28.0	-0.5
LANF	**Langenberg**	**1.12**	**68**	Pg		Pg	03 12 14.9	-0.5
LANF	**Langenberg**	**1.12**	**68**	Pg		Pg	03 12 14.9	-0.5
RUP	**Ruppelstein**	**1.26**	**25**	Pg		Pn	03 12 19.3	+0.6
RUP				Sg		Sg	03 12 34.3	-0.2
LOMF	**Lomont**	**1.28**	**162**	Pg		Pn	03 12 24.3	+5.2
FELD	**Feldberg im Sc**	**1.37**	**120**	Pg		Pb	03 12 22.8	+2.2
FELD				Sg		Sn	03 12 39.3	-0.1
FELD	**Feldberg im Sc**	**1.37**	**120**	Pg		Pb	03 12 22.8	+2.2
FELD				Sg		Sn	03 12 39.3	-0.1
GIVF	**Givet**	**1.79**	**330**	*e*Pg		Pb	03 12 27.1	-0.4
GIVF				*e*Sg		Sb	03 12 50.0	-0.4
	5.8nm,0.5s							
GIVF	**Givet**	**1.79**	**330**	*e*Pg		Pb	03 12 27.1	-0.4
GIVF				*e*Sg		Sb	03 12 50.0	-0.4
	2.9nm,0.5s							
CABF	**La Chapelle**	**1.96**	**183**	*e*Sg		Sb	03 12 55.8	+0.2
	7.2nm,0.7s							
CABF	**La Chapelle**	**1.96**	**183**	*e*Sg		Sb	03 12 55.8	+0.2
	3.6nm,0.7s							
LOR	**Lormes**	**2.06**	**232**	*e*Sg		Sg	03 13 00.2	0.0
	4.6nm,0.5s							
LOR	**Lormes**	**2.06**	**232**	*e*Sg		Sg	03 13 00.2	0.0
	2.3nm,0.5s							
SSF	**Saint Saulge**	**2.38**	**232**	*e*Sg		Sg	03 13 09.4	-0.9
	4.2nm,0.6s							
SSF	**Saint Saulge**	**2.38**	**232**	*e*Sg		Sg	03 13 09.4	-0.9
	2.1nm,0.6s							

*ISCJB **03** 03:41:46.9±0.4, 51°52N±0°02×16°11E±0°03, h0km, Error ellipse: s-maj=3.3km s-min=2.7km az=30.4*
*IPEC **03** 03:41:48.2±0.3, 51°57N×16°23E, h0km, ML2.8/4, Error ellipse: s-maj=2.0km s-min=1.5km az=35.0*
*CSEM **03** 03:41:49.3±0.3, 51°47N×16°08E, h2km, ML3.4/8, Error ellipse: s-maj=4.6km s-min=3.7km az=176.0*
*IDC **03** 03:41:50.1±0.8, 51°47N×15°99E, h0km, mb1 3.4/7, mb1mx3.3/28, mbtmp3.3/7, ML3.1/7, Error ellipse: s-maj=18.5km s-min=7.0km az=100.0*
*WAR **03** 03:41:50.6, 51°47N×16°10E*
*PRU **03** 03:41:51.0, 51°43N×16°07E, h0km*

ISC 03 03:41:48.3±0.7, 51°55N±0°03×16°08E±0°02, h0km, n57, σ1°19/88, 2C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KSP	**Ksiaz**	**0.72**	**169**	*e*Pg		**Pg**	**03 42 02.5**	**+0.5**
KSP				*e*Sg		**Sg**	**03 42 11.6**	**+0.3**
KSP	**Ksiaz**	**0.72**	**169**	*e*		Pn	03 42 14.4	+8.7
KSP	**Ksiaz**	**0.72**	**169**	*e*Sg		**Sg**	**03 42 10.9**	**-0.4**
UPC	**Upice**	**1.04**	**182**	*e*PG		**Pg**	**03 42 08.4**	**+0.2**
UPC	**Upice**	**1.04**	**182**	*e*Pg		**Pg**	**03 42 08.4**	**+0.2**
DPC	**Dobruska-Polom**	**1.21**	**173**	*e*PG		**Pg**	**03 42 11.3**	**-0.1**
DPC				*e*SG		**Sg**	**03 42 26.2**	**-0.8**
DPC	**Dobruska-Polom**	**1.21**	**173**	Pg		**Pg**	**03 42 11.3**	**-0.1**
DPC				Sg		**Sg**	**03 42 26.2**	**-0.8**
PVCC	**Panska Ves**	**1.40**	**224**	*e*PG		**Pb**	**03 42 15.5**	**+0.3**
PVCC				*e*SG		**Sb**	**03 42 33.9**	**+0.4**
	comp=Z,121nm,0.4s							
PVCC	**Panska Ves**	**1.40**	**224**	Pg		**Pb**	**03 42 15.5**	**+0.3**
PVCC				Sg		**Sb**	**03 42 33.9**	**+0.4**
	121nm,0.4s							
BRG	**Berggiesshubel**	**1.50**	**244**	PN		**Pn**	**03 42 16.7**	**+0.2**
BRG				PG		**Pg**	**03 42 18.0**	**+0.9**
BRG				SG		**Sn**	**03 42 37.5**	**+0.7**
	81nm,0.5s							
PRA	**Prague**	**1.81**	**216**	PG		**Pb**	**03 42 22.0**	**-0.3**
PRA				SG		**Sn**	**03 42 44.0**	**-0.3**
PRU	**Pruhonice**	**1.84**	**213**	*e*PN		**Pn**	**03 42 21.3**	**+0.2**
PRU				*e*PG		**Pb**	**03 42 22.9**	**+0.1**
PRU				*e*SG		**Sb**	**03 42 46.0**	**-0.3**
	comp=Z,18nm,0.4s							
PRU	**Pruhonice**	**1.84**	**213**	Pn		**Pn**	**03 42 21.3**	**+0.2**
CLL	**Collm**	**1.94**	**264**	*e*Pn		**Pn**	**03 42 23.0**	**+0.5**
CLL				*e*Pg		**Pg**	**03 42 26.0**	**+0.5**
CLL				*e*			03 42 30.0	
CLL				*e*			03 42 41.0	
CLL				*e*Sg		**Sg**	**03 42 52.0**	**+1.4**
	comp=Z,40nm,0.9s							
RAC	**Raciborz**	**1.98**	**137**	*e*Pg		**Pb**	**03 42 25.7**	**+0.4**
RAC				*e*Sg		**Sb**	**03 42 50.8**	**+0.3**
MORC	**Moravsky Berou**	**2.00**	**152**	⇑*i*P		**Pn**	**03 42 23.4**	**0.0**
MORC	**Moravsky Berou**	**2.00**	**152**	S		**Sb**	**03 42 50.5**	**-0.5**
MORC	**Moravsky Berou**	**2.00**	**152**	*e*Pn		**Pn**	**03 42 23.1**	**-0.3**
MORC				*e*Sg		**Sn**	**03 42 50.3**	**+1.2**
	comp=Z,48nm,0.6s,baz=336							
OKC	**Ostrava-Krasne**	**2.16**	**142**	*e*PG		**Pb**	**03 42 28.9**	**+0.7**
OKC				*e*SG		**Sb**	**03 42 55.3**	**-0.2**
	comp=Z,62nm,0.6s							
OKC	**Ostrava-Krasne**	**2.16**	**142**	Pg		**Pb**	**03 42 28.9**	**+0.7**
OKC				Sg		**Sb**	**03 42 55.3**	**-0.2**
	comp=Z,62nm,0.6s							
VRAC	**Vranov**	**2.26**	**171**	⇓*i*P		**Pn**	**03 42 28.4**	**+1.4**
VRAC	**Vranov**	**2.26**	**171**	S		**Sb**	**03 42 58.3**	**-0.3**
VRAC	**Vranov**	**2.26**	**171**	*e*Pn		**Pn**	**03 42 27.5**	**+0.6**
VRAC				*e*Sg		**Sb**	**03 42 59.1**	**+0.5**
	comp=Z,42nm,0.7s,baz=354							
VRAC	**Vranov**	**2.26**	**171**	Pn		**Pn**	**03 42 27.6**	**+0.6**
	comp=Z,2.8nm,0.3s,baz=336,slow=14,SNR=16							
VRAC					Sn	**Sn**	**03 42 54.7**	**-0.9**
	comp=Z,3.0nm,0.3s,baz=38,slow=15,SNR=5.1							
TREC	**Trest**	**2.28**	**190**	*e*PN		**Pn**	**03 42 28.8**	**+1.5**
TREC				*e*PG		**Pb**	**03 42 31.3**	**+0.9**
TREC	**Trest**	**2.28**	**190**	Pn		**Pn**	**03 42 28.8**	**+1.5**
KRUC	**Moravsky**	**2.49**	**175**	*e*Pn		**Pn**	**03 42 30.6**	**+0.5**
	baz=358							
KRUC				*e*Sg		**Sg**	**03 43 07.3**	**-1.1**
	comp=Z,42nm,0.7s,baz=358							
OJC	**Ojcow**	**2.70**	**118**	*e*Pg		**Pg**	**03 42 41.3**	**+1.2**
OJC				*e*Sg		**Sg**	**03 43 16.3**	**+1.2**
OJC	**Ojcow**	**2.70**	**118**	*e*Pg		**Pg**	**03 42 41.3**	**+1.2**
OJC				*e*Sg		**Sg**	**03 43 16.3**	**+1.2**
JAVC	**Velka Javorina**	**2.88**	**159**	*e*Sg		**Sg**	**03 43 20.9**	**+0.2**
	comp=Z,36nm,0.9s							
KHC	**Kasperske Hory**	**2.90**	**215**	*e*PN		**Pn**	**03 42 36.6**	**+0.9**
KHC				*e*PG		**Pb**	**03 42 42.4**	**+1.5**
KHC				*e*SN		**Sn**	**03 43 09.6**	**-1.7**
KHC				*e*SG		**Sb**	**03 43 19.0**	**+2.1**
	comp=Z,18nm,0.6s							
KHC	**Kasperske Hory**	**2.90**	**215**	Pn		**Pn**	**03 42 36.6**	**+0.9**
GERES	**GERESS Array B**	**3.10**	**210**	Pn		**Pn**	**03 42 39.2**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=28,slow=12,SNR=42							
GERES					Pg	**Pb**	**03 42 45.4**	**+1.0**
	comp=Z,3.2nm,0.3s,baz=32,slow=15,SNR=45							
GERES					Lg		03 43 24.7	
	comp=Z,3.2nm,0.3s,baz=37,slow=32,SNR=6.1							
SMOL	**Smolenice**	**3.16**	**163**	*e*		**Pg**	**03 42 48.6**	**-0.2**
SMOL	**Smolenice**	**3.16**	**163**	*e*SG		**Sg**	**03 43 32.0**	**+2.3**
SMOL	**Smolenice**	**3.16**	**163**	*e*Sg		**Sg**	**03 43 32.0**	**+2.3**
ZST	**Bratislava**	**3.42**	**168**	*e*		**Pg**	**03 42 53.0**	**-0.8**
ZST	**Bratislava**	**3.42**	**168**	*e*SG		**Sg**	**03 43 37.9**	**-0.1**
ZST	**Bratislava**	**3.42**	**168**	*e*Sg		**Sg**	**03 43 37.9**	**-0.1**
NIE	**Niedzica**	**3.44**	**127**	*e*P		**Pg**	**03 42 53.4**	**-0.8**
NIE				*e*S		**Sg**	**03 43 38.1**	**-0.7**
BSD	**Bornholm Skovb**	**3.64**	**349**	*i* P		**Pn**	**03 42 47.0**	**+1.1**
BSD				*i* S		**Sn**	**03 43 27.6**	**-1.9**
BSD	**Bornholm Skovb**	**3.64**	**349**	*i* P		**Pn**	**03 42 47.0**	**+1.1**
BSD				*i* S		**Sn**	**03 43 27.6**	**-1.9**
STHS	**Stebnicka Huta**	**3.93**	**121**	*e*PN		**Pn**	**03 42 50.8**	**+1.0**
STHS				*e*			03 43 04.2	
STHS	**Stebnicka Huta**	**3.93**	**121**	*e*SG		**Sg**	**03 43 58.8**	**+4.4**
STHS	**Stebnicka Huta**	**3.93**	**121**	*e*Pn		**Pn**	**03 42 50.8**	**+1.0**
STHS				*e*Sg		**Sg**	**03 43 58.8**	**+4.4**
KECS	**Kecovo**	**4.18**	**135**	*e*PN		**Pn**	**03 42 52.7**	**-0.6**
KECS				*e*SG		**Sg**	**03 44 00.8**	**-1.7**
KECS	**Kecovo**	**4.18**	**135**	*e*Pn		**Pn**	**03 42 52.7**	**-0.6**
KECS				*e*Sg		**Sg**	**03 44 00.8**	**-1.7**
KOLS	**Kolonicke sedl**	**4.76**	**121**	*e*PN		**Pn**	**03 43 01.7**	**+0.5**
KOLS				*e*			03 43 21.4	
KOLS	**Kolonicke sedl**	**4.76**	**121**	*e*Pn		**Pn**	**03 43 01.7**	**+0.5**
DAVOX	**Davos/Dischmat**	**6.26**	**223**	Pn		**Pn**	**03 43 23.1**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=35,slow=12,SNR=4.0							
DAVOX					Lg	Lg	03 45 06.1	
	comp=Z,0.1nm,0.3s,baz=342,slow=20,SNR=2.9							
DRGR		**6.44**	**135**	⇑*i*P		**Pn**	**03 43 25.1**	**+0.6**
BURAR	**Bucovina Array**	**7.12**	**120**	⇓*i*P		**Pn**	**03 43 34.0**	**+0.2**
HFS	**Hagfors**	**8.71**	**352**	Pn		**Pn**	**03 43 55.3**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=168,slow=14,SNR=6.7							
NOA	**NORSAR Array B**	**9.89**	**346**	Pn		**Pn**	**03 44 11.2**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=167,slow=13,SNR=3.3							
FINES	**FINESS Array B**	**11.34**	**25**	Pn		**Pn**	**03 44 30.9**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=214,slow=11,SNR=10							
KAF	**Kangasniemi**	**11.96**	**24**	*e*p		**Pn**	**03 44 40.1**	**+0.2**
ARCES	**ARCESS Array B**	**18.59**	**10**	Pn		**P**	**03 46 03.7**	**-3.0**
	comp=Z,0.3nm,0.3s,baz=194,slow=11,SNR=12							

SKHL 03 04:16:42.1±0.1, 51°58N×136°28E, h10km, mb3.8/3, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
GRNR	**Gornyy**	**0.82**	**174**	*e*Pg		Pg	04 16 57.0	-0.9
GRNR				AMB		AMB	04 16 58.2	
	110nm,0.4s							
GRNR				*e*Sg		Sg	04 17 07.9	-0.7
GRNR				A		A	04 17 08.8	
	650nm,0.4s							
KHBR	**Khabarovsk**	**3.21**	**195**	*e*Sg		Sb	04 18 20.9	+2.7
KLR	**Kul'dur**	**3.73**	**233**	*e*Pg		Pb	04 17 50.1	+2.0
KLR				*e*Sg		Sg	04 18 39.3	-2.7
TYV	**Tymovskoe**	**4.07**

BAKI	**Biak**	**8.81**	**49**	P		**Pn**	**04 55 57.9**	**+0.1**
	128nm,0.8s							
KAPI	**Kappang**	**9.86**	**281**	P		**Pn**	**04 56 12.7**	**+0.9**
	1.6nm,0.3s,baz=171,slow=17,SNR=2.6							
SPSI	**Sidrap Palu**	**10.12**	**287**	P		**Pn**	**04 56 16.5**	**+1.2**
	30nm,0.5s,1µm							
MRSI	**Marisa**	**10.58**	**315**	P		**Pn**	**04 56 24.0**	**+2.6**
	28nm,0.8s							
FITZ	**Fitzroy Crossi**	**11.62**	**198**	⇑P		**Pn**	**04 56 33.3**	**-1.8**
	baz=12							
FITZ	**Fitzroy Crossi**	**11.62**	**198**	P		**Pn**	**04 56 33.9**	**-1.2**
	1.0nm,0.3s,baz=39,slow=10,SNR=35							
FITZ				S		Sn	04 58 36.7	-6.7
	2.1nm,0.3s,baz=81,slow=20,SNR=11							
TOLI	**Toli-Toli**	**11.85**	**313**	P		P	04 56 53.2	+7.7
WRA	**Warramunga Arr**	**13.68**	**160**	P		Pn	04 56 58.5	-3.3
	1.5nm,0.3s,baz=351,slow=13,SNR=35							
WRA				S		Sn	04 59 21.0	-12
	4.3nm,0.3s,baz=338,slow=22,SNR=14							
COEN	**Coen**	**15.13**	**118**	P		**Pn**	**04 57 19.0**	**-1.2**
	baz=16,SNR=50							
AS16	**Alice Springs**	**17.06**	**166**	⇓P		**P**	**04 57 43.5**	**+0.2**
	baz=17							
AS14	**Alice Springs**	**17.07**	**166**	⇓P		**P**	**04 57 43.6**	**+0.2**
	baz=17							
ASAR	**Alice Springs**	**17.08**	**166**	P		**Pn**	**04 57 44.4**	**+0.4**
	2.9nm,0.3s,baz=346,slow=10,SNR=303							
ASAR				S		S	05 00 44.6	-10
	1.2nm,0.3s,baz=352,slow=25,SNR=8.7							
AS01	**Alice Springs**	**17.09**	**166**	⇓P		**P**	**04 57 43.8**	**+0.1**
	baz=17							
AS17	**Alice Springs**	**17.10**	**166**	⇓P		**P**	**04 57 44.1**	**+0.3**
	baz=17							
PMG	**Port Moresby**	**17.68**	**99**	P		**Pn**	**04 57 51.6**	**+0.4**
	29nm,1.0s							
PMG	**Port Moresby**	**17.68**	**99**	P		**P**	**04 57 49.9**	**-0.1**
	1.3nm,0.3s,baz=297,slow=6.2,SNR=7.7							
PMG				S		S	05 00 58.2	-8.6
	0.7nm,0.3s,baz=229,slow=20,SNR=4.6							
PBKI	**Pangkalan Bun**	**18.24**	**283**	P		**Pn**	**04 57 58.5**	**+0.6**
CTA	**Charters Tower**	**20.83**	**130**	P		**P**	**04 58 24.1**	**-0.1**
	4.0nm,0.7s,baz=295,slow=14,SNR=7.4							
CTA				S		**S**	**05 02 15.6**	**+6.5**
	0.8nm,0.2s,baz=277,slow=19,SNR=3.9							
FORT	**Forrest**	**23.66**	**183**	⇓P		**P**	**04 58 52.1**	**-0.2**
	baz=24,SNR=12							
QLP	**Quilpie**	**24.00**	**146**	P		**P**	**04 58 54.9**	**-0.5**
	baz=24,SNR=8.4							
BBOO	**Buckleboo**	**26.37**	**167**	P		**P**	**04 59 16.0**	**-0.8**
	baz=26,SNR=17							
STKA	**Stephens Creek**	**27.19**	**157**	P		**P**	**04 59 23.6**	**-0.5**
	baz=27,SNR=8.9							
STKA	**Stephens Creek**	**27.19**	**157**	P		**P**	**04 59 23.0**	**-1.1**
	3.1nm,0.4s,baz=329,slow=9.2,SNR=12							
STKA				LR		LR	05 11 07.0	
	comp=Z,171nm,19.5s,baz=21,slow=38							
HTT	**Hallett**	**27.70**	**163**	⇓P		**P**	**04 59 28.7**	**0.0**
	baz=28							
CMSA	**Cobar Meteorol**	**28.71**	**150**	⇑P		**P**	**04 59 37.5**	**-0.2**
	baz=29							
ARPS	**Mount Arapiles**	**31.68**	**161**	⇑P		**P**	**05 00 04.0**	**+0.2**
	baz=32,SNR=9.9							
PSI	**Prapat**	**32.01**	**287**	P		P	05 00 04.4	-2.6
	12nm,0.7s,baz=121,slow=5.4,SNR=11							
DZM	**Mont Dzumac**	**38.66**	**117**	P		**P**	**05 01 02.6**	**-1.2**
	5.0nm,0.6s,baz=279,slow=10.0,SNR=8.6							
CMAR	**Chiang Mai Arr**	**39.34**	**311**	P		**P**	**05 01 08.7**	**-0.8**
	2.6nm,0.5s,baz=137,slow=7.1,SNR=11							
SONM	**Songino Array**	**58.30**	**342**	P		**P**	**05 03 33.2**	**-0.6**
	0.5nm,0.5s,baz=165,slow=6.0,SNR=3.3							
MKAR	**Makanchi Array**	**67.96**	**327**	P		**P**	**05 04 36.0**	**-1.4**
	3.2nm,0.4s,baz=118,slow=8.0,SNR=39							
ZALV	**Zalesovo Beam**	**71.39**	**334**	P		P	05 04 55.6	-2.5
	1.5nm,0.4s,baz=157,slow=5.7,SNR=3.5							
VNDA	**Vanda**	**72.48**	**173**	P		**P**	**05 05 03.5**	**-0.9**
	0.7nm,0.7s,baz=342,slow=6.2,SNR=6.8							
MAW	**Mawson**	**74.73**	**201**	P		**P**	**05 05 17.5**	**-0.1**
	1.2nm,0.7s,baz=344,slow=7.4,SNR=3.1							
PDAR	**Pinedale Array**	**117.29**	**45**	PKP		**PKPdf**	**05 12 23.5**	**+0.5**
	0.2nm,0.5s,baz=208,slow=3.1,SNR=2.9							
TORD	**Torodi Ar. Bea**	**128.29**	**281**	PKP		**PKPdf**	**05 12 41.2**	**-3.3**
	0.5nm,0.7s,baz=26,slow=2.0,SNR=2.8							

*IDC **03** 04:59:60.0±0.6,2°.12N×128°.85E,h0km,mb4.1/17,*
mb1 4.3/18,mb1mx4.2/24,mbtmp4.2/18,ML4.0/1,MS3.4/2,
Ms1 3.4/2,ms1mx2.8/48,Error ellipse: s-maj=27.8km
s-min=12.7km az=84.0
*ISCJB **03** 05:00:03.3±0.3,2°.09N±0°.03×129°.07E±0°.04,h40km,*
mb4.4/34,MS3.6/1,Error ellipse: s-maj=5.9km
s-min=4.5km az=171.3
*NEIC **03** 05:00:03.1±0.2,2°.11N×128°.82E,mb4.6/21,Error ellipse:*
s-maj=8.7km s-min=5.3km az=77.0
*DJA **03** 05:00:05.0±0.5,2°N±3°×12°9E±°,h98km±17km,M4.7/10,*
mb4.7/8,mB5.3/2,MLv4.7/10,Mw(mB)4.7/2
ISC 03 05:00:05.2±0.4,**2°.10N**±0°.05×**129°.14E**±0°.05,**h40**km,**n76,**
σ1§47/75,mb4.4/34,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.21**	**233**	P	**Pn**	**05 00 38.9**	**-0.5**
TNTI				S	**Sn**	**05 01 06.9**	**+1.4**
LBMI	**Labuha**	**3.17**	**211**	P	**Pn**	**05 00 52.3**	**-0.4**
LBMI				S	**Sn**	**05 01 32.0**	**+2.7**
SWI	**Sorong**	**3.62**	**144**	P	**Pn**	**05 00 58.2**	**-0.6**
SWI				S	**Sn**	**05 01 39.9**	**-0.5**
SGSI	**Sangihe**	**3.94**	**294**	P	**Pn**	**05 01 02.9**	**-0.3**
SGSI				S	Sn	05 01 52.8	+4.6
KMSI	**Cibinong**	**5.38**	**254**	P	**Pn**	**05 01 22.8**	**-0.1**
	370nm,0.9s,7µm1.9nm						
KMSI				S	**Sn**	**05 02 25.5**	**+1.9**
	370nm,0.9s,7µm1.9nm						
NLAI	**Namlea**	**5.68**	**201**	P	**Pn**	**05 01 25.9**	**-1.2**
	37nm,0.7s,2µm0.2nm						
AAI	**Ambon**	**5.82**	**189**	P	**Pn**	**05 01 28.5**	**-0.6**
	53nm,0.4s,0.3nm						
AAI				S	**Sn**	**05 02 33.8**	**-0.8**
	53nm,0.4s,0.3nm						
FAKI	**Fak Fak**	**5.87**	**148**	P	**Pn**	**05 01 28.4**	**-1.4**
	43nm,1.7s,0.3nm						
FAKI				S	**Sn**	**05 02 32.8**	**-3.0**
	43nm,1.7s,0.3nm						
MRSI	**Marisa**	**7.38**	**257**	P	**Pn**	**05 01 50.0**	**-0.4**
	49nm,1.4s,0.2nm						
BNSI	**Bone**	**11.10**	**234**	P	**Pn**	**05 02 40.2**	**-1.3**
	32nm,1.0s						
SPSI	**Sidrap Palu**	**11.14**	**237**	P	**Pn**	**05 02 40.3**	**-1.7**
KAPI	**Kappang**	**11.74**	**233**	Pn	Pn	05 02 45.8	-4.4
KAPI	**Kappang**	**11.74**	**233**	Pn	Pn	05 02 45.8	-4.4
	1.1nm,0.3s,baz=190,slow=19,SNR=2.7						
KAPI				LR	LR	05 07 45.2	
	comp=Z,131nm,20.1s,baz=290,slow=40						
KSM	**Kuching**	**18.84**	**268**	*eP*	**P**	**05 04 20.6**	**-1.2**
	19nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.37**	**190**	P	**P**	**05 04 37.7**	**-0.8**
FITZ	**Fitzroy Crossi**	**20.37**	**190**	P	**P**	**05 04 37.7**	**-0.8**
	2.3nm,0.5s,baz=285,slow=12,SNR=3.4						
COEN	**Coen**	**21.16**	**139**	*eP*	**P**	**05 04 50.2**	**+3.0**
	64nm,0.9s						
PMG	**Port Moresby**	**21.28**	**123**	*eP*	**P**	**05 04 51.8**	**+3.4**
	10nm,0.8s						
WRAB	**Tennant Creek**	**22.48**	**167**	*eP*	**P**	**05 05 02.3**	**+1.0**
	8.4nm,0.6s						
WRA	**Warramunga Arr**	**22.49**	**167**	P	**P**	**05 05 02.2**	**+0.8**
WRA	**Warramunga Arr**	**22.49**	**167**	P	**P**	**05 05 02.2**	**+0.8**
	3.5nm,0.6s,baz=345,slow=10,SNR=6.4						
MBWA	**Marble Bar**	**24.88**	**201**	*eP*	**P**	**05 05 24.0**	**-0.4**
	38nm,1.4s						
AS31	**Alice Springs**	**26.02**	**170**	*eP*	**P**	**05 05 33.8**	**-0.9**
ASAR	**Alice Springs**	**26.02**	**170**	P	**P**	**05 05 36.2**	**+1.4**
ASAR	**Alice Springs**	**26.02**	**170**	P	**P**	**05 05 36.2**	**+1.4**
	1.9nm,0.9s,baz=353,slow=6.5,SNR=7.8						
FORT	**Forrest**	**32.71**	**182**	*eP*	**P**	**05 06 34.3**	**+0.3**
	26nm,0.9s						
CMAR	**Chiang Mai Arr**	**33.77**	**301**	P	**P**	**05 06 43.3**	**-0.2**
CMAR	**Chiang Mai Arr**	**33.77**	**301**	P	**P**	**05 06 43.3**	**-0.2**
	0.7nm,0.4s,baz=115,slow=8.2,SNR=4.6						
CHTO	**Chiang Mai**	**33.92**	**301**	*eP*	**P**	**05 06 41.7**	**-3.1**
	12nm,0.7s						
KSAR	**Wonju Array Be**	**35.19**	**358**	P	**P**	**05 06 54.6**	**-0.8**
KSRS	**Korea Array**	**35.20**	**358**	P	**P**	**05 06 54.6**	**-0.9**
	2.9nm,0.8s,baz=173,slow=10,SNR=12						
MAJO	**Matsushiro**	**35.28**	**13**	*eP*	**P**	**05 06 56.3**	**-0.1**
	7.4nm,0.8s						
MJAR	**Matsushiro Arr**	**35.28**	**13**	P	**P**	**05 06 56.8**	**+0.5**
MJAR	**Matsushiro Arr**	**35.28**	**13**	P	**P**	**05 06 56.8**	**+0.5**
	1.1nm,0.5s,baz=185,slow=9.9,SNR=4.4						
STKA	**Stephens Creek**	**35.80**	**162**	*eP*	**P**	**05 07 01.9**	**+1.1**
	3.5nm,1.1s						
STKA	**Stephens Creek**	**35.80**	**162**	P	**P**	**05 07 02.1**	**+1.3**
	2.9nm,0.5s,baz=26,slow=9.5,SNR=6.0						
H11S3	**WAKE ISLAND Hy**	**40.24**	**64**	T	T	05 50 37.2	
	baz=251,slow=0.7,SNR=3.7						
H11S2	**WAKE ISLAND Hy**	**40.25**	**64**	T	T	05 50 37.2	
	baz=251,slow=0.7,SNR=5.2						
H11S1	**WAKE ISLAND Hy**	**40.25**	**64**	T	T	05 50 39.6	
	baz=251,slow=0.7,SNR=4.2						
H11N1	**WAKE ISLAND Hy**	**40.83**	**62**	T	T	05 52 28.5	
	baz=253,slow=0.7						
H11N2	**WAKE ISLAND Hy**	**40.84**	**62**	T	T	05 52 15.1	
	baz=253						
H11N3	**WAKE ISLAND Hy**	**40.85**	**62**	T	T	05 51 55.2	
	baz=253,slow=0.7						
USRK	**Ussuriysk Arra**	**42.00**	**3**	P	**P**	**05 07 54.0**	**+1.5**
	1.5nm,0.6s,baz=185,slow=7.3,SNR=3.9						
ULN	**Ulaanbaatar**	**49.43**	**341**	*eP*	**P**	**05 08 51.1**	**-0.3**
	6.1nm,0.8s						
SONM	**Songino Array**	**49.62**	**340**	P	**P**	**05 08 52.5**	**-0.3**
SONM	**Songino Array**	**49.62**	**340**	P	**P**	**05 08 52.5**	**-0.3**
	2.3nm,0.7s,baz=152,slow=7.5,SNR=12						
PETK	**Petropavlovsk-**	**56.07**	**20**	P	**P**	**05 09 41.9**	**+1.7**
PETK	**Petropavlovsk-**	**56.07**	**20**	P	**P**	**05 09 41.9**	**+1.7**
	1.8nm,0.6s,baz=180,slow=3.8,SNR=4.5						
MK31	**Makanchi Array**	**60.27**	**325**	*eP*	**P**	**05 10 09.2**	**-0.5**
MKAR	**Makanchi Array**	**60.27**	**325**	P	**P**	**05 10 09.3**	**-0.3**
MKAR	**Makanchi Array**	**60.27**	**325**	P	**P**	**05 10 09.3**	**-0.3**
	2.9nm,0.7s,baz=122,slow=8.2,SNR=28						
TKM2	**Tokmak 2**	**62.56**	**318**	*eP*	**P**	**05 10 24.3**	**-1.1**
	1.8nm,0.7s						
ZALV	**Zalesovo Beam**	**63.13**	**332**	P	**P**	**05 10 27.2**	**-1.5**
ZALV	**Zalesovo Beam**	**63.13**	**332**	P	**P**	**05 10 27.2**	**-1.5**
	0.9nm,0.5s,baz=132,slow=4.2,SNR=4.9						
AAK	**Ala-Archa**	**63.18**	**318**	*eP*	**P**	**05 10 27.1**	**-2.4**
	1.1nm,0.5s						
EKS2	**Erkin-Say**	**63.67**	**317**	*eP*	**P**	**05 10 32.0**	**-0.8**
	3.2nm,0.8s						
KURK	**Kurchatov**	**64.41**	**327**	*eP*	**P**	**05 10 36.5**	**-0.7**
	2.7nm,0.7s						
BRVK	**Borovoye**	**70.07**	**327**	*eP*	**P**	**05 11 12.5**	**-0.5**
	5.4nm,0.8s						
BRVK				*epP*	pP	05 11 19.2	-5.8
ABKAR	**Akbulak array**	**74.93**	**321**	*eP*	**P**	**05 11 41.1**	**-1.0**
	0.6nm,0.6s						
ABKAR				*epP*	pP	05 11 48.0	-6.1
VNDA	**Vanda**	**81.52**	**173**	*eP*	**P**	**05 12 18.8**	**+0.8**
	3.3nm,1.0s						
VNDA				*epP*	**PcP**	**05 12 25.5**	**+1.7**
VNDA	**Vanda**	**81.52**	**173**	P	**P**	**05 12 19.1**	**+1.0**
	2.0nm,0.9s,baz=301,slow=6.3,SNR=11						
KDAK	**Kodiak Island**	**81.98**	**32**	P	**P**	**05 12 23.2**	**+2.4**
KDAK	**Kodiak Island**	**81.98**	**32**	P	**P**	**05 12 23.2**	**+2.4**
	15nm,0.9s,baz=331,slow=8.4,SNR=4.6						
MCK	**McKinley**	**84.55**	**26**	*eP*	P	05 12 36.9	+3.0
	6.7nm,0.9s						
MCK				*epP*	pP	05 12 42.1	-4.1
COLA	**College**	**85.13**	**25**	*eP*	**P**	**05 12 38.0**	**+1.2**
	9.0nm,0.7s						
ILAR	**Eielson Array**	**85.54**	**25**	P	**P**	**05 12 39.8**	**+0.9**
ILAR	**Eielson Array**	**85.54**	**25**	P	**P**	**05 12 39.8**	**+0.9**
	0.5nm,0.9s,baz=246,slow=6.0,SNR=6.1						
DIV	**Divide**	**85.80**	**29**	*eP*	**P**	**05 12 42.8**	**+2.4**
	9.7nm,0.7s						
DIV				*epP*	**pP**	**05 12 49.7**	**-2.9**
PAX	**Paxson**	**86.04**	**27**	*eP*	**P**	**05 12 43.8**	**+2.2**
	1.5nm,0.6s						
PAX				*epP*	**pP**	**05 12 50.3**	**-3.5**
MMAI	**Mount Meron Ar**	**92.01**	**303**	LR	LR	06 01 55.8	
	comp=Z,24nm,20.2s,baz=105,slow=40						
ARCES	**ARCESS Array B**	**92.80**	**340**	P	**P**	**05 13 13.0**	**-0.2**
ARCES	**ARCESS Array B**	**92.80**	**340**	P	**P**	**05 13 13.0**	**-0.2**
	3.1nm,0.9s,baz=74,slow=6.7,SNR=3.3						
BRTR	**Keskin Array B**	**92.91**	**310**	P	**P**	**05 13 13.2**	**-1.3**
BRTR	**Keskin Array B**	**92.91**	**310**	P	**P**	**05 13 13.2**	**-1.3**
	0.5nm,0.8s,baz=78,slow=6.6,SNR=2.7						
TORD	**Torodi Ar. Bea**	**125.71**	**288**	PKP	**PKPdf**	**05 19 03.0**	**-0.5**
TORD	**Torodi Ar. Bea**	**125.71**	**288**	PKP	**PKPdf**	**05 19 03.0**	**-0.5**
	0.5nm,0.6s,baz=43,slow=1.7,SNR=4.1						

*ATH **03** 05:02:09.4,41°.52N×20°.44E,h5km±1km,MD3.5/13*
*SKO **03** 05:02:10.1,41°.44N×20°.49E,h15km,M2.8,ML3.1*
*PDG **03** 05:02:10.2±0.4,41°.46N×20°.44E,h13km,ML3.2/8,Error*
ellipse: s-maj=0.5km s-min=0.6km az=0.0
*THE **03** 05:02:10.2,41°.48N×20°.43E,h0km±1km,ML2.9/4,Error*
ellipse: s-maj=2.0km s-min=0.8km az=264.0
*CSEM **03** 05:02:10.7±0.1,41°.45N×20°.44E,h2km,ML2.9/4,Error*
ellipse: s-maj=3.6km s-min=2.4km az=44.0
*BEO **03** 05:02:10.4±0.4,41°.39N×20°.45E,h4km±3km,ML3.0/1*
*TIR **04** 05:02:09.1±0.4,41°.47N×20°.43E,h14km±8km,ML3.2*
ISC 03 05:02:10.0±1.0,**41°.47N**±0°.01×**20°.45E**±0°.01,**h3**km±9km,
n122,σ1§28/186,15C-10D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.22**	**359**	*e*PG	**Pg**	**05 02 14.3**	**0.0**
PHP				*e*SG	**Sg**	**05 02 17.6**	**+0.4**
PHP	**Peshkopia**	**0.22**	**359**	P	**Pg**	**05 02 14.3**	**0.0**
PHP				S	**Sg**	**05 02 18.0**	**+0.8**
PHP	**Peshkopia**	**0.22**	**359**	P	**Pg**	**05 02 14.3**	**0.0**
PHP				S	**Sg**	**05 02 18.0**	**+0.8**
TIR	**Tirane**	**0.45**	**255**	*e*PG	**Pg**	**05 02 18.4**	**-0.3**
TIR				*e*SG	**Sg**	**05 02 25.1**	**+0.6**
TIR	**Tirane**	**0.45**	**255**	P	**Pg**	**05 02 18.4**	**-0.3**
TIR				S	**Sg**	**05 02 25.2**	**+0.6**
TIR	**Tirane**	**0.45**	**255**	*e*Sg	**Sg**	**05 02 25.0**	**+0.4**
TIR	**Tirane**	**0.45**	**255**	*e*Pb	**Pg**	**05 02 18.4**	**-0.3**
TIR	**Tirane**	**0.45**	**255**	P	**Pg**	**05 02 19.0**	**+0.3**
TIR				*e*Sb	**Sg**	**05 02 24.5**	**-0.1**
TIR				*e*Sg	**Sg**	**05 02 25.0**	**+0.4**
PUK	**Puka**	**0.71**	**324**	*e*PG	**Pg**	**05 02 23.1**	**-0.5**
PUK				*e*SG	Sn	05 03 33.2	+55
PRZK	**Prizren**	**0.78**	**17**	P	**Pg**	**05 02 24.8**	**-0.2**
PRZK				S	**Sb**	**05 02 36.4**	**-0.8**
BIA	**Bitola**	**0.80**	**124**	P	**Pg**	**05 02 24.7**	**-0.6**
BIA				S	**Sb**	**05 02 37.5**	**-0.2**
BIA	**Bitola**	**0.80**	**124**	*i* Pg	**Pg**	**05 02 25.2**	**0.0**
BIA				*e*Sg	**Sb**	**05 02 37.7**	**0.0**
BIA				*e*Lg	Lg	05 02 38.7	
	comp=E,314nm,0.2s						
BIA				*e*Lg	Lg	05 02 38.8	
	comp=N,354nm,0.2s						
BIA	**Bitola**	**0.80**	**124**	P	**Pg**	**05 02 24.7**	**-0.6**
BIA				S	**Sb**	**05 02 37.5**	**-0.2**
KBN	**Korca**	**0.88**	**163**	P	**Pb**	**05 02 27.4**	**-0.5**
KBN	**Korca**	**0.88**	**163**	P	**Pb**	**05 02 27.4**	**-0.5**
SKO	**Skopje**	**0.90**	**55**	⇓*i*Pg	**Pg**	**05 02 26.7**	**-0.5**
SKO				*e*Sg	**Sb**	**05 02 39.7**	**-0.9**
SKO	**Skopje**	**0.90**	**55**	*i* Pg	**Pb**	**05 02 27.7**	**-0.5**
SKO				*i* Sg	**Sn**	**05 02 40.8**	**-2.2**
SKO				*e*Lg	Lg	05 02 41.6	
	comp=E,504nm,0.5s						
SKO				*e*Lg	Lg	05 02 41.6	
	comp=N,842nm,0.4s						
SKO	**Skopje**	**0.90**	**55**	⇓*i*Pg	**Pg**	**05 02 26.7**	**-0.5**
SKO				*e*Sg	**Sb**	**05 02 39.7**	**-0.9**
BCI	**Bajram Curri**	**0.94**	**343**	*e*PG	**Pg**	**05 02 27.8**	**-0.3**
BCI				*e*SG	Sn	05 03 40.9	+57
FNA	**Florina**	**0.98**	**134**	P	**Pg**	**05 02 28.5**	**-0.2**
FNA				S	**Sn**	**05 02 43.8**	**-1.2**
FNA	**Florina**	**0.98**	**134**	*e*PB	**Pg**	**05 02 28.6**	**-0.2**
FNA				*e*SB	**Sb**	**05 02 42.8**	**-0.1**
FNA	**Florina**	**0.98**	**134**	*e*Pg	**Pg**	**05 02 28.6**	**-0.2**
FNA				*e*Sb	**Sb**	**05 02 42.8**	**-0.1**
ULC	**Ulcinj**	**1.03**	**299**	⇑*i*Pg	**Pg**	**05 02 29.0**	**-0.7**
ULC				*e*Sg	**Sn**	**05 02 45.1**	**-1.1**
ULC	**Ulcinj**	**1.03**	**299**	⇑*i*Pg	**Pg**	**05 02 29.0**	**-0.7**
ULC				*e*Sg	**Sn**	**05 02 45.1**	**-1.1**
NEST	**Nestorio**	**1.15**	**156**	P	**Pb**	**05 02 32.1**	**-0.3**
NEST				S	**Sn**	**05 02 49.5**	**+0.4**
NEST	**Nestorio**	**1.15**	**156**	P	**Pb**	**05 02 32.1**	**-0.3**
PEJK	**Peje**	**1.18**	**354**	P	**Pg**	**05 02 34.0**	**+1.3**
PVY	**Plav**	**1.19**	**342**	⇓*i*Pg	**Pb**	**05 02 32.3**	**-0.9**
PVY				*e*Sg	**Sn**	**05 02 51.5**	**+1.3**
PVY	**Plav**	**1.19**	**342**	⇓*i*Pg	**Pb**	**05 02 32.3**	**-0.9**
PVY				*e*Sg	**Sn**	**05 02 51.5**	**+1.3**
DRME	**Dracevica, Mon**	**1.19**	**308**	⇓*i*Pg	**Pb**	**05 02 31.8**	**-1.3**
DRME				*e*Sg	**Sn**	**05 02 51.1**	**+1.0**
DRME	**Dracevica, Mon**	**1.19**	**308**	⇓*i*Pg	**Pb**	**05 02 31.8**	**-1.3**
DRME				*e*Sg	**Sn**	**05 02 51.1**	**+1.0**
PDG	**Podgorica**	**1.31**	**318**	⇓*i*Pg	**Pn**	**05 02 34.0**	**-1.1**
PDG				*e*Sg	**Sg**	**05 02 54.2**	**+2.1**
PDG	**Podgorica**	**1.31**	**318**	⇓*i*Pg	**Pn**	**05 02 34.0**	**-1.1**
PDG				*e*Sg	**Sg**	**05 02 54.2**	**+2.1**
TTG	**Podgorica**	**1.31**	**318**	⇑*i*Pg	**Pn**	**05 02 33.8**	**-1.3**
TTG				*e*Sg	**Sg**	**05 02 54.5**	**+2.4**
SMRK	**Smrekonice**	**1.45**	**14**	P	**Pg**	**05 02 38.8**	**+1.0**
SMRK				S	**Sg**	**05 02 58.6**	**+1.9**
BEY	**Berane**	**1.46**	**344**	⇓*i*Pg	**Pg**	**05 02 37.9**	**-0.2**
BEY	**Berane**	**1.46**	**344**	P	**Pg**	**05 02 39.0**	**+0.9**
BEY				*e*Sg	**Sg**	**05 02 59.8**	**+2.7**
IVA	**Berane**	**1.46**	**344**	⇓*i*Pg	**Pg**	**05 02 37.9**	**-0.2**
IVA				*e*Sg	**Sg**	**05 02 59.8**	**+2.7**
KZN	**Kozani**	**1.53**	**139**	P	**Pb**	**05 02 39.0**	**0.0**
KZN				S	**Sg**	**05 03 01.1**	**+1.9**
KZN	**Kozani**	**1.53**	**139**	*e*PB	**Pb**	**05 02 39.0**	**0.0**
KZN				*e*SB	**Sg**	**05 03 01.2**	**+2.0**
KZN	**Kozani**	**1.53**	**139**	P	**Pb**	**05 02 39.0**	**0.0**
KZN				*e*Sb	**Sg**	**05 03 01.2**	**+2.0**
GRG	**Griva**	**1.56**	**108**	P	**Pb**	**05 02 39.0**	**-0.4**
GRG				S	**Sg**	**05 03 00.4**	**+0.4**
GRG	**Griva**	**1.56**	**108**	*e*PB	**Pb**	**05 02 39.1**	**-0.4**
GRG				*e*SB	**Sg**	**05 03 00.5**	**+0.4**
GRG	**Griva**	**1.56**	**108**	P	**Pb**	**05 02 39.0**	**-0.4**
GRG				*e*Sb	**Sg**	**05 03 00.5**	**+0.4**
VAY	**Valandovo**	**1.60**	**94**	P	**Pn**	**05 02 38.4**	**-0.7**
VAY	**Valandovo**	**1.60**	**94**	⇑*i*Pn	**Pn**	**05 02 38.4**	**-0.7**
VAY				*e*Sg	**Sg**	**05 03 01.9**	**+0.4**
VAY	**Valandovo**	**1.60**	**94**	*e*Pn	**Pn**	**05 02 38.9**	**-0.3**
VAY				*e*Lg	Lg	05 03 01.4	
	comp=N,170nm,0.8s						
VAY				*e*Lg	Lg	05 03 01.5	
	comp=E,116nm,0.5s						
VAY				*e*Sg	**Sg**	**05 03 01.8**	**+0.4**
VAY	**Valandovo**	**1.60**	**94**	P	**Pn**	**05 02 38.4**	**-0.7**
VAY				*e*Sg	**Sg**	**05 03 01.9**	**+0.4**
NKME	**Niksic**	**1.71**	**320**	⇑*i*Pn	**Pb**	**05 02 41.0**	**-1.1**
NKME				*e*Sn	**Sg**	**05 03 04.8**	**-0.2**
NKME	**Niksic**	**1.71**	**320**	⇑*i*Pn	**Pb**	**05 02 41.0**	**-1.1**
NKME				*e*Sn	**Sg**	**05 03 04.8**	**-0.2**
HCY	**Herceg Novi**	**1.76**	**305**	⇑*i*Pn	**Pb**	**05 02 41.8**	**-1.0**
HCY				*e*Sn	**Sg**	**05 03 05.9**	**-0.5**
HCY	**Herceg Novi**	**1.76**	**305**	⇑*i*Pn	**Pb**	**05 02 41.8**	**-1.0**
HCY				*e*Sn	**Sg**	**05 03 05.9**	**-0.5**
KEK	**Kerkira**	**1.82**	**196**	*e*PG	**Pg**	**05 02 44.3**	**-0.5**
KEK				*e*SN	**Sg**	**05 03 09.5**	**+1.1**
KEK	**Kerkira**	**1.82**	**196**	*e*Pg	**Pg**	**05 02 44.3**	**-0.5**
KEK				*e*Sn	**Sg**	**05 03 09.5**	**+1.1**
SELS	**Selova**	**1.82**	**16**	*e*Pn	**Pb**	**05 02 43.1**	**-0.9**
SJES	**Sjenica**	**1.83**	**349**	⇑*i*Pn	**Pb**	**05 02 42.8**	**-1.3**
SJES				*e*Sg	**Sg**	**05 03 11.8**	**+3.1**
JAN	**Janina**	**1.83**	**170**	*e*PN	**Pb**	**05 02 44.2**	**+0.1**
JAN				*e*SN	**Sg**	**05 03 09.2**	**+0.3**
JAN	**Janina**	**1.83**	**170**	*e*Pn	**

1.5nm,0.6s,baz=104,slow=8.3,SNR=3.5
STKA LR LR 05 31 07.5
comp=Z,140nm,21.7s,baz=21,slow=33
WRA Warramunga Arr 50.22 257 P P 05 15 36.3 -0.6
1.3nm,0.5s,baz=91,slow=6.7,SNR=44
ASAR Alice Springs 50.46 252 P P 05 15 38.1 -0.7
3.6nm,0.6s,baz=89,slow=8.5,SNR=68
LPIG La Paz 72.77 58 LR LR 05 40 56.1
comp=Z,149nm,19.6s,baz=145,slow=28
BRTR Keskin Array B 146.57 321 PKPbc PKPab 05 26 23.8 +0.1
0.7nm,0.6s,baz=101,slow=1.3,SNR=4.4

*IDC **03** 05:08:09.5±0.6, 15˚.04S×173˚.61W, h0km, mb4.1/11, mb1 4.3/12,mb1mx4.2/21,mbtmp4.1/12,ML4.1/1,MS3.8/5, Ms1 3.8/5,ms1mx3.3/42,Error ellipse: s-maj=28.7km s-min=17.2km az=139.0*
*NEIC **03** 05:08:11.2±0.3, 14˚.98S×173˚.58W, h10km, mb4.5/15, Error ellipse: s-maj=15.5km s-min=10.0km az=148.0*
*ISCJB **03** 05:08:12.5±0.4, 15˚.09S±0˚.09×173˚.59W±0˚.08, h30km, mb4.3/22,MS4.0/3,Error ellipse: s-maj=15.0km s-min=9.8km az=145.6*
ISC 03 05:08:14.1±0.5, 15˚.1S±0˚.1×173˚.5W±0˚.1, h30km, n75, σ1§23/63, mb4.3/22, MS3.9/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.00**	**56**	*eP*		Pn	Pn	05 09 38.8	-7.2
AFI				*eSn*		Sn	Sn	05 08 59.5	-11
AFI	**Afiamalu**	**2.00**	**56**	Pn		Pn	Pn	05 08 36.6	-9.4
	22nm,0.3s,baz=225,slow=7.1,SNR=2.3								
AFI				Sn		Sn	Sn	05 08 59.1	-11
	228nm,0.3s,baz=37,slow=19,SNR=5.5								
AFI				LR		LR	LR	05 09 17.7	
	comp=Z,863nm,19.2s,baz=290,slow=32								
RAR	**Rarotonga**	**14.40**	**117**	Pn		**Pn**	**Pn**	**05 11 35.0**	**-0.9**
RAR	**Rarotonga**	**14.40**	**117**	Pn		**Pn**	**Pn**	**05 11 35.0**	**-0.9**
	0.8nm,0.3s,baz=270,slow=14,SNR=2.2								
RAO	**Raoul Island**	**14.72**	**195**	LR		LR	LR	05 16 35.2	
	comp=Z,278nm,20.3s,baz=9.9,slow=34								
DZM	**Mont Dzumac**	**20.26**	**247**	*eP*		**P**	**P**	**05 12 48.4**	**+1.1**
	30nm,1.4s								
DZM	**Mont Dzumac**	**20.26**	**247**	P		**P**	**P**	**05 12 48.5**	**+1.2**
	15nm,1.2s,baz=112,slow=18,SNR=3.5								
URZ	**Urewera**	**24.57**	**198**	LR		LR	LR	05 22 00.6	
	comp=Z,289nm,18.6s,baz=12,slow=34								
H11S2	**WAKE ISLAND Hy**	**38.62**	**329**	T		T	T	05 56 16.2	
	baz=152,slow=0.7,SNR=4.8								
H11S3	**WAKE ISLAND Hy**	**38.63**	**329**	T		T	T	05 56 30.0	
	baz=152,slow=0.7,SNR=5.0								
H11S1	**WAKE ISLAND Hy**	**38.64**	**329**	T		T	T	05 56 26.0	
	baz=152,slow=0.7,SNR=5.8								
H11N3	**WAKE ISLAND Hy**	**39.57**	**330**	T		T	T	05 56 60.0	
	baz=152,slow=0.7,SNR=7.3								
H11N1	**WAKE ISLAND Hy**	**39.57**	**330**	T		T	T	05 56 55.1	
	baz=152,slow=0.7,SNR=5.9								
H11N2	**WAKE ISLAND Hy**	**39.59**	**330**	T		T	T	05 56 58.9	
	baz=152,slow=0.7,SNR=6.8								
STKA	**Stephens Creek**	**44.14**	**240**	*eP*		**P**	**P**	**05 16 22.2**	**+2.0**
	17nm,2.5s								
STKA	**Stephens Creek**	**44.14**	**240**	P		**P**	**P**	**05 16 20.3**	**+0.1**
	0.7nm,0.3s,baz=135,slow=10.0,SNR=1.8								
WRAB	**Tennant Creek**	**49.84**	**256**	*eP*		**P**	**P**	**05 17 03.0**	**-1.9**
	1.8nm,0.5s								
WRA	**Warramunga Arr**	**49.85**	**256**	P		**P**	**P**	**05 17 02.6**	**-2.3**
WRA	**Warramunga Arr**	**49.85**	**256**	P		**P**	**P**	**05 17 02.6**	**-2.3**
	1.5nm,0.6s,baz=89,slow=7.2,SNR=19								
AS31	**Alice Springs**	**50.14**	**252**	*eP*		**P**	**P**	**05 17 04.7**	**-2.5**
ASAR	**Alice Springs**	**50.14**	**252**	P		**P**	**P**	**05 17 04.8**	**-2.4**
ASAR	**Alice Springs**	**50.14**	**252**	P		**P**	**P**	**05 17 04.8**	**-2.4**
	8.2nm,0.6s,baz=86,slow=8.0,SNR=29								
FITZ	**Fitzroy Crossi**	**58.20**	**258**	LR		LR	LR	05 40 19.9	
	comp=Z,83nm,19.5s,baz=99,slow=33								
SBA	**Scott Base**	**63.59**	**185**	*eP*		**P**	**P**	**05 18 43.8**	**+2.2**
	18nm,2.0s								
VNDA	**Vanda**	**63.72**	**186**	*eP*		**P**	**P**	**05 18 43.7**	**+1.3**
	9.6nm,1.8s								
VNDA	**Vanda**	**63.72**	**186**	P		**P**	**P**	**05 18 43.8**	**+1.3**
	0.5nm,0.7s,baz=357,slow=6.4,SNR=4.1								
PFO	**Pinyon Flat Ob**	**72.74**	**47**	LR		LR	LR	05 44 01.8	
	comp=Z,134nm,18.7s,baz=219,slow=30								
QSPA	**South Pole Qui**	**74.99**	**180**	*eP*		**P**	**P**	**05 19 53.2**	**+0.7**
	3.0nm,0.9s								
KSRS	**Korea Array**	**75.85**	**316**	P		**P**	**P**	**05 19 59.1**	**+1.4**
	1.4nm,1.0s,baz=119,slow=9.9,SNR=4.1								
KSAR	**Wonju Array Be**	**75.87**	**316**	P		**P**	**P**	**05 19 59.1**	**+1.3**
HLID	**Hailey**	**79.41**	**39**	*eP*		**P**	**P**	**05 20 17.6**	**-0.1**
	3.9nm,1.0s								
JLU	**Jordanelle**	**79.76**	**43**	*eP*		**P**	**P**	**05 20 19.9**	**+0.1**
	2.4nm,0.9s								
PV10	**Paradox Valley**	**80.33**	**46**	*eP*		**P**	**P**	**05 20 23.6**	**+0.7**
TXAR	**Lajitas Array**	**80.48**	**56**	P		**P**	**P**	**05 20 25.9**	**+2.2**
TXAR	**Lajitas Array**	**80.48**	**56**	P		**P**	**P**	**05 20 25.9**	**+2.2**
	0.9nm,0.8s,baz=219,slow=7.7,SNR=9.4								
ANMO	**Albuquerque**	**80.64**	**50**	*eP*		**P**	**P**	**05 20 25.6**	**+1.1**
	1.3nm,0.9s								
ANMO	**Albuquerque**	**80.64**	**50**	P		**P**	**P**	**05 20 24.1**	**-0.4**
	1.2nm,0.6s,baz=186,slow=4.4,SNR=3.2								
MCK	**McKinley**	**80.80**	**11**	*eP*		**P**	**P**	**05 20 24.0**	**-0.4**
	8.4nm,1.1s								
RRI2	**Red Ridge**	**81.22**	**41**	*eP*		**P**	**P**	**05 20 28.2**	**+0.7**
	5.1nm,1.1s								
TPAW	**Teton Pass**	**81.52**	**41**	*eP*		**P**	**P**	**05 20 30.6**	**+1.5**
	5.2nm,1.1s								
IMW	**Indian Meadow**	**81.73**	**40**	*eP*		**P**	**P**	**05 20 30.4**	**+0.1**
	3.8nm,1.1s								
COLA	**College**	**82.03**	**11**	*eP*		**P**	**P**	**05 20 29.6**	**-1.3**
	27nm,0.9s								
PDAR	**Pinedale Array**	**82.06**	**42**	P		**P**	**P**	**05 20 31.2**	**-0.7**
PDAR	**Pinedale Array**	**82.06**	**42**	P		**P**	**P**	**05 20 31.2**	**-0.7**
	1.2nm,0.7s,baz=203,slow=4.9,SNR=8.7								
ILAR	**Eielson Array**	**82.12**	**11**	P		**P**	**P**	**05 20 30.1**	**-1.3**
ILAR	**Eielson Array**	**82.12**	**11**	P		**P**	**P**	**05 20 30.1**	**-1.3**
	0.6nm,0.8s,baz=228,slow=7.4,SNR=7.6								
SDCO	**Great Sand Dun**	**82.54**	**48**	*eP*		**P**	**P**	**05 20 36.3**	**+1.7**
	10nm,1.9s								
ABTX	**Abilene, Hawle**	**84.92**	**54**	*eP*		**P**	**P**	**05 20 46.6**	**0.0**
MAW	**Mawson**	**88.10**	**199**	P		**P**	**P**	**05 20 59.8**	**-1.7**
	2.6nm,0.8s,baz=99,slow=13,SNR=4.8								
YKA	**Yellowknife Ar**	**89.81**	**23**	P		**P**	**P**	**05 21 10.1**	**+0.7**
YKA	**Yellowknife Ar**	**89.81**	**23**	P		**P**	**P**	**05 21 10.1**	**+0.7**
	1.3nm,0.8s,baz=234,slow=4.2,SNR=3.1								
ARCES	**ARCESS Array B**	**124.25**	**352**	PKP		**PKPdf**	**PKPdf**	**05 27 07.7**	**-1.6**
ARCES	**ARCESS Array B**	**124.25**	**352**	PKP		**PKPdf**	**PKPdf**	**05 27 07.7**	**-1.6**
	4.2nm,1.0s,baz=21,slow=7.7,SNR=4.0								
AKASG	**Malin Array Be**	**139.99**	**338**	PKP		**PKPdf**	**PKPdf**	**05 27 38.7**	**-0.8**
AKASG	**Malin Array Be**	**139.99**	**338**	PKP		**PKPdf**	**PKPdf**	**05 27 38.7**	**-0.8**
	0.3nm,0.4s,baz=16,slow=2.1,SNR=3.0								
DPC	**Dobruska-Polom**	**143.90**	**349**	ePKP		**PKPdf**	**PKPdf**	**05 27 46.1**	**-0.5**
VRAC	**Vranov**	**144.85**	**349**	PKP		**PKPdf**	**PKPdf**	**05 27 48.5**	**+0.3**
VRAC	**Vranov**	**144.85**	**349**	PKP		**PKPdf**	**PKPdf**	**05 27 48.5**	**+0.3**
	3.0nm,0.5s,baz=0.0,slow=5.1,SNR=2.5								
MLR	**Muntele Rosu**	**145.52**	**336**	PKPbc		**PKPab**	**PKPab**	**05 27 50.5**	**+0.6**
MLR	**Muntele Rosu**	**145.52**	**336**	PKPbc		**PKPab**	**PKPab**	**05 27 50.5**	**+0.6**
	1.5nm,1.0s,baz=326,slow=3.6,SNR=4.1								
KHC	**Kasperske Hory**	**145.52**	**352**	*e*PKP		**PKPab**	**PKPab**	**05 27 50.5**	**+0.7**
KHC	**Kasperske Hory**	**145.52**	**352**	*e*PKPdf		**PKPab**	**PKPab**	**05 27 50.4**	**+0.7**
KMBO	**Kilima Mbogo**	**145.61**	**245**	PKPbc		**PKPbc**	**PKPbc**	**05 27 51.2**	**+0.1**
KMBO	**Kilima Mbogo**	**145.61**	**245**	PKPbc		**PKPbc**	**PKPbc**	**05 27 51.2**	**+0.1**
	0.5nm,0.3s,baz=126,slow=8.7,SNR=2.2								
GERES	**GERESS Array B**	**145.78**	**352**	PKPbc		**PKPab**	**PKPab**	**05 27 51.0**	**+0.2**
GERES	**GERESS Array B**	**145.78**	**352**	PKPbc		**PKPab**	**PKPab**	**05 27 51.0**	**+0.2**
	1.1nm,0.6s,baz=28,slow=3.2,SNR=12								
BR131	**Keskin Array S**	**145.84**	**321**	*e*PKPdf		**PKPab**	**PKPab**	**05 27 51.0**	**-0.3**
BRTR	**Keskin Array B**	**145.84**	**321**	PKPbc		**PKPab**	**PKPab**	**05 27 51.0**	**-0.3**
BRTR	**Keskin Array B**	**145.84**	**321**	PKPbc		**PKPab**	**PKPab**	**05 27 51.0**	**-0.3**
	2.4nm,0.7s,baz=90,slow=2.7,SNR=14								
DAVOX	**Davos/Dischmat**	**148.24**	**356**	PKPbc		**PKPbc**	**PKPbc**	**05 27 57.5**	**0.0**
DAVOX	**Davos/Dischmat**	**148.24**	**356**	PKPbc		**PKPbc**	**PKPbc**	**05 27 57.5**	**0.0**
	2.6nm,0.6s,baz=328,slow=6.2,SNR=8.2								
ESDC	**Sonseca Array**	**153.80**	**19**	PKPab		**PKPab**	**PKPab**	**05 28 23.5**	**-0.1**
ESDC	**Sonseca Array**	**153.80**	**19**	PKPab		**PKPab**	**PKPab**	**05 28 23.5**	**-0.1**
	0.1nm,0.3s,baz=337,slow=5.6,SNR=5.4								
TORD	**Torodi Ar. Bea**	**174.95**	**111**	PKP		**PKPdf**	**PKPdf**	**05 28 21.0**	**-1.1**
TORD	**Torodi Ar. Bea**	**174.95**	**111**	PKP		**PKPdf**	**PKPdf**	**05 28 21.0**	**-1.1**
	0.9nm,0.9s,baz=35,slow=3.2,SNR=4.3								

*LDG **03** 05:20:52.4±0.1, 30˚.31N×80˚.12E, h10km, Mb4.6/20, Ms2.7/2, Error ellipse: s-maj=23.0km s-min=3.4km az=37.0*
*IDC **03** 05:20:53.0±0.5, 29˚.93N×79˚.89E, h0km, mb4.3/34, mb1 4.4/36,mb1mx4.3/42,mbtmp4.3/36,ML3.9/2,MS3.4/6, Ms1 3.4/6,ms1mx3.0/50,Error ellipse: s-maj=13.7km s-min=11.0km az=37.0*

*NDI **03** 05:20:54.7±2.6, 30˚.00N×79˚.86E, h16km±8km, ML4.8, mb4.8(NEIC)*
*BJI **03** 05:20:56.7, 30˚.14N×79˚.94E, h27km, mB4.7/17, mb4.4/27, Ms4.2/9, Ms7 3.8/6*
*DMN **03** 05:20:56.0±0.3, 30˚.28N×79˚.77E, h10km, Ml5.1/11, Error ellipse: s-maj=20.8km s-min=5.4km az=26.0*
*ISCJB **03** 05:20:57.5±0.3, 29˚.98N±0˚.02×79˚.91E±0˚.02, h44km±3km, mb4.4/65, MS3.5/6, Error ellipse: s-maj=4.1km s-min=2.3km az=21.5*
*NEIC **03** 05:20:58.7±0.6, 30˚.00N×79˚.85E, h36km±5km, mb4.8/28, Error ellipse: s-maj=5.7km s-min=3.2km az=211.0*
NEIC Felt in Almora, Bageshwar and Pithoragarh.
*NNC **03** 05:21:06.1±1.9, 31˚.21N×79˚.43E, h0km, mb4.1, Error ellipse: s-maj=22.3km s-min=17.0km az=98.0*
ISC 03 05:20:57.2±0.5, 30˚.02N±0˚.03×79˚.83E±0˚.02, h25km±3km, n221, σ1§55/273, mb4.5/65, MS3.4/6, 24C-17D, Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ABI	**ADIBADRI**	**0.55**	**284**	⇑	*eP*		**Pb**	**05 21 06.7**	**-1.8**
ABI					*e*	4	**Sb**	**05 21 12.9**	**-3.2**
PTH	**Pithoragarh**	**0.58**	**144**		*eS*		**Pb**	**05 21 07.3**	**-1.6**
LGTI	**Lohaghat**	**0.67**	**147**		*ex*		**Pb**	**05 21 09.6**	**-0.8**
LGTI					*eS*		**Sb**	**05 21 17.4**	**-1.9**
GKD	**Gaurikund**	**0.93**	**310**		*eP*		**Pb**	**05 21 13.4**	**-1.5**
GKD					*e*	4	x	05 21 18.7	
GTU	**Guttu**	**1.06**	**299**		*eP*		**Pn**	**05 21 15.9**	**-0.9**
GTU					*i*	4	**Sb**	**05 21 29.5**	**-1.2**
DDI	**Dehra Dun**	**1.56**	**282**	⇓	*eP*		**Pb**	**05 21 26.8**	**+1.3**
DDI					*eS*		**Sb**	**05 21 47.7**	**+2.8**
DDI					AML		AML	05 21 54.3	
	comp=N,23μm,0.6s								
DDI					AML		AML	05 21 57.0	
	comp=E,14μm,0.3s								
CKA	**Chakrata**	**1.83**	**293**	⇓	*eP*		**Pb**	**05 21 29.9**	**-0.3**
CKA					*eS*		**Sb**	**05 21 54.5**	**+1.7**
NHN	**Nahan**	**2.27**	**284**	⇓	*eP*		**Pb**	**05 21 36.1**	**-1.4**
NHN					*eS*		**Sb**	**05 22 04.1**	**-1.1**
SMLA	**Simla**	**2.55**	**296**		*eP*		**Pn**	**05 21 39.5**	**+2.5**
SMLA					*eS*		**Sb**	**05 22 11.4**	**-1.8**
KKR	**Kurukshetra**	**2.61**	**270**		*eP*		**Pb**	**05 21 41.1**	**-2.2**
KKR					*eS*		**Sn**	**05 22 11.4**	**+2.6**
NDI	**New Delhi**	**2.64**	**240**		*eP*		**Pn**	**05 21 40.0**	**+1.7**
NDI					*eS*		**Sn**	**05 22 12.0**	**+2.5**
AYAN	**Aya Nagar**	**2.81**	**238**		*eP*		**Pn**	**05 21 43.6**	**+2.9**
BHGR	**Bahadurgarh**	**2.85**	**243**		*eP*		**Pn**	**05 21 43.3**	**+2.2**
SDNR	**Sundarnagar**	**2.87**	**302**		*eP*		**Pb**	**05 21 45.6**	**-2.2**
SDNR					*eS*		**Sb**	**05 22 21.0**	**-1.5**
SONA	**Sohna**	**2.98**	**234**		*eP*		**Pn**	**05 21 45.8**	**+2.9**
SONA					*eS*		**Sn**	**05 22 19.1**	**+1.2**
RTK	**Rohtak**	**3.13**	**253**		*e*4		**Pb**	**05 21 52.1**	**-0.1**
AGRA	**Agra**	**3.23**	**211**		*eP*		**Pn**	**05 21 47.0**	**+0.6**
AGRA					*eS*		**Sn**	**05 22 24.1**	**0.0**
AGRA					*eS*		Sb	05 22 26.1	-6.8
BHK	**Bhakra**	**3.25**	**296**		*e*4		**Pb**	**05 21 52.8**	**-1.5**
BHK					*e*4		Sb	05 22 41.2	+7.8
KUDL	**Kundal**	**3.47**	**238**		*eP*		**Pn**	**05 21 51.1**	**+1.5**
KUDL					*eS*		**Sn**	**05 22 31.4**	**+1.5**
DHRM	**DHARAMSHALA**	**3.75**	**307**		*eP*		**Pn**	**05 21 54.1**	**+0.2**
DHRM					*eS*		**Sn**	**05 22 39.4**	**+2.0**
DANN	**Dangsing**	**3.82**	**115**		*ePn*		**Pn**	**05 21 55.9**	**+1.1**
DANN					*eSn*		**Sn**	**05 22 39.5**	**+0.4**
	comp=E,1μm,0.5s								
KOLN	**Koldanda**	**4.00**	**123**		*ePn*		**Pn**	**05 21 58.1**	**+1.0**
KOLN					*eSn*		**Sn**	**05 22 44.6**	**+1.3**
	comp=E,874nm,0.5s								
THN	**Thein Dam**	**4.26**	**305**		*eP*		**Pn**	**05 22 01.0**	**+0.4**
THN					*eS*		**Sn**	**05 22 51.5**	**+1.9**
JHNI	**Jhansi**	**4.68**	**194**		*eP*		**Pn**	**05 22 06.0**	**-0.3**
JHNI					*i*	S	**Sn**	**05 22 59.0**	**-0.8**
DMN	**Daman**	**5.22**	**116**		*ePn*		**Pn**	**05 22 14.2**	**+0.2**
DMN					*eSn*		**Sn**	**05 23 13.0**	**-0.5**
	comp=E,344nm,0.4s								
KKN	**Kakani**	**5.27**	**114**		*ePn*		**Pn**	**05 22 14.9**	**+0.2**
KKN					*eSn*		**Sn**	**05 23 13.7**	**-1.1**
	comp=E,326nm,0.3s								
PKIN	**Phulchoki**	**5.46**	**115**		*ePn*		**Pn**	**05 22 17.3**	**0.0**
PKIN					*eSn*		**Sn**	**05 23 18.2**	**-1.3**
	comp=E,330nm,0.3s								
PKI	**Pulchoki**	**5.47**	**115**		*ePn*		**Pn**	**05 22 17.5**	**0.0**
PKI					*eSn*		**Sn**	**05 23 18.8**	**-1.1**
	comp=E,332nm,0.3s								
GUN	**Gumba**	**5.70**	**110**		*ePn*		**Pn**	**05 22 21.0**	**+0.3**
GUN					*eSn*		**Sn**	**05 23 23.9**	**-1.7**
	comp=E,456nm,0.4s								
JIRN	**Jiri**	**6.06**	**111**		*ePn*		**Pn**	**05 22 25.9**	**+0.3**
JIRN					*eSn*		**Sn**	**05 23 32.0**	**-2.3**
	comp=E,499nm,0.3s								
SARP	**Sargodha**	**6.43**	**289**		P		Pn	05 22 35.5	+5.1
CHCP	**Chirah Chowk**	**6.66**	**305**		P		**Pn**	**05 22 35.8**	**+2.2**
RAMN	**Ramite**	**6.70**	**116**		*ePn*		**Pn**	**05 22 34.0**	**-0.3**
RAMN					*eSn*		**Sn**	**05 23 47.9**	**-2.1**
	comp=E,619nm,0.3s								
JBP	**Jabalpur**	**6.83**	**179**	⇓	*iP*		**Pn**	**05 22 36.3**	**+0.5**
JBP					*eS*		**Sn**	**05 23 49.2**	**-3.6**
ODAN	**Odare**	**7.36**	**113**		*ePn*		**Pn**	**05 22 43.4**	**-0.1**
ODAN					*eSn*		**Sn**	**05 24 03.5**	**-2.9**
	comp=E,311nm,0.4s								
TAPN	**Taplejung**	**7.42**	**109**		*ePn*		**Pn**	**05 22 44.7**	**+0.5**
TAPN					*eSn*		**Sn**	**05 24 04.1**	**-3.7**
	comp=E,387nm,0.7s								
CEP	**Cherat**	**7.72**	**301**		P		**Pn**	**05 22 50.1**	**+1.8**
CEP					S		**Sn**	**05 24 14.0**	**-1.1**
JASL	**Jaisalmer**	**8.44**	**251**		*eP*		**Pn**	**05 22 56.6**	**-1.4**
NGP	**Nagpur**	**8.86**	**185**		*eP*		Pn	05 23 00.4	-3.4
NGP					*eS*		Sn	05 24 34.3	-8.6
AKL	**Akola**	**9.62**	**196**		*eP*		**Pn**	**05 23 12.5**	**-1.6**
AKL					*eS*		Sn	05 24 52.4	-9.1
LSA	**Lhasa**	**9.84**	**89**		P		**Pn**	**05 23 18.3**	**+0.7**
LSA					AMB		AMB		
	comp=E,30nm,0.8s								
LSA	**Lhasa**	**9.84**	**89**		*ePn*		**Pn**	**05 23 18.2**	**+0.7**
	comp=E,25nm,0.6s								
KSH	**Kashi**	**9.99**	**343**		P		**Pn**	**05 23 16.5**	**-2.8**
KSH					S		Sn	05 24 59.4	-11
KSH					SMN				
	comp=E,63nm,0.8s								
KSH					SME				
	comp=E,55nm,0.5s								
KBL	**Kabul**	**10.18**	**299**		*ePn*		**Pn**	**05 23 22.4**	**+0.4**
KBL					*eSn*		**Sn**	**05 25 17.3**	**+1.8**
HYB	**Hyderabad**	**12.60**	**186**		*i* P		Pn	05 23 51.0	-4.0
HYB					*e*			05 26 04.0	
HYB					*eS*		**Sn**	**05 26 16.0**	**+1.4**
POO	**Poona**	**12.67**	**207**		*eP*		**Pn**	**05 23 53.0**	**-3.0**
POO					*ex*		x	05 24 10.0	
POO					*i*	x	x	05 26 05.0	
AAK	**Ala-Archa**	**13.30**	**343**		*ePn*		**Pn**	**05 24 03.9**	**-0.7**
AAK					Sn		Sn	05 26 23.4	-8.3
AAK					*eSn*		S	05 26 31.8	-24
AAK	**Ala-Archa**	**13.30**	**343**		Pn		**Pn**	**05 24 03.8**	**-0.7**
	comp=E,1.2nm,0.3s,baz=148,slow=12,SNR=10								
AAK					Sn		Sn	05 26 23.4	-8.3
	comp=E,0.2nm,0.3s,baz=167,slow=18,SNR=2.7								
AAK					LR		LR	05 29 56.6	
	comp=E,97nm,19.2s,baz=277,slow=41								
TKM2	**Tokmak 2**	**13.32**	**346**	⇑	Pn		**Pn**	**05 24 06.0**	**+1.1**
	comp=E,2.1nm,0.6s								
TKM2				⇑	Sn		**Sn**	**05 26 27.2**	**-5.0**
	comp=E,6.2nm,1.1s								
TKM2	**Tokmak 2**	**13.32**	**346**		*ePn*		**Pn**	**05 24 06.5**	**+1.6**
EKS2	**Erkin-Say**	**13.52**	**341**		*ePn*		**Pn**	**05 24 09.1**	**+1.5**
KK31	**Karatay Array**	**15.04**	**333**	⇑	Pn		**Pn**	**05 24 25.3**	**-2.8**
	comp=E,3.1nm,0.5s,baz=140,slow=9.7,SNR=56								
KK31					Sn		Sn	05 27 03.4	-11
	comp=E,6.1nm,0.5s,baz=146,slow=20,SNR=15								
KKAR	**Karatay Array**	**15.04**	**333**		*eP*		**Pn**	**05 24 25.1**	**-3.0**
KKAR					*eS*		Sn	05 27 04.0	-10
WMQ	**Urumqi**	**15.13**	**22**		P		**P**	**05 24 32.1**	**-2.3**
WMQ					pP		**pP**	**05 24 37.8**	**-3.3**
WMQ					sP		**sP**	**05 24 42.0**	**-2.3**
WMQ					PP		**pwP**	**05 24 44.3**	**+3.2**
WMQ					S		**Sn**	**05 27 19.4**	**+3.1**
WMQ					sS		**S**	**05 27 28.3**	**-4.7**
WMQ					AMB		AMB		
	comp=E,14nm,0.6s								
WMQ					AMB		AMB		
	comp=E,120nm,3.8s								
WMQ					LR		LR		
	comp=E,260nm,5.2s								
WMQ					LR		LR		
	comp=E,220nm,6.2s								
MK31	**Makanchi Array**	**16.86**	**6**	⇓	Pn		**Pn**	**05 24 52.2**	**+0.6**
	comp=E,9.9nm,1.1s,baz=183,slow=13,SNR=37								
MK31				⇓	Sn		Sn	05 27 49.4	-8.7
	comp=E,1.8nm,0.7s,baz=189,slow=24,SNR=8.2								
MK31	**Makanchi Array**	**16.86**	**6**		*e*Pn		**Pn**	**05 24 52.6**	**+1.0**
MKAR	**Makanchi Array**	**16.86**	**6**		*e*Pn		**Pn**	**05 24 51.0**	**-0.5**
MKAR					Sn		Sn	05 27 49.8	-8.3
MKAR	**Makanchi Array**	**16.86**	**6**		Pn		**Pn**	**05 24 49.7**	**-1.9**
	comp=E,0.3nm,0.3s,baz=189,slow=13,SNR=13								
MKAR					Sn		Sn	05 27 49.8	-8.3
	comp=E,0.2nm,0.3s,baz=189,slow=23,SNR=5.6								
GTA	**Gaotai**	**18.88**	**55**		*e*P		**P**	**05 25 14.8**	**-1.2**
GTA					pP		**Pn**	**05 25 19.1**	**+2.5**
GTA					sP		**sP**	**05 25 22.5**	**-3.3**
GTA					AMB		AMB		
	comp=E,4.0nm,0.9s								
KURBB	**Kurchatov Arra**	**20.61**	**358**	⇓	P		**P**	**05 25 34.0**	**-0.5**
	comp=E,1.5nm,0.5s								
KURBB	**Kurchatov Arra**	**20.61**	**358**	⇓	P		**P**	**05 25 33.8**	**-0.6**
	comp=E,2.2nm,0.7s,baz=186,slow=10,SNR=27								
CHTO	**Chiang Mai**	**20.64**	**118**		*eP*		**P**	**05 25 36.0**	**+0.9**
	comp=E,17nm,0.6s								
CD2	**Chengdu**	**20.64**	**81**		P		Pn	05 25 36.5	-1.0
CD2					pP		pP	05 25 43.7	+1.8
CD2					sP		sP	05 25 47.5	+2.5
CD2					PP		**PnPn**	**05 25 58.0**	**+4.8**
CD2					S		**S**	**05 29 20.3**	**-4.5**
CD2					sS		Sn	05 29 31.4	+1.6
CD2					SS		**SnSn**	**05 29 51.2**	**+6.7**
CD2					AMB		AMB		
	comp=E,30nm,0.6s								
CD2					AMB		AMB		
	comp=E,170nm,4.9s								
CD2					LR		LR		
	comp=E,380nm,4.2s								
CD2					LR		LR		
	comp=E,220nm,7.1s								
KURK	**Kurchatov**	**20.70**	**358**	⇑	P		**P**	**05 25 34.8**	**-0.7**
	comp=E,2.4nm,0.7s								
KURK	**Kurchatov**	**20.70**	**358**		*eP*		**P**	**05 25 34.8**	**-0.7**
	comp=E,4.2nm,0.9s								
CM31	**Chiang Mai Arr**	**20.85**	**119**		*eP*		**P**	**05 25 37.6**	**+0.2**
	comp=E,4.3nm,0.5s								
CMAR	**Chiang Mai Arr**	**20.85**	**119**		P		**P**	**05 25 36.9**	**-0.5**
CMAR	**Chiang Mai Arr**	**20.85**	**119**		P		**P**	**05 25 36.9**	**-0.5**
	comp=E,6.2nm,

ARCES			PcP	PcP	05 31 08.4	-0.1	
ARCES	**ARCESS Array B**	**49.92 338**	P	P	05 29 49.3	+0.8	
	comp=E,7.5nm,0.7s,baz=117,slow=8.1,SNR=38						
ARCES			PcP	PcP	05 31 08.4	-0.1	
	comp=E,2.6nm,0.8s,baz=116,slow=5.3,SNR=2.7						
MORC	**Moravsky Berou**	**50.17 312**	*e*P	P	05 29 51.3	+0.5	
	comp=E,1.7nm,0.5s						
KMBO	**Kilima Mbogo**	**51.03 240**	P	P	05 29 58.9	+1.0	
KMBO	**Kilima Mbogo**	**51.03 240**	P	P	05 29 58.9	+1.0	
	comp=E,1.5nm,0.7s,baz=67,slow=18,SNR=4.2						
GERES	**GERESS Array B**	**52.73 311**	P	P	05 30 10.8	+0.8	
GERES	**GERESS Array B**	**52.73 311**	P	P	05 30 10.8	+0.8	
	comp=E,0.9nm,0.5s,baz=85,slow=6.8,SNR=11						
NB2	**NORSAR Subarra**	**53.93 326**	P	P	05 30 18.2	-0.4	
	comp=Z,3.1nm,0.7s,baz=93,slow=7.4						
NOA	**NORSAR Array B**	**53.93 326**	P	P	05 30 18.4	-0.1	
NOA	**NORSAR Array B**	**53.93 326**	P	P	05 30 18.4	-0.1	
	comp=Z,2.2nm,0.7s,baz=93,slow=7.3,SNR=8.6						
SPITS	**Spitsbergen Ar**	**55.46 347**	P	P	05 30 29.0	-0.4	
SPITS	**Spitsbergen Ar**	**55.46 347**	P	P	05 30 29.0	-0.4	
	comp=Z,7.0nm,0.6s,baz=112,slow=9.1,SNR=7.7						
DAVOX	**Davos/Dischmat**	**55.53 308**	P	P	05 30 30.2	-0.4	
DAVOX	**Davos/Dischmat**	**55.53 308**	P	P	05 30 30.2	-0.4	
	comp=Z,2.3nm,0.6s,baz=90,slow=8.7,SNR=6.2						
CDF	**Champ du Feu**	**57.01 311**	*e*P	P	05 30 41.4	+0.4	
CDF	**Champ du Feu**	**57.01 311**	*e*P	P	05 30 41.4	+0.4	
SENIN	**Lac Senin/Sane**	**57.36 308**	*e*P	P	05 30 43.9	+0.3	
HAU	**Haudompre**	**57.69 310** ⇑*i*P		P	05 30 45.7	0.0	
	comp=Z,10.0nm,0.8s						
HAU	**Haudompre**	**57.69 310** ⇑*i*P		P	05 30 45.7	0.0	
	comp=Z,10.0nm,0.8s						
SBF	**Sospel**	**57.76 305** ⇑*i*P		P	05 30 46.4	+0.1	
	comp=Z,28nm,0.9s						
SBF	**Sospel**	**57.76 305** ⇑*i*P		P	05 30 46.4	+0.1	
	comp=Z,28nm,0.9s						
LPG	**La Plagne**	**57.90 307** ⇑*i*P		P	05 30 48.0	+0.5	
	comp=Z,22nm,0.8s						
LPG	**La Plagne**	**57.90 307** ⇑*i*P		P	05 30 48.0	+0.5	
	comp=Z,22nm,0.8s						
LPL	**La Plagne**	**57.91 307** ⇑*i*P		P	05 30 48.0	+0.5	
	comp=Z,26nm,0.6s						
LPL	**La Plagne**	**57.91 307** ⇑*i*P		P	05 30 48.0	+0.5	
	comp=Z,26nm,0.6s						
MBDF	**Montbardon**	**58.04 307** *e*P		P	05 30 47.9	-0.5	
	comp=Z,8.2nm,0.8s						
MBDF	**Montbardon**	**58.04 307** *e*P		P	05 30 47.9	-0.5	
	comp=Z,8.2nm,0.8s						
CABF	**La Chapelle**	**58.13 309** *e*P		P	05 30 49.1	+0.2	
CABF	**La Chapelle**	**58.13 309** *e*P		P	05 30 49.1	+0.2	
GIVF	**Givet**	**58.31 313** *e*P		P	05 30 49.9	-0.1	
GIVF	**Givet**	**58.31 313** *e*P		P	05 30 49.9	-0.1	
KEST	**Kesra**	**58.32 296** P		P	05 30 50.0	-0.4	
KEST	**Kesra**	**58.32 296** P		P	05 30 50.0	-0.4	
	comp=Z,2.0nm,0.8s,baz=264,slow=9.4,SNR=4.4						
FRF	**La Foret Royal**	**58.38 305** *e*P		P	05 30 50.4	-0.2	
	comp=Z,7.3nm,0.6s						
FRF	**La Foret Royal**	**58.38 305** *e*P		P	05 30 50.4	-0.2	
	comp=Z,7.3nm,0.6s						
MEZF	**Maizieres J'vi**	**58.45 311** *e*P		P	05 30 51.1	+0.1	
MEZF	**Maizieres J'vi**	**58.45 311** *e*P		P	05 30 51.1	+0.1	
VIVF	**Saint-Julien-l**	**59.47 307** *e*P		P	05 30 58.3	+0.1	
	comp=Z,6.2nm,0.7s						
VIVF	**Saint-Julien-l**	**59.47 307** *e*P		P	05 30 58.3	+0.1	
	comp=Z,6.2nm,0.7s						
PETK	**Petropavlovsk-**	**59.54 43** P		P	05 30 58.3	-0.2	
PETK	**Petropavlovsk-**	**59.54 43** P		P	05 30 58.3	-0.2	
	comp=Z,2.3nm,0.8s,baz=287,slow=9.8,SNR=2.5						
SMF	**Signal de Mont**	**59.64 309** *e*P		P	05 30 59.2	-0.1	
	comp=Z,3.7nm,0.6s						
SMF	**Signal de Mont**	**59.64 309** *e*P		P	05 30 59.2	-0.1	
	comp=Z,3.7nm,0.6s						
SSF	**Saint Saulge**	**59.77 310** *e*P		P	05 30 59.5	-0.7	
	comp=Z,3.3nm,0.4s						
SSF	**Saint Saulge**	**59.77 310** *e*P		P	05 30 59.5	-0.7	
	comp=Z,3.3nm,0.4s						
AVF	**Avril sur Loir**	**59.93 309** ⇑*i*P		P	05 31 01.0	-0.3	
	comp=Z,4.1nm,0.5s						
AVF	**Avril sur Loir**	**59.93 309** ⇑*i*P		P	05 31 01.0	-0.3	
	comp=Z,4.1nm,0.5s						
TCF	**Toulx Ste Croi**	**60.82 309** ⇑*i*P		P	05 31 07.6	+0.2	
	comp=Z,9.6nm,0.9s						
TCF	**Toulx Ste Croi**	**60.82 309** ⇑*i*P		P	05 31 07.6	+0.2	
	comp=Z,9.6nm,0.9s						
CAF	**Calviac**	**61.25 308** *e*P		P	05 31 10.2	-0.2	
	comp=Z,5.1nm,0.8s						
CAF	**Calviac**	**61.25 308** *e*P		P	05 31 10.2	-0.2	
	comp=Z,5.1nm,0.8s						
RJF	**Les Rejaudoux**	**61.53 308** *e*P		P	05 31 12.1	-0.1	
RJF	**Les Rejaudoux**	**61.53 308** *e*P		P	05 31 12.1	-0.1	
LDF	**La Druitiere**	**61.79 312** *e*P		P	05 31 13.6	-0.3	
	comp=Z,4.7nm,0.5s						
LDF	**La Druitiere**	**61.79 312** *e*P		P	05 31 13.6	-0.3	
	comp=Z,4.7nm,0.5s						
FLN	**La Foliniere**	**61.98 312** *e*P		P	05 31 15.6	+0.5	
FLN	**La Foliniere**	**61.98 312** *e*P		P	05 31 15.6	+0.5	
MFF	**Saint Martin d**	**62.31 310** *e*P		P	05 31 17.0	-0.4	
	comp=Z,6.8nm,0.7s						
MFF	**Saint Martin d**	**62.31 310** *e*P		P	05 31 17.0	-0.4	
	comp=Z,6.8nm,0.7s						
GRR	**Gorron**	**62.31 312** *e*P		P	05 31 16.9	-0.5	
	comp=Z,10nm,0.7s						
GRR	**Gorron**	**62.31 312** *e*P		P	05 31 16.9	-0.5	
	comp=Z,10nm,0.7s						
EPF	**Esparros**	**62.97 306** *e*P		P	05 31 22.0	+0.1	
EPF	**Esparros**	**62.97 306** *e*P		P	05 31 22.0	+0.1	
SGMF	**Saint Gilles**	**63.44 312** *e*P		P	05 31 24.8	-0.1	
	comp=Z,13nm,0.8s						
SGMF	**Saint Gilles**	**63.44 312** *e*P		P	05 31 24.8	-0.1	
	comp=Z,13nm,0.8s						
ETSF	**Etsaut**	**63.64 306** *e*P		P	05 31 26.8	+0.4	
ETSF	**Etsaut**	**63.64 306** *e*P		P	05 31 26.8	+0.4	
ROSF	**Rostrenen**	**63.88 312** *e*P		P	05 31 27.5	-0.3	
	comp=Z,6.3nm,0.6s						
ROSF	**Rostrenen**	**63.88 312** *e*P		P	05 31 27.5	-0.3	
	comp=Z,6.3nm,0.6s						
QUIF	**Quistinic**	**63.93 312** *e*P		P	05 31 27.5	-0.6	
	comp=Z,6.2nm,0.7s						
QUIF	**Quistinic**	**63.93 312** *e*P		P	05 31 27.5	-0.6	
	comp=Z,6.2nm,0.7s						
LSZ	**Lusaka**	**67.10 235** P		P	05 31 48.2	-0.9	
LSZ	**Lusaka**	**67.10 235** P		P	05 31 48.2	-0.9	
	comp=Z,0.9nm,0.5s,baz=30,slow=8.1,SNR=2.0						
ESDC	**Sonseca Array**	**67.11 304** P		P	05 31 48.9	0.0	
ESDC	**Sonseca Array**	**67.11 304** P		P	05 31 48.9	0.0	
	comp=Z,1.3nm,0.7s,baz=59,slow=7.1,SNR=10						
FX1	**Attu Island--F**	**68.57 41** LR		LR	06 03 22.4		
	comp=Z,172nm,18.2s,baz=347,slow=37						
WRA	**Warramunga Arr**	**72.25 126** P		P	05 32 19.4	-1.2	
WRA	**Warramunga Arr**	**72.25 126** P		P	05 32 19.4	-1.2	
	comp=Z,1.9nm,0.5s,baz=319,slow=6.0,SNR=32						
WRAB	**Tennant Creek**	**72.25 126** *e*P		P	05 32 19.6	-1.1	
	comp=Z,3.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**73.37 276** P		P	05 32 27.0	-0.5	
TORD	**Torodi Ar. Bea**	**73.37 276** P		P	05 32 27.0	-0.5	
	comp=Z,1.8nm,0.7s,baz=49,slow=4.7,SNR=13						
ASAR	**Alice Springs**	**74.46 130** P		P	05 32 32.4	-1.4	
ASAR	**Alice Springs**	**74.46 130** P		P	05 32 32.4	-1.4	
	comp=Z,2.2nm,0.6s,baz=314,slow=6.0,SNR=25						
PMG	**Port Moresby**	**75.58 110** P		P	05 32 40.1	-0.3	
PMG	**Port Moresby**	**75.58 110** P		P	05 32 40.1	-0.3	
	comp=Z,7.0nm,0.7s,baz=346,slow=6.6,SNR=3.5						
SFJD	**Kangerlussuaq**	**76.32 342** P		P	05 32 43.6	0.0	
SFJD	**Kangerlussuaq**	**76.32 342** P		P	05 32 43.6	0.0	
	comp=Z,3.2nm,0.5s,baz=22,slow=5.4,SNR=3.5						
BOSA	**Boshof**	**78.18 227** P		P	05 32 53.9	-0.9	
BOSA	**Boshof**	**78.18 227** P		P	05 32 53.9	-0.9	
	comp=Z,2.6nm,0.7s,baz=34,slow=11,SNR=3.4						
ILAR	**Eielson Array**	**78.76 19** P		P	05 32 56.6	-0.8	
ILAR	**Eielson Array**	**78.76 19** P		P	05 32 56.6	-0.8	
	comp=Z,1.7nm,0.8s,baz=309,slow=5.1,SNR=20						
INK	**Inuvik**	**78.89 12** P		P	05 32 58.0	0.0	
INK	**Inuvik**	**78.89 12** P		P	05 32 58.0	0.0	
	comp=Z,1.8nm,0.8s,baz=342,slow=2.9,SNR=2.8						
CTA	**Charters Tower**	**81.02 119** P		P	05 33 10.2	0.0	
CTA	**Charters Tower**	**81.02 119** P		P	05 33 10.2	0.0	
	comp=Z,2.9nm,0.4s,baz=340,slow=5.1,SNR=8.3						
CTAO	**Charters Tower**	**81.02 119** *e*P		P	05 33 10.3	0.0	
	comp=Z,2.2nm,0.7s						
DBIC	**Dimbokro**	**82.11 273** P		P	05 33 16.6	+0.3	
DBIC	**Dimbokro**	**82.11 273** P		P	05 33 16.6	+0.3	
	comp=Z,4.3nm,0.7s,baz=51,slow=6.4,SNR=5.0						
KDAK	**Kodiak Island**	**82.13 25** P		P	05 33 15.6	0.0	
KDAK	**Kodiak Island**	**82.13 25** P		P	05 33 15.6	0.0	
	comp=Z,7.4nm,0.9s,baz=7.1,slow=8.1,SNR=2.6						
DLBC	**Dease Lake**	**88.41 15** P		P	05 33 47.4	+0.3	
DLBC	**Dease Lake**	**88.41 15** P		P	05 33 47.4	+0.3	
	comp=Z,0.9nm,0.6s,baz=323,slow=10,SNR=3.6						
LPAZ	**La Paz**	**147.65 288** *e*PKPdf		**PKPdf**	05 40 38.9	+0.6	

AUST ***03*** *05:23:07.9±0.8, 8.˚74S×109.˚07E, h0km, Error ellipse: s-maj=13.1km s-min=9.5km az=25.0*
ISCJB ***03*** *05:23:10.6±0.4, 8.˚50S±0.˚06×109.˚05E±0.˚03, h108km±5km, mb3.9/9, Error ellipse: s-maj=9.6km s-min=3.9km az=11.8*
DJA ***03*** *05:23:12.8±0.3, 9.˚S±4.˚×10.˚9E±.˚, h64km±7km, M4.4/24, mb4.6/7, MLv4.3/24*
IDC ***03*** *05:23:41.9±4.6, 7.˚84S×110.˚01E, h397km±51km, mb3.3/9, mb1 3.2/10, mb1mx3.0/26, mbtmp3.2/10, Error ellipse: s-maj=69.3km s-min=12.1km az=46.0*

ISC 03 05:23:11.2±0.8, 8.˚50S±0.˚06×109.˚06E±0.˚04, h101km±8km, n40, σ1°34/50, mb3.9/9, 4C-2D, Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CLJI	**Cilicap**	**0.77**	**357**	P	P	Pn	05 23 30.2	+0.7
CLJI				S	S	Sn	05 23 42.5	-0.6
KPJI	**Karang Pucung**	**1.16**	**354**	P	P	Pn	05 23 33.8	+0.2
KPJI				S	S	Sn	05 23 50.9	+0.5
BJII	**Banjamegara**	**1.32**	**29**	P	P	Pn	05 23 35.7	+0.2
BJII				S	S	Sn	05 23 53.3	-0.5
CISI	**Cisompet, Garu**	**1.55**	**307**	P	P	Pn	05 23 38.3	+0.1
CISI				S	S	Sn	05 23 57.3	-1.4
CISI	**Cisompet, Garu** baz=1.7,SNR=71	**1.55**	**307**	⇑P	P	Pn	05 23 37.8	-0.4
UGM	**Wanagama**	**1.56**	**68**	P	P	Pn	05 23 38.5	+0.2
UGM				S	S	Sn	05 23 58.1	-0.8
UGM	**Wanagama** baz=1.7,SNR=238	**1.56**	**68**	⇑P	P	Pn	05 23 38.5	+0.2
TGJI	**Tegal**	**1.62**	**2**	P	P	Pn	05 23 38.3	-0.7
WOJI	**Wonogiri, Jawa**	**1.96**	**71**	P	P	Pn	05 23 43.0	-0.0
WOJI				S	S	Sn	05 24 07.8	-0.0
PCJI	**Pacitan**	**2.12**	**82**	P	P	Pn	05 23 46.4	+1.1
PCJI				S	S	Sn	05 24 11.0	-0.4
LEM	**Lembang**	**2.19**	**319**	P	P	Pn	05 23 48.5	+2.0
LEM				S	S	Sn	05 24 15.4	+2.0
LEM	**Lembang** baz=2.4,SNR=3.9	**2.19**	**319**	⇓P	P	Pn	05 23 48.6	+2.0
NGJI	**Ngawi**	**2.63**	**65**	P	P	Pn	05 23 54.8	+2.7
NGJI				S	S	Sn	05 24 24.8	+1.3
PWJI	**Pagerwojo**	**2.75**	**80**	P	P	Pn	05 23 54.6	+0.9
PWJI				S	S	Sn	05 24 27.1	+0.6
SJI	**Sawahan**	**2.78**	**74**	P	P	Pn	05 23 55.6	+1.4
DBJI	**Dramaga**	**3.00**	**310**	P	P	Pn	05 23 59.0	+2.0
DBJI				S	S	Sn	05 24 34.1	+1.9
KRKI	**Karangkates**	**3.37**	**85**	P	P	Pn	05 24 02.9	+0.9
KRKI				S	S	Sn	05 24 43.4	+2.2
GRJI	**Gresik**	**3.73**	**65**	P	P	Pn	05 24 08.3	+1.4
GRJI				S	S	Sn	05 24 51.0	+1.1
XMI	**Christmas Isla** baz=3.7,SNR=11	**3.85**	**239**	P	P	Pn	05 24 07.9	-0.5
XMIS	**Christmas Isla** baz=3.8,SNR=49	**3.90**	**239**	⇑P	P	Pn	05 24 08.3	-0.8
GMJI	**Gumukmas**	**4.34**	**87**	P	P	Pn	05 24 16.9	+1.8
KASI	**Kota Agung** 36nm,2.4s,0.3nm	**5.41**	**303**	P	P	Pn	05 24 30.7	+1.2
DNP	**Denpasar** 382nm,0.5s,3.2nm	**6.08**	**92**	P	P	Pn	05 24 40.0	+1.3
SRBI	**Singaraja** 69nm,0.8s,0.4nm	**6.10**	**87**	P	P	Pn	05 24 40.3	+1.4
MDSI	**Maura Dua** 11nm,1.7s,0.1nm	**6.28**	**309**	P	P	Pn	05 24 43.3	+2.0
PPBI	**Pangkal Pinang**	**6.93**	**335**	P	P	Pn	05 24 44.1	-6.2
MTNI	**Mataram** 37nm,1.1s,0.2nm	**7.03**	**92**	P	P	Pn	05 24 52.1	+0.5
EGSI	**Enggano, Bengk**	**7.42**	**294**	P	P	Pn	05 24 57.9	+1.0
GIRL	**Giralia** baz=15,SNR=7.2	**14.92**	**161**	⇓P	P	Pn	05 26 36.3	-0.6
FITZ	**Fitzroy Crossi** baz=19,SNR=5.8	**18.73**	**122**	⇑P	P	Pn	05 27 29.4	+5.7
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=303,slow=11,SNR=9.3	**18.73**	**122**	P	P	Pn	05 27 30.0	+6.3
FITZ				S	S	S	05 30 38.9	-11
WRA	**Warramunga Arr** 0.6nm,0.9s,baz=288,slow=11,SNR=6.2	**26.97**	**118**	P	P	P	05 28 45.9	+2.2
ASAR	**Alice Springs** 0.3nm,0.6s,baz=300,slow=9.1,SNR=6.0	**28.16**	**125**	P	P	P	05 28 56.0	+1.8
SONM	**Songino Array** 0.6nm,0.5s,baz=186,slow=8.0,SNR=4.3	**56.13**	**358**	P	P	P	05 32 38.1	-2.1
MKAR	**Makanchi Array** 2.0nm,0.5s,baz=151,slow=7.8,SNR=32	**59.99**	**339**	P	P	P	05 33 05.5	-1.6
KURBB	**Kurchatov Arra** 1.1nm,0.4s,baz=151,slow=5.8,SNR=14	**64.56**	**339**	P	P	P	05 33 35.8	-1.6
ZALV	**Zalesovo Beam** 2.6nm,0.3s,baz=155,slow=6.6,SNR=7.4	**65.50**	**345**	P	P	P	05 33 41.6	-1.8
BVAR	**Bovoye Array** 1.0nm,0.6s,baz=144,slow=10,SNR=5.4	**69.54**	**336**	P	P	P	05 34 08.7	-0.2
AKTO	**Aktyubinsk** 1.2nm,0.3s,baz=117,slow=4.5,SNR=3.7	**73.45**	**329**	P	P	P	05 34 32.6	+0.1
BRTR	**Keskin Array B** 0.8nm,0.6s,baz=120,slow=7.3,SNR=5.2	**84.34**	**311**	P	P	P	05 35 32.5	0.0

CSEM ***03*** *05:26:23.4, 37.˚49N×21.˚95E, h9km, MD2.8, After ATH*

ATH 03 05:26:23.4, 37.˚49N×21.˚95E, h10km±2km, MD2.8/10, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AMT	**Artemida-Makis**	**0.20**	**283**	*e*PG	P	Pg	05 26 27.4	-0.2
AMT				*e*SG	S	Sg	05 26 30.9	+0.4
AMT	**Artemida-Makis**	**0.20**	**283**	*e*Pg	P	Pg	05 26 27.4	-0.2
AMT				*e*Sg	S	Sg	05 26 30.9	+0.4
ITM	**Ithomi**	**0.31**	**183**	*e*PB	P	Pg	05 26 29.6	-0.1
ITM				*e*SB	S	Sg	05 26 34.0	+0.1
ITM	**Ithomi**	**0.31**	**183**	*e*Pb	P	Pg	05 26 29.6	-0.1
ITM				*e*Sb	S	Sg	05 26 34.0	+0.1
VLX	**Vlachokerasia**	**0.36**	**109**	*e*PB	P	Pg	05 26 30.7	0.0
VLX				*e*SB	S	Sg	05 26 35.5	-0.2
VLX	**Vlachokerasia**	**0.36**	**109**	*e*Pb	P	Pg	05 26 30.7	0.0
VLX				*e*Sb	S	Sg	05 26 35.5	-0.2
GUR	**Goura**	**0.54**	**35**	*e*PB	P	Pg	05 26 33.6	-0.6
GUR				*e*SB	S	Sg	05 26 41.9	+0.4
GUR	**Goura**	**0.54**	**35**	*e*Pg	P	Pg	05 26 33.6	-0.6
GUR				*e*Sb	S	Sg	05 26 41.9	+0.4
KLV	**Kalavryta, Ach**	**0.57**	**16**	*e*PB	P	Pg	05 26 34.2	-0.5
KLV				*e*SB	S	Sg	05 26 42.6	+0.2
KLV	**Kalavryta, Ach**	**0.57**	**16**	*e*Pg	P	Pg	05 26 34.2	-0.5
KLV				*e*Sb	S	Sg	05 26 42.6	+0.2
PYL	**PYLOS**	**0.62**	**196**	*e*PG	P	Pg	05 26 35.0	-0.4
PYL				*e*SB	S	Sg	05 26 44.2	+0.7
PYL	**PYLOS**	**0.62**	**196**	*e*Pg	P	Pg	05 26 35.0	-0.4
PYL				*e*Sb	S	Sg	05 26 44.2	+0.7
RLS	**Riolos of Patr**	**0.68**	**326**	*e*PB	P	Pg	05 26 36.7	0.0
RLS				*e*SB	S	Sg	05 26 46.1	+0.5
RLS	**Riolos of Patr**	**0.68**	**326**	*e*Pb	P	Pg	05 26 36.7	0.0
RLS				*e*Sb	S	Sg	05 26 46.1	+0.5
LAKA	**Lakka**	**0.75**	**2**	*e*PG	P	Pg	05 26 37.3	-0.7
LAKA	**Lakka**	**0.75**	**2**	*e*Pg	P	Pg	05 26 37.3	-0.7
TRIZ	**Trizonia**	**0.88**	**6**	*e*PG	P	Pg	05 26 39.8	-0.6
TRIZ	**Trizonia**	**0.88**	**6**	*e*Pg	P	Pg	05 26 39.8	-0.6
KALE	**Kalithea**	**0.91**	**9**	*e*PG	P	Pg	05 26 40.1	-1.0
KALE	**Kalithea**	**0.91**	**9**	*e*Pg	P	Pg	05 26 40.1	-1.0
EFP	**Efpalio**	**0.94**	**358**	*e*PG	P	Pg	05 26 40.9	-0.6
EFP	**Efpalio**	**0.94**	**358**	*e*Pg	P	Pg	05 26 40.9	-0.6
LTK	**Loutraki**	**0.97**	**56**	*e*PB	P	Pg	05 26 41.6	-0.5
LTK	**Loutraki**	**0.97**	**56**	*e*Pb	P	Pg	05 26 41.6	-0.5
DID	**Didima**	**1.02**	**89**	*e*PN	P	Pg	05 26 43.0	-0.2
DID	**Didima**	**1.02**	**89**	*e*Pn	P	Pg	05 26 43.0	-0.2
VLI	**Veliai**	**1.10**	**134**	*e*PN	P	Pb	05 26 44.5	-0.1
VLI	**Veliai**	**1.10**	**134**	*e*Pn	P	Pb	05 26 44.5	-0.1
AGG	**Agios Georgios**	**1.56**	**11**	*e*PG	P	Pb	05 26 52.4	0.0
AGG	**Agios Georgios**	**1.56**	**11**	*e*Pg	P	Pb	05 26 52.4	0.0

IDC ***03*** *05:27:25.8±0.9, 16.˚45S×173.˚24W, h0km, mb4.2/8, mb1 4.3/9, mb1mx4.1/22, mbtmp4.1/9, ML3.6/1, MS4.1/25, Ms1 4.1/25, ms1mx4.1/32, Error ellipse: s-maj=34.0km s-min=20.1km az=128.0*
NEIC ***03*** *05:27:27.0±0.6, 16.˚33S×173.˚08W, h10km, mb4.6/7, Error ellipse: s-maj=22.3km s-min=11.8km az=128.0*
ISCJB ***03*** *05:27:27.8±0.6, 16.˚1S±0.˚1×173.˚3W±0.˚1, h26km, mb4.4/12, MS4.2/23, Error ellipse: s-maj=21.5km s-min=7.3km az=40.6*
AUST ***03*** *05:27:43.3±2.1, 16.˚57S×173.˚50W, h120km±34km, Error ellipse: s-maj=60.4km s-min=36.6km az=113.0*

ISC 03 05:27:29.2±0.6, 16.˚2S±0.˚1×173.˚2W±0.˚1, h26km, n61, σ1°41/34, mb4.3/12, MS4.3/23, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.62**	**31**	*e*Pn	P	Pn	05 28 09.2	-0.9
AFI					S	Sn	05 28 39.4	-1.7
AFI	**Afiamalu** 60nm,0.3s,baz=242,slow=1.7,SNR=14	**2.62**	**31**	Pn	P	Pn	05 28 08.8	-1.2
AFI	103nm,0.3s,baz=15,slow=18,SNR=4.5				S	Sn	05 28 39.4	-1.7
AFI	comp=Z,2µm,22.0s,baz=181,slow=40			LR	LR	LR	05 29 20.2	
MSVF	**Nonsavu** 32nm,1.0s	**8.55**	**258**	*e*Pn	P	Pn	05 29 41.3	+10
RAR	**Rarotonga** comp=Z,551nm,19.1s,baz=270,slow=30	**13.63**	**114**	LR	LR	LR	05 34 12.4	
DZM	**Mont Dzumac** 2µm,24.6s	**20.13**	**250**	*e*LR	LR	LR	05 37 01.2	
DZM	**Mont Dzumac** 5.4nm,0.6s	**20.13**	**250**	*e*P	P	Pn	05 32 03.5	0.0
DZM	**Mont Dzumac** 0.2nm,0.3s,baz=108,slow=20,SNR=2.8	**20.13**	**250**	P	P	P	05 31 59.7	-1.9
PPT	**Papeete** comp=Z,455nm,18.3s,baz=267,slow=31	**22.61**	**97**	LR	LR	LR	05 39 02.2	
PPT2	**Papeete2** 887nm,29.0s	**22.61**	**97**	*e*LQ	LQ	LQ	05 36 42.4	
PPT2	646nm,24.5s,baz=262			*e*LR	LR	LR	05 37 50.9	
URZ	**Urewera** 21nm,0.5s	**23.60**	**199**	*e*P	P	P	05 32 36.9	-1.1
URZ	**Urewera** 19nm,0.5s,baz=69,slow=3.3,SNR=20	**23.60**	**199**	P	P	P	05 32 36.8	-1.3
URZ	comp=Z,432nm,21.2s,baz=25,slow=34			LR	LR	LR	05 40 32.8	
HNR	**Honiara** comp=Z,725nm,18.8s,baz=131,slow=34	**27.05**	**281**	LR	LR	LR	05 42 31.7	
RPZ	**Rata Peaks** 76nm,1.4s	**30.55**	**203**	*e*P	P	P	05 33 44.9	+4.2
RPZ	**Rata Peaks** 8.2nm,0.4s,baz=52,slow=5.8,SNR=7.9	**30.55**	**203**	P	P	P	05 33 43.7	+3.0
ARMA	**Armidale** baz=35,SNR=7.6	**35.14**	**240**	P	P	P	05 34 20.5	-0.6
RKT	**Rikitea** 334nm,29.2s	**36.54**	**107**	*e*LR	LR	LR	05 44 05.7	
CTA	**Charters Tower** comp=Z,355nm,18.1s,baz=52,slow=33	**38.70**	**258**	LR	LR	LR	05 48 47.5	
H11S2	**WAKE ISLAND Hy** baz=143	**39.75**	**329**	T	T	T	06 17 21.3	
H11S3	**WAKE ISLAND Hy** baz=143	**39.76**	**329**	T	T	T	06 17 37.6	
H11S1	**WAKE ISLAND Hy** baz=143	**39.77**	**329**	T	T	T	06 17 19.2	
H11N3	**WAKE ISLAND Hy** baz=153	**40.70**	**330**	T	T	T	06 18 17.7	
H11N1	**WAKE ISLAND Hy** baz=153,slow=0.7	**40.70**	**330**	T	T	T	06 18 18.1	
H11N2	**WAKE ISLAND Hy** baz=153,slow=0.7	**40.72**	**330**	T	T	T	06 18 09.5	
COEN	**Coen** 49nm,1.1s	**42.16**	**267**	*e*P	P	P	05 35 20.9	+0.8
STKA	**Stephens Creek** 1.2nm,0.9s	**43.85**	**241**	*e*P	P	P	05 35 32.8	-0.7
STKA	**Stephens Creek** baz=43,SNR=4.6	**43.85**	**241**	P	P	P	05 35 34.6	+1.1
STKA	**Stephens Creek** 2.4nm,0.5s,baz=81,slow=8.7,SNR=6.7	**43.85**	**241**	P	P	P	05 35 32.0	-1.5
STKA	comp=Z,268nm,20.6s,baz=30,slow=32			LR	LR	LR	05 50 58.7	
WRAB	**Tennant Creek** 2.3nm,0.7s	**49.88**	**257**	*e*P	P	P	05 36 20.8	-0.1
WRA	**Warramunga Arr**	**49.89**	**257**	P	P	P	05 36 20.3	-0.7
WRA	**Warramunga Arr** 1.0nm,0.6s,baz=97,slow=6.7,SNR=18

ILAR	**Eielson Array**	**61.80**	**27**	P		P	05 39 26.3	-0.4
	0.3nm,0.6s,baz=270,slow=5.4,SNR=4.2							
YKA	**Yellowknife Ar**	**76.23**	**28**	P		P	05 40 55.3	+0.3
	0.5nm,0.6s,baz=294,slow=5.6,SNR=3.0							
FINES	**FINESS Array B**	**81.89**	**334**	P		P	05 41 25.7	+0.1
	2.1nm,1.0s,baz=72,slow=5.0,SNR=7.3							

*BJI **03** 05:31:55.2, 36.°40N×117.°90W, h11km, mb4.7/1*
*NEIC **03** 05:31:57.7, 36.°39N×117.°86W, h2km, mb4.2/7, ML4.7(PAS), After PAS.*
NEIC Felt [III] at Trona and [II] at Arnold, Bakersfield, Exeter, Fresno, Hanford, Mariposa, Pioneer, Porterville, Sonora, Three Rivers, Visalia and Yosemite National Park. Also felt at Auberry, Big Pine, Bishop, Bodfish, Burbank, Caliente, Clovis, Delano, El Portal, Groveland, Independence, Inyokern, Kernville, Kings Canyon National Park, Lake Isabella, Lemon Cove, Lone Pine, Los Angeles, Mammoth Lakes, Merced, Midpines, Mi-Wuk Village, Mokelumne Hill, Mountain Ranch, Murphys, North Fork, Oakhurst, Placerville, Posey, Ridgecrest, San Diego, South Lake Tahoe, Strathmore, Tulare, Twain Harte, Valencia, Weldon, West Point and Woodlake.
*IDC **03** 05:31:58.6±0.8, 36.°30N×117.°80W, h0km, mb4.0/6, mb1 4.1/11, mb1mx3.9/32, mbtmp3.9/11, ML3.7/5, MS3.6/8, Ms1 3.6/8, ms1mx3.3/45, Error ellipse: s-maj=15.3km s-min=7.8km az=64.0*

ISC 03 05:31:59.0±0.4, 36°42.2N±0.02×117°38.0W±0.02, h10km, n132, σ1.9/96/134, mb4.2/8, MS3.8/5, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ISA	**Isabella**	**0.93**	**216**	*e*Pg		**Pg**	**05 32 13.9**	**-3.0**
ISA				*e*Sg		**Sg**	**05 32 25.8**	**-3.3**
MTUM	**Tungsten Hills**	**1.12**	**327**	*e*Pg		**Pb**	**05 32 18.1**	**-2.4**
GSC	**Goldstone**	**1.37**	**144**	*e*Pg		**Pn**	**05 32 22.7**	**-1.6**
GSC				*e*Sg		**Sg**	**05 32 42.7**	**-0.5**
OSI	**Osito Adit**	**1.95**	**203**	*e*Pn		**Pn**	**05 32 30.7**	**-1.5**
OSI				*e*Sg		**Sg**	**05 33 01.6**	**-0.1**
NV11	**Mina Array Sit**	**2.03**	**352**	*e*Pn		**Pn**	**05 32 32.4**	**-1.1**
NV11				*e*Pg		**Pb**	**05 32 35.6**	**-0.5**
NV11				*e*Sg		**Sb**	**05 33 02.7**	**+1.2**
NVAR	**Mina Array Bea**	**2.05**	**349**	Pn		**Pb**	**05 32 36.1**	**-0.3**
NVAR				Sn		**Sg**	**05 33 03.8**	**-1.1**
NVAR	**Mina Array Bea**	**2.05**	**349**	Pn		**Pb**	**05 32 36.1**	**-0.3**
	335nm,0.3s,baz=174,slow=19,SNR=900							
NVAR				Sn		**Sg**	**05 33 03.8**	**-1.1**
	479nm,0.3s,baz=102,slow=3.9,SNR=13							
PTRM	**Twissleman Ran**	**2.10**	**249**	*e*Pn		**Pn**	**05 32 32.5**	**-1.8**
SHPR	**Sheep Range**	**2.13**	**87**	*e*Pn		**Pn**	**05 32 34.6**	**-0.2**
MWC	**Mount Wilson**	**2.20**	**186**	*e*Pn		**Pn**	**05 32 34.4**	**-1.4**
MWC				*e*Pg		**Pb**	**05 32 37.9**	**-1.1**
WAKR	**Walker**	**2.46**	**328**	*e*Pn		**Pn**	**05 32 38.9**	**-0.5**
WAKR				*e*Pg		**Pb**	**05 32 42.5**	**-0.9**
WAKR				*e*Sg		**Sb**	**05 33 12.9**	**-0.9**
LDFC	**Landfair**	**2.56**	**121**	*e*Pn		**Pn**	**05 32 38.6**	**-2.1**
LDFC				*e*Pg		**Pb**	**05 32 45.5**	**+0.4**
LDFC				*e*Sg		**Sg**	**05 33 18.5**	**-2.8**
R11A	**Troy Canyon, C**	**2.61**	**42**	*e*Pn		**Pn**	**05 32 40.8**	**-0.6**
R11A				*e*Pg		**Pb**	**05 32 46.2**	**+0.2**
R11A				*e*Sg		**Sg**	**05 33 21.9**	**-1.0**
CMB	**Columbia Colle**	**2.62**	**309**	*e*Pn		**Pb**	**05 32 43.0**	**-3.1**
CMB				*e*Sg		**Sb**	**05 33 18.2**	**-0.1**
SAO	**San Andreas Ge**	**2.96**	**278**	*e*Pn		**Pn**	**05 32 44.8**	**-1.2**
PFO	**Pinyon Flat Ob**	**3.01**	**158**	*e*Pn		**Pn**	**05 32 45.5**	**-1.3**
PFO				*e*Pg		**Pb**	**05 32 53.3**	**+0.5**
PFO				Pg		**Pg**	**05 32 53.5**	**-3.1**
PFO				Lg		05 33 31.6		
PFO				*e*Sg		**Sg**	**05 33 32.5**	**-3.1**
PFO	**Pinyon Flat Ob**	**3.01**	**158**	Pn		**Pn**	**05 32 45.5**	**-1.3**
	9.1nm,0.3s,baz=348,slow=10,SNR=130							
PFO				Pg		**Pg**	**05 32 53.5**	**-3.1**
	159nm,0.3s,baz=336,slow=13,SNR=159							
PFO				Lg		Lg	05 33 31.6	
	157nm,0.3s,baz=247,slow=23,SNR=13							
PAHR	**Pah Rah Range**	**3.51**	**340**	*e*Pn		**Pn**	**05 32 53.8**	**0.0**
PAHR				*e*Pg		**Pb**	**05 33 01.7**	**+0.3**
CCUT	**Cedar City**	**3.73**	**71**	*e*Pn		**Pn**	**05 32 57.0**	**+0.2**
CCUT				*e*Pg		**Pg**	**05 33 08.1**	**-2.3**
CCUT				*e*Sg		**Sg**	**05 34 00.5**	**+1.8**
ARUT	**Antelope Range**	**3.74**	**67**	*e*Pn		**Pn**	**05 32 56.8**	**-0.1**
ARUT				*e*Pg		**Pg**	**05 33 08.6**	**-2.1**
ARUT				*e*Sg		**Sg**	**05 34 01.8**	**+2.6**
BAR	**Barrett**	**3.84**	**166**	*e*Pn		**Pn**	**05 32 57.2**	**-1.0**
BAR				*e*Pg		**Pb**	**05 33 06.6**	**-0.2**
BAR				*e*Sg		**Sb**	**05 33 55.7**	**+2.2**
SAC	**San Andreas**	**3.88**	**289**	*e*Pn		**Pn**	**05 32 58.1**	**-0.5**
SAC				*e*Pg		**Pg**	**05 33 10.3**	**-2.9**
BEKR	**Beckworth**	**3.99**	**330**	*e*Pg		**Pb**	**05 33 10.0**	**+0.5**
BEKR				*e*Sg		**Sg**	**05 34 03.4**	**-3.8**
BMN	**Battle Mountai**	**4.03**	**6**	*e*Pn		**Pn**	**05 33 01.0**	**+0.1**
BMN				*e*Pg		**Pb**	**05 33 12.6**	**+2.4**
BMN				*e*Sg		**Sg**	**05 34 07.0**	**-1.5**
OHCM	**Honcut**	**4.12**	**316**	*e*Pn		Pn	05 33 04.8	+2.8
GLA	**Glamis**	**4.15**	**143**	*e*Pn		**Pn**	**05 33 00.6**	**-1.9**
GLA				*e*Pg		Pg	05 33 14.5	-4.0
GLA				*e*Sg		**Sg**	**05 34 09.7**	**-2.9**
MCCM	**Marconi Confer**	**4.41**	**295**	*e*Pn		**Pn**	**05 33 05.8**	**0.0**
MCCM				*e*Pg		**Pb**	**05 33 14.3**	**-2.1**
MCCM				*e*Sg		**Sb**	**05 34 08.7**	**-0.9**
ELK	**Elko**	**4.76**	**24**	*e*Pn		**Pn**	**05 33 11.4**	**+0.3**
ELK				*e*Pg		Pg	05 33 27.1	-3.1
ELK				*e*Sg		**Sg**	**05 34 28.7**	**-3.2**
MVU	**Marysvale**	**4.91**	**63**	*e*Pn		**Pn**	**05 33 13.9**	**+0.9**
MVU				*e*Pg		Pg	05 33 29.8	-3.2
MVU				*e*Sg		**Sg**	**05 34 36.4**	**-0.1**
HOPS	**Hopland**	**4.91**	**303**	*e*Pn		**Pn**	**05 33 13.5**	**+0.7**
WUAZ	**Wupatki**	**5.29**	**98**	*e*Pn		**Pn**	**05 33 20.1**	**+1.9**
	226nm,0.7s							
WUAZ				*e*Pg		Pg	05 33 35.5	-4.7
DUG	**Dugway**	**5.44**	**45**	*e*Pn		Pn	05 33 23.1	+2.9
DUG				*e*Pg		Pg	05 33 39.8	-3.4
DUG				*e*Sg		**Sg**	**05 34 50.8**	**-2.8**
WDC	**Whiskeytown Da**	**5.58**	**320**	*e*Pn		**Pn**	**05 33 24.0**	**+2.0**
	57nm,0.8s							
WDC				*e*Pg		Pb	05 33 40.1	+3.7
WDC				*e*Sg		Sb	05 34 49.2	+5.9
KIPM	**Iron Peak**	**5.62**	**309**	*e*Pn		**Pn**	**05 33 23.5**	**+0.8**
	47nm,0.7s							
KIPM				*e*Sg		Sg	05 34 51.9	-7.4
NLU	**North Lily Min**	**5.72**	**50**	Pn		**Pn**	**05 33 25.5**	**+1.3**
	76nm,0.8s							
NLU				*e*Pg		**Pg**	**05 33 46.7**	**-1.9**
NLU				*e*Sg		**Sg**	**05 34 59.9**	**-2.9**
MOD	**Modoc**	**5.81**	**341**	*e*Pn		Pn	05 33 29.3	+4.0
MOD				*e*Pg		Pg	05 33 46.6	-3.7
Q16A	**Castle Valley**	**5.82**	**63**	*e*Pn		Pn	05 33 28.6	+3.1
Q16A				*e*Pg		Pg	05 33 46.3	-4.1
BGU	**Big Grassy Mou**	**5.84**	**38**	*e*Pn		Pn	05 33 28.8	+3.0
BGU				*e*Pg		Pg	05 33 46.3	-4.6
BGU				*e*Sg		**Sg**	**05 35 04.6**	**-2.0**
TMUT	**Trail Mountain**	**5.95**	**59**	*e*Pn		Pn	05 33 30.4	+3.0
TMUT				*e*Pg		**Pg**	**05 33 51.1**	**-1.8**
MPU	**Maple Canyon**	**6.04**	**52**	*e*Pg		**Pg**	**05 33 53.2**	**-1.4**
MPU				*e*Sg		Sg	05 35 07.8	-5.0
WVOR	**Wild Horse Val**	**6.04**	**354**	*e*Pn		**Pn**	**05 33 30.6**	**+2.1**
	66nm,0.9s							
WVOR				*e*Pg		Pg	05 33 50.2	-4.5
SRU	**San Rafael**	**6.36**	**63**	*e*Pn		Pn	05 33 36.1	+3.2
SRU				*e*Pg		**Pg**	**05 34 00.2**	**-0.5**
SRU				*e*Sg		**Sg**	**05 35 22.4**	**-0.7**
CTU	**Camp Tracy**	**6.38**	**46**	*e*Pn		Pn	05 33 37.6	+4.5
CTU				*e*Pg		**Pg**	**05 34 02.0**	**+1.0**
CTU				*e*Sg		**Sg**	**05 35 20.6**	**-3.1**
SPUT	**South Promonto**	**6.42**	**39**	*e*Pn		Pn	05 33 36.4	+2.6
	50nm,0.6s							
SPUT				*e*Pg		**Pg**	**05 34 00.8**	**-1.2**
SPUT				*e*Sg		**Sg**	**05 35 24.5**	**-0.6**
JLU	**Jordanelle**	**6.50**	**48**	*e*Pn		Pn	05 33 38.9	+4.0
JLU				*e*Pg		**Pg**	**05 34 02.8**	**-0.5**
JLU				*e*Sg		**Sg**	**05 35 23.5**	**-4.0**
DAU	**Daniels Canyon**	**6.50**	**50**	*e*Pn		Pn	05 33 38.0	+3.0
DAU				*e*Sg		**Sg**	**05 35 26.8**	**-0.9**
YBH	**Yreka Blue Hor**	**6.54**	**326**	*e*Pn		Pn	05 33 38.6	+3.3
	15nm,0.7s							
YBH				Lg		Lg	05 35 19.9	
YBH	**Yreka Blue Hor**	**6.54**	**326**	Pn		Pn	05 33 38.3	+3.0
	0.3nm,0.3s,baz=120,slow=5.5,SNR=11							
YBH				Lg		Lg	05 35 19.9	
	1.5nm,0.3s,baz=124,slow=18,SNR=3.4							
YBH				LR		LR	05 35 45.0	
	comp=Z,242nm,19.5s,baz=154,slow=34							
HVU	**Hansel Valley**	**6.63**	**35**	*e*Pn		Pn	05 33 40.1	+3.6
HVU				*e*Pg		Pg	05 34 02.7	-3.2
HVU				*e*Sg		**Sg**	**05 35 34.5**	**+2.8**
W18A	**Petrified Fore**	**6.68**	**99**	*e*Pg		Pg	05 34 02.9	-4.1
K05A	**Summer Lake**	**6.74**	**340**	*e*Pn		Pn	05 33 41.6	+3.5
J08A	**Circle Bar Ran**	**6.95**	**356**	*e*Pn		Pn	05 33 44.5	+3.5
KRMB	**Red Mountain**	**6.97**	**319**	*e*Pn		**Pn**	**05 33 42.3**	**+1.0**
KRMB				*e*Sg		**Sg**	**05 35 41.4**	**-1.3**
TUC	**Tucson**	**7.10**	**123**	*e*Pn		**Pn**	**05 33 42.4**	**-0.6**
TUC				*e*Pg		Pg	05 34 09.1	-5.8
TUC				*e*Sg		**Sg**	**05 35 43.1**	**-3.7**
PV05	**Paradox Valley**	**7.13**	**74**	*e*Pn		Pn	05 33 47.4	+3.9
PV09	**Paradox Valley**	**7.20**	**71**	*e*Pn		Pn	05 33 47.4	+2.9
PV10	**Paradox Valley**	**7.24**	**72**	*e*Pn		**Pn**	**05 33 46.7**	**+1.6**
	2μm,0.7s							
PV10				*e*Pg		Pg	05 34 15.1	-2.5
PV10				*e*Sg		**Sg**	**05 35 52.6**	**+1.2**
HUMO	**Hull Mountain**	**7.36**	**329**	*e*Pn		Pn	05 33 50.9	+4.4
MVCO	**Mesa Verde**	**7.50**	**81**	*e*Pn		Pn	05 33 51.6	+2.9
MVCO				*e*Pg		**Pg**	**05 34 20.8**	**-1.8**
MVCO				*e*Sg		**Sg**	**05 35 55.1**	**-4.6**
PV01	**Paradox Valley**	**7.55**	**74**	*e*Pn		**Pn**	**05 33 50.8**	**+1.4**
	4μm,0.7s							
PV01				*e*Pg		Pg	05 34 19.2	-4.4
PV01				*e*Sg		**Sg**	**05 36 00.1**	**-1.3**
HLID	**Hailey**	**7.59**	**19**	*e*Pn		Pn	05 33 52.7	+2.8
HLID				*e*Pg		Pg	05 34 21.1	-3.2
HLID				*e*Sg		**Sg**	**05 36 02.2**	**-0.4**
PV15	**Paradox Valley**	**7.66**	**73**	*e*Pn		**Pn**	**05 33 53.0**	**+2.1**
I07A	**Izee**	**7.77**	**351**	*e*Pn		Pn	05 33 56.5	+4.4
O20A	**White River Ci**	**8.38**	**61**	*e*Pn		Pn	05 34 05.9	+5.2
O20A				*e*Sg		**Sg**	**05 36 28.3**	**+0.5**
RRI2	**Red Ridge**	**8.52**	**34**	*e*Pn		Pn	05 34 06.0	+3.3
RRI2				*e*Pg		**Pg**	**05 34 43.2**	**+1.0**
RRI2				*e*Sg		**Sg**	**05 36 29.6**	**-2.9**
REDW	**Red Top Meadow**	**8.75**	**35**	*e*Pn		Pn	05 34 08.7	+2.9
TPAW	**Teton Pass**	**8.80**	**35**	*e*Pn		Pn	05 34 11.0	+4.5
TPAW				*e*Pg		Pg	05 34 42.0	-5.2
TPAW				*e*Sg		**Sg**	**05 36 39.2**	**-2.2**
SNOW	**Snow King Moun**	**8.87**	**35**	*e*Pn		Pn	05 34 11.4	+4.0
LAZ	**Ladron**	**8.93**	**100**	*e*Pn		**Pn**	**05 34 09.5**	**+1.3**
	0.9nm,0.6s							
LAZ				*e*Pg		Pg	05 34 43.8	-6.2
BW06	**Boulder Array**	**8.98**	**43**	*e*Pn		Pn	05 34 13.3	+4.4
	7.2nm,0.7s							
PDAR	**Pinedale Array**	**8.98**	**43**	Pn		Pn	05 34 12.6	+3.7
PDAR				Lg		Lg	05 36 40.3	
PDAR	**Pinedale Array**	**8.98**	**43**	Pn		Pn	05 34 12.6	+3.7
	0.1nm,0.3s,baz=222,slow=12,SNR=12							
PDAR				Lg		Lg	05 36 40.3	
	0.4nm,0.3s,baz=219,slow=30,SNR=3.8							
SMCO	**Snowmass**	**9.00**	**69**	*e*Pn		**Pn**	**05 34 11.1**	**+1.8**
LOHW	**Long Hollow**	**9.06**	**35**	*e*Pn		Pn	05 34 14.5	+4.6
MOOW	**Moose Ponds**	**9.10**	**34**	*e*Pn		Pn	05 34 15.8	+5.3
IMW	**Indian Meadow**	**9.13**	**33**	*e*Pn		Pn	05 34 14.2	+3.2
LENM	**Lemitar**	**9.13**	**101**	*e*Pn		Pn	05 34 13.6	+2.7
	6.5nm,0.9s							
MCMT	**McKenzie Canyo**	**9.20**	**23**	*e*Pn		Pn	05 34 17.0	+5.1
	14nm,0.8s							
ANMO	**Albuquerque**	**9.34**	**96**	*e*Pn		Pn	05 34 16.9	+3.1
ANMO				Pg			05 34 49.9	
ANMO				Lg		Lg	05 36 51.6	
ANMO	**Albuquerque**	**9.34**	**96**	Pn		Pn	05 34 16.6	+2.8
	0.2nm,0.3s,baz=290,slow=13,SNR=10							
ANMO				Pg			05 34 49.9	
	0.7nm,0.3s,baz=286,slow=14,SNR=16							
ANMO				Lg		Lg	05 36 51.6	
	0.1nm,0.3s,baz=312,slow=15,SNR=2.4							
ANMO				LR		LR	05 38 04.8	
	comp=Z,219nm,20.7s,baz=277,slow=39							
FLWY	**Flagg Ranch**	**9.38**	**33**	*e*Pn		Pn	05 34 19.3	+4.9
F10A	**Beach Ranch, E**	**9.56**	**2**	*e*Pn		Pn	05 34 22.0	+5.3
DLMT	**Dillon**	**9.76**	**22**	*e*Pn		Pn	05 34 24.0	+4.4
HAWA	**Hanford**	**10.05**	**353**	*e*Pn		Pn	05 34 26.6	+3.2
E09A	**Wood Farm, Sta**	**10.09**	**359**	*e*Pn		Pn	05 34 28.9	+5.0
ISCO	**Idaho Springs**	**10.18**	**67**	*e*Pn		Pn	05 34 31.1	+5.7
LRM	**Limekiln Ridge**	**10.22**	**22**	*e*Pn		**Pn**	**05 34 24.0**	**-1.9**
BOZ	**Bozeman (W)**	**10.33**	**25**	*e*Pn		Pn	05 34 30.9	+3.6
	4.0nm,0.8s							
PHWY	**Pilot Hill**	**10.78**	**59**	*e*Pn		Pn	05 34 37.5	+3.8
MSO	**Missoula**	**10.79**	**14**	*e*Pn		Pn	05 34 39.2	+5.6
CHMT	**Chamberlain Mo**	**11.02**	**17**	*e*Pn		Pn	05 34 41.2	+4.3
D05A	**Enumclaw**	**11.21**	**345**	*e*Pn		Pn	05 34 45.2	+6.1
SLMT	**Seeley Lake**	**11.28**	**15**	*e*Pn		**Pn**	**05 34 41.0**	**+0.6**
	8.5nm,0.9s							
MNTX	**Cornudas Mount**	**11.32**	**111**	*e*Pn		Pn	05 34 44.0	+3.2
	4.2nm,1.1s							
BSMT	**Bassoo Peak**	**11.64**	**10**	*e*Pn		Pn	05 34 49.4	+4.1
NEW	**Newport**	**11.85**	**2**	Pn		**Pn**	**05 34 48.4**	**+0.4**
NEW				Lg		Lg	05 38 03.6	
NEW	**Newport**	**11.85**	**2**	Pn		**Pn**	**05 34 48.4**	**+0.4**
	0.1nm,0.3s,baz=190,slow=15,SNR=2.2							
NEW				Lg		Lg	05 38 03.6	
	0.1nm,0.3s,baz=72,slow=20,SNR=1.7							
MSTX	**Muleshoe**	**12.53**	**97**	*e*Pn		Pn	05 35 02.4	+4.9
WALA	**Waterton Lakes**	**12.95**	**11**	*e*Pn		Pn	05 35 07.1	+4.0
	0.1nm,0.6s							
EGMT	**Eagleton**	**13.03**	**25**	*e*Pn		Pn	05 35 07.2	+3.0
TXAR	**Lajitas Array**	**13.81**	**117**	Pn		P	05 35 18.7	-4.7
TXAR				Lg		Lg	05 39 10.7	
TXAR	**Lajitas Array**	**13.81**	**117**	Pn		P	05 35 18.7	-4.7
	0.1nm,0.3s,baz=293,slow=11,SNR=21							
TXAR				Lg		Lg	05 39 10.6	
	0.0nm,0.3s,baz=293,slow=19,SNR=4.2							
WMOK	**Wichita Mounta**	**15.57**	**91**	*e*P		**P**	**05 35 41.0**	**-1.8**
	2.7nm,1.2s							
JCT	**Junction City**	**16.14**	**106**	*e*P		**P**	**05 35 50.2**	**+1.0**
	5.3nm,0.8s							
KSU1	**Kansas State U**	**16.97**	**75**	*e*P		**P**	**05 35 59.8**	**+1.5**
	20nm,0.9s							
EDM	**Edmonton**	**17.09**	**9**	*e*P		**P**	**05 35 59.4**	**-0.3**
BBB	**Bella Bella**	**17.38**	**338**	LR		LR	05 43 34.6	
	comp=Z,119nm,18.4s,baz=357,slow=40							
ULM	**Lac du Bonnet**	**21.00**	**42**	*e*P		**P**	**05 36 43.6**	**+1.2**
	14nm,1.2s							
ULM	**Lac du Bonnet**	**21.00**	**42**	P		**P**	**05 36 45.5**	**+3.1**
	6.5nm,0.8s,baz=232,slow=8.0,SNR=5.9							
FFC	**Flin Flon**	**21.31**	**26**	*e*P		**P**	**05 36 44.6**	**-1.1**
	30nm,1.1s							
DLBC	**Dease Lake**	**23.46**	**344**	P		**P**	**05 37 12.4**	**+4.0**
DLBC	**Dease Lake**	**23.46**	**344**	P		**P**	**05 37 12.4**	**+4.0**
	0.9nm,0.6s,baz=168,slow=3.5,SNR=3.9							
DLBC				LR		LR	05 47 25.6	
	comp=Z,291nm,20.1s,baz=100,slow=39							
TKL	**Tuckaleechee C**	**27.44**	**81**	LR		LR	05 48 53.9	
	comp=Z,93nm,18.4s,baz=272,slow=37							
INK	**Inuvik**	**33.14**	**349**	LR		LR	05 53 31.8	
	comp=Z,170nm,19.2s,baz=154,slow=39							
ILAR	**Eielson Array**	**33.27**	**338**	P		**P**	**05 38 37.8**	**+1.6**
ILAR	**Eielson Array**	**33.27**	**338**	P		**P**	**05 38 37.8**	**+1.6**
	0.7nm,0.8s,baz=150,slow=9.2,SNR=12							
SCHQ	**Schefferville**	**39.10**	**45**	*e*P		**P**	**05 39 27.1**	**+0.9**
	7.8nm,0.8s							
SCHQ	**Schefferville**	**39.10**	**45**	P		P	05 39 28.9	+2.7
	6.1nm,0.8s,baz=273,slow=11,SNR=5.9							
SPITS	**Spitsbergen Ar**	**62.45**	**10**	LR		LR	06 08 36.7	
	comp=Z,69nm,19.1s,baz=110,slow=35							
LPAZ	**La Paz**	**70.33**	**129**	*e*P		**P**	**05 43 14.8**	**+1.1**
	2.1nm,1.0s							
CN2	**Changchun**	**81.68**	**319**	*e*P		**P**	**05 44 15.0**	**-2.4**
AKASG	**Malin Array Be**	**88.52**	**20**	P		**P**	**05 44 53.0**	**+1.4**
AKASG	**Malin Array Be**	**88.52**	**20**	P		**P**	**05 44 53.0**	**+1.4**
	1.0nm,0.6s,baz=331,slow=3.6,SNR=4.9							
BJI	**Beijing**	**89.17**	**322**	P		**P**	**05 44 53.0**	**-1.8**
BVAR	**Borovoye Array**	**90.64**	**355**	P		P	05 45 04.5	+3.0
BVAR	**Borovoye Array**	**90.64**	**355**	P		P	05 45 04.5	+3.0
	1.1nm,0.8s,baz=41,slow=4.6,SNR=4.9							
HHC	**Hu-ho-hao-te**	**90.77**	**325**	*e*P		**P**	**05 45 01.7**	**-0.8**
HHC				PP		**PP**	**05 48 40.0**	**+2.9**
HHC				SKS		**SKSac**	**05 55 33.0**	**-1.5**
HHC				S		**S**	**05 55 57.0**	**-2.0**
HHC				SS		**SS**	**06 02 02.0**	**+2.3**
KEST	**Kesra**	**93.02**	**40**	LR		LR	06 24 27.7	
	comp=Z,46nm,20.8s,baz=246,slow=34							
NJ2	**Nanjing**	**93.69**	**315**	*e*P		**P**	**05 45 13.4**	**-2.6**
WMQ	**Urumqi**	**96.84**	**342**	*e*P		**P**	**05 45 30.9**	**+0.6**
CD2	**Chengdu**	**102.51**	**324**	P		**Pdif**	**05 45 55.1**	**-0.7**
QIZ	**Qiongzhong**	**108.82**	**312**	Pdif		**Pdif**	**05 46 21.7**	**-2.3**
QIZ				S		**Sdif**	**05 58 26.2**	**-7.2**

*ISCJB **03** 05:45:52.8±0.7, 56.°59N±0.°07×155.°97W±0.°10, h55km±13km, mb3.5/2, Error ellipse: s-maj=13.1km s-min=5.2km az=144.3*
*NEIC **03** 05:45:54.6, 56.°60N×155.°98W, h36km, ML3.3(AEIC), After AEIC.*
*IDC **03** 05:45:55.7±4.6, 56.°87N×155.°95W, h60km±48km, mb3.3/2, mb1 3.6/5, mb1mx3.2/30, mbtmp3.4/5, ML3.4/3, Error ellipse: s-maj=44.4km s-min=23.3km az=12.0*

ISC 03 05:45:53.4±1.3, 56.°61N±0.°07×155.°96W±0.°05, h44km±21km, n20, σ0.9/97/27, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLK4	**Peulik 4**	**1.05**	**348**	P		**Pn**	**05 46 12.1**	**+0.4**
PLK4				S		**Sn**	**05 46 25.8**	**+0.6**
PLK3	**Peulik 3**	**1.09**	**351**	P		Pn	05 46 12.5	+0.3
PLK3				S		**Sn**	**05 46 26.9**	**+0.7**
ANPK	**Aniakchak Peak**	**1.21**	**282**	P		**Pn**	**05 46 13.7**	**-0.2**
PLK1	**Peulik 1**	**1.24**	**344**	P		**Pn**	**05 46 15.7**	**+1.4**
ANPB	**Aniakchak Plen**	**1.29**	**279**	P		**Pn**	**05 46 14.9**	**-0.1**
CHGN	**Chignik**	**1.40**	**258**	P		**Pn**	**05 46 16.1**	**-0.2**
CHGN				S		**Sn**	**05 46 33.1**	**-0.4**
KJL	**Kejulik**	**1.46**	**8**	P		**Pn**	**05 46 18.3**	**+0.9**
CAHL	**Cahill**	**1.49**	**14**	P		**Pn**	**05 46 18.4**	**+0.7**
OHAK	**Old Harbor**	**1.59**	**66**	P		**Pn**	**05 46 19.7**	**+0.7**
KABR	**Katmai Barrier**	**1.62**	**19**	P		**Pn**	**05 46 20.3**	**+0.8**
KABR				S		**Sn**	**05 46 39.8**	**+0.7**
VNHG	**Veniaminof 1**	**1.82**	**259**	P		**Pn**	**05 46 23.2**	**+0.9**
KELA	**Mount Kelaz**	**1.84**	**4**	P		**Pn**	**05 46 22.8**	**+0.3**
KAPH	**Katmai Pasha**	**2.17**	**23**	P		**Pn**	**05 46 27.5**	**+0.4**
KDAK	**Kodiak Island**	**2.18**	**56**	P		**Pn**	**05 46 27.6**	**+0.5**
KDAK	**Kodiak Island**	**2.18**	**56**	P		**Pn**	**05 46 27.7**	**+0.6**
	12nm,0.3s,baz=239,slow=9.0,SNR=66							
KDAK				S		**Sn**	**05 46 52.6**	**-0.2**
	14nm,0.3s,baz=209,slow=19,SNR=9.9							
SDPT	**Sand Point**	**2.83**	**245**	P		**Pn**	**05 46 36.5**	**+0.4**
SDPT				S		**Sn**	**05 47 09.0**	**+0.1**
ILAR	**Eielson Array**	**9.31**	**25**	P		**Pn**	**05 48 03.7**	**-1.1**
	0.1nm,0.3s,baz=217,slow=14,SNR=6.3							
ILAR				S		**Sn**	**05 49 44.8**	**-3.1**
	0.1nm,0.3s,baz=203,slow=13,SNR=3.7							
INK	**Inuvik**	**15.53**	**32**	P		**Pn**	**05 49 27.8**	**-1.1**
	0.1nm,0.3s,baz=243,slow=4.5,SNR=2.7							
PETK	**Petropavlovsk-**	**26.50**	**282**	P		**P**	**05 51 26.6**	**+0.3**
	1.2nm,0.7s,baz=80,slow=9.6,SNR=4.1							
TXAR	**Lajitas Array**	**45.46**	**104**	P		**P**	**05

KHL	Karahalli	1.83	134	*e*PN	Pn	05 49 46.4	+0.5
KHL	Karahalli	1.83	134	*e*Pn	Pn	05 49 46.4	+0.5
ALT	Altintas	1.84	107	*i* P	Pn	05 49 43.8	-2.2
ALT				*i* S	Sn	05 50 05.4	-3.8
HRT	Hereke	1.84	48	*e*PN	Pn	05 49 45.7	-0.3
HRT	Hereke	1.84	48	*e*Pn	Pn	05 49 45.7	-0.3
CHOS	Chios island	1.86	229	P	Pn	05 49 45.4	-0.8
CHOS				S	Sn	05 50 09.4	-0.1
CHOS	Chios island	1.86	229	*e*PN	Pn	05 49 47.1	+0.9
CHOS	Chios island	1.86	229	*e*Pn	Pn	05 49 47.4	+1.2
CHOS				*e*SN	Sn	05 50 09.6	+0.1
CHOS	Chios island	1.86	229	P	Pn	05 49 45.4	-0.8
CHOS	Chios island	1.86	229	*e*Pn	Pn	05 49 47.1	+0.9
CHOS				*e*Sn	Sn	05 50 09.6	+0.1
KLYT	Kilyos	1.88	29	*e*PN	Pn	05 49 46.9	+0.5
KLYT	Kilyos	1.88	29	*e*Pn	Pn	05 49 46.9	+0.5
ALN	Alexandroupoli	1.88	314	P	Pn	05 49 46.8	+0.3
ALN				S	Sb	05 50 11.5	-0.8
ALN	Alexandroupoli	1.88	314	*e*PN	Pb	05 49 48.1	-0.7
ALN	Alexandroupoli	1.88	314	*e*PN	Pn	05 49 46.9	+0.4
ALN				*e*SN	Sn	05 50 09.0	-1.1
ALN	Alexandroupoli	1.88	314	*e*Pn	Pn	05 49 46.9	+0.4
ALN				*e*Sn	Sn	05 50 09.0	-1.1
ALN				S	Sb	05 50 11.5	-0.8
CTYL	Yal??k??y-??at	1.89	10	*e*PN	Pn	05 49 46.9	+0.3
CTYL	Yal??k??y-??at	1.89	10	*e*Pn	Pn	05 49 46.9	+0.3
SMTH	Samothraki Isl	1.98	296	P	Pn	05 49 48.0	+0.2
SMTH				S	Sn	05 50 13.3	+0.9
SMTH	Samothraki Isl	1.98	296	*e*PN	Pn	05 49 48.0	+0.2
SMTH				*e*SN	Sn	05 50 10.9	-1.5
SMTH	Samothraki Isl	1.98	296	P	Pn	05 49 48.0	+0.2
SMTH				*e*Sn	Sn	05 50 10.9	-1.5
SMTH				S	Sn	05 50 13.3	+0.9
GPA	Golpazari	2.01	70	*e*PN	Pn	05 49 48.7	+0.4
GPA	Golpazari	2.01	70	*e*Pn	Pn	05 49 48.7	+0.4
BORA	Eskisehir	2.03	82	*i* P	Pn	05 49 49.1	+0.6
BORA				*i* S	Sg	05 50 19.6	-0.2
BORA	Eskisehir	2.03	82	*i* P	Pn	05 49 49.1	+0.6
PHSR	Pinarhisar	2.03	353	*e*PN	Pn	05 49 48.9	+0.4
PHSR	Pinarhisar	2.03	353	*e*Pn	Pn	05 49 48.9	+0.4
SMG	Samos	2.06	203	P	Pn	05 49 48.8	-0.1
SMG				S	Sn	05 50 14.1	-0.3
SMG	Samos	2.06	203	*e*PB	Pb	05 49 51.3	-0.5
SMG				*e*SN	Sb	05 50 16.4	-0.9
SMG	Samos	2.06	203	P	Pn	05 49 48.8	-0.1
SMG	Samos	2.06	203	*e*Pb	Pb	05 49 51.3	-0.5
SMG				S	Sn	05 50 14.1	-0.3
SMG				*e*Sn	Sb	05 50 16.4	-0.9
SILT	Sile	2.06	41	*e*PN	Pn	05 49 49.3	+0.4
SILT	Sile	2.06	41	*e*Pn	Pn	05 49 49.3	+0.4
DENT	Denizli	2.07	153	*e*PN	Pn	05 49 49.5	+0.4
DENT	Denizli	2.07	153	*e*Pn	Pn	05 49 49.5	+0.4
LIA	Limnos Island	2.07	279	P	Pn	05 49 49.5	+0.4
LIA				S	Sn	05 50 15.2	+0.4
LIA	Limnos Island	2.07	279	*e*PN	Pn	05 49 49.4	+0.4
LIA				*e*SN	Sn	05 50 13.1	-1.7
LIA	Limnos Island	2.07	279	P	Pn	05 49 49.5	+0.4
LIA				*e*Sn	Sn	05 50 13.1	-1.7
LIA				S	Sn	05 50 15.2	+0.4
SPNC	Sapanca-Adapaz	2.17	60	*e*PN	Pn	05 49 51.2	+0.8
SPNC	Sapanca-Adapaz	2.17	60	*e*Pn	Pn	05 49 51.2	+0.8
GULT	Gulveren	2.21	67	*e*PN	Pn	05 49 51.6	+0.6
GULT	Gulveren	2.21	67	*e*Pn	Pn	05 49 51.6	+0.6
ESKT	Eskisehir	2.32	91	*e*PN	Pn	05 49 53.1	+0.5
ESKT	Eskisehir	2.32	91	*e*Pn	Pn	05 49 53.2	+0.5
SEYT	Eskypehyr	2.32	91	*i* P	Pn	05 49 53.5	+0.8
SEYT	Eskypehyr	2.32	91	*i* P	Pn	05 49 53.5	+0.8
RDO	Rodhopi	2.34	312	P	Pn	05 49 53.5	+0.8
RDO	Rodhopi	2.34	312	*e*PN	Pn	05 49 53.5	+0.8
RDO	Rodhopi	2.34	312	P	Pn	05 49 53.5	+0.8
EDRB	Edirne	2.38	340	*e*PN	Pn	05 49 54.2	+0.8
EDRB	Edirne	2.38	340	*e*Pn	Pn	05 49 54.2	+0.8
YER	Yerkesik	2.50	172	*e*PN	Pn	05 49 55.9	+0.9
YER	Yerkesik	2.50	172	*e*Pn	Pn	05 49 55.9	+0.9
BODT	Bodrum	2.58	190	*e*PN	Pn	05 49 57.3	+1.2
BODT	Bodrum	2.58	190	*e*Pn	Pn	05 49 57.3	+1.2
MDUB	Mudurnu	2.71	70	*e*PN	Pn	05 49 58.8	+0.8
MDUB	Mudurnu	2.71	70	*e*Pn	Pn	05 49 58.8	+0.8
ISP	Isparta	2.75	130	*e*PN	Pn	05 50 00.1	+1.6
ISP	Isparta	2.75	130	*e*Pn	Pn	05 50 00.1	+1.6
SVRH	Sivrihisar-ESK	2.85	92	*e*PN	Pn	05 50 00.7	+0.9
SVRH	Sivrihisar-ESK	2.85	92	*e*Pn	Pn	05 50 00.7	+0.9
DALY	Dalyan (Mu¨la	2.86	167	*e*PN	Pn	05 50 01.2	+1.3
DALY	Dalyan (Mu¨la	2.86	167	*e*Pn	Pn	05 50 01.2	+1.3
DAT	Datca	2.89	184	*e*PN	Pn	05 50 01.8	+1.4
DAT	Datca	2.89	184	*e*Pn	Pn	05 50 01.8	+1.4
KAVA	Kavala	2.90	300	P	Pn	05 50 00.8	+0.3
KAVA	Kavala	2.90	300	P	Pn	05 50 00.8	+0.3
JMB	Yambol	3.01	342	*e*PN	Pn	05 50 03.4	+1.4
JMB	Yambol	3.01	342	*e*Pn	Pn	05 50 03.4	+1.4
BCK	Bucak	3.04	134	*e*PN	Pn	05 50 03.5	+1.1
BCK	Bucak	3.04	134	*e*Pn	Pn	05 50 03.5	+1.1
NIS1	Nisyros Isl.	3.05	190	*e*PN	Pn	05 50 04.4	+1.8
NIS1	Nisyros Isl.	3.05	190	*e*Pn	Pn	05 50 04.4	+1.8
OUR	Ouranopolis	3.06	285	P	Pn	05 50 02.6	0.0
OUR	Ouranopolis	3.06	285	*e*PN	Pn	05 50 05.0	+2.4
OUR	Ouranopolis	3.06	285	P	Pn	05 50 02.6	0.0
OUR	Ouranopolis	3.06	285	*e*Pn	Pn	05 50 05.0	+2.4
AOS	Alonnisos	3.11	263	*e*PN	Pn	05 50 05.5	+2.3
AOS	Alonnisos	3.11	263	*e*Pn	Pn	05 50 05.6	+2.3
APE	Apeiranthos	3.12	216	*e*PN	Pn	05 50 05.5	+2.0
APE	Apeiranthos	3.12	216	*e*PN	Pn	05 50 05.5	+1.6
APE	Apeiranthos	3.12	216	⇑*i*P	Pb	05 50 08.8	-0.2
APE	Apeiranthos	3.12	216	*e*Pn	Pn	05 50 05.2	+1.6
FETY	Fethiye	3.13	161	*e*PN	Pn	05 50 04.5	+0.9
FETY	Fethiye	3.13	161	*e*Pn	Pn	05 50 04.5	+0.9
KIZT	Kizilcal	3.21	102	*e*PN	Pn	05 50 06.0	+1.1
KIZT	Kizilcal	3.21	102	*e*Pn	Pn	05 50 06.0	+1.1
KDZE	Karadeniz Ereo	3.23	57	*e*PN	Pn	05 50 05.7	+0.7
KDZE	Karadeniz Ereo	3.23	57	*e*Pn	Pn	05 50 05.7	+0.7
ELL	Elmali	3.29	150	*e*PN	Pn	05 50 07.2	+1.3
ELL	Elmali	3.29	150	*e*Pn	Pn	05 50 07.2	+1.3
PLD	Plovdiv	3.45	317	*e*PN	Pn	05 50 08.8	+0.8
PLD	Plovdiv	3.45	317	*e*Pn	Pn	05 50 08.8	+0.8
PLG	Polygyros	3.47	284	*e*PN	Pn	05 50 08.3	0.0
PLG	Polygyros	3.47	284	*e*Pn	Pn	05 50 08.3	0.0
NVR	Nevrokopi	3.50	301	*e*PN	Pn	05 50 09.1	+0.3
NVR	Nevrokopi	3.50	301	*e*Pn	Pn	05 50 09.1	+0.3
SOH	Sokhos	3.65	291	*e*PN	Pn	05 50 11.3	+0.5
SOH	Sokhos	3.65	291	*e*Pn	Pn	05 50 11.3	+0.5
ANTO	Ankara	3.82	85	⇑*i*P	Pg	05 50 25.6	-2.2
MANR	Mangalia	4.24	7	⇑*i*P	Pn	05 50 21.5	+2.7
MANR	Mangalia	4.24	7	⇑*i*P	Pn	05 50 21.5	+2.7
GRG	Griva	4.38	290	*e*PN	Pn	05 50 21.6	+0.8
GRG	Griva	4.38	290	*e*Pn	Pn	05 50 21.6	+0.8
MSAB	Monastry St. A	4.48	360	⇑*i*P	Pn	05 50 23.1	+1.0
MSAB	Monastry St. A	4.48	360	⇑*i*P	Pn	05 50 23.1	+1.0
VTS	Vitosha	4.60	312	⇓*i*P	Pn	05 50 25.4	+1.5
VTS	Vitosha	4.60	312	⇓*i*P	Pn	05 50 25.4	+1.5
TIRR	Tirgusor	4.86	5	⇑*i*P	Pn	05 50 27.9	+0.5
TIRR	Tirgusor	4.86	5	⇑*i*P	Pn	05 50 27.9	+0.5
TLB	Topalu	4.97	2	⇑*i*P	Pn	05 50 29.6	+0.7
TLB	Topalu	4.97	2	⇑*i*P	Pn	05 50 29.6	+0.7
FNA	Florina	5.09	285	*e*PN	Pn	05 50 31.9	+1.3
FNA	Florina	5.09	285	*e*Pn	Pn	05 50 31.9	+1.3
MLR	Muntele Rosu	6.04	347	⇑*i*P	Pn	05 50 46.6	+2.9
MLR	Muntele Rosu	6.04	347	⇑*i*P	Pn	05 50 46.6	+2.9
ARR	Arges	6.22	339	⇑*i*P	Pn	05 50 47.8	+1.6
ARR	Arges	6.22	339	⇑*i*P	Pn	05 50 47.8	+1.6
PLOR	Plostina	6.30	352	⇑*i*P	Pn	05 50 49.0	+1.8
PLOR	Plostina	6.30	352	⇑*i*P	Pn	05 50 49.0	+1.8
VRI	Vrincioaia	6.30	353	⇑*i*P	Pn	05 50 48.8	+1.5
VRI	Vrincioaia	6.30	353	⇑*i*P	Pn	05 50 48.8	+1.5
LOT	Lotru	6.56	334	⇑*i*P	Pn	05 50 50.1	-0.8
LOT	Lotru	6.56	334	⇑*i*P	Pn	05 50 50.1	-0.8
GRUS	Gruza	6.83	311	*e*Pn	Pn	05 50 55.4	+0.9
GZR	Gura Zlata	6.88	329	⇑*i*P	Pn	05 50 55.1	-0.2
GZR	Gura Zlata	6.88	329	⇑*i*P	Pn	05 50 55.1	-0.2
TESR	Tescani	6.95	353	⇑*i*P	Pn	05 50 57.4	+1.3
TESR	Tescani	6.95	353	⇑*i*P	Pn	05 50 57.4	+1.3
IVAS	Ivanjica	7.00	307	⇑*i*Pn	Pn	05 50 58.0	+1.2
DIVS	Divibare	7.38	310	*e*Pn	Pn	05 51 02.5	+0.4
BBLS	Lazići	7.61	307	*e*Pn	Pn	05 51 06.8	+1.6
DRGR		8.10	334	⇑*i*P	Pn	05 51 13.1	+1.2
DRGR		8.10	334	⇑*i*P	Pn	05 51 13.1	+1.2
BURAR	Bucovina Array	8.22	347	⇑*i*P	Pn	05 51 15.7	+2.0
BURAR	Bucovina Array	8.22	347	⇑*i*P	Pn	05 51 15.7	+2.0

IDC 03 05:54:58.6±4.0, 52°44N×173°15E, h27km±36km, mb3.2/3, mb1 3.6/4, mb1mx3.2/30, mbtmp3.3/4, ML3.0/1, MS3.9/1, Ms1 3.9/1, ms1mx2.8/16, Error ellipse: s-maj=36.8km s-min=15.4km az=73.0, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**0.44**	**1**	Pn	Pb	05 55 08.3	+0.3
	146nm,0.3s,baz=232,slow=2.4,SNR=179						
FX1				Sn	Sn	05 55 15.7	-0.7
	596nm,0.3s,baz=229,slow=20,SNR=108						
PETK	**Petropavlovsk-**	**9.39**	**280**	Pn	Pn	05 57 11.9	-0.2
	0.1nm,0.3s,baz=96,slow=19,SNR=5.3						
KDAK	**Kodiak Island**	**20.16**	**61**	P	P	05 59 30.4	-0.1
	3.1nm,0.4s,baz=239,slow=5.9,SNR=3.3						
ILAR	**Eielson Array**	**23.72**	**43**	P	P	06 00 07.5	-0.5
	0.2nm,0.5s,baz=254,slow=8.7,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**33.01**	**191**	T	T	06 37 01.5	
	baz=8.1,slow=0.7,SNR=10						
H11N3	**WAKE ISLAND Hy**	**33.02**	**191**	T	T	06 37 01.7	
	baz=8.1,slow=0.7,SNR=8.7						
H11N1	**WAKE ISLAND Hy**	**33.03**	**191**	T	T	06 37 02.4	
	baz=8.1,slow=0.7,SNR=10.0						
RES	**Resolute Bay**	**40.82**	**24**	LR	LR	06 19 20.4	
	comp=Z,147nm,20.6s,baz=268,slow=36						
TXAR	**Lajitas Array**	**63.33**	**76**	P	P	06 05 25.4	+0.1
	0.1nm,0.4s,baz=313,slow=4.0,SNR=7.0						

IDC 03 06:10:00.9±58.0, 14°24S×176°74W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/19, mbtmp4.1/3, Error ellipse: s-maj=1082.0km s-min=178.8km az=75.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.86**	**238**	P	P	06 17 53.1	+0.1
	1.2nm,0.6s,baz=90,slow=11,SNR=4.7						
WRA	**Warramunga Arr**	**46.98**	**256**	P	P	06 18 33.8	-0.4
	0.5nm,0.5s,baz=88,slow=7.8,SNR=12						
ASAR	**Alice Springs**	**47.42**	**251**	P	P	06 18 37.5	-0.1
	4.8nm,0.3s,baz=85,slow=8.4,SNR=166						

IDC 03 06:13:32.8±1.8, 15°73S×173°26W, h0km, mb3.7/6, mb1 4.1/6, mb1mx3.9/20, mbtmp3.7/6, MS3.4/2, Ms1 3.4/2, ms1mx3.0/31, Error ellipse: s-maj=114.9km s-min=22.5km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.31**	**38**	Pn	Pn	06 14 06.3	-5.9
	28nm,0.3s,baz=45,slow=1.9,SNR=19						
AFI				Sn	Sn	06 14 26.7	-15
	100nm,0.3s,baz=180,slow=21,SNR=18						
PPT2	**Papeete2**	**22.76**	**98**	eLQ	LQ	06 23 13.1	
	228nm,24.2s						
PPT2				*e*LR	LR	06 24 17.7	
	164nm,25.2s						
HNR	**Honiara**	**26.88**	**280**	LR	LR	06 26 50.5	
	comp=Z,81nm,19.8s,baz=266,slow=30						
PMG	**Port Moresby**	**39.10**	**274**	LR	LR	06 33 00.5	
	comp=Z,49nm,20.8s,baz=26,slow=30						
H11S2	**WAKE ISLAND Hy**	**39.32**	**329**	T	T	07 01 52.8	
	baz=152,slow=0.7,SNR=40						
H11S3	**WAKE ISLAND Hy**	**39.33**	**329**	T	T	07 01 51.4	
	baz=152,slow=0.7,SNR=49						
H11S1	**WAKE ISLAND Hy**	**39.34**	**329**	T	T	07 01 48.4	
	baz=152,slow=0.7,SNR=41						
H11N3	**WAKE ISLAND Hy**	**40.27**	**330**	T	T	07 03 07.2	
	baz=152,slow=0.7,SNR=41						
H11N1	**WAKE ISLAND Hy**	**40.27**	**330**	T	T	07 03 07.6	
	baz=152,slow=0.7,SNR=45						
H11N2	**WAKE ISLAND Hy**	**40.28**	**330**	T	T	07 03 07.4	
	baz=152,slow=0.7,SNR=45						
WRA	**Warramunga Arr**	**49.90**	**257**	P	P	06 22 28.4	-0.3
	0.6nm,0.7s,baz=88,slow=7.6,SNR=6.8						
ASAR	**Alice Springs**	**50.14**	**252**	P	P	06 22 29.9	-0.5
	2.9nm,0.6s,baz=87,slow=7.8,SNR=44						
NVAR	**Mina Array Bea**	**74.48**	**42**	P	P	06 25 13.6	+0.1
	0.8nm,0.9s,baz=240,slow=7.2,SNR=2.4						
TXAR	**Lajitas Array**	**80.68**	**56**	P	P	06 25 47.9	-0.3
	0.2nm,0.8s,baz=270,slow=0.9,SNR=3.3						
PDAR	**Pinedale Array**	**82.42**	**42**	P	P	06 25 57.9	+0.6
	0.4nm,0.6s,baz=192,slow=1.4,SNR=4.0						
ILAR	**Eielson Array**	**82.74**	**11**	P	P	06 25 57.2	-1.0
	1.3nm,1.0s,baz=200,slow=5.4,SNR=7.6						
BRTR	**Keskin Array B**	**146.50**	**321**	PKPbc	PKPab	06 33 17.4	-0.1
	1.8nm,0.9s,baz=90,slow=1.2,SNR=8.0						

IDC 03 06:30:42.2±1.4, 15°72S×173°23W, h0km, mb3.8/7, mb1 4.1/8, mb1mx4.0/21, mbtmp3.8/8, ML2.0/1, MS3.3/3, Ms1 3.3/3, ms1mx3.0/36, Error ellipse: s-maj=88.7km s-min=18.0km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.28**	**38**	Pn	Pn	06 31 20.0	-1.3
	26nm,0.3s,baz=85,slow=3.0,SNR=10.0						
AFI				Sn	Sn	06 31 45.8	-4.5
	70nm,0.3s,baz=237,slow=23,SNR=12						
AFI				LR	LR	06 32 09.1	
	comp=Z,364nm,20.6s,baz=221,slow=38						
DZM	**Mont Dzumac**	**20.23**	**249**	P	Pn	06 35 25.1	+4.0
	5.9nm,0.8s,baz=89,slow=14,SNR=4.5						
HNR	**Honiara**	**26.90**	**280**	LR	LR	06 44 05.2	
	comp=Z,19nm,21.1s,baz=309,slow=30						
H11S2	**WAKE ISLAND Hy**	**39.33**	**329**	T	T	07 20 30.9	
	baz=156						
H11S3	**WAKE ISLAND Hy**	**39.34**	**329**	T	T	07 20 24.7	
	baz=156						
H11S1	**WAKE ISLAND Hy**	**39.34**	**329**	T	T	07 20 19.5	
	baz=156						
H11N3	**WAKE ISLAND Hy**	**40.27**	**330**	T	T	07 21 40.6	
	baz=156						
H11N1	**WAKE ISLAND Hy**	**40.28**	**330**	T	T	07 21 28.9	
	baz=156						
H11N2	**WAKE ISLAND Hy**	**40.29**	**330**	T	T	07 21 43.3	
	baz=156						
STKA	**Stephens Creek**	**44.02**	**240**	P	P	06 38 51.2	-0.6
	1.9nm,0.7s,baz=89,slow=5.4,SNR=4.3						
WRA	**Warramunga Arr**	**49.93**	**257**	P	P	06 39 37.7	-0.6
	0.7nm,0.6s,baz=97,slow=7.3,SNR=12						
ASAR	**Alice Springs**	**50.17**	**252**	P	P	06 39 39.9	-0.2
	2.5nm,0.6s,baz=89,slow=8.0,SNR=22						
NVAR	**Mina Array Bea**	**74.46**	**42**	P	P	06 42 23.6	+0.7
	0.7nm,0.6s,baz=225,slow=8.9,SNR=4.8						
TXAR	**Lajitas Array**	**80.65**	**56**	P	P	06 42 57.8	+0.3
	0.1nm,0.6s,baz=234,slow=7.7,SNR=2.5						
PDAR	**Pinedale Array**	**82.39**	**42**	P	P	06 43 05.5	-1.1
	0.7nm,0.9s,baz=205,slow=2.8,SNR=4.9						
ILAR	**Eielson Array**	**82.73**	**11**	P	P	06 43 07.4	-0.2
	0.7nm,0.6s,baz=224,slow=5.8,SNR=12						
ATAH	**Atahualpa**	**92.71**	**98**	LR	LR	07 17 33.5	
	comp=Z,67nm,18.2s,baz=10,slow=30						
BRTR	**Keskin Array B**	**146.51**	**321**	PKPbc	PKPab	06 50 27.6	+0.6
	1.8nm,0.9s,baz=64,slow=3.4,SNR=4.3						

*IDC **03** 06:36:31.6±2.8, 22°07S×68°35W, h90km±26km, mb3.9/7, mb1 4.1/7, mb1mx3.8/16, mbtmp3.9/7, Error ellipse: s-maj=22.3km s-min=20.7km az=137.0*
*ISCJB **03** 06:36:33.7±0.6, 22°06S±0°06×68°28W±0°07, h121km±5km, mb4.0/14, Error ellipse: s-maj=11.4km s-min=8.9km az=22.6*
*NEIC **03** 06:36:34.4±0.7, 22°02S×68°19W, h112km±7km, mb4.1/11, Error ellipse: s-maj=12.4km s-min=9.7km az=100.0*
*GUC **03** 06:36:36.1±0.5, 22°05S×68°59W, h127km±5km, ML4.4*
ISC 03 06:36:34.4±0.8, 22°11S±0°06×68°24W±0°08, h115km±7km, n48, σ1°35/50, mb4.1/14, 5C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.80**	**231**	*e*Pg	Pn	06 36 56.1	+1.7
LVC				*e*Sg	Sn	06 37 12.1	+2.6
PB09	**Plate Boundary**	**0.98**	**288**	⇑*i*P	Pn	06 36 56.6	+0.7
PB09				*i* S	Sn	06 37 11.9	-0.4
PB09				AML	AML	06 37 13.1	
	comp=N,18μm,0.7s						
PB04	**Plate Boundary**	**1.17**	**262**	⇑*i*P	Pn	06 37 04.7	+7.0
PB04				*i* S	Sn	06 37 26.5	+11
PB04				AML	AML	06 37 31.5	
	comp=N,4μm,0.4s						
MACH	**Maria Elena**	**1.41**	**266**	⇑*i*P	Pn	06 37 00.8	+0.1
MACH				*i* S	Sn	06 37 19.5	-1.1
PB07	**Plate Boundary**	**1.58**	**284**	⇑*i*P	Pn	06 37 02.0	-0.6
PB07				*i* S	Sn	06 37 21.7	-2.3
PB07				AML	AML	06 37 23.1	
	comp=E,7μm,0.4s						
CEN1	**Los Morros**	**2.22**	**234**	*e*P	Pn	06 37 13.7	+3.2
CEN1				*i* S	Sn	06 37 42.1	+4.0
CEN1				AML	AML	06 37 52.4	
	comp=E,1μm,0.4s						
ANCH	**Antofagasta**	**2.54**	**232**	*i* P	Pn	06 37 15.0	+0.5
ANCH				*i* S	Sn	06 37 44.5	-0.9
PB10	**Plate Boundary**	**2.56**	**236**	⇑*i*P	Pn	06 37 14.3	-0.4
PB10				*i* S	Sn	06 37 43.8	-1.9
PB10				AML	AML	06 37 45.7	
	comp=E,5μm,0.7s						
PSGC	**Pisagua**	**3.06**	**324**	AML	AML	06 37 53.3	
	comp=E,1μm,0.6s						
LPAZ	**La Paz**	**5.79**	**1**	*e*Pn	Pn	06 37 58.9	+0.4
	comp=E,28nm,0.5s						
SIV	**San Ignacio**	**9.10**	**49**	P	Pn	06 38 41.5	-1.4
SIV	**San Ignacio**	**9.10**	**49**	P	Pn	06 38 41.5	-1.4
	comp=E,30nm,0.3s,baz=242,slow=12,SNR=385						
CFAA	**Coronel Fontan**	**9.46**	**180**	P	Pn	06 38 46.6	-1.0
CFAA				S	Sn	06 40 29.2	-2.9
CFAA	**Coronel Fontan**	**9.46**	**180**	P	Pn	06 38 46.6	-1.0
	comp=E,0.1nm,0.3s,baz=353,slow=13,SNR=19						
CFAA				S	Sn	06 40 29.2	-2.9
	comp=E,0.4nm,0.3s,baz=137,slow=20,SNR=8.9						
SAML	**Samuel**	**13.96**	**21**	*e*P	Pn	06 39 43.9	-3.3
	comp=E,2.1nm,0.9s						
BDFB	**Brasilia**	**20.18**	**75**	P	P	06 40 60.0	-0.1
BDFB	**Brasilia**	**20.18**	**75**	P	P	06 40 60.0	-0.1
	comp=E,6.8nm,0.5s,baz=247,slow=11,SNR=16						
OTAV	**Otavalo**	**24.34**	**335**	*e*P	P	06 41 43.3	+1.2
	comp=E,7.3nm,1.0s						
TXAR	**Lajitas Array**	**61.48**	**325**	P	P	06 46 37.2	-1.9
TXAR	**Lajitas Array**	**61.48**	**325**	P	P	06 46 37.2	-1.9
	comp=E,0.6nm,0.8s,baz=142,slow=6.6,SNR=8.2						
ANMO	**Albuquerque**	**67.35**	**327**	*e*P	P	06 47 16.9	-0.5
	comp=E,1.4nm,0.7s						
QSPA	**South Pole Qui**	**68.09**	**180**	*e*P	P	06 47 24.1	+2.5
	comp=E,0.8nm,0.5s						
DBIC	**Dimbokro**	**68.31**	**73**	*e*P	P	06 47 24.1	+0.4
	comp=E,3.1nm,0.6s						
DBIC	**Dimbokro**	**68.31**	**73**	P	P	06 47 24.0	+0.4
	comp=E,2.8nm,0.4s,baz=221,slow=6.2,SNR=9.0						
SDCO	**Great Sand Dun**	**69.08**	**329**	*e*P	P	06 47 28.4	+0.1
	comp=E,1.7nm,0.6s						
PV01	**Paradox Valley**	**70.89**	**327**	*e*P	P	06 47 39.6	+0.4
SMCO	**Snowmass**	**70.92**	**329**	*e*P	P	06 47 40.1	+0.4
	comp=E,1.8nm,0.8s						
PV10	**Paradox Valley**	**71.31**	**327**	*e*P	P	06 47 41.0	-0.8
PDAR	**Pinedale Array**	**74.94**	**330**	P	P	06 48 02.9	-0.2
PDAR	**Pinedale Array**	**74.94**	**330**	P	P	06 48 02.9	-0.2
	comp=E,0.6nm,0.6s,baz=127,slow=7.5,SNR=5.2						
RRI2	**Red Ridge**	**76.22**	**329**	*e*P	P	06 48 10.3	-0.1
	comp=E,3.1nm,0.9s						
NVAR	**Mina Array Bea**	**76.35**	**322**	P	P	06 48 11.5	+0.4
NVAR	**Mina Array Bea**	**76.35**	**322**	P	P	06 48 11.5	+0.4
	comp=E,0.8nm,0.8s,baz=157,slow=6.9,SNR=4.6						
TORD	**Torodi Ar. Bea**	**76.97**	**70**	P	P	06 48 15.2	+0.3
TORD	**Torodi Ar. Bea**	**76.97**	**70**	P	P	06 48 15.2	+0.3
	comp=E,2.7nm,0.4s,baz=254,slow=5.6,SNR=51						
HLID	**Hailey**	**77.89**	**328**	*e*P	P	06 48 20.2	+0.6
	comp=E,5.5nm,1.1s						
TSUM	**Tsumeb**	**79.27**	**106**

*BJI **03** 07:16:58.3, 16°.90S×173°.00W, h6km, mB5.6/31, mb5.2/37, Ms5.4/36, Ms7 5.1/33*
*NEIC **03** 07:16:59.1±0.1, 16°.91S×172°.97W, h10km, mb5.2/123, Error ellipse: s-maj=6.9km s-min=4.3km az=139.0*
*MOS **03** 07:17:03.5±1.2, 16°.42S×172°.88W, h33km, mb5.2/46, MS5.1/12, Error ellipse: s-maj=11.3km s-min=7.9km az=64.1*
*SZGRF **03** 07:17:04.9, 16°.81S×176°.33W, h33km, Fiji Islands region*
*GCMT **03** 07:17:06.4±0.1, 16°.84S×172°.73W, h19km, MW5.5, Moment Tensor Solution. s87,c154; s99,c198; Moment tensor: Scale 10^17^Nm; Mrr 0.02±.02; Mθθ -0.43±.02; Mφφ 0.41±.02; Mrθ 0.65±.05; Mθφ -0.88±.02; Mφr 1.55±.10; Best double couple: M0 1.90000×10^17^ NP1:φs 18.00000°, δ89.00000°, λ60.00000°. NP2:φs 286.00000°, δ30.00000°, λ178.00000°. Principal axes: T 1.8000, Plg39.0000°, Azm261.0000°; N 0.2600, Plg30.0000°, Azm18.0000°; P -2.0600, Plg37.0000°, Azm134.0000°; Data Used: II IU IC G CN. Surface waves from 112 sta.*

ISC 03 07:16:59.4±0.4, 16°.99S±0°.05×172°.93W±0°.05, h14km±1km, h14km:pP-P,n859,σ1§20/858,mb5.2/164,MS5.1/53, 172C-179D,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time h m s	Res ISC
				Op		ISC		
AFI	**Afiamalu**	**3.26**	**20**	*e*Pn		Pn	07 17 44.3	-5.9
AFI				*e*Sn		**Sn**	**07 18 24.2**	**-4.6**
AFI	**Afiamalu**	**3.26**	**20**	Pn		Pn	07 17 45.3	-4.8
	75nm,0.3s,baz=85,slow=0.7,SNR=23							
AFI				Sn		Sn	07 18 20.5	-8.3
	569nm,0.3s,baz=42,slow=22,SNR=11							
AFI				LR		LR	07 18 55.4	
	comp=Z,6μm,21.9s,baz=193,slow=37							
MSVF	**Nonsavu**	**8.64**	**264**	*e*P		Pn	07 19 10.6	+6.3
MSVF	**Nonsavu**	**8.64**	**264**	Pn		Pn	07 19 10.0	+5.7
	2μm,1.1s,SNR=25							
MSVF	**Nonsavu**	**8.64**	**264**	*e*Pn		Pn	07 19 10.6	+6.3
RAO	**Raoul Island**	**13.04**	**200**	Sn		Sn	07 22 21.4	-7.8
RAO	**Raoul Island**	**13.04**	**200**	Sn		Sn	07 22 21.4	-7.8
	7.1nm,0.3s,baz=279,slow=22,SNR=6.2							
RAO				LR		LR	07 24 19.1	
	comp=Z,2μm,19.3s,baz=15,slow=34							
RAR	**Rarotonga**	**13.13**	**111**	*e*Pn		Pn	07 20 02.0	-3.6
RAR				Sn		Sn	07 22 23.6	-7.9
RAR	**Rarotonga**	**13.13**	**111**	Pn		**Pn**	**07 20 02.8**	**-2.8**
	9.0nm,0.3s,baz=270,slow=8.3,SNR=12							
RAR				Sn		Sn	07 22 23.6	-7.9
	7.0nm,0.3s,baz=90,slow=15,SNR=2.5							
KNTN	**Kanton**	**14.17**	**5**	*e*Pn		**Pn**	**07 20 18.1**	**-1.8**
DZM	**Mont Dzumac**	**20.08**	**252**	*e*P		**P**	**07 21 28.7**	**-4.1**
	326nm,1.4s							
DZM				*e*LR		LR	07 26 09.9	
	19μm,24.1s							
DZM	**Mont Dzumac**	**20.08**	**252**	P		**P**	**07 21 31.9**	**-0.9**
DZM	**Mont Dzumac**	**20.08**	**252**	P		**P**	**07 21 31.9**	**-0.9**
	61nm,1.0s,baz=80,slow=17,SNR=14							
DZM				LR		LR	07 27 34.6	
	comp=Z,5μm,21.8s,baz=56,slow=32							
OUZ	**Omahuta**	**21.78**	**211**	*e*P		**P**	**07 21 51.1**	**+0.2**
	173nm,1.3s							
PPT2	**Papeete2**	**22.31**	**95**	*e*LQ		LQ	07 26 06.0	
	6μm,23.6s							
PPT2				*e*LR		LR	07 27 17.1	
	9μm,23.5s							
PPT	**Papeete**	**22.31**	**95**	LR		LR	07 28 27.1	
	comp=Z,5μm,18.5s,baz=270,slow=31							
URZ	**Urewera**	**22.93**	**200**	*e*P		**P**	**07 22 02.7**	**-0.4**
	112nm,0.7s							
URZ	**Urewera**	**22.93**	**200**	P		**P**	**07 22 02.2**	**-0.8**
	38nm,0.4s,baz=13,slow=7.0,SNR=21							
URZ				S		**S**	**07 26 07.2**	**-5.5**
	25nm,1.1s,baz=82,slow=22,SNR=6.4							
TARA	**Tarawa**	**22.95**	**321**	*e*P		**P**	**07 22 02.6**	**-0.9**
	207nm,1.0s							
BKZ	**Black Stump Fm**	**23.95**	**201**	*e*P		**P**	**07 22 16.6**	**+3.3**
	36nm,0.7s							
BFZ	**Birch Farm**	**25.40**	**199**	*e*P		**P**	**07 22 28.3**	**+1.9**
	56nm,0.6s							
HNR	**Honiara**	**27.43**	**282**	LR		LR	07 31 49.8	
	comp=Z,17μm,21.5s,baz=114,slow=32							
KHZ	**Kahutara**	**27.86**	**202**	*e*P		**P**	**07 22 52.4**	**+3.8**
	31nm,0.6s							
RPZ	**Rata Peaks**	**29.90**	**204**	*e*P		P	07 23 10.7	+3.9
	80nm,0.9s							
RPZ	**Rata Peaks**	**29.90**	**204**	P		P	07 23 11.4	+4.6
	14nm,0.4s,baz=28,slow=6.6,SNR=14							
EIDS	**Eidsvold**	**34.49**	**250**	*e*P		**P**	**07 23 48.1**	**+0.8**
	52nm,1.6s							
EIDS	**Eidsvold**	**34.49**	**250**	⇑P		**P**	**07 23 46.3**	**-1.0**
	baz=35							
ARMA	**Armidale**	**34.94**	**241**	*e*P		**P**	**07 23 49.9**	**-1.3**
	421nm,2.8s							
ARMA	**Armidale**	**34.94**	**241**	⇓P		**P**	**07 23 49.7**	**-1.5**
	baz=35,SNR=11							
RKT	**Rikitea**	**36.10**	**106**	*e*S		**S**	**07 29 38.9**	**-1.5**
	298nm,31.0s							
RKT				*e*LQ		LQ	07 32 18.4	
	2μm,29.0s							
RKT				*e*LR		LR	07 33 31.4	
	7μm,26.2s							
RMQ	**Roma**	**36.70**	**248**	⇑P		**P**	**07 24 04.9**	**-1.4**
	baz=37							
CNB	**Canberra Magne**	**38.16**	**234**	⇑P		**P**	**07 24 16.8**	**-1.9**
	baz=38,SNR=9.3							
CTA	**Charters Tower**	**38.75**	**259**	⇑P		**P**	**07 24 22.0**	**-1.7**
	baz=39							
CTAO	**Charters Tower**	**38.75**	**259**	*e*P		**P**	**07 24 21.0**	**-2.7**
CTAO				pmax		pmax		
	comp=Z,27nm,0.8s							
CTAO	**Charters Tower**	**38.75**	**259**	*e*P		**P**	**07 24 21.0**	**-2.7**
	comp=Z,27nm,0.8s							
PMG	**Port Moresby**	**39.52**	**276**	*e*P		**P**	**07 24 30.4**	**+0.2**
	comp=Z,21nm,0.8s							
PMG	**Port Moresby**	**39.52**	**276**	P		**P**	**07 24 30.7**	**+0.5**
	comp=Z,22nm,0.8s,baz=73,slow=6.6,SNR=10.0							
CMSA	**Cobar Meteorol**	**40.16**	**241**	⇓P		**P**	**07 24 32.2**	**-3.1**
	baz=40,SNR=21							
H11S2	**WAKE ISLAND Hy**	**40.55**	**329**	T		T	08 07 39.0	
	baz=151,slow=0.7,SNR=13							
H11S3	**WAKE ISLAND Hy**	**40.56**	**329**	T		T	08 07 35.7	
	baz=151,slow=0.7,SNR=6.0							
H11S1	**WAKE ISLAND Hy**	**40.57**	**329**	T		T	08 07 37.9	
	baz=151,slow=0.7,SNR=2.7							
KIP	**Kipapa**	**40.88**	**22**	⇑*i*P		**P**	**07 24 39.8**	**-1.4**
KIP				pmax		pmax		
	comp=Z,202nm,2.5s							
H11N3	**WAKE ISLAND Hy**	**41.51**	**331**	T		T	08 08 49.5	
	baz=153,slow=0.7,SNR=8.2							
H11N1	**WAKE ISLAND Hy**	**41.51**	**331**	T		T	08 08 47.8	
	baz=153,slow=0.7,SNR=7.6							
H11N2	**WAKE ISLAND Hy**	**41.52**	**331**	T		T	08 08 51.1	
	baz=153,slow=0.7,SNR=7.7							
TOO	**Toolangi**	**41.83**	**232**	⇑P		**P**	**07 24 46.8**	**-2.3**
	baz=42,SNR=4.4							
COEN	**Coen**	**42.35**	**268**	*e*P		**P**	**07 24 52.1**	**-1.4**
	comp=Z,194nm,1.2s							
COEN	**Coen**	**42.35**	**268**	⇓P		**P**	**07 24 51.9**	**-1.6**
	baz=43,SNR=11							
STKA	**Stephens Creek**	**43.66**	**241**	*e*P		**P**	**07 25 00.9**	**-3.0**
	comp=Z,7.6nm,0.7s							
STKA	**Stephens Creek**	**43.66**	**241**	⇑P		**P**	**07 25 01.0**	**-3.0**
	baz=44,SNR=22							
STKA	**Stephens Creek**	**43.66**	**241**	P		**P**	**07 25 00.9**	**-3.0**
	comp=Z,12nm,0.7s,baz=94,slow=10,SNR=20							
STKA				LR		LR	07 40 24.2	
	comp=Z,2μm,21.9s,baz=70,slow=32							
HTT	**Hallett**	**46.12**	**240**	⇓P		**P**	**07 25 20.5**	**-3.1**
	baz=46							
BBOO	**Buckleboo**	**48.42**	**241**	*e*P		**P**	**07 25 38.6**	**-2.9**
	comp=Z,974nm,0.6s							
BBOO	**Buckleboo**	**48.42**	**241**	⇓P		P	07 25 38.3	-3.2
	baz=49,SNR=49							
WRAB	**Tennant Creek**	**49.93**	**258**	*e*P		P	07 25 49.3	-3.9
WRAB				pmax		pmax		
	comp=Z,16nm,0.7s							
WRAB	**Tennant Creek**	**49.93**	**258**	P		P	07 25 50.0	-3.2
	comp=Z,137nm,1.2s,SNR=12							
WRAB	**Tennant Creek**	**49.93**	**258**	*e*P		P	07 25 49.3	-3.9
	comp=Z,16nm,0.7s							
WRA	**Warramunga Arr**	**49.94**	**258**	P		P	07 25 48.9	-4.4
WRA				S		S	07 32 57.3	-6.3
WRA	**Warramunga Arr**	**49.94**	**258**	P		P	07 25 48.9	-4.4
	comp=Z,7.3nm,0.7s,baz=94,slow=7.0,SNR=110							
WRA				S		S	07 32 57.3	-6.3
	comp=Z,0.3nm,0.7s,baz=243,slow=21,SNR=2.5							
WRA				LR		LR	07 46 21.6	
	comp=Z,5μm,18.7s,baz=100,slow=35							
AS31	**Alice Springs**	**50.06**	**253**	*e*P		P	07 25 50.7	-3.5
ASAR	**Alice Springs**	**50.07**	**253**	P		P	07 25 50.5	-3.7
ASAR				ScP		**ScP**	**07 31 07.9**	**-1.7**
ASAR				S		S	07 32 55.3	-10
ASAR	**Alice Springs**	**50.07**	**253**	P		P	07 25 50.5	-3.7
	comp=Z,25nm,0.5s,baz=89,slow=6.8,SNR=132							
ASAR				ScP		**ScP**	**07 31 07.9**	**-1.7**
	comp=Z,0.9nm,1.0s,baz=106,slow=6.8,SNR=2.9							
ASAR				S		S	07 32 55.3	-10
	comp=Z,1.7nm,0.9s,baz=93,slow=15,SNR=7.7							
ASAR				LR		LR	07 46 27.7	
	comp=Z,2μm,18.4s,baz=91,slow=35							
FORT	**Forrest**	**55.12**	**244**	*e*P		**P**	**07 26 28.8**	**-2.7**
	comp=Z,37nm,0.6s							
FAKI	**Fak Fak**	**55.58**	**278**	⇑P		**P**	**07 26 34.2**	**-0.8**
	baz=56,SNR=6.1							
KNRA	**Kununurra**	**55.79**	**262**	⇓P		**P**	**07 26 34.2**	**-2.3**
	baz=56,SNR=9.0							
SWI	**Sorong**	**57.18**	**280**	⇓P		**P**	**07 26 46.2**	**-0.2**
	baz=58,SNR=5.3							
DRV	**Dumont d'Urvil**	**58.26**	**200**	S		S	07 34 39.0	-16
DRV				L		L	07 41 00.0	
DRV				R			07 45 00.0	
FITZ	**Fitzroy Crossi**	**58.34**	**259**	*e*P		**P**	**07 26 57.0**	**+2.5**
	comp=Z,9.8nm,0.9s							
FITZ	**Fitzroy Crossi**	**58.34**	**259**	P		**P**	**07 26 54.3**	**-0.2**
	baz=59,SNR=6.5							
SOEI	**Soe**	**61.31**	**268**	⇑P		**P**	**07 27 15.2**	**-0.1**
	baz=62,SNR=6.3							
SBA	**Scott Base**	**61.72**	**185**	*e*P		**P**	**07 27 19.0**	**+2.2**
SBA				pmax		pmax		
	comp=Z,40nm,0.9s							
SBA	**Scott Base**	**61.72**	**185**	*e*P		**P**	**07 27 18.9**	**+2.2**
	comp=Z,40nm,0.9s							
JCJ	**Chichijima**	**61.78**	**314**	LR		LR	07 48 53.1	
	comp=Z,2μm,20.5s,baz=133,slow=31							
VNDA	**Vanda**	**61.85**	**186**	*e*P		**P**	**07 27 19.3**	**+1.5**
	comp=Z,29nm,1.0s							
VNDA	**Vanda**	**61.85**	**186**	P		**P**	**07 27 18.8**	**+1.0**
	comp=Z,24nm,1.2s,baz=6.1,slow=6.8,SNR=29							
VNDA				LR		LR	07 49 19.9	
	comp=Z,602nm,20.2s,baz=26,slow=31							
MBWA	**Marble Bar**	**63.36**	**254**	*e*P		**P**	**07 27 31.7**	**+2.9**
	comp=Z,39nm,1.3s							
MEEK	**Meekatharra**	**63.64**	**248**	⇓P		**P**	**07 27 27.7**	**-2.9**
	baz=64,SNR=16							
BLDU	**Balldu**	**64.89**	**244**	P		**P**	**07 27 37.2**	**-1.5**
	baz=65,SNR=14							
CASY	**Casey**	**69.16**	**205**	*e*P		**P**	**07 28 04.9**	**-0.3**
	comp=Z,24nm,1.0s							
MJAR	**Matsushiro Arr**	**70.44**	**320**	P		**P**	**07 28 12.7**	**-0.8**
MJAR	**Matsushiro Arr**	**70.44**	**320**	P		**P**	**07 28 12.7**	**-0.8**
	comp=Z,3.6nm,0.8s,baz=151,slow=6.4,SNR=6.9							
MJAR				LR		LR	07 53 34.8	
	comp=Z,1μm,21.6s,baz=130,slow=31							
MAJO	**Matsushiro**	**70.44**	**320**	*e*P		**P**	**07 28 13.9**	**+0.5**
MAJO	**Matsushiro**	**70.44**	**320**	*e*P		**P**	**07 28 13.9**	**+0.5**
MAT	**Matsushiro**	**70.44**	**320**	P		**P**	**07 28 13.7**	**+0.2**
MAT				S		**S**	**07 37 25.0**	**-1.1**
YUK	**Yuzh-Kuril'sk**	**71.45**	**330**	*e*P		**P**	**07 28 22.0**	**+2.6**
SBC	**Santa Barbara**	**71.94**	**44**	⇓P		**P**	**07 28 23.1**	**+0.5**
	baz=72							
PKM	**Peak Mountain**	**72.14**	**44**	⇓P		**P**	**07 28 24.3**	**+0.3**
	baz=72							
CIS	**Catalina Islan**	**72.22**	**46**	⇑P		**P**	**07 28 25.1**	**+0.7**
	baz=72							
SMMC	**Simmler**	**72.26**	**43**	⇓P		**P**	**07 28 25.6**	**+1.0**
	baz=72							
PTRM	**Twisselman Ran**	**72.33**	**43**	*e*P		**P**	**07 28 24.9**	**0.0**
FMP	**Fort Macarthur**	**72.47**	**45**	⇓P		**P**	**07 28 26.9**	**+1.1**
	baz=73							
SKR	**Severo-Kuril's**	**72.66**	**340**	*e*P		P	07 28 21.0	-5.5
SKR				*e*			07 37 42.0	
SKR				pmax		pmax		
	comp=Z,180nm,1.0s							
109C	**Camp Elliot, M**	**72.82**	**47**	⇓P		**P**	**07 28 28.9**	**+1.1**
	baz=73							
MWC	**Mount Wilson**	**72.92**	**45**	*e*P		**P**	**07 28 28.8**	**+0.1**
MWC				pmax		pmax		
	comp=Z,21nm,1.1s							
MWC	**Mount Wilson**	**72.92**	**45**	*e*P		**P**	**07 28 28.8**	**+0.1**
	comp=Z,21nm,1.1s							
ARVC	**Arvin**	**72.93**	**44**	⇓P		**P**	**07 28 29.2**	**+0.8**
	baz=73							
QSPA	**South Pole Qui**	**73.07**	**180**	*e*P		**P**	**07 28 29.2**	**+0.2**
	comp=Z,57nm,1.0s							
QSPA	**South Pole Qui**	**73.07**	**180**	P		**P**	**07 28 29.5**	**+0.5**
	comp=Z,41nm,1.0s,baz=31,slow=1.6,SNR=80							
ASAJ	**Asahikawa**	**73.12**	**328**	*e*P		**P**	**07 28 29.7**	**+0.4**
	comp=Z,30nm,1.3s							
ASAJ	**Asahikawa**	**73.12**	**328**	LR		LR	07 59 38.4	
	comp=Z,985nm,19.4s,baz=355,slow=35							
MURC	**Murrieta**	**73.16**	**46**	⇓P		**P**	**07 28 30.8**	**+0.9**
	baz=73							
VES	**Vestal, Richgr**	**73.18**	**43**	⇑P		**P**	**07 28 30.2**	**+0.3**
	baz=73							
BFSC	**Mount Baldy Ra**	**73.20**	**45**	⇑P		**P**	**07 28 30.7**	**+0.4**
	baz=73							
JNU	**Nakatsue**	**73.21**	**313**	*e*P		**P**	**07 28 29.0**	**-1.2**
	comp=Z,10nm,0.7s							
JNU	**Nakatsue**	**73.21**	**313**	LR		LR	07 55 35.5	
	comp=Z,892nm,21.1s,baz=138,slow=32							
MONP	**Monument Peak**	**73.30**	**47**	⇑P		**P**	**07 28 31.3**	**+0.3**
	baz=73							
EDW2	**Edwards Air Fo**	**73.34**	**45**	⇓P		**P**	**07 28 31.2**	**+0.1**
	baz=74,SNR=5.4							
DVTC	**Desert V Tower**	**73.40**	**47**	⇑P		**P**	**07 28 32.2**	**+0.8**
	baz=74							
ISA	**Isabella**	**73.47**	**44**	*e*P		**P**	**07 28 32.3**	**+0.5**
ISA				pmax		pmax		
	comp=Z,24nm,1.1s							
ISA	**Isabella**	**73.47**	**44**	*e*P		**P**	**07 28 32.3**	**+0.5**
	comp=Z,24nm,1.1s							
ISA	**Isabella**	**73.47**	**44**	⇓P		**P**	**07 28 32.1**	**+0.3**
	baz=74,SNR=7.3							
CMB	**Columbia Colle**	**73.66**	**41**	*e*P		**P**	**07 28 33.0**	**+0.2**
CMB				pmax		pmax		
	comp=Z,26nm,1.4s							
CMB	**Columbia Colle**	**73.66**	**41**	*e*P		**P**	**07 28 33.0**	**+0.2**
	comp=Z,26nm,1.4s							
PFO	**Pinyon Flat Ob**	**73.68**	**46**	*e*P		**P**	**07 28 32.9**	**-0.2**
	comp=Z,11nm,1.0s							
PFO	**Pinyon Flat Ob**	**73.68**	**46**	⇑P		**P**	**07 28 33.2**	**+0.1**
	baz=74							
LRMC	**Laurel Mountai**	**73.89**	**44**	⇓P		**P**	**07 28 34.3**	**0.0**
	baz=74							
PET	**Petropavlovsk**	**73.92**	**343**	*e*P		**P**	**07 28 33.8**	**0.0**
PET				*e*S		**SKiKP**	**07 38 02.9**	**+0.4**
PET				*e*SS		**SS**	**07 42 47.5**	**-2.7**
PET				pmax		pmax		
	comp=Z,100nm,13.4s							
CWC	**Cottonwood Cre**	**74.19**	**43**	⇑P		**P**	**07 28 36.3**	**+0.2**
	baz=74							
BELC	**Belle Mtn. Jos**	**74.21**	**46**	⇑P		**P**	**07 28 36.7**	**+0.5**
	baz=74							
PEA0B	**Petropavlovsk-**	**74.27**	**342**	*e*P		**P**	**07 28 35.1**	**-0.9**
PETK	**Petropavlovsk-**	**74.27**	**342**	P		**P**	**07 28 35.4**	**-0.5**
PETK				pmax		pmax		
	comp=Z,17nm,0.7s							
PETK	**Petropavlovsk-**	**74.27**	**342**	P		**P**	**07 28 35.4**	**-0.5**
PETK	**Petropavlovsk-**	**74.27**	**342**	P		**P**	**07 28 35.4**	**-0.5**
	comp=Z,16nm,0.7s,baz=141,slow=9.3,SNR=11							
PETK				LR		LR	07 53 23.1	
	comp=Z,303nm,21.5s,baz=155,slow=29							
MPMC	**Manual Prospec**	**74.36**	**44**	⇓P		**P**	**07 28 37.5**	**+0.4**
	baz=74							
GSC	**Goldstone**	**74.38**	**45**	*e*P		**P**	**07 28 37.0**	**-0.1**
GSC				pmax		pmax		
	comp=Z,18nm,1.1s							
GSC	**Goldstone**	**74.38**	**45**	*e*P		**P**	**07 28 37.0**	**-0.1**
	comp=Z,18nm,1.1s							
GSC	**Goldstone**	**74.38**	**45**	⇑P		**P**	**07 28 37.4**	**+0.2**
	baz=74							
MLAC	**Mammoth Lakes**	**74.39**	**42**	⇓P		**P**	**07 28 37.7**	**+0.4**
	baz=74							
BC3	**Big Chuckawall**	**74.40**	**47**	⇓P		**P**	**07 28 37.4**	**+0.1**
	baz=74							
MTUM	**Tungsten Hills**	**74.41**	**42**	*e*P		**P**	**07 28 38.0**	**+0.6**
HEC	**Hector,Ludlow**	**74.44**	**45**	⇓P		**P**	**07 28 37.8**	**+0.3**
	baz=75,SNR=7.2							
WAKR	**Walker**	**74.54**	**41**	*e*P		**P**	**07 28 38.6**	**+0.5**
YBH	**Yreka Blue Hor**	**74.59**	**37**	*e*P		**P**	**07 28 37.6**	**-0.6**
	comp=Z,24nm,1.1s							
BEKR	**Beckworth**	**74.80**	**39**	*e*P		**P**	**07 28 39.4**	**-0.2**
	comp=Z,12nm,1.2s							
GMRC	**Granite Mounta**	**74.87**	**46**	⇑P		**P**	**07 28 40.5**	**+0.4**
	baz=75,SNR=6.2							
IRM	**Iron Mountain**	**74.89**	**47**	⇑P		**P**	**07 28 40.5**	**+0.5**
	baz=75,SNR=7.3							
HUMO	**Hull Mountain**	**75.02**	**36**	*e*P		**P**	**07 28 41.4**	**+0.8**
	comp=Z,17nm,1.0s							
SHOC	**Shoshone**	**75.07**	**45**	⇓P		**P**	**07 28 41.5**	**+0.5**
	baz=75							
YSS	**Yuzh-Sakhalins**	**75.08**	**330**	*e*P		**P**	**07 28 39.4**	**-1.3**
YSS				*e*			07 28 52.2	
YSS				*e*S		**S**	**07 38 17.0**	**-1.5**
YSS				pmax		pmax		
	comp=Z,30nm,0.9s							
YSS				MLR		MLR		
	comp=E,400nm,20.0s							
YSS				MLR		MLR		
	comp=Z,500nm,20.0s							
Y12C	**Blythe**	**75.10**	**47**	⇓P		**P**	**07 28 41.6**	**+0.4**
	baz=75							
113A	**Mohawk Valley,**	**75.12**	**48**	⇓P		**P**	**07 28 41.8**	**+0.5**
	baz=75,SNR=9.8							
NVAR	**Mina Array Bea**	**75.21**	**41**	P		**P**	**07 28 41.9**	**-0.2**
NVAR	**Mina Array Bea**	**75.21**	**41**	P		**P**	**07 28 41.9**	**-0.2**
	comp=Z,5.4nm,0.9s,baz=229,slow=8.4,SNR=24							
NVAR				LR		LR	07 54 38.9	
	comp=Z,1μm,20.3s,baz=108,slow=30							
PAHR	**Pah Rah Range**	**75.30**	**40**	*e*P		**P**	**07 28 42.1**	**-0.3**
	comp=Z,24nm,1.2s							
NV11	**Mina Array Sit**	**75.30**	**42**	*e*P		**P**	**07 28 42.1**	**-0.3**
214A	**Organ Pipe Nat**	**75.39**	**50**	⇓P		**P**	**07 28 43.0**	**0.0**
	baz=76,SNR=6.6							
LDFC	**Landfair**	**75.41**	**46**	*e*P		**P**	**07 28 43.9**	**+0.8**
	comp=Z,41nm,1.1s							
PDMCI	**Parker Dam,Lak**	**75.66**	**47**	⇓P		**P**	**07 28 45.0**	**+0.6**
	baz=76							
Z14A	**Wintersburg**	**76.02**	**48**	⇑P		**P**	**07 28 47.0**	**+0.5**
	baz=76							
MOD	**Modoc**	**76.09**	**38**	*e*P		**P**	**07 28 47.2**	**+0.3**
	comp=Z,132nm,1.3s							
SHPR	**Sheep Range**	**76.16**	**45**	*e*P		**P**	**07 28 47.5**	**+0.1**
SBUM	**Sibu**	**76.26**	**277**	*e*P		**P**	**07 28 48.3**	**0.0**
	comp=Z,7.2nm,0.8s							
K05A	**Summer Lake**	**76.26**	**37**	*e*P		**P**	**07 28 48.6**	**+0.6**
	comp=Z,38nm,0.9s							
TPUB	**Ta-pu**	**76.26**	**300**	*e*P		**P**	**07 28 47.8**	**-0.3**
	comp=Z,47nm,0.9s							
W13A	**Hualapai Mount**	**76.27**	**46**	⇓P		**P**	**07 28 48.4**	**+0.3**
	baz=76							
Y14A	**Wickenburg**	**76.27**	**48**	⇑P		**P**	**07 28 48.7**	**+0.7**
	baz=76,SNR=5.4							
KDAK	**Kodiak Island**	**76.38**	**11**	*e*P		**P**	**07 28 48.4**	**+0.5**
	comp=Z,64nm,1.1s							
KDAK	**Kodiak Island**	**76.38**	**11**	LR		LR	07 55 22.6	
	comp=Z,820nm,21.5s,baz=228,slow=30							
H04A	**Detroit Lake**	**76.79**	**35**	*e*P		**P**	**07 28 51.5**	**+0.9**
	comp=Z,18nm,0.9s							
R11A	**Troy Canyon, C**	**76.91**	**43**	*e*P		**P**	**07 28 51.7**	**+0.1**
R11A	**Troy Canyon, C**	**76.91**	**43**	⇑P		**P**	**07 28 52.1**	**+0.4**
	baz=77							
TUC	**Tucson**	**77.05**	**50**	*e*P		**P**	**07 28 51.8**	**-0.7**
TUC				pmax		pmax		
	comp=Z,27nm,1.2s							
TUC	**Tucson**	**77.05**	**50**	*e*P		**P**	**07 28 51.8**	**-0.7**
	comp=Z,26nm,1.2s							
BMN	**Battle Mountai**	**77.06**	**40**	*e*P		**P**	**07 28 54.4**	**+1.9**
BMN	**Battle Mountai**	**77.06**	**40**	*e*P		**P**	**07 28 54.4**	**+1.9**
WVOR	**Wild Horse Val**	**77.39**	**38**	*e*P		**P**	**07 28 53.5**	**-0.7**
WVOR				pmax		pmax		
	comp=Z,24nm,1.1s							
WVOR	**Wild Horse Val**	**77.39**	**38**	*e*P		**P**	**07 28 53.5**	**-0.7**
	comp=Z,24nm,1.1s							
LVP	**Lakeview Peak**	**77.58**	**33**	P		**P**	**07 28 56.8**	**+1.6**
KSRS	**Korea Array**	**77.60**	**316**	P		**P**	**07 28 56.7**	**+1.4**
	comp=Z,3.4nm,0.7s,baz=133,slow=5.3,SNR=7.5							
KSRS				LR		LR	08 00 53.5	
	comp=Z,590nm,18.8s,baz=129,slow=34							
KSAR	**Wonju Array Be**	**77.62**	**316**	P		**P**	**07 28 56.7**	**+1.3**
X16A	**Lo Mia Camp, P**	**77.63**	**48**	⇑P		**P**	**07 28 56.4**	**+0.6**
	baz=78,SNR=14							
319A	**Douglas**	**77.71**	**52**	⇑P		**P**	**07 28 56.7**	**+0.5**
	baz=78,SNR=6.2							
KSM	**Kuching**	**77.78**	**275**	*e*P		**P**	**07 28 57.6**	**+0.8**
	comp=Z,26nm,0.8s							
TDL	**T

baz=80
DUG Dugway 79.72 42 *e*P **P 07 29 06.8 -0.3**
DUG pmax pmax
comp=Z,15nm,1.0s
DUG Dugway 79.72 42 *e*P **P 07 29 06.8 -0.3**
comp=Z,15nm,1.0s
DUG Dugway 79.72 42 ⇓P **P 07 29 07.7 +0.6**
baz=80
X20A Quemado 79.80 49 ⇓P **P 07 29 08.2 +0.4**
baz=80,SNR=15
Z21A St. Cloud Mine 79.83 51 ⇑P **P 07 29 08.7 +0.7**
baz=80,SNR=24
HABR Khabarovsk 79.91 328 *e*P **P 07 29 06.4 -1.3**
HABR *e* 07 29 13.9
HABR *e* 07 32 06.5
HABR *e*S **S 07 39 08.4 -2.4**
HABR *e**SS **sS 07 39 14.1 -4.4**
HABR *e* 07 39 29.9
HABR *e*SS **SS 07 44 17.3 -3.7**
HABR *e*SSS SSS 07 47 43.1
HABR MLR MLR
comp=Z,594nm,17.0s
WTV Waterville 79.92 33 P **P 07 29 07.2 -0.7**
BGU Big Grassy Mou 79.97 42 *e*P **P 07 29 07.5 -1.0**
comp=Z,11nm,1.2s
122A Conniff Cattle 80.04 51 ⇓P **P 07 29 09.7 +0.7**
baz=80
NLU North Lily Min 80.07 43 *e*P **P 07 29 08.5 -0.6**
comp=Z,5.8nm,0.9s
W20A Ramah 80.08 49 ⇓P **P 07 29 09.7 +0.4**
baz=80,SNR=31
Q16A Castle Valley 80.12 44 *e*P **P 07 29 08.3 -1.1**
Q16A Castle Valley 80.12 44 ⇓P **P 07 29 10.0 +0.6**
baz=80
E09A Wood Farm, Sta 80.15 35 *e*P **P 07 29 09.0 -0.1**
comp=Z,18nm,1.3s
Y21A Point of Rocks 80.15 50 ⇓P **P 07 29 09.9 +0.2**
baz=80,SNR=7.3
SAW Saint Andrews 80.21 33 P **P 07 29 09.1 -0.4**
X21A Alamocita Cree 80.28 50 ⇓P **P 07 29 10.7 +0.3**
baz=80,SNR=7.1
TMUT Trail Mountain 80.29 44 *e*P **P 07 29 11.6 +1.2**
comp=Z,33nm,1.1s
Z22A Elephant Butte 80.33 51 ⇓P **P 07 29 10.7 +0.1**
baz=80,SNR=19
F10A Beach Ranch, E 80.33 36 *e*P **P 07 29 09.8 -0.4**
comp=Z,14nm,0.9s
MPU Maple Canyon 80.39 43 *e*P **P 07 29 12.0 +1.2**
comp=Z,14nm,1.0s
V20A Brimhall 80.43 48 ⇑P **P 07 29 11.5 +0.3**
baz=81
MDJ Mudanjiang 80.55 322 P **P 07 29 12.1 +0.8**
MDJ pP **pP 07 29 15.3 -0.7**
MDJ sP **sP 07 29 16.6 -1.0**
MDJ PP **PP 07 32 14.9 -0.2**
MDJ S **S 07 39 18.8 +1.0**
MDJ AMB AMB
comp=Z,9.0nm,1.1s
MDJ AMB AMB
comp=Z,170nm,5.7s
MDJ LR LR
comp=Z,440nm,23.3s
MDJ LR LR
comp=Z,580nm,21.4s
MDJ LR LR
comp=Z,1μm,21.4s
MDJ Mudanjiang 80.55 322 *e*P **P 07 29 12.4 +1.1**
comp=Z,22nm,0.9s
123A Bell Site, Whi 80.56 52 ⇓P **P 07 29 12.1 +0.3**
baz=81
HLID Hailey 80.57 39 *e*P **P 07 29 11.5 -0.2**
comp=Z,13nm,0.9s
HLID Hailey 80.57 39 ⇑P **P 07 29 12.1 +0.4**
baz=81,SNR=12
PMR Palmer 80.58 11 *e*P **P 07 29 10.2 -0.8**
PMR pmax pmax
comp=Z,71nm,1.4s
PMR Palmer 80.58 11 *e*P **P 07 29 10.2 -0.8**
comp=Z,71nm,1.4s
HVU Hansel Valley 80.59 41 *e*P **P 07 29 11.9 +0.1**
HVU pmax pmax
comp=Z,19nm,1.3s
HVU Hansel Valley 80.59 41 *e*P **P 07 29 11.9 +0.1**
comp=Z,19nm,1.3s
324A Moseley Ranch, 80.62 53 ⇓P **P 07 29 11.8 -0.4**
baz=81,SNR=6.2
Y22A Socorro 80.64 50 ⇑P **P 07 29 12.2 -0.1**
baz=81,SNR=7.1
WRAK Wrangell Islan 80.65 21 *e*P **P 07 29 13.0 +1.5**
comp=Z,24nm,1.0s
B08A Colville Reser 80.65 33 *e*P **P 07 29 11.2 -0.7**
comp=Z,18nm,1.1s
SRU San Rafael 80.65 44 *e*P **P 07 29 12.8 +0.5**
SRU pmax pmax
comp=Z,16nm,1.0s
SRU San Rafael 80.65 44 *e*P **P 07 29 12.8 +0.5**
comp=Z,16nm,1.0s
U20A Newcomb 80.67 48 ⇓P **P 07 29 12.3 -0.1**
baz=81
W21A San Fidel 80.69 49 ⇓P **P 07 29 12.7 +0.1**
baz=81
425A Indio Mountain 80.72 54 ⇓P **P 07 29 12.5 -0.2**
baz=81,SNR=14
LAZ Ladron 80.73 50 *e*P **P 07 29 12.9 +0.2**
comp=Z,10nm,1.4s
MNTX Cornudas Mount 80.81 53 *e*P **P 07 29 13.0 -0.1**
comp=Z,16nm,1.2s
JLU Jordanelle 80.81 43 *e*P **P 07 29 13.1 -0.1**
comp=Z,14nm,1.2s
DIV Divide 80.83 13 *e*P **P 07 29 12.0 -0.5**
comp=Z,77nm,0.9s
DAU Daniels Canyon 80.84 43 *e*P **P 07 29 14.0 +0.6**
DAU Daniels Canyon 80.84 43 *e*P **P 07 29 14.0 +0.6**
626A Big Bend Ranch 80.85 55 ⇓P **P 07 29 13.8 +0.4**
baz=81,SNR=13
C09A Chrisman Ranch 80.87 34 *e*P **P 07 29 12.2 -0.8**
comp=Z,15nm,1.1s
224A Cornudas Mount 80.87 53 ⇓P **P 07 29 13.6 +0.1**
baz=81,SNR=14
Z23A Rita Site, Whi 80.87 51 ⇓P **P 07 29 13.5 0.0**
baz=81,SNR=6.5
BMRM Bremner River 80.94 14 *e*P **P 07 29 12.6 -0.6**
comp=Z,117nm,1.1s
BNM Barren Site 80.98 50 *e*P **P 07 29 15.1 +0.8**
comp=Z,11nm,1.2s
V21A Milan 81.03 48 ⇑P **P 07 29 14.8 +0.4**
baz=81
LPM Los Pinos Moun 81.06 50 *e*P **P 07 29 15.4 +0.9**
MVCO Mesa Verde 81.09 47 *e*P **P 07 29 14.8 +0.1**
comp=Z,30nm,1.8s
MVCO Mesa Verde 81.09 47 ⇓P **P 07 29 15.0 +0.3**
baz=81
526A Mary Lane Ranc 81.10 55 ⇓P **P 07 29 15.1 +0.3**
baz=81
PV05 Paradox Valley 81.10 46 *e*P **P 07 29 15.8 +1.0**
TXAR Lajitas Array 81.12 56 P **P 07 29 15.4 +0.5**
TXAR Lajitas Array 81.12 56 P **P 07 29 15.4 +0.5**
comp=Z,8.9nm,1.1s,baz=227,slow=6.6,SNR=29
TXAR LR LR 07 57 01.2
comp=Z,762nm,21.7s,baz=80,slow=30
124A Stringfield Ra 81.20 52 ⇑P **P 07 29 15.1 -0.2**
baz=81,SNR=6.0
W22A Albuquerque 81.24 49 ⇓P **P 07 29 15.2 -0.2**
baz=81
PV09 Paradox Valley 81.28 45 *e*P **P 07 29 16.5 +0.7**
PV10 Paradox Valley 81.29 46 *e*P **P 07 29 16.5 +0.8**
comp=Z,239nm,0.8s
U21A Nageezi 81.31 48 ⇓P **P 07 29 16.1 +0.3**
baz=81,SNR=16
Y23A Lovelace Mesa, 81.31 51 ⇑P **P 07 29 15.7 -0.2**
baz=81
627A Terlingua Ranc 81.39 56 ⇑P **P 07 29 16.5 +0.1**
baz=82,SNR=18
426A McDonald Obser 81.41 54 ⇑P **P 07 29 16.3 -0.2**
baz=82,SNR=26
225A Deer Hill, Car 81.42 53 ⇓P **P 07 29 16.5 0.0**
baz=82,SNR=6.5
NJ2 Nanjing 81.48 307 *e*P **P 07 29 16.7 +0.2**
NJ2 AMB AMB
comp=Z,10.0nm,1.0s
ANMO Albuquerque 81.48 50 *e*P **P 07 29 17.4 +0.6**
comp=Z,14nm,1.1s
S20A Disappointment 81.49 46 ⇓P **P 07 29 16.7 -0.1**
baz=82,SNR=6.3
PV01 Paradox Valley 81.49 46 *e*P **P 07 29 16.7 -0.1**
comp=Z,2μm,1.3s
527A Woodward Ranch 81.51 55 ⇓P **P 07 29 16.6 -0.4**
baz=82,SNR=13
Z24A Sheeppen Canyo 81.55 51 ⇑P **P 07 29 17.4 +0.2**
baz=82
V22A San Miguel Ran 81.60 49 ⇓P **P 07 29 17.4 0.0**
baz=82
R20A Redvale 81.65 46 ⇑P **P 07 29 17.6 0.0**
baz=82,SNR=6.9
PV15 Paradox Valley 81.65 46 *e*P **P 07 29 18.1 +0.4**
T21A Navajo Lake 81.66 47 ⇓P **P 07 29 18.0 +0.3**
baz=82
326A Caldwell Ranch 81.72 54 ⇓P **P 07 29 18.2 +0.2**
baz=82
NEW Newport 81.76 34 *e*P **P 07 29 17.9 +0.2**
comp=Z,11nm,1.3s
NEW Newport 81.76 34 ⇑P **P 07 29 18.5 +0.8**
baz=82
Y24A Capitan 81.76 51 ⇓P **P 07 29 18.4 +0.1**
baz=82,SNR=7.2
M17A Scullys Gap (B 81.77 42 ⇓P **P 07 29 18.1 -0.1**
baz=82
CAST Castle Rocks 81.78 9 *e*P **P 07 29 15.3 -2.1**
125A Gardner Draw, 81.79 52 ⇑P **P 07 29 18.6 +0.2**
baz=82
W23A Werner Place, 81.80 50 ⇓P **P 07 29 18.4 0.0**
baz=82,SNR=7.8
628A Black Gap, Mar 81.80 56 ⇓P **P 07 29 18.6 +0.2**
baz=82,SNR=13
226B Tecolote Peak, 81.91 53 ⇑P **P 07 29 19.3 +0.4**
baz=82,SNR=16
P19A Cripple Cowboy 81.95 44 ⇑P **P 07 29 19.8 +0.6**
baz=82
427A Hayter Ranch, 81.97 54 ⇑P **P 07 29 19.9 +0.6**
baz=82,SNR=14
Z25A Roswell 82.02 52 ⇓P **P 07 29 20.2 +0.6**
baz=82
V23A Ortiz Mt. (NFS 82.04 49 ⇑P **P 07 29 20.2 +0.5**
baz=82,SNR=9.7
Q20A Ridgley Place, 82.08 45 ⇓P **P 07 29 20.1 +0.3**
baz=82,SNR=19
KLR Kul'dur 82.09 327 *e*P **P 07 29 21.0 +1.6**
SKAG Skagway 82.10 18 *e*P **P 07 29 19.9 +0.8**
comp=Z,25nm,1.0s
TRF Thorofare Moun 82.10 10 *e*P **P 07 29 20.3 +1.0**
comp=Z,54nm,1.0s
T22A Edith 82.12 48 ⇓P **P 07 29 20.4 +0.2**
baz=82,SNR=9.3
528A Cox Ranch, San 82.16 55 ⇑P **P 07 29 20.5 +0.1**
baz=82,SNR=17
O19A Miners Draw (B 82.19 44 ⇑P **P 07 29 21.0 +0.7**
baz=82
MCMT McKenzie Canyo 82.21 38 *e*P **P 07 29 20.4 0.0**
comp=Z,10.0nm,1.1s
126A Clayton Basin, 82.27 53 ⇑P **P 07 29 21.2 +0.4**
baz=82
P20A De Beque 82.28 45 ⇑P **P 07 29 21.3 +0.4**
baz=82,SNR=12
U23A El Rito 82.31 48 ⇓P **P 07 29 21.5 +0.3**
baz=82,SNR=12
R21A Cimarron 82.31 46 ⇑P **P 07 29 21.8 +0.6**
baz=82,SNR=17
Y25A Mesa, Roswell 82.32 51 ⇓P **P 07 29 21.4 +0.3**
baz=82,SNR=8.6
RRI2 Red Ridge 82.34 40 *e*P **P 07 29 21.4 +0.2**
comp=Z,27nm,1.1s
W24A Lazy 6 Ranch, 82.36 50 ⇓P **P 07 29 21.9 +0.5**
baz=82
L18A Fontenelle, Gr 82.41 42 ⇓P **P 07 29 22.3 +0.8**
baz=83
428A Kincaid Ranch, 82.48 55 ⇑P **P 07 29 22.7 +0.7**
baz=83,SNR=6.6
S22A 4UR Ranch, Cre 82.51 47 ⇓P **P 07 29 22.7 +0.4**
baz=83,SNR=22
Q21A Lamborn Mesa, 82.51 46 ⇑P **P 07 29 22.8 +0.7**
baz=83
227A Bennet, Jal 82.55 53 ⇑P **P 07 29 22.9 +0.6**
baz=83
PAX Paxson 82.55 12 *e*P **P 07 29 20.6 -1.0**
PAX Paxson 82.55 12 *e*P **P 07 29 20.6 -1.0**
Z26A Caprock 82.57 52 ⇓P **P 07 29 22.5 +0.1**
baz=83,SNR=9.9
CN2 Changchun 82.58 320 *e*P P 07 29 27.4 +5.3
CN2 PP PP 07 32 39.1 +7.2
CN2 *e*S **S 07 39 43.3 +4.4**
CN2 SS **SS 07 45 07.8 +6.7**
CN2 AMB AMB
comp=Z,20nm,0.9s
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,900nm,21.0s
CN2 LR LR
comp=Z,600nm,21.0s
CN2 LR LR
comp=Z,1μm,23.0s
MCK McKinley 82.59 11 *e*P **P 07 29 21.0 -0.7**
MCK McKinley 82.59 11 *e*P **P 07 29 21.0 -0.7**
BPAW Bear Paw Mtn. 82.59 10 *e*P **P 07 29 21.3 -0.4**
comp=Z,15nm,1.0s
HYT Haines Junctio 82.59 17 *e*P **P 07 29 22.1 +0.2**
529A Stev Forest Ra 82.60 56 ⇓P **P 07 29 23.2 +0.6**
baz=83,SNR=8.8
DL2 Dalian 82.61 314 *e*P P 07 29 15.1 -7.2
DL2 Dalian 82.61 314 S S 07 39 31.6 -7.6
DL2 AMB AMB
comp=Z,250nm,3.7s
DL2 LR LR
comp=N,290nm,21.0s
DL2 LR LR
comp=Z,270nm,24.5s
REDW Red Top Meadow 82.64 41 *e*P **P 07 29 23.0 +0.3**
comp=Z,53nm,1.6s
TPAW Teton Pass 82.64 40 *e*P **P 07 29 22.5 -0.3**
comp=Z,21nm,1.0s
DLMT Dillon 82.65 38 *e*P **P 07 29 22.8 +0.1**
328A Wristen Ranch, 82.66 54 ⇑P **P 07 29 23.1 +0.3**
baz=83
MSO Missoula 82.68 36 *e*P **P 07 29 21.9 -0.7**
comp=Z,23nm,1.3s
MSO Missoula 82.68 36 ⇑P **P 07 29 22.8 +0.1**
baz=83
O20A White River Ci 82.69 44 *e*P **P 07 29 23.5 +0.5**
O20A White River Ci 82.69 44 ⇓P **P 07 29 23.7 +0.6**
baz=83,SNR=6.2
V24A Rampart Ranch, 82.69 49 ⇑P **P 07 29 23.6 +0.4**
baz=83
T23A Casas Ranch, 82.74 48 ⇓P **P 07 29 23.9 +0.4**
baz=83
SNOW Snow King Moun 82.75 40 *e*P **P 07 29 23.6 +0.3**
comp=Z,68nm,1.5s
M19A Rock Springs 82.77 43 ⇓P **P 07 29 24.1 +0.7**
baz=83
127A Arkansas Junct 82.78 53 ⇑P **P 07 29 24.0 +0.5**
baz=83
BSMT Bassoo Peak 82.79 35 *e*P **P 07 29 22.8 -0.5**
R22A Saguache, Gunn 82.79 47 ⇓P **P 07 29 24.3 +0.5**
baz=83,SNR=14
IMW Indian Meadow 82.86 40 *e*P **P 07 29 24.2 +0.2**
comp=Z,18nm,0.9s
MENT Mentasta 82.89 13 *e*P **P 07 29 23.0 -0.3**
MOOW Moose Ponds 82.91 40 *e*P **P 07 29 24.2 +0.1**
comp=Z,54nm,2.1s
LOHW Long Hollow 82.92 40 *e*P **P 07 29 24.1 0.0**
comp=Z,14nm,1.3s
P21A Newcastle 82.93 45 ⇓P **P 07 29 24.7 +0.4**
baz=83,SNR=6.0
Y26A Elida 82.97 52 ⇑P **P 07 29 24.9 +0.4**
baz=83
LRM Limekiln Ridge 82.98 38 *e*P **P 07 29 22.1 -2.3**
Q22A Crested Butte, 82.98 46 ⇑P **P 07 29 25.0 +0.3**
baz=83,SNR=24
U24A Moreno Valley 83.00 49 ⇑P **P 07 29 24.9 +0.1**
baz=83
DLBC Dease Lake 83.01 21 *e*P **P 07 29 24.7 +0.7**
N20A Spence Gulch, 83.02 44 ⇓P **P 07 29 25.2 +0.5**
baz=83,SNR=6.7
429A Davenport Ranc 83.06 55 ⇓P **P 07 29 25.1 +0.1**
baz=83,SNR=18
QLMT Earthquake Lak 83.06 39 *e*P **P 07 29 25.6 +0.8**
W25A X Bar L Ranch, 83.06 50 ⇑P **P 07 29 25.0 0.0**
baz=83,SNR=14
S23A Nye Farm, Mont 83.08 47 ⇓P **P 07 29 25.2 +0.1**
baz=83
SMCO Snowmass 83.09 46 *e*P **P 07 29 25.2 -0.1**
comp=Z,31nm,1.2s
I17A Pilgrim Ck. 83.10 40 ⇓P **P 07 29 25.9 +0.8**
baz=83
FLWY Flagg Ranch 83.11 40 *e*P **P 07 29 25.7 +0.6**
comp=Z,44nm,1.1s
CHMT Chamberlain Mo 83.12 37 *e*P **P 07 29 24.5 -0.6**
228A UT Block 9, Go 83.13 54 ⇓P **P 07 29 25.6 +0.2**
baz=83
BW06 Boulder Array 83.14 42 *e*P **P 07 29 24.6 -0.8**
comp=Z,14nm,1.0s
PDAR Pinedale Array 83.14 42 P **P 07 29 24.7 -0.6**
PDAR PP **PP 07 32 34.5 -2.3**
PDAR Pinedale Array 83.14 42 P **P 07 29 24.7 -0.6**
comp=Z,5.5nm,0.8s,baz=214,slow=4.8,SNR=23
PDAR PP **PP 07 32 34.5 -2.3**
comp=Z,0.4nm,0.3s,baz=256,slow=3.6,SNR=5.4
PDAR LR LR 07 59 40.7
comp=Z,861nm,20.3s,baz=245,slow=31
Z27A Tatum 83.16 52 ⇑P **P 07 29 25.6 +0.1**
baz=83,SNR=7.5
SLMT Seeley Lake 83.17 36 *e*P **P 07 29 24.2 -1.0**
comp=Z,7.9nm,1.0s
T24B San Luis 83.22 48 ⇓P **P 07 29 26.3 +0.4**
baz=83,SNR=6.5
V25A Rancho No Teng 83.22 49 ⇓P **P 07 29 26.3 +0.5**
baz=83,SNR=19
O21A Pagoda 83.25 45 ⇑P **P 07 29 26.4 +0.4**
baz=83
X26A CR and CF Fran 83.25 51 ⇓P **P 07 29 26.1 +0.1**
baz=83,SNR=8.9
YMR Madison River 83.25 39 *e*P **P 07 29 26.2 +0.4**
comp=Z,39nm,1.2s
530A J-C Ranch, Com 83.30 56 ⇑P **P 07 29 26.7 +0.5**
baz=83
329A Wagon Wheel Ra 83.34 54 ⇑P **P 07 29 26.9 +0.5**
baz=84
H17A Grant Village 83.35 40 *e*P **P 07 29 27.1 +0.8**
H17A Grant Village 83.35 40 ⇑P **P 07 29 26.9 +0.6**
baz=84,SNR=6.8
BOZ Bozeman (W) 83.37 38 *e*P **P 07 29 25.7 -0.7**
BOZ pmax pmax
comp=Z,17nm,1.3s
BOZ Bozeman (W) 83.37 38 *e*P **P 07 29 25.7 -0.7**
comp=Z,17nm,1.3s
M20A Sweetwater, Wa 83.39 43 ⇓P **P 07 29 27.0 +0.4**
baz=84
R23A Moffat 83.42 47 ⇓P **P 07 29 27.1 +0.2**
baz=84,SNR=6.3
128A Castleberry Fa 83.43 53 ⇓P **P 07 29 26.7 -0.1**
baz=84
P22A Eagle 83.43 45 ⇑P **P 07 29 26.7 -0.2**
baz=84,SNR=5.9
Y27A Causey 83.44 52 ⇓P **P 07 29 26.8 -0.1**
baz=84,SNR=12
SDCO Great Sand Dun 83.45 47 *e*P **P 07 29 26.4 -0.7**
comp=Z,9.8nm,1.1s
YNR Norris Junctio 83.45 39 *e*P **P 07 29 28.6 +1.7**
comp=Z,16nm,1.1s
W26A Owens Ranch, T 83.52 50 ⇑P **P 07 29 27.7 +0.4**
baz=84
LKWY Lake 83.54 40 *e*P **P 07 29 28.7 +1.3**
LKWY pmax pmax
comp=Z,22nm,1.1s
LKWY Lake 83.54 40 *e*P **P 07 29 28.7 +1.3**
comp=Z,22nm,1.1s
L20A Wamsutter 83.55 43 ⇓P **P 07 29 27.6 +0.2**
baz=84,SNR=12
S24A Houchin Ranch, 83.60 48 ⇑P **P 07 29 27.6 -0.4**
baz=84,SNR=11
631A Perdido Creek 83.61 57 ⇓P **P 07 29 27.6 -0.2**
baz=84,SNR=16
U25A Circle Dot Ran 83.62 49 ⇑P **P 07 29 27.5 -0.4**
baz=84
K19A Absolon Red Bu 83.63 42 ⇑P **P 07 29 27.5 -0.3**
baz=84,SNR=6.8
430A Baggett Ranch, 83.64 55 ⇑P **P 07 29 27.5 -0.4**
baz=84
229A Bryant Ranch, 83.67 54 ⇓P **P 07 29 27.8 -0.3**
baz=84
J19A Crowheart 83.72 41 ⇓P **P 07 29 28.1 -0.1**
baz=84,SNR=13
MSTX Muleshoe 83.78 52 *e*P **P 07 29 28.5 -0.2**
MSTX Muleshoe 83.78 52 ⇑P **P 07 29 28.6 0.0**
baz=84,SNR=11
Z28A Tucker Farm, M 83.78 53 ⇓P **P 07 29 28.9 +0.2**
baz=84,SNR=9.0
V26A Tequesquite Ra 83.81 50 ⇑P **P 07 29 28.7 -0.1**
baz=84
X27A F and S Farms, 83.82 51 ⇓P **P 07 29 29.4 +0.5**
baz=84
COLA College 83.83 10 *e*P **P 07 29 27.3 -0.7**
COLA College 83.83 10 *e*P **P 07 29 27.3 -0.7**
comp=Z,85nm,0.8s
732A Laxson Ranch, 83.83 58 ⇑P **P 07 29 29.1 +0.2**
baz=84
O22A Kremmling 83.84 45 ⇑P **P 07 29 29.3 +0.2**
baz=84,SNR=7.1
K20A Yellowstone Ra 83.87 42 ⇑P **P 07 29 28.9 0.0**
baz=84,SNR=10
129A Stewart Farms, 83.91 53 ⇓P **P 07 29 29.5 +0.2**
baz=84
ILAR Eielson Array 83.91 11 P **P 07 29 26.9 -1.5**
ILAR PP **PP 07 32 42.0 -0.3**
ILAR Eielson Array 83.91 11 P **P 07 29 26.9 -1.5**
comp=Z,4.8nm,0.8s,baz=211,slow=5.2,SNR=41
ILAR PP **PP 07 32 42.0 -0.3**
comp=Z,2.5nm,1.0s,baz=217,slow=8.6,SNR=5.1
ILAR LR LR 07 59 29.0
comp=Z,315nm,21.0s,baz=113,slow=30
QIZ Qiongzhong 83.91 292 P **P 07 29 29.4 -0.1**
QIZ sP **sP 07 29 33.7 -2.2**
QIZ S **S 07 39 53.4 +0.1**
QIZ SS **SS 07 45 22.0 +0.3**
QIZ AMB AMB
comp=Z,80nm,4.3s
QIZ LR LR
comp=Z,350nm,21.4s
QIZ LR LR
comp=Z,1μm,23.2s
531A Rocksprings 83.94 56 ⇑P **P 07 29 29.7 +0.2**
baz=84
330A Mertzon 83.94 55 ⇓P **P 07 29 29.6 +0.1**
baz=84
R24A Sanders Place, 83.94 47 ⇓P **P 07 29 29.8 +0.3**
baz=84
T25A Trinidad 83.95 48 ⇑P **P 07 29 29.8 +0.2**
baz=84
WALA Waterton Lakes 83.95 35 *e*P **P 07 29 28.3 -0.9**
comp=Z,0.7nm,1.3s
P23A Jefferson 83.96 46 ⇑P **P 07 29 30.1 +0.4**
baz=84,SNR=6.2
IM04 Indian Mountai 83.96 8 *e*P **P 07 29 26.4 -2.3**
M21A Separation Pea 83.99 43 ⇓P **P 07 29 29.7 0.0**
baz=84,SNR=12
W27A Bowe Ranch, En 84.02 51 ⇑P **P 07 29 30.0 +0.1**
baz=84,SNR=6.8
H18A Shoshone NF, C 84.05 40 ⇓P **P 07 29 30.3 +0.3**
baz=84
H03N2 Juan Fernandez 84.06 123 T T 09 02 38.9
baz=253,slow=0.7,SNR=9.7
IMA2 Indian Mountai 84.06 8 *e*P P 07 29 34.3 +4.9
H03N3 Juan Fernandez 84.06 123 T T 09 02 39.2
baz=253,slow=0.7,SNR=8.9
H03N1 Juan Fernandez 84.08 123 T T 09 02 38.6
baz=253,slow=0.7,SNR=7.8
431A Sonora 84.09 56 ⇑P **P 07 29 30.3 +0.1**
baz=84
U26A Atchley Ranch, 84.10 49 ⇓P **P 07 29 30.2 -0.2**
baz=84,SNR=8.2
RWWY Rawlins 84.13 43 *e*P P 07 29 36.4 +5.9
I19A Meeteetse 84.14 41 ⇑P **P 07 29 30.6 +0.2**
baz=84,SNR=7.5
Y28A McKinney Farm, 84.14 52 ⇓P **P 07 29 30.8 +0.2**
baz=84
L21A Rawlins 84.16 43 ⇑P **P 07 29 30.7 +0.1**
baz=84,SNR=9.7
SEY Seymchan 84.16 345 ⇑/P **P 07 29 28.6 -1.1**
S25A Robets Cordova 84.16 48 ⇑P **P 07 29 30.5 -0.1**
baz=84,SNR=9.0
N22A Wattenberg Ran 84.21 44 ⇓P **P 07 29 31.2 +0.3**
baz=84
Q24A Divide 84.25 46 ⇑P **P 07 29 31.1 -0.1**
baz=84,SNR=5.4
632A Uvalde 84.28 57 ⇑P **P 07 29 31.4 +0.2**
baz=84
Z29A Hungry Hill Ra 84.29 53 ⇓P **P 07 29 31.0 -0.3**
baz=84
O23A Lake Granby, G 84.29 45 ⇓P **P 07 29 31.3 0.0**
baz=84
ISCO Idaho Springs 84.31 46 *e*P **P 07 29 32.5 +1.0**
ISCO pmax pmax

comp=Z,8.0nm,1.1s
ISCO Idaho Springs 84.31 46 *e*P **P 07 29 32.5 +1.0**
comp=Z,8.4nm,1.1s
ISCO Idaho Springs 84.31 46 ⇓P **P 07 29 31.4 -0.1**
baz=84
J20A Shoshoni 84.37 42 ⇓P **P 07 29 31.8 +0.3**
baz=84,SNR=7.8
M22A Cedar Creek Ra 84.40 44 ⇑P **P 07 29 32.0 +0.2**
baz=84
532A Rocksprings 84.43 56 ⇓P **P 07 29 32.0 0.0**
baz=84,SNR=7.7
X28A Dimmitt 84.44 52 ⇓P **P 07 29 31.9 -0.1**
baz=85
H19A Powell 84.47 40 ⇑P **P 07 29 32.0 +0.1**
baz=85,SNR=6.4
331A San Angelo 84.49 55 ⇑P **P 07 29 31.8 -0.4**
baz=85
R25A Fountain Ranch 84.49 48 ⇑P **P 07 29 32.3 +0.1**
baz=85
V27A Dan Oppiter Fa 84.49 50 ⇓P **P 07 29 32.3 0.0**
baz=85
RLMT Red Lodge 84.52 40 *e*P **P 07 29 32.0 -0.3**
comp=Z,25nm,1.5s
K21A Alcova 84.56 42 ⇓P **P 07 29 32.3 -0.2**
baz=85,SNR=11
Y29A Porterfield Fa 84.56 52 ⇓P **P 07 29 32.4 -0.3**
baz=85,SNR=8.0
130A Snyder 84.58 54 ⇑P **P 07 29 32.6 -0.1**
baz=85
N23A Red Feather La 84.59 44 ⇓P **P 07 29 32.5 -0.4**
baz=85
GCMT Greycliff 84.62 39 *e*P **P 07 29 32.3 -0.4**
comp=Z,15nm,1.2s
I20A Worland 84.64 41 ⇑P **P 07 29 32.6 -0.2**
baz=85
JCT Junction City 84.65 56 *e*P **P 07 29 32.4 -0.7**
JCT pmax pmax
comp=Z,6.0nm,0.9s
JCT Junction City 84.65 56 *e*P **P 07 29 32.4 -0.7**
comp=Z,5.7nm,0.9s
JCT Junction City 84.65 56 ⇓P **P 07 29 32.7 -0.4**
baz=85
Z30A Sanderson Ranc 84.74 53 ⇑P **P 07 29 33.4 -0.1**
baz=85
J21A Lysite 84.78 42 ⇓P **P 07 29 33.4 -0.2**
baz=85,SNR=6.0
U27A Thompson Grove 84.78 50 ⇓P **P 07 29 33.7 0.0**
baz=85
X29A Tulia 84.78 52 ⇓P **P 07 29 33.7 0.0**
baz=85
L22A Ellis Ranch, M 84.80 43 ⇑P **P 07 29 34.0 +0.2**
baz=85
432A Menard 84.81 56 ⇑P **P 07 29 34.0 +0.1**
baz=85
231A Bronte 84.82 55 ⇑P **P 07 29 33.9 0.0**
baz=85
O24A Longmont 84.83 45 ⇓P **P 07 29 34.3 +0.4**
baz=85
S26A Kim 84.83 48 ⇓P **P 07 29 34.1 +0.2**
baz=85
Q25A Bedland, Calha 84.85 47 ⇓P **P 07 29 34.5 +0.4**
baz=85
H20A Greybull 84.98 41 ⇓P **P 07 29 35.3 +0.8**
baz=85
M23A Laramie 85.01 44 ⇓P **P 07 29 35.1 +0.2**
baz=85
K22A Casper 85.03 43 ⇓P **P 07 29 34.8 -0.1**
baz=85
332A Millersview 85.05 55 ⇓P **P 07 29 35.4 +0.3**
baz=85
EGAK Eagle 85.05 13 *e*P **P 07 29 33.5 -0.7**
131A Roby 85.06 54 ⇑P **P 07 29 35.2 +0.1**
baz=85
F19A Roth Farm, Mol 85.09 39 ⇑P **P 07 29 34.7 -0.3**
baz=85,SNR=7.2
I21A Big Trails, Te 85.10 41 ⇑P **P 07 29 34.5 -0.7**
baz=85,SNR=6.0
W29A Amraillo 85.10 51 ⇑P **P 07 29 35.4 +0.1**
baz=85
PHWY Pilot Hill 85.11 44 *e*P **P 07 29 34.9 -0.5**
comp=Z,2.3nm,0.6s
T27A Campo 85.13 49 ⇓P **P 07 29 35.7 +0.3**
baz=85
R26A Arlington 85.14 48 ⇑P **P 07 29 35.1 -0.4**
baz=85,SNR=9.1
Y30A Stafford Cattl 85.15 53 ⇓P **P 07 29 36.0 +0.4**
baz=85
P25A Willow Gulch B 85.17 46 ⇓P **P 07 29 36.2 +0.5**
baz=85
U28A Mallet 85.20 50 ⇓P **P 07 29 36.1 +0.3**
baz=85
G20A Bridger 85.21 40 ⇑P **P 07 29 36.5 +0.8**
baz=85
N24A Carr 85.28 45 ⇑P **P 07 29 36.4 +0.2**
baz=85
L23A Garrett 85.32 44 ⇓P **P 07 29 36.6 +0.2**
baz=86
232A Coleman 85.33 55 ⇓P **P 07 29 36.2 -0.3**
baz=85,SNR=8.7
Q26A Hugo 85.37 47 ⇑P **P 07 29 36.8 +0.2**
baz=86
X30A Coker Ranch, T 85.40 52 ⇑P **P 07 29 36.7 -0.1**
baz=86
J22A Midwest 85.43 42 ⇑P **P 07 29 36.5 -0.3**
baz=86,SNR=6.3
E19A Rath Farm, Rou 85.49 39 ⇓P **P 07 29 37.6 +0.6**
baz=86
V29A Stinnett 85.51 51 ⇓P **P 07 29 37.6 +0.3**
baz=86
Z31A Sharp Cattle R 85.51 53 ⇑P **P 07 29 36.8 -0.5**
baz=86,SNR=7.1
F20A Billings 85.54 39 ⇑P **P 07 29 37.4 +0.1**
baz=86
T28A Walsh 85.59 49 ⇑P **P 07 29 37.7 -0.1**
baz=86
R27A Eads 85.60 48 ⇓P **P 07 29 37.6 -0.2**
baz=86
M24A Cheyenne 85.61 44 ⇓P **P 07 29 37.9 +0.1**
baz=86
ABTX Abilene, Hawle 85.62 54 *e*P **P 07 29 37.2 -0.6**
ABTX Abilene, Hawle 85.62 54 ⇑P **P 07 29 37.9 0.0**
baz=86,SNR=9.0
COLD Coldfoot 85.63 9 *e*P **P 07 29 38.9 +1.7**
comp=Z,17nm,1.0s
H21A Big Horn, Sher 85.65 41 ⇓P **P 07 29 38.3 +0.4**
baz=86
I22A 9 Mile Ranch, 85.65 42 ⇑P **P 07 29 38.3 +0.4**
baz=86
K23A Bowen Ranch, D 85.67 43 ⇓P **P 07 29 38.3 +0.3**
baz=86
Y31A Rekieta Farm, 85.67 53 ⇓P **P 07 29 38.3 +0.2**
baz=86
EGMT Eagleton 85.72 37 ⇑P **P 07 29 38.6 +0.6**
baz=86
D19A Cripps Ranch, 85.79 38 ⇑P **P 07 29 38.8 +0.4**
baz=86
G21A Lodge Grass 85.84 40 ⇑P **P 07 29 39.6 +0.8**
baz=86
E20A Meyer Farm, Mu 85.90 39 ⇑P **P 07 29 39.8 +0.8**
baz=86
S28A Manter 85.95 49 ⇑P **P 07 29 40.0 +0.6**
baz=86
C19A Slack Wire Ran 85.98 37 ⇓P **P 07 29 39.7 +0.3**
baz=86,SNR=8.7
Z32A Haskell 86.01 54 ⇓P **P 07 29 39.9 +0.1**
baz=86,SNR=23
H22A Clearmont 86.07 41 ⇑P **P 07 29 40.8 +0.9**
baz=86
X31A McDonald Ranch 86.15 52 ⇓P **P 07 29 40.5 0.0**
baz=86
D20A Manuel Ranch, 86.19 38 ⇓P **P 07 29 41.2 +0.8**
baz=86
Y32A R-V Farms, Ver 86.31 53 ⇓P **P 07 29 41.2 -0.1**
baz=86,SNR=9.8
R28A Tribune 86.33 48 ⇑P **P 07 29 42.0 +0.7**
baz=86
G22A Birney 86.40 41 ⇑P **P 07 29 42.5 +0.9**
baz=86
W31A Holland Ranch, 86.40 52 ⇑P **P 07 29 42.6 +0.9**
baz=86
B19A Brinkman Farms 86.41 37 ⇓P **P 07 29 42.6 +1.2**
baz=86
U30A WK&E Inc. Balk 86.42 50 ⇓P **P 07 29 42.5 +0.7**
baz=86
MAW Mawson 86.44 199 *e*P **P 07 29 41.3 +0.1**
comp=Z,9.5nm,1.1s
MAW Mawson 86.44 199 P **P 07 29 41.3 +0.1**
comp=Z,8.3nm,0.8s,baz=135,slow=6.1,SNR=12

MAW LR LR 08 06 05.5
comp=Z,1μm,19.9s,baz=118,slow=34
L25A Engebretsen Ra 86.49 44 ⇑P **P 07 29 43.0 +0.9**
baz=87
S29A Ulysses 86.52 49 ⇓P **P 07 29 43.5 +1.2**
baz=87
C20A Veseth Ranch, 86.58 38 ⇓P **P 07 29 43.2 +0.9**
baz=87
EDM Edmonton 86.60 31 *e*P **P 07 29 41.5 -0.7**
EDM Edmonton 86.60 31 *e*P **P 07 29 41.5 -0.7**
V31A Spring Creek L 86.71 51 ⇑P **P 07 29 43.8 +0.5**
baz=87
A19A Klindworth Far 86.76 36 ⇓P **P 07 29 43.9 +0.7**
baz=87
D21A La Casta Ranch 86.86 39 ⇑P **P 07 29 44.6 +0.9**
baz=87
BJT Baijiatuau 86.88 313 *e*P **P 07 29 45.1 +1.3**
comp=Z,101nm,1.4s
BJI Beijing 86.88 313 P **P 07 29 44.1 +0.3**
BJI AMB AMB
comp=Z,13nm,1.9s
BJI AMB AMB
comp=Z,370nm,4.9s
BJI Beijing 86.88 313 P **P 07 29 43.9 +0.1**
BJI SKS **SKSac 07 40 07.4 -3.2**
BJI S **S 07 40 22.8 +1.0**
BJI AMB AMB
comp=Z,21nm,1.3s
BJI AMB AMB
comp=Z,370nm,5.0s
BJI LR LR
comp=Z,350nm,19.4s
BJI LR LR
comp=Z,470nm,19.9s
BJI LR LR
comp=Z,520nm,25.9s
B20A Solberg Farm, 86.93 37 ⇓P **P 07 29 45.0 +1.1**
baz=87
WHTX Lake Whitney 87.09 55 ⇓P **P 07 29 45.4 +0.3**
baz=87
F23A Volborg 87.19 40 ⇓P **P 07 29 45.9 +0.6**
baz=87
E22A Miles City 87.19 40 ⇑P **P 07 29 45.9 +0.6**
baz=87
A20A Cobblestone Ra 87.20 37 ⇓P **P 07 29 45.5 +0.2**
baz=87
K26A Motz Farm, Whi 87.25 44 ⇓P **P 07 29 45.9 +0.2**
baz=87
H24A Dirks Ranch, A 87.28 42 ⇑P **P 07 29 46.7 +0.9**
baz=87
RSSD Black Hills 87.32 42 *e*P **P 07 29 47.4 +1.1**
RSSD pmax pmax
comp=Z,36nm,1.0s
RSSD Black Hills 87.32 42 *e*P **P 07 29 47.4 +1.1**
comp=Z,36nm,1.0s
D22A Cohagen 87.39 39 ⇓P **P 07 29 47.0 +0.8**
baz=88
I25A Rochford 87.47 42 ⇓P **P 07 29 47.3 +0.3**
baz=88
B21A Ellsworth Farm 87.51 37 ⇑P **P 07 29 47.8 +1.1**
baz=88
IPM Ipoh 87.52 275 *e*P **P 07 29 49.0 +1.3**
J26A Sides Ranch, S 87.59 43 ⇓P **P 07 29 48.4 +1.1**
baz=88
E23A Ismay 87.61 40 ⇑P **P 07 29 48.0 +0.7**
baz=88
A21A Bergtoll Ranch 87.83 37 ⇑P **P 07 29 49.0 +0.7**
baz=88
F24A Ekalaka 87.84 41 ⇑P **P 07 29 49.5 +1.0**
baz=88
D23A Lindsay 87.98 39 ⇑P **P 07 29 50.2 +1.1**
baz=88
PANO Nakornpanom 87.99 288 P P 07 29 55.8 +6.1
comp=Z,13nm,1.1s
B22A Reddig Ranch S 88.04 38 ⇑P **P 07 29 51.2 +1.9**
baz=88
I26A New Underwood 88.04 43 ⇑P **P 07 29 50.4 +1.0**
baz=88
PLCA Paso Flores 88.12 132 *e*P **P 07 29 51.2 +1.1**
comp=Z,19nm,1.3s
PLCA Paso Flores 88.12 132 P **P 07 29 51.6 +1.5**
comp=Z,5.2nm,1.0s,baz=263,slow=4.3,SNR=8.1
PLCA LR LR 08 00 02.0
comp=Z,1μm,21.0s,baz=66,slow=29
ENH Enshi 88.14 302 *e*P **P 07 29 52.0 +1.7**
comp=Z,26nm,1.1s
J27A Elkhorn Farm, 88.27 44 ⇓P **P 07 29 51.7 +1.1**
baz=88
Q31A Ellis 88.32 48 ⇑P **P 07 29 50.7 -0.2**
baz=88
K28A Ten Mile Ranch 88.47 44 ⇑P **P 07 29 53.2 +1.6**
baz=89
SKNT Sakolnakorn 88.51 288 P P 07 29 58.9 +6.7
comp=Z,67nm,1.0s
B23A Brockton 88.71 38 ⇑P **P 07 29 53.9 +1.4**
baz=89
HIA Hailar 88.73 323 *e*P **P 07 29 52.6 +0.1**
comp=Z,12nm,0.4s
G26A Maurine 88.76 42 ⇑P **P 07 29 54.1 +1.2**
baz=89
J28A Allard Ranch, 88.85 44 ⇓P **P 07 29 53.0 -0.3**
baz=89
I28A Midland 89.13 43 ⇓P **P 07 29 55.7 +1.1**
baz=89
GYA Guiyang 89.18 298 P **P 07 29 57.7 +2.4**
GYA PP **PP 07 33 30.4 +4.5**
GYA SKS **SKSac 07 40 27.5 +2.1**
GYA S **ScS 07 40 49.5 0.0**
GYA SS **SS 07 46 42.8 +3.8**
GYA AMB AMB
comp=Z,20nm,0.9s
GYA AMB AMB
comp=Z,140nm,7.9s
GYA LR LR
comp=Z,500nm,18.6s
GYA LR LR
comp=Z,460nm,18.3s
GYA LR LR
comp=Z,690nm,20.2s
DGMT Dagmar 89.18 38 *e*P **P 07 29 57.1 +2.4**
comp=Z,34nm,1.3s
G27A Dupree 89.22 42 ⇓P **P 07 29 56.2 +1.2**
baz=89
INK Inuvik 89.69 14 *e*P **P 07 29 55.4 -1.1**
comp=Z,23nm,1.3s
INK Inuvik 89.69 14 LR LR 08 02 52.3
comp=Z,431nm,20.7s,baz=26,slow=31
CLNS Chul'man 89.83 331 *e*P P 07 30 02.6 +5.1
CLNS pmax pmax
comp=Z,20nm,1.3s
CLNS pmax pmax
comp=N,24nm,1.6s
CLNS pmax pmax
comp=E,12nm,1.1s
E27A Carson 89.90 41 ⇓P **P 07 29 59.6 +1.5**
baz=90
XAN Xi'an 89.92 306 P P 07 30 04.4 +5.9
XAN AMB AMB
comp=E,2.0nm,1.3s
XAN AMB AMB
comp=E,32nm,4.2s
TGUH Tegucigalpa,Un 89.99 75 *e*P **P 07 30 01.2 +2.1**
comp=E,95nm,1.7s
HHC Hu-ho-hao-te 90.43 313 *e*P **P 07 30 01.2 +0.4**
HHC pP **pP 07 30 09.9 +4.4**
HHC sP sP 07 30 12.4 +5.2
HHC SKS **SKSac 07 40 34.5 +2.5**
HHC S **ScS 07 40 58.5 -0.7**
HHC sS **sS 07 41 06.5 +3.2**
HHC SS **SS 07 47 02.9 +6.4**
HHC AMB AMB
comp=E,29nm,1.0s
HHC AMB AMB
comp=E,380nm,5.2s
HHC LR LR
comp=E,550nm,16.8s
HHC LR LR
comp=E,500nm,17.6s
HHC LR LR
comp=E,420nm,16.9s
JTS JuntasAbangare 91.05 80 P **P 07 30 06.0 +1.8**
comp=E,295nm,1.1s,SNR=8.0
JTS JuntasAbangare 91.05 80 *e*P **P 07 30 05.5 +1.3**
comp=E,661nm,1.3s
SYO Syowa Base 91.14 191 ⇓*e*P **P 07 30 01.4 -2.1**
LOEI Loei 91.15 288 P P 07 30 10.7 +6.2
comp=E,8.3nm,1.1s,comp=E,387nm

SNAA Sanae 91.31 177 *e*P **P 07 30 04.2 -0.2**
SNAA Sanae 91.31 177 *e*P **P 07 30 03.6 -0.7**
comp=E,12nm,0.9s
YKA Yellowknife Ar 91.37 23 P **P 07 30 03.9 -0.6**
YKA Yellowknife Ar 91.37 23 P **P 07 30 03.9 -0.6**
comp=E,5.7nm,1.1s,baz=234,slow=4.4,SNR=7.1
A28A Rude Farm, Bot 91.72 39 ⇓P **P 07 30 07.5 +0.9**
baz=92
VNA2 Neumayer--Watz 91.74 175 *e*P **P 07 30 06.9 +0.6**
VNA1 Neumayer--Stat 91.94 175 *e*P **P 07 30 07.9 +0.7**
ECSD EROS Data Cent 92.06 45 *e*P **P 07 30 08.3 +0.1**
comp=E,9.9nm,1.2s
KMI Kunming 92.11 295 P **P 07 30 09.3 +0.2**
KMI pP **pP 07 30 15.8 +1.9**
KMI SKS **SKSac 07 40 41.7 -0.9**
KMI S **S 07 41 09.2 -2.6**
KMI SS **SS 07 47 17.9 -3.8**
KMI AMB AMB
comp=E,10.0nm,1.1s
KMI LR LR
comp=E,280nm,18.0s
KMI LR LR
comp=E,430nm,15.8s
KMI LR LR
comp=E,600nm,19.2s
UTHA Uthaitani 92.24 285 P P 07 30 15.9 +6.3
comp=E,7.2nm,1.0s
A29A Manning Farm, 92.36 39 ⇑P **P 07 30 10.5 +1.1**
baz=92
MAIT Maitri 92.40 182 *e*P **P 07 30 06.7 -2.6**
CD2 Chengdu 93.02 301 P **P 07 30 14.0 +1.0**
CD2 pP **pP 07 30 18.8 +1.1**
CD2 sP **sP 07 30 21.0 +1.7**
CD2 PP **PP 07 33 59.6 +3.4**
CD2 SKS **SKSac 07 40 46.4 -0.6**
CD2 S **S 07 41 17.5 -1.7**
CD2 sS **sS 07 41 25.1 -1.9**
CD2 SS **SS 07 47 35.8 +1.7**
CD2 AMB AMB
comp=E,10.0nm,0.8s
CD2 AMB AMB
comp=E,350nm,5.1s
CD2 LR LR
comp=E,680nm,14.3s
CD2 LR LR
comp=E,680nm,20.2s
CMAR Chiang Mai Arr 93.53 288 P **P 07 30 16.2 +0.7**
CMAR Chiang Mai Arr 93.53 288 P **P 07 30 16.2 +0.7**
comp=E,0.5nm,0.3s,baz=107,slow=2.0,SNR=13
CMAR LR LR 08 07 08.0
comp=E,715nm,21.9s,baz=111,slow=32
CHTO Chiang Mai 93.64 288 *e*P **P 07 30 17.9 +1.9**
CHTO Chiang Mai 93.64 288 *e*P **P 07 30 17.9 +1.9**
comp=E,63nm,1.0s
CHTO Chiang Mai 93.64 288 P P 07 30 21.8 +5.8
comp=E,78nm,1.0s
LZH Lanzhou 94.52 306 *e*P **P 07 30 21.1 +1.2**
LZH pP **pP 07 30 24.8 +0.2**
LZH sP **sP 07 30 28.8 +2.5**
LZH *e*S **S 07 41 31.0 -1.5**
LZH sS **sS 07 41 38.0 -2.3**
LZH SS **SS 07 47 54.0 -1.6**
LZH AMB AMB
comp=E,30nm,0.9s
LZH AMB AMB
comp=E,160nm,4.7s
LZH LR LR
comp=E,770nm,15.7s
LZH LR LR
comp=E,290nm,13.2s
LZH LR LR
comp=E,880nm,18.6s
ULM Lac du Bonnet 94.88 39 LR LR 08 06 55.5
comp=E,1μm,20.8s,baz=244,slow=32
SPMN St. Paul 95.13 44 *e*P **P 07 30 23.1 +0.8**
TRQA Tornquist 95.27 132 *e*P **P 07 30 25.4 +2.1**
comp=E,19nm,1.6s
LVC Limon Verde 95.92 116 *e*P **P 07 30 29.1 +2.3**
comp=E,14nm,1.4s
SONM Songino Array 96.32 318 P P **07 30 27.9 +0.1**
SONM Songino Array 96.32 318 P P **07 30 27.9 +0.1**
comp=E,0.5nm,0.6s,baz=156,slow=3.9,SNR=2.8
SONM LR LR 08 08 28.5
comp=E,478nm,20.9s,baz=76,slow=32
GTA Gaotai 98.52 309 *e*P Pdif 07 30 39.1 +1.1
GTA pP pP 07 30 43.3 +0.6
GTA sP sP 07 30 46.5 +2.2
GTA SKS **SKSac 07 41 15.0 -0.8**
GTA S **S 07 42 04.8 -1.9**
GTA sS sS 07 42 12.0 -2.5
GTA SS **SS 07 48 52.7 +0.8**
GTA AMB AMB
comp=E,4.0nm,0.6s
GTA AMB AMB
comp=E,47nm,5.2s
GTA LR LR
comp=E,290nm,19.7s
GTA LR LR
comp=E,620nm,20.0s
GTA LR LR
comp=E,1μm,20.9s
ZAK Zakamensk 99.02 320 *e*P **Pdif 07 30 37.3 -2.6**
ZAK *e* 07 34 38.1
ZAK pmax pmax
comp=Z,2.0nm,1.5s
TLY Talaya 99.15 321 *e*P **Pdif 07 30 48.2 +7.9**
TLY *e* 07 41 10.8
TLY pmax pmax
comp=Z,4.0nm,0.8s
TLY MLR MLR
comp=Z,350nm,20.0s
ROSC El Rosal 99.61 88 LR LR 08 06 28.5
comp=Z,338nm,20.3s,baz=201,slow=30
WMQ Urumqi 108.25 311 *e*Pdif **Pdif 07 31 21.7 +0.6**
WMQ PP **PP 07 35 54.1 +2.8**
WMQ S **Sdif 07 43 25.7 -1.9**
WMQ SS **SS 07 51 05.3 -0.4**
WMQ PPMZ
comp=Z,100nm,4.0s
WMQ LR LR
comp=Z,300nm,24.0s
WMQ LR LR
comp=Z,380nm,24.0s
WMQ LR LR
comp=Z,400nm,24.2s
MK31 Makanchi Array 112.25 314 *e*PKIKP **PKiKP 07 35 33.7 -1.1**
MK31 Makanchi Array 112.25 314 *e*PKPdf **PKiKP 07 35 33.7 -1.1**
MKAR Makanchi Array 112.25 314 *i* PKIKP **PKiKP 07 35 33.3 -1.5**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 112.25 314 Pdif **Pdif 07 31 43.1 +4.3**
MKAR PKiKP **PKiKP 07 35 33.4 -1.5**
MKAR PKKPbc **PKKPbc 07 46 26.1 -0.7**
MKAR Makanchi Array 112.25 314 Pdiff **Pdif 07 31 43.1 +4.3**
comp=Z,0.2nm,0.7s,baz=77,slow=6.2,SNR=2.2
MKAR PKiKP **PKiKP 07 35 33.3 -1.5**
comp=Z,0.9nm,0.5s,baz=120,slow=0.2,SNR=8.7
MKAR PKKPbc **PKKPbc 07 46 26.1 -0.7**
comp=Z,0.3nm,0.7s,baz=305,slow=4.3,SNR=3.9
KURK Kurchatov 114.62 318 *e*PKIKP PKPdf 07 35 39.7 +0.5
KURK Kurchatov 114.62 318 *e*PKPdf PKPdf 07 35 39.7 +0.5
KSH Kashi 116.77 306 PKP PKPdf 07 35 49.9 +6.0
KSH PP PP 07 37 00.2 +7.8
KSH PKS PKSdf 07 39 38.3 +18
KSH SKS **SKSdf 07 42 57.2 +1.3**
KSH SKKS **SKKSac 07 43 54.7 +1.6**
KSH Kashi 116.77 306 SS SS 07 52 52.8 -6.4
KSH PPMZ
comp=Z,110nm,4.1s
KSH LR LR
comp=N,150nm,6.5s
KSH LR LR
comp=E,160nm,9.3s
KSH LR LR
comp=Z,540nm,20.3s
KKAR Karatay Array 120.73 310 *e*PKIKP **PKPdf 07 35 52.6 +1.3**
KKAR Karatay Array 120.73 310 *e*PKPdf **PKPdf 07 35 52.6 +1.3**
KBL Kabul 122.35 300 *e*PKIKP **PKPdf 07 35 55.8 +0.9**
KBL Kabul 122.35 300 *e*PKPdf **PKPdf 07 35 55.8 +0.9**
ARU Arti 124.92 328 *i* PKIKP **PKPdf 07 36 00.3 +1.5**
ARU 07 37 48.2
ARU 07 43 03.0
ARU SS SS 07 54 43.5 +1.6
ARCES ARCESS Array B 126.23 352 PKP **PKPdf 07 36 00.9 -0.1**
ARCES ARCESS Array B 126.23 352 PKP **PKPdf 07 36 00.9 -0.1**

comp=Z,4.8nm,0.8s,baz=26,slow=3.1,SNR=11
APA Apatity 126.67 348 ⇑ *i* PKIKP PKPdf 07 35 55.2 -6.7
APA MLR MLR
comp=Z,700nm,18.0s
ABKAR Akbulak array 126.71 319 *e*PKPdf **PKPdf 07 36 04.0 +1.6**
KLMR Klimovskoe 130.43 340 *e*PKIKP **PKPdf 07 36 04.4 -4.8**
KLMR pmax pmax
comp=Z,53nm,1.8s
JOF Joensuu 131.11 346 *e*PKIKP **PKPdf 07 36 10.0 -0.4**
JOF Joensuu 131.11 346 *ep* **PKPdf 07 36 10.0 -0.4**
BOSA Boshof 131.37 201 PKP **PKPdf 07 36 12.0 -0.2**
BOSA Boshof 131.37 201 PKP **PKPdf 07 36 12.0 -0.2**
comp=Z,4.2nm,0.8s,baz=129,slow=7.2,SNR=6.1
KAF Kangasniemi 132.93 348 *e*PKIKP **PKPdf 07 36 12.3 -1.6**
KAF Kangasniemi 132.93 348 *ep* **PKPdf 07 36 12.3 -1.6**
FINES FINESS Array B 133.58 348 PKP **PKPdf 07 36 14.6 -0.5**
FINES FINESS Array B 133.58 348 PKP **PKPdf 07 36 14.6 -0.5**
comp=Z,3.0nm,0.8s,baz=87,slow=4.2,SNR=8.2
OBN Obninsk 135.74 336 *i* PKIKP **PKPdf 07 36 21.3 +2.0**
OBN *i* PS **PS 07 49 16.2 -4.8**
OBN *i* SS SS 07 56 52.5 -1.6
OBN pmax pmax
comp=Z,10.0nm,1.8s
OBN MLR MLR
comp=Z,300nm,19.0s
NOA NORSAR Array B 135.90 357 PKP **PKPdf 07 36 21.2 +1.6**
NOA NORSAR Array B 135.90 357 PKP **PKPdf 07 36 21.2 +1.6**
comp=Z,1.0nm,0.8s,baz=14,slow=4.0,SNR=3.4
KIV Kislovodsk 139.70 319 *i* PKIKP **PKPdf 07 36 27.5 +0.3**
KIV *i* 07 39 28.1
KIV *e* 07 43 37.9
KIV *i* SS SS 07 58 10.6 +28
KIV pmax pmax
comp=Z,4.0nm,1.2s
AKASG Malin Array Be 141.97 337 PKHKP PKPpre 07 36 25.7
AKASG 07 36 31.0
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 141.97 337 PKPpre PKPpre 07 36 25.7
AKASG PKP **PKPdf 07 36 31.1 +0.2**
AKASG Malin Array Be 141.97 337 PKhKP PKPpre 07 36 25.7
comp=Z,0.3nm,0.3s,baz=40,slow=4.4,SNR=4.2
AKASG PKP **PKPdf 07 36 31.0 +0.2**
comp=Z,0.9nm,0.5s,baz=37,slow=3.4,SNR=5.5
ANN Anapa 142.35 324 *i* PKIKP **PKPdf 07 36 30.4 -1.3**
ANN pmax pmax
comp=Z,88nm,1.7s
TSUM Tsumeb 142.58 196 *e*PKPdf **PKPdf 07 36 31.4 -1.8**
LVV L'vov 144.50 341 *e*PKIKP PKPbc 07 36 34.0 +0.1
LVV *e* 07 36 44.4
SHEL Horse Pasture 144.91 158 *e*PKP2 **PKPdf 07 36 37.7 +0.5**
SHEL Horse Pasture 144.91 158 *e*PKPdf **PKPdf 07 36 37.7 +0.5**
KWP Kalwaria Pacla 145.06 342 ⇑ *i*P **PKPbc 07 36 35.6 -0.2**
KWP Kalwaria Pacla 145.06 342 *e*PKP **PKPbc 07 36 35.4 -0.4**
KWP *e* 07 36 42.9
KWP *e* 07 36 46.9
KIS Kishinev 145.09 334 *e*PKP PKPdf 07 36 46.0 +9.5
KIS LRM MLR 08 39 40.0
comp=Z,500nm,20.0s
KIS Kishinev 145.09 334 *e*PKIKP PKPdf 07 36 46.0 +9.5
KIS MLR MLR
comp=Z,500nm,20.0s
KIS MLR MLR
comp=Z,400nm,22.0s
WTSB Winterswijk 145.10 0 *e*PKPdf PKPdf 07 36 43.6 +7.3
comp=Z,112nm,1.6s
KMBO Kilima Mbogo 145.22 242 *e*PKPdf **PKPab 07 36 37.9 +0.2**
KMBO Kilima Mbogo 145.22 242 PKPbc **PKPab 07 36 38.0 +0.2**
comp=Z,12nm,0.9s,baz=69,slow=2.8,SNR=17
MALT Malatya 145.29 314 ⇓ *i*P **PKPab 07 36 37.2 0.0**
OJC Ojcow 145.30 346 *e*PKIKP **PKPab 07 36 36.6 -0.1**
OJC Ojcow 145.30 346 *e*PKP **PKPab 07 36 36.6 -0.1**
KSP Ksiaz 145.43 350 *e*PKIKP **PKPbc 07 36 36.4 -0.5**
KSP *e* 07 36 43.4
KSP MLR MLR
comp=Z,1μm,22.9s
KSP Ksiaz 145.43 350 *e*PKP **PKPbc 07 36 36.6 -0.3**
KSP *e* 07 36 48.8
CLL Collm 145.43 353 *e*PKIKP **PKPbc 07 36 36.0 -0.9**
CLL MLR MLR
comp=Z,400nm,21.8s
CLL Collm 145.43 353 *e*PKPbc **PKPbc 07 36 36.0 -0.9**
CLL Collm 145.43 353 *e*PKPdf **PKPbc 07 36 36.0 -0.9**
comp=Z,14nm,0.8s
CLL *e* 07 36 38.0
CLL *e* 07 36 43.0
CLL *i* 07 36 47.8
comp=Z,64nm,1.1s
CLL LmH 08 43 00.0
comp=N,300nm,22.0s
CLL LmH 08 43 00.0
comp=E,200nm,18.1s
CLL LmV 08 45 00.0
comp=Z,400nm,21.8s
STHS Stebnicka Huta 145.67 344 *e*PKIKP **PKPab 07 36 38.3 +0.2**
STHS *e* 07 36 49.6
STHS Stebnicka Huta 145.67 344 *e*PKP **PKPab 07 36 38.2 +0.2**
STHS *e* 07 36 49.6
LEOM Leova 145.74 334 ⇓ *i*P **PKPab 07 36 41.8 +3.4**
BRG Berggiesshubel 145.75 352 *e*PKP **PKPdf 07 36 37.1 -0.3**
comp=Z,26nm,1.6s
BRG *i* 07 36 48.5
comp=Z,76nm,1.2s
BRG *e* 07 40 20.0
BRG Berggiesshubel 145.75 352 *e*PKP2 **PKPdf 07 36 37.2 -0.3**
BRG pmax pmax
comp=Z,26nm,1.6s
BRG Berggiesshubel 145.75 352 *e*PKPbc **PKPdf 07 36 37.2 -0.3**
RAC Raciborz 145.79 347 *e*PKIKP **PKPab 07 36 39.0 +0.6**
RAC MLR MLR
comp=Z,700nm,20.7s
UPC Upice 145.80 350 *e*PKIKP **PKPbc 07 36 38.0 -0.1**
UPC *e* 07 36 45.9
UPC Upice 145.80 350 *e*PKP **PKPbc 07 36 38.0 -0.1**
UPC *ex* x 07 36 45.9
KOLS Kolonicke sedl 145.81 342 *e*PKIKP **PKPbc 07 36 38.1 -0.1**
KOLS *e* 07 36 49.1
KOLS Kolonicke sedl 145.81 342 *e*PKP **PKPbc 07 36 38.1 -0.1**
KOLS *e* 07 36 49.1
PRAR RASCA 145.84 337 ⇑ *i*P PKPab 07 36 48.5 +10
DPC Dobruska-Polom 145.89 349 *e*PKIKP **PKPbc 07 36 38.6 +0.1**
DPC *e* 07 36 46.4
DPC Dobruska-Polom 145.89 349 *e*PKP **PKPbc 07 36 38.6 +0.1**
DPC *ex* x 07 36 46.4
DPC AMS AMS 08 40 40.0
NIE Niedzica 145.91 345 *e*PKIKP **PKPab 07 36 39.2 +0.2**
NIE Niedzica 145.91 345 *e*PKP **PKPab 07 36 39.2 +0.2**
BUR08 Bucovina Ar. S 145.98 338 *e*PKPdf **PKPbc 07 36 39.1 +0.2**
BURAR Bucovina Array 146.00 338 ⇓ *i*P **PKPbc 07 36 39.2 +0.2**
PVCC Panska Ves 146.00 351 *ep*PKP **pPKPdf 07 36 45.4 +2.6**
PVCC AMS AMS 08 40 10.0
comp=Z,700nm,23.4s
OKC Ostrava-Krasne 146.03 347 *e*PKP2 **PKPab 07 36 39.5 +0.1**
OKC Ostrava-Krasne 146.03 347 *e*PKP **PKPab 07 36 39.5 +0.1**
KRLC Kraliky 146.07 349 *e*PKP2 **PKPbc 07 36 39.3 +0.3**
KRLC Kraliky 146.07 349 *e*PKP **PKPbc 07 36 39.3 +0.3**
KRLC *ex* x 07 36 46.7
UZH Uzhgorod 146.08 342 *e*PKIKP **PKPdf 07 36 37.4 -0.7**
UZH *i* 07 36 50.0
UBBA Unterbreizbach 146.17 357 *e*PKPbc **PKPab 07 36 39.8 +0.1**
MORC Moravsky Berou 146.21 348 *e*PKP2 **PKPbc 07 36 39.2 -0.3**
MORC Moravsky Berou 146.21 348 ⇑ *i*P **PKPbc 07 36 39.6 +0.1**
MORC Moravsky Berou 146.21 348 *e*PKPdf **PKPbc 07 36 39.1 -0.3**
MOX Moxa 146.22 355 *e*PKP2 **PKPdf 07 36 38.9 +0.5**
MOX Moxa 146.22 355 *e*PKPbc **PKPdf 07 36 38.9 +0.5**
HGN Heimansgroeve 146.29 1 *e*PKPdf PKPab 07 36 48.1 +7.8
comp=Z,144nm,1.5s
TANN Tannenbergstha 146.37 354 *e*PKPbc **PKPbc 07 36 39.6 -0.3**
TESR Tescani 146.37 335 ⇑ *i*P **PKPab 07 36 40.5 -0.3**
MEM Membach 146.45 1 PKP **PKPbc 07 36 40.3 +0.3**
TRPA Tarpa 146.45 341 ⇑ *i*P **PKPab 07 36 41.3 +0.3**
TRPA Tarpa 146.45 341 *e*PKPdf **PKPab 07 36 41.4 +0.4**
PRA Prague 146.47 351 PKP **PKPbc 07 36 40.0 -0.1**
SNF Seneffe 146.49 3 PKP **PKPab 07 36 40.7 -0.4**
TLCR 146.50 332 ⇑ *i*P **PKPab 07 36 41.3 0.0**
PRU Pruhonice 146.53 351 *e*PKP2 **PKPbc 07 36 39.9 -0.4**
PRU MLR MLR
comp=Z,600nm,21.6s
PRU Pruhonice 146.53 351 *e*PKP **PKPbc 07 36 39.9 -0.4**
PRU *ex* x 07 36 49.7
PRU AMS AMS 08 40 30.0
comp=Z,600nm,21.6s
BCLA Clavier 146.62 2 PKP **PKPbc 07 36 41.0 +0.4**

KECS Kecovo 146.73 344 *e*PKP2 **PKPab 07 36 42.0 -0.1**
KECS Kecovo 146.73 344 *e*PKP **PKPab 07 36 42.0 -0.1**
KECS *e* 07 36 50.9
ARCR ARCALIA 146.76 338 ⇑ *i*P **PKPbc 07 36 40.9 -0.2**
CFR Carcaliu 146.81 332 ⇑ *i*P **PKPab 07 36 44.5 +2.0**
TNS Taunus Mts 146.83 358 *e*PKP2 **PKPbc 07 36 41.1 -0.2**
TNS Taunus Mts 146.83 358 *e*PKPbc **PKPbc 07 36 41.1 -0.2**
VRAC Vranov 146.85 349 ⇑ *i*P **PKPab 07 36 43.3 +0.8**
VRI Vrincioaia 146.86 335 ⇑ *i*P **PKPab 07 36 44.2 +1.5**
PLOR Plostina 146.91 335 ⇑ *i*P **PKPab 07 36 43.2 +0.3**
DOU Dourbes 146.91 3 PKP **PKPab 07 36 42.4 -0.3**
ROTZ Rotzenmuhle 147.04 354 *e*PKPbc **PKPbc 07 36 41.8 0.0**
TREC Trest 147.06 350 *e*PKP2 **PKPbc 07 36 43.6 +0.2**
TREC MLR MLR
comp=Z,700nm,17.8s
TREC Trest 147.06 350 *e*PKP **PKPab 07 36 43.6 +0.2**
TREC AMS AMS 08 40 10.0
comp=Z,700nm,17.8s
GRER 147.15 334 ⇓ *i*P **PKPab 07 36 45.5 +1.6**
GRF Grafenberg Arr 147.20 355 *e*PKP2 **PKPbc 07 36 42.4 +0.1**
GRF Grafenberg Arr 147.20 355 *e*PKPbc **PKPbc 07 36 42.4 +0.1**
GRFO Grafenberg 147.21 355 *e*PKP2 **PKPbc 07 36 42.8 +0.5**
GRFO Grafenberg 147.21 355 *e*PKPbc **PKPbc 07 36 42.8 +0.5**
TLB Topalu 147.31 332 ⇑ *i*P **PKPdf 07 36 41.4 +1.1**
DOPR Dopca 147.32 336 ⇑ *i*P **PKPab 07 36 45.1 +0.6**
WLF Walferdange 147.40 1 PKP **PKPab 07 36 45.0 +0.4**
WLF Walferdange 147.40 1 *e*PKP2 **PKPab 07 36 44.3 -0.3**
WLF Walferdange 147.40 1 *e*PKPbc **PKPab 07 36 45.0 +0.4**
WLF Walferdange 147.40 1 *e*PKPbc **PKPab 07 36 44.3 -0.3**
PSZ Piszkesteto 147.40 344 *e*PKP2 **PKPbc 07 36 43.2 +0.2**
PSZ Piszkesteto 147.40 344 ⇑ *i*P **PKPbc 07 36 45.6 +0.7**
PSZ Piszkesteto 147.40 344 *e*PKPbc **PKPbc 07 36 43.2 +0.2**
PSZ Piszkesteto 147.40 344 ⇑ *e* **PKPab 07 36 44.0 -0.9**
SMOL Smolenice 147.44 347 *e*PKP2 PKPab 07 36 54.1 +9.2
SMOL Smolenice 147.44 347 *e* PKPab 07 36 54.1 +9.2
MLR Muntele Rosu 147.49 335 ⇑ *i*P **PKPbc 07 36 44.0 +0.6**
KHC Kasperske Hory 147.50 352 *e*PKP2 **PKPbc 07 36 42.8 -0.4**
KHC MLR MLR
comp=Z,500nm,20.6s
KHC Kasperske Hory 147.50 352 *e*PKP **PKPbc 07 36 42.8 -0.4**
KHC *ex* x 07 36 52.5
KHC AMS AMS 08 40 40.0
comp=Z,500nm,20.6s
KHC Kasperske Hory 147.50 352 *e*PKPbc **PKPbc 07 36 42.8 -0.4**
ISR Istrita 147.54 334 ⇑ *i*P **PKPab 07 36 49.3 +3.8**
DRGR 147.58 340 ⇑ *i*P **PKPbc 07 36 44.3 +0.8**
WET Wettzell 147.58 353 *e*PKP2 **PKPbc 07 36 43.3 -0.1**
WET Wettzell 147.58 353 *e*PKPbc **PKPbc 07 36 43.3 -0.1**
BR131 Keskin Array S 147.66 320 *e*PKPbc **PKPbc 07 36 43.5 -0.6**
BRTR Keskin Array B 147.66 320 PKPbc **PKPbc 07 36 43.1 -1.0**
BRTR Keskin Array B 147.66 320 PKPbc **PKPbc 07 36 43.1 -1.0**
comp=Z,5.2nm,0.8s,baz=151,slow=2.8,SNR=18
GEC2 GERESS Array S 147.77 352 *e*PKP2 **PKPbc 07 36 43.7 -0.3**
GEC2 GERESS Array S 147.77 352 *e*PKPbc **PKPbc 07 36 43.7 -0.3**
GERES GERESS Array B 147.77 352 PKPbc **PKPbc 07 36 43.0 -0.9**
GERES GERESS Array B 147.77 352 PKPbc **PKPbc 07 36 43.1 -0.9**
comp=Z,7.7nm,0.9s,baz=87,slow=2.9,SNR=19
ZST Bratislava 147.81 347 *e*PKP2 PKPab 07 36 56.0 +10
ZST Bratislava 147.81 347 *e* PKPab 07 36 56.0 +10
VOIR 147.89 336 ⇑ *i*P **PKPbc 07 36 44.8 +0.4**
BUD Budapest 148.03 345 ⇑ *e* **PKPbc 07 36 45.2 +0.6**
LANF Langenberg 148.08 359 PKP **PKPbc 07 36 44.7 0.0**
ANTO Ankara 148.09 321 *e*PKP2 **PKPbc 07 36 44.9 -0.2**
ANTO Ankara 148.09 321 ⇑ *i*P **PKPbc 07 36 45.6 +0.5**
ANTO Ankara 148.09 321 *e*PKPbc **PKPbc 07 36 44.9 -0.2**
ARR Arges 148.11 336 ⇑ *i*P **PKPbc 07 36 45.8 +0.8**
STU Stuttgart 148.25 357 *e*PKP2 **PKPbc 07 36 46.5 +1.4**
STU Stuttgart 148.25 357 *e*PKPbc **PKPbc 07 36 44.7 -0.4**
STU Stuttgart 148.25 357 *e*PKPbc **PKPbc 07 36 46.5 +1.4**
PKSG 148.27 345 ⇓ *e* PKPab 07 36 55.6 +7.4
CONA Conrad Observa 148.31 349 *i* PKiKP **PKiKP 07 36 46.6 -0.5**
comp=Z,111nm,1.3s,SNR=13
PKSN Nyarlorinc 148.35 343 ⇓ *e* PKPab 07 36 56.2 +7.7
LOT Lotru 148.37 337 ⇑ *i*P **PKPab 07 36 49.6 +0.8**
SIRR Siria 148.38 341 ⇑ *i*P **PKPbc 07 36 47.0 +1.4**
PKS7 Kunszentmiklos 148.40 344 ⇓ *e* PKPab 07 36 55.9 +7.2
SOP Sopron 148.41 348 ⇑ *e* **PKPbc 07 36 46.4 +0.8**
PKST T"s 148.48 346 *e* PKPab 07 36 56.0 +6.9
PRD Provadia 148.67 331 *e*P PKPab 07 36 55.4 +5.5
FUR Furstenfeldbru 148.71 355 *e*PKP2 **PKPbc 07 36 46.4 0.0**
FUR Furstenfeldbru 148.71 355 *e*PKPbc **PKPbc 07 36 46.4 0.0**
BFO Black Forest 148.72 358 *e*PKP2 **PKPbc 07 36 45.9 -0.5**
BFO Black Forest 148.72 358 *e*PKPbc **PKPbc 07 36 46.3 -0.1**
BFO Black Forest 148.72 358 *e*PKPbc **PKPbc 07 36 45.9 -0.5**
GZR Gura Zlata 148.77 338 ⇑ *i*P **PKPab 07 36 49.3 -1.1**
THEF They Montfort 148.83 1 PKP **PKPbc 07 36 46.2 -0.5**
ECH Echery 148.85 360 *e*PKP2 **PKPbc 07 36 46.6 -0.2**
ECH Echery 148.85 360 PKP **PKPbc 07 36 45.4 -1.3**
ECH Echery 148.85 360 *e*PKPbc **PKPbc 07 36 46.5 -0.2**
PKS2 Kecel 148.90 344 ⇓ *e* PKPab 07 36 57.8 +7.1
BZS Buzias 148.97 340 ⇓ *i*P **PKPbc 07 36 47.7 +0.6**
RJOB Jochberg 148.97 352 *e*PKPbc **PKPbc 07 36 46.9 -0.2**
PKS9 Tamasi 149.05 345 ⇓ *e* **PKPab 07 36 54.8 +3.4**
FELD Feldberg im Sc 149.19 359 PKP **PKPbc 07 36 48.6 +0.9**
MOF Molkenrain 149.22 360 PKP **PKPbc 07 36 48.6 +0.8**
RETA Reutte 149.43 355 ⇑ *i*sPKPdf **PKPbc 07 36 48.2 -0.1**
comp=Z,47nm,1.1s,SNR=6.5
BEHE Becsehely 149.51 347 ⇓ *e* **PKPbc 07 36 49.0 +0.6**
MOTA Moosalm 149.54 355 ⇓ *i*sPKPdf **PKPbc 07 36 48.4 -0.3**
comp=Z,54nm,1.0s,SNR=7.1
PERS Pernice 149.69 349 *e*PKPbc **PKPbc 07 36 50.2 +1.2**
DAVA Damuels 149.69 356 ⇑ *i*PKIKP **PKPbc 07 36 49.1 0.0**
comp=Z,95nm,1.3s,SNR=6.5
LOMF Lomont 149.72 0 PKP **PKPbc 07 36 48.4 -0.6**
FETA Feichten 149.90 355 ⇑ *i*pPKPdf **PKPbc 07 36 47.5 -2.0**
comp=Z,93nm,1.5s,SNR=7.0
ABTA Abfaltersbach 149.98 353 ⇑ *i*PKPbc **PKPbc 07 36 49.1 -0.6**
comp=Z,44nm,0.9s,SNR=9.1
MPEP Malo Peshtene 150.14 335 *e*P **PKPbc 07 36 50.1 0.0**
GCIS Gornji Cirnik 150.33 348 *e*PKPdf **PKPdf 07 36 47.0 +1.8**
GCIS *e*PKPbc **PKiKP 07 36 52.2 +0.9**
GCIS *e* 07 37 00.5
LJU Ljubljana 150.37 349 *e*PKPdf **PKPdf 07 36 46.8 +1.5**
LJU *e*PKPbc **PKiKP 07 36 51.9 +0.6**
CRES Cresnjev 150.40 348 *e*PKPbc **PKPbc 07 36 52.0 +1.4**
VOY Vojsko 150.49 350 *e*PKPbc **PKPbc 07 36 51.5 +0.6**
VOY *e* 07 36 55.9
VOY *e* 07 37 00.3
CSS Prodhromos 150.51 312 *e*PKPbc **PKPbc 07 36 51.4 +0.2**
TUE Stuetta 150.54 357 *e*PKPbc **PKPbc 07 36 51.3 +0.2**
AGO Saint Agoulin 150.83 6 PKP **PKPbc 07 36 51.7 +0.1**
PLDF La Plantade 150.96 5 PKP **PKPbc 07 36 52.0 0.0**
VTS Vitosha 151.00 335 ⇑ *i*P **PKPbc 07 36 51.5 -0.8**
VTS Vitosha 151.00 335 *e*P PKPab 07 37 05.0 +5.3
OG35 Corcelles 151.00 2 PKP **PKPbc 07 36 52.4 +0.3**
PYM Petit Puy Mans 151.12 6 PKP **PKPbc 07 36 52.8 +0.4**
RSL Roselend 151.38 1 PKP **PKPbc 07 36 53.3 +0.2**
FRNF Fournols 151.43 7 PKP **PKPbc 07 36 53.5 +0.4**
SSB Saint Sauveur 151.71 4 *e*PKIKP **PKPbc 07 36 53.7 0.0**
SSB Saint Sauveur 151.71 4 PKP **PKPbc 07 36 53.3 -0.4**
SSB Saint Sauveur 151.71 4 *e*PKPbc **PKPbc 07 36 53.7 0.0**
PGAV Gavieira, Arco 151.84 25 *e*PKPbc **PKPbc 07 36 53.8 -0.4**
BNI Bardonecchia 152.02 1 *e*PKIKP **PKPdf 07 36 49.8 +1.8**
BNI *e* 07 36 55.2
BNI Bardonecchia 152.02 1 *e*PKPdf **PKPdf 07 36 49.8 +1.8**
BNI *e*PKPbc **PKiKP 07 36 55.2 +0.3**
PCAB Cabril 152.16 25 *e*PKPbc **PKPbc 07 36 54.5 -0.4**
OG26 St.-Nazaire-De 152.45 3 PKP **PKPbc 07 36 54.8 -0.7**
POLO Lamas de Olo 152.53 25 *e*PKPbc **PKPbc 07 36 56.1 +0.3**
PBRG Braganca 152.57 23 *e*PKPbc **PKPbc 07 36 55.2 -0.6**
PVRL Vila Real 152.65 25 *e*PKPbc **PKPbc 07 36 56.0 0.0**
MVO Moncorvo 153.01 24 *e*PKPbc **PKPbc 07 36 57.1 +0.3**
PVIS Viseu 153.05 26 *e*PKPbc **PKPbc 07 36 57.0 +0.1**
TOUF Mont Tournerai 153.06 360 PKP **PKPbc 07 36 58.8 +1.8**
AUTN L'Aution 153.07 359 PKP **PKPbc 07 36 59.0 +1.9**
SAOF Saorge 153.08 359 PKP **PKPbc 07 36 57.9 +1.1**
LARF Larrau 153.14 13 PKP **PKPbc 07 36 57.6 +0.6**
ATE Arette 153.16 13 PKP **PKPbc 07 36 56.9 -0.1**
PCAS Casmilo, Conde 153.34 27 *e*PKPbc **PKPbc 07 36 57.6 +0.1**
MTE Manteigas 153.46 26 *e*PKPbc **PKPbc 07 36 57.6 -0.2**
MTE Manteigas 153.46 26 *e*PKPab **PKPab 07 37 09.3 -0.7**
MTE Manteigas 153.46 26 *e*PKPbc **PKPab 07 36 57.4 -0.4**
PTOM Tomar 153.73 28 *e*PKPbc **PKPab 07 36 58.4 +0.1**
PTOM Tomar 153.73 28 *e*PKPab **PKPab 07 37 10.9 -0.1**
PCBR Castelo Branco 153.95 26 *e*PKPbc **PKPbc 07 36 58.8 0.0**
PMTG Montargil 154.26 28 *e*PKPbc **PKPbc 07 37 01.1 +1.6**
PMTG Montargil 154.26 28 *e*PKPab **PKPab 07 37 13.0 -0.3**
PMRV Marv??o 154.33 27 *e*PKPdf **PKPdf 07 36 52.2 +0.8**
PMRV Marv??o 154.33 27 *e*PKPbc **PKPbc 07 37 01.4 +1.7**
PMRV Marv??o 154.33 27 *e*PKPab **PKPab 07 37 13.3 -0.3**

PESTR Estremoz 154.71 28 *e*PKPab **PKPab 07 37 17.0 +1.7**
ESDC Sonseca Array 155.44 21 PKP **PKPdf 07 36 53.7 +0.7**
ESDC PKPab **PKPab 07 37 17.8 -0.6**
ESDC Sonseca Array 155.44 21 PKP **PKPdf 07 36 53.7 +0.7**
comp=Z,0.4nm,0.5s,baz=346,slow=2.8,SNR=4.2
ESDC PKPab **PKPab 07 37 17.8 -0.6**
comp=Z,0.7nm,0.5s,baz=326,slow=3.3,SNR=5.0
PBAR Barrancos 155.53 28 *e*PKPdf **PKPdf 07 36 52.0 -1.0**
KEST Kesra 161.22 354 PKPab **PKPab 07 37 45.1 +1.6**
KEST Kesra 161.22 354 PKPab **PKPab 07 37 45.1 +1.6**
comp=Z,2.4nm,0.9s,baz=310,slow=7.9,SNR=2.1
TOA0 Torodi Ar. Sit 173.56 126 *e*PKPdf **PKPdf 07 37 07.5 -1.9**
TOA0 *e*PKPab **PKPab 07 38 38.4 -0.1**
TORD Torodi Ar. Bea 173.56 126 PKP **PKPdf 07 37 07.8 -1.7**
TORD PKPab **PKPab 07 38 38.4 -0.1**
TORD PP **PP 07 42 30.5 +0.4**
TORD Torodi Ar. Bea 173.56 126 PKP **PKPdf 07 37 07.8 -1.7**
comp=Z,5.4nm,1.0s,baz=257,slow=4.4,SNR=8.7
TORD PKPab **PKPab 07 38 38.4 -0.1**
TORD PP **PP 07 42 30.5 +0.4**
comp=Z,0.4nm,0.8s,baz=230,slow=7.5,SNR=3.4

KRSC 03 07:26:15.1±5.9, 55°01N×165°78E, h22km±22km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**2.06**	**307**	P		P	Pn	07 26 48.1	-0.3
KBTR				*i* S		Sn	Sn	07 27 11.1	-2.4
MKZ	**Mys Kozlova**	**2.39**	**261**	P		P	Pn	07 26 54.3	+1.5
MKZ				*i* S		Sn	Sn	07 27 20.0	-1.4
NLC	**Nalytchevo**	**4.21**	**247**	*e*P		Pn	Pn	07 27 18.8	+0.9
NLC				*i* S		Sn	Sn	07 28 04.6	-1.8
SDLR	**Sedlovina**	**4.41**	**250**	*e*P		Pn	Pn	07 27 23.4	+2.6
SDLR				*i* S		Sn	Sn	07 28 10.8	-0.8
SMAR	**Somma**	**4.46**	**250**	*e*P		Pn	Pn	07 27 24.3	+2.7
KRER	**Koryakskii**	**4.47**	**250**	*e*P		Pn	Pn	07 27 24.0	+2.2
KRER				*i* S		Sn	Sn	07 28 12.9	-0.4
UGLR	**Uglovaya**	**4.47**	**249**	*e*P		Pn	Pn	07 27 24.1	+2.4
UGLR				*i* S		Sn	Sn	07 28 12.9	-0.2
AVH	**Avacha**	**4.50**	**250**	*e*P		Pn	Pn	07 27 24.8	+2.9
KRX	**Arik**	**4.50**	**251**	*e*P		Pn	Pn	07 27 24.0	+1.9
KOK	**Koryaka**	**4.54**	**251**	*e*P		Pn	Pn	07 27 25.1	+2.6
GNL	**Ganaly**	**4.77**	**257**	*e*P		Pn	Pn	07 27 28.3	+2.5
RUS	**Russkaya**	**5.03**	**242**	P		Pn	Pn	07 27 31.4	+2.3
MTVR	**Mutnovka**	**5.17**	**244**	*e*P		Pn	Pn	07 27 33.6	+2.3
MTVR				*i* S		Sn	Sn	07 28 28.4	-1.9
ASAK	**Asacha**	**5.37**	**244**	*e*P		Pn	Pn	07 27 36.5	+2.6
ASAK				*i* S		Sn	Sn	07 28 33.4	-1.7

*ISCJB **03** 07:38:38.7±0.5, 18°.52N±0°.06×145°.6E±0°.2, h200km, mb3.8/16, Error ellipse: s-maj=19.9km s-min=8.8km az=178.6*
*IDC **03** 07:38:38.9±0.6, 18°.54N×145°.61E, h185km±5km, mb3.7/16, mb1 3.8/16, mb1mx3.7/27, mbtmp3.7/16, Error ellipse: s-maj=17.4km s-min=9.0km az=85.0*
*AUST **03** 07:39:13.1±4.4, 17°.01N×146°.07E, h483km±37km, Error ellipse: s-maj=48.0km s-min=9.9km az=161.0*

ISC 03 07:38:39.4±0.5, 18°56N±0°.08×145°.7E±0°.2, h200km, n26, σ1°51/30, mb3.9/16, 4C-3D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PATS	**Pohnpei**	**16.95**	**132**	⇑ P		P	Pn	07 42 31.6	+6.4
baz=16,SNR=3.3									
KSRS	**Korea Array**	**24.42**	**324**	P		**P**		**07 43 40.5**	**+0.9**
0.6nm,0.6s,baz=142,slow=9.3,SNR=5.0									
KSRS				pP		**pP**		**07 44 18.2**	**0.0**
1.2nm,0.8s,baz=137,slow=11,SNR=3.2									
PMG	**Port Moresby**	**27.82**	**177**	P		**P**		**07 44 10.0**	**-0.3**
3.1nm,0.4s,baz=323,slow=18,SNR=3.4									
COEN	**Coen**	**32.40**	**185**	⇓ P		**P**		**07 44 50.2**	**-0.4**
baz=31,SNR=8.1									
CTA	**Charters Tower**	**38.41**	**179**	P		P		07 45 44.2	+2.4
2.0nm,0.5s,baz=4.0,slow=12,SNR=4.7									
WRA	**Warramunga Arr**	**39.84**	**197**	P		**P**		**07 45 54.4**	**+0.7**
4.6nm,0.3s,baz=14,slow=8.7,SNR=36									
WRA				PcP		**PcP**		**07 47 55.9**	**+0.4**
1.3nm,0.5s,baz=6.3,slow=3.5,SNR=4.5									
FITZ	**Fitzroy Crossi**	**41.41**	**210**	⇑ P		P		07 46 08.3	+1.8
baz=40,SNR=16									
SONM	**Songino Array**	**43.24**	**321**	P		**P**		**07 46 22.4**	**+1.3**
0.6nm,0.5s,baz=140,slow=8.9,SNR=2.8									
ASAR	**Alice Springs**	**43.51**	**196**	P		**P**		**07 46 23.8**	**+0.4**
1.4nm,0.4s,baz=22,slow=9.5,SNR=23									
ASAR				PcP		**PP**		**07 48 08.8**	**-0.3**
0.8nm,0.6s,baz=19,slow=3.4,SNR=5.2									
DZM	**Mont Dzumac**	**45.20**	**152**	P		**P**		**07 46 37.6**	**+0.8**
3.6nm,0.5s,baz=43,slow=11,SNR=8.5									
STKA	**Stephens Creek**	**50.30**	**185**	⇑ P		**P**		**07 47 15.5**	**-0.3**
baz=49,SNR=7.1									
STKA	**Stephens Creek**	**50.30**	**185**	P		**P**		**07 47 15.2**	**-0.5**
1.5nm,0.5s,baz=346,slow=5.6,SNR=7.8									
STKA				pP		**pP**		**07 47 56.5**	**-3.5**
0.4nm,0.3s,baz=329,slow=5.9,SNR=1.2									
BBOO	**Buckleboo**	**51.90**	**190**	P		**P**		**07 47 28.0**	**+0.3**
baz=51,SNR=13									
MORW	**Morawa**	**55.33**	**212**	⇓ P		**P**		**07 47 53.8**	**+1.2**
baz=54,SNR=6.0									
BLDU	**Ballidu**	**56.27**	**210**	⇑ P		**P**		**07 48 00.6**	**+1.3**
baz=55,SNR=24									
KLBR	**Kellerberrin**	**56.61**	**209**	⇓ P		**P**		**07 48 02.8**	**+1.1**
baz=56,SNR=5.7									
ZALV	**Zalesovo Beam**	**58.11**	**323**	P		**P**		**07 48 12.6**	**+0.7**
1.4nm,0.6s,baz=90,slow=4.3,SNR=3.5									
MKAR	**Makanchi Array**	**58.54**	**314**	P		**P**		**07 48 15.9**	**+0.8**
0.8nm,0.6s,baz=88,slow=8.1,SNR=9.8									
MKAR				pP		**pP**		**07 48 57.7**	**-2.9**
0.7nm,0.8s,baz=81,slow=8.9,SNR=2.0									
**ILA

AFI	**Afiamalu**	**2.54**	**26**	Pn	Pn	07 43 22.6	-1.3
	5.1nm,0.3s,baz=56,slow=22,SNR=1.2							
AFI				Sn	Sn	07 43 48.8	-6.8
	18nm,0.3s,baz=241,slow=23,SNR=2.5							
WRA	**Warramunga Arr**	**50.10**	**257**	P	P	07 51 38.2	-0.4
	0.4nm,0.7s,baz=96,slow=6.5,SNR=4.9							
ASAR	**Alice Springs**	**50.29**	**253**	P	P	07 51 40.0	-0.1
	0.7nm,0.6s,baz=93,slow=7.0,SNR=9.5							
ILAR	**Eielson Array**	**83.14**	**11**	P	P	07 55 09.5	+0.8
	0.2nm,0.5s,baz=225,slow=6.3,SNR=5.5							

*IDC **03** 07:50:11.7±0.6,15°.25S×173°.27W,h0km,mb4.1/12, mb1 4.4/12,mb1mx4.3/22,mbtmp4.2/12,MS4.2/5, Ms1 4.3/5,ms1mx3.8/27,Error ellipse: s-maj=27.4km s-min=15.1km az=131.0*

*NEIC **03** 07:50:13.2±0.3,15°.23S×173°.27W,h10km,mb4.6/11, Error ellipse: s-maj=13.2km s-min=7.4km az=132.0*

*ISCJB **03** 07:50:14.6±0.5,15°.2S±0°.1×173°.4W±0°.1,h30km,mb4.3/18, MS4.2/5,Error ellipse: s-maj=18.1km s-min=10.2km az=43.3*

ISC 03 07:50:16.1±0.5,15°.2S±0°.1×173°.3W±0°.1,h30km,n62, σ1s02/56,mb4.4/18,MS4.2/5,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.94**	**47**	*e*Pn	Pn	Pn	07 50 39.0	-8.2
AFI					Sn	Sn	07 50 56.7	-14
AFI	**Afiamalu**	**1.94**	**47**	Pn	Pn	Pn	07 50 39.5	-7.7
	79nm,0.3s,baz=204,slow=3.5,SNR=30							
AFI					Sn	Sn	07 50 56.7	-14
	223nm,0.3s,baz=64,slow=22,SNR=10							
DZM	**Mont Dzumac**	**20.39**	**247**	*e*P	**P**	**P**	**07 54 51.5**	**+0.7**
	32nm,1.0s							
DZM	**Mont Dzumac**	**20.39**	**247**	P	**P**	**P**	**07 54 51.1**	**+0.3**
	12nm,1.1s,baz=58,slow=19,SNR=2.8							
DZM				LR	LR	LR	08 01 12.7	
	comp=Z,338nm,20.8s,baz=15,slow=32							
PPT	**Papeete**	**22.83**	**99**	LR	LR	LR	08 03 05.7	
	comp=Z,369nm,18.9s,baz=164,slow=34							
OUZ	**Omahuta**	**23.14**	**208**	*e*P	**P**	**P**	**07 55 19.4**	**-0.6**
	25nm,1.0s							
URZ	**Urewera**	**24.46**	**199**	P	**P**	**P**	**07 55 31.4**	**-1.1**
URZ	**Urewera**	**24.46**	**199**	P	**P**	**P**	**07 55 31.4**	**-1.1**
	10.0nm,0.8s,baz=5.9,slow=6.4,SNR=3.7							
H11S2	**WAKE ISLAND Hy**	**38.90**	**329**	T	T	T	08 38 59.9	
	baz=154,slow=0.7,SNR=4.9							
H11S3	**WAKE ISLAND Hy**	**38.91**	**329**	T	T	T	08 39 04.7	
	baz=154,slow=0.7,SNR=3.4							
H11S1	**WAKE ISLAND Hy**	**38.91**	**329**	T	T	T	08 39 00.9	
	baz=154,slow=0.7,SNR=5.2							
H11N3	**WAKE ISLAND Hy**	**39.84**	**330**	T	T	T	08 40 12.7	
	baz=157							
H11N1	**WAKE ISLAND Hy**	**39.84**	**330**	T	T	T	08 40 13.0	
	baz=157							
H11N2	**WAKE ISLAND Hy**	**39.86**	**330**	T	T	T	08 40 13.7	
	baz=157							
COEN	**Coen**	**42.13**	**266**	*e*P	**P**	**P**	**07 58 07.1**	**+0.9**
	40nm,0.7s							
STKA	**Stephens Creek**	**44.24**	**240**	*e*P	**P**	**P**	**07 58 22.4**	**-0.6**
	3.5nm,1.5s							
STKA	**Stephens Creek**	**44.24**	**240**	P	**P**	**P**	**07 58 22.2**	**-0.8**
	2.4nm,0.7s,baz=73,slow=9.4,SNR=5.6							
WRAB	**Tennant Creek**	**50.01**	**257**	*e*P	**P**	**P**	**07 59 07.6**	**-0.6**
	6.3nm,1.1s							
WRA	**Warramunga Arr**	**50.02**	**257**	P	**P**	**P**	**07 59 07.1**	**-1.1**
WRA				PcP	**PcP**	**PcP**	**08 00 28.5**	**+0.5**
WRA	**Warramunga Arr**	**50.02**	**257**	P	**P**	**P**	**07 59 07.1**	**-1.1**
	2.8nm,0.8s,baz=91,slow=6.8,SNR=36							
WRA				PcP	**PcP**	**PcP**	**08 00 28.5**	**+0.5**
	0.8nm,0.7s,baz=90,slow=3.2,SNR=3.5							
AS31	**Alice Springs**	**50.30**	**252**	*e*P	**P**	**P**	**07 59 09.3**	**-1.0**
ASAR	**Alice Springs**	**50.30**	**252**	P	**P**	**P**	**07 59 09.3**	**-1.1**
ASAR	**Alice Springs**	**50.30**	**252**	P	**P**	**P**	**07 59 09.3**	**-1.1**
	8.7nm,0.8s,baz=85,slow=8.8,SNR=61							
FITZ	**Fitzroy Crossi**	**58.38**	**258**	LR	LR	LR	08 22 42.7	
	comp=Z,190nm,19.0s,baz=164,slow=33							
SBA	**Scott Base**	**63.42**	**185**	*e*P	**P**	**P**	**08 00 44.2**	**+1.7**
	6.2nm,1.2s							
VNDA	**Vanda**	**63.55**	**186**	*e*P	**P**	**P**	**08 00 44.6**	**+1.3**
	2.8nm,1.0s							
VNDA	**Vanda**	**63.55**	**186**	P	**P**	**P**	**08 00 44.6**	**+1.3**
	2.6nm,0.9s,baz=11,slow=5.7,SNR=14							
PETK	**Petropavlovsk-**	**72.52**	**342**	P	**P**	**P**	**08 01 40.0**	**+0.1**
PETK	**Petropavlovsk-**	**72.52**	**342**	P	**P**	**P**	**08 01 40.0**	**+0.1**
	3.4nm,0.8s,baz=138,slow=12,SNR=4.4							
NVAR	**Mina Array Bea**	**74.11**	**42**	P	**P**	**P**	**08 01 50.1**	**+0.1**
NVAR	**Mina Array Bea**	**74.11**	**42**	P	**P**	**P**	**08 01 50.1**	**+0.1**
	0.7nm,0.9s,baz=224,slow=9.9,SNR=3.3							
NVAR				LR	LR	LR	08 26 59.0	
	comp=Z,369nm,20.6s,baz=112,slow=30							
QSPA	**South Pole Qui**	**74.81**	**180**	*e*P	**P**	**P**	**08 01 54.1**	**+0.6**
	23nm,1.1s							
TXAR	**Lajitas Array**	**80.40**	**56**	P	**P**	**P**	**08 02 25.6**	**+0.4**
TXAR	**Lajitas Array**	**80.40**	**56**	P	**P**	**P**	**08 02 25.6**	**+0.4**
	0.5nm,0.9s,baz=236,slow=6.8,SNR=4.5							
ANMO	**Albuquerque**	**80.59**	**50**	*e*P	**P**	**P**	**08 02 26.7**	**+0.5**
	2.8nm,1.3s							
PDAR	**Pinedale Array**	**82.05**	**42**	P	**P**	**P**	**08 02 33.8**	**-0.1**
PDAR	**Pinedale Array**	**82.05**	**42**	P	**P**	**P**	**08 02 33.8**	**-0.1**
	0.4nm,0.9s,baz=221,slow=6.8,SNR=2.8							
PDAR				LR	LR	LR	08 35 24.1	
	comp=Z,258nm,18.0s,baz=258,slow=33							
COLA	**College**	**82.17**	**11**	*e*P	**P**	**P**	**08 02 33.6**	**-0.1**
	28nm,0.9s							
ILAR	**Eielson Array**	**82.26**	**11**	P	**P**	**P**	**08 02 33.9**	**-0.3**
ILAR	**Eielson Array**	**82.26**	**11**	P	**P**	**P**	**08 02 33.9**	**-0.3**
	0.9nm,0.8s,baz=218,slow=6.0,SNR=6.2							
SDCO	**Great Sand Dun**	**82.50**	**48**	*e*P	**P**	**P**	**08 02 36.3**	**-0.2**
MAW	**Mawson**	**87.99**	**199**	*e*P	**P**	**P**	**08 03 03.1**	**+0.1**
	1.5nm,1.1s							
MAW	**Mawson**	**87.99**	**199**	P	**P**	**P**	**08 03 02.8**	**-0.2**
	4.6nm,1.0s,baz=194,slow=4.2,SNR=7.9							
MKAR	**Makanchi Array**	**110.81**	**315**	PKiKP	**PKiKP**	**PKiKP**	**08 08 47.2**	**+0.9**
MKAR	**Makanchi Array**	**110.81**	**315**	PKiKP	**PKiKP**	**PKiKP**	**08 08 47.2**	**+0.9**
	0.4nm,0.7s,baz=232,slow=3.5,SNR=2.7							
KMBO	**Kilima Mbogo**	**145.73**	**244**	*e*PKPdf	**PKPab**	**PKPab**	**08 09 54.6**	**+0.7**
KMBO				PKPbc	**PKPab**	**PKPab**	**08 09 54.8**	**+0.9**
KMBO	**Kilima Mbogo**	**145.73**	**244**	PKPbc	**PKPab**	**PKPab**	**08 09 54.8**	**+0.9**
	2.4nm,0.8s,baz=40,slow=6.3,SNR=6.1							
KHC	**Kasperske Hory**	**145.74**	**352**	*e*PKP	**PKPdf**	**PKPdf**	**08 09 47.0**	**-4.8**
KHC				*ep*PKP	**PKiKP**	**PKiKP**	**08 09 56.5**	**+0.6**
KHC	**Kasperske Hory**	**145.74**	**352**	*e*PKPdf	**PKPab**	**PKPab**	**08 09 52.7**	**+0.1**
GERES	**GERESS Array B**	**146.00**	**352**	PKPbc	**PKPab**	**PKPab**	**08 09 53.4**	**-0.2**
GERES	**GERESS Array B**	**146.00**	**352**	PKPbc	**PKPab**	**PKPab**	**08 09 53.4**	**-0.2**
	1.1nm,0.8s,baz=19,slow=4.5,SNR=7.2							
BR131	**Keskin Array S**	**146.12**	**321**	*e*PKPdf	**PKPbc**	**PKPbc**	**08 09 53.6**	**-0.2**
BRTR	**Keskin Array B**	**146.12**	**321**	PKPbc	**PKPab**	**PKPab**	**08 09 54.8**	**+0.3**
BRTR	**Keskin Array B**	**146.12**	**321**	PKPbc	**PKPab**	**PKPab**	**08 09 54.8**	**+0.3**
	8.5nm,1.0s,baz=103,slow=2.7,SNR=27							
DAVOX	**Davos/Dischmat**	**148.44**	**356**	PKPab	**PKPab**	**PKPab**	**08 10 03.7**	**+0.3**
DAVOX	**Davos/Dischmat**	**148.44**	**356**	PKPab	**PKPab**	**PKPab**	**08 10 03.7**	**+0.3**
	2.1nm,0.7s,baz=324,slow=8.7,SNR=2.9							
ESDC	**Sonseca Array**	**153.91**	**19**	PKPab	**PKPab**	**PKPab**	**08 10 26.8**	**+0.7**
ESDC	**Sonseca Array**	**153.91**	**19**	PKPab	**PKPab**	**PKPab**	**08 10 26.8**	**+0.7**
	0.1nm,0.3s,baz=308,slow=2.3,SNR=4.6							
MDT	**Midelt**	**159.68**	**29**	PKPab	**PKPab**	**PKPab**	**08 10 52.3**	**+1.1**
MDT	**Midelt**	**159.68**	**29**	PKPab	**PKPab**	**PKPab**	**08 10 52.3**	**+1.1**
	0.7nm,0.4s,baz=288,slow=6.4,SNR=3.4							
TORD	**Torodi Ar. Bea**	**174.68**	**112**	PKPab	**PKPab**	**PKPab**	**08 11 56.2**	**-1.6**
TORD	**Torodi Ar. Bea**	**174.68**	**112**	PKPab	**PKPab**	**PKPab**	**08 11 56.2**	**-1.6**
	0.4nm,0.9s,baz=290,slow=4.3,SNR=3.6							

IDC 03 07:54:58.1±1.0,46°.32N×27°.94W,h0km,mb3.6/5, mb1 3.8/5,mb1mx3.5/31,mbtmp3.6/5,MS3.7/4,Ms1 3.7/4, ms1mx3.2/38,Error ellipse: s-maj=34.9km s-min=26.7km az=37.0,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GERES	**GERESS Array B**	**27.95**	**69**	LR	LR	LR	08 12 10.2	
	comp=Z,120nm,19.2s,baz=342,slow=37							
VRAC	**Vranov**	**29.73**	**68**	LR	LR	LR	08 12 35.0	
	comp=Z,139nm,19.0s,baz=7.8,slow=36							
KEST	**Kesra**	**29.80**	**97**	LR	LR	LR	08 12 11.1	
	comp=Z,63nm,19.2s,baz=213,slow=35							
TORD	**Torodi Ar. Bea**	**41.43**	**133**	P	P	P	08 02 45.8	-0.6
	1.7nm,0.9s,baz=331,slow=7.5,SNR=9.2							
H10N2	**ASCENSION HYDR**	**55.23**	**164**	T	T	T	09 03 48.4	
	baz=350,slow=0.7,SNR=6.7							
H10N3	**ASCENSION HYDR**	**55.24**	**164**	T	T	T	09 03 49.5	
	baz=350,slow=0.7,SNR=6.6							
H10N1	**ASCENSION HYDR**	**55.25**	**164**	T	T	T	09 03 49.4	
	baz=350,slow=0.7,SNR=7.5							
H10S1	**ASCENSION HYDR**	**56.28**	**164**	T	T	T	09 05 07.2	
	baz=350,slow=0.7,SNR=6.3							
H10S3	**ASCENSION HYDR**	**56.29**	**164**	T	T	T	09 05 08.4	
	baz=350,slow=0.7,SNR=7.5							
H10S2	**ASCENSION HYDR**	**56.30**	**164**	T	T	T	09 05 08.9	
	baz=350,slow=0.7,SNR=7.3							
ILAR	**Eielson Array**	**59.50**	**334**	P	P	P	08 05 01.9	-0.7
	0.3nm,0.5s,baz=42,slow=5.9,SNR=6.8							
TXAR	**Lajitas Array**	**59.97**	**282**	P	P	P	08 05 06.3	-0.1
	0.5nm,1.0s,baz=50,slow=8.4,SNR=3.6							
TXAR				LR	LR	LR	08 33 36.4	
	comp=Z,155nm,19.0s,baz=185,slow=39							
MKAR	**Makanchi Array**	**68.95**	**44**	P	P	P	08 06 04.3	-0.5
	0.7nm,1.0s,baz=344,slow=4.8,SNR=3.2							
SONM	**Songino Array**	**78.09**	**30**	P	P	P	08 06 59.9	+1.1
	0.8nm,0.9s,baz=350,slow=7.3,SNR=2.8							
VNDA	**Vanda**	**148.45**	**184**	PKPbc	PKPbc	PKPbc	08 14 45.2	+0.1
	0.9nm,1.0s,baz=211,slow=3.2,SNR=4.0							
WRA	**Warramunga Arr**	**149.94**	**35**	PKPbc	PKPbc	PKPbc	08 14 50.1	-0.4
	1.1nm,0.9s,baz=335,slow=2.8,SNR=8.2							

IGQ 03 08:05:20.8,2°.44S×78°.30W,h77km±31km,Mb4.0,Ms3.8, 15D,Error ellipse: s-maj=4.0km s-min=1.0km az=3.7, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PAT1	**Patacocha**	**0.94**	**352**	⇓P	P	Pn	08 05 40.0	+0.3
BPAT	**Tungurahua Vol**	**0.94**	**352**	⇓S	P	Sn	08 05 53.8	+0.3
BPAT	**Tungurahua Vol**	**0.94**	**352**	⇓P	P	Pn	08 05 40.0	+0.4
ARRY	**Arrayan**	**0.94**	**351**	⇓P	P	Pn	08 05 39.6	0.0
BMAS	**Trigal station**	**0.95**	**349**	⇓P	P	Pn	08 05 39.8	+0.2
BULB	**Ulba Tungurahu**	**1.00**	**354**	⇓P	P	Pn	08 05 40.8	+0.5
IGUA	**Igualata**	**1.00**	**340**	P	P	Pn	08 05 40.7	+0.1
BRUN	**Tungurahua Vol**	**1.02**	**354**	⇓P	P	Pn	08 05 40.8	+0.4
RUN5	**Runtun**	**1.02**	**353**	⇓P	P	Pn	08 05 41.1	+0.6
PISA	**Pisayambo**	**1.37**	**356**	P	P	Pn	08 05 45.9	+0.8
BMOR	**Cotopaxi Volca**	**1.70**	**355**	P	P	Pn	08 05 50.1	+0.6
TAMB	**Tambo**	**1.73**	**358**	P	P	Pn	08 05 51.3	+1.4
BTAM	**Cotopaxi Volca**	**1.75**	**357**	⇓P	P	Pn	08 05 51.1	+0.9
BREF	**Cotopaxi Volca**	**1.76**	**355**	⇓P	P	Pn	08 05 51.3	+0.9
CAMI	**Rancho Maria**	**1.76**	**353**	P	P	Pn	08 05 51.4	+1.2
COV1	**Cotopaxi Volc**	**1.77**	**359**	P	P	Pn	08 05 51.8	+1.3
PAST	**Pastocalle**	**1.77**	**349**	P	P	Pn	08 05 51.0	+0.8
BVC2	**Cotopaxi Volca**	**1.77**	**356**	⇓S	P	Sn	08 06 14.0	+1.2
BVC2	**Cotopaxi Volca**	**1.77**	**356**	⇓P	P	Pn	08 05 51.4	+1.0
VC1	**Cotopaxi 1**	**1.79**	**357**	P	P	Pn	08 05 51.4	+0.9
NAS2	**Nasa**	**1.79**	**355**	P	P	Pn	08 05 51.9	+1.4
PITA	**Cotopaxi Volc**	**1.87**	**356**	P	P	Pn	08 05 52.7	+1.1
ANTI	**Antisana**	**1.98**	**4**	⇓P	P	Pn	08 05 54.1	+0.9
ARNL	**Arenillas**	**2.08**	**238**	⇓S	P	Sn	08 06 18.8	0.0
ARNL	**Arenillas**	**2.08**	**238**	⇓P	P	Pn	08 05 53.6	-0.2
JUA2	**San Juan 2**	**2.23**	**352**	P	P	Pn	08 05 57.0	+0.6
GGP	**Refugio Guagua**	**2.27**	**353**	P	P	Pn	08 05 57.6	+0.6
PINO	**Pino**	**2.29**	**352**	P	P	Pn	08 05 58.0	+0.7
CHAR	**Charly**	**2.42**	**15**	P	P	Pn	08 05 59.9	+1.0
CAYA	**Cayambe**	**2.51**	**7**	P	P	Pn	08 06 01.7	+1.4
OTAV	**Otavalo**	**2.66**	**357**	P	P	Pn	08 06 02.8	+0.6
MAG1	**Magdalena**	**2.77**	**328**	P	P	Pn	08 06 02.7	-0.5

IDC 03 08:20:13.3±1.0,46°.38N×27°.75W,h0km,mb3.5/5, mb1 3.6/6,mb1mx3.5/31,mbtmp3.5/6,ML4.6/1,Error ellipse: s-maj=35.3km s-min=26.5km az=11.0,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**18.60**	**103**	P	P	P	08 24 32.1	0.0
	0.4nm,0.3s,baz=300,slow=13,SNR=5.2							
AKASG	**Malin Array Be**	**37.16**	**62**	P	P		08 27 25.6	-0.1
	0.1nm,0.3s,baz=289,slow=8.7,SNR=2.5							
TORD	**Torodi Ar. Bea**	**41.38**	**134**	P	P	P	08 28 01.6	+0.4
	0.5nm,0.7s,baz=326,slow=8.2,SNR=3.1							
H10N2	**ASCENSION HYDR**	**55.25**	**164**	T	T	T	09 28 60.0	
	baz=350,slow=0.7,SNR=5.4							
H10N3	**ASCENSION HYDR**	**55.26**	**164**	T	T	T	09 29 00.7	
	baz=350,slow=0.7,SNR=6.3							
H10N1	**ASCENSION HYDR**	**55.27**	**164**	T	T	T	09 29 01.2	
	baz=350,slow=0.7,SNR=6.1							
H10S1	**ASCENSION HYDR**	**56.31**	**164**	T	T	T	09 30 19.5	
	baz=350,slow=0.7,SNR=10							
H10S3	**ASCENSION HYDR**	**56.32**	**164**	T	T	T	09 30 19.8	
	baz=350,slow=0.7,SNR=14							
H10S2	**ASCENSION HYDR**	**56.33**	**164**	T	T	T	09 30 20.8	
	baz=350,slow=0.7,SNR=10							
TXAR	**Lajitas Array**	**60.08**	**282**	P	P	P	08 30 22.6	+0.2
	0.3nm,0.8s,baz=63,slow=5.5,SNR=5.2							
MKAR	**Makanchi Array**	**68.81**	**44**	P	P	P	08 31 17.7	-1.5
	0.5nm,0.6s,baz=338,slow=5.8,SNR=5.8							
SONM	**Songino Array**	**77.97**	**30**	P	P	P	08 32 15.0	+1.8
	0.7nm,1.0s,baz=345,slow=9.1,SNR=3.0							
VNDA	**Vanda**	**148.52**	**184**	PKP	PKPdf		08 39 54.8	-2.0
	0.4nm,0.7s,baz=188,slow=2.7,SNR=5.6							
WRA	**Warramunga Arr**	**149.81**	**35**	PKPbc	PKPbc	PKPbc	08 40 04.4	-1.0
	1.1nm,1.0s,baz=330,slow=2.3,SNR=5.4							
ASAR	**Alice Springs**	**152.94**	**39**	PKPbc	PKPbc	PKPbc	08 40 12.3	-0.3
	0.5nm,0.7s,baz=343,slow=1.9,SNR=10.0							

IDC 03 08:29:01.9±6.9,4°.98S×153°.13E,h120km±52km,mb2.9/3, mb1 3.1/4,mb1mx3.0/19,mbtmp3.0/4,Error ellipse: s-maj=61.1km s-min=30.0km az=11.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.38**	**233**	P	P	Pn	08 30 46.8	-0.2
	1.4nm,0.3s,baz=0.0,slow=6.1,SNR=3.4							
PMG				S	S	Sn	08 32 03.2	-6.1
	0.8nm,0.3s,baz=208,slow=19,SNR=1.6							
DZM	**Mont Dzumac**	**21.33**	**144**	P	P	P	08 33 39.5	-0.1
	1.0nm,0.4s,baz=264,slow=21,SNR=8.8							
WRA	**Warramunga Arr**	**23.58**	**229**	P	P	P	08 34 00.8	-1.1
	0.2nm,0.3s,baz=57,slow=10,SNR=13							
ASAR	**Alice Springs**	**26.24**	**223**	P	P	P	08 34 27.5	+1.4
	0.3nm,0.8s,baz=53,slow=9.4,SNR=3.3							
TORD	**Torodi Ar. Bea**	**150.67**	**288**	PKPbc	PKPbc	PKPbc	08 48 40.5	-0.6
	0.4nm,0.6s,baz=95,slow=2.3,SNR=3.9							

*AUST **03** 08:45:54.5±2.1,23°.38S×175°.92W,h106km±24km,Error ellipse: s-maj=26.6km s-min=17.7km az=140.0*

IDC 03 08:46:06.2±1.9,22°.38S×179°.66W,h0km,mb4.1/5, mb1 4.4/5,mb1mx4.0/17,mbtmp4.1/5,1C-2D,Error ellipse: s-maj=144.2km s-min=23.2km az=156.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
EIDS	**Eidsvold**	**26.89**	**258**	P	P	P	08 51 53.6	+4.5
	baz=30,SNR=6.1							
STKA	**Stephens Creek**	**35.60**	**246**	P	P		08 53 05.5	-0.2
	0.7nm,0.3s,baz=88,slow=10,SNR=8.5							
BBOO	**Buckleboo**	**40.34**	**245**	⇓P	P		08 53 43.3	-2.5
	baz=43,SNR=13							
ASAR	**Alice Springs**	**42.61**	**259**	P	P		08 54 04.5	0.0
	3.5nm,0.5s,baz=97,slow=7.5,SNR=67							
WRA	**Warramunga Arr**	**42.84**	**264**	P	P		08 54 06.9	+0.5
	6.2nm,0.4s,baz=102,slow=8.1,SNR=432							
FORT	**Forrest**	**47.15**	**248**	P	P		08 54 36.9	-3.7
	baz=50,SNR=16							
KNRA	**Kununurra**	**49.02**	**268**	⇓P	P		08 54 55.4	+0.1
	baz=52,SNR=6.1							
FITZ	**Fitzroy Crossi**	**51.27**	**264**	P	P		08 55 11.6	-0.7
	baz=55,SNR=5.9							
MEEK	**Meekatharra**	**55.86**	**252**	⇑P	P		08 55 41.5	-4.5
	baz=59,SNR=4.0							
MORW	**Morawa**	**57.70**	**249**	P	P		08 55 53.6	-5.3
	baz=60,SNR=7.0							
NVAR	**Mina Array Bea**	**83.45**	**44**	P	P		08 58 37.0	+1.0
	0.2nm,0.5s,baz=222,slow=8.0,SNR=2.7							
TXAR	**Lajitas Array**	**89.37**	**58**	P	P		08 59 04.8	-0.4
	0.4nm,0.7s,baz=221,slow=6.9,SNR=5.9							
BRTR	**Keskin Array B**	**146.89**	**309**	PKPbc	PKPdf		09 05 48.6	-0.5
	0.6nm,0.6s,baz=126,slow=2.5,SNR=3.2							

IDC 03 08:50:12.9±1.1,46°.79N×27°.26W,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.3/30,mbtmp3.4/3,Error ellipse: s-maj=45.0km s-min=30.9km az=21.0,Northern Mid-Atlantic Ridge

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

TORD	**Torodi Ar. Bea**	**41.42**	**135**	P	P	P	08 58 01.6	+0.4
	0.5nm,0.9s,baz=318,slow=6.0,SNR=3.0							
TXAR	**Lajitas Array**	**60.32**	**282**	P	P	P	09 00 24.3	+0.7
	0.3nm,0.9s,baz=74,slow=6.7,SNR=2.9							
MKAR	**Makanchi Array**	**68.29**	**44**	P	P	P	09 01 16.9	+1.4
	0.6nm,0.9s,baz=318,slow=6.2,SNR=3.1							
WRA	**Warramunga Arr**	**149.28**	**36**	PKPbc	PKPbc	PKPbc	09 10 02.3	-1.3
	0.9nm,1.0s,baz=348,slow=3.1,SNR=4.5							
ASAR	**Alice Springs**	**152.41**	**40**	PKPbc	PKPbc	PKPbc	09 10 08.4	-2.5
	0.2nm,0.7s,baz=347,slow=3.2,SNR=3.4							

IDC 03 09:03:10.4±9.9,4°.83S×153°.68E,h150km±68km,mb2.9/2, mb1 3.4/3,mb1mx3.0/18,mbtmp3.2/3,Error ellipse: s-maj=132.6km s-min=57.2km az=119.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.91**	**235**	P	P	Pn	09 05 02.6	0.0
	5.9nm,0.3s,baz=30,slow=9.5,SNR=14							
PMG				S	S	Sn	09 06 31.8	+0.9
	1.1nm,0.3s,baz=146,slow=18,SNR=3.8							
WRA	**Warramunga Arr**	**24.09**	**230**	P	P	P	09 08 12.9	+0.6
	0.6nm,0.6s,baz=54,slow=9.9,SNR=8.0							
ASAR	**Alice Springs**	**26.73**	**224**	P	P	P	09 08 35.5	-0.7
	0.3nm,0.7s,baz=56,slow=8.6,SNR=5.8							
TORD	**Torodi Ar. Bea**	**151.15**	**289**	PKPbc	PKPbc	PKPbc	09 22 46.8	-0.2
	0.8nm,1.2s,baz=64,slow=2.7,SNR=3.0							

*ISCJB **03** 09:12:11.7±0.7,23°.96S±0°.06×66°.72W±0°.07,h202km±8km, mb3.6/7,Error ellipse: s-maj=11.5km s-min=9.5km az=143.8*

*IDC **03** 09:12:11.8±2.1,23°.91S×66°.70W,h186km±20km,mb3.6/7, mb1 3.7/11,mb1mx3.6/19,mbtmp3.5/11,Error ellipse: s-maj=19.8km s-min=16.0km az=98.0*

*GUC **03** 09:12:15.3±0.4,23°.82S×67°.21W,h230km,ML4.6*

ISC 03 09:12:11.9±0.8,24°.01S±0°.07×66°.67W±0°.08,h190km±9km, n23,σ1s54/27,mb3.9/7,5C,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PB04	**Plate Boundary**	**3.12**	**303**	⇑*i*P	P	Pn	09 13 09.6	+7.1
PB04				*i* S	S	Sn	09 13 51.2	+9.1
PB09	**Plate Boundary**	**3.24**	**312**	⇑*i*P	**P**	**Pn**	**09 13 06.1**	**+2.0**
PB09				*i* S	**S**	**Sn**	**09 13 44.8**	**-0.1**
PB09				AML	AML	AML	09 13 48.5	
	comp=E,1μm,0.5s							
CEN1	**Los Morros**	**3.30**	**280**	*e*P	P	Pn	09 13 09.2	+4.4
CEN1				*i* S	**S**	**Sn**	**09 13 48.7**	**+2.7**
ANCH	**Antofagasta**	**3.44**	**275**	*i* P	**P**	**Pn**	**09 13 08.0**	**+1.6**
ANCH				*i* S	**S**	**Sn**	**09 13 47.7**	**-1.3**
ANCH				AML	AML	AML	09 13 51.6	
	comp=N,398nm,0.3s							
PB10	**Plate Boundary**	**3.60**	**277**	⇑*i*P	**P**	**Pn**	**09 13 09.6**	**+1.2**
PB10				*e*S	**S**	**Sn**	**09 13 50.6**	**-1.

H08N1	**Diego Carcia H** baz=216,SNR=10	**35.96**	**270**	T	T	10 09 03.2	
H08N2	**Diego Garcia H** baz=216,SNR=9.6	**35.98**	**270**	T	T	10 09 01.7	
H08N3	**Diego Garcia H** baz=216,SNR=5.9	**35.99**	**270**	T	T	10 09 02.2	
STKA	**Stephens Creek** 3.2nm,0.3s,baz=304,slow=7.3,SNR=18	**39.73**	**131**	P	P	09 29 37.8	+4.0

IDC 03 09:24:14.3±2.5, 17°01'S×173°71'W, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.7/18, mbtmp3.6/5, MS3.7/3, Ms1 3.7/3, ms1mx3.3/23, Error ellipse: s-maj=140.9km s-min=23.1km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 36nm,0.3s,baz=210,slow=0.6,SNR=16	**3.61**	**31**	Pn	Pn	09 25 06.7	-4.9
AFI	32nm,0.3s,baz=270,slow=20,SNR=9.2			Sn	Sn	09 25 40.4	-15
HNR	**Honiara** comp=Z,81nm,18.2s,baz=132,slow=32	**26.71**	**283**	LR	LR	09 38 43.2	
STKA	**Stephens Creek** 1.6nm,0.8s,baz=73,slow=11,SNR=2.4	**42.99**	**241**	P	P	09 32 14.9	-0.7
WRA	**Warramunga Arr** 0.7nm,1.2s,baz=97,slow=6.7,SNR=3.7	**49.20**	**258**	P	P	09 33 04.1	-0.7
ASAR	**Alice Springs** 0.5nm,0.5s,baz=87,slow=8.1,SNR=9.5	**49.34**	**253**	P	P	09 33 06.8	+1.0
JCJ	**Chichijima** comp=Z,84nm,18.2s,baz=347,slow=32	**61.27**	**315**	LR	LR	09 56 49.5	
NVAR	**Mina Array Bea** 0.2nm,0.6s,baz=230,slow=9.3,SNR=2.1	**75.72**	**42**	P	P	09 36 02.3	+0.2
KSRS	**Korea Array** comp=Z,36nm,18.4s,baz=315,slow=33	**77.10**	**316**	LR	LR	10 06 14.6	
ILAR	**Eielson Array** 0.5nm,0.9s,baz=204,slow=6.4,SNR=3.5	**84.08**	**11**	P	P	09 36 46.4	-0.1
BRTR	**Keskin Array B** 1.2nm,0.8s,baz=90,slow=2.6,SNR=4.7	**147.20**	**319**	PKPbc	PKPdf	09 43 58.8	+1.0
GERES	**GERESS Array B** 0.2nm,0.3s,baz=57,slow=3.6,SNR=2.3	**147.68**	**351**	PKPbc	PKPbc	09 44 00.4	-0.6

*ISCJB **03** 09:26:56.4±1.0, 46°1'N±0°1'×27°3'W±0°1, h13km, mb3.8/6, MS3.5/13, Error ellipse: s-maj=23.0km s-min=11.8km az=26.3*

*IDC **03** 09:26:56.5±1.0, 46°33'N×27°38'W, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.6/31, mbtmp3.7/6, ML4.8/1, MS3.6/14, Ms1 3.6/14, ms1mx3.3/46, Error ellipse: s-maj=36.8km s-min=25.4km az=10.0*

ISC 03 09:26:57.9±1.0, 46°1'N±0°2'×27°4'W±0°1, h13km, n43, σ1°94/26, mb3.8/6, MS3.5/13, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGAV	**Gavieira, Arco** 21nm,0.6s	**14.35**	**100**	*eP*	**Pn**	**09 30 19.5**	**-1.3**
PCAB	**Cabril** 20nm,2.0s	**14.62**	**101**	*eP*	**Pn**	**09 30 23.5**	**-0.9**
POLO	**Lamas de Olo** 12nm,1.6s	**14.92**	**101**	*eP*	**Pn**	**09 30 27.0**	**-1.5**
PVIS	**Viseu** 13nm,1.9s	**15.14**	**104**	*eP*	**Pn**	**09 30 30.5**	**-0.9**
PBRG	**Braganca** 15nm,2.1s	**15.46**	**99**	*eP*	**Pn**	**09 30 34.9**	**-0.8**
MTE	**Manteigas** 10nm,1.3s	**15.52**	**104**	*eP*	**Pn**	**09 30 37.6**	**+1.1**
MVO	**Moncorvo** 14nm,1.6s	**15.53**	**101**	*eP*	**Pn**	**09 30 35.4**	**-1.2**
PMTG	**Montargil** 16nm,1.7s	**15.74**	**110**	*eP*	**Pn**	**09 30 38.0**	**-1.3**
EVO	**Evora**	**16.18**	**111**	*eP*	**Pn**	**09 30 42.2**	**-2.6**
MORF	**Marmelete** 15nm,1.1s	**16.49**	**116**	*eP*	**Pn**	**09 30 49.3**	**+0.4**
PBAR	**Barrancos** 9.0nm,1.6s	**17.01**	**111**	*eP*	**Pn**	**09 30 55.3**	**-0.1**
ESDC	**Sonseca Array** 0.7nm,0.3s,baz=299,slow=13,SNR=5.1	**18.29**	**102**	P	**P**	**09 31 13.1**	**+1.7**
ESDC	comp=Z,110nm,18.3s,baz=265,slow=34			LR	LR	09 37 14.5	
SJPF	**Ste Jean** 28nm,1.3s	**18.83**	**90**	*eP*	**Pn**	**09 31 18.2**	**+0.3**
ETSF	**Etsaut** 7.9nm,0.6s	**19.36**	**90**	*eP*	**Pn**	**09 31 24.8**	**+0.4**
TCF	**Toulx Ste Croi**	**20.44**	**79**	*eP*	**P**	**09 31 35.5**	**+0.6**
AVF	**Avril sur Loir** 57nm,1.5s	**21.13**	**77**	*eP*	**P**	**09 31 42.4**	**+0.1**
LOR	**Lormes**	**21.40**	**76**	*eP*	**P**	**09 31 45.3**	**+0.1**
SMF	**Signal de Mont**	**21.48**	**77**	*eP*	**P**	**09 31 46.3**	**+0.2**
MDT	**Midelt** comp=Z,100nm,19.2s,baz=320,slow=30	**21.93**	**119**	LR	LR	09 37 57.9	
DAVOX	**Davos/Dischmat** comp=Z,106nm,20.3s,baz=262,slow=33	**25.53**	**75**	LR	LR	09 40 58.9	
SCHQ	**Scheffervill** comp=Z,184nm,18.9s,baz=55,slow=32	**26.28**	**304**	LR	LR	09 41 05.2	
GERES	**GERESS Array B** comp=Z,121nm,18.1s,baz=136,slow=34	**27.67**	**69**	LR	LR	09 42 46.7	
HFS	**Hagfors** comp=Z,120nm,18.8s,baz=61,slow=37	**27.83**	**45**	LR	LR	09 44 00.7	
FRB	**Frobisher Bay** comp=Z,95nm,18.2s,baz=319,slow=30	**28.81**	**323**	LR	LR	09 41 17.4	
KEST	**Kesra** comp=Z,72nm,19.4s,baz=172,slow=32	**29.39**	**97**	LR	LR	09 42 51.0	
VRAC	**Vranov** comp=Z,80nm,18.8s,baz=325,slow=37	**29.45**	**68**	LR	LR	09 44 58.6	
FINES	**FINESS Array B** comp=Z,90nm,21.7s,baz=219,slow=33	**34.01**	**44**	LR	LR	09 45 40.4	
TORD	**Torodi Ar. Bea** 0.7nm,0.6s,baz=331,slow=8.7,SNR=5.2	**41.00**	**134**	P	**P**	**09 34 41.4**	**+0.7**
TORD	comp=Z,141nm,18.8s,baz=340,slow=34			LR	LR	09 50 38.2	
BRTR	**Keskin Array B** 0.5nm,0.7s,baz=318,slow=10.0,SNR=2.9	**44.18**	**75**	P	**P**	**09 35 07.2**	**+0.7**
AKTO	**Aktyubinsk** comp=Z,18nm,21.1s,baz=176,slow=36	**53.99**	**52**	LR	LR	09 59 38.9	
H10N2	**ASCENSION HYDR** baz=8.6,slow=0.7,SNR=4.9	**54.91**	**164**	T	T	10 35 43.9	
H10N3	**ASCENSION HYDR** baz=8.6,slow=0.7,SNR=4.7	**54.92**	**164**	T	T	10 35 43.9	
H10N1	**ASCENSION HYDR** baz=8.6	**54.93**	**164**	T	T	10 35 45.2	
H10S1	**ASCENSION HYDR** baz=350,slow=0.7,SNR=28	**55.97**	**165**	T	T	10 37 02.5	
H10S3	**ASCENSION HYDR** baz=350,slow=0.7,SNR=36	**55.98**	**165**	T	T	10 37 03.2	
H10S2	**ASCENSION HYDR** baz=350,slow=0.7,SNR=32	**55.99**	**165**	T	T	10 37 03.8	
TXAR	**Lajitas Array** 0.8nm,0.9s,baz=67,slow=7.2,SNR=7.1	**60.39**	**283**	P	**P**	**09 37 07.4**	**+0.4**
TXAR	comp=Z,106nm,19.4s,baz=355,slow=36			LR	LR	10 03 16.8	
AAK	**Ala-Archa** comp=Z,64nm,18.1s,baz=103,slow=37	**67.73**	**51**	LR	LR	10 08 24.6	
MKAR	**Makanchi Array** 1.2nm,0.8s,baz=303,slow=6.9,SNR=6.5	**68.84**	**44**	P	**P**	**09 38 01.3**	**-0.6**
SONM	**Songino Array** 0.8nm,0.9s,baz=330,slow=8.3,SNR=3.8	**78.09**	**30**	P	**P**	**09 38 56.3**	**-0.1**
VNDA	**Vanda** 1.2nm,1.0s,baz=225,slow=1.4,SNR=4.3	**148.26**	**184**	PKPbc	**PKPab**	**09 46 44.3**	**-1.0**
WRA	**Warramunga Arr** 1.9nm,0.9s,baz=338,slow=3.2,SNR=7.9	**149.89**	**36**	PKPbc	**PKPbc**	**09 46 47.2**	**-0.8**
ASAR	**Alice Springs** 0.7nm,0.6s,baz=334,slow=1.7,SNR=11	**152.99**	**40**	PKPbc	**PKPbc**	**09 46 54.5**	**-0.6**

*IDC **03** 09:37:45.1±0.9, 25°23'N×126°95'E, h0km, mb3.9/8, mb1 3.9/9, mb1mx3.8/25, mbtmp3.8/9, ML3.5/1, MS3.4/2, Ms1 3.4/2, ms1mx2.7/47, Error ellipse: s-maj=38.2km s-min=18.6km az=74.0*

*ISCJB **03** 09:37:47.8±0.6, 25°10N±0°06×127°03E±0°06, h28km, mb3.8/9, MS3.3/2, Error ellipse: s-maj=11.1km s-min=4.4km az=143.9*

*JMA **03** 09:37:50.9±0.1, 25°22N×126°87E, h62km, M3.3*

*NEIC **03** 09:37:51.5±0.8, 25°22N×126°92E, h47km±7km, mb4.1/1, Error ellipse: s-maj=11.1km s-min=7.4km az=134.0*

ISC 03 09:37:48.7±0.8, 25°11N±0°07×127°06E±0°06, h28km, n38, σ1°18/41, mb3.9/9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**1.20**	**31**	P	**Pb**	**09 38 12.2**	**+1.3**
JJT2				S	**Sb**	**09 38 27.3**	**+1.3**
JKE	**Kume Jima 2**	**1.24**	**349**	P	**Pb**	**09 38 10.6**	**-0.9**
JAGN	**Aguni-jima**	**1.48**	**6**	P	**Pb**	**09 38 14.8**	**-0.8**
JOGS	**Gusukube**	**1.54**	**257**	P	**Pn**	**09 38 14.7**	**+0.4**
JMJ	**Miyako jima 2**	**1.63**	**260**	P	**Pn**	**09 38 15.8**	**+0.3**
JMJ				S	**Sn**	**09 38 34.3**	**-1.2**
JOW	**Kunigami**	**2.04**	**32**	P	**Pn**	**09 38 23.4**	**+2.2**
JOW	**Kunigami**	**2.04**	**32**	*e*Pn	**Pb**	**09 38 23.8**	**-1.3**
JIH	**Iheya**	**2.09**	**23**	P	**Pn**	**09 38 22.1**	**+0.3**
JTJ	**Tarama**	**2.19**	**258**	P	**Pn**	**09 38 23.2**	**0.0**
JIJ	**Ishigaki jima**	**2.75**	**255**	P	**Pn**	**09 38 30.7**	**-0.3**
JKRS	**Kuro-shima**	**2.90**	**253**	P	**Pn**	**09 38 34.0**	**+0.9**
IRIF	**Iriomote-Funau**	**3.12**	**256**	P	**Pn**	**09 38 36.7**	**+0.6**
JTK	**Tokunoshima**	**3.16**	**32**	P	**Pn**	**09 38 38.6**	**+2.0**
JAMN	**Amaminishikomi**	**3.65**	**31**	P	**Pn**	**09 38 45.7**	**+2.3**
JMZ	**Minamidaito 2**	**3.83**	**78**	P	**Pn**	**09 38 45.4**	**-0.4**
JMZ				S	**Sn**	**09 39 26.7**	**-3.3**
JAM	**Amami Oshima**	**4.00**	**34**	P	**Pn**	**09 38 49.0**	**+0.8**
JAM				S	**Sn**	**09 39 33.1**	**-1.1**
YHNB	**Yeheng**	**5.18**	**266**	*e*Pn	**Pn**	**09 39 05.0**	**+0.6**
TPUB	**Ta-pu**	**6.14**	**254**	*e*Pn	**Pn**	**09 39 18.4**	**+0.8**
JNU	**Nakatsue**	**8.65**	**22**	Pn	**Pn**	**09 39 52.8**	**+0.7**
JNU	**Nakatsue** 0.5nm,0.3s,baz=239,slow=21,SNR=5.5	**8.65**	**22**	Pn	**Pn**	**09 39 52.8**	**+0.7**
SONM	**Songino Array**	**27.95**	**330**	P	**P**	**09 43 36.0**	**-0.9**
SONM	**Songino Array** 0.6nm,0.5s,baz=139,slow=6.8,SNR=3.6	**27.95**	**330**	P	**P**	**09 43 36.0**	**-0.9**
SONM	comp=Z,77nm,20.8s,baz=237,slow=39			LR	LR	09 55 49.3	
PETK	**Petropavlovsk-** comp=Z,60nm,18.8s,baz=131,slow=36	**36.20**	**311**	LR	LR	09 59 11.1	
MKAR	**Makanchi Array**	**41.51**	**313**	P	**P**	**09 45 33.0**	**-0.5**
MKAR	**Makanchi Array** 2.2nm,0.6s,baz=100,slow=9.8,SNR=24	**41.51**	**313**	P	**P**	**09 45 33.0**	**-0.5**
ZALV	**Zalesovo Beam**	**42.51**	**324**	P	**P**	**09 45 40.7**	**-0.8**
ZALV	**Zalesovo Beam** 0.8nm,0.3s,baz=126,slow=7.3,SNR=2.2	**42.51**	**324**	P	**P**	**09 45 40.7**	**-0.8**
WRA	**Warramunga Arr**	**45.34**	**170**	P	**P**	**09 46 05.8**	**+1.3**
WRA	**Warramunga Arr** 0.7nm,0.7s,baz=351,slow=8.0,SNR=6.5	**45.34**	**170**	P	**P**	**09 46 05.8**	**+1.3**
ASAR	**Alice Springs**	**48.94**	**172**	P	**P**	**09 46 34.6**	**+2.0**
ASAR	**Alice Springs** 0.4nm,0.8s,baz=355,slow=14,SNR=8.7	**48.94**	**172**	P	**P**	**09 46 34.6**	**+2.0**
ABKAR	**Akbulak array** 1.1nm,0.6s	**56.65**	**314**	*e*P	**P**	**09 47 29.3**	**0.0**
ILAR	**Eielson Array**	**65.92**	**28**	P	**P**	**09 48 31.7**	**-0.1**
ILAR	**Eielson Array** 0.2nm,0.7s,baz=265,slow=8.1,SNR=3.6	**65.92**	**28**	P	**P**	**09 48 31.7**	**-0.1**
ARCES	**ARCESS Array B**	**70.66**	**339**	P	**P**	**09 49 01.2**	**-0.3**
ARCES	**ARCESS Array B** 4.0nm,1.0s,baz=58,slow=8.6,SNR=3.1	**70.66**	**339**	P	**P**	**09 49 01.2**	**-0.3**
FINES	**FINESS Array B**	**73.31**	**330**	P	**P**	**09 49 17.2**	**-0.2**
FINES	**FINESS Array B** 4.0nm,1.1s,baz=64,slow=9.7,SNR=4.1	**73.31**	**330**	P	**P**	**09 49 17.2**	**-0.2**

IDC 03 09:45:26.7±3.9, 15°84S×173°37W, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.6/18, mbtmp3.5/4, Error ellipse: s-maj=263.2km s-min=24.6km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 5.2nm,0.3s,baz=243,slow=9.0,SNR=2.8	**2.46**	**39**	Pn	Pn	09 45 59.9	-8.2
AFI	27nm,0.3s,baz=234,slow=17,SNR=8.8			Sn	Sn	09 46 21.9	-17
H11S2	**WAKE ISLAND Hy** baz=151,slow=0.7,SNR=3.5	**39.35**	**329**	T	T	10 34 43.5	
H11S3	**WAKE ISLAND Hy** baz=151,slow=0.7,SNR=3.6	**39.36**	**329**	T	T	10 34 44.9	
H11S1	**WAKE ISLAND Hy** baz=151,slow=0.7,SNR=3.9	**39.37**	**329**	T	T	10 34 43.4	
H11N3	**WAKE ISLAND Hy** baz=156	**40.30**	**331**	T	T	10 36 00.1	
H11N1	**WAKE ISLAND Hy** baz=156	**40.31**	**331**	T	T	10 35 58.9	
H11N2	**WAKE ISLAND Hy** baz=156	**40.32**	**331**	T	T	10 36 00.9	
WRA	**Warramunga Arr** 0.3nm,0.8s,baz=96,slow=6.3,SNR=3.2	**49.77**	**257**	P	P	09 54 19.9	-1.5
ASAR	**Alice Springs** 1.1nm,0.7s,baz=85,slow=7.8,SNR=19	**50.00**	**252**	P	P	09 54 23.9	+0.7
NVAR	**Mina Array Bea** 0.4nm,0.8s,baz=218,slow=5.7,SNR=3.4	**74.63**	**42**	P	P	09 57 07.5	-0.7
PDAR	**Pinedale Array** 0.1nm,0.5s,baz=220,slow=4.1,SNR=2.3	**82.57**	**42**	P	P	09 57 52.4	+0.5
BRTR	**Keskin Array B** 0.6nm,0.6s,baz=51,slow=3.2,SNR=2.4	**146.51**	**321**	PKPbc	PKPbc	10 05 10.0	-0.4
GERES	**GERESS Array B** 0.4nm,0.6s,baz=26,slow=3.4,SNR=3.5	**146.57**	**352**	PKPbc	PKPbc	10 05 10.1	-0.2

IDC 03 09:46:34.6±1.1, 15°00S×172°20W, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.9/20, mbtmp3.9/7, Error ellipse: s-maj=55.0km s-min=20.6km az=136.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 20nm,0.3s,baz=209,slow=13,SNR=2.3	**1.16**	**21**	Pn	Pg	09 46 53.4	-3.5
AFI	149nm,0.3s,baz=162,slow=20,SNR=17			Sn	Sb	09 47 13.0	-0.3
URZ	**Urewera** 4.1nm,0.4s,baz=76,slow=8.3,SNR=4.9	**25.02**	**200**	P	P	09 52 00.6	+0.3
STKA	**Stephens Creek** 1.4nm,0.7s,baz=90,slow=15,SNR=4.2	**45.24**	**240**	P	P	09 54 52.9	-1.0
WRA	**Warramunga Arr** 0.6nm,0.9s,baz=92,slow=7.1,SNR=5.5	**51.06**	**256**	P	P	09 55 39.0	-0.2
ASAR	**Alice Springs** 2.2nm,0.4s,baz=89,slow=7.7,SNR=47	**51.34**	**252**	P	P	09 55 41.0	-0.2
NVAR	**Mina Array Bea** 0.2nm,0.5s,baz=224,slow=8.5,SNR=6.1	**73.26**	**42**	P	P	09 58 08.3	+0.2
PDAR	**Pinedale Array** 0.4nm,0.8s,baz=235,slow=3.2,SNR=3.2	**81.20**	**41**	P	P	09 58 51.8	-0.9
ILAR	**Eielson Array** 0.4nm,0.8s,baz=200,slow=3.3,SNR=5.0	**81.83**	**11**	P	P	09 58 54.2	-1.0
GERES	**GERESS Array B** 0.5nm,0.7s,baz=320,slow=4.4,SNR=2.9	**145.90**	**353**	PKPbc	PKPab	10 06 16.7	+0.1
BRTR	**Keskin Array B** 0.5nm,0.6s,baz=90,slow=2.9,SNR=2.4	**146.56**	**322**	PKPbc	PKPab	10 06 19.5	0.0

*ISCJB **03** 10:03:17.2±0.5, 37°18N±0°03×71°90E±0°08, h130km, mb3.6/7, Error ellipse: s-maj=9.5km s-min=3.9km az=160.6*

*IDC **03** 10:03:25.2±7.5, 37°62N×71°96E, h171km±48km, mb3.5/7, mb1 3.6/12, mb1mx3.3/32, mbtmp3.5/12, Error ellipse: s-maj=67.8km s-min=22.8km az=5.0*

*NNC **03** 10:03:27.6±6.6, 37°83N×71°77E, h191km±57km, mb3.2, mpv4.3, Error ellipse: s-maj=58.7km s-min=38.3km az=18.0*

ISC 03 10:03:19.3±0.7, 37°28N±0°05×72°14E±0°09, h130km, n52, σ1°94/53, mb3.7/7, 8C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.45**	**183**	⇑P	Pn	10 04 14.5	+2.5
CEP				S	**Sn**	**10 04 55.0**	**+2.3**
CHCP	**Chirah Chowk**	**3.73**	**165**	P	Pn	10 04 19.3	+3.8
THW	**Thamme Wali**	**4.48**	**184**	P	**Pn**	**10 04 27.3**	**+1.7**
AML	**Almayashu** SNR=186	**5.00**	**13**	P	**Pn**	**10 04 35.0**	**+2.4**
UCH	**Uchtor** SNR=12	**5.27**	**20**	P	**Pn**	**10 04 39.4**	**+3.0**
SARP	**Sargodha**	**5.36**	**175**	P	Pn	10 04 40.0	+2.7
KZA	**Kyzart** SNR=49	**5.36**	**26**	P	**Pn**	**10 04 39.8**	**+2.2**
EKS2	**Erkin-Say** SNR=11	**5.52**	**13**	P	**Pn**	**10 04 42.1**	**+2.6**
AAK	**Ala-Archa** SNR=33	**5.65**	**18**	P	**Pn**	**10 04 44.2**	**+3.0**
AAK	**Ala-Archa** 11nm,0.3s,baz=181,slow=6.0,SNR=71	**5.65**	**18**	P	**Pn**	**10 04 43.9**	**+2.7**
AAK	3.5nm,0.3s,baz=131,slow=18,SNR=20			S	**Sn**	**10 05 46.3**	**+1.2**
THN	**Thein Dam**	**5.66**	**148**	*e*P	**Pn**	**10 04 42.4**	**+1.2**
THN				*e*4	**Sn**	**10 05 44.0**	**-1.1**
KBK	**Karagaybulak** SNR=6.0	**5.79**	**21**	P	**Pn**	**10 04 45.9**	**+2.7**
ULHL	**Ulahol** SNR=17	**5.88**	**31**	P	Pn	10 04 48.1	+3.6
KK31	**Karatay Array** 14nm,0.2s,baz=157,slow=9.8,SNR=266	**5.95**	**348**	P	**Pn**	**10 04 46.3**	**+1.1**
KK31	99nm,0.3s,baz=176,slow=24,SNR=5.1			⇑S	**Sn**	**10 05 49.8**	**-2.3**
CHMS	**Chumysh** SNR=13	**6.06**	**18**	P	**Pn**	**10 04 49.1**	**+2.5**
TKM2	**Tokmak 2**	**6.23**	**24**	⇑P	**Pn**	**10 04 51.7**	**+2.7**
TKM2	9.5nm,0.6s			⇑S	**Sn**	**10 06 01.2**	**+2.1**
TKM2	**Tokmak 2** 9.6nm,0.7s SNR=14	**6.23**	**24**	P	**Pn**	**10 04 51.9**	**+2.8**
USP	**Ospenovka** SNR=12	**6.25**	**16**	P	**Pn**	**10 04 51.2**	**+2.1**
SDNR	**Sundarnagar**	**7.01**	**144**	*e*P	**Pn**	**10 05 02.0**	**+2.5**
SDNR				*e*4	**Sn**	**10 06 18.0**	**+0.2**
SMLA	**Simla**	**7.41**	**144**	*i* P	**Pn**	**10 05 05.8**	**+0.9**
SMLA				*i* S	**Sn**	**10 06 24.0**	**-3.5**
SMLA	comp=N,2μm,0.4s			AML	AML	10 06 29.8	
SMLA	comp=E,2μm,0.2s			AML	AML	10 06 30.8	
BHGR	**Bahadurgarh**	**9.46**	**153**	*e*4	**Sn**	**10 07 13.6**	**-3.5**
AYAN	**Aya Nagar**	**9.72**	**153**	*e*S	Sn	10 07 15.1	-8.2
KUDL	**Kundal**	**9.81**	**157**	*e*S	Sn	10 07 14.9	-11
KUDL	comp=E,24nm,0.3s			AML	AML	10 07 22.7	
KUDL	comp=N,20nm,0.3s			AML	AML	10 07 24.4	
SONA	**Sohna**	**9.91**	**154**	*e*S	Sn	10 07 19.6	-8.4
SONA	comp=E,50nm,0.4s			AML	AML	10 07 25.9	
SONA	comp=N,19nm,0.4s			AML	AML	10 07 26.6	
MKAR	**Makanchi Array** comp=N,0.1nm,0.3s,baz=225,slow=13,SNR=4.8	**12.13**	**35**	P	**Pn**	**10 06 09.4**	**+1.6**
DANN	**Dangsing** comp=N,38nm,0.4s	**13.21**	**129**	*e*P	**Pn**	**10 06 21.7**	**-0.5**
KOLN	**Koldanda** comp=N,16nm,0.4s	**13.53**	**131**	*e*P	**Pn**	**10 06 25.3**	**-1.0**
GKN	**Gorkha** comp=N,42nm,0.3s	**14.00**	**128**	*e*P	**Pn**	**10 06 31.6**	**-0.7**
KURBB	**Kurchatov Arra** comp=N,0.2nm,0.3s,baz=206,slow=12,SNR=4.5	**14.11**	**17**	P	**Pn**	**10 06 31.4**	**-1.8**
KKN	**Kakani** comp=N,23nm,0.4s	**14.56**	**127**	*e*P	**Pn**	**10 06 38.4**	**-1.0**
DMN	**Daman** comp=N,19nm,0.4s	**14.57**	**128**	*e*P	**Pn**	**10 06 38.6**	**-1.0**
PKI	**Pulchoki** comp=N,33nm,0.5s	**14.79**	**127**	*e*P	**Pn**	**10 06 41.1**	**-1.3**
GUN	**Gumba** comp=N,31nm,0.4s	**14.86**	**125**	*e*P	**Pn**	**10 06 42.1**	**-1.2**
AB31	**Akbulak array** comp=N,3.6nm,0.4s,baz=126,slow=14,SNR=4.0	**14.88**	**327**	⇑P	**Pn**	**10 06 42.8**	**-0.3**
AB31	comp=N,5.1nm,0.6s,baz=133,slow=26,SNR=8.8			⇑S	Sn	10 09 11.7	-16
JIRN	**Jiri** comp=N,51nm,0.3s	**15.24**	**125**	*e*P	**Pn**	**10 06 47.1**	**-0.9**
VOSK	**Vostochnaya** comp=N,2.9nm,0.8s	**15.47**	**357**	⇑P	**Pn**	**10 06 49.0**	**-1.3**
VOSK	comp=N,2.0nm,0.8s			⇓S	**Sn**	**10 09 38.0**	**-3.7**
BVA0	**Borovoye Array** comp=N,2.3nm,0.7s	**15.80**	**356**	⇑P	**Pn**	**10 06 53.1**	**-1.3**
BVAR	**Borovoye Array** comp=N,0.5nm,0.3s,baz=163,slow=11,SNR=10	**15.80**	**356**	P	**Pn**	**10 06 52.7**	**-1.7**
BRVK	**Borovoye** comp=N,9.5nm,1.3s	**15.84**	**356**	⇓P	**Pn**	**10 06 52.7**	**-2.2**
RAMN	**Ramite** comp=N,42nm,0.5s	**15.98**	**126**	*e*P	**Pn**	**10 06 56.1**	**-1.1**
TAPN	**Taplejung** comp=N,14nm,0.3s	**16.45**	**123**	*e*P	**Pn**	**10 07 02.8**	**-0.1**
ODAN	**Odare** comp=N,17nm,0.4s	**16.56**	**124**	*e*P	**Pn**	**10 07 03.4**	**-0.8**
AKTO	**Aktyubinsk** comp=N,2.3nm,0.5s	**16.59**	**327**	⇓P	**P**	**10 07 06.5**	**+2.1**
AKTO	comp=N,4.7nm,0.6s			⇓S	Sn	10 09 56.9	-12
AKTO	**Aktyubinsk** comp=N,0.5nm,0.3s,baz=127,slow=8.2,SNR=9.9	**16.59**	**327**	P	**Pn**	**10 07 03.6**	**-0.6**
AKTO	comp=N,0.4nm,0.3s,baz=152,slow=23,SNR=9.5			S	Sn	10 09 55.1	-14
ZALV	**Zalesovo Beam** comp=N,0.9nm,0.3s,baz=221,slow=11,SNR=6.2	**18.84**	**24**	P	**P**	**10 07 29.8**	**+0.9**
SONM	**Songino Array** comp=N,0.6nm,0.5s,baz=258,slow=9.2,SNR=4.5	**27.14**	**56**	P	**P**	**10 08 52.3**	**+2.0**
FINES	**FINESS Array B** comp=N,2.7nm,0.9s,baz=122,slow=2.5,SNR=5.4	**37.36**	**325**	P	**P**	**10 10 18.4**	**-0.5**
ARCES	**ARCESS Array B** comp=N,1.5nm,0.7s,baz=106,slow=8.9,SNR=3.9	**40.78**	**337**	P	**P**	**10 10 46.7**	**-0.6**
HFS	**Hagfors** comp=N,2.9nm,0.8s,baz=116,slow=6.8,SNR=4.8	**43.02**	**321**	P	**P**	**10 11 03.7**	**-1.9**
NOA	**NORSAR Array B** comp=N,1.0nm,0.7s,baz=97,slow=7.2,SNR=3.1	**44.31**	**322**	P	**P**	**10 11 14.7**	**-1.3**
ILAR	**Eielson Array** comp=N,0.6nm,0.9s,baz=305,slow=3.9,SNR=4.9	**73.78**	**16**	P	**P**	**10 14 37.6**	**-1.3**
YKA	**Yellowknife Ar** comp=N,1.4nm,0.9s,baz=358,slow=5.5,SNR=4.8	**80.42**	**3**	P	**P**	**10 15 15.6**	**-0.5**

IDC 03 10:04:46.4±7.7, 30°06S×177°31W, h0km, mb3.3/2, mb1 3.5/2, mb1mx3.4/16, mbtmp3.3/2, Error ellipse: s-maj=327.6km s-min=56.5km az=154.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs** 0.3nm,0.7s,baz=102,slow=8.6,SNR=3.7	**43.73**	**266**	P	P	10 12 52.8	-0.9
WRA	**Warramunga Arr** 0.2nm,0.5s,baz=111,slow=8.0,SNR=5.6	**44.69**	**271**	P	P	10 13 02.0	+0.6
H03N3	**Juan Fernandez** baz=232	**80.34**	**123**	T	T	11 45 43.7	
H03N2	**Juan Fernandez** baz=232	**80.34**	**123**	T	T	11 45 40.8	
H03N1	**Juan Fernandez** baz=232	**80.36**	**123**	T	T	11 45 43.3	
FINES	**FINESS Array B** 3.0nm,1.0s,baz=71,slow=6.0,SNR=3.4	**145.03**	**341**	PKPbc	PKPbc	10 24 23.6	-0.7

IDC 03 10:05:07.0±4.3, 23°41N×94°77E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/25, mbtmp3.4/3, Error ellipse: s-maj=371.1km s-min=26.9km az=60.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array** 0.9nm,0.6s,baz=162,slow=11,SNR=7.8	**25.40**	**340**	P	P	10 10 36.1	0.0
WRA	**Warramunga Arr** 0.2nm,0.6s,baz=322,slow=7.4,SNR=6.8	**57.84**	**135**	P	P	10 15 00.7	0.0
ASAR	**Alice Springs** 0.2nm,0.5s,baz=319,slow=39,SNR=3.5	**60.29**	**138**	P	P	10 15 17.6	-0.1

**IDC 03 10:14:17.2±1.0,

*IDC **03** 10:50:32.0±6.2,24˚.69N×122˚.77E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.4/25,mbtmp3.5/3,Error ellipse: s-maj=409.4km s-min=26.3km az=60.0*
*ISCJB **03** 10:50:43.1±1.0,24˚.9N±0˚.1×123˚.25E±0˚.08,h116km±6km, mb3.4/3,Error ellipse: s-maj=20.5km s-min=11.8km az=173.4*
*JMA **03** 10:50:45.2±0.3,24˚.88N×123˚.27E,h102km±4km, M2.9*

ISC 03 10:50:43.8±1.2,24˚.9N±0˚.1×123˚.23E±0˚.08,h110km±10km, n10,σ0961/16,mb3.4/3,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
YOJ	**Yonaguni jima**	**0.49**	**204**	P		**Pn**	**10 51 01.1**	**+0.5**
YOJ				S		**Sn**	**10 51 13.1**	**-0.1**
IRIF	**Iriomote-Funau**	**0.74**	**141**	P		**Pn**	**10 51 02.5**	**0.0**
IRIF				S		**Sn**	**10 51 16.5**	**0.0**
JKRS	**Kuro-shima**	**0.98**	**133**	P		**Pn**	**10 51 05.4**	**+0.6**
JKRS				S		**Sn**	**10 51 20.3**	**-0.3**
JIJ	**Ishigaki jima**	**1.00**	**123**	P		**Pn**	**10 51 05.1**	**+0.1**
JIJ				S		**Sn**	**10 51 19.7**	**-1.2**
HATJ	**Hateruma jima**	**1.00**	**148**	P		**Pn**	**10 51 05.4**	**+0.4**
HATJ				S		**Sn**	**10 51 20.6**	**-0.4**
JTJ	**Tarama**	**1.37**	**101**	P		**Pn**	**10 51 09.8**	**+0.8**
JTJ				S		**Sn**	**10 51 28.0**	**-0.2**
JMJ	**Miyako jima 2**	**1.88**	**93**	S		**Sn**	**10 51 39.2**	**-0.1**
MKAR	**Makanchi Array**	**39.13**	**314**	P		**P**	**10 58 00.1**	**-0.5**
	0.5nm,0.9s,baz=97,slow=10,SNR=3.7							
WRA	**Warramunga Arr**	**45.88**	**165**	P		**P**	**10 58 54.8**	**-0.5**
	0.3nm,0.4s,baz=346,slow=8.3,SNR=13							
ASAR	**Alice Springs**	**49.39**	**167**	P		**P**	**10 59 23.3**	**+0.9**
	0.3nm,0.5s,baz=349,slow=8.5,SNR=6.9							

IDC 03 11:00:10.4±2.7,2˚.29N×129˚.16E,h0km,mb3.2/3, mb1 3.4/3,mb1mx3.3/21,mbtmp3.2/3,Error ellipse: s-maj=184.0km s-min=26.9km az=69.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**22.67**	**167**	P		P	11 05 13.3	-0.3
	0.3nm,0.6s,baz=347,slow=11,SNR=5.0							
ASAR	**Alice Springs**	**26.21**	**170**	P		P	11 05 47.1	0.0
	0.2nm,0.6s,baz=352,slow=8.8,SNR=3.3							
MKAR	**Makanchi Array**	**60.12**	**325**	P		P	11 10 19.9	+0.1
	0.5nm,0.7s,baz=120,slow=7.0,SNR=4.8							

IDC 03 11:05:48.4±5.9,1˚.78S×99˚.25E,h0km,mb3.3/2,mb1 3.5/2, mb1mx3.1/23,mbtmp3.3/2,Error ellipse: s-maj=304.0km s-min=33.3km az=51.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
H08S2	**Diego Garcia H**	**27.28**	**257**	T		T	11 39 36.3	
	baz=78,slow=0.7,SNR=18							
H08S3	**Diego Garcia H**	**27.29**	**257**	T		T	11 39 33.6	
	baz=78,slow=0.7,SNR=19							
H08S1	**Diego Garcia H**	**27.30**	**257**	T		T	11 39 34.9	
	baz=78,slow=0.7,SNR=10							
H01W3	**Cape Leeuwin H**	**35.74**	**159**	T		T	11 50 37.8	
	baz=335,slow=0.7,SNR=6.0							
H01W2	**Cape Leeuwin H**	**35.76**	**159**	T		T	11 50 38.6	
	baz=335,slow=0.7,SNR=6.9							
H01W1	**Cape Leeuwin H**	**35.76**	**159**	T		T	11 50 40.0	
	baz=335,slow=0.7,SNR=4.2							
WRA	**Warramunga Arr**	**38.76**	**120**	P		P	11 13 14.8	-0.1
	0.3nm,0.7s,baz=297,slow=8.3,SNR=3.4							
MKAR	**Makanchi Array**	**50.61**	**345**	P		P	11 14 49.1	0.0
	0.3nm,0.4s,baz=162,slow=8.8,SNR=4.9							
TXAR	**Lajitas Array**	**144.97**	**36**	PKP		PKPbc	11 25 27.9	+0.1
	0.1nm,0.5s,baz=327,slow=1.5,SNR=2.7							

IDC 03 11:15:13.4±2.9,17˚.03S×168˚.36E,h216km±29km, mb3.5/10,mb1 3.7/11,mb1mx3.5/22,mbtmp3.5/11,Error ellipse: s-maj=24.2km s-min=16.7km az=177.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZM	**Mont Dzumac**	**5.33**	**200**	P		Pn	11 16 32.1	-0.4
	6.4nm,0.3s,baz=36,slow=15,SNR=179							
DZM				S		S	11 17 35.8	+0.7
	2.1nm,0.3s,baz=328,slow=22,SNR=8.6							
CTA	**Charters Tower**	**21.18**	**258**	P		P	11 19 42.8	+0.4
	1.5nm,0.5s,baz=78,slow=11,SNR=3.3							
URZ	**Urewera**	**22.50**	**162**	P		P	11 19 54.6	-0.3
	19nm,0.8s,baz=296,slow=3.6,SNR=8.2							
STKA	**Stephens Creek**	**28.39**	**234**	P		P	11 20 48.4	+0.5
	1.7nm,0.6s,baz=23,slow=6.2,SNR=7.1							
WRA	**Warramunga Arr**	**32.37**	**260**	P		P	11 21 22.1	-0.8
	0.1nm,0.2s,baz=82,slow=6.8,SNR=9.3							
ASAR	**Alice Springs**	**32.92**	**253**	P		P	11 21 27.6	-0.2
	4.8nm,0.4s,baz=79,slow=9.0,SNR=95							
FITZ	**Fitzroy Crossi**	**40.68**	**262**	P		P	11 22 34.0	+0.9
	baz=12,SNR=5.0							
FITZ	**Fitzroy Crossi**	**40.68**	**262**	P		P	11 22 33.1	0.0
	2.0nm,0.7s,baz=111,slow=10,SNR=9.3							
PETK	**Petropavlovsk-**	**70.45**	**353**	P		P	11 26 04.4	+0.3
	2.8nm,0.8s,baz=176,slow=8.7,SNR=3.8							
NVAR	**Mina Array Bea**	**87.98**	**49**	P		P	11 27 39.3	-0.1
	0.4nm,0.6s,baz=233,slow=8.9,SNR=3.7							
ILAR	**Eielson Array**	**88.39**	**18**	P		P	11 27 39.0	-1.4
	0.5nm,0.7s,baz=247,slow=4.6,SNR=9.0							
PDAR	**Pinedale Array**	**95.73**	**47**	P		P	11 28 16.5	+1.3
	0.3nm,0.7s,baz=208,slow=4.7,SNR=3.2							
H03N3	**Juan Fernandez**	**98.58**	**129**	T		T	13 18 02.6	
	baz=232,slow=0.7,SNR=134							
H03N2	**Juan Fernandez**	**98.58**	**129**	T		T	13 18 04.0	
	baz=232,slow=0.7,SNR=174							
H03N1	**Juan Fernandez**	**98.59**	**129**	T		T	13 18 03.6	
	baz=232,slow=0.7,SNR=110							
ARCES	**ARCESS Array B**	**122.73**	**345**	PKP		PKPdf	11 33 42.6	-0.3
	1.5nm,0.9s,baz=62,slow=2.9,SNR=8.3							

*ISCJB **03** 11:20:44.4±2.7,6˚.8S±0˚.3×126˚.0E±0˚.1,h488km,mb3.6/1, Error ellipse: s-maj=35.7km s-min=17.1km az=9.5*
*IDC **03** 11:20:44.0±5.9,6˚.76S×126˚.22E,h460km±57km,mb3.2/1, mb1 2.9/5,mb1mx2.7/21,mbtmp2.8/5,Error ellipse: s-maj=88.1km s-min=76.6km az=53.0*

ISC 03 11:20:45.5±1.8,6˚.9S±0˚.2×125˚.8E±0˚.1,h488km,n8, σ1986/9,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SOEI	**Soe**	**3.20**	**209**	P		P	11 22 00.6	+3.5
	baz=9.0,SNR=13							
BATI	**Baumata**	**3.90**	**213**	P		**P**	**11 22 01.7**	**-0.6**
	2.6nm,0.3s,baz=49,slow=1.7,SNR=2.4							
BATI				S		**S**	**11 23 06.0**	**+1.2**
	1.5nm,0.3s,baz=69,slow=8.6,SNR=2.1							
FAKI	**Fak Fak**	**7.53**	**58**	P		**S**	**11 24 08.5**	**+0.4**
	baz=19,SNR=6.8							
KNRA	**Kununurra**	**9.14**	**162**	P		**P**	**11 22 55.9**	**+2.3**
	baz=14,SNR=4.4							
FITZ	**Fitzroy Crossi**	**11.10**	**181**	P		**P**	**11 23 15.2**	**+0.7**
	0.3nm,0.3s,baz=0.0,slow=11,SNR=9.6							
WRA	**Warramunga Arr**	**15.33**	**148**	P		**P**	**11 23 58.9**	**-0.5**
	0.3nm,0.3s,baz=331,slow=9.0,SNR=28							
WRA				S		**S**	**11 26 36.0**	**-3.6**
	0.1nm,0.3s,baz=332,slow=23,SNR=5.2							
ASAR	**Alice Springs**	**18.35**	**156**	P		**P**	**11 24 29.9**	**+0.2**
	0.3nm,0.3s,baz=342,slow=15,SNR=15							
STKA	**Stephens Creek**	**28.84**	**151**	P		**P**	**11 26 03.2**	**-0.2**
	2.9nm,1.1s,baz=329,slow=12,SNR=3.6							

IDC 03 11:21:31.7±0.7,15˚.02S×173˚.63W,h0km,mb4.0/12, mb1 4.2/12,mb1mx4.1/19,mbtmp4.0/12,MS3.7/5, Ms1 3.7/5,ms1mx3.3/33,Error ellipse: s-maj=32.3km s-min=17.2km az=136.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**2.11**	**59**	Pn		Pn	11 22 00.1	-8.2
	44nm,0.3s,baz=203,slow=17,SNR=17							
AFI				Sn		Sn	11 22 18.3	-17
	249nm,0.3s,baz=204,slow=20,SNR=30							
RAR	**Rarotonga**	**14.54**	**117**	LR		LR	11 28 52.5	
	comp=Z,278nm,18.8s,baz=270,slow=30							
DZM	**Mont Dzumac**	**20.14**	**247**	*e*LR		LR	11 31 39.5	
	101nm,29.4s							
PPT	**Papeete**	**23.22**	**100**	LR		LR	11 33 43.9	
	comp=Z,173nm,18.6s,baz=179,slow=32							
PPT2	**Papeete2**	**23.22**	**100**	*e*LR		LR	11 31 49.1	
	283nm,26.5s							
URZ	**Urewera**	**24.56**	**198**	LR		LR	11 35 09.7	
	comp=Z,281nm,18.1s,baz=125,slow=33							
HNR	**Honiara**	**26.40**	**279**	LR		LR	11 35 29.9	
	comp=Z,118nm,19.7s,baz=121,slow=32							
RKT	**Rikitea**	**37.33**	**108**	*e*LR		LR	11 38 15.2	
	196nm,35.2s							
H11S2	**WAKE ISLAND Hy**	**38.52**	**329**	T		T	12 10 15.9	
	baz=152,slow=0.7							
H11S3	**WAKE ISLAND Hy**	**38.53**	**329**	T		T	12 10 16.9	
	baz=152,slow=0.7							
H11S1	**WAKE ISLAND Hy**	**38.54**	**329**	T		T	12 10 17.2	
	baz=152							
PMG	**Port Moresby**	**38.69**	**274**	LR		LR	11 41 36.8	
	comp=Z,78nm,20.6s,baz=123,slow=31							
H11N3	**WAKE ISLAND Hy**	**39.47**	**330**	T		T	12 11 26.3	
	baz=151,slow=0.7,SNR=7.1							
H11N1	**WAKE ISLAND Hy**	**39.48**	**330**	T		T	12 11 27.3	
	baz=151,slow=0.7,SNR=9.2							
H11N2	**WAKE ISLAND Hy**	**39.49**	**330**	T		T	12 11 29.8	
	baz=151,slow=0.7,SNR=6.0							
STKA	**Stephens Creek**	**44.04**	**240**	P		P	11 29 41.5	+0.1
	1.3nm,0.9s,baz=97,slow=8.1,SNR=2.8							
WRA	**Warramunga Arr**	**49.72**	**256**	P		P	11 30 25.9	-0.2
	0.6nm,0.7s,baz=89,slow=6.8,SNR=11							
ASAR	**Alice Springs**	**50.02**	**252**	P		P	11 30 27.9	-0.4
	2.8nm,0.6s,baz=86,slow=8.2,SNR=65							
VNDA	**Vanda**	**63.73**	**186**	P		P	11 32 05.2	+0.4
	1.1nm,1.0s,baz=8.1,slow=7.2,SNR=3.6							
PETK	**Petropavlovsk-**	**72.20**	**342**	P		P	11 32 58.9	+0.6
	2.9nm,0.8s,baz=168,slow=8.5,SNR=3.8							
YBH	**Yreka Blue Hor**	**73.43**	**37**	P		P	11 33 06.5	+0.5
	1.5nm,0.8s,baz=268,slow=5.8,SNR=5.6							
NVAR	**Mina Array Bea**	**74.19**	**42**	P		P	11 33 10.3	-0.4
	0.8nm,0.7s,baz=227,slow=10,SNR=7.6							
KSRS	**Korea Array**	**75.73**	**316**	P		P	11 33 19.2	-0.1
	1.2nm,0.9s,baz=110,slow=9.2,SNR=5.2							
TXAR	**Lajitas Array**	**80.58**	**56**	P		P	11 33 47.4	+0.8
	0.4nm,0.8s,baz=212,slow=5.9,SNR=4.4							
ILAR	**Eielson Array**	**82.11**	**11**	P		P	11 33 53.6	-0.1
	1.3nm,0.7s,baz=232,slow=6.6,SNR=22							
PDAR	**Pinedale Array**	**82.13**	**42**	P		P	11 33 53.5	-1.2
	0.3nm,0.6s,baz=238,slow=4.7,SNR=3.6							
MAW	**Mawson**	**88.08**	**199**	P		P	11 34 23.2	-0.6
	1.3nm,0.6s,baz=115,slow=2.5,SNR=4.6							
KMBO	**Kilima Mbogo**	**145.50**	**245**	PKPbc		PKPbc	11 41 12.6	-0.6
	0.4nm,0.3s,baz=58,slow=13,SNR=2.3							
BRTR	**Keskin Array B**	**145.72**	**321**	PKPbc		PKPdf	11 41 12.3	-0.4
	2.0nm,0.7s,baz=72,slow=2.8,SNR=10							
GERES	**GERESS Array B**	**145.73**	**351**	PKPbc		PKPdf	11 41 11.9	-0.5
	0.4nm,0.6s,baz=18,slow=4.3,SNR=5.9							

IDC 03 11:29:36.0±8.8,16˚.50S×173˚.27W,h0km,mb3.5/3, mb1 3.8/3,mb1mx3.6/19,mbtmp3.5/3,Error ellipse: s-maj=402.3km s-min=37.2km az=140.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**2.95**	**29**	Pn		Pn	11 30 14.3	-10
	1.9nm,0.3s,baz=227,slow=19,SNR=2.8							
AFI				Sn		Sn	11 30 47.8	-13
	5.3nm,0.3s,baz=210,slow=20,SNR=4.0							
H11S2	**WAKE ISLAND Hy**	**39.97**	**330**	T		T	12 19 15.9	
	baz=152,slow=0.7,SNR=7.1							
H11S3	**WAKE ISLAND Hy**	**39.98**	**330**	T		T	12 19 16.8	
	baz=152,slow=0.7,SNR=5.9							
H11S1	**WAKE ISLAND Hy**	**39.98**	**330**	T		T	12 19 15.8	
	baz=152,slow=0.7,SNR=4.6							
H11N3	**WAKE ISLAND Hy**	**40.92**	**331**	T		T	12 20 27.5	
	baz=153,slow=0.7,SNR=4.5							
H11N1	**WAKE ISLAND Hy**	**40.93**	**331**	T		T	12 20 26.4	
	baz=153							
H11N2	**WAKE ISLAND Hy**	**40.94**	**331**	T		T	12 20 27.9	
	baz=153,slow=0.7,SNR=5.5							
WRA	**Warramunga Arr**	**49.72**	**258**	P		P	11 38 30.6	+0.2
	0.2nm,0.7s,baz=93,slow=8.1,SNR=4.3							
ASAR	**Alice Springs**	**49.90**	**253**	P		P	11 38 31.1	-0.7
	1.0nm,0.8s,baz=90,slow=7.6,SNR=12							
ILAR	**Eielson Array**	**83.49**	**11**	P		P	11 42 04.7	-0.6
	0.3nm,0.7s,baz=216,slow=5.1,SNR=4.3							
BRTR	**Keskin Array B**	**147.08**	**320**	PKPbc		PKPbc	11 49 21.6	+0.1
	1.0nm,0.6s,baz=29,slow=3.3,SNR=5.6							

IDC 03 11:32:56.0±19.0,22˚.98S×175˚.78W,h292km±8km, mb3.5/4,mb1 3.6/4,mb1mx3.2/18,mbtmp3.5/4,Error ellipse: s-maj=340.5km s-min=109.1km az=76.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CTA	**Charters Tower**	**35.37**	**267**	P		P	11 39 25.0	+0.2
	2.6nm,0.4s,baz=95,slow=14,SNR=11							
STKA	**Stephens Creek**	**38.66**	**247**	P		P	11 39 51.7	-0.4
	1.0nm,0.5s,baz=90,slow=10,SNR=2.9							
ASAR	**Alice Springs**	**46.02**	**259**	P		P	11 40 50.7	-0.5
	1.0nm,0.5s,baz=99,slow=7.2,SNR=14							
ASAR				pP		pP	11 41 53.6	+1.8
	0.4nm,0.6s,baz=88,slow=8.5,SNR=4.2							
ASAR				sP		sP	11 42 23.5	-1.2
	0.3nm,0.9s,baz=93,slow=6.9,SNR=1.3							
WRA	**Warramunga Arr**	**46.35**	**264**	P		P	11 40 53.6	-0.2
	2.2nm,0.6s,baz=103,slow=8.2,SNR=70							
WRA				sP		sP	11 42 26.8	-0.6
	0.4nm,0.6s,baz=103,slow=9.1,SNR=2.4							

*BJI **03** 11:37:10.0,36˚.40N×117˚.90W,h11km,mb4.6/1,Ms7 4.7/1*
*ISCJB **03** 11:37:11.1±0.8,36˚.37N±0˚.02×117˚.92W±0˚.03,h5km±6km, mb3.8/3,MS3.8/5,Error ellipse: s-maj=4.1km s-min=3.6km az=2.0*
*NEIC **03** 11:37:11.4,36˚.39N×117˚.87W,h2km,ML4.4(PAS),After PAS.*
NEIC Felt [II] at Hanford, Springville, Three Rivers and Visalia. Also felt at Bakersfield, Clovis, El Portal, Exeter, Fresno, Kernville, Lindsay, Lone Pine, Milpitas, North Fork, Onyx, Pacific Palisades, Porterville, Shaver Lake, Sonora, Taft, Trona, Tulare and Twentynine Palms.
*IDC **03** 11:37:13.8±0.9,36˚.52N×117˚.78W,h0km,mb3.7/3, mb1 3.9/8,mb1mx3.7/29,mbtmp3.7/8,ML3.3/4,MS3.4/9, Ms1 3.4/9,ms1mx3.2/41,Error ellipse: s-maj=16.0km s-min=7.5km az=66.0*

ISC 03 11:37:13.9±1.5,36˚.34N±0˚.04×117˚.95W±0˚.05,h16km±9km, n90,σ155/85,mb3.8/3,MS3.6/5,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ISA	**Isabella**	**0.80**	**213**	*e*Pg		**Pg**	**11 37 27.7**	**-1.8**
ISA				*e*Sg		**Sb**	**11 37 38.7**	**-1.5**
MTUM	**Tungsten Hills**	**1.12**	**334**	*e*Pg		Pn	11 37 31.7	-3.5
GSC	**Goldstone**	**1.39**	**138**	*e*Pn		**Pn**	**11 37 36.5**	**-2.3**
GSC				*e*Sn		**Sn**	**11 37 56.2**	**-0.7**
OSI	**Osito Adit**	**1.84**	**200**	*e*Pn		**Pn**	**11 37 44.5**	**-0.4**
OSI				*e*Sn		**Sb**	**11 38 08.2**	**-1.7**
PTRM	**Twissleman Ran**	**1.96**	**250**	*e*Pn		**Pn**	**11 37 46.3**	**-0.3**
NV11	**Mina Array Sit**	**2.09**	**355**	*e*Pn		**Pn**	**11 37 46.6**	**-2.0**
NV11				*e*Sn		**Sn**	**11 38 12.0**	**-2.3**
NVAR	**Mina Array Bea**	**2.10**	**352**	Pn		**Pn**	**11 37 47.0**	**-1.7**
NVAR				Lg		Lg	11 38 16.6	
NVAR	**Mina Array Bea**	**2.10**	**352**	Pn		**Pn**	**11 37 47.0**	**-1.7**
	90nm,0.3s,baz=182,slow=14,SNR=359							
NVAR				Lg		Lg	11 38 16.6	
	179nm,0.3s,baz=170,slow=31,SNR=7.0							
MWC	**Mount Wilson**	**2.12**	**183**	*e*Pn		**Pn**	**11 37 48.0**	**-0.8**
MWC				*e*Sn		**Sb**	**11 38 18.5**	**+0.4**
SHPR	**Sheep Range**	**2.25**	**85**	*e*Pn		**Pn**	**11 37 48.3**	**-2.4**
SHPR				*e*Sn		**Sn**	**11 38 15.5**	**-2.7**
WAKR	**Walker**	**2.46**	**332**	*e*Pn		**Pn**	**11 37 52.8**	**-0.8**
CMB	**Columbia Colle**	**2.58**	**312**	*e*Pn		**Pn**	**11 37 54.7**	**-0.4**
CMB				*e*Sn		**Sn**	**11 38 25.8**	**-0.4**
LDFC	**Landfair**	**2.63**	**118**	*e*Pn		Pn	11 37 52.1	-3.7
R11A	**Troy Canyon, C**	**2.75**	**42**	*e*Pn		Pn	11 37 54.9	-2.6
SAO	**San Andreas Ge**	**2.85**	**280**	*e*Pn		**Pn**	**11 37 58.5**	**-0.3**
PFO	**Pinyon Flat Ob**	**2.99**	**155**	*e*Pn		**Pn**	**11 37 59.1**	**-1.6**
PFO				*e*Sn		**Sn**	**11 38 38.7**	**+2.4**
PFO				Lg		Lg	11 38 46.8	
PFO	**Pinyon Flat Ob**	**2.99**	**155**	Pn		**Pb**	**11 38 06.2**	**-0.7**
	baz=341,slow=15							
PFO				Lg		Lg	11 38 46.8	
	baz=297,slow=6.8							
PAHR	**Pah Rah Range**	**3.55**	**342**	*e*Pn		**Pn**	**11 38 07.5**	**-1.0**
SAC	**San Andreas**	**3.79**	**290**	*e*Pn		**Pn**	**11 38 10.4**	**-1.2**
BAR	**Barrett**	**3.80**	**164**	*e*Pn		**Pn**	**11 38 10.9**	**-0.9**
CCUT	**Cedar City**	**3.86**	**70**	*e*Pn		**Pn**	**11 38 10.8**	**-2.1**
ARUT	**Antelope Range**	**3.88**	**67**	*e*Pn		**Pn**	**11 38 12.2**	**-1.0**
BEKR	**Beckworth**	**4.00**	**332**	*e*Pn		**Pn**	**11 38 16.6**	**+1.9**
BMN	**Battle Mountai**	**4.12**	**8**	*e*Pn		**Pn**	**11 38 14.7**	**-1.7**
GLA	**Glamis**	**4.17**	**141**	*e*Pn		**Pn**	**11 38 15.1**	**-1.9**
MCCM	**Marconi Confer**	**4.33**	**296**	*e*Pn		**Pn**	**11 38 19.9**	**+0.8**
ELK	**Elko**	**4.88**	**25**	*e*Pn		**Pn**	**11 38 25.2**	**-1.7**
MVU	**Marysvale**	**5.05**	**63**	*e*Pn		**Pn**	**11 38 28.9**	**-0.3**
WUAZ	**Wupatki**	**5.39**	**97**	*e*Pn		**Pn**	**11 38 34.1**	**+0.2**
	76nm,0.6s							
DUG	**Dugway**	**5.58**	**45**	*e*Pn		**Pn**	**11 38 36.8**	**+0.5**
MOD	**Modoc**	**5.85**	**342**	*e*Pn		Pn	11 38 44.1	+4.0
Q16A	**Castle Valley**	**5.96**	**62**	Pn		Pn	**11 38 42.9**	**+1.2**
BGU	**Big Grassy Mou**	**5.98**	**39**	*e*Pn		**Pn**	**11 38 41.9**	**0.0**
TMUT	**Trail Mountain**	**6.09**	**59**	Pn		Pn	**11 38 44.7**	**+1.1**
SRU	**San Rafael**	**6.50**	**63**	*e*Pn		**Pn**	**11 38 50.1**	**+1.1**
YBH	**Yreka Blue Hor**	**6.54**	**327**	*e*Pn		**Pn**	**11 38 51.2**	**+1.8**
	14nm,0.9s							
YBH				Lg		Lg	11 40 33.4	
YBH	**Yreka Blue Hor**	**6.54**	**327**	Pn		**Pn**	**11 38 52.0**	**+2.5**
	0.2nm,0.3s,baz=134,slow=6.3,SNR=14							
YBH				Lg		Lg	11 40 33.4	
	0.6nm,0.3s,baz=206,slow=22,SNR=3.3							
YBH				LR		LR	11 40 58.9	
	comp=Z,132nm,18.6s,baz=325,slow=35							
SPUT	**South Promonto**	**6.56**	**39**	*e*Pn		**Pn**	**11 38 48.6**	**-1.2**
	26nm,0.6s							
JLU	**Jordanelle**	**6.64**	**48**	*e*Pn		**Pn**	**11 38 51.9**	**+0.9**
DAU	**Daniels Canyon**	**6.64**	**50**	Pn		Pn	**11 38 51.7**	**+0.5**
HVU	**Hansel Valley**	**6.76**	**35**	Pn		Pn	**11 38 51.4**	**-1.2**
K05A	**Summer Lake**	**6.77**	**341**	*e*Pn		Pn	11 38 58.9	+6.0
W18A	**Petrified Fore**	**6.79**	**98**	Pn		Pn	**11 38 54.8**	**+1.8**
J08A	**Circle Bar Ran**	**7.02**	**357**	*e*Pn		Pn	11 39 01.8	+5.7
TUC	**Tucson**	**7.16**	**122**	*e*Pn		**Pn**	**11 38 56.1**	**-2.0**
PV05	**Paradox Valley**	**7.27**	**74**	*e*Pn		**Pn**	**11 39 01.4**	**+1.7**
PV09	**Paradox Valley**	**7.33**	**70**	*e*Pn		**Pn**	**11 39 02.9**	**+2.2**
HUMO	**Hull Mountain**	**7.36**	**330**	Pn		Pn	11 39 04.8	+4.1
MVCO	**Mesa Verde**	**7.63**	**81**	*e*Pn		Pn	11 39 09.2	+4.5
PV01	**Paradox Valley**	**7.69**	**74**	*e*Pn		**Pn**	**11 39 04.6**	**-0.9**
	2μm,0.8s							
HLID	**Hailey**	**7.70**	**20**	*e*Pn		**Pn**	**11 39 07.4**	**+1.8**
PV15	**Paradox Valley**	**7.80**	**72**	*e*Pn		**Pn**	**11 39 08.1**	**+1.1**
O20A	**White River Ci**	**8.52**	**61**	*e*Pn		**Pn**	**11 39 19.7**	**+2.9**
RRI2	**Red Ridge**	**8.65**	**34**	Pn		**Pn**	**11 39 19.9**	**+1.1**
REDW	**Red Top Meadow**	**8.88**	**36**	*e*Pn		**Pn**	**11 39 20.4**	**-1.4**
TPAW	**Teton Pass**	**8.93**	**35**	*e*Pn		**Pn**	**11 39 23.0**	**+0.5**
SNOW	**Snow King Moun**	**9.00**	**36**	*e*Pn		**Pn**	**11 39 25.6**	**+2.1**
PDAR	**Pinedale Array**	**9.11**	**43**	Pn		**Pn**	**11 39 25.9**	**+0.9**
PDAR				Lg		Lg	11 41 53.6	
PDAR	**Pinedale Array**	**9.11**	**43**	Pn		**Pn**	**11 39 25.9**	**+0.9**
	0.0nm,0.3s,baz=213,slow=11,SNR=7.3							
PDAR				Lg		Lg	11 41 53.6	
	0.1nm,0.3s,baz=235,slow=34,SNR=2.5							
SMCO	**Snowmass**	**9.14**	**69**	*e*Pn		**Pn**	**11 39 25.7**	**+0.3**
LOHW	**Long Hollow**	**9.19**	**36**	*e*Pn		**Pn**	**11 39 27.8**	**+1.8**
MOOW	**Moose Ponds**	**9.23**	**35**	*e*Pn		**Pn**	**11 39 28.2**	**+1.7**
IMW	**Indian Meadow**	**9.26**	**33**	*e*Pn		**Pn**	**11 39 29.4**	**+2.5**
MCMT	**McKenzie Canyo**	**9.32**	**23**	*e*Pn		**Pn**	**11 39 30.5**	**+2.7**
	9.0nm,0.8s							
ANMO	**Albuquerque**	**9.45**	**95**	Pn		**Pn**	**11 39 29.3**	**-0.4**
ANMO				Lg		Lg	11 42 03.7	
ANMO	**Albuquerque**	**9.45**	**95**	Pn		**Pn**	**11 39 29.3**	**-0.4**
	0.1nm,0.3s,baz=284,slow=12,SNR=3.1							

baz=1.1,SNR=108
KCSI Kotacane, Aceh 2.18 128 P **Pn 11 53 07.1 -0.3**
KCSI S **Sn 11 53 37.1 +4.0**
SNSI Sinabang, Aceh 2.47 174 P **Pn 11 53 10.3 -1.1**
PSI Prapat 3.53 126 Pn **Pn 11 53 27.2 +1.1**
PSI Sn **Sn 11 54 10.3 +3.7**
PSI Prapat 3.53 126 P **Pn 11 53 27.3 +1.3**
baz=4.0,SNR=26
PSI Prapat 3.53 126 P Pn **Pn 11 53 27.2 +1.1**
16nm,0.3s,baz=315,slow=14,SNR=98
PSI Sn **Sn 11 54 10.3 +3.7**
34nm,0.3s,baz=3.4,slow=19,SNR=4.7
PKDT Phuket 3.75 37 P Pn 11 53 39.4 +10
GSI Gunungsitoli 3.86 157 P **Pn 11 53 29.9 -0.7**
KULM Kulim 4.59 85 P **Pn 11 53 40.1 -0.4**
KULM Kulim 4.59 85 P **Pn 11 53 39.4 -1.1**
KULM Kulim 4.59 85 *e*Pn **Pn 11 53 39.6 -0.9**
KULM *e*Sn **Sn 11 54 32.0 -0.6**
IPM Ipoh 4.96 94 P **Pn 11 53 45.1 -0.6**
IPM Ipoh 4.96 94 P **Pn 11 53 43.9 -1.8**
80nm,0.7s,2µm0.8nm
IPM Ipoh 4.96 94 *e*Pn **Pn 11 53 43.7 -2.0**
IPM *e*Sn **Sn 11 54 39.5 -2.4**
SKLT Songkhla 5.07 63 P **Pn 11 53 46.9 -0.3**
73nm,0.9s,2µm0.6nm
SRIT Nakonsritamara 5.09 43 P **Pn 11 53 48.9 +1.4**
SURA Surathani 5.54 40 P Pn 11 53 57.6 +4.0
66nm,0.7s,9µm
FRIM Kepong 5.79 106 P **Pn 11 53 55.3 -1.7**
BKNI Bangkinang 6.72 132 P **Pn 11 54 10.2 +0.3**
83nm,1.4s,1µm1.1nm
PPI Padang Panjang 6.85 141 P **Pn 11 54 11.9 +0.3**
PPI Padang Panjang 6.85 141 P Pn 11 54 16.1 +4.5
baz=7.4,SNR=3.4
KTGM Kuala Trenggan 7.06 86 P **Pn 11 54 13.9 -0.6**
KGM Kluang 7.78 111 P **Pn 11 54 23.1 -1.4**
MYKOM Kota Tinggi 8.36 111 P **Pn 11 54 30.2 -2.2**
CM31 Chiang Mai Arr 13.78 12 Pn **Pn 11 55 46.4 -0.2**
9.6nm,0.8s
CMAR Chiang Mai Arr 13.78 12 Pn Pn 11 55 49.6 +3.0
CMAR Chiang Mai Arr 13.78 12 Pn Pn 11 55 49.6 +3.0
0.3nm,0.3s,baz=200,slow=14,SNR=9.9
CMAR LR LR 12 01 27.0
comp=Z,163nm,19.1s,baz=337,slow=39
CHTO Chiang Mai 14.13 11 Pn **Pn 11 55 51.2 -0.1**
CHTO Chiang Mai 14.13 11 P 11 56 04.3 +5.9
KSM Kuching 14.62 103 P **Pn 11 55 57.7 -0.3**
KSM Kuching 14.62 103 *e*Pn **Pn 11 55 56.8 -1.3**
CMAI Chiengmai2 15.24 11 P **P 11 56 11.4 +0.5**
SBUM Sibu 16.30 98 P **Pn 11 56 18.7 -1.3**
SBUM Sibu 16.30 98 *e*P **P 11 56 24.9 +2.3**
29nm,1.5s
QIZ Qiongzhong 19.45 43 P **P 11 56 57.2 -0.2**
QIZ S **S 12 00 35.4 -0.1**
KMI Kunming 21.12 17 P P 11 57 20.7 +5.0
KMI AMB AMB
comp=Z,7.0nm,1.0s
GYA Guiyang 23.73 24 *e*P **P 11 57 42.8 +0.1**
GYA AMB AMB
comp=Z,10.0nm,0.8s
LSA Lhasa 25.12 350 *e*P **P 11 57 57.3 +1.6**
20nm,1.4s
KAPI Kappang 25.62 112 *e*P **P 11 57 58.1 -1.9**
KAPI Kappang 25.62 112 LR LR 12 08 38.8
comp=Z,161nm,20.0s,baz=39,slow=38
H08S2 Diego Garcia H 26.61 242 T T 12 25 14.3
baz=61,slow=0.7,SNR=424
H08S3 Diego Garcia H 26.61 242 T T 12 25 14.3
baz=61,slow=0.7,SNR=430
H08S1 Diego Garcia H 26.62 242 T T 12 25 15.4
baz=61,slow=0.7,SNR=183
CD2 Chengdu 26.88 15 P **P 11 58 15.1 +3.8**
CD2 pP **pP 11 58 24.9 +3.3**
CD2 sP **sP 11 58 29.1 +3.2**
CD2 PP PnPn 11 59 01.1 +6.9
CD2 S **S 12 02 48.4 +2.7**
CD2 sS **sS 12 03 04.8 +2.0**
CD2 SS SnSn 12 04 03.4 +11
CD2 AMB AMB
comp=Z,30nm,0.7s
CD2 AMB AMB
comp=Z,230nm,4.7s
CD2 LR LR
comp=N,380nm,10.1s
CD2 LR LR
comp=Z,550nm,10.1s
H08N1 Diego Garcia H 27.38 246 T T 12 26 35.3
baz=57
H08N2 Diego Garcia H 27.39 246 T T 12 26 35.3
baz=57
H08N3 Diego Garcia H 27.40 246 T T 12 26 34.1
baz=57
XAN Xi'an 31.38 21 P P 11 58 56.0 +4.8
XAN AMB AMB
comp=Z,3.0nm,0.7s
XAN AMB AMB
comp=Z,20nm,9.8s
NJ2 Nanjing 34.44 36 *e*P **P 11 59 18.1 +0.2**
NJ2 AMB AMB
comp=Z,10.0nm,0.9s
FITZ Fitzroy Crossi 37.05 129 *e*P **P 11 59 38.2 -2.3**
4.8nm,0.8s
FITZ Fitzroy Crossi 37.05 129 P **P 11 59 38.6 -1.9**
baz=38,SNR=9.1
HHC Hu-ho-hao-te 38.42 19 *e*P **P 11 59 52.7 +0.8**
HHC pP **pP 12 00 02.9 +0.5**
HHC sP **sP 12 00 06.5 -0.2**
HHC PP **PnPn 12 01 25.6 +3.3**
HHC PcP **PcP 12 02 05.2 +0.3**
HHC S **S 12 05 45.8 +1.1**
HHC ScP **ScP 12 05 49.4 -0.8**
HHC sS **sS 12 06 01.4 -0.5**
HHC SS **SnSn 12 08 28.1 -4.5**
HHC ScS **ScS 12 09 57.5 -2.8**
HHC AMB AMB
comp=Z,25nm,1.4s
HHC AMB AMB
comp=Z,120nm,5.4s
HHC LR LR
comp=N,510nm,15.6s
HHC LR LR
comp=E,350nm,15.4s
HHC LR LR
comp=Z,510nm,15.6s
WMQ Urumqi 39.48 350 *e*P **P 12 00 02.0 +1.3**
AAK Ala-Archa 42.19 336 LR LR 12 19 15.3
comp=Z,139nm,21.4s,baz=143,slow=38
NWAO Narrogin (SRO) 42.63 153 P **P 12 00 24.8 -1.9**
NWAO Narrogin (SRO) 42.63 153 P **P 12 00 24.8 -1.9**
11nm,0.9s,baz=9.5,slow=13,SNR=4.5
JNU Nakatsue 42.91 45 LR LR 12 18 11.5
comp=Z,44nm,20.3s,baz=66,slow=36
MKAR Makanchi Array 43.42 346 P **P 12 00 32.6 -0.3**
MKAR Makanchi Array 43.42 346 P **P 12 00 32.6 -0.3**
0.6nm,0.5s,baz=155,slow=7.6,SNR=6.9
MKAR LR LR 12 20 53.7
comp=Z,60nm,21.1s,baz=174,slow=39
KSAR Wonju Array Be 43.53 38 P **P 12 00 32.8 -1.1**
KSRS Korea Array 43.56 38 P **P 12 00 32.8 -1.3**
0.7nm,0.7s,baz=220,slow=9.0,SNR=2.7
SONM Songino Array 43.70 10 P **P 12 00 36.0 +0.7**
SONM Songino Array 43.70 10 P **P 12 00 36.0 +0.7**
1.2nm,0.6s,baz=190,slow=9.3,SNR=11
SONM LR LR 12 20 34.3
comp=Z,73nm,18.6s,baz=190,slow=39
WRA Warramunga Arr 44.99 124 P **P 12 00 44.4 -1.6**
WRA ScP **ScP 12 06 18.1 +1.4**
WRA Warramunga Arr 44.99 124 P **P 12 00 44.4 -1.6**
2.2nm,0.6s,baz=301,slow=9.2,SNR=40
WRA ScP **ScP 12 06 18.1 +1.4**
0.4nm,0.7s,baz=315,slow=3.3,SNR=6.3
WRAB Tennant Creek 45.00 124 *e*P **P 12 00 44.8 -1.2**
4.9nm,0.6s
AS31 Alice Springs 46.55 129 *e*P **P 12 00 57.2 -1.0**
ASAR Alice Springs 46.55 129 P **P 12 00 57.1 -1.1**
ASAR PcP **PcP 12 02 30.2 -1.9**
ASAR ScP **ScP 12 06 23.2 +0.1**
ASAR Alice Springs 46.55 129 P **P 12 00 57.1 -1.1**
7.9nm,0.8s,baz=298,slow=8.0,SNR=100
ASAR PcP **PcP 12 02 30.2 -1.9**
0.5nm,0.8s,baz=313,slow=3.2,SNR=2.2
ASAR ScP **ScP 12 06 23.2 +0.1**
0.8nm,1.0s,baz=304,slow=3.7,SNR=5.5
CN2 Changchun 46.61 29 *e*P P 12 01 01.5 +3.2
FORT Forrest 46.83 141 *e*P **P 12 01 00.2 +0.1**
26nm,0.7s
FORT Forrest 46.83 141 P **P 12 01 00.3 +0.1**
baz=48,SNR=7.1
KURBB Kurchatov Arra 47.90 345 P **P 12 01 07.0 -1.2**
0.3nm,0.3s,baz=170,slow=6.7,SNR=5.2
KURK Kurchatov 47.96 345 P **P 12 01 07.0 -1.7**
ZALV Zalesovo Beam 49.77 351 P **P 12 01 21.2 -1.3**
ZALV Zalesovo Beam 49.77 351 P **P 12 01 21.2 -1.3**
1.3nm,0.4s,baz=179,slow=10,SNR=3.3
ZALV LR LR 12 25 55.3
comp=Z,33nm,19.9s,baz=71,slow=40
BVAR Borovoye Array 52.42 341 P **P 12 01 41.5 -1.0**
BVAR Borovoye Array 52.42 341 P **P 12 01 41.5 -1.0**
0.5nm,0.6s,baz=141,slow=7.1,SNR=3.1
BVAR LR LR 12 28 01.0
comp=Z,55nm,19.5s,baz=293,slow=41
ATD Arta Tunnel 53.02 281 LR LR 12 20 08.1
comp=Z,37nm,19.4s,baz=11,slow=31
BBOO Buckleboo 53.33 138 P **P 12 01 48.5 -1.0**
baz=54,SNR=13
ABKAR Akbulak array 53.75 331 *e*P **P 12 01 51.9 -0.4**
AKTO Aktyubinsk 55.47 331 LR LR 12 27 58.9
comp=Z,69nm,18.4s,baz=140,slow=38
QLP Quilpie 56.12 127 P **P 12 02 09.6 -0.2**
baz=57,SNR=7.0
STKA Stephens Creek 56.67 133 P **P 12 02 12.8 -1.0**
STKA Stephens Creek 56.67 133 P **P 12 02 12.9 -0.8**
baz=57,SNR=10
STKA Stephens Creek 56.67 133 P **P 12 02 12.8 -1.0**
4.1nm,0.6s,baz=308,slow=7.3,SNR=16
STKA LR LR 12 29 02.9
comp=Z,104nm,19.9s,baz=207,slow=39
GNI Garni 57.88 315 LR LR 12 26 46.2
comp=Z,43nm,20.2s,baz=166,slow=36
KMBO Kilima Mbogo 59.05 266 P **P 12 02 31.6 +0.6**
KMBO Kilima Mbogo 59.05 266 P **P 12 02 31.6 +0.6**
2.7nm,0.7s,baz=55,slow=12,SNR=8.3
CMSA Cobar Meteorol 59.53 131 P **P 12 02 33.4 -0.3**
baz=60,SNR=26
BR131 Keskin Array S 65.82 311 *e*P **P 12 03 14.5 -1.2**
1.1nm,0.6s
BRTR Keskin Array B 65.82 311 P **P 12 03 14.9 -0.8**
BRTR Keskin Array B 65.82 311 P **P 12 03 14.9 -0.8**
1.9nm,0.6s,baz=133,slow=7.7,SNR=11
PETK Petropavlovsk- 69.34 35 LR LR 12 35 21.9
comp=Z,27nm,20.2s,baz=358,slow=37
FINES FINESS Array B 76.23 332 P **P 12 04 16.8 -1.4**
FINES FINESS Array B 76.23 332 P **P 12 04 16.8 -1.4**
2.9nm,1.0s,baz=139,slow=11,SNR=2.3
STHS Stebnicka Huta 76.44 320 *e*P **P 12 04 20.7 +1.0**
ARCES ARCESS Array B 78.71 340 P **P 12 04 30.9 -1.0**
ARCES ARCESS Array B 78.71 340 P **P 12 04 30.9 -1.0**
1.5nm,0.9s,baz=79,slow=6.4,SNR=4.5
ARCES LR LR 12 41 39.2
comp=Z,122nm,19.6s,baz=345,slow=38
GERES GERESS Array B 81.31 319 P **P 12 04 45.7 -0.9**
GERES GERESS Array B 81.31 319 P **P 12 04 45.7 -0.9**
0.7nm,0.6s,baz=67,slow=3.5,SNR=5.6
NOA NORSAR Array B 83.26 331 LR LR 12 45 51.1
comp=Z,89nm,18.7s,baz=260,slow=38
DAVOX Davos/Dischmat 83.86 316 P **P 12 04 59.9 -0.1**
DAVOX Davos/Dischmat 83.86 316 P **P 12 04 59.9 -0.1**
2.8nm,0.5s,baz=167,slow=7.4,SNR=7.5
TORD Torodi Ar. Bea 93.14 283 P **P 12 05 45.4 +0.6**
TORD Torodi Ar. Bea 93.14 283 P **P 12 05 45.4 +0.6**
2.0nm,0.7s,baz=93,slow=4.8,SNR=11
TXAR Lajitas Array 141.06 28 PKP **PKPdf 12 11 58.5 -2.5**
TXAR Lajitas Array 141.06 28 PKP **PKPdf 12 11 58.5 -2.5**
0.1nm,0.3s,baz=52,slow=1.5,SNR=3.0
CBYP Canovanas 150.89 323 *e*PKPbc **PKPbc 12 12 22.5 -1.0**

*ISCJB **03** 12:14:04.4±0.5,46°.36N±0°.05×27°.25W±0°.07,h10km, mb4.1/23,MS3.6/23,Error ellipse: s-maj=7.8km s-min=6.1km az=32.0*
*CSEM **03** 12:14:05.0±0.2,46°.33N×27°.24W,h2km,mb4.4/9,Error ellipse: s-maj=7.7km s-min=7.0km az=16.0*
*IDC **03** 12:14:05.1±0.8,46°.36N×27°.38W,h0km,mb3.7/12, mb1 3.9/13,mb1mx3.8/34,mbtmp3.7/13,ML4.9/1,MS3.7/23, Ms1 3.6/23,ms1mx3.4/60,Error ellipse: s-maj=26.1km s-min=16.5km az=13.0*
*NEIC **03** 12:14:06.6±0.4,46°.39N×27°.21W,h10km,mb4.5/21,Error ellipse: s-maj=9.4km s-min=6.1km az=185.0*
*PDA **03** 12:14:24.7,45°.70N×25°.40W,h0km,mb4.6*
ISC 03 12:14:06.6±0.6, 46°.36N±0°.09×27°.28W±0°.08, h10km, n198, σ1§17/170, mb4.2/24, MS3.6/23, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMLA	**Cha da Macela**	**8.69**	**171**	Pn	**Pn**	**12 16 12.1**	**-0.2**
CMLA	**Cha da Macela**	**8.69**	**171**	Pn	**Pn**	**12 16 12.1**	**-0.2**
PSMA	**Santa Maria** 54nm,0.6s	**9.49**	**170**	*e*P	**Pn**	**12 16 22.7**	**-0.6**
PSMN	**Pico do Norte,** 63nm,0.4s	**9.49**	**169**	*e*P	**Pn**	**12 16 22.3**	**-1.0**
PSMN	**Pico do Norte,** 63nm,0.4s	**9.49**	**169**	*e*P	**Pn**	**12 16 22.3**	**-1.0**
PGAV	**Gavieira, Arco** 47nm,0.7s	**14.32**	**101**	*e*P	**Pn**	**12 17 28.4**	**-1.1**
PCAB	**Cabril** 42nm,1.4s	**14.60**	**102**	*e*P	**Pn**	**12 17 31.9**	**-1.2**
POLO	**Lamas de Olo** 15nm,1.5s	**14.90**	**103**	*e*P	**Pn**	**12 17 36.1**	**-1.2**
PVIS	**Viseu** 23nm,1.5s	**15.13**	**105**	*e*P	**Pn**	**12 17 39.4**	**-1.0**
PTOM	**Tomar** 18nm,1.7s	**15.34**	**109**	*e*P	**Pn**	**12 17 43.2**	**+0.1**
PBRG	**Braganca** 14nm,1.5s	**15.43**	**100**	*e*P	**Pn**	**12 17 43.3**	**-1.0**
MVO	**Moncorvo** 21nm,0.9s	**15.51**	**102**	*e*P	**Pn**	**12 17 43.8**	**-1.6**
MTE	**Manteigas** 28nm,1.4s	**15.52**	**105**	*e*P	**Pn**	**12 17 44.1**	**-1.4**
MTE	**Manteigas**	**15.52**	**105**	*e*Pn	**Pn**	**12 17 44.0**	**-1.4**
MTE	**Manteigas**	**15.52**	**105**	*e*Pn	**Pn**	**12 17 44.0**	**-1.4**
PMTG	**Montargil** 32nm,1.8s	**15.76**	**111**	*e*P	**Pn**	**12 17 46.7**	**-1.9**
PCBR	**Castelo Branco** 24nm,1.9s	**15.84**	**107**	*e*P	**Pn**	**12 17 49.6**	**0.0**
PMRV	**Marv??o** 18nm,1.6s	**16.11**	**108**	*e*P	**Pn**	**12 17 51.4**	**-1.7**
PNCL	**Nicolau / Gran** 22nm,1.8s	**16.12**	**114**	*e*P	**Pn**	**12 17 52.2**	**-0.9**
EVOP	**Sao Brissos** 16nm,0.9s	**16.13**	**112**	*e*P	**Pn**	**12 17 49.0**	**-4.3**
EVOP	**Sao Brissos** 16nm,0.9s	**16.13**	**112**	*e*P	**Pn**	**12 17 49.0**	**-4.3**
EVO	**Evora** 16nm,0.9s	**16.20**	**112**	*e*P	Pn	12 17 49.0	-5.2
EVO	135nm,20.8s			*e*R			
EVO	**Evora** 15nm,1.9s	**16.20**	**112**	*e*P	**Pn**	**12 17 52.8**	**-1.4**
PESTR	**Estremoz** 18nm,1.5s	**16.29**	**110**	*e*P	**Pn**	**12 17 53.3**	**-2.0**
PTEO	**Sao Teotonio** 46nm,1.5s	**16.34**	**116**	*e*P	**Pn**	**12 17 56.3**	**+0.3**
PTEO	**Sao Teotonio** 46nm,1.5s	**16.34**	**116**	*e*P	**Pn**	**12 17 56.3**	**+0.3**
ROSF	**Rostrenen** 23nm,1.2s	**16.37**	**74**	*e*P	**Pn**	**12 17 53.5**	**-2.9**
ROSF	**Rostrenen** 23nm,1.2s	**16.37**	**74**	*e*P	**Pn**	**12 17 53.5**	**-2.9**
ROSF	**Rostrenen** 23nm,1.2s	**16.37**	**74**	*e*P	**Pn**	**12 17 53.5**	**-2.9**
QUIF	**Quistinic** 118nm,1.6s	**16.47**	**76**	*e*P	**Pn**	**12 17 55.1**	**-2.4**
QUIF	**Quistinic** 118nm,1.6s	**16.47**	**76**	*e*P	**Pn**	**12 17 55.1**	**-2.4**
MORF	**Marmelete** 31nm,1.8s	**16.54**	**117**	*e*P	**Pn**	**12 17 58.5**	**0.0**
MORF	**Marmelete** 31nm,1.8s	**16.54**	**117**	*e*P	**Pn**	**12 17 58.5**	**0.0**
PCVE	**Castro Verde** 12nm,1.3s	**16.72**	**115**	*e*P	**Pn**	**12 18 00.4**	**-0.4**
PCVE	**Castro Verde** 12nm,1.3s	**16.72**	**115**	*e*P	**Pn**	**12 18 00.4**	**-0.4**
SGMF	**Saint Gilles** 47nm,1.2s	**16.86**	**75**	*e*P	**Pn**	**12 17 59.8**	**-2.7**
SGMF	**Saint Gilles** 47nm,1.2s	**16.86**	**75**	*e*P	**Pn**	**12 17 59.8**	**-2.7**
SGMF	**Saint Gilles** 47nm,1.2s	**16.86**	**75**	*e*P	**Pn**	**12 17 59.8**	**-2.7**
PBDV	**Barranco-do-Ve**	**17.02**	**115**	*e*P	**Pn**	**12 18 05.0**	**+0.3**
PBDV	24nm,1.6s **Barranco-do-Ve** 24nm,1.6s	**17.02**	**115**	*e*P	**Pn**	**12 18 05.0**	**+0.3**
PBAR	**Barrancos** 12nm,2.2s	**17.03**	**111**	*e*P	**Pn**	**12 18 02.9**	**-1.9**
PVAQ	**Vaqueiros** 17nm,1.8s	**17.06**	**115**	*e*P	**Pn**	**12 18 05.1**	**0.0**
PVAQ	**Vaqueiros** 17nm,1.8s	**17.06**	**115**	*e*P	**Pn**	**12 18 05.1**	**0.0**
GRR	**Gorron**	**17.98**	**74**	*e*P	**Pn**	**12 18 16.6**	**+0.1**
GRR	**Gorron**	**17.98**	**74**	*e*P	**Pn**	**12 18 16.6**	**+0.1**
GRR	**Gorron**	**17.98**	**74**	*e*P	**Pn**	**12 18 16.6**	**+0.1**
PAB	**San Pablo**	**18.08**	**104**	*e*Pn	**P**	**12 18 18.2**	**0.0**
PAB	**San Pablo**	**18.08**	**104**	*e*Pn	**P**	**12 18 18.2**	**0.0**
ESDC	**Sonseca Array**	**18.27**	**103**	P	**P**	**12 18 20.7**	**+0.3**
ESDC	**Sonseca Array**	**18.27**	**103**	P	**P**	**12 18 20.7**	**+0.3**
ESDC	**Sonseca Array** 0.8nm,0.3s,baz=297,slow=12,SNR=20	**18.27**	**103**	P	**P**	**12 18 20.7**	**+0.3**
MFF	**Saint Martin d** 52nm,1.2s	**18.66**	**79**	*e*P	**P**	**12 18 23.4**	**-1.1**
MFF	**Saint Martin d** 52nm,1.2s	**18.66**	**79**	*e*P	**P**	**12 18 23.4**	**-1.1**
MFF	**Saint Martin d** 26nm,1.2s	**18.66**	**79**	*e*P	**P**	**12 18 23.4**	**-1.1**
SJPF	**Ste Jean** 34nm,1.3s	**18.76**	**91**	*e*P	**P**	**12 18 25.3**	**-0.4**
SJPF	**Ste Jean** 34nm,1.3s	**18.76**	**91**	*e*P	**P**	**12 18 25.3**	**-0.4**
SJPF	**Ste Jean** 17nm,1.3s	**18.76**	**91**	*e*P	**P**	**12 18 25.3**	**-0.4**
ETSF	**Etsaut** 13nm,0.7s	**19.29**	**91**	*e*P	**P**	**12 18 31.6**	**0.0**
ETSF	**Etsaut** 13nm,0.7s	**19.29**	**91**	*e*P	**P**	**12 18 31.6**	**0.0**
ETSF	**Etsaut** 6.4nm,0.7s	**19.29**	**91**	*e*P	**P**	**12 18 31.6**	**0.0**
LFF	**La Frestale** 27nm,1.0s	**19.60**	**84**	*e*P	**P**	**12 18 34.4**	**-0.4**
LFF	**La Frestale** 27nm,1.0s	**19.60**	**84**	*e*P	**P**	**12 18 34.4**	**-0.4**
LFF	**La Frestale** 13nm,1.0s	**19.60**	**84**	*e*P	**P**	**12 18 34.4**	**-0.4**
EPF	**Esparros** 17nm,1.1s	**19.87**	**90**	*e*P	**P**	**12 18 37.3**	**-0.6**
EPF	**Esparros** 17nm,1.1s	**19.87**	**90**	*e*P	**P**	**12 18 37.3**	**-0.6**
EPF	**Esparros** 6.6nm,1.1s	**19.87**	**90**	*e*P	**P**	**12 18 37.3**	**-0.6**
TCF	**Toulx Ste Croi** 54nm,1.1s	**20.32**	**79**	*e*P	**P**	**12 18 41.9**	**-0.7**
TCF	**Toulx Ste Croi** 54nm,1.1s	**20.32**	**79**	*e*P	**P**	**12 18 41.9**	**-0.7**
TCF	**Toulx Ste Croi** 27nm,1.1s	**20.32**	**79**	*e*P	**P**	**12 18 41.9**	**-0.7**
CAF	**Calviac** 32nm,1.3s	**20.52**	**83**	*e*P	**P**	**12 18 43.8**	**-1.0**
CAF	**Calviac** 32nm,1.3s	**20.52**	**83**	*e*P	**P**	**12 18 43.8**	**-1.0**
CAF	**Calviac** 16nm,1.3s	**20.52**	**83**	*e*P	**P**	**12 18 43.8**	**-1.0**
AVF	**Avril sur Loir** 30nm,1.1s	**21.00**	**78**	*e*P	**P**	**12 18 49.8**	**-0.2**
AVF	**Avril sur Loir** 30nm,1.1s	**21.00**	**78**	*e*P	**P**	**12 18 49.8**	**-0.2**
AVF	**Avril sur Loir** 15nm,1.1s	**21.00**	**78**	*e*P	**P**	**12 18 49.8**	**-0.2**
SSF	**Saint Saulge** 24nm,1.0s	**21.06**	**77**	*e*P	**P**	**12 18 50.0**	**-0.6**
SSF	**Saint Saulge** 24nm,1.0s	**21.06**	**77**	*e*P	**P**	**12 18 50.0**	**-0.6**
SSF	**Saint Saulge** 12nm,1.0s	**21.06**	**77**	*e*P	**P**	**12 18 50.0**	**-0.6**
MTLF	**Montolieu** 39nm,1.4s	**21.07**	**88**	*e*P	**P**	**12 18 50.2**	**-0.6**
MTLF	**Montolieu** 39nm,1.4s	**21.07**	**88**	*e*P	**P**	**12 18 50.2**	**-0.6**
MTLF	**Montolieu** 20nm,1.4s	**21.07**	**88**	*e*P	**P**	**12 18 50.2**	**-0.6**
BAIF	**Baives** 87nm,1.5s	**21.22**	**68**	*e*P	**P**	**12 18 51.2**	**-1.1**
BAIF	**Baives** 87nm,1.5s	**21.22**	**68**	*e*P	**P**	**12 18 51.2**	**-1.1**
BAIF	**Baives** 44nm,1.5s	**21.22**	**68**	*e*P	**P**	**12 18 51.2**	**-1.1**
LOR	**Lormes** 23nm,1.1s	**21.26**	**76**	*e*P	**P**	**12 18 52.2**	**-0.7**
LOR	150nm,19.8s			*e*R			
LOR	**Lormes** 23nm,1.1s	**21.26**	**76**	*e*P	**P**	**12 18 52.2**	**-0.7**
LOR	**Lormes** 12nm,1.1s	**21.26**	**76**	*e*P	**P**	**12 18 52.2**	**-0.7**
SMF	**Signal de Mont** 83nm,1.7s	**21.36**	**78**	*e*P	**P**	**12 18 53.7**	**-0.2**
SMF	**Signal de Mont** 83nm,1.7s	**21.36**	**78**	*e*P	**P**	**12 18 53.7**	**-0.2**
SMF	**Signal de Mont** 41nm,1.7s	**21.36**	**78**	*e*P	**P**	**12 18 53.7**	**-0.2**
GIVF	**Givet**	**21.61**	**68**	*e*P	**P**	**12 18 55.6**	**-1.0**
GIVF	**Givet**	**21.61**	**68**	*e*P	**P**	**12 18 55.6**	**-1.0**
GIVF	**Givet**	**21.61**	**68**	*e*P	**P**	**12 18 55.6**	**-1.0**
SFTF	**Sexfontaines**	**21.92**	**73**	*e*P	**P**	**12 18 58.9**	**-1.0**
SFTF	**Sexfontaines**	**21.92**	**73**	*e*P	**P**	**12 18 58.9**	**-1.0**
SFTF	**Sexfontaines**	**21.92**	**73**	*e*P	**P**	**12 18 58.9**	**-1.0**
LASF	**Ste Croix** 18nm,0.8s	**21.98**	**85**	*e*P	**P**	**12 19 00.2**	**-0.4**
LASF	**Ste Croix** 18nm,0.8s	**21.98**	**85**	*e*P	**P**	**12 19 00.2**	**-0.4**
LASF	**Ste Croix** 9.0nm,0.8s	**21.98**	**85**	*e*P	**P**	**12 19 00.2**	**-0.4**
MDT	**Midelt**	**21.99**	**120**	P	**P**	**12 19 02.4**	**+1.5**
MDT	**Midelt**	**21.99**	**120**	P	**P**	**12 19 02.4**	**+1.5**
MDT	**Midelt** 2.7nm,0.9s,baz=328,slow=9.4,SNR=5.4	**21.99**	**120**	P	**P**	**12 19 02.4**	**+1.5**
VIVF	**Saint-Julien-l** 33nm,1.3s	**22.33**	**82**	*e*P	**P**	**12 19 04.4**	**+0.1**
VIVF	**Saint-Julien-l** 33nm,1.3s	**22.33**	**82**	*e*P	**P**	**12 19 04.4**	**+0.1**
VIVF	**Saint-Julien-l** 17nm,1.3s	**22.33**	**82**	*e*P	**P**	**12 19 04.4**	**+0.1**
PAGF	**Fort de Pagny**	**22.33**	**72**	*e*P	**P**	**12 19 03.1**	**-1.2**
PAGF	**Fort de Pagny**	**22.33**	**72**	*e*P	**P**	**12 19 03.1**	**-1.2**
PAGF	**Fort de Pagny**	**22.33**	**72**	*e*P	**P**	**12 19 03.1**	**-1.2**
CABF	**La Chapelle**	**22.88**	**77**	*e*P	**P**	**12 19 08.8**	**-1.5**
CABF	**La Chapelle**	**22.88**	**77**	*e*P	**P**	**12 19 08.8**	**-1.5**
CABF	**La Chapelle**	**22.88**	**77**	*e*P	**P**	**12 19 08.8**	**-1.5**
HINF	**Hinteralfeld** 61nm,1.6s	**23.18**	**74**	*e*P	**P**	**12 19 12.1**	**-1.2**
HINF	**Hinteralfeld** 61nm,1.6s	**23.18**	**74**	*e*P	**P**	**12 19 12.1**	**-1.2**
HINF	**Hinteralfeld** 30nm,1.6s	**23.18**	**74**	*e*P	**P**	**12 19 12.1**	**-1.2**
MBDF	**Montbardon**	**23.80**	**81**	*e*P	**P**	**12 19 18.9**	**-0.7**
MBDF	**Montbardon**	**23.80**	**81**	*e*P	**P**	**12 19 18.9**	**-0.7**
MBDF	**Montbardon**	**23.80**	**81**	*e*P	**P**	**12 19 18.9**	**-0.7**
DAVOX	**Davos/Dischmat**	**25.40**	**75**	P	**P**	**12 19 37.7**	**+3.5**
DAVOX	**Davos/Dischmat** 5.9nm,1.0s,baz=287,slow=12,SNR=5.1	**25.40**	**75**	P	**P**	**12 19 37.7**	**+3.5**
DAVOX				LR	LR	12 28 30.7	
SCHQ	**Schefferville** comp=Z,104nm,19.3s,baz=257,slow=34	**26.20**	**303**	LR	LR	12 27 41.6	
NOA	**NORSAR Array B** comp=Z,140nm,20.3s,baz=91,slow=31	**26.62**	**43**	LR	LR	12 28 50.1	
GERES	**GERESS Array B** comp=Z,58nm,19.8s,baz=270,slow=33	**27.51**	**70**	P	**P**	**12 19 54.0**	**+0.9**
GERES	**GERESS Array B**	**27.51**	**70**	P	**P**	**12 19 54.0**	**+0.9**
GERES	**GERESS Array B** 0.2nm,0.4s,baz=275,slow=10,SNR=3.1	**27.51**	**70**	P	**P**	**12 19 54.0**	**+0.9**
GERES				LR	LR	12 29 46.6	
FRB	**Frobisher Bay** comp=Z,99nm,19.6s,baz=133,slow=34	**28.65**	**322**	LR	LR	12 28 25.0	
VRAC	**Vranov** comp=Z,87nm,18.4s,baz=195,slow=30	**29.29**	**68**	LR	LR	12 31 24.0	
KEST	**Kesra** comp=Z,148nm,19.6s,baz=279,slow=35	**29.35**	**98**	LR	LR	12 30 32.0	
SADO	**Sadowa** comp=Z,86nm,18.4s,baz=224,slow=34	**35.81**	**287**	LR	LR	12 35 08.3	
AKASG	**Malin Array Be** comp=Z,132nm,19.0s,baz=53,slow=35	**36.89**	**62**	P	**P**	**12 21 14.8**	**-0.3**
AKASG	**Malin Array Be**	**36.89**	**62**	P	**P**	**12 21 14.8**	**-0.3**
AKASG	**Malin Array Be** 0.6nm,0.5s,baz=284,slow=8.5,SNR=5.0	**36.89**	**62**	P	**P**	**12 21 14.8**	**-0.3**
RES	**Resolute Bay** comp=Z,67nm,18.7s,baz=56,slow=32	**40.05**	**338**	LR	LR	12 35 37.6	
H05N1	**Guadeloupe/Mar** SNR=3.7	**41.05**	**234**	T	T	13 05 11.3	
TOA0	**Torodi Ar. Sit**	**41.12**	**134**	*e*P	**P**	**12 21 51.0**	**+0.2**

TOA0	**Torodi Ar. Sit**	**41.12**	**134**	*eP*	**P**	**12 21 51.0**	**+0.2**
TORD	**Torodi Ar. Bea**	**41.12**	**134**	P	**P**	**12 21 50.8**	**-0.1**
TORD	**Torodi Ar. Bea**	**41.12**	**134**	P	**P**	**12 21 50.8**	**-0.1**
TORD	**Torodi Ar. Bea**	**41.12**	**134**	P	**P**	**12 21 50.8**	**-0.1**
	5.5nm,1.1s,baz=322,slow=8.2,SNR=11						
TORD				LR	LR	12 37 56.5	
	comp=Z,184nm,18.5s,baz=315,slow=35						
H05S1	**Guadeloupe/Mar**	**42.46**	**233**	T	T	13 07 04.8	
	SNR=52						
TKL	**Tuckaleechee C**	**43.12**	**277**	LR	LR	12 37 12.7	
	comp=Z,67nm,21.6s,baz=47,slow=32						
DBIC	**Dimbokro**	**44.01**	**147**	LR	LR	12 39 06.4	
	comp=Z,75nm,20.2s,baz=137,slow=34						
BRTR	**Keskin Array B**	**44.04**	**76**	P	**P**	**12 22 14.4**	**-0.2**
BRTR	**Keskin Array B**	**44.04**	**76**	P	**P**	**12 22 14.4**	**-0.2**
BRTR	**Keskin Array B**	**44.04**	**76**	P	**P**	**12 22 14.4**	**-0.2**
	0.5nm,0.5s,baz=290,slow=4.3,SNR=3.7						
ULM	**Lac du Bonnet**	**44.33**	**301**	LR	LR	12 40 27.8	
	comp=Z,64nm,19.9s,baz=315,slow=36						
GNI	**Garni**	**51.16**	**69**	LR	LR	12 45 55.7	
	comp=Z,26nm,19.9s,baz=83,slow=37						
EDM	**Edmonton**	**52.78**	**311**	*eP*	**P**	**12 23 20.9**	**-0.7**
EDM	**Edmonton**	**52.78**	**311**	*eP*	**P**	**12 23 20.9**	**-0.7**
AKTO	**Aktyubinsk**	**53.78**	**52**	LR	LR	12 46 39.4	
	comp=Z,34nm,19.2s,baz=161,slow=36						
H10N2	**ASCENSION HYDR**	**55.14**	**164**	T	T	13 22 50.1	
	baz=350,slow=0.7,SNR=9.8						
H10N3	**ASCENSION HYDR**	**55.15**	**165**	T	T	13 22 50.0	
	baz=350,slow=0.7,SNR=15						
H10N1	**ASCENSION HYDR**	**55.16**	**164**	T	T	13 22 52.1	
	baz=350,slow=0.7,SNR=12						
ABKAR	**Akbulak array**	**55.46**	**53**	*eP*	**P**	**12 23 43.4**	**+2.2**
	5.2nm,1.1s						
ABKAR	**Akbulak array**	**55.46**	**53**	*eP*	**P**	**12 23 43.4**	**+2.2**
	5.2nm,1.1s						
PDAR	**Pinedale Array**	**56.19**	**299**	P	**P**	**12 23 45.3**	**-1.4**
PDAR	**Pinedale Array**	**56.19**	**299**	P	**P**	**12 23 45.3**	**-1.4**
PDAR	**Pinedale Array**	**56.19**	**299**	P	**P**	**12 23 45.3**	**-1.4**
	0.9nm,0.9s,baz=65,slow=6.6,SNR=7.2						
PDAR				LR	LR	12 44 37.5	
	comp=Z,59nm,19.1s,baz=297,slow=33						
H10S1	**ASCENSION HYDR**	**56.20**	**165**	T	T	13 24 06.9	
	baz=351,slow=0.7,SNR=21						
H10S3	**ASCENSION HYDR**	**56.20**	**165**	T	T	13 24 07.3	
	baz=351,slow=0.7,SNR=30						
H10S2	**ASCENSION HYDR**	**56.21**	**165**	T	T	13 24 08.2	
	baz=351,slow=0.7,SNR=23						
MSTX	**Muleshoe**	**56.95**	**286**	*eP*	**P**	**12 23 52.0**	**-0.2**
MSTX	**Muleshoe**	**56.95**	**286**	*eP*	**P**	**12 23 52.0**	**-0.2**
NEW	**Newport**	**57.46**	**308**	LR	LR	12 45 47.0	
	comp=Z,82nm,18.9s,baz=128,slow=33						
BVAR	**Borovoye Array**	**58.73**	**44**	P	**P**	**12 24 04.9**	**+0.7**
BVAR	**Borovoye Array**	**58.73**	**44**	P	**P**	**12 24 04.9**	**+0.7**
BVAR	**Borovoye Array**	**58.73**	**44**	P	**P**	**12 24 04.9**	**+0.7**
	3.8nm,0.9s,baz=305,slow=5.2,SNR=5.5						
ILAR	**Eielson Array**	**59.66**	**334**	P	**P**	**12 24 10.7**	**+0.2**
ILAR	**Eielson Array**	**59.66**	**334**	P	**P**	**12 24 10.7**	**+0.2**
ILAR	**Eielson Array**	**59.66**	**334**	P	**P**	**12 24 10.7**	**+0.2**
	0.3nm,0.6s,baz=52,slow=5.2,SNR=5.5						
TXAR	**Lajitas Array**	**60.41**	**283**	P	**P**	**12 24 16.1**	**-0.2**
TXAR	**Lajitas Array**	**60.41**	**283**	P	**P**	**12 24 16.0**	**-0.2**
TXAR	**Lajitas Array**	**60.41**	**283**	P	**P**	**12 24 16.1**	**-0.2**
	1.6nm,0.8s,baz=70,slow=6.9,SNR=20						
TXAR				LR	LR	12 50 15.5	
	comp=Z,144nm,19.0s,baz=85,slow=36						
BBB	**Bella Bella**	**60.78**	**316**	LR	LR	12 48 02.9	
	comp=Z,54nm,18.1s,baz=135,slow=34						
MCK	**McKinley**	**61.04**	**334**	P	P	12 24 23.6	+3.6
	16nm,0.3s						
KURK	**Kurchatov**	**64.14**	**43**	P	**P**	**12 24 41.0**	**+0.2**
KURK	**Kurchatov**	**64.14**	**43**	P	**P**	**12 24 41.0**	**+0.2**
KURBB	**Kurchatov Arra**	**64.16**	**43**	P	**P**	**12 24 41.0**	**+0.1**
	0.7nm,0.7s,baz=315,slow=6.8,SNR=7.9						
YBH	**Yreka Blue Hor**	**64.58**	**304**	LR	LR	12 51 22.6	
	comp=Z,62nm,19.8s,baz=349,slow=35						
PFO	**Pinyon Flat Ob**	**66.06**	**294**	LR	LR	12 51 55.2	
	comp=Z,88nm,19.1s,baz=3.4,slow=34						
LPIG	**La Paz**	**68.30**	**283**	LR	LR	12 54 47.2	
	comp=Z,126nm,20.0s,baz=354,slow=36						
MK31	**Makanchi Array**	**68.61**	**44**	P	**P**	**12 25 10.2**	**+0.7**
MK31	**Makanchi Array**	**68.61**	**44**	P	**P**	**12 25 10.2**	**+0.7**
MKAR	**Makanchi Array**	**68.61**	**44**	P	**P**	**12 25 10.3**	**+0.7**
MKAR	**Makanchi Array**	**68.61**	**44**	P	**P**	**12 25 10.3**	**+0.7**
MKAR	**Makanchi Array**	**68.61**	**44**	P	**P**	**12 25 10.3**	**+0.7**
	0.6nm,0.7s,baz=326,slow=5.9,SNR=6.0						
SONM	**Songino Array**	**77.83**	**30**	P	**P**	**12 26 05.4**	**+1.2**
SONM	**Songino Array**	**77.83**	**30**	P	**P**	**12 26 05.4**	**+1.2**
SONM	**Songino Array**	**77.83**	**30**	P	**P**	**12 26 05.4**	**+1.2**
	0.5nm,0.6s,baz=2.9,slow=8.9,SNR=3.5						
BOSA	**Boshof**	**88.47**	**136**	LR	LR	13 05 51.8	
	comp=Z,51nm,18.4s,baz=346,slow=35						
VNDA	**Vanda**	**148.52**	**184**	PKPbc	**PKPbc**	**12 33 52.3**	**+0.3**
VNDA	**Vanda**	**148.52**	**184**	PKPbc	**PKPbc**	**12 33 52.3**	**+0.3**
VNDA	**Vanda**	**148.52**	**184**	PKPbc	**PKPbc**	**12 33 52.3**	**+0.3**
	1.7nm,1.0s,baz=246,slow=4.3,SNR=3.8						
WRA	**Warramunga Arr**	**149.64**	**36**	PKPbc	**PKPbc**	**12 33 56.4**	**-0.1**
WRA	**Warramunga Arr**	**149.64**	**36**	PKPbc	**PKPbc**	**12 33 56.4**	**-0.1**
WRA	**Warramunga Arr**	**149.64**	**36**	PKPbc	**PKPbc**	**12 33 56.4**	**-0.1**
	1.4nm,0.8s,baz=337,slow=3.1,SNR=10						
ASAR	**Alice Springs**	**152.75**	**40**	PKPbc	**PKPbc**	**12 34 03.6**	**-0.1**
ASAR	**Alice Springs**	**152.75**	**40**	PKPbc	**PKPbc**	**12 34 03.6**	**-0.1**
ASAR	**Alice Springs**	**152.75**	**40**	PKPbc	**PKPbc**	**12 34 03.6**	**-0.1**
	0.6nm,0.6s,baz=342,slow=2.0,SNR=9.0						

*IDC **03** 12:23:07.3±3.5, 0.°92S×99.°82E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/22, mbtmp3.5/5, Error ellipse: s-maj=152.2km s-min=21.3km az=57.0*

*ISCJB **03** 12:23:09.2±1.1, 1.°28S±0.°10×99.°36E±0.°08, h33km, mb3.6/5, Error ellipse: s-maj=14.5km s-min=10.7km az=168.1*

*DJA **03** 12:23:20.1±0.9, 1.°S±11.°×10.°0E±.°, h58km±13km, M4.0/4, MLv4.0/4*

ISC 03 12:23:11.0±1.3, 1.°2S±0.°1×99.°39E±0.°10, h35km, n15, σ1§57/11, mb3.6/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**1.12**	**73**	P	Pn	12 23 34.8	+4.5
PDSI				S	**Sn**	**12 23 44.1**	**-0.4**
PPI	**Padang Panjang**	**1.27**	**52**	P	**Pn**	**12 23 35.1**	**+2.8**
PPI				S	**Sn**	**12 23 46.5**	**-1.7**
SDSI	**Sungai Dareh**	**2.06**	**81**	P	Pn	12 23 46.5	+3.3
BKNI	**Bangkinang**	**2.27**	**47**	P	**Pn**	**12 23 46.9**	**+0.8**
GSI	**Gunungsitoli**	**3.11**	**324**	P	Pn	12 24 06.0	+8.3
PSI	**Prapat**	**4.04**	**353**	Pn	**Pn**	**12 24 12.3**	**+1.8**
	5.0nm,0.3s,baz=158,slow=11,SNR=22						
H08S2	**Diego Garcia H**	**27.55**	**256**	T	T	12 57 16.6	
	baz=76,slow=0.7,SNR=8.3						
H08S3	**Diego Garcia H**	**27.55**	**256**	T	T	12 57 17.7	
	baz=76,slow=0.7,SNR=14						
H08S1	**Diego Carcia H**	**27.56**	**256**	T	T	12 57 21.2	
	baz=76,slow=0.7,SNR=8.8						
WRA	**Warramunga Arr**	**38.90**	**121**	P	**P**	**12 30 34.3**	**+0.6**
	0.4nm,0.9s,baz=303,slow=9.0,SNR=4.7						
ASAR	**Alice Springs**	**40.19**	**126**	P	**P**	**12 30 43.7**	**-0.7**
	0.2nm,0.6s,baz=301,slow=7.7,SNR=3.1						
SONM	**Songino Array**	**49.26**	**6**	P	**P**	**12 31 54.4**	**-1.9**
	0.3nm,0.4s,baz=193,slow=5.9,SNR=3.0						
MKAR	**Makanchi Array**	**50.14**	**345**	P	**P**	**12 32 03.7**	**+0.7**
	0.4nm,0.3s,baz=156,slow=8.8,SNR=15						
ZALV	**Zalesovo Beam**	**56.32**	**350**	P	**P**	**12 32 47.7**	**-0.5**
	0.6nm,0.3s,baz=193,slow=5.9,SNR=4.2						
TXAR	**Lajitas Array**	**144.46**	**36**	PKP	**PKPab**	**12 42 42.9**	**+0.1**
	0.3nm,0.5s,baz=197,slow=0.9,SNR=6.2						

*ISCJB **03** 12:27:56.4±0.4, 32.°03N±0.°02×116.°14W±0.°03, h10km±4km, Error ellipse: s-maj=4.3km s-min=3.4km az=138.9*

*NEIC **03** 12:27:57.6, 32.°02N×116.°14W, h6km, ML3.6(PAS), ML3.6(ECX), After ECX.*

NEIC Felt [II] at Tecate, Baja California and at El Cajon, Lakeside and La Mesa, California. Also felt at Alpine, Chula Vista, Escondido, Ramona, San Diego, Spring Valley and Tecate, California.

*ECX **03** 12:27:57.6±0.4, 32.°02N×116.°14W, h6km, MD3.5, ML3.6*

ISC 03 12:27:57.1±1.0, 32.°00N±0.°02×116.°13W±0.°02, h11km±8km, n21, σ1§85/41, 5C-8D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RDX	**Rancho Dawling**	**0.18**	**113**	*iP*	**Pg**	**12 28 01.1**	**0.0**
RDX				*eS*	**Sg**	**12 28 04.3**	**+0.5**
ZAX	**El Zacaton**	**0.50**	**194**	*eP*	**Pg**	**12 28 06.7**	**-0.1**
ZAX				*eS*	**Sg**	**12 28 13.7**	**+0.3**
ZAX				*e*		12 28 15.9	
	comp=N,3μm,0.6s						
ZAX				*e*		12 28 16.1	
	comp=E,5μm,0.5s						
ECNX	**Esteban Cantu**	**0.52**	**229**	*eP*	**Pg**	**12 28 07.2**	**-0.1**
ECNX				*eS*	**Sg**	**12 28 14.6**	**+0.4**
ECNX				*e*		12 28 15.4	
	comp=N,7μm,0.6s						
CBX	**Cerro Bola**	**0.55**	**305**	*eP*	**Pg**	**12 28 07.1**	**-0.7**
CBX				*eS*	**Sg**	**12 28 14.8**	**-0.3**
PBX	**Punta Banda**	**0.56**	**243**	*eP*	**Pg**	**12 28 07.8**	**-0.3**
PBX				*eS*	**Sg**	**12 28 15.8**	**+0.2**
PBX				*e*		12 28 16.4	
	comp=N,4μm,0.3s						
RMX	**La Rumorosa**	**0.60**	**4**	*eP*	**Pg**	**12 28 08.0**	**-0.9**
RMX				*eS*	**Sg**	**12 28 16.2**	**-0.7**
RMX				*e*		12 28 17.4	
	comp=N,3μm,0.1s						
EMX	**El Mayor**	**0.76**	**91**	*eP*	**Pg**	**12 28 10.9**	**-0.8**
EMX				*eS*	**Sg**	**12 28 21.4**	**-0.2**
EMX				*e*		12 28 22.8	
	comp=N,1μm,0.5s						
CPBX	**Cerro Prieto**	**0.82**	**59**	*eP*	**Pg**	**12 28 12.8**	**0.0**
BAR	**Barrett**	**0.82**	**326**	*ePg*	**Pg**	**12 28 11.2**	**-1.7**
BAR				*eS*	**Sg**	**12 28 21.5**	**-2.1**
ECBX	**El Chinero**	**1.06**	**119**	*eP*	**Pg**	**12 28 16.4**	**-1.0**
ECBX				*eS*	**Sg**	**12 28 30.6**	**-0.7**
SPX	**San Pedro Mart**	**1.11**	**149**	*eP*	**Pg**	**12 28 17.6**	**-0.9**
SPX				*eS*	**Sg**	**12 28 32.5**	**-0.3**
GLA	**Glamis**	**1.52**	**46**	*ePn*	**Pn**	**12 28 23.7**	**-0.6**
GLA				*eS*	**Sn**	**12 28 41.4**	**-2.8**
PFO	**Pinyon Flat Ob**	**1.63**	**351**	*ePn*	**Pn**	**12 28 24.5**	**-1.3**
PFO				*eS*	**Sn**	**12 28 46.3**	**-0.6**
MWC	**Mount Wilson**	**2.75**	**324**	*ePn*	**Pn**	**12 28 40.7**	**-0.5**
MWC				*eS*	**Sb**	**12 29 19.5**	**-0.5**
LDFC	**Landfair**	**3.19**	**15**	*ePn*	**Pn**	**12 28 47.9**	**+0.6**
LDFC				*eS*	**Sg**	**12 29 44.9**	**+5.4**
GSC	**Goldstone**	**3.34**	**351**	*ePn*	**Pn**	**12 28 49.5**	**+0.1**
GSC				*eS*	**Sb**	**12 29 40.9**	**+3.8**
OSI	**Osito Adit**	**3.39**	**321**	*ePn*	**Pn**	**12 28 53.1**	**+3.1**
OSI				*eS*	**Sn**	**12 29 30.9**	**+0.6**
TUC	**Tucson**	**4.55**	**85**	Pn	**Pn**	**12 29 08.3**	**+2.4**
TUC				*ePg*	**Pg**	**12 29 26.3**	**+2.1**
TUC				*eS*	**Sb**	**12 30 07.5**	**-4.3**
SHPR	**Sheep Range**	**4.57**	**10**	*ePn*	**Pn**	**12 29 07.0**	**+0.7**
SHPR				*eS*	**Sg**	**12 30 20.4**	**-3.4**
WUAZ	**Wupatki**	**5.29**	**47**	Pn	**Pn**	**12 29 16.5**	**+0.2**
CCUT	**Cedar City**	**5.99**	**22**	*ePn*	**Pn**	**12 29 27.1**	**+1.2**
	comp=N,3.0nm,0.8s						
CCUT				*eS*	**Sg**	**12 31 12.1**	**+2.8**

IDC 03 12:40:28.0±5.7, 15.°87S×171.°44W, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/19, mbtmp3.4/4, Error ellipse: s-maj=255.7km s-min=33.8km az=136.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**45.45**	**241**	P	P	12 48 49.0	0.0
	0.5nm,0.4s,baz=99,slow=19,SNR=3.2						
WRA	**Warramunga Arr**	**51.58**	**257**	P	P	12 49 36.0	-0.4
	0.2nm,0.7s,baz=93,slow=6.6,SNR=3.3						
ASAR	**Alice Springs**	**51.77**	**252**	P	P	12 49 38.0	+0.1
	0.3nm,0.7s,baz=92,slow=9.1,SNR=4.1						
ILAR	**Eielson Array**	**82.55**	**10**	P	P	12 52 52.4	0.0
	0.3nm,0.9s,baz=192,slow=7.8,SNR=3.6						

IDC 03 12:40:45.6±7.4, 46.°63N×27.°70W, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.4/31, mbtmp3.7/3, ML4.5/1, MS3.6/12, Ms1 3.6/12, ms1mx3.2/47, Error ellipse: s-maj=134.3km s-min=64.0km az=103.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**18.62**	**103**	P	P	12 45 04.6	0.0
	0.4nm,0.3s,baz=300,slow=12,SNR=11						
ESDC				LR	LR	12 50 18.4	
	comp=Z,113nm,18.9s,baz=330,slow=31						
SFJD	**Kangerlussuaq**	**23.68**	**338**	LR	LR	12 53 17.6	
	comp=Z,99nm,19.3s,baz=142,slow=32						
DAVOX	**Davis/Dischmat**	**25.62**	**76**	LR	LR	12 56 04.8	
	comp=Z,91nm,18.2s,baz=255,slow=36						
GERES	**GERESS Array B**	**27.69**	**70**	LR	LR	12 57 24.1	
	comp=Z,121nm,19.4s,baz=131,slow=36						
VRAC	**Vranov**	**29.46**	**68**	LR	LR	12 57 54.0	
	comp=Z,108nm,18.3s,baz=116,slow=35						
SADO	**Sadowa**	**35.45**	**286**	LR	LR	13 02 09.2	
	comp=Z,88nm,18.2s,baz=201,slow=36						
TORD	**Torodi Ar. Bea**	**41.53**	**14**	P	P	12 48 34.5	-0.1
	1.4nm,1.1s,baz=327,slow=9.6,SNR=4.1						
TORD				LR	LR	13 04 20.9	
	comp=Z,105nm,18.4s,baz=50,slow=34						
H05S1	**Guadeloupe/Mar**	**42.40**	**232**	T	T	13 34 20.2	
ULM	**Lac du Bonnet**	**43.94**	**301**	LR	LR	13 03 41.6	
	comp=Z,81nm,20.4s,baz=292,slow=31						
BRTR	**Keskin Array B**	**44.26**	**76**	P	P	12 48 56.7	-0.2
	0.3nm,0.3s,baz=294,slow=7.7,SNR=2.8						
DBIC	**Dimbokro**	**44.40**	**147**	LR	LR	13 05 48.8	
	comp=Z,65nm,18.6s,baz=329,slow=34						
INK	**Inuvik**	**52.93**	**333**	LR	LR	13 11 05.9	
	comp=Z,34nm,21.7s,baz=47,slow=34						
H10S1	**ASCENSION HYDR**	**56.53**	**164**	T	T	13 51 05.2	
	baz=348						
H10S3	**ASCENSION HYDR**	**56.54**	**165**	T	T	13 51 06.4	
	baz=348						
H10S2	**ASCENSION HYDR**	**56.55**	**164**	T	T	13 51 09.5	
	baz=348						
TXAR	**Lajitas Array**	**60.06**	**282**	LR	LR	13 16 57.0	
	comp=Z,87nm,18.7s,baz=0.0,slow=36						
PFO	**Pinyon Flat Ob**	**65.69**	**294**	LR	LR	13 17 47.9	
	comp=Z,62nm,21.4s,baz=93,slow=34						

IDC 03 12:49:33.1±0.7, 16.°79S×173.°10W, h0km, mb3.9/9, mb1 4.2/9, mb1mx4.0/20, mbtmp3.9/9, MS3.5/1, Ms1 3.5/1, ms1mx2.7/33, Error ellipse: s-maj=36.7km s-min=18.0km az=134.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.14**	**24**	Pn	Pn	12 50 19.4	-4.5
	9.6nm,0.3s,baz=243,slow=6.8,SNR=11						
AFI				Sn	Sn	12 50 53.0	-9.2
	27nm,0.3s,baz=168,slow=19,SNR=5.2						
DZM	**Mont Dzumac**	**19.99**	**252**	*e*LR	LR	12 58 52.5	
	210nm,25.1s						
PPT	**Papeete**	**22.49**	**95**	LR	LR	13 00 05.7	
	comp=Z,122nm,21.6s,baz=211,slow=28						
PPT2	**Papeete2**	**22.49**	**95**	*e*LR	LR	12 59 39.5	
	148nm,25.2s						
URZ	**Urewera**	**23.05**	**200**	P	P	12 54 38.7	-1.3
	3.6nm,0.4s,baz=41,slow=13,SNR=5.5						
STKA	**Stephens Creek**	**43.61**	**241**	P	P	12 57 39.7	+0.4
	2.2nm,0.9s,baz=103,slow=10,SNR=4.0						
WRA	**Warramunga Arr**	**49.82**	**258**	P	P	12 58 27.4	-0.8
	1.3nm,0.8s,baz=95,slow=6.8,SNR=15						
ASAR	**Alice Springs**	**49.97**	**253**	P	P	12 58 28.9	-0.5
	3.3nm,0.6s,baz=88,slow=8.4,SNR=49						
VNDA	**Vanda**	**62.03**	**186**	P	P	12 59 55.4	+0.5
	0.6nm,1.0s,baz=359,slow=9.3,SNR=2.9						
NVAR	**Mina Array Bea**	**75.17**	**42**	P	P	13 01 17.8	+0.1
	0.4nm,0.6s,baz=229,slow=8.2,SNR=4.2						
TXAR	**Lajitas Array**	**81.15**	**56**	P	P	13 01 50.9	-0.1
	0.7nm,1.0s,baz=224,slow=8.8,SNR=4.2						
PDAR	**Pinedale Array**	**83.11**	**42**	P	P	13 02 00.2	-0.9
	0.4nm,0.6s,baz=197,slow=2.8,SNR=2.6						
ILAR	**Eielson Array**	**83.75**	**1**	P	P	13 02 03.8	+0.2
	0.5nm,0.6s,baz=230,slow=6.4,SNR=9.2						
KMBO	**Kilima Mbogo**	**145.17**	**242**	PKPbc	PKPdf	13 09 14.3	+0.3
	1.5nm,0.7s,baz=49,slow=8.7,SNR=4.3						
BRTR	**Keskin Array B**	**147.41**	**320**	PKPbc	PKPbc	13 09 19.3	-0.1
	1.4nm,0.9s,baz=64,slow=2.2,SNR=5.2						

*IDC **03** 13:03:05.2±0.6, 8.°44S×79.°57W, h0km, mb4.3/19, mb1 4.4/20, mb1mx4.4/27, mbtmp4.2/20, ML4.0/1, MS3.8/14, Ms1 3.8/14, ms1mx3.7/36, Error ellipse: s-maj=25.4km s-min=12.8km az=55.0*

*ISCJB **03** 13:03:10.5±0.3, 8.°37S±0.°06×79.°29W±0.°07, h45km, mb4.5/37, MS3.9/15, Error ellipse: s-maj=12.3km s-min=4.7km az=139.9*

*NEIC **03** 13:03:11.3±0.3, 8.°46S×79.°57W, mb4.8/19, Error ellipse: s-maj=12.2km s-min=6.0km az=59.0*

NEIC Felt [II] at Salaverry. Also felt at Trujillo.

*BJI **03** 13:03:12.6, 8.°20S×79.°30W, h32km, mB5.3/7, Ms7 4.8/1*

ISC 03 13:03:12.1±0.4, 8.°58S±0.°06×79.°56W±0.°07, h48km, n318, σ0§99/309, mb4.7/39, MS4.0/15, 105C-99D, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**1.84**	**39**	Pn	**Pn**	**13 03 43.0**	**+1.4**
ATAH				Sn	**Sn**	**13 04 06.1**	**+2.3**
ATAH	**Atahualpa**	**1.84**	**39**	Pn	**Pn**	**13 03 43.0**	**+1.4**
	211nm,0.3s,baz=234,slow=4.2,SNR=581						
ATAH				Sn	**Sn**	**13 04 06.1**	**+2.3**
	278nm,0.3s,baz=94,slow=13,SNR=6.6						
OTAV	**Otavalo**	**8.82**	**7**	*e*Pn	Pn	13 05 14.2	-3.3
OTAV				*e*Sn	Sn	13 06 48.2	-7.7
LPAZ	**La Paz**	**13.53**	**126**	*e*Pn	**Pn**	**13 06 20.9**	**-1.1**
ROSC	**El Rosal**	**14.32**	**22**	LR	LR	13 12 32.9	
	comp=Z,298nm,21.9s,baz=192,slow=40						
SAML	**Samuel**	**16.19**	**93**	*e*Pn	**Pn**	**13 06 52.1**	**-4.3**
	22nm,0.6s						
SAML				*e*Sn	**Sn**	**13 09 54.1**	**-1.0**
LVC	**Limon Verde**	**17.30**	**145**	*e*Pn	**Pn**	**13 07 10.1**	**-0.5**
	12nm,0.8s						
SDV	**Santo Domingo**	**19.49**	**27**	*e*P	P	13 07 29.4	-6.1
	16nm,1.1s						
SIV	**San Ignacio**	**19.50**	**114**	P	**P**	**13 07 35.1**	**-0.3**
SIV	**San Ignacio**	**19.50**	**114**	P	**P**	**13 07 35.1**	**-0.3**
	0.2nm,0.3s,baz=303,slow=11,SNR=11						
JTS	**JuntasAbangare**	**19.50**	**344**	LR	LR	13 13 42.4	
	comp=Z,244nm,21.8s,baz=168,slow=33						
H03N2	**Juan Fernandez**	**24.75**	**179**	T	T	13 33 48.2	
	baz=358,slow=0.7,SNR=261						
H03N1	**Juan Fernandez**	**24.75**	**179**	T	T	13 33 48.6	
	baz=358,slow=0.7,SNR=235						
H03N3	**Juan Fernandez**	**24.77**	**179**	T	T	13 33 49.4	
	baz=358,slow=0.7,SNR=269						
CFAA	**Coronel Fontan**	**25.22**	**157**	P	**P**	**13 08 34.4**	**+0.9**
CFAA	**Coronel Fontan**	**25.22**	**157**	P	**P**	**13 08 34.4**	**+0.9**
	1.1nm,0.9s,baz=345,slow=7.4,SNR=11						
CFAA				LR	LR	13 16 20.8	
	comp=Z,218nm,21.2s,baz=347,slow=31						
APG	**El Apazote**	**25.80**	**335**	LR	LR	13 17 19.4	
	comp=Z,181nm,18.1s,baz=340,slow=33						
CPUP	**Villa Florida**	**27.51**	**133**	P	**P**	**13 08 54.5**	**+0.4**
CPUP	**Villa Florida**	**27.51**	**133**	P	**P**	**13 08 54.5**	**+0.4**
	3.6nm,0.9s,baz=300,slow=14,SNR=5.1						
SJG	**San Juan**	**29.64**	**26**	P	**P**	**13 09 12.6**	**-0.6**
SJG	**San Juan**	**29.64**	**26**	P	**P**	**13 09 12.6**	**-0.6**
	10nm,0.7s,baz=322,slow=19,SNR=2.8						
TEIG	**Tepich**	**29.88**	**343**	LR	LR	13 19 43.9	
	comp=Z,155nm,18.7s,baz=210,slow=34						
BDFB	**Brasilia**	**31.60**	**106**	P	**P**	**13 09 30.2**	**-0.5**
BDFB	**Brasilia**	**31.60**	**106**	P	**P**	**13 09 30.2**	**-0.5**
	3.4nm,0.6s,baz=289,slow=12,SNR=5.5						
BDFB				LR	LR	13 22 57.9	
	comp=Z,352nm,20.4s,baz=248,slow=38						
PLCA	**Paso Flores**	**33.01**	**167**	P	**P**	**13 09 44.4**	**+1.6**
PLCA				*e*pP	**pP**	**13 09 57.9**	**+2.5**
PLCA	**Paso Flores**	**33.01**	**167**	P	**P**	**13 09 44.4**	**+1.6**
	2.8nm,0.9s,baz=342,slow=11,SNR=4.7						
632A	**Uvalde**	**42.58**	**334**	↑P	**P**	**13 11 04.2**	**+0.6**
	baz=43						
631A	**Perdido Creek**	**42.85**	**333**	↓P	**P**	**13 11 05.9**	**+0.2**
	baz=43,SNR=5.9						
532A	**Rocksprings**	**43.17**	**334**	↑P	**P**	**13 11 08.7**	**+0.3**
	baz=43,SNR=5.5						
531A	**Rocksprings**	**43.48**	**333**	↓P	**P**	**13 11 12.0**	**+1.1**
	baz=44						
530A	**J-C Ranch, Com**	**43.83**	**332**	↓P	**P**	**13 11 13.9**	**+0.3**
	baz=44						
431A	**Sonora**	**43.95**	**334**	↑P	**P**	**13 11 15.3**	**+0.6**
	baz=44						
628A	**Black Gap, Mar**	**44.01**	**330**	↓P	**P**	**13 11 16.2**

	baz=48								
Z26A	Caprock	47.66	332	⇓P	P	13	11	44.4	+0.4
	baz=48								
MSTX	Muleshoe	47.70	334	⇑P	P	13	11	45.0	+0.8
	baz=48								
Y27A	Causey	47.80	333	⇑P	P	13	11	45.7	+0.6
	baz=48								
124A	Stringfield Ra	47.90	330	⇑P	P	13	11	46.6	+0.7
	baz=48								
Z25A	Roswell	48.02	331	⇓P	P	13	11	47.1	+0.4
	baz=48								
V31A	Spring Creek L	48.08	338	⇑P	P	13	11	47.6	+0.5
	baz=48								
Z24A	Sheeppen Canyo	48.37	331	⇓P	P	13	11	49.7	+0.2
	baz=48,SNR=6.0								
320A	Kipp Ranch, An	48.42	326	⇑P	P	13	11	50.5	+0.6
	baz=48								
Y25A	Mesa, Roswell	48.53	332	⇑P	P	13	11	51.1	+0.4
	baz=49								
W28A	Vega	48.56	335	⇑P	P	13	11	51.4	+0.5
	baz=49								
ACSO	Alum Creek Sta	48.66	357	*e*P	P	13	11	48.7	-2.7
	24nm,0.8s								
Z23A	Rita Site, Whi	48.74	330	⇑P	P	13	11	53.1	+0.9
	baz=49								
319A	Douglas	48.87	326	⇓P	P	13	11	54.0	+0.7
	baz=49								
Y24A	Capitan	48.89	331	⇑P	P	13	11	54.0	+0.5
	baz=49								
121A	Cookes Peak, D	48.95	328	⇓P	P	13	11	54.9	+1.0
	baz=49								
Z22A	Elephant Butte	49.10	329	⇑P	P	13	11	55.5	+0.5
	baz=49								
Y23A	Lovelace Mesa,	49.19	331	⇑P	P	13	11	56.7	+0.9
	baz=49								
SFIN	Scholer Farm	49.20	352	*e*P	P	13	11	53.9	-1.6
	17nm,0.8s								
SFIN	Scholer Farm	49.20	352	⇓P	P	13	11	54.5	-1.0
	baz=49								
W25A	X Bar L Ranch,	49.50	333	⇓P	P	13	11	58.4	+0.3
	baz=50								
Y22A	Socorro	49.64	330	⇑P	P	13	12	00.0	+0.8
	baz=50								
V26A	Tequesquite Ra	49.69	334	⇑P	P	13	11	59.9	+0.4
	baz=50								
U27A	Thompson Grove	49.82	335	⇑P	P	13	12	01.0	+0.5
	baz=50								
Z20A	Nine Sixteen R	49.83	328	⇑P	P	13	12	01.7	+1.1
	baz=50								
T29A	Hugoton	49.85	337	⇓P	P	13	12	01.3	+0.7
	baz=50								
W24A	Lazy 6 Ranch,	49.93	332	⇓P	P	13	12	02.0	+0.6
	baz=50								
S30A	Montezuma	49.96	338	⇓P	P	13	12	02.0	+0.5
	baz=50								
Y21A	Point of Rocks	50.05	329	⇓P	P	13	12	03.1	+0.6
	baz=50								
V25A	Rancho No Teng	50.09	333	⇑P	P	13	12	03.0	+0.4
	baz=50								
U26A	Atchley Ranch,	50.18	335	⇑P	P	13	12	03.8	+0.5
	baz=50								
S29A	Ulysses	50.19	338	⇑P	P	13	12	04.0	+0.8
	baz=50								
ANMO	Albuquerque	50.21	331	*e*P	P	13	12	02.0	-1.5
	3.6nm,0.9s								
W23A	Werner Place,	50.23	331	⇑P	P	13	12	04.3	+0.5
	baz=50								
V24A	Rampart Ranch,	50.29	333	⇓P	P	13	12	04.8	+0.6
	baz=50								
Y20A	Horse Springs,	50.33	329	⇑P	P	13	12	05.5	+0.9
	baz=50								
X21A	Alamocita Cree	50.45	330	⇓P	P	13	12	06.2	+0.8
	baz=50								
S28A	Manter	50.46	337	⇑P	P	13	12	05.4	+0.2
	baz=50								
U25A	Circle Dot Ran	50.47	334	⇑P	P	13	12	05.7	+0.2
	baz=50,SNR=5.7								
R29A	Marienthal	50.90	338	⇑P	P	13	12	08.9	+0.3
	baz=51								
Q30A	Quinter	51.06	339	⇓P	P	13	12	10.0	+0.3
	baz=51								
R28A	Tribune	51.08	337	⇓P	P	13	12	10.0	0.0
	baz=51								
S26A	Kim	51.11	336	⇓P	P	13	12	11.0	+0.8
	baz=51,SNR=6.0								
V22A	San Miguel Ran	51.21	331	⇓P	P	13	12	11.6	+0.5
	baz=51								
214A	Organ Pipe Nat	51.32	323	⇓P	P	13	12	12.0	+0.3
	baz=51								
R27A	Eads	51.41	337	⇑P	P	13	12	12.6	+0.2
	baz=51								
S25A	Robets Cordova	51.55	335	⇓P	P	13	12	14.0	+0.5
	baz=52								
P30A	Selden	51.58	340	⇑P	P	13	12	13.7	+0.1
	baz=52								
X18A	Snowflake	51.63	328	⇑P	P	13	12	14.5	+0.3
	baz=52								
R26A	Arlington	51.69	336	⇓P	P	13	12	14.7	+0.2
	baz=52								
Q28A	Sharon Springs	51.72	338	⇓P	P	13	12	15.0	+0.3
	baz=52								
T23A	Casias Ranch,	51.72	333	⇑P	P	13	12	15.4	+0.4
	baz=52								
V20A	Brimhall	51.87	330	⇑P	P	13	12	16.4	+0.5
	baz=52								
R25A	Fountain Ranch	51.90	335	⇑P	P	13	12	16.8	+0.7
	baz=52								
U21A	Nageezi	51.98	331	⇓P	P	13	12	17.5	+0.7
	baz=52								
O29A	4D Ranch, Culb	52.29	339	⇑P	P	13	12	18.9	+0.1
	baz=52,SNR=5.2								
U20A	Newcomb	52.35	330	⇓P	P	13	12	19.8	+0.2
	baz=52,SNR=5.9								
S22A	4UR Ranch, Cre	52.66	333	⇓P	P	13	12	22.3	+0.3
	baz=53								
P26A	Davis Ranch, A	52.73	337	⇓P	P	13	12	22.8	+0.5
	baz=53								
MVCO	Mesa Verde	53.01	331	⇑P	P	13	12	24.5	0.0
	baz=53								
P25A	Willow Gulch B	53.01	336	⇓P	P	13	12	24.9	+0.5
	baz=53								
R21A	Cimarron	53.50	333	⇑P	P	13	12	28.8	+0.8
	baz=54								
P23A	Jefferson	53.58	335	⇑P	P	13	12	29.2	+0.5
	baz=54								
Q22A	Crested Butte,	53.62	334	⇑P	P	13	12	29.4	+0.4
	baz=54								
R20A	Redvale	53.73	332	⇓P	P	13	12	30.7	+0.9
	baz=54								
ISCO	Idaho Springs	53.84	335	⇑P	P	13	12	30.8	+0.1
	baz=54								
PV15	Paradox Valley	53.91	332	*e*P	P	13	12	29.7	-1.3
P22A	Eagle	54.16	334	⇓P	P	13	12	33.3	+0.5
	baz=54								
W13A	Hualapai Mount	54.21	325	⇑P	P	13	12	34.4	+1.2
	baz=54								
O23A	Lake Granby, G	54.31	335	⇓P	P	13	12	34.7	+0.7
	baz=54								
U15A	North Rim	54.31	328	⇓P	P	13	12	34.8	+0.7
	baz=54								
ECSD	EROS Data Cent	54.32	345	*e*P	P	13	12	31.8	-1.9
	115nm,3.0s								
P21A	Newcastle	54.40	334	⇓P	P	13	12	35.5	+0.9
	baz=54								
O22A	Kremmling	54.54	335	⇓P	P	13	12	35.6	-0.1
	baz=54								
J30A	Dallas	54.75	342	⇑P	P	13	12	36.7	-0.1
	baz=55								
SPMN	St. Paul	54.87	349	⇑P	P	13	12	37.1	-0.5
	baz=55								
RKT	Rikitea	54.93	248	*e*LR	LR	13	28	45.6	
	271nm,29.2s								
RKT	Rikitea	54.93	248⇑	*e*T	T	14	11	21.6	
	7.0nm,0.2s								
N22A	Wattenberg Ran	55.03	335	⇓P	P	13	12	39.7	+0.5
	baz=55								
P19A	Cripple Cowboy	55.17	332	⇑P	P	13	12	40.8	+0.6
	baz=55								
O20A	White River Ci	55.25	333	⇓P	P	13	12	41.0	+0.3
	baz=55								
M23A	Laramie	55.30	336	⇓P	P	13	12	41.3	+0.2
	baz=55								
Q16A	Castle Valley	55.65	330	⇑P	P	13	12	44.4	+0.8
	baz=56								
O19A	Miners Draw (B	55.77	333	⇓P	P	13	12	44.8	+0.4
	baz=56,SNR=5.6								
N20A	Spence Gulch,	55.83	334	⇓P	P	13	12	45.1	+0.2
	baz=56,SNR=5.8								
L23A	Garrett	55.84	337	⇓P	P	13	12	45.5	+0.6
	baz=56								
J26A	Sides Ranch, S	55.90	339	⇑P	P	13	12	46.2	+1.0
	baz=56								
L22A	Ellis Ranch, M	56.06	336	⇓P	P	13	12	47.5	+1.0
	baz=56								
M21A	Separation Pea	56.08	335	⇓P	P	13	12	47.1	+0.4
	baz=56								
I27A	Quinn	56.22	341	⇑P	P	13	12	47.7	+0.3
	baz=56								
J25A	Sunshine Ranch	56.23	339	⇓P	P	13	12	47.4	-0.1
	baz=56								
G30A	Faulkton	56.30	343	⇓P	P	13	12	47.0	-0.8
	baz=56,SNR=8.1								
M20A	Sweetwater, Wa	56.33	334	⇑P	P	13	12	48.5	+0.1
	baz=56								
K23A	Bowen Ranch, D	56.35	337	⇑P	P	13	12	48.3	-0.1
	baz=56								
L21A	Rawlins	56.38	335	⇑P	P	13	12	48.7	-0.1
	baz=56								
K22A	Casper	56.62	336	⇓P	P	13	12	50.5	+0.1
	baz=57								
I25A	Rochford	56.75	339	⇑P	P	13	12	52.1	+0.8
	baz=57								
L20A	Wamsutter	56.82	335	⇑P	P	13	12	52.9	+1.0
	baz=57								
FURC	Furnace Creek,	56.88	324	⇑P	P	13	12	53.4	+1.3
	baz=57								
K21A	Alcova	56.89	336	⇑P	P	13	12	52.7	+0.3
	baz=57								
RSSD	Black Hills	56.95	339	*e*P	P	13	12	49.4	-3.4
	15nm,0.8s								
MPMC	Manual Prospec	56.96	324	⇓P	P	13	12	53.5	+0.5
	baz=57								
H25A	Fruitdale	57.23	340	⇑P	P	13	12	54.6	+0.1
	baz=57								
J22A	Midwest	57.24	337	⇓P	P	13	12	55.0	+0.2
	baz=57								
K20A	Yellowstone Ra	57.36	335	⇓P	P	13	12	55.7	0.0
	baz=57								
M17A	Scullys Gap (B	57.41	333	⇑P	P	13	12	56.1	0.0
	baz=57								
DUG	Dugway	57.44	330	⇑P	P	13	12	56.6	+0.4
	baz=58								
G26A	Maurine	57.49	341	⇓P	P	13	12	56.2	-0.2
	baz=58								
E30A	Jud	57.49	344	⇓P	P	13	12	56.1	-0.2
	baz=58								
L18A	Fontenelle, Gr	57.49	333	⇓P	P	13	12	56.7	0.0
	baz=58								
R11A	Troy Canyon, C	57.50	327	⇓P	P	13	12	57.6	+0.9
	baz=58								
I22A	9 Mile Ranch,	57.65	337	⇓P	P	13	12	57.9	+0.3
	baz=58								
G27A	Dupree	57.67	341	⇑P	P	13	12	55.3	-2.3
	baz=57								
K19A	Absolon Red Bu	57.71	335	⇓P	P	13	12	58.0	-0.1
	baz=58								
F27A	Lemmon	57.82	342	⇓P	P	13	12	59.0	+0.3
	baz=58								
J20A	Shoshoni	57.83	336	⇓P	P	13	12	59.3	+0.4
	baz=58								
I21A	Big Trails, Te	57.90	337	⇓P	P	13	12	59.1	-0.2
	baz=58								
PDAR	Pinedale Array	57.96	334	P	P	13	12	59.2	-0.7
PDAR	Pinedale Array	57.96	334	P	P	13	12	59.2	-0.7
	1.9nm,0.7s,baz=126,slow=8.3,SNR=19								
PDAR					LR	LR	13	37	31.3
	comp=Z,48nm,20.9s,baz=27,slow=36								
F26A	Lodgepole	58.01	341	⇑P	P	13	12	59.7	-0.3
	baz=58								
D30A	Buchanan	58.01	345	⇑P	P	13	13	00.1	+0.2
	baz=58								
E28A	Huff	58.06	343	⇑P	P	13	13	00.1	-0.2
	baz=58								
J19A	Crowheart	58.16	335	⇓P	P	13	13	01.3	0.0
	baz=58								
I20A	Worland	58.34	336	⇑P	P	13	13	02.2	-0.3
	baz=58								
G23A	Biddle	58.36	339	⇑P	P	13	13	02.5	0.0
	baz=58								
AGMN	Agassiz Nation	58.43	347	*e*P	P	13	13	01.9	-0.9
	9.5nm,0.8s								
H21A	Big Horn, Sher	58.48	337	⇓P	P	13	13	03.1	-0.3
	baz=58								
E26A	Carlson Angus	58.50	342	⇓P	P	13	13	03.1	-0.3
	baz=58								
F24A	Ekalaka	58.59	340	⇑P	P	13	13	03.9	-0.2
	baz=59								
G22A	Birney	58.70	338	⇑P	P	13	13	04.6	-0.3
	baz=59								
H20A	Greybull	58.74	336	⇑P	P	13	13	04.5	-0.6
	baz=59,SNR=6.9								
I19A	Meeteetse	58.77	336	⇑P	P	13	13	05.4	-0.1
	baz=59								
F23A	Volborg	58.82	339	⇑P	P	13	13	05.3	-0.4
	baz=59								
MDND	Maddock	58.92	344	⇑P	P	13	13	06.2	-0.1
	baz=59								
D26A	Manning	58.99	342	⇑P	P	13	13	06.6	-0.2
	baz=59								
G21A	Lodge Grass	59.05	338	⇑P	P	13	13	07.2	-0.2
	baz=59								
NVAR	Mina Array Bea	59.06	325	P	P	13	13	07.8	+0.1
NVAR	Mina Array Bea	59.06	325	P	P	13	13	07.8	+0.1
	1.0nm,0.7s,baz=135,slow=6.9,SNR=11								
LOHW	Long Hollow	59.10	334	*e*P	P	13	13	07.2	-0.7
	20nm,2.3s								
B30A	Myrvik Farm, E	59.15	346	⇑P	P	13	13	07.5	-0.3
	baz=59,SNR=5.9								
TPAW	Teton Pass	59.15	334	*e*P	P	13	13	06.9	-1.4
	99nm,3.0s								
RRI2	Red Ridge	59.20	333	*e*P	P	13	13	05.4	-3.2
	8.0nm,0.8s								
D25A	Fairfield	59.37	341	⇑P	P	13	13	09.8	+0.3
	baz=59								
B29A	Wagenman Farm,	59.42	345	⇑P	P	13	13	09.6	-0.1
	baz=59								
G20A	Bridger	59.43	337	⇑P	P	13	13	09.5	-0.5
	baz=59								
IMW	Indian Meadow	59.47	334	*e*P	P	13	13	09.7	-0.8
	2.2nm,0.8s								
FLWY	Flagg Ranch	59.52	334	*e*P	P	13	13	07.8	-3.0
	10.0nm,1.4s								
H18A	Shoshone NF, C	59.56	335	⇓P	P	13	13	10.9	-0.2
	baz=60								
A30A	Hoffart Farm,	59.59	346	⇓P	P	13	13	10.8	-0.1
	baz=60								
A29A	Manning Farm,	59.81	345	⇓P	P	13	13	12.0	-0.4
	baz=60,SNR=9.1								
D23A	Lindsay	60.01	340	⇓P	P	13	13	14.3	+0.5
	baz=60								
F19A	Roth Farm, Mol	60.25	337	⇑P	P	13	13	15.2	-0.4
	baz=60,SNR=5.1								
ULM	Lac du Bonnet	60.28	348	P	P	13	13	14.3	-1.3
ULM	Lac du Bonnet	60.28	348	P	P	13	13	14.3	-1.3
	2.6nm,0.9s,baz=144,slow=6.4,SNR=7.4								
D22A	Cohagen	60.32	339	⇓P	P	13	13	16.2	+0.3
	baz=60								
E20A	Meyer Farm, Mu	60.48	338	⇓P	P	13	13	17.2	+0.2
	baz=60								
D21A	La Casta Ranch	60.53	339	⇓P	P	13	13	18.1	+0.6
	baz=60								
A26A	Wade Farm, Ken	60.55	343	⇑P	P	13	13	17.4	0.0
	baz=60								
C23A	Lambert	60.55	340	⇑P	P	13	13	17.5	0.0
	baz=60								
E19A	Rath Farm, Rou	60.69	337	⇓P	P	13	13	18.2	-0.3
	baz=61,SNR=6.1								
C22A	Vida	60.73	340	⇑P	P	13	13	19.3	+0.5
	baz=61								
HLID	Hailey	60.78	332	*e*P	P	13	13	18.4	-1.0
	2.3nm,0.8s								
HLID	Hailey	60.78	332	⇑P	P	13	13	19.5	+0.1
	baz=61,SNR=5.4								
DGMT	Dagmar	60.81	341	⇓P	P	13	13	20.2	+0.9
	baz=61								
A25A	Svangstu Ranch	60.90	342	⇑P	P	13	13	20.1	+0.3
	baz=61								
D20A	Manuel Ranch,	60.97	338	⇑P	P	13	13	20.7	+0.3
	baz=61								
B23A	Brockton	61.06	341	⇓P	P	13	13	21.6	+0.6
	baz=61								
A24A	Westby	61.15	342	⇑P	P	13	13	22.1	+0.5
	baz=61								
C21A	Desert Coulee	61.22	339	⇑P	P	13	13	22.5	+0.4
	baz=61								
B22A	Reddig Ranch S	61.25	340	⇓P	P	13	13	22.7	+0.4
	baz=61								
D19A	Cripps Ranch,	61.31	338	⇑P	P	13	13	23.2	+0.4
	baz=61								
MFID	Camas Ranch	61.34	331	⇓P	P	13	13	23.3	+0.2
	baz=61,SNR=5.3								
A22A	Carney Farms,	61.82	341	⇑P	P	13	13	26.5	+0.4
	baz=62								
C19A	Slack Wire Ran	61.85	338	⇓P	P	13	13	26.7	+0.3
	baz=62								
B20A	Solberg Farm,	62.07	339	⇑P	P	13	13	28.1	+0.3
	baz=62								
EGMT	Eagleton	62.35	338	⇓P	P	13	13	29.7	-0.1
	baz=62								
MOD	Modoc	62.56	327	*e*P	P	13	13	30.9	-0.5
	22nm,1.0s								
A19A	Klindworth Far	62.74	339	⇓P	P	13	13	32.3	+0.1
	baz=63								
MSO	Missoula	63.08	334	⇓P	P	13	13	35.4	+0.7
	baz=63								
YBH	Yreka Blue Hor	63.78	325	P	P	13	13	38.1	-1.3
YBH	Yreka Blue Hor	63.78	325	P	P	13	13	38.1	-1.3
	1.8nm,0.8s,baz=352,slow=2.1,SNR=4.1								
F10A	Beach Ranch, E	63.91	332	*e*P	P	13	13	42.1	+2.0
	32nm,2.1s								
NEW	Newport	65.57	333	P	P	13	13	49.5	-1.3
NEW	Newport	65.57	333	⇓P	P	13	13	50.9	+0.1
	baz=66								
NEW	Newport	65.57	333	P	P	13	13	49.5	-1.3
	2.0nm,0.7s,baz=126,slow=9.6,SNR=7.1								
EDM	Edmonton	67.92	339	*e*P	P	13	14	05.2	-0.5
PPT2	Papeete2	68.48	254	*e*LR	LR	13	35	11.2	
	206nm,27.5s								
FRB	Frobisher Bay	72.60	5	P	P	13	14	33.0	-1.0
FRB	Frobisher Bay	72.60	5	P	P	13	14	33.0	-1.0
	6.9nm,0.8s,baz=164,slow=5.4,SNR=3.1								
LIC	Lamto	75.74	81	*e*P	P	13	14	52.7	-0.7
	20nm,1.2s								
TIC	Toumodi	75.82	81	*e*P	P	13	14	54.1	+0.2
	22nm,0.8s								
YKA	Yellowknife Ar	75.84	344	P	P	13	14	51.5	-1.4
YKA	Yellowknife Ar	75.84	344	P	P	13	14	51.5	-1.4
	1.6nm,0.8s,baz=137,slow=6.4,SNR=4.0								
DBIC	Dimbokro	75.99	81	P	P	13	14	55.4	+0.6
DBIC	Dimbokro	75.99	81	P	P	13	14	55.4	+0.6
	8.4nm,0.7s,baz=221,slow=6.2,SNR=12								
DBIC				LR	LR	13	46	01.3	
	comp=Z,103nm,19.3s,baz=248,slow=34								
KIC	Kosan Boka	76.04	81	*e*P	P	13	14	55.3	+0.1
	32nm,0.8s								
VNA2	Neumayer--Watz	76.14	161	*e*P	P	13	14	55.4	+0.8
SNAA	Sanae	77.73	162	*e*P	P	13	15	04.3	+0.6
SNAA	Sanae	77.73	162	*e*P	P	13	15	04.5	+0.8
	13nm,1.4s								
SNAA				*e*pP	pP	13	15	16.9	-0.7
SNAA	Sanae	77.73	162	LR	LR	13	46	48.0	
	comp=Z,29nm,18.5s,baz=14,slow=34								
TORD	Torodi Ar. Bea	83.51	76	P	P	13	15	35.2	-0.3
TORD	Torodi Ar. Bea	83.51	76	P	P	13	15	35.2	-0.3
	8.7nm,0.9s,baz=261,slow=4.3,SNR=37								
TORD				LR	LR	13	49	33.7	
	comp=Z,71nm,20.8s,baz=195,slow=33								
ESDC	Sonseca Array	84.51	49	P	P	13	15	40.2	0.0
ESDC	Sonseca Array	84.51	49	P	P	13	15	40.2	0.0
	0.4nm,0.6s,baz=260,slow=5.5,SNR=7.8								
SUMG	Summit	85.22	11	*i* P	P	13	15	43.3	-0.2
	4.6nm,0.8s								
SUMG				*i*		13	15	57.2	
INK	Inuvik	85.48	342	P	P	13	15	44.0	-0.3
INK	Inuvik	85.48	342	P	P	13	15	44.0	-0.3
	4.3nm,0.9s,baz=193,slow=5.9,SNR=4.8								
EGAK	Eagle	86.12	338	*e*P	P	13	15	47.7	+0.1
	6.8nm,1.0s								
EGAK				*e*pP	PcP	13	15	55.4	+5.2
VNDA	Vanda	87.61	191	P	P	13	15	55.9	+1.2
VNDA	Vanda	87.61	191	P	P	13	15	55.9	+1.2
	0.5nm,0.8s,baz=57,slow=3.7,SNR=3.5								
VNDA				LR	LR	13	48	07.3	
	comp=Z,57nm,20.0s,baz=91,slow=31								
ILAR	Eielson Array	88.31	337	P	P	13	15	56.8	-1.4
ILAR	Eielson Array	88.31	337	P	P	13	15	56.8	-1.4
	0.6nm,0.8s,baz=141,slow=4.0,SNR=7.7								
DAVOX	Davos/Dischmat	95.79	44	LR	LR	13	56	22.9	
	comp=Z,92nm,19.4s,baz=270,slow=33								
BOSA	Boshof	98.73	121	LR	LR	13	58	11.2	
	comp=Z,69nm,18.2s,baz=73,slow=34								
MAW	Mawson	99.41	166	LR	LR	14	01	55.1	
	comp=Z,55nm,18.1s,baz=278,slow=36								
H11N3	WAKE ISLAND Hyl	14.94	288	T	T	15	26	44.1	
	baz=95,slow=0.7,SNR=17								
H11N2	WAKE ISLAND Hyl	14.95	288	T	T	15	26	58.4	
	baz=95,slow=0.7,SNR=16								
H11N1	WAKE ISLAND Hyl	14.96	288	T	T	15	26	56.5	
	baz=95,slow=0.7,SNR=17								
H11S2	WAKE ISLAND Hyl	15.12	286	T	T	15	26	59.2	
	baz=93,slow=0.7,SNR=16								
H11S1	WAKE ISLAND Hyl	15.13	286	T	T	15	27	00.9	
	baz=93,slow=0.7,SNR=26								
H11S3	WAKE ISLAND Hyl	15.14	286	T	T	15	26	59.7	
	baz=93,slow=0.7,SNR=14								
ZALV	Zalesovo Beam	133.04	13	PKP	PKPdf	13	22	20.9	-1.3
ZALV	Zalesovo Beam	133.04	13	PKP	PKPdf	13	22	20.9	-1.3
	1.6nm

MS3.8/1, Error ellipse: s-maj=24.8km s-min=12.8km az=44.9

ISC 03 13:10:06.7±0.7, 16°.1S±0°.2×173°.1W±0°.2, h26km, n27, σ0°72/16, mb4.1/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.51**	**31**	Pn	Pn	13 10 37.4	-8.6
	15nm,0.3s,baz=242,slow=3.9,SNR=12						
AFI				Sn	Sn	13 11 06.2	-10
	102nm,0.3s,baz=49,slow=20,SNR=12						
AFI				LR	LR	13 11 16.4	
	comp=Z,378nm,21.6s,baz=148,slow=30						
DZM	**Mont Dzumac**	**20.22**	**250**	*e*LR	LR	13 19 36.1	
	385nm,25.2s						
DZM	**Mont Dzumac**	**20.22**	**250**	P	Pn	13 14 41.3	-0.7
	5.7nm,1.0s,baz=93,slow=19,SNR=2.2						
PPT2	**Papeete2**	**22.57**	**97**	*e*LQ	LQ	13 19 15.6	
	403nm,25.8s						
PPT2				*e*LR	LR	13 20 12.5	
	168nm,27.5s						
URZ	**Urewera**	**23.72**	**199**	P	**P**	**13 15 17.3**	**+0.6**
	4.1nm,0.5s,baz=98,slow=7.1,SNR=5.5						
HNR	**Honiara**	**27.08**	**281**	LR	LR	13 24 53.1	
	comp=Z,230nm,19.4s,baz=113,slow=33						
H11S2	**WAKE ISLAND Hy**	**39.69**	**329**	T	T	13 59 33.5	
	baz=154						
H11S3	**WAKE ISLAND Hy**	**39.70**	**329**	T	T	13 59 38.0	
	baz=154						
H11S1	**WAKE ISLAND Hy**	**39.70**	**329**	T	T	13 59 34.0	
	baz=154						
STKA	**Stephens Creek**	**43.95**	**241**	P	**P**	**13 18 11.8**	**0.0**
	4.5nm,1.1s,baz=88,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**49.37**	**257**	P	**P**	**13 18 58.6**	**-0.4**
	1.3nm,0.8s,baz=91,slow=6.9,SNR=11						
ASAR	**Alice Springs**	**50.17**	**252**	P	**P**	**13 19 00.3**	**-0.2**
	3.8nm,0.7s,baz=89,slow=7.9,SNR=36						
VNDA	**Vanda**	**62.73**	**186**	P	**P**	**13 20 29.3**	**+0.2**
	1.5nm,1.0s,baz=350,slow=7.3,SNR=4.1						
PETK	**Petropavlovsk-**	**73.36**	**342**	P	**P**	**13 21 37.1**	**+1.0**
	4.3nm,0.8s,baz=142,slow=7.3,SNR=3.6						
YBH	**Yreka Blue Hor**	**73.97**	**37**	P	**P**	**13 21 40.5**	**+0.5**
	1.9nm,0.8s,baz=258,slow=1.9,SNR=5.1						
NVAR	**Mina Array Bea**	**74.64**	**42**	P	**P**	**13 21 43.3**	**-0.9**
	1.0nm,0.7s,baz=228,slow=9.4,SNR=11						
KSRS	**Korea Array**	**76.84**	**316**	P	**P**	**13 21 55.9**	**-0.5**
	1.1nm,0.9s,baz=96,slow=7.6,SNR=3.7						
TXAR	**Lajitas Array**	**80.75**	**56**	P	**P**	**13 22 18.2**	**-0.1**
	0.4nm,0.6s,baz=230,slow=9.7,SNR=3.5						
PDAR	**Pinedale Array**	**82.58**	**42**	P	**P**	**13 22 27.6**	**-0.3**
	0.8nm,0.9s,baz=194,slow=3.1,SNR=5.6						
ILAR	**Eielson Array**	**83.05**	**11**	P	**P**	**13 22 29.1**	**-0.3**
	0.8nm,0.7s,baz=222,slow=6.0,SNR=14						
UPC	**Upice**	**144.88**	**350**	*e*P	PKPdf	13 29 51.0	+10
DPC	**Dobruska-Polom**	**144.97**	**349**	*e*P	PKPdf	13 29 50.9	+9.3
PRU	**Pruhonice**	**145.61**	**351**	*e*P	PKPab	13 29 53.1	+10
KHC	**Kasperske Hory**	**146.59**	**352**	*e*P	**PKPab**	**13 29 48.1**	**+1.2**
KHC				*ex*	x	13 29 56.0	
GERES	**GERESS Array B**	**146.85**	**352**	PKPbc	**PKPbc**	**13 29 46.4**	**-0.4**
	1.1nm,0.8s,baz=19,slow=4.5,SNR=6.1						
BRTR	**Keskin Array B**	**146.86**	**321**	PKPbc	**PKPab**	**13 29 48.5**	**+0.1**
	4.4nm,0.9s,baz=119,slow=1.5,SNR=13						
TORD	**Torodi Ar. Bea**	**174.19**	**119**	PKP	**PKPdf**	**13 30 13.6**	**-1.4**
	0.5nm,0.8s,baz=320,slow=3.8,SNR=3.7						

IDC 03 13:30:59.0±0.9, 16°.97S×172°.78W, h0km, mb4.0/8, mb1 4.3/8, mb1mx4.1/20, mbtmp4.0/8, MS3.8/5, Ms1 3.8/5, ms1mx3.3/28, Error ellipse: s-maj=35.5km s-min=22.6km az=129.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.19**	**18**	Pn	Pn	13 31 43.1	-7.6
	6.4nm,0.3s,baz=314,slow=19,SNR=3.1						
AFI				Sn	Sn	13 32 18.6	-11
	38nm,0.3s,baz=199,slow=21,SNR=9.4						
AFI				LR	LR	13 32 29.5	
	comp=Z,835nm,18.8s,baz=200,slow=28						
RAR	**Rarotonga**	**12.99**	**111**	LR	LR	13 37 29.0	
	comp=Z,231nm,19.7s,baz=270,slow=30						
DZM	**Mont Dzumac**	**20.23**	**252**	*e*LR	LR	13 39 51.7	
	155nm,23.2s						
PPT2	**Papeete2**	**22.16**	**95**	*e*LQ	LQ	13 40 03.4	
	369nm,27.0s						
PPT2				*e*LR	LR	13 40 55.8	
	231nm,28.5s						
PPT	**Papeete**	**22.16**	**95**	LR	LR	13 42 38.3	
	comp=Z,200nm,18.2s,baz=354,slow=32						
URZ	**Urewera**	**22.99**	**201**	P	P	13 36 05.3	-0.1
	13nm,0.8s,baz=68,slow=15,SNR=6.2						
HNR	**Honiara**	**27.57**	**282**	LR	LR	13 46 03.1	
	comp=Z,307nm,19.0s,baz=70,slow=33						
STKA	**Stephens Creek**	**43.79**	**241**	P	P	13 39 06.4	-0.4
	2.8nm,1.1s,baz=48,slow=5.1,SNR=3.7						
WRA	**Warramunga Arr**	**50.09**	**258**	P	P	13 39 55.5	-0.7
	1.1nm,0.6s,baz=95,slow=7.2,SNR=19						
ASAR	**Alice Springs**	**50.21**	**253**	P	P	13 39 55.9	-1.3
	4.1nm,0.9s,baz=86,slow=8.7,SNR=30						
VNDA	**Vanda**	**61.88**	**186**	P	P	13 41 19.8	0.0
	1.2nm,0.7s,baz=44,slow=9.1,SNR=8.0						
FX1	**Attu Island--F**	**70.62**	**351**	LR	LR	14 10 53.9	
	comp=Z,142nm,18.1s,baz=53,slow=34						
TXAR	**Lajitas Array**	**80.99**	**56**	P	P	13 43 15.2	-0.9
	1.1nm,1.1s,baz=222,slow=5.0,SNR=5.7						
ILAR	**Eielson Array**	**83.87**	**11**	P	P	13 43 28.8	-1.4
	0.7nm,1.1s,baz=218,slow=5.7,SNR=3.2						
CMAR	**Chiang Mai Arr**	**93.67**	**288**	P	P	13 44 19.4	+1.3
	0.8nm,0.8s,baz=111,slow=4.0,SNR=4.4						
KMBO	**Kilima Mbogo**	**145.36**	**242**	PKPbc	PKPdf	13 50 41.1	+0.8
	5.3nm,1.0s,baz=40,slow=3.1,SNR=7.9						
BRTR	**Keskin Array B**	**147.75**	**320**	PKPbc	PKPbc	13 50 46.6	+0.3
	3.5nm,1.0s,baz=127,slow=0.6,SNR=12						
GERES	**GERESS Array B**	**147.78**	**352**	PKPbc	PKPbc	13 50 46.1	+0.2
	0.2nm,0.4s,baz=12,slow=5.2,SNR=3.3						

FUNV 03 13:32:23.7, 10°.82N×67°.89W, h10km, MW4.2, 5C-2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURV	**Turiamo**	**0.37**	**172**	⇓*e*P	Pg	13 32 30.0	-1.1
TURV				⇑*e*S	Sg	13 32 36.1	+0.1
JACV	**Jacura**	**0.96**	**286**	*e*P	Pb	13 32 42.4	-0.1
JACV				*e*S	Sg	13 32 54.5	-0.3
FUNV	**FUNVISIS**	**1.12**	**108**	*e*P	Pb	13 32 45.1	-0.3
FUNV				*e*S	Sg	13 32 59.4	-0.7
MAPV	**Macapo**	**1.13**	**209**	⇑*e*P	Pb	13 32 43.6	-1.8
TEPV	**Terepaima**	**1.53**	**236**	⇓*e*P	Pn	13 32 50.2	-1.1
TEPV				*e*S	Sn	13 33 10.2	-1.2
BIRV	**Birongo**	**1.63**	**102**	⇑*e*P	Pn	13 32 52.0	-0.6
BIRV				*e*S	Sn	13 33 13.8	+0.1
BAUV	**El Baul**	**1.87**	**184**	*e*P	Pn	13 32 55.2	-0.6
BAUV				*e*S	Sn	13 33 19.1	-0.5
SIQV	**Siquisique**	**1.89**	**265**	*e*P	Pn	13 32 54.9	-1.3
SIQV				*e*S	Sn	13 33 19.1	-1.0
ORCV	**Isla La Orchil**	**1.94**	**59**	*e*P	Pn	13 32 55.5	-1.3
ORCV				*e*S	Sn	13 33 19.8	-1.4
SANV	**Sanarito**	**2.08**	**231**	*e*P	Pn	13 32 58.7	-0.2
SANV				*e*S	Sn	13 33 24.5	-0.6
CURV	**Curarigua**	**2.19**	**249**	*e*P	Pn	13 32 59.4	-1.0
CURV				*e*S	Sn	13 33 26.3	-1.2
CUPV	**Cœpira**	**2.21**	**110**	*e*P	Pn	13 33 00.2	-0.4
CUPV				*e*S	Sn	13 33 26.1	-1.9
MERV	**Las Mercedes**	**2.21**	**135**	*e*P	Pn	13 33 00.6	0.0
MERV				*e*S	Sn	13 33 26.1	-2.0
MONV	**Montecano**	**2.33**	**299**	⇑*e*P	Pn	13 33 00.9	-1.2
MONV				*e*S	Sn	13 33 29.2	-1.8
QARV	**Quebrada Arrib**	**2.66**	**257**	*e*P	Pn	13 33 06.0	-0.8
QARV				*e*S	Sn	13 33 37.1	-2.0
DABV	**Dabajuro**	**2.69**	**272**	*e*P	Pn	13 33 06.1	-1.1
DABV				*e*S	Sn	13 33 38.1	-1.8
PCRV	**Puerto La Cruz**	**3.27**	**101**	*e*P	Pn	13 33 15.2	0.0
SOCV	**Socops**	**3.86**	**229**	*e*P	Pn	13 33 22.2	-1.1
VIGV	**El Vigia**	**3.94**	**240**	*e*P	Pn	13 33 24.0	-0.5
ELOV	**Elorza**	**4.11**	**203**	*e*P	Pn	13 33 25.9	-0.7
VIRV	**Villa del Rosa**	**4.45**	**266**	⇑*i*P	Pn	13 33 29.8	-1.6
CAPV	**Capacho**	**5.26**	**236**	*e*P	Pn	13 33 40.6	-2.1

IDC 03 13:34:17.2±1.9, 15°.76S×173°.23W, h0km, mb3.6/5, mb1 4.0/5, mb1mx3.7/19, mbtmp3.6/5, Error ellipse: s-maj=113.1km s-min=24.8km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.31**	**38**	Pn	Pn	13 34 49.7	-7.0
	8.3nm,0.3s,baz=207,slow=11,SNR=3.3						
AFI				Sn	Sn	13 35 11.3	-15
	39nm,0.3s,baz=51,slow=23,SNR=6.5						
H11S2	**WAKE ISLAND Hy**	**39.35**	**329**	T	T	14 23 17.0	
	baz=149						
H11S3	**WAKE ISLAND Hy**	**39.37**	**329**	T	T	14 23 19.5	
	baz=149						
H11S1	**WAKE ISLAND Hy**	**39.37**	**329**	T	T	14 23 18.4	
	baz=149						
H11N3	**WAKE ISLAND Hy**	**40.30**	**330**	T	T	14 24 28.7	
	baz=152,slow=0.7,SNR=5.0						
H11N1	**WAKE ISLAND Hy**	**40.31**	**330**	T	T	14 24 29.4	
	baz=152,slow=0.7,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**40.32**	**330**	T	T	14 24 31.2	
	baz=152,slow=0.7,SNR=5.4						
WRA	**Warramunga Arr**	**49.93**	**257**	P	P	13 43 12.5	-0.7
	0.6nm,1.0s,baz=92,slow=6.8,SNR=4.7						
ASAR	**Alice Springs**	**50.16**	**252**	P	P	13 43 14.9	-0.1
	0.8nm,0.6s,baz=88,slow=8.2,SNR=6.4						
TXAR	**Lajitas Array**	**80.67**	**56**	P	P	13 46 31.7	-0.9
	0.7nm,1.1s,baz=209,slow=5.2,SNR=3.4						
PDAR	**Pinedale Array**	**82.42**	**42**	P	P	13 46 42.9	+1.1
	0.2nm,0.3s,baz=246,slow=8.8,SNR=3.4						
ILAR	**Eielson Array**	**82.76**	**11**	P	P	13 46 41.4	-1.3
	0.3nm,0.7s,baz=206,slow=6.0,SNR=3.8						
GERES	**GERESS Array B**	**146.52**	**352**	PKPbc	PKPbc	13 54 00.6	-0.1
	0.1nm,0.4s,baz=35,slow=8.1,SNR=3.6						
BRTR	**Keskin Array B**	**146.54**	**321**	PKPbc	PKPab	13 54 01.7	-0.3
	0.2nm,0.3s,baz=72,slow=4.7,SNR=3.3						

IDC 03 13:39:45.4±1.7, 15°.11S×174°.00W, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.6/19, mbtmp3.7/4, ML1.2/1, MS3.2/1, Ms1 3.2/1, ms1mx3.0/29, Error ellipse: s-maj=174.4km s-min=21.7km az=154.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.46**	**61**	Pn	Pn	13 40 27.6	+0.7
	2.8nm,0.3s,baz=247,slow=13,SNR=2.5						
AFI				Sn	Sn	13 40 56.8	-1.0
	15nm,0.3s,baz=90,slow=19,SNR=5.8						
AFI				LR	LR	13 40 57.9	
	comp=Z,483nm,19.1s,baz=342,slow=30						
STKA	**Stephens Creek**	**43.68**	**240**	P	P	13 47 51.9	-0.3
	1.6nm,1.0s,baz=79,slow=16,SNR=2.3						
WRA	**Warramunga Arr**	**49.35**	**257**	P	P	13 48 36.7	-0.2
	0.3nm,0.8s,baz=90,slow=7.2,SNR=3.3						
ASAR	**Alice Springs**	**49.65**	**252**	P	P	13 48 39.3	0.0
	1.2nm,0.6s,baz=88,slow=8.2,SNR=19						

*ISCJB **03** 13:51:43.0±0.4, 35°.12N±0°.02×4°.13W±0°.02, h21km±4km, Error ellipse: s-maj=3.6km s-min=2.7km az=38.9*
*CSEM **03** 13:51:42.7±0.2, 35°.09N×4°.08W, h5km, ML3.6/12, Error ellipse: s-maj=4.0km s-min=3.4km az=118.0*
*MDD **03** 13:51:43.5±0.9, 35°.09N×4°.02W, h0km, mbLg2.9/20, Error ellipse: s-maj=9.7km s-min=4.2km az=11.0, PRXIMO*
*CNRM **03** 13:51:43.7, 35°.04N×3°.97W, h1km, MD3.6*
*INMG **03** 13:51:43.8±1.5, 35°.10N×4°.04W, h5km±7km, ML2.9, Error ellipse: s-maj=4.0km s-min=3.4km az=130.0*
*LDG **03** 13:51:44.5±0.5, 35°.18N×3°.90W, h20km, Ml3.0/4, Error ellipse: s-maj=11.3km s-min=6.2km az=178.0*
*SFS **03** 13:51:47.0, 35°.08N×4°.03W, h0km, ML2.9*

ISC 03 13:51:42.4±0.9, 35°.09N±0°.02×4°.06W±0°.02, h13km±6km, n139, σ1°64/243, 2C-1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.17**	**34**	*i*P	**Pg**	**13 51 47.0**	**+0.7**
MPAL				*i*S	**Sg**	**13 51 50.0**	**+1.0**
TOU	**Touzarine**	**0.28**	**117**	*i*P	**Pg**	**13 51 47.0**	**-1.2**
TOU				*i*S	**Sg**	**13 51 50.0**	**-2.1**
EMEL	**Melilla**	**0.92**	**76**	⇓P	**Pg**	**13 51 59.8**	**-0.4**
	845nm,0.4s,SNR=18						
EMEL				S	**Sb**	**13 52 13.7**	**+1.2**
	1µm,0.2s,SNR=6.5						
MELI	**Melilla**	**0.94**	**77**	⇑P	**Pg**	**13 51 59.8**	**-0.8**
	546nm,0.3s,SNR=18						
MELI				S	**Sb**	**13 52 13.4**	**+0.5**
	736nm,0.3s,SNR=7.9						
TZK	**Tazeka**	**1.00**	**186**	*i*P	**Pb**	**13 52 01.5**	**-0.3**
TZK				*i*S	**Sb**	**13 52 15.0**	**0.0**
ZAI	**Zaio**	**1.08**	**96**	*e*P	**Pb**	**13 52 02.0**	**-1.0**
ZAI				*i*S	**Sb**	**13 52 16.5**	**-0.6**
DKH	**Dar Kharkhour**	**1.14**	**291**	*i*P	**Pb**	**13 52 04.0**	**-0.1**
DKH				*i*S	**Sn**	**13 52 23.0**	**+3.2**
EALB	**Alboran**	**1.19**	**44**	P	**Pn**	**13 52 03.6**	**-1.1**
	60nm,0.3s,SNR=34						
EALB				S	**Sb**	**13 52 20.5**	**+0.3**
	244nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.19**	**44**	P	**Pn**	**13 52 03.6**	**-1.1**
	60nm,0.3s,SNR=34						
EALB				S	**Sb**	**13 52 20.5**	**+0.3**
	244nm,0.2s,SNR=7.9						
TGT	**Taghat**	**1.31**	**219**	*e*P	**Pg**	**13 52 08.2**	**+0.6**
TGT				*i*S	**Sg**	**13 52 26.0**	**+1.4**
ECEU	**Ceuta**	**1.35**	**307**	⇑P	**Pn**	**13 52 05.7**	**-1.2**
	52nm,0.2s,SNR=18						
ECEU				S	**Sb**	**13 52 22.8**	**-1.9**
	58nm,0.1s,SNR=5.5						
ECEU	**Ceuta**	**1.35**	**307**	P	**Pn**	**13 52 05.7**	**-1.2**
	52nm,0.2s,SNR=18						
ECEU				S	**Sb**	**13 52 22.8**	**-1.9**
	58nm,0.1s,SNR=5.5						
RSA	**Sarsar**	**1.47**	**262**	*i*P	**Pg**	**13 52 11.5**	**+0.8**
RSA				*i*S	**Sg**	**13 52 30.0**	**+0.2**
REAL	**Reales**	**1.68**	**326**	*i*P	**Pn**	**13 52 10.9**	**-0.7**
REAL				*e*S	**Sn**	**13 52 31.5**	**-1.6**
EMAL	**Malaga-Limoner**	**1.70**	**350**	P	**Pn**	**13 52 10.7**	**-1.1**
	10nm,0.1s,SNR=7.9						
EMAL				S	**Sn**	**13 52 32.4**	**-1.0**
	69nm,0.2s,SNR=7.9						
EMAL	**Malaga-Limoner**	**1.70**	**350**	P	**Pn**	**13 52 10.7**	**-1.1**
	10nm,0.1s,SNR=7.9						
EMAL				S	**Sn**	**13 52 32.4**	**-1.0**
	69nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.78**	**320**	P	**Pb**	**13 52 14.4**	**-0.5**
	5.4nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.78**	**320**	P	**Pb**	**13 52 14.4**	**-0.5**
	5.4nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**1.79**	**13**	P	**Pn**	**13 52 12.4**	**-0.6**
	24nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**13 52 36.6**	**+1.0**
	249nm,0.4s,SNR=7.9						
EGUA	**Guajares**	**1.79**	**13**	P	**Pn**	**13 52 12.4**	**-0.6**
	24nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**13 52 36.6**	**+1.0**
	249nm,0.4s,SNR=7.9						
ERON	**Agron**	**1.94**	**6**	P	**Pg**	**13 52 20.7**	**+1.1**
	16nm,0.3s,SNR=7.9						
ERON	**Agron**	**1.94**	**6**	P	**Pg**	**13 52 20.7**	**+1.1**
	16nm,0.3s,SNR=7.9						
EBER	**Berja**	**2.04**	**27**	P	**Pn**	**13 52 15.4**	**-1.2**
	5.5nm,0.3s,SNR=34						
EBER				S	**Sn**	**13 52 42.1**	**0.0**
	64nm,0.5s,SNR=7.9						
EBER	**Berja**	**2.04**	**27**	P	**Pn**	**13 52 15.4**	**-1.2**
	5.5nm,0.3s,SNR=34						
EBER				S	**Sn**	**13 52 42.1**	**0.0**
	64nm,0.5s,SNR=7.9						
CNIL	**Conil**	**2.07**	**309**	*e*P	**Pg**	**13 52 21.7**	**-0.4**
LIJA	**Lijar**	**2.12**	**329**	*i*P	**Pb**	**13 52 20.3**	**-0.4**
EQUE	**Quentar**	**2.17**	**13**	P	**Pn**	**13 52 20.0**	**+1.6**
	10nm,0.3s,SNR=11						
EQUE				S	**Sn**	**13 52 46.6**	**+1.4**
	16nm,0.3s,SNR=4.9						
EQUE	**Quentar**	**2.17**	**13**	P	**Pn**	**13 52 20.0**	**+1.6**
	10nm,0.3s,SNR=11						
EQUE				S	**Sn**	**13 52 46.6**	**+1.4**
	16nm,0.3s,SNR=4.9						
ECOG	**Cogollos-Vega**	**2.22**	**10**	P	**Pn**	**13 52 20.5**	**+1.5**
	12nm,0.3s,SNR=14						
ECOG				S	**Sn**	**13 52 47.3**	**+0.9**
	28nm,0.3s,SNR=5.7						
ECOG	**Cogollos-Vega**	**2.22**	**10**	P	**Pn**	**13 52 20.5**	**+1.5**
	12nm,0.3s,SNR=14						
ECOG				S	**Sn**	**13 52 47.3**	**+0.9**
	28nm,0.3s,SNR=5.7						
ESPR	**Espera**	**2.30**	**321**	P	**Pb**	**13 52 22.2**	**-1.6**
	10nm,0.3s,SNR=15						
ESPR				S	**Sb**	**13 52 51.6**	**-0.5**
	36nm,0.4s,SNR=5.0						
ESPR	**Espera**	**2.30**	**321**	P	**Pb**	**13 52 22.2**	**-1.6**
	10nm,0.3s,SNR=15						
ESPR				S	**Sb**	**13 52 51.6**	**-0.5**
	36nm,0.4s,SNR=5.0						
ELUQ	**Luque**	**2.47**	**356**	P	**Pn**	**13 52 24.8**	**+2.3**
	7.7nm,0.2s,SNR=7.9						
ELUQ				S	**Sb**	**13 52 57.9**	**+0.7**
	28nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**2.47**	**356**	P	**Pn**	**13 52 24.8**	**+2.3**
	7.7nm,0.2s,SNR=7.9						
ELUQ				S	**Sb**	**13 52 57.9**	**+0.7**
	28nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.82**	**16**	P	**Pn**	**13 52 29.3**	**+2.0**
	15nm,0.3s,SNR=34						
EQES				S	**Sn**	**13 53 03.5**	**+2.2**
	27nm,0.2s,SNR=5.5						
EQES	**Quesada**	**2.82**	**16**	P	**Pn**	**13 52 29.3**	**+2.0**
	15nm,0.3s,SNR=34						
EQES				S	**Sn**	**13 53 03.5**	**+2.2**
	27nm,0.2s,SNR=5.5						
EHUE	**Huescar**	**2.96**	**23**	P	**Pn**	**13 52 32.3**	**+3.0**
	SNR=7.9						
EHUE				S	**Sn**	**13 53 06.9**	**+2.1**
	25nm,0.5s,SNR=7.9						
EHUE	**Huescar**	**2.96**	**23**	P	**Pn**	**13 52 32.3**	**+3.0**
	SNR=7.9						
EHUE				S	**Sn**	**13 53 06.9**	**+2.1**
	25nm,0.5s,SNR=7.9						
KIB	**El Ksiba**	**3.00**	**214**	*e*P	**Pn**	**13 52 31.0**	**+1.2**
KIB				*i*S	**Sn**	**13 53 06.0**	**+0.3**
EBAN	**Banos Encina**	**3.08**	**4**	P	**Pn**	**13 52 33.6**	**+2.9**
	1.8nm,0.1s,SNR=7.9						
EBAN				S	**Sn**	**13 53 07.2**	**-0.3**
	4.0nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**3.08**	**4**	P	**Pn**	**13 52 33.6**	**+2.9**
	1.8nm,0.1s,SNR=7.9						
EBAN				S	**Sn**	**13 53 07.2**	**-0.3**
	4.0nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.10**	**352**	P	**Pn**	**13 52 32.9**	**+1.8**
	10.0nm,0.4s,SNR=28						
EADA				S	**Sn**	**13 53 10.7**	**+2.6**
	6.7nm,0.1s,SNR=5.8						
EADA	**Adamuz**	**3.10**	**352**	P	**Pn**	**13 52 32.9**	**+1.8**
	10.0nm,0.4s,SNR=28						
EADA				S	**Sn**	**13 53 10.7**	**+2.6**
	6.7nm,0.1s,SNR=5.8						
ECAB	**El Cabril**	**3.18**	**340**	P	**Pn**	**13 52 33.6**	**+1.5**
	4.3nm,0.3s,SNR=19						
ECAB				S	**Sn**	**13 53 10.4**	**+0.5**
	16nm,0.5s,SNR=9.9						
ECAB	**El Cabril**	**3.18**	**340**	P	**Pn**	**13 52 33.6**	**+1.5**
	4.3nm,0.3s,SNR=19						
ECAB				S	**Sn**	**13 53 10.4**	**+0.5**
	16nm,0.5s,SNR=9.9						
EMIN	**Mina Concepcio**	**3.41**	**322**	P	**Pn**	**13 52 35.8**	**+0.6**
	4.7nm,0.3s,SNR=32						
EMIN				S	**Sn**	**13 53 15.4**	**-0.1**
	5.9nm,0.3s,SNR=6.1						
EMIN	**Mina Concepcio**	**3.41**	**322**	P	**Pn**	**13 52 35.8**	**+0.6**
	4.7nm,0.3s,SNR=32						
EMIN				S	**Sn**	**13 53 15.4**	**-0.1**
	5.9nm,0.3s,SNR=6.1						
EMUR	**La Murta**	**3.56**	**39**	S	**Sn**	**13 53 18.2**	**-1.3**
	SNR=7.9						
EMUR	**La Murta**	**3.56**	**39**	S	**Sn**	**13 53 18.2**	**-1.3**
	SNR=7.9						
TZC	**Tazercounte**	**3.57**	**215**	*e*P	**Pn**	**13 52 38.0**	**+0.3**
TZC				*i*S	**Sn**	**13 53 19.0**	**-0.8**
EGRO	**El Granado**	**3.69**	**312**	P	**Pn**	**13 52 39.9**	**+0.7**
	9.4nm,0.3s,SNR=33						
EGRO				S	**Sn**	**13 53 21.2**	**-1.3**
	17nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**3.69**	**312**	P	**Pn**	**13 52 39.9**	**+0.7**
	9.4nm,0.3s,SNR=33						
EGRO				S	**Sn**	**13 53 21.2**	**-1.3**
	17nm,0.3s,SNR=7.9						
PVAQ	**Vaqueiros**	**3.75**	**309**	*e*Pn	**Pn**	**13 52 40.8**	**+0.8**
PVAQ				*e*Sn	**Sn**	**13 53 22.7**	**-1.4**
PVAQ				A	A	13 53 31.5	
	21nm,0.3s						
PVAQ	**Vaqueiros**	**3.75**	**309**	*e*Pn	**Pn**	**13 52 40.8**	**+0.8**
PVAQ				*e*Sn	**Sn**	**13 53 22.7**	**-1.4**
	21nm,0.3s						
EVIA	**Vianos**	**3.76**	**19**	P	**Pb**	**13 52 45.8**	**-2.8**
	2.5nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**3.76**	**19**	P	**Pb**	**13 52 45.8**	**-2.8**
	2.5nm,0.2s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**3.80**	**306**	*e*Pn	**Pn**	**13 52 42.0**	**+1.3**
PBDV				*e*Sn	**Sn**	**13 53 24.1**	**-1.2**
PBDV				A	A	13 53 31.9	

14nm,0.4s
PNCL Nicolau / Gran 4.70 311 *e*Pn **Pn** **13 52 53.9 +0.9**
PNCL *e*Sn **Sn** **13 53 45.6 -1.7**
PNCL A A 13 53 49.8
11nm,0.3s
PNCL Nicolau / Gran 4.70 311 *e*Pn **Pn** **13 52 53.9 +0.9**
PNCL *e*Sn **Sn** **13 53 45.6 -1.7**
11nm,0.3s
EBEN Beniarda 4.74 39 P **Pn** **13 52 56.1 +2.5**
SNR=7.9
EBEN S **Sn** **13 53 46.1 -2.3**
SNR=7.9
EBEN Beniarda 4.74 39 P **Pn** **13 52 56.1 +2.5**
SNR=7.9
EBEN S **Sn** **13 53 46.1 -2.3**
SNR=7.9
EVOP Sao Brissos 4.74 318 *e*Pn **Pn** **13 52 54.2 +0.7**
EVOP *e*Sn **Sn** **13 53 44.3 -4.0**
8.8nm,0.3s
OUK Oukaimeden 5.02 221 *e*P **Pn** **13 52 59.0 +1.3**
OUK *i* S **Sn** **13 53 55.0 -0.8**
PMRV Marv??o 5.08 329 *e*Pn **Pn** **13 52 59.3 +1.0**
PMRV *e*Sn **Sn** **13 53 55.0 -1.9**
PMRV A A 13 54 09.2
8.7nm,0.6s
PMRV Marv??o 5.08 329 *e*Pn **Pn** **13 52 59.3 +1.0**
PMRV *e*Sn **Sn** **13 53 55.0 -1.9**
8.7nm,0.6s
PMTG Montargil 5.19 321 *e*Pn **Pn** **13 53 01.1 +1.4**
PMTG *e*Sn **Sn** **13 53 57.4 -2.0**
PMTG A A 13 54 13.0
6.2nm,0.9s
PMTG Montargil 5.19 321 *e*Pn **Pn** **13 53 01.1 +1.4**
PMTG *e*Sn **Sn** **13 53 57.4 -2.0**
6.2nm,0.9s
EPLA Plasencia 5.22 343 P **Pn** **13 53 01.5 +1.3**
2.3nm,0.2s,SNR=17
EPLA S **Sn** **13 53 59.7 -0.6**
6.0nm,0.3s,SNR=6.8
EPLA Plasencia 5.22 343 P **Pn** **13 53 01.5 +1.3**
2.3nm,0.2s,SNR=17
EPLA S **Sn** **13 53 59.7 -0.6**
6.0nm,0.3s,SNR=6.8
CIA Chichaoua 5.28 230 *e*P **Pn** **13 53 02.0 +1.0**
CIA *i* S **Sn** **13 54 01.0 -0.7**
PACT Alcochete 5.30 315 *e*Pn **Pn** **13 53 03.0 +1.7**
PACT *e*Sn **Sn** **13 54 02.0 -0.3**
PACT A A 13 54 08.6
29nm,0.3s
PACT Alcochete 5.30 315 *e*Pn **Pn** **13 53 03.0 +1.7**
PACT *e*Sn **Sn** **13 54 02.0 -0.3**
29nm,0.3s
PCBR Castelo Branco 5.47 331 *e*Pn **Pn** **13 53 05.0 +1.4**
PCBR *e*Sn **Sn** **13 54 04.6 -1.8**
PCBR A A 13 54 12.0
5.9nm,0.6s
PCBR Castelo Branco 5.47 331 *e*Pn **Pn** **13 53 05.0 +1.4**
PCBR *e*Sn **Sn** **13 54 04.6 -1.8**
5.9nm,0.6s
GUD Guadarrama 5.55 359 P **Pn** **13 53 06.2 +1.4**
3.9nm,0.4s,SNR=7.9
GUD Guadarrama 5.55 359 P **Pn** **13 53 06.2 +1.4**
3.9nm,0.4s,SNR=7.9
PMAFR Mafra 5.69 314 *e*Pn **Pn** **13 53 09.2 +2.6**
PMAFR *e*Sn **Sn** **13 54 09.6 -2.3**
PMAFR A A 13 54 19.2
18nm,0.3s
PMAFR Mafra 5.69 314 *e*Pn **Pn** **13 53 09.2 +2.6**
PMAFR *e*Sn **Sn** **13 54 09.6 -2.3**
18nm,0.3s
PTOM Tomar 5.70 324 *e*Pn **Pn** **13 53 08.5 +1.8**
PTOM *e*Sn **Sn** **13 54 10.1 -1.9**
PTOM A A 13 54 13.4
11nm,0.7s
PTOM Tomar 5.70 324 *e*Pn **Pn** **13 53 08.5 +1.8**
PTOM *e*Sn **Sn** **13 54 10.1 -1.9**
11nm,0.7s
EIBI Ibiza 5.84 46 P **Pn** **13 53 09.2 +0.6**
SNR=7.9
EIBI S **Sn** **13 54 11.5 -3.9**
SNR=7.9
EIBI Ibiza 5.84 46 P **Pn** **13 53 09.2 +0.6**
SNR=7.9
MTE Manteigas 5.98 334 *e*Pn **Pn** **13 53 12.1 +1.4**
MTE *e*Sn **Sn** **13 54 17.9 -1.1**
MTE A A 13 54 20.5
11nm,0.5s
MTE Manteigas 5.98 334 *e*Pn **Pn** **13 53 12.1 +1.4**
MTE *e*Sn **Sn** **13 54 17.9 -1.1**
11nm,0.5s
PCAS Casmilo, Conde 6.08 326 *e*Pn **Pn** **13 53 13.5 +1.5**
PCAS *e*Sn **Sn** **13 54 18.9 -2.6**
PCAS A A 13 54 22.4
6.4nm,0.4s
PCAS Casmilo, Conde 6.08 326 *e*Pn **Pn** **13 53 13.5 +1.5**
PVIS Viseu 6.38 333 *e*Pn **Pn** **13 53 18.4 +2.2**
PVIS *e*Sn **Sn** **13 54 27.0 -2.0**
PVIS A A 13 54 31.5
7.3nm,0.5s
PVIS Viseu 6.38 333 *e*Pn **Pn** **13 53 18.4 +2.2**
PVIS *e*Sn **Sn** **13 54 27.0 -2.0**
7.3nm,0.5s
MVO Moncorvo 6.50 340 *e*Pn **Pn** **13 53 18.9 +1.1**
MVO *e*Sn **Sn** **13 54 30.2 -1.7**
MVO A A 13 54 32.9
9.5nm,0.6s
MVO Moncorvo 6.50 340 P **Pn** **13 53 18.9 +1.1**
3.7nm,0.2s,SNR=15
MVO S **Sn** **13 54 29.5 -2.5**
SNR=7.9
MVO Moncorvo 6.50 340 *e*Pn **Pn** **13 53 18.9 +1.1**
MVO *e*Sn **Sn** **13 54 30.2 -1.7**
9.5nm,0.6s
PVRL Vila Real 6.82 336 *e*Pn **Pn** **13 53 23.6 +1.5**
PVRL *e*Sn **Sn** **13 54 36.6 -3.0**
PVRL A A 13 54 41.1
11nm,0.1s
PVRL Vila Real 6.82 336 *e*Pn **Pn** **13 53 23.6 +1.5**
POLO Lamas de Olo 6.93 336 *e*Pn **Pn** **13 53 25.2 +1.5**
POLO *e*Sn **Sn** **13 54 39.6 -2.9**
POLO A A 13 54 46.1
3.6nm,0.7s
POLO Lamas de Olo 6.93 336 *e*Pn **Pn** **13 53 25.2 +1.5**
PBRG Braganca 7.03 343 *e*Pn **Pn** **13 53 26.8 +1.7**
PBRG *e*Sn **Sn** **13 54 43.9 -1.0**
PBRG A A 13 54 45.4
4.9nm,0.8s
PBRG Braganca 7.03 343 *e*Pn **Pn** **13 53 26.8 +1.7**
PBRG *e*Sn **Sn** **13 54 43.9 -1.0**
4.9nm,0.8s
ECAL Calabor 7.16 344 P **Pn** **13 53 28.5 +1.6**
4.2nm,0.3s,SNR=7.6
ECAL S **Sn** **13 54 46.4 -1.7**
SNR=7.9
ECAL Calabor 7.16 344 P **Pn** **13 53 28.5 +1.6**
4.2nm,0.3s,SNR=7.6
ECAL S **Sn** **13 54 46.4 -1.7**
SNR=7.9
PCAB Cabril 7.31 336 *e*Pn **Pn** **13 53 30.6 +1.7**
PCAB Cabril 7.31 336 *e*Pn **Pn** **13 53 30.6 +1.7**
ELOB Lobios 7.46 336 P **Pn** **13 53 33.1 +2.1**
2.6nm,0.6s,SNR=5.6
ELOB S **Sn** **13 54 52.7 -2.9**
SNR=7.9
ELOB Lobios 7.46 336 P **Pn** **13 53 33.1 +2.1**
2.6nm,0.6s,SNR=5.6
PGAV Gavieira, Arco 7.62 336 *e*Pn **Pn** **13 53 35.0 +1.8**
PGAV *e*Sn **Sn** **13 54 56.2 -3.2**
PGAV A A 13 55 08.2
4.5nm,0.6s
PGAV Gavieira, Arco 7.62 336 *e*Pn **Pn** **13 53 35.0 +1.8**
IELO Elcoad 8.05 15 P Pn 13 53 43.0 +3.9
1.0nm,0.2s,SNR=7.9
IELO Elcoad 8.05 15 P Pn 13 53 43.0 +3.9
1.0nm,0.2s,SNR=7.9
ELAN Lanestosa 8.15 3 P **Pn** **13 53 42.9 +2.6**
3.6nm,0.7s,SNR=6.2
ELAN Lanestosa 8.15 3 P **Pn** **13 53 42.9 +2.6**
3.6nm,0.7s,SNR=6.2
EARI Arriondas 8.25 354 P **Pn** **13 53 44.8 +3.0**
7.5nm,1.1s,SNR=7.4
EARI Arriondas 8.25 354 P **Pn** **13 53 44.8 +3.0**
7.5nm,1.1s,SNR=7.4
ETSF Etsaut 8.26 18 *e*Pn **Pn** **13 53 44.5 +2.5**
ETSF *e*Sn Sn 13 55 05.6 -10
0.4nm,0.3s
ETSF Etsaut 8.26 18 *e*P **Pn** **13 53 44.5 +2.5**
SJPF Ste Jean 8.31 14 *e*P **Pn** **13 53 45.1 +2.5**
SJPF *e*Sn Sn 13 55 06.5 -10
1.0nm,0.4s
SJPF Ste Jean 8.31 14 *e*P **Pn** **13 53 45.1 +2.5**
EALK Alkurruntz 8.36 13 P **Pn** **13 53 45.8 +2.6**
3.1nm,0.3s,SNR=7.7
EALK Alkurruntz 8.36 13 P **Pn** **13 53 45.8 +2.6**
3.1nm,0.3s,SNR=7.7
EPF Esparros 8.63 22 *e*Pn **Pn** **13 53 44.5 -2.6**
EPF *e*Sn Sn 13 55 13.6 -11
1.3nm,0.4s

NIED ***03*** *13:57:00.40˝70N×141˝50E,h77km,Mw4.0 Best double couple: M₀1.26000×10¹⁵ NP1:φ₀223.00000°,δ84.00000°, λ129.00000°. NP2:φ₀320.00000°,δ39.00000°,λ9.00000°.*
BJI ***03*** *13:57:18.4,40˝69N×141˝13E,h7km,mB4.8/17,mb4.5/29, Ms4.8/10,Ms7 4.3/10*
NEIC ***03*** *13:57:25.9±0.7,40˝79N×141˝14E,h55km±7km,mb4.7/11, MW4.0(NIED),Error ellipse: s-maj=8.8km s-min=6.8km az=153.0*
NEIC Felt [II] at Misawa. Also felt at Hachinohe. Recorded [2 JMA] in Aomori and Iwate. Recorded [1 JMA] in southwestern Hokkaido.
MOS ***03*** *13:57:25.1±1.0,40˝67N×141˝26E,h73km,mb4.7/25,Error ellipse: s-maj=9.8km s-min=6.4km az=95.9*
ISCJB ***03*** *13:57:27.3±0.3,40˝72N±0˝03×141˝48E±0˝05,h96km±2km, mb4.3/44,Error ellipse: s-maj=6.2km s-min=4.4km az=19.9*
JMA ***03*** *13:57:28.4±0.1,40˝71N×141˝49E,h88km±1km,M3.8 Broadband fault plane solution: P waves. NP1: φ₀41.00000°,δ83.00000°,λ-127.00000°. NP2: φ₀302.00000°,δ38.00000°,λ-11.00000°. Principal axes: T Plg28.0000°, Azm160.0000°; N Plg37.0000°, Azm46.0000°; P Plg40.0000°, Azm277.0000°;*
JMA Felt II J1.
IDC ***03*** *13:57:29.9±1.6,40˝68N×141˝45E,h110km±14km, mb3.7/17,mb1 3.8/22,mb1mx3.7/30,mbtmp3.7/22,MS2.8/1, Ms1 2.8/1,ms1mx2.2/48 Error ellipse: s-maj=16.3km s-min=11.2km az=106.0*

ISC 03 13:57:28.2±0.6, 40.72N±0˝03×141˝44E±0˝04, h88km±5km, n123,σ1ˢ54/133, mb4.5/44, 12C-9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JTM	**Tenmabayashi**	**0.29**	**284**	⇑P		**Pn**	**13 57 41.5**	**+0.2**
JTM				S		**Sn**	**13 57 51.3**	**+0.2**
JANG	**Nango**	**0.35**	**170**	⇓P		**Pn**	**13 57 41.7**	**0.0**
JANG				S		**Sn**	**13 57 51.3**	**-0.4**
JOT	**Ohata**	**0.73**	**336**	⇑P		**Pn**	**13 57 45.3**	**+0.5**
JOT				S		**Sn**	**13 57 58.2**	**+1.0**
JAH	**Hinai**	**0.81**	**230**	⇓P		**Pn**	**13 57 46.3**	**+0.7**
JAH				S		**Sn**	**13 57 59.5**	**+0.8**
JIW	**Iwasaki**	**1.10**	**264**	⇑P		**Pn**	**13 57 49.7**	**+0.8**
JIW				S		**Sn**	**13 58 06.2**	**+1.8**
JSR	**Shiriuchi**	**1.12**	**317**	P		**Pn**	**13 57 49.8**	**+0.7**
JSR				S		**Sn**	**13 58 05.9**	**+1.0**
JKB	**Kayabe**	**1.21**	**345**	⇑P		**Pn**	**13 57 51.1**	**+0.9**
JKB				S		**Sn**	**13 58 08.0**	**+1.2**
JOM	**Ohasama**	**1.25**	**185**	⇑P		**Pn**	**13 57 51.2**	**+0.5**
JOM				S		**Sn**	**13 58 07.8**	**+0.2**
JRG	**Rokugo**	**1.46**	**205**	⇑P		**Pn**	**13 57 54.4**	**+1.1**
JRG				S		**Sn**	**13 58 14.0**	**+1.7**
JMK	**Ichinoseki**	**1.77**	**186**	⇑P		**Pn**	**13 57 57.5**	**+0.1**
JMK				S		**Sn**	**13 58 19.3**	**-0.2**
ERM	**Erimo**	**1.83**	**44**	*e*P		**Pn**	**13 57 57.5**	**-0.6**
ERM	**Erimo**	**1.83**	**44**	*e*Pg		**Pn**	**13 57 57.5**	**-0.6**
ASAJ	**Asahikawa**	**3.50**	**14**	*e*Pn		Pn	13 58 16.7	-3.7
ASAJ	**Asahikawa** 26nm,0.3s,baz=220,slow=11,SNR=157	**3.50**	**14**	P		**Pn**	**13 58 21.2**	**+0.8**
ASAJ	14nm,0.3s,baz=249,slow=30,SNR=4.8			S		**Sn**	**13 59 05.0**	**+4.1**
YUK	**Yuzh-Kuril'sk**	**4.66**	**43**	*d* iP		**Pn**	**13 58 36.0**	**-0.1**
YUK				*i* S		**Sn**	**13 59 25.6**	**-3.3**
YUK	comp=E,34nm,0.1s			pmax	pmax			
YUK	comp=N,56nm,0.1s			pmax	pmax			
YUK	comp=Z,201nm,0.3s			pmax	pmax			
YUK	comp=N,557nm,0.4s			smax	smax			
YUK	comp=E,314nm,0.4s			smax	smax			
MAJO	**Matsushiro**	**4.88**	**212**	*e*P		Pn	13 58 35.8	-3.4
MAJO	**Matshiro**	**4.88**	**212**	*e*Pn		Pn	13 58 35.8	-3.4
YSS	**Yuzh-Sakhalins**	**6.31**	**8**	*e*P		**Pn**	**13 58 58.7**	**+0.2**
KUR	**Kuril'sk**	**6.53**	**44**	⇓iP		**Pn**	**13 59 02.0**	**+0.5**
KUR				*i* S		**Sn**	**14 00 12.2**	**-2.2**
KUR	comp=Z,13nm,0.2s			pmax	pmax			
KUR	comp=E,33nm,0.6s			pmax	pmax			
KUR	comp=N,18nm,0.2s			pmax	pmax			
KUR	comp=E,31nm,0.6s			smax	smax			
KUR	comp=N,78nm,0.6s			smax	smax			
USRK	**Ussuriysk Arra** comp=N,1.3nm,0.3s,baz=112,slow=14,SNR=18	**7.81**	**300**	P		**Pn**	**13 59 21.5**	**+2.6**
HABR	**Khabarovsk**	**8.99**	**332**	*e*P		Pn	13 59 24.9	-10
HABR	comp=Z,53nm,2.0s			pmax	pmax			
KSRS	**Korea Array** comp=Z,0.2nm,0.3s,baz=62,slow=14,SNR=5.6	**11.00**	**257**	P		**Pn**	**14 00 05.0**	**+2.5**
JNU	**Nakatsue** comp=Z,0.2nm,0.3s,baz=49,slow=11,SNR=2.9	**11.35**	**231**	P		**Pn**	**14 00 08.7**	**+1.3**
CN2	**Changchun**	**12.24**	**290**	*e*P		Pn	14 00 13.0	-6.3
PETK	**Petropavlovsk-**	**16.59**	**36**	P		**Pn**	**14 01 14.2**	**-1.0**
PETK	comp=Z,32nm,21.1s			MLR	MLR			
PETK	**Petropavlovsk-** comp=Z,0.3nm,0.3s,baz=194,slow=9.0,SNR=10	**16.59**	**36**	P		**Pn**	**14 01 14.2**	**-1.0**
PETK	comp=Z,32nm,21.1s,baz=211,slow=34			LR	LR		14 06 55.0	
NJ2	**Nanjing**	**20.09**	**252**	*e*P		**P**	**14 01 53.4**	**-1.3**
NJ2	comp=Z,10.0nm,0.6s			AMB	AMB			
HHC	**Hu-ho-hao-te**	**22.58**	**280**	*e*P		**P**	**14 02 17.5**	**-3.8**
HHC				pP	pP		14 02 23.7	-15
HHC				sP	sP		14 02 26.1	-24
HHC				PP		**PnPn**	**14 02 46.2**	**-2.9**
HHC				PcP		**PcP**	**14 06 14.2**	**+2.8**
HHC				S		**S**	**14 06 21.0**	**-1.5**
HHC				SS		**SnSn**	**14 07 00.6**	**+0.4**
HHC				ScP	ScP		14 09 49.6	+8.6
HHC				ScS	ScS		14 13 35.0	+8.5
HHC	comp=Z,28nm,1.2s			AMB	AMB			
HHC	comp=Z,200nm,4.9s			AMB	AMB			
HHC	comp=Z,360nm,9.7s			LR	LR			
HHC	comp=Z,950nm,12.2s			LR	LR			
HHC	comp=Z,210nm,12.9s			LR	LR			
SEY	**Seymchan**	**23.19**	**13**	⇑P		**P**	**14 02 27.1**	**+0.1**
SONM	**Songino Array** comp=Z,1.6nm,0.5s,baz=88,slow=9.1,SNR=14	**25.91**	**298**	P		**P**	**14 02 51.7**	**-0.4**
ZAK	**Zakamensk**	**28.14**	**303**	*e*P		**P**	**14 03 10.3**	**-1.6**
ZAK	comp=Z,2.0nm,1.4s			pmax	pmax			
LZH	**Lanzhou**	**29.67**	**273**	*e*P		**P**	**14 03 26.4**	**+0.7**
LZH				pP	pP		14 03 29.6	-16
LZH				sP	sP		14 03 31.7	-24
LZH	comp=Z,13nm,1.1s			AMB	AMB			
H11N2	**WAKE ISLAND Hy** baz=321,slow=0.7,SNR=78	**30.17**	**126**	T		T	14 35 11.9	
H11N1	**WAKE ISLAND Hy** baz=321,slow=0.7,SNR=95	**30.18**	**126**	T		T	14 35 12.5	
H11N3	**WAKE ISLAND Hy** baz=321,slow=0.7,SNR=68	**30.18**	**126**	T		T	14 35 13.2	
H11S1	**WAKE ISLAND Hy** baz=323	**30.98**	**128**	T		T	14 36 15.6	
H11S3	**WAKE ISLAND Hy**	**30.98**	**128**	T		T	14 36 16.9	
H11S2	**WAKE ISLAND Hy** baz=323,slow=0.7	**31.00**	**128**	T		T	14 36 19.1	
TIXI	**Tiksi**	**31.64**	**352**	⇓*e*P		**P**	**14 03 42.9**	**+0.4**
TIXI	comp=Z,4.0nm,0.7s			pmax	pmax			
CD2	**Chengdu**	**31.88**	**264**	P		**P**	**14 03 45.2**	**+0.1**
CD2	comp=Z,10.0nm,0.5s			AMB	AMB			
CD2	comp=Z,170nm,5.9s			AMB	AMB			
GYA	**Guiyang**	**32.04**	**255**	*e*P		**P**	**14 03 45.6**	**-1.1**
GYA				PP		**PnPn**	**14 04 49.8**	**-5.5**
GYA				PcP		**PcP**	**14 06 37.8**	**+3.4**
GYA				S		**S**	**14 08 55.6**	**+3.3**
GYA				ScP	ScP		14 10 20.7	+11
GYA				SS		**SnSn**	**14 10 42.4**	**-8.3**
GYA	comp=Z,10.0nm,0.7s			AMB	AMB			
GYA	comp=Z,100nm,6.7s			AMB	AMB			
GYA	comp=Z,460nm,17.1s			LR	LR			
GYA	comp=Z,370nm,18.6s			LR	LR			
GYA	comp=Z,490nm,17.4s			LR	LR			
HVS	**Khovu-Aksy**	**34.24**	**304**	⇓*i*P		**P**	**14 04 05.1**	**-0.4**
HVS	comp=Z,16nm,1.0s			pmax	pmax			
MIDW	**Midway** comp=Z,43nm,0.8s	**35.87**	**97**	*e*P		**P**	**14 04 21.9**	**+2.3**
FALS	**False Pass** comp=Z,1μm,2.3s	**38.62**	**49**	*e*P		**P**	**14 04 44.6**	**+2.1**
WMQ	**Urumqi**	**39.31**	**293**	P		**P**	**14 04 49.2**	**+0.6**
WMQ				pP		pP	14 04 53.7	-16
WMQ				sP		sP	14 04 56.2	-23
WMQ				AMB	AMB			
WMQ	comp=Z,12nm,0.6s			AMB	AMB			
WMQ	comp=Z,220nm,4.8s			LR	LR			
WMQ	comp=Z,380nm,5.2s			LR	LR			
WMQ	comp=Z,280nm,4.6s			LR	LR			
WMQ	comp=Z,180nm,6.6s			LR	LR			
KWAJ	**Kwajalein Atol**	**39.37**	**137**	*e*P		**P**	**14 04 52.0**	**+2.8**
KWAJ	comp=Z,80nm,0.9s			pmax	pmax			
KWAJ	**Kwajalein Atol** comp=Z,80nm,0.9s	**39.37**	**137**	*e*P		**P**	**14 04 52.0**	**+2.8**
ZAA0	**Zalesovo Array**	**39.53**	**309**	*e*P		**P**	**14 04 49.1**	**-1.0**
ZALV	**Zalesovo Beam**	**39.53**	**309**	P		**P**	**14 04 49.6**	**-0.6**
ZALV							14 06 55.4	
ZALV	comp=Z,3.0nm,0.4s			pmax	pmax			
ZALV	**Zalesovo Beam** comp=Z,3.1nm,0.4s,baz=88,slow=8.1,SNR=21	**39.53**	**309**	P		**P**	**14 04 49.5**	**-0.6**
ZALV				PcP		**PcP**	**14 06 55.4**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=114,slow=2.4,SNR=4.4							
LSA	**Lhasa**	**42.02**	**271**	*e*P		**P**	**14 05 11.1**	**-0.4**
LSA	comp=Z,4.0nm,0.6s			pmax	pmax			
LSA	**Lhasa** comp=Z,4.1nm,0.6s	**42.02**	**271**	*e*P		**P**	**14 05 11.1**	**-0.4**
MK31	**Makanchi Array**	**42.27**	**299**	*ce*P		**P**	**14 05 12.5**	**-0.3**
MK31	comp=Z,5.0nm,0.4s			pmax	pmax			
MK31	**Makanchi Array**	**42.27**	**299**	*e*P		**P**	**14 05 11.8**	**-1.1**
MKAR	**Makanchi Array**	**42.27**	**299**	P		**P**	**14 05 13.0**	**+0.1**
MKAR	comp=Z,5.0nm,0.6s			pmax	pmax			
MKAR	**Makanchi Array**	**42.27**	**299**	*e*P		**P**	**14 05 12.0**	**-0.9**
MKAR	**Makanchi Array** comp=Z,5.2nm,0.6s,baz=84,slow=9.8,SNR=55	**42.27**	**299**	P		**P**	**14 05 12.9**	**+0.1**
CMAR	**Chiang Mai Arr** comp=Z,1.2nm,0.8s,baz=44,slow=6.9,SNR=6.7	**42.57**	**251**	P		**P**	**14 05 15.8**	**+0.2**
IMA2	**Indian Mountai**	**43.54**	**32**	*e*P		**P**	**14 05 24.8**	**+1.9**
KURK	**Kurchatov**	**43.75**	**305**	*d* iP		**P**	**14 05 23.8**	**-0.8**
KURK	comp=Z,6.0nm,1.0s			pmax	pmax			
KURK	**Kurchatov** comp=Z,4.4nm,0.7s	**43.75**	**305**	*e*P		**P**	**14 05 24.3**	**-0.4**
TAPN	**Taplejung**	**45.82**	**270**	*e*P		**P**	**14 05 42.8**	**+1.1**
ODAN	**Odare** comp=Z,14nm,0.7s	**46.32**	**270**	*e*P		**P**	**14 05 46.4**	**+0.8**
ILAR	**Eielson Array** comp=Z,0.8nm,0.8s,baz=266,slow=6.0,SNR=4.7	**46.41**	**34**	P		**P**	**14 05 46.5**	**+1.1**
JIRN	**Jiri** comp=Z,21nm,0.5s	**46.81**	**272**	*e*P		**P**	**14 05 50.8**	**+1.2**
RAMN	**Ramite** comp=Z,20nm,0.4s	**46.87**	**271**	*e*P		**P**	**14 05 50.9**	**+1.0**
GUN	**Gumba** comp=Z,42nm,0.4s	**46.92**	**272**	*e*P		**P**	**14 05 51.0**	**+0.6**
PAX	**Paxson**	**47.23**	**37**	*e*P		**P**	**14 05 54.0**	**+1.9**
PAX	comp=Z,7.0nm,0.9s			pmax	pmax			
PAX	**Paxson** comp=Z,7.1nm,0.9s	**47.23**	**37**	*e*P		**P**	**14 05 54.0**	**+1.9**
KKN	**Kakani** comp=Z,47nm,0.8s	**47.44**	**272**	*e*P		**P**	**14 05 54.8**	**+0.5**
PKI	**Pulchoki**	**47.45**	**272**	*e*P		**P**	**14 05 54.7**	**+0.2**
DMN	**Daman** comp=Z,19nm,0.8s	**47.66**	**272**	*e*P		**P**	**14 05 56.6**	**+0.5**
GKN	**Gorkha** comp=Z,25nm,0.5s	**47.82**	**273**	*e*P		**P**	**14 05 57.3**	**+0.2**
VOSK	**Vostochnaya**	**47.90**	**309**	*e*P		**P**	**14 05 56.7**	**-0.6**
VOSK	comp=Z,3.0nm,0.8s			pmax	pmax			
VOSK	**Vostochnaya** comp=Z,2.6nm,0.8s	**47.90**	**309**	*e*P		**P**	**14 05 56.7**	**-0.6**
TKM2	**Tokmak 2**	**47.98**	**296**	*e*P		**P**	**14 05 58.6**	**+0.4**
TKM2	comp=Z,13nm,1.2s			pmax	pmax			
TKM2	**Tokmak 2** comp=Z,13nm,1.2s	**47.98**	**296**	*e*P		**P**	**14 05 58.6**	**+0.4**
BRVK	**Borovoye**	**48.22**	**310**	*de*P		**P**	**14 05 59.6**	**-0.1**
BRVK	comp=Z,7.0nm,2.5s			pmax	pmax			
BRVK	**Borovoye** comp=Z,35nm,2.5s	**48.22**	**310**	*e*P		**P**	**14 05 59.8**	**+0.1**
DANN	**Dangsing** comp=Z,128nm,0.5s	**48.31**	**274**	*e*P		**P**	**14 06 01.5**	**+0.4**
KOLN	**Koldanda** comp=Z,8.0nm,0.3s	**48.72**	**273**	*e*P		**P**	**14 06 04.5**	**+0.3**
AAK	**Ala-Archa**	**48.84**	**296**	⇓*e*P		**P**	**14 06 04.5**	**-0.3**
AAK	comp=Z,11nm,1.7s			pmax	pmax			
KK31	**Karatay Array**	**51.37**	**298**	*i* P		**P**	**14 06 22.9**	**-0.8**
KK31	comp=Z,3.0nm,0.7s			pmax	pmax			
KKAR	**Karatay Array**	**51.37**	**298**	*e*P		**P**	**14 06 22.9**	**-0.8**
KKAR	**Karatay Array**	**51.37**	**298**	*e*P		**P**	**14 06 22.9**	**-0.8**
ARU	**Arti**	**53.65**	**317**	*c* iP		**P**	**14 06 40.5**	**+0.1**
ARU							14 08 39.1	
ARU				S		**S**	**14 14 07.9**	**+0.7**
ARU				SS		**SKiKP**	**14 17 44.1**	**-1.6**
ARU	comp=Z,17nm,2.5s			pmax	pmax			
AB31	**Akbulak array**	**55.63**	**308**	*ce*P		**P**	**14 06 54.4**	**-0.4**
AB31	comp=Z,3.0nm,0.2s			pmax	pmax			
ABKAR	**Akbulak array**	**55.63**	**308**	*e*P		**P**	**14 06 54.5**	**-0.3**
KBL	**Kabul**	**56.19**	**289**	*e*P		**P**	**14 06 57.7**	**-1.5**
KBL	comp=Z,7.0nm,0.8s			pmax	pmax			
KBL	**Kabul** comp=Z,6.5nm,0.8s	**56.19**	**289**	*e*P		**P**	**14 06 57.7**	**-1.5**
AKTO	**Aktyubinsk**	**56.27**	**310**	*i* P		**P**	**14 06 58.7**	**-0.6**
AKTO	comp=Z,2.0nm,0.5s			pmax	pmax			
ARCES	**ARCESS Array B** comp=Z,2.7nm,0.9s,baz=46,slow=6.9,SNR=5.2	**60.57**	**339**	P		**P**	**14 07 28.9**	**0.0**
WRA	**Warramunga Arr** comp=Z,2.9nm,0.5s,baz=5.4,slow=6.9,SNR=78	**60.71**	**188**	P		**P**	**14 07 29.2**	**-1.2**
IEMG	**Emamgholi**	**62.02**	**297**	*e*P		**P**	**14 07 37.9**	**-1.7**
JOF	**Joensuu**	**62.74**	**331**	*e*P		**P**	**14 07 41.9**	**-1.7**
JOF	**Joensuu**	**62.74**	**331**	*e*p		**P**	**14 07 41.9**	**-1.7**
ASAR	**Alice Springs** comp=Z,1.5nm,0.7s,baz=8.8,slow=5.6,SNR=24	**64.44**	**188**	P		**P**	**14 07 54.1**	**-1.1**
FINES	**FINESS Array B** comp=Z,3.4nm,0.7s,baz=61,slow=9.0,SNR=14	**65.58**	**332**	P		**P**	**14 08 01.2**	**-0.9**
KIV	**Kislovodsk**	**68.54**	**310**	⇑*i*P		**P**	**14 08 22.0**	**+0.7**
KIV	comp=Z,11nm,1.2s			pmax	pmax			

KBZ	**Khabaz**	**68.55 310**	P	**P**	**14 08 20.9**	**-0.3**
KBZ			pmax	pmax		
	comp=Z,2.0nm,0.7s					
KBZ	**Khabaz**	**68.55 310**	P	**P**	**14 08 20.9**	**-0.3**
	comp=Z,2.2nm,0.5s,baz=357,slow=1.6,SNR=6.6					
HFS	**Hagfors**	**70.75 335**	P	**P**	**14 08 32.9**	**-1.6**
	comp=Z,3.3nm,0.9s,baz=33,slow=6.7,SNR=8.7					
NOA	**NORSAR Array B**	**70.81 337**	P	**P**	**14 08 34.5**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=45,slow=7.6,SNR=2.8					
AKASG	**Malin Array Be**	**71.41 322**	P	**P**	**14 08 38.0**	**-0.6**
AKASG			pmax	pmax		
	comp=Z,2.0nm,0.4s					
AKASG	**Malin Array Be**	**71.41 322**	P	**P**	**14 08 38.0**	**-0.6**
	comp=Z,1.6nm,0.4s,baz=44,slow=6.5,SNR=8.2					
STKA	**Stephens Creek**	**72.23 180**	P	**P**	**14 08 42.4**	**-1.2**
	comp=Z,1.3nm,0.9s,baz=303,slow=16,SNR=3.5					
PDAR	**Pinedale Array**	**75.09 46**	P	**P**	**14 09 00.9**	**+0.1**
	comp=Z,0.1nm,0.5s,baz=298,slow=3.2,SNR=3.7					
BRTR	**Keskin Array B**	**76.44 311**	P	**P**	**14 09 07.0**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=46,slow=3.9,SNR=3.7					
GERES	**GERESS Array B**	**79.60 328**	P	**P**	**14 09 24.9**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=359,slow=9.3,SNR=4.0					
LPL	**La Plagne**	**85.06 330**	*eP*	**P**	**14 09 54.6**	**+0.3**
	comp=Z,5.2nm,0.7s					
LPL	**La Plagne**	**85.06 330**	*eP*	**P**	**14 09 54.6**	**+0.3**
LPL			pmax	pmax		
	comp=Z,5.0nm,0.7s					
LPL	**La Plagne**	**85.06 330**	*eP*	**P**	**14 09 54.6**	**+0.3**
	comp=Z,5.2nm,0.7s					
LPG	**La Plagne**	**85.07 330**	*eP*	**P**	**14 09 54.7**	**+0.3**
	comp=Z,7.6nm,0.7s					
LPG	**La Plagne**	**85.07 330**	*eP*	**P**	**14 09 54.7**	**+0.3**
LPG			pmax	pmax		
	comp=Z,8.0nm,0.7s					
LPG	**La Plagne**	**85.07 330**	*eP*	**P**	**14 09 54.7**	**+0.3**
	comp=Z,7.6nm,0.7s					
MBDF	**Montbardon**	**85.71 329**	*eP*	**P**	**14 09 57.5**	**0.0**
MBDF	**Montbardon**	**85.71 329**	*eP*	**P**	**14 09 57.5**	**0.0**
MBDF	**Montbardon**	**85.71 329**	*eP*	**P**	**14 09 57.5**	**0.0**
SNAA	**Sanae**	**144.26 198**	*eP*	**PKPab**	**14 16 50.9**	**+0.1**
VNA2	**Neumayer--Watz**	**145.84 198**	*eP*	**PKPbc**	**14 16 56.1**	**0.0**
H03N2	**Juan Fernandez**	**147.21 90**	T	T	17 01 58.3	
	baz=296,slow=0.7,SNR=14					
H03N3	**Juan Fernandez**	**147.22 90**	T	T	17 01 58.3	
	baz=296,slow=0.7,SNR=13					
H03N1	**Juan Fernandez**	**147.22 90**	T	T	17 01 58.3	
	baz=296,slow=0.7,SNR=27					

IDC 03 14:02:08.2±2.4, 14°.25S×176°.56W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/18, mbtmp3.9/4, Error ellipse: s-maj=249.4km s-min=25.1km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.91**	**242**	*e*LR		LR	LR	14 10 28.1	
	362nm,26.1s								
PPT2	**Papeete2**	**26.15**	**101**	*e*LQ		LQ	LQ	14 12 47.5	
	564nm,27.2s								
PPT2				*e*LR		LR	LR	14 13 57.7	
	628nm,26.8s								
RKT	**Rikitea**	**40.26**	**109**	*e*LR		LR	LR	14 20 31.5	
	402nm,26.2s								
WRA	**Warramunga Arr**	**47.14**	**256**	P		P	P	14 10 42.9	+0.2
	1.3nm,0.9s,baz=91,slow=8.4,SNR=8.3								
ASAR	**Alice Springs**	**47.58**	**251**	P		P	P	14 10 45.9	-0.2
	2.1nm,0.5s,baz=84,slow=8.2,SNR=50								
TXAR	**Lajitas Array**	**82.54**	**57**	P		P	P	14 14 34.1	+0.6
	0.6nm,0.9s,baz=226,slow=7.3,SNR=3.3								
PDAR	**Pinedale Array**	**83.49**	**43**	P		P	P	14 14 37.9	-0.4
	0.3nm,0.6s,baz=223,slow=3.7,SNR=3.1								
BRTR	**Keskin Array B**	**143.32**	**319**	PKP		PKPbc	PKPbc	14 21 43.0	+0.8
	2.0nm,0.9s,baz=50,slow=1.9,SNR=8.9								

IDC 03 14:04:41.2±6.7, 14°.37S×176°.26W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.7/18, mbtmp4.0/2, Error ellipse: s-maj=386.7km s-min=97.0km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.40**	**256**	P		P	P	14 13 17.3	-0.4
	1.8nm,1.0s,baz=90,slow=7.7,SNR=5.5								
ASAR	**Alice Springs**	**47.81**	**251**	P		P	P	14 13 21.0	+0.1
	1.5nm,0.5s,baz=84,slow=8.2,SNR=13								
BRTR	**Keskin Array B**	**143.60**	**320**	PKP		PKPdf		14 24 18.0	-0.6
	1.2nm,0.8s,baz=5.7,slow=1.4,SNR=5.3								

*IDC **03** 14:10:20.6±1.8, 14°.83S×176°.26W, h0km, mb3.9/6, mb1 4.3/6, mb1mx4.0/18, mbtmp3.9/6, MS4.1/19, Ms1 4.1/19, ms1mx3.9/35, Error ellipse: s-maj=114.9km s-min=22.4km az=151.0*

*NEIC **03** 14:10:21.1±0.7, 15°.09S×176°.09W, h10km, mb4.2/2, Error ellipse: s-maj=40.7km s-min=10.1km az=158.0*

*GCMT **03** 14:10:29.0±0.3, 14°.67S×175°.94W, h12km, MW4.8, Moment Tensor Solution. s24,c28; s68,c99; Moment tensor: Scale 10^{16}Nm; M_{rr}-2.13±.08; $M_{\theta\theta}$1.06±.09; $M_{\phi\phi}$1.07±.07; $M_{r\theta}$0.73±.26; $M_{\theta\phi}$1.05±.05; $M_{r\phi}$-0.78±.23; Best double couple: M_o2.30000×10^{16} NP1:ϕ_s24.00000°, δ50.00000°, λ-120.00000°. NP2:ϕ_s246.00000°, δ49.00000°, λ-59.00000°. Principal axes: T 2.1200, Plg1.0000°, Azm135.0000°; N 0.4600, Plg22.0000°, Azm44.0000°; P -2.5700, Plg68.0000°, Azm226.0000°; Data Used: ll IU IC G CN. Surface wave period40 sec.*

ISC 03 14:10:21.0±1.2, 15°.2S±0°.4×176°.0W±0°.1, h10km, n43, σ1$\hat{s}$11/22, mb4.2/8, MS4.1/19, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.24**	**73**	*e*Pn		**Pn**	**Pn**	**14 11 26.6**	**+0.8**
AFI				Sn		**Sb**	**Sb**	**14 12 25.5**	**-1.5**
AFI	**Afiamalu**	**4.24**	**73**	Sn		**Sb**	**Sb**	**14 12 25.5**	**-1.5**
	11nm,0.3s,baz=88,slow=23,SNR=5.6								
DZM	**Mont Dzumac**	**18.03**	**245**	*e*LR		LR	LR	14 18 21.1	
	422nm,26.9s								
URZ	**Urewera**	**23.80**	**194**	LR		LR	LR	14 22 17.7	
	comp=Z,179nm,19.4s,baz=44,slow=30								
PPT	**Papeete**	**25.42**	**99**	LR		LR	LR	14 23 53.1	
	comp=Z,235nm,18.0s,baz=67,slow=32								
PPT2	**Papeete2**	**25.42**	**99**	*e*LQ		LQ	LQ	14 21 00.2	
	588nm,26.2s								
PPT2				*e*LR		LR	LR	14 22 10.7	
	820nm,26.8s								
H11N3	**WAKE ISLAND Hy**	**38.55**	**334**	T		T	T	14 58 17.7	
	baz=155,slow=0.7,SNR=6.0								
H11N1	**WAKE ISLAND Hy**	**38.55**	**334**	T		T	T	14 58 15.9	
	baz=155,slow=0.7,SNR=13								
H11N2	**WAKE ISLAND Hy**	**38.57**	**334**	T		T	T	14 58 18.1	
	baz=155,slow=0.7,SNR=9.1								
RKT	**Rikitea**	**39.41**	**108**	*e*LR		LR	LR	14 28 44.4	
	538nm,28.2s								
STKA	**Stephens Creek**	**42.02**	**239**	LR		LR	LR	14 33 24.6	
	comp=Z,173nm,20.0s,baz=26,slow=33								
WRAB	**Tennant Creek**	**47.48**	**257**	*e*P		**P**	**P**	**14 18 55.5**	**-1.2**
	2.1nm,1.0s								
WRA	**Warramunga Arr**	**47.49**	**257**	P		**P**	**P**	**14 18 55.9**	**-0.9**
WRA	**Warramunga Arr**	**47.49**	**257**	P		**P**	**P**	**14 18 55.9**	**-0.9**
	2.5nm,1.0s,baz=91,slow=8.0,SNR=9.5								
WRA				LR		LR	LR	14 36 43.2	
	comp=Z,353nm,21.6s,baz=85,slow=34								
AS31	**Alice Springs**	**47.84**	**252**	*e*P		**P**	**P**	**14 18 58.8**	**-0.6**
ASAR	**Alice Springs**	**47.84**	**252**	P		**P**	**P**	**14 18 59.4**	**0.0**
ASAR	**Alice Springs**	**47.84**	**252**	P		**P**	**P**	**14 18 59.4**	**0.0**
	3.9nm,0.7s,baz=84,slow=8.2,SNR=47								
ASAR				LR		LR	LR	14 37 05.3	
	comp=Z,202nm,19.7s,baz=87,slow=34								
FITZ	**Fitzroy Crossi**	**55.84**	**258**	LR		LR	LR	14 42 07.0	
	comp=Z,146nm,18.2s,baz=88,slow=34								
JCJ	**Chichijima**	**58.45**	**316**	LR		LR	LR	14 41 32.3	
	comp=Z,282nm,19.7s,baz=158,slow=32								
VNDA	**Vanda**	**63.36**	**185**	LR		LR	LR	14 42 02.2	
	comp=Z,68nm,20.6s,baz=14,slow=30								
JNU	**Nakatsue**	**69.86**	**314**	LR		LR	LR	14 48 35.5	
	comp=Z,103nm,18.5s,baz=126,slow=33								
PETK	**Petropavlovsk-**	**71.69**	**344**	LR		LR	LR	14 46 27.0	
	comp=Z,117nm,20.2s,baz=336,slow=30								
KSRS	**Korea Array**	**74.28**	**317**	LR		LR	LR	14 51 45.9	
	comp=Z,78nm,18.0s,baz=311,slow=34								
LPIG	**La Paz**	**75.03**	**60**	LR		LR	LR	14 46 07.1	
	comp=Z,95nm,19.5s,baz=237,slow=29								
USRK	**Ussuriysk Arra**	**75.74**	**324**	LR		LR	LR	14 48 44.3	
	comp=Z,297nm,21.0s,baz=71,slow=31								

NVAR	**Mina Array Bea**	**75.83**	**43**	P	**P**	**14 22 08.7**	**+0.8**
NVAR	**Mina Array Bea**	**75.83**	**43**	P	**P**	**14 22 08.7**	**+0.8**
	1.6nm,1.0s,baz=234,slow=12,SNR=4.8						
TXAR	**Lajitas Array**	**82.55**	**57**	P	**P**	**14 22 46.3**	**+1.6**
TXAR	**Lajitas Array**	**82.55**	**57**	P	**P**	**14 22 46.3**	**+1.6**
	0.9nm,0.9s,baz=322,slow=3.8,SNR=5.2						
ANMO	**Albuquerque**	**82.56**	**51**	LR	LR	14 52 25.6	
	comp=Z,76nm,18.7s,baz=175,slow=31						
ILAR	**Eielson Array**	**82.72**	**12**	P	**P**	**14 22 44.8**	**+0.1**
ILAR	**Eielson Array**	**82.72**	**12**	P	**P**	**14 22 44.7**	**+0.1**
	0.5nm,1.0s,baz=247,slow=5.8,SNR=3.9						
ILAR				LR	LR	14 53 26.7	
	comp=Z,68nm,19.3s,baz=212,slow=31						
PDAR	**Pinedale Array**	**83.76**	**43**	P	**P**	**14 22 52.0**	**+1.2**
PDAR	**Pinedale Array**	**83.76**	**43**	P	**P**	**14 22 52.0**	**+1.2**
	1.2nm,0.8s,baz=220,slow=3.5,SNR=9.0						
COLD	**Coldfoot**	**84.32**	**10**	*e*P	**P**	**14 22 52.3**	**-0.5**
	1.6nm,0.9s						
USHA	**Ushuaia**	**87.48**	**146**	LR	LR	14 55 17.6	
	comp=Z,194nm,20.1s,baz=226,slow=31						
CMAR	**Chiang Mai Arr**	**90.20**	**289**	LR	LR	14 59 02.0	
	comp=Z,68nm,21.0s,baz=85,slow=32						
PLCA	**Paso Flores**	**91.48**	**133**	LR	LR	14 53 16.7	
	comp=Z,212nm,21.8s,baz=316,slow=28						
SONM	**Songino Array**	**93.04**	**319**	LR	LR	15 00 33.9	
	comp=Z,104nm,20.1s,baz=128,slow=32						
BRTR	**Keskin Array B**	**144.40**	**319**	PKP	**PKPdf**	**14 29 57.1**	**-0.9**
BRTR	**Keskin Array B**	**144.40**	**319**	PKP	**PKPdf**	**14 29 57.1**	**-0.9**
	3.8nm,0.9s,baz=77,slow=1.6,SNR=14						
GERES	**GERESS Array B**	**145.50**	**349**	PKPbc	**PKPbc**	**14 29 58.4**	**-1.3**
GERES	**GERESS Array B**	**145.50**	**349**	PKPbc	**PKPbc**	**14 29 58.4**	**-1.3**
	0.5nm,0.7s,baz=85,slow=2.8,SNR=5.0						

IDC 03 14:25:49.8±4.0, 17°.99S×172°.97W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.8/20, mbtmp4.1/4, Error ellipse: s-maj=162.2km s-min=51.9km az=141.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.54**	**260**	P		P		14 33 14.3	-0.2
	2.3nm,0.6s,baz=81,slow=11,SNR=5.7								
STKA	**Stephens Creek**	**43.16**	**242**	P		P		14 33 52.4	-0.1
	1.3nm,0.8s,baz=114,slow=12,SNR=2.6								
WRA	**Warramunga Arr**	**49.70**	**259**	P		P		14 34 43.9	-0.2
	1.8nm,0.5s,baz=97,slow=8.7,SNR=33								
ASAR	**Alice Springs**	**49.75**	**254**	P		P		14 34 44.6	+0.1
	2.8nm,0.6s,baz=89,slow=8.5,SNR=52								
BRTR	**Keskin Array B**	**148.39**	**319**	PKPbc		PKPbc		14 45 37.9	-0.8
	0.4nm,0.6s,baz=55,slow=5.5,SNR=3.6								

CASC 03 14:26:59.1±2.8, 15°.73N×88°.29W, h5km±22km, MD3.9, 3D, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**1.94**	**149**	*i* P		Pn		14 27 32.4	-0.3
TGUH				*e*S		Sn		14 27 57.7	+0.2
CAHU	**Cacacuatique**	**1.95**	**178**	*i* P		Pn		14 27 33.5	+0.3
CAHU				*e*S		Sn		14 27 58.0	-0.3
LBRS	**Las Brisas**	**2.11**	**200**	*i* P		Pn		14 27 35.6	+0.3
LBRS				*e*S		Sn		14 28 02.2	+0.2
LFU	**La Fuente**	**2.12**	**202**	*i* P		Pn		14 27 34.4	-1.1
LFU				*e*S		Sn		14 28 03.0	+0.7
SNVI	**San Vicente**	**2.17**	**194**	*i* P		Pn		14 27 35.4	-0.8
SNVI				*e*S		Sn		14 28 04.0	+0.3
BOQS	**Boqueron**	**2.20**	**206**	*e*P		Pn		14 27 37.7	+1.0
BOQS				*e*S		Sn		14 28 04.1	-0.5
LFRS	**El Faro**	**2.22**	**200**	*i* P		Pn		14 27 36.2	-0.6
LFRS				*e*S		Sn		14 28 06.2	+1.3
RTR	**El Retiro**	**2.24**	**216**	↓*i* P		Pn		14 27 36.8	-0.5
RTR				*e*S		Sb		14 28 07.6	-1.1
SNJE	**San Jose**	**2.25**	**215**	↓*i* P		Pn		14 27 36.6	-0.7
SNJE				*e*S		Sn		14 28 05.8	+0.2
SBLS	**San Blas**	**2.28**	**215**	↓*i* P		Pn		14 27 37.2	-0.6
SBLS				*e*S		Sn		14 28 07.3	+0.8
NBG	**Las Nubes**	**2.29**	**240**	*e*P		Pn		14 27 35.5	-2.4
NBG				*e*S		Sb		14 28 09.5	-0.6
VSM	**San Miguel**	**2.29**	**180**	*e*P		Pn		14 27 37.2	-0.8
VSM				*e*S		Sn		14 28 07.3	+0.5
CNCH	**Conchagua**	**2.48**	**170**	*e*P		Pn		14 27 41.6	+1.2
CNCH				*e*S		Sb		14 28 13.8	-1.6
FUG	**Fuego 3**	**2.77**	**243**	*e*P		Pn		14 27 42.3	-2.2
FUG				*e*S		Sb		14 28 23.6	-0.4

*IDC **03** 14:27:55.3±0.5, 13°.88N×92°.92E, h0km, mb4.1/22, mb1 4.2/23, mb1mx4.1/32, mbtmp4.1/23, ML4.0/1, MS3.2/2, Ms1 3.4/2, ms1mx2.9/39, Error ellipse: s-maj=22.3km s-min=11.0km az=55.0*

*ISCJB **03** 14:27:58.2±0.3, 14°.12N±0°.03×93°.09E±0°.06, h32km, mb4.1/24, Error ellipse: s-maj=8.1km s-min=4.5km az=175.8*

ISC 03 14:28:00.1±0.5, 14°.09N±0°.05×93°.00E±0°.08, h32km, n47, σ1$\hat{s}$55/45, mb4.2/24, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.91**	**184**	*e*P		**Pb**	**Pb**	**14 28 17.0**	**-0.4**
DGPR				*e*S		**Sn**	**Sn**	**14 28 27.0**	**-1.6**
DGPR				AML		AML	AML	14 28 31.0	
	comp=E,11μm,0.3s								
DGPR				AML		AML	AML	14 28 31.2	
	comp=N,9μm,0.8s								
PBA	**Port Blair**	**2.43**	**186**	*e*P		Pn		14 28 37.1	-0.5
PBA				*e*S		Sn		14 29 07.0	+0.7
PBA				AML		AML	AML	14 29 17.4	
	comp=N,727nm,0.4s								
PBA				AML		AML	AML	14 29 18.1	
	comp=E,924nm,0.3s								
CMAR	**Chiang Mai Arr**	**7.18**	**52**	Pn		**Pn**	**Pn**	**14 29 44.7**	**+1.8**
	comp=E,0.6nm,0.3s,baz=243,slow=15,SNR=10								
CMAR				Sn		**Sn**	**Sn**	**14 31 01.8**	**-1.6**
	comp=E,2.2nm,0.3s,baz=240,slow=27,SNR=11								
CMAR				LR		LR	LR	14 33 24.9	
	comp=E,208nm,18.2s,baz=235,slow=45								
VIS	**Vishakhapatnam**	**9.97**	**293**	*e*P		Pn		14 30 15.1	-6.2
VIS				*e*S		Sn		14 32 02.0	-10
VIS				AML		AML	AML	14 32 07.8	
	comp=E,117nm,0.3s								
VIS				AML		AML	AML	14 32 08.5	
	comp=N,167nm,0.3s								
SHL	**Shillong**	**11.47**	**355**	*e*P		**Pn**	**Pn**	**14 30 41.0**	**-0.9**
SHL				*e*4		**Sn**	**Sn**	**14 32 44.0**	**-5.0**
BOK	**Bokaro**	**11.76**	**326**	*e*P		Pn		14 30 41.8	-4.0
BOK				AMB		AMB	AMB	14 30 43.9	
	comp=Z,30nm,6.2s								
PSI	**Prapat**	**12.65**	**152**	LR		LR	LR	14 35 55.9	
	comp=Z,95nm,19.1s,baz=165,slow=38								
ODAN	**Odare**	**13.75**	**338**	*e*P		**Pn**	**Pn**	**14 31 11.4**	**-1.7**
	comp=Z,11nm,0.3s								
TAPN	**Taplejung**	**14.09**	**340**	*e*P		**Pn**	**Pn**	**14 31 15.1**	**-2.7**
	comp=Z,6.6nm,0.2s								
RAMN	**Ramite**	**14.12**	**336**	*e*P		**Pn**	**Pn**	**14 31 17.1**	**-1.2**
	comp=Z,37nm,0.5s								
JIRN	**Jiri**	**14.92**	**336**	*e*P		**Pn**	**Pn**	**14 31 28.3**	**-0.9**
	comp=Z,24nm,0.5s								
PKI	**Pulchoki**	**15.17**	**333**	*e*P		**Pn**	**Pn**	**14 31 32.0**	**-0.4**
DMN	**Daman**	**15.33**	**333**	*e*P		**Pn**	**Pn**	**14 31 34.2**	**-0.3**
	comp=Z,48nm,0.8s								
GKN	**Gorkha**	**15.88**	**332**	*e*P		**Pn**	**Pn**	**14 31 41.0**	**-0.5**
	comp=Z,22nm,0.3s								
KOLN	**Koldanda**	**16.19**	**329**	*e*P		**Pn**	**Pn**	**14 31 45.6**	**+0.1**
	comp=Z,45nm,0.6s								
DANN	**Dangsing**	**16.59**	**330**	*e*P		**Pn**	**Pn**	**14 31 50.9**	**+0.3**
	comp=Z,16nm,0.4s								
SMLA	**Simla**	**22.34**	**322**	*e*P		**P**	**P**	**14 32 52.9**	**-2.4**
DHRM	**DHARAMSHALA**	**23.66**	**323**	*e*P		**P**	**P**	**14 33 06.4**	**-2.6**
H08S3	**Diego Garcia H**	**29.66**	**225**	T		T	T	15 04 23.8	
	baz=42,slow=0.7								
H08S2	**Diego Garcia H**	**29.67**	**225**	T		T	T	15 04 08.5	
	baz=42								
H08S1	**Diego Carcia H**	**29.68**	**225**	T		T	T	15 04 17.6	
	baz=42,slow=0.7								
MKAR	**Makanchi Array**	**33.82**	**347**	P		**P**	**P**	**14 34 39.9**	**+0.6**
	comp=Z,0.0nm,0.8s,baz=169,slow=6.8,SNR=16								
SONM	**Songino Array**	**35.45**	**16**	P		**P**	**P**	**14 34 55.6**	**+2.1**
	comp=Z,1.3nm,0.8s,baz=201,slow=6.8,SNR=7.1								
SONM				PcP		**PcP**	**PcP**	**14 37 23.8**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=194,slow=1.2,SNR=3.3								
KURBB	**Kurchatov Arra**	**38.29**	**345**	P		**P**	**P**	**14 35 19.6**	**+2.1**
	comp=Z,1.6nm,0.6s,baz=164,slow=7.9,SNR=13								
ZALV	**Zalesovo Beam**	**40.29**	**353**	P		**P**	**P**	**14 35 35.9**	**+1.7**
	comp=Z,1.5nm,0.6s,baz=173,slow=8.8,SNR=8.4								
BVAR	**Borovoye Array**	**42.79**	**340**	P		**P**	**P**	**14 35 56.2**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=129,slow=11,SNR=3.5								
FITZ	**Fitzroy Crossi**	**45.38**	**134**	P		**P**	**P**	**14 36 14.9**	**-1.0**
	comp=Z,3.4nm,0.7s,baz=239,slow=14,SNR=13								
NWAO	**Narrogin (SRO)**	**52.17**	**154**	P		**P**	**P**	**14 37 06.6**	**-1.2**
	comp=Z,9.2nm,0.9s,baz=252,slow=5.6,SNR=5.8								
WRA	**Warramunga Arr**	**52.89**	**129**	P		**P**	**P**	**14 37 12.5**	**-0.9**
	comp=Z,1.6nm,0.5s,baz=297,slow=9.6,SNR=22								
WRA				PcP		**PcP**	**PcP**	**14 38 22.4**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=310,slow=4.7,SNR=12								
ASAR	**Alice Springs**	**54.84**	**133**	P		**P**	**P**	**14 37 27.1**	**-0.6**
	comp=Z,2.7nm,0.4s,baz=309,slow=7.0,SNR=89								
ASAR				PcP		**PcP**	**PcP**	**14 38 30.1**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=319,slow=4.1,SNR=6.6								
BRTR	**Keskin Array B**	**57.63**	**308**	P		**P**	**P**	**14 37 48.2**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=120,slow=7.4,SNR=6.0								
PMG	**Port Moresby**	**58.58**	**110**	P		**P**	**P**	**14 37 53.0**	**-1.3**
	comp=Z,5.1nm,0.8s,baz=297,slow=4.5,SNR=3.4								
AKASG	**Malin Array Be**	**62.65**	**320**	P		**P**	**P**	**14 38 21.6**	**0.0**
	comp=Z,0.2nm,0.2s,baz=94,slow=5.7,SNR=2.9								
JOF	**Joensuu**	**64.81**	**334**	*e*p		P	P	14 38 45.9	+10
STKA	**Stephens Creek**	**65.24**	**135**	P		**P**	**P**	**14 38 38.4**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=246,slow=11,SNR=5.5								
FINES	**FINESS Array B**	**66.74**	**331**	P		**P**	**P**	**14 38 48.7**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=107,slow=4.8,SNR=7.7								
ARCES	**ARCESS Array B**	**69.08**	**340**	P		**P**	**P**	**14 39 04.6**	**+2.0**
	comp=Z,2.8nm,1.1s,baz=96,slow=6.4,SNR=3.3								
GERES	**GERESS Array B**	**72.50**	**317**	P		**P**	**P**	**14 39 25.2**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=104,slow=5.6,SNR=5.8								
HFS	**Hagfors**	**72.57**	**329**	P		**P**	**P**	**14 39 24.5**	**+0.6**
	comp=Z,12nm,1.2s,baz=90,slow=4.3,SNR=3.5								
NOA	**NORSAR Array B**	**73.81**	**330**	P		**P**	**P**	**14 39 31.8**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=79,slow=4.2,SNR=2.1								
LPG	**La Plagne**	**77.49**	**314**	*e*P		**P**	**P**	**14 39 55.0**	**+2.0**
	comp=Z,12nm,0.9s								
LPL	**La Plagne**	**77.50**	**314**	↑*i* P		**P**	**P**	**14 39 54.4**	**+1.4**
	comp=Z,8.0nm,0.7s								
BOSA	**Boshof**	**78.00**	**236**	P		**P**	**P**	**14 39 56.3**	**+0.4**
	comp=Z,2.5nm,0.6s,baz=71,slow=4.8,SNR=16								
ESDC	**Sonseca Array**	**86.38**	**310**	P		**P**	**P**	**14 40 38.9**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=64,slow=4.4,SNR=2.7								
TORD	**Torodi Ar. Bea**	**88.10**	**283**	P		**P**	**P**	**14 40 47.3**	**-1.0**
	comp=Z,1.1nm,0.9s,baz=79,slow=4.2,SNR=6.2								
ILAR	**Eielson Array**	**89.44**	**22**	P		**P**	**P**	**14 40 54.6**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=302,slow=3.6,SNR=5.2								
NVAR	**Mina Array Bea**	**120.10**	**28**	PKP		**PKPdf**	**PKPdf**	**14 46 50.2**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=309,slow=3.3,SNR=2.7								

IDC 03 14:30:30.6±1.7, 10°.95N×85°.92W, h43km±19km, mb3.7/9, mb1 4.0/10, mb1mx3.8/24, mbtmp3.7/10, ML2.6/1, MS3.5/4, Ms1 3.5/4, ms1mx3.2/33, Error ellipse: s-maj=43.7km s-min=12.7km az=39.0, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**1.15**	**124**	P		P	Pn	14 30 48.2	-2.2
	85nm,0.3s,baz=302,slow=17,SNR=188								
JTS				S		S	Sn	14 31 05.5	+0.5
	143nm,0.3s,baz=291,slow=19,SNR=12								
APG	**El Apazote**	**5.99**	**313**	P		P	Pn	14 31 56.0	-1.1
	0.2nm,0.3s,baz=143,slow=20,SNR=2.7								
ROSC	**El Rosal**	**12.97**	**117**	LR		LR		14 38 51.5	
	comp=Z,104nm,21.0s,baz=211,slow=39								
ATAH	**Atahualpa**	**19.46**	**157**	LR		LR		14 41 11.6	
	comp=Z,232nm,18.2s,baz=229,slow=33								
TKL	**Tuckaleechee C**	**24.68**	**4**	P		P		14 35 48.3	+0.7
	4.0nm,0.4s,baz=189,slow=12,SNR=7.9								
TKL	

H10N2	**ASCENSION HYDR**	**53.60**	**13**	T	T	16 04 34.6		
	baz=193,slow=0.6,SNR=11							
TORD	**Torodi Ar. Bea**	**76.87**	**27**	P	**P**	**15 09 15.8**	**-0.2**	
	4.1nm,0.9s,baz=195,slow=6.4,SNR=15							
ASAR	**Alice Springs**	**93.98**	**161**	P	**P**	**15 10 43.0**	**+1.0**	
	0.2nm,0.6s,baz=179,slow=4.3,SNR=9.7							
FINES	**FINESS Array B**	**128.20**	**28**	PKP	**PKPdf**	**15 16 28.1**	**-0.7**	
	3.1nm,0.9s,baz=158,slow=1.0,SNR=6.8							
SONM	**Songino Array**	**149.64**	**93**	PKPbc	**PKPbc**	**15 17 12.7**	**-0.1**	
	1.3nm,0.8s,baz=226,slow=2.7,SNR=9.8							
ILAR	**Eielson Array**	**154.00**	**304**	PKPbc	**PKPbc**	**15 17 23.1**	**+1.0**	
	0.4nm,0.6s,baz=148,slow=2.7,SNR=10							

MAN 03 15:10:32, 13.31N×120.75E, h63km, mb4.0, ML2.7, MS2.4, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.28**	**46**	↓↓ *i* P		15 10 44.3	+2.0
SJMP	**San Jose**	**0.92**	**157**	*e*P	Pn	15 10 51.3	+2.2
SJMP				*e*S	Sn	15 11 04.5	+2.7
BUSP	**Coron**	**1.41**	**203**	*e*P	Pn	15 10 57.5	+2.0
BUSP				*e*S	Sn	15 11 15.1	+1.9
OTRP	**Odiongan**	**1.56**	**127**	*e*P	Pn	15 10 59.1	+1.6
CUYO	**Cuyo Island**	**2.46**	**174**	*e*P	Pn	15 11 11.1	+1.3

*IDC **03** 15:20:34.8±7.4, 4.86S×150.98E, h65km±53km, mb3.5/4, mb1 3.7/5, mb1mx3.4/18, mbtmp3.6/5, ML3.2/1, Error ellipse: s-maj=93.9km s-min=36.7km az=111.0*

ISC 03 15:20:35.4±2.5, 5.3S±0.4×151.4E±0.5, h57km, n9, σ1ᵖ59/9, mb3.5/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.86**	**225**	P	**Pn**	**15 22 01.0**	**+1.4**
	4.5nm,0.3s,baz=52,slow=6.2,SNR=18						
PMG				S	**Sn**	15 23 05.1	-0.4
	4.6nm,0.3s,baz=118,slow=18,SNR=9.5						
KDU	**Kakadu**	**20.06**	**247**	P	**P**	**15 25 04.7**	**+0.6**
	baz=28,SNR=5.9						
WRA	**Warramunga Arr**	**22.07**	**227**	P	**P**	**15 25 25.4**	**-0.4**
	1.0nm,0.5s,baz=51,slow=9.9,SNR=15						
KNRA	**Kununurra**	**24.49**	**243**	P	**P**	**15 25 50.3**	**+0.9**
	baz=33,SNR=6.7						
ASAR	**Alice Springs**	**24.85**	**221**	P	**P**	**15 25 52.0**	**-0.8**
	1.1nm,0.6s,baz=56,slow=8.6,SNR=23						
FITZ	**Fitzroy Crossi**	**28.19**	**241**	P	**P**	**15 26 20.8**	**-2.0**
	baz=36,SNR=8.6						
FITZ	**Fitzroy Crossi**	**28.19**	**241**	P	**P**	**15 26 20.4**	**-2.4**
	0.9nm,0.3s,baz=62,slow=8.7,SNR=15						
ZALV	**Zalesovo Beam**	**80.77**	**327**	P	P	15 32 37.4	-5.2
	0.2nm,0.3s,baz=97,slow=4.8,SNR=2.4						
TORD	**Torodi Ar. Bea**	**149.10**	**287**	PKPbc	**PKPdf**	**15 40 15.4**	**+1.2**
	0.2nm,0.4s,baz=74,slow=1.8,SNR=5.2						

*ISCJB **03** 15:27:53.3±0.4, 65.56N±0.05×136.34W±0.08, h10km, Error ellipse: s-maj=6.8km s-min=4.5km az=160.5*
*NEIC **03** 15:27:58.0, 65.53N×136.45W, h20km, ML3.3(AEIC), ML3.6(OTT), After OTT.*
*PGC **03** 15:27:58.0±0.0, 65.53N×136.45W, h20km, ML3.6/4, 216km Ene of Dawson, Yt Northern Yukon Territory, Canada*

ISC 03 15:27:54.9±1.0, 65.55N±0.05×136.60W±0.05, h10km, n28, σ1ᵖ37/35, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAWY	**Dawson**	**1.91**	**220**	Pn	**Pn**	**15 28 29.0**	**+1.5**
DAWY				Sn	**Sb**	**15 28 53.6**	**0.0**
DAWY	**Dawson**	**1.91**	**220**	P	**Pn**	**15 28 29.2**	**+1.7**
DAWY				S	**Sb**	**15 28 54.6**	**+1.0**
EGAK	**Eagle**	**2.07**	**250**	P	**Pn**	**15 28 30.7**	**+1.0**
EGAK				S	**Sn**	**15 28 57.6**	**+2.0**
INK	**Inuvik**	**3.03**	**22**	Pn	**Pn**	**15 28 43.5**	**+0.8**
INK				Sn	**Sn**	**15 29 19.2**	**+0.2**
INK	**Inuvik**	**3.03**	**22**	P	**Pn**	**15 28 43.6**	**+0.8**
INK				S	**Sn**	**15 29 19.2**	**+0.2**
BC3	**Beaver Creek A**	**3.36**	**225**	P	**Pn**	**15 28 48.9**	**+1.4**
SCRK	**Sand Creek**	**3.53**	**247**	P	**Pn**	**15 28 50.9**	**+1.0**
BM3	**Burnt Mountain**	**3.72**	**304**	P	**Pn**	**15 28 53.8**	**+1.5**
MENT	**Mentasta**	**4.06**	**233**	P	**Pn**	**15 28 57.6**	**+0.6**
IL1	**Eielson Array**	**4.41**	**265**	P	**Pn**	**15 29 02.4**	**+0.6**
HYT	**Haines Junctio**	**4.76**	**185**	Pn	**Pn**	**15 29 08.5**	**+1.8**
HYT				Sg	**Sg**	**15 30 24.6**	**-2.9**
HYT	**Haines Junctio**	**4.76**	**185**	P	**Pn**	**15 29 08.5**	**+1.8**
COLA	**College**	**4.78**	**267**	*e*Pn	**Pn**	**15 29 07.1**	**+0.2**
COLA				*e*Sn	**Sn**	**15 30 00.6**	**-1.7**
WHY	**Whitehorse**	**4.97**	**170**	Pn	**Pn**	**15 29 11.3**	**+1.7**
WHY	**Whitehorse**	**4.97**	**170**	P	**Pn**	**15 29 10.9**	**+1.4**
WRH	**Wood River Hil**	**4.99**	**263**	P	**Pn**	**15 29 10.1**	**+0.4**
DHY	**Denali Highway**	**5.30**	**247**	P	**Pn**	**15 29 15.8**	**+1.7**
KIAG	**Kiagna River**	**5.32**	**212**	P	**Pn**	**15 29 17.0**	**+2.5**
MCK	**McKinley**	**5.60**	**257**	P	**Pn**	**15 29 19.2**	**+1.0**
COLD	**Coldfoot**	**5.72**	**293**	P	**Pn**	**15 29 21.8**	**+2.0**
TRF	**Thorofare Moun**	**6.27**	**257**	*e*Pn	**Pn**	**15 29 27.5**	**0.0**
	6.1nm,0.6s						
TRF				*e*Sn	**Sn**	**15 30 38.7**	**-0.5**
DLBC	**Dease Lake**	**7.77**	**154**	Pn	**Pn**	**15 29 48.9**	**+0.9**
DLBC				Sg	Sg	15 31 56.5	-7.6
GALN	**Gameti Lake**	**8.34**	**91**	Pn	**Pn**	**15 29 55.0**	**-0.6**
GALN				Sn	Sn	15 31 22.3	-7.5
FNBB	**Fort Nelson**	**9.19**	**130**	Sg	Sn	15 32 40.5	+50
YKR1	**Yellowknife Ar**	**9.96**	**98**	Pn	**Pn**	**15 30 16.7**	**-1.1**
YKR5	**Yellowknife Ar**	**10.04**	**98**	Pn	Pn	**15 30 17.8**	**-1.2**
YKW3	**Yellowknife Ar**	**10.07**	**97**	Pn	**Pn**	**15 30 18.6**	**-0.7**
YKW3				Sn	Sn	15 32 01.9	-10
YKW2	**Yellowknife Ar**	**10.13**	**98**	Pn	**Pn**	**15 30 19.6**	**-0.6**
YKW2				Sn	Sn	15 32 03.4	-10

MEX 03 15:28:29.6±0.8, 16.79N×99.00W, h20km±34km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.82**	**276**	*i* P	Pb	15 28 44.0	-1.2
ACX				*i* S	Sb	15 28 54.3	-1.6
PNIG	**Pinotepa**	**0.93**	**115**	*e*P	Pb	15 28 43.9	-3.2
PNIG				*i* S	Sb	15 28 56.0	-3.0
CAIG	**El Cayaco**	**1.24**	**282**	*e*P	Pn	15 28 48.1	-3.6
CAIG				*i* S	Sb	15 29 02.9	-4.9
MEIG	**Mezcala**	**1.27**	**333**	*e*P	Pn	15 28 48.9	-3.5
MEIG				*i* S	Sn	15 29 04.8	-4.3
PLIG	**Platanillo**	**1.67**	**343**	*e*P	Pn	15 28 54.3	-3.5
PLIG				*i* S	Sn	15 29 14.6	-4.1
ARIG	**Puente Sto Nin**	**1.96**	**319**	*e*P	Pn	15 28 59.8	-2.0
ARIG				*i* S	Sn	15 29 22.0	-3.8
YAIG	**Yautepec**	**2.06**	**358**	*i* P	Pn	15 29 00.6	-2.7
YAIG				*i* S	Sn	15 29 24.9	-3.8
VHO	**Vista Hermosa**	**2.19**	**82**	*i* P	Pn	15 29 02.8	-2.4
VHO				*i* S	Sn	15 29 28.0	-3.9
PPM	**Popocatepetl**	**2.29**	**9**	*i* P	Pn	15 29 03.8	-3.2
PPM				*i* S	Sn	15 29 30.8	-4.3
ZIIG	**Zihuatanejo**	**2.49**	**289**	*i* P	Pn	15 29 07.2	-1.8
ZIIG				*i* S	Sn	15 29 36.2	-2.6

*IDC **03** 15:34:16.5±0.9, 34.00N×25.66E, h0km, mb3.8/13, mb1 3.9/19, mb1mx3.8/33, mbtmp3.8/19, ML3.8/6, Error ellipse: s-maj=19.3km s-min=13.7km az=7.0*
*HLW **03** 15:34:18.8, 34.20N×25.53E, h17km±14km, Md3.5, Ml3.5*
*ISCJB **03** 15:34:20.3±0.4, 33.96N±0.03×25.72E±0.03, h45km±5km, mb3.7/13, Error ellipse: s-maj=4.4km s-min=4.0km az=135.5*
*CSEM **03** 15:34:20.1±0.2, 33.97N×25.66E, h20km, MD3.6, Error ellipse: s-maj=5.9km s-min=5.0km az=38.0*
*ATH **03** 15:34:22.9, 34.18N×25.60E, h37km±2km, MD3.6/10*
*THE **03** 15:34:26.7, 34.28N×25.53E, h41km±35km, ML3.1/1, Error ellipse: s-maj=36.8km s-min=3.3km az=346.0*
*DDA **03** 15:34:36.1, 34.47N×26.87E, h21km, MD3.4*

ISC 03 15:34:21.4±0.9, 33.96N±0.03×25.65E±0.03, h37km±1km, n108, σ1ᵖ39/135, mb3.7/13, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**1.21**	**353**	*e*PN	**Pn**	**15 34 41.6**	**-0.2**
LAST				*e*SN	**Sn**	**15 34 55.5**	**-1.5**
LAST	**Lasithi**	**1.21**	**353**	*e*Pn	**Pn**	**15 34 41.6**	**-0.2**
LAST				*e*Sn	**Sn**	**15 34 55.5**	**-1.5**
ZKR	**Zakros**	**1.25**	**22**	*e*PN	**Pn**	**15 34 42.1**	**-0.2**
ZKR				*e*SN	**Sn**	**15 35 01.0**	**+3.1**
ZKR	**Zakros**	**1.25**	**22**	*e*PN	**Pn**	**15 34 42.6**	**+0.3**
ZKR				*e*SN	**Sn**	**15 34 57.8**	**0.0**
ZKR	**Zakros**	**1.25**	**22**	*e*Pn	**Pn**	**15 34 42.6**	**+0.3**
ZKR				*e*Sn	**Sn**	**15 34 57.8**	**0.0**
SIVA	**Sivas**	**1.27**	**327**	*e*PN	**Pn**	**15 34 42.5**	**+0.1**
SIVA	**Sivas**	**1.27**	**327**	*e*PN	**Pn**	**15 34 43.1**	**+0.6**
SIVA				*e*SN	**Sn**	**15 34 57.5**	**-0.7**
SIVA	**Sivas**	**1.27**	**327**	*e*Pn	**Pn**	**15 34 43.1**	**+0.6**
SIVA				*e*Sn	**Sn**	**15 34 57.5**	**-0.7**
NPS	**Neapolis**	**1.30**	**359**	P	**Pn**	**15 34 42.2**	**-0.8**
NPS				S	**Sn**	**15 34 56.6**	**-2.6**
NPS	**Neapolis**	**1.30**	**359**	*e*PN	**Pn**	**15 34 42.8**	**-0.2**
NPS				*e*SN	**Sn**	**15 34 56.8**	**-2.4**
NPS	**Neapolis**	**1.30**	**359**	P	**Pn**	**15 34 42.2**	**-0.8**
NPS	**Neapolis**	**1.30**	**359**	*e*Pn	**Pn**	**15 34 42.8**	**-0.2**
NPS				S	**Sn**	**15 34 56.6**	**-2.6**
IDI	**Anoyia**	**1.47**	**335**	P	**Pn**	**15 34 46.5**	**+1.1**
IDI	**Anoyia**	**1.47**	**335**	*e*PN	**Pn**	**15 34 45.8**	**+0.4**
IDI	**Anoyia**	**1.47**	**335**	*e*PN	**Pn**	**15 34 46.1**	**+0.7**
IDI				*e*SN	**Sn**	**15 35 02.1**	**-1.3**
IDI	**Anoyia**	**1.47**	**335**	*e*Pn	**Pn**	**15 34 46.1**	**+0.7**
IDI	**Anoyia**	**1.47**	**335**	P	**Pn**	**15 34 46.5**	**+1.1**
IDI				*e*Sn	**Sn**	**15 35 02.1**	**-1.3**
IDI	**Anoyia**	**1.47**	**335**	Pn	**Pn**	**15 34 45.9**	**+0.5**
	9.2nm,0.3s,baz=159,slow=15,SNR=49						
IDI				Sn	**Sn**	**15 35 05.0**	**+1.6**
	23nm,0.3s,baz=127,slow=20,SNR=8.7						
GVD	**Gavdhos**	**1.56**	**305**	*e*PN	**Pn**	**15 34 46.4**	**-0.2**
GVD	**Gavdhos**	**1.56**	**305**	*e*PB	**Pn**	**15 34 47.5**	**+0.9**
GVD				*e*SN	**Sn**	**15 35 06.1**	**+0.5**
GVD	**Gavdhos**	**1.56**	**305**	*e*Pn	**Pn**	**15 34 46.4**	**-0.2**
GVD	**Gavdhos**	**1.56**	**305**	*e*Pb	**Pn**	**15 34 47.5**	**+0.9**
GVD				*e*Sn	**Sn**	**15 35 06.1**	**+0.5**
VAM	**Vamos**	**1.88**	**321**	P	**Pn**	**15 34 52.1**	**+1.1**
VAM	**Vamos**	**1.88**	**321**	*e*PB	**Pn**	**15 34 52.0**	**+1.1**
VAM	**Vamos**	**1.88**	**321**	*e*Pb	**Pn**	**15 34 52.0**	**+1.1**
KARP	**Karpathos**	**2.02**	**38**	P	**Pn**	**15 34 55.3**	**+2.4**
KARP				S	**Sn**	**15 35 18.6**	**+1.7**
KARP	**Karpathos**	**2.02**	**38**	*e*PB	**Pn**	**15 34 54.8**	**+1.9**
KARP	**Karpathos**	**2.02**	**38**	*e*Pb	**Pn**	**15 34 54.8**	**+1.9**
KARP	**Karpathos**	**2.02**	**38**	P	**Pn**	**15 34 55.3**	**+2.4**
KARN	**Karanos**	**2.03**	**316**	*e*PN	**Pn**	**15 34 53.3**	**+0.3**
KARN	**Karanos**	**2.03**	**316**	*e*PN	**Pn**	**15 34 54.1**	**+1.1**
KARN	**Karanos**	**2.03**	**316**	*e*Pn	**Pn**	**15 34 54.1**	**+1.1**
THR1	**Thera Island**	**2.42**	**356**	*e*Pn	**Pn**	**15 34 59.2**	**+0.9**
SANT	**Santorini**	**2.42**	**356**	*e*PN	**Pn**	**15 34 59.4**	**+1.1**
SANT	**Santorini**	**2.42**	**356**	*e*PN	**Pn**	**15 34 58.3**	**0.0**
SANT	**Santorini**	**2.42**	**356**	*e*Pn	**Pn**	**15 34 58.3**	**0.0**
THR3	**Thira Island,**	**2.46**	**355**	P	**Pn**	**15 34 58.7**	**-0.1**
THR3	**Thira Island,**	**2.46**	**355**	P	**Pn**	**15 34 58.7**	**-0.1**
SLUM		**2.48**	**189**	S	**Sn**	**15 35 29.6**	**+1.3**
	baz=186						
SLUM		**2.48**	**189**	P	**Pn**	**15 34 59.6**	**+0.4**
ARG	**Arkhangelos**	**3.04**	**41**	P	**Pn**	**15 35 09.5**	**+2.7**
ARG	**Arkhangelos**	**3.04**	**41**	*e*PN	**Pn**	**15 35 08.8**	**+2.0**
ARG	**Arkhangelos**	**3.04**	**41**	*e*Pn	**Pn**	**15 35 08.8**	**+2.0**
ARG	**Arkhangelos**	**3.04**	**41**	P	**Pn**	**15 35 09.5**	**+2.7**
HMAT	**Matruh**	**3.10**	**156**	P	**Pn**	**15 35 08.6**	**+0.8**
	baz=156						
HMAT	**Matruh**	**3.10**	**156**	P	**Pn**	**15 35 08.6**	**+0.8**
APE	**Apeiranthos**	**3.11**	**358**	*e*PN	**Pn**	**15 35 08.8**	**+0.9**
APE	**Apeiranthos**	**3.11**	**358**	*e*PN	**Pn**	**15 35 08.2**	**+0.3**
APE	**Apeiranthos**	**3.11**	**358**	*e*Pn	**Pn**	**15 35 08.2**	**+0.3**
KYTH	**Kithira**	**3.16**	**318**	*e*PN	**Pn**	**15 35 09.1**	**+0.6**
KYTH	**Kithira**	**3.16**	**318**	*e*Pn	**Pn**	**15 35 09.1**	**+0.6**
DAT	**Datca**	**3.19**	**29**	*e*PN	**Pn**	**15 35 08.9**	**-0.1**
DAT	**Datca**	**3.19**	**29**	*e*Pn	**Pn**	**15 35 08.9**	**-0.1**
VLI	**Veliai**	**3.54**	**322**	*e*PN	**Pn**	**15 35 14.1**	**+0.4**
VLI	**Veliai**	**3.54**	**322**	*e*Pn	**Pn**	**15 35 14.1**	**+0.4**
DALY	**Dalyan (Mu¨la**	**3.77**	**40**	*e*PN	**Pn**	**15 35 16.6**	**-0.2**
DALY	**Dalyan (Mu¨la**	**3.77**	**40**	*e*Pn	**Pn**	**15 35 16.6**	**-0.2**
YER	**Yerkesik**	**3.83**	**33**	*e*PN	**Pn**	**15 35 18.0**	**+0.2**
YER	**Yerkesik**	**3.83**	**33**	*e*Pn	**Pn**	**15 35 18.0**	**+0.2**
SMG	**Samos**	**3.87**	**14**	*e*PN	**Pn**	**15 35 19.7**	**+1.4**
SMG	**Samos**	**3.87**	**14**	*e*Pn	**Pn**	**15 35 19.7**	**+1.4**
FETY	**Fethiye**	**3.88**	**45**	*e*PN	**Pn**	**15 35 17.8**	**-0.6**
FETY	**Fethiye**	**3.88**	**45**	*e*Pn	**Pn**	**15 35 17.8**	**-0.6**
AKAS	**Kas**	**3.96**	**54**	*i* P	**Pn**	**15 35 22.0**	**+2.3**
AKAS				*i* S	**Sn**	**15 36 04.8**	**-0.1**
AKAS	**Kas**	**3.96**	**54**	*i* P	**Pn**	**15 35 22.0**	**+2.3**
AKAS				*i* S	**Sn**	**15 36 04.8**	**-0.1**
ELL	**Elmali**	**4.46**	**50**	*e*PN	**Pn**	**15 35 25.7**	**-0.8**
ELL	**Elmali**	**4.46**	**50**	*e*Pn	**Pn**	**15 35 25.7**	**-0.8**
GOLH	**Golhisar**	**4.57**	**43**	*i* P	**Pn**	**15 35 28.7**	**+0.7**
GOLH				*i* S	**Sn**	**15 36 19.1**	**-0.8**
GOLH	**Golhisar**	**4.57**	**43**	*i* P	**Pn**	**15 35 28.7**	**+0.7**
GOLH				*i* S	**Sn**	**15 36 19.1**	**-0.8**
DNZL	**Cakiroluk**	**4.64**	**36**	*i* P	**Pn**	**15 35 31.8**	**+2.8**
DNZL				*e*S	**Sn**	**15 36 16.7**	**-5.0**
DNZL	**Cakiroluk**	**4.64**	**36**	*i* P	**Pn**	**15 35 31.8**	**+2.8**
DNZL				*e*S	**Sn**	**15 36 16.7**	**-5.0**
SWA2		**4.70**	**182**	P	**Pn**	**15 35 30.3**	**+0.6**
	baz=181						
SWA2				AMP		15 36 00.0	
	comp=E,60μm,0.3s,logA/T=5.3,baz=181						
SWA2				S	**Sn**	**15 36 22.3**	**-0.7**
	baz=181						
SWA2		**4.70**	**182**	P	**Pn**	**15 35 30.3**	**+0.6**
SWA2				S	**Sn**	**15 36 22.3**	**-0.7**
KHAL	**Karahalli**	**5.39**	**34**	*i* P	**Pn**	**15 35 39.4**	**+0.1**
KHAL	**Karahalli**	**5.39**	**34**	*i* P	**Pn**	**15 35 39.4**	**+0.1**
GAZI	**Gazipasa**	**5.92**	**66**	*i* P	**Pn**	**15 35 46.5**	**+0.1**
GAZI				*i* S	Sn	15 36 45.6	-7.4
GAZI	**Gazipasa**	**5.92**	**66**	*i* P	**Pn**	**15 35 46.5**	**+0.1**
HDMB	**Hadim**	**6.34**	**60**	*e*PN	**Pn**	**15 35 51.5**	**-0.8**
HDMB	**Hadim**	**6.34**	**60**	*e*Pn	**Pn**	**15 35 51.6**	**-0.8**
CSS	**Prodhromos**	**6.42**	**79**	*e*PN	**Pn**	**15 35 51.7**	**-1.7**
CSS	**Prodhromos**	**6.42**	**79**	*e*Pn	**Pn**	**15 35 51.7**	**-1.7**
LFK	**Lefkose**	**6.63**	**76**	*e*PN	**Pn**	**15 35 54.4**	**-1.9**
LFK	**Lefkose**	**6.63**	**76**	*e*Pn	**Pn**	**15 35 54.4**	**-1.9**
GLL	**Jalalah**	**6.76**	**129**	P	**Pn**	**15 35 58.9**	**+0.9**
	baz=129						
GLL	**Jalalah**	**6.76**	**129**	P	**Pn**	**15 35 58.9**	**+0.9**
IKL	**Isikli**	**6.97**	**69**	*e*PN	**Pn**	**15 35 59.4**	**-1.4**
IKL	**Isikli**	**6.97**	**69**	*e*Pn	**Pn**	**15 35 59.4**	**-1.4**
MMAI	**Mount Meron Ar**	**8.20**	**94**	Pn	**Pn**	**15 36 16.2**	**-1.7**
	comp=E,1.6nm,0.3s,baz=274,slow=11,SNR=8.8						
MMAI				Sn	**Sn**	**15 37 51.3**	**+2.0**
	comp=E,1.9nm,0.3s,baz=298,slow=12,SNR=4.4						
BRTR	**Keskin Array B**	**8.61**	**46**	Pn	**Pn**	**15 36 23.2**	**-0.3**
	comp=E,0.1nm,0.3s,baz=231,slow=12,SNR=6.4						
BRTR				Sn	**Sn**	**15 37 58.9**	**-0.5**
	comp=E,0.1nm,0.3s,baz=219,slow=20,SNR=4.0						
EIL	**Elat**	**8.99**	**116**	Pn	**Pn**	**15 36 28.1**	**-0.6**
	comp=E,0.9nm,0.3s,baz=331,slow=7.6,SNR=12						
EIL				Sn	**Sn**	**15 38 05.9**	**-2.8**
	comp=E,0.7nm,0.3s,baz=343,slow=20,SNR=3.8						
ASF	**Jabal al Asfar**	**9.61**	**98**	Sn	**Sn**	**15 38 27.2**	**+3.3**
	comp=E,0.3nm,0.3s,baz=142,slow=19,SNR=1.9						
AKASG	**Malin Array Be**	**16.94**	**8**	Pn	**Pn**	**15 38 15.1**	**-0.2**
	comp=E,1.8nm,0.3s,baz=200,slow=10,SNR=12						
GERES	**GERESS Array B**	**17.33**	**333**	P	**Pn**	**15 38 19.2**	**-1.1**
	comp=E,0.3nm,0.3s,baz=150,slow=12,SNR=24						
DAVOX	**Davos/Dischmat**	**17.52**	**322**	P	**Pn**	**15 38 22.3**	**-0.5**
	comp=E,0.1nm,0.3s,baz=158,slow=19,SNR=2.5						
ESDC	**Sonseca Array**	**24.32**	**292**	P	**P**	**15 39 35.5**	**0.0**
	comp=E,0.5nm,0.5s,baz=89,slow=9.9,SNR=6.9						
MDT	**Midelt**	**25.25**	**276**	P	**P**	**15 39 45.6**	**+1.4**
	comp=E,0.6nm,0.5s,baz=101,slow=11,SNR=4.4						
FINES	**FINESS Array B**	**27.51**	**0**	P	**P**	**15 40 02.8**	**-1.1**
	comp=E,2.0nm,0.7s,baz=169,slow=11,SNR=6.8						
AKTO	**Aktyubinsk**	**28.79**	**45**	P	**P**	**15 40 15.7**	**+0.1**
	comp=E,1.1nm,0.6s,baz=205,slow=5.6,SNR=4.0						
JOF	**Joensuu**	**29.20**	**5**	*e*p	**P**	**15 40 18.6**	**-0.4**
TORD	**Torodi Ar. Bea**	**30.05**	**232**	P	**P**	**15 40 27.7**	**+0.7**
	comp=E,0.5nm,0.6s,baz=38,slow=9.4,SNR=4.5						
ARCES	**ARCESS Array B**	**35.63**	**360**	P	**P**	**15 41 13.5**	**-1.7**
	comp=E,1.3nm,0.7s,baz=177,slow=8.3,SNR=5.3						
BVAR	**Borovoye Array**	**36.90**	**45**	P	**P**	**15 41 25.9**	**-0.3**
	comp=E,0.3nm,0.5s,baz=273,slow=10,SNR=3.5						
KURBB	**Kurchatov Arra**	**41.58**	**50**	P	**P**	**15 42 06.0**	**+0.7**
	comp=E,0.6nm,0.2s,baz=279,slow=8.9,SNR=7.2						
MKAR	**Makanchi Array**	**44.11**	**56**	P	**P**	**15 42 27.2**	**+1.3**
	comp=E,0.7nm,0.6s,baz=269,slow=6.5,SNR=6.6						
ZALV	**Zalesovo Beam**	**45.55**	**45**	P	**P**	**15 42 37.4**	**+0.1**
	comp=E,1.0nm,0.5s,baz=278,slow=9.1,SNR=5.4						
SCHQ	**Schefferville**	**64.36**	**320**	P	**P**	**15 44 52.8**	**-0.4**
	comp=E,2.7nm,0.8s,baz=59,slow=12,SNR=5.5						
CMAR	**Chiang Mai Arr**	**66.31**	**83**	P	**P**	**15 45 07.6**	**+1.2**
	comp=E,0.2nm,0.4s,baz=280,slow=5.3,SNR=2.8						
YKA	**Yellowknife Ar**	**78.72**	**342**	P	**P**	**15 46 19.9**	**+0.5**
	comp=E,1.2nm,0.9s,baz=30,slow=11,SNR=3.0						

*NIED **03** 15:36:00, 27.80N×128.00E, h5km, Mw5.1 Best double couple: M0 4.37000×10^16 NP1:φs 43.00000°, δ 76.00000°, λ -92.00000°. NP2:φs 230.00000°, δ 14.00000°, λ -83.00000°.*
*JMA **03** 15:36:18.6±0.2, 27.86N×127.94E, h14km±3km, M4.2*
*ISCJB **03** 15:36:21.7±0.4, 27.77N±0.02×127.99E±0.03, h35km±4km, mb4.7/77, MS4.6/33, Error ellipse: s-maj=3.9km s-min=3.8km az=164.1*
*MOS **03** 15:36:24.2±1.4, 27.87N×127.97E, h60km, mb4.8/29, MS4.3/7, Error ellipse: s-maj=10.3km s-min=5.9km az=106.9*
*NEIC **03** 15:36:28.2±0.2, 27.89N×127.78E, mb5.1/37, MW5.0(NIED), Error ellipse: s-maj=6.9km s-min=5.1km az=135.0*
NEIC Recorded [1 JMA] on Okino-erabu-shima and Yoron-jima.
*BJI **03** 15:36:28.2, 27.91N×127.89E, h87km, mB5.0/42, mb4.6/45, Ms5.0/59, Ms7 4.7/56*
*IDC **03** 15:36:28.0±0.4, 27.93N×127.96E, h85km±2km, mb3.8/24, mb1 3.9/27, mb1mx3.9/34, mbtmp3.8/27, MS4.3/20, Ms1 4.3/20, ms1mx4.1/52, Error ellipse: s-maj=13.8km s-min=8.7km az=73.0*
*GCMT **03** 15:36:36.6±0.2, 27.85N×127.85E, h17km, MW5.0, Moment Tensor Solution. s22,c25; s72,c130; Moment tensor: Scale 10^16Nm; Mrr=4.40±.28; Mθθ 2.12±.16; Mφφ 2.28±.17; Mrθ 0.49±.42; Mθφ 2.24±.09; Mφr 1.03±.43; Best double couple: M0 4.60000×10^16 NP1:φs 219.00000°, δ 52.00000°, λ -96.00000°. NP2:φs 49.00000°, δ 38.00000°, λ -83.00000°. Principal axes: T 4.5700, Plg 7.0000°, Azm 313.0000°; N -0.0100, Plg 4.0000°, Azm 223.0000°; P -4.5600, Plg 82.0000°, Azm 100.0000°; Data Used: II IU CN G IC.*

ISC 03 15:36:25.1±0.5, 27.78N±0.03×128.06E±0.03, h59km±4km, n245, σ1ᵖ99/243, mb4.8/77, MS4.6/33, 5C-4D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIH	**Iheya**	**0.75**	**186**	P	Pn	15 36 34.0	-5.8
JIH				S	**Sn**	**15 36 45.3**	**-5.3**
JTK	**Tokunoshima**	**0.79**	**89**	P	Pn	15 36 35.3	-5.1
JTK				*e*S	**Sn**	**15 36 47.1**	**-4.5**
JOW	**Kunigami**	**0.96**	**168**	P	Pn	15 36 38.0	-4.6
JOW				*e*S	**Sn**	**15 36 52.2**	**-3.4**
JAMN	**Amaminishikomi**	**1.09**	**65**	P	Pn	15 36 39.8	-4.4
JAGN	**Aguni-jima**	**1.39**	**212**	P	Pn	15 36 43.5	-4.8
JAM	**Amami Oshima**	**1.50**	**65**	P	Pn	15 36 46.3	-3.5
JJT2	**Tamagusuku 2**	**1.66**	**190**	P	**Pn**	**15 36 48.7**	**-3.2**
JZK	**Kikaishima**	**1.77**	**72**	P	**Pn**	**15 36 52.8**	**-0.6**
JKE	**Kume jima 2**	**1

comp=Z,440nm,5.5s
MDJ LR LR
comp=N,1μm,16.4s
MDJ LR LR
comp=E,920nm,14.7s
MDJ LR LR
comp=Z,1μm,15.8s
MDJ Mudanjiang 16.85 4 *e*Pn **P 15 40 17.7 -0.4**
87nm,1.3s
XAN Xi'an 17.56 296 P **P 15 40 25.5 -0.6**
XAN S **Sn 15 43 36.1 -4.5**
XAN sS sS 15 43 56.5 -9.5
XAN AMB AMB
comp=Z,8.0nm,1.1s
XAN LR LR
comp=N,4μm,11.4s
XAN LR LR
comp=E,900nm,13.3s
XAN LR LR
comp=Z,790nm,16.1s
ERM Erimo 18.80 37⇓ *e*P **P 15 40 39.2 -0.4**
HHC Hu-ho-hao-te 18.82 318 *e*P **Pn 15 40 40.9 -0.1**
HHC pP **pP 15 40 54.9 +2.2**
HHC PP **PnPn 15 40 59.9 +5.1**
HHC sP sP 15 41 05.9 +5.7
HHC S **Sn 15 44 03.8 -7.1**
HHC sS sS 15 44 25.7 -5.9
HHC SS **SnSn 15 44 33.7 +8.0**
HHC PcP **PcP 15 45 05.7 +0.8**
HHC ScP **ScP 15 48 31.5 -4.1**
HHC AMB AMB
comp=Z,49nm,1.3s
HHC AMB AMB
comp=Z,1μm,5.7s
HHC LR LR
comp=N,5μm,14.3s
HHC LR LR
comp=E,4μm,14.9s
HHC LR LR
comp=Z,6μm,14.2s
QIZ Qiongzhong 18.83 246 P **Pn 15 40 41.0 -0.3**
QIZ pP pP 15 40 56.9 +3.9
QIZ S **Sn 15 44 09.0 -2.5**
QIZ LR LR
comp=N,2μm,13.1s
QIZ LR LR
comp=Z,1μm,11.3s
GYA Guiyang 19.09 271⇓ *i*P **Pn 15 40 45.1 +0.7**
GYA pP pP 15 40 58.8 +2.9
GYA PP **PnPn 15 41 04.0 +5.3**
GYA S Sn 15 44 08.1 -10
GYA SS **SnSn 15 44 36.5 +4.0**
GYA PcP **PcP 15 45 09.4 +3.7**
GYA AMB AMB
comp=Z,30nm,1.0s
GYA AMB AMB
comp=Z,280nm,5.6s
GYA LR LR
comp=N,2μm,11.3s
GYA LR LR
comp=E,2μm,13.5s
GYA LR LR
comp=Z,3μm,17.3s
BTO Baotou 19.61 315 *e*P **Pn 15 40 50.2 -0.2**
HABR Khabarovsk 21.36 13 *e*P **P 15 41 06.1 -1.2**
HABR *e**SP sP 15 41 32.3 +4.6
HABR *e*S **S 15 44 57.8 -3.3**
HABR 15 45 07.6
HABR *e* 15 52 21.0
HABR MLR MLR
comp=Z,590nm,16.0s
CD2 Chengdu 21.40 284 P **P 15 41 08.6 +0.6**
CD2 pP pP 15 41 26.0 +5.0
CD2 sP sP 15 41 35.2 +6.8
CD2 S **S 15 45 02.1 -0.3**
CD2 sS **sS 15 45 21.0 -2.5**
CD2 SS **SnSn 15 45 31.8 +2.8**
CD2 AMB AMB
comp=Z,80nm,1.0s
CD2 AMB AMB
comp=Z,260nm,4.1s
CD2 LR LR
comp=Z,4μm,14.3s
CD2 LR LR
comp=Z,3μm,16.0s
LZH Lanzhou 22.11 298 *e*P **P 15 41 18.0 +2.2**
LZH pP pP 15 41 34.7 +5.9
LZH sP sP 15 41 43.2 +7.0
LZH PP PnPn 15 41 46.3 +6.3
LZH S **S 15 45 11.0 -5.2**
LZH sS Sn 15 45 39.8 +9.5
LZH SS **SnSn 15 45 51.0 +4.4**
LZH AMB AMB
comp=Z,100nm,1.7s
LZH AMB AMB
comp=Z,330nm,5.4s
LZH LR LR
comp=Z,4μm,13.2s
LZH LR LR
comp=Z,2μm,14.6s
LZH LR LR
comp=Z,4μm,14.8s
YSS Yuzh-Sakhalins 22.35 27 *e*P **P 15 41 21.6 +3.6**
YSS *e* 15 41 37.8
YSS MLR MLR
comp=Z,1μm,15.0s
YSS MLR MLR
comp=E,700nm,14.0s
KMI Kunming 22.81 269 P **P 15 41 23.3 0.0**
KMI S S 15 45 21.5 -6.9
KMI AMB AMB
comp=E,14nm,1.0s
KMI AMB AMB
comp=E,140nm,4.4s
KMI LR LR
comp=E,880nm,9.8s
KMI LR LR
comp=E,1μm,13.1s
KMI LR LR
comp=E,1μm,13.5s
ULN Ulaanbaatar 25.88 326 *e*P **P 15 41 50.6 -0.8**
comp=E,50nm,0.9s
GTA Gaotai 26.12 304 *e*P **P 15 41 52.5 -1.2**
GTA pP **pP 15 42 10.0 +1.8**
GTA S **S 15 46 18.1 -3.1**
GTA sS **sS 15 46 46.5 +0.5**
GTA SS **SnSn 15 47 29.8 +5.4**
GTA AMB AMB
comp=E,6.0nm,0.8s
GTA AMB AMB
comp=E,120nm,5.5s
GTA LR LR
comp=E,2μm,14.0s
GTA LR LR
comp=E,2μm,14.7s
GTA LR LR
comp=E,3μm,14.7s
SONM Songino Array 26.18 326 P **P 15 41 53.3 -0.8**
SONM pP pP 15 42 13.5 +4.9
SONM Songino Array 26.18 326 P **P 15 41 53.3 -0.8**
comp=E,7.1nm,0.9s,baz=133,slow=7.7,SNR=36
SONM pP pP 15 42 13.5 +4.9
comp=E,25nm,0.8s,baz=140,slow=4.3,SNR=14
SONM LR LR 15 53 16.8
comp=E,1μm,19.6s,baz=116,slow=39
CIT Chita 26.55 340 *e*P **P 15 41 59.5 +2.3**
CIT *e* 15 42 13.6
CHTO Chiang Mai 28.13 258 *e*P **P 15 42 12.0 +0.2**
CHTO pmax pmax
comp=Z,47nm,1.4s
CHTO Chiang Mai 28.13 258 *e*P **P 15 42 12.0 +0.2**
comp=Z,47nm,1.4s
CMAR Chiang Mai Arr 28.28 257 P **P 15 42 15.7 +2.6**
CMAR Chiang Mai Arr 28.28 257 P **P 15 42 15.7 +2.6**
comp=Z,1.0nm,0.9s,baz=90,slow=3.1,SNR=5.9
CMAR LR LR 15 54 27.9
comp=Z,321nm,18.9s,baz=257,slow=38
ZAK Zakamensk 29.40 327 *e*P **P 15 42 24.2 +1.4**
ZAK *e* 15 42 40.9
ZAK pmax pmax
comp=Z,3.0nm,1.4s
TLY Talaya 30.10 329 *e*P **P 15 42 30.4 +1.5**
TLY *e* 15 42 49.3
TLY *e*S S 15 47 12.3 -11
TLY pmax pmax
comp=Z,19nm,1.3s
TLY MLR MLR
comp=Z,1μm,19.0s
IRK Irkutsk 30.21 330 *e*P **P 15 42 32.9 +3.0**
IRK pmax pmax
comp=Z,40nm,1.1s
KSM Kuching 31.20 216 *e*P **P 15 42 38.5 -0.3**
comp=Z,11nm,0.9s
MOY Mondy 31.34 327 *e*P P 15 42 43.4 +3.5
MOY pmax pmax
comp=Z,7.0nm,1.6s
SHL Shillong 32.33 275 *e*P P 15 42 52.0 +3.0
LSA Lhasa 32.33 282 P **P 15 42 51.0 +1.7**
LSA LR LR
comp=Z,610nm,24.6s
LSA LR LR
comp=Z,840nm,20.5s
LSA LR LR
comp=Z,890nm,25.9s
PETK Petropavlovsk- 33.47 33 P pP 15 43 18.1 +5.0
PETK Petropavlovsk- 33.47 33 pP pP 15 43 18.1 +4.9
PETK Petropavlovsk- 33.47 33 pP pP 15 43 18.1 +4.9
comp=Z,18nm,1.2s,baz=201,slow=5.1,SNR=2.4
KAPI Kappang 33.58 195 LR LR 15 57 45.2
comp=Z,268nm,18.1s,baz=336,slow=38
IPM Ipoh 34.63 233 *e*P **P 15 43 09.1 +0.2**
comp=Z,30nm,0.9s
HVS Khovu-Aksy 34.83 321 *c i*P **P 15 43 09.3 -1.0**
HVS *i* *PP pP 15 43 30.7 +5.6
HVS pmax pmax
comp=Z,77nm,1.7s
WMQ Urumqi 36.04 307 P **P 15 43 22.0 +1.2**
WMQ pP pP 15 43 40.2 +4.5
WMQ sP sP 15 43 49.2 +6.6
WMQ PP **PP 15 44 45.1 +1.5**
WMQ S **S 15 48 53.2 -2.5**
WMQ sS **ScP 15 49 24.3 -3.0**
WMQ PcS **PcS 15 49 34.7 +1.2**
WMQ SS **SnSn 15 51 18.0 -7.2**
WMQ AMB AMB
comp=Z,16nm,1.2s
WMQ AMB AMB
comp=Z,160nm,3.6s
WMQ LR LR
comp=Z,1μm,13.6s
WMQ LR LR
comp=Z,2μm,16.4s
WMQ LR LR
comp=Z,1μm,17.6s
H11N2 WAKE ISLAND Hy 36.32 94 T T 16 21 29.2
baz=293,slow=0.7,SNR=8.3
H11N1 WAKE ISLAND Hy 36.32 94 T T 16 21 30.5
baz=293,slow=0.7,SNR=5.1
H11N3 WAKE ISLAND Hy 36.34 94 T T 16 21 29.1
baz=293,slow=0.7,SNR=4.4
PSI Prapat 37.30 233 P **P 15 43 34.1 +2.3**
PSI pP pP 15 43 53.3 +6.6
PSI Prapat 37.30 233 P **P 15 43 34.1 +2.3**
comp=Z,5.4nm,0.9s,baz=15,slow=5.0,SNR=3.1
PSI pP pP 15 43 53.3 +6.6
comp=Z,6.0nm,0.7s,baz=18,slow=1.4,SNR=3.1
MK31 Makanchi Array 40.40 311 *i*P **P 15 43 57.0 -0.4**
MK31 pmax pmax
comp=Z,7.0nm,0.9s
MK31 Makanchi Array 40.40 311 *e*P **P 15 43 56.1 -1.2**
MKAR Makanchi Array 40.40 311 P **P 15 43 56.1 -1.3**
MKAR *PP pP 15 44 17.7 +5.3
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR MLR MLR
comp=Z,708nm,18.7s
MKAR Makanchi Array 40.40 311 P **P 15 43 56.0 -1.3**
MKAR pP pP 15 44 17.7 +5.3
MKAR Makanchi Array 40.40 311 P **P 15 43 56.0 -1.3**
comp=Z,1.9nm,0.7s,baz=94,slow=11,SNR=14
MKAR pP pP 15 44 17.7 +5.3
comp=Z,2.4nm,0.7s,baz=101,slow=10,SNR=5.5
MKAR LR LR 16 02 49.9
comp=Z,708nm,18.7s,baz=277,slow=39
ZAA0 Zalesovo Array 40.93 322 *e*P **P 15 43 59.7 -1.9**
ZALV Zalesovo Beam 40.93 322 P **P 15 44 00.4 -1.1**
ZALV *PP pP 15 44 22.1 +5.5
ZALV pmax pmax
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 40.93 322 P **P 15 44 00.4 -1.1**
ZALV pP pP 15 44 22.1 +5.5
ZALV Zalesovo Beam 40.93 322 P **P 15 44 00.4 -1.1**
comp=Z,2.4nm,0.7s,baz=108,slow=6.5,SNR=13
ZALV pP pP 15 44 22.1 +5.5
comp=Z,11nm,0.9s,baz=111,slow=8.3,SNR=13
PMG Port Moresby 41.34 151 *e*P **P 15 44 08.1 +2.8**
PMG Port Moresby 41.34 151 P **P 15 44 06.8 +1.5**
comp=Z,4.0nm,0.5s,baz=302,slow=15,SNR=2.5
PMG LR LR 15 58 46.4
comp=Z,828nm,20.1s,baz=34,slow=32
NVS Novosibirsk 42.12 323⇓ *i*P **P 15 44 13.2 +1.9**
NVS *e* 15 46 19.9
NVS pmax pmax
comp=N,7.0nm,1.5s
NVS pmax pmax
comp=E,25nm,1.5s
NVS pmax pmax
comp=Z,29nm,1.5s
KURK Kurchatov 43.60 316⇓ *e*P **P 15 44 22.5 -0.8**
KURK pmax pmax
comp=Z,13nm,1.7s
KURK Kurchatov 43.60 316 P **P 15 44 24.6 +1.3**
comp=Z,77nm,1.6s,SNR=6.8
KURK Kurchatov 43.60 316 *e*P **P 15 44 20.9 -2.4**
comp=Z,17nm,1.0s
KURK pP pP 15 44 42.6 +4.2
KURBB Kurchatov Arra 43.64 315 P **P 15 44 21.1 -2.5**
comp=Z,2.8nm,0.8s,baz=104,slow=8.2,SNR=20
KURBB pP pP 15 44 42.6 +3.9
comp=Z,8.2nm,0.6s,baz=102,slow=8.9,SNR=18
COEN Coen 44.00 159 *e*P **P 15 44 24.8 -2.0**
KSH Kashi 44.36 299 P P 15 44 35.7 +6.0
KSH pP pP 15 44 56.7 +12
KSH PP **PP 15 46 14.0 0.0**
KSH S **S 15 50 59.2 -0.8**
KSH ScS **SS 15 54 21.1 +0.7**
KSH AMB AMB
comp=Z,13nm,1.3s
KSH AMB AMB
comp=Z,230nm,5.4s
KSH LR LR
comp=Z,520nm,10.7s
KSH LR LR
comp=Z,680nm,11.4s
KSH LR LR
comp=Z,1μm,17.3s
TKM2 Tokmak 2 44.67 304 *e*P **P 15 44 31.2 -1.1**
TKM2 pmax pmax
comp=Z,38nm,1.4s
TKM2 Tokmak 2 44.67 304 *e*P **P 15 44 31.2 -1.1**
comp=Z,38nm,1.4s
FRU Bishkek 45.39 304 *e*P **P 15 44 40.0 +2.2**
FRU *e* 15 44 59.0
FRU pmax pmax
comp=Z,40nm,2.0s
FRU MLR MLR
comp=Z,2μm,16.0s
AAK Ala-Archa 45.48 304⇑ *e*P **P 15 44 38.3 -0.3**
AAK pmax pmax
comp=Z,23nm,1.7s
AAK Ala-Archa 45.48 304 *e*P **P 15 44 37.5 -1.2**
comp=Z,21nm,1.6s
AAK Ala-Archa 45.48 304 P **P 15 44 41.0 +2.4**
comp=Z,0.5nm,0.3s,baz=118,slow=8.8,SNR=5.8
AAK LR LR 16 07 29.9
comp=Z,597nm,19.3s,baz=337,slow=41
FITZ Fitzroy Crossi 45.67 183 *e*P **P 15 44 41.2 +1.2**
FITZ pP pP 15 45 01.5 +6.2
FITZ Fitzroy Crossi 45.67 183 P **P 15 44 40.2 +0.1**
comp=Z,8.2nm,1.1s,baz=352,slow=3.7,SNR=7.3
FITZ pP pP 15 45 01.5 +6.2
comp=Z,8.9nm,1.0s,baz=360,slow=8.6,SNR=5.7
FITZ LR LR 16 02 21.1
comp=Z,132nm,21.5s,baz=22,slow=34
WRAB Tennant Creek 47.82 172 *e*P **P 15 44 57.9 +1.0**
WRAB pmax pmax
comp=Z,17nm,1.2s
WRAB Tennant Creek 47.82 172 *e*P **P 15 44 57.9 +1.0**
comp=Z,17nm,1.2s
WRA Warramunga Arr 47.83 172 P **P 15 44 56.8 -0.2**
WRA pP pP 15 45 19.5 +7.2
comp=Z,1.5nm,0.6s,baz=353,slow=8.2,SNR=9.3
WRA pP pP 15 45 19.5 +7.2
comp=Z,6.3nm,0.8s,baz=352,slow=8.0,SNR=5.6
WRA LR LR 16 04 21.9
comp=Z,260nm,20.0s,baz=140,slow=35
HNR Honiara 48.18 136 LR LR 16 04 19.4
comp=Z,93nm,20.8s,baz=335,slow=35
KKAR Karatay Array 48.40 304 *e*P **P 15 45 02.1 +0.8**
KKAR Karatay Array 48.40 304 *e*P **P 15 45 02.1 +0.8**
VOSK Vostochnaya 48.63 317 *e*P **P 15 45 02.0 -0.9**
VOSK pmax pmax
comp=Z,29nm,1.5s
VOSK Vostochnaya 48.63 317 *e*P **P 15 45 02.0 -0.9**
comp=Z,29nm,1.5s
BVAR Borovoye Array 49.03 317 P **P 15 45 03.7 -2.2**
BVAR *PP pP 15 45 26.3 +5.0
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR Borovoye Array 49.03 317 P **P 15 45 03.7 -2.2**
BVAR pP pP 15 45 26.3 +5.0
BVAR Borovoye Array 49.03 317 P **P 15 45 03.7 -2.2**
comp=Z,1.7nm,0.7s,baz=81,slow=9.3,SNR=13
BVAR pP pP 15 45 26.3 +5.0
comp=Z,9.3nm,0.8s,baz=81,slow=9.2,SNR=12
BRVK Borovoye 49.09 317⇑ *e*P **P 15 45 06.7 +0.3**
BRVK *i* *PP pP 15 45 27.2 +5.4
BRVK pmax pmax
comp=Z,23nm,1.7s
BRVK Borovoye 49.09 317 P **P 15 45 07.1 +0.7**
comp=Z,86nm,1.1s,SNR=5.3
BRVK Borovoye 49.09 317 *e*P **P 15 45 04.9 -1.4**
comp=Z,24nm,0.9s
KBL Kabul 50.34 293 *e*P **P 15 45 16.5 +0.1**
KBL pmax pmax
comp=Z,47nm,1.4s
KBL Kabul 50.34 293 *e*P **P 15 45 16.5 +0.1**
comp=Z,47nm,1.4s
AS31 Alice Springs 51.46 173 *e*P **P 15 45 27.4 +2.9**
ASAR Alice Springs 51.46 173 P **P 15 45 26.5 +2.0**
ASAR pP pP 15 45 48.0 +8.0
ASAR Alice Springs 51.46 173 P **P 15 45 26.5 +2.0**
comp=Z,4.3nm,1.1s,baz=359,slow=7.5,SNR=18
ASAR pP pP 15 45 48.0 +8.0
comp=Z,7.5nm,1.1s,baz=359,slow=11,SNR=5.2
ASAR LR LR 16 05 33.5
comp=Z,344nm,21.2s,baz=31,slow=34
ABKAR Akbulak array 55.48 312 *e*P **P 15 45 52.1 -1.6**
ARU Arti 56.09 321 *c i*P **P 15 45 57.7 -0.3**
ARU *PP pP 15 46 18.3 +4.6
ARU 15 46 57.2
ARU 15 48 00.4
ARU S **S 15 53 38.4 -3.9**
ARU SS SS 15 57 19.8 -9.0
ARU pmax pmax
comp=Z,18nm,1.6s
ARU MLR MLR
comp=Z,1μm,16.0s
AKTO Aktyubinsk 56.64 314 P **P 15 46 02.0 -0.1**
AKTO *PP pP 15 46 22.6 +4.8
AKTO pmax pmax
comp=Z,1.0nm,0.7s
AKTO Aktyubinsk 56.64 314 P **P 15 46 02.0 -0.1**
AKTO pP pP 15 46 22.6 +4.8
AKTO Aktyubinsk 56.64 314 P **P 15 46 02.0 -0.1**
comp=Z,1.1nm,0.7s,baz=76,slow=12,SNR=2.6
AKTO pP pP 15 46 22.6 +4.8
comp=Z,5.7nm,0.9s,baz=102,slow=13,SNR=7.2
IMYA Miami 57.18 297 *e*P P 15 46 09.8 +3.5
IKRD Kardeh 58.33 298 *e*P **P 15 46 12.6 -1.9**
IMA2 Indian Mountai 60.20 27 *e*P **P 15 46 26.8 0.0**
STKA Stephens Creek 60.71 167 P **P 15 46 31.9 +1.5**
STKA pP pP 15 46 53.0 +6.7
STKA Stephens Creek 60.71 167 P **P 15 46 31.9 +1.5**
comp=Z,3.9nm,1.0s,baz=325,slow=8.9,SNR=5.5
STKA pP pP 15 46 53.0 +6.7
comp=Z,6.9nm,1.1s,baz=14,slow=6.2,SNR=5.7
RSO Redoubt South 60.98 34 *e*P **P 15 46 32.0 -0.3**
CAST Castle Rocks 61.04 30 *e*P **P 15 46 33.7 +1.4**
comp=Z,13nm,0.9s
KDAK Kodiak Island 61.37 37 pP pP 15 46 56.8 +6.3
comp=Z,30nm,1.0s,baz=317,slow=4.9,SNR=4.3
BPAW Bear Paw Mtn. 61.46 30 *e*P **P 15 46 35.3 +0.1**
comp=Z,33nm,1.5s
DZM Mont Dzumac 61.90 139 LR LR 16 09 47.2
comp=Z,625nm,20.3s,baz=212,slow=32
MCK McKinley 62.41 30 *e*P **P 15 46 42.0 +0.5**
MCK pmax pmax
comp=Z,17nm,0.8s
MCK McKinley 62.41 30 *e*P **P 15 46 42.0 +0.5**
comp=Z,17nm,0.8s
COLA College 62.73 29 *i*P **P 15 46 44.7 +1.1**
ILAR Eielson Array 63.15 29 P **P 15 46 44.7 -1.8**
ILAR pP pP 15 47 06.5 +4.1
ILAR Eielson Array 63.15 29 P **P 15 46 44.7 -1.8**
comp=Z,0.9nm,0.8s,baz=281,slow=6.2,SNR=9.0
ILAR pP pP 15 47 06.5 +4.1
comp=Z,1.7nm,0.7s,baz=270,slow=4.0,SNR=9.7
MAK Makhachkala 65.06 307 *e*P P 15 47 07.0 +7.7
MAK MLR MLR
comp=Z,699nm,16.0s
ZEI Tsey 67.65 308 *e*P **P 15 47 13.8 -2.4**
ZEI pmax pmax
comp=Z,8.0nm,1.4s
KBZ Khabaz 68.07 309 P **P 15 47 18.0 -0.5**
KBZ MLR MLR
comp=Z,353nm,19.1s
KBZ Khabaz 68.07 309 P **P 15 47 17.9 -0.5**
KBZ Khabaz 68.07 309 P **P 15 47 17.9 -0.5**
comp=Z,0.4nm,0.3s,baz=175,slow=4.2,SNR=1.8
KBZ LR LR 16 19 38.1
comp=Z,353nm,19.1s,baz=329,slow=38
KIV Kislovodsk 68.14 309 *e*P P 15 47 22.8 +3.7
KIV *i* 15 47 42.2
KIV pmax pmax
comp=Z,10.0nm,1.3s
KIV MLR MLR
comp=Z,200nm,16.0s
HYT Haines Junctio 68.25 32 *e*P **P 15 47 20.0 +0.5**
OBN Obninsk 68.52 322 *e*P P 15 47 26.8 +5.8
OBN pmax pmax
comp=Z,4.0nm,1.0s
OBN MLR MLR
comp=Z,1μm,17.0s
FINES FINESS Array B 71.44 330 P **P 15 47 36.6 -2.3**
FINES pP **PcP 15 47 58.4 +0.3**
FINES FINESS Array B 71.44 330 P **P 15 47 36.6 -2.3**
comp=Z,5.4nm,1.1s,baz=92,slow=4.2,SNR=3.0
FINES pP **PcP 15 47 58.4 +0.3**
comp=Z,9.9nm,1.2s,baz=66,slow=4.7,SNR=1.6
AKASG Malin Array Be 74.26 319 P **P 15 47 53.3 -2.5**
AKASG Malin Array Be 74.26 319 P **P 15 47 53.3 -2.5**
AKASG Malin Array Be 74.26 319 P **P 15 47 53.3 -2.5**
comp=Z,0.6nm,0.5s,baz=58,slow=5.7,SNR=3.7
BRTR Keskin Array B 75.97 308 P **P 15 48 06.5 +0.5**
BRTR Keskin Array B 75.97 308 P **P 15 48 06.5 +0.5**
comp=Z,0.4nm,0.7s,baz=84,slow=7.4,SNR=2.3
BRTR LR LR 16 26 17.2
comp=Z,172nm,20.8s,baz=184,slow=39
KIS Kishinev 76.08 316 *e* x 15 48 44.0
KIS LRM MLR 16 25 48.0
comp=Z,400nm,20.0s
YKA Yellowknife Ar 77.19 25 P **P 15 48 12.0 -0.3**
YKA pP pP 15 48 33.5 +4.8
YKA Yellowknife Ar 77.19 25 P **P 15 48 12.0 -0.3**
comp=Z,1.5nm,0.8s,baz=300,slow=5.4,SNR=4.5
YKA pP pP 15 48 33.5 +4.8
comp=Z,3.5nm,0.6s,baz=308,slow=5.6,SNR=8.0
NOA NORSAR Array B 77.86 334 pP pP 15 48 36.2 +3.6
NOA NORSAR Array B 77.86 334 pP pP 15 48 36.2 +3.6
comp=Z,0.7nm,0.7s,baz=54,slow=8.2,SNR=1.7
UZH Uzhgorod 79.21 319 *e*P P 15 48 29.2 +5.5
STHS Stebnicka Huta 79.41 321 *e*P **P 15 48 23.9 -1.0**
STHS Stebnicka Huta 79.41 321 *e*P **P 15 48 23.8 -1.1**
KECS Kecovo 80.32 320 *e*P **P 15 48 30.8 +1.0**
KECS Kecovo 80.32 320 *e*P **P 15 48 30.8 +1.0**
LON Longmire 82.71 41 *e*P **P 15 48 44.7 +2.2**
LON pmax pmax
comp=Z,8.0nm,1.2s
LON Longmire 82.71 41 *e*P **P 15 48 44.7 +2.2**
comp=Z,7.7nm,1.2s
CLL Collm 82.80 325 *e*P P 15 48 50.0 +7.2
CLL *e* 15 49 11.0
CLL MLR MLR
comp=Z,1μm,18.7s

CLL	**Collm**	**82.80**	**325**	*e*(sP)		sP	15 49 11.0	+5.2
CLL				LmH			15 23 00.0	
	comp=N,2μm,19.4s							
CLL				LmH			15 23 00.0	
	comp=E,1μm,19.6s							
CLL				LmV			15 29 00.0	
	comp=Z,1μm,18.7s							
CLL				*e*PP		**PP**	**15 51 52.0**	**-0.9**
LTY	**Liberty**	**83.08**	**40**	*e*P		**P**	**15 48 46.0**	**+1.6**
	comp=Z,13nm,1.1s							
B08A	**Colville Reser**	**83.21**	**38**	*e*P		**P**	**15 48 47.4**	**+2.3**
	comp=Z,48nm,1.6s							
GERES	**GERESS Array B**	**83.88**	**323**	P		**P**	**15 48 48.4**	**-0.1**
GERES				pP		pP	15 49 08.7	+3.5
GERES	**GERESS Array B**	**83.88**	**323**	P		**P**	**15 48 48.4**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=358,slow=5.9,SNR=2.7							
GERES				pP		pP	15 49 08.7	+3.5
	comp=Z,0.9nm,0.7s,baz=57,slow=4.9,SNR=5.0							
HAWA	**Hanford**	**84.21**	**40**	*e*P		**P**	**15 48 50.8**	**+0.6**
G06A	**Carlson Farm,**	**84.22**	**41**	*e*P		**P**	**15 48 52.1**	**+1.8**
	comp=Z,69nm,1.8s							
NEW	**Newport**	**84.47**	**38**	*e*P		**P**	**15 48 52.3**	**+0.8**
NEW				pP		pP	15 49 14.0	+5.9
NEW	**Newport**	**84.47**	**38**	P		**P**	**15 48 52.4**	**+0.9**
	baz=84							
NEW	**Newport**	**84.47**	**38**	P		**P**	**15 48 51.9**	**+0.4**
	comp=Z,3.0nm,0.8s,baz=284,slow=9.3,SNR=4.7							
NEW				pP		pP	15 49 14.0	+5.9
	comp=Z,4.8nm,0.7s,baz=273,slow=5.0,SNR=6.0							
PINOR	**Pine Mountain**	**84.88**	**43**	*e*P		P	15 49 00.5	+6.9
	comp=Z,29nm,1.3s							
YBH	**Yreka Blue Hor**	**84.89**	**45**	P		**P**	**15 48 54.8**	**+1.0**
YBH				pP		pP	15 49 16.2	+5.8
YBH	**Yreka Blue Hor**	**84.89**	**45**	P		**P**	**15 48 54.8**	**+1.0**
	comp=Z,1.6nm,0.7s,baz=247,slow=7.7,SNR=2.5							
YBH				pP		pP	15 49 16.2	+5.8
	comp=Z,3.9nm,1.0s,baz=239,slow=2.8,SNR=4.4							
G08A	**Pilot Rock**	**85.17**	**41**	*e*P		**P**	**15 48 58.3**	**+3.1**
	comp=Z,14nm,1.4s							
K05A	**Summer Lake**	**85.47**	**44**	*e*P		P	15 49 00.1	+3.3
	comp=Z,70nm,1.6s							
I07A	**Izee**	**85.54**	**42**	*e*P		P	15 49 02.7	+5.6
	comp=Z,18nm,1.5s							
MOD	**Modoc**	**86.30**	**44**	*e*P		**P**	**15 49 01.9**	**+1.1**
	comp=Z,214nm,1.8s							
BMO	**Blue Mountains**	**86.38**	**40**	*e*P		**P**	**15 49 01.1**	**0.0**
	comp=Z,23nm,1.4s							
SWMT	**Swartz Lake**	**86.60**	**37**	*e*P		**P**	**15 49 03.5**	**+1.3**
WVOR	**Wild Horse Val**	**87.01**	**43**	*e*P		**P**	**15 49 05.7**	**+1.4**
WVOR				pmax		pmax		
	comp=Z,22nm,1.6s							
WVOR	**Wild Horse Val**	**87.01**	**43**	*e*P		**P**	**15 49 05.7**	**+1.4**
	comp=Z,22nm,1.6s							
SLMT	**Seeley Lake**	**87.03**	**37**	*e*P		**P**	**15 49 04.5**	**+0.2**
MSO	**Missoula**	**87.05**	**37**	P		**P**	**15 49 04.9**	**+0.5**
	baz=87							
DAVOX	**Davos/Dischmat**	**87.18**	**323**	P		**P**	**15 49 05.4**	**+0.3**
DAVOX				pP		pP	15 49 25.3	+3.5
DAVOX	**Davos/Dischmat**	**87.18**	**323**	P		**P**	**15 49 05.4**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=30,slow=20,SNR=2.4							
DAVOX				pP		pP	15 49 25.3	+3.5
	comp=Z,2.4nm,0.6s,baz=74,slow=5.6,SNR=3.9							
CHMT	**Chamberlain Mo**	**87.36**	**37**	*e*P		**P**	**15 49 05.1**	**-0.9**
BEKR	**Beckworth**	**87.41**	**46**	*e*P		**P**	**15 49 07.6**	**+1.2**
	comp=Z,11nm,1.5s							
FRB	**Frobisher Bay**	**87.84**	**7**	LR		LR	16 28 38.6	
	comp=Z,230nm,20.7s,baz=347,slow=36							
MFID	**Camas Ranch**	**88.09**	**41**	P		**P**	**15 49 09.5**	**+0.1**
	baz=88							
CMB	**Columbia Colle**	**88.43**	**47**	*e*P		**P**	**15 49 13.0**	**+2.0**
CMB				*e**PP		pP	15 49 34.0	+6.2
CMB				pmax		pmax		
	comp=Z,10.0nm,0.9s							
CMB	**Columbia Colle**	**88.43**	**47**	*e*P		**P**	**15 49 13.0**	**+2.0**
	comp=Z,10.0nm,0.9s							
CMB				*e*pP		pP	15 49 34.0	+6.2
DLMT	**Dillon**	**88.70**	**38**	*e*P		**P**	**15 49 12.9**	**+0.6**
	comp=Z,37nm,1.4s							
HLID	**Hailey**	**88.81**	**40**	*e*P		**P**	**15 49 14.1**	**+1.1**
	comp=Z,15nm,1.0s							
HLID	**Hailey**	**88.81**	**40**	P		**P**	**15 49 14.1**	**+1.1**
	baz=89							
C19A	**Slack Wire Ran**	**89.01**	**35**	P		**P**	**15 49 15.0**	**+1.3**
	baz=89							
B21A	**Ellsworth Farm**	**89.54**	**33**	P		**P**	**15 49 17.3**	**+1.3**
	baz=89							
NVAR	**Mina Array Bea**	**89.54**	**46**	P		**P**	**15 49 17.8**	**+1.3**
NVAR				pP		pP	15 49 39.6	+6.3
NVAR	**Mina Array Bea**	**89.54**	**46**	P		**P**	**15 49 17.8**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=288,slow=5.2,SNR=6.8							
NVAR				pP		pP	15 49 39.6	+6.3
	comp=Z,2.3nm,0.6s,baz=301,slow=5.4,SNR=11							
C20A	**Veseth Ranch,**	**89.55**	**34**	P		**P**	**15 49 17.5**	**+1.4**
	baz=89							
C21A	**Desert Coulee**	**89.92**	**34**	P		**P**	**15 49 18.6**	**+0.8**
	baz=90							
E19A	**Rath Farm, Rou**	**90.00**	**35**	P		**P**	**15 49 19.0**	**+0.7**
	baz=90							
E20A	**Meyer Farm, Mu**	**90.30**	**35**	P		**P**	**15 49 20.8**	**+1.1**
	baz=90							
D21A	**La Casta Ranch**	**90.49**	**34**	P		**P**	**15 49 21.3**	**+0.7**
	baz=90							
IMW	**Indian Meadow**	**90.55**	**38**	*e*P		**P**	**15 49 22.0**	**+0.8**
	comp=Z,24nm,1.4s							
D22A	**Cohagen**	**90.83**	**34**	P		**P**	**15 49 23.6**	**+1.5**
	baz=91							
BGU	**Big Grassy Mou**	**91.26**	**42**	*e*P		**P**	**15 49 26.1**	**+1.7**
	comp=Z,30nm,1.8s							
BGU				*e*pP		pP	15 49 47.9	+6.8
R11A	**Troy Canyon, C**	**91.31**	**45**	*e*P		**P**	**15 49 26.3**	**+1.6**
	comp=Z,24nm,1.6s							
R11A				*e*pP		pP	15 49 47.8	+6.4
R11A	**Troy Canyon, C**	**91.31**	**45**	P		**P**	**15 49 25.6**	**+0.9**
	baz=91							
MPMC	**Manual Prospec**	**91.46**	**48**	P		**P**	**15 49 26.6**	**+1.2**
	baz=91							
PPT	**Papeete**	**91.54**	**109**	LR		LR	16 23 12.0	
	comp=Z,268nm,20.6s,baz=316,slow=31							
DUG	**Dugway**	**91.85**	**42**	*e*P		**P**	**15 49 28.2**	**+1.1**
DUG				pmax		pmax		
	comp=Z,29nm,1.4s							
DUG	**Dugway**	**91.85**	**42**	*e*P		**P**	**15 49 28.2**	**+1.1**
	comp=Z,29nm,1.4s							
DUG	**Dugway**	**91.85**	**42**	P		**P**	**15 49 28.7**	**+1.6**
	baz=92							
J19A	**Crowheart**	**92.00**	**38**	P		**P**	**15 49 28.3**	**+0.5**
	baz=92							
I20A	**Worland**	**92.03**	**37**	P		**P**	**15 49 28.6**	**+0.7**
	baz=92							
BW06	**Boulder Array**	**92.05**	**38**	*e*P		**P**	**15 49 28.6**	**+0.5**
	comp=Z,7.2nm,1.5s							
PDAR	**Pinedale Array**	**92.05**	**38**	P		**P**	**15 49 28.6**	**+0.6**
PDAR				pP		pP	15 49 50.0	+5.1
PDAR	**Pinedale Array**	**92.05**	**38**	P		**P**	**15 49 28.6**	**+0.6**
	comp=Z,0.9nm,0.9s,baz=350,slow=3.7,SNR=6.4							
PDAR				pP		pP	15 49 50.0	+5.1
	comp=Z,3.0nm,0.8s,baz=269,slow=0.2,SNR=10.0							
F23A	**Volborg**	**92.22**	**34**	P		**P**	**15 49 28.9**	**+0.3**
	baz=92							
M17A	**Scullys Gap (B**	**92.28**	**40**	P		**P**	**15 49 30.5**	**+1.4**
	baz=92							
GSC	**Goldstone**	**92.36**	**48**	P		**P**	**15 49 31.5**	**+2.0**
	baz=92							
K20A	**Yellowstone Ra**	**92.79**	**38**	P		**P**	**15 49 33.1**	**+1.7**
	baz=93							
J21A	**Lysite**	**92.81**	**37**	P		**P**	**15 49 32.2**	**+0.7**
	baz=93							
MVU	**Marysvale**	**93.28**	**43**	*e*pP		pP	15 49 57.7	+7.0
	comp=Z,23nm,1.7s							
PFO	**Pinyon Flat Ob**	**93.60**	**49**	P		**P**	**15 49 37.4**	**+2.1**
	baz=94							
M21A	**Separation Pea**	**94.04**	**38**	P		**P**	**15 49 37.3**	**0.0**
	baz=94							
I25A	**Rochford**	**94.26**	**35**	P		**P**	**15 49 38.7**	**+0.5**
	baz=94							
H26A	**Fairpoint**	**94.31**	**34**	P		**P**	**15 49 38.7**	**+0.5**
	baz=94							
KEST	**Kesra**	**94.40**	**314**	LR		LR	16 38 28.9	
	comp=Z,123nm,19.6s,baz=253,slow=40							
P19A	**Cripple Cowboy**	**94.46**	**41**	P		**P**	**15 49 39.3**	**0.0**
	baz=94							
U15A	**North Rim**	**94.55**	**45**	P		**P**	**15 49 39.7**	**-0.1**
	baz=94							
DRV	**Dumont d'Urvil**	**94.59**	**175**	P		**P**	**15 49 37.0**	**-1.6**
DRV	**Dumont d'Urvil**	**94.59**	**175**	PP		PP	15 53 49.0	+21
DRV	**Dumont d'Urvil**	**94.59**	**175**	SS		SS	16 06 40.0	-31
DRV				L		L	16 15 00.0	
DRV				R			16 23 00.0	
E30A	**Jud**	**94.73**	**30**	P		**P**	**15 49 40.0**	**0.0**
	baz=94							
J26A	**Sides Ranch, S**	**95.10**	**35**	P		**P**	**15 49 43.0**	**+1.1**
	baz=95							
SCHQ	**Schefferville**	**96.73**	**9**	LR		LR	16 35 48.6	
	comp=Z,201nm,18.9s,baz=310,slow=37							
MAIT	**Maitri**	**124.58**	**201**	*e*P		PKPdf	15 55 08.5	-8.3

JMA 03 15:36:41.2±0.3, 27°.82N×127°.98E, h2km±3km, M5.1, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIH	**Iheya**	**0.78**	**181**	P	Pg	15 36 56.3	+0.1
JIH				S	Sg	15 37 06.7	+0.4
JTK	**Tokunoshima**	**0.86**	**92**	P	Pg	15 36 57.8	+0.1
JTK				S	Sg	15 37 09.6	+0.7
JOW	**Kunigami**	**1.02**	**165**	P	Pg	15 37 00.8	0.0
JOW				S	Sg	15 37 14.0	0.0
JAMN	**Amaminishikomi**	**1.14**	**68**	P	Pg	15 37 02.7	-0.3
JAMN				*e*S	Sb	15 37 18.6	-0.2
JAGN	**Aguni-jima**	**1.39**	**208**	P	Pn	15 37 07.6	0.0
JJT2	**Tamagusuku 2**	**1.69**	**187**	*e*S	Sn	15 37 33.4	-0.5
JKE	**Kume jima 2**	**1.83**	**216**	P	Pn	15 37 13.5	-0.2
JKE				*e*S	Sb	15 37 38.1	-0.7

*ISCJB **03** 15:40:34.6±1.4, 2°.23N±0°.09×129°.17E±0°.06, h40km, Error ellipse: s-maj=13.7km s-min=8.6km az=16.7*
*DJA **03** 15:40:36.2±0.8, 2°.1N±7°×12°.9E±°, h78km±55km, M4.1/3, MLv4.1/3*
*AUST **03** 15:40:48.2, 0°.50N×128°.50E, h60km*
ISC 03 15:40:37.1±2.1, 2°.2N±0°.1×129°.11E±0°.07, h40km, n9, σ0s92/10, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.25**	**231**	P	**Pn**	**15 41 11.6**	**-0.2**
TNTI				S	**Sn**	**15 41 39.1**	**+0.7**
LBMI	**Labuha**	**3.25**	**210**	P	**Pn**	**15 41 24.7**	**-0.9**
LBMI				S	**Sn**	**15 42 02.9**	**-0.1**
SWI	**Sorong**	**3.72**	**145**	P	**Pn**	**15 41 31.4**	**-0.7**
SWI				S	**Sn**	**15 42 13.7**	**-1.0**
SWI	**Sorong**	**3.72**	**145**	P	**Pn**	**15 41 32.0**	**-0.1**
	baz=3.1,SNR=3.3						
SGSI	**Sangihe**	**3.88**	**293**	P	**Pn**	**15 41 33.2**	**-1.0**
FAKI	**Fak Fak**	**5.97**	**148**	P	**Pn**	**15 42 02.8**	**-0.2**
	baz=5.1,SNR=5.8						
MMPI	**Merauke**	**15.44**	**133**	P	**P**	**15 44 17.7**	**+1.5**
	baz=15,SNR=3.1						
MANU	**Manus Island**	**18.73**	**103**	P	Pn	15 45 04.1	+11
	baz=19,SNR=4.4						
FITZ	**Fitzroy Crossi**	**20.46**	**189**	P	P	15 45 05.2	-6.3
	baz=19,SNR=3.6						

*MDD **03** 15:43:39.3±2.7, 37°.35N×14°.20W, h0km, mb3.6/6, Error ellipse: s-maj=36.2km s-min=22.8km az=169.0, PRXIMO*
*INMG **03** 15:43:41.1±0.8, 37°.17N×14°.59W, h10km, ML2.1, Error ellipse: s-maj=7.5km s-min=6.7km az=135.0*
*CSEM **03** 15:43:43.1±0.5, 37°.48N×13°.87W, h10km, mb3.6/6, Error ellipse: s-maj=10.8km s-min=8.2km az=163.0*
ISC 03 15:43:42.2±4.0, 37°.5N±0°.1×13°.9W±0°.2, h10km, n46, σ0s91/79, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**4.08**	**93**	*e*Pn	**Pn**	**15 44 44.6**	**0.0**
PFVI				*e*Sn	**Sn**	**15 45 32.0**	**-0.4**
PFVI				A	A	15 45 33.5	
	3.5nm,0.6s						
PFVI	**Vila Bisbo**	**4.08**	**93**	P	**Pn**	**15 44 44.0**	**-0.6**
	1.2nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**15 45 31.5**	**-0.9**
	2.8nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.08**	**93**	P	**Pn**	**15 44 44.0**	**-0.6**
	1.2nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.08**	**93**	*e*Pn	**Pn**	**15 44 44.6**	**0.0**
PFVI				S	**Sn**	**15 45 31.5**	**-0.9**
	2.8nm,0.2s,SNR=7.9						
PFVI				*e*Sn	**Sn**	**15 45 32.0**	**-0.4**
	3.5nm,0.6s						
PTEO	**Sao Teotonio**	**4.14**	**87**	*e*Pn	**Pn**	**15 44 45.5**	**+0.1**
PTEO				A	A	15 45 41.6	
	4.3nm,0.8s						
PTEO	**Sao Teotonio**	**4.14**	**87**	P	**Pn**	**15 44 45.5**	**+0.1**
PTEO	**Sao Teotonio**	**4.14**	**87**	P	**Pn**	**15 44 45.5**	**+0.1**
MORF	**Marmelete**	**4.20**	**91**	*e*Pn	**Pn**	**15 44 46.9**	**+0.5**
MORF				*e*Sn	**Sn**	**15 45 35.7**	**+0.2**
MORF				A	A	15 45 40.6	
	2.1nm,0.8s						
MORF	**Marmelete**	**4.20**	**91**	P	**Pn**	**15 44 46.9**	**+0.5**
MORF				S	**Sn**	**15 45 35.7**	**+0.2**
	2.1nm,0.8s						
MORF	**Marmelete**	**4.20**	**91**	P	**Pn**	**15 44 46.9**	**+0.5**
MORF				S	**Sn**	**15 45 35.7**	**+0.2**
	2.1nm,0.8s						
PNCL	**Nicolau / Gran**	**4.32**	**80**	*e*Pn	**Pn**	**15 44 49.3**	**+1.4**
PNCL				*e*Sn	**Sn**	**15 45 39.1**	**+0.7**
PNCL				A	A	15 45 41.4	
	1.9nm,0.2s						
PNCL	**Nicolau / Gran**	**4.32**	**80**	*e*Pn	**Pn**	**15 44 49.3**	**+1.4**
PNCL				*e*Sn	**Sn**	**15 45 39.1**	**+0.7**
	1.9nm,0.2s						
PCVE	**Castro Verde**	**4.68**	**86**	*e*Sn	**Sn**	**15 45 47.7**	**+0.5**
PCVE				A	A	15 45 57.6	
	0.9nm,0.5s						
PCVE	**Castro Verde**	**4.68**	**86**	S	**Sn**	**15 45 47.7**	**+0.5**
	0.9nm,0.5s						
PCVE	**Castro Verde**	**4.68**	**86**	S	**Sn**	**15 45 47.7**	**+0.5**
	0.9nm,0.5s						
PMTG	**Montargil**	**4.76**	**69**	*e*Pn	**Pn**	**15 44 53.9**	**-0.1**
PMTG				*e*Sn	**Sn**	**15 45 50.2**	**+0.9**
PMTG				A	A	15 45 53.6	
	1.4nm,0.6s						
PMTG	**Montargil**	**4.76**	**69**	*e*Pn	**Pn**	**15 44 53.9**	**-0.1**
PMTG				*e*Sn	**Sn**	**15 45 50.2**	**+0.9**
	1.4nm,0.6s						
PBDV	**Barranco-do-Ve**	**4.78**	**91**	*e*Pn	**Pn**	**15 44 55.1**	**+0.8**
PBDV				*e*Sn	**Sn**	**15 45 51.4**	**+1.7**
PBDV	**Barranco-do-Ve**	**4.78**	**91**	P	**Pn**	**15 44 55.1**	**+0.8**
PBDV				S	**Sn**	**15 45 51.4**	**+1.7**
PBDV	**Barranco-do-Ve**	**4.78**	**91**	P	**Pn**	**15 44 55.1**	**+0.8**
PBDV				S	**Sn**	**15 45 51.4**	**+1.7**
EVO	**Evora**	**4.79**	**75**	*e*Sn	**Sn**	**15 45 50.7**	**+0.8**
EVO				A	A	15 45 55.1	
	3.6nm,0.1s						
EVO	**Evora**	**4.79**	**75**	S	**Sn**	**15 45 50.7**	**+0.8**
	3.6nm,0.1s						
EVO	**Evora**	**4.79**	**75**	S	**Sn**	**15 45 50.7**	**+0.8**
	3.6nm,0.1s						
PVAQ	**Vaqueiros**	**4.94**	**89**	*e*Pn	**Pn**	**15 44 56.6**	**+0.2**
PVAQ				*e*Sn	**Sn**	**15 45 53.6**	**0.0**
PVAQ				A	A	15 45 58.2	
	1.2nm,0.2s						
PVAQ	**Vaqueiros**	**4.94**	**89**	P	**Pn**	**15 44 56.6**	**+0.2**
PVAQ				S	**Sn**	**15 45 53.6**	**0.0**
	1.2nm,0.2s						
PVAQ	**Vaqueiros**	**4.94**	**89**	P	**Pn**	**15 44 56.6**	**+0.2**
PVAQ				S	**Sn**	**15 45 53.6**	**0.0**
	1.2nm,0.2s						
EGRO	**El Granado**	**5.12**	**87**	P	**Pn**	**15 44 59.5**	**+0.6**
	0.3nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**15 45 58.4**	**+0.3**
	0.3nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**5.12**	**87**	P	**Pn**	**15 44 59.5**	**+0.6**
	0.3nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**15 45 58.4**	**+0.3**
	0.3nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**5.49**	**67**	*e*Pn	**Pn**	**15 45 04.5**	**+0.5**
PMRV				*e*Sn	**Sn**	**15 46 08.2**	**+1.0**
PMRV				A	A	15 46 08.7	
	1.2nm,0.1s						
PMRV	**Marv??o**	**5.49**	**67**	P	**Pn**	**15 45 04.5**	**+0.5**
PMRV				S	**Sn**	**15 46 08.2**	**+1.0**
	1.2nm,0.1s						
PMRV	**Marv??o**	**5.49**	**67**	P	**Pn**	**15 45 04.5**	**+0.5**
PMRV				S	**Sn**	**15 46 08.2**	**+1.0**
	1.2nm,0.1s						
PBAR	**Barrancos**	**5.50**	**80**	*e*Pn	**Pn**	**15 45 04.8**	**+0.7**
PBAR				*e*Sn	**Sn**	**15 46 06.7**	**-0.7**
PBAR				A	A	15 46 16.1	
	0.6nm,0.5s						
PBAR	**Barrancos**	**5.50**	**80**	P	**Pn**	**15 45 04.8**	**+0.7**
PBAR				S	**Sn**	**15 46 06.7**	**-0.7**
	0.6nm,0.5s						
PBAR	**Barrancos**	**5.50**	**80**	P	**Pn**	**15 45 04.8**	**+0.7**
PBAR				S	**Sn**	**15 46 06.7**	**-0.7**
	0.6nm,0.5s						
EBAD	**Badajoz**	**5.60**	**75**	P	**Pn**	**15 45 06.1**	**+0.6**
	0.4nm,0.2s,SNR=5.8						
EBAD				S	**Sn**	**15 46 09.1**	**-0.8**
	0.8nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**5.60**	**75**	P	**Pn**	**15 45 06.1**	**+0.6**
	0.4nm,0.2s,SNR=5.8						
EBAD				S	**Sn**	**15 46 09.1**	**-0.8**
	0.8nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.76**	**85**	P	**Pn**	**15 45 07.2**	**-0.6**
	0.1nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**15 46 11.6**	**-2.4**
	0.4nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.76**	**85**	P	**Pn**	**15 45 07.2**	**-0.6**
	0.1nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**15 46 11.6**	**-2.4**
	0.4nm,0.2s,SNR=7.9						
PGAV	**Gavieira, Arco**	**6.26**	**42**	*e*Sn	**Sn**	**15 46 26.2**	**-0.1**
PGAV	**Gavieira, Arco**	**6.26**	**42**	*e*Sn	**Sn**	**15 46 26.2**	**-0.1**
ELOB	**Lobios**	**6.31**	**44**	S	**Sn**	**15 46 25.9**	**-1.6**
	0.2nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.31**	**44**	S	**Sn**	**15 46 25.9**	**-1.6**
	0.2nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**6.77**	**82**	P	**Pn**	**15 45 21.6**	**+0.1**
	0.2nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**15 46 37.2**	**-1.4**
	0.3nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**6.77**	**82**	P	**Pn**	**15 45 21.6**	**+0.1**
	0.2nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**15 46 37.2**	**-1.4**
	0.3nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**7.43**	**82**	P	**Pn**	**15 45 31.0**	**+0.3**
	0.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**15 46 52.9**	**-2.2**
	0.4nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**7.43**	**82**	P	**Pn**	**15 45 31.0**	**+0.3**
	0.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**15 46 52.9**	**-2.2**
	0.4nm,0.1s,SNR=7.9						

*IDC **03** 15:46:14.9±0.6, 16°.37S×173°.29W, h0km, mb4.4/11, mb1 4.7/11, mb1mx4.4/20, mbtmp4.4/11, MS3.8/6, Ms1 3.8/6, ms1mx3.5/30, Error ellipse: s-maj=32.3km s-min=16.4km az=138.0*
*ISCJB **03** 15:46:22.7±0.5, 16°.3S±0°.1×173°.4W±0°.1, h66km, mb4.3/12, Error ellipse: s-maj=21.6km s-min=13.6km az=44.5*
ISC 03 15:46:24.2±0.6, 16°.5S±0°.1×173°.3W±0°.2, h66km, n39, σ1s05/26, mb4.4/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.93**	**31**	Pn	Pn	15 46 58.8	-10
	28nm,0.3s,baz=341,slow=0.4,SNR=11						
AFI				Sn	Sn	15 47 25.5	-17
	164nm,0.3s,baz=58,slow=22,SNR=11						
AFI				LR	LR	15 47 50.3	
	comp=Z,732nm,20.5s,baz=212,slow=34						
RAR	**Rarotonga**	**13.67**	**112**	LR	LR	15 52 51.5	
	comp=Z,221nm,21.7s,baz=271,slow=29						
DZM	**Mont Dzumac**	**19.90**	**251**	*e*P	**Pn**	**15 50 52.9**	**+0.2**
	26nm,0.9s						
DZM				*e*LR	LR	15 55 12.7	
	662nm,24.4s						
PPT2	**Papeete2**	**22.73**	**96**	*e*LQ	LQ	15 55 50.5	
	284nm,27.5s						
PPT2				*e*LR	LR	15 56 45.8	
	260nm,23.8s						
PPT	**Papeete**	**22.73**	**96**	LR	LR	15 57 23.3	
	comp=Z,205nm,21.9s,baz=358,slow=29						
URZ	**Urewera**	**23.30**	**199**	P	**P**	**15 51 25.9**	**-0.5**
	11nm,0.8s,baz=26,slow=9.7,SNR=10						
H11S2	**WAKE ISLAND Hy**	**39.90**	**330**	T	T	16 35 58.7	
	baz=150						
H11S3	**WAKE ISLAND Hy**	**39.91**	**330**	T	T	16 36 01.7	
	baz=150						
H11S1	**WAKE ISLAND Hy**	**39.92**	**330**	T	T	16 36 02.3	
	baz=150						
H11N3	**WAKE ISLAND Hy**	**40.86**	**331**	T	T	16 36 58.6	
	baz=152,slow=0.7,SNR=5.6						
H11N1	**WAKE ISLAND Hy**	**40.86**	**331**	T	T	16 36 59.0	
	baz=152,slow=0.7,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**40.87**	**331**	T	T	16 36 59.9	
	baz=152,slow=0.7,SNR=6.5						
STKA	**Stephens Creek**	**43.59**	**241**	P	**P**	**15 54 21.2**	**-0.8**
	6.4nm,0.9s,baz=92,slow=7.9,SNR=14						
WRA	**Warramunga Arr**	**49.69**	**258**	P	**P**	**15 55 08.4**	**-1.5**
	2.8nm,0.8s,baz=93,slow=7.2,SNR=21						
ASAR	**Alice Springs**	**49.87**	**253**	P	**P**	**15 55 10.2**	**-1.1**
	10nm,0.7s,baz=88,slow=8.4,SNR=166						
QSPA	**South Pole Qui**	**73.60**	**180**	LR	LR	16 23 38.7	
	comp=Z,84nm,20.1s,baz=4.3,slow=30						
PETK	**Petropavlovsk-**	**73.64**	**342**	P	**P**	**15 57 50.5**	**+0.1**
	5.3nm,0.9s,baz=114,slow=

baz=261
WGK eS Sb 16 03 17.2 +1.4
baz=261
YUS Yu-Shan 0.26 153 P Pb 16 03 12.9 +0.3
baz=152
YUS i S Sb 16 03 17.9 +0.6
baz=152
CHY Chiayi 0.43 239⇑ *i* P Pb 16 03 15.0 +0.5
baz=238
CHY S Sb 16 03 21.8 +1.2
baz=238
TCU Taichung 0.45 342 *i* P Pb 16 03 15.5 +0.6
baz=343
TCU eS Sb 16 03 22.2 +1.0
baz=343
EHY Hungye 0.51 115⇑ *i* P Pb 16 03 16.4 +0.5
baz=115
EHY i S Sb 16 03 24.0 +1.2
baz=115
WTP Ta-pu 0.51 202 *i* P Pb 16 03 16.0 0.0
baz=201
WTCT Ta-ch'eng 0.52 286 ⇑P Pb 16 03 15.9 -0.1
baz=286
WTCT eS Sb 16 03 24.2 +1.0
baz=286
WSF Szhu 0.56 262 *eP* Pn 16 03 18.1 +0.1
baz=261
WSF eS Sb 16 03 25.2 +0.9
baz=261
ELDTW Lidau 0.56 161⇑ *i* P Pb 16 03 17.1 +0.2
baz=161
ELDTW eS Sb 16 03 24.6 0.0
baz=161
ESL Shilin 0.57 80⇑ *i* P Pn 16 03 17.6 -0.6
baz=88
ESL S Sb 16 03 25.4 +0.8
baz=88
TWF1 Yuli 0.57 130⇑ *i* P Pb 16 03 17.4 +0.4
baz=130
TWF1 i S Sb 16 03 25.4 +0.8
baz=130
WHF Hehuan Shan 0.58 44 *eP* Pb 16 03 17.8 0.0
baz=51
WHF S Sb 16 03 25.8 -0.3
baz=51
CHN1 Nanshi 0.60 207⇓ *i* P Pb 16 03 17.4 0.0
baz=207
CHN1 eS Sn 16 03 26.7 -0.9
baz=207
TWT Tachien 0.62 31 *eP* Pb 16 03 17.8 -0.3
baz=30
TWT eS Sb 16 03 25.7 -0.9
baz=30
TWQ1 Liyutan 0.63 356⇓ *i* P Pn 16 03 18.6 -0.5
baz=357
TWQ1 eS Sn 16 03 27.6 -0.7
baz=357
ESF Shoufeng Towns 0.64 76 *eP* Pb 16 03 18.7 +0.5
baz=83
ESF eS Sn 16 03 27.9 -0.7
baz=83
SGST Jiashian 0.67 199 *eP* Pb 16 03 18.9 +0.2
baz=206
SGST eS Sn 16 03 30.3 +0.9
baz=206
NSY Sanyi 0.69 355⇓ *i* P Pb 16 03 20.1 +0.1
baz=356
NSY eS Sn 16 03 30.4 +0.3
baz=356
HWA Hwalien 0.76 70 *eP* Pb 16 03 19.5 -0.7
baz=61
HWA eS Sn 16 03 31.7 +0.2
baz=61
CHN3 Shinhua 0.77 213 *eP* Pn 16 03 21.0 +0.1
baz=224
CHN3 eS Sn 16 03 33.7 +2.0
baz=224
SCLT Jiali 0.79 227 *eP* Pn 16 03 21.5 +0.2
baz=226
SCLT S Sn 16 03 33.8 +1.5
baz=226
TWD Chiawan 0.79 63 P Pb 16 03 20.8 +0.1
baz=63
TWD S Sb 16 03 31.6 +0.5
baz=63
CHKT Chengkung 0.79 141 *eP* Pn 16 03 21.1 -0.2
baz=141
CHKT eS Sn 16 03 32.9 +0.5
baz=141
TAI1 Yung-k'ang 0.87 219 *eP* Pn 16 03 23.1 +0.8
baz=219
TAI1 eS Sn 16 03 36.0 +1.8
baz=219
NNS Nan Shan 0.88 35⇓ *i* P Pb 16 03 22.3 -0.1
baz=36
NSTT Nanjuang 0.92 10 P Pn 16 03 23.1 0.0
baz=10.0
NSTT eS Sb 16 03 35.0 +0.2
baz=10.0
TWG Pinlang 0.92 166 *eP* Pn 16 03 23.1 0.0
baz=158
TWG eS Sn 16 03 36.2 +0.6
baz=158
TWM1 Shoushan 0.97 202⇓ *i* P Pb 16 03 24.9 +1.2
baz=202
TWM1 eS Sn 16 03 41.1 +4.5
baz=202
SGLT Jiouru 1.04 197 *eP* Pb 16 03 25.7 +0.9
baz=195
NSK Sanguang 1.07 27 *eP* Pb 16 03 25.4 -0.1
baz=20
NSK eS Sb 16 03 38.8 -0.4
baz=20
HSN Hsinchu 1.09 7 *eP* Pb 16 03 27.9 +2.2
baz=356
ENA Nanau 1.10 50 *eP* Pb 16 03 26.1 +0.2
baz=41
ENA eS Sn 16 03 41.3 +1.4
baz=41
ECL Taimali 1.12 174 *eP* Pb 16 03 26.6 +0.2
baz=168
ECL eS Sb 16 03 43.0 +2.5
baz=168
ENTT Nioudou 1.14 36 P Pb 16 03 26.9 +0.2
baz=29
ENTT eS Sb 16 03 43.5 +2.4
baz=29
WDGT Dungji 1.16 247 *eP* Pn 16 03 25.9 -0.4
baz=246
PNG Penghu 1.17 263 P Pn 16 03 26.2 -0.3
baz=262
PNG eS Sn 16 03 41.4 -0.3
baz=262
TWE Neicheng 1.26 38 *eP* Pb 16 03 29.1 +0.4
baz=37
TWE eS Sb 16 03 46.4 +1.9
baz=37
NCU National Centr 1.29 15 *eP* Pb 16 03 31.0 +1.9
baz=16
TWC Suao 1.29 46 P Pb 16 03 29.5 +0.3
baz=46
TWC S Sb 16 03 46.5 +1.2
baz=46
EAST Anshuo 1.33 179 *eP* Pb 16 03 29.6 -0.3
baz=194
SCZT Fangliau 1.35 188 *eP* Pn 16 03 29.2 +0.2
baz=186
TWA Mucha 1.43 29 *eP* Pb 16 03 32.3 +0.6
baz=13
TWA eS Sb 16 03 51.4 +1.9
baz=13
TWS1 Kuangyinshan 1.48 21 *eP* Pb 16 03 33.4 +1.0
baz=22
NWF Wu-fen Shan 1.60 33 *eP* Pb 16 03 34.9 +0.2
baz=19
NWF eS Sb 16 03 56.9 +2.3
baz=19
TWB1 Santiao Chiao 1.67 39 *eP* Pb 16 03 36.2 +0.6
baz=24
KNM Kinmen 2.29 288 *eP* Pn 16 03 41.8 -0.1
baz=288

*IDC **03** 16:03:35.5±9.6, 8°.17S×113°.79E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/21, mbtmp3.5/4, ML3.2/1, Error ellipse: s-maj=177.0km s-min=130.3km az=6.0*
*ISCJB **03** 16:03:45.6±0.6, 8°.19S±0°.07×114°.81E±0°.04, h28km±6km, mb3.4/3, Error ellipse: s-maj=11.5km s-min=6.3km az=15.0*
*DJA **03** 16:03:45.6±0.3, 8°S±4°×11°5E±°, h9km±5km, M3.6/11, mb3.8/2, MLv3.5/11*

ISC 03 16:03:46.6±1.0, 8°.23S±0°.07×114°.79E±0°.04, h25km±8km, n16, σ1§19/17, mb3.4/3, Bali region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
NBBI	**Negara**	**0.22**	**231**	P		**Pb**	**16 03 52.4**	**-0.1**
NBBI				S		**Sb**	**16 03 57.1**	**+0.6**
SRBI	**Singaraja**	**0.44**	**71**	P		**Pb**	**16 03 54.7**	**-1.2**
DNP	**Denpasar**	**0.60**	**137**	P		**Pb**	**16 03 58.9**	**+0.3**
ABJI	**Asem Bagus**	**0.70**	**308**	P		Pb	16 03 57.4	-2.9
BLJI	**Banyuglugur**	**1.28**	**292**	P		**Pn**	**16 04 07.3**	**-1.6**
BLJI				S		**Sn**	**16 04 25.6**	**+0.3**
GMJI	**Gumukmas**	**1.33**	**268**	P		**Pn**	**16 04 07.7**	**-2.0**
MTNI	**Mataram**	**1.42**	**106**	P		**Pn**	**16 04 09.0**	**-1.9**
KMMI	**Kalianget**	**1.43**	**325**	P		**Pn**	**16 04 10.5**	**-0.5**
GRJI	**Gresik**	**2.64**	**300**	P		**Pn**	**16 04 27.3**	**-0.3**
PWJI	**Pagerwojo**	**2.96**	**274**	P		**Pn**	**16 04 33.6**	**+1.5**
BKSI	**Bulukumba** 9.9nm,1.1s,0.0nm	**6.03**	**62**	P		**Pn**	**16 05 14.5**	**+0.2**
BNSI	**Bone**	**6.51**	**55**	P		**Pn**	**16 05 22.4**	**+1.5**
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=329,slow=16,SNR=3.9	**14.41**	**134**	Pn		**Pn**	**16 07 09.4**	**+0.3**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=299,slow=11,SNR=12	**22.22**	**124**	P		**P**	**16 08 42.7**	**+1.2**
ASAR	**Alice Springs** 0.7nm,0.6s,baz=304,slow=8.6,SNR=22	**23.89**	**132**	P		**P**	**16 08 58.0**	**-0.5**
STKA	**Stephens Creek** 0.4nm,0.4s,baz=300,slow=11,SNR=3.2	**34.27**	**137**	P		**P**	**16 10 30.9**	**0.0**

DJA 03 16:08:57.8±1.3, 0°N±7°×9°8E±°, h68km±17km, M3.7/4, MLv3.7/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.25**	**344**	P		Pn	16 09 19.9	+0.4
GSI				S		Sn	16 09 36.9	+1.2
PPI	**Padang Panjang**	**2.54**	**102**	P		Pn	16 09 35.1	-1.6
PPI				S		Sn	16 10 06.7	+0.2
BKNI	**Bangkinang**	**3.13**	**86**	P		Pn	16 09 46.8	+2.0
BKNI				S		Sn	16 10 23.7	+2.7
KCSI	**Kotacane, Aceh**	**3.41**	**358**	P		Pn	16 09 49.3	+0.6
KCSI				S		Sn	16 10 28.3	+0.3

*IDC **03** 16:36:44.1±0.9, 33°.36S×178°.30W, h0km, mb4.4/4, mb1 4.5/5, mb1mx4.0/17, mbtmp4.3/5, ML4.1/1, MS3.5/3, Ms1 3.5/3, ms1mx3.1/29, Error ellipse: s-maj=36.5km s-min=24.5km az=150.0*
*ISCJB **03** 16:36:49.3±1.0, 33°.3S±0°.1×178°.7W±0°.2, h32km, mb4.2/4, MS3.8/1, Error ellipse: s-maj=22.3km s-min=11.8km az=26.5*

ISC 03 16:36:49.5±0.9, 33°.16S±0°.10×178°.5W±0°.2, h32km, n22, σ1§12/22, mb4.3/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
RAO	**Raoul Island** 104nm,0.3s,baz=261,slow=23,SNR=3.6	**3.93**	**7**	Sn		**Sn**	**16 38 30.6**	**-2.0**
RAO				LR		LR	16 38 33.5	
	comp=Z,511nm,19.7s,baz=234,slow=27							
URZ	**Urewera** 4.2nm,0.3s,baz=18,slow=3.6,SNR=26	**6.23**	**214**	Pn		**Pn**	**16 38 18.3**	**-1.0**
URZ				Sn		**Sn**	**16 39 28.3**	**-1.1**
	5.5nm,0.3s,baz=316,slow=21,SNR=7.8							
DZM	**Mont Dzumac** comp=Z,84nm,18.6s,baz=41,slow=29	**17.33**	**306**	LR		LR	16 45 19.0	
STKA	**Stephens Creek** comp=Z,180nm,18.2s,baz=24,slow=36	**33.57**	**261**	LR		LR	16 57 04.7	
CTA	**Charters Tower** 1.9nm,0.5s,baz=119,slow=7.7,SNR=7.9	**33.96**	**284**	P		**P**	**16 43 31.5**	**+1.3**
ASAR	**Alice Springs** 6.0nm,0.7s,baz=110,slow=7.5,SNR=107	**42.65**	**270**	P		**P**	**16 44 43.5**	**+0.1**
ASAR				PcP		**PcP**	**16 46 35.4**	**+0.3**
	1.1nm,0.8s,baz=126,slow=5.4,SNR=4.7							
WRA	**Warramunga Arr** 3.4nm,0.7s,baz=117,slow=7.6,SNR=18	**43.89**	**275**	P		**P**	**16 44 53.0**	**-0.3**
WRA				PcP		**PcP**	**16 46 39.6**	**+0.5**
	0.6nm,0.7s,baz=124,slow=3.3,SNR=3.1							
SNAA	**Sanae**	**75.41**	**179**	*eP*		**P**	**16 48 30.8**	**+1.1**
VNA2	**Neumayer--Watz**	**76.01**	**177**	*eP*		**P**	**16 48 34.4**	**+1.3**
PDAR	**Pinedale Array** 0.4nm,0.6s,baz=241,slow=6.8,SNR=2.1	**98.39**	**44**	P		Pdif	16 50 25.5	+1.1
MKAR	**Makanchi Array** 0.5nm,0.9s,baz=206,slow=2.4,SNR=3.4	**119.23**	**309**	PKP		**PKPdf**	**16 55 35.8**	**+0.7**
ZALV	**Zalesovo Beam** 0.6nm,0.4s,baz=120,slow=5.8,SNR=3.2	**119.82**	**317**	PKP		**PKPdf**	**16 55 35.6**	**-0.3**
JOF	**Joensuu**	**144.82**	**337**	*ep*		**PKPdf**	**16 56 22.5**	**+0.2**
KBZ	**Khabaz** 1.5nm,0.8s,baz=205,slow=2.0,SNR=3.6	**146.25**	**300**	PKPbc		**PKPdf**	**16 56 25.4**	**0.0**
KAF	**Kangasniemi**	**147.00**	**339**	*ep*		**PKPbc**	**16 56 28.4**	**+0.3**
FINES	**FINESS Array B** 4.9nm,0.7s,baz=40,slow=2.7,SNR=15	**147.58**	**338**	PKPbc		**PKPbc**	**16 56 29.3**	**-0.5**
NB2	**NORSAR Subarra** comp=Z,4.0nm,1.0s,baz=17,slow=2.6	**151.41**	**350**	PKP		**PKPbc**	**16 56 40.3**	**+0.9**
NOA	**NORSAR Array B** comp=Z,0.4nm,0.6s,baz=28,slow=3.2,SNR=2.8	**151.41**	**350**	PKPbc		**PKPbc**	**16 56 39.3**	**-0.1**
HFS	**Hagfors** comp=Z,3.0nm,0.8s,baz=57,slow=8.8,SNR=3.4	**151.86**	**347**	PKPbc		**PKPbc**	**16 56 39.5**	**-0.9**
AKASG	**Malin Array Be** comp=Z,0.4nm,0.3s,baz=150,slow=1.3,SNR=4.0	**153.19**	**319**	PKPbc		**PKPbc**	**16 56 45.0**	**+1.4**
BRTR	**Keskin Array B** comp=Z,1.6nm,0.6s,baz=126,slow=3.9,SNR=11	**153.46**	**294**	PKPbc		**PKPbc**	**16 56 45.1**	**+0.3**
TORD	**Torodi Ar. Bea** comp=Z,0.3nm,0.6s,baz=183,slow=2.9,SNR=3.1	**160.07**	**180**	PKPab		**PKPab**	**16 57 23.0**	**-2.8**

IDC 03 16:38:04.4±2.7, 15°.96S×172°.82W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.8/19, mbtmp3.8/5, Error ellipse: s-maj=153.7km s-min=25.5km az=142.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
AFI	**Afiamalu** 22nm,0.3s,baz=51,slow=13,SNR=4.0	**2.27**	**26**	Pn		Pn	16 38 36.4	-7.0
AFI				Sn		Sn	16 38 57.1	-15
	82nm,0.3s,baz=70,slow=23,SNR=7.8							
STKA	**Stephens Creek** 1.9nm,0.7s,baz=70,slow=11,SNR=5.1	**44.25**	**241**	P		P	16 46 15.7	-0.1
WRA	**Warramunga Arr** 0.5nm,0.6s,baz=89,slow=6.6,SNR=2.8	**50.26**	**257**	P		P	16 47 02.5	-0.5
ASAR	**Alice Springs** 2.2nm,0.6s,baz=86,slow=8.2,SNR=19	**50.47**	**252**	P		P	16 47 04.2	-0.3
NVAR	**Mina Array Bea** 0.5nm,0.7s,baz=234,slow=8.7,SNR=3.9	**74.37**	**42**	P		P	16 49 44.4	-0.1
ILAR	**Eielson Array** 0.6nm,0.8s,baz=216,slow=6.0,SNR=5.7	**82.88**	**11**	P		P	16 50 30.0	-0.5
BRTR	**Keskin Array B** 0.7nm,0.5s,baz=174,slow=2.2,SNR=4.8	**146.94**	**321**	PKPbc		PKPbc	16 57 50.0	+0.6

*NAO **03** 16:45:33.6±0.8, 62°.15N×16°.78E, ML1.8*
*UPP **03** 16:45:34.8, 62°.21N×16°.70E, h2km, ML1.7*
*IDC **03** 16:45:34.1±0.8, 62°.17N×16°.74E, h0km, mb1 2.8/4, mb1mx2.7/28, mbtmp2.7/4, ML2.0/4, Error ellipse: s-maj=11.1km s-min=5.3km az=149.0*
*BER **03** 16:45:34.9±4.6, 62°.21N×16°.69E, h0km±30km, ML1.8(NAO)*
*CSEM **03** 16:45:34.5±0.1, 62°.20N×16°.69E, h2km, ML2.0, Error ellipse: s-maj=4.5km s-min=2.6km az=107.0*
*HEL **03** 16:45:35.1±0.1, 62°.19N×16°.75E, h2km±1km, ML1.9, ML1.8(NAO), ML1.7(UPP)*

ISC 03 16:45:33.8±1.2, 62°.21N±0°.02×16°.66E±0°.02, h3km±10km, n72, σ1§54/115, 6C-2D, Sweden

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HEMU	**Hemsoen**	**0.79**	**53**⇑	*iP*		**Pg**	**16 45 49.2**	**+0.2**
HEMU				*i* S		**Sg**	**16 45 59.1**	**0.0**
HEMU	**Hemsoen**	**0.79**	**53**	P		**Pg**	**16 45 49.1**	**+0.2**
HEMU				S		**Sg**	**16 45 59.1**	**0.0**
ROTU	**Roteberg**	**0.89**	**207**⇑	*iP*		**Pg**	**16 45 51.4**	**+0.6**
ROTU				*i* S		**Sg**	**16 46 02.5**	**+0.1**
ROTU	**Roteberg**	**0.89**	**207**	⇑P		**Pg**	**16 45 51.4**	**+0.6**
ROTU				S		**Sg**	**16 46 02.5**	**+0.1**
SOLU	**Sollefteaa**	**1.07**	**15**⇑	*eP*		**Pg**	**16 45 54.6**	**+0.2**
SOLU				*eS*		**Sg**	**16 46 08.7**	**+0.4**
SOLU	**Sollefteaa**	**1.07**	**15**	P		**Pg**	**16 45 54.6**	**+0.2**
SOLU				S		**Sg**	**16 46 08.7**	**+0.4**
IGGU	**Iggoen**	**1.38**	**167**⇑	*eP*		**Pn**	**16 45 59.2**	**-0.7**
IGGU				*eS*		**Sb**	**16 46 16.0**	**-2.2**
IGGU	**Iggoen**	**1.38**	**167**	P		**Pn**	**16 45 59.2**	**-0.7**
IGGU				S		**Sb**	**16 46 16.0**	**-2.2**
NOD	**Norderaes**	**1.49**	**327**	*eP*		**Pn**	**16 46 01.8**	**+0.4**
NOD				*eS*		**Sn**	**16 46 21.9**	**+0.5**
NOD	**Norderaes**	**1.49**	**327**	P		**Pn**	**16 46 01.8**	**+0.4**
NOD				S		**Sn**	**16 46 21.9**	**+0.5**
HUSU	**Husum**	**1.63**	**45**⇑	*eP*		**Pn**	**16 46 03.6**	**+0.2**
HUSU				*eS*		**Sn**	**16 46 25.1**	**+0.2**
HUSU	**Husum**	**1.63**	**45**	P		**Pn**	**16 46 03.6**	**+0.2**
HUSU				S		**Sn**	**16 46 25.1**	**+0.2**
FALU	**Falun**	**1.77**	**193**	*eS*		**Sn**	**16 46 27.8**	**-0.5**
FALU	**Falun**	**1.77**	**193**	S		**Sn**	**16 46 27.8**	**-0.5**
BREU	**Bredtraesk**	**1.90**	**27**⇓	*eP*		**Pn**	**16 46 08.1**	**+1.1**
BREU				*eS*		**Sb**	**16 46 32.8**	**-0.3**
BREU	**Bredtraesk**	**1.90**	**27**	P		**Pn**	**16 46 08.1**	**+1.1**
BREU				S		**Sb**	**16 46 32.7**	**-0.3**
FORU	**Forsmark**	**1.97**	**158**	*eP*		**Pn**	**16 46 09.2**	**+1.2**
FORU				*eS*		**Sn**	**16 46 33.2**	**0.0**
FORU	**Forsmark**	**1.97**	**158**	P		**Pn**	**16 46 09.2**	**+1.2**
FORU				S		**Sn**	**16 46 33.2**	**0.0**
OSTU	**Oestervaala**	**2.00**	**173**	*eP*		**Pn**	**16 46 09.6**	**+1.1**
OSTU				*eS*		**Sn**	**16 46 34.2**	**+0.2**
OSTU	**Oestervaala**	**2.00**	**173**	P		**Pn**	**16 46 09.5**	**+1.1**
OSTU				S		**Sn**	**16 46 34.2**	**+0.2**
FLYU	**Flymyra**	**2.17**	**164**⇓	*eP*		**Pn**	**16 46 12.3**	**+1.5**
FLYU				*eS*		**Sn**	**16 46 38.9**	**+0.6**
FLYU	**Flymyra**	**2.17**	**164**	P		**Pn**	**16 46 12.3**	**+1.5**
FLYU				S		**Sn**	**16 46 38.8**	**+0.6**
BACU	**Backbrunna**	**2.38**	**175**	*eP*		**Pn**	**16 46 15.6**	**+1.9**
BACU				*eS*		**Sn**	**16 46 44.5**	**+1.3**
BACU	**Backbrunna**	**2.38**	**175**	P		**Pn**	**16 46 15.5**	**+1.9**
BACU				S		**Sn**	**16 46 44.5**	**+1.3**
UMAU	**Umeaa**	**2.48**	**46**	*eP*		**Pb**	**16 46 17.7**	**-1.2**
UMAU				*eS*		**Sb**	**16 46 49.8**	**0.0**
UMAU	**Umeaa**	**2.48**	**46**	P		**Pb**	**16 46 17.7**	**-1.2**
UMAU				S		**Sb**	**16 46 49.8**	**0.0**
HFS	**Hagfors** baz=56,slow=16	**2.53**	**216**	Pn		**Pn**	**16 46 16.8**	**+1.0**
HFS				Lg		Lg	16 46 52.2	
	baz=37,slow=37							
HFS	**Hagfors** baz=56,slow=16	**2.53**	**216**	Pn		**Pn**	**16 46 16.8**	**+1.0**
HFS				Lg		Lg	16 46 52.2	
	baz=37,slow=37							
HFS	**Hagfors**	**2.53**	**216**	*eP*		**Pn**	**16 46 16.8**	**+1.0**
HFS				*eSG*		**Sb**	**16 46 52.2**	**+0.9**
HFS	**Hagfors**	**2.53**	**216**	P		**Pn**	**16 46 16.8**	**+1.0**
HFS				Lg		Lg	16 46 52.2	
	baz=37,slow=32,SNR=0.1							
HFS	**Hagfors** 0.5nm,0.3s,baz=38,slow=14,SNR=29	**2.53**	**216**	Pn		**Pn**	**16 46 17.1**	**+1.3**
HFS				Lg		Lg	16 46 53.2	
	0.9nm,0.3s,baz=38,slow=30,SNR=9.7							
AAL	**Aland**	**2.60**	**140**	*eP*		**Pn**	**16 46 18.6**	**+1.9**
AAL				*eS*		**Sn**	**16 46 47.8**	**-1.0**
AAL				*eSB*		**Sb**	**16 46 51.1**	**-2.2**
AAL	**Aland**	**2.60**	**140**	P		**Pn**	**16 46 17.7**	**+1.0**
AAL				S		**Sn**	**16 46 47.7**	**-1.0**
SVAU	**Svanoeiden**	**2.64**	**29**	*eP*		**Pn**	**16 46 18.1**	**+0.9**
SVAU	**Svanoeiden**	**2.64**	**29**	P		**Pn**	**16 46 18.1**	**+0.9**
RAF	**Rauma**	**2.71**	**114**	*eP*		**Pn**	**16 46 19.7**	**+1.4**
RAF				*eSB*		**Sn**	**16 46 53.1**	**+1.6**
RAF				MSG			16 46 58.0	
	comp=Z,2.7nm,0.1s							
RAF	**Rauma**	**2.71**	**114**	P		**Pn**	**16 46 19.6**	**+1.4**
NB2	**NORSAR Subarra** baz=62,slow=14	**2.85**	**248**	Pn		**Pn**	**16 46 21.7**	**+1.4**
NB2				Lg		Lg	16 47 01.5	
NB2	**NORSAR Subarra** baz=62,slow=14	**2.85**	**248**	Pn		**Pn**	**16 46 21.7**	**+1.4**
NB2				Lg		Lg	16 47 01.5	
NB2	**NORSAR Subarra**	**2.85**	**248**	*eP*		**Pn**	**16 46 21.7**	**+1.4**
NB2				*eSB*		**Sb**	**16 47 01.5**	**+0.8**
NB2	**NORSAR Subarra**	**2.85**	**248**	P		**Pn**	**16 46 21.7**	**+1.4**
NB2				Lg		Lg	16 47 01.5	
	SNR=53							
NOA	**NORSAR Array B** comp=Z,0.2nm,0.3s,baz=60,slow=13,SNR=3.1	**2.85**	**248**	Pn		**Pn**	**16 46 21.6**	**+1.4**
NOA				Sn		**Sn**	**16 46 56.1**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=232,slow=20,SNR=5.1							
NOA				Lg		Lg	16 47 03.8	
	comp=Z,1.2nm,0.3s,baz=86,slow=18,SNR=11							
VAF	**Ylistaro**	**2.90**	**71**	*eP*		**Pn**	**16 46 23.8**	**+3.0**
VAF				*eSB*		**Sb**	**16 47 00.7**	**-1.1**
VAF				*eSG*		**Sg**	**16 47 03.7**	**-3.1**
VAF				MSG			16 47 05.4	
	comp=Z,5.4nm,0.2s							
BURU	**Burvik**	**3.19**	**40**	*eP*		**Pn**	**16 46 26.1**	**+1.3**
BURU	**Burvik**	**3.19**	**40**	P		**Pn**	**16 46 26.0**	**+1.3**
LILU	**Lilltraesk**	**3.39**	**23**	*eP*		**Pn**	**16 46 29.6**	**+2.0**
LILU	**Lilltraesk**	**3.39**	**23**	P		**Pn**	**16 46 29.5**	**+2.0**
ASKU	**Askersund**	**3.45**	**196**	*eP*		**Pn**	**16 46 28.7**	**+0.4**
ASKU	**Askersund**	**3.45**	**196**	P		**Pn**	**16 46 28.7**	**+0.4**
NASU	**Vaermlandsnaes**	**3.71**	**209**	*eP*		**Pn**	**16 46 32.6**	**+0.6**
NASU	**Vaermlandsnaes**	**3.71**	**209**	P		**Pn**	**16 46 32.6**	**+0.6**
MEF	**Metsahovi**	**4.24**	**115**	*eP*		**Pn**	**16 46 39.6**	**+0.3**
MEF				*eSG*		**Sb**	**16 47 43.6**	**+3.1**
MEF				MSG			16 47 46.3	
	comp=Z,1.8nm,0.2s							
MEF	**Metsahovi**	**4.24**	**115**	P		**Pn**	**16 46 39.5**	**+0.3**
SUF	**Sumiainen**	**4.43**	**79**	*eP*		**Pn**	**16 46 43.4**	**+1.5**
SUF				*eSG*		**Sb**	**16 47 49.6**	**+3.6**
SUF				MSG			16 47 54.4	
	comp=Z,2.4nm,0.2s							
SUF	**Sumiainen**	**4.43**	**79**	P		**Pn**	**16 46 43.4**	**+1.5**
KAF	**Kangasniemi**	**4.52**	**87**	*eSG*		**Sb**	**16 47 51.9**	**+3.3**
KAF				MSG			16 47 57.2	
	comp=Z,1.4nm,0.2s							
FIA0	**FINESS Array S** baz=284,slow=14	**4.53**	**96**	Pn		**Pn**	**16 46 44.5**	**+1.3**
FIA0				Sn		**Sn**	**16 47 35.0**	**-1.3**
	baz=281,slow=22							
FIA0				Lg		Lg	16 47 51.8	
	baz=280,slow=28							
FIA0	**FINESS Array S** baz=284,slow=14	**4.53**	**96**	Pn		**Pn**	**16 46 44.5**	**+1.3**
FIA0				Sn		**Sn**	**16 47 35.0**	**-1.3**
	baz=281,slow=22							
FIA0				Lg		Lg	16 47 51.8	
	baz=280,slow=28							
FIA0	**FINESS Array S**	**4.53**	**96**	*eP*		**Pn**	**16 46 44.8**	**+1.6**
FIA0				*eSG*		**Sb**	**16 47 51.4**	**+2.6**
FIA0				MSG			16 47 55.0	
	comp=Z,1.7nm,0.2s							
FIA0	**FINESS Array S** baz=284,slow=13,SNR=50	**4.53**	**96**	Pn		**Pn**	**16 46 44.5**	**+1.3**
FIA0	**FINESS Array S**	**4.53**	**96**	P		**Pn**	**16 46 44.8**	**+1.6**
FIA0				Sn		**Sn**	**16 47 35.0**	**-1.3**
	baz=281,slow=20,SNR=50							
FIA0				Lg		Lg	16 47 51.8	
	baz=280,slow=27,SNR=9.4							
FINES	**FINESS Array B** comp=Z,0.1nm,0.3s,baz=277,slow=23,SNR=3.1	**4.53**	**96**	Pn		**Pn**	**16 46 44.5**	**+1.3**
FINES				Sn		**Sn**	**16 47 36.4**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=284,slow=19,SNR=4.0							
FINES				Lg		Lg	16 47 53.2	
	comp=Z,0.7nm,0.3s,baz=294,slow=25,SNR=14							
PVF	**Pernaja**	**4.73**	**107**	*eS*		**Sn**	**16 47 39.5**	**-1.7**
PVF				*eSG*		**Sb**	**16 47 57.9**	**+3.4**
PVF	**Pernaja**	**4.73**	**107**	S		**Sn**	**16 47 39.5**	**-1.7**
MTSE	**Matsula**	**4.98**	**132**	*eS*		**Sn**	**16 47 44.0**	**-3.4**
MTSE				*eSB*		**Sb**	**16 48 03.3**	**+1.6**
OUL	**Oulu**	**5.02**	**51**	*eSG*		**Sb**	**16 48 07.3**	**+4.5**
KJN	**Kajaani**	**5.35**	**65**	*eSG*		**Sb**	**16 48 15.9**	**+3.6**
KJN				MSG			16 48 23.1	
	comp=Z,1.8nm,0.2s							
ARA0	**ARCESS Array S** baz=203,slow=14	**8.19**	**22**	Pn		**Pn**	**16 47 32.4**	**-0.9**
ARA0				Sn		Sn	16 48 60.0	-6.2
	baz=215,slow=28							
ARA0	**ARCESS Array S** baz=203,slow=14	**8.19**	**22**	Pn		**Pn**	**16 47 32.4**	**-0.9**
ARA0				Sn		Sn	16 48 60.0	-6.2
	baz=215,slow=28							
ARA0	**ARCESS Array S**	**8.19**	**22**	*eP*		**Pn**	**16 47 32.4**	**-0.9**
ARA0				*eS*		Sn	16 48 60.0	-6.2
ARA0	**ARCESS Array S**	**8.19**	**22**	P		**Pn**	**16 47 32.4**	**-0.9**
ARCES	**ARCESS Array B** comp=Z,0.1nm,0.3s,baz=205,slow=15,SNR=7.2	**8.19**	**22**	Pn		**Pn**	**16 47 31.7**	**-1.6**
ARCES				Sn		**Sn**	**16 49 01.8**	**-4.4**

comp=Z,0.1nm,0.3s,baz=212,slow=22,SNR=2.5

DJA 03 16:45:57.5±0.8,1°S±4°×12°7E±°, h15km±14km, M3.3/4, mb4.0/2, MLv3.0/4, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**0.81**	**96**	P	Pg	16 46 12.3	-1.1
LBMI				S	Sg	16 46 23.9	-0.3
TNTI	**Ternate**	**1.48**	**27**	P	Pn	16 46 22.9	-0.7
TNTI				S	Sn	16 46 42.0	-0.7
NLAI	**Namlea**	**2.70**	**171**	P	Pn	16 46 40.4	0.0
KMSI	**Cibinong**	**2.93**	**292**	P	Pn	16 46 43.3	-0.3
SGSI	**Sangihe**	**4.37**	**345**	P	Pg	16 47 34.5	+13
APSI	**Ampana**	**5.05**	**266**	P	Pn	16 47 12.1	-0.7
	18nm,1.1s						
SPSI	**Sidrap Palu**	**7.70**	**244**	P	Pn	16 47 49.3	+0.1

IDC ***03*** *16:53:33.5±2.3,0°.54S×132°.91E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.6/20, mbtmp3.9/4, Error ellipse: s-maj=133.9km s-min=23.6km az=72.0*
AUST ***03*** *16:53:34.9,0°.49S×133°.00E, h0km*
ISCJB ***03*** *16:53:35.3±1.1,0°.45S±0°.07×133°.09E±0°.07, h32km, mb3.8/3, Error ellipse: s-maj=12.3km s-min=7.8km az=43.0*
DJA ***03*** *16:53:38.4±0.9,1°S±6°×13°3E±°, h10km, M4.3/5, mb4.4/4, mB4.9/2, MLv4.2/5, Mw(mB)4.2/2*
ISC 03 16:53:38.5±1.4,0°.54S±0°.09×132°.89E±0°.09, h32km, n22, σ2s12/24, mb4.1/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**1.66**	**259**	P	**Pn**	**16 54 05.4**	**0.0**
SWI				S	**Sb**	**16 54 28.8**	**-0.3**
SWI	**Sorong**	**1.66**	**259**	P	**Pn**	**16 54 05.4**	**0.0**
	baz=1.8,SNR=56						
FAKI	**Fak Fak**	**2.45**	**195**	P	**Pn**	**16 54 17.7**	**+1.5**
FAKI				S	**Sn**	**16 54 47.7**	**+2.6**
FAKI	**Fak Fak**	**2.45**	**195**	P	**Pn**	**16 54 17.4**	**+1.2**
	baz=2.5,SNR=335						
KMPI	**Kaimana, Papua**	**3.20**	**165**	P	**Pn**	**16 54 28.2**	**+1.6**
MSAI	**Masohi**	**4.84**	**235**	P	Pn	16 54 53.0	+3.8
BNDI	**Bandanaira**	**4.95**	**217**	P	**Pn**	**16 54 52.1**	**+1.4**
TLE	**Tual**	**5.06**	**182**	P	**Pn**	**16 54 54.7**	**+2.5**
TLE	**Tual**	**5.06**	**182**	P	**Pn**	**16 54 54.8**	**+2.5**
	baz=5.2,SNR=32						
LBMI	**Labuha**	**5.39**	**269**	P	**Pn**	**16 54 58.3**	**+1.5**
	22nm,1.8s						
AAI	**Ambon**	**5.64**	**236**	P	**Pn**	**16 55 02.2**	**+2.1**
	46nm,0.9s,985nm						
AAI	**Ambon**	**5.64**	**236**	P	**Pn**	**16 55 02.7**	**+2.5**
	baz=5.8,SNR=4.2						
APSI	**Ampana**	**11.25**	**268**	P	**Pn**	**16 56 18.8**	**+1.7**
KDU	**Kakadu**	**12.07**	**182**	P	**Pn**	**16 56 27.4**	**-1.0**
	baz=12,SNR=29						
WSI	**Waingapu**	**15.47**	**234**	P	**Pn**	**16 57 14.6**	**+0.1**
	baz=16,SNR=3.8						
KNRA	**Kununurra**	**15.58**	**195**	P	**Pn**	**16 57 15.0**	**-0.9**
	baz=16,SNR=8.0						
FITZ	**Fitzroy Crossi**	**18.85**	**202**	P	**P**	**16 57 56.7**	**+0.7**
	baz=19,SNR=6.3						
WRA	**Warramunga Arr**	**19.33**	**176**	P	**P**	**16 58 00.8**	**-0.5**
	0.5nm,0.3s,baz=354,slow=11,SNR=18						
WRA				S	**Sn**	**17 01 31.7**	**-6.9**
	0.1nm,0.3s,baz=355,slow=23,SNR=4.8						
ASAR	**Alice Springs**	**23.01**	**178**	P	**P**	**16 58 41.0**	**+0.1**
	4.8nm,0.7s,baz=357,slow=11,SNR=92						
STKA	**Stephens Creek**	**32.23**	**166**	P	**P**	**17 00 03.7**	**-0.3**
	baz=32,SNR=7.0						
STKA	**Stephens Creek**	**32.23**	**166**	P	**P**	**17 00 03.0**	**-1.0**
	1.4nm,0.5s,baz=344,slow=8.5,SNR=7.1						
MKAR	**Makanchi Array**	**64.58**	**324**	P	**P**	**17 04 12.8**	**0.0**
	0.2nm,0.6s,baz=126,slow=7.6,SNR=2.6						

IDC 03 16:55:36.2±1.1,46°23N×27°91W,h0km, mb3.4/2, mb1 3.3/3, mb1mx3.1/31, mbtmp3.2/3, ML4.5/1, MS3.5/2, Ms1 3.5/2, ms1mx2.8/27, Error ellipse: s-maj=27.5km s-min=16.7km az=47.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**18.68**	**102**	P	P	16 59 55.9	+0.1
	0.3nm,0.3s,baz=302,slow=13,SNR=3.9						
VRAC	**Vranov**	**29.74**	**68**	LR	LR	17 13 02.2	
	comp=Z,90nm,18.8s,baz=319,slow=35						
TORD	**Torodi Ar. Bea**	**41.36**	**133**	P	P	17 03 23.6	-0.3
	0.3nm,0.9s,baz=325,slow=11,SNR=2.6						
TORD				LR	LR	17 18 21.4	
	comp=Z,60nm,19.0s,baz=315,slow=33						
H10S1	**ASCENSION HYDR**	**56.19**	**164**	T	T	18 05 51.6	
	baz=350,slow=0.7,SNR=4.3						
H10S3	**ASCENSION HYDR**	**56.20**	**164**	T	T	18 05 56.8	
	baz=350,slow=0.7,SNR=3.9						
H10S2	**ASCENSION HYDR**	**56.21**	**164**	T	T	18 05 56.6	
	baz=350,slow=0.7,SNR=3.3						
MKAR	**Makanchi Array**	**69.00**	**44**	P	P	17 06 42.8	-0.5
	0.4nm,0.6s,baz=302,slow=5.3,SNR=5.4						
ASAR	**Alice Springs**	**153.12**	**39**	PKPbc	PKPbc	17 15 36.2	+0.4
	0.2nm,0.7s,baz=346,slow=1.3,SNR=6.1						

DJA ***03*** *17:11:38.6±0.8,2°N±7°×12°9E±°, h10km, M4.5/5, mb4.9/1, mB5.0/1, MLv4.3/5, Mw(mB)4.3/1*
ISCJB ***03*** *17:11:40.4±0.6,2°.21N±0°.05×129°.20E±0°.06, h40km, mb3.7/9, Error ellipse: s-maj=9.2km s-min=6.3km az=135.7*
IDC ***03*** *17:11:44.0±7.1,2°.11N×128°.72E, h49km±74km, mb3.4/10, mb1 3.5/10, mb1mx3.4/22, mbtmp3.4/10, Error ellipse: s-maj=68.6km s-min=16.4km az=76.0*
ISC 03 17:11:42.7±0.8,2°.17N±0°.07×129°.16E±0°.07, h40km, n15, σ1s16/18, mb3.8/9, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.26**	**232**	P	**Pn**	**17 12 16.5**	**-1.1**
TNTI				S	**Sn**	**17 12 45.9**	**+1.6**
LBMI	**Labuha**	**3.24**	**211**	P	**Pn**	**17 12 30.2**	**-0.9**
SWI	**Sorong**	**3.67**	**145**	P	**Pn**	**17 12 36.9**	**-0.1**
SWI				S	**Sn**	**17 13 18.2**	**-0.9**
SGSI	**Sangihe**	**3.92**	**293**	P	**Pn**	**17 12 39.5**	**-0.9**
SGSI				S	**Sn**	**17 13 27.2**	**+1.9**
KMSI	**Cibinong**	**5.41**	**253**	P	**Pn**	**17 12 59.3**	**-1.6**
FITZ	**Fitzroy Crossi**	**20.44**	**190**	P	**P**	**17 16 16.4**	**-0.4**
	0.8nm,0.6s,baz=32,slow=14,SNR=4.3						
WRA	**Warramunga Arr**	**22.56**	**167**	P	**P**	**17 16 40.2**	**+0.6**
	2.0nm,0.6s,baz=345,slow=11,SNR=14						
ASAR	**Alice Springs**	**26.09**	**170**	P	**P**	**17 17 13.3**	**+0.5**
	0.2nm,0.5s,baz=353,slow=8.1,SNR=12						
KSRS	**Korea Array**	**35.13**	**358**	P	**P**	**17 18 33.3**	**+0.9**
	0.6nm,0.6s,baz=179,slow=10,SNR=3.9						
STKA	**Stephens Creek**	**35.86**	**162**	P	**P**	**17 18 39.9**	**+1.1**
	1.2nm,0.6s,baz=336,slow=10,SNR=7.0						
SONM	**Songino Array**	**49.56**	**340**	P	**P**	**17 20 29.7**	**-0.1**
	0.5nm,0.5s,baz=151,slow=11,SNR=5.3						
MKAR	**Makanchi Array**	**60.21**	**325**	P	**P**	**17 21 46.1**	**-0.7**
	1.2nm,0.6s,baz=121,slow=8.5,SNR=15						
ZALV	**Zalesovo Beam**	**63.08**	**332**	P	**P**	**17 22 05.1**	**-0.8**
	0.3nm,0.4s,baz=120,slow=8.5,SNR=3.0						
BVAR	**Borovoye Array**	**69.94**	**327**	P	**P**	**17 22 47.9**	**-1.9**
	0.7nm,0.6s,baz=125,slow=9.6,SNR=4.4						
VNDA	**Vanda**	**81.59**	**173**	P	**P**	**17 23 56.4**	**+0.5**
	0.7nm,1.1s,baz=299,slow=5.1,SNR=5.3						

GUC 03 17:22:07.7±0.4,22°37S×67°95W,h178km±13km, ML3.8, 3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB04	**Plate Boundary**	**1.43**	**274**	*i* P	Pn	17 22 46.4	+7.6
PB04				*e*S	Sn	17 23 15.8	+13
PB04				AML	AML	17 23 17.8	
	comp=N,408nm,0.3s						
MACH	**Maria Elena**	**1.69**	**275**	*i* P	Pn	17 22 42.7	+1.1
MACH				*e*S	Sn	17 23 09.1	+1.3
PB07	**Plate Boundary**	**1.91**	**289**	*i* P	Pn	17 22 45.0	+1.1
PB07				*i* S	Sn	17 23 13.3	+1.4
PB07				AML	AML	17 23 14.6	
	comp=N,608nm,0.3s						
PB01	**Plate Boundary**	**1.95**	**312**	*i* P	Pn	17 22 45.2	+1.0
PB01				*i* S	Sn	17 23 13.7	+1.3
PB01				AML	AML	17 23 15.9	
	comp=N,339nm,0.3s						
CEN1	**Los Morros**	**2.31**	**244**	*i* P	Pn	17 22 49.6	+1.4
CEN1				*i* S	Sn	17 23 23.4	+3.6
ANCH	**Antofagasta**	**2.62**	**240**	*e*P	Pn	17 22 52.8	+1.2
ANCH				*i* S	Sn	17 23 27.4	+1.5
PB10	**Plate Boundary**	**2.66**	**244**	↓*e*P	Pn	17 22 53.6	+1.5
PB10				*i* S	Sn	17 23 28.1	+1.3
PB10				AML	AML	17 23 32.4	
	comp=N,216nm,0.6s						
PSGC	**Pisagua**	**3.43**	**323**	↓*e*P	Pn	17 23 01.3	-0.4
PSGC				*i* S	Sn	17 23 43.4	-0.4
MNMC	**Minimini**	**3.57**	**334**	↓*i* P	Pn	17 23 04.3	+0.6
MNMC				*i* S	Sn	17 23 48.5	+1.1
MNMC				AML	AML	17 23 53.3	
	comp=E,98nm,0.2s						

ISCJB ***03*** *17:22:58.0±0.8,0°.87S±0°.09×100°.0E±0°.1, h100km, mb3.2/3, Error ellipse: s-maj=19.5km s-min=9.3km az=145.9*
IDC ***03*** *17:23:00.2±3.7,0°.72S×100°.23E, h99km±15km, mb3.0/3, mb1 3.1/4, mb1mx2.9/23, mbtmp2.9/4, Error ellipse: s-maj=140.6km s-min=8.9km az=53.0*
DJA ***03*** *17:23:00.0±0.6,1°S±7°×10°0E±°, h70km±14km, M3.9/7, MLv3.9/7*
ISC 03 17:22:59.4±1.1,0°.83S±0°.08×100°.0E±0°.1, h100km, n12, σ0s70/12, mb3.0/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**0.44**	**101**	P	**Pn**	**17 23 14.2**	**-0.6**
PPI	**Padang Panjang**	**0.52**	**45**	P	**Pn**	**17 23 14.7**	**-0.6**
SDSI	**Sungai Dareh**	**1.41**	**94**	P	**Pn**	**17 23 24.8**	**+0.3**
BKNI	**Bangkinang**	**1.53**	**42**	P	**Pn**	**17 23 25.9**	**-0.1**
GSI	**Gunungsitoli**	**3.24**	**311**	P	**Pn**	**17 23 48.8**	**+0.5**
PSI	**Prapat**	**3.77**	**343**	P	**Pn**	**17 23 54.5**	**-1.0**
	1.4nm,0.3s,baz=252,slow=3.2,SNR=3.1						
MNAI	**Manna**	**4.57**	**140**	P	**Pn**	**17 24 06.8**	**+0.5**
EGSI	**Enggano, Bengk**	**5.03**	**154**	P	**Pn**	**17 24 11.5**	**-1.0**
WRA	**Warramunga Arr**	**38.57**	**122**	P	**P**	**17 30 12.6**	**-0.3**
	0.1nm,0.4s,baz=304,slow=9.0,SNR=2.9						
ASAR	**Alice Springs**	**39.93**	**127**	P	**P**	**17 30 24.4**	**+0.3**
	0.2nm,0.8s,baz=302,slow=7.9,SNR=4.1						
MKAR	**Makanchi Array**	**49.91**	**344**	P	**P**	**17 31 43.6**	**+0.8**
	0.3nm,0.5s,baz=154,slow=7.9,SNR=9.1						
TXAR	**Lajitas Array**	**143.75**	**36**	PKP	**PKPdf**	**17 42 23.2**	**-0.5**
	0.2nm,0.5s,baz=220,slow=2.4,SNR=2.7						

IDC ***03*** *17:23:39.1±1.5,37°.07N×138°.99E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.3/26, mbtmp3.5/3, Error ellipse: s-maj=48.3km s-min=34.9km az=141.0*
ISCJB ***03*** *17:23:40.7±0.7,37°.31N±0°.05×138°.88E±0°.08, h18km±7km, mb3.4/2, Error ellipse: s-maj=10.9km s-min=6.8km az=150.8*
JMA ***03*** *17:23:41.3,37°.30N×138°.89E, h13km±1km, M3.4 Broadband fault plane solution: P waves. NP1: φs228.00000°, δ69.00000°, λ111.00000°. NP2:φs2.00000°, δ30.00000°, λ48.00000°. Principal axes: T Plg61.0000°, Azm169.0000°; N Plg19.0000°, Azm40.0000°; P Plg21.0000°, Azm302.0000°;*
JMA Felt II J1.
ISC 03 17:23:41.1±0.9,37°.28N±0°.04×138°.86E±0°.06, h12km±7km, n8, σ0s97/13, 3D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.13**	**105**	↓P	**Pg**	**17 23 44.4**	**0.0**
JHK				S	**Sg**	**17 23 46.8**	**0.0**
JIZZ	**Izumozaki**	**0.28**	**335**	↓P	**Pb**	**17 23 47.3**	**-0.7**
JIZZ				S	**Sg**	**17 23 50.3**	**-0.3**
JKT	**Katashina**	**0.60**	**149**	↓P	**Pg**	**17 23 53.0**	**+0.1**
JKT				S	**Sg**	**17 24 01.4**	**+0.6**
MAT	**Matsushiro**	**0.91**	**215**	P	**Pb**	**17 23 58.1**	**-0.6**
MAT				S	**Sg**	**17 24 10.1**	**-0.3**
MAT	**Matsushiro**	**0.91**	**215**	P	**Pb**	**17 23 58.1**	**-0.6**
MAT				S	**Sg**	**17 24 10.2**	**-0.2**
KSRS	**Korea Array**	**8.71**	**274**	Pn	**Pn**	**17 25 48.8**	**+2.0**
	0.4nm,0.3s,baz=83,slow=14,SNR=14						
WRA	**Warramunga Arr**	**57.08**	**185**	P	**P**	**17 33 25.6**	**-1.6**
	0.3nm,0.6s,baz=0.9,slow=7.5,SNR=5.8						
NVAR	**Mina Array Bea**	**76.46**	**52**	P	**P**	**17 35 31.4**	**+0.4**
	0.2nm,0.5s,baz=294,slow=4.8,SNR=2.7						

ISCJB ***03*** *17:34:38.3±0.8,6°.00S±0°.10×151°.10E±0°.08, h43km, mb4.6/10, Error ellipse: s-maj=15.3km s-min=9.6km az=150.4*
AUST ***03*** *17:34:38.6,6°.17S×151°.13E, h0km*
IDC ***03*** *17:34:40.7±3.4,6°.07S×151°.13E, h42km±29km, mb4.0/6, mb1 4.2/8, mb1mx4.0/19, mbtmp4.1/8, ML3.7/2, MS2.9/2, Ms1 2.9/2, ms1mx2.9/31, Error ellipse: s-maj=34.7km s-min=19.5km az=150.0*
NEIC ***03*** *17:34:40.1±1.5,5°.98S×151°.11E, h42km±14km, mb4.9/2, Error ellipse: s-maj=18.3km s-min=10.8km az=157.0*
ISC 03 17:34:40.7±0.6,6°.04S±0°.09×151°.08E±0°.09, h43km, n35, σ0s93/33, mb4.4/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.13**	**31**	P	**Pn**	**17 35 16.4**	**+2.6**
	baz=2.2,SNR=41						
PMG	**Port Moresby**	**5.13**	**229**	P	**Pn**	**17 35 56.7**	**+1.7**
PMG				*e*Sn	**Sn**	**17 36 52.3**	**-0.7**
PMG				S		17 36 53.5	
PMG	**Port Moresby**	**5.13**	**229**	P	**Pn**	**17 35 56.7**	**+1.7**
	4.9nm,0.3s,baz=41,slow=8.1,SNR=18						
PMG				S	**Sn**	**17 36 53.5**	**+0.5**
	7.2nm,0.3s,baz=149,slow=13,SNR=3.2						
PMG				LR	LR	17 37 39.8	
	comp=Z,83nm,19.2s,baz=218,slow=35						
HNR	**Honiara**	**9.41**	**112**	P	**Pn**	**17 36 53.1**	**-0.7**
HNR	**Honiara**	**9.41**	**112**	P	**Pn**	**17 36 53.1**	**-0.7**
	5.8nm,0.3s,baz=262,slow=7.1,SNR=3.3						
HNR				LR	LR	17 40 11.8	
	comp=Z,97nm,18.8s,baz=327,slow=35						
COEN	**Coen**	**11.07**	**224**	Pn	**Pn**	**17 37 15.8**	**-0.7**
CTAO	**Charters Tower**	**14.73**	**198**	Pn	**P**	**17 38 12.4**	**+0.7**
KDU	**Kakadu**	**19.50**	**249**	P	**P**	**17 39 04.8**	**+0.4**
	baz=20,SNR=8.4						
RMQ	**Roma**	**20.45**	**186**	P	Pn	17 39 15.7	-1.5
	baz=20,SNR=8.8						
WRAB	**Tennant Creek**	**21.33**	**228**	*e*P	**P**	**17 39 24.6**	**+0.3**
	5.7nm,0.3s						
WRA	**Warramunga Arr**	**21.35**	**228**	P	**P**	**17 39 24.5**	**+0.1**
WRA	**Warramunga Arr**	**21.35**	**228**	P	**P**	**17 39 24.5**	**+0.1**
	10nm,0.5s,baz=53,slow=10,SNR=100						
QLP	**Quilpie**	**21.45**	**197**	P	**P**	**17 39 25.7**	**+0.3**
	baz=21,SNR=5.2						
KNRA	**Kununurra**	**23.89**	**245**	P	P	17 39 56.5	+5.9
	baz=24,SNR=3.5						
AS31	**Alice Springs**	**24.09**	**222**	*e*P	**P**	**17 39 52.3**	**-0.2**
ASAR	**Alice Springs**	**24.09**	**222**	P	**P**	**17 39 52.5**	**+0.1**
ASAR	**Alice Springs**	**24.09**	**222**	P	**P**	**17 39 52.5**	**+0.1**
	13nm,0.7s,baz=56,slow=10,SNR=161						
STKA	**Stephens Creek**	**27.20**	**198**	*e*P	**P**	**17 40 19.1**	**-1.3**
	1.1nm,0.9s						
STKA	**Stephens Creek**	**27.20**	**198**	P	**P**	**17 40 21.1**	**+0.7**
	baz=27,SNR=5.3						
STKA	**Stephens Creek**	**27.20**	**198**	P	**P**	**17 40 19.6**	**-0.8**
	2.7nm,0.7s,baz=348,slow=12,SNR=6.7						
FITZ	**Fitzroy Crossi**	**27.57**	**242**	P	**P**	**17 40 24.2**	**+0.3**
FITZ	**Fitzroy Crossi**	**27.57**	**242**	P	**P**	**17 40 24.1**	**+0.2**
	baz=28,SNR=12						
FITZ	**Fitzroy Crossi**	**27.57**	**242**	P	**P**	**17 40 24.2**	**+0.3**
	3.0nm,0.6s,baz=82,slow=8.6,SNR=17						
MEEK	**Meekatharra**	**37.10**	**233**	P	**P**	**17 41 47.6**	**+0.4**
	baz=37,SNR=5.4						
YHNB	**Yeheng**	**42.05**	**318**	*e*P	**P**	**17 42 26.4**	**-2.1**
	585nm,1.0s						
COCO	**West Island**	**53.84**	**259**	*e*P	P	17 44 04.4	+4.6
	383nm,1.5s						
PALK	**Pallekele**	**71.45**	**280**	P	P	17 45 53.2	-4.2
	54nm,1.3s						
VNDA	**Vanda**	**71.67**	**178**	P	**P**	**17 45 57.6**	**+0.1**
	1.7nm,1.1s						
VNDA	**Vanda**	**71.67**	**178**	P	**P**	**17 45 57.9**	**+0.4**
	0.5nm,0.7s,baz=335,slow=6.2,SNR=4.1						
ILAR	**Eielson Array**	**83.94**	**22**	P	**P**	**17 47 05.2**	**-0.8**
ILAR	**Eielson Array**	**83.94**	**22**	P	**P**	**17 47 05.2**	**-0.8**
	0.6nm,0.6s,baz=250,slow=5.0,SNR=8.6						
GERES	**GERESS Array B**	**124.19**	**327**	PKP	**PKPdf**	**17 53 35.7**	**+0.8**
GERES	**GERESS Array B**	**124.19**	**327**	PKP	**PKPdf**	**17 53 35.7**	**+0.8**
	0.7nm,0.7s,baz=29,slow=2.2,SNR=2.6						
TORD	**Torodi Ar. Bea**	**149.02**	**285**	PKPbc	**PKPbc**	**17 54 25.2**	**0.0**
TORD	**Torodi Ar. Bea**	**149.02**	**285**	PKPbc	**PKPbc**	**17 54 25.2**	**0.0**
	1.5nm,0.7s,baz=65,slow=2.7,SNR=9.1						

SZGRF ***03*** *17:35:59.3,23°.20N×122°.59E, h33km, mb6.1, MS6.2, Taiwan region*
NIED ***03*** *17:36:00,23°.60N×121°.60E, h38km, Mw5.9 Best double couple: M0 9.06000×10^17 NP1:φs20.00000°, δ54.00000°, λ74.00000°. NP2:φs226.00000°, δ39.00000°, λ112.00000°.*
IDC ***03*** *17:36:01.7±0.3,23°.57N×121°.50E, h0km, mb5.4/45, mb1 5.4/47, mb1mx5.4/48, mbtmp5.4/47, ML4.9/2, MS5.6/42, Ms1 5.6/42, ms1mx5.5/52, Error ellipse: s-maj=8.6km s-min=6.5km az=59.0*
BJI ***03*** *17:36:03.2,23°.76N×121°.57E, h5km, mB6.0/54, mb5.5/58, ML5.9/5, Ms6.2/73, Ms7 6.1/66*
MOS ***03*** *17:36:05.1±1.2,23°.66N×121°.63E, h33km, mb6.3/129, MS5.9/49, Error ellipse: s-maj=9.3km s-min=5.6km az=108.2*
BKK ***03*** *17:36:05.8±0.2,24°N±3°×12°2E±°, h10km, M5.9/52, mb5.7/52, mB6.2/45, MLv6.4/1, Mw(mB)5.9/45, Mwp5.9/13*
ISCJB ***03*** *17:36:06.7±0.1,23°.68N±0°.01×121°.58E±0°.01, h41km±1km, mb5.8/388, MS5.8/95, Error ellipse: s-maj=1.9km s-min=1.6km az=36.7*
NEIC ***03*** *17:36:06.1±0.1,23°.63N×121°.45E, h28km, mb6.0/185, ME5.6, MS5.7/5, MW6.0, ML6.3(TAP), MW6.1(USGS), Error ellipse: s-maj=3.5km s-min=3.3km az=115.0 Broadband fault plane solution: P waves. NP1:φs254.00000°, δ42.00000°, λ141.00000°. NP2:φs15.00000°, δ65.00000°, λ55.00000°. Principal axes: T Plg55.0000°, Azm239.0000°; N Plg0.0000°, Azm0.0000°; P Plg13.0000°, Azm130.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [IV] at T'ou-liu; [III] at Chia-i, Hsin-chu, Hsin-chuang, T'ai-chung and Taipei; [II] at Kao-hsiung and T'ao-yuan. Also felt at Chao-chou, Chung-ho, Chung-li, Ho-mei, Hsi-chih, Hua-lien, Hu-wei, Lo-tung, Miao-li, P'ing-chen, Pu-li, San-hsia, Shi-lin, T'ai-nan, T'an-shui, T'u-cheng, Yuan-lin, Yu-li and Yung-ho. Felt [III] at Fuzhou, Fujian. Also felt at Xiamen. Recorded [5 TAP] in Hua-lien; [4 TAP] in Chang-hua, Nan-t'ou and T'ai-tung; [3 TAP] in I-lan, T'ai-chung and Yun-lin; [2 TAP] in Kao-hsiung, Miao-li, P'eng-hu, T'ai-nan, T'ai-pei and T'ao-yuan; [1 TAP] in P'ing-tung. Recorded [2 JMA] on Iriomote-jima and Yonaguni-jima and [1 JMA] on Hateruma-jima and Ishigaki-jima, Ryukyu Islands.
JMA ***03*** *17:36:06.1±0.3,23°.61N×121°.59E, h74km, M6.3*
JMA Felt II J1.
TAP ***03*** *17:36:06.3,23°.65N×121°.58E, h29km, ML6.1, B*
GCMT ***03*** *17:36:09.2±0.1,23°.58N×121°.61E, h34km, MW5.9 Best double couple: NP1:φs16.00000°, δ64.00000°, λ63.00000°. NP2:φs244.00000°, δ37.00000°, λ132.00000°. Principal axes: T 0.9600, Plg62.0000°, Azm244.0000°; N 0.1200, Plg24.0000°, Azm29.0000°; P -1.0800, Plg15.0000°, Azm125.0000°; Data Used: II IU IC G CN. Surface waves: sta=119, comp=265, per= 50.*
DJA ***03*** *17:36:11.5±1.1,24°N±4°×12°2E±°, h53km±10km, M5.9/105, mb5.8/105, mB6.2/90, Mw(mB)5.9/90, Mwp6.0/18*
NEIC ***03*** *17:36:14.6±0.0,23°.67N×121°.63E, h10km, Moment Tensor Solution. s122 Moment tensor: Scale 10^18Nm; Mrr0.47; Mθθ-0.12; Mφφ-0.35; Mrθ0.68; Mrφ-0.41; Mθφ1.05; Best double couple: M0 1.40000×10^18 NP1:φs225.00000°, δ12.00000°, λ101.00000°. NP2:φs33.00000°, δ78.00000°, λ88.00000°. Principal axes: T 1.2800, Plg57.0000°, Azm299.0000°; N 0.1900, Plg2.0000°, Azm33.0000°; P -1.4700, Plg32.0000°, Azm125.0000°;*
AUST ***03*** *17:36:33.0±2.8,22°.35N×121°.43E, h216km±23km Error ellipse: s-maj=15.5km s-min=7.0km az=19.0*
ISC 03 17:36:05.7±0.3,23°.69N±0°.02×121°.60E±0°.02, h25km±1km, h24km:pP-P, n1538, σ1s52/1741, mb5.9/378, MS5.9/95, 284C-126D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.06**	**287**	↑*i* P	**Pb**	**17 36 11.8**	**+1.7**
	baz=337						
TEGC				*e*S	**Sb**	**17 36 16.1**	**+3.1**
	baz=337						
ESL	**Shilin**	**0.20**	**308**	↑*i* P	**Pb**	**17 36 12.4**	**+1.0**
	baz=316						
ESF	**Shoufeng Towns**	**0.20**	**334**	↑*i* P	**Pn**	**17 36 12.9**	**-0.3**
	baz=334						
ESF				S	**Sb**	**17 36 17.9**	**+2.8**
	baz=334						
HWA	**Hwalien**	**0.28**	**0**	↓*i* P	**Pn**	**17 36 14.3**	**-0.1**
	baz=14						
EHY	**Hungye**	**0.32**	**234**	↑*i* P	**Pb**	**17 36 13.2**	**+0.2**
	baz=247						
TWD	**Chiawan**	**0.39**	**359**	↓*i* P	**Pn**	**17 36 15.5**	**-0.3**
	baz=353						
TWD				S	**Sn**	**17 36 23.2**	**+0.8**
	baz=353						
YULB	**Yu-li**	**0.41**	**223**	*e*Pg	**Pb**	**17 36 14.0**	**-0.4**
TWF1	**Yuli**	**0.44**	**220**	↓*i* P	**Pb**	**17 36 15.0**	**0.0**
	baz=234						
TWF1				S	**Sb**	**17 36 21.1**	**-0.1**
	baz=234						
NACB	**Ninganchiao**	**0.48**	**359**	*e*Pg	**Pb**	**17 36 16.3**	**+0.6**
WHF	**Hehuan Shan**	**0.55**	**326**	↑*i* P	**Pb**	**17 36 17.5**	**+0.4**
	baz=331						
SSLB	**Suanglung**	**0.60**	**279**	*e*Pg	**Pb**	**17 36 17.0**	**-0.7**
EHP	**Heping Village**	**0.63**	**12**	*e*P	**Pn**	**17 36 19.6**	**+0.5**
	baz=12						
EHP				S	**Sn**	**17 36 29.4**	**+0.9**
	baz=12						
CHKT	**Chengkung**	**0.63**	**200**	*e*P	**Pb**	**17 36 18.0**	**-0.2**
	baz=187						

TWE	Neicheng	1.03	3	⇑	*i*	P	Pb	17 36 25.1	+0.2
	baz=5.0								
NSY	Sanyi	1.05	313	⇑	*i*	P	Pb	17 36 27.1	+1.7
	baz=316								
ILA	Ilan	1.08	7		*e*	P	Pb	17 36 26.4	+0.6
	baz=357								
NSTT	Nanjuang	1.08	330	⇑	*i*	P	Pb	17 36 27.1	+1.3
	baz=340								
CHY	Chiayi	1.10	260	⇓	*i*	P	Pb	17 36 26.9	+0.9
	baz=263								
TWK	Hsinying	1.11	248		*e*	P	Pb	17 36 27.0	+0.7
	baz=251								
TWK					*e*	S	Sb	17 36 41.2	+0.9
	baz=251								
CHN1	Nanshi	1.11	243	⇓	*i*	P	Pb	17 36 26.7	+0.4
	baz=257								
SGST	Jiashian	1.12	237	⇓	*i*	P	Pb	17 36 26.7	+0.3
	baz=240								
SGST					*e*	S	Sb	17 36 41.6	+1.0
	baz=240								
WTCT	Ta-ch'eng	1.22	278		*e*	P	Pb	17 36 28.3	+0.1
	baz=281								
ECL	Taimali	1.24	209		*e*	P	Pn	17 36 25.6	-1.9
	baz=196								
HSN	Hsinchu	1.25	333		*e*	P	Pb	17 36 29.9	+1.3
	baz=323								
HSN					*e*	S	Sb	17 36 48.2	+3.9
	baz=323								
WSF	Szhu	1.27	268		*e*	P	Pb	17 36 28.9	0.0
	baz=271								
WSF						S	Sb	17 36 46.4	+1.6
	baz=271								
TATO	Taipei	1.28	355		*e*	Pn	Pb	17 36 28.9	-0.3
TWA	Mucha	1.28	359	⇑	*i*	P	Pb	17 36 29.7	+0.5
	baz=360								
TWA					*e*	S	Sb	17 36 47.1	+1.7
	baz=360								
CHN3	Shinhua	1.29	242	⇓	*i*	P	Pb	17 36 30.6	+1.2
	baz=246								
CHN3					*e*	S	Sb	17 36 48.7	+3.1
	baz=246								
NCU	National Centr	1.33	343		*e*	P	Pb	17 36 30.5	+0.5
	baz=345								
TAP1	Taipei	1.34	357		*e*	P	Pb	17 36 30.1	-0.1
	baz=357								
TAP	Taipei	1.34	356		*e*	P	Pb	17 36 30.3	0.0
	baz=357								
TAP					*e*	S	Sb	17 36 48.2	+1.1
	baz=357								
TWB1	Santiao Chiao	1.36	15		*e*	P	Pb	17 36 31.0	+0.5
	baz=1.0								
TWB1					*e*	S	Sb	17 36 48.9	+1.5
	baz=1.0								
NWF	Wu-fen Shan	1.38	7		*e*	P	Pb	17 36 31.0	0.0
	baz=7.0								
TWM1	Shoushan	1.39	232	⇓	*i*	P	Pb	17 36 32.1	+1.0
	baz=235								
SCLT	Jiali	1.39	249		*e*	P	Pb	17 36 30.9	-0.2
	baz=253								
SCLT						S	Sb	17 36 48.8	+0.4
	baz=253								
SGLT	Jiouru	1.41	227	⇓	*i*	P	Pb	17 36 32.0	+0.7
	baz=219								
SGLT					*e*	S	Sb	17 36 52.9	+4.1
	baz=219								
TWS1	Kuangyinshan	1.41	353		*e*	P	Pb	17 36 31.5	+0.1
	baz=9.0								
TAI1	Yung-k'ang	1.42	243	⇓	*i*	P	Pb	17 36 31.7	+0.2
	baz=247								
EAST	Anshuo	1.48	208	⇓		P	Pn	17 36 29.2	-1.7
	baz=196								
TAW	Tawu	1.48	206		*e*	P	Pn	17 36 29.3	-1.5
	baz=193								
YOJ	Yonaguni jima	1.50	59			P	Pb	17 36 32.3	-0.6
YOJ						S	Sb	17 36 51.5	0.0
YOJ	Yonaguni jima	1.50	59	⇓	*i*	P	Pb	17 36 32.8	-0.1
	baz=54								
YOJ					*i*	S	Sb	17 36 51.3	-0.2
	baz=54								
TWY	Chenhua	1.58	360		*e*	P	Pb	17 36 33.9	-0.3
SCZT	Fangliau	1.59	215	⇓	*e*	P	Pn	17 36 32.6	+0.2
	baz=200								
SCZT					*e*	S	Sb	17 36 54.9	+0.7
	baz=200								
KAU	Kaohsiung	1.64	227	⇓	*i*	P	Pb	17 36 35.2	0.0
	baz=249								
LAY	Lan-yu	1.65	182		*e*	P	Pn	17 36 31.7	-1.5
	baz=170								
TWP	Hsiaoliuchiu	1.76	221		*e*	P	Pb	17 36 36.6	-0.7
	baz=224								
WDGT	Dungji	1.83	257			P	Pn	17 36 36.1	+0.4
	baz=261								
WDGT					*e*	S	Sn	17 36 56.5	-1.7
	baz=261								
HEN	Hengchun	1.86	206		*e*	P	Pn	17 36 36.8	+0.7
	baz=194								
PNG	Penghu	1.88	267	⇓	*e*	P	Pn	17 36 36.9	+0.5
	baz=270								
TWK1	Hengchun	1.89	203		*e*	P	Pn	17 36 36.7	+0.2
	baz=188								
TSEB	Hengchuen, Pin	1.90	200		*e*	P	Pn	17 36 37.0	+0.4
	baz=188								
PCYT	Pengchaiyu	1.98	12		*e*	P	Pn	17 36 39.2	+1.6
	baz=23								
PCYT					*e*	S	Sb	17 37 05.6	+0.4
	baz=23								
IRIF	Iriomote-Funau	2.05	71	⇓		P	Pn	17 36 39.9	+1.3
IRIF						S	Sn	17 37 05.4	+2.0
HATJ	Hateruma jima	2.05	79			P	Pn	17 36 39.5	+0.9
HATJ						S	Sn	17 37 04.6	+1.2
JKRS	Kuro-shima	2.27	76			P	Pn	17 36 41.9	+0.3
JKRS						S	Sn	17 37 10.9	+2.1
JIJ	Ishigaki jima	2.42	73	⇓		P	Pn	17 36 44.4	+0.7
JIJ						S	Sn	17 37 13.1	+0.6
JTJ	Tarama	2.98	71			P	Pn	17 36 52.7	+1.2
JTJ						S	Sn	17 37 27.0	+0.5
KNM	Kinmen	2.99	285	⇓	*e*	P	Pn	17 36 53.5	+1.9
	baz=286								
QZH	Quanzhou	3.02	295	⇓	*i*	Pn	Pn	17 36 49.7	-2.3
QZH						Sn	Sn	17 37 22.3	-5.0
QZH						SMN			
	comp=Z,122μm,0.9s								
QZH						SME			
	comp=Z,68μm,0.8s								
JMJ	Miyako jima 2	3.55	71			P	Pn	17 37 01.0	+1.7
JMJ						S	Sn	17 37 41.7	+1.2
JMJ	Miyako jima 2	3.55	71	⇑	*e*	P	Pn	17 37 01.1	+1.8
	baz=83								
JMJ					*e*	S	Sn	17 37 40.7	+0.2
	baz=83								
JOGS	Gusukube	3.63	72			P	Pn	17 37 01.8	+1.4
JOGS						S	Sn	17 37 44.0	+1.5
JKE	Kume jima 2	5.38	60			P	Pn	17 37 25.3	+0.8
JKE						S	Sn	17 38 25.5	-0.2
SGCP	Mt. Cagua	5.44	176		*e*	P	Pn	17 37 25.4	+0.1
APYP	Conner	5.81	183		*e*	P	Pn	17 37 32.3	+1.9
JAGN	Aguni-jima	5.87	59			P	Pn	17 37 32.4	+1.2
JAGN						S	Sn	17 38 37.8	+0.1
ABRA	Dolores	6.07	188		*e*	P	Pn	17 37 35.6	+1.6
JJT2	Tamagusuku 2	6.09	65			P	Pn	17 37 35.3	+1.1
JJT2						S	Sn	17 38 42.4	-0.7
PALP	Palanan	6.64	173	⇑	*i*	P	Pn	17 37 44.1	+2.3
JIH	Iheya	6.65	59			P	Pn	17 37 42.2	+0.3
JIH						S	Sn	17 38 53.7	-3.2
CAUP	Cauayan	6.72	178		*e*	P	Pn	17 37 46.5	+3.6
JOW	Kunigami	6.80	61			P	Pn	17 37 43.8	-0.2
JOW						S	Sn	17 38 59.4	-1.3
JOW	Kunigami	6.80	61		*e*	P	Pn	17 37 43.8	-0.2
	baz=64								
JOW	Kunigami	6.80	61		*e*	Pn	Pn	17 37 43.3	-0.7
	552nm,1.0s								
JOW					*e*	Sn	Sn	17 38 55.7	-5.0
HKC	Hong Kong Obse	6.98	260		*i*	P	Pn	17 37 47.0	+0.5
BCPH	Baguio City Da	7.34	188	⇑	*i*	P	Pn	17 37 55.5	+3.9
SSE	Sheshan	7.38	357			P	Pn	17 37 52.4	+0.4
SSE						S	Sn	17 39 19.3	+4.3
SSE						AMB	AMB		
	comp=Z,340nm,0.9s								
SSE						AMB	AMB		
	comp=Z,2μm,9.5s								
SSE						LR	LR		
	comp=N,34μm,16.4s								
SSE						LR	LR		
	comp=E,123μm,16.4s								
SSE						LR	LR		
	comp=Z,66μm,15.0s								

GZH	Guangzhou	7.61	267			P	Pn	17 37 51.3	-3.8
GZH						S	Sn	17 39 08.6	-12
GZH						SMN			
	18μm,1.1s								
GZH						SME			
	13μm,1.1s								
JTK	Tokunoshima	7.78	57			P	Pn	17 37 56.4	-1.0
JTK						S	Sn	17 39 21.3	-3.4
BALP	Baler	7.91	180		*e*	P	Pn	17 38 01.5	+2.2
JAMN	Amaminishikomi	8.18	55			P	Pn	17 38 01.8	-1.1
JAMN						S	Sn	17 39 30.6	-4.0
JAM	Amami Oshima	8.59	55			P	Pn	17 38 07.6	-1.0
JAM						S	Sn	17 39 39.6	-5.1
NJ2	Nanjing	8.68	344		*e*	P	Pn	17 38 09.1	-0.6
NJ2						pP		17 38 13.9	
NJ2						sP		17 38 16.5	
NJ2						S	Sn	17 39 43.1	-3.6
NJ2						AMB	AMB		
	comp=Z,150nm,0.6s								
NJ2						AMB	AMB		
	comp=Z,780nm,3.5s								
NJ2						SMN			
	comp=Z,11μm,1.2s								
NJ2						SME			
	comp=Z,7μm,1.0s								
NJ2						LR	LR		
	comp=N,87μm,16.4s								
NJ2						LR	LR		
	comp=E,44μm,16.8s								
NJ2						LR	LR		
	comp=Z,91μm,15.1s								
JZK	Kikaishima	8.82	57			P	Pn	17 38 11.5	-0.2
JZK						S	Sn	17 39 47.1	-3.3
JMZ	Minamidaito 2	8.99	74			P	Pn	17 38 10.8	-3.3
JMZ						S	Sn	17 39 45.8	-8.8
WHN	Wuhan	9.40	318			P	Pn	17 38 20.0	+0.4
WHN						sP		17 38 25.6	
WHN						S	Sn	17 40 00.2	-4.2
WHN						LR	LR		
	comp=N,186μm,4.8s								
WHN						LR	LR		
	comp=E,156μm,5.6s								
WHN						LR	LR		
	comp=Z,243μm,14.7s								
LQP	Lukban	9.53	180	⇑	*e*	P	Pn	17 38 27.0	+5.4
JNN	Nakanoshima	9.60	49			P	Pn	17 38 23.3	+0.9
GQP	Guinayangan	9.77	175	⇓	*e*	P	Pn	17 38 26.3	+1.5
BOAC	Boac	10.18	179		*e*	P	Pn	17 38 34.1	+3.7
PVCP	Virac	10.33	166	⇑	*i*	P	Pn	17 38 36.0	+3.5
JSJ	Shimokoshiki	10.72	40			P	Pn	17 38 41.3	+3.6
JFU	Fukue jima 2	10.93	34			P	Pn	17 38 45.2	+4.6
NGSJ	Nagasakinomoza	11.47	37			P	Pn	17 38 52.7	+4.8
CNP	Catarman	11.49	165		*e*	P	Pn	17 38 51.5	+3.1
JHD	Hondo	11.53	39			P	Pn	17 38 52.9	+4.0
JZO	Okuchi	11.57	41			P	Pn	17 38 51.5	+2.0
QIZ	Qiongzhong	11.90	249			P	Pn	17 38 53.8	-0.1
QIZ						S	Sn	17 41 07.3	+1.4
QIZ						SS	SnSn	17 41 22.7	+4.7
QIZ						AMB	AMB		
	comp=Z,120nm,1.7s								
QIZ						AMB	AMB		
	comp=Z,2μm,8.4s								
QIZ						LR	LR		
	comp=N,62μm,18.2s								
QIZ						LR	LR		
	comp=Z,60μm,18.2s								
QIZ	Qiongzhong	11.90	249		*e*	Pn	Pn	17 38 55.6	+1.7
	234nm,1.0s								
QIZ					*e*	Sn	Sn	17 40 55.3	-11
RCP	Roxas	12.11	175	⇑	*e*	P	Pn	17 39 01.9	+5.0
JTA	Tamana	12.13	38			P	Pn	17 39 00.3	+3.3
JFI	Itaya	12.39	37			P	Pn	17 39 06.0	+5.4
JNU	Nakatsue	12.44	39	⇑		P	Pn	17 39 03.9	+2.6
JNU	Nakatsue	12.44	39			Pn	Pn	17 39 04.0	+2.6
JNU	Nakatsue	12.44	39			Pn	Pn	17 39 04.0	+2.6
	2.3nm,0.3s,baz=191,slow=5.7,SNR=39								
JNU						LR	LR	17 44 54.9	
	comp=Z,27nm,19.2s,baz=118,slow=42								
ENH	Enshi	12.63	304		*e*	Pn	Pn	17 39 05.8	+1.9
	5.7nm,0.4s								
ENH					*e*	Sn	Sn	17 41 10.3	-14
GUIM	Jordan	13.03	176		*e*	P	Pn	17 39 10.8	+1.5
TIA	Tai'an	13.06	344	⇑		P	Pn	17 39 10.9	+1.1
TIA						LR	LR		
	comp=N,56μm,13.2s								
TIA						LR	LR		
	comp=E,38μm,9.6s								
TIA						LR	LR		
	comp=Z,74μm,13.7s								
GYA	Guiyang	13.82	285	⇑	*i*	P	Pn	17 39 21.0	+0.8
GYA						PP	P	17 39 31.3	+2.9
GYA						S	Sn	17 41 52.5	-0.5
GYA						SS	S	17 42 12.5	-2.4
GYA						AMB	AMB		
	comp=Z,190nm,1.0s								
GYA						AMB	AMB		
	comp=Z,830nm,4.1s								
GYA						LR	LR		
	comp=N,28μm,11.0s								
GYA						LR	LR		
	comp=E,103μm,15.1s								
GYA						LR	LR		
	comp=Z,124μm,16.0s								
MSLP	Maasin	13.84	166		*e*	P	Pn	17 39 23.4	+3.0
SNPH	Sibulan	14.35	173	⇑	*i*	P	Pn	17 39 22.5	-5.0
INCN	Inchon	14.41	16			Pn	P	17 39 35.6	+0.7
	SNR=16								
INCN	Inchon	14.41	16		*e*	Pn	P	17 39 32.3	-2.5
	623nm,1.3s								
KSAR	Wonju Array Be	14.73	20			Pn	P	17 39 35.7	-2.6
KSAR						Sn	S	17 42 29.8	-3.4
KSRS	Korea Array	14.75	20			Pn	P	17 39 35.7	-2.8
	1.9nm,0.3s,baz=200,slow=12,SNR=146								
KSRS						Sn	S	17 42 29.8	-3.8
	0.2nm,0.3s,baz=231,slow=38,SNR=4.3								
KSRS						LR	LR	17 46 17.2	
	comp=Z,26μm,18.1s,baz=206,slow=41								
BUTP	Butuan	15.14	165		*e*	P	P	17 39 40.7	-2.3
BATP	Bataraza	15.25	194		*e*	P	P	17 39 42.6	-1.7
CGP	Cagayan de Oro	15.44	168	⇓	*i*	P	P	17 39 47.4	+1.1
IPIL	Ipil	15.84	176		*e*	P	P	17 39 51.3	+0.4
PAGZ	Pagadian	15.85	174		*e*	P	P	17 39 51.4	+0.5
TIY	Taiyuan	16.03	333		*e*	P	Pn	17 39 50.8	+1.1
TIY						sP	sP	17 39 59.5	-3.3
TIY						PP	pP	17 40 04.2	+4.6
TIY						S	Sn	17 42 48.2	+1.4
TIY						SS	SnSn	17 43 00.7	+0.7
TIY						AMB	AMB		
	comp=Z,4μm,3.7s								
TIY						LR	LR		
	comp=N,55μm,13.4s								
TIY						LR	LR		
	comp=E,26μm,7.3s								
TIY						LR	LR		
	comp=Z,57μm,12.2s								
BUKP	Musuan	16.07	168		*e*	P	P	17 39 53.1	-0.3
CTBH	Cotabato--PC H	16.57	171	⇑	*i*	P	P	17 40 00.1	+1.2
BJT	Baijiatuan	16.91	346		*e*	Pn	P	17 40 04.8	+2.3
	787nm,1.3s								
BJI	Beijing	16.93	346			P	P	17 40 03.0	+0.2
BJI						S	Sn	17 43 12.9	+4.5
BJI						AMB	AMB		
	comp=Z,360nm,1.7s								
BJI						AMB	AMB		
	comp=Z,4μm,5.8s								
BJI						LR	LR		
	comp=N,42μm,16.3s								
BJI						LR	LR		
	comp=E,52μm,23.8s								
BJI						LR	LR		
	comp=Z,15μm,24.1s								
PANO	Nakornpanom	17.20	251			P	P	17 40 07.6	+1.7
	664nm,1.6s								
KMI	Kunming	17.24	279			P	P	17 40 06.5	-0.1
KMI						S	Sn	17 43 14.8	-1.7
KMI						AMB	AMB		
	comp=Z,140nm,2.0s								
KMI						AMB	AMB		
	comp=Z,4μm,5.1s								
KMI						LR	LR		
	comp=N,24μm,16.6s								
KMI						LR	LR		
	comp=E,67μm,15.9s								
KMI						LR	LR		
	comp=Z,87μm,15.9s								

KDM	Kudat	17.30	196			P	P	17 40 09.3	+2.3
UBPT	Khong Chiam	17.35	244			P	P	17 40 10.3	+2.8
	1μm,2.7s,15μm53μm								
UBPT	Khong Chiam	17.35	244			P	P	17 40 10.3	+2.8
	1μm,2.7s,15μm								
CD2	Chengdu	17.40	298			P	P	17 40 07.8	-0.3
CD2						pP	pP	17 40 11.9	-3.0
CD2						sP	sP	17 40 15.6	-2.4
CD2						PP	PnPn	17 40 22.4	+5.1
CD2						S	Sn	17 43 22.2	+2.2
CD2						sS	S	17 43 26.0	-2.1
CD2						SS	SnSn	17 43 40.9	+7.4
CD2						AMB	AMB		
	comp=Z,420nm,1.7s								
CD2						AMB	AMB		
	comp=Z,9μm,10.6s								
CD2						LR	LR		
	comp=N,112μm,9.5s								
CD2						LR	LR		
	comp=Z,128μm,16.6s								
SKNT	Sakolnakorn	17.82	251			P	P	17 40 15.7	+3.0
	1μm,1.7s,24μm								
SNY	Shenyang	18.16	5	⇓		P	P	17 40 19.3	+3.0
SNY						S	S	17 43 43.3	+0.2
SNY						AMB	AMB		
	comp=Z,170nm,1.2s								
SNY						AMB	AMB		
	comp=Z,4μm,5.8s								
SNY						LR	LR		
	comp=N,31μm,12.7s								
SNY						LR	LR		
	comp=E,16μm,13.0s								
SNY						LR	LR		
	comp=Z,35μm,12.9s								
JNY	Yasuok	18.28	47			P	Pn	17 40 18.6	+0.8
KKM	Kota Kinabalu	18.30	197			P	Pn	17 40 21.6	+3.4
KKM	Kota Kinabalu	18.30	197			P	Pn	17 40 21.2	+3.1
	620nm,1.7s,13μm52μm								
KKM	Kota Kinabalu	18.30	197		*e*	Pn	Pn	17 40 19.1	+1.0
	665nm,1.3s								
SDKM	Sandakan	18.44	194			P	Pn	17 40 20.5	+0.7
JHJ2	Mitsune	18.55	56			P	Pn	17 40 25.2	+4.2
JIZS	Izushimoda	18.63	50			P	Pn	17 40 25.8	+3.8
MYLDM	Lahad Datu	18.65	190			P	Pn	17 40 27.3	+5.1
MYLDM	Lahad Datu	18.65	190			P	Pn	17 40 26.3	+4.0
	955nm,1.1s,15μm72μm								
JYN	Shimob	18.82	47			P	Pn	17 40 25.3	+0.9
JHHJ	Haha-jima-NKT	18.85	77			P	Pn	17 40 26.4	+1.7
CBIJ	Chichi jima	18.90	75			P	Pn	17 40 25.6	+0.4
CBIJ						S	S	17 43 59.2	+1.3
JCJ	Chichijima	18.90	75			P	Pn	17 40 25.6	+0.4
	26nm,0.3s,baz=180,slow=0.8,SNR=48								
JCJ						S	S	17 43 59.2	+1.3
	4.3nm,0.3s,baz=285,slow=13,SNR=1.8								
JCJ						LR	LR	17 47 00.5	
	comp=Z,12μm,20.1s,baz=252,slow=35								
AJI	Ajiro2	18.95	49			P	Pn	17 40 26.4	+0.6
HHC	Hu-ho-hao-te	19.07	336		*i*	P	Pn	17 40 29.8	+2.4
HHC						pP	pP	17 40 33.7	+0.4
HHC						sP	sP	17 40 36.9	+0.4
HHC						PP	PnPn	17 40 47.1	+6.8
HHC						S	S	17 44 02.7	+1.3
HHC						sS	sS	17 44 06.7	-5.9
HHC						SS	SnSn	17 44 26.7	+12
HHC						PcP	PcP	17 44 53.7	+3.1
HHC						AMB	AMB		
	comp=Z,610nm,1.4s								
HHC						AMB	AMB		
	comp=Z,16μm,7.0s								
HHC						LR	LR		
	comp=N,69μm,13.7s								
HHC						LR	LR		
	comp=E,54μm,12.0s								
HHC						LR	LR		
	comp=Z,78μm,13.3s								
MAJO	Matsushiro	19.21	44		*e*	P	P	17 40 25.3	-2.6
MAJO						pmax	pmax		
	comp=Z,124nm,1.0s								
MAJO	Matsushiro	19.21	44		*e*	Pn	P	17 40 25.3	-2.6
	comp=Z,124nm,1.0s								
MAJO					*e*	Sn	S	17 44 11.0	+7.0
MAT	Matsushiro	19.21	44			P	P	17 40 26.1	-1.8
MAT						S	Sn	17 43 59.4	-4.2
BTO	Baotou	19.48	333		*e*	P	Pn	17 40 33.7	+1.5
TSM	Tawau	19.62	191			P	Pn	17 40 34.6	+0.6
LZH	Lanzhou	19.70	313	⇑		P	Pn	17 40 36.5	+1.5
LZH						pP	pP	17 40 40.8	+0.5
LZH						sP	sP	17 40 43.7	+0.3
LZH						S	S	17 44 13.0	-1.5
LZH						sS	sS	17 44 22.0	-3.4
LZH						AMB	AMB		
	comp=Z,1μm,1.1s								
LZH						AMB	AMB		
	comp=Z,5μm,5.0s								
LZH						LR	LR		
	comp=Z,70μm,16.3s								
LZH						LR	LR		
	comp=Z,116μm,18.1s								
LZH						LR	LR		
	comp=Z,107μm,16.0s								
CRAI	Chiangrai	19.99	264			P	Pn	17 40 38.0	-0.4
	comp=Z,309nm,0.8s,comp=Z,8μm								
CHAI	Chaiyaphum	20.00	251			P	Pn	17 40 39.8	+1.2
	comp=Z,61nm,1.0s,comp=Z,548nm								
SGSI	Sangihe	20.25	169			P	Pn	17 40 40.4	-1.0
	comp=Z,181nm,0.9s,comp=Z,5μm								
CN2	Changchun	20.31	8		*e*	P	P	17 40 40.8	+1.0
CN2					*e*	sP	sP	17 40 47.9	-1.9
CN2						PP	PnPn	17 41 01.5	+4.5
CN2					*e*	S	S	17 44 23.8	-2.5
CN2						AMB	AMB		
	comp=Z,200nm,0.8s								
CN2						AMB	AMB		
	comp=Z,1μm,6.0s								
CN2						LR	LR		
	comp=Z,15μm,19.0s								
CN2						LR	LR		
	comp=Z,59μm,19.0s								
CN2						LR	LR		
	comp=Z,27μm,19.0s								
PALU	Palau	20.42	141	⇓		P	Pn	17 40 43.4	0.0
	baz=20,SNR=52								
PAYA	Payao	20.67	262			P	Pn	17 40 47.0	+0.6
	comp=Z,119nm,1.0s,comp=Z,996nm								
CHBT	CHBT	21.27	243			P	P	17 40 53.4	+3.0
	comp=Z,240nm,1.9s,comp=Z,9μm								
CHBT	CHBT	21.27	243			P	P	17 40 53.4	+3.0
	comp=Z,240nm,1.9s,comp=Z,9μm								
CMAI	Chiengmai2	21.27	264			P	P	17 40 53.8	+3.2
	comp=Z,318nm,1.1s,comp=Z,6μm								
CHTO	Chiang Mai	21.66	261	⇑	*i*	P	P	17 40 56.2	+1.5
CHTO					*e*			17 44 58.2	
CHTO						pmax	pmax		
	comp=Z,1μm,1.0s								
CHTO	Chiang Mai	21.66	261			P	P	17 40 56.9	+2.2
	SNR=70								
CHTO	Chiang Mai	21.66	261			P	P	17 40 56.4	+1.8
	comp=Z,2μm,1.2s,comp=Z,30μmcomp=Z,122μm								
CHTO	Chiang Mai	21.66	261	⇑	*i*	P	P	17 40 56.2	+1.5
	comp=Z,1μm,1.0s						

MDJ LR LR
comp=Z,16μm,20.0s
MDJ LR LR
comp=Z,46μm,16.5s
MDJ LR LR
comp=Z,29μm,15.7s
MDJ Mudanjiang 21.87 15 *e*P **P 17 40 57.3 +0.6**
comp=Z,2μm,1.0s
BTM Bintulu 21.97 203 P **P 17 40 59.0 +1.0**
USRK Ussuriysk Arra 22.16 20 P **P 17 41 00.4 +0.7**
comp=Z,53nm,0.8s,baz=205,slow=11,SNR=53
USRK LR LR 17 50 45.3
comp=Z,9μm,19.3s,baz=186,slow=40
UTHA Uthaitani 22.36 253 P **P 17 41 05.7 +3.5**
comp=Z,45nm,1.1s,comp=Z,410nm
TOLI Toli-Toli 22.45 182 P **P 17 41 04.6 +1.5**
comp=Z,454nm,1.0s,comp=Z,5μmcomp=Z,26μm
SBUM Sibu 22.99 205 P **P 17 41 08.8 0.0**
SBUM Sibu 22.99 205 P **P 17 41 07.7 -1.0**
comp=Z,466nm,0.9s,comp=Z,8μmcomp=Z,24μm
MRSI Marisa 23.08 179 P **P 17 41 11.5 +1.8**
comp=Z,333nm,1.1s,comp=Z,7μm
KMSI Cibinong 23.09 174 P **P 17 41 11.7 +1.9**
comp=Z,514nm,1.7s,comp=Z,8μm
TNTI Ternate 23.46 165 P **P 17 41 14.2 +0.7**
comp=Z,412nm,1.2s,comp=Z,9μmcomp=Z,27μm
GUMO Guam 24.19 110 *e*P **P 17 41 22.6 +2.2**
comp=Z,2μm,1.2s
GTA Gaotai 24.20 315 ⇑P **P 17 41 21.3 +0.7**
GTA pP **pP 17 41 25.7 -2.2**
GTA sP **sP 17 41 28.6 -2.3**
GTA S **S 17 45 40.6 +3.0**
GTA AMB AMB
comp=Z,190nm,1.8s
GTA AMB AMB
comp=Z,5μm,6.4s
GTA LR LR
comp=Z,32μm,13.3s
GTA LR LR
comp=Z,54μm,15.2s
GTA LR LR
comp=Z,64μm,15.7s
SGKI Sangatta, Kali 24.39 190 P P 17 41 15.2 -7.1
APSI Ampana 24.45 180 P **P 17 41 23.7 +0.9**
comp=Z,626nm,0.9s,comp=Z,8μm
PCI Palu 24.51 184 P P 17 41 36.5 +13
LUWI Luwuk 24.61 177 P **P 17 41 24.2 -0.1**
comp=Z,498nm,1.6s,comp=Z,12μm
LUWI Luwuk 24.61 177 ⇑P **P 17 41 23.1 -1.1**
baz=23
KSM Kuching 24.65 208 P **P 17 41 24.9 +0.3**
KSM Kuching 24.65 208 P **P 17 41 24.4 -0.2**
comp=Z,568nm,1.8s,comp=Z,10μm
KSM Kuching 24.65 208 ⇑*i*P **P 17 41 23.9 -0.7**
comp=Z,637nm,1.1s
KSM Kuching 24.65 208 ⇓P **P 17 41 24.9 +0.3**
baz=24,SNR=86
LBMI Labuha 24.85 166 P **P 17 41 27.2 +0.7**
comp=Z,456nm,1.1s,comp=Z,7μm
BKB Balikpapan 25.22 191 P **P 17 41 33.3 +3.5**
comp=Z,567nm,1.2s,comp=Z,10μmcomp=Z,34μm
IMP Imphal 25.24 278 *e*4 **P 17 41 31.0 +1.0**
IMP *e*4 S 17 45 47.0 -7.4
MTKI Muara Teweh, K 25.34 196 P **P 17 41 31.5 +0.6**
comp=Z,362nm,1.2s,comp=Z,5μm
STKI Sintang 25.46 204 P **P 17 41 33.0 +1.0**
comp=Z,580nm,1.4s,comp=Z,8μmcomp=Z,11μm
KTGM Kuala Trenggan 25.49 227 P **P 17 41 35.9 +3.6**
HIA Hailar 25.57 357 *e*P **P 17 41 32.0 -0.7**
comp=Z,416nm,1.1s
ERM Erimo 25.60 39 *c i*P **P 17 41 32.1 -1.0**
ERM pmax pmax
comp=Z,81nm,1.0s
ERM Erimo 25.60 39 *e*P **P 17 41 32.0 -1.0**
comp=Z,72nm,0.8s
ERM Erimo 25.60 39 P **P 17 41 32.0 -1.0**
comp=Z,592nm,0.7s,SNR=10
SKLT Songkhla 25.99 234 P **P 17 41 40.3 +3.5**
comp=Z,87nm,2.3s,comp=Z,3μm
SWI Sorong 26.15 158 P **P 17 41 39.7 +1.5**
comp=Z,67nm,0.8s,comp=Z,3μm
SWI Sorong 26.15 158 ⇑P **P 17 41 39.3 +1.1**
baz=25,SNR=6.3
ASAJ Asahikawa 26.67 35 *e*P **P 17 41 42.1 -0.6**
comp=Z,25nm,0.8s
ASAJ Asahikawa 26.67 35 P **P 17 41 42.6 -0.1**
comp=Z,22nm,0.4s,baz=222,slow=14,SNR=42
ASAJ LR LR 17 52 37.8
comp=Z,25μm,20.6s,baz=230,slow=37
KLR Kul'dur 26.71 15 *e*P **P 17 41 42.0 -1.0**
KLR *e*S S 17 46 07.5 -10
KLR pmax pmax
comp=Z,6μm,10.5s
KLR smax smax
comp=N,19μm,18.0s
ULN Ulaanbaatar 26.76 338 P **P 17 41 44.2 +0.5**
SNR=106
ULN Ulaanbaatar 26.76 338 P **P 17 41 44.2 +0.5**
comp=N,336nm,1.1s,comp=N,3μm
ULN Ulaanbaatar 26.76 338 ⇓*e*P **P 17 41 43.1 -0.5**
comp=N,330nm,1.0s
HABR Khabarovsk 26.93 20 *e*P **P 17 41 43.6 -1.4**
HABR *e**SP **sP 17 41 52.0 -3.3**
HABR *e* 17 42 25.2
HABR *e* 17 45 05.4
HABR *e*S **S 17 46 20.2 -0.3**
HABR *e*SS **SnSn 17 47 26.3 -0.4**
HABR *e* 17 52 35.0
HABR pmax pmax
comp=N,35nm,1.8s
HABR pmax pmax
comp=E,26nm,1.8s
HABR pmax pmax
comp=Z,40nm,1.8s
HABR MLR MLR
comp=E,16μm,15.0s
HABR MLR MLR
comp=N,11μm,18.0s
HABR MLR MLR
comp=Z,13μm,18.0s
SONM Songino Array 26.97 337 P **P 17 41 46.0 +0.5**
SONM PcP **PcP 17 45 07.7 +0.8**
SONM S S 17 46 32.8 +11
SONM ScP **ScP 17 48 43.7 -1.9**
SONM *e* 18 14 29.0
SONM Songino Array 26.97 337 P **P 17 41 46.0 +0.5**
comp=Z,98nm,0.9s,baz=155,slow=8.6,SNR=376
SONM PcP **PcP 17 45 07.7 +0.8**
comp=Z,16nm,1.1s,baz=162,slow=4.7,SNR=6.5
SONM S S 17 46 32.8 +11
comp=Z,3.4nm,1.1s,baz=184,slow=15,SNR=1.8
SONM ScP **ScP 17 48 43.7 -1.9**
comp=Z,5.1nm,0.8s,baz=178,slow=4.7,SNR=3.7
SONM LR LR 17 53 43.5
comp=Z,45μm,18.1s,baz=148,slow=39
SONM P3KPbc 18 14 29.0
comp=Z,0.5nm,0.8s,baz=250,slow=2.9,SNR=5.2
SHL Shillong 27.06 280 *i* P **P 17 41 46.0 -0.6**
SHL *e*4 **S 17 46 30.0 +6.7**
MJSI Majene 27.20 186 P P 17 41 53.0 +5.3
comp=Z,266nm,1.3s,comp=Z,4μm
KULM Kulim 27.24 231 P **P 17 41 50.6 +2.5**
KULM Kulim 27.24 231 P **P 17 41 50.1 +2.0**
comp=Z,108nm,1.9s,comp=Z,4μm
KULM Kulim 27.24 231 ⇑*i*P **P 17 41 48.6 +0.5**
comp=Z,206nm,1.5s
PKDT Phuket 27.28 239 P **P 17 41 51.9 +3.5**
comp=Z,125nm,1.3s,comp=Z,4μm
NLAI Namlea 27.30 168 P **P 17 41 49.9 +1.4**
comp=Z,344nm,0.9s,comp=Z,4μm
IPM Ipoh 27.55 229 P **P 17 41 52.4 +1.6**
IPM Ipoh 27.55 229 P **P 17 41 51.8 +0.9**
comp=Z,147nm,1.3s,comp=Z,4μm
IPM Ipoh 27.55 229 ⇑*i*P **P 17 41 50.4 -0.4**
comp=Z,198nm,1.3s
IPM *e*ScP **ScP 17 48 43.9 -3.8**
SPSI Sidrap Palu 27.55 184 P **P 17 41 51.1 +0.3**
comp=Z,76nm,1.4s,comp=Z,3μmcomp=Z,9μm
KKSI Kolaka, Sulawe 27.69 180 P **P 17 41 53.3 +1.2**
comp=Z,65nm,1.1s,comp=Z,1μm
MYKOM Kota Tinggi 27.75 221 P **P 17 41 55.0 +2.4**
MYKOM Kota Tinggi 27.75 221 P **P 17 41 54.6 +2.0**
comp=Z,127nm,2.2s,comp=Z,4μm
MSAI Masohi 27.81 164 P **P 17 41 55.0 +1.9**
comp=Z,54nm,1.4s,comp=Z,684nmcomp=Z,4μm
LSA Lhasa 27.81 289 P **P 17 41 55.0 +1.4**
LSA S S 17 46 45.7 +10
LSA LR LR
comp=Z,15μm,20.8s
LSA LR LR
comp=Z,47μm,18.6s
LSA LR LR
comp=Z,66μm,19.7s
LSA Lhasa 27.81 289 ⇑*i*P **P 17 41 54.7 +1.1**
LSA pmax pmax
comp=Z,127nm,0.8s
LSA Lhasa 27.81 289 ⇑*i*P **P 17 41 54.7 +1.1**
comp=Z,127nm,0.8s
KGM Kluang 27.89 222 P **P 17 41 56.7 +2.8**
BNSI Bone 27.96 183 P **P 17 41 55.0 +0.5**
comp=Z,71nm,1.1s,comp=Z,3μm
AAI Ambon 27.96 166 P **P 17 41 55.5 +1.0**
comp=Z,105nm,0.8s,comp=Z,2μm
AAI Ambon 27.96 166 P **P 17 41 54.8 +0.3**
baz=27,SNR=4.9
FRIM Kepong 28.04 227 P **P 17 41 57.9 +2.6**
BTDF Bukit Timah Da 28.13 220 ⇑P **P 17 41 56.8 +0.7**
baz=27,SNR=11
BTDF ⇑P **P 17 41 56.8 +0.7**
baz=27,SNR=11
FAKI Fak Fak 28.41 157 P **P 17 41 58.9 +0.4**
comp=Z,107nm,1.1s,comp=Z,2μm
YUK Yuzh-Kuril'sk 28.41 39 *d i*P **P 17 41 58.5 +0.2**
YUK *i*S **S 17 46 43.6 -0.3**
YUK *i* 17 52 36.4
YUK pmax pmax
comp=E,189nm,1.3s
YUK pmax pmax
comp=Z,511nm,1.3s
YUK pmax pmax
comp=N,304nm,1.3s
YUK MLR MLR
comp=N,10μm,21.0s
YUK MLR MLR
comp=E,12μm,21.0s
YUK MLR MLR
comp=Z,13μm,21.0s
BAKI Biak 28.47 148 P P 17 42 06.2 +7.1
comp=Z,93nm,1.4s,comp=Z,3μm
KAPI Kappang 28.59 184 P **P 17 41 58.9 -1.2**
SNR=10
KAPI Kappang 28.59 184 P **P 17 41 59.8 -0.3**
comp=Z,105nm,1.2s,comp=Z,2μm
KAPI Kappang 28.59 184 P P 17 41 55.7 -4.4
KAPI Kappang 28.59 184 P P 17 41 55.7 -4.4
comp=Z,41nm,0.8s,baz=5.4,slow=8.9,SNR=14
KAPI LR LR 17 53 53.8
comp=Z,10μm,21.3s,baz=8.4,slow=38
YSS Yuzh-Sakhalins 28.75 31 ⇑*e*P **P 17 42 01.0 -0.2**
YSS *e**SP **sP 17 42 10.6 -1.0**
YSS *e*PPP PPP 17 43 11.0
YSS *e*S S 17 46 42.0 -7.1
YSS pmax pmax
comp=N,90nm,1.0s
YSS pmax pmax
comp=E,90nm,1.0s
YSS pmax pmax
comp=Z,190nm,1.0s
YSS MLR MLR
comp=Z,14μm,19.0s
YSS MLR MLR
comp=N,14μm,17.0s
YSS MLR MLR
comp=E,11μm,22.0s
BKSI Bulukumba 28.87 183 P **P 17 42 02.5 -0.1**
comp=E,27nm,1.5s,comp=E,886nm
CIT Chita 28.95 350 *e*P **P 17 42 02.2 -0.9**
CIT *e* 17 42 13.6
CIT *e* 17 42 55.2
CIT pmax pmax
comp=Z,259nm,1.6s
BBSI Bau Bau 29.02 178 P **P 17 42 05.7 +1.8**
comp=Z,71nm,1.0s,comp=Z,2μm
SRPI Serui, Papua 29.13 149 P **P 17 42 07.0 +2.1**
comp=Z,165nm,1.0s,comp=Z,4μm
TPI Tanjungpandan 29.59 209 P **P 17 42 11.3 +2.3**
comp=Z,103nm,1.5s,comp=Z,2μm
PPBI Pangkal Pinang 29.78 212 P P 17 42 17.8 +7.1
comp=Z,127nm,1.5s
PSI Prapat 30.21 230 P **P 17 42 14.7 +0.1**
PSI PcP **PcP 17 45 14.8 -0.6**
PSI S **S 17 47 09.4 -3.5**
PSI ScP **ScP 17 48 53.9 -2.3**
PSI Prapat 30.21 230 P **P 17 42 14.7 +0.1**
comp=Z,70nm,1.0s,baz=24,slow=5.5,SNR=40
PSI PcP **PcP 17 45 14.8 -0.6**
comp=Z,12nm,1.1s,baz=324,slow=4.1,SNR=4.6
PSI S **S 17 47 09.4 -3.5**
comp=Z,1.7nm,0.3s,baz=140,slow=22,SNR=6.9
PSI ScP **ScP 17 48 53.9 -2.3**
comp=Z,17nm,0.9s,baz=294,slow=2.0,SNR=9.2
PSI LR LR 17 53 53.2
comp=Z,15μm,21.9s,baz=60,slow=36
ZAK Zakamensk 30.22 336 ⇑*i*P **P 17 42 14.3 -0.1**
ZAK pmax pmax
comp=Z,30nm,1.1s
KUR Kuril'sk 30.28 38 ⇓*i*P **P 17 42 15.6 +0.8**
KUR *e*S **S 17 47 18.3 +5.1**
KUR MLR MLR
comp=N,15μm,21.0s
KUR MLR MLR
comp=E,2μm,21.0s
KUR MLR MLR
comp=Z,9μm,21.0s
KCSI Kotacane, Aceh 30.53 233 P **P 17 42 17.6 +0.2**
comp=Z,62nm,1.4s,comp=Z,2μm
BKNI Bangkinang 30.62 224 P **P 17 42 19.7 +1.5**
comp=Z,181nm,1.1s,comp=Z,3μmcomp=Z,15μm
TAPN Taplejung 30.75 284 *e*P **P 17 42 20.1 +0.5**
comp=Z,694nm,1.1s
ODAN Odare 31.04 283 *e*P **P 17 42 22.4 +0.3**
comp=Z,260nm,0.8s
TLE Tual 31.11 158 P P 17 42 33.5 +11
TLE Tual 31.11 158 ⇓P **P 17 42 21.7 -0.7**
baz=30,SNR=3.9
PMBI Palembang 31.12 214 P **P 17 42 25.0 +2.4**
comp=Z,248nm,1.2s,comp=Z,5μm
TLY Talaya 31.17 338 *c i*P **P 17 42 22.6 -0.1**
TLY *e* 17 43 39.6
TLY *e*S **S 17 47 28.4 +1.2**
TLY *e*SS **SnSn 17 49 09.2 -0.8**
TLY pmax pmax
comp=Z,138nm,1.3s
TLY MLR MLR
comp=Z,22μm,15.0s
TLY Talaya 31.17 338 P **P 17 42 23.2 +0.5**
comp=Z,510nm,0.7s,SNR=23
CMBY CAMPBELL BAY 31.32 242 *e*P **P 17 42 24.0 -0.3**
IRK Irkutsk 31.44 339 *e*P **P 17 42 25.8 +0.8**
IRK *e* 17 52 52.7
IRK pmax pmax
comp=Z,385nm,1.1s
PPI Padang Panjang 31.63 224 P **P 17 42 28.7 +1.7**
comp=Z,144nm,1.3s,comp=Z,4μm
PPI Padang Panjang 31.63 224 ⇓P **P 17 42 24.8 -2.2**
baz=31,SNR=10
GRJI Gresik 31.70 197 P P 17 42 33.1 +5.5
comp=Z,128nm,0.8s,comp=Z,1μm
RAMN Ramite 31.75 283 *e*P **P 17 42 28.6 +0.3**
comp=Z,489nm,1.0s
JAY Jayapura 32.01 142 P **P 17 42 32.0 +1.6**
comp=Z,31nm,1.2s,comp=Z,3μm
JIRN Jiri 32.09 285 *e*P **P 17 42 31.9 +0.4**
comp=Z,637nm,1.3s
MOY Mondy 32.11 336 *e*P **P 17 42 31.1 0.0**
MOY pmax pmax
comp=Z,54nm,1.4s
MMRI Maumere 32.13 179 P **P 17 42 30.3 -1.1**
comp=Z,266nm,1.6s,comp=Z,3μm
SRBI Singaraja 32.19 192 P **P 17 42 34.2 +2.3**
comp=Z,103nm,1.4s,comp=Z,2μmcomp=Z,8μm
BLJI Banyuglugur 32.21 195 P **P 17 42 32.6 +0.5**
comp=Z,340nm,0.8s,comp=Z,3μm
GSI Gunungsitoli 32.21 230 P **P 17 42 33.0 +0.8**
comp=Z,98nm,2.8s,comp=Z,4μm
GUN Gumba 32.36 285 *e*P **P 17 42 34.1 +0.3**
comp=Z,896nm,1.2s
NGJI Ngawi 32.42 199 P **P 17 42 36.3 +2.4**
comp=Z,406nm,0.8s,comp=Z,5μm
MTNI Mataram 32.56 190 P **P 17 42 36.2 +1.0**
comp=Z,112nm,1.1s,comp=Z,2μm
NBBI Negara 32.59 193 P **P 17 42 36.5 +1.1**
comp=Z,157nm,2.0s,comp=Z,5μm
BOK Bokaro 32.64 278 *e*P **P 17 42 35.4 -0.5**
MASI Maura Aman, Be 32.67 218 P P 17 42 42.4 +6.2
comp=Z,448nm,1.2s,comp=Z,8μm
SJI Sawahan 32.68 198 P **P 17 42 37.5 +1.2**
comp=Z,403nm,0.9s,comp=Z,5μm
TGJI Tegal 32.73 203 P **P 17 42 39.5 +2.9**
comp=Z,319nm,0.8s,comp=Z,4μm
KLI Kotabumi 32.75 212 P P 17 42 40.7 +3.9
comp=Z,185nm,1.5s,comp=Z,6μm
GMJI Gumukmas 32.76 195 P **P 17 42 38.0 +1.2**
comp=Z,117nm,1.4s,comp=Z,2μm
MDSI Maura Dua 32.76 213 P **P 17 42 38.3 +1.4**
comp=Z,264nm,0.8s,comp=Z,3μm
DNP Denpasar 32.77 192 P **P 17 42 39.8 +2.8**
comp=Z,668nm,1.6s,comp=Z,12μm
PKI Pulchoki 32.79 285 *e*P **P 17 42 37.1 -0.4**
comp=Z,181nm,0.9s
KSI Kapahiang 32.89 217 P **P 17 42 39.9 +1.7**
comp=Z,368nm,0.9s,comp=Z,6μm
KRKI Karangkates 32.89 197 P **P 17 42 39.5 +1.4**
comp=Z,329nm,0.9s,comp=Z,10μm
KKN Kakani 32.90 285 *e*P **P 17 42 38.0 -0.4**
comp=Z,391nm,1.2s
PWJI Pagerwojo 32.94 198 P **P 17 42 39.1 +0.6**
comp=Z,539nm,0.8s,comp=Z,5μm
BJII Banjamegara 32.95 202 P **P 17 42 41.0 +2.3**
comp=Z,234nm,2.1s,comp=E,5μm
BLSI Bandar Lampung 33.00 211 P P 17 42 43.2 +4.2
comp=Z,326nm,0.8s,comp=Z,5μm
WOJI Wonogiri, Jawa 33.03 200 P **P 17 42 40.4 +1.2**
comp=Z,610nm,0.9s,comp=Z,6μm
DMN Daman 33.05 285 *e*P **P 17 42 39.8 0.0**
comp=Z,274nm,0.9s
WSI Waingapu 33.18 182 ⇑P P 17 42 37.2 -3.3
baz=32
CLNS Chul'man 33.20 3 *e*P **P 17 42 40.4 0.0**
CLNS *e**PP **pP 17 42 49.6 +1.8**
CLNS *e* 17 43 50.6
CLNS *e*PPP PPP 17 44 03.4
CLNS *e* 17 45 20.2
CLNS *e*S **S 17 48 00.1 +1.5**
CLNS *e*SS **SnSn 17 49 54.3 -4.8**
CLNS pmax pmax
comp=Z,26nm,1.0s
CLNS pmax pmax
comp=N,19nm,1.0s
CLNS pmax pmax
comp=E,13nm,1.3s
CLNS pmax pmax
comp=Z,19nm,1.1s
CLNS pmax pmax
comp=N,20nm,0.8s
CLNS pmax pmax
comp=E,26nm,1.0s
CLNS smax smax
comp=N,1μm,14.6s
CLNS smax smax
comp=E,603nm,14.6s
CLNS MLR MLR
comp=Z,14μm,15.0s
CLNS MLR MLR
comp=N,12μm,13.0s
CLNS MLR MLR
comp=E,2μm,12.0s
YOGI Yogyakarta 33.21 201 P **P 17 42 43.6 +2.8**
comp=E,733nm,1.2s,comp=E,12μm
UGM Wanagama 33.23 200 P **P 17 42 44.1 +3.1**
comp=E,350nm,1.6s
UGM Wanagama 33.23 200 ⇓P **P 17 42 39.2 -1.8**
baz=32,SNR=6.8
KPJI Karang Pucung 33.23 203 P **P 17 42 43.1 +2.1**
comp=E,312nm,1.8s,comp=E,5μm
LEM Lembang 33.27 206 P **P 17 42 44.0 +2.5**
comp=E,300nm,1.0s,comp=E,6μm
LWLI Liwa 33.27 213 P **P 17 42 43.6 +2.0**
comp=E,446nm,0.7s,comp=E,5μm
PCJI Pacitan 33.29 199 P P 17 42 48.3 +6.8
comp=E,135nm,1.2s
SOEI Soe 33.34 175 P **P 17 42 40.6 -1.5**
comp=E,72nm,1.2s,comp=E,2μm
DBJI Dramaga 33.38 208 P **P 17 42 44.0 +1.7**
comp=E,451nm,1.8s,comp=E,11μm
GKN Gorkha 33.46 285 *e*P **P 17 42 43.2 0.0**
comp=E,549nm,1.2s
KASI Kota Agung 33.49 212 P P 17 42 47.4 +4.1
comp=E,170nm,1.3s,comp=E,3μmcomp=E,9μm
CLJI Cilicap 33.55 203 P P 17 42 50.7 +6.9
comp=E,166nm,1.3s
BATI Baumata 33.75 176 P **P 17 42 43.0 -2.6**
comp=E,108nm,1.2s,comp=E,879nm
BATI Baumata 33.75 176 P **P 17 42 42.8 -2.8**
BATI PcP **PcP 17 45 25.7 +0.8**
BATI Baumata 33.75 176 P **P 17 42 42.8 -2.8**
comp=E,130nm,0.8s,baz=17,slow=0.8,SNR=28
BATI PcP **PcP 17 45 25.7 +0.8**
comp=E,66nm,0.9s,baz=320,slow=4.9,SNR=4.1
BATI LR LR 17 58 41.1
comp=E,5μm,21.6s,baz=91,slow=40
CISI Cisompet, Garu 33.85 205 P **P 17 42 48.4 +1.9**
comp=E,238nm,1.2s,comp=E,4μm
DANN Dangsing 34.23 286 *e*P **P 17 42 50.1 0.0**
comp=E,746nm,1.2s
WMQ Urumqi 34.27 314 P **P 17 42 50.8 +0.8**
WMQ pP **pP 17 42 55.2 -2.2**
WMQ sP **sP 17 42 57.8 -2.6**
WMQ PP **PP 17 44 06.4 -1.3**
WMQ S **S 17 48 17.3 +1.6**
WMQ sS **sS 17 48 24.6 -3.2**
WMQ PcS **PcS 17 49 11.7 -0.6**
WMQ SS **SnSn 17 50 27.5 +2.0**
WMQ ScS **ScS 17 53 11.1 -0.9**
WMQ AMB AMB
comp=E,190nm,1.5s
WMQ AMB AMB
comp=E,2μm,4.8s
WMQ LR LR
comp=E,29μm,14.4s
WMQ LR LR
comp=E,31μm,13.8s
WMQ LR LR
comp=E,15μm,16.0s
KOLN Koldanda 34.38 285 *e*P **P 17 42 51.5 +0.2**
comp=E,293nm,0.9s
HVS Khovu-Aksy 34.84 329 *c i*P **P 17 42 55.0 +0.1**
HVS pmax pmax
comp=Z,539nm,1.2s
MANU Manus Island 35.81 132 ⇑P **P 17 43 05.6 +2.1**
baz=35,SNR=7.5
VIS Vishakhapatnam 36.21 268 *e*P **P 17 43 06.4 -0.5**
LGTI Lohaghat 37.29 288 *e*4 17 43 21.1
XMI Christmas Isla 37.33 206 ⇑P **P 17 43 15.2 -1.2**
baz=36
XMIS Christmas Isla 37.37 206 ⇑P **P 17 43 15.1 -1.6**
baz=36
KDU Kakadu 37.69 162 P **P 17 43 17.1 -2.2**
baz=37,SNR=42
JBP Jabalpur 38.09 278 ⇑*i*P **P 17 43 21.3 -1.5**
JBP *ex* x 17 44 55.0
YAK Yakutsk 38.72 6 *c i*P **P 17 43 26.6 -0.9**
YAK *e**PP **pP 17 43 36.1 +1.2**
YAK *e* 17 44 55.1
YAK *e*PPP PPP 17 45 16.9
YAK *e* 17 45 38.8
YAK *e*S **S 17 49 21.8 -1.0**
YAK *e**SS **sS 17 49 40.2 +5.1**
YAK *e* 17 53 32.7
YAK pmax pmax
comp=Z,136nm,1.3s
YAK pmax pmax
comp=E,24nm,1.3s
YAK pmax pmax
comp=N,87nm,1.4s
YAK pmax pmax
comp=Z,150nm,2.2s
YAK pmax pmax
comp=E,169nm,2.4s
YAK pmax pmax
comp=N,110nm,2.7s
YAK smax smax
comp=N,186nm,1.9s
YAK smax smax
comp=E,289nm,2.2s
YAK MLR MLR
comp=Z,18μm,19.0s
YAK MLR MLR
comp=N,15μm,20.0s
YAK MLR MLR

comp=E,3µm,14.0s
MK31 Makanchi Array 38.96 316 *i* P **P** **17 43 30.6 +0.8**
MK31 pmax pmax
comp=Z,233nm,0.9s
MK31 Makanchi Array 38.96 316⇑ *e*P **P** **17 43 29.9 +0.1**
MK31 *e*PcP **PcP** **17 45 39.1 -1.0**
MK31 *e*S **S** **17 49 22.6 -4.4**
MKAR Makanchi Array 38.96 316 P **P** **17 43 30.1 +0.3**
MKAR 17 45 41.1
MKAR 17 49 24.6
MKAR Makanchi Array 38.96 316 P **P** **17 43 30.1 +0.3**
MKAR PcP **PcP** **17 45 41.1 +1.1**
MKAR ScP **ScP** **17 49 24.6 -2.2**
MKAR Makanchi Array 38.96 316 P **P** **17 43 30.1 +0.3**
comp=Z,103nm,0.9s,baz=109,slow=5.6,SNR=290
MKAR PcP **PcP** **17 45 41.1 +1.1**
comp=Z,15nm,0.9s,baz=143,slow=1.1,SNR=5.1
MKAR ScP **ScP** **17 49 24.6 -2.2**
comp=Z,8.5nm,1.1s,baz=104,slow=5.1,SNR=4.4
MKAR LR LR 18 00 55.9
comp=Z,25µm,18.8s,baz=107,slow=38
DDI Dehra Dun 39.17 289 *e*P **P** **17 43 30.9 -1.0**
DDI AMB AMB 17 43 33.7
comp=Z,1µm,3.2s
NGP Nagpur 39.31 275 *e*P **P** **17 43 31.3 -1.8**
NGP *e*4 **ScP** **17 49 27.4 -1.2**
KNRA Kununurra 39.75 169 ⇓P **P** **17 43 34.6 -2.0**
baz=39,SNR=31
SMLA Simla 39.93 291 *i* 4 **P** **17 43 40.7 +2.6**
SMLA AMB AMB 17 43 48.9
comp=Z,362nm,0.6s
SMLA *i* x x 17 49 22.7
NDI New Delhi 39.97 287 *ex* P 17 43 35.0 -3.5
NDI *e*S **S** **17 49 40.0 -2.6**
PEA0B Petropavlovsk- 40.06 33 *e*P **P** **17 43 40.3 +1.4**
PETK Petropavlovsk- 40.06 33 P **P** **17 43 40.6 +1.7**
PETK Petropavlovsk- 40.06 33 P **P** **17 43 40.6 +1.7**
PETK Petropavlovsk- 40.06 33 P **P** **17 43 40.6 +1.7**
comp=Z,16nm,0.8s,baz=201,slow=5.4,SNR=13
PETK LR LR 18 00 40.3
comp=Z,8µm,19.1s,baz=230,slow=37
BHPL Bhopal 40.41 279 *e*P **P** **17 43 41.5 -0.7**
PET Petropavlovsk 40.50 34*c* *i*P **P** **17 43 42.9 +0.4**
PET *e*S **S** **17 49 49.7 -0.2**
PET pmax pmax
comp=Z,800nm,5.9s
PET pmax pmax
comp=Z,600nm,11.5s
PET pmax pmax
comp=Z,167nm,1.1s
PET MLR MLR
comp=Z,13µm,20.0s
DHRM DHARAMSHALA 40.67 292 *e*P **P** **17 43 44.1 -0.3**
HYB Hyderabad 40.67 269 *i* P **P** **17 43 44.0 -0.5**
HYB *e*PP **PP** **17 45 20.0 +1.6**
HYB *e*S **S** **17 49 56.0 +2.6**
HYB Hyderabad 40.67 269 *e*P **P** **17 43 44.8 +0.3**
ZAA0 Zalesovo Array 40.87 327⇑P **P** **17 43 44.6 -0.9**
ZAA0 *e*PP **PnPn** **17 45 24.9 +0.8**
ZAA0 *e*PcP **PcP** **17 45 44.3 -1.6**
ZAA0 *e*ScP **ScP** **17 49 29.9 -4.2**
ZALV Zalesovo Beam 40.87 327 P **P** **17 43 44.8 -0.7**
ZALV Zalesovo Beam 40.87 327 P **P** **17 43 44.8 -0.7**
ZALV ScP **ScP** **17 49 31.1 -3.0**
ZALV Zalesovo Beam 40.87 327 P **P** **17 43 44.8 -0.7**
comp=Z,119nm,0.9s,baz=116,slow=6.2,SNR=334
ZALV ScP **ScP** **17 49 31.1 -3.0**
comp=Z,8.1nm,0.8s,baz=146,slow=2.8,SNR=5.5
ZALV LR LR 18 01 58.5
comp=Z,19µm,19.3s,baz=125,slow=38
THN Thein Dam 41.16 293 *ex* **P** **17 43 45.6 -2.6**
AKL Akola 41.27 275⇑*ix* **P** **17 43 52.2 +2.9**
AKL AMP 17 43 54.2
comp=Z,377nm,1.7s
AKL *i* S **S** **17 50 00.6 -1.5**
PMG Port Moresby 41.31 140 P **P** **17 43 51.3 +1.7**
comp=Z,139nm,1.3s,comp=Z,3µmcomp=Z,7µm
PMG Port Moresby 41.31 140 P **P** **17 43 49.5 0.0**
PMG S **S** **17 50 03.2 +0.6**
PMG Port Moresby 41.31 140 P **P** **17 43 49.5 0.0**
comp=Z,49nm,0.8s,baz=347,slow=5.7,SNR=24
PMG S **S** **17 50 03.2 +0.6**
comp=Z,2.6nm,0.7s,baz=2.1,slow=9.9,SNR=1.1
PMG LR LR 18 00 49.5
comp=Z,4µm,18.3s,baz=122,slow=36
AAA Alma-Ata 41.48 309 *i* P **P** **17 43 52.7 +1.9**
AAA *i* S **S** **17 50 05.0 +0.1**
AAA pmax pmax
comp=Z,3µm,2.6s
AAA smax smax
comp=N,2µm,4.7s
AAA MLR MLR
comp=Z,17µm,8.0s
KSH Kashi 41.49 303 P P 17 43 55.1 +4.1
KSH sP sP 17 44 04.5 +3.0
KSH PP **PnPn** **17 45 33.6 +1.8**
KSH PcP **PcP** **17 45 49.9 +1.4**
KSH S **S** **17 50 09.0 +3.8**
KSH sS sS 17 50 18.1 +0.5
KSH SS **SS** **17 53 11.5 +1.5**
KSH AMB AMB
comp=Z,160nm,1.3s
KSH AMB AMB
comp=Z,2µm,5.8s
KSH LR LR
comp=Z,26µm,14.3s
KSH LR LR
comp=Z,28µm,16.7s
KSH LR LR
comp=Z,37µm,18.9s
FITZ Fitzroy Crossi 41.73 174⇑*i*P **P** **17 43 50.1 -2.8**
FITZ Fitzroy Crossi 41.73 174 ⇑P **P** **17 43 51.0 -1.9**
baz=41,SNR=20
FITZ Fitzroy Crossi 41.73 174 P **P** **17 43 50.4 -2.4**
comp=Z,14nm,0.5s,baz=0.7,slow=8.5,SNR=39
FITZ LR LR 18 03 24.4
comp=Z,1µm,20.3s,baz=194,slow=40
ULHL Ulahol 41.76 308 P P 17 43 56.8 +3.4
SNR=5.9
WAKE Wake Island 42.02 87 *e*P **P** **17 43 55.7 +0.3**
comp=Z,1µm,1.2s
NVS Novosibirsk 42.13 328⇑*i*P **P** **17 43 54.9 -0.9**
NVS *e* 17 45 34.8
NVS *e*S **S** **17 50 08.9 -5.0**
NVS pmax pmax
comp=N,102nm,1.7s
NVS pmax pmax
comp=E,139nm,1.7s
NVS pmax pmax
comp=Z,222nm,1.7s
NVS pmax pmax
comp=N,75nm,2.3s
NVS pmax pmax
comp=E,87nm,2.3s
NVS pmax pmax
comp=Z,168nm,2.3s
NVS smax smax
comp=N,64nm,2.3s
NVS smax smax
comp=E,191nm,3.0s
H11N1 WAKE ISLAND Hy 42.13 86 T T 18 28 59.7
baz=286,slow=0.7,SNR=772
H11N2 WAKE ISLAND Hy 42.13 86 T T 18 28 58.6
baz=286,slow=0.7,SNR=727
H11N3 WAKE ISLAND Hy 42.15 86 T T 18 29 01.4
baz=286,slow=0.7,SNR=843
LATR Latur 42.23 272 *e*4 P 17 43 48.3 -8.8
H11S3 WAKE ISLAND Hy 42.25 88 T T 18 29 08.7
baz=287,slow=0.7,SNR=2168
H11S1 WAKE ISLAND Hy 42.26 88 T T 18 29 09.3
baz=287,slow=0.7,SNR=1060
H11S2 WAKE ISLAND Hy 42.27 88 T T 18 29 10.0
baz=287,slow=0.7,SNR=572
TKM2 Tokmak 2 42.37 308⇑*i*P **P** **17 43 59.3 +1.0**
TKM2 pmax pmax
comp=Z,194nm,1.0s
TKM2 Tokmak 2 42.37 308 P **P** **17 43 59.8 +1.5**
SNR=92
TKM2 Tokmak 2 42.37 308⇑*i*P **P** **17 43 59.3 +1.0**
comp=Z,194nm,1.0s
AJM Ajmer 42.44 284 *i* 4 17 44 52.0
KZA Kyzart 42.45 307 P **P** **17 44 02.4 +3.1**
SNR=42
KURK Kurchatov 42.71 320*c* *i*P **P** **17 44 01.0 +0.3**
KURK pmax pmax
comp=Z,186nm,1.7s
KURK MLR MLR
comp=Z,6µm,17.0s
KURK Kurchatov 42.71 320 P **P** **17 44 01.1 +0.5**
SNR=98
KURK Kurchatov 42.71 320⇑*i*P **P** **17 44 00.5 -0.2**
comp=Z,343nm,1.6s
KURK ScP **ScP** **17 49 39.1 -2.5**
KURBB Kurchatov Arra 42.73 320 P **P** **17 44 00.8 -0.1**
comp=Z,61nm,1.0s,baz=116,slow=7.5,SNR=195
KURBB ScP **ScP** **17 49 39.1 -2.5**
comp=Z,6.3nm,0.9s,baz=106,slow=3.7,SNR=8.6
KBK Karagaybulak 42.78 308 P **P** **17 44 03.7 +2.1**
SNR=62
COEN Coen 42.95 148 *e*P **P** **17 44 03.5 +0.6**
comp=Z,2µm,1.1s
COEN *e*PcP **PcP** **17 45 53.3 -0.1**
COEN *e*ScP **ScP** **17 49 40.3 -2.7**
COEN Coen 42.95 148 P **P** **17 44 03.9 +0.9**
baz=42,SNR=76
CHMS Chumysh 42.99 308 P **P** **17 44 05.2 +2.1**
SNR=82
UCH Uchtor 43.02 307 P **P** **17 44 07.0 +3.1**
SNR=23
FRU Bishkek 43.06 308 *i* P **P** **17 44 05.0 +1.3**
FRU *i* 17 44 16.0
FRU *i* 17 45 47.0
FRU *e* 17 46 16.0
FRU *e*S **S** **17 50 33.0 +4.9**
FRU *e*SS SS 17 53 33.0 -7.7
FRU pmax pmax
comp=Z,540nm,2.0s
FRU pmax pmax
comp=Z,2µm,6.0s
FRU MLR MLR
comp=Z,16µm,19.0s
AAK Ala-Archa 43.11 308*c* *i*P **P** **17 44 05.4 +1.2**
AAK pmax pmax
comp=Z,229nm,1.2s
AAK Ala-Archa 43.11 308 P **P** **17 44 06.1 +1.8**
SNR=50
AAK Ala-Archa 43.11 308 P **P** **17 44 05.7 +1.4**
SNR=40
AAK Ala-Archa 43.11 308⇑*i*P **P** **17 44 05.1 +0.8**
comp=Z,100nm,1.3s
AAK PcP **PcP** **17 45 55.5 +1.7**
AAK ScP **ScP** **17 49 42.8 -0.8**
AAK Ala-Archa 43.11 308 P **P** **17 44 05.8 +1.6**
comp=Z,29nm,0.8s,baz=94,slow=7.1,SNR=60
AAK PcP **PcP** **17 45 55.5 +1.7**
comp=Z,12nm,0.7s,baz=90,slow=7.1,SNR=4.9
AAK ScP **ScP** **17 49 42.8 -0.8**
comp=Z,2.2nm,0.4s,baz=172,slow=1.6,SNR=6.3
AAK LR LR 18 04 54.3
comp=Z,17µm,18.0s,baz=77,slow=40
COCO West Island 43.11 217 P P 17 44 07.6 +3.4
comp=Z,281nm,2.1s,comp=Z,7µm
USP Ospenovka 43.23 309 P **P** **17 44 07.2 +2.1**
SNR=43
AML Almayashu 43.60 307 P **P** **17 44 10.3 +1.8**
SNR=105
EKS2 Erkin-Say 43.63 308⇑*i*P **P** **17 44 09.2 +0.7**
EKS2 *e* 17 45 56.4
EKS2 pmax pmax
comp=Z,179nm,1.5s
EKS2 Erkin-Say 43.63 308 P **P** **17 44 09.8 +1.4**
SNR=60
EKS2 Erkin-Say 43.63 308⇑*i*P **P** **17 44 09.2 +0.7**
comp=Z,179nm,1.5s
EKS2 *e*PcP **PcP** **17 45 56.4 +0.8**
EKS2 *e*ScP **ScP** **17 49 43.3 -2.3**
SEY Seymchan 44.31 20⇓*e*P **P** **17 44 15.0 +1.7**
MBWA Marble Bar 44.62 182 *e*P **P** **17 44 13.6 -2.6**
comp=Z,85nm,0.8s
POO Poona 44.69 273 *e*P **P** **17 44 17.2 +0.1**
POO *ex* x 17 46 05.5
WRAB Tennant Creek 45.11 163⇑*e*P **P** **17 44 17.6 -2.6**
WRAB *e*S S 17 50 48.8 -9.4
WRAB Tennant Creek 45.11 163⇑*e*P **P** **17 44 17.6 -2.6**
WRAB *e*S S 17 50 48.8 -9.4
WRA Warramunga Arr 45.11 163 P **P** **17 44 18.4 -1.9**
WRA ScP **ScP** **17 49 48.5 -3.2**
WRA S S 17 50 49.5 -8.7
WRA Warramunga Arr 45.11 163 P **P** **17 44 18.4 -1.9**
comp=Z,40nm,0.7s,baz=344,slow=8.9,SNR=242
WRA ScP **ScP** **17 49 48.5 -3.2**
comp=Z,2.8nm,0.9s,baz=346,slow=4.8,SNR=5.3
WRA S S 17 50 49.5 -8.7
comp=Z,1.8nm,0.8s,baz=78,slow=27,SNR=7.1
GOA Goa 45.57 269 *e*P **P** **17 44 24.4 +0.3**
KK31 Karatay Array 46.07 308 *i* P **P** **17 44 28.5 +0.8**
KK31 pmax pmax
comp=Z,319nm,1.5s
KKAR Karatay Array 46.07 308⇑*i*P **P** **17 44 28.2 +0.5**
KKAR *e* 17 46 03.6
KKAR pmax pmax
comp=Z,136nm,1.1s
KKAR Karatay Array 46.07 308⇑*i*P **P** **17 44 28.2 +0.5**
comp=Z,136nm,1.1s
KKAR *e*PcP **PcP** **17 46 03.6 -0.2**
KKAR *e*ScP **ScP** **17 49 53.6 -1.9**
KWAJ Kwajalein Atol 46.37 101 P **P** **17 44 32.7 +2.4**
KWAJ pmax pmax
comp=Z,261nm,1.1s
KWAJ Kwajalein Atol 46.37 101 P **P** **17 44 32.7 +2.4**
comp=Z,261nm,1.1s
GIRL Giralia 46.61 189 ⇑P **P** **17 44 32.3 +0.3**
baz=46,SNR=21
KBL Kabul 46.72 296⇑*i*P **P** **17 44 33.9 +0.7**
KBL pmax pmax
comp=Z,206nm,1.0s
KBL Kabul 46.72 296⇑*i*P **P** **17 44 33.9 +0.7**
comp=Z,206nm,1.0s
BHJ Bhuj 47.43 280 *e*P **P** **17 44 37.1 -1.4**
TIXI Tiksi 48.16 3*c* *i*P **P** **17 44 42.2 -1.3**
TIXI pmax pmax
comp=Z,291nm,1.8s
BVAR Borovoye Array 48.30 321 P **P** **17 44 45.8 +1.0**
BVAR 17 46 12.2
BVAR S **S** **17 51 44.9 +1.6**
BVAR Borovoye Array 48.30 321 P **P** **17 44 45.8 +1.0**
BVAR PcP **PcP** **17 46 12.2 +0.7**
BVAR ScP **ScP** **17 50 02.8 -1.9**
BVAR S **S** **17 51 44.9 +1.6**
BVAR Borovoye Array 48.30 321 P **P** **17 44 45.8 +1.0**
comp=Z,38nm,0.9s,baz=109,slow=13,SNR=127
BVAR PcP **PcP** **17 46 12.2 +0.7**
comp=Z,22nm,0.8s,baz=134,slow=4.3,SNR=6.6
BVAR ScP **ScP** **17 50 02.8 -1.9**
comp=Z,14nm,1.1s,baz=108,slow=4.8,SNR=6.1
BVAR S **S** **17 51 44.9 +1.6**
comp=Z,7.4nm,1.1s,baz=89,slow=20,SNR=4.3
BRVK Borovoye 48.37 321*c* *i*P **P** **17 44 46.0 +0.6**
BRVK pmax pmax
comp=Z,169nm,1.0s
BRVK MLR MLR
comp=Z,9µm,17.0s
BRVK Borovoye 48.37 321 P **P** **17 44 46.2 +0.8**
SNR=61
BRVK Borovoye 48.37 321⇑*i*P **P** **17 44 45.5 +0.1**
comp=Z,189nm,1.1s
BRVK *e*ScP **ScP** **17 50 01.0 -3.9**
BRVK *e*S **S** **17 51 45.2 +1.0**
FX1 Attu Island--F 48.46 39 *e*P **P** **17 44 47.8 +1.7**
FX1 Attu Island--F 48.46 39 P **P** **17 44 48.0 +1.9**
comp=Z,21nm,0.5s,baz=79,slow=3.4,SNR=12
AS05 Alice Springs 48.56 165 ⇓P **P** **17 44 46.8 -0.4**
baz=48
AS31 Alice Springs 48.57 165 *e*P **P** **17 44 46.1 -1.2**
ASAR Alice Springs 48.57 165 P **P** **17 44 46.5 -0.8**
ASAR ScP **ScP** **17 50 02.8 -3.4**
ASAR S **S** **17 51 47.5 -0.2**
ASAR P'P' 18 15 31.5
ASAR Alice Springs 48.57 165 P **P** **17 44 46.5 -0.8**
comp=Z,39nm,0.7s,baz=346,slow=6.9,SNR=237
ASAR ScP **ScP** **17 50 02.7 -3.4**
comp=Z,5.7nm,0.9s,baz=353,slow=5.2,SNR=5.7
ASAR S **S** **17 51 47.4 -0.2**
comp=Z,3.2nm,1.0s,baz=351,slow=16,SNR=9.2
ASAR PKPPKP P'P'df 18 15 31.5 -15
comp=Z,0.9nm,1.1s,baz=132,slow=1.5,SNR=4.9
AS11 Alice Springs 48.58 165 ⇓P **P** **17 44 46.9 -0.4**
baz=48
AS02 Alice Springs 48.59 165 ⇑P **P** **17 44 46.9 -0.5**
baz=48
CTA Charters Tower 49.71 149 P **P** **17 44 56.4 +0.3**
CTA Charters Tower 49.71 149 ⇓P **P** **17 44 57.0 +1.0**
baz=49
CTA Charters Tower 49.71 149 P **P** **17 44 56.4 +0.3**
comp=Z,27nm,0.8s,baz=330,slow=11,SNR=37
CTAO Charters Tower 49.71 149 *e*P **P** **17 44 57.0 +1.0**
CTAO pmax pmax
comp=Z,84nm,1.1s
CTAO Charters Tower 49.71 149 *e*P **P** **17 44 57.0 +1.0**
comp=Z,84nm,1.1s
HNR Honiara 49.88 127 P **P** **17 44 58.2 +0.8**
HNR S **S** **17 52 08.1 +1.7**
HNR Honiara 49.88 127 P **P** **17 44 58.2 +0.8**
comp=Z,50nm,0.7s,baz=185,slow=8.8,SNR=10
HNR S **S** **17 52 08.1 +1.7**
comp=Z,10.0nm,0.4s,baz=109,slow=20,SNR=1.1
HNR LR LR 18 04 11.9
comp=Z,3µm,19.6s,baz=128,slow=34
MEEK Meekatharra 50.12 183⇑P **P** **17 44 57.5 -1.5**
baz=49,SNR=37
AMKA Amchitka 51.80 42 *e*P **P** **17 45 14.1 +2.6**
comp=Z,170nm,0.8s
MORW Morawa 52.73 186 ⇑P **P** **17 45 17.2 -1.3**
baz=52,SNR=25
IMYA Miami 53.92 299 *e*P **P** **17 45 28.9 +1.3**
AB31 Akbulak array 54.06 315 *i* P **P** **17 45 29.1 +0.9**
AB31 pmax pmax
comp=Z,141nm,0.9s
ABKAR Akbulak array 54.06 315⇑*e*P **P** **17 45 28.1 -0.1**
comp=Z,42nm,0.6s
ABKAR *e*PcP **PcP** **17 46 32.2 -0.7**
BLDU Ballidu 54.20 185 ⇑P **P** **17 45 27.7 -1.6**
baz=53,SNR=15
ISRO Mashad 54.43 299 *e*P **P** **17 45 33.1 +1.8**
FORT Forrest 54.51 173⇑*e*P **P** **17 45 30.4 -1.2**
comp=Z,269nm,1.1s
FORT Forrest 54.51 173 ⇑P **P** **17 45 31.0 -0.5**
baz=54,SNR=16
IMOG Moghan 54.56 298 *e*P **P** **17 45 34.6 +2.2**
QLP Quilpie 54.56 155 ⇑P **P** **17 45 32.1 +0.1**
baz=54,SNR=16
MIDW Midway 54.56 71 *e*P **P** **17 45 32.6 +0.4**
comp=Z,116nm,1.0s
SVE Sverdlovsk 54.67 324*d* *i*P **P** **17 45 32.7 +0.2**
SVE *e* 17 47 39.9
SVE *e*S **S** **17 53 06.7 -4.2**
SVE *e* 17 55 13.0
SVE *e*SS **SS** **17 56 49.6 -4.0**
SVE *e*SSS SSS 17 58 57.4
SVE pmax pmax
comp=Z,247nm,1.2s
SVE pmax pmax
comp=Z,1µm,15.8s
SVE MLR MLR
comp=Z,17µm,15.0s
SVE MLR MLR
comp=E,12µm,15.0s
IAKL Akhelmad 54.98 299 *e*P **P** **17 45 37.0 +1.6**
IEMG Emamgholi 54.99 300 *e*P **P** **17 45 36.6 +1.1**
KLBR Kellerberrin 55.09 184 P **P** **17 45 34.7 -1.1**
baz=54,SNR=15
IKRD Kardeh 55.16 299 *e*P P 17 45 32.9 -3.8
AKTO Aktyubinsk 55.39 316 P **P** **17 45 38.3 +0.5**
AKTO S **S** **17 53 20.9 0.0**
AKTO Aktyubinsk 55.39 316 P **P** **17 45 38.3 +0.5**
AKTO S **S** **17 53 20.9 0.0**
AKTO Aktyubinsk 55.39 316 P **P** **17 45 38.3 +0.5**
comp=E,39nm,1.0s,baz=88,slow=7.5,SNR=72
AKTO S **S** **17 53 20.9 0.0**
comp=E,0.5nm,0.4s,baz=203,slow=22,SNR=1.5
ISFR Sfrayin 55.54 300 *e*P **P** **17 45 41.2 +1.7**
ARU Arti 55.73 323*c* *i*P **P** **17 45 39.6 -0.5**
ARU 17 46 37.5
ARU 17 47 41.1
ARU S **S** **17 53 23.9 -1.3**
ARU 17 55 18.8
ARU SS **SS** **17 57 03.7 -6.7**
ARU pmax pmax
comp=Z,321nm,1.7s
ARU MLR MLR
comp=Z,7µm,16.0s
ARU Arti 55.73 323 P **P** **17 45 40.2 +0.1**
comp=Z,968nm,0.9s,SNR=17
RMQ Roma 56.37 151 P **P** **17 45 46.1 +1.1**
baz=56,SNR=35
NWAO Narrogin (SRO) 56.46 184 *e*P **P** **17 45 44.6 -0.9**
comp=Z,118nm,1.4s
EIDS Eidsvold 56.52 148 *e*P **P** **17 45 46.4 +0.3**
comp=Z,230nm,1.8s
EIDS Eidsvold 56.52 148 P **P** **17 45 46.9 +0.8**
baz=56,SNR=10
SOKR Solikamsk 57.15 327*c* *i*P **P** **17 45 50.3 +0.2**
SOKR SS **SS** **17 57 39.6 +7.1**
SOKR pmax pmax
comp=Z,180nm,1.4s
SOKR MLR MLR
comp=Z,22µm,22.0s
WBK Wadi Bani Khal 57.17 282 P **P** **17 45 53.2 +2.2**
SNR=16
BBOO Buckleboo 57.85 166 *e*P **P** **17 45 54.8 -0.6**
comp=Z,2µm,1.0s
BBOO Buckleboo 57.85 166 ⇑P **P** **17 45 54.9 -0.6**
baz=57,SNR=89
SMDO Samad 57.88 283 P **P** **17 45 57.9 +1.8**
SNR=19
JMDO Jabal Madar 58.01 282 P **P** **17 45 58.1 +1.2**
SNR=13
RKGY Rocky Gully 58.15 184 ⇓P **P** **17 45 56.9 -0.5**
baz=57,SNR=11
IBND Bandar-abas 58.22 289 *e*P **P** **17 45 59.3 +1.1**
IBND *e*P pP 17 45 59.4 -6.6
HOQ Hoqain 58.41 284 P **P** **17 46 01.1 +1.4**
SNR=26
STKA Stephens Creek 58.47 160 *e*P **P** **17 45 59.5 -0.3**
comp=Z,15nm,0.9s
STKA Stephens Creek 58.47 160 P **P** **17 45 59.8 +0.1**
baz=58,SNR=34
STKA Stephens Creek 58.47 160 P **P** **17 45 59.8 +0.1**
comp=Z,55nm,0.8s,baz=338,slow=6.6,SNR=90
STKA LR LR 18 13 26.6
comp=Z,2µm,18.7s,baz=334,slow=38
BSY Bisya 58.72 283 P **P** **17 46 03.5 +1.6**
SNR=11
BANOM Banah 58.76 287 P P 17 46 05.5 +3.4
SNR=7.0
IGLO Ghaloghah 58.93 299 *e*P **P** **17 46 04.7 +1.3**
IANJ Anjilo 59.01 298 *e*P **P** **17 46 05.1 +1.1**
HTT Hallett 59.15 163 ⇑P **P** **17 46 04.7 +0.2**
baz=58
ARQ Araqi 59.18 284 P **P** **17 46 07.0 +2.0**
SNR=15
ASHO Ashiyiah 59.26 286 P **P** **17 46 07.7 +2.1**
SNR=13
ISHM Shahmirzad 59.46 299 *e*P **P** **17 46 08.3 +1.2**
CMSA Cobar Meteorol 59.56 156 P **P** **17 46 08.0 +0.7**
baz=59,SNR=55
ILAS Lasjerd 59.80 298 *e*P **P** **17 46 10.2 +0.8**
IALA Alasht 59.81 299 *e*P **P** **17 46 11.1 +1.6**
IFIR Firoozkooh 59.92 299 *e*P **P** **17 46 12.9 +2.6**
IPRN Peran 60.16 299 *e*P **P** **17 46 12.9 +1.1**
IDMV Damavand 60.51 299 *e*P **P** **17 46 14.8 +0.4**
ISFB Sefidab 60.55 297 *e*P **P** **17 46 15.0 +0.6**
TNA Tin City 60.61 27 *e*P **P** **17 46 14.3 +0.2**
comp=Z,193nm,1.3s
IPAR Pars 60.72 292 *e*P **P** **17 46 15.6 -0.3**
IZEF Zefreh 60.73 296 *e*P **P** **17 46 15.5 -0.4**
ISRV Sarvestan 60.77 291 *e*P **P** **17 46 16.1 -0.1**
IVRN Varamin 60.85 298 *e*P **P** **17 46 16.7 +0.3**
ARMA Armidale 61.03 150 ⇓P **P** **17 46 19.3 +1.8**
baz=60,SNR=8.3
IKLH Kolahrood 61.27 296 *e*P **P** **17 46 20.9 +1.4**
IR3 Iran Long-Peri 61.34 299 *e*P **P** **17 46 20.7 +1.0**
IMHD Mahdasht 61.59 299 *e*P **P** **17 46 22.5 +1.0**
IKAZ Kazeroun 61.76 292 *e*P **P** **17 46 23.1 +0.1**
IGZV Ghazvin 61.83 300 *e*P **P** **17 46 23.7 +0.5**
IPIR Pirpir 61.96 296 *e*P **P** **17 46 24.1 -0.1**
IRAZ Razeghan 62.23 299 *e*P **P** **17 46 26.6 +0.7**
MAK Makhachkala 62.89 308 *e*P **P** **17 46 31.0 +1.1**
MAK *e* 17 48 49.6
MAK *e*S **S** **17 55 02.2 +4.0**
MAK *e*SS **SS** **17 59 04.7 +1.5**
MAK pmax pmax
comp=Z,192nm,2.0s
MAK MLR MLR
comp=Z,9µm,15.0s

RBK	**Rabkut**	62.90	278		P		**P**	17 46 31.0	+0.6
	SNR=18								
DZM	**Mont Dzumac**	63.02	133		*e*P		**P**	17 46 32.9	+1.8
	comp=Z,215nm,1.4s								
DZM					*e*S		**S**	17 54 59.4	-1.0
	comp=Z,10µm,30.8s								
DZM					*e*SS		**SS**	17 59 06.8	+0.2
	comp=Z,5µm,25.1s								
DZM					*e*LR		LR	18 05 15.2	
	comp=Z,15µm,23.3s								
DZM	**Mont Dzumac**	63.02	133		P		**P**	17 46 32.0	+1.0
DZM					S		**S**	17 55 04.4	+4.0
DZM	**Mont Dzumac**	63.02	133		P		**P**	17 46 32.0	+1.0
	comp=Z,21nm,0.7s,baz=343,slow=8.2,SNR=15								
DZM					S		**S**	17 55 04.4	+4.0
	comp=Z,4.1nm,1.0s,baz=262,slow=14,SNR=1.8								
DZM					LR		LR	18 10 25.9	
	comp=Z,4µm,20.4s,baz=317,slow=33								
YNG	**Young**	63.04	155		P		**P**	17 46 31.9	+1.0
	baz=62,SNR=8.2								
ARPS	**Mount Arapiles**	63.09	162	⇑	P		**P**	17 46 31.1	0.0
	baz=62								
MGCD	**Mangrove Creek**	63.19	152	⇓	P		**P**	17 46 33.2	+1.4
	baz=62,SNR=6.2								
ABTO	**Aybut**	63.76	278		P		**P**	17 46 37.5	+1.4
	SNR=12								
SDPT	**Sand Point**	64.05	38		*e*P		**P**	17 46 37.5	+0.1
	comp=Z,106nm,0.7s								
CNB	**Canberra Magne**	64.31	155	⇓	P		**P**	17 46 40.4	+1.1
	baz=63,SNR=12								
IKOM	**Komasi**	64.42	298		*e*P		**P**	17 46 40.0	-0.4
DGRG	**David-gareji**	64.69	306		P		**P**	17 46 43.3	+1.4
TOO	**Toolangi**	64.95	159	⇑	P		**P**	17 46 44.1	+0.7
	baz=64,SNR=35								
TBLG	**Delisi**	65.11	307		P		**P**	17 46 45.6	+1.1
IGHG	**Ghaleghazi**	65.15	298		*e*P		**P**	17 46 45.2	0.0
IDHR	**Dehrash**	65.22	299		*e*P		**P**	17 46 46.0	+0.4
UMR	**Umm Al-Rimmam**	65.31	293		*e*P		**P**	17 46 46.0	0.0
UMR					AMb		AMB	17 46 49.5	
	comp=Z,302nm,1.8s								
GNI	**Garni**	65.40	305		P		**P**	17 46 48.4	+1.8
	SNR=46								
GNI	**Garni**	65.40	305		*e*P		**P**	17 46 47.5	+0.9
	comp=Z,382nm,1.6s								
GNI	**Garni**	65.40	305		P		**P**	17 46 48.0	+1.4
	comp=Z,44nm,1.1s,baz=122,slow=1.9,SNR=47								
GNI					LR		LR	18 19 36.4	
	comp=Z,7µm,18.3s,baz=89,slow=40								
KZR	**Kazreti**	65.41	306		P		**P**	17 46 49.5	+3.0
KBD	**Kabd**	65.42	292		*e*P		**P**	17 46 46.8	0.0
KBD					AMb		AMB	17 46 50.4	
	comp=Z,210nm,1.7s								
ZEI	**Tsey**	65.53	308		*e*P		**P**	17 46 47.4	-0.1
ZEI					pmax		pmax		
	comp=Z,158nm,1.3s								
RDF	**Al-Radifah**	65.60	292		*e*P		**P**	17 46 48.5	+0.6
RDF					AMb		AMB	17 46 53.1	
	comp=Z,390nm,1.0s								
GOF	**Gofitskoye**	65.75	310		*e*P		**P**	17 46 49.5	+0.9
GOF					*e*S		**S**	17 55 34.0	+0.5
GOF					pmax		pmax		
	comp=Z,70nm,0.8s								
GOF					smax		smax		
	comp=N,40nm,1.2s								
VRHR	**Novokhopersk**	65.75	317		*e*P		**P**	17 46 47.8	-0.7
VRHR					*e*S		**S**	17 55 27.8	-5.5
VRHR					pmax		pmax		
	comp=Z,340nm,1.6s								
VRHR					pmax		pmax		
	comp=N,10.0nm,0.6s								
VRHR					pmax		pmax		
	comp=E,230nm,1.5s								
VRHR					smax		smax		
	comp=E,710nm,5.6s								
VRHR					smax		smax		
	comp=Z,350nm,4.3s								
VRHR					smax		smax		
	comp=N,300nm,2.1s								
VRHR					MLR		MLR		
	comp=E,5µm,15.0s								
VRHR					MLR		MLR		
	comp=Z,5µm,15.0s								
VRHR					MLR		MLR		
	comp=N,550nm,16.0s								
KLMR	**Klimovskoe**	65.78	328	*c*	*i*P		**P**	17 46 47.4	-1.1
KLMR					pmax		pmax		
	comp=Z,365nm,1.5s								
KLMR					MLR		MLR		
	comp=Z,18µm,18.0s								
NAY	**Al-Naaiem**	65.78	293		*e*P		**P**	17 46 49.3	+0.2
NAY					AMb		AMB	17 46 56.6	
	comp=Z,193nm,0.8s								
ONI	**Oni**	65.89	308		P		**P**	17 46 51.5	+1.8
RST	**Umm Al-Ruwaisa**	65.93	293		*e*P		**P**	17 46 50.0	0.0
RST					AMb		AMB	17 46 57.6	
	comp=Z,903nm,0.9s								
KBZ	**Khabaz**	66.09	309		P		**P**	17 46 51.2	+0.5
KBZ					S		**S**	17 55 38.0	+0.4
KBZ	**Khabaz**	66.09	309		P		**P**	17 46 51.2	+0.5
KBZ					S		**S**	17 55 38.0	+0.4
KBZ	**Khabaz**	66.09	309		P		**P**	17 46 51.2	+0.5
	comp=Z,47nm,0.9s,baz=79,slow=6.3,SNR=78								
KBZ					S		**S**	17 55 38.0	+0.4
	comp=Z,2.2nm,1.0s,baz=221,slow=14,SNR=2.1								
KBZ					LR		LR	18 19 55.6	
	comp=Z,9µm,18.3s,baz=288,slow=40								
AKH	**Akhalkalaki**	66.09	306		P		**P**	17 46 53.1	+2.0
TMCR	**Tamitsa**	66.16	332		*e*P		**P**	17 46 51.4	+0.6
TMCR					*e*			17 47 19.8	
TMCR					*e*			17 49 18.7	
TMCR					pmax		pmax		
	comp=Z,239nm,1.2s								
KIV	**Kislovodsk**	66.19	309	*c*	*i*P		**P**	17 46 52.3	+0.7
KIV					*i*			17 47 20.0	
KIV					*i*S		S	17 55 27.3	-12
KIV					*e*SS		**SS**	17 59 51.0	-3.9
KIV					pmax		pmax		
	comp=Z,339nm,1.2s								
KIV					MLR		MLR		
	comp=Z,7µm,18.0s								
KIV	**Kislovodsk**	66.19	309		P		**P**	17 46 52.0	+0.4
	comp=Z,1µm,1.0s,SNR=48								
DYDN	**Diyadin**	66.31	304		*i*P		**P**	17 46 53.8	+1.2
DIGO	**Kars**	66.37	305		*i*P		**P**	17 46 54.4	+1.4
IMA2	**Indian Mountai**	66.47	26	⇑	*e*P		**P**	17 46 53.9	+0.9
HAKT	**HAKKARI**	66.72	302		*i*P		**P**	17 46 55.4	+0.2
CHVG	**Ch'k'valeri**	66.86	308		P		**P**	17 46 57.4	+1.7
TUTA	**Tutak**	67.00	304		*i*P		**P**	17 46 57.8	+0.7
GEVA	**Gevas**	67.05	303		*i*P		**P**	17 46 57.6	+0.3
VOR	**Voronezh**	67.15	318		*e*P		**P**	17 46 57.0	-0.4
VOR					pmax		pmax		
	comp=Z,400nm,1.8s								
VORD	**Divnogorie**	67.23	317		*e*P		**P**	17 46 57.3	-0.6
VORD					*e*S		**S**	17 55 50.8	-0.3
VORD					pmax		pmax		
	comp=E,100nm,1.5s								
VORD					pmax		pmax		
	comp=Z,130nm,1.5s								
VORD					smax		smax		
	comp=E,950nm,5.4s								
VORD					smax		smax		
	comp=Z,730nm,4.9s								
VORD					MLR		MLR		
	comp=E,5µm,17.0s								
VORD					MLR		MLR		
	comp=Z,8µm,17.0s								
VSR	**Storozhevoye**	67.26	317		*e*P		**P**	17 46 58.1	0.0
VSR					*e*S		**S**	17 55 50.8	-0.8
VSR					pmax		pmax		
	comp=Z,250nm,1.4s								
VSR					pmax		pmax		
	comp=N,30nm,1.2s								
VSR					pmax		pmax		
	comp=E,190nm,1.6s								
VSR					smax		smax		
	comp=E,820nm,4.8s								
VSR					smax		smax		
	comp=Z,1µm,5.9s								
VSR					smax		smax		
	comp=N,810nm,4.3s								
VSR					MLR		MLR		
	comp=Z,6µm,16.0s								
VSR					MLR		MLR		
	comp=N,3µm,18.0s								
VSR					MLR		MLR		
	comp=E,3µm,15.0s								
ARTV	**Artvin**	67.29	306		*i*P		**P**	17 46 59.8	+1.0
DAGI	**Agillar**	67.32	306		*i*P		**P**	17 46 59.8	+0.9
MOS	**Moscow**	67.42	322		*e*P		**P**	17 46 58.2	-0.9
MOS					*e*			17 47 24.6	
MOS					*e*			17 49 25.2	
MOS					*e*S		**S**	17 55 49.8	-3.6
MOS					pmax		pmax		
	comp=Z,1µm,2.0s								
MOS					pmax		pmax		
	comp=Z,242nm,1.5s								
MOS					MLR		MLR		
	comp=E,7µm,15.0s								
MOS					MLR		MLR		
	comp=Z,10µm,15.0s								
DBOC	**Borcka**	67.45	307		*i*P		**P**	17 46 59.9	+0.4
DDEM	**Demirkent**	67.48	306		*i*P		**P**	17 47 01.0	+1.1
PPLA	**Purkeypile**	67.48	30	⇑	*i*P		**P**	17 47 00.6	+1.1
	comp=Z,1µm,1.5s								
DBAD	**Bademkaya**	67.50	306		*i*P		**P**	17 47 00.6	+0.7
HOMI	**Horasan**	67.55	305		*i*P		**P**	17 47 00.3	-0.2
RSO	**Redoubt South**	67.57	32		*e*P		**P**	17 47 00.8	+0.6
	comp=Z,514nm,1.0s								
APA	**Apatity**	67.67	336	⇑	*i*P		**P**	17 47 02.4	+2.0
APA					*i*			17 49 38.0	
APA					*i*S		**S**	17 55 56.0	+0.1
APA					*i*			17 56 40.0	
APA					pmax		pmax		
	comp=Z,81nm,1.2s								
APA					MLR		MLR		
	comp=Z,10µm,16.0s								
COLD	**Coldfoot**	67.71	25	⇑	*i*P		**P**	17 47 01.6	+0.9
	comp=Z,347nm,1.3s								
SIRN	**S¨¨rnak**	67.73	302		*i*P		**P**	17 47 01.9	+0.4
OHAK	**Old Harbor**	67.80	36	⇑	*e*P		**P**	17 47 01.3	-0.1
	comp=Z,739nm,1.6s								
BPAW	**Bear Paw Mtn.**	67.84	28	⇑	*i*P		**P**	17 47 02.6	+0.9
	comp=Z,1µm,1.5s								
KDAK	**Kodiak Island**	68.08	35	⇑	*e*P		**P**	17 47 03.9	+0.7
	comp=Z,693nm,1.4s								
KDAK					S		**S**	17 56 01.4	+0.2
KDAK	**Kodiak Island**	68.08	35		S		**S**	17 56 01.4	+0.2
	comp=Z,12nm,0.9s,baz=10,slow=17,SNR=2.4								
KDAK					LR		LR	18 18 04.5	
	comp=Z,5µm,20.9s,baz=256,slow=37								
OBN	**Obninsk**	68.12	322	*c*	*i*P		**P**	17 47 02.3	-1.2
OBN					*i*			17 47 29.4	
OBN					*i*			17 49 30.0	
OBN					*i*S		**S**	17 55 58.0	-3.7
OBN					pmax		pmax		
	comp=Z,311nm,1.6s								
OBN					MLR		MLR		
	comp=Z,6µm,19.0s								
OBN	**Obninsk**	68.12	322		P		**P**	17 47 03.4	-0.1
	comp=Z,800nm,1.6s,SNR=11								
TRF	**Thorofare Moun**	68.25	29	⇑	*i*P		**P**	17 47 04.7	+0.3
	comp=Z,178nm,1.0s								
BNGL	**BINGOL**	68.36	304		*i*P		**P**	17 47 07.3	+1.7
SOC	**Sochi**	68.38	309	*c*	*i*P		**P**	17 47 05.1	-0.2
SOC					*e**PP		**pP**	17 47 11.0	-2.2
SOC					*e*			17 47 29.0	
SOC					*e*			17 49 33.8	
SOC					*i*S		**S**	17 56 03.5	-1.7
SOC					*e*SS		**SS**	18 00 26.1	-2.4
SOC					pmax		pmax		
	comp=Z,787nm,1.9s								
SOC					pmax		pmax		
	comp=Z,153nm,1.0s								
SOC					MLR		MLR		
	comp=Z,11µm,18.0s								
KOPT	**Kop Dagi**	68.61	305		*i*P		**P**	17 47 08.0	+0.8
MSVF	**Nonsavu**	68.78	122		*e*P		**P**	17 47 09.9	+1.7
MSVF					pmax		pmax		
	comp=Z,184nm,1.4s								
MSVF	**Nonsavu**	68.78	122		*e*P		**P**	17 47 09.9	+1.7
	comp=Z,184nm,1.4s								
MCK	**McKinley**	68.80	29	⇑	*e*P		**P**	17 47 07.5	-0.1
MCK					pmax		pmax		
	comp=Z,621nm,1.3s								
MCK	**McKinley**	68.80	29	⇑	*e*P		**P**	17 47 07.5	-0.1
	comp=Z,621nm,1.3s								
MARD	**Mardin**	69.04	303		*i*P		**P**	17 47 10.2	+0.5
COLA	**College**	69.05	27	⇑	*i*P		**P**	17 47 09.3	+0.3
COLA					*e*S		**S**	17 56 13.0	+0.6
COLA	**College**	69.05	27	⇑	*i*P		**P**	17 47 09.3	+0.3
	comp=Z,712nm,0.8s								
COLA					*e*S		**S**	17 56 13.0	+0.6
PMR	**Palmer**	69.11	31	⇑	*i*P		**P**	17 47 09.0	-0.5
PMR					pmax		pmax		
	comp=Z,318nm,1.1s								
PMR	**Palmer**	69.11	31	⇑	*i*P		**P**	17 47 09.0	-0.5
	comp=Z,318nm,1.1s								
SEW	**Seward**	69.25	32	⇑	*i*P		**P**	17 47 10.5	0.0
	comp=Z,694nm,1.2s								
JOF	**Joensuu**	69.32	331		*e*P		**P**	17 47 10.8	0.0
JOF					pmax		pmax		
	comp=Z,43nm,0.8s								
JOF	**Joensuu**	69.32	331		*e*p		**P**	17 47 10.8	0.0
	comp=Z,43nm,0.8s								
DIYA	**Diyarbakir**	69.39	303		*i*P		**P**	17 47 13.2	+1.4
SML	**Sawmill**	69.44	30	⇑	*i*P		P	17 47 28.5	+17
SML	**Sawmill**	69.44	30	⇑	*i*P		P	17 47 28.5	+17
ILAR	**Eielson Array**	69.47	27		P		**P**	17 47 11.3	-0.5
ILAR					S		**S**	17 56 16.6	-1.0
ILAR				⇑	*e*			18 15 16.8	
ILAR	**Eielson Array**	69.47	27		P		**P**	17 47 11.3	-0.5
	comp=Z,43nm,0.7s,baz=282,slow=5.5,SNR=120								
ILAR					S		**S**	17 56 16.6	-1.0
	comp=Z,0.3nm,0.6s,baz=16,slow=42,SNR=2.2								
ILAR					PKP2bc			18 15 16.8	
	comp=Z,2.8nm,1.2s,baz=224,slow=6.3,SNR=5.1								
ILAR					LR		LR	18 20 51.4	
	comp=Z,3µm,19.5s,baz=90,slow=39								
KELT	**Kelkit**	69.50	306		*i*P		**P**	17 47 10.5	-2.2
KEV	**Kevo**	69.57	338		*e*P		**P**	17 47 10.9	-1.4
KEV					*e*			17 49 46.2	
KEV					pmax		pmax		
	comp=Z,57nm,1.0s								
KEV	**Kevo**	69.57	338		*e*P		**P**	17 47 11.5	-0.7
KEV					pmax		pmax		
	comp=Z,33nm,0.8s								
KEV	**Kevo**	69.57	338		*e*p		**P**	17 47 11.5	-0.7
	comp=Z,33nm,0.8s								
KEV	**Kevo**	69.57	338		*e*P		**P**	17 47 10.8	-1.4
	comp=Z,57nm,1.0s								
KEV					*e*PP		**PP**	17 49 46.2	+0.4
ANN	**Anapa**	69.70	311	*c*	*i*P		**P**	17 47 12.5	-1.0
ANN					*e*			17 49 50.6	
ANN					*e*PPP		PPP	17 51 35.1	
ANN					*i*S		**S**	17 56 19.6	-1.2
ANN					pmax		pmax		
	comp=Z,450nm,1.4s								
ANN					MLR		MLR		
	comp=Z,8µm,20.0s								
MOO	**Moorlands**	69.92	160	⇓	P		**P**	17 47 15.5	+0.9
	baz=69,SNR=3.7								
SPITS	**Spitsbergen Ar**	70.04	348		LR		LR	18 22 08.1	
	comp=Z,12µm,18.0s,baz=50,slow=39								
ELZG	**Elazig**	70.12	304		*i*P		**P**	17 47 17.9	+1.5
ARCES	**ARCESS Array B**	70.14	338		P		**P**	17 47 16.0	+0.2
ARCES	**ARCESS Array B**	70.14	338		P		**P**	17 47 16.0	+0.2
	comp=Z,18nm,0.8s,baz=72,slow=7.8,SNR=32								
ARCES					LR		LR	18 21 24.9	
	comp=Z,6µm,18.4s,baz=61,slow=39								
ARE0	**ARCESS Array S**	70.14	338		*e*P		**P**	17 47 13.8	-2.0
SUSE	**Susehri**	70.27	306		*i*P		**P**	17 47 16.4	-0.9
MSEY	**Mahe Island**	70.28	256	⇑	*i*P		**P**	17 47 17.3	-0.3
	comp=Z,487nm,1.9s								
KEMA	**Kemaliye**	70.29	305		*i*P		**P**	17 47 16.8	-0.6
TAU	**Tasmania Unive**	70.38	160		*e*P		**P**	17 47 17.5	0.0
TAU					pmax		pmax		
	comp=Z,163nm,1.3s								
TAU	**Tasmania Unive**	70.38	160		*e*P		**P**	17 47 17.5	0.0
	comp=Z,163nm,1.3s								
PUL	**Pulkovo**	70.48	328	⇑	*i*P		**P**	17 47 19.0	+1.1
PUL					pmax		pmax		
	comp=Z,307nm,1.7s								
PAX	**Paxson**	70.49	29	⇑	*i*P		**P**	17 47 18.4	+0.3
PAX					pmax		pmax		
	comp=Z,510nm,1.5s								
PAX	**Paxson**	70.49	29	⇑	*i*P		**P**	17 47 18.4	+0.3
	comp=Z,510nm,1.5s								
MALT	**Malatya**	70.59	304	⇑	*i*P		**P**	17 47 20.6	+1.4
DIV	**Divide**	70.79	31	⇑	*i*P		**P**	17 47 20.3	+0.3
	comp=Z,603nm,1.2s								
ATAB	**Bozova**	70.91	303		*i*P		**P**	17 47 21.9	+0.8
SCER	**sogukcermik**	71.16	306		*i*P		**P**	17 47 23.3	+0.6
ERBA	**Erbaa**	71.21	307		*i*P		**P**	17 47 22.5	-0.4
MENT	**Mentasta**	71.27	29		*e*P		**P**	17 47 23.6	+0.8
BMRM	**Bremner River**	71.39	31	⇑	*i*P		**P**	17 47 23.9	+0.4
	comp=Z,351nm,1.1s								
GZT	**Gaziantep**	71.50	303		*i*P		**P**	17 47 27.1	+2.3
TOKA	**Tokat**	71.51	307		*i*P		**P**	17 47 25.8	+1.1
KAF	**Kangasniemi**	71.77	330		*e*P		**P**	17 47 24.8	-1.0
KAF					pmax		pmax		
	comp=Z,32nm,1.0s								
KAF	**Kangasniemi**	71.77	330		*e*p		**P**	17 47 24.8	-1.0
	comp=Z,32nm,1.0s								
EGAK	**Eagle**	71.85	27	⇑	*i*P		**P**	17 47 26.5	+0.3
	comp=Z,288nm,1.0s								
HAVZ	**Havza**	71.86	307		*i*P		**P**	17 47 26.4	-0.4
SIM	**Simferopol'**	71.95	312	*ce*	P		**P**	17 47 29.4	+2.2
SIM					*e*S		**S**	17 56 46.0	-1.0
SIM					MLR		MLR		
	comp=Z,4µm,19.0s								
PINB	**Pinarbasi**	72.02	305		*i*P		**P**	17 47 28.8	+0.8
KUZU	**Kuzuini**	72.04	303		*i*P		**P**	17 47 28.7	+0.8
FIA1	**FINESS Array S**	72.06	330		*e*P		**P**	17 47 27.6	+0.1
FINES	**FINESS Array B**	72.06	330		P		**P**	17 47 27.6	+0.1
FINES	**FINESS Array B**	72.06	330		P		**P**	17 47 27.6	+0.1
	comp=Z,17nm,0.8s,baz=58,slow=4.5,SNR=70								
FINES					LR		LR	18 22 05.8	
	comp=Z,12µm,18.9s,baz=75,slow=38								
AYKD	**Aykdinkavak**	72.07	304		*i*P		**P**	17 47 28.7	+0.6
VSU	**Vasula**	72.60	327	*ce*	P		**P**	17 47 30.5	-0.3
VSU					pmax		pmax		
	comp=Z,717nm,1.7s								
CTKT	**Corum**	72.67	307		*i*P		**P**	17 47 32.8	+1.0
DAWY	**Dawson**	72.80	27	⇑	*e*P		**P**	17 47 32.6	+0.6
YAYL	**Yayladag**	73.00	302		*i*P		**P**	17 47 34.1	+0.3
MICGM	**Minsk**	73.15	323	⇓	*e*P		**P**	17 47 32.0	-2.1
MNK	**Minsk**	73.18	323	⇓	*e*P		**P**	17 47 32.0	-2.3
MNK					*e*S		S	17 56 52.0	-8.7
MNK					pmax		pmax		
	comp=Z,740nm,1.0s								
MNK					pmax		pmax		
	comp=E,740nm,1.0s								
MNK					MLR		MLR		
	comp=Z,12µm,12.0s								
MNK					MLR		MLR		
	comp=E,11µm,16.0s								
MNK					MLR		MLR		
	comp=E,13µm,12.0s								
CDAG	**Cicekdag**	73.26	306		*i*P		**P**	17 47 35.2	0.0
KIP	**Kipapa**	73.27	74	*de*	P		**P**	17 47 35.9	+0.4
KIP					pmax		pmax		
	comp=Z,165nm,2.1s								
ILGA	**Ilgaz**	73.32	308		*i*P		**P**	17 47 36.3	+0.5
AKASG	**Malin Array Be**	73.49	318		P		**P**	17 47 34.8	-1.4
AKASG					S		**SKiKP**	17 57 06.6	+1.3
AKASG	**Malin Array Be**	73.49	318		P		**P**	17 47 34.8	-1.4
AKASG					S		**SKiKP**	17 57 06.6	+1.3
AKASG	**Malin Array Be**	73.49	318		P		**P**	17 47 34.8	-1.4
	comp=Z,43nm,0.9s,baz=61,slow=5.7,SNR=115								
AKASG					S		**SKiKP**	17 57 06.6	+1.3
	comp=Z,0.3nm,0.3s,baz=107,slow=22,SNR=5.1								
KIEV	**Kiev**	73.50	318		*e*P		**P**	17 47 35.3	-1.0
KIEV					pmax		pmax		
	comp=Z,370nm,1.8s								
KIEV	**Kiev**	73.50	318		*e*P		**P**	17 47 35.3	-1.0
	comp=Z,370nm,1.8s								
ASF	**Jabal al Asfar**	73.53	298		LR		LR	18 24 43.9	
	comp=Z,7µm,20.3s,baz=34,slow=40								
INK	**Inuvik**	73.54	22	⇑	*i*P		**P**	17 47 35.5	-0.6
	comp=Z,140nm,1.0s								
INK					S		**SKiKP**	17 57 05.6	+0.7
INK	**Inuvik**	73.54	22		P		**P**	17 47 35.9	-0.2
	comp=Z,83nm,0.9s,baz=298,slow=6.9,SNR=70								
INK					S		**SKiKP**	17 57 05.6	+0.7
	comp=Z,15nm,1.1s,baz=137,slow=29,SNR=21								
NACGM	**Naroch**	73.64	323		*e*P		**P**	17 47 34.0	-3.0
GULE	**Gulek**	73.65	304		*i*P		**P**	17 47 37.6	0.0
ELDT	**Eldivan**	73.70	307		*i*P		**P**	17 47 38.1	+0.2
BR131	**Keskin Array S**	73.77	307	⇑	*e*P		**P**	17 47 37.4	-0.9
	comp=Z,144nm,1.2s								
BRTR	**Keskin Array B**	73.77	307		P		**P**	17 47 38.1	-0.2
BRTR	**Keskin Array B**	73.77	307		P		**P**	17 47 38.1	-0.2
	comp=Z,38nm,0.8s,baz=105,slow=3.4,SNR=139								
BRTR					LR		LR	18 25 50.1	
	comp=Z,3µm,18.0s,baz=224,slow=40								
BBAL	**Bala**	74.21	307		*i*P		**P**	17 47 40.3	-0.6
ANTO	**Ankara**	74.35	307	⇑	*i*P		**P**	17 47 41.3	-0.3
ANTO					*e*			17 50 24.3	
ANTO					pmax		pmax		
	comp=Z,270nm,1.3s								
ANTO	**Ankara**	74.35	307		P		**P**	17 47 41.9	+0.3
	SNR=36								
ANTO	**Ankara**	74.35	307	⇓	*i*P		**P**	17 47 41.8	+0.3
ANTO	**Ankara**	74.35	307	⇑	*i*P		**P**	17 47 41.2	-0.3
	comp=Z,270nm,1.3s								
ANTO					*e*PP		**PP**	17 50 24.3	-3.2
MMAI	**M

GRER		76.63 314⇑	*i* P		P		17 47 55.0	+0.6
AMRR	Amara	76.65 313⇑	*i* P		P		17 47 55.0	+0.5
PLOR	Plostina	76.68 314⇑	*i* P		P		17 47 55.1	+0.3
ISP	Isparta	76.69 306	P		P		17 47 53.9	-1.2
ISP	Isparta	76.69 306	*e*P		P		17 47 54.6	-0.5
ISP				pmax	pmax			
	comp=Z,81nm,1.0s							
ISP	Isparta	76.69 306⇑	*i* P		P		17 47 54.4	-0.7
ISP	Isparta	76.69 306	*e*P		P		17 47 54.6	-0.5
	comp=Z,81nm,1.0s							
BUY	Buyukada	76.69 309	*i* P		P		17 47 54.1	-0.8
PGOR	Pogoanele	76.78 313⇑	*i* P		P		17 47 56.1	+0.8
DAG	Danmarks Havn	76.91 351	*i* P		P		17 47 56.6	+1.2
DAG			*i* S		S		17 57 37.9	-3.6
DAG				pmax	pmax			
	comp=Z,14nm,0.9s							
DAG				MLR	MLR			
	comp=Z,2µm,18.0s							
DAG	Danmarks Havn	76.91 351	*i* P		P		17 47 56.6	+1.2
	comp=Z,17nm,0.9s							
DAG			*i* S		S		17 57 37.9	-3.6
DAG								
	comp=Z,2µm,18.0s							
ULDT	Uludag	76.92 308	*i* P		P		17 47 56.9	+0.4
LVV	L'vov	76.93 319	*i* P		P		17 47 55.8	-0.3
LVV			*e*				17 52 33.0	
LVV			*e*S		S		17 57 37.8	-4.8
BUR08	Bucovina Ar. S	76.98 316⇑	*e*P		P		17 47 56.0	-0.6
BURAR	Bucovina Array	76.98 316⇓	*i* P		P		17 47 56.5	0.0
ISR	Istrita	77.00 314⇑	*i* P		P		17 47 57.7	+1.1
GDZ	Gediz	77.03 307	*i* P		P		17 47 56.6	-0.4
ELBA	Catalca	77.08 309	*i* P		P		17 47 55.3	-1.8
PRD	Provadia	77.09 312	P		P		17 47 57.0	-0.1
KORT	Korkueli	77.09 305	*i* P		P		17 47 55.9	-1.5
SIT	Sitka	77.21 33⇑	*e*P		P		17 47 58.6	+1.1
SIT				pmax	pmax			
	comp=Z,240nm,1.0s							
SIT	Sitka	77.21 33⇑	*e*P		P		17 47 58.5	+1.1
	comp=Z,240nm,1.0s							
KHAL	Karahalli	77.27 306	*i* P		P		17 47 57.6	-0.7
MLR	Muntele Rosu	77.27 314⇑	*i* P		P		17 47 58.2	0.0
SULR		77.35 313⇑	*i* P		P		17 47 59.6	+1.1
DURS	Dursunbey	77.58 308	*i* P		P		17 47 59.3	-0.7
DEMI	Demirci	77.60 307	*i* P		P		17 47 59.8	-0.4
GOLH	Golhisar	77.60 305	*i* P		P		17 47 58.7	-1.5
ARCR	ARCALIA	77.72 316⇑	*i* P		P		17 48 01.0	+0.4
KWP	Kalwaria Pacla	77.80 319⇑	*i* P		P		17 48 00.6	-0.4
KWP				pmax	pmax			
	comp=Z,723nm,1.6s							
KWP	Kalwaria Pacla	77.80 319⇑	*i* P		P		17 48 01.3	+0.4
KWP	Kalwaria Pacla	77.80 319⇑	*i* P		P		17 48 00.6	-0.4
	comp=Z,723nm,1.6s							
KWP	Kalwaria Pacla	77.80 319	*e*P		P		17 48 01.1	+0.2
KWP			*e*S		S		17 57 53.7	+1.6
KWP				LMZ	LR		18 25 51.8	
DNZL	Cakiroluk	77.83 306	*i* P		P		17 48 00.8	-0.8
VOIR		77.87 314⇑	*i* P		P		17 48 01.2	-0.3
JMB	Yambol	77.91 311	P		P		17 48 02.4	+0.7
JMB	Yambol	77.91 311	P		P		17 48 02.4	+0.7
JMB	Yambol	77.91 311	P		P		17 48 02.4	+0.7
MANT	Manisa	77.91 307	*i* P		P		17 48 02.4	+0.4
AKAS	Kas	77.92 304	*i* P		P		17 48 01.0	-1.0
MTUR	Matau	77.94 314⇑	*i* P		P		17 48 01.3	-0.6
BMR	Baia Mare	78.05 317⇓	*i* P		P		17 48 02.9	+0.6
SZH	Strazhica	78.07 312	P		P		17 48 02.4	-0.2
BEL	Belsk	78.07 321	*e*P		P		17 48 02.1	-0.3
BEL			*e*pP		pP		17 48 06.9	-3.4
BEL			*e*S		S		17 57 56.6	+1.7
BEL			*e*SKSac		SKSac		17 58 44.1	+29
BEL				LMZ	LR		18 25 12.9	
BALY	Balya	78.15 308	*i* P		P		17 48 02.8	-0.3
ARR	Arges	78.17 314⇑	*i* P		P		17 48 03.4	+0.2
HUMR	Humele	78.25 313⇑	*i* P		P		17 48 03.1	-0.4
AKHS	Akhisar	78.32 307	*i* P		P		17 48 03.9	-0.2
KOLS	Kolonicke sedl	78.33 318	*e*P		P		17 48 03.7	-0.2
KOLS				pmax	pmax			
	comp=Z,34nm,1.3s							
KOLS	Kolonicke sedl	78.33 318	*e*P		P		17 48 03.7	-0.2
KOLS			*e*S		S		17 57 55.8	-2.0
KOLS			*e*SS		SS		18 03 18.3	+18
UZH	Uzhgorod	78.43 318	*i* P		P		17 48 03.0	-1.4
UZH			*e*S		S		17 57 54.0	-4.8
UZH				MLR	MLR			
	comp=Z,5µm,15.0s							
RAO	Raoul Island	78.43 129	LR		LR		18 16 17.7	
	comp=Z,2µm,21.5s,baz=209,slow=31							
TURN	Turunc	78.45 305	*i* P		P		17 48 05.7	+1.0
TRPA	Tarpa	78.47 318⇑	*i* P		P		17 48 04.5	-0.1
TRPA	Tarpa	78.47 318⇑	*e*P		P		17 48 04.6	-0.1
PVL	Pavlikeni	78.50 312	P		P		17 48 06.1	+1.2
LOT	Lotru	78.71 315⇓	*i* P		P		17 48 06.2	0.0
STHS	Stebnicka Huta	78.76 319	*e*P		P		17 48 06.9	+0.6
STHS				pmax	pmax			
	comp=Z,35nm,1.3s							
STHS	Stebnicka Huta	78.76 319	*e*P		P		17 48 06.8	+0.5
NB2	NORSAR Subarra	78.84 332	P		P		17 48 06.5	0.0
	comp=Z,42nm,0.8s,baz=60,slow=5.3							
NB2	NORSAR Subarra	78.84 332	P		P		17 48 06.5	0.0
	baz=60,slow=5.3							
NOA	NORSAR Array B	78.84 332	P		P		17 48 05.8	-0.7
NOA	NORSAR Array B	78.84 332	P		P		17 48 05.8	-0.7
	comp=Z,27nm,0.7s,baz=60,slow=5.5,SNR=31							
NOA				LR	LR		18 26 24.3	
	comp=Z,17µm,19.1s,baz=60,slow=38							
ALN	Alexandroupoli	78.86 310	*e*P		P		17 48 07.2	+0.3
DRGR		78.88 316⇑	*i* P		P		17 48 07.3	+0.3
WRAK	Wrangell Islan	78.97 33⇑	*i* P		P		17 48 08.1	+0.9
	comp=Z,145nm,1.1s							
CRAG	Craig	78.99 34	*e*P		P		17 48 09.4	+2.1
	comp=Z,161nm,1.2s							
KDZ	Kurdzhali	79.02 311	P		P		17 48 07.9	+0.1
ARG	Arkhangelos	79.04 305	*e*P		P		17 48 09.4	+1.3
NAO01	NORSAR Array S	79.07 332	*e*P		P		17 48 05.9	-1.8
	comp=Z,27nm,0.9s							
RES	Resolute Bay	79.08 9	LR		LR		18 23 13.9	
	comp=Z,4µm,21.9s,baz=332,slow=36							
DEV	Deva	79.10 315⇓	*i* P		P		17 48 08.6	+0.4
RDO	Rodhopi	79.12 310	P		P		17 48 08.0	-0.4
RDO	Rodhopi	79.12 310	*e*P		P		17 48 08.4	0.0
RDO	Rodhopi	79.12 310	P		P		17 48 08.0	-0.4
GCAM	G?zelcaml?	79.17 306	*i* P		P		17 48 08.8	+0.1
DLBC	Dease Lake	79.17 31⇑	*i* P		P		17 48 09.0	+0.6
DLBC	Dease Lake	79.17 31	P		P		17 48 09.8	+1.3
	comp=Z,31nm,0.7s,baz=309,slow=4.5,SNR=55							
BOZC	Bozcaada	79.24 309	*i* P		P		17 48 09.9	+0.8
BDRM	Kayabasi	79.25 306	*i* P		P		17 48 08.3	-0.9
OJC	Ojcow	79.30 320⇑	*i* P		P		17 48 09.3	+0.1
OJC			*i* *PP		pP		17 48 15.3	-1.8
OJC			*e*				17 58 21.5	
OJC				MLR	MLR			
	comp=Z,7µm,18.5s							
OJC	Ojcow	79.30 320	*i* P		P		17 48 09.3	+0.1
OJC			*i* pP		pP		17 48 15.3	-1.8
OJC			*e*SKSac		SKSac		17 58 21.5	-2.4
OJC			L		L		18 28 45.0	
	comp=Z,7µm,18.5s							
PRK	Paraskevi	79.30 308	P		P		17 48 09.1	-0.3
PRK	Paraskevi	79.30 308	P		P		17 48 09.1	-0.3
PRK	Paraskevi	79.30 308	*e*P		P		17 48 09.6	+0.2
PRK	Paraskevi	79.30 308	P		P		17 48 09.1	-0.3
NIE	Niedzica	79.32 319⇑	*i* P		P		17 48 09.8	+0.4
NIE			*i* *PP		PcP		17 48 15.5	-2.0
NIE				MLR	MLR			
	comp=Z,8µm,18.5s							
NIE	Niedzica	79.32 319	*i* P		P		17 48 09.8	+0.4
NIE			*i* pP		PcP		17 48 15.5	-2.0
NIE			L		L		18 28 10.0	
	comp=Z,8µm,18.5s							
PLD	Plovdiv	79.34 311	P		P		17 48 09.5	-0.1
PLD	Plovdiv	79.34 311	P		P		17 48 09.5	-0.1
PLD	Plovdiv	79.34 311	P		P		17 48 09.5	-0.1
PLD	Plovdiv	79.34 311	P		P		17 48 09.5	-0.1
GZR	Gura Zlata	79.37 315⇑	*i* P		P		17 48 09.9	+0.1
SMTH	Samothraki Isl	79.38 309	*e*P		P		17 48 10.2	+0.4
SMG	Samos	79.46 306	*e*P		P		17 48 10.8	+0.5
GKP	Gorka Klasztor	79.47 324	*e*P		P		17 48 10.8	+0.8
GKP			*e*pP		PcP		17 48 14.6	-3.4
GKP			*e*S		S		17 58 11.4	+1.7
GKP				LMZ	LR		18 27 03.9	
RZN	Rozhen	79.49 311	P		P		17 48 10.4	-0.2
MPEP	Malo Peshtene	79.52 313	P		P		17 48 10.5	-0.1
PGB	Panagyurishte	79.54 312	P		P		17 48 10.7	0.0
SIRR	Siria	79.75 316⇑	*i* P		P		17 48 12.0	+0.3
CHOS	Chios island	79.78 307	*e*P		P		17 48 12.7	+0.6
BSD	Bornholm Skovb	79.88 326	*e*P		P		17 48 12.5	+0.3
BSD			*i* S		S		17 58 10.9	-3.1
BSD				pmax	pmax			
	comp=Z,55nm,1.1s							
BSD				MLR	MLR			
	comp=Z,10µm,17.0s							
BSD	Bornholm Skovb	79.88 326	*i* P		P		17 48 12.5	+0.3
	comp=Z,55nm,1.0s							
BSD			*i* S		S		17 58 10.9	-3.1
BSD								
	comp=Z,10µm,16.0s							
KARP	Karpathos	80.02 304	P		P		17 48 12.9	-0.5
KARP	Karpathos	80.02 304	*e*P		P		17 48 13.7	+0.3
KARP	Karpathos	80.02 304	P		P		17 48 12.9	-0.5
BZS	Buzias	80.04 315⇑	*i* P		P		17 48 12.9	-0.4
VTS	Vitosha	80.18 312	P		P		17 48 14.5	+0.2
VTS	Vitosha	80.18 312	P		P		17 48 14.5	+0.2
VTS	Vitosha	80.18 312	*e*P		P		17 48 14.6	+0.2
VTS	Vitosha	80.18 312⇑	*i* P		P		17 48 14.6	+0.2
VTS	Vitosha	80.18 312	P		P		17 48 14.5	+0.2
VTS	Vitosha	80.18 312	P		P		17 48 14.5	+0.2
PSZ	Piszkesteto	80.18 318⇑	*e*P		P		17 48 13.5	-0.6
PSZ				pmax	pmax			
	comp=Z,232nm,1.5s							
PSZ	Piszkesteto	80.18 318⇓	*i* P		P		17 48 14.2	+0.1
PSZ	Piszkesteto	80.18 318⇑	*e*P		P		17 48 13.5	-0.6
	comp=Z,232nm,1.5s							
PSZ	Piszkesteto	80.18 318⇑	*e*P		P		17 48 14.2	+0.1
MMB	Musomiste	80.21 311	P		P		17 48 13.2	-1.2
NVR	Nevrokopi	80.21 311	P		P		17 48 12.7	-1.7
NVR	Nevrokopi	80.21 311	*e*P		P		17 48 14.1	-0.3
NVR	Nevrokopi	80.21 311	P		P		17 48 12.7	-1.7
RAC	Raciborz	80.29 321	*e*P		P		17 48 15.1	+0.6
RAC			*e*S		S		17 58 20.0	+1.5
RAC				MLR	MLR			
	comp=Z,10µm,18.3s							
OKC	Ostrava-Krasne	80.42 320	*e*P		P		17 48 16.2	+0.9
OKC			*e*S		S		17 58 18.0	-2.0
OKC				MLR	MLR			
	comp=Z,6µm,15.2s							
OKC	Ostrava-Krasne	80.42 320	*e*P		P		17 48 16.2	+0.9
OKC			*e*S		S		17 58 18.0	-2.0
OKC				AMS	AMS		18 26 40.0	
	comp=Z,6µm,15.2s							
SRS	Serrai	80.49 311	P		P		17 48 13.1	-2.7
SRS	Serrai	80.49 311	P		P		17 48 13.1	-2.7
SRS	Serrai	80.49 311	P		P		17 48 13.1	-2.7
KKB	Krupnik	80.55 312	P		P		17 48 15.5	-0.6
PKSN	Nyarlorinc	80.62 317⇓	*e*P		P		17 48 17.5	+1.1
URZ	Urewera	80.66 139	P		P		17 48 17.8	+1.2
URZ	Urewera	80.66 139	P		P		17 48 17.8	+1.2
	comp=Z,13nm,0.7s,baz=288,slow=3.2,SNR=4.9							
URZ				LR	LR		18 17 50.5	
	comp=Z,3µm,21.8s,baz=136,slow=31							
APE	Apeiranthos	80.66 306	*e*P		P		17 48 15.4	-1.5
APE	Apeiranthos	80.66 306⇑	*i* P		P		17 48 17.1	+0.2
SOH	Sokhos	80.77 310	*e*P		P		17 48 16.0	-1.4
MORC	Moravsky Berou	80.80 320⇑	*e*P		P		17 48 16.4	-1.0
MORC				pmax	pmax			
	comp=Z,137nm,1.4s							
MORC	Moravsky Berou	80.80 320⇑	*i* P		P		17 48 17.4	0.0
MORC	Moravsky Berou	80.80 320⇑	*e*P		P		17 48 16.4	-1.0
	comp=Z,137nm,1.4s							
COP	Copenhagen	80.86 327	*e*P		P		17 48 18.6	+1.1
COP				pmax	pmax			
	comp=Z,52nm,1.0s							
COP				MLR	MLR			
	comp=Z,6µm,17.0s							
COP	Copenhagen	80.86 327	*i* P		P		17 48 18.6	+1.1
	comp=Z,52nm,1.0s							
COP								
	comp=Z,6µm,16.0s							
PLG	Polygyros	80.88 310	*e*P		P		17 48 18.3	+0.3
PAIG	Paliouri	80.89 310	P		P		17 48 17.2	-0.8
PAIG	Paliouri	80.89 310	P		P		17 48 17.2	-0.8
PAIG	Paliouri	80.89 310	*e*P		P		17 48 18.1	+0.1
PAIG	Paliouri	80.89 310	P		P		17 48 17.2	-0.8
XMAS	Kiritimati	80.89 92	*e*P		P		17 48 20.7	+2.3
	comp=Z,312nm,1.4s							
BUD	Budapest	80.90 318⇑	*e*P		P		17 48 17.9	0.0
KNT	Kendrikon	80.95 311	P		P		17 48 17.2	-1.1
KNT	Kendrikon	80.95 311	P		P		17 48 17.2	-1.1
KNT	Kendrikon	80.95 311	P		P		17 48 17.2	-1.1
RPZ	Rata Peaks	80.97 146	P		P		17 48 18.1	0.0
RPZ	Rata Peaks	80.97 146	P		P		17 48 18.1	0.0
	comp=Z,20nm,0.9s,baz=11,slow=4.2,SNR=3.9							
RPZ				LR	LR		18 23 55.3	
	comp=Z,3µm,18.5s,baz=317,slow=36							
SANT	Santorini	80.98 306	*e*P		P		17 48 17.7	-0.9
SANT	Santorini	80.98 306	*e*P		P		17 48 18.0	-0.6
	comp=Z,602nm,1.5s							
PKS7	Kunszentmiklos	81.00 317⇓	*e*P		P		17 48 19.3	+0.9
THR3	Thira Island,	81.01 306	P		P		17 48 18.3	-0.4
THR3	Thira Island,	81.01 306	P		P		17 48 18.3	-0.4
AOS	Alonnisos	81.05 309	*e*P		P		17 48 19.1	+0.3
KSP	Ksiaz	81.05 322⇓	*e*P		P		17 48 19.0	+0.4
KSP			*e*S		S		17 58 26.0	-0.5
KSP			*e*SS		SS		18 03 36.0	-4.5
KSP				MLR	MLR			
	comp=Z,10µm,22.4s							
KSP	Ksiaz	81.05 322	*e*P		P		17 48 19.0	+0.4
KSP			*e*pP		PcP		17 48 23.0	-2.0
KSP			*e*S		S		17 58 39.5	+13
KSP				LMZ	LR		18 28 12.0	
KRLC	Kraliky	81.11 321	*e*P		P		17 48 19.9	+0.9
KRLC	Kraliky	81.11 321	*e*P		P		17 48 19.9	+0.9
KRLC			*e*x		x		17 48 40.0	
VAY	Valandovo	81.12 311	P		P		17 48 17.3	-1.9
VAY	Valandovo	81.12 311	P		P		17 48 17.3	-1.9
VAY	Valandovo	81.12 311	P		P		17 48 17.3	-1.9
VAY	Valandovo	81.12 311	*i* P		P		17 48 17.7	-1.5
PKS2	Kecel	81.20 317⇓	*e*P		P		17 48 21.2	+1.7
DPC	Dobruska-Polom	81.26 321	*e*P		P		17 48 20.2	+0.4
DPC			*e*S		S		17 58 26.6	-2.2
DPC	Dobruska-Polom	81.26 321	*e*P		P		17 48 20.2	+0.4
DPC			*e*S		S		17 58 26.6	-2.2
DPC			*e*x		x		18 03 55.2	
DPC				AMS	AMS		18 29 10.0	
NPS	Neapolis	81.30 305	P		P		17 48 19.5	-0.8
NPS	Neapolis	81.30 305	P		P		17 48 19.5	-0.8
NPS	Neapolis	81.30 305	*e*P		P		17 48 21.5	+1.2
NPS	Neapolis	81.30 305	P		P		17 48 19.5	-0.8
PKSG		81.33 318⇓	*e*P		P		17 48 20.9	+0.8
UPC	Upice	81.36 322	*e*P		P		17 48 21.2	+0.9
UPC	Upice	81.36 322	*e*P		P		17 48 21.2	+0.9
UPC			*e*x		x		17 48 41.3	
GRG	Griva	81.38 311	P		P		17 48 19.8	-0.8
GRG	Griva	81.38 311	P		P		17 48 19.8	-0.8
GRG	Griva	81.38 311	*e*P		P		17 48 20.7	+0.1
GRG	Griva	81.38 311	P		P		17 48 19.8	-0.8
SMOL	Smolenice	81.42 319	*e*P		P		17 48 22.0	+1.3
SMOL	Smolenice	81.42 319	*e*P		P		17 48 22.0	+1.3
LAST	Lasithi	81.44 305	P		P		17 48 19.9	-1.2
LAST	Lasithi	81.44 305	P		P		17 48 19.9	-1.2
NEO	Neokhori	81.46 309	*e*P		P		17 48 20.9	-0.2
VRAC	Vranov	81.56 320⇑	*i* P		P		17 48 21.8	+0.4
PKST	T"s	81.60 318⇓	*e*P		P		17 48 22.3	+0.6
SKO	Skopje	81.63 312	*i* P		P		17 48 21.4	-0.4
ATH	Athens Observa	81.64 308	*e*P		P		17 48 21.6	-0.4
LIT	Litokhoron	81.66 310	*e*P		P		17 48 21.3	-0.8
RUE	Ruedersdorf	81.69 324	*e*P		P		17 48 23.2	+1.3
	comp=Z,250nm,1.5s							
DIVS	Divibare	81.71 315	P		P		17 48 21.7	-0.7
PKS9	Tamasi	81.74 317⇓	*e*P		P		17 48 23.0	+0.6
ZST	Bratislava	81.76 319	*e*P		P		17 48 22.5	+0.1
ZST			*e*S		S		17 58 37.1	+3.2
ZST			*e*SS		SS		18 04 00.0	+8.9
ZST	Bratislava	81.76 319	*e*P		P		17 48 22.5	+0.1
IDI	Anoyia	81.83 305	*e*P		P		17 48 24.0	+0.8
IDI	Anoyia	81.83 305	*e*P		P		17 48 23.1	-0.1
	comp=Z,46nm,0.8s							
LKR	Lokris	81.89 309	*e*P		P		17 48 21.8	-1.5
MUD	Monsted U'grnd	82.06 329	*e*P		P		17 48 25.6	+1.8
MUD				pmax	pmax			
	comp=Z,38nm,0.9s							
MUD	Monsted U'grnd	82.06 329	*i* P		P		17 48 25.6	+1.8
	comp=Z,38nm,0.9s							
KZN	Kozani	82.08 310	P		P		17 48 22.5	-1.9
KZN	Kozani	82.08 310	P		P		17 48 22.5	-1.9
KZN	Kozani	82.08 310	*e*P		P		17 48 24.6	+0.2
KZN	Kozani	82.08 310	P		P		17 48 22.5	-1.9
BIA	Bitola	82.10 311	*e*P		P		17 48 22.6	-1.9
FNA	Florina	82.16 311	P		P		17 48 22.0	-2.8
FNA	Florina	82.16 311	P		P		17 48 22.0	-2.8
FNA	Florina	82.16 311	*e*P		P		17 48 23.8	-1.0
FNA	Florina	82.16 311	P		P		17 48 22.0	-2.8
LTK	Loutraki	82.16 308	*e*P		P		17 48 23.0	-1.8
PVCC	Panska Ves	82.17 322	*e*P		P		17 48 25.6	+1.0
PVCC				MLR	MLR			
	comp=Z,6µm,16.5s							
PVCC	Panska Ves	82.17 322	*e*P		P		17 48 25.6	+1.0
PVCC				AMS	AMS		18 29 10.0	
	comp=Z,6µm,16.5s							
DID	Didima	82.17 307	*e*P		P		17 48 22.4	-2.5
AGG	Agios Georgios	82.21 309	*e*P		P		17 48 23.2	-1.9
THL	Kiokotos Trika	82.22 310	*e*P		P		17 48 23.6	-1.4
TREC	Trest	82.22 321	*e*P		P		17 48 25.6	+0.7
TREC			*e*S		S		17 58 35.6	-3.1
TREC				MLR	MLR			
	comp=Z,9µm,17.5s							
TREC	Trest	82.22 321	*e*P		P		17 48 25.6	+0.7
TREC			*ex*		x		17 48 44.8	
TREC			*e*S		S		17 58 35.6	-3.1
TREC				AMS	AMS		18 27 50.0	
	comp=Z,9µm,17.5s							
IVA	Berane	82.30 313⇑	*i* P		P		17 48 25.7	+0.2
VAM	Vamos	82.30 305	P		P		17 48 23.8	-1.7
VAM	Vamos	82.30 305	P		P		17 48 23.8	-1.7
VAM	Vamos	82.30 305	*e*P		P		17 48 26.3	+0.8
VAM	Vamos	82.30 305	P		P		17 48 23.8	-1.7
SOP	Sopron	82.31 319⇑	*e*P		P		17 48 25.3	0.0
BRG	Berggiesshubel	82.36 322	*e*P		P		17 48 25.5	0.0
	comp=Z,252nm,1.9s							
BRG	Berggiesshubel	82.36 322	S		S		17 58 38.0	-2.0
BRG			SS		SS		18 03 59.0	-1.0
BRG								
	comp=N,7µm,15.7s							
BRG								
	comp=E,9µm,26.6s							
BRG								
	comp=Z,9µm,15.5s							
BRG	Berggiesshubel	82.36 322	*e*P		P		17 48 25.5	0.0
BRG			S		S		17 58 38.0	-2.0
BRG			SS		SS		18 03 59.0	-1.0
BRG			pmax		pmax			
	comp=Z,252nm,1.9s							
BRG			MLR		MLR			
	comp=N,7µm,15.7s							
BRG			MLR		MLR			
	comp=E,9µm,16.6s							
BRG			MLR		MLR			
	comp=Z,9µm,15.5s							
BRG	Berggiesshubel	82.36 322	*e*P		P		17 48 26.4	+0.9
	comp=Z,251nm,1.9s							
PVY	Plav	82.37 313	*e*P		P		17 48 25.3	-0.6
PHP	Peshkopia	82.43 312	P		P		17 48 24.4	-1.7
PHP	Peshkopia	82.43 312	P		P		17 48 24.4	-1.7
PHP	Peshkopia	82.43 312	P		P		17 48 24.4	-1.7
PLE	Pljevlja	82.43 314⇑	*i* P		P		17 48 26.4	+0.2
PRU	Pruhonice	82.44 322	*e*P		P		17 48 26.7	+0.7
PRU			*e*				17 48 44.4	
PRU			*e*S		S		17 58 36.5	-4.4
PRU			*e*				18 04 02.3	
PRU			MLR		MLR			
	comp=Z,5µm,18.7s							
PRU	Pruhonice	82.44 322	*e*P		P		17 48 26.7	+0.7
PRU			*ex*		x		17 48 44.4	
PRU			*e*S		S		17 58 36.5	-4.4
PRU			*e*SS		SS		18 04 02.3	+1.1
PRU			AMS		AMS		18 29 30.0	
	comp=Z,5µm,18.7s							
PRA	Prague	82.46 322	P		P		17 48 27.0	+0.9
PRA			AMS		AMS		18 30 00.0	
KARN	Karanos	82.52 305	P		P		17 48 25.1	-1.6
KARN	Karanos	82.52 305	P		P		17 48 25.1	-1.6
KALE	Kalithea	82.61 309	*e*P		P		17 48 25.3	-1.9
CONA	Conrad Observa	82.62 319⇓	*i* P		P		17 48 27.3	+0.2
	comp=Z,180nm,1.6s,SNR=64							
EVR	Evrytania	82.63 309	*e*P		P		17 48 25.9	-1.4
KBN	Korca	82.63 311	P		P		17 48 25.1	-2.2
KBN	Korca	82.63 311	P		P		17 48 25.1	-2.2
KBN	Korca	82.63 311	P		P		17 48 25.1	-2.2
GUR	Goura	82.65 308	*e*P		P		17 48 26.7	-0.7
TRIZ	Trizonia	82.67 309	*e*P		P		17 48 26.7	-0.7
FBE	Freiberg	82.67 323	*e*P		P		17 48 28.4	+1.3
	comp=Z,251nm,1.4s							
CLL	Collm	82.67 323⇑	*i* P		P		17 48 26.7	-0.5
CLL			*e*S		S		17 58 44.0	+0.8
CLL			pmax		pmax			
	comp=Z,161nm,1.3s							
CLL			MLR		MLR			
	comp=Z,13µm,18.7s							
CLL	Collm	82.67 323	*e*P		P		17 48 27.8	+0.7
	comp=Z,159nm,1.3s							
CLL	Collm	82.67 323⇑	*i* P		P		17 48 26.7	-0.5
	comp=Z,161nm,1.3s							
CLL			*e*PP		PP		17 51 35.0	-1.

KHC epP pP 17 48 39.0 0.0
KHC ex x 17 48 49.7
KHC ePP PP 17 51 43.0 +0.4
KHC eS S 17 58 47.9 -2.9
KHC ex x 18 04 31.6
KHC AMS AMS 18 30 20.0
comp=Z,7µm,19.1s
KHC Kasperske Hory 83.40 321 eP P 17 48 31.0 0.0
comp=Z,183nm,1.4s
HCY Herceg Novi 83.41 313⇑iP P 17 48 30.1 -1.1
TANN Tannenbergstha 83.41 323 eP P 17 48 31.8 +0.7
comp=Z,139nm,1.5s
GEC2 GERESS Array S 83.47 321 eP P 17 48 32.3 +0.9
GEC2 pmax pmax
comp=Z,211nm,1.5s
GEC2 GERESS Array S 83.47 321 eP P 17 48 32.3 +0.9
comp=Z,211nm,1.5s
GERES GERESS Array B 83.47 321 P P 17 48 31.8 +0.3
GERES GERESS Array B 83.47 321 P P 17 48 31.8 +0.3
comp=Z,61nm,1.0s,baz=61,slow=3.3,SNR=182
GERES LR LR 18 29 11.9
comp=Z,7µm,19.1s,baz=59,slow=38
PYL PYLOS 83.51 307 eP P 17 48 31.2 -0.6
MOA Molln 83.61 320⇑iP P 17 48 32.0 -0.1
comp=Z,190nm,1.5s,SNR=40
NRDL Niedersach Rie 83.64 325 eP P 17 48 33.2 +1.2
comp=Z,273nm,1.7s
PERS Pernice 83.67 318 iP P 17 48 32.2 -0.3
PERS ipP pP 17 48 51.5 +11
SOKA Soboth 83.70 318⇓iP P 17 48 32.3 -0.3
comp=Z,161nm,1.6s,SNR=47
GCIS Gornji Cirnik 83.71 317 iP P 17 48 32.5 -0.1
STON Ston 83.75 314 iP P 17 48 30.8 -2.0
CESS Cesta pri Krsk 83.76 318 iP P 17 48 32.7 -0.2
MOX Moxa 83.77 323 eP P 17 48 33.6 +0.8
MOX pmax pmax
comp=Z,159nm,1.4s
MOX MLR MLR
comp=Z,13µm,18.6s
MOX Moxa 83.77 323 eP P 17 48 33.6 +0.8
comp=Z,159nm,1.4s
MOX eL L 18 30 03.5
comp=Z,13µm,18.6s
WET Wettzell 83.80 321 eP P 17 48 34.1 +1.1
WET pmax pmax
comp=Z,193nm,1.5s
WET Wettzell 83.80 321 eP P 17 48 34.1 +1.1
comp=Z,193nm,1.5s
VLS Valsamata 83.81 309 eP P 17 48 32.9 -0.4
MANZ Manzenberg 83.82 322 eP P 17 48 34.1 +1.0
comp=Z,155nm,1.4s
CLZ Clausthal 83.83 324 eP P 17 48 34.4 +1.2
CLZ pmax pmax
comp=Z,290nm,1.5s
CLZ Clausthal 83.83 324 eP P 17 48 34.4 +1.2
comp=Z,290nm,1.5s
ROTZ Rotzenmuhle 83.87 322 eP P 17 48 34.7 +1.3
comp=Z,215nm,1.4s
ABPO Ambohimpanom 84.02 246⇑iP P 17 48 35.0 +0.2
ABPO pmax pmax
comp=Z,379nm,1.5s
ABPO MLR MLR
comp=Z,4µm,22.0s
ABPO Ambohimpanom 84.02 246⇑iP P 17 48 35.0 +0.2
comp=Z,379nm,1.5s
ABPO LR LR
comp=Z,4µm,22.0s
OBKA Obir 84.07 318⇑iP P 17 48 34.1 -0.5
comp=Z,104nm,1.2s,SNR=25
BOJS Bojanci 84.11 317 iP P 17 48 34.4 -0.3
BOJS epP pP 17 48 54.2 +12
UDBI Udbina 84.25 316 iP P 17 48 35.5 0.0
LJU Ljubljana 84.31 318 iP P 17 48 35.2 -0.5
LJU ipP pP 17 48 55.0 +11
GRF Grafenberg Arr 84.46 322 eP P 17 48 37.6 +1.2
GRF pmax pmax
comp=Z,252nm,1.3s
GRF MLR MLR
comp=Z,7µm,19.2s
GRF Grafenberg Arr 84.46 322 eP P 17 48 37.6 +1.2
comp=Z,252nm,1.3s
GRF eL L 18 30 39.0
comp=Z,7µm,19.2s
GRFO Grafenberg 84.46 322 eP P 17 48 37.1 +0.7
GRFO pmax pmax
comp=Z,323nm,1.5s
GRFO Grafenberg 84.46 322 eP P 17 48 37.1 +0.7
comp=Z,323nm,1.5s
KBA Koelnbreinsper 84.53 319⇑iP P 17 48 36.6 -0.4
comp=Z,85nm,1.4s,SNR=20
RJOB Jochberg 84.53 320 eP P 17 48 37.7 +0.8
comp=Z,137nm,1.4s
UBBA Unterbreizbach 84.56 324 eP P 17 48 37.5 +0.8
comp=Z,230nm,1.8s
MYKA Terra Mystica 84.56 319⇑iP P 17 48 36.3 -0.8
comp=Z,52nm,1.3s,SNR=15
VOY Vojsko 84.70 318 eP P 17 48 36.7 -1.1
VOY e 17 48 47.3
VOY e 17 48 53.6
CADS Cadrg 84.70 318 iP P 17 48 36.5 -1.2
NVLJ Novalja 84.79 317 iP P 17 48 37.3 -0.8
TRI Trieste 84.94 318 eP P 17 48 37.4 -1.4
TRI pmax pmax
comp=Z,75nm,1.1s
TRI Trieste 84.94 318 eP P 17 48 37.4 -1.4
comp=Z,75nm,1.1s
IBBN Ibbenburen 84.96 326 eP P 17 48 39.6 +0.8
comp=Z,328nm,1.5s
ABTA Abfaltersbach 85.19 319⇑iP P 17 48 38.8 -1.4
comp=Z,129nm,1.4s,SNR=38
FUR Furstenfeldbru 85.20 321 eP P 17 48 41.4 +1.2
FUR pmax pmax
comp=Z,565nm,1.5s
FUR Furstenfeldbru 85.20 321 eP P 17 48 41.3 +1.1
comp=Z,565nm,1.5s
KMBO Kilima Mbogo 85.27 267 P P 17 48 42.6 +1.2
SNR=62
KMBO Kilima Mbogo 85.27 267⇑iP P 17 48 41.9 +0.5
comp=Z,627nm,2.1s
KMBO ePP PP 17 52 00.8 +1.4
KMBO Kilima Mbogo 85.27 267 ⇑P P 17 48 43.3 +1.9
baz=85,SNR=13
KMBO Kilima Mbogo 85.27 267 P P 17 48 42.4 +1.0
comp=Z,46nm,1.1s,baz=49,slow=5.8,SNR=92
WATA Walderalm 85.45 320⇓iPcP P 17 48 41.4 -0.2
comp=Z,52nm,1.0s,SNR=12
WTSB Winterswijk 85.64 326 eP P 17 48 41.8 -0.4
comp=Z,332nm,1.8s
BUG Bochum--Univer 85.69 325 eP P 17 48 43.2 +0.8
comp=Z,307nm,1.4s
TNS Taunus Mts 85.72 324 eP P 17 48 43.5 +0.8
TNS pmax pmax
comp=Z,182nm,1.6s
TNS Taunus Mts 85.72 324 eP P 17 48 43.5 +0.8
comp=Z,182nm,1.6s
MOTA Moosalm 85.72 320⇑iP P 17 48 42.4 -0.5
comp=Z,68nm,1.1s,SNR=28
RETA Reutte 85.85 321⇑iP P 17 48 42.1 -1.4
comp=Z,37nm,1.3s,SNR=9.7
STU Stuttgart 86.08 322 eP P 17 48 44.5 0.0
STU pmax pmax
comp=Z,23nm,0.8s
STU Stuttgart 86.08 322 eP P 17 48 45.0 +0.5
comp=Z,118nm,1.3s
STU Stuttgart 86.08 322 eP P 17 48 44.5 0.0
comp=Z,24nm,0.8s
FETA Feichten 86.11 320⇑iP P 17 48 44.2 -0.7
comp=Z,82nm,1.2s,SNR=24
CUC Castrocucco 86.32 312 eP P 17 48 45.6 -0.3
comp=Z,128nm,1.4s
CUC ePP PP 17 52 08.0 +1.4
DAVA Damuels 86.46 321⇑iPcP P 17 48 46.1 -0.5
comp=Z,69nm,1.3s,SNR=19
LANF Langenberg 86.74 323 eP P 17 48 48.4 +0.6
HGN Heimansgroeve 86.77 325 eP P 17 48 46.9 -0.8
comp=Z,273nm,1.7s
HGN Heimansgroeve 86.77 325 eS S 17 59 24.9 +1.0
HGN eSS SS 18 05 41.9 +37
BFO Black Forest 86.80 322 eP P 17 48 48.2 +0.1
BFO pmax pmax
comp=Z,165nm,1.7s
BFO Black Forest 86.80 322 eP P 17 48 48.2 +0.1
comp=Z,165nm,1.7s
BFO Black Forest 86.80 322 eP P 17 48 47.9 -0.2
comp=Z,112nm,1.6s
MEM Membach 86.81 325 P P 17 48 47.5 -0.5
comp=Z,66nm,1.9s
BEBN Eben Emael 86.88 325 P P 17 48 48.6 +0.3
comp=Z,38nm,1.9s
CEL Celeste 87.08 311⇑iP P 17 48 49.2 -0.5
comp=Z,625nm,1.4s
CEL ePPP PP 17 52 11.6 -1.2
TUE Stuetta 87.20 320⇑eP P 17 48 48.9 -1.4
comp=Z,189nm,1.6s
TUE ePPP PP 17 52 11.0 -2.7
FELD Feldberg im Sc 87.23 322 eP P 17 48 50.3 0.0
WLF Walferdange 87.26 324 P P 17 48 50.9 +0.7
comp=Z,160nm,1.5s
WLF Walferdange 87.26 324 eP P 17 48 50.2 -0.1
WLF pmax pmax
comp=Z,199nm,1.1s
WLF Walferdange 87.26 324 eP P 17 48 51.2 +0.9
comp=Z,338nm,1.4s
WLF Walferdange 87.26 324 eP P 17 48 50.2 -0.1
comp=Z,199nm,1.1s
BCLA Clavier 87.29 325 P P 17 48 50.5 +0.2
comp=Z,74nm,2.0s
WLS Welschbruch 87.30 323 eP P 17 48 50.3 -0.2
CDF Champ du Feu 87.34 323⇑iP P 17 48 50.0 -0.8
comp=Z,527nm,1.7s
CDF Champ du Feu 87.34 323⇑iP P 17 48 50.0 -0.8
CDF pmax pmax
comp=Z,527nm,1.7s
CDF Champ du Feu 87.34 323⇑iP P 17 48 50.0 -0.8
comp=Z,527nm,1.7s
ECH Echery 87.52 322 eP P 17 48 50.4 -1.2
ECH pmax pmax
comp=Z,80nm,1.4s
ECH Echery 87.52 322 eP P 17 48 51.4 -0.2
ECH Echery 87.52 322 eP P 17 48 50.4 -1.2
comp=Z,80nm,1.4s
PGC Sidney 87.56 37 eP P 17 48 53.6 +2.0
comp=Z,8.5nm,1.0s
UCC Uccle 87.56 326 P P 17 48 52.3 +0.7
GIVF Givet 87.72 325⇑iP P 17 48 51.8 -0.7
comp=Z,228nm,1.3s
GIVF Givet 87.72 325⇑iP P 17 48 51.8 -0.7
GIVF pmax pmax
comp=Z,228nm,1.3s
GIVF Givet 87.72 325⇑iP P 17 48 51.8 -0.7
comp=Z,228nm,1.3s
MOF Molkenrain 87.73 322 eP P 17 48 52.7 0.0
SNF Seneffe 87.77 325 P P 17 48 52.8 +0.2
VLC Villacollemand 87.79 318 eP P 17 48 52.8 -0.2
comp=Z,38nm,1.1s
DOU Dourbes 87.85 325 P P 17 48 53.3 +0.3
HINF Hinteralfeld 87.91 322 eP P 17 48 52.2 -1.3
comp=Z,244nm,1.7s
HINF Hinteralfeld 87.91 322 eP P 17 48 52.2 -1.3
HINF pmax pmax
comp=Z,244nm,1.7s
HINF Hinteralfeld 87.91 322 eP P 17 48 52.2 -1.3
comp=Z,244nm,1.7s
NLWA Neilton Lookou 88.02 38 eP P 17 48 55.7 +1.8
comp=Z,189nm,1.1s
BAIF Baives 88.07 325 eP P 17 48 53.4 -0.7
comp=Z,147nm,1.3s
BAIF Baives 88.07 325 eP P 17 48 53.4 -0.7
BAIF pmax pmax
comp=Z,147nm,1.3s
BAIF Baives 88.07 325 eP P 17 48 53.4 -0.7
comp=Z,147nm,1.3s
HAU Haudompre 88.08 323 eP P 17 48 53.2 -1.1
comp=Z,196nm,1.5s
HAU eR
comp=Z,10µm,18.0s
HAU Haudompre 88.08 323 eP P 17 48 53.2 -1.1
HAU pmax pmax
comp=Z,196nm,1.5s
HAU Haudompre 88.08 323 eP P 17 48 53.2 -1.1
comp=Z,196nm,1.5s
PAGF Fort de Pagny 88.12 323 eP P 17 48 53.8 -0.6
comp=Z,165nm,1.6s
PAGF Fort de Pagny 88.12 323 eP P 17 48 53.8 -0.6
comp=Z,165nm,1.6s
THEF They-Montfort 88.16 323 eP P 17 48 54.0 -0.6
LOMF Lomont 88.18 322 eP P 17 48 54.9 +0.1
MEZF Maizieres J'vi 88.52 323 eP P 17 48 55.6 -0.7
comp=Z,787nm,1.7s
MEZF Maizieres J'vi 88.52 323 eP P 17 48 55.6 -0.7
comp=Z,787nm,1.7s
RAR Rarotonga 88.57 114 LR LR 18 20 42.6
comp=Z,2µm,19.9s,baz=182,slow=30
JCW Jim Creek 88.65 37 P P 17 48 58.8 +1.8
SFTF Sexfontaines 88.70 323⇑iP P 17 48 56.2 -0.9
comp=Z,507nm,1.4s
SFTF Sexfontaines 88.70 323⇑iP P 17 48 56.2 -0.9
comp=Z,507nm,1.4s
B06A Marblemount 88.71 36 P P 17 48 57.7 +0.6
OG01 Vacheresse 88.83 321 eP P 17 48 57.9 0.0
CABF La Chapelle 89.01 322⇑iP P 17 48 57.8 -1.0
comp=Z,327nm,1.9s
CABF La Chapelle 89.01 322⇑iP P 17 48 57.8 -1.0
CABF pmax pmax
comp=Z,327nm,1.9s
CABF La Chapelle 89.01 322⇑iP P 17 48 57.8 -1.0
comp=Z,327nm,1.9s
RMW Rattlesnake Mo 89.14 37 P P 17 49 01.3 +2.0
RMW Rattlesnake Mo 89.14 37 P P 17 49 01.3 +2.0
RSL Roselend 89.22 321 eP P 17 49 00.0 +0.2
LPG La Plagne 89.25 320 eP P 17 48 59.7 -0.5
comp=Z,166nm,0.9s
LPG La Plagne 89.25 320 eP P 17 48 59.7 -0.5
LPG pmax pmax
comp=Z,166nm,0.9s
LPG La Plagne 89.25 320 eP P 17 48 59.7 -0.5
comp=Z,166nm,0.9s
LPL La Plagne 89.25 320 eP P 17 48 59.5 -0.6
comp=Z,121nm,0.8s
LPL La Plagne 89.25 320 eP P 17 48 59.5 -0.6
LPL pmax pmax
comp=Z,121nm,0.8s
LPL La Plagne 89.25 320 eP P 17 48 59.5 -0.6
comp=Z,121nm,0.8s
SFJD Kangerlussuaq 89.40 357 eP P 17 48 58.9 -1.1
comp=Z,111nm,1.7s
OBSR Observation Ro 89.45 38 P P 17 49 01.9 +0.9
ERK Elk Rock 89.49 39 P P 17 49 02.9 +1.9
PGF Pioggiola 89.49 317 eP P 17 49 00.6 -0.5
comp=Z,233nm,1.0s
PGF Pioggiola 89.49 317 eP P 17 49 00.6 -0.5
PGF pmax pmax
comp=Z,233nm,1.0s
PGF Pioggiola 89.49 317 eP P 17 49 00.6 -0.5
comp=Z,233nm,1.0s
TDL Tradedollar La 89.54 38 P P 17 49 03.3 +2.0
BNI Bardonecchia 89.54 320 eP P 17 49 00.1 -1.2
BNI e 17 52 30.9
BNI pmax pmax
comp=Z,114nm,1.4s
BNI Bardonecchia 89.54 320 eP P 17 49 00.1 -1.2
comp=Z,114nm,1.4s
BNI ePP PP 17 52 30.9 -1.5
LON Longmire 89.54 38 eP P 17 49 02.4 +1.2
LON pmax pmax
comp=Z,101nm,1.1s
LON Longmire 89.54 38 eP P 17 49 02.4 +1.2
comp=Z,101nm,1.1s
NLW Nelson Butte 89.58 36 P P 17 49 02.9 +1.4
SAOF Saorge 89.61 319 eP P 17 49 01.8 +0.3
OG35 Corcelles 89.63 321 eP P 17 49 01.7 +0.1
MBDF Montbardon 89.67 320 eP P 17 49 00.5 -1.5
comp=Z,43nm,0.7s
MBDF Montbardon 89.67 320 eP P 17 49 00.5 -1.5
MBDF pmax pmax
comp=Z,43nm,0.7s
MBDF Montbardon 89.67 320 eP P 17 49 00.5 -1.5
comp=Z,43nm,0.7s
AUTN L'Aution 89.68 319 eP P 17 49 02.2 +0.1
WPW White Pass 89.72 38 P P 17 49 03.9 +1.7
SBF Sospel 89.75 319 eP P 17 49 01.0 -1.2
comp=Z,207nm,1.1s
SBF Sospel 89.75 319 eP P 17 49 01.0 -1.2
SBF pmax pmax
comp=Z,207nm,1.1s
SBF Sospel 89.75 319 eP P 17 49 01.0 -1.2
comp=Z,207nm,1.1s
TOUF Mont Tournerai 89.78 319 eP P 17 49 02.4 -0.1
LUCF Luceram 89.78 319 eP P 17 49 02.4 0.0
EDM Edmonton 89.84 29 eP P 17 49 03.1 +0.7
EDM Edmonton 89.84 29 eP P 17 49 03.1 +0.7
OSPF L'Ospedale 89.84 316 eP P 17 49 03.2 +0.5
TWW Teanaway 89.84 37 P P 17 49 04.6 +1.9
LOR Lormes 89.89 323⇑iP P 17 49 01.6 -1.2
comp=Z,208nm,1.2s
LOR eR
comp=Z,8µm,18.8s
LOR Lormes 89.89 323⇑iP P 17 49 01.6 -1.2
comp=Z,208nm,1.2s
MVIF Mont Vial 89.90 319 eP P 17 49 03.1 +0.1
COR Corvallis 89.90 40 eP P 17 49 05.4 +2.6
COR Corvallis 89.90 40 eP P 17 49 05.4 +2.6
comp=Z,2µm,1.3s
WTV Waterville 90.02 36 P P 17 49 04.7 +1.3
ORIF Oris-en-Rattie 90.09 320 eP P 17 49 03.1 -0.7
comp=Z,229nm,1.4s
ORIF eR
comp=Z,7µm,21.0s
ORIF Oris-en-Rattie 90.09 320 eP P 17 49 03.1 -0.7
ORIF pmax pmax
comp=Z,229nm,1.4s
ORIF Oris-en-Rattie 90.09 320 eP P 17 49 03.1 -0.7
comp=Z,229nm,1.4s
CALN Calern 90.14 319 eP P 17 49 04.4 +0.2
SSF Saint Saulge 90.20 323⇑iP P 17 49 03.2 -1.0
comp=Z,227nm,1.4s
SSF Saint Saulge 90.20 323⇑iP P 17 49 03.2 -1.0
SSF pmax pmax
comp=Z,227nm,1.4s
SSF Saint Saulge 90.20 323⇑iP P 17 49 03.2 -1.0
comp=Z,227nm,1.4s
KEBM Edson Butte 90.22 42 eP P 17 49 05.2 +0.8
comp=Z,269nm,1.1s
SMF Signal de Mont 90.26 322 eP P 17 49 03.5 -1.0
comp=Z,514nm,1.2s
SMF Signal de Mont 90.26 322 eP P 17 49 03.5 -1.0
comp=Z,514nm,1.2s
OG25 Le Caire 90.28 320 eP P 17 49 04.9 +0.2
FRF La Foret Royal 90.39 319 eP P 17 49 04.1 -1.0
comp=Z,321nm,1.6s
FRF La Foret Royal 90.39 319 eP P 17 49 04.1 -1.0
FRF pmax pmax
comp=Z,321nm,1.6s
FRF La Foret Royal 90.39 319 eP P 17 49 04.1 -1.0
comp=Z,321nm,1.6s
AVF Avril sur Loir 90.45 323 eP P 17 49 04.3 -1.0
comp=Z,428nm,1.3s
AVF Avril sur Loir 90.45 323 eP P 17 49 04.3 -1.0
AVF pmax pmax
comp=Z,428nm,1.3s
AVF Avril sur Loir 90.45 323 eP P 17 49 04.3 -1.0
comp=Z,428nm,1.3s
HYF Humbligny 90.56 323 eP P 17 49 05.4 -0.5
HYF Humbligny 90.56 323 eP P 17 49 05.4 -0.5
LMR La Mourre 90.60 319 eP P 17 49 05.3 -0.8
comp=Z,336nm,1.4s
LMR La Mourre 90.60 319 eP P 17 49 05.3 -0.8
LMR pmax pmax
comp=Z,336nm,1.4s
LMR La Mourre 90.60 319 eP P 17 49 05.3 -0.8
comp=Z,336nm,1.4s
OG26 St.-Nazaire-De 90.62 320 eP P 17 49 06.7 +0.4
KBO Bosley Butte 90.65 43 eP P 17 49 07.9 +1.4
comp=Z,187nm,1.3s
SSB Saint Sauveur 90.66 321 eP P 17 49 05.7 -0.7
SSB pmax pmax
comp=Z,134nm,1.5s
SSB Saint Sauveur 90.66 321 eP P 17 49 06.3 -0.1
SSB Saint Sauveur 90.66 321 eP P 17 49 05.7 -0.7
comp=Z,134nm,1.5s
SMRF Simiane la Rot 90.80 320 eP P 17 49 06.5 -0.6
comp=Z,204nm,1.6s
SMRF Simiane la Rot 90.80 320 eP P 17 49 06.5 -0.6
comp=Z,204nm,1.6s
VIVF Saint-Julien-l 90.83 321 eP P 17 49 06.4 -0.8
comp=Z,225nm,1.4s
VIVF Saint-Julien-l 90.83 321 eP P 17 49 06.4 -0.8
VIVF pmax pmax
comp=Z,225nm,1.4s
VIVF Saint-Julien-l 90.83 321 eP P 17 49 06.4 -0.8
comp=Z,225nm,1.4s
VSL Villasalto 90.87 314 eP P 17 49 07.3 -0.2
comp=Z,142nm,1.1s
AGO Saint Agoulin 91.01 322 eP P 17 49 08.4 +0.4
HAWA Hanford 91.03 37 eP P 17 49 09.5 +1.5
comp=Z,162nm,1.3s
DRV Dumont d'Urvil 91.14 173 P PP 17 52 27.0 -18
DRV S SKSac 17 59 25.0 -13
DRV SS SS 18 05 45.0 -24
DRV L L 18 14 00.0
DRV R 18 20 00.0
NEW Newport 91.19 35 eP P 17 49 09.7 +0.8
comp=Z,104nm,1.2s
NEW Newport 91.19 35⇓P P 17 49 09.9 +1.0
baz=91
NEW Newport 91.19 35 P P 17 49 10.2 +1.4
comp=Z,55nm,1.1s,baz=310,slow=4.1,SNR=48
HUMO Hull Mountain 91.22 42 eP P 17 49 10.6 +1.6
comp=Z,219nm,1.7s
LDF La Druitiere 91.22 326 eP P 17 49 07.6 -1.3
comp=Z,166nm,1.6s
LDF La Druitiere 91.22 326 eP P 17 49 07.6 -1.3
LDF pmax pmax
comp=Z,166nm,1.6s
LDF La Druitiere 91.22 326 eP P 17 49 07.6 -1.3
comp=Z,166nm,1.6s
KRMB Red Mountain 91.23 43 eP P 17 49 10.8 +1.5
comp=Z,61nm,1.5s
PYM Petit Puy Mans 91.26 322 eP P 17 49 09.9 +0.7
FLN La Foliniere 91.30 326 eP P 17 49 07.9 -1.3
comp=Z,160nm,1.6s
FLN eR
comp=Z,11µm,17.5s
FLN La Foliniere 91.30 326 eP P 17 49 07.9 -1.3
FLN pmax pmax
comp=Z,160nm,1.6s
FLN La Foliniere 91.30 326 eP P 17 49 07.9 -1.3
comp=Z,160nm,1.6s
TCF Toulx Ste Croi 91.38 323 eP P 17 49 09.0 -0.7
comp=Z,492nm,1.6s
TCF Toulx Ste Croi 91.38 323 eP P 17 49 09.0 -0.7
TCF pmax pmax
comp=Z,492nm,1.6s
TCF Toulx Ste Croi 91.38 323 eP P 17 49 09.0 -0.7
comp=Z,492nm,1.6s
VIPM Ingram Point 91.52 39 P P 17 49 12.5 +1.9
VIPM Ingram Point 91.52 39 P P 17 49 12.5 +1.9
KHMM Horse Mountain 91.70 44 P P 17 49 11.3 -0.2
comp=Z,198nm,1.8s
FRNF Fournols 91.72 322 eP P 17 49 12.2 +0.8
GRR Gorron 91.73 326 eP P 17 49 10.1 -1.1
comp=Z,65nm,1.2s
GRR Gorron 91.73 326 eP P 17 49 10.1 -1.1
GRR pmax pmax
comp=Z,65nm,1.2s
GRR Gorron 91.73 326 eP P 17 49 10.1 -1.1
comp=Z,65nm,1.2s
LASF Ste Croix 91.75 320 eP P 17 49 10.9 -0.6
comp=Z,246nm,1.6s
LASF Ste Croix 91.75 320 eP P 17 49 10.9 -0.6
comp=Z,246nm,1.6s
YBH Yreka Blue Hor 91.86 42 eP P 17 49 13.5 +1.4
comp=Z,90nm,1.3s
YBH Yreka Blue Hor 91.86 42 P P 17 49 13.7 +1.5
comp=Z,36nm,1.0s,baz=42,slow=1.0,SNR=33
CAF Calviac 92.28 322 eP P 17 49 13.7 -0.3
comp=Z,350nm,1.3s
CAF Calviac 92.28 322 eP P 17 49 13.7 -0.3
CAF pmax pmax
comp=Z,350nm,1.3s
CAF Calviac 92.28 322 eP P 17 49 13.7 -0.3
comp=Z,350nm,1.3s
WALA Waterton Lakes 92.32 33 eP P 17 49 15.2 +1.1
comp=Z,4.4nm,1.1s
RJF Les Rejaudoux 92.36 322 eP P 17 49 14.0 -0.3
comp=Z,780nm,1.4s
RJF eR
comp=Z,7µm,18.5s
RJF Les Rejaudoux 92.36 322 eP P 17 49 14.0 -0.3
RJF Les Rejaudoux 92.36 322 eP P 17 49 14.0 -0.3
comp=Z,780nm,1.4s
MFF Saint Martin d 92.48 324 eP P 17 49 13.9 -0.8
comp=Z,314nm,1.7s
MFF Saint Martin d 92.48 324 eP P 17 49 13.9 -0.8
MFF pmax pmax
comp=Z,314nm,1.7s
MFF Saint Martin d 92.48 324 eP P 17 49 13.9 -0.8

comp=Z,314nm,1.7s
FRB Frobisher Bay 92.49 4 P **P** 17 49 13.7 -0.7
FRB Frobisher Bay 92.49 4 P **P** 17 49 13.7 -0.7
comp=Z,9.5nm,0.7s,baz=359,slow=3.4,SNR=5.3
WDC Whiskeytown Da 92.61 43 *e*P **P** 17 49 16.3 +0.8
WDC pmax pmax
comp=Z,68nm,1.3s
WDC Whiskeytown Da 92.61 43 *e*P **P** 17 49 16.3 +0.8
comp=Z,68nm,1.3s
BSMT Bassoo Peak 92.66 34 *e*P **P** 17 49 16.4 +0.6
comp=Z,48nm,1.1s
SGMF Saint Gilles 92.68 326 *e*P **P** 17 49 14.1 -1.5
comp=Z,103nm,1.3s
SGMF Saint Gilles 92.68 326 *e*P **P** 17 49 14.1 -1.5
SGMF pmax pmax
comp=Z,103nm,1.3s
SGMF Saint Gilles 92.68 326 *e*P **P** 17 49 14.1 -1.5
comp=Z,103nm,1.3s
BLMT Blacktail Moun 92.78 34 *e*P **P** 17 49 17.3 +0.9
comp=Z,86nm,1.4s
KEST Kesra 92.88 311 *e*P **P** 17 49 17.1 +0.2
KEST Kesra 92.88 311 P **P** 17 49 17.8 +0.8
comp=Z,13nm,0.9s,baz=164,slow=0.2,SNR=22
JTMT Jette 92.99 34 *e*P **P** 17 49 18.6 +1.3
comp=Z,40nm,1.0s
ROSF Rostrenen 92.99 327 *e*P **P** 17 49 15.4 -1.7
comp=Z,13nm,0.6s
ROSF Rostrenen 92.99 327 *e*P **P** 17 49 15.4 -1.7
ROSF pmax pmax
comp=Z,13nm,0.6s
ROSF Rostrenen 92.99 327 *e*P **P** 17 49 15.4 -1.7
comp=Z,13nm,0.6s
LFF La Frestale 93.02 322 *e*P **P** 17 49 17.1 -0.2
comp=Z,471nm,1.6s
LFF La Frestale 93.02 322 *e*P **P** 17 49 17.1 -0.2
LFF pmax pmax
comp=Z,471nm,1.6s
LFF La Frestale 93.02 322 *e*P **P** 17 49 17.1 -0.2
comp=Z,471nm,1.6s
YBMT Yellow Bay 93.05 34 *e*P **P** 17 49 19.4 +1.8
comp=Z,31nm,1.1s
MTLF Montolieu 93.15 320 *e*P **P** 17 49 17.3 -0.6
comp=Z,202nm,1.8s
MTLF Montolieu 93.15 320 *e*P **P** 17 49 17.3 -0.6
MTLF pmax pmax
comp=Z,202nm,1.8s
MTLF Montolieu 93.15 320 *e*P **P** 17 49 17.3 -0.6
comp=Z,202nm,1.8s
BMO Blue Mountains 93.20 38 *e*P **P** 17 49 18.6 +0.3
comp=Z,40nm,1.0s
BMO *e*PP **PP** 17 53 01.5 +0.3
MOD Modoc 93.23 41 *e*P **P** 17 49 19.2 +0.6
comp=Z,416nm,1.1s
SWMT Swartz Lake 93.29 34 *e*P **P** 17 49 19.0 +0.3
comp=Z,43nm,1.1s
FFC Flin Flon 93.43 24 *e*P **P** 17 49 18.3 -0.7
FFC pmax pmax
comp=Z,113nm,1.2s
FFC Flin Flon 93.43 24 *e*P **P** 17 49 18.3 -0.7
comp=Z,113nm,1.2s
CMAH Djebel Manchou 93.71 313 P **P** 17 49 20.8 0.0
SLMT Seeley Lake 93.72 34 *e*P **P** 17 49 20.8 +0.1
comp=Z,106nm,1.2s
MSO Missoula 93.76 35 ⇓P **P** 17 49 20.7 -0.1
baz=94,SNR=24
ABSA Djebel Ababsia 93.87 312 P **P** 17 49 22.0 +0.5
WVOR Wild Horse Val 93.91 40 *e*P **P** 17 49 22.5 +0.9
WVOR pmax pmax
comp=Z,44nm,1.1s
WVOR Wild Horse Val 93.91 40 *e*P **P** 17 49 22.5 +0.9
comp=Z,44nm,1.1s
CAEH 'Ain El Ouahch 94.01 313 P **P** 17 49 24.8 +2.7
CHMT Chamberlain Mo 94.06 34 *e*P **P** 17 49 22.1 -0.2
comp=Z,22nm,1.2s
CKFL Kef-Lekhel 94.31 313 P **P** 17 49 24.4 +0.8
BEKR Beckworth 94.39 43 *e*P **P** 17 49 25.2 +1.2
comp=Z,25nm,1.0s
EPF Esparros 94.43 321 *e*P **P** 17 49 22.8 -1.1
comp=Z,36nm,1.4s
EPF Esparros 94.43 321 *e*P **P** 17 49 22.8 -1.1
EPF pmax pmax
comp=Z,36nm,1.4s
EPF Esparros 94.43 321 *e*P **P** 17 49 22.8 -1.1
comp=Z,36nm,1.4s
CASM Ain Smara 94.54 313 P **P** 17 49 24.6 +0.1
RESF Ens 94.56 321 *e*P **P** 17 49 25.3 +0.7
VIEF Viey 94.70 321 *e*P **P** 17 49 26.1 +0.9
CTEI Djebel Teioual 94.71 313 P **P** 17 49 25.8 +0.4
DFRA Djebel Bou Af 94.79 313 P **P** 17 49 27.0 +1.2
A19A Klindworth Far 94.90 31 ⇑P **P** 17 49 26.0 0.0
baz=95,SNR=11
MFID Camas Ranch 94.93 38 ⇓P **P** 17 49 26.7 +0.4
baz=95,SNR=21
ETSF Etsaut 95.03 321 *e*P **P** 17 49 26.4 -0.3
comp=Z,68nm,1.4s
ETSF Etsaut 95.03 321 *e*P **P** 17 49 26.4 -0.3
ETSF pmax pmax
comp=Z,69nm,1.4s
ETSF Etsaut 95.03 321 *e*P **P** 17 49 26.4 -0.3
comp=Z,68nm,1.4s
ORDF Ordiarp 95.04 322 *e*P **P** 17 49 26.7 +0.1
EGMT Eagleton 95.06 32 *e*P **P** 17 49 27.1 +0.4
comp=Z,47nm,1.0s
EGMT Eagleton 95.06 32 ⇓P **P** 17 49 26.7 0.0
baz=95,SNR=12
PAHR Pah Rah Range 95.09 43 *e*P **P** 17 49 27.5 +0.4
comp=Z,60nm,1.1s
WCN Washoe City 95.10 43 *e*P P 17 49 23.1 -4.1
WCN pmax pmax
comp=Z,18nm,1.1s
WCN Washoe City 95.10 43 *e*P P 17 49 23.1 -4.1
comp=Z,18nm,1.1s
B19A Brinkman Farms 95.14 31 ⇑P **P** 17 49 27.0 0.0
baz=95,SNR=13
LARF Larrau 95.18 322 *e*P **P** 17 49 28.3 +1.0
LRM Limekiln Ridge 95.20 35 *e*P **P** 17 49 27.7 0.0
comp=Z,308nm,1.1s
SJPF Ste Jean 95.27 322 *e*P **P** 17 49 27.3 -0.4
comp=Z,139nm,1.5s
SJPF Ste Jean 95.27 322 *e*P **P** 17 49 27.3 -0.4
SJPF pmax pmax
comp=Z,139nm,1.5s
SJPF Ste Jean 95.27 322 *e*P **P** 17 49 27.3 -0.4
comp=Z,139nm,1.5s
SET Setif 95.31 313 P **P** 17 49 29.0 +0.9
A20A Cobblestone Ra 95.32 30 ⇑P **P** 17 49 27.2 -0.6
baz=95,SNR=13
CKHR Kef el Ahmar 95.33 313 P **P** 17 49 28.9 +0.6
DLMT Dillon 95.43 35 *e*P **P** 17 49 29.4 +0.8
comp=Z,145nm,1.5s
CMB Columbia Colle 95.44 44 *e*P **P** 17 49 28.6 0.0
CMB pmax pmax
comp=Z,57nm,1.2s
CMB Columbia Colle 95.44 44 *e*P **P** 17 49 28.6 0.0
comp=Z,57nm,1.2s
B20A Solberg Farm, 95.59 31 ⇑P **P** 17 49 29.2 +0.1
baz=96
C19A Slack Wire Ran 95.60 32 ⇑P **P** 17 49 29.4 +0.2
baz=96,SNR=23
HLID Hailey 95.63 37 *e*P **P** 17 49 30.7 +1.1
comp=Z,28nm,1.0s
HLID Hailey 95.63 37 ⇑P **P** 17 49 30.1 +0.6
baz=96,SNR=46
MCMT McKenzie Canyo 95.65 36 *e*P **P** 17 49 30.1 +0.4
comp=Z,5.0nm,1.0s
A21A Bergtoll Ranch 95.70 30 ⇓P **P** 17 49 29.4 -0.1
baz=96,SNR=19
PPT Papeete 95.85 107 LR LR 18 24 03.6
comp=Z,2μm,20.5s,baz=14,slow=30
PPT2 Papeete2 95.86 107 *e*PP PP 17 53 20.0 -3.2
comp=Z,231nm,27.4s
PPT2 *e*SKSac SKSac 17 59 58.5 -7.5
comp=Z,388nm,25.6s
PPT2 *e*S **S** 18 00 42.4 -5.4
comp=Z,2μm,24.8s
PPT2 *e*SP **SP** 18 02 02.1 -4.2
comp=Z,2μm,30.8s
PPT2 *e*SS SS 18 07 06.2 -12
comp=Z,3μm,28.2s
PPT2 *e*LQ LQ 18 16 32.1
comp=Z,1μm,27.8s
PPT2 *e*LR LR 18 20 36.9
comp=Z,6μm,23.0s,baz=290
BMN Battle Mountai 95.98 41 *e*P **P** 17 49 32.8 +1.6
BMN pmax pmax
comp=Z,50nm,1.3s
BMN Battle Mountai 95.98 41 *e*P **P** 17 49 32.8 +1.6
comp=Z,50nm,1.3s
B21A Ellsworth Farm 96.06 30 ⇓P **P** 17 49 30.7 -0.5
baz=96,SNR=11
D19A Cripps Ranch, 96.08 32 ⇓P **P** 17 49 30.8 -0.6
baz=96,SNR=29
C20A Veseth Ranch, 96.11 31 ⇑P **P** 17 49 31.1 -0.4
baz=96,SNR=23
A22A Carney Farms, 96.15 29 ⇑P **P** 17 49 31.1 -0.6
baz=96,SNR=11
QLMT Earthquake Lak 96.40 35 *e*P **P** 17 49 34.5 +1.4
comp=Z,1.5nm,0.9s
C21A Desert Coulee 96.46 31 ⇓P **P** 17 49 32.4 -0.7
baz=96
D20A Manuel Ranch, 96.49 32 ⇓P **P** 17 49 32.8 -0.5
baz=96,SNR=13
NVAR Mina Array Bea 96.53 43 P **P** 17 49 35.1 +1.3
NVAR Mina Array Bea 96.53 43 P **P** 17 49 35.1 +1.3
comp=Z,15nm,1.0s,baz=279,slow=4.2,SNR=61
NVAR LR LR 18 26 56.2
comp=Z,2μm,22.0s,baz=55,slow=32
NV11 Mina Array Sit 96.62 43 *e*P **P** 17 49 34.2 +0.1
B22A Reddig Ranch S 96.62 30 ⇓P **P** 17 49 33.5 -0.3
baz=96
E19A Rath Farm, Rou 96.62 32 ⇓P **P** 17 49 33.6 -0.2
baz=96,SNR=15
GCMT Greycliff 96.65 33 *e*P **P** 17 49 34.3 +0.2
comp=Z,7.0nm,0.9s
YMR Madison River 96.76 35 *e*P **P** 17 49 35.6 +1.0
comp=Z,14nm,0.9s
YNR Norris Junctio 96.87 35 *e*P **P** 17 49 37.6 +2.3
comp=Z,19nm,1.1s
E20A Meyer Farm, Mu 96.91 32 ⇓P **P** 17 49 35.1 -0.1
baz=97,SNR=10
B23A Brockton 96.95 29 ⇓P **P** 17 49 35.2 -0.1
baz=97,SNR=12
ELK Elko 96.96 40 *e*P **P** 17 49 36.5 +0.8
comp=Z,16nm,1.2s
F19A Roth Farm, Mol 96.97 33 ⇑P **P** 17 49 35.0 -0.5
baz=97
YFT Old Faithful 96.97 35 *e*P **P** 17 49 38.8 +3.1
comp=Z,52nm,1.2s
A24A Westby 97.05 28 ⇑P **P** 17 49 35.2 -0.4
baz=97
D21A La Casta Ranch 97.06 31 ⇓P **P** 17 49 35.6 -0.2
baz=97,SNR=13
C22A Vida 97.08 30 ⇓P **P** 17 49 35.6 -0.2
baz=97,SNR=6.9
LKWY Lake 97.12 35 *e*P Pdif 17 49 39.3 +2.8
LKWY pmax pmax
comp=Z,19nm,1.0s
LKWY Lake 97.12 35 *e*P Pdif 17 49 39.3 +2.8
comp=Z,19nm,1.0s
H17A Grant Village 97.15 35 *e*P Pdif 17 49 39.2 +2.5
H17A Grant Village 97.15 35 ⇑P **P** 17 49 35.9 -0.6
baz=97,SNR=12
IMW Indian Meadow 97.29 35 *e*P Pdif 17 49 38.0 +0.7
comp=Z,19nm,1.1s
FLWY Flagg Ranch 97.30 35 *e*P Pdif 17 49 39.2 +2.0
comp=Z,109nm,1.8s
DGMT Dagmar 97.30 29 *e*P Pdif 17 49 37.6 +0.7
comp=Z,56nm,1.3s
DGMT Dagmar 97.30 29 ⇑P **P** 17 49 36.5 -0.3
baz=97,SNR=6.1
RLMT Red Lodge 97.32 34 *e*P Pdif 17 49 37.6 +0.3
comp=Z,22nm,1.3s
C23A Lambert 97.36 30 ⇑P Pdif 17 49 37.4 +0.2
baz=97,SNR=9.8
D22A Cohagen 97.38 31 ⇑P **P** 17 49 37.2 0.0
baz=97
E21A Keefer Ranch, 97.39 32 ⇓P **P** 17 49 36.6 -0.7
baz=97
TIN Tinemaha 97.40 44 ⇓P Pdif 17 49 38.0 +0.3
baz=97
A25A Svangstu Ranch 97.42 28 ⇑P **P** 17 49 36.1 -1.2
baz=97
H18A Shoshone NF, C 97.42 34 ⇑P **P** 17 49 37.8 0.0
baz=97,SNR=5.4
RRI2 Red Ridge 97.46 36 *e*P Pdif 17 49 39.5 +1.5
comp=Z,7.7nm,0.9s
RRI2 *e*PP **PP** 17 53 32.2 -2.3
MOOW Moose Ponds 97.50 35 *e*P Pdif 17 49 39.0 +0.9
comp=Z,20nm,1.4s
TPAW Teton Pass 97.56 36 *e*P **P** 17 49 38.4 -0.1
comp=Z,3nm,1.0s
VES Vestal, Richgr 97.57 46 ⇓P Pdif 17 49 38.4 +0.1
baz=98
PKM Peak Mountain 97.64 47 ⇓P Pdif 17 49 39.2 +0.3
baz=98
REDW Red Top Meadow 97.70 36 *e*P Pdif 17 49 39.9 +0.8
comp=Z,22nm,1.4s
H19A Powell 97.78 34 ⇓P Pdif 17 49 39.6 +0.3
baz=98
G20A Brigger 97.78 33 ⇑P **P** 17 49 39.2 0.0
baz=98
D23A Lindsay 97.81 30 ⇓P **P** 17 49 39.2 0.0
baz=98
C24A Savage 97.90 29 ⇓P Pdif 17 49 40.6 +0.9
baz=98
B25A Knox Farm, Ray 97.91 28 ⇑P Pdif 17 49 40.3 +0.7
baz=98
A26A Wade Farm, Ken 97.91 27 ⇑P Pdif 17 49 39.7 +0.1
baz=98
AHID Auburn Hatcher 97.97 36 *e*P Pdif 17 49 41.4 +1.1
comp=Z,11nm,1.0s
AHID LR LR
comp=Z,2μm,20.0s
GRAC Grapevine Rang 97.98 44 ⇑P Pdif 17 49 40.8 +0.6
baz=98
ISA Isabella 98.07 45 ⇓P Pdif 17 49 41.0 +0.3
baz=98
I19A Meeteetse 98.22 34 ⇓P Pdif 17 49 41.8 +0.5
baz=98
D24A Glendive 98.26 30 ⇓P Pdif 17 49 41.3 +0.1
baz=98
R11A Troy Canyon, C 98.26 42 *e*P Pdif 17 49 41.8 +0.2
R11A Troy Canyon, C 98.26 42 ⇓P Pdif 17 49 41.6 0.0
baz=98
H20A Greybull 98.41 33 ⇓P Pdif 17 49 42.2 +0.2
baz=98
MPMC Manual Prospec 98.47 45 ⇓P Pdif 17 49 42.9 +0.3
baz=98
BLG Laguna Peak 98.60 47 ⇓P Pdif 17 49 43.6 +0.6
baz=98
FURC Furnace Creek, 98.63 44 ⇓P Pdif 17 49 43.4 +0.5
baz=98
E24A Baker 98.68 30 ⇓P Pdif 17 49 43.3 +0.1
baz=98
DUG Dugway 98.73 39 *e*P Pdif 17 49 45.4 +1.8
DUG pmax pmax
comp=Z,21nm,1.2s
DUG Dugway 98.73 39 *e*P Pdif 17 49 45.4 +1.8
comp=Z,20nm,1.2s
DUG Dugway 98.73 39 ⇓P **P** 17 49 43.4 -0.2
baz=99
G22A Birney 98.73 32 ⇓P Pdif 17 49 43.6 +0.2
baz=99
F23A Volborg 98.79 31 ⇓P **P** 17 49 43.4 -0.2
baz=99
BW06 Boulder Array 98.80 35 *e*P Pdif 17 49 44.6 +0.6
PDAR Pinedale Array 98.80 35 P Pdif 17 49 45.0 +1.0
PDAR PP PP 17 53 31.9 -13
PDAR PKKPbc **PKKPbc** **18 06 12.8 +0.8**
PDAR Pinedale Array 98.80 35 P Pdif 17 49 45.0 +1.0
comp=Z,1.9nm,0.9s,baz=282,slow=1.4,SNR=7.5
PDAR PP PP 17 53 31.9 -13
comp=Z,2.2nm,1.0s,baz=347,slow=6.1,SNR=3.6
PDAR PKKPbc **PKKPbc** **18 06 12.8 +0.8**
comp=Z,1.6nm,1.0s,baz=121,slow=3.5,SNR=6.5
PDAR LR LR 18 38 17.5
comp=Z,1μm,19.9s,baz=348,slow=38
EDW2 Edwards Air Fo 98.86 46 ⇓P Pdif 17 49 44.2 +0.1
baz=99
C27A Sayler Ranch, 99.05 28 ⇓P **Pdif** **17 49 44.6 -0.1**
baz=99
ESDC Sonseca Array 99.06 321 P **Pdif** **17 49 44.5 -0.5**
ESDC PP PP 17 53 35.5 -11
ESDC Sonseca Array 99.06 321 P **Pdif** **17 49 44.5 -0.5**
comp=Z,0.1nm,0.4s,baz=18,slow=3.5,SNR=8.8
ESDC PP PP 17 53 35.5 -11
comp=Z,0.2nm,0.3s,baz=51,slow=7.8,SNR=4.4
ESDC LR LR 18 38 55.8
comp=Z,2μm,21.9s,baz=40,slow=38
L18A Fontenelle, Gr 99.12 36 ⇑P **Pdif** **17 49 45.4 0.0**
baz=99
E25A Miller Ranch, 99.14 30 ⇑P **Pdif** **17 49 45.5 +0.4**
baz=99
F24A Ekalaka 99.15 31 ⇑P **Pdif** **17 49 45.0 -0.3**
baz=99
H22A Clearmont 99.15 33 ⇑P **Pdif** **17 49 45.2 -0.2**
baz=99
J20A Shoshoni 99.17 34 ⇑P **Pdif** **17 49 45.1 -0.3**
baz=99
D26A Manning 99.17 29 ⇑P **Pdif** **17 49 45.2 -0.1**
baz=99
G23A Biddle 99.18 32 ⇓P **Pdif** **17 49 45.1 -0.3**
baz=99
PBRG Braganca 99.20 324 *e*P **Pdif** **17 49 45.8 +0.3**
I21A Big Trails, Te 99.25 34 ⇓P **Pdif** **17 49 45.2 -0.6**
baz=99
ULM Lac du Bonnet 99.25 23 P **Pdif** **17 49 45.4 -0.1**
ULM PP **PP** **17 53 47.5 +0.1**
ULM Lac du Bonnet 99.25 23 P **Pdif** **17 49 45.4 -0.1**
comp=Z,3.1nm,0.7s,baz=358,slow=5.2,SNR=3.0
ULM PP **PP** **17 53 47.5 +0.1**
comp=Z,8.4nm,1.1s,baz=308,slow=11,SNR=3.5
ULM LR LR 18 37 56.5
comp=Z,3μm,20.4s,baz=166,slow=37
L19A Farson 99.37 36 P **Pdif** **17 49 46.3 -0.2**
baz=99
GSC Goldstone 99.38 45 *e*P **Pdif** **17 49 47.9 +1.4**
GSC pmax pmax
comp=Z,48nm,1.5s
GSC Goldstone 99.38 45 *e*P **Pdif** **17 49 47.9 +1.4**
comp=Z,48nm,1.5s
GSC Goldstone 99.38 45 ⇓P **Pdif** **17 49 47.1 +0.6**
baz=99
J21A Lysite 99.50 34 ⇓P **Pdif** **17 49 47.0 0.0**
baz=99
F25A Bowman 99.55 30 ⇓P **Pdif** **17 49 46.9 -0.1**
baz=99
E26A Carlson Angus 99.58 29 ⇓P **Pdif** **17 49 47.0 -0.1**
baz=99
I22A 9 Mile Ranch, 99.59 33 ⇑P **Pdif** **17 49 46.8 -0.6**
baz=100
SCI San Clemente I 99.62 48 ⇑P **Pdif** **17 49 46.6 -0.8**
baz=100
H23A Clabaugh Cattl 99.64 32 ⇑P **Pdif** **17 49 47.1 -0.4**
baz=100
SHPR Sheep Range 99.68 43 *e*P **Pdif** **17 49 48.1 +0.2**
comp=Z,9.3nm,1.1s
B30A Myrvik Farm, E 99.78 26 ⇑P **Pdif** **17 49 47.6 -0.3**
baz=100
MVO Moncorvo 99.79 323 *e*P **Pdif** **17 49 49.0 +0.8**
MVO Moncorvo 99.79 323 *e*SS SS 18 09 06.4 +55
MVO Moncorvo 99.79 323 *e*LR LR 18 29 14.1
comp=Z,5μm,18.0s
PGAV Gavieira, Arco 99.91 324 *e*SS SS 18 08 58.7 +46
PGAV Gavieira, Arco 99.91 324 *e*LR LR 18 28 06.5
comp=Z,6μm,20.0s
H24A Dirks Ranch, A 99.91 31 ⇑P **Pdif** **17 49 47.9 -0.8**
baz=100
J22A Midwest 99.94 33 ⇓P **Pdif** **17 49 48.4 -0.5**
baz=100
F26A Lodgepole 99.96 30 ⇑P **Pdif** **17 49 48.8 0.0**
baz=100
HEC Hector,Ludlow 99.97 45 ⇑P **Pdif** **17 49 49.2 0.0**
baz=100
K21A Alcova 100.11 34 ⇑P **Pdif** **17 49 49.7 -0.1**
baz=100
G25A Newell 100.12 31 ⇑P **Pdif** **17 49 49.6 +0.1**
baz=100
MURC Murrieta 100.15 46 ⇑P **Pdif** **17 49 50.1 +0.2**
baz=100
MVU Marysvale 100.19 40 *e*P **Pdif** **17 49 52.6 +2.3**
comp=Z,9.7nm,1.1s
G26A Maurine 100.42 30 ⇓P **Pdif** **17 49 50.7 -0.1**
baz=100
GMRC Granite Mounta 100.44 45 ⇓P **Pdif** **17 49 51.7 +0.4**
baz=100
H25A Fruitdale 100.46 31 ⇓P **Pdif** **17 49 51.2 +0.1**
baz=100
MTE Manteigas 100.60 323 *e*SS SS 18 09 19.2 +56
MTE Manteigas 100.60 323 *e*LR LR 18 29 44.6
comp=Z,4μm,16.0s
RSSD Black Hills 100.63 32 *e*P **Pdif** **17 49 52.0 -0.1**
RSSD Black Hills 100.63 32 *e*P **Pdif** **17 49 52.0 -0.1**
PFO Pinyon Flat Ob 100.64 46 *e*P **Pdif** **17 49 52.1 -0.1**
comp=Z,20nm,1.4s
PFO Pinyon Flat Ob 100.64 46 ⇓P **Pdif** **17 49 52.2 +0.1**
baz=101
PFO Pinyon Flat Ob 100.64 46 P **Pdif** **17 49 52.3 +0.1**
comp=Z,5.8nm,1.0s,baz=309,slow=5.8,SNR=4.8
D30A Buchanan 100.68 27 ⇑P **Pdif** **17 49 51.9 0.0**
baz=100
O19A Miners Draw (B 100.74 37 ⇑P **Pdif** **17 49 52.0 -0.5**
baz=101
MAW Mawson 100.76 199 P **Pdif** **17 49 50.9 -0.6**
MAW Mawson 100.76 199 P **Pdif** **17 49 50.9 -0.6**
comp=Z,1.0nm,0.4s,baz=34,slow=10.0,SNR=3.5
F28A McLaughlin 100.80 29 ⇓P **Pdif** **17 49 52.9 +0.4**
baz=101
N20A Spence Gulch, 100.84 36 ⇑P **Pdif** **17 49 52.7 -0.4**
baz=101
I25A Rochford 100.85 31 ⇑P **Pdif** **17 49 53.2 +0.2**
baz=101
H26A Fairpoint 100.85 31 ⇑P **Pdif** **17 49 52.9 +0.1**
baz=101
PCBR Castelo Branco 100.95 322 *e*PP PP 17 54 03.2 +2.4
E30A Jud 101.10 27 ⇓P **Pdif** **17 49 54.2 +0.4**
baz=101
IRM Iron Mountain 101.15 45 ⇑P **Pdif** **17 49 54.4 +0.1**
baz=101
PMRV Marv??o 101.19 322 *e*PP PP 17 54 04.6 +2.0
PMRV Marv??o 101.19 322 *e*SS SS 18 06 52.5 -98
PMRV Marv??o 101.19 322 *e*LR LR 18 29 35.4
comp=Z,6μm,18.0s
L23A Garrett 101.28 34 ⇓P **Pdif** **17 49 55.2 +0.2**
baz=101
P19A Cripple Cowboy 101.28 37 ⇓P **Pdif** **17 49 55.4 +0.4**
baz=101
J25A Sunshine Ranch 101.28 32 ⇓P **Pdif** **17 49 55.1 +0.3**
baz=101
G28A Parade 101.35 29 ⇓P **Pdif** **17 49 55.7 +0.7**
baz=101
W13A Hualapai Mount 101.37 44 ⇓P **Pdif** **17 49 56.0 +0.4**
baz=101
U15A North Rim 101.50 42 ⇓P **Pdif** **17 49 56.3 +0.1**
baz=101
I27A Quinn 101.60 31 ⇑P **Pdif** **17 49 57.1 +0.9**
baz=102
J26A Sides Ranch, S 101.69 32 ⇓P **Pdif** **17 49 57.0 +0.4**
baz=102
PBAR Barranquos 101.84 321 *e*PP PP 17 54 08.2 +0.6
PMTG Montargil 101.90 322 *e*PP PP 17 54 10.9 +2.9
H29A Onida 102.01 29 ⇑P **Pdif** **17 49 58.3 +0.3**
baz=102
GLA Glamis 102.05 46 *e*P **Pdif** **17 49 58.2 -0.2**
GLA pmax pmax
comp=Z,9.0nm,0.9s
GLA Glamis 102.05 46 *e*P **Pdif** **17 49 58.2 -0.2**
comp=Z,9.1nm,0.9s
G30A Faulkton 102.09 28 ⇓P **Pdif** **17 49 58.5 +0.2**
baz=102
L25A Engebretsen Ra 102.12 33 ⇓P **Pdif** **17 49 59.2 +0.6**
baz=102
Q20A Ridgley Place, 102.14 38 ⇑P **Pdif** **17 49 59.1 +0.3**
baz=102
PV01 Paradox Valley 102.55 38 *e*Pdif **Pdif** **17 50 01.7 +0.9**
comp=Z,551nm,0.8s
WUAZ Wupatki 102.66 42 *e*Pdif **Pdif** **17 50 02.3 +1.1**
comp=Z,21nm,1.4s
Y14A Wickenburg 102.67 44 ⇑P **Pdif** **17 50 02.0 +0.9**
baz=103
SMCO Snowmass 102.71 37 *e*Pdif **Pdif** **17 50 03.2 +1.6**
comp=Z,5.0nm,0.9s
PVAQ Vaqueiros 102.76 321 *e*SS SS 18 09 43.9 +51
PVAQ Vaqueiros 102.76 321 *e*LR LR 18 33 43.4
comp=Z,3μm,20.0s
S20A Disappointment 102.88 38 ⇓P **Pdif** **17 50 02.8 +0.5**
baz=103
J29A Okreek 102.91 30 ⇓P **Pdif** **17 50 02.5 +0.5**
baz=103
113A Mohawk Valley, 102.92 45 ⇑P **Pdif** **17 50 03.0 +0.8**
baz=103
R21A Cimarron 102.96 38 ⇓P **Pdif** **17 50 03.5 +0.9**
baz=103
Q22A Crested Butte, 102.97 37 ⇓P **Pdif** **17 50 03.8 +1.1**
baz=103
X16A Lo Mia Camp, P 103.34 43 ⇑P **Pdif** **17 50 05.3 +1.0**
baz=103
VNDA Vanda 103.76 172 Pdif **Pdif** **17 50 06.3 +1.6**
VNDA PP PP 17 54 16.5 -5.4
VNDA Vanda 103.76 172 Pdiff **Pdif** **17 50 06.3 +1.6**
comp=Z,4.9nm,1.4s,baz=323,slow=5.1,SNR=5.9
VNDA PP PP 17 54 16.5 -5.4

comp=Z,5.9nm,1.1s,baz=318,slow=5.9,SNR=7.3
214A Organ Pipe Nat 104.06 45 ⇑P **Pdif 17 50 08.2 +0.9**
baz=104
U21A Nageezi 104.26 39 ⇑P **Pdif 17 50 09.2 +0.8**
baz=104
T22A Edith 104.28 38 ⇓P **Pdif 17 50 09.4 +0.9**
baz=104
SDCO Great Sand Dun 104.54 37 P **Pdif 17 50 11.1 +1.4**
R25A Fountain Ranch 104.91 36 ⇑P **Pdif 17 50 11.3 +0.1**
baz=105
S25A Robets Cordova 105.19 36 ⇓P **PKiKP 17 54 27.4 +0.7**
baz=105
ANMO Albuquerque 105.99 39 Pdif **Pdif 17 50 18.6 +2.5**
ANMO PP **PP 17 54 39.9 +1.2**
ANMO LR LR
comp=Z,2μm,20.0s
ANMO Albuquerque 105.99 39 Pdiff **Pdif 17 50 18.6 +2.5**
comp=Z,0.4nm,0.4s,baz=317,slow=9.1,SNR=4.7
ANMO PP **PP 17 54 39.9 +1.2**
comp=Z,2.0nm,0.9s,baz=301,slow=11,SNR=4.7
MSTX Muleshoe 108.80 38 *e*PKPdf **PKiKP 17 54 32.9 -0.5**
MNTX Cornudas Mount 108.91 41 *e*PKPdf **PKiKP 17 54 30.9 -2.6**
RKT Rikitea 110.61 107 *e*SS SS 18 10 41.2 -0.5
comp=Z,1μm,32.5s
RKT Rikitea 110.61 107 *e*LR LR 18 27 18.4
comp=Z,4μm,23.0s,baz=293
TORD Torodi Ar. Bea 110.79 295 PP PP 17 55 15.5 +1.1
TORD PKKPbc **PKKPab 18 05 47.3 +0.5**
TORD Torodi Ar. Bea 110.79 295 PP PP 17 55 15.5 +1.1
comp=Z,4.7nm,1.1s,baz=54,slow=5.7,SNR=7.9
TORD PKKPbc **PKKPab 18 05 47.3 +0.5**
comp=Z,2.0nm,0.8s,baz=262,slow=2.9,SNR=6.4
PMOZ Porto Moniz, M 111.42 323 *e*LR LR 18 37 13.9
comp=Z,3μm,18.0s
TXAR Lajitas Array 111.63 42 Pdif **Pdif 17 50 43.8 +2.7**
TXAR PKiKP **PKiKP 17 54 39.3 +0.4**
TXAR PP **PP 17 55 15.5 -4.2**
TXAR PKKPbc **PKKPab 18 05 41.4 -2.7**
TXAR Lajitas Array 111.63 42 Pdiff **Pdif 17 50 43.8 +2.7**
comp=Z,0.6nm,0.9s,baz=318,slow=1.2,SNR=3.2
TXAR PKiKP **PKiKP 17 54 39.3 +0.4**
comp=Z,1.6nm,0.8s,baz=17,slow=1.3,SNR=4.6
TXAR PP **PP 17 55 15.5 -4.2**
comp=Z,1.3nm,0.9s,baz=297,slow=5.5,SNR=3.4
TXAR PKKPbc **PKKPab 18 05 41.4 -2.7**
comp=Z,0.3nm,0.8s,baz=129,slow=1.8,SNR=3.7
QSPA South Pole Qui 113.48 180 *e*PKPdf **PKiKP 17 54 40.0 -1.1**
QSPA PP **PP 17 55 28.7 -4.2**
QSPA South Pole Qui 113.48 180 PKiKP **PKiKP 17 54 40.3 -0.7**
baz=280,slow=1.3
QSPA PP **PP 17 55 28.7 -4.2**
comp=Z,6.4nm,0.9s,baz=314,slow=5.4,SNR=3.1
TKL Tuckaleechee C 116.27 23 PKP **PKPdf 17 54 47.4 0.0**
TKL PP **PP 17 55 51.7 -0.2**
TKL Tuckaleechee C 116.27 23 PKP **PKPdf 17 54 47.4 0.0**
comp=Z,3.3nm,0.7s,baz=54,slow=2.3,SNR=6.4
TKL PP **PP 17 55 51.7 -0.2**
comp=Z,1.9nm,0.3s,baz=302,slow=15,SNR=4.3
MAIT Maitri 118.70 201 *e*P **PKPdf 17 54 48.2 -2.7**
DBIC Dimbokro 119.67 293 *e*PKPdf **PKPdf 17 54 53.8 -0.7**
DBIC PKP **PKPdf 17 54 54.5 0.0**
DBIC PP **PP 17 56 13.1 -4.0**
DBIC SKKP 18 09 10.4
DBIC Dimbokro 119.67 293 PKP **PKPdf 17 54 54.5 0.0**
comp=Z,10.0nm,0.7s,baz=46,slow=3.4,SNR=5.4
DBIC PP **PP 17 56 13.1 -4.0**
comp=Z,1.0nm,1.1s,baz=64,slow=5.6,SNR=4.1
DBIC SKKP 18 09 10.4
comp=Z,2.8nm,0.8s,baz=134,slow=4.0,SNR=3.1
KIC Kosan Boka 119.74 293 *e*P **PKPdf 17 54 52.8 -1.8**
comp=Z,73nm,1.2s
TIC Toumodi 119.82 293 *e*P **PKPdf 17 54 53.6 -1.2**
comp=Z,52nm,1.1s
LIC Lamto 120.05 293 *e*PKIKP **PKPdf 17 54 53.7 -1.5**
comp=Z,29nm,0.9s
LIC *e*R
comp=Z,4μm,22.2s
LIC Lamto 120.05 293 *e*P **PKPdf 17 54 55.0 -0.2**
comp=Z,43nm,0.9s
LIC Lamto 120.05 293 *e*PKPdf **PKPdf 17 54 53.7 -1.5**
SNAA Sanae 122.89 198 *e*PKPdf **PKPdf 17 54 56.9 -2.1**
TEIG Tepich 127.53 36 PP PP 17 57 10.6 +1.7
TEIG Tepich 127.53 36 PP PP 17 57 10.6 +1.7
comp=Z,20nm,1.2s,baz=315,slow=11,SNR=5.9
APG El Apazote 130.38 42 PKP **PKPdf 17 55 14.8 -0.5**
APG PP **PP 17 57 28.1 -0.1**
APG El Apazote 130.38 42 PKP **PKPdf 17 55 14.8 -0.5**
comp=Z,2.0nm,0.8s,baz=278,slow=14,SNR=5.6
APG PP **PP 17 57 28.1 -0.1**
comp=Z,4.0nm,1.1s,baz=318,slow=16,SNR=3.3
ASCN Ascension 135.04 283 PFAKE 17 55 40.0 +16
ASCN LR LR
comp=Z,551nm,22.0s
ANWB Willy Bob 138.76 5 PFAKE 17 55 40.0 +9.5
ANWB LR LR
comp=Z,1μm,22.0s
SDV Santo Domingo 145.48 22 *e*PKPdf **PKPbc 17 55 41.9 -1.0**
ROSC El Rosal 147.65 31 *e*PKPdf **PKPdf 17 55 47.8 +1.0**
ROSC PKPbc **PKPdf 17 55 48.1 +1.3**
ROSC *e*PKPbc **PKiKP 17 55 50.6 -0.9**
ROSC El Rosal 147.65 31 PKPbc **PKPdf 17 55 48.1 +1.3**
comp=Z,12nm,0.5s,baz=270,slow=22,SNR=25
OTAV Otavalo 149.26 42 *e*PKPdf **PKPdf 17 55 49.6 +0.1**
OTAV *e*SKP 17 59 21.1
RCBR Riachuelo 152.00 306 *e*PKPbc **PKPbc 17 55 59.5 -0.2**
ATAH Atahualpa 154.71 53 PKP **PKPdf 17 55 57.5 -0.1**
ATAH PKPbc **PKPbc 17 56 04.8 -1.4**
ATAH PKPab **PKPab 17 56 21.4 +0.5**
ATAH PP **PP 17 59 56.8 +0.8**
ATAH Atahualpa 154.71 53 PKP **PKPdf 17 55 57.5 -0.1**
comp=Z,4.2nm,0.7s,baz=51,slow=4.4,SNR=9.2
ATAH PKPbc **PKPbc 17 56 04.8 -1.4**
comp=Z,5.5nm,0.7s,baz=145,slow=5.6,SNR=5.1
ATAH PKPab **PKPab 17 56 21.4 +0.5**
comp=Z,26nm,0.9s,baz=272,slow=3.3,SNR=6.4
ATAH PP **PP 17 59 56.8 +0.8**
comp=Z,4.1nm,0.8s,baz=308,slow=5.8,SNR=4.1
PLCA Paso Flores 160.17 152 PKP **PKPdf 17 56 02.4 -0.9**
PLCA PKPab **PKPab 17 56 43.3 -0.1**
PLCA Paso Flores 160.17 152 PKP **PKPdf 17 56 02.4 -0.9**
comp=Z,1.0nm,0.3s,baz=317,slow=2.3,SNR=4.9
PLCA PKPab **PKPab 17 56 43.3 -0.1**
comp=Z,5.0nm,0.8s,baz=220,slow=4.6,SNR=9.1
SAML Samuel 164.64 18 *e*PKPdf **PKPdf 17 56 07.3 -1.0**
SAML *e*PKPab **PKPab 17 57 01.8 -1.5**
TRQA Tornquist 165.36 169 *e*PKPdf **PKPdf 17 56 07.5 -0.8**
TRQA *e*PKPab **PKPab 17 57 06.6 +0.6**
BDFB Brasilia 167.37 307 PKP **PKPdf 17 56 10.2 -0.3**
BDFB PKPab **PKPab 17 57 15.5 -0.2**
BDFB Brasilia 167.37 307 PKP **PKPdf 17 56 10.2 -0.3**
comp=Z,3.4nm,0.9s,baz=34,slow=2.9,SNR=5.2
BDFB PKPab **PKPab 17 57 15.5 -0.2**
comp=Z,24nm,0.9s,baz=115,slow=1.2,SNR=16
CFAA Coronel Fontan 168.25 134 PKPab **PKPab 17 57 19.4 +0.2**
CFAA Coronel Fontan 168.25 134 PKPab **PKPab 17 57 19.4 +0.2**
comp=Z,0.2nm,0.4s,baz=200,slow=0.7,SNR=3.0
LPAZ La Paz 168.26 53 *e*PKPdf **PKPdf 17 56 11.8 0.0**
LVC Limon Verde 170.26 86 *e*PKPdf **PKPdf 17 56 13.5 +1.0**
LVC *e*PKPab **PKPab 17 57 26.3 -2.4**
SIV San Ignacio 171.94 19 PKP **PKPdf 17 56 13.2 0.0**
SIV PKPab **PKPab 17 57 35.1 -0.4**
SIV PP **PP 18 01 20.6 -4.8**
SIV San Ignacio 171.94 19 PKP **PKPdf 17 56 13.2 0.0**
comp=Z,7.5nm,1.0s,baz=308,slow=1.0,SNR=23
SIV PKPab **PKPab 17 57 35.1 -0.4**
comp=Z,8.9nm,1.0s,baz=333,slow=3.1,SNR=4.4
SIV PP **PP 18 01 20.6 -4.8**
comp=Z,2.9nm,0.8s,baz=323,slow=5.4,SNR=3.6
CPUP Villa Florida 177.20 200 *e*PKPdf **PKPdf 17 56 13.8 -0.8**
CPUP PKPab PKPab 17 57 57.6 -1.1
CPUP *e*PKPab PKPab 17 57 58.7 0.0
CPUP PP **PP 18 01 52.1 +1.4**
CPUP Villa Florida 177.20 200 PKP **PKPdf 17 56 13.8 -0.8**
comp=Z,0.7nm,0.4s,baz=31,slow=2.4,SNR=6.5
CPUP PKPab PKPab 17 57 57.6 -1.1
comp=Z,0.6nm,0.5s,baz=238,slow=1.7,SNR=2.2
CPUP PP **PP 18 01 52.1 +1.4**
comp=Z,0.6nm,0.5s,baz=11,slow=5.2,SNR=2.4

TAP 03 17:37:55.5, 23.69N×121.53E, h30km, ML4.4, 1C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.02**	**16**	*e*P	Pb	17 38 00.6	0.0
	baz=31						
TEGC				S	Sb	17 38 05.1	+1.0
	baz=31						
ESL	**Shilin**	**0.16**	**324**	*i* P	Pb	17 38 01.3	-0.1
	baz=318						
ESL				S	Sb	17 38 05.1	-0.3
	baz=318						
ESF	**Shoufeng Towns**	**0.19**	**353**	⇑*i* P	Pb	17 38 01.5	-0.1
	baz=342						
ESF				S	Sn	17 38 06.5	+0.1
	baz=342						
EHY	**Hungye**	**0.26**	**227**	*i* P	Pb	17 38 02.4	-0.2
	baz=226						
EHY				S	Sb	17 38 06.8	-0.6
	baz=226						
TWD	**Chiawan**	**0.40**	**8**	P	Pb	17 38 04.3	-0.1
	baz=1.0						
TWD				S	Sn	17 38 11.2	-0.4
	baz=1.0						
TWF1	**Yuli**	**0.40**	**213**	*i* P	Pb	17 38 04.1	-0.3
	baz=222						
WHF	**Hehuan Shan**	**0.52**	**332**	*e*P	Pb	17 38 06.0	-0.9
	baz=332						
YUS	**Yu-Shan**	**0.57**	**250**	*e*P	Pb	17 38 07.8	+0.1
	baz=250						
YUS				S	Sb	17 38 15.7	-0.4
	baz=250						
CHKT	**Chengkung**	**0.60**	**195**	*e*P	Pn	17 38 07.8	-0.2
	baz=207						
CHKT				*e*S	Sn	17 38 17.0	+0.3
	baz=207						
SMLT	**Sun Moon Lake**	**0.61**	**289**	*e*P	Pn	17 38 08.2	0.0
	baz=288						
TWT	**Tachien**	**0.65**	**330**	*e*P	Pb	17 38 08.6	-0.1
	baz=329						
TWT				S	Sb	17 38 17.1	-0.6
	baz=329						
TYC	**Yuchr**	**0.66**	**289**	*e*P	Pb	17 38 08.6	+0.1
	baz=294						
ELDTW	**Lidau**	**0.69**	**224**	*e*P	Pb	17 38 08.2	-0.9
	baz=217						
ALS	**Alishan**	**0.69**	**255**	*e*P	Pn	17 38 10.0	+0.4
	baz=263						
NNS	**Nan Shan**	**0.77**	**349**	*e*P	Pn	17 38 10.0	-0.4
	baz=359						
CHN5	**Tsauling**	**0.79**	**264**	*e*P	Pb	17 38 11.7	+0.8
	baz=264						
WNT	**Mingjian**	**0.80**	**284**	*e*P	Pb	17 38 12.2	+1.2
	baz=284						
ENTT	**Nioudou**	**0.95**	**2**	*e*P	Pb	17 38 14.6	+1.1
	baz=2.0						
WTP	**Ta-pu**	**0.95**	**243**	*e*P	Pb	17 38 14.4	+0.9
	baz=235						
TWQ1	**Liyutan**	**0.96**	**314**	*e*P	Pb	17 38 14.8	+1.2
	baz=313						
TWG	**Pinlang**	**0.96**	**206**	*e*P	Pn	17 38 12.2	-0.7
	baz=194						
TWC	**Suao**	**0.96**	**17**	*e*P	Pn	17 38 13.2	+0.3
	baz=4.0						
TWC				*e*S	Sb	17 38 26.0	-0.1
	baz=4.0						
NSK	**Sanguang**	**1.00**	**351**	*e*P	Pn	17 38 13.9	+0.4
	baz=1.0						
NSY	**Sanyi**	**1.01**	**316**	*e*P	Pb	17 38 15.5	+0.9
	baz=316						
TWE	**Neicheng**	**1.04**	**7**	*e*P	Pn	17 38 14.2	+0.2
	baz=7.0						
CHN1	**Nanshi**	**1.05**	**242**	*e*P	Pb	17 38 14.8	-0.3
	baz=242						
CHN1				*e*S	Sb	17 38 31.6	+3.0
	baz=242						
ECL	**Taimali**	**1.21**	**206**	*e*P	Pn	17 38 16.3	0.0
	baz=197						
NWF	**Wu-fen Shan**	**1.40**	**9**	*e*P	Pb	17 38 20.1	-1.0
	baz=8.0						

TAP 03 17:38:20.6, 23.67N×121.55E, h31km, ML3.9, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.04**	**345**	P	Pb	17 38 25.7	-0.1
	baz=355						
TEGC				S	Sb	17 38 30.3	+1.0
	baz=355						
ESL	**Shilin**	**0.18**	**323**	*e*P	Pb	17 38 26.5	-0.3
	baz=317						
ESL				*e*S	Sn	17 38 31.1	-0.1
	baz=317						
ESF	**Shoufeng Towns**	**0.20**	**349**	*i* P	Pb	17 38 27.0	0.0
	baz=338						
ESF				S	Sn	17 38 31.7	-0.2
	baz=338						
EHY	**Hungye**	**0.27**	**232**	*e*P	Pb	17 38 27.6	-0.2
	baz=240						
EHY				*e*S	Sb	17 38 32.3	-0.3
	baz=240						
YUS	**Yu-Shan**	**0.58**	**252**	*e*P	Pb	17 38 32.8	-0.2
	baz=245						

IDC 03 17:51:28.8±1.0, 14.56N×92.85E, h0km, mb3.4/3, mb1 3.4/4, mb1mx3.2/27, mbtmp3.3/4, ML3.4/1, Error ellipse: s-maj=17.1km s-min=11.6km az=17.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.01**	**56**	Pn	Pn	17 53 12.8	0.0
	0.2nm,0.3s,baz=242,slow=17,SNR=3.6						
MKAR	**Makanchi Array**	**33.33**	**347**	P	P	17 58 09.6	+1.2
	0.3nm,0.8s,baz=176,slow=7.7,SNR=2.1						
KURBB	**Kurchatov Arra**	**37.79**	**345**	P	P	17 58 45.4	-1.3
	0.6nm,1.0s,baz=153,slow=8.3,SNR=3.5						
ASAR	**Alice Springs**	**55.27**	**133**	P	P	18 01 04.3	0.0
	0.5nm,1.1s,baz=309,slow=6.7,SNR=4.6						

IDC 03 17:52:49.6±8.6, 52.62S×160.54E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.9/13, mbtmp3.9/4, Error ellipse: s-maj=388.4km s-min=22.6km az=68.0, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**25.01**	**179**	P	P	17 58 14.2	-0.4
	0.8nm,0.7s,baz=344,slow=9.4,SNR=3.3						
ASAR	**Alice Springs**	**35.30**	**315**	P	P	17 59 46.9	+0.6
	1.3nm,0.9s,baz=157,slow=7.9,SNR=8.9						
H01W1	**Cape Leeuwin H**	**37.15**	**280**	T	T	18 39 04.3	
	baz=133,slow=0.7,SNR=1152						
H01W2	**Cape Leeuwin H**	**37.15**	**280**	T	T	18 39 04.8	
	baz=133,slow=0.7,SNR=1495						
H01W3	**Cape Leeuwin H**	**37.16**	**280**	T	T	18 39 05.6	
	baz=133,slow=0.7,SNR=1321						
QSPA	**South Pole Qui**	**37.50**	**180**	P	P	18 00 05.0	+0.2
	4.8nm,1.0s,baz=350,slow=0.4,SNR=5.4						
WRA	**Warramunga Arr**	**38.42**	**318**	P	P	18 00 12.0	-0.9
	1.8nm,0.9s,baz=153,slow=7.6,SNR=7.5						
H03N3	**Juan Fernandez**	**79.87**	**133**	T	T	19 33 29.8	
	baz=206,slow=0.7,SNR=23						
H03N2	**Juan Fernandez**	**79.88**	**133**	T	T	19 33 30.9	
	baz=206,slow=0.7,SNR=39						
H03N1	**Juan Fernandez**	**79.89**	**133**	T	T	19 33 29.9	
	baz=206,slow=0.7,SNR=14						
H08S2	**Diego Garcia H**	**82.80**	**267**	T	T	19 35 57.7	
	baz=142,slow=0.7,SNR=84						
H08S1	**Diego Carcia H**	**82.81**	**267**	T	T	19 36 00.0	
	baz=142,slow=0.7,SNR=62						
H08S3	**Diego Garcia H**	**82.82**	**267**	T	T	19 36 00.5	
	baz=142,slow=0.7,SNR=97						
H08N1	**Diego Garcia H**	**84.72**	**267**	T	T	19 38 20.5	
	baz=157						
H08N3	**Diego Garcia H**	**84.73**	**267**	T	T	19 38 23.8	
	baz=157						
H08N2	**Diego Garcia H**	**84.74**	**267**	T	T	19 38 26.4	
	baz=157						

IDC 03 18:16:09.2±0.6, 46.49N×27.39W, h0km, mb3.4/5, mb1 3.5/6, mb1mx3.3/32, mbtmp3.4/6, Error ellipse: s-maj=17.4km s-min=10.5km az=37.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**18.38**	**103**	P	P	18 20 26.1	+0.6
	0.2nm,0.3s,baz=299,slow=13,SNR=8.2						
TORD	**Torodi Ar. Bea**	**41.27**	**134**	P	P	18 23 55.2	-1.1
	0.6nm,0.9s,baz=337,slow=10,SNR=3.4						
H10S1	**ASCENSION HYDR**	**56.34**	**165**	T	T	19 26 15.4	
	baz=350,slow=0.7,SNR=18						
H10S3	**ASCENSION HYDR**	**56.35**	**165**	T	T	19 26 15.3	
	baz=350,slow=0.7,SNR=27						
H10S2	**ASCENSION HYDR**	**56.36**	**165**	T	T	19 26 16.8	
	baz=350,slow=0.7,SNR=28						
TXAR	**Lajitas Array**	**60.30**	**282**	P	P	18 26 20.9	+1.1
	0.3nm,0.4s,baz=55,slow=4.7,SNR=4.8						
KURBB	**Kurchatov Arra**	**64.11**	**43**	P	P	18 26 44.7	-0.2
	0.3nm,0.8s,baz=313,slow=7.9,SNR=3.8						
MKAR	**Makanchi Array**	**68.57**	**44**	P	P	18 27 14.9	+1.4
	0.4nm,0.6s,baz=330,slow=5.5,SNR=3.6						
SONM	**Songino Array**	**77.76**	**30**	P	P	18 28 06.9	-1.1
	0.2nm,0.6s,baz=317,slow=8.3,SNR=2.4						
ASAR	**Alice Springs**	**152.70**	**40**	PKPbc	PKPbc	18 36 08.2	+0.2
	0.3nm,0.9s,baz=352,slow=2.8,SNR=4.1						

IDC 03 18:23:05.3±6.3, 20.15N×146.35E, h75km±63km, mb3.4/11, mb1 3.5/12, mb1mx3.4/29, mbtmp3.4/12, ML3.8/1, MS3.6/1, Ms1 3.6/1, ms1mx3.2/23, Error ellipse: s-maj=42.1km s-min=14.1km az=72.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**7.89**	**332**	S	Sn	18 26 19.9	-5.4
	2.9nm,0.3s,baz=123,slow=23,SNR=1.6						
JCJ				LR	LR	18 27 27.0	
	comp=Z,408nm,19.1s,baz=211,slow=33						
JNU	**Nakatsue**	**18.89**	**316**	P	P	18 27 19.3	-0.6
	0.2nm,0.3s,baz=198,slow=3.2,SNR=3.5						
JNU				S	S	18 30 51.0	+0.3
	0.0nm,0.3s,baz=26,slow=21,SNR=9.6						
H11N1	**WAKE ISLAND Hy**	**19.32**	**88**	T	T	18 47 05.5	
	baz=278,slow=0.7,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**19.33**	**88**	T	T	18 47 05.7	
	baz=278,slow=0.7,SNR=5.3						
H11N3	**WAKE ISLAND Hy**	**19.34**	**88**	T	T	18 47 08.5	
	baz=278						
KSRS	**Korea Array**	**23.55**	**321**	P	P	18 28 08.9	-0.1
	1.1nm,0.7s,baz=150,slow=8.7,SNR=5.9						
WRA	**Warramunga Arr**	**41.55**	**197**	P	P	18 30 45.7	0.0
	0.6nm,0.5s,baz=16,slow=8.6,SNR=8.1						
SONM	**Songino Array**	**42.41**	**320**	P	P	18 30 53.2	+0.6
	0.2nm,0.4s,baz=134,slow=8.6,SNR=3.4						
FITZ	**Fitzroy Crossi**	**43.10**	**209**	P	P	18 30 58.5	+0.2
	0.9nm,0.5s,baz=39,slow=14,SNR=4.3						
CMAR	**Chiang Mai Arr**	**44.65**	**276**	P	P	18 31 11.2	+0.2
	0.2nm,0.5s,baz=79,slow=4.9,SNR=4.6						
ASAR	**Alice Springs**	**45.21**	**196**	P	P	18 31 14.2	-1.0
	0.2nm,0.7s,baz=20,slow=6.3,SNR=6.9						
ZALV	**Zalesovo Beam**	**57.25**	**322**	P	P	18 32 45.0	+0.1
	0.7nm,0.4s,baz=99,slow=8.6,SNR=4.9						
MKAR	**Makanchi Array**	**57.91**	**313**	P	P	18 32 50.0	+0.2
	0.2nm,0.3s,baz=88,slow=8.8,SNR=6.8						
KURBB	**Kurchatov Arra**	**60.66**	**317**	P	P	18 33 09.1	+0.5
	0.9nm,0.5s,baz=92,slow=7.6,SNR=22						
BVAR	**Borovoye Array**	**65.76**	**320**	P	P	18 33 41.3	-1.0
	0.7nm,0.5s,baz=93,slow=5.9,SNR=5.9						
FINES	**FINESS Array B**	**85.83**	**335**	P	P	18 35 36.1	-0.3
	1.7nm,0.9s,baz=62,slow=9.6,SNR=3.7						

IDC 03 18:28:12.5±0.9, 15.64S×171.62W, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.8/21, mbtmp3.9/7, MS4.1/2, Ms1 4.1/2, ms1mx3.7/40, Error ellipse: s-maj=35.9km s-min=19.3km az=115.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.73**	**355**	Pn	Pn	18 28 42.4	-1.5
	24nm,0.3s,baz=180,slow=8.1,SNR=10						
AFI				Sn	Sn	18 29 03.6	-3.2
	38nm,0.3s,baz=37,slow=17,SNR=5.9						
RAR	**Rarotonga**	**12.53**	**118**	LR	LR	18 35 13.0	
	comp=Z,746nm,19.7s,baz=252,slow=34						
URZ	**Urewera**	**24.63**	**202**	P	P	18 33 36.2	+1.6
	12nm,1.0s,baz=104,slow=4.2,SNR=3.4						
CTA	**Charters Tower**	**40.26**	**257**	LR	LR	18 49 37.1	
	comp=Z,371nm,21.2s,baz=45,slow=32						
STKA	**Stephens Creek**	**45.41**	**241**	P	P	18 36 33.4	+0.2
	1.0nm,0.8s,baz=79,slow=18,SNR=3.2						
WRA	**Warramunga Arr**	**51.46**	**257**	P	P	18 37 19.6	-0.4
	1.3nm,0.9s,baz=95,slow=7.3,SNR=5.7						
ASAR	**Alice Springs**	**51.67**	**252**	P	P	18 37 21.0	-0.6
	2.3nm,0.9s,baz=86,slow=8.3,SNR=13						
QSPA	**South Pole Qui**	**74.41**	**180**	P	P	18 39 50.3	-1.9
	2.9nm,1.0s,baz=82,slow=1.8,SNR=5.1						
PDAR	**Pinedale Array**	**81.31**	**41**	P	P	18 40 31.1	-0.1
	0.2nm,0.5s,baz=268,slow=6.9,SNR=3.4						
ILAR	**Eielson Array**	**82.36**	**10**	P	P	18 40 36.8	+0.9
	0.3nm,0.6s,baz=219,slow=6.6,SNR=4.2						
GERES	**GERESS Array B**	**146.60**	**354**	PKPbc	PKPbc	18 47 56.3	+0.1
	0.7nm,0.8s,baz=19,slow=5.7,SNR=5.8						
BRTR	**Keskin Array B**	**147.41**	**322**	PKPbc	PKPbc	18 47 59.0	+0.2
	0.7nm,0.9s,baz=138,slow=5.9,SNR=4.0						

IDC 03 18:29:37.5±8.1, 5.36S×145.82E, h94km±50km, mb3.3/5, mb1 3.4/7, mb1mx3.2/19, mbtmp3.3/7, Error ellipse: s-maj=69.7km s-min=32.1km az=17.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.23**	**162**	P	Pn	18 30 40.2	+0.4
	5.1nm,0.3s,baz=338,slow=11,SNR=23						
PMG				S	Sn	18 31 28.4	+0.2
	8.4nm,0.3s,baz=336,slow=16,SNR=4.2						
CTA	**Charters Tower**	**14.65**	**179**	P	P	18 33 05.0	+1.1
	0.3nm,0.8s,baz=359,slow=15,SNR=3.9						
WRA	**Warramunga Arr**	**18.30**	**217**	P	P	18 33 44.5	+0.2
	0.2nm,0.3s,baz=27,slow=11,SNR=9.3						
ASAR	**Alice Springs**	**21.52**	**211**	P	P	18 34 19.6	+0.4
	0.4nm,0.5s,baz=49,slow=8.9,SNR=12						
FITZ	**Fitzroy Crossi**	**23.43**	**236**	P	P	18 34 38.0	-0.7
	2.0nm,0.7s,baz=64,slow=8.4,SNR=8.5						
STKA	**Stephens Creek**	**26.68**	**188**	P	P	18 35 08.3	+0.5
	0.9nm,0.4s,baz=23,slow=11,SNR=6.8						
VNDA	**Vanda**	**72.62**	**176**	P	P	18 40 54.2	-0.1
	0.5nm,0.7s,baz=346,slow=5.1,SNR=3.2						
QSPA	**South Pole Qui**	**84.60**	**180**	P	P	18 42 00.5	+0.1
	0.7nm,0.9s,baz=348,slow=3.5,SNR=3.1						

TAP 03 18:30:19.4, 23.69N×121.59E, h32km, ML3.7, 15C-3D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.05**	**300**	*i* P	Pb	18 30 25.1	+0.4
	baz=304						
TEGC				S	Sb	18 30 29.2	+0.8
	baz=304						
ESL	**Shilin**	**0.19**	**313**	⇑*i* P	Pb	18 30 25.6	-0.2
	baz=307						
ESL				S	Sb	18 30 29.9	-0.2
	baz=307						
ESF	**Shoufeng Towns**	**0.20**	**339**	⇑P	Pb	18 30 25.9	+0.1
	baz=328						
ESF				*i* S	Sn	18 30 30.8	+0.3
	baz=328						
HWA	**Hwalien**	**0.29**	**4**	⇑*i* P	Pb	18 30 27.0	0.0
	baz=9.0						
HWA				*i* S	Sn	18 30 33.0	+0.2
	baz=9.0						
EHY	**Hungye**	**0.30**	**234**	⇑*i* P	Pb	18 30 26.

YUS				*i*	S	Sb	18 30 40.2	-1.1
	baz=252							
CHKT	**Chengkung**	**0.62**	**199**		P	Pb	18 30 31.9	0.0
CHKT	baz=187				*e*S	Sn	18 30 42.0	+1.2
SMLT	**Sun Moon Lake**	**0.66**	**288**	*i*	P	Pb	18 30 32.4	-0.2
SMLT	baz=291				*e*S	Sb	18 30 41.6	-0.2
TWT	**Tachien**	**0.68**	**327**	⇑	*i*P	Pn	18 30 32.9	-0.2
TWT	baz=325				*i* S	Sb	18 30 41.7	-0.8
TYC	**Yuchr**	**0.70**	**288**	*i*	P	Pn	18 30 33.0	-0.1
TYC	baz=296				S	Sn	18 30 42.9	0.0
ELDTW	**Lidau**	**0.72**	**227**	*e*	P	Pn	18 30 32.5	-1.0
ALS	baz=227 **Alishan**	**0.74**	**257**	⇑	*i*P	Pb	18 30 34.4	+0.2
ALS	baz=265				S	Sb	18 30 44.1	-0.2
ENA	**Nanau**	**0.75**	**11**	⇑	*i*P	Pn	18 30 33.3	-0.6
ENA	baz=18				*e*S	Sn	18 30 45.2	+1.0
NNS	**Nan Shan**	**0.78**	**346**	*e*	P	Pn	18 30 33.8	-0.6
NNS	baz=354				*e*S	Sn	18 30 43.6	-1.5
CHN5	**Tsauling**	**0.84**	**264**	⇑	*i*P	Pb	18 30 36.0	+0.3
CHN5	baz=265				S	Sb	18 30 47.2	+0.6
WNT	**Mingjian**	**0.85**	**283**	⇑	*i*P	Pb	18 30 36.4	+0.7
WNT	baz=284				S	Sb	18 30 48.2	+1.4
WGK	**Gukeng**	**0.94**	**270**	⇑	*i*P	Pb	18 30 37.5	+0.3
WGK	baz=272				S	Sb	18 30 50.6	+1.3
ENTT	**Nioudou**	**0.95**	**359**		P	Pn	18 30 36.2	-0.5
ENTT	baz=358				*e*S	Sn	18 30 48.5	-0.6
TCU	baz=358 **Taichung**	**0.95**	**299**	*e*	P	Pb	18 30 38.1	+0.7
TWC	baz=299 **Suao**	**0.95**	**15**		P	Pn	18 30 36.4	-0.2
TWC	baz=23				*e*S	Sb	18 30 49.8	+0.1
TWG	**Pinlang**	**0.98**	**209**	*e*	P	Pn	18 30 35.9	-1.1
TWG	baz=210				*e*S	Sn	18 30 47.9	-2.0
TWQ1	baz=210 **Liyutan**	**0.99**	**312**	⇑	*i*P	Pb	18 30 38.7	+0.5
TWQ1	baz=311				S	Sb	18 30 52.7	+1.8
WTP	**Ta-pu**	**0.99**	**244**	*e*	P	Pb	18 30 38.2	0.0
WTP	baz=245				*e*S	Sb	18 30 52.6	+1.6
NSK	baz=245 **Sanguang**	**1.01**	**348**	⇑	*i*P	Pn	18 30 37.6	+0.1
NSK	baz=357				*e*S	Sn	18 30 50.0	-0.7
TWE	**Neicheng**	**1.03**	**4**	⇓	P	Pn	18 30 37.6	-0.1
TWE	baz=355				*e*S	Sb	18 30 52.0	-0.1
NSY	**Sanyi**	**1.05**	**314**	⇑	*i*P	Pb	18 30 39.7	+0.6
NSY	baz=312				S	Sb	18 30 54.2	+1.7
CHY	baz=312 **Chiayi**	**1.08**	**260**	*e*	P	Pb	18 30 40.5	+0.9
NSTT	baz=261 **Nanjuang**	**1.08**	**331**	*i*	P	Pb	18 30 39.6	0.0
NSTT	baz=339				*e*S	Sb	18 30 53.1	-0.4
CHN1	baz=339 **Nanshi**	**1.09**	**243**	*e*	P	Pb	18 30 39.9	+0.1
CHN1	baz=246				*e*S	Sb	18 30 55.5	+1.7
SGST	baz=246 **Jiashian**	**1.10**	**237**	*e*	P	Pb	18 30 39.6	-0.3
SGST	baz=231				*e*S	Sb	18 30 56.3	+2.4
WTCT	baz=231 **Ta-ch'eng**	**1.21**	**279**	*e*	P	Pb	18 30 41.5	-0.2
WTCT	baz=271				*e*S	Sb	18 30 58.6	+1.6
ECL	baz=271 **Taimali**	**1.23**	**208**	*e*	P	Pn	18 30 39.0	-1.4
HSN	baz=198 **Hsinchu**	**1.25**	**333**	*e*	P	Pb	18 30 42.7	+0.3
HSN	baz=319				*e*S	Sb	18 30 59.2	+1.1
WSF	baz=319 **Szhu**	**1.25**	**268**	*e*	P	Pb	18 30 42.4	0.0
WSF	baz=270				*e*S	Sb	18 30 58.8	+0.6
CHN3	baz=270 **Shinhua**	**1.27**	**242**	*e*	P	Pb	18 30 44.5	+1.7
CHN3	baz=244				*e*S	Sb	18 31 01.2	+2.3
TWA	baz=244 **Mucha**	**1.29**	**360**	*e*	P	Pn	18 30 42.0	+0.7
NCU	baz=359 **National Centr**	**1.33**	**344**	*e*	P	Pb	18 30 43.3	-0.5
NCU	baz=340				*e*S	Sb	18 31 01.3	+0.8
TAP1	baz=340 **Taipei**	**1.35**	**358**	*e*	P	Pn	18 30 43.0	+0.9
TAP	baz=356 **Taipei**	**1.35**	**357**	*e*	P	Pb	18 30 43.2	-0.9
TWB1	baz=355 **Santiao Chiao**	**1.37**	**16**	*e*	P	Pb	18 30 44.7	+0.2
TWM1	baz=359 **Shoushan**	**1.37**	**231**	⇑	P	Pb	18 30 45.8	+1.3
TWM1	baz=246				*e*S	Sb	18 31 04.0	+2.3
SCLT	baz=246 **Jiali**	**1.38**	**249**	*e*	P	Pb	18 30 43.9	-0.6
SCLT	baz=251				*e*S	Sb	18 31 02.3	+0.6
SGLT	baz=251 **Jiouru**	**1.39**	**227**	*e*	P	Pb	18 30 44.9	+0.1
SGLT	baz=218				*e*S	Sb	18 31 04.4	+2.2
NWF	baz=218 **Wu-fen Shan**	**1.39**	**7**	*e*	P	Pn	18 30 43.4	+0.7
TAI1	baz=6.0 **Yung-k'ang**	**1.40**	**243**	*e*	P	Pb	18 30 44.3	-0.6
TWS1	baz=245 **Kuangyinshan**	**1.42**	**354**	*e*	P	Pn	18 30 44.1	+1.1
EAST	baz=8.0 **Anshuo**	**1.46**	**208**	*e*	P	Pn	18 30 42.8	-0.9
TAW	baz=199 **Tawu**	**1.47**	**206**	*e*	P	Pn	18 30 44.1	+0.5
YOJ	baz=196 **Yonaguni jima**	**1.52**	**59**		P	Pn	18 30 44.7	+0.4
YOJ	baz=58				*e*S	Sn	18 31 03.0	0.0
SCZT	baz=58 **Fangliau**	**1.58**	**214**	*e*	P	Pn	18 30 46.4	+1.1
SCZT	baz=218				*e*S	Sb	18 31 07.7	0.0
HEN	baz=218 **Hengchun**	**1.84**	**205**	*e*	P	Pb	18 30 50.7	-1.8
PNG	baz=197 **Penghu**	**1.87**	**267**	*e*	P	Pn	18 30 49.7	+0.6
KNM	baz=268 **Kinmen**	**2.97**	**285**	*e*	P	Pn	18 31 06.0	+1.7
	baz=285							

*IDC **03** 18:38:40.6±0.8, 46.°50N×27.°54W, h0km, mb3.8/7, mb1 3.8/8, mb1mx3.6/32, mbtmp3.8/8, ML4.1/1, Error ellipse: s-maj=30.9km s-min=23.3km az=164.0*
*ISCJB **03** 18:38:41.1±0.9, 46.°5N±0.°2×27.°6W±0.°1, h16km, mb3.8/9, Error ellipse: s-maj=23.9km s-min=14.3km az=173.8*
ISC 03 18:38:42.8±0.9,**46.°4N**±0.°2×**27.°6W**±0.°1,**h16**km,**n23,**
σ1**99**00/20,**mb4.1**/9,**Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ROSF	**Rostrenen**	**16.60**	**74**	*e*P		**Pn**	**18 42 33.1**	**-1.5**
	19nm,1.1s							
GRR	**Gorron**	**18.20**	**74**	*e*P		**P**	**18 42 55.3**	**+0.5**
	154nm,1.7s							
FLN	**La Foliniere**	**18.43**	**73**	*e*P		**P**	**18 42 56.5**	**-0.8**
	115nm,1.6s							
ESDC	**Sonseca Array**	**18.52**	**103**	P		**P**	**18 42 58.4**	**-0.1**
	0.1nm,0.3s,baz=298,slow=13,SNR=11							
SJPF	**Ste Jean**	**19.01**	**90**	*e*P		**Pn**	**18 43 04.9**	**+0.5**
	28nm,1.3s							
ETSF	**Etsaut**	**19.54**	**91**	*e*P		**Pn**	**18 43 11.0**	**+0.1**
	6.3nm,0.8s							
TCF	**Toulx Ste Croi**	**20.55**	**79**	*e*P		Pn	18 43 21.4	-1.3
	76nm,1.8s							
SSF	**Saint Saulge**	**21.29**	**77**	*e*P		**P**	**18 43 29.3**	**+0.9**
	62nm,1.7s							
LOR	**Lormes**	**21.49**	**76**	*e*P		**P**	**18 43 31.1**	**+0.5**
AKASG	**Malin Array Be**	**37.08**	**62**	P		**P**	**18 45 50.7**	**-1.2**
	0.3nm,0.5s,baz=283,slow=8.5,SNR=2.8							
TORD	**Torodi Ar. Bea**	**41.34**	**134**	P		**P**	**18 46 28.1**	**+0.2**
	1.0nm,0.9s,baz=333,slow=8.6,SNR=5.6							
BRTR	**Keskin Array B**	**44.27**	**76**	P		**P**	**18 46 53.7**	**+2.1**
	0.2nm,0.4s,baz=282,slow=6.9,SNR=2.5							
AKTO	**Aktyubinsk**	**53.94**	**52**	P		**P**	**18 48 05.3**	**0.0**
	0.5nm,0.3s,baz=295,slow=14,SNR=3.0							
H10S1	**ASCENSION HYDR**	**56.32**	**165**	T		T	19 48 55.9	
	baz=350,slow=0.7,SNR=5.5							
H10S3	**ASCENSION HYDR**	**56.32**	**165**	T		T	19 48 53.5	
	baz=350,slow=0.7,SNR=4.7							
H10S2	**ASCENSION HYDR**	**56.33**	**165**	T		T	19 49 10.7	
	baz=350,slow=0.7,SNR=5.5							
APG	**El Apazote**	**60.59**	**261**	P		**P**	**18 48 53.0**	**0.0**
	1.3nm,0.5s,baz=349,slow=7.0,SNR=3.5							
MKAR	**Makanchi Array**	**68.74**	**44**	P		**P**	**18 49 44.5**	**-1.1**
	1.0nm,0.6s,baz=339,slow=5.2,SNR=8.9							
KMBO	**Kilima Mbogo**	**73.77**	**109**	P		**P**	**18 50 16.1**	**-0.6**
	1.3nm,0.7s,baz=41,slow=14,SNR=5.1							
SONM	**Songino Array**	**77.91**	**30**	P		**P**	**18 50 40.8**	**+1.1**
	0.2nm,0.4s,baz=306,slow=3.9,SNR=4.0							
VNDA	**Vanda**	**148.55**	**184**	PKPbc		**PKPab**	**18 58 29.4**	**-1.4**
	1.0nm,1.0s,baz=320,slow=2.4,SNR=4.0							
WRA	**Warramunga Arr**	**149.74**	**35**	PKP		**PKPdf**	**18 58 28.6**	**+1.3**
	1.5nm,0.9s,baz=334,slow=3.0,SNR=6.2							
WRA				PKPbc		**PKPbc**	**18 58 31.9**	**0.0**
	1.4nm,0.9s,baz=325,slow=2.4,SNR=6.5							
ASAR	**Alice Springs**	**152.87**	**40**	PKPbc		**PKPbc**	**18 58 38.7**	**-0.4**
	0.7nm,0.7s,baz=341,slow=1.9,SNR=15							

*MAN **03** 17:39:41, 4.°12N×127.°02E, h0km, mb4.9, ML3.8, MS3.9*
*IDC **03** 18:39:48.0±1.0, 4.°84N×126.°61E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/23, mbtmp3.8/7, Error ellipse: s-maj=69.6km s-min=13.7km az=77.0*
*ISCJB **03** 18:39:55.7±0.7, 4.°8N±0.°1×126.°7E±0.°2, h76km, mb3.6/7, Error ellipse: s-maj=29.4km s-min=8.6km az=154.8*
ISC 03 18:39:57.8±0.8,**4.°87N**±0.°08×**126.°8E**±0.°2,**h76**km,**n13,**
σ2**08**/16,**mb3.5**/7,**1C,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**2.12**	**347**	*e*P		**Pn**	**18 40 29.7**	**-1.5**
MATI				*e*S		**Sn**	**18 41 00.1**	**+3.4**
CTBH	**Cotabato--PC H**	**3.41**	**313**	⇑*i*P		**Pn**	**18 40 46.8**	**-1.9**
BUKP	**Musuan**	**3.43**	**331**	*e*P		**Pn**	**18 40 48.6**	**-0.3**
PAGZ	**Pagadian**	**4.46**	**312**	*e*P		**Pn**	**18 41 02.5**	**-0.5**
IPIL	**Ipil**	**5.06**	**305**	*e*P		**Pn**	**18 41 10.0**	**-1.2**
FITZ	**Fitzroy Crossi**	**22.85**	**183**	P		**P**	**18 44 53.8**	**-1.1**
	0.9nm,0.4s,baz=16,slow=12,SNR=7.3							
FITZ				S		**S**	**18 49 04.0**	**+5.3**
	2.4nm,1.1s,baz=101,slow=17,SNR=1.1							
WRA	**Warramunga Arr**	**25.76**	**163**	P		**P**	**18 45 19.8**	**-1.9**
	1.3nm,0.8s,baz=344,slow=10.0,SNR=12							
ASAR	**Alice Springs**	**29.21**	**166**	P		**P**	**18 45 53.4**	**+0.9**
	0.4nm,0.8s,baz=347,slow=7.0,SNR=15							
STKA	**Stephens Creek**	**39.18**	**160**	P		**P**	**18 47 17.1**	**-1.4**
	0.9nm,0.5s,baz=347,slow=9.6,SNR=2.9							
SONM	**Songino Array**	**46.23**	**341**	P		**P**	**18 48 16.3**	**+0.8**
	0.3nm,0.5s,baz=150,slow=7.9,SNR=4.3							
MKAR	**Makanchi Array**	**56.64**	**325**	P		**P**	**18 49 32.2**	**-0.9**
	0.6nm,0.5s,baz=122,slow=7.2,SNR=10							
MKAR				PcP		**PcP**	**18 50 29.0**	**+0.3**
	0.2nm,0.4s,baz=101,slow=4.1,SNR=3.2							
FINES	**FINESS Array B**	**90.84**	**332**	P		**P**	**18 52 52.1**	**-0.5**
	4.8nm,1.1s,baz=64,slow=4.4,SNR=10							
TORD	**Torodi Ar. Bea**	**122.58**	**289**	PKP		**PKPdf**	**18 58 45.5**	**-0.1**
	0.2nm,0.5s,baz=5.7,slow=2.3,SNR=2.2							

*BJI **03** 18:45:28.0, 37.°00N×104.°90W, h5km, mb4.7/1, Ms7 4.8/1*
*IDC **03** 18:45:30.3±0.8, 37.°06N×105.°10W, h0km, mb3.9/3, mb1 3.9/7, mb1mx3.6/29, mbtmp3.6/7, ML3.7/4, MS4.1/2, Ms1 4.2/2, ms1mx3.5/53, Error ellipse: s-maj=18.6km s-min=9.3km az=79.0*
*NEIC **03** 18:45:31.9±0.3, 37.°02N×104.°86W, h5km, ML3.6, Error ellipse: s-maj=5.2km s-min=4.0km az=53.0*
ISC 03 18:45:31.0±0.9,**37.°02N**±0.°01×**104.°89W**±0.°01,**h5**km±7km,
n262,σ1**93**/320,**mb4.0**/3,**87C-112D,Colorado**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
T24B	**San Luis**	**0.39**	**277**	⇑P		**Pg**	**18 45 37.0**	**-1.6**
	baz=0.4,SNR=1000							
T24B				⇓S		**Sg**	**18 45 42.5**	**-1.4**
	baz=0.4							
T25A	**Trinidad**	**0.40**	**72**	⇓P		**Pg**	**18 45 39.2**	**+0.3**
	baz=0.4,SNR=1000							
T25A				⇑S		**Sb**	**18 45 45.4**	**-2.0**
	baz=0.4							
S24A	**Houchin Ranch,**	**0.67**	**338**	P		**Pg**	**18 45 42.8**	**-1.2**
	baz=0.7,SNR=141							
S24A				⇑S		**Sg**	**18 45 51.8**	**-0.9**
	baz=0.7							
U24A	**Moreno Valley**	**0.68**	**207**	⇑P		**Pg**	**18 45 43.1**	**-1.0**
	baz=0.7							
U24A				⇑S		**Sg**	**18 45 51.9**	**-1.0**
	baz=0.7							
U25A	**Circle Dot Ran**	**0.73**	**148**	⇓P		**Pg**	**18 45 44.7**	**-0.3**
	baz=0.7,SNR=1000							
U25A				⇑S		**Sg**	**18 45 54.5**	**+0.1**
	baz=0.7							
S25A	**Robets Cordova**	**0.74**	**30**	P		**Pg**	**18 45 44.5**	**-0.7**
	baz=0.7,SNR=1000							
S25A				⇓S		**Sg**	**18 45 54.3**	**-0.5**
	baz=0.7							
SDCO	**Great Sand Dun**	**0.87**	**327**	*e*Pg		**Pg**	**18 45 45.5**	**-2.2**
SDCO				*e*Sg		**Sg**	**18 45 56.5**	**-2.6**
T23A	**Casias Ranch,**	**0.92**	**271**	⇓P		**Pg**	**18 45 46.6**	**-1.9**
	baz=0.9,SNR=268							
U26A	**Atchley Ranch,**	**1.11**	**124**	⇑P		**Pg**	**18 45 52.2**	**-0.1**
	baz=1.1,SNR=1000							
U26A				⇓S		**Sb**	**18 46 07.1**	**-0.6**
	baz=1.1							
S23A	**Nye Farm, Mont**	**1.12**	**308**	⇑P		**Pg**	**18 45 50.9**	**-1.6**
	baz=1.1,SNR=46							
S23A				⇓S		**Sg**	**18 46 05.8**	**-1.2**
	baz=1.1							
V25A	**Rancho No Teng**	**1.20**	**169**	P		**Pg**	**18 45 52.8**	**-1.1**
	baz=1.2,SNR=1000							
V25A				⇑S		**Sg**	**18 46 08.4**	**-1.1**
	baz=1.2							
R24A	**Sanders Place,**	**1.22**	**352**	⇓P		**Pg**	**18 45 53.0**	**-1.5**
	baz=1.2,SNR=233							
R25A	**Fountain Ranch**	**1.23**	**23**	⇑P		**Pg**	**18 45 53.4**	**-1.1**
	baz=1.2,SNR=178							
R25A				⇓S		**Sg**	**18 46 09.1**	**-1.3**
	baz=1.2							
U23A	**El Rito**	**1.25**	**237**	⇑P		**Pn**	**18 45 53.1**	**-2.3**
	baz=1.3,SNR=290							
U23A				⇑S		**Sg**	**18 46 09.4**	**-1.7**
	baz=1.3							
S26A	**Kim**	**1.28**	**62**	⇓P		**Pn**	**18 45 55.5**	**-0.3**
	baz=1.3							
S26A				⇓S		**Sb**	**18 46 11.9**	**-0.7**
	baz=1.3							
V24A	**Rampart Ranch,**	**1.32**	**193**	P		**Pn**	**18 45 55.0**	**-1.4**
	baz=1.3,SNR=354							
V24A				⇑S		**Sb**	**18 46 11.7**	**-2.1**
	baz=1.3							
R23A	**Moffat**	**1.39**	**328**	⇑P		**Pn**	**18 45 56.0**	**-1.3**
	baz=1.4							
V26A	**Tequesquite Ra**	**1.51**	**143**	⇑P		**Pn**	**18 45 58.6**	**-0.2**
	baz=1.5,SNR=144							
V26A				⇓S		**Sn**	**18 46 18.6**	**-0.4**
	baz=1.5							

T22A	**Edith**	**1.61**	**270**	⇓P		**Pn**	**18 45 59.2**	**-1.1**
	baz=1.6,SNR=41							
T22A				⇑S		**Sn**	**18 46 19.8**	**-1.8**
	baz=1.6							
V23A	**Ortiz Mt. (NFS**	**1.64**	**220**	⇑P		**Pn**	**18 46 00.7**	**0.0**
	baz=1.7,SNR=79							
U22A	**Llaves**	**1.70**	**249**	⇓P		**Pn**	**18 46 01.3**	**-0.3**
	baz=1.7,SNR=90							
S22A	**4UR Ranch, Cre**	**1.71**	**296**	P		**Pn**	**18 46 01.1**	**-0.6**
	baz=1.7,SNR=291							
R26A	**Arlington**	**1.72**	**41**	P		**Pb**	**18 46 02.7**	**-0.5**
	baz=1.7,SNR=944							
R26A				⇓S		**Sg**	**18 46 26.0**	**-0.3**
	baz=1.7							
S27A	**Las Animas**	**1.72**	**67**	⇓P		**Pb**	**18 46 02.8**	**-0.4**
	baz=1.7,SNR=87							
S27A				⇑S		**Sg**	**18 46 26.5**	**+0.1**
	baz=1.7							
T27A	**Campo**	**1.74**	**88**	⇑P		**Pb**	**18 46 03.1**	**-0.4**
	baz=1.7,SNR=357							
T27A				⇑S		**Sg**	**18 46 26.8**	**0.0**
	baz=1.7							
U27A	**Thompson Grove**	**1.77**	**109**	⇑P		**Pb**	**18 46 03.8**	**-0.1**
	baz=1.7,SNR=376							
U27A				⇓S		**Sg**	**18 46 27.7**	**0.0**
	baz=1.7							
W25A	**X Bar L Ranch,**	**1.83**	**169**	P		**Pb**	**18 46 04.3**	**-0.7**
	baz=1.8,SNR=704							
W25A				⇓S		**Sb**	**18 46 28.4**	**+0.1**
	baz=1.8							
W24A	**Lazy 6 Ranch,**	**1.85**	**193**	⇓P		**Pn**	**18 46 04.3**	**+0.7**
	baz=1.9,SNR=321							
W24A				⇓S		**Sn**	**18 46 28.0**	**+0.5**
	baz=1.9							
R22A	**Saguache, Gunn**	**1.91**	**310**	⇑P		**Pn**	**18 46 04.9**	**+0.3**
	baz=1.9,SNR=271							
Q24A	**Divide**	**1.95**	**354**	⇓P		**Pn**	**18 46 05.8**	**+0.6**
	baz=2.0,SNR=56							
Q24A				⇓S		**Sn**	**18 46 31.1**	**+0.9**
	baz=2.0							
Q25A	**Bedland, Calha**	**1.96**	**15**	⇑P		**Pb**	**18 46 06.8**	**-0.5**
	baz=2.0,SNR=86							
Q25A				⇓S		**Sb**	**18 46 32.7**	**+0.5**
	baz=2.0							
V22A	**San Miguel Ran**	**1.96**	**236**	⇓P		**Pn**	**18 46 05.5**	**+0.4**
	baz=2.0,SNR=104							
Q23A	**Hartsel**	**2.02**	**339**	⇓P		**Pn**	**18 46 07.4**	**+1.3**
	baz=2.0							
V27A	**Dan Oppiter Fa**	**2.08**	**127**	P		**Pb**	**18 46 08.2**	**-1.2**
	baz=2.1,SNR=119							
V27A				⇑S		**Sg**	**18 46 37.3**	**-0.6**
	baz=2.1							
R27A	**Eads**	**2.09**	**52**	P		**Pb**	**18 46 08.0**	**-1.4**
	baz=2.1,SNR=208							
R27A				⇓S		**Sg**	**18 46 36.4**	**-1.7**
	baz=2.1							
T21A	**Navajo Lake**	**2.11**	**270**	⇓P		**Pn**	**18 46 08.6**	**+1.3**
	baz=2.1							
W23A	**Werner Place,**	**2.11**	**209**	⇑P		**Pn**	**18 46 08.3**	**+1.0**
	baz=2.1							
W23A				⇑S		**Sn**	**18 46 35.4**	**+1.4**
	baz=2.1							
W26A	**Owens Ranch, T**	**2.13**	**154**	P		**Pb**	**18 46 09.3**	**-0.8**
	baz=2.1,SNR=460							
W26A				⇓S		**Sb**	**18 46 37.8**	**+0.9**
	baz=2.1							
Q26A	**Hugo**	**2.19**	**29**	⇑P		**Pb**	**18 46 10.2**	**-1.0**
	baz=2.2,SNR=27							
Q26A				⇓S		**Sb**	**18 46 38.6**	**-0.1**
	baz=2.2							
T28A	**Walsh**	**2.23**	**87**	⇓P		**Pb**	**18 46 10.0**	**-1.7**
	baz=2.2,SNR=133							
T28A				⇓Sb		**Sg**	**18 46 41.7**	**-0.8**
	baz=2.2							
U28A	**Mallet**	**2.24**	**106**	⇓P		**Pb**	**18 46 10.4**	**-1.6**
	baz=2.2,SNR=31							
U28A				⇑Sb		**Sg**	**18 46 42.4**	**-0.5**
	baz=2.2							
U21A	**Nageezi**	**2.30**	**256**	⇑P		**Pn**	**18 46 10.9**	**+1.1**
	baz=2.3,SNR=101							
ANMO	**Albuquerque**	**2.42**	**212**	*e*Pn		**Pn**	**18 46 12.1**	**+0.6**
ANMO					Pn	**Pn**	**18 46 12.6**	**+1.1**
ANMO					Lg		18 46 44.4	
ANMO	**Albuquerque**	**2.42**	**212**	Pn		**Pn**	**18 46 12.6**	**+1.1**
	5.3nm,0.3s,baz=23,slow=13,SNR=118							
ANMO					Lg	Lg	18 46 44.4	
	32nm,0.3s,baz=108,slow=10,SNR=13							
ANMO					LR	LR	18 47 22.6	
	comp=Z,1μm,19.7s,baz=176,slow=47							
Q22A	**Crested Butte,**	**2.44**	**320**	⇑P		**Pn**	**18 46 12.8**	**+1.1**
	baz=2.5,SNR=36							
W27A	**Bowe Ranch, En**	**2.45**	**142**	⇓P		**Pn**	**18 46 13.3**	**+1.5**
	baz=2.4,SNR=288							
W27A				⇓Sb		**Sg**	**18 46 48.2**	**-1.5**
	baz=2.4							
S28A	**Manter**	**2.46**	**76**	⇑P		**Pn**	**18 46 13.2**	**+1.4**
	baz=2.4,SNR=24							
S28A				⇓Sb		**Sg**	**18 46 48.1**	**-1.7**
	baz=2.4							
P23A	**Jefferson**	**2.47**	**343**	⇓P		**Pn**	**18 46 13.4**	**+1.2**
	baz=2.5,SNR=19							
X24A	**Lazy VL Ranch,**	**2.49**	**190**	⇑P		**Pn**	**18 46 13.8**	**+1.5**
	baz=2.5							
X25A	**Clemmons Ranch**	**2.49**	**176**	⇓P		**Pn**	**18 46 13.9**	**+1.6**
	baz=2.5							
P24A	**Kohler Place,**	**2.49**	**360**	⇑P		**Pb**	**18 46 14.6**	**-1.8**
	baz=2.5							
P24A				⇓Sb		**Sb**	**18 46 48.7**	**+1.2**
	baz=2.5							
V28A	**Channing**	**2.50**	**120**	⇑P		**Pn**	**18 46 13.8**	**+1.4**
	baz=2.5							
V28A				⇓Sb		**Sg**	**18 46 50.5**	**-0.7**
	baz=2.5							
R21A	**Cimarron**	**2.50**	**303**	⇑P		**Pn**	**18 46 13.6**	**+1.0**
	baz=2.5,SNR=47							
W22A	**Albuquerque**	**2.52**	**220**	⇓P		**Pn**	**18 46 14.3**	**+1.6**
	baz=2.5							
V21A	**Milan**	**2.52**	**242**	P		**Pn**	**18 46 13.7**	**+0.8**
	baz=2.5,SNR=97							
P25A	**Willow Gulch B**	**2.56**	**13**	⇓P		**Pn**	**18 46 15.0**	**+1.8**
	baz=2.6							
X26A	**CR and CF Fran**	**2.61**	**160**	P		**Pn**	**18 46 15.4**	**+1.4**
	baz=2.6,SNR=52							
X23A	**Hourglass Bar**	**2.65**	**204**	⇑P		**Pn**	**18 46 15.9**	**+1.3**
	baz=2.7,SNR=21							
KSCO	**Kaye Shedlock'**	**2.68**	**41**	*e*Pn		**Pn**	**18 46 16.9**	**+2.0**
KSCO				*e*Sn		**Sb**	**18 46 52.4**	**-0.3**
KSCO	**Kaye Shedlock'**	**2.68**	**41**	⇑P		**Pb**	**18 46 17.1**	**-2.4**
	baz=2.7,SNR=49							
SMCO	**Snowmass**	**2.71**	**323**	*e*Pn		**Pn**	**18 46 16.6**	**+1.0**
SMCO				*e*Sn		**Sb**	**18 46 53.8**	**-0.2**
X27A	**F and S Farms,**	**2.78**	**148**	⇓P		**Pn**	**18 46 17.8**	**+1.5**
	baz=2.8,SNR=37							
R28A	**Tribune**	**2.78**	**61**	P		**Pn**	**18 46 17.3**	**+1.0**
	baz=2.8,SNR=46							
Q21A	**Lamborn Mesa,**	**2.79**	**311**	⇓P		**Pn**	**18 46 17.5**	**+1.0**
	baz=2.8							
W28A	**Vega**	**2.80**	**128**	⇑P		**Pn**	**18 46 18.1**	**+1.6**
	baz=2.8							
W28A				⇓Sb

		baz=3.0							
Y25A	Mesa, Roswell		3.09	177	⇓P		Pn	18 46 21.6	+0.9
		baz=3.1							
O24A	Longmont		3.10	357	⇓P		Pn	18 46 22.4	+1.6
		baz=3.1							
Y24A	Capitan		3.12	188	⇓P		Pn	18 46 22.0	+1.0
		baz=3.1,SNR=16							
P27A	Ficken Ranch,		3.12	35	⇓P		Pn	18 46 22.4	+1.4
		baz=3.1,SNR=21							
PV01	Paradox Valley		3.13	292	*e*Pn		Pn	18 46 21.6	+0.4
PV01					*e*Pb		Pb	18 46 27.0	-0.2
PV01					*e*Sg		Sb	18 47 09.5	+3.7
V20A	Brimhall		3.13	248	⇑P		Pn	18 46 22.2	+1.0
		baz=3.1							
Q28A	Sharon Springs		3.16	49	⇑P		Pn	18 46 22.8	+1.2
		baz=3.1,SNR=14							
LAZ	Ladron		3.19	216	*e*Pn		Pn	18 46 22.3	+0.3
LAZ					*e*Sg		Sg	18 47 11.5	-1.8
BNM	Barren Site		3.19	207	*e*Pn		Pn	18 46 22.5	+0.4
BNM					*e*Sn		Sb	18 47 07.7	+0.1
Y26A	Elida		3.21	164	⇑P		Pn	18 46 23.3	+1.1
		baz=3.2							
P21A	Newcastle		3.21	322	⇑P		Pn	18 46 23.6	+1.3
		baz=3.2							
Y23A	Lovelace Mesa,		3.22	197	⇑P		Pn	18 46 23.7	+1.2
		baz=3.2,SNR=8.7							
W29A	Amraillo		3.24	125	⇓P		Pn	18 46 23.4	+0.8
		baz=3.2							
O23A	Lake Granby, G		3.29	346	⇑P		Pn	18 46 24.4	+0.9
		baz=3.3							
R29A	Marienthal		3.29	64	⇓P		Pn	18 46 24.1	+0.8
		baz=3.3,SNR=18							
Q20A	Ridgley Place,		3.31	307	⇓P		Pn	18 46 25.0	+1.4
		baz=3.3							
LENM	Lemitar		3.31	211	*e*Pn		Pn	18 46 24.9	+1.2
X28A	Dimmitt		3.32	138	⇑P		Pn	18 46 24.8	+1.1
		baz=3.3							
O22A	Kremmling		3.40	338	⇑P		Pn	18 46 26.4	+1.4
		baz=3.4,SNR=21							
Y27A	Causey		3.43	155	⇓P		Pn	18 46 26.3	+1.0
		baz=3.4,SNR=9.3							
U30A	WK&E Inc. Balk		3.44	97	⇓P		Pn	18 46 26.9	+1.5
		baz=3.4							
O26A	Horse Wrangler		3.45	21	⇑P		Pn	18 46 27.1	+1.5
		baz=3.4,SNR=14							
W20A	Ramah		3.48	238	⇓P		Pn	18 46 27.0	+1.0
		baz=3.5							
X21A	Alamocita Cree		3.48	223	⇑P		Pn	18 46 27.1	+1.1
		baz=3.5							
T30A	Plains		3.49	88	⇓P		Pn	18 46 27.3	+1.2
		baz=3.5,SNR=16							
MSTX	Muleshoe		3.50	150	*e*Pn		Pn	18 46 29.1	+2.9
MSTX					*e*Pb		Pg	18 46 35.9	-2.1
MSTX					*e*Sn		Sb	18 47 18.0	+1.7
MSTX	Muleshoe		3.50	150	⇑P		Pn	18 46 27.2	+1.0
		baz=3.5							
PV05	Paradox Valley		3.51	289	*e*Pn		Pn	18 46 26.9	+0.5
Y22A	Socorro		3.51	209	⇓P		Pn	18 46 27.3	+0.9
		baz=3.5							
P28A	Saint Francis		3.55	43	⇓P		Pn	18 46 28.5	+1.6
		baz=3.5,SNR=34							
PV10	Paradox Valley		3.56	294	*e*Pn		Pn	18 46 28.0	+0.8
PV10					*e*Pb		Pb	18 46 35.8	+1.2
S30A	Montezuma		3.58	79	⇑P		Pn	18 46 28.4	+1.0
		baz=3.5,SNR=11							
Q29A	Oakley		3.62	58	⇑P		Pn	18 46 28.8	+1.0
		baz=3.6,SNR=42							
X29A	Tulia		3.65	134	P		Pn	18 46 29.9	+1.6
		baz=3.6,SNR=6.4							
PV09	Paradox Valley		3.67	295	*e*Pn		Pn	18 46 30.6	+1.8
O27A	Beecher Island		3.69	30	⇓P		Pn	18 46 30.6	+1.8
		baz=3.7,SNR=13							
Z24A	Sheeppen Canyo		3.70	186	⇓P		Pn	18 46 30.5	+1.5
		baz=3.7							
Z25A	Roswell		3.73	178	⇓P		Pn	18 46 30.6	+1.2
		baz=3.7							
Y21A	Point of Rocks		3.76	218	P		Pn	18 46 31.0	+1.0
		baz=3.8,SNR=35							
Y28A	McKinney Farm,		3.78	144	⇓P		Pn	18 46 31.2	+1.2
		baz=3.8,SNR=6.5							
N24A	Carr		3.80	0	⇓P		Pn	18 46 32.2	+1.8
		baz=3.8,SNR=8.0							
Z26A	Caprock		3.81	168	⇓P		Pn	18 46 31.9	+1.4
		baz=3.8							
X20A	Quemado		3.83	231	⇓P		Pn	18 46 32.7	+1.8
		baz=3.9							
Z27A	Tatum		3.94	159	⇑P		Pn	18 46 34.1	+1.9
		baz=3.9							
O28A	Krutsinger Ran		3.95	37	⇑P		Pn	18 46 34.3	+2.0
		baz=3.9,SNR=21							
N23A	Red Feather La		3.96	348	⇑P		Pn	18 46 34.6	+1.9
		baz=4.0							
N22A	Wattenberg Ran		3.97	343	⇓P		Pn	18 46 35.0	+2.2
		baz=4.0							
N26A	Koester Ranch,		4.02	18	⇑P		Pn	18 46 34.9	+1.5
		baz=4.0							
P29A	Atwood		4.04	49	⇑P		Pn	18 46 35.1	+1.4
		baz=4.0							
O20A	White River Ci		4.07	321	*e*Pn		Pn	18 46 34.9	+0.8
O20A	White River Ci		4.07	321	⇑P		Pn	18 46 35.5	+1.4
		baz=4.1,SNR=11							
U31A	Nine Bar Ranch		4.10	98	⇓P		Pn	18 46 35.9	+1.4
		baz=4.1,SNR=8.5							
Y29A	Porterfield Fa		4.10	139	⇓P		Pn	18 46 35.7	+1.2
		baz=4.1,SNR=10							
Z22A	Elephant Butte		4.12	205	⇓P		Pn	18 46 35.7	+1.0
		baz=4.1							
P19A	Cripple Cowboy		4.14	310	⇑P		Pn	18 46 36.4	+1.3
		baz=4.2							
X30A	Coker Ranch, T		4.16	127	⇓P		Pn	18 46 36.4	+1.3
		baz=4.1							
T31A	Randall Ranch,		4.17	87	⇑P		Pn	18 46 36.4	+1.0
		baz=4.1							
Q30A	Quinter		4.18	61	P		Pn	18 46 36.8	+1.3
		baz=4.1,SNR=5.7							
N27A	Anderson Farm,		4.21	25	⇓P		Pn	18 46 37.5	+1.6
		baz=4.2,SNR=8.8							
Y20A	Horse Springs,		4.21	224	⇓P		Pn	18 46 36.5	+0.5
		baz=4.2							
Z28A	Tucker Farm, M		4.25	150	⇓P		Pn	18 46 37.9	+1.4
		baz=4.2,SNR=8.8							
V31A	Spring Creek L		4.26	105	⇓P		Pn	18 46 38.4	+1.8
		baz=4.2							
PHWY	Pilot Hill		4.30	354	*e*Pn		Pn	18 46 39.8	+2.4
PHWY					*e*Pb		Pg	18 46 51.6	-1.8
PHWY					*e*Sg		Sb	18 47 40.8	+1.2
S31A	Mullinville		4.35	80	⇑P		Pn	18 46 38.7	+0.9
		baz=4.3							
W18A	Petrified Fore		4.36	246	*e*Pn		Pn	18 46 39.8	+1.8
W18A					*e*Pb		Pb	18 46 49.0	+0.8
W18A	Petrified Fore		4.36	246	⇑P		Pn	18 46 39.7	+1.7
		baz=4.4							
P30A	Selden		4.44	54	⇑P		Pn	18 46 40.4	+1.3
		baz=4.4,SNR=22							
R31A	Burdett		4.44	72	P		Pn	18 46 40.5	+1.3
		baz=4.4,SNR=8.4							
M24A	Cheyenne		4.44	1	⇓P		Pn	18 46 39.7	+0.4
		baz=4.4,SNR=14							
M25A	Palm-Egli Farm		4.46	8	⇓P		Pn	18 46 41.3	+1.9
		baz=4.5							
O29A	4D Ranch, Culb		4.46	45	P		Pn	18 46 40.9	+1.5
		baz=4.4,SNR=31							
N28A	Pribbeno Ranch		4.50	35	⇓P		Pn	18 46 41.4	+1.4
		baz=4.5,SNR=16							
127A	Arkansas Junct		4.51	163	⇑P		Pn	18 46 41.6	+1.5
		baz=4.5							
OGNE	Ogallala		4.51	29	*e*Pn		Pn	18 46 41.7	+1.7
OGNE					*e*Pb		Pb	18 46 51.9	+1.1
OGNE					*e*Sg		Sg	18 47 53.0	-2.8
OGNE	Ogallala		4.51	29	⇓P		Pn	18 46 41.8	+1.7
		baz=4.5,SNR=18							
Y30A	Stafford Cattl		4.52	133	⇑P		Pn	18 46 41.4	+1.2
		baz=4.5							
Z29A	Hungry Hill Ra		4.57	144	⇓P		Pn	18 46 42.3	+1.4
		baz=4.6							
N20A	Spence Gulch,		4.63	326	⇑P		Pn	18 46 44.6	+2.8
		baz=4.6,SNR=17							
M26A	McRoberts Ranc		4.64	16	⇑P		Pn	18 46 42.7	+0.7
		baz=4.6							
X31A	McDonald Ranch		4.65	119	⇑P		Pn	18 46 43.8	+1.8
		baz=4.6							
O19A	Miners Draw (B		4.66	316	⇑P		Pn	18 46 43.9	+1.8
		baz=4.7							
Q31A	Ellis		4.77	64	⇑P		Pn	18 46 43.9	+0.3
		baz=4.7							
X18A	Snowflake		4.80	240	⇑P		Pn	18 46 45.1	+0.9
		baz=4.8							
128A	Castleberry Fa		4.81	155	⇓P		Pn	18 46 45.4	+1.2
		baz=4.8,SNR=10							
GDL2	Guadalupe Moun		4.83	175	Pn		Pn	18 46 47.7	+3.3
Z30A	Sanderson Ranc		4.83	139	⇑P		Pn	18 46 45.9	+1.4
		baz=4.8,SNR=12							
SRU	San Rafael		4.91	297	*e*Pn		Pn	18 46 45.5	-0.1
SRU					*e*Pb		Pb	18 46 58.1	+0.5
SRU					*e*Sg		Sb	18 48 01.4	+4.4
O30A	MW Ranch, Wils		4.93	49	⇑P		Pn	18 46 46.5	+0.7
		baz=4.9							
Z20A	Nine Sixteen R		4.94	219	⇓P		Pn	18 46 46.8	+0.8
		baz=5.0							
RWWY	Rawlins		5.00	340	*e*Pn		Pn	18 46 49.6	+2.7
RWWY					*e*Pg		Pg	18 47 07.7	+0.9
RWWY					*e*Sg		Sg	18 48 13.8	+2.3
P31A	Stockton		5.01	58	⇑P		Pn	18 46 47.4	+0.6
		baz=5.0,SNR=14							
129A	Stewart Farms,		5.04	149	⇑P		Pn	18 46 48.0	+0.8
		baz=5.0							
N29A	Votaw Ranch, W		5.05	40	⇓P		Pn	18 46 48.4	+1.0
		baz=5.0,SNR=34							
121A	Cookes Peak, D		5.07	209	P		Pn	18 46 48.9	+1.1
		baz=5.1,SNR=41							
M28A	Bar X Bar Ranc		5.16	31	⇓P		Pn	18 46 50.3	+1.4
		baz=5.1							
227A	Bennet, Jal		5.17	165	⇑P		Pn	18 46 50.4	+1.3
		baz=5.2,SNR=7.0							
228A	UT Block 9, Go		5.24	158	⇑P		Pn	18 46 50.9	+0.7
		baz=5.2							
N30A	Hueffle Ranch,		5.31	43	⇑P		Pn	18 46 52.2	+1.2
		baz=5.3							
Q16A	Castle Valley		5.31	293	*e*Pn		Pn	18 46 53.5	+2.4
Q16A					*e*Pb		Pb	18 47 06.2	+1.8
Q16A					*e*Pg		Pg	18 47 12.4	-0.3
Q16A	Castle Valley		5.31	293	⇑P		Pn	18 46 51.1	-0.1
		baz=5.3							
MNTX	Cornudas Mount		5.32	184	*e*Pn		Pn	18 46 52.5	+1.4
MNTX					*e*Sg		Sb	18 48 12.9	+4.2
Z31A	Sharp Cattle R		5.36	132	⇑P		Pn	18 46 52.2	+0.5
		baz=5.3							
O31A	Woolen Ranch,		5.37	53	⇓P		Pn	18 46 52.4	+0.6
		baz=5.3							
WUAZ	Wupatki		5.45	256	*e*Pn		Pn	18 46 53.5	+0.5
WUAZ	Wupatki		5.45	256	⇑P		Pn	18 46 53.8	+0.8
		baz=5.5,SNR=17							
WMOK	Wichita Mounta		5.46	113	*e*Pn		Pn	18 46 54.1	+1.0
WMOK					*e*Pb		Pb	18 47 07.7	+0.8
WMOK					*e*Pg		Pg	18 47 17.4	+1.9
WMOK					*e*Sg		Sg	18 48 21.9	-4.4
130A	Snyder		5.47	143	⇓P		Pn	18 46 54.1	+0.9
		baz=5.5							
TMUT	Trail Mountain		5.47	296	*e*Pn		Pn	18 46 54.6	+1.1
TMUT					*e*Pb		Pb	18 47 07.0	-0.3
TMUT					*e*Sg		Sb	18 48 19.4	+6.1
M29A	Burnside Ranch		5.49	35	⇓P		Pn	18 46 54.8	+1.2
		baz=5.5,SNR=13							
K25A	Mack Ranch, Ha		5.64	8	⇓P		Pn	18 46 57.1	+1.5
		baz=5.6							
K26A	Motz Farm, Whi		5.83	13	⇓P		Pn	18 46 58.4	+0.2
		baz=5.8							
220A	Playas Peak, P		5.92	212	⇑P		Pn	18 47 00.5	+1.1
		baz=5.9							
X16A	Lo Mia Camp, P		5.92	246	⇓P		Pn	18 47 00.0	+0.4
		baz=5.9							
U15A	North Rim		5.97	267	⇓P		Pn	18 47 01.6	+1.3
		baz=6.0							
MVU	Marysvale		5.99	287	*e*Pn		Pn	18 47 03.0	+2.6
		33nm,0.9s							
MVU					*e*Pg		Pb	18 47 20.2	+4.2
DAU	Daniels Canyon		6.02	306	*e*Pn		Pn	18 47 03.0	+2.0
		17nm,0.6s							
MPU	Maple Canyon		6.07	302	Pn		Pn	18 47 01.5	-0.1
MPU					*e*Pb		Pb	18 47 17.6	+0.2
MPU					*e*Pg		Pg	18 47 26.2	-1.1
L29A	Maesberg Ranch		6.08	33	⇑P		Pn	18 47 02.3	+0.6
		baz=6.1,SNR=8.2							
ABTX	Abilene, Hawle		6.15	134	*e*Pn		Pn	18 47 02.3	-0.3
ABTX					*e*Pg		Pg	18 47 27.4	-1.5
ABTX	Abilene, Hawle		6.15	134	⇓P		Pn	18 47 02.2	-0.3
		baz=6.1							
JLU	Jordanelle		6.25	307	*e*Pn		Pn	18 47 05.8	+1.8
		17nm,0.6s							
L30A	Spencer Herefo		6.34	37	⇑P		Pn	18 47 05.4	+0.2
		baz=6.3							
NLU	North Lily Min		6.35	300	*e*Pn		Pn	18 47 02.8	-2.7
232A	Coleman		6.70	138	⇓P		Pn	18 47 10.2	0.0
		baz=6.7							
K29A	Lazy Trails An		6.73	30	⇓P		Pn	18 47 11.7	+1.2
		baz=6.7,SNR=6.6							
TUC	Tucson		6.75	228	Pn		Pn	18 47 15.1	+4.3
TUC					*e*Pg		Pg	18 47 36.4	-3.9
BW06	Boulder Array		6.77	329	*e*Pn		Pn	18 47 12.4	+1.2
		7.4nm,0.6s							
BW06					*e*Pg		Pg	18 47 37.4	-3.2
PDAR	Pinedale Array		6.77	329	Pn		Pn	18 47 11.8	+0.6
PDAR					Pg		Pg	18 47 37.2	-3.4
PDAR					Lg		Lg	18 49 01.8	
PDAR	Pinedale Array		6.77	329	Pn		Pn	18 47 11.8	+0.6
		0.2nm,0.3s,baz=141,slow=16,SNR=12							
PDAR					Pg		Pg	18 47 37.2	-3.4
		0.7nm,0.3s,baz=134,slow=17,SNR=25							
PDAR					Lg		Lg	18 49 01.8	
		0.3nm,0.3s,baz=130,slow=18,SNR=2.8							
CCUT	Cedar City		6.77	277	*e*Pn		Pn	18 47 07.6	-3.7
		20nm,0.7s							
CCUT					*e*Sg		Sb	18 48 59.5	+8.8
J20A	Shoshoni		6.78	340	⇑P		Pn	18 47 13.0	+1.7
		baz=6.8							
BGNE	Belgrade		6.83	48	*e*Pn		Pn	18 47 12.3	+0.5
BGNE	Belgrade		6.83	48	⇓P		Pn	18 47 12.3	+0.5
		baz=6.8,SNR=9.9							
ARUT	Antelope Range		6.85	279	Pn		Pn	18 47 18.9	+6.7
ARUT					*e*Pb		Pb	18 47 33.5	+2.9
KSU1	Kansas State U		6.86	70	*e*Pn		Pn	18 47 12.5	+0.3
		52nm,0.5s							
KSU1					*e*Pg		Pg	18 47 37.5	-4.9
KSU1					*e*Sg		Sg	18 49 06.2	-5.0
K30A	Basset		6.96	34	⇓P		Pn	18 47 14.5	+0.8
		baz=6.9							
DUG	Dugway		6.96	300	Pn		Pn	18 47 17.0	+3.1
DUG					*e*Pg		Pb	18 47 38.4	+5.8
I25A	Rochford		7.05	7	⇓P		Pn	18 47 15.1	0.0
		baz=7.1							
332A	Millersview		7.05	141	⇑P		Pn	18 47 15.0	0.0
		baz=7.0							
RSSD	Black Hills		7.13	5	*e*Pn		Pn	18 47 16.3	+0.2
RSSD					*e*Sg		Sb	18 49 10.1	+9.3
529A	Stev Forest Ra		7.23	161	⇓P		Pn	18 47 18.0	+0.6
		baz=7.2							
SPUT	South Promonto		7.27	308	*e*Pg		Pb	18 47 42.4	+4.7
		9.6nm,0.7s							
J29A	Okreek		7.27	27	⇑P		Pn	18 47 19.2	+1.3
		baz=7.3							
TUL1	Tulsa		7.42	96	*e*Pn		Pn	18 47 19.1	-0.7
TUL1					*e*Pg		Pg	18 47 49.4	-3.6
TUL1					*e*Sg		Sg	18 49 21.5	-7.6
432A	Menard		7.45	144	⇓P		Pn	18 47 19.4	-1.0
		baz=7.4							
530A	J-C Ranch, Com		7.46	156	⇓P		Pn	18 47 21.0	+0.4
		baz=7.5,SNR=5.1							
J30A	Dallas		7.53	32	⇑P		Pn	18 47 21.3	-0.2
		baz=7.5,SNR=6.8							
TXAR	Lajitas Array		7.73	172	Pn		Pn	18 47 26.1	+1.8
TXAR					Pg		Pb	18 47 52.0	+6.4
TXAR					Lg		Lg	18 49 34.1	
TXAR	Lajitas Array		7.73	172	Pn		Pn	18 47 26.1	+1.8
		0.3nm,0.3s,baz=0.3,slow=11,SNR=20							
TXAR					Pg		Pb	18 47 52.0	+6.4
		1.2nm,0.3s,baz=356,slow=15,SNR=11							
TXAR					Lg		Lg	18 49 34.1	
		2.1nm,0.3s,baz=350,slow=27,SNR=8.9							
HVU	Hansel Valley		7.74	310	*e*Pg		Pg	18 47 53.1	-6.0
JCT	Junction City		7.78	146	*e*Pn		Pn	18 47 23.6	-1.3
		26nm,0.8s							
JCT					*e*Pg		Pg	18 47 54.5	-5.4
JCT					*e*Sg		Sb	18 49 27.1	+7.8
REDW	Red Top Meadow		7.81	326	*e*Pn		Pn	18 47 27.3	+1.8
SNOW	Snow King Moun		7.84	327	Pn		Pn	18 47 30.9	+4.9
LOHW	Long Hollow		7.90	328	*e*Pn		Pn	18 47 27.3	+0.6
LOHW					*e*Sn		Sg	18 49 36.8	-7.7
WHTX	Lake Whitney		7.92	127	Pn		Pn	18 47 26.8	-0.1
TPAW	Teton Pass		7.95	326	*e*Pn		Pn	18 47 27.8	+0.3
RRI2	Red Ridge		8.01	324	*e*Pn		Pn	18 47 30.2	+1.9
SHPR	Sheep Range		8.26	270	*e*Pg		Pg	18 48 03.4	-5.7
IMW	Indian Meadow		8.27	328	*e*Pn		Pn	18 47 33.5	+1.7
FLWY	Flagg Ranch		8.32	330	Pn		Pn	18 47 31.4	-1.2
R11A	Troy Canyon, C		8.58	282	*e*Pn		Pn	18 47 35.1	-1.0
R11A					*e*Pg		Pg	18 48 06.7	-8.6
R11A	Troy Canyon, C		8.58	282	⇓P		Pn	18 47 35.8	-0.2
		baz=8.6							
BRSD	Miller		8.68	29	⇓P		Pn	18 47 36.4	-0.8
		baz=8.7							
G30A	Faulkton		9.19	26	⇓P		Pn	18 47 44.8	+0.6
		baz=9.2,SNR=7.1							
ECSD	EROS Data Cent		9.21	41	*e*Pn		Pn	18 47 44.2	-0.3
		10.0nm,0.6s							
ECSD					*e*Sn		Sn	18 49 42.4	+14
HLID	Hailey		9.78	315	Pn		Pn	18 47 54.4	+2.0
MCMT	McKenzie Canyo		9.85	325	*e*Pn		Pn	18 47 56.6	+3.2
NVAR	Mina Array Bea		10.72	282	Pg		Pn	18 48 49.0	+44
		0.3nm,0.3s,baz=113,slow=17,SNR=4.8							
ULM	Lac du Bonnet		14.73	23	Lg		Lg	18 53 06.0	
		0.3nm,0.3s,baz=330,slow=10,SNR=3.7							
TKL	Tuckaleechee C		17.07	88	Pn		Pn	18 49 30.6	+0.2
TKL					Lg		Lg	18 54 21.0	
TKL	Tuckaleechee C		17.07	88	Pn		Pn	18 49 30.6	+0.2
		0.2nm,0.3s,baz=249,slow=8.6,SNR=3.6							
TKL					Lg		Lg	18 54 21.0	
		0.1nm,0.3s,baz=163,slow=19,SNR=2.2							
ILAR	Eielson Array		37.20	332	P		P	18 52 41.9	-0.9
ILAR	Eielson Array		37.20	332	P		P	18 52 41.9	-0.9
		0.5nm,0.7s,baz=132,slow=6.5,SNR=2.8							
ZALV	Zalesovo Beam		89.01	354	P		P	18 58 26.7	0.0
ZALV	Zalesovo Beam		89.01	354	P		P	18 58 26.7	0.0
		0.4nm,0.5s,baz=3.8,slow=6.5,SNR=3.2							
DBIC	Dimbokro		93.98	79	LR		LR	19 34 23.9	
		comp=Z,338nm,20.7s,baz=253,slow=31							
HHC	Hu-ho-hao-te		95.61	333	*e*P		P	18 58 54.5	-3.2
HHC					PP		PP	19 02 48.8	+1.0
HHC					SKS		SKSac	19 09 29.9	-4.8
HHC					S		S	19 10 09.2	-6.2
HHC					SS		SS	19 16 41.5	-0.6
HHC					LR		LR		
		comp=Z,290nm,16.9s							
MKAR	Makanchi Array		96.32	355	P		P	18 59 00.5	-0.2
MKAR	Makanchi Array		96.32	355	P		P	18 59 00.5	-0.2
		0.4nm,0.8s,baz=20,slow=4.6,SNR=4.2							
WMQ	Urumqi		98.73	351	*e*P		Pdif	18 59 12.7	+1.0
CD2	Chengdu		107.29	334	Pdif		Pdif	18 59 49.6	-0.4
MAW	Mawson		148.59	171	PKPbc		PKPbc	19 05 18.3	+0.4
MAW	Mawson		148.59	171	PKPbc		PKPbc	19 05 18.3	+0.4
		1.2nm,0.6s,baz=253,slow=21,SNR=4.5							

IDC 03 19:03:40.9±0.8, 16°.81S×173°.44W, h0km, mb3.9/9, mb1 4.1/10, mb1mx3.9/20, mbtmp3.9/10, ML2.0/1, Error ellipse: s-maj=34.4km s-min=17.0km az=126.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	Afiamalu	3.30	29	Pn	Pn		19 04 31.7	-2.2
	9.8nm,0.3s,baz=255,slow=12,SNR=7.4							
AFI				Sn	Sn		19 05 06.2	-7.8
	27nm,0.3s,baz=98,slow=21,SNR=4.2							
URZ	Urewera	22.93	199	P	P		19 08 47.3	+0.7
	7.9nm,0.7s,baz=331,slow=21,SNR=7.6							
STKA	Stephens Creek	43.31	241	P	P		19 11 45.6	+0.9
	1.0nm,0.7s,baz=41,slow=8.9,SNR=4.3							
WRA	Warramunga Arr	49.50	258	P	P		19 12 32.3	-1.3
	0.4nm,0.4s,baz=95,slow=6.9,SNR=17							
ASAR	Alice Springs	49.65	253	P	P		19 12 34.1	-0.6
	3.2nm,0.6s,baz=87,slow=9.1,SNR=60							
VNDA	Vanda	61.98	186	P	P		19 14 01.9	-0.4
	0.3nm,0.5s,baz=324,slow=7.7,SNR=4.4							
PETK	Petropavlovsk-	73.95	342	P	P		19 15 19.5	+1.6
	5.1nm,0.8s,baz=177,slow=11,SNR=3.7							
NVAR	Mina Array Bea	75.40	42	P	P		19 15 27.3	+0.4
	0.4nm,0.7s,baz=236,slow=9.6,SNR=2.8							
PDAR	Pinedale Array	83.34	42

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**5.12**	**248**	**P**	**Pn**	**19 18 06.7**	**-0.9**
NEM2				*e*S	**Sn**	**19 19 04.3**	**-1.1**
JRA	**Rausu**	**5.31**	**256**	P	**Pn**	**19 18 11.2**	**+1.0**
JNK	**Nakash**	**5.71**	**253**	P	**Pn**	**19 18 16.0**	**+0.4**
JNK				*e*S	**Sn**	**19 19 19.4**	**-0.5**
SKR	**Severo-Kuril's**	**5.80**	**25**	*e*PN	Pn	19 18 09.5	-7.4
SKR	comp=N,80nm,0.5s			pmax	pmax		
SKR	comp=E,80nm,0.5s			pmax	pmax		
SKR	comp=Z,90nm,0.5s			pmax	pmax		
JAK	**Akkeshi**	**5.97**	**248**	P	**Pn**	**19 18 18.5**	**-0.7**
JAK				*e*S	**Sn**	**19 19 25.6**	**-0.7**
JTKR	**Abashiri--Toko**	**6.13**	**259**	P	**Pn**	**19 18 22.7**	**+1.3**
JAR	**Ashorobuto**	**6.46**	**253**	P	**Pn**	**19 18 26.7**	**+0.8**
JAR				*e*S	**Sn**	**19 19 38.3**	**0.0**
JOB	**Onbets**	**6.58**	**250**	P	**Pn**	**19 18 27.3**	**-0.2**
JOB				*e*S	**Sn**	**19 19 40.9**	**-0.3**
YSS	**Yuzh-Sakhalins**	**6.75**	**286**	*i* PN	Pn	19 18 33.4	+3.5
YSS	comp=Z,500nm,16.0s			MLR	MLR		
JKK2	**Kamakawa 2**	**6.96**	**260**	P	**Pn**	**19 18 34.3**	**+1.4**
ASAJ	**Asahikawa**	**7.00**	**262**	P	**Pn**	**19 18 34.8**	**+1.4**
ASAJ	**Asahikawa**	**7.00**	**262**	P	**Pn**	**19 18 34.8**	**+1.4**
	comp=Z,2.4nm,0.3s,baz=85,slow=11,SNR=14						
JCH	**Churui**	**7.02**	**249**	P	**Pn**	**19 18 33.4**	**-0.2**
JCH				*e*S	**Sn**	**19 19 51.5**	**-0.5**
JFR	**Furan**	**7.30**	**255**	P	**Pn**	**19 18 39.2**	**+1.7**
ERM	**Erimo**	**7.44**	**245**	*e*PN	**Pn**	**19 18 38.6**	**-0.8**
JNBK	**Urakawa-nobuka**	**7.57**	**248**	P	**Pn**	**19 18 40.3**	**-0.9**
JBT2	**Biratori 2**	**7.61**	**253**	P	**Pn**	**19 18 41.3**	**-0.4**
JBT2				*e*S	**Sn**	**19 20 07.0**	**+0.4**
PEA0B	**Petropavlovsk-**	**8.41**	**23**	*e*P	**Pn**	**19 18 55.3**	**+2.6**
PETK	**Petropavlovsk-**	**8.41**	**23**	*e*PN	**Pn**	**19 18 49.9**	**-2.8**
PETK	**Petropavlovsk-**	**8.41**	**23**	P	**Pn**	**19 18 49.6**	**-3.1**
PETK	**Petropavlovsk-**	**8.41**	**23**	P	**Pn**	**19 18 49.6**	**-3.1**
	comp=Z,0.4nm,0.3s,baz=185,slow=14,SNR=7.3						
PET	**Petropavlovsk**	**8.62**	**27**	*e*PN	Pn	19 18 51.4	-4.1
JNB	**Noboribetsu**	**8.63**	**253**	P	**Pn**	**19 18 56.6**	**+0.9**
JNB				*e*S	**Sn**	**19 20 30.9**	**-0.7**
JKB	**Kayabe**	**8.89**	**250**	P	**Pn**	**19 18 58.4**	**-0.8**
JKB				*e*S	**Sn**	**19 20 33.0**	**-5.0**
JANG	**Nango**	**9.38**	**241**	P	**Pn**	**19 19 03.1**	**-2.9**
JANG				*e*S	Sn	19 20 43.3	-6.9
JTM	**Tenmabayashi**	**9.43**	**244**	P	**Pn**	**19 19 04.8**	**-1.8**
JTM				*e*S	Sn	19 20 44.8	-6.4
JOSM	**Okushiri--Mats**	**9.85**	**254**	P	**Pn**	**19 19 12.2**	**-0.1**
JRG	**Rokugo**	**10.52**	**239**	P	**Pn**	**19 19 19.2**	**-2.4**
JRG				*e*S	**Sn**	**19 21 12.8**	**-5.2**
JIO	**Ouri**	**10.73**	**233**	P	Pn	19 19 21.3	-3.1
JIO				*e*S	Sn	19 21 13.4	-10
MAJO	**Matsushiro**	**13.85**	**235**	*e*P	**Pn**	**19 20 04.1**	**-3.0**
MAJO	comp=Z,9.0nm,0.8s			pmax	pmax		
MAJO	**Matsushiro**	**13.85**	**235**	*e*Pn	**Pn**	**19 20 04.1**	**-3.0**
	comp=Z,8.8nm,0.8s						
USRK	**Ussuriysk Arra**	**14.43**	**272**	P	**Pn**	**19 20 14.8**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=83,slow=13,SNR=7.0						
SEY	**Seymchan**	**17.48**	**0**	*e*P	**Pn**	**19 20 51.5**	**-2.2**
CN2	**Changchun**	**19.12**	**275**	*e*P	**P**	**19 21 12.8**	**+0.2**
CN2	comp=Z,10.0nm,1.0s			AMB	AMB		
KSRS	**Korea Array**	**19.86**	**255**	P	**Pn**	**19 21 22.8**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=57,slow=11,SNR=7.0						
KSAR	**Wonju Array Be**	**19.90**	**255**	P	**Pn**	**19 21 22.8**	**-0.3**
TJN	**Taejon**	**20.82**	**253**	*e*P	**P**	**19 21 29.5**	**-1.7**
YAK	**Yakutsk**	**21.08**	**330**	*e*P	**P**	**19 21 31.0**	**-2.8**
YAK	comp=E,9.0nm,1.2s			pmax	pmax		
YAK	comp=Z,17nm,0.6s			pmax	pmax		
YAK	comp=N,13nm,1.5s			pmax	pmax		
H11N2	**WAKE ISLAND Hy**	**28.40**	**150**	T	T	19 52 25.9	
	baz=341,slow=0.7,SNR=21						
H11N1	**WAKE ISLAND Hy**	**28.42**	**150**	T	T	19 52 34.1	
	baz=341,slow=0.7,SNR=14						
H11N3	**WAKE ISLAND Hy**	**28.42**	**150**	T	T	19 52 34.0	
	baz=341,slow=0.7,SNR=13						
TIXI	**Tiksi**	**28.52**	**345**	*e*P	**P**	**19 22 42.6**	**-1.8**
TIXI	comp=Z,9.0nm,2.5s			pmax	pmax		
H11S1	**WAKE ISLAND Hy**	**29.47**	**151**	T	T	19 53 51.8	
	baz=330,SNR=9.9						
H11S3	**WAKE ISLAND Hy**	**29.48**	**151**	T	T	19 53 47.5	
	baz=330,SNR=7.4						
H11S2	**WAKE ISLAND Hy**	**29.48**	**151**	T	T	19 53 49.6	
	baz=330,SNR=7.5						
ULN	**Ulaanbaatar**	**30.77**	**291**	P	**P**	**19 23 06.4**	**+1.7**
	comp=Z,5.2nm,1.2s						
SONM	**Songino Array**	**31.20**	**291**	P	**P**	**19 23 08.3**	**-0.3**
SONM	**Songino Array**	**31.20**	**291**	P	**P**	**19 23 08.3**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=71,slow=7.2,SNR=4.1						
ZAK	**Zakamensk**	**32.69**	**297**	*e*P	**P**	**19 23 20.8**	**-0.7**
ZAK	comp=Z,2.0nm,1.2s			pmax	pmax		
ENH	**Enshi**	**36.55**	**260**	P	P	19 23 51.9	-3.1
LZH	**Lanzhou**	**37.34**	**273**	*e*P	P	19 24 07.5	+5.7
LZH				pP	pP	19 24 15.4	+1.9
LZH	comp=Z,19nm,1.1s			AMB	AMB		
COLA	**College**	**37.50**	**37**	*i* P	**P**	**19 24 01.0**	**-1.6**
ILAR	**Eielson Array**	**37.91**	**38**	P	**P**	**19 24 05.0**	**-1.2**
ILAR	**Eielson Array**	**37.91**	**38**	P	**P**	**19 24 05.0**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=264,slow=7.6,SNR=5.4						
GTA	**Gaotai**	**38.59**	**280**	*e*P	**P**	**19 24 14.1**	**+1.8**
GTA				pP	pP	19 24 18.4	-5.6
GTA				sP	sP	19 24 21.2	-7.8
GTA	comp=Z,12nm,1.0s			AMB	AMB		
ZALV	**Zalesovo Beam**	**42.87**	**307**	P	**P**	**19 24 45.5**	**-1.8**
ZALV				PcP	**PcP**	**19 24 37.3**	**-1.9**
ZALV	**Zalesovo Beam**	**42.87**	**307**	P	**P**	**19 24 45.5**	**-1.8**
ZALV				PcP	**PcP**	**19 26 37.3**	**-0.2**
ZALV	**Zalesovo Beam**	**42.87**	**307**	P	P	**19 24 45.5**	**-1.8**
	comp=Z,0.3nm,0.4s,baz=53,slow=5.6,SNR=2.5						
ZALV				PcP	**PcP**	**19 26 37.3**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=64,slow=3.4,SNR=5.4						
INK	**Inuvik**	**43.04**	**32**	P	**P**	**19 24 46.4**	**-1.9**
	comp=Z,13nm,1.3s						
MK31	**Makanchi Array**	**46.99**	**298**	*e*P	**P**	**19 25 19.1**	**-1.0**
MK31	**Makanchi Array**	**46.99**	**298**	*e*P	**P**	**19 25 19.1**	**-1.0**
MKAR	**Makanchi Array**	**46.99**	**298**	*e*P	**P**	**19 25 20.0**	**-0.2**
MKAR	comp=Z,1.0nm,0.7s			pmax	pmax		
MKAR	**Makanchi Array**	**46.99**	**298**	P	**P**	**19 25 19.4**	**-0.7**
MKAR				pP	**pP**	**19 25 32.0**	**-0.1**
MKAR				PcP	**PcP**	**19 26 52.4**	**+0.5**
MKAR	**Makanchi Array**	**46.99**	**298**	P	**P**	**19 25 19.4**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=73,slow=7.2,SNR=7.4						
MKAR				pP	**pP**	**19 25 32.0**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=69,slow=8.2,SNR=7.3						
MKAR				PcP	**PcP**	**19 26 52.4**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=73,slow=2.2,SNR=3.4						
MKAR				LR	LR	19 46 06.1	
	comp=Z,146nm,19.2s,baz=94,slow=37						
KURK	**Kurchatov**	**47.57**	**304**	*c i* P	**P**	**19 25 24.6**	**+0.1**
KURK	comp=Z,2.0nm,1.0s			pmax	pmax		
KURK	**Kurchatov**	**47.57**	**304**	P	**P**	**19 25 22.8**	**-1.7**
	comp=Z,1.2nm,0.6s						
LSA	**Lhasa**	**49.75**	**274**	*e*P	**P**	**19 25 42.7**	**+0.6**
LSA	comp=Z,4.0nm,0.8s			pmax	pmax		
LSA	**Lhasa**	**49.75**	**274**	*e*P	**P**	**19 25 42.7**	**+0.6**
	comp=Z,3.8nm,0.8s						
BRVK	**Borovoye**	**51.24**	**310**	*e*P	**P**	**19 25 52.5**	**0.0**
BRVK	comp=Z,2.0nm,0.9s			pmax	pmax		
BRVK	**Borovoye**	**51.24**	**310**	P	**P**	**19 25 52.4**	**0.0**
	comp=Z,2.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**51.49**	**257**	P	**P**	**19 25 56.2**	**+1.4**
CMAR				pP	**pP**	**19 26 08.0**	**+1.2**
CMAR				PcP	**PcP**	**19 27 10.2**	**+1.6**
CMAR	**Chiang Mai Arr**	**51.49**	**257**	P	**P**	**19 25 56.2**	**+1.4**
	comp=Z,1.1nm,0.8s,baz=41,slow=8.0,SNR=8.3						
CMAR				pP	**pP**	**19 26 08.0**	**+1.2**
	comp=Z,1.6nm,1.0s,baz=46,slow=6.4,SNR=4.8						
CMAR				PcP	**PcP**	**19 27 10.2**	**+1.6**
	comp=Z,0.6nm,0.7s,baz=25,slow=2.4,SNR=3.0						
YKA	**Yellowknife Ar**	**52.30**	**36**	P	**P**	**19 26 00.4**	**+0.2**
YKA				pP	**pP**	**19 26 11.6**	**-0.7**
YKA	**Yellowknife Ar**	**52.30**	**36**	P	**P**	**19 26 00.4**	**+0.2**
	comp=Z,3.0nm,0.8s,baz=298,slow=7.2,SNR=5.7						
YKA				pP	**pP**	**19 26 11.5**	**-0.7**
	comp=Z,2.0nm,0.9s,baz=303,slow=8.0,SNR=3.3						
AAK	**Ala-Archa**	**53.86**	**297**	*d i* P	**P**	**19 26 13.4**	**+1.2**
AAK	comp=Z,14nm,1.2s			pmax	pmax		
AAK	**Ala-Archa**	**53.86**	**297**	*e*P	**P**	**19 26 12.1**	**-0.1**
	comp=Z,8.5nm,0.8s						
AAK				*e*		19 26 24.4	
EKS2	**Erkin-Say**	**54.30**	**297**	*e*P	**P**	**19 26 15.7**	**+0.3**
EKS2				*e*		19 26 27.9	
EKS2	comp=Z,8.0nm,0.7s			pmax	pmax		
EKS2	**Erkin-Say**	**54.30**	**297**	*e*P	**P**	**19 26 15.7**	**+0.3**
	comp=Z,7.7nm,0.7s						
EKS2				*e*		19 26 27.9	
ARU	**Arti**	**55.54**	**318**	*c i* P	**P**	**19 26 23.0**	**-0.9**
ARU						19 28 25.2	
ARU				S	**S**	**19 34 09.4**	**+3.4**
ARU				SS	**SS**	**19 37 53.9**	**+3.3**
ARU	comp=Z,8.0nm,1.2s			pmax	pmax		
KKAR	**Karatay Array**	**56.08**	**299**	*e*P	**P**	**19 26 27.6**	**-0.5**
KKAR				*e*		19 26 39.5	
KKAR	comp=Z,3.0nm,0.7s			pmax	pmax		
KKAR	**Karatay Array**	**56.08**	**299**	*e*P	**P**	**19 26 27.6**	**-0.5**
	comp=Z,3.1nm,0.7s						
KKAR				*e*		19 26 39.5	
KEV	**Kevo**	**58.33**	**340**	*e*P	**P**	**19 26 41.1**	**-2.4**
KEV	**Kevo**	**58.33**	**340**	*e*p	**P**	**19 26 41.1**	**-2.4**
NEW	**Newport**	**58.42**	**52**	LR	LR	19 49 19.5	
	comp=Z,269nm,19.0s,baz=115,slow=33						
ABKAR	**Akbulak array**	**58.77**	**310**	*e*P	**P**	**19 26 46.1**	**-0.8**
	comp=Z,1.7nm,0.5s						
ARCES	**ARCESS Array B**	**58.84**	**341**	P	**P**	**19 26 46.8**	**-0.4**
ARCES	**ARCESS Array B**	**58.84**	**341**	P	**P**	**19 26 46.8**	**-0.4**
	comp=Z,5.3nm,0.9s,baz=38,slow=6.1,SNR=5.6						
ARE0	**ARCESS Array S**	**58.84**	**341**	P	**P**	**19 26 46.2**	**-0.9**
KBL	**Kabul**	**61.98**	**292**	*e*P	**P**	**19 27 09.2**	**-0.1**
KBL	comp=Z,10.0nm,1.0s			pmax	pmax		
KBL	**Kabul**	**61.98**	**292**	*e*P	**P**	**19 27 09.2**	**-0.1**
	comp=Z,9.8nm,1.0s						
SUMG	**Summit**	**62.00**	**4**	*i* P	**P**	**19 27 09.3**	**+0.3**
SUMG				*i*		19 27 21.7	
SUMG	comp=Z,11nm,0.9s			pmax	pmax		
SUMG	**Summit**	**62.00**	**4**	*i* P	**P**	**19 27 09.3**	**+0.3**
	comp=Z,11nm,0.9s						
SUMG				*i*		19 27 21.7	
SUMG	**Summit**	**62.00**	**4**	*e*P	**P**	**19 27 08.7**	**-0.3**
	comp=Z,10.0nm,0.8s						
FFC	**Flin Flon**	**62.09**	**39**	*i* P	**P**	**19 27 10.6**	**+1.1**
FFC	**Flin Flon**	**62.09**	**39**	*e*P	**P**	**19 27 09.7**	**+0.3**
	comp=Z,30nm,0.9s						
JOF	**Joensuu**	**62.20**	**334**	*e*P	**P**	**19 27 09.7**	**-0.3**
JOF	comp=Z,5.0nm,0.7s			pmax	pmax		
JOF	**Joensuu**	**62.20**	**334**	*e*p	**P**	**19 27 09.7**	**-0.3**
	comp=Z,5.0nm,0.7s						
LRM	**Limekiln Ridge**	**62.44**	**52**	*e*P	**P**	**19 27 12.7**	**+0.4**
	comp=Z,50nm,1.1s						
NVAR	**Mina Array Bea**	**63.56**	**61**	P	**P**	**19 27 20.7**	**+0.9**
NVAR				pP	**pP**	**19 27 33.6**	**+1.5**
NVAR	**Mina Array Bea**	**63.56**	**61**	P	**P**	**19 27 20.7**	**+0.9**
	comp=Z,3.8nm,0.8s,baz=284,slow=6.9,SNR=22						
NVAR				pP	**pP**	**19 27 33.6**	**+1.5**
	comp=Z,1.4nm,0.8s,baz=280,slow=6.6,SNR=3.7						
FINES	**FINESS Array B**	**64.92**	**335**	P	**P**	**19 27 27.5**	**-0.5**
FINES				pP	**pP**	**19 27 39.4**	**-1.0**
FINES	**FINESS Array B**	**64.92**	**335**	P	**P**	**19 27 27.5**	**-0.5**
	comp=Z,5.3nm,0.9s,baz=181,slow=11,SNR=22						
FINES				pP	**pP**	**19 27 39.4**	**-1.0**
	comp=Z,8.6nm,0.8s,baz=43,slow=8.6,SNR=7.7						
CTA	**Charters Tower**	**65.49**	**186**	P	**P**	**19 27 32.5**	**+0.3**
CTA	**Charters Tower**	**65.49**	**186**	P	**P**	**19 27 32.5**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=4.8,slow=5.9,SNR=5.7						
CTAO	**Charters Tower**	**65.49**	**186**	*e*P	**P**	**19 27 32.3**	**+0.2**
CTAO	comp=Z,6.0nm,1.0s			pmax	pmax		
CTAO	**Charters Tower**	**65.49**	**186**	*e*P	**P**	**19 27 32.2**	**+0.2**
	comp=Z,6.0nm,1.0s						
PDAR	**Pinedale Array**	**65.98**	**53**	P	**P**	**19 27 35.6**	**+0.2**
PDAR				pP	**pP**	**19 27 50.2**	**+2.3**
PDAR	**Pinedale Array**	**65.98**	**53**	P	**P**	**19 27 35.6**	**+0.2**
	comp=Z,2.6nm,0.9s,baz=300,slow=2.9,SNR=15						
PDAR				pP	**pP**	**19 27 50.2**	**+2.3**
	comp=Z,1.2nm,0.9s,baz=316,slow=4.1,SNR=4.3						
WRAB	**Tennant Creek**	**67.12**	**198**	*i* P	**P**	**19 27 43.6**	**+1.1**
WRA	**Warramunga Arr**	**67.13**	**198**	P	**P**	**19 27 42.9**	**+0.3**
WRA	**Warramunga Arr**	**67.13**	**198**	P	**P**	**19 27 42.9**	**+0.3**
	comp=Z,2.5nm,0.8s,baz=16,slow=6.5,SNR=12						
FITZ	**Fitzroy Crossi**	**67.75**	**207**	*e*P	**P**	**19 27 47.1**	**+0.5**
	comp=Z,8.8nm,1.3s						
FITZ	**Fitzroy Crossi**	**67.75**	**207**	P	**P**	**19 27 47.5**	**+0.9**
	comp=Z,2.7nm,1.0s,baz=351,slow=10,SNR=4.2						
NB2	**NORSAR Subarra**	**69.22**	**341**	P	**P**	**19 27 55.3**	**-0.1**
	comp=Z,2.3nm,1.0s,baz=28,slow=6.2						
NOA	**NORSAR Array B**	**69.22**	**341**	P	**P**	**19 27 55.4**	**-0.1**
NOA				pP	**pP**	**19 28 07.5**	**-0.4**
NOA	**NORSAR Array B**	**69.22**	**341**	P	**P**	**19 27 55.4**	**-0.1**
	comp=Z,4.4nm,0.9s,baz=29,slow=6.3,SNR=6.0						
NOA				pP	**pP**	**19 28 07.5**	**-0.4**
	comp=Z,6.7nm,0.8s,baz=29,slow=6.2,SNR=8.4						
ASAR	**Alice Springs**	**70.82**	**198**	P	**P**	**19 28 07.0**	**+1.4**
ASAR				pP	**pP**	**19 28 19.9**	**+1.8**
ASAR	**Alice Springs**	**70.82**	**198**	P	**P**	**19 28 07.0**	**+1.4**
	comp=Z,2.8nm,0.8s,baz=14,slow=5.5,SNR=31						
ASAR				pP	**pP**	**19 28 19.9**	**+1.8**
	comp=Z,0.6nm,0.7s,baz=14,slow=5.4,SNR=2.8						
KIV	**Kislovodsk**	**71.25**	**314**	*e*P	**P**	**19 28 09.0**	**+0.9**
KIV				*i*		19 28 21.9	
KIV				*i*		19 28 32.8	
KIV	comp=Z,6.0nm,0.7s			pmax	pmax		
KBZ	**Khabaz**	**71.30**	**314**	P	**P**	**19 28 09.6**	**+1.3**
KBZ				*PP	**pP**	**19 28 22.1**	**+1.3**
KBZ	comp=Z,7.0nm,0.9s			pmax	pmax		
KBZ	**Khabaz**	**71.30**	**314**	P	**P**	**19 28 09.6**	**+1.3**
KBZ				pP	**pP**	**19 28 22.1**	**+1.3**
KBZ	**Khabaz**	**71.30**	**314**	P	**P**	**19 28 09.6**	**+1.3**
	comp=Z,6.7nm,0.9s,baz=38,slow=4.1,SNR=17						
KBZ				pP	**pP**	**19 28 22.1**	**+1.3**
	comp=Z,12nm,0.8s,baz=54,slow=6.2,SNR=14						
ZEI	**Tsey**	**71.45**	**313**	*e*P	**P**	**19 28 09.5**	**0.0**
ZEI	comp=Z,6.0nm,1.0s			pmax	pmax		
AKASG	**Malin Array Be**	**72.26**	**326**	P	**P**	**19 28 14.0**	**+0.1**
AKASG				*PP	**pP**	**19 28 25.6**	**-0.8**
AKASG	comp=Z,3.0nm,0.6s			pmax	pmax		
AKASG	**Malin Array Be**	**72.26**	**326**	P	**P**	**19 28 14.0**	**+0.1**
AKASG				pP	**pP**	**19 28 25.6**	**-0.8**
AKASG	**Malin Array Be**	**72.26**	**326**	P	**P**	**19 28 14.0**	**+0.1**
	comp=Z,3.3nm,0.6s,baz=33,slow=6.1,SNR=14						
AKASG				pP	**pP**	**19 28 25.6**	**-0.8**
	comp=Z,5.9nm,0.6s,baz=34,slow=6.1,SNR=12						
KIEV	**Kiev**	**72.27**	**326**	*i* P	**P**	**19 28 14.1**	**+0.1**
ANMO	**Albuquerque**	**73.01**	**57**	P	**P**	**19 28 19.0**	**0.0**
ANMO	**Albuquerque**	**73.01**	**57**	P	**P**	**19 28 19.0**	**0.0**
	comp=Z,1.6nm,0.8s,baz=307,slow=6.6,SNR=5.8						
KWP	**Kalwaria Pacla**	**75.59**	**329**	*i* P	**P**	**19 28 34.7**	**+1.2**
BURAR	**Bucovina Array**	**76.30**	**326**	*i* P	**P**	**19 28 39.2**	**+1.5**
TESR	**Tescani**	**76.63**	**325**	*i* P	**P**	**19 28 40.0**	**+0.6**
TRPA	**Tarpa**	**76.90**	**328**	*i* P	**P**	**19 28 43.2**	**+2.3**
OKC	**Ostrava-Krasne**	**77.02**	**332**	*e*P	**P**	**19 28 42.8**	**+1.3**
OKC	**Ostrava-Krasne**	**77.02**	**332**	*e*P	**P**	**19 28 42.8**	**+1.3**
VRI	**Vrincioaia**	**77.12**	**324**	*i* P	P	**19 28 47.0**	**+4.8**
DPC	**Dobruska-Polom**	**77.17**	**333**	*e*P	**P**	**19 28 44.1**	**+1.6**
DPC				*e*		19 28 55.8	
DPC	**Dobruska-Polom**	**77.17**	**333**	*e*P	**P**	**19 28 44.1**	**+1.6**
DPC				epP	**pP**	**19 28 55.8**	**+0.7**
MORC	**Moravsky Berou**	**77.27**	**332**	*i* P	**P**	**19 28 45.1**	**+2.1**
CLL	**Collm**	**77.36**	**335**	*e*P	P	**19 28 47.0**	**+3.6**
CLL				*i*		19 28 55.9	
CLL	**Collm**	**77.36**	**335**	*e*(P)	P	19 28 47.0	+3.6
CLL				*i* pP	pP	19 28 55.9	-0.2
	comp=Z,12nm,1.0s						
MALT	**Malatya**	**77.56**	**313**	*i* P	P	19 28 49.5	+4.5
STKA	**Stephens Creek**	**77.61**	**189**	P	**P**	**19 28 46.5**	**+1.7**
	comp=Z,2.1nm,0.7s,baz=356,slow=1.7,SNR=5.0						
MLR	**Muntele Rosu**	**77.75**	**325**	*i* P	**P**	**19 28 47.0**	**+1.1**
DRGR		**77.95**	**327**	*i* P	**P**	**19 28 49.9**	**+3.0**
PRU	**Pruhonice**	**78.05**	**334**	*e*P	P	19 28 50.9	+3.6
PRU				*e*		19 29 00.3	
PRU	**Pruhonice**	**78.05**	**334**	*e*P	P	19 28 50.9	+3.6
PRU				epP	pP	19 29 00.3	+0.3
VOIR		**78.15**	**325**	*i* P	**P**	**19 28 48.2**	**+0.1**
ARR	**Arges**	**78.38**	**325**	*i* P	**P**	**19 28 51.0**	**+1.7**
TXAR	**Lajitas Array**	**78.64**	**60**	P	**P**	**19 28 51.5**	**+0.5**
TXAR	**Lajitas Array**	**78.64**	**60**	P	**P**	**19 28 51.5**	**+0.5**
	comp=Z,4.0nm,0.8s,baz=296,slow=3.9,SNR=39						
BRTR	**Keskin Array B**	**78.89**	**316**	P	**P**	**19 28 52.9**	**+0.6**
BRTR				pP	**pP**	**19 29 05.8**	**+0.8**
BRTR	**Keskin Array B**	**78.89**	**316**	P	**P**	**19 28 52.9**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=104,slow=4.0,SNR=6.0						
BRTR				pP	**pP**	**19 29 05.8**	**+0.8**
	comp=Z,2.0nm,0.8s,baz=90,slow=3.7,SNR=8.0						
KHC	**Kasperske Hory**	**79.11**	**334**	*e*P	**P**	**19 28 54.1**	**+0.9**
KHC				*e*		19 29 06.2	
KHC	**Kasperske Hory**	**79.11**	**334**	*e*P	**P**	**19 28 54.1**	**+0.9**
KHC				epP	**pP**	**19 29 06.2**	**+0.3**
KHC	**Kasperske Hory**	**79.11**	**334**	*e*P	**P**	**19 28 53.4**	**+0.2**
	comp=Z,8.2nm,1.1s						
KHC				*e*		19 29 05.8	
GERES	**GERESS Array B**	**79.32**	**334**	P	**P**	**19 28 54.7**	**+0.2**
GERES				pP	**pP**	**19 29 07.1**	**0.0**
GERES	**GERESS Array B**	**79.32**	**334**	P	**P**	**19 28 54.7**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=22,slow=4.7,SNR=8.5						
GERES				pP	**pP**	**19 29 07.1**	**0.0**
	comp=Z,0.6nm,0.5s,baz=37,slow=5.2,SNR=4.0						
VTS	**Vitosha**	**81.25**	**325**	*i* P	**P**	**19 29 05.7**	**+0.7**
CDF	**Champ du Feu**	**81.59**	**337**	*e*P	**P**	**19 29 05.7**	**-0.9**
CDF	**Champ du Feu**	**81.59**	**337**	*e*P	**P**	**19 29 05.7**	**-0.9**
CDF	**Champ du Feu**	**81.59**	**337**	*e*P	**P**	**19 29 05.7**	**-0.9**
PAGF	**Fort de Pagny**	**81.87**	**338**	*e*P	**P**	**19 29 07.1**	**-0.9**
	comp=Z,11nm,1.1s						
PAGF	**Fort de Pagny**	**81.87**	**338**	*e*P	**P**	**19 29 07.1**	**-0.9**
SFTF	**Sexfontaines**	**82.37**	**339**	*e*P	**P**	**19 29 09.6**	**-1.0**
	comp=Z,26nm,1.0s						
SFTF	**Sexfontaines**	**82.37**	**339**	*e*P	**P**	**19 29 09.6**	**-1.0**
LOR	**Lormes**	**83.54**	**339**	*e*P	**P**	**19 29 15.5**	**-1.2**
	comp=Z,28nm,1.3s						
LOR	**Lormes**	**83.54**	**339**	*e*P	**P**	**19 29 15.5**	**-1.2**
AVF	**Avril sur Loir**	**84.11**	**339**	*e*P	**P**	**19 29 18.6**	**-1.0**
	comp=Z,43nm,1.4s						
AVF	**Avril sur Loir**	**84.11**	**339**	*e*P	**P**	**19 29 18.6**	**-1.0**
AVF	**Avril sur Loir**	**84.11**	**339**	*e*P	**P**	**19 29 18.6**	**-1.0**
SMF	**Signal de Mont**	**84.12**	**339**	*e*P	**P**	**19 29 18.7**	**-1.0**
	comp=Z,41nm,1.2s						
SMF	**Signal de Mont**	**84.12**	**339**	*e*P	**P**	**19 29 18.7**	**-1.0**
SMF	**Signal de Mont**	**84.12**	**339**	*e*P	**P**	**19 29 18.7**	**-1.0**
LPL	**La Plagne**	**84.39**	**336**	*e*P	**P**	**19 29 20.3**	**-1.0**
	comp=Z,55nm,1.8s						
LPL	**La Plagne**	**84.39**	**336**	*e*P	**P**	**19 29 20.3**	**-1.0**
LPL	**La Plagne**	**84.39**	**336**	*e*P	**P**	**19 29 20.3**	**-1.0**
LPG	**La Plagne**	**84.40**	**336**	*e*P	**P**	**19 29 20.5**	**-1.0**
	comp=Z,35nm,1.3s						
LPG	**La Plagne**	**84.40**	**336**	*e*P	**P**	**19 29 20.5**	**-1.0**
LPG	**La Plagne**	**84.40**	**336**	*e*P	**P**	**19 29 20.5**	**-1.0**
ORIF	**Oris-en-Rattie**	**85.18**	**337**	*e*P	**P**	**19 29 24.3**	**-0.8**
	comp=Z,20nm,1.2s						
ORIF	**Oris-en-Rattie**	**85.18**	**337**	*e*P	**P**	**19 29 24.3**	**-0.8**
ORIF	**Oris-en-Rattie**	**85.18**	**337**	*e*P	**P**	**19 29 24.3**	**-0.8**
VIVF	**Saint-Julien-l**	**85.56**	**338**	*e*P	**P**	**19 29 26.5**	**-0.5**
	comp=Z,10nm,

TORD	**Torodi Ar. Bea**	**41.15**	**134**	P	P	19 51 02.0	+0.4	
	0.3nm,0.6s,baz=325,slow=9.7,SNR=5.9							
PDAR	**Pinedale Array**	**56.16**	**299**	LR	LR	20 16 38.7		
	comp=Z,93nm,19.0s,baz=109,slow=36							
H10S1	**ASCENSION HYDR**	**56.22**	**165**	T	T	20 53 25.3		
	baz=350,slow=0.7,SNR=5.9							
H10S3	**ASCENSION HYDR**	**56.22**	**165**	T	T	20 53 24.1		
	baz=350,slow=0.7,SNR=8.1							
H10S2	**ASCENSION HYDR**	**56.23**	**165**	T	T	20 53 26.0		
	baz=350,slow=0.7,SNR=8.1							
BVAR	**Borovoye Array**	**58.73**	**44**	P	P	19 53 15.2	+0.3	
	0.4nm,0.5s,baz=328,slow=5.1,SNR=3.3							
MKAR	**Makanchi Array**	**68.61**	**44**	P	P	19 54 20.3	+0.1	
	0.2nm,0.5s,baz=317,slow=5.8,SNR=5.0							
ASAR	**Alice Springs**	**152.74**	**40**	PKPbc	PKPbc	20 03 13.7	-0.8	
	0.1nm,0.5s,baz=341,slow=2.4,SNR=4.8							

IDC 03 20:04:20.3±2.2, 46°40N×27°67W, h0km, mb3.5/2, mb1 3.5/3, mb1mx3.2/31, mbtmp3.4/3, ML4.4/1, MS3.7/3, Ms1 3.7/3, ms1mx3.1/39, Error ellipse: s-maj=73.1km s-min=38.4km az=60.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**18.55**	**103**	P	Pn	20 08 38.8	+0.1
	0.3nm,0.3s,baz=299,slow=13,SNR=8.1						
DAVOX	**Davos/Dischmat**	**25.65**	**75**	LR	LR	20 18 33.4	
	comp=Z,149nm,18.5s,baz=279,slow=33						
FRB	**Frobisher Bay**	**28.45**	**322**	LR	LR	20 20 31.6	
	comp=Z,143nm,18.3s,baz=12,slow=34						
TORD	**Torodi Ar. Bea**	**41.35**	**134**	P	P	20 12 07.8	-0.2
	0.3nm,0.6s,baz=331,slow=8.5,SNR=5.7						
H10S1	**ASCENSION HYDR**	**56.31**	**164**	T	T	21 14 32.1	
	baz=350,slow=0.7,SNR=6.4						
H10S3	**ASCENSION HYDR**	**56.32**	**165**	T	T	21 14 31.7	
	baz=350,slow=0.7,SNR=12						
H10S2	**ASCENSION HYDR**	**56.33**	**164**	T	T	21 14 32.7	
	baz=350,slow=0.7,SNR=7.8						
TXAR	**Lajitas Array**	**60.13**	**282**	LR	LR	20 38 46.2	
	comp=Z,67nm,19.8s,baz=5.0,slow=34						
MKAR	**Makanchi Array**	**68.76**	**44**	P	P	20 15 25.8	-0.1
	0.4nm,0.7s,baz=326,slow=5.1,SNR=2.6						
WRA	**Warramunga Arr**	**149.76**	**35**	PKPbc	PKPbc	20 24 12.1	-0.2
	0.8nm,1.0s,baz=331,slow=2.9,SNR=3.1						
ASAR	**Alice Springs**	**152.89**	**39**	PKPbc	PKPbc	20 24 19.2	-0.3
	0.4nm,0.8s,baz=349,slow=1.6,SNR=5.3						

IDC 03 20:12:17.7±1.3, 46°41N×27°29W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.4/31, mbtmp3.5/4, ML4.6/1, MS3.4/1, Ms1 3.3/1, ms1mx2.6/48, Error ellipse: s-maj=50.6km s-min=28.1km az=23.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**18.30**	**103**	P	P	20 16 33.5	+0.4
	0.4nm,0.3s,baz=299,slow=13,SNR=9.8						
SCHQ	**Schefferville**	**26.16**	**303**	LR	LR	20 26 14.2	
	comp=Z,77nm,19.7s,baz=265,slow=32						
TORD	**Torodi Ar. Bea**	**41.17**	**134**	P	P	20 20 03.5	-0.3
	1.0nm,0.9s,baz=334,slow=8.0,SNR=11						
H10S1	**ASCENSION HYDR**	**56.25**	**165**	T	T	21 22 31.8	
	baz=350,slow=0.7,SNR=7.0						
H10S3	**ASCENSION HYDR**	**56.25**	**165**	T	T	21 22 29.0	
	baz=350,slow=0.7,SNR=7.8						
H10S2	**ASCENSION HYDR**	**56.26**	**165**	T	T	21 22 29.7	
	baz=350,slow=0.7,SNR=7.2						
TXAR	**Lajitas Array**	**60.38**	**283**	P	P	20 22 28.9	0.0
	0.5nm,0.8s,baz=68,slow=7.2,SNR=5.1						
MKAR	**Makanchi Array**	**68.58**	**44**	P	P	20 23 22.0	-0.1
	0.2nm,0.6s,baz=324,slow=5.5,SNR=3.7						

IDC 03 20:20:10.9±2.9, 16°52S×173°79W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/18, mbtmp3.6/3, MS3.4/2, Ms1 3.4/2, ms1mx3.1/28, Error ellipse: s-maj=139.8km s-min=34.8km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.24**	**37**	LR	LR	20 22 03.3	
	comp=Z,177nm,18.3s,baz=110,slow=35						
WRA	**Warramunga Arr**	**49.23**	**258**	P	P	20 28 59.6	-1.9
	0.4nm,0.8s,baz=91,slow=7.3,SNR=6.2						
ASAR	**Alice Springs**	**49.42**	**253**	P	P	20 29 04.5	+1.5
	0.9nm,0.5s,baz=89,slow=8.6,SNR=24						
TGY	**Tagaytay City**	**71.29**	**291**	LR	LR	21 00 15.1	
	comp=Z,83nm,21.2s,baz=165,slow=34						
ILAR	**Eielson Array**	**83.61**	**11**	P	P	20 32 41.1	+0.4
	0.3nm,0.7s,baz=205,slow=4.0,SNR=2.7						
TORD	**Torodi Ar. Bea**	**174.49**	**127**	PKP	PKPdf	20 40 21.9	-1.7
	0.9nm,1.0s,baz=227,slow=2.2,SNR=3.7						

*ISCJB **03** 20:21:00.2±0.8, 46°22N±0°08×27°3W±0°1, h10km, mb3.9/16, MS3.6/2, Error ellipse: s-maj=14.1km s-min=8.9km az=41.6*

*IDC **03** 20:21:00.8±1.1, 46°41N×27°42W, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.7/33, mbtmp3.8/9, ML5.0/1, MS3.6/2, Ms1 3.6/2, ms1mx2.8/51, Error ellipse: s-maj=34.1km s-min=18.9km az=20.0*

*CSEM **03** 20:21:00.0±4.3, 45°36N×27°29W, h10km, mb4.1/8, Ms3.0, Error ellipse: s-maj=119.0km s-min=24.7km az=83.0*

ISC 03 20:21:02.0±1.0, 46°3N±0°2×27°3W±0°1, h10km, n108, σ1§19/108, mb4.0/16, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGAV	**Gavieira, Arco**	**14.31**	**101**	*e*P	Pn	20 24 23.9	-0.8
	28nm,0.7s						
PGAV	**Gavieira, Arco**	**14.31**	**101**	*e*P	Pn	20 24 23.9	-0.8
	28nm,0.7s						
PTO	**Porto**	**14.45**	**104**	*e*P	Pn	20 24 25.5	-0.9
PTO	**Porto**	**14.45**	**104**	*e*P	Pn	20 24 25.5	-0.9
PCAB	**Cabril**	**14.59**	**101**	*e*P	Pn	20 24 27.5	-0.8
	23nm,0.7s						
PCAB	**Cabril**	**14.59**	**101**	*e*P	Pn	20 24 27.5	-0.8
	23nm,0.7s						
POLO	**Lamas de Olo**	**14.89**	**102**	*e*P	Pn	20 24 31.7	-0.8
	14nm,2.1s						
POLO				*i* P	P	20 24 38.1	-0.2
POLO	**Lamas de Olo**	**14.89**	**102**	*e*P	Pn	20 24 31.7	-0.8
	14nm,2.1s						
PVRL	**Vila Real**	**14.98**	**103**	*i* P	P	20 24 39.7	+0.4
PCAS	**Casmilo, Conde**	**15.04**	**108**	*e*P	Pn	20 24 34.3	-0.2
	14nm,1.9s						
PCAS	**Casmilo, Conde**	**15.04**	**108**	*e*P	Pn	20 24 34.3	-0.2
	14nm,1.9s						
PVIS	**Viseu**	**15.12**	**105**	*e*P	Pn	20 24 34.9	-0.7
	13nm,2.0s						
PVIS	**Viseu**	**15.12**	**105**	*e*P	Pn	20 24 34.9	-0.7
	13nm,2.0s						
PMAFR	**Mafra**	**15.13**	**113**	*e*P	Pn	20 24 33.7	-1.9
	50nm,1.4s						
PMAFR	**Mafra**	**15.13**	**113**	*e*P	Pn	20 24 33.7	-1.9
	50nm,1.4s						
PTOM	**Tomar**	**15.33**	**109**	*e*P	Pn	20 24 35.6	-2.6
	18nm,1.6s						
PTOM	**Tomar**	**15.33**	**109**	*e*P	Pn	20 24 35.6	-2.6
	18nm,1.6s						
PBRG	**Braganca**	**15.42**	**100**	*e*P	Pn	20 24 39.1	-0.5
	14nm,1.6s						
PBRG				*i* P	pP	20 24 46.0	-1.0
PBRG	**Braganca**	**15.42**	**100**	*e*P	Pn	20 24 39.1	-0.5
	14nm,1.6s						
MVO	**Moncorvo**	**15.50**	**102**	*e*P	Pn	20 24 39.5	-1.1
	15nm,2.3s						
MVO				*i* P	pP	20 24 46.8	-1.0
MVO	**Moncorvo**	**15.50**	**102**	*e*P	Pn	20 24 39.5	-1.1
	15nm,2.3s						
MTE	**Manteigas**	**15.50**	**105**	*e*P	Pn	20 24 39.7	-0.9
	22nm,1.5s						
MTE	**Manteigas**	**15.50**	**105**	*e*P	Pn	20 24 39.7	-0.9
	22nm,1.5s						
PMTG	**Montargil**	**15.74**	**111**	*e*P	Pn	20 24 42.4	-1.3
	17nm,1.5s						
PMTG	**Montargil**	**15.74**	**111**	*e*P	Pn	20 24 42.4	-1.3
	17nm,1.5s						
PCBR	**Castelo Branco**	**15.82**	**107**	*e*P	Pn	20 24 44.9	+0.2
	12nm,1.5s						
PCBR	**Castelo Branco**	**15.82**	**107**	*e*P	Pn	20 24 44.9	+0.2
	12nm,1.5s						
PMRV	**Marv??o**	**16.09**	**108**	*e*P	Pn	20 24 47.3	-1.0
	12nm,2.0s						
PMRV	**Marv??o**	**16.09**	**108**	*e*P	Pn	20 24 47.3	-1.0
	12nm,2.0s						
PNCL	**Nicolau / Gran**	**16.10**	**114**	*e*P	Pn	20 24 48.2	0.0
	18nm,1.9s						
PNCL	**Nicolau / Gran**	**16.10**	**114**	*e*P	Pn	20 24 48.2	0.0
	18nm,1.9s						
EVOP	**Sao Brissos**	**16.11**	**112**	*e*P	Pn	20 24 45.7	-2.7
	1.4nm,0.3s						
EVO	**Evora**	**16.18**	**112**	*e*P	Pn	20 24 45.7	-3.6
	2.7nm,0.3s						
EVO				*e*R			
	148nm,22.0s						
EVO	**Evora**	**16.18**	**112**	*e*P	Pn	20 24 47.3	-2.0
	7.7nm,1.9s						
EVO	**Evora**	**16.18**	**112**	*e*P	Pn	20 24 47.3	-2.0
	7.7nm,1.9s						
ROSF	**Rostrenen**	**16.39**	**74**	*e*P	Pn	20 24 50.6	-1.3
ROSF	**Rostrenen**	**16.39**	**74**	*e*P	Pn	20 24 50.6	-1.3
MORF	**Marmelete**	**16.51**	**116**	*e*P	Pn	20 24 54.3	+0.7
	26nm,1.6s						
MORF	**Marmelete**	**16.51**	**116**	*e*P	Pn	20 24 54.3	+0.7
	26nm,1.6s						
PCVE	**Castro Verde**	**16.70**	**114**	*e*P	Pn	20 24 56.2	+0.3
	7.8nm,1.4s						
PCVE	**Castro Verde**	**16.70**	**114**	*e*P	Pn	20 24 56.2	+0.3
	7.8nm,1.4s						
PBDV	**Barranco-do-Ve**	**17.00**	**115**	*e*P	P	20 25 01.1	-0.6
	15nm,1.5s						
PBDV	**Barranco-do-Ve**	**17.00**	**115**	*e*P	P	20 25 01.1	-0.6
	15nm,1.5s						
PBAR	**Barrancos**	**17.01**	**111**	*e*P	Pn	20 24 59.9	0.0
	6.6nm,1.9s						
PBAR	**Barrancos**	**17.01**	**111**	*e*P	Pn	20 24 59.9	0.0
	6.6nm,1.9s						
PVAQ	**Vaqueiros**	**17.04**	**115**	*i* P	Pn	20 25 00.6	+0.4
GRR	**Gorron**	**17.99**	**74**	*e*P	P	20 25 13.3	+0.8
GRR	**Gorron**	**17.99**	**74**	*e*P	P	20 25 13.3	+0.8
FLN	**La Foliniere**	**18.22**	**73**	*e*P	Pn	20 25 14.1	-0.7
FLN				*e*R			
	130nm,19.5s						
FLN	**La Foliniere**	**18.22**	**73**	*e*P	Pn	20 25 14.1	-0.7
ESDC	**Sonseca Array**	**18.26**	**103**	P	P	20 25 17.9	+2.3
	1.0nm,0.3s,baz=297,slow=13,SNR=24						
MFF	**Saint Martin d**	**18.66**	**79**	*e*P	Pn	20 25 20.9	+0.7
	17nm,1.1s						
MFF	**Saint Martin d**	**18.66**	**79**	*e*P	Pn	20 25 20.9	+0.7
	8.6nm,1.1s						
SJPF	**Ste Jean**	**18.76**	**90**	*e*P	Pn	20 25 22.6	+1.2
	8.6nm,0.7s						
SJPF	**Ste Jean**	**18.76**	**90**	*e*P	Pn	20 25 22.6	+1.2
	4.3nm,0.7s						
ETSF	**Etsaut**	**19.29**	**91**	*e*P	Pn	20 25 28.9	+1.0
	12nm,0.6s						
ETSF	**Etsaut**	**19.29**	**91**	*e*P	Pn	20 25 28.9	+1.0
	6.0nm,0.6s						
LFF	**La Frestale**	**19.60**	**84**	*e*P	Pn	20 25 31.8	+0.2
	9.3nm,0.7s						
LFF	**La Frestale**	**19.60**	**84**	*e*P	Pn	20 25 31.8	+0.2
	4.7nm,0.7s						
EPF	**Esparros**	**19.87**	**89**	*e*P	P	20 25 34.2	+1.0
	2.6nm,0.5s						
EPF	**Esparros**	**19.87**	**89**	*e*P	P	20 25 34.2	+1.0
	1.3nm,0.5s						
RJF	**Les Rejaudoux**	**20.05**	**82**	*e*P	P	20 25 35.8	+0.7
	36nm,1.4s						
RJF				*e*R			
	150nm,19.2s						
RJF	**Les Rejaudoux**	**20.05**	**82**	*e*P	P	20 25 35.8	+0.7
	18nm,1.4s						
TCF	**Toulx Ste Croi**	**20.32**	**79**	*e*P	P	20 25 39.5	+1.4
	16nm,0.8s						
TCF	**Toulx Ste Croi**	**20.32**	**79**	*e*P	P	20 25 39.5	+1.4
	8.1nm,0.8s						
CAF	**Calviac**	**20.52**	**83**	*e*P	P	20 25 41.1	+0.9
	24nm,1.2s						
CAF	**Calviac**	**20.52**	**83**	*e*P	P	20 25 41.1	+0.9
	12nm,1.2s						
AVF	**Avril sur Loir**	**21.01**	**78**	*e*P	P	20 25 46.7	+1.2
	9.3nm,0.9s						
AVF	**Avril sur Loir**	**21.01**	**78**	*e*P	P	20 25 46.7	+1.2
	4.7nm,0.9s						
SSF	**Saint Saulge**	**21.07**	**77**	*e*P	P	20 25 47.1	+1.0
SSF	**Saint Saulge**	**21.07**	**77**	*e*P	P	20 25 47.1	+1.0
MTLF	**Montolieu**	**21.07**	**87**	*e*P	P	20 25 46.9	+0.7
	24nm,1.4s						
MTLF	**Montolieu**	**21.07**	**87**	*e*P	P	20 25 46.9	+0.7
	12nm,1.4s						
BAIF	**Baives**	**21.24**	**68**	*e*P	P	20 25 48.3	+0.4
BAIF	**Baives**	**21.24**	**68**	*e*P	P	20 25 48.3	+0.4
LOR	**Lormes**	**21.27**	**76**	*e*P	P	20 25 49.4	+1.1
	18nm,1.0s						
LOR				*e*R			
	97nm,20.7s						
LOR	**Lormes**	**21.27**	**76**	*e*P	P	20 25 49.4	+1.1
	9.1nm,1.0s						
SMF	**Signal de Mont**	**21.36**	**78**	*e*P	P	20 25 50.6	+1.3
SMF	**Signal de Mont**	**21.36**	**78**	*e*P	P	20 25 50.6	+1.3
GIVF	**Givet**	**21.63**	**68**	*e*P	P	20 25 52.9	+0.8
GIVF	**Givet**	**21.63**	**68**	*e*P	P	20 25 52.9	+0.8
MEZF	**Maizieres J'vi**	**21.90**	**72**	*e*P	P	20 25 54.8	-0.2
MEZF	**Maizieres J'vi**	**21.90**	**72**	*e*P	P	20 25 54.8	-0.2
MDT	**Midelt**	**21.96**	**120**	P	P	20 25 58.4	+2.4
	1.7nm,0.9s,baz=332,slow=9.3,SNR=4.3						
LASF	**Ste Croix**	**21.98**	**85**	*e*P	P	20 25 57.2	+1.2
	13nm,0.8s						
LASF	**Ste Croix**	**21.98**	**85**	*e*P	P	20 25 57.2	+1.2
	6.4nm,0.8s						
VIVF	**Saint-Julien-l**	**22.33**	**82**	*e*P	P	20 26 01.2	+1.5
	16nm,1.1s						
VIVF	**Saint-Julien-l**	**22.33**	**82**	*e*P	P	20 26 01.2	+1.5
	7.9nm,1.1s						
PAGF	**Fort de Pagny**	**22.34**	**72**	*e*P	P	20 26 00.3	+0.5
PAGF	**Fort de Pagny**	**22.34**	**72**	*e*P	P	20 26 00.3	+0.5
ORIF	**Oris-en-Rattie**	**23.14**	**81**	*e*P	P	20 26 10.3	+2.0
	17nm,1.3s						
ORIF				*e*R			
	121nm,17.8s						
ORIF	**Oris-en-Rattie**	**23.14**	**81**	*e*P	P	20 26 10.3	+2.0
	2nm,1.3s						
HINF	**Hinteralfeld**	**23.19**	**74**	*e*P	P	20 26 09.2	+0.5
HINF	**Hinteralfeld**	**23.19**	**74**	*e*P	P	20 26 09.2	+0.5
MBDF	**Montbardon**	**23.80**	**81**	*e*P	P	20 26 16.4	+1.4
	7.9nm,0.8s						
MBDF	**Montbardon**	**23.80**	**81**	*e*P	P	20 26 16.4	+1.4
	4.0nm,0.8s						
SBF	**Sospel**	**24.51**	**83**	*e*P	P	20 26 20.8	-0.7
	36nm,1.1s						
SBF	**Sospel**	**24.51**	**83**	*e*P	P	20 26 20.8	-0.7
	21nm,1.1s						
DAVOX	**Davos/Dischmat**	**25.41**	**75**	P	P	20 26 32.3	+2.6
	3.4nm,0.8s,baz=299,slow=12,SNR=5.9						
AKASG	**Malin Array Be**	**36.91**	**62**	P	P	20 28 09.7	-1.0
	0.7nm,0.5s,baz=278,slow=9.1,SNR=3.5						
TORD	**Torodi Ar. Bea**	**41.09**	**134**	P	P	20 28 46.2	+0.3
	2.2nm,1.0s,baz=331,slow=8.1,SNR=9.8						
TORD				LR	LR	20 44 24.5	
	comp=Z,76nm,18.3s,baz=200,slow=34						
BRTR	**Keskin Array B**	**44.05**	**76**	P	P	20 29 11.2	+1.2
	1.0nm,1.0s,baz=318,slow=5.8,SNR=5.1						
YKA	**Yellowknife Ar**	**49.20**	**322**	P	P	20 29 48.5	-1.3
	1.6nm,0.9s,baz=78,slow=7.7,SNR=3.9						
H10S1	**ASCENSION HYDR**	**56.15**	**165**	T	T	21 31 16.2	
	baz=350,slow=0.7,SNR=12						
H10S3	**ASCENSION HYDR**	**56.16**	**165**	T	T	21 31 16.1	
	baz=350,slow=0.7,SNR=18						
H10S2	**ASCENSION HYDR**	**56.17**	**165**	T	T	21 31 16.7	
	baz=350,slow=0.7,SNR=17						
TXAR	**Lajitas Array**	**60.42**	**283**	P	P	20 31 11.9	+0.2
	0.6nm,0.7s,baz=68,slow=5.9,SNR=7.6						
TXAR				LR	LR	20 56 39.7	
	comp=Z,58nm,21.2s,baz=5.0,slow=36						
MKAR	**Makanchi Array**	**68.64**	**44**	P	P	20 32 05.7	+0.6
	0.7nm,0.7s,baz=320,slow=6.6,SNR=4.9						

IDC 03 20:30:34.4±1.0, 17°43S×171°84W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.8/19, mbtmp3.8/5, MS3.3/1, Ms1 3.3/1, ms1mx3.0/30, Error ellipse: s-maj=49.7km s-min=26.3km az=145.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.50**	**1**	LR	LR	20 32 15.4	
	comp=Z,440nm,18.2s,baz=264,slow=29						
H11S2	**WAKE ISLAND Hy**	**41.46**	**328**	T	T	21 22 58.6	
	baz=150,slow=0.7,SNR=1.3						
H11S3	**WAKE ISLAND Hy**	**41.48**	**328**	T	T	21 22 57.9	
	baz=150,slow=0.7,SNR=16						
H11S1	**WAKE ISLAND Hy**	**41.48**	**328**	T	T	21 22 59.9	
	baz=150,slow=0.7,SNR=17						
H11N3	**WAKE ISLAND Hy**	**42.41**	**330**	T	T	21 24 05.7	
	baz=149,slow=0.7						
H11N1	**WAKE ISLAND Hy**	**42.41**	**330**	T	T	21 24 06.7	
	baz=149,slow=0.7						
H11N2	**WAKE ISLAND Hy**	**42.42**	**330**	T	T	21 24 06.4	
	baz=149,slow=0.7						
WRA	**Warramunga Arr**	**50.87**	**258**	P	P	20 39 39.2	+1.7
	0.7nm,0.9s,baz=90,slow=6.8,SNR=6.8						
ASAR	**Alice Springs**	**50.94**	**253**	P	P	20 39 37.7	-0.4
	1.1nm,0.7s,baz=87,slow=8.3,SNR=11						
VNDA	**Vanda**	**61.53**	**186**	P	P	20 40 52.0	-0.7
	0.3nm,0.7s,baz=23,slow=9.2,SNR=3.6						
TXAR	**Lajitas Array**	**80.51**	**55**	P	P	20 42 50.7	+1.8
	0.5nm,1.0s,baz=243,slow=5.0,SNR=2.5						
YKA	**Yellowknife Ar**	**91.36**	**23**	P	P	20 43 40.7	-1.1
	1.7nm,1.0s,baz=267,slow=5.6,SNR=4.9						
GERES	**GERESS Array B**	**148.34**	**353**	PKPbc	PKPdf	20 50 20.6	+1.2
	1.4nm,0.9s,baz=23,slow=3.2,SNR=4.8						
BRTR	**Keskin Array B**	**148.67**	**320**	PKPbc	PKPbc	20 50 22.4	-1.7
	0.7nm,0.9s,baz=73,slow=3.2,SNR=4.8						

IDC 03 20:41:12.2±4.7, 46°37N×27°70W, h0km, mb3.6/2, mb1 3.5/3, mb1mx3.2/31, mbtmp3.4/3, ML4.6/1, MS3.5/4, Ms1 3.4/4, ms1mx2.9/33, Error ellipse: s-maj=111.4km s-min=47.3km az=73.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**18.57**	**103**	P	Pn	20 45 30.7	0.0
	0.4nm,0.3s,baz=294,slow=13,SNR=6.7						
ESDC				LR	LR	20 50 51.0	
	comp=Z,56nm,18.4s,baz=330,slow=31						
SCHQ	**Schefferville**	**25.94**	**303**	LR	LR	20 54 49.4	
	comp=Z,83nm,18.2s,baz=70,slow=32						
TORD	**Torodi Ar. Bea**	**41.34**	**134**	P	P	20 48 59.7	-0.1
	0.7nm,1.0s,baz=336,slow=7.8,SNR=3.7						
ULM	**Lac du Bonnet**	**44.07**	**301**	LR	LR	21 06 45.7	
	comp=Z,84nm,20.5s,baz=255,slow=35						
H10S1	**ASCENSION HYDR**	**56.28**	**164**	T	T	21 51 20.5	
	baz=350,slow=0.7,SNR=9.8						
H10S3	**ASCENSION HYDR**	**56.29**	**164**	T	T	21 51 21.2	
	baz=350,slow=0.7,SNR=14						
H10S2	**ASCENSION HYDR**	**56.30**	**164**	T	T	21 51 19.9	
	baz=350,slow=0.7,SNR=13						
TXAR	**Lajitas Array**	**60.11**	**282**	LR	LR	21 17 16.5	
	comp=Z,55nm,18.5s,baz=0.0,slow=36						
MKAR	**Makanchi Array**	**68.81**	**44**	P	P	20 52 18.0	-0.1
	0.5nm,0.8s,baz=317,slow=6.1,SNR=4.2						

*IDC **03** 20:55:09.3±0.8, 1°05S×120°57E, h0km, mb3.6/9, mb1 3.8/11, mb1mx3.7/24, mbtmp3.7/11, ML3.9/2, MS3.4/3, Ms1 3.3/3, ms1mx2.9/29, Error ellipse: s-maj=39.9km s-min=13.6km az=69.0*

*ISCJB **03** 20:55:14.0±0.4, 1°08S±0°04×120°64E±0°04, h49km, mb3.6/9, MS3.4/1, Error ellipse: s-maj=6.6km s-min=4.9km az=22.6*

*DJA **03** 20:55:14.6±1.0, 1°S±3°×12°1E±°, h24km±11km, M4.5/13, mb4.7/3, mB5.7/1, MLv4.4/13, Mw(mB)5.3/1*

ISC 03 20:55:15.7±0.7, 1°09S±0°05×120°65E±0°06, h49km, n26, σ0§94/28, mb3.8/9, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APSI	**Ampana**	**1.01**	**80**	P	Pn	20 55 32.4	-1.2
APSI				S	Sn	20 55 46.1	-0.6
MRSI	**Marisa**	**2.02**	**40**	P	Pn	20 55 47.4	+0.1
MRSI				S	Sn	20 56 13.4	+2.0
LUWI	**Luwuk**	**2.12**	**89**	P	Pn	20 55 48.1	-0.6
TOLI	**Toli-Toli**	**2.20**	**4**	P	Pn	20 55 48.1	-1.7
MJSI	**Majene**	**2.96**	**214**	P	Pn	20 56 01.0	+0.8
SPSI	**Sidrap Palu**	**2.99**	**197**	P	Pn	20 56 00.9	+0.3
KKSI	**Kolaka, Sulawe**	**3.22**	**162**	P	Pn	20 56 04.1	+0.3
BNSI	**Bone**	**3.33**	**189**	P	Pn	20 56 06.5	+1.2
BKB	**Balikpapan**	**3.76**	**267**	P	Pn	20 56 12.4	+1.2
KAPI	**Kappang**	**4.00**	**193**	P	Pn	20 56 14.0	-0.5
KAPI	**Kappang**	**4.00**	**193**	Pn	Pn	20 56 13.6	-0.9
	13nm,0.3s,baz=17,slow=5.6,SNR=38						
KAPI				Sn	Sn	20 57 00.5	+0.4
	7.8nm,0.3s,baz=86,slow=23,SNR=6.1						
BKSI	**Bulukumba**	**4.24**	**187**	P	Pn	20 56 17.2	-0.5
MYLDM	**Lahad Datu**	**6.59**	**341**	P	Pn	20 56 51.1	+1.0
	111nm,0.8s,0.6nm						
NLAI	**Namlea**	**6.79**	**108**	P	Pn	20 56 53.6	+0.8
	27nm,0.8s,6µm0.7nm						
LBMI	**Labuha**	**6.86**	**86**	P	Pn	20 56 52.8	-1.0
BATI	**Baumata**	**9.54**	**162**	Pn	Pn	20 57 30.2	-0.3
	0.8nm,0.3s,baz=116,slow=8.1,SNR=6.1						
BATI				LR	LR	21 01 16.0	
	comp=Z,280nm,18.4s,baz=180,slow=38						
FITZ	**Fitzroy Crossi**	**17.60**	**164**	LR	LR	21 06 47.5	
	comp=Z,72nm,20.0s,baz=7.9,slow=40

KK31			⇑Lg	Lg	21 04 36.0			
	8.6nm,0.7s,baz=135,slow=27,SNR=3.6							
MKAR	**Makanchi Array**	**9.94**	**32**	Pn	**21 04 13.5**	**-0.1**		
	0.1nm,0.3s,baz=217,slow=16,SNR=4.2							
MKAR			Lg	Lg	21 06 52.4			
	0.0nm,0.3s,baz=223,slow=27,SNR=2.8							
WMQ	**Urumqi**	**11.17**	**58**	*e*P	Pn	21 04 35.0	+4.5	
KURBB	**Kurchatov Arra**	**12.31**	**12**	Pn	**Pn**	**21 04 44.1**	**-1.9**	
	0.0nm,0.3s,baz=198,slow=11,SNR=2.4							
KURBB			Lg	Lg	21 08 07.5			
	0.1nm,0.3s,baz=200,slow=27,SNR=6.2							
BVAR	**Borovoye Array**	**14.67**	**350**	Pn	**Pn**	**21 05 16.1**	**-2.1**	
	0.1nm,0.3s,baz=170,slow=8.8,SNR=3.1							
AB31	**Akbulak array**	**14.91**	**320**	⇓Pn	Pn	21 05 16.6	-4.9	
	0.9nm,0.7s,baz=130,slow=12,SNR=5.7							
AB31				⇑Sn	Sn	21 07 59.0	-7.6	
	0.6nm,0.8s							
AKTO	**Aktyubinsk**	**16.62**	**321**	⇑Pn	**Pn**	**21 05 44.4**	**+0.7**	
	22nm,2.6s							
ZALV	**Zalesovo Beam**	**16.85**	**21**	Pn	**Pn**	**21 05 44.6**	**-1.9**	
	0.1nm,0.3s,baz=200,slow=7.7,SNR=3.6							
SONM	**Songino Array**	**24.81**	**58**	P	**P**	**21 07 13.5**	**+0.4**	
	0.5nm,0.8s,baz=256,slow=9.5,SNR=4.7							
HHC	**Hu-ho-hao-te**	**28.42**	**74**	*e*P	**P**	**21 07 44.4**	**-1.2**	
HHC				PP	**PnPn**	**21 08 35.1**	**+0.7**	
HHC				S	**S**	**21 12 28.0**	**-4.7**	
HHC				sS	**sS**	**21 12 41.8**	**+4.1**	
FINES	**FINESS Array B**	**37.36**	**324**	P	**P**	**21 09 01.7**	**-1.4**	
	4.3nm,1.0s,baz=99,slow=8.6,SNR=4.8							
ARCES	**ARCESS Array B**	**40.30**	**336**	P	**P**	**21 09 26.4**	**-1.3**	
	1.9nm,0.7s,baz=110,slow=7.8,SNR=10							
GERES	**GERESS Array B**	**44.03**	**304**	P	**P**	**21 09 59.5**	**+1.0**	
	0.4nm,0.6s,baz=53,slow=6.7,SNR=3.9							
NOA	**NORSAR Array B**	**44.41**	**322**	P	**P**	**21 10 02.3**	**+0.9**	
	1.1nm,0.7s,baz=92,slow=8.1,SNR=2.7							
ESDC	**Sonseca Array**	**58.94**	**298**	P	**P**	**21 11 49.9**	**-0.4**	
	0.3nm,0.5s,baz=60,slow=7.1,SNR=5.4							
TORD	**Torodi Ar. Bea**	**68.56**	**270**	P	**P**	**21 12 54.5**	**+0.5**	
	0.9nm,0.8s,baz=49,slow=5.5,SNR=6.6							
WRA	**Warramunga Arr**	**80.81**	**125**	P	**P**	**21 14 06.2**	**+1.4**	
	0.7nm,1.1s,baz=314,slow=3.8,SNR=3.6							

TAP 03 21:07:31.8, 23.67N×121.57E, h32km, ML3.7, 3C-18D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.05**	**326**	*i* P		Pb	21 07 37.5	+0.3
	baz=332							
TEGC				S		Sb	21 07 41.9	+1.0
	baz=332							
ESL	**Shilin**	**0.20**	**319**	⇑*i* P		Pb	21 07 38.0	-0.2
	baz=314							
ESL				S		Sb	21 07 42.1	-0.5
	baz=314							
ESF	**Shoufeng Towns**	**0.21**	**344**	⇓*i* P		Pb	21 07 38.5	+0.1
	baz=334							
ESF				S		Sn	21 07 43.4	+0.2
	baz=334							
EHY	**Hungye**	**0.28**	**235**	⇓*i* P		Pb	21 07 38.9	-0.3
	baz=243							
EHY				*e*S		Sb	21 07 44.1	-0.1
	baz=243							
HWA	**Hwalien**	**0.31**	**6**	P		Pb	21 07 39.6	+0.1
	baz=14							
HWA				S		Sn	21 07 46.2	+0.6
	baz=14							
TWF1	**Yuli**	**0.40**	**219**	⇓*i* P		Pb	21 07 40.6	-0.3
	baz=231							
TWF1				*e*S		Sb	21 07 46.7	-0.3
	baz=231							
TWD	**Chiawan**	**0.41**	**3**	⇓*i* P		Pb	21 07 40.9	-0.1
	baz=353							
TWD				S		Sb	21 07 47.2	-0.1
	baz=353							
WHF	**Hehuan Shan**	**0.55**	**330**	P		Pb	21 07 42.9	-0.8
	baz=330							
WHF				*e*S		Sb	21 07 50.7	-1.2
	baz=330							
CHKT	**Chengkung**	**0.59**	**199**	*e*P		Pn	21 07 44.0	0.0
	baz=186							
CHKT				*e*S		Sn	21 07 53.4	+0.8
	baz=186							
YUS	**Yu-Shan**	**0.59**	**253**	⇓*e*P		Pb	21 07 44.5	0.0
	baz=254							
YUS				S		Sb	21 07 52.8	-0.4
	baz=254							
SMLT	**Sun Moon Lake**	**0.65**	**289**	⇓*i* P		Pb	21 07 44.8	-0.2
	baz=293							
SMLT				S		Sb	21 07 54.0	0.0
	baz=293							
TWT	**Tachien**	**0.69**	**328**	*e*P		Pn	21 07 45.5	-0.1
	baz=327							
TWT				*e*S		Sb	21 07 54.5	-0.6
	baz=327							
ELDTW	**Lidau**	**0.70**	**227**	P		Pn	21 07 44.6	-1.0
	baz=221							
TYC	**Yuchr**	**0.70**	**290**	⇓*i* P		Pn	21 07 45.5	+0.1
	baz=291							
TYC				*e*S		Sn	21 07 55.3	+0.2
	baz=291							
ALS	**Alishan**	**0.72**	**258**	⇓*i* P		Pb	21 07 46.5	+0.2
	baz=266							
ALS				S		Sb	21 07 56.0	-0.2
	baz=266							
ENA	**Nanau**	**0.77**	**11**	⇓*i* P		Pn	21 07 46.0	-0.5
	baz=359							
NNS	**Nan Shan**	**0.79**	**347**	*e*P		Pn	21 07 46.5	-0.5
	baz=355							
NNS				*e*S		Sn	21 07 56.3	-1.4
	baz=355							
CHN5	**Tsauling**	**0.82**	**265**	⇓*i* P		Pb	21 07 48.2	+0.4
	baz=266							
CHN5				*e*S		Sb	21 08 00.5	+1.9
	baz=266							
WNT	**Mingjian**	**0.84**	**285**	⇓P		Pb	21 07 48.7	+0.7
	baz=286							
WNT				*e*S		Sb	21 08 00.3	+1.3
	baz=286							
WGK	**Gukeng**	**0.93**	**271**	⇓*i* P		Pb	21 07 49.7	+0.3
	baz=273							
WGK				*e*S		Sb	21 08 02.9	+1.5
	baz=273							
TCU	**Taichung**	**0.95**	**300**	⇓*e*P		Pb	21 07 50.5	+0.7
	baz=301							
TCU				*e*S		Sb	21 08 05.3	+3.2
	baz=301							
TWG	**Pinlang**	**0.96**	**209**	*e*P		Pn	21 07 47.9	-1.2
	baz=198							
ENTT	**Nioudou**	**0.97**	**360**	*e*P		Pn	21 07 49.0	-0.2
	baz=359							
TWC	**Suao**	**0.97**	**15**	*e*P		Pn	21 07 49.5	+0.3
	baz=21							
WTP	**Ta-pu**	**0.97**	**245**	⇓*i* P		Pb	21 07 50.3	0.0
	baz=246							
WTP				*e*S		Sb	21 08 03.6	+0.7
	baz=246							
TWQ1	**Liyutan**	**1.00**	**313**	⇑*e*P		Pb	21 07 51.4	+0.7
	baz=314							
TWQ1				*e*S		Sb	21 08 05.2	+1.8
	baz=314							
NSK	**Sanguang**	**1.02**	**349**	⇓P		Pn	21 07 50.3	+0.2
	baz=358							
NSK				*e*S		Sn	21 08 03.0	-0.3
	baz=358							
NSY	**Sanyi**	**1.05**	**315**	⇓*i* P		Pb	21 07 52.2	+0.7
	baz=316							
NSY				*e*S		Sb	21 08 06.0	+1.0
	baz=316							
TWE	**Neicheng**	**1.05**	**5**	*e*P		Pn	21 07 50.1	-0.3
	baz=5.0							
CHY	**Chiayi**	**1.07**	**261**	*e*P		Pn	21 07 51.1	+0.6
	baz=262							
CHN1	**Nanshi**	**1.07**	**244**	⇓P		Pb	21 07 52.1	+0.3
	baz=246							
CHN1				*e*S		Sb	21 08 07.6	+2.0
	baz=246							
SGST	**Jiashian**	**1.08**	**238**	⇓*e*P		Pb	21 07 52.1	+0.2
	baz=232							
SGST				*e*S		Sb	21 08 07.6	+1.8
	baz=232							
NSTT	**Nanjuang**	**1.09**	**332**	⇑*e*P		Pb	21 07 52.4	+0.2
	baz=341							
NSTT				S		Sn	21 08 05.5	+0.6
	baz=341							
WTCT	**Ta-ch'eng**	**1.20**	**280**	*e*P		Pb	21 07 53.7	-0.2
	baz=273							
WTCT				*e*S		Sb	21 08 11.6	+2.5
	baz=273							
ECL	**Taimali**	**1.21**	**208**	*e*P		Pn	21 07 51.1	-1.3
	baz=200							
WSF	**Szhu**	**1.24**	**269**	*e*P		Pb	21 07 54.0	-0.6
	baz=270							
CHN3	**Shinhua**	**1.25**	**242**	*e*P		Pb	21 07 55.8	+0.9
	baz=244							
TWA	**Mucha**	**1.31**	**0**	*e*P		Pn	21 07 54.4	+0.5
	baz=8.0							
NCU	**National Centr**	**1.34**	**345**	*e*P		Pb	21 07 55.9	-0.5
	baz=343							
TWM1	**Shoushan**	**1.35**	**232**	*e*P		Pb	21 07 57.5	+1.0
	baz=234							
SCLT	**Jiali**	**1.36**	**249**	*e*P		Pn	21 07 54.4	-0.1
	baz=251							
SGLT	**Jiouru**	**1.37**	**227**	*e*P		Pb	21 07 57.9	+1.2
	baz=217							
TAP1	**Taipei**	**1.37**	**358**	*e*P		Pn	21 07 55.0	+0.4
	baz=356							
TWB1	**Santiao Chiao**	**1.39**	**16**	*e*P		Pn	21 07 55.2	+0.2
NWF	**Wu-fen Shan**	**1.41**	**8**	*e*P		Pn	21 07 55.8	+0.4
	baz=6.0							
TWS1	**Kuangyinshan**	**1.44**	**354**	*e*P		Pn	21 07 55.5	-0.1
	baz=8.0							
EAST	**Anshuo**	**1.44**	**208**	*e*P		Pb	21 07 57.8	-0.3
	baz=201							
YOJ	**Yonaguni jima**	**1.54**	**59**	*e*P		Pn	21 07 57.0	+0.1
	baz=57							
SCZT	**Fangliau**	**1.56**	**214**	*e*P		Pb	21 07 59.6	-0.4
	baz=204							
PNG	**Penghu**	**1.85**	**267**	*e*P		Pn	21 08 02.0	+0.7
	baz=269							
KNM	**Kinmen**	**2.96**	**285**	*e*P		Pn	21 08 18.2	+1.6
	baz=286							

CASC 03 21:14:41.3±5.0, 8.75N×82.28W, h3km±28km, MD3.7, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BRU	**Baru**	**0.28**	**281**	*e*P		Pb	21 14 49.2	-0.4
TBS2		**0.37**	**276**	*e*P		Pg	21 14 49.2	+0.4
TBS2				*e*S		Sb	21 14 58.1	+0.9
BRU2	**Volcan**	**0.41**	**276**	*e*P		Pg	21 14 47.8	-1.5
BRU2				*e*S		Sg	21 14 54.2	-0.7
CTCR	**Cotoan**	**0.49**	**287**	*e*P		Pg	21 14 48.8	-2.3
CNI	**Changuinola**	**0.70**	**341**	*e*P		Pg	21 14 54.2	-0.5
BUS	**Buena Vista**	**1.66**	**299**	*e*P		Pb	21 15 13.3	+0.1
BUS				*e*S		Sg	21 15 36.1	+0.3
URSC	**Urasca**	**1.83**	**306**	*e*P		Pn	21 15 14.3	+0.4
URSC				*e*S		Sn	21 15 38.0	+0.2
QCR	**Quepos**	**1.98**	**290**	*e*P		Pg	21 15 18.8	-0.5
CGA2	**Cerro Gallo 2**	**2.49**	**300**	*e*P		Pb	21 15 25.3	-1.7
CGA2				*e*S		Sn	21 15 55.8	+1.6

BJI ***03*** *21:27:15.2, 46.56N×27.79W, h3km, mB5.3/14, mb4.9/23, Ms5.1/7, Ms7 4.8/7*
IGIL ***03*** *21:27:16.8, 46.29N×27.46W, h10km, mb5.1*
ISCJB ***03*** *21:27:17.8±0.2, 46.37N±0.05×27.34W±0.02, h16km, mb4.6/86, MS4.2/38, Error ellipse: s-maj=7.0km s-min=2.1km az=8.3*
IDC ***03*** *21:27:17.5±0.7, 46.48N×27.40W, h0km, mb4.1/19, mb1 4.2/21, mb1mx4.1/36, mbtmp4.1/21, ML4.4/2, MS4.2/36, Ms1 4.2/36, ms1mx4.1/44, Error ellipse: s-maj=21.6km s-min=13.3km az=13.0*
CSEM ***03*** *21:27:18.6±0.1, 46.50N×27.40W, h10km, mb4.8/59, Ms3.9, Mw4.9, Error ellipse: s-maj=9.7km s-min=2.9km az=7.0*
NEIC ***03*** *21:27:19.0±2.2, 46.50N×27.40W, h10km±3km, mb4.9/42, Error ellipse: s-maj=19.0km s-min=9.4km az=213.0*
PDA ***03*** *21:27:19.4, 46.34N×27.40W, h10km, mb4.9*
GCMT ***03*** *21:27:20.6±0.3, 46.46N×27.27W, h12km, MW4.9, Moment Tensor Solution. s20,c23; s81,c109; Moment tensor: Scale 10^16 Nm; Mrr=2.69±.09; Mθθ 0.50±.10; Mφφ 2.19±.07; Mrθ -0.18±.40; Mθφ 0.80±.07; Mφr 0.33±.29; Best double couple: M0 2.60000×10^16 NP1:φs 196.00000°, δ 48.00000°, λ -97.00000°. NP2:φs 27.00000°, δ 43.00000°, λ -82.00000°. Principal axes: T 2.5200, Plg 3.0000°, Azm 291.0000°; N 0.2100, Plg 6.0000°, Azm 201.0000°; P -2.7300, Plg 84.0000°, Azm 47.0000°; Data Used: IU G CN II IC.*

ISC 03 21:27:19.6±0.5, 46.37N±0.09×27.37W±0.06, h16km, n454, σ 19/04/442, mb4.7/87, MS4.2/38, 53C-58D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PGAV	**Gavieira, Arco**	**14.39**	**101**	*e*P		**Pn**	**21 30 41.0**	**-1.6**
	61nm,2.2s							
PGAV				*e*LR		LR	21 34 01.4	
	1μm,20.0s							
PTO	**Porto**	**14.53**	**104**	*e*P		**Pn**	**21 30 42.8**	**-1.5**
	26nm,1.6s							
PCAB	**Cabril**	**14.66**	**102**	*e*P		**Pn**	**21 30 45.0**	**-1.3**
	81nm,1.4s							
POLO	**Lamas de Olo**	**14.96**	**102**	*e*P		**Pn**	**21 30 48.8**	**-1.6**
	34nm,1.4s							
PVRL	**Vila Real**	**15.06**	**103**	*e*P		**Pn**	**21 30 49.9**	**-1.7**
	48nm,1.6s							
PCAS	**Casmilo, Conde**	**15.12**	**108**	*e*P		**Pn**	**21 30 51.6**	**-0.8**
	36nm,1.8s							
PVIS	**Viseu**	**15.20**	**105**	*e*P		**Pn**	**21 30 51.9**	**-1.6**
	37nm,1.6s							
PMAFR	**Mafra**	**15.21**	**113**	*e*P		**Pn**	**21 30 51.1**	**-2.5**
	119nm,1.4s							
PMST	**Lisbon--Monsan**	**15.40**	**113**	*e*P		**Pn**	**21 30 53.4**	**-2.6**
PTOM	**Tomar**	**15.41**	**109**	*e*P		**Pn**	**21 30 55.7**	**-0.5**
LIS	**Lisbon**	**15.43**	**113**	*e*P		**Pn**	**21 30 55.1**	**-1.4**
LIS					AMb	AMB	21 30 59.0	
	comp=Z,178nm,1.4s							
LIS	**Lisbon**	**15.43**	**113**	*e*P		**Pn**	**21 30 55.1**	**-1.4**
	comp=Z,178nm,1.4s							
PBRG	**Braganca**	**15.50**	**100**	*e*P		**Pn**	**21 30 55.7**	**-1.7**
	comp=Z,51nm,1.4s							
MVO	**Moncorvo**	**15.57**	**102**	*e*P		**Pn**	**21 30 56.9**	**-1.5**
	comp=Z,27nm,1.4s							
MVO				*e*LR		LR	21 34 34.3	
	comp=Z,1μm,20.0s							
MTE	**Manteigas**	**15.58**	**105**	*e*P		**Pn**	**21 30 57.1**	**-1.4**
	comp=Z,39nm,1.8s							
MTE				*e*LR		LR	21 34 27.0	
	comp=Z,985nm,20.0s							
MTE	**Manteigas**	**15.58**	**105**	*e*Pn		**Pn**	**21 30 54.3**	**-4.2**
	comp=Z,15nm,1.1s							
PACT	**Alcochete**	**15.60**	**112**	*e*P		**Pn**	**21 30 57.8**	**-0.9**
PMOZ	**Porto Moniz, M**	**15.62**	**146**	*e*LR		LR	21 34 41.3	
	comp=Z,520nm,20.0s							
PMTG	**Montargil**	**15.82**	**111**	*e*P		**Pn**	**21 30 59.4**	**-2.2**
	comp=Z,76nm,1.5s							
PCBR	**Castelo Branco**	**15.90**	**107**	*e*P		**Pn**	**21 31 01.9**	**-0.7**
	comp=Z,36nm,1.5s							
PMRV	**Marv??o**	**16.18**	**108**	*e*P		**Pn**	**21 31 06.0**	**-0.1**
	comp=Z,69nm,1.8s							
PMRV				*e*LR		LR	21 34 46.5	
	comp=Z,902nm,20.0s							
PNCL	**Nicolau / Gran**	**16.18**	**114**	*e*P		**Pn**	**21 31 05.1**	**-1.1**
	comp=Z,41nm,1.7s							
EVO	**Evora**	**16.26**	**112**	*e*P		Pn	21 31 01.9	-5.3
	comp=Z,24nm,1.0s							
EVO				*e*R				
	comp=Z,725nm,19.8s							
EVO	**Evora**	**16.26**	**112**	*e*P		Pn	21 31 02.1	-5.1
	comp=Z,23nm,1.9s							
ROSF	**Rostrenen**	**16.43**	**74**	*e*P		**Pn**	**21 31 06.6**	**-2.7**
	comp=Z,21nm,1.1s							
QUIF	**Quistinic**	**16.53**	**76**	*e*P		**Pn**	**21 31 08.2**	**-2.3**
MORF	**Marmelete**	**16.60**	**116**	*e*P		**Pn**	**21 31 11.9**	**+0.4**
	comp=Z,41nm,1.8s							
SGMF	**Saint Gilles**	**16.91**	**75**	*e*P		**Pn**	**21 31 13.6**	**-1.8**
PBAR	**Barrancos**	**17.10**	**111**	*e*P		**Pn**	**21 31 17.1**	**-0.7**
	comp=Z,30nm,1.5s							
PVAQ	**Vaqueiros**	**17.12**	**115**	*e*P		**Pn**	**21 31 18.4**	**+0.3**
	comp=Z,24nm,2.0s							
PVAQ				*e*LR		LR	21 35 19.6	
	comp=Z,760nm,20.0s							
PVAQ	**Vaqueiros**	**17.12**	**115**	*e*P		**Pn**	**21 31 18.4**	**+0.3**
	comp=Z,24nm,2.0s							
EKA	**Eskdalemuir Ar**	**17.64**	**51**	*e*Pn		**Pn**	**21 31 23.9**	**-0.5**
EKA	**Eskdalemuir Ar**	**17.64**	**51**	*e*Pn		**Pn**	**21 31 23.9**	**-0.5**
EKA	**Eskdalemuir Ar**	**17.64**	**51**	P		**Pn**	**21 31 23.9**	**-0.5**
	baz=186,slow=13,SNR=3.9							

GRR	**Gorron**	**18.04**	**74**	*e*P		**Pn**	**21 31 29.2**	**-0.2**
GRR	**Gorron**	**18.04**	**74**	*e*P		**Pn**	**21 31 29.2**	**-0.2**
PAB	**San Pablo**	**18.14**	**104**	*e*Pn		**P**	**21 31 31.2**	**+0.1**
	comp=Z,167nm,1.6s							
PAB	**San Pablo**	**18.14**	**104**	*e*Pn		**P**	**21 31 31.2**	**+0.1**
	comp=Z,167nm,1.6s							
FLN	**La Foliniere**	**18.27**	**73**	*e*P		**Pn**	**21 31 31.1**	**-1.1**
	comp=Z,241nm,1.8s							
FLN				*e*R				
	comp=Z,1μm,20.8s							
FLN	**La Foliniere**	**18.27**	**73**	*e*P		**Pn**	**21 31 31.1**	**-1.1**
	comp=Z,120nm,1.8s							
ESDC	**Sonseca Array**	**18.34**	**103**	*e*Pn		**P**	**21 31 34.8**	**+1.6**
ESDC	**Sonseca Array**	**18.34**	**103**	*e*Pn		**P**	**21 31 34.8**	**+1.6**
ESDC	**Sonseca Array**	**18.34**	**103**	P		**P**	**21 31 34.8**	**+1.6**
	comp=Z,0.8nm,0.3s,baz=298,slow=13,SNR=15							
ESDC				LR		LR	21 37 18.1	
	comp=Z,711nm,18.3s,baz=305,slow=33							
ES19	**SONSECA Array**	**18.37**	**103**	*e*P		**Pn**	**21 31 34.3**	**+0.7**
ES19	**SONSECA Array**	**18.37**	**103**	*e*P		**Pn**	**21 31 34.3**	**+0.7**
LDF	**La Druitiere**	**18.52**	**73**	*e*P		**P**	**21 31 34.7**	**-0.3**
	comp=Z,265nm,1.9s							
LDF	**La Druitiere**	**18.52**	**73**	*e*P		**P**	**21 31 34.7**	**-0.3**
	comp=Z,132nm,1.9s							
MFF	**Saint Martin d**	**18.72**	**79**	*e*P		**Pn**	**21 31 37.8**	**+0.1**
	comp=Z,80nm,1.6s							
MFF	**Saint Martin d**	**18.72**	**79**	*e*P		**Pn**	**21 31 37.8**	**+0.1**
	comp=Z,40nm,1.6s							
OSSF	**Osses**	**18.75**	**90**	*e*P		**Pn**	**21 31 39.7**	**+1.6**
OSSF	**Osses**	**18.75**	**90**	*e*P		**Pn**	**21 31 39.7**	**+1.6**
SJPF	**Ste Jean**	**18.82**	**90**	*e*P		**P**	**21 31 38.4**	**-0.1**
	comp=Z,22nm,1.0s							
SJPF	**Ste Jean**	**18.82**	**90**	*e*P		**P**	**21 31 38.4**	**-0.1**
	comp=Z,11nm,1.0s							
ETSF	**Etsaut**	**19.36**	**91**	*e*P		**Pn**	**21 31 45.1**	**-0.4**
	comp=Z,155nm,1.8s							
ETSF	**Etsaut**	**19.36**	**91**	*e*P		**Pn**	**21 31 45.1**	**-0.4**
	comp=Z,78nm,1.8s							
LFF	**La Frestale**	**19.66**	**84**	*e*P		**P**	**21 31 47.7**	**+0.1**
LFF	**La Frestale**	**19.66**	**84**	*e*P		**P**	**21 31 47.7**	**+0.1**
EPF	**Esparros**	**19.93**	**90**	*e*P		**P**	**21 31 49.9**	**-0.8**
	comp=Z,70nm,1.7s							
EPF	**Esparros**	**19.93**	**90**	*e*P		**P**	**21 31 49.9**	**-0.8**
	comp=Z,35nm,1.7s							
RJF	**Les Rejaudoux**	**20.11**	**83**	*e*P		**P**	**21 31 52.0**	**-0.5**
	comp=Z,78nm,1.6s							
RJF				*e*R				
	comp=Z,1μm,21.5s							
RJF	**Les Rejaudoux**	**20.11**	**83**	*e*P		**P**	**21 31 52.0**	**-0.5**
	comp=Z,39nm,1.6s							
TCF	**Toulx Ste Croi**	**20.38**	**79**	*e*P		**P**	**21 31 56.2**	**+0.8**
	comp=Z,138nm,1.6s							
TCF	**Toulx Ste Croi**	**20.38**	**79**	*e*P		**P**	**21 31 56.2**	**+0.8**
	comp=Z,69nm,1.6s							
CAF	**Calviac**	**20.58**	**83**	*e*P		**P**	**21 31 57.6**	**0.0**
	comp=Z,42nm,1.2s							
CAF	**Calviac**	**20.58**	**83**	*e*P		**P**	**21 31 57.6**	**0.0**
	comp=Z,21nm,1.2s							
VERF	**Verneugheol**	**20.67**	**81**	*e*P		**P**	**21 31 59.7**	**+1.0**
VERF	**Verneugheol**	**20.67**	**81**	*e*P		**P**	**21 31 59.7**	**+1.0**
PYM	**Petit Puy Mans**	**21.03**	**81**	*e*P		**P**	**21 32 05.4**	**+2.8**
PYM	**Petit Puy Mans**	**21.03**	**81**	*e*P		**P**	**21 32 05.4**	**+2.8**
AGO	**Saint Agoulin**	**21.05**	**80**	*e*P		**P**	**21 32 04.4**	**+1.7**
AGO	**Saint Agoulin**	**21.05**	**80**	*e*P		**P**	**21 32 04.4**	**+1.7**
AVF	**Avril sur Loir**	**21.06**	**78**	*e*P		**P**	**21 32 02.5**	**-0.3**
	comp=Z,68nm,1.3s							
AVF	**Avril sur Loir**	**21.06**	**78**	*e*P		**P**	**21 32 02.5**	**-0.3**
	comp=Z,34nm,1.3s							
SSF	**Saint Saulge**	**21.12**	**77**	*e*P		**P**	**21 32 03.7**	**+0.3**
	comp=Z,68nm,1.3s							
SSF	**Saint Saulge**	**21.12**	**77**	*e*P		**P**	**21 32 03.7**	**+0.3**
	comp=Z,34nm,1.3s							
MTLF	**Montolieu**	**21.13**	**87**	*e*P		**P**	**21 32 04.2**	**+0.6**
	comp=Z,96nm,1.6s							
MTLF	**Montolieu**	**21.13**	**87**	*e*P		**P**	**21 32 04.2**	**+0.6**
	comp=Z,48nm,1.6s							
BAIF	**Baives**	**21.28**	**68**	*e*P		**P**	**21 32 05.0**	**0.0**
	comp=Z,94nm,1.4s							
BAIF	**Baives**	**21.28**	**68**	*e*P		**P**	**21 32 05.0**	**0.0**
	comp=Z,47nm,1.4s							
SNF	**Seneffe**	**21.31**	**67**	P		**P**	**21 32 07.6**	**+2.1**
SNF	**Seneffe**	**21.31**	**67**	P		**P**	**21 32 07.5**	**+2.1**
LOR	**Lormes**	**21.32**	**76**	*e*P		**P**	**21 32 05.8**	**+0.2**
	comp=Z,114nm,1.6s							
LOR				*e*R				
	comp=Z,629nm,21.8s							
LOR	**Lormes**	**21.32**	**76**	*e*P		**P**	**21 32 05.8**	**+0.2**
	comp=Z,57nm,1.6s							
OUK	**Oukaimeden**	**21.37**	**128**	*i* P		**P**	**21 32 07.0**	**+0.5**
SMF	**Signal de Mont**	**21.42**	**78**	*e*P		**P**	**21 32 05.8**	**-0.8**
	comp=Z,38nm,1.3s							
SMF	**Signal de Mont**	**21.42**	**78**	*e*P		**P**	**21 32 05.8**	**-0.8**
	comp=Z,38nm,1.3s							
GIVF	**Givet**	**21.67**	**68**	*e*P		**P**	**21 32 09.1**	**-0.2**
	comp=Z,338nm,1.9s							
GIVF	**Givet**	**21.67**	**68**	*e*P		**P**	**21 32 09.1**	**-0.2**
	comp=Z,169nm,1.9s							
MEZF	**Maizieres J'vi**	**21.95**	**73**	*e*P		**P**	**21 32 12.3**	**0.0**
	comp=Z,335nm,1.8s							
MEZF	**Maizieres J'vi**	**21.95**	**73**	*e*P		**P**	**21 32 12.3**	**0.0**
	comp=Z,167nm,1.8s							
SFTF	**Sexfontaines**	**21.98**	**73**	*e*P		**P**	**21 32 12.7**	**+0.1**
	comp=Z,73n

BBS	Basel-Blauen	23.73	75	eP	P	21 32 32.7 +1.9
SENIN	Lac Senin/Sane	23.81	77	eP	P	21 32 34.4 +2.6
	comp=Z,41nm,1.6s					
SENIN	Lac Senin/Sane	23.81	77	eP	P	21 32 34.4 +2.6
	comp=Z,41nm,1.6s					
MBDF	Montbardon	23.86	81	eP	P	21 32 32.8 +0.6
	comp=Z,49nm,1.4s					
MBDF	Montbardon	23.86	81	eP	P	21 32 32.8 +0.6
	comp=Z,24nm,1.4s					
FELD	Feldberg im Sc	23.99	73	eP	P	21 32 41.0 +7.6
SFJD	Kangerlussuaq	24.01	338	eP	P	21 32 30.3 -2.9
	comp=Z,39nm,1.4s					
SFJD	Kangerlussuaq	24.01	338	eP	P	21 32 30.3 -2.9
	comp=Z,39nm,1.4s					
LMR	La Mourre	24.10	85	eP	P	21 32 33.7 -0.6
	comp=Z,75nm,1.6s					
LMR	La Mourre	24.10	85	eP	P	21 32 33.7 -0.6
	comp=Z,38nm,1.6s					
FRF	La Foret Royal	24.12	84	eP	P	21 32 34.4 -0.1
	comp=Z,124nm,1.8s					
FRF	La Foret Royal	24.12	84	eP	P	21 32 34.4 -0.1
	comp=Z,62nm,1.8s					
SBF	Sospel	24.57	83	eP	P	21 32 38.4 -0.3
	comp=Z,129nm,1.6s					
SBF	Sospel	24.57	83	eP	P	21 32 38.4 -0.3
	comp=Z,64nm,1.6s					
STU	Stuttgart	24.64	71	eP	P	21 32 37.7 -1.4
	comp=Z,15nm,1.0s					
STU	Stuttgart	24.64	71	eP	P	21 32 37.7 -1.4
	comp=Z,15nm,1.0s					
TUE	Stuetta	25.17	76	eP	P	21 32 44.3 +0.1
	comp=Z,53nm,1.9s					
TUE	Stuetta	25.17	76	eP	P	21 32 44.3 +0.1
	comp=Z,53nm,1.9s					
DAVOX	Davos/Dischmat	25.46	75	eP	P	21 32 48.1 +1.3
DAVOX	Davos/Dischmat	25.46	75	eP	P	21 32 48.1 +1.3
DAVOX	Davos/Dischmat	25.46	75	P	P	21 32 48.1 +1.3
	comp=Z,3.0nm,0.8s,baz=282,slow=14,SNR=3.9					
DAVOX				LR	LR	21 41 29.8
	comp=Z,430nm,20.0s,baz=282,slow=34					
GRF	Grafenberg Arr	25.83	68	eP	P	21 32 51.0 +1.1
	comp=Z,22nm,1.4s					
PGF	Pioggiola	26.09	85	eP	P	21 32 51.3 -1.2
	comp=Z,97nm,1.6s					
PGF	Pioggiola	26.09	85	eP	P	21 32 51.3 -1.2
	comp=Z,49nm,1.6s					
SCHQ	Schefferville	26.14	303	P	P	21 32 52.1 -0.6
	comp=Z,7.1nm,0.9s,baz=85,slow=14,SNR=4.2					
SCHQ				LR	LR	21 41 24.7
	comp=Z,595nm,18.7s,baz=261,slow=32					
NB200	NORSAR Array S	26.66	43	eP	P	21 32 57.0 -0.4
NB200	NORSAR Array S	26.66	43	eP	P	21 32 57.0 -0.4
NOA	NORSAR Array B	26.66	43	P	P	21 32 57.0 -0.4
	comp=Z,2.5nm,1.0s,baz=255,slow=9.6,SNR=2.9					
NOA				LR	LR	21 41 58.0
	comp=Z,176nm,19.7s,baz=260,slow=33					
SUMG	Summit	26.79	353	i P	P	21 33 01.4 +2.6
	comp=Z,9.9nm,0.9s					
GEC2	GERESS Array S	27.56	70	eP	P	21 33 04.7 -1.0
GEC2	GERESS Array S	27.56	70	eP	P	21 33 04.7 -1.0
GERES	GERESS Array B	27.56	70	P	P	21 33 05.7 0.0
	comp=Z,0.9nm,0.8s,baz=292,slow=8.4,SNR=5.8					
GERES				LR	LR	21 43 26.8
	comp=Z,654nm,18.8s,baz=316,slow=35					
HFS	Hagfors	27.64	45	LR	LR	21 42 39.9
	comp=Z,220nm,18.2s,baz=245,slow=34					
PQI	Presque Isle	27.76	286	eP	P	21 33 08.1 +0.8
PQI	Presque Isle	27.76	286	eP	P	21 33 08.1 +0.8
FRB	Frobisher Bay	28.60	322	LR	LR	21 41 57.8
	comp=Z,415nm,18.3s,baz=238,slow=31					
VRAC	Vranov	29.34	68	LR	LR	21 44 43.3
	comp=Z,815nm,19.2s,baz=275,slow=36					
KEST	Kesra	29.41	98	LR	LR	21 43 53.1
	comp=Z,363nm,19.1s,baz=234,slow=34					
PSZ	Piszkesteto	31.79	70	eP	P	21 33 43.4 +0.3
	comp=Z,42nm,1.8s					
PSZ	Piszkesteto	31.79	70	eP	P	21 33 43.4 +0.3
	comp=Z,42nm,1.8s					
STHS	Stebnicka Huta	32.29	67	eP	P	21 33 48.9 +1.5
STHS	Stebnicka Huta	32.29	67	eP	P	21 33 48.9 +1.5
	comp=Z,3.0nm,1.1s					
FINES	FINESS Array B	33.81	44	LR	LR	21 46 10.6
	comp=Z,235nm,21.5s,baz=348,slow=34					
ARA0	ARCESS Array S	34.68	30	eP	P	21 34 07.0 -1.0
ARA0	ARCESS Array S	34.68	30	eP	P	21 34 07.0 -1.0
ARCES	ARCESS Array B	34.68	30	P	P	21 34 06.9 -1.1
	comp=Z,5.4nm,0.9s,baz=256,slow=7.3,SNR=6.7					
ARCES				LR	LR	21 46 40.2
	comp=Z,67nm,19.4s,baz=328,slow=34					
BUR04	Bucovina Ar. S	35.32	68	eP	P	21 34 12.7 -1.2
BUR04	Bucovina Ar. S	35.32	68	eP	P	21 34 12.7 -1.2
SADO	Sadowa	35.75	287	LR	LR	21 48 21.8
	comp=Z,805nm,18.7s,baz=108,slow=35					
AKASG	Malin Array Be	36.94	62	P	P	21 34 26.6 -1.0
	comp=Z,1.8nm,0.6s,baz=283,slow=8.8,SNR=8.4					
AKASG				LR	LR	21 50 27.3
	comp=Z,313nm,19.5s,baz=295,slow=38					
AKBB	Malin Array Si	36.94	62	eP	P	21 34 26.6 -1.0
AKBB	Malin Array Si	36.94	62	eP	P	21 34 26.6 -1.0
H05N1	Guadeloupe/Mar	41.00	234	T	T	22 18 34.8
	SNR=3.0					
TOA0	Torodi Ar. Sit	41.18	134	eP	P	21 35 02.6 -0.7
TOA0	Torodi Ar. Sit	41.18	134	eP	P	21 35 02.6 -0.7
TORD	Torodi Ar. Bea	41.18	134	P	P	21 35 03.1 -0.2
	comp=Z,2.5nm,1.0s,baz=327,slow=8.3,SNR=11					
TORD				LR	LR	21 51 00.8
	comp=Z,920nm,19.1s,baz=330,slow=34					
BR231	Keskin MP Arra	43.47	76	eP	P	21 35 21.8 -0.1
BR231	Keskin MP Arra	43.47	76	eP	P	21 35 21.8 -0.1
DBIC	Dimbokro	44.06	147	LR	LR	21 52 46.3
	comp=Z,357nm,18.1s,baz=319,slow=35					
BR101	Keskin Array S	44.10	76	eP	P	21 35 27.9 +0.8
BR101				ePP	PcP	21 37 12.5 +0.5
BR101	Keskin Array S	44.10	76	eP	P	21 35 27.9 +0.8
BRTR	Keskin Array B	44.10	76	P	P	21 35 27.9 +0.8
	comp=Z,1.4nm,0.9s,baz=299,slow=6.5,SNR=7.9					
BRTR				PcP	PcP	21 37 12.5 +0.5
	comp=Z,1.0nm,1.0s,baz=310,slow=5.1,SNR=4.4					
BRTR				LR	LR	21 53 46.3
	comp=Z,134nm,20.8s,baz=303,slow=36					
ULM	Lac du Bonnet	44.27	301	LR	LR	21 52 04.7
	comp=Z,361nm,19.1s,baz=46,slow=34					
FFC	Flin Flon	46.03	309	eP	P	21 35 41.6 -0.4
	comp=Z,30nm,1.2s					
FFC	Flin Flon	46.03	309	eP	P	21 35 41.6 -0.4
	comp=Z,30nm,1.2s					
ECSD	EROS Data Cent	47.56	293	eP	P	21 35 53.6 -0.5
	comp=Z,11nm,1.2s					
ECSD	EROS Data Cent	47.56	293	eP	P	21 35 53.6 -0.5
	comp=Z,11nm,1.2s					
KBZ	Khabaz	48.21	66	LR	LR	21 57 14.3
	comp=Z,168nm,18.7s,baz=150,slow=37					
A25A	Svangstu Ranch	49.09	302	⇑P	P	21 36 05.9 0.0
	baz=49					
YKA	Yellowknife Ar	49.12	322	P	P	21 36 05.6 -0.3
	comp=Z,3.4nm,0.9s,baz=67,slow=7.2,SNR=7.8					
YKB5	Yellowknife Ar	49.12	322	eP	P	21 36 05.2 -0.7
YKB5	Yellowknife Ar	49.12	322	eP	P	21 36 05.2 -0.7
H29A	Onida	49.39	296	⇓P	P	21 36 08.4 +0.1
	baz=49					
KSU1	Kansas State U	49.90	288	eP	P	21 36 12.7 +0.5
	comp=Z,23nm,1.2s					
KSU1	Kansas State U	49.90	288	eP	P	21 36 12.7 +0.5
	comp=Z,23nm,1.2s					
I28A	Midland	50.30	296	⇓P	P	21 36 16.1 +1.0
	baz=50					
B23A	Brockton	50.41	302	⇑P	P	21 36 16.8 +0.8
	baz=50					
J28A	Allard Ranch,	50.63	295	⇓P	P	21 36 18.8 +1.1
	baz=50					
A22A	Carney Farms,	50.70	303	⇓P	P	21 36 19.0 +0.8
	baz=50					
C22A	Vida	51.29	302	⇑P	P	21 36 23.6 +1.0
	baz=51					
I25A	Rochford	51.88	297	⇓P	P	21 36 27.4 +0.2
	baz=52					
B20A	Solberg Farm,	52.18	304	⇑P	P	21 36 29.5 +0.2
	baz=52					
C20A	Veseth Ranch,	52.54	303	⇑P	P	21 36 32.2 +0.2
	baz=52					
B19A	Brinkman Farms	52.71	304	⇓P	P	21 36 33.6 +0.4
	baz=52					
EDM	Edmonton	52.73	311	eP	P	21 36 33.3 +0.1
EDM	Edmonton	52.73	311	eP	P	21 36 33.3 +0.1
T31A	Randall Ranch,	53.02	288	⇓P	P	21 36 36.3 +0.7
	baz=53					
C19A	Slack Wire Ran	53.14	303	⇓P	P	21 36 36.8 +0.4
	baz=53					
E20A	Meyer Farm, Mu	53.24	302	⇓P	P	21 36 37.8 +0.7
	baz=53					
INK	Inuvik	53.26	334	LR	LR	21 57 36.9
	comp=Z,335nm,19.0s,baz=322,slow=34					
EGMT	Eagleton	53.39	304	⇑P	P	21 36 38.5 +0.3
	baz=53					
AKTO	Aktyubinsk	53.82	52	LR	LR	21 59 39.0
	comp=Z,165nm,20.3s,baz=123,slow=36					
I21A	Big Trails, Te	54.17	298	⇑P	P	21 36 44.5 +0.4
	baz=54					
H20A	Greybull	54.23	299	⇑P	P	21 36 44.4 0.0
	baz=54					
W31A	Holland Ranch,	54.29	286	⇑P	P	21 36 45.8 +0.9
	baz=54					
K22A	Casper	54.33	297	eP	P	21 36 44.8 -0.5
K22A	Casper	54.33	297	⇑P	P	21 36 46.1 +0.8
	baz=54					
K22A	Casper	54.33	297	eP	P	21 36 44.8 -0.5
R27A	Eads	54.39	290	⇓P	P	21 36 45.8 +0.1
	baz=54					
WHTX	Lake Whitney	54.49	281	⇑P	P	21 36 48.0 +1.6
	baz=54					
J21A	Lysite	54.51	298	⇑P	P	21 36 47.2 +0.5
	baz=54					
I20A	Worland	54.60	299	⇑P	P	21 36 48.1 +0.9
	baz=54					
T28A	Walsh	54.61	289	⇓P	P	21 36 48.2 +0.9
	baz=54					
L22A	Ellis Ranch, M	54.61	296	⇑P	P	21 36 48.2 +0.8
	baz=54					
X31A	McDonald Ranch	54.63	285	⇓P	P	21 36 48.0 +0.6
	baz=54					
Y32A	R-V Farms, Ver	54.64	284	⇑P	P	21 36 48.1 +0.6
	baz=54					
K21A	Alcova	54.79	297	⇓P	P	21 36 49.2 +0.5
	baz=54					
R26A	Arlington	54.80	291	⇑P	P	21 36 49.4 +0.7
	baz=55					
J20A	Shoshoni	54.90	298	⇑P	P	21 36 49.7 +0.3
	baz=55,SNR=7.0					
N23A	Red Feather La	54.94	295	⇓P	P	21 36 51.0 +1.1
	baz=55,SNR=6.1					
I19A	Meeteetse	55.08	300	⇓P	P	21 36 51.1 +0.3
	baz=55					
H10N2	ASCENSION HYDR	55.17	164	T	T	22 36 11.1
	baz=350,slow=0.7,SNR=6.2					
H10N3	ASCENSION HYDR	55.18	164	T	T	22 36 09.9
	baz=350,slow=0.7,SNR=6.2					
H10N1	ASCENSION HYDR	55.19	164	T	T	22 36 11.2
	baz=350,slow=0.7,SNR=6.3					
WALA	Waterton Lakes	55.19	307	eP	P	21 36 50.6 -0.8
WALA	Waterton Lakes	55.19	307	eP	P	21 36 50.6 -0.8
S26A	Kim	55.21	290	⇑P	P	21 36 52.0 +0.3
	baz=55					
Y31A	Rekieta Farm,	55.22	285	⇓P	P	21 36 52.3 +0.6
	baz=55					
L21A	Rawlins	55.23	297	⇑P	P	21 36 52.2 +0.3
	baz=55					
X30A	Coker Ranch, T	55.34	286	⇑P	P	21 36 53.7 +1.2
	baz=55					
ISCO	Idaho Springs	55.34	294	eP	P	21 36 53.7 +0.8
	comp=Z,52nm,2.9s					
ISCO	Idaho Springs	55.34	294	⇑P	P	21 36 53.5 +0.6
	baz=55					
ISCO	Idaho Springs	55.34	294	eP	P	21 36 53.7 +0.8
	comp=Z,52nm,2.9s					
M21A	Separation Pea	55.43	296	⇓P	P	21 36 53.8 +0.5
	baz=55					
K20A	Yellowstone Ra	55.44	298	⇓P	P	21 36 53.8 +0.4
	baz=55					
W29A	Amraillo	55.46	287	⇓P	P	21 36 54.8 +1.3
	baz=55					
U27A	Thompson Grove	55.48	289	⇑P	P	21 36 54.5 +0.8
	baz=55					
ABKAR	Akbulak array	55.51	53	eP	P	21 36 53.6 +0.1
ABKAR	Akbulak array	55.51	53	eP	P	21 36 53.6 +0.1
Z31A	Sharp Cattle R	55.52	284	⇑P	P	21 36 54.2 +0.4
	baz=55					
J19A	Crowheart	55.54	299	⇑P	P	21 36 53.9 -0.1
	baz=55					
K19A	Absolon Red Bu	55.66	298	⇓P	P	21 36 54.7 -0.2
	baz=55					
P23A	Jefferson	55.73	293	⇑P	P	21 36 55.6 0.0
	baz=56					
BOZ	Bozeman (W)	55.75	302	eP	P	21 36 55.6 +0.1
	comp=Z,7.9nm,1.3s					
BOZ	Bozeman (W)	55.75	302	eP	P	21 36 55.6 +0.1
	comp=Z,7.9nm,1.3s					
232A	Coleman	56.04	282	⇓P	P	21 36 57.7 0.0
	baz=56					
T25A	Trinidad	56.10	290	⇑P	P	21 36 58.1 -0.1
	baz=56					
BW06	Boulder Array	56.12	299	eP	P	21 36 57.0 -1.3
BW06	Boulder Array	56.12	299	eP	P	21 36 57.0 -1.3
PD31	Pinedale Array	56.12	299	eP	P	21 36 57.7 -0.6
PD31	Pinedale Array	56.12	299	eP	P	21 36 57.7 -0.6
PDAR	Pinedale Array	56.12	299	P	P	21 36 57.7 -0.6
	comp=Z,0.9nm,0.8s,baz=71,slow=8.7,SNR=6.2					
PDAR				LR	LR	21 59 36.0
	comp=Z,326nm,18.1s,baz=62,slow=35					
Z30A	Sanderson Ranc	56.20	285	⇓P	P	21 36 59.0 +0.2
	baz=56					
H10S1	ASCENSION HYDR	56.22	165	T	T	22 37 30.1
	baz=350,slow=0.7,SNR=29					
H10S3	ASCENSION HYDR	56.23	165	T	T	22 37 29.5
	baz=350,slow=0.7,SNR=32					
H10S2	ASCENSION HYDR	56.24	165	T	T	22 37 27.8
	baz=350,slow=0.7,SNR=33					
MOOW	Moose Ponds	56.29	300	eP	P	21 36 58.7 -0.8
	comp=Z,5.7nm,1.3s					
MOOW	Moose Ponds	56.29	300	eP	P	21 36 58.7 -0.8
	comp=Z,5.7nm,1.3s					
N20A	Spence Gulch,	56.42	296	⇓P	P	21 37 00.6 +0.1
	baz=56,SNR=5.5					
W27A	Bowe Ranch, En	56.43	287	⇑P	P	21 37 01.4 +0.9
	baz=56					
MSO	Missoula	56.43	305	⇑P	P	21 37 00.3 0.0
	baz=56					
U25A	Circle Dot Ran	56.53	290	⇓P	P	21 37 02.2 +1.0
	baz=56					
REDW	Red Top Meadow	56.57	300	eP	P	21 37 01.6 0.0
	comp=Z,21nm,1.7s					
REDW	Red Top Meadow	56.57	300	eP	P	21 37 01.5 0.0
	comp=Z,21nm,1.7s					
Z29A	Hungry Hill Ra	56.60	285	⇓P	P	21 37 02.5 +0.8
	baz=56					
MSTX	Muleshoe	56.89	286	eP	P	21 37 03.7 0.0
MSTX	Muleshoe	56.89	286	⇑P	P	21 37 04.1 +0.3
	baz=57,SNR=7.2					
MSTX	Muleshoe	56.89	286	eP	P	21 37 03.7 0.0
V25A	Rancho No Teng	56.99	289	⇑P	P	21 37 04.9 +0.4
	baz=57					
JCT	Junction City	57.01	281	⇓P	P	21 37 05.2 +0.7
	baz=57					
230A	Sterling City	57.03	283	⇓P	P	21 37 05.7 +1.0
	baz=57					
Z28A	Tucker Farm, M	57.04	285	⇓P	P	21 37 05.4 +0.6
	baz=57					
O19A	Miners Draw (B	57.27	296	⇑P	P	21 37 06.9 +0.5
	baz=57					
532A	Rocksprings	57.29	281	⇓P	P	21 37 07.3 +0.7
	baz=57					
330A	Mertzon	57.37	283	⇓P	P	21 37 07.5 +0.4
	baz=57					
NEW	Newport	57.40	308	eP	P	21 37 06.8 -0.2
	comp=Z,16nm,1.3s					
NEW	Newport	57.40	308	⇓P	P	21 37 07.5 +0.4
	baz=57					
NEW	Newport	57.40	308	eP	P	21 37 06.8 -0.2
	comp=Z,16nm,1.3s					
431A	Sonora	57.43	282	⇓P	P	21 37 08.1 +0.6
	baz=57					
128A	Castleberry Fa	57.51	285	⇑P	P	21 37 08.9 +0.8
	baz=57					
Q20A	Ridgley Place,	57.53	294	⇓P	P	21 37 09.2 +0.9
	baz=57					
M17A	Scullys Gap (B	57.54	298	⇓P	P	21 37 08.7 +0.4
	baz=57					
632A	Uvalde	57.60	280	⇓P	P	21 37 09.2 +0.5
	baz=57					
531A	Rocksprings	57.71	281	⇓P	P	21 37 10.3 +0.8
	baz=58					
DAWY	Dawson	57.74	331	eP	P	21 37 09.6 +0.4
DAWY	Dawson	57.74	331	eP	P	21 37 09.6 +0.4
DLBC	Dease Lake	57.74	323	eP	P	21 37 08.8 -0.5
DLBC	Dease Lake	57.74	323	eP	P	21 37 08.8 -0.5
DLBC	Dease Lake	57.74	323	P	P	21 37 09.7 +0.4
	comp=Z,3.1nm,0.9s,baz=41,slow=6.7,SNR=4.6					
T22A	Edith	57.78	292	⇓P	P	21 37 10.8 +0.6
	baz=58					
430A	Baggett Ranch,	57.79	282	⇑P	P	21 37 11.1 +1.0
	baz=58					
329A	Wagon Wheel Ra	57.86	283	⇓P	P	21 37 11.8 +1.2
	baz=58					
W24A	Lazy 6 Ranch,	57.88	289	⇓P	P	21 37 11.6 +0.8
	baz=58,SNR=5.4					
ROSC	El Rosal	57.89	239	LR	LR	21 57 57.3
	comp=Z,179nm,21.3s,baz=198,slow=32					
127A	Arkansas Junct	58.06	285	⇑P	P	21 37 12.8 +0.8
	baz=58					
Y25A	Mesa, Roswell	58.19	287	⇓P	P	21 37 13.5 +0.5
	baz=58					
530A	J-C Ranch, Com	58.25	282	⇑P	P	21 37 13.6 +0.3
	baz=58					
PV09	Paradox Valley	58.33	294	eP	P	21 37 13.4 -0.6
PV09	Paradox Valley	58.33	294	eP	P	21 37 13.4 -0.6
429A	Davenport Ranc	58.34	283	⇓P	P	21 37 14.4 +0.5
	baz=58					
PV10	Paradox Valley	58.34	294	eP	P	21 37 14.1 0.0
PV10	Paradox Valley	58.34	294	eP	P	21 37 14.1 0.0
V22A	San Miguel Ran	58.44	290	⇑P	P	21 37 15.9 +1.1
	baz=58					
328A	Wristen Ranch,	58.48	284	⇓P	P	21 37 15.7 +0.8
	baz=58					
B08A	Colville Reser	58.55	309	eP	P	21 37 14.6 -0.5
	comp=Z,9.6nm,1.0s					
B08A	Colville Reser	58.55	309	eP	P	21 37 14.6 -0.5
	comp=Z,9.6nm,1.0s					
HLID	Hailey	58.58	302	eP	P	21 37 15.8 +0.3
	comp=Z,6.1nm,1.4s					
HLID	Hailey	58.58	302	⇑P	P	21 37 16.6 +1.1
	baz=58					
HLID	Hailey	58.58	302	eP	P	21 37 15.8 +0.3
	comp=Z,6.1nm,1.4s					
Z25A	Roswell	58.60	287	⇑P	P	21 37 17.5 +1.7
	baz=58					
Y24A	Capitan	58.68	288	⇓P	P	21 37 17.6 +1.2
	baz=58					
BRVK	Borovoye	58.70	44	eP	P	21 37 16.2 +0.2
	comp=Z,13nm,1.1s					
BRVK	Borovoye	58.70	44	eP	P	21 37 16.2 +0.2
	comp=Z,13nm,1.1s					
BVAR	Borovoye Array	58.77	44	LR	LR	22 03 43.9
	comp=Z,160nm,18.1s,baz=173,slow=37					
F10A	Beach Ranch, E	58.78	305	eP	P	21 37 16.1 -0.8
	comp=Z,8.7nm,1.2s					
F10A	Beach Ranch, E	58.78	305	eP	P	21 37 16.0 -0.8
	comp=Z,8.7nm,1.2s					
428A	Kincaid Ranch,	58.81	283	⇑P	P	21 37 18.3 +1.1
	baz=59					
529A	Stev Forest Ra	58.87	282	⇑P	P	21 37 18.5 +0.9
	baz=59					
125A	Gardner Draw,	58.94	286	⇓P	P	21 37 19.1 +1.0
	baz=59					
226B	Tecolote Peak,	58.97	285	⇑P	P	21 37 18.6 +0.3
	baz=59,SNR=5.8					
E09A	Wood Farm, Sta	58.98	306	eP	P	21 37 17.2 -0.9
	comp=Z,6.7nm,1.1s					
E09A	Wood Farm, Sta	58.98	306	eP	P	21 37 17.2 -0.9
	comp=Z,6.7nm,1.1s					
Z24A	Sheeppen Canyo	58.99	287	⇓P	P	21 37 19.3 +0.7
	baz=59					
Y23A	Lovelace Mesa,	59.08	288	⇑P	P	21 37 20.2 +0.9
	baz=59					
427A	Hayter Ranch,	59.21	284	⇓P	P	21 37 21.1 +1.1
	baz=59					
528A	Cox Ranch, San	59.23	283	⇓P	P	21 37 20.3 +0.1
	baz=59,SNR=7.2					
VOSK	Vostochnaya	59.23	44	eP	P	21 37 18.7 -1.1
	comp=Z,6.0nm,1.0s					
VOSK	Vostochnaya	59.23	44	eP	P	21 37 18.7 -1.1
	comp=Z,6.0nm,1.0s					
326A	Caldwell Ranch	59.31	284	⇓P	P	21 37 22.3 +1.6
	baz=59					
225A	Deer Hill, Car	59.38	286	⇓P	P	21 37 22.4 +1.0
	baz=59					
124A	Stringfield Ra	59.44	287	⇓P	P	21 37 22.5 +0.7
	baz=59,SNR=7.9					
DUG	Dugway	59.61	298	eP	P	21 37 21.6 -1.1
	comp=Z,7.0nm,1.1s					
DUG	Dugway	59.61	298	⇑P	P	21 37 23.4 +0.7
	baz=59					
DUG	Dugway	59.61	298	eP	P	21 37 21.6 -1.1
	comp=Z,7.0nm,1.1s					
Z23A	Rita Site, Whi	59.61	288	⇑P	P	21 37 23.8 +1.1
	baz=59					
ILAR	Eielson Array	59.63	334	P	P	21 37 22.3 0.0
	comp=Z,0.7nm,0.9s,baz=50,slow=6.0,SNR=5.3					
ILAR				LR	LR	22 01 56.4
	comp=Z,153nm,18.5s,baz=81,slow=35					
ILB	Eielson Array	59.63	334	eP	P	21 37 22.3 0.0
ILB	Eielson Array	59.63	334	eP	P	21 37 22.3 0.0
Y22A	Socorro	59.68	289	⇑P	P	21 37 24.0 +0.7
	baz=59					
628A	Black Gap, Mar	59.72	282	⇓P	P	21 37 24.6 +1.1
	baz=60					
426A	McDonald Obser	59.75	284	⇑P	P	21 37 24.2 +0.3
	baz=60,SNR=7.3					
527A	Woodward Ranch	59.79	283	⇓P	P	21 37 24.2 +0.1
	baz=60,SNR=5.7					
224A	Cornudas Mount	59.87	286	⇓P	P	21 37 25.2 +0.6
	baz=60					
X21A	Alamocita Cree	59.90	290	⇑P	P	21 37 25.2 +0.2
	baz=60					
LTY	Liberty	59.93	308	eP	P	21 37 23.6 -1.1
	comp=Z,18nm,1.2s					
LTY	Liberty	59.93	308	eP	P	21 37 23.6 -1.1
	comp=Z,18nm,1.2s					
627A	Terlingua Ranc	60.08	282	⇑P	P	21 37 26.5 +0.5
	baz=60,SNR=11					
Y21A	Point of Rocks	60.10	289	⇓P	P	21 37 27.1 +0.9
	baz=60					
526A	Mary Lane Ranc	60.17	283	⇓P	P	21 37 27.6 +0.9
	baz=60					
MVU	Marysvale	60.26	296	eP	P	21 37 27.8 +0.5
	comp=Z,89nm,3.0s					
MVU	Marysvale	60.26	296	eP	P	21 37 27.8 +0.5
	comp=Z,89nm,3.0s					
425A	Indio Mountain	60.31	285	⇑P	P	21 37 28.2 +0.5
	baz=60					
LTX	Lajitas	60.34	283	eP	P	21 37 28.5 +0.7
LTX	Lajitas	60.34	283	eP	P	21 37 28.5 +0.7
TX31	Lajitas Ar. Si	60.34	283	eP	P	21 37 27.3 -0.5
TX31	Lajitas Ar. Si	60.34	283	eP	P	21 37 27.3 -0.5
TXAR	Lajitas Array	60

	comp=Z,292nm,20.5s,baz=288,slow=35							
KURK	**Kurchatov**	**64.17**	**43**	*eP*		**P**	**21 37 52.3**	**-0.7**
	comp=Z,3.7nm,0.8s							
KURK	**Kurchatov**	**64.17**	**43**	*eP*		**P**	**21 37 52.3**	**-0.7**
	comp=Z,3.7nm,0.8s							
BDFB	**Brasilia**	**64.47**	**202**	LR		LR	22 01 30.6	
	comp=Z,237nm,19.6s,baz=218,slow=32							
ZAA0	**Zalesovo Array**	**64.70**	**37**	*eP*		**P**	**21 37 55.4**	**-1.0**
ZAA0	**Zalesovo Array**	**64.70**	**37**	*eP*		**P**	**21 37 55.4**	**-1.0**
ZALV	**Zalesovo Beam**	**64.70**	**37**	P		**P**	**21 37 55.9**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=309,slow=7.3,SNR=7.2							
ZALV				LR		LR	22 06 01.3	
	comp=Z,97nm,19.3s,baz=250,slow=36							
KKAR	**Karatay Array**	**65.06**	**53**	*eP*		**P**	**21 37 59.0**	**0.0**
KKAR	**Karatay Array**	**65.06**	**53**	*eP*		**P**	**21 37 59.0**	**0.0**
WLHM	**Little Horse**	**65.51**	**297**	*eP*		**P**	**21 38 01.3**	**-1.1**
WLHM	**Little Horse**	**65.51**	**297**	*eP*		**P**	**21 38 01.3**	**-1.1**
CMB	**Columbia Colle**	**65.55**	**300**	*eP*		**P**	**21 38 02.4**	**+0.1**
	comp=Z,19nm,0.6s							
CMB	**Columbia Colle**	**65.55**	**300**	*eP*		**P**	**21 38 02.4**	**+0.1**
	comp=Z,19nm,0.6s							
WBSM	**Bird Springs**	**65.80**	**297**	*eP*		**P**	**21 38 03.0**	**-1.2**
WBSM	**Bird Springs**	**65.80**	**297**	*eP*		**P**	**21 38 03.0**	**-1.2**
WOFM	**Oak Flat**	**66.16**	**297**	*eP*		**P**	**21 38 06.9**	**+0.6**
WOFM	**Oak Flat**	**66.16**	**297**	*eP*		**P**	**21 38 06.9**	**+0.6**
MWC	**Mount Wilson**	**66.61**	**295**	*eP*		**P**	**21 38 10.6**	**+1.3**
MWC	**Mount Wilson**	**66.61**	**295**	*eP*		**P**	**21 38 10.6**	**+1.3**
EKS2	**Erkin-Say**	**67.14**	**52**	*eP*		**P**	**21 38 13.3**	**+0.8**
	comp=Z,13nm,0.9s							
EKS2	**Erkin-Say**	**67.14**	**52**	*eP*		**P**	**21 38 13.3**	**+0.8**
	comp=Z,13nm,0.9s							
AAK	**Ala-Archa**	**67.55**	**51**	*eP*		**P**	**21 38 16.0**	**+0.8**
	comp=Z,12nm,1.3s							
AAK	**Ala-Archa**	**67.55**	**51**	*eP*		**P**	**21 38 16.0**	**+0.8**
	comp=Z,12nm,1.3s							
AAK	**Ala-Archa**	**67.55**	**51**	P		**P**	**21 38 17.0**	**+1.8**
	comp=Z,3.3nm,0.8s,baz=282,slow=4.5,SNR=8.4							
AAK				LR		LR	22 08 53.5	
	comp=Z,181nm,19.4s,baz=148,slow=37							
TKM2	**Tokmak 2**	**67.95**	**51**	*eP*		**P**	**21 38 17.3**	**-0.4**
	comp=Z,11nm,1.1s							
TKM2	**Tokmak 2**	**67.95**	**51**	*eP*		**P**	**21 38 17.3**	**-0.4**
	comp=Z,11nm,1.1s							
MK32	**Makanchi Array**	**68.64**	**44**	*eP*		**P**	**21 38 22.0**	**+0.2**
MK32	**Makanchi Array**	**68.64**	**44**	*eP*		**P**	**21 38 22.0**	**+0.2**
MKAR	**Makanchi Array**	**68.64**	**44**	*eP*		**P**	**21 38 21.2**	**-0.6**
MKAR	**Makanchi Array**	**68.64**	**44**	*eP*		**P**	**21 38 21.2**	**-0.6**
MKAR	**Makanchi Array**	**68.64**	**44**	P		**P**	**21 38 22.0**	**+0.2**
	comp=Z,4.4nm,0.7s,baz=326,slow=5.9,SNR=42							
MKAR				LR		LR	22 09 35.8	
	comp=Z,74nm,19.1s,baz=304,slow=37							
MK01	**Makanchi Array**	**68.67**	**44**	*eP*		**P**	**21 38 20.9**	**-0.9**
MK01	**Makanchi Array**	**68.67**	**44**	*eP*		**P**	**21 38 21.0**	**-0.9**
KSH	**Kashi**	**70.51**	**53**	P		**P**	**21 38 35.7**	**+2.2**
KSH				*p*P		**pP**	**21 38 39.7**	**+0.9**
KSH				*s*P		**sP**	**21 38 44.2**	**+3.5**
KSH				PP		**PP**	**21 41 13.6**	**+4.4**
KSH				S		**S**	**21 47 45.4**	**-0.7**
KSH				*s*S		**sS**	**21 47 55.8**	**+1.0**
KSH				SS		**SS**	**21 52 16.3**	**-0.2**
	comp=Z,17nm,1.0s							
KSH				AMB		AMB		
	comp=Z,90nm,4.1s							
KSH				LR		LR		
	comp=Z,120nm,7.9s							
KSH				LR		LR		
	comp=Z,200nm,5.6s							
KSH				LR		LR		
	comp=Z,160nm,7.0s							
WMQ	**Urumqi**	**73.41**	**43**	*eP*		**P**	**21 38 52.3**	**+1.5**
WMQ				*p*P		**pP**	**21 38 57.0**	**+1.0**
WMQ				*s*P		**sP**	**21 38 59.3**	**+1.3**
WMQ				LR		LR		
	comp=Z,120nm,22.0s							
WMQ				LR		LR		
	comp=Z,77nm,17.6s							
WMQ				LR		LR		
	comp=Z,94nm,18.0s							
CPUP	**Villa Florida**	**77.28**	**207**	LR		LR	22 08 20.3	
	comp=Z,81nm,19.8s,baz=214,slow=32							
SONA1	**Songino Array**	**77.84**	**30**	*eP*		**P**	**21 39 15.7**	**-0.5**
SONA1	**Songino Array**	**77.84**	**30**	*eP*		**P**	**21 39 15.7**	**-0.5**
SONM	**Songino Array**	**77.85**	**30**	P		**P**	**21 39 16.5**	**+0.2**
	comp=Z,2.9nm,1.0s,baz=331,slow=6.1,SNR=18							
ULN	**Ulaanbaatar**	**78.05**	**29**	*eP*		**P**	**21 39 16.8**	**-0.6**
	comp=Z,12nm,1.4s							
ULN	**Ulaanbaatar**	**78.05**	**29**	*eP*		**P**	**21 39 16.8**	**-0.6**
	comp=Z,12nm,1.4s							
PETK	**Petropavlovsk-**	**80.81**	**357**	LR		LR	22 16 26.5	
	comp=Z,45nm,18.3s,baz=344,slow=36							
GTA	**Gaotai**	**82.42**	**39**	*eP*		**P**	**21 39 41.7**	**+0.7**
GTA				*p*P		**PcP**	**21 39 46.1**	**-0.1**
GTA				*s*P		**sP**	**21 39 49.5**	**+1.3**
GTA				AMB		AMB		
	comp=Z,7.0nm,1.0s							
HHC	**Hu-ho-hao-te**	**85.75**	**30**	*eP*		**P**	**21 39 58.2**	**+0.2**
HHC				*p*P		**pP**	**21 40 02.3**	**-1.0**
HHC				*s*P		**sP**	**21 40 05.9**	**+0.7**
HHC				PP		**PP**	**21 43 18.9**	**+2.6**
HHC				SKS		**SKSac**	**21 50 19.7**	**-3.2**
HHC				S		**SKKSac**	**21 50 29.3**	**-0.7**
HHC				*s*S		**sS**	**21 50 35.3**	**-3.5**
HHC				SS		**SS**	**21 56 07.3**	**+2.1**
HHC				AMB		AMB		
	comp=Z,20nm,1.1s							
HHC				AMB		AMB		
	comp=Z,230nm,6.0s							
HHC				LR		LR		
	comp=Z,340nm,16.8s							
HHC				LR		LR		
	comp=Z,410nm,16.9s							
HHC				LR		LR		
	comp=Z,300nm,14.4s							
LZH	**Lanzhou**	**86.93**	**38**	*eP*		**P**	**21 40 04.8**	**+0.9**
LZH				*p*P		**pP**	**21 40 07.8**	**-1.4**
LZH				*s*P		**sP**	**21 40 09.8**	**-1.3**
LZH				AMB		AMB		
	comp=Z,16nm,1.1s							
LZH				AMB		AMB		
	comp=Z,80nm,4.0s							
CN2	**Changchun**	**87.04**	**19**	*eP*		**P**	**21 40 01.5**	**-2.6**
USRK	**Ussuriysk Arra**	**87.98**	**15**	P		**P**	**21 40 07.7**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=329,slow=5.0,SNR=4.1							
BJI	**Beijing**	**88.01**	**27**	P		**P**	**21 40 09.5**	**+0.7**
BJI				AMB		AMB		
	comp=Z,7.0nm,1.0s							
BOSA	**Boshof**	**88.52**	**136**	LR		LR	22 17 47.0	
	comp=Z,139nm,18.0s,baz=344,slow=34							
CD2	**Chengdu**	**91.30**	**40**	P		**P**	**21 40 24.9**	**+0.5**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.5s							
PLCA	**Paso Flores**	**94.89**	**211**	LR		LR	22 18 58.6	
	comp=Z,105nm,19.4s,baz=135,slow=33							
NJ2	**Nanjing**	**96.18**	**28**	*eP*		**P**	**21 40 46.7**	**-0.1**
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.8s							
GYA	**Guiyang**	**96.42**	**40**	*eP*		**P**	**21 40 47.9**	**-0.2**
GYA				PP		**PP**	**21 44 43.2**	**+2.1**
GYA				S		**S**	**21 52 04.3**	**-3.7**
GYA				SS		**SS**	**21 58 40.5**	**+1.0**
GYA				AMB		AMB		
	comp=Z,10.0nm,1.0s							
GYA				AMB		AMB		
	comp=Z,110nm,6.2s							
GYA				LR		LR		
	comp=Z,450nm,21.3s							
GYA				LR		LR		
	comp=Z,310nm,22.5s							
GYA				LR		LR		
	comp=Z,400nm,20.3s							
CMAR	**Chiang Mai Arr**	**99.33**	**51**	LR		LR	22 29 36.7	
	comp=Z,49nm,18.9s,baz=165,slow=38							
VNDA	**Vanda**	**148.53**	**184**	*e*PKPbc		**PKPbc**	**21 47 05.0**	**+0.9**
VNDA	**Vanda**	**148.53**	**184**	*e*PKPbc		**PKPbc**	**21 47 04.9**	**+0.9**
VNDA	**Vanda**	**148.53**	**184**	PKPbc		**PKPbc**	**21 47 05.0**	**+0.9**
	comp=Z,3.4nm,1.1s,baz=228,slow=3.2,SNR=14							
WRA	**Warramunga Arr**	**149.67**	**36**	*e*PKPbc		**PKPbc**	**21 47 08.3**	**-0.2**
WRA	**Warramunga Arr**	**149.67**	**36**	*e*PKPbc		**PKPbc**	**21 47 08.4**	**-0.2**
WRA	**Warramunga Arr**	**149.67**	**36**	PKPbc		**PKPbc**	**21 47 08.3**	**-0.2**
	comp=Z,6.3nm,1.0s,baz=335,slow=3.2,SNR=19							
AS12	**Alice Springs**	**152.78**	**40**	*e*PKPbc		**PKPbc**	**21 47 14.9**	**-0.8**
AS12	**Alice Springs**	**152.78**	**40**	*e*PKPbc		**PKPbc**	**21 47 14.9**	**-0.8**
ASAR	**Alice Springs**	**152.78**	**40**	PKPbc		**PKPbc**	**21 47 14.9**	**-0.8**
	comp=Z,2.8nm,0.8s,baz=339,slow=2.2,SNR=23							

DJA 03 21:27:42.0±1.0, 8°S±5°×107°E±°, h16km±12km, M4.0/13, mb4.1/2, MLv3.9/13, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.95**	**43**	P	Pb	21 27 58.7	-1.6
SKJI	**Sukabumi**	**1.38**	**334**	P	Pn	21 28 05.1	-1.6
LEM	**Lembang**	**1.50**	**18**	P	Pn	21 28 07.6	-0.8
DBJI	**Dramaga**	**1.74**	**346**	P	Pn	21 28 11.2	-0.5
CLJI	**Cilicap**	**1.91**	**74**	P	Pn	21 28 14.9	+0.9
KPJI	**Karang Pucung**	**1.98**	**62**	P	Pn	21 28 13.5	-1.4
UGM	**Wanagama**	**3.35**	**84**	P	Pn	21 28 32.2	-1.6
PCJI	**Pacitan**	**3.98**	**89**	P	Pn	21 28 41.7	-0.7
PWJI	**Pagerwojo**	**4.60**	**87**	P	Pn	21 28 50.9	-0.1
MDSI	**Maura Dua**	**4.78**	**322**	P	Pn	21 28 53.0	-0.4
GMJI	**Gumukmas**	**6.22**	**91**	P	Pn	21 29 14.4	+1.2
	23nm,2.9s,0.1nm						
SRBI	**Singaraja**	**7.97**	**89**	P	Pn	21 29 37.4	+0.1

IDC 03 21:33:27.9±4.2, 0°.87S×99°.94E, h56km±36km, mb3.6/10, mb1 3.6/12, mb1mx3.5/25, mbtmp3.6/12, ML3.3/2, Error ellipse: s-maj=54.3km s-min=15.7km az=58.0
DJA 03 21:33:32.6±0.6, 1°S±6°×107°E±°, h53km±11km, M3.9/4, mb4.0/1, MLv3.9/4
ISC 03 21:33:27.2±1.1, 0°.77S±0°.09×99°.5E±0°.1, h35km, n21, σ1 22/15, mb4.0/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPI	**Padang Panjang**	**0.97**	**72**	P	**Pn**	**21 33 46.5**	**+2.2**
PDSI	**Padang**	**1.00**	**98**	P	**Pn**	**21 33 46.3**	**+1.6**
BKNI	**Bangkinang**	**1.90**	**55**	P	**Pn**	**21 33 57.1**	**-0.1**
GSI	**Gunungsitoli**	**2.80**	**317**	P	Pn	21 34 18.9	+9.4
RGRI	**Rengat**	**2.89**	**82**	P	**Pn**	**21 34 10.9**	**+0.2**
PSI	**Prapat**	**3.58**	**351**	P	**Pn**	**21 34 22.1**	**+1.7**
	1.4nm,0.3s,baz=16,slow=5.5,SNR=8.5						
MNAI	**Manna**	**4.98**	**136**	P	**Pn**	**21 34 40.2**	**+0.6**
MYKOM	**Kota Tinggi**	**5.06**	**60**	P	**Pn**	**21 34 40.9**	**+0.3**
MDSI	**Maura Dua**	**5.98**	**128**	P	**Pn**	**21 34 54.4**	**+1.2**
CMAR	**Chiang Mai Arr**	**19.11**	**358**	P	**P**	**21 37 48.5**	**+1.2**
	0.1nm,0.3s,baz=186,slow=9.8,SNR=4.9						
WRA	**Warramunga Arr**	**39.07**	**121**	P	P	21 40 45.5	-5.8
	0.2nm,0.3s,baz=304,slow=8.9,SNR=4.6						
ASAR	**Alice Springs**	**40.40**	**127**	P	P	21 40 57.2	-5.1
	0.3nm,0.6s,baz=301,slow=7.8,SNR=8.9						
KSRS	**Korea Array**	**46.24**	**32**	P	P	21 41 46.0	-3.1
	0.9nm,0.7s,baz=218,slow=8.3,SNR=4.4						
SONM	**Songino Array**	**48.78**	**6**	P	**P**	**21 42 07.8**	**-1.1**
	0.3nm,0.4s,baz=183,slow=8.9,SNR=4.6						
MKAR	**Makanchi Array**	**49.71**	**345**	P	**P**	**21 42 16.5**	**+0.6**
	1.7nm,0.5s,baz=156,slow=8.6,SNR=57						
STKA	**Stephens Creek**	**50.36**	**132**	P	P	21 42 17.1	-3.9
	1.1nm,0.5s,baz=304,slow=7.3,SNR=3.9						
USRK	**Ussuriysk Arra**	**53.33**	**29**	P	P	21 42 40.4	-2.5
	1.3nm,0.5s,baz=216,slow=6.6,SNR=4.7						
KURBB	**Kurchatov Arra**	**54.23**	**344**	P	**P**	**21 42 49.5**	**+0.1**
	0.8nm,0.6s,baz=164,slow=7.1,SNR=11						
ZALV	**Zalesovo Beam**	**55.87**	**350**	P	**P**	**21 43 00.6**	**-0.6**
	1.2nm,0.3s,baz=161,slow=7.8,SNR=11						
ARCES	**ARCESS Array B**	**85.14**	**340**	P	**P**	**21 45 58.8**	**-0.7**
	2.1nm,1.0s,baz=90,slow=5.4,SNR=5.7						
TXAR	**Lajitas Array**	**144.03**	**36**	PKP	**PKPab**	**21 52 56.0**	**-1.4**
	0.2nm,0.5s,baz=207,slow=1.4,SNR=4.6						

IDC 03 21:42:30.0±1.1, 37°.01N×103°.71E, h0km, mb3.2/4, mb1 3.4/6, mb1mx3.2/27, mbtmp3.2/6, ML3.4/2, Error ellipse: s-maj=50.9km s-min=19.9km az=47.0, Gansu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**10.99**	**10**	Pn	Pn	21 45 04.3	-4.4
	0.2nm,0.3s,baz=183,slow=13,SNR=6.2						
SONM				Lg	Lg	21 48 03.1	
	0.2nm,0.3s,baz=201,slow=28,SNR=3.6						
MKAR	**Makanchi Array**	**18.65**	**308**	P	P	21 46 47.3	-2.1
	0.1nm,0.3s,baz=104,slow=12,SNR=4.3						
KSRS	**Korea Array**	**19.27**	**81**	P	P	21 46 56.1	-0.1
	0.2nm,0.3s,baz=276,slow=8.6,SNR=7.8						
ZALV	**Zalesovo Beam**	**21.39**	**328**	P	P	21 47 18.6	-0.4
	0.5nm,0.5s,baz=133,slow=11,SNR=3.5						
KURBB	**Kurchatov Arra**	**22.56**	**315**	P	P	21 47 33.3	+1.6
	0.3nm,0.6s,baz=117,slow=11,SNR=4.4						
WRA	**Warramunga Arr**	**63.59**	**148**	P	P	21 53 02.2	-0.5
	0.6nm,0.9s,baz=346,slow=6.9,SNR=2.6						
ASAR	**Alice Springs**	**66.73**	**150**	P	P	21 53 23.5	+0.5
	0.2nm,0.5s,baz=337,slow=6.8,SNR=5.9						

ISCJB 03 21:48:37.4±0.3, 23°.64N±0°.02×121°.63E±0°.02, h26km±2km, Error ellipse: s-maj=3.6km s-min=2.4km az=40.2
TAP 03 21:48:37.6, 23°.66N×121°.56E, h28km, ML3.8, B
JMA 03 21:48:38.4±0.3, 23°.92N×121°.61E, h99km, M3.1
ISC 03 21:48:37.5±0.9, 23°.66N±0°.02×121°.59E±0°.02, h28km±5km, n60, σ0 91/96, 18C-8D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.07**	**320**	*i*P	**Pb**	**21 48 42.8**	**+0.4**
	baz=344						
TEGC				*e*S	**Sb**	**21 48 46.7**	**+1.0**
	baz=344						
ESL	**Shilin**	**0.21**	**318**	*i*P	**Pb**	**21 48 43.5**	**-0.2**
	baz=317						
ESL				*e*S	**Sb**	**21 48 47.3**	**-0.6**
	baz=317						
ESF	**Shoufeng Towns**	**0.23**	**341**	*i*P	**Pn**	**21 48 44.0**	**-1.0**
	baz=336						
ESF				S	**Sb**	**21 48 48.8**	**+0.7**
	baz=336						
EHY	**Hungye**	**0.29**	**238**	*i*P	**Pb**	**21 48 44.4**	**-0.3**
	baz=244						
EHY				*e*S	**Sb**	**21 48 48.8**	**-0.7**
	baz=244						
HWA	**Hwalien**	**0.32**	**3**	*e*P	**Pn**	**21 48 45.3**	**-1.0**
	baz=16						
HWA				*e*S	**Sn**	**21 48 51.4**	**-0.6**
	baz=16						
TWF1	**Yuli**	**0.40**	**221**	*i*P	**Pb**	**21 48 46.1**	**-0.2**
	baz=231						
TWF1				S	**Sb**	**21 48 52.0**	**-0.4**
	baz=231						
TWD	**Chiawan**	**0.42**	**1**	*i*P	**Pn**	**21 48 46.7**	**-1.0**
	baz=354						
TWD				*e*S	**Sn**	**21 48 53.5**	**-1.1**
	baz=354						
WHF	**Hehuan Shan**	**0.57**	**329**	*i*P	**Pb**	**21 48 48.6**	**-0.7**
	baz=331						
WHF				*e*S	**Sb**	**21 48 56.5**	**-0.8**
	baz=331						
CHKT	**Chengkung**	**0.59**	**200**	*e*P	**Pn**	**21 48 49.5**	**-0.6**
	baz=185						
CHKT				*e*S	**Sn**	**21 48 58.5**	**-0.3**
	baz=185						
YUS	**Yu-Shan**	**0.61**	**254**	*i*P	**Pn**	**21 48 50.0**	**-0.7**
	baz=254						
YUS				S	**Sb**	**21 48 57.8**	**-0.6**
	baz=254						
SMLT	**Sun Moon Lake**	**0.67**	**290**	*i*P	**Pn**	**21 48 50.5**	**-0.7**
	baz=293						
SMLT				*e*S	**Sb**	**21 48 58.9**	**-0.8**
	baz=293						
ELDTW	**Lidau**	**0.70**	**228**	P	**Pb**	**21 48 50.3**	**-1.0**
	baz=228						
TWT	**Tachien**	**0.70**	**328**	*i*P	**Pn**	**21 48 51.3**	**-0.4**
	baz=328						
TWT				S	**Sb**	**21 48 59.9**	**-0.9**
	baz=328						
TYC	**Yuchr**	**0.71**	**290**	*e*P	**Pn**	**21 48 51.1**	**-0.6**
	baz=294						
TYC				S	**Sn**	**21 49 00.8**	**-1.0**
	baz=294						
ALS	**Alishan**	**0.73**	**259**	*i*P	**Pn**	**21 48 52.0**	**-0.2**
	baz=259						
ALS				*e*S	**Sn**	**21 49 01.7**	**-1.0**
	baz=259						
ENA	**Nanau**	**0.78**	**10**	*i*P	**Pb**	**21 48 51.9**	**-0.6**
	baz=360						
NNS	**Nan Shan**	**0.80**	**346**	*e*P	**Pb**	**21 48 52.4**	**-0.6**
	baz=348						
NNS				*e*S	**Sb**	**21 49 02.5**	**-1.2**
	baz=348						
CHN5	**Tsauling**	**0.84**	**266**	*i*P	**Pb**	**21 48 53.7**	**+0.2**
	baz=261						
CHN5				S	**Sn**	**21 49 04.8**	**-0.1**
	baz=261						
WNT	**Mingjian**	**0.86**	**285**	*i*P	**Pb**	**21 48 54.4**	**+0.6**
	baz=286						
WNT				S	**Sn**	**21 49 06.2**	**+0.9**
	baz=286						
WGK	**Gukeng**	**0.94**	**272**	P	**Pb**	**21 48 55.4**	**+0.2**
	baz=273						
WGK				S	**Sn**	**21 49 08.3**	**+1.0**
	baz=273						
TWG	**Pinlang**	**0.96**	**210**	*e*P	**Pn**	**21 48 53.3**	**-1.8**
	baz=197						
TCU	**Taichung**	**0.97**	**301**	*e*P	**Pb**	**21 48 56.0**	**+0.3**
	baz=301						
TWC	**Suao**	**0.98**	**14**	*e*P	**Pb**	**21 48 55.7**	**-0.1**
	baz=26						
TWC				*e*S	**Sb**	**21 49 09.4**	**+1.0**
	baz=26						
ENTT	**Nioudou**	**0.98**	**359**	*e*P	**Pn**	**21 48 54.8**	**-0.7**
WTP	**Ta-pu**	**0.98**	**246**	*i*P	**Pb**	**21 48 56.0**	**+0.1**
	baz=246						
WTP				S	**Sb**	**21 49 09.5**	**+0.9**
	baz=246						
TWQ1	**Liyutan**	**1.01**	**313**	*i*P	**Pb**	**21 48 57.2**	**+0.7**
	baz=323						
TWQ1				*e*S	**Sb**	**21 49 11.1**	**+1.6**
	baz=323						
NSK	**Sanguang**	**1.03**	**348**	*i*P	**Pb**	**21 48 56.2**	**-0.7**
	baz=1.0						
NSK				*e*S	**Sn**	**21 49 09.2**	**-0.7**
	baz=1.0						
TWE	**Neicheng**	**1.06**	**4**	*e*P	**Pn**	**21 48 56.2**	**-0.3**
	baz=6.0						
TWE				*e*S	**Sb**	**21 49 11.4**	**+0.6**
	baz=6.0						
NSY	**Sanyi**	**1.07**	**315**	*i*P	**Pb**	**21 48 58.1**	**+0.7**
	baz=317						
NSY				*e*S	**Sb**	**21 49 12.5**	**+1.5**
	baz=317						
CHY	**Chiayi**	**1.08**	**262**	P	**Pb**	**21 48 57.7**	**+0.1**
	baz=263						
CHY				*e*S	**Sb**	**21 49 12.4**	**+1.2**
	baz=263						
CHN1	**Nanshi**	**1.08**	**244**	*i*P	**Pb**	**21 48 57.5**	**-0.1**
	baz=246						
CHN1				*e*S	**Sb**	**21 49 12.6**	**+1.2**
	baz=246						
SGST	**Jiashian**	**1.09**	**238**	P	**Pb**	**21 48 57.7**	**0.0**
	baz=239						
SGST				*e*S	**Sb**	**21 49 12.8**	**+1.3**
	baz=239						
NSTT	**Nanjuang**	**1.11**	**331**	*i*P	**Pb**	**21 48 58.1**	**+0.1**
	baz=344						
NSTT				*e*S	**Sb**	**21 49 12.0**	**-0.2**
	baz=344						
ILA	**Ilan**	**1.11**	**8**	*e*P	**Pb**	**21 48 58.2**	**+0.1**
	baz=359						
ECL	**Taimali**	**1.21**	**209**	*e*P	**Pn**	**21 48 56.8**	**-1.7**
	baz=198						
WTCT	**Ta-ch'eng**	**1.21**	**280**	*e*P	**Pb**	**21 48 59.6**	**-0.3**
	baz=271						
WTCT				*e*S	**Sb**	**21 49 16.6**	**+1.5**
	baz=271						
WSF	**Szhu**	**1.25**	**269**	*e*P	**Pb**	**21 48 59.8**	**-0.7**
	baz=270						
CHN3	**Shinhua**	**1.26**	**243**	*e*P	**Pb**	**21 49 01.4**	**+0.7**
	baz=245						
CHN3				*e*S	**Sb**	**21 49 19.8**	**+3.2**
	baz=245						
HSN	**Hsinchu**	**1.27**	**334**	*e*P	**Pb**	**21 49 00.5**	**-0.3**
	baz=321						
TWA	**Mucha**	**1.32**	**360**	*e*P	**Pb**	**21 49 00.4**	**-1.2**
	baz=10.0						
TWM1	**Shoushan**	**1.35**	**232**	*e*P	**Pb**	**21 49 03.2**	**+0.9**
	baz=234						
NCU	**National Centr**	**1.36**	**344**	*e*P	**Pb**	**21 49 01.4**	**-1.0**
	baz=345						
NCU				*e*S	**Sb**	**21 49 19.6**	**+0.3**
	baz=345						
SCLT	**Jiali**	**1.37**	**250**	*e*P	**Pn**	**21 49 00.4**	**-0.3**
	baz=251						
SGLT	**Jiuru**	**1.37**	**228**	*e*P	**Pb**	**21 49 03.7**	**+1.2**
	baz=218						
TAP1	**Taipei**	**1.38**	**358**	*e*P	**Pb**	**21 49 01.6**	**-1.0**
	baz=358						
TWB1	**Santiao Chiao**	**1.39**	**15**	*e*P	**Pb**	**21 49 03.0**	**+0.1**
	baz=16						
NWF	**Wu-fen Shan**	**1.42**	**7**	*e*P	**Pn**	**21 49 02.0**	**+0.4**
	baz=8.0						
EAST	**Anshuo**	**1.44**	**208**	*e*P	**Pn**	**21 49 00.4**	**-1.4**
	baz=200						
TWS1	**Kuangyinshan**	**1.45**	**354**	*e*P	**Pb**	**21 49 03.0**	**-0.9**
	baz=11						
YOJ	**Yonaguni jima**	**1.53**	**58**	P	**Pn**	**21 49 03.5**	**+0.5**
YOJ				S	**Sn**	**21 49 22.6**	**+0.7**
YOJ	**Yonaguni jima**	**1.53**	**58**	*e*P	**Pn**	**21 49 03.4**	**+0.5**
	baz=56						
SCZT	**Fangliau**	**1.56**	**215**	*e*P	**Pb**	**21 49 04.0**	**-1.8**
	baz=205						
LAY	**Lan-yu**	**1.61**	**181**	*e*P	**Pn**	**21 49 02.3**	**-1.9**
	baz=170						
WDGT	**Dungji**	**1.81**	**258**	*e*P	**Pn**	**21 49 07.0**	**+0.2**
	baz=259						
PNG	**Penghu**	**1.87**	**268**	P	**Pn**	**21 49 07.9**	**+0.3**
	baz=268						
IRIF	**Iriomote-Funau**	**2.07**	**71**	P	**Pn**	**21 49 11.1**	**+0.7**
IRIF				S	**Sn**	**21 49 35.9**	**+0.6**
JKRS	**Kuro-shima**	**2.29**	**75**	P	**Pn**	**21 49 14.5**	**+1.1**
JKRS				S	**Sn**	**21 49 41.9**	**+1.2**
JIJ	**Ishigaki jima**	**

PTOM Tomar 15.40 109 *e*P Pn 22 01 40.7 -3.4
62nm,1.4s
LIS Lisbon 15.43 113 *e*P Pn 22 01 43.4 -1.0
LIS AMb AMB 22 01 46.6
comp=Z,296nm,1.5s
LIS Lisbon 15.43 113 *e*P Pn 22 01 43.4 -1.0
comp=Z,296nm,1.5s
LIS Lisbon 15.43 113 *e*P Pn 22 01 43.4 -1.0
PBRG Braganca 15.49 100 *e*P Pn 22 01 43.7 -1.5
comp=Z,34nm,1.2s
MVO Moncorvo 15.56 102 *e*P Pn 22 01 44.3 -2.0
comp=Z,51nm,1.3s
MVO *e*LR LR 22 05 21.9
comp=Z,608nm,18.0s
MTE Manteigas 15.57 106 *e*P Pn 22 01 43.9 -2.5
comp=Z,48nm,1.8s
MTE *e*LR LR 22 05 22.2
comp=Z,520nm,18.0s
MTE Manteigas 15.57 106 *e*Pn Pn 22 01 43.6 -2.8
comp=Z,129nm,1.8s
MTE Manteigas 15.57 106 *e*Pn Pn 22 01 43.6 -2.8
comp=Z,129nm,1.8s
PACT Alcochete 15.60 113 *e*P Pn 22 01 44.4 -2.2
comp=Z,244nm,1.7s
PMOZ Porto Moniz, M 15.63 147 *e*LR LR 22 05 34.8
comp=Z,368nm,20.0s
PMTG Montargil 15.82 111 *e*P Pn 22 01 46.8 -2.7
comp=Z,144nm,1.6s
PMAR Madeira 15.82 146 *e*P Pn 22 01 49.9 +0.1
comp=Z,216nm,1.7s
PCBR Castelo Branco 15.90 107 *e*P Pn 22 01 50.0 -0.5
comp=Z,76nm,1.7s
DYA Yadsworthy 16.04 67 *e*Pn Pn 22 01 53.1 +0.8
comp=Z,1µm,2.8s
DYA Yadsworthy 16.04 67 *e*Pn Pn 22 01 53.1 +0.8
comp=Z,1µm,2.8s
PMRV Marv??o 16.17 108 *e*P Pn 22 01 51.5 -2.5
comp=Z,123nm,2.0s
PMRV *e*LR LR 22 05 57.9
comp=Z,417nm,20.0s
PNCL Nicolau / Gran 16.18 114 *e*P Pn 22 01 52.7 -1.4
comp=Z,64nm,1.7s
EVO Evora 16.26 112 *e*P Pn 22 01 50.8 -4.4
comp=Z,31nm,0.8s
EVO *e*R
comp=Z,512nm,23.0s
EVO Evora 16.26 112 *e*P Pn 22 01 52.3 -2.9
comp=Z,42nm,1.5s
PTEO Sao Teotonio 16.40 116 *e*P Pn 22 01 57.0 +0.1
comp=Z,118nm,1.5s
ROSF Rostrenen 16.41 74 *e*P Pn 22 01 55.4 -1.6
comp=Z,32nm,0.9s
QUIF Quistinic 16.50 76 *e*P Pn 22 01 56.8 -1.4
comp=Z,64nm,1.1s
MORF Marmelete 16.59 117 *e*P Pn 22 01 58.4 -1.1
comp=Z,55nm,1.6s
MORF Marmelete 16.59 117 *e*P Pn 22 01 58.8 -0.7
PCVE Castro Verde 16.77 115 *e*P Pn 22 02 00.1 -1.6
comp=Z,42nm,1.5s
SGMF Saint Gilles 16.89 75 *e*P Pn 22 02 02.1 -1.0
comp=Z,270nm,1.4s
PBDV Barranco-do-Ve 17.08 115 *e*P Pn 22 02 06.0 +0.4
comp=Z,83nm,1.9s
PBAR Barrancos 17.09 111 *e*P Pn 22 02 04.2 -1.5
comp=Z,60nm,1.7s
PVAQ Vaqueiros 17.12 115 *e*P Pn 22 02 04.6 -1.4
comp=Z,52nm,1.8s
PVAQ *e*LR LR 22 06 20.1
comp=Z,377nm,20.0s
EKA Eskdalemuir Ar 17.62 51 *e*Pn Pn 22 02 12.2 +0.1
EKA Eskdalemuir Ar 17.62 51 *e*P Pn 22 02 12.3 +0.1
EKA Eskdalemuir Ar 17.62 51 P Pn 22 02 12.2 +0.1
baz=252,slow=12,SNR=14
GRR Gorron 18.02 74 *e*P P 22 02 17.7 +0.2
comp=Z,208nm,1.3s
GRR Gorron 18.02 74 *e*P P 22 02 17.7 +0.2
comp=Z,104nm,1.3s
FLN La Foliniere 18.25 73 *e*P Pn 22 02 19.2 -0.7
comp=Z,352nm,1.6s
FLN *e*R
comp=Z,453nm,18.2s
FLN La Foliniere 18.25 73 *e*P Pn 22 02 19.2 -0.7
comp=Z,176nm,1.6s
LCHF La Chataignera 18.28 79 *e*P P 22 02 20.9 +0.5
LCHF La Chataignera 18.28 79 *e*P P 22 02 20.9 +0.5
ESDC Sonseca Array 18.33 103 *e*Pn P 22 02 21.9 +0.8
ESDC Sonseca Array 18.33 103 *e*Pn P 22 02 21.9 +0.8
ESDC Sonseca Array 18.33 103 P P 22 02 21.9 +0.8
comp=Z,1.4nm,0.3s,baz=297,slow=12,SNR=47
ESDC LR LR 22 07 59.4
comp=Z,342nm,19.4s,baz=295,slow=32
ES19 SONSECA Array 18.36 103 *e*Pn P 22 02 21.4 0.0
ES19 SONSECA Array 18.36 103 *e*Pn P 22 02 21.4 0.0
LDF La Druitiere 18.49 73 *e*P P 22 02 22.3 -0.5
comp=Z,56nm,1.1s
LDF La Druitiere 18.49 73 *e*P P 22 02 22.3 -0.5
comp=Z,28nm,1.1s
MFF Saint Martin d 18.70 79⇑ *i*P Pn 22 02 25.3 -0.1
comp=Z,136nm,1.0s
MFF Saint Martin d 18.70 79⇑ *i*P Pn 22 02 25.3 -0.1
comp=Z,68nm,1.0s
OSSF Osses 18.74 90 *e*P Pn 22 02 26.9 +1.0
OSSF Osses 18.74 90 *e*P Pn 22 02 26.9 +1.0
SJPF Ste Jean 18.81 91 *e*P Pn 22 02 27.1 +0.3
comp=Z,34nm,0.8s
SJPF Ste Jean 18.81 91 *e*P Pn 22 02 27.1 +0.3
comp=Z,17nm,0.8s
LARF Larrau 19.00 91 *e*P Pn 22 02 29.0 -0.2
LARF Larrau 19.00 91 *e*P Pn 22 02 29.0 -0.2
ETSF Etsaut 19.34 91 *e*P Pn 22 02 33.3 0.0
comp=Z,43nm,0.6s
ETSF Etsaut 19.34 91 *e*P Pn 22 02 33.3 0.0
comp=Z,22nm,0.6s
REYF Montagne du Re 19.40 90 *e*P Pn 22 02 33.7 -0.3
REYF Montagne du Re 19.40 90 *e*P Pn 22 02 33.7 -0.3
LFF La Frestale 19.64 84 *e*P P 22 02 36.0 +0.6
comp=Z,103nm,1.0s
LFF La Frestale 19.64 84 *e*P P 22 02 36.0 +0.6
comp=Z,52nm,1.0s
VIEF Viey 19.75 90 *e*P Pn 22 02 37.8 -0.4
VIEF Viey 19.75 90 *e*P Pn 22 02 37.8 -0.4
DKH Dar Kharkhour 19.80 116 *i*P Pn 22 02 40.0 +1.2
EPF Esparros 19.92 90 *e*P P 22 02 39.0 +0.5
comp=Z,75nm,1.3s
EPF Esparros 19.92 90 *e*P P 22 02 39.0 +0.5
comp=Z,38nm,1.3s
RJF Les Rejaudoux 20.09 83 *e*P P 22 02 40.7 +0.4
comp=Z,109nm,1.4s
RJF *e*R
comp=Z,519nm,18.5s
RJF Les Rejaudoux 20.09 83 *e*P P 22 02 40.7 +0.4
comp=Z,55nm,1.4s
TCF Toulx Ste Croi 20.36 80⇑ *i*P P 22 02 44.2 +1.0
comp=Z,208nm,1.0s
TCF Toulx Ste Croi 20.36 80⇑ *i*P P 22 02 44.2 +1.0
comp=Z,104nm,1.0s
DRLN Deer Lake 20.39 289 *e*P P 22 02 43.1 -0.3
comp=Z,90nm,1.0s
DRLN Deer Lake 20.39 289 *e*P P 22 02 43.2 -0.3
comp=Z,90nm,1.0s
MLS Moulis 20.47 89 *e*P P 22 02 45.2 +0.8
MLS Moulis 20.47 89 *e*P P 22 02 45.2 +0.8
HYF Humbligny 20.48 77 *e*P P 22 02 45.5 +1.0
HYF Humbligny 20.48 77 *e*P P 22 02 45.5 +1.0
CAF Calviac 20.56 83⇑ *i*P P 22 02 45.7 +0.3
comp=Z,95nm,1.1s
CAF Calviac 20.56 83⇑ *i*P P 22 02 45.7 +0.3
comp=Z,48nm,1.1s
SALF Salau 20.60 90 *e*P P 22 02 46.9 +1.0
SALF Salau 20.60 90 *e*P P 22 02 46.9 +1.0
CIA Chichaoua 20.61 129 *i*P P 22 02 47.0 +0.9
VERF Verneugheol 20.65 81 *e*P P 22 02 47.2 +0.7
VERF Verneugheol 20.65 81 *e*P P 22 02 47.2 +0.7
FRNF Fournols 20.79 82 *e*P P 22 02 48.8 +0.9
FRNF Fournols 20.79 82 *e*P P 22 02 48.8 +0.9
TGT Taghat 20.92 118 *i*P P 22 02 51.0 +1.6
PYM Petit Puy Mans 21.01 81 *e*P P 22 02 51.6 +1.2
PYM Petit Puy Mans 21.01 81 *e*P P 22 02 51.6 +1.2
AGO Saint Agoulin 21.03 80 *e*P P 22 02 51.6 +1.1
AGO Saint Agoulin 21.03 80 *e*P P 22 02 51.6 +1.1
AVF Avril sur Loir 21.04 78⇑ *i*P P 22 02 51.2 +0.7
comp=Z,80nm,0.9s
AVF Avril sur Loir 21.04 78⇑ *i*P P 22 02 51.2 +0.7
comp=Z,40nm,0.9s
SSF Saint Saulge 21.10 77⇑ *i*P P 22 02 51.9 +0.7
comp=Z,135nm,1.1s
SSF Saint Saulge 21.10 77⇑ *i*P P 22 02 51.9 +0.7
comp=Z,68nm,1.1s
MTLF Montolieu 21.12 88⇑ *i*P P 22 02 51.9 +0.5
comp=Z,210nm,1.7s
MTLF Montolieu 21.12 88⇑ *i*P P 22 02 51.9 +0.5
comp=Z,105nm,1.7s
CARF Carcanieres 21.25 89 *e*P P 22 02 53.2 +0.3
CARF Carcanieres 21.25 89 *e*P P 22 02 53.2 +0.3
BAIF Baives 21.25 69⇑ *i*P P 22 02 53.1 +0.3
comp=Z,90nm,1.0s
BAIF Baives 21.25 69⇑ *i*P P 22 02 53.1 +0.3
comp=Z,45nm,1.0s
SNF Seneffe 21.29 67 P P 22 02 53.5 +0.3
SNF Seneffe 21.29 67 P P 22 02 53.4 +0.3
VALF Valcebollere 21.30 90 *e*P P 22 02 54.1 +0.6
VALF Valcebollere 21.30 90 *e*P P 22 02 54.1 +0.6
LOR Lormes 21.30 76⇑ *i*P P 22 02 53.9 +0.5
comp=Z,166nm,1.2s
LOR *e*R
comp=Z,314nm,19.5s
LOR Lormes 21.30 76⇑ *i*P P 22 02 53.9 +0.5
comp=Z,83nm,1.2s
UCC Uccle 21.33 66 P P 22 02 54.7 +1.0
UCC Uccle 21.33 66 P P 22 02 54.6 +1.0
OUK Oukaimeden 21.37 128 *i*P P 22 02 55.0 +0.5
KIB El Ksiba 21.38 123 *i*P P 22 02 56.0 +1.6
SMF Signal de Mont 21.40 78⇑ *i*P P 22 02 55.0 +0.6
comp=Z,161nm,1.4s
SMF Signal de Mont 21.40 78⇑ *i*P P 22 02 55.0 +0.6
comp=Z,81nm,1.4s
TZC Tazercounte 21.43 124 *i*P P 22 02 55.0 0.0
LRDF Laroque-de-Fa 21.47 88 *e*P P 22 02 55.3 +0.1
LRDF Laroque-de-Fa 21.47 88 *e*P P 22 02 55.3 +0.1
DOU Dourbes 21.50 68 P P 22 02 56.1 +0.6
comp=Z,39nm,1.5s
DOU Dourbes 21.50 68 P P 22 02 56.0 +0.6
comp=Z,39nm,1.5s
COLF Collangettes 21.53 81 *e*P P 22 02 56.5 +0.6
COLF Collangettes 21.53 81 *e*P P 22 02 56.5 +0.6
GIVF Givet 21.65 68⇑ *i*P P 22 02 57.3 +0.3
comp=Z,325nm,1.4s
GIVF Givet 21.65 68⇑ *i*P P 22 02 57.3 +0.3
comp=Z,162nm,1.4s
MEZF Maizieres J'vi 21.93 73⇑ *i*P P 22 03 00.5 +0.5
comp=Z,379nm,1.5s
MEZF Maizieres J'vi 21.93 73⇑ *i*P P 22 03 00.5 +0.5
comp=Z,189nm,1.5s
BCLA Clavier 21.94 67 P P 22 03 00.6 +0.4
comp=Z,29nm,1.4s
BCLA Clavier 21.94 67 P P 22 03 00.6 +0.4
comp=Z,29nm,1.4s
SFTF Sexfontaines 21.95 73⇑ *i*P P 22 03 00.7 +0.3
comp=Z,221nm,1.2s
SFTF Sexfontaines 21.95 73⇑ *i*P P 22 03 00.7 +0.3
comp=Z,111nm,1.2s
LASF Ste Croix 22.02 85⇑ *i*P P 22 03 01.8 +0.6
comp=Z,152nm,1.2s
LASF Ste Croix 22.02 85⇑ *i*P P 22 03 01.8 +0.6
comp=Z,76nm,1.2s
MDT Midelt 22.05 120 *e*P P 22 03 02.5 +0.8
MDT *e*ScP ScP 22 10 47.2 +12
MDT Midelt 22.05 120 *e*P P 22 03 02.5 +0.8
MDT *e*ScP ScP 22 10 47.2 +11
MDT Midelt 22.05 120 P P 22 03 02.5 +0.8
comp=Z,11nm,0.9s,baz=317,slow=12,SNR=21
MDT LR LR 22 10 47.2
comp=Z,202nm,18.8s,baz=131,slow=34
BEBN Eben Emael 22.17 66 P P 22 03 02.2 -0.4
BEBN Eben Emael 22.17 66 P P 22 03 02.2 -0.4
SSB Saint Sauveur 22.17 81 *e*P P 22 03 03.5 +0.7
SSB Saint Sauveur 22.17 81 *e*P P 22 03 03.5 +0.7
PAGF Fort de Pagny 22.36 72⇑ *i*P P 22 03 04.8 0.0
comp=Z,54nm,1.5s
PAGF Fort de Pagny 22.36 72⇑ *i*P P 22 03 04.8 0.0
comp=Z,27nm,1.5s
VIVF Saint-Julien-l 22.37 82⇑ *i*P P 22 03 05.9 +1.0
comp=Z,123nm,1.4s
VIVF Saint-Julien-l 22.37 82⇑ *i*P P 22 03 05.9 +1.0
comp=Z,62nm,1.4s
MEM Membach 22.38 67 P P 22 03 05.2 +0.2
comp=Z,23nm,1.0s
MEM Membach 22.38 67 *e*P P 22 03 04.6 -0.3
MEM Membach 22.38 67 *e*P P 22 03 04.6 -0.3
MEM Membach 22.38 67 *e*P P 22 03 04.6 -0.3
WLF Walferdange 22.53 69 P P 22 03 06.8 +0.2
comp=Z,29nm,1.8s
WLF Walferdange 22.53 69 *e*P P 22 03 06.4 -0.1
WLF pmax pmax
comp=Z,33nm,1.0s
WLF Walferdange 22.53 69 *e*P P 22 03 06.9 +0.4
comp=Z,94nm,1.7s
WLF Walferdange 22.53 69 *e*P P 22 03 06.4 -0.1
comp=Z,33nm,1.0s
WLF Walferdange 22.53 69 *e*P P 22 03 06.4 -0.1
comp=Z,33nm,1.0s
THEF They Montfort 22.58 73 *e*P P 22 03 07.0 -0.1
THEF They Montfort 22.58 73 *e*P P 22 03 07.0 -0.1
OG35 Corcelles 22.69 79 *e*P P 22 03 09.0 +0.6
HAU Haudompre 22.85 74 *e*P P 22 03 09.7 -0.3
comp=Z,83nm,1.1s
HAU *e*R
comp=Z,275nm,21.8s
HAU Haudompre 22.85 74 *e*P P 22 03 09.7 -0.3
comp=Z,42nm,1.1s
OG26 St.-Nazaire-De 22.88 83 *e*P P 22 03 12.6 +2.3
OG26 St.-Nazaire-De 22.88 83 *e*P P 22 03 12.6 +2.3
CABF La Chapelle 22.92 77 *e*P P 22 03 10.9 +0.1
comp=Z,295nm,1.5s
CABF La Chapelle 22.92 77 *e*P P 22 03 10.9 +0.1
comp=Z,148nm,1.5s
RUP Ruppelstein 23.11 69 *e*P P 22 03 12.8 +0.1
BUG Bochum--Univer 23.16 65 *e*P P 22 03 14.1 +1.1
comp=Z,72nm,1.1s
ORIF Oris-en-Rattie 23.18 82⇑ *i*P P 22 03 14.8 +1.4
comp=Z,206nm,1.6s
ORIF *e*R
comp=Z,398nm,21.2s
ORIF Oris-en-Rattie 23.18 82⇑ *i*P P 22 03 14.8 +1.4
comp=Z,103nm,1.6s
HINF Hinteralfeld 23.21 74 *e*P P 22 03 13.7 0.0
comp=Z,277nm,1.8s
HINF Hinteralfeld 23.21 74 *e*P P 22 03 13.7 0.0
comp=Z,138nm,1.8s
SMRF Simiane la Rot 23.24 84⇑ *i*P P 22 03 15.5 +1.5
comp=Z,338nm,1.9s
SMRF Simiane la Rot 23.24 84⇑ *i*P P 22 03 15.5 +1.5
comp=Z,169nm,1.9s
LOMF Lomont 23.28 75 *e*P P 22 03 15.0 +0.6
LOMF Lomont 23.28 75 *e*P P 22 03 15.0 +0.6
ECH Echery 23.36 73 *e*P P 22 03 15.2 +0.1
ECH Echery 23.36 73 *e*P P 22 03 15.2 +0.1
MOF Molkenrain 23.39 74 *e*P P 22 03 15.7 +0.1
MOF Molkenrain 23.39 74 *e*P P 22 03 15.7 +0.1
CDF Champ du Feu 23.41 72 *e*P P 22 03 15.8 +0.1
comp=Z,210nm,1.7s
CDF Champ du Feu 23.41 72 *e*P P 22 03 15.8 +0.1
comp=Z,105nm,1.7s
ABH Alteburg 23.41 69 *e*P P 22 03 16.7 +1.0
IBBN Ibbenburen 23.45 63 *e*P P 22 03 17.0 +1.0
comp=Z,85nm,1.3s
OG25 Le Caire 23.46 83 *e*P P 22 03 17.5 +1.2
OG25 Le Caire 23.46 83 *e*P P 22 03 17.5 +1.2
RSL Roselend 23.49 79 *e*P P 22 03 16.9 +0.3
RSL Roselend 23.49 79 *e*P P 22 03 16.9 +0.3
LPL La Plagne 23.61 80⇑ *i*P P 22 03 18.5 +0.7
comp=Z,59nm,1.2s
LPL La Plagne 23.61 80⇑ *i*P P 22 03 18.5 +0.7
comp=Z,30nm,1.2s
LPG La Plagne 23.62 80⇑ *i*P P 22 03 18.8 +0.7
comp=Z,51nm,1.3s
LPG La Plagne 23.62 80⇑ *i*P P 22 03 18.8 +0.7
comp=Z,25nm,1.3s
LIBD Limburg 23.66 73 *e*P P 22 03 18.7 +0.6
LANF Langenberg 23.68 71 *e*P P 22 03 18.5 +0.2
LANF Langenberg 23.68 71 *e*P P 22 03 18.5 +0.2
BNI Bardonecchia 23.69 81 *e*P P 22 03 19.1 +0.5
BNI pmax pmax
comp=Z,264nm,2.6s
BNI Bardonecchia 23.69 81 *e*P P 22 03 19.1 +0.5
comp=Z,264nm,2.6s
BNI Bardonecchia 23.69 81 *e*P P 22 03 19.1 +0.5
comp=Z,264nm,2.6s
SENIN Lac Senin/Sane 23.79 77 *e*P P 22 03 19.6 0.0
comp=Z,44nm,1.1s
SENIN Lac Senin/Sane 23.79 77 *e*P P 22 03 19.6 0.0
comp=Z,44nm,1.1s
MBDF Montbardon 23.84 82 *e*P P 22 03 20.8 +0.8
comp=Z,98nm,1.1s
MBDF Montbardon 23.84 82 *e*P P 22 03 20.8 +0.8
comp=Z,49nm,1.1s
TNS Taunus Mts 23.96 68 *e*P P 22 03 23.1 +2.1
TNS pmax pmax
comp=Z,30nm,1.3s
TNS Taunus Mts 23.96 68 *e*P P 22 03 23.1 +2.1
comp=Z,30nm,1.3s
TNS Taunus Mts 23.96 68 *e*P P 22 03 23.1 +2.1
comp=Z,30nm,1.3s
FELD Feldberg im Sc 23.97 73 *e*P P 22 03 20.8 -0.4
FELD Feldberg im Sc 23.97 73 *e*P P 22 03 20.8 -0.4
SFJD Kangerlussuaq 24.00 338 *e*P P 22 03 20.7 -0.3
comp=Z,34nm,1.1s
SFJD Kangerlussuaq 24.00 338 *e*P P 22 03 20.7 -0.3
comp=Z,35nm,1.1s
SFJD Kangerlussuaq 24.00 338 P P 22 03 21.4 +0.3
comp=Z,12nm,0.8s,baz=143,slow=6.9,SNR=4.5
LMR La Mourre 24.08 85⇑ *i*P P 22 03 22.6 +0.5
LMR La Mourre 24.08 85⇑ *i*P P 22 03 22.6 +0.5
FRF La Foret Royal 24.11 84⇑ *i*P P 22 03 22.9 +0.6
comp=Z,82nm,1.2s
FRF La Foret Royal 24.11 84⇑ *i*P P 22 03 22.9 +0.6
comp=Z,41nm,1.2s
BFO Black Forest 24.11 72 *e*P P 22 03 21.1 -1.3
BFO pmax pmax
comp=Z,17nm,1.1s
BFO Black Forest 24.11 72 *e*P P 22 03 21.1 -1.3
comp=Z,17nm,1.1s
BFO Black Forest 24.11 72 *e*P P 22 03 21.1 -1.3
comp=Z,17nm,1.1s
CALN Calern 24.21 84 *e*P P 22 03 24.2 +0.7
CALN Calern 24.21 84 *e*P P 22 03 24.2 +0.7
TOD Tromm 24.25 69 *e*P P 22 03 24.5 +0.8
MVIF Mont Vial 24.35 83 *e*P P 22 03 25.0 +0.3
MVIF Mont Vial 24.35 83 *e*P P 22 03 25.0 +0.3
TOUF Mont Tournerai 24.38 83 *e*P P 22 03 25.4 +0.3
TOUF Mont Tournerai 24.38 83 *e*P P 22 03 25.4 +0.3
SPAK Spaichingen-Ko 24.45 73 *e*P P 22 03 25.4 -0.2
LUCF Luceram 24.48 83 *e*P P 22 03 26.1 +0.2
LUCF Luceram 24.48 83 *e*P P 22 03 26.1 +0.2
AUTN L'Aution 24.51 83 *e*P P 22 03 26.7 +0.4
AUTN L'Aution 24.51 83 *e*P P 22 03 26.7 +0.4
SBF Sospel 24.55 83 *e*P P 22 03 26.7 +0.2
comp=Z,150nm,1.0s
SBF Sospel 24.55 83 *e*P P 22 03 26.7 +0.2
comp=Z,75nm,1.0s
SAOF Saorge 24.60 83 *e*P P 22 03 27.0 +0.1
SAOF Saorge 24.60 83 *e*P P 22 03 27.0 +0.1
STU Stuttgart 24.61 71 *e*P P 22 03 26.2 -0.8
STU pmax pmax
comp=Z,46nm,1.0s
STU Stuttgart 24.61 71 *e*P P 22 03 27.7 +0.8
comp=Z,26nm,1.1s
STU Stuttgart 24.61 71 *e*P P 22 03 26.1 -0.8
comp=Z,46nm,1.0s
STU Stuttgart 24.61 71 *e*P P 22 03 26.1 -0.8
comp=Z,46nm,1.0s
NRDL Niedersach Rie 24.89 62 *e*P P 22 03 30.5 +1.2
comp=Z,40nm,1.2s
BSEG Bad Segeberg 25.04 59 *e*P P 22 03 31.7 +1.1
BSEG pmax pmax
comp=Z,88nm,1.2s
BSEG Bad Segeberg 25.04 59 *e*P P 22 03 31.7 +1.1
comp=Z,88nm,1.2s
BSEG Bad Segeberg 25.04 59 *e*P P 22 03 31.7 +1.1
comp=Z,88nm,1.2s
CLZ Clausthal 25.08 64 *e*P P 22 03 32.4 +1.3
CLZ pmax pmax
comp=Z,72nm,1.4s
CLZ Clausthal 25.08 64 *e*P P 22 03 32.4 +1.3
comp=Z,72nm,1.4s
CLZ Clausthal 25.08 64 *e*P P 22 03 32.4 +1.3
comp=Z,72nm,1.4s
TUE Stuetta 25.15 76 *e*P P 22 03 31.6 -0.4
comp=Z,26nm,0.9s
TUE Stuetta 25.15 76 *e*P P 22 03 31.6 -0.4
comp=Z,26nm,0.9s
DAVA Damuels 25.33 74 *i*P P 22 03 34.5 +0.9
comp=Z,56nm,1.0s,SNR=18
DAVA Damuels 25.33 74 P P 22 03 34.5 +0.9
comp=Z,56nm,1.0s,SNR=18
DAVOX Davos/Dischmat 25.44 75 *e*P P 22 03 35.7 +1.1
DAVOX Davos/Dischmat 25.44 75 *e*P P 22 03 35.7 +1.1
DAVOX Davos/Dischmat 25.44 75 P P 22 03 35.7 +1.1
comp=Z,30nm,0.9s,baz=292,slow=11,SNR=20
DAVOX LR LR 22 12 30.3
comp=Z,268nm,18.8s,baz=265,slow=34
GRFO Grafenberg 25.80 68 *e*P P 22 03 36.2 -1.5
GRFO pmax pmax
comp=Z,53nm,1.2s
GRFO Grafenberg 25.80 68 *e*P P 22 03 36.2 -1.5
comp=Z,53nm,1.2s
GRFO Grafenberg 25.80 68 *e*P P 22 03 36.2 -1.5
comp=Z,53nm,1.2s
GRA1 Grafenberg Arr 25.80 68 *e*P P 22 03 38.2 +0.5
comp=Z,500nm,19.4s
GRF Grafenberg Arr 25.80 68 *e*P P 22 03 38.2 +0.5
GRF pmax pmax
comp=Z,64nm,1.2s
GRF MLR MLR
comp=Z,500nm,19.4s
GRF Grafenberg Arr 25.80 68 *e*P P 22 03 38.2 +0.5
comp=Z,64nm,1.2s
GRF *e*L L 22 12 47.6
comp=Z,468nm,19.4s
RETA Reutte 25.87 74 P P 22 03 39.0 +0.5
comp=Z,13nm,1.1s
MOX Moxa 25.94 66 *e*P P 22 03 39.8 +0.8
MOX pmax pmax
comp=Z,36nm,1.5s
MOX MLR MLR
comp=Z,300nm,18.9s
MOX Moxa 25.94 66 *e*P P 22 03 39.8 +0.8
comp=Z,36nm,1.5s
MOX *e*L L 22 12 42.6
comp=Z,270nm,18.9s
MOX Moxa 25.94 66 *e*P P 22 03 39.8 +0.8
comp=Z,300nm,18.9s
FETA Feichten 25.95 75 *i*P P 22 03 40.2 +1.0
comp=Z,29nm,1.1s,SNR=9.1
FETA Feichten 25.95 75 P P 22 03 40.2 +1.0
comp=Z,29nm,1.1s,SNR=9.1
PGF Pioggiola 26.07 85 *e*P P 22 03 39.6 -0.7
comp=Z,73nm,1.2s
PGF Pioggiola 26.07 85 *e*P P 22 03 39.6 -0.7
comp=Z,37nm,1.2s
FUR Furstenfeldbru 26.08 72 *e*P P 22 03 41.6 +1.3
FUR pmax pmax
comp=Z,43nm,1.2s
FUR Furstenfeldbru 26.08 72 *e*P P 22 03 41.6 +1.3
comp=Z,43nm,1.2s
FUR Furstenfeldbru 26.08 72 *e*P P 22 03 41.6 +1.3
comp=Z,43nm,1.2s
MOTA Moosalm 26.13 74⇑ *i*pP P 22 03 41.2 +0.3
comp=Z,14nm,1.0s,SNR=12
MOTA Moosalm 26.13 74 P P 22 03 41.2 +0.3
comp=Z,14nm,1.0s,SNR=12
SCHQ Schefferville 26.14 303 *e*P P 22 03 39.1 -1.5
comp=Z,23nm,1.1s
SCHQ Schefferville 26.14 303 *e*P P 22 03 39.2 -1.5
comp=Z,23nm,1.1s
SCHQ Schefferville 26.14 303 P P 22 03 40.3 -0.4
comp=Z,13nm,0.9s,baz=87,slow=12,SNR=7.8
SCHQ LR LR 22 12 09.9
comp=Z,239nm,18.3s,baz=96,slow=32
ROTZ Rotzenmuhle 26.43 68 *e*P P 22 03 44.3 +1.0
comp=Z,68nm,2.4s
WATA Walderalm 26.45 74 *i*pP P 22 03 44.9 +1.2
comp=Z,16nm,0.9s,SNR=6.0
WATA Walderalm 26.45 74 P P 22 03 44.9 +1.2
comp=Z,16nm,0.9s,SNR=6.0
SET Setif 26.46 101 P P 22 03 45.0 +1.2
SET Setif 26.46 101 P P 22 03 45.0 +1.2
VLC Villacollemand 26.48 81 *e*P P 22 03 42.4 -1.5
comp=Z,38nm,1.3s
VLC Villacollemand 26.48 81 *e*P P 22 03 42.4 -1.5
comp=Z,38nm,1.3s
DFRA Djebel Bou Aff 26.60 100 P P 22 03 45.1 0.0
DFRA Djebel Bou Aff 26.60 100 P P 22 03 45.1 0.0
NB2 NORSAR Subarra 26.63 43 P P 22 03 45.1 0.0
comp=Z,96nm,2.5s,baz=254,slow=9.3
NB2 NORSAR Subarra 26.63 43 P P 22 03 45.1 0.0
baz=254,slow=9.3
NB2 NORSAR Subarra 26.63 43 P P 22 03 45.1 0.0
comp=Z,96nm,2.5s,baz=254,slow=0.9,SNR=5.3

NB200 NORSAR Array S 26.63 43 *e*P **P 22 03 44.6 -0.5**
NB200 NORSAR Array S 26.63 43 *e*P **P 22 03 44.6 -0.5**
NOA NORSAR Array B 26.63 43 P **P 22 03 44.6 -0.5**
comp=Z,1.5nm,0.8s,baz=256,slow=9.6,SNR=3.3
NOA LR LR 22 14 15.7
comp=Z,70nm,18.2s,baz=270,slow=36
CKHR Kef el Ahmar 26.63 101 P **P 22 03 45.8 +0.3**
CKHR Kef el Ahmar 26.63 101 P **P 22 03 45.8 +0.3**
CLL Collm 26.75 65 *e*P **P 22 03 46.0 -0.2**
CLL *e* 22 03 51.0
CLL pmax pmax
comp=Z,22nm,1.4s
CLL Collm 26.75 65 *e*P **P 22 03 47.0 +0.8**
comp=Z,21nm,1.4s
CLL Collm 26.75 65 *e*P **P 22 03 46.0 -0.2**
comp=Z,22nm,1.4s
CLL *e*(sP) **sP 22 03 51.0 -2.0**
CLL *e* 22 03 56.0
CLL *e*PPP PPP 22 04 33.0
CLL *e*PPPP 22 04 42.0
CLL *e*(SS) 22 08 54.0
CLL Collm 26.75 65 *e*P **P 22 03 46.0 -0.2**
comp=Z,22nm,1.4s
SUMG Summit 26.77 353 *e*P **P 22 03 45.8 -0.8**
SUMG pmax pmax
comp=Z,29nm,1.1s
SUMG Summit 26.77 353 *e*P **P 22 03 45.8 -0.8**
comp=Z,29nm,1.1s
SUMG Summit 26.77 353 *e*P **P 22 03 45.8 -0.8**
comp=Z,29nm,1.1s
WET Wettzell 26.95 69 *e*P **P 22 03 48.9 +0.8**
WET pmax pmax
comp=Z,17nm,1.4s
WET Wettzell 26.95 69 *e*P **P 22 03 48.9 +0.8**
comp=Z,17nm,1.4s
WET Wettzell 26.95 69 *e*P **P 22 03 48.9 +0.8**
comp=Z,17nm,1.4s
CASM Ain Smara 27.17 100 P **P 22 03 50.8 +0.6**
CASM Ain Smara 27.17 100 P **P 22 03 50.8 +0.6**
ABTA Abfaltersbach 27.20 75⇑*i*pP **P 22 03 50.7 +0.2**
comp=Z,15nm,0.9s,SNR=8.2
ABTA Abfaltersbach 27.20 75 P **P 22 03 50.7 +0.2**
comp=Z,15nm,0.9s,SNR=8.2
BRG Berggiesshubel 27.39 65 *e*P **P 22 03 52.1 +0.1**
comp=Z,24nm,1.5s
BRG Berggiesshubel 27.39 65 *e*P **P 22 03 52.1 +0.1**
BRG pmax pmax
comp=Z,24nm,1.5s
BRG Berggiesshubel 27.39 65 *e*P **P 22 03 52.7 +0.7**
comp=Z,24nm,1.5s
KHC Kasperske Hory 27.41 69 *e*P **P 22 03 52.6 +0.4**
KHC MLR MLR
comp=Z,600nm,20.6s
KHC Kasperske Hory 27.41 69 *e*P **P 22 03 52.6 +0.4**
KHC AMS AMS 22 13 40.0
comp=Z,600nm,20.6s
KHC Kasperske Hory 27.41 69 *e*P **P 22 03 51.6 -0.6**
comp=Z,19nm,1.4s
KHC Kasperske Hory 27.41 69 *e*P **P 22 03 51.6 -0.6**
comp=Z,19nm,1.4s
GEC2 GERESS Array S 27.54 70 *e*P **P 22 03 54.3 +0.8**
GEC2 pmax pmax
comp=Z,19nm,1.2s
GEC2 GERESS Array S 27.54 70 *e*P **P 22 03 54.3 +0.8**
comp=Z,19nm,1.2s
GEC2 GERESS Array S 27.54 70 *e*P **P 22 03 52.8 -0.7**
GEC2 GERESS Array S 27.54 70 *e*P **P 22 03 52.8 -0.7**
GERES GERESS Array B 27.54 70 P **P 22 03 53.5 +0.1**
comp=Z,5.1nm,0.9s,baz=276,slow=8.7,SNR=26
GERES LR LR 22 14 35.0
comp=Z,380nm,18.7s,baz=77,slow=36
HFS Hagfors 27.61 45 LR LR 22 14 34.4
comp=Z,145nm,18.9s,baz=253,slow=36
CMAH Djebel Manchou 27.61 98 P P 22 03 47.7 -6.5
PQI Presque Isle 27.77 286 *e*P **P 22 03 54.8 -0.6**
PQI Presque Isle 27.77 286 *e*P **P 22 03 54.8 -0.6**
PRU Pruhonice 27.89 67 *e*P **P 22 03 56.7 +0.2**
PRU Pruhonice 27.89 67 *e*P **P 22 03 56.7 +0.2**
PRU *ex* x 22 04 09.6
PRU Pruhonice 27.89 67 P **P 22 03 56.7 +0.2**
MYKA Terra Mystica 27.99 74⇑*i*pP **P 22 03 57.9 +0.4**
comp=Z,17nm,0.9s,SNR=6.6
MYKA Terra Mystica 27.99 74 P **P 22 03 57.9 +0.4**
comp=Z,17nm,0.9s,SNR=6.6
ROBS Robic 28.00 75 *i*P **P 22 03 57.4 0.0**
ROBS Robic 28.00 75 P **P 22 03 57.4 0.0**
CADS Cadrg 28.15 75 *i*P **P 22 03 59.0 +0.1**
CADS Cadrg 28.15 75 *i*P **P 22 03 59.0 +0.1**
TRI Trieste 28.31 76 *e*P **P 22 03 58.8 -1.5**
TRI pmax pmax
comp=Z,17nm,1.1s
TRI Trieste 28.31 76 *e*P **P 22 03 58.8 -1.5**
comp=Z,17nm,1.1s
TRI Trieste 28.31 76 *e*P **P 22 03 58.8 -1.5**
comp=Z,17nm,1.1s
FRB Frobisher Bay 28.59 322 *e*P **P 22 04 02.1 -0.4**
FRB Frobisher Bay 28.59 322 *e*P **P 22 04 02.2 -0.4**
FRB Frobisher Bay 28.59 322 P **P 22 04 02.1 -0.4**
comp=Z,18nm,0.8s,baz=91,slow=9.7,SNR=12
FRB LR LR 22 12 43.4
comp=Z,195nm,18.5s,baz=22,slow=31
TREC Trest 28.61 68 AMS AMS 22 15 10.0
comp=Z,700nm,20.1s
OBKA Obir 28.62 74 *i*pP **P 22 04 03.2 +0.1**
comp=Z,34nm,1.0s,SNR=12
OBKA Obir 28.62 74 P **P 22 04 03.2 +0.1**
comp=Z,34nm,1.0s,SNR=12
LJU Ljubljana 28.73 75 *e*P **P 22 04 04.2 +0.2**
LJU Ljubljana 28.73 75 *e*P **P 22 04 04.2 +0.2**
UPC Upice 28.74 66 *e*P **P 22 04 04.2 +0.1**
UPC Upice 28.74 66 *e*P **P 22 04 04.2 +0.1**
UPC Upice 28.74 66 P **P 22 04 04.2 +0.1**
CEY Cerknica 28.75 76 *e*P **P 22 04 04.7 +0.5**
CEY Cerknica 28.75 76 *e*P **P 22 04 04.7 +0.5**
KSP Ksiaz 28.87 65 *e*P **P 22 04 05.6 +0.4**
SOKA Soboth 28.90 74 *i*P **P 22 04 05.1 -0.5**
SNR=6.1
SOKA Soboth 28.90 74 P **P 22 04 05.1 -0.5**
SNR=6.1
DPC Dobruska-Polom 28.96 66 *e*P **P 22 04 06.2 +0.1**
DPC Dobruska-Polom 28.96 66 *e*P **P 22 04 06.2 +0.1**
DPC Dobruska-Polom 28.96 66 *e*P **P 22 04 04.7 -1.4**
DPC Dobruska-Polom 28.96 66 *e*P **P 22 04 04.7 -1.4**
PKME Peaks-Kenny Pk 29.01 283 *e*P **P 22 04 06.5 +0.1**
comp=Z,41nm,1.1s
PKME Peaks-Kenny Pk 29.01 283 *e*P **P 22 04 06.5 +0.1**
comp=Z,41nm,1.1s
ARSA Arzberg 29.08 72 *i*P **P 22 04 06.9 -0.2**
comp=Z,28nm,1.1s,SNR=13
ARSA Arzberg 29.08 72 P **P 22 04 06.9 -0.2**
comp=Z,28nm,1.1s,SNR=13
GROS Grobnik 29.27 74 *e*P **P 22 04 08.0 -0.9**
GROS Grobnik 29.27 74 *e*P **P 22 04 08.0 -0.9**
VRAC Vranov 29.32 68⇓*i*P **P 22 04 10.1 +0.9**
VRAC Vranov 29.32 68 *e*P **P 22 04 09.6 +0.3**
VRAC Vranov 29.32 68 *e*P **P 22 04 09.6 +0.3**
VRAC Vranov 29.32 68 P **P 22 04 09.6 +0.3**
comp=Z,1.8nm,0.4s,baz=306,slow=6.1,SNR=4.6
VRAC LR LR 22 15 33.3
comp=Z,513nm,18.4s,baz=256,slow=36
KEST Kesra 29.40 98 *e*P **P 22 04 09.7 -0.5**
KEST Kesra 29.40 98 *e*P **P 22 04 09.7 -0.5**
KEST Kesra 29.40 98 P **P 22 04 10.5 +0.3**
comp=Z,5.3nm,1.0s,baz=330,slow=4.5,SNR=10
KEST LR LR 22 15 12.0
comp=Z,184nm,18.4s,baz=258,slow=35
MORC Moravsky Berou 29.84 67 *e*P **P 22 04 12.7 -1.1**
MORC pmax pmax
comp=Z,7.0nm,0.9s
MORC Moravsky Berou 29.84 67⇑*i*P **P 22 04 14.4 +0.6**
MORC Moravsky Berou 29.84 67 *e*P **P 22 04 12.7 -1.1**
comp=Z,6.5nm,0.9s
MORC Moravsky Berou 29.84 67 *e*P **P 22 04 12.7 -1.1**
comp=Z,6.5nm,0.9s
SMOL Smolenice 30.03 69 *e*P **P 22 04 16.5 +1.0**
SMOL Smolenice 30.03 69 *e*P **P 22 04 16.5 +1.0**
OKC Ostrava-Krasne 30.21 67 *e*P **P 22 04 17.7 +0.6**
OKC Ostrava-Krasne 30.21 67 *e*P **P 22 04 17.7 +0.6**
OKC Ostrava-Krasne 30.21 67 P **P 22 04 17.7 +0.6**
PKST T"s 30.73 72⇓*e*P **P 22 04 22.3 +0.6**
PKSG 30.93 71⇓*e*P **P 22 04 23.7 +0.3**
PKS9 Tamasi 31.08 73⇓*e*P **P 22 04 25.5 +0.8**
OJC Ojcow 31.18 65 *e*P **P 22 04 25.4 -0.2**
OJC pmax pmax
comp=Z,23nm,1.5s
OJC Ojcow 31.18 65 *e*P **P 22 04 25.4 -0.2**
comp=Z,22nm,1.5s
OJC Ojcow 31.18 65 *e*P **P 22 04 25.4 -0.2**
comp=Z,22nm,1.5s
WES Weston 31.38 279 *e*P **P 22 04 26.7 -0.7**
WES Weston 31.38 279 *e*P **P 22 04 26.7 -0.7**
WES Weston 31.38 279 *e*P **P 22 04 26.7 -0.7**
PKS7 Kunszentmiklos 31.53 72⇓*e*P **P 22 04 28.9 +0.2**
PKS2 Kecel 31.72 73⇓*e*P **P 22 04 30.5 +0.1**
PSZ Piszkesteto 31.77 70 *e*P **P 22 04 30.7 -0.3**
PSZ pmax pmax
comp=Z,34nm,1.4s
PSZ Piszkesteto 31.77 70⇑*i*P **P 22 04 32.2 +1.3**
PSZ Piszkesteto 31.77 70 *e*P **P 22 04 30.6 -0.3**
comp=Z,34nm,1.4s
PSZ Piszkesteto 31.77 70 *e*P **P 22 04 30.6 -0.3**
comp=Z,34nm,1.4s
PKSN Nyarlorinc 32.03 72⇓*e*P **P 22 04 33.8 +0.7**
MDV Middlebury 32.04 283 *e*P **P 22 04 33.3 0.0**
MDV Middlebury 32.04 283 *e*P **P 22 04 33.3 0.0**
STHS Stebnicka Huta 32.27 67 *e*P **P 22 04 36.6 +1.4**
STHS pmax pmax
comp=Z,9.0nm,1.0s
STHS Stebnicka Huta 32.27 67 *e*P **P 22 04 36.6 +1.4**
ACCN Adirondack Com 32.59 282 *e*P **P 22 04 37.3 -0.8**
comp=Z,20nm,1.1s
ACCN Adirondack Com 32.59 282 *e*P **P 22 04 37.3 -0.8**
comp=Z,20nm,1.1s
BBLS Lazići 32.71 77⇑*i*P **P 22 04 39.4 +0.2**
NCB Newcomb 32.76 283 *e*P **P 22 04 39.6 0.0**
comp=Z,41nm,1.4s
NCB Newcomb 32.76 283 *e*P **P 22 04 39.6 0.0**
comp=Z,41nm,1.4s
LONY Lake Ozonia 32.77 284 *e*P **P 22 04 39.5 -0.2**
comp=Z,44nm,1.2s
LONY Lake Ozonia 32.77 284 *e*P **P 22 04 39.5 -0.2**
comp=Z,44nm,1.2s
TRY Troy 32.84 281 *e*P **P 22 04 40.9 +0.6**
TRY Troy 32.84 281 *e*P **P 22 04 40.9 +0.6**
DIVS Divibare 33.02 76⇑*i*P **P 22 04 41.9 -0.1**
KOLS Kolonicke sedl 33.04 67 *e*P **P 22 04 42.6 +0.6**
KOLS pmax pmax
comp=Z,11nm,1.3s
KOLS Kolonicke sedl 33.04 67 *e*P **P 22 04 42.6 +0.6**
UZH Uzhgorod 33.13 68 *e*P **P 22 04 41.6 -1.1**
KWP Kalwaria Pacla 33.14 66 *e*P **P 22 04 42.5 -0.4**
KWP pmax pmax
comp=Z,31nm,1.2s
KWP Kalwaria Pacla 33.14 66⇓*i*P **P 22 04 43.7 +0.8**
KWP Kalwaria Pacla 33.14 66 *e*P **P 22 04 42.5 -0.4**
comp=Z,31nm,1.2s
KWP Kalwaria Pacla 33.14 66 *e*P **P 22 04 42.5 -0.4**
comp=Z,31nm,1.2s
TRUS Trudelj 33.26 76 *e*P **P 22 04 43.6 -0.3**
IVAS Ivanjica 33.32 77 *e*P **P 22 04 44.3 -0.2**
SIRR Siria 33.40 72⇑*i*P **P 22 04 45.3 +0.1**
SIRR Siria 33.40 72⇑*i*P **P 22 04 45.3 +0.1**
TRPA Tarpa 33.42 68⇑*i*P **P 22 04 46.3 +1.0**
TRPA Tarpa 33.42 68⇑*i*P **P 22 04 46.3 +1.0**
BZS Buzias 33.58 73⇑*i*P **P 22 04 47.0 +0.3**
BZS Buzias 33.58 73⇑*i*P **P 22 04 47.0 +0.3**
GRUS Gruza 33.58 76⇑*i*P **P 22 04 46.7 -0.1**
FIA0 FINESS Array S 33.78 44 *e*P **P 22 04 49.0 +0.8**
FIA0 FINESS Array S 33.78 44 *e*P **P 22 04 49.0 +0.8**
FIA0 FINESS Array S 33.78 44 *e*P **P 22 04 49.0 +0.8**
FINES FINESS Array B 33.78 44 P **P 22 04 49.0 +0.8**
comp=Z,5.4nm,0.8s,baz=270,slow=8.3,SNR=6.3
FINES LR LR 22 16 59.1
comp=Z,108nm,21.4s,baz=313,slow=34
DRGR 33.93 71⇑*i*P **P 22 04 49.9 +0.1**
DRGR 33.93 71⇑*i*P **P 22 04 49.9 +0.1**
LVV L'vov 33.93 65 *e*P **P 22 04 50.2 +0.5**
BMR Baia Mare 34.17 69⇓*i*P **P 22 04 53.3 +1.5**
BMR Baia Mare 34.17 69⇓*i*P **P 22 04 53.3 +1.5**
GZR Gura Zlata 34.43 73⇑*i*P **P 22 04 54.2 0.0**
GZR Gura Zlata 34.43 73⇑*i*P **P 22 04 54.2 0.0**
ARCES ARCESS Array B 34.65 30 P **P 22 04 55.4 -0.3**
comp=Z,2.1nm,0.7s,baz=262,slow=6.3,SNR=6.9
ARCES LR LR 22 18 42.9
comp=Z,51nm,18.7s,baz=226,slow=36
ARA0 ARCESS Array S 34.65 30 *e*P **P 22 04 55.5 -0.2**
ARA0 *e* 22 18 42.9
ARA0 ARCESS Array S 34.65 30 *e*P **P 22 04 55.5 -0.2**
ARCR ARCALIA 34.91 70⇑*i*P **P 22 04 58.8 +0.6**
ARCR ARCALIA 34.91 70⇑*i*P **P 22 04 58.8 +0.6**
LOT Lotru 35.06 73⇓*i*P **P 22 04 59.7 0.0**
LOT Lotru 35.06 73⇓*i*P **P 22 04 59.7 0.0**
BUR04 Bucovina Ar. S 35.29 68 *e*P **P 22 05 02.4 +0.8**
BUR04 Bucovina Ar. S 35.29 68 *e*P **P 22 05 02.4 +0.8**
BURAR Bucovina Array 35.30 68⇑*i*P **P 22 05 02.7 +1.0**
BURAR Bucovina Array 35.30 68⇑*i*P **P 22 05 02.7 +1.0**
VTS Vitosha 35.77 77⇑*i*P **P 22 05 05.9 +0.1**
VTS Vitosha 35.77 77⇑*i*P **P 22 05 05.9 +0.1**
MVL Millersville 35.82 278 *e*P **P 22 05 06.7 +0.6**
comp=Z,25nm,1.1s
MVL Millersville 35.82 278 *e*P **P 22 05 06.7 +0.6**
comp=Z,25nm,1.1s
VOIR 35.91 72⇑*i*P **P 22 05 06.3 -0.7**
VOIR 35.91 72⇑*i*P **P 22 05 06.3 -0.7**
HUMR Humele 36.20 73⇑*i*P **P 22 05 09.1 -0.2**
HUMR Humele 36.20 73⇑*i*P **P 22 05 09.1 -0.2**
MLR Muntele Rosu 36.48 72⇑*i*P **P 22 05 10.7 -1.2**
MLR Muntele Rosu 36.48 72⇑*i*P **P 22 05 10.7 -1.2**
TESR Tescani 36.58 70⇑*i*P **P 22 05 11.8 -0.8**
TESR Tescani 36.58 70⇑*i*P **P 22 05 11.8 -0.8**
SSPA Standing Stone 36.59 280 *e*P **P 22 05 13.9 +1.3**
comp=Z,24nm,1.2s
SSPA Standing Stone 36.59 280 *e*P **P 22 05 13.9 +1.3**
comp=Z,24nm,1.2s
PLOR Plostina 36.81 71⇓*i*P **P 22 05 16.3 +1.7**
PLOR Plostina 36.81 71⇓*i*P **P 22 05 16.3 +1.7**
VRI Vrincioaia 36.86 71⇑*i*P **P 22 05 15.7 +0.7**
VRI Vrincioaia 36.86 71⇑*i*P **P 22 05 15.7 +0.7**
KIEV Kiev 36.91 62 *e*P **P 22 05 13.9 -1.4**
KIEV pmax pmax
comp=Z,15nm,1.0s
KIEV Kiev 36.91 62 *e*P **P 22 05 13.9 -1.4**
comp=Z,15nm,1.0s
KIEV Kiev 36.91 62 *e*P **P 22 05 13.9 -1.4**
comp=Z,15nm,1.0s
AKASG Malin Array Be 36.92 62 P **P 22 05 14.7 -0.7**
comp=Z,8.6nm,0.8s,baz=284,slow=7.9,SNR=20
AKBB Malin Array Si 36.92 62 *e*P **P 22 05 14.7 -0.6**
AKBB Malin Array Si 36.92 62 *e*P **P 22 05 14.7 -0.6**
AKBB Malin Array Si 36.92 62 *e*P **P 22 05 14.7 -0.6**
CFR Carcaliu 38.03 71⇓*i*P **P 22 05 23.4 -1.5**
CFR Carcaliu 38.03 71⇓*i*P **P 22 05 23.4 -1.5**
TLB Topalu 38.20 72⇑*i*P **P 22 05 25.4 -0.9**
TLB Topalu 38.20 72⇑*i*P **P 22 05 25.4 -0.9**
VWCC Virginia Weste 39.63 276 *e*P **P 22 05 40.2 +1.8**
VWCC Virginia Weste 39.63 276 *e*P **P 22 05 40.2 +1.8**
OBN Obninsk 40.04 53 *e*P **P 22 05 41.4 -0.1**
OBN *e* 22 07 14.1
OBN pmax pmax
comp=Z,24nm,1.6s
OBN MLR MLR
comp=Z,200nm,18.0s
ACSO Alum Creek Sta 40.23 282 *e*P **P 22 05 44.4 +1.1**
comp=Z,33nm,1.1s
ACSO Alum Creek Sta 40.23 282 *e*P **P 22 05 44.4 +1.1**
comp=Z,33nm,1.1s
H05N1 Guadeloupe/Mar 41.03 234 T T 22 49 24.6
SNR=8.9
TOA0 Torodi Ar. Sit 41.18 134 *e*P **P 22 05 50.9 -0.5**
TOA0 Torodi Ar. Sit 41.18 134 *e*P **P 22 05 50.9 -0.5**
TORD Torodi Ar. Bea 41.18 134 P **P 22 05 51.0 -0.4**
comp=Z,13nm,1.0s,baz=330,slow=7.7,SNR=50
TORD LR LR 22 22 00.9
comp=Z,503nm,18.0s,baz=325,slow=35
VSR Storozhevoye 42.72 58 *e*P **P 22 06 03.1 -0.5**
VSR pmax pmax
comp=Z,20nm,1.4s
VSR pmax pmax
comp=N,5.0nm,0.8s
VSR pmax pmax
comp=E,20nm,1.1s
SFIN Scholer Farm 42.94 284⇑P **P 22 06 06.1 +0.7**
baz=43
ANTO Ankara 43.44 76 *e*P **P 22 06 08.3 -1.4**
ANTO pmax pmax
comp=Z,10.0nm,1.0s
ANTO Ankara 43.44 76 *e*P **P 22 06 08.3 -1.4**
comp=Z,9.9nm,1.0s
ANTO Ankara 43.44 76 *e*P **P 22 06 08.3 -1.4**
comp=Z,9.9nm,1.0s
BR231 Keskin MP Arra 43.44 76 *e*P **P 22 06 12.8 +3.1**
BR231 *e*PP PcP **22 07 58.9 +1.1**
BR231 Keskin MP Arra 43.44 76 *e*P **P 22 06 12.8 +3.1**
WCI Wyandotte Cave 43.45 281 *e*P **P 22 06 10.0 +0.3**
WCI pmax pmax
comp=Z,17nm,1.1s
WCI Wyandotte Cave 43.45 281 *e*P **P 22 06 10.0 +0.3**
comp=Z,17nm,1.1s
WCI Wyandotte Cave 43.45 281 *e*P **P 22 06 10.0 +0.3**
comp=Z,17nm,1.1s
CPCT Cooper Cave 43.69 277 *e*P **P 22 06 11.9 +0.2**
CPCT Cooper Cave 43.69 277 *e*P **P 22 06 11.9 +0.2**
DBIC Dimbokro 44.07 147 *e*P **P 22 06 15.1 +0.3**
comp=Z,26nm,1.3s
DBIC Dimbokro 44.07 147 *e*P **P 22 06 15.1 +0.3**
comp=Z,26nm,1.3s
DBIC Dimbokro 44.07 147 P **P 22 06 14.7 -0.1**
comp=Z,8.9nm,1.0s,baz=331,slow=9.5,SNR=6.9
DBIC LR LR 22 23 27.8
comp=Z,252nm,18.1s,baz=317,slow=34
BR101 Keskin Array S 44.08 76 *e*P **P 22 06 15.5 +0.6**
BR101 *e*PP PcP **22 07 59.6 -0.4**
BR101 Keskin Array S 44.08 76 *e*P **P 22 06 15.5 +0.6**
BRTR Keskin Array B 44.08 76 P **P 22 06 15.5 +0.6**
comp=Z,7.8nm,1.0s,baz=297,slow=6.3,SNR=29
BRTR PcP PcP **22 07 59.6 -0.4**
comp=Z,1.2nm,1.0s,baz=270,slow=4.3,SNR=3.6
BRTR LR LR 22 26 37.0
comp=Z,53nm,18.0s,baz=309,slow=39
VRHR Novokhopersk 44.21 58 *e*P **P 22 06 15.8 +0.2**
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR pmax pmax
comp=N,10.0nm,1.1s
ULM Lac du Bonnet 44.27 301 *e*P **P 22 06 16.4 +0.3**
comp=N,74nm,2.5s
ULM Lac du Bonnet 44.27 301 *e*P **P 22 06 16.4 +0.3**
comp=N,74nm,2.5s
ULM Lac du Bonnet 44.27 301 P **P 22 06 15.7 -0.5**
comp=N,4.0nm,0.7s,baz=71,slow=8.6,SNR=5.7
ULM LR LR 22 22 59.1
comp=N,172nm,18.5s,baz=7.9,slow=34
SPMN St. Paul 44.45 293 *e*P **P 22 06 17.7 +0.1**
SPMN St. Paul 44.45 293⇓P **P 22 06 18.2 +0.6**
baz=44
SPMN St. Paul 44.45 293 *e*P **P 22 06 17.7 +0.1**
SWET Sewanee 44.79 277 *e*P **P 22 06 20.5 0.0**
comp=N,19nm,1.0s
SWET Sewanee 44.79 277 *e*P **P 22 06 20.5 0.0**
comp=N,19nm,1.0s
AGMN Agassiz Nation 45.05 299 *e*P **P 22 06 22.0 -0.3**
comp=N,11nm,1.1s
AGMN Agassiz Nation 45.05 299 *e*P **P 22 06 22.0 -0.3**
comp=N,11nm,1.1s
TIGA Tifton 45.30 271⇓P **P 22 06 26.1 +1.5**
baz=45
WVT Waverly 45.59 280 *e*P **P 22 06 26.0 -0.8**
WVT pmax pmax
comp=Z,11nm,0.9s
WVT Waverly 45.59 280 *e*P **P 22 06 26.0 -0.8**
comp=Z,11nm,0.9s
WVT Waverly 45.59 280 *e*P **P 22 06 26.0 -0.8**
comp=Z,11nm,0.9s
SLM Saint Louis 45.91 284 *e*P **P 22 06 29.6 +0.3**
SLM pmax pmax
comp=Z,21nm,0.8s
SLM Saint Louis 45.91 284 *e*P **P 22 06 29.6 +0.3**
comp=Z,21nm,0.8s
SLM Saint Louis 45.91 284 *e*P **P 22 06 29.6 +0.3**
comp=Z,21nm,0.8s
FFC Flin Flon 46.03 309 *i*P **P 22 06 31.1 +1.1**
FFC Flin Flon 46.03 309 *e*P **P 22 06 29.2 -0.8**
comp=Z,26nm,1.0s
FFC Flin Flon 46.03 309 *e*P **P 22 06 29.2 -0.8**
comp=Z,26nm,1.0s
A30A Hoffart Farm, 46.25 300⇓P **P 22 06 32.2 +0.4**
baz=46
B30A Myrvik Farm, E 46.47 300⇑P **P 22 06 33.8 +0.2**
baz=46,SNR=11
LRAL Lakeview Retre 46.74 275 *e*P **P 22 06 36.4 +0.6**
comp=Z,94nm,2.5s
LRAL Lakeview Retre 46.74 275 *e*P **P 22 06 36.4 +0.6**
comp=Z,94nm,2.5s
A29A Manning Farm, 46.81 301⇓P **P 22 06 36.4 +0.1**
baz=47,SNR=5.8
C30A Mose, Pekin 46.89 299⇓P **P 22 06 37.3 +0.4**
baz=47
B29A Wagenman Farm, 47.08 300⇑P **P 22 06 38.6 +0.3**
baz=47
D30A Buchanan 47.32 298⇓P **P 22 06 40.2 -0.1**
baz=47
A28A Rude Farm, Bot 47.43 301⇑P **P 22 06 41.3 +0.2**
baz=47
MDND Maddock 47.50 300⇓P **P 22 06 41.2 -0.5**
baz=47
ECSD EROS Data Cent 47.56 293 *e*P **P 22 06 42.2 0.0**
comp=Z,15nm,1.0s
ECSD EROS Data Cent 47.56 293 *e*P **P 22 06 42.2 0.0**
comp=Z,15nm,1.0s
GOF Gofitskoye 47.64 65 *e*P **P 22 06 43.9 +1.2**
GOF pmax pmax
comp=Z,20nm,0.8s
E30A Jud 47.69 298⇑P **P 22 06 43.5 +0.3**
baz=48
D29A Pettibone, Tap 47.86 299⇑P **P 22 06 45.0 +0.5**
baz=48
KIV Kislovodsk 47.94 66 *e*P **P 22 06 45.4 +0.2**
KIV *e* 22 08 18.6
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,100nm,19.0s
MALT Malatya 48.01 75⇓*i*P **P 22 06 46.3 +0.5**
MALT Malatya 48.01 75⇓*i*P **P 22 06 46.3 +0.5**
C28A Hausauer Farms 48.03 300⇓P **P 22 06 46.2 +0.4**
baz=48
F30A Leola 48.07 297⇑P **P 22 06 46.8 +0.7**
baz=48
E29A Napoleon 48.11 298⇓P **P 22 06 46.4 0.0**
baz=48
KBZ Khabaz 48.18 66 *e*P **P 22 06 47.9 +1.0**
KBZ Khabaz 48.18 66 *e*P **P 22 06 47.9 +1.0**
KBZ Khabaz 48.18 66 *e*P **P 22 06 47.8 +0.9**
KBZ Khabaz 48.18 66 P **P 22 06 47.9 +0.9**
comp=Z,3.2nm,0.9s,baz=296,slow=8.8,SNR=8.4
KBZ LR LR 22 28 41.6
comp=Z,90nm,19.2s,baz=346,slow=38
B27A Peters Farms, 48.24 301⇑P **P 22 06 47.8 +0.4**
baz=48
D28A Regan 48.38 299⇓P **P 22 06 48.9 +0.4**
baz=48
A26A Wade Farm, Ken 48.48 302⇓P **P 22 06 49.7 +0.5**
baz=48
G30A Faulkton 48.48 296⇓P **P 22 06 49.5 +0.2**
baz=48
F29A Eureka 48.57 297⇓P **P 22 06 50.3 +0.3**
baz=48
BRSD Miller 48.70 295 *e*P **P 22 06 50.6 -0.3**
comp=Z,24nm,1.1s
BRSD Miller 48.70 295⇑P **P 22 06 50.9 0.0**
baz=48
BRSD Miller 48.70 295 *e*P **P 22 06 50.6 -0.3**
comp=Z,24nm,1.1s
C27A Sayler Ranch, 48.70 300⇓P **P 22 06 51.2 +0.2**
baz=48
E28A Huff 48.75 298⇓P **P 22 06 51.6 +0.3**
baz=48
SOKR Solikamsk 48.90 42 *e*P **P 22 06 53.7 +1.5**
SOKR pmax pmax
comp=Z,20nm,1.2s
G29A Hoven 48.94 297⇓P **P 22 06 53.5 +0.7**
baz=49
D27A Center 49.00 299⇑P **P 22 06 53.8 +0.5**
baz=49
A25A Svangstu Ranch 49.09 302⇑P **P 22 06 54.3 +0.3**
baz=49
ONI Oni 49.10 67 P **P 22 06 55.5 +1.4**
YKA Yellowknife Ar 49.11 322 P **P 22 06 53.4 -0.4**
comp=Z,9.3nm,0.9s,baz=65,slow=7.4,SNR=19
YKA PcP PcP **22 08 16.8 -0.3**
comp=Z,1.6nm,0.8s,baz=67,slow=4.1,SNR=3.6
YKB5 Yellowknife Ar 49.11 322 *e*P **P 22 06 52.6 -1.1**
YKB5 Yellowknife Ar 49.11 322 *e*P **P 22 06 52.7 -1.1**
F28A McLaughlin 49.16 298⇓P **P 22 06 54.9 +0.4**

	baz=49									
I30A	**Oacoma**	49.25	295	⇑P		P		22 06 55.3	+0.1	
	baz=49									
ZEI	**Tsey**	49.28	67	*e*P		P		22 06 55.1	-0.6	
ZEI				pmax		pmax				
	comp=Z,23nm,1.0s									
H29A	**Onida**	49.39	296	⇓P		P		22 06 56.3	+0.1	
	baz=49									
B25A	**Knox Farm, Ray**	49.43	301	⇓P		P		22 06 56.7	+0.2	
	baz=49									
J30A	**Dallas**	49.59	294	⇑P		P		22 06 57.7	0.0	
	baz=49,SNR=6.2									
D26A	**Manning**	49.59	300	⇑P		P		22 06 58.0	+0.2	
	baz=49									
G28A	**Parade**	49.61	297	⇓P		P		22 06 58.7	+0.8	
	baz=49									
A24A	**Westby**	49.62	303	⇓P		P		22 06 58.3	+0.3	
	baz=49									
VBMS	**Vicksburg**	49.63	277	*e*P		P		22 06 58.8	+0.6	
	comp=Z,83nm,1.4s									
VBMS	**Vicksburg**	49.63	277	*e*P		P		22 06 58.8	+0.6	
	comp=Z,83nm,1.4s									
BGNE	**Belgrade**	49.70	291	*e*P		P		22 06 57.0	-1.7	
	comp=Z,27nm,0.8s									
BGNE	**Belgrade**	49.70	291	⇓P		P		22 06 58.5	-0.2	
	baz=50									
BGNE	**Belgrade**	49.70	291	*e*P		P		22 06 57.0	-1.7	
	comp=Z,27nm,0.8s									
I29A	**Vivian Onida**	49.75	295	⇑P		P		22 06 59.3	+0.3	
	baz=50									
C25A	**Freed Ranch, W**	49.75	301	⇑P		P		22 06 59.7	+0.7	
	baz=50									
L31A	**Butterfield Fa**	49.75	293	⇓P		P		22 06 58.6	-0.5	
	baz=50									
H28A	**Mission Ridge**	49.87	296	⇓P		P		22 06 60.0	0.0	
	baz=50									
E26A	**Carlson Angus**	49.87	299	⇑P		P		22 06 59.9	0.0	
	baz=50									
F27A	**Lemmon**	49.90	298	⇑P		P		22 07 00.6	+0.5	
	baz=50,SNR=5.5									
KSU1	**Kansas State U**	49.91	288	*e*P		P		22 06 60.0	-0.2	
	comp=Z,38nm,0.9s									
KSU1	**Kansas State U**	49.91	288	*e*P		P		22 07 00.0	-0.2	
	comp=Z,38nm,0.9s									
DGMT	**Dagmar**	49.95	302	⇓P		P		22 07 00.4	-0.1	
	baz=50									
K30A	**Basset**	49.99	293	⇑P		P		22 07 00.8	0.0	
	baz=50									
D25A	**Fairfield**	50.06	300	⇓P		P		22 07 02.2	+0.8	
	baz=50									
J29A	**Okreek**	50.07	295	⇑P		P		22 07 01.4	0.0	
	baz=50									
M31A	**Lambtecht Ranc**	50.27	292	⇑P		P		22 07 03.1	+0.1	
	baz=50									
I28A	**Midland**	50.30	296	⇓P		P		22 07 03.7	+0.6	
	baz=50									
F26A	**Lodgepole**	50.30	299	⇑P		P		22 07 03.2	0.0	
	baz=50									
TBLG	**Delisi**	50.36	68	P		P		22 07 05.4	+1.7	
B23A	**Brockton**	50.41	302	⇑P		P		22 07 05.1	+1.0	
	baz=50,SNR=9.9									
E25A	**Miller Ranch,**	50.42	300	⇓P		P		22 07 04.3	+0.2	
	baz=50									
P33A	**Williams Farm,**	50.44	289	⇓P		P		22 07 04.3	0.0	
	baz=50									
N31A	**Bailey Ranch,**	50.52	291	⇓P		P		22 07 04.7	-0.2	
	baz=50									
C24A	**Savage**	50.53	301	⇓P		P		22 07 05.2	+0.3	
	baz=50									
G26A	**Maurine**	50.53	298	⇓P		P		22 07 04.8	-0.1	
	baz=50									
H27A	**Howes**	50.54	297	⇑P		P		22 07 05.2	+0.1	
	baz=50									
J28A	**Allard Ranch,**	50.63	295	⇓P		P		22 07 06.2	+0.4	
	baz=50,SNR=5.0									
D24A	**Glendive**	50.68	301	⇑P		P		22 07 06.3	+0.3	
	baz=50									
G27A	**Dupree**	50.69	298	⇑P		P		22 07 01.9	-4.3	
	baz=50									
A22A	**Carney Farms,**	50.70	303	⇑P		P		22 07 06.5	+0.4	
	baz=50,SNR=5.4									
I27A	**Quinn**	50.81	296	⇓P		P		22 07 07.4	+0.3	
	baz=51									
C23A	**Lambert**	50.85	302	⇑P		P		22 07 07.7	+0.4	
	baz=51									
L29A	**Maesberg Ranch**	50.85	293	⇑P		P		22 07 07.4	-0.1	
	baz=51									
DGRG	**David-gareji**	50.91	68	P		P		22 07 09.9	+2.0	
E24A	**Baker**	50.94	300	⇓P		P		22 07 08.1	+0.1	
	baz=51									
H26A	**Fairpoint**	50.98	297	⇑P		P		22 07 08.5	+0.1	
	baz=51									
B22A	**Reddig Ranch S**	51.08	303	⇓P		P		22 07 09.8	+0.8	
	baz=51									
K28A	**Ten Mile Ranch**	51.08	294	⇓P		P		22 07 09.5	+0.4	
	baz=51									
G25A	**Newell**	51.08	298	⇓P		P		22 07 09.0	-0.2	
	baz=51									
TUL1	**Tulsa**	51.11	284	*e*P		P		22 07 08.4	-0.9	
TUL1	**Tulsa**	51.11	284	⇑P		P		22 07 08.8	-0.5	
	baz=51,SNR=6.6									
TUL1	**Tulsa**	51.11	284	*e*P		P		22 07 08.4	-0.9	
O31A	**Woolen Ranch,**	51.12	291	⇑P		P		22 07 08.7	-0.7	
	baz=51									
ARU	**Arti**	51.13	45*c*	*i*P		P		22 07 09.2	0.0	
ARU								22 09 03.6		
ARU				S		S		22 14 28.2	+2.0	
ARU				SS		SS		22 18 00.8	0.0	
ARU				pmax		pmax				
	comp=Z,12nm,1.0s									
D23A	**Lindsay**	51.17	301	⇓P		P		22 07 09.6	-0.2	
	baz=51									
GNI	**Garni**	51.19	69	*e*P		P		22 07 09.8	-0.3	
	comp=Z,7.2nm,0.9s									
GNI	**Garni**	51.19	69	*e*P		P		22 07 09.8	-0.3	
	comp=Z,7.2nm,0.9s									
A21A	**Bergtoll Ranch**	51.28	304	⇓P		P		22 07 11.3	+0.8	
	baz=51									
C22A	**Vida**	51.29	302	⇓P		P		22 07 11.4	+0.8	
	baz=51,SNR=6.5									
F24A	**Ekalaka**	51.38	299	⇑P		P		22 07 11.5	+0.2	
	baz=51									
P31A	**Stockton**	51.49	290	⇑P		P		22 07 12.3	0.0	
	baz=51									
B21A	**Ellsworth Farm**	51.61	303	⇓P		P		22 07 13.4	+0.4	
	baz=51									
D22A	**Cohagen**	51.76	302	⇓P		P		22 07 14.7	+0.5	
	baz=52,SNR=7.6									
M28A	**Bar X Bar Ranc**	51.77	293	⇑P		P		22 07 14.1	-0.3	
	baz=52									
Q31A	**Ellis**	51.78	289	⇓P		P		22 07 13.7	-0.7	
	baz=52									
J26A	**Sides Ranch, S**	51.84	296	⇑P		P		22 07 14.9	+0.1	
	baz=52									
I25A	**Rochford**	51.88	297	⇓P		P		22 07 15.2	0.0	
	baz=52,SNR=5.3									
A20A	**Cobblestone Ra**	51.91	304	⇑P		P		22 07 15.0	-0.3	
	baz=52									
E22A	**Miles City**	51.98	301	⇑P		P		22 07 16.2	+0.4	
	baz=52									
RSSD	**Black Hills**	52.01	297	*e*P		P		22 07 16.2	-0.1	
RSSD				pmax		pmax				
	comp=Z,21nm,1.1s									
RSSD	**Black Hills**	52.01	297	*e*P		P		22 07 16.2	-0.1	
	comp=Z,21nm,1.1s									
RSSD	**Black Hills**	52.01	297	*e*P		P		22 07 16.2	-0.1	
	comp=Z,21nm,1.1s									
LAO	**LASA Array**	52.02	301	*e*P		P		22 07 16.2	+0.1	
	comp=Z,18nm,0.9s									
LAO	**LASA Array**	52.02	301	*e*P		P		22 07 16.2	+0.1	
	comp=Z,18nm,0.9s									
F23A	**Volborg**	52.02	300	⇑P		P		22 07 16.5	+0.3	
	baz=52									
P30A	**Selden**	52.05	290	⇑P		P		22 07 15.8	-0.6	
	baz=52									
O29A	**4D Ranch, Culb**	52.09	291	⇑P		P		22 07 16.2	-0.5	
	baz=52									
B20A	**Solberg Farm,**	52.18	304	⇓P		P		22 07 17.2	-0.1	
	baz=52									
K26A	**Motz Farm, Whi**	52.22	295	⇑P		P		22 07 17.6	-0.1	
	baz=52									
J25A	**Sunshine Ranch**	52.25	296	⇓P		P		22 07 18.0	+0.1	
	baz=52									
N28A	**Pribbeno Ranch**	52.26	292	⇑P		P		22 07 17.9	-0.1	
	baz=52									
R31A	**Burdett**	52.26	289	⇑P		P		22 07 18.2	+0.2	
	baz=52									
D21A	**La Casta Ranch**	52.28	302	⇓P		P		22 07 18.1	0.0	
	baz=52									
G23A	**Biddle**	52.28	299	⇑P		P		22 07 18.1	0.0	
	baz=52									
OGNE	**Ogallala**	52.44	293	⇑P		P		22 07 19.1	-0.2	
	baz=52									
F22A	**Rosebud**	52.50	300	⇓P		P		22 07 19.8	+0.1	
	baz=52									
SDV	**Santo Domingo**	52.51	239	*e*P		P		22 07 21.1	+0.9	
	comp=Z,5.7nm,0.5s									
SDV	**Santo Domingo**	52.51	239	*e*P		P		22 07 21.1	+0.9	
	comp=Z,5.7nm,0.5s									
C20A	**Veseth Ranch,**	52.54	303	⇓P		P		22 07 20.2	+0.3	
	baz=52									
S31A	**Mullinville**	52.61	288	⇑P		P		22 07 20.4	-0.2	
	baz=52									
B19A	**Brinkman Farms**	52.70	304	⇑P		P		22 07 21.4	+0.3	
	baz=52,SNR=9.0									
O28A	**Krutsinger Ran**	52.71	292	⇓P		P		22 07 21.3	-0.1	
	baz=52									
EDM	**Edmonton**	52.72	311	*e*P		P		22 07 21.1	-0.1	
EDM	**Edmonton**	52.72	311	*e*P		P		22 07 21.1	-0.1	
EDM	**Edmonton**	52.72	311	*e*P		P		22 07 21.1	-0.1	
R30A	**Dighton**	52.76	289	⇓P		P		22 07 21.6	-0.1	
	baz=53									
N27A	**Anderson Farm,**	52.83	293	⇓P		P		22 07 22.3	0.0	
	baz=53									
M26A	**McRoberts Ranc**	52.86	294	⇓P		P		22 07 22.5	0.0	
	baz=53									
Q29A	**Oakley**	52.88	290	⇓P		P		22 07 22.0	-0.6	
	baz=53,SNR=5.5									
D20A	**Manuel Ranch,**	52.94	302	⇓P		P		22 07 23.5	+0.6	
	baz=53,SNR=5.1									
T31A	**Randall Ranch,**	53.03	288	⇓P		P		22 07 23.9	+0.2	
	baz=53,SNR=6.8									
O27A	**Beecher Island**	53.13	292	⇑P		P		22 07 24.7	+0.2	
	baz=53									
C19A	**Slack Wire Ran**	53.14	303	⇓P		P		22 07 24.2	-0.1	
	baz=53,SNR=11									
E20A	**Meyer Farm, Mu**	53.24	302	⇓P		P		22 07 25.0	-0.1	
	baz=53,SNR=6.4									
S30A	**Montezuma**	53.24	289	⇓P		P		22 07 25.2	-0.1	
	baz=53									
INK	**Inuvik**	53.25	334	*e*P		P		22 07 24.1	-0.6	
	comp=Z,9.9nm,1.0s									
INK	**Inuvik**	53.25	334	*e*P		P		22 07 24.1	-0.6	
	comp=Z,9.9nm,1.0s									
INK	**Inuvik**	53.25	334	P		P		22 07 23.9	-0.9	
	comp=Z,5.5nm,1.1s,baz=37,slow=5.1,SNR=4.4									
N26A	**Koester Ranch,**	53.26	293	⇓P		P		22 07 25.3	-0.1	
	baz=53									
D19A	**Cripps Ranch,**	53.33	303	⇑P		P		22 07 26.2	+0.4	
	baz=53,SNR=5.3									
G21A	**Lodge Grass**	53.36	300	⇑P		P		22 07 26.0	-0.1	
	baz=53									
EGMT	**Eagleton**	53.39	304	*e*P		P		22 07 25.6	-0.7	
	comp=Z,22nm,1.1s									
EGMT	**Eagleton**	53.39	304	⇓P		P		22 07 25.5	-0.8	
	baz=53,SNR=7.9									
EGMT	**Eagleton**	53.39	304	*e*P		P		22 07 25.6	-0.7	
	comp=Z,22nm,1.1s									
U31A	**Nine Bar Ranch**	53.55	287	⇓P		P		22 07 27.8	+0.2	
	baz=53									
F20A	**Billings**	53.62	301	⇑P		P		22 07 28.2	+0.2	
	baz=53									
I22A	**9 Mile Ranch,**	53.63	298	⇑P		P		22 07 28.3	+0.1	
	baz=53,SNR=6.5									
O26A	**Horse Wrangler**	53.64	293	⇑P		P		22 07 28.3	+0.1	
	baz=53,SNR=6.4									
E19A	**Rath Farm, Rou**	53.65	302	⇓P		P		22 07 28.2	0.0	
	baz=53									
S29A	**Ulysses**	53.68	289	⇑P		P		22 07 27.9	-0.6	
	baz=54									
R28A	**Tribune**	53.73	290	⇓P		P		22 07 29.1	+0.2	
	baz=54									
WMOK	**Wichita Mounta**	53.78	285	*e*P		P		22 07 28.9	-0.3	
WMOK				pmax		pmax				
	comp=Z,13nm,1.1s									
WMOK	**Wichita Mounta**	53.78	285	*e*P		P		22 07 28.9	-0.3	
	comp=Z,13nm,1.1s									
WMOK	**Wichita Mounta**	53.78	285	*e*P		P		22 07 28.9	-0.3	
	comp=Z,13nm,1.1s									
AKTO	**Aktyubinsk**	53.80	52	*i*P		P		22 07 28.7	-0.4	
AKTO				pmax		pmax				
	comp=Z,17nm,1.0s									
AKTO	**Aktyubinsk**	53.80	52	P		P		22 07 28.6	-0.5	
	comp=Z,13nm,1.0s,baz=290,slow=7.7,SNR=25									
KSCO	**Kaye Shedlock'**	53.88	291	⇑P		P		22 07 30.2	+0.2	
	baz=54									
V31A	**Spring Creek L**	53.89	286	⇑P		P		22 07 30.8	+0.8	
	baz=54,SNR=5.5									
M24A	**Cheyenne**	53.92	295	⇓P		P		22 07 31.2	+0.9	
	baz=54,SNR=5.5									
G20A	**Bridger**	53.97	300	⇑P		P		22 07 30.9	+0.3	
	baz=54,SNR=6.3									
F19A	**Roth Farm, Mol**	54.06	301	⇓P		P		22 07 31.7	+0.5	
	baz=54									
I21A	**Big Trails, Te**	54.17	298	⇑P		P		22 07 31.6	-0.5	
	baz=54,SNR=5.4									
S28A	**Manter**	54.21	289	⇑P		P		22 07 32.8	+0.4	
	baz=54									
O25A	**Wiggins**	54.22	293	⇑P		P		22 07 32.6	+0.1	
	baz=54									
W31A	**Holland Ranch,**	54.30	286	⇓P		P		22 07 33.8	+0.8	
	baz=54									
N24A	**Carr**	54.31	294	⇓P		P		22 07 33.8	+0.7	
	baz=54									
K22A	**Casper**	54.33	297	⇑P		P		22 07 33.0	-0.3	
	baz=54,SNR=11									
R27A	**Eads**	54.40	290	⇑P		P		22 07 34.0	+0.2	
	baz=54,SNR=9.8									
PHWY	**Pilot Hill**	54.41	295	*e*P		P		22 07 33.2	-0.9	
	comp=Z,5.2nm,0.9s									
PHWY	**Pilot Hill**	54.41	295	*e*P		P		22 07 33.2	-0.9	
	comp=Z,5.2nm,0.9s									
Q26A	**Hugo**	54.50	292	⇑P		P		22 07 35.1	+0.5	
	baz=54									
WHTX	**Lake Whitney**	54.51	281	*e*P		P		22 07 34.5	0.0	
WHTX	**Lake Whitney**	54.51	281	⇑P		P		22 07 34.7	+0.2	
	baz=54,SNR=12									
WHTX	**Lake Whitney**	54.51	281	*e*P		P		22 07 34.5	0.0	
J21A	**Lysite**	54.52	298	⇓P		P		22 07 34.9	+0.2	
	baz=54									
GCMT	**Greycliff**	54.52	302	*e*P		P		22 07 34.4	-0.2	
GCMT	**Greycliff**	54.52	302	*e*P		P		22 07 34.4	-0.2	
P25A	**Willow Gulch B**	54.59	292	⇓P		P		22 07 34.9	-0.3	
	baz=54									
L22A	**Ellis Ranch, M**	54.62	296	⇓P		P		22 07 36.1	+0.7	
	baz=54,SNR=9.4									
T28A	**Walsh**	54.62	289	⇑P		P		22 07 35.9	+0.5	
	baz=54									
X31A	**McDonald Ranch**	54.64	285	⇓P		P		22 07 36.0	+0.4	
	baz=54,SNR=8.2									
Y32A	**R-V Farms, Ver**	54.65	284	⇑P		P		22 07 36.2	+0.6	
	baz=54									
H19A	**Powell**	54.73	300	⇓P		P		22 07 36.4	+0.3	
	baz=54									
K21A	**Alcova**	54.79	297	⇓P		P		22 07 36.6	-0.1	
	baz=55,SNR=10									
R26A	**Arlington**	54.81	291	⇓P		P		22 07 37.3	+0.6	
	baz=55,SNR=5.9									
J20A	**Shoshoni**	54.90	298	⇑P		P		22 07 37.5	+0.1	
	baz=55,SNR=21									
N23A	**Red Feather La**	54.94	295	⇓P		P		22 07 38.9	+1.0	
	baz=55,SNR=13									
I19A	**Meeteetse**	55.08	300	⇓P		P		22 07 38.8	0.0	
	baz=55,SNR=7.5									
Z32A	**Haskell**	55.09	284	⇓P		P		22 07 38.9	+0.1	
	baz=55,SNR=8.2									
H18A	**Shoshone NF C**	55.13	300	⇑P		P		22 07 39.2	+0.1	
	baz=55,SNR=7.0									
H10N2	**ASCENSION HYDR**	55.19	164	T		T		23 06 58.4		
	baz=350,slow=0.7,SNR=16									
WALA	**Waterton Lakes**	55.19	307	*e*P		P		22 07 38.5	-0.9	
WALA	**Waterton Lakes**	55.19	307	*e*P		P		22 07 38.5	-0.9	
H10N3	**ASCENSION HYDR**	55.20	164	T		T		23 06 57.6		
	baz=350,slow=0.7,SNR=23									
H10N1	**ASCENSION HYDR**	55.20	164	T		T		23 06 59.9		
	baz=350,slow=0.7,SNR=14									
S26A	**Kim**	55.21	290	⇓P		P		22 07 39.9	+0.2	
	baz=55									
Y31A	**Rekieta Farm,**	55.23	285	⇓P		P		22 07 40.2	+0.5	
	baz=55,SNR=6.8									
L21A	**Rawlins**	55.23	297	⇓P		P		22 07 40.2	+0.3	
	baz=55,SNR=7.1									
RWWY	**Rawlins**	55.29	296	*e*P		P		22 07 39.7	-0.7	
	comp=Z,16nm,0.9s									
RWWY	**Rawlins**	55.29	296	*e*P		P		22 07 39.7	-0.7	
	comp=Z,16nm,0.9s									
ISCO	**Idaho Springs**	55.35	294	*e*P		P		22 07 41.1	+0.2	
ISCO				pmax		pmax				
	comp=Z,8.0nm,1.1s									
ISCO	**Idaho Springs**	55.35	294	*e*P		P		22 07 41.0	+0.2	
	comp=Z,8.4nm,1.1s									
ISCO	**Idaho Springs**	55.35	294	⇓P		P		22 07 41.4	+0.5	
	baz=55,SNR=9.2									
ISCO	**Idaho Springs**	55.35	294	*e*P		P		22 07 41.0	+0.2	
	comp=Z,8.4nm,1.1s									
X30A	**Coker Ranch, T**	55.35	286	⇑P		P		22 07 41.4	+0.8	
	baz=55,SNR=6.1									
M21A	**Separation Pea**	55.43	296	⇑P		P		22 07 41.8	+0.4	
	baz=55,SNR=11									
R25A	**Fountain Ranch**	55.44	291	⇓P		P		22 07 41.8	+0.4	
	baz=55,SNR=6.8									
K20A	**Yellowstone Ra**	55.44	298	⇑P		P		22 07 41.1	-0.3	
	baz=55,SNR=6.3									
W29A	**Amarillo**	55.47	287	⇓P		P		22 07 42.9	+1.3	
	baz=55,SNR=10.0									
AB31	**Akbulak array**	55.48	53	*i*P		P		22 07 41.3	0.0	
AB31				pmax		pmax				
	comp=Z,11nm,0.9s									
ABKAR	**Akbulak array**	55.48	53	*e*P		P		22 07 41.2	-0.1	
ABKAR	**Akbulak array**	55.48	53	*e*P		P		22 07 41.2	-0.1	
U27A	**Thompson Grove**	55.48	289	⇑P		P		22 07 42.1	+0.4	
	baz=55,SNR=7.2									
Z31A	**Sharp Cattle R**	55.53	284	⇑P		P		22 07 41.9	0.0	
	baz=55,SNR=5.4									
J19A	**Crowheart**	55.54	299	⇓P		P		22 07 41.8	-0.3	
	baz=55,SNR=7.7									
ABTX	**Abilene, Hawle**	55.61	283	*e*P		P		22 07 41.5	-1.0	
	comp=Z,15nm,1.1s									
ABTX	**Abilene, Hawle**	55.61	283	⇓P		P		22 07 42.5	0.0	
	baz=56									
ABTX	**Abilene, Hawle**	55.61	283	*e*P		P		22 07 41.5	-1.0	
	comp=Z,15nm,1.1s									
K19A	**Absolon Red Bu**	55.66	298	⇑P		P		22 07 42.0	-0.9	
	baz=55,SNR=6.3									
Y30A	**Stafford Cattl**	55.70	285	⇓P		P		22 07 43.9	+0.7	
	baz=56									
O22A	**Kremmling**	55.73	294	⇓P		P		22 07 43.5	-0.1	
	baz=56									
P23A	**Jefferson**	55.73	293	⇓P		P		22 07 44.4	+0.7	
	baz=56,SNR=6.5									
BOZ	**Bozeman (W)**	55.75	302	*e*P		P		22 07 42.8	-0.7	
BOZ				pmax		pmax				
	comp=Z,11nm,1.0s									
BOZ	**Bozeman (W)**	55.75	302	*e*P		P		22 07 42.8	-0.7	
	comp=Z,11nm,1.0s									
BOZ	**Bozeman (W)**	55.75	302	*e*P		P		22 07 42.8	-0.7	
	comp=Z,11nm,1.0s									
L20A	**Wamsutter**	55.81	297	⇑P		P		22 07 44.3	+0.3	
	baz=56,SNR=7.6									
X29A	**Tulia**	55.90	286	⇑P		P		22 07 45.1	+0.5	
	baz=56									
R24A	**Sanders Place,**	55.92	292	⇑P		P		22 07 45.5	+0.6	
	baz=56									
SLMT	**Seeley Lake**	55.95	305	*e*P		P		22 07 44.1	-0.8	
SLMT	**Seeley Lake**	55.95	305	*e*P		P		22 07 44.1	-0.8	
CHMT	**Chamberlain Mo**	55.99	304	*e*P		P		22 07 44.8	-0.5	
CHMT	**Chamberlain Mo**	55.99	304	*e*P		P		22 07 44.8	-0.5	
M20A	**Sweetwater, Wa**	56.00	297	⇓P		P		22 07 45.8	+0.3	
	baz=56									
232A	**Coleman**	56.05	282	⇓P		P		22 07 45.4	-0.3	
	baz=56,SNR=23									
131A	**Roby**	56.08	284	⇓P		P		22 07 46.1	+0.2	
	baz=56									
T25A	**Trinidad**	56.10	290	⇓P		P		22 07 46.9	+0.7	
	baz=56,SNR=5.2									
PD31	**Pinedale Array**	56.12	299	*e*P		P		22 07 46.0	-0.4	
PD31	**Pinedale Array**	56.12	299	*e*P		P		22 07 46.0	-0.4	
PDAR	**Pinedale Array**	56.12	299	P		P		22 07 46.0	-0.4	
	comp=Z,5.4nm,1.0s,baz=64,slow=8.1,SNR=20									
PDAR				LR		LR		22 29 16.5		
	comp=Z,98nm,19.4s,baz=70,slow=33									
BW06	**Boulder Array**	56.13	299	*e*P		P		22 07 45.3	-1.0	
BW06	**Boulder Array**	56.13	299	*e*P		P		22 07 45.3	-1.0	
Z30A	**Sanderson Ranc**	56.21	285	⇓P		P		22 07 46.4	-0.4	
	baz=56,SNR=5.8									
Y29A	**Porterfield Fa**	56.23	285	⇑P		P		22 07 47.1	+0.1	
	baz=56,SNR=9.0									
H10S1	**ASCENSION HYDR**	56.24	165	T		T		23 08 14.8		
	baz=350,slow=0.7,SNR=134									
H10S3	**ASCENSION HYDR**	56.25	165	T

comp=Z,87nm,3.0s
MSTX **Muleshoe** 56.90 286 *e*P P 22 07 51.4 -0.4
MSTX **Muleshoe** 56.90 286 ⇓P P 22 07 52.1 +0.3
baz=57,SNR=27
MSTX **Muleshoe** 56.90 286 *e*P P 22 07 51.4 -0.4
R22A **Saguache, Gunn** 56.98 293 ⇑P P 22 07 52.6 0.0
baz=57,SNR=6.1
V25A **Rancho No Teng** 57.00 289 ⇑P P 22 07 52.6 0.0
baz=57
JCT **Junction City** 57.02 281 *e*P P 22 07 51.8 -0.8
JCT pmax pmax
comp=Z,21nm,1.2s
JCT **Junction City** 57.02 281 *e*P P 22 07 51.8 -0.8
comp=Z,21nm,1.2s
JCT **Junction City** 57.02 281 ⇓P P 22 07 52.3 -0.3
baz=57,SNR=8.1
JCT **Junction City** 57.02 281 *e*P P 22 07 51.8 -0.8
comp=Z,21nm,1.2s
230A **Sterling City** 57.04 283 ⇑P P 22 07 53.2 +0.4
baz=57,SNR=6.0
Z28A **Tucker Farm, M** 57.05 285 ⇓P P 22 07 53.0 +0.1
baz=57,SNR=16
129A **Stewart Farms,** 57.10 284 ⇑P P 22 07 53.1 -0.1
baz=57,SNR=6.5
Q21A **Lamborn Mesa,** 57.15 294 ⇓P P 22 07 53.9 +0.3
baz=57
Y27A **Causey** 57.21 286 ⇑P P 22 07 54.2 +0.2
baz=57
X26A **CR and CF Fran** 57.24 287 ⇑P P 22 07 54.2 0.0
baz=57
W25A **X Bar L Ranch,** 57.27 288 ⇑P P 22 07 54.9 +0.5
baz=57
O19A **Miners Draw (B** 57.27 296 ⇓P P 22 07 54.7 +0.3
baz=57
P20A **De Beque** 57.27 295 ⇓P P 22 07 54.6 +0.2
baz=57
532A **Rocksprings** 57.30 281 ⇑P P 22 07 54.6 0.0
baz=57,SNR=11
S22A **4UR Ranch, Cre** 57.31 292 ⇓P P 22 07 55.1 +0.2
baz=57
330A **Mertzon** 57.38 283 ⇓P P 22 07 55.4 +0.3
baz=57
NEW **Newport** 57.40 308 *e*P P 22 07 54.2 -0.8
comp=Z,27nm,1.1s
NEW **Newport** 57.40 308 ⇓P P 22 07 55.0 -0.1
baz=57,SNR=15
NEW **Newport** 57.40 308 *e*P P 22 07 54.2 -0.8
comp=Z,27nm,1.1s
R21A **Cimarron** 57.40 293 ⇑P P 22 07 55.2 -0.3
baz=57
431A **Sonora** 57.44 282 ⇓P P 22 07 55.9 +0.3
baz=57,SNR=5.5
229A **Bryant Ranch,** 57.46 284 ⇓P P 22 07 56.4 +0.6
baz=57
V24A **Rampart Ranch,** 57.49 289 ⇑P P 22 07 57.5 +1.3
baz=57
128A **Castleberry Fa** 57.52 285 ⇑P P 22 07 56.2 0.0
baz=57,SNR=7.9
Q20A **Ridgley Place,** 57.53 294 ⇑P P 22 07 56.5 +0.2
baz=57,SNR=5.2
M17A **Scullys Gap (B** 57.54 298 ⇓P P 22 07 56.3 -0.1
baz=57
P19A **Cripple Cowboy** 57.57 295 ⇓P P 22 07 56.4 -0.2
baz=57
Z27A **Tatum** 57.58 286 ⇑P P 22 07 56.9 +0.2
baz=57
632A **Uvalde** 57.61 280 ⇓P P 22 07 56.9 +0.1
baz=58,SNR=10
Y26A **Elida** 57.62 287 ⇑P P 22 07 57.2 +0.3
baz=58
531A **Rocksprings** 57.72 281 ⇓P P 22 07 57.8 +0.2
baz=58,SNR=14
DAWY **Dawson** 57.72 331 *e*P P 22 07 56.7 -0.4
DAWY **Dawson** 57.72 331 *e*P P 22 07 56.7 -0.4
DLBC **Dease Lake** 57.73 323 *e*P P 22 07 57.6 +0.3
DLBC **Dease Lake** 57.73 323 *e*P P 22 07 57.6 +0.3
U23A **El Rito** 57.73 290 ⇓P P 22 07 58.2 +0.3
baz=58
T22A **Edith** 57.79 292 ⇓P P 22 07 58.9 +0.7
baz=58
430A **Baggett Ranch,** 57.80 282 ⇓P P 22 07 58.2 0.0
baz=58,SNR=8.2
329A **Wagon Wheel Ra** 57.87 283 ⇓P P 22 07 59.4 +0.7
baz=58
W24A **Lazy 6 Ranch,** 57.89 289 ⇑P P 22 07 59.9 +1.0
baz=58,SNR=12
ROSC **El Rosal** 57.91 239 LR LR 22 28 51.0
comp=Z,82nm,19.7s,baz=359,slow=32
127A **Arkansas Junct** 58.07 285 ⇑P P 22 08 00.6 +0.5
baz=58,SNR=6.9
V23A **Ortiz Mt. (NFS** 58.08 290 ⇑P P 22 08 01.1 +0.9
baz=58
Z26A **Caprock** 58.12 286 ⇑P P 22 08 01.0 +0.6
baz=58,SNR=7.1
Y25A **Mesa, Roswell** 58.20 287 ⇑P P 22 08 01.5 +0.5
baz=58,SNR=6.9
631A **Perdido Creek** 58.20 281 ⇑P P 22 08 01.3 +0.4
baz=58
T21A **Navajo Lake** 58.21 292 ⇓P P 22 08 01.7 +0.6
baz=58
732A **Laxson Ranch,** 58.22 280 ⇑P P 22 08 01.2 +0.2
baz=58
S20A **Disappointment** 58.24 293 ⇓P P 22 08 01.5 +0.1
baz=58
530A **J-C Ranch, Com** 58.26 282 ⇓P P 22 08 01.5 +0.1
baz=58,SNR=21
C09A **Chrisman Ranch** 58.30 308 *e*P P 22 07 59.9 -1.4
comp=Z,11nm,1.1s
C09A **Chrisman Ranch** 58.30 308 *e*P P 22 07 59.9 -1.4
comp=Z,11nm,1.1s
X24A **Lazy VL Ranch,** 58.30 288 ⇓P P 22 08 02.9 +1.2
baz=58
PV09 **Paradox Valley** 58.33 294 *e*P P 22 08 02.6 +0.5
PV09 **Paradox Valley** 58.33 294 *e*P P 22 08 02.6 +0.5
PV10 **Paradox Valley** 58.34 294 *e*P P 22 08 03.0 +0.9
PV10 **Paradox Valley** 58.34 294 *e*P P 22 08 03.0 +0.9
429A **Davenport Ranc** 58.34 283 ⇓P P 22 08 02.1 +0.1
baz=58,SNR=6.7
W23A **Werner Place,** 58.41 289 ⇓P P 22 08 03.3 +0.7
baz=58
V22A **San Miguel Ran** 58.45 290 ⇓P P 22 08 03.9 +1.1
baz=58,SNR=6.2
328A **Wristen Ranch,** 58.49 284 ⇑P P 22 08 03.0 0.0
baz=58
126A **Clayton Basin,** 58.53 286 ⇑P P 22 08 03.4 +0.1
baz=58
B08A **Colville Reser** 58.55 309 *e*P P 22 08 02.3 -0.8
comp=Z,20nm,0.9s
B08A **Colville Reser** 58.55 309 *e*P P 22 08 02.3 -0.8
comp=Z,20nm,0.9s
HLID **Hailey** 58.58 302 *e*P P 22 08 04.2 +0.6
comp=Z,7.8nm,1.1s
HLID **Hailey** 58.58 302 ⇑P P 22 08 04.2 +0.6
baz=58,SNR=12
HLID **Hailey** 58.58 302 *e*P P 22 08 04.2 +0.6
comp=Z,7.8nm,1.1s
Z25A **Roswell** 58.60 287 ⇑P P 22 08 04.5 +0.7
baz=58,SNR=9.7
U21A **Nageezi** 58.62 291 ⇓P P 22 08 04.6 +0.6
baz=58
HVU **Hansel Valley** 58.65 299 *e*P P 22 08 03.5 -0.5
HVU pmax pmax
comp=Z,6.0nm,1.0s
HVU **Hansel Valley** 58.65 299 *e*P P 22 08 03.5 -0.5
comp=Z,5.6nm,1.0s
HVU **Hansel Valley** 58.65 299 *e*P P 22 08 03.5 -0.5
comp=Z,5.6nm,1.0s
BRVK **Borovoye** 58.67 44*c*e*P* P 22 08 04.3 +0.5
BRVK pmax pmax
comp=Z,8.0nm,0.8s
BRVK **Borovoye** 58.67 44 *e*P P 22 08 03.8 0.0
comp=Z,7.4nm,0.9s
BRVK **Borovoye** 58.67 44 *e*P P 22 08 03.8 0.0
comp=Z,7.4nm,0.9s
Y24A **Capitan** 58.69 288 ⇑P P 22 08 05.0 +0.6
baz=58,SNR=9.7
MVCO **Mesa Verde** 58.69 293 ⇑P P 22 08 05.2 +0.6
baz=58
ANMO **Albuquerque** 58.74 289 *e*P P 22 08 04.8 0.0
comp=Z,4.7nm,1.0s
ANMO **Albuquerque** 58.74 289 *e*P P 22 08 04.8 0.0
comp=Z,4.7nm,1.0s
BVAR **Borovoye Array** 58.74 44 P P 22 08 05.1 +0.8
comp=Z,4.8nm,0.8s,baz=298,slow=6.4,SNR=21
F10A **Beach Ranch, E** 58.78 305 *e*P P 22 08 04.0 -0.9
comp=Z,35nm,1.8s
F10A **Beach Ranch, E** 58.78 305 *e*P P 22 08 04.0 -0.9
comp=Z,35nm,1.8s
428A **Kincaid Ranch,** 58.81 283 ⇓P P 22 08 05.5 +0.2
baz=59,SNR=10
SRU **San Rafael** 58.84 295 *e*P P 22 08 05.4 -0.1
SRU pmax pmax
comp=Z,59nm,2.4s
SRU **San Rafael** 58.84 295 *e*P P 22 08 05.4 -0.1
comp=Z,59nm,2.4s
SRU **San Rafael** 58.84 295 *e*P P 22 08 05.4 -0.1
comp=Z,59nm,2.4s
529A **Stev Forest Ra** 58.88 282 ⇑P P 22 08 05.8 +0.2
baz=59,SNR=15
125A **Gardner Draw,** 58.94 286 ⇑P P 22 08 06.5 +0.4
baz=59,SNR=9.6
226B **Tecolote Peak,** 58.97 285 ⇑P P 22 08 07.1 +0.8
baz=59,SNR=19
E09A **Wood Farm, Sta** 58.98 306 *e*P P 22 08 04.8 -1.3
comp=Z,16nm,1.3s
E09A **Wood Farm, Sta** 58.98 306 *e*P P 22 08 04.8 -1.3
comp=Z,16nm,1.3s
MPU **Maple Canyon** 58.99 297 *e*P P 22 08 05.6 -0.9
comp=Z,5.9nm,0.9s
MPU **Maple Canyon** 58.99 297 *e*P P 22 08 05.6 -0.9
comp=Z,5.9nm,0.9s
Z24A **Sheeppen Canyo** 59.00 287 ⇑P P 22 08 07.5 +0.8
baz=59,SNR=9.2
Y23A **Lovelace Mesa,** 59.09 288 ⇓P P 22 08 08.0 +0.7
baz=59,SNR=6.4
TMUT **Trail Mountain** 59.16 296 *e*P P 22 08 06.9 -0.9
comp=Z,13nm,0.8s
TMUT **Trail Mountain** 59.16 296 *e*P P 22 08 06.9 -0.9
comp=Z,13nm,0.8s
VOSK **Vostochnaya** 59.21 44 *e*P P 22 08 06.3 -1.3
VOSK pmax pmax
comp=Z,8.0nm,1.1s
VOSK **Vostochnaya** 59.21 44 *e*P P 22 08 06.3 -1.3
comp=Z,7.7nm,1.1s
VOSK **Vostochnaya** 59.21 44 *e*P P 22 08 06.3 -1.3
comp=Z,7.7nm,1.1s
U20A **Newcomb** 59.21 292 ⇑P P 22 08 08.8 +0.7
baz=59
427A **Hayter Ranch,** 59.22 284 ⇑P P 22 08 08.4 +0.3
baz=59,SNR=7.4
528A **Cox Ranch, San** 59.24 283 ⇓P P 22 08 08.6 +0.3
baz=59,SNR=19
WTV **Waterville** 59.27 308 *e*P P 22 08 07.7 -0.5
WTV **Waterville** 59.27 308 *e*P P 22 08 07.7 -0.5
NLU **North Lily Min** 59.30 297 *e*P P 22 08 07.5 -1.2
comp=Z,7.0nm,1.1s
NLU **North Lily Min** 59.30 297 *e*P P 22 08 07.5 -1.2
comp=Z,7.0nm,1.1s
BGU **Big Grassy Mou** 59.30 299 *e*P P 22 08 07.7 -0.9
comp=Z,4.9nm,1.0s
BGU **Big Grassy Mou** 59.30 299 *e*P P 22 08 07.7 -0.9
comp=Z,4.9nm,1.0s
326A **Caldwell Ranch** 59.32 284 ⇑P P 22 08 09.6 +0.8
baz=59,SNR=17
BNM **Barren Site** 59.33 289 *e*P P 22 08 08.8 -0.2
BNM *e*PcP PcP 22 08 54.7 -2.2
BNM **Barren Site** 59.33 289 *e*P P 22 08 08.8 -0.2
Q16A **Castle Valley** 59.36 296 *e*P P 22 08 07.8 -1.3
comp=Z,8.0nm,1.0s
Q16A **Castle Valley** 59.36 296 ⇓P P 22 08 09.5 +0.4
baz=59,SNR=5.5
Q16A **Castle Valley** 59.36 296 *e*P P 22 08 07.8 -1.3
comp=Z,8.0nm,1.0s
225A **Deer Hill, Car** 59.39 286 ⇓P P 22 08 09.8 +0.4
baz=59,SNR=9.5
124A **Stringfield Ra** 59.45 287 ⇓P P 22 08 10.6 +0.8
baz=59,SNR=23
BMO **Blue Mountains** 59.49 304 *e*P P 22 08 08.8 -1.0
comp=Z,73nm,2.8s
BMO **Blue Mountains** 59.49 304 *e*P P 22 08 08.8 -1.0
comp=Z,73nm,2.8s
MFID **Camas Ranch** 59.49 302 ⇑P P 22 08 10.0 +0.2
baz=59
ETW **Entiat** 59.54 308 *e*P P 22 08 09.6 -0.5
ETW **Entiat** 59.54 308 *e*P P 22 08 09.6 -0.5
DUG **Dugway** 59.61 298 *e*P P 22 08 10.6 -0.1
DUG pmax pmax
comp=Z,12nm,0.9s
DUG **Dugway** 59.61 298 *e*P P 22 08 10.6 -0.1
comp=Z,12nm,0.9s
DUG **Dugway** 59.61 298 ⇓P P 22 08 11.0 +0.3
baz=59,SNR=12
DUG **Dugway** 59.61 298 *e*P P 22 08 10.6 -0.1
comp=Z,12nm,0.9s
IL1 **Eielson Array** 59.61 334 *e*P P 22 08 10.0 -0.2
IL1 *e*PcP PcP 22 08 57.0 -0.2
IL1 **Eielson Array** 59.61 334 *e*P P 22 08 10.0 -0.2
ILAR **Eielson Array** 59.61 334 P P 22 08 10.4 +0.2
comp=Z,0.8nm,0.8s,baz=48,slow=6.0,SNR=7.8
ILAR LR LR 22 31 01.9
comp=Z,83nm,20.6s,baz=130,slow=33
ILB **Eielson Array** 59.61 334 *e*P P 22 08 10.4 +0.2
ILB **Eielson Array** 59.61 334 *e*P P 22 08 10.4 +0.2
Z23A **Rita Site, Whi** 59.62 288 ⇑P P 22 08 11.9 +1.1
baz=59,SNR=7.8
628A **Black Gap, Mar** 59.73 282 ⇓P P 22 08 12.1 +0.6
baz=60,SNR=8.6
426A **McDonald Obser** 59.76 284 ⇑P P 22 08 12.5 +0.6
baz=60,SNR=25
527A **Woodward Ranch** 59.80 283 ⇓P P 22 08 12.5 +0.3
baz=60,SNR=23
HAWA **Hanford** 59.82 307 *e*P P 22 08 11.2 -0.7
comp=Z,12nm,1.1s
HAWA **Hanford** 59.82 307 *e*P P 22 08 11.2 -0.7
comp=Z,12nm,1.1s
224A **Cornudas Mount** 59.88 286 ⇑P P 22 08 13.0 +0.3
baz=60,SNR=10
X21A **Alamocita Cree** 59.91 290 ⇑P P 22 08 14.0 +1.0
baz=60,SNR=13
LTY **Liberty** 59.93 308 *e*P P 22 08 11.2 -1.5
comp=Z,35nm,1.2s
LTY **Liberty** 59.93 308 *e*P P 22 08 11.2 -1.5
comp=Z,35nm,1.2s
TBM **Table Mountain** 59.94 308 *e*P P 22 08 12.5 -0.3
TBM **Table Mountain** 59.94 308 *e*P P 22 08 12.5 -0.3
W20A **Ramah** 59.96 291 ⇓P P 22 08 14.4 +1.1
baz=60
MNTX **Cornudas Mount** 60.02 286 *e*P P 22 08 13.0 -0.5
comp=Z,6.6nm,1.4s
MNTX **Cornudas Mount** 60.02 286 *e*P P 22 08 13.0 -0.5
comp=Z,6.6nm,1.4s
627A **Terlingua Ranc** 60.09 282 ⇓P P 22 08 14.7 +0.6
baz=60,SNR=38
Z22A **Elephant Butte** 60.10 288 ⇑P P 22 08 15.1 +0.9
baz=60,SNR=11
Y21A **Point of Rocks** 60.10 289 ⇑P P 22 08 15.8 +1.5
baz=60,SNR=11
G08A **Pilot Rock** 60.17 306 *e*P P 22 08 12.7 -1.7
comp=Z,6.3nm,1.1s
G08A **Pilot Rock** 60.17 306 *e*P P 22 08 12.7 -1.7
comp=Z,6.3nm,1.1s
526A **Mary Lane Ranc** 60.18 283 ⇓P P 22 08 15.7 +0.9
baz=60,SNR=15
324A **Moseley Ranch,** 60.25 286 ⇓P P 22 08 15.4 +0.2
baz=60
MVU **Marysvale** 60.26 296 *e*P P 22 08 15.4 +0.1
comp=Z,11nm,1.0s
MVU **Marysvale** 60.26 296 *e*P P 22 08 15.4 +0.1
comp=Z,11nm,1.0s
X20A **Quemado** 60.31 290 ⇓P P 22 08 16.7 +1.0
baz=60
425A **Indio Mountain** 60.32 285 ⇑P P 22 08 16.4 +0.6
baz=60,SNR=12
LTX **Lajitas** 60.35 283 *e*P P 22 08 16.3 +0.4
LTX **Lajitas** 60.35 283 *e*P P 22 08 16.3 +0.4
LTX **Lajitas** 60.35 283 *e*P P 22 08 16.3 +0.4
TX31 **Lajitas Ar. Si** 60.35 283 *e*P P 22 08 15.7 -0.2
TX31 *e*PcP PcP 22 09 02.2 +1.3
TX31 **Lajitas Ar. Si** 60.35 283 *e*P P 22 08 15.7 -0.2
TXAR **Lajitas Array** 60.35 283 P P 22 08 16.3 +0.4
comp=Z,5.4nm,0.9s,baz=63,slow=7.2,SNR=42
TXAR LR LR 22 34 14.4
comp=Z,282nm,18.2s,baz=165,slow=36
626A **Big Bend Ranch** 60.53 283 ⇑P P 22 08 18.0 +0.9
baz=60,SNR=15
Z21A **St. Cloud Mine** 60.53 289 ⇓P P 22 08 18.2 +0.9
baz=60,SNR=8.1
Y20A **Horse Springs,** 60.62 289 ⇑P P 22 08 18.6 +0.7
baz=60
ELK **Elko** 60.75 300 *e*P P 22 08 18.5 -0.1
comp=Z,5.8nm,1.1s
ELK **Elko** 60.75 300 *e*P P 22 08 18.5 -0.1
comp=Z,5.8nm,1.1s
LON **Longmire** 60.86 308 *e*P P 22 08 17.8 -1.3
LON pmax pmax
comp=Z,7.0nm,1.1s
LON **Longmire** 60.86 308 *e*P P 22 08 17.8 -1.3
comp=Z,7.5nm,1.1s
LON **Longmire** 60.86 308 *e*P P 22 08 17.8 -1.3
comp=Z,7.5nm,1.1s
222A **Williams Famil** 60.91 287 ⇑P P 22 08 20.5 +0.8
baz=61
TIXI **Tiksi** 61.05 8⇓*e*P P 22 08 21.9 +2.0
TIXI pmax pmax
comp=Z,13nm,1.7s
J08A **Circle Bar Ran** 61.06 304 *e*P P 22 08 20.4 -0.1
comp=Z,15nm,1.0s
J08A *e*PcP PcP 22 08 59.2 -4.3
J08A **Circle Bar Ran** 61.06 304 *e*P P 22 08 20.5 -0.1
comp=Z,15nm,1.0s
121A **Cookes Peak, D** 61.09 288 ⇓P P 22 08 22.1 +1.1
baz=61,SNR=8.1
Z20A **Nine Sixteen R** 61.26 289 ⇑P P 22 08 23.2 +1.1
baz=61
X18A **Snowflake** 61.26 291 ⇓P P 22 08 22.7 +0.5
baz=61
221A **Mesquite Ranch** 61.41 287 ⇓P P 22 08 24.6 +1.5
baz=61
CCUT **Cedar City** 61.56 296 *e*P P 22 08 24.6 +0.4
comp=Z,9.4nm,0.9s
CCUT **Cedar City** 61.56 296 *e*P P 22 08 24.6 +0.4
comp=Z,9.4nm,0.9s
WUAZ **Wupatki** 61.56 293 *e*P P 22 08 24.8 +0.7
comp=Z,8.0nm,1.0s
WUAZ **Wupatki** 61.56 293 ⇓P P 22 08 25.4 +1.3
baz=61
WUAZ **Wupatki** 61.56 293 *e*P P 22 08 24.8 +0.7
comp=Z,8.0nm,1.0s
NLWA **Neilton Lookou** 61.57 310 *e*P P 22 08 23.1 -0.8
comp=Z,22nm,1.1s
NLWA **Neilton Lookou** 61.57 310 *e*P P 22 08 23.0 -0.8
comp=Z,22nm,1.1s
U15A **North Rim** 61.58 294 ⇑P P 22 08 25.2 +0.8
baz=61
120A **U Bar Ranch, L** 61.64 288 ⇓P P 22 08 25.8 +1.1
baz=62
RAYN **Ar Rayn** 61.72 85 *e*P P 22 08 25.4 +0.2
comp=Z,8.7nm,1.1s
RAYN **Ar Rayn** 61.72 85 *e*P P 22 08 25.4 +0.2
comp=Z,8.7nm,1.1s
WVOR **Wild Horse Val** 61.73 303 *e*P P 22 08 25.1 0.0
WVOR pmax pmax
comp=Z,25nm,1.2s
WVOR **Wild Horse Val** 61.73 303 *e*P P 22 08 25.1 0.0
comp=Z,25nm,1.2s
WVOR **Wild Horse Val** 61.73 303 *e*P P 22 08 25.1 0.0
comp=Z,25nm,1.2s
BMW **Boistfort Moun** 61.79 309 *e*P P 22 08 25.4 0.0
BMW **Boistfort Moun** 61.79 309 *e*P P 22 08 25.4 0.0
BMW **Boistfort Moun** 61.79 309 *e*P P 22 08 25.4 0.0
E03A **Lebam** 61.93 309 *e*P P 22 08 26.2 0.0
comp=Z,40nm,1.1s
E03A **Lebam** 61.93 309 *e*P P 22 08 26.2 0.0
comp=Z,40nm,1.1s
220A **Playas Peak, P** 61.98 288 ⇓P P 22 08 28.0 +1.1
baz=62,SNR=8.2
CAST **Castle Rocks** 62.15 335 *e*P P 22 08 26.2 -1.3
comp=Z,39nm,1.9s
CAST **Castle Rocks** 62.15 335 *e*P P 22 08 26.2 -1.3
comp=Z,39nm,1.9s
X16A **Lo Mia Camp, P** 62.29 292 ⇓P P 22 08 30.0 +0.9
baz=62
H04A **Detroit Lake** 62.34 307 *e*P P 22 08 27.8 -1.3
comp=Z,18nm,1.3s
H04A **Detroit Lake** 62.34 307 *e*P P 22 08 27.8 -1.3
comp=Z,18nm,1.3s
R11A **Troy Canyon, C** 62.44 298 *e*P P 22 08 29.4 -0.6
R11A **Troy Canyon, C** 62.44 298 ⇑P P 22 08 30.5 +0.5
baz=62
R11A **Troy Canyon, C** 62.44 298 *e*P P 22 08 29.4 -0.6
FRIS **Frissel Point** 62.59 306 *e*P P 22 08 31.1 +0.2
FRIS **Frissel Point** 62.59 306 *e*P P 22 08 31.1 +0.2
319A **Douglas** 62.81 288 ⇓P P 22 08 34.0 +1.5
baz=63,SNR=5.8
K05A **Summer Lake** 62.85 304 *e*P P 22 08 31.7 -1.0
comp=Z,40nm,1.3s
K05A **Summer Lake** 62.85 304 *e*P P 22 08 31.7 -1.0
comp=Z,40nm,1.3s
MOD **Modoc** 63.03 303 *e*P P 22 08 33.6 -0.2
comp=Z,49nm,1.0s
MOD **Modoc** 63.03 303 *e*P P 22 08 33.6 -0.2
comp=Z,49nm,1.0s
TUC **Tucson** 63.20 290 *e*P P 22 08 34.6 -0.4
TUC pmax pmax
comp=Z,7.0nm,1.2s
TUC **Tucson** 63.20 290 *e*P P 22 08 34.6 -0.4
comp=Z,6.6nm,1.2s
TUC **Tucson** 63.20 290 *e*P P 22 08 34.6 -0.4
comp=Z,6.6nm,1.2s
NVS **Novosibirsk** 63.38 37 *e*P P 22 08 36.0 +0.3
NVS pmax pmax
comp=Z,8.0nm,1.2s
NVS pmax pmax
comp=N,3.0nm,0.9s
NVS pmax pmax
comp=E,2.0nm,0.9s
W13A **Hualapai Mount** 63.42 294 ⇓P P 22 08 37.2 +0.6
baz=63
Y14A **Wickenburg** 63.60 292 ⇑P P 22 08 38.6 +0.9
baz=63
SAML **Samuel** 63.72 220 *e*P P 22 08 39.1 +0.7
comp=E,11nm,1.6s
SAML **Samuel** 63.72 220 *e*P P 22 08 39.1 +0.7
comp=E,11nm,1.6s
PAHR **Pah Rah Range** 63.88 301 *e*P P 22 08 40.2 +0.7
comp=E,30nm,1.6s
PAHR **Pah Rah Range** 63.88 301 *e*P P 22 08 40.2 +0.7
comp=E,30nm,1.6s
Z14A **Wintersburg** 63.93 292 ⇓P P 22 08 40.8 +1.0
baz=64
NV01 **Mina Array Sit** 64.04 299 *e*P P 22 08 40.1 -0.6
NV01 **Mina Array Sit** 64.04 299 *e*P P 22 08 40.1 -0.6
NVAR **Mina Array Bea** 64.04 299 P P 22 08 40.8 +0.1
comp=E,1.9nm,0.9s,baz=63,slow=6.2,SNR=5.1
OTAV **Otavalo** 64.05 240 *e*P P 22 08 42.0 +0.8
comp=E,5.8nm,1.1s
OTAV **Otavalo** 64.05 240 *e*P P 22 08 42.0 +0.8
comp=E,5.8nm,1.1s
KURK **Kurchatov** 64.14 43*d i*P P 22 08 41.2 +0.4
KURK pmax pmax
comp=Z,4.0nm,0.8s
KURK **Kurchatov** 64.14 43 *e*P P 22 08 41.0 +0.2
comp=Z,3.2nm,0.7s
KURK **Kurchatov** 64.14 43 *e*P P 22 08 41.0 +0.2
comp=Z,3.2nm,0.7s
BEKR **Beckworth** 64.35 302 *e*P P 22 08 42.9 +0.3
comp=Z,6.1nm,1.3s
BEKR **Beckworth** 64.35 302 *e*P P 22 08 42.9 +0.3
comp=Z,6.1nm,1.3s
BDFB **Brasilia** 64.50 202 *e*P P 22 08 43.9 +0.3
BDFB **Brasilia** 64.50 202 *e*P P 22 08 43.9 +0.3
BDFB **Brasilia** 64.50 202 P P 22 08 45.9 +2.3
comp=Z,7.4nm,1.1s,baz=21,slow=12,SNR=5.3
ZALV **Zalesovo Beam** 64.67 37 P P 22 08 44.8 +0.6
comp=Z,0.7nm,0.6s,baz=295,slow=7.8,SNR=3.2
ZALV LR LR 22 37 12.9
comp=Z,50nm,19.1s,baz=80,slow=36
214A **Organ Pipe Nat** 64.74 290 ⇓P P 22 08 46.2 +1.0
baz=64
GMRC **Granite Mounta** 64.75 295 ⇑P P 22 08 45.9 +0.7
baz=64
113A **Mohawk Valley,** 64.84 292 ⇓P P 22 08 46.9 +1.2
baz=65
KK31 **Karatay Array** 65.03 53 *i* P P 22 08 47.1 +0.3
KK31 pmax pmax
comp=Z,5.0nm,0.8s
KKAR **Karatay Array** 65.03 53 *e*P P 22 08 46.3 -0.5
KKAR **Karatay Array** 65.03 53 *e*P P 22 08 46.3 -0.5
KKAR **Karatay Array** 65.03 53 *e*P P 22 08 46.3 -0.5
GSC **Goldstone** 65.13 296 *e*P P 22 08 47.7 0.0
GSC pmax pmax
comp=Z,7.0nm,0.6s
GSC **Goldstone** 65.13 296 *e*P P 22 08 47.7 0.0
comp=Z,7.4nm,0.6s
GSC **Goldstone** 65.13 296 *e*P P 22 08 47.7 0.0
comp=Z,7.4nm,0.6s
RCWM **Renegade Canyo** 65.23 297 *e*P P 22 08 51.2 +2.8
WLHM **Little Horse** 65.51 297 *e*P P 22 08 49.5 -0.9
WLHM **Little Horse** 65.51 297 *e*P P 22 08 49.5 -0.9
KHMM **Horse Mountain** 65.66 304 *e*P P 22 08 50.4 -0.7
comp=Z,28nm,1.2s
KHMM **Horse Mountain** 65.66 304 *e*P P 22 08 50.4 -0.7

	comp=Z,28nm,1.2s								
WOFM	**Oak Flat**	**66.16**	**297**	*e*P		**P**	**22 08 55.9**	**+1.5**
WOFM	**Oak Flat**	**66.16**	**297**	*e*P		**P**	**22 08 55.9**	**+1.5**
MONP	**Monument Peak**	**66.45**	**293**	⇓P		**P**	**22 08 57.6**	**+1.3**
	baz=66								
HOPS	**Hopland**	**66.52**	**302**	*e*P		**P**	**22 08 56.1**	**-0.3**
	comp=Z,98nm,1.4s								
HOPS	**Hopland**	**66.52**	**302**	*e*P		**P**	**22 08 56.1**	**-0.3**
	comp=Z,98nm,1.4s								
EKS2	**Erkin-Say**	**67.12**	**52**	*e*P		**P**	**22 09 01.0**	**+0.6**
EKS2					pmax	pmax			
	comp=Z,22nm,1.1s								
EKS2	**Erkin-Say**	**67.12**	**52**	P		**P**	**22 09 02.0**	**+1.6**
	SNR=16								
EKS2	**Erkin-Say**	**67.12**	**52**	*e*P		**P**	**22 09 01.0**	**+0.6**
	comp=Z,22nm,1.1s								
EKS2	**Erkin-Say**	**67.12**	**52**	*e*P		**P**	**22 09 01.0**	**+0.6**
	comp=Z,22nm,1.1s								
AML	**Almayashu**	**67.43**	**52**	*i* P		**P**	**22 09 04.0**	**+1.3**
AML	**Almayashu**	**67.43**	**52**	P		**P**	**22 09 04.0**	**+1.3**
	SNR=13								
AAK	**Ala-Archa**	**67.53**	**51**	*de*P		**P**	**22 09 04.8**	**+1.8**
AAK	**Ala-Archa**	**67.53**	**51**	P		**P**	**22 09 05.2**	**+2.1**
	SNR=6.1								
AAK	**Ala-Archa**	**67.53**	**51**	*e*P		**P**	**22 09 03.2**	**+0.2**
	comp=Z,11nm,1.2s								
AAK	**Ala-Archa**	**67.53**	**51**	*e*P		**P**	**22 09 03.2**	**+0.2**
	comp=Z,11nm,1.2s								
AAK	**Ala-Archa**	**67.53**	**51**	P		**P**	**22 09 05.1**	**+2.1**
	baz=286,slow=3.6								
SCI	**San Clemente I**	**67.74**	**295**	⇑P		**P**	**22 09 04.2**	**-0.1**
	baz=68								
TKM2	**Tokmak 2**	**67.92**	**51**	*i* P		**P**	**22 09 06.8**	**+1.3**
TKM2	**Tokmak 2**	**67.92**	**51**	P		**P**	**22 09 06.8**	**+1.3**
	SNR=6.4								
TKM2	**Tokmak 2**	**67.92**	**51**	*e*P		**P**	**22 09 05.2**	**-0.3**
	comp=Z,8.3nm,1.0s								
TKM2	**Tokmak 2**	**67.92**	**51**	*e*P		**P**	**22 09 05.2**	**-0.3**
	comp=Z,8.3nm,1.0s								
KZA	**Kyzart**	**68.31**	**51**	*i* P		**P**	**22 09 10.4**	**+2.1**
KZA	**Kyzart**	**68.31**	**51**	P		**P**	**22 09 10.4**	**+2.1**
	SNR=5.6								
MK31	**Makanchi Array**	**68.61**	**44**	*i* P		**P**	**22 09 09.4**	**-0.2**
MK31					pmax	pmax			
	comp=Z,5.0nm,0.6s								
MK32	**Makanchi Array**	**68.61**	**44**	*e*P		**P**	**22 09 09.9**	**+0.3**
MK32				*e*PcP		**PcP**	**22 09 35.8**	**+1.2**
MK32	**Makanchi Array**	**68.61**	**44**	*e*P		**P**	**22 09 09.9**	**+0.3**
MKAR	**Makanchi Array**	**68.61**	**44**	*e*P		**P**	**22 09 08.8**	**-0.8**
MKAR	**Makanchi Array**	**68.61**	**44**	*e*P		**P**	**22 09 08.8**	**-0.8**
MKAR	**Makanchi Array**	**68.61**	**44**	*e*P		**P**	**22 09 08.8**	**-0.8**
MKAR	**Makanchi Array**	**68.61**	**44**	P		**P**	**22 09 09.9**	**+0.3**
	comp=Z,5.4nm,0.7s,baz=324,slow=6.1,SNR=42								
MK01	**Makanchi Array**	**68.64**	**44**	*e*P		**P**	**22 09 09.1**	**-0.6**
MK01	**Makanchi Array**	**68.64**	**44**	*e*P		**P**	**22 09 09.1**	**-0.6**
KBL	**Kabul**	**69.89**	**61**	*e*P		**P**	**22 09 17.4**	**-0.5**
KBL					pmax	pmax			
	comp=Z,5.0nm,0.8s								
KBL	**Kabul**	**69.89**	**61**	*e*P		**P**	**22 09 17.4**	**-0.5**
	comp=Z,5.4nm,0.8s								
KBL	**Kabul**	**69.89**	**61**	*e*P		**P**	**22 09 17.4**	**-0.5**
	comp=Z,5.4nm,0.8s								
HVS	**Khovu-Aksy**	**70.39**	**35**	⇑*i*P		**P**	**22 09 20.3**	**-0.3**
HVS					pmax	pmax			
	comp=Z,22nm,1.2s								
KSH	**Kashi**	**70.48**	**53**	P		**P**	**22 09 23.7**	**+2.3**
KSH				pP		**pP**	**22 09 30.5**	**+4.0**
KSH				sP		**sP**	**22 09 32.4**	**+4.0**
KSH				PP		**PP**	**22 11 58.9**	**+1.9**
KSH				S		**S**	**22 18 32.1**	**-1.8**
KSH				sS		**sS**	**22 18 40.9**	**-1.5**
KSH				SS		**SS**	**22 23 08.2**	**+4.1**
KSH				AMB		AMB			
	comp=Z,24nm,1.0s								
KSH				AMB		AMB			
	comp=Z,59nm,2.6s								
KSH				LR		LR			
	comp=Z,150nm,5.8s								
KSH				LR		LR			
	comp=Z,110nm,6.8s								
KSH				LR		LR			
	comp=Z,230nm,5.6s								
WMQ	**Urumqi**	**73.38**	**43**	*e*P		**P**	**22 09 39.8**	**+1.2**
KMBO	**Kilima Mbogo**	**73.58**	**110**	*e*P		**P**	**22 09 41.1**	**+0.8**
	comp=Z,5.9nm,1.2s								
KMBO	**Kilima Mbogo**	**73.58**	**110**	*e*P		**P**	**22 09 41.1**	**+0.8**
	comp=Z,5.9nm,1.2s								
KMBO	**Kilima Mbogo**	**73.58**	**110**	P		**P**	**22 09 41.7**	**+1.4**
	comp=Z,2.8nm,0.9s,baz=310,slow=5.6,SNR=6.8								
SONA1	**Songino Array**	**77.81**	**30**	*e*P		**P**	**22 10 04.4**	**+0.4**
SONA1	**Songino Array**	**77.81**	**30**	*e*P		**P**	**22 10 04.4**	**+0.4**
SONM	**Songino Array**	**77.82**	**30**	P		**P**	**22 10 04.5**	**+0.4**
	comp=Z,2.2nm,0.9s,baz=313,slow=4.6,SNR=15								
ULN	**Ulaanbaatar**	**78.02**	**29**	*e*P		**P**	**22 10 04.3**	**-0.9**
	comp=Z,18nm,1.7s								
ULN	**Ulaanbaatar**	**78.02**	**29**	*e*P		**P**	**22 10 04.3**	**-0.9**
	comp=Z,18nm,1.7s								
LSZ	**Lusaka**	**79.10**	**126**	*e*P		**P**	**22 10 11.1**	**-0.3**
	comp=Z,8.7nm,1.2s								
LSZ	**Lusaka**	**79.10**	**126**	*e*P		**P**	**22 10 11.1**	**-0.3**
	comp=Z,8.7nm,1.2s								
PETK	**Petropavlovsk-**	**80.78**	**357**	LR		LR	22 45 07.2		
	comp=Z,41nm,18.1s,baz=298,slow=35								
GTA	**Gaotai**	**82.39**	**39**	*e*P		P	22 10 25.1	-3.8	
GTA				sP		sP	22 10 32.4	-3.6	
GTA				AMB		AMB			
	comp=Z,3.0nm,0.7s								
HHC	**Hu-ho-hao-te**	**85.72**	**30**	*e*P		**P**	**22 10 45.2**	**-0.6**
HHC				pP		**PcP**	**22 10 48.8**	**+0.1**
HHC				sP		**sP**	**22 10 51.2**	**-1.8**
HHC				PP		**PP**	**22 14 05.4**	**+1.3**
HHC				SKS		**SKSac**	**22 21 06.1**	**-4.7**
HHC				S		**S**	**22 21 15.8**	**-1.9**
HHC				sS		**sS**	**22 21 24.1**	**-2.3**
HHC				SS		**SS**	**22 26 55.0**	**+2.2**
HHC				AMB		AMB			
	comp=Z,28nm,1.2s								
HHC				AMB		AMB			
	comp=Z,290nm,7.2s								
HHC				LR		LR			
	comp=Z,250nm,16.3s								
HHC				LR		LR			
	comp=Z,330nm,17.7s								
HHC				LR		LR			
	comp=Z,240nm,16.7s								
LZH	**Lanzhou**	**86.90**	**38**	*e*P		**P**	**22 10 52.9**	**+1.1**
LZH				pP		**pP**	**22 10 56.7**	**-0.3**
LZH				sP		**sP**	**22 10 58.4**	**-0.5**
LZH				AMB		AMB			
	comp=Z,12nm,1.3s								
LZH				AMB		AMB			
	comp=Z,48nm,4.3s								
CN2	**Changchun**	**87.01**	**19**	*e*P		P	22 10 48.2	-3.7	
BJI	**Beijing**	**87.98**	**27**	P		**P**	**22 10 57.5**	**+0.9**
BJI				AMB		AMB			
	comp=Z,4.0nm,0.7s								
BOSA	**Boshof**	**88.53**	**136**	LR		LR	22 51 30.6		
	comp=Z,108nm,18.2s,baz=344,slow=36								
CD2	**Chengdu**	**91.27**	**40**	P		**P**	**22 11 12.2**	**-0.1**
CD2				AMB		AMB			
	comp=Z,10.0nm,0.5s								
NJ2	**Nanjing**	**96.16**	**28**	*e*P		**P**	**22 11 35.6**	**+1.0**
NJ2				AMB		AMB			
	comp=Z,10.0nm,0.7s								
GYA	**Guiyang**	**96.39**	**40**	*e*P		**P**	**22 11 36.0**	**0.0**
GYA				PP		**PP**	**22 15 30.4**	**+1.6**
GYA				SKS		**SKSac**	**22 22 11.9**	**-0.4**
GYA				S		**S**	**22 22 51.5**	**-4.3**
GYA				SS		**SS**	**22 29 25.0**	**-2.1**
GYA				AMB		AMB			
	comp=Z,10.0nm,1.0s								
GYA				AMB		AMB			
	comp=Z,110nm,6.2s								
GYA				LR		LR			
	comp=Z,470nm,21.5s								
GYA				LR		LR			
	comp=Z,350nm,22.8s								
GYA				LR		LR			
	comp=Z,470nm,20.4s								
CMAR	**Chiang Mai Arr**	**99.31**	**51**	LR		LR	23 02 21.7		
	comp=Z,34nm,19.2s,baz=140,slow=39								
SBA	**Scott Base**	**147.95**	**186**	*e*PKP2		**PKPbc**	**22 17 51.7**	**+1.2**
SBA	**Scott Base**	**147.95**	**186**	*e*PKPdf		**PKPbc**	**22 17 51.7**	**+1.2**
SBA	**Scott Base**	**147.95**	**186**	*e*PKIKP		**PKPbc**	**22 17 51.7**	**+1.2**
VNDA	**Vanda**	**148.55**	**184**	*e*PKPbc		**PKPbc**	**22 17 53.5**	**+1.5**
VNDA	**Vanda**	**148.55**	**184**	*e*PKPbc		**PKPbc**	**22 17 53.5**	**+1.5**
	comp=Z,4.2nm,1.0s,baz=239,slow=3.5,SNR=18								
WRAB	**Tennant Creek**	**149.64**	**36**	*e*PKPdf		**PKPdf**	**22 17 53.4**	**+1.5**
WRAB	**Tennant Creek**	**149.64**	**36**	*e*PKIKP		**PKPdf**	**22 17 53.4**	**+1.5**
WRA	**Warramunga Arr**	**149.64**	**36**	*e*PKPbc		**PKPbc**	**22 17 56.0**	**-0.5**
WRA				*e*PKPab		**PKPab**	**22 18 03.5**	**+1.9**
WRA	**Warramunga Arr**	**149.64**	**36**	*e*PKPbc		**PKPbc**	**22 17 56.0**	**-0.5**
WRA	**Warramunga Arr**	**149.64**	**36**	PKPbc		**PKPbc**	**22 17 56.0**	**-0.5**
	comp=Z,4.6nm,1.0s,baz=323,slow=2.7,SNR=9.8								
WRA				PKPab		**PKPab**	**22 18 03.5**	**+1.9**
	comp=Z,5.5nm,1.1s,baz=333,slow=3.4,SNR=6.1								
AS12	**Alice Springs**	**152.75**	**40**	*e*PKPbc		**PKPbc**	**22 18 03.5**	**-0.2**
AS12	**Alice Springs**	**152.75**	**40**	*e*PKPbc		**PKPbc**	**22 18 03.5**	**-0.2**
ASAR	**Alice Springs**	**152.75**	**40**	PKPbc		**PKPbc**	**22 18 03.5**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=339,slow=2.1,SNR=28								
AS01	**Alice Springs**	**152.77**	**40**	*e*PKPdf		**PKPdf**	**22 17 54.0**	**-2.6**
AS01				*e*PKPbc		**PKPbc**	**22 18 03.3**	**-0.4**
AS01	**Alice Springs**	**152.77**	**40**	*e*PKIKP		**PKPdf**	**22 17 54.0**	**-2.6**

*CSEM **03** 22:03:23.5, 37.49N×21.98E, h14km, MD2.5, After ATH*

ATH 03 22:03:23.5, 37.49N×21.98E, h14km±3km, MD2.5/4, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AMT	**Artemida-Makis**	**0.22**	**281**	*e*PG	Pg	22 03 28.5	+0.1
AMT				*e*SG	Sg	22 03 32.0	+0.2
AMT	**Artemida-Makis**	**0.22**	**281**	*e*Pg	Pg	22 03 28.5	+0.1
AMT				*e*Sg	Sg	22 03 32.0	+0.2
ITM	**Ithomi**	**0.31**	**188**	*e*PB	Pg	22 03 30.0	0.0
ITM				*e*SB	Sg	22 03 34.7	+0.3
ITM	**Ithomi**	**0.31**	**188**	*e*Pb	Pg	22 03 30.0	0.0
ITM				*e*Sb	Sg	22 03 34.7	+0.3
GUR	**Goura**	**0.53**	**33**	*e*PG	Pg	22 03 33.5	-0.6
GUR				*e*SB	Sg	22 03 41.5	+0.2
GUR	**Goura**	**0.53**	**33**	*e*Pg	Pg	22 03 33.5	-0.6
GUR				*e*Sb	Sg	22 03 41.5	+0.2
PYL	**PYLOS**	**0.62**	**198**	*e*PB	Pg	22 03 35.7	0.0
PYL	**PYLOS**	**0.62**	**198**	*e*Pb	Pg	22 03 35.7	0.0

IDC 03 22:16:08.0±1.0, 19.99N×121.54E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.7/24, mbtmp3.7/8, ML3.2/1, Error ellipse: s-maj=40.9km s-min=18.5km az=68.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**18.27**	**16**	P	P	22 20 23.6	+0.4
	0.1nm,0.3s,baz=198,slow=11,SNR=3.2						
CMAR	**Chiang Mai Arr**	**21.39**	**270**	P	P	22 20 58.4	+0.9
	0.5nm,0.6s,baz=86,slow=8.5,SNR=5.6						
SONM	**Songino Array**	**30.37**	**340**	P	P	22 22 22.9	+1.2
	0.3nm,0.7s,baz=160,slow=8.9,SNR=3.1						
WRA	**Warramunga Arr**	**41.62**	**162**	P	P	22 23 57.3	-0.9
	0.9nm,0.5s,baz=342,slow=9.0,SNR=5.7						
MKAR	**Makanchi Array**	**41.64**	**319**	P	P	22 23 57.9	-0.2
	1.4nm,0.6s,baz=112,slow=9.3,SNR=18						
H11N1	**WAKE ISLAND Hy**	**42.56**	**82**	T	T	23 08 58.2	
	baz=282,slow=0.7,SNR=3.7						
H11S3	**WAKE ISLAND Hy**	**42.56**	**84**	T	T	23 09 19.9	
	baz=283,slow=0.7,SNR=7.2						
H11N2	**WAKE ISLAND Hy**	**42.56**	**82**	T	T	23 09 01.1	
	baz=282,slow=0.7,SNR=3.5						
H11S1	**WAKE ISLAND Hy**	**42.57**	**84**	T	T	23 09 27.4	
	baz=283,slow=0.7,SNR=12						
H11N3	**WAKE ISLAND Hy**	**42.57**	**82**	T	T	23 09 25.9	
	baz=282,slow=0.7,SNR=3.0						
H11S2	**WAKE ISLAND Hy**	**42.57**	**84**	T	T	23 09 26.9	
	baz=283,slow=0.7,SNR=8.0						
ZALV	**Zalesovo Beam**	**43.97**	**329**	P	P	22 24 15.3	-1.6
	1.9nm,0.8s,baz=111,slow=6.7,SNR=7.4						
ASAR	**Alice Springs**	**45.04**	**164**	P	P	22 24 26.3	+0.5
	0.4nm,0.4s,baz=346,slow=6.8,SNR=12						
FINES	**FINESS Array B**	**75.22**	**330**	P	P	22 27 52.1	-0.3
	3.7nm,0.9s,baz=56,slow=3.5,SNR=4.3						

*IDC **03** 22:27:29.0±1.0, 15.72S×171.61W, h0km, mb4.1/7, mb1 4.5/7, mb1mx4.2/19, mbtmp4.1/7, MS3.6/7, Ms1 3.6/7, ms1mx3.4/33, Error ellipse: s-maj=44.5km s-min=18.9km az=139.0*

*NEIC **03** 22:27:29.8±0.5, 15.78S×171.56W, h10km, mb4.4/3, Error ellipse: s-maj=18.8km s-min=10.6km az=132.0*

*ISCJB **03** 22:27:31.8±0.6, 15.72S±0.07×171.7W±0.1, h33km, mb4.1/9, MS3.7/6, Error ellipse: s-maj=18.0km s-min=9.1km az=14.0*

ISC 03 22:27:34.1±0.7, 15.64S±0.08×171.6W±0.2, h35km, n41, σ0.997/30, mb4.3/9, MS3.7/6, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.73**	**356**	*e*Pn	**Pn**	**22 28 01.0**	**-0.8**
AFI				*e*Sn	**Sn**	**22 28 22.6**	**0.0**
AFI	**Afiamalu**	**1.73**	**356**	Pn	**Pn**	**22 28 01.4**	**-0.3**
	201nm,0.3s,baz=118,slow=1.5,SNR=34						
AFI				Sn	**Sn**	**22 28 22.7**	**+0.1**
	1um,0.3s,baz=356,slow=21,SNR=44						
RAR	**Rarotonga**	**12.55**	**118**	LR	LR	22 33 09.0	
	comp=Z,120nm,21.6s,baz=270,slow=27						
PPT	**Papeete**	**21.23**	**98**	LR	LR	22 38 18.8	
	comp=Z,244nm,18.5s,baz=179,slow=31						
PPT2	**Papeete2**	**21.23**	**98**	eLR	LR	22 36 47.2	
	205nm,23.8s						
DZM	**Mont Dzumac**	**21.69**	**250**	eLR	LR	22 38 09.6	
	299nm,25.8s						
TBI	**Tubuai**	**22.25**	**114**	eLR	LR	22 37 20.4	
	254nm,26.2s						
URZ	**Urewera**	**24.62**	**202**	*e*P	**P**	**22 32 54.2**	**+3.0**
HNR	**Honiara**	**28.39**	**279**	LR	LR	22 43 18.1	
	comp=Z,135nm,19.0s,baz=123,slow=33						
H11S2	**WAKE ISLAND Hy**	**40.06**	**327**	T	T	23 18 01.1	
	baz=148,slow=0.7,SNR=14						
H11S3	**WAKE ISLAND Hy**	**40.08**	**327**	T	T	23 18 02.5	
	baz=148,slow=0.7,SNR=18						
H11S1	**WAKE ISLAND Hy**	**40.08**	**327**	T	T	23 18 02.8	
	baz=148,slow=0.7,SNR=18						
H11N3	**WAKE ISLAND Hy**	**40.98**	**328**	T	T	23 18 24.7	
	baz=141,slow=0.7,SNR=8.1						
H11N2	**WAKE ISLAND Hy**	**41.00**	**328**	T	T	23 18 38.5	
	baz=138,slow=0.7,SNR=4.0						
STKA	**Stephens Creek**	**45.39**	**241**	*e*P	**P**	**22 35 48.9**	**-0.6**
	1.6nm,0.8s						
STKA	**Stephens Creek**	**45.39**	**241**	P	**P**	**22 35 49.2**	**-0.3**
	7.6nm,0.9s,baz=94,slow=6.7,SNR=13						
WRAB	**Tennant Creek**	**51.43**	**257**	*e*P	**P**	**22 36 35.3**	**-0.9**
	4.1nm,0.8s						
WRA	**Warramunga Arr**	**51.44**	**257**	P	**P**	**22 36 35.8**	**-0.5**
WRA	**Warramunga Arr**	**51.44**	**257**	P	**P**	**22 36 35.8**	**-0.5**
	1.8nm,0.6s,baz=91,slow=6.7,SNR=9.8						
WRA				LR	LR	22 56 36.4	
	comp=Z,85nm,18.5s,baz=225,slow=34						
AS31	**Alice Springs**	**51.65**	**252**	*e*P	**P**	**22 36 37.7**	**-0.1**
ASAR	**Alice Springs**	**51.65**	**252**	P	**P**	**22 36 38.4**	**+0.6**
ASAR	**Alice Springs**	**51.65**	**252**	P	**P**	**22 36 38.4**	**+0.6**
	5.2nm,0.6s,baz=86,slow=7.8,SNR=29						
ASAJ	**Asahikawa**	**72.65**	**327**	LR	LR	23 08 09.8	
	comp=Z,36nm,19.4s,baz=96,slow=34						
QSPA	**South Pole Qui**	**74.41**	**180**	*e*P	**P**	**22 39 05.8**	**-2.7**
	6.7nm,1.1s						
KSRS	**Korea Array**	**77.52**	**315**	LR	LR	23 12 32.9	
	comp=Z,36nm,18.8s,baz=102,slow=35						
TXAR	**Lajitas Array**	**79.35**	**55**	P	**P**	**22 39 37.5**	**+0.7**
TXAR	**Lajitas Array**	**79.35**	**55**	P	**P**	**22 39 37.5**	**+0.7**
	0.8nm,0.8s,baz=212,slow=9.4,SNR=8.4						
PDAR	**Pinedale Array**	**81.32**	**41**	P	**P**	**22 39 47.1**	**-0.2**
PDAR	**Pinedale Array**	**81.32**	**41**	P	**P**	**22 39 47.1**	**-0.2**
	0.4nm,0.6s,baz=229,slow=4.2,SNR=4.7						
PDAR				LR	LR	23 10 55.8	
	comp=Z,41nm,18.2s,baz=79,slow=32						
ILAR	**Eielson Array**	**82.36**	**10**	P	**P**	**22 39 52.6**	**+0.6**
ILAR	**Eielson Array**	**82.36**	**10**	P	**P**	**22 39 52.6**	**+0.6**
	0.7nm,0.7s,baz=217,slow=6.0,SNR=6.4						
ABTX	**Abilene, Hawle**	**83.83**	**54**	*e*P	**P**	**22 39 58.7**	**-1.7**
YKA	**Yellowknife Ar**	**89.65**	**23**	P	**P**	**22 40 28.5**	**+0.5**
YKA	**Yellowknife Ar**	**89.65**	**23**	P	**P**	**22 40 28.5**	**+0.5**
	1.5nm,0.9s,baz=239,slow=3.8,SNR=5.2						
NIE	**Niedzica**	**144.93**	**346**	*e*PX	**PKPdf**	**22 47 07.8**	**+0.2**
GERES	**GERESS Array B**	**146.60**	**354**	PKPbc	**PKPbc**	**22 47 12.4**	**+0.3**
GERES	**GERESS Array B**	**146.60**	**354**	PKPbc	**PKPbc**	**22 47 12.4**	**+0.3**
	2.1nm,0.8s,baz=1.9,slow=4.0,SNR=14						
BRTR	**Keskin Array B**	**147.40**	**322**	PKPbc	**PKPbc**	**22 47 15.2**	**+0.4**
BRTR	**Keskin Array B**	**147.40**	**322**	PKPbc	**PKPbc**	**22 47 15.2**	**+0.4**
	2.2nm,0.7s,baz=126,slow=1.9,SNR=17						
ESDC	**Sonseca Array**	**153.74**	**22**	PKPab	**PKPab**	**22 47 43.3**	**+0.6**
ESDC	**Sonseca Array**	**153.74**	**22**	PKPab	**PKPab**	**22 47 43.3**	**+0.6**
	0.4nm,0.7s,baz=304,slow=3.1,SNR=4.1						

IDC 03 22:33:00.5±3.5, 16.31S×173.81W, h0km, mb4.1/2, mb1 4.4/2, mb1mx3.7/18, mbtmp4.1/2, Error ellipse: s-maj=187.6km s-min=43.0km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**49.26**	**258**	P	P	22 41 51.3	-0.1
	1.2nm,0.7s,baz=95,slow=7.1,SNR=4.0						
ASAR	**Alice Springs**	**49.46**	**253**	P	P	22 41 52.6	-0.3
	2.9nm,0.6s,baz=88,slow=8.3,SNR=26						
KMBO	**Kilima Mbogo**	**144.78**	**243**	PKP	PKPdf	22 52 41.0	+0.2
	0.6nm,0.4s,baz=56,slow=22,SNR=3.6						
BRTR	**Keskin Array B**	**146.61**	**320**	PKPbc	PKPbc	22 52 44.3	-0.3
	0.7nm,0.7s,baz=99,slow=1.9,SNR=5.3						
GERES	**GERESS Array B**	**146.98**	**351**	PKPbc	PKPdf	22 52 43.8	+0.5
	0.3nm,0.6s,baz=34,slow=3.7,SNR=2.3						

KRSC 03 22:41:01.7±1.7, 55.01N×160.13E, h5km±5km, ML3.6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TUMR	**Tumrok**	**0.27**	**2**	*e*P	Pg	22 41 08.0	+0.8
TUMR				*e*S	Sg	22 41 12.6	+1.6
KMNR	**Kamenistaya**	**0.75**	**5**	*e*P	Pb	22 41 17.1	-0.3
KMNR				*e*S	Sb	22 41 28.9	+0.8
BZMR	**Bezymyannaya**	**0.95**	**12**	*e*P	Pg	22 41 20.4	+0.2
BZMR				*e*S	Sb	22 41 34.7	+0.8
KIRR	**Kirishev**	**0.95**	**7**	*e*P	Pg	22 41 20.4	+0.2
KIRR				*e*S	Sb	22 41 34.7	+0.7
KPT	**Kopyto**	**0.96**	**3**	*e*P	Pg	22 41 21.0	0.1
KPT				*e*S	Sn	22 41 36.0	-0.1
BZWR	**Bezymyannyi-We**	**0.98**	**12**	*e*P	Pb	22 41 21.2	-0.2
BZWR				*e*S	Sn	22 41 36.1	-0.7
BZGR	**Bezymyannyi-Gr**	**0.99**	**19**	*e*P	Pg	22 41 21.1	+0.3
BZGR				*e*S	Sb	22 41 35.4	+0.5
MKZ	**Mys Kozlova**	**1.03**	**115**	*e*P	Pg	22 41 21.4	-0.1
MKZ				*e*S	Sn	22 41 36.9	-0.7
KII	**Karymskiy**	**1.05**	**202**	*e*P	Pg	22 41 21.9	-0.1
KOZ	**Kozyrevsk**	**1.06**	**352**	*e*S	Sn	22 41 38.5	+0.1
ZLN	**Zelenaya**	**1.08**	**21**	P	Pb	22 41 23.2	+0.2
ZLN				S	Sn	22 41 40.0	+0.9
LGNR	**Loginova**	**1.12**	**16**	S	Sn	22 41 41.7	+1.2
CIRR	**Tsirk**	**1.16**	**17**	P	Pn	22 41 25.3	+0.5
CIRR				S	Sn	22 41 43.0	+1.8
ESO	**Esso**	**1.23**	**319**	*e*P	Pg	22 41 24.1	-1.2
ESO				*e*S	Sg	22 41 41.3	+0.1
KRSR	**Krestovskiy**	**1.23**	**11**	*e*P	Pg	22 41 24.8	-0.7
KRSR				*e*S	Sn	22 41 43.8	+0.9
SRDR	**Sredinnyy**	**1.33**	**350**	*e*P	Pn	22 41 25.5	-1.5
SRDR				S	Sn	22 41 45.5	+0.3
KLY	**Klyuchi**	**1.34**	**13**	*e*P	Pg	22 41 27.9	+0.5
KLY				*e*S	Sn	22 41 47.6	+2.4
BDR	**Baidarnaya**	**1.68**	**21**	*e*P	Pb	22 41 33.4	+0.2
BDR				*e*S	Sg	22 41 57.9	+2.1
SMKR	**Semkarok**	**1.75**	**25**	*e*P	Pb	22 41 34.4	0.0
SRKR	**Sorokina**	**1.75**	**19**	*e*P	Pn	22 41 33.5	+0.7
SRKR				*e*S	Sg	22 41 57.6	-0.5
GNL	**Ganaly**	**1.84**	**225**	*e*P	Pn	22 41 34.6	+0.5
GNL				*e*S	Sb	22 41 59.7	+0.4
KRX	**Arik**	**1.87**	**208**	*e*P	Pb	22 41 35.6	-0.9
SDLR	**Sedlovina**	**1.88**	**203**	*e*P	Pn	22 41 35.6	+0.9
SDLR				S	Sg	22 42 02.1	-0.4
KRER	**Koryakskii**	**1.89**	**206**	*e*P	Pn	22 41 34.5	-0.4
NLC	**Nalytchevo**	**1.90**	**194**	*e*P	Pn	22 41 35.3	+0.6
NLC				*e*S	Sb	22 42 00.8	0.0
SMAR	**Somma**	**1.92**	**205**	P	Pn	22 41 35.2	-0.1
AVH	**Avacha**	**1.93**	**206**	P	Pb	22 41 36.7

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**0.81**	**37**	Pn	Pn	22 50 12.2	-0.8
	55nm,0.3s,baz=86,slow=3.4,SNR=15						
AFI				Sn	Sb	22 50 22.6	-0.2
	60nm,0.3s,baz=40,slow=23,SNR=6.5						
WRA	**Warramunga Arr**	**51.09**	**256**	LR	LR	23 17 40.7	
	comp=Z,100nm,19.5s,baz=120,slow=33						
ASAR	**Alice Springs**	**51.40**	**251**	P	P	22 58 59.8	-1.5
	0.8nm,0.8s,baz=86,slow=8.5,SNR=6.6						
GERES	**GERESS Array B**	**145.47**	**353**	PKPbc	PKPab	23 09 35.1	+0.5
	0.1nm,0.3s,baz=339,slow=5.2,SNR=2.0						
BRTR	**Keskin Array B**	**146.18**	**323**	PKPbc	PKPab	23 09 37.6	0.0
	0.6nm,0.7s,baz=32,slow=4.2,SNR=4.9						

IDC 03 22:59:00.1±2.3, 33°.45S × 178°.28W, h0km, mb4.3/3, mb1 4.4/4, mb1mx3.9/17, mbtmp4.2/4, ML3.9/1, Error ellipse: s-maj=56.0km s-min=34.4km az=127.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.09**	**217**	Pn	Pn	23 00 31.7	+0.4
	3.0nm,0.3s,baz=252,slow=7.0,SNR=22						
URZ				Sn	Sn	23 01 42.2	+0.5
	4.1nm,0.3s,baz=148,slow=21,SNR=6.4						
CTA	**Charters Tower**	**34.18**	**284**	P	P	23 05 48.0	+0.8
	1.7nm,0.4s,baz=110,slow=10,SNR=6.2						
ASAR	**Alice Springs**	**42.80**	**270**	P	P	23 06 59.5	-0.3
	3.4nm,0.7s,baz=110,slow=7.4,SNR=41						
WRA	**Warramunga Arr**	**44.06**	**275**	P	P	23 07 09.3	-0.7
	1.6nm,0.5s,baz=117,slow=7.8,SNR=6.3						
FINES	**FINESS Array B**	**147.90**	**338**	PKPbc	PKPbc	23 18 46.2	-0.2
	1.5nm,0.8s,baz=48,slow=4.3,SNR=8.5						
BRTR	**Keskin Array B**	**153.71**	**293**	PKPbc	PKPbc	23 19 00.2	-0.8
	0.6nm,0.9s,baz=137,slow=5.9,SNR=4.4						

IDC 03 23:13:32.0±2.2, 33°.37S × 178°.29W, h0km, mb4.3/3, mb1 4.5/4, mb1mx4.0/17, mbtmp4.3/4, ML4.3/1, Error ellipse: s-maj=54.4km s-min=34.0km az=129.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.15**	**216**	Pn	Pn	23 15 05.3	+1.3
	6.7nm,0.3s,baz=270,slow=4.6,SNR=30						
URZ				Sn	Sn	23 16 14.2	-0.8
	1.3nm,0.3s,baz=260,slow=6.3,SNR=7.8						
CTA	**Charters Tower**	**34.15**	**284**	P	P	23 20 20.0	+1.1
	1.6nm,0.2s,baz=101,slow=10,SNR=3.9						
ASAR	**Alice Springs**	**42.79**	**270**	P	P	23 21 31.2	-0.4
	2.7nm,0.6s,baz=110,slow=7.4,SNR=41						
WRA	**Warramunga Arr**	**44.05**	**275**	P	P	23 21 40.8	-1.1
	1.7nm,0.4s,baz=117,slow=7.4,SNR=5.8						
KAF	**Kangasniemi**	**147.24**	**339**	*ep*	PKPdf	23 33 14.7	+0.5
FINES	**FINESS Array B**	**147.82**	**338**	PKPbc	PKPbc	23 33 17.3	-0.9
	5.2nm,0.9s,baz=48,slow=2.8,SNR=11						
BRTR	**Keskin Array B**	**153.67**	**293**	PKPbc	PKPbc	23 33 33.1	+0.1
	0.2nm,0.6s,baz=90,slow=4.6,SNR=2.7						

IDC 03 23:15:08.2±26.0, 18°.91S × 172°.97W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.8/20, mbtmp4.2/4, Error ellipse: s-maj=480.1km s-min=158.4km az=73.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.39**	**261**	P	P	23 22 32.2	+0.6
	2.0nm,0.4s,baz=91,slow=12,SNR=4.9						
STKA	**Stephens Creek**	**42.73**	**243**	P	P	23 23 07.3	-0.1
	2.7nm,0.8s,baz=110,slow=6.1,SNR=5.4						
ASAR	**Alice Springs**	**49.50**	**255**	P	P	23 24 00.4	-0.5
	1.7nm,0.5s,baz=91,slow=8.2,SNR=20						
WRA	**Warramunga Arr**	**49.53**	**260**	P	P	23 24 00.7	-0.5
	0.6nm,0.3s,baz=97,slow=7.6,SNR=2.5						

*IDC **03** 23:19:22.9±1.1, 33°.29S × 178°.43W, h0km, mb4.8/3, mb1 4.9/5, mb1mx4.2/18, mbtmp4.8/5, ML4.5/2, Error ellipse: s-maj=34.9km s-min=27.2km az=137.0*
*ISCJB **03** 23:19:26.6±1.0, 33°.24S±0°.10 × 178°.6W±0°.2, h32km, mb4.5/6, Error ellipse: s-maj=20.0km s-min=12.7km az=19.8*
*NEIC **03** 23:19:28.5±0.6, 33°.21S × 178°.55W, h35km, mb4.5/3, Error ellipse: s-maj=15.4km s-min=10.8km az=118.0*
ISC 03 23:19:27.2±0.8, 33°.27S±0°.07 × 178°.4W±0°.1, h32km, n32, σ19 70/35, mb4.6/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.03**	**6**	Pn	**Pn**	**23 20 26.8**	**+0.1**
RAO				Sn	**Sn**	**23 21 08.4**	**-4.3**
RAO	**Raoul Island**	**4.03**	**6**	Pn	**Pn**	**23 20 26.7**	**+0.1**
	38nm,0.3s,baz=68,slow=19,SNR=2.4						
RAO				Sn	**Sn**	**23 21 08.4**	**-4.3**
	142nm,0.3s,baz=31,slow=23,SNR=4.3						
URZ	**Urewera**	**6.18**	**215**	*e*Pn	**Pn**	**23 20 55.0**	**-1.2**
	49nm,0.6s						
URZ				*e*Sn	**Sn**	**23 22 01.8**	**-3.9**
URZ	**Urewera**	**6.18**	**215**	Pn	**Pn**	**23 20 55.2**	**-1.0**
	11nm,0.3s,baz=263,slow=5.5,SNR=30						
URZ				Sn	**Sn**	**23 22 02.8**	**-2.9**
	5.7nm,0.3s,baz=150,slow=16,SNR=8.1						
OUZ	**Omahuta**	**6.92**	**251**	*e*Pn	**Pn**	**23 21 06.9**	**+0.5**
	53nm,0.7s						
DZM	**Mont Dzumac**	**17.44**	**306**	*e*P	**P**	**23 23 32.6**	**+3.4**
	40nm,1.3s						
DZM				*e*LR	LR	23 27 32.3	
	394nm,23.3s						
CTA	**Charters Tower**	**34.05**	**284**	P	**P**	**23 26 09.8**	**+1.2**
CTA	**Charters Tower**	**34.05**	**284**	P	**P**	**23 26 09.8**	**+1.2**
	6.1nm,0.5s,baz=121,slow=11,SNR=11						
AS31	**Alice Springs**	**42.71**	**270**	*e*P	**P**	**23 27 21.1**	**-0.4**
ASAR	**Alice Springs**	**42.71**	**270**	P	**P**	**23 27 21.1**	**-0.3**
ASAR	**Alice Springs**	**42.71**	**270**	P	**P**	**23 27 21.1**	**-0.3**
	9.8nm,0.6s,baz=110,slow=7.5,SNR=122						
WRAB	**Tennant Creek**	**43.95**	**275**	*e*P	**P**	**23 27 30.4**	**-1.1**
	5.9nm,0.7s						
WRA	**Warramunga Arr**	**43.96**	**275**	P	**P**	**23 27 31.1**	**-0.4**
WRA	**Warramunga Arr**	**43.96**	**275**	P	**P**	**23 27 31.1**	**-0.4**
	5.0nm,0.4s,baz=118,slow=7.6,SNR=19						
QSPA	**South Pole Qui**	**56.85**	**180**	*e*P	P	23 29 11.6	+3.1
	4.9nm,1.0s						
SNAA	**Sanae**	**75.30**	**179**	*e*P	**P**	**23 31 08.0**	**+1.3**
	4.0nm,1.0s						
MKAR	**Makanchi Array**	**119.34**	**309**	PKP	**PKPdf**	**23 38 13.1**	**+0.1**
MKAR	**Makanchi Array**	**119.34**	**309**	PKP	**PKPdf**	**23 38 13.1**	**+0.1**
	0.2nm,0.5s,baz=166,slow=0.6,SNR=4.1						
KURK	**Kurchatov**	**122.77**	**313**	PKP	**PKPdf**	**23 38 18.8**	**-0.5**
KURBB	**Kurchatov Arra**	**122.80**	**312**	PKP	**PKPdf**	**23 38 18.8**	**-0.6**
	0.3nm,0.2s,baz=130,slow=1.7,SNR=4.4						
FINES	**FINESS Array B**	**147.70**	**338**	PKPbc	**PKPbc**	**23 39 08.0**	**+0.2**
FINES	**FINESS Array B**	**147.70**	**338**	PKPbc	**PKPbc**	**23 39 08.0**	**+0.2**
	3.0nm,0.5s,baz=38,slow=5.0,SNR=24						
NB2	**NORSAR Subarra**	**151.53**	**350**	PKP	**PKPbc**	**23 39 17.7**	**+0.4**
	comp=Z,21nm,2.0s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**151.53**	**350**	PKPbc	**PKPbc**	**23 39 19.2**	**+1.9**
NOA	**NORSAR Array B**	**151.53**	**350**	PKPbc	**PKPbc**	**23 39 19.2**	**+1.9**
	comp=Z,1.4nm,0.9s,baz=16,slow=3.2,SNR=2.9						
AKASG	**Malin Array Be**	**153.31**	**319**	PKPbc	**PKPbc**	**23 39 21.8**	**+0.3**
AKASG	**Malin Array Be**	**153.31**	**319**	PKPbc	**PKPbc**	**23 39 21.8**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=54,slow=3.3,SNR=7.2						
BR131	**Keskin Array S**	**153.56**	**293**	*e*PKPbc	**PKPbc**	**23 39 22.9**	**+0.2**
BRTR	**Keskin Array B**	**153.56**	**293**	PKPbc	**PKPbc**	**23 39 22.9**	**+0.3**
BRTR	**Keskin Array B**	**153.56**	**293**	PKPbc	**PKPbc**	**23 39 22.9**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=136,slow=4.2,SNR=12						
TORD	**Torodi Ar. Bea**	**159.97**	**180**	PKPab	**PKPab**	**23 40 04.1**	**+1.1**
TORD	**Torodi Ar. Bea**	**159.97**	**180**	PKPab	**PKPab**	**23 40 04.1**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=175,slow=4.2,SNR=7.4						

IDC 03 23:34:47.2±8.3, 17°.60S × 172°.77W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/19, mbtmp3.7/2, Error ellipse: s-maj=405.0km s-min=64.7km az=144.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.97**	**258**	P	P	23 43 43.5	0.0
	0.4nm,0.3s,baz=96,slow=7.5,SNR=2.3						
ASAR	**Alice Springs**	**50.04**	**254**	P	P	23 43 43.9	-0.2
	1.1nm,0.6s,baz=90,slow=8.3,SNR=20						
BRTR	**Keskin Array B**	**148.23**	**319**	PKPbc	PKPbc	23 54 35.0	-0.7
	1.2nm,1.1s,baz=0.0,slow=1.2,SNR=4.0						

MAN 03 23:36:10, 12°.46N × 120°.35E, h18km, mb4.0, ML2.7, MS2.4, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUSP	**Coron**	**0.47**	**198**	*e*P	Pn	23 36 21.4	-0.5
BUSP				*e*S	Sn	23 36 29.8	+0.1
SJMP	**San Jose**	**0.75**	**89**	*e*P	Pb	23 36 24.6	0.0
SJMP				*e*S	Sb	23 36 34.0	-0.6
PGP	**Puerto Galera**	**1.20**	**30**	*i*P	Pn	23 36 31.6	-0.3
OTRP	**Odiongan**	**1.64**	**93**	*e*P	Pb	23 36 40.3	+0.6
CUYO	**Cuyo Island**	**1.73**	**158**	*e*P	Pn	23 36 39.4	+0.2
RCP	**Roxas**	**2.51**	**111**	*e*P	Pn	23 36 51.2	+1.3

*ISCJB **03** 23:42:16.1±0.8, 20°.2N±0°.1 × 94°.9E±0°.1, h97km, mb3.7/6, Error ellipse: s-maj=23.0km s-min=8.9km az=38.9*
*IDC **03** 23:42:16.0±5.6, 20°.22N × 94°.82E, h80km±57km, mb3.6/6, mb1 3.6/7, mb1mx3.2/27, mbtmp3.5/7, ML3.9/1, Error ellipse: s-maj=55.1km s-min=19.6km az=65.0*
ISC 03 23:42:17.8±0.9, 20°.2N±0°.1 × 94°.9E±0°.1, h97km, n8, σ0s84/9, mb3.7/6, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**4.20**	**113**	P	**Pn**	**23 43 19.6**	**0.0**
	1.9nm,0.3s,baz=287,slow=14,SNR=26						
CMAR				S	**Sn**	**23 44 07.3**	**-0.3**
	4.1nm,0.3s,baz=296,slow=17,SNR=1.9						
IMP	**Imphal**	**4.68**	**349**	*e*P	**Pn**	**23 43 27.0**	**+0.8**
IMP				*e*S	Sn	23 44 29.0	+10
MKAR	**Makanchi Array**	**28.49**	**342**	P	**P**	**23 48 03.0**	**-0.7**
	0.4nm,0.6s,baz=163,slow=8.7,SNR=7.5						
KURBB	**Kurchatov Arra**	**33.03**	**341**	P	**P**	**23 48 42.9**	**-0.8**
	1.6nm,0.2s,baz=156,slow=7.9,SNR=4.5						
ZALV	**Zalesovo Beam**	**34.60**	**350**	P	**P**	**23 48 56.7**	**-0.5**
	1.3nm,0.3s,baz=163,slow=7.9,SNR=9.2						
ASAR	**Alice Springs**	**57.83**	**137**	P	**P**	**23 52 00.6**	**+1.1**
	0.2nm,0.5s,baz=322,slow=7.4,SNR=1.9						
BOSA	**Boshof**	**82.86**	**236**	P	**P**	**23 54 32.4**	**+0.4**
	1.2nm,0.6s,baz=15,slow=4.2,SNR=5.1						
TORD	**Torodi Ar. Bea**	**88.48**	**283**	P	**P**	**23 54 59.1**	**-0.9**
	0.2nm,0.7s,baz=77,slow=4.6,SNR=4.4						

IDC 03 23:53:23.6±5.7, 15°.31S × 173°.90W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/18, mbtmp3.8/3, MS3.2/1, Ms1 3.2/1, ms1mx2.8/26, Error ellipse: s-maj=214.7km s-min=59.0km az=133.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.49**	**56**	LR	LR	23 54 38.4	
	comp=Z,490nm,20.3s,baz=12,slow=30						
STKA	**Stephens Creek**	**43.66**	**240**	P	P	00 01 30.2	-0.1
	1.2nm,0.8s,baz=90,slow=14,SNR=2.6						
WRA	**Warramunga Arr**	**49.39**	**257**	P	P	00 02 14.9	-0.6
	0.5nm,0.3s,baz=94,slow=9.8,SNR=2.7						
ASAR	**Alice Springs**	**49.68**	**252**	P	P	00 02 18.1	+0.4
	1.2nm,0.5s,baz=88,slow=7.8,SNR=14						
BRTR	**Keskin Array B**	**145.78**	**321**	PKPbc	PKPdf	00 13 04.1	-0.7
	0.5nm,0.8s,baz=116,slow=3.4,SNR=3.8						

IDC 03 23:54:50.1±3.2, 1°.11S × 98°.09E, h0km, mb3.9/4, mb1 3.9/5, ms1mx3.6/24, mbtmp3.8/5, ML4.1/1, MS3.2/2, Ms1 3.1/2, ms1mx2.7/34, Error ellipse: s-maj=123.9km s-min=26.0km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.97**	**12**	Pn	Pn	23 55 54.2	+1.7
	1.2nm,0.3s,baz=155,slow=10,SNR=6.3						
PSI				LR	LR	23 57 35.1	
	comp=Z,115nm,20.3s,baz=31,slow=43						
CMAR	**Chiang Mai Arr**	**19.46**	**2**	P	P	23 59 16.8	-1.8
	0.3nm,0.3s,baz=194,slow=10,SNR=4.6						
H08S2	**Diego Garcia H**	**26.32**	**255**	T	T	00 28 24.2	
	baz=77						
H08S3	**Diego Garcia H**	**26.33**	**255**	T	T	00 28 19.3	
	baz=77						
H08S1	**Diego Garcia H**	**26.34**	**255**	T	T	00 28 25.6	
	baz=77						
WRA	**Warramunga Arr**	**40.09**	**120**	P	P	00 02 27.3	-0.5
	0.4nm,0.5s,baz=296,slow=9.2,SNR=2.9						
SONM	**Songino Array**	**49.28**	**7**	P	P	00 03 42.1	+1.3
	0.9nm,0.5s,baz=191,slow=9.0,SNR=8.5						
MKAR	**Makanchi Array**	**49.68**	**346**	P	P	00 03 44.0	+0.1
	1.5nm,0.6s,baz=154,slow=8.7,SNR=24						
ZALV	**Zalesovo Beam**	**55.95**	**1**	P	P	00 04 29.0	-1.1
	1.0nm,0.5s,baz=173,slow=5.8,SNR=6.5						
KBZ	**Khabaz**	**66.39**	**319**	LR	LR	00 38 59.3	
	comp=Z,45nm,21.2s,baz=204,slow=40						
TXAR	**Lajitas Array**	**145.10**	**34**	PKPbc	PKPbc	00 14 29.5	-0.4
	0.2nm,0.7s,baz=0.0,slow=4.5,SNR=3.0						

IDC 04 00:01:40.6±3.4, 15°.27S × 172°.12W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/19, mbtmp3.9/4, MS3.8/1, Ms1 3.8/1, ms1mx3.0/31, Error ellipse: s-maj=186.1km s-min=27.9km az=145.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.40**	**14**	Pn	Pn	00 01 59.7	-7.7
	101nm,0.3s,baz=225,slow=20,SNR=5.5						
AFI				Sn	Sg	00 02 13.3	-12
	162nm,0.3s,baz=220,slow=17,SNR=6.3						
URZ	**Urewera**	**24.80**	**201**	LR	LR	00 14 13.5	
	comp=Z,206nm,19.0s,baz=149,slow=30						
H11S2	**WAKE ISLAND Hy**	**39.50**	**327**	T	T	00 50 47.3	
	baz=151,slow=0.7,SNR=51						
H11S3	**WAKE ISLAND Hy**	**39.52**	**327**	T	T	00 50 48.8	
	baz=151,slow=0.7,SNR=37						
H11S1	**WAKE ISLAND Hy**	**39.52**	**327**	T	T	00 50 50.3	
	baz=151,slow=0.7,SNR=36						
H11N3	**WAKE ISLAND Hy**	**40.43**	**329**	T	T	00 51 58.4	
	baz=150,slow=0.7,SNR=22						
H11N1	**WAKE ISLAND Hy**	**40.43**	**329**	T	T	00 51 58.9	
	baz=150,slow=0.7,SNR=16						
H11N2	**WAKE ISLAND Hy**	**40.45**	**329**	T	T	00 51 59.8	
	baz=150,slow=0.7,SNR=16						
WRA	**Warramunga Arr**	**51.07**	**257**	P	P	00 10 45.4	+0.2
	1.5nm,0.9s,baz=91,slow=7.5,SNR=6.1						
ASAR	**Alice Springs**	**51.32**	**252**	P	P	00 10 46.3	-0.8
	2.3nm,0.8s,baz=87,slow=7.7,SNR=15						
PDAR	**Pinedale Array**	**81.35**	**41**	P	P	00 13 59.3	-0.1
	0.9nm,0.8s,baz=224,slow=3.9,SNR=5.3						
ILAR	**Eielson Array**	**82.09**	**11**	P	P	00 14 01.6	-0.9
	0.3nm,0.7s,baz=224,slow=7.6,SNR=4.5						
GERES	**GERESS Array B**	**146.18**	**353**	PKPbc	PKPbc	00 21 22.9	-0.1
	1.0nm,0.9s,baz=336,slow=4.6,SNR=5.2						
BRTR	**Keskin Array B**	**146.82**	**322**	PKPbc	PKPbc	00 21 25.6	+0.3
	1.6nm,1.1s,baz=100,slow=2.9,SNR=5.2						

*BJI **04** 00:09:07.1, 46°.20N × 27°.40W, h9km, mB5.5/9, mb5.1/11, Ms5.1/5, Ms7.4 8/4*
*ISCJB **04** 00:09:08.9±0.3, 46°.14N±0°.06 × 27°.44W±0°.05, h16km, mb4.4/52, MS3.8/23, Error ellipse: s-maj=9.5km s-min=3.7km az=17.3*
*IDC **04** 00:09:09.3±0.8, 46°.40N × 27°.41W, h0km, mb3.9/14, mb1 4.1/16, mb1mx3.9/34, mbtmp3.9/16, ML4.4/2, MS3.7/21, Ms1 3.7/21, ms1mx3.5/41, Error ellipse: s-maj=25.1km s-min=14.7km az=16.0*
*CSEM **04** 00:09:10.4±0.1, 46°.42N × 27°.44W, h10km, mb4.5/31, Error ellipse: s-maj=9.0km s-min=2.7km az=7.0*
*NEIC **04** 00:09:10.2±1.9, 46°.35N × 27°.39W, h10km±4km, mb4.8/19, Error ellipse: s-maj=22.4km s-min=15.0km az=194.0*
ISC 04 00:09:11.1±0.5, 46°.3N±0°.1 × 27°.37W±0°.06, h16km, n214, σ19 08/209, mb4.5/52, MS3.7/23, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGAV	**Gavieira, Arco**	**14.38**	**101**	*e*P	**Pn**	**00 12 32.4**	**-1.6**
	38nm,0.6s						
PGAV				*e*LR	LR	00 15 46.4	
	423nm,18.0s						
PTO	**Porto**	**14.51**	**104**	*e*P	**Pn**	**00 12 34.2**	**-1.5**
	35nm,1.8s						
PCAB	**Cabril**	**14.65**	**101**	*e*P	**Pn**	**00 12 36.1**	**-1.5**
	29nm,0.6s						
POLO	**Lamas de Olo**	**14.95**	**102**	*e*P	**Pn**	**00 12 39.5**	**-2.3**
	12nm,1.7s						
PCAS	**Casmilo, Conde**	**15.10**	**108**	*e*P	**Pn**	**00 12 43.0**	**-0.7**
	27nm,1.6s						
PVIS	**Viseu**	**15.18**	**105**	*e*P	**Pn**	**00 12 43.1**	**-1.7**
	17nm,1.5s						
PMAFR	**Mafra**	**15.19**	**112**	*e*P	**Pn**	**00 12 42.5**	**-2.3**
	40nm,1.4s						
PMST	**Lisbon--Monsan**	**15.37**	**113**	*e*P	**Pn**	**00 12 45.1**	**-2.2**
	77nm,1.7s						
PTOM	**Tomar**	**15.39**	**109**	*e*P	**Pn**	**00 12 46.6**	**-0.8**
	18nm,2.0s						
PBRG	**Braganca**	**15.49**	**99**	*e*P	**Pn**	**00 12 47.6**	**-1.2**
	16nm,1.6s						
MVO	**Moncorvo**	**15.56**	**102**	*e*P	**Pn**	**00 12 48.0**	**-1.8**
	23nm,1.5s						
MVO				*e*LR	LR	00 16 37.8	
	342nm,18.0s						
MTE	**Manteigas**	**15.57**	**105**	*e*P	**Pn**	**00 12 48.3**	**-1.5**
	12nm,1.5s						
MTE				*e*LR	LR	00 16 33.7	
	293nm,18.0s						
MTE	**Manteigas**	**15.57**	**105**	*e*Pn	**Pn**	**00 12 48.4**	**-1.4**
	8.6nm,1.0s						
MTE	**Manteigas**	**15.57**	**105**	*e*Pn	**Pn**	**00 12 48.4**	**-1.4**
	8.6nm,1.0s						
PMTG	**Montargil**	**15.80**	**110**	*e*P	**Pn**	**00 12 50.9**	**-1.9**
	34nm,1.8s						
PCBR	**Castelo Branco**	**15.89**	**107**	*e*P	**Pn**	**00 12 53.5**	**-0.4**
	13nm,1.5s						
PMRV	**Marv??o**	**16.16**	**108**	*e*P	**Pn**	**00 12 56.7**	**-0.7**
	34nm,1.8s						
PMRV				*e*LR	LR	00 16 56.3	
	255nm,20.0s						
PNCL	**Nicolau / Gran**	**16.16**	**114**	*e*P	**Pn**	**00 12 56.6**	**-0.8**
	28nm,1.7s						
EVOP	**Sao Brissos**	**16.17**	**112**	*e*P	**Pn**	**00 12 55.0**	**-2.6**
	4.4nm,0.6s						
EVO	**Evora**	**16.24**	**112**	*e*P	**Pn**	**00 12 55.0**	**-3.5**
	8.8nm,0.6s						
EVO				*e*R			
	224nm,20.5s						
EVO	**Evora**	**16.24**	**112**	*e*P	**Pn**	**00 12 56.2**	**-2.3**
	22nm,1.8s						
MORF	**Marmelete**	**16.57**	**116**	*e*P	**Pn**	**00 13 01.4**	**-1.3**
	25nm,1.5s						
PCVE	**Castro Verde**	**16.75**	**114**	*e*P	**P**	**00 13 06.2**	**-1.0**
PBAR	**Barrancos**	**17.07**	**111**	*e*P	**Pn**	**00 13 07.6**	**-1.4**
	20nm,1.6s						
PVAQ	**Vaqueiros**	**17.09**	**114**	*e*P	**Pn**	**00 13 09.5**	**+0.2**
	22nm,1.8s						
PVAQ				*e*LR	LR	00 17 07.6	
	222nm,20.0s						
EKA	**Eskdalemuir Ar**	**17.69**	**50**	*e*Pn	**P**	**00 13 17.5**	**+0.1**
EKA	**Eskdalemuir Ar**	**17.69**	**50**	*e*Pn	**P**	**00 13 17.5**	**+0.1**
EKA	**Eskdalemuir Ar**	**17.69**	**50**	P	**P**	**00 13 17.5**	**+0.1**
	baz=244,slow=13,SNR=3.1						
PAB	**San Pablo**	**18.13**	**104**	*e*Pn	**P**	**00 13 23.4**	**+1.0**
	184nm,1.8s						
PAB	**San Pablo**	**18.13**	**104**	*e*Pn	**P**	**00 13 23.5**	**+1.0**
	184nm,1.8s						
FLN	**La Foliniere**	**18.29**	**72**	*e*P	**P**	**00 13 24.2**	**+0.2**
	94nm,1.5s						
FLN				*e*R			
	338nm,20.8s						
FLN	**La Foliniere**	**18.29**	**72**	*e*P	**P**	**00 13 24.2**	**+0.2**
	47nm,1.5s						
ESDC	**Sonseca Array**	**18.32**	**103**	*e*Pn	**P**	**00 13 24.9**	**+0.3**
ESDC	**Sonseca Array**	**18.32**	**103**	*e*Pn	**P**	**00 13 24.9**	**+0.3**
ESDC	**Sonseca Array**	**18.32**	**103**	P	**P**	**00 13 24.9**	**+0.3**
	1.0nm,0.3s,baz=298,slow=13,SNR=22						
ESDC				LR	LR	00 19 10.6	
	comp=Z,216nm,18.9s,baz=300,slow=33						
ES19	**SONSECA Array**	**18.36**	**103**	*e*Pn	**Pn**	**00 13 26.2**	**+1.3**
ES19	**SONSECA Array**	**18.36**	**103**	*e*Pn	**Pn**	**00 13 26.2**	**+1.3**
MFF	**Saint Martin d**	**18.73**	**79**	*e*P	**Pn**	**00 13 29.6**	**+0.2**
	41nm,1.2s						
MFF	**Saint Martin d**	**18.73**	**79**	*e*P	**Pn**	**00 13 29.6**	**+0.2**
	20nm,1.2s						
SJPF	**Ste Jean**	**18.82**	**90**	*e*P	**Pn**	**00 13 31.6**	**+1.0**
	3.9nm,0.4s						
SJPF	**Ste Jean**	**18.82**	**90**	*e*P	**Pn**	**00 13 31.6**	**+1.0**
	2.0nm,0.4s						
ETSF	**Etsaut**	**19.36**	**90**	*e*P	**Pn**	**00 13 37.3**	**+0.3**
	13nm,0.6s						
ETSF	**Etsaut**	**19.36**	**90**	*e*P	**Pn**	**00 13 37.3**	**+0.3**
	6.4nm,0.6s						
LFF	**La Frestale**	**19.67**	**84**	*e*P	**P**	**00 13 40.0**	**+0.8**
	31nm,1.1s						
LFF	**La Frestale**	**19.67**	**84**	*e*P	**P**	**00 13 40.0**	**+0.8**
	16nm,1.1s						
EPF	**Esparros**	**19.94**	**89**	*e*P	**Pn**	**00 13 43.6**	**-0.3**
EPF	**Esparros**	**19.94**	**89**	*e*P	**Pn**	**00 13 43.6**	**-0.3**
RJF	**Les Rejaudoux**	**20.12**	**82**	*e*P	**P**	**00 13 44.5**	**+0.4**
	33nm,1.4s						
RJF				*e*R			
	406nm,21.2s						
RJF	**Les Rejaudoux**	**20.12**	**82**	*e*P	**P**	**00 13 44.5**	**+0.4**
	17nm,1.4s						

ORIF	Oris-en-Rattie	23.21	81	eP		P	00 14 18.8	+1.5	
ORIF				eR					
	278nm,21.8s								
ORIF	Oris-en-Rattie	23.21	81	eP		P	00 14 18.8	+1.5	
HINF	Hinteralfeld	23.26	74	eP		P	00 14 17.9	+0.2	
	58nm,1.7s								
HINF	Hinteralfeld	23.26	74	eP		P	00 14 17.9	+0.2	
	29nm,1.7s								
SMRF	Simiane la Rot	23.26	84	eP		P	00 14 19.1	+1.3	
	24nm,1.2s								
SMRF	Simiane la Rot	23.26	84	eP		P	00 14 19.1	+1.3	
	12nm,1.2s								
CDF	Champ du Feu	23.45	72	eP		P	00 14 19.9	+0.3	
CDF	Champ du Feu	23.45	72	eP		P	00 14 19.9	+0.3	
LPL	La Plagne	23.64	79	eP		P	00 14 22.4	+0.7	
	15nm,1.3s								
LPL	La Plagne	23.64	79	eP		P	00 14 22.4	+0.7	
	7.4nm,1.3s								
MBDF	Montbardon	23.87	81	eP		P	00 14 25.3	+1.5	
	19nm,1.1s								
MBDF	Montbardon	23.87	81	eP		P	00 14 25.3	+1.5	
	9.4nm,1.1s								
FRF	La Foret Royal	24.13	84	eP		P	00 14 27.2	+1.1	
	79nm,1.7s								
FRF	La Foret Royal	24.13	84	eP		P	00 14 27.2	+1.1	
	40nm,1.7s								
SBF	Sospel	24.58	83	eP		P	00 14 30.6	+0.3	
	28nm,0.9s								
SBF	Sospel	24.58	83	eP		P	00 14 30.6	+0.3	
	14nm,0.9s								
STU	Stuttgart	24.66	71	eP		P	00 14 30.3	-0.6	
	187nm,2.9s								
STU	Stuttgart	24.66	71	eP		P	00 14 30.3	-0.6	
	187nm,2.9s								
TUE	Stuetta	25.19	76	eP		P	00 14 35.3	-0.6	
	81nm,2.4s								
TUE	Stuetta	25.19	76	eP		P	00 14 35.3	-0.6	
	81nm,2.4s								
DAVOX	Davos/Dischmat	25.47	75	eP		P	00 14 39.1	+0.6	
DAVOX	Davos/Dischmat	25.47	75	eP		P	00 14 39.1	+0.6	
DAVOX	Davos/Dischmat	25.47	75	P		P	00 14 39.1	+0.6	
	5.3nm,0.9s,baz=284,slow=12								
DAVOX					LR	LR	00 22 60.0		
	comp=Z,139nm,19.6s,baz=269,slow=33								
SCHQ	Schefferville	26.17	304		LR	LR	00 23 25.5		
	comp=Z,189nm,18.7s,baz=269,slow=33								
GERES	GERESS Array B	27.59	70	P		P	00 14 57.5	0.0	
	1.5nm,0.9s,baz=285,slow=7.7,SNR=6.1								
GERES					LR	LR	00 25 18.8		
	comp=Z,152nm,21.4s,baz=310,slow=35								
HFS	Hagfors	27.68	45		LR	LR	00 24 41.0		
	comp=Z,132nm,19.6s,baz=248,slow=34								
FRB	Frobisher Bay	28.65	322		LR	LR	00 23 29.5		
	comp=Z,138nm,19.8s,baz=187,slow=30								
VRAC	Vranov	29.37	68		LR	LR	00 26 35.0		
	comp=Z,260nm,18.1s,baz=300,slow=36								
KEST	Kesra	29.41	98	P		P	00 15 16.4	+2.7	
	1.7nm,0.9s,baz=273,slow=13,SNR=3.8								
KEST					LR	LR	00 25 24.9		
	comp=Z,122nm,20.1s,baz=253,slow=33								
STHS	Stebnicka Huta	32.32	66	eP		P	00 15 40.9	+1.7	
FINES	FINESS Array B	33.86	44		LR	LR	00 28 24.3		
	comp=Z,80nm,20.1s,baz=38,slow=34								
BUR04	Bucovina Ar. S	35.34	68	eP		P	00 16 06.4	+0.8	
BUR04	Bucovina Ar. S	35.34	68	eP		P	00 16 06.4	+0.8	
AKASG	Malin Array Be	36.97	62	P		P	00 16 18.8	-0.6	
	0.7nm,0.6s,baz=286,slow=8.6,SNR=4.0								
AKBB	Malin Array Si	36.97	62	eP		P	00 16 18.8	-0.6	
AKBB	Malin Array Si	36.97	62	eP		P	00 16 18.8	-0.6	
ACSO	Alum Creek Sta	40.23	282	eP		P	00 16 46.7	-0.1	
	11nm,1.0s								
ACSO	Alum Creek Sta	40.23	282	eP		P	00 16 46.7	-0.1	
	11nm,1.0s								
H05N1	Guadeloupe/Mar	40.96	234	T		T	01 00 24.1		
TOA0	Torodi Ar. Sit	41.13	134	eP		P	00 16 55.1	+0.6	
TOA0	Torodi Ar. Sit	41.13	134	eP		P	00 16 55.1	+0.6	
TORD	Torodi Ar. Bea	41.13	134	P		P	00 16 55.1	+0.6	
	1.4nm,0.8s,baz=330,slow=8.4,SNR=33								
TORD					LR	LR	00 32 42.7		
	comp=Z,279nm,19.1s,baz=335,slow=34								
H05S1	Guadeloupe/Mar	42.38	232	T		T	01 02 13.3		
BR231	Keskin MP Arra	43.48	76	eP		P	00 17 12.4	-1.2	
BR231	Keskin MP Arra	43.48	76	eP		P	00 17 12.4	-1.2	
DBIC	Dimbokro	44.00	147	LR		LR	00 33 38.9		
	comp=Z,120nm,19.7s,baz=321,slow=33								
BR101	Keskin Array S	44.12	76	eP		P	00 17 19.3	+0.6	
BR101	Keskin Array S	44.12	76	eP		P	00 17 19.3	+0.6	
BRTR	Keskin Array B	44.12	76	P		P	00 17 19.3	+0.6	
	1.0nm,0.9s,baz=296,slow=6.3,SNR=5.7								
BRTR					LR	LR	00 35 39.2		
	comp=Z,38nm,19.7s,baz=312,slow=36								
ULM	Lac du Bonnet	44.30	301		LR	LR	00 33 35.4		
	comp=Z,104nm,20.4s,baz=5.5,slow=33								
AGMN	Agassiz Nation	45.07	299	eP		P	00 17 26.1	0.0	
	98nm,2.8s								
AGMN	Agassiz Nation	45.07	299	eP		P	00 17 26.0	0.0	
	98nm,2.8s								
YKA	Yellowknife Ar	49.17	322	P		P	00 17 56.9	-0.9	
	2.3nm,0.9s,baz=71,slow=7.3,SNR=6.0								
YKB5	Yellowknife Ar	49.17	322	eP		P	00 17 57.6	-0.2	
YKB5	Yellowknife Ar	49.17	322	eP		P	00 17 57.6	-0.2	
KSU1	Kansas State U	49.92	288	eP		P	00 18 04.1	+0.3	
	8.3nm,0.8s								
KSU1	Kansas State U	49.92	288	eP		P	00 18 04.1	+0.3	
	8.3nm,0.8s								
GNI	Garni	51.24	69		LR	LR	00 40 48.6		
	comp=Z,30nm,18.8s,baz=156,slow=37								
EDM	Edmonton	52.77	311	eP		P	00 18 24.7	-0.3	
EDM	Edmonton	52.77	311	eP		P	00 18 24.7	-0.3	
WMOK	Wichita Mounta	53.79	285	eP		P	00 18 32.8	0.0	
	50nm,2.8s								
WMOK	Wichita Mounta	53.79	285	eP		P	00 18 32.8	0.0	
	50nm,2.8s								
H10N2	ASCENSION HYDR	55.10	164	T		T	01 18 04.1		
	baz=350,slow=0.7,SNR=4.5								
H10N3	ASCENSION HYDR	55.11	164	T		T	01 18 01.1		
	baz=350,slow=0.7,SNR=5.3								
H10N1	ASCENSION HYDR	55.12	164	T		T	01 18 15.1		
	baz=350,slow=0.7,SNR=4.4								
WALA	Waterton Lakes	55.23	307	eP		P	00 18 42.5	-0.7	
WALA	Waterton Lakes	55.23	307	eP		P	00 18 42.5	-0.7	
ABKAR	Akbulak array	55.55	53	eP		P	00 18 44.8	-0.5	
ABKAR	Akbulak array	55.55	53	eP		P	00 18 44.8	-0.5	
PD31	Pinedale Array	56.15	299	eP		P	00 18 49.9	-0.2	
PD31	Pinedale Array	56.15	299	eP		P	00 18 49.9	-0.2	
PDAR	Pinedale Array	56.15	299	P		P	00 18 49.9	-0.2	
	2.3nm,1.2s,baz=72,slow=8.8,SNR=5.5								
PDAR					LR	LR	00 40 56.8		
	comp=Z,99nm,18.8s,baz=61,slow=34								
H10S1	ASCENSION HYDR	56.16	165	T		T	01 19 20.9		
	baz=350,slow=0.7,SNR=13								
H10S3	ASCENSION HYDR	56.17	165	T		T	01 19 21.8		
	baz=350,slow=0.7,SNR=19								
H10S2	ASCENSION HYDR	56.18	165	T		T	01 19 21.0		
	baz=350,slow=0.7,SNR=12								
REDW	Red Top Meadow	56.60	300	eP		P	00 18 52.9	-0.3	
	6.3nm,1.1s								
REDW	Red Top Meadow	56.60	300	eP		P	00 18 52.9	-0.3	
	6.3nm,1.1s								
MSTX	Muleshoe	56.91	286	eP		P	00 18 54.6	-0.8	
MSTX	Muleshoe	56.91	286	eP		P	00 18 54.6	-0.8	
ROSC	El Rosal	57.85	239		LR	LR	00 39 44.9		
	comp=Z,80nm,18.1s,baz=14,slow=32								
PV09	Paradox Valley	58.35	294	eP		P	00 19 05.5	-0.2	
PV09	Paradox Valley	58.35	294	eP		P	00 19 05.5	-0.2	
PV10	Paradox Valley	58.36	294	eP		P	00 19 06.8	+1.0	
PV10	Paradox Valley	58.36	294	eP		P	00 19 06.8	+1.0	
B08A	Colville Reser	58.59	309	eP		P	00 19 06.0	-0.9	
	5.9nm,0.9s								
B08A	Colville Reser	58.59	309	eP		P	00 19 06.0	-0.9	
	5.9nm,0.9s								
VOSK	Vostochnaya	59.28	44	eP		P	00 19 11.0	-0.6	
	11nm,1.8s								
VOSK	Vostochnaya	59.28	44	eP		P	00 19 11.0	-0.6	
	11nm,1.8s								
DUG	Dugway	59.64	298	eP		P	00 19 14.2	-0.2	
	3.8nm,1.0s								
DUG	Dugway	59.64	298	eP		P	00 19 14.2	-0.2	
	3.8nm,1.0s								
ILAR	Eielson Array	59.68	334	P		P	00 19 14.9	+0.7	
	0.3nm,0.8s,baz=19,slow=6.0,SNR=3.7								
ILAR					LR	LR	00 42 27.5		
	comp=Z,54nm,19.4s,baz=80,slow=34								
ILB	Eielson Array	59.68	334	eP		P	00 19 14.9	+0.7	
ILB	Eielson Array	59.68	334	eP		P	00 19 14.9	+0.7	
LTY	Liberty	59.97	308	eP		P	00 19 15.2	-1.3	
	8.1nm,1.1s								
LTY	Liberty	59.97	308	eP		P	00 19 15.2	-1.3	
	8.1nm,1.1s								
LTX	Lajitas	60.35	283	eP		P	00 19 19.9	+0.5	
LTX	Lajitas	60.35	283	eP		P	00 19 19.9	+0.5	
TX31	Lajitas Ar. Si	60.35	283	eP		P	00 19 18.8	-0.6	
TX31	Lajitas Ar. Si	60.35	283	eP		P	00 19 18.8	-0.6	
TXAR	Lajitas Array	60.35	283	P		P	00 19 19.9	+0.5	
	1.7nm,0.9s,baz=68,slow=6.0,SNR=17								
TXAR					LR	LR	00 45 19.7		
	comp=Z,165nm,18.1s,baz=15,slow=36								
J08A	Circle Bar Ran	61.10	304	eP		P	00 19 24.4	0.0	
	22nm,1.7s								
J08A	Circle Bar Ran	61.10	304	eP		P	00 19 24.4	0.0	
	22nm,1.7s								
WVOR	Wild Horse Val	61.76	303	eP		P	00 19 29.4	+0.5	
	9.5nm,1.3s								
WVOR	Wild Horse Val	61.76	303	eP		P	00 19 29.4	+0.5	
	9.5nm,1.3s								
ISAD	Sadrabad	61.91	72	eP		P	00 19 31.3	+1.1	
ISAD	Sadrabad	61.91	72	eP		P	00 19 31.3	+1.1	
ZALV	Zalesovo Beam	64.75	37	P		P	00 19 49.3	+1.0	
	0.3nm,0.4s,baz=308,slow=7.2,SNR=2.1								
ZALV					LR	LR	00 46 08.5		
	comp=Z,29nm,20.9s,baz=69,slow=34								
EKS2	Erkin-Say	67.19	52	eP		P	00 20 04.7	+0.4	
	7.6nm,1.1s								
EKS2	Erkin-Say	67.19	52	eP		P	00 20 04.7	+0.4	
	7.6nm,1.1s								
MK32	Makanchi Array	68.69	44	eP		P	00 20 14.2	+0.5	
MK32	Makanchi Array	68.69	44	eP		P	00 20 14.1	+0.5	
MKAR	Makanchi Array	68.69	44	eP		P	00 20 13.6	0.0	
MKAR	Makanchi Array	68.69	44	eP		P	00 20 13.6	0.0	
MKAR	Makanchi Array	68.69	44	P		P	00 20 14.2	+0.6	
	1.1nm,0.7s,baz=323,slow=6.0,SNR=15								
MK01	Makanchi Array	68.71	44	eP		P	00 20 13.5	-0.2	
MK01	Makanchi Array	68.71	44	eP		P	00 20 13.5	-0.2	
KSH	Kashi	70.55	53	P		P	00 20 28.5	+3.2	
KSH				pP		pP	00 20 32.0	+1.5	
KSH				sP		sP	00 20 34.7	+2.2	
KSH				PP		PP	00 22 58.7	-2.4	
KSH				S		S	00 29 38.2	+0.1	
KSH				sS		sS	00 29 46.1	-0.6	
KSH				ScS		SKSac	00 30 25.2	-1.4	
KSH				AMB		AMB			
	comp=Z,5.0nm,0.9s								
KSH				AMB		AMB			
	comp=Z,87nm,4.6s								
KSH				LR		LR			
	comp=N,140nm,5.2s								
KSH				LR		LR			
	comp=E,130nm,5.9s								
KSH				LR		LR			
	comp=Z,200nm,6.4s								
WMQ	Urumqi	73.46	43	eP		P	00 20 45.5	+2.9	
WMQ				LR		LR			
	comp=N,65nm,14.8s								
WMQ				LR		LR			
	comp=E,38nm,16.8s								
SONA0	Songino Array	77.91	30	eP		P	00 21 08.6	+0.5	
SONA0	Songino Array	77.91	30	eP		P	00 21 08.6	+0.5	
SONM	Songino Array	77.91	30	P		P	00 21 08.6	+0.6	
	0.5nm,0.9s,baz=347,slow=5.9,SNR=3.8								
HHC	Hu-ho-hao-te	85.81	30	eP		P	00 21 48.2	-1.6	
HHC				pP		PcP	00 21 53.1	+0.5	
HHC				sP		sP	00 21 55.3	-1.7	
HHC				PP		PP	00 25 08.6	+0.3	
HHC				S		SKKSac	00 32 19.1	-2.8	
HHC				AMB		AMB			
	comp=Z,43nm,1.0s								
HHC				AMB		AMB			
	comp=Z,220nm,5.4s								
HHC				LR		LR			
	comp=N,350nm,16.4s								
HHC				LR		LR			
	comp=E,250nm,16.2s								
HHC				LR		LR			
	comp=Z,340nm,16.4s								
LZH	Lanzhou	86.98	38	eP		P	00 21 51.3	-4.4	
LZH				AMB		AMB			
	comp=Z,19nm,1.1s								
CN2	Changchun	87.10	19	eP		P	00 21 56.0	+0.1	
CN2				AMB		AMB			
	comp=Z,10.0nm,0.6s								
MDJ	Mudanjiang	87.20	16	P		P	00 21 57.8	+1.4	
MDJ				AMB		AMB			
	comp=Z,6.0nm,0.6s								
MDJ				AMB		AMB			
	comp=Z,110nm,7.8s								
BOSA	Boshof	88.47	136	LR		LR	00 59 10.9		
	comp=Z,68nm,18.0s,baz=338,slow=34								
CD2	Chengdu	91.35	40	P		P	00 22 17.5	+1.3	
CD2				AMB		AMB			
	comp=Z,10.0nm,0.5s								
GYA	Guiyang	96.47	40	eP		P	00 22 40.7	+0.8	
GYA				PP		PP	00 26 35.6	+2.6	
GYA				SKS		SKSac	00 33 15.4	-0.8	
GYA				S		S	00 33 56.1	-3.8	
GYA				SS		SS	00 40 32.0	+0.2	
GYA				AMB		AMB			
	comp=Z,10.0nm,1.0s								
GYA				AMB		AMB			
	comp=Z,90nm,6.0s								
GYA				LR		LR			
	comp=N,410nm,21.6s								
GYA				LR		LR			
	comp=E,330nm,22.0s								
GYA				LR		LR			
	comp=Z,420nm,20.2s								
VNDA	Vanda	148.46	184	PKPbc		PKPab	00 28 57.0	-1.8	
	1.6nm,1.1s,baz=134,slow=3.8,SNR=6.5								
WRA	Warramunga Arr	149.72	36	PKPbc		PKPbc	00 29 00.3	+0.1	
	1.6nm,0.8s,baz=336,slow=3.2,SNR=5.6								
ASAR	Alice Springs	152.83	40	PKPbc		PKPbc	00 29 07.4	0.0	
	1.0nm,0.8s,baz=354,slow=3.1,SNR=7.7								

DJA 04 00:15:56.0±0.5, 6°S±4°×12°2E±°, h16km±10km, M3.7/7, MLv3.7/7, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BBSI	Bau Bau	0.42	61	P	Pb		00 16 04.9	-0.2
BBSI				S	Sb		00 16 12.0	+0.8
KKSI	Kolaka, Sulawe	1.60	340	P	Pn		00 16 23.8	+0.1
KKSI				S	Sn		00 16 43.0	-1.1
BKSI	Bulukumba	2.10	280	P	Pn		00 16 29.7	-0.8
BKSI				S	Sn		00 16 56.9	+0.6
BNSI	Bone	2.45	301	P	Pn		00 16 35.5	+0.2
BNSI				S	Sn		00 17 06.0	+1.1
KAPI	Kappang	2.53	285	P	Pn		00 16 35.7	-0.7
SPSI	Sidrap Palu	2.97	305	P	Pn		00 16 43.2	+0.7
SOEI	Soe	4.53	153	P	Pn		00 17 03.7	-0.4

IDC 04 00:19:06.2±1.0, 0.71S×98.51E, h0km, mb4.2/11, mb1 4.2/13, mb1mx4.0/24, mbtmp4.1/13, ML3.8/2, MS3.1/2, Ms1 3.2/2, ms1mx2.8/39, Error ellipse: s-maj=34.5km s-min=16.5km az=60.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PSI	Prapat	3.51	7	Pn	Pn		00 20 01.7	-0.5
PSI	1.9nm,0.3s,baz=152,slow=11,SNR=5.9			LR	LR		00 21 39.7	
	comp=Z,313nm,20.2s,baz=204,slow=45							
CMAR	Chiang Mai Arr	19.05	1	P	Pn		00 23 30.7	-0.2
CMAR	0.3nm,0.3s,baz=188,slow=11,SNR=10			LR	LR		00 31 31.5	
	comp=Z,51nm,20.2s,baz=200,slow=39							
H08S2	Diego Garcia H	26.84	254	T	T		00 52 42.6	
	baz=75,slow=0.7,SNR=610							
H08S3	Diego Garcia H	26.84	254	T	T		00 52 35.3	
	baz=75,slow=0.7,SNR=485							
H08S1	Diego Garcia H	26.85	254	T	T		00 52 44.0	
	baz=75,slow=0.7,SNR=240							
H08N1	Diego Garcia H	28.00	258	T	T		00 54 41.5	
	baz=133,SNR=6.3							
H08N2	Diego Garcia H	28.01	258	T	T		00 54 40.7	
	baz=133,slow=0.7							
H08N3	Diego Garcia H	28.02	258	T	T		00 54 46.8	
	baz=133,slow=0.7							
H01W3	Cape Leeuwin H	37.00	158	T	T		01 05 29.7	
	baz=334,slow=0.7,SNR=4.7							
H01W2	Cape Leeuwin H	37.01	158	T	T		01 05 28.9	
	baz=334,slow=0.7,SNR=4.0							
H01W1	Cape Leeuwin H	37.01	158	T	T		01 05 29.7	
	baz=334,slow=0.7,SNR=4.3							
WRA	Warramunga Arr	39.93	121	P	P		00 26 42.2	-0.3
	1.4nm,0.6s,baz=301,slow=9.0,SNR=6.9							
ASAR	Alice Springs	41.21	126	P	P		00 26 53.0	-0.1
	0.7nm,0.6s,baz=300,slow=8.1,SNR=14							
KSRS	Korea Array	46.70	32	P	P		00 27 36.0	-0.9
	1.6nm,0.8s,baz=219,slow=8.6,SNR=7.0							
SONM	Songino Array	48.83	7	P	P		00 27 53.5	0.0
	2.6nm,0.5s,baz=192,slow=9.5,SNR=20							
MKAR	Makanchi Array	49.40	345	P	P		00 27 57.8	0.0
	4.1nm,0.5s,baz=150,slow=8.2,SNR=61							
STKA	Stephens Creek	51.11	132	P	P		00 28 11.6	+0.6
	0.6nm,0.5s,baz=308,slow=12,SNR=3.7							
USRK	Ussuriysk Arra	53.74	29	P	P		00 28 30.2	-0.1
	3.3nm,0.6s,baz=228,slow=5.4,SNR=9.5							
ZALV	Zalesovo Beam	55.64	350	P	P		00 28 43.9	0.0
	2.2nm,0.4s,baz=184,slow=6.8,SNR=16							
KBZ	Khabaz	66.36	319	P	P		00 29 57.0	0.0
	0.9nm,0.8s,baz=148,slow=4.9,SNR=3.8							
FINES	FINESS Array B	82.28	332	P	P		00 31 28.9	-0.5
	2.2nm,0.9s,baz=151,slow=4.4,SNR=4.1							
TORD	Torodi Ar. Bea	96.80	283	P	P		00 32 40.0	+0.2
	0.8nm,1.2s,baz=82,slow=5.0,SNR=2.8							
TXAR	Lajitas Array	144.53	35	PKP	PKPbc		00 38 44.5	+0.3
	0.4nm,0.5s,baz=265,slow=0.3,SNR=10							

*IDC **04** 00:22:27.5±1.4, 15°.81S×173°.65W, h0km, mb4.2/8, mb1 4.4/8, mb1mx4.2/19, mbtmp4.1/8, MS3.7/2, Ms1 3.7/2, ms1mx3.2/26, Error ellipse: s-maj=82.6km s-min=20.4km az=146.0*

*ISCJB **04** 00:22:29.0±1.9, 15°.7S±0°.5×173°.5W±0°.4, h29km, mb4.1/8, MS3.6/2, Error ellipse: s-maj=90.9km s-min=8.6km az=139.1*

ISC 04 00:22:32.8±1.5, 15°.5S±0°.5×173°.6W±0°.3, h29km, n37, σ1°48/23, mb4.2/8, 9C-5D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.34	49	Pn	Pn		00 23 06.9	-2.6
	38nm,0.3s,baz=348,slow=12,SNR=11							
AFI				Sn	Sn		00 23 35.2	-2.1
	293nm,0.3s,baz=100,slow=18,SNR=12							
DZM	Mont Dzumac	20.00	248	eP	Pn		00 27 07.0	+1.8
	30nm,1.2s							
DZM				eLR	LR		00 31 49.4	
	396nm,24.1s							
PPT	Papeete	23.11	99	LR	LR		00 35 02.6	
	comp=Z,94nm,18.1s,baz=198,slow=33							
PPT2	Papeete2	23.11	99	eLR	LR		00 32 45.1	
	189nm,24.8s							
TBI	Tubuai	24.05	113	eLR	LR		00 33 07.9	
	264nm,26.2s							
H11S2	WAKE ISLAND Hy	38.93	329	T	T		01 11 47.4	
	baz=152,slow=0.7,SNR=12							
H11S3	WAKE ISLAND Hy	38.94	329	T	T		01 11 54.3	
	baz=152,slow=0.7,SNR=16							
H11S1	WAKE ISLAND Hy	38.95	329	T	T		01 12 00.7	
	baz=152,slow=0.7,SNR=20							
H11N3	WAKE ISLAND Hy	39.88	331	T	T		01 12 53.0	
	baz=156,SNR=17							
H11N1	WAKE ISLAND Hy	39.89	331	T	T		01 12 53.3	
	baz=156,SNR=18							
H11N2	WAKE ISLAND Hy	39.90	331	T	T		01 12 54.4	
	baz=156,SNR=18							
STKA	Stephens Creek	43.84	240	P	P		00 30 33.1	-3.5
	3.7nm,0.7s,baz=84,slow=7.2,SNR=7.9							
WRA	Warramunga Arr	49.65	257	P	P		00 31 20.2	-2.1
	1.9nm,0.8s,baz=91,slow=6.9,SNR=6.2							
ASAR	Alice Springs	49.91	252	P	P		00 31 21.6	-2.7
	5.7nm,0.5s,baz=87,slow=8.1,SNR=75							
FITZ	Fitzroy Crossi	58.02	258	P	P		00 32 22.0	-1.4
	1.5nm,0.8s,baz=83,slow=8.1,SNR=3.0							
NWAO	Narrogin (SRO)	64.42	241	LR	LR		00 56 11.9	
	comp=Z,102nm,21.5s,baz=269,slow=32							
TXAR	Lajitas Array	80.80	56	P	P		00 34 46.4	+2.1
	0.4nm,0.8s,baz=224,slow=5.0,SNR=4.0							
PDAR	Pinedale Array	82.44	42	P	P		00 34 52.0	-0.7
	0.9nm,0.8s,baz=216,slow=3.4,SNR=7.5							
ILAR	Eielson Array	82.55	11	P	P		00 34 53.4	+0.8
	1.4nm,0.7s,baz=229,slow=6.3,SNR=20							
CMAR	Chiang Mai Arr	92.46	288	P	P		00 35 42.6	+1.0
	1.2nm,0.7s,baz=91,slow=3.3,SNR=6.6							
BURAR	Bucovina Array	144.36	338	iP	PKPbc		00 42 05.8	+1.0
TRPA	Tarpa	144.82	341	iP	PKPab		00 42 07.1	+1.2
TLCR		144.87	332	iP	PKPdf		00 42 07.7	+0.6
CFR	Carcaliu	145.18	333	iP	PKPbc		00 42 08.0	+0.7
VRI	Vrincioaia	145.23	335	iP	PKPdf		00 42 07.6	-0.2
KMBO	Kilima Mbogo	145.34	244	PKPbc	PKPbc		00 42 08.0	-1.1
	1.7nm,0.9s,baz=46,slow=2.5,SNR=5.8							
TLB	Topalu	145.68	332	iP	PKPbc		00 42 09.8	+0.9
MLR	Muntele Rosu	145.85	335	iP	PKPdf		00 42 08.9	-0.1
DRGR		145.94	340	iP	PKPbc		00 42 10.3	+0.5
BRTR	Keskin Array B	146.09	321	PKPbc	PKPdf		00 42 10.3	+0.6
	4.7nm,0.8s,baz=116,slow=2.2,SNR=38							
MSAB	Monastry St. A	146.16	332	iP	PKPdf		00 42 05

TORD	**Torodi Ar. Bea**	**174.26**	**119**	PKP		PKPdf	00 44 25.1	-1.1
	0.6nm,0.8s,baz=232,slow=1.4,SNR=3.7							

*AUST **04** 00:42:28.4,2.°99S×128.°01E,h60km*
*ISCJB **04** 00:42:31.3±0.6,3.°21S±0.°05×128.°32E±0.°05,h68km±10km, Error ellipse: s-maj=8.3km s-min=7.5km az=139.9*
*DJA **04** 00:42:32.0±0.4,3.°3S±3.°×12.°8E±.°,h35km±7km,M3.8/7, MLv3.8/7*

ISC 04 00:42:31.9±1.0,3.°25S±0.°06×128.°26E±0.°05,h68km±12km, n12,σ1§07/18,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.45**	**189**	P	**Pn**	**00 42 44.0**	**-0.1**
AAI				S	**Sn**	**00 42 53.0**	**0.0**
AAI	**Ambon**	**0.45**	**189**	P	**Pn**	**00 42 44.2**	**+0.1**
	baz=0.7,SNR=36						
NLAI	**Namlea**	**1.16**	**270**	P	**Pn**	**00 42 52.6**	**+0.2**
NLAI				S	**Sn**	**00 43 07.9**	**+0.2**
BNDI	**Bandanaira**	**2.07**	**128**	P	**Pn**	**00 43 04.6**	**+0.1**
BNDI				S	**Sn**	**00 43 31.7**	**+2.3**
LBMI	**Labuha**	**2.70**	**344**	P	**Pn**	**00 43 13.8**	**+0.7**
LBMI				S	**Sn**	**00 43 44.8**	**+0.1**
SWI	**Sorong**	**3.82**	**52**	P	**Pn**	**00 43 28.8**	**+0.5**
SWI				S	**Sn**	**00 44 11.2**	**-0.7**
SWI	**Sorong**	**3.82**	**52**	P	**Pn**	**00 43 29.1**	**+0.9**
	baz=3.9,SNR=20						
FAKI	**Fak Fak**	**3.99**	**85**	P	**Pn**	**00 43 31.5**	**+0.8**
FAKI				S	**Sn**	**00 44 13.7**	**-2.6**
FAKI	**Fak Fak**	**3.99**	**85**	P	**Pn**	**00 43 31.3**	**+0.6**
	baz=4.2,SNR=23						
KDU	**Kakadu**	**10.26**	**156**	P	**Pn**	**00 44 56.8**	**+0.4**
	baz=11,SNR=12						
FITZ	**Fitzroy Crossi**	**14.99**	**190**	P	**P**	**00 46 03.3**	**-0.6**
	baz=15,SNR=6.5						
COEN	**Coen**	**18.17**	**127**	P	**P**	**00 46 38.9**	**-0.2**
	baz=19,SNR=7.8						

IDC 04 00:49:32.0±9.4,15.°34S×173.°27W,h0km,mb3.7/3, mb1 4.0/3,mb1mx3.6/19,mbtmp3.7/3,MS3.1/1,Ms1 3.1/1, ms1mx2.8/33,Error ellipse: s-maj=416.2km s-min=37.8km az=139.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.03**	**46**	Pn	Pn	00 49 53.5	-14
	76nm,0.3s,baz=160,slow=1.8,SNR=36						
AFI					Sn	00 50 10.4	-23
	518nm,0.3s,baz=49,slow=12,SNR=26						
AFI				LR	LR	00 50 35.4	
	comp=Z,404nm,19.7s,baz=306,slow=31						
WRA	**Warramunga Arr**	**49.98**	**257**	P	P	00 58 29.3	+0.9
	0.5nm,0.3s,baz=90,slow=7.5,SNR=5.6						
ASAR	**Alice Springs**	**50.25**	**252**	P	P	00 58 29.5	-0.9
	1.4nm,0.6s,baz=89,slow=7.7,SNR=10						
ILAR	**Eielson Array**	**82.36**	**11**	P	P	01 01 55.4	0.0
	0.3nm,0.8s,baz=212,slow=6.2,SNR=4.9						

*NEIC **04** 01:02:09.4,36.°39N×117.°86W,h3km,ML3.5(PAS),After PAS.*
NEIC Felt at Independence.

ISC 04 01:02:09.0±1.0,36.°41N±0.°02×117.°85W±0.°02,h9km±7km, n31,σ1§65/78,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISA	**Isabella**	**0.90**	**214**	*e*Pg	**Pg**	**01 02 25.6**	**-0.7**
ISA				*e*Sg	**Sg**	**01 02 37.5**	**-0.5**
GSC	**Goldstone**	**1.39**	**142**	*e*Pn	**Pn**	**01 02 34.3**	**-0.4**
GSC				*e*Sn	**Sg**	**01 02 53.1**	**-0.7**
OSI	**Osito Adit**	**1.93**	**202**	*e*Pn	**Pn**	**01 02 41.0**	**-1.0**
NV11	**Mina Array Sit**	**2.03**	**353**	*e*Pn	**Pn**	**01 02 43.4**	**-0.2**
NV11				*e*Pg	**Pb**	**01 02 47.2**	**+1.0**
NV11				*e*Sn	**Sn**	**01 03 07.7**	**-1.5**
NV11				*e*Sg	**Sb**	**01 03 12.1**	**+0.4**
PTRM	**Twissleman Ran**	**2.06**	**249**	*e*Pn	**Pn**	**01 02 45.1**	**+1.3**
PTRM				*e*Sg	**Sb**	**01 03 13.8**	**+1.7**
SHPR	**Sheep Range**	**2.17**	**87**	*e*Pn	**Pn**	**01 02 45.8**	**+0.3**
SHPR				*e*Sn	**Sn**	**01 03 11.5**	**-1.1**
SHPR				*e*Sg	**Sb**	**01 03 17.4**	**+1.8**
MWC	**Mount Wilson**	**2.19**	**184**	*e*Pn	**Pn**	**01 02 44.4**	**-1.3**
MWC				*e*Pg	**Pb**	**01 02 49.3**	**+0.5**
MWC				*e*Sg	**Sb**	**01 03 17.6**	**+1.5**
WAKR	**Walker**	**2.44**	**329**	*e*Pn	**Pn**	**01 02 48.0**	**-1.2**
WAKR				*e*Pg	**Pb**	**01 02 54.2**	**+1.1**
WAKR				*e*Sg	**Sb**	**01 03 25.1**	**+1.6**
CMB	**Columbia Colle**	**2.59**	**309**	*e*Pg	**Pb**	**01 02 54.7**	**-0.9**
CMB				*e*Sg	**Sb**	**01 03 28.8**	**+1.1**
LDFC	**Landfair**	**2.60**	**120**	*e*Pg	**Pb**	**01 02 55.4**	**-0.4**
LDFC				*e*Sg	**Sb**	**01 03 27.4**	**-0.4**
R11A	**Troy Canyon, C**	**2.65**	**42**	*e*Pn	**Pn**	**01 02 51.1**	**-0.9**
R11A				*e*Pg	**Pb**	**01 02 57.7**	**+1.0**
R11A				*e*Sg	**Sb**	**01 03 32.6**	**+3.3**
SAO	**San Andreas Ge**	**2.92**	**278**	*e*Pn	**Pn**	**01 02 55.2**	**-0.3**
SAO				*e*Pg	**Pb**	**01 03 02.2**	**+1.0**
SAO				*e*Sg	**Sb**	**01 03 39.9**	**+3.0**
PFO	**Pinyon Flat Ob**	**3.02**	**157**	*e*Pn	**Pn**	**01 02 56.9**	**-0.2**
PFO				*e*Pg	**Pb**	**01 03 04.8**	**+1.8**
PFO				*e*Sn	**Sn**	**01 03 32.7**	**-0.8**
PFO				*e*Sg	**Sb**	**01 03 43.2**	**+3.2**
PAHR	**Pah Rah Range**	**3.51**	**340**	*e*Pn	**Pn**	**01 03 02.2**	**-1.6**
PAHR				*e*Pg	**Pg**	**01 03 15.1**	**-1.1**
CCUT	**Cedar City**	**3.77**	**71**	*e*Pn	**Pn**	**01 03 06.8**	**-0.7**
CCUT				*e*Pg	Pb	01 03 19.6	+3.8
CCUT				*e*Sn	**Sn**	**01 03 51.2**	**-0.9**
CCUT				*e*Sg	**Sb**	**01 04 06.0**	**+4.3**
BAR	**Barrett**	**3.84**	**165**	*e*Pn	**Pn**	**01 03 08.2**	**-0.2**
BAR				*e*Pg	**Pb**	**01 03 18.1**	**+1.1**
BAR				*e*Sn	**Sn**	**01 03 53.3**	**-0.4**
BAR				*e*Sg	**Sb**	**01 04 05.8**	**+2.2**
BEKR	**Beckworth**	**3.98**	**331**	*e*Pn	**Pn**	**01 03 09.5**	**-0.8**
BEKR				*e*Pg	**Pb**	**01 03 21.4**	**+2.1**
BEKR				*e*Sn	**Sn**	**01 03 56.6**	**-0.5**
BEKR				*e*Sg	**Sg**	**01 04 14.9**	**-1.8**
BMN	**Battle Mountai**	**4.05**	**7**	*e*Pn	**Pn**	**01 03 11.5**	**+0.3**
BMN				*e*Pg	Pb	01 03 24.3	+3.8
BMN				*e*Sg	**Sb**	**01 04 15.0**	**+5.4**
GLA	**Glamis**	**4.17**	**142**	*e*Pn	**Pn**	**01 03 11.9**	**-1.0**
GLA				*e*Pg	Pb	01 03 25.6	+3.0
GLA				*e*Sn	**Sn**	**01 04 02.6**	**+0.8**
GLA				*e*Sg	**Sg**	**01 04 21.6**	**-1.4**
ELK	**Elko**	**4.79**	**25**	*e*Pn	**Pn**	**01 03 22.2**	**+0.7**
ELK				*e*Pg	Pb	01 03 38.1	+4.9
ELK				*e*Sn	**Sn**	**01 04 16.0**	**-1.3**
ELK				*e*Sg	**Sg**	**01 04 39.7**	**-3.1**
MVU	**Marysvale**	**4.95**	**63**	*e*Pn	**Pn**	**01 03 22.7**	**-1.0**
MVU				*e*Pg	Pb	01 03 41.1	+5.2
MVU				*e*Sn	**Sb**	**01 04 33.7**	**-2.0**
MVU				*e*Sg	**Sg**	**01 04 46.2**	**-1.8**
WUAZ	**Wupatki**	**5.33**	**98**	*e*Pn	**Pn**	**01 03 28.4**	**-0.4**
WUAZ				*e*Pg	Pb	01 03 46.8	+4.5
DUG	**Dugway**	**5.48**	**45**	*e*Pn	**Pn**	**01 03 29.9**	**-0.9**
DUG				*e*Pg	Pg	01 03 51.4	-2.5
DUG				*e*Sn	**Sn**	**01 04 32.1**	**-1.9**
DUG				*e*Sg	**Sg**	**01 05 02.1**	**-2.6**
NLU	**North Lily Min**	**5.76**	**50**	*e*Pn	**Pn**	**01 03 36.0**	**+1.2**
NLU				*e*Pg	Pg	01 03 54.0	+4.5
NLU				*e*Sg	**Sg**	**01 05 12.5**	**-1.6**
BGU	**Big Grassy Mou**	**5.88**	**38**	*e*Pn	Pn	01 03 34.6	-1.8
BGU				*e*Pg	Pg	01 03 58.8	-2.8
BGU				*e*Sn	**Sn**	**01 04 43.2**	**-0.8**
BGU				*e*Sg	**Sg**	**01 05 15.6**	**-2.1**
SRU	**San Rafael**	**6.40**	**63**	*e*Pg	**Pg**	**01 04 13.3**	**+1.7**
SRU				*e*Sg	**Sg**	**01 05 34.6**	**+0.1**
JLU	**Jordanelle**	**6.54**	**48**	*e*Pg	**Pg**	**01 04 15.3**	**+1.2**
JLU				*e*Sg	**Sg**	**01 05 40.9**	**+2.1**
HVU	**Hansel Valley**	**6.66**	**35**	*e*Pn	**Pn**	**01 03 46.5**	**-0.6**
HVU				*e*Pg	Pg	01 04 13.3	-3.2
HVU				*e*Sg	**Sg**	**01 05 39.5**	**-3.2**
TUC	**Tucson**	**7.13**	**123**	*e*Pn	**Pn**	**01 03 53.3**	**-0.3**
TUC				*e*Pg	Pb	01 04 18.7	+5.7
TUC				*e*Sg	**Sg**	**01 05 55.9**	**-2.0**
MVCO	**Mesa Verde**	**7.55**	**81**	*e*Pn	**Pn**	**01 03 59.4**	**+0.1**
MVCO				*e*Pg	Pg	01 04 28.8	-4.6
MVCO				*e*Sg	Sg	01 06 05.2	-6.0
HLID	**Hailey**	**7.62**	**19**	*e*Pn	**Pn**	**01 04 00.9**	**+0.6**
HLID				*e*Pg	Pb	01 04 29.2	+7.9
HLID				*e*Sn	**Sn**	**01 05 27.4**	**+0.7**
HLID				*e*Sg	**Sg**	**01 06 14.9**	**+1.6**

*NIED **04** 01:12:00,43.°00N×145.°70E,h50km,Mw3.7 Best double couple: M=4.37000×10^14 NP1:ϕ=78.00000°,δ58.00000°, λ109.00000°. NP2:ϕ=224.00000°,δ37.00000°,λ62.00000°.*
*ISCJB **04** 01:12:44.2±0.8,43.°00N±0.°06×145.°65E±0.°07,h58km±5km, mb3.7/9,Error ellipse: s-maj=12.1km s-min=6.3km az=146.2*
*JMA **04** 01:12:44.5±0.1,42.°98N×145.°65E,h53km±1km,M4.0*
JMA Felt II J1.
*MOS **04** 01:12:45.3±1.4,43.°04N×145.°64E,h71km,mb4.1/5,Error ellipse: s-maj=18.8km s-min=12.8km az=90.0*
*IDC **04** 01:12:48.8±5.9,43.°23N×145.°52E,h76km±33km,mb3.4/8, mb1 3.6/9,mb1mx3.3/27,mbtmp3.4/9,Error ellipse: s-maj=98.9km s-min=23.8km az=171.0*

ISC 04 01:12:44.6±1.3,42.°98N±0.°08×145.°68E±0.°06,h47km±10km, n23,σ1§29/31,mb3.6/9,2C-7D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.39**	**7**	||P	**Pn**	**01 12 54.6**	**+0.2**
NEM2				*e*S	**Sn**	**01 13 01.7**	**+0.3**
JAK	**Akkeshi**	**0.72**	**272**	||P	**Pn**	**01 12 58.4**	**-0.1**
JAK				*e*S	**Sn**	**01 13 08.7**	**+0.1**
JNK	**Nakash**	**0.93**	**311**	||P	**Pn**	**01 13 00.8**	**-0.5**
JNK				*e*S	**Sn**	**01 13 13.0**	**-0.6**
JRA	**Rausu**	**1.04**	**337**	||P	**Pn**	**01 13 02.8**	**0.0**
JRA				*e*S	**Sn**	**01 13 16.3**	**0.0**
YUK	**Yuzh-Kuril'sk**	**1.06**	**7**	*c i*PN	**Pn**	**01 13 02.9**	**-0.2**
YUK				*i* S	**Sn**	**01 13 16.9**	**+0.1**
YUK				pmax	pmax		
	comp=N,271nm,0.2s						
YUK				pmax	pmax		
	comp=E,289nm,0.2s						
YUK				pmax	pmax		
	comp=Z,2μm,0.2s						
YUK				smax	smax		
	comp=E,3μm,0.6s						
YUK				smax	smax		
	comp=N,2μm,0.4s						
JOB	**Onbets**	**1.36**	**267**	||P	**Pn**	**01 13 06.9**	**-0.2**
JAR	**Ashorobuto**	**1.44**	**283**	||P	**Pn**	**01 13 08.3**	**+0.1**
JAR				*e*S	**Sn**	**01 13 25.3**	**-0.6**
JTKR	**Abashiri--Toko**	**1.63**	**308**	||P	**Pn**	**01 13 11.3**	**+0.5**
JTKR				*e*S	**Sn**	**01 13 31.4**	**+0.8**
JCH	**Churui**	**1.75**	**259**	P	**Pn**	**01 13 12.0**	**-0.4**
JCH				*e*S	**Sn**	**01 13 32.4**	**-1.1**
ERM	**Erimo**	**2.10**	**244**	*ce*PN	**Pn**	**01 13 19.4**	**+2.1**
ASAJ	**Asahikawa**	**2.52**	**298**	P	**Pn**	**01 13 24.5**	**+1.5**
	comp=N,15nm,0.3s,baz=107,slow=14,SNR=3.8						
ASAJ				S	**Sn**	**01 13 57.9**	**+5.4**
	comp=N,8.4nm,0.3s,baz=120,slow=16,SNR=6.5						
KUR	**Kuril'sk**	**2.75**	**34**	*e*PN	**Pn**	**01 13 27.5**	**+1.3**
YSS	**Yuzh-Sakhalins**	**4.49**	**333**	*e*PN	Pn	01 13 53.9	+3.9
SONM	**Songino Array**	**27.79**	**294**	P	**P**	**01 18 28.8**	**-0.3**
	comp=N,0.5nm,0.5s,baz=84,slow=8.2,SNR=5.8						
ILAR	**Eielson Array**	**42.74**	**36**	P	**P**	**01 20 37.0**	**+0.1**
	comp=N,0.3nm,0.7s,baz=260,slow=6.4,SNR=4.3						
MKAR	**Makanchi Array**	**44.00**	**298**	P	**P**	**01 20 46.5**	**-0.7**
MKAR	**Makanchi Array**	**44.00**	**298**	P	**P**	**01 20 46.5**	**-0.7**
	comp=N,0.4nm,0.5s,baz=84,slow=9.6,SNR=7.4						
KURK	**Kurchatov**	**45.08**	**304**	P	**P**	**01 20 55.7**	**0.0**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**45.16**	**304**	P	**P**	**01 20 55.7**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=72,slow=9.1,SNR=8.3						
INK	**Inuvik**	**47.61**	**30**	P	**P**	**01 21 15.3**	**0.0**
	comp=Z,0.5nm,0.4s,baz=278,slow=7.1,SNR=5.1						
FINES	**FINESS Array B**	**65.07**	**333**	P	**P**	**01 23 18.6**	**-1.0**
	comp=Z,3.7nm,1.0s,baz=25,slow=6.3,SNR=5.9						
NOA	**NORSAR Array B**	**69.93**	**338**	P	**P**	**01 23 49.6**	**-0.8**
	comp=Z,1.6nm,1.0s,baz=36,slow=6.4,SNR=2.9						
TXAR	**Lajitas Array**	**83.97**	**55**	P	**P**	**01 25 10.5**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=308,slow=4.4,SNR=3.4						

IDC 04 01:13:20.7±4.4,46.°43N×27.°46W,h0km,mb3.3/2, mb1 3.4/3,mb1mx3.2/31,mbtmp3.3/3,Error ellipse: s-maj=108.9km s-min=41.6km az=75.0,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**18.41**	**103**	P	Pn	01 17 37.4	0.0
	0.1nm,0.3s,baz=298,slow=13,SNR=6.2						
TORD	**Torodi Ar. Bea**	**41.27**	**134**	P	P	01 21 07.5	-0.2
	0.4nm,0.8s,baz=325,slow=7.0,SNR=3.5						
MKAR	**Makanchi Array**	**68.65**	**44**	P	P	01 24 25.5	0.0
	0.2nm,0.6s,baz=324,slow=7.1,SNR=2.4						

*IDC **04** 01:21:40.3±1.2,23.°07N×101.°28E,h0km,mb3.3/4, mb1 3.4/5,mb1mx3.2/26,mbtmp3.3/5,ML3.5/1,Error ellipse: s-maj=32.1km s-min=17.0km az=95.0*
*BJI **04** 01:21:42.2,23.°01N×101.°00E,h5km,ML3.5/6*
*BKK **04** 01:21:53.0±1.4,23.°N±8.°×10.°1E±1.°0,h10km,M4.3/3, MLv4.3/3*

ISC 04 01:21:40.7±1.4,22.°91N±0.°07×101.°2E±0.°1,h6km±11km, n13,σ2§23/21,mb3.3/4,Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.60**	**32**	Pg	**Pg**	**01 22 30.2**	**-0.4**
KMI				Sg	**Sg**	**01 23 06.4**	**+2.1**
KMI				SMN			
	77nm,1.0s						
KMI				SME			
	120nm,1.3s						
CRAI	**Chiangrai**	**2.79**	**197**	P	**Pb**	**01 22 30.7**	**-0.2**
CRAI				S	**Sb**	**01 23 03.2**	**-2.1**
CMAI	**Chiengmai2**	**3.59**	**215**	P	**Pg**	**01 22 48.9**	**-0.7**
CMAI				S	**Sb**	**01 23 31.0**	**+2.2**
PAYA	**Payao**	**3.75**	**200**	P	**Pg**	**01 22 51.3**	**-1.4**
PAYA				S	**Sg**	**01 23 41.7**	**+0.3**
CHTO	**Chiang Mai**	**4.60**	**208**	P	**Pg**	**01 23 08.8**	**-0.1**
CHTO				S	**Sb**	**01 24 01.3**	**+3.6**
CMAR	**Chiang Mai Arr**	**4.92**	**206**	Pn	**Pn**	**01 22 58.2**	**+3.0**
	0.5nm,0.3s,baz=18,slow=11,SNR=6.0						
CMAR				Pg	**Pg**	**01 23 14.0**	**-1.0**
	1.9nm,0.3s,baz=22,slow=16,SNR=31						
CMAR				Lg	Lg	01 24 20.0	
	1.5nm,0.3s,baz=22,slow=26,SNR=7.1						
UTHA	**Uthaitani**	**7.51**	**193**	S	**Sg**	**01 25 39.4**	**-2.4**
LZH	**Lanzhou**	**13.32**	**9**	*e*P	**P**	**01 24 57.7**	**-2.7**
LZH				sP		01 25 07.1	
HHC	**Hu-ho-hao-te**	**19.89**	**24**	*e*P	**Pn**	**01 26 14.2**	**-0.4**
HHC				PP	**PnPn**	**01 26 33.3**	**+4.7**
HHC				S	**S**	**01 29 55.0**	**-2.3**
SONM	**Songino Array**	**25.21**	**8**	P	**P**	**01 27 06.4**	**-0.9**
	0.5nm,0.7s,baz=201,slow=7.7,SNR=2.5						
MKAR	**Makanchi Array**	**28.30**	**332**	P	**P**	**01 27 34.3**	**-0.8**
	0.3nm,0.6s,baz=128,slow=9.3,SNR=4.2						
KURBB	**Kurchatov Arra**	**32.84**	**333**	P	**P**	**01 28 14.1**	**-0.9**
	0.1nm,0.2s,baz=125,slow=7.2,SNR=2.8						
ASAR	**Alice Springs**	**56.15**	**143**	P	**P**	**01 31 22.7**	**+1.3**
	0.5nm,0.7s,baz=322,slow=5.9,SNR=7.5						

IDC 04 01:38:33.5±9.0,19.°96S×179.°61W,h0km,mb3.7/3, mb1 4.0/3,mb1mx3.6/17,mbtmp3.7/3,Error ellipse: s-maj=399.0km s-min=40.6km az=145.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.17**	**256**	P	P	01 46 36.5	0.0
	0.6nm,0.4s,baz=90,slow=8.0,SNR=19						
WRA	**Warramunga Arr**	**43.18**	**262**	P	P	01 46 36.1	-0.4
	0.5nm,0.5s,baz=98,slow=8.3,SNR=2.7						
ILAR	**Eielson Array**	**88.14**	**13**	P	P	01 51 25.7	0.0
	0.4nm,0.9s,baz=239,slow=6.2,SNR=4.0						

*ISCJB **04** 01:40:29.5±0.9,46.°6N±0.°4×27.°2W±0.°2,h16km,mb3.4/4, Error ellipse: s-maj=54.4km s-min=11.0km az=17.1*
*IDC **04** 01:40:30.1±1.1,45.°90N×27.°82W,h0km,mb3.4/4, mb1 3.7/5,mb1mx3.4/31,mbtmp3.4/5,ML4.5/1,Error ellipse: s-maj=47.4km s-min=23.3km az=20.0*

ISC 04 01:40:31.9±1.0,46.°4N±0.°4×27.°3W±0.°2,h16km,n18, σ1§39/14,mb3.5/4,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGAV	**Gavieira, Arco**	**14.33**	**101**	*e*P	**Pn**	**01 43 53.0**	**-1.2**
	24nm,1.4s						
PTO	**Porto**	**14.47**	**104**	*e*P	**Pn**	**01 43 54.3**	**-1.6**
PCAB	**Cabril**	**14.61**	**102**	*e*P	**Pn**	**01 43 57.0**	**-0.9**
	18nm,1.9s						
PVIS	**Viseu**	**15.14**	**105**	*e*P	**Pn**	**01 44 04.1**	**-1.0**
	11nm,1.8s						
PMAFR	**Mafra**	**15.16**	**113**	*e*P	**Pn**	**01 44 03.3**	**-1.9**
	52nm,1.7s						
PBRG	**Braganca**	**15.44**	**100**	*e*P	**Pn**	**01 44 07.7**	**-1.3**
	16nm,1.4s						
MVO	**Moncorvo**	**15.52**	**102**	*e*P	**Pn**	**01 44 09.0**	**-1.1**
	14nm,2.0s						
PMTG	**Montargil**	**15.77**	**111**	*e*P	**Pn**	**01 44 12.1**	**-1.2**
	13nm,1.6s						
EVO	**Evora**	**16.21**	**112**	*e*P	**Pn**	**01 44 18.1**	**-0.8**
	16nm,1.9s						
ESDC	**Sonseca Array**	**18.28**	**103**	P	**P**	**01 44 47.2**	**+2.2**
	0.3nm,0.3s,baz=297,slow=12,SNR=10						
TORD	**Torodi Ar. Bea**	**41.14**	**134**	P	**P**	**01 48 15.9**	**+0.6**
	0.4nm,0.6s,baz=328,slow=8.3,SNR=7.2						
PDAR	**Pinedale Array**	**56.17**	**299**	P	**P**	**01 50 10.5**	**-0.5**
	0.4nm,0.6s,baz=27,slow=8.1,SNR=2.3						
H10S1	**ASCENSION HYDR**	**56.21**	**165**	T	T	02 50 41.2	
	baz=351,slow=0.7,SNR=5.2						
H10S3	**ASCENSION HYDR**	**56.22**	**165**	T	T	02 50 36.4	
	baz=351,slow=0.7,SNR=7.5						
H10S2	**ASCENSION HYDR**	**56.23**	**165**	T	T	02 50 41.2	
	baz=351,slow=0.7,SNR=5.3						
TXAR	**Lajitas Array**	**60.40**	**283**	P	**P**	**01 50 40.3**	**-0.2**
	0.3nm,0.9s,baz=77,slow=7.8,SNR=3.9						
MKAR	**Makanchi Array**	**68.60**	**44**	P	P	01 51 39.2	+5.3
	0.3nm,0.7s,baz=321,slow=6.0,SNR=3.3						
ASAR	**Alice Springs**	**152.74**	**40**	PKPbc	**PKPbc**	**02 00 29.1**	**+1.1**
	0.3nm,0.9s,baz=333,slow=1.0,SNR=4.0						

*IDC **04** 01:46:53.8±0.5,15.°34S×171.°97W,h0km,mb4.1/14, mb1 4.4/14,mb1mx4.3/20,mbtmp4.1/14,MS3.9/4, Ms1 3.9/4,ms1mx3.5/22,Error ellipse: s-maj=25.1km s-min=16.7km az=131.0*
*ISCJB **04** 01:46:55.1±0.4,15.°16S±0.°07×172.°12W±0.°08,h18km, mb4.2/27,MS4.0/3,Error ellipse: s-maj=13.8km s-min=6.6km az=36.7*
*NEIC **04** 01:46:55.5±0.2,15.°30S×172.°04W,h10km,mb4.4/15, Error ellipse: s-maj=10.7km s-min=5.0km az=141.0*

ISC 04 01:46:56.8±0.4,15.°15S±0.°08×172.°0W±0.°1,h18km,n101, σ0§96/92,mb4.4/27,MS4.0/3,5C-3D,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.26**	**11**	*e*Pn	Pn	01 47 16.3	-3.3
AFI					**Sb**	**01 47 33.3**	**-2.8**
AFI	**Afiamalu**	**1.26**	**11**	Pn	Pn	01 47 16.5	-3.1
	162nm,0.3s,baz=188,slow=13,SNR=50						
AFI					**Sb**	**01 47 33.3**	**-2.8**
	1μm,0.3s,baz=180,slow=20,SNR=35						
RAO	**Raoul Island**	**15.05**	**200**	LR	LR	01 55 31.0	
	comp=Z,218nm,19.5s,baz=105,slow=35						
DZM	**Mont Dzumac**	**21.51**	**248**	*e*LR	LR	01 57 36.4	
	824nm,25.9s						
DZM	**Mont Dzumac**	**21.51**	**248**	*e*P	**P**	**01 51 44.3**	**-0.7**
	33nm,1.6s						
DZM	**Mont Dzumac**	**21.51**	**248**	LR	LR	01 58 28.2	
	comp=Z,585nm,20.8s,baz=34,slow=32						
PPT2	**Papeete2**	**21.68**	**100**	*e*LQ	LQ	01 55 34.3	
	795nm,31.8s						
PPT2				*e*LR	LR	01 56 24.8	
	467nm,27.5s						
TBI	**Tubuai**	**22.79**	**114**	*e*LQ	LQ	01 56 03.5	
	455nm,27.8s						
TBI				*e*LR	LR	01 56 58.8	
	396nm,27.8s						
URZ	**Urewera**	**24.93**	**201**	P	**P**	**01 52 16.5**	**-2.5**
URZ	**Urewera**	**24.93**	**201**	P	**P**	**01 52 16.5**	**-2.5**
	5.1nm,0.4s,baz=52,slow=5.5,SNR=3.7						
RPZ	**Rata Peaks**	**31.92**	**204**	*e*P	**P**	**01 53 21.9**	**+0.5**
	22nm,0.8s						
H11S2	**WAKE ISLAND Hy**	**39.45**	**327**	T	T	02 36 34.1	
	baz=141						
H11S3	**WAKE ISLAND Hy**	**39.47**	**327**	T	T	02 36 42.3	
	baz=141						
H11S1	**WAKE ISLAND Hy**	**39.47**	**327**	T	T	02 36 34.7	
	baz=141						
CTAO	**Charters Tower**	**39.98**	**257**	*e*P	**P**	**01 54 30.2**	**-0.5**
	16nm,1.3s						
PMG	**Port Moresby**	**40.24**	**273**	*e*P	**P**	**01 54 32.9**	**+0.1**
	7.1nm,0.8s						
H11N3	**WAKE ISLAND Hy**	**40.37**	**328**	T	T	02 37 40.1	
	baz=148,slow=0.7,SNR=5.3						
H11N1	**WAKE ISLAND Hy**	**40.38**	**328**	T	T	02 37 38.2	
	baz=148,slow=0.7,SNR=7.8						
H11N2	**WAKE ISLAND Hy**	**40.39**	**328**	T	T	02 37 38.3	
	baz=148,slow=0.7,SNR=3.4						
COEN	**Coen**	**43.31**	**266**	*e*P	**P**	**01 54 58.4**	**+0.3**
STKA	**Stephens Creek**	**45.30**	**240**	*e*P	**P**	**01 55 13.5**	**-0.3**
	2.1nm,1.2s						
STKA	**Stephens Creek**	**45.30**	**240**	P	**P**	**01 55 13.6**	**-0.3**
	4.6nm

YKA	Yellowknife Ar	89.35	23	P		P	01 59 52.6	+0.7
	0.9nm,0.9s,baz=230,slow=4.8,SNR=3.7							
MKAR	Makanchi Array	111.59	315	PKiKP		PKiKP	02 05 29.8	-0.5
MKAR	Makanchi Array	111.59	315	PKiKP		PKiKP	02 05 29.8	-0.5
	0.4nm,0.7s,baz=98,slow=2.6,SNR=3.8							
BRVK	Borovoye	118.55	323	*e*PKPdf		PKPdf	02 05 43.4	-0.1
ARCES	ARCESS Array B	124.54	353	PKP		PKPdf	02 05 54.8	+0.3
ARCES	ARCESS Array B	124.54	353	PKP		PKPdf	02 05 54.7	+0.3
	1.2nm,0.7s,baz=29,slow=2.1,SNR=3.4							
DPC	Dobruska-Polom	144.25	351	*e*PKP		PKPbc	02 06 31.3	+1.4
DPC				*ep*PKP		pPKPdf	02 06 39.3	+1.4
OKC	Ostrava-Krasne	144.43	349	*e*PKP		PKPbc	02 06 31.6	+1.2
BUR08	Bucovina Ar. S	144.59	340	*e*PKPdf		PKPbc	02 06 32.5	+1.3
MORC	Moravsky Berou	144.60	349	*e*PKPdf		PKPbc	02 06 31.9	+0.9
BURAR	Bucovina Array	144.61	340	||*i*P		PKPdf	02 06 32.7	+0.2
PRU	Pruhonice	144.85	353	*e*PKP		PKPdf	02 06 33.1	+0.4
PRU				*ex*		x	02 06 39.9	
TRPA	Tarpa	144.98	343	||*i*P		PKPbc	02 06 33.2	+1.0
TESR	Tescani	145.05	337	⇑|*i*P		PKPdf	02 06 33.8	+0.6
VRAC	Vranov	145.22	350	⇑|*i*P		PKPdf	02 06 34.4	+1.0
VRAC	Vranov	145.22	350	PKPbc		PKPdf	02 06 34.4	+1.0
VRAC	Vranov	145.22	350	PKPbc		PKPdf	02 06 34.4	+1.0
	3.8nm,0.8s,baz=26,slow=5.3,SNR=4.1							
TLCR		145.27	334	||*i*P		PKPdf	02 06 35.1	+1.5
TREC	Trest	145.40	351	*e*PKP		PKPab	02 06 34.8	+1.0
TREC				*ex*		x	02 06 43.5	
GRFO	Grafenberg	145.45	356	*e*PKPbc		PKPab	02 06 34.6	+0.7
WLF	Walferdange	145.55	2	*e*PKPbc		PKPdf	02 06 34.6	+0.6
CFR	Carcaliu	145.56	334	⇑|*i*P		PKPdf	02 06 34.1	0.0
KHC	Kasperske Hory	145.81	353	*e*PKP		PKPab	02 06 36.3	+1.0
KHC				*ex*		x	02 06 45.0	
KHC				*ex*		x	02 06 56.8	
KHC	Kasperske Hory	145.81	353	*e*PKPbc		PKPab	02 06 36.1	+0.8
PSZ	Piszkesteto	145.87	346	⇑|*i*P		PKPbc	02 06 35.8	+0.6
PSZ	Piszkesteto	145.87	346	*e*PKPbc		PKPdf	02 06 35.6	+0.9
GERES	GERESS Array B	146.07	353	PKPbc		PKPbc	02 06 36.2	+0.4
GERES	GERESS Array B	146.07	353	PKPbc		PKPbc	02 06 36.2	+0.4
	1.0nm,0.7s,baz=25,slow=3.5,SNR=6.4							
DRGR		146.14	342	⇑|*i*P		PKPbc	02 06 36.5	+0.4
BR131	Keskin Array S	146.78	322	*e*PKPbc		PKPbc	02 06 39.5	+1.2
BRTR	Keskin Array B	146.78	322	PKPbc		PKPbc	02 06 38.5	+0.2
BRTR	Keskin Array B	146.78	322	PKPbc		PKPbc	02 06 38.5	+0.2
	3.2nm,0.9s,baz=125,slow=2.3,SNR=18							
KMBO	Kilima Mbogo	146.83	243	*e*PKPbc		PKPbc	02 06 39.8	+0.5
KMBO	Kilima Mbogo	146.83	243	PKPbc		PKPdf	02 06 39.0	+1.5
	3.4nm,1.0s,baz=62,slow=4.8,SNR=6.8							
ANTO	Ankara	147.18	323	*e*PKPbc		PKPbc	02 06 39.7	+0.4
DAVOX	Davos/Dischmat	148.43	357	PKPbc		PKPbc	02 06 42.6	0.0
DAVOX	Davos/Dischmat	148.43	357	PKPbc		PKPbc	02 06 42.6	0.0
	3.7nm,0.8s,baz=351,slow=3.8,SNR=5.7							
TUE	Stuetta	148.76	358	*e*PKPbc		PKPbc	02 06 43.9	+0.4
SSB	Saint Sauveur	149.83	5	*e*PKPbc		PKPbc	02 06 47.3	+1.3
CSS	Prodhromos	149.87	316	*e*PKPbc		PKPbc	02 06 47.0	+0.6
BNI	Bardonecchia	150.18	2	*e*PKPbc		PKPbc	02 06 49.0	+2.0
MTE	Manteigas	151.44	25	*e*PKPbc		PKPbc	02 06 50.4	+0.4
MTE				*e*PKPab		PKPab	02 06 58.5	+0.3
ESDC	Sonseca Array	153.43	21	PKPbc		PKPbc	02 06 54.9	+0.4
ESDC	Sonseca Array	153.43	21	PKPbc		PKPbc	02 06 54.9	+0.4
	0.4nm,0.6s,baz=337,slow=2.0,SNR=6.6							
TORD	Torodi Ar. Bea	173.60	107	PKP		PKPdf	02 07 04.9	-1.3
TORD				PKPab		PKPab	02 08 33.6	-1.9
TORD	Torodi Ar. Bea	173.60	107	PKP		PKPdf	02 07 04.9	-1.3
	1.0nm,1.0s,baz=336,slow=0.9,SNR=4.0							
TORD				PKPab		PKPab	02 08 33.7	-1.9
	0.5nm,0.9s,baz=256,slow=5.6,SNR=3.0							

IDC ***04*** *01:54:54.5±0.6, 17.67S×172.94W, h0km, mb4.4/13, mb1 4.6/14, mb1mx4.5/21, mbtmp4.4/14, ML3.4/1, MS3.8/5, Ms1 3.8/5, ms1mx3.5/27, Error ellipse: s-maj=25.6km s-min=15.5km az=137.0*

BJI ***04*** *01:54:54.7, 17.50S×173.30W, h10km, mB5.3/8, mb5.2/13, Ms5.0/2, Ms7 4.6/2*

AUST ***04*** *01:54:56.9±0.0, 17.50S×172.14W, h61km, Error ellipse: s-maj=1.8km s-min=1.2km az=41.0*

NEIC ***04*** *01:54:56.6±0.2, 17.51S×173.19W, h10km, mb4.7/29, Error ellipse: s-maj=13.6km s-min=6.2km az=140.0*

ISCJB ***04*** *01:54:57.8±0.3, 17.62S±0.08×173.16W±0.07, h28km, mb4.6/43, MS4.0/5, Error ellipse: s-maj=14.3km s-min=6.6km az=144.1*

SZGRF ***04*** *01:54:59.5, 17.68S×176.13W, h33km, Fiji Islands region*

ISC 04 01:54:59.1±0.4, 17.53S±0.10×173.12W±0.09, h28km, n140, σ1s24/142, mb4.6/44, MS3.8/5, 9C-4D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	Niue	3.40	117	P	Pn	01 55 37.2	-13
	baz=2.6,SNR=14						
AFI	Afiamalu	3.83	20	*e*Pn	Pn	01 55 49.0	-7.3
AFI				Sn	Sn	01 56 30.9	-9.5
AFI	Afiamalu	3.83	20	Pn	Pn	01 55 49.5	-6.7
	14nm,0.3s,baz=225,slow=11,SNR=6.4						
AFI				Sn	Sn	01 56 30.9	-9.5
	23nm,0.3s,baz=189,slow=19,SNR=6.0						
MSVF	Nonsavu	8.42	267	*e*Pn	Pn	01 57 09.3	+10
RAR	Rarotonga	13.12	108	LR	LR	02 01 54.1	
	comp=Z,263nm,21.0s,baz=270,slow=32						
DZM	Mont Dzumac	19.75	253	*e*P	Pn	01 59 28.0	-0.6
	30nm,1.2s						
DZM	Mont Dzumac	19.75	253	P	P	01 59 27.4	+0.4
DZM	Mont Dzumac	19.75	253	P	P	01 59 27.4	+0.4
	0.1nm,0.3s,baz=72,slow=18,SNR=2.7						
URZ	Urewera	22.36	201	*e*P	P	01 59 55.4	+0.5
	66nm,0.9s						
URZ	Urewera	22.36	201	P	P	01 59 54.1	-0.8
	59nm,0.8s,baz=12,slow=7.5,SNR=9.5						
PPT2	Papeete2	22.45	94	*e*LR	LR	02 04 39.0	
	497nm,28.2s						
PPT	Papeete	22.45	94	LR	LR	02 06 36.6	
	comp=Z,354nm,18.1s,baz=7.2,slow=32						
TBI	Tubuai	22.90	109	*e*LR	LR	02 04 57.8	
	444nm,31.0s						
HNR	Honiara	27.37	284	LR	LR	02 09 04.5	
	comp=Z,100nm,18.9s,baz=272,slow=31						
RPZ	Rata Peaks	29.34	204	*e*P	P	02 01 00.7	+1.2
	25nm,0.7s						
QLP	Quilpie	40.38	249	P	P	02 02 35.3	+0.4
	baz=41,SNR=4.2						
COEN	Coen	42.15	268	*e*P	P	02 02 49.3	-0.2
	43nm,0.9s						
COEN	Coen	42.15	268	P	P	02 02 49.8	+0.3
	baz=43,SNR=5.1						
STKA	Stephens Creek	43.24	242	*e*P	P	02 02 57.5	-0.7
	16nm,2.3s						
STKA	Stephens Creek	43.24	242	P	P	02 02 57.6	-0.6
	baz=44,SNR=9.5						
STKA	Stephens Creek	43.24	242	P	P	02 02 57.2	-1.0
	5.5nm,0.7s,baz=82,slow=8.5,SNR=12						
STKA				LR	LR	02 18 58.9	
	comp=Z,122nm,19.4s,baz=26,slow=33						
BBOO	Buckleboo	48.01	241	P	P	02 03 35.5	-0.4
	baz=49,SNR=9.7						
WRAB	Tennant Creek	49.64	258	*e*P	P	02 03 47.4	-1.3
	6.0nm,0.6s						
WRA	Warramunga Arr	49.65	258	P	P	02 03 48.2	-0.5
WRA	Warramunga Arr	49.65	258	P	P	02 03 48.2	-0.5
	5.1nm,0.5s,baz=96,slow=8.5,SNR=21						
AS31	Alice Springs	49.74	254	*e*P	P	02 03 48.6	-0.8
ASAR	Alice Springs	49.74	254	P	P	02 03 49.1	-0.2
ASAR				PcP	PcP	02 05 10.8	+0.6
ASAR	Alice Springs	49.74	254	P	P	02 03 49.1	-0.2
	29nm,0.6s,baz=90,slow=8.6,SNR=420						
ASAR				PcP	PcP	02 05 10.8	+0.6
	1.7nm,0.7s,baz=102,slow=4.5,SNR=2.9						
FORT	Forrest	54.72	244	*e*P	P	02 04 25.4	-0.8
	11nm,0.6s						
KNRA	Kununurra	55.54	263	P	P	02 04 34.6	+2.3
	baz=56,SNR=3.8						
FITZ	Fitzroy Crossi	58.06	259	P	P	02 04 50.8	+0.6
	baz=59,SNR=3.5						
VNDA	Vanda	61.30	186	*e*P	P	02 05 13.1	+1.6
	4.9nm,1.1s						
VNDA	Vanda	61.30	186	P	P	02 05 11.2	-0.3
	1.3nm,0.9s,baz=17,slow=5.0,SNR=7.7						
MEEK	Meekatharra	63.27	249	P	P	02 05 25.7	0.0
	baz=64,SNR=4.4						
WSI	Waingapu	64.92	267	P	P	02 05 34.3	-2.3
	baz=66,SNR=4.8						
KAPI	Kappang	66.71	272	*e*P	P	02 05 47.9	-0.3
	11nm,1.0s						
QSPA	South Pole Qui	72.53	180	*e*P	P	02 06 23.6	+0.3
	99nm,3.0s						

MWC	Mount Wilson	73.43	45	*e*P		P	02 06 29.6	+0.4
	22nm,1.4s							
ISA	Isabella	73.99	44	*e*P		P	02 06 32.9	+0.6
	13nm,1.5s							
CMB	Columbia Colle	74.19	41	*e*P		P	02 06 33.3	0.0
	4.6nm,1.1s							
WAKR	Walker	75.06	41	*e*P		P	02 06 38.4	-0.3
YBH	Yreka Blue Hor	75.13	37	*e*P		P	02 06 39.9	+1.1
	5.8nm,0.9s							
BEKR	Beckworth	75.33	39	*e*P		P	02 06 40.6	+0.5
	2.0nm,1.0s							
HUMO	Hull Mountain	75.56	36	*e*P		P	02 06 42.7	+1.5
	3.5nm,0.9s							
NVAR	Mina Array Bea	75.73	41	P		P	02 06 42.4	-0.1
NVAR	Mina Array Bea	75.73	41	P		P	02 06 42.4	-0.1
	2.6nm,0.8s,baz=223,slow=9.5,SNR=9.5							
MOD	Modoc	76.63	38	*e*P		P	02 06 48.6	+1.1
	27nm,1.1s							
TUC	Tucson	77.53	50	*e*P		P	02 06 53.6	+0.9
	5.4nm,1.5s							
KSRS	Korea Array	77.86	316	P		P	02 06 55.9	+1.6
	3.5nm,0.9s,baz=128,slow=6.7,SNR=11							
KSAR	Wonju Array Be	77.88	316	P		P	02 06 55.9	+1.5
WVOR	Wild Horse Val	77.93	38	*e*P		P	02 06 55.1	+0.3
	3.2nm,1.0s							
I07A	Izee	78.44	36	*e*P		P	02 06 59.2	+1.7
	6.0nm,1.1s							
ELK	Elko	79.00	41	*e*P		P	02 07 02.3	+1.4
	3.3nm,1.0s							
USRK	Ussuriysk Arra	79.24	323	P		P	02 07 03.6	+1.9
	1.5nm,0.9s,baz=145,slow=3.5,SNR=4.4							
G08A	Pilot Rock	79.50	36	*e*P		P	02 07 04.5	+1.2
	4.7nm,0.9s							
DUG	Dugway	80.24	42	*e*P		P	02 07 07.8	+0.3
	3.1nm,1.1s							
TMUT	Trail Mountain	80.81	44	*e*P		P	02 07 12.0	+1.3
	6.6nm,1.0s							
MDJ	Mudanjiang	80.87	323	P		P	02 07 11.4	+0.9
MDJ					AMB	AMB		
	comp=Z,93nm,4.2s							
F10A	Beach Ranch, E	80.88	36	*e*P		P	02 07 11.3	+0.7
	55nm,2.5s							
HLID	Hailey	81.10	39	*e*P		P	02 07 12.0	0.0
	4.1nm,0.9s							
DIV	Divide	81.40	13	*e*P		P	02 07 14.3	+1.3
	19nm,1.0s							
TXAR	Lajitas Array	81.58	56	P		P	02 07 14.2	-0.6
TXAR	Lajitas Array	81.58	56	P		P	02 07 14.2	-0.6
	1.4nm,1.1s,baz=210,slow=7.2,SNR=7.5							
NJ2	Nanjing	81.66	307	*e*P		P	02 07 15.7	+0.7
NJ2					AMB	AMB		
	comp=Z,20nm,0.8s							
ANMO	Albuquerque	81.96	50	*e*P		P	02 07 18.4	+1.5
	3.2nm,1.1s							
SMCO	Snowmass	83.59	46	*e*P		P	02 07 26.4	+0.9
	8.1nm,1.3s							
PDAR	Pinedale Array	83.67	42	P		P	02 07 24.4	-1.1
PDAR	Pinedale Array	83.67	42	P		P	02 07 24.4	-1.1
	1.8nm,0.9s,baz=205,slow=2.9,SNR=12							
ILAR	Eielson Array	84.47	11	P		P	02 07 28.4	-0.4
ILAR	Eielson Array	84.47	11	P		P	02 07 28.4	-0.4
	1.7nm,0.6s,baz=224,slow=6.0,SNR=16							
EDM	Edmonton	87.15	31	*e*P		P	02 07 43.2	+0.8
PLCA	Paso Flores	87.89	132	LR		LR	02 39 31.2	
	comp=Z,117nm,19.3s,baz=317,slow=30							
GYA	Guiyang	89.27	298	*e*P		P	02 07 54.3	+1.1
GYA					AMB	AMB		
	comp=Z,10.0nm,1.0s							
HHC	Hu-ho-hao-te	90.66	313	*e*P		P	02 07 57.1	-2.3
HHC				pP		PcP	02 08 01.9	+1.4
HHC				sP		sP	02 08 04.1	-7.6
HHC				PP		PP	02 11 34.5	-0.6
HHC				S		S	02 18 50.1	-3.6
HHC				AMB		AMB		
	comp=Z,27nm,1.0s							
HHC				AMB		AMB		
	comp=Z,340nm,5.1s							
HHC				LR		LR		
	comp=N,280nm,16.1s							
HHC				LR		LR		
	comp=E,220nm,17.3s							
HHC				LR		LR		
	comp=Z,280nm,17.6s							
SNAA	Sanae	90.78	177	*e*P		P	02 07 58.7	-0.7
	2.8nm,1.1s							
YKA	Yellowknife Ar	91.94	23	P		P	02 08 04.4	-0.2
YKA	Yellowknife Ar	91.94	23	P		P	02 08 04.4	-0.2
	0.6nm,0.8s,baz=249,slow=3.2,SNR=2.9							
CD2	Chengdu	93.14	301	P		P	02 08 11.3	+0.3
CD2					AMB	AMB		
	comp=Z,10.0nm,0.5s							
CMAR	Chiang Mai Arr	93.53	288	P		P	02 08 14.8	+1.8
CMAR	Chiang Mai Arr	93.53	288	P		P	02 08 14.8	+1.8
	0.4nm,0.2s,baz=145,slow=1.7,SNR=5.3							
LZH	Lanzhou	94.69	306	*e*P		P	02 08 19.7	+1.5
LZH				pP		pP	02 08 23.7	-3.6
LZH				sP		sP	02 08 27.1	-3.4
LZH				AMB		AMB		
	comp=Z,19nm,1.4s							
MKAR	Makanchi Array	112.50	314	PKiKP		PKiKP	02 13 33.0	+0.3
MKAR	Makanchi Array	112.50	314	PKiKP		PKiKP	02 13 33.0	+0.3
	0.5nm,0.7s,baz=37,slow=0.6,SNR=4.9							
KURK	Kurchatov	114.91	318	*e*PKP		PKPdf	02 13 37.2	+0.1
KSH	Kashi	116.94	306	PKP		PKPdf	02 13 46.0	+4.4
KSH				PPMZ				
	comp=Z,77nm,3.9s							
ARCES	ARCESS Array B	126.74	352	PKP		PKPdf	02 13 59.2	-0.2
ARCES	ARCESS Array B	126.74	352	PKP		PKPdf	02 13 59.2	-0.2
	1.9nm,0.7s,baz=304,slow=2.1,SNR=9.0							
KMBO	Kilima Mbogo	144.80	241	PKP		PKPdf	02 14 35.0	+0.3
KMBO				*e*PKPdf		PKPbc	02 14 35.2	+1.4
KMBO	Kilima Mbogo	144.80	241	PKP		PKPdf	02 14 35.0	+0.3
	3.4nm,0.9s,baz=60,slow=4.3,SNR=11							
KWP	Kalwaria Pacla	145.52	342	||*i*P		PKPab	02 14 36.1	+1.2
CLL	Collm	145.95	353	*e*PKPbc		PKPab	02 14 37.3	+0.9
CLL	Collm	145.95	353	*e*PKPbc		PKPab	02 14 37.0	+0.6
	comp=Z,24nm,1.1s							
CLL				*i*			02 14 38.7	
	comp=Z,34nm,1.0s							
CLL				*i*			02 14 47.3	
STHS	Stebnicka Huta	146.13	343	*e*PKP		PKPab	02 14 37.6	+0.3
BRG	Berggiesshubel	146.26	352	*e*PKP		PKPab	02 14 37.7	+0.1
	comp=Z,7.7nm,1.0s							
BRG				*i*			02 14 40.0	
	comp=Z,28nm,1.3s							
KOLS	Kolonicke sedl	146.27	342	*e*PKP		PKPab	02 14 40.0	+2.2
UPC	Upice	146.29	349	*e*PKP		PKPab	02 14 38.8	+1.0
UPC				*ex*		x	02 14 49.5	
DPC	Dobruska-Polom	146.39	349	*e*PKP		PKPab	02 14 38.7	+0.5
DPC				*ex*		x	02 14 50.7	
BUR08	Bucovina Ar. S	146.41	337	*e*PKPbc		PKPab	02 14 38.5	0.0
PVCC	Panska Ves	146.51	351	*e*PKP		PKPab	02 14 39.5	+0.9
PVCC				*ex*		x	02 14 50.3	
OKC	Ostrava-Krasne	146.51	347	*e*PKP		PKPab	02 14 39.4	+0.7
OKC				*ex*		x	02 14 47.9	
OKC				*ex*		x	02 14 50.6	
MORC	Moravsky Berou	146.70	347	||*i*P		PKPab	02 14 40.4	+0.9
MORC	Moravsky Berou	146.70	347	*e*PKPbc		PKPab	02 14 39.6	+0.1
PRU	Pruhonice	147.04	351	*e*PKP		PKPab	02 14 40.7	0.0
PRU				*ex*		x	02 14 49.3	
PRU				*ex*		x	02 14 54.0	
ARCR	ARCALIA	147.19	338	⇑|*i*P		PKPab	02 14 41.8	+0.4
CFR	Carcaliu	147.20	332	⇑|*i*P		PKPab	02 14 44.0	+2.5
VRI	Vrincioaia	147.27	334	⇑|*i*P		PKPab	02 14 44.3	+2.5
VRAC	Vranov	147.34	348	⇑|*i*P		PKPab	02 14 41.2	-0.7
TREC	Trest	147.56	349	*e*PKP		PKPbc	02 14 40.6	-0.1
TIRR	Tirgusor	147.62	331	*e*PKPbc		PKPbc	02 14 40.5	-0.5
GRF	Grafenberg Arr	147.73	355	*e*PKPbc		PKPab	02 14 43.0	-0.4
GRFO	Grafenberg	147.73	355	*e*PKPbc		PKPbc	02 14 40.8	-0.3
PSZ	Piszkesteto	147.87	343	⇑|*i*P		PKPab	02 14 44.7	+0.6
PSZ	Piszkesteto	147.87	343	*e*PKPbc		PKPab	02 14 43.5	-0.6
MLR	Muntele Rosu	147.90	334	||*i*P		PKPbc	02 14 42.9	+1.0
SMOL	Smolenice	147.92	347	*e*PKP		PKPab	02 14 43.8	-0.4
WLF	Walferdange	147.94	1	*e*PKPbc		PKPbc	02 14 41.6	-0.1
BR131	Keskin Array S	147.95	319	*e*PKPdf		PKPdf	02 14 38.7	-0.5
BR131				*e*PKPbc		PKiKP	02 14 43.4	-0.7
BRTR	Keskin Array B	147.95	319	PKPbc		PKPbc	02 14 43.3	+1.0
BRTR	Keskin Array B	147.95	319	PKPbc		PKPbc	02 14 43.3	+1.0
	comp=Z,2.3nm,0.8s,baz=124,slow=2.3,SNR=13							
KHC	Kasperske Hory	148.01	352	*e*PKP		PKPbc	02 14 43.2	+1.2
KHC				*ex*		x	02 14 53.4	
KHC				*ex*		x	02 15 03.7	
KHC	Kasperske Hory	148.01	352	*e*PKPbc		PKPbc	02 14 42.9	+0.9
DRGR		148.02	339	⇑|*i*P		PKPbc	02 14 43.1	+1.0

GERES	GERESS Array B	148.28	351	PKPbc		PKPbc	02 14 43.6	+0.8
GERES	GERESS Array B	148.28	351	PKPbc		PKPbc	02 14 43.6	+0.8
	comp=Z,2.5nm,0.9s,baz=40,slow=2.3,SNR=9.4							
VOIR		148.31	335	⇑|*i*P		PKPab	02 14 45.3	-0.7
ANTO	Ankara	148.39	320	*e*PKPbc		PKPdf	02 14 41.0	+1.2
ARR	Arges	148.53	336	||*i*P		PKPab	02 14 45.4	-1.5
SIRR	Siria	148.83	340	⇑|*i*P		PKPbc	02 14 45.6	+1.5
BZS	Buzias	149.41	339	||*i*P		PKPbc	02 14 46.5	+0.9
RJOB	Jochberg	149.49	352	*e*PKPbc		PKPbc	02 14 47.0	+1.2
DAVOX	Davos/Dischmat	150.73	356	PKPbc		PKPbc	02 14 49.9	+0.9
DAVOX	Davos/Dischmat	150.73	356	PKPbc		PKPbc	02 14 49.9	+0.9
	comp=Z,6.4nm,0.9s,baz=181,slow=5.6,SNR=11							
CSS	Prodhromos	150.74	312	*e*PKPbc		PKPbc	02 14 47.2	-2.0
TUE	Stuetta	151.07	356	*e*PKPbc		PKPbc	02 14 50.3	+0.4
TRI	Trieste	151.32	350	*e*PKPdf		PKPdf	02 14 43.9	-0.2
TRI				*e*PKPbc		PKPbc	02 14 50.0	-0.1
TRI				*e*PKPab		PKPab	02 14 58.0	-0.1
MTE	Manteigas	154.02	26	*e*PKPdf		PKPdf	02 14 49.5	+1.1
MTE				*e*PKPab		PKPab	02 15 06.0	-3.8
ESDC	Sonseca Array	156.01	21	PKPab		PKPab	02 15 17.2	-1.1
ESDC	Sonseca Array	156.01	21	PKPab		PKPab	02 15 17.2	-1.1
	comp=Z,0.1nm,0.4s,baz=328,slow=4.3,SNR=4.6							
TORD	Torodi Ar. Bea	173.37	130	PKP		PKPdf	02 15 05.5	-1.3
TORD				PKPab		PKPab	02 16 32.7	-2.4
TORD	Torodi Ar. Bea	173.37	130	PKP		PKPdf	02 15 05.5	-1.3
	comp=Z,0.9nm,1.1s,baz=349,slow=0.9,SNR=3.9							
TORD				PKPab		PKPab	02 16 32.7	-2.4
	comp=Z,1.2nm,0.8s,baz=245,slow=3.7,SNR=5.8							

IDC 04 01:57:37.5±3.0, 46.35N×27.63W, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.2/31, mbtmp3.4/3, ML4.6/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/28, Error ellipse: s-maj=82.8km s-min=41.7km az=66.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESDC	Sonseca Array	18.51	103	P	Pn	02 01 55.6	+0.2
	0.4nm,0.3s,baz=296,slow=13,SNR=8.8						
TORD	Torodi Ar. Bea	41.30	134	P	P	02 05 24.4	-0.3
	0.6nm,0.9s,baz=327,slow=8.4,SNR=4.3						
DBIC	Dimbokro	44.14	146	LR	LR	02 23 15.7	
	comp=Z,46nm,18.3s,baz=175,slow=35						
H10S1	ASCENSION HYDR	56.26	165	T	T	03 07 48.3	
	baz=351,slow=0.7,SNR=5.4						
H10S3	ASCENSION HYDR	56.26	165	T	T	03 07 49.7	
	baz=351						
H10S2	ASCENSION HYDR	56.27	165	T	T	03 07 49.9	
	baz=351,slow=0.7,SNR=5.2						
MKAR	Makanchi Array	68.78	44	P	P	02 08 43.0	-0.1
	0.3nm,0.7s,baz=324,slow=5.4,SNR=3.5						
ASAR	Alice Springs	152.91	40	PKPbc	PKPbc	02 17 36.9	+0.2
	0.2nm,0.6s,baz=356,slow=2.8,SNR=3.0						

IDC 04 02:20:29.5±4.5, 46.33N×27.71W, h0km, mb3.5/2, mb1 3.4/3, mb1mx3.1/31, mbtmp3.3/3, ML4.2/1, MS3.3/3, Ms1 3.4/3, ms1mx2.9/27, Error ellipse: s-maj=107.9km s-min=44.9km az=75.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESDC	Sonseca Array	18.56	102	P	P	02 24 47.8	0.0
	0.2nm,0.3s,baz=296,slow=12,SNR=7.2						
ESDC				LR	LR	02 30 12.4	
	comp=Z,48nm,19.6s,baz=310,slow=31						
TORD	Torodi Ar. Bea	41.32	134	P	P	02 28 16.8	-0.1
	0.5nm,0.9s,baz=332,slow=8.2,SNR=3.5						
DBIC	Dimbokro	44.15	146	LR

4.8nm,1.1s
ISA Isabella 86.70 52 *e*P P **02 54 38.8 -0.4**
1.9nm,0.8s
ILAR Eielson Array 86.95 18 P P **02 54 37.3 -2.3**
ILAR Eielson Array 86.95 18 P P **02 54 37.3 -2.3**
0.8nm,0.7s,baz=235,slow=4.8,SNR=10
SNAA Sanae 93.23 183 *e*P P **02 55 09.2 +0.1**
2.3nm,1.1s
INK Inuvik 93.31 19 *e*P P **02 55 10.1 +0.8**
4.2nm,1.1s
MKAR Makanchi Array 97.09 316 P Pdif 02 55 27.7 +0.4
MKAR Makanchi Array 97.09 316 P Pdif 02 55 27.7 +0.4
0.7nm,0.7s,baz=104,slow=6.1,SNR=6.9
ZALV Zalesovo Beam 97.35 324 P P **02 55 26.7 -1.4**
ZALV Zalesovo Beam 97.35 324 P P **02 55 26.7 -1.4**
0.3nm,0.3s,baz=84,slow=4.5,SNR=3.3
ARCES ARCESS Array B 120.42 345 PKP **PKPdf 03 00 45.2 -0.4**
ARCES ARCESS Array B 120.42 345 PKP **PKPdf 03 00 45.2 -0.4**
3.2nm,1.1s,baz=50,slow=1.8,SNR=11
BNI Bardonecchia 145.66 335 *e*PKPbc **PKPab 03 01 34.4 +0.2**
SSB Saint Sauveur 146.32 337 *e*PKPbc **PKPbc 03 01 35.7 0.0**

IDC 04 02:48:10.1±5.0, 5.72S×146.35E, h61km±42km, mb3.6/4, mb1 3.9/6, mb1mx3.6/18, mbtmp3.7/6, ML3.7/2, Error ellipse: s-maj=42.3km s-min=29.1km az=141.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.75**	**168**	P	Pn	02 49 06.4	+0.9
	35nm,0.3s,baz=309,slow=13,SNR=89						
PMG				S	Sn	02 49 46.1	-2.4
	32nm,0.3s,baz=164,slow=22,SNR=7.9						
CTA	**Charters Tower**	**14.29**	**180**	P	Pn	02 51 32.0	+2.7
	2.1nm,0.3s,baz=358,slow=14,SNR=28						
WRA	**Warramunga Arr**	**18.34**	**218**	P	P	02 52 19.5	-0.3
	0.3nm,0.3s,baz=41,slow=12,SNR=7.4						
WRA				PcP	PcP	02 56 49.8	+0.5
	0.1nm,0.3s,baz=46,slow=2.4,SNR=3.5						
ASAR	**Alice Springs**	**21.50**	**213**	P	P	02 52 53.8	-0.2
	0.9nm,0.4s,baz=43,slow=8.4,SNR=24						
FITZ	**Fitzroy Crossi**	**23.68**	**237**	P	P	02 53 16.1	-0.3
	2.3nm,0.3s,baz=58,slow=9.7,SNR=20						
VNDA	**Vanda**	**72.23**	**176**	P	P	02 59 27.6	-0.7
	0.6nm,0.6s,baz=303,slow=5.8,SNR=6.0						
ILAR	**Eielson Array**	**85.48**	**23**	P	P	03 00 40.5	-0.5
	0.8nm,0.6s,baz=253,slow=5.0,SNR=18						
TORD	**Torodi Ar. Bea**	**144.40**	**285**	PKP	PKPbc	03 07 39.4	+0.3
	0.8nm,0.6s,baz=54,slow=2.8,SNR=12						
SIV	**San Ignacio**	**145.33**	**129**	PKPbc	PKPbc	03 07 41.3	-0.7
	1.3nm,0.5s,baz=253,slow=5.6,SNR=8.1						
DBIC	**Dimbokro**	**151.36**	**273**	PKPbc	PKPbc	03 07 58.7	+0.6
	2.9nm,0.5s,baz=93,slow=1.1,SNR=11						

CSEM ***04*** *02:48:40.3±6.4, 45.29N×27.38W, h10km, mb4.2/4, Ms2.9, Error ellipse: s-maj=176.0km s-min=35.2km az=82.0*
ISCJB ***04*** *02:48:42.0±0.8, 46.2N±0.1×27.3W±0.1, h16km, mb3.9/8, MS3.2/4, Error ellipse: s-maj=19.3km s-min=8.9km az=23.3*
IDC ***04*** *02:48:42.2±1.1, 46.40N×27.36W, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.5/31, mbtmp3.6/6, ML4.6/1, MS3.3/5, Ms1 3.3/5, ms1mx3.0/47, Error ellipse: s-maj=42.9km s-min=22.3km az=24.0*

ISC 04 02:48:44.2±0.9, 46.3N±0.2×27.3W±0.1, h16km, n65, σ0998/56, mb4.0/8, MS3.2/4, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGAV	**Gavieira, Arco**	**14.32**	**101**	*e*P	**Pn**	**02 52 05.5**	**-0.8**
	16nm,0.7s						
PGAV	**Gavieira, Arco**	**14.32**	**101**	*e*P	**Pn**	**02 52 05.5**	**-0.8**
	16nm,0.7s						
PTO	**Porto**	**14.45**	**104**	*e*P	**Pn**	**02 52 07.2**	**-0.7**
PTO	**Porto**	**14.45**	**104**	*e*P	**Pn**	**02 52 07.2**	**-0.7**
PCAB	**Cabril**	**14.59**	**101**	*e*P	**Pn**	**02 52 08.9**	**-1.0**
	25nm,1.3s						
PCAB	**Cabril**	**14.59**	**101**	*e*P	**Pn**	**02 52 08.9**	**-1.0**
	25nm,1.3s						
PMAFR	**Mafra**	**15.12**	**112**	*e*P	**Pn**	**02 52 15.3**	**-1.7**
PMAFR	**Mafra**	**15.12**	**112**	*e*P	**Pn**	**02 52 15.3**	**-1.7**
PVIS	**Viseu**	**15.12**	**105**	*e*P	**Pn**	**02 52 16.4**	**-0.7**
	21nm,2.0s						
PVIS	**Viseu**	**15.12**	**105**	*e*P	**Pn**	**02 52 16.4**	**-0.7**
	21nm,2.0s						
PBRG	**Braganca**	**15.43**	**99**	*e*P	**Pn**	**02 52 20.8**	**-0.4**
	12nm,1.2s						
PBRG	**Braganca**	**15.43**	**99**	*e*P	**Pn**	**02 52 20.8**	**-0.4**
	12nm,1.2s						
MVO	**Moncorvo**	**15.50**	**102**	*e*P	**Pn**	**02 52 21.3**	**-0.8**
	12nm,1.7s						
MVO	**Moncorvo**	**15.50**	**102**	*e*P	**Pn**	**02 52 21.3**	**-0.8**
	12nm,1.7s						
PMTG	**Montargil**	**15.74**	**110**	*e*P	**Pn**	**02 52 23.7**	**-1.4**
	14nm,1.7s						
PMTG	**Montargil**	**15.74**	**110**	*e*P	**Pn**	**02 52 23.7**	**-1.4**
	14nm,1.7s						
PNCL	**Nicolau / Gran**	**16.09**	**114**	*e*P	**Pn**	**02 52 30.4**	**+0.8**
	13nm,1.4s						
PNCL	**Nicolau / Gran**	**16.09**	**114**	*e*P	**Pn**	**02 52 30.4**	**+0.8**
	13nm,1.4s						
EVOP	**Sao Brissos**	**16.11**	**112**	*e*P	**Pn**	**02 52 27.3**	**-2.5**
EVO	**Evora**	**16.18**	**112**	*e*P	**Pn**	**02 52 27.3**	**-3.4**
EVO				*e*R			
	77nm,20.2s						
ESDC	**Sonseca Array**	**18.27**	**103**	P	**P**	**02 52 58.6**	**+1.5**
	0.4nm,0.3s,baz=298,slow=12,SNR=12						
ESDC				LR	LR	02 58 51.1	
	comp=Z,60nm,18.9s,baz=325,slow=33						
SJPF	**Ste Jean**	**18.78**	**90**	*e*P	**Pn**	**02 53 03.5**	**+0.4**
SJPF	**Ste Jean**	**18.78**	**90**	*e*P	**Pn**	**02 53 03.5**	**+0.4**
ETSF	**Etsaut**	**19.31**	**90**	*e*P	**Pn**	**02 53 09.8**	**+0.3**
	10nm,0.9s						
EPF	**Esparros**	**19.89**	**89**	*e*P	**P**	**02 53 15.1**	**+0.3**
	48nm,1.9s						
EPF	**Esparros**	**19.89**	**89**	*e*P	**P**	**02 53 15.1**	**+0.3**
	24nm,1.9s						
TCF	**Toulx Ste Croi**	**20.35**	**79**	*e*P	**P**	**02 53 20.4**	**+0.6**
	15nm,1.1s						
TCF	**Toulx Ste Croi**	**20.35**	**79**	*e*P	**P**	**02 53 20.4**	**+0.6**
	7.3nm,1.1s						
CAF	**Calviac**	**20.55**	**83**	*e*P	**P**	**02 53 22.7**	**+0.8**
	19nm,1.3s						
CAF	**Calviac**	**20.55**	**83**	*e*P	**P**	**02 53 22.7**	**+0.8**
	9.4nm,1.3s						
AVF	**Avril sur Loir**	**21.04**	**77**	*e*P	**P**	**02 53 26.9**	**-0.2**
	30nm,1.4s						
AVF	**Avril sur Loir**	**21.04**	**77**	*e*P	**P**	**02 53 26.9**	**-0.2**
	15nm,1.4s						
MTLF	**Montolieu**	**21.09**	**87**	*e*P	**P**	**02 53 28.1**	**+0.3**
MTLF	**Montolieu**	**21.09**	**87**	*e*P	**P**	**02 53 28.1**	**+0.3**
SSF	**Saint Saulge**	**21.10**	**77**	*e*P	**P**	**02 53 28.7**	**+0.9**
SSF	**Saint Saulge**	**21.10**	**77**	*e*P	**P**	**02 53 28.7**	**+0.9**
LOR	**Lormes**	**21.30**	**76**	*e*P	**P**	**02 53 30.4**	**+0.4**
LOR				*e*R			
	89nm,20.7s						
LOR	**Lormes**	**21.30**	**76**	*e*P	**P**	**02 53 30.4**	**+0.4**
SMF	**Signal de Mont**	**21.39**	**78**	*e*P	**P**	**02 53 30.1**	**-0.9**
	78nm,1.9s						
SMF	**Signal de Mont**	**21.39**	**78**	*e*P	**P**	**02 53 30.1**	**-0.9**
	39nm,1.9s						
GIVF	**Givet**	**21.67**	**68**	*e*P	**P**	**02 53 33.8**	**-0.1**
GIVF	**Givet**	**21.67**	**68**	*e*P	**P**	**02 53 33.8**	**-0.1**
SFTF	**Sexfontaines**	**21.96**	**73**	*e*P	**P**	**02 53 37.1**	**0.0**
SFTF	**Sexfontaines**	**21.96**	**73**	*e*P	**P**	**02 53 37.1**	**0.0**
LASF	**Ste Croix**	**22.01**	**84**	*e*P	**P**	**02 53 37.4**	**-0.2**
	24nm,1.3s						
LASF	**Ste Croix**	**22.01**	**84**	*e*P	**P**	**02 53 37.4**	**-0.2**
	12nm,1.3s						
PAGF	**Fort de Pagny**	**22.38**	**72**	*e*P	**P**	**02 53 40.8**	**-0.7**
PAGF	**Fort de Pagny**	**22.38**	**72**	*e*P	**P**	**02 53 40.8**	**-0.7**
MBDF	**Montbardon**	**23.83**	**81**	*e*P	**P**	**02 53 57.4**	**+0.9**
	16nm,1.3s						
MBDF	**Montbardon**	**23.83**	**81**	*e*P	**P**	**02 53 57.4**	**+0.9**
	8.1nm,1.3s						
DAVOX	**Davos/Dischmat**	**25.44**	**75**	LR	LR	03 04 10.0	
	comp=Z,42nm,18.7s,baz=91,slow=36						
GERES	**GERESS Array B**	**27.56**	**70**	LR	LR	03 04 40.7	
	comp=Z,46nm,20.1s,baz=262,slow=35						
VRAC	**Vranov**	**29.34**	**68**	LR	LR	03 06 16.1	
	comp=Z,77nm,18.4s,baz=344,slow=36						
TORD	**Torodi Ar. Bea**	**41.06**	**134**	P	**P**	**02 56 28.3**	**+1.3**
	0.8nm,0.8s,baz=326,slow=8.6,SNR=4.7						
TORD				LR	LR	03 11 54.4	
	comp=Z,74nm,19.6s,baz=295,slow=34						
H10N2	**ASCENSION HYDR**	**55.04**	**164**	T	T	03 57 33.2	
	baz=353						
H10N3	**ASCENSION HYDR**	**55.05**	**164**	T	T	03 57 32.6	
	baz=353						
H10N1	**ASCENSION HYDR**	**55.06**	**164**	T	T	03 57 35.0	
	baz=353						
H10S1	**ASCENSION HYDR**	**56.10**	**165**	T	T	03 58 51.8	
	baz=350,slow=0.7,SNR=19						
H10S3	**ASCENSION HYDR**	**56.11**	**165**	T	T	03 58 52.4	
	baz=350,slow=0.7,SNR=17						
H10S2	**ASCENSION HYDR**	**56.12**	**165**	T	T	03 58 53.1	
	baz=350,slow=0.7,SNR=18						
PDAR	**Pinedale Array**	**56.22**	**299**	P	**P**	**02 58 22.9**	**-0.7**
	0.0nm,0.1s,baz=61,slow=9.4,SNR=4.5						
ILAR	**Eielson Array**	**59.75**	**334**	P	**P**	**02 58 47.3**	**-0.5**
	0.2nm,0.7s,baz=54,slow=5.5,SNR=3.5						
TXAR	**Lajitas Array**	**60.41**	**283**	P	**P**	**02 58 53.4**	**+0.5**
	0.8nm,0.9s,baz=76,slow=5.8,SNR=8.0						
MKAR	**Makanchi Array**	**68.69**	**44**	P	**P**	**02 59 46.9**	**+0.2**
	0.7nm,0.7s,baz=310,slow=6.2,SNR=7.5						
ASAR	**Alice Springs**	**152.84**	**40**	PKPbc	**PKPbc**	**03 08 40.4**	**-0.1**
	0.4nm,0.8s,baz=345,slow=2.4,SNR=5.0						

KRSC 04 02:59:07.6±4.7, 58.21N×163.74E, h21km±20km, ML3.6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OSSR	**Ossora**	**1.10**	**342**	*e*P	Pb	02 59 28.7	+0.8
OSSR				*i* S	Sb	02 59 41.6	-0.2
KLY	**Klyuchi**	**2.54**	**223**	*e*P	Pn	02 59 47.6	+0.1
KLY				*i* S	Sn	03 00 17.2	-0.5
KRSR	**Krestovskiy**	**2.64**	**222**	*e*P	Pn	02 59 49.3	+0.2
KRSR				*i* S	Sn	03 00 22.5	+2.0
SRDR	**Sredinnyy**	**2.89**	**231**	*e*P	Pn	02 59 54.6	+2.1
SRDR				*i* S	Sn	03 00 26.5	-0.2
KIRR	**Kirishev**	**2.93**	**221**	*e*P	Pn	02 59 54.3	+1.3
KIRR				*i* S	Sn	03 00 28.0	+0.3
KPT	**Kopyto**	**2.96**	**222**	*e*P	Pn	02 59 55.4	+2.0
KPT				*i* S	Sn	03 00 30.4	+2.1
KOZ	**Kozyrevsk**	**3.02**	**226**	*e*P	Pn	02 59 55.5	+1.4
KOZ				*i* S	Sn	03 00 31.6	+2.0
KMNR	**Kamenistaya**	**3.12**	**219**	*e*P	Pn	02 59 57.2	+1.6
KMNR				*i* S	Sn	03 00 33.6	+1.3
ESO	**Esso**	**3.58**	**232**	*e*P	Pn	03 00 04.8	+2.9
ESO				*i* S	Sn	03 00 44.1	+0.6

IDC 04 02:59:49.5±2.8, 9.29S×108.87W, h0km, mb3.6/7, mb1 4.0/7, mb1mx3.9/14, mbtmp3.6/7, MS4.0/8, Ms1 4.0/8, ms1mx3.8/23, Error ellipse: s-maj=107.8km s-min=32.2km az=57.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKT	**Rikitea**	**28.52**	**238**	*e*LR	LR	03 13 29.4	
	695nm,31.8s						
ATAH	**Atahualpa**	**30.23**	**88**	LR	LR	03 15 03.7	
	comp=Z,158nm,18.6s,baz=238,slow=30						
APG	**El Apazote**	**30.25**	**37**	LR	LR	03 15 25.6	
	comp=Z,366nm,19.6s,baz=57,slow=31						
LPIG	**La Paz**	**33.22**	**358**	LR	LR	03 16 36.7	
	comp=Z,224nm,19.1s,baz=170,slow=30						
H03N2	**Juan Fernandez**	**36.56**	**136**	T	T	03 45 30.2	
	baz=306,slow=0.7,SNR=49						
H03N3	**Juan Fernandez**	**36.58**	**136**	T	T	03 45 31.4	
	baz=306,slow=0.7,SNR=47						
H03N1	**Juan Fernandez**	**36.58**	**136**	T	T	03 45 37.5	
	baz=306,slow=0.7,SNR=62						
TXAR	**Lajitas Array**	**38.72**	**7**	P	P	03 07 17.0	+1.4
	0.5nm,1.0s,baz=181,slow=9.7,SNR=4.2						
TXAR				PcP	PcP	03 09 28.5	+0.9
	0.5nm,0.9s,baz=193,slow=5.0,SNR=3.6						
TXAR				LR	LR	03 20 34.5	
	comp=Z,66nm,21.4s,baz=10.0,slow=32						
PPT	**Papeete**	**40.37**	**254**	LR	LR	03 19 38.6	
	comp=Z,326nm,19.6s,baz=169,slow=30						
PPT2	**Papeete2**	**40.38**	**254**	*e*LR	LR	03 18 46.4	
	528nm,26.5s,baz=80						
PLCA	**Paso Flores**	**46.15**	**139**	LR	LR	03 22 50.3	
	comp=Z,330nm,21.5s,baz=137,slow=30						
NVAR	**Mina Array Bea**	**48.28**	**350**	P	P	03 08 31.9	-0.9
	0.2nm,0.3s,baz=185,slow=9.9,SNR=2.8						
CPUP	**Villa Florida**	**51.56**	**116**	P	P	03 08 57.3	-0.4
	0.5nm,0.5s,baz=254,slow=11,SNR=4.0						
CPUP				LR	LR	03 26 58.1	
	comp=Z,223nm,19.5s,baz=263,slow=32						
PDAR	**Pinedale Array**	**51.81**	**359**	P	P	03 08 58.6	-0.9
	0.4nm,0.7s,baz=184,slow=8.1,SNR=2.5						
NEW	**Newport**	**57.77**	**353**	LR	LR	03 30 10.2	
	comp=Z,109nm,19.9s,baz=128,slow=32						
ULM	**Lac du Bonnet**	**60.36**	**10**	P	P	03 09 59.1	-1.1
	3.1nm,0.9s,baz=170,slow=12,SNR=2.9						
YKA	**Yellowknife Ar**	**71.70**	**357**	P	P	03 11 13.1	+0.2
	0.6nm,0.7s,baz=171,slow=5.6,SNR=3.2						
ILAR	**Eielson Array**	**79.14**	**344**	P	P	03 11 55.7	0.0
	0.4nm,0.8s,baz=166,slow=6.4,SNR=4.9						
H11S2	**WAKE ISLAND Hy**	**87.69**	**289**	T	T	04 50 03.5	
	baz=102,slow=0.7,SNR=113						
H11S1	**WAKE ISLAND Hy**	**87.69**	**289**	T	T	04 50 06.6	
	baz=102,slow=0.7,SNR=72						
H11S3	**WAKE ISLAND Hy**	**87.70**	**289**	T	T	04 50 07.3	
	baz=102,slow=0.7,SNR=76						

CSEM ***04*** *03:06:23.4, 45.60N×14.67E, h0km, ML0.2, After LJU*
LJU 04 03:06:23.4, 45.61N×14.67E, h14km, ML0.2, 2C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GBRS	**Gornja Briga**	**0.12**	**127**	*i* Pg	Pg	03 06 27.1	+0.2
GBRS				*i* Sg	Sg	03 06 29.5	+0.3
	4.0nm,0.1s						
CEY	**Cerknica**	**0.22**	**308**	*i* Pg	Pg	03 06 28.6	+0.2
CEY				*i* Sg	Sg	03 06 32.1	+0.4
CEY							
	comp=Z,2.0nm,0.1s						
CEY	**Cerknica**	**0.22**	**308**	*i* Pg	Pg	03 06 28.5	+0.1
CEY				*i* Sg	Sg	03 06 32.1	+0.4
	comp=Z,2.0nm,0.1s						
KNDS	**Knezji Dol**	**0.22**	**250**	*i* Sg	Sg	03 06 31.9	+0.1
KNDS	**Knezji Dol**	**0.22**	**250**	*i* Sg	Sg	03 06 31.9	+0.1
VISS	**Visnje**	**0.23**	**30**	*i* Sg	Sg	03 06 32.2	+0.3
VISS							
	comp=Z,1.0nm,0.1s						
VISS	**Visnje**	**0.23**	**30**	*i* Sg	Sg	03 06 32.2	+0.2
	comp=Z,1.0nm,0.1s						
BOJS	**Bojanci**	**0.42**	**104**	↑*i* Pg	Pg	03 06 32.0	+0.2
BOJS				*i* Sg	Sg	03 06 37.8	+0.3
BOJS							
	comp=Z,0.0nm,0.1s						
BOJS	**Bojanci**	**0.42**	**104**	↑*i* Pg	Pg	03 06 32.0	+0.2
BOJS				*i* Sg	Sg	03 06 37.8	+0.3
SKDS	**Skadanscina**	**0.47**	**263**	*i* Sg	Sb	03 06 39.7	-0.6
SKDS	**Skadanscina**	**0.47**	**263**	*i* Sg	Sb	03 06 39.7	-0.5

IDC ***04*** *03:06:35.7±0.5, 15.09S×172.25W, h0km, mb4.3/17, mb1 4.5/17, mb1mx4.4/24, mbtmp4.3/17, Error ellipse: s-maj=28.3km s-min=15.0km az=137.0*
ISCJB ***04*** *03:06:36.8±0.3, 15.08S±0.09×172.30W±0.08, h18km, mb4.5/44, Error ellipse: s-maj=15.2km s-min=7.7km az=138.8*
NEIC ***04*** *03:06:37.2±0.2, 15.11S×172.23W, h10km, mb4.8/28, Error ellipse: s-maj=11.3km s-min=5.6km az=138.0*
SZGRF ***04*** *03:06:38.2, 16.83S×173.33W, h33km, Tonga Islands*
ISC 04 03:06:38.5±0.4, 14.95S±0.09×172.2W±0.1, h18km, n134, σ1807/127, mb4.6/44, 8C-3D, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.12**	**23**	*e*Pn	Pn	03 06 54.9	-4.5
AFI				Sn	**Sb**	**03 07 10.4**	**-3.4**
AFI	**Afiamalu**	**1.12**	**23**	Pn	Pn	03 06 55.6	-3.8
	128nm,0.3s,baz=242,slow=0.4,SNR=26						
AFI				Sn	**Sb**	**03 07 10.4**	**-3.4**
	399nm,0.3s,baz=217,slow=20,SNR=14						
DZM	**Mont Dzumac**	**21.41**	**248**	*e*LR	LR	03 16 54.6	
	817nm,26.1s						
DZM	**Mont Dzumac**	**21.41**	**248**	*e*P	**P**	**03 11 26.0**	**+0.3**
	19nm,1.3s						
PPT2	**Papeete2**	**21.91**	**100**	*e*LQ	LQ	03 15 30.9	
	456nm,27.2s						
PPT2				*e*LR	LR	03 16 22.6	
	169nm,27.8s						
TBI	**Tubuai**	**23.05**	**115**	*e*LQ	LQ	03 15 58.9	
	226nm,28.0s						
TBI				*e*LR	LR	03 16 46.7	
	134nm,29.0s						
H11S2	**WAKE ISLAND Hy**	**39.18**	**327**	T	T	03 56 10.7	
	baz=152,slow=0.7						
H11S3	**WAKE ISLAND Hy**	**39.19**	**327**	T	T	03 56 11.3	
	baz=152						
H11S1	**WAKE ISLAND Hy**	**39.19**	**327**	T	T	03 56 11.6	
	baz=152,slow=0.7						
H11N3	**WAKE ISLAND Hy**	**40.10**	**329**	T	T	03 57 21.0	
	baz=151						
H11N1	**WAKE ISLAND Hy**	**40.10**	**329**	T	T	03 57 21.7	
	baz=151						
H11N2	**WAKE ISLAND Hy**	**40.12**	**329**	T	T	03 57 20.2	
	baz=151						
COEN	**Coen**	**43.14**	**265**	*e*P	**P**	**03 14 38.3**	**-0.1**
STKA	**Stephens Creek**	**45.23**	**240**	*e*P	**P**	**03 14 53.1**	**-1.9**
	0.7nm,0.8s						
STKA	**Stephens Creek**	**45.23**	**240**	P	**P**	**03 14 52.8**	**-2.2**
	3.0nm,0.9s,baz=94,slow=12,SNR=4.4						
WRAB	**Tennant Creek**	**51.03**	**256**	*e*P	**P**	**03 15 38.8**	**-1.2**
	3.7nm,0.9s						
WRA	**Warramunga Arr**	**51.04**	**256**	P	**P**	**03 15 38.8**	**-1.3**
WRA	**Warramunga Arr**	**51.04**	**256**	P	**P**	**03 15 38.8**	**-1.3**
	2.5nm,0.9s,baz=91,slow=7.4,SNR=8.9						
AS31	**Alice Springs**	**51.32**	**252**	*e*P	**P**	**03 15 41.0**	**-1.2**
ASAR	**Alice Springs**	**51.32**	**252**	P	**P**	**03 15 40.9**	**-1.3**
ASAR	**Alice Springs**	**51.32**	**252**	P	**P**	**03 15 40.9**	**-1.3**
	8.8nm,1.0s,baz=84,slow=8.7,SNR=25						
SBA	**Scott Base**	**63.79**	**185**	*e*P	**P**	**03 17 09.6**	**+0.5**
	11nm,1.0s						
VNDA	**Vanda**	**63.94**	**186**	*e*P	**P**	**03 17 09.8**	**-0.2**
	8.9nm,1.4s						
VNDA	**Vanda**	**63.94**	**186**	P	**P**	**03 17 09.8**	**-0.2**
	3.5nm,1.1s,baz=7.9,slow=7.7,SNR=13						
ISA	**Isabella**	**71.55**	**44**	*e*P	**P**	**03 17 59.8**	**+1.0**
	4.6nm,1.0s						
CMB	**Columbia Colle**	**71.69**	**41**	*e*P	**P**	**03 17 59.5**	**-0.1**
	9.4nm,1.2s						
YBH	**Yreka Blue Hor**	**72.56**	**37**	*e*P	**P**	**03 18 06.0**	**+1.3**
	4.7nm,1.0s						
YBH	**Yreka Blue Hor**	**72.56**	**37**	P	**P**	**03 18 06.3**	**+1.6**
	1.8nm,0.7s,baz=240,slow=6.4,SNR=4.8						
WAKR	**Walker**	**72.57**	**41**	*e*P	**P**	**03 18 06.1**	**+1.1**
BEKR	**Beckworth**	**72.81**	**39**	*e*P	**P**	**03 18 06.6**	**+0.2**
HUMO	**Hull Mountain**	**72.98**	**36**	*e*P	**P**	**03 18 08.0**	**+0.8**
	5.9nm,1.0s						
NVAR	**Mina Array Bea**	**73.24**	**42**	P	**P**	**03 18 10.1**	**+1.0**
NVAR	**Mina Array Bea**	**73.24**	**42**	P	**P**	**03 18 10.1**	**+1.0**
	3.1nm,0.9s,baz=226,slow=9.1,SNR=13						
MOD	**Modoc**	**74.08**	**38**	*e*P	**P**	**03 18 14.9**	**+1.2**
	20nm,1.1s						
SHPR	**Sheep Range**	**74.25**	**45**	*e*P	**P**	**03 18 16.0**	**+1.1**
	5.6nm,1.3s						
KDAK	**Kodiak Island**	**74.27**	**11**	P	**P**	**03 18 15.6**	**+1.3**
KDAK	**Kodiak Island**	**74.27**	**11**	P	**P**	**03 18 15.6**	**+1.3**
	8.8nm,1.0s,baz=103,slow=1.8,SNR=4.8						
QSPA	**South Pole Qui**	**75.09**	**180**	*e*P	**P**	**03 18 18.1**	**-1.2**
	16nm,0.9s						
TUC	**Tucson**	**75.24**	**50**	*e*P	**P**	**03 18 21.3**	**+0.7**
	3.1nm,1.0s						
WVOR	**Wild Horse Val**	**75.38**	**38**	*e*P	**P**	**03 18 21.8**	**+0.5**
	39nm,2.1s						
KSRS	**Korea Array**	**76.63**	**315**	P	**P**	**03 18 29.4**	**+1.1**
	1.9nm,1.0s,baz=114,slow=5.4,SNR=3.3						
KSAR	**Wonju Array Be**	**76.65**	**315**	P	**P**	**03 18 29.4**	**+1.0**
BMO	**Blue Mountains**	**77.59**	**37**	*e*P	**P**	**03 18 34.5**	**+0.8**
	3.6nm,1.1s						
DUG	**Dugway**	**77.77**	**42**	*e*P	**P**	**03 18 34.0**	**-0.9**
	2.2nm,0.8s						
Q16A	**Castle Valley**	**78.20**	**44**	*e*P	**P**	**03 18 38.4**	**+1.0**
TMUT	**Trail Mountain**	**78.37**	**44**	*e*P	**P**	**03 18 39.7**	**+1.3**
	7.1nm,0.8s						
HLID	**Hailey**	**78.57**	**39**	*e*P	**P**	**03 18 39.8**	**+0.5**
	5.9nm,1.2s						
DIV	**Divide**	**78.71**	**13**	*e*P	**P**	**03 18 39.4**	**-0.1**
	24nm,1.0s						
BMRM	**Bremner River**	**78.82**	**13**	*e*P	**P**	**03 18 40.7**	**+0.7**
	31nm,1.1s						
TXAR	**Lajitas Array**	**79.43**	**56**	P	**P**	**03 18 45.0**	**+0.8**
TXAR	**Lajitas Array**	**79.43**	**56**	P	**P**	**03 18 45.0**	**+0.8**
	2.2nm,1.1s,baz=213,slow=4.3,SNR=6.0						
PV01	**Paradox Valley**	**79.60**	**46**	*e*P	**P**	**03 18 45.5**	**+0.4**
	570nm,1.2s						
ANMO	**Albuquerque**	**79.65**	**50**	P	**P**	**03 18 44.2**	**-1.2**
ANMO	**Albuquerque**	**79.65**	**50**	P	**P**	**03 18 44.2**	**-1.2**
	0.3nm,0.3s,baz=207,slow=6.8,SNR=3.3						
MCMT	**McKenzie Canyo**	**80.20**	**38**	*e*P	**P**	**03 18 48.8**	**+0.6**
	1.7nm,1.0s						
MCK	**McKinley**	**80.48**	**10**	*e*P	**P**	**03 18 50.1**	**+1.1**

BRTR	**Keskin Array B**	**146.50**	**322**	PKPbc	**PKPab**	**03 26 21.0**	**+0.8**
	2.1nm,0.8s,baz=126,slow=2.7,SNR=13									
SIRR	**Siria**	**146.67**	**342**	⇑*i*P	**PKPab**	**03 26 21.2**	**+0.8**
LOT	**Lotru**	**146.73**	**339**	⇑*i*P	**PKPbc**	**03 26 19.0**	**-0.7**
KMBO	**Kilima Mbogo**	**146.74**	**244**	PKPbc	**PKPab**	**03 26 22.0**	**0.0**
KMBO	**Kilima Mbogo**	**146.74**	**244**	PKPbc	**PKPab**	**03 26 22.0**	**0.0**
	1.4nm,0.9s,baz=101,slow=5.6,SNR=4.3									
FUR	**Furstenfeldbru**	**146.75**	**356**	*e*PKPbc	**PKPab**	**03 26 21.2**	**+0.5**
ECH	**Echery**	**146.82**	**1**	*e*PKPbc	**PKPab**	**03 26 20.5**	**-0.4**
RJOB	**Jochberg**	**147.04**	**354**	*e*PKPbc	**PKPab**	**03 26 22.0**	**+0.1**
GZR	**Gura Zlata**	**147.11**	**340**	⇑*i*P	**PKPab**	**03 26 22.3**	**+0.1**
BZS	**Buzias**	**147.28**	**342**	⇑*i*P	**PKPbc**	**03 26 21.8**	**+0.8**
TUE	**Stuetta**	**148.55**	**358**	*e*PKPbc	**PKPbc**	**03 26 24.2**	**-0.5**
BNI	**Bardonecchia**	**149.98**	**2**	*e*PKPbc	**PKPbc**	**03 26 30.1**	**+1.9**
POLO	**Lamas de Olo**	**150.41**	**24**	*e*PKPbc	**PKPbc**	**03 26 30.8**	**+1.5**
PBRG	**Braganca**	**150.44**	**22**	*e*PKPbc	**PKPbc**	**03 26 30.2**	**+0.9**
PVRL	**Vila Real**	**150.53**	**24**	*e*PKPbc	**PKPbc**	**03 26 29.6**	**+0.1**
MVO	**Moncorvo**	**150.89**	**23**	*e*PKPbc	**PKPbc**	**03 26 31.1**	**+0.7**
MTE	**Manteigas**	**151.34**	**25**	*e*PKPbc	**PKPbc**	**03 26 32.7**	**+1.2**
MTE	**Manteigas**	**151.34**	**25**	*e*PKPbc	**PKPbc**	**03 26 32.2**	**+0.7**
MTE				*e*PKPab	**PKPab**	**03 26 39.7**	**+0.1**
PTOM	**Tomar**	**151.62**	**27**	*e*PKPbc	**PKPbc**	**03 26 33.0**	**+0.9**
PMTG	**Montargil**	**152.16**	**27**	*e*PKPbc	**PKPbc**	**03 26 34.0**	**+0.7**
ESDC	**Sonseca Array**	**153.31**	**20**	PKPbc	**PKPbc**	**03 26 36.2**	**+0.3**
ESDC	**Sonseca Array**	**153.31**	**20**	PKPbc	**PKPbc**	**03 26 36.2**	**+0.3**
	0.1nm,0.2s,baz=332,slow=3.1,SNR=5.3									
MORF	**Marmelete**	**153.38**	**30**	*e*PKPdf	**PKPdf**	**03 26 30.1**	**+1.5**
PBAR	**Barrancos**	**153.42**	**27**	*e*PKPdf	**PKPdf**	**03 26 28.1**	**-0.4**
TORD	**Torodi Ar. Bea**	**173.84**	**106**	PKP	**PKPdf**	**03 26 46.3**	**-1.7**
TORD	**Torodi Ar. Bea**	**173.84**	**106**	PKP	**PKPdf**	**03 26 46.3**	**-1.7**
	0.3nm,0.8s,baz=352,slow=2.9,SNR=2.7									

IDC 04 03:08:38.5±3.9, 0°.62S×100°.01E, h97km±29km, mb3.8/8, mb1 3.8/10, mb1mx3.5/24, mbtmp3.7/10, Error ellipse: s-maj=49.0km s-min=21.5km az=51.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.57**	**342**	P	Pn	03 09 30.6	-1.5
	2.3nm,0.3s,baz=141,slow=13,SNR=8.5						
CMAR	**Chiang Mai Arr**	**18.99**	**357**	P	P	03 12 52.3	-0.3
	baz=221,slow=30,SNR=4.4						
WRA	**Warramunga Arr**	**38.69**	**122**	P	P	03 15 53.3	0.0
	0.8nm,0.8s,baz=304,slow=8.8,SNR=7.6						
KSRS	**Korea Array**	**45.84**	**31**	P	P	03 16 49.8	-1.2
	0.9nm,0.6s,baz=228,slow=7.3,SNR=4.4						
SONM	**Songino Array**	**48.58**	**6**	P	P	03 17 12.5	+0.2
	0.5nm,0.5s,baz=181,slow=10,SNR=4.2						
SONM				PcP	PcP	03 18 36.6	+0.1
	0.5nm,0.5s,baz=186,slow=4.6,SNR=3.8						
MKAR	**Makanchi Array**	**49.72**	**344**	P	P	03 17 21.1	+0.3
	1.9nm,0.3s,baz=156,slow=8.6,SNR=48						
USRK	**Ussuriysk Arra**	**52.95**	**29**	P	P	03 17 45.5	+0.6
	1.8nm,0.6s,baz=233,slow=11,SNR=3.3						
ZALV	**Zalesovo Beam**	**55.83**	**349**	P	P	03 18 05.5	-0.1
	1.8nm,0.3s,baz=151,slow=8.3,SNR=13						
FINES	**FINESS Array B**	**82.91**	**332**	P	P	03 20 52.0	-0.3
	4.1nm,0.8s,baz=123,slow=6.9,SNR=9.5						
ARCES	**ARCESS Array B**	**85.19**	**340**	P	P	03 21 03.7	0.0
	0.5nm,0.5s,baz=99,slow=5.3,SNR=14						
TXAR	**Lajitas Array**	**143.60**	**36**	PKP	PKPbc	03 28 00.8	+0.4
	0.5nm,0.6s,baz=271,slow=0.3,SNR=8.6						

IDC 04 03:12:22.6±6.8, 0°.52S×100°.22E, h95km±35km, mb3.4/5, mb1 3.5/6, mb1mx3.3/23, mbtmp3.4/6, Error ellipse: s-maj=244.7km s-min=19.4km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.54**	**339**	P	Pn	03 13 14.1	-1.6
	2.0nm,0.3s,baz=344,slow=10.0,SNR=7.2						
WRA	**Warramunga Arr**	**38.57**	**122**	P	P	03 19 36.2	-0.3
	0.2nm,0.6s,baz=303,slow=7.3,SNR=2.6						
ASAR	**Alice Springs**	**39.96**	**128**	P	P	03 19 48.1	+0.1
	0.2nm,0.3s,baz=300,slow=7.2,SNR=6.9						
MKAR	**Makanchi Array**	**49.67**	**344**	P	P	03 21 05.4	+0.7
	0.6nm,0.3s,baz=160,slow=8.1,SNR=11						
ZALV	**Zalesovo Beam**	**55.76**	**349**	P	P	03 21 48.6	-0.8
	0.9nm,0.5s,baz=158,slow=4.4,SNR=4.4						
ARCES	**ARCESS Array B**	**85.16**	**340**	P	P	03 24 47.6	-0.3
	2.3nm,1.0s,baz=88,slow=6.4,SNR=4.7						
TXAR	**Lajitas Array**	**143.39**	**36**	PKP	PKPbc	03 31 45.3	+1.1
	0.3nm,0.5s,baz=308,slow=0.1,SNR=7.1						

*NEIC **04** 03:17:02.8±0.8, 23°.61N×121°.79E, h10km, mb4.3/5, ML4.5(TAP), Error ellipse: s-maj=12.5km s-min=7.0km az=111.0*
NEIC Recorded [2 TAP] in Hua-lien and [1 TAP] in Chang-hua, Nan-t'ou and T'ai-tung.
*ISCJB **04** 03:17:05.9±0.4, 23°.67N±0°.02×121°.64E±0°.03, h27km±2km, mb4.1/5, Error ellipse: s-maj=4.5km s-min=2.3km az=22.1*
*TAP **04** 03:17:06.2, 23°.69N×121°.58E, h30km, ML4.0, B*

ISC 04 03:17:05.6±0.8, 23°.65N±0°.02×121°.66E±0°.03, h29km±5km, n69, σ0°.78/106, mb4.2/5, 13C-5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.13**	**296**	*i* P	**Pn**	**03 17 11.6**	**-0.1**
	baz=309						
TEGC				S	**Sb**	**03 17 15.7**	**+1.0**
	baz=309						
ESF	**Shoufeng Towns**	**0.26**	**326**	P	**Pb**	**03 17 12.6**	**+0.2**
	baz=329						
ESF				S	**Sb**	**03 17 17.3**	**+0.2**
	baz=329						
ESL	**Shilin**	**0.27**	**307**	⇑*i*P	**Pb**	**03 17 12.2**	**-0.3**
	baz=307						
ESL				*i* S	**Sb**	**03 17 16.3**	**-0.9**
	baz=307						
HWA	**Hwalien**	**0.33**	**350**	P	**Pb**	**03 17 13.5**	**+0.1**
	baz=14						
HWA				*e*S	**Sn**	**03 17 20.3**	**+0.1**
	baz=14						
EHY	**Hungye**	**0.35**	**245**	⇑*i*P	**Pb**	**03 17 13.5**	**-0.2**
	baz=240						
EHY				S	**Sb**	**03 17 18.2**	**-0.9**
	baz=240						
YULB	**Yu-li**	**0.43**	**232**	*e*Pg	**Pb**	**03 17 14.2**	**-0.6**
YULB				*e*Sg	**Sb**	**03 17 20.4**	**-0.7**
TWD	**Chiawan**	**0.43**	**352**	⇓*i*P	**Pb**	**03 17 15.0**	**+0.1**
	baz=354						
TWD				S	**Sb**	**03 17 20.9**	**-0.2**
	baz=354						
TWF1	**Yuli**	**0.45**	**228**	⇓*i*P	**Pb**	**03 17 15.3**	**0.0**
	baz=228						
TWF1				*e*S	**Sb**	**03 17 21.5**	**-0.3**
	baz=228						
NACB	**Ninganchiao**	**0.52**	**353**	*e*Pg	**Pb**	**03 17 15.3**	**-1.0**
NACB				*e*Sg	**Sb**	**03 17 23.1**	**-0.6**
WHF	**Hehuan Shan**	**0.61**	**323**	*e*P	**Pb**	**03 17 17.0**	**-1.2**
	baz=328						
WHF				*e*S	**Sb**	**03 17 24.4**	**-2.2**
	baz=328						
CHKT	**Chengkung**	**0.62**	**207**	⇓*e*P	**Pn**	**03 17 18.8**	**+0.3**
	baz=185						
CHKT				*e*S	**Sn**	**03 17 28.3**	**+0.9**
	baz=185						
SSLB	**Suanglung**	**0.67**	**282**	*e*Pg	**Pb**	**03 17 17.1**	**-1.7**
SSLB				*e*Sg	**Sb**	**03 17 28.4**	**+0.7**
YUS	**Yu-Shan**	**0.67**	**256**	⇑*i*P	**Pb**	**03 17 19.0**	**-0.2**
	baz=251						
YUS				*i* S	**Sb**	**03 17 26.9**	**-1.6**
	baz=251						
SMLT	**Sun Moon Lake**	**0.74**	**288**	⇑*i*P	**Pb**	**03 17 19.1**	**-0.9**
	baz=292						
TWT	**Tachien**	**0.75**	**323**	*e*P	**Pb**	**03 17 19.7**	**-0.5**
	baz=325						
TWT				*i* S	**Sb**	**03 17 28.2**	**-2.0**
	baz=325						
ELDTW	**Lidau**	**0.75**	**232**	⇓P	**Pb**	**03 17 19.4**	**-0.9**
	baz=226						
ENA	**Nanau**	**0.77**	**5**	*e*P	**Pb**	**03 17 19.9**	**-0.7**
	baz=359						
TYC	**Yuchr**	**0.78**	**289**	⇑*i*P	**Pb**	**03 17 19.6**	**-1.1**
	baz=295						
TYC				S	**Sb**	**03 17 29.2**	**-1.7**
	baz=295						
ALS	**Alishan**	**0.80**	**260**	⇑*i*P	**Pb**	**03 17 21.0**	**-0.2**
	baz=256						
ALS				S	**Sb**	**03 17 30.6**	**-1.3**
	baz=256						
NNS	**Nan Shan**	**0.83**	**341**	*e*P	**Pb**	**03 17 20.4**	**-1.1**
	baz=355						
NNS				*e*S	**Sb**	**03 17 30.9**	**-1.6**
	baz=355						
CHN5	**Tsauling**	**0.91**	**267**	⇑*i*P	**Pb**	**03 17 22.7**	**-0.1**
	baz=264						
CHN5				S	**Sn**	**03 17 35.1**	**+0.4**
	baz=264						
WNT	**Mingjian**	**0.93**	**284**	⇑*i*P	**Pb**	**03 17 23.1**	**-0.1**
	baz=284						
WNT				*e*S	**Sb**	**03 17 35.0**	**-0.1**
	baz=284						
TWC	**Suao**	**0.97**	**10**	*e*P	**Pb**	**03 17 23.9**	**+0.1**
	baz=25						
TWC				*e*S	**Sn**	**03 17 37.3**	**+1.3**
	baz=25						
ENTT	**Nioudou**	**0.99**	**355**	P	**Pn**	**03 17 23.0**	**-0.6**
	baz=360						
TWG	**Pinlang**	**0.99**	**213**	*e*P	**Pn**	**03 17 22.6**	**-1.1**
	baz=196						
TWG	**Pinlang**	**0.99**	**213**	*e*Pg	**Pn**	**03 17 22.2**	**-1.4**
TWG				*e*Sg	**Sb**	**03 17 35.2**	**-1.8**
WGK	**Gukeng**	**1.01**	**272**	*e*P	**Pn**	**03 17 23.9**	**0.0**
	baz=271						
WGK				*e*S	**Sn**	**03 17 37.2**	**0.0**
	baz=271						
TPUB	**Ta-pu**	**1.01**	**250**	*e*Pn	**Pn**	**03 17 24.1**	**+0.2**
TPUB				*e*Sg	**Sb**	**03 17 37.6**	**+0.1**
TTN	**Taitung**	**1.01**	**208**	*e*P	**Pb**	**03 17 24.2**	**-0.4**
	baz=203						
TCU	**Taichung**	**1.03**	**299**	⇑*i*P	**Pb**	**03 17 24.8**	**-0.1**
	baz=299						
YHNB	**Yeheng**	**1.04**	**345**	*e*Pn	**Pn**	**03 17 24.1**	**-0.4**
YHNB				*e*Sg	**Sn**	**03 17 37.5**	**-0.7**
WTP	**Ta-pu**	**1.05**	**247**	⇑*i*P	**Pb**	**03 17 25.1**	**-0.1**
	baz=244						
WTP				S	**Sb**	**03 17 38.8**	**+0.2**
	baz=244						
NSK	**Sanguang**	**1.05**	**345**	⇓P	**Pn**	**03 17 24.4**	**-0.2**
	baz=358						
NSK				S	**Sn**	**03 17 36.8**	**-1.6**
	baz=358						
TWE	**Neicheng**	**1.06**	**0**	*e*P	**Pn**	**03 17 24.5**	**-0.1**
	baz=5.0						
TWQ1	**Liyutan**	**1.07**	**310**	⇑*i*P	**Pb**	**03 17 25.4**	**-0.1**
	baz=311						
TWQ1				*e*S	**Sn**	**03 17 38.7**	**+0.1**
	baz=311						
ILA	**Ilan**	**1.11**	**4**	*e*P	**Pb**	**03 17 25.7**	**-0.5**
	baz=358						
NSY	**Sanyi**	**1.12**	**313**	⇑*e*P	**Pb**	**03 17 26.6**	**+0.1**
	baz=313						
NSY				*e*S	**Sn**	**03 17 40.4**	**+0.5**
	baz=313						
CHN1	**Nanshi**	**1.14**	**246**	⇑P	**Pb**	**03 17 26.6**	**-0.2**
	baz=244						
CHN1				*e*S	**Sb**	**03 17 41.4**	**+0.1**
	baz=244						
SGST	**Jiashian**	**1.15**	**240**	*e*P	**Pb**	**03 17 26.7**	**-0.1**
	baz=229						
SGST				*e*S	**Sb**	**03 17 41.6**	**+0.3**
	baz=229						
NSTT	**Nanjuang**	**1.15**	**328**	*e*P	**Pb**	**03 17 26.6**	**-0.2**
	baz=330						
NSTT				*e*S	**Sn**	**03 17 39.0**	**-1.5**
	baz=330						
CHY	**Chiayi**	**1.15**	**262**	*e*P	**Pn**	**03 17 25.4**	**-0.4**
	baz=260						
WTCT	**Ta-ch'eng**	**1.28**	**280**	*e*P	**Pn**	**03 17 28.2**	**+0.6**
	baz=269						
WTCT				*e*S	**Sb**	**03 17 46.2**	**+1.0**
	baz=269						
HSN	**Hsinchu**	**1.31**	**331**	*e*P	**Pb**	**03 17 30.0**	**+0.5**
	baz=319						
TWA	**Mucha**	**1.32**	**357**	*e*P	**Pn**	**03 17 28.2**	**0.0**
	baz=10.0						
WSF	**Szhu**	**1.32**	**270**	*e*P	**Pn**	**03 17 28.5**	**+0.3**
	baz=268						
TATO	**Taipei**	**1.33**	**353**	*e*Pn	**Pn**	**03 17 28.8**	**+0.5**
TATO				*e*Sg	**Sn**	**03 17 45.0**	**0.0**
NCU	**National Centr**	**1.38**	**342**	*e*P	**Pb**	**03 17 30.9**	**+0.1**
	baz=342						
NCU				*e*S	**Sb**	**03 17 48.2**	**+0.1**
	baz=342						
TWB1	**Santiao Chiao**	**1.38**	**12**	*e*P	**Pb**	**03 17 30.7**	**-0.1**
	baz=1.0						
TAP1	**Taipei**	**1.39**	**355**	*e*P	**Pb**	**03 17 30.6**	**-0.2**
	baz=357						
TWM1	**Shoushan**	**1.41**	**234**	*e*P	**Pb**	**03 17 32.3**	**+1.0**
	baz=232						
NWF	**Wu-fen Shan**	**1.42**	**4**	*e*P	**Pb**	**03 17 31.8**	**+0.3**
	baz=7.0						
SCLT	**Jiali**	**1.43**	**251**	*e*P	**Pb**	**03 17 30.8**	**-0.9**
	baz=250						
SCLT				*e*S	**Sb**	**03 17 49.6**	**+0.1**
	baz=250						
TWS1	**Kuangyinshan**	**1.46**	**351**	*e*P	**Pn**	**03 17 30.9**	**+0.9**
	baz=3.0						
TWS1				*e*S	**Sb**	**03 17 49.8**	**-0.5**
	baz=3.0						
YOJ	**Yonaguni jima**	**1.47**	**57**	*e*P	**Pb**	**03 17 31.8**	**-0.6**
	baz=57						
EAST	**Anshuo**	**1.47**	**211**	*e*P	**Pn**	**03 17 30.2**	**0.0**
	baz=199						
TAW	**Tawu**	**1.47**	**209**	*e*P	**Pb**	**03 17 31.4**	**-1.0**
	baz=197						
SCZT	**Fangliau**	**1.60**	**217**	*e*P	**Pb**	**03 17 34.6**	**+0.1**
	baz=217						
SCZT				*e*S	**Sb**	**03 17 54.4**	**+0.1**
	baz=217						
LAY	**Lan-yu**	**1.61**	**184**	*e*P	**Pn**	**03 17 31.9**	**-0.2**
	baz=172						
HEN	**Hengchun**	**1.85**	**208**	*e*P	**Pb**	**03 17 38.0**	**-0.7**
	baz=197						
WDGT	**Dungji**	**1.88**	**258**	*e*P	**Pn**	**03 17 35.8**	**-0.1**
	baz=258						
PNG	**Penghu**	**1.94**	**268**	*e*P	**Pn**	**03 17 36.7**	**+0.1**
	baz=267						
KNM	**Kinmen**	**3.05**	**285**	*e*P	**Pn**	**03 17 52.6**	**+0.6**
	baz=285						
KAPI	**Kappang**	**28.55**	**184**	*e*P	**P**	**03 22 58.4**	**-0.7**
	14nm,1.0s						
MK31	**Makanchi Array**	**39.02**	**316**	*e*P	**P**	**03 24 29.1**	**-0.6**
TKM2	**Tokmak 2**	**42.44**	**308**	*e*P	**P**	**03 24 59.2**	**+1.0**
	10nm,1.0s						
KURK	**Kurchatov**	**42.78**	**320**	*e*P	**P**	**03 25 02.1**	**+1.6**
	0.6nm,0.6s						
PSZ	**Piszkesteto**	**80.25**	**318**	*e*P	**P**	**03 29 14.0**	**+0.2**
	1.8nm,0.7s						
MORC	**Moravsky Berou**	**80.87**	**320**	*e*P	**P**	**03 29 17.1**	**0.0**
	2.2nm,1.0s						
YKW3	**Yellowknife Ar**	**83.24**	**23**	*e*P	**P**	**03 29 29.9**	**+0.7**

*IDC **04** 03:26:12.7±1.2, 2°.80S×101°.57E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/22, mbtmp3.5/5, MS2.6/1, Ms1 2.6/1, ms1mx2.5/37, Error ellipse: s-maj=59.0km s-min=23.0km az=49.0*
*ISCJB **04** 03:26:16.6±1.0, 2°.4S±0°.2×101°.8E±0°.3, h33km, mb3.5/5, Error ellipse: s-maj=46.4km s-min=7.5km az=150.4*
*DJA **04** 03:26:16.9±1.4, 3°.3S±19°.×10°.2E±2°.7, h15km±6km, M3.8/3, MLv3.8/3*

ISC 04 03:26:18.6±0.9, 2°.6S±0°.2×101°.7E±0°.2, h35km, n13, σ1°.55/15, mb3.5/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASI	**Maura Aman, Be**	**0.77**	**139**	P	**Pn**	**03 26 30.3**	**-2.7**
MASI				S	**Sn**	**03 26 43.9**	**+0.5**
KSI	**Kapahiang**	**1.39**	**142**	P	**Pn**	**03 26 40.4**	**-1.1**
KSI				S	**Sn**	**03 26 59.1**	**+0.4**
MNAI	**Manna**	**2.17**	**146**	P	**Pn**	**03 26 54.1**	**+1.8**
MNAI				S	**Sn**	**03 27 20.4**	**+2.5**
MDSI	**Maura Dua**	**3.10**	**128**	P	**Pn**	**03 27 05.7**	**+0.6**
PSI	**Prapat**	**6.01**	**332**	LR	LR	03 30 55.8	
	comp=Z,54nm,19.0s,baz=77,slow=47						
WRA	**Warramunga Arr**	**36.22**	**121**	P	**P**	**03 33 17.2**	**-1.3**
	0.6nm,1.0s,baz=304,slow=8.6,SNR=2.8						
ASAR	**Alice Springs**	**37.53**	**127**	P	**P**	**03 33 28.4**	**-1.2**
	0.3nm,0.6s,baz=306,slow=8.4,SNR=6.7						
SONM	**Songino Array**	**50.34**	**4**	P	**P**	**03 35 14.2**	**+2.1**
	0.2nm,0.3s,baz=184,slow=10,SNR=2.9						
MKAR	**Makanchi Array**	**52.04**	**343**	P	**P**	**03 35 24.8**	**-0.1**
	0.1nm,0.3s,baz=165,slow=9.7,SNR=2.7						
BRTR	**Keskin Array B**	**74.97**	**312**	P	**P**	**03 37 55.9**	**-0.8**
	1.1nm,0.7s,baz=111,slow=6.7,SNR=9.1						
TXAR	**Lajitas Array**	**144.05**	**40**	PKP	**PKPdf**	**03 45 50.4**	**-1.0**
	0.3nm,0.5s,baz=286,slow=0.7,SNR=6.6						
CPUP	**Villa Florida**	**144.87**	**214**	PKP	**PKPdf**	**03 45 52.9**	**+0.1**
	2.8nm,0.9s,baz=95,slow=6.3,SNR=3.3						
BDFB	**Brasilia**	**145.04**	**238**	PKP	**PKPdf**	**03 45 54.2**	**+0.8**
	2.0nm,0.8s,baz=236,slow=3.6,SNR=3.1						

*BJI **04** 03:33:23.8, 46°.50N×27°.40W, h10km, mB5.3/5, mb5.1/7, Ms5.2/2, Ms7 4.8/3*
*IDC **04** 03:33:24.7±0.8, 46°.41N×27°.42W, h0km, mb4.0/16, mb1 4.2/18, mb1mx4.0/36, mbtmp4.0/18, ML4.2/2, MS4.0/24, Ms1 4.0/24, ms1mx3.8/51, Error ellipse: s-maj=25.3km s-min=14.6km az=15.0*
*MOS **04** 03:33:25.2±0.9, 46°.57N×27°.37W, h10km, mb4.9/37, Error ellipse: s-maj=10.2km s-min=5.4km az=159.8*
*ISCJB **04** 03:33:25.2±0.2, 46°.32N±0°.05×27°.37W±0°.03, h16km, mb4.5/90, MS4.0/28, Error ellipse: s-maj=6.9km s-min=3.1km az=12.5*
*CSEM **04** 03:33:26.5±0.1, 46°.52N×27°.40W, h10km, mb4.6/60, Ms3.9, Mw4.8, Error ellipse: s-maj=8.6km s-min=3.5km az=4.0*
*NEIC **04** 03:33:26.7±0.2, 46°.50N×27°.39W, h10km, mb4.6/37, Error ellipse: s-maj=7.4km s-min=2.9km az=4.0*
*GCMT **04** 03:33:28.0±0.4, 46°.43N×27°.26W, h12km, MW4.8, Moment Tensor Solution. s11,c13; s71,c87; Moment tensor: Scale 10^16 Nm; Mrr=1.72±.07; Mθθ=0.44±.09; Mφφ=1.28±.06; Mrθ=-0.63±.43; Mrφ=0.42±.06; Mθφ=-0.17±.32; Best double couple: M0=1.70000×10^16 NP1: φs=37.00000°, δ=54.00000°, λ=-74.00000°. NP2: φs=191.00000°, δ=39.00000°, λ=-111.00000°. Principal axes: T 1.5000, Plg=7.0000°, Azm=115.0000°; N 0.3800, Plg=13.0000°, Azm=207.0000°; P -1.8900, Plg=75.0000°, Azm=356.0000°; Data Used: G CN IU II IC.*

ISC 04 03:33:27.4±0.4, 46°.44N±0°.06×27°.32W±0°.05, h16km, n433, σ1°.20/426, mb4.6/90, MS4.0/28, 2C-2D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGAV	**Gavieira, Arco**	**14.37**	**101**	*e*P	**Pn**	**03 36 48.1**	**-2.1**
	47nm,0.6s						
PGAV				*e*LR	LR	03 40 05.7	
	967nm,20.0s						
PTO	**Porto**	**14.51**	**105**	*e*P	**Pn**	**03 36 49.9**	**-2.1**
PCAB	**Cabril**	**14.64**	**102**	*e*P	**Pn**	**03 36 51.6**	**-2.2**
	58nm,1.3s						
POLO	**Lamas de Olo**	**14.95**	**103**	*e*P	**Pn**	**03 36 55.8**	**-2.2**
	28nm,1.5s						
PVRL	**Vila Real**	**15.04**	**103**	*e*P	**Pn**	**03 36 57.1**	**-2.2**
PCAS	**Casmilo, Conde**	**15.11**	**108**	*e*P	**Pn**	**03 36 56.7**	**-3.4**
	24nm,2.2s						
PVIS	**Viseu**	**15.18**	**105**	*e*P	**Pn**	**03 36 58.6**	**-2.5**
	24nm,1.6s						
PMAFR	**Mafra**	**15.21**	**113**	*e*P	**Pn**	**03 36 57.9**	**-3.5**
	101nm,1.6s						
PTOM	**Tomar**	**15.40**	**109**	*e*P	**Pn**	**03 37 00.2**	**-3.7**
	32nm,1.5s						
PBRG	**Braganca**	**15.48**	**100**	*e*P	**Pn**	**03 37 03.2**	**-1.8**
	37nm,1.6s						
MVO	**Moncorvo**	**15.56**	**103**	*e*P	**Pn**	**03 37 03.9**	**-2.1**
	27nm,1.3s						
MVO				*e*LR	LR	03 40 31.4	
	852nm,20.0s						
MTE	**Manteigas**	**15.57**	**106**	*e*P	**Pn**	**03 37 03.0**	**-3.2**
	14nm,1.4s						
MTE				*e*LR	LR	03 40 36.4	
	686nm,20.0s						
PACT	**Alcochete**	**15.60**	**113**	*e*P	**Pn**	**03 37 05.0**	**-1.5**
	118nm,1.5s						
PMOZ	**Porto Moniz, M**	**15.66**	**147**	*e*LR	LR	03 40 36.6	
	370nm,18.0s						
PMTG	**Montargil**	**15.82**	**111**	*e*P	**Pn**	**03 37 06.3**	**-3.1**
	69nm,1.7s						
PCBR	**Castelo Branco**	**15.89**	**107**	*e*P	**Pn**	**03 37 10.8**	**+0.5**
	26nm,1.5s						
PMRV	**Marv??o**	**16.17**	**109**	*e*P	**Pn**	**03 37 12.4**	**-1.4**
PMRV				*e*LR	LR	03 41 08.8	
	616nm,20.0s						
PNCL	**Nicolau / Gran**	**16.18**	**114**	*e*P	**Pn**	**03 37 12.5**	**-1.5**
	30nm,1.7s						
EVOP	**Sao Brissos**	**16.19**	**112**	*e*P	**Pn**	**03 37 10.9**	**-3.2**
EVOP				pmax	pmax		
	comp=Z,12nm,0.8s						
EVOP	**Sao Brissos**	**16.19**	**112**	*e*P	**Pn**	**03 37 10.9**	**-3.2**
	comp=Z,12nm,0.8s						
EVOP	**Sao Brissos**	**16.19**	**112**	*e*P	**Pn**	**03 37 10.9**	**-3.2**
	comp=Z,5.8nm,0.8s						
EVO	**Evora**	**16.26**	**112**	*e*P	**Pn**	**03 37 10.9**	**-4.1**
	comp=Z,12nm,0.8s						
EVO				*e*R			
	comp=Z,569nm,20.5s						
EVO	**Evora**	**16.26**	**112**	*e*P	**Pn**	**03 37 12.0**	**-3.0**
	comp=Z,27nm,1.7s						
ROSF	**Rostrenen**	**16.38**	**75**	*e*P	**Pn**	**03 37 15.1**	**-1.4**
	comp=Z,27nm,1.2s						
ROSF	**Rostrenen**	**16.38**	**75**	*e*P	**Pn**	**03 37 15.1**	**-1.4**
ROSF				pmax	pmax		
	comp=Z,27nm,1.2s						
ROSF	**Rostrenen**	**16.38**	**75**	*e*P	**Pn**	**03 37 15.1**	**-1.4**
	comp=Z,27nm,1.2s						
PTEO	**Sao Teotonio**	**16.40**	**116**	*e*P	**Pn**	**03 37 16.9**	**+0.1**
	comp=Z,57nm,1.9s						
QUIF	**Quistinic**	**16.48**	**76**	*e*P	**Pn**	**03 37 16.9**	**-0.8**
	comp=Z,102nm,1.5s						

ESDC LR LR 03 43 43.1
comp=Z,420nm,18.2s,baz=295,slow=34
LDF La Druitiere 18.46 73 *eP* **P 03 37 41.9 -0.4**
comp=Z,118nm,1.6s
LDF La Druitiere 18.46 73 *eP* **P 03 37 41.9 -0.4**
LDF pmax pmax
comp=Z,118nm,1.6s
LDF La Druitiere 18.46 73 *eP* **P 03 37 41.9 -0.4**
comp=Z,118nm,1.6s
LDF La Druitiere 18.46 73 *eP* **P 03 37 41.9 -0.4**
comp=Z,59nm,1.6s
MFF Saint Martin d 18.67 80 *eP* **Pn 03 37 44.8 -0.2**
MFF Saint Martin d 18.67 80 *eP* **Pn 03 37 44.8 -0.2**
MFF Saint Martin d 18.67 80 *eP* **Pn 03 37 44.8 -0.2**
MFF Saint Martin d 18.67 80 *eP* **Pn 03 37 44.8 -0.2**
SJPF Ste Jean 18.79 91 *eP* **Pn 03 37 47.8 +1.3**
comp=Z,7.7nm,0.6s
SJPF Ste Jean 18.79 91 *eP* **Pn 03 37 47.8 +1.3**
SJPF pmax pmax
comp=Z,8.0nm,0.6s
SJPF Ste Jean 18.79 91 *eP* **Pn 03 37 47.8 +1.3**
comp=Z,7.7nm,0.6s
SJPF Ste Jean 18.79 91 *eP* **Pn 03 37 47.8 +1.3**
comp=Z,3.8nm,0.6s
ETSF Etsaut 19.32 91 *eP* **Pn 03 37 52.8 -0.1**
comp=Z,17nm,0.6s
ETSF Etsaut 19.32 91 *eP* **Pn 03 37 52.8 -0.1**
ETSF pmax pmax
comp=Z,17nm,0.6s
ETSF Etsaut 19.32 91 *eP* **Pn 03 37 52.8 -0.1**
comp=Z,17nm,0.6s
ETSF Etsaut 19.32 91 *eP* **Pn 03 37 52.8 -0.1**
comp=Z,8.6nm,0.6s
LFF La Frestale 19.62 84 *eP* **P 03 37 55.5 +0.5**
LFF La Frestale 19.62 84 *eP* **P 03 37 55.5 +0.5**
LFF La Frestale 19.62 84 *eP* **P 03 37 55.5 +0.5**
LFF La Frestale 19.62 84 *eP* **P 03 37 55.5 +0.5**
EPF Esparros 19.90 90 *eP* **Pn 03 37 59.9 +0.1**
EPF Esparros 19.90 90 *eP* **Pn 03 37 59.9 +0.1**
EPF Esparros 19.90 90 *eP* **Pn 03 37 59.9 +0.1**
EPF Esparros 19.90 90 *eP* **Pn 03 37 59.9 +0.1**
RJF Les Rejaudoux 20.07 83 *eP* **P 03 38 00.4 +0.5**
RJF eR
comp=Z,884nm,21.2s
RJF Les Rejaudoux 20.07 83 *eP* **P 03 38 00.4 +0.5**
RJF Les Rejaudoux 20.07 83 *eP* **P 03 38 00.4 +0.5**
RJF Les Rejaudoux 20.07 83 *eP* **P 03 38 00.4 +0.5**
TCF Toulx Ste Croi 20.33 80 *eP* **P 03 38 03.0 +0.2**
comp=Z,64nm,1.3s
TCF Toulx Ste Croi 20.33 80 *eP* **P 03 38 03.0 +0.2**
TCF pmax pmax
comp=Z,64nm,1.3s
TCF Toulx Ste Croi 20.33 80 *eP* **P 03 38 03.0 +0.2**
comp=Z,64nm,1.3s
TCF Toulx Ste Croi 20.33 80 *eP* **P 03 38 03.0 +0.2**
comp=Z,32nm,1.3s
CAF Calviac 20.54 84 *eP* **P 03 38 04.8 -0.2**
comp=Z,10nm,0.5s
CAF Calviac 20.54 84 *eP* **P 03 38 04.8 -0.2**
CAF pmax pmax
comp=Z,10.0nm,0.5s
CAF Calviac 20.54 84 *eP* **P 03 38 04.8 -0.2**
comp=Z,10nm,0.5s
CAF Calviac 20.54 84 *eP* **P 03 38 04.8 -0.2**
comp=Z,5.1nm,0.5s
AVF Avril sur Loir 21.01 78 *eP* **P 03 38 10.5 +0.4**
comp=Z,110nm,1.7s
AVF Avril sur Loir 21.01 78 *eP* **P 03 38 10.5 +0.4**
AVF pmax pmax
comp=Z,111nm,1.7s
AVF Avril sur Loir 21.01 78 *eP* **P 03 38 10.5 +0.4**
comp=Z,110nm,1.7s
AVF Avril sur Loir 21.01 78 *eP* **P 03 38 10.5 +0.4**
comp=Z,55nm,1.7s
SSF Saint Saulge 21.07 77 *eP* **P 03 38 11.4 +0.7**
comp=Z,48nm,1.1s
SSF Saint Saulge 21.07 77 *eP* **P 03 38 11.4 +0.7**
SSF pmax pmax
comp=Z,48nm,1.1s
SSF Saint Saulge 21.07 77 *eP* **P 03 38 11.4 +0.7**
comp=Z,48nm,1.1s
SSF Saint Saulge 21.07 77 *eP* **P 03 38 11.4 +0.7**
comp=Z,24nm,1.1s
MTLF Montolieu 21.10 88 *eP* **P 03 38 12.1 +1.1**
comp=Z,41nm,1.4s
MTLF Montolieu 21.10 88 *eP* **P 03 38 12.1 +1.1**
MTLF pmax pmax
comp=Z,41nm,1.4s
MTLF Montolieu 21.10 88 *eP* **P 03 38 12.1 +1.1**
comp=Z,41nm,1.4s
MTLF Montolieu 21.10 88 *eP* **P 03 38 12.1 +1.1**
comp=Z,20nm,1.4s
BAIF Baives 21.22 69 *eP* **P 03 38 13.3 +1.0**
comp=Z,141nm,1.7s
BAIF Baives 21.22 69 *eP* **P 03 38 13.3 +1.0**
BAIF pmax pmax
comp=Z,141nm,1.7s
BAIF Baives 21.22 69 *eP* **P 03 38 13.3 +1.0**
comp=Z,141nm,1.7s
BAIF Baives 21.22 69 *eP* **P 03 38 13.3 +1.0**
comp=Z,70nm,1.7s
LOR Lormes 21.27 76 *eP* **P 03 38 13.1 +0.2**
comp=Z,45nm,1.3s,baz=266
LOR eR
comp=Z,523nm,21.8s
LOR Lormes 21.27 76 *eP* **P 03 38 13.1 +0.2**
comp=Z,45nm,1.3s
LOR Lormes 21.27 76 *eP* **P 03 38 13.1 +0.2**
comp=Z,22nm,1.3s,baz=266
SMF Signal de Mont 21.37 78 *eP* **P 03 38 15.7 +1.8**
comp=Z,65nm,1.5s
SMF Signal de Mont 21.37 78 *eP* **P 03 38 15.7 +1.8**
SMF pmax pmax
comp=Z,65nm,1.5s
SMF Signal de Mont 21.37 78 *eP* **P 03 38 15.7 +1.8**
comp=Z,65nm,1.5s
SMF Signal de Mont 21.37 78 *eP* **P 03 38 15.7 +1.8**
comp=Z,33nm,1.5s
DOU Dourbes 21.47 68 P **P 03 38 16.1 +1.2**
comp=Z,28nm,1.9s
DOU Dourbes 21.47 68 P **P 03 38 16.0 +1.1**
comp=Z,28nm,1.9s
GIVF Givet 21.61 68 *eP* **P 03 38 17.0 +0.5**
comp=Z,225nm,1.7s
GIVF Givet 21.61 68 *eP* **P 03 38 17.0 +0.5**
GIVF pmax pmax
comp=Z,225nm,1.7s
GIVF Givet 21.61 68 *eP* **P 03 38 17.0 +0.5**
comp=Z,225nm,1.7s
GIVF Givet 21.61 68 *eP* **P 03 38 17.0 +0.5**
comp=Z,113nm,1.7s
MEZF Maizieres J'vi 21.89 73 *eP* **P 03 38 20.9 +1.4**
comp=Z,200nm,1.8s
MEZF Maizieres J'vi 21.89 73 *eP* **P 03 38 20.9 +1.4**
comp=Z,200nm,1.8s
MEZF Maizieres J'vi 21.89 73 *eP* **P 03 38 20.9 +1.4**
comp=Z,100nm,1.8s
BCLA Clavier 21.91 68 P **P 03 38 21.7 +2.0**
comp=Z,25nm,1.8s
BCLA Clavier 21.91 68 P **P 03 38 21.6 +2.0**
comp=Z,25nm,1.8s
SFTF Sexfontaines 21.92 74 *eP* **P 03 38 19.9 0.0**
comp=Z,91nm,1.3s
SFTF Sexfontaines 21.92 74 *eP* **P 03 38 19.9 0.0**
comp=Z,91nm,1.3s
SFTF Sexfontaines 21.92 74 *eP* **P 03 38 19.9 0.0**
comp=Z,46nm,1.3s
LASF Ste Croix 22.00 85 *eP* **P 03 38 22.6 +1.8**
comp=Z,42nm,1.1s
LASF Ste Croix 22.00 85 *eP* **P 03 38 22.6 +1.8**
comp=Z,42nm,1.1s
LASF Ste Croix 22.00 85 *eP* **P 03 38 22.6 +1.8**
comp=Z,21nm,1.1s
MDT Midelt 22.06 120 P **P 03 38 21.6 0.0**
MDT Midelt 22.06 120 P **P 03 38 21.6 0.0**
MDT Midelt 22.06 120 P **P 03 38 21.6 0.0**
comp=Z,0.7nm,0.7s,baz=322,slow=13,SNR=3.5
MDT LR LR 03 45 18.4
comp=Z,278nm,21.4s,baz=336,slow=32
BEBN Eben Emael 22.13 67 P **P 03 38 22.0 0.0**
BEBN Eben Emael 22.13 67 P **P 03 38 22.0 0.0**
PAGF Fort de Pagny 22.33 72 *eP* **P 03 38 24.9 +0.6**
comp=Z,42nm,1.7s
PAGF Fort de Pagny 22.33 72 *eP* **P 03 38 24.9 +0.6**
comp=Z,42nm,1.7s
PAGF Fort de Pagny 22.33 72 *eP* **P 03 38 24.9 +0.6**
comp=Z,21nm,1.7s

VIVF Saint-Julien-l 22.34 82 *eP* **P 03 38 26.0 +1.5**
comp=Z,88nm,1.7s
VIVF Saint-Julien-l 22.34 82 *eP* **P 03 38 26.0 +1.5**
VIVF pmax pmax
comp=Z,88nm,1.7s
VIVF Saint-Julien-l 22.34 82 *eP* **P 03 38 26.0 +1.5**
comp=Z,88nm,1.7s
VIVF Saint-Julien-l 22.34 82 *eP* **P 03 38 26.0 +1.5**
comp=Z,44nm,1.7s
MEM Membach 22.35 67 P **P 03 38 24.4 -0.1**
comp=Z,19nm,1.8s
MEM Membach 22.35 67 P **P 03 38 24.3 -0.1**
comp=Z,19nm,1.8s
WLF Walferdange 22.50 69 P **P 03 38 28.2 +2.2**
WLF Walferdange 22.50 69 *eP* **P 03 38 26.2 +0.2**
WLF Walferdange 22.50 69 *eP* **P 03 38 26.2 +0.2**
WLF Walferdange 22.50 69 *eP* **P 03 38 26.2 +0.2**
HAU Haudompre 22.82 74 *eP* **P 03 38 30.2 +0.7**
comp=Z,111nm,1.9s
HAU eR
comp=Z,426nm,23.0s
HAU Haudompre 22.82 74 *eP* **P 03 38 30.2 +0.7**
HAU pmax pmax
comp=Z,111nm,1.9s
HAU Haudompre 22.82 74 *eP* **P 03 38 30.2 +0.7**
comp=Z,111nm,1.9s
HAU Haudompre 22.82 74 *eP* **P 03 38 30.2 +0.7**
comp=Z,56nm,1.9s
CABF La Chapelle 22.89 77 *eP* **P 03 38 30.2 -0.1**
comp=Z,150nm,1.7s
CABF La Chapelle 22.89 77 *eP* **P 03 38 30.2 -0.1**
CABF pmax pmax
comp=Z,150nm,1.7s
CABF La Chapelle 22.89 77 *eP* **P 03 38 30.2 -0.1**
comp=Z,150nm,1.7s
CABF La Chapelle 22.89 77 *eP* **P 03 38 30.2 -0.1**
comp=Z,75nm,1.7s
ORIF Oris-en-Rattie 23.16 82 *eP* **P 03 38 34.1 +1.1**
comp=Z,82nm,1.7s
ORIF eR
comp=Z,649nm,22.0s
ORIF Oris-en-Rattie 23.16 82 *eP* **P 03 38 34.1 +1.1**
ORIF pmax pmax
comp=Z,82nm,1.7s
ORIF Oris-en-Rattie 23.16 82 *eP* **P 03 38 34.1 +1.1**
comp=Z,82nm,1.7s
ORIF Oris-en-Rattie 23.16 82 *eP* **P 03 38 34.1 +1.1**
comp=Z,41nm,1.7s
HINF Hinteralfeld 23.18 74 *eP* **P 03 38 33.1 -0.1**
comp=Z,116nm,1.8s
HINF Hinteralfeld 23.18 74 *eP* **P 03 38 33.1 -0.1**
HINF pmax pmax
comp=Z,116nm,1.8s
HINF Hinteralfeld 23.18 74 *eP* **P 03 38 33.1 -0.1**
comp=Z,116nm,1.8s
HINF Hinteralfeld 23.18 74 *eP* **P 03 38 33.1 -0.1**
comp=Z,58nm,1.8s
SMRF Simiane la Rot 23.22 84 *eP* **P 03 38 35.8 +2.2**
comp=Z,116nm,1.8s
SMRF Simiane la Rot 23.22 84 *eP* **P 03 38 35.8 +2.2**
comp=Z,116nm,1.8s
SMRF Simiane la Rot 23.22 84 *eP* **P 03 38 35.8 +2.2**
comp=Z,58nm,1.8s
CDF Champ du Feu 23.37 72 *eP* **P 03 38 36.8 +1.6**
comp=Z,90nm,1.6s
CDF Champ du Feu 23.37 72 *eP* **P 03 38 36.8 +1.6**
CDF pmax pmax
comp=Z,90nm,1.6s
CDF Champ du Feu 23.37 72 *eP* **P 03 38 36.8 +1.6**
comp=Z,90nm,1.6s
CDF Champ du Feu 23.37 72 *eP* **P 03 38 36.8 +1.6**
comp=Z,45nm,1.6s
LPL La Plagne 23.58 80 *eP* **P 03 38 38.6 +1.2**
LPL La Plagne 23.58 80 *eP* **P 03 38 38.6 +1.2**
LPL La Plagne 23.58 80 *eP* **P 03 38 38.6 +1.2**
LPL La Plagne 23.58 80 *eP* **P 03 38 38.6 +1.2**
LPG La Plagne 23.60 80 *eP* **P 03 38 38.9 +1.2**
LPG La Plagne 23.60 80 *eP* **P 03 38 38.9 +1.2**
LPG La Plagne 23.60 80 *eP* **P 03 38 38.9 +1.2**
LPG La Plagne 23.60 80 *eP* **P 03 38 38.9 +1.2**
MBDF Montbardon 23.82 82 *eP* **P 03 38 40.1 +0.5**
comp=Z,60nm,1.6s
MBDF Montbardon 23.82 82 *eP* **P 03 38 40.1 +0.5**
MBDF pmax pmax
comp=Z,60nm,1.6s
MBDF Montbardon 23.82 82 *eP* **P 03 38 40.1 +0.5**
comp=Z,60nm,1.6s
MBDF Montbardon 23.82 82 *eP* **P 03 38 40.1 +0.5**
comp=Z,30nm,1.6s
SFJD Kangerlussuaq 23.96 337 LR LR 03 45 56.7
comp=Z,664nm,20.8s,baz=137,slow=31
LMR La Mourre 24.06 85 *eP* **P 03 38 42.7 +1.0**
LMR La Mourre 24.06 85 *eP* **P 03 38 42.7 +1.0**
LMR La Mourre 24.06 85 *eP* **P 03 38 42.7 +1.0**
LMR La Mourre 24.06 85 *eP* **P 03 38 42.7 +1.0**
FRF La Foret Royal 24.08 84 *eP* **P 03 38 42.3 +0.3**
FRF La Foret Royal 24.08 84 *eP* **P 03 38 42.3 +0.3**
FRF La Foret Royal 24.08 84 *eP* **P 03 38 42.3 +0.3**
FRF La Foret Royal 24.08 84 *eP* **P 03 38 42.3 +0.3**
SBF Sospel 24.53 83 *eP* **P 03 38 46.9 +0.8**
comp=Z,54nm,1.1s
SBF Sospel 24.53 83 *eP* **P 03 38 46.9 +0.8**
SBF pmax pmax
comp=Z,54nm,1.1s
SBF Sospel 24.53 83 *eP* **P 03 38 46.9 +0.8**
comp=Z,54nm,1.1s
SBF Sospel 24.53 83 *eP* **P 03 38 46.9 +0.8**
comp=Z,27nm,1.1s
STU Stuttgart 24.58 71 *eP* **P 03 38 47.0 +0.5**
STU Stuttgart 24.58 71 *eP* **P 03 38 47.0 +0.5**
STU Stuttgart 24.58 71 *eP* **P 03 38 47.0 +0.5**
DAVOX Davos/Dischmat 25.41 76 P **P 03 38 54.9 +0.8**
DAVOX Davos/Dischmat 25.41 76 P **P 03 38 54.9 +0.8**
DAVOX Davos/Dischmat 25.41 76 P **P 03 38 54.9 +0.8**
comp=Z,3.5nm,0.8s,baz=303,slow=13,SNR=7.3
DAVOX LR LR 03 47 37.7
comp=Z,302nm,19.7s,baz=263,slow=34
GRF Grafenberg Arr 25.77 69 *eP* P 03 39 05.4 +8.2
GRF pmax pmax
comp=Z,92nm,2.8s
GRF Grafenberg Arr 25.77 69 *eP* P 03 39 05.4 +8.2
comp=Z,92nm,2.8s
PGF Pioggiola 26.05 85 *eP* **P 03 38 59.5 -0.4**
comp=Z,36nm,1.2s
PGF Pioggiola 26.05 85 *eP* **P 03 38 59.5 -0.4**
PGF pmax pmax
comp=Z,36nm,1.2s
PGF Pioggiola 26.05 85 *eP* **P 03 38 59.5 -0.4**
comp=Z,36nm,1.2s
PGF Pioggiola 26.05 85 *eP* **P 03 38 59.5 -0.4**
comp=Z,18nm,1.2s
SCHQ Schefferville 26.12 303 LR LR 03 47 31.6
comp=Z,429nm,18.8s,baz=88,slow=32
JMIC Jan Mayen 26.23 14 LR LR 03 47 06.3
comp=Z,106nm,20.4s,baz=292,slow=31
NAO01 NORSAR Array S 26.38 43 *eP* **P 03 39 02.2 -0.4**
comp=Z,24nm,1.1s
NAO01 NORSAR Array S 26.38 43 *eP* **P 03 39 02.2 -0.4**
comp=Z,24nm,1.1s
NOA NORSAR Array B 26.58 43 LR LR 03 49 01.9
comp=Z,80nm,19.7s,baz=260,slow=35
CLL Collm 26.71 65 *eP* **P 03 39 05.0 -0.7**
CLL Collm 26.71 65 *eP* **P 03 39 05.0 -0.7**
CLL eSSS SSS 03 45 12.0
CLL Collm 26.71 65 *eP* **P 03 39 05.0 -0.7**
SUMG Summit 26.72 353 *i P* **P 03 39 08.9 +2.9**
SUMG pmax pmax
comp=Z,5.0nm,1.1s
SUMG Summit 26.72 353 *i P* **P 03 39 08.9 +2.9**
comp=Z,4.7nm,1.1s
KHC Kasperske Hory 27.38 69 *eP* **P 03 39 12.8 +1.0**
KHC MLR MLR
comp=Z,600nm,19.0s
KHC Kasperske Hory 27.38 69 *eP* **P 03 39 12.8 +1.0**
KHC AMS AMS 03 49 40.0
comp=Z,600nm,19.0s
KHC Kasperske Hory 27.38 69 *eP* **P 03 39 12.8 +1.0**
comp=Z,600nm,19.0s
GERES GERESS Array B 27.51 70 P **P 03 39 12.8 -0.1**
GERES GERESS Array B 27.51 70 P **P 03 39 12.9 -0.1**
GERES GERESS Array B 27.51 70 P **P 03 39 12.8 -0.1**
comp=Z,0.9nm,0.7s,baz=297,slow=8.7,SNR=5.6
GERES LR LR 03 49 52.1
comp=Z,378nm,18.6s,baz=307,slow=36
HFS Hagfors 27.56 45 LR LR 03 48 12.5
comp=Z,168nm,20.5s,baz=263,slow=32

PRU Pruhonice 27.85 67 AMS AMS 03 49 50.0
comp=Z,600nm,21.6s
FRB Frobisher Bay 28.56 322 LR LR 03 48 05.4
comp=Z,307nm,18.2s,baz=206,slow=31
TREC Trest 28.58 68 AMS AMS 03 50 00.0
comp=Z,600nm,16.6s
VRAC Vranov 29.29 68 LR LR 03 50 40.8
comp=Z,540nm,19.2s,baz=286,slow=35
KEST Kesra 29.39 98 P **P 03 39 30.2 +0.3**
KEST Kesra 29.39 98 P **P 03 39 30.2 +0.3**
KEST Kesra 29.39 98 P **P 03 39 30.2 +0.3**
comp=Z,1.2nm,0.8s,baz=13,slow=8.4,SNR=3.5
KEST LR LR 03 50 19.6
comp=Z,234nm,18.6s,baz=326,slow=34
MORC Moravsky Berou 29.80 67 *eP* **P 03 39 33.9 +0.6**
MORC pmax pmax
comp=Z,4.0nm,1.1s
MORC Moravsky Berou 29.80 67 *eP* **P 03 39 33.9 +0.6**
comp=Z,4.0nm,1.1s
MORC Moravsky Berou 29.80 67 *eP* **P 03 39 33.9 +0.6**
comp=Z,4.0nm,1.1s
OKC Ostrava-Krasne 30.17 67 AMS AMS 03 51 10.0
PSZ Piszkesteto 31.74 70 *eP* **P 03 39 51.8 +1.3**
PSZ pmax pmax
comp=Z,4.0nm,0.9s
PSZ Piszkesteto 31.74 70 *eP* **P 03 39 51.8 +1.3**
comp=Z,3.9nm,0.9s
PSZ Piszkesteto 31.74 70 *eP* **P 03 39 51.8 +1.3**
comp=Z,4.0nm,0.9s
STHS Stebnicka Huta 32.23 67 *eP* **P 03 39 54.9 +0.2**
STHS pmax pmax
comp=Z,3.0nm,1.2s
STHS Stebnicka Huta 32.23 67 *eP* **P 03 39 54.9 +0.2**
STHS Stebnicka Huta 32.23 67 *eP* **P 03 39 54.9 +0.2**
comp=Z,3.0nm,1.2s
LONY Lake Ozonia 32.78 284 *eP* **P 03 40 01.2 +1.6**
comp=Z,12nm,1.1s
LONY Lake Ozonia 32.78 284 *eP* **P 03 40 01.2 +1.6**
comp=Z,12nm,1.1s
FINES FINESS Array B 33.73 44 LR LR 03 53 39.8
comp=Z,68nm,20.1s,baz=331,slow=36
ARCES ARCESS Array B 34.60 30 P **P 03 40 14.8 -0.3**
ARCES ARCESS Array B 34.60 30 P **P 03 40 14.8 -0.3**
ARCES ARCESS Array B 34.60 30 P **P 03 40 14.8 -0.3**
comp=Z,3.4nm,1.0s,baz=275,slow=9.9,SNR=4.2
ARCES LR LR 03 53 05.7
comp=Z,77nm,18.7s,baz=304,slow=34
KIEV Kiev 36.87 62 *eP* **P 03 40 34.3 -0.5**
KIEV pmax pmax
comp=Z,5.0nm,0.9s
KIEV Kiev 36.87 62 *eP* **P 03 40 34.3 -0.5**
comp=Z,5.1nm,0.9s
KIEV Kiev 36.87 62 *eP* **P 03 40 34.3 -0.5**
comp=Z,5.0nm,0.9s
AKASG Malin Array Be 36.88 62 P **P 03 40 34.6 -0.2**
AKASG Malin Array Be 36.88 62 P **P 03 40 34.6 -0.2**
AKASG Malin Array Be 36.88 62 P **P 03 40 34.6 -0.2**
AKASG Malin Array Be 36.88 62 P **P 03 40 34.6 -0.2**
comp=Z,2.5nm,0.7s,baz=283,slow=8.4,SNR=7.6
AKASG LR LR 03 56 42.7
comp=Z,239nm,18.5s,baz=265,slow=38
RES Resolute Bay 39.96 338 *eP* **P 03 41 01.1 +0.6**
comp=Z,11nm,0.8s
RES Resolute Bay 39.96 338 *eP* **P 03 41 01.1 +0.6**
comp=Z,11nm,0.8s
FCC Fort Churchill 40.65 313 *eP* **P 03 41 06.4 0.0**
FCC Fort Churchill 40.65 313 *eP* **P 03 41 06.4 0.0**
comp=Z,0.6nm,0.9s
FCC Fort Churchill 40.65 313 *eP* **P 03 41 06.4 0.0**
H05N1 Guadeloupe/Mar 41.07 234 T T 04 24 22.8
SNR=7.7
TORD Torodi Ar. Bea 41.21 134 P **P 03 41 10.5 -0.9**
TORD Torodi Ar. Bea 41.21 134 P **P 03 41 10.5 -0.9**
TORD Torodi Ar. Bea 41.21 134 P **P 03 41 10.5 -0.9**
comp=Z,2.2nm,0.7s,baz=330,slow=9.2,SNR=14
TORD LR LR 03 57 08.3
comp=Z,666nm,19.0s,baz=330,slow=34
BR131 Keskin Array S 44.05 76 *eP* **P 03 41 35.0 +0.5**
BR131 Keskin Array S 44.05 76 *eP* **P 03 41 35.0 +0.5**
BRTR Keskin Array B 44.05 76 P **P 03 41 35.2 +0.7**
BRTR Keskin Array B 44.05 76 P **P 03 41 35.2 +0.7**
BRTR Keskin Array B 44.05 76 P **P 03 41 35.2 +0.7**
comp=Z,2.0nm,0.9s,baz=286,slow=7.0,SNR=10.0
BRTR LR LR 03 59 19.7
comp=Z,109nm,20.9s,baz=97,slow=35
DBIC Dimbokro 44.10 147 LR LR 03 58 35.6
comp=Z,288nm,19.5s,baz=313,slow=34
ULM Lac du Bonnet 44.26 301 LR LR 03 57 52.0
comp=Z,335nm,19.6s,baz=226,slow=33
WVT Waverly 45.60 280 *eP* **P 03 41 46.7 0.0**
WVT pmax pmax
comp=Z,4.0nm,1.1s
WVT Waverly 45.60 280 *eP* **P 03 41 46.7 0.0**
comp=Z,4.4nm,1.1s
WVT Waverly 45.60 280 *eP* **P 03 41 46.7 0.0**
comp=Z,4.0nm,1.1s
FFC Flin Flon 46.01 309 *eP* **P 03 41 49.7 0.0**
FFC pmax pmax
comp=Z,20nm,1.1s
FFC Flin Flon 46.01 309 *eP* **P 03 41 49.7 0.0**
comp=Z,20nm,1.1s
FFC Flin Flon 46.01 309 *eP* **P 03 41 49.7 0.0**
comp=Z,20nm,1.1s
CSS Prodhromos 46.34 82 *eP* **P 03 41 53.2 +0.7**
CSS Prodhromos 46.34 82 *eP* **P 03 41 53.2 +0.7**
ECSD EROS Data Cent 47.56 293 *eP* **P 03 42 01.3 -0.7**
comp=Z,14nm,1.6s
ECSD EROS Data Cent 47.56 293 *eP* **P 03 42 01.3 -0.7**
comp=Z,14nm,1.6s
YKW3 Yellowknife Ar 49.06 322 *eP* **P 03 42 11.1 -2.1**
comp=Z,0.1nm,1.0s
YKW3 Yellowknife Ar 49.06 322 *eP* **P 03 42 11.1 -2.1**
comp=Z,0.1nm,1.0s
YKA Yellowknife Ar 49.08 322 P **P 03 42 12.6 -0.8**
YKA Yellowknife Ar 49.08 322 P **P 03 42 12.6 -0.8**
YKA Yellowknife Ar 49.08 322 P **P 03 42 12.5 -0.8**
comp=Z,3.3nm,1.1s,baz=68,slow=7.5,SNR=7.2
ZEI Tsey 49.25 67 *eP* **P 03 42 16.1 +0.9**
ZEI pmax pmax
comp=Z,8.0nm,1.0s
ZEI Tsey 49.25 67 *eP* **P 03 42 16.1 +0.9**
comp=Z,8.0nm,1.0s
ARU Arti 51.08 45 *c iP* **P 03 42 29.2 +0.5**
ARU 03 44 21.5
ARU S **S 03 49 47.7 +2.4**
ARU SS **SS 03 53 17.6 -2.3**
ARU pmax pmax
comp=Z,19nm,1.7s
ARU Arti 51.08 45 *i P* **P 03 42 29.2 +0.5**
comp=Z,19nm,1.7s
ARU S **S 03 49 47.7 +2.4**
GNI Garni 51.16 69 *eP* **P 03 42 30.7 +1.0**
GNI Garni 51.16 69 *eP* **P 03 42 30.7 +1.0**
RCBR Riachuelo 52.59 191 *eP* **P 03 42 41.3 +0.9**
comp=Z,55nm,1.2s
RCBR Riachuelo 52.59 191 *eP* **P 03 42 41.3 +0.9**
comp=Z,55nm,1.2s
EDM Edmonton 52.70 311 *eP* **P 03 42 40.9 0.0**
EDM Edmonton 52.70 311 *eP* **P 03 42 40.9 0.0**
EDM Edmonton 52.70 311 *eP* **P 03 42 40.9 0.0**
AKTK Aktyubinsk 53.75 52 P **P 03 42 49.0 +0.4**
AKTO Aktyubinsk 53.75 52 P **P 03 42 49.0 +0.4**
AKTO Aktyubinsk 53.75 52 P **P 03 42 49.0 +0.4**
AKTO Aktyubinsk 53.75 52 P **P 03 42 49.0 +0.4**
AKTO Aktyubinsk 53.75 52 P **P 03 42 49.0 +0.4**
comp=Z,3.6nm,0.9s,baz=294,slow=8.9,SNR=8.3
WMOK Wichita Mounta 53.78 285 *eP* **P 03 42 48.8 -0.3**
WMOK pmax pmax
comp=Z,6.0nm,1.2s
WMOK Wichita Mounta 53.78 285 *eP* **P 03 42 48.8 -0.3**
comp=Z,6.3nm,1.2s
WMOK Wichita Mounta 53.78 285 *eP* **P 03 42 48.8 -0.3**
comp=Z,6.0nm,1.2s
HKT Hockley 54.64 278 *eP* **P 03 42 52.2 -3.1**
HKT pmax pmax
comp=Z,17nm,1.5s
HKT Hockley 54.64 278 *eP* **P 03 42 52.1 -3.1**
comp=Z,17nm,1.5s
HKT Hockley 54.64 278 *eP* **P 03 42 52.2 -3.1**
comp=Z,17nm,1.5s
H10N2 ASCENSION HYDR 55.23 164 T T 04 42 15.5
baz=350,slow=0.7,SNR=10.0
H10N3 ASCENSION HYDR 55.24 164 T T 04 42 15.8
baz=350,slow=0.7,SNR=7.6
H10N1 ASCENSION HYDR 55.25 164 T T 04 42 20.1
baz=350,slow=0.7,SNR=13

ASCN	**Ascension**	**55.35**	**164**	*e*P		**P**	**03 42 59.8**	**-0.7**
	comp=Z,82nm,0.8s								
ASCN	**Ascension**	**55.35**	**164**	*e*P		**P**	**03 42 59.8**	**-0.7**
	comp=Z,82nm,0.8s								
ABKAR	**Akbulak array**	**55.44**	**53**	*e*P		**P**	**03 43 01.1**	**+0.3**
ABKAR	**Akbulak array**	**55.44**	**53**	*e*P		**P**	**03 43 01.1**	**+0.3**
BW06	**Boulder Array**	**56.12**	**298**	*e*P		**P**	**03 43 05.0**	**-1.0**
BW06	**Boulder Array**	**56.12**	**298**	*e*P		**P**	**03 43 05.1**	**-1.0**
PDAR	**Pinedale Array**	**56.12**	**298**	P		**P**	**03 43 05.1**	**-1.0**
PDAR	**Pinedale Array**	**56.12**	**298**	P		**P**	**03 43 05.1**	**-1.0**
PDAR	**Pinedale Array**	**56.12**	**298**	P		**P**	**03 43 05.1**	**-1.0**
	comp=Z,1.0nm,1.0s,baz=39,slow=5.7,SNR=5.2								
PDAR					LR	LR	04 05 34.1		
	comp=Z,269nm,19.2s,baz=291,slow=34								
LOHW	**Long Hollow**	**56.27**	**300**	*e*P		**P**	**03 43 05.7**	**-1.5**
	comp=Z,4.5nm,1.2s								
LOHW	**Long Hollow**	**56.27**	**300**	*e*P		**P**	**03 43 05.7**	**-1.5**
	comp=Z,4.5nm,1.2s								
MOOW	**Moose Ponds**	**56.28**	**300**	*e*P		**P**	**03 43 05.7**	**-1.5**
	comp=Z,6.0nm,1.3s								
MOOW	**Moose Ponds**	**56.28**	**300**	*e*P		**P**	**03 43 05.7**	**-1.5**
	comp=Z,6.0nm,1.3s								
H10S1	**ASCENSION HYDR**	**56.28**	**165**	T		T	04 43 34.1		
	baz=350,slow=0.7,SNR=27								
H10S3	**ASCENSION HYDR**	**56.29**	**165**	T		T	04 43 35.1		
	baz=350,slow=0.7,SNR=40								
H10S2	**ASCENSION HYDR**	**56.30**	**165**	T		T	04 43 36.1		
	baz=350,slow=0.7,SNR=33								
SNOW	**Snow King Moun**	**56.45**	**300**	*e*P		**P**	**03 43 07.8**	**-0.7**
SNOW	**Snow King Moun**	**56.45**	**300**	*e*P		**P**	**03 43 07.8**	**-0.7**
SDCO	**Great Sand Dun**	**56.45**	**291**	*e*P		**P**	**03 43 09.2**	**+0.6**
	comp=Z,1.7nm,1.1s								
SDCO	**Great Sand Dun**	**56.45**	**291**	*e*P		**P**	**03 43 09.2**	**+0.6**
	comp=Z,1.7nm,1.1s								
TPAW	**Teton Pass**	**56.55**	**300**	*e*P		**P**	**03 43 09.5**	**+0.3**
TPAW	**Teton Pass**	**56.55**	**300**	*e*P		**P**	**03 43 09.5**	**+0.3**
MSTX	**Muleshoe**	**56.90**	**286**	*e*P		**P**	**03 43 11.9**	**+0.2**
MSTX	**Muleshoe**	**56.90**	**286**	*e*P		**P**	**03 43 11.9**	**+0.2**
JCT	**Junction City**	**57.02**	**281**	*e*P		**P**	**03 43 11.4**	**-1.1**
JCT					pmax	pmax			
	comp=Z,5.0nm,1.0s								
JCT	**Junction City**	**57.02**	**281**	*e*P		**P**	**03 43 11.4**	**-1.1**
	comp=Z,5.3nm,1.0s								
JCT	**Junction City**	**57.02**	**281**	*e*P		**P**	**03 43 11.4**	**-1.1**
	comp=Z,5.0nm,1.0s								
NEW	**Newport**	**57.38**	**308**	*e*P		**P**	**03 43 11.8**	**-3.0**
	comp=Z,9.8nm,1.1s								
NEW	**Newport**	**57.38**	**308**	*e*P		**P**	**03 43 11.8**	**-3.0**
	comp=Z,9.8nm,1.1s								
ROSC	**El Rosal**	**57.95**	**239**	LR		LR	04 03 51.8		
	comp=Z,188nm,19.3s,baz=352,slow=32								
B08A	**Colville Reser**	**58.53**	**309**	*e*P		**P**	**03 43 22.2**	**-0.6**
	comp=Z,5.7nm,1.0s								
B08A	**Colville Reser**	**58.53**	**309**	*e*P		**P**	**03 43 22.2**	**-0.6**
	comp=Z,5.7nm,1.0s								
HLID	**Hailey**	**58.56**	**302**	*e*P		**P**	**03 43 23.9**	**+0.7**
	comp=Z,4.2nm,1.4s								
HLID	**Hailey**	**58.56**	**302**	*e*P		**P**	**03 43 24.0**	**+0.7**
	comp=Z,4.2nm,1.4s								
BRVK	**Borovoye**	**58.62**	**44**	*d i*P		**P**	**03 43 23.9**	**+0.6**
BRVK					pmax	pmax			
	comp=Z,12nm,1.6s								
BRVK	**Borovoye**	**58.62**	**44**	*i* P		**P**	**03 43 23.9**	**+0.6**
	comp=Z,12nm,1.6s								
ANMO	**Albuquerque**	**58.74**	**289**	*e*P		**P**	**03 43 25.1**	**+0.5**
	comp=Z,1.9nm,1.1s								
ANMO	**Albuquerque**	**58.74**	**289**	*e*P		**P**	**03 43 25.1**	**+0.5**
	comp=Z,2.0nm,1.1s								
GDL2	**Guadalupe Moun**	**59.03**	**286**	*e*P		**P**	**03 43 28.0**	**+1.3**
GDL2	**Guadalupe Moun**	**59.03**	**286**	*e*P		**P**	**03 43 28.0**	**+1.3**
VOSK	**Vostochnaya**	**59.16**	**45**	*e*P		**P**	**03 43 27.7**	**+0.7**
VOSK	**Vostochnaya**	**59.16**	**45**	*e*P		**P**	**03 43 27.8**	**+0.7**
	comp=Z,5.1nm,1.0s								
VOSK	**Vostochnaya**	**59.16**	**45**	*e*P		**P**	**03 43 27.7**	**+0.7**
ILAR	**Eielson Array**	**59.58**	**334**	P		**P**	**03 43 29.7**	**0.0**
ILAR	**Eielson Array**	**59.58**	**334**	P		**P**	**03 43 29.7**	**0.0**
ILAR	**Eielson Array**	**59.58**	**334**	P		**P**	**03 43 29.7**	**0.0**
	comp=Z,0.5nm,0.9s,baz=256,slow=0.6,SNR=5.1								
DUG	**Dugway**	**59.60**	**298**	*e*P		**P**	**03 43 30.5**	**0.0**
DUG					pmax	pmax			
	comp=Z,5.0nm,1.2s								
DUG	**Dugway**	**59.60**	**298**	*e*P		**P**	**03 43 30.5**	**0.0**
	comp=Z,5.0nm,1.2s								
DUG	**Dugway**	**59.60**	**298**	*e*P		**P**	**03 43 30.5**	**0.0**
	comp=Z,5.0nm,1.2s								
LTY	**Liberty**	**59.91**	**308**	*e*P		**P**	**03 43 32.0**	**-0.4**
	comp=Z,16nm,1.3s								
LTY	**Liberty**	**59.91**	**308**	*e*P		**P**	**03 43 32.0**	**-0.4**
	comp=Z,16nm,1.3s								
TXAR	**Lajitas Array**	**60.36**	**283**	P		**P**	**03 43 35.8**	**+0.1**
TXAR	**Lajitas Array**	**60.36**	**283**	P		**P**	**03 43 35.8**	**+0.1**
TXAR	**Lajitas Array**	**60.36**	**283**	P		**P**	**03 43 35.8**	**+0.1**
	comp=Z,1.6nm,0.9s,baz=67,slow=6.0,SNR=11								
TXAR					LR	LR	04 09 26.7		
	comp=Z,450nm,19.2s,baz=270,slow=36								
ELK	**Elko**	**60.74**	**300**	*e*P		**P**	**03 43 38.9**	**+0.5**
	comp=Z,2.7nm,1.1s								
ELK	**Elko**	**60.74**	**300**	*e*P		**P**	**03 43 38.9**	**+0.5**
	comp=Z,3.0nm,1.1s								
MCK	**McKinley**	**60.95**	**334**	*e*P		**P**	**03 43 38.1**	**-1.1**
MCK	**McKinley**	**60.95**	**334**	*e*P		**P**	**03 43 38.1**	**-1.1**
MCK	**McKinley**	**60.95**	**334**	*e*P		**P**	**03 43 38.1**	**-1.1**
J08A	**Circle Bar Ran**	**61.05**	**304**	*e*P		**P**	**03 43 41.0**	**+0.7**
	comp=Z,18nm,1.6s								
J08A	**Circle Bar Ran**	**61.05**	**304**	*e*P		**P**	**03 43 41.0**	**+0.7**
	comp=Z,18nm,1.6s								
CCUT	**Cedar City**	**61.55**	**296**	*e*P		**P**	**03 43 45.3**	**+1.4**
	comp=Z,42nm,2.5s								
CCUT	**Cedar City**	**61.55**	**296**	*e*P		**P**	**03 43 45.3**	**+1.4**
	comp=Z,42nm,2.5s								
WVOR	**Wild Horse Val**	**61.72**	**303**	*e*P		**P**	**03 43 45.3**	**+0.5**
WVOR					pmax	pmax			
	comp=Z,8.0nm,1.2s								
WVOR	**Wild Horse Val**	**61.72**	**303**	*e*P		**P**	**03 43 45.3**	**+0.5**
	comp=Z,7.9nm,1.2s								
WVOR	**Wild Horse Val**	**61.72**	**303**	*e*P		**P**	**03 43 45.3**	**+0.5**
	comp=Z,8.0nm,1.2s								
MOD	**Modoc**	**63.01**	**303**	*e*P		**P**	**03 43 54.7**	**+1.1**
	comp=Z,106nm,1.9s								
MOD	**Modoc**	**63.01**	**303**	*e*P		**P**	**03 43 54.7**	**+1.1**
	comp=Z,106nm,1.9s								
NVS	**Novosibirsk**	**63.33**	**37**	*e*P		**P**	**03 43 54.0**	**-1.2**
NVS					pmax	pmax			
	comp=E,5.0nm,1.4s								
NVS					pmax	pmax			
	comp=Z,10.0nm,1.4s								
NVS	**Novosibirsk**	**63.33**	**37**	*e*P		**P**	**03 43 54.0**	**-1.2**
SAML	**Samuel**	**63.76**	**220**	*e*P		**P**	**03 43 57.8**	**-0.7**
	comp=Z,6.0nm,1.5s								
SAML	**Samuel**	**63.76**	**220**	*e*P		**P**	**03 43 57.8**	**-0.7**
	comp=Z,5.9nm,1.5s								
KURK	**Kurchatov**	**64.10**	**43**	*e*P		**P**	**03 44 00.2**	**-0.2**
KURK					pmax	pmax			
	comp=Z,3.0nm,0.9s								
KURK	**Kurchatov**	**64.10**	**43**	*e*P		**P**	**03 44 00.2**	**-0.2**
	comp=Z,3.5nm,0.9s								
KURK	**Kurchatov**	**64.10**	**43**	*e*P		**P**	**03 44 00.2**	**-0.2**
	comp=Z,3.0nm,0.9s								
BDFB	**Brasilia**	**64.55**	**202**	LR		LR	04 08 32.8		
	comp=Z,184nm,18.8s,baz=210,slow=33								
ZALV	**Zalesovo Beam**	**64.62**	**37**	P		**P**	**03 44 03.4**	**-0.3**
ZALV	**Zalesovo Beam**	**64.62**	**37**	P		**P**	**03 44 03.4**	**-0.3**
ZALV	**Zalesovo Beam**	**64.62**	**37**	P		**P**	**03 44 03.4**	**-0.3**
ZALV	**Zalesovo Beam**	**64.62**	**37**	P		**P**	**03 44 03.4**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=290,slow=9.3,SNR=4.3								
EKS2	**Erkin-Say**	**67.07**	**52**	*e*P		**P**	**03 44 21.8**	**+1.9**
EKS2					pmax	pmax			
	comp=Z,10.0nm,0.9s								
EKS2	**Erkin-Say**	**67.07**	**52**	*e*P		**P**	**03 44 21.8**	**+1.9**
	comp=Z,9.6nm,0.9s								
EKS2	**Erkin-Say**	**67.07**	**52**	*e*P		**P**	**03 44 21.8**	**+1.9**
	comp=Z,10.0nm,0.9s								
AAK	**Ala-Archa**	**67.48**	**51**	⇓*e*P		**P**	**03 44 24.2**	**+1.7**
AAK					pmax	pmax			
	comp=Z,19nm,1.4s								
AAK	**Ala-Archa**	**67.48**	**51**	*e*P		**P**	**03 44 24.4**	**+1.9**
	comp=Z,4.8nm,1.0s								
AAK	**Ala-Archa**	**67.48**	**51**	*e*P		**P**	**03 44 24.2**	**+1.7**
	comp=Z,19nm,1.4s								
AAK	**Ala-Archa**	**67.48**	**51**	P		**P**	**03 44 24.2**	**+1.7**
	comp=Z,1.3nm,0.6s,baz=280,slow=4.9,SNR=5.7								
TKM2	**Tokmak 2**	**67.88**	**51**	*e*P		**P**	**03 44 25.7**	**+0.6**
TKM2	**Tokmak 2**	**67.88**	**51**	*e*P		**P**	**03 44 25.8**	**+0.6**
TKM2	**Tokmak 2**	**67.88**	**51**	*e*P		**P**	**03 44 25.7**	**+0.6**
MK31	**Makanchi Array**	**68.57**	**44**	*e*P		**P**	**03 44 29.4**	**+0.3**
MK31	**Makanchi Array**	**68.57**	**44**	*e*P		**P**	**03 44 29.4**	**+0.3**
MK31	**Makanchi Array**	**68.57**	**44**	*e*P		**P**	**03 44 29.4**	**+0.3**
MKAR	**Makanchi Array**	**68.57**	**44**	*e*P		**P**	**03 44 29.6**	**+0.5**
MKAR	**Makanchi Array**	**68.57**	**44**	*e*P		**P**	**03 44 29.6**	**+0.5**
MKAR	**Makanchi Array**	**68.57**	**44**	*e*P		**P**	**03 44 29.6**	**+0.5**
MKAR	**Makanchi Array**	**68.57**	**44**	P		**P**	**03 44 29.8**	**+0.6**
	comp=Z,3.6nm,0.7s,baz=324,slow=5.9,SNR=37								
ATAH	**Atahualpa**	**70.00**	**235**	LR		LR	04 12 02.6		
	comp=Z,88nm,20.8s,baz=246,slow=33								
KSH	**Kashi**	**70.44**	**53**	⇑*i*P		**P**	**03 44 43.4**	**+2.5**
KSH					sP	**sP**	**03 44 48.0**	**-0.1**
KSH					PcP	**PcP**	**03 45 03.0**	**+0.7**
KSH					PP	**PP**	**03 47 19.1**	**+2.7**
KSH					S	**S**	**03 53 52.3**	**-0.9**
KSH					sS	**sS**	**03 54 00.3**	**-1.5**
KSH					SKS	**SKSac**	**03 54 38.1**	**-4.0**
KSH					SS	**SS**	**03 58 23.6**	**+0.3**
KSH					AMB	AMB			
	comp=Z,15nm,1.0s								
KSH					AMB	AMB			
	comp=Z,100nm,4.8s								
KSH					LR	LR			
	comp=Z,190nm,6.2s								
KSH					LR	LR			
	comp=Z,210nm,6.3s								
KSH					LR	LR			
	comp=Z,240nm,6.9s								
LPAZ	**La Paz**	**72.46**	**221**	*e*P		P	03 44 50.2	-3.6	
	comp=Z,5.1nm,1.5s								
WMQ	**Urumqi**	**73.34**	**43**	P		**P**	**03 44 59.0**	**+0.8**
WMQ				pP		**pP**	**03 45 03.7**	**+0.3**
WMQ				sP		**sP**	**03 45 06.0**	**+0.7**
WMQ				PP		**PP**	**03 47 43.9**	**+2.9**
WMQ				S		**S**	**03 54 25.6**	**-0.6**
WMQ				sS		**sS**	**03 54 33.1**	**-1.8**
WMQ				SKS		**SKSac**	**03 54 59.7**	**-4.0**
WMQ				SS		**SS**	**03 59 09.2**	**+2.0**
WMQ				AMB		AMB			
	comp=Z,12nm,0.5s								
WMQ				AMB		AMB			
	comp=Z,200nm,5.2s								
WMQ				LR		LR			
	comp=Z,410nm,19.6s								
KMBO	**Kilima Mbogo**	**73.58**	**110**	*e*P		**P**	**03 45 01.7**	**+1.5**
KMBO	**Kilima Mbogo**	**73.58**	**110**	*e*P		**P**	**03 45 01.7**	**+1.5**
LSZ	**Lusaka**	**79.12**	**126**	*e*P		**P**	**03 45 33.2**	**+1.9**
LSZ	**Lusaka**	**79.12**	**126**	*e*P		**P**	**03 45 33.2**	**+1.9**
HHC	**Hu-ho-hao-te**	**85.67**	**30**	*e*P		P	03 46 01.7	-3.7	
HHC				pP		**PcP**	**03 46 06.4**	**-1.9**
HHC				sP		sP	03 46 08.8	-3.8	
HHC				PP		**PP**	**03 49 21.0**	**-2.5**
HHC				S		**SKSac**	**03 56 31.6**	**+1.4**
HHC				SS		**SS**	**04 02 09.5**	**-2.3**
HHC				AMB		AMB			
	comp=Z,34nm,0.9s								
HHC				AMB		AMB			
	comp=Z,490nm,5.4s								
HHC				LR		LR			
	comp=Z,340nm,16.9s								
HHC				LR		LR			
	comp=Z,470nm,16.1s								
HHC				LR		LR			
	comp=Z,340nm,17.3s								
MDJ	**Mudanjiang**	**87.06**	**16**	P		**P**	**03 46 10.7**	**-1.3**
MDJ				AMB		AMB			
	comp=Z,13nm,1.4s								
MDJ				AMB		AMB			
	comp=Z,120nm,5.4s								
CD2	**Chengdu**	**91.22**	**40**	P		**P**	**03 46 31.3**	**-0.6**
CD2				AMB		AMB			
	comp=Z,10.0nm,0.5s								
PLCA	**Paso Flores**	**94.97**	**211**	*e*P		**P**	**03 46 49.4**	**+0.7**
	comp=Z,18nm,1.7s								
PLCA	**Paso Flores**	**94.97**	**211**	*e*P		**P**	**03 46 49.4**	**+0.7**
	comp=Z,18nm,1.7s								
GYA	**Guiyang**	**96.34**	**40**	*e*P		**P**	**03 46 55.0**	**-0.6**
GYA				AMB		AMB			
	comp=Z,10.0nm,1.0s								
PALK	**Pallekele**	**96.97**	**72**	*e*P		**P**	**03 46 59.9**	**+1.4**
	comp=Z,34nm,1.2s								
PALK	**Pallekele**	**96.97**	**72**	*e*P		**P**	**03 46 59.9**	**+1.4**
WRA	**Warramunga Arr**	**149.59**	**36**	PKPbc		**PKPbc**	**03 53 15.9**	**-0.3**
WRA	**Warramunga Arr**	**149.59**	**36**	PKPbc		**PKPbc**	**03 53 15.9**	**-0.3**
WRA	**Warramunga Arr**	**149.59**	**36**	PKPbc		**PKPbc**	**03 53 15.9**	**-0.3**
	comp=Z,4.2nm,1.0s,baz=328,slow=3.4,SNR=5.3								
ASAR	**Alice Springs**	**152.70**	**40**	PKPbc		**PKPbc**	**03 53 23.2**	**-0.2**
ASAR	**Alice Springs**	**152.70**	**40**	PKPbc		**PKPbc**	**03 53 23.2**	**-0.2**
ASAR	**Alice Springs**	**152.70**	**40**	PKPbc		**PKPbc**	**03 53 23.2**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=340,slow=1.7,SNR=7.9								

BJI ***04*** *03:35:53.7,0.˚87S×133.˚29E, h35km, mB5.7/39, mb5.4/64, Ms5.0/56, Ms7 4.7/48*

IDC ***04*** *03:35:54.5±0.3,0.˚40S×132.˚91E, h0km, mb5.2/34, mb1 5.2/37, mb1mx5.2/38, mbtmp5.2/37, ML5.1/3, MS4.8/24, Ms1 4.8/24, ms1mx4.6/36, Error ellipse: s-maj=14.3km s-min=7.8km az=73.0*

MOS ***04*** *03:35:57.7±1.1,0.˚41S×132.˚90E, h33km, mb5.7/64, MS4.9/34, Error ellipse: s-maj=9.4km s-min=4.9km az=115.0*

BKK ***04*** *03:35:57.3±0.3,0.˚3S×13.˚3E±.˚, h10km, M5.5/41, mb5.5/41, mB5.9/33, MLv6.1/2, Mw(mB)5.4/33, Mwp5.8/3*

ISCJB ***04*** *03:35:58.1±0.5,0.˚45S±0.˚02×132.˚99E±0.˚02, h40km±4km, mb5.4/154, MS5.0/165, Error ellipse: s-maj=3.8km s-min=3.4km az=33.3*

AUST ***04*** *03:35:59.3±0.7,0.˚50S×133.˚03E, h38km±6km, Error ellipse: s-maj=7.2km s-min=5.9km az=7.0*

DJA ***04*** *03:35:59.3±0.4,0.˚3S±3.˚×13.˚3E±.˚, h80km±13km, M6.1/11, mb6.2/7, mB6.3/7, MLv6.0/11, Mw(mB)6.0/7, Mwp5.7/3*

NEIC ***04*** *03:36:00.5±0.7,0.˚47S×132.˚97E, h46km±6km, mb5.5/69, MS5.0/128, MW5.5, Error ellipse: s-maj=5.1km s-min=3.4km az=59.0*

NEIC Felt [IV] at Manokwari and Sorong.

GCMT ***04*** *03:36:00.2±0.1, 0.˚39S×132.˚91E, h26km, MW5.5, Moment Tensor Solution. s92,c174; s32,c33; Moment tensor: Scale 10¹⁷Nm; Mrr 1.49±.03; Mθθ -1.92±.02; Mϕϕ 0.43±.03; Mrθ -0.24±.04; Mθϕ 0.56±.02; Mϕr -0.66±.05; Best double couple: M₀2.00000×10¹⁷ NP1:ϕs258.00000°, δ53.00000°, λ54.00000°. NP2:ϕs128.00000°, δ50.00000°, λ128.00000°. Principal axes: T 1.8600, Plg62.0000°, Azm105.0000°; N 0.1900, Plg28.0000°, Azm282.0000°; P -2.0500, Plg1.0000°, Azm12.0000°; Data Used: II IU CN IC G. Surface waves: sta=117, comp=233, per= 50.*

NEIC ***04*** *03:36:06.5±0.0, 0.˚68S×133.˚04E, h36km, Moment Tensor Solution. s128 Moment tensor: Scale 10¹⁷Nm; Mrr 2.51; Mθθ -2.26; Mϕϕ -0.25; Mrθ 0.77; Mθϕ 0.58; Mϕr -0.63; Best double couple: M₀2.6000×10¹⁷ NP1:ϕs277.00000°, δ35.00000°, λ77.00000°. NP2:ϕs113.00000°, δ56.00000°, λ99.00000°. Principal axes: T 2.7300, Plg77.0000°, Azm54.0000°; N -0.1500, Plg7.0000°, Azm288.0000°; P -2.5800, Plg10.0000°, Azm196.0000°;*

ISC 04 03:35:59.6±0.2, 0.˚41S±0.˚03×133.˚02E±0.˚03, h36km±1km, h36km:pP-P, n626, σ1§62/670, mb5.5/153, MS5.0/167, 31C-17D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.82**	**256**	P			**Pn**	**03 36 27.7**	**-0.7**
SWI				S			**Sn**	**03 36 51.0**	**+0.8**
SWI	**Sorong**	**1.82**	**256**	⇓P			**Pn**	**03 36 27.7**	**-0.7**
	baz=1.8,SNR=704								
FAKI	**Fak Fak**	**2.62**	**197**	P			**Pn**	**03 36 38.1**	**-1.3**
FAKI				S			**Sn**	**03 37 10.5**	**+0.6**
FAKI	**Fak Fak**	**2.62**	**197**	⇓P			**Pn**	**03 36 38.2**	**-1.1**
	baz=2.5,SNR=774								
BAKI	**Biak**	**3.18**	**104**	P			**Pn**	**03 36 46.8**	**-0.4**
BAKI				S			**Sn**	**03 37 24.6**	**+0.7**
SRPI	**Serui, Papua**	**3.53**	**114**	P			**Pn**	**03 36 52.1**	**+0.1**
BNDI	**Bandanaira**	**5.14**	**217**	P			**Pn**	**03 37 13.2**	**-0.9**
BNDI	5μm,0.9s,130μm49μm42nm								
	5μm,0.9s,130μm49μm42nm			S			**Sn**	**03 38 14.0**	**+1.8**
BNDI	**Bandanaira**	**5.14**	**217**	⇓P			**Pn**	**03 37 13.2**	**-0.9**
	baz=5.1,SNR=45								
TLE	**Tual**	**5.21**	**183**	P			**Pn**	**03 37 15.5**	**+0.5**
	5μm,0.9s,86μm22nm								
TLE	**Tual**	**5.21**	**183**	⇑P			**Pn**	**03 37 16.4**	**+1.4**
	baz=5.1,SNR=171								
LBMI	**Labuha**	**5.53**	**268**	P			**Pn**	**03 37 19.0**	**-0.4**
	3μm,0.9s,21μm7.8nm								
LBMI					S		**Sn**	**03 38 19.1**	**-2.6**
	3μm,0.9s,21μm7.8nm								
TNTI	**Ternate**	**5.78**	**282**	P			**Pn**	**03 37 23.5**	**+0.7**
	1μm,0.9s,18μm10μm4.1nm								
TNTI					S		**Sn**	**03 38 27.3**	**-0.6**
	1μm,0.9s,18μm10μm4.1nm								
TNTI	**Ternate**	**5.78**	**282**	*e*Pn			**Pn**	**03 37 23.8**	**+1.0**
AAI	**Ambon**	**5.82**	**236**	P			**Pn**	**03 37 23.1**	**-0.4**
	6μm,1.0s,48μm17nm								
AAI					S		**Sn**	**03 38 29.1**	**+0.1**
	6μm,1.0s,48μm17nm								
AAI	**Ambon**	**5.82**	**236**	⇓P			**Pn**	**03 37 22.9**	**-0.6**
	baz=5.8,SNR=100								
NLAI	**Namlea**	**6.55**	**244**	P			**Pn**	**03 37 33.6**	**+0.1**
	1μm,1.0s,12μm5.7nm								
NLAI					S		**Sn**	**03 38 46.0**	**-1.1**
	1μm,1.0s,12μm5.7nm								
SAUI	**Saumlaki**	**7.72**	**193**	P			**Pn**	**03 37 50.2**	**+0.6**
SAUI				S			**Sn**	**03 39 15.7**	**-0.1**
PALU	**Palau**	**7.83**	**11**	⇓P			**Pn**	**03 37 51.0**	**-0.1**
	baz=8.0,SNR=38								
LUWI	**Luwuk**	**10.27**	**266**	⇓P			**Pn**	**03 38 23.8**	**-0.7**
	baz=10,SNR=13								
CTBH	**Cotabato--PC H**	**11.58**	**311**	⇑*i*P			Pn	03 38 47.2	+4.8
KDU	**Kakadu**	**12.21**	**183**	⇑P			**Pn**	**03 38 48.7**	**-2.4**
	baz=12,SNR=168								
SOEI	**Soe**	**12.73**	**223**	⇑P			**Pn**	**03 38 57.9**	**-0.5**
	baz=13,SNR=56								
BATI	**Baumata**	**13.47**	**223**	Pn			**Pn**	**03 39 07.5**	**-0.8**
BATI				Sn			**Sn**	**03 41 36.9**	**-0.1**
BATI	**Baumata**	**13.47**	**223**	Pn			**Pn**	**03 39 07.5**	**-0.8**
	23nm,0.3s,baz=137,slow=1.3,SNR=104								
BATI					Sn		**Sn**	**03 41 36.9**	**-0.1**
	1.6nm,0.3s,baz=54,slow=19,SNR=3.3								
BATI					LR		LR	03 44 54.8	
	comp=Z,4μm,18.6s,baz=274,slow=40								
MMRI	**Maumere**	**13.50**	**232**	*e*Pn			**Pn**	**03 39 09.3**	**+0.5**
KAPI	**Kappang**	**14.02**	**251**	Pn			**Pn**	**03 39 14.9**	**-1.0**
	SNR=49								
KAPI	**Kappang**	**14.02**	**251**	Pn			**Pn**	**03 39 17.8**	**+1.9**
	2μm,1.0s,SNR=20								
KAPI	**Kappang**	**14.02**	**251**	*e*Pn			**Pn**	**03 39 17.0**	**+1.2**
KAPI					Sn		**Sn**	**03 41 47.6**	**-2.7**
KAPI	**Kappang**	**14.02**	**251**	Pn			**Pn**	**03 39 16.0**	**+0.2**
	5.8nm,0.3s,baz=101,slow=6.9,SNR=27								
KAPI					Sn		**Sn**	**03 41 47.6**	**-2.7**
	0.6nm,0.3s,baz=62,slow=17,SNR=1.7								
KAPI					LR		LR	03 45 10.9	
	comp=Z,3μm,19.8s,baz=219,slow=40								
MANU	**Manus Island**	**14.43**	**97**	⇑P			**Pn**	**03 39 22.6**	**+1.2**
	baz=14,SNR=7.3								
MYLDM	**Lahad Datu**	**15.53**	**291**	P			**P**	**03 39 40.9**	**+0.9**
RCP	**Roxas**	**15.67**	**320**	⇑*e*P			**P**	**03 39 40.9**	**-0.7**
TSM	**Tawau**	**15.84**	**287**	P			**Pn**	**03 39 41.3**	**+1.3**
PMG	**Port Moresby**	**16.67**	**123**	*e*P			**P**	**03 39 52.2**	**-0.5**
	397nm,1.2s								
PMG	**Port Moresby**	**16.67**	**123**	Pn			**P**	**03 39 51.9**	**-0.8**
	0.9nm,0.3s,baz=313,slow=8.2,SNR=66								
PMG					LR		LR	03 47 10.1	
	comp=Z,3μm,19.8s,baz=159,slow=40								
COEN	**Coen**	**16.80**	**144**	*e*Pn			**Pn**	**03 39 49.6**	**-2.7**
	697nm,0.9s								
COEN	**Coen**	**16.80**	**144**	⇑P			**Pn**	**03 39 49.6**	**-2.7**
	baz=17,SNR=24								
SDKM	**Sandakan**	**16.91**	**291**	P			**P**	**03 39 55.9**	**+0.5**
KDM	**Kudat**	**17.71**	**295**	P			**P**	**03 40 07.2**	**+3.0**
KKM	**Kota Kinabalu**	**17.96**	**291**	P			**P**	**03 40 09.9**	**+2.8**
KKM	**Kota Kinabalu**	**17.96**	**291**	*e*P			**P**	**03 40 08.0**	**+0.9**
LQP	**Lukban**	**18.37**	**322**	⇓*e*P			**Pn**	**03 40 13.9**	**+2.1**
FITZ	**Fitzro

MEEK	**Meekatharra**	**29.54**	**207**	⇓P	**P**	**03 42 00.1**	**-0.9**
	baz=30,SNR=9.3							
KGM	**Kluang**	**29.80**	**275**	P	**P**	**03 42 02.8**	**-0.6**
QIZ	**Qiongzhong**	**29.85**	**312**	P	**P**	**03 42 03.1**	**-0.7**
QIZ				pP	**pP**	**03 42 16.7**	**+2.7**
QIZ				S	**S**	**03 47 00.7**	**+2.2**
QIZ				AMB	AMB			
	comp=Z,37nm,1.2s							
QIZ				AMB	AMB			
	comp=Z,140nm,3.9s							
QIZ				LR	LR			
	comp=Z,990nm,15.8s							
QIZ				LR	LR			
	comp=Z,1μm,21.1s							
QIZ	**Qiongzhong**	**29.85**	**312**	*e*P	**P**	**03 42 03.4**	**-0.4**
	comp=Z,82nm,1.3s							
QIZ				LR	LR			
	comp=Z,2μm,20.0s							
RMQ	**Roma**	**30.03**	**151**	⇑P	**P**	**03 42 05.4**	**+0.1**
	baz=30,SNR=12							
EIDS	**Eidsvold**	**30.34**	**146**	*e*P	**P**	**03 42 07.6**	**-0.4**
	comp=Z,67nm,1.0s							
EIDS	**Eidsvold**	**30.34**	**146**	P	**P**	**03 42 08.1**	**+0.1**
	baz=30,SNR=11							
KTGM	**Kuala Trenggan**	**30.39**	**281**	P	**P**	**03 42 09.3**	**+0.7**
FORT	**Forrest**	**30.57**	**188**	*e*P	**P**	**03 42 09.8**	**-0.3**
	comp=Z,149nm,0.8s							
FORT	**Forrest**	**30.57**	**188**	P	**P**	**03 42 10.3**	**+0.3**
	baz=31,SNR=16							
UBPT	**Khong Chiam**	**31.37**	**301**	P	**P**	**03 42 17.2**	**-0.1**
	comp=Z,54nm,1.2s							
FRIM	**Kepong**	**31.59**	**277**	P	**P**	**03 42 19.9**	**+0.7**
IPM	**Ipoh**	**32.33**	**279**	P	**P**	**03 42 25.9**	**+0.1**
IPM	**Ipoh**	**32.33**	**279**	*e*P	**P**	**03 42 24.9**	**-0.9**
	comp=Z,63nm,0.9s							
STKA	**Stephens Creek**	**32.34**	**166**	*e*P	**P**	**03 42 24.4**	**-1.2**
	comp=Z,43nm,1.1s							
STKA	**Stephens Creek**	**32.34**	**166**	P	**P**	**03 42 24.5**	**-1.0**
	baz=32,SNR=128							
STKA	**Stephens Creek**	**32.34**	**166**	P	**P**	**03 42 24.5**	**-1.0**
	comp=Z,151nm,1.0s,baz=339,slow=8.4,SNR=112							
BBOO	**Buckleboo**	**32.36**	**175**	*e*P	**P**	**03 42 24.3**	**-1.5**
	comp=Z,2μm,1.0s							
BBOO	**Buckleboo**	**32.36**	**175**	P	**P**	**03 42 24.7**	**-1.0**
	baz=32,SNR=12							
PPI	**Padang Panjang**	**32.62**	**270**	⇓P	**P**	**03 42 28.3**	**-0.1**
	baz=33,SNR=5.4							
MORW	**Morawa**	**32.79**	**208**	P	**P**	**03 42 29.1**	**-0.6**
	baz=33,SNR=26							
KULM	**Kulim**	**32.82**	**280**	P	**P**	**03 42 30.0**	**-0.1**
KULM	**Kulim**	**32.82**	**280**	*e*P	**P**	**03 42 29.2**	**-0.9**
	comp=Z,147nm,1.4s							
KULM				LR	LR			
	comp=Z,1μm,20.0s							
PANO	**Nakornpanom**	**32.98**	**303**	P	**P**	**03 42 31.5**	**+0.1**
	comp=Z,80nm,1.3s,comp=Z,865nm							
CHBT	**CHBT**	**33.13**	**294**	P	**P**	**03 42 32.8**	**+0.1**
	comp=Z,105nm,0.7s,comp=Z,7μm							
SKLT	**Songkhla**	**33.19**	**284**	P	P	03 42 39.3	+6.1	
CMSA	**Cobar Meteorol**	**33.21**	**160**	P	**P**	**03 42 32.5**	**-0.7**
	baz=33,SNR=48							
SSE	**Sheshan**	**33.28**	**341**	P	**P**	**03 42 36.9**	**+3.1**
SSE				pP	**pP**	**03 42 48.0**	**+3.9**
SSE				PP	**PP**	**03 43 53.4**	**+3.8**
SSE				S	**S**	**03 47 56.8**	**+4.9**
SSE				AMB	AMB			
	comp=Z,42nm,0.9s							
SSE				AMB	AMB			
	comp=Z,480nm,7.5s							
SSE				LR	LR			
	comp=Z,570nm,17.8s							
SSE				LR	LR			
	comp=Z,410nm,17.8s							
SSE				LR	LR			
	comp=Z,730nm,17.4s							
JNU	**Nakatsue**	**33.41**	**357**	*e*P	**P**	**03 42 35.0**	**0.0**
	comp=Z,48nm,1.3s							
JNU	**Nakatsue**	**33.41**	**357**	P	**P**	**03 42 35.1**	**+0.2**
	comp=Z,82nm,1.2s,baz=180,slow=4.3,SNR=14							
SKNT	**Sakolnakorn**	**33.42**	**303**	P	**P**	**03 42 35.2**	**-0.1**
	comp=Z,102nm,1.3s							
BLDU	**Ballidu**	**33.80**	**206**	P	**P**	**03 42 38.0**	**-0.4**
	baz=34,SNR=39							
KLBR	**Kellerberrin**	**34.22**	**204**	P	**P**	**03 42 41.7**	**-0.3**
	baz=34,SNR=16							
PSI	**Prapat**	**34.23**	**276**	P	**P**	**03 42 41.3**	**-1.2**
PSI	**Prapat**	**34.23**	**276**	P	**P**	**03 42 41.5**	**-1.0**
	baz=34,SNR=11							
PSI	**Prapat**	**34.23**	**276**	P	**P**	**03 42 41.3**	**-1.2**
	comp=Z,25nm,0.8s,baz=100,slow=5.0,SNR=25							
SURA	**Surathani**	**34.59**	**287**	P	P	03 42 55.7	+10	
ARMA	**Armidale**	**34.70**	**151**	*e*P	**P**	**03 42 45.7**	**-0.5**
	comp=Z,97nm,0.9s							
ARMA	**Armidale**	**34.70**	**151**	P	**P**	**03 42 46.6**	**+0.3**
	baz=35,SNR=11							
NJ2	**Nanjing**	**34.95**	**339**	*e*P	**P**	**03 42 48.3**	**0.0**
NJ2				pP	**pP**	**03 42 56.8**	**-1.9**
NJ2				sP	**sP**	**03 43 01.8**	**-1.2**
NJ2				S	**S**	**03 48 22.0**	**+4.3**
NJ2				sS	**sS**	**03 48 35.0**	**+0.2**
NJ2				AMB	AMB			
	comp=Z,90nm,1.0s							
NJ2				AMB	AMB			
	comp=Z,630nm,8.1s							
NJ2				LR	LR			
	comp=Z,1μm,14.8s							
NJ2				LR	LR			
	comp=Z,630nm,14.1s							
NJ2				LR	LR			
	comp=Z,920nm,13.0s							
WHN	**Wuhan**	**35.54**	**332**	P	**P**	**03 42 54.6**	**+1.3**
WHN				S	**S**	**03 48 32.6**	**+5.9**
WHN				AMB	AMB			
	comp=Z,150nm,1.0s							
WHN				LR	LR			
	comp=Z,2μm,21.6s							
NWAO	**Narrogin (SRO)**	**35.60**	**203**	*e*P	**P**	**03 42 53.5**	**-0.4**
	comp=Z,94nm,1.1s							
NWAO				LR	LR			
	comp=Z,970nm,19.0s							
NWAO	**Narrogin (SRO)**	**35.60**	**203**	P	**P**	**03 42 53.2**	**-0.7**
	comp=Z,34nm,0.9s,baz=21,slow=10,SNR=14							
YNG	**Young**	**36.66**	**158**	P	**P**	**03 43 02.8**	**-0.2**
	baz=37,SNR=16							
UTHA	**Uthaitani**	**36.76**	**297**	P	**P**	**03 43 04.0**	**-0.1**
	comp=Z,16nm,0.9s,comp=Z,136nm							
GYA	**Guiyang**	**36.86**	**318**	⇑*i*P	**P**	**03 43 05.1**	**+0.2**
GYA				pP	**pP**	**03 43 17.8**	**+2.5**
GYA				PP	**PnPn**	**03 44 31.0**	**+1.4**
GYA				PcP	**PcP**	**03 45 27.2**	**+0.9**
GYA				S	**S**	**03 48 48.5**	**+1.2**
GYA				AMB	AMB			
	comp=Z,50nm,1.1s							
GYA				AMB	AMB			
	comp=Z,240nm,5.8s							
GYA				LR	LR			
	comp=Z,790nm,20.1s							
GYA				LR	LR			
	comp=Z,690nm,18.0s							
GYA				LR	LR			
	comp=Z,1μm,16.4s							
NANT	**Nan**	**37.04**	**303**	P	**P**	**03 43 06.4**	**0.0**
	comp=Z,132nm,1.0s,comp=Z,4μm							
MAJO	**Matsushiro**	**37.08**	**7**	*e*P	**P**	**03 43 05.0**	**-1.4**
MAJO				pmax	pmax			
	comp=Z,19nm,0.9s							
MAJO				MLR	MLR			
	comp=Z,2μm,20.0s							
MAJO	**Matsushiro**	**37.08**	**7**	*e*P	**P**	**03 43 05.0**	**-1.4**
	comp=Z,19nm,0.9s							
MAJO				LR	LR			
	comp=Z,2μm,20.0s							
MAT	**Matsushiro**	**37.08**	**7**	P	**P**	**03 43 03.5**	**-3.0**
MAT				S	**S**	**03 48 48.0**	**-2.1**
ARPS	**Mount Arapiles**	**37.09**	**168**	P	**P**	**03 43 06.5**	**-0.1**
	baz=37,SNR=51							
RKGY	**Rocky Gully**	**37.19**	**202**	P	**P**	**03 43 08.6**	**+1.2**
	baz=37,SNR=8.3							
COCO	**West Island**	**37.76**	**251**	PFAKE		03 43 20.0	+7.5	
COCO				LR	LR			
	comp=Z,1μm,20.0s							
CAN	**Canberra**	**37.80**	**158**	*e*P	**P**	**03 43 12.2**	**-0.4**
CAN				pmax	pmax			
	comp=Z,159nm,1.4s							
CAN				MLR	MLR			
	comp=Z,2μm,20.0s							
CAN	**Canberra**	**37.80**	**158**	*e*P	**P**	**03 43 12.2**	**-0.4**
	comp=Z,159nm,1.4s							
CAN				LR	LR			
	comp=Z,2μm,20.0s							
ENH	**Enshi**	**37.85**	**326**	*e*P	**P**	**03 43 13.2**	**0.0**
	comp=Z,30nm,0.9s							
KSAR	**Wonju Array Be**	**37.96**	**353**	P	**P**	**03 43 14.4**	**+0.5**
KSAR				PcP	**PcP**	**03 45 29.9**	**+0.6**
KSRS	**Korea Array**	**37.97**	**353**	P	**P**	**03 43 14.4**	**+0.5**
	comp=Z,13nm,1.1s,baz=170,slow=10.0,SNR=32							
KSRS				PcP	**PcP**	**03 45 29.9**	**+0.6**
	comp=Z,4.3nm,0.9s,baz=193,slow=3.5,SNR=4.7							
KSRS				LR	LR	03 59 54.9		
	comp=Z,1μm,18.2s,baz=172,slow=38							
PAYA	**Payao**	**37.99**	**303**	P	**P**	**03 43 14.1**	**-0.4**
	comp=Z,34nm,1.1s,comp=Z,259nm							
H11S3	**WAKE ISLAND Hy**	**38.04**	**59**	T	T	04 23 46.7		
	baz=244							
H11S2	**WAKE ISLAND Hy**	**38.05**	**59**	T	T	04 23 49.2		
	baz=244							
H11S1	**WAKE ISLAND Hy**	**38.05**	**59**	T	T	04 23 50.0		
	baz=244							
INCN	**Inchon**	**38.16**	**352**	PFAKE		03 43 30.0	+14	
INCN				LR	LR			
	comp=Z,1μm,19.0s							
CM31	**Chiang Mai Arr**	**38.38**	**301**	*e*P	**P**	**03 43 17.9**	**+0.2**
	comp=Z,99nm,1.2s							
CMAR	**Chiang Mai Arr**	**38.38**	**301**	P	**P**	**03 43 17.9**	**+0.2**
CMAR				PcP	**PcP**	**03 45 32.4**	**+1.4**
CMAR	**Chiang Mai Arr**	**38.38**	**301**	P	**P**	**03 43 17.9**	**+0.2**
	comp=Z,14nm,0.9s,baz=123,slow=7.0,SNR=70							
CMAR				PcP	**PcP**	**03 45 32.4**	**+1.4**
	comp=Z,1.6nm,0.3s,baz=152,slow=4.4,SNR=3.7							
CHTO	**Chiang Mai**	**38.53**	**302**	*e*P	**P**	**03 43 18.8**	**-0.2**
CHTO				pmax	pmax			
	comp=Z,288nm,1.2s							
CHTO				MLR	MLR			
	comp=Z,824nm,22.0s							
CHTO	**Chiang Mai**	**38.53**	**302**	P	**P**	**03 43 19.2**	**+0.2**
	SNR=24							
CHTO	**Chiang Mai**	**38.53**	**302**	*e*P	**P**	**03 43 18.8**	**-0.2**
	comp=Z,288nm,1.2s							
CHTO				LR	LR			
	comp=Z,824nm,22.0s							
CHTO	**Chiang Mai**	**38.53**	**302**	P	**P**	**03 43 18.7**	**-0.2**
	comp=Z,207nm,1.7s,comp=Z,3μm							
TOO	**Toolangi**	**38.73**	**164**	⇓P	**P**	**03 43 20.9**	**+0.4**
	baz=39,SNR=22							
H11N1	**WAKE ISLAND Hy**	**38.75**	**57**	T	T	04 24 38.1		
	baz=245,slow=0.7,SNR=604							
KMI	**Kunming**	**38.76**	**313**	P	**P**	**03 43 21.9**	**+0.8**
KMI				pP	**pP**	**03 43 30.5**	**-1.0**
KMI				PP	**PP**	**03 44 50.8**	**+0.5**
KMI				PcP	**PcP**	**03 45 32.4**	**+0.1**
KMI				S	**S**	**03 49 15.7**	**-0.7**
KMI				SS	**SnSn**	**03 52 04.4**	**-2.9**
KMI				AMB	AMB			
	comp=Z,46nm,1.4s							
KMI				LR	LR			
	comp=Z,670nm,17.3s							
KMI				LR	LR			
	comp=Z,980nm,20.5s							
KMI				LR	LR			
	comp=Z,1μm,21.9s							
H11N2	**WAKE ISLAND Hy**	**38.76**	**57**	T	T	04 24 39.1		
	baz=245,slow=0.7,SNR=1003							
H11N3	**WAKE ISLAND Hy**	**38.77**	**57**	T	T	04 24 39.5		
	baz=245,slow=0.7,SNR=516							
CMAI	**Chiengmai2**	**38.94**	**303**	P	**P**	**03 43 22.6**	**0.0**
	comp=Z,28nm,1.2s,comp=Z,801nm							
DZM	**Mont Dzumac**	**39.03**	**126**	*e*P	**P**	**03 43 23.2**	**-0.1**
	comp=Z,108nm,1.3s							
DZM	**Mont Dzumac**	**39.03**	**126**	*e*LR	LR	03 54 01.8		
	comp=Z,3μm,23.5s							
DZM	**Mont Dzumac**	**39.03**	**126**	*e*P	**P**	**03 43 23.1**	**-0.1**
	comp=Z,52nm,1.2s							
DZM	**Mont Dzumac**	**39.03**	**126**	P	**P**	**03 43 23.6**	**+0.3**
	comp=Z,18nm,1.1s,baz=352,slow=3.6,SNR=6.8							
TARA	**Tarawa**	**39.94**	**87**	PFAKE		03 43 40.0	+9.2	
TARA				LR	LR			
	comp=Z,2μm,21.0s							
DL2	**Dalian**	**40.50**	**346**	P	**P**	**03 43 36.6**	**+1.6**
DL2				S	**S**	**03 49 44.0**	**+2.4**
DL2				AMB	AMB			
	comp=Z,140nm,1.2s							
DL2				AMB	AMB			
	comp=Z,1μm,5.9s							
DL2				LR	LR			
	comp=Z,660nm,19.0s							
DL2				LR	LR			
	comp=Z,840nm,19.9s							
DL2				LR	LR			
	comp=Z,530nm,19.6s							
XAN	**Xi'an**	**41.05**	**329**	P	**P**	**03 43 39.4**	**-0.4**
XAN				pP	**pP**	**03 43 50.0**	**-0.3**
XAN				AMB	AMB			
	comp=Z,14nm,0.8s							
XAN				LR	LR			
	comp=Z,440nm,13.5s							
XAN				LR	LR			
	comp=Z,280nm,17.7s							
XAN				LR	LR			
	comp=Z,270nm,15.3s							
CD2	**Chengdu**	**41.74**	**321**	P	**P**	**03 43 45.5**	**0.0**
CD2				pP	**pP**	**03 43 59.2**	**+3.2**
CD2				sP	**sP**	**03 44 03.9**	**+3.6**
CD2				PP	**PnPn**	**03 45 28.8**	**+1.2**
CD2				S	**S**	**03 50 03.2**	**+2.8**
CD2				sS	**sS**	**03 50 21.7**	**+3.9**
CD2				SS	**SS**	**03 53 05.1**	**-2.0**
CD2				AMB	AMB			
	comp=Z,110nm,1.3s							
CD2				AMB	AMB			
	comp=Z,260nm,5.2s							
CD2				LR	LR			
	comp=Z,760nm,10.7s							
CD2				LR	LR			
	comp=Z,1μm,16.7s							
SNY	**Shenyang**	**42.90**	**350**	⇑P	**P**	**03 43 55.2**	**+0.5**
SNY				S	**S**	**03 50 15.9**	**-1.1**
SNY				AMB	AMB			
	comp=Z,63nm,1.2s							
SNY				LR	LR			
	comp=Z,1μm,19.2s							
SNY				LR	LR			
	comp=Z,730nm,19.5s							
SNY				LR	LR			
	comp=Z,1μm,18.3s							
BJT	**Baijiatuau**	**43.08**	**341**	*e*P	**P**	**03 43 56.7**	**+0.5**
	comp=Z,220nm,1.1s							
BJT				LR	LR			
	comp=Z,891nm,19.0s							
BJI	**Beijing**	**43.09**	**341**	P	**P**	**03 43 56.6**	**+0.3**
BJI				S	**S**	**03 50 14.2**	**-5.7**
BJI				AMB	AMB			
	comp=Z,190nm,1.2s							
BJI				AMB	AMB			
	comp=Z,530nm,5.6s							
BJI				LR	LR			
	comp=Z,620nm,20.0s							
BJI				LR	LR			
	comp=Z,1μm,24.2s							
BJI				LR	LR			
	comp=Z,520nm,29.6s							
ERM	**Erimo**	**43.21**	**11**	PFAKE		03 44 10.0	+13	
ERM				LR	LR			
	comp=Z,2μm,19.0s							
TAU	**Tasmania Unive**	**44.22**	**165**	PFAKE		03 44 20.0	+15	
TAU				LR	LR			
	comp=Z,2μm,19.0s							
USRK	**Ussuriysk Arra**	**44.42**	**359**	P	**P**	**03 44 07.8**	**+0.9**
	comp=Z,19nm,1.0s,baz=176,slow=7.7,SNR=32							
USRK				LR	LR	04 01 25.6		
	comp=Z,1μm,18.7s,baz=161,slow=34							
CN2	**Changchun**	**44.53**	**352**	⇑P	**P**	**03 44 07.8**	**0.0**
CN2				*e*sP	**sP**	**03 44 25.5**	**+2.9**
CN2				PcP	**PcP**	**03 45 49.7**	**-0.9**
CN2				*e*S	**S**	**03 50 41.2**	**+0.3**
CN2				AMB	AMB			
	comp=Z,50nm,1.1s							
CN2				AMB	AMB			
	comp=Z,800nm,6.0s							
CN2				LR	LR			
	comp=Z,1μm,18.0s							
CN2				LR	LR			
	comp=Z,1μm,18.0s							
CN2				LR	LR			
	comp=Z,1μm,16.0s							
MDJ	**Mudanjiang**	**44.93**	**357**	P	**P**	**03 44 11.8**	**+0.9**
MDJ				pP	**pP**	**03 44 19.3**	**-2.2**
MDJ				sP	**sP**	**03 44 23.1**	**-2.7**
MDJ				PcP	**PcP**	**03 45 52.6**	**+0.6**
MDJ				S	**S**	**03 50 50.8**	**+4.2**
MDJ				SS	**SS**	**03 54 07.7**	**-1.4**
MDJ				AMB	AMB			
	comp=Z,49nm,1.5s							
MDJ				LR	LR			
	comp=Z,200nm,34.9s							
MDJ				LR	LR			
	comp=Z,340nm,34.0s							
MDJ				LR	LR			
	comp=Z,580nm,20.9s							
MDJ	**Mudanjiang**	**44.93**	**357**	*e*P	**P**	**03 44 11.8**	**+0.9**
	comp=Z,64nm,1.2s							
ASAJ	**Asahikawa**	**45.14**	**10**	P	**P**	**03 44 13.8**	**+1.2**
ASAJ	**Asahikawa**	**45.14**	**10**	P	**P**	**03 44 13.8**	**+1.2**
	comp=Z,24nm,1.2s,baz=203,slow=13,SNR=3.5							
ASAJ				LR	LR	04 01 51.8		
	comp=Z,1μm,19.7s,baz=163,slow=34							
LZH	**Lanzhou**	**45.32**	**326**	*e*P	**P**	**03 44 15.7**	**+1.2**
LZH				pP	**pP**	**03 44 27.8**	**+2.8**
LZH				sP	**sP**	**03 44 33.7**	**+4.4**
LZH				PcP	**PcP**	**03 45 53.9**	**+0.1**
LZH				PP	**PP**	**03 46 02.9**	**+1.9**
LZH				*e*S	**S**	**03 50 52.0**	**-1.0**
LZH				sS	**sS**	**03 51 11.0**	**+0.6**
LZH				SS	**ScS**	**03 54 11.2**	**+2.4**
LZH				AMB	AMB			
	comp=Z,94nm,1.2s							
LZH				AMB	AMB			
	comp=Z,460nm,4.4s							
LZH				LR	LR			
	comp=Z,2μm,14.4s							
LZH				LR	LR			
	comp=Z,2μm,14.9s							
LZH				LR	LR			
	comp=Z,2μm,16.2s							
IMP	**Imphal**	**45.37**	**306**	*ex*	**P**	**03 44 13.0**	**-1.9**
IMP				*ex*	x	03 44 54.0		
HHC	**Hu-ho-hao-te**	**45.46**	**337**	⇑*i*P	**P**	**03 44 16.6**	**+1.2**
HHC				pP	**pP**	**03 44 26.6**	**+0.6**
HHC				sP	**sP**	**03 44 30.4**	**+0.2**
HHC				PP	**PP**	**03 46 03.7**	**+1.5**
HHC				S	**S**	**03 50 57.4**	**+2.8**
HHC				sS	**sS**	**03 51 11.7**	**-0.4**
HHC				SS	**ScS**	**03 54 11.8**	**+2.5**
HHC				AMB	AMB			
	comp=Z,180nm,1.3s							
HHC				AMB	AMB			
	comp=Z,1μm,5.5s							
HHC				LR	LR			
	comp=Z,1μm,14.1s							
HHC				LR	LR			
	comp=Z,980nm,14.1s							
HHC				LR	LR			
	comp=Z,1μm,14.9s							
YUK	**Yuzh-Kuril'sk**	**45.71**	**13**	*c*i*P*	P	03 44 13.8	-3.3	
YUK				*i*		03 46 00.6		
YUK				*e*PPP	PPP	03 46 43.8		
YUK				*i* S	**S**	**03 50 54.2**	**-3.6**
YUK				*i* SS	**SS**	**03 54 20.3**	**-2.3**
BTO	**Baotou**	**45.87**	**336**	*e*P	**P**	**03 44 18.2**	**-0.4**
MSVF	**Nonsavu**	**47.49**	**114**	*e*P	**P**	**03 44 32.0**	**+0.4**
MSVF				pmax	pmax			
	comp=Z,116nm,1.1s							
MSVF				MLR	MLR			
	comp=Z,2μm,22.0s							
MSVF	**Nonsavu**	**47.49**	**114**	P	**P**	**03 44 33.1**	**+1.4**
	comp=Z,540nm,1.1s,SNR=6.3							
MSVF	**Nonsavu**	**47.49**	**114**	*e*P	**P**	**03 44 32.0**	**+0.4**
	comp=Z,116nm,1.1s							
MSVF				LR	LR			
	comp=Z,2μm,22.0s							
YSS	**Yuzh-Sakhalins**	**47.93**	**9**	⇑*i*P	**P**	**03 44 33.4**	**-1.0**
YSS				*e*S	**S**	**03 51 26.0**	**-3.5**
YSS				pmax	pmax			
	comp=Z,70nm,1.1s							
HABR	**Khabarovsk**	**48.72**	**2**	*e*P	**P**	**03 44 39.1**	**-1.4**
HABR				*e**SP	**sP**	**03 44 52.9**	**-2.5**
HABR				*e*S	**S**	**03 51 39.3**	**-1.3**
HABR				*e**SS	**sS**	**03 51 55.5**	**-2.6**
HABR				*e*		03 54 28.6		
HABR				*e*SS	**SS**	**03 55 11.0**	**-0.4**
HABR				pmax	pmax			
	comp=Z,72nm,1.5s							
HABR				MLR	MLR			
	comp=Z,452nm,17.0s							
KLR	**Kul'dur**	**49.45**	**359**	*e*P	**P**	**03 44 43.2**	**-2.9**
KLR				*e*S	**S**	**03 51 48.0**	**-3.0**
KLR				pmax	pmax			
	comp=N,35nm,1.8s							
KLR				pmax	pmax			
	comp=Z,140nm,1.8s							
KLR				pmax	pmax			
	comp=Z,1μm,10.0s							
KLR				MLR	MLR			
	comp=Z,1μm,16.0s							
LSA	**Lhasa**	**49.88**	**311**	P	**P**	**03 44 50.9**	**+0.6**
LSA				AMB	AMB			
	comp=Z,50nm,1.2s							
LSA	**Lhasa**	**49.88**	**311**	*e*P	**P**	**03 44 50.7**	**+0.4**
LSA				pmax	pmax			
	comp=Z,129nm,1.3s							
LSA				MLR	MLR			
	comp=Z,622nm,21.0s							
LSA	**Lhasa**	**49.88**	**311**	*e*P	**P**	**03 44 50.7**	**+0.4**
	comp=Z,129nm,1.3s							
LSA				LR	LR			
	comp=Z,622nm,21.0s							
GTA	**Gaotai**	**49.93**	**326**	P	**P**	**03 44 50.7**	**+0.6**
GTA				pP	**pP**	**03 44 59.7**	**-1.1**
GTA				sP	**sP**	**03 45 03.8**	**-1.3**
GTA				PcP	**PcP**	**03 46 11.4**	**+1.3**
GTA				S	**S**	**03 51 59.5**	**+1.3**
GTA				sS	**sS**	**03 52 15.2**	**-0.6**
GTA				SS	**SS**	**03 55 27.4**	**-4.2**
GTA				AMB	AMB			
	comp=Z,41nm,1.4s							
GTA				AMB	AMB			
	comp=Z,390nm,6.6s							
GTA				LR	LR			
	comp=Z,300nm,14.0s							
GTA				LR	LR			
	comp=Z,440nm,18.1s							
GTA				LR	LR			
	comp=Z,650nm,17.3s							
HIA	**Hailar**	**50.79**	**349**	PFAKE		03 45 10.0	+14	
HIA				LR	LR			
	comp=Z,989nm,19.0s							
TAPN	**Taplejung**	**51.52**	**306**	*e*P	**P**	**03 45 02.3**	**-0.2**
	comp=Z,128nm,1.0s							
ODAN	**Odare**	**51.57**	**305**	*e*P	**P**	**03 45 02.6**	**-0.3**
	comp=Z,185nm,0.8s							
RAMN	**Ramite**	**52.26**	**305**	*e*P	**P**	**03 45 08.0**	**0.0**
	comp=Z,311nm,1.0s							
PALK	**Pallekele**	**52.73**	**279**	*e*P	**P**	**03 45 09.4**	**-2.1**
	comp=Z,61nm,1.4s							
JIRN	**Jiri**	**52.87**	**306**	*e*P	**P**	**03 45 12.4**	**-0.3**
	comp=Z,113nm,0.9s							
ULN	**Ulaanbaatar**	**53.12**	**338**	P	**P**	**03 45 15.5**	**+1.6**
	SNR=28							
ULN	**Ulaanbaatar**	**53.12**	**338**	*e*P	**P**	**03 45 14.7**	**+0.8**
	comp=Z,64nm,1.1s							
GUN	**Gumba**	**53.23**	**306**	*e*P	**P**	**03 45 15.0**	**-0.2**
	comp=Z,266nm,1.1s							
SONM	**Songino Array**	**53.34**	**338**	P	**P**	**03 45 16.5**	**+1.0**
SONM	**Songino Array**	**53.34**	**338**	P	**P**	**03 45 16.5**	**+1.0**
	comp=Z,12nm,0.9s,baz=150,slow=7.3,SNR=74							
SONM				LR	LR	04 07 16.7		
	comp=Z,532nm,19.3s,baz=152,slow=35							
PKI	**Pulchoki**	**53.47**	**305**	*e*P	**P**	**03 45 16.3**	**-0.8**
	comp=Z,80nm,1.0s							
KKN	**Kakani**	**53.66**	**306**	*e*P	**P**	**03 45 17.7**	**-0.6**
	comp=Z,66nm,0.9s							
DMN	**Daman**	**53.74**	**

RAO **Raoul Island** 54.83 126 P **P** 03 45 28.1 +1.6
RAO **Raoul Island** 54.83 126 P **P** 03 45 28.1 +1.6
comp=Z,123nm,0.6s,baz=292,slow=19,SNR=1.4
KOLN **Koldanda** 55.03 305 *e*P **P** 03 45 28.1 -0.1
comp=Z,105nm,0.7s
DANN **Dangsing** 55.12 306 *e*P **P** 03 45 28.6 -0.4
comp=Z,204nm,0.9s
URZ **Urewera** 55.27 138 *e*P **P** 03 45 30.0 +0.5
comp=Z,125nm,1.2s
URZ **Urewera** 55.27 138 P P 03 45 25.0 -4.5
LR LR 04 08 25.8
URZ
comp=Z,2µm,20.1s,baz=312,slow=35
MIDW **Midway** 55.35 55 PFAKE 03 45 40.0 +10
MIDW LR LR
comp=Z,2µm,19.0s
HYB **Hyderabad** 56.45 291 *i* P **P** 03 45 40.0 +1.7
ZAK **Zakamensk** 56.60 338 *e*P **P** 03 45 39.2 +0.3
ZAK pmax pmax
comp=Z,22nm,1.8s
NGP **Nagpur** 56.87 296 *e*P **P** 03 45 41.1 -0.2
PEA0B **Petropavlovsk-** 57.16 17 *e*P **P** 03 45 43.4 +0.6
PETK **Petropavlovsk-** 57.16 17 P **P** 03 45 43.7 +1.0
PETK pmax pmax
comp=Z,65nm,1.0s
PETK **Petropavlovsk-** 57.16 17 P **P** 03 45 43.7 +1.0
PETK **Petropavlovsk-** 57.16 17 P **P** 03 45 43.7 +1.0
comp=Z,65nm,1.0s,baz=197,slow=4.6,SNR=20
PETK LR LR 04 06 40.9
comp=Z,475nm,20.6s,baz=201,slow=32
PET **Petropavlovsk** 57.38 18 *e*P **P** 03 45 45.0 +0.7
PET *e*S **S** 03 53 41.6 +3.2
PET pmax pmax
comp=Z,117nm,1.3s
PET pmax pmax
comp=Z,300nm,13.6s
CLNS **Chul'man** 57.44 355 *e*P **P** 03 45 45.4 +0.7
CLNS *e**PP **pP** 03 45 54.5 -1.0
CLNS *e* 03 46 41.5
CLNS *e* 03 47 50.3
CLNS *e*S **S** 03 53 36.3 -2.9
CLNS *e*SS **SS** 03 57 28.8 -0.6
CLNS *e*SSS SSS 03 59 47.3
CLNS pmax pmax
comp=Z,23nm,0.9s
CLNS pmax pmax
comp=E,4.0nm,0.8s
CLNS pmax pmax
comp=N,20nm,1.1s
CLNS pmax pmax
comp=Z,4.0nm,1.0s
CLNS pmax pmax
comp=N,5.0nm,1.0s
CLNS pmax pmax
comp=E,5.0nm,0.9s
CLNS smax smax
comp=N,65nm,7.2s
CLNS smax smax
comp=E,105nm,11.8s
CLNS MLR MLR
comp=N,209nm,13.0s
CLNS MLR MLR
comp=Z,295nm,13.0s
CLNS MLR MLR
comp=E,288nm,14.0s
TLY **Talaya** 57.52 339 *e*P **P** 03 45 46.7 +1.4
TLY *e*S S 03 53 31.3 -9.1
TLY *e* 03 55 34.6
TLY pmax pmax
comp=Z,40nm,1.5s
TLY MLR MLR
comp=Z,579nm,21.0s
TLY **Talaya** 57.52 339 P **P** 03 45 46.5 +1.2
comp=Z,104nm,1.1s,SNR=5.8
IRK **Irkutsk** 57.76 340 *e*P **P** 03 45 47.6 +0.6
IRK pmax pmax
comp=Z,148nm,2.0s
MOY **Mondy** 58.50 337 *e*P **P** 03 45 53.4 +1.1
MOY pmax pmax
comp=Z,134nm,2.3s
LATR **Latur** 58.51 292 *e*x P 03 45 48.6 -4.2
AKL **Akola** 58.60 295 *e*P **P** 03 45 54.7 +1.2
AGRA **Agra** 59.57 302 *e*x P 03 45 55.7 -4.3
WMQ **Urumqi** 59.73 323 P **P** 03 46 01.8 +0.8
WMQ pP **pP** 03 46 11.9 +0.1
WMQ sP **sP** 03 46 15.8 -0.2
WMQ PP **PP** 03 48 15.7 +2.6
WMQ PcS **PcS** 03 50 48.7 -1.0
WMQ S **S** 03 54 09.1 -0.5
WMQ ScS **ScS** 03 55 45.8 -2.9
WMQ SS **SS** 03 58 06.5 +0.5
WMQ AMB AMB
comp=Z,120nm,0.8s
WMQ LR LR
comp=Z,410nm,11.0s
WMQ LR LR
comp=Z,450nm,6.6s
WMQ LR LR
comp=Z,350nm,25.4s
SONA **Sohna** 60.61 303 *e*P **P** 03 46 05.4 -1.7
SONA AMB AMB 03 46 14.4
comp=Z,51nm,0.5s
AYAN **Aya Nagar** 60.64 303 *e*P **P** 03 46 06.2 -1.2
KUDL **Kundal** 61.07 303 *e*P **P** 03 46 08.6 -1.7
KUDL AMB AMB 03 46 16.6
comp=Z,51nm,1.1s
HVS **Khovu-Aksy** 61.19 333 *c i*P **P** 03 46 11.8 +1.0
HVS pmax pmax
comp=Z,577nm,1.7s
SMLA **Simla** 61.46 306 *i* P **P** 03 46 13.2 +0.3
YAK **Yakutsk** 62.33 358 *e*P **P** 03 46 17.5 -0.5
YAK *e* 03 46 57.5
YAK *e* 03 48 35.9
YAK *e*PPP PPP 03 50 08.5
YAK *e*S **S** 03 54 37.6 -4.1
YAK *e* 03 55 59.0
YAK *e*SS **SS** 03 58 51.5 +5.8
YAK pmax pmax
comp=Z,92nm,1.4s
YAK pmax pmax
comp=N,50nm,1.4s
YAK pmax pmax
comp=E,12nm,1.2s
YAK pmax pmax
comp=Z,503nm,3.8s
YAK pmax pmax
comp=N,541nm,3.4s
YAK pmax pmax
comp=E,409nm,4.3s
YAK smax smax
comp=N,377nm,3.0s
YAK smax smax
comp=E,230nm,2.7s
FX1 **Attu Island--F** 62.76 26 *e*P **P** 03 46 21.6 +0.4
THN **Thein Dam** 63.06 307 *e*P **P** 03 46 22.7 -0.9
MK31 **Makanchi Array** 64.55 324 *e*P **P** 03 46 33.4 +0.2
MK31 **Makanchi Array** 64.55 324 *e*P **P** 03 46 33.4 +0.2
MKAR **Makanchi Array** 64.55 324 P **P** 03 46 33.7 +0.6
MKAR pmax pmax
comp=Z,11nm,0.7s
MKAR **Makanchi Array** 64.55 324 P **P** 03 46 33.7 +0.6
MKAR P'P' 04 15 20.2
MKAR ⇑*e* 04 15 26.6
MKAR **Makanchi Array** 64.55 324 P **P** 03 46 33.7 +0.6
comp=Z,11nm,0.7s,baz=116,slow=8.2,SNR=82
MKAR PKPPKP **P'P'df** 04 15 20.2 -0.9
comp=Z,1.2nm,1.1s,baz=225,slow=1.8,SNR=4.7
MKAR PKP2bc 04 15 26.6
comp=Z,1.1nm,0.9s,baz=316,slow=4.0,SNR=4.3
SEY **Seymchan** 64.83 10 *ce*P **P** 03 46 35.2 +0.6
KSH **Kashi** 65.40 314 ⇑*i*P **P** 03 46 40.8 +1.8
KSH pP **pP** 03 46 54.6 +4.6
KSH sP sP 03 47 00.0 +5.9
KSH PP **PP** 03 49 08.3 +5.1
KSH sS sS 03 55 46.2 +7.0
KSH ScS **SKSac** 03 56 28.3 -3.6
KSH SS **SS** 03 59 40.5 +5.6
KSH AMB AMB
comp=Z,51nm,1.1s
KSH LR LR
comp=Z,240nm,7.4s
KSH LR LR
comp=Z,210nm,6.3s
KSH LR LR
comp=Z,350nm,6.4s

KZA **Kyzart** 66.90 317 *i* P **P** 03 46 50.1 +1.2
KZA **Kyzart** 66.90 317 P **P** 03 46 50.1 +1.2
SNR=36
TKM2 **Tokmak 2** 67.00 318 *e*P **P** 03 46 49.6 +0.3
TKM2 pmax pmax
comp=Z,31nm,1.0s
TKM2 MLR MLR
comp=Z,532nm,19.0s
TKM2 **Tokmak 2** 67.00 318 P **P** 03 46 50.0 +0.7
SNR=8.4
TKM2 **Tokmak 2** 67.00 318 *e*P **P** 03 46 49.6 +0.3
comp=Z,31nm,1.0s
TKM2 LR LR
comp=Z,532nm,19.0s
ZAA0 **Zalesovo Array** 67.15 331 *e*P **P** 03 46 49.2 -0.5
ZALV **Zalesovo Beam** 67.15 331 P **P** 03 46 49.4 -0.3
ZALV pmax pmax
comp=Z,49nm,1.1s
ZALV **Zalesovo Beam** 67.15 331 P **P** 03 46 49.4 -0.3
ZALV P'P'ab **P'P'ab** 04 15 19.4 -1.4
ZALV **Zalesovo Beam** 67.15 331 P **P** 03 46 49.4 -0.3
comp=Z,48nm,1.1s,baz=108,slow=4.8,SNR=95
ZALV PKP2ab 04 15 19.4
comp=Z,1.9nm,0.9s,baz=304,slow=3.4,SNR=6.8
FRU **Bishkek** 67.63 317 *i* P **P** 03 46 53.0 0.0
FRU pmax pmax
comp=Z,112nm,2.0s
AAK **Ala-Archa** 67.63 317 *ce*P **P** 03 46 53.6 +0.4
AAK pmax pmax
comp=Z,89nm,1.7s
AAK **Ala-Archa** 67.63 317 P **P** 03 46 53.2 -0.1
SNR=20
AAK **Ala-Archa** 67.63 317 P **P** 03 46 53.3 +0.1
comp=Z,75nm,1.4s,SNR=7.2
AAK **Ala-Archa** 67.63 317 *e*P **P** 03 46 53.0 -0.3
comp=Z,27nm,1.1s
AAK LR LR
comp=Z,546nm,21.0s
AAK **Ala-Archa** 67.63 317 P **P** 03 46 52.9 -0.3
comp=Z,2.1nm,0.6s,baz=106,slow=4.9,SNR=20
USP **Ospenovka** 67.88 318 *i* P **P** 03 46 55.1 +0.5
USP **Ospenovka** 67.88 318 P **P** 03 46 55.1 +0.5
SNR=19
AML **Almayashu** 67.99 316 *i* P **P** 03 46 56.7 +0.9
AML **Almayashu** 67.99 316 P **P** 03 46 56.7 +0.9
SNR=23
EKS2 **Erkin-Say** 68.13 317 *e*P **P** 03 46 56.6 +0.3
EKS2 pmax pmax
comp=Z,29nm,1.0s
EKS2 MLR MLR
comp=Z,521nm,21.0s
EKS2 **Erkin-Say** 68.13 317 P **P** 03 46 57.3 +1.0
SNR=12
EKS2 **Erkin-Say** 68.13 317 *e*P **P** 03 46 56.6 +0.3
comp=Z,29nm,1.0s
EKS2 LR LR
comp=Z,521nm,21.0s
NVS **Novosibirsk** 68.42 332 ⇑*i*P **P** 03 46 57.2 -0.5
NVS *e*S **S** 03 55 55.6 -1.1
NVS pmax pmax
comp=N,55nm,1.6s
NVS pmax pmax
comp=E,70nm,1.6s
NVS pmax pmax
comp=Z,136nm,1.6s
NVS smax smax
comp=N,33nm,3.1s
NVS smax smax
comp=E,11nm,1.7s
KURK **Kurchatov** 68.61 326 *c i*P **P** 03 46 59.3 +0.3
KURK pmax pmax
comp=Z,118nm,1.7s
KURK **Kurchatov** 68.61 326 P **P** 03 46 59.8 +0.8
SNR=45
KURK **Kurchatov** 68.61 326 P **P** 03 46 59.6 +0.6
comp=Z,554nm,1.1s,SNR=56
KURK **Kurchatov** 68.61 326 *e*P **P** 03 46 58.9 -0.1
comp=Z,75nm,1.3s
KURK LR LR
comp=Z,216nm,19.0s
KURBB **Kurchatov Arra** 68.62 326 P **P** 03 46 59.4 +0.3
comp=Z,59nm,1.0s,baz=117,slow=6.3,SNR=206
KURBB PKP2bc 04 15 18.5
comp=Z,0.7nm,0.3s,baz=303,slow=4.3,SNR=4.7
KBL **Kabul** 69.01 307 *e*P **P** 03 47 01.5 -0.6
KBL pmax pmax
comp=Z,56nm,1.1s
KBL **Kabul** 69.01 307 *e*P **P** 03 47 01.5 -0.6
comp=Z,56nm,1.1s
XMAS **Kiritimati** 69.56 88 *e*P **P** 03 47 07.2 +1.6
comp=Z,162nm,1.1s
KK31 **Karatay Array** 70.53 316 *i* P **P** 03 47 11.0 0.0
KK31 pmax pmax
comp=Z,15nm,0.7s
KKAR **Karatay Array** 70.53 316 *e*P **P** 03 47 10.9 -0.1
KKAR pmax pmax
comp=Z,24nm,1.0s
KKAR **Karatay Array** 70.53 316 *e*P **P** 03 47 10.9 -0.1
comp=Z,24nm,1.0s
KIP **Kipapa** 70.62 67 *de*P **P** 03 47 14.3 +2.4
KIP pmax pmax
comp=Z,233nm,1.7s
TIXI **Tiksi** 71.99 359 *d i*P **P** 03 47 19.2 0.0
TIXI pmax pmax
comp=Z,45nm,1.0s
UNV **Unalaska Valle** 73.36 33 *e*P **P** 03 47 27.9 +0.2
comp=Z,111nm,1.3s
VOSK **Vostochnaya** 73.77 326 P **P** 03 47 29.8 -0.3
VOSK pmax pmax
comp=Z,77nm,1.2s
BVA0 **Borovoye Array** 74.21 326 *i* P **P** 03 47 32.7 -0.1
BVA0 pmax pmax
comp=Z,229nm,1.4s
BVAR **Borovoye Array** 74.21 326 P **P** 03 47 32.7 0.0
BVAR pmax pmax
comp=Z,49nm,0.9s
BVAR **Borovoye Array** 74.21 326 P **P** 03 47 32.7 0.0
BVAR **Borovoye Array** 74.21 326 P **P** 03 47 32.7 0.0
comp=Z,49nm,0.9s,baz=116,slow=6.6,SNR=134
BRVK **Borovoye** 74.28 326 *ce*P **P** 03 47 33.5 +0.3
BRVK pmax pmax
comp=Z,118nm,1.0s
BRVK **Borovoye** 74.28 326 P **P** 03 47 33.8 +0.6
SNR=40
BRVK **Borovoye** 74.28 326 P **P** 03 47 33.4 +0.3
comp=Z,608nm,1.1s,SNR=30
BRVK **Borovoye** 74.28 326 *e*P **P** 03 47 33.3 +0.2
comp=Z,102nm,1.0s
BRVK LR LR
comp=Z,328nm,20.0s
IDAH **Dahanechah** 76.09 304 *e*P **P** 03 47 44.6 +0.3
MRIV **Mauritius Mete** 76.29 249 *e*P **P** 03 47 45.2 -0.2
IKOO **Kooshah** 76.75 303 *e*P **P** 03 47 47.4 -0.7
ITEG **Tejag** 77.04 304 *e*P **P** 03 47 49.6 0.0
HOQ **Hoqain** 77.08 294 P **P** 03 47 50.1 +0.3
SNR=10.0
MSEY **Mahe Island** 77.55 265 PFAKE 03 48 00.0 +7.3
MSEY LR LR
comp=Z,315nm,20.0s
PPT **Papeete** 77.87 108 LR LR 04 17 11.9
comp=Z,485nm,18.3s,baz=113,slow=32
PPT2 **Papeete2** 77.87 108 *e*S **S** 03 57 43.7 -1.7
comp=Z,191nm,26.2s
PPT2 **Papeete2** 77.87 108 *e*LQ LQ 04 08 50.0
comp=Z,940nm,38.5s
PPT2 *e*LR LR 04 12 06.7
comp=Z,770nm,24.8s
TBI **Tubuai** 78.38 114 *e*S **S** 03 57 52.4 +1.8
comp=Z,274nm,27.5s
TBI **Tubuai** 78.38 114 *e*LQ LQ 04 09 06.0
comp=Z,313nm,31.8s
TBI *e*LR LR 04 12 21.7
comp=Z,675nm,31.5s
VNDA **Vanda** 78.61 174 *e*P **P** 03 47 56.9 -0.3
comp=Z,28nm,1.0s
VNDA **Vanda** 78.61 174 P **P** 03 47 57.2 0.0
comp=Z,13nm,1.0s,baz=321,slow=6.1,SNR=65
VNDA LR LR 04 23 40.2
comp=Z,1µm,18.3s,baz=356,slow=36
AB31 **Akbulak array** 79.32 320 *i* P **P** 03 48 01.1 -0.5
AB31 pmax pmax
comp=Z,79nm,1.3s
ABKAR **Akbulak array** 79.32 320 *e*P **P** 03 48 01.2 -0.4
comp=Z,41nm,0.9s
SBA **Scott Base** 79.45 173 *e*P **P** 03 48 02.3 +0.5
SBA pmax pmax
comp=Z,82nm,1.5s
SBA MLR MLR
comp=Z,536nm,21.0s
SBA **Scott Base** 79.45 173 *e*P **P** 03 48 02.3 +0.5
comp=Z,82nm,1.5s
SBA LR LR
comp=Z,536nm,21.0s
ICHK **Chekchek** 80.59 303 *e*P **P** 03 48 07.3 -1.9
SVE **Sverdlovsk** 80.76 328 ⇓*i*P **P** 03 48 09.5 +0.2
SVE *e*PPP PPP 03 53 12.1
SVE *e*S **S** 03 58 09.5 -5.1
SVE *e*SS **SS** 04 03 23.1 -5.3
SVE *e*SSS SSS 04 06 52.8
SVE pmax pmax
comp=Z,115nm,1.4s
AKTO **Aktyubinsk** 80.79 321 P **P** 03 48 09.5 -0.1
AKTO pmax pmax
comp=Z,22nm,1.1s
AKTO MLR MLR
comp=Z,344nm,19.6s
AKTO **Aktyubinsk** 80.79 321 P **P** 03 48 09.5 -0.1
AKTO **Aktyubinsk** 80.79 321 P **P** 03 48 09.5 -0.1
comp=Z,22nm,1.1s,baz=100,slow=6.0,SNR=42
AKTO LR LR 04 25 44.7
comp=Z,344nm,19.6s,baz=308,slow=37
ISAD **Sadrabad** 81.16 302 *e*P **P** 03 48 10.6 -1.7
IANJ **Anjilo** 81.36 306 *e*P **P** 03 48 12.6 -0.7
IPAR **Pars** 81.50 300 *e*P **P** 03 48 14.2 0.0
ARU **Arti** 81.78 327 *c i*P **P** 03 48 14.2 -0.5
ARU 03 51 19.0
ARU PPP PPP 03 53 07.9
ARU S **S** 03 58 25.4 +0.3
ARU SS **SS** 04 03 41.9 -1.6
ARU pmax pmax
comp=Z,65nm,1.0s
ARU **Arti** 81.78 327 P **P** 03 48 14.5 -0.2
comp=Z,316nm,1.1s,SNR=20
ISHM **Shahmirzad** 81.90 306 *e*P **P** 03 48 16.2 0.0
KDAK **Kodiak Island** 82.06 31 *e*P **P** 03 48 16.6 +0.5
comp=Z,229nm,1.8s
KDAK LR LR
comp=Z,749nm,22.0s
ILAS **Lasjerd** 82.13 306 *e*P **P** 03 48 15.7 -1.6
MAW **Mawson** 82.15 201 *e*P **P** 03 48 16.7 +0.4
comp=Z,14nm,1.1s
MAW **Mawson** 82.15 201 ⇑P **P** 03 48 16.8 +0.4
baz=82,SNR=11
MAW **Mawson** 82.15 201 P **P** 03 48 16.8 +0.4
comp=Z,12nm,1.0s,baz=59,slow=7.3,SNR=13
MAW LR LR 04 23 47.9
comp=Z,427nm,20.6s,baz=72,slow=35
IKAZ **Kazeroun** 82.54 300 *e*P P 03 48 16.3 -3.4
RSO **Redoubt South** 82.61 29 *e*P **P** 03 48 19.5 +0.3
comp=Z,38nm,1.0s
RSO *ep*P **pP** 03 48 30.5 +0.1
SOKR **Solikamsk** 83.40 330 ⇓*i*P **P** 03 48 23.6 +0.7
SOKR pmax pmax
comp=Z,80nm,1.1s
PPLA **Purkeypile** 83.46 26 *e*P **P** 03 48 23.1 -0.4
comp=Z,82nm,1.4s
IM04 **Indian Mountai** 83.57 23 *e*P **P** 03 48 23.9 +0.1
IMA2 **Indian Mountai** 83.63 23 *e*P **P** 03 48 24.5 +0.2
BPAW **Bear Paw Mtn.** 84.26 25 *e*P **P** 03 48 27.4 -0.1
comp=Z,84nm,1.6s
TRF **Thorofare Moun** 84.42 26 *e*P **P** 03 48 27.8 -0.7
comp=Z,97nm,1.6s
PMR **Palmer** 84.58 28 *e*P **P** 03 48 28.3 -0.6
PMR pmax pmax
comp=Z,37nm,1.2s
PMR **Palmer** 84.58 28 *e*P **P** 03 48 28.3 -0.6
comp=Z,37nm,1.2s
MCK **McKinley** 85.07 26 *e*P **P** 03 48 30.5 -1.0
MCK pmax pmax
comp=Z,103nm,1.4s
MCK **McKinley** 85.07 26 *e*P **P** 03 48 30.5 -1.0
comp=Z,103nm,1.4s
COLD **Coldfoot** 85.26 22 *e*P **P** 03 48 33.3 +1.0
comp=Z,25nm,1.1s
COLA **College** 85.75 25 *e*P **P** 03 48 33.5 -1.2
COLA pmax pmax
comp=Z,67nm,1.0s
COLA MLR MLR
comp=Z,287nm,20.0s
COLA **College** 85.75 25 *e*P **P** 03 48 33.5 -1.2
comp=Z,67nm,1.0s
COLA LR LR
comp=Z,287nm,20.0s
ABPO **Ambohimpanom** 85.89 251 *e*P **P** 03 48 35.8 -0.9
ABPO pmax pmax
comp=Z,46nm,1.4s
ABPO MLR MLR
comp=Z,606nm,21.0s
ABPO **Ambohimpanom** 85.89 251 *e*P **P** 03 48 35.8 -0.9
comp=Z,46nm,1.4s
ABPO LR LR
comp=Z,606nm,21.0s
DIV **Divide** 86.10 29 *e*P **P** 03 48 37.5 +0.8
comp=Z,112nm,1.1s
KBD **Kabd** 86.11 299 *e*P **P** 03 48 36.9 -0.5
KBD AMb AMB 03 48 59.2
comp=Z,54nm,1.5s
ILAR **Eielson Array** 86.14 25 P **P** 03 48 36.0 -0.7
ILAR PP **PP** 03 51 54.5 -2.9
ILAR **Eielson Array** 86.14 25 P **P** 03 48 36.0 -0.7
comp=Z,17nm,1.0s,baz=260,slow=5.0,SNR=70
ILAR PP **PP** 03 51 54.5 -2.9
comp=Z,5.8nm,1.2s,baz=255,slow=6.9,SNR=4.3
ILAR LR LR 04 28 31.1
comp=Z,282nm,18.1s,baz=79,slow=37
RDF **Al-Radifah** 86.23 299 *e*P **P** 03 48 37.4 -0.6
RDF AMb AMB 03 48 42.5
comp=Z,108nm,1.3s
PAX **Paxson** 86.49 27 *e*P **P** 03 48 38.7 +0.1
PAX pmax pmax
comp=Z,46nm,1.2s
PAX **Paxson** 86.49 27 *e*P **P** 03 48 38.7 +0.1
comp=Z,46nm,1.2s
NAY **Al-Naaiem** 86.51 299 *e*P **P** 03 48 38.5 -0.9
NAY AMb AMB 03 48 51.0
comp=Z,56nm,0.7s
ISRB **Sarab** 86.57 308 *e*P **P** 03 48 39.4 -0.3
BMRM **Bremner River** 86.64 29 *e*P **P** 03 48 39.9 +0.5
comp=Z,131nm,1.7s
BMRM *ep*P **pP** 03 48 49.7 -1.0
RST **Umm Al-Ruwaisa** 86.73 299 *e*P **P** 03 48 39.1 -1.4
RST AMb AMB 03 48 52.3
comp=Z,684nm,0.8s
MAK **Makhachkala** 86.98 313 *e*P **P** 03 48 40.4 -0.9
MAK *e* 03 52 04.7
MAK *e* 03 59 19.8
MAK *e*SS SS 04 05 05.4 +4.5
MAK pmax pmax
comp=Z,180nm,6.7s
IHRS **Heris** 87.09 308 *e*P **P** 03 48 41.7 -0.6
MENT **Mentasta** 87.28 27 *e*P **P** 03 48 42.8 +0.4
RAYN **Ar Rayn** 87.88 293 P **P** 03 48 45.9 -0.3
comp=Z,66nm,1.2s,SNR=5.2
IAZR **Azarshahr** 87.90 308 *e*P P 03 48 54.0 +7.8
IMRD **Marand** 88.15 309 *e*P **P** 03 48 46.1 -1.2
EGAK **Eagle** 88.57 25 *e*P **P** 03 48 48.5 0.0
comp=Z,6.6nm,1.0s
EGAK LR LR
comp=Z,455nm,20.0s
GNI **Garni** 88.94 310 P **P** 03 48 51.7 +0.7
SNR=10
GNI **Garni** 88.94 310 *e*P **P** 03 48 50.4 -0.6
comp=Z,37nm,1.1s
GNI LR LR
comp=Z,168nm,20.0s
GNI **Garni** 88.94 310 P **P** 03 48 50.8 -0.1
comp=Z,2.8nm,0.4s,baz=155,slow=15,SNR=5.2
DAWY **Dawson** 89.30 26 *e*P **P** 03 48 52.2 +0.2
QSPA **South Pole Qui** 89.53 180 *e*P **P** 03 48 52.4 -0.7
comp=Z,69nm,1.0s
QSPA LR LR
comp=Z,618nm,21.0s
ZEI **Tsey** 89.62 313 *e*P **P** 03 48 52.2 -2.0
ZEI pmax pmax
comp=Z,17nm,1.0s
HYT **Haines Junctio** 90.09 29 *e*P **P** 03 48 56.2 +0.3
ATD **Arta Tunnel** 90.25 281 LR LR 04 29 47.6
comp=Z,187nm,19.0s,baz=96,slow=36
KBZ **Khabaz** 90.37 314 P **P** 03 48 54.3 -3.0
KBZ **Khabaz** 90.37 314 P **P** 03 48 54.3 -3.0
KBZ **Khabaz** 90.37 314 P **P** 03 48 54.3 -3.0
comp=Z,0.7nm,0.5s,baz=34,slow=3.6,SNR=4.4
KIV **Kislovodsk** 90.52 314 ⇑*e*P **P** 03 48 57.3 -0.9

KIV *e* 03 52 35.0
KIV *i* S **SKSac** **03 59 22.7 -4.5**
KIV *e*PS **PnS** **04 01 05.6 +2.8**
KIV pmax pmax
comp=Z,11nm,1.6s
SYO Syowa Base 90.86 201‖ *e*P **P** **03 48 57.4 -1.6**
VRHR Novokhopersk 91.19 321 *e*P **P** **03 48 58.7 -2.3**
VRHR pmax pmax
comp=N,10.0nm,1.5s
VRHR pmax pmax
comp=E,20nm,1.5s
VRHR pmax pmax
comp=Z,30nm,1.5s
INK Inuvik 91.66 22 *e*P **P** **03 49 01.3 -1.4**
comp=Z,9.7nm,1.0s
KLMR Klimovskoe 92.06 331 *e*P P 03 49 00.8 -4.0
KLMR pmax pmax
comp=Z,62nm,1.5s
TMCR Tamitsa 92.54 334 *e*P **P** **03 49 05.2 -1.7**
TMCR pmax pmax
comp=Z,46nm,1.1s
VORD Divnogorie 92.67 321 *e*P **P** **03 49 05.6 -2.2**
VORD pmax pmax
comp=E,40nm,1.0s
VORD pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 92.74 321 *e*P **P** **03 49 06.3 -1.8**
VSR pmax pmax
comp=N,10.0nm,1.2s
VSR pmax pmax
comp=E,20nm,1.2s
VSR pmax pmax
comp=Z,20nm,1.2s
WRAK Wrangell Islan 92.91 34 *e*P **P** **03 49 10.2 +1.4**
comp=Z,12nm,0.1s
WRAK LR LR
comp=Z,299nm,20.0s
H02S1 DAWSON INLET T 93.03 37 T T 05 32 54.3
SNR=16
MOS Moscow 93.38 326 *e*P P 03 49 07.9 -3.1
MOS pmax pmax
comp=Z,30nm,0.9s
OBN Obninsk 94.03 325 *d i*P **P** **03 49 12.0 -2.0**
OBN *e* 03 52 58.8
OBN *e*PS PS 04 01 30.3 -10
OBN *e*SS SS 04 06 56.3 +14
OBN pmax pmax
comp=Z,55nm,1.7s
ANN Anapa 94.26 315 *e*P P 03 49 07.9 -7.4
ANN pmax pmax
comp=Z,22nm,0.9s
ASF Jabal al Asfar 95.41 302 P **P** **03 49 20.9 -0.1**
ASF Jabal al Asfar 95.41 302 P **P** **03 49 20.9 -0.1**
comp=Z,0.6nm,0.5s,baz=81,slow=3.8,SNR=6.8
SPITS Spitsbergen Ar 95.70 349 P **P** **03 49 22.4 +1.1**
SPITS Spitsbergen Ar 95.70 349 P **P** **03 49 22.4 +1.1**
comp=Z,6.0nm,0.8s,baz=34,slow=19,SNR=2.6
KMBO Kilima Mbogo 95.76 269 *e*P **P** **03 49 22.6 -0.6**
comp=Z,27nm,1.7s
KMBO LR LR
comp=Z,389nm,21.0s
KMBO Kilima Mbogo 95.76 269 P **P** **03 49 22.7 -0.5**
comp=Z,3.1nm,0.9s,baz=68,slow=4.6,SNR=7.6
KMBO LR LR 04 26 51.4
comp=Z,384nm,21.1s,baz=357,slow=32
KEV Kevo 95.89 340 PFAKE 03 49 30.0 +7.8
KEV LR LR
comp=Z,630nm,20.0s
KBS Kingsbay 96.12 350 PFAKE 03 49 30.0 +6.9
KBS LR LR
comp=Z,442nm,19.0s
ARCES ARCESS Array B 96.45 340 P **P** **03 49 23.6 -1.2**
ARCES ARCESS Array B 96.45 340 P **P** **03 49 23.6 -1.2**
comp=Z,12nm,0.9s,baz=78,slow=3.5,SNR=31
ARCES LR LR 04 34 52.4
comp=Z,506nm,19.9s,baz=75,slow=37
MMAI Mount Meron Ar 96.61 303 P **P** **03 49 27.4 +1.0**
MMAI Mount Meron Ar 96.61 303 P **P** **03 49 27.4 +1.0**
comp=Z,0.5nm,0.2s,baz=274,slow=3.9,SNR=3.2
EIL Elat 97.22 300 P **P** **03 49 28.6 -0.5**
EIL Elat 97.22 300 P **P** **03 49 28.6 -0.5**
comp=Z,1.5nm,0.6s,baz=337,slow=4.6,SNR=3.5
EIL LR LR 04 34 13.4
comp=Z,173nm,19.2s,baz=85,slow=36
BR131 Keskin Array S 97.48 310 *e*P **P** **03 49 28.4 -1.9**
comp=Z,2.3nm,1.0s
BRTR Keskin Array B 97.48 310 P **P** **03 49 28.8 -1.5**
BRTR PP **PP** **03 53 29.5 +1.8**
BRTR Keskin Array B 97.48 310 P **P** **03 49 28.8 -1.5**
comp=Z,1.6nm,0.9s,baz=114,slow=2.7,SNR=8.6
BRTR PP **PP** **03 53 29.5 +1.8**
comp=Z,1.4nm,1.0s,baz=95,slow=7.4,SNR=3.9
ANTO Ankara 98.11 310 PFAKE 03 49 40.0 +6.9
ANTO LR LR
comp=Z,196nm,21.0s
CSS Prodhromos 98.18 305 *e*P Pdif 03 49 34.1 +0.7
CSS LR LR
comp=Z,188nm,19.0s
FINES FINESS Array B 98.41 332 P **P** **03 49 32.2 -1.5**
FINES FINESS Array B 98.41 332 P **P** **03 49 32.2 -1.5**
comp=Z,8.5nm,1.0s,baz=23,slow=10,SNR=5.3
FINES LR LR 04 40 32.0
comp=Z,294nm,18.4s,baz=184,slow=39
AKASG Malin Array Be 99.04 321 P **Pdif** **03 49 34.3 -2.5**
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 99.04 321 P **Pdif** **03 49 34.3 -2.5**
AKASG Malin Array Be 99.04 321 P **Pdif** **03 49 34.3 -2.5**
comp=Z,2.7nm,0.8s,baz=69,slow=4.3,SNR=13
AKASG LR LR 04 42 50.0
comp=Z,327nm,19.2s,baz=45,slow=41
KIEV Kiev 99.05 321 PFAKE 03 49 50.0 +13
KIEV LR LR
comp=Z,426nm,21.0s
NLWA Neilton Lookou 99.16 42 PFAKE 03 49 50.0 +12
NLWA LR LR
comp=Z,456nm,22.0s
MAIT Maitri 99.52 197 *e*P **Pdif** **03 49 36.6 -1.9**
ISP Isparta 100.12 308 PFAKE 03 49 50.0 +7.9
ISP LR LR
comp=Z,189nm,20.0s
YKW3 Yellowknife Ar 100.51 26 *e*Pdif **Pdif** **03 49 42.3 -0.8**
YKA Yellowknife Ar 100.54 26 P **Pdif** **03 49 43.1 -0.2**
YKA PP **PP** **03 53 51.1 +1.1**
YKA Yellowknife Ar 100.54 26 P **Pdif** **03 49 43.1 -0.2**
comp=Z,0.9nm,0.9s,baz=310,slow=4.8,SNR=3.6
YKA PP **PP** **03 53 51.1 +1.1**
comp=Z,1.0nm,0.9s,baz=287,slow=6.4,SNR=2.7
YBH Yreka Blue Hor 100.90 48 P **Pdif** **03 49 48.0 +2.5**
YBH Yreka Blue Hor 100.90 48 P **Pdif** **03 49 48.0 +2.5**
comp=Z,1.4nm,0.8s,baz=221,slow=11,SNR=3.0
MLR Muntele Rosu 102.21 317 P **Pdif** **03 49 50.3 -1.0**
MLR Muntele Rosu 102.21 317 P **Pdif** **03 49 50.3 -1.0**
comp=Z,1.0nm,1.0s,baz=8.1,slow=7.1,SNR=5.5
BUR08 Bucovina Ar. S 102.25 319 *e*Pdif **Pdif** **03 49 50.5 -0.9**
HAWA Hanford 102.27 43 PFAKE 03 50 00.0 +8.6
HAWA LR LR
comp=Z,547nm,21.0s
MBAR Mbarara 102.28 269 PFAKE 03 50 00.0 +7.7
MBAR LR LR
comp=Z,624nm,21.0s
SNAA Sanae 102.73 193 *e*Pdif **Pdif** **03 49 53.8 +0.8**
NEW Newport 103.42 40 PFAKE 03 50 10.0 +14
NEW LR LR
comp=Z,500nm,19.0s
WVOR Wild Horse Val 103.75 46 PFAKE 03 50 10.0 +12
WVOR LR LR
comp=Z,577nm,20.0s
KOLS Kolonicke sedl 103.82 321 *e*P **Pdif** **03 49 57.4 -0.8**
KOLS Kolonicke sedl 103.82 321 PDIF **Pdif** **03 49 57.4 -0.8**
BMO Blue Mountains 104.14 44 PFAKE 03 50 10.0 +10
BMO LR LR
comp=Z,454nm,20.0s
LSZ Lusaka 104.20 254 *e*Pdif **Pdif** **03 50 00.4 -0.3**
LSZ LR LR
comp=Z,465nm,19.0s
SANT Santorini 104.34 307 PFAKE 03 50 10.0 +9.2
SANT LR LR
comp=Z,196nm,22.0s
HFS Hagfors 104.55 333 Pdif **Pdif** **03 49 59.3 -1.8**
HFS Hagfors 104.55 333 Pdiff **Pdif** **03 49 59.3 -1.8**
comp=Z,14nm,1.1s,baz=197,slow=4.6,SNR=3.6
NVAR Mina Array Bea 104.82 50 Pdif **Pdif** **03 50 02.6 -0.6**
NVAR PP **PP** **03 54 25.6 +2.4**
NVAR PKKPbc **PKKPab** **04 06 04.5 -0.6**
comp=Z,0.5nm,0.4s,baz=249,slow=4.1,SNR=4.3
NVAR PP **PP** **03 54 25.6 +2.4**
comp=Z,0.3nm,0.3s,baz=270,slow=12,SNR=4.3
NVAR PKKPbc **PKKPab** **04 06 04.5 -0.6**
comp=Z,0.6nm,0.5s,baz=149,slow=3.5,SNR=3.6
BMN Battle Mountai 105.22 48 PFAKE 03 54 30.0
BMN LR LR
comp=Z,602nm,20.0s
NOA NORSAR Array B 105.23 335 Pdif **Pdif** **03 50 02.5 -1.7**
NOA PP **PP** **03 54 25.9 +0.8**
NOA NORSAR Array B 105.23 335 Pdiff **Pdif** **03 50 02.5 -1.7**
comp=Z,1.0nm,0.9s,baz=63,slow=4.3,SNR=2.8
NOA PP **PP** **03 54 25.9 +0.8**
comp=Z,4.1nm,1.1s,baz=60,slow=7.2,SNR=2.8
PSZ Piszkesteto 105.63 320 *e*PKP **PKiKP** **03 54 19.0 -0.4**
PSZ LR LR
comp=Z,422nm,20.0s
TPH Tonopah 105.73 51 PFAKE 03 54 30.0
TPH LR LR
comp=Z,766nm,20.0s
HLID Hailey 106.48 44 PFAKE 03 54 30.0
HLID LR LR
comp=Z,450nm,20.0s
MORC Moravsky Berou 106.51 322 *e*PKP **PKiKP** **03 54 19.5 -1.4**
DPC Dobruska-Polom 107.05 323 *e*PKP **PKiKP** **03 54 23.9 +2.0**
DPC *e*PP **PP** **03 54 42.6 +3.6**
MCMT McKenzie Canyo 107.21 43 *e*PKP **PKiKP** **03 54 23.3 +0.6**
MCMT *e*PP **PP** **03 54 39.5 -1.1**
PFO Pinyon Flat Ob 107.24 55 PFAKE 03 54 30.0
PFO LR LR
comp=Z,554nm,21.0s
TIR Tirane 107.50 313 PFAKE 03 54 30.0
TIR LR LR
comp=Z,286nm,22.0s
BOZ Bozeman (W) 107.78 42 PFAKE 03 54 30.0
BOZ LR LR
comp=Z,405nm,20.0s
EGMT Eagleton 108.20 39 PFAKE 03 54 40.0
EGMT LR LR
comp=Z,425nm,20.0s
BRG Berggiesshubel 108.26 324 *e*PDIF **Pdif** **03 50 19.8 +2.0**
comp=Z,11nm,1.5s
BRG Berggiesshubel 108.26 324 *e*P **Pdif** **03 50 19.8 +2.0**
BRG pmax pmax
comp=Z,11nm,1.5s
SUR Sutherland 108.43 236 PFAKE 03 54 40.0
SUR LR LR
comp=Z,653nm,21.0s
DUG Dugway 108.55 47 PFAKE 03 54 40.0
DUG LR LR
comp=Z,582nm,20.0s
CLL Collm 108.63 325 *e*P **Pdif** **03 50 19.0 -0.5**
CLL MLR MLR
comp=Z,400nm,19.2s
CLL Collm 108.63 325 *e*Pdif **Pdif** **03 50 19.0 -0.5**
CLL *e*PP **PP** **03 54 46.0 -4.4**
CLL *e*PS PS 04 04 06.0 -10
CLL *e*PPS PPS 04 05 18.0
CLL *e*SSS SSS 04 13 54.0
CLL LmH 04 44 00.0
comp=Z,400nm,20.6s
CLL LmV 04 49 00.0
comp=Z,400nm,19.2s
LKWY Lake 108.95 43 PFAKE 03 54 40.0
LKWY LR LR
comp=Z,550nm,20.0s
AHID Auburn Hatcher 109.03 44 PFAKE 03 54 40.0
AHID LR LR
comp=Z,597nm,21.0s
KHC Kasperske Hory 109.16 323 *e*PKP 03 54 28.5
KHC *e*PP PP 03 55 02.9 +8.5
GERES GERESS Array B 109.19 322 Pdif **Pdif** **03 50 21.2 -1.0**
GERES PP **PP** **03 54 57.8 +3.1**
GERES GERESS Array B 109.19 322 Pdiff **Pdif** **03 50 21.2 -1.0**
comp=Z,0.6nm,0.9s,baz=7.7,slow=10,SNR=2.8
GERES PP **PP** **03 54 57.8 +3.1**
comp=Z,0.5nm,0.7s,baz=40,slow=7.7,SNR=2.0
MVU Marysvale 109.45 49 PFAKE 03 54 40.0
MVU LR LR
comp=Z,639nm,19.0s
RLMT Red Lodge 109.52 42 PFAKE 03 54 40.0
RLMT LR LR
comp=Z,346nm,20.0s
FFC Flin Flon 109.78 30 PFAKE 03 54 40.0
FFC LR LR
comp=Z,192nm,19.0s
BW06 Boulder Array 110.11 44 PFAKE 03 54 40.0
BW06 LR LR
comp=Z,552nm,20.0s
PDAR Pinedale Array 110.11 44 Pdif **Pdif** **03 50 34.3 +7.7**
PDAR PP **PP** **03 55 06.5 +4.7**
PDAR PKKPbc **PKKPbc** **04 05 35.1 +3.9**
PDAR Pinedale Array 110.11 44 Pdiff **Pdif** **03 50 34.3 +7.7**
comp=Z,0.2nm,0.5s,baz=83,slow=7.5,SNR=2.4
PDAR PP **PP** **03 55 06.5 +4.7**
comp=Z,0.7nm,0.8s,baz=336,slow=2.0,SNR=2.8
PDAR PKKPbc **PKKPbc** **04 05 35.1 +3.9**
comp=Z,0.8nm,0.9s,baz=102,slow=6.5,SNR=3.9
CUC Castrocucco 110.84 313 PFAKE 03 54 40.0
CUC LR LR
comp=Z,221nm,19.0s
WUAZ Wupatki 110.89 52 PFAKE 03 54 40.0
WUAZ LR LR
comp=Z,707nm,22.0s
LAO LASA Array 110.92 39 PFAKE 03 54 40.0
LAO LR LR
comp=Z,386nm,20.0s
CEL Celeste 111.30 311 PFAKE 03 54 40.0
CEL LR LR
comp=Z,169nm,20.0s
DGMT Dagmar 111.44 37 PFAKE 03 54 40.0
DGMT LR LR
comp=Z,531nm,21.0s
TUC Tucson 112.18 55 PFAKE 03 54 40.0
TUC LR LR
comp=Z,756nm,22.0s
K22A Casper 112.25 43 *e*PKPdf **PP** **03 55 12.3 -4.7**
MVCO Mesa Verde 112.64 49 *e*PKP **PKiKP** **03 54 34.0 +0.9**
MVCO LR LR
comp=Z,712nm,21.0s
BFO Black Forest 112.65 324 PFAKE 03 54 40.0
BFO LR LR
comp=Z,377nm,19.0s
TUE Stuetta 112.85 321 PFAKE 03 54 40.0
TUE LR LR
comp=Z,412nm,19.0s
VLC Villacollemand 113.14 319 PFAKE 03 54 40.0
VLC LR LR
comp=Z,428nm,22.0s
WLF Walferdange 113.28 326 *e*PKIKP **PKiKP** **03 54 33.3 -0.3**
WLF MLR MLR
comp=Z,514nm,19.0s
WLF Walferdange 113.28 326 *e*PKP **PKiKP** **03 54 33.3 -0.3**
WLF LR LR
comp=Z,514nm,19.0s
RSSD Black Hills 113.36 41 *e*PKIKP **PKiKP** **03 54 33.5 -0.8**
RSSD Black Hills 113.36 41 *e*PKP **PKiKP** **03 54 33.5 -0.8**
ECH Echery 113.39 324 PFAKE 03 54 50.0
ECH LR LR
comp=Z,318nm,19.0s
PMSA Palmer Station 113.78 172 *e*PKP **PKiKP** **03 54 33.3 -0.8**
TSUM Tsumeb 113.81 249 *e*PKP **PKiKP** **03 54 33.3 -2.3**
TSUM LR LR
comp=Z,393nm,21.0s
ISCO Idaho Springs 113.92 46 PFAKE 03 54 50.0
ISCO LR LR
comp=Z,582nm,20.0s
SDCO Great Sand Dun 114.72 48 *e*PKP PKPdf 03 54 37.5 +0.3
SDCO LR LR
comp=Z,709nm,20.0s
ANMO Albuquerque 114.91 51 *e*PKP PKPdf 03 54 38.2 +0.7
ANMO LR LR
comp=Z,723nm,20.0s
BNI Bardonecchia 115.15 321 PFAKE 03 54 50.0 +12
BNI LR LR
comp=Z,655nm,19.0s
SBF Sospel 115.20 319 *e*PKIKP **PKPdf** **03 54 35.9 -1.7**
comp=Z,47nm,1.3s
SBF Sospel 115.20 319 *e*PKIKP **PKPdf** **03 54 35.9 -1.7**
SBF Sospel 115.20 319 *e*PKPdf **PKPdf** **03 54 35.9 -1.7**
VSL Villasalto 115.67 314 PFAKE 03 54 50.0 +11
VSL LR LR
comp=Z,259nm,20.0s
ORIF Oris-en-Rattie 115.72 321 *e*PKIKP **PKPdf** **03 54 37.1 -1.5**
comp=Z,4.3nm,0.8s
ORIF Oris-en-Rattie 115.72 321 *e*PKIKP **PKPdf** **03 54 37.1 -1.5**
ORIF Oris-en-Rattie 115.72 321 *e*PKPdf **PKPdf** **03 54 37.1 -1.5**
LOR Lormes 115.80 324 *e*PKIKP **PKPdf** **03 54 35.8 -2.8**
comp=Z,38nm,1.4s
LOR Lormes 115.80 324 *e*PKPdf **PKPdf** **03 54 35.8 -2.8**
OGNE Ogallala 116.01 44 PFAKE 03 54 50.0 +11
OGNE LR LR
comp=Z,369nm,20.0s
SMRF Simiane la Rot 116.35 320 *e*PKIKP **PKPdf** **03 54 38.2 -1.6**
comp=Z,68nm,1.7s
SMRF Simiane la Rot 116.35 320 *e*PKPdf **PKPdf** **03 54 38.2 -1.6**
SSB Saint Sauveur 116.38 322 PFAKE 03 54 50.0 +10
SSB LR LR
comp=Z,472nm,21.0s
AGMN Agassiz Nation 116.38 34 PFAKE 03 54 50.0 +10
AGMN LR LR
comp=Z,696nm,21.0s
MNTX Cornudas Mount 116.76 54 *e*PKPdf **PKPdf** **03 54 41.6 +0.7**
MNTX LR LR
comp=Z,550nm,21.0s
KEST Kesra 117.08 310 PKP **PKPdf** **03 54 36.9 -4.6**
KEST Kesra 117.08 310 PKP **PKPdf** **03 54 36.9 -4.6**
comp=Z,3.9nm,1.2s,baz=348,slow=3.3,SNR=4.6
MSTX Muleshoe 118.11 51 *e*PKPdf **PKPdf** **03 54 43.5 -0.1**
ECSD EROS Data Cent 118.31 39 *e*PKPdf **PKPdf** **03 54 43.1 -0.4**
ECSD LR LR
comp=Z,378nm,19.0s
BGNE Belgrade 118.44 42 *e*PKPdf **PKPdf** **03 54 43.3 -0.5**
MTLF Montolieu 118.79 321 *e*PKIKP **PKPdf** **03 54 41.9 -2.5**
comp=Z,21nm,1.5s
MTLF Montolieu 118.79 321 *e*PKIKP **PKPdf** **03 54 41.9 -2.5**
MTLF Montolieu 118.79 321 *e*PKPdf **PKPdf** **03 54 41.9 -2.5**
TXAR Lajitas Array 118.88 56 PKP **PKPdf** **03 54 45.7 +0.5**
TXAR PKKPbc **PKKPbc** **04 04 58.5 -2.1**
TXAR Lajitas Array 118.88 56 PKP **PKPdf** **03 54 45.7 +0.5**
comp=Z,2.0nm,0.9s,baz=249,slow=1.5,SNR=16
TXAR PKKPbc **PKKPbc** **04 04 58.5 -2.1**
comp=Z,0.3nm,0.7s,baz=98,slow=5.6,SNR=4.4
EYMN Ely 118.98 33 PFAKE 03 55 00.0 +15
EYMN LR LR
comp=Z,446nm,21.0s
EPF Esparros 120.12 321 *e*PKIKP **PKPdf** **03 54 46.2 -0.9**
comp=Z,53nm,1.8s
EPF Esparros 120.12 321 *e*PKIKP **PKPdf** **03 54 46.2 -0.9**
EPF Esparros 120.12 321 *e*PKPdf **PKPdf** **03 54 46.2 -0.9**
KSU1 Kansas State U 120.56 44 *e*PKPdf **PKPdf** **03 54 47.8 -0.2**
KSU1 LR LR
comp=Z,585nm,22.0s
ETSF Etsaut 120.75 322 *e*PKIKP **PKPdf** **03 54 48.4 +0.1**
comp=Z,7.4nm,0.8s
ETSF Etsaut 120.75 322 *e*PKIKP **PKPdf** **03 54 48.4 +0.1**
ETSF Etsaut 120.75 322 *e*PKPdf **PKPdf** **03 54 48.4 +0.1**
WMOK Wichita Mounta 120.88 49 *e*PKIKP **PKPdf** **03 54 48.4 -0.4**
WMOK MLR MLR
comp=Z,643nm,20.0s
WMOK Wichita Mounta 120.88 49 *e*PKPdf **PKPdf** **03 54 48.4 -0.4**
WMOK LR LR
comp=Z,643nm,20.0s
ABTX Abilene, Hawle 121.03 52 *e*PKPdf **PKPdf** **03 54 49.6 +0.4**
SCIA State Center 121.40 39 PFAKE 03 55 00.0 +10
SCIA LR LR
comp=Z,384nm,19.0s
JCT Junction City 121.68 54 *e*PKIKP **PKPdf** **03 54 50.9 +0.5**
JCT MLR MLR
comp=Z,639nm,19.0s
JCT Junction City 121.68 54 *e*PKPdf **PKPdf** **03 54 50.9 +0.5**
JCT LR LR
comp=Z,639nm,19.0s
TUL1 Tulsa 122.59 46 *e*PKPdf **PKPdf** **03 54 51.9 -0.1**
JFWS Jewell Farm 122.66 37 *e*PKIKP **PKPdf** **03 54 50.8 -1.1**
JFWS MLR MLR
comp=Z,521nm,21.0s
JFWS Jewell Farm 122.66 37 *e*PKPdf **PKPdf** **03 54 50.8 -1.1**
JFWS LR LR
comp=Z,521nm,21.0s
WHTX Lake Whitney 122.98 51 *e*PKPdf **PKPdf** **03 54 53.3 +0.5**
SCHQ Schefferville 123.36 14 PKP **PKPdf** **03 54 52.9 0.0**
SCHQ Schefferville 123.36 14 PKP **PKPdf** **03 54 52.9 0.0**
comp=Z,4.2nm,0.9s,baz=98,slow=7.1,SNR=2.9
KVTX Kingsville 124.27 57 PFAKE 03 55 10.0 +15
KVTX LR LR
comp=Z,505nm,21.0s
TAM Tamanrasset 124.36 298 *e*PKIKP **PKPdf** **03 54 56.4 +0.5**
TAM MLR MLR
comp=Z,221nm,19.0s
TAM Tamanrasset 124.36 298 *e*PKPdf **PKPdf** **03 54 56.4 +0.5**
TAM LR LR
comp=Z,221nm,19.0s
ESDC Sonseca Array 124.66 320 PKP **PKPdf** **03 54 56.0 +0.1**
ESDC PP **PP** **03 56 42.0 -0.7**
ESDC Sonseca Array 124.66 320 PKP **PKPdf** **03 54 56.0 +0.1**
comp=Z,0.5nm,0.7s,baz=6.9,slow=3.7,SNR=7.8
ESDC PP **PP** **03 56 42.0 -0.7**
comp=Z,0.4nm,0.7s,baz=57,slow=5.1,SNR=4.5
PAB San Pablo 124.98 320 *e*PKIKP **PKPdf** **03 54 56.7 +0.1**
PAB MLR MLR
comp=Z,471nm,19.0s
PAB San Pablo 124.98 320 *e*PKPdf **PKPdf** **03 54 56.7 +0.1**
PAB LR LR
comp=Z,471nm,19.0s
PBRG Braganca 125.13 324 *e*PKPdf **PKPdf** **03 54 57.1 +0.4**
NATX Nacogdoches 125.25 50 PFAKE 03 55 10.0 +13
NATX LR LR
comp=Z,972nm,21.0s
MVO Moncorvo 125.69 323 *e*PKPdf **PKPdf** **03 54 58.7 +0.8**
PGAV Gavieira, Arco 125.92 325 *e*PKPdf **PKPdf** **03 54 58.7 +0.4**
POLO Lamas de Olo 126.01 324 *e*PKPdf **PKPdf** **03 54 59.1 +0.6**
PVRL Vila Real 126.03 324 *e*PKPdf **PKPdf** **03 54 59.9 +1.4**
OLIL Olney 126.41 40 *e*PKPdf **PKPdf** **03 54 59.6 +0.4**
MTE Manteigas 126.47 323 *e*PKPdf **PKPdf** **03 54 59.1 -0.3**
MTE Manteigas 126.47 323 PFAKE 03 55 10.0 +11
MTE LR LR
comp=Z,363nm,20.0s
PARMO Parma 126.47 43 *e*PKPdf **PKPdf** **03 54 58.9 -0.5**
GNAR Gosnell 126.66 44 *e*PKPdf **PKPdf** **03 54 59.4 -0.3**
PCBR Castelo Branco 126.77 322 *e*PKPdf **PKPdf** **03 55 00.1 +0.3**
PMRV Marv??o 126.96 322 *e*PKPdf **PKPdf** **03 55 00.9 +0.6**
PCAS Casmilo, Conde 127.25 323 *e*PKPdf **PKPdf** **03 55 01.4 +0.6**
PBAR Barrancos 127.49 320 *e*PKPdf **PKPdf** **03 55 01.3 0.0**
OXF Oxford 127.84 45 *e*PKIKP **PKPdf** **03 55 01.8 -0.3**
OXF MLR MLR
comp=Z,459nm,20.0s
OXF Oxford 127.84 45 *e*PKPdf **PKPdf** **03 55 01.8 -0.3**
OXF LR LR
comp=Z,459nm,20.0s
WCI Wyandotte Cave 127.85 39 *e*PKIKP **PKPdf** **03 55 02.0 0.0**
WCI Wyandotte Cave 127.85 39 *e*PKPdf **PKPdf** **03 55 02.0 0.0**
EVO Evora 127.89 321⇑ *i*PKIKP **PKPdf** **03 55 02.1 +0.1**
comp=Z,59nm,1.6s
EVO Evora 127.89 321 *e*PKPdf **PKPdf** **03 55 02.8 +0.8**
EVOP Sao Brissos 127.96 321⇑ *i*PKIKP **PKPdf** **03 55 02.1 -0.1**
EVOP Sao Brissos 127.96 321⇑ *i*PKPdf **PKPdf** **03 55 02.1 -0.1**
WVT Waverly 128.06 42 *e*PKIKP **PKPdf** **03 55 02.3 -0.1**
WVT *e* 03 57 02.8
WVT Waverly 128.06 42 *e*PKPdf **PKPdf** **03 55 02.3 -0.1**
WVT *e*PP **PP** **03 57 02.8 -2.4**
VBMS Vicksburg 128.18 48 PFAKE 03 55 10.0 +7.3
VBMS LR LR
comp=Z,703nm,20.0s
PVAQ Vaqueiros 128.38 320 *e*PKPdf **PKPdf** **03 55 04.1 +1.1**
PCVE Castro Verde 128.45 320 *e*PKPdf **PKPdf** **03 55 02.2 -0.9**
PNCL Nicolau / Gran 128.47 321 *e*PKPdf **PKPdf** **03 55 04.1 +1.0**
ACSO Alum Creek Sta 128.60 35 *e*PKPdf **PKPdf** **03 55 03.2 -0.1**
ACSO LR LR
comp=Z,531nm,21.0s
MDT Midelt 128.75 313 PKP **PKPdf** **03 55 04.7 +0.6**
MDT Midelt 128.75 313 PKP **PKPdf** **03 55 04.7 +0.6**
comp=Z,2.2nm,1.1s,baz=102,slow=5.5,SNR=6.0
ERPA Erie 128.94 31 PFAKE 03 55 20.0 +16
ERPA LR LR
comp=Z,507nm,21.0s
MORF Marmelete 129.03 320 *e*PKPdf **PKPdf** **03 55 08.1 +3.8**
LONY Lake Ozonia 129.62 25 PFAKE 03 55 20.0 +15
LONY LR LR
comp=Z,299nm,20.0s
TORD Torodi Ar. Bea 130.15 287 PKP **PKPdf** **03 55 05.4 -1.6**
TORD Torodi Ar. Bea 130.15 287 PKP **PKPdf** **03 55 05.4 -1.6**
comp=Z,6.7nm,1.2s,baz=74,slow=1.4,SNR=17
NCB Newcomb 130.30 26 PFAKE 03 55 20.0 +14
NCB LR LR
comp=Z,362nm,20.0s
LRAL Lakeview Retre 130.32 45 *e*PKPdf **PKPdf** **03 55 07.0 +0.2**
LRAL LR LR

comp=Z,457nm,20.0s
MCWV Mont Chateau 130.76 34 PFAKE 03 55 20.0 +13
MCWV LR LR
comp=Z,777nm,21.0s
BINY Binghamton 130.88 28 PFAKE 03 55 20.0 +12
BINY LR LR
comp=Z,399nm,20.0s
TKL Tuckaleechee C 131.01 40 ePKPdf **PKPdf 03 55 08.4 +0.3**
LBNH Lisbon 131.04 24 PFAKE 03 55 20.0 +12
LBNH LR LR
comp=Z,519nm,20.0s
PKME Peaks-Kenny Pk 131.17 21 PFAKE 03 55 20.0 +12
PKME LR LR
comp=Z,442nm,19.0s
BRAL Brewton 131.34 47 PFAKE 03 55 20.0 +11
BRAL LR LR
comp=Z,701nm,22.0s
BLA Blacksburg 132.10 36 PFAKE 03 55 20.0 +10
BLA LR LR
comp=Z,418nm,19.0s
CBN Corbin 133.15 33 PFAKE 03 55 20.0 +8.0
CBN LR LR
comp=Z,733nm,21.0s
TIGA Tifton 133.61 45 ePKPdf **PKPdf 03 55 13.9 +0.8**
PLCA Paso Flores 133.78 155 ePKPdf **PKPdf 03 55 14.1 +0.9**
PLCA Paso Flores 133.78 155 PKP **PKPdf 03 55 14.0 +0.7**
comp=Z,5.5nm,0.9s,baz=200,slow=3.7,SNR=8.6
CNNC Cliffs of the 134.94 36 PFAKE 03 55 30.0 +15
CNNC LR LR
comp=Z,693nm,20.0s
TEIG Tepich 135.06 61 PFAKE 03 55 30.0 +14
TEIG LR LR
comp=Z,318nm,22.0s
PAYG Puerto Ayora 136.68 91 PFAKE 03 55 30.0 +11
PAYG LR LR
comp=Z,733nm,19.0s
KIC Kosan Boka 137.44 279 eP PKPdf 03 55 27.9 +7.2
comp=Z,70nm,1.5s
DBIC Dimbokro 137.52 279 ePKPdf **PKPdf 03 55 20.8 0.0**
DBIC Dimbokro 137.52 279 PKP **PKPdf 03 55 18.6 -2.2**
comp=Z,1.8nm,0.6s,baz=323,slow=7.5,SNR=4.7
TIC Toumodi 137.69 279 eP PKPdf 03 55 28.2 +7.0
comp=Z,36nm,1.1s
LIC Lamto 137.74 279 ePKIKP **PKPdf 03 55 19.9 -1.3**
comp=Z,11nm,0.8s
LIC Lamto 137.74 279 eP **PKPdf 03 55 25.6 +4.4**
comp=Z,18nm,0.8s
LIC Lamto 137.74 279 ePKPdf **PKPdf 03 55 19.9 -1.3**
TGUH Tegucigalpa,Un 137.89 69 ePKPdf **PKPdf 03 55 22.2 +0.7**
TGUH LR LR
comp=Z,456nm,21.0s
TRQA Tornquist 139.30 162 ePKPpre PKPpre 03 55 15.6
TRQA ePKPdf **PKPdf 03 55 23.6 +0.1**
JTS JuntasAbangare 140.99 74 ePKPdf **PKPdf 03 55 27.1 -0.1**
JTS LR LR
comp=Z,371nm,19.0s
LCO Las Campanas 142.99 144 ePKPdf **PKPdf 03 55 28.4 -2.3**
BBSR BB Station 144.08 26 PFAKE 03 55 40.0 +7.9
BBSR LR LR
comp=Z,320nm,20.0s
BCIP Isla Barro Col 146.15 74 ePKPbc **PKPdf 03 55 36.7 +0.5**
BCIP LR LR
comp=Z,526nm,21.0s
GTBY Guantanamo Bay 146.31 53 PFAKE 03 55 50.0 +12
GTBY LR LR
comp=Z,369nm,19.0s
ASCN Ascension 146.44 255 ePKPbc **PKPbc 03 55 38.6 +0.5**
GRTK Grand Turk 148.45 47 PFAKE 03 55 50.0 +3.4
GRTK LR LR
comp=Z,409nm,20.0s
OTAV Otavalo 148.53 90 ePKPbc **PKPdf 03 55 40.8 0.0**
OTAV LR LR
comp=Z,507nm,19.0s
LVC Limon Verde 148.70 138 ePKPdf **PKPdf 03 55 40.7 +0.2**
LVC ePKPbc **PKiKP 03 55 45.9 +0.1**
LVC LR LR
comp=Z,756nm,22.0s
SDDR Presa de Saban 149.84 51 ePKPbc **PKPbc 03 55 46.5 -0.5**
SDDR LR LR
comp=Z,294nm,19.0s
CPUP Villa Florida 151.61 160 ePKPdf **PKPdf 03 55 45.1 +0.4**
CPUP ePKPbc **PKPbc 03 55 51.1 +0.2**
CPUP ePKPab **PKPab 03 55 57.6 -1.7**
CPUP Villa Florida 151.61 160 PKP **PKPdf 03 55 45.2 +0.5**
comp=Z,1.0nm,0.6s,baz=220,slow=5.1,SNR=3.6
CPUP PKPbc **PKiKP 03 55 51.3 0.0**
comp=Z,18nm,0.7s,baz=198,slow=1.6,SNR=41
ROSC El Rosal 152.33 80 ePKPdf **PKPdf 03 55 46.9 +0.3**
ROSC ePKPbc **PKiKP 03 55 53.8 +0.1**
ROSC ePKPab **PKPab 03 56 03.2 -0.2**
ROSC El Rosal 152.33 80 PKP **PKPdf 03 55 48.0 +1.4**
comp=Z,2.6nm,0.6s,baz=90,slow=8.1,SNR=8.9
ROSC PKPbc **PKiKP 03 55 54.2 +0.5**
comp=Z,39nm,1.0s,baz=105,slow=3.9,SNR=26
LPAZ La Paz 153.34 129 ePKPdf **PKPdf 03 55 48.9 +0.6**
LPAZ ePKPbc **PKiKP 03 55 57.0 +1.0**
LRS Lares 153.60 47 ePKPdf **PKPdf 03 55 47.0 -0.8**
LRS ePKPbc **PKPbc 03 55 55.1 -0.6**
LRS ePKPab **PKPab 03 56 06.7 -1.4**
CELP Cerrillos 153.93 47 ePKPbc **PKPbc 03 55 54.8 -1.5**
CELP ePKPab **PKPab 03 56 09.3 -0.2**
OBIP Obispado Ponce 153.93 47 ePKPdf **PKPdf 03 55 47.7 -0.6**
OBIP ePKPbc **PKPbc 03 55 56.2 -0.1**
OBIP ePKPab **PKPab 03 56 09.9 +0.4**
SJG San Juan 154.22 46 PFAKE 03 56 00.0 +3.1
SJG LR LR
comp=Z,245nm,21.0s
MTP Monte Pirata 154.65 45 ePKPbc **PKPbc 03 55 57.7 -0.1**
MTP ePKPab **PKPab 03 56 13.0 +0.5**
SDV Santo Domingo 154.98 70 ePKPdf **PKPdf 03 55 49.9 -0.3**
SDV ePKPbc **PKPbc 03 55 58.8 -0.1**
SDV ePKPab **PKPab 03 56 15.2 +0.8**
SPB Sao Paulo 156.14 179 PFAKE 03 56 00.0 +8.8
SPB LR LR
comp=Z,555nm,20.0s
ANWB Willy Bob 157.50 40 PFAKE 03 56 00.0 +7.0
ANWB LR LR
comp=Z,308nm,21.0s
GRGR Grenville 161.35 51 PFAKE 03 56 10.0 +12
GRGR LR LR
comp=Z,248nm,19.0s
SAML Samuel 161.37 120 ePKPdf **PKPdf 03 55 57.6 -0.1**
SAML ePKPab **PKPab 03 56 42.6 +0.8**
SAML LR LR
comp=Z,337nm,21.0s
BBGH Gun Hill 162.23 44 ePKPdf **PKPdf 03 55 58.9 +0.4**
BDFB Brasilia 164.02 176 PKP **PKPdf 03 56 00.7 +0.4**
BDFB Brasilia 164.02 176 PKP **PKPdf 03 56 00.7 +0.4**
comp=Z,2.0nm,0.7s,baz=110,slow=6.9,SNR=3.4

IDC 04 03:41:56.1±1.7, 15°50S×172°00W, h0km, mb3.8/5, mb1 4.2/5, mb1mx4.0/19, mbtmp3.8/5, Error ellipse: s-maj=82.9km s-min=31.1km az=149.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.59**	**8**	Pn	Pn	03 42 17.2	-8.5
	44nm,0.3s,baz=262,slow=7.1,SNR=8.9						
AFI				Sn	Sn	03 42 31.8	-15
	205nm,0.3s,baz=223,slow=19,SNR=14						
ASAR	**Alice Springs**	**51.36**	**252**	P	P	03 51 02.1	-0.9
	4.0nm,0.8s,baz=86,slow=7.8,SNR=7.7						
NVAR	**Mina Array Bea**	**73.50**	**41**	P	P	03 53 32.4	+1.3
	0.2nm,0.3s,baz=243,slow=5.9,SNR=2.9						
KSRS	**Korea Array**	**77.17**	**315**	P	P	03 53 53.3	+1.3
	0.4nm,0.7s,baz=139,slow=4.5,SNR=3.0						
PDAR	**Pinedale Array**	**81.44**	**41**	P	P	03 54 14.1	-1.4
	0.7nm,0.9s,baz=193,slow=3.7,SNR=4.0						
ILAR	**Eielson Array**	**82.28**	**11**	P	P	03 54 17.8	-1.4
	0.7nm,0.9s,baz=219,slow=6.0,SNR=4.1						
TSUM	**Tsumeb**	**144.25**	**196**	PKP	PKPdf	04 01 36.3	+1.0
	1.0nm,1.0s,baz=104,slow=4.2,SNR=3.6						
GERES	**GERESS Array B**	**146.41**	**353**	PKPbc	PKPbc	04 01 39.3	0.0
	0.7nm,0.8s,baz=31,slow=2.3,SNR=3.5						
BRTR	**Keskin Array B**	**147.07**	**322**	PKPbc	PKPbc	04 01 40.7	-0.9
	1.2nm,0.9s,baz=48,slow=3.7,SNR=5.5						
ESDC	**Sonseca Array**	**153.74**	**21**	PKPbc	PKPbc	04 01 57.9	+0.3
	0.1nm,0.4s,baz=326,slow=5.7,SNR=3.1						

*DJA **04** 04:00:39.6±0.9, 1°N±2°×12°3E±°, h14km±6km, M4.9/14, mB5.3/8, mb5.0/14, MLv5.1/13, Mw(mB)4.7/8*

*ISCJB **04** 04:00:40.0±0.5, 1°32N±0°03×122°78E±0°03, h42km±5km, mb4.4/42, MS4.4/1, Error ellipse: s-maj=5.8km s-min=4.8km az=179.6*
*NEIC **04** 04:00:41.2±0.2, 1°24N×122°71E, mb4.6/20, Error ellipse: s-maj=8.3km s-min=4.5km az=62.0*
*IDC **04** 04:00:41.8±0.6, 1°21N×122°63E, h38km±4km, mb4.1/25, mb1 4.1/26, mb1mx4.1/32, mbtmp4.1/26, ML4.6/1, MS4.5/1, Ms1 4.5/1, ms1mx3.3/33, Error ellipse: s-maj=21.6km s-min=10.1km az=64.0*
*AUST **04** 04:00:44.4, 1°00N×122°50E, h60km*
*MAN **04** 04:01:28, 8°37N×123°42E, h360km, mb4.2, ML3.0, MS2.7*
ISC 04 04:00:41.7±0.4, 1°30N±0°04×122°69E±0°04, h40km±4km, h40km:pP-P,n133,σ1§18/160, mb4.5/42, 1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**1.11**	**223**	P	**Pn**	**04 00 59.7**	**-1.1**
MRSI				S	**Sn**	**04 01 13.6**	**-1.3**
KMSI	**Cibinong**	**1.48**	**119**	P	**Pn**	**04 01 06.7**	**+0.9**
KMSI				S	**Sn**	**04 01 27.8**	**+3.9**
TOLI	**Toli-Toli**	**1.91**	**265**	P	**Pn**	**04 01 10.0**	**-1.7**
TOLI				S	**Sn**	**04 01 38.2**	**+3.7**
LUWI	**Luwuk**	**2.33**	**178**	P	**Pn**	**04 01 19.4**	**+1.8**
LUWI				S	Sn	04 01 52.5	+7.6
LUWI	**Luwuk**	**2.33**	**178**	P	**Pn**	**04 01 19.4**	**+1.8**
	baz=2.1,SNR=106						
APSI	**Ampana**	**2.43**	**205**	P	**Pn**	**04 01 19.7**	**+0.7**
SGSI	**Sangihe**	**3.69**	**50**	P	**Pn**	**04 01 34.7**	**-1.6**
SGSI				S	**Sn**	**04 02 14.5**	**-4.1**
MYLDM	**Lahad Datu**	**5.69**	**313**	P	Pn	04 02 17.0	+13
SPSI	**Sidrap Palu**	**5.99**	**209**	P	**Pn**	**04 02 10.9**	**+3.0**
	227nm,0.5s,2µm0.8nm						
CTBH	**Cotabato--PC H**	**6.08**	**15**	⇓*iP*	**Pn**	**04 02 08.5**	**-0.7**
MJSI	**Majene**	**6.08**	**218**	P	**Pn**	**04 02 10.4**	**+1.2**
	168nm,1.3s,2µm0.7nm						
BNSI	**Bone**	**6.22**	**205**	P	**Pn**	**04 02 13.7**	**+2.6**
	279nm,0.6s,3µm0.9nm						
NLAI	**Namlea**	**6.30**	**136**	P	**Pn**	**04 02 12.9**	**+0.7**
	91nm,0.9s,3µm0.9nm						
PAGZ	**Pagadian**	**6.54**	**6**	*eP*	**Pn**	**04 02 14.8**	**-0.7**
PAGZ				*eS*	Px	04 02 25.8	
BBSI	**Bau Bau**	**6.74**	**181**	P	**Pn**	**04 02 19.6**	**+1.3**
	160nm,0.5s,3µm0.6nm						
KAPI	**Kappang**	**6.93**	**205**	P	**Pn**	**04 02 21.4**	**+0.6**
	85nm,0.5s,1µm0.3nm						
KAPI	**Kappang**	**6.93**	**205**	*ePn*	**Pn**	**04 02 21.6**	**+0.9**
	65nm,0.5s						
BUKP	**Musuan**	**6.95**	**20**	*eP*	**Pn**	**04 02 20.5**	**-0.6**
BKSI	**Bulukumba**	**7.06**	**201**	P	**Pn**	**04 02 24.1**	**+1.5**
	95nm,0.6s,778nm0.3nm						
KKM	**Kota Kinabalu**	**8.00**	**306**	P	**Pn**	**04 02 36.5**	**+0.9**
	32nm,1.2s						
KKM	**Kota Kinabalu**	**8.00**	**306**	*ePn*	**Pn**	**04 02 35.0**	**-0.5**
	20nm,0.6s						
KKM	**Kota Kinabalu**	**8.00**	**306**	P	**Pn**	**04 02 35.9**	**+0.3**
	baz=8.0,SNR=5.7						
MTKI	**Muara Teweh, K**	**8.11**	**254**	P	Pn	04 02 40.7	+3.7
	283nm,0.2s,20µm3.0nm						
SOEI	**Soe**	**11.09**	**172**	P	**Pn**	**04 03 20.0**	**+2.0**
	50nm,1.8s						
WSI	**Waingapu**	**11.15**	**192**	P	Pn	04 03 12.9	-5.8
	baz=11,SNR=3.8						
KDU	**Kakadu**	**16.95**	**145**	P	**Pn**	**04 04 35.1**	**-0.9**
	baz=17,SNR=4.1						
KNRA	**Kununurra**	**17.90**	**161**	P	**P**	**04 04 48.9**	**+0.8**
	baz=18,SNR=6.0						
MDSI	**Maura Dua**	**19.37**	**253**	P	**Pn**	**04 05 05.8**	**+0.2**
	27nm,1.1s						
FITZ	**Fitzroy Crossi**	**19.50**	**172**	P	**P**	**04 05 04.9**	**-0.6**
FITZ	**Fitzroy Crossi**	**19.50**	**172**	P	**P**	**04 05 05.0**	**-0.6**
	baz=19,SNR=9.7						
FITZ	**Fitzroy Crossi**	**19.50**	**172**	P	**P**	**04 05 04.9**	**-0.6**
	1.3nm,0.3s,baz=3.1,slow=8.1,SNR=29						
IPM	**Ipoh**	**21.87**	**279**	*eP*	**P**	**04 05 31.8**	**+0.5**
	16nm,0.9s						
KULM	**Kulim**	**22.36**	**281**	*eP*	**P**	**04 05 37.1**	**+0.6**
	19nm,1.1s						
PPI	**Padang Panjang**	**22.36**	**266**	P	**P**	**04 05 37.2**	**+0.6**
	18nm,0.7s						
MBWA	**Marble Bar**	**22.51**	**187**	*eP*	**P**	**04 05 36.4**	**-1.6**
	24nm,1.2s						
CHBT	**CHBT**	**23.16**	**300**	P	**P**	**04 05 46.0**	**+1.1**
PSI	**Prapat**	**23.80**	**274**	P	**P**	**04 05 51.8**	**+0.5**
PSI	**Prapat**	**23.80**	**274**	P	**P**	**04 05 52.2**	**+0.9**
	baz=24,SNR=7.5						
PSI	**Prapat**	**23.80**	**274**	P	**P**	**04 05 51.8**	**+0.5**
	12nm,0.8s,baz=135,slow=12,SNR=9.5						
WRAB	**Tennant Creek**	**24.00**	**152**	*eP*	**P**	**04 05 51.7**	**-1.2**
	28nm,0.9s						
WRA	**Warramunga Arr**	**24.00**	**152**	P	**P**	**04 05 51.8**	**-1.1**
WRA	**Warramunga Arr**	**24.00**	**152**	P	**P**	**04 05 51.8**	**-1.1**
	10nm,0.6s,baz=334,slow=9.7,SNR=83						
COEN	**Coen**	**25.33**	**127**	*eP*	**P**	**04 06 04.5**	**-0.5**
COEN	**Coen**	**25.33**	**127**	P	**P**	**04 06 06.9**	**+1.9**
	baz=25,SNR=7.0						
PMG	**Port Moresby**	**26.59**	**114**	*eP*	**P**	**04 06 16.7**	**+0.3**
	14nm,0.9s						
PMG	**Port Moresby**	**26.59**	**114**	P	**P**	**04 06 17.0**	**+0.6**
	9.8nm,0.7s,baz=26,slow=19,SNR=5.3						
AS31	**Alice Springs**	**27.11**	**157**	*eP*	**P**	**04 06 20.3**	**-0.8**
ASAR	**Alice Springs**	**27.11**	**157**	P	**P**	**04 06 20.4**	**-0.6**
ASAR				PcP	**PcP**	**04 09 41.5**	**+0.1**
ASAR	**Alice Springs**	**27.11**	**157**	P	**P**	**04 06 20.4**	**-0.6**
	2.1nm,0.7s,baz=344,slow=14,SNR=29						
ASAR				PcP	**PcP**	**04 09 41.5**	**+0.1**
	0.4nm,0.3s,baz=348,slow=2.1,SNR=5.3						
MEEK	**Meekatharra**	**28.05**	**188**	P	**P**	**04 06 27.5**	**-2.0**
	baz=28,SNR=8.8						
CMAR	**Chiang Mai Arr**	**28.87**	**308**	P	**P**	**04 06 37.9**	**+1.0**
CMAR				PcP	**PcP**	**04 09 46.6**	**+0.9**
CMAR	**Chiang Mai Arr**	**28.87**	**308**	P	**P**	**04 06 37.9**	**+1.0**
	0.5nm,0.4s,baz=113,slow=6.9,SNR=2.0						
CMAR				PcP	**PcP**	**04 09 46.6**	**+0.9**
	1.1nm,0.7s,baz=127,slow=1.1,SNR=6.2						
CHTO	**Chiang Mai**	**29.07**	**308**	*eP*	**P**	**04 06 38.6**	**0.0**
	9.0nm,0.8s						
MORW	**Morawa**	**30.86**	**191**	P	**P**	**04 06 52.6**	**-1.7**
	baz=31,SNR=4.0						
JCJ	**Chichijima**	**31.75**	**34**	LR	LR	04 17 55.8	
	comp=Z,818nm,19.5s,baz=51,slow=32						
BLDU	**Ballidu**	**32.25**	**190**	P	**P**	**04 07 04.3**	**-2.1**
	baz=32,SNR=6.3						
FORT	**Forrest**	**32.31**	**171**	*eP*	**P**	**04 07 05.5**	**-1.5**
	18nm,0.8s						
KLBR	**Kellerberrin**	**33.05**	**188**	P	**P**	**04 07 11.8**	**-1.7**
	baz=33,SNR=6.7						
BBOO	**Buckleboo**	**36.20**	**161**	P	**P**	**04 07 40.1**	**-0.6**
	baz=36,SNR=7.7						
KSAR	**Wonju Array Be**	**36.28**	**7**	P	**P**	**04 07 41.9**	**+0.6**
KSRS	**Korea Array**	**36.30**	**7**	P	**P**	**04 07 41.9**	**+0.5**
	1.0nm,1.0s,baz=180,slow=9.5,SNR=2.9						
STKA	**Stephens Creek**	**37.55**	**153**	*eP*	**P**	**04 07 51.8**	**-0.4**
	2.4nm,0.9s						
STKA	**Stephens Creek**	**37.55**	**153**	P	**P**	**04 07 52.1**	**-0.1**
	baz=38,SNR=20						
STKA	**Stephens Creek**	**37.55**	**153**	P	**P**	**04 07 52.0**	**-0.1**
	14nm,0.9s,baz=329,slow=8.9,SNR=26						
CMSA	**Cobar Meteorol**	**39.28**	**148**	P	**P**	**04 08 07.5**	**+0.7**
	baz=39,SNR=7.7						
ARPS	**Mount Arapiles**	**41.85**	**157**	P	**P**	**04 08 28.2**	**+0.3**
	baz=42,SNR=14						
USRK	**Ussuriysk Arra**	**43.51**	**10**	P	**P**	**04 08 42.9**	**+1.7**
	1.3nm,0.9s,baz=181,slow=12,SNR=2.7						
ULN	**Ulaanbaatar**	**48.32**	**346**	*eP*	**P**	**04 09 20.1**	**+0.8**
	6.0nm,0.8s						
ULN				*ep*P	**pP**	**04 09 31.1**	**+0.2**
SONM	**Songino Array**	**48.46**	**345**	P	**P**	**04 09 21.4**	**+1.0**
SONM				pP	**pP**	**04 09 32.4**	**+0.6**
SONM				PcP	**PcP**	**04 10 45.8**	**-0.3**
	2.8nm,0.8s,baz=162,slow=9.7,SNR=13						
SONM	**Songino Array**	**48.46**	**345**	P	**P**	**04 09 21.4**	**+1.0**
	1.2nm,0.7s,baz=162,slow=4.8,SNR=2.9						
SONM				pP	**pP**	**04 09 32.4**	**+0.6**
	4.4nm,0.7s,baz=165,slow=6.6,SNR=16						
SONM				PcP	**PcP**	**04 10 45.8**	**-0.3**
	1.2nm,0.7s,baz=162,slow=4.8,SNR=2.9						
MK31	**Makanchi Array**	**57.35**	**328**	*eP*	**P**	**04 10 26.8**	**+0.8**
MK31				*ep*P	**pP**	**04 10 37.6**	**0.0**
MKAR	**Makanchi Array**	**57.35**	**328**	P	**P**	**04 10 26.9**	**+1.0**
MKAR				pP	**pP**	**04 10 37.8**	**+0.1**
MKAR	**Makanchi Array**	**57.35**	**328**	P	**P**	**04 10 26.9**	**+1.0**
	2.0nm,0.6s,baz=131,slow=8.5,SNR=18						
MKAR				pP	**pP**	**04 10 37.8**	**+0.1**
	4.8nm,0.8s,baz=123,slow=8.8,SNR=13						
TKM2	**Tokmak 2**	**58.99**	**321**	*eP*	**P**	**04 10 38.6**	**+0.9**
TKM2				*ep*P	**pP**	**04 10 49.7**	**+0.3**
PETK	**Petropavlovsk-**	**59.22**	**24**	P	**P**	**04 10 41.1**	**+2.3**
PETK				pP	**pP**	**04 10 51.4**	**+0.8**
PETK	**Petropavlovsk-**	**59.22**	**24**	P	**P**	**04 10 41.1**	**+2.3**
	2.5nm,0.8s,baz=234,slow=9.9,SNR=3.0						
PETK				pP	**pP**	**04 10 51.4**	**+0.8**
	6.1nm,0.8s,baz=222,slow=1.9,SNR=3.4						
AAK	**Ala-Archa**	**59.54**	**320**	*eP*	**P**	**04 10 42.2**	**+0.7**
	5.1nm,0.9s						
AAK				*ep*P	**pP**	**04 10 53.4**	**+0.2**
AAK	**Ala-Archa**	**59.54**	**320**	P	**P**	**04 10 42.6**	**+1.2**
	1.4nm,0.5s,baz=152,slow=5.3,SNR=7.9						
KBL	**Kabul**	**59.88**	**310**	*eP*	**P**	**04 10 44.2**	**+0.3**
	6.5nm,0.6s						
EKS2	**Erkin-Say**	**60.01**	**320**	*eP*	**P**	**04 10 46.0**	**+1.4**
	6.4nm,1.2s						
EKS2				*ep*P	**pP**	**04 10 56.9**	**+0.5**
ZALV	**Zalesovo Beam**	**61.01**	**335**	P	**P**	**04 10 52.9**	**+1.9**
ZALV				pP	**pP**	**04 11 02.7**	**-0.1**
ZALV	**Zalesovo Beam**	**61.01**	**335**	P	**P**	**04 10 52.9**	**+1.9**
	1.2nm,0.7s,baz=136,slow=13,SNR=5.4						
ZALV				pP	**pP**	**04 11 02.7**	**-0.1**
	1.3nm,0.6s,baz=146,slow=7.4,SNR=3.9						
KURBB	**Kurchatov Arra**	**61.69**	**330**	P	**P**	**04 10 56.4**	**+0.7**
	1.5nm,0.7s,baz=121,slow=7.6,SNR=8.9						
KURBB				pP	**pP**	**04 11 07.2**	**-0.4**
	3.5nm,0.8s,baz=123,slow=7.0,SNR=10.0						
KURK	**Kurchatov**	**61.70**	**330**	*eP*	**P**	**04 10 55.9**	**+0.1**
	3.7nm,0.7s						
KURK				*ep*P	**pP**	**04 11 07.1**	**-0.4**
KKAR	**Karatay Array**	**62.33**	**319**	*eP*	**P**	**04 11 01.3**	**+1.1**
	0.7nm,0.6s						
KKAR				*ep*P	**pP**	**04 11 11.8**	**-0.2**
BVAR	**Borovoye Array**	**67.22**	**329**	P	**P**	**04 11 31.6**	**-0.2**
BVAR	**Borovoye Array**	**67.22**	**329**	P	**P**	**04 11 31.6**	**-0.2**
	0.7nm,0.5s,baz=119,slow=12,SNR=3.5						
BRVK	**Borovoye**	**67.29**	**329**	*eP*	**P**	**04 11 32.8**	**+0.5**
ABKAR	**Akbulak array**	**71.52**	**322**	*eP*	**P**	**04 11 58.4**	**0.0**
	1.0nm,0.7s						
ABKAR				*ep*P	**pP**	**04 12 09.3**	**-1.2**
AKTO	**Aktyubinsk**	**73.09**	**323**	P	**P**	**04 12 07.9**	**0.0**
AKTO	**Aktyubinsk**	**73.09**	**323**	P	**P**	**04 12 07.9**	**0.0**
	2.2nm,0.6s,baz=112,slow=4.9,SNR=8.1						
MAW	**Mawson**	**80.11**	**200**	P	**P**	**04 12 47.5**	**+0.4**
MAW	**Mawson**	**80.11**	**200**	P	**P**	**04 12 47.5**	**+0.4**
	2.0nm,0.9s,baz=13,slow=14,SNR=2.6						
VNDA	**Vanda**	**81.57**	**172**	*eP*	**P**	**04 12 54.4**	**-0.4**
	5.4nm,0.8s						
VNDA				*ep*P	**pP**	**04 13 05.6**	**-1.4**
VNDA	**Vanda**	**81.57**	**172**	P	**P**	**04 12 54.8**	**0.0**
	4.9nm,0.8s,baz=316,slow=6.5,SNR=35						
ASF	**Jabal al Asfar**	**85.75**	**302**	P	**P**	**04 13 18.0**	**+0.7**
ASF	**Jabal al Asfar**	**85.75**	**302**	P	**P**	**04 13 18.0**	**+0.7**
	1.6nm,0.5s,baz=316,slow=5.3,SNR=3.6						
MMAI	**Mount Meron Ar**	**87.02**	**303**	P	**P**	**04 13 22.4**	**-1.1**
MMAI	**Mount Meron Ar**	**87.02**	**303**	P	**P**	**04 13 22.4**	**-1.1**
	1.9nm,0.6s,baz=129,slow=2.0,SNR=4.1						
MCK	**McKinley**	**88.12**	**26**	*eP*	**P**	**04 13 27.9**	**-0.1**
	8.3nm,1.0s						
BRTR	**Keskin Array B**	**88.45**	**310**	P	**P**	**04 13 29.1**	**-1.2**
BRTR	**Keskin Array B**	**88.45**	**310**	P	**P**	**04 13 29.1**	**-1.2**
	0.4nm,0.7s,baz=20,slow=4.6,SNR=2.5						
AKASG	**Malin Array Be**	**91.21**	**321**	P	**P**	**04 13 42.1**	**-0.6**
AKASG	**Malin Array Be**	**91.21**	**321**	P	**P**	**04 13 42.1**	**-0.6**
	0.1nm,0.3s,baz=70,slow=4.6,SNR=2.9						
ARCES	**ARCESS Array B**	**91.31**	**340**	P	**P**	**04 13 41.9**	**-0.9**
ARCES	**ARCESS Array B**	**91.31**	**340**	P	**P**	**04 13 41.9**	**-0.9**
	2.2nm,0.8s,baz=52,slow=8.0,SNR=4.4						
FINES	**FINESS Array B**	**92.04**	**331**	P	**P**	**04 13 45.0**	**-1.3**
FINES	**FINESS Array B**	**92.04**	**331**	P	**P**	**04 13 45.0**	**-1.3**
	3.8nm,0.9s,baz=297,slow=8.4,SNR=3.8						
SPITS	**Spitsbergen Ar**	**92.06**	**349**	P	**P**	**04 13 45.0**	**-1.2**
SPITS	**Spitsbergen Ar**	**92.06**	**349**	P	**P**	**04 13 45.0**	**-1.2**
	5.5nm,0.8s,baz=92,slow=14,SNR=3.7						
INK	**Inuvik**	**93.88**	**21**	*eP*	**P**	**04 13 54.4**	**-0.3**
	3.2nm,1.0s						
LSZ	**Lusaka**	**94.69**	**255**	*eP*	**P**	**04 13 58.6**	**-1.1**
	2.0nm,0.9s						
KOLS	**Kolonicke sedl**	**95.87**	**319**	*eP*	P	04 14 11.0	+6.8
PDAR	**Pinedale Array**	**115.81**	**40**	PKP	**PKPdf**	**04 19 21.6**	**+0.9**
PDAR	**Pinedale Array**	**115.81**	**40**	PKP	**PKPdf**	**04 19 21.6**	**+0.9**
	0.2nm,0.5s,baz=275,slow=5.3,SNR=2.6						
ESDC	**Sonseca Array**	**116.51**	**316**	PKP	**PKPdf**	**04 19 21.4**	**-0.4**
ESDC	**Sonseca Array**	**116.51**	**316**	PKP	**PKPdf**	**04 19 21.4**	**-0.4**
	0.1nm,0.2s,baz=51,slow=2.3,SNR=2.9						
TORD	**Torodi Ar. Bea**	**119.77**	**286**	PKP	**PKPdf**	**04 19 27.4**	**-1.2**
TORD				pPKP	**pPKPdf**	**04 19 38.1**	**-3.2**
TORD	**Torodi Ar. Bea**	**119.77**	**286**	PKP	**PKPdf**	**04 19 27.4**	**-1.2**
	0.8nm,0.8s,baz=70,slow=2.6,SNR=4.9						
TORD				pPKP	**pPKPdf**	**04 19 38.1**	**-3.2**
	1.4nm,1.0s,baz=50,slow=1.7,SNR=5.3						
TXAR	**Lajitas Array**	**126.26**	**52**	PKP	**PKPdf**	**04 19 41.1**	**+0.2**
TXAR	**Lajitas Array**	**126.26**	**52**	PKP	**PKPdf**	**04 19 41.1**	**+0.2**
	0.2nm,0.6s,baz=356,slow=1.2,SNR=4.6						
APG	**El Apazote**	**143.42**	**62**	PKP	**PKPdf**	**04 20 13.3**	**0.0**
APG	**El Apazote**	**143.42**	**62**	PKP	**PKPdf**	**04 20 13.3**	**0.0**
	0.7nm,0.3s,baz=69,slow=18,SNR=2.6						
CFAA	**Coronel Fontan**	**148.14**	**162**	PKPbc	**PKPbc**	**04 20 23.9**	**-0.1**
CFAA	**Coronel Fontan**	**148.14**	**162**	PKPbc	**PKPbc**	**04 20 23.9**	**-0.1**
	0.7nm,0.5s,baz=214,slow=4.4,SNR=17						
CPUP	**Villa Florida**

comp=E,0.0nm,0.3s,baz=356,slow=14,SNR=12
CFAA S Sn 04 13 45.1 -7.7
comp=E,0.1nm,0.3s,baz=145,slow=16,SNR=3.6
CPUP Villa Florida 11.10 116 P **Pn 04 12 24.7 0.0**
comp=E,0.3nm,0.3s,baz=267,slow=18,SNR=2.9
PLCA Paso Flores 18.88 185 P **P 04 13 59.7 -0.9**
comp=E,0.0nm,0.3s,baz=350,slow=7.4,SNR=3.2
BDFB Brasilia 20.33 76 P **P 04 14 15.0 -1.5**
comp=E,2.1nm,0.5s,baz=228,slow=10.0,SNR=7.9
DBIC Dimbokro 68.45 73 P **P 04 20 39.6 +0.5**
comp=E,2.1nm,0.6s,baz=215,slow=8.9,SNR=10
TORD Torodi Ar. Bea 77.10 70 P **P 04 21 31.0 +0.8**
comp=E,1.6nm,0.5s,baz=258,slow=5.7,SNR=48
H11S2 WAKE ISLAND Hyl 28.33 277 T T 06 48 55.9
baz=101
H11S1 WAKE ISLAND Hyl 28.34 277 T T 06 49 06.4
baz=101
H11S3 WAKE ISLAND Hyl 28.34 277 T T 06 48 58.2
baz=101
ASAR Alice Springs 129.77 207 PKP **PKPdf 04 28 45.9 +0.4**
comp=E,0.5nm,0.9s,baz=118,slow=1.4,SNR=4.7
WRA Warramunga Arr 132.84 210 PKP **PKPdf 04 28 52.0 +0.7**
comp=E,0.5nm,0.7s,baz=152,slow=1.8,SNR=4.0
MKAR Makanchi Array 145.69 37 PKPbc **PKPab 04 29 15.4 +0.5**
comp=E,0.3nm,0.5s,baz=292,slow=2.7,SNR=3.9

IDC 04 04:13:22.6±6.5, 19°00S×69°32W, h86km±51km, mb3.5/3, mb1 3.7/4, mb1mx3.3/19, mbtmp3.7/4, ML4.5/1, Error ellipse: s-maj=71.2km s-min=28.0km az=125.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	**San Ignacio**	**8.41**	**70**	P	Pn	04 15 21.5	-0.4
	3.0nm,0.3s,baz=270,slow=11,SNR=21						
BDFB	**Brasilia**	**20.61**	**84**	P	P	04 17 56.0	+0.9
	1.8nm,0.5s,baz=260,slow=8.9,SNR=7.7						
PLCA	**Paso Flores**	**21.69**	**183**	P	P	04 18 06.3	-0.1
	3.5nm,0.8s,baz=352,slow=8.4,SNR=7.2						
TORD	**Torodi Ar. Bea**	**76.89**	**71**	P	P	04 25 05.5	-0.5
	0.7nm,0.6s,baz=254,slow=5.7,SNR=13						
SONM	**Songino Array**	**151.03**	**6**	PKPbc	PKPbc	04 33 05.9	+0.2
	0.3nm,0.6s,baz=318,slow=1.9,SNR=2.8						

*ISCJB **04** 04:17:41.9±0.3, 23°.65N±0°.02×121°.65E±0°.02, h22km±3km, Error ellipse: s-maj=3.8km s-min=2.6km az=136.4*
*JMA **04** 04:17:42.6±0.3, 23°.81N×121°.59E, h86km*
*TAP **04** 04:17:42.3, 23°.66N×121°.56E, h28km, ML3.7, B*
ISC 04 04:17:42.3±0.9, 23°.66N±0°.02×121°.57E±0°.03, h27km±5km, n51, σ1§01/84, 15C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.05**	**331**	⇑*i* P	**Pb**	**04 17 47.5**	**+0.5**
	baz=347						
TEGC				*e*S	**Sb**	**04 17 51.4**	**+1.2**
	baz=347						
ESL	**Shilin**	**0.20**	**321**	⇑*i* P	**Pn**	**04 17 48.1**	**-1.3**
	baz=317						
ESL				S	**Sb**	**04 17 52.1**	**0.0**
	baz=317						
ESF	**Shoufeng Towns**	**0.21**	**345**	⇑*i* P	**Pn**	**04 17 48.6**	**-1.1**
	baz=337						
ESF				S	**Sb**	**04 17 53.0**	**+0.5**
	baz=337						
EHY	**Hungye**	**0.28**	**235**	⇑*i* P	**Pb**	**04 17 49.0**	**-0.2**
	baz=243						
EHY				S	**Sn**	**04 17 53.4**	**-2.4**
	baz=243						
HWA	**Hwalien**	**0.32**	**6**	*e*P	**Pb**	**04 17 49.9**	**+0.2**
	baz=17						
TWF1	**Yuli**	**0.40**	**219**	⇑*i* P	**Pb**	**04 17 50.8**	**-0.1**
	baz=230						
TWF1				*e*S	**Sb**	**04 17 56.4**	**-0.5**
	baz=230						
TWD	**Chiawan**	**0.42**	**3**	⇑*i* P	**Pb**	**04 17 51.3**	**+0.1**
	baz=355						
TWD				S	**Sb**	**04 17 57.9**	**+0.5**
	baz=355						
WHF	**Hehuan Shan**	**0.55**	**330**	*i* P	**Pn**	**04 17 53.2**	**-1.6**
	baz=331						
WHF				*e*S	**Sb**	**04 18 00.9**	**-0.8**
	baz=331						
CHKT	**Chengkung**	**0.59**	**198**	⇑*e*P	**Pb**	**04 17 54.2**	**+0.1**
	baz=185						
CHKT				*e*S	**Sn**	**04 18 02.8**	**-0.8**
	baz=185						
YUS	**Yu-Shan**	**0.59**	**253**	⇑P	**Pb**	**04 17 54.6**	**+0.2**
	baz=253						
YUS				S	**Sb**	**04 18 02.3**	**-0.4**
	baz=253						
SMLT	**Sun Moon Lake**	**0.65**	**290**	⇑*i* P	**Pn**	**04 17 55.0**	**-0.8**
	baz=293						
SMLT				S	**Sb**	**04 18 05.0**	**+1.0**
	baz=293						
TWT	**Tachien**	**0.69**	**329**	*e*P	**Pn**	**04 17 55.7**	**-0.7**
	baz=328						
TWT				S	**Sn**	**04 18 04.5**	**-1.8**
	baz=328						
ELDTW	**Lidau**	**0.69**	**227**	*e*P	**Pn**	**04 17 54.9**	**-1.4**
	baz=227						
TYC	**Yuchr**	**0.69**	**290**	⇑*i* P	**Pn**	**04 17 55.5**	**-0.7**
	baz=294						
TYC				S	**Sb**	**04 18 06.0**	**+1.0**
	baz=294						
ALS	**Alishan**	**0.72**	**258**	⇑*i* P	**Pb**	**04 17 56.7**	**+0.3**
	baz=258						
ALS				*e*S	**Sn**	**04 18 05.9**	**-1.2**
	baz=258						
ENA	**Nanau**	**0.78**	**12**	*e*P	**Pn**	**04 17 56.5**	**-0.9**
	baz=22						
NNS	**Nan Shan**	**0.79**	**347**	*e*P	**Pn**	**04 17 57.1**	**-0.7**
	baz=357						
CHN5	**Tsauling**	**0.82**	**266**	⇑*i* P	**Pb**	**04 17 58.5**	**+0.5**
	baz=261						
CHN5				S	**Sb**	**04 18 10.1**	**+1.4**
	baz=261						
WNT	**Mingjian**	**0.84**	**285**	⇑*i* P	**Pb**	**04 17 59.1**	**+0.8**
	baz=285						
WNT				*e*S	**Sb**	**04 18 10.9**	**+1.7**
	baz=285						
WGK	**Gukeng**	**0.92**	**272**	*e*P	**Pn**	**04 17 59.1**	**-0.3**
	baz=272						
WGK				*e*S	**Sb**	**04 18 12.9**	**+1.3**
	baz=272						
TCU	**Taichung**	**0.95**	**301**	*e*P	**Pb**	**04 18 00.7**	**+0.6**
	baz=301						
TCU				*e*S	**Sb**	**04 18 14.0**	**+1.7**
	baz=301						
TWG	**Pinlang**	**0.95**	**209**	*e*P	**Pn**	**04 17 58.0**	**-1.9**
	baz=195						
WTP	**Ta-pu**	**0.97**	**245**	⇑*e*P	**Pb**	**04 18 00.7**	**+0.2**
	baz=245						
WTP				*e*S	**Sb**	**04 18 14.2**	**+1.2**
	baz=245						
ENTT	**Nioudou**	**0.97**	**360**	*e*P	**Pn**	**04 17 59.2**	**-0.9**
	baz=1.0						
TWC	**Suao**	**0.98**	**15**	*e*P	**Pn**	**04 17 59.6**	**-0.5**
	baz=23						
TWQ1	**Liyutan**	**1.00**	**313**	⇓*e*P	**Pb**	**04 18 01.8**	**+0.9**
	baz=323						
TWQ1				*e*S	**Sb**	**04 18 15.8**	**+2.1**
	baz=323						
NSK	**Sanguang**	**1.03**	**349**	*e*P	**Pn**	**04 18 00.5**	**-0.4**
	baz=1.0						
NSK				*e*S	**Sn**	**04 18 13.3**	**-1.2**
	baz=1.0						
NSY	**Sanyi**	**1.05**	**316**	*e*P	**Pb**	**04 18 02.5**	**+0.6**
	baz=316						
NSY				*e*S	**Sb**	**04 18 17.4**	**+2.1**
	baz=316						
TWE	**Neicheng**	**1.06**	**5**	*e*P	**Pb**	**04 18 01.4**	**-0.6**
	baz=6.0						
CHY	**Chiayi**	**1.06**	**261**	*e*P	**Pb**	**04 18 03.0**	**+1.0**
	baz=262						
CHY				S	**Sb**	**04 18 17.2**	**+1.6**
	baz=262						
CHN1	**Nanshi**	**1.07**	**244**	*e*P	**Pb**	**04 18 02.4**	**+0.3**
	baz=245						
CHN1				*e*S	**Sb**	**04 18 17.2**	**+1.5**
	baz=245						
SGST	**Jiashian**	**1.07**	**238**	*e*P	**Pb**	**04 18 02.7**	**+0.4**
	baz=230						
SGST				*e*S	**Sb**	**04 18 17.6**	**+1.7**
	baz=230						
NSTT	**Nanjuang**	**1.09**	**332**	*e*P	**Pb**	**04 18 02.9**	**+0.3**
	baz=345						
NSTT				*e*S	**Sb**	**04 18 16.5**	**0.0**
	baz=345						
WTCT	**Ta-ch'eng**	**1.20**	**280**	*e*P	**Pb**	**04 18 04.4**	**+0.1**
	baz=280						
WSF	**Szhu**	**1.23**	**269**	*e*P	**Pb**	**04 18 06.2**	**+1.3**
	baz=269						
WSF				*e*S	**Sb**	**04 18 21.4**	**+1.0**
	baz=269						
TWA	**Mucha**	**1.31**	**1**	*e*P	**Pn**	**04 18 04.0**	**-0.8**
	baz=10.0						
TWM1	**Shoushan**	**1.34**	**232**	*e*P	**Pb**	**04 18 08.0**	**+1.2**
	baz=233						
NCU	**National Centr**	**1.35**	**345**	*e*P	**Pb**	**04 18 08.2**	**+1.3**
	baz=357						
NCU				*e*S	**Sb**	**04 18 25.3**	**+1.6**
	baz=357						
SCLT	**Jiali**	**1.35**	**249**	*e*P	**Pb**	**04 18 07.6**	**+0.7**
	baz=251						
SCLT				*e*S	**Sb**	**04 18 25.6**	**+1.8**
	baz=251						
NWF	**Wu-fen Shan**	**1.42**	**8**	*e*P	**Pb**	**04 18 07.4**	**-0.7**
	baz=8.0						
EAST	**Anshuo**	**1.44**	**208**	*e*P	**Pn**	**04 18 06.1**	**-0.4**
	baz=199						
TWS1	**Kuangyinshan**	**1.44**	**355**	*e*P	**Pb**	**04 18 08.3**	**-0.1**
	baz=11						
YOJ	**Yonaguni jima**	**1.54**	**59**	P	**Pn**	**04 18 07.8**	**-0.1**
YOJ				*e*S	**Sn**	**04 18 26.9**	**-0.1**
YOJ	**Yonaguni jima**	**1.54**	**59**	*e*P	**Pn**	**04 18 07.9**	**0.0**
	baz=56						
SCZT	**Fangliau**	**1.55**	**214**	⇑*e*P	**Pb**	**04 18 10.3**	**-0.1**
	baz=204						
PNG	**Penghu**	**1.85**	**267**	*e*P	**Pn**	**04 18 12.6**	**+0.4**
	baz=268						
HATJ	**Hateruma jima**	**2.08**	**79**	P	**Pn**	**04 18 15.7**	**+0.3**
HATJ				*e*S	**Sn**	**04 18 40.3**	**-0.2**
JKRS	**Kuro-shima**	**2.31**	**75**	P	**Pn**	**04 18 19.0**	**+0.6**
JKRS				*e*S	**Sn**	**04 18 46.5**	**+0.6**
JIJ	**Ishigaki jima**	**2.46**	**73**	P	**Pn**	**04 18 20.3**	**-0.2**
JIJ				*e*S	**Sn**	**04 18 48.2**	**-1.4**
JTJ	**Tarama**	**3.02**	**71**	P	**Pn**	**04 18 28.4**	**+0.1**
JTJ				*e*S	**Sn**	**04 19 03.4**	**-0.2**
JOGS	**Gusukube**	**3.67**	**72**	*e*S	**Sn**	**04 19 18.8**	**-0.8**

IDC 04 04:30:33.1±4.6, 9°.06S×124°.14E, h100km±55km, mb3.1/1, mb1 3.3/3, mb1mx3.1/18, mbtmp3.1/3, MS3.7/1, Ms1 3.7/1, ms1mx2.9/13, Error ellipse: s-maj=83.9km s-min=31.2km az=44.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**1.24**	**202**	P	Pn	04 30 56.1	-0.2
	153nm,0.3s,baz=25,slow=3.1,SNR=120						
BATI				S	Sn	04 31 13.8	0.0
	120nm,0.3s,baz=22,slow=19,SNR=8.6						
WRA	**Warramunga Arr**	**14.64**	**139**	P	Pn	04 33 53.5	-1.9
	0.3nm,0.3s,baz=314,slow=12,SNR=13						
WRA				S	Sn	04 36 26.6	-10
	0.6nm,0.3s,baz=313,slow=24,SNR=8.0						
ASAR	**Alice Springs**	**17.27**	**148**	P	Pn	04 34 29.1	+1.0
	0.3nm,0.3s,baz=316,slow=11,SNR=33						
ASAR				S	Sn	04 37 30.7	-10
	0.3nm,0.3s,baz=319,slow=22,SNR=7.2						
JCJ	**Chichijima**	**39.97**	**25**	LR	LR	04 53 35.7	
	comp=Z,85nm,18.0s,baz=123,slow=35						
MKAR	**Makanchi Array**	**66.93**	**330**	P	P	04 41 14.7	-0.1
	0.2nm,0.5s,baz=134,slow=7.2,SNR=3.5						

*ISCJB **04** 05:09:00.6±0.2, 7°.34S±0°.04×123°.38E±0°.05, h530km±3km, mb3.9/18, Error ellipse: s-maj=7.1km s-min=5.3km az=163.5*
*IDC **04** 05:09:01.0±0.5, 7°.38S×123°.40E, h522km±6km, mb3.4/15, mb1 3.6/19, mb1mx3.5/28, mbtmp3.5/19, Error ellipse: s-maj=14.9km s-min=7.0km az=62.0*
*AUST **04** 05:09:01.2±0.0, 7°.43S×123°.32E, h513km, Error ellipse: s-maj=1.1km s-min=0.9km az=322.0*
*DJA **04** 05:09:01.7±0.2, 7°.5±3°×12°.3E±°, h520km±3km, M4.7/14, mB5.2/9, mb4.8/14, MLv4.7/12, Mw(mB)4.6/9*
ISC 04 05:09:01.1±0.5, 7°.36S±0°.05×123°.39E±0°.06, h524km±6km, n71, σ1§18/83, mb3.9/18, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.71**	**222**	P	**P**	**05 10 07.3**	**+0.1**
MMRI				S	**S**	**05 10 59.8**	**-1.0**
SOEI	**Soe**	**2.54**	**160**	P	**P**	**05 10 11.0**	**-0.4**
SOEI				S	**S**	**05 11 07.7**	**-0.8**
SOEI	**Soe**	**2.54**	**160**	P	**P**	**05 10 11.9**	**+0.5**
	baz=2.5,SNR=78						
BATI	**Baumata**	**2.85**	**175**	P	**P**	**05 10 14.1**	**+1.0**
BATI				S	**S**	**05 11 11.4**	**-0.2**
BATI	**Baumata**	**2.85**	**175**	P	**P**	**05 10 14.1**	**+1.0**
	70nm,0.3s,baz=350,slow=0.6,SNR=26						
BATI				S	**S**	**05 11 10.3**	**-1.3**
	208nm,0.3s,baz=183,slow=22,SNR=39						
BKSI	**Bulukumba**	**3.82**	**302**	P	**P**	**05 10 20.8**	**+1.0**
WSI	**Waingapu**	**3.82**	**233**	P	**P**	**05 10 18.8**	**-1.0**
WSI				S	**S**	**05 11 20.9**	**-3.0**
WSI	**Waingapu**	**3.82**	**233**	P	**P**	**05 10 19.0**	**-0.8**
	baz=3.7,SNR=18						
KAPI	**Kappang**	**4.30**	**303**	P	**P**	**05 10 24.7**	**+1.1**
KAPI	**Kappang**	**4.30**	**303**	P	**P**	**05 10 24.4**	**+0.8**
	15nm,0.3s,baz=163,slow=4.1,SNR=55						
KAPI				S	**S**	**05 11 31.1**	**+0.3**
	0.8nm,0.3s,baz=212,slow=19,SNR=4.2						
BNSI	**Bone**	**4.39**	**312**	P	**P**	**05 10 26.2**	**+1.9**
SPSI	**Sidrap Palu**	**4.93**	**313**	P	**P**	**05 10 30.0**	**+1.1**
NLAI	**Namlea**	**5.51**	**42**	P	**P**	**05 10 35.1**	**+1.0**
	494nm,0.7s,13μm2.8nm						
NLAI				S	**S**	**05 11 48.7**	**-1.2**
	494nm,0.7s,13μm2.8nm						
AAI	**Ambon**	**6.01**	**53**	P	**P**	**05 10 39.6**	**+0.9**
	183nm,0.8s,3μm0.7nm						
AAI	**Ambon**	**6.01**	**53**	P	**P**	**05 10 39.6**	**+0.9**
	baz=6.1,SNR=6.4						
LUWI	**Luwuk**	**6.30**	**354**	P	**P**	**05 10 43.1**	**+1.7**
	190nm,1.2s,3μm0.7nm						
LUWI	**Luwuk**	**6.30**	**354**	P	**P**	**05 10 42.7**	**+1.3**
	baz=6.4,SNR=4.7						
APSI	**Ampana**	**6.63**	**345**	P	**P**	**05 10 45.8**	**+1.2**
	155nm,1.0s,2μm0.6nm						
MTNI	**Mataram**	**7.26**	**259**	P	**P**	**05 10 51.2**	**+0.5**
	135nm,0.5s,2μm0.6nm						
KMSI	**Cibinong**	**7.90**	**4**	P	**P**	**05 10 59.0**	**+1.8**
	3μm,0.7s,32μm						
BLJI	**Banyuglugur**	**9.71**	**267**	P	**P**	**05 11 16.7**	**+0.9**
	84nm,0.6s,6μm						
KNRA	**Kununurra**	**9.80**	**148**	P	**P**	**05 11 17.3**	**+0.6**
	baz=9.8,SNR=74						
FAKI	**Fak Fak**	**9.86**	**64**	P	**P**	**05 11 16.9**	**-0.5**
	baz=10.0,SNR=27						
SWI	**Sorong**	**10.16**	**51**	P	**P**	**05 11 20.5**	**0.0**
	34nm,0.9s						
SWI	**Sorong**	**10.16**	**51**	P	**P**	**05 11 20.8**	**+0.4**
	baz=10,SNR=3.4						
KDU	**Kakadu**	**10.40**	**121**	P	**P**	**05 11 22.7**	**-0.2**
	baz=10,SNR=6.3						
FITZ	**Fitzroy Crossi**	**10.90**	**169**	P	**P**	**05 11 28.7**	**+0.5**
	baz=11,SNR=377						
FITZ	**Fitzroy Crossi**	**10.90**	**169**	P	**P**	**05 11 28.7**	**+0.5**
	17nm,0.3s,baz=6.6,slow=8.3,SNR=987						
SGSI	**Sangihe**	**11.18**	**11**	P	**P**	**05 11 30.3**	**-0.8**
KSM	**Kuching**	**15.72**	**303**	P	**P**	**05 12 20.3**	**+1.7**
	24nm,0.9s						
KSM	**Kuching**	**15.72**	**303**	P	**P**	**05 12 18.1**	**-0.5**
	baz=16,SNR=5.0						
WRA	**Warramunga Arr**	**16.41**	**141**	P	**P**	**05 12 24.9**	**-0.5**
	5.9nm,0.3s,baz=307,slow=13,SNR=168						
WRA				S	**S**	**05 15 12.2**	**-0.7**
	0.8nm,0.3s,baz=314,slow=19,SNR=21						
GIRL	**Giralia**	**17.57**	**209**	P	**P**	**05 12 37.7**	**+1.3**
	baz=18,SNR=13						
JAY	**Jayapura**	**17.91**	**75**	P	**P**	**05 12 43.3**	**+3.6**
	baz=18,SNR=4.9						
ASAR	**Alice Springs**	**19.10**	**149**	P	**P**	**05 12 51.4**	**+1.0**
	5.1nm,0.3s,baz=323,slow=8.8,SNR=270						
ASAR				S	**S**	**05 15 55.4**	**-1.6**
	0.3nm,0.3s,baz=324,slow=17,SNR=11						
ASAR				PcP	**PcP**	**05 16 48.4**	**-0.3**
	0.2nm,0.3s,baz=16,slow=1.3,SNR=4.7						
ASAR				ScP	**ScP**	**05 19 34.0**	**-1.1**
	0.0nm,0.3s,baz=341,slow=2.2,SNR=6.7						
MEEK	**Meekatharra**	**19.71**	**193**	P	**P**	**05 12 56.0**	**+0.2**
	baz=20,SNR=70						
COEN	**Coen**	**20.51**	**110**	P	**P**	**05 13 03.2**	**-0.1**
	baz=21,SNR=17						
MORW	**Morawa**	**22.68**	**197**	P	**P**	**05 13 22.9**	**+0.2**
	baz=23,SNR=6.7						
PMG	**Port Moresby**	**23.61**	**97**	P	**P**	**05 13 30.7**	**-0.4**
	9.6nm,0.6s,baz=253,slow=5.5,SNR=6.1						
FORT	**Forrest**	**23.71**	**170**	P	**P**	**05 13 32.3**	**+0.5**
	baz=24,SNR=15						
BLDU	**Ballidu**	**23.97**	**194**	P	**P**	**05 13 34.2**	**+0.1**
	baz=24,SNR=66						
KLBR	**Kellerberrin**	**24.68**	**192**	P	**P**	**05 13 40.6**	**+0.2**
	baz=25,SNR=17						
CTA	**Charters Tower**	**25.52**	**122**	P	**P**	**05 13 48.0**	**0.0**
	2.4nm,0.7s,baz=287,slow=9.2,SNR=3.4						
NWAO	**Narrogin (SRO)**	**26.08**	**192**	P	**P**	**05 13 53.2**	**+0.5**
	7.1nm,0.3s,baz=24,slow=7.1,SNR=12						
PSI	**Prapat**	**26.41**	**292**	P	**P**	**05 13 56.1**	**0.0**
	2.9nm,0.4s,baz=160,slow=7.9,SNR=4.0						
QLP	**Quilpie**	**27.54**	**136**	P	**P**	**05 14 07.3**	**+1.6**
	baz=28,SNR=9.0						
RKGY	**Rocky Gully**	**27.76**	**191**	P	**P**	**05 14 09.3**	**+1.9**
	baz=28,SNR=26						
BBOO	**Buckleboo**	**27.93**	**157**	P	**P**	**05 14 09.6**	**+0.6**
	baz=28,SNR=22						
STKA	**Stephens Creek**	**29.72**	**148**	P	**P**	**05 14 25.8**	**+1.2**
	baz=30,SNR=9.7						
STKA	**Stephens Creek**	**29.72**	**148**	P	**P**	**05 14 25.8**	**+1.2**
	1.5nm,0.3s,baz=312,slow=7.1,SNR=11						
RMQ	**Roma**	**30.73**	**131**	P	**P**	**05 14 35.3**	**+1.9**
	baz=31,SNR=5.5						
CMSA	**Cobar Meteorol**	**31.82**	**142**	P	**P**	**05 14 44.3**	**+1.7**
	baz=32,SNR=24						
ARPS	**Mount Arapiles**	**33.77**	**153**	P	**P**	**05 15 01.1**	**+2.0**
	baz=34,SNR=5.8						
ARMA	**Armidale**	**35.03**	**135**	P	**P**	**05 15 12.5**	**+2.5**
	baz=35,SNR=7.1						
CMAR	**Chiang Mai Arr**	**35.21**	**317**	P	**P**	**05 15 11.8**	**+0.4**
	2.0nm,0.7s,baz=146,slow=6.7,SNR=12						
HNR	**Honiara**	**36.22**	**96**	P	**P**	**05 15 19.4**	**-0.4**
	63nm,0.8s,baz=216,slow=3.6,SNR=5.3						
XAN	**Xi'an**	**43.39**	**342**	P	**P**	**05 16 16.2**	**-1.1**
XAN				AMB	AMB		
	comp=Z,3.0nm,0.7s						
XAN				AMB	AMB		
	comp=Z,40nm,5.2s						
KSRS	**Korea Array**	**44.78**	**5**	P	**P**	**05 16 28.2**	**+0.4**
	comp=Z,1.6nm,0.9s,baz=186,slow=10,SNR=5.5						
USRK	**Ussuriysk Arra**	**51.90**	**8**	P	**P**	**05 17 20.8**	**-0.1**
	comp=Z,1.9nm,0.4s,baz=191,slow=6.9,SNR=5.2						
SONM	**Songino Array**	**56.97**	**346**	P	**P**	**05 17 56.5**	**0.0**
	comp=Z,2.2nm,0.6s,baz=163,slow=8.9,SNR=13						
MKAR	**Makanchi Array**	**65.09**	**330**	P	**P**	**05 18 49.9**	**0.0**
	comp=Z,3.1nm,0.6s,baz=132,slow=7.9,SNR=39						
PETK	**Petropavlovsk-**	**66.89**	**22**	P	**P**	**05 19 01.4**	**+0.5**
	comp=Z,6.1nm,1.0s,baz=212,slow=5.1,SNR=4.9						
ZALV	**Zalesovo Beam**	**69.16**	**337**	P	**P**	**05 19 13.7**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=126,slow=3.3,SNR=6.0						
VNDA	**Vanda**	**72.96**	**172**	P	**P**	**05 19 37.1**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=324,slow=7.6,SNR=24						
QSPA	**South Pole Qui**	**82.62**	**180**	P	**P**	**05 20 27.3**	**-1.8**
	comp=Z,1.0nm,0.5s,baz=90,slow=3.0,SNR=34						
SNAA	**Sanae**	**93.72**	**195**	P	**P**	**05 21 21.1**	**-0.3**
	comp=Z,0.4nm,1.0s,baz=114,slow=12,SNR=5.7						
ILAR	**Eielson Array**	**96.48**	**26**	P	**P**	**05 21 31.1**	**-2.8**
	comp=Z,0.1nm,0.5s,baz=249,slow=3.7,SNR=4.1						
PDAR	**Pinedale Array**	**121.75**	**44**	PKP	**PKPdf**	**05 26 54.1**	**-1.9**
	comp=Z,0.3nm,0.4s,baz=311,slow=2.0,SNR=4.4						
TORD	**Torodi Ar. Bea**	**122.44**	**281**	PKP	**PKPdf**	**05 26 57.7**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=79,slow=1.9,SNR=7.6						
TXAR	**Lajitas Array**	**130.70**	**57**	PKP	**PKPdf**	**05 27 14.0**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=191,slow=3.1,SNR=7.5						
TXAR				SKPbc	**SKPbc**	**05 29 48.9**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=248,slow=2.1,SNR=4.1						
CPUP	**Villa Florida**	**146.51**	**179**	PKPbc	**PKPbc**	**05 27 44.7**	**+0.4**
	comp=Z,1.8nm,0.5s,baz=132,slow=4.3,SNR=8.0						

IDC 04 05:17:59.6±1.1, 62°.69S×158°.74W, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.9/12, mbtmp3.8/6, MS3.8/7, Ms1 3.8/7, ms1mx3.6/19, Error ellipse: s-maj=40.7km s-min=23.1km az=27.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**19.34**	**205**	P	Pn	05 22 29.9	+2.9
	0.4nm,0.3s,baz=74,slow=16,SNR=25						
VNDA				LR	LR	05 27 56.1	
	comp=Z,151nm,21.9s,baz=66,slow=31						
QSPA	**South Pole Qui**	**27.43**	**180**	P	P	05 23 47.4	+0.7
	3.3nm,0.8s,baz=56,slow=4.4,SNR=9.1						
QSPA				LR	LR	05 32 20.9	
	comp=Z,160nm,22.0s,baz=240,slow=31						
URZ	**Urewera**	**28.54**	**318**	LR	LR	05 32 36.2	
	comp=Z,180nm,20.4s,baz=162,slow=31						
TBI	**Tubuai**	**39.82**	**13**	*e*LR	LR	05 36 17.9	
	169nm,29.0s						
TBI	**Tubuai**	**39.82**	**13**	*e*T	T	06 07 42.4	
	36nm,0.3s						
RKT	**Rikitea**	**42.69**	**33**	*e*T	T	06 11 16.9	
	6.2nm,0.2s						
SNAA	**Sanae**	**44.89**	**169**	P	P	05 26 14.4	-0.8
	0.3nm,0.8s,baz=232,slow=10,SNR=11						
TVO	**Taravao**	**45.35**	**13**	*e*T	T	06 14 35.4	
	9.9nm,0.3s						
MEH	**Mehetia**	**45.39**	**14**	*e*T	T	06 14 37.9	
	278nm,0.2s						
PAE	**Paea**	**45.44**	**12**	*e*T	T	06 14 42.0	
	3.4nm,0.3s						
PPT2	**Papeete2**	**45.51**	**12**	*e*LR	LR	05 39 05.9	
	206nm,25.8s,baz=185						
PPT2	**Papeete2**	**45.51**	**12**	*e*T	T	06 14 47.2	
	4.6nm,0.3s						
PPT	**Papeete**	**45.53**	**12**	LR	LR	05 39 44.8	
	comp=Z,121nm,21.6s,baz=174,slow=29						
DZM	**Mont Dzumac**	**46.95**	**314**	LR	LR	05 40 38.9	
	comp=Z,226nm,19.6s,baz=26,slow=29						
VAH	**Vaih

H11N1	**WAKE ISLAND Hy 39.73 330** baz=152	T	T	06 35 02.9			
H11N2	**WAKE ISLAND Hy 39.74 330** baz=152	T	T	06 35 04.2			
STKA	**Stephens Creek 44.21 240** 1.0nm,0.7s,baz=76,slow=8.3,SNR=3.4	P	P	05 53 11.7	+0.2		
WRA	**Warramunga Arr 49.95 257** 0.4nm,0.5s,baz=89,slow=6.8,SNR=4.6	P	P	05 53 56.4	-0.2		
ASAR	**Alice Springs 50.24 252** 1.0nm,0.4s,baz=91,slow=7.5,SNR=32	P	P	05 53 58.5	-0.3		
BRTR	**Keskin Array B 146.00 321** 1.3nm,0.9s,baz=80,slow=2.9,SNR=4.8	PKPbc	PKPdf	06 04 41.9	-0.1		

*IDC **04** 05:46:53.8±1.6,52.94N×88.00E,h0km,mb3.4/1, mb1 3.6/4,mb1mx3.3/30,mbtmp3.4/4,ML3.5/3,MS3.8/1, Ms1 3.8/1,ms1mx2.5/31,Error ellipse: s-maj=18.2km s-min=13.4km az=99.0*

*ISCJB **04** 05:46:56.2±1.3,52.97N±0.08×87.9E±0.1,h33km,mb3.3/1, MS3.9/1,Error ellipse: s-maj=13.9km s-min=9.7km az=33.6*

*NNC **04** 05:46:58.5±2.5,52.88N×87.57E,h5km,12km,mb3.8, mpv3.4,Error ellipse: s-maj=17.0km s-min=13.2km az=36.0*

ISC 04 05:46:58.8±1.6,**52.99N**±0.08×**87.9E**±0.1,**h35km**,**n8**, σ0**8**0/11,**4C-3D,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam 2.09 299** 5.9nm,0.3s,baz=120,slow=16,SNR=90			Pn		**Pn**	**05 47 32.3**	**+1.0**
ZALV				Lg		Lg	05 48 01.2	
KURK	**Kurchatov 6.20 252** 3.0nm,1.4s			⇑Pn		**Pn**	**05 48 26.7**	**-0.9**
KURK				⇑Sn		**Sn**	**05 49 36.1**	**-1.1**
KURK	1.2nm,0.6s			⇓Lg		Lg	05 50 08.9	
KURBB	**Kurchatov Arra 6.29 252** 2.2nm,0.6s			⇑Pn		**Pn**	**05 48 28.8**	**-0.1**
KURBB				⇓Sn		**Sn**	**05 49 40.1**	**+0.6**
KURBB	7.8nm,0.6s			⇓Lg		Lg	05 50 11.0	
KURBB	**Kurchatov Arra 6.29 252** 0.5nm,0.3s,baz=65,slow=15,SNR=13			Pn		**Pn**	**05 48 28.8**	**-0.1**
KURBB				Lg		Lg	05 50 13.3	
MK31	**Makanchi Array 7.19 213** 3.3nm,0.7s,baz=33,slow=13,SNR=84			Pn		**Pn**	**05 48 41.6**	**+0.3**
MK31				Sn		**Sn**	**05 50 02.4**	**+0.7**
MK31	3.2nm,0.8s,baz=36,slow=24,SNR=9.1			⇑Lg		Lg	05 50 38.5	
MKAR	**Makanchi Array 7.19 213** 1.5nm,0.3s,baz=32,slow=14,SNR=71			Pn		**Pn**	**05 48 41.4**	**+0.1**
MKAR				Sn		**Sn**	**05 50 02.5**	**+0.8**
MKAR	0.4nm,0.3s,baz=38,slow=27,SNR=12			Lg		Lg	05 50 38.2	
ILAR	**Eielson Array 55.22 25** 0.3nm,0.3s,baz=26,slow=28,SNR=3.0	P		P		**P**	**05 56 27.1**	**-0.5**
KDAK	**Kodiak Island 59.12 33** 0.2nm,0.7s,baz=309,slow=4.9,SNR=4.1	LR		LR		LR	06 24 38.7	
	comp=Z,86nm,19.3s,baz=274,slow=38							

IDC 04 05:49:08.4±1.3,**46.37N**×**27.40W**,**h0km**,**mb3.7**/4, **mb1 3.8**/5,**mb1mx3.5**/32,**mbtmp3.6**/5,**ML4.4**/1,**MS3.5**/10, **Ms1 3.5**/10,**ms1mx3.2**/44,**Error ellipse: s-maj=40.8km s-min=28.4km az=15.0,Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
H07N1	**FLORES T-PHASE 7.21 203** SNR=81			T		T	05 57 59.1	
ESDC	**Sonseca Array 18.36 103** 0.3nm,0.3s,baz=296,slow=12,SNR=10			P		P	05 53 25.2	+0.7
ESDC				LR		LR	05 59 26.8	
	comp=Z,97nm,18.3s,baz=285,slow=34							
MDT	**Midelt 22.07 120** comp=Z,90nm,19.4s,baz=325,slow=30			LR		LR	06 00 11.5	
SFJD	**Kangerlussuaq 24.00 338** comp=Z,81nm,21.2s,baz=134,slow=31			LR		LR	06 01 41.3	
DAVOX	**Davos/Dischmat 25.48 75** comp=Z,69nm,18.3s,baz=269,slow=33			LR		LR	06 03 04.0	
GERES	**GERESS Array B 27.59 70** comp=Z,106nm,18.7s,baz=141,slow=34			LR		LR	06 04 59.1	
HFS	**Hagfors 27.65 45** comp=Z,91nm,18.1s,baz=72,slow=35			LR		LR	06 05 21.5	
VRAC	**Vranov 29.36 68** comp=Z,107nm,18.0s,baz=303,slow=36			LR		LR	06 06 43.0	
KEST	**Kesra 29.44 98** comp=Z,48nm,18.2s,baz=156,slow=35			LR		LR	06 06 20.9	
TORD	**Torodi Ar. Bea 41.20 134** 0.9nm,0.9s,baz=330,slow=6.8,SNR=4.7			P		P	05 56 54.4	-0.4
TORD				LR		LR	06 12 10.4	
	comp=Z,100nm,19.5s,baz=325,slow=34							
H10S1	**ASCENSION HYDR56.23 165** baz=350,slow=0.7,SNR=12			T		T	06 59 19.1	
H10S3	**ASCENSION HYDR56.24 165** baz=350,slow=0.7,SNR=14			T		T	06 59 21.3	
H10S2	**ASCENSION HYDR56.25 165** baz=350,slow=0.7,SNR=12			T		T	06 59 18.1	
BVAR	**Borovoye Array 58.78 44** 0.7nm,0.7s,baz=322,slow=9.1,SNR=3.9	P		P		P	05 59 08.2	+0.3
TXAR	**Lajitas Array 60.31 282** 0.5nm,0.9s,baz=80,slow=7.0,SNR=5.6	P		P		P	05 59 19.1	+0.1
TXAR				LR		LR	06 25 00.1	
	comp=Z,78nm,18.5s,baz=0.0,slow=36							
MKAR	**Makanchi Array 68.66 44** 0.9nm,0.8s,baz=325,slow=5.9,SNR=9.0	P		P		P	06 00 12.9	-0.4

IDC 04 05:49:14.3±2.5,**15.55S**×**171.84W**,**h0km**,**mb3.8**/4, **mb1 4.0**/4,**mb1mx3.7**/19,**mbtmp3.8**/4,**Error ellipse: s-maj=77.3km s-min=21.2km az=117.0,Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu 1.63 2** 13nm,0.3s,baz=236,slow=7.3,SNR=4.9			Pn		Pn	05 49 44.4	+0.1
AFI				Sn		Sg	05 50 06.7	-0.1
	65nm,0.3s,baz=96,slow=22,SNR=9.1							
STKA	**Stephens Creek 45.27 240** 2.5nm,1.1s,baz=99,slow=13,SNR=2.7			P		P	05 57 32.9	-1.0
WRA	**Warramunga Arr 51.27 257** 1.2nm,1.1s,baz=95,slow=10,SNR=3.3			P		P	05 58 20.8	+0.3
ASAR	**Alice Springs 51.49 252** 1.9nm,0.9s,baz=82,slow=8.5,SNR=14			P		P	05 58 22.3	+0.2
ILAR	**Eielson Array 82.31 11** 0.2nm,0.7s,baz=223,slow=5.6,SNR=4.3	P		P		P	06 01 37.3	-0.1
BRTR	**Keskin Array B 147.20 322** 0.6nm,0.7s,baz=63,slow=1.8,SNR=3.3	PKPbc		PKPbc		PKPbc	06 08 59.4	-0.7

IDC 04 05:56:31.6±8.3,**18.11S**×**170.27W**,**h0km**,**mb4.1**/5, **mb1 4.2**/5,**mb1mx3.8**/20,**mbtmp4.1**/5,**Error ellipse: s-maj=189.1km s-min=144.8km az=179.0,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac 22.22 256** 1.8nm,0.5s,baz=105,slow=18,SNR=6.7			P		P	06 01 30.7	+0.6
CTA	**Charters Tower 41.05 260** 3.0nm,0.6s,baz=100,slow=11,SNR=5.8			P		P	06 04 15.9	-1.3
STKA	**Stephens Creek 45.38 243** 1.0nm,0.7s,baz=90,slow=8.1,SNR=2.9			P		P	06 04 52.1	0.0
ASAR	**Alice Springs 52.19 254** 3.3nm,0.8s,baz=97,slow=7.6,SNR=33			P		P	06 05 45.0	+0.4
WRA	**Warramunga Arr 52.20 259** 1.6nm,0.4s,baz=97,slow=8.1,SNR=8.0			P		P	06 05 44.5	-0.2

IDC 04 06:03:26.8±1.4,**1.44S**×**135.68E**,**h0km**,**mb3.1**/3, **mb1 3.5**/4,**mb1mx3.3**/17,**mbtmp3.2**/4,**ML3.6**/1,**Error ellipse: s-maj=72.7km s-min=26.1km az=87.0,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr 18.43 184** 0.2nm,0.3s,baz=13,slow=11,SNR=7.2	P		P		P	06 07 44.4	+0.4
ASAR	**Alice Springs 22.16 184**	P		P		P	06 08 24.0	-0.5

	0.1nm,0.6s,baz=24,slow=8.1,SNR=4.5						
MKAR	**Makanchi Array 66.95 323** 0.1nm,0.6s,baz=132,slow=6.0,SNR=2.4	P		P		06 14 20.5	-0.8
ILAR	**Eielson Array 85.95 25** 0.6nm,0.8s,baz=247,slow=5.1,SNR=5.7	P		P		06 16 09.8	+1.1

MAN 04 06:07:44,6.81N×123.34E,h630km,mb5.6,ML4.6,MS4.9, Mindanao

*ISCJB **04** 06:14:41.0±1.0,19.1S±0.2×169.6E±0.1,h300km,mb4.0/8, Error ellipse: s-maj=23.7km s-min=15.2km az=146.6*

*IDC **04** 06:14:41.3±2.5,19.20S×169.70E,h294km±25km,mb3.8/8, mb1 4.0/10,mb1mx3.6/22,mbtmp3.9/10,Error ellipse: s-maj=40.7km s-min=18.2km az=160.0*

ISC 04 06:14:41.9±1.2,**19.2S**±0.2×**169.7E**±0.2,**h300**km,**n12**, σ0**8**70/12,**mb4.1/8,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac 4.17 226** 14nm,0.3s,baz=56,slow=18,SNR=228			P		**Pn**	**06 15 49.4**	**-0.7**
HNR	**Honiara 13.49 315** 15nm,0.3s,baz=146,slow=3.6,SNR=11			P		**P**	**06 17 41.7**	**-0.8**
CTA	**Charters Tower 22.05 264** 7.3nm,0.6s,baz=89,slow=11,SNR=16			P		**P**	**06 19 13.7**	**+1.1**
PMG	**Port Moresby 23.83 291** 11nm,0.8s,baz=88,slow=9.5,SNR=4.5			P		**P**	**06 19 29.2**	**+0.5**
WRA	**Warramunga Arr 33.25 263** 1.7nm,0.3s,baz=97,slow=8.6,SNR=20			P		**P**	**06 20 51.2**	**-0.7**
ASAR	**Alice Springs 33.52 256** 15nm,0.6s,baz=79,slow=9.3,SNR=136			P		**P**	**06 20 54.2**	**0.0**
FITZ	**Fitzroy Crossi 41.64 264** baz=38,SNR=9.3			P		**P**	**06 22 02.5**	**+0.7**
FITZ	**Fitzroy Crossi 41.64 264** 7.7nm,0.6s,baz=98,slow=7.2,SNR=29			P		**P**	**06 22 02.4**	**+0.7**
MEEK	**Meekatharra 47.35 251** baz=45,SNR=6.1			P		**P**	**06 22 46.8**	**+0.2**
YBH	**Yreka Blue Hor 86.98 44** 1.4nm,0.7s,baz=225,slow=2.9,SNR=4.2			P		**P**	**06 26 54.2**	**+0.6**
NVAR	**Mina Array Bea 88.46 48** 0.3nm,0.3s,baz=231,slow=5.7,SNR=4.0			P		**P**	**06 27 00.6**	**-0.3**
ILAR	**Eielson Array 90.05 17** 0.4nm,0.8s,baz=237,slow=5.1,SNR=4.0	P		P		**P**	**06 27 07.3**	**-0.1**

*MAN **04** 06:20:21,13.15N×124.85E,h1km,mb4.9,ML3.8,MS3.8*

*IDC **04** 06:20:23.2±1.6,13.02N×124.56E,h0km,mb3.8/7, mb1 3.9/7,mb1mx3.6/25,mbtmp3.8/7,Error ellipse: s-maj=162.5km s-min=17.8km az=67.0*

*ISCJB **04** 06:20:26.5±0.7,12.93N±0.05×124.70E±0.07,h44km, mb3.8/7,Error ellipse: s-maj=10.4km s-min=7.4km az=159.3*

ISC 04 06:20:28.8±1.0,**12.88N**±0.08×**124.63E**±0.09,**h44**km,**n14**, σ1**5**1/15,**mb3.9/7,3C-1D,Samar**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CNP	**Catarman 0.37 175**			*e*P		Pn	06 20 34.2	-3.9
CNP				*e*S		**Sn**	**06 20 42.6**	**-2.1**
PVCP	**Virac 0.85 327**			⇑*i*P		Pn	06 20 37.2	-7.1
PLP	**Palo 1.74 169**			⇑*e*P		**Pn**	**06 20 56.9**	**+0.4**
AUQP	**San Andres 1.96 283**			*e*P		**Pn**	**06 20 59.8**	**+0.3**
RCP	**Roxas 2.26 235**			⇑*e*P		**Pn**	**06 21 02.0**	**-1.7**
RCP				*i* S		**Sn**	**06 21 31.7**	**+1.3**
GQP	**Guinayangan 2.36 296**			⇓*e*P		**Pn**	**06 21 03.8**	**-1.2**
GQP				*e*S		**Sn**	**06 21 35.2**	**+2.5**
BOAC	**Boac 2.77 282**			*e*P		**Pn**	**06 21 09.0**	**-1.7**
WRA	**Warramunga Arr 33.99 164** 0.5nm,0.8s,baz=348,slow=8.4,SNR=3.3			P		**P**	**06 27 09.6**	**+1.1**
ASAR	**Alice Springs 37.44 166** 0.4nm,0.5s,baz=350,slow=7.3,SNR=8.3			P		**P**	**06 27 40.0**	**+2.0**
SONM	**Songino Array 38.03 340** 0.9nm,0.7s,baz=156,slow=9.4,SNR=4.5			P		**P**	**06 27 42.9**	**0.0**
MKAR	**Makanchi Array 48.99 322** 2.0nm,0.7s,baz=120,slow=8.9,SNR=27			P		**P**	**06 29 10.6**	**-0.5**
ZALV	**Zalesovo Beam 51.58 331** 2.0nm,0.7s,baz=125,slow=7.6,SNR=11			P		**P**	**06 29 29.6**	**-0.9**
KURBB	**Kurchatov Arra 53.02 325** 0.8nm,0.6s,baz=123,slow=7.6,SNR=7.0			P		**P**	**06 29 40.2**	**-1.0**
BVAR	**Borovoye Array 58.62 325** 1.0nm,0.7s,baz=123,slow=10,SNR=4.8			P		**P**	**06 30 20.5**	**-0.7**

*ISCJB **04** 06:35:22.9±0.7,21.14S±0.05×68.74W±0.1,h131km±14km, mb3.8/1,Error ellipse: s-maj=20.2km s-min=7.3km az=7.6*

*IDC **04** 06:35:22.5±5.1,21.17S×68.35W,h104km±38km,mb3.8/2, mb1 3.8/4,mb1mx3.4/18,mbtmp3.8/4,Error ellipse: s-maj=74.0km s-min=21.3km az=125.0*

*GUC **04** 06:35:25.1±0.4,21.11S×68.68W,h138km±4km,ML4.0*

ISC 04 06:35:23.7±0.9,**21.06S**±0.05×**68.29W**±0.09, **h116**km±11**km**,**n18**,σ1**5**9/24,**5C-2D,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PB01	**Plate Boundary 1.11 270**			⇑*i*P		**Pn**	**06 35 47.3**	**+0.6**
PB01				*i* S		**Sn**	**06 36 03.9**	**-0.1**
PB01				AML	AML	06 36 05.9		
	comp=E,3μm,0.2s							
PB07	**Plate Boundary 1.63 246**			⇑*i*P		**Pn**	**06 35 52.5**	**-0.1**
PB07				*i* S		**Sn**	**06 36 12.9**	**-1.6**
PB07				AML	AML	06 36 15.3		
	comp=N,2μm,0.4s							
PB04	**Plate Boundary 1.64 222**			⇑*i*P		Pn	06 35 58.3	+5.9
PB04				*i* S		Sn	06 36 24.1	+10
PB04				AML	AML	06 36 27.4		
	comp=E,606nm,0.3s							
HMBC	**Humberstone 1.68 297**			⇑*i*P		**Pn**	**06 35 53.5**	**+0.4**
HMBC				*i* S		**Sn**	**06 36 15.0**	**-0.6**
HMBC				AML	AML	06 36 17.1		
	comp=E,4μm,0.4s							
MACH	**Maria Elena 1.77 230**			*i* P		**Pn**	**06 35 54.5**	**+0.2**
MACH				*i* S		**Sn**	**06 36 16.8**	**-0.9**
PSGC	**Pisagua 2.25 310**			⇑*i*P		**Pn**	**06 35 59.9**	**-0.3**
PSGC				*i* S		**Sn**	**06 36 27.0**	**-1.2**
PSGC				AML	AML	06 36 29.4		
	comp=E,443nm,0.6s							
MNMC	**Minimini 2.27 327**			*e*P		**Pn**	**06 36 02.5**	**+1.8**
MNMC				*i* S		**Sn**	**06 36 31.1**	**+2.1**
MNMC				AML	AML	06 36 34.5		
	comp=N,2μm,0.3s							
CEN1	**Los Morros 2.92 217**			⇓*i*P		**Pn**	**06 36 11.7**	**+2.8**
CEN1				*i* S		**Sn**	**06 36 47.4**	**+3.7**
CEN1				AML	AML	06 36 50.0		
	comp=E,255nm,0.2s							
PB10	**Plate Boundary 3.22 220** comp=E,686nm,0.3s			AML	AML	06 36 52.1		
ANCH	**Antofagasta 3.27 216**			⇓*i*P		**Pn**	**06 36 12.5**	**-0.8**
ANCH				*i* S		**Sn**	**06 36 49.2**	**-2.5**
SIV	**San Ignacio 8.50 55**			P		**Pn**	**06 37 24.6**	**+0.5**
	comp=E,5.5nm,0.3s,baz=252,slow=13,SNR=84							
SIV				S		**Sn**	**06 38 56.2**	**-2.2**
	baz=130,slow=23,SNR=3.5							
CFAA	**Coronel Fontan 10.51 180** comp=E,0.0nm,0.3s,baz=4.9,slow=14,SNR=9.9	P		Pn			06 37 47.1	-3.9
CFAA				S		Sn	06 39 35.4	-11
	comp=E,0.1nm,0.3s,baz=73,slow=19,SNR=6.4							
PLCA	**Paso Flores 19.71 185** comp=E,0.1nm,0.3s,baz=9.5,slow=9.3,SNR=6.7	P		P		**P**	**06 39 43.4**	**-0.6**
BDFB	**Brasilia 19.98 78** comp=E,4.1nm,0.5s,baz=258,slow=9.3,SNR=13	P		P		**P**	**06 39 48.7**	**+1.4**
TORD	**Torodi Ar. Bea 76.67 70** comp=E,1.6nm,0.6s,baz=252,slow=5.4,SNR=9.8	P		P		**P**	**06 47 02.2**	**-0.2**
ASAR	**Alice Springs 130.57 207** comp=E,0.3nm,0.8s,baz=126,slow=1.2,SNR=3.3	PKP		PKPdf		**PKPdf**	**06 54 21.4**	**-0.3**
WRA	**Warramunga Arr 133.62 210** comp=E,0.6nm,1.0s,baz=160,slow=1.3,SNR=2.9	PKP		PKPdf		**PKPdf**	**06 54 27.2**	**-0.3**
MKAR	**Makanchi Array 144.94 36** comp=E,0.3nm,0.4s,baz=294,slow=5.5,SNR=4.5	PKPbc		**PKPdf**		**PKPdf**	**06 54 46.9**	**-0.3**

IDC 04 06:38:44.7±1.2,**15.08S**×**174.30W**,**h0km**,**mb3.6**/4, **mb1 3.9**/4,**mb1mx3.7**/18,**mbtmp3.6**/4,**MS3.6**/2,**Ms1 3.6**/2, **ms1mx3.1**/29,**Error ellipse: s-maj=47.6km s-min=31.0km az=125.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu 2.71 65** 21nm,0.3s,baz=89,slow=6.7,SNR=8.5			Pn		Pn	06 39 25.7	-3.9
AFI				Sn		Sn	06 39 53.2	-10

	53nm,0.3s,baz=45,slow=22,SNR=9.1						
PPT	**Papeete 23.86 99** comp=Z,150nm,18.1s,baz=341,slow=32	LR		LR		06 51 15.9	
WRA	**Warramunga Arr 49.07 257** 0.4nm,0.5s,baz=95,slow=6.4,SNR=3.5	P		P		06 47 34.5	+0.3
ASAR	**Alice Springs 49.38 252** 1.0nm,0.5s,baz=89,slow=7.9,SNR=22	P		P		06 47 35.8	-0.7
VNDA	**Vanda 63.61 186** 0.3nm,0.5s,baz=278,slow=14,SNR=6.0	P		P		06 49 17.3	+0.3
TXAR	**Lajitas Array 81.16 56** comp=Z,33nm,19.7s,baz=110,slow=29	LR		LR		07 18 16.6	
ILAR	**Eielson Array 82.30 11** 0.2nm,0.5s,baz=230,slow=6.0,SNR=6.5	P		P		06 51 08.2	+0.4
ARCES	**ARCESS Array B 124.17 352** 1.2nm,0.9s,baz=29,slow=2.8,SNR=4.8	PKP		PKPdf		06 57 42.5	-2.2
BRTR	**Keskin Array B 145.35 321** 0.3nm,0.4s,baz=51,slow=2.8,SNR=2.8	PKPbc		PKPdf		06 58 25.3	+0.2

IDC 04 06:40:23.7±0.8,**15.11S**×**173.28W**,**h0km**,**mb4.0**/7, **mb1 4.2**/7,**mb1mx4.0**/20,**mbtmp4.0**/7,**MS3.8**/2,**Ms1 3.8**/2, **ms1mx3.2**/25,**Error ellipse: s-maj=33.7km s-min=24.5km az=126.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu 1.89 51** 290nm,0.3s,baz=161,slow=0.9,SNR=30			Pn		Pn	06 40 53.6	-3.7
AFI				Sn		Sn	06 41 10.9	-11
	962nm,0.3s,baz=130,slow=23,SNR=22							
AFI				LR		LR	06 41 23.5	
	comp=Z,511nm,18.5s,baz=106,slow=32							
RAO	**Raoul Island 14.71 196** comp=Z,308nm,18.9s,baz=43,slow=33	LR		LR		LR	06 48 30.5	
PPT2	**Papeete2 22.88 99** 119nm,25.2s	*e*LR		LR		LR	06 50 43.5	
TBI	**Tubuai 23.91 114** 137nm,27.0s	*e*LR		LR		LR	06 51 17.1	
RKT	**Rikitea 36.98 108** 283nm,39.2s	*e*LR		LR		LR	06 57 26.8	
H11S2	**WAKE ISLAND Hy 38.78 329** baz=149,slow=0.7	T		T		T	07 28 29.9	
H11S3	**WAKE ISLAND Hy 38.79 329** baz=149,slow=0.7	T		T		T	07 28 15.8	
H11S1	**WAKE ISLAND Hy 38.79 329** baz=149	T		T		T	07 28 18.3	
H11N3	**WAKE ISLAND Hy 39.72 330** baz=147	T		T		T	07 29 20.6	
H11N1	**WAKE ISLAND Hy 39.72 330** baz=147	T		T		T	07 29 44.9	
H11N2	**WAKE ISLAND Hy 39.74 330** baz=147	T		T		T	07 29 31.7	
WRA	**Warramunga Arr 50.02 257** 0.4nm,0.4s,baz=97,slow=6.3,SNR=3.1	P		P		06 49 20.1	-0.3
ASAR	**Alice Springs 50.31 252** 1.6nm,0.5s,baz=88,slow=8.3,SNR=22	P		P		06 49 21.9	-0.6
FITZ	**Fitzroy Crossi 58.38 258** comp=Z,70nm,18.6s,baz=86,slow=34	LR		LR		07 13 51.7	
VNDA	**Vanda 63.67 186** 1.4nm,0.9s,baz=5.8,slow=8.0,SNR=8.0	P		P		06 50 56.6	+0.3
QSPA	**South Pole Qui 74.93 180** 6.5nm,1.1s,baz=55,slow=2.4,SNR=14	P		P		06 52 06.7	+0.2
TXAR	**Lajitas Array 80.36 56** 0.1nm,0.4s,baz=208,slow=6.9,SNR=3.2	P		P		06 52 37.1	-0.3
ILAR	**Eielson Array 82.14 11** 0.3nm,0.6s,baz=232,slow=5.4,SNR=6.1	P		P		06 52 45.4	-0.5
MAW	**Mawson 88.10 199** 1.6nm,0.6s,baz=156,slow=4.1,SNR=8.1	P		P		06 53 15.4	-0.5
BRTR	**Keskin Array B 146.00 321** 2.3nm,0.9s,baz=107,slow=1.3,SNR=8.3	PKPbc		PKPab		07 00 07.0	+0.5

TAP 04 06:47:38.0,22.79N×121.06E,h7km,ML3.7,8C-4D,B, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TWG	**Pinlang 0.03 24** baz=36			⇑*i*P		Pg	06 47 39.8	+0.4
TWG				*i* S		Sg	06 47 40.8	+0.5
	baz=36							
TTN	**Taitung 0.09 113** baz=111			⇓*i*P		Pg	06 47 41.2	+1.2
TTN				*i* S		Sg	06 47 43.7	+2.2
	baz=111							
ECL	**Taimali 0.21 206** baz=207			⇓*i*P		Pg	06 47 42.7	+0.4
ECL				*e*S		Sg	06 47 45.5	+0.4
	baz=207							
ELDTW	**Lidau 0.40 355** baz=354			⇑*i*P		Pg	06 47 46.2	+0.3
ELDTW				S		Sg	06 47 51.7	+0.3
	baz=354							
CHKT	**Chengkung 0.42 43** baz=41			⇓*i*P		Pb	06 47 47.4	-0.4
CHKT				*e*S		Sb	06 47 56.4	+2.0
	baz=41							
EAST	**Anshuo 0.45 206** baz=207			⇑*i*P		Pg	06 47 47.4	+0.7
EAST				*e*S		Sg	06 47 53.7	+1.0
	baz=207							
TAW	**Tawu 0.46 199** baz=210			⇑P		Pg	06 47 47.5	+0.7
TAW				*e*S		Sb	06 47 55.0	-0.4
	baz=210							
SGST	**Jiashian 0.53 304** baz=295			*e*P		Pb	06 47 49.1	-0.5
SGLT	**Jiouru 0.53 263** baz=270			*e*P		Pb	06 47 50.1	+0.5
SCZT	**Fangliau 0.58 224** baz=233			⇓*i*P		Pb	06 47 49.9	-0.6
SCZT				*i* S		Sg	06 47 57.2	+0.4
	baz=233							
TWM1	**Shoushan 0.59 273** baz=273			*e*P		Pb	06 47 51.3	+0.6
TWF1	**Yuli 0.60 22** baz=8.0			*e*P		Pg	06 47 49.2	-0.4
TWF1				*e*S		Sg	06 47 58.6	+1.0
	baz=8.0							
WTP	**Ta-pu 0.61 318** baz=325			⇑*i*P		Pb	06 47 51.4	+0.2
WTP				S		Sb	06 48 00.7	+0.7
	baz=325							
CHN1	**Nanshi 0.63 309** baz=314			⇑*i*P		Pb	06 47 52.1	+0.7
CHN1				*e*S		Sn	06 48 02.6	-1.2
	baz=314							
CHN3	**Shinhua 0.70 294** baz=287			*e*P		Pn	06 47 54.9	+0.5
YUS	**Yu-Shan 0.70 352** baz=343			⇑*i*P		Pg	06 47 52.2	-0.1
KAU	**Kaohsiung 0.73 252** baz=252			*e*P		Pn	06 47 54.1	-0.7
EHY	**Hungye 0.75 19** baz=7.0			*e*P		Pg	06 47 51.8	-0.8
EHY				*e*S		Sb	06 48 03.5	-0.6
	baz=7.0							
ALS	**Alishan 0.75 342** baz=342			⇑*e*P		Pg	06 47 53.3	+0.4
TWP	**Hsiaoliuchiu 0.78 236** baz=225			*e*P		Pn	06 47 56.6	+1.1
TAI1	**Yung-k'ang 0.80 288** baz=287			*e*P		Pn	06 47 57.1	+1.3
HEN	**Hengchun 0.83 201** baz=200			*e*P		Pg	06 47 54.4	+0.4
TWK1	**Hengchun 0.87 196** baz=195			*e*P		Pn	06 47 56.9	+0.1
CHN5	**Tsauling 0.88 337** baz=335			*e*P		Pg	06 47 54.8	-0.2
CHN5				*e*S		Sn	06 48 10.7	+0.6
	baz=335							
LAY	**Lan-yu 0.88 148** baz=149			*e*P		Pg	06 47 53.9	-1.0
SCLT	**Jiali 0.88 296** baz=295			*e*P		Pn	06 47 57.8	+0.9
SCLT				*e*S		Sn	06 48 12.6	+2.6
	baz=295							
TSEB	**Hengchuen, Pin 0.90 189** baz=178			*e*P		Pg	06 47 55.5	+0.2
CHY	**Chiayi 0

TYC	**Yuchr**	**1.12**	**351**	*e*P		Pn	06 48 00.2	0.0
	baz=357								
TYC				S		Sn	06 48 17.9	+1.9
	baz=357								
WNT	**Mingjian**	**1.14**	**343**	*e*P		Pn	06 48 00.7	+0.3
	baz=341								
WNT				*e*S		Sn	06 48 17.9	+1.6
	baz=341								
WSF	**Szhu**	**1.14**	**318**	*e*P		Pn	06 48 00.4	-0.1
	baz=317								
WSF				*e*S		Sn	06 48 18.6	+2.2
	baz=317								
WHF	**Hehuan Shan**	**1.36**	**8**	*e*P		Pn	06 48 02.3	-1.8
	baz=19								
WDGT	**Dungji**	**1.37**	**290**	*e*P		Pb	06 48 04.0	0.0
	baz=290								
WDGT				*e*S		Sg	06 48 22.9	+0.8
	baz=290								
TWD	**Chiawan**	**1.38**	**21**	*e*P		Pn	06 48 00.8	-2.8
	baz=42								
TCU	**Taichung**	**1.40**	**346**	*e*P		Pg	06 48 06.0	+1.2
	baz=333								
TWT	**Tachien**	**1.46**	**4**	*e*P		Pn	06 48 05.0	-0.1
	baz=15								
TWQ1	**Liyutan**	**1.57**	**351**	*e*P		Pg	06 48 08.2	-0.1
	baz=348								
TWQ1				*e*S		Sg	06 48 29.9	+1.2
	baz=348								
PNG	**Penghu**	**1.58**	**300**	*e*P		Pb	06 48 07.7	+0.1
	baz=299								
NSY	**Sanyi**	**1.64**	**351**	*e*P		Pb	06 48 09.0	+0.3
	baz=348								
NSY				*e*S		Sg	06 48 32.9	+2.0
	baz=348								
NNS	**Nan Shan**	**1.67**	**10**	*e*P		Pb	06 48 09.1	-0.2
	baz=11								
ENA	**Nanau**	**1.75**	**21**	*e*P		Pb	06 48 10.3	-0.1
	baz=38								
NSTT	**Nanjuang**	**1.83**	**358**	*e*P		Pb	06 48 11.9	-0.1
	baz=341								
NSTT				*e*S		Sg	06 48 38.9	+1.9
	baz=341								
NSK	**Sanguang**	**1.90**	**8**	*e*P		Pb	06 48 13.0	-0.1
	baz=11								
ENTT	**Nioudou**	**1.90**	**14**	*e*P		Pn	06 48 11.3	+0.4
	baz=34								
TWC	**Suao**	**1.95**	**22**	*e*P		Pn	06 48 12.0	+0.4
	baz=38								
TWE	**Neicheng**	**2.00**	**16**	*e*P		Pn	06 48 13.4	+1.1
	baz=34								
TWA	**Mucha**	**2.23**	**12**	*e*P		Pn	06 48 16.8	+1.3
	baz=35								
TWS1	**Kuangyinshan**	**2.32**	**8**	*e*P		Pb	06 48 20.4	+0.1
	baz=11								
NWF	**Wu-fen Shan**	**2.37**	**16**	*e*P		Pn	06 48 17.2	-0.2
	baz=35								

TAP 04 06:48:52.6, 23°.66N×121°.57E, h32km, ML3.9, 9C-6D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.05**	**330**	P	Pb	06 48 58.3	+0.3
	baz=337						
TEGC				*i* S	Sb	06 49 02.6	+1.0
	baz=337						
ESL	**Shilin**	**0.20**	**321**	⇓*i*P	Pb	06 48 58.9	-0.2
	baz=315						
ESL				S	Sb	06 49 03.0	-0.4
	baz=315						
ESF	**Shoufeng Towns**	**0.22**	**345**	P	Pb	06 48 59.3	+0.1
	baz=335						
ESF				S	Sn	06 49 04.4	+0.2
	baz=335						
EHY	**Hungye**	**0.28**	**236**	⇑*i*P	Pb	06 48 59.7	-0.2
	baz=244						
EHY				*e*S	Sb	06 49 04.4	-0.6
	baz=244						
HWA	**Hwalien**	**0.32**	**6**	*e*P	Pb	06 49 00.6	+0.1
	baz=15						
TWF1	**Yuli**	**0.40**	**219**	⇑*i*P	Pb	06 49 01.4	-0.2
	baz=228						
TWD	**Chiawan**	**0.42**	**3**	⇓*i*P	Pb	06 49 01.9	0.0
	baz=353						
TWD				S	Sb	06 49 08.3	+0.1
	baz=353						
WHF	**Hehuan Shan**	**0.56**	**330**	⇓*i*P	Pb	06 49 03.9	-0.8
	baz=331						
WHF				S	Sb	06 49 12.0	-0.9
	baz=331						
CHKT	**Chengkung**	**0.59**	**199**	*e*P	Pb	06 49 04.7	+0.1
	baz=186						
CHKT				*e*S	Sn	06 49 14.1	+0.7
	baz=186						
YUS	**Yu-Shan**	**0.59**	**253**	⇑*i*P	Pb	06 49 05.3	0.0
	baz=254						
YUS				S	Sb	06 49 13.2	-0.7
	baz=254						
SMLT	**Sun Moon Lake**	**0.65**	**290**	⇑*i*P	Pb	06 49 05.7	-0.1
	baz=293						
SMLT				*e*S	Sb	06 49 14.5	-0.3
	baz=293						
TWT	**Tachien**	**0.69**	**329**	⇓*i*P	Pn	06 49 06.5	0.0
	baz=328						
TWT				S	Sb	06 49 15.3	-0.7
	baz=328						
ELDTW	**Lidau**	**0.69**	**227**	⇑*i*P	Pn	06 49 05.5	-0.9
	baz=227						
TYC	**Yuchr**	**0.69**	**290**	⇑P	Pn	06 49 06.3	0.0
	baz=291						
TYC				S	Sn	06 49 16.2	+0.2
	baz=291						
ALS	**Alishan**	**0.72**	**258**	⇑*i*P	Pb	06 49 07.3	+0.2
	baz=266						
ALS				S	Sb	06 49 17.0	0.0
	baz=266						
ENA	**Nanau**	**0.78**	**12**	*e*P	Pn	06 49 06.8	-0.7
	baz=19						
NNS	**Nan Shan**	**0.80**	**347**	*e*P	Pn	06 49 07.5	-0.4
	baz=356						
CHN5	**Tsauling**	**0.82**	**266**	*e*P	Pb	06 49 09.0	+0.4
	baz=267						
CHN5				*e*S	Sb	06 49 20.8	+1.4
	baz=267						
WNT	**Mingjian**	**0.84**	**285**	*e*P	Pb	06 49 09.6	+0.8
	baz=286						
WNT				*e*S	Sb	06 49 21.4	+1.6
	baz=286						
WGK	**Gukeng**	**0.92**	**272**	*e*P	Pb	06 49 09.9	-0.3
	baz=273						
WGK				*e*S	Sb	06 49 23.6	+1.4
	baz=273						
TCU	**Taichung**	**0.95**	**301**	*e*P	Pb	06 49 11.7	+1.1
	baz=301						
TWG	**Pinlang**	**0.95**	**209**	*e*P	Pn	06 49 08.4	-1.4
	baz=197						
WTP	**Ta-pu**	**0.97**	**245**	*e*P	Pb	06 49 11.1	0.0
	baz=246						
WTP				*e*S	Sb	06 49 24.9	+1.3
	baz=246						
ENTT	**Nioudou**	**0.97**	**360**	*e*P	Pn	06 49 09.7	-0.5
	baz=360						
TWC	**Suao**	**0.98**	**15**	*e*P	Pb	06 49 10.7	-0.4
	baz=24						
TWC				*e*S	Sb	06 49 25.2	+1.5
	baz=24						
TWQ1	**Liyutan**	**1.00**	**313**	P	Pb	06 49 12.3	+0.8
	baz=314						
TWQ1				*e*S	Sb	06 49 26.4	+2.0
	baz=314						
NSK	**Sanguang**	**1.03**	**349**	⇓*e*P	Pn	06 49 11.1	+0.1
	baz=358						
NSK				*e*S	Sn	06 49 24.0	-0.4
	baz=358						
NSY	**Sanyi**	**1.05**	**316**	P	Pb	06 49 13.2	+0.8
	baz=316						
NSY				S	Sb	06 49 27.6	+1.7
	baz=316						
TWE	**Neicheng**	**1.06**	**5**	*e*P	Pn	06 49 11.4	+0.1
	baz=5.0						
CHY	**Chiayi**	**1.06**	**261**	*e*P	Pb	06 49 13.2	+0.6
	baz=263						
CHY				*e*S	Sb	06 49 27.6	+1.4
	baz=263						
CHN1	**Nanshi**	**1.07**	**244**	⇑*i*P	Pb	06 49 12.9	+0.3
	baz=246						
CHN1				S	Sb	06 49 28.0	+1.7
	baz=246						
SGST	**Jiashian**	**1.07**	**238**	⇑P	Pb	06 49 12.9	+0.1
	baz=239						
SGST				*e*S	Sb	06 49 28.2	+1.7
	baz=239						
NSTT	**Nanjuang**	**1.09**	**332**	⇓*e*P	Pb	06 49 13.2	+0.1
	baz=342						
NSTT				S	Sb	06 49 26.7	-0.4
	baz=342						
WTCT	**Ta-ch'eng**	**1.20**	**280**	*e*P	Pb	06 49 14.7	-0.1
	baz=273						
WTCT				*e*S	Sb	06 49 31.8	+1.9
	baz=273						
ECL	**Taimali**	**1.20**	**208**	*e*P	Pn	06 49 10.0	-3.3
	baz=200						
WSF	**Szhu**	**1.23**	**269**	*e*P	Pb	06 49 15.7	+0.3
	baz=271						
WSF				*e*S	Sb	06 49 31.4	+0.4
	baz=271						
CHN3	**Shinhua**	**1.25**	**242**	*e*P	Pb	06 49 15.6	-0.1
	baz=244						
TWA	**Mucha**	**1.31**	**1**	*e*P	Pn	06 49 15.3	+0.5
	baz=9.0						
TWM1	**Shoushan**	**1.34**	**232**	*e*P	Pb	06 49 18.2	+0.9
	baz=233						
NCU	**National Centr**	**1.35**	**345**	*e*P	Pb	06 49 16.4	-1.0
	baz=343						
NCU				*e*S	Sb	06 49 35.1	+0.9
	baz=343						
SCLT	**Jiali**	**1.35**	**249**	*e*P	Pb	06 49 16.8	-0.6
	baz=252						
SCLT				*e*S	Sb	06 49 36.0	+1.7
	baz=252						
TWB1	**Santiao Chiao**	**1.39**	**16**	*e*P	Pb	06 49 18.2	+0.1
	baz=1.0						
NWF	**Wu-fen Shan**	**1.42**	**8**	*e*P	Pn	06 49 16.7	+0.4
	baz=6.0						
EAST	**Anshuo**	**1.44**	**208**	*e*P	Pn	06 49 17.3	+0.8
	baz=201						
TWS1	**Kuangyinshan**	**1.44**	**355**	*e*P	Pb	06 49 17.8	-1.0
	baz=9.0						
YOJ	**Yonaguni jima**	**1.54**	**59**	*e*P	Pn	06 49 18.1	+0.2
	baz=56						
YOJ				*e*S	Sn	06 49 37.2	+0.4
	baz=56						
SCZT	**Fangliau**	**1.55**	**214**	*e*P	Pb	06 49 19.8	-1.0
	baz=218						
SCZT				*e*S	Sb	06 49 40.4	+0.2
	baz=218						
LAY	**Lan-yu**	**1.62**	**181**	*e*P	Pn	06 49 17.9	-1.1
	baz=172						
WDGT	**Dungji**	**1.80**	**258**	*e*P	Pn	06 49 21.5	+0.1
	baz=261						
WDGT				*e*S	Sn	06 49 43.2	0.0
	baz=261						
PNG	**Penghu**	**1.85**	**267**	*e*P	Pn	06 49 22.8	+0.6
	baz=257						
PNG				*e*S	Sn	06 49 45.1	+0.6
	baz=257						
KNM	**Kinmen**	**2.96**	**285**	*e*P	Pn	06 49 39.6	+2.1
	baz=286						

IDC 04 06:50:16.8±1.1, 57°.93S×139°.87W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.8/14, mbtmp3.8/4, MS3.1/1, Ms1 3.1/1, ms1mx2.9/17, Error ellipse: s-maj=35.8km s-min=32.2km az=73.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**27.55**	**204**	P	P	06 56 06.4	+1.7
	0.4nm,0.9s,baz=157,slow=2.2,SNR=2.3						
QSPA	**South Pole Qui**	**32.22**	**180**	P	P	06 56 45.2	-1.3
	0.7nm,0.9s,baz=1.6,slow=11,SNR=3.0						
H03N3	**Juan Fernandez**	**47.10**	**86**	T	T	07 49 25.5	
	baz=219,slow=0.7,SNR=8.1						
H03N2	**Juan Fernandez**	**47.11**	**86**	T	T	07 49 25.2	
	baz=219,slow=0.7,SNR=24						
H03N1	**Juan Fernandez**	**47.12**	**86**	T	T	07 49 24.3	
	baz=219,slow=0.7,SNR=8.9						
CFAA	**Coronel Fontan**	**54.23**	**94**	LR	LR	07 16 09.9	
	comp=Z,17nm,20.4s,baz=209,slow=29						
ASAR	**Alice Springs**	**68.30**	**260**	P	P	07 01 19.3	-0.3
	2.8nm,0.9s,baz=144,slow=6.8,SNR=16						
H01W1	**Cape Leeuwin H**	**68.84**	**238**	T	T	08 17 13.1	
	baz=146,slow=0.7,SNR=5.6						
H01W2	**Cape Leeuwin H**	**68.84**	**238**	T	T	08 17 06.1	
	baz=146,slow=0.7,SNR=7.7						
H01W3	**Cape Leeuwin H**	**68.86**	**238**	T	T	08 17 09.4	
	baz=146,slow=0.7,SNR=8.2						
WRA	**Warramunga Arr**	**71.12**	**263**	P	P	07 01 36.8	-0.2
	2.1nm,1.0s,baz=148,slow=5.5,SNR=6.2						
H10S3	**ASCENSION HYDR**	**99.97**	**125**	T	T	08 56 04.3	
	baz=206,slow=0.7,SNR=6.5						
H10S2	**ASCENSION HYDR**	**99.97**	**125**	T	T	08 56 02.3	
	baz=206,slow=0.7,SNR=5.4						
H10S1	**ASCENSION HYDR**	**99.98**	**125**	T	T	08 56 03.4	
	baz=206,slow=0.7,SNR=5.6						
H10N3	**ASCENSION HYDR**	**101.03**	**125**	T	T	08 57 15.5	
	baz=206,slow=0.7,SNR=9.2						
H10N1	**ASCENSION HYDR**	**101.03**	**125**	T	T	08 57 21.1	
	baz=206,slow=0.7,SNR=11						
H10N2	**ASCENSION HYDR**	**101.05**	**125**	T	T	08 57 22.1	
	baz=206,slow=0.7,SNR=8.3						
ILAR	**Eielson Array**	**122.50**	**356**	PKP	PKPdf	07 09 13.1	+0.6
	3.2nm,1.0s,baz=239,slow=1.8,SNR=20						
TORD	**Torodi Ar. Bea**	**126.74**	**131**	PKP	PKPdf	07 09 20.8	-1.3
	0.7nm,0.8s,baz=167,slow=1.9,SNR=3.9						
ESDC	**Sonseca Array**	**146.47**	**104**	PKPbc	PKPbc	07 09 58.9	-0.2
	0.1nm,0.3s,baz=239,slow=3.9,SNR=4.6						
MKAR	**Makanchi Array**	**152.41**	**265**	PKPbc	PKPbc	07 10 12.9	-0.9
	0.5nm,0.6s,baz=116,slow=3.4,SNR=6.4						
MKAR				PKPab	PKPab	07 10 22.8	-1.2
	0.7nm,0.9s,baz=116,slow=2.8,SNR=4.1						
AAK	**Ala-Archa**	**153.61**	**250**	PKPab	PKPab	07 10 30.0	+0.6
	1.3nm,0.5s,baz=186,slow=10.0,SNR=4.3						
ZALV	**Zalesovo Beam**	**155.01**	**280**	PKPab	PKPab	07 10 34.4	-0.4
	1.2nm,0.6s,baz=114,slow=6.0,SNR=6.8						

*MDD **04** 07:04:27.8±2.1, 36°.40N×9°.93W, h53km±47km, mb3.8/6, Error ellipse: s-maj=19.8km s-min=13.8km az=40.0, PRXIMO*

*INMG **04** 07:04:29.2±1.1, 36°.50N×9°.78W, h14km±4km, ML2.0, Error ellipse: s-maj=4.5km s-min=3.0km az=46.0*

*CSEM **04** 07:04:29.3±0.3, 36°.64N×9°.79W, h20km, ML3.2/14, Error ellipse: s-maj=6.2km s-min=4.8km az=49.0*

ISC 04 07:04:26.8±2.8, 36°.48N±0°.10×9°.85W±0°.09, h32km±12km, n73, σ1°.41/140, 1C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.05**	**51**	*e*P	Pb	07 04 47.2	+0.7
PFVI				*e*S	Sn	07 05 00.3	+1.4
PFVI				A	A	07 05 00.9	
	27nm,0.3s						
PFVI	**Vila Bisbo**	**1.05**	**51**	⇑P	Pb	07 04 47.2	+0.7
	1.8nm,0.0s,SNR=18						
PFVI				S	Sn	07 05 00.5	+1.5
	46nm,0.1s,SNR=13						
PFVI	**Vila Bisbo**	**1.05**	**51**	P	Pb	07 04 47.2	+0.7
	1.8nm,0.0s,SNR=18						
PFVI				*e*S	Sn	07 05 00.3	+1.4
	27nm,0.3s						
MORF	**Marmelete**	**1.27**	**49**	*e*P	Pb	07 04 50.4	+0.2
MORF				*e*S	Sb	07 05 06.0	-0.2
MORF				A	A	07 05 06.4	
	32nm,0.1s						
MORF	**Marmelete**	**1.27**	**49**	*e*P	Pb	07 04 50.4	+0.2
MORF				*e*S	Sb	07 05 06.0	-0.2
	32nm,0.1s						
PTEO	**Sao Teotonio**	**1.40**	**40**	*e*P	Pb	07 04 52.0	-0.3
PTEO				*e*S	Sb	07 05 09.4	-0.3
PTEO				A	A	07 05 10.2	
	7.1nm,0.1s						
PTEO	**Sao Teotonio**	**1.40**	**40**	*e*P	Pb	07 04 52.0	-0.3
PTEO				*e*S	Sb	07 05 09.4	-0.3
	7.1nm,0.1s						
PBDV	**Barranco-do-Ve**	**1.72**	**63**	*e*P	Pb	07 04 56.6	-1.2
PBDV				*e*S	Sn	07 05 16.4	+0.9
PBDV				A	A	07 05 19.3	
	3.9nm,0.1s						
PBDV	**Barranco-do-Ve**	**1.72**	**63**	*e*P	Pb	07 04 56.6	-1.2
PBDV				*e*S	Sn	07 05 16.4	+0.9
	3.9nm,0.1s						
PCVE	**Castro Verde**	**1.85**	**51**	*e*Pn	Pb	07 04 58.5	-1.5
PCVE				*e*Sn	Sn	07 05 20.6	+1.9
	6.1nm,0.3s						
PCVE	**Castro Verde**	**1.85**	**51**	*e*Pn	Pb	07 04 58.5	-1.5
PCVE				*e*Sn	Sn	07 05 20.6	+1.9
	6.1nm,0.3s						
PNCL	**Nicolau / Gran**	**1.94**	**32**	*e*Pn	Pb	07 04 59.4	-2.1
PNCL				*e*Sn	Sn	07 05 22.1	+1.2
PNCL				A	A	07 05 25.2	
	5.2nm,0.2s						
PNCL	**Nicolau / Gran**	**1.94**	**32**	*e*Pn	Pb	07 04 59.4	-2.1
PNCL				*e*Sn	Sn	07 05 22.1	+1.2
	5.2nm,0.2s						
PVAQ	**Vaqueiros**	**1.94**	**61**	*e*Pn	Pb	07 04 59.5	-2.1
PVAQ				*e*Sn	Sn	07 05 21.9	+1.0
PVAQ				A	A	07 05 24.3	
	7.9nm,0.1s						
PVAQ	**Vaqueiros**	**1.94**	**61**	*e*Pn	Pb	07 04 59.5	-2.1
PVAQ				*e*Sn	Sn	07 05 21.9	+1.0
	7.9nm,0.1s						
EGRO	**El Granado**	**2.17**	**60**	P	Pn	07 05 02.6	+1.9
	0.6nm,0.1s,SNR=4.8						
EGRO				S	Sn	07 05 27.4	+0.9
	5.1nm,0.1s,SNR=7.1						
EGRO	**El Granado**	**2.17**	**60**	P	Pn	07 05 02.6	+1.9
	0.6nm,0.1s,SNR=4.8						
EGRO				S	Sn	07 05 27.4	+0.9
	5.1nm,0.1s,SNR=7.1						
PMST	**Lisbon--Monsan**	**2.31**	**13**	*e*Sn	Sn	07 05 31.7	+1.5
PMST	**Lisbon--Monsan**	**2.31**	**13**	*e*Sn	Sn	07 05 31.7	+1.5
PACT	**Alcochete**	**2.42**	**19**	*e*Pn	Pn	07 05 06.4	+2.2
PACT				*e*Sn	Sn	07 05 35.2	+2.4
PACT	**Alcochete**	**2.42**	**19**	*e*Pn	Pn	07 05 06.4	+2.2
PMAFR	**Mafra**	**2.51**	**10**	*e*Pn	Pn	07 05 06.8	+1.3
PMAFR				*e*Sn	Sn	07 05 36.5	+1.4
PMAFR				A	A	07 05 38.6	
	15nm,0.3s						
PMAFR	**Mafra**	**2.51**	**10**	P	Pn	07 05 06.5	+1.0
	1.8nm,0.1s,SNR=6.6						
PMAFR				S	Sn	07 05 36.4	+1.4
	14nm,0.1s,SNR=13						
PMAFR	**Mafra**	**2.51**	**10**	P	Pn	07 05 06.5	+1.0
	1.8nm,0.1s,SNR=6.6						
PMAFR	**Mafra**	**2.51**	**10**	*e*Pn	Pn	07 05 06.8	+1.3
PMAFR				S	Sn	07 05 36.4	+1.4
	14nm,0.1s,SNR=13						
EVO	**Evora**	**2.52**	**35**	*e*Pn	Pn	07 05 07.0	+1.5
EVO				*e*Sn	Sn	07 05 35.8	+0.7
EVO				A	A	07 05 36.4	
	11nm,0.1s						
EVO	**Evora**	**2.52**	**35**	*e*Pn	Pn	07 05 07.0	+1.5
EVO				*e*Sn	Sn	07 05 35.8	+0.7
	11nm,0.1s						
PBAR	**Barrancos**	**2.81**	**52**	*e*Pn	Pn	07 05 11.8	+2.3
PBAR				*e*Sn	Sn	07 05 43.5	+1.2
PBAR				A	A	07 05 44.6	
	3.2nm,0.3s						
PBAR	**Barrancos**	**2.81**	**52**	*e*Pn	Pn	07 05 11.8	+2.3
PBAR				*e*Sn	Sn	07 05 43.5	+1.2
	3.2nm,0.3s						
EMIN	**Mina Concepcio**	**2.85**	**62**	P	Pn	07 05 11.5	+1.4
	0.3nm,0.1s,SNR=7.9						
EMIN				S	Sn	07 05 43.3	0.0
	1.4nm,0.1s,SNR=9.2						
EMIN	**Mina Concepcio**	**2.85**	**62**	P	Pn	07 05 11.5	+1.4
	0.3nm,0.1s,SNR=7.9						
EMIN				S	Sn	07 05 43.3	0.0
	1.4nm,0.1s,SNR=9.2						
PMTG	**Montargil**	**2.89**	**26**	*e*Pn	Pn	07 05 12.3	+1.7
PMTG				*e*Sn	Sn	07 05 44.3	0.0
PMTG				A	A	07 05 46.4	
	5.4nm,0.1s						
PMTG	**Montargil**	**2.89**	**26**	*e*Pn	Pn	07 05 12.3	+1.7
PMTG				*e*Sn	Sn	07 05 44.3	0.0
	5.4nm,0.1s						
EBAD	**Badajoz**	**3.20**	**44**	P	Pn	07 05 16.4	+1.5
	1.2nm,0.1s,SNR=13						
EBAD				S	Sn	07 05 52.2	+0.2
	2.6nm,0.1s,SNR=8.4						
EBAD	**Badajoz**	**3.20**	**44**	P	Pn	07 05 16.4	+1.5
	1.2nm,0.1s,SNR=13						
EBAD				S	Sn	07 05 52.2	+0.2
	2.6nm,0.1s,SNR=8.4						
ESPR	**Espera**	**3.23**	**82**	P	Pn	07 05 16.9	+1.5
	0.5nm,0.1s,SNR=7.9						
ESPR				S	Sn	07 05 52.6	-0.2
	2.4nm,0.1s,SNR=7.9						
ESPR	**Espera**	**3.23**	**82**	P	Pn	07 05 16.9	+1.5
	0.5nm,0.1s,SNR=7.9						
ESPR				S	Sn	07 05 52.6	-0.2
	2.4nm,0.1s,SNR=7.9						
PTOM	**Tomar**	**3.33**	**19**	*e*Pn	Pn	07 05 18.5	+1.7
PTOM				*e*Sn	Sn	07 05 55.0	-0.3
PTOM				A	A	07 05 57.4	
	5.4nm,0.1s						
PTOM	**Tomar**	**3.33**	**19**	*e*Pn	Pn	07 05 18.5	+1.7
PTOM				*e*Sn	Sn	07 05 55.0	-0.3
	5.4nm,0.1s						
PMRV	**Marv??o**	**3.53**	**33**	*e*Pn	Pn	07 05 20.9	+1.4
PMRV				*e*Sn	Sn	07 05 59.6	-0.5
PMRV				A	A	07 06 01.9	
	4.0nm,0.1s						
PMRV	**Marv??o**	**3.53**	**33**	*e*Pn	Pn	07 05 20.9	+1.4
PMRV				*e*Sn	Sn	07 05 59.6	-0.5
	4.0nm,0.1s						
PCAS	**Casmilo, Conde**	**3.72**	**16**	*e*Pn	Pn	07 05 23.8	+1.7
PCAS				*e*Sn	Sn	07 06 04.9	0.0
PCAS				A	A	07 06 07.2	
	1.1nm,0.1s						
PCAS	**Casmilo, Conde**	**3.72**	**16**	*e*Pn	Pn	07 05 23.8	+1.7
PCAS				*e*Sn	Sn	07 06 04.9	0.0
	1.1nm,0.1s						
PCBR	**Castelo Branco**	**3.84**	**28**	*e*Pn	Pn	07 05 26.2	+2.5
PCBR				*e*Sn	Sn	07 06 07.6	-0.2
PCBR	**Castelo Branco**	**3.84**	**28**	*e*Pn	Pn	07 05 26.2	+2.5
PCBR				*e*Sn	Sn	07 06 07.6	-0.2
ECAB	**El Cabril**	**3.88**	**64**	P	Pn	07 05 25.1	+0.8
	0.4nm,0.2s,SNR=7.9						
ECAB				S	Sn	07 06 07.1	-1.6
	0.6nm,0.1s,SNR=7.0						
ECAB	**El Cabril**	**3.88**	**64**	P	Pn	07 05 25.1	+0.8
	0.4nm,0.2s,SNR=7.9						
ECAB				S	Sn	07 06 07.1	-1.6
	0.6nm,0.1s,SNR=7.0						
PVIS	**Viseu**	**4.50**	**19**	*e*Pn	Pn	07 05 34.5	+1.7
PVIS				*e*Sn	Sn	07 06 23.1	-1.0
PVIS				A	A	07 06 28.0	
	2.7nm,0.1s						
PVIS	**Viseu**	**4.50**	**19**	*e*Pn	Pn	07 05 34.5	+1.7
PVIS				*e*Sn	Sn	07 06 23.1	-1.0
	2.7nm,0.1s						
EADA	**Adamuz**	**4.53**	**67**	P	Pn	07 05 34.6	+1.4
	0.2nm,0.2s,SNR=7.9						
EADA				S	Sn	07 06 22.8	-2.0
	0.4nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.53**	**67**	P	Pn	07 05 34.6	+1.4
	0.2nm,0.2s,SNR=7.9						
EADA				S	Sn	07 06 22.8	-2.0
	0.4nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**4.65**	**39**	P	Pn	07 05 36.0	+1.1
	0.4nm,0.1s,SNR=7.9						
EPLA				S	Sn	07 06 26.9	-0.8
	1.3nm,0.1s,SNR=6.0						
EPLA	**

PCAB	**Cabril**	**5.41**	**15**	*e*Pn	**Pn**	**07 05 46.6**	**+1.2**
PCAB				*e*Sn	**Sn**	**07 06 44.4**	**-2.2**
PCAB				A	A	07 06 49.0	
	1.6nm,0.1s						
PCAB	**Cabril**	**5.41**	**15**	*e*Pn	**Pn**	**07 05 46.6**	**+1.2**
PCAB				*e*Sn	**Sn**	**07 06 44.4**	**-2.2**
	1.6nm,0.1s						
ELOB	**Lobios**	**5.56**	**14**	P	**Pn**	**07 05 48.0**	**+0.6**
	0.2nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**07 06 48.2**	**-2.0**
	1.0nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.56**	**14**	P	**Pn**	**07 05 48.0**	**+0.6**
	0.2nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**07 06 48.2**	**-2.0**
	1.0nm,0.1s,SNR=7.9						
PGAV	**Gavieira, Arco**	**5.61**	**12**	*e*Pn	**Pn**	**07 05 49.1**	**+0.9**
PGAV				*e*Sn	**Sn**	**07 06 49.8**	**-1.8**
PGAV	**Gavieira, Arco**	**5.61**	**12**	*e*Pn	**Pn**	**07 05 49.1**	**+0.9**
PGAV				*e*Sn	**Sn**	**07 06 49.8**	**-1.8**
ESDC	**Sonseca Array**	**5.63**	**54**	P	**Pn**	**07 05 49.7**	**+1.3**
	1.1nm,0.1s,baz=240,slow=13,SNR=5.5						
ESDC				S	**Sn**	**07 06 50.7**	**-1.4**
	0.9nm,0.1s,baz=241,slow=24,SNR=6.6						
ESDC	**Sonseca Array**	**5.63**	**54**	P	**Pn**	**07 05 49.7**	**+1.3**
	1.1nm,0.1s,slow=13,SNR=5.5						
ESDC				S	**Sn**	**07 06 50.7**	**-1.4**
	0.9nm,0.1s,slow=24,SNR=6.6						
PBRG	**Braganca**	**5.84**	**23**	*e*Pn	**Pn**	**07 05 52.8**	**+1.5**
PBRG				*e*Sn	**Sn**	**07 06 55.4**	**-1.8**
PBRG				A	A	07 06 58.0	
	0.9nm,0.1s						
PBRG	**Braganca**	**5.84**	**23**	*e*Pn	**Pn**	**07 05 52.8**	**+1.5**
PBRG				*e*Sn	**Sn**	**07 06 55.4**	**-1.8**
	0.9nm,0.1s						
ECAL	**Calabor**	**5.97**	**23**	P	**Pn**	**07 05 53.7**	**+0.7**
	0.8nm,0.3s,SNR=7.9						
ECAL				S	**Sn**	**07 06 58.5**	**-1.8**
	0.2nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**5.97**	**23**	P	**Pn**	**07 05 53.7**	**+0.7**
	0.8nm,0.3s,SNR=7.9						
ECAL				S	**Sn**	**07 06 58.5**	**-1.8**
	0.2nm,0.1s,SNR=7.9						
GUD	**Guadarrama**	**6.10**	**45**	P	**Pn**	**07 05 56.5**	**+1.6**
	0.7nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**6.10**	**45**	P	**Pn**	**07 05 56.5**	**+1.6**
	0.7nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**6.94**	**69**	S	**Sn**	**07 07 20.8**	**-3.5**
	0.0nm,0.1s,SNR=7.9						

NSSC ***04*** *07:13:56.0±1.1,34°.62N×25°.39E,h0km±224km,ML3.7*
HLW ***04*** *07:14:02.8,34°.10N×25°.46E,h10km±12km,Md4.3,Ml4.3*
IDC ***04*** *07:14:03.0±0.5,33°.98N×25°.64E,h0km, mb4.4/24, mb1 4.5/35,mb1mx4.5/40,mbtmp4.4/35,ML4.4/10,MS3.8/9, Ms1 3.8/9,ms1mx3.3/42, Error ellipse: s-maj=11.5km s-min=10.6km az=164.0*
TEH ***04*** *07:14:03.8,33°.68N×25°.51E,h10km, ML4.1*
ISCJB ***04*** *07:14:03.3±0.5,33°.93N±0°.01×25°.62E±0°.01,h15km±3km, mb4.5/89,MS3.9/11, Error ellipse: s-maj=2.3km s-min=1.7km az=30.4*
BJI ***04*** *07:14:04.8,34°.61N×25°.74E,h10km,mB5.3/4,mb4.7/14, Ms4.9/3,Ms7 4.6/3*
CSEM ***04*** *07:14:05.8±0.1,33°.91N×25°.61E,h20km,mb4.6/53,Error ellipse: s-maj=2.6km s-min=1.6km az=33.0*
NEIC ***04*** *07:14:06.2±1.2,33°.97N×25°.61E,h20km±9km,mb4.5/67, ML4.1(ATH),ML4.3(ISK),Error ellipse: s-maj=5.3km s-min=3.0km az=189.0*
MOS ***04*** *07:14:06.8±0.9,34°.09N×25°.58E,h33km,mb4.7/61,Error ellipse: s-maj=5.3km s-min=3.1km az=106.0*
PDG ***04*** *07:14:06.8±0.3,34°.08N×25°.05E,h16km±9km,ML4.5/11, Error ellipse: s-maj=10.1km s-min=6.4km az=90.0*
ATH ***04*** *07:14:07.1,34°.06N×25°.58E,h4±1km±1km,ML4.1*
THE ***04*** *07:14:12.4,34°.35N×25°.57E,h13km±1km,ML3.9/5,Error ellipse: s-maj=2.1km s-min=0.7km az=172.0*
NIC ***04*** *07:14:25.7±0.3,35°.49N×25°.93E,h25km,mb4.8,ML4.4, MW3.8*
SZGRF ***04*** *07:14:27.1,35°.54N×24°.69E,h33km,mb4.3,Crete, Greece*

ISC 04 07:14:05.2±0.5,33°.96N±0°.03×25°.62E±0°.02,h16km±2km, n956,σ1§40/1066,mb4.6/89,MS3.9/11,30C-13D,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.20**	**354**	P		**Pn**		**07 14 27.4**	**-0.1**
LAST				S		**Sb**		**07 14 39.7**	**-3.3**
LAST	**Lasithi**	**1.20**	**354**	*e*P		**Pn**		**07 14 27.4**	**-0.1**
LAST				*e*S		**Sb**		**07 14 42.3**	**-0.7**
LAST	**Lasithi**	**1.20**	**354**	P		**Pn**		**07 14 27.4**	**-0.1**
LAST				S		**Sb**		**07 14 39.7**	**-3.3**
SIVA	**Sivas**	**1.25**	**328**	P		**Pg**		**07 14 29.2**	**-0.1**
SIVA	**Sivas**	**1.25**	**328**	*e*P		**Pn**		**07 14 27.7**	**-0.3**
SIVA				*e*S		**Sb**		**07 14 43.1**	**-1.1**
SIVA	**Sivas**	**1.25**	**328**	P		**Pg**		**07 14 29.2**	**-0.1**
SIVA				*e*S		**Sb**		**07 14 43.1**	**-1.1**
ZKR	**Zakros**	**1.25**	**23**	P		**Pg**		**07 14 29.2**	**-0.2**
ZKR				S		**Sb**		**07 14 42.9**	**-1.5**
ZKR	**Zakros**	**1.25**	**23**	*e*PN		**Pn**		**07 14 28.0**	**-0.1**
ZKR	**Zakros**	**1.25**	**23**	*e*P		**Pb**		**07 14 28.4**	**-0.1**
ZKR				*e*S		**Sb**		**07 14 44.2**	**-0.2**
ZKR	**Zakros**	**1.25**	**23**	*e*Pn		**Pn**		**07 14 28.0**	**-0.1**
ZKR	**Zakros**	**1.25**	**23**	P		**Pg**		**07 14 29.2**	**-0.2**
ZKR				S		**Sb**		**07 14 42.9**	**-1.5**
NPS	**Neapolis**	**1.30**	**360**	P		**Pb**		**07 14 29.2**	**-0.1**
NPS				S		**Sb**		**07 14 42.1**	**-3.6**
NPS	**Neapolis**	**1.30**	**360**	*e*P		**Pn**		**07 14 28.5**	**-0.2**
NPS				*e*S		**Sb**		**07 14 43.8**	**-1.9**
NPS	**Neapolis**	**1.30**	**360**	P		**Pb**		**07 14 29.2**	**-0.1**
NPS				S		**Sb**		**07 14 42.1**	**-3.6**
IDI	**Anoyia**	**1.46**	**336**	Pn		**Pn**		**07 14 31.1**	**+0.2**
IDI				Sn		**Sg**		**07 14 52.8**	**+0.6**
IDI	**Anoyia**	**1.46**	**336**	Pn		**Pn**		**07 14 31.1**	**+0.2**
IDI				Sn		**Sg**		**07 14 52.8**	**+0.6**
IDI	**Anoyia**	**1.46**	**336**	Pn		**Pn**		**07 14 31.1**	**+0.2**
	61nm,0.3s,baz=161,slow=16,SNR=24								
IDI				Sn		**Sg**		**07 14 52.8**	**+0.6**
	96nm,0.3s,baz=189,slow=19,SNR=7.1								
GVD	**Gavdhos**	**1.54**	**305**	*e*P		**Pn**		**07 14 32.2**	**+0.2**
GVD				*e*S		**Sn**		**07 14 51.1**	**-0.6**
GVD	**Gavdhos**	**1.54**	**305**	*e*Pn		**Pb**		**07 14 33.5**	**+0.1**
GVD	**Gavdhos**	**1.54**	**305**	*e*P		**Pn**		**07 14 32.2**	**+0.2**
GVD	**Gavdhos**	**1.54**	**305**	*e*Pn		**Pb**		**07 14 33.5**	**+0.1**
VAM	**Vamos**	**1.86**	**321**	P		**Pb**		**07 14 38.5**	**-0.3**
VAM				S		**Sn**		**07 14 58.4**	**-1.1**
VAM	**Vamos**	**1.86**	**321**	*e*P		**Pn**		**07 14 37.0**	**+0.6**
VAM				*e*S		**Sn**		**07 14 58.5**	**-1.1**
VAM	**Vamos**	**1.86**	**321**	*e*P		**Pn**		**07 14 37.0**	**+0.6**
VAM				S		**Sn**		**07 14 58.4**	**-1.1**
KARN	**Karanos**	**2.01**	**316**	*e*P		**Pn**		**07 14 39.0**	**+0.5**
KARN				*e*S		**Sn**		**07 15 01.7**	**-1.6**
KARN	**Karanos**	**2.01**	**316**	*e*P		**Pn**		**07 14 39.0**	**+0.5**
KARN				*e*S		**Sn**		**07 15 01.7**	**-1.6**
KARP	**Karpathos**	**2.03**	**38**	P		**Pb**		**07 14 41.7**	**0.0**
KARP				S		**Sn**		**07 15 03.8**	**0.0**
KARP	**Karpathos**	**2.03**	**38**	*e*P		**Pn**		**07 14 39.9**	**+1.1**
KARP				*e*S		**Sn**		**07 15 03.3**	**-0.5**
KARP	**Karpathos**	**2.03**	**38**	*e*P		**Pn**		**07 14 39.9**	**+1.1**
KARP				S		**Sn**		**07 15 03.8**	**0.0**
LTBQ	**Tobruq**	**2.38**	**217**	*i* P		**Pn**		**07 14 45.5**	**+2.0**
	SNR=24								
LTBQ				*e*S		**Sn**		**07 15 10.4**	**-1.9**
	SNR=24								
SANT	**Santorini**	**2.41**	**357**	P		**Pn**		**07 14 45.1**	**+1.1**
SANT				S		**Sn**		**07 15 09.9**	**-3.3**
SANT	**Santorini**	**2.41**	**357**	*e*PN		**Pn**		**07 14 44.5**	**+0.5**
SANT	**Santorini**	**2.41**	**357**	*e*P		**Pn**		**07 14 44.1**	**+0.1**
SANT				*e*S		**Sn**		**07 15 11.9**	**-1.3**
SANT	**Santorini**	**2.41**	**357**	*e*Pn		**Pn**		**07 14 45.1**	**+1.1**
SANT				*e*Sn		**Sn**		**07 15 14.2**	**+1.0**
SANT	**Santorini**	**2.41**	**357**	*e*Pn		**Pn**		**07 14 44.5**	**+0.5**
SANT				S		**Sn**		**07 15 09.9**	**-3.3**
SANT				*e*Sn		**Sn**		**07 15 14.2**	**+1.0**
THR1	**Thera Island**	**2.41**	**357**	P		**Pn**		**07 14 45.1**	**+1.1**
THR1	**Thera Island**	**2.41**	**357**	*e*Pn		**Pn**		**07 14 43.5**	**-0.5**
THR1	**Thera Island**	**2.41**	**357**	P		**Pn**		**07 14 45.1**	**+1.1**
THR5	**Thira Island,**	**2.46**	**355**	*e*Pn		**Pn**		**07 14 44.8**	**+0.1**
SLUM		**2.48**	**188**	S		**Sn**		**07 15 12.6**	**-2.4**
	baz=185								
SLUM		**2.48**	**188**	P		**Pn**		**07 14 42.5**	**-2.5**
SLUM				S		**Sn**		**07 15 12.6**	**-2.4**
ANKY	**Antikythira Is**	**2.69**	**316**	P		**Pn**		**07 14 50.2**	**+2.4**
ANKY				S		**Sn**		**07 15 19.2**	**-0.9**
ANKY	**Antikythira Is**	**2.69**	**316**	*e*P		**Pn**		**07 14 48.4**	**+0.6**
ANKY				*e*S		**Sn**		**07 15 18.9**	**-1.2**
ANKY	**Antikythira Is**	**2.69**	**316**	P		**Pn**		**07 14 50.2**	**+2.4**
ANKY				S		**Sn**		**07 15 19.2**	**-0.9**
NIS3	**Nisyros Isl.**	**2.90**	**25**	P		**Pn**		**07 14 52.1**	**+1.5**
NIS2	**Nisyros Isl.**	**2.91**	**26**	P		**Pn**		**07 14 52.5**	**+1.7**
NIS1	**Nisyros Isl.**	**2.93**	**25**	P		**Pn**		**07 14 52.7**	**+1.6**
NIS1	**Nisyros Isl.**	**2.93**	**25**	*e*PN		**Pn**		**07 14 51.8**	**+0.7**
NIS1	**Nisyros Isl.**	**2.93**	**25**	*e*P		**Pn**		**07 14 51.9**	**+0.7**
NIS1				*e*S		**Sn**		**07 15 25.0**	**-1.0**
NIS1	**Nisyros Isl.**	**2.93**	**25**	*e*Pn		**Pn**		**07 14 51.8**	**+0.7**
NIS1	**Nisyros Isl.**	**2.93**	**25**	P		**Pn**		**07 14 52.7**	**+1.6**
ARG	**Arkhangelos**	**3.05**	**42**	P		**Pn**		**07 14 55.6**	**+2.9**
ARG	**Arkhangelos**	**3.05**	**42**	*e*P		**Pn**		**07 14 54.2**	**+1.5**
ARG				*e*S		**Sn**		**07 15 28.6**	**-0.3**
ARG	**Arkhangelos**	**3.05**	**42**	P		**Pn**		**07 14 55.6**	**+2.9**
ARG				S		**Sn**		**07 15 28.6**	**-0.3**
APE	**Apeiranthos**	**3.10**	**359**	P		**Pn**		**07 14 54.6**	**+1.1**
APE				S		**Sn**		**07 15 27.0**	**-3.3**
APE	**Apeiranthos**	**3.10**	**359**	*e*P		**Pn**		**07 14 54.6**	**+1.1**
APE	**Apeiranthos**	**3.10**	**359**	*e*PN		**Pn**		**07 14 54.0**	**+0.5**
APE	**Apeiranthos**	**3.10**	**359**	*e*P		**Pn**		**07 14 54.3**	**+0.8**
APE				*e*S		**Sn**		**07 15 28.6**	**-1.7**
APE	**Apeiranthos**	**3.10**	**359**	*e*Pn		**Pn**		**07 14 54.0**	**+0.5**
APE	**Apeiranthos**	**3.10**	**359**	P		**Pn**		**07 14 54.6**	**+1.1**
APE				S		**Sn**		**07 15 27.0**	**-3.3**
HMAT	**Matruh**	**3.12**	**156**	P		**Pn**		**07 14 52.1**	**-1.6**
	baz=154								
HMAT				S		**Sn**		**07 15 27.7**	**-2.9**
	baz=154								
HMAT	**Matruh**	**3.12**	**156**	P		**Pn**		**07 14 52.1**	**-1.6**
HMAT				S		**Sn**		**07 15 27.7**	**-2.9**
KYTH	**Kithira**	**3.14**	**318**	*e*P		**Pn**		**07 14 54.9**	**+0.9**
KYTH	**Kithira**	**3.14**	**318**	*e*P		**Pn**		**07 14 54.9**	**+0.9**
DAT	**Datca**	**3.19**	**30**	*e*PN		**Pn**		**07 14 55.0**	**+0.2**
DAT	**Datca**	**3.19**	**30**	*e*Pn		**Pn**		**07 14 55.0**	**+0.2**
BODT	**Bodrum**	**3.39**	**24**	*e*PN		**Pn**		**07 14 58.1**	**+0.7**
BODT	**Bodrum**	**3.39**	**24**	*e*Pn		**Pn**		**07 14 58.1**	**+0.7**
VLI	**Veliai**	**3.52**	**322**	P		**Pn**		**07 15 00.6**	**+1.4**
VLI				S		**Sn**		**07 15 39.0**	**-1.5**
VLI	**Veliai**	**3.52**	**322**	*e*P		**Pn**		**07 14 59.8**	**+0.6**
VLI				*e*S		**Sn**		**07 15 38.2**	**-2.3**
VLI	**Veliai**	**3.52**	**322**	P		**Pn**		**07 15 00.6**	**+1.4**
VLI				S		**Sn**		**07 15 39.0**	**-1.5**
DALY	**Dalyan (Mu˘la**	**3.78**	**40**	*e*PN		**Pn**		**07 15 03.4**	**+0.7**
DALY	**Dalyan (Mu˘la**	**3.78**	**40**	*e*Pn		**Pn**		**07 15 03.4**	**+0.7**
YER	**Yerkesik**	**3.84**	**34**	*e*PN		**Pn**		**07 15 04.7**	**+1.0**
YER	**Yerkesik**	**3.84**	**34**	*e*Pn		**Pn**		**07 15 04.7**	**+1.0**
SMG	**Samos**	**3.87**	**14**	P		**Pn**		**07 15 05.1**	**+1.1**
SMG	**Samos**	**3.87**	**14**	*e*P		**Pn**		**07 15 04.9**	**+0.9**
SMG				*e*S		**Sn**		**07 15 47.3**	**-1.9**
SMG	**Samos**	**3.87**	**14**	P		**Pn**		**07 15 05.1**	**+1.1**
SMG				S		**Sn**		**07 15 47.3**	**-1.9**
FETY	**Fethiye**	**3.89**	**46**	*e*PN		**Pn**		**07 15 04.2**	**-0.1**
FETY	**Fethiye**	**3.89**	**46**	*e*Pn		**Pn**		**07 15 04.2**	**-0.1**
KSL	**Kastellorizon**	**3.92**	**55**	*e*P		**Pn**		**07 15 06.4**	**+1.7**
AKAS	**Kas**	**3.98**	**54**	*i* P		**Pn**		**07 15 07.1**	**+1.4**
AKAS				*i* S		**Sn**		**07 15 51.8**	**-0.2**
AKAS	**Kas**	**3.98**	**54**	*i* P		**Pn**		**07 15 07.1**	**+1.4**
AKAS				*i* S		**Sn**		**07 15 51.8**	**-0.2**
DIDY	**Didyma**	**4.02**	**332**	P		**Pn**		**07 15 06.8**	**+0.6**
DIDY	**Didyma**	**4.02**	**332**	P		**Pn**		**07 15 06.8**	**+0.6**
DID	**Didima**	**4.04**	**332**	*e*P		**Pn**		**07 15 07.2**	**+0.9**
DID				*e*S		**Sn**		**07 15 51.3**	**-2.0**
DID	**Didima**	**4.04**	**332**	*e*P		**Pn**		**07 15 07.2**	**+0.9**
DID				*e*S		**Sn**		**07 15 51.3**	**-2.0**
AYDN	**Tasoluk**	**4.12**	**26**	*i* P		**Pn**		**07 15 09.7**	**+2.1**
AYDN				*i* S		**Sn**		**07 15 58.3**	**+2.8**
AYDN	**Tasoluk**	**4.12**	**26**	*i* P		**Pn**		**07 15 09.7**	**+2.1**
AYDN				*i* S		**Sn**		**07 15 58.3**	**+2.8**
NAIG	**Nisos Aigina**	**4.17**	**336**	*e*P		**Pn**		**07 15 09.1**	**+1.0**
NAIG	**Nisos Aigina**	**4.17**	**336**	*e*P		**Pn**		**07 15 09.1**	**+1.0**
ATHU	**Athens Univers**	**4.27**	**340**	P		**Pn**		**07 15 11.0**	**+1.5**
ATHU	**Athens Univers**	**4.27**	**340**	P		**Pn**		**07 15 11.0**	**+1.5**
ATH	**Athens Observa**	**4.29**	**339**	*e*P		**Pn**		**07 15 10.4**	**+0.6**
ATH				*e*S		**Sn**		**07 15 56.9**	**-2.6**
ATH	**Athens Observa**	**4.29**	**339**	*e*P		**Pn**		**07 15 10.4**	**+0.6**
ATH				*e*S		**Sn**		**07 15 56.9**	**-2.6**
VLX	**Vlachokerasia**	**4.31**	**323**	*e*P		**Pn**		**07 15 11.0**	**+0.9**
VLX				*e*S		**Sn**		**07 15 58.1**	**-1.9**
VLX	**Vlachokerasia**	**4.31**	**323**	*e*P		**Pn**		**07 15 11.0**	**+0.9**
VLX				*e*S		**Sn**		**07 15 58.1**	**-1.9**
PYL	**PYLOS**	**4.31**	**314**	*e*P		**Pn**		**07 15 10.9**	**+0.8**
PYL				*e*S		**Sn**		**07 15 58.0**	**-2.1**
PYL	**PYLOS**	**4.31**	**314**	*e*P		**Pn**		**07 15 10.9**	**+0.8**
PYL				*e*S		**Sn**		**07 15 58.0**	**-2.1**
PTL	**Penteli**	**4.32**	**341**	P		**Pn**		**07 15 11.6**	**+1.3**
PTL	**Penteli**	**4.32**	**341**	*e*P		**Pn**		**07 15 11.1**	**+0.8**
PTL				*e*S		**Sn**		**07 15 57.2**	**-3.1**
PTL	**Penteli**	**4.32**	**341**	P		**Pn**		**07 15 11.6**	**+1.3**
PTL				S		**Sn**		**07 15 57.2**	**-3.1**
ITM	**Ithomi**	**4.40**	**318**	*e*P		**Pn**		**07 15 12.4**	**+1.0**
ITM				*e*S		**Sn**		**07 16 00.3**	**-2.0**
ITM	**Ithomi**	**4.40**	**318**	*e*P		**Pn**		**07 15 12.4**	**+1.0**
ITM				*e*S		**Sn**		**07 16 00.3**	**-2.0**
CHOS	**Chios island**	**4.43**	**4**	P		**Pn**		**07 15 12.5**	**+0.7**
CHOS	**Chios island**	**4.43**	**4**	*e*PN		**Pn**		**07 15 13.6**	**+1.8**
CHOS	**Chios island**	**4.43**	**4**	*e*P		**Pn**		**07 15 13.1**	**+1.3**
CHOS				*e*S		**Sn**		**07 16 00.9**	**-2.2**
CHOS	**Chios island**	**4.43**	**4**	*e*P		**Pn**		**07 15 13.1**	**+1.3**
CHOS	**Chios island**	**4.43**	**4**	*e*Pn		**Pn**		**07 15 13.6**	**+1.8**
CHOS				*e*S		**Sn**		**07 16 00.9**	**-2.2**
ELL	**Elmali**	**4.47**	**50**	*e*PN		**Pn**		**07 15 13.1**	**+0.6**
ELL	**Elmali**	**4.47**	**50**	*e*Pn		**Pn**		**07 15 13.1**	**+0.6**
GOLH	**Golhisar**	**4.58**	**43**	*i* P		**Pn**		**07 15 15.9**	**+2.0**
GOLH				*i* S		**Sn**		**07 16 09.3**	**+2.4**
GOLH	**Golhisar**	**4.58**	**43**	*i* P		**Pn**		**07 15 15.9**	**+2.0**
GOLH				*i* S		**Sn**		**07 16 09.3**	**+2.4**
LTK	**Loutraki**	**4.59**	**333**	*e*P		**Pn**		**07 15 14.9**	**+1.0**
LTK				*e*S		**Sn**		**07 16 05.1**	**-1.8**
LTK	**Loutraki**	**4.59**	**333**	*e*P		**Pn**		**07 15 14.9**	**+1.0**
LTK				*e*S		**Sn**		**07 16 05.1**	**-1.8**
IZM	**Izmir**	**4.62**	**16**	*e*PN		**Pn**		**07 15 15.6**	**+1.2**
IZM	**Izmir**	**4.62**	**16**	*e*Pn		**Pn**		**07 15 15.6**	**+1.2**
DNZL	**Cakiroluk**	**4.65**	**36**	*i* P		**Pn**		**07 15 16.4**	**+1.5**
DNZL				*i* S		**Sn**		**07 16 12.0**	**+3.4**
DNZL	**Cakiroluk**	**4.65**	**36**	*i* P		**Pn**		**07 15 16.4**	**+1.5**
DNZL				*i* S		**Sn**		**07 16 12.0**	**+3.4**
DENT	**Denizli**	**4.69**	**35**	*e*PN		**Pn**		**07 15 16.4**	**+1.0**
DENT	**Denizli**	**4.69**	**35**	*e*Pn		**Pn**		**07 15 16.4**	**+1.0**
SWA2		**4.70**	**182**	P		**Pn**		**07 15 13.8**	**-1.7**
	baz=181								
SWA2		**4.70**	**182**	P		**Pn**		**07 15 13.8**	**-1.7**
GUR	**Goura**	**4.78**	**327**	*e*P		**Pn**		**07 15 17.3**	**+0.7**
GUR				*e*S		**Sn**		**07 16 09.3**	**-2.4**
GUR	**Goura**	**4.78**	**327**	*e*P		**Pn**		**07 15 17.3**	**+0.7**
GUR				*e*S		**Sn**		**07 16 09.3**	**-2.4**
AMT	**Artemida-Makis**	**4.78**	**319**	*e*P		**Pn**		**07 15 17.8**	**+1.3**
AMT				*e*S		**Sn**		**07 16 09.4**	**-2.2**
AMT	**Artemida-Makis**	**4.78**	**319**	*e*P		**Pn**		**07 15 17.8**	**+1.3**
AMT				*e*S		**Sn**		**07 16 09.4**	**-2.2**
KORT	**Korkueli**	**4.91**	**50**	*i* P		**Pn**		**07 15 20.8**	**+2.4**
KORT				*i* S		**Sn**		**07 16 16.0**	**+1.0**
KORT	**Korkueli**	**4.91**	**50**	*i* P		**Pn**		**07 15 20.8**	**+2.4**
KORT				*i* S		**Sn**		**07 16 16.0**	**+1.0**
KLV	**Kalavryta, Ach**	**4.95**	**326**	*e*P		**Pn**		**07 15 20.2**	**+1.3**
KLV				*e*S		**Sn**		**07 16 13.3**	**-2.6**
KLV	**Kalavryta, Ach**	**4.95**	**326**	*e*P		**Pn**		**07 15 20.2**	**+1.3**
KLV				*e*S		**Sn**		**07 16 13.3**	**-2.6**
MANT	**Manisa**	**5.11**	**27**	*i* P		**Pn**		**07 15 22.6**	**+1.4**
MANT				*i* S		**Sn**		**07 16 18.3**	**-1.7**
MANT	**Manisa**	**5.11**	**27**	*i* P		**Pn**		**07 15 22.6**	**+1.4**
MANT				*i* S		**Sn**		**07 16 18.3**	**-1.7**
LKR	**Lokris**	**5.14**	**336**	*e*P		**Pn**		**07 15 22.7**	**+1.3**
LKR				*e*S		**Sn**		**07 16 18.3**	**-2.1**
LKR	**Lokris**	**5.14**	**336**	*e*P		**Pn**		**07 15 22.7**	**+1.3**
LKR				*e*S		**Sn**		**07 16 18.3**	**-2.1**
KULA	**Kula-Manisa**	**5.17**	**28**	*e*PN		**Pn**		**07 15 23.2**	**+1.3**
KULA	**Kula-Manisa**	**5.17**	**28**	*e*Pn		**Pn**		**07 15 23.2**	**+1.3**
LAKA	**Lakka**	**5.19**	**326**	*e*P		**Pn**		**07 15 23.4**	**+1.2**
LAKA				*e*S		**Sn**		**07 16 19.2**	**-2.5**
LAKA	**Lakka**	**5.19**	**326**	*e*P		**Pn**		**07 15 23.4**	**+1.2**
LAKA				*e*S		**Sn**		**07 16 19.2**	**-2.5**
AKHS	**Akhisar**	**5.22**	**19**	*i* P		**Pn**		**07 15 24.5**	**+1.9**
AKHS	**Akhisar**	**5.22**	**19**	*i* P		**Pn**		**07 15 24.5**	**+1.9**
AKS	**Akhisar**	**5.22**	**19**	*e*PN		**Pn**		**07 15 24.6**	**+2.0**
AKS	**Akhisar**	**5.22**	**19**	*e*Pn		**Pn**		**07 15 24.6**	**+2.0**
KALE	**Kalithea**	**5.24**	**329**	*e*P		**Pn**		**07 15 24.4**	**+1.5**
KALE				*e*S		**Sn**		**07 16 20.4**	**-2.7**
KALE	**Kalithea**	**5.24**	**329**	*e*P		**Pn**		**07 15 24.4**	**+1.5**
KALE				*e*S		**Sn**		**07 16 20.4**	**-2.7**
TRIZ	**Trizonia**	**5.25**	**328**	*e*P		**Pn**		**07 15 24.3**	**+1.3**
TRIZ				*e*S		**Sn**		**07 16 21.1**	**-2.0**
TRIZ	**Trizonia**	**5.25**	**328**	*e*P		**Pn**		**07 15 24.3**	**+1.3**
TRIZ				*e*S		**Sn**		**07 16 21.1**	**-2.0**
RLS	**Riolos of Patr**	**5.30**	**322**	*e*P		**Pn**		**07 15 25.4**	**+1.8**
RLS				*e*S		**Sn**		**07 16 22.1**	**-2.2**
RLS	**Riolos of Patr**	**5.30**	**322**	*e*P		**Pn**		**07 15 25.4**	**+1.8**
RLS				*e*S		**Sn**		**07 16 22.1**	**-2.2**
PRK	**Paraskevi**	**5.30**	**5**	*e*P		**Pn**		**07 15 25.6**	**+1.9**
PRK	**Paraskevi**	**5.30**	**5**	*e*P		**Pn**		**07 15 25.6**	**+1.9**
PSA1	**Psathopyrgos**	**5.30**	**326**	*e*P		**Pn**		**07 15 25.0**	**+1.3**
PSA1				*e*S		**Sn**		**07 16 22.4**	**-2.0**
BCK	**Bucak**	**5.34**	**48**	*e*PN		**Pn**		**07 15 24.4**	**+0.1**
EFP	**Efpalio**	**5.38**	**327**	*e*P		**Pn**		**07 15 25.9**	**+1.2**
EFP				*e*S		**Sn**		**07 16 24.0**	**-2.2**
EFP	**Efpalio**	**5.38**	**327**	*e*P		**Pn**		**07 15 25.9**	**+1.2**
KHL	**Karahalli**	**5.38**	**35**	*e*PN		**Pn**		**07 15 25.3**	**+0.4**
AOS	**Alonnisos**	**5.38**	**345**	*e*P		**Pn**		**07 15 26.4**	**+1.6**
AOS				*e*S		**Sn**		**07 16 24.0**	**-2.5**
AOS	**Alonnisos**	**5.38**	**345**	*e*P		**Pn**		**07 15 26.4**	**+1.6**
KHAL	**Karahalli**	**5.40**	**34**	*i* P		**Pn**		**07 15 26.2**	**+1.0**
KHAL				*i* S		**Sn**		**07 16 26.1**	**-0.9**
KHAL	**Karahalli**	**5.40**	**34**	*i* P		**Pn**		**07 15 26.2**	**+1.0**
LJBD	**Adjabya**	**5.50**	**238**	*e*S		**Sn**		**07 16 25.0**	**-4.3**

GRG	**Griva**	**7.44**	**341**	*e*P		**Pn**	**07 15 54.6**	**+1.5**
GRG				*e*S		**Sn**	**07 17 13.8**	**-3.3**
RSH		**7.47**	**111**	P		**Pn**	**07 15 52.2**	**-1.3**
	baz=111							
RSH		**7.47**	**111**	P		**Pn**	**07 15 52.2**	**-1.3**
NVR	**Nevrokopi**	**7.51**	**350**	*e*P		**Pn**	**07 15 55.7**	**+1.7**
NVR				*e*S		**Sn**	**07 17 15.3**	**-3.5**
ZAF		**7.53**	**126**	P		**Pn**	**07 15 53.5**	**-0.8**
	baz=126							
ZAF		**7.53**	**126**	P		**Pn**	**07 15 53.5**	**-0.8**
FNA	**Florina**	**7.60**	**335**	*e*P		**Pn**	**07 15 57.5**	**+2.2**
FNA				*e*S		**Sn**	**07 17 17.6**	**-3.6**
SULT	**Sultanhani-AKS**	**7.66**	**54**	*e*PN		**Sn**	**07 15 54.8**	**-1.5**
ZNM		**7.69**	**125**	P		**Pn**	**07 15 55.5**	**-1.0**
	baz=124							
ZNM		**7.69**	**125**	P		**Pn**	**07 15 55.5**	**-1.0**
BIA	**Bitola**	**7.83**	**335**	*e*Pn		**Pn**	**07 16 00.3**	**+1.8**
SLTI	**Sal'it**	**8.09**	**100**	Pn		**Pn**	**07 16 00.7**	**-1.3**
GULE	**Gulek**	**8.16**	**63**	*i* P		**Pn**	**07 16 05.5**	**+2.4**
GULE				*i* S		**Sn**	**07 17 34.2**	**-0.9**
GULE	**Gulek**	**8.16**	**63**	*i* P		**Pn**	**07 16 05.5**	**+2.4**
GULE				*i* S		**Sn**	**07 17 34.2**	**-0.9**
HNKL	**Nakhl**	**8.16**	**117**	P		**Pn**	**07 16 01.8**	**-1.2**
	baz=117							
HNKL	**Nakhl**	**8.16**	**117**	P		**Pn**	**07 16 01.8**	**-1.2**
MMAI	**Mount Meron Ar**	**8.23**	**94**	Pn		**Pn**	**07 16 03.1**	**-0.8**
MMAI				Sn		**Sn**	**07 17 33.4**	**-3.2**
MMAI	**Mount Meron Ar**	**8.23**	**94**	Pn		**Pn**	**07 16 03.2**	**-0.8**
MMAI				Sn		**Sn**	**07 17 33.4**	**-3.2**
MMAI	**Mount Meron Ar**	**8.23**	**94**	Pn		**Pn**	**07 16 03.1**	**-0.8**
	comp=E,13nm,0.3s,baz=258,slow=12,SNR=14							
MMAI				Sn		**Sn**	**07 17 33.4**	**-3.2**
	comp=E,14nm,0.3s,baz=257,slow=18,SNR=5.1							
ANTO	**Ankara**	**8.23**	**42**	*e*P		**Pn**	**07 16 05.0**	**+1.0**
ANTO	**Ankara**	**8.23**	**42**	*e*Pn		**Pn**	**07 16 05.0**	**+1.0**
ANTO	**Ankara**	**8.23**	**42**	*e*Pn		**Pn**	**07 16 05.0**	**+1.0**
ASUT		**8.30**	**140**	P		**Pn**	**07 16 04.9**	**-0.1**
	baz=140							
ASUT		**8.30**	**140**	P		**Pn**	**07 16 04.9**	**-0.1**
MMLI	**Mount Malkishu**	**8.35**	**98**	Pn		**Pn**	**07 16 04.4**	**-1.3**
GRB	**Gharib**	**8.36**	**131**	P		**Pn**	**07 16 05.4**	**-0.3**
	baz=130							
GRB	**Gharib**	**8.36**	**131**	P		**Pn**	**07 16 05.4**	**-0.3**
KARA	**Karaisali**	**8.36**	**64**	*e*PN		**Pn**	**07 16 03.2**	**-2.5**
RMNI	**Mount Ramon**	**8.44**	**111**	Pn		**Pn**	**07 16 07.2**	**+0.4**
HMDT	**Nahal Hemdat**	**8.48**	**99**	Pn		**Pn**	**07 16 06.4**	**-1.0**
DSI	**Dead Sea**	**8.56**	**103**	Pn		**Pn**	**07 16 07.5**	**-0.9**
HWQ	**Hawqa**	**8.57**	**85**	*e*P		**Pn**	**07 16 06.5**	**-2.1**
BRTR	**Keskin Array B**	**8.62**	**46**	Pn		**Pn**	**07 16 10.1**	**+0.6**
BRTR	**Keskin Array B**	**8.62**	**46**	Pn		**Pn**	**07 16 10.1**	**+0.6**
BRTR	**Keskin Array B**	**8.62**	**46**	Pn		**Pn**	**07 16 10.1**	**+0.6**
	comp=E,8.8nm,0.3s,baz=226,slow=13,SNR=29							
BR131	**Keskin Array S**	**8.62**	**46**	*e*Pn		**Pn**	**07 16 10.7**	**+1.2**
	comp=E,13nm,0.9s							
BR131				*e*S		**Sn**	**07 17 44.7**	**-1.7**
BR131	**Keskin Array S**	**8.62**	**46**	*e*Pn		**Pn**	**07 16 10.7**	**+1.2**
	comp=E,13nm,0.9s							
BR131				*e*S		**Sn**	**07 17 44.7**	**-1.7**
KRMI	**Paran Flat**	**8.62**	**114**	Pn		**Pn**	**07 16 09.6**	**+0.2**
BRBR	**Barbar**	**8.63**	**91**	*e*P		Pn	07 16 05.9	-3.6
BRBR				*e*S		Sn	07 17 40.7	-6.0
BRBR				AML	AML		07 17 45.3	
	comp=N,90nm,0.8s							
BRBR				AML	AML		07 17 46.8	
	comp=Z,54nm,0.5s							
BRBR				AML	AML		07 17 47.3	
	comp=E,95nm,0.5s							
BRBR	**Barbar**	**8.63**	**91**	*e*P		Pn	07 16 06.2	-3.4
BRBR				*e*S		Sn	07 17 38.1	-8.6
BRBR				AML	AML		07 17 45.2	
	comp=N,90nm,0.8s							
BRBR				AML	AML		07 17 46.9	
	comp=Z,54nm,0.5s							
BRBR				AML	AML		07 17 47.3	
	comp=E,95nm,0.5s							
BRBR	**Barbar**	**8.63**	**91**	*e*P		Pn	07 16 06.2	-3.4
	SNR=90							
BRBR				*e*S		Sn	07 17 38.1	-8.6
	comp=E,95nm,0.5s,SNR=90							
MZDA	**Masada**	**8.63**	**105**	Pn		**Pn**	**07 16 08.9**	**-0.5**
SKO	**Skopje**	**8.65**	**339**	*e*Pn		Pn	07 16 13.2	+3.6
TIR	**Tirane**	**8.67**	**330**	P		**Pn**	**07 16 11.2**	**+1.3**
TIR				*e*S		Sn	07 17 40.7	-6.7
TIR	**Tirane**	**8.67**	**330**	Pn		**Pn**	**07 16 11.2**	**+1.3**
TIR				*e*S		Sn	07 17 40.7	-6.7
TIR	**Tirane**	**8.67**	**330**	Pn		**Pn**	**07 16 11.2**	**+1.3**
TIR				*e*S		Sn	07 17 40.7	-6.7
PRNI	**Paran**	**8.73**	**112**	Pn		**Pn**	**07 16 10.9**	**+0.1**
LZLA	**Zalla**	**8.75**	**234**	*i* P		**Pn**	**07 16 11.3**	**+0.2**
	SNR=22							
ZFRI	**Zfri**	**8.78**	**110**	Pn		**Pn**	**07 16 10.5**	**-0.9**
VTS	**Vitosha**	**8.82**	**348** ⇑	*i* P		**Pn**	**07 16 11.1**	**-1.1**
YAYL	**Yayladag**	**8.85**	**74**	*i* P		**Pn**	**07 16 11.9**	**-0.6**
YAYL				*i* S		**Sn**	**07 17 47.0**	**-5.0**
YAYL	**Yayladag**	**8.85**	**74**	*i* P		**Pn**	**07 16 11.9**	**-0.6**
AVNT	**Avonos**	**8.86**	**54**	*i* P		Pn	07 16 16.3	+3.5
TR2		**8.89**	**127**	P		**Pn**	**07 16 12.1**	**-0.9**
	baz=126							
TR2		**8.89**	**127**	P		**Pn**	**07 16 12.1**	**-0.9**
HTY	**Hatay**	**8.89**	**73**	*e*PN		Pn	07 16 09.5	-3.5
HRFI	**Mount Harif**	**8.90**	**114**	Pn		**Pn**	**07 16 13.6**	**+0.4**
MBRI	**Mt Berech**	**8.93**	**115**	Pn		**Pn**	**07 16 13.7**	**+0.1**
HAWK	**Haweek**	**8.95**	**83**	*e*P		Pn	07 16 09.3	-4.6
HAWK				*e*S		Sn	07 17 46.8	-7.6
HAWK				AML	AML		07 17 52.0	
	comp=E,60nm,0.5s							
HAWK				AML	AML		07 17 53.4	
	comp=N,39nm,0.5s							
HAWK				AML	AML		07 17 55.1	
	comp=Z,55nm,0.6s							
HAWK	**Haweek**	**8.95**	**83**	*e*P		Pn	07 16 09.1	-4.8
HAWK				*e*S		Sn	07 17 47.0	-7.4
HAWK				AML	AML		07 17 52.0	
	comp=E,60nm,0.5s							
HAWK				AML	AML		07 17 53.4	
	comp=N,39nm,0.5s							
HAWK				AML	AML		07 17 55.1	
	comp=Z,55nm,0.6s							
HAWK	**Haweek**	**8.95**	**83**	*e*P		Pn	07 16 09.1	-4.8
	SNR=90							
HAWK				*e*S		Sn	07 17 47.0	-7.4
	comp=Z,55nm,0.6s,SNR=90							
CEL	**Celeste**	**8.96**	**301**	*e*Pn		**Pn**	**07 16 14.0**	**0.0**
CEL				*e*Sn		**Sn**	**07 17 53.2**	**-1.4**
CEL	**Celeste**	**8.96**	**301**	*e*Pn		**Pn**	**07 16 14.0**	**0.0**
CEL				*e*Sn		**Sn**	**07 17 53.2**	**-1.4**
CDAG	**Cicekdag**	**9.01**	**49**	*i* P		**Pn**	**07 16 16.9**	**+2.2**
CDAG	**Cicekdag**	**9.01**	**49**	*i* P		**Pn**	**07 16 16.9**	**+2.2**
KOZT	**Kozan**	**9.01**	**64**	*e*PN		**Pn**	**07 16 12.9**	**-1.8**
EIL	**Elat**	**9.02**	**116**	Pn		**Pn**	**07 16 13.7**	**-1.1**
EIL				Sn		**Sn**	**07 17 52.1**	**-3.8**
EIL	**Elat**	**9.02**	**116**	Pn		**Pn**	**07 16 14.3**	**-0.4**
EIL				Sn		**Sn**	**07 17 52.1**	**-3.8**
EIL	**Elat**	**9.02**	**116**	Pn		**Pn**	**07 16 13.7**	**-1.1**
	comp=Z,6.6nm,0.3s,baz=321,slow=9.4,SNR=44							
EIL				Sn		**Sn**	**07 17 52.1**	**-3.8**
	comp=Z,5.5nm,0.3s,baz=352,slow=15,SNR=3.6							
COBT	**Iskenderun**	**9.07**	**71**	*i* P		**Pn**	**07 16 16.1**	**+0.5**
COBT	**Iskenderun**	**9.07**	**71**	*i* P		**Pn**	**07 16 16.0**	**+0.5**
BTCH	**Batrach**	**9.13**	**74**	*e*P		Pn	07 16 11.1	-5.2
BTCH				*e*S		Sn	07 17 48.2	-11
BTCH				AML	AML		07 18 00.9	
	comp=E,85nm,0.5s							
BTCH				AML	AML		07 18 06.4	
	comp=N,92nm,0.4s							
BTCH				AML	AML		07 18 08.4	
	comp=Z,105nm,0.5s							
BTCH	**Batrach**	**9.13**	**74**	*e*P		Pn	07 16 12.1	-4.3
	SNR=90							
BTCH				*e*S		Sn	07 17 47.6	-11
	comp=Z,105nm,0.5s,SNR=90							
TR1		**9.29**	**127**	P		**Pn**	**07 16 17.8**	**-0.7**
	baz=127							
TR1		**9.29**	**127**	P		**Pn**	**07 16 17.8**	**-0.7**
SALA	**Sala**	**9.38**	**95**	*e*P		**Pn**	**07 16 18.3**	**-1.6**
SALA				*e*S		**Sn**	**07 18 00.4**	**-4.7**
SALA				AML	AML		07 18 08.9	
	comp=Z,58nm,0.4s							
SALA				AML	AML		07 18 11.7	
	comp=E,7.0nm,0.5s							
SALA				AML	AML		07 18 21.7	
	comp=N,31nm,0.6s							
SALA	**Sala**	**9.38**	**95**	*e*P		Pn	07 16 16.4	-3.5
SALA				*e*S		Sn	07 17 57.7	-7.5
SALA				AML	AML		07 18 08.9	
	comp=Z,58nm,0.4s							
SALA				AML	AML		07 18 11.7	
	comp=E,7.0nm,0.5s							
SALA				AML	AML		07 18 25.5	
	comp=N,34nm,0.5s							
SALA	**Sala**	**9.38**	**95**	*e*P		Pn	07 16 16.4	-3.5
	SNR=90							
SALA				*e*S		Sn	07 17 57.7	-7.5
	comp=N,34nm,0.5s,SNR=90							
ULC	**Ulcinj**	**9.44**	**330** ⇑	*i*Pn		**Pn**	**07 16 19.9**	**-0.6**
ULC				*e*Sn		Sn	07 17 58.7	-7.6
ULC	**Ulcinj**	**9.44**	**330** ⇑	*i*Pn		**Pn**	**07 16 19.9**	**-0.6**
SHRM		**9.48**	**127**	P		**Pn**	**07 16 20.2**	**-1.0**
	baz=127							
SHRM		**9.48**	**127**	P		**Pn**	**07 16 20.2**	**-1.0**
BNN	**Bunyan**	**9.58**	**56**	*e*PN		**Pn**	**07 16 20.4**	**-2.1**
HHRG	**Al Ghardaqah**	**9.59**	**132**	P		**Pn**	**07 16 22.6**	**0.0**
	baz=132							
HHRG	**Al Ghardaqah**	**9.59**	**132**	P		**Pn**	**07 16 22.6**	**0.0**
YOZ	**Yozgat**	**9.62**	**51**	*e*PN		**Pn**	**07 16 20.9**	**-2.3**
ASF	**Jabal al Asfar**	**9.63**	**98**	Pn		**Pn**	**07 16 22.2**	**-1.1**
ASF				Sn		**Sn**	**07 18 06.8**	**-4.3**
ASF	**Jabal al Asfar**	**9.63**	**98**	Pn		**Pn**	**07 16 22.2**	**-1.1**
	comp=N,1.5nm,0.3s,baz=246,slow=8.9,SNR=10							
ASF				Sn		**Sn**	**07 18 06.8**	**-4.3**
	comp=N,0.9nm,0.3s,baz=346,slow=19,SNR=2.5							
DRME	**Dracevica, Mon**	**9.65**	**330**	*e*Pn		**Pn**	**07 16 22.7**	**-0.7**
DRME				*e*Sn		Sn	07 18 03.6	-7.8
DRME	**Dracevica, Mon**	**9.65**	**330**	*e*Pn		**Pn**	**07 16 22.7**	**-0.7**
LJFR	**Jufra**	**9.67**	**243**	*i* P		**Pn**	**07 16 23.0**	**-0.7**
	SNR=22							
PVY	**Plav**	**9.70**	**334**	*e*Pn		**Pn**	**07 16 23.6**	**-0.5**
PVY				*e*Sn		Sn	07 18 05.4	-7.4
PVY	**Plav**	**9.70**	**334**	*e*Pn		**Pn**	**07 16 23.6**	**-0.5**
AYKD	**Aykdinkavak**	**9.73**	**66**	*i* P		**Pn**	**07 16 24.5**	**0.0**
AYKD				*i* S		**Sn**	**07 18 09.8**	**-3.6**
PDG	**Podgorica**	**9.82**	**331** ⇑	*i*Pn		**Pn**	**07 16 25.3**	**-0.4**
TTG	**Podgorica**	**9.82**	**331** ⇑	*i*Pn		**Pn**	**07 16 25.3**	**-0.4**
TTG				*e*Sn		Sn	07 18 08.4	-7.3
KMRS	**Kahramanmaras**	**9.83**	**66**	*e*PN		**Pn**	**07 16 23.4**	**-2.5**
BUM	**Brajici-Budva**	**9.87**	**330** ⇑	*i*Pn		**Pn**	**07 16 26.1**	**-0.3**
BUM				*e*Sn		Sn	07 18 08.8	-8.0
BUM	**Brajici-Budva**	**9.87**	**330** ⇑	*i*Pn		**Pn**	**07 16 26.1**	**-0.3**
CTKT	**Corum**	**9.88**	**45**	*i* P		Pn	07 16 30.2	+3.6
CTKT	**Corum**	**9.88**	**45**	*i* P		Pn	07 16 30.2	+3.6
CUC	**Castrocucco**	**9.88**	**310**	*e*Pn		**Pn**	**07 16 26.8**	**+0.2**
CUC				*e*S		**Sn**	**07 18 12.6**	**-4.7**
CUC	**Castrocucco**	**9.88**	**310**	*e*Pn		**Pn**	**07 16 26.8**	**+0.2**
CUC				*e*S		**Sn**	**07 18 12.6**	**-4.7**
BEY	**Berane**	**9.96**	**335** ⇑	*i*Pn		**Pn**	**07 16 27.6**	**-0.2**
IVA	**Berane**	**9.96**	**335** ⇑	*i*Pn		**Pn**	**07 16 27.6**	**-0.2**
IVA				*e*Sn		Sn	07 18 12.6	-6.7
LKFR	**Kufra**	**9.99**	**193**	*i* P		**Pn**	**07 16 28.5**	**+0.4**
	SNR=22							
HCY	**Herceg Novi**	**10.16**	**329** ⇑	*i*Pn		**Pn**	**07 16 29.8**	**-0.5**
HCY				*e*Sn		Sn	07 18 16.1	-7.7
HCY	**Herceg Novi**	**10.16**	**329** ⇑	*i*Pn		**Pn**	**07 16 29.8**	**-0.5**
NKME	**Niksic**	**10.23**	**331** ⇑	*i*Pn		**Pn**	**07 16 31.5**	**+0.2**
NKME				*e*Sn		Sn	07 18 17.4	-8.3
NKME	**Niksic**	**10.23**	**331** ⇑	*i*Pn		**Pn**	**07 16 31.5**	**+0.2**
NKY	**Niksic**	**10.25**	**332** ⇓	*i*Pn		**Pn**	**07 16 31.1**	**-0.6**
NKY				*e*Sn		Sn	07 18 19.3	-7.0
NKY	**Niksic**	**10.25**	**332** ⇓	*i*Pn		**Pn**	**07 16 31.1**	**-0.6**
PLE	**Pljevlja**	**10.54**	**334** ⇓	*i*Pn		**Pn**	**07 16 34.9**	**-0.8**
PLE				*e*Sn		Sn	07 18 25.7	-7.8
PLE	**Pljevlja**	**10.54**	**334** ⇓	*i*Pn		**Pn**	**07 16 34.9**	**-0.8**
UPM	**Unac-Piva**	**10.62**	**332** ⇑	*i*Pn		**Pn**	**07 16 36.2**	**-0.6**
UPM				*e*Sn		Sn	07 18 28.2	-7.2
UPM	**Unac-Piva**	**10.62**	**332** ⇑	*i*Pn		**Pn**	**07 16 36.2**	**-0.6**
STON	**Ston**	**10.85**	**327**	*e*Pn		**Pn**	**07 16 38.0**	**-1.7**
STON				Sn		Sn	07 18 29.1	-12
ARR	**Arges**	**11.42**	**356** ⇓	*i*P		**Pn**	**07 16 46.4**	**-1.2**
VOIR		**11.47**	**358** ⇓	*i*P		Pn	07 16 53.1	+4.7
MLR	**Muntele Rosu**	**11.52**	**1** ⇑	*i*P		Pn	07 16 52.6	+3.5
MLR	**Muntele Rosu**	**11.52**	**1**	Pn		**Pn**	**07 16 50.2**	**+1.2**
MLR	**Muntele Rosu**	**11.52**	**1**	Pn		**Pn**	**07 16 50.2**	**+1.2**
MLR	**Muntele Rosu**	**11.52**	**1**	Pn		**Pn**	**07 16 50.2**	**+1.2**
	comp=N,0.1nm,0.3s,baz=214,slow=8.8,SNR=4.5							
LOT	**Lotru**	**11.56**	**353** ⇑	*i*P		**Pn**	**07 16 49.9**	**+0.3**
GZR	**Gura Zlata**	**11.63**	**350** ⇑	*i*P		**Pn**	**07 16 48.6**	**-1.9**
PLOR	**Plostina**	**11.90**	**3** ⇑	*i*P		Pn	07 16 58.2	+4.0
VRI	**Vrincioaia**	**11.92**	**4** ⇑	*i*P		**Pn**	**07 16 54.8**	**+0.3**
BZS	**Buzias**	**12.04**	**346** ⇑	*i*P		**Pn**	**07 16 55.2**	**-0.8**
DEV	**Deva**	**12.09**	**351** ⇑	*i*P		Pn	07 17 00.0	+3.3
DRGR		**13.01**	**351** ⇑	*i*P		Pn	07 17 06.0	-3.3
UDBI	**Udbina**	**13.02**	**327**	*e*Pn		**Pn**	**07 17 07.7**	**-1.7**
UDBI				Sn		Sn	07 19 25.3	-8.6
NVLJ	**Novalja**	**13.46**	**325**	*e*Pn		Pn	07 17 11.5	-3.9
NVLJ				Sn		Sn	07 19 34.7	-10
BURAR	**Bucovina Array**	**13.64**	**359** ⇑	*i*P		**Pn**	**07 17 20.5**	**+2.5**
BUR08	**Bucovina Ar. S**	**13.67**	**359**	*e*Pn		**Pn**	**07 17 20.2**	**+1.7**
BUR08	**Bucovina Ar. S**	**13.67**	**359**	*e*Pn		**Pn**	**07 17 20.2**	**+1.7**
BOJS	**Bojanci**	**14.00**	**328**	*i* Pn		**Pn**	**07 17 20.6**	**-2.3**
BOJS				*i* Sn		Sn	07 19 44.8	-13
VISS	**Visnje**	**14.42**	**328**	*i* Pn		**Pn**	**07 17 25.8**	**-2.8**
VISS				*i* Sn		Sn	07 19 55.6	-12
CEY	**Cerknica**	**14.55**	**327**	*i* Pn		**Pn**	**07 17 27.6**	**-2.8**
CEY				*i* Sn		Sn	07 19 59.3	-12
SOC	**Sochi**	**14.58**	**45**	*e*P		**Pn**	**07 17 32.1**	**+1.3**
SOC				*e*			07 20 16.6	
SOC				pmax	pmax			
	comp=Z,9.0nm,0.8s							
SOC				MLR	MLR			
	comp=E,211nm,15.0s							
SOC				MLR	MLR			
	comp=N,113nm,15.0s							
PSZ	**Piszkesteto**	**14.59**	**345**	P		**Pn**	**07 17 30.7**	**-0.3**
PSZ	**Piszkesteto**	**14.59**	**345**	Pn		**Pn**	**07 17 30.7**	**-0.3**
PSZ	**Piszkesteto**	**14.59**	**345**	Pn		**Pn**	**07 17 30.7**	**-0.3**
SKDS	**Skadanscina**	**14.60**	**326**	*i* Pn		Pn	07 17 26.4	-4.6
SKDS				*i* Sn		Sn	07 19 57.3	-15
TRI	**Trieste**	**14.83**	**326**	*e*P		**Pn**	**07 17 34.2**	**0.0**
TRI				S		Sn	07 20 07.1	-11
TRI	**Trieste**	**14.83**	**326**	*e*Pn		**Pn**	**07 17 34.2**	**0.0**
TRI				S		Sn	07 20 07.1	-11
TRI	**Trieste**	**14.83**	**326**	*e*Pn		**Pn**	**07 17 34.2**	**0.0**
TRI				S		Sn	07 20 07.1	-11
UZH	**Uzhgorod**	**14.87**	**351**	*e*P		Pn	07 17 30.3	-4.3
VOY	**Vojsko**	**15.02**	**327**	*e*Pn		**Pn**	**07 17 35.2**	**-1.6**
VOY				*e*			07 17 42.4	
VOY				*e*			07 17 46.5	
VOY				*e*			07 18 06.4	
KOLS	**Kolonicke sedl**	**15.17**	**352**	*e*P		**Pn**	**07 17 39.1**	**+0.4**
KOLS	**Kolonicke sedl**	**15.17**	**352**	*e*PN		**Pn**	**07 17 39.1**	**+0.4**
KOLS	**Kolonicke sedl**	**15.17**	**352**	*e*Pn		**Pn**	**07 17 39.1**	**+0.4**
CHVG	**Ch'k'valeri**	**15.58**	**51**	P		**P**	**07 17 47.4**	**-0.8**
VLC	**Villacollemand**	**15.59**	**315**	*e*Pn		**Pn**	**07 17 45.0**	**+0.8**
VLC	**Villacollemand**	**15.59**	**315**	*e*Pn		**Pn**	**07 17 45.0**	**+0.8**
PGF	**Pioggiola**	**15.60**	**308**	*e*P		**Pn**	**07 17 44.2**	**-0.3**
	comp=N,94nm,1.0s							
PGF	**Pioggiola**	**15.60**	**308**	*e*P		**Pn**	**07 17 44.2**	**-0.3**
PGF				pmax	pmax			
	comp=Z,94nm,1.0s							
PGF	**Pioggiola**	**15.60**	**308**	*e*P		**Pn**	**07 17 44.2**	**-0.3**
	comp=Z,94nm,1.0s							
PGF	**Pioggiola**	**15.60**	**308**	*e*P		**Pn**	**07 17 44.2**	**-0.3**
	comp=Z,94nm,1.0s							
STHS	**Stebnicka Huta**	**15.78**	**349**	*e*P		**P**	**07 17 51.4**	**+0.9**
STHS	**Stebnicka Huta**	**15.78**	**349**	*e*PN		**P**	**07 17 51.4**	**+0.9**
STHS	**Stebnicka Huta**	**15.78**	**349**	*e*P		**P**	**07 17 51.4**	**+0.9**
AKH	**Akhalkalaki**	**15.97**	**57**	P		P	07 17 59.5	+6.7
ABTA	**Abfaltersbach**	**16.19**	**326** ⇑	*i*Pn		**Pn**	**07 17 51.6**	**-0.4**
	comp=Z,24nm,0.7s							
ONI	**Oni**	**16.42**	**53**	P		**P**	**07 17 59.4**	**+1.7**
GNI	**Garni**	**16.45**	**62**	*e*Pn		**P**	**07 17 57.5**	**-0.7**
	comp=Z,9.5nm,0.7s							
GNI	**Garni**	**16.45**	**62**	*e*Pn		**P**	**07 17 57.5**	**-0.7**
	comp=Z,9.5nm,0.7s							
GNI	**Garni**	**16.45**	**62**	*e*P		**P**	**07 17 58.1**	**-0.1**
	comp=Z,8.0nm,0.6s							
GNI	**Garni**	**16.45**	**62**	Pn		**P**	**07 18 00.1**	**+2.0**
	comp=Z,0.8nm,0.3s,baz=83,slow=4.2,SNR=4.7							
KIV	**Kislovodsk**	**16.58**	**48**	*ce*P		**P**	**07 17 58.9**	**-0.6**
KIV				*e*S		Sn	07 20 51.8	-8.9
KIV				pmax	pmax			
	comp=Z,32nm,1.2s							
KIV	**Kislovodsk**	**16.58**	**48**	*e*P		**P**	**07 17 58.9**	**-0.6**
	comp=Z,32nm,1.2s							
KBZ	**Khabaz**	**16.59**	**49**	P		**P**	**07 18 00.4**	**+0.9**
KBZ	**Khabaz**	**16.59**	**49**	Pn		**P**	**07 18 00.4**	**+0.9**
KBZ	**Khabaz**	**16.59**	**49**	Pn		**P**	**07 18 00.4**	**+0.9**
KBZ	**Khabaz**	**16.59**	**49**	Pn		**P**	**07 18 00.4**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=259,slow=7.3,SNR=12							
VRAC	**Vranov**	**16.73**	**339** ⇓	*i*P		Pn	07 17 52.9	-5.9
VRAC	**Vranov**	**16.73**	**339**	Pn		**P**	**07 18 02.3**	**+1.3**
VRAC	**Vranov**	**16.73**	**339**	*e*Pn		**P**	**07 18 01.5**	**+0.5**
VRAC	**Vranov**	**16.73**	**339**	Pn		**P**	**07 18 02.3**	**+1.3**
	comp=Z,1.3nm,0.3s,baz=147,slow=10,SNR=9.4							
VRAC				LR	LR		07 24 49.9	
	comp=Z,218nm,21.5s,baz=163,slow=39							
OKC	**Ostrava-Krasne**	**16.80**	**343**	*e*P		**Pn**	**07 17 58.7**	**-0.9**
OKC				MLR	MLR			
	comp=Z,400nm,18.5s							
OKC	**Ostrava-Krasne**	**16.80**	**343**	*e*P		**Pn**	**07 17 58.7**	**-0.9**
OKC				*e*pP		**pP**	**07 18 08.9**	**+2.7**
OKC				AMS	AMS		07 25 50.0	
	comp=Z,400nm,18.5s							
ZEI	**Tsey**	**16.80**	**53**	*e*P		**P**	**07 18 02.4**	**+0.3**
ZEI				pmax	pmax			
	comp=Z,45nm,1.3s							
ZEI	**Tsey**	**16.80**	**53**	*e*P		**P**	**07 18 02.4**	**+0.3**
	comp=Z,45nm,1.3s							
RJOB	**Jochberg**	**16.81**	**329**	*e*Pn		**Pn**	**07 17 59.0**	**-0.8**
MORC	**Moravsky Berou**	**16.89**	**342**	*e*P		**Pn**	**07 17 58.8**	**-2.1**
MORC				pmax	pmax			
	comp=Z,30nm,1.6s							
MORC	**Moravsky Berou**	**16.89**	**342** ⇓	*i*P		**Pn**	**07 17 59.0**	**-1.9**
MORC	**Moravsky Berou**	**16.89**	**342**	*e*Pn		**Pn**	**07 17 58.8**	**-2.1**
	comp=Z,30nm,1.6s							
MORC	**Moravsky Berou**	**16.89**	**342**	*e*Pn		**Pn**	**07 18 00.0**	**-0.9**
NCK	**Nalchik**	**16.92**	**50** ⇓	*e*P		**P**	**07 18 03.0**	**-0.2**
NCK	**Nalchik**	**16.92**	**50**	*e*P		**P**	**07 18 03.0**	**-0.2**
KIEV	**Kiev**	**16.93**	**8**	*e*P		**Pn**	**07 18 00.7**	**-0.5**
KIEV				pmax	pmax			
	comp=Z,30nm,0.7s							
KIEV	**Kiev**	**16.93**	**8**	*e*Pn		**Pn**	**07 18 00.7**	**-0.5**
	comp=Z,30nm,0.7s							
KIEV	**Kiev**	**16.93**	**8**	*e*Pn		**Pn**	**07 18 00.7**	**-0.5**
	comp=Z,30nm,0.7s							
AKASG	**Malin Array Be**	**16.94**	**8**	P		**Pn**	**07 18 01.2**	**-0.2**
AKASG				pmax	pmax			
	comp=Z,8.0nm,0.3s							
AKASG	**Malin Array Be**	**16.94**	**8**	Pn		**P

PRU ePP pP 07 18 32.6 +13
PRU Pruhonice 17.98 336 eP **Pn** **07 18 13.2 -1.1**
MBDF Montbardon 18.07 312 eP **Pn** **07 18 15.7 0.0**
comp=Z,58nm,1.0s
MBDF Montbardon 18.07 312 eP **Pn** **07 18 15.7 0.0**
MBDF pmax pmax
comp=Z,58nm,1.0s
MBDF Montbardon 18.07 312 eP **Pn** **07 18 15.7 0.0**
comp=Z,58nm,1.0s
MBDF Montbardon 18.07 312 eP **Pn** **07 18 15.7 0.0**
comp=Z,58nm,1.0s
KSP Ksiaz 18.20 341 eP **Pn** **07 18 16.1 -0.9**
KSP Ksiaz 18.20 341 eP **Pn** **07 18 16.1 -0.9**
BNI Bardonecchia 18.29 313 eP **P** **07 18 19.2 +0.7**
BNI pmax pmax
comp=Z,11nm,1.0s
BNI Bardonecchia 18.29 313 eP **P** **07 18 19.2 +0.7**
comp=Z,11nm,1.0s
BNI Bardonecchia 18.29 313 eP **P** **07 18 19.2 +0.7**
comp=Z,11nm,1.0s
PVCC Panska Ves 18.43 337 eP **P** **07 18 18.8 -1.0**
PVCC Panska Ves 18.43 337 eP **P** **07 18 18.8 -1.0**
PVCC Panska Ves 18.43 337 eP **P** **07 18 18.8 -1.0**
SMRF Simiane la Rot 18.48 309 eP **Pn** **07 18 20.7 +0.2**
comp=Z,34nm,1.1s
SMRF Simiane la Rot 18.48 309 eP **Pn** **07 18 20.7 +0.2**
comp=Z,34nm,1.1s
SMRF Simiane la Rot 18.48 309 eP **Pn** **07 18 20.7 +0.2**
comp=Z,34nm,1.1s
LPG La Plagne 18.48 314 eP **P** **07 18 20.7 0.0**
comp=Z,35nm,1.2s
LPG La Plagne 18.48 314 eP **P** **07 18 20.7 0.0**
LPG pmax pmax
comp=Z,35nm,1.2s
LPG La Plagne 18.48 314 eP **P** **07 18 20.7 0.0**
comp=Z,35nm,1.2s
LPG La Plagne 18.48 314 eP **P** **07 18 20.7 0.0**
comp=Z,35nm,1.2s
LPL La Plagne 18.50 314 eP **Pn** **07 18 21.2 +0.2**
comp=Z,18nm,0.8s
LPL La Plagne 18.50 314 eP **Pn** **07 18 21.2 +0.2**
LPL pmax pmax
comp=Z,18nm,0.8s
LPL La Plagne 18.50 314 eP **Pn** **07 18 21.2 +0.2**
comp=Z,18nm,0.8s
LPL La Plagne 18.50 314 eP **Pn** **07 18 21.2 +0.2**
comp=Z,18nm,0.8s
ROTZ Rotzenmuhle 18.64 332 eP **Pn** **07 18 22.8 +0.4**
comp=Z,23nm,1.7s
SENIN Lac Senin/Sane 18.64 317 ePn **Pn** **07 18 24.0 +1.3**
comp=Z,11nm,0.6s
SENIN Lac Senin/Sane 18.64 317 ePn **Pn** **07 18 24.0 +1.3**
comp=Z,11nm,0.6s
RST Umm Al-Ruwaisa 18.71 98 eP **P** **07 18 22.5 -0.5**
RST AMb AMB 07 18 28.5
comp=Z,390nm,0.9s
RST Umm Al-Ruwaisa 18.71 98 eP **P** **07 18 22.5 -0.5**
comp=Z,390nm,0.9s
ORIF Oris-en-Rattie 18.72 312 eP **Pn** **07 18 24.4 +0.9**
comp=Z,23nm,1.0s
ORIF eR
comp=Z,293nm,22.2s
ORIF Oris-en-Rattie 18.72 312 eP **Pn** **07 18 24.4 +0.9**
ORIF pmax pmax
comp=Z,23nm,1.0s
ORIF Oris-en-Rattie 18.72 312 eP **Pn** **07 18 24.4 +0.9**
comp=Z,23nm,1.0s
ORIF Oris-en-Rattie 18.72 312 eP **Pn** **07 18 24.4 +0.9**
comp=Z,23nm,1.0s
BRG Berggiesshubel 18.93 337 eP Pn 07 18 34.5 +8.6
comp=Z,16nm,1.4s
BRG Berggiesshubel 18.93 337 eP Pn 07 18 34.5 +8.6
BRG pmax pmax
comp=Z,16nm,1.4s
GRA1 Grafenberg Arr 18.98 330 eP **Pn** **07 18 26.8 +0.3**
comp=Z,42nm,1.5s
GRF Grafenberg Arr 18.98 330 eP **Pn** **07 18 26.8 +0.3**
GRF pmax pmax
comp=Z,42nm,1.5s
GRF Grafenberg Arr 18.98 330 eP **Pn** **07 18 26.8 +0.3**
comp=Z,42nm,1.5s
GRFO Grafenberg 18.98 330 eP **Pn** **07 18 26.4 -0.1**
GRFO pmax pmax
comp=Z,21nm,0.8s
GRFO Grafenberg 18.98 330 eP **Pn** **07 18 26.4 -0.1**
comp=Z,21nm,0.8s
GRFO ePn **Pn** **07 18 29.3 +2.8**
GRFO Grafenberg 18.98 330 eP **Pn** **07 18 26.4 -0.1**
comp=Z,21nm,0.8s
NAY Al-Naaiem 19.00 98 eP **P** **07 18 26.1 -0.1**
NAY AMb AMB 07 18 28.9
comp=Z,22nm,0.6s
NAY Al-Naaiem 19.00 98 eP **P** **07 18 26.1 -0.1**
comp=Z,22nm,0.6s
TANN Tannenbergstha 19.07 334 eP **Pn** **07 18 27.5 -0.1**
comp=Z,22nm,0.9s
BBS Basel-Blauen 19.18 320 eP **Pn** **07 18 29.1 0.0**
FELD Feldberg im Sc 19.18 322 eP **Pn** **07 18 29.6 +0.4**
FELD Feldberg im Sc 19.18 322 eP **Pn** **07 18 29.6 +0.4**
STU Stuttgart 19.20 325 eP **Pn** **07 18 29.1 -0.1**
STU pmax pmax
comp=Z,28nm,1.0s
STU Stuttgart 19.20 325 eP **P** **07 18 28.7 +0.5**
comp=Z,31nm,1.0s
STU Stuttgart 19.20 325 eP **Pn** **07 18 29.1 -0.1**
comp=Z,28nm,1.0s
STU Stuttgart 19.20 325 eP **Pn** **07 18 29.1 -0.1**
comp=Z,28nm,1.0s
UMR Umm Al-Rimmam 19.29 97 eP **P** **07 18 28.8 -0.5**
UMR Umm Al-Rimmam 19.29 97 eP **P** **07 18 28.8 -0.5**
BFO Black Forest 19.32 323 eP **Pn** **07 18 30.3 -0.3**
BFO pmax pmax
comp=Z,16nm,1.1s
BFO Black Forest 19.32 323 eP **Pn** **07 18 30.3 -0.3**
comp=Z,16nm,1.1s
BFO Black Forest 19.32 323 eP **P** **07 18 30.0 +0.5**
comp=Z,13nm,1.0s
BFO Black Forest 19.32 323 eP **P** **07 18 30.0 +0.5**
comp=Z,13nm,1.0s
VIVF Saint-Julien-I 19.45 310 eP **Pn** **07 18 32.2 0.0**
comp=Z,13nm,0.8s
VIVF Saint-Julien-I 19.45 310 eP **Pn** **07 18 32.2 0.0**
VIVF pmax pmax
comp=Z,13nm,0.8s
VIVF Saint-Julien-I 19.45 310 eP **Pn** **07 18 32.2 0.0**
comp=Z,13nm,0.8s
VIVF Saint-Julien-I 19.45 310 eP **Pn** **07 18 32.2 0.0**
comp=Z,13nm,0.8s
CABF La Chapelle 19.47 316 eP **P** **07 18 30.6 -0.7**
comp=Z,22nm,0.8s
CABF La Chapelle 19.47 316 eP **P** **07 18 30.6 -0.7**
CABF pmax pmax
comp=Z,23nm,0.8s
CABF La Chapelle 19.47 316 eP **P** **07 18 30.6 -0.7**
comp=Z,22nm,0.8s
CABF La Chapelle 19.47 316 eP **P** **07 18 30.6 -0.7**
comp=Z,22nm,0.8s
LOMF Lomont 19.48 319 eP **Pn** **07 18 32.8 +0.1**
LOMF Lomont 19.48 319 eP **Pn** **07 18 32.8 +0.1**
CLL Collm 19.62 336 *i* P **Pn** **07 18 33.6 -0.5**
CLL pmax pmax
comp=Z,12nm,1.1s
CLL Collm 19.62 336 eP **Pn** **07 18 34.2 +0.1**
comp=Z,12nm,1.1s
CLL Collm 19.62 336 *i* P **Pn** **07 18 33.6 -0.5**
comp=Z,12nm,1.1s
CLL epP **pP** **07 18 37.0 -0.3**
CLL *i* (PP) 07 18 46.5
CLL e(PPP) 07 19 00.0
CLL Collm 19.62 336 *i* P **Pn** **07 18 33.6 -0.5**
comp=Z,12nm,1.1s
MOF Molkenrain 19.62 321 eP **P** **07 18 33.7 +0.7**
MOF Molkenrain 19.62 321 eP **P** **07 18 33.7 +0.7**
LASF Ste Croix 19.64 307 eP **P** **07 18 32.9 -0.2**
LASF Ste Croix 19.64 307 eP **P** **07 18 32.9 -0.2**
LASF Ste Croix 19.64 307 eP **P** **07 18 32.9 -0.2**
VORD Divnogorie 19.71 26 eP **P** **07 18 34.3 +0.6**
VORD pmax pmax
comp=E,130nm,1.3s
VORD pmax pmax
comp=Z,60nm,1.3s
VORD Divnogorie 19.71 26 eP **P** **07 18 34.3 +0.6**
HINF Hinteralfeld 19.75 320 eP **P** **07 18 34.2 -0.1**
comp=Z,13nm,0.6s
HINF Hinteralfeld 19.75 320 eP **P** **07 18 34.2 -0.1**
HINF pmax pmax
comp=Z,13nm,0.6s
HINF Hinteralfeld 19.75 320 eP **P** **07 18 34.2 -0.1**
comp=Z,13nm,0.6s
ECH Echery 19.84 321 eP **Pn** **07 18 36.4 -0.4**
ECH pmax pmax
comp=Z,6.0nm,0.6s
ECH Echery 19.84 321 eP **Pn** **07 18 38.9 +2.1**
ECH Echery 19.84 321 eP **Pn** **07 18 36.4 -0.4**
comp=Z,5.8nm,0.6s
ECH Echery 19.84 321 eP **Pn** **07 18 36.4 -0.4**
comp=Z,5.8nm,0.6s
VSR Storozhevoye 19.86 26 eP **P** **07 18 35.3 -0.1**
VSR pmax pmax
comp=N,60nm,1.3s
VSR pmax pmax
comp=E,40nm,1.3s
VSR pmax pmax
comp=Z,50nm,1.3s
VSR Storozhevoye 19.86 26 eP **P** **07 18 35.3 -0.1**
CDF Champ du Feu 19.90 322 eP **P** **07 18 36.6 +0.6**
comp=Z,15nm,0.7s
CDF Champ du Feu 19.90 322 eP **P** **07 18 36.6 +0.6**
CDF pmax pmax
comp=Z,15nm,0.7s
CDF Champ du Feu 19.90 322 eP **P** **07 18 36.6 +0.6**
comp=Z,15nm,0.7s
CDF Champ du Feu 19.90 322 eP **P** **07 18 36.6 +0.6**
comp=Z,15nm,0.7s
TOD Tromm 19.97 327 eP **Pn** **07 18 39.5 +1.1**
LANF Langenberg 20.01 324 eP Pn 07 18 40.2 +1.3
IRAZ Razeghan 20.04 79 eP Pn 07 18 39.8 +0.2
IRAZ Razeghan 20.04 79 eP Pn 07 18 39.8 +0.2
KTD Kalmit 20.11 325 eP Pn 07 18 41.0 +1.0
SUW Suwalki 20.12 356 eP **P** **07 18 37.3 -0.9**
SUW pmax pmax
comp=Z,98nm,1.0s
SUW Suwalki 20.12 356 eP **P** **07 18 37.3 -0.9**
comp=Z,98nm,1.0s
SUW Suwalki 20.12 356 eP **P** **07 18 37.3 -0.9**
comp=Z,98nm,1.0s
HAU Haudompre 20.14 320 eP **P** **07 18 38.9 +0.4**
comp=Z,20nm,0.5s
HAU eR
comp=Z,262nm,21.5s
HAU Haudompre 20.14 320 eP **P** **07 18 38.9 +0.4**
HAU pmax pmax
comp=Z,20nm,0.5s
HAU Haudompre 20.14 320 eP **P** **07 18 38.9 +0.4**
comp=Z,20nm,0.5s
HAU Haudompre 20.14 320 eP **P** **07 18 38.9 +0.4**
comp=Z,20nm,0.5s
IGZV Ghazvin 20.24 76 eP Pn 07 18 42.1 +0.1
IGZV Ghazvin 20.24 76 eP Pn 07 18 42.1 +0.1
RAYN Ar Rayn 20.27 116 ePn Pn 07 18 44.9 +2.8
comp=Z,14nm,1.1s
RAYN Ar Rayn 20.27 116 ePn Pn 07 18 44.9 +2.8
comp=Z,14nm,1.1s
VALF Valcebollere 20.33 301 eP Pn 07 18 42.7 -0.2
VALF Valcebollere 20.33 301 eP Pn 07 18 42.7 -0.2
THEF They Montfort 20.46 320 eP **P** **07 18 42.1 +0.1**
THEF They Montfort 20.46 320 eP **P** **07 18 42.1 +0.1**
MTLF Montolieu 20.48 304 eP **P** **07 18 42.6 +0.3**
comp=Z,24nm,1.1s
MTLF Montolieu 20.48 304 eP **P** **07 18 42.6 +0.3**
MTLF pmax pmax
comp=Z,24nm,1.1s
MTLF Montolieu 20.48 304 eP **P** **07 18 42.6 +0.3**
comp=Z,24nm,1.1s
MTLF Montolieu 20.48 304 eP **P** **07 18 42.6 +0.3**
comp=Z,24nm,1.1s
IR5 Iran Long-Peri 20.58 79 eP Pn 07 18 44.9 -0.9
IR5 Iran Long-Peri 20.58 79 eP Pn 07 18 44.9 -0.9
IMHD Mahdasht 20.62 78 eP Pn 07 18 46.3 0.0
IMHD Mahdasht 20.62 78 eP Pn 07 18 46.3 0.0
VRHR Novokhopersk 20.72 29 eP Pn 07 18 46.1 -1.0
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,70nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,0.4s
VRHR Novokhopersk 20.72 29 eP Pn 07 18 46.1 -1.0
comp=N,10.0nm,0.4s
PAGF Fort de Pagny 20.80 320 eP **P** **07 18 45.9 +0.3**
comp=N,14nm,0.8s
PAGF Fort de Pagny 20.80 320 eP **P** **07 18 45.9 +0.3**
comp=N,14nm,0.8s
PAGF Fort de Pagny 20.80 320 eP **P** **07 18 45.9 +0.3**
comp=N,14nm,0.8s
SMF Signal de Mont 20.81 314 eP **P** **07 18 45.3 -0.5**
comp=N,16nm,0.7s
SMF Signal de Mont 20.81 314 eP **P** **07 18 45.3 -0.5**
SMF pmax pmax
comp=Z,16nm,0.7s
SMF Signal de Mont 20.81 314 eP **P** **07 18 45.3 -0.5**
comp=Z,16nm,0.7s
SMF Signal de Mont 20.81 314 eP **P** **07 18 45.3 -0.5**
comp=Z,16nm,0.7s
TAM Tamanrasset 20.85 243 eP Pn 07 18 49.2 +0.1
TAM pmax pmax
comp=Z,15nm,0.9s
TAM Tamanrasset 20.85 243 eP Pn 07 18 49.2 +0.1
comp=Z,16nm,0.9s
TAM Tamanrasset 20.85 243 eP Pn 07 18 49.2 +0.1
comp=Z,16nm,0.9s
RUP Ruppelstein 20.86 325 eP **P** **07 18 46.4 +0.1**
PYM Petit Puy Mans 20.90 311 eP Pn 07 18 48.2 -1.2
PYM Petit Puy Mans 20.90 311 eP Pn 07 18 48.2 -1.2
AGO Saint Agoulin 20.96 312 eP **P** **07 18 48.5 +1.1**
AGO Saint Agoulin 20.96 312 eP **P** **07 18 48.5 +1.1**
SFTF Sexfontaines 20.96 319 eP **P** **07 18 47.7 +0.3**
comp=Z,72nm,1.1s
SFTF Sexfontaines 20.96 319 eP **P** **07 18 47.7 +0.3**
comp=Z,72nm,1.0s
SFTF Sexfontaines 20.96 319 eP **P** **07 18 47.7 +0.3**
comp=Z,72nm,1.0s
SALF Salau 21.02 302 eP **P** **07 18 50.5 +2.3**
SALF Salau 21.02 302 eP **P** **07 18 50.5 +2.3**
LOR Lormes 21.11 316 eP **P** **07 18 49.2 +0.1**
baz=124
LOR eR
comp=Z,286nm,20.8s
LOR Lormes 21.11 316 eP **P** **07 18 49.2 +0.1**
LOR Lormes 21.11 316 eP **P** **07 18 49.2 +0.1**
MEZF Maizieres J'vi 21.13 320 eP **P** **07 18 49.4 +0.2**
MEZF Maizieres J'vi 21.13 320 eP **P** **07 18 49.4 +0.2**
MEZF Maizieres J'vi 21.13 320 eP **P** **07 18 49.4 +0.2**
IPIR Pirpir 21.14 86 eP **P** **07 18 51.2 +1.4**
IPIR Pirpir 21.14 86 eP **P** **07 18 51.2 +1.4**
CAF Calviac 21.16 308 eP **P** **07 18 49.9 +0.3**
comp=Z,26nm,1.1s
CAF Calviac 21.16 308 eP **P** **07 18 49.9 +0.3**
CAF pmax pmax
comp=Z,26nm,1.1s
CAF Calviac 21.16 308 eP **P** **07 18 49.9 +0.3**
comp=Z,26nm,1.1s
CAF Calviac 21.16 308 eP **P** **07 18 49.9 +0.3**
comp=Z,26nm,1.1s
AVF Avril sur Loir 21.17 314 eP **P** **07 18 49.4 -0.3**
comp=Z,12nm,0.8s
AVF Avril sur Loir 21.17 314 eP **P** **07 18 49.4 -0.3**
AVF pmax pmax
comp=Z,12nm,0.8s
AVF Avril sur Loir 21.17 314 eP **P** **07 18 49.4 -0.3**
comp=Z,12nm,0.8s
AVF Avril sur Loir 21.17 314 eP **P** **07 18 49.4 -0.3**
comp=Z,12nm,0.8s
SSF Saint Saulge 21.22 315 eP **P** **07 18 51.0 +0.9**
comp=Z,16nm,0.7s
SSF Saint Saulge 21.22 315 eP **P** **07 18 51.0 +0.9**
SSF pmax pmax
comp=Z,16nm,0.7s
SSF Saint Saulge 21.22 315 eP **P** **07 18 51.0 +0.9**
comp=Z,16nm,0.7s
SSF Saint Saulge 21.22 315 eP **P** **07 18 51.0 +0.9**
comp=Z,16nm,0.7s
WLF Walferdange 21.27 323 P **P** **07 18 52.7 +2.0**
comp=Z,39nm,1.7s
IVRN Varamin 21.53 80 eP **P** **07 18 54.0 +0.3**
IVRN Varamin 21.53 80 eP **P** **07 18 54.0 +0.3**
IKLH Kolahrood 21.61 84 eP **P** **07 18 56.9 +2.1**
IKLH Kolahrood 21.61 84 eP **P** **07 18 56.9 +2.1**
TCF Toulx Ste Croi 21.64 312 eP **P** **07 18 55.2 +0.5**
comp=Z,44nm,1.1s
TCF Toulx Ste Croi 21.64 312 eP **P** **07 18 55.2 +0.5**
TCF pmax pmax
comp=Z,44nm,1.1s
TCF Toulx Ste Croi 21.64 312 eP **P** **07 18 55.2 +0.5**
comp=Z,44nm,1.1s
TCF Toulx Ste Croi 21.64 312 eP **P** **07 18 55.2 +0.5**
comp=Z,44nm,1.1s
RJF Les Rejaudoux 21.66 309 eP **P** **07 18 55.3 +0.3**
comp=Z,32nm,0.8s
RJF eR
comp=Z,152nm,22.2s
RJF Les Rejaudoux 21.66 309 eP **P** **07 18 55.3 +0.3**
RJF pmax pmax
comp=Z,32nm,0.8s
RJF Les Rejaudoux 21.66 309 eP **P** **07 18 55.3 +0.3**
comp=Z,32nm,0.8s
RJF Les Rejaudoux 21.66 309 eP **P** **07 18 55.3 +0.3**
comp=Z,32nm,0.8s
EPF Esparros 21.70 302 eP **P** **07 18 55.3 -0.1**
comp=Z,7.5nm,0.7s
EPF Esparros 21.70 302 eP **P** **07 18 55.3 -0.1**
EPF pmax pmax
comp=Z,8.0nm,0.7s
EPF Esparros 21.70 302 eP **P** **07 18 55.3 -0.1**
comp=Z,7.5nm,0.7s
EPF Esparros 21.70 302 eP **P** **07 18 55.3 -0.1**
comp=Z,7.5nm,0.7s
MEM Membach 21.97 325 P **P** **07 18 59.2 +1.0**
comp=Z,29nm,1.1s
MEM Membach 21.97 325 eP **P** **07 18 59.6 +1.5**
MEM Membach 21.97 325 eP **P** **07 18 59.6 +1.5**
MEM Membach 21.97 325 eP **P** **07 18 59.6 +1.5**
ISFB Sefidab 22.02 81 eP **P** **07 19 00.2 +1.2**
ISFB Sefidab 22.02 81 eP **P** **07 19 00.2 +1.2**
LFF La Frestale 22.04 307 eP **P** **07 19 00.0 +1.1**
comp=Z,46nm,0.8s
LFF La Frestale 22.04 307 eP **P** **07 19 00.0 +1.1**
LFF pmax pmax
comp=Z,46nm,0.8s
LFF La Frestale 22.04 307 eP **P** **07 19 00.0 +1.1**
comp=Z,46nm,0.8s
LFF La Frestale 22.04 307 eP **P** **07 19 00.0 +1.1**
comp=Z,46nm,0.8s
HGN Heimansgroeve 22.11 325 eP **P** **07 19 02.9 +3.3**
comp=Z,107nm,2.1s
GIVF Givet 22.22 323 eP **P** **07 19 00.6 -0.3**
comp=Z,54nm,1.0s
GIVF Givet 22.22 323 eP **P** **07 19 00.6 -0.3**
GIVF pmax pmax
comp=Z,54nm,1.0s
GIVF Givet 22.22 323 eP **P** **07 19 00.6 -0.3**
comp=Z,54nm,1.0s
GIVF Givet 22.22 323 eP **P** **07 19 00.6 -0.3**
comp=Z,54nm,1.0s
ETSF Etsaut 22.30 301 eP **P** **07 19 02.9 +1.0**
comp=Z,12nm,0.6s
ETSF Etsaut 22.30 301 eP **P** **07 19 02.9 +1.0**
ETSF pmax pmax
comp=Z,12nm,0.6s
ETSF Etsaut 22.30 301 eP **P** **07 19 02.9 +1.0**
comp=Z,12nm,0.6s
ETSF Etsaut 22.30 301 eP **P** **07 19 02.9 +1.0**
comp=Z,12nm,0.6s
IZEF Zefreh 22.30 85 eP **P** **07 19 03.8 +1.6**
IZEF Zefreh 22.30 85 eP **P** **07 19 03.8 +1.6**
IFIR Firoozkooh 22.32 78 eP **P** **07 19 01.9 -0.5**
IFIR Firoozkooh 22.32 78 eP **P** **07 19 01.9 -0.5**
DOU Dourbes 22.33 323 P **P** **07 19 03.2 +1.1**
comp=Z,21nm,1.5s
OBN Obninsk 22.49 17 eP **P** **07 19 03.4 -0.3**
OBN pmax pmax
comp=Z,50nm,1.7s
OBN MLR MLR
comp=Z,200nm,15.0s
OBN Obninsk 22.49 17 eP **P** **07 19 03.4 -0.3**
comp=Z,200nm,15.0s
BAIF Baives 22.50 322 eP **P** **07 19 03.3 -0.6**
comp=Z,27nm,0.6s
BAIF Baives 22.50 322 eP **P** **07 19 03.3 -0.6**
BAIF pmax pmax
comp=Z,27nm,0.6s
BAIF Baives 22.50 322 eP **P** **07 19 03.3 -0.6**
comp=Z,27nm,0.6s
BAIF Baives 22.50 322 eP **P** **07 19 03.3 -0.6**
comp=Z,27nm,0.6s
LARF Larrau 22.64 301 eP **P** **07 19 07.5 +2.0**
LARF Larrau 22.64 301 eP **P** **07 19 07.5 +2.0**
SNF Seneffe 22.74 323 P **P** **07 19 07.8 +1.3**
SJPF Ste Jean 22.82 302 eP **P** **07 19 07.4 0.0**
comp=Z,19nm,0.7s
SJPF Ste Jean 22.82 302 eP **P** **07 19 07.4 0.0**
SJPF pmax pmax
comp=Z,19nm,0.7s
SJPF Ste Jean 22.82 302 eP **P** **07 19 07.4 0.0**
comp=Z,19nm,0.7s
SJPF Ste Jean 22.82 302 eP **P** **07 19 07.4 0.0**
comp=Z,19nm,0.7s
MFF Saint Martin d 23.24 311 eP **P** **07 19 10.4 -1.3**
comp=Z,30nm,0.9s
MFF Saint Martin d 23.24 311 eP **P** **07 19 10.4 -1.3**
MFF pmax pmax
comp=Z,30nm,0.9s
MFF Saint Martin d 23.24 311 eP **P** **07 19 10.4 -1.3**
comp=Z,30nm,0.9s
MFF Saint Martin d 23.24 311 eP **P** **07 19 10.4 -1.3**
comp=Z,30nm,0.9s
MOS Moscow 23.31 17 eP **P** **07 19 09.5 -2.7**
MOS eS **S** **07 23 19.3 -4.7**
MOS pmax pmax
comp=Z,33nm,1.1s
IPAR Pars 23.62 92 eP **P** **07 19 15.9 0.0**
IPAR Pars 23.62 92 eP **P** **07 19 15.9 0.0**
ISAD Sadrabad 23.62 87 eP **P** **07 19 17.5 +1.7**
ISAD Sadrabad 23.62 87 eP **P** **07 19 17.5 +1.7**
ISRV Sarvestan 23.81 94 eP **P** **07 19 20.3 +2.6**
LDF La Druitiere 24.10 315 eP **P** **07 19 19.6 -0.3**
comp=Z,16nm,0.6s
LDF La Druitiere 24.10 315 eP **P** **07 19 19.6 -0.3**
LDF pmax pmax
comp=Z,16nm,0.6s
LDF La Druitiere 24.10 315 eP **P** **07 19 19.6 -0.3**
comp=Z,16nm,0.6s
LDF La Druitiere 24.10 315 eP **P** **07 19 19.6 -0.3**
comp=Z,16nm,0.6s
ESDC Sonseca Array 24.30 292 P **P** **07 19 21.8 -0.2**
ESDC Sonseca Array 24.30 292 P **P** **07 19 21.8 -0.2**
ESDC Sonseca Array 24.30 292 P **P** **07 19 21.8 -0.2**
comp=Z,2.6nm,0.5s,baz=86,slow=9.6,SNR=42
ESLA Sonseca Array 24.30 292 eP **P** **07 19 22.2 +0.3**
comp=Z,11nm,1.3s
ESLA Sonseca Array 24.30 292 eP **P** **07 19 22.2 +0.3**
comp=Z,11nm,1.3s
FLN La Foliniere 24.39 315 eP **P** **07 19 21.5 -1.1**
comp=Z,11nm,0.3s
FLN eR
comp=Z,266nm,19.8s
FLN La Foliniere 24.39 315 eP **P** **07 19 21.5 -1.1**
FLN pmax pmax
comp=Z,11nm,0.3s
FLN La Foliniere 24.39 315 eP **P** **07 19 21.5 -1.1**
comp=Z,11nm,0.3s
FLN La Foliniere 24.39 315 eP **P** **07 19 21.5 -1.1**
comp=Z,11nm,0.3s
GRR Gorron 24.44 314 eP **P** **07 19 22.7 -0.3**
comp=Z,20nm,0.7s
GRR Gorron 24.44 314 eP **P** **07 19 22.7 -0.3**
GRR pmax pmax
comp=Z,20nm,0.7s
GRR Gorron 24.44 314 eP **P** **07 19 22.7 -0.3**
comp=Z,20nm,0.7s
GRR Gorron 24.44 314 eP **P** **07 19 22.7 -0.3**
comp=Z,20nm,0.7s
VSU Vasula 24.52 1 *i* P **P** **07 19 22.5 -1.1**
VSU pmax pmax
comp=Z,144nm,1.5s
VSU Vasula 24.52 1 *i* P **P** **07 19 22.5 -1.1**
comp=Z,144nm,1.5s
PAB San Pablo 24.59 292 eP **P** **07 19 25.1 +0.5**
PAB pmax pmax
comp=Z,164nm,1.3s
PAB San Pablo 24.59 292 eP **P** **07 19 25.1 +0.5**
comp=Z,164nm,1.3s
PAB San Pablo 24.59 292 eP **P** **07 19 25.1 +0.5**
comp=Z,164nm,1.3s
MDT Midelt 25.23 276 P **P** **07 19 31.2 +0.7**
MDT Midelt 25.23 276 P **P** **07 19 31.2 +0.7**

MDT	**Midelt**	**25.23**	**276**	P		**P**		**07 19 31.2**	**+0.7**
	comp=Z,7.2nm,0.8s,baz=79,slow=12,SNR=18								
SGMF	**Saint Gilles**	**25.41**	**313**	*e*P		**P**		**07 19 32.1**	**+0.3**
	comp=Z,68nm,1.1s								
SGMF	**Saint Gilles**	**25.41**	**313**	*e*P		**P**		**07 19 32.1**	**+0.3**
SGMF				pmax		pmax			
	comp=Z,68nm,1.1s								
SGMF	**Saint Gilles**	**25.41**	**313**	*e*P		**P**		**07 19 32.1**	**+0.3**
	comp=Z,68nm,1.1s								
SGMF	**Saint Gilles**	**25.41**	**313**	*e*P		**P**		**07 19 32.1**	**+0.3**
	comp=Z,68nm,1.1s								
QUIF	**Quistinic**	**25.65**	**312**	*e*P		**P**		**07 19 33.9**	**-0.1**
	comp=Z,21nm,0.6s								
QUIF	**Quistinic**	**25.65**	**312**	*e*P		**P**		**07 19 33.9**	**-0.1**
QUIF				pmax		pmax			
	comp=Z,21nm,0.6s								
QUIF	**Quistinic**	**25.65**	**312**	*e*P		**P**		**07 19 33.9**	**-0.1**
	comp=Z,21nm,0.6s								
QUIF	**Quistinic**	**25.65**	**312**	*e*P		**P**		**07 19 33.9**	**-0.1**
	comp=Z,21nm,0.6s								
ROSF	**Rostrenen**	**25.88**	**312**	*e*P		**P**		**07 19 35.1**	**-1.0**
	comp=Z,14nm,0.5s								
ROSF	**Rostrenen**	**25.88**	**312**	*e*P		**P**		**07 19 35.1**	**-1.0**
ROSF				pmax		pmax			
	comp=Z,14nm,0.5s								
ROSF	**Rostrenen**	**25.88**	**312**	*e*P		**P**		**07 19 35.1**	**-1.0**
	comp=Z,14nm,0.5s								
ROSF	**Rostrenen**	**25.88**	**312**	*e*P		**P**		**07 19 35.1**	**-1.0**
	comp=Z,14nm,0.5s								
PBRG	**Braganca**	**26.60**	**297**	*e*P		**P**		**07 19 43.2**	**+0.5**
	comp=Z,26nm,1.4s								
PBAR	**Barrancos**	**26.65**	**289**	*e*P		**P**		**07 19 43.6**	**+0.4**
	comp=Z,27nm,1.5s								
MVO	**Moncorvo**	**26.75**	**295**	*e*P		**P**		**07 19 44.6**	**+0.5**
	comp=Z,24nm,1.9s								
PMRV	**Marv??o**	**26.93**	**291**	*e*P		**P**		**07 19 45.9**	**+0.2**
	comp=Z,23nm,1.3s								
PCBR	**Castelo Branco**	**27.01**	**292**	*e*P		**P**		**07 19 46.6**	**+0.2**
PVAQ	**Vaqueiros**	**27.22**	**287**	*e*P		**P**		**07 19 48.4**	**+0.1**
	comp=Z,22nm,1.3s								
HFS	**Hagfors**	**27.33**	**347**	P		**P**		**07 19 48.4**	**-0.6**
HFS	**Hagfors**	**27.33**	**347**	P		**P**		**07 19 48.4**	**-0.6**
HFS	**Hagfors**	**27.33**	**347**	P		**P**		**07 19 48.4**	**-0.6**
	comp=Z,4.2nm,0.7s,baz=146,slow=8.6,SNR=11								
PVIS	**Viseu**	**27.37**	**294**	*e*P		**P**		**07 19 50.3**	**+0.6**
PBDV	**Barranco-do-Ve**	**27.39**	**287**	*e*P		**P**		**07 19 50.4**	**+0.5**
	comp=Z,35nm,1.3s								
EVO	**Evora**	**27.41**	**289**	*e*P		**P**		**07 19 51.3**	**+1.3**
	comp=Z,6.8nm,0.8s								
EVO				*e*R					
	comp=Z,101nm,21.0s								
EVO	**Evora**	**27.41**	**289**	*e*P		**P**		**07 19 50.6**	**+0.6**
	comp=Z,20nm,1.4s								
PCVE	**Castro Verde**	**27.46**	**287**	*e*P		**P**		**07 19 50.7**	**+0.2**
EVOP	**Sao Brissos**	**27.50**	**289**	*e*P		**P**		**07 19 51.3**	**+0.5**
EVOP				pmax		pmax			
	comp=Z,7.0nm,0.8s								
EVOP	**Sao Brissos**	**27.50**	**289**	*e*P		**P**		**07 19 51.3**	**+0.5**
	comp=Z,6.8nm,0.8s								
EVOP	**Sao Brissos**	**27.50**	**289**	*e*P		**P**		**07 19 51.3**	**+0.5**
	comp=Z,6.8nm,0.8s								
FINES	**FINESS Array B**	**27.50**	**0**	P		**P**		**07 19 49.3**	**-1.2**
FINES				PcP		**PcP**		**07 23 09.1**	**+0.8**
FINES	**FINESS Array B**	**27.50**	**0**	P		**P**		**07 19 49.3**	**-1.2**
FINES	**FINESS Array B**	**27.50**	**0**	P		**P**		**07 19 49.3**	**-1.2**
	comp=Z,3.5nm,0.4s,baz=158,slow=12,SNR=28								
FINES				PcP		**PcP**		**07 23 09.1**	**+0.8**
	comp=Z,2.5nm,0.5s,baz=157,slow=1.5,SNR=5.3								
PCAB	**Cabril**	**27.55**	**296**	*e*P		**P**		**07 19 51.7**	**+0.4**
PNCL	**Nicolau / Gran**	**27.83**	**288**	*e*P		**P**		**07 19 55.5**	**+1.7**
PTEO	**Sao Teotonio**	**28.01**	**287**	*e*P		**P**		**07 19 55.9**	**+0.5**
PFVI	**Vila Bisbo**	**28.12**	**286**	*e*P		**P**		**07 19 56.7**	**+0.4**
KAF	**Kangasniemi**	**28.18**	**1**	*e*P		**P**		**07 19 53.7**	**-2.9**
KAF				pmax		pmax			
	comp=Z,6.0nm,0.7s								
KAF	**Kangasniemi**	**28.18**	**1**	*e*p		**P**		**07 19 53.7**	**-2.9**
	comp=Z,5.6nm,0.7s								
KLMR	**Klimovskoe**	**28.38**	**14**	*e*P		**P**		**07 19 56.8**	**-1.6**
KLMR				pmax		pmax			
	comp=Z,27nm,0.8s								
KLMR	**Klimovskoe**	**28.38**	**14**	*e*P		**P**		**07 19 56.8**	**-1.6**
	comp=Z,27nm,0.8s								
NAO01	**NORSAR Array S**	**28.55**	**345**	*e*P		**P**		**07 19 59.6**	**-0.3**
	comp=Z,6.3nm,0.7s								
NAO01	**NORSAR Array S**	**28.55**	**345**	*e*P		**P**		**07 19 59.6**	**-0.3**
	comp=Z,6.3nm,0.7s								
NB2	**NORSAR Subarra**	**28.65**	**345**	P		**P**		**07 20 00.1**	**-0.8**
	comp=Z,3.9nm,0.8s,baz=157,slow=9.3								
NB2	**NORSAR Subarra**	**28.65**	**345**	P		**P**		**07 20 00.1**	**-0.8**
	comp=Z,3.9nm,0.8s,SNR=4.8								
NOA	**NORSAR Array B**	**28.65**	**345**	P		**P**		**07 20 00.3**	**-0.6**
NOA	**NORSAR Array B**	**28.65**	**345**	P		**P**		**07 20 00.3**	**-0.6**
NOA	**NORSAR Array B**	**28.65**	**345**	P		**P**		**07 20 00.3**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=151,slow=8.5,SNR=6.4								
AKTK	**Aktyubinsk**	**28.80**	**45**	P		**P**		**07 20 02.5**	**+0.2**
	comp=Z,5.0nm,0.6s								
AKTO	**Aktyubinsk**	**28.80**	**45**	P		**P**		**07 20 02.5**	**+0.2**
AKTO				pmax		pmax			
	comp=Z,5.0nm,0.6s								
AKTO	**Aktyubinsk**	**28.80**	**45**	P		**P**		**07 20 02.5**	**+0.2**
AKTO	**Aktyubinsk**	**28.80**	**45**	P		**P**		**07 20 02.5**	**+0.2**
AKTO	**Aktyubinsk**	**28.80**	**45**	P		**P**		**07 20 02.5**	**+0.2**
	comp=Z,5.0nm,0.6s,baz=254,slow=8.9,SNR=19								
JOF	**Joensuu**	**29.20**	**5**	*e*P		**P**		**07 20 03.2**	**-2.5**
JOF				pmax		pmax			
	comp=Z,4.0nm,0.5s								
JOF	**Joensuu**	**29.20**	**5**	*e*p		**P**		**07 20 03.2**	**-2.5**
	comp=Z,4.1nm,0.5s								
EKA	**Eskdalemuir Ar**	**29.24**	**326**	P		**P**		**07 20 06.2**	**+0.1**
EKA	**Eskdalemuir Ar**	**29.24**	**326**	P		**P**		**07 20 06.2**	**+0.1**
EKA	**Eskdalemuir Ar**	**29.24**	**326**	P		**P**		**07 20 06.2**	**+0.1**
	comp=Z,3.1nm,0.6s,baz=133,slow=9.3,SNR=13								
AB31	**Akbulak array**	**29.56**	**48**	*i* P		**P**		**07 20 09.5**	**+0.4**
AB31				pmax		pmax			
	comp=Z,2.0nm,0.4s								
AB31	**Akbulak array**	**29.56**	**48**	*i* P		**P**		**07 20 09.5**	**+0.4**
	comp=Z,2.0nm,0.4s								
ABKAR	**Akbulak array**	**29.56**	**48**	*e*P		**P**		**07 20 09.6**	**+0.5**
	comp=Z,2.7nm,0.5s								
ABKAR	**Akbulak array**	**29.56**	**48**	*e*P		**P**		**07 20 09.6**	**+0.5**
	comp=Z,2.7nm,0.5s								
TOA0	**Torodi Ar. Sit**	**30.03**	**232**	*e*P		**P**		**07 20 14.0**	**+0.5**
TOA0				*e*PcP		**PcP**		**07 23 14.0**	**-1.5**
TOA0	**Torodi Ar. Sit**	**30.03**	**232**	*e*P		**P**		**07 20 14.0**	**+0.5**
TOA0	**Torodi Ar. Sit**	**30.03**	**232**	*e*PcP		**PcP**		**07 23 14.0**	**-1.5**
TORD	**Torodi Ar. Bea**	**30.03**	**232**	P		**P**		**07 20 14.2**	**+0.7**
TORD				PcP		**PcP**		**07 23 16.2**	**+0.8**
TORD	**Torodi Ar. Bea**	**30.03**	**232**	P		**P**		**07 20 14.2**	**+0.7**
TORD	**Torodi Ar. Bea**	**30.03**	**232**	P		**P**		**07 20 14.2**	**+0.7**
	comp=Z,5.5nm,0.7s,baz=34,slow=10.0,SNR=9.5								
TORD				PcP		**PcP**		**07 23 16.2**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=27,slow=3.0,SNR=4.6								
TORD				LR		LR		07 35 11.5	
	comp=Z,399nm,18.4s,baz=40,slow=42								
ARU	**Arti**	**31.81**	**35***d*	*i* P		**P**		**07 20 29.8**	**+1.0**
ARU								07 21 32.9	
ARU				S		**S**		**07 25 39.4**	**+1.2**
ARU				SS		**SnSn**		**07 27 26.0**	**+0.2**
ARU				pmax		pmax			
	comp=Z,21nm,2.5s								
ARU	**Arti**	**31.81**	**35**	*i* P		**P**		**07 20 29.8**	**+1.0**
	comp=Z,21nm,2.5s								
ARU				S		**S**		**07 25 39.4**	**+1.2**
SOKR	**Solikamsk**	**32.81**	**29**	*e*P		P		07 20 44.6	+7.1
SOKR				pmax		pmax			
	comp=Z,30nm,1.3s								
ARCES	**ARCESS Array B**	**35.63**	**360**	P		**P**		**07 21 00.5**	**-1.4**
ARCES				PcP		**PcP**		**07 23 30.6**	**+0.4**
ARCES	**ARCESS Array B**	**35.63**	**360**	P		**P**		**07 21 00.5**	**-1.4**
ARCES	**ARCESS Array B**	**35.63**	**360**	PcP		**PcP**		**07 23 30.5**	**+0.4**
ARCES	**ARCESS Array B**	**35.63**	**360**	P		**P**		**07 21 00.5**	**-1.4**
	comp=Z,1.9nm,0.4s,baz=175,slow=9.1,SNR=34								
ARCES				PcP		**PcP**		**07 23 30.6**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=188,slow=3.6,SNR=5.1								
ARCES				LR		LR		07 37 34.2	
	comp=Z,109nm,20.7s,baz=175,slow=40								
KEV	**Kevo**	**35.86**	**1**	*e*P		**P**		**07 21 03.2**	**-0.6**
KEV				pmax		pmax			
	comp=Z,4.0nm,0.5s								
KEV	**Kevo**	**35.86**	**1**	*e*p		**P**		**07 21 03.2**	**-0.6**
	comp=Z,3.6nm,0.5s								
KEV	**Kevo**	**35.86**	**1**	*e*P		**P**		**07 21 03.2**	**-0.6**
	comp=Z,4.0nm,0.5s								
KKAR	**Karatay Array**	**35.92**	**62**	*e*P		**P**		**07 21 04.8**	**+0.1**
KKAR				pmax		pmax			
	comp=Z,2.0nm,0.6s								
KKAR	**Karatay Array**	**35.92**	**62**	*e*P		**P**		**07 21 04.8**	**+0.1**
	comp=Z,2.1nm,0.6s								
KKAR	**Karatay Array**	**35.92**	**62**	*e*P		**P**		**07 21 04.8**	**+0.1**
	comp=Z,2.1nm,0.6s								
BRVK	**Borovoye**	**36.86**	**45**	||*i* P		**P**		**07 21 12.9**	**+0.3**
BRVK				pmax		pmax			
	comp=Z,14nm,1.7s								
BRVK	**Borovoye**	**36.86**	**45**	*e*P		**P**		**07 21 13.7**	**+1.2**
	comp=Z,7.5nm,0.9s								
BRVK	**Borovoye**	**36.86**	**45**	*i* P		**P**		**07 21 12.9**	**+0.3**
	comp=Z,14nm,1.7s								
BVA0	**Borovoye Array**	**36.91**	**45**	*i* P		**P**		**07 21 13.7**	**+0.7**
BVA0				pmax		pmax			
	comp=Z,6.0nm,0.9s								
BVA0	**Borovoye Array**	**36.91**	**45**	*i* P		**P**		**07 21 13.7**	**+0.7**
	comp=Z,6.0nm,0.9s								
BVAR	**Borovoye Array**	**36.91**	**45**	P		**P**		**07 21 13.3**	**+0.3**
BVAR				pmax		pmax			
	comp=Z,3.0nm,0.8s								
BVAR	**Borovoye Array**	**36.91**	**45**	P		**P**		**07 21 13.3**	**+0.3**
BVAR	**Borovoye Array**	**36.91**	**45**	P		**P**		**07 21 13.3**	**+0.3**
BVAR	**Borovoye Array**	**36.91**	**45**	P		**P**		**07 21 13.3**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=258,slow=5.8,SNR=13								
VOSK	**Vostochnaya**	**37.20**	**46**	P		**P**		**07 21 15.7**	**+0.2**
VOSK				pmax		pmax			
	comp=Z,13nm,1.1s								
VOSK	**Vostochnaya**	**37.20**	**46**	*e*P		**P**		**07 21 16.4**	**+0.9**
	comp=Z,12nm,0.9s								
VOSK	**Vostochnaya**	**37.20**	**46**	P		**P**		**07 21 15.7**	**+0.2**
	comp=Z,13nm,1.1s								
AAK	**Ala-Archa**	**38.86**	**62**	||*i* P		**P**		**07 21 30.7**	**+0.8**
AAK				pmax		pmax			
	comp=Z,6.0nm,0.6s								
AAK	**Ala-Archa**	**38.86**	**62**	*e*P		**P**		**07 21 31.1**	**+1.2**
	comp=Z,3.0nm,0.7s								
AAK	**Ala-Archa**	**38.86**	**62**	*i* P		**P**		**07 21 30.7**	**+0.8**
	comp=Z,6.0nm,0.6s								
DBIC	**Dimbokro**	**39.13**	**233**	*e*P		**P**		**07 21 32.7**	**+0.6**
	comp=Z,4.9nm,0.8s								
DBIC				*e*PcP		**PcP**		**07 23 43.4**	**+1.7**
DBIC	**Dimbokro**	**39.13**	**233**	*e*P		**P**		**07 21 32.7**	**+0.6**
	comp=Z,4.9nm,0.8s								
DBIC	**Dimbokro**	**39.13**	**233**	P		**P**		**07 21 32.6**	**+0.5**
	comp=Z,5.5nm,0.8s,baz=54,slow=7.3,SNR=8.0								
DBIC				PcP		**PcP**		**07 23 42.7**	**+1.0**
	comp=Z,2.4nm,0.6s,baz=105,slow=5.8,SNR=3.9								
DBIC				LR		LR		07 39 32.4	
	comp=Z,280nm,18.3s,baz=24,slow=39								
LIC	**Lamto**	**39.58**	**233**	*e*P		**P**		**07 21 37.2**	**+1.4**
	comp=Z,19nm,1.0s,baz=57								
LIC				*e*R					
	comp=Z,466nm,18.5s								
LIC	**Lamto**	**39.58**	**233**	*e*P		**P**		**07 21 37.2**	**+1.4**
	comp=Z,19nm,1.0s								
LIC	**Lamto**	**39.58**	**233**	*e*P		**P**		**07 21 37.2**	**+1.4**
	comp=Z,19nm,1.0s								
KURBB	**Kurchatov Arra**	**41.59**	**50**	P		**P**		**07 21 53.0**	**+0.9**
	comp=Z,5.7nm,0.6s,baz=278,slow=8.1,SNR=61								
KURK	**Kurchatov**	**41.65**	**50***c*	*e*P		**P**		**07 21 53.3**	**+0.7**
KURK				pmax		pmax			
	comp=Z,8.0nm,1.2s								
KURK	**Kurchatov**	**41.65**	**50**	*e*P		**P**		**07 21 53.3**	**+0.7**
	comp=Z,3.1nm,0.7s								
KURK	**Kurchatov**	**41.65**	**50**	*e*P		**P**		**07 21 53.3**	**+0.7**
	comp=Z,3.1nm,0.7s								
MK31	**Makanchi Array**	**44.13**	**56**	*i* P		**P**		**07 22 13.5**	**+0.7**
MK31				pmax		pmax			
	comp=Z,5.0nm,0.5s								
MK31	**Makanchi Array**	**44.13**	**56**	*e*P		**P**		**07 22 13.6**	**+0.7**
MK31				*e*				07 23 58.5	
MK31	**Makanchi Array**	**44.13**	**56**	*e*P		**P**		**07 22 13.6**	**+0.7**
MKAR	**Makanchi Array**	**44.13**	**56**	*e*P		**P**		**07 22 13.8**	**+1.0**
MKAR								07 23 57.9	
MKAR	**Makanchi Array**	**44.13**	**56**	*e*P		**P**		**07 22 13.8**	**+1.0**
MKAR				PcP		**PcP**		**07 23 57.9**	**+0.2**
MKAR	**Makanchi Array**	**44.13**	**56**	*e*P		**P**		**07 22 13.8**	**+1.0**
MKAR	**Makanchi Array**	**44.13**	**56**	P		**P**		**07 22 13.6**	**+0.8**
	comp=Z,5.4nm,0.6s,baz=276,slow=6.6,SNR=50								
MKAR				PcP		**PcP**		**07 23 57.9**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=265,slow=5.0,SNR=2.7								
NVS	**Novosibirsk**	**44.68**	**44**	*e*P		**P**		**07 22 17.3**	**+0.3**
NVS				*e*				07 24 06.2	
NVS				pmax		pmax			
	comp=E,6.0nm,1.0s								
NVS				pmax		pmax			
	comp=Z,16nm,1.0s								
NVS				pmax		pmax			
	comp=N,5.0nm,1.2s								
NVS	**Novosibirsk**	**44.68**	**44**	*e*P		**P**		**07 22 17.3**	**+0.3**
	comp=N,5.0nm,1.2s								
ZAA0	**Zalesovo Array**	**45.57**	**45**	*e*P		**P**		**07 22 24.3**	**+0.2**
ZAA0	**Zalesovo Array**	**45.57**	**45**	*e*P		**P**		**07 22 24.3**	**+0.2**
ZALV	**Zalesovo Beam**	**45.57**	**45**	P		**P**		**07 22 24.4**	**+0.3**
ZALV				pmax		pmax			
	comp=Z,9.0nm,0.5s								
ZALV	**Zalesovo Beam**	**45.57**	**45**	P		**P**		**07 22 24.4**	**+0.3**
ZALV	**Zalesovo Beam**	**45.57**	**45**	P		**P**		**07 22 24.4**	**+0.3**
ZALV	**Zalesovo Beam**	**45.57**	**45**	P		**P**		**07 22 24.4**	**+0.3**
	comp=Z,8.6nm,0.5s,baz=268,slow=8.5,SNR=43								
ZALV				LR		LR		07 44 43.7	
	comp=Z,45nm,18.8s,baz=249,slow=40								
WMQ	**Urumqi**	**48.29**	**59**	*e*P		**P**		**07 22 47.6**	**+2.0**
DANN	**Dangsing**	**49.51**	**80**	*e*P		**P**		**07 22 56.9**	**+1.4**
	comp=Z,58nm,0.8s								
KOLN	**Koldanda**	**49.59**	**81**	*e*P		**P**		**07 22 56.8**	**+0.8**
	comp=Z,8.6nm,0.7s								
SUMG	**Summit**	**50.23**	**339**	*i* P		**P**		**07 23 01.3**	**+0.8**
SUMG				pmax		pmax			
	comp=Z,5.0nm,0.9s								
SUMG	**Summit**	**50.23**	**339**	*i* P		**P**		**07 23 01.3**	**+0.8**
	comp=Z,5.3nm,0.9s								
SUMG	**Summit**	**50.23**	**339**	*i* P		**P**		**07 23 01.3**	**+0.8**
	comp=Z,5.0nm,0.9s								
GKN	**Gorkha**	**50.35**	**80**	*e*P		**P**		**07 23 02.4**	**+0.6**
	comp=Z,16nm,0.6s								
DMN	**Daman**	**50.89**	**80**	*e*P		**P**		**07 23 06.7**	**+0.8**
KKN	**Kakani**	**50.96**	**80**	*e*P		**P**		**07 23 07.0**	**+0.6**
PKI	**Pulchoki**	**51.15**	**80**	*e*P		**P**		**07 23 08.5**	**+0.5**
GUN	**Gumba**	**51.41**	**79**	*e*P		**P**		**07 23 10.5**	**+0.6**
	comp=Z,46nm,0.3s								
JIRN	**Jiri**	**51.76**	**80**	*e*P		**P**		**07 23 13.2**	**+0.6**
RAMN	**Ramite**	**52.37**	**80**	*e*P		**P**		**07 23 16.7**	**-0.3**
TAPN	**Taplejung**	**53.12**	**79**	*e*P		**P**		**07 23 22.6**	**0.0**
LSA	**Lhasa**	**55.00**	**75**	*e*P		**P**		**07 23 37.2**	**+0.7**
LSA				pmax		pmax			
	comp=Z,6.0nm,0.6s								
LSA	**Lhasa**	**55.00**	**75**	*e*P		**P**		**07 23 37.2**	**+0.7**
	comp=Z,6.4nm,0.6s								
LSA	**Lhasa**	**55.00**	**75**	*e*P		**P**		**07 23 37.2**	**+0.7**
	comp=Z,6.4nm,0.6s								
MOY	**Mondy**	**55.55**	**47**	*e*P		**P**		**07 23 41.4**	**+1.7**
MOY	**Mondy**	**55.55**	**47**	*e*P		**P**		**07 23 41.4**	**+1.7**
TLY	**Talaya**	**57.15**	**46**	*e*P		**P**		**07 23 53.6**	**+2.6**
TLY				pmax		pmax			
	comp=Z,8.0nm,1.3s								
TLY				MLR		MLR			
	comp=Z,78nm,17.0s								
TLY	**Talaya**	**57.15**	**46**	*e*P		**P**		**07 23 53.6**	**+2.6**
	comp=Z,78nm,17.0s								
ZAK	**Zakamensk**	**57.26**	**48**	*e*P		**P**		**07 23 52.9**	**+1.0**
ZAK				pmax		pmax			
	comp=Z,5.0nm,1.0s								
ZAK	**Zakamensk**	**57.26**	**48**	*e*P		**P**		**07 23 52.9**	**+1.0**
	comp=Z,5.0nm,1.0s								
GTA	**Gaotai**	**58.20**	**61**	*e*P		**P**		**07 23 57.3**	**-1.4**
GTA				pP		**pP**		**07 24 01.6**	**-2.3**
GTA				sP		**sP**		**07 24 04.6**	**-1.2**
GTA				AMB		AMB			
	comp=Z,3.0nm,0.6s								
SONM	**Songino Array**	**59.96**	**50**	P		**P**		**07 24 11.8**	**+1.0**
SONM	**Songino Array**	**59.96**	**50**	P		**P**		**07 24 11.8**	**+1.0**
SONM	**Songino Array**	**59.96**	**50**	P		**P**		**07 24 11.8**	**+1.0**
	comp=Z,1.4nm,0.5s,baz=283,slow=7.8,SNR=7.3								
SONM				LR		LR		07 52 40.8	
	comp=Z,48nm,18.9s,baz=54,slow=39								
BOSA	**Boshof**	**62.23**	**180**	P		**P**		**07 24 26.7**	**+0.4**
BOSA	**Boshof**	**62.23**	**180**	P		**P**		**07 24 26.7**	**+0.4**
	comp=Z,105nm,18.2s								
BOSA	**Boshof**	**62.23**	**180**	P		**P**		**07 24 26.7**	**+0.4**
	comp=Z,3.3nm,0.7s,baz=33,slow=6.5,SNR=9.9								
BOSA				LR		LR		07 52 55.4	
	comp=Z,105nm,18.2s,baz=180,slow=38								
SCHQ	**Schefferville**	**64.35**	**320**	P		**P**		**07 24 40.4**	**+0.5**
SCHQ	**Schefferville**	**64.35**	**320**	P		**P**		**07 24 40.4**	**+0.5**
SCHQ	**Schefferville**	**64.35**	**320**	P		**P**		**07 24 40.4**	**+0.5**
	comp=Z,10nm,0.6s,baz=69,slow=5.6,SNR=26								
CD2	**Chengdu**	**64.47**	**69**	P		**P**		**07 24 42.2**	**+1.0**
CD2				AMB		AMB			
	comp=Z,10.0nm,0.5s								
HHC	**Hu-ho-hao-te**	**65.99**	**56**	*e*P		**P**		**07 24 49.8**	**-1.2**
HHC				pP		**pP**		**07 24 54.5**	**-1.7**
HHC				sP		**sP**		**07 24 57.0**	**-1.2**
HHC				PP		**PP**		**07 27 17.3**	**+1.3**
HHC				S		**S**		**07 33 34.4**	**-3.8**
HHC				SS		**SS**		**07 37 50.4**	**-2.5**
HHC				AMB		AMB			
	comp=Z,31nm,1.0s								
HHC				AMB		AMB			
	comp=Z,350nm,5.4s								
HHC				LR		LR			
	comp=Z,240nm,16.0s								
HHC				LR		LR			
	comp=Z,350nm,16.4s								
HHC				LR		LR			
	comp=Z,230nm,16.9s								
SUR	**Sutherland**	**66.14**	**184**	*e*P		**P**		**07 24 53.4**	**+1.4**
	comp=Z,4.8nm,0.9s								
SUR	**Sutherland**	**66.14**	**184**	*e*P		**P**		**07 24 53.3**	**+1.4**
	comp=Z,4.8nm,0.9s								
CMAR	**Chiang Mai Arr**	**66.33**	**83**	P		**P**		**07 24 52.9**	**-0.5**
CMAR	**Chiang Mai Arr**	**66.33**	**83**	P		**P**		**07 24 52.9**	**-0.5**
	comp=Z,2.0nm,0.6s								
CMAR	**Chiang Mai Arr**	**66.33**	**83**	P		**P**		**07 24 52.9**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=298,slow=7.3,SNR=12								
GYA	**Guiyang**	**68.75**	**72**	*e*P		**P**		**07 25 11.0**	**+2.3**
GYA				AMB		AMB			
	comp=Z,10.0nm,1.0s								
USRK	**Ussuriysk Arra**	**77.42**	**45**	P		**P**		**07 25 59.0**	**-0.6**
	comp=Z,3.6nm,0.6s,baz=317,slow=5.3,SNR=10.0								
KSAR	**Wonju Array Be**	**78.69**	**52**	P		**P**		**07 26 06.7**	**0.0**
KSAR	**Wonju Array Be**	**78.69**	**52**	P		**P**		**07 26 06.7**	**0.0**
YKA	**Yellowknife Ar**	**78.70**	**342**	P		**P**		**07 26 05.8**	**-0.5**
YKA	**Yellowknife Ar**	**78.70**	**342**	P		**P**		**07 26 05.8**	**-0.5**
YKA	**Yellowknife Ar**	**78.70**	**342**	P		**P**		**07 26 05.8**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=33,slow=5.3,SNR=11								
KSRS	**Korea Array**	**78.71**	**52**	P		**P**		**07 26 06.7**	**-0.1**
	comp=Z,18nm,21.9s								
KSRS	**Korea Array**	**78.71**	**52**	P		**P**		**07 26 06.7**	**-0.1**
	comp=Z,2.8nm,0.8s,baz=308,slow=4.5,SNR=12								
KSRS				LR		LR		08 02 43.4	
	comp=Z,18nm,21.9s,baz=302,slow=37								
IMA2	**Indian Mountai**	**80.29**	**360**	*e*P		**P**		**07 26 16.2**	**+1.1**
IMA2	**Indian Mountai**	**80.29**	**360**	*e*P		**P**		**07 26 16.2**	**+1.1**
ILAR	**Eielson Array**	**81.42**	**357**	P		**P**		**07 26 21.6**	**+0.6**
ILAR	**Eielson Array**	**81.42**	**357**	P		**P**		**07 26 21.6**	**+0.6**
	comp=Z,1.0nm,0.6s								
ILAR	**Eielson Array**	**81.42**	**357**	P		**P**		**07 26 21.6**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=345,slow=3.7,SNR=28								
DAWY	**Dawson**	**81.58**	**353**	*e*P		**P**		**07 26 23.2**	**+1.3**
DAWY	**Dawson**	**81.58**	**353**	*e*P		**P**		**07 26 23.2**	**+1.3**
PPLA	**Purkeypile**	**83.46**	**359**	*e*P		**P**		**07 26 32.8**	**+0.9**
	comp=Z,8.0nm,0.5s								
PPLA	**Purkeypile**	**83.46**	**359**	*e*P		**P**		**07 26 32.8**	**+0.9**
	comp=Z,8.0nm,0.5s								
BDFB	**Brasilia**	**85.60**	**248**	P		**P**		**07 26 44.6**	**+1.3**
BDFB

AFI				Sn	Sn	08 41 57.7	-8.9		
	14nm,0.3s,baz=23,slow=22,SNR=4.4								
STKA	**Stephens Creek**	**43.94**	**239**	P	P	08 49 04.2	+0.7		
	2.0nm,0.7s,baz=101,slow=9.3,SNR=4.0								
WRA	**Warramunga Arr**	**49.31**	**256**	P	P	08 49 46.1	+0.2		
	1.2nm,0.9s,baz=91,slow=6.6,SNR=7.7								
ASAR	**Alice Springs**	**49.70**	**251**	P	P	08 49 47.5	-1.4		
	5.1nm,0.7s,baz=85,slow=8.1,SNR=59								
TXAR	**Lajitas Array**	**80.63**	**57**	P	P	08 53 09.4	-0.4		
	0.3nm,0.8s,baz=228,slow=4.9,SNR=3.4								
BRTR	**Keskin Array B**	**144.65**	**321**	PKP	PKPdf	09 00 35.1	+1.3		
	1.2nm,0.8s,baz=108,slow=4.0,SNR=5.0								

IDC 04 08:59:12.3±2.6, 54.48N×86.20E, h0km, mb1 3.0/3, mb1mx2.9/30, mbtmp3.0/3, ML3.2/3, Error ellipse: s-maj=20.0km s-min=16.2km az=18.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**0.97**	**237**	Pg	Pg	08 59 29.6	-1.3
	0.9nm,0.3s,baz=53,slow=17,SNR=6.6						
ZALV				Lg	Lg	08 59 44.9	
	5.1nm,0.3s,baz=57,slow=28,SNR=21						
KURBB	**Kurchatov Arra**	**6.07**	**234**	Pn	Pn	09 00 43.9	+0.7
	0.4nm,0.3s,baz=50,slow=14,SNR=5.8						
KURBB				Lg	Lg	09 02 25.6	
	0.1nm,0.3s,baz=56,slow=32,SNR=4.7						
MKAR	**Makanchi Array**	**8.09**	**199**	Pn	Pn	09 01 11.7	+0.7
	0.1nm,0.3s,baz=24,slow=13,SNR=4.1						
MKAR				Sn	Sn	09 02 41.8	-1.3
	0.1nm,0.3s,baz=24,slow=25,SNR=4.6						
MKAR				Lg	Lg	09 03 32.6	
	0.0nm,0.3s,baz=22,slow=27,SNR=3.9						
SONM	**Songino Array**	**14.28**	**109**	Pn	Pn	09 02 36.9	+1.2
	0.3nm,0.3s,baz=316,slow=9.8,SNR=4.2						

AUST ***04*** *09:10:26.2±0.4, 16.24S×172.90W, h0km, Error ellipse: s-maj=11.4km s-min=6.2km az=128.0*

IDC ***04*** *09:10:28.0±0.3, 16.29S×173.22W, h0km, mb5.1/33, mb1 5.2/33, mb1mx5.2/35, mbtmp5.1/33, MS5.0/26, Ms1 5.0/26, ms1mx4.9/31, Error ellipse: s-maj=13.4km s-min=10.9km az=132.0*

ISCJB ***04*** *09:10:27.7±0.1, 16.34S±0.04×173.17W±0.03, h10km, mb5.4/216, MS5.1/47, Error ellipse: s-maj=6.1km s-min=2.7km az=154.8*

BJI ***04*** *09:10:29.4, 15.72S×173.29W, h5km, mB5.7/29, mb5.5/42, Ms5.4/38, Ms7 5.0/36*

NEIC ***04*** *09:10:31.6±0.1, 16.23S×173.24W, h23km, mb5.4/157, MW5.4, Error ellipse: s-maj=6.2km s-min=3.0km az=143.0, Moment Tensor Solution. s41 Moment tensor: Scale 10^17Nm; Mrr0.58; Mθθ-0.35; Mφφ-0.22; Mrθ0.42; Mθφ-0.23; Mφr1.52; Best double couple: M0 1.70000×10^17 NP1: ϕs242.00000°, δ12.00000°, λ133.00000°. NP2: ϕs18.00000°, δ82.00000°, λ82.00000°. Principal axes: T 1.7700, Plg52.0000°, Azm278.0000°; N -0.2100, Plg7.0000°, Azm19.0000°; P -1.5500, Plg36.0000°, Azm115.0000°;*

BKK ***04*** *09:10:31.5±0.3, 16°S±8°×17°3W±°, h10km, M5.7/32, mB6.1/11, mb5.4/32, Mw(mB)5.8/11*

DJA ***04*** *09:10:32.8±2.7, 17°S±23°×17°4W±4°6, h10km, M5.7/13, mB6.1/5, mb5.6/13, Mw(mB)5.8/5*

MOS ***04*** *09:10:32.6±1.0, 16.08S×173.12W, h33km, mb5.5/72, MS5.2/10, Error ellipse: s-maj=11.4km s-min=7.4km az=71.6*

SZGRF ***04*** *09:10:35.8, 15.86S×172.96W, h33km, mb5.2, Samoa Islands region*

GCMT ***04*** *09:10:37.0±0.1, 16.21S×172.77W, h38km, MW5.5, Moment Tensor Solution. s83,c155; s99,c187; Moment tensor: Scale 10^17Nm; Mrr1.08±.03; Mθθ0.27±.02; Mφφ-1.35±.02; Mrθ0.26±.03; Mθφ-0.09±.02; Mφr1.60±.04; Best double couple: M0 2.00000×10^17 NP1:ϕs9.00000°, δ72.00000°, λ94.00000°. NP2:ϕs175.00000°, δ19.00000°, λ77.00000°. Principal axes: T 1.9000, Plg63.0000°, Azm286.0000°; N 0.2600, Plg4.0000°, Azm187.0000°; P -2.1600, Plg27.0000°, Azm95.0000°; Data Used: II IU IC G CN.*

ISC 04 09:10:30.4±0.4, 16.27S±0.05×173.21W±0.05, h15km±1km, h17km:pP-P, n1170, s0≧96/1226, mb5.5/216, MS5.1/48, 261C-240D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.72**	**31**	ePn	Pn	09 11 08.6	-5.0
AFI				eSn	Sn	09 11 38.5	-7.8
AFI	**Afiamalu**	**2.72**	**31**	Pn	Pn	09 11 08.5	-5.0
	141nm,0.3s,baz=344,slow=1.5,SNR=68						
AFI				Sn	Sn	09 11 36.7	-10
	1μm,0.3s,baz=204,slow=22,SNR=15						
AFI				LR	LR	09 11 39.6	
	comp=Z,1μm,21.1s,baz=186,slow=26						
NIUE	**Niue**	**4.19**	**132**	↑P	Pn	09 11 29.7	-4.0
	baz=4.0,SNR=661						
MSVF	**Nonsavu**	**8.49**	**259**	eP	Pn	09 12 42.5	+10
MSVF	**Nonsavu**	**8.49**	**259**	Pn	Pn	09 12 42.0	+9.1
	3μm,1.0s,SNR=80						
MSVF	**Nonsavu**	**8.49**	**259**	ePn	Pn	09 12 42.5	+10
KNTN	**Kanton**	**13.49**	**6**	ePn	**Pn**	**09 13 38.6**	**-2.7**
RAR	**Rarotonga**	**13.64**	**113**	ePn	Pn	09 13 38.5	-4.7
RAR				Sn	Sn	09 15 59.0	-16
RAR	**Rarotonga**	**13.64**	**113**	Pn	Pn	09 13 37.4	-5.8
	30nm,0.3s,baz=270,slow=12,SNR=17						
RAR				Sn	Sn	09 15 59.0	-16
	3.7nm,0.3s,baz=90,slow=18,SNR=2.8						
RAR				LR	LR	09 17 38.7	
	comp=Z,9μm,20.9s,baz=309,slow=32						
DZM	**Mont Dzumac**	**20.06**	**250**	eP	**P**	**09 15 03.9**	**+0.6**
	462nm,1.2s						
DZM				eS	S	09 18 39.2	-9.4
	1μm,28.6s						
DZM				eLR	LR	09 19 40.2	
	21μm,24.8s						
DZM	**Mont Dzumac**	**20.06**	**250**	P	**P**	**09 15 03.1**	**-0.2**
DZM	**Mont Dzumac**	**20.06**	**250**	P	**P**	**09 15 03.1**	**-0.2**
	15nm,0.6s,baz=92,slow=19,SNR=13						
OUZ	**Omahuta**	**22.26**	**210**	eP	**P**	**09 15 28.4**	**+1.6**
	248nm,1.5s						
PPT	**Papeete**	**22.64**	**97**	LR	LR	09 21 54.8	
	comp=Z,4μm,19.7s,baz=335,slow=30						
PPT2	**Papeete2**	**22.64**	**97**	eLQ	LQ	09 20 11.2	
	2μm,22.8s						
PPT2				eLR	LR	09 20 53.6	
	11μm,24.5s,baz=261						
TBI	**Tubuai**	**23.40**	**111**	eS	**S**	**09 19 52.0**	**+0.4**
	3μm,30.0s						
TBI				eLR	LR	09 21 07.8	
	15μm,27.0s,baz=285						
URZ	**Urewera**	**23.50**	**199**	eP	**P**	**09 15 38.6**	**-1.1**
	51nm,0.6s						
URZ				S	**S**	**09 19 47.2**	**-5.7**
URZ	**Urewera**	**23.50**	**199**	P	**P**	**09 15 38.0**	**-1.7**
	20nm,0.3s,baz=43,slow=4.2,SNR=22						
URZ				S	**S**	**09 19 47.3**	**-5.7**
	18nm,1.0s,baz=225,slow=20,SNR=4.8						
XMAS	**Kiritimati**	**23.95**	**42**	eP	**P**	**09 15 43.5**	**-0.7**
	119nm,0.9s						
HNR	**Honiara**	**27.02**	**281**	P	**P**	**09 16 10.5**	**-1.6**
HNR	**Honiara**	**27.02**	**281**	P	**P**	**09 16 10.5**	**-1.6**
	22nm,0.6s,baz=288,slow=3.2,SNR=2.5						
HNR				LR	LR	09 25 23.4	
	comp=Z,17μm,21.0s,baz=126,slow=33						
SNZO	**South Karori**	**27.05**	**200**	eP	**P**	**09 16 15.4**	**+3.4**
	66nm,0.7s						
KHZ	**Kahutara**	**28.43**	**201**	eP	**P**	**09 16 24.6**	**+0.2**
	62nm,0.8s						
RPZ	**Rata Peaks**	**30.45**	**203**	eP	**P**	**09 16 42.2**	**-0.2**
	53nm,0.7s						
RPZ	**Rata Peaks**	**30.45**	**203**	P	**P**	**09 16 41.8**	**-0.6**
	8.4nm,0.5s,baz=9.1,slow=6.9,SNR=12						
RPZ				LR	LR	09 26 28.6	
	comp=Z,1μm,20.0s,baz=21,slow=32						
ODZ	**Otahua Downs**	**31.75**	**202**	eP	**P**	**09 16 56.1**	**+2.4**
	17nm,0.7s						
EIDS	**Eidsvold**	**34.50**	**249**	eP	**P**	**09 17 17.2**	**-0.8**
	32nm,1.1s						
EIDS	**Eidsvold**	**34.50**	**249**	↓P	**P**	**09 17 17.2**	**-0.8**
	baz=35,SNR=9.8						
ARMA	**Armidale**	**35.06**	**240**	eP	**P**	**09 17 22.1**	**-0.9**
	25nm,0.7s						
ARMA	**Armidale**	**35.06**	**240**	↑P	**P**	**09 17 22.5**	**-0.6**
	baz=35,SNR=25						
MGCD	**Mangrove Creek**	**36.31**	**236**	↑P	**P**	**09 17 33.1**	**-0.5**
	baz=37,SNR=4.6						
PATS	**Pohnpei**	**36.36**	**307**	↑P	**P**	**09 17 34.4**	**+0.3**
	baz=37						
RKT	**Rikitea**	**36.55**	**107**	eLR	LR	09 27 09.6	
	8μm,27.2s,baz=280						
RMQ	**Roma**	**36.73**	**247**	↑P	**P**	**09 17 36.3**	**-0.9**
	baz=37,SNR=23						
CTA	**Charters Tower**	**38.64**	**258**	P	**P**	**09 17 51.8**	**-1.7**
CTA	**Charters Tower**	**38.64**	**258**	↑P	**P**	**09 17 53.3**	**-0.2**
	baz=39						
CTA	**Charters Tower**	**38.64**	**258**	P	**P**	**09 17 51.8**	**-1.7**
	11nm,0.6s,baz=81,slow=13,SNR=9.5						
CTA				LR	LR	09 32 11.8	
	comp=Z,4μm,19.2s,baz=52,slow=34						
CTAO	**Charters Tower**	**38.64**	**258**	eP	**P**	**09 17 52.1**	**-1.4**
CTAO				pmax	pmax		
	comp=Z,14nm,0.7s						
CTAO	**Charters Tower**	**38.64**	**258**	eP	**P**	**09 17 52.1**	**-1.4**
	comp=Z,14nm,0.7s						
CAN	**Canberra**	**38.66**	**233**	eP	**P**	**09 17 51.4**	**-2.1**
CAN				pmax	pmax		
	comp=Z,84nm,1.6s						
CAN	**Canberra**	**38.66**	**233**	eP	**P**	**09 17 51.4**	**-2.1**
	comp=Z,84nm,1.6s						
CAN	**Canberra**	**38.66**	**233**	↑P	**P**	**09 17 52.5**	**-1.0**
	baz=39						
YNG	**Young**	**38.80**	**235**	↓P	**P**	**09 17 53.7**	**-0.9**
	baz=39,SNR=9.1						
MILA	**Mila**	**39.15**	**231**	↑P	**P**	**09 17 56.4**	**-1.2**
	baz=39						
PMG	**Port Moresby**	**39.19**	**275**	eP	**P**	**09 17 59.2**	**+1.1**
	comp=Z,148nm,1.3s						
PMG	**Port Moresby**	**39.19**	**275**	P	**P**	**09 17 58.9**	**+0.7**
	comp=Z,58nm,1.0s,baz=92,slow=4.2,SNR=24						
KIP	**Kipapa**	**40.31**	**22**	ceP	**P**	**09 18 07.5**	**+0.2**
KIP				pmax	pmax		
	comp=Z,141nm,1.7s						
H11N3	**WAKE ISLAND Hy**	**40.76**	**331**	T	T	10 00 59.3	
	baz=152,slow=0.7,SNR=92						
H11N1	**WAKE ISLAND Hy**	**40.76**	**331**	T	T	10 00 59.7	
	baz=152,slow=0.7,SNR=83						
H11N2	**WAKE ISLAND Hy**	**40.77**	**331**	T	T	10 01 00.6	
	baz=152,slow=0.7,SNR=107						
COEN	**Coen**	**42.12**	**267**	eP	**P**	**09 18 22.8**	**+0.4**
	comp=Z,2μm,2.1s						
COEN	**Coen**	**42.12**	**267**	↑P	**P**	**09 18 22.4**	**+0.1**
	baz=42,SNR=13						
STKA	**Stephens Creek**	**43.77**	**241**	eP	**P**	**09 18 34.5**	**-1.1**
	comp=Z,31nm,1.4s						
STKA	**Stephens Creek**	**43.77**	**241**	↓P	**P**	**09 18 35.0**	**-0.6**
	baz=44,SNR=49						
STKA	**Stephens Creek**	**43.77**	**241**	P	**P**	**09 18 34.7**	**-0.9**
	comp=Z,30nm,0.6s,baz=80,slow=8.2,SNR=68						
STKA				LR	LR	09 34 14.8	
	comp=Z,2μm,21.4s,baz=69,slow=33						
HTT	**Hallett**	**46.26**	**239**	↑P	**P**	**09 18 54.8**	**-0.6**
	baz=46						
JAY	**Jayapura**	**47.34**	**282**	↓P	**P**	**09 19 03.8**	**-0.3**
	baz=48,SNR=12						
BBOO	**Buckleboo**	**48.54**	**240**	eP	**P**	**09 19 12.2**	**-1.0**
	comp=Z,719nm,1.1s						
BBOO	**Buckleboo**	**48.54**	**240**	↓P	**P**	**09 19 11.9**	**-1.2**
	baz=49,SNR=20						
WRAB	**Tennant Creek**	**49.82**	**257**	eP	**P**	**09 19 21.2**	**-1.9**
WRAB				pmax	pmax		
	comp=Z,64nm,1.3s						
WRAB	**Tennant Creek**	**49.82**	**257**	P	**P**	**09 19 21.5**	**-1.6**
	comp=Z,220nm,1.0s,SNR=13						
WRAB	**Tennant Creek**	**49.82**	**257**	eP	**P**	**09 19 21.2**	**-1.9**
	comp=Z,64nm,1.3s						
WRA	**Warramunga Arr**	**49.83**	**257**	P	**P**	**09 19 21.5**	**-1.7**
WRA				PcP	**PcP**	**09 20 44.8**	**+0.9**
WRA	**Warramunga Arr**	**49.83**	**257**	P	**P**	**09 19 21.5**	**-1.7**
	comp=Z,22nm,0.8s,baz=92,slow=7.0,SNR=57						
WRA				PcP	**PcP**	**09 20 44.8**	**+0.9**
	comp=Z,14nm,1.1s,baz=89,slow=3.6,SNR=5.1						
WRA				LR	LR	09 39 19.4	
	comp=Z,5μm,19.8s,baz=95,slow=35						
AS31	**Alice Springs**	**50.02**	**253**	eP	**P**	**09 19 22.8**	**-1.8**
ASAR	**Alice Springs**	**50.02**	**253**	P	**P**	**09 19 23.2**	**-1.4**
ASAR				S	S	09 26 29.0	-6.3
ASAR	**Alice Springs**	**50.02**	**253**	P	**P**	**09 19 23.2**	**-1.4**
	comp=Z,98nm,0.8s,baz=89,slow=8.2,SNR=473						
ASAR				S	S	09 26 29.0	-6.3
	comp=Z,0.9nm,0.9s,baz=92,slow=14,SNR=4.6						
ASAR				LR	LR	09 39 50.0	
	comp=Z,5μm,18.6s,baz=90,slow=35						
KDU	**Kakadu**	**52.60**	**266**	↑P	**P**	**09 19 43.2**	**-0.8**
	baz=53,SNR=22						
TLE	**Tual**	**53.97**	**275**	P	**P**	**09 19 55.3**	**+1.2**
	comp=Z,108nm,1.6s						
TLE	**Tual**	**53.97**	**275**	↑P	**P**	**09 19 55.2**	**+1.0**
	baz=54						
FORT	**Forrest**	**55.20**	**244**	eP	**P**	**09 20 01.1**	**-1.7**
	comp=Z,40nm,0.7s						
FAKI	**Fak Fak**	**55.22**	**278**	↓P	**P**	**09 20 03.0**	**-0.2**
	baz=56,SNR=4.5						
KNRA	**Kununurra**	**55.63**	**262**	↓P	**P**	**09 20 05.8**	**-0.3**
	baz=56,SNR=12						
SWI	**Sorong**	**56.80**	**280**	P	**P**	**09 20 14.3**	**-0.2**
SWI	**Sorong**	**56.80**	**280**	↓P	**P**	**09 20 14.5**	**0.0**
	baz=57						
FITZ	**Fitzroy Crossi**	**58.22**	**259**	eP	**P**	**09 20 24.4**	**-0.1**
	comp=Z,110nm,1.5s						
FITZ	**Fitzroy Crossi**	**58.22**	**259**	↓P	**P**	**09 20 23.9**	**-0.5**
	baz=58,SNR=18						
FITZ	**Fitzroy Crossi**	**58.22**	**259**	P	**P**	**09 20 23.8**	**-0.6**
	comp=Z,6.5nm,0.6s,baz=90,slow=7.5,SNR=22						
FITZ				LR	LR	09 44 08.8	
	comp=Z,3μm,19.7s,baz=96,slow=35						
DRV	**Dumont d'Urvil**	**58.84**	**200**	P	P	09 20 21.0	-7.0
DRV				S	S	09 28 18.0	-15
DRV				SS	SS	09 32 11.0	-15
DRV				L	L	09 35 00.0	
DRV				R		09 39 00.0	
AAI	**Ambon**	**58.86**	**276**	P	**P**	**09 20 29.3**	**+0.3**
NLAI	**Namlea**	**60.03**	**276**	P	**P**	**09 20 37.1**	**0.0**
SOEI	**Soe**	**61.08**	**268**	P	**P**	**09 20 45.7**	**+1.3**
SOEI	**Soe**	**61.08**	**268**	↑P	**P**	**09 20 45.2**	**+0.8**
	baz=61,SNR=18						
JCJ	**Chichijima**	**61.09**	**314**	LR	LR	09 43 17.3	
	comp=Z,2μm,18.1s,baz=128,slow=32						
BATI	**Baumata**	**61.56**	**267**	P	**P**	**09 20 47.9**	**+0.4**
BATI	**Baumata**	**61.56**	**267**	P	**P**	**09 20 47.9**	**+0.4**
	comp=Z,64nm,0.8s,baz=121,slow=5.9,SNR=1.6						
SBA	**Scott Base**	**62.40**	**185**	eP	**P**	**09 20 54.9**	**+2.8**
SBA				pmax	pmax		
	comp=Z,21nm,1.0s						
SBA	**Scott Base**	**62.40**	**185**	eP	**P**	**09 20 54.9**	**+2.8**
	comp=Z,21nm,1.0s						
VNDA	**Vanda**	**62.53**	**186**	eP	**P**	**09 20 55.0**	**+2.0**
	comp=Z,14nm,1.0s						
VNDA	**Vanda**	**62.53**	**186**	P	**P**	**09 20 54.4**	**+1.4**
	comp=Z,3.3nm,0.8s,baz=9.3,slow=7.3,SNR=18						
VNDA				LR	LR	09 42 26.1	
	comp=Z,322nm,20.8s,baz=16,slow=31						
MBWA	**Marble Bar**	**63.30**	**254**	eP	**P**	**09 20 58.3**	**-0.8**
	comp=Z,212nm,1.5s						
MEEK	**Meekatharra**	**63.66**	**248**	↑P	**P**	**09 21 00.3**	**-1.1**
	baz=64,SNR=20						
KLBR	**Kellerberrin**	**64.00**	**242**	↓P	**P**	**09 21 02.5**	**-1.0**
	baz=64,SNR=23						
NWAO	**Narrogin (SRO)**	**64.36**	**241**	eP	**P**	**09 21 05.9**	**0.0**
	comp=Z,153nm,1.8s						
NWAO	**Narrogin (SRO)**	**64.36**	**241**	P	**P**	**09 21 05.3**	**-0.5**
	comp=Z,7.4nm,0.5s,baz=89,slow=6.2,SNR=9.4						
RKGY	**Rocky Gully**	**64.48**	**239**	↓P	**P**	**09 21 06.9**	**+0.3**
	baz=65,SNR=12						
LUWI	**Luwuk**	**64.81**	**277**	P	**P**	**09 21 10.0**	**+0.9**
BLDU	**Ballidu**	**64.97**	**243**	↑P	**P**	**09 21 09.2**	**-0.7**
	baz=65,SNR=17						
MORW	**Morawa**	**65.69**	**245**	↓P	**P**	**09 21 14.0**	**-0.6**
	baz=66,SNR=4.6						
APSI	**Ampana**	**65.92**	**276**	P	**P**	**09 21 17.2**	**+0.9**
BNSI	**Bone**	**66.41**	**272**	P	**P**	**09 21 19.8**	**+0.4**
KAPI	**Kappang**	**66.59**	**272**	eP	**P**	**09 21 20.6**	**0.0**
	comp=Z,76nm,1.4s						
KAPI	**Kappang**	**66.59**	**272**	P	**P**	**09 21 20.1**	**-0.5**
	comp=Z,9.8nm,0.6s,baz=110,slow=4.7,SNR=4.9						
GIRL	**Giralia**	**68.13**	**252**	↓P	**P**	**09 21 30.7**	**+0.5**
	baz=68,SNR=5.0						
MTNI	**Mataram**	**69.11**	**267**	P	P	09 21 40.0	+3.5
	comp=Z,68nm,1.7s,comp=Z,998nm						
MAJO	**Matsushiro**	**69.72**	**320**	eP	**P**	**09 21 39.9**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,36nm,1.1s						
MAJO	**Matsushiro**	**69.72**	**320**	eP	**P**	**09 21 39.9**	**+0.1**
	comp=Z,36nm,1.1s						
MAT	**Matsushiro**	**69.72**	**320**	P	**P**	**09 21 38.8**	**-1.0**
MAT				S	**S**	**09 30 52.2**	**+3.9**
FX1	**Attu Island--F**	**69.87**	**351**	eP	**P**	**09 21 39.9**	**-0.4**
FX1	**Attu Island--F**	**69.87**	**351**	P	**P**	**09 21 40.4**	**+0.1**
	comp=Z,58nm,0.8s,baz=207,slow=4.5						
FX1				LR	LR	09 45 21.4	
	comp=Z,1μm,21.2s,baz=178,slow=30						
UNV	**Unalaska Valle**	**70.07**	**4**	eP	**P**	**09 21 40.8**	**-0.7**
	comp=Z,38nm,0.7s						
SRBI	**Singaraja**	**70.16**	**267**	P	**P**	**09 21 43.8**	**+0.8**
	comp=Z,178nm,1.3s,comp=Z,2μm						
KUR	**Kuril'sk**	**70.68**	**332**	P	**P**	**09 21 45.1**	**-0.3**
KUR				S	**S**	**09 30 59.8**	**+0.8**
MYLDM	**Lahad Datu**	**70.81**	**282**	P	**P**	**09 21 49.7**	**+2.8**
TSM	**Tawau**	**71.11**	**280**	P	**P**	**09 21 50.0**	**+1.3**
ABJI	**Asem Bagus**	**71.17**	**267**	P	**P**	**09 21 50.2**	**+1.1**
	comp=Z,192nm,1.3s,comp=Z,2μm						
KMMI	**Kalianget**	**71.62**	**268**	P	**P**	**09 21 51.6**	**-0.2**
BLJI	**Banyuglugur**	**71.80**	**267**	P	**P**	**09 21 53.3**	**+0.4**
	comp=Z,175nm,1.1s						
PKM	**Peak Mountain**	**71.80**	**44**	↓P	**P**	**09 21 52.8**	**+0.1**
	baz=72						
GMJI	**Gumukmas**	**71.81**	**266**	P	**P**	**09 21 53.2**	**+0.2**
	comp=Z,81nm,1.1s						
SAO	**San Andreas Ge**	**71.85**	**42**	eP	**P**	**09 21 52.8**	**0.0**
SAO				pmax	pmax		
	comp=Z,141nm,1.5s						
SAO	**San Andreas Ge**	**71.85**	**42**	eP	**P**	**09 21 52.8**	**0.0**
	comp=Z,141nm,1.5s						
CIS	**Catalina Islan**	**71.91**	**46**	↓P	**P**	**09 21 53.4**	**+0.2**
	baz=72						
SMMC	**Simmler**	**71.92**	**44**	↑P	**P**	**09 21 53.5**	**+0.3**
	baz=72						
SDPT	**Sand Point**	**72.15**	**8**	eP	**P**	**09 21 53.3**	**-0.8**
	comp=Z,110nm,0.7s						
FMP	**Fort Macarthur**	**72.16**	**46**	↑P	**P**	**09 21 55.0**	**+0.3**
	baz=72						
SDKM	**Sandakan**	**72.18**	**282**	P	**P**	**09 21 55.2**	**-0.1**
ASAJ	**Asahikawa**	**72.38**	**328**	eP	**P**	**09 21 56.9**	**+1.2**
	comp=Z,140nm,1.7s						
ASAJ	**Asahikawa**	**72.38**	**328**	P	**P**	**09 21 57.0**	**+1.4**
	comp=Z,49nm,0.9s,baz=220,slow=11,SNR=15						
OSI	**Osito Adit**	**72.38**	**45**	eP	**P**	**09 21 56.0**	**0.0**
	comp=Z,53nm,1.4s						
OSI	**Osito Adit**	**72.38**	**45**	↓P	**P**	**09 21 56.0**	**0.0**
	baz=72						
DECC	**Green Verdugo**	**72.44**	**45**	↓P	**P**	**09 21 56.2**	**-0.1**
	baz=73						
JNU	**Nakatsue**	**72.53**	**313**	eP	**P**	**09 21 56.9**	**0.0**
	comp=Z,18nm,1.1s						
JNU	**Nakatsue**	**72.53**	**313**	P	**P**	**09 21 57.1**	**+0.2**
	comp=Z,22nm,1.0s,baz=87,slow=1.7,SNR=9.9						
JNU				LR	LR	09 48 27.1	
	comp=Z,666nm,19.4s,baz=132,slow=31						
109C	**Camp Elliot, M**	**72.53**	**47**	↓P	**P**	**09 21 56.8**	**-0.1**
	baz=73						
ARVC	**Arvin**	**72.60**	**44**	↓P	**P**	**09 21 57.2**	**-0.1**
	baz=73,SNR=5.1						
MWC	**Mount Wilson**	**72.61**	**45**	eP	**P**	**09 21 57.5**	**-0.1**
MWC				pmax	pmax		
	comp=Z,34nm,1.1s						
MWC	**Mount Wilson**	**72.61**	**45**	eP	**P**	**09 21 57.5**	**-0.1**
	comp=Z,34nm,1.1s						
VES	**Vestal, Richgr**	**72.84**	**44**	↑P	**P**	**09 21 58.4**	**-0.2**
	baz=73,SNR=13						
MURC	**Murrieta**	**72.85**	**46**	↑P	**P**	**09 21 58.6**	**-0.2**
	baz=73						
BFSC	**Mount Baldy Ra**	**72.89**	**46**	↑P	**P**	**09 21 58.8**	**-0.4**
	baz=73						
RCTC	**Rector, Farmer**	**73.01**	**43**	↑P	**P**	**09 21 59.2**	**-0.4**
	baz=73						
MONP	**Monument Peak**	**73.01**	**47**	↑P	**P**	**09 21 59.9**	**-0.1**
	baz=73						
EDW2	**Edwards Air Fo**	**73.02**	**45**	↓P	**P**	**09 21 59.8**	**0.0**
	baz=73,SNR=10						
KHMM	**Horse Mountain**	**73.04**	**37**	eP	**P**	**09 22 00.6**	**+0.7**
	comp=Z,44nm,1.0s						
DVTC	**Desert V Tower**	**73.11**	**48**	↑P	**P**	**09 22 00.5**	**0.0**
	baz=73						
ISA	**Isabella**	**73.14**	**44**	eP	**P**	**09 22 00.6**	**0.0**
ISA				pmax	pmax		
	comp=Z,55nm,1.4s						
ISA	**Isabella**	**73.14**	**44**	eP	**P**	**09 22 00.6**	**0.0**
	comp=Z,55nm,1.4s						
ISA	**Isabella**	**73.14**	**44**	↓P	**P**	**09 22 00.6**	**0.0**
	baz=73,SNR=15						
PET	**Petropavlovsk**	**73.16**	**343**	eP	P	09 22 05.6	+5.5
PET				pmax	pmax		
	comp=Z,200nm,16.7s						
KKM	**Kota Kinabalu**	**73.23**	**282**	P	**P**	**09 22 03.9**	**+2.3**
KKM	**Kota Kinabalu**	**73.23**	**282**	↑P	**P**	**09 22 02.2**	**+0.6**
	baz=74,SNR=6.9						
CMB	**Columbia Colle**	**73.29**	**41**	eP	**P**	**09 22 01.2**	**-0.1**
CMB				pmax	pmax		
	comp=Z,38nm,1.0s						
CMB	**Columbia Colle**	**73.29**	**41**	eP	**P**	**09 22 01.2**	**-0.1**
	comp=Z,38nm,1.0s						
CHGN	**Chignik**	**73.36**	**9**	eP	**P**	**09 22 00.6**	**-0.5**
KRMB	**Red Mountain**	**73.36**	**36**	eP	**P**	**09 22 03.0**	**+1.3**
	comp=Z,246nm,1.8s						
PFO	**Pinyon Flat

BEKR	**Beckworth**	74.42	40	*e*P		P	09 22 07.9	-0.1
	comp=Z,13nm,0.9s							
GMRC	**Granite Mounta**	74.57	46	⇓P		P	09 22 08.6	-0.3
	baz=75,SNR=12							
IRM	**Iron Mountain**	74.59	47	⇑P		P	09 22 08.9	-0.2
	baz=75,SNR=6.8							
HUMO	**Hull Mountain**	74.60	36	*e*P		P	09 22 10.0	+1.2
	comp=Z,53nm,1.1s							
FURC	**Furnace Creek,**	74.68	44	⇑P		P	09 22 09.4	0.0
	baz=75							
UGM	**Wanagama**	74.70	266	⇑P		P	09 22 10.0	-0.1
	baz=75,SNR=4.3							
TUQ	**Turquoise Moun**	74.74	45	⇓P		P	09 22 09.7	-0.2
	baz=75							
SHOC	**Shoshone**	74.75	45	⇓P		P	09 22 09.8	-0.1
	baz=75,SNR=5.2							
Y12C	**Blythe**	74.81	48	⇓P		P	09 22 10.1	-0.1
	baz=75							
113A	**Mohawk Valley,**	74.84	49	⇑P		P	09 22 10.1	-0.3
	baz=75,SNR=11							
NVAR	**Mina Array Bea**	74.85	42	P		P	09 22 10.7	0.0
NVAR	**Mina Array Bea**	74.85	42	P		P	09 22 10.7	0.0
	comp=Z,27nm,0.9s,baz=228,slow=9.5,SNR=78							
NVAR				LR		LR	09 48 00.5	
	comp=Z,2µm,20.6s,baz=137,slow=30							
PAHR	**Pah Rah Range**	74.92	40	*e*P		P	09 22 11.4	+0.5
	comp=Z,39nm,1.1s							
NV11	**Mina Array Sit**	74.94	42	*e*P		P	09 22 10.9	-0.2
OHAK	**Old Harbor**	75.08	11	*e*P		P	09 22 10.9	-0.3
	comp=Z,89nm,1.2s							
LDFC	**Landfair**	75.11	46	*e*P		P	09 22 12.3	+0.2
	comp=Z,81nm,1.3s							
214A	**Organ Pipe Nat**	75.13	50	⇑P		P	09 22 12.2	0.0
	baz=75							
NACB	**Ninganchiao**	75.25	301	*e*P		P	09 22 11.7	-1.3
	comp=Z,90nm,1.3s							
BTM	**Bintulu**	75.31	278	P		P	09 22 15.2	+1.6
PDMCI	**Parker Dam,Lak**	75.37	47	⇓P		P	09 22 13.3	-0.2
	baz=76,SNR=8.4							
BJII	**Banjamegara**	75.63	266	P		P	09 22 23.8	+8.3
YHNB	**Yeheng**	75.65	301	*e*P		P	09 22 14.9	-0.4
	comp=Z,64nm,1.0s							
TPUB	**Ta-pu**	75.68	300	*e*P		P	09 22 14.9	-0.6
	comp=Z,107nm,1.0s							
COR	**Corvallis**	75.69	34	*e*P		P	09 22 16.0	+1.0
COR	**Corvallis**	75.69	34	*e*P		P	09 22 16.0	+1.0
	comp=Z,331nm,0.9s							
MOD	**Modoc**	75.69	38	*e*P		P	09 22 15.4	+0.1
	comp=Z,205nm,1.0s							
KDAK	**Kodiak Island**	75.73	11	P		P	09 22 15.3	+0.4
	comp=Z,299nm,0.8s,SNR=6.1							
KDAK	**Kodiak Island**	75.73	11	*e*P		P	09 22 15.4	+0.4
	comp=Z,54nm,0.9s							
Z14A	**Wintersburg**	75.74	49	⇑P		P	09 22 15.6	-0.1
	baz=76,SNR=8.3							
SHPR	**Sheep Range**	75.84	45	*e*P		P	09 22 16.4	+0.1
K05A	**Summer Lake**	75.85	37	*e*P		P	09 22 16.9	+0.6
	comp=Z,100nm,1.0s							
SBUM	**Sibu**	75.91	277	P		P	09 22 18.3	+1.2
SBUM	**Sibu**	75.91	277	*e*P		P	09 22 17.9	+0.8
	comp=Z,191nm,2.6s							
W13A	**Hualapai Mount**	75.97	47	⇓P		P	09 22 16.9	-0.3
	baz=76,SNR=5.5							
Y14A	**Wickenburg**	75.99	48	⇓P		P	09 22 17.0	-0.1
	baz=76,SNR=15							
FRIS	**Frissel Point**	76.10	35	P		P	09 22 17.8	+0.2
H04A	**Detroit Lake**	76.36	35	*e*P		P	09 22 18.8	-0.1
	comp=Z,65nm,0.9s							
R11A	**Troy Canyon, C**	76.56	43	*e*P		P	09 22 20.0	-0.4
R11A	**Troy Canyon, C**	76.56	43	⇓P		P	09 22 20.3	-0.1
	baz=77							
BMN	**Battle Mountai**	76.69	41	*e*P		P	09 22 21.5	+0.4
BMN				pmax		pmax		
	comp=Z,30nm,1.0s							
BMN	**Battle Mountai**	76.69	41	*e*P		P	09 22 21.5	+0.4
	comp=Z,30nm,1.0s							
TUC	**Tucson**	76.80	50	*e*P		P	09 22 21.8	0.0
TUC				pmax		pmax		
	comp=Z,20nm,1.0s							
TUC	**Tucson**	76.80	50	*e*P		P	09 22 21.8	0.0
	comp=Z,20nm,1.0s							
E03A	**Lebam**	76.83	33	*e*P		P	09 22 22.0	+0.5
	comp=Z,118nm,0.9s							
KSRS	**Korea Array**	76.91	316	P		P	09 22 23.7	+1.6
	comp=Z,15nm,1.1s,baz=125,slow=5.8,SNR=37							
KSRS				LR		LR	09 49 58.2	
	comp=Z,588nm,22.0s,baz=135,slow=31							
KSAR	**Wonju Array Be**	76.93	316	P		P	09 22 23.7	+1.4
BMW	**Boistfort Moun**	76.96	33	P		P	09 22 22.8	+0.4
BMW	**Boistfort Moun**	76.96	33	P		P	09 22 22.8	+0.4
WVOR	**Wild Horse Val**	77.00	38	*e*P		P	09 22 22.4	-0.3
WVOR				pmax		pmax		
	comp=Z,65nm,1.3s							
WVOR	**Wild Horse Val**	77.00	38	*e*P		P	09 22 22.4	-0.3
	comp=Z,65nm,1.3s							
VLL	**Laurance Lake**	77.13	34	P		P	09 22 23.8	+0.4
NLWA	**Neilton Lookou**	77.24	32	*e*P		P	09 22 24.8	+0.9
	comp=Z,50nm,0.9s							
X16A	**Lo Mia Camp, P**	77.35	48	⇑P		P	09 22 25.2	+0.2
	baz=78,SNR=24							
TDL	**Tradedollar La**	77.41	33	P		P	09 22 25.4	+0.5
KSM	**Kuching**	77.45	275	P		P	09 22 26.8	+1.0
KSM	**Kuching**	77.45	275	P		P	09 22 27.2	+1.5
KSM	**Kuching**	77.45	275	*e*P		P	09 22 26.6	+0.8
	comp=Z,96nm,1.3s							
319A	**Douglas**	77.48	52	⇑P		P	09 22 25.8	+0.1
	baz=78,SNR=15							
G06A	**Carlson Farm,**	77.56	35	*e*P		P	09 22 25.6	-0.1
	comp=Z,33nm,1.0s							
CCUT	**Cedar City**	77.61	45	*e*P		P	09 22 27.1	+0.6
	comp=Z,37nm,1.2s							
J08A	**Circle Bar Ran**	77.64	38	*e*P		P	09 22 26.3	0.0
	comp=Z,58nm,1.2s							
ARUT	**Antelope Range**	77.69	44	*e*P		P	09 22 27.1	+0.3
ARUT	**Antelope Range**	77.69	44	*e*P		P	09 22 27.1	+0.3
	comp=Z,702nm,1.1s							
U15A	**North Rim**	77.77	46	⇓P		P	09 22 27.7	+0.4
	baz=78							
INCN	**Inchon**	77.80	315	*e*P		P	09 22 28.4	+1.3
	comp=Z,80nm,1.1s							
LON	**Longmire**	77.88	33	*e*P		P	09 22 27.2	-0.3
LON				pmax		pmax		
	comp=Z,15nm,0.8s							
LON	**Longmire**	77.88	33	*e*P		P	09 22 27.2	-0.3
	comp=Z,15nm,0.8s							
WUAZ	**Wupatki**	77.95	47	*e*P		P	09 22 28.4	+0.2
	comp=Z,15nm,0.9s							
WUAZ	**Wupatki**	77.95	47	⇑P		P	09 22 28.4	+0.2
	baz=78							
WPW	**White Pass**	77.99	33	P		P	09 22 28.1	0.0
320A	**Kipp Ranch, An**	78.03	52	⇓P		P	09 22 29.1	+0.3
	baz=78							
D05A	**Enumclaw**	78.07	33	*e*P		P	09 22 29.4	+0.9
	comp=Z,162nm,1.3s							
ELK	**Elko**	78.11	41	*e*P		P	09 22 29.0	-0.2
	comp=Z,30nm,1.1s							
USRK	**Ussuriysk Arra**	78.19	323	P		P	09 22 30.4	+1.3
	comp=Z,20nm,0.9s,baz=116,slow=4.4,SNR=34							
RSO	**Reoubt South**	78.23	10	*e*P		P	09 22 28.5	-0.7
PGC	**Sidney**	78.28	31	*e*P		P	09 22 29.7	+0.2
	comp=Z,3.8nm,0.9s							
220A	**Playas Peak, P**	78.29	52	⇑P		P	09 22 30.5	+0.3
	baz=78,SNR=31							
SVW2	**Sparrevohn**	78.39	9	*e*P		P	09 22 29.3	-0.6
	comp=Z,27nm,0.9s							
NAC	**Naches**	78.40	34	P		P	09 22 30.6	+0.3
X18A	**Snowflake**	78.48	49	⇓P		P	09 22 31.3	+0.1
	baz=79,SNR=9.9							
120A	**U Bar Ranch, L**	78.51	51	⇓P		P	09 22 31.5	+0.1
	baz=79,SNR=9.5							
G08A	**Pilot Rock**	78.53	36	*e*P		P	09 22 31.0	-0.2
	comp=Z,52nm,1.0s							
C05A	**Tolt Reservoir**	78.55	33	P		P	09 22 31.1	0.0
SSE	**Sheshan**	78.63	307	P		P	09 22 32.7	+0.8
SSE				S		S	09 32 29.1	+0.6
SSE				sS		sS	09 32 34.4	-2.6
SSE				AMB		AMB		
	comp=Z,16nm,0.9s							
SSE				AMB		AMB		
	comp=Z,240nm,5.9s							
SSE				LR		LR		
	comp=Z,460nm,23.5s							
SSE				LR		LR		
	comp=Z,470nm,23.5s							
SSE				LR		LR		
	comp=Z,700nm,23.0s							
CMW	**Cultus Mountai**	78.80	32	P		P	09 22 33.2	+0.7
Z20A	**Nine Sixteen R**	78.80	51	⇑P		P	09 22 33.5	+0.4
	baz=79,SNR=15							
LTY	**Liberty**	78.81	33	*e*P		P	09 22 32.6	0.0
	comp=Z,25nm,1.0s							
BENWA	**Benson Ranch**	78.86	34	P		P	09 22 33.4	+0.5
HAWA	**Hanford**	78.88	35	*e*P		P	09 22 33.0	0.0
	comp=Z,46nm,1.0s							
MDW	**Midway**	78.89	34	P		P	09 22 33.5	+0.5
MDW	**Midway**	78.89	34	P		P	09 22 33.5	+0.5
221A	**Mesquite Ranch**	78.91	52	⇓P		P	09 22 33.8	+0.2
	baz=79,SNR=6.9							
W18A	**Petrified Fore**	78.92	48	⇑P		P	09 22 33.6	0.0
	baz=79							
SPU	**Mount Spurr**	79.02	10	*e*P		P	09 22 32.5	-0.9
CRAG	**Craig**	79.07	22	*e*P		P	09 22 33.9	+0.2
	comp=Z,47nm,0.9s							
121A	**Cookes Peak, D**	79.14	51	⇓P		P	09 22 35.1	+0.2
	baz=79,SNR=12							
HABR	**Khabarovsk**	79.17	328	*e*P		P	09 22 32.9	-1.5
HABR				*e*			09 22 40.7	
HABR				*e*PPP		PPP	09 27 20.0	
HABR				*e*S		S	09 32 32.4	-1.1
HABR				*e*'SS		sS	09 32 38.1	-3.9
HABR				*e*			09 32 54.8	
HABR				*e*SS		SS	09 37 39.3	-1.1
HABR				*e*SSS		SSS	09 41 04.9	
HABR				MLR		MLR		
	comp=Z,202nm,21.0s							
A05A	**Maple Falls**	79.19	31	*e*P		P	09 22 34.0	-0.5
	comp=Z,67nm,1.4s							
BMO	**Blue Mountains**	79.21	37	*e*P		P	09 22 34.3	-0.5
	comp=Z,25nm,1.0s							
MFID	**Camas Ranch**	79.25	39	⇓P		P	09 22 34.9	-0.3
	baz=79,SNR=19							
Y20A	**Horse Springs,**	79.33	50	⇑P		P	09 22 36.4	+0.4
	baz=80,SNR=22							
DUG	**Dugway**	79.37	43	*e*P		P	09 22 36.0	+0.1
DUG				pmax		pmax		
	comp=Z,28nm,1.1s							
DUG	**Dugway**	79.37	43	*e*P		P	09 22 36.0	+0.1
	comp=Z,28nm,1.1s							
DUG	**Dugway**	79.37	43	⇑P		P	09 22 36.1	+0.2
	baz=80,SNR=20							
222A	**Williams Famil**	79.46	52	⇑P		P	09 22 36.6	0.0
	baz=80							
WTV	**Waterville**	79.46	33	P		P	09 22 35.9	-0.3
X20A	**Quemado**	79.54	49	⇓P		P	09 22 37.5	+0.3
	baz=80,SNR=15							
SIT	**Sitka**	79.57	20	*e*P		P	09 22 36.7	+0.3
SIT				pmax		pmax		
	comp=Z,73nm,1.5s							
SIT	**Sitka**	79.57	20	*e*P		P	09 22 36.7	+0.3
	comp=Z,73nm,1.5s							
Z21A	**St. Cloud Mine**	79.58	51	⇑P		P	09 22 37.8	+0.4
	baz=80,SNR=40							
BGU	**Big Grassy Mou**	79.62	42	*e*P		P	09 22 37.3	0.0
	comp=Z,20nm,1.3s							
E09A	**Wood Farm, Sta**	79.72	35	*e*P		P	09 22 37.0	-0.4
	comp=Z,42nm,1.1s							
NLU	**North Lily Min**	79.73	43	*e*P		P	09 22 37.8	-0.2
	comp=Z,12nm,1.2s							
RAGM	**Ragged Mountai**	79.78	14	*e*P		P	09 22 40.1	+2.5
	comp=Z,566nm,1.1s							
Q16A	**Castle Valley**	79.80	44	*e*P		P	09 22 38.7	+0.3
Q16A	**Castle Valley**	79.80	44	⇓P		P	09 22 39.0	+0.6
	baz=80,SNR=20							
122A	**Conniff Cattle**	79.80	52	⇓P		P	09 22 38.8	+0.4
	baz=80							
W20A	**Ramah**	79.81	49	⇑P		P	09 22 39.1	+0.5
	baz=80,SNR=35							
Y21A	**Point of Rocks**	79.90	50	⇓P		P	09 22 39.7	+0.6
	baz=80,SNR=15							
F10A	**Beach Ranch, E**	79.91	36	*e*P		P	09 22 38.0	-0.7
	comp=Z,53nm,1.0s							
223A	**Chaparral, Ant**	79.93	52	⇑P		P	09 22 39.1	0.0
	baz=80							
PMR	**Palmer**	79.93	11	*e*P		P	09 22 37.6	-0.7
PMR				pmax		pmax		
	comp=Z,52nm,1.0s							
PMR	**Palmer**	79.93	11	*e*P		P	09 22 37.6	-0.7
	comp=Z,52nm,1.0s							
TMUT	**Trail Mountain**	79.96	44	*e*P		P	09 22 40.1	+0.7
	comp=Z,58nm,1.0s							
X21A	**Alamocita Cree**	80.02	50	⇓P		P	09 22 39.8	+0.1
	baz=80,SNR=11							
MPU	**Maple Canyon**	80.05	43	*e*P		P	09 22 40.0	+0.3
	comp=Z,24nm,1.0s							
Z22A	**Elephant Butte**	80.08	51	⇑P		P	09 22 40.2	+0.2
	baz=80,SNR=11							
WRAK	**Wrangell Islan**	80.09	22	*e*P		P	09 22 39.4	+0.2
	comp=Z,45nm,1.1s							
V20A	**Brimhall**	80.15	48	⇑P		P	09 22 40.3	-0.1
	baz=80							
HLID	**Hailey**	80.18	39	*e*P		P	09 22 40.4	0.0
	comp=Z,42nm,1.0s							
HLID	**Hailey**	80.18	39	⇑P		P	09 22 40.5	+0.2
	baz=80,SNR=59							
DIV	**Divide**	80.20	13	*e*P		P	09 22 39.8	-0.1
	comp=Z,115nm,0.8s							
B08A	**Colville Reser**	80.20	33	*e*P		P	09 22 39.2	-0.9
	comp=Z,39nm,0.9s							
HVU	**Hansel Valley**	80.23	41	*e*P		P	09 22 40.9	+0.3
HVU				pmax		pmax		
	comp=Z,29nm,1.0s							
HVU	**Hansel Valley**	80.23	41	*e*P		P	09 22 40.9	+0.3
	comp=Z,29nm,1.0s							
BMRM	**Bremner River**	80.31	14	*e*P		P	09 22 40.5	0.0
	comp=Z,118nm,1.0s							
SRU	**San Rafael**	80.33	45	*e*P		P	09 22 41.6	+0.3
SRU				pmax		pmax		
	comp=Z,38nm,1.1s							
SRU	**San Rafael**	80.33	45	*e*P		P	09 22 41.6	+0.3
	comp=Z,38nm,1.1s							
123A	**Bell Site, Whi**	80.33	52	⇓P		P	09 22 41.4	+0.1
	baz=80							
U20A	**Newcomb**	80.39	48	⇑P		P	09 22 41.6	0.0
	baz=80,SNR=19							
Y22A	**Socorro**	80.39	51	⇑P		P	09 22 41.6	0.0
	baz=80,SNR=16							
324A	**Moseley Ranch,**	80.41	53	⇑P		P	09 22 41.5	-0.3
	baz=80,SNR=28							
C09A	**Chrisman Ranch**	80.42	34	*e*P		P	09 22 41.1	-0.2
	comp=Z,39nm,0.8s							
W21A	**San Fidel**	80.42	49	⇑P		P	09 22 42.0	+0.2
	baz=81							
JLU	**Jordanelle**	80.47	43	*e*P		P	09 22 41.8	-0.2
	comp=Z,23nm,1.0s							
LAZ	**Larson**	80.47	50	*e*P		P	09 22 42.2	+0.1
	comp=Z,6.2nm,1.1s							
Y22D	**IRIS PASSCAL I**	80.48	50	⇓P		P	09 22 42.5	+0.4
	baz=81							
LENM	**Lemitar**	80.48	50	*e*P		P	09 22 42.4	+0.2
DAU	**Daniels Canyon**	80.50	43	*e*P		P	09 22 42.6	+0.3
DAU	**Daniels Canyon**	80.50	43	*e*P		P	09 22 42.5	+0.3
425A	**Indio Mountain**	80.51	54	⇑P		P	09 22 42.3	0.0
	baz=81,SNR=21							
MNTX	**Cornudas Mount**	80.59	53	*e*P		P	09 22 42.1	-0.5
	comp=Z,19nm,1.2s							
X22A	**Bernardo**	80.61	50	⇓P		P	09 22 43.5	+0.7
	baz=81,SNR=5.3							
Z23A	**Rita Site, Whi**	80.63	51	⇑P		P	09 22 43.2	+0.2
	baz=81,SNR=12							
224A	**Cornudas Mount**	80.65	53	⇑P		P	09 22 43.0	0.0
	baz=81,SNR=21							
626A	**Big Bend Ranch**	80.66	56	⇑P		P	09 22 43.0	-0.1
	baz=81,SNR=18							
BNM	**Barren Site**	80.73	50	*e*P		P	09 22 43.5	-0.1
	comp=Z,17nm,1.1s							
V21A	**Milan**	80.75	49	⇑P		P	09 22 43.7	+0.1
	baz=81,SNR=10							
325A	**Bean Ranch, Si**	80.77	54	⇓P		P	09 22 43.4	-0.4
	baz=81							
PV05	**Paradox Valley**	80.79	46	*e*P		P	09 22 44.3	+0.5
MVCO	**Mesa Verde**	80.80	47	*e*P		P	09 22 43.8	-0.1
	comp=Z,27nm,1.4s							
MVCO	**Mesa Verde**	80.80	47	⇓P		P	09 22 43.8	-0.1
	baz=81							
LPM	**Los Pinos Moun**	80.80	50	*e*P		P	09 22 43.9	0.0
NJ2	**Nanjing**	80.84	307	*e*P		P	09 22 44.0	+0.2
NJ2				pP		pP	09 22 48.2	-0.8
NJ2				S		S	09 32 51.0	-0.8
NJ2				sS		sS	09 32 59.5	-0.8
NJ2				AMB		AMB		
	comp=Z,40nm,1.2s							
NJ2				AMB		AMB		
	comp=Z,600nm,5.6s							
NJ2				LR		LR		
	comp=Z,2µm,24.8s							
NJ2				LR		LR		
	comp=Z,930nm,25.6s							
NJ2				LR		LR		
	comp=Z,1µm,23.8s							
526A	**Mary Lane Ranc**	80.91	55	⇓P		P	09 22 44.3	-0.2
	baz=81,SNR=21							
TXAR	**Lajitas Array**	80.94	56	P		P	09 22 44.4	-0.2
TXAR	**Lajitas Array**	80.94	56	P		P	09 22 44.4	-0.2
	comp=Z,15nm,1.1s,baz=223,slow=6.8,SNR=46							
TXAR				LR		LR	09 51 28.8	
	comp=Z,1µm,19.8s,baz=100,slow=30							
124A	**Stringfield Ra**	80.97	52	⇓P		P	09 22 44.9	0.0
	baz=81,SNR=14							
W22A	**Albuquerque**	80.97	50	⇓P		P	09 22 45.2	+0.4
	baz=81							
PV09	**Paradox Valley**	80.97	46	*e*P		P	09 22 45.0	+0.2
PV10	**Paradox Valley**	80.98	46	*e*P		P	09 22 44.4	-0.5
	comp=Z,288nm,0.9s							
U21A	**Nageezi**	81.02	48	⇓P		P	09 22 45.3	+0.2
	baz=81,SNR=34							
Y23A	**Lovelace Mesa,**	81.06	51	⇓P		P	09 22 45.1	-0.2
	baz=81,SNR=11							
CAST	**Castle Rocks**	81.12	9	*e*P		P	09 22 43.2	-1.5
	comp=Z,32nm,0.8s							
PV01	**Paradox Valley**	81.19	46	*e*P		P	09 22 45.6	-0.3
	comp=Z,3µm,1.1s							
S20A	**Disappointment**	81.19	46	⇑P		P	09 22 46.0	+0.1
	baz=81,SNR=17							
225A	**Deer Hill, Car**	81.20	53	⇑P		P	09 22 46.0	0.0
	baz=81,SNR=20							
426A	**McDonald Obser**	81.21	55	⇑P		P	09 22 45.9	-0.2
	baz=81,SNR=36							
627A	**Terlingua Ranc**	81.21	56	⇓P		P	09 22 46.0	-0.1
	baz=81,SNR=22							
ANMO	**Albuquerque**	81.22	50	*e*P		P	09 22 46.1	0.0
	comp=Z,22nm,1.1s							
X23A	**Hourglass Bar**	81.25	50	⇑P		P	09 22 46.2	-0.1
	baz=81							
Z24A	**Sheeppen Canyo**	81.31	52	⇑P		P	09 22 46.3	-0.4
	baz=81,SNR=9.8							
527A	**Woodward Ranch**	81.32	55	⇓P		P	09 22 46.4	-0.3
	baz=81,SNR=22							
NEW	**Newport**	81.32	34	*e*P		P	09 22 45.4	-0.7
	comp=Z,16nm,1.0s							
NEW	**Newport**	81.32	34	⇑P		P	09 22 45.3	-0.8
	baz=82,SNR=8.1							
V22A	**San Miguel Ran**	81.33	49	⇓P		P	09 22 46.5	-0.2
	baz=82,SNR=6.2							
R20A	**Redvale**	81.34	46	⇑P		P	09 22 46.4	-0.3
	baz=82,SNR=14							
PV15	**Paradox Valley**	81.35	46	*e*P		P	09 22 46.5	-0.3
KLR	**Kul'dur**	81.35	327	*e*P		P	09 22 43.4	-2.8
KLR				pmax		pmax		
	comp=E,50nm,1.6s							
KLR				pmax		pmax		
	comp=Z,110nm,1.6s							
T21A	**Navajo Lake**	81.37	48	⇓P		P	09 22 47.1	+0.2
	baz=82,SNR=13							
M17A	**Scullys Gap (B**	81.42	42	⇓P		P	09 22 46.3	-0.8
	baz=82,SNR=9.6							
TRF	**Thorofare Moun**	81.44	10	*e*P		P	09 22 46.1	-0.5
	comp=Z,53nm,0.7s							
SKAG	**Skagway**	81.50	18	*e*P		P	09 22 47.8	+1.0
	comp=Z,34nm,1.0s							
S21A	**Coal Bank Pass**	81.50	47	⇑P		P	09 22 48.0	+0.3
	baz=82							
326A	**Caldwell Ranch**	81.52	54	⇓P		P	09 22 47.1	-0.5
	baz=82,SNR=8.1							
Y24A	**Capitan**	81.52	51	⇓P		P	09 22 47.5	-0.2
	baz=82,SNR=25							
W23A	**Werner Place,**	81.54	50	⇑P		P	09 22 47.7	-0.1
	baz=82,SNR=14							
125A	**Gardner Draw,**	81.56	53	⇓P		P	09 22 47.7	-0.2
	baz=82,SNR=12							
U22A	**Llaves**	81.58	48	⇓P		P	09 22 47.9	-0.1
	baz=82,SNR=8.6							
GDL2	**Guadalupe Moun**	81.59	53	*e*P		P	09 22 48.1	+0.1
628A	**Black Gap, Mar**	81.62	56	⇓P		P	09 22 47.9	-0.3
	baz=82,SNR=12							
P19A	**Cripple Cowboy**	81.63	45	⇑P		P	09 22 47.9	-0.3
	baz=82,SNR=14							
226B	**Tecolote Peak,**	81.69	53	⇓P		P	09 22 48.4	-0.2
	baz=82,SNR=34							
Q20A	**Ridgley Place,**	81.77	46	⇑P		P	09 22 48.7	-0.2
	baz=82,SNR=29							
427A	**Hayter Ranch,**	81.77	55	⇑P		P	09 22 48.9	-0.1
	baz=82,SNR=21							
V23A	**Ortiz Mt. (NFS**	81.78	49	⇓P		P	09 22 49.5	+0.4
	baz=82,SNR=22							
Z25A	**Roswell**	81.78	52	⇓P		P	09 22 49.0	0.0
	baz=82,SNR=14							
X24A	**Lazy VL Ranch,**	81.80	51	⇑P		P	09 22 48.6	-0.6
	baz=82							
MCMT	**McKenzie Canyo**	81.81	39	*e*P		P	09 22 49.1	0.0
	comp=Z,22nm,1.2s							
T22A	**Edith**	81.83	48	⇑P		P	09 22 49.3	-0.1
	baz=82,SNR=18							
O19A	**Miners Draw (B**	81.86	44	⇓P		P	09 22 48.9	-0.5
	baz=82,SNR=11							
CN2	**Changchun**	81.87	320	⇑P		P	09 22 49.8	+0.7
CN2				epP		PcP

REDW Red Top Meadow 82.27 41 eP P 09 22 51.5 +0.1
comp=Z,500nm,1.2s
TPAW Teton Pass 82.27 41 eP P 09 22 51.4 -0.1
comp=Z,444nm,1.0s
428A Kincaid Ranch, 82.29 55 ⇑P P 09 22 51.9 +0.2
baz=82,SNR=9.0
227A Bennet, Jal 82.34 54 ⇑P P 09 22 51.4 -0.5
baz=82
Z26A Caprock 82.34 52 ⇑P P 09 22 51.6 -0.3
baz=82,SNR=28
BSMT Bassoo Peak 82.36 35 eP P 09 22 51.2 -0.6
X25A Clemmons Ranch 82.36 51 ⇑P P 09 22 51.6 -0.5
baz=82
O20A White River Ci 82.37 44 eP P 09 22 52.0 0.0
O20A White River Ci 82.37 44 ⇓P P 09 22 51.7 -0.3
baz=82,SNR=12
SNOW Snow King Moun 82.38 41 eP P 09 22 52.1 0.0
comp=Z,47nm,1.0s
529A Stev Forest Ra 82.41 56 ⇑P P 09 22 51.8 -0.5
baz=82,SNR=15
M19A Rock Springs 82.42 43 ⇓P P 09 22 51.6 -0.7
baz=83,SNR=6.8
V24A Rampart Ranch, 82.43 50 ⇓P P 09 22 52.6 +0.1
baz=83,SNR=12
DLBC Dease Lake 82.44 21 eP P 09 22 51.5 -0.3
328A Wristen Ranch, 82.45 54 ⇓P P 09 22 51.8 -0.8
baz=83,SNR=8.3
T23A Casias Ranch, 82.46 48 ⇑P P 09 22 52.9 +0.2
baz=83,SNR=17
IMW Indian Meadow 82.49 40 eP P 09 22 52.9 +0.2
comp=Z,55nm,1.2s
R22A Saguache, Gunn 82.49 47 ⇓P P 09 22 53.4 +0.5
baz=83,SNR=34
MOOW Moose Ponds 82.53 40 eP P 09 22 52.4 -0.4
comp=Z,22nm,1.1s
LOHW Long Hollow 82.55 41 eP P 09 22 52.6 -0.4
comp=Z,38nm,1.2s
127A Arkansas Junct 82.56 53 ⇓P P 09 22 52.6 -0.6
baz=83,SNR=10
LRM Limekiln Ridge 82.58 38 eP P 09 22 52.7 -0.4
L19A Farson 82.59 42 ⇑P P 09 22 52.9 -0.3
baz=83
SWMT Swartz Lake 82.61 36 eP P 09 22 53.5 +0.4
comp=Z,18nm,1.2s
P21A Newcastle 82.61 45 ⇑P P 09 22 53.4 0.0
baz=83,SNR=18
QLMT Earthquake Lak 82.67 39 eP P 09 22 53.9 +0.4
Q22A Crested Butte, 82.68 46 ⇓P P 09 22 54.0 +0.1
baz=83,SNR=62
N20A Spence Gulch, 82.69 44 ⇓P P 09 22 53.4 -0.3
baz=83,SNR=36
CHMT Chamberlain Mo 82.71 37 eP P 09 22 52.8 -0.8
I17A Pilgrim Ck. 82.73 40 ⇓P P 09 22 54.1 +0.3
baz=83,SNR=10
U24A Moreno Valley 82.73 49 ⇓P P 09 22 54.3 +0.2
baz=83,SNR=14
Y26A Elida 82.73 52 ⇑P P 09 22 53.5 -0.5
baz=83
FLWY Flagg Ranch 82.73 40 eP P 09 22 54.2 +0.3
comp=Z,72nm,1.0s
SLMT Seeley Lake 82.75 36 eP P 09 22 52.8 -1.0
SMCO Snowmass 82.78 46 eP P 09 22 54.3 -0.2
comp=Z,44nm,1.0s
BW06 Boulder Array 82.79 42 eP P 09 22 53.6 -0.6
comp=Z,37nm,0.9s
S23A Nye Farm, Mont 82.79 47 ⇑P P 09 22 54.3 -0.1
baz=83,SNR=8.9
PDAR Pinedale Array 82.79 42 P P 09 22 53.5 -0.7
PDAR Pinedale Array 82.79 42 P P 09 22 53.6 -0.7
comp=Z,29nm,0.9s,baz=217,slow=3.1,SNR=170
PDAR LR LR 09 54 02.0
comp=Z,1μm,19.3s,baz=243,slow=32
W25A X Bar L Ranch, 82.81 50 ⇑P P 09 22 53.6 -0.8
baz=83,SNR=22
YFT Old Faithful 82.84 40 eP P 09 22 55.9 +1.4
comp=Z,43nm,1.1s
429A Davenport Ranc 82.87 55 ⇓P P 09 22 54.0 -0.7
baz=83,SNR=34
YMR Madison River 82.87 40 eP P 09 22 55.5 +0.9
comp=Z,105nm,1.3s
228A UT Block 9, Go 82.92 54 ⇑P P 09 22 54.3 -0.7
baz=83
O21A Pagoda 82.92 45 ⇓P P 09 22 54.5 -0.6
baz=83,SNR=7.7
Z27A Tatum 82.94 52 ⇑P P 09 22 54.2 -0.8
baz=83,SNR=9.3
T24B San Luis 82.94 48 ⇑P P 09 22 55.4 +0.2
baz=83,SNR=17
V25A Rancho No Teng 82.96 50 ⇑P P 09 22 55.0 -0.3
baz=83,SNR=37
H17A Grant Village 82.97 40 eP P 09 22 56.2 +1.1
H17A Grant Village 82.97 40 ⇓P P 09 22 56.1 +0.9
baz=83,SNR=5.1
BOZ Bozeman (W) 82.98 38 eP P 09 22 54.7 -0.4
BOZ pmax pmax
comp=Z,44nm,1.2s
BOZ Bozeman (W) 82.98 38 eP P 09 22 54.7 -0.4
comp=Z,44nm,1.2s
X26A CR and CF Fran 83.00 51 ⇑P P 09 22 54.8 -0.6
baz=83,SNR=9.5
M20A Sweetwater, Wa 83.05 43 ⇑P P 09 22 55.4 -0.3
baz=83,SNR=22
YNR Norris Junctio 83.07 40 eP P 09 22 56.7 +1.0
comp=Z,47nm,1.3s
P22A Eagle 83.12 46 ⇑P P 09 22 55.8 -0.2
baz=83,SNR=29
530A J-C Ranch, Com 83.12 56 ⇑P P 09 22 55.5 -0.5
baz=83,SNR=5.8
R23A Moffat 83.13 47 ⇑P P 09 22 56.1 0.0
baz=83,SNR=22
329A Wagon Wheel Ra 83.14 55 ⇑P P 09 22 55.6 -0.6
baz=83
SDCO Great Sand Dun 83.16 48 eP P 09 22 55.6 -0.7
comp=Z,22nm,1.2s
LKWY Lake 83.16 40 eP P 09 22 57.6 +1.4
LKWY pmax pmax
comp=Z,60nm,1.0s
LKWY Lake 83.16 40 eP P 09 22 57.6 +1.4
comp=Z,60nm,1.0s
COLA College 83.18 11 eP P 09 22 54.4 -1.0
COLA pmax pmax
comp=Z,134nm,0.9s
COLA College 83.18 11 eP P 09 22 54.4 -1.0
comp=Z,134nm,0.9s
L20A Wamsutter 83.20 43 ⇓P P 09 22 56.4 0.0
baz=83,SNR=50
128A Castleberry Fa 83.21 53 ⇓P P 09 22 56.1 -0.4
baz=83,SNR=8.6
Y27A Causey 83.21 52 ⇑P P 09 22 55.6 -0.9
baz=83,SNR=18
ILAR Eielson Array 83.26 11 P P 09 22 55.1 -0.7
ILAR Eielson Array 83.26 11 P P 09 22 55.1 -0.7
comp=Z,18nm,0.7s,baz=230,slow=6.2,SNR=342
ILAR LR LR 09 56 29.3
comp=Z,248nm,18.3s,baz=93,slow=33
W26A Owens Ranch, T 83.27 51 ⇓P P 09 22 56.0 -0.8
baz=83,SNR=8.5
K19A Absolon Red Bu 83.27 42 ⇑P P 09 22 55.8 -0.9
baz=83,SNR=38
IM04 Indian Mountai 83.29 8 eP P 09 22 56.4 +0.4
S24A Houchin Ranch, 83.32 48 ⇓P P 09 22 57.1 -0.1
baz=84,SNR=26
U25A Circle Dot Ran 83.35 49 ⇓P P 09 22 56.9 -0.4
baz=84,SNR=43
J19A Crowheart 83.36 41 ⇑P P 09 22 56.5 -0.6
baz=84,SNR=64
IMA2 Indian Mountai 83.39 8 eP P 09 22 57.0 +0.4
QIZ Qiongzhong 83.40 292 P P 09 22 57.7 +0.1
QIZ S S 09 33 20.1 +1.3
QIZ AMB AMB
comp=Z,12nm,1.4s
QIZ LR LR
comp=Z,430nm,16.2s
QIZ LR LR
comp=Z,270nm,19.3s
QIZ LR LR
comp=Z,1μm,27.1s
SEY Seymchan 83.41 345 ceP P 09 22 57.1 +0.5
Q23A Hartsel 83.44 46 ⇓P P 09 22 57.5 -0.3
baz=84
631A Perdido Creek 83.45 57 ⇑P P 09 22 56.9 -0.8
baz=84,SNR=18
430A Baggett Ranch, 83.45 55 ⇑P P 09 22 57.0 -0.7
baz=84
229A Bryant Ranch, 83.47 54 ⇓P P 09 22 57.1 -0.7
baz=84
K20A Yellowstone Ra 83.51 42 ⇑P P 09 22 56.9 -1.0
baz=84,SNR=46
WALA Waterton Lakes 83.52 35 eP P 09 22 57.3 -0.4
comp=Z,2.1nm,1.4s
O22A Kremmling 83.53 45 ⇑P P 09 22 58.1 -0.1
baz=84,SNR=51
MSTX Muleshoe 83.54 52 eP P 09 22 57.3 -0.9
MSTX Muleshoe 83.54 52 ⇑P P 09 22 57.5 -0.7
baz=84,SNR=21
V26A Tequesquite Ra 83.55 50 ⇓P P 09 22 57.2 -1.0
baz=84,SNR=15
Z28A Tucker Farm, M 83.56 53 ⇓P P 09 22 57.5 -0.8
baz=84,SNR=14
X27A F and S Farms, 83.58 51 ⇑P P 09 22 57.8 -0.5
baz=84,SNR=7.7
M21A Separation Pea 83.65 44 ⇑P P 09 22 58.1 -0.6
baz=84,SNR=37
P23A Jefferson 83.65 46 ⇑P P 09 22 59.2 +0.3
baz=84,SNR=16
R24A Sanders Place, 83.65 47 ⇓P P 09 22 58.8 0.0
baz=84,SNR=23
T25A Trinidad 83.67 49 ⇓P P 09 22 58.3 -0.6
baz=84,SNR=15
H18A Shoshone NF, C 83.67 40 ⇑P P 09 22 58.5 -0.2
baz=84,SNR=20
732A Laxson Ranch, 83.67 58 ⇑P P 09 22 57.9 -0.9
baz=84
129A Stewart Farms, 83.69 54 ⇓P P 09 22 58.4 -0.6
baz=84,SNR=13
MYKOM Kota Tinggi 83.73 274 P P 09 23 00.8 +1.4
330A Mertzon 83.74 55 ⇑P P 09 22 58.4 -0.8
baz=84
531A Rocksprings 83.76 56 ⇓P P 09 22 58.8 -0.5
baz=84
I19A Meeteetse 83.77 41 ⇑P P 09 22 59.1 -0.2
baz=84,SNR=40
W27A Bowe Ranch, En 83.78 51 ⇓P P 09 22 58.7 -0.6
baz=84,SNR=22
RWWY Rawlins 83.79 43 eP P 09 23 04.8 +5.3
comp=Z,70nm,1.0s
L21A Rawlins 83.82 43 ⇑P P 09 22 58.7 -0.8
baz=84,SNR=10.0
U26A Atchley Ranch, 83.84 49 ⇓P P 09 22 59.2 -0.5
baz=84,SNR=24
S25A Robets Cordova 83.88 48 ⇑P P 09 22 59.5 -0.4
baz=84,SNR=31
N22A Wattenberg Ran 83.88 45 ⇑P P 09 22 59.8 -0.1
baz=84,SNR=38
431A Sonora 83.91 56 ⇓P P 09 22 59.4 -0.7
baz=84
Y28A McKinney Farm, 83.92 52 ⇓P P 09 22 59.4 -0.7
baz=84,SNR=6.7
Q24A Divide 83.95 47 ⇑P P 09 23 00.2 -0.2
baz=84,SNR=12
O23A Lake Granby, G 83.98 45 ⇓P P 09 23 00.4 -0.1
baz=84,SNR=16
230A Sterling City 83.98 54 ⇑P P 09 22 59.5 -0.9
baz=84,SNR=7.8
ISCO Idaho Springs 84.00 46 eP P 09 23 00.4 -0.2
ISCO pmax pmax
comp=Z,13nm,1.1s
ISCO Idaho Springs 84.00 46 eP P 09 23 00.4 -0.2
comp=Z,13nm,1.1s
ISCO Idaho Springs 84.00 46 ⇑P P 09 23 00.2 -0.4
baz=84,SNR=14
J20A Shshoni 84.02 42 ⇓P P 09 23 00.1 -0.3
baz=84,SNR=47
M22A Cedar Creek Ra 84.07 44 ⇑P P 09 23 00.3 -0.5
baz=84,SNR=20
Z29A Hungry Hill Ra 84.07 53 ⇑P P 09 22 59.9 -0.9
baz=84,SNR=11
H19A Powell 84.09 40 ⇑P P 09 23 00.8 +0.1
baz=84,SNR=41
632A Uvalde 84.12 57 ⇓P P 09 23 00.7 -0.4
baz=84,SNR=5.8
RLMT Red Lodge 84.14 40 eP P 09 23 01.1 -0.1
comp=Z,26nm,0.9s
R25A Fountain Ranch 84.20 48 ⇓P P 09 23 00.8 -0.7
baz=84,SNR=22
X28A Dimmitt 84.20 52 ⇓P P 09 23 00.8 -0.7
baz=84,SNR=13
K21A Alcova 84.21 43 ⇓P P 09 23 00.7 -0.8
baz=84,SNR=25
DAWY Dawson 84.22 14 eP P 09 23 01.0 +0.2
GCMT Greycliff 84.23 39 eP P 09 23 01.7 +0.3
comp=Z,32nm,1.1s
V27A Dan Oppiter Fa 84.23 50 ⇓P P 09 23 00.8 -0.8
baz=84,SNR=11
532A Rocksprings 84.26 57 ⇓P P 09 23 01.1 -0.8
baz=84,SNR=6.5
N23A Red Feather La 84.27 45 ⇑P P 09 23 01.7 -0.2
baz=84,SNR=27
I20A Worland 84.28 41 ⇓P P 09 23 01.2 -0.5
baz=84,SNR=55
331A San Angelo 84.30 55 ⇓P P 09 23 00.8 -1.2
baz=84,SNR=6.2
KGM Kluang 84.30 274 P P 09 23 04.1 +1.7
Y29A Porterfield Fa 84.33 52 ⇑P P 09 23 01.5 -0.7
baz=84,SNR=22
P24A Kohler Place, 84.36 46 ⇓P P 09 23 01.7 -0.6
baz=84
130A Snyder 84.38 54 ⇓P P 09 23 01.4 -0.9
baz=84,SNR=8.1
EGAK Eagle 84.42 13 eP P 09 23 02.0 +0.3
comp=Z,52nm,0.9s
J21A Lysite 84.42 42 ⇓P P 09 23 01.9 -0.7
baz=85,SNR=11
L22A Ellis Ranch, M 84.46 43 ⇓P P 09 23 02.6 -0.2
baz=85
JCT Junction City 84.47 56 eP P 09 23 02.0 -0.9
JCT pmax pmax
comp=Z,10.0nm,1.1s
JCT Junction City 84.47 56 eP P 09 23 02.0 -0.9
comp=Z,10nm,1.1s
JCT Junction City 84.47 56 ⇑P P 09 23 01.7 -1.2
baz=85
W28A Vega 84.50 51 ⇓P P 09 23 01.9 -1.1
baz=85
O24A Longmont 84.52 46 ⇓P P 09 23 02.6 -0.4
baz=85,SNR=7.9
U27A Thompson Grove 84.52 50 ⇓P P 09 23 02.1 -1.0
baz=85,SNR=16
Z30A Sanderson Ranc 84.52 53 ⇓P P 09 23 02.0 -1.2
baz=85,SNR=13
X29A Tulia 84.55 52 ⇓P P 09 23 02.5 -0.7
baz=85,SNR=13
S26A Kim 84.56 48 ⇓P P 09 23 02.1 -1.2
baz=85,SNR=17
Q25A Bedland, Calha 84.56 47 ⇑P P 09 23 02.5 -0.9
baz=85,SNR=7.7
H20A Greybull 84.62 41 ⇓P P 09 23 02.4 -1.0
baz=85,SNR=31
231A Bronte 84.62 55 ⇑P P 09 23 02.3 -1.4
baz=85,SNR=11
432A Menard 84.63 56 ⇑P P 09 23 02.5 -1.2
baz=85,SNR=9.3
V28A Channing 84.69 51 ⇓P P 09 23 03.2 -0.8
baz=85
K22A Casper 84.69 43 ⇑P P 09 23 03.2 -0.7
baz=85,SNR=17
F19A Roth Farm, Mol 84.70 39 ⇑P P 09 23 03.2 -0.6
baz=85,SNR=54
I21A Big Trails, Te 84.74 42 ⇑P P 09 23 03.2 -0.9
baz=85,SNR=42
PHWY Pilot Hill 84.78 44 eP P 09 23 04.1 -0.4
comp=Z,11nm,1.0s
G20A Bridger 84.84 40 ⇓P P 09 23 03.8 -0.7
baz=85,SNR=5.5
131A Roby 84.85 54 ⇓P P 09 23 03.7 -1.1
baz=85,SNR=18
W29A Amraillo 84.86 51 ⇓P P 09 23 04.1 -0.7
baz=85,SNR=11
R26A Arlington 84.86 48 ⇑P P 09 23 03.9 -0.9
baz=85,SNR=22
T27A Campo 84.86 49 ⇓P P 09 23 03.9 -0.9
baz=85,SNR=6.1
332A Millersview 84.86 55 ⇓P P 09 23 03.8 -1.1
baz=85,SNR=15
P25A Willow Gulch B 84.87 46 ⇑P P 09 23 04.5 -0.4
baz=85,SNR=8.0
Y30A Stafford Cattl 84.93 53 ⇓P P 09 23 04.3 -0.8
baz=85,SNR=11
U28A Mallet 84.94 50 ⇓P P 09 23 04.0 -1.2
baz=85
N24A Carr 84.96 45 ⇓P P 09 23 05.0 -0.3
baz=85,SNR=13
COLD Coldfoot 84.97 9 eP P 09 23 05.5 +1.0
comp=Z,44nm,1.1s
L23A Garrett 84.99 44 ⇓P P 09 23 04.7 -0.8
baz=85,SNR=17
S27A Las Animas 84.99 49 ⇓P P 09 23 04.6 -0.9
baz=85
Q26A Hugo 85.07 47 ⇓P P 09 23 05.2 -0.7
baz=85,SNR=8.2
J22A Midwest 85.08 42 ⇓P P 09 23 04.8 -0.9
baz=85
E19A Rath Farm, Rou 85.10 39 ⇓P P 09 23 05.4 -0.3
baz=85,SNR=31
232A Coleman 85.13 55 ⇑P P 09 23 05.3 -0.9
baz=85,SNR=11
F20A Billings 85.16 40 ⇑P P 09 23 05.5 -0.6
baz=85,SNR=19
O25A Wiggins 85.17 46 ⇑P P 09 23 05.7 -0.7
baz=85
X30A Coker Ranch, T 85.17 52 ⇓P P 09 23 05.4 -0.9
baz=85,SNR=10.0
V29A Stinnett 85.26 51 ⇓P P 09 23 06.1 -0.7
baz=85
M24A Cheyenne 85.28 45 ⇑P P 09 23 06.5 -0.4
baz=85,SNR=8.1
H21A Big Horn, Sher 85.28 41 ⇓P P 09 23 06.2 -0.6
baz=85,SNR=12
Z31A Sharp Cattle R 85.29 53 ⇓P P 09 23 06.0 -1.0
baz=85,SNR=18
I22A 9 Mile Ranch, 85.29 42 ⇓P P 09 23 06.1 -0.8
baz=85,SNR=14
EGMT Eagleton 85.31 37 eP P 09 23 06.6 -0.1
comp=Z,40nm,1.2s
EGMT Eagleton 85.31 37 ⇑P P 09 23 06.0 -0.7
baz=86,SNR=12
R27A Eads 85.32 48 ⇑P P 09 23 05.7 -1.4
baz=86,SNR=7.3
K23A Bowen Ranch, D 85.33 43 ⇓P P 09 23 06.1 -0.9
baz=86,SNR=16
T28A Walsh 85.33 49 ⇑P P 09 23 06.1 -1.1
baz=86,SNR=6.9
D19A Cripps Ranch, 85.39 38 ⇓P P 09 23 07.0 -0.2
baz=86,SNR=37
ABTX Abilene, Hawle 85.42 54 eP P 09 23 06.7 -0.8
ABTX Abilene, Hawle 85.42 54 ⇓P P 09 23 06.8 -0.8
baz=86,SNR=39
KTGM Kuala Trenggan 85.42 277 P P 09 23 09.8 +1.8
Y31A Rekieta Farm, 85.45 53 ⇑P P 09 23 07.0 -0.8
baz=86,SNR=14
G21A Lodge Grass 85.46 40 ⇓P P 09 23 06.9 -0.7
baz=86
L24A Wheatland 85.47 44 ⇑P P 09 23 07.4 -0.3
baz=86,SNR=11
P26A Davis Ranch, A 85.47 47 ⇑P P 09 23 08.0 +0.2
baz=86
E20A Meyer Farm, Mu 85.51 39 ⇑P P 09 23 07.6 -0.2
baz=86,SNR=22
C19A Slack Wire Ran 85.57 38 ⇓P P 09 23 08.0 -0.1
baz=86,SNR=46
U29A Oasis Ranch, S 85.67 50 ⇓P P 09 23 08.0 -0.9
baz=86
S28A Manter 85.68 49 ⇑P P 09 23 09.1 +0.2
baz=86,SNR=7.0
H22A Clearmont 85.70 41 ⇓P P 09 23 08.2 -0.6
baz=86
KSCO Kaye Shedlock' 85.74 47 eP P 09 23 08.2 -1.0
KSCO Kaye Shedlock' 85.74 47 ⇑P P 09 23 08.7 -0.5
baz=86
M25A Palm-Egli Farm 85.79 45 ⇓P P 09 23 08.7 -0.7
baz=86
D20A Manuel Ranch, 85.80 38 ⇑P P 09 23 09.0 -0.2
baz=86,SNR=32
F21A Absaloka Mine, 85.80 40 ⇑P P 09 23 09.1 -0.2
baz=86
Z32A Haskell 85.80 54 ⇑P P 09 23 09.0 -0.5
baz=86,SNR=46
V30A Spur Ranch, Mi 85.83 51 ⇑P P 09 23 09.4 -0.3
baz=86
X31A McDonald Ranch 85.93 52 ⇑P P 09 23 09.1 -1.0
baz=86,SNR=6.6
T29A Hugoton 85.94 50 ⇑P P 09 23 09.1 -1.1
baz=86
B19A Brinkman Farms 85.99 37 ⇓P P 09 23 09.8 -0.3
baz=86,SNR=18
P27A Ficken Ranch, 86.00 47 ⇑P P 09 23 09.7 -0.8
baz=86
G22A Birney 86.03 41 ⇓P P 09 23 09.7 -0.8
baz=86
R28A Tribune 86.05 48 ⇑P P 09 23 09.5 -1.1
baz=86,SNR=24
Y32A R-V Farms, Ver 86.10 53 ⇓P P 09 23 10.3 -0.7
baz=86,SNR=18
EDM Edmonton 86.13 31 eP P 09 23 09.4 -1.2
EDM Edmonton 86.13 31 eP P 09 23 09.4 -1.2
U30A WK&E Inc. Balk 86.16 50 ⇓P P 09 23 10.3 -0.9
baz=86
W31A Holland Ranch, 86.17 52 ⇑P P 09 23 10.3 -0.9
baz=86,SNR=6.6
E21A Keefer Ranch, 86.17 39 ⇑P P 09 23 11.0 0.0
baz=86,SNR=9.8
C20A Veseth Ranch, 86.18 38 ⇑P P 09 23 10.9 -0.1
baz=86
BJT Baijiatuan 86.20 313 eP P 09 23 12.4 +1.2
comp=Z,57nm,1.1s
BJI Beijing 86.20 313 P P 09 23 12.1 +0.9
BJI PP PP 09 26 32.3 +0.1
BJI S S 09 33 47.2 +1.5
BJI AMB AMB
comp=Z,71nm,1.4s
BJI AMB AMB
comp=Z,500nm,4.2s
BJI LR LR
comp=Z,410nm,19.0s
BJI LR LR
comp=Z,500nm,24.2s
BJI LR LR
comp=Z,580nm,24.8s
J24A Dixon Ranch, L 86.22 43 ⇑P P 09 23 10.6 -0.9
baz=86
S29A Ulysses 86.25 49 ⇑P P 09 23 10.6 -1.1
baz=86
FRIM Kepong 86.27 274 P P 09 23 13.6 +1.4
F22A Rosebud 86.31 40 ⇑P P 09 23 11.1 -0.6
baz=86
Q28A Sharon Springs 86.33 48 ⇓P P 09 23 11.1 -0.9
baz=86
O27A Beecher Island 86.34 46 ⇑P P 09 23 11.1 -1.0
baz=86
A19A Klindworth Far 86.34 37 ⇓P P 09 23 11.2 -0.7
baz=86,SNR=19
D21A La Casta Ranch 86.47 39 ⇓P P 09 23 12.2 -0.3
baz=87,SNR=10
V31A Spring Creek L 86.47 51 ⇑P P 09 23 12.4 -0.3
baz=87,SNR=11
I24A Kuemmerle Ranc 86.48 42 ⇑P P 09 23 11.1 -1.6
baz=87
B20A Solberg Farm, 86.52 37 ⇓P P 09 23 12.2 -0.5
baz=87,SNR=18
G23A Biddle 86.59 41 ⇑P P 09 23 12.2 -0.9
baz=87,SNR=7.6
P28A Saint Francis 86.59 47 ⇓P P 09 23 12.4 -1.0
baz=87
U31A Nine Bar Ranch 86.69 51 ⇑P P 09 23 13.0 -0.8
baz=87
LAO LASA Array 86.76 39 eP P 09 23 13.9 0.0
comp=Z,26nm,1.1s
C21A Desert Coulee 86.77 38 ⇓P P 09 23 13.4 -0.5
baz=87
A20A Cobblestone Ra 86.79 37 ⇓P P 09 23 13.4 -0.6
baz=87,SNR=28
O28A Krutsinger Ran 86.80 47 ⇓P P 09 23 13.1 -1.2
baz=87
J25A Sunshine Ranch 86.81 43 ⇑P P 09 23 13.6 -0.7
baz=87
E22A Miles City 86.81 40 ⇓P P 09 23 13.5 -0.6
baz=87
F23A Volborg 86.82 41 ⇓P P 09 23 13.3 -1.0
baz=87,SNR=10
Q29A Oakley 86.86 48 ⇑P P 09 23 13.4 -1.2
baz=87
WMOK Wichita Mounta 86.88 53 eP P 09 23 12.2 -2.6
WMOK pmax pmax
comp=Z,9.0nm,1.3s
WMOK Wichita Mounta 86.88 53 eP P 09 23 12.2 -2.6
comp=Z,8.7nm,1.3s
WHTX Lake Whitney 86.90 56 eP P 09 23 14.1 -0.8
WHTX Lake Whitney 86.90 56 ⇓P P 09 23 14.1 -0.8
baz=87,SNR=7.8
H24A Dirks Ranch, A 86.92 42 ⇑P P 09 23 13.4 -1.4
baz=87,SNR=12
RSSD Black Hills 86.97 42 eP P 09 23 13.6 -1.6
RSSD pmax pmax

comp=Z,40nm,0.9s
RSSD Black Hills 86.97 42 *e*P **P 09 23 13.6 -1.6**
comp=Z,40nm,0.9s
D22A Cohagen 87.00 39 ⇑P **P 09 23 14.7 -0.3**
baz=87,SNR=9.7
MAW Mawson 87.03 199 *e*P **P 09 23 15.4 +0.5**
comp=Z,20nm,1.6s
MAW Mawson 87.03 199 P **P 09 23 15.5 +0.6**
comp=Z,7.1nm,0.6s,baz=123,slow=6.7,SNR=21
MAW LR LR 09 58 42.0
comp=Z,893nm,20.4s,baz=118,slow=33
B21A Ellsworth Farm 87.10 38 ⇓P **P 09 23 15.3 -0.2**
baz=87,SNR=6.2
T31A Randall Ranch, 87.11 50 ⇓P **P 09 23 14.8 -1.0**
baz=87
I25A Rochford 87.13 43 ⇓P **P 09 23 14.7 -1.3**
baz=87,SNR=8.6
R30A Dighton 87.13 49 ⇑P **P 09 23 15.6 -0.4**
baz=87,SNR=6.3
P29A Atwood 87.18 47 ⇓P **P 09 23 15.1 -1.1**
baz=87
IPM Ipoh 87.19 275 P **P 09 23 18.3 +1.6**
IPM Ipoh 87.19 275 *e*P **P 09 23 17.8 +1.1**
comp=Z,46nm,1.0s
N28A Pribbeno Ranch 87.20 46 ⇑P **P 09 23 15.2 -1.1**
baz=87
J26A Sides Ranch, S 87.25 43 ⇑P **P 09 23 15.7 -0.7**
baz=87
G24A Alzada 87.26 41 ⇓P **P 09 23 15.9 -0.6**
baz=87
A21A Bergtoll Ranch 87.42 37 ⇑P **P 09 23 16.4 -0.7**
baz=88,SNR=12
Q30A Quinter 87.44 48 ⇑P **P 09 23 16.4 -1.0**
baz=88
C22A Vida 87.45 39 ⇓P **P 09 23 16.7 -0.5**
baz=88
F24A Ekalaka 87.47 41 ⇓P **P 09 23 16.5 -1.0**
baz=88,SNR=7.3
H25A Fruitdale 87.47 42 ⇓P **P 09 23 16.7 -0.8**
baz=88
PANO Nakornpanom 87.52 289 P **P 09 23 19.2 +1.0**
comp=Z,25nm,1.5s
ENH Enshi 87.54 302 *e*P **P 09 23 18.7 +0.7**
comp=Z,59nm,1.4s
K27A Flueckinger Fa 87.55 44 ⇑P **P 09 23 17.1 -0.9**
baz=88,SNR=6.4
D23A Lindsay 87.60 39 ⇑P **P 09 23 17.9 -0.1**
baz=88,SNR=6.3
B22A Reddig Ranch S 87.64 38 ⇓P **P 09 23 17.6 -0.6**
baz=88
P30A Selden 87.65 48 ⇑P **P 09 23 17.3 -1.1**
baz=88,SNR=8.0
R31A Burdett 87.67 49 ⇑P **P 09 23 17.6 -0.9**
baz=88
I26A New Underwood 87.70 43 ⇑P **P 09 23 17.8 -0.8**
baz=88
KULM Kulim 87.78 276 P **P 09 23 21.6 +2.1**
G25A Newell 87.84 42 ⇓P **P 09 23 18.2 -0.9**
baz=88
C23A Lambert 87.90 39 ⇑P **P 09 23 19.4 0.0**
baz=88,SNR=13
J27A Elkhorn Farm, 87.93 44 ⇑P **P 09 23 19.1 -0.6**
baz=88,SNR=14
HIA Hailar 88.00 323 *e*P **P 09 23 20.8 +1.0**
comp=Z,65nm,1.3s
H26A Fairpoint 88.00 42 ⇑P **P 09 23 19.4 -0.6**
baz=88
A22A Carney Farms, 88.01 37 ⇑P **P 09 23 19.4 -0.5**
baz=88
SKNT Sakolnakorn 88.04 288 P **P 09 23 22.0 +1.3**
comp=Z,33nm,1.6s,comp=Z,4μm
D24A Glendive 88.11 40 ⇓P **P 09 23 20.1 -0.3**
baz=88
F25A Bowman 88.13 41 ⇑P **P 09 23 20.2 -0.3**
baz=88
K28A Ten Mile Ranch 88.14 44 ⇑P **P 09 23 20.1 -0.6**
baz=88
G27A Dupree 88.23 42 ⇓P **P 09 23 22.7 +1.7**
baz=89,SNR=9.7
C24A Savage 88.23 39 ⇑P **P 09 23 20.8 -0.2**
baz=88,SNR=5.6
N30A Hueftle Ranch, 88.24 47 ⇓P **P 09 23 20.5 -0.7**
baz=88
I27A Quinn 88.24 43 ⇓P **P 09 23 20.2 -0.9**
baz=88
P31A Stockton 88.26 48 ⇑P **P 09 23 20.3 -1.0**
baz=88
B23A Brockton 88.31 38 ⇑P **P 09 23 21.1 -0.2**
baz=88,SNR=13
SKLT Songkhla 88.34 278 P P 09 23 25.9 +3.7
comp=Z,43nm,1.2s,comp=Z,2μm
G26A Maurine 88.40 42 ⇓P **P 09 23 20.8 -1.1**
baz=88
E25A Miller Ranch, 88.41 40 ⇓P **P 09 23 21.3 -0.5**
baz=89
H27A Howes 88.46 43 ⇓P **P 09 23 21.1 -1.1**
baz=89
J28A Allard Ranch, 88.52 44 ⇓P **P 09 23 21.5 -0.9**
baz=89,SNR=6.5
O31A Woolen Ranch, 88.54 47 ⇓P **P 09 23 21.7 -0.9**
baz=89
F26A Lodgepole 88.59 41 ⇑P **P 09 23 21.9 -0.8**
baz=89
A23A Redstone 88.60 38 ⇓P **P 09 23 22.1 -0.6**
baz=89
GYA Guiyang 88.61 298 ⇑*i*P **P 09 23 24.3 +0.9**
GYA PP **PP 09 26 54.4 +2.2**
GYA SKS **SKSac 09 33 52.2 -0.4**
GYA S **S 09 34 07.8 -2.0**
GYA SS **SS 09 40 01.8 +0.4**
GYA AMB AMB
comp=Z,20nm,1.0s
GYA AMB AMB
comp=Z,160nm,8.0s
GYA LR LR
comp=Z,510nm,19.1s
GYA LR LR
comp=Z,530nm,19.2s
GYA LR LR
comp=Z,560nm,21.0s
PSI Prapat 88.73 273 P **P 09 23 24.1 -0.2**
PSI Prapat 88.73 273 P **P 09 23 24.1 -0.2**
comp=Z,33nm,1.1s,baz=177,slow=4.5,SNR=17
PSI LR LR 09 57 12.7
comp=Z,219nm,21.0s,baz=128,slow=32
D25A Fairfield 88.74 40 ⇓P **P 09 23 22.8 -0.7**
baz=89
DGMT Dagmar 88.79 38 *e*P **P 09 23 23.6 0.0**
comp=Z,42nm,1.0s
DGMT Dagmar 88.79 38 ⇓P **P 09 23 23.0 -0.6**
baz=89,SNR=10.0
PLCA Paso Flores 88.79 132 *e*P **P 09 23 24.6 +0.6**
comp=Z,10nm,1.2s
PLCA Paso Flores 88.79 132 P **P 09 23 24.6 +0.6**
comp=Z,3.5nm,0.8s,baz=250,slow=6.5,SNR=5.0
PLCA LR LR 09 54 10.5
comp=Z,1μm,21.9s,baz=316,slow=30
I28A Midland 88.80 43 ⇓P **P 09 23 22.5 -1.2**
baz=89,SNR=7.3
K29A Lazy Trails An 88.87 45 ⇓P **P 09 23 23.3 -0.9**
baz=89,SNR=7.4
E26A Carlson Angus 88.99 41 ⇓P **P 09 23 23.4 -1.2**
baz=89
F27A Lemmon 89.02 41 ⇓P **P 09 23 23.8 -0.9**
baz=89,SNR=5.4
C25A Freed Ranch, W 89.03 39 ⇓P **P 09 23 24.2 -0.5**
baz=89,SNR=5.2
INK Inuvik 89.07 14 *e*P **P 09 23 23.6 -0.7**
comp=Z,56nm,1.5s
CLNS Chul'man 89.08 331 *e*P **P 09 23 25.0 +0.2**
CLNS pmax pmax
comp=Z,36nm,1.1s
CLNS pmax pmax
comp=E,19nm,1.3s
CLNS pmax pmax
comp=N,23nm,1.2s
A24A Westby 89.11 38 ⇓P **P 09 23 24.4 -0.7**
baz=89
J29A Okreek 89.12 44 ⇑P **P 09 23 24.0 -1.2**
baz=89,SNR=7.3
H28A Mission Ridge 89.17 43 ⇓P **P 09 23 24.2 -1.2**
baz=89
D26A Manning 89.24 40 ⇑P **P 09 23 24.9 -0.8**
baz=89,SNR=8.4
XAN Xi'an 89.29 306 P **P 09 23 26.8 +0.5**
XAN pP **pP 09 23 30.8 -0.7**
XAN PP **PP 09 26 56.8 -0.5**
XAN SKS **SKSac 09 33 55.1 -1.0**
XAN S **S 09 34 14.1 -1.6**
XAN AMB AMB
comp=N,13nm,1.5s
XAN AMB AMB
comp=N,65nm,4.8s
XAN LR LR
comp=N,240nm,18.0s
XAN LR LR
comp=N,180nm,19.4s
XAN LR LR
comp=N,200nm,20.1s
K30A Basset 89.31 45 ⇓P **P 09 23 25.2 -1.0**
baz=89,SNR=10
O32A Brockman Farm, 89.32 48 ⇓P **P 09 23 25.2 -1.1**
baz=89
B25A Knox Farm, Ray 89.32 39 ⇓P **P 09 23 25.5 -0.6**
baz=90,SNR=5.6
I29A Vivian Onida 89.38 44 ⇓P **P 09 23 25.1 -1.3**
baz=90,SNR=7.0
E27A Carson 89.53 41 ⇑P **P 09 23 26.1 -1.1**
baz=90,SNR=9.1
A25A Svangstu Ranch 89.64 38 ⇓P **P 09 23 26.8 -0.7**
baz=90
J30A Dallas 89.64 44 ⇑P **P 09 23 26.3 -1.4**
baz=90,SNR=6.6
H29A Onida 89.68 43 ⇓P **P 09 23 26.4 -1.4**
baz=90,SNR=7.3
HHC Hu-ho-hao-te 89.75 313 *e*P **P 09 23 29.6 +1.2**
HHC pP **pP 09 23 33.4 -0.2**
HHC sP **sP 09 23 35.6 +0.2**
HHC PP **PP 09 27 04.4 +3.5**
HHC SKS **SKSac 09 33 57.1 -1.6**
HHC S **S 09 34 18.6 -1.3**
HHC sS **sS 09 34 27.0 -1.4**
HHC AMB AMB
comp=N,130nm,1.2s
HHC AMB AMB
comp=N,560nm,5.8s
HHC LR LR
comp=N,620nm,16.7s
HHC LR LR
comp=N,860nm,17.3s
HHC LR LR
comp=N,980nm,17.4s
C26A Wahner Farm, P 89.78 40 ⇑P **P 09 23 27.4 -0.8**
baz=90,SNR=7.5
F28A McLaughlin 89.78 42 ⇑P **P 09 23 27.0 -1.3**
baz=90,SNR=6.4
D27A Center 89.84 40 ⇑P **P 09 23 27.7 -0.8**
baz=90
I30A Oacoma 89.92 44 ⇓P **P 09 23 27.9 -1.1**
baz=90
YAK Yakutsk 89.98 337 *e*P **P 09 23 27.5 -1.2**
YAK *e* 09 27 01.6
YAK *e*PPP PPP 09 28 59.4
YAK *e*S SKSac 09 33 48.3 -10
YAK *e* 09 34 11.1
YAK *e*SSS SSS 09 43 59.9
YAK pmax pmax
comp=Z,32nm,1.0s
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,10.0nm,1.2s
YAK pmax pmax
comp=Z,366nm,3.4s
YAK pmax pmax
comp=N,390nm,3.3s
YAK pmax pmax
comp=E,180nm,2.9s
YAK smax smax
comp=N,534nm,2.9s
YAK smax smax
comp=E,679nm,3.7s
C27A Sayler Ranch, 90.10 40 ⇓P **P 09 23 29.4 -0.4**
baz=90
A26A Wade Farm, Ken 90.26 39 ⇓P **P 09 23 30.0 -0.4**
baz=90
F29A Eureka 90.40 42 ⇑P **P 09 23 30.3 -0.9**
baz=90
G30A Faulkton 90.57 43 ⇑P **P 09 23 31.1 -0.9**
baz=91
BTO Baotou 90.76 312 *e*P **P 09 23 33.2 +0.1**
A27A Ledoux Ranch, 90.77 39 ⇑P **P 09 23 32.4 -0.4**
baz=91
C28A Hausauer Farms 90.79 40 ⇓P **P 09 23 32.3 -0.7**
baz=91
E29A Napoleon 90.81 41 ⇑P **P 09 23 31.8 -1.3**
baz=91
YKA Yellowknife Ar 90.82 23 P **P 09 23 32.2 -0.4**
YKA Yellowknife Ar 90.82 23 P **P 09 23 32.2 -0.4**
comp=E,14nm,1.0s,baz=235,slow=4.3,SNR=32
YKW3 Yellowknife Ar 90.85 23 *e*P **P 09 23 32.2 -0.6**
comp=E,0.3nm,1.0s
D29A Pettibone, Tap 91.03 41 ⇑P **P 09 23 32.7 -1.3**
baz=91
B28A Dugan Ranch, T 91.10 40 ⇓P **P 09 23 33.1 -1.3**
baz=91
JTS JuntasAbangare 91.18 80 *e*P **P 09 23 36.3 +0.8**
comp=E,205nm,1.1s
E30A Jud 91.25 42 ⇑P **P 09 23 33.6 -1.5**
baz=91
A28A Rude Farm, Bot 91.34 39 ⇑P **P 09 23 34.3 -1.2**
baz=92
NANT Nan 91.56 289 P **P 09 23 38.4 +1.3**
comp=E,92nm,1.1s
KMI Kunming 91.57 296 P **P 09 23 39.0 +1.7**
KMI pP pP 09 23 49.0 +6.5
KMI PP **PP 09 27 15.7 -0.1**
KMI S **S 09 34 36.7 -0.7**
KMI SS **SS 09 40 42.6 -1.8**
KMI AMB AMB
comp=E,34nm,1.5s
KMI LR LR
comp=E,320nm,16.8s
KMI LR LR
comp=E,620nm,16.8s
KMI LR LR
comp=E,860nm,20.7s
D30A Buchanan 91.57 41 ⇓P **P 09 23 35.2 -1.4**
baz=92
B29A Wagenman Farm, 91.72 40 ⇓P **P 09 23 35.9 -1.3**
baz=92
ECSD EROS Data Cent 91.74 45 *e*P **P 09 23 35.9 -1.5**
comp=E,13nm,1.2s
SYO Syowa Base 91.78 191 ⇓*e*P **P 09 23 35.4 -1.8**
SYO Syowa Base 91.78 191 ⇓*e*sP sP 09 23 49.0 +4.8
UALR University of 91.86 54 *e*P **P 09 23 38.0 -0.2**
comp=E,14nm,0.9s
A29A Manning Farm, 91.97 39 ⇓P **P 09 23 37.2 -1.1**
baz=92
SNAA Sanae 92.03 177 *e*P **P 09 23 38.5 0.0**
comp=E,16nm,1.3s
SNAA Sanae 92.03 177 P **P 09 23 38.7 +0.2**
comp=E,5.3nm,1.1s,baz=217,slow=4.0,SNR=28
B30A Myrvik Farm, E 92.35 40 ⇑P **P 09 23 38.8 -1.3**
baz=92
CD2 Chengdu 92.42 301 P **P 09 23 41.6 +0.7**
CD2 pP **pP 09 23 46.4 +0.3**
CD2 sP **sP 09 23 48.6 +0.6**
CD2 PP **PP 09 27 25.4 +3.2**
CD2 SKS **SKSac 09 34 13.5 -0.7**
CD2 S **S 09 34 42.9 -1.6**
CD2 sS **sS 09 34 50.4 -2.7**
CD2 SS **SS 09 40 57.9 +1.8**
CD2 AMB AMB
comp=E,20nm,0.5s
CD2 AMB AMB
comp=E,140nm,4.5s
CD2 LR LR
comp=E,770nm,5.6s
CD2 LR LR
comp=E,740nm,16.1s
PAYA Payao 92.47 289 P **P 09 23 43.0 +1.6**
comp=E,13nm,1.1s
A30A Hoffart Farm, 92.55 40 ⇓P **P 09 23 40.1 -1.0**
baz=93
CM31 Chiang Mai Arr 93.06 288 *e*P **P 09 23 46.3 +2.2**
comp=E,4.7nm,0.4s
CMAR Chiang Mai Arr 93.06 288 P **P 09 23 45.6 +1.5**
CMAR Chiang Mai Arr 93.06 288 P **P 09 23 45.6 +1.5**
comp=E,13nm,0.9s,baz=94,slow=2.6,SNR=75
CMAR LR LR 10 00 34.8
comp=E,561nm,21.9s,baz=276,slow=32
CHTO Chiang Mai 93.16 289 *e*P **P 09 23 45.5 +0.9**
CHTO Chiang Mai 93.16 289 *e*P **P 09 23 45.5 +0.9**
comp=E,114nm,1.1s
CHTO Chiang Mai 93.16 289 P **P 09 23 45.8 +1.2**
comp=E,134nm,1.3s
CMAI Chiengmai2 93.38 290 P **P 09 23 47.4 +1.7**
comp=E,25nm,1.2s,comp=E,853nm
CFAA Coronel Fontan 93.81 124 P **P 09 23 47.4 0.0**
CFAA Coronel Fontan 93.81 124 P **P 09 23 47.4 0.0**
comp=E,0.4nm,0.8s,baz=253,slow=5.4,SNR=4.3
AGMN Agassiz Nation 93.83 41 *e*P **P 09 23 45.0 -1.9**
comp=E,34nm,1.5s
LZH Lanzhou 93.89 306 *e*P **P 09 23 49.3 +1.6**
LZH pP **pP 09 23 53.9 +1.0**
LZH sP **sP 09 23 57.3 +2.5**
LZH PP **PP 09 27 36.6 +2.8**
LZH *e*S **S 09 34 57.5 0.0**
LZH sS **sS 09 35 05.6 -0.5**
LZH AMB AMB
comp=E,21nm,1.1s
LZH AMB AMB
comp=E,170nm,5.0s
LZH LR LR
comp=E,320nm,15.6s
LZH LR LR
comp=E,640nm,17.3s
LZH LR LR
comp=E,540nm,17.6s
ULM Lac du Bonnet 94.49 39 *e*P **P 09 23 48.2 -1.7**
comp=E,19nm,1.3s
ULM Lac du Bonnet 94.49 39 P **P 09 23 48.3 -1.7**
comp=E,8.6nm,0.8s,baz=216,slow=4.6,SNR=7.9
ULM LR LR 09 59 33.3
comp=E,1μm,21.6s,baz=244,slow=31
SPMN St. Paul 94.81 44 *e*P **P 09 23 50.1 -1.5**
SPMN St. Paul 94.81 44 ⇑P **P 09 23 50.4 -1.1**
baz=95
ULN Ulaanbaatar 95.20 318 *e*P **P 09 23 53.2 -0.3**
comp=E,12nm,1.2s
SONM Songino Array 95.62 318 P **P 09 23 54.4 -0.9**
SONM PP **PP 09 27 45.3 -1.6**
SONM Songino Array 95.62 318 P **P 09 23 54.4 -0.9**
comp=E,2.2nm,0.8s,baz=98,slow=3.6,SNR=12
SONM PP **PP 09 27 45.3 -1.6**
comp=E,0.3nm,0.4s,baz=98,slow=6.1,SNR=5.0
SONM LR LR 10 02 15.5
comp=E,323nm,20.4s,baz=107,slow=32
JFWS Jewell Farm 95.88 47 *e*P **P 09 23 54.4 -2.1**
JFWS pmax pmax
comp=Z,21nm,1.0s
JFWS Jewell Farm 95.88 47 *e*P **P 09 23 54.4 -2.1**
comp=Z,21nm,1.0s
TIXI Tiksi 95.89 344 *ce*P **P 09 23 57.0 +1.2**
TIXI pmax pmax
comp=Z,25nm,1.7s
GTA Gaotai 97.87 309 *e*P Pdif 09 24 06.8 +1.0
GTA pP pP 09 24 11.2 +0.3
GTA sP sP 09 24 13.9 +1.1
GTA AMB AMB
comp=Z,10.0nm,1.1s
ZAK Zakamensk 98.31 320 *e*P **P 09 24 06.7 -0.7**
ZAK *e* 09 28 02.6
ZAK pmax pmax
comp=Z,5.0nm,1.3s
TLY Talaya 98.43 321 *e*P **P 09 24 07.5 -0.3**
TLY pmax pmax
comp=Z,10.0nm,1.2s
TLY MLR MLR
comp=Z,249nm,17.0s
ROSC El Rosal 99.85 88 LR LR 09 59 30.8
comp=Z,518nm,21.4s,baz=5.5,slow=30
WMQ Urumqi 107.58 311 *e*Pdif **Pdif 09 24 49.0 +0.2**
WMQ PP **PP 09 29 20.3 +3.2**
WMQ S **Sdif 09 36 47.0 -5.6**
WMQ SS **SS 09 44 24.7 -2.5**
WMQ PPMZ
comp=Z,150nm,4.0s
WMQ LR LR
comp=Z,320nm,23.2s
WMQ LR LR
comp=Z,330nm,27.0s
WMQ LR LR
comp=Z,330nm,23.2s
ZALV Zalesovo Beam 110.02 322 P **Pdif 09 24 58.1 -1.2**
ZALV Zalesovo Beam 110.02 322 Pdif **Pdif 09 24 58.1 -1.2**
ZALV PKiKP **PKiKP 09 29 01.1 0.0**
ZALV Zalesovo Beam 110.02 322 Pdiff **Pdif 09 24 58.1 -1.2**
comp=Z,0.4nm,0.2s,baz=130,slow=2.3,SNR=5.5
ZALV PKiKP **PKiKP 09 29 01.1 0.0**
comp=Z,0.6nm,0.5s,baz=256,slow=2.4,SNR=3.1
MKAR Makanchi Array 111.57 314 Pdif **Pdif 09 25 05.4 -1.0**
MKAR PKiKP **PKiKP 09 29 03.8 -0.5**
MKAR PKKPab **PKKPab 09 40 07.0 -0.1**
MKAR Makanchi Array 111.57 314 Pdiff **Pdif 09 25 05.4 -1.0**
comp=Z,0.6nm,0.8s,baz=82,slow=3.8,SNR=5.1
MKAR PKiKP **PKiKP 09 29 03.8 -0.5**
comp=Z,0.5nm,0.6s,baz=49,slow=1.0,SNR=5.7
MKAR PKKPab **PKKPab 09 40 07.0 -0.1**
comp=Z,0.9nm,0.8s,baz=294,slow=3.9,SNR=7.5
KURK Kurchatov 113.92 319 Pdif **Pdif 09 25 16.3 -0.4**
KURK *e*PKPdf **PKiKP 09 29 06.6 -2.0**
KURK PKiKP **PKiKP 09 29 08.2 -0.4**
KURK PP **PP 09 29 59.5 -2.9**
KURK PKKPbc **PKKPbc 09 39 49.7 -2.2**
KURBB **Kurchatov Arra 113.98 319** Pdiff **Pdif 09 25 16.3 -0.7**
comp=Z,0.1nm,0.3s,baz=124,slow=5.8,SNR=1.8
KURBB PKiKP **PKiKP 09 29 08.2 -0.5**
comp=Z,1.4nm,1.0s,baz=100,slow=1.5,SNR=8.7
KURBB PP **PP 09 29 59.5 -3.3**
comp=Z,4.3nm,1.1s,baz=86,slow=7.0,SNR=8.9
KURBB PKKPbc **PKKPbc 09 39 49.7 -2.0**
comp=Z,0.6nm,1.0s,baz=250,slow=4.4,SNR=4.2
KSH Kashi 116.14 306 PKP **PKPdf 09 29 15.2 +1.8**
KSH PP PP 09 30 28.0 +9.4
KSH PKS **PKSdf 09 32 51.5 +1.3**
KSH SKS **SKSdf 09 36 27.4 +2.2**
KSH PPMZ
comp=Z,96nm,5.8s
KSH LR LR
comp=Z,100nm,5.2s
KSH LR LR
comp=Z,170nm,5.5s
BDFB Brasilia 117.30 118 PKKPbc PKKPbc 09 39 41.3 +1.8
BDFB Brasilia 117.30 118 PKKPbc PKKPbc 09 39 41.3 +1.8
comp=Z,0.6nm,0.3s,baz=286,slow=8.5,SNR=3.1
SPITS Spitsbergen Ar 117.89 358 PKP **PKPdf 09 29 15.1 -0.4**
SPITS Spitsbergen Ar 117.89 358 PKP **PKPdf 09 29 15.1 -0.4**
comp=Z,7.0nm,0.8s,baz=248,slow=1.6,SNR=3.1
BVAR Borovoye Array 118.68 322 PKIKP **PKPdf 09 29 17.6 -0.1**
BVAR pmax pmax
comp=Z,2.0nm,0.7s
BVAR Borovoye Array 118.68 322 PKP **PKPdf 09 29 17.6 -0.1**
BVAR Borovoye Array 118.68 322 PKP **PKPdf 09 29 17.6 -0.1**
comp=Z,1.2nm,0.5s,baz=79,slow=7.7,SNR=7.1
BRVK Borovoye 118.74 322 *c i*PKIKP **PKPdf 09 29 17.3 -0.5**
BRVK pmax pmax
comp=Z,8.0nm,1.2s
KKAR Karatay Array 120.07 311 *e*PKIKP **PKPdf 09 29 20.1 -0.6**
KKAR Karatay Array 120.07 311 *e*PKPdf **PKPdf 09 29 20.1 -0.6**
KBL Kabul 121.76 301 *e*PKIKP **PKPdf 09 29 24.9 +0.4**
KBL Kabul 121.76 301 *e*PKPdf **PKPdf 09 29 24.9 +0.4**
SVE Sverdlovsk 122.97 328 *e*PKIKP **PKPdf 09 29 24.6 -1.2**
SOKR Solikamsk 123.63 332 *i*PKIKP **PKPdf 09 29 26.0 -0.9**
SOKR *e* 09 29 39.5
SOKR pmax pmax
comp=Z,20nm,1.4s
ARU Arti 124.18 328 *i*PKIKP **PKPdf 09 29 27.7 -0.4**
ARU 09 31 13.2
ARU 09 36 29.8
ARU SS SS 09 48 04.4 +1.3
KEV Kevo 125.08 352 *e*PKIKP **PKPdf 09 29 29.0 -0.5**
KEV Kevo 125.08 352 *e*pkp **PKPdf 09 29 29.0 -0.5**
ARCES ARCESS Array B 125.49 352 PKP **PKPdf 09 29 30.2 -0.1**
ARCES ARCESS Array B 125.49 352 PKP **PKPdf 09 29 30.2 -0.1**
comp=Z,6.2nm,0.7s,baz=33,slow=2.4,SNR=20
ARE0 ARCESS Array S 125.49 352 *e*PKPdf **PKPdf 09 29 30.2 -0.1**
ABKAR Akbulak array 126.00 320 *e*PKPdf **PKPdf 09 29 31.9 0.0**
OPO Ambohidratompo 127.28 231 PKP **PKPdf 09 29 36.9 +1.4**
OPO Ambohidratompo 127.28 231 PKP **PKPdf 09 29 36.9 +1.4**
comp=Z,3.1nm,0.8s,baz=143,slow=5.1,SNR=2.7
KLMR Klimovskoe 129.67 340 *e*PKIKP **PKPdf 09 29 35.7 -2.8**
KLMR pmax pmax
comp=Z,40nm,1.4s
JOF Joensuu 130.36 346 *e*PKIKP **PKPdf 09 29 38.9 -0.8**
JOF Joensuu 130.36 346 *e*pkp **PKPdf 09 29 38.9 -0.8**
BOSA Boshof 131.94 202 PKP **PKPdf 09 29 45.9 +1.8**
BOSA Boshof 131.94 202 PKP **PKPdf 09 29 45.9 +1.8**
comp=Z,5.6nm,1.0s,baz=226,slow=4.6,SNR=4.5

KAF	Kangasniemi	132.18	348	ePKIKP	PKPdf	09 29 42.1	-1.1		
KAF	Kangasniemi	132.18	348	epkp	PKPdf	09 29 42.1	-1.1		
FINES	FINESS Array B	132.83	348	PKP	PKPdf	09 29 45.7	+1.3		
FINES	FINESS Array B	132.83	348	PKP	PKPdf	09 29 45.7	+1.3		
	comp=Z,5.5nm,0.9s,baz=315,slow=0.8,SNR=6.1								
OBN	Obninsk	134.98	336	⇑iPKIKP	PKPdf	09 29 48.4	-0.2		
OBN				e		09 32 21.2			
OBN				pmax	pmax				
	comp=Z,16nm,1.2s								
OBN				MLR	MLR				
	comp=Z,300nm,21.0s								
NB2	NORSAR Subarra	135.18	357	PKPdf	PKPdf	09 29 49.5	+0.6		
	comp=Z,5.6nm,1.1s,baz=6.6,slow=1.8								
NOA	NORSAR Array B	135.18	357	PKP	PKPdf	09 29 48.8	-0.2		
NOA	NORSAR Array B	135.18	357	PKP	PKPdf	09 29 48.8	-0.2		
	comp=Z,1.1nm,0.8s,baz=318,slow=3.3,SNR=3.2								
ZEI	Tsey	138.79	318	ePKHKP	PKPpre	09 29 49.5			
ZEI				pmax	pmax				
	comp=Z,5.0nm,0.4s								
AKASG	Malin Array Be	141.21	337	iPKHKP	PKPpre	09 29 53.9			
AKASG						09 30 01.1			
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.5s								
AKASG				pmax	pmax				
	comp=Z,6.0nm,0.8s								
AKASG	Malin Array Be	141.21	337	PKPpre	PKPpre	09 29 53.9			
AKASG				PKP	PKPdf	09 30 01.1	+0.9		
AKASG	Malin Array Be	141.21	337	PKhKP	PKPpre	09 29 53.9			
	comp=Z,0.9nm,0.5s,baz=42,slow=4.1,SNR=7.6								
AKASG				PKP	PKPdf	09 30 01.1	+0.9		
	comp=Z,2.9nm,0.7s,baz=32,slow=2.4,SNR=14								
ANN	Anapa	141.62	324	iPKIKP	PKPdf	09 30 12.5	+11		
ANN				pmax	pmax				
	comp=Z,38nm,1.7s								
TSUM	Tsumeb	143.19	197	ePKPdf	PKPbc	09 30 01.9	+0.1		
LVV	L'vov	143.74	341	iPKIKP	PKPab	09 30 01.6	0.0		
KEMA	Kemaliye	144.09	316	iP	PKPdf	09 30 05.9	0.0		
KWP	Kalwaria Pacla	144.31	342	ePKIKP	PKPbc	09 30 04.8	+0.7		
KWP	Kalwaria Pacla	144.31	342	⇓iP	PKPab	09 30 04.0	+0.2		
KWP	Kalwaria Pacla	144.31	342	ePKPdf	PKPbc	09 30 04.8	+0.7		
KWP	Kalwaria Pacla	144.31	342	ePKP	PKPbc	09 30 04.1	0.0		
OJC	Ojcow	144.54	346	ePKIKP	PKPab	09 30 04.0	-0.6		
OJC	Ojcow	144.54	346	ePKPdf	PKPab	09 30 04.0	-0.6		
MALT	Malatya	144.61	315	⇓iP	PKPdf	09 30 07.2	+0.4		
KSP	Ksiaz	144.68	350	ePKIKP	PKPbc	09 30 05.4	+0.2		
KSP				e		09 30 12.9			
KSP				MLR	MLR				
	comp=Z,1μm,22.9s								
KSP	Ksiaz	144.68	350	ePKP	PKPbc	09 30 05.4	+0.2		
CLL	Collm	144.70	353	⇓iPKIKP	PKPab	09 30 05.2	+0.1		
CLL				e		09 30 16.0			
CLL				pmax	pmax				
	comp=Z,24nm,0.9s								
CLL				MLR	MLR				
	comp=Z,400nm,18.7s								
CLL	Collm	144.70	353	ePKPbc	PKPab	09 30 04.9	-0.2		
CLL	Collm	144.70	353	⇓iPKPdf	PKPab	09 30 05.2	+0.1		
	comp=Z,24nm,0.9s								
CLL				i		09 30 07.3			
CLL				esPKPdf	sPKPdf	09 30 16.0	+2.5		
CLL				i pPKiKP	pPKiKP	09 30 17.4	+2.0		
CLL				LmV		10 43 00.0			
	comp=Z,400nm,18.7s								
BUG	Bochum--Univer	144.91	359	ePKPbc	PKPab	09 30 05.7	-0.2		
STHS	Stebnicka Huta	144.91	344	ePKIKP	PKPdf	09 30 06.9	0.0		
STHS	Stebnicka Huta	144.91	344	ePKP	PKPdf	09 30 06.9	0.0		
STHS				e		09 58 07.5			
BRG	Berggiesshubel	145.01	352	ePKP	PKPab	09 30 06.1	-0.2		
	comp=Z,16nm,1.0s								
BRG				i		09 30 10.9			
	comp=Z,10.0nm,0.8s								
BRG				i		09 30 21.2			
	comp=Z,68nm,1.8s								
BRG	Berggiesshubel	145.01	352	ePKIKP	PKPab	09 30 06.1	-0.2		
BRG				i		09 30 10.9			
BRG				i		09 30 21.2			
BRG				pmax	pmax				
	comp=Z,16nm,1.0s								
BRG	Berggiesshubel	145.01	352	ePKPbc	PKPab	09 30 06.2	-0.1		
UPC	Upice	145.05	350	ePKIKP	PKPdf	09 30 06.9	-0.2		
UPC				e		09 30 13.9			
UPC				e		09 30 18.6			
UPC	Upice	145.05	350	⇑ePKP	PKPdf	09 30 06.9	-0.2		
UPC				epPKP	pPKPdf	09 30 13.9	+1.5		
UPC				esPKP		09 30 18.6			
KOLS	Kolonicke sedl	145.06	342	ePKIKP	PKPdf	09 30 07.1	-0.1		
KOLS	Kolonicke sedl	145.06	342	ePKP	PKPdf	09 30 07.1	-0.1		
DPC	Dobruska-Polom	145.15	349	iPKIKP	PKPdf	09 30 07.5	+0.2		
DPC				e		09 30 15.2			
DPC				e		09 30 20.3			
DPC	Dobruska-Polom	145.15	349	iPKP	PKPdf	09 30 07.5	+0.2		
DPC				epPKP	pPKPdf	09 30 15.2	+2.6		
DPC				esPKP		09 30 20.3			
DPC				AMS	AMS	10 30 10.0			
NIE	Niedzica	145.16	345	ePKIKP	PKPdf	09 30 07.6	+0.3		
NIE	Niedzica	145.16	345	ePKPdf	PKPdf	09 30 07.6	+0.3		
BUR08	Bucovina Ar. S	145.22	338	ePKPdf	PKPdf	09 30 07.9	+0.3		
BURAR	Bucovina Array	145.24	338	⇑iP	PKPbc	09 30 07.0	-0.3		
PVCC	Panska Ves	145.26	351	ePKIKP	PKPbc	09 30 07.0	-0.1		
PVCC				e		09 30 13.9			
PVCC	Panska Ves	145.26	351	⇑ePKP	PKPbc	09 30 07.0	-0.1		
PVCC				epPKP	pPKPdf	09 30 13.9	+1.2		
OKC	Ostrava-Krasne	145.28	347	⇑iPKIKP	PKPdf	09 30 07.6	+0.1		
OKC				e		09 30 15.5			
OKC				e		09 30 20.0			
OKC				MLR	MLR				
	comp=Z,500nm,22.7s								
OKC	Ostrava-Krasne	145.28	347	⇑iPKP	PKPdf	09 30 07.6	+0.1		
OKC				epPKP	pPKPdf	09 30 15.5	+2.7		
OKC				esPKP		09 30 20.0			
OKC				AMS	AMS	10 29 10.0			
	comp=Z,500nm,22.7s								
KMBO	Kilima Mbogo	145.32	243	ePKPdf	PKPdf	09 30 09.3	+0.3		
KMBO				PKPbc	PKPdf	09 30 09.9	+0.9		
KMBO	Kilima Mbogo	145.32	243	PKPbc	PKPdf	09 30 09.9	+0.9		
	comp=Z,25nm,1.1s,baz=86,slow=3.8,SNR=61								
UZH	Uzhgorod	145.32	342	⇓iPKIKP	PKPbc	09 30 06.9	-0.4		
UZH				e		09 30 17.9			
UBBA	Unterbreizbach	145.44	356	ePKPbc	PKPbc	09 30 07.5	0.0		
MORC	Moravsky Berou	145.46	348	ePKIKP	PKPbc	09 30 07.6	-0.2		
MORC	Moravsky Berou	145.46	348	⇓iP	PKPab	09 30 08.1	+0.1		
MORC	Moravsky Berou	145.46	348	ePKPdf	PKPbc	09 30 07.6	-0.2		
MOX	Moxa	145.49	355	ePKIKP	PKPdf	09 30 08.0	+0.2		
MOX				MLR	MLR				
	comp=Z,500nm,21.5s								
MOX	Moxa	145.49	355	ePKPbc	PKPdf	09 30 08.0	+0.2		
MOX				eL	L	10 37 31.1			
	comp=Z,481nm,21.5s								
BEBN	Eben Emael	145.55	1	PKP	PKPab	09 30 08.6	+0.4		
BEBN				APKP	pPKPdf	09 30 15.8	+2.6		
HGN	Heimansgroeve	145.59	1	ePKPdf	PKPdf	09 30 08.0	+0.1		
	comp=Z,235nm,1.7s								
TESR	Tescani	145.62	335	⇑iP	PKPbc	09 30 08.6	+0.2		
TANN	Tannenbergstha	145.64	354	ePKPbc	PKPab	09 30 08.6	-0.1		
GZT	Gaziantep	145.67	314	iP	PKPab	09 30 11.5	+2.1		
TRPA	Tarpa	145.69	341	⇑iP	PKPab	09 30 09.1	+0.3		
TRPA	Tarpa	145.69	341	⇑ePKPdf	PKPab	09 30 08.9	+0.1		
PRA	Prague	145.72	351	⇑PKP	PKPab	09 30 10.0	+1.1		
PRA				AMS	AMS	10 34 00.0			
MEM	Membach	145.74	1	PKP	PKPbc	09 30 08.7	+0.1		
MEM				APKP	pPKPdf	09 30 16.2	+2.6		
TLCR		145.75	332	⇑iP	PKPab	09 30 09.9	+0.8		
BMR	Baia Mare	145.79	340	⇑iP	PKPab	09 30 09.9	+0.7		
PRU	Pruhonice	145.79	351	⇑iPKP2	PKPab	09 30 09.2	0.0		
PRU				MLR	MLR				
	comp=Z,600nm,19.9s								
PRU	Pruhonice	145.79	351	⇑iPKP	PKPab	09 30 09.2	0.0		
PRU				epPKP	pPKPdf	09 30 16.9	+3.2		
PRU				esPKP		09 30 21.5			
PRU				AMS	AMS	10 33 30.0			
	comp=Z,600nm,19.9s								
SNF	Seneffe	145.79	3	PKP	PKPdf	09 30 08.4	+0.1		
SNF	Seneffe	145.79	3	APKP	pPKPdf	09 30 15.9	+2.3		
BCLA	Clavier	145.92	2	PKP	PKPdf	09 30 08.8	+0.2		
BCLA				APKP	pPKPdf	09 30 16.4	+2.6		
PETR	Petresti	146.02	334	⇑iP	PKPab	09 30 11.0	+0.9		
CFR	Carcaliu	146.06	333	⇓iP	PKPbc	09 30 10.1	+0.4		
ILGA	Ilgaz	146.08	322	iP	PKPab	09 30 12.4	+1.5		
VRAC	Vranov	146.10	348	⇑iP	PKPab	09 30 10.2	-0.2		
TNS	Taunus Mts	146.11	358	ePKP2	PKPbc	09 30 10.2	+0.3		
TNS	Taunus Mts	146.11	358	ePKPbc	PKPbc	09 30 10.2	+0.3		
VRI	Vrincioaia	146.11	335	⇑iP	PKPab	09 30 10.6	+0.1		
PLOR	Plostina	146.15	335	⇑iP	PKPbc	09 30 10.3	+0.2		
DOU	Dourbes	146.22	3	PKP	PKPdf	09 30 09.5	+0.4		
ROTZ	Rotzenmuhle	146.30	354	ePKPbc	PKPab	09 30 11.2	+0.1		
TREC	Trest	146.31	350	ePKP2	PKPbc	09 30 10.7	+0.3		
TREC				MLR	MLR				
	comp=Z,600nm,20.0s								
TREC	Trest	146.31	350	⇑ePKP	PKPbc	09 30 10.7	+0.3		
TREC				esPKP		09 30 23.5			
TREC				AMS	AMS	10 38 50.0			
	comp=Z,600nm,20.0s								
GRER		146.40	334	⇓iP	PKPab	09 30 11.8	+0.2		
ANDRN	Andirin	146.40	315	iP	PKPab	09 30 13.0	+0.9		
GRF	Grafenberg Arr	146.47	355	ePKP2	PKPab	09 30 11.6	-0.2		
GRF	Grafenberg Arr	146.47	355	ePKPbc	PKPab	09 30 11.6	-0.2		
GRF				eL	L	10 39 18.8			
	comp=Z,535nm,21.3s								
GRFO	Grafenberg	146.47	355	ePKP2	PKPab	09 30 12.0	+0.2		
GRFO	Grafenberg	146.47	355	ePKPbc	PKPab	09 30 12.0	+0.2		
TIRR	Tirgusor	146.49	331	⇑iP	PKPbc	09 30 11.4	+0.3		
CDAG	Cicekdag	146.55	320	iP	PKPab	09 30 13.1	+0.6		
TLB	Topalu	146.56	332	⇑iP	PKPab	09 30 12.1	-0.1		
DOPR	Dopca	146.56	336	⇓iP	PKPab	09 30 13.0	+0.7		
PSZ	Piszkesteto	146.65	344	ePKP2	PKPbc	09 30 12.1	+0.5		
PSZ	Piszkesteto	146.65	344	⇑iP	PKPab	09 30 12.6	0.0		
PSZ	Piszkesteto	146.65	344	ePKPbc	PKPbc	09 30 12.1	+0.5		
PSZ	Piszkesteto	146.65	344	e	PKPbc	09 30 11.8	+0.3		
DRWC	Darouich	146.66	313	eP	PKPab	09 30 14.7	+1.6		
SMOL	Smolenice	146.68	347	ePKP2	PKPab	09 30 12.7	+0.1		
SMOL	Smolenice	146.68	347	ePKP	PKPab	09 30 12.6	0.0		
WLF	Walferdange	146.69	1	PKP	PKPab	09 30 12.4	-0.2		
WLF				APKP	pPKPdf	09 30 19.6	+4.4		
WLF	Walferdange	146.69	1	ePKP2	PKPbc	09 30 11.5	0.0		
WLF	Walferdange	146.69	1	ePKPbc	PKPab	09 30 12.5	-0.1		
WLF	Walferdange	146.69	1	ePKPbc	PKPbc	09 30 11.5	0.0		
MLR	Muntele Rosu	146.73	335	⇓iP	PKPab	09 30 12.8	-0.3		
AVNT	Avonos	146.74	318	iP	PKPab	09 30 13.2	-0.2		
KHC	Kasperske Hory	146.76	352	ePKP2	PKPdf	09 30 10.6	+0.5		
KHC				MLR	MLR				
	comp=Z,600nm,18.0s								
KHC	Kasperske Hory	146.76	352	ePKP	PKPdf	09 30 10.6	+0.5		
KHC				i x	x	09 30 12.4			
KHC				epPKP	pPKPdf	09 30 19.1	+3.7		
KHC				ex	x	09 30 54.0			
KHC				AMS	AMS	10 39 30.0			
	comp=Z,600nm,18.0s								
KHC	Kasperske Hory	146.76	352	ePKPdf	PKPdf	09 30 10.6	+0.5		
ISR	Istrita	146.79	334	⇑iP	PKPbc	09 30 12.3	+0.3		
DRGR		146.82	340	⇓iP	PKPbc	09 30 11.9	-0.2		
WET	Wettzell	146.84	353	ePKP2	PKPbc	09 30 12.4	+0.4		
WET	Wettzell	146.84	353	ePKPbc	PKPbc	09 30 12.4	+0.4		
AMRR	Amara	146.85	333	⇑iP	PKPab	09 30 13.4	0.0		
BR131	Keskin Array S	146.95	320	ePKPbc	PKPbc	09 30 13.1	+0.4		
BRTR	Keskin Array B	146.95	320	PKPbc	PKPbc	09 30 13.5	+0.7		
BRTR	Keskin Array B	146.95	320	PKPbc	PKPbc	09 30 13.5	+0.7		
	comp=Z,53nm,0.8s,baz=123,slow=3.7,SNR=166								
GEC2	GERESS Array S	147.03	352	ePKP2	PKPbc	09 30 13.0	+0.4		
GEC2	GERESS Array S	147.03	352	ePKPbc	PKPbc	09 30 13.0	+0.4		
GERES	GERESS Array B	147.03	352	PKPbc	PKPbc	09 30 12.8	+0.2		
GERES	GERESS Array B	147.03	352	PKPbc	PKPbc	09 30 12.8	+0.2		
	comp=Z,22nm,0.8s,baz=18,slow=2.1,SNR=93								
ZST	Bratislava	147.05	347	ePKP2	PKPbc	09 30 12.8	+0.2		
ZST	Bratislava	147.05	347	ePKP	PKPbc	09 30 12.8	+0.2		
BTCH	Batrach	147.09	312	eP	PKPab	09 30 14.8	+0.1		
VOIR		147.13	336	⇓iP	PKPab	09 30 14.0	-0.6		
SULR		147.27	334	⇑iP	PKPab	09 30 14.6	-0.4		
MTUR	Matau	147.30	336	⇑iP	PKPbc	09 30 14.2	+0.7		
ARR	Arges	147.35	336	⇓iP	PKPbc	09 30 13.4	-0.2		
LANF	Langenberg	147.37	359	PKP	PKPbc	09 30 13.9	+0.4		
ANTO	Ankara	147.37	321	ePKP2	PKPbc	09 30 13.7	-0.2		
ANTO	Ankara	147.37	321	⇑iP	PKPbc	09 30 14.9	+1.0		
ANTO	Ankara	147.37	321	ePKPbc	PKPbc	09 30 13.7	-0.2		
WRDH	Warideh	147.38	312	eP	PKPbc	09 30 11.1	-0.5		
PKSG		147.52	345	⇓e	PKPbc	09 30 14.5	+0.6		
ARNB	Al Arnab	147.52	312	eP	PKPbc	09 30 15.0	+0.6		
STU	Stuttgart	147.53	357	ePKP2	PKPbc	09 30 14.0	+0.1		
STU	Stuttgart	147.53	357	ePKPbc	PKPbc	09 30 14.4	+0.5		
STU	Stuttgart	147.53	357	ePKPbc	PKPbc	09 30 14.0	+0.1		
DEV	Deva	147.55	339	⇑iP	PKPbc	09 30 14.8	+0.8		
CONA	Conrad Observa	147.56	349	iPKPab	PKPbc	09 30 14.7	+0.6		
	comp=Z,70nm,0.8s,SNR=33								
LOT	Lotru	147.61	337	⇓iP	PKPbc	09 30 14.4	0.0		
PKS7	Kunszentmiklos	147.64	344	⇓ePKPdf	PKPbc	09 30 15.0	+0.8		
SOP	Sopron	147.66	348	⇑e	PKPbc	09 30 15.0	+0.7		
BIDA	Albida	147.68	311	eP	PKPbc	09 30 14.9	0.0		
PKST	T``s	147.73	346	⇓ePKPdf	PKPbc	09 30 15.1	+0.6		
MOA	Molln	147.91	351	⇓iPKPab	PKPbc	09 30 15.5	+0.4		
	comp=Z,35nm,0.8s,SNR=16								
FUR	Furstenfeldbru	147.98	354	ePKP2	PKPbc	09 30 15.7	+0.5		
FUR	Furstenfeldbru	147.98	354	ePKPbc	PKPbc	09 30 15.7	+0.5		
MARH	Ras Al Marh	148.00	309	eP	PKPbc	09 30 17.6	+1.5		
BFO	Black Forest	148.00	358	ePKP2	PKPbc	09 30 15.6	+0.4		
BFO	Black Forest	148.00	358	ePKPbc	PKPbc	09 30 15.6	+0.4		
BFO	Black Forest	148.00	358	ePKPbc	PKPbc	09 30 15.2	0.0		
GZR	Gura Zlata	148.01	339	⇓iP	PKPbc	09 30 15.6	+0.2		
THEF	They Montfort	148.13	1	PKP	PKPbc	09 30 15.2	-0.3		
PKS2	Kecel	148.14	344	⇓ePKPdf	PKPbc	09 30 16.6	+1.0		
ECH	Echery	148.14	360	ePKP2	PKPbc	09 30 15.0	-0.6		
ECH	Echery	148.14	360	PKP	PKPbc	09 30 14.8	-0.8		
ECH	Echery	148.14	360	ePKPbc	PKPbc	09 30 15.0	-0.6		
BZS	Buzias	148.21	340	⇑iP	PKPbc	09 30 14.6	-1.2		
RJOB	Jochberg	148.23	352	ePKPbc	PKPbc	09 30 16.4	+0.5		
ARSA	Arzberg	148.27	349	⇑iPKIKP	PKPbc	09 30 16.1	+0.1		
	comp=Z,33nm,0.9s,SNR=13								
PKS9	Tamasi	148.30	345	⇓ePKPdf	PKPbc	09 30 16.4	+0.4		
QASN	Qassioun	148.37	308	eP	PKPdf	09 30 13.0	-0.4		
FELD	Feldberg im Sc	148.47	358	PKP	PKPbc	09 30 16.1	-0.5		
MOF	Molkenrain	148.51	360	PKP	PKPbc	09 30 17.6	+0.9		
SZH	Strazhica	148.54	333	iP	PKPdf	09 30 14.9	+1.7		
BRBR	Barbar	148.67	308	eP	PKPdf	09 30 16.0	+2.0		
RETA	Reutte	148.70	355	⇑iPKIKP	PKPbc	09 30 17.4	+0.3		
	comp=Z,40nm,1.1s,SNR=15								
BEHE	Becsehely	148.76	347	⇑e	PKPbc	09 30 17.6	+0.4		
WATA	Walderalm	148.77	354	⇑iPKiKP	PKPbc	09 30 17.5	+0.1		
	comp=Z,23nm,0.7s,SNR=15								
KBA	Koelnbreinsper	148.81	351	iPKPbc	PKPbc	09 30 17.2	-0.4		
	comp=Z,26nm,0.9s,SNR=13								
MOTA	Moosalm	148.81	354	⇑iPKiKP	PKPbc	09 30 17.6	+0.1		
	comp=Z,40nm,0.9s,SNR=21								
SOKA	Soboth	148.92	349	iPKPbc	PKPbc	09 30 17.5	-0.3		
	comp=Z,40nm,0.9s,SNR=23								
PERS	Pernice	148.94	349	iPKPbc	PKPbc	09 30 17.5	-0.2		
DAVA	Damuels	148.97	356	⇓ePKiKP	PKPbc	09 30 18.3	+0.3		
	comp=Z,52nm,0.9s,SNR=14								
TCHB	Talchebab	148.97	307	eP	PKPbc	09 30 17.3	-1.0		
LOMF	Lomont	149.01	360	PKP	PKPbc	09 30 17.6	-0.4		
LCHF	La Chataignera	149.05	10	PKP	PKPbc	09 30 18.2	+0.3		
FETA	Feichten	149.17	355	⇑iPKiKP	PKPbc	09 30 18.8	+0.3		
	comp=Z,60nm,1.3s,SNR=18								
OBKA	Obir	149.17	350	iPKPbc	PKPbc	09 30 18.0	-0.4		
	comp=Z,15nm,0.8s,SNR=8.6								
MYKA	Terra Mystica	149.20	351	iPKPbc	PKPbc	09 30 17.9	-0.5		
	comp=Z,30nm,0.7s,SNR=16								
ERMK	Ermenek	149.21	316	iP	PKPbc	09 30 20.7	+1.7		
ABTA	Abfaltersbach	149.24	352	⇑iPKPbc	PKPbc	09 30 18.3	-0.3		
	comp=Z,58nm,0.7s,SNR=19								
MPEP	Malo Peshtene	149.39	335	iP	PKPbc	09 30 19.2	+0.3		
LJU	Ljubljana	149.62	349	iPKPbc	PKPbc	09 30 19.8	+0.4		
LJU				i		09 30 32.0			
VOY	Vojsko	149.74	350	ePKPbc	PKPbc	09 30 19.3	-0.5		
VOY				e		09 30 26.9			
VOY				e		09 30 31.7			
VOY				e		09 30 41.6			
TUE	Stuetta	149.81	356	ePKPbc	PKPbc	09 30 20.5	+0.3		
CSS	Prodhromos	149.84	313	P	PKPbc	09 30 19.9	-0.4		
CSS	Prodhromos	149.84	313	ePKPbc	PKPbc	09 30 20.8	+0.5		
JAVS	Javornik	149.85	350	iPKPdf	PKPdf	09 30 15.5	+0.2		
JAVS				iPKPbc	PKPbc	09 30 20.2	+0.1		
BOJS	Bojanci	150.00	348	iPKPdf	PKPdf	09 30 16.2	+0.8		
BOJS				iPKPbc	PKiKP	09 30 21.1	-0.2		
ISP	Isparta	150.03	320	ePKP2	PKPbc	09 30 20.8	0.0		
ISP	Isparta	150.03	320	⇓iP	PKPbc	09 30 19.6	-1.2		
ISP	Isparta	150.03	320	ePKPbc	PKPbc	09 30 20.8	0.0		
DIVS	Divibare	150.09	341	P	PKPbc	09 30 20.9	+0.2		
AGO	Saint Agoulin	150.15	15	PKP	PKPbc	09 30 22.0	+1.3		
VTS	Vitosha	150.24	335	P	PKPbc	09 30 21.3	0.0		
VTS	Vitosha	150.24	335	⇑iP	PKPbc	09 30 21.7	+0.5		
VTS	Vitosha	150.24	335	iP	PKPbc	09 30 21.2	0.0		
DEMI	Demirci	150.29	324	iP	PKPab	09 30 28.4	+0.8		
KHAL	Karahalli	150.30	322	iP	PKPbc	09 30 23.0	+1.5		
OG35	Corcelles	150.30	2	PKP	PKPbc	09 30 21.3	+0.1		
RZN	Rozhen	150.34	332	iP	PKPbc	09 30 21.3	-0.2		
RDO	Rodhopi	150.39	331	P	PKPbc	09 30 21.1	-0.3		
RDO	Rodhopi	150.39	331	P	PKPbc	09 30 21.1	-0.3		
PYM	Petit Puy Mans	150.44	5	PKP	PKPbc	09 30 22.9	+1.4		
KORT	Korkueli	150.66	319	iP	PKPbc	09 30 24.0	+1.7		
RSL	Roselend	150.67	0	PKP	PKPbc	09 30 22.6	+0.4		
UDBI	Udbina	150.83	347	P	PKPbc	09 30 22.5	+0.1		
MMB	Musomiste	150.85	333	iP	PKPbc	09 30 22.5	-0.1		
KKB	Krupnik	150.90	334	iP	PKPbc	09 30 23.1	+0.5		
PLE	Pljevlja	150.97	341	⇑iPKP	PKPbc	09 30 22.3	-0.6		
NVLJ	Novalja	150.98	348	P	PKPbc	09 30 22.3	-0.4		
NVR	Nevrokopi	150.99	333	P	PKPbc	09 30 21.9	-1.0		
NVR	Nevrokopi	150.99	333	P	PKPbc	09 30 21.9	-1.0		
SSB	Saint Sauveur	151.02	3	ePKIKP	PKPbc	09 30 23.1	+0.2		
SSB	Saint Sauveur	151.02	3	PKP	PKPbc	09 30 23.4	+0.5		
SSB	Saint Sauveur	151.02	3	ePKPbc	PKPbc	09 30 23.1	+0.2		
GDM	Grand'Maison	151.15	1	PKP	PKPbc	09 30 23.9	+0.6		
IVA	Berane	151.22	340	⇑iPKP	PKPbc	09 30 23.1	-0.4		
UPM	Unac-Piva	151.24	341	⇑iPKP	PKPbc	09 30 22.9	-0.7		
PGAV	Gavieira, Arco	151.30	24	ePKPdf	PKPdf	09 30 18.3	+0.6		
PGAV	Gavieira, Arco	151.30	24	ePKPbc	PKPbc	09 30 23.7	0.0		
PGAV	Gavieira, Arco	151.30	24	eLR	LR	10 26 08.6			
	comp=Z,582nm,22.0s								
BNI	Bardonecchia	151.31	0	ePKIKP	PKPbc	09 30 23.8	+0.2		
BNI				e		09 30 32.6			
BNI	Bardonecchia	151.31	0	ePKPbc	PKPbc	09 30 23.8	+0.2		
BNI				ePKPab	PKPab	09 30 32.6	+1.0		
PVY	Plav	151.44	339	⇑iPKP	PKPbc	09 30 23.6	-0.4		
SKO	Skopje	151.46	337	ePKP	PKPbc	09 30 24.6	+0.7		
VAY	Valandovo	151.56	335	ePKP	PKPbc	09 30 23.8	-0.3		
NKY	Niksic	151.56	341	⇑iPKP	PKPbc	09 30 23.4	-0.9		
PCAB	Cabril	151.62

comp=Z,60nm,18.3s,baz=169,slow=35
TORD Torodi Ar. Bea 41.06 134 P P 09 22 56.8 -0.3
0.4nm,0.8s,baz=326,slow=8.3,SNR=2.9
H10S1 ASCENSION HYDR 56.08 165 T T 10 25 22.3
baz=352
H10S3 ASCENSION HYDR 56.09 165 T T 10 25 22.1
baz=352
H10S2 ASCENSION HYDR 56.10 165 T T 10 25 23.6
baz=352
PDAR Pinedale Array 56.22 299 P P 09 24 54.1 +0.3
0.9nm,0.8s,baz=24,slow=6.9,SNR=2.5
KURBB **Kurchatov Arra 64.27 43** P P 09 25 48.7 +0.2
0.3nm,0.5s,baz=316,slow=6.6,SNR=4.0
MKAR Makanchi Array 68.72 44 P P 09 26 17.0 -0.1
0.2nm,0.6s,baz=328,slow=4.4,SNR=4.9
WRA Warramunga Arr 149.76 36 PKPbc PKPbc 09 35 03.3 -0.5
0.6nm,1.0s,baz=336,slow=2.0,SNR=3.9
ASAR Alice Springs 152.86 40 PKPbc PKPbc 09 35 10.4 -0.5
0.5nm,0.9s,baz=341,slow=2.0,SNR=4.3
ASAR PKPab PKPab 09 35 20.9 -1.0
0.3nm,0.8s,baz=343,slow=2.2,SNR=4.4

IDC 04 09:31:03.4±1.4, 1°05'N×124°08'E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/24, mbtmp3.5/5, ML3.6/1, Error ellipse: s-maj=144.4km s-min=19.5km az=66.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.10**	**175**	P	P	09 35 27.8	0.0
	0.1nm,0.3s,baz=14,slow=9.7,SNR=5.1						
WRA	**Warramunga Arr**	**23.16**	**155**	P	P	09 36 11.8	0.0
	0.6nm,0.3s,baz=334,slow=9.6,SNR=22						
ASAR	**Alice Springs**	**26.36**	**159**	P	P	09 36 40.6	-0.9
	0.1nm,0.3s,baz=334,slow=8.6,SNR=6.8						
MKAR	**Makanchi Array**	**58.30**	**327**	P	P	09 41 00.2	+0.1
	0.5nm,0.6s,baz=126,slow=8.4,SNR=6.1						
KURBB	**Kurchatov Arra**	**62.61**	**329**	P	P	09 41 29.9	+0.5
	0.5nm,0.7s,baz=132,slow=6.1,SNR=6.5						

IDC 04 09:55:32.0±4.7, 18°64S×174°87W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/18, mbtmp4.0/3, Error ellipse: s-maj=176.1km s-min=95.1km az=159.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.26**	**243**	P	P	10 03 19.1	-0.1
	1.7nm,0.8s,baz=90,slow=12,SNR=3.3						
WRA	**Warramunga Arr**	**47.81**	**260**	P	P	10 04 11.7	-0.1
	0.7nm,0.3s,baz=98,slow=6.8,SNR=36						
ASAR	**Alice Springs**	**47.84**	**255**	P	P	10 04 11.7	-0.3
	1.0nm,0.5s,baz=88,slow=8.6,SNR=34						
ASAR				PcP	PcP	10 05 40.7	-0.2
	0.1nm,0.4s,baz=102,slow=4.1,SNR=4.0						

WEL 04 10:03:26.9±0.1, 39°93S×174°92E, h12km, ML3.5/36, 9C-2D, Error ellipse: s-maj=1.5km s-min=0.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WAZ	**Wanganui**	**0.18**	**16**	⇑P*	Pb	10 03 33.3	+1.0
WAZ				AML	AML	10 03 38.8	
WAZ				AML	AML	10 03 38.8	
WAZ				AML	AML	10 03 39.7	
WAZ				AML	AML	10 03 39.7	
MTVZ	**Mangateitei**	**0.69**	**38**	P*	Pg	10 03 39.9	-0.5
MTVZ				AML	AML	10 03 50.5	
MTVZ				AML	AML	10 03 51.6	
PKVZ	**Pokaka**	**0.72**	**27**	P*	Pg	10 03 40.4	-0.5
PKVZ				AML	AML	10 03 53.0	
PKVZ				AML	AML	10 03 55.7	
POWZ	**Post Office Ro**	**0.80**	**126**	⇑P*	Pg	10 03 41.7	-0.6
POWZ				S*	Sg	10 03 52.0	-0.7
TRVZ	**Turoa**	**0.80**	**38**	⇑P*	Pg	10 03 41.6	-1.0
TRVZ				AML	AML	10 03 53.8	
TRVZ				AML	AML	10 03 54.0	
WNVZ	**Wahianoa**	**0.80**	**41**	⇑P*	Pg	10 03 41.6	-0.9
WNVZ				AML	AML	10 03 57.3	
WNVZ				AML	AML	10 03 58.5	
TSZ	**Takapari Road**	**0.81**	**99**	P*	Pg	10 03 41.7	-0.9
TSZ				AML	AML	10 03 52.1	
TSZ				AML	AML	10 03 52.6	
VRZ	**Vera Road**	**0.82**	**351**	P*	Pb	10 03 42.9	0.0
VRZ				AML	AML	10 04 00.1	
VRZ				AML	AML	10 04 00.5	
DRZ	**Dome Shelter**	**0.82**	**37**	P*	Pg	10 03 41.8	-1.4
DRZ				AML	AML	10 03 53.7	
DRZ				AML	AML	10 03 56.3	
MOVZ	**Moawhango**	**0.83**	**51**	P*	Pg	10 03 41.7	-1.3
MOVZ				AML	AML	10 03 53.8	
MOVZ				AML	AML	10 03 53.9	
WHVZ	**Whangaehu Hut**	**0.83**	**39**	⇑P*	Pg	10 03 42.0	-1.2
FWVZ	**Far West T-bar**	**0.83**	**36**	P*	Pg	10 03 42.2	-1.1
FWVZ				S*	Sg	10 03 53.0	-1.4
FWVZ				AML	AML	10 03 56.5	
TUVZ	**Tukino**	**0.87**	**41**	⇑P*	Pg	10 03 43.0	-0.9
TUVZ				AML	AML	10 03 56.3	
TUVZ				AML	AML	10 03 57.4	
WPVZ	**Whakapapa**	**0.87**	**34**	P*	Pg	10 03 42.9	-1.0
WPVZ				AML	AML	10 03 56.5	
WPVZ				AML	AML	10 03 58.3	
DFE	**Dawson Falls**	**0.87**	**314**	eP*	Pn	10 03 44.8	-0.3
MRZ	**Mangatainoka R**	**0.89**	**146**	P*	Pg	10 03 43.3	-0.7
MRZ				S*	Sg	10 03 54.4	-1.2
MRZ				AML	AML	10 03 54.9	
OGWZ	**Otaki Gorge**	**0.90**	**168**	⇑P*	Pg	10 03 43.5	-0.9
NGZ	**Ngauruhoe**	**0.92**	**35**	AML	AML	10 04 01.8	
KIW	**Kapiti Island**	**0.93**	**180**	⇑P*	Pg	10 03 43.4	-1.4
KIW				AML	AML	10 03 55.9	
KIW				AML	AML	10 03 57.2	
TWVZ	**Taurewa**	**0.95**	**25**	AML	AML	10 03 57.9	
TWVZ				AML	AML	10 04 01.1	
NMEZ	**Namu Road**	**0.96**	**303**	P*	Pn	10 03 46.4	+0.3
OTVZ	**Oturere**	**0.96**	**37**	⇑P*	Pg	10 03 44.4	-1.2
OTVZ				AML	AML	10 03 59.6	
OTVZ				AML	AML	10 03 59.7	
PNHZ	**Pukenui**	**0.98**	**89**	P*	Pg	10 03 43.9	-2.0
BHHZ	**Black Hill Sta**	**0.99**	**64**	P*	Pb	10 03 43.7	-2.3
PRWZ	**Pori Road**	**1.02**	**128**	P*	Pb	10 03 46.0	-0.5
DVHZ	**Dannevirke**	**1.02**	**111**	P*	Pb	10 03 45.7	-0.8
HOWZ	**Holdsworth Sta**	**1.07**	**155**	P*	Pb	10 03 46.2	-1.1
TIWZ	**Tintock**	**1.12**	**139**	P*	Pb	10 03 47.6	-0.6
KATZ	**Kakaramea**	**1.13**	**32**	P*	Pb	10 03 47.2	-1.3
KATZ				AML	AML	10 04 07.7	
KATZ				AML	AML	10 04 08.4	
DUWZ	**D'Urville Isla**	**1.16**	**221**	P*	Pb	10 03 47.5	-1.3
DUWZ				AML	AML	10 04 04.5	
DUWZ				AML	AML	10 04 07.5	
WPHZ	**Waipukurau**	**1.18**	**97**	P*	Pb	10 03 48.6	-0.5
CAW	**Cannon Point**	**1.18**	**175**	P*	Pn	10 03 47.8	-1.4
CAW				AML	AML	10 04 04.3	
CAW				AML	AML	10 04 05.5	
RITZ	**Rihia Road**	**1.20**	**38**	P*	Pn	10 03 48.5	-0.9
RITZ				AML	AML	10 04 09.1	
RITZ				AML	AML	10 04 10.0	
RATZ	**Rangitukua**	**1.25**	**32**	P*	Pn	10 03 49.4	-0.9
RATZ				AML	AML	10 04 13.4	
RATZ				AML	AML	10 04 15.6	
MTW	**Mount Morrison**	**1.30**	**160**	⇓PN	Pn	10 03 50.2	-0.6
MTW				AML	AML	10 04 08.3	
MTW				AML	AML	10 04 10.1	
WEL	**Wellington**	**1.36**	**185**	PN	Pn	10 03 50.3	-1.3
PRHZ	**Porangahau**	**1.36**	**105**	PN	Pn	10 03 50.5	-1.1
TCW	**Tory Channel**	**1.37**	**201**	PN	Pn	10 03 50.2	-1.6
TCW				AML	AML	10 04 11.1	
TCW				AML	AML	10 04 11.3	
WATZ	**Wairara**	**1.38**	**28**	ePN	Pn	10 03 51.1	-0.8
HATZ	**Hinemaiaia**	**1.38**	**41**	ePN	Pn	10 03 50.6	-1.4
HATZ				AML	AML	10 04 11.2	
HATZ				AML	AML	10 04 13.2	
SNZO	**South Karori**	**1.39**	**187**	AML	AML	10 03 43.9	
SNZO				PN	Pn	10 03 50.8	-1.2
SNZO				AML	AML	10 04 09.9	
SNZO				AML	AML	10 04 10.3	
SNZO				AML	AML	10 04 10.3	
HIZ	**Hauiti**	**1.42**	**358**	⇓PN	Pn	10 03 51.8	-0.7
HIZ				AML	AML	10 04 11.2	
HIZ				AML	AML	10 04 15.4	
MCHZ	**McNeill Hill**	**1.46**	**71**	PN	Pn	10 03 53.0	0.0
BHW	**Baring Head**	**1.47**	**181**	PN	Pn	10 03 52.8	-0.4
BHW				AML	AML	10 04 13.4	
BHW				AML	AML	10 04 14.8	
PXZ	**Pawanui**	**1.50**	**94**	ePN	Pn	10 03 52.6	-0.9
PXZ				AML	AML	10 03 59.1	
PXZ				AML	AML	10 04 30.8	
PAWZ	**Paruwai Farm**	**1.50**	**165**	PN	Pn	10 03 53.1	-0.5
PAWZ				AML	AML	10 04 15.5	
PAWZ				AML	AML	10 04 22.0	
MSWZ	**Moikau Station**	**1.50**	**170**	PN	Pn	10 03 53.4	-0.3
MSWZ				AML	AML	10 04 15.7	
MSWZ				AML	AML	10 04 17.2	
KAHZ	**Kahuranaki**	**1.51**	**85**	ePN	Pn	10 03 53.0	-0.8
PLWZ	**Palliser**	**1.66**	**171**	PN	Pn	10 03 56.0	+0.2
TUWZ	**Tuamarina**	**1.67**	**206**	PN	Pn	10 03 56.1	+0.2
TUWZ				AML	AML	10 04 20.5	
TUWZ				AML	AML	10 04 21.8	
NMHZ	**Naumai**	**1.68**	**61**	PN	Pn	10 03 56.0	-0.2
NNZ	**Nelson**	**1.74**	**222**	PN	Pn	10 03 56.0	-0.9
NNZ				AML	AML	10 04 21.9	
NNZ				AML	AML	10 06 27.6	
PRRZ	**Plateau Road**	**1.83**	**39**	PN	Pb	10 03 59.5	-0.9
BSWZ	**Blackbirch Sta**	**1.95**	**204**	ePN	Pn	10 03 59.5	-0.3
BSWZ				AML	AML	10 04 29.9	
BSWZ				AML	AML	10 04 33.1	
QRZ	**Quartz Range**	**2.03**	**243**	PN	Pn	10 04 00.1	-0.8
TOZ	**Tahuroa Road**	**2.25**	**12**	ePN	Pn	10 04 05.4	+1.6
THZ	**Tophouse**	**2.38**	**219**	PN	Pn	10 04 05.5	-0.3
THZ				AML	AML	10 04 49.0	
THZ				AML	AML	10 04 51.3	
KHZ	**Kahutara**	**2.69**	**202**	PN	Pn	10 04 08.9	-1.1
MKAZ	**Moumakai**	**2.83**	**4**	AML	AML	10 04 41.4	
MKAZ				AML	AML	10 05 16.0	
MQZ	**McQueen's Vall**	**4.13**	**203**	PN	Pn	10 04 26.3	-3.5

IDC 04 10:09:31.3±3.0, 14°86S×172°43W, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.5/4, Error ellipse: s-maj=177.2km s-min=32.4km az=146.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.14**	**34**	Pn	Pg	10 09 50.5	-2.7
	84nm,0.3s,baz=185,slow=2.3,SNR=22						
AFI				Sn	Sg	10 10 01.6	-6.4
	225nm,0.3s,baz=14,slow=23,SNR=24						
ASAR	**Alice Springs**	**51.17**	**251**	P	P	10 18 36.6	-0.1
	1.1nm,0.9s,baz=88,slow=7.7,SNR=7.3						
NVAR	**Mina Array Bea**	**73.30**	**42**	P	P	10 21 05.5	+0.4
	0.2nm,0.3s,baz=230,slow=8.1,SNR=2.9						
PDAR	**Pinedale Array**	**81.24**	**42**	P	P	10 21 49.3	-0.3
	0.2nm,0.6s,baz=258,slow=4.5,SNR=2.7						
ILAR	**Eielson Array**	**81.74**	**11**	P	P	10 21 51.4	-0.1
	0.2nm,0.7s,baz=228,slow=6.6,SNR=4.6						

*CSEM **04** 10:14:59.9±5.3, 45°30N×29°49W, h10km, mb4.1/5, Error ellipse: s-maj=149.5km s-min=33.8km az=79.0*
*ISCJB **04** 10:15:17.0±0.8, 46°2N±0°1×27°3W±0°1, h16km, mb3.8/7, Error ellipse: s-maj=17.0km s-min=10.0km az=20.3*
*IDC **04** 10:15:16.9±1.0, 46°40N×27°38W, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/31, mbtmp3.7/5, ML4.8/1, Error ellipse: s-maj=46.4km s-min=23.4km az=17.0*

ISC 04 10:15:19.0±0.9, 46°3N±0°2×27°3W±0°1, h16km, n71, σ1§14/59, mb3.9/7, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGAV	**Gavieira, Arco**	**14.31**	**101**	eP	**Pn**	**10 18 40.3**	**-0.7**
	22nm,0.6s						
PGAV	**Gavieira, Arco**	**14.31**	**101**	eP	**Pn**	**10 18 40.3**	**-0.7**
	22nm,0.6s						
PCAB	**Cabril**	**14.58**	**101**	eP	**Pn**	**10 18 44.0**	**-0.6**
	42nm,1.6s						
PCAB	**Cabril**	**14.58**	**101**	eP	**Pn**	**10 18 44.0**	**-0.6**
	42nm,1.6s						
POLO	**Lamas de Olo**	**14.89**	**102**	eP	**Pn**	**10 18 47.9**	**-0.9**
	12nm,1.8s						
POLO	**Lamas de Olo**	**14.89**	**102**	eP	**Pn**	**10 18 47.9**	**-0.9**
	12nm,1.8s						
PVIS	**Viseu**	**15.12**	**105**	eP	**Pn**	**10 18 51.0**	**-0.8**
PVIS	**Viseu**	**15.12**	**105**	eP	**Pn**	**10 18 51.0**	**-0.8**
PMAFR	**Mafra**	**15.12**	**113**	eP	**Pn**	**10 18 50.0**	**-1.9**
	63nm,1.6s						
PMAFR	**Mafra**	**15.12**	**113**	eP	**Pn**	**10 18 50.0**	**-1.9**
	63nm,1.6s						
PBRG	**Braganca**	**15.42**	**100**	eP	**Pn**	**10 18 55.9**	**+0.1**
	13nm,1.3s						
PBRG	**Braganca**	**15.42**	**100**	eP	**Pn**	**10 18 55.9**	**+0.1**
	13nm,1.3s						
MVO	**Moncorvo**	**15.50**	**102**	eP	**Pn**	**10 18 56.0**	**-0.8**
	15nm,1.6s						
MVO	**Moncorvo**	**15.50**	**102**	eP	**Pn**	**10 18 56.0**	**-0.8**
	15nm,1.6s						
PMTG	**Montargil**	**15.74**	**111**	eP	**Pn**	**10 18 58.7**	**-1.2**
	13nm,1.7s						
PMTG	**Montargil**	**15.74**	**111**	eP	**Pn**	**10 18 58.7**	**-1.2**
	13nm,1.7s						
PNCL	**Nicolau / Gran**	**16.09**	**114**	eP	**Pn**	**10 19 04.5**	**0.0**
	18nm,1.8s						
PNCL	**Nicolau / Gran**	**16.09**	**114**	eP	**Pn**	**10 19 04.5**	**0.0**
	18nm,1.8s						
EVOP	**Sao Brissos**	**16.11**	**112**	eP	**Pn**	**10 19 01.4**	**-3.3**
	3.3nm,0.7s						
EVO	**Evora**	**16.18**	**112**	eP	**Pn**	**10 19 01.4**	**-4.2**
	6.6nm,0.7s						
EVO	**Evora**	**16.18**	**112**	eP	**Pn**	**10 19 05.3**	**-0.3**
	12nm,1.5s						
EVO	**Evora**	**16.18**	**112**	eP	**Pn**	**10 19 05.3**	**-0.3**
	12nm,1.5s						
ROSF	**Rostrenen**	**16.39**	**74**	eP	**Pn**	**10 19 06.2**	**-2.0**
GRR	**Gorron**	**18.00**	**74**	eP	**P**	**10 19 28.8**	**+0.1**
GRR	**Gorron**	**18.00**	**74**	eP	**P**	**10 19 28.8**	**+0.1**
ESDC	**Sonseca Array**	**18.26**	**103**	P	**P**	**10 19 34.2**	**+2.4**
	0.6nm,0.3s,baz=297,slow=12,SNR=11						
MFF	**Saint Martin d**	**18.67**	**79**	eP	**P**	**10 19 36.2**	**+0.1**
	26nm,1.3s						
MFF	**Saint Martin d**	**18.67**	**79**	eP	**P**	**10 19 36.2**	**+0.1**
	13nm,1.3s						
SJPF	**Ste Jean**	**18.76**	**90**	eP	**Pn**	**10 19 38.1**	**+0.4**
	5.0nm,0.7s						
SJPF	**Ste Jean**	**18.76**	**90**	eP	**Pn**	**10 19 38.1**	**+0.4**
	2.5nm,0.7s						
ETSF	**Etsaut**	**19.29**	**90**	eP	**Pn**	**10 19 44.5**	**+0.4**
	7.9nm,0.6s						
LFF	**La Frestale**	**19.61**	**84**	eP	**Pn**	**10 19 47.1**	**-0.7**
LFF	**La Frestale**	**19.61**	**84**	eP	**Pn**	**10 19 47.1**	**-0.7**
EPF	**Esparros**	**19.87**	**89**	eP	**P**	**10 19 49.9**	**+0.5**
EPF	**Esparros**	**19.87**	**89**	eP	**P**	**10 19 49.9**	**+0.5**
RJF	**Les Rejaudoux**	**20.05**	**82**	eP	Pn	10 19 52.4	-0.8
	30nm,1.4s						
RJF	**Les Rejaudoux**	**20.05**	**82**	eP	Pn	10 19 52.4	-0.8
	15nm,1.4s						
TCF	**Toulx Ste Croi**	**20.33**	**79**	eP	Pn	10 19 55.5	-0.9
	24nm,1.3s						
TCF	**Toulx Ste Croi**	**20.33**	**79**	eP	Pn	10 19 55.5	-0.9
	12nm,1.3s						
CAF	**Calviac**	**20.52**	**83**	eP	Pn	10 19 57.8	-0.9
CAF	**Calviac**	**20.52**	**83**	eP	Pn	10 19 57.8	-0.9
AVF	**Avril sur Loir**	**21.01**	**77**	eP	**P**	**10 20 02.7**	**+1.0**
AVF	**Avril sur Loir**	**21.01**	**77**	eP	**P**	**10 20 02.7**	**+1.0**
SSF	**Saint Saulge**	**21.07**	**77**	eP	**P**	**10 20 03.6**	**+1.3**
	11nm,1.1s						
SSF	**Saint Saulge**	**21.07**	**77**	eP	**P**	**10 20 03.6**	**+1.3**
	5.4nm,1.1s						
MTLF	**Montolieu**	**21.07**	**87**	eP	**P**	**10 20 02.5**	**+0.1**
	3.0nm,0.5s						
MTLF	**Montolieu**	**21.07**	**87**	eP	**P**	**10 20 02.5**	**+0.1**
	1.5nm,0.5s						
BAIF	**Baives**	**21.24**	**68**	eP	**P**	**10 20 03.9**	**-0.2**
BAIF	**Baives**	**21.24**	**68**	eP	**P**	**10 20 03.9**	**-0.2**
LOR	**Lormes**	**21.27**	**76**	eP	**P**	**10 20 05.4**	**+0.9**
LOR	**Lormes**	**21.27**	**76**	eP	**P**	**10 20 05.4**	**+0.9**
SMF	**Signal de Mont**	**21.37**	**78**	eP	**P**	**10 20 06.6**	**+1.1**
SMF	**Signal de Mont**	**21.37**	**78**	eP	**P**	**10 20 06.6**	**+1.1**
MEZF	**Maizieres J'vi**	**21.91**	**72**	eP	**P**	**10 20 12.1**	**+0.8**
	30nm,1.2s						
MEZF	**Maizieres J'vi**	**21.91**	**72**	eP	**P**	**10 20 12.1**	**+0.8**
	15nm,1.2s						
SFTF	**Sexfontaines**	**21.93**	**73**	eP	**P**	**10 20 12.4**	**+0.8**
SFTF	**Sexfontaines**	**21.93**	**73**	eP	**P**	**10 20 12.4**	**+0.8**
PAGF	**Fort de Pagny**	**22.34**	**72**	eP	**P**	**10 20 15.0**	**-1.0**
PAGF	**Fort de Pagny**	**22.34**	**72**	eP	**P**	**10 20 15.0**	**-1.0**
TORD	**Torodi Ar. Bea**	**41.08**	**134**	P	**P**	**10 23 02.8**	**+0.8**
	0.8nm,0.7s,baz=331,slow=8.1,SNR=4.8						
H10N2	**ASCENSION HYDR**	**55.08**	**164**	T	T	11 24 05.2	
	baz=350,slow=0.7,SNR=5.7						
H10N3	**ASCENSION HYDR**	**55.09**	**165**	T	T	11 24 05.8	
	baz=350,slow=0.7,SNR=6.3						
H10N1	**ASCENSION HYDR**	**55.10**	**164**	T	T	11 24 06.5	
	baz=350,slow=0.7,SNR=5.4						
H10S1	**ASCENSION HYDR**	**56.14**	**165**	T	T	11 25 28.8	
	baz=350,slow=0.7,SNR=13						
H10S3	**ASCENSION HYDR**	**56.15**	**165**	T	T	11 25 26.1	
	baz=350,slow=0.7,SNR=20						
H10S2	**ASCENSION HYDR**	**56.16**	**165**	T	T	11 25 30.2	
	baz=350,slow=0.7,SNR=14						
PDAR	**Pinedale Array**	**56.21**	**299**	P	**P**	**10 24 57.2**	**-1.1**
	0.6nm,0.9s,baz=51,slow=6.4,SNR=4.4						
TXAR	**Lajitas Array**	**60.42**	**283**	P	**P**	**10 25 28.4**	**+0.6**
	0.8nm,0.9s,baz=67,slow=6.9,SNR=8.8						
MKAR	**Makanchi Array**	**68.65**	**44**	P	**P**	**10 26 21.7**	**+0.4**
	0.8nm,0.7s,baz=318,slow=5.9,SNR=8.8						
WRA	**Warramunga Arr**	**149.69**	**36**	PKPbc	**PKPbc**	**10 35 08.1**	**0.0**
	0.9nm,0.9s,baz=327,slow=2.9,SNR=3.6						
ASAR	**Alice Springs**	**152.79**	**40**	PKPbc	**PKPbc**	**10 35 15.1**	**-0.1**
	0.5nm,0.8s,baz=333,slow=1.0,SNR=6.2						

IDC 04 10:18:26.5±3.3, 15°89S×173°79W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/18, mbtmp3.9/4, MS2.9/1, Ms1 2.9/1, ms1mx2.7/34, Error ellipse: s-maj=158.9km s-min=33.1km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.77**	**45**	Pn	Pn	10 19 02.8	-10
	5.4nm,0.3s,baz=98,slow=14,SNR=3.5						
AFI				Sn	Sn	10 19 28.3	-18
	55nm,0.3s,baz=51,slow=22,SNR=8.5						
AFI				LR	LR	10 20 11.5	
	comp=Z,212nm,20.2s,baz=265,slow=38						
H11S2	**WAKE ISLAND Hy**	**39.20**	**330**	T	T	11 07 54.9	
	baz=152,slow=0.7,SNR=14						
H11S3	**WAKE ISLAND Hy**	**39.21**	**330**	T	T	11 07 57.0	
	baz=152,slow=0.7,SNR=19						
H11S1	**WAKE ISLAND Hy**	**39.21**	**330**	T	T	11 07 53.8	
	baz=152,slow=0.7,SNR=18						
H11N3	**WAKE ISLAND Hy**	**40.16**	**331**	T	T	11 09 01.8	
	baz=156						
H11N1	**WAKE ISLAND Hy**	**40.16**	**331**	T	T	11 09 00.6	
	baz=156,slow=0.7						
H11N2	**WAKE ISLAND Hy**	**40.17**	**331**	T	T	11 09 01.7	
	baz=156,slow=0.7						
STKA	**Stephens Creek**	**43.47**	**240**	P	P	10 26 31.0	-0.7
	1.6nm,0.7s,baz=96,slow=9.6,SNR=3.5						
WRA	**Warramunga Arr**	**49.37**	**257**	P	P	10 27 18.1	-0.2
	1.1nm,0.8s,baz=94,slow=7.9,SNR=9.2						
ASAR	**Alice Springs**	**49.60**	**252**	P	P	10 27 20.2	+0.2
	3.2nm,0.7s,baz=88,slow=7.8,SNR=38						
ILAR	**Eielson Array**	**83.00**	**11**	P	P	10 30 53.0	-0.3
	0.3nm,0.8s,baz=206,slow=5.8,SNR=4.2						
KMBO	**Kilima Mbogo**	**144.98**	**244**	PKP	PKPdf	10 38 07.0	-0.2
	1.4nm,1.0s,baz=45,slow=19,SNR=2.8						
BRTR	**Keskin Array B**	**146.30**	**320**	PKPbc	PKPdf	10 38 09.1	+0.5
	1.9nm,0.9s,baz=116,slow=3.4,SNR=5.8						

WEL 04 10:22:41.9±0.7, 37°00S×177°31E, h194km±6km, ML3.6/8, 1D, Error ellipse: s-maj=7.1km s-min=6.9km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**1.27**	**187**	⇓PN	Pn	10 23 13.1	+0.1
URZ				AML	AML	10 23 26.6	
URZ				AML	AML	10 23 38.3	
PUZ	**Puketiti**	**1.31**	**145**	PN	Pn	10 23 13.0	-0.3
PUZ				SN	Sn	10 23 36.5	-1.4
PUZ				AML	AML	10 24 18.4	
MWZ	**Matawai**	**1.35**	**173**	PN	Pn	10 23 13.9	+0.2
MWZ				SN	Sn	10 23 38.4	-0.1
MWZ				AML	AML	10 23 48.5	
CNGZ	**Carnagh Statio**	**1.65**	**155**	PN	Pn	10 23 16.7	+0.5
MCHZ	**McNeill Hill**	**2.49**	**191**	PN	Pn	10 23 25.7	+0.5
BHHZ	**Black Hill Sta**	**2.67**	**201**	PN	Pn	10 23 27.2	-0.2
WNVZ	**Wahianoa**	**2.69**	**210**	PN	Pn	10 23 27.8	+0.2
PNHZ	**Pukenui**	**3.04**	**196**	PN	Pn	10 23 31.1	-0.5
TSZ	**Takapari Road**	**3.23**	**199**	PN	Pn	10 23 33.2	-0.8
TSZ				SN	Sn	10 24 14.5	-0.4
DVHZ	**Dannevirke**	**3.42**	**195**	PN	Pn	10 23 35.2	-0.9
BFZ	**Birch Farm**	**3.77**	**192**	PN	Pn	10 23 39.5	-1.0
BFZ				SN	Sn	10 24 26.2	-0.4
MRZ	**Mangatainoka R**	**3.90**	**200**	PN	Pn	10 23 40.7	-1.4
MRZ				AML	AML	10 23 42.5	
HOWZ	**Holdsworth Sta**	**4.14**	**199**	PN	Pn	10 23 43.4	-1.7
OGWZ	**Otaki Gorge**	**4.16**	**203**	PN	Pn	10 23 44.0	-1.4
KIW	**Kapiti Island**	**4.29**	**205**	PN	Pn	10 23 45.1	-1.9
TUWZ	**Tuamarina**	**5.14**	**210**	PN	Pn	10 23 55.4	-2.4
NNZ	**Nelson**	**5.21**	**215**	PN	Pn	10 23 56.2	-2.5
THZ	**Tophouse**	**5.86**	**214**	PN	Pn	10 24 04.7	-2.5
KHZ	**Kahutara**	**6.14**	**207**	PN	Pn	10 24 08.3	-2.4
LTZ	**Lake Taylor**	**6.96**	**212**	PN	Pn	10 24 18.8	-2.7
OXZ	**Oxford**	**

baz=14,SNR=25
WRA Warramunga Arr 15.93 189 Pn **Pn 10 47 22.5 -1.4**
0.4nm,0.3s,baz=7.6,slow=13,SNR=20
WRA Sn Sn 10 50 10.1 -9.4
0.3nm,0.3s,baz=10,slow=24,SNR=4.6
FITZ Fitzroy Crossi 17.80 218 P **Pn 10 47 47.0 -0.3**
baz=18,SNR=12
FITZ Fitzroy Crosei 17.80 218 P **P 10 47 47.9 +0.1**
0.5nm,0.3s,baz=44,slow=12,SNR=11
FITZ S Sn 10 50 56.4 -8.4
0.2nm,0.3s,baz=202,slow=19,SNR=3.2
CTA Charters Tower 18.24 151 P **Pn 10 47 53.9 +1.1**
0.3nm,0.3s,baz=343,slow=10,SNR=9.6
ASAR Alice Springs 19.65 189 P **Pn 10 48 10.8 +1.0**
0.6nm,0.3s,baz=17,slow=9.2,SNR=49
ASAR S **S 10 51 42.6 -5.6**
0.1nm,0.3s,baz=5.4,slow=28,SNR=4.2
STKA Stephens Creek 27.93 172 P **P 10 49 30.7 +1.3**
1.2nm,0.7s,baz=355,slow=11,SNR=3.9
MEEK Meekatharra 28.47 216 P **P 10 49 33.0 -1.3**
baz=29,SNR=3.7
CMAR Chiang Mai Arr 43.71 302 P **P 10 51 44.0 -0.4**
0.6nm,0.3s,baz=122,slow=7.0,SNR=6.0
MKAR Makanchi Array 69.89 323 P **P 10 54 49.3 -0.5**
0.2nm,0.4s,baz=121,slow=6.7,SNR=2.7
ILAR Eielson Array 87.82 25 P **P 10 56 26.1 -1.6**
0.6nm,0.7s,baz=251,slow=4.7,SNR=6.3

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*CSEM **04** 10:46:35.9±0.5,34.35N±0.04×36.69E±0.07, h2km, ML2.9, Error ellipse: s-maj=12.6km s-min=7.6km az=103.0*
*GRAL **04** 10:46:35.2±0.3,34.38N×36.81E, h0km±85km, MD2.9*
*ISCJB **04** 10:46:36.7±2.0,34.37N±0.04×36.7E±0.1, h9km±12km, Error ellipse: s-maj=17.4km s-min=6.5km az=176.1*
*NSSC **04** 10:46:38.4±2.3,34.24N×35.73E, h52km±119km, ML2.1*
ISC 04 10:46:36.5±1.5,34.35N±0.04×36.69E±0.07,h9km±10km, n13,σ1§18/23,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FKH	**Fakeheh**	**0.25**	**245**	*eP*	**Pg**	**10 46 41.5**	**-0.2**
FKH				*eS*	**Sg**	**10 46 46.2**	**+1.1**
HWQ	**Hawqa**	**0.62**	**264**	*eP*	**Pg**	**10 46 48.0**	**-0.4**
HWQ				*eS*	**Sb**	**10 46 57.7**	**-0.7**
HWQ	**Hawqa**	**0.62**	**264**	*eP*	**Pg**	**10 46 48.0**	**-0.4**
HWQ				*eS*	**Sb**	**10 46 57.7**	**-0.7**
BIDA	**Albida**	**0.73**	**336**	*eP*	**Pn**	**10 46 56.1**	**+3.0**
BIDA				*eS*	**Sn**	**10 47 06.9**	**+2.5**
BIDA				AML	AML	10 47 11.5	
	comp=E,187nm,0.4s						
BIDA				AML	AML	10 47 13.6	
	comp=Z,58nm,0.2s						
BHL	**Bhannes**	**0.97**	**243**	*eP*	**Pg**	**10 46 54.4**	**-0.7**
BHL	**Bhannes**	**0.97**	**243**	*eP*	**Pg**	**10 46 54.4**	**-0.7**
RCY	**Rachaya**	**1.11**	**220**	*eP*	**Pg**	**10 46 56.6**	**-1.2**
ARNB	**Al Arnab**	**1.62**	**339**	*eP*	**Pn**	**10 47 04.8**	**-0.5**
ARNB				*eS*	**Sn**	**10 47 24.9**	**-1.5**
ARNB				AML	AML	10 47 29.2	
	comp=Z,100nm,0.2s						
ARNB				AML	AML	10 47 29.3	
	comp=E,94nm,0.2s						
ARNB				AML	AML	10 47 29.4	
	comp=N,39nm,0.2s						
ARNB	**Al Arnab**	**1.62**	**339**	*eP*	**Pn**	**10 47 04.8**	**-0.5**
	SNR=96						
ARNB				*eS*	**Sn**	**10 47 24.9**	**-1.5**
	comp=N,39nm,0.2s,SNR=96						
SALA	**Sala**	**1.64**	**179**	*eP*	**Pb**	**10 47 06.7**	**-0.3**
SALA				*eS*	**Sn**	**10 47 27.6**	**+0.7**
SALA				AML	AML	10 47 34.0	
	comp=Z,34nm,0.3s						
SALA				AML	AML	10 47 35.1	
	comp=N,34nm,0.4s						
SALA				AML	AML	10 47 35.5	
	comp=E,1.8nm,0.5s						
SALA	**Sala**	**1.64**	**179**	*eP*	**Pb**	**10 47 06.7**	**-0.3**
	SNR=96						
SALA				*eS*	**Sn**	**10 47 27.6**	**+0.7**
	comp=E,1.8nm,0.5s,SNR=96						
BTCH	**Batrach**	**1.69**	**354**	*eP*	**Pn**	**10 47 06.8**	**+0.4**
BTCH				*eS*	**Sg**	**10 47 31.2**	**+0.2**
BTCH				AML	AML	10 47 32.7	
	comp=Z,27nm,0.3s						
BTCH				AML	AML	10 47 35.3	
	comp=E,49nm,0.5s						
BTCH	**Batrach**	**1.69**	**354**	*eP*	**Pn**	**10 47 06.8**	**+0.4**
	SNR=95						
BTCH				*eS*	**Sg**	**10 47 31.2**	**+0.2**
	comp=E,49nm,0.5s,SNR=95						

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*IDC **04** 10:52:07.0±2.1,0.76S×99.97E, h0km, mb3.6/6, mb1 3.6/6, mb1mx3.5/23, mbtmp3.6/6, MS4.7/1, Ms1 4.7/1, ms1mx3.5/56, Error ellipse: s-maj=78.3km s-min=20.8km az=56.0*
*ISCJB **04** 10:52:08.0±1.1,1.2S±0.1×99.33E±0.0, h33km, mb3.6/6, MS4.5/1, Error ellipse: s-maj=19.0km s-min=11.4km az=1.2*
*DJA **04** 10:52:18.3±2.0,1°S±9°×10°0E±1°6, h33km±15km, M3.6/3, MLv3.6/3*
ISC 04 10:52:10.4±1.3,1.0S±0.1×99.4E±0.1,h35km,n11, σ2§09/12,mb3.7/6,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**1.07**	**87**	P	**Pn**	**10 52 31.9**	**+3.0**
PDSI				S	**Sn**	**10 52 42.6**	**0.0**
PPI	**Padang Panjang**	**1.13**	**63**	P	**Pn**	**10 52 31.9**	**+2.2**
PPI				S	**Sn**	**10 52 41.8**	**-2.1**
BKNI	**Bangkinang**	**2.09**	**52**	P	**Pn**	**10 52 44.9**	**+1.9**
KAPI	**Kappang**	**20.72**	**102**	LR	LR	11 05 03.7	
	comp=Z,2µm,20.5s,baz=163,slow=38						
WRA	**Warramunga Arr**	**39.04**	**121**	P	**P**	**10 59 32.3**	**-1.8**
	0.3nm,0.9s,baz=302,slow=8.8,SNR=2.8						
ASAR	**Alice Springs**	**40.34**	**127**	P	**P**	**10 59 44.5**	**-0.5**
	0.4nm,1.0s,baz=293,slow=8.1,SNR=2.9						
KSRS	**Korea Array**	**46.46**	**32**	P	**P**	**11 00 31.7**	**-2.3**
	0.6nm,0.7s,baz=218,slow=7.3,SNR=3.0						
MKAR	**Makanchi Array**	**49.88**	**345**	P	**P**	**11 01 02.5**	**+2.1**
	0.7nm,0.3s,baz=158,slow=8.6,SNR=15						
KURBB	**Kurchatov Arra**	**54.40**	**344**	P	**P**	**11 01 35.4**	**+1.5**
	0.3nm,0.4s,baz=160,slow=7.3,SNR=5.1						
ZALV	**Zalesovo Beam**	**56.05**	**350**	P	**P**	**11 01 46.2**	**+0.5**
	0.4nm,0.3s,baz=152,slow=6.5,SNR=3.6						
TXAR	**Lajitas Array**	**144.24**	**36**	PKP	**PKPdf**	**11 11 42.4**	**-1.1**
	0.2nm,0.7s,baz=318,slow=3.6,SNR=3.1						

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*IDC **04** 10:54:28.8±1.4,45.62N×27.81W, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/31, mbtmp3.5/5, ML4.5/1, Error ellipse: s-maj=42.4km s-min=29.1km az=14.0*
ISC 04 10:54:34.2±2.8,45.8N±0.2×26.8W±0.3,h10km,n14, σ0§90/10,mb3.7/4,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EVO	**Evora**	**15.69**	**111**	*eP*	**Pn**	**10 58 14.4**	**-0.9**
ESDC	**Sonseca Array**	**17.83**	**102**	P	**P**	**10 58 44.5**	**+1.4**
	0.4nm,0.3s,baz=296,slow=12,SNR=4.6						
SJPF	**Ste Jean**	**18.43**	**89**	*eP*	**Pn**	**10 58 50.5**	**+0.8**
ETSF	**Etsaut**	**18.96**	**89**	*eP*	**Pn**	**10 58 56.6**	**+0.4**
	5.4nm,0.8s						
TCF	**Toulx Ste Croi**	**20.10**	**78**	*eP*	**P**	**10 59 07.3**	**-0.6**
	24nm,1.3s						
AVF	**Avril sur Loir**	**20.80**	**76**	*eP*	**P**	**10 59 14.3**	**-1.2**
LASF	**Ste Croix**	**21.71**	**83**	*eP*	**P**	**10 59 25.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**40.50**	**134**	P	**P**	**11 02 13.0**	**-0.3**
	1.2nm,1.1s,baz=322,slow=6.4,SNR=3.9						
H10S1	**ASCENSION HYDR**	**55.57**	**165**	T	T	12 04 35.3	
	baz=350,slow=0.7,SNR=7.7						
H10S3	**ASCENSION HYDR**	**55.58**	**165**	T	T	12 04 36.2	
	baz=350,slow=0.7,SNR=8.9						
H10S2	**ASCENSION HYDR**	**55.59**	**165**	T	T	12 04 36.7	
	baz=350,slow=0.7,SNR=8.7						
TXAR	**Lajitas Array**	**60.85**	**283**	P	P	11 04 38.3	-8.6
	0.5nm,0.9s,baz=74,slow=6.7,SNR=5.1						
KURBB	**Kurchatov Arra**	**64.34**	**43**	P	**P**	**11 05 10.1**	**+0.3**
	0.5nm,0.9s,baz=315,slow=7.5,SNR=3.9						
MKAR	**Makanchi Array**	**68.78**	**44**	P	**P**	**11 05 38.4**	**+0.1**
	0.5nm,0.8s,baz=324,slow=7.1,SNR=4.2						

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*ISCJB **04** 10:56:03.7±0.8,46.0N±0.1×27.5W±0.1, h13km, mb3.9/12, Error ellipse: s-maj=17.6km s-min=10.9km az=11.7*

*IDC **04** 10:56:03.5±1.1,46.44N×27.35W, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.6/33, mbtmp3.5/6, ML4.3/1, Error ellipse: s-maj=46.0km s-min=21.0km az=23.0*
*CSEM **04** 10:56:07.5±3.3,45.63N×27.00W, h10km, mb4.3/6, Error ellipse: s-maj=93.4km s-min=40.5km az=77.0*
ISC 04 10:56:05.4±1.0,46.2N±0.2×27.4W±0.1,h13km,n58, σ1§51/52,mb4.1/12,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PGAV	**Gavieira, Arco**	**14.39**	**100**	*eP*	**Pn**	**10 59 26.8**	**-1.9**
	26nm,1.7s						
PGAV	**Gavieira, Arco**	**14.39**	**100**	*eP*	**Pn**	**10 59 26.8**	**-1.9**
	26nm,1.7s						
POLO	**Lamas de Olo**	**14.96**	**102**	*eP*	**Pn**	**10 59 34.7**	**-1.8**
	15nm,1.6s						
POLO	**Lamas de Olo**	**14.96**	**102**	*eP*	**Pn**	**10 59 34.7**	**-1.8**
	15nm,1.6s						
PBRG	**Braganca**	**15.50**	**99**	*eP*	**Pn**	**10 59 42.0**	**-1.6**
	17nm,1.4s						
PBRG	**Braganca**	**15.50**	**99**	*eP*	**Pn**	**10 59 42.0**	**-1.6**
	17nm,1.4s						
MVO	**Moncorvo**	**15.57**	**102**	*eP*	**Pn**	**10 59 42.8**	**-1.7**
	15nm,1.6s						
EVOP	**Sao Brissos**	**16.16**	**111**	*eP*	**Pn**	**10 59 51.0**	**-1.1**
	1.9nm,0.6s						
EVO	**Evora**	**16.23**	**111**	*eP*	**Pn**	**10 59 51.0**	**-2.0**
	3.8nm,0.6s						
ROSF	**Rostrenen**	**16.50**	**74**	*eP*	**Pn**	**10 59 55.4**	**-1.0**
	13nm,1.1s						
QUIF	**Quistinic**	**16.59**	**75**	*eP*	**Pn**	**10 59 57.1**	**-0.4**
	75nm,1.4s						
QUIF	**Quistinic**	**16.59**	**75**	*eP*	**Pn**	**10 59 57.1**	**-0.4**
	38nm,1.4s						
SGMF	**Saint Gilles**	**16.99**	**74**	*eP*	**P**	**11 00 03.9**	**-0.4**
	116nm,1.7s						
SGMF	**Saint Gilles**	**16.99**	**74**	*eP*	**P**	**11 00 03.9**	**-0.4**
	58nm,1.7s						
GRR	**Gorron**	**18.11**	**73**	*eP*	**P**	**11 00 18.3**	**+1.5**
	53nm,1.4s						
GRR	**Gorron**	**18.11**	**73**	*eP*	**P**	**11 00 18.3**	**+1.5**
	26nm,1.4s						
ESDC	**Sonseca Array**	**18.33**	**102**	P	**P**	**11 00 20.4**	**+1.1**
	0.2nm,0.3s,baz=296,slow=13,SNR=8.3						
MFF	**Saint Martin d**	**18.78**	**79**	*eP*	**Pn**	**11 00 24.8**	**+0.2**
	23nm,1.3s						
MFF	**Saint Martin d**	**18.78**	**79**	*eP*	**Pn**	**11 00 24.8**	**+0.2**
	12nm,1.3s						
ETSF	**Etsaut**	**19.38**	**90**	*eP*	**P**	**11 00 31.0**	**+0.1**
	13nm,1.0s						
ETSF	**Etsaut**	**19.38**	**90**	*eP*	**P**	**11 00 31.0**	**+0.1**
	6.6nm,1.0s						
LFF	**La Frestale**	**19.71**	**83**	*eP*	**Pn**	**11 00 36.9**	**+1.1**
LFF	**La Frestale**	**19.71**	**83**	*eP*	**Pn**	**11 00 36.9**	**+1.1**
TCF	**Toulx Ste Croi**	**20.43**	**79**	*eP*	**P**	**11 00 43.1**	**+0.8**
	35nm,1.3s						
TCF	**Toulx Ste Croi**	**20.43**	**79**	*eP*	**P**	**11 00 43.1**	**+0.8**
	18nm,1.3s						
AVF	**Avril sur Loir**	**21.12**	**77**	*eP*	**P**	**11 00 51.8**	**+2.1**
	48nm,1.7s						
AVF	**Avril sur Loir**	**21.12**	**77**	*eP*	**P**	**11 00 51.8**	**+2.1**
	24nm,1.7s						
LOR	**Lormes**	**21.39**	**76**	*eP*	**P**	**11 00 53.9**	**+1.4**
	28nm,1.3s						
LOR	**Lormes**	**21.39**	**76**	*eP*	**P**	**11 00 53.9**	**+1.4**
	14nm,1.3s						
GIVF	**Givet**	**21.76**	**68**	*eP*	**P**	**11 00 57.4**	**+1.0**
GIVF	**Givet**	**21.76**	**68**	*eP*	**P**	**11 00 57.4**	**+1.0**
MDT	**Midelt**	**21.99**	**119**	P	**P**	**11 01 00.0**	**+0.8**
	1.0nm,0.8s,baz=332,slow=12,SNR=3.0						
MEZF	**Maizieres J'vi**	**22.02**	**72**	*eP*	**P**	**11 01 02.1**	**+2.8**
MEZF	**Maizieres J'vi**	**22.02**	**72**	*eP*	**P**	**11 01 02.1**	**+2.8**
SFTF	**Sexfontaines**	**22.05**	**73**	*eP*	**P**	**11 01 01.7**	**+2.1**
	36nm,1.1s						
SFTF	**Sexfontaines**	**22.05**	**73**	*eP*	**P**	**11 01 01.7**	**+2.1**
	18nm,1.1s						
HAU	**Haudompre**	**22.95**	**73**	*eP*	**P**	**11 01 09.5**	**+0.3**
	11nm,0.9s						
HAU	**Haudompre**	**22.95**	**73**	*eP*	**P**	**11 01 09.5**	**+0.3**
	5.5nm,0.9s						
HINF	**Hinteralfeld**	**23.31**	**74**	*eP*	**P**	**11 01 14.1**	**+1.2**
	43nm,1.6s						
HINF	**Hinteralfeld**	**23.31**	**74**	*eP*	**P**	**11 01 14.1**	**+1.2**
	22nm,1.6s						
LPL	**La Plagne**	**23.68**	**79**	*eP*	**P**	**11 01 18.9**	**+2.1**
LPL	**La Plagne**	**23.68**	**79**	*eP*	**P**	**11 01 18.9**	**+2.1**
MBDF	**Montbardon**	**23.91**	**81**	*eP*	**P**	**11 01 21.5**	**+2.5**
	13nm,1.2s						
MBDF	**Montbardon**	**23.91**	**81**	*eP*	**P**	**11 01 21.5**	**+2.5**
	6.6nm,1.2s						
FRF	**La Foret Royal**	**24.17**	**84**	*eP*	**P**	**11 01 22.8**	**+1.6**
FRF	**La Foret Royal**	**24.17**	**84**	*eP*	**P**	**11 01 22.8**	**+1.6**
SBF	**Sospel**	**24.62**	**83**	*eP*	**P**	**11 01 25.1**	**-0.3**
	35nm,1.1s						
SBF	**Sospel**	**24.62**	**83**	*eP*	**P**	**11 01 25.1**	**-0.3**
	18nm,1.1s						
TORD	**Torodi Ar. Bea**	**41.09**	**134**	P	**P**	**11 03 49.6**	**+0.8**
	1.1nm,0.9s,baz=329,slow=8.4,SNR=5.6						
H10N2	**ASCENSION HYDR**	**55.02**	**164**	T	T	12 04 52.8	
	baz=351						
H10N3	**ASCENSION HYDR**	**55.03**	**164**	T	T	12 04 55.3	
	baz=351,SNR=4.5						
H10N1	**ASCENSION HYDR**	**55.03**	**164**	T	T	12 04 56.1	
	baz=351						
H10S1	**ASCENSION HYDR**	**56.07**	**165**	T	T	12 06 13.8	
	baz=350,slow=0.7,SNR=11						
H10S3	**ASCENSION HYDR**	**56.08**	**165**	T	T	12 06 15.2	
	baz=350,slow=0.7,SNR=13						
H10S2	**ASCENSION HYDR**	**56.09**	**165**	T	T	12 06 15.5	
	baz=350,slow=0.7,SNR=12						
PDAR	**Pinedale Array**	**56.18**	**299**	P	**P**	**11 05 43.9**	**-1.1**
	0.2nm,0.7s,baz=82,slow=8.3,SNR=4.0						
TXAR	**Lajitas Array**	**60.35**	**283**	P	**P**	**11 06 14.8**	**+0.7**
	0.7nm,0.8s,baz=62,slow=7.6,SNR=9.2						
KURBB	**Kurchatov Arra**	**64.33**	**43**	P	**P**	**11 06 39.2**	**-1.1**
	0.5nm,0.8s,baz=311,slow=7.3,SNR=5.7						

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*BJI **04** 10:57:54.7,6.23N×123.90E, h620km, mB6.8/55, mb6.6/69*
*MAN **04** 10:57:59,6.79N×123.66E, h627km, mb6.8, ML5.9, MS6.6*
MAN INTENSITY II - GENERAL SANTOS CITY; PADADA DAVAO DEL SUR; INTENSITY I - DAVAO CITY; TARAGONA DAVAO ORIENTAL.
*ISCJB **04** 10:58:00.6±0.1,6.73N±0.01×123.54E±0.02, h641km±1km, mb6.3/312, Error ellipse: s-maj=2.8km s-min=2.1km az=169.9*
*NEIC **04** 10:58:00.2±0.1,6.74N×123.38E, h620km, mb6.4/169, ME6.6, MW6.6, MW6.6, MW6.6(USGS), Error ellipse: s-maj=4.3km s-min=3.5km az=61.0 Best double couple: NP1:ϕ=220.00000°,δ89.00000°,λ86.00000°. NP2: ϕ=113.00000°,δ4.00000°,λ163.00000°. Principal axes: T 1.0500, Plg46.0000°, Azm126.0000°; N 0.0900, Plg3.0000°, Azm220.0000°; P -1.1400, Plg43.0000°, Azm314.0000°; Broadband fault plane solution: P waves. NP1:ϕ=333.00000°,δ16.00000°,λ19.00000°. NP2: ϕ=225.00000°,δ85.00000°,λ105.00000°. Principal axes: T Plg48.0000°, Azm151.0000°; N Plg0.0000°, Azm0.0000°; P Plg38.0000°, Azm302.0000°; Depth from broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [II PIVS] at General Santos and Padada and [I PIVS] at Davao and Tarragona. Also felt at Zamboanga.
*MOS **04** 10:58:00.5±0.8,6.73N×123.55E, h639km, mb6.5/100 Error ellipse: s-maj=9.6km s-min=5.4km az=115.3*
*AUST **04** 10:58:00.7±0.2,6.70N×123.53E, h631km±3km, Error ellipse: s-maj=4.2km s-min=2.8km az=82.0*
*IDC **04** 10:58:01.6±0.4,6.73N×123.54E, h636km±4km, mb5.6/53, mb1 5.6/53, mb1mx5.6/53, mbtmp5.6/53, Error ellipse: s-maj=6.1km s-min=4.4km az=55.0*
*DJA **04** 10:58:01.6±0.2,7°N±3°×12°4E±°, h634km±3km, M6.4/135, mb6.3/135, mB6.7/133, MLv7.3/11, Mw(mB)6.5/133, Mwp6.2/61*
*BKK **04** 10:58:01.3±0.2,7°N±3°×12°4E±°, h632km±4km, M6.6/61, mb6.3/61, mB6.8/58, MLv7.2/6, Mw(mB)6.6/58, Mwp6.3/25*
*GCMT **04** 10:58:03.6±0.1,6.77N×123.56E, h626km, MW6.6 Best double couple: NP1:ϕ=223.00000°,δ86.00000°, λ91.00000°. NP2:ϕ=27.00000°,δ4.00000°,λ74.00000°. Principal axes: T 1.0200, Plg49.0000°, Azm134.0000°; N 0.1100, Plg1.0000°, Azm43.0000°; P -1.1300, Plg41.0000°, Azm312.0000°; Data Used: ll IU CN IC G. LP body wave period 50 sec. Mantle waves from 111 sta.*
*NEIC **04** 10:58:17.3±0.0,6.76N×123.80E, h613km Best double couple: NP1:ϕ=221.00000°,δ86.00000°,λ90.00000°. NP2:ϕ=37.00000°,δ4.00000°,λ85.00000°. Principal axes: T 0.9400, Plg48.0000°, Azm131.0000°; N 0.1200, Plg0.0000°, Azm41.0000°; P -1.0600, Plg41.0000°, Azm311.0000°;*
ISC 04 10:58:00.9±0.2,6.68N±0.02×123.51E±0.02,h635km±1km, h636km:pP-P,n2451,σ1§64/3248,mb6.4/301,303C-373D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.91**	**54**	*i* P	**P**	**10 59 15.3**	**-0.1**
PAGZ	**Pagadian**	**1.17**	**354**	*eP*	**P**	**10 59 15.9**	**-0.1**
PAGZ	**Pagadian**	**1.17**	**354**	*eP*	**ScS**	**11 11 27.2**	**+2.8**
IPIL	**Ipil**	**1.44**	**320**	*e* P	**P**	**10 59 16.1**	**-0.5**
ZMPH	**Zamboanga City**	**1.46**	**281**	*i* P	**P**	**10 59 16.1**	**-0.6**
GSPH	**General Santos**	**1.55**	**112**	*e* P	**P**	**10 59 16.8**	**-0.4**
GSPH				*e* S	**S**	**11 00 19.7**	**+0.7**
KCP	**Kidapawan**	**1.61**	**78**	*i* P	**P**	**10 59 17.2**	**0.0**
KCP				*i* S	**S**	**11 00 19.6**	**+0.4**
DCPH	**Dipolog City**	**1.90**	**355**	*i* P	**P**	**10 59 17.5**	**-0.6**
DCPH				*i* S	**S**	**11 00 19.8**	**-1.2**
BUKP	**Musuan**	**1.95**	**52**	*eP*	**P**	**10 59 17.9**	**-0.4**
DMPH	**Davao City--Mi**	**2.03**	**78**	*e* P	**P**	**10 59 17.9**	**-0.7**
DMPH				*e* S	**S**	**11 00 19.1**	**-2.6**
DAV	**Davao City (W)**	**2.10**	**79**	*i* P	**P**	**10 59 18.2**	**-0.7**
DAV	**Davao City (W)**	**2.10**	**79**	*i* S	**S**	**11 00 27.5**	**+5.3**
DAV	**Davao City (W)**	**2.10**	**79**	P	**P**	**10 59 18.1**	**-0.7**
DAV	**Davao City (W)**	**2.10**	**79**	*e* Pn	**P**	**10 59 18.1**	**-0.7**
DAV				*e* Sn	**S**	**11 00 17.8**	**-4.4**
CGP	**Cagayan de Oro**	**2.12**	**34**	*i* P	**P**	**10 59 18.9**	**0.0**
CGP				*i* S	**S**	**11 00 21.7**	**-0.7**
TBP	**Tagbilaran**	**3.02**	**7**	*i* P	**P**	**10 59 22.4**	**-0.7**
TBP				*e* S	**S**	**11 00 27.6**	**-2.5**
BUTP	**Butuan**	**3.10**	**42**	*eP*	**P**	**10 59 23.7**	**+0.2**
SGSI	**Sangihe**	**3.59**	**146**	P	**ScS**	**11 11 23.7**	**-1.8**
SGSI	**Sangihe**	**3.59**	**146**	P	**P**	**10 59 24.5**	**-2.0**
LLP	**Lapu-Lapu**	**3.65**	**7**	*i* P	**P**	**10 59 25.9**	**-0.9**
LLP				*i* S	**S**	**11 00 35.4**	**-1.3**
SCPH	**Surigao**	**3.66**	**32**	*i* P	**P**	**10 59 26.0**	**-0.8**
SCPH				*e* S	**S**	**11 00 36.1**	**-0.7**
MSLP	**Maasin**	**3.69**	**21**	*eP*	**P**	**10 59 26.8**	**-0.2**
MSLP	**Maasin**	**3.69**	**21**	*eP*	**ScS**	**11 11 24.6**	**-0.9**
GUIM	**Jordan**	**4.03**	**347**	*eP*	**P**	**10 59 27.6**	**-1.6**
GUIM	**Jordan**	**4.03**	**347**	*eP*	**ScS**	**11 11 24.5**	**-1.3**
OCLP	**Ormoc**	**4.48**	**14**	*eP*	**P**	**10 59 32.2**	**-0.1**
OCLP	**Ormoc**	**4.48**	**14**	*eP*	ScS	11 11 09.5	-17
PLP	**Palo**	**4.69**	**18**	*i* P	**P**	**10 59 33.2**	**-0.6**
CUYO	**Cuyo Island**	**4.82**	**330**	*eP*	**P**	**10 59 35.4**	**+0.6**
RCP	**Roxas**	**4.91**	**351**	*i* P	**P**	**10 59 33.3**	**-2.1**
RCP	**Roxas**	**4.91**	**351**	*eP*	**ScS**	**11 11 25.4**	**-1.1**
KALP	**Kalibo**	**5.10**	**347**	*e* P	**P**	**10 59 36.6**	**-0.2**
MYLDM	**Lahad Datu**	**5.20**	**254**	P	**P**	**10 59 40.2**	**+2.6**
MYLDM	**Lahad Datu**	**5.20**	**254**	P	**ScS**	**11 11 26.8**	**0.0**
MYLDM	**Lahad Datu**	**5.20**	**254**	P	**P**	**10 59 40.0**	**+2.4**
	27µm,1.2s,461µm537µm129nm						
PPR	**Puerto Princes**	**5.64**	**303**	*eP*	**P**	**10 59 42.3**	**+1.2**
OTRP	**Odiongan**	**5.84**	**346**	*eP*	**P**	**10 59 42.4**	**-0.3**
ENPP	**El Nido**	**6.04**	**318**	*eP*	**P**	**10 59 44.5**	**+0.2**
KMSI	**Cibinong**	**6.08**	**176**	P	**P**	**10 59 44.7**	**0.0**
	80µm,1.2s,915µm376µm333nm						
TSM	**Tawau**	**6.08**	**247**	P	**P**	**10 59 44.9**	**+0.2**
TSM	**Tawau**	**6.08**	**247**	P	**P**	**10 59 45.0**	**+0.2**
TOLI	**Toli-Toli**	**6.14**	**206**	P	**P**	**10 59 45.9**	**+0.6**
	16µm,1.1s,174µm118µm51nm						
SJMP	**San Jose**	**6.21**	**338**	*eP*	**P**	**10 59 46.3**	**+0.5**
BUSP	**Coron**	**6.22**	**329**	*eP*	**P**	**10 59 45.9**	**+0.1**
MRSI	**Marisa**	**6.35**	**194**	P	**P**	**10 59 47.7**	**+0.7**
	22µm,1.4s,252µm83nm						
SDKM	**Sandakan**	**6.36**	**261**	P	**P**	**10 59 47.1**	**0.0**
SDKM	**Sandakan**	**6.36**	**261**	P	**P**	**10 59 47.1**	**0.0**
KDM	**Kudat**	**6.63**	**272**	P	**P**	**10 59 49.5**	**+0.2**
KDM	**Kudat**	**6.63**	**272**	P	**P**	**10 59 49.8**	**+0.4**
AUQP	**San Andres**	**6.66**	**353**	*eP*	**P**	**10 59 50.9**	**+1.4**
PVCP	**Virac**	**6.91**	**5**	*i* P	**P**	**10 59 50.0**	**-1.7**
BOAC	**Boac**	**6.94**	**346**	*eP*	**P**	**10 59 51.9**	**-0.1**
TNTI	**Ternate**	**7.02**	**147**	P	**P**	**10 59 52.5**	**-0.3**
	93µm,1.4s,648µm426nm						
TNTI				S	**S**	**11 01 22.5**	**-1.6**
	93µm,1.4s,648µm426nm						
TNTI	**Ternate**	**7.02**	**147**	*eP*	**P**	**10 59 52.2**	**-0.6**
PGP	**Puerto Galera**	**7.23**	**340**	*i* P	**P**	**10 59 54.0**	**-0.7**
GQP	**Guinayangan**	**7.26**	**352**	*i* P	**P**	**10 59 54.1**	**-0.7**
KKM	**Kota Kinabalu**	**7.27**	**265**	P	**P**	**10 59 55.3**	**+0.1**
KKM	**Kota Kinabalu**	**7.27**	**265**	P	**P**	**10 59 54.9**	**-0.2**
	10µm,1.4s,145µm261µm47nm						
KKM	**Kota Kinabalu**	**7.27**	**265**	*e* Pn	**P**	**10 59 55.1**	**0.0**
KKM				*e* Sn	**S**	**11 01 28.1**	**-0.4**
KKM	**Kota Kinabalu**	**7.27**	**265**	P	**P**	**10 59 55.3**	**+0.1**
	baz=7.3,SNR=1000						
LQP	**Lukban**	**7.64**	**345**	*i* P	**P**	**10 59 57.6**	**-0.9**
LUWI	**Luwuk**	**7.70**	**185**	P	**P**	**10 59 57.5**	**-1.4**
	26µm,1.1s,218µm190µm180nm						
LUWI	**Luwuk**	**7.70**	**185**	P	**P**	**10 59 57.7**	**-1.2**
	baz=7.8,SNR=1000		

14nm,0.3s,baz=17,slow=5.7,SNR=65
KAPI S **S** **11 02 48.8 -4.3**
12nm,0.3s,baz=128,slow=19,SNR=1.5
KAPI ScP **ScP** **11 08 01.0 -0.4**
6.2nm,0.3s,baz=292,slow=2.1,SNR=9.1
KAPI ScS **ScS** **11 11 35.7 -2.3**
1.7nm,0.3s,baz=198,slow=22,SNR=7.5
BKSI Bulukumba 12.39 196 P **P** **11 00 41.9 -1.5**
658nm,0.8s,10µm35µm
BNDI Bandanaira 12.83 150 P ScS **11 11 37.2 -2.2**
BNDI Bandanaira 12.83 150 P **P** **11 00 48.9 +1.3**
33µm,1.3s,366µm64µm
BNDI Bandanaira 12.83 150 ⇓P **P** **11 00 48.6 +1.1**
baz=13,SNR=299
FAKI Fak Fak 12.92 137 P **P** **11 00 49.2 +0.7**
12µm,1.0s,110µm69µm
FAKI Fak Fak 12.92 137 ⇑P **P** **11 00 49.4 +0.9**
baz=13,SNR=1000
STKI Sintang 13.68 242 P **P** **11 00 57.6 +1.9**
2µm,1.5s,33µm27µm
KSM Kuching 14.14 249 P **P** **11 01 01.9 +1.9**
KSM Kuching 14.14 249 P **P** **11 01 02.2 +2.3**
KSM Kuching 14.14 249 P ScS **11 11 38.7 -4.0**
KSM Kuching 14.14 249 P **P** **11 01 02.0 +2.0**
7µm,1.6s,92µm
KSM Kuching 14.14 249 *e*Pn **P** **11 01 01.8 +1.9**
KSM *e*Sn **S** **11 03 28.4 +2.4**
KSM *e*ScP **ScP** **11 08 05.7 +1.1**
KSM Kuching 14.14 249 ⇑P **P** **11 01 02.0 +2.0**
baz=14,SNR=289
KMPI Kaimana, Papua 14.46 135 P **P** **11 01 03.8 +0.9**
12µm,0.7s,135µm
BAKI Biak 14.81 121 P **P** **11 01 07.5 +1.4**
20µm,1.4s,196µm
PBKI Pangkalan Bun 15.05 232 P ScS **11 11 48.5 +3.4**
PBKI Pangkalan Bun 15.05 232 P **P** **11 01 10.5 +2.2**
7µm,1.1s,69µm
MMRI Maumere 15.26 185 P ScS **11 11 39.6 -6.0**
1µm,1.3s
MMRI Maumere 15.26 185 P **P** **11 01 12.7 +2.5**
21µm,0.7s,168µm90µm
MMRI Maumere 15.26 185 *e*P **P** **11 01 12.4 +2.2**
14µm,0.6s
SRPI Serui, Papua 15.29 123 P **P** **11 01 11.6 +1.2**
9µm,1.2s,116µm72µm
TLE Tual 15.31 143 P **P** **11 01 12.8 +2.1**
16µm,1.7s,247µm200µm
TLE Tual 15.31 143 ⇓P **P** **11 01 13.7 +3.0**
baz=15,SNR=393
TWG Pinlang 16.22 352 *e*P **P** **11 01 17.9 -0.9**
7µm,0.5s
TWG *e*S **S** **11 03 58.0 -1.8**
SOEI Soe 16.34 177 P ScS **11 11 45.6 -3.3**
SOEI Soe 16.34 177 P **P** **11 01 20.6 +0.4**
8µm,0.7s,89µm67µm
SOEI Soe 16.34 177 ⇓P **P** **11 01 21.3 +1.2**
baz=16,SNR=1000
SAUI Saumlaki 16.50 152 P ScS **11 11 43.9 -5.2**
SAUI Saumlaki 16.50 152 P **P** **11 01 22.8 +1.2**
13µm,0.7s,139µm113µm
KMMI Kalianget 16.63 215 P ScS **11 11 50.2 +0.7**
27µm886nm,1.9s
KMMI Kalianget 16.63 215 P **P** **11 01 25.1 +2.4**
1µm,1.1s,16µm
YULB Yu-li 16.76 353 *e*P **P** **11 01 22.4 -1.4**
1µm,0.6s
YULB *e*S **S** **11 04 10.9 +2.4**
TPUB Ta-pu 16.76 351 *e*P **P** **11 01 24.6 +0.8**
8µm,1.0s
TPUB *e*S **S** **11 04 14.8 +6.2**
BATI Baumata 16.77 179 P ScS **11 11 44.7 -5.3**
BATI Baumata 16.77 179 P **P** **11 01 25.1 +1.1**
14µm,0.9s,110µm2µm
BATI Baumata 16.77 179 P **P** **11 01 24.9 +0.8**
BATI S **S** **11 04 05.7 -3.3**
BATI ScP **ScP** **11 08 10.8 +1.1**
BATI ScS **ScS** **11 11 46.1 -3.9**
BATI Baumata 16.77 179 P **P** **11 01 24.9 +0.8**
2µm,0.3s,baz=13,slow=0.5,SNR=2619
BATI S **S** **11 04 05.7 -3.3**
31nm,0.3s,baz=223,slow=19,SNR=2.8
BATI ScP **ScP** **11 08 10.8 +1.1**
79nm,0.3s,baz=157,slow=4.0,SNR=9.9
BATI ScS **ScS** **11 11 46.1 -3.9**
14nm,0.3s,baz=162,slow=2.6,SNR=8.9
SRBI Singaraja 16.83 210 P ScS **11 11 47.8 -2.3**
686nm,1.5s
SRBI Singaraja 16.83 210 P **P** **11 01 25.6 +1.1**
1µm,1.5s,16µm24µm
MTNI Mataram 16.88 206 P ScS **11 11 43.2 -7.0**
10µm633nm,1.7s
MTNI Mataram 16.88 206 P **P** **11 01 24.9 0.0**
2µm,1.1s,20µm29µm
ABJI Asem Bagus 17.09 213 P **P** **11 01 29.0 +2.1**
814nm,2.0s,12µm
SSLB Suanglung 17.19 352 *e*P **P** **11 01 27.6 -0.1**
2µm,0.7s
SSLB *e*S **S** **11 04 21.4 +5.8**
DNP Denpasar 17.35 209 P ScS **11 11 52.7 +1.1**
50µm3µm,1.4s
DNP Denpasar 17.35 209 P **P** **11 01 31.3 +2.1**
3µm,1.2s,64µm65µm
NBBI Negara 17.37 211 P ScS **11 11 43.6 -8.1**
26µm1µm,1.6s
NBBI Negara 17.37 211 P **P** **11 01 30.5 +1.0**
2µm,0.9s,22µm55µm
BLJI Banyuglugur 17.40 215 P ScS **11 11 49.9 -1.9**
630nm,2.1s
BLJI Banyuglugur 17.40 215 P **P** **11 01 31.6 +1.8**
678nm,0.8s,8µm
GRJI Gresik 17.41 219 P ScS **11 11 50.6 -1.3**
3µm138nm,1.6s
GRJI Gresik 17.41 219 P **P** **11 01 32.4 +2.5**
498nm,1.1s,6µm
NACB Ninganchiao 17.50 354 *e*P **P** **11 01 29.6 -0.9**
1µm,1.3s
NACB *e*S **S** **11 04 24.8 +4.3**
GMJI Gumukmas 17.92 214 P ScS **11 11 47.4 -6.0**
13µm864nm,1.3s
GMJI Gumukmas 17.92 214 P **P** **11 01 35.5 +1.1**
808nm,1.1s,14µm
HKC Hong Kong Obse 17.96 331 ⇓*i*P **P** **11 01 38.0 +3.3**
YHNB Yeheng 18.01 354 *e*P **P** **11 01 35.2 0.0**
1µm,0.9s
QIZ Qiongzhong 18.10 314 P **P** **11 01 36.1 +0.1**
QIZ sP sP 11 04 02.9 -7.1
QIZ AMB AMB
comp=Z,1µm,1.0s
QIZ AMB AMB
comp=Z,23µm,8.8s
QIZ Qiongzhong 18.10 314 *e*P **P** **11 01 37.0 +1.0**
961nm,0.8s
TATO Taipei 18.30 354 P **P** **11 01 38.2 +0.5**
SNR=6.8
TATO Taipei 18.30 354 *e*P **P** **11 01 37.2 -0.5**
14µm,1.6s
TATO *e*S S 11 04 41.1 +7.8
TPI Tanjungpandan 18.39 240 P **P** **11 01 40.2 +1.4**
303nm,1.5s,7µm
KRKI Karangkates 18.40 217 P ScS **11 11 46.7 -8.3**
55µm4µm,2.0s
KRKI Karangkates 18.40 217 P **P** **11 01 40.3 +1.5**
1µm,0.8s,23µm
NGJI Ngawi 18.41 221 P **P** **11 01 41.3 +2.4**
526nm,0.9s,8µm
SJI Sawahan 18.49 219 P ScS **11 11 48.5 -7.0**
640nm,1.4s
SJI Sawahan 18.49 219 P **P** **11 01 41.0 +1.2**
604nm,1.1s,8µm
PWJI Pagerwojo 18.69 219 P ScS **11 11 49.5 -6.5**
14µm819nm,1.8s
PWJI Pagerwojo 18.69 219 P **P** **11 01 43.0 +1.6**
279nm,1.3s,6µm10µm
QZH Quanzhou 18.77 346 ⇓*i*P **P** **11 01 40.3 -1.7**
QZH sP sP 11 04 09.0 -8.4
QZH S **S** **11 04 38.0 -2.7**
QZH ScS **ScS** **11 11 53.0 -2.9**
QZH AMB AMB
comp=Z,17µm,1.7s
QZH AMB AMB
comp=Z,40µm,4.4s
GZH Guangzhou 19.03 330 P **P** **11 01 48.3 +4.0**
GZH S **S** **11 04 50.5 +5.6**
GZH AMB AMB
comp=Z,47µm,5.1s
WOJI Wonogiri, Jawa 19.11 221 P **P** **11 01 47.3 +2.0**
650nm,0.8s,6µm
PCJI Pacitan 19.22 220 P ScS **11 11 52.7 -5.0**
1µm,1.3s
PCJI Pacitan 19.22 220 P **P** **11 01 48.1 +1.9**
260nm,1.0s,6µm
UGM Wanagama 19.43 222 P ScS **11 11 59.6 +1.0**
31µm3µm,1.3s
UGM Wanagama 19.43 222 P **P** **11 01 49.8 +1.6**
518nm,1.2s,10µm
UGM Wanagama 19.43 222 *e*P **P** **11 01 50.0 +1.8**
687nm,1.0s
UGM Wanagama 19.43 222 ⇓P **P** **11 01 50.0 +1.8**
baz=20,SNR=50
PPBI Pangkal Pinang 19.43 244 P **P** **11 01 49.4 +1.2**
365nm,2.0s,10µm
JAY Jayapura 19.45 117 P ScS **11 11 58.2 -0.5**
JAY Jayapura 19.45 117 P **P** **11 01 48.9 +0.5**
2µm,0.9s,30µm
JAY Jayapura 19.45 117 ⇑P **P** **11 01 49.0 +0.7**
baz=20,SNR=683
YOGI Yogyakarta 19.51 223 P ScS **11 11 55.1 -3.7**
46µm3µm,1.7s
YOGI Yogyakarta 19.51 223 P **P** **11 01 50.8 +1.9**
1µm,0.7s,13µm
BJII Banjamegara 19.57 225 P ScS **11 11 57.5 -1.6**
1µm,2.1s
BJII Banjamegara 19.57 225 P **P** **11 01 52.6 +3.1**
669nm,1.4s,10µm
UBPT Khong Chiam 19.65 297 P **P** **11 01 51.2 +1.1**
2µm,2.2s,52µm
UBPT Khong Chiam 19.65 297 P **P** **11 01 50.8 +0.7**
2µm,2.2s,52µm
TGJI Tegal 19.67 227 P **P** **11 01 53.6 +3.3**
636nm,0.6s,7µm
KPJI Karang Pucung 20.12 227 P ScS **11 11 55.5 -5.4**
KPJI Karang Pucung 20.12 227 P **P** **11 01 56.8 +2.4**
890nm,0.7s,10µm
MYKOM Kota Tinggi 20.19 257 P **P** **11 01 56.7 +1.7**
MYKOM Kota Tinggi 20.19 257 P **P** **11 01 57.5 +2.5**
MYKOM Kota Tinggi 20.19 257 P **P** **11 01 57.1 +2.1**
2µm,1.5s,31µm
KTGM Kuala Trenggan 20.30 267 P **P** **11 01 57.8 +1.8**
KTGM Kuala Trenggan 20.30 267 P **P** **11 01 58.3 +2.3**
CLJI Cilicap 20.33 226 P ScS 11 11 49.2 -12
BTDF Bukit Timah Da 20.37 256 ⇓P **P** **11 01 57.9 +1.3**
BTDF ⇓P **P** **11 01 57.9 +1.3**
baz=20,SNR=55
JOW Kunigami 20.55 12 *e*P **P** **11 01 58.9 +0.8**
2µm,2.0s
KGM Kluang 20.65 258 P **P** **11 02 00.7 +1.6**
LEM Lembang 20.76 230 P **P** **11 02 02.4 +2.1**
877nm,1.0s,13µm
LEM Lembang 20.76 230 ⇑P **P** **11 02 02.5 +2.1**
baz=21,SNR=32
LEM Lembang 20.76 230 P ScP **11 08 20.0 +1.1**
baz=21,SNR=7.3
CISI Cisompet, Garu 21.09 228 P **P** **11 02 03.4 +0.3**
562nm,0.7s,9µm
CISI Cisompet, Garu 21.09 228 ⇑P **P** **11 02 03.6 +0.6**
baz=21,SNR=36
CISI Cisompet, Garu 21.09 228 P ScP **11 08 19.9 +0.3**
baz=21,SNR=22
CBJI Citeko 21.11 232 P ScS 11 11 54.4 -10
CBJI Citeko 21.11 232 P **P** **11 02 06.3 +3.1**
3µm,1.1s,34µm
PANO Nakornpanom 21.19 301 P **P** **11 02 04.8 +0.9**
2µm,1.0s,36µm
KDU Kakadu 21.20 155 ⇑P **P** **11 02 03.9 -0.1**
baz=21,SNR=1000
DBJI Dramaga 21.27 232 P **P** **11 02 06.3 +1.7**
1µm,1.7s,17µm145µm
SBJI Serang 21.50 234 P **P** **11 02 08.6 +1.9**
3µm,1.4s,33µm
SKNT Sakolnakorn 21.65 300 P **P** **11 02 08.9 +0.9**
5µm,1.3s,72µm
SKJI Sukabumi 21.69 232 P **P** **11 02 08.3 -0.1**
1µm,0.6s,12µm
CHBT CHBT 21.72 288 P **P** **11 02 10.7 +2.1**
CHBT CHBT 21.72 288 P **P** **11 02 10.2 +1.6**
3µm,1.3s,45µm
BLSI Bandar Lampung 21.80 237 P **P** **11 02 11.0 +1.6**
4µm,0.7s,48µm15µm
KLI Kotabumi 21.86 239 P **P** **11 02 11.9 +2.0**
4µm,1.1s,34µm
FRIM Kepong 22.06 262 P **P** **11 02 13.1 +1.4**
FRIM Kepong 22.06 262 P ScP **11 08 20.1 -1.9**
GUMO Guam 22.11 70 *e*P **P** **11 02 11.8 -0.4**
1µm,0.8s
GUMO *e*S **S** **11 05 31.4 -2.4**
GUMO Guam 22.11 70 *e*P ScP **11 08 19.9 -2.2**
MDSI Maura Dua 22.25 241 P **P** **11 02 14.4 +1.0**
2µm,1.2s,22µm16µm
IPM Ipoh 22.48 266 P **P** **11 02 16.6 +1.2**
IPM Ipoh 22.48 266 P **P** **11 02 16.9 +1.5**
IPM Ipoh 22.48 266 P ScP **11 08 25.2 +2.1**
IPM Ipoh 22.48 266 P **P** **11 02 16.4 +1.0**
979nm,2.1s,27µm55µm
IPM Ipoh 22.48 266 *e*P **P** **11 02 16.9 +1.5**
4µm,1.9s
IPM *e*ScP **ScP** **11 08 24.6 +1.4**
KASI Kota Agung 22.51 238 P **P** **11 02 16.6 +0.9**
3µm,1.4s,27µm14µm
MMPI Merauke 22.57 132 P **P** **11 02 16.3 +0.1**
16µm,0.6s,203µm70µm
MMPI Merauke 22.57 132 ⇑P **P** **11 02 16.8 +0.6**
baz=23,SNR=94
MMPI Merauke 22.57 132 P ScP **11 08 23.2 -0.1**
baz=23,SNR=3.9
LWLI Liwa 22.62 240 P **P** **11 02 18.3 +1.5**
10µm,1.2s,95µm14µm
SKLT Songkhla 22.72 273 P **P** **11 02 19.5 +1.9**
1µm,1.9s,30µm
SKLT Songkhla 22.72 273 P **P** **11 02 19.2 +1.6**
1µm,1.9s,30µm
KULM Kulim 22.77 268 P **P** **11 02 19.4 +1.4**
KULM Kulim 22.77 268 P ScP **11 08 25.5 +1.6**
KULM Kulim 22.77 268 P **P** **11 02 19.1 +1.1**
3µm,1.9s,27µm
KULM Kulim 22.77 268 *e*P **P** **11 02 19.2 +1.2**
3µm,1.5s
KULM *e*ScP ScP **11 08 25.2 +1.3**
KNRA Kununurra 22.81 167 ⇓P **P** **11 02 19.3 +1.1**
baz=23,SNR=901
MNAI Manna 23.26 242 P **P** **11 02 23.3 +1.0**
4µm,1.2s,43µm
MNAI Manna 23.26 242 *e*P **P** **11 02 23.2 +0.8**
2µm,0.7s
MNAI Manna 23.26 242 ⇑P **P** **11 02 23.1 +0.8**
baz=23,SNR=90
KSI Kapahiang 23.26 244 P **P** **11 02 25.5 +3.1**
2µm,0.7s,24µm
BKNI Bangkinang 23.28 255 P **P** **11 02 23.3 +0.8**
2µm,1.5s,27µm40µm
BKNI Bangkinang 23.28 255 ⇓P **P** **11 02 23.3 +0.8**
baz=23,SNR=29
BKNI Bangkinang 23.28 255 P ScP **11 08 25.9 +0.6**
baz=23,SNR=4.1
MASI Maura Aman, Be 23.36 246 P ScS **11 12 10.5 -2.8**
38µm2µm,1.8s
MASI Maura Aman, Be 23.36 246 P **P** **11 02 24.7 +1.4**
2µm,0.5s,33µm
SURA Surathani 23.77 278 P **P** **11 02 28.6 +1.7**
759nm,2.1s,18µm
PPI Padang Panjang 24.12 254 P ScS 11 12 05.9 -10
PPI Padang Panjang 24.12 254 P **P** **11 02 31.4 +1.4**
2µm,1.5s,35µm
PPI Padang Panjang 24.12 254 ⇓P **P** **11 02 31.1 +1.2**
baz=24,SNR=86
PPI Padang Panjang 24.12 254 P ScP **11 08 27.6 0.0**
baz=24,SNR=17
PDSI Padang 24.20 253 P ScS 11 12 06.3 -10
19µm1µm,1.4s
PDSI Padang 24.20 253 P **P** **11 02 31.0 +0.3**
1µm,0.8s,27µm43µm
SSE Sheshan 24.39 355 P **P** **11 02 33.1 +1.1**
SSE sP **sP** **11 05 18.9 -0.4**
SSE S **S** **11 06 10.7 +1.5**
SSE AMB AMB
comp=Z,1µm,1.0s
SSE AMB AMB
comp=Z,10µm,7.5s
XMI Christmas Isla 24.58 226 P ScP **11 08 30.5 +1.6**
baz=25,SNR=11
XMIS Christmas Isla 24.63 226 *e*P **P** **11 02 33.2 -1.2**
615nm,0.8s
XMIS *e*ScP ScP **11 08 30.1 +1.1**
XMIS Christmas Isla 24.63 226 ⇑P **P** **11 02 34.1 -0.3**
baz=25,SNR=4.3
XMIS Christmas Isla 24.63 226 P ScP **11 08 30.5 +1.5**
baz=25,SNR=17
FITZ Fitzroy Crossi 24.71 175 *e*P **P** **11 02 36.2 +1.3**
4µm,1.3s
FITZ S **S** **11 06 12.4 -2.1**
FITZ ScP ScP **11 08 29.4 +0.3**
FITZ *e* 11 35 24.6
FITZ P'P'ab **P'P'ab** **11 39 20.9 +1.8**
FITZ Fitzroy Crossi 24.71 175 ⇓P **P** **11 02 36.1 +1.1**
baz=25,SNR=1000
FITZ Fitzroy Crossi 24.71 175 P **P** **11 02 35.9 +0.9**
944nm,0.4s,baz=6.6,slow=11
FITZ S **S** **11 06 12.4 -2.1**
826nm,0.9s,baz=117,slow=21,SNR=9.3
FITZ ScP ScP **11 08 29.4 +0.3**
132nm,0.7s,baz=342,slow=6.4,SNR=3.8
FITZ P3KPbc 11 35 24.6
2.3nm,0.9s,baz=135,slow=7.1,SNR=5.2
FITZ PKP2ab 11 39 20.9
12nm,1.3s,baz=221,slow=5.5,SNR=3.9
PSI Prapat 24.79 262 P **P** **11 02 37.3 +1.3**
PSI S **S** **11 06 16.4 +0.1**
PSI ScP **ScP** **11 08 30.0 +0.3**
PSI Prapat 24.79 262 ⇑P **P** **11 02 37.5 +1.5**
baz=25,SNR=326
PSI Prapat 24.79 262 P **ScP** **11 08 30.4 +0.7**
baz=25,SNR=18
PSI Prapat 24.79 262 P **P** **11 02 37.3 +1.3**
747nm,0.9s,baz=80,slow=4.4,SNR=366
PSI S **S** **11 06 16.4 +0.1**
178nm,1.1s,baz=335,slow=23,SNR=14
PSI ScP **ScP** **11 08 30.0 +0.3**
598nm,1.1s,baz=144,slow=2.9,SNR=17
PKDT Phuket 25.00 274 P **P** **11 02 39.1 +1.5**
3µm,1.1s,33µm
UTHA Uthaitani 25.18 293 P **P** **11 02 40.7 +1.5**
541nm,0.9s,5µm
WHN Wuhan 25.25 341 P **P** **11 02 41.6 +2.0**
WHN S **S** **11 06 23.8 +1.1**
WHN AMB AMB
comp=Z,42µm,3.9s
NANT Nan 25.26 301 P **P** **11 02 41.1 +1.2**
4µm,0.7s,52µm
MANU Manus Island 25.34 109 P ScP **11 08 32.6 +1.5**
baz=25,SNR=5.7
GYA Guiyang 25.39 323 ⇓*i*P **P** **11 02 42.6 +1.5**
GYA sP **sP** **11 05 28.1 -2.1**
GYA PcP **PcP** **11 05 52.2 +1.5**
GYA S **S** **11 06 28.5 +3.2**
GYA ScP **ScP** **11 08 31.4 +0.2**
GYA ScS **ScS** **11 12 20.5 -1.1**
GYA AMB AMB
comp=Z,1µm,1.1s
GYA AMB AMB
comp=Z,14µm,8.2s
NJ2 Nanjing 25.62 351 *e*P **P** **11 02 43.4 +0.6**
NJ2 PcP **PcP** **11 05 51.0 +0.1**
NJ2 S **S** **11 06 31.0 +2.6**
NJ2 ScP **ScP** **11 08 31.0 -0.5**
NJ2 AMB AMB
comp=Z,3µm,1.2s
NJ2 AMB AMB
comp=Z,14µm,8.6s
KCSI Kotacane, Aceh 25.82 264 P ScS **11 12 20.2 -3.4**
KCSI Kotacane, Aceh 25.82 264 P **P** **11 02 46.1 +1.2**
3µm,1.5s,44µm
PAYA Payao 26.21 301 P **P** **11 02 49.4 +1.2**
1µm,0.8s,12µm
GSI Gunungsitoli 26.40 259 P **P** **11 02 51.1 +1.1**
6µm,1.5s,58µm50µm
LHMI Lhok Sumawe 26.45 268 P **P** **11 02 52.5 +2.1**
3µm,2.0s,59µm
CM31 Chiang Mai Arr 26.64 298 *e*P **P** **11 02 54.2 +2.2**
28nm,1.2s
CMAR Chiang Mai Arr 26.64 298 P **P** **11 02 54.1 +2.1**
CMAR ScP **ScP** **11 08 36.5 +1.6**
CMAR ScS **ScS** **11 12 29.4 +2.3**
CMAR *e* 11 35 11.4
CMAR PKKKP 11 36 12.4
CMAR Chiang Mai Arr 26.64 298 P **P** **11 02 54.1 +2.1**
687nm,0.6s,baz=117,slow=7.3,SNR=1813
CMAR ScP **ScP** **11 08 36.5 +1.6**
297nm,1.2s,baz=124,slow=1.8,SNR=19
CMAR ScS **ScS** **11 12 29.4 +2.3**
7.6nm,1.0s,baz=131,slow=4.9,SNR=2.8
CMAR P3KPbc 11 35 11.4
1.6nm,0.9s,baz=294,slow=6.8,SNR=5.8
CMAR P3KP 11 36 12.4
2.9nm,1.0s,baz=247,slow=4.2,SNR=4.7
CHTO Chiang Mai 26.78 299 *e*P **P** **11 02 54.7 +1.5**
CHTO pmax pmax
comp=Z,6µm,0.7s
CHTO Chiang Mai 26.78 299 P **P** **11 02 55.1 +1.9**
SNR=690
CHTO Chiang Mai 26.78 299 P **P** **11 02 54.3 +1.1**
comp=Z,12µm,1.2s,comp=Z,217µmcomp=Z,255µm
CHTO Chiang Mai 26.78 299 *e*P **P** **11 02 54.7 +1.5**
comp=Z,6µm,0.7s
CHTO *e* 11 04 31.0
CHTO *e*ScP **ScP** **11 08 36.7 +1.4**
CHTO Chiang Mai 26.78 299 P **P** **11 02 54.3 +1.1**
comp=Z,12µm,1.2s,comp=Z,217µm
ENH Enshi 26.92 332 *e*P **P** **11 02 55.4 +1.1**
comp=Z,493nm,0.4s
ENH *e*ScP **ScP** **11 08 36.3 +0.7**
CBIJ Chichi jima 26.98 39 P **P** **11 02 54.0 -0.8**
CBIJ S **S** **11 06 45.2 -4.6**
CBIJ ScS **ScS** **11 12 26.7 -1.6**
JCJ Chichijima 26.98 39 P **P** **11 02 54.0 -0.8**
comp=Z,1µm,0.3s,baz=236,slow=5.8,SNR=147
JCJ S **S** **11 06 45.2 -4.6**
comp=Z,9µm,0.9s,baz=308,slow=19,SNR=63
JCJ ScS **ScS** **11 12 26.7 -1.6**
comp=Z,168nm,0.8s,baz=146,slow=24,SNR=8.2
KMI Kunming 27.04 315 P **P** **11 02 57.8 +2.1**
KMI S **S** **11 06 51.7 +0.5**
KMI ScP **ScP** **11 08 37.1 +0.8**
KMI ScS **ScS** **11 12 30.2 +1.0**
KMI AMB AMB
comp=Z,2µm,1.7s
KMI AMB AMB
comp=Z,21µm,7.7s
CMAI Chiengmai2 27.15 301 P **P** **11 02 57.8 +1.2**
comp=Z,2µm,1.9s,comp=Z,32µm
JNU Nakatsue 27.19 14 *e*P **P** **11 02 56.2 -0.5**
comp=Z,351nm,1.1s
JNU ScS ScS 11 12 28.7 -0.5
JNU *e* 11 35 13.0
JNU Nakatsue 27.19 14 P **P** **11 02 56.1 -0.5**
comp=Z,547nm,1.0s,baz=179,slow=4.8,SNR=144
JNU ScS ScS 11 12 28.7 -0.5
comp=Z,70nm,1.0s,baz=216,slow=23,SNR=25
JNU P3KPbc 11 35 13.0
comp=Z,28nm,1.0s,baz=40,slow=3.5,SNR=8.0
SNSI Sinabang, Aceh 27.42 262 P **P** **11 02 59.6 +0.8**
MBWA Marble Bar 27.91 188 P **P** **11 03 03.9 +1.0**
SNR=134
MBWA Marble Bar 27.91 188 *e*P **P** **11 03 03.4 +0.5**
comp=Z,2µm,0.6s
MBWA *e*PcP **PcP** **11 05 58.0 +1.3**
MBWA *e*ScP **ScP** **11 08 38.9 +0.2**
COEN Coen 28.31 136 *e*P **P** **11 03 06.3 -0.2**
comp=Z,20µm,0.6s
COEN *e*ScP **ScP** **11 08 41.2 +1.1**
COEN Coen 28.31 136 ⇑P **P** **11 03 06.3 -0.2**
baz=28,SNR=1000
PMG Port Moresby 28.47 124 P **P** **11 03 07.1 -0.8**
comp=Z,5µm,1.3s,comp=Z,57µmcomp=Z,34µm
PMG Port Moresby 28.47 124 *e*P **P** **11 03 07.4 -0.5**
comp=Z,5µm,1.1s
PMG *e* 11 04 48.9
PMG S **S** **11 07 10.1 -3.1**
PMG ScP **ScP** **11 08 41.8 +1.1**
PMG *e*ScP ScP 11 08 42.0 +1.4
PMG Port Moresby 28.47 124 P **P** **11 03 07.6 -0.4**
comp=Z,4µm,1.0s,baz=302,slow=6.3,SNR=687
PMG S **S** **11 07 10.1 -3.1**
comp=Z,160nm,1.0s,baz=137,slow=19,SNR=8.6
PMG ScP **ScP** **11 08 41.8 +1.1**
comp=Z,1µm,1.1s,baz=268,slow=4.2,SNR=9.5
WRAB Tennant Creek 28.51 158 *e*P **P** **11 03 08.9 +0.7**
WRAB *e*S **S** **11 07 11.0 -2.7**
WRAB pmax pmax
comp=Z,10µm,0.4s
WRAB Tennant Creek 28.51 158 P **P** **11 03 08.3 +0.1**

comp=Z,127µm,0.4s
WRAB Tennant Creek 28.51 158 *e*P **P** **11 03 08.9 +0.7**
comp=Z,10µm,0.4s
WRAB *e*S **S** **11 07 11.0 -2.7**
WRAB *e*ScP **ScP** **11 08 40.1 -0.6**
WRA Warramunga Arr 28.52 158 P **P** **11 03 08.6 +0.4**
WRA PcP **PcP** **11 05 59.2 +0.9**
WRA S **S** **11 07 10.8 -2.9**
WRA ScP **ScP** **11 08 40.9 +0.2**
WRA ScS **ScS** **11 12 32.2 -3.5**
WRA *e* 11 35 06.8
WRA P'P'ab P'P'ab 11 38 56.2 -6.6
WRA Warramunga Arr 28.52 158 P **P** **11 03 08.6 +0.4**
comp=Z,7µm,0.5s,baz=331,slow=10
WRA PcP **PcP** **11 05 59.2 +0.9**
comp=Z,387nm,0.9s,baz=340,slow=3.4,SNR=8.1
WRA S **S** **11 07 10.8 -2.9**
comp=Z,2µm,0.9s,baz=339,slow=16,SNR=23
WRA ScP **ScP** **11 08 40.9 +0.2**
comp=Z,269nm,0.5s,baz=337,slow=3.7,SNR=9.9
WRA ScS **ScS** **11 12 32.2 -3.5**
comp=Z,157nm,1.2s,baz=324,slow=5.2,SNR=6.9
WRA P3KPbc 11 35 06.8
comp=Z,16nm,1.1s,baz=158,slow=4.1,SNR=16
WRA PKP2ab 11 38 56.2
comp=Z,3.8nm,1.1s,baz=137,slow=2.6,SNR=3.5
TIA Tai'an 29.97 350 ⇓P **P** **11 03 21.2 +0.7**
TIA S **S** **11 07 36.9 +1.2**
TIA ScP **ScP** **11 08 44.9 -0.2**
TIA ScS **ScS** **11 12 43.3 +1.1**
TIA AMB AMB
comp=Z,1µm,2.0s
XAN Xi'an 30.39 336 P **P** **11 03 24.9 +0.7**
XAN S **S** **11 07 39.9 -2.4**
XAN AMB AMB
comp=Z,1µm,1.5s
XAN AMB AMB
comp=Z,4µm,7.9s
CD2 Chengdu 30.39 325 P **P** **11 03 25.1 +0.8**
CD2 PcP **PcP** **11 06 04.4 +1.2**
CD2 sP **sP** **11 06 16.2 -1.2**
CD2 S **S** **11 07 45.3 +2.8**
CD2 ScP **ScP** **11 08 48.2 +1.5**
CD2 PcS **PcS** **11 09 48.0 0.0**
CD2 ScS **ScS** **11 12 44.7 +0.1**
CD2 AMB AMB
comp=Z,3µm,0.6s
CD2 AMB AMB
comp=Z,22µm,8.6s
GIRL Giralia 30.52 197 ⇓P **P** **11 03 27.5 +2.1**
baz=31,SNR=273
INCN Inchon 30.80 5 P **P** **11 03 28.2 +0.7**
SNR=29
INCN Inchon 30.80 5 *e*P **P** **11 03 27.9 +0.3**
comp=Z,276nm,0.7s
INCN *e*PcP **PcP** **11 06 04.9 +0.8**
INCN *e*ScP **ScP** **11 08 46.8 -1.1**
KSAR Wonju Array Be 30.89 7 P **P** **11 03 29.2 +1.0**
KSAR PcP **PcP** **11 06 05.5 +1.3**
KSAR ScP **ScP** **11 08 49.5 +1.4**
KSAR *e* 11 34 55.8
KSAR P'P'ab **P'P'ab** **11 38 50.7 -2.0**
KSRS Korea Array 30.90 7 P **P** **11 03 29.2 +0.9**
comp=Z,407nm,0.9s,baz=182,slow=8.5,SNR=591
KSRS PcP **PcP** **11 06 05.5 +1.3**
comp=Z,29nm,0.6s,baz=198,slow=2.4,SNR=6.0
KSRS ScP **ScP** **11 08 49.5 +1.4**
comp=Z,138nm,1.1s,baz=182,slow=2.3,SNR=11
KSRS P3KPbc 11 34 55.8
comp=Z,1.1nm,0.8s,baz=2.8,slow=4.7,SNR=4.4
KSRS PKP2ab 11 38 50.7
comp=Z,2.8nm,1.0s,baz=338,slow=2.6,SNR=3.7
AS31 Alice Springs 31.82 162 *e*P **P** **11 03 37.7 +1.2**
AS31 *e*S **S** **11 08 04.1 -0.2**
ASAR Alice Springs 31.82 162 P **P** **11 03 37.9 +1.5**
ASAR PcP **PcP** **11 06 07.8 +0.6**
ASAR S **S** **11 08 05.8 +1.5**
ASAR ScP **ScP** **11 08 52.2 +0.6**
ASAR *e* 11 34 50.0
ASAR PKKKP 11 36 08.9
ASAR P'P'ab **P'P'ab** **11 38 46.6 -1.5**
ASAR P4KP 11 45 11.1
ASAR Alice Springs 31.82 162 P **P** **11 03 37.9 +1.5**
comp=Z,5µm,0.4s,baz=343,slow=6.8
ASAR PcP **PcP** **11 06 07.8 +0.6**
comp=Z,188nm,0.5s,baz=342,slow=2.4,SNR=5.1
ASAR S **S** **11 08 05.8 +1.5**
comp=Z,2µm,0.9s,baz=350,slow=20,SNR=53
ASAR ScP **ScP** **11 08 52.2 +0.6**
comp=Z,386nm,0.8s,baz=345,slow=2.9,SNR=8.3
ASAR P3KPbc 11 34 50.0
comp=Z,4.2nm,0.9s,baz=151,slow=3.8,SNR=15
ASAR P3KP 11 36 08.9
comp=Z,1.5nm,0.9s,baz=165,slow=2.9,SNR=3.3
ASAR PKP2ab 11 38 46.6
comp=Z,3.5nm,1.1s,baz=131,slow=2.6,SNR=4.2
ASAR P4KP 11 45 11.1
comp=Z,2.0nm,0.9s,baz=349,slow=4.5,SNR=5.1
DL2 Dalian 32.13 357 ⇓*i*P **P** **11 03 39.4 +0.6**
DL2 S **S** **11 08 07.6 -0.9**
DL2 ScP **ScP** **11 08 53.4 +1.1**
DL2 PcS PcS 11 09 46.5 -7.0
DL2 ScS **ScS** **11 12 53.1 +0.1**
DL2 AMB AMB
comp=Z,3µm,1.2s
DL2 AMB AMB
comp=Z,15µm,6.1s
COCO West Island 32.47 235 *e*P **P** **11 03 42.2 +0.2**
COCO pmax pmax
comp=Z,5µm,2.6s
COCO West Island 32.47 235 P **P** **11 03 42.5 +0.5**
comp=Z,499nm,1.8s,comp=Z,8µm
COCO West Island 32.47 235 *e*P **P** **11 03 42.1 +0.2**
comp=Z,5µm,2.6s
COCO *ep*P **PP** **11 05 25.8 +1.3**
COCO *e*ScP **ScP** **11 08 55.6 +1.6**
TIY Taiyuan 32.49 344 *e*P **P** **11 03 42.7 +0.7**
TIY S **S** **11 08 14.7 +0.5**
TIY PcS **PcS** **11 09 50.2 -4.9**
TIY AMB AMB
comp=Z,17µm,5.8s
MAJO Matsushiro 32.63 22 *e*P **P** **11 03 42.6 -0.4**
MAJO *e*S **S** **11 08 12.8 -3.4**
MAJO pmax pmax
comp=Z,2µm,1.1s
MAJO Matsushiro 32.63 22 *e*P **P** **11 03 42.6 -0.4**
comp=Z,2µm,1.1s
MAJO *e*S **S** **11 08 12.8 -3.4**
MAJO *e*ScP **ScP** **11 08 55.0 +0.8**
MAT Matsushiro 32.63 22 P **P** **11 03 42.0 -1.0**
MAT S **S** **11 08 10.7 -5.5**
MEEK Meekatharra 33.45 188 ⇑P **P** **11 03 50.9 +0.8**
baz=34,SNR=1000
BJT Baijiatuan 33.85 350 *e*P **P** **11 03 53.7 +0.6**
comp=Z,3µm,1.1s
BJT *e*PcP **PcP** **11 06 14.9 +2.2**
BJT *e*ScP **ScP** **11 08 59.3 +0.9**
BJI Beijing 33.87 350 P **P** **11 03 53.6 +0.3**
BJI pP **pP** **11 05 30.0 -4.8**
BJI PcP **PcP** **11 06 14.6 +1.9**
BJI S **S** **11 08 34.9 +0.3**
BJI ScS **ScS** **11 13 02.6 +0.4**
BJI AMB AMB
comp=Z,3µm,1.4s
BJI AMB AMB
comp=Z,20µm,4.4s
LZH Lanzhou 34.37 331 *e*P **P** **11 03 59.9 +2.1**
LZH *e*S **S** **11 08 45.6 +2.9**
LZH ScP **ScP** **11 09 02.4 +1.8**
LZH ScS **ScS** **11 13 05.2 -0.4**
LZH AMB AMB
comp=Z,2µm,1.0s
LZH AMB AMB
comp=Z,17µm,4.2s
PATS Pohnpei 34.56 88 ⇓P **P** **11 03 59.9 +0.4**
baz=34,SNR=44
CTA Charters Tower 34.76 140 P **P** **11 04 02.7 +1.8**
CTA S **S** **11 08 48.9 +0.3**
CTA ScP **ScP** **11 09 03.5 +1.4**
CTA ScS **ScS** **11 13 08.5 +0.7**
CTA Charters Tower 34.76 140 P **P** **11 04 02.7 +1.8**
comp=Z,2µm,0.7s,baz=328,slow=9.7,SNR=3565
CTA S **S** **11 08 48.9 +0.3**
comp=Z,180nm,1.2s,baz=134,slow=16,SNR=5.0
CTA ScP **ScP** **11 09 03.5 +1.4**
comp=Z,1µm,1.1s,baz=318,slow=4.5,SNR=16
CTA ScS **ScS** **11 13 08.5 +0.7**
comp=Z,61nm,1.0s,baz=213,slow=21,SNR=6.4
CTAO Charters Tower 34.76 140 *e*P **P** **11 04 02.8 +1.8**
CTAO pmax pmax
comp=Z,10µm,1.7s
CTAO Charters Tower 34.76 140 *e*P **P** **11 04 02.8 +1.8**
comp=Z,13µm,1.7s
CTAO *ep*P **pP** **11 05 43.4 +0.2**
CTAO *e*ScP **ScP** **11 09 03.2 +1.1**
SNY Shenyang 35.01 0 ⇓P **P** **11 04 03.1 +0.4**
SNY S **S** **11 08 50.6 -1.0**
SNY SS **SS** **11 12 04.7 -3.8**
SNY ScS **ScS** **11 13 10.0 +1.6**
SNY AMB AMB
comp=Z,11µm,5.5s
SHL Shillong 35.56 305 *i* PDS **P** **11 04 06.5 -1.3**
SHL *ex* **S** **11 09 02.5 +1.7**
HHC Hu-ho-hao-te 35.66 344 *i* P **P** **11 04 09.3 +1.0**
HHC PcP **PcP** **11 06 17.7 -0.5**
HHC S **S** **11 09 04.9 +3.2**
HHC SS **SS** **11 12 15.5 -4.3**
HHC ScS **ScS** **11 13 09.3 -3.1**
HHC AMB AMB
comp=Z,3µm,1.3s
HHC AMB AMB
comp=Z,35µm,5.5s
BTO Baotou 35.88 342 *e*P **P** **11 04 10.0 0.0**
MORW Morawa 36.26 191 ⇓P **P** **11 04 14.2 +1.1**
baz=36,SNR=897
CN2 Changchun 37.02 2 ⇓P **P** **11 04 18.7 -0.4**
CN2 PcP **PcP** **11 06 21.0 -1.2**
CN2 *e*S **S** **11 09 21.3 -0.1**
CN2 sS **sS** **11 12 33.5 +0.3**
CN2 AMB AMB
comp=Z,400nm,1.3s
CN2 AMB AMB
comp=Z,7µm,6.0s
FORT Forrest 37.49 174 *e*P **P** **11 04 24.8 +1.6**
comp=Z,10µm,0.6s
FORT *e*ScP **ScP** **11 09 12.5 +0.5**
FORT *e*S **S** **11 09 28.9 +0.1**
FORT Forrest 37.49 174 ⇑P **P** **11 04 24.6 +1.5**
baz=38,SNR=1000
BLDU Balidu 37.65 190 ⇓P **P** **11 04 25.3 +0.9**
baz=38,SNR=688
LSA Lhasa 38.10 311 P **P** **11 04 31.0 +2.3**
LSA S **S** **11 09 41.1 +2.5**
LSA Lhasa 38.10 311 *e*P **P** **11 04 30.8 +2.1**
LSA *e* 11 06 28.0
LSA *e*S **S** **11 09 42.0 +3.4**
LSA pmax pmax
comp=Z,5µm,1.2s
LSA Lhasa 38.10 311 *e*P **P** **11 04 30.8 +2.1**
comp=Z,5µm,1.2s
LSA *e*PcP **PcP** **11 06 28.0 +1.5**
LSA *e*ScP **ScP** **11 09 16.2 +1.1**
LSA *e*S **S** **11 09 42.0 +3.4**
USRK Ussuriysk Arra 38.11 10 P **P** **11 04 29.0 +1.1**
comp=Z,766nm,0.9s,baz=191,slow=7.0,SNR=488
USRK ScP **ScP** **11 09 12.6 -1.6**
comp=Z,65nm,1.0s,baz=208,slow=4.9,SNR=6.0
USRK ScS **ScS** **11 13 27.1 +1.0**
comp=Z,34nm,1.1s,baz=199,slow=3.2,SNR=7.0
USRK P3KPbc 11 34 24.7
comp=Z,2.1nm,0.8s,baz=75,slow=1.6,SNR=6.2
USRK PKP2ab 11 38 23.2
comp=Z,8.2nm,1.1s,baz=349,slow=1.5,SNR=4.7
KLBR Kellerberrin 38.45 188 ⇓P **P** **11 04 31.9 +1.1**
baz=39,SNR=1000
QLP Quilpie 38.69 150 ⇑P **P** **11 04 33.8 +0.9**
baz=39,SNR=1000
SLGI Shiliguri 38.86 305 *ex* **P** **11 04 35.9 +1.6**
GTA Gaotai 38.95 330 ⇓P **P** **11 04 36.5 +1.5**
GTA PcP **PcP** **11 06 29.5 +0.9**
GTA ScP **ScP** **11 09 18.1 +0.3**
GTA S **S** **11 09 51.5 +1.4**
GTA sS **SS** **11 13 08.9 -4.9**
GTA SS **SS** **11 13 12.7 -1.1**
GTA AMB AMB
comp=Z,2µm,1.4s
GTA AMB AMB
comp=Z,20µm,7.1s
ERM Erimo 39.28 23*c i*P **P** **11 04 38.7 +1.3**
ERM pmax pmax
comp=Z,1µm,1.5s
ERM Erimo 39.28 23 *e*P **P** **11 04 38.6 +1.3**
comp=Z,646nm,0.9s
ERM *ep*P **pP** **11 06 18.9 -4.0**
ERM *e*ScP **ScP** **11 09 20.7 +2.0**
ERM *e*S **S** **11 09 56.0 +1.6**
ERM Erimo 39.28 23 P **P** **11 04 39.3 +2.0**
comp=Z,5µm,1.0s,SNR=29
HNR Honiara 39.68 113 P **P** **11 04 40.8 -0.2**
HNR ScP **ScP** **11 09 21.4 +0.4**
HNR S **S** **11 10 00.7 -0.5**
HNR Honiara 39.68 113 P **P** **11 04 40.8 -0.2**
comp=Z,3µm,0.5s,baz=204,slow=2.4,SNR=323
HNR ScP **ScP** **11 09 21.4 +0.4**
comp=Z,861nm,0.9s,baz=229,slow=8.1,SNR=5.5
HNR S **S** **11 10 00.7 -0.5**
comp=Z,312nm,0.9s,baz=342,slow=19,SNR=3.6
TAPN Taplejung 39.70 305 *e*P **P** **11 04 42.9 +1.5**
comp=Z,3µm,0.6s
ODAN Odare 39.76 305 *e*P **P** **11 04 43.7 +1.9**
comp=Z,8µm,0.7s
NWAO Narrogin (SRO) 39.83 188 P **P** **11 04 43.6 +1.7**
SNR=215
NWAO Narrogin (SRO) 39.83 188 *e*P **P** **11 04 43.2 +1.3**
comp=Z,14µm,1.9s
NWAO ScP **ScP** **11 09 21.4 +0.3**
NWAO *e*ScP **ScP** **11 09 21.6 +0.5**
NWAO S **S** **11 10 01.7 -1.1**
NWAO *e*S S 11 10 02.7 0.0
NWAO Narrogin (SRO) 39.83 188 P **P** **11 04 43.2 +1.3**
comp=Z,3µm,0.8s,baz=9.9,slow=8.0,SNR=2183
NWAO ScP **ScP** **11 09 21.4 +0.3**
comp=Z,1µm,1.3s,baz=13,slow=6.0,SNR=14
NWAO S **S** **11 10 01.7 -1.1**
comp=Z,377nm,1.0s,baz=155,slow=23,SNR=3.1
RAMN Ramite 40.44 304 *e*P **P** **11 04 48.9 +1.7**
comp=Z,5µm,0.6s
ASAJ Asahikawa 40.87 21 *e*P **P** **11 04 50.6 +0.7**
comp=Z,781nm,1.1s
ASAJ *e*ScP **ScP** **11 09 26.9 +1.8**
ASAJ *e*S **S** **11 10 17.9 +0.5**
ASAJ Asahikawa 40.87 21 P **P** **11 04 50.8 +0.9**
comp=Z,927nm,0.7s,baz=236,slow=8.7,SNR=615
ASAJ ScP **ScP** **11 09 26.1 +1.0**
comp=Z,104nm,0.9s,baz=295,slow=3.0,SNR=5.1
ASAJ S **S** **11 10 16.1 -1.4**
comp=Z,60nm,0.9s,baz=103,slow=23,SNR=7.2
BBOO Buckleboo 41.04 164 *e*P **P** **11 04 52.8 +1.3**
BBOO *ep*P **pP** **11 06 37.3 -1.2**
BBOO *e*ScP **ScP** **11 09 26.3 +0.4**
BBOO *e*S **S** **11 10 21.1 +0.9**
BBOO Buckleboo 41.04 164 P **P** **11 04 52.8 +1.3**
baz=41,SNR=1000
JIRN Jiri 41.06 305 *e*P **P** **11 04 54.1 +1.9**
RMQ Roma 41.07 144 ⇓P **P** **11 04 53.2 +1.4**
baz=41,SNR=397
GUN Gumba 41.41 305 *e*P **P** **11 04 56.3 +1.4**
comp=Z,5µm,0.5s
RKGY Rocky Gully 41.52 188 ⇑P **P** **11 04 57.2 +2.0**
baz=42,SNR=1000
EIDS Eidsvold 41.64 141 *e*P **P** **11 04 57.0 +0.7**
comp=Z,11µm,1.5s
EIDS *ep*P **pP** **11 06 44.6 +0.8**
EIDS *e*ScP **ScP** **11 09 29.7 +1.2**
EIDS *e*S **S** **11 10 28.9 -0.1**
EIDS Eidsvold 41.64 141 ⇓P **P** **11 04 57.2 +0.9**
baz=42,SNR=1000
PKI Pulchoki 41.66 305 *e*P **P** **11 04 58.4 +1.5**
KKN Kakani 41.85 305 *e*P **P** **11 04 59.3 +1.1**
comp=Z,2µm,0.5s
DMN Daman 41.92 304 *e*P **P** **11 05 00.4 +1.6**
STKA Stephens Creek 42.04 157 *e*P **P** **11 05 00.7 +1.4**
comp=Z,844nm,0.6s
STKA *e*PcP **PcP** **11 06 39.5 +0.7**
STKA ScP **ScP** **11 09 30.2 +0.2**
STKA *e*ScP ScP 11 09 30.5 +0.5
STKA S **S** **11 10 34.6 0.0**
STKA *e*S S 11 10 36.2 +1.6
STKA P'P'ab **P'P'ab** **11 38 02.0 -1.4**
STKA Stephens Creek 42.04 157 ⇓P **P** **11 05 00.9 +1.5**
baz=42,SNR=1000
STKA Stephens Creek 42.04 157 P **P** **11 05 00.8 +1.4**
comp=Z,3µm,0.4s,baz=335,slow=9.5
STKA ScP **ScP** **11 09 30.2 +0.2**
comp=Z,621nm,1.1s,baz=342,slow=6.1,SNR=7.7
STKA S **S** **11 10 34.6 0.0**
comp=Z,143nm,0.8s,baz=96,slow=20,SNR=4.2
STKA PKP2ab 11 38 02.0
comp=Z,4.0nm,1.0s,baz=320,slow=1.8,SNR=3.6
YUK Yuzh-Kuril'sk 42.05 24*d i*P P 11 04 52.1 -7.1
YUK *e**PP **PcP** **11 06 36.0 -2.5**
YUK *i* S S 11 10 25.7 -8.6
YUK *i* *SS **ScS** **11 13 43.2 -6.9**
YUK pmax pmax
comp=Z,10µm,2.1s
YUK pmax pmax
comp=Z,4µm,1.3s
YUK pmax pmax
comp=N,531nm,1.3s
YUK pmax pmax
comp=E,990nm,1.3s
GKN Gorkha 42.46 305 *e*P **P** **11 05 04.3 +1.4**
comp=E,2µm,0.4s
PALK Pallekele 42.48 273 P **P** **11 05 05.1 +2.0**
SNR=70
PALK Pallekele 42.48 273 P **P** **11 05 05.7 +2.6**
comp=E,4µm,2.2s,SNR=50
PALK Pallekele 42.48 273 P **P** **11 05 04.6 +1.5**
comp=E,1µm,1.9s,comp=E,26µmcomp=E,36µm
PALK Pallekele 42.48 273 *e*P **P** **11 05 04.5 +1.5**
comp=E,4µm,1.8s
PALK *e*ScP **ScP** **11 09 34.2 +2.0**
HIA Hailar 42.56 356 *e*P **P** **11 05 03.8 +0.7**
comp=E,3µm,1.3s
HIA *e*PcP **PcP** **11 06 41.5 +1.3**
HIA *e*ScP **ScP** **11 09 33.1 +1.3**
HIA *e*S **S** **11 10 42.5 +0.9**
HABR Khabarovsk 42.79 11*c i*P **P** **11 05 03.4 -1.4**
HABR *e* 11 06 40.0
HABR *e* 11 06 56.2
HABR *i* S **S** **11 10 44.3 -0.4**
HABR *e* 11 13 55.0
HABR *e*SS **SS** **11 14 16.0 +0.7**
HABR pmax pmax
comp=Z,10µm,3.5s
HABR pmax pmax
comp=N,675nm,1.4s
HABR pmax pmax
comp=Z,2µm,1.4s
HABR pmax pmax
comp=E,805nm,1.8s
HABR MLR MLR
comp=Z,2µm,15.0s
KLR Kul'dur 42.98 8α *i*P P 11 05 03.0 -3.3
KLR *i* S **S** **11 10 43.5 -3.8**
KLR pmax pmax
comp=N,4µm,8.0s
KLR pmax pmax
comp=E,1µm,8.0s
KLR pmax pmax
comp=Z,11µm,8.0s
KLR smax smax
comp=N,8µm,14.0s
KLR smax smax
comp=E,15µm,14.0s
KLR MLR MLR
comp=Z,33µm,12.0s
KOLN Koldanda 43.22 304 *e*P **P** **11 05 10.4 +1.6**
comp=Z,11µm,0.7s
DANN Dangsing 43.31 305 *e*P **P** **11 05 10.9 +1.3**
comp=Z,13µm,0.7s
ULN Ulaanbaatar 43.38 344 P **P** **11 05 10.9 +1.3**
SNR=565
ULN Ulaanbaatar 43.38 344 P **P** **11 05 10.1 +0.5**
comp=Z,2µm,1.7s,comp=Z,35µm
ULN Ulaanbaatar 43.38 344 *e*P **P** **11 05 10.5 +0.9**
comp=Z,3µm,1.2s
ULN *e*ScP **ScP** **11 09 35.3 0.0**
YSS Yuzh-Sakhalins 43.40 19⇓ *i*P P **11 05 10.0 +0.4**
YSS *e* 11 06 44.5
YSS *e**PP **pP** **11 06 59.0 +0.5**
YSS *e**SP **sP** **11 08 08.0 -1.6**
YSS *i* S **S** **11 10 51.0 -2.4**
YSS *i* 11 13 58.0
YSS *i* *SS **ScS** **11 14 03.0 +4.4**
YSS *e*SS SS 11 14 17.0 -8.2
YSS pmax pmax
comp=Z,890nm,1.1s
YSS smax smax
comp=N,8µm,14.0s
YSS smax smax
comp=E,10µm,14.0s
CMSA Cobar Meteorol 43.51 152 ⇑P **P** **11 05 12.7 +2.0**
baz=44,SNR=1000
SONM Songino Array 43.54 343 P **P** **11 05 11.9 +1.1**
SONM PcP **PcP** **11 06 45.1 +1.4**
SONM ScP **ScP** **11 09 36.5 +0.5**
SONM S **S** **11 10 54.5 -1.0**
SONM *e* 11 34 04.8
SONM PKKKP 11 36 00.8
SONM Songino Array 43.54 343 P **P** **11 05 11.9 +1.1**
comp=E,2µm,1.2s,baz=160,slow=8.3,SNR=1383
SONM PcP **PcP** **11 06 45.1 +1.4**
comp=E,151nm,1.1s,baz=153,slow=5.0,SNR=4.0
SONM ScP **ScP** **11 09 36.5 +0.5**
comp=E,169nm,0.9s,baz=166,slow=3.8,SNR=13
SONM S **S** **11 10 54.5 -1.0**
comp=E,12nm,0.9s,baz=175,slow=17,SNR=2.2
SONM P3KPbc 11 34 04.8
comp=E,2.7nm,1.1s,baz=321,slow=3.8,SNR=6.3
SONM P3KP 11 36 00.8
comp=E,4.8nm,1.0s,baz=33,slow=3.4,SNR=9.7
KWAJ Kwajalein Atol 43.74 84 *e*P **P** **11 05 14.2 +1.4**
KWAJ pmax pmax
comp=Z,3µm,1.1s
KWAJ Kwajalein Atol 43.74 84 *e*P **P** **11 05 14.2 +1.4**
comp=Z,3µm,1.1s
WAKE Wake Island 43.74 69 *e*P **P** **11 05 13.9 +1.2**
comp=Z,6µm,1.8s
WAKE *e*ScP **ScP** **11 09 38.1 +0.9**
PYUN Piuthan 43.84 304 *e*P **P** **11 05 15.2 +1.6**
KUR Kuril'sk 43.86 25*d i*P P 11 05 07.1 -6.0
KUR *i* 11 07 10.5
KUR *i* S S 11 10 53.1 -6.7
KUR pmax pmax
comp=Z,6µm,1.8s
KUR pmax pmax
comp=Z,3µm,1.4s
JBP Jabalpur 44.92 296 *e*P **P** **11 05 23.1 +1.5**
JBP *ex* x 11 06 46.5
HYB Hyderabad 45.13 288 *i* P **P** **11 05 24.0 +0.6**
comp=Z,840nm,1.0s
HYB *e* 11 06 50.0
HYB *ep*P **pP** **11 07 12.0 -1.7**
HYB *e*S **S** **11 11 20.0 +1.3**
HYB *e*ScS **ScS** **11 14 10.0 -1.1**
NGP Nagpur 45.31 293 *e*P **P** **11 05 23.6 -1.1**
NGP *ex* x 11 05 27.6
comp=Z,4µm,1.9s
NGP *e*4 11 11 23.2
ARMA Armidale 45.69 145 *e*P **P** **11 05 30.0 +2.6**
comp=Z,23µm,1.8s
ARMA *ep*P **PP** **11 07 25.4 +0.1**
ARMA *e*ScP **ScP** **11 09 47.9 +2.7**
CIT Chita 45.95 351 *e*P **P** **11 05 30.4 +1.4**
CIT *e* 11 06 54.4
CIT *e*S **S** **11 11 24.0 -4.9**
CIT *e* 11 14 11.8
CIT pmax pmax
comp=Z,7µm,1.6s
LGTI Lohaghat 46.57 305 *e*P **P** **11 05 34.5 +0.5**
LGTI *ex* x 11 09 51.5
ZAK Zakamensk 46.73 342 *e*P **P** **11 05 35.3 +0.3**
ZAK *e* 11 14 17.8
ZAK pmax pmax
comp=Z,534nm,1.4s
JHNI Jhansi 46.79 299 *i* 4 **P** **11 05 36.0 +0.2**
JHNI *e*4 x 11 09 50.0
YNG Young 47.06 152 ⇓P **P** **11 05 39.5 +1.9**
baz=47,SNR=980
AKL Akola 47.09 292 *e*P **P** **11 05 40.0 +1.9**
AKL AMP 11 05 43.3
comp=Z,7µm,1.4s
AKL *i* x x 11 11 46.5

LATR Latur 47.15 289 *ex* P 11 05 33.8 -4.7
comp=Z,6μm,1.8s
MGCD Mangrove Creek 47.55 148 ⇑P **P** **11 05 43.3 +2.1**
baz=48,SNR=411
MGCD Mangrove Creek 47.55 148 P **ScP** **11 09 55.4 +2.6**
baz=28,SNR=4.0
TLY Talaya 47.78 343 *d iP* **P** **11 05 43.8 +1.2**
TLY *e* 11 07 32.5
TLY *eS* **S** **11 11 56.5 +2.4**
TLY *e* 11 14 27.3
TLY *e* 11 15 31.8
TLY Talaya 47.78 343 P **P** **11 05 44.0 +1.4**
comp=Z,7μm,1.1s
IRK Irkutsk 48.11 344 *eP* **P** **11 05 45.8 +0.7**
IRK *eS* **S** **11 12 00.3 +1.7**
IRK pmax pmax
comp=Z,3μm,1.9s
CAN Canberra 48.18 152 *eP* **P** **11 05 48.0 +2.0**
CAN *e* 11 07 01.4
CAN *e**PP **PP** **11 07 45.7 -1.9**
CAN *eS* **S** **11 11 54.4 -5.8**
CAN pmax pmax
comp=Z,7μm,1.3s
CAN Canberra 48.18 152 *eP* **P** **11 05 48.0 +2.0**
comp=Z,7μm,1.3s
CAN *ePcP* **PcP** **11 07 01.4 +0.9**
CAN *epP* **PP** **11 07 45.7 -1.9**
CAN *eScP* **ScP** **11 09 56.9 +1.3**
CAN *eS* **S** **11 11 54.4 -5.8**
CNB Canberra Magne 48.35 151 ⇓P **P** **11 05 49.2 +1.9**
baz=48,SNR=1000
WMQ Urumqi 48.49 326 P **P** **11 05 49.6 +1.5**
WMQ PcP **PcP** **11 07 04.3 +2.8**
WMQ pP **pP** **11 07 38.8 -2.3**
WMQ PP **PP** **11 07 52.3 +2.1**
WMQ sP **sP** 11 08 43.6 -7.2
WMQ S **S** **11 12 06.8 +2.6**
WMQ ScS **ScS** **11 14 35.5 +2.7**
WMQ AMB AMB
comp=Z,3μm,1.2s
MOY Mondy 48.56 341 *eP* **P** **11 05 49.8 +1.3**
MOY *e* 11 11 56.1
MOY *e* 11 14 32.6
MOY pmax pmax
comp=Z,313nm,1.8s
TOO Toolangi 48.57 157 ⇓P **P** **11 05 50.7 +2.0**
baz=49,SNR=1000
DDI Dehra Dun 48.66 305 *eP* **P** **11 05 49.0 -0.6**
DDI *ex* x 11 06 16.0
NDI New Delhi 48.84 302 *ex* P 11 05 47.0 -3.9
NDI *ex* x 11 15 31.0
TARA Tarawa 49.55 94 *eP* **P** **11 05 58.6 +2.2**
comp=Z,7μm,1.0s
SMLA Simla 49.65 306 *i* P **P** **11 05 56.2 -0.6**
SMLA AMB AMB 11 06 01.4
comp=Z,18μm,0.6s
SMLA *i* x x 11 14 38.4
MILA Mila 49.68 153 ⇓P **P** **11 05 58.8 +1.9**
baz=50,SNR=182
MILA Mila 49.68 153 P **ScP** **11 10 03.9 +1.9**
baz=29,SNR=6.3
POO Poona 49.72 289 ⇓*i*P **P** **11 05 57.0 -0.5**
CLNS Chul'man 50.04 1 *eP* **P** **11 05 59.5 +0.3**
CLNS *e* 11 07 06.0
CLNS *e**PP **pP** **11 07 53.6 +0.3**
CLNS *e* 11 08 03.1
CLNS *eS* **S** **11 12 22.9 -1.8**
CLNS *e* 11 14 38.8
CLNS pmax pmax
comp=Z,1μm,1.1s
CLNS pmax pmax
comp=E,259nm,1.0s
CLNS pmax pmax
comp=N,661nm,1.0s
CLNS pmax pmax
comp=Z,114nm,1.2s
CLNS pmax pmax
comp=E,124nm,1.0s
CLNS pmax pmax
comp=N,111nm,1.1s
CLNS smax smax
comp=E,2μm,7.2s
CLNS smax smax
comp=N,996nm,9.7s
MNCY Minicoy 50.04 275 *i* P **P** **11 06 03.0 +3.1**
MNCY *i* x x 11 10 08.0
BHK Bhakra 50.35 306 *eP* **P** **11 06 02.6 +0.7**
BHK *ex* x 11 07 46.8
BOM Bombay 50.73 289 *ex* PP 11 08 03.4 -7.1
BOM *ex* x 11 10 02.1
HVS Khovu-Aksy 50.75 336 *d iP* **P** **11 06 05.8 +1.3**
KAAM Kaadhehdhoo 50.75 265 P **P** **11 06 06.4 +1.4**
comp=N,1μm,2.1s,comp=N,25μm
KAAM Kaadhehdhoo 50.75 265 ⇑P **P** **11 06 05.9 +0.9**
baz=51,SNR=13
DZM Mont Dzumac 50.85 125 ⇑*i*P **P** **11 06 07.6 +1.9**
comp=N,5μm,1.4s
DZM Mont Dzumac 50.85 125 *ePcP* **PcP** **11 07 13.7 +3.0**
comp=N,1μm,1.4s
DZM *epP* **pP** **11 07 59.3 -1.1**
comp=N,1μm,1.4s
DZM *eS* **S** **11 12 32.4 -4.3**
comp=N,18μm,28.4s
DZM Mont Dzumac 50.85 125 *eP* **P** **11 06 07.4 +1.7**
comp=N,7μm,1.6s
DZM *ePcP* **PcP** **11 07 13.6 +2.8**
DZM *epP* **pP** **11 08 03.5 +3.0**
DZM *eScP* **ScP** **11 10 10.0 +2.6**
DZM *eS* **S** **11 12 41.6 +4.9**
DZM Mont Dzumac 50.85 125 P **P** **11 06 07.4 +1.7**
comp=N,1μm,0.7s,baz=310,slow=8.7,SNR=1242
DZM S **S** **11 12 39.8 +3.2**
comp=N,37nm,0.9s,baz=46,slow=24,SNR=3.9
LHI Lord Howe Isla 50.95 140 ⇓P **P** **11 06 07.6 +1.5**
baz=51,SNR=72
THN Thein Dam 51.24 307 *ex* P **11 06 06.2 -2.0**
THN *ex* x 11 11 11.6
SKR Severo-Kuril's 51.58 26 ⇓*i*P P 11 06 06.0 -4.3
SKR *i* S **S** **11 12 40.0 -5.3**
SKR *e* 11 16 36.0
SKR pmax pmax
comp=N,5μm,6.0s
SKR pmax pmax
comp=E,3μm,6.0s
SKR pmax pmax
comp=Z,6μm,6.0s
SKR pmax pmax
comp=E,450nm,1.0s
SKR smax smax
comp=Z,11μm,6.0s
JMU Jammu 51.99 307 *eP* **P** **11 06 13.0 -0.6**
DGAR Diego Garcia 52.81 256 *d iP* **P** **11 06 18.9 -0.8**
DGAR Diego Garcia 52.81 256 P **P** **11 06 19.8 +0.1**
SNR=7.1
DGAR Diego Garcia 52.81 256 P **P** **11 06 19.2 -0.5**
comp=Z,4μm,1.1s,SNR=5.8
DGAR Diego Garcia 52.81 256 *eP* **P** **11 06 19.3 -0.5**
comp=Z,883nm,1.4s
DGAR *eScP* **ScP** **11 10 16.0 0.0**
MK31 Makanchi Array 53.33 326 *eP* **P** **11 06 23.9 +1.1**
MK31 pmax pmax
comp=Z,376nm,0.3s
MK31 Makanchi Array 53.33 326 *eP* **P** **11 06 23.9 +1.1**
MK31 *ePcP* **PcP** **11 07 20.4 +0.8**
MK31 *eScP* **ScP** **11 10 17.9 +0.2**
MK31 *eS* **S** **11 13 11.4 +2.8**
MKAR Makanchi Array 53.33 326 P **P** **11 06 24.0 +1.1**
MKAR 11 07 20.6
MKAR S **S** **11 13 09.7 +1.1**
MKAR pmax pmax
comp=Z,917nm,0.5s
MKAR smax smax
comp=N,28nm,0.7s
MKAR Makanchi Array 53.33 326 *eP* **P** **11 06 24.0 +1.1**
MKAR PcP **PcP** **11 07 20.6 +1.0**
MKAR ScP **ScP** **11 10 18.0 +0.3**
MKAR S **S** **11 13 09.7 +1.1**
MKAR P'P' 11 36 07.3
MKAR *e* 11 43 37.3
MKAR Makanchi Array 53.33 326 P **P** **11 06 23.9 +1.1**
comp=N,917nm,0.5s,baz=120,slow=8.3,SNR=4419
MKAR PcP **PcP** **11 07 20.6 +1.0**
comp=N,217nm,0.8s,baz=108,slow=4.7,SNR=5.7
MKAR ScP **ScP** **11 10 18.0 +0.3**
comp=N,718nm,1.0s,baz=127,slow=4.9,SNR=23
MKAR S **S** **11 13 09.7 +1.1**
comp=N,28nm,0.7s,baz=124,slow=12,SNR=3.4
MKAR PKPPKP P'P'df 11 36 07.3 -26
comp=N,7.3nm,1.2s,baz=282,slow=1.3,SNR=6.0
MKAR P4KPbc 11 43 37.3
comp=N,12nm,0.9s,baz=119,slow=3.7,SNR=27
MOO Moorlands 53.44 158 ⇓P **P** **11 06 25.5 +1.9**
baz=54,SNR=101
MOO Moorlands 53.44 158 P **ScP** **11 10 19.9 +1.8**
baz=30,SNR=4.5
KSH Kashi 53.70 315 ⇓*i*P **P** **11 06 28.7 +2.9**
KSH pP **pP** **11 08 25.6 +3.1**
KSH PP PP 11 08 45.4 +8.7
KSH S S 11 13 21.0 +7.0
KSH sS **sS** **11 16 48.4 +4.4**
KSH SS SS 11 17 16.7 +8.4
KSH AMB AMB
comp=N,2μm,1.2s
TAU Tasmania Unive 53.89 158 *eP* **P** **11 06 28.5 +1.7**
TAU Tasmania Unive 53.89 158 P **P** **11 06 28.0 +1.3**
comp=N,11μm,1.2s
TAU Tasmania Unive 53.89 158 *eP* **P** **11 06 28.4 +1.7**
TAU *e*ScP **ScP** **11 10 20.9 +0.9**
PEA0B Petropavlovsk- 54.02 25 *eP* **P** **11 06 29.1 +1.5**
PEA0B *epP* **pP** **11 08 28.2 +3.6**
PEA0B *eS* **S** **11 13 19.8 +2.4**
PETK Petropavlovsk- 54.02 25 P **P** **11 06 29.0 +1.4**
PETK pmax pmax
comp=Z,622nm,1.0s
PETK Petropavlovsk- 54.02 25 P **P** **11 06 29.0 +1.4**
PETK P'P' 11 36 12.0
PETK Petropavlovsk- 54.02 25 P **P** **11 06 29.0 +1.4**
comp=Z,612nm,1.0s,baz=204,slow=5.1,SNR=148
PETK PKPPKP P'P'df 11 36 12.0 -19
comp=Z,5.9nm,0.9s,baz=46,slow=6.4,SNR=3.6
PET Petropavlovsk 54.36 25 *i P* **P** **11 06 31.2 +1.3**
PET *e**PP **pP** **11 08 27.2 +0.1**
PET *e**SP **sP** **11 09 35.3 -0.2**
PET *i* S **S** **11 13 22.7 +0.9**
PET *e* 11 15 08.2
PET pmax pmax
comp=Z,7μm,7.0s
PET pmax pmax
comp=Z,1μm,1.2s
ULHL Ulahol 54.70 318 *i* P **P** **11 06 34.1 +1.3**
ULHL Ulahol 54.70 318 P **P** **11 06 34.1 +1.3**
SNR=1623
AAA Alma-Ata 54.71 319 *eP* **P** **11 06 34.5 +1.9**
AAA *eS* **S** **11 13 26.9 +0.1**
AAA pmax pmax
comp=Z,23μm,6.0s
AAA smax smax
comp=E,9μm,12.3s
KZA Kyzart 55.29 317 *i* P **P** **11 06 38.9 +1.8**
KZA Kyzart 55.29 317 P **P** **11 06 39.0 +1.8**
SNR=224
TKM2 Tokmak 2 55.43 319 P **P** **11 06 39.1 +1.3**
TKM2 pmax pmax
comp=Z,4μm,1.6s
TKM2 Tokmak 2 55.43 319 P **P** **11 06 39.1 +1.3**
SNR=1232
TKM2 Tokmak 2 55.43 319 *eP* **P** **11 06 39.7 +1.9**
comp=Z,8μm,1.9s
TKM2 *epP* **pP** **11 08 38.8 +3.0**
YAK Yakutsk 55.43 4 *d iP* **P** **11 06 38.1 +1.0**
YAK *e**PP **pP** **11 08 32.8 -2.3**
YAK *e* 11 08 48.7
YAK *eS* **S** **11 13 35.1 -0.2**
YAK *e* 11 15 17.7
YAK *eSS* **SS** **11 17 33.6 -0.6**
YAK pmax pmax
comp=Z,3μm,0.9s
YAK pmax pmax
comp=N,2μm,1.2s
YAK pmax pmax
comp=E,406nm,1.3s
YAK pmax pmax
comp=N,3μm,3.0s
YAK pmax pmax
comp=Z,7μm,3.8s
YAK pmax pmax
comp=E,1μm,3.8s
YAK smax smax
comp=N,987nm,1.5s
YAK smax smax
comp=E,1μm,1.8s
NFK Norfolk Island 55.58 132 ⇑P **P** **11 06 40.4 +1.6**
baz=56,SNR=17
KBK Karagaybulak 55.74 318 *i* P **P** **11 06 41.5 +1.6**
KBK Karagaybulak 55.74 318 P **P** **11 06 41.5 +1.6**
SNR=15
UCH Uchtor 55.85 317 *i* P **P** **11 06 42.9 +1.9**
UCH Uchtor 55.85 317 P **P** **11 06 42.9 +1.9**
SNR=268
CHMS Chumysh 56.02 318 *i* P **P** **11 06 43.1 +1.5**
CHMS Chumysh 56.02 318 P **P** **11 06 43.1 +1.5**
SNR=17
AAK Ala-Archa 56.03 318 *d iP* **P** **11 06 43.2 +1.3**
AAK pmax pmax
comp=Z,6μm,1.6s
AAK Ala-Archa 56.03 318 P **P** **11 06 43.6 +1.7**
SNR=1110
AAK Ala-Archa 56.03 318 P **P** **11 06 44.0 +2.1**
SNR=18
AAK Ala-Archa 56.03 318 P **P** **11 06 43.0 +1.1**
comp=Z,5μm,1.2s
AAK Ala-Archa 56.03 318 *eP* **P** **11 06 42.7 +0.8**
comp=Z,5μm,1.8s
AAK *epP* **pP** **11 08 42.4 +2.1**
AAK *eScP* **ScP** **11 10 29.9 0.0**
AAK P'P' 11 36 07.2
AAK *e* 11 43 49.2
AAK Ala-Archa 56.03 318 P **P** **11 06 43.3 +1.4**
comp=Z,198nm,0.6s,baz=114,slow=6.6,SNR=512
AAK ScP **ScP** **11 10 30.0 +0.2**
comp=Z,185nm,1.1s,baz=70,slow=4.8,SNR=5.2
AAK PKPPKP P'P'df 11 36 07.2 -23
comp=Z,30nm,1.2s,baz=166,slow=4.2,SNR=15
AAK P4KPbc 11 43 49.2
comp=Z,6.8nm,0.8s,baz=75,slow=4.7,SNR=6.1
FRU Bishkek 56.04 318 ⇓*i*P **P** **11 06 42.0 +0.2**
FRU *i* 11 07 30.0
FRU *i* 11 08 39.0
FRU *eS* **ScS** **11 15 22.0 -4.4**
FRU pmax pmax
comp=Z,3μm,1.8s
FRU pmax pmax
comp=Z,15μm,7.0s
FRU MLR MLR
comp=Z,6μm,18.0s
USP Ospenovka 56.30 318 *i* P **P** **11 06 45.3 +1.7**
USP Ospenovka 56.30 318 P **P** **11 06 45.3 +1.7**
SNR=15
AML Almayashu 56.36 317 *i* P **P** **11 06 46.1 +1.7**
AML Almayashu 56.36 317 P **P** **11 06 46.1 +1.7**
SNR=2014
EKS2 Erkin-Say 56.52 318 *eP* **P** **11 06 47.1 +1.9**
EKS2 *e* 11 07 34.0
EKS2 *e**PP **pP** **11 08 47.7 +3.8**
EKS2 *eS* **S** **11 13 54.9 +4.5**
EKS2 pmax pmax
comp=Z,6μm,1.8s
EKS2 Erkin-Say 56.52 318 P **P** **11 06 46.9 +1.7**
SNR=1026
EKS2 Erkin-Say 56.52 318 *eP* **P** **11 06 47.0 +1.9**
comp=Z,6μm,1.8s
EKS2 *ePcP* **PcP** **11 07 34.0 +1.5**
EKS2 *epP* **pP** **11 08 47.6 +3.8**
EKS2 *eScP* **ScP** **11 10 32.3 +0.3**
EKS2 *eS* **S** **11 13 54.9 +4.5**
ZAA0 Zalesovo Array 56.53 334 *eP* **P** **11 06 44.6 -0.2**
ZAA0 *ePcP* **PcP** **11 07 31.6 -0.4**
ZAA0 *epP* **pP** **11 08 42.9 -0.7**
ZAA0 *eScP* **ScP** **11 10 30.6 -1.0**
ZAA0 *eS* **S** **11 13 49.0 -0.7**
ZALV Zalesovo Beam 56.53 334 P **P** **11 06 44.7 -0.2**
ZALV pmax pmax
comp=Z,463nm,0.8s
ZALV Zalesovo Beam 56.53 334 P **P** **11 06 44.6 -0.2**
ZALV ScP **ScP** **11 10 30.6 -0.9**
ZALV P'P' 11 36 07.3
ZALV ⇑*e* 11 36 39.5
ZALV *e* 11 43 48.9
ZALV Zalesovo Beam 56.53 334 P **P** **11 06 44.6 -0.2**
comp=Z,463nm,0.8s,baz=122,slow=6.9,SNR=1000
ZALV ScP **ScP** **11 10 30.6 -0.9**
comp=Z,113nm,1.1s,baz=131,slow=4.0,SNR=4.1
ZALV PKPPKP P'P'df 11 36 07.3 -21
comp=Z,46nm,1.1s,baz=318,slow=2.3,SNR=20
ZALV PKP2bc 11 36 39.5
comp=Z,82nm,1.1s,baz=302,slow=3.2,SNR=17
ZALV P4KPbc 11 43 48.9
comp=Z,1.7nm,0.8s,baz=113,slow=1.9,SNR=4.6
KBL Kabul 57.20 307 *eP* **P** **11 06 51.5 +1.4**
KBL pmax pmax
comp=Z,5μm,1.7s
KBL Kabul 57.20 307 *eP* **P** **11 06 51.5 +1.4**
comp=Z,5μm,1.7s
KBL Kabul 57.20 307 ⇓P **P** **11 06 50.9 +0.9**
baz=57,SNR=160
KURBB Kurchatov Arra 57.55 328 P **P** **11 06 52.8 +1.0**
comp=Z,1μm,0.6s,baz=130,slow=6.3,SNR=2778
KURBB PcP **PcP** **11 07 39.3 +3.2**
comp=Z,175nm,0.6s,baz=125,slow=6.3,SNR=4.2
KURBB S **S** **11 14 03.5 +0.8**
comp=Z,16nm,1.0s,baz=123,slow=6.3,SNR=5.2
KURBB PKPPKP P'P'df 11 36 05.0 -22
comp=Z,11nm,1.0s,baz=309,slow=4.7,SNR=31
KURBB P4KPbc 11 43 55.8
comp=Z,1.5nm,0.4s,baz=121,slow=2.8,SNR=8.6
KURK Kurchatov 57.55 328 P **P** **11 06 52.8 +1.0**
KURK 11 07 39.3
KURK S **S** **11 14 03.6 +0.8**
KURK pmax pmax
comp=Z,975nm,0.6s
KURK smax smax
comp=N,16nm,1.0s
KURK Kurchatov 57.55 328 P **P** **11 06 52.8 +1.0**
SNR=2005
KURK Kurchatov 57.55 328 P **P** **11 06 52.9 +1.1**
comp=N,28μm,0.7s
KURK Kurchatov 57.55 328 *eP* **P** **11 06 52.5 +0.7**
KURK *ePcP* **PcP** **11 07 37.9 +1.8**
KURK *epP* **pP** **11 08 51.4 +0.1**
KURK S **S** **11 14 03.5 +0.8**
KURK P'P' 11 36 05.0
KURK *e* 11 43 55.8
NVS Novosibirsk 57.82 334 ⇓*i*P **P** **11 06 54.3 +0.8**
NVS *i* 11 07 35.6
NVS *i* 11 08 54.2
NVS *i* S **S** **11 14 03.6 -2.4**
NVS *e* 11 15 33.1
NVS pmax pmax
comp=Z,3μm,1.4s
NVS pmax pmax
comp=N,2μm,1.5s
NVS pmax pmax
comp=E,1μm,1.0s
NVS smax smax
comp=N,840nm,1.5s
NVS smax smax
comp=E,1μm,1.6s
KK31 Karatay Array 58.90 317 *i* P **P** **11 07 01.5 +0.4**
KK31 pmax pmax
comp=Z,4μm,1.5s
KKAR Karatay Array 58.90 317 *eP* **P** **11 07 02.1 +1.0**
KKAR pmax pmax
comp=Z,681nm,0.8s
KKAR Karatay Array 58.90 317 *eP* **P** **11 07 02.1 +1.0**
comp=Z,681nm,0.8s
MSVF Nonsavu 59.06 115 *eP* **P** **11 07 04.8 +2.2**
MSVF *e**PP **pP** **11 09 06.3 +3.3**
MSVF pmax pmax
comp=Z,2μm,1.1s
MSVF Nonsavu 59.06 115 P **P** **11 07 04.0 +1.4**
comp=Z,1μm,1.1s
MSVF Nonsavu 59.06 115 *eP* **P** **11 07 04.8 +2.2**
comp=Z,2μm,1.1s
MSVF *epP* **pP** **11 09 06.3 +3.3**
MIDW Midway 59.73 61 *eP* **P** **11 07 07.3 +0.5**
comp=Z,1μm,1.3s
SEY Seymchan 59.96 15 *d iP* **P** **11 07 09.3 +1.7**
FX1 Attu Island--F 61.22 32 *eP* **P** **11 07 17.4 +1.4**
FX1 *ePcP* **PcP** **11 07 53.2 +2.3**
FX1 Attu Island--F 61.22 32 P **P** **11 07 17.1 +1.1**
comp=Z,50nm,0.3s,baz=274,slow=3.3,SNR=78
SMY Shemya 61.63 32 *eP* **P** **11 07 20.6 +1.9**
SMY *e* 11 07 52.6
SMY *e**PP **pP** **11 09 24.8 +4.1**
SMY pmax pmax
comp=Z,1μm,1.2s
SMY Shemya 61.63 32 *eP* **P** **11 07 20.6 +1.9**
comp=Z,1μm,1.2s
SMY *ePcP* **PcP** **11 07 52.6 0.0**
SMY *epP* **pP** **11 09 24.8 +4.1**
SMY *eScP* **ScP** **11 10 53.8 -0.4**
VOSK Vostochnaya 62.66 327 P **P** **11 07 25.4 0.0**
VOSK pmax pmax
comp=Z,3μm,1.9s
VOSK Vostochnaya 62.66 327 *eP* **P** **11 07 25.6 +0.2**
comp=Z,2μm,1.3s
OUZ Omahuta 62.90 135 *eP* **P** **11 07 29.8 +2.6**
comp=Z,3μm,1.3s
BVA0 Borovoye Array 63.12 327 *i* P **P** **11 07 28.4 +0.1**
BVA0 pmax pmax
comp=Z,7μm,1.5s
BVAR Borovoye Array 63.12 327 P **P** **11 07 28.8 +0.5**
BVAR S **S** **11 15 12.5 +0.9**
BVAR pmax pmax
comp=Z,980nm,1.0s
BVAR smax smax
comp=N,52nm,1.1s
BVAR Borovoye Array 63.12 327 P **P** **11 07 28.8 +0.5**
BVAR S **S** **11 15 12.5 +0.9**
BVAR P'P' 11 35 40.8
BVAR *e* 11 44 20.4
BVAR Borovoye Array 63.12 327 P **P** **11 07 28.8 +0.5**
comp=N,1μm,1.1s,baz=120,slow=8.5,SNR=591
BVAR S **S** **11 15 12.5 +0.9**
comp=N,52nm,1.1s,baz=116,slow=15,SNR=6.3
BVAR PKPPKP P'P'df 11 35 40.8 -37
comp=N,5.3nm,0.5s,baz=318,slow=2.0,SNR=16
BVAR P4KPbc 11 44 20.4
comp=N,6.1nm,1.0s,baz=129,slow=5.7,SNR=10
BRVK Borovoye 63.19 327 *d iP* **P** **11 07 29.2 +0.5**
BRVK pmax pmax
comp=Z,4μm,1.3s
BRVK Borovoye 63.19 327 P **P** **11 07 29.6 +0.9**
SNR=1147
BRVK Borovoye 63.19 327 P **P** **11 07 29.3 +0.5**
comp=Z,13μm,1.5s
BRVK Borovoye 63.19 327 *eP* **P** **11 07 28.8 0.0**
comp=Z,5μm,1.4s
BRVK *epP* **pP** **11 09 31.9 +0.2**
BRVK *eS* **S** **11 15 13.1 +0.6**
AMKA Amchitka 63.90 35 *eP* **P** **11 07 34.0 +0.7**
comp=Z,225nm,0.9s
WBK Wadi Bani Khal 63.97 292 P **P** **11 07 35.0 +0.6**
SNR=81
IDAH Dahanechah 64.29 303 *eP* **P** **11 07 38.3 +1.9**
IMYA Miami 64.71 307 *eP* **P** **11 07 39.7 +0.8**
JMDO Jabal Madar 64.76 291 P **P** **11 07 39.7 +0.4**
SNR=112
SMDO Samad 64.85 292 P **P** **11 07 40.4 +0.4**
SNR=96
IKOO Kooshah 64.96 303 *eP* **P** **11 07 42.4 +1.7**
TIXI Tiksi 64.99 2 *d iP* **P** **11 07 39.2 -0.5**
TIXI pmax pmax
comp=Z,2μm,1.1s
ISRO Mashad 65.21 307 *eP* **P** **11 07 43.8 +1.8**
ITEG Tejag 65.24 303 *eP* **P** **11 07 44.6 +2.3**
IMOG Moghan 65.28 307 *eP* **P** **11 07 43.9 +1.3**
KNTN Kanton 65.34 96 *eP* **P** **11 07 44.0 +1.0**
comp=Z,4μm,1.5s
HOQ Hoqain 65.56 293 P **P** **11 07 44.6 +0.4**
SNR=158
BSY Bisya 65.61 292 P **P** **11 07 45.3 +0.7**
SNR=109
IAKL Akhelmad 65.83 307 *eP* **P** **11 07 47.2 +1.2**
RPZ Rata Peaks 66.01 144 *eP* **P** **11 07 47.7 +1.1**
comp=Z,6μm,1.4s
RPZ P'P' 11 35 29.0
RPZ Rata Peaks 66.01 144 P **P** **11 07 47.6 +1.1**
comp=Z,1μm,0.5s,baz=308,slow=1.8,SNR=984
RPZ PKPPKP P'P'df 11 35 29.0 -44
comp=Z,45nm,1.1s,baz=174,slow=2.9,SNR=5.8
IKRD Kardeh 66.05 307 *eP* P 11 07 43.8 -3.5
IEMG Emamgholi 66.05 308 *eP* **P** **11 07 49.1 +1.7**
ARQ Araqi 66.27 292 P **P** **11 07 49.2 +0.6**
SNR=57

ISFR	**Sfrayin**	**66.50**	**307**	*e*P		**P**		**11 07 51.8**	**+1.6**
ODZ	**Otahua Downs**	**66.57**	**146**	*e*P		**P**		**11 07 51.1**	**+1.1**
	comp=Z,2μm,1.7s									
ODZ					*e*pP		**pP**	**11 09 52.8**	**-2.2**
BANOM	**Banah**	**66.62**	**295**	P		**P**		**11 07 51.6**	**+0.8**
	SNR=68									
RAO	**Raoul Island**	**66.64**	**126**	*e*P		**P**		**11 07 51.5**	**+0.7**
	comp=Z,4μm,1.2s									
RAO					*e*PP		**PP**	**11 10 27.4**	**-2.1**
RAO	**Raoul Island**	**66.64**	**126**	P		**P**		**11 07 50.8**	**0.0**
	comp=Z,1μm,0.7s,baz=177,slow=4.2,SNR=22									
RAO					PP		**PP**	**11 10 27.4**	**-2.1**
	comp=Z,924nm,1.0s,baz=146,slow=14,SNR=6.1									
UOSS	**Wadi Hilu**	**66.65**	**294**	P		**P**		**11 07 50.0**	**-0.9**
	comp=Z,2μm,0.5s									
KHZ	**Kahutara**	**66.74**	**142**	*e*P		**P**		**11 07 51.6**	**+0.6**
	comp=Z,1μm,0.8s									
KHZ					*e*PcP		**PcP**	**11 08 15.2**	**+1.2**
ASHO	**Ashiyiah**	**66.76**	**294**	P		**P**		**11 07 52.3**	**+0.6**
	SNR=145									
SNZO	**South Karori**	**66.86**	**140**	*e*P		**P**		**11 07 51.7**	**-0.1**
	comp=Z,10μm,1.5s									
SNZO					*e*pP		**pP**	**11 09 59.1**	**+2.2**
SNZO					*e*PP		**PP**	**11 10 30.9**	**-0.2**
URZ	**Urewera**	**66.87**	**136**	*e*P		**P**		**11 07 52.4**	**+0.5**
	comp=Z,4μm,1.3s									
URZ	**Urewera**	**66.87**	**136**	P		**P**		**11 07 52.5**	**+0.5**
	comp=Z,698nm,0.6s,baz=316,slow=3.0,SNR=190									
AFI	**Afiamalu**	**67.40**	**108**	*e*P		**P**		**11 07 57.3**	**+1.6**
	comp=Z,2μm,1.2s									
AFI	**Afiamalu**	**67.40**	**108**	P		**P**		**11 07 57.3**	**+1.6**
	comp=Z,1μm,1.0s,baz=298,slow=3.1,SNR=88									
BFZ	**Birch Farm**	**67.52**	**139**	*e*P		**P**		**11 07 56.4**	**+0.5**
	comp=Z,5μm,1.2s									
IBAF	**Bafgh**	**67.75**	**301**	*e*P		**P**		**11 07 58.7**	**+0.9**
MCQ	**Macquarie Isla**	**67.78**	**159**	*e*P		**P**		**11 07 57.9**	**+0.8**
MCQ				*e*				11 10 40.4		
MCQ	**Macquarie Isla**	**67.78**	**159**	*e*P		**P**		**11 07 57.9**	**+0.8**
MCQ				*e*PP		**PP**		**11 10 40.4**	**+1.8**
MCQ	**Macquarie Isla**	**67.78**	**159**	‖P		**P**		**11 07 58.6**	**+1.6**
	baz=68,SNR=48									
AB31	**Akbulak array**	**67.85**	**321**	*i* P		**P**		**11 07 58.2**	**+0.4**
AB31				pmax		pmax				
	comp=Z,1μm,0.9s									
ABKAR	**Akbulak array**	**67.85**	**321**	*e*P		**P**		**11 07 58.1**	**+0.4**
RBK	**Rabkut**	**68.31**	**286**	P		**P**		**11 08 01.7**	**+0.5**
	SNR=154									
IMEH	**Mehriz**	**68.55**	**301**	*e*P		**P**		**11 08 02.7**	**+0.1**
ICHK	**Chekchek**	**68.80**	**302**	*e*P		**P**		**11 08 04.5**	**+0.4**
MSEY	**Mahe Island**	**68.83**	**262**	P		**P**		**11 08 05.4**	**+1.0**
	SNR=20									
MSEY	**Mahe Island**	**68.83**	**262**	P		**P**		**11 08 05.1**	**+0.7**
	comp=Z,2μm,0.8s,SNR=17									
MSEY	**Mahe Island**	**68.83**	**262**	*e*P		**P**		**11 08 05.0**	**+0.7**
	comp=Z,718nm,1.4s									
ABTO	**Aybut**	**69.18**	**286**	P		**P**		**11 08 07.8**	**+1.3**
	SNR=171									
ISAD	**Sadrabad**	**69.38**	**301**	*e*P		**P**		**11 08 07.6**	**-0.1**
IANJ	**Anjilo**	**69.55**	**305**	*e*P		**P**		**11 08 08.9**	**+0.4**
SVE	**Sverdlovsk**	**69.79**	**329***c*	*i*P		**P**		**11 08 09.6**	**+0.4**
SVE				*e*				11 10 54.3		
SVE				*e*PPP		PPP		11 12 42.0		
SVE				*i* S		**S**		**11 16 27.7**	**-1.7**
SVE				*e*				11 17 00.0		
SVE				*e*SSS		SSS		11 24 32.5		
SVE				pmax		pmax				
	comp=Z,3μm,1.4s									
SVE				pmax		pmax				
	comp=Z,4μm,9.1s									
SVE				smax		smax				
	comp=N,6μm,10.0s									
SVE				smax		smax				
	comp=E,3μm,10.8s									
ISHM	**Shahmirzad**	**70.09**	**306**	*e*P		**P**		**11 08 12.8**	**+1.0**
MRIV	**Mauritius Mete**	**70.17**	**246**	*e*P		**P**		**11 08 12.7**	**+0.6**
ILAS	**Lasjerd**	**70.31**	**305**	*e*P		**P**		**11 08 13.9**	**+0.8**
IZEF	**Zefreh**	**70.61**	**302**	*e*P		**P**		**11 08 14.8**	**-0.1**
ARU	**Arti**	**70.75**	**328***d*	*i*P		**P**		**11 08 14.5**	**-0.3**
ARU								11 11 01.7		
ARU				S		**S**		**11 16 39.9**	**-0.3**
ARU				SSS		SSS		11 24 46.7		
ARU				pmax		pmax				
	comp=Z,3μm,1.7s									
ARU	**Arti**	**70.75**	**328**	P		**P**		**11 08 14.7**	**-0.1**
	comp=Z,6μm,0.7s									
IGAR	**Gharneh**	**70.81**	**302**	*e*P		**P**		**11 08 16.8**	**+0.8**
IKLH	**Kolahrood**	**71.27**	**303**	*e*P		**P**		**11 08 19.9**	**+1.2**
SPIA	**Saint Paul Isl**	**71.66**	**32**	*e*P		**P**		**11 08 21.8**	**+1.7**
	comp=Z,896nm,1.2s									
IPIR	**Pirpir**	**71.80**	**302**	*e*P		**P**		**11 08 22.5**	**+0.7**
RER	**Riviere de l'E**	**71.97**	**245**	*e*P		**P**		**11 08 23.9**	**+1.2**
	comp=Z,332nm,1.0s									
PAF	**Port-aux-Franc**	**72.49**	**213**	*e*P		**P**		**11 08 27.3**	**+2.4**
PAF				pmax		pmax				
	comp=Z,978nm,1.5s									
PAF	**Port-aux-Franc**	**72.49**	**213**	*e*P		**P**		**11 08 27.3**	**+2.4**
	comp=Z,978nm,1.5s									
SOKR	**Solikamsk**	**72.59**	**331***d*	*i*P		**P**		**11 08 25.3**	**-0.1**
SOKR								11 11 14.3		
SOKR				S		**S**		**11 16 57.8**	**-2.7**
SOKR				SS		**SS**		**11 22 02.3**	**+4.2**
SOKR				SSS		SSS		11 25 28.7		
SOKR				pmax		pmax				
	comp=Z,2μm,1.7s									
SOKR				MLR		MLR				
	comp=Z,6μm,19.0s									
UNV	**Unalaska Valle**	**72.88**	**36**	*e*P		**P**		**11 08 27.6**	**+0.4**
	comp=Z,304nm,1.0s									
AKUT	**Akutan**	**73.36**	**35**	*e*P		**P**		**11 08 30.1**	**+0.2**
	comp=Z,616nm,1.0s									
MUKL	**Al Mukalla**	**73.36**	**283**	‖P		**P**		**11 08 32.4**	**+1.8**
QRN	**Al-Qurain**	**74.20**	**298**	*e*P		**P**		**11 08 35.2**	**0.0**
UMR	**Umm Al-Rimmam**	**74.39**	**299**	*e*P		**P**		**11 08 36.6**	**+0.4**
UMR				AMb		AMB		11 08 39.2		
	comp=Z,4μm,1.2s									
KBD	**Kabd**	**74.40**	**298**	*e*P		**P**		**11 08 36.4**	**+0.1**
KBD				AMb		AMB		11 08 40.1		
	comp=Z,2μm,1.5s									
NAY	**Al-Naaiem**	**74.80**	**298**	*e*P		**P**		**11 08 38.3**	**-0.2**
NAY				AMb		AMB		11 08 41.8		
	comp=Z,2μm,1.4s									
FALS	**False Pass**	**74.85**	**35**	*e*P		**P**		**11 08 38.6**	**+0.4**
	comp=Z,572nm,0.9s									
FALS				*e*pP		**pP**		**11 10 49.0**	**+1.5**
RST	**Umm Al-Ruwaisa**	**75.01**	**299**	*e*P		**P**		**11 08 39.4**	**-0.4**
RST				AMb		AMB		11 08 41.3		
	comp=Z,19μm,1.3s									
TNA	**Tin City**	**75.17**	**24**	*e*P		**P**		**11 08 40.8**	**+1.0**
	comp=Z,112nm,1.2s									
MAK	**Makhachkala**	**75.24**	**313***d*	*i*P		**P**		**11 08 41.5**	**+0.9**
MAK				*i*				11 08 47.9		
MAK				*e**PP		**pP**		**11 10 50.7**	**+0.6**
MAK				*e*				11 11 40.6		
MAK				*e*S		**S**		**11 17 30.7**	**+0.7**
MAK				*e*				11 17 52.7		
MAK				pmax		pmax				
	comp=Z,3μm,2.2s									
MAK				pmax		pmax				
	comp=N,1μm,2.2s									
MAK				pmax		pmax				
	comp=E,3μm,2.0s									
MAK				smax		smax				
	comp=N,5μm,3.5s									
MAK				smax		smax				
	comp=E,9μm,3.5s									
MAK				MLR		MLR				
	comp=Z,4μm,15.0s									
MAK				MLR		MLR				
	comp=N,4μm,13.0s									
RAYN	**Ar Rayn**	**76.39**	**293**	P		**P**		**11 08 47.5**	**+0.1**
	comp=N,6μm,0.7s									
SDPT	**Sand Point**	**76.59**	**35**	*e*P		**P**		**11 08 48.1**	**+0.3**
	comp=N,901nm,1.3s									
SDPT				*e*pP		**pP**		**11 10 58.4**	**+0.5**
SDPT				*e*S		**S**		**11 17 42.0**	**-1.9**
DGRG	**David-gareji**	**76.72**	**311**	P		**P**		**11 08 50.7**	**+1.8**
BDHA	**Al Bayda'**	**76.75**	**283**	‖*e*P		**P**		**11 08 51.6**	**+1.8**
BDHA				AMb		AMB		11 08 52.0		
	comp=Z,513nm,0.2s									
KIP	**Kipapa**	**76.89**	**70**	‖*i*P		**P**		**11 08 51.6**	**+1.5**
KIP				pmax		pmax				
	comp=Z,2μm,2.0s									
KIP	**Kipapa**	**76.89**	**70**	*e*P		**P**		**11 08 52.4**	**+2.3**
	comp=Z,570nm,0.9s									
HON	**Honolulu**	**76.91**	**70**	*e*P		**P**		**11 08 52.6**	**+2.4**
HON	**Honolulu**	**76.91**	**70**	*e*P		**P**		**11 08 52.6**	**+2.4**
LBOS		**77.06**	**283**	‖*e*P		**P**		**11 08 53.3**	**+1.8**
GNI	**Garni**	**77.14**	**310**	P		**P**		**11 08 53.0**	**+1.7**
	SNR=435									
GNI	**Garni**	**77.14**	**310**	*e*P		**P**		**11 08 52.6**	**+1.2**
GNI	**Garni**	**77.14**	**310**	*e*P		**P**		**11 08 52.8**	**+1.4**
	comp=Z,3μm,1.7s									
GNI				*e*pP		**pP**		**11 11 06.4**	**+4.6**
GNI	**Garni**	**77.14**	**310**	P		**P**		**11 08 53.0**	**+1.7**
	comp=Z,900nm,1.3s,baz=148,slow=1.2,SNR=142									
GNI				pP		**pP**		**11 11 01.0**	**-0.8**
	comp=Z,27nm,0.7s,baz=229,slow=11,SNR=0.9									
TBLG	**Delisi**	**77.21**	**311**	P		**P**		**11 08 52.8**	**+1.3**
KZR	**Kazreti**	**77.44**	**311**	P		**P**		**11 08 54.5**	**+1.7**
CLDR	**Caldiran**	**77.75**	**308**	*e*P		**P**		**11 08 56.4**	**+1.6**
DAMY	**Dhamar**	**77.85**	**283**	*e*P		**P**		**11 08 57.7**	**+1.9**
CHGN	**Chignik**	**77.86**	**34**	*e*P		**P**		**11 08 54.5**	**-0.1**
CHGN				*e*pP		**pP**		**11 11 06.4**	**+1.1**
CHGN				*e*S		**S**		**11 17 56.1**	**-1.0**
ZEI	**Tsey**	**77.87**	**312**	*e*P		**P**		**11 08 55.9**	**+0.6**
ZEI				pmax		pmax				
	comp=Z,1μm,1.4s									
HAKT	**HAKKARI**	**77.88**	**307**	*i* P		**P**		**11 08 57.0**	**+1.5**
DYDN	**Diyadin**	**77.94**	**309**	*i* P		**P**		**11 08 58.0**	**+2.3**
NCK	**Nalchik**	**78.12**	**313**	*i* P		**P**		**11 08 57.2**	**+0.8**
AKH	**Akhalkalaki**	**78.13**	**311**	P		**P**		**11 08 58.4**	**+1.8**
ONI	**Oni**	**78.20**	**312**	P		**P**		**11 08 58.4**	**+1.6**
DIGO	**Kars**	**78.20**	**310**	*i* P		**P**		**11 08 59.2**	**+2.1**
TRBA	**At Turbah**	**78.21**	**282**	‖*e*P		**P**		**11 08 59.4**	**+1.8**
UDYN	**Al 'Udayn**	**78.30**	**283**	*e*P		**P**		**11 08 59.7**	**+1.7**
GEVA	**Gevas**	**78.41**	**308**	*i* P		**P**		**11 08 59.5**	**+1.3**
KARS	**Kars**	**78.43**	**310**	*e*P		**P**		**11 09 00.9**	**+2.7**
AGRB	**Hanur-Agry**	**78.47**	**309**	*e*P		**P**		**11 09 00.3**	**+1.7**
HAJJ	**Hajjah**	**78.54**	**285**	‖*e*P		**P**		**11 09 01.1**	**+1.8**
HKL	**Haleakala**	**78.56**	**70**	*e*P		**P**		**11 09 01.4**	**+1.8**
HKL	**Haleakala**	**78.56**	**70**	*e*P		**P**		**11 09 01.4**	**+1.8**
GOF	**Gofitskoye**	**78.57**	**315**	‖*i*P		**P**		**11 08 59.4**	**+0.7**
GOF				*e*S		**S**		**11 18 01.3**	**-3.7**
GOF				pmax		pmax				
	comp=Z,950nm,1.3s									
GOF				smax		smax				
	comp=N,290nm,1.3s									
GOF				smax		smax				
	comp=E,190nm,1.3s									
TUTA	**Tutak**	**78.61**	**309**	*i* P		**P**		**11 09 00.9**	**+1.6**
KBZ	**Khabaz**	**78.64**	**313**	P		**P**		**11 08 59.5**	**+0.5**
KBZ				*PP		**pP**		**11 11 08.4**	**-1.7**
KBZ				*SP		**sP**		**11 12 12.9**	**-1.5**
KBZ				S		**S**		**11 18 06.1**	**+0.4**
KBZ				pmax		pmax				
	comp=Z,533nm,1.2s									
KBZ				pmax		pmax				
	comp=Z,38nm,1.0s									
KBZ				smax		smax				
	comp=N,16nm,1.1s									
KBZ	**Khabaz**	**78.64**	**313**	P		**P**		**11 08 59.5**	**+0.5**
KBZ				pP		**pP**		**11 11 08.4**	**-1.7**
KBZ				sP		**sP**		**11 12 12.9**	**-1.5**
KBZ				S		**S**		**11 18 06.1**	**+0.4**
KBZ				PKKPbc		**PKKPbc**		**11 27 48.8**	**-0.9**
KBZ	**Khabaz**	**78.64**	**313**	P		**P**		**11 08 59.5**	**+0.5**
	comp=N,533nm,1.2s,baz=66,slow=5.1,SNR=314									
KBZ				pP		**pP**		**11 11 08.4**	**-1.7**
	comp=N,39nm,1.0s,baz=190,slow=6.1,SNR=1.5									
KBZ				sP		**sP**		**11 12 12.9**	**-1.5**
	comp=N,38nm,1.0s,baz=200,slow=12,SNR=1.8									
KBZ				S		**S**		**11 18 06.1**	**+0.4**
	comp=N,16nm,1.1s,baz=46,slow=22,SNR=10									
KBZ				PKKPbc		**PKKPbc**		**11 27 48.8**	**-0.9**
	comp=N,10nm,1.0s,baz=225,slow=1.4,SNR=7.0									
KIV	**Kislovodsk**	**78.80**	**313**	‖*i*P		**P**		**11 09 00.1**	**+0.1**
KIV				*i*				11 12 09.6		
KIV				*i* S		**S**		**11 18 07.5**	**-0.1**
KIV				pmax		pmax				
	comp=Z,1μm,1.4s									
KIV				MLR		MLR				
	comp=Z,5μm,20.0s									
KIV	**Kislovodsk**	**78.80**	**313**	P		**P**		**11 09 00.9**	**+0.9**
	comp=Z,4μm,1.4s									
SIRT	**Sirnak**	**78.89**	**307**	*e*P		**P**		**11 09 01.8**	**+1.1**
XMAS	**Kiritimati**	**78.89**	**89**	*e*P		**P**		**11 09 03.6**	**+2.6**
	comp=Z,2μm,1.2s									
SIRN	**S¯¯rnak**	**78.91**	**307**	*i* P		**P**		**11 09 02.3**	**+1.5**
TATV	**Tatvan**	**79.03**	**308**	*i* P		**P**		**11 09 03.9**	**+2.4**
EKAR	**Karacoban**	**79.19**	**309**	*i* P		**P**		**11 09 05.2**	**+2.8**
CHVG	**Ch'k'valeri**	**79.21**	**312**	P		**P**		**11 09 03.9**	**+1.8**
OPO	**Ambohidratompo**	**79.26**	**250**	P		**P**		**11 09 03.4**	**+0.3**
OPO				pP		**pP**		**11 11 15.5**	**+1.1**
OPO				S		**S**		**11 18 11.1**	**-2.2**
OPO	**Ambohidratompo**	**79.26**	**250**	P		**P**		**11 09 03.4**	**+0.3**
	comp=Z,71nm,0.5s,baz=74,slow=5.3,SNR=175									
OPO				pP		**pP**		**11 11 15.5**	**+1.1**
	comp=Z,11nm,0.8s,baz=42,slow=5.7,SNR=1.2									
OPO				S		**S**		**11 18 11.1**	**-2.2**
	comp=Z,4,2nm,1.0s,baz=322,slow=22,SNR=9.9									
POHA	**Pohakuloa**	**79.29**	**71**	*e*P		**P**		**11 09 05.7**	**+2.4**
	comp=Z,2μm,1.2s									
ARTV	**Artvin**	**79.31**	**311**	*i* P		**P**		**11 09 04.4**	**+1.5**
ABPO	**Ambohimpanom**	**79.31**	**249**	*e*P		**P**		**11 09 03.2**	**-0.1**
ABPO				*e*S		**S**		**11 18 14.1**	**+0.2**
ABPO				pmax		pmax				
	comp=Z,206nm,1.1s									
ABPO	**Ambohimpanom**	**79.31**	**249**	P		**P**		**11 09 04.2**	**+0.9**
	comp=Z,149nm,0.6s,SNR=5.8									
ABPO	**Ambohimpanom**	**79.31**	**249**	*e*P		**P**		**11 09 03.1**	**-0.1**
	comp=Z,206nm,1.1s									
ABPO				*e*S		**S**		**11 18 14.1**	**+0.2**
DAGI	**Agillar**	**79.32**	**310**	*i* P		**P**		**11 09 03.9**	**+1.1**
HOMI	**Horasan**	**79.32**	**309**	*i* P		**P**		**11 09 05.2**	**+2.2**
DDEM	**Demirkent**	**79.44**	**310**	*i* P		**P**		**11 09 05.3**	**+1.9**
DBAD	**Bademkaya**	**79.48**	**310**	*i* P		**P**		**11 09 04.8**	**+1.1**
DBOC	**Borcka**	**79.50**	**311**	*i* P		**P**		**11 09 05.4**	**+1.7**
BCA	**Borcka**	**79.54**	**311**	*e*P		**P**		**11 09 04.3**	**+0.4**
ATD	**Arta Tunnel**	**79.58**	**280**	P		**P**		**11 09 06.5**	**+1.9**
ATD				pP		**pP**		**11 11 15.5**	**-0.6**
ATD				sP		**sP**		**11 12 18.5**	**-1.8**
ATD	**Arta Tunnel**	**79.58**	**280**	P		**P**		**11 09 06.5**	**+1.9**
	comp=Z,262nm,0.9s,baz=80,slow=2.6,SNR=216									
ATD				pP		**pP**		**11 11 15.5**	**-0.6**
	comp=Z,5.7nm,0.3s,baz=246,slow=20,SNR=1.1									
ATD				sP		**sP**		**11 12 18.5**	**-1.8**
	comp=Z,18nm,0.7s,baz=34,slow=8.0,SNR=1.8									
VRTB	**Varto-Mus**	**79.66**	**308**	*e*P		**P**		**11 09 07.2**	**+2.5**
EZM	**Erzurum**	**79.73**	**309**	*e*P		**P**		**11 09 07.6**	**+2.4**
VRHR	**Novokhopersk**	**79.74**	**321**	*e*P		**P**		**11 09 04.1**	**-0.6**
VRHR				*e*				11 09 04.3		
VRHR				*e**PP		**pP**		**11 11 13.1**	**-3.2**
VRHR				*e*				11 12 14.5		
VRHR				*e*S		**S**		**11 18 12.7**	**-4.0**
VRHR				pmax		pmax				
	comp=N,190nm,1.1s									
VRHR				pmax		pmax				
	comp=E,870nm,1.1s									
VRHR				pmax		pmax				
	comp=Z,2μm,1.1s									
VRHR				pmax		pmax				
	comp=N,500nm,1.4s									
VRHR				pmax		pmax				
	comp=E,600nm,1.4s									
VRHR				pmax		pmax				
	comp=Z,460nm,1.4s									
VRHR				smax		smax				
	comp=N,4μm,1.7s									
VRHR				smax		smax				
	comp=E,4μm,1.7s									
VRHR				smax		smax				
	comp=Z,150nm,0.9s									
SVW2	**Sparrevohn**	**79.80**	**29**	*e*P		**P**		**11 09 06.3**	**+1.6**
	comp=Z,456nm,1.1s									
BEST	**Besiri**	**79.82**	**307**	*i* P		**P**		**11 09 07.7**	**+2.2**
BNGL	**BINGOL**	**79.90**	**308**	*i* P		**P**		**11 09 08.6**	**+2.5**
RAR	**Rarotonga**	**80.13**	**113**	*e*P		**P**		**11 09 08.7**	**+1.4**
	comp=Z,2μm,1.5s									
RAR	**Rarotonga**	**80.13**	**113**	P		**P**		**11 09 08.6**	**+1.4**
	comp=Z,632nm,1.1s,baz=270,slow=7.2,SNR=22									
MARD	**Mardin**	**80.21**	**307**	*i* P		**P**		**11 09 09.0**	**+1.4**
BNGB	**Bing¶ll**	**80.27**	**308**	*e*P		**P**		**11 09 09.4**	**+1.6**
KOPT	**Kop Dagi**	**80.40**	**309**	*i* P		**P**		**11 09 10.7**	**+2.0**
MAZI	**Mazidag**	**80.48**	**307**	*e*P		**P**		**11 09 10.2**	**+1.2**
DIY	**Diyarbakir**	**80.64**	**307**	*e*P		**P**		**11 09 12.1**	**+2.4**
DIYA	**Diyarbakir**	**80.72**	**307**	*i* P		**P**		**11 09 12.1**	**+1.9**
SOC	**Sochi**	**80.94**	**313***d*	*i*P		**P**		**11 09 10.7**	**-0.3**
SOC				*e*				11 12 22.2		
SOC				*e*PPP		PPP		11 14 21.7		
SOC				*i* S		**S**		**11 18 26.3**	**-2.9**
SOC				*e*				11 18 33.7		
SOC				pmax		pmax				
	comp=Z,3μm,2.0s									
SOC				pmax		pmax				
	comp=Z,699nm,1.2s									
IM04	**Indian Mountai**	**80.97**	**24**	*e*P		**P**		**11 09 11.9**	**+1.1**
IM04				*e*pP		**pP**		**11 11 21.1**	**-1.8**
IM04				*e*S		**S**		**11 18 31.9**	**+3.2**
ERZN	**Erzincan**	**81.00**	**309**	*e*P		**P**		**11 09 13.1**	**+1.5**
IMA2	**Indian Mountai**	**81.02**	**24**	*e*P		**P**		**11 09 11.6**	**+0.5**
IMA2				*e*				11 09 38.3		
RSO	**Redoubt South**	**81.14**	**30**	*e*P		**P**		**11 09 13.0**	**+1.0**
KDAK	**Kodiak Island**	**81.14**	**33**	P		**P**		**11 09 13.3**	**+1.6**
	comp=Z,3μm,1.0s,SNR=51									
KDAK	**Kodiak Island**	**81.14**	**33**	*e*P		**P**		**11 09 12.8**	**+1.0**
	comp=Z,427nm,0.9s									
KDAK				pP		pP		11 11 31.1	+7.2	
KDAK				*e*pP		pP		11 11 32.5	+8.5	
KDAK				S		**S**		**11 18 26.9**	**-3.7**	
KDAK				*e*S		**SKSac**		**11 18 31.3**	**+0.2**	
KDAK	**Kodiak Island**	**81.14**	**33**	P		**P**		**11 09 12.8**	**+1.0**	
	comp=Z,309nm,0.7s,baz=263,slow=2.6,SNR=224									
KDAK				pP		pP		11 11 31.1	+7.2	
	comp=Z,42nm,0.9s,baz=250,slow=4.8,SNR=2.8									
KDAK				S		**S**		**11 18 26.9**	**-3.7**	
	comp=Z,202nm,1.1s,baz=280,slow=4.0,SNR=23									
GUMT	**Gumushane**	**81.17**	**310**	*e*P		**P**		**11 09 13.7**	**+1.2**	
VORD	**Divnogorie**	**81.21**	**320**	*e*P		**P**		**11 09 11.5**	**-0.7**	
VORD				*e**PP		**pP**		**11 11 21.2**	**-3.3**	
VORD				*e*				11 12 23.3		
VORD				*e*S		**S**		**11 18 27.1**	**-4.5**	
VORD				pmax		pmax				
	comp=E,2μm,1.3s									
VORD				pmax		pmax				
	comp=Z,3μm,1.3s									
VORD				pmax		pmax				
	comp=E,1μm,1.2s									
VORD				pmax		pmax				
	comp=Z,2μm,1.2s									
VORD				smax		smax				
	comp=E,5μm,4.4s									
VORD				smax		smax				
	comp=Z,1μm,4.4s									
PTK	**Pertek**	**81.27**	**308**	*e*P		**P**		**11 09 14.6**	**+1.5**	
VOR	**Voronezh**	**81.27**	**321**	‖*i*P		**P**		**11 09 15.0**	**+2.5**	
VOR				*e*				11 18 32.0		
VOR				pmax		pmax				
	comp=Z,6μm,1.6s									
KLMR	**Klimovskoe**	**81.28**	**330***d*	*i*P		**P**		**11 09 12.3**	**-0.1**	
KLMR								11 12 27.0		
KLMR				*e*S		**S**		**11 18 27.0**	**-4.8**	
KLMR				pmax		pmax				
	comp=Z,7μm,1.5s									
EZC	**Erzincan**	**81.28**	**309**	*e*P		**P**		**11 09 15.5**	**+2.4**	
VSR	**Storozhevoye**	**81.29**	**321**	*e*P		**P**		**11 09 12.4**	**-0.2**	
VSR				*e**PP		**pP**		**11 11 22.0**	**-3.0**	
VSR				*e*				11 12 25.4		
VSR				*e*S		**S**		**11 18 27.8**	**-4.6**	
VSR				pmax		pmax				
	comp=E,3μm,1.5s									
VSR				pmax		pmax				
	comp=Z,5μm,1.5s									
VSR				pmax		pmax				
	comp=N,60nm,0.8s									
VSR				pmax		pmax				
	comp=N,110nm,1.1s									
VSR				pmax		pmax				
	comp=E,1μm,1.1s									
VSR				pmax		pmax				
	comp=Z,2μm,1.1s									
VSR				smax		smax				
	comp=N,3μm,1.8s									
VSR				smax		smax				
	comp=E,2μm,1.8s									
VSR				smax		smax				
	comp=Z,470nm,1.8s									
KELT	**Kelkit**	**81.35**	**310**	*i* P		**P**		**11 09 14.9**	**+1.4**	
PPLA	**Purkeypile**	**81.50**	**27**	*e*P		**P**		**11 09 14.6**	**+0.9**	
	comp=Z,1μm,1.6s

PMR eS S 11 18 41.6 -6.5
PMR pmax pmax
comp=Z,199nm,1.0s
PMR Palmer 82.92 29 eP **P 11 09 20.4 -0.2**
comp=Z,199nm,1.0s
PMR epP **pP 11 11 35.9 +2.3**
PMR eS S 11 18 41.6 -6.5
MCK McKinley 82.98 27 eP **P 11 09 21.0 +0.1**
MCK e*PP **pP 11 11 33.4 -0.6**
MCK pmax pmax
comp=Z,728nm,1.1s
MCK McKinley 82.98 27 eP **P 11 09 21.0 +0.1**
comp=Z,728nm,1.1s
MCK epP **pP 11 11 33.4 -0.6**
SCER sogukcermik 82.99 309 *i* P **P 11 09 24.1 +2.4**
SVSK Karacayir 83.09 309 eP **P 11 09 23.5 +1.6**
KUZU Kuzuini 83.19 306 *i* P **P 11 09 24.2 +1.6**
ERBA Erbaa 83.23 310 *i* P **P 11 09 24.2 +1.5**
KMRS Kahramanmaras 83.29 307 eP **P 11 09 24.1 +1.0**
AYKD Aykdinkavak 83.37 307 *i* P **P 11 09 24.2 +0.7**
TOKT Tokat 83.41 310 eP **P 11 09 25.6 +2.0**
COLA College 83.43 25 eP **P 11 09 23.5 +0.4**
COLA *e* 11 12 49.8
COLA eS **S 11 18 52.9 0.0**
COLA College 83.43 25 eP **P 11 09 23.5 +0.4**
comp=Z,114nm,1.1s
COLA epP pP 11 11 42.9 +6.5
COLA ePP **PP 11 12 49.8 +2.5**
COLA eS **S 11 18 52.9 0.0**
LVZ Lovozero 83.43 338*d* iP **P 11 09 22.4 -0.7**
LVZ pmax pmax
comp=Z,748nm,1.8s
LVZ Lovozero 83.43 338 P **P 11 09 22.6 -0.5**
comp=Z,2µm,1.0s,SNR=40
ASF pP **pP 11 11 37.5 -0.7**
comp=Z,24nm,1.1s,baz=68,slow=5.4,SNR=2.4
ASF S S 11 18 47.5 -8.9
comp=Z,3.2nm,0.7s,baz=14,slow=23,SNR=6.8
ASF PKKPbc **PKKPbc 11 27 39.6 +1.4**
comp=Z,18nm,1.0s,baz=279,slow=0.8,SNR=11
ASF PKPPKP **P'P'df 11 35 38.8 -4.9**
comp=Z,3.2nm,0.8s,baz=99,slow=1.0,SNR=6.5
ANDN Andirin 83.73 307 *i* P **P 11 09 27.2 +1.9**
KVT Kavak 83.75 311 eP **P 11 09 26.4 +1.2**
AAE Adis Abeba 83.80 278 *i* P **P 11 09 28.3 +1.9**
AAE Adis Abeba 83.80 278 *i* P pP 11 11 39.8 0.0
ILAR Eielson Array 83.84 26 P **P 11 09 24.2 -0.9**
ILAR S **SKSac 11 18 45.1 -3.2**
ILAR SKKPbc **SKKPbc 11 30 13.6 -2.9**
ILAR P'P' P'P'df 11 35 21.9 -20
ILAR Eielson Array 83.84 26 P **P 11 09 24.2 -0.9**
comp=Z,15nm,0.6s,baz=234,slow=5.0,SNR=310
ILAR S S 11 18 45.1 -12
comp=Z,5.1nm,1.1s,baz=264,slow=9.0,SNR=2.8
ILAR SKKPbc **SKKPbc 11 30 13.6 -2.9**
comp=Z,5.1nm,1.0s,baz=38,slow=1.1,SNR=4.3
ILAR PKPPKP P'P'df 11 35 21.9 -20
comp=Z,2.4nm,1.1s,baz=253,slow=2.5,SNR=4.6
FKH Fakeheh 83.89 304 eP **P 11 09 26.9 +0.7**
FURI Furi 83.90 278 P **P 11 09 29.8 +2.9**
FURI S **S 11 18 57.7 -2.5**
APA Apatity 83.92 337⇓ *i*P **P 11 09 25.0 -0.4**
APA *i* PPP PPP 11 14 50.0
APA *i* 11 18 44.0
APA *i* S **S 11 18 55.0 -2.6**
APA pmax pmax
comp=Z,5µm,6.8s
APA MLR MLR
comp=Z,6µm,14.0s
HTY Hatay 83.99 306 eP **P 11 09 28.4 +1.9**
HAVZ Havza 84.00 311 *i* P **P 11 09 27.6 +1.2**
YAYL Yayladag 84.02 305 *i* P **P 11 09 27.7 +0.9**
BNN Bunyan 84.04 308 eP **P 11 09 27.7 +0.8**
HWQ Hawqa 84.27 304 eP **P 11 09 28.6 +0.5**
DIKM Dikmen 84.31 311 eP **P 11 09 28.3 +0.4**
YOZ Yozgat 84.40 309 eP **P 11 09 29.6 +1.0**
RCY Rachaya 84.42 303 eP **P 11 09 29.7 +0.8**
BHL Bhannes 84.54 303 eP **P 11 09 30.0 +0.6**
DIV Divide 84.56 29 eP **P 11 09 30.1 +1.3**
comp=Z,70nm,0.7s
DIV epP **pP 11 11 46.7 +4.1**
PAX Paxson 84.57 27 eP **P 11 09 29.3 +0.4**
PAX e*PP **pP 11 11 43.4 +0.8**
PAX Paxson 84.57 27 eP **P 11 09 29.3 +0.4**
comp=Z,49nm,0.9s
PAX epP **pP 11 11 43.4 +0.8**
BYBT Boyabat 84.69 311 eP **P 11 09 31.1 +1.4**
CTKT Corum 84.73 310 *i* P **P 11 09 30.7 +0.5**
KARA Karaisali 84.78 307 eP **P 11 09 31.0 +0.7**
AVNT Avonos 84.82 308 *i* P **P 11 09 30.9 +0.2**
MMAI Mount Meron Ar 84.82 303 P **P 11 09 32.0 +1.3**
MMAI PKKPbc **PKKPbc 11 27 35.5 +0.1**
MMAI SKKP 11 29 57.5
MMAI P'P' 11 35 31.6
MMAI Mount Meron Ar 84.82 303 P **P 11 09 32.0 +1.3**
comp=Z,459nm,1.1s,baz=79,slow=7.5,SNR=226
MMAI PKKPbc **PKKPbc 11 27 35.5 +0.1**
comp=Z,14nm,0.9s,baz=318,slow=1.9,SNR=4.3
MMAI SKKP 11 29 57.5
comp=Z,0.6nm,0.3s,baz=92,slow=5.0,SNR=3.9
MMAI PKPPKP P'P'df 11 35 31.6 -10
comp=Z,0.4nm,0.3s,baz=191,slow=1.5,SNR=3.8
CORM Corum 84.89 310 eP **P 11 09 31.7 +0.8**
SIM Simferopol' 84.91 315*d* iP **P 11 09 33.0 +2.3**
SIM *i* *PP **pP 11 11 45.0 +0.3**
SIM *i* 11 13 07.0
SIM *i* 11 18 56.0
SIM eS **S 11 19 08.5 +0.5**
SIM pmax pmax
comp=Z,335nm,1.3s
SIM pmax pmax
comp=Z,4µm,11.7s
GULE Gulek 85.00 307 *i* P **P 11 09 32.0 +0.5**
NIG Nigde 85.06 308 eP **P 11 09 33.5 +1.5**
JOF Joensuu 85.11 333 eP **P 11 09 30.6 -0.7**
JOF pmax pmax
comp=Z,213nm,0.6s
JOF Joensuu 85.11 333 ep **P 11 09 30.6 -0.7**
comp=Z,213nm,0.6s
JOF Joensuu 85.11 333 ep **SKSac 11 18 52.4 -3.8**
comp=Z,82nm,1.4s
JOF Joensuu 85.11 333 epkp **PKKPbc 11 27 33.1 -2.8**
CDAG Cicekdag 85.13 309 *i* P **P 11 09 32.6 +0.5**
BMRM Bremner River 85.14 29 eP **P 11 09 32.3 +0.8**
comp=Z,90nm,1.0s
BMRM epP **pP 11 11 49.8 +4.1**
BZK Bozkurt 85.22 312 eP **P 11 09 32.9 +0.7**
TOS Tosya 85.28 311 eP **P 11 09 33.1 +0.4**
MENT Mentasta 85.37 27 eP **P 11 09 33.1 +0.4**
MENT eS **S 11 19 14.5 +2.7**
MAW Mawson 85.41 200 P **P 11 09 33.1 +0.6**
MAW pP **pP 11 11 41.9 -4.9**
MAW S **SKSac 11 18 55.5 -2.2**
MAW PKKPbc **PKKPbc 11 27 32.1 -3.4**
MAW SKKPbc **SKKPbc 11 30 11.5 -3.7**
MAW P'P' P'P'df 11 35 28.2 -9.1
MAW Mawson 85.41 200 ⇑P **P 11 09 33.5 +1.0**
baz=86,SNR=183
MAW Mawson 85.41 200 P **P 11 09 33.1 +0.6**
comp=Z,194nm,0.8s,baz=57,slow=5.8,SNR=310
MAW pP **pP 11 11 41.9 -4.9**
comp=Z,44nm,1.1s,baz=68,slow=7.3,SNR=3.1
MAW S **SKSac 11 18 55.5 -2.2**
comp=Z,52nm,1.2s,baz=231,slow=20,SNR=7.5
MAW PKKPbc **PKKPbc 11 27 32.1 -3.4**
comp=Z,5.4nm,0.6s,baz=136,slow=2.2,SNR=17
MAW SKKPbc **SKKPbc 11 30 11.5 -3.7**
comp=Z,7.0nm,0.9s,baz=162,slow=3.2,SNR=5.1
MAW PKPPKP P'P'df 11 35 28.2 -9.1
comp=Z,3.7nm,1.0s,baz=17,slow=3.8,SNR=4.8
BSTP Nigde 85.47 308 *i* P **P 11 09 35.4 +1.6**
EIL Elat 85.49 299 P **P 11 09 34.6 +0.8**
EIL pP **pP 11 11 48.0 -0.1**
EIL PP **PP 11 13 04.2 -0.5**
EIL S **SKSac 11 18 59.2 -0.7**
EIL PKKPbc **PKKPbc 11 27 35.4 +1.7**
EIL Elat 85.49 299 P **P 11 09 34.6 +0.8**
comp=Z,455nm,1.1s,baz=86,slow=2.9,SNR=246
EIL pP **pP 11 11 48.0 -0.1**
comp=Z,87nm,1.2s,baz=90,slow=2.0,SNR=2.9
EIL PP **PP 11 13 04.2 -0.5**
comp=Z,32nm,0.7s,baz=84,slow=5.0,SNR=4.7
EIL S **SKSac 11 18 59.2 -0.7**
comp=Z,3.2nm,0.4s,baz=288,slow=23,SNR=6.2
EIL PKKPbc **PKKPbc 11 27 35.4 +1.7**
comp=Z,11nm,0.5s,baz=321,slow=1.7,SNR=7.7
ILGA Ilgaz 85.51 311 *i* P **P 11 09 34.9 +0.9**
KIZK Mersin 85.57 306 *i* P P 11 09 29.5 -4.5
CANT Cankiri 85.62 310 eP **P 11 09 35.5 +1.1**
EREN Erenkoy 85.63 305 eP **P 11 09 35.1 +0.7**
BR131 Keskin Array S 85.68 309 eP **P 11 09 34.6 -0.2**
comp=Z,61nm,0.5s
BR131 epP **pP 11 11 51.6 +2.5**
BRTR Keskin Array B 85.68 309 P **P 11 09 34.1 -0.6**
BRTR PP **PP 11 13 01.8 -4.3**
BRTR S **SKSac 11 19 00.3 -0.8**
BRTR PKKP **PKKPdf 11 27 25.7 +0.3**
BRTR SKKP SKKPdf 11 29 46.1 -14
BRTR SKKPbc **SKKPbc 11 30 10.8 -0.8**
BRTR P'P' P'P'df 11 35 25.8 -14
BRTR Keskin Array B 85.68 309 P **P 11 09 34.1 -0.6**
comp=Z,138nm,0.8s,baz=135,slow=4.1,SNR=484
BRTR PP **PP 11 13 01.8 -4.3**
comp=Z,13nm,0.7s,baz=112,slow=7.8,SNR=5.2
BRTR S **SKSac 11 19 00.3 -0.8**
comp=Z,11nm,1.2s,baz=113,slow=8.3,SNR=6.6
BRTR PKKP **PKKPdf 11 27 25.7 +0.3**
comp=Z,1.7nm,0.5s,baz=190,slow=2.4,SNR=4.4
BRTR SKKP SKKPdf 11 29 46.1 -14
comp=Z,4.2nm,1.0s,baz=191,slow=1.5,SNR=3.9
BRTR SKKPbc **SKKPbc 11 30 10.8 -0.8**
comp=Z,7.5nm,1.0s,baz=202,slow=1.6,SNR=5.7
BRTR PKPPKP P'P'df 11 35 25.8 -14
comp=Z,1.6nm,0.9s,baz=250,slow=2.9,SNR=3.7
ELDT Eldivan 85.78 310 *i* P **P 11 09 35.4 +0.2**
PUL Pulkovo 85.89 330*d* iP **P 11 09 35.2 +0.1**
PUL pmax pmax
comp=Z,2µm,1.5s
SULT Sultanhani-AKS 85.91 308 eP **P 11 09 36.3 +0.5**
IKL Isikli 85.96 306 eP **P 11 09 36.1 +0.2**
KEV Kevo 86.04 340 eP **P 11 09 34.8 -0.8**
KEV pmax pmax
comp=Z,691nm,1.4s
KEV Kevo 86.04 340 ep **P 11 09 34.6 -1.0**
comp=Z,51nm,0.8s
KEV Kevo 86.04 340 ep **SKSac 11 18 58.0 -3.6**
comp=Z,3.7nm,0.6s
KEV Kevo 86.04 340 epkp **PKKPbc 11 27 31.2 -2.7**
KEV Kevo 86.04 340 eP **P 11 09 34.8 -0.8**
comp=Z,691nm,1.4s
BBAL Bala 86.10 309 *i* P **P 11 09 37.4 +0.7**
LFK Lefkose 86.17 305 eP **P 11 09 37.6 +0.6**
SAFT Safranbolu 86.27 311 eP **P 11 09 38.1 +0.8**
EGAK Eagle 86.29 25 eP **P 11 09 37.2 +0.3**
comp=Z,114nm,1.0s
EGAK epP **pP 11 11 50.9 -0.6**
ANTO Ankara 86.32 310 eP **P 11 09 37.4 -0.3**
ANTO e*PP **pP 11 11 56.1 +3.9**
ANTO *e* 11 13 07.4
ANTO pmax pmax
comp=Z,371nm,1.2s
ANTO Ankara 86.32 310 P **P 11 09 37.7 0.0**
SNR=72
ANTO Ankara 86.32 310 eP **P 11 09 36.8 -0.9**
ANTO Ankara 86.32 310⇑ *i*P **P 11 09 38.5 +0.8**
ANTO Ankara 86.32 310 eP **P 11 09 37.4 -0.3**
comp=Z,371nm,1.2s
ANTO epP **pP 11 11 56.1 +3.9**
ANTO ePP **PP 11 13 07.4 -3.7**
ANTO ePKKPbc **PKKPbc 11 27 32.3 +0.1**
CSS Prodhromos 86.37 305 P **P 11 09 38.0 +0.1**
CSS Prodhromos 86.37 305 eP **P 11 09 37.4 -0.6**
CSS Prodhromos 86.37 305 eP **P 11 09 38.7 +0.8**
comp=Z,2µm,2.2s
CSS epP **pP 11 11 51.7 -0.8**
CSS ePP **PP 11 13 14.4 +2.9**
CSS ePKKPbc **PKKPbc 11 27 32.9 +1.1**
KMBO Kilima Mbogo 86.41 268 P **P 11 09 40.3 +1.5**
SNR=303
KMBO Kilima Mbogo 86.41 268 eP **P 11 09 39.4 +0.5**
comp=Z,491nm,1.3s
KMBO epP **pP 11 11 54.0 +0.6**
KMBO eS **S 11 19 22.2 -1.7**
KMBO PKKPbc **PKKPbc 11 27 34.3 +3.1**
KMBO SKKP 11 29 45.9
KMBO Kilima Mbogo 86.41 268 P **P 11 09 40.0 +1.2**
comp=Z,184nm,1.1s,baz=64,slow=6.1,SNR=306
KMBO pP **pP 11 11 51.5 -1.9**
comp=Z,38nm,1.1s,baz=58,slow=7.0,SNR=3.1
KMBO S **SKSac 11 19 06.9 +0.3**
comp=Z,3.2nm,1.0s,baz=279,slow=19,SNR=15
KMBO PKKPbc **PKKPbc 11 27 34.3 +3.1**
comp=Z,2.3nm,0.8s,baz=265,slow=3.1,SNR=4.0
KMBO SKKP 11 29 45.9
comp=Z,4.1nm,1.0s,baz=8.8,slow=7.7,SNR=4.4
ARCES ARCESS Array B 86.59 340 P **P 11 09 38.2 0.0**
ARCES PKiKP **PKiKP 11 14 38.1 -1.5**
ARCES S **SKSac 11 19 01.6 -3.4**
ARCES PKKP **PKKPdf 11 27 27.6 +3.4**
ARCES P'P' **P'P'df 11 35 34.3 -1.8**
ARCES ARCESS Array B 86.59 340 P **P 11 09 38.2 0.0**
comp=Z,812nm,1.2s,baz=82,slow=6.5,SNR=362
ARCES PKiKP **PKiKP 11 14 38.1 -1.5**
comp=Z,18nm,0.9s,baz=94,slow=3.8,SNR=5.2
ARCES S **SKSac 11 19 01.6 -3.4**
comp=Z,36nm,1.1s,baz=90,slow=3.6,SNR=7.1
ARCES PKKP **PKKPdf 11 27 27.6 +3.4**
comp=Z,11nm,1.0s,baz=238,slow=2.9,SNR=16
ARCES PKPPKP **P'P'df 11 35 34.3 -1.8**
comp=Z,8.7nm,1.1s,baz=225,slow=6.7,SNR=7.0
ARE0 ARCESS Array S 86.59 340 eSKS **SKSac 11 19 00.9 -4.1**
ARE0 ARCESS Array S 86.59 340 eP **P 11 09 38.2 0.0**
ARE0 epP **pP 11 11 53.1 +0.2**
LEF Lefka 86.71 305 eP **P 11 09 39.7 +0.2**
VNDA Vanda 86.75 172 eP **P 11 09 39.6 +0.9**
comp=Z,2µm,1.4s
VNDA PP **PP 11 13 11.2 -2.5**
VNDA S **SKSac 11 19 03.0 -2.5**
VNDA PKKP **PKKPbc 11 27 29.4 -3.2**
VNDA SKKPbc **SKKPbc 11 30 08.0 -4.7**
VNDA Vanda 86.75 172 P **P 11 09 39.5 +0.7**
comp=Z,495nm,0.8s,baz=317,slow=7.8,SNR=2407
VNDA PP **PP 11 13 11.2 -2.5**
comp=Z,73nm,0.9s,baz=313,slow=7.4,SNR=3.4
VNDA S **SKSac 11 19 03.0 -2.5**
comp=Z,14nm,1.0s,baz=74,slow=20,SNR=9.0
VNDA PKKP **PKKPbc 11 27 29.4 -3.2**
comp=Z,4.1nm,0.9s,baz=209,slow=3.2,SNR=9.1
VNDA SKKPbc **SKKPbc 11 30 08.0 -4.7**
comp=Z,2.7nm,0.9s,baz=177,slow=4.3,SNR=3.4
KONT Konya--Tatoy 86.85 308 eP **P 11 09 39.9 -0.2**
HDMB Hadim 86.85 307 eP **P 11 09 40.5 +0.1**
ALFC Alevga 86.94 305 P **SKKSac 11 19 18.0 -2.0**
comp=Z,28nm,1.7s
SPITS Spitsbergen Ar 86.98 349 P **P 11 09 39.6 -0.3**
SPITS PKKP **PKKPdf 11 27 27.5 +3.9**
SPITS Spitsbergen Ar 86.98 349 P **P 11 09 39.6 -0.3**
comp=Z,438nm,0.9s,baz=97,slow=10,SNR=349
SPITS PKKP **PKKPdf 11 27 27.5 +3.9**
comp=Z,19nm,0.9s,baz=146,slow=2.8,SNR=17
KIZT Kizilcal 87.12 309 eP **P 11 09 41.3 -0.2**
MAUS Longido 87.14 267 *i* P **P 11 09 43.3 +1.1**
MAUS Longido 87.14 267 *i* P pP 11 11 54.1 -3.0
DAWY Dawson 87.15 26 eP **P 11 09 41.5 +0.5**
DAWY epP **pP 11 11 54.8 -1.2**
AKMC Akamas 87.18 305 P **SKKSac 11 19 18.6 -3.1**
PPCY Paphos 87.18 305 P **SKKSac 11 19 20.1 -1.6**
KDZE Karadeniz Ereo 87.19 311 eP **P 11 09 40.8 -0.9**
SVRH Sivrihisar-ESK 87.34 309 eP **P 11 09 42.3 -0.2**
MDUB Mudurnu 87.47 310 eP **P 11 09 42.8 -0.3**
KTK1 Kautokeino 87.48 339 eP **P 11 09 40.8 -1.6**
KTK1 AMB AMB 11 09 45.6
comp=Z,8.2nm,1.9s
KTK1 ePP **PP 11 13 19.3 0.0**
KAF Kangasniemi 87.51 332 ep **P 11 09 42.0 -0.6**
comp=Z,133nm,0.6s
KAF Kangasniemi 87.51 332 ep **SKSac 11 19 07.3 -3.4**
comp=Z,11nm,0.8s
KBS Kingsbay 87.55 350 eP **P 11 09 41.8 -0.8**
KBS AMB AMB 11 09 44.7
comp=Z,334nm,1.2s
KBS epP **pP 11 11 54.5 -3.2**
KBS eSP **sP 11 12 56.7 -4.2**
KBS eSKS **SKSac 11 19 10.3 -0.1**
KBS AMS AMS 11 52 33.6
comp=Z,6µm,17.3s
KBS Kingsbay 87.55 350*d* iP **P 11 09 42.2 -0.3**
KBS pmax pmax
comp=Z,262nm,1.1s
KBS Kingsbay 87.55 350 eP **P 11 09 42.7 +0.1**
comp=Z,218nm,1.0s
AKASG Malin Array Be 87.59 321 P **P 11 09 42.4 -0.9**
AKASG *PP **pP 11 11 54.3 -4.1**
AKASG 11 13 21.9
AKASG S **SKSac 11 19 09.5 -2.2**
AKASG smax smax
comp=N,8.0nm,1.0s
AKASG Malin Array Be 87.59 321 P **P 11 09 42.4 -0.9**
AKASG pP **pP 11 11 54.3 -4.1**
AKASG PP **PP 11 13 21.9 +1.2**
AKASG S **SKSac 11 19 09.5 -2.2**
AKASG PKKP **PKKPdf 11 27 25.6 +3.5**
AKASG SKKPbc **SKKPbc 11 30 05.4 -2.2**
AKASG Malin Array Be 87.59 321 P **P 11 09 42.4 -0.9**
comp=N,215nm,1.0s,baz=69,slow=4.3,SNR=518
AKASG pP **pP 11 11 54.3 -4.1**
comp=N,10nm,0.9s,baz=72,slow=4.2,SNR=1.6
AKASG PP **PP 11 13 21.9 +1.2**
comp=N,37nm,0.9s,baz=72,slow=7.8,SNR=5.8
AKASG S **SKSac 11 19 09.5 -2.2**
comp=N,8.0nm,1.0s,baz=76,slow=6.2,SNR=5.9
AKASG PKKP **PKKPdf 11 27 25.6 +3.5**
comp=N,2.3nm,0.4s,baz=273,slow=2.9,SNR=12
AKASG SKKPbc **SKKPbc 11 30 05.4 -2.2**
comp=N,6.4nm,0.9s,baz=262,slow=3.3,SNR=7.7
KIEV Kiev 87.61 321 eP **P 11 09 42.5 -0.8**
KIEV e*PP **pP 11 11 57.3 -1.1**
KIEV *e* 11 13 22.3
KIEV pmax pmax
comp=Z,536nm,1.2s
KIEV Kiev 87.61 321 eP **P 11 09 42.5 -0.8**
comp=Z,536nm,1.2s
KIEV epP **pP 11 11 57.3 -1.1**
KIEV ePP **PP 11 13 22.3 +1.6**
SBA Scott Base 87.68 172 eP **P 11 09 43.2 +0.1**
SBA pmax pmax
comp=Z,2µm,1.4s
SBA Scott Base 87.68 172 eP **P 11 09 43.2 +0.1**
comp=Z,2µm,1.4s
FIA1 FINESS Array S 87.73 332 eP **P 11 09 43.4 -0.2**
FIA1 epP **pP 11 11 59.7 +0.9**
FINES FINESS Array B 87.73 332 P **P 11 09 43.0 -0.7**
FINES pP **pP 11 11 54.6 -4.3**
FINES S **SKSac 11 19 09.1 -3.0**
FINES PKKPbc **PKKPbc 11 27 26.7 -2.9**
FINES SKKPbc **SKKPbc 11 30 04.9 -2.7**
FINES P'P' **P'P'df 11 35 34.8 +0.5**
FINES FINESS Array B 87.73 332 P **P 11 09 43.0 -0.7**
comp=Z,145nm,0.8s,baz=69,slow=4.6,SNR=279
FINES pP **pP 11 11 54.6 -4.3**
comp=Z,10nm,0.7s,baz=90,slow=7.2,SNR=1.2
FINES S **SKSac 11 19 09.1 -3.0**
comp=Z,38nm,1.0s,baz=108,slow=8.9,SNR=6.7
FINES PKKPbc **PKKPbc 11 27 26.7 -2.9**
comp=Z,4.4nm,0.4s,baz=190,slow=2.8,SNR=17
FINES SKKPbc **SKKPbc 11 30 04.9 -2.7**
comp=Z,12nm,1.1s,baz=243,slow=6.1,SNR=3.8
FINES PKPPKP **P'P'df 11 35 34.8 +0.5**
comp=Z,11nm,1.0s,baz=165,slow=7.9,SNR=4.9
SEYT Eskypehyr 87.85 309 *i* P **P 11 09 45.1 +0.3**
BOLV Bolvadin 87.86 309 *i* P **P 11 09 45.7 +0.7**
MICGM Minsk 87.88 324⇓ *i*P P 11 09 41.0 -3.5
VSU Vasula 87.90 329*d* iP **P 11 09 44.1 -0.4**
VSU pmax pmax
comp=Z,3µm,1.7s
MNK Minsk 87.91 324*d* iP P 11 09 41.0 -3.6
MNK *e* 11 13 20.0
MNK *e* 11 19 10.0
MNK eS S 11 19 28.0 -7.7
MNK pmax pmax
comp=Z,10µm,10.0s
MNK pmax pmax
comp=Z,2µm,1.0s
MNK pmax pmax
comp=E,2µm,1.2s
MNK pmax pmax
comp=N,840nm,1.3s
MNK pmax pmax
comp=Z,7µm,10.0s
MNK smax smax
comp=E,50µm,10.0s
MNK smax smax
comp=E,44µm,8.0s
MNK MLR MLR
comp=Z,6µm,20.0s
MNK MLR MLR
comp=Z,14µm,20.0s
GULT Gulveren 87.99 310 eP **P 11 09 44.3 -1.2**
SPNC Sapanca-Adapaz 88.12 311 eP **P 11 09 45.5 -0.5**
ISP Isparta 88.31 308 P **P 11 09 45.6 -1.4**
ISP Isparta 88.31 308 eP **P 11 09 45.7 -1.3**
ISP e*PP **pP 11 12 06.4 +4.0**
ISP *e* 11 13 25.2
ISP pmax pmax
comp=Z,585nm,1.3s
ISP Isparta 88.31 308 eP **P 11 09 45.2 -1.9**
ISP Isparta 88.31 308⇓ *i*P **P 11 09 45.8 -1.3**
ISP Isparta 88.31 308 eP **P 11 09 45.7 -1.3**
comp=Z,585nm,1.3s
ISP epP **pP 11 12 06.3 +4.0**
ISP ePP **PP 11 13 25.2 -1.6**
KIS Kishinev 88.36 317⇓ *i*P **P 11 09 46.0 -0.9**
comp=Z,1µm,1.8s
KIS *i* pP **pP 11 11 58.0 -4.3**
KIS Kishinev 88.36 317 *i* PP PP 11 13 00.0 -27
comp=Z,4µm,6.0s
KIS Kishinev 88.36 317 *i* PPP PPP 11 15 30.0
KIS *i* SKS **SKSac 11 19 13.5 -2.8**
KIS *i* S **SKKSac 11 19 35.0 +5.0**
KIS *i* sS sS 11 23 23.0 -18
KIS *i* SS SS 11 24 36.0 -74
KIS *i* SSS SSS 11 29 12.0
KIS LRM MLR 11 53 50.0
comp=Z,2µm,20.0s
KIS Kishinev 88.36 317κ *i*P **P 11 09 46.0 -0.9**
KIS *i* *PP **pP 11 11 58.0 -4.3**
KIS *i* 11 13 00.0
KIS *i* PPP PPP 11 15 30.0
KIS *i* 11 19 13.5
KIS *i* S **SKKSac 11 19 35.0 +5.0**
KIS pmax pmax
comp=Z,1µm,1.8s
KIS pmax pmax
comp=E,600nm,2.0s
KIS pmax pmax
comp=Z,4µm,11.0s
KIS MLR MLR
comp=E,2µm,20.0s
KIS MLR MLR
comp=Z,5µm,20.0s
KIS MLR MLR
comp=N,4µm,18.0s
KIS MLR MLR
comp=Z,5µm,20.0s
KIS Kishinev 88.36 317⇑ *i*P **P 11 09 46.4 -0.5**
NACGM Naroch 88.45 325 eP P 11 09 43.0 -4.2
DODT Dodoma, Tanzan 88.49 264 *i* P **P 11 09 48.2 -0.2**
CAVI Cavuskoy 88.53 310 eP **P 11 09 47.7 -0.2**
KORT Korkueli 88.54 307 *i* P **P 11 09 48.3 +0.1**
SILT Sile 88.56 311 eP **P 11 09 48.1 +0.1**
ADVT Abdulvahap 88.58 310 eP **P 11 09 47.8 -0.4**
HRT Hereke 88.58 311 eP **P 11 09 48.0 -0.2**
HYT Haines Junctio 88.59 29 eP **P 11 09 48.7 +0.8**
INK Inuvik 88.61 21 eP **P 11 09 47.4 -0.3**
comp=Z,2µm,0.3s
INK pP **pP 11 11 58.3 -4.8**
INK epP **pP 11 12 01.7 -1.4**
INK PKKP **PKKPbc 11 27 26.1 -1.7**
INK SKKPbc SKKPbc 11 30 02.7 -3.2
INK P'P' 11 35 24.6
INK Inuvik 88.61 21 P **P 11 09 47.3 -0.3**
comp=Z,132nm,1.0s,baz=284,slow=4.7,SNR=80

INK pP **pP** **11 11 58.3 -4.8**
comp=Z,17nm,1.0s,baz=282,slow=8.4,SNR=1.2
INK PKKP **PKKPbc** **11 27 26.1 -1.7**
comp=Z,14nm,0.6s,baz=214,slow=4.4,SNR=3.8
INK SKKPbc SKKPbc 11 30 02.7 -3.2
comp=Z,22nm,1.0s,baz=134,slow=0.9,SNR=4.9
INK PKPPKP P'P'df 11 35 24.6 -7.7
comp=Z,12nm,1.1s,baz=89,slow=4.7,SNR=5.3
TLCR **88.61 315**⇑*iP* **P** **11 09 48.8 +0.7**
TRO **Tromso** **88.82 340** *eP* **P** **11 09 47.4 -1.1**
TRO AMB AMB 11 09 50.0
comp=Z,716nm,1.3s
TRO *ep*P pP 11 11 57.9 -6.1
TRO *e*SKS **SKSac** **11 19 15.1 -2.9**
LEOM **Leova** **88.82 316**⇑*iP* **P** **11 09 49.5 +0.4**
TVSB **Tavsanli** **88.92 309** *eP* **P** **11 09 49.6 -0.3**
ELL **Elmali** **88.93 307** *eP* **P** **11 09 49.7 -0.3**
GDZ **Gediz** **88.95 309** *iP* **P** **11 09 50.0 0.0**
KLYT **Kilyos** **88.99 311** *eP* **P** **11 09 49.8 -0.2**
GEMT **Gemlik** **89.00 310** *eP* **P** **11 09 49.7 -0.3**
TIRR **Tirgusor** **89.00 314** *eP* **P** **11 09 50.1 +0.2**
TIRR *e**PP **pP** **11 12 08.3 +2.8**
TIRR pmax pmax
comp=Z,511nm,1.4s
TIRR **Tirgusor** **89.00 314**⇓*iP* **P** **11 09 49.4 -0.5**
TIRR **Tirgusor** **89.00 314** *eP* **P** **11 09 50.1 +0.2**
comp=Z,511nm,1.4s
TIRR *ep*P **pP** **11 12 08.3 +2.8**
ISK **Istanbul-Kandi** **89.01 311** *eP* **P** **11 09 49.7 -0.4**
KHL **Karahalli** **89.02 308** *eP* **P** **11 09 49.6 -0.7**
PPT **Papeete** **89.07 108** P P 11 09 54.2 +3.4
PPT **Papeete** **89.07 108** P P 11 09 54.2 +3.4
comp=Z,597nm,1.0s,baz=340,slow=3.0,SNR=20
PPT2 **Papeete2** **89.07 108**⇑*iP* P 11 09 54.7 +3.8
comp=Z,1μm,1.3s
PPT2 *eS* **S** **11 19 46.9 -0.9**
comp=Z,9μm,28.5s
PAE **Paea** **89.07 108**⇑*iP* P 11 09 54.5 +3.7
comp=Z,226nm,1.3s
ULDT **Uludag** **89.08 310** *iP* **P** **11 09 48.6 -2.1**
CFR **Carcaliu** **89.09 315**⇑*iP* **P** **11 09 50.0 -0.3**
GOLH **Golhisar** **89.14 307** *iP* **P** **11 09 50.5 -0.4**
IAS **Iasi** **89.18 317**⇑*iP* **P** **11 09 51.2 +0.5**
BGKT **Bogazkoy** **89.20 311** *eP* **P** **11 09 50.8 -0.2**
ARMT **Armutlu** **89.22 311** *eP* **P** **11 09 50.4 -0.7**
MDNY **Mudanya-Bursa** **89.23 310** *eP* **P** **11 09 50.2 -0.9**
AKAS **Kas** **89.24 306** *iP* **P** **11 09 50.6 -0.8**
TLB **Topalu** **89.24 315**⇑*iP* **P** **11 09 50.6 -0.5**
PSN **Preselentsi** **89.28 314** *iP* P 11 09 58.1 +6.8
TIAR **Tiarei** **89.28 108**⇑*iP* P 11 09 55.4 +3.6
comp=Z,846nm,1.2s
CTKS **Kestanelik-??a** **89.40 311** *eP* **P** **11 09 52.0 +0.1**
TVO **Taravao** **89.40 108**⇑*iP* P 11 09 56.1 +3.7
comp=Z,1μm,1.2s
GHRR **89.46 316**⇑*iP* **P** **11 09 52.9 +0.8**
ELBA **Catalca** **89.47 311** *iP* **P** **11 09 51.9 -0.3**
MSAB **Monastry St. A** **89.47 314**⇓*iP* **P** **11 09 51.9 -0.2**
DNZL **Cakiroluk** **89.48 308** *iP* **P** **11 09 52.7 0.0**
DENT **Denizli** **89.48 308** *eP* **P** **11 09 53.0 +0.6**
CTYL **Yal??k??y-??at** **89.52 312** *eP* **P** **11 09 52.2 -0.2**
DST **Dursunbey** **89.55 310** *eP* **P** **11 09 47.0 -5.6**
FETY **Fethiye** **89.60 307** *eP* **P** **11 09 52.8 -0.2**
SLVT **Silivri** **89.62 311** *eP* **P** **11 09 53.0 +0.1**
PETR **Petresti** **89.64 316**⇑*iP* **P** **11 09 53.8 +0.9**
KCTX **Karacabey (Bur** **89.65 310** *eP* **P** **11 09 52.7 -0.4**
DURS **Dursunbey** **89.66 310** *iP* **P** **11 09 53.1 -0.2**
KULA **Kula-Manisa** **89.67 309** *eP* **P** **11 09 53.1 -0.3**
AMRR **Amara** **89.74 315**⇓*iP* **P** **11 09 54.6 +1.2**
MANT **Manisa** **89.75 309** *iP* **P** **11 09 53.4 -0.5**
GRER **89.87 316**⇑*iP* **P** **11 09 56.5 +2.5**
TBI **Tubuai** **89.90 113**⇑*iP* **P** **11 09 57.7 +3.2**
comp=Z,2μm,1.2s
TBI *e*SKSac **SKSac** **11 19 24.8 -1.2**
comp=Z,3μm,23.6s
TESR **Tescani** **89.91 317**⇓*iP* **P** **11 09 53.9 -0.2**
DALY **Dalyan (Mu¨la** **89.92 307** *eP* **P** **11 09 54.1 -0.3**
PGOR **Pogoanele** **89.94 315**⇑*iP* **P** **11 09 56.0 +1.7**
SKAG **Skagway** **89.94 30** *eP* **P** **11 09 54.0 +0.1**
comp=Z,48nm,1.0s
SKAG *e*S **SKSac** **11 19 27.1 +2.2**
TURN **Turunc** **89.95 307** *iP* **P** **11 09 56.2 +1.7**
VRI **Vrincioaia** **89.96 316**⇓*iP* **P** **11 09 53.6 -0.8**
BNT **Bandirma** **89.97 310** *eP* **P** **11 09 55.1 +0.6**
PLOR **Plostina** **90.02 316**⇓*iP* **P** **11 09 54.5 -0.2**
PHSR **Pinarhisar** **90.07 312** *eP* **P** **11 09 53.7 -1.2**
BALB **Balikesir** **90.10 310** *eP* **P** **11 09 54.8 -0.4**
YER **Yerkesik** **90.16 307** *eP* **P** **11 09 54.9 -0.7**
GONE **Gonen-Balikesi** **90.19 310** *eP* **P** **11 09 55.0 -0.5**
ISR **Istrita** **90.21 315**⇑*iP* **P** **11 09 56.1 +0.5**
AKS **Akhisar** **90.27 309** *eP* **P** **11 09 56.1 +0.1**
BALY **Balya** **90.29 310** *iP* **P** **11 09 55.9 -0.2**
PMOR **Pomariorio Ree** **90.36 105**⇑*iP* P 11 10 00.5 +3.7
comp=Z,2μm,1.2s
AYDN **Tasoluk** **90.40 308** *iP* **P** **11 09 56.6 -0.1**
ARG **Arkhangelos** **90.42 306** P P **11 09 56.3 -0.4**
ARG **Arkhangelos** **90.42 306** P P **11 09 56.3 -0.4**
ARG **Arkhangelos** **90.42 306** P P **11 09 56.3 -0.4**
KRBG **Karabiga-Canak** **90.43 311** *eP* **P** **11 09 55.9 -0.7**
SART **Tekirdag** **90.47 311** *iP* **P** **11 09 57.1 +0.2**
RKY **Sarkoy-Tekirda** **90.47 311** *eP* **P** **11 09 56.5 -0.4**
SIT **Sitka** **90.48 32** *eP* **P** **11 09 58.0 +1.5**
SIT pmax pmax
comp=Z,112nm,1.4s
SIT **Sitka** **90.48 32** *eP* **P** **11 09 58.0 +1.5**
comp=Z,112nm,1.4s
SULR **90.49 315**⇑*iP* **P** **11 09 56.5 -0.3**
MEH **Mehetia** **90.53 108**⇑*iP* **P** **11 10 00.6 +3.0**
comp=Z,785nm,1.2s
MLR **Muntele Rosu** **90.56 316**⇓*iP* **P** **11 09 57.2 -0.2**
MLR **Muntele Rosu** **90.56 316** P P **11 09 57.0 -0.3**
MLR pP **pP** **11 12 09.5 -3.8**
MLR PP **PP** **11 13 43.7 -0.5**
MLR S **SKSac** **11 19 25.7 -3.7**
MLR PKKPbc **PKKPbc** **11 27 21.3 -1.0**
MLR SKKPbc **SKKPbc** **11 29 59.5 -1.3**
MLR **Muntele Rosu** **90.56 316** P **P** **11 09 57.0 -0.3**
comp=Z,123nm,1.3s,baz=30,slow=1.5,SNR=155
MLR pP **pP** **11 12 09.5 -3.8**
comp=Z,3.8nm,1.0s,baz=18,slow=1.5,SNR=1.3
MLR PP **PP** **11 13 43.7 -0.5**
comp=Z,12nm,0.7s,baz=252,slow=6.4,SNR=3.5
MLR S **SKSac** **11 19 25.7 -3.7**
comp=Z,30nm,1.2s,baz=240,slow=16,SNR=22
MLR PKKPbc **PKKPbc** **11 27 21.3 -1.0**
comp=Z,8.7nm,1.2s,baz=225,slow=1.4,SNR=6.2
MLR SKKPbc **SKKPbc** **11 29 59.5 -1.3**
comp=Z,5.2nm,1.2s,baz=0.0,slow=1.0,SNR=5.4
JMB **Yambol** **90.62 313** P **P** **11 09 59.0 +1.5**
JMB **Yambol** **90.62 313** P **P** **11 09 59.0 +1.5**
JMB **Yambol** **90.62 313** *eP* **P** **11 09 58.0 +0.5**
JMB **Yambol** **90.62 313** P **P** **11 09 59.0 +1.5**
VAH **Vaihoa** **90.64 105**⇑*iP* P 11 10 01.5 +3.4
comp=Z,1μm,1.2s
BURAR **Bucovina Array** **90.68 318**⇓*iP* **P** **11 09 57.9 +0.1**
SUW **Suwalki** **90.68 325** *eP* **P** **11 09 57.2 -0.3**
SUW *e**PP **pP** **11 12 18.4 +4.9**
SUW pmax pmax
comp=Z,3μm,1.3s
SUW **Suwalki** **90.68 325** *eP* **P** **11 09 57.2 -0.3**
comp=Z,3μm,1.3s
SUW *ep*P **pP** **11 12 18.4 +4.9**
SUW **Suwalki** **90.68 325** *iP* **P** **11 09 57.0 -0.5**
SUW *ep*P **pP** **11 12 11.2 -2.3**
SUW *e*SKSac **SKSac** **11 19 28.6 -0.7**
SUW *e*S **S** **11 19 59.3 -1.4**
SUW *e* 11 34 00.5
BUR08 **Bucovina Ar. S** **90.69 318** *eP* **P** **11 09 58.4 +0.5**
BUR08 *ep*P **pP** **11 12 14.7 +0.9**
IZM **Izmir** **90.77 309** *eP* **P** **11 09 59.0 +0.6**
DAT **Datca** **90.78 307** *eP* **P** **11 09 57.6 -0.9**
MZM **Mzuzu** **90.81 259** *iP* **P** **11 09 59.3 +0.4**
BDRM **Kayabasi** **90.84 307** *iP* **P** **11 09 58.6 -0.1**
LPK **Lapseki** **90.84 311** *eP* **P** **11 09 58.5 0.0**
DOPR **Dopca** **90.86 316**⇑*iP* **P** **11 09 59.0 +0.4**
ALE **Alert** **90.88 1** P **P** **11 09 58.5 +0.6**
comp=Z,351nm,1.7s,SNR=12
GCAM **G?zelcaml?** **90.90 308** *iP* **P** **11 09 59.7 +0.8**
BODT **Bodrum** **90.94 307** *eP* **P** **11 09 58.7 -0.4**
SZH **Strazhica** **90.96 314** *iP* **P** **11 09 58.3 -0.8**
LVV **L'vov** **91.03 320** *iP* **P** **11 09 58.8 -0.4**
LVV *e* 11 19 26.4
LVV *e*S **S** **11 20 00.2 -3.8**
LVV MLR MLR
comp=N,1μm,16.0s
LVV MLR MLR
comp=Z,1μm,16.0s
LVV MLR MLR
comp=E,900nm,15.0s
NIS1 **Nisyros Isl.** **91.12 307** *eP* **P** **11 09 58.8 -1.2**
NIS2 **Nisyros Isl.** **91.12 307** P **P** **11 09 59.1 -0.9**
LOF **Lofoten** **91.15 339** *eP* **P** **11 09 59.0 -0.3**
LOF AMB AMB 11 10 02.5
comp=Z,480nm,1.8s
VOIR **91.19 316**⇓*iP* **P** **11 09 59.2 -1.0**
SMG **Samos** **91.21 308** P **P** **11 09 59.5 -0.9**
SMG **Samos** **91.21 308** *eP* **P** **11 09 59.3 -1.1**
SMG **Samos** **91.21 308** P **P** **11 09 59.5 -0.9**
MTUR **Matau** **91.22 316**⇑*iP* **P** **11 09 59.1 -1.3**
ALN **Alexandroupoli** **91.29 311** P **P** **11 09 59.1 -1.5**
ALN **Alexandroupoli** **91.29 311** P **P** **11 09 59.1 -1.5**
ALN **Alexandroupoli** **91.29 311** *eP* P 11 09 56.1 -4.4
ALN **Alexandroupoli** **91.29 311** P **P** **11 09 59.1 -1.5**
KARP **Karpathos** **91.30 306** P **P** **11 10 00.3 -0.6**
KARP **Karpathos** **91.30 306** *eP* **P** **11 10 00.3 -0.6**
KARP **Karpathos** **91.30 306** P **P** **11 10 00.3 -0.6**
ARCR **ARCALIA** **91.36 318**⇓*iP* **P** **11 10 01.4 +0.6**
GOLR **91.37 315**⇑*iP* **P** **11 10 01.6 +0.7**
PRK **Paraskevi** **91.40 310** P **P** **11 10 00.2 -0.9**
PRK **Paraskevi** **91.40 310** P **P** **11 10 00.2 -0.9**
PRK **Paraskevi** **91.40 310** *eP* **P** **11 10 00.2 -0.9**
PRK **Paraskevi** **91.40 310** P **P** **11 10 00.2 -0.9**
PVL **Pavlikeni** **91.40 314** *iP* **P** **11 10 01.3 +0.2**
HUMR **Humele** **91.41 315**⇓*iP* **P** **11 10 00.4 -0.7**
BOZC **Bozcaada** **91.46 310** *iP* **P** **11 10 02.5 +1.0**
ARR **Arges** **91.50 316**⇓*iP* **P** **11 10 01.0 -0.6**
MOR8 **Moi Rana** **91.51 337** *eP* **P** **11 09 59.3 -1.8**
MOR8 AMB AMB 11 10 01.5
comp=Z,394nm,1.4s
KDZ **Kurdzhali** **91.62 312** *iP* **P** **11 10 01.3 -0.9**
RDO **Rodhopi** **91.62 312** P **P** **11 10 00.5 -1.7**
RDO **Rodhopi** **91.62 312** *eP* **P** **11 10 00.4 -1.7**
RDO **Rodhopi** **91.62 312** P **P** **11 10 00.5 -1.7**
CHOS **Chios island** **91.71 309** P **P** **11 10 01.9 -0.8**
CHOS **Chios island** **91.71 309** *eP* **P** **11 10 02.4 -0.3**
CHOS **Chios island** **91.71 309** P **P** **11 10 01.9 -0.8**
SMTH **Samothraki Isl** **91.75 311** P **P** **11 10 00.3 -2.5**
SMTH **Samothraki Isl** **91.75 311** P **P** **11 10 00.3 -2.5**
BMR **Baia Mare** **91.81 318**⇑*iP* **P** **11 10 03.2 +0.3**
FLOS **Flostrand** **91.86 338** *eP* **P** **11 10 01.9 -0.8**
FLOS AMB AMB 11 10 03.9
comp=Z,593nm,1.4s
KONS **Konsvik** **91.89 338** *eP* **P** **11 10 02.5 -0.3**
KONS AMB AMB 11 10 04.2
comp=Z,522nm,1.4s
KWP **Kalwaria Pacla** **91.91 320** *eP* **P** **11 10 04.0 +0.7**
KWP *e**PP **pP** **11 12 21.1 +1.7**
KWP *e*S **SKSac** **11 19 35.2 -1.2**
KWP pmax pmax
comp=Z,850nm,1.3s
KWP **Kalwaria Pacla** **91.91 320**⇓*iP* **P** **11 10 03.3 0.0**
KWP **Kalwaria Pacla** **91.91 320** *eP* **P** **11 10 04.0 +0.7**
comp=Z,850nm,1.3s
KWP *ep*P **pP** **11 12 21.1 +1.7**
KWP *e*S **SKSac** **11 19 35.2 -1.2**
KWP *e*PKKPdf **PKKPdf** **11 27 16.0 +1.3**
KWP **Kalwaria Pacla** **91.91 320** *iP* **P** **11 10 03.4 +0.1**
KWP *ep*P **pP** **11 12 16.7 -2.7**
KWP *e*SKSac **SKSac** **11 19 35.8 -0.6**
KWP *e* 11 34 38.9
STOK **Stokkvaagen** **91.99 338** *eP* **P** **11 10 02.9 -0.4**
STOK AMB AMB 11 10 12.5
comp=N,137nm,1.4s
CRAG **Craig** **92.06 34** *eP* **P** **11 10 05.0 +1.2**
comp=N,113nm,1.4s
PLD **Plovdiv** **92.06 313** P **P** **11 10 02.7 -1.4**
PLD **Plovdiv** **92.06 313** P **P** **11 10 02.7 -1.4**
PLD **Plovdiv** **92.06 313** *eP* **P** **11 10 02.6 -1.6**
PLD **Plovdiv** **92.06 313** P **P** **11 10 02.7 -1.4**
LOT **Lotru** **92.08 316**⇓*iP* **P** **11 10 04.5 +0.2**
LIA **Limnos Island** **92.11 310** *eP* **P** **11 10 03.2 -1.2**
RZN **Rozhen** **92.13 312** *iP* **P** **11 10 03.4 -1.3**
ZKR **Zakros** **92.13 306** *eP* **P** **11 10 04.5 -0.2**
WRAK **Wrangell Islan** **92.23 33** *eP* **P** **11 10 05.6 +1.0**
comp=N,93nm,0.9s
KOLS **Kolonicke sedl** **92.34 320** *eP* **P** **11 10 06.4 +1.1**
KOLS *e* 11 12 20.0
KOLS *e*S **SKSac** **11 19 37.9 -0.9**
KOLS pmax pmax
comp=Z,309nm,1.4s
KOLS **Kolonicke sedl** **92.34 320** *eP* **P** **11 10 06.4 +1.1**
KOLS *ep*P **pP** **11 12 19.9 -1.5**
KOLS **Kolonicke sedl** **92.34 320**⇑*e*SKSp **SKSac** **11 19 37.9 -0.9**
KOLS *e* 11 35 20.8
KOLS pPDIF 11 52 03.3
TRPA **Tarpa** **92.34 319**⇓*iP* **P** **11 10 05.0 -0.3**
TRPA **Tarpa** **92.34 319**⇓*e* **P** **11 10 05.3 0.0**
APE **Apeiranthos** **92.35 308** P **P** **11 10 03.4 -2.2**
APE **Apeiranthos** **92.35 308** P **P** **11 10 03.4 -2.2**
APE **Apeiranthos** **92.35 308** *eP* **P** **11 10 03.5 -2.2**
APE **Apeiranthos** **92.35 308** *eP* **P** **11 10 03.7 -1.9**
APE **Apeiranthos** **92.35 308**⇑*iP* **P** **11 10 02.7 -2.9**
APE **Apeiranthos** **92.35 308** P **P** **11 10 03.4 -2.2**
PGB **Panagyurishte** **92.37 313** *iP* **P** **11 10 04.3 -1.3**
UZH **Uzhgorod** **92.39 319**⇓*iP* **P** **11 10 04.5 -1.0**
UZH *e* 11 12 23.3
UZH *i* 11 19 33.5
UZH *e*S **S** **11 20 11.7 -4.2**
UZH *e*PS 11 22 17.5
KAVA **Kavala** **92.41 312** P **P** **11 10 04.7 -1.1**
KAVA **Kavala** **92.41 312** P **P** **11 10 04.7 -1.1**
MPEP **Malo Peshtene** **92.52 314** *iP* **P** **11 10 05.1 -1.1**
DRGR **92.52 318**⇓*iP* **P** **11 10 06.2 0.0**
SANT **Santorini** **92.52 307** P **P** **11 10 04.5 -1.9**
SANT **Santorini** **92.52 307** *eP* **P** **11 10 04.6 -1.9**
SANT **Santorini** **92.52 307** *eP* **P** **11 10 04.7 -1.8**
comp=Z,751nm,1.4s
SANT *ep*P **pP** **11 12 22.6 -0.1**
THR1 **Thera Island** **92.52 307** P **P** **11 10 05.6 -0.9**
DEV **Deva** **92.58 317**⇑*iP* **P** **11 10 07.7 +1.3**
BEL **Belsk** **92.58 323** *iP* **P** **11 10 06.7 +0.4**
BEL *ep*P **pP** **11 12 20.8 -1.7**
BEL *e*SKSac **SKSac** **11 19 40.4 +0.5**
BEL *e*S **ScS** **11 20 19.1 +0.7**
BEL *e* 11 34 39.7
NPS **Neapolis** **92.59 306** P **P** **11 10 06.1 -0.7**
NPS **Neapolis** **92.59 306** P **P** **11 10 06.1 -0.7**
NPS **Neapolis** **92.59 306** *eP* **P** **11 10 06.0 -0.7**
NPS **Neapolis** **92.59 306** P **P** **11 10 06.1 -0.7**
GZR **Gura Zlata** **92.77 316**⇓*iP* **P** **11 10 07.2 -0.2**
MBAR **Mbarara** **92.82 270** P **P** **11 10 09.5 +1.1**
comp=Z,48nm,1.3s,SNR=5.5
NVR **Nevrokopi** **92.83 312** P **P** **11 10 06.3 -1.5**
NVR **Nevrokopi** **92.83 312** *eP* **P** **11 10 06.2 -1.5**
NVR **Nevrokopi** **92.83 312** P **P** **11 10 06.3 -1.5**
DLBC **Dease Lake** **92.86 30** *eP* **P** **11 10 08.6 +1.1**
DLBC PKKP **PKKPbc** **11 27 15.1 -1.9**
DLBC SKKPbc SKKPbc 11 29 54.4 -1.4
DLBC **Dease Lake** **92.86 30** PKKP **PKKPbc** **11 27 15.1 -1.9**
comp=Z,7.6nm,0.6s,baz=165,slow=1.6,SNR=4.1
DLBC SKKPbc SKKPbc 11 29 54.4 -1.4
comp=Z,19nm,1.1s,baz=122,slow=4.6,SNR=5.0
MMB **Musomiste** **92.88 312** *iP* **P** **11 10 06.4 -1.6**
STHS **Stebnicka Huta** **92.89 320** *eP* **P** **11 10 08.9 +1.1**
STHS *e* 11 12 27.7
STHS pmax pmax
comp=Z,156nm,1.2s
STHS **Stebnicka Huta** **92.89 320** *eP* **P** **11 10 08.9 +1.1**
STHS *ep*P **pP** **11 12 27.7 +3.7**
STHS *e* 11 35 21.4
STHS pPDIF 11 52 07.2
OUR **Ouranopolis** **92.93 311** P **P** **11 10 06.5 -1.7**
OUR **Ouranopolis** **92.93 311** P **P** **11 10 06.5 -1.7**
OUR **Ouranopolis** **92.93 311** *eP* **P** **11 10 06.3 -1.8**
OUR **Ouranopolis** **92.93 311** P **P** **11 10 06.5 -1.7**
RMGR **Halanga-Turnu** **92.99 315**⇑*iP* **P** **11 10 09.9 +1.6**
VTS **Vitosha** **93.05 313** P **P** **11 10 08.3 -0.6**
VTS **Vitosha** **93.05 313** P **P** **11 10 08.3 -0.6**
VTS **Vitosha** **93.05 313** *eP* **P** **11 10 07.9 -1.0**
VTS **Vitosha** **93.05 313**⇓*iP* **P** **11 10 08.0 -0.9**
VTS **Vitosha** **93.05 313** *iP* **P** **11 10 08.6 -0.3**
VTS **Vitosha** **93.05 313** P **P** **11 10 08.3 -0.6**
SRS **Serrai** **93.07 312** P **P** **11 10 06.9 -1.9**
SRS **Serrai** **93.07 312** P **P** **11 10 06.9 -1.9**
comp=N,1μm,16.0s
SRS **Serrai** **93.07 312** *eP* **P** **11 10 06.9 -1.3**
NSS **Namsos** **93.07 336** *eP* **P** **11 10 06.9 -1.3**
NSS AMB AMB 11 10 09.4
comp=Z,350nm,1.4s
NSS *ep*P **pP** **11 12 21.5 -2.9**
NSS *e*SKS **SKSac** **11 19 41.7 -0.3**
NSS AMS AMS 11 54 20.7
comp=Z,4μm,14.6s
IDI **Anoyia** **93.17 306** P **P** **11 10 09.0 -0.5**
IDI **Anoyia** **93.17 306** *eP* **P** **11 10 08.4 -1.1**
IDI **Anoyia** **93.17 306** P **P** **11 10 08.4 -1.1**
IDI *ep*P pP 11 12 19.7 -6.0
IDI PP PP 11 13 52.8 -12
IDI S SKSac 11 19 34.1 -10
IDI PKKPbc **PKKPbc** **11 27 16.4 +1.1**
IDI SKKPbc **SKKPbc** **11 29 55.2 +1.0**
IDI **Anoyia** **93.17 306** P **P** **11 10 08.4 -1.1**
comp=Z,33nm,0.4s,baz=98,slow=5.5,SNR=38
IDI pP pP 11 12 19.7 -6.0
comp=Z,4.3nm,0.4s,baz=101,slow=10,SNR=1.0
IDI PP PP 11 13 52.8 -12
comp=Z,40nm,1.1s,baz=70,slow=12,SNR=3.4
IDI S SKSac 11 19 34.1 -10
comp=Z,79nm,1.3s,baz=352,slow=5.0,SNR=6.6
IDI PKKPbc **PKKPbc** **11 27 16.4 +1.1**
comp=Z,72nm,1.0s,baz=180,slow=2.0,SNR=10
IDI SKKPbc **SKKPbc** **11 29 55.2 +1.0**
comp=Z,55nm,1.0s,baz=270,slow=3.5,SNR=11
AOS **Alonnisos** **93.24 310** P **P** **11 10 07.8 -1.8**
AOS **Alonnisos** **93.24 310** *eP* **P** **11 10 07.3 -2.3**
AOS **Alonnisos** **93.24 310** P **P** **11 10 07.8 -1.8**
PAIG **Paliouri** **93.24 311** P **P** **11 10 07.9 -1.7**
PAIG **Paliouri** **93.24 311** P **P** **11 10 07.9 -1.7**
PAIG **Paliouri** **93.24 311** P **P** **11 10 07.9 -1.7**
KKB **Krupnik** **93.29 313** *iP* **P** **11 10 09.0 -0.6**
SOH **Sokhos** **93.31 312** P **P** **11 10 08.6 -1.3**
SOH **Sokhos** **93.31 312** P **P** **11 10 08.6 -1.3**
SOH **Sokhos** **93.31 312** P **P** **11 10 08.6 -1.3**
PLG **Polygyros** **93.33 311** P **P** **11 10 08.5 -1.5**
PLG **Polygyros** **93.33 311** P **P** **11 10 08.5 -1.5**
PLG **Polygyros** **93.33 311** *eP* **P** **11 10 08.0 -2.0**
PLG **Polygyros** **93.33 311** P **P** **11 10 08.5 -1.5**
SIRR **Siria** **93.34 317**⇑*iP* **P** **11 10 09.9 0.0**
ERET **Eretria** **93.44 309** P **P** **11 10 08.7 -1.9**
PTL **Penteli** **93.47 309** P **P** **11 10 08.8 -1.9**
PTL **Penteli** **93.47 309** P **P** **11 10 08.8 -1.9**
NIE **Niedzica** **93.47 320**⇓*iP* **P** **11 10 10.9 +0.4**
NIE *e**PP **pP** **11 12 25.7 -1.1**
NIE *e**SP **sP** **11 13 28.5 -1.0**
NIE *e* 11 14 06.2
NIE *e* 11 19 44.8
NIE *e*S **S** **11 20 23.6 -1.8**
NIE **Niedzica** **93.47 320** *iP* **P** **11 10 10.6 +0.4**
NIE *ep*P **pP** **11 12 25.7 -1.1**
NIE *es*P **sP** **11 13 28.5 -1.0**
NIE *e*PP **PP** **11 14 06.2 -0.1**
NIE *e*SKSac **SKSac** **11 19 44.8 -0.1**
NIE *e*S **S** **11 20 23.6 -1.8**
NIE L L 12 05 26.0
comp=Z,2μm,18.2s
BZS **Buzias** **93.52 317**⇑*iP* **P** **11 10 09.9 -0.8**
HORT **Hortiatis** **93.54 311** P **P** **11 10 09.2 -1.9**
HORT **Hortiatis** **93.54 311** P **P** **11 10 09.2 -1.9**
ATHU **Athens Univers** **93.54 309** P **P** **11 10 09.0 -2.0**
ATHU **Athens Univers** **93.54 309** P **P** **11 10 09.0 -2.0**
MRKA **Markates** **93.55 309** P **P** **11 10 08.7 -2.4**
SKIA **Skiathos** **93.55 310** P **P** **11 10 09.0 -2.1**
KNT **Kendrikon** **93.58 312** P **P** **11 10 09.8 -1.3**
KNT **Kendrikon** **93.58 312** P **P** **11 10 09.8 -1.3**
KNT **Kendrikon** **93.58 312** P **P** **11 10 09.8 -1.3**
OJC **Ojcow** **93.59 321**⇓*iP* **P** **11 10 11.0 0.0**
OJC *e**PP **pP** **11 12 25.2 -2.1**
OJC *e**SP **sP** **11 13 28.5 -1.5**
OJC *e* 11 14 06.9
OJC *e* 11 19 45.0
OJC *e*S **S** **11 20 25.9 -0.4**
OJC MLR MLR
comp=Z,7μm,18.2s
OJC **Ojcow** **93.59 321** *eP* **P** **11 10 11.0 0.0**
comp=Z,320nm,1.2s
OJC **Ojcow** **93.59 321** *iP* **P** **11 10 11.0 0.0**
OJC *ep*P **pP** **11 12 25.2 -2.1**
OJC *es*P **sP** **11 13 28.5 -1.5**
OJC *e*PP **PP** **11 14 06.9 -0.2**
OJC *e*SKSac **SKSac** **11 19 45.0 -0.5**
OJC *e*S **S** **11 20 25.9 -0.4**
OJC *es*S **sS** **11 24 30.1 -1.2**
OJC L L 11 52 37.0
comp=Z,7μm,18.2s
ATH **Athens Observa** **93.60 309** P **P** **11 10 08.3 -2.9**
ATH **Athens Observa** **93.60 309** P **P** **11 10 08.3 -2.9**
ATH **Athens Observa** **93.60 309** P **P** **11 10 08.3 -2.9**
THE **Thessaloniki** **93.63 311** P **P** **11 10 09.4 -1.9**
THE **Thessaloniki** **93.63 311** P **P** **11 10 09.4 -1.9**
THE **Thessaloniki** **93.63 311** P **P** **11 10 09.4 -1.9**
VAM **Vamos** **93.70 306** P **P** **11 10 11.2 -0.6**
VAM **Vamos** **93.70 306** P **P** **11 10 11.2 -0.6**
VAM **Vamos** **93.70 306** *eP* **P** **11 10 11.2 -0.4**
VAM **Vamos** **93.70 306** P **P** **11 10 11.2 -0.6**
NEO **Neokhori** **93.71 310** P **P** **11 10 09.7 -2.1**
NEO **Neokhori** **93.71 310** P **P** **11 10 09.7 -2.1**
XOR **Xorichti** **93.72 310** P **P** **11 10 09.7 -2.1**
XOR **Xorichti** **93.72 310** P **P** **11 10 09.7 -2.1**
VAY **Valandovo** **93.78 312** P **P** **11 10 09.2 -2.8**
VAY **Valandovo** **93.78 312** P **P** **11 10 09.2 -2.8**
VAY **Valandovo** **93.78 312** P **P** **11 10 09.2 -2.8**
VAY **Valandovo** **93.78 312** *eP* **P** **11 10 10.9 -1.1**
SMIA **Simia** **93.81 310** P **P** **11 10 10.1 -2.1**
DAG **Danmarks Havn** **93.92 352**⇓*iP* **P** **11 10 11.2 -0.7**
DAG *i*S **SKSac** **11 19 43.2 -2.9**
DAG pmax pmax
comp=Z,190nm,1.0s
DAG **Danmarks Havn** **93.92 352**⇓*iP* **P** **11 10 11.2 -0.7**
comp=Z,191nm,1.0s
DAG *e* 11 13 56.7
DAG *i*S **SKSac** **11 19 43.2 -2.9**
HFS **Hagfors** **93.93 332** P **P** **11 10 11.6 -0.7**
HFS pP **pP** **11 12 24.0 -4.6**
HFS PP **PP** **11 14 07.4 -1.9**
HFS S **SKSac** **11 19 44.4 -2.4**
HFS PKKP **PKKPdf** **11 27 11.3 0.0**
HFS **Hagfors** **93.93 332** P **P** **11 10 11.6 -0.7**
comp=Z,45nm,0.6s,baz=108,slow=4.7,SNR=123
HFS pP **pP** **11 12 24.0 -4.6**
comp=Z,11nm,0.7s,baz=101,slow=7.5,SNR=2.3
HFS PP **PP** **11 14 07.4 -1.9**
comp=Z,122nm,1.2s,baz=57,slow=5.5,SNR=4.3
HFS S **SKSac** **11 19 44.4 -2.4**
comp=Z,15nm,1.0s,baz=257,slow=10,SNR=3.8
HFS PKKP **PKKPdf** **11 27 11.3 0.0**
comp=Z,10nm,0.5s,baz=202,slow=2.7,SNR=23
GRG **Griva** **93.98 312** P **P** **11 10 11.2 -1.8**
GRG **Griva** **93.98 312** P **P** **11 10 11.2 -1.8**
GRG **Griva** **93.98 312** P **P** **11 10 11.2 -1.8**
SYO **Syowa Base** **94.00 201**⇓*iP* **P** **11 10 11.4 -0.9**
SYO **Syowa Base** **94.00 201** *e*SH **SKSac** **11 19 44.2 -2.4**
LKR **Lokris** **94.01 309** P **P** **11 10 10.7 -2.4**
LKR **Lokris** **94.01 309** P **P** **11 10 10.7 -2.4**
DIDY **Didyma** **94.09 308** P **P** **11 10 10.9 -2.7**
LIT **Litokhoron** **94.10 311** P **P** **11 10 11.4 -2.1**
LIT **Litokhoron** **94.10 311** P **P** **11 10 11.4 -2.1**
LIT **Litokhoron** **94.10 311** P **P** **11 10 11.4 -2.1**
PSZ **Piszkesteto** **94.12 319** *eP* **P** **11 10 13.7 +0.2**
PSZ *e**PP **pP** **11 12 30.8 +0.9**
PSZ *e* 11 14 13.3
PSZ pmax pmax
comp=Z,519nm,1.4s
PSZ **Piszkesteto** **94.12 319**⇓*iP* **P** **11 10 12.9 -0.6**
PSZ **Piszkesteto** **94.12 319** *eP* **P** **11 10 13.7 +0.2**
comp=Z,519nm,1.4s
PSZ *ep*P **pP** **11 12 30.8 +0.9**
PSZ *e*PP **PP** **11 14 13.3 +2.0**
PSZ *e*S SKSac **11 19 58.0 +10**
PSZ **Piszkesteto** **94.12 319**⇓*e* **P** **11 10 13.5 0.0**
**

GKP				*ep*P	**pP**	**11 12 28.1**	**-2.3**	
GKP				*e*SKSac	**SKSac**	**11 19 48.3**	**-0.6**	
GKP				*e*		11 35 24.3		
ANKY	**Antikythira Is**	**94.33 307**		P	**P**	**11 10 13.0**	**-1.7**	
ANKY	**Antikythira Is**	**94.33 307**		*eP*	**P**	**11 10 13.0**	**-1.7**	
ANKY	**Antikythira Is**	**94.33 307**		P	**P**	**11 10 13.0**	**-1.7**	
PKSN	**Nyarlorinc**	**94.39 318**	⇑	*e*	**P**	**11 10 15.8**	**+1.2**	
AGG	**Agios Georgios**	**94.45 310**		P	**P**	**11 10 12.9**	**-2.3**	
AGG	**Agios Georgios**	**94.45 310**		P	**P**	**11 10 12.9**	**-2.3**	
AGG	**Agios Georgios**	**94.45 310**		P	**P**	**11 10 12.9**	**-2.3**	
VLI	**Veliai**	**94.45 308**		P	**P**	**11 10 12.9**	**-2.3**	
VLI	**Veliai**	**94.45 308**		*eP*	**P**	**11 10 12.9**	**-2.3**	
VLI	**Veliai**	**94.45 308**		P	**P**	**11 10 12.9**	**-2.3**	
SKO	**Skopje**	**94.47 313**		*eP*	**P**	**11 10 15.6**	**+0.4**	
THL	**Klokotos Trika**	**94.57 311**		P	**P**	**11 10 13.1**	**-2.5**	
THL	**Klokotos Trika**	**94.57 311**		*eP*	**P**	**11 10 12.9**	**-2.7**	
KZN	**Kozani**	**94.59 311**		P	**P**	**11 10 13.6**	**-2.2**	
KZN	**Kozani**	**94.59 311**		P	**P**	**11 10 13.6**	**-2.2**	
KZN	**Kozani**	**94.59 311**		P	**P**	**11 10 13.6**	**-2.2**	
MAKR	**Makrakomi, Fth**	**94.60 310**		P	**P**	**11 10 17.4**	**+1.6**	
MAKR	**Makrakomi, Fth**	**94.60 310**		P	**P**	**11 10 17.4**	**+1.6**	
RAC	**Raciborz**	**94.63 321**		*eP*	**P**	**11 10 15.6**	**0.0**	
RAC				*e**PP	**pP**	**11 12 29.2**	**-2.8**	
RAC				*e*		11 19 50.4		
RAC				MLR	MLR			
	comp=Z,5μm,20.3s							
OKC	**Ostrava-Krasne**	**94.72 321**		*eP*	**P**	**11 10 16.2**	**+0.1**	
OKC				*e**PP	**pP**	**11 12 29.3**	**-3.2**	
OKC				*e*		11 14 17.0		
OKC				*e*		11 19 50.3		
OKC				*e*S	**S**	**11 20 35.0**	**-1.0**	
OKC				*e*SP	**SP**	**11 21 57.4**	**-0.6**	
OKC	**Ostrava-Krasne**	**94.72 321**	⇓	*eP*	**P**	**11 10 16.2**	**+0.1**	
OKC				*ep*P	**pP**	**11 12 29.3**	**-3.2**	
OKC				*e*PP	**PP**	**11 14 17.0**	**+1.3**	
OKC				*ex*	x	11 16 11.3		
OKC				*e*SKS	**SKSac**	**11 19 50.3**	**-1.1**	
OKC				*e*S	**S**	**11 20 35.0**	**-1.0**	
OKC				*e*SP	**SP**	**11 21 57.4**	**-0.6**	
OKC				*e*PKKP	**PKKPbc**	**11 27 11.3**	**-0.4**	
OKC				*ex*	x	11 33 12.2		
OKC				*e*PKPPKP	**P'P'df**	**11 35 19.6**	**-2.3**	
OKC				*ex*	x	11 37 56.9		
OKC	**Ostrava-Krasne**	**94.72 321**		*ex*	Tx	11 52 31.6		
KALE	**Kalithea**	**94.73 309**		P	**P**	**11 10 13.6**	**-2.9**	
KALE	**Kalithea**	**94.73 309**		P	**P**	**11 10 13.6**	**-2.9**	
NB2	**NORSAR Subarra**	**94.73 333**		P	**P**	**11 10 15.0**	**-0.9**	
	comp=Z,498nm,1.2s,baz=69,slow=4.4							
NB2	**NORSAR Subarra**	**94.73 333**		P	**P**	**11 10 15.0**	**-0.9**	
	baz=69,slow=4.4							
NOA	**NORSAR Array B**	**94.73 333**		P	**P**	**11 10 15.4**	**-0.5**	
NOA				pP	**pP**	**11 12 28.3**	**-4.0**	
NOA				PP	PP	11 14 10.1	-5.4	
NOA				S	**SKSac**	**11 19 48.5**	**-2.6**	
NOA				PKKP	**PKKPdf**	**11 27 09.7**	**-0.2**	
NOA				SKKPbc	**SKKPbc**	**11 29 49.3**	**-2.1**	
NOA	**NORSAR Array B**	**94.73 333**		P	**P**	**11 10 15.4**	**-0.5**	
	comp=Z,121nm,1.0s,baz=69,slow=4.5,SNR=99							
NOA				pP	**pP**	**11 12 28.3**	**-4.0**	
	comp=Z,4.0nm,0.8s,baz=66,slow=4.6,SNR=2.3							
NOA				PP	PP	11 14 10.1	-5.4	
	comp=Z,46nm,1.1s,baz=72,slow=8.5,SNR=5.0							
NOA				S	**SKSac**	**11 19 48.5**	**-2.6**	
	comp=Z,8.4nm,1.0s,baz=62,slow=9.8,SNR=3.3							
NOA				PKKP	**PKKPdf**	**11 27 09.7**	**-0.2**	
	comp=Z,27nm,1.0s,baz=250,slow=2.3,SNR=19							
NOA				SKKPbc	**SKKPbc**	**11 29 49.3**	**-2.1**	
	comp=Z,12nm,1.1s,baz=255,slow=2.2,SNR=4.8							
BIA	**Bitola**	**94.77 312**		*eP*	**P**	**11 10 16.6**	**0.0**	
BIA	**Bitola**	**94.77 312**		*eP*	**SKSac**	**11 19 49.2**	**-2.9**	
FNA	**Florina**	**94.78 312**		P	**P**	**11 10 14.6**	**-2.1**	
FNA	**Florina**	**94.78 312**		P	**P**	**11 10 14.6**	**-2.1**	
FNA	**Florina**	**94.78 312**		P	**P**	**11 10 14.6**	**-2.1**	
TRIZ	**Trizonia**	**94.78 309**		P	**P**	**11 10 16.9**	**+0.3**	
KLV	**Kalavryta, Ach**	**94.79 309**		P	**P**	**11 10 14.7**	**-2.1**	
KLV	**Kalavryta, Ach**	**94.79 309**		P	**P**	**11 10 14.7**	**-2.1**	
BUD	**Budapest**	**94.80 319**	⇓	*e*	**P**	**11 10 16.6**	**+0.1**	
PKS7	**Kunszentmiklos**	**94.82 318**	⇑	*e*	**P**	**11 10 17.3**	**+0.7**	
EVR	**Evrytania**	**94.87 310**		P	**P**	**11 10 15.4**	**-1.7**	
EVR	**Evrytania**	**94.87 310**		P	**P**	**11 10 15.4**	**-1.7**	
LAKA	**Lakka**	**94.88 309**		P	**P**	**11 10 15.7**	**-1.4**	
LAKA	**Lakka**	**94.88 309**		P	**P**	**11 10 15.7**	**-1.4**	
PKS2	**Kecel**	**94.93 318**	⇑	*e*	**P**	**11 10 18.3**	**+1.2**	
NA001	**NORSAR Array S**	**94.96 333**		*eP*	**P**	**11 10 16.1**	**-0.8**	
	comp=Z,228nm,1.1s							
DIVS	**Divibare**	**95.00 315**		P	**P**	**11 10 17.3**	**-0.3**	
BSD	**Bornholm Skovb**	**95.02 327**	⇓	*i*P	**P**	**11 10 16.7**	**-0.6**	
BSD				*i* S	**SKSac**	**11 19 51.7**	**-1.0**	
BSD				*i*		11 20 34.0		
BSD				pmax	pmax			
	comp=Z,130nm,1.2s							
BSD				MLR	MLR			
	comp=Z,4μm,18.0s							
BSD	**Bornholm Skovb**	**95.02 327**	⇓	*i*P	**P**	**11 10 16.7**	**-0.6**	
	comp=Z,130nm,1.2s							
BSD				*i* S	**SKSac**	**11 19 51.7**	**-1.0**	
BSD				*i*		11 20 34.0		
BSD				pmax	pmax			
	comp=Z,4μm,18.0s							
NEST	**Nestorio**	**95.11 312**		P	**P**	**11 10 16.1**	**-2.1**	
MORC	**Moravsky Berou**	**95.12 321**		*eP*	**P**	**11 10 18.7**	**+0.7**	
MORC				pmax	pmax			
	comp=Z,485nm,1.6s							
MORC	**Moravsky Berou**	**95.12 321**	⇑	*i*P	P	11 10 12.2	-5.7	
MORC	**Moravsky Berou**	**95.12 321**		*eP*	**P**	**11 10 18.7**	**+0.7**	
	comp=Z,486nm,1.6s							
ITM	**Ithomi**	**95.15 308**		P	**P**	**11 10 16.5**	**-1.8**	
ITM	**Ithomi**	**95.15 308**		*eP*	**P**	**11 10 16.8**	**-1.5**	
ITM	**Ithomi**	**95.15 308**		P	**P**	**11 10 16.5**	**-1.8**	
PKSG		**95.24 319**	⇑	*e*	**P**	**11 10 19.2**	**+0.7**	
PHP	**Peshkopia**	**95.26 313**		*eP*	**P**	**11 10 17.4**	**-1.4**	
PHP	**Peshkopia**	**95.26 313**		P	**P**	**11 10 17.1**	**-1.7**	
PHP	**Peshkopia**	**95.26 313**		P	**P**	**11 10 17.1**	**-1.7**	
PHP	**Peshkopia**	**95.26 313**		P	**P**	**11 10 17.1**	**-1.7**	
RLS	**Riolos of Patr**	**95.32 309**		P	**P**	**11 10 18.2**	**-0.8**	
RLS	**Riolos of Patr**	**95.32 309**		P	**P**	**11 10 18.2**	**-0.8**	
BCI	**Bajram Curri**	**95.37 314**		*eP*	**P**	**11 10 19.2**	**-0.1**	
IVA	**Berane**	**95.37 314**		*eP*	**P**	**11 10 19.0**	**-0.3**	
OSL	**Oslo**	**95.39 332**		*eP*	**P**	**11 10 18.4**	**-0.4**	
PVY	**Plav**	**95.39 314**		*eP*	**P**	**11 10 18.2**	**-1.3**	
JAN	**Janina**	**95.43 311**		P	**P**	**11 10 18.2**	**-1.4**	
JAN	**Janina**	**95.43 311**		P	**P**	**11 10 18.2**	**-1.4**	
JAN	**Janina**	**95.43 311**		P	**P**	**11 10 18.2**	**-1.4**	
RES	**Resolute Bay**	**95.48 10**		*eP*	**P**	**11 10 19.7**	**+0.7**	
	comp=Z,81nm,1.0s							
RES				*eP*P	**PP**	**11 14 21.4**	**+0.7**	
RES	**Resolute Bay**	**95.48 10**		P	**P**	**11 10 19.2**	**+0.2**	
	comp=Z,47nm,0.8s,baz=317,slow=4.6,SNR=8.7							
KRLC	**Kraliky**	**95.50 322**		*eP*	**P**	**11 10 20.0**	**+0.3**	
KRLC				*e**PP	**pP**	**11 12 38.5**	**+2.4**	
KRLC				*e*		11 14 24.3		
KRLC	**Kraliky**	**95.50 322**	⇓	*eP*	**P**	**11 10 20.0**	**+0.3**	
KRLC				*ep*P	**pP**	**11 12 38.5**	**+2.4**	
KRLC				*e*PP	**PP**	**11 14 24.3**	**+2.6**	
KRLC				*ex*	x	11 33 10.8		
PKST	**T"s**	**95.51 319**	⇑	*e*	**P**	**11 10 20.3**	**+0.6**	
PKS9	**Tamasi**	**95.53 318**	⇑	*e*	**P**	**11 10 20.4**	**+0.6**	
SMOL	**Smolenice**	**95.55 320**		*eP*	**P**	**11 10 20.5**	**+0.6**	
SMOL				*e*		11 14 24.0		
SMOL	**Smolenice**	**95.55 320**		*eP*	**P**	**11 10 20.5**	**+0.6**	
SMOL				*e*PP	**PP**	**11 14 24.0**	**+2.0**	
KSP	**Ksiaz**	**95.57 323**	⇓	*eP*	**P**	**11 10 20.1**	**+0.2**	
KSP				*e**PP	**pP**	**11 12 33.5**	**-2.9**	
KSP				*e**SP	**sP**	**11 13 35.5**	**-3.6**	
KSP				*e*		11 14 20.4		
KSP				*e*		11 19 54.6		
KSP				*e*		11 20 38.7		
KSP	**Ksiaz**	**95.57 323**		*i* P	**P**	**11 10 20.2**	**+0.3**	
KSP				*ep*P	**pP**	**11 12 34.4**	**-2.0**	
KSP				*e*SKSac	**SKSac**	**11 19 54.9**	**-0.9**	
KSP				*e*S	**ScS**	**11 20 45.4**	**+2.1**	
KSP				*e*		11 35 30.3		
PUK	**Puka**	**95.57 313**		*eP*	**P**	**11 10 19.5**	**-0.7**	
PLE	**Pljevlja**	**95.61 315**		*eP*	**P**	**11 10 20.1**	**-0.3**	
MOL	**Molde**	**95.68 335**		*eP*	**P**	**11 10 20.1**	**+0.1**	
MOL				AMB	AMB	11 10 22.3		
	comp=Z,452nm,1.4s							
MOL				*e*SKS	**SKSac**	**11 19 53.2**	**-2.6**	
DPC	**Dobruska-Polom**	**95.70 322**	⇓	*i*P	**P**	**11 10 21.1**	**+0.5**	
DPC				*e**PP	**pP**	**11 12 38.0**	**+0.9**	
DPC				*e*		11 14 25.0		
DPC				*e*		11 19 55.9		
DPC				*e*S	**S**	**11 20 43.3**	**-1.1**	
DPC				*e*SP	**SP**	**11 22 07.7**	**-0.9**	
DPC	**Dobruska-Polom**	**95.70 322**	⇓	*i*P	**P**	**11 10 21.1**	**+0.5**	
DPC				*ep*P	**pP**	**11 12 38.0**	**+0.9**	
DPC				*e*PP	**PP**	**11 14 25.0**	**+1.8**	
DPC				*ex*	x	11 16 17.3		
DPC				*e*SKS	**SKSac**	**11 19 55.9**	**-0.7**	
DPC				*e*S	**S**	**11 20 43.3**	**-1.1**	
DPC				*e*SP	**SP**	**11 22 07.7**	**-0.9**	
DPC				*ex*	x	11 23 30.4		
DPC				*e*PKKP	**PKKPdf**	**11 27 07.9**	**-0.1**	
DPC				*ex*	x	11 33 09.1		
DPC				*e*PKPPKP	**P'P'df**	**11 35 17.8**	**-2.3**	
DPC				*ex*	x	11 37 51.6		
DPC	**Dobruska-Polom**	**95.70 322**		*eP*	Tx	11 52 19.7		
DPC	**Dobruska-Polom**	**95.70 322**		*eP*	**P**	**11 10 21.0**	**+0.4**	
	comp=Z,2μm,1.5s							
TIR	**Tirane**	**95.76 313**		*eP*	**P**	**11 10 20.1**	**-0.9**	
TIR	**Tirane**	**95.76 313**		*eP*	**P**	**11 10 20.4**	**-0.6**	
TIR				pmax	pmax			
	comp=Z,634nm,1.5s							
TIR	**Tirane**	**95.76 313**		*eP*	**P**	**11 10 20.4**	**-0.6**	
	comp=Z,634nm,1.5s							
UPC	**Upice**	**95.84 322**		*eP*	**P**	**11 10 21.2**	**+0.1**	
UPC				*e**PP	**pP**	**11 12 35.4**	**-2.3**	
UPC				*e*		11 14 28.0		
UPC				*e*		11 19 56.1		
UPC	**Upice**	**95.84 322**	⇓	*eP*	**P**	**11 10 21.2**	**+0.1**	
UPC				*ep*P	**pP**	**11 12 35.4**	**-2.3**	
UPC				*e*PP	**PP**	**11 14 28.0**	**+3.8**	
UPC				*e*SKS	**SKSac**	**11 19 56.1**	**-1.1**	
UPC				*e*PKKP	**PKKPbc**	**11 27 09.0**	**+0.2**	
UPC				*ex*	x	11 33 08.7		
UPC				*e*PKPPKP	**P'P'df**	**11 35 18.1**	**-1.6**	
UPC				*ex*	x	11 37 52.8		
UPC	**Upice**	**95.84 322**		*eP*	Tx	11 52 20.9		
VRAC	**Vranov**	**95.84 321**	⇓	*i*P	**P**	**11 10 21.3**	**+0.1**	
VRAC	**Vranov**	**95.84 321**		P	**P**	**11 10 21.7**	**+0.5**	
VRAC				pP	**pP**	**11 12 35.4**	**-2.3**	
VRAC				PP	**PP**	**11 14 24.9**	**+0.6**	
VRAC				S	**SKSac**	**11 19 57.4**	**+0.1**	
VRAC				PKKPbc	**PKKPdf**	**11 27 07.8**	**+0.1**	
VRAC	**Vranov**	**95.84 321**		P	**P**	**11 10 21.7**	**+0.5**	
	comp=Z,196nm,1.2s,baz=82,slow=4.8,SNR=117							
VRAC				pP	**pP**	**11 12 35.4**	**-2.3**	
	comp=Z,28nm,1.2s,baz=142,slow=6.1,SNR=2.5							
VRAC				PP	**PP**	**11 14 24.9**	**+0.6**	
	comp=Z,39nm,1.0s,baz=74,slow=8.8,SNR=5.0							
VRAC				S	**SKSac**	**11 19 57.4**	**+0.1**	
	comp=Z,2.6nm,0.6s,baz=176,slow=21,SNR=6.3							
VRAC				PKKPbc	**PKKPdf**	**11 27 07.8**	**+0.1**	
	comp=Z,3.7nm,0.3s,baz=286,slow=23,SNR=5.3							
IGT	**Igoumenitsa**	**95.85 311**		P	**P**	**11 10 19.4**	**-2.0**	
IGT	**Igoumenitsa**	**95.85 311**		P	**P**	**11 10 19.4**	**-2.0**	
IGT	**Igoumenitsa**	**95.85 311**		P	**P**	**11 10 19.4**	**-2.0**	
ZST	**Bratislava**	**95.85 320**		*eP*	**P**	**11 10 21.2**	**0.0**	
ZST				*e*		11 14 25.3		
ZST				*e*S	**SKSac**	**11 19 52.4**	**-4.9**	
ZST	**Bratislava**	**95.85 320**		*eP*	**P**	**11 10 21.2**	**0.0**	
ZST				*eP*P	**PP**	**11 14 25.3**	**+1.0**	
ZST	**Bratislava**	**95.85 320**	⇑	*e*SKSp	**SKSac**	**11 19 52.4**	**-4.9**	
PDG	**Podgorica**	**95.94 314**		P	**P**	**11 10 20.6**	**-1.1**	
TTG	**Podgorica**	**95.94 314**	⇓	*i*P	**P**	**11 10 20.7**	**-1.0**	
TTG	**Podgorica**	**95.94 314**		P	**P**	**11 10 20.6**	**-1.1**	
TTG	**Podgorica**	**95.94 314**		P	**P**	**11 10 20.6**	**-1.1**	
VLS	**Valsamata**	**95.96 309**		P	**P**	**11 10 19.9**	**-2.1**	
VLS	**Valsamata**	**95.96 309**		P	**P**	**11 10 19.9**	**-2.1**	
VLS	**Valsamata**	**95.96 309**		P	**P**	**11 10 19.9**	**-2.1**	
UPM	**Unac-Piva**	**95.99 315**		*eP*	**P**	**11 10 20.7**	**-1.5**	
SRN	**Sarande**	**96.01 311**		*eP*	**P**	**11 10 20.8**	**-1.3**	
KONO	**Kongsberg**	**96.03 332**		*eP*	**P**	**11 10 20.9**	**-0.7**	
KONO				AMB	AMB	11 10 25.1		
	comp=Z,234nm,1.4s							
KONO				AMS	AMS	11 56 10.0		
	comp=Z,5μm,17.1s							
KONO	**Kongsberg**	**96.03 332**		*eP*	**P**	**11 10 21.0**	**-0.7**	
KONO				pmax	pmax			
	comp=Z,2μm,1.8s							
KONO	**Kongsberg**	**96.03 332**		*eP*	**P**	**11 10 21.0**	**-0.7**	
	comp=Z,2μm,1.8s							
NKY	**Niksic**	**96.03 314**	⇓	*i*P	**P**	**11 10 21.8**	**-0.5**	
DRME	**Dracevica, Mon**	**96.05 314**		*eP*	**P**	**11 10 21.4**	**-0.8**	
ULC	**Ulcinj**	**96.06 313**	⇓	*i*P	**P**	**11 10 21.0**	**-1.3**	
NKME	**Niksic**	**96.07 314**	⇓	*i*P	**P**	**11 10 21.2**	**-1.2**	
RGN	**Rugen**	**96.08 327**		*eP*	**P**	**11 10 22.7**	**+0.7**	
	comp=Z,671nm,1.5s							
COP	**Copenhagen**	**96.15 328**		*eP*	**P**	**11 10 22.2**	**-0.1**	
COP				*i* S	**SKSac**	**11 19 56.0**	**-2.5**	
COP				MLR	MLR			
	comp=Z,2μm,15.0s							
COP	**Copenhagen**	**96.15 328**		*i* P	**P**	**11 10 22.2**	**-0.1**	
COP				*i* S	**SKSac**	**11 19 56.0**	**-2.5**	
COP								
	comp=Z,2μm,14.0s							
KEK	**Kerkira**	**96.20 311**		P	**P**	**11 10 21.3**	**-1.7**	
KEK	**Kerkira**	**96.20 311**		P	**P**	**11 10 21.3**	**-1.7**	
BUM	**Brajici-Budva**	**96.23 314**		*eP*	**P**	**11 10 22.6**	**-0.5**	
JMIC	**Jan Mayen**	**96.25 346**		*i*	**P**	**11 10 21.3**	**-1.2**	
SOP	**Sopron**	**96.34 319**	⇓	*e*	**P**	**11 10 23.3**	**-0.1**	
LLD	**Lille Linde**	**96.39 328**		*eP*	**P**	**11 10 25.4**	**+2.0**	
LLD	**Lille Linde**	**96.39 328**		*i* P	**P**	**11 10 25.4**	**+2.0**	
HCY	**Herceg Novi**	**96.48 314**		*eP*	**P**	**11 10 22.9**	**-1.3**	
RUE	**Ruedersdorf**	**96.53 325**		*eP*	**P**	**11 10 24.9**	**+0.8**	
	comp=Z,1μm,1.4s							
TREC	**Trest**	**96.54 321**		*eP*	**P**	**11 10 24.9**	**+0.6**	
TREC				*e**PP	**pP**	**11 12 41.9**	**+1.0**	
TREC				*e*		11 14 29.8		
TREC				*e*		11 19 59.9		
TREC				*e*S	**S**	**11 20 49.4**	**-2.1**	
TREC				*e*SP	**SP**	**11 22 15.8**	**-1.9**	
TREC	**Trest**	**96.54 321**	⇓	*eP*	**P**	**11 10 24.9**	**+0.6**	
TREC				*ep*P	**pP**	**11 12 41.9**	**+1.0**	
TREC				*e*PP	**PP**	**11 14 29.8**	**+0.3**	
TREC				*ex*	x	11 16 26.6		
TREC				*e*SKS	**SKSac**	**11 19 59.9**	**-1.0**	
TREC				*e*S	**S**	**11 20 49.4**	**-2.1**	
TREC				*e*SP	**SP**	**11 22 15.8**	**-1.9**	
TREC				*e*PKKP	**PKKPdf**	**11 27 06.4**	**-0.1**	
TREC				*ex*	x	11 33 05.6		
BEHE	**Becsehely**	**96.56 318**	⇓	*e*	**P**	**11 10 24.9**	**+0.5**	
QSPA	**South Pole Qui**	**96.56 180**		*eP*	**P**	**11 10 24.4**	**+0.3**	
	comp=Z,335nm,1.4s							
QSPA				*ep*P	**pP**	**11 12 40.9**	**+0.2**	
QSPA				PP	PP	11 14 23.9	-5.6	
QSPA				S	**SKSac**	**11 19 55.5**	**-4.8**	
QSPA				PKKPbc	**PKKPdf**	**11 27 04.1**	**-4.0**	
QSPA	**South Pole Qui**	**96.56 180**		P	**P**	**11 10 24.7**	**+0.6**	
	comp=Z,82nm,0.9s,baz=319,slow=1.9,SNR=127							
QSPA				pP	pP	11 12 34.1	-6.6	
	comp=Z,36nm,1.1s,baz=34,slow=3.6,SNR=1.5							
QSPA				PP	PP	11 14 23.9	-5.6	
	comp=Z,60nm,0.8s,baz=268,slow=6.7,SNR=4.5							
QSPA				S	**SKSac**	**11 19 55.5**	**-4.8**	
	comp=Z,126nm,1.1s,baz=290,slow=2.7,SNR=51							
QSPA				PKKPbc	**PKKPdf**	**11 27 04.1**	**-4.0**	
	comp=Z,10nm,1.0s,baz=96,slow=5.3,SNR=6.6							
PVCC	**Panska Ves**	**96.71 323**		*eP*	**P**	**11 10 25.6**	**+0.6**	
PVCC				*e**PP	**pP**	**11 12 41.5**	**-0.1**	
PVCC				*e*		11 13 43.0		
PVCC				*e*		11 14 32.6		
PVCC				*e*		11 20 01.1		
PVCC				*e*S	**S**	**11 20 51.9**	**-0.9**	
PVCC				*e*SP	**SP**	**11 22 16.9**	**-2.5**	
PVCC	**Panska Ves**	**96.71 323**	⇓	*eP*	**P**	**11 10 25.6**	**+0.6**	
PVCC				*ep*P	**pP**	**11 12 41.5**	**-0.1**	
PVCC				*e*SP	**sP**	**11 13 43.0**	**-1.3**	
PVCC				*e*PP	**PP**	**11 14 32.6**	**+1.9**	
PVCC				*ex*	x	11 16 27.3		
PVCC				*e*SKS	**SKSac**	**11 20 51.1**	**-0.5**	
PVCC				*e*S	**S**	**11 20 51.9**	**-0.9**	
PVCC				*e*SP	**SP**	**11 22 16.9**	**-2.5**	
PVCC				*ex*	x	11 33 06.2		
PVCC				*e*PKPPKP	**P'P'df**	**11 35 16.2**	**-1.8**	
PVCC				*ex*	x	11 37 51.3		
PVCC	**Panska Ves**	**96.71 323**		*eP*	Tx	11 52 25.2		
CONA	**Conrad Observa**	**96.72 320**		*i* Pdiff	**P**	**11 10 25.3**	**0.0**	
	comp=Z,154nm,1.5s,SNR=46							
CONA	**Conrad Observa**	**96.72 320**		*i* PKKPdf	PKKPdf	11 27 05.9	-0.3	
	SNR=8.8							
LSZ	**Lusaka**	**96.84 255**		Pdiff	**P**	**11 10 26.5**	**0.0**	
	SNR=34							
LSZ	**Lusaka**	**96.84 255**		*eP*	**P**	**11 10 26.1**	**-0.3**	
	comp=Z,194nm,1.5s							
LSZ				*ep*P	**pP**	**11 12 43.2**	**+0.1**	
LSZ				*e*PP	**PP**	**11 14 31.8**	**-1.3**	
LSZ				S	**SKSac**	**11 20 02.7**	**-1.2**	
LSZ				PKKPbc	**PKKPdf**	**11 27 06.2**	**+0.3**	
LSZ				*e*PKKPdf	**PKKPbc**	**11 27 07.0**	**+1.9**	
LSZ	**Lusaka**	**96.84 255**		S	**SKSac**	**11 20 02.7**	**-1.2**	
	comp=Z,49nm,1.3s,baz=127,slow=22,SNR=29							
LSZ				PKKPbc	**PKKPdf**	**11 27 06.2**	**+0.3**	
	comp=Z,8.9nm,0.9s,baz=63,slow=6.8,SNR=4.3							
HYA	**Hoyanger**	**96.89 334**		*eP*	**P**	**11 10 25.7**	**+0.2**	
HYA				AMB	AMB	11 10 27.7		
	comp=Z,481nm,1.5s							
HYA				*e*SKS	**SKSac**	**11 20 03.1**	**+1.0**	
PRU	**Pruhonice**	**96.90 322**	⇓	*i*P	**P**	**11 10 26.0**	**+0.1**	
PRU				*e**PP	**pP**	**11 12 43.4**	**+0.9**	
PRU				*e*		11 14 30.9		
PRU				*e*		11 20 01.7		
PRU				*e*S	**ScS**	**11 20 50.1**	**-4.4**	
PRU				*e*SP	**SP**	**11 22 19.9**	**-1.6**	
PRU	**Pruhonice**	**96.90 322**	⇓	*i*P	**P**	**11 10 26.0**	**+0.1**	
PRU				*ep*P	**pP**	**11 12 43.4**	**+0.9**	
PRU				*e*PP	**PP**	**11 14 30.9**	**-1.3**	
PRU				*ex*	x	11 16 28.1		
PRU				*e*SKS	**SKSac**	**11 20 01.7**	**-0.9**	
PRU				*e*S	**ScS**	**11 20 50.1**	**-4.4**	
PRU				*e*SP	**SP**	**11 22 19.9**	**-1.6**	
PRU				*e*PKKP	**PKKPdf**	**11 27 00.9**	**-4.9**	
PRU				*ex*	x	11 27 39.0		
PRU				*ex*	x	11 33 03.8		
PRU				*e*PKPPKP	**P'P'df**	**11 35 18.0**	**+0.3**	
PRU				*ex*	x	11 37 51.0		
PRU	**Pruhonice**	**96.90 322**		*eP*	Tx	11 52 25.0		
STON	**Ston**	**96.93 315**		P	**P**	**11 10 24.4**	**-1.7**	
PRA	**Prague**	**96.94 322**	⇓	P	**P**	**11 10 26.0**	**0.0**	
PRA				pP	**pP**	**11 12 44.0**	**+1.3**	
PRA				PP	**PP**	**11 14 32.0**	**-0.4**	
PRA				SKS	**SKSac**	**11 20 03.0**	**+0.2**	
PRA				PKKP	**PKKPdf**	**11 27 02.0**	**-3.7**	
PRA				PKPPKP	**P'P'df**	**11 35 19.0**	**+1.4**	
PRA	**Prague**	**96.94 322**		P	Tx	11 52 25.0		
BRG	**Berggiesshubel**	**96.97 323**		*i* PDIF	**P**	**11 10 26.6**	**+0.4**	
	comp=Z,501nm,1.3s							
BRG				pP	**pP**	**11 12 39.0**	**-3.8**	
BRG				sP	sP	11 13 38.0	-7.5	
BRG				*i* PP	**PP**	**11 14 31.6**	**-1.0**	
	comp=Z,407nm,1.6s							
BRG				SKS	**SKSac**	**11 20 02.0**	**-1.0**	
BRG				SDIF	**ScS**	**11 20 54.0**	**-1.0**	
BRG				*e*		11 29 44.7		
	comp=Z,25nm,1.3s							
BRG				*e*PKPPKP	**P'P'df**	**11 35 13.8**	**-3.7**	
	comp=Z,50nm,2.1s							
BRG								
	comp=N,1μm,14.2s							
BRG								
	comp=E,3μm,19.9s							
BRG								
	comp=Z,4μm,16.2s							
BRG	**Berggiesshubel**	**96.97 323**		*i* P	Tx	11 52 25.4		
	comp=Z,36nm,1.3s							
BRG	**Berggiesshubel**	**96.97 323**		*i* P	**P**	**11 10 26.6**	**+0.4**	
BRG				*PP	**pP**	**11 12 39.0**	**-3

KHC eS ScS 11 21 01.0 -0.9
KHC Kasperske Hory 97.78 321 ⇓*i*P **P 11 10 29.9 0.0**
KHC eP **pP 11 12 47.0 +0.4**
KHC eS sP 11 13 39.0 -10
KHC eP **PP 11 14 38.2 -0.6**
KHC ex x 11 16 32.5
KHC eSKS **SKSac 11 20 05.7 -1.5**
KHC eS **ScS 11 21 01.0 -0.9**
KHC eSP **SP 11 22 25.3 -5.6**
KHC ePKKP **PKKPbc 11 27 02.1 -1.6**
KHC ex x 11 32 59.8
KHC ePKPPKP **P'P'df 11 35 11.9 -4.3**
KHC ex x 11 37 48.9
KHC Kasperske Hory 97.78 321 eP Tx 11 52 28.7
KHC Kasperske Hory 97.78 321 eP **P 11 10 30.5 +0.6**
comp=Z,217nm,1.5s
GEC2 GERESS Array S 97.80 321 eP **P 11 10 31.1 +1.1**
GEC2 GERESS Array S 97.80 321 eP **P 11 10 30.4 +0.4**
comp=Z,285nm,1.4s
GEC2 GERESS Array S 97.80 321 eP **P 11 10 31.1 +1.1**
comp=Z,59µm,1.3s
GERES GERESS Array B 97.80 321 P **P 11 10 30.6 +0.6**
GERES pP **pP 11 12 44.6 -2.2**
GERES PP PP 11 14 30.7 -8.4
GERES PKKPbc **PKKPbc 11 26 60.0 -3.7**
GERES SKKPbc SKKPbc 11 29 41.8 -1.7
GERES P'P' 11 35 09.1
GERES GERESS Array B 97.80 321 P **P 11 10 30.6 +0.6**
comp=Z,50nm,1.0s,baz=64,slow=4.5,SNR=128
GERES pP **pP 11 12 44.6 -2.2**
comp=Z,14nm,1.2s,baz=108,slow=5.3,SNR=3.3
GERES PP PP 11 14 30.7 -8.4
comp=Z,13nm,1.0s,baz=58,slow=7.4,SNR=4.3
GERES PKKPbc **PKKPbc 11 26 60.0 -3.7**
comp=Z,16nm,1.1s,baz=241,slow=1.8,SNR=4.4
GERES SKKPbc SKKPbc 11 29 41.8 -1.7
comp=Z,6.8nm,1.0s,baz=217,slow=4.8,SNR=6.1
GERES PKPPKP P'P'df 11 35 09.1 -7.1
comp=Z,1.8nm,1.0s,baz=212,slow=3.5,SNR=5.2
UDBI Udbina 97.81 317 P Pdif 11 10 29.1 -1.0
BOJS Bojanci 97.86 318 *i* Pdiff **P 11 10 30.3 +0.1**
BOJS ep**P** **pP 11 12 44.0 -3.0**
BOJS eSKSac **SKSac 11 20 06.1 -1.5**
BOJS Bojanci 97.86 318 *i* P Tx 11 52 29.7
BSEG Bad Segeberg 97.94 327 eP **P 11 10 31.1 +0.7**
BSEG pmax pmax
comp=Z,327nm,1.3s
BSEG Bad Segeberg 97.94 327 eP **P 11 10 31.1 +0.7**
comp=Z,327nm,1.3s
OBKA Obir 98.01 319 ⇓*i*Pdiff Pdif 11 10 30.6 -0.4
comp=Z,99nm,1.2s,SNR=29
OBKA Obir 98.01 319 *i* PKKPdf PKKPdf 11 27 03.1 -0.8
SNR=6.2
TANN Tannenbergstha 98.02 323 eP **P 11 10 31.4 +0.5**
comp=Z,277nm,1.4s
VISS Visnje 98.04 318 *i* P Tx 11 52 30.4
YKW3 Yellowknife Ar 98.09 23 eP **P 11 10 31.8 +1.0**
comp=Z,1.3nm,1.3s
YKA Yellowknife Ar 98.13 23 P **P 11 10 31.6 +0.5**
YKA pP **pP 11 12 46.2 -1.6**
YKA PP PP 11 14 33.2 -7.6
YKA PKiKP **PKiKP 11 15 02.1 +2.6**
YKA *e* 11 17 36.0
YKA S **SKSac 11 20 08.0 -0.2**
YKA PKKPbc **PKKPbc 11 27 00.0 -3.1**
YKA SKKP 11 29 40.0
YKA P'P' 11 35 10.1
YKA Yellowknife Ar 98.13 23 P **P 11 10 31.6 +0.5**
comp=Z,20nm,0.9s,baz=301,slow=4.6,SNR=52
YKA pP **pP 11 12 46.2 -1.6**
comp=Z,4.0nm,0.9s,baz=302,slow=4.4,SNR=2.1
YKA PP PP 11 14 33.2 -7.6
comp=Z,18nm,1.2s,baz=301,slow=6.6,SNR=4.2
YKA PKiKP **PKiKP 11 15 02.1 +2.6**
comp=Z,4.1nm,0.6s,baz=310,slow=1.9,SNR=12
YKA SKiKP **SKiKP 11 17 36.0 +0.5**
comp=Z,15nm,0.9s,baz=311,slow=2.1,SNR=7.4
YKA S **SKSac 11 20 08.0 -0.2**
comp=Z,6.6nm,0.9s,baz=300,slow=6.3,SNR=6.1
YKA PKKPbc **PKKPbc 11 26 60.0 -3.1**
comp=Z,10nm,0.5s,baz=124,slow=2.9,SNR=37
YKA SKKP 11 29 40.0
comp=Z,10nm,0.9s,baz=118,slow=1.8,SNR=8.7
YKA PKPPKP **P'P'df 11 35 10.1 -4.5**
comp=Z,1.7nm,1.0s,baz=7.3,slow=5.4,SNR=3.6
LJU Ljubljana 98.17 318 *i* Pdiff Pdif 11 10 31.3 -0.3
LJU ep**P** pP 11 12 45.6 -2.8
LJU eSP sP 11 13 41.5 -10
LJU e**PP** **PP 11 14 45.5 +3.7**
LJU *e* 11 16 36.8
LJU *e* 11 16 56.8
LJU eSKSac **SKSac 11 20 07.0 -2.2**
LJU eSdiff **ScS 11 20 59.3 -6.0**
LJU *i* SP **SP 11 22 28.6 -6.6**
LJU *e* 11 36 38.5
LJU *e* 11 38 41.6
WET Wettzell 98.20 322 eP **P 11 10 32.4 +0.6**
WET pmax pmax
comp=Z,256nm,1.5s
WET Wettzell 98.20 322 eP **P 11 10 32.4 +0.6**
comp=Z,256nm,1.5s
KMY Karmoy 98.22 333 eP **P 11 10 32.0 +0.5**
ROTZ Rotzenmuhle 98.40 322 eP **P 11 10 33.4 +0.8**
comp=Z,373nm,1.4s
NVLJ Novalja 98.40 317 P Pdif 11 10 31.8 -0.9
MOX Moxa 98.44 323 eP **P 11 10 33.3 +0.6**
MOX pmax pmax
comp=Z,358nm,1.5s
MOX Moxa 98.44 323 eP **P 11 10 33.3 +0.6**
comp=Z,358nm,1.5s
JAVS Javornik 98.53 318 *i* Pdiff Pdif 11 10 32.7 -0.6
JAVS ep**P** pP 11 12 46.9 -3.3
JAVS eSKSac **SKSac 11 20 09.4 -1.7**
JAVS Javornik 98.53 318 eP Tx 11 52 32.2
MYKA Terra Mystica 98.56 319 ⇓*i*Pdiff Pdif 11 10 32.8 -0.6
comp=Z,46nm,1.2s,SNR=17
VOY Vojsko 98.59 318 e*P*diff Pdif 11 10 32.8 -0.8
VOY *e* 11 10 50.4
VOY *e* 11 11 09.6
VOY *e* 11 13 37.7
VOY *e* 11 13 43.1
VOY *e* 11 13 56.9
KBA Koelnbreinsper 98.61 320 ⇓*i*Pdiff Pdif 11 10 32.7 -1.1
comp=Z,99nm,1.4s,SNR=32
NRDL Niedersach Rie 98.62 325 eP **P 11 10 34.3 +0.9**
comp=Z,688nm,1.3s
CLZ Clausthal 98.72 325 eP **P 11 10 34.8 +0.8**
CLZ pmax pmax
comp=Z,620nm,1.4s
CLZ Clausthal 98.72 325 eP **P 11 10 34.8 +0.8**
comp=Z,620nm,1.4s
RJOB Jochberg 98.74 320 eP **P 11 10 34.3 +0.1**
comp=Z,133nm,1.2s
KULLO Kullorsuaq 98.89 0 eP Pdif 11 10 32.8 -1.4
KULLO MLR MLR
comp=Z,2µm,14.0s
GRF Grafenberg Arr 99.02 323 eP **Pdif 11 10 36.2 +0.9**
GRF e*PP **pP 11 12 50.5 -1.7**
GRF pmax pmax
comp=Z,333nm,1.6s
GRF Grafenberg Arr 99.02 323 eP **Pdif 11 10 36.2 +0.9**
comp=Z,333nm,1.6s
GRF ep**P** **pP 11 12 50.5 -1.7**
GRF e**PP** **PP 11 14 43.7 -4.3**
GRF ePPP PPP 11 16 45.0
GRF ePKKPdf PKKPdf 11 27 31.1 +29
GRF eP'P'df **P'P'df 11 35 11.8 -1.9**
GRFO Grafenberg 99.02 323 eP **Pdif 11 10 36.4 +1.1**
GRFO pmax pmax
comp=Z,282nm,1.5s
GRFO Grafenberg 99.02 323 eP **Pdif 11 10 36.4 +1.1**
comp=Z,282nm,1.5s
CUC Castrocucco 99.09 312 eP **Pdif 11 10 35.0 -0.9**
comp=Z,63nm,1.3s
ABTA Abfaltersbach 99.26 319 ⇑*i*Pdiff **Pdif 11 10 35.3 -1.2**
comp=Z,127nm,1.3s,SNR=43
ABTA Abfaltersbach 99.26 319 *i* PKKPbc PKKPbc 11 26 57.9 -1.7
SNR=8.8
ABTA Abfaltersbach 99.26 319 *i* P Tx 11 52 35.6
SNR=5.5
UBBA Unterbreizbach 99.33 324 eP **Pdif 11 10 37.1 +0.6**
comp=Z,268nm,1.6s
CEL Celeste 99.52 310 eP **Pdif 11 10 37.8 0.0**
FUR Furstenfeldbru 99.54 321 eP **Pdif 11 10 38.4 +0.7**
FUR pmax pmax
comp=Z,367nm,1.7s
FUR Furstenfeldbru 99.54 321 e*P* **Pdif 11 10 38.4 +0.7**
comp=Z,367nm,1.7s
SCO Scoresbysund 99.57 349 ⇓*i*P **Pdif 11 10 38.1 +0.8**
SCO *i* S **SKSac 11 20 16.7 +1.7**
SCO Scoresbysund 99.57 349 ⇓*i*P **Pdif 11 10 38.1 +0.8**
comp=Z,35nm,1.1s
SCO *i* S **SKSac 11 20 16.7 +1.7**
WATA Walderalm 99.65 320 ⇑*i*Pdiff **Pdif 11 10 38.1 -0.2**
comp=Z,81nm,0.9s,SNR=45
LBTB Lobatse 99.94 246 eP **Pdif 11 10 40.2 +0.2**
LBTB e*PP* **PP 11 14 52.6 -3.4**
LBTB S **SKSac 11 20 19.1 +0.4**
LBTB PKKPbc **PKKPbc 11 26 53.5 -3.3**
LBTB Lobatse 99.94 246 S **SKSac 11 20 19.1 +0.4**
comp=Z,14nm,1.1s,baz=237,slow=23,SNR=19
LBTB PKKPbc **PKKPbc 11 26 53.5 -3.3**
comp=Z,5.6nm,0.9s,baz=256,slow=4.2,SNR=3.6
MOTA Moosalm 99.95 320 ⇑*i*Pdiff **Pdif 11 10 39.5 -0.2**
comp=Z,124nm,1.1s,SNR=58
MOTA Moosalm 99.95 320 *i* PKKPdf PKKPdf 11 26 57.7 -2.8
SNR=11
MOTA Moosalm 99.95 320 *i* P Tx 11 52 38.5
SNR=10
IBBN Ibbenburen 100.01 326 eP **Pdif 11 10 40.5 +0.9**
comp=Z,716nm,1.4s
SUMG Summit 100.05 355 ⇓*i*P **Pdif 11 10 40.3 +0.4**
SUMG *i* S **SKSac 11 20 19.9 +1.8**
SUMG *i* 11 21 17.3
SUMG pmax pmax
comp=Z,48nm,1.1s
SUMG Summit 100.05 355 ⇓*i*P **Pdif 11 10 40.3 +0.4**
comp=Z,48nm,1.1s
SUMG *i* S **SKSac 11 20 19.9 +1.8**
SUMG *i* 11 21 17.3
SUMG Summit 100.05 355 ⇑*i*P **PKKPbc 11 26 56.1 -2.5**
comp=Z,36nm,1.0s
SUMG *i* 11 27 24.3
SUMG Summit 100.05 355 e*P*diff **Pdif 11 10 40.6 +0.7**
NLWA Neilton Lookou 100.07 40 e*P*diff **Pdif 11 10 41.5 +1.4**
RETA Reutte 100.11 321 *i* PKKPdf PKKPdf 11 26 56.9 -3.1
SNR=5.3
RETA Reutte 100.11 321 P **Pdif 11 10 40.0 -0.3**
comp=Z,81nm,1.8s,SNR=18
FETA Feichten 100.31 320 ⇓*i*Pdiff **Pdif 11 10 41.1 -0.2**
comp=Z,149nm,1.2s,SNR=76
FETA Feichten 100.31 320 *i* PKKPbc PKKPbc 11 26 56.3 -0.5
SNR=7.3
FETA Feichten 100.31 320 *i* P Tx 11 52 38.9
SNR=9.6
BOSA Boshof 100.39 242 e*P*diff **Pdif 11 10 42.5 +0.5**
BOSA S **SKSac 11 20 21.8 +0.9**
BOSA PKKPbc **PKKPbc 11 26 56.6 +0.9**
BOSA PKKP PKKPdf 11 27 05.2 +5.4
BOSA SKKPbc **SKKPbc 11 29 36.5 -0.8**
BOSA Boshof 100.39 242 P **Pdif 11 10 42.5 +0.5**
comp=Z,2.1nm,0.5s,baz=94,slow=6.9,SNR=6.9
BOSA S **SKSac 11 20 21.8 +0.9**
comp=Z,9.3nm,1.1s,baz=248,slow=21,SNR=9.4
BOSA PKKPbc **PKKPbc 11 26 56.6 +0.9**
comp=Z,11nm,0.9s,baz=276,slow=4.0,SNR=11
BOSA PKKP PKKPdf 11 27 05.2 +5.4
comp=Z,14nm,1.0s,baz=293,slow=3.9,SNR=7.0
BOSA SKKPbc **SKKPbc 11 29 36.5 -0.8**
comp=Z,28nm,1.0s,baz=269,slow=2.2,SNR=14
TNS Taunus Mts 100.47 324 eP **Pdif 11 10 42.6 +0.8**
TNS pmax pmax
comp=Z,205nm,1.5s
TNS Taunus Mts 100.47 324 e*P* **Pdif 11 10 42.6 +0.8**
comp=Z,205nm,1.5s
STU Stuttgart 100.60 322 eP **Pdif 11 10 43.5 +1.2**
STU Stuttgart 100.60 322 eP **Pdif 11 10 43.0 +0.6**
comp=Z,267nm,1.5s
STU Stuttgart 100.60 322 e*P*diff **Pdif 11 10 43.5 +1.2**
BUG Bochum--Univer 100.65 325 eP **Pdif 11 10 43.4 +0.9**
comp=Z,376nm,1.4s
WTSB Winterswijk 100.69 326 eP **Pdif 11 10 43.5 +0.8**
comp=Z,425nm,1.4s
DAVA Damuels 100.74 321 ⇓*i*Pdiff **Pdif 11 10 43.3 +0.1**
comp=Z,115nm,1.5s,SNR=29
DAVOX Davos/Dischmat 100.94 320 P **Pdif 11 10 44.5 +0.3**
DAVOX S **SKSac 11 20 21.6 -1.3**
DAVOX PKKPbc **PKKPbc 11 26 53.7 -1.3**
DAVOX SKKPbc **SKKPbc 11 29 33.8 -1.9**
DAVOX Davos/Dischmat 100.94 320 P **Pdif 11 10 44.5 +0.3**
comp=Z,65nm,1.0s,baz=92,slow=6.2,SNR=76
DAVOX S **SKSac 11 20 21.6 -1.3**
comp=Z,102nm,1.0s,baz=181,slow=23,SNR=18
DAVOX PKKPbc **PKKPbc 11 26 53.7 -1.3**
comp=Z,25nm,0.9s,baz=227,slow=9.1,SNR=3.9
DAVOX SKKPbc **SKKPbc 11 29 33.8 -1.9**
comp=Z,21nm,1.1s,baz=336,slow=3.9,SNR=6.9
BFO Black Forest 101.30 322 eP **Pdif 11 10 45.6 0.0**
BFO pmax pmax
comp=Z,107nm,1.5s
BFO Black Forest 101.30 322 e*P* **Pdif 11 10 45.6 0.0**
comp=Z,107nm,1.5s
BFO Black Forest 101.30 322 e*P*diff **Pdif 11 10 45.5 0.0**
comp=Z,97nm,1.4s
LANF Langenberg 101.36 323 e*P* **Pdif 11 10 46.4 +0.6**
LANF Langenberg 101.36 323 PKP Tx 11 52 45.4
TUE Stuetta 101.39 320 e*P*diff **Pdif 11 10 46.4 +0.2**
comp=Z,150nm,1.6s
VLC Villacollemand 101.57 317 e*P*diff **Pdif 11 10 47.0 +0.2**
FELD Feldberg im Sc 101.68 322 e*P* **Pdif 11 10 47.5 +0.1**
FELD Feldberg im Sc 101.68 322 PKP Tx 11 52 46.7
HGN Heimansgroeve 101.70 325 eP **Pdif 11 10 47.6 +0.4**
comp=Z,341nm,1.8s
HGN ep**P** pP 11 13 01.8 -2.4
HGN e**PP** PKiKP 11 14 53.1 -13
HGN e*S* **SKSac 11 20 26.5 +0.6**
MEM Membach 101.73 325 P **Pdif 11 10 47.2 -0.1**
comp=Z,100nm,1.9s
MEM PP **PP 11 15 08.0 +0.1**
BEBN Eben Emael 101.83 325 P **Pdif 11 10 49.0 +1.3**
comp=Z,42nm,1.9s
BEBN PP **PP 11 15 08.3 -0.4**
CDF Champ du Feu 101.91 322 eP **Pdif 11 10 47.7 -0.6**
comp=Z,364nm,1.5s
CDF ep**P** pP 11 13 02.5 -2.9
CDF Champ du Feu 101.91 322 eP Tx 11 52 47.2
comp=Z,93nm,1.4s
CDF ep**P** Tx 11 55 03.0
CDF Champ du Feu 101.91 322 e*P* **Pdif 11 10 47.7 -0.6**
CDF pmax pmax
comp=Z,364nm,1.5s
CDF Champ du Feu 101.91 322 e*P* **Pdif 11 10 47.7 -0.6**
comp=Z,364nm,1.5s
CDF ep**P** pP 11 13 02.5 -2.9
WLF Walferdange 102.05 324 P **Pdif 11 10 50.5 +1.8**
comp=Z,101nm,2.1s
WLF Walferdange 102.05 324 eP **Pdif 11 10 50.2 +1.4**
WLF pmax pmax
comp=Z,318nm,1.8s
WLF Walferdange 102.05 324 e*P* **Pdif 11 10 49.8 +1.0**
comp=Z,195nm,1.5s
WLF Walferdange 102.05 324 e*P*diff **Pdif 11 10 50.2 +1.4**
comp=Z,318nm,1.8s
ECH Echery 102.06 322 eP **Pdif 11 10 48.6 -0.3**
ECH pmax pmax
comp=Z,54nm,1.4s
ECH Echery 102.06 322 e*P* **Pdif 11 10 49.2 +0.3**
ECH Echery 102.06 322 PKP Tx 11 52 44.5
ECH Echery 102.06 322 e*P*diff **Pdif 11 10 48.6 -0.3**
comp=Z,54nm,1.4s
LTY Liberty 102.13 39 e*P*diff **Pdif 11 10 50.6 +1.2**
H04A Detroit Lake 102.17 42 e*P*diff **Pdif 11 10 51.3 +1.8**
BCLA Clavier 102.21 325 P **Pdif 11 10 49.7 +0.3**
comp=Z,110nm,1.8s
BCLA PP **PP 11 15 10.8 -0.7**
BCLA Clavier 102.21 325 P **SKSac 11 20 31.0 +2.7**
MOF Molkenrain 102.23 322 eP **Pdif 11 10 50.1 +0.3**
MOF Molkenrain 102.23 322 PKP Tx 11 52 48.8
HUMO Hull Mountain 102.41 44 e*P*diff **Pdif 11 10 51.9 +1.3**
comp=Z,8.0nm,0.9s
HINF Hinteralfeld 102.42 322 e*P* **Pdif 11 10 49.7 -0.8**
comp=Z,199nm,1.5s
HINF Hinteralfeld 102.42 322 e*P* Tx 11 52 49.1
comp=Z,76nm,1.5s
HINF Hinteralfeld 102.42 322 e*P* **Pdif 11 10 49.7 -0.8**
HINF pmax pmax
comp=Z,199nm,1.5s
HINF Hinteralfeld 102.42 322 e*P* **Pdif 11 10 49.7 -0.8**
comp=Z,199nm,1.5s
B08A Colville Reser 102.50 37 e*P*diff **Pdif 11 10 51.9 +1.0**
LOMF Lomont 102.63 321 e*P* **Pdif 11 10 51.3 -0.2**
LOMF Lomont 102.63 321 PKP Tx 11 52 50.7
GIVF Givet 102.63 325 e*P* **Pdif 11 10 51.6 +0.2**
comp=Z,601nm,1.8s
GIVF ep**P** 11 13 05.9
GIVF Givet 102.63 325 e*P* Tx 11 52 50.7
comp=Z,88nm,1.3s
GIVF Givet 102.63 325 e*P* **Pdif 11 10 51.6 +0.2**
GIVF pmax pmax
comp=Z,601nm,1.8s
GIVF Givet 102.63 325 e*P* **Pdif 11 10 51.6 +0.2**
comp=Z,601nm,1.8s
GIVF ep**P** 11 13 05.9
HAU Haudompre 102.64 322 e*P* **Pdif 11 10 50.9 -0.6**
comp=Z,164nm,1.6s
HAU ep**P** 11 13 05.6
HAU e*R*
comp=Z,5µm,21.5s
HAU Haudompre 102.64 322 e*P* Tx 11 52 50.2
HAU Haudompre 102.64 322 e*P* **Pdif 11 10 50.9 -0.6**
HAU pmax pmax
comp=Z,164nm,1.6s
HAU Haudompre 102.64 322 e*P* **Pdif 11 10 50.9 -0.6**
comp=Z,164nm,1.6s
HAU ep**P** 11 13 05.6
SENIN Lac Senin/Sane 102.74 320 e*P*diff **Pdif 11 10 52.9 +0.7**
SNF Seneffe 102.75 325 P **Pdif 11 10 52.8 +0.9**
SNF PP **PP 11 15 16.2 +0.7**
DOU Dourbes 102.76 325 P **Pdif 11 10 52.0 0.0**
comp=Z,77nm,1.9s
DOU PP **PP 11 15 20.1 +4.6**
DOU Dourbes 102.76 325 P **SKSac 11 20 36.0 +5.1**
comp=Z,16nm,1.5s
THEF They Montfort 102.77 323 e*P* **Pdif 11 10 50.7 -1.3**
PAGF Fort de Pagny 102.78 323 e*P* **Pdif 11 10 51.9 -0.2**
comp=Z,46nm,1.4s
PAGF Fort de Pagny 102.78 323 e*P* Tx 11 52 51.2
PAGF Fort de Pagny 102.78 323 e*P* **Pdif 11 10 51.9 -0.2**
comp=Z,46nm,1.4s
YBH Yreka Blue Hor 102.90 45 e*P*diff **Pdif 11 10 54.1 +1.2**
comp=Z,17nm,1.3s
YBH SKKPbc SKKPbc 11 29 27.9 -2.3
YBH Yreka Blue Hor 102.90 45 SKKPbc SKKPbc 11 29 27.9 -2.3
comp=Z,8.1nm,1.2s,baz=106,slow=5.9,SNR=4.0
BAIF Baives 103.00 325 e*P* **Pdif 11 10 53.2 +0.2**
comp=Z,315nm,1.6s
BAIF Baives 103.00 325 e*P* Tx 11 52 52.5
comp=Z,84nm,1.4s
BAIF Baives 103.00 325 e*P* **Pdif 11 10 53.2 +0.2**
BAIF pmax pmax
comp=Z,315nm,1.6s
BAIF Baives 103.00 325 e*P* **Pdif 11 10 53.2 +0.2**
comp=Z,315nm,1.6s
PGF Pioggiola 103.10 316 e*P* **Pdif 11 10 53.1 -0.7**
comp=Z,250nm,1.4s
PGF Pioggiola 103.10 316 e*P* Tx 11 52 53.1
comp=Z,10nm,0.8s
PGF Pioggiola 103.10 316 e*P* **Pdif 11 10 53.1 -0.7**
PGF pmax pmax
comp=Z,250nm,1.4s
PGF Pioggiola 103.10 316 e*P* **Pdif 11 10 53.1 -0.7**
comp=Z,250nm,1.4s
RKT Rikitea 103.16 112 eSKSac **SKSac 11 20 35.1 +1.4**
comp=Z,7µm,29.8s
HAWA Hanford 103.20 39 e*P*diff **Pdif 11 10 54.6 +0.6**
HAWA e*PKP*df **PKiKP 11 15 11.3 +2.1**
MEZF Maizieres J'vi 103.21 323 e*P* **Pdif 11 10 53.8 -0.2**
comp=Z,238nm,1.4s
MEZF Maizieres J'vi 103.21 323 e*P* Tx 11 52 53.2
comp=Z,83nm,1.4s,baz=69
MEZF Maizieres J'vi 103.21 323 e*P* **Pdif 11 10 53.8 -0.2**
comp=Z,238nm,1.4s
OSPF L'Ospedale 103.30 315 e*P* **Pdif 11 10 54.3 -0.3**
SFTF Sexfontaines 103.35 323 e*P* **Pdif 11 10 54.1 -0.5**
comp=Z,308nm,1.5s
SFTF Sexfontaines 103.35 323 e*P* Tx 11 52 53.6
comp=Z,126nm,1.6s
SFTF Sexfontaines 103.35 323 e*P* **Pdif 11 10 54.1 -0.5**
comp=Z,308nm,1.5s
MAIT Maitri 103.35 198 e*P* **Pdif 11 10 53.3 -0.7**
C09A Chrisman Ranch 103.38 38 e*P*diff **Pdif 11 10 57.0 +2.3**
CABF La Chapelle 103.40 321 e*P* **Pdif 11 10 54.5 -0.5**
comp=Z,308nm,1.6s
CABF La Chapelle 103.40 321 e*P* Tx 11 52 54.0
comp=Z,39nm,1.3s
CABF La Chapelle 103.40 321 e*P* **Pdif 11 10 54.5 -0.5**
CABF pmax pmax
comp=Z,308nm,1.6s
CABF La Chapelle 103.40 321 e*P* **Pdif 11 10 54.5 -0.5**
comp=Z,308nm,1.6s
WDC Whiskeytown Da 103.44 46 e*P* **Pdif 11 10 56.3 +1.1**
WDC pmax pmax
comp=Z,10.0nm,1.3s
WDC Whiskeytown Da 103.44 46 e*P*diff **Pdif 11 10 56.3 +1.1**
comp=Z,9.6nm,1.3s
LPG La Plagne 103.44 320 e*P* **Pdif 11 10 55.1 -0.3**
comp=Z,249nm,1.5s
LPG ep**P** 11 13 09.7
LPG La Plagne 103.44 320 e*P* Tx 11 52 54.7
comp=Z,78nm,1.4s
LPG La Plagne 103.44 320 e*P* **Pdif 11 10 55.1 -0.3**
LPG pmax pmax
comp=Z,249nm,1.5s
LPG La Plagne 103.44 320 e*P* **Pdif 11 10 55.1 -0.3**
comp=Z,249nm,1.5s
LPG ep**P** 11 13 09.7
RSL Roselend 103.44 320 e*P* **Pdif 11 10 55.3 0.0**
LPL La Plagne 103.44 320 e*P* **Pdif 11 10 55.0 -0.4**
comp=Z,360nm,1.5s
LPL La Plagne 103.44 320 e*P* Tx 11 52 54.7
comp=Z,61nm,1.3s
LPL La Plagne 103.44 320 e*P* **Pdif 11 10 55.0 -0.4**
LPL pmax pmax
comp=Z,360nm,1.5s
LPL La Plagne 103.44 320 e*P* **Pdif 11 10 55.0 -0.4**
comp=Z,360nm,1.5s
SAOF Saorge 103.52 318 e*P* **Pdif 11 10 55.2 -0.3**
SAOF Saorge 103.52 318 PKP Tx 11 52 44.1
EDM Edmonton 103.55 31 e*P* **Pdif 11 10 56.2 +0.7**
EDM Edmonton 103.55 31 e*P*diff **Pdif 11 10 56.2 +0.7**
AUTN L'Aution 103.61 318 e*P* **Pdif 11 10 55.7 -0.4**
AUTN L'Aution 103.61 318 PKP Tx 11 52 39.4
SBF Sospel 103.65 318 e*P* **Pdif 11 10 55.1 -1.0**
comp=Z,203nm,1.5s
SBF ep**P** 11 13 09.9
SBF Sospel 103.65 318 e*P* Tx 11 52 54.5
SBF Sospel 103.65 318 e*P* **Pdif 11 10 55.1 -1.0**
SBF pmax pmax
comp=Z,203nm,1.5s
SBF Sospel 103.65 318 e*P* **Pdif 11 10 55.1 -1.0**
comp=Z,203nm,1.5s
SBF ep**P** 11 13 09.9
BNI Bardonecchia 103.67 319 e*P* **Pdif 11 10 56.9 +0.6**
BNI Bardonecchia 103.67 319 e*P*diff **Pdif 11 10 56.9 +0.6**
LUCF Luceram 103.70 318 e*P* **Pdif 11 10 56.1 -0.3**
TOUF Mont Tournerai 103.72 318 e*P* **Pdif 11 10 56.1 -0.5**
TOUF Mont Tournerai 103.72 318 PKP Tx 11 52 43.6
MBDF Montbardon 103.74 319 e*P* **Pdif 11 10 55.2 -1.4**
comp=Z,123nm,1.8s
MBDF Montbardon 103.74 319 e*P* Tx 11 52 55.2
comp=Z,9.3nm,1.1s
MBDF Montbardon 103.74 319 e*P* **Pdif 11 10 55.2 -1.4**
MBDF pmax pmax
comp=Z,123nm,1.8s
MBDF Montbardon 103.74 319 e*P* **Pdif 11 10 55.2 -1.4**
comp=Z,123nm,1.8s
REVF Revere 103.75 318 e*P* **Pdif 11 10 56.3 -0.2**
REVF Revere 103.75 318 PKP Tx 11 52 43.4
MVIF Mont Vial 103.83 318 e*P* **Pdif 11 10 56.8 -0.2**
MVIF Mont Vial 103.83 318 PKP Tx 11 52 43.6
NEW Newport 103.86 37 SKKPbc SKKPbc 11 29 26.4 -1.5
comp=Z,12nm,1.2s,baz=104,slow=5.4,SNR=3.7
OG35 Corcelles 103.96 321 e*P* **Pdif 11 10 57.6 +0.1**
G08A Pilot Rock 104.03 40 e*P*diff **Pdif 11 10 59.4 +1.5**
CALN Calern 104.06 318 e*P* **Pdif 11 10 57.8 -0.2**
BORG Borgarnes 104.12 345 PP PP 11 15 24.3 -0.6
BORG PKKPbc **PKKPbc 11 26 44.6 -1.6**
BORG PKKP **PKKPab 11 27 06.3 -1.3**
BORG SKKPbc SKKPbc 11 29 22.3 -5.3
BORG Borgarnes 104.12 345 PP PP 11 15 24.3 -0.6
comp=Z,84nm,1.2s,baz=78,slow=2.3,SNR=4.2
BORG PKKPbc **PKKPbc 11 26 44.6 -1.6**
comp=Z,54nm,1.1s,baz=224,slow=1.1,SNR=5.9
BORG PKKP **PKKPab 11 27 06.3 -1.3**

comp=Z,58nm,1.2s,baz=228,slow=4.9,SNR=4.0
BORG SKKPbc SKKPbc 11 29 22.3 -5.3
comp=Z,21nm,1.1s,baz=173,slow=0.5,SNR=3.2
EKA Eskdalemuir Ar 104.13 332 Pdif **Pdif 11 10 58.4 +0.5**
EKA PP PKiKP 11 15 17.9 +7.2
EKA PKKPbc **PKKPbc 11 26 44.1 -1.8**
EKA PKKP **PKKPab 11 27 05.4 -2.1**
EKA SKKPbc SKKPbc 11 29 25.8 -1.4
EKA Eskdalemuir Ar 104.13 332 Pdiff **Pdif 11 10 58.4 +0.5**
comp=Z,30nm,1.1s,baz=59,slow=5.9,SNR=15
EKA PP PKiKP 11 15 17.9 +7.2
comp=Z,4.3nm,0.5s,baz=82,slow=8.0,SNR=5.8
EKA PKKPbc **PKKPbc 11 26 44.1 -1.8**
comp=Z,9.0nm,0.4s,baz=238,slow=2.9,SNR=37
EKA PKKP **PKKPab 11 27 05.4 -2.1**
comp=Z,45nm,1.1s,baz=229,slow=2.7,SNR=9.5
EKA SKKPbc SKKPbc 11 29 25.8 -1.4
comp=Z,6.2nm,0.8s,baz=234,slow=2.4,SNR=5.3
ESK Eskdalemuir 104.16 332 *e*P **Pdif 11 10 58.5 +0.4**
ESK pmax pmax
comp=Z,44nm,1.3s
ESK Eskdalemuir 104.16 332 *e*Pdif **Pdif 11 10 58.5 +0.4**
comp=Z,44nm,1.3s
I07A Izee 104.17 41 *e*Pdif **Pdif 11 11 00.0 +1.5**
ILULI Ilulissat 104.19 358 *e*P **Pdif 11 10 57.6 -0.3**
ILULI MLR MLR
comp=Z,2µm,17.0s
ORIF Oris-en-Rattie 104.24 320 *e*P **Pdif 11 10 58.2 -0.6**
comp=Z,265nm,1.6s
ORIF *e*R
comp=Z,3µm,19.8s
ORIF Oris-en-Rattie 104.24 320 *e*P Tx 11 52 58.0
comp=Z,74nm,1.5s
ORIF Oris-en-Rattie 104.24 320 *e*P **Pdif 11 10 58.2 -0.6**
ORIF pmax pmax
comp=Z,265nm,1.6s
ORIF Oris-en-Rattie 104.24 320 *e*P **Pdif 11 10 58.2 -0.6**
comp=Z,265nm,1.6s
SUR Sutherland 104.25 238 PKiKP **PKiKP 11 15 15.1 +3.2**
SUR PKKPbc **PKKPbc 11 26 44.9 +0.1**
SUR Sutherland 104.25 238 PKiKP **PKiKP 11 15 15.1 +3.2**
comp=Z,8.1nm,0.7s,baz=155,slow=7.5,SNR=7.4
SUR PKKPbc **PKKPbc 11 26 44.9 +0.1**
comp=Z,18nm,1.1s,baz=281,slow=1.6,SNR=4.3
FRF La Foret Royal 104.30 318 *e*P **Pdif 11 10 58.2 -0.7**
comp=Z,252nm,1.5s
FRF La Foret Royal 104.30 318 *e*P Tx 11 52 58.0
FRF La Foret Royal 104.30 318 *e*P **Pdif 11 10 58.2 -0.7**
comp=Z,252nm,1.5s
OG25 Le Caire 104.34 319 *e*P **Pdif 11 10 59.3 +0.1**
LMR La Mourre 104.48 318 *e*P **Pdif 11 10 59.1 -0.6**
comp=Z,224nm,1.5s
LMR La Mourre 104.48 318 *e*P Tx 11 52 58.3
comp=Z,15nm,1.0s
LMR La Mourre 104.48 318 *e*P **Pdif 11 10 59.1 -0.6**
LMR pmax pmax
comp=Z,224nm,1.5s
LMR La Mourre 104.48 318 *e*P **Pdif 11 10 59.1 -0.6**
comp=Z,224nm,1.5s
LOR Lormes 104.48 322 *e*P **Pdif 11 10 59.1 -0.6**
comp=Z,216nm,1.5s,baz=60
LOR *ep*P 11 13 14.0
LOR *e*R
comp=Z,4µm,20.2s
LOR Lormes 104.48 322 *e*P Tx 11 52 58.5
comp=Z,122nm,1.6s,baz=59
LOR Lormes 104.48 322 *e*P **Pdif 11 10 59.1 -0.6**
comp=Z,216nm,1.5s
LOR *ep*P 11 13 14.0
MOD Modoc 104.50 44 *e*Pdif **Pdif 11 11 01.3 +1.2**
OG26 St.-Nazaire-De 104.76 319 *e*P **Pdif 11 11 01.0 0.0**
SMF Signal de Mont 104.77 322 *e*P **Pdif 11 11 00.4 -0.6**
comp=Z,158nm,1.6s
SMF *ep*P 11 13 15.1
SMF Signal de Mont 104.77 322 *e*P Tx 11 53 00.0
comp=Z,36nm,1.4s
SMF Signal de Mont 104.77 322 *e*P **Pdif 11 11 00.4 -0.6**
SMF pmax pmax
comp=Z,158nm,1.6s
SMF Signal de Mont 104.77 322 *e*P **Pdif 11 11 00.4 -0.6**
comp=Z,158nm,1.6s
SMF *ep*P 11 13 15.1
SSF Saint Saulge 104.79 322 *e*P **Pdif 11 11 00.6 -0.4**
comp=Z,149nm,1.5s
SSF *ep*P 11 13 15.3
SSF Saint Saulge 104.79 322 *e*P Tx 11 53 00.1
comp=Z,56nm,1.5s
SSF Saint Saulge 104.79 322 *e*P **Pdif 11 11 00.6 -0.4**
SSF pmax pmax
comp=Z,149nm,1.5s
SSF Saint Saulge 104.79 322 *e*P **Pdif 11 11 00.6 -0.4**
comp=Z,149nm,1.5s
SSF *ep*P 11 13 15.3
SMRF Simiane la Rot 104.83 319 *e*P **Pdif 11 11 01.0 -0.4**
comp=Z,86nm,1.4s
SMRF Simiane la Rot 104.83 319 *e*P Tx 11 53 00.1
comp=Z,7.9nm,0.8s
SMRF Simiane la Rot 104.83 319 *e*P **Pdif 11 11 01.0 -0.4**
comp=Z,86nm,1.4s
SSB Saint Sauveur 104.94 320 *e*P **Pdif 11 11 02.4 +0.6**
SSB pmax pmax
comp=Z,59nm,1.5s
SSB Saint Sauveur 104.94 320 *e*Pdif **Pdif 11 11 02.4 +0.6**
comp=Z,59nm,1.5s
AVF Avril sur Loir 105.01 322 *e*P **Pdif 11 11 01.4 -0.6**
comp=Z,166nm,1.5s
AVF Avril sur Loir 105.01 322 *e*P Tx 11 53 00.9
comp=Z,52nm,1.4s
AVF Avril sur Loir 105.01 322 *e*P **Pdif 11 11 01.4 -0.6**
AVF pmax pmax
comp=Z,166nm,1.5s
AVF Avril sur Loir 105.01 322 *e*P **Pdif 11 11 01.4 -0.6**
comp=Z,166nm,1.5s
VIVF Saint-Julien-l 105.04 320 *e*P **Pdif 11 11 01.6 -0.7**
comp=Z,95nm,1.3s
VIVF Saint-Julien-l 105.04 320 *e*P Tx 11 53 01.3
comp=Z,82nm,1.6s
VIVF Saint-Julien-l 105.04 320 *e*P **Pdif 11 11 01.6 -0.7**
VIVF pmax pmax
comp=Z,95nm,1.3s
VIVF Saint-Julien-l 105.04 320 *e*P **Pdif 11 11 01.6 -0.7**
comp=Z,95nm,1.3s
J08A Circle Bar Ran 105.15 42 *e*Pdif **Pdif 11 11 04.0 +1.2**
HYF Humbligny 105.22 323 *e*P **Pdif 11 11 03.0 0.0**
HYF Humbligny 105.22 323 *e*P Tx 11 53 02.6
HYF Humbligny 105.22 323 *e*P **Pdif 11 11 03.0 0.0**
BEKR Beckworth 105.25 46 *e*Pdif **Pdif 11 11 03.7 +0.2**
comp=Z,4.2nm,1.0s
BMO Blue Mountains 105.27 40 *e*Pdif **Pdif 11 11 04.0 +0.6**
comp=Z,494nm,1.5s
KEST Kesra 105.29 310 *e*Pdif **Pdif 11 11 04.3 +0.7**
KEST *e*PKPdf **PKiKP 11 15 11.5 -2.0**
KEST *e*PP **PP 11 15 36.6 +2.0**
KEST Kesra 105.29 310 Pdiff **Pdif 11 11 04.0 +0.4**
comp=Z,6.6nm,1.2s,baz=47,slow=4.2,SNR=8.6
KEST PP **PP 11 15 30.8 -3.9**
comp=Z,12nm,0.7s,baz=314,slow=2.0,SNR=9.4
WVOR Wild Horse Val 105.43 43 *e*P **Pdif 11 11 04.9 +0.8**
WVOR pmax pmax
comp=Z,61nm,1.1s
WVOR Wild Horse Val 105.43 43 *e*Pdif **Pdif 11 11 04.9 +0.8**
comp=Z,61nm,1.1s
AGO Saint Agoulin 105.48 321 *e*P **Pdif 11 11 04.8 +0.6**
AGO Saint Agoulin 105.48 321 PKP Tx 11 53 04.8
PYM Petit Puy Mans 105.70 321 *e*P **Pdif 11 11 05.9 +0.7**
PYM Petit Puy Mans 105.70 321 PKP Tx 11 53 04.3
LASF Ste Croix 105.91 319 *e*P **Pdif 11 11 05.8 -0.3**
comp=Z,130nm,1.6s
LASF *ep*P 11 13 20.5
LASF Ste Croix 105.91 319 *e*P Tx 11 53 05.5
comp=Z,62nm,1.5s
LASF Ste Croix 105.91 319 *e*P **Pdif 11 11 05.8 -0.3**
comp=Z,130nm,1.6s
LASF *ep*P 11 13 20.5
TCF Toulx Ste Croi 105.94 322 *e*P **Pdif 11 11 06.0 -0.2**
comp=Z,154nm,1.4s
TCF Toulx Ste Croi 105.94 322 *e*P Tx 11 53 05.5
comp=Z,66nm,1.3s
TCF Toulx Ste Croi 105.94 322 *e*P **Pdif 11 11 06.0 -0.2**
TCF pmax pmax
comp=Z,154nm,1.4s
TCF Toulx Ste Croi 105.94 322 *e*P **Pdif 11 11 06.0 -0.2**
comp=Z,154nm,1.4s
LDF La Druitiere 106.19 325 *e*P **Pdif 11 11 07.1 -0.1**
comp=Z,260nm,1.7s
LDF *ep*P 11 13 21.7
LDF La Druitiere 106.19 325 *e*P Tx 11 53 06.5
comp=Z,126nm,1.6s
LDF La Druitiere 106.19 325 *e*P **Pdif 11 11 07.1 -0.1**
LDF pmax pmax
comp=Z,260nm,1.7s
LDF La Druitiere 106.19 325 *e*P **Pdif 11 11 07.1 -0.1**
comp=Z,260nm,1.7s
LDF *ep*P 11 13 21.7
FLN La Foliniere 106.31 325 *e*P **Pdif 11 11 07.5 -0.2**
comp=Z,207nm,1.8s,baz=61
FLN *e*R
comp=Z,6µm,21.8s
FLN La Foliniere 106.31 325 *e*P Tx 11 53 07.0
comp=Z,61nm,1.3s,baz=62
FLN La Foliniere 106.31 325 *e*P **Pdif 11 11 07.5 -0.2**
FLN pmax pmax
comp=Z,207nm,1.8s
FLN La Foliniere 106.31 325 *e*P **Pdif 11 11 07.5 -0.2**
comp=Z,207nm,1.8s
SFJD Kangerlussuaq 106.39 358 *i* P **Pdif 11 11 07.6 -0.1**
comp=Z,17nm,1.0s
SFJD Kangerlussuaq 106.39 358 Pdif **Pdif 11 11 07.8 +0.1**
SFJD PP PP 11 15 34.6 -6.5
SFJD PKKPbc **PKKPbc 11 26 37.2 -2.3**
SFJD Kangerlussuaq 106.39 358 Pdiff **Pdif 11 11 07.8 +0.1**
comp=Z,24nm,1.0s,baz=21,slow=6.7,SNR=8.7
SFJD PP PP 11 15 34.6 -6.5
comp=Z,40nm,1.2s,baz=18,slow=8.2,SNR=5.6
SFJD PKKPbc **PKKPbc 11 26 37.2 -2.3**
comp=Z,6.9nm,0.6s,baz=183,slow=2.8,SNR=4.1
CMAH Djebel Manchou 106.43 311 P **PKiKP 11 15 19.3 +3.7**
WAKR Walker 106.44 47 *e*Pdif **Pdif 11 11 10.4 +1.6**
comp=Z,12nm,1.4s
MSO Missoula 106.44 37 ⇓P **PKiKP 11 15 15.6 +0.2**
baz=106
ABSA Djebel Ababsia 106.51 311 P **PKiKP 11 15 20.1 +4.3**
CAF Calviac 106.67 321 *e*P **Pdif 11 11 09.5 0.0**
comp=Z,106nm,1.6s
CAF *ep*P 11 13 24.4
CAF Calviac 106.67 321 *e*P Tx 11 53 09.1
comp=Z,50nm,1.5s
CAF Calviac 106.67 321 *e*P **Pdif 11 11 09.5 0.0**
CAF pmax pmax
comp=Z,106nm,1.6s
CAF Calviac 106.67 321 *e*P **Pdif 11 11 09.5 0.0**
comp=Z,106nm,1.6s
CAF *ep*P 11 13 24.4
GRR Gorron 106.72 325 *e*P **Pdif 11 11 09.7 +0.1**
comp=Z,334nm,1.7s
GRR Gorron 106.72 325 *e*P Tx 11 53 09.0
comp=Z,142nm,1.5s
GRR Gorron 106.72 325 *e*P **Pdif 11 11 09.7 +0.1**
GRR pmax pmax
comp=Z,334nm,1.7s
GRR Gorron 106.72 325 *e*P **Pdif 11 11 09.7 +0.1**
comp=Z,334nm,1.7s
CAEH 'Ain El Ouahch 106.79 311 P PKiKP 11 15 23.6 +7.4
RJF Les Rejaudoux 106.83 321 *e*P **Pdif 11 11 10.4 +0.2**
comp=Z,237nm,1.7s
RJF *ep*P 11 13 25.2
RJF *e*R
comp=Z,3µm,21.0s
RJF Les Rejaudoux 106.83 321 *e*P Tx 11 53 10.0
comp=Z,131nm,1.7s
RJF Les Rejaudoux 106.83 321 *e*P **Pdif 11 11 10.4 +0.2**
RJF pmax pmax
comp=Z,237nm,1.7s
RJF Les Rejaudoux 106.83 321 *e*P **Pdif 11 11 10.4 +0.2**
comp=Z,237nm,1.7s
RJF *ep*P 11 13 25.2
MFID Camas Ranch 106.86 41 ⇑P **PKiKP 11 15 17.5 +1.2**
baz=107
CKFL Kef-Lekhel 107.03 311 P PKiKP 11 15 22.8 +6.0
TSUM Tsumeb 107.17 252 *e*Pdif **Pdif 11 11 12.2 -0.2**
comp=Z,47nm,2.3s
TSUM PKKPbc **PKKPbc 11 26 34.5 -1.1**
TSUM PKKP **PKKPab 11 26 55.5 +2.5**
TSUM Tsumeb 107.17 252 PKKPbc PKKPbc 11 26 34.5 -1.1
comp=Z,14nm,1.2s,baz=212,slow=2.7,SNR=5.3
TSUM PKKP **PKKPab 11 26 55.5 +2.5**
comp=Z,29nm,1.1s,baz=243,slow=5.6,SNR=3.2
SNAA Sanae 107.20 195 *e*Pdif **Pdif 11 11 11.9 +0.6**
comp=Z,14nm,1.1s
SNAA PKiKP **PKiKP 11 15 16.5 +0.5**
SNAA PKKPbc **PKKPbc 11 26 33.5 -3.4**
SNAA PKKP **PKKPab 11 26 51.4 -1.1**
SNAA SKKPbc SKKPbc 11 29 15.1 -5.9
SNAA Sanae 107.20 195 Pdiff **Pdif 11 11 12.5 +1.2**
comp=Z,3.2nm,0.8s,baz=125,slow=4.0,SNR=14
SNAA PKiKP **PKiKP 11 15 16.5 +0.5**
comp=Z,4.6nm,0.8s,baz=185,slow=9.0,SNR=6.5
SNAA PKKPbc **PKKPbc 11 26 33.5 -3.4**
comp=Z,5.6nm,0.9s,baz=230,slow=2.7,SNR=16
SNAA PKKP **PKKPab 11 26 51.4 -1.1**
comp=Z,12nm,0.9s,baz=292,slow=4.4,SNR=12
SNAA SKKPbc SKKPbc 11 29 15.1 -5.9
comp=Z,3.9nm,0.8s,baz=340,slow=2.4,SNR=9.3
MFF Saint Martin d 107.21 323 *e*P **Pdif 11 11 11.7 -0.1**
comp=Z,79nm,1.5s
MFF Saint Martin d 107.21 323 *e*P Tx 11 53 11.2
comp=Z,63nm,1.4s
MFF Saint Martin d 107.21 323 *e*P **Pdif 11 11 11.7 -0.1**
MFF pmax pmax
comp=Z,79nm,1.5s
MFF Saint Martin d 107.21 323 *e*P **Pdif 11 11 11.7 -0.1**
comp=Z,79nm,1.5s
CASM Ain Smara 107.26 311 P PKiKP 11 15 24.0 +6.9
NVAR Mina Array Bea 107.28 46 Pdif **Pdif 11 11 13.2 +0.6**
NVAR *e* 11 17 54.3
NVAR PKKPbc **PKKPbc 11 26 36.1 0.0**
NVAR PKKP **PKKPab 11 26 52.0 -1.5**
NVAR SKKPbc SKKPbc 11 29 18.1 -0.4
NVAR Mina Array Bea 107.28 46 Pdiff **Pdif 11 11 13.2 +0.6**
comp=Z,7.2nm,0.9s,baz=272,slow=5.1,SNR=20
NVAR SKiKP **SKiKP 11 17 54.3 +0.6**
comp=Z,20nm,0.9s,baz=247,slow=3.4,SNR=5.9
NVAR PKKPbc **PKKPbc 11 26 36.1 0.0**
comp=Z,7.5nm,0.7s,baz=134,slow=2.6,SNR=12
NVAR PKKP **PKKPab 11 26 52.0 -1.5**
comp=Z,9.1nm,0.9s,baz=126,slow=4.6,SNR=6.9
NVAR SKKPbc **SKKPbc 11 29 18.1 -0.4**
comp=Z,14nm,1.1s,baz=142,slow=3.1,SNR=6.7
MTLF Montolieu 107.30 319 *e*P **Pdif 11 11 11.8 -0.5**
comp=Z,85nm,1.6s
MTLF *ep*P 11 13 26.7
MTLF Montolieu 107.30 319 *e*P Tx 11 53 11.7
comp=Z,65nm,1.6s
MTLF Montolieu 107.30 319 *e*P **Pdif 11 11 11.8 -0.5**
MTLF pmax pmax
comp=Z,85nm,1.6s
MTLF Montolieu 107.30 319 *e*P **Pdif 11 11 11.8 -0.5**
comp=Z,85nm,1.6s
MTLF *ep*P 11 13 26.7
CTEI Djebel Teioual 107.39 311 P PKiKP 11 15 25.2 +7.7
LFF La Frestale 107.49 321 *e*P **Pdif 11 11 13.3 +0.2**
comp=Z,148nm,1.8s
LFF La Frestale 107.49 321 *e*P Tx 11 53 12.9
comp=Z,90nm,1.6s
LFF La Frestale 107.49 321 *e*P **Pdif 11 11 13.3 +0.2**
LFF pmax pmax
comp=Z,148nm,1.8s
LFF La Frestale 107.49 321 *e*P **Pdif 11 11 13.3 +0.2**
comp=Z,148nm,1.8s
PKM Peak Mountain 107.51 50 ⇑P **PKiKP 11 15 18.5 +0.6**
baz=108
DFRA Djebel Bou Aff 107.61 312 P PKiKP 11 15 27.9 +10
HLID Hailey 107.71 40 *e*Pdif **Pdif 11 11 15.2 +0.8**
comp=Z,10nm,1.0s
HLID *e*PKPdf **PKiKP 11 15 20.1 +2.2**
HLID Hailey 107.71 40 ⇑P **PKiKP 11 15 18.8 +0.8**
baz=108
SGMF Saint Gilles 107.75 325 *e*P **Pdif 11 11 14.3 +0.1**
comp=Z,213nm,1.6s
SGMF Saint Gilles 107.75 325 *e*P Tx 11 53 13.6
SGMF Saint Gilles 107.75 325 *e*P **Pdif 11 11 14.3 +0.1**
SGMF pmax pmax
comp=Z,213nm,1.6s
SGMF Saint Gilles 107.75 325 *e*P **Pdif 11 11 14.3 +0.1**
comp=Z,213nm,1.6s
LRM Limekiln Ridge 107.84 37 *e*Pdif **Pdif 11 11 16.7 +1.7**
comp=Z,42nm,0.9s
FFC Flin Flon 108.06 26 *e*PKPdf **PKiKP 11 15 18.4 +0.4**
MCMT McKenzie Canyo 108.09 39 *e*PKPdf **PKiKP 11 15 19.7 +1.0**
ROSF Rostrenen 108.11 326 *e*P **Pdif 11 11 15.7 -0.1**
ROSF Rostrenen 108.11 326 *e*P **Pdif 11 11 15.7 -0.1**
ROSF Rostrenen 108.11 326 *e*P **Pdif 11 11 15.7 -0.1**
ARVC Arvin 108.17 50 ⇓P **PKiKP 11 15 20.0 +1.1**
baz=108
ISA Isabella 108.24 49 *e*PKPdf **PKiKP 11 15 19.7 +0.7**
ISA Isabella 108.24 49 ⇓P **PKiKP 11 15 19.4 +0.4**
baz=108
EGMT Eagleton 108.26 35 *e*PKPdf **PKiKP 11 15 18.9 +0.2**
EGMT *e*PP **PP 11 15 54.7 -0.7**
EGMT Eagleton 108.26 35 ⇓P **PKiKP 11 15 19.4 +0.6**
baz=108
QUIF Quistinic 108.28 325 *e*P **Pdif 11 11 16.3 -0.2**
comp=Z,115nm,1.6s
QUIF Quistinic 108.28 325 *e*P Tx 11 53 15.8
comp=Z,41nm,1.2s
QUIF Quistinic 108.28 325 *e*P **Pdif 11 11 16.3 -0.2**
QUIF pmax pmax
comp=Z,115nm,1.6s
QUIF Quistinic 108.28 325 *e*P **Pdif 11 11 16.3 -0.2**
comp=Z,115nm,1.6s
A19A Klindworth Far 108.32 33 ⇑P **PKiKP 11 15 18.9 +0.2**
baz=108
BOZ Bozeman (W) 108.42 37 *e*PKPdf **PKiKP 11 15 18.6 -0.6**
BOZ *e*PP **PP 11 15 56.1 -0.6**
ELK Elko 108.45 43 *e*Pdif **Pdif 11 11 18.8 +1.0**
comp=Z,3.4nm,0.9s
ELK *e*PKPdf **PKiKP 11 15 19.2 -0.3**
B19A Brinkman Farms 108.47 34 ⇑P **PKiKP 11 15 19.8 +0.7**
baz=108
EPF Esparros 108.66 320 *e*P **Pdif 11 11 19.1 +0.7**
comp=Z,57nm,1.8s
EPF Esparros 108.66 320 *e*P Tx 11 53 18.8
comp=Z,25nm,1.4s
EPF Esparros 108.66 320 *e*P **Pdif 11 11 19.1 +0.7**
EPF pmax pmax
comp=Z,57nm,1.8s
EPF Esparros 108.66 320 *e*P **Pdif 11 11 19.1 +0.7**
comp=Z,57nm,1.8s
C19A Slack Wire Ran 108.81 34 ⇓P **PKiKP 11 15 20.8 +1.0**
baz=109
MPMC Manual Prospec 108.82 48 ⇓P **PKiKP 11 15 21.8 +1.6**
baz=109
DECC Green Verdugo 108.89 51 ⇓P **PKiKP 11 15 21.6 +1.3**
baz=109
EDW2 Edwards Air Fo 108.91 50 ⇑P **PKiKP 11 15 22.1 +1.8**
baz=109
QLMT Earthquake Lak 108.96 38 *e*PKPdf **PKiKP 11 15 20.3 0.0**
B20A Solberg Farm, 108.99 33 ⇑P **PKiKP 11 15 21.2 +1.2**
baz=109
FURC Furnace Creek, 109.12 48 ⇓P **PKiKP 11 15 22.1 +1.6**
baz=109
FRB Frobisher Bay 109.18 6 PKiKP **PKiKP 11 15 20.1 +0.3**
FRB PP PP 11 15 52.2 -8.8
FRB PKKPbc **PKKPbc 11 26 27.0 -3.8**
FRB PKKP **PKKPdf 11 26 40.5 -2.9**
FRB Frobisher Bay 109.18 6 PKiKP **PKiKP 11 15 20.1 +0.3**
comp=Z,11nm,0.6s,baz=337,slow=5.0,SNR=3.5
FRB PP PP 11 15 52.2 -8.8
comp=Z,30nm,1.0s,baz=348,slow=6.8,SNR=3.3
FRB PKKPbc **PKKPbc 11 26 27.0 -3.8**
comp=Z,8.0nm,0.4s,baz=166,slow=2.0,SNR=7.9
FRB PKKP **PKKPdf 11 26 40.5 -2.9**
comp=Z,32nm,0.9s,baz=191,slow=4.7,SNR=5.9
D19A Cripps Ranch, 109.22 35 ⇓P **PKiKP 11 15 22.0 +1.4**
baz=109
R11A Troy Canyon, C 109.26 46 *e*PKPdf **PKiKP 11 15 23.1 +2.1**
R11A Troy Canyon, C 109.26 46 ⇓P **PKiKP 11 15 22.2 +1.2**
baz=109
A21A Bergtoll Ranch 109.26 33 ⇓P **PKiKP 11 15 21.5 +1.0**
baz=109
ETSF Etsaut 109.30 320 *e*P **Pdif 11 11 21.4 +0.1**
comp=Z,49nm,1.7s
ETSF Etsaut 109.30 320 *e*P Tx 11 53 21.0
comp=Z,23nm,1.4s
ETSF Etsaut 109.30 320 *e*P **Pdif 11 11 21.4 +0.1**
ETSF Etsaut 109.30 320 *e*P **Pdif 11 11 21.4 +0.1**
YMR Madison River 109.33 38 *e*PKPdf **PKiKP 11 15 21.4 +0.3**
BFSC Mount Baldy Ra 109.40 50 ⇑P **PKiKP 11 15 21.8 +0.4**
baz=109
C20A Veseth Ranch, 109.41 34 ⇑P **PKiKP 11 15 22.0 +1.2**
baz=109,SNR=5.8
GCMT Greycliff 109.52 36 *e*PKPdf **PKiKP 11 15 22.7 +1.5**
GCMT *e*PP **PP 11 16 05.5 +1.0**
YFT Old Faithful 109.52 38 *e*PKPdf **PKiKP 11 15 22.0 +0.6**
B21A Ellsworth Farm 109.54 33 ⇓P **PKiKP 11 15 22.3 +1.2**
baz=109
HVU Hansel Valley 109.62 41 *e*PKPdf **PKiKP 11 15 22.4 +0.9**
SJPF Ste Jean 109.62 320 *e*P **Pdif 11 11 22.7 +0.1**
comp=Z,72nm,1.7s
SJPF Ste Jean 109.62 320 *e*P Tx 11 53 22.6
comp=Z,44nm,1.6s
SJPF Ste Jean 109.62 320 *e*P **Pdif 11 11 22.7 +0.1**
SJPF Ste Jean 109.62 320 *e*P **Pdif 11 11 22.7 +0.1**
GSC Goldstone 109.63 49 *e*PKPdf **PKiKP 11 15 23.2 +1.5**
GSC Goldstone 109.63 49 ⇓P **PKiKP 11 15 22.7 +1.0**
baz=110
E19A Rath Farm, Rou 109.67 36 ⇑P **PKiKP 11 15 22.5 +1.1**
baz=110
D20A Manuel Ranch, 109.69 35 ⇑P **PKiKP 11 15 21.4 0.0**
baz=110
SHOC Shoshone 109.78 48 ⇓P **PKiKP 11 15 22.5 +0.6**
baz=110
FLWY Flagg Ranch 109.79 38 *e*PKPdf **PKiKP 11 15 19.0 -2.9**
A22A Carney Farms, 109.80 32 ⇑P **PKiKP 11 15 22.1 +0.6**
baz=116
C21A Desert Coulee 109.85 34 ⇑P **PKiKP 11 15 22.5 +0.8**
baz=110
BGU Big Grassy Mou 109.86 42 *e*SKPdf **SKiKP 11 17 58.9 +0.5**
EMHD Djebel Mahouad 109.91 312 P **PKiKP 11 15 22.0 -0.2**
F19A Roth Farm, Mol 109.91 36 ⇑P **PKiKP 11 15 22.9 +0.9**
baz=110
MOOW Moose Ponds 109.94 39 *e*PKPdf **PKiKP 11 15 23.6 +1.4**
MOOW *e*SKPdf **SKiKP 11 17 59.0 +0.4**
TPAW Teton Pass 109.94 39 *e*PKPdf **PKiKP 11 15 24.1 +1.8**
TPAW *e*PP **PP 11 16 05.4 -2.4**
TPAW *e*SKPdf **SKiKP 11 17 59.1 +0.4**
I17A Pilgrim Ck. 109.95 39 ⇓P **PKiKP 11 15 23.0 +0.7**
baz=110
BBRC Big Bear Solar 109.96 50 ⇑P **PKiKP 11 15 23.3 +0.8**
baz=110
MURC Murrieta 110.00 51 ⇓P **PKiKP 11 15 22.9 +0.5**
baz=110
E20A Meyer Farm, Mu 110.02 35 ⇑P **PKiKP 11 15 22.9 +0.8**
baz=110
SPUT South Promonto 110.06 42 *e*SKPdf **SKiKP 11 17 59.3 +0.5**
REDW Red Top Meadow 110.07 39 *e*PKPdf **PKiKP 11 15 23.6 +1.1**
REDW *e*SKPdf **SKiKP 11 17 59.3 +0.4**
SNOW Snow King Moun 110.08 39 *e*PKPdf **PKiKP 11 15 23.6 +1.1**
SNOW *e*SKPdf **SKiKP 11 17 59.9 +1.0**
LOHW Long Hollow 110.10 39 *e*PKPdf **PKiKP 11 15 23.6 +1.1**
H18A Shoshone NF, C 110.11 37 ⇑P **PKiKP 11 15 22.6 +0.1**
baz=110
B22A Reddig Ranch S 110.17 33 ⇑P **PKiKP 11 15 23.1 +0.9**
baz=110
HEC Hector,Ludlow 110.18 49 ⇓P **PKiKP 11 15 23.6 +0.9**
baz=110
AHID Auburn Hatcher 110.22 40 *e*SKPdf **SKiKP 11 17 59.4 +0.2**
TUQ Turquoise Moun 110.24 49 ⇑P **PKiKP 11 15 23.7 +0.8**
baz=110
D21A La Casta Ranch 110.34 34 ⇑P **PKiKP 11 15 23.6 +0.9**
baz=110
DUG Dugway 110.35 43 *e*PKIKP **PKiKP 11 15 24.2 +1.2**
DUG Dugway 110.35 43 *e*PKPdf **PKiKP 11 15 24.2 +1.2**
DUG *e*SKPdf **SKiKP 11 18 00.4 +1.0**
DUG Dugway 110.35 43 ⇓P **PKiKP 11 15 23.8 +0.9**
baz=110
SHPR Sheep Range 110.35 47 *e*PKPdf **PKiKP 11 15 24.4 +1.2**
SHPR *e*SKPdf **SKiKP 11 18 00.6 +1.1**
A23A Redstone 110.36 32 ⇓P **PKiKP 11 15 23.2 +0.6**
baz=110
F20A Billings 110.40 36 ⇓P **PKiKP 11 15 23.7 +0.8**
baz=110
H19A Powell 110.53 37 ⇑P **PKiKP 11 15 24.4 +1.3**
baz=110
C22A Vida 110.56 33 ⇓P **PKiKP 11 15 24.1 +1.1**
baz=110,SNR=14
PFO Pinyon Flat Ob 110.57 51 ⇓P **PKiKP 11 15 23.7 +0.1**
baz=110
PFO Pinyon Flat Ob 110.57 51 SKKPbc SKKPbc 11 29 06.3 -2.6
comp=Z,23nm,1.3s,baz=324,slow=2.0,SNR=5.8
E21A Keefer Ranch, 110.60 35 ⇑P **PKiKP 11 15 24.2 +1.0**
baz=110
B23A Brockton 110.61 32 ⇓P **PKiKP 11 15 24.0 +1.0**
baz=110,SNR=8.1
G20A Bridger 110.69 36 ⇓P **PKiKP 11 15 24.6 +1.2**
baz=111
GMRC Granite Mounta 110.70 49 ⇑P **PKiKP 11 15 25.9 +2.1**
baz=111

D22A Cohagen 110.75 34 ⇑P PKiKP 11 15 24.8 +1.4
baz=111,SNR=17
BELC Belle Mtn. Jos 110.76 50 ⇓P PKiKP 11 15 25.5 +1.5
baz=111
A24A Westby 110.84 31 ⇓P PKiKP 11 15 24.6 +1.1
baz=111
I19A Meeteetse 110.86 38 ⇓P PKiKP 11 15 24.8 +0.9
baz=111
MONP Monument Peak 110.88 51 ⇓P PKiKP 11 15 25.1 +0.8
baz=111
C23A Lambert 110.90 33 ⇓P PKiKP 11 15 25.1 +1.4
baz=111,SNR=6.6
EBNR Beni Rached 110.91 313 P PKiKP 11 15 25.1 +1.1
F21A Absaloka Mine, 110.98 35 ⇓P PKiKP 11 15 24.4 +0.4
baz=111
LDFC Landfair 110.99 49 *e*PKPdf PKiKP 11 15 25.9 +1.6
LDFC *e*SKPdf **SKiKP 11 18 01.7 +1.0**
LAO LASA Array 110.99 34 *e*PKPdf PKiKP 11 15 25.2 +1.3
LAO *e*SKPdf **SKiKP 11 18 01.5 +1.1**
DGMT Dagmar 111.02 32 *e*PKPdf PKiKP 11 15 24.4 +0.5
DGMT *e*PP **PP 11 16 17.8 +3.0**
DGMT *e*SKPdf **SKPdf 11 18 00.1 -0.2**
DGMT Dagmar 111.02 32 ⇑P PKiKP 11 15 24.8 +0.9
baz=111
ARUT Antelope Range 111.03 45 *e*PKiKP PKiKP 11 15 26.1 +1.8
ARUT Antelope Range 111.03 45 *e*PKPdf PKiKP 11 15 26.1 +1.8
ARUT *e*SKPdf **SKiKP 11 18 02.7 +1.9**
JLU Jordanelle 111.06 42 *e*PKPdf PKiKP 11 15 25.1 +0.7
JLU *e*PP **PP 11 16 16.8 +1.0**
JLU *e*SKPdf **SKiKP 11 18 01.3 +0.4**
ECHA Ech Chlef 111.09 313 P PKiKP 11 15 29.1 +4.8
M17A Scullys Gap (B 111.15 41 ⇓P PKiKP 11 15 25.5 +0.9
baz=111
CCUT Cedar City 111.19 46 *e*SKPdf SKiKP 11 18 02.3 +1.0
BW06 Boulder Array 111.19 39 *e*PKPdf PKiKP 11 15 25.9 +1.2
BW06 *e*SKPdf **SKPdf 11 18 00.7 -0.3**
PDAR Pinedale Array 111.19 39 Pdiff **Pdiff 11 11 30.4 +0.4**
PDAR PKiKP **PKiKP 11 15 24.9 +0.3**
PDAR PP **PP 11 16 12.4 -4.0**
PDAR SKP 11 18 00.7
PDAR PKKPbc **PKKPbc 11 26 22.1 -2.0**
PDAR PKKP **PKKPab 11 26 34.1 -2.1**
PDAR SKKPbc SKKPbc 11 29 04.8 -2.7
PDAR Pinedale Array 111.19 39 Pdiff **Pdiff 11 11 30.3 +0.4**
comp=Z,1.0nm,1.0s,baz=233,slow=4.4,SNR=5.7
PDAR PKiKP **PKiKP 11 15 24.9 +0.3**
comp=Z,3.8nm,0.6s,baz=270,slow=0.5,SNR=12
PDAR PP **PP 11 16 12.4 -4.0**
comp=Z,8.7nm,1.0s,baz=311,slow=3.5,SNR=4.7
PDAR SKP 11 18 00.7
comp=Z,27nm,1.1s,baz=270,slow=0.5,SNR=8.0
PDAR PKKPbc **PKKPbc 11 26 22.1 -2.0**
comp=Z,3.8nm,0.7s,baz=119,slow=5.7,SNR=8.7
PDAR PKKP **PKKPab 11 26 34.1 -2.1**
comp=Z,21nm,1.0s,baz=124,slow=5.7,SNR=18
PDAR SKKPbc SKKPbc 11 29 04.8 -2.7
comp=Z,11nm,1.1s,baz=111,slow=4.0,SNR=5.5
H20A Greybull 111.22 37 ⇑P PKiKP 11 15 25.4 +1.0
baz=111
MPU Maple Canyon 111.23 43 *e*PKPdf PKiKP 11 15 25.4 +0.7
MPU *e*SKPdf **SKiKP 11 18 02.0 +0.8**
J19A Crowheart 111.24 38 ⇓P PKiKP 11 15 25.4 +0.8
baz=111
D23A Lindsay 111.27 33 ⇓P PKiKP 11 15 25.9 +1.5
baz=111,SNR=11
G21A Lodge Grass 111.27 36 ⇓P PKiKP 11 15 25.4 +0.9
baz=111
A25A Svangstu Ranch 111.29 31 ⇑P PKiKP 11 15 25.6 +1.2
baz=111,SNR=6.4
E22A Miles City 111.29 34 ⇓P PKiKP 11 15 25.7 +1.2
baz=111,SNR=8.2
L18A Fontenelle, Gr 111.32 40 ⇓P PKiKP 11 15 26.2 +1.4
baz=111
IRM Iron Mountain 111.34 49 ⇓P PKiKP 11 15 26.7 +1.8
baz=111
SWSC Sam W. Stewart 111.34 51 ⇓P PKiKP 11 15 26.4 +1.5
baz=111
EANR 'Ain N'Sour 111.37 313 P PKiKP 11 15 26.6 +1.7
I20A Worland 111.44 37 ⇑P PKiKP 11 15 26.0 +1.1
baz=111
ETRT Tiaret 111.47 312 P PKiKP 11 15 27.8 +2.6
C24A Savage 111.48 33 ⇑P PKiKP 11 15 25.9 +1.2
baz=111,SNR=6.6
F22A Rosebud 111.50 35 ⇓P PKiKP 11 15 25.7 +0.8
baz=111,SNR=8.5
K19A Absolon Red Bu 111.60 39 ⇓P PKiKP 11 15 25.9 +0.6
baz=112
B25A Knox Farm, Ray 111.68 32 ⇑P PKiKP 11 15 26.3 +1.2
baz=112
H21A Big Horn, Sher 111.71 36 ⇓P PKiKP 11 15 25.9 +0.5
baz=112
D24A Glendive 111.78 33 ⇑P PKiKP 11 15 26.4 +1.1
baz=112
J20A Shoshoni 111.79 38 ⇓P PKiKP 11 15 26.4 +0.8
baz=112,SNR=11
G22A Birney 111.81 36 ⇑P PKiKP 11 15 26.4 +0.9
baz=112,SNR=7.9
OJGS Djebel Guires 111.82 312 P PP 11 16 21.0 -0.1
A26A Wade Farm, Ken 111.86 30 ⇓P PKiKP 11 15 26.6 +1.1
baz=112,SNR=7.8
TMUT Trail Mountain 111.86 43 *e*PKPdf PKiKP 11 15 27.4 +1.3
TMUT *e*SKPdf **SKiKP 11 18 03.2 +0.7**
W13A Hualapai Mount 111.89 48 ⇓P PKiKP 11 15 27.6 +1.5
baz=112
Y12C Blythe 111.98 50 ⇑P PKiKP 11 15 27.0 +1.0
baz=112
K20A Yellowstone Ra 112.01 39 ⇑P PKiKP 11 15 26.6 +0.5
baz=112
I21A Big Trails, Te 112.02 37 ⇑P PKiKP 11 15 26.5 +0.4
baz=112
F23A Volborg 112.02 35 ⇓P PKiKP 11 15 26.6 +0.7
baz=112,SNR=16
GLA Glamis 112.04 50 *e*PKIKP PKiKP 11 15 28.1 +1.8
GLA Glamis 112.04 50 *e*PKPdf PKiKP 11 15 28.1 +1.8
GLA *e*SKPdf **SKiKP 11 18 04.1 +1.4**
GLA Glamis 112.04 50 ⇑P PKiKP 11 15 27.4 +1.2
baz=112
PDMCI Parker Dam,Lak 112.04 49 ⇓P PKiKP 11 15 27.3 +1.2
baz=112
Q16A Castle Valley 112.07 43 *e*Pdif **Pdif 11 11 35.5 +1.6**
Q16A *e*PKPdf PKiKP 11 15 28.0 +1.7
Q16A SKPdf **SKiKP 11 18 04.6 +1.8**
Q16A Castle Valley 112.07 43 ⇑P PKiKP 11 15 27.7 +1.3
baz=112
B26A Jensen Ranch, 112.10 31 ⇑P PKiKP 11 15 26.4 +0.5
baz=112
M19A Rock Springs 112.10 40 ⇑P PKiKP 11 15 27.5 +1.1
baz=112
E24A Baker 112.13 34 ⇑P PKiKP 11 15 27.3 +1.3
baz=112,SNR=9.6
H22A Clearmont 112.13 36 ⇓P PKiKP 11 15 26.7 +0.5
baz=112
A27A Ledoux Ranch, 112.22 30 ⇓P PKiKP 11 15 27.3 +1.3
baz=112,SNR=9.6
D25A Fairfield 112.30 33 ⇓P PKiKP 11 15 27.5 +1.1
baz=112,SNR=7.0
G23A Biddle 112.34 35 ⇓P PKiKP 11 15 27.2 +0.7
baz=112,SNR=13
L20A Wamsutter 112.36 39 ⇑P PKiKP 11 15 27.5 +0.7
baz=112
SRU San Rafael 112.42 43 *e*PKIKP PKiKP 11 15 28.0 +1.0
SRU San Rafael 112.42 43 *e*PKPdf PKiKP 11 15 28.0 +1.0
SRU *e*SKPdf **SKiKP 11 18 04.0 +0.5**
I22A 9 Mile Ranch, 112.45 37 ⇑P PKiKP 11 15 27.3 +0.4
baz=112
U15A North Rim 112.46 46 ⇓P PKiKP 11 15 28.8 +1.6
baz=112
F24A Ekalaka 112.49 34 ⇓P PKiKP 11 15 27.6 +0.8
baz=112,SNR=9.0
C26A Wahner Farm, P 112.52 31 ⇑P PKiKP 11 15 27.7 +1.0
baz=112,SNR=6.8
ODJA Bouhanifia 112.56 313 P PP 11 16 23.0 -3.2
B27A Peters Farms, 112.57 31 ⇓P PKiKP 11 15 27.8 +1.1
baz=112
E25A Miller Ranch, 112.66 33 ⇓P PKiKP 11 15 28.3 +1.2
baz=112,SNR=8.8
USTO Oran 112.67 313 P PP 11 16 25.0 -1.8
TAM Tamanrasset 112.68 298 *e*PKIKP PKiKP 11 15 29.9 +2.0
TAM *e* 11 26 20.4
TAM Tamanrasset 112.68 298 *e*PKPdf PKiKP 11 15 29.9 +2.0
TAM *e*PKKPbc **PKKPbc 11 26 20.4 +1.9**
TAM *e*PKKPab **PKKPab 11 26 30.5 +1.4**
K21A Alcova 112.69 38 ⇓P PKiKP 11 15 28.1 +0.7
baz=113,SNR=6.9
H23A Clabaugh Cattl 112.70 36 ⇓P PKiKP 11 15 27.6 +0.3
baz=113

J22A Midwest 112.73 37 ⇑P PKiKP 11 15 27.7 +0.3
baz=113
M20A Sweetwater, Wa 112.73 40 ⇓P PKiKP 11 15 28.6 +1.0
baz=113,SNR=5.6
A28A Rude Farm, Bot 112.73 30 ⇑P PKiKP 11 15 28.0 +0.9
baz=113,SNR=8.0
O19A Miners Draw (B 112.75 41 ⇑P PKiKP 11 15 28.3 +0.7
baz=113
G24A Alzada 112.81 35 ⇓P PKiKP 11 15 27.8 +0.3
baz=113,SNR=14
D26A Manning 112.85 32 ⇑P PKiKP 11 15 28.3 +0.9
baz=113,SNR=6.1
C27A Sayler Ranch, 112.90 31 ⇓P PKiKP 11 15 28.6 +1.1
baz=113,SNR=7.2
113A Mohawk Valley, 112.97 50 ⇑P PKiKP 11 15 28.9 +1.0
baz=113
F25A Bowman 112.98 34 ⇑P PKiKP 11 15 28.8 +1.1
baz=113,SNR=8.5
L21A Rawlins 112.99 39 ⇓P PKiKP 11 15 28.8 +0.8
baz=113,SNR=8.3
B28A Dugan Ranch, T 112.99 30 ⇓P PKiKP 11 15 28.5 +0.9
baz=113,SNR=14
N20A Spence Gulch, 113.03 40 ⇓P PKiKP 11 15 29.6 +1.4
baz=113,SNR=18
Y14A Wickenburg 113.05 49 ⇓P PKiKP 11 15 29.5 +1.3
baz=113
H24A Dirks Ranch, A 113.08 35 ⇓P PKiKP 11 15 28.4 +0.4
baz=113,SNR=16
K22A Casper 113.13 38 ⇑P PKiKP 11 15 28.6 +0.4
baz=113,SNR=6.8
ESDC Sonseca Array 113.14 318 Pdif **Pdif 11 11 38.9 +0.5**
ESDC PKiKP **PKiKP 11 15 28.6 +0.4**
ESDC PP PP 11 16 22.1 -7.9
ESDC PKKPbc **PKKPbc 11 26 17.8 +0.3**
ESDC SKKPbc SKKPbc 11 28 59.0 -2.6
ESDC Sonseca Array 113.14 318 Pdiff **Pdif 11 11 38.9 +0.5**
comp=Z,0.1nm,0.2s,baz=49,slow=4.3,SNR=13
ESDC PKiKP **PKiKP 11 15 28.5 +0.4**
comp=Z,0.9nm,0.4s,baz=30,slow=1.7,SNR=10
ESDC PP PP 11 16 22.1 -7.9
comp=Z,6.1nm,0.7s,baz=60,slow=8.7,SNR=6.1
ESDC PKKPbc **PKKPbc 11 26 17.8 +0.3**
comp=Z,29nm,1.0s,baz=252,slow=2.8,SNR=28
ESDC SKKPbc SKKPbc 11 28 59.0 -2.6
comp=Z,9.9nm,0.9s,baz=266,slow=2.3,SNR=8.2
E26A Carlson Angus 113.19 33 ⇑P PKiKP 11 15 29.1 +1.0
baz=113,SNR=15
M21A Separation Pea 113.19 39 ⇓P PKiKP 11 15 29.1 +0.6
baz=113,SNR=19
A29A Manning Farm, 113.23 29 ⇑P PKiKP 11 15 28.6 +0.6
baz=113,SNR=11
RWWY Rawlins 113.24 39 *e*PKPdf PKiKP 11 15 33.6 +5.0
RWWY *e*SKPdf **SKiKP 11 18 10.3 +5.1**
D27A Center 113.28 32 ⇓P PKiKP 11 15 29.4 +1.2
baz=113
J23A Dilts Ranch, B 113.29 37 ⇓P PKiKP 11 15 28.8 +0.3
baz=113
Z14A Wintersburg 113.34 49 ⇓P PKiKP 11 15 30.1 +1.4
baz=113
O20A White River Ci 113.41 41 *e*PKPdf PKiKP 11 15 30.2 +1.3
O20A *e*SKPdf **SKiKP 11 18 06.3 +0.9**
O20A White River Ci 113.41 41 ⇓P PKiKP 11 15 30.3 +1.3
baz=113,SNR=24
G25A Newell 113.46 34 ⇑P PKiKP 11 15 29.1 +0.4
baz=113,SNR=19
PAB San Pablo 113.46 318 *e*PKIKP PKiKP 11 15 29.6 +0.8
PAB *e* 11 16 31.8
PAB *e* 11 26 16.5
PAB *e* 11 26 26.4
PAB San Pablo 113.46 318 *e*PKPdf PKiKP 11 15 29.6 +0.8
PAB *e*PP **PP 11 16 31.8 -0.5**
PAB *e*PKKPbc **PKKPbc 11 26 16.4 +0.1**
PAB *e*PKKPab **PKKPab 11 26 26.4 +0.6**
F26A Lodgepole 113.46 33 ⇓P PKiKP 11 15 29.4 +0.8
baz=113
C28A Hausauer Farms 113.47 31 ⇑P PKiKP 11 15 29.5 +0.9
baz=113,SNR=6.1
B29A Wagenman Farm, 113.48 30 ⇑P PKiKP 11 15 29.1 +0.6
baz=113,SNR=14
OLHC Oulhaca 113.52 313 P PP 11 16 22.0 -11
L22A Ellis Ranch, M 113.53 38 ⇑P PKiKP 11 15 29.8 +0.7
baz=113
WUAZ Wupatki 113.54 47 *e*PKPdf PKiKP 11 15 31.0 +1.8
WUAZ *e*SKPdf **SKiKP 11 18 06.4 +0.6**
WUAZ Wupatki 113.54 47 ⇓P PKiKP 11 15 30.4 +1.2
baz=114
I24A Kuemmerle Ranc 113.57 36 ⇓P PKiKP 11 15 28.9 0.0
baz=113,SNR=5.3
K23A Bowen Ranch, D 113.62 37 ⇑P PKiKP 11 15 29.3 +0.1
baz=114
P20A De Beque 113.65 42 ⇓P PKiKP 11 15 30.5 +1.2
baz=114,SNR=9.5
A30A Hoffart Farm, 113.67 29 ⇓P PKiKP 11 15 29.3 +0.4
baz=114
E27A Carson 113.69 32 ⇓P PKiKP 11 15 30.1 +1.1
baz=114,SNR=9.9
H25A Fruitdale 113.70 35 ⇓P PKiKP 11 15 29.5 +0.4
baz=114
D28A Regan 113.72 31 ⇑P PKiKP 11 15 29.8 +0.7
baz=114,SNR=11
RSSD Black Hills 113.75 35 *e*PKIKP PKiKP 11 15 29.7 +0.2
RSSD *e* 11 26 17.7
RSSD Black Hills 113.75 35 *e*PKPdf PKiKP 11 15 29.7 +0.2
RSSD *e*SKPdf **SKPdf 11 18 06.0 0.0**
RSSD *e*PKKPbc **PKKPbc 11 26 17.7 +1.9**
MDND Maddock 113.77 30 *e*PKPdf PKiKP 11 15 29.4 +0.3
MDND *e*PP **PP 11 16 33.6 -0.3**
MDND *e*SKPdf **SKiKP 11 18 05.7 0.0**
MDND Maddock 113.77 30 ⇑P PKiKP 11 15 29.8 +0.7
baz=114,SNR=7.4
PBRG Braganca 113.77 321 *e*PKPdf PKiKP 11 15 29.5 +0.2
PBRG Braganca 113.77 321 *e*PP PP 11 16 33.4 -0.9
M22A Cedar Creek Ra 113.78 39 ⇑P PKiKP 11 15 30.3 +0.7
baz=114,SNR=7.0
PV10 Paradox Valley 113.79 43 *e*PKPdf PKiKP 11 15 30.8 +1.1
PV10 *e*SKPdf **SKiKP 11 18 07.7 +1.4**
F27A Lemmon 113.80 33 ⇓P PKiKP 11 15 30.1 +0.8
baz=114,SNR=10
G26A Maurine 113.85 34 ⇓P PKiKP 11 15 29.9 +0.5
baz=114,SNR=9.0
ULM Lac du Bonnet 113.85 26 *e*PKPdf PKiKP 11 15 29.1 -0.1
ULM SKP 11 18 04.6
ULM *e*SKPdf **SKiKP 11 18 05.7 0.0**
ULM PKKPbc **PKKPbc 11 26 12.7 -2.7**
ULM SKKPbc **SKKPbc 11 28 56.4 -3.2**
ULM Lac du Bonnet 113.85 26 PKiKP **PKiKP 11 15 29.3 +0.2**
comp=Z,24nm,0.6s,baz=313,slow=2.1,SNR=31
ULM SKP 11 18 04.6
comp=Z,73nm,1.0s,baz=354,slow=2.1,SNR=13
ULM PKKPbc **PKKPbc 11 26 12.7 -2.7**
comp=Z,8.9nm,0.5s,baz=137,slow=3.2,SNR=8.2
ULM SKKPbc SKKPbc 11 28 56.4 -3.2
comp=Z,30nm,1.1s,baz=112,slow=2.0,SNR=6.4
J24A Dixon Ranch, L 113.86 36 ⇓P PKiKP 11 15 30.0 +0.5
baz=114
O21A Pagoda 113.87 41 ⇑P PKiKP 11 15 30.4 +0.6
baz=114,SNR=14
B30A Myrvik Farm, E 113.99 29 ⇑P PKiKP 11 15 29.8 +0.3
baz=114
I25A Rochford 113.99 35 ⇑P PKiKP 11 15 30.4 +0.6
baz=114,SNR=24
Q20A Ridgley Place, 113.99 42 ⇑P PKiKP 11 15 31.1 +1.1
baz=114,SNR=6.5
X16A Lo Mia Camp, P 114.00 48 ⇓P PKiKP 11 15 31.7 +1.5
baz=114
214A Organ Pipe Nat 114.05 51 ⇑P PKiKP 11 15 31.5 +1.4
baz=114
E28A Huff 114.06 32 ⇑P PKiKP 11 15 30.6 +0.8
baz=114,SNR=8.3
K24A Anderson Ranch 114.12 37 ⇑P PKPdf 11 15 30.3 +0.2
baz=114,SNR=15
G27A Dupree 114.16 33 ⇓P PKiKP 11 15 30.6 +0.6
baz=114,SNR=28
H26A Fairpoint 114.17 34 ⇓P PKPdf 11 15 30.8 +0.8
baz=114,SNR=18
N22A Wattenberg Ran 114.20 40 ⇓P PKPdf 11 15 31.6 +1.1
baz=114,SNR=10
PV01 Paradox Valley 114.23 43 *e*SKPdf **SKiKP 11 18 07.9 +0.8**
P21A Newcastle 114.25 41 ⇑P PKPdf 11 15 31.8 +1.2
baz=114,SNR=6.0
D29A Pettibone, Tap 114.30 31 ⇓P PKPdf 11 15 30.4 +0.2
baz=114,SNR=6.3
MVO Moncorvo 114.31 321 *e*PKPdf PKPdf 11 15 31.3 +0.9
MVO Moncorvo 114.31 321 *e*PP PP 11 16 36.7 -1.4
MVO *e*SKSac **SKSac 11 21 20.8 +0.9**
MVO *i* P **SP 11 25 08.8 -5.2**

J25A Sunshine Ranch 114.33 36 ⇑P PKPdf 11 15 30.8 +0.4
baz=114,SNR=8.8
R20A Redvale 114.33 43 ⇓P PKPdf 11 15 31.0 +0.2
baz=114,SNR=6.0
C30A Mose, Pekin 114.43 30 ⇓P PKPdf 11 15 30.9 +0.5
baz=114,SNR=13
L24A Wheatland 114.45 38 ⇓P PKPdf 11 15 31.0 +0.2
baz=114,SNR=6.1
N23A Red Feather La 114.47 39 ⇓P PKPdf 11 15 31.5 +0.5
baz=114
F28A McLaughlin 114.47 32 ⇑P PKPdf 11 15 31.1 +0.6
baz=114,SNR=14
I26A New Underwood 114.48 35 ⇓P PKPdf 11 15 31.5 +0.8
baz=114,SNR=12
O22A Kremmling 114.49 40 ⇑P PKPdf 11 15 31.7 +0.5
baz=114
S20A Disappointment 114.53 43 ⇓P PKPdf 11 15 32.5 +1.3
baz=114,SNR=15
Q21A Lamborn Mesa, 114.54 42 ⇓P PKPdf 11 15 32.6 +1.5
baz=114
PHWY Pilot Hill 114.55 39 *e*PKPdf PKPdf 11 15 31.8 +0.6
PHWY *e*SKPdf **SKPdf 11 18 07.1 -0.5**
H27A Howes 114.55 34 ⇑P PKPdf 11 15 31.5 +0.7
baz=114
E29A Napoleon 114.61 31 ⇓P PKPdf 11 15 32.1 +1.3
baz=114
PCAB Cabril 114.62 322 *e*PKPdf PKPdf 11 15 32.3 +1.4
PCAB Cabril 114.62 322 *e*PP PP 11 16 39.0 -1.1
PGAV Gavieira, Arco 114.62 322 *e*PKPdf PKPdf 11 15 32.2 +1.2
PGAV Gavieira, Arco 114.62 322 *e*PP PP 11 16 40.6 +0.4
PGAV *e*SKSac **SKSac 11 21 20.8 -0.3**
PGAV *i* P **SP 11 25 12.5 -4.2**
POLO Lamas de Olo 114.67 322 *e*PKPdf PKPdf 11 15 32.4 +1.3
POLO Lamas de Olo 114.67 322 *e*PP PP 11 16 40.6 +0.1
PVRL Vila Real 114.68 321 *e*PKPdf PKPdf 11 15 32.7 +1.6
PVRL Vila Real 114.68 321 *e*PP PP 11 16 39.6 -0.9
D30A Buchanan 114.70 30 ⇓P PKPdf 11 15 31.5 +0.6
baz=114,SNR=11
SMCO Snowmass 114.75 41 *e*PKPdf PKPdf 11 15 32.8 +1.0
SMCO *e*SKPdf **SKiKP 11 18 09.3 +0.9**
K25A Mack Ranch, Ha 114.75 37 ⇑P PKPdf 11 15 32.0 +0.6
baz=115
MVCO Mesa Verde 114.75 44 *e*PKPdf PKPdf 11 15 32.8 +1.2
MVCO *e*SKPdf **SKiKP 11 18 09.5 +1.3**
MVCO Mesa Verde 114.75 44 ⇓P PKPdf 11 15 33.2 +1.6
baz=115
R21A Cimarron 114.80 42 ⇑P PKPdf 11 15 32.3 +0.6
baz=115
J26A Sides Ranch, S 114.80 36 ⇑P PKPdf 11 15 31.7 +0.4
baz=115,SNR=10
M24A Cheyenne 114.84 38 ⇓P PKPdf 11 15 32.7 +1.1
baz=115
O23A Lake Granby, G 114.87 40 ⇓P PKPdf 11 15 33.0 +1.1
baz=115,SNR=29
G28A Parade 114.91 33 ⇓P PKPdf 11 15 32.2 +0.8
baz=115,SNR=30
W18A Petrified Fore 114.91 46 *e*PKPdf PKPdf 11 15 32.9 +1.0
W18A *e*SKPdf **SKiKP 11 18 09.5 +1.1**
W18A *e*PKKPab **PKKPab 11 26 19.0 -0.5**
W18A Petrified Fore 114.91 46 ⇓P PKPdf 11 15 33.5 +1.6
baz=115,SNR=18
I27A Quinn 114.92 35 ⇓P PKPdf 11 15 32.2 +0.7
baz=115,SNR=21
Q22A Crested Butte, 114.96 42 ⇑P PKPdf 11 15 33.5 +1.4
baz=115,SNR=14
L25A Engebretsen Ra 114.97 37 ⇑P PKPdf 11 15 32.4 +0.6
baz=115,SNR=9.4
F29A Eureka 115.00 32 ⇓P PKPdf 11 15 32.2 +0.6
baz=115,SNR=11
S21A Coal Bank Pass 115.00 43 ⇓P **PKPdf 11 15 34.1 +1.9**
baz=115
E30A Jud 115.03 31 ⇓P **PKPdf 11 15 32.2 +0.6**
baz=115,SNR=22
X18A Snowflake 115.03 47 ⇑P **PKPdf 11 15 33.8 +1.6**
baz=115,SNR=8.7
MTE Manteigas 115.06 321 *e*PKPdf **PKPdf 11 15 33.2 +1.3**
MTE Manteigas 115.06 321 *e*PP PP 11 16 41.5 -1.8
MTE *e*SKSac SKSac 11 21 11.1 -12
MTE *i* P SP 11 25 08.8 -12
PVIS Viseu 115.11 321 *e*PKPdf **PKPdf 11 15 33.0 +1.1**
PVIS Viseu 115.11 321 *e*PP PP 11 16 43.0 -0.5
K26A Motz Farm, Whi 115.11 36 ⇑P **PKPdf 11 15 32.4 +0.5**
baz=115,SNR=7.6
H28A Mission Ridge 115.11 34 ⇑P **PKPdf 11 15 32.2 +0.4**
baz=115,SNR=15
U20A Newcomb 115.16 45 ⇓P **PKPdf 11 15 33.9 +1.6**
baz=115,SNR=9.4
N24A Carr 115.17 39 ⇑P **PKPdf 11 15 33.0 +0.8**
baz=115
AGMN Agassiz Nation 115.27 28 *e*PKPdf **PKPdf 11 15 31.6 -0.4**
AGMN *e*PP **PP 11 16 42.3 -1.8**
AGMN *e*SKPdf **SKPdf 11 18 08.2 -0.2**
ISCO Idaho Springs 115.29 40 *e*PKIKP **PKPdf 11 15 33.5 +0.8**
ISCO Idaho Springs 115.29 40 *e*PKPdf **PKPdf 11 15 33.5 +0.8**
ISCO *e*SKPdf **SKiKP 11 18 09.3 +0.1**
ISCO Idaho Springs 115.29 40 ⇑P **PKPdf 11 15 33.7 +1.0**
baz=115
PCBR Castelo Branco 115.33 320 *e*PKPdf **PKPdf 11 15 33.8 +1.5**
PCBR Castelo Branco 115.33 320 *e*PP PP 11 16 43.4 -1.6
G29A Hoven 115.37 33 ⇓P **PKPdf 11 15 32.5 +0.2**
baz=115,SNR=19
P23A Jefferson 115.38 41 ⇑P **PKPdf 11 15 34.3 +1.4**
baz=115,SNR=13
R22A Saguache, Gunn 115.40 42 ⇓P **PKPdf 11 15 34.7 +1.8**
baz=115,SNR=5.5
F30A Leola 115.42 32 ⇓P **PKPdf 11 15 32.8 +0.5**
baz=115,SNR=6.8
TUC Tucson 115.44 50 *e*PKIKP **PKPdf 11 15 34.3 +1.4**
TUC Tucson 115.44 50 *e*PKPdf **PKPdf 11 15 34.2 +1.4**
TUC *e*SKPdf **SKiKP 11 18 10.3 +0.9**
J27A Elkhorn Farm, 115.45 35 ⇓P **PKPdf 11 15 33.2 +0.6**
baz=115,SNR=19
O24A Longmont 115.45 40 ⇓P **PKPdf 11 15 33.6 +0.9**
baz=115
I28A Midland 115.46 34 ⇓P **PKPdf 11 15 33.1 +0.6**
baz=115,SNR=30
V20A Brimhall 115.48 45 ⇑P **PKPdf 11 15 34.5 +1.5**
baz=115,SNR=12
PMRV Marv??o 115.51 320 *e*PKPdf **PKPdf 11 15 33.5 +0.8**
PMRV Marv??o 115.51 320 *e*PP PP 11 16 44.0 -2.3
PMRV *e*SKSac SKSac 11 21 16.3 -8.0
PMRV *i* P **SP 11 25 20.3 -4.5**
T21A Navajo Lake 115.53 44 ⇓P **PKPdf 11 15 35.0 +1.9**
baz=115,SNR=24
L26A Underwood Farm 115.56 37 ⇓P **PKPdf 11 15 33.6 +0.7**
baz=115
H29A Onida 115.58 33 ⇓P **PKPdf 11 15 32.9 +0.2**
baz=115,SNR=12
S22A 4UR Ranch, Cre 115.61 43 ⇑P **PKPdf 11 15 34.8 +1.5**
baz=116,SNR=6.6
Q23A Hartsel 115.64 41 ⇑P **PKPdf 11 15 34.4 +1.0**
baz=116,SNR=8.6
K27A Flueckinger Fa 115.66 36 ⇑P **PKPdf 11 15 33.1 +0.1**
baz=116,SNR=11
U21A Nageezi 115.73 44 ⇓P **PKPdf 11 15 35.3 +1.7**
baz=116,SNR=36
J28A Allard Ranch, 115.78 35 ⇑P **PKPdf 11 15 34.0 +0.8**
baz=116,SNR=22
W20A Ramah 115.79 46 ⇑P **PKPdf 11 15 35.4 +1.7**
baz=116,SNR=28
G30A Faulkton 115.83 32 ⇓P **PKPdf 11 15 33.5 +0.4**
baz=116,SNR=43
PCAS Casmilo, Conde 115.86 321 *e*PKPdf **PKPdf 11 15 34.2 +0.9**
PCAS Casmilo, Conde 115.86 321 *e*PP PP 11 16 49.0 +0.3
M26A McRoberts Ranc 115.87 37 ⇑P **PKPdf 11 15 34.1 +0.6**
baz=116
P24A Kohler Place, 115.90 40 ⇓P **PKPdf 11 15 34.7 +1.0**
baz=116,SNR=17
I29A Vivian Onida 115.92 34 ⇓P **PKPdf 11 15 33.8 +0.4**
baz=116,SNR=22
T22A Edith 115.94 43 ⇓P **PKPdf 11 15 35.8 +1.9**
baz=116,SNR=11
PBAR Barrancos 115.97 318 *e*PKPdf **PKPdf 11 15 34.3 +0.7**
PBAR Barrancos 115.97 318 *e*PP PP 11 16 51.1 +1.6
L27A T5 Ranch, Ells 115.99 36 ⇑P **PKPdf 11 15 34.3 +0.6**
baz=116
R23A Moffat 116.04 42 ⇓P **PKPdf 11 15 35.6 +1.4**
baz=116,SNR=22
PTOM Tomar 116.05 320 *e*PKPdf **PKPdf 11 15 35.4 +1.7**
PTOM Tomar 116.05 320 *e*PP PP 11 16 50.0 0.0
Q24A Divide 116.06 41 ⇓P **PKPdf 11 15 34.9 +0.8**
baz=116,SNR=15
O25A Wiggins 116.06 39 ⇓P **PKPdf 11 15 34.7 +0.8**
baz=116,SNR=11
V21A Milan 116.06 45 ⇑P **PKPdf 11 15 35.5 +1.3**
baz=116,SNR=15

X20A Quemado 116.08 46 ⇓P PKPdf 11 15 33.8 -0.4
baz=116,SNR=5.4
K28A Ten Mile Ranch 116.15 35 ⇑P PKPdf 11 15 34.2 +0.3
baz=116,SNR=9.0
S23A Nye Farm, Mont 116.18 42 ⇑P PKPdf 11 15 35.9 +1.5
baz=116
N26A Koester Ranch, 116.20 38 ⇑P PKPdf 11 15 34.3 +0.2
baz=116
M27A Reverse DX Ran 116.28 37 ⇓P PKPdf 11 15 34.4 +0.2
baz=116,SNR=9.5
J29A Okreek 116.31 34 ⇓P PKPdf 11 15 34.6 +0.5
baz=116,SNR=21
U22A Llaves 116.31 44 ⇑P PKPdf 11 15 36.7 +2.0
baz=116,SNR=28
P25A Willow Gulch B 116.38 40 ⇓P PKPdf 11 15 35.8 +1.2
baz=116,SNR=33
BRSD Miller 116.38 33 ePKPdf PKPdf 11 15 34.1 -0.1
BRSD eSKPdf SKPdf 11 18 10.4 -0.3
BRSD ePKKP PKKPab 11 26 10.6 -2.3
BRSD Miller 116.38 33 ⇑P PKPdf 11 15 34.6 +0.3
baz=116,SNR=16
W21A San Fidel 116.40 45 ⇑P PKPdf 11 15 36.3 +1.5
baz=116
EVO Evora 116.41 319 ePKIKP PKPdf 11 15 35.7 +1.3
comp=Z,140nm,1.2s
EVO eR
comp=Z,4μm,21.5s
EVO Evora 116.41 319 ePKPdf PKPdf 11 15 35.5 +1.1
EVO Evora 116.41 319 ePP PP 11 16 51.0 -1.5
I30A Oacoma 116.47 33 ⇓P PKPdf 11 15 35.0 +0.6
baz=116,SNR=28
Y20A Horse Springs, 116.48 47 ⇓P PKPdf 11 15 36.9 +1.9
baz=116,SNR=12
EVOP Sao Brissos 116.48 319 ePKIKP PKPdf 11 15 35.7 +1.2
EVOP Sao Brissos 116.48 319 ePKPdf PKPdf 11 15 35.7 +1.2
O26A Horse Wrangler 116.49 39 ⇓P PKPdf 11 15 35.2 +0.5
baz=116
R24A Sanders Place, 116.49 41 ⇓P PKPdf 11 15 36.1 +1.2
baz=116,SNR=14
SDCO Great Sand Dun 116.50 42 ePKPdf PKPdf 11 15 35.9 +0.9
SDCO ePP PP 11 16 51.8 -1.7
SDCO eSKPdf SKiKP 11 18 12.4 +0.7
V22A San Miguel Ran 116.51 44 ⇑P PKPdf 11 15 36.9 +1.8
baz=116,SNR=35
T23A Casias Ranch, 116.52 43 ⇓P PKPdf 11 15 36.8 +1.8
baz=116,SNR=19
N27A Anderson Farm, 116.63 38 ⇓P PKPdf 11 15 35.4 +0.4
baz=116
X21A Alamocita Cree 116.64 46 ⇑P PKPdf 11 15 37.1 +1.8
baz=117,SNR=36
Q25A Bedland, Calha 116.67 40 ⇓P PKPdf 11 15 36.0 +0.8
baz=117,SNR=35
Z20A Nine Sixteen R 116.70 48 ⇑P PKPdf 11 15 37.3 +1.9
baz=117,SNR=26
K29A Lazy Trails An 116.72 35 ⇑P PKPdf 11 15 35.3 +0.3
baz=117,SNR=14
S24A Houchin Ranch, 116.75 42 ⇑P PKPdf 11 15 37.0 +1.5
baz=117,SNR=7.0
U23A El Rito 116.79 44 ⇑P PKPdf 11 15 37.2 +1.7
baz=117,SNR=17
PACT Alcochete 116.81 320 ePKPdf PKPdf 11 15 37.1 +1.9
PACT Alcochete 116.81 320 ePP PP 11 16 53.8 -1.3
J30A Dallas 116.82 34 ⇓P PKPdf 11 15 35.6 +0.4
baz=117,SNR=24
PVAQ Vaqueiros 116.83 318 ePKPdf PKPdf 11 15 36.8 +1.5
PVAQ Vaqueiros 116.83 318 ePP PP 11 16 53.8 -1.6
PVAQ eSKSac SKSac 11 21 24.6 -4.6
PVAQ i P SP 11 25 38.0 +1.1
OGNE Ogallala 116.85 37 ePKPdf PKPdf 11 15 35.5 +0.2
OGNE ePP PP 11 16 54.8 -0.7
OGNE eSKPdf SKPdf 11 18 11.6 -0.2
OGNE Ogallala 116.85 37 ⇓P PKPdf 11 15 35.6 +0.3
baz=117
P26A Davis Ranch, A 116.87 39 ⇑P PKPdf 11 15 36.5 +1.0
baz=117,SNR=44
PCVE Castro Verde 116.92 318 ePKPdf PKPdf 11 15 36.1 +0.7
PCVE Castro Verde 116.92 318 ePP PP 11 16 55.1 -0.9
Y21A Point of Rocks 116.94 47 ⇓P PKPdf 11 15 37.8 +1.9
baz=117,SNR=23
120A U Bar Ranch, L 116.94 48 ⇑P PKPdf 11 15 37.7 +1.9
baz=117,SNR=23
T24B San Luis 116.95 43 ⇓P PKPdf 11 15 37.7 +1.8
baz=117,SNR=17
M28A Bar X Bar Ranc 116.97 37 ⇓P PKPdf 11 15 35.7 +0.2
baz=117
W22A Albuquerque 116.97 45 ⇑P PKPdf 11 15 37.9 +2.0
baz=117
PNCL Nicolau / Gran 116.98 319 ePKPdf PKPdf 11 15 36.8 +1.3
PNCL Nicolau / Gran 116.98 319 ePP PP 11 16 54.6 -1.8
PMAFR Mafra 116.99 320 ePKPdf PKPdf 11 15 38.4 +2.9
PMAFR Mafra 116.99 320 ePP PP 11 16 54.8 -1.6
319A Douglas 117.00 50 ⇓P PKPdf 11 15 37.6 +1.7
baz=117,SNR=9.4
MDT Midelt 117.00 312 PKP PKPdf 11 15 37.0 +1.1
MDT PP PP 11 16 48.9 -8.1
MDT PKKPbc PKKPbc 11 26 06.2 +2.0
MDT SKKPbc SKKPbc 11 28 50.5 +0.8
MDT Midelt 117.00 312 PKP PKPdf 11 15 37.0 +1.1
comp=Z,7.6nm,0.4s,baz=88,slow=2.2,SNR=29
MDT PP PP 11 16 48.9 -8.1
comp=Z,38nm,1.2s,baz=62,slow=6.8,SNR=7.1
MDT PKKPbc PKKPbc 11 26 06.2 +2.0
comp=Z,63nm,1.1s,baz=257,slow=3.1,SNR=20
MDT SKKPbc SKKPbc 11 28 50.5 +0.8
comp=Z,36nm,1.1s,baz=259,slow=4.1,SNR=9.0
O27A Beecher Island 117.03 38 ⇑P PKPdf 11 15 36.4 +0.6
baz=117,SNR=15
LIS Lisbon 117.04 320 eP PKPdf 11 15 34.6 -1.0
LIS ePP PP 11 16 56.4 -0.4
LIS AMS AMS 11 45 41.9
comp=Z,3μm,18.5s
LIS Lisbon 117.04 320 eP PKPdf 11 15 34.6 -1.0
LIS Lisbon 117.04 320 ePP PP 11 16 56.4 -0.3
LIS A A 11 45 41.9
comp=Z,3μm,18.5s
LIS Lisbon 117.04 320 ePKIKP PKPdf 11 15 34.7 -1.0
LIS e 11 16 56.4
PMST Lisbon--Monsan 117.05 320 ePKPdf PKPdf 11 15 37.3 +1.7
PMST Lisbon--Monsan 117.05 320 ePP PP 11 16 55.4 -1.4
PBDV Barranco-do-Ve 117.07 318 ePKPdf PKPdf 11 15 36.9 +1.1
PBDV Barranco-do-Ve 117.07 318 ePP PP 11 16 54.7 -2.4
L29A Maesberg Ranch 117.07 36 ⇑P PKPdf 11 15 35.8 +0.1
baz=117,SNR=6.5
R25A Fountain Ranch 117.08 41 ⇑P PKPdf 11 15 36.7 +0.8
baz=117,SNR=34
V23A Ortiz Mt. (NFS 117.10 44 ⇑P PKPdf 11 15 38.5 +2.3
baz=117,SNR=17
LAZ Ladron 117.12 46 ePKPdf PKPdf 11 15 38.0 +1.8
LAZ eSKPdf SKiKP 11 18 13.8 +1.0
Q26A Hugo 117.12 40 ⇓P PKPdf 11 15 37.2 +1.2
baz=117,SNR=21
X22A Bernardo 117.16 46 ⇓P PKPdf 11 15 38.2 +1.9
baz=117,SNR=24
K30A Basset 117.18 35 ⇑P PKPdf 11 15 36.6 +0.8
baz=117,SNR=38
S25A Robets Cordova 117.25 42 ⇑P PKPdf 11 15 37.3 +0.9
baz=117,SNR=16
Z21A St. Cloud Mine 117.28 47 ⇑P PKPdf 11 15 38.4 +1.8
baz=117,SNR=20
N28A Pribbeno Ranch 117.30 37 ⇑P PKPdf 11 15 36.9 +0.7
baz=117,SNR=23
220A Playas Peak, P 117.33 49 ⇑P PKPdf 11 15 38.0 +1.4
baz=117,SNR=15
ANMO Albuquerque 117.33 45 ePKPdf PKPdf 11 15 37.6 +1.0
ANMO eSKPdf SKiKP 11 18 13.8 +0.5
M29A Burnside Ranch 117.34 36 ⇓P PKPdf 11 15 36.1 -0.1
baz=117,SNR=6.3
P27A Ficken Ranch, 117.35 39 ⇑P PKPdf 11 15 37.0 +0.6
baz=117,SNR=29
LENM Lemitar 117.36 46 ePKPdf PKPdf 11 15 37.9 +1.3
LENM eSKPdf SKiKP 11 18 14.2 +0.9
U24A Moreno Valley 117.37 43 ⇓P PKPdf 11 15 38.5 +1.8
baz=117,SNR=9.0
PTEO Sao Teotonio 117.42 318 ePKPdf PKPdf 11 15 38.1 +1.7
PTEO Sao Teotonio 117.42 318 ePP PP 11 16 48.9 -11
W23A Werner Place, 117.43 45 ⇓P PKPdf 11 15 38.2 +1.4
baz=117,SNR=16
Y22D IRIS PASSCAL I 117.44 46 ⇓P PKPdf 11 15 38.7 +1.9
baz=117,SNR=8.5
Y22A Socorro 117.48 46 ⇑P PKPdf 11 15 38.4 +1.5
baz=117,SNR=36
EYMN Ely 117.49 26 ePKPdf PKPdf 11 15 36.4 +0.1
EYMN ePP PP 11 16 58.0 -1.3
EYMN eSKPdf SKPdf 11 18 12.8 +0.1
O28A Krutsinger Ran 117.50 38 ⇑P PKPdf 11 15 37.1 +0.4
baz=117

MORF Marmelete 117.51 318 ePKPdf PKPdf 11 15 38.3 +1.6
MORF Marmelete 117.51 318 ePP PP 11 17 01.5 +1.4
MORF Marmelete 117.51 318 ePKIKP PKPdf 11 15 35.5 -1.2
MORF e 11 16 59.6
LPM Los Pinos Moun 117.53 46 ePKPdf PKPdf 11 15 38.4 +1.4
LPM eSKPdf SKiKP 11 18 13.8 +0.1
R26A Arlington 117.53 40 ⇑P PKPdf 11 15 37.9 +1.1
baz=117,SNR=23
T25A Trinidad 117.55 42 ⇓P PKPdf 11 15 38.4 +1.4
baz=118,SNR=29
121A Cookes Peak, D 117.58 48 ⇓P PKPdf 11 15 38.8 +1.7
baz=118,SNR=19
L30A Spencer Herefo 117.58 35 ⇓P PKPdf 11 15 36.3 -0.3
baz=117
320A Kipp Ranch, An 117.59 50 ⇑P PKPdf 11 15 39.0 +1.9
baz=118
BNM Barren Site 117.61 46 ePKPdf PKPdf 11 15 38.5 +1.3
BNM eSKPdf SKiKP 11 18 14.7 +0.8
KSCO Kaye Shedlock' 117.64 39 ePKPdf PKPdf 11 15 37.5 +0.6
KSCO eSKPdf SKiKP 11 18 13.8 +0.1
KSCO Kaye Shedlock' 117.64 39 ⇑P PKPdf 11 15 37.9 +1.0
baz=118,SNR=18
X23A Hourglass Bar 117.71 45 ⇓P PKPdf 11 15 38.6 +1.3
baz=118,SNR=7.0
PFVI Vila Bisbo 117.72 318 ePKPdf PKPdf 11 15 38.0 +1.0
PFVI Vila Bisbo 117.72 318 ePP PP 11 17 00.8 -0.7
V24A Rampart Ranch, 117.74 44 ⇑P PKPdf 11 15 39.4 +1.9
baz=118,SNR=46
M30A Dale-Ortello V 117.76 36 ⇓P PKPdf 11 15 36.9 -0.1
baz=118
N29A Votaw Ranch, W 117.77 37 ⇓P PKPdf 11 15 37.5 +0.5
baz=118,SNR=6.7
Z22A Elephant Butte 117.82 47 ⇑P PKPdf 11 15 39.1 +1.6
baz=118,SNR=36
221A Mesquite Ranch 117.83 49 ⇓P PKPdf 11 15 39.4 +1.8
baz=118,SNR=12
P28A Saint Francis 117.85 38 ⇓P PKPdf 11 15 37.9 +0.6
baz=118
S26A Kim 117.90 41 ⇑P PKPdf 11 15 38.7 +1.2
baz=118
W24A Lazy G Ranch, 117.92 44 ⇑P PKPdf 11 15 39.4 +1.7
baz=118,SNR=40
L31A Butterfield Fa 117.94 35 ⇓P PKPdf 11 15 37.3 0.0
baz=118,SNR=19
R27A Eads 117.95 40 ⇓P PKPdf 11 15 38.5 +0.9
baz=118,SNR=37
U25A Circle Dot Ran 117.96 43 ⇓P PKPdf 11 15 39.1 +1.4
baz=118,SNR=18
122A Conniff Cattle 118.07 48 ⇓P PKPdf 11 15 39.8 +1.9
baz=118,SNR=27
N30A Huefle Ranch, 118.09 36 ⇑P PKPdf 11 15 38.4 +0.7
baz=118,SNR=8.3
O29A 4D Ranch, Culb 118.10 37 ⇑P PKPdf 11 15 38.2 +0.5
baz=118,SNR=11
ECSD EROS Data Cent 118.10 32 ePKPdf PKPdf 11 15 37.9 +0.4
ECSD eSKPdf SKPdf 11 18 13.6 -0.4
Q28A Sharon Springs 118.11 39 ⇑P PKPdf 11 15 38.6 +0.8
baz=118,SNR=23
SCHQ Schefferville 118.11 7 ePKPdf PKPdf 11 15 37.8 +0.5
SCHQ PKP PKPdf 11 15 38.0 +0.7
SCHQ ePP PP 11 17 00.6 -2.5
SCHQ PP PP 11 17 00.9 -2.2
SCHQ SKP 11 18 13.8
SCHQ eSKPdf SKiKP 11 18 14.2 +0.3
SCHQ PKKPbc PKKPbc 11 25 57.1 -4.0
SCHQ SKKPbc SKKPbc 11 28 42.5 -4.4
SCHQ Schefferville 118.11 7 PKP PKPdf 11 15 38.0 +0.7
comp=Z,25nm,0.5s,baz=330,slow=3.3,SNR=50
SCHQ PP PP 11 17 00.9 -2.2
comp=Z,65nm,1.1s,baz=0.5,slow=11,SNR=9.1
SCHQ SKP 11 18 13.8
comp=Z,27nm,0.6s,baz=6.9,slow=2.0,SNR=7.1
SCHQ PKKPbc PKKPbc 11 25 57.1 -4.0
comp=Z,27nm,0.9s,baz=140,slow=2.6,SNR=11
SCHQ SKKPbc SKKPbc 11 28 42.5 -4.4
comp=Z,55nm,1.1s,baz=152,slow=3.7,SNR=10
V25A Rancho No Teng 118.13 43 ⇑P PKPdf 11 15 39.6 +1.5
baz=118,SNR=32
Y23A Lovelace Mesa, 118.14 46 ⇓P PKPdf 11 15 39.3 +1.2
baz=118,SNR=16
S27A Las Animas 118.24 41 ⇓P PKPdf 11 15 39.4 +1.2
baz=118
X24A Lazy VL Ranch, 118.25 45 ⇑P PKPdf 11 15 39.4 +1.0
baz=118,SNR=7.0
222A Williams Famil 118.29 48 ⇑P PKPdf 11 15 40.1 +1.7
baz=118
P29A Atwood 118.34 38 ⇓P PKPdf 11 15 38.6 +0.4
baz=118
Z23A Rita Site, Whi 118.35 47 ⇑P PKPdf 11 15 40.0 +1.5
baz=118,SNR=14
M31A Lambtecht Ranc 118.40 35 ⇑P PKPdf 11 15 38.3 +0.1
baz=118,SNR=11
U26A Atchley Ranch, 118.41 42 ⇑P PKPdf 11 15 39.8 +1.1
baz=118,SNR=36
O30A MW Ranch, Wils 118.51 37 ⇑P PKPdf 11 15 38.7 +0.2
baz=118,SNR=14
R28A Tribune 118.55 40 ⇑P PKPdf 11 15 39.7 +1.0
baz=118,SNR=47
W25A X Bar L Ranch, 118.57 44 ⇑P PKPdf 11 15 40.3 +1.4
baz=118,SNR=30
Y24A Capitan 118.58 46 ⇓P PKPdf 11 15 40.1 +1.1
baz=118,SNR=42
123A Bell Site, Whi 118.64 47 ⇓P PKPdf 11 15 40.6 +1.5
baz=119,SNR=18
T27A Campo 118.71 41 ⇓P PKPdf 11 15 40.2 +1.1
baz=119
V26A Tequesquite Ra 118.72 43 ⇑P PKPdf 11 15 39.8 +0.7
baz=119,SNR=24
Q29A Oakley 118.74 39 ⇑P PKPdf 11 15 39.8 +0.8
baz=119,SNR=61
N31A Bailey Ranch, 118.75 36 ⇑P PKPdf 11 15 39.2 +0.3
baz=119
P30A Selden 118.79 38 ⇓P PKPdf 11 15 39.5 +0.4
baz=119,SNR=21
X25A Clemmons Ranch 118.81 45 ⇑P PKPdf 11 15 40.3 +0.9
baz=119,SNR=10
BGNE Belgrade 118.83 35 ePKPdf PKPdf 11 15 38.9 -0.1
BGNE eSKPdf SKPdf 11 18 15.2 -0.3
BGNE Belgrade 118.83 35 ⇑P PKPdf 11 15 39.2 +0.2
baz=119,SNR=32
223A Chaparral, Ant 118.84 48 ⇑P PKPdf 11 15 41.0 +1.5
baz=119,SNR=8.9
R29A Marienthal 118.92 39 ⇓P PKPdf 11 15 40.1 +0.7
baz=119
Z24A Sheeppen Canyo 118.94 46 ⇓P PKPdf 11 15 41.1 +1.4
baz=119,SNR=43
S28A Manter 118.94 40 ⇓P PKPdf 11 15 40.3 +0.8
baz=119,SNR=20
TOAO Torodi Ar. Sit 118.94 289 ePKPdf PKPdf 11 15 39.7 -0.2
TORD Torodi Ar. Bea 118.94 289 Pdif Pdif 11 12 04.9 +0.3
TORD PKP PKPdf 11 15 39.8 -0.1
TORD PP PP 11 17 07.3 -3.5
TORD SKP 11 18 16.3
TORD PKKPbc PKKPbc 11 25 53.7 -3.1
TORD SKKPbc SKKPbc 11 28 43.8 +0.6
TORD Torodi Ar. Bea 118.94 289 Pdiff Pdif 11 12 04.9 +0.3
comp=Z,0.6nm,1.0s,baz=57,slow=5.5,SNR=4.4
TORD PKP PKPdf 11 15 39.8 -0.1
comp=Z,22nm,0.4s,baz=63,slow=1.7,SNR=72
TORD PP PP 11 17 07.3 -3.5
comp=Z,121nm,1.4s,baz=72,slow=5.9,SNR=8.1
TORD SKP 11 18 16.3
comp=Z,56nm,1.1s,baz=46,slow=2.5,SNR=5.2
TORD PKKPbc PKKPbc 11 25 53.7 -3.1
comp=Z,50nm,1.0s,baz=256,slow=4.6,SNR=6.2
TORD SKKPbc SKKPbc 11 28 43.8 +0.6
comp=Z,16nm,1.1s,baz=291,slow=3.3,SNR=5.8
SPMN St. Paul 118.95 29 ePKPdf PKPdf 11 15 39.2 0.0
SPMN eSKPdf SKiKP 11 18 15.8 -0.1
SPMN St. Paul 118.95 29 ⇓P PKPdf 11 15 39.7 +0.6
baz=119
O31A Hoolen Ranch, 118.96 37 ⇓P PKPdf 11 15 39.5 +0.1
baz=119,SNR=12
U27A Thompson Grove 119.01 42 ⇑P PKPdf 11 15 40.7 +1.0
baz=119
T28A Walsh 119.07 41 ⇑P PKPdf 11 15 40.6 +0.9
baz=119,SNR=35
Y25A Mesa, Roswell 119.11 45 ⇓P PKPdf 11 15 41.0 +1.1
baz=119
W26A Owens Ranch, T 119.12 44 ⇑P PKPdf 11 15 41.1 +1.1
baz=119
Q30A Quinter 119.16 38 ⇑P PKPdf 11 15 40.6 +0.8
baz=119,SNR=30
N32A Stulken Farm, 119.17 35 ⇓P PKPdf 11 15 40.0 +0.3
baz=119
124A Stringfield Ra 119.20 47 ⇑P PKPdf 11 15 41.7 +1.4
baz=119

P31A Stockton 119.33 37 ⇓P PKPdf 11 15 41.0 +0.9
baz=119,SNR=55
V27A Dan Oppiter Fa 119.38 42 ⇑P PKPdf 11 15 41.6 +1.2
baz=119
X26A CR and CF Fran 119.38 44 ⇓P PKPdf 11 15 41.4 +0.9
baz=119
S29A Ulysses 119.42 40 ⇑P PKPdf 11 15 41.4 +1.1
baz=119,SNR=25
Z25A Roswell 119.43 46 ⇑P PKPdf 11 15 41.7 +1.2
baz=119
U28A Mallet 119.43 42 ⇓P PKPdf 11 15 40.9 +0.5
baz=119,SNR=8.6
224A Cornudas Mount 119.47 47 ⇓P PKPdf 11 15 42.1 +1.4
baz=119
O32A Brockman Farm, 119.50 36 ⇑P PKPdf 11 15 40.8 +0.4
baz=119,SNR=34
R30A Dighton 119.55 39 ⇓P PKPdf 11 15 41.2 +0.6
baz=119,SNR=24
T29A Hugoton 119.58 40 ⇑P PKPdf 11 15 41.7 +1.1
baz=120,SNR=28
W27A Bowe Ranch, En 119.61 43 ⇓P PKPdf 11 15 41.9 +1.0
baz=120,SNR=31
Q31A Ellis 119.64 38 ⇑P PKPdf 11 15 41.1 +0.4
baz=120,SNR=7.8
Y26A Elida 119.71 45 ⇑P PKPdf 11 15 42.1 +1.0
baz=120
P32A Huiting Farm, 119.72 37 ⇓P PKPdf 11 15 41.4 +0.6
baz=120
MNTX Cornudas Mount 119.76 48 ePKPdf PKPdf 11 15 42.0 +0.9
MNTX eSKPdf SKiKP 11 18 18.8 +0.9
V28A Channing 119.79 42 ⇑P PKPdf 11 15 42.4 +1.2
baz=120,SNR=28
125A Gardner Draw, 119.79 46 ⇓P PKPdf 11 15 42.4 +1.1
baz=120
324A Moseley Ranch, 119.81 48 ⇑P PKPdf 11 15 42.5 +1.1
baz=120
S30A Montezuma 119.82 39 ⇓P PKPdf 11 15 42.0 +0.8
baz=120,SNR=13
X27A F and S Farms, 119.82 44 ⇓P PKPdf 11 15 42.1 +0.8
baz=120,SNR=7.4
Z26A Caprock 119.95 45 ⇑P PKPdf 11 15 42.1 +0.5
baz=120,SNR=14
225A Deer Hill, Car 119.96 47 ⇑P PKPdf 11 15 42.8 +1.1
baz=120
R31A Burdett 120.01 38 ⇓P PKPdf 11 15 42.2 +0.8
baz=120,SNR=48
U29A Oasis Ranch, S 120.01 41 ⇑P PKPdf 11 15 42.4 +0.8
baz=120,SNR=9.5
W28A Vega 120.08 43 ⇑P PKPdf 11 15 42.9 +1.2
baz=120,SNR=7.4
T30A Plains 120.14 40 ⇑P PKPdf 11 15 42.9 +1.2
baz=120,SNR=24
V29A Stinnett 120.19 42 ⇓P PKPdf 11 15 43.0 +1.1
baz=120,SNR=32
Y27A Causey 120.20 44 ⇓P PKPdf 11 15 43.0 +0.9
baz=120,SNR=33
325A Bean Ranch, Si 120.23 48 ⇑P PKPdf 11 15 43.1 +0.9
baz=120
GDL2 Guadalupe Moun 120.24 47 ePKPdf PKPdf 11 15 43.0 +0.8
126A Clayton Basin, 120.26 46 ⇓P PKPdf 11 15 42.7 +0.6
baz=120,SNR=27
U30A WK&E Inc. Balk 120.37 41 ⇑P PKPdf 11 15 43.3 +1.1
baz=120,SNR=36
P33A Williams Farm, 120.38 36 ⇑P PKPdf 11 15 42.5 +0.4
baz=120
MSTX Muleshoe 120.42 44 ePKPdf PKPdf 11 15 42.6 +0.1
MSTX eSKPdf SKiKP 11 18 19.3 -0.1
MSTX Muleshoe 120.42 44 ⇓P PKPdf 11 15 43.2 +0.7
baz=120,SNR=32
S31A Mullinville 120.45 39 ⇓P PKPdf 11 15 43.1 +0.8
baz=120
226B Tecolote Peak, 120.45 47 ⇓P PKPdf 11 15 43.3 +0.8
baz=120,SNR=35
Z27A Tatum 120.47 45 ⇑P PKPdf 11 15 43.4 +0.8
baz=120,SNR=73
X28A Dimmitt 120.51 43 ⇑P PKPdf 11 15 43.5 +0.9
baz=120,SNR=33
425A Indio Mountain 120.51 48 ⇑P PKPdf 11 15 43.7 +1.0
baz=120,SNR=25
W29A Amraillo 120.54 42 ⇓P PKPdf 11 15 43.5 +0.9
baz=120,SNR=12
T31A Randall Ranch, 120.65 39 ⇑P PKPdf 11 15 43.5 +0.8
baz=120,SNR=17
127A Arkansas Junct 120.71 46 ⇑P PKPdf 11 15 43.8 +0.7
baz=121,SNR=11
V30A Spur Ranch, Mi 120.80 41 ⇓P PKPdf 11 15 44.3 +1.3
baz=121,SNR=22
Y28A McKinney Farm, 120.82 44 ⇑P PKPdf 11 15 43.9 +0.7
baz=121,SNR=19
X29A Tulia 120.89 43 ⇑P PKPdf 11 15 44.4 +1.0
baz=121,SNR=37
U31A Nine Bar Ranch 120.98 40 ⇑P PKPdf 11 15 44.5 +1.1
baz=121,SNR=11
326A Caldwell Ranch 120.98 47 ⇓P PKPdf 11 15 44.2 +0.6
baz=121,SNR=18
Z28A Tucker Farm, M 121.06 45 ⇓P PKPdf 11 15 44.2 +0.5
baz=121,SNR=8.4
227A Bennet, Jal 121.12 46 ⇓P PKPdf 11 15 44.6 +0.9
baz=121,SNR=13
SCIA State Center 121.16 31 ePKPdf PKPdf 11 15 43.8 +0.3
SCIA eSKPdf SKiKP 11 18 20.6 +0.2
SCIA ePKKPbc PKKPbc 11 25 48.8 -0.8
W30A Crocket Farms 121.22 42 ⇓P PKPdf 11 15 44.8 +0.9
baz=121,SNR=7.1
KSU1 Kansas State U 121.23 36 ePKPdf PKPdf 11 15 43.9 +0.1
KSU1 eSKPdf SKPdf 11 18 20.1 0.0
Y29A Porterfield Fa 121.24 44 ⇓P PKPdf 11 15 45.0 +1.0
baz=121,SNR=60
426A McDonald Obser 121.28 48 ⇓P PKPdf 11 15 45.2 +0.9
baz=121,SNR=9.2
327A Balmorhea Ranc 121.31 47 ⇑P PKPdf 11 15 45.2 +1.0
baz=121
V31A Spring Creek L 121.34 41 ⇓P PKPdf 11 15 45.8 +1.7
baz=121,SNR=67
128A Castleberry Fa 121.36 45 ⇓P PKPdf 11 15 45.0 +0.7
baz=121,SNR=17
X30A Coker Ranch, T 121.45 43 ⇓P PKPdf 11 15 45.1 +0.8
baz=121,SNR=49
526A Mary Lane Ranc 121.55 49 ⇓P PKPdf 11 15 45.8 +1.1
baz=122,SNR=28
Z29A Hungry Hill Ra 121.55 44 ⇓P PKPdf 11 15 45.3 +0.7
baz=122,SNR=64
228A UT Block 9, Go 121.56 46 ⇓P PKPdf 11 15 45.2 +0.6
baz=122,SNR=16
W31A Holland Ranch, 121.63 41 ⇑P PKPdf 11 15 45.8 +1.1
baz=122,SNR=62
427A Hayter Ranch, 121.65 48 ⇓P PKPdf 11 15 45.9 +1.0
baz=122,SNR=36
PMSA Palmer Station 121.76 176 ePKPdf PKPdf 11 15 44.4 +0.6
PMSA ePP PP 11 17 27.7 0.0
PMSA SKP 11 18 19.6
PMSA eSKPdf SKiKP 11 18 21.5 +0.7
PMSA Palmer Station 121.76 176 PKP PKPdf 11 15 44.5 +0.7
comp=Z,67nm,1.0s,baz=190,slow=2.1,SNR=8.0
PMSA SKP 11 18 19.6
comp=Z,71nm,1.1s,baz=162,slow=5.2,SNR=4.7
Y30A Stafford Catll 121.76 43 ⇑P PKPdf 11 15 45.8 +0.8
baz=122,SNR=46
626A Big Bend Ranch 121.77 49 ⇑P PKPdf 11 15 45.9 +0.7
baz=122,SNR=13
129A Stewart Farms, 121.79 45 ⇑P PKPdf 11 15 45.6 +0.5
baz=122,SNR=65
328A Wristen Ranch, 121.80 47 ⇑P PKPdf 11 15 45.8 +0.7
baz=122,SNR=58
527A Woodward Ranch 121.86 48 ⇑P PKPdf 11 15 46.3 +1.0
baz=122,SNR=48
JFWS Jewell Farm 121.90 29 ePKIKP PKPdf 11 15 44.4 -0.5
JFWS Jewell Farm 121.90 29 ePKPdf PKPdf 11 15 44.4 -0.5
JFWS eSKPdf SKPdf 11 18 21.1 -0.2
X31A McDonald Ranch 121.94 42 ⇑P PKPdf 11 15 46.1 +0.9
baz=122,SNR=94
Z30A Sanderson Ranc 121.94 44 ⇑P PKPdf 11 15 45.8 +0.5
baz=122,SNR=40
Y31A Rekieta Farm, 122.14 43 ⇓P PKPdf 11 15 46.5 +0.9
baz=122,SNR=33
229A Bryant Ranch, 122.20 46 ⇑P PKPdf 11 15 46.6 +0.7
baz=122,SNR=24
TXAR Lajitas Array 122.23 49 Pdif Pdif 11 12 26.9 +7.8
TXAR PKP PKiKP 11 15 46.9 +0.6
TXAR PP PP 11 17 44.7 +12
TXAR SKP 11 18 23.2
TXAR PKKPab PKKPbc 11 25 43.8 -1.7
TXAR SKKPbc SKKPbc 11 28 33.6 +0.5
TXAR Lajitas Array 122.23 49 Pdiff Pdif 11 12 26.9 +7.8
comp=Z,0.8nm,1.0s,baz=290,slow=5.4,SNR=3.6
TXAR PKP PKiKP 11 15 46.9 +0.6
comp=Z,37nm,1.0s,baz=248,slow=1.0,SNR=49

TXAR PP PP 11 17 44.7 +12
comp=Z,14nm,1.1s,baz=290,slow=5.3,SNR=3.7
TXAR SKP 11 18 23.2
comp=Z,92nm,1.2s,baz=258,slow=3.7,SNR=5.6
TXAR PKKPab **PKKPbc** **11 25 43.8 -1.7**
comp=Z,3.6nm,0.7s,baz=133,slow=3.4,SNR=7.4
TXAR SKKPbc SKKPbc 11 28 33.6 +0.5
comp=Z,1.4nm,0.6s,baz=134,slow=4.3,SNR=4.1
428A Kincaid Ranch, 122.24 47 ⇓P **PKPdf 11 15 47.4 +1.4**
baz=122,SNR=49
329A Wagon Wheel Ra 122.34 46 ⇓P **PKPdf 11 15 47.1 +1.0**
baz=122,SNR=25
627A Terlingua Ranc 122.38 49 ⇓P **PKPdf 11 15 47.4 +1.0**
baz=122,SNR=61
130A Snyder 122.44 44 ⇓P **PKPdf 11 15 46.9 +0.6**
baz=122,SNR=26
528A Cox Ranch, San 122.46 48 ⇓P **PKPdf 11 15 47.4 +0.9**
baz=122,SNR=16
Z31A Sharp Cattle R 122.59 43 ⇑P **PKPdf 11 15 47.4 +0.9**
baz=122,SNR=22
WMOK Wichita Mounta 122.66 41 *e*PKIKP **PKPdf 11 15 46.8 +0.2**
WMOK *e* 11 17 33.9
WMOK Wichita Mounta 122.66 41 *e*PKPdf **PKPdf 11 15 46.8 +0.2**
WMOK *e*PP **PP 11 17 33.9 -0.7**
WMOK *e*SKPdf **SKPdf 11 18 23.1 0.0**
Y32A R-V Farms, Ver 122.67 42 ⇓P **PKPdf 11 15 47.5 +0.9**
baz=123
230A Sterling City 122.74 45 ⇑P **PKPdf 11 15 47.6 +0.7**
baz=123,SNR=21
628A Black Gap, Mar 122.74 49 ⇑P **PKPdf 11 15 48.0 +1.1**
baz=123,SNR=37
131A Roby 122.80 44 ⇑P **PKPdf 11 15 47.7 +0.8**
baz=123,SNR=16
429A Davenport Ranc 122.87 47 ⇑P **PKPdf 11 15 48.0 +0.8**
baz=123,SNR=62
529A Stev Forest Ra 122.90 48 ⇑P **PKPdf 11 15 48.1 +0.9**
baz=123,SNR=55
330A Mertzon 122.96 46 ⇓P **PKPdf 11 15 47.5 +0.2**
baz=123,SNR=16
Z32A Haskell 123.05 43 ⇑P **PKPdf 11 15 48.5 +1.1**
baz=123
430A Baggett Ranch, 123.25 46 ⇓P **PKPdf 11 15 48.8 +0.9**
baz=123
231A Bronte 123.27 45 ⇑P **PKPdf 11 15 48.4 +0.5**
baz=123
ABTX Abilene, Hawle 123.34 44 *e*PKPdf **PKPdf 11 15 48.7 +0.7**
ABTX *e*SKPdf **SKiKP 11 18 25.1 0.0**
ABTX Abilene, Hawle 123.34 44 ⇓P **PKPdf 11 15 48.9 +0.9**
baz=123
530A J-C Ranch, Com 123.53 47 ⇓P **PKPdf 11 15 49.6 +1.2**
baz=124
331A San Angelo 123.54 45 ⇑P **PKPdf 11 15 49.0 +0.6**
baz=124
232A Coleman 123.76 44 ⇑P **PKPdf 11 15 49.7 +0.8**
baz=124
431A Sonora 123.76 46 ⇓P **PKPdf 11 15 49.6 +0.8**
baz=124
TUL1 Tulsa 123.82 38 *e*PKPdf **PKPdf 11 15 49.4 +0.6**
TUL1 *e*SKPdf **SKPdf 11 18 25.0 -0.2**
TUL1 Tulsa 123.82 38 ⇑P **PKPdf 11 15 49.5 +0.8**
baz=124
332A Millersview 123.98 45 ⇑P **PKPdf 11 15 50.0 +0.8**
baz=124
531A Rocksprings 124.09 47 ⇑P **PKPdf 11 15 50.4 +0.9**
baz=124
432A Menard 124.24 45 ⇑P **PKPdf 11 15 50.4 +0.6**
baz=124
JCT Junction City 124.45 46 *e*PKIKP **PKPdf 11 15 51.0 +0.8**
JCT Junction City 124.45 46 *e*PKPdf **PKPdf 11 15 51.0 +0.8**
JCT *e*SKPdf **SKiKP 11 18 27.1 -0.4**
JCT Junction City 124.45 46 ⇑P **PKPdf 11 15 51.1 +0.8**
baz=124
631A Perdido Creek 124.48 47 ⇑P **PKPdf 11 15 51.1 +0.9**
baz=124
532A Rocksprings 124.58 46 ⇑P **PKPdf 11 15 51.1 +0.6**
baz=124
SADO Sadowa 124.89 20 PP PP 11 17 49.5 +1.1
SADO PKKPab **PKKPab 11 25 32.4 -3.4**
SADO SKKPbc SKKPbc 11 28 22.1 -2.6
SADO Sadowa 124.89 20 PP PP 11 17 49.5 +1.1
comp=Z,64nm,1.2s,baz=337,slow=8.1,SNR=3.4
SADO PKKPab **PKKPab 11 25 32.4 -3.4**
comp=Z,14nm,0.7s,baz=179,slow=1.6,SNR=5.7
SADO SKKPbc SKKPbc 11 28 22.1 -2.6
comp=Z,27nm,1.1s,baz=191,slow=3.0,SNR=6.6
632A Uvalde 125.01 47 ⇑P **PKPdf 11 15 52.4 +1.2**
baz=125
PMPST Porto Santo, M 125.07 319 *e*PKPdf **PKPdf 11 15 51.9 +0.7**
PMPST Porto Santo, M 125.07 319 *e*PP PP 11 17 49.2 -1.3
PMPS Porto Santo 125.09 319 *e*PKPdf **PKPdf 11 15 52.6 +1.4**
PMPS Porto Santo 125.09 319 *e*PP PP 11 17 49.5 -1.1
SLM Saint Louis 125.11 32 *e*PKIKP **PKPdf 11 15 51.3 +0.2**
SLM Saint Louis 125.11 32 *e*PKPdf **PKPdf 11 15 51.3 +0.2**
WHTX Lake Whitney 125.20 43 *e*PKPdf **PKPdf 11 15 52.2 +0.7**
WHTX Lake Whitney 125.20 43 ⇑P **PKPdf 11 15 52.6 +1.1**
baz=125
732A Laxson Ranch, 125.30 48 ⇓P **PKPdf 11 15 53.0 +1.2**
baz=125
SFIN Scholer Farm 125.35 28 *e*PKPdf **PKPdf 11 15 51.7 +0.2**
SFIN *e*SKPdf **SKiKP 11 18 28.6 -0.2**
SFIN Scholer Farm 125.35 28 ⇓P **PKPdf 11 15 52.4 +0.8**
baz=125
PMAR Madeira 125.68 319 *e*PKPdf **PKPdf 11 15 54.4 +1.8**
PMAR Madeira 125.68 319 *e*PP PP 11 17 56.4 +1.7
PMOZ Porto Moniz, M 125.80 319 *e*PKPdf **PKPdf 11 15 54.5 +1.7**
PMOZ Porto Moniz, M 125.80 319 *e*PP PP 11 17 54.6 -0.8
PMOZ *e*SKSac SKSac 11 22 09.8 +10
PQI Presque Isle 125.91 10 *e*PKPdf **PKPdf 11 15 52.6 +0.2**
PQI *e*PP **PP 11 17 55.9 +1.0**
PQI *e*SKPdf **SKiKP 11 18 29.3 -0.5**
PQI *e*PKKPab **PKKPab 11 25 29.6 -1.8**
OLIL Olney 126.14 30 *e*PKPdf **PKPdf 11 15 53.7 +0.6**
OLIL *e* 11 18 11.4
OLIL *e*SKPdf **SKiKP 11 18 31.4 +0.9**
SIUC Southern Illin 126.33 32 *e*PKPdf **PKPdf 11 15 54.4 +0.9**
SIUC *e* 11 18 12.7
LONY Lake Ozonia 126.40 16 *e*PKPdf **PKPdf 11 15 53.2 -0.3**
LONY *e*PP **PP 11 17 57.3 -1.1**
LONY *e*SKPdf **SKiKP 11 18 31.1 +0.2**
FRNY Flat Rock 126.47 15 *e*PKPdf **PKPdf 11 15 52.9 -0.6**
FRNY *e*PP **PP 11 17 57.6 -1.1**
FRNY *e*SKPdf **SKiKP 11 18 30.6 -0.3**
BLO Bloomington 126.57 29 *e*PKIKP **PKPdf 11 15 54.4 +0.5**
BLO *e* 11 18 13.4
BLO Bloomington 126.57 29 *e*PKPdf **PKPdf 11 15 54.4 +0.5**
BLO *e* 11 18 13.4
BLO *e*SKPdf **SKiKP 11 18 31.0 -0.4**
UALR University of 126.67 37 *e*PKPdf **PKPdf 11 15 54.5 +0.3**
UALR *e* 11 18 13.6
KIC Kosan Boka 126.76 283 *e*PKIKP **PKPdf 11 15 56.5 +1.5**
comp=Z,577nm,1.4s
DBIC Dimbokro 126.80 283 *e*PKPdf **PKPdf 11 15 55.8 +0.8**
DBIC PKP **PKPdf 11 15 55.9 +0.9**
DBIC *e*PP **PP 11 18 03.3 +0.3**
DBIC PP PP 11 18 03.9 +0.9
DBIC PKKPab **PKKPbc** **11 25 27.4 +0.3**
DBIC Dimbokro 126.80 283 PKP **PKPdf 11 15 55.9 +0.9**
comp=Z,57nm,0.8s,baz=68,slow=3.1,SNR=42
DBIC PP PP **11 18 03.9 +0.9**
comp=Z,36nm,1.0s,baz=34,slow=10,SNR=5.7
DBIC PKKPab **PKKPbc** **11 25 27.4 +0.3**
comp=Z,38nm,0.8s,baz=244,slow=5.4,SNR=11
PARMO Parma 126.81 33 *e*PKPdf **PKPdf 11 15 55.8 +1.4**
PARMO *e* 11 18 14.6
PARMO *e*SKPdf **SKiKP 11 18 32.0 +0.1**
ERPA Erie 126.91 22 *e*PKPdf **PKPdf 11 15 54.6 +0.1**
ERPA *e*PP **PP 11 18 03.6 +1.9**
ERPA *e* 11 18 14.6
USIN University of 126.94 31 *e*PKPdf **PKPdf 11 15 55.3 +0.6**
USIN *e* 11 18 14.3
TIC Toumodi 126.97 283 *e*PKIKP **PKPdf 11 15 55.9 +0.5**
comp=Z,86nm,0.6s
PVMO Portageville 127.03 34 *e*PKPdf **PKPdf 11 15 56.1 +1.3**
PVMO *e* 11 18 15.3
PKME Peaks-Kenny Pk 127.04 11 *e*PKPdf **PKPdf 11 15 55.6 +1.0**
PKME *e*PP **PP 11 18 02.7 +0.4**
LIC Lamto 127.07 283 *e*PKIKP **PKPdf 11 15 56.2 +0.7**
comp=Z,106nm,0.5s
LIC *e*R
comp=Z,3μm,22.5s
LIC Lamto 127.07 283 *e*PKIKP **PKPdf 11 15 56.2 +0.7**
comp=Z,185nm,0.5s
LIC Lamto 127.07 283 *e*PKPdf **PKPdf 11 15 56.2 +0.7**
NCB Newcomb 127.10 16 *e*PKPdf **PKPdf 11 15 56.0 +1.2**
NCB *e*PP **PP 11 18 03.2 +0.4**
HBAR Harrisburg 127.11 35 *e*PKPdf **PKPdf 11 15 56.8 +1.7**
GNAR Gosnell 127.18 34 *e*PKPdf **PKPdf 11 15 56.1 +1.0**
CMLA Cha da Macela 127.20 329 *e*PP PP 11 18 05.0 +1.1
NATX Nacogdoches 127.21 41 *e*PKPdf **PKPdf 11 15 57.0 +1.7**
NATX *e* 11 18 16.4
PSET Sete Cidades 127.25 329 *e*PP PP 11 18 08.4 +4.1
ALLY Alegheny Colle 127.26 22 *e*PKPdf **PKPdf 11 15 54.8 -0.4**
PDA Ponta Delgada 127.28 329 *e*PP PP 11 18 14.3 +10
ACSO Alum Creek Sta 127.33 25 *e*PKPdf **PKPdf 11 15 55.7 +0.3**
ACSO *e* 11 18 16.9
MDV Middlebury 127.35 15 *e*PKPdf **PKPdf 11 15 56.2 +1.0**
MDV *e*PP **PP 11 18 03.5 -0.9**
MDV *e*SKPdf **SKiKP 11 18 33.0 +0.3**
GLAT Glass 127.36 33 *e*PKPdf **PKPdf 11 15 56.7 +1.2**
GLAT *e* 11 18 16.7
PGRA Graciosa 127.40 332 *e*PP PP 11 18 06.0 +0.9
WCI Wyandotte Cave 127.42 30 *e*PKIKP **PKPdf 11 15 55.9 +0.3**
WCI *e* 11 18 16.7
WCI Wyandotte Cave 127.42 30 *e*PKPdf **PKPdf 11 15 55.9 +0.3**
WCI *e* 11 18 16.7
LBNH Lisbon 127.44 14 *e*PKIKP **PKPdf 11 15 57.1 +1.6**
LBNH *e* 11 18 18.8
LBNH Lisbon 127.44 14 *e*PKPdf **PKPdf 11 15 57.1 +1.6**
LBNH *e* 11 18 18.8
PSMN Pico do Norte, 127.54 328 *e*PP PP 11 18 07.4 +1.2
HKT Hockley 127.55 44 *e*PKIKP **PKPdf 11 15 56.7 +0.8**
HKT *e* 11 18 18.1
HKT Hockley 127.55 44 *e*PKPdf **PKPdf 11 15 56.7 +0.8**
HKT *e* 11 18 18.1
HALT Halls 127.59 34 *e*PKPdf **PKPdf 11 15 56.8 +0.9**
HALT *e* 11 18 17.1
WVL Waterville 127.64 12 *e*PKPdf **PKPdf 11 15 56.3 +0.6**
PMAN Manadas 127.77 332 *e*PP PP 11 18 09.1 +1.6
ACCN Adirondack Com 127.80 16 *e*PKPdf **PKPdf 11 15 56.7 +0.5**
ACCN *e*PP **PP 11 18 07.5 +0.1**
HNH Hanover 127.86 14 *e*PKPdf **PKPdf 11 15 57.7 +1.5**
HNH *e* 11 18 19.8
PPNO Prainha do Nor 127.98 332 *e*PP PP 11 18 08.8 -0.1
PICO Pico 128.03 332 *e*PP PP 11 18 12.3 +3.0
PCED Cedros 128.06 332 *e*PP PP 11 18 11.9 +2.6
BINY Binghamton 128.21 18 *e*PKPdf **PKPdf 11 15 58.1 +1.1**
BINY *e* 11 18 19.4
FFD Franklin Falls 128.23 14 *e*PKPdf **PKPdf 11 15 56.5 -0.4**
FFD *e*PP **PP 11 18 10.4 +0.4**
FFD *e*SKPdf SKPdf 11 18 20.0 -13
WVT Waverly 128.25 32 *e*PKIKP **PKPdf 11 15 58.5 +1.3**
WVT Waverly 128.25 32 *e*PKPdf **PKPdf 11 15 58.5 +1.3**
TRY Troy 128.40 16 *e*PKPdf **PKPdf 11 15 57.7 +0.4**
TRY *e* 11 18 21.0
OXF Oxford 128.57 35 *e*PKIKP **PKPdf 11 15 59.2 +1.3**
OXF Oxford 128.57 35 *e*PKPdf **PKPdf 11 15 59.2 +1.3**
SSPA Standing Stone 128.97 21 *e*PKPdf **PKPdf 11 15 59.0 +0.6**
SSPA *e* 11 18 22.6
MCWV Mont Chateau 129.09 23 *e*PKPdf **PKPdf 11 16 00.4 +1.6**
HRV Adam Dziewonsk 129.16 14 *e*PKIKP **PKPdf 11 15 59.7 +1.0**
HRV Adam Dziewonsk 129.16 14 *e*PKPdf **PKPdf 11 15 59.7 +1.0**
QUA2 Belchertown 129.18 15 *e*PKPdf **PKPdf 11 16 00.8 +2.0**
WES Weston 129.34 14 *e*PKIKP **PKPdf 11 15 58.7 -0.4**
WES Weston 129.34 14 *e*PKPdf **PKPdf 11 15 58.7 -0.4**
VBMS Vicksburg 129.54 38 *e*PKPdf **PKPdf 11 16 01.6 +1.9**
BRYW Bryant College 129.72 15 *e*PP PP 11 18 19.9 +0.2
BRYW *e*SKPdf SKPab 11 18 25.7 +1.4
YLE Yale 129.92 16 *e*SKPbc SKPab 11 18 25.7 +0.6
SWET Sewanee 129.94 32 *e*PKPdf **PKPdf 11 16 01.5 +1.0**
TZTN Tazewell 130.09 29 *e*PKPpre PKPpre 11 15 45.6
TZTN *e*PKPdf **PKiKP 11 16 02.3 +0.7**
TZTN *e*SKPbc **SKPab 11 18 26.5 +0.4**
CPNY Central Park 130.11 17 *e*PP PP 11 18 20.6 -1.5
CPNY *e*SKPbc **SKPab 11 18 27.4 +1.4**
SDMD Soldier's Deli 130.43 21 *e*PKPdf **PKPdf 11 16 02.7 +1.5**
CPCT Cooper Cave 130.48 30 *e*PKPpre PKPpre 11 15 46.9
CPCT *e*PKPdf **PKiKP 11 16 02.6 +0.2**
CPCT *e*SKPbc **SKPab 11 18 28.0 +0.3**
TKL Tuckaleechee C 130.69 29 *e*PKPpre PKPpre 11 15 47.2
TKL *e*PKPdf **PKiKP 11 16 02.4 -0.5**
TKL SKPbc **SKPbc 11 18 27.9 -0.1**
TKL *e*SKPbc **SKPab 11 18 29.0 +0.4**
TKL SKKPbc **SKKPbc 11 28 03.0 -1.6**
TKL Tuckaleechee C 130.69 29 SKPbc **SKPbc 11 18 27.9 -0.1**
comp=Z,805nm,0.8s,baz=161,slow=2.6,SNR=11
TKL SKKPbc **SKKPbc 11 28 03.0 -1.6**
comp=Z,25nm,1.2s,baz=132,slow=5.8,SNR=3.5
BLA Blacksburg 130.95 25 *e*PKHKP PKPpre 11 15 49.1
BLA *e* 11 16 01.5
BLA *e* 11 18 29.6
BLA Blacksburg 130.95 25 *e*PKPpre PKPpre 11 15 49.1
BLA *e*PKPdf **PKPdf 11 16 01.5 -0.9**
BLA *e*SKPbc **SKPab 11 18 29.6 -0.1**
LRAL Lakeview Retre 131.01 34 *e*PKPpre PKPpre 11 15 46.0
LRAL *e*PKPdf **PKiKP 11 16 04.1 +0.5**
LRAL *e*SKPbc **SKPab 11 18 29.7 -0.4**
USHA Ushuaia 131.03 171 PKPpre PKPpre 11 15 56.9
USHA PKP **PKiKP 11 16 03.6 +0.8**
USHA SKPbc **SKPab 11 18 29.4 +0.1**
USHA SKKPbc **SKKPbc 11 27 59.4 -5.4**
USHA Ushuaia 131.03 171 PKhKP PKPpre 11 15 56.9
comp=Z,11nm,0.6s,baz=181,slow=4.0,SNR=6.6
USHA PKP **PKiKP 11 16 03.6 +0.8**
comp=Z,137nm,1.0s,baz=181,slow=1.2,SNR=22
USHA SKPbc **SKPab 11 18 29.4 +0.1**
comp=Z,593nm,1.0s,baz=188,slow=5.1,SNR=34
USHA SKKPbc **SKKPbc 11 27 59.4 -5.4**
comp=Z,20nm,1.1s,baz=95,slow=0.5,SNR=3.1
VWCC Virginia Weste 131.10 25 *e*PKPdf **PKPdf 11 16 01.9 -0.8**
CBN Corbin 131.30 22 *e*PKPdf **PKPdf 11 16 04.5 +1.6**
JSRW J. Sargeant Re 131.56 23 *e*PKPpre PKPpre 11 15 52.0
JSRW *e*PKPdf **PKiKP 11 16 04.9 +0.4**
JSRW *e*PP **PP 11 18 31.5 0.0**
JSRW *e*SKPdf **SKPdf 11 18 40.0 +0.3**
BRAL Brewton 132.47 36 *e*PKPdf **PKPdf 11 16 06.9 +1.6**
BRAL *e*SKPbc **SKPbc 11 18 35.0 +0.8**
TIGA Tifton 134.10 33 *e*PKPdf **PKPdf 11 16 08.7 +0.3**
TIGA Tifton 134.10 33 ⇓P **PKPdf 11 16 09.6 +1.2**
baz=134
BBTS Babate 135.06 298 PKP **PKPdf 11 16 12.3 +1.8**
BBTS SKPbc **SKPbc 11 18 42.9 -0.1**
BBTS SKKPbc **SKKPbc 11 27 48.4 +0.1**
BBTS Babate 135.06 298 PKP **PKPdf 11 16 12.3 +1.8**
comp=Z,135nm,1.1s,baz=91,slow=1.8,SNR=9.3
BBTS SKPbc **SKPbc 11 18 42.9 -0.1**
comp=Z,214nm,0.9s,baz=57,slow=3.3,SNR=22
BBTS SKKPbc **SKKPbc 11 27 48.4 +0.1**
comp=Z,11nm,0.3s,baz=264,slow=3.6,SNR=4.7
TEIG Tepich 138.87 49 SKPbc **SKPbc 11 18 53.3 -0.7**
TEIG Tepich 138.87 49 SKPbc **SKPbc 11 18 53.3 -0.7**
comp=Z,247nm,1.0s,baz=299,slow=2.1,SNR=28
APG El Apazote 140.03 57 SKPbc **SKPbc 11 18 55.4 -2.0**
APG El Apazote 140.03 57 SKPbc **SKPbc 11 18 55.4 -2.0**
comp=Z,269nm,1.0s,baz=295,slow=6.0,SNR=33
TGUH Tegucigalpa,Un 143.16 56 *e*PKPab **PKPdf 11 16 24.8 -0.4**
PLCA Paso Flores 143.83 162 *e*PKPdf **PKPdf 11 16 26.8 +0.9**
PLCA SKPbc **SKPbc 11 18 04.9 -1.1**
PLCA SKKPbc **SKKPab 11 27 14.8 -0.6**
PLCA Paso Flores 143.83 162 PKP **PKPdf 11 16 26.8 +0.9**
comp=Z,2μm,1.1s,baz=204,slow=3.2,SNR=1277
PLCA SKPbc **SKPbc 11 19 04.9 -1.1**
comp=Z,587nm,1.1s,baz=195,slow=4.6,SNR=12
PLCA SKKPbc **SKKPab 11 27 14.8 -0.6**
comp=Z,35nm,1.2s,baz=18,slow=5.0,SNR=5.6
PAYG Puerto Ayora 145.77 81 *e*PKPbc **PKPab 11 16 32.8 -1.0**
CCHI Chillan 146.98 157 ⇑*i*P **PKPbc 11 16 32.8 -1.5**
JTS JuntasAbangare 147.03 60 *e*PKPdf **PKPdf 11 16 31.9 0.0**
JTS PKP **PKPdf 11 16 32.1 +0.2**
JTS PKPbc **PKPbc 11 16 35.5 +0.4**
JTS *e*PKPbc **PKPab 11 16 36.1 -2.6**
JTS SKP 11 18 54.5
JTS JuntasAbangare 147.03 60 PKP **PKPdf 11 16 32.1 +0.2**
comp=Z,636nm,1.0s,baz=271,slow=3.2,SNR=2.2
JTS PKPbc **PKPbc 11 16 35.5 +0.4**
comp=Z,562nm,1.0s,baz=308,slow=5.5,SNR=13
JTS SKP 11 18 54.5
comp=Z,17nm,1.0s,baz=261,slow=19,SNR=1.6
BBJ Bamboo Saint A 147.75 39 *i*P **PKPbc 11 16 38.1 +1.3**
MCJ Malvern 147.82 40 *i*P **PKPbc 11 16 37.9 +0.9**
LNCH Linares 147.83 157 ⇑*i*P **PKPbc 11 16 37.9 +1.4**
GTBY Guantanamo Bay 147.84 34 *e*PKPdf **PKPdf 11 16 34.2 +1.1**
GTBY *e*PKPbc **PKiKP 11 16 38.0 -0.3**
TALC Talca 148.21 156 ⇑*i*P **PKPbc 11 16 38.5 +1.0**
STH Stony Hill 148.27 39 *i*P **PKPbc 11 16 39.5 +1.4**
GWJ Greenwich 148.32 39 *i*PA **PKPbc 11 16 40.0 +1.7**
HOJ Hope 148.36 39 *i*P **PKPbc 11 16 39.5 +1.2**
TRQA Tornquist 148.37 172 *e*PKPdf **PKPdf 11 16 34.2 +0.7**
TRQA *e*PKPbc **PKiKP 11 16 38.8 -0.2**
TRQA *e*PKPab **PKPab 11 16 43.8 +0.3**
GRTK Grand Turk 148.52 27 *e*PKPbc **PKPbc 11 16 39.6 +1.0**
LNV Longovilo 149.54 155 ⇑*i*P **PKPdf 11 16 35.8 +0.4**
CACH El Canelo 149.74 156 ⇑*i*P **PKPdf 11 16 36.8 +1.0**
CHCH Chadas Angostu 149.88 156 ⇓*i*P **PKPdf 11 16 36.1 +0.1**
PCH Pirque 150.20 156 ⇓*i*P **PKPdf 11 16 36.9 +0.3**
CLCH Cerro Calan 150.39 156 ⇑*i*P **PKPdf 11 16 37.6 +0.8**
PEL Peldehue 150.55 155 ⇓*i*P **PKPdf 11 16 37.7 +0.7**
ROCH El Roble 150.56 155 ⇑*i*P **PKPdf 11 16 37.9 +0.6**
SDDR Presa de Saban 150.63 30 *e*PKPbc **PKPbc 11 16 44.2 +0.5**
LPA La Plata 151.87 177 PKIKP **PKPdf 11 16 37.5 -1.4**
LPA PKIKP **PKiKP 11 16 47.5 +1.3**
LPA La Plata 151.87 177 PKP **PKPab 11 17 00.0 +1.8**
BCIP Isla Barro Col 151.91 56 *e*PKPdf **PKPdf 11 16 39.2 -0.4**
BCIP *e*PKPbc **PKiKP 11 16 47.0 +0.1**
CMCH Combarbala 152.10 153 ⇓*i*P **PKPdf 11 16 39.3 -0.2**
CFAA Coronel Fontan 152.88 158 PKP **PKPdf 11 16 41.2 +0.7**
CFAA PKPbc **PKiKP 11 16 48.9 +0.4**
CFAA PKPab **PKPab 11 17 03.0 +0.3**
CFAA SKP 11 19 11.6
CFAA Coronel Fontan 152.88 158 PKP **PKPdf 11 16 41.2 +0.7**
comp=Z,19nm,1.0s,baz=241,slow=2.4,SNR=255
CFAA PKPbc **PKiKP 11 16 48.9 +0.4**
comp=Z,13nm,0.4s,baz=226,slow=3.4,SNR=79
CFAA PKPab **PKPab 11 17 03.0 +0.3**
comp=Z,23nm,0.8s,baz=210,slow=4.1,SNR=15
CFAA SKP 11 19 11.6
comp=Z,17nm,1.1s,baz=272,slow=1.0,SNR=3.7
AGPR Aguadilla, PR 152.91 23 *e*PKPdf **PKPdf 11 16 42.0 +1.2**
AGPR *e*PKPbc **PKiKP 11 16 50.9 +2.1**
AGPR *e*PKPab **PKPab 11 17 03.5 +0.5**
AGPR *e*SKPdf **SKPdf 11 19 14.4 -0.8**
TLL Tololo Astrono 153.03 152 ⇑*i*P **PKPdf 11 16 41.6 +0.5**
LRS Lares 153.17 22 *e*PKPdf **PKPdf 11 16 41.3 0.0**
LRS *e*PKPbc **PKiKP 11 16 51.7 +2.3**
LRS *e*PKPab **PKPab 11 17 05.0 +0.8**
LSP Las Mesas 153.19 23 *e*PKPdf **PKPdf 11 16 41.5 +0.2**
CRPR Cabo Rojo, PR 153.33 23 *e*PKPdf **PKPdf 11 16 41.1 -0.3**
CRPR *e*PKPbc **PKiKP 11 16 51.3 +1.6**
CELP Cerrillos 153.47 22 *e*PKPdf **PKPdf 11 16 42.5 +0.8**
OBIP Obispado Ponce 153.49 22 *e*PKPdf **PKPdf 11 16 41.9 +0.2**
CBYP Canovanas 153.55 20 *e*PKPdf **PKPdf 11 16 43.9 +2.1**
CBYP *e*PKPbc **PKiKP 11 16 50.3 +0.1**
SJG San Juan 153.59 21 *e*PKPdf **PKPdf 11 16 41.8 0.0**
SJG *e*PKPbc **PKiKP 11 16 51.6 +1.4**
SJG *e*PKPab **PKPab 11 17 06.2 +0.2**
SJG SKP 11 19 17.9
SJG San Juan 153.59 21 SKP **SKPdf 11 19 17.9 +1.8**
comp=Z,33nm,0.9s,baz=346,slow=4.2,SNR=4.8
STVI Saint Thomas 153.77 18 *e*PKPdf **PKPdf 11 16 42.0 -0.1**
STVI *e*PKPbc **PKiKP 11 16 51.4 +0.9**
STVI *e*PKPab **PKPab 11 17 07.4 +0.8**
MTP Monte Pirata 153.81 20 *e*PKPdf **PKPdf 11 16 42.0 -0.1**
MTP *e*PKPbc **PKiKP 11 16 51.7 +1.0**
MTP *e*PKPab **PKPab 11 17 07.9 +1.1**
LCO Las Campanas 154.05 151 *e*PKPdf **PKPdf 11 16 43.5 +0.9**
LCO *e*PKPbc **PKiKP 11 16 51.9 +0.6**
LCO *e*PKPab **PKPab 11 17 08.9 +0.8**
LCO Las Campanas 154.05 151 *i*P **PKPdf 11 16 44.1 +1.6**
LCO Las Campanas 154.05 151 P **PKPdf 11 16 44.3 +1.8**
baz=84,SNR=7.4
CDVI St. Croix 154.39 18 *e*PKPdf **PKPdf 11 16 43.3 +0.4**
CDVI *e*PKPab **PKPab 11 17 09.4 0.0**
CDVI *e*SKPdf **SKPdf 11 19 18.1 +1.1**
ANWB Willy Bob 155.25 12 *e*PKPab **PKPab 11 17 13.5 +0.5**
SEG Port Louis 156.54 12 *e*P **PKPab 11 17 19.4 +0.7**
SSG Sans Toucher 156.81 13 *e*P **PKPab 11 17 20.6 +0.6**
FNG Fond-Bernard 156.83 13 *e*P **PKPab 11 17 20.8 +0.8**
CRG Carmichael 156.85 13 *e*P **PKPab 11 17 20.3 +0.1**
LKG Breislack 156.85 13 *e*P **PKPab 11 17 20.1 -0.2**
TAG Tarade 156.86 13 *e*P **PKPab 11 17 21.0 +0.8**
ECG Echelle 156.86 13 *e*P **PKPab 11 17 20.9 +0.7**
SCG Saint Claude 156.87 13 *e*P **PKPab 11 17 21.0 +0.9**
DOG Dongo Capester 156.88 13 *e*P **PKPab 11 17 21.0 +0.9**
PHG Guadaloupe-2 156.89 13 *e*P **PKPab 11 17 21.1 +0.8**
HMG Houelmont 156.91 13 *i*P **PKPab 11 17 21.4 +1.1**
OTAV Otavalo 157.04 73 *e*PKPdf **PKPdf 11 16 48.3 +1.1**
OTAV *e*PKPab **PKPab 11 17 24.8 +2.9**
TBG Guadaloupe-3 157.04 13 *e*P **PKPab 11 17 21.6 +0.8**
MGG Marie-Galante 157.05 12 *e*P **PKPab 11 17 21.3 +0.4**
ATAH Atahualpa 158.25 93 PKP **PKPdf 11 16 50.0 +1.5**
ATAH PKPab **PKPab 11 17 29.2 +2.2**
ATAH PP **PP 11 21 06.5 -3.7**
ATAH Atahualpa 158.25 93 PKP **PKPdf 11 16 50.0 +1.5**
comp=Z,276nm,1.0s,baz=298,slow=0.7,SNR=165
ATAH PKPab **PKPab 11 17 29.2 +2.2**
comp=Z,180nm,0.9s,baz=252,slow=4.9,SNR=10.0
ATAH PP **PP 11 21 06.5 -3.7**
comp=Z,20nm,0.9s,baz=262,slow=7.1,SNR=2.0
ROSC El Rosal 158.83 58 *e*PKPdf **PKPdf 11 16 50.3 +1.0**
ROSC SKP 11 19 20.6
ROSC El Rosal 158.83 58 PKP **PKPdf 11 16 50.2 +1.0**
comp=Z,66nm,1.0s,baz=315,slow=1.1,SNR=70
ROSC SKP 11 19 20.6
comp=Z,18nm,0.8s,baz=96,slow=19,SNR=4.6
SDV Santo Domingo 159.08 43 *e*PKPdf **PKPdf 11 16 49.7 +0.5**
SDV *e*PKPab **PKPab 11 17 29.2 +1.0**
RCBR Riachuelo 159.51 271 *e*PKPdf **PKPdf 11 16 50.1 +0.6**
RCBR *e*PKPab **PKPab 11 17 33.3 +1.1**
LVC Limon Verde 160.14 144 *e*PKPdf **PKPdf 11 16 51.9 +1.7**
LVC *e*PKPab **PKPab 11 17 37.9 +3.2**
CPUP Villa Florida 160.44 178 *e*PKPdf **PKPdf 11 16 51.1 +1.0**
CPUP PKPab **PKPab 11 17 36.1 +0.7**
CPUP *e*PKPab PKPab 11 17 36.3 +0.9
CPUP PP **PP 11 21 19.5 +0.8**
CPUP *e*PP PP 11 21 19.8 +1.1
CPUP Villa Florida 160.44 178 PKP **PKPdf 11 16 51.0 +1.0**
comp=Z,58nm,0.9s,baz=190,slow=0.9,SNR=67
CPUP PKPab **PKPab 11 17 36.1 +0.7**
comp=Z,107nm,0.7s,baz=169,slow=5.1,SNR=14
CPUP PP **PP 11 21 19.5 +0.8**
comp=Z,274nm,1.2s,baz=180,slow=4.9,SNR=8.3
GRW Mount Saint Ca 160.60 15 *e* **PKPab 11 17 37.2 +0.7**
SPB Sao Paulo 161.06 206 *e*PKPdf **PKPdf 11 16 51.9 +1.0**
SPB *e*PKPab **PKPab 11 17 37.9 -0.4**
TOSP Speyside 161.70 13 *e* **PKPab 11 17 41.7 +0.5**
TPR Prospect 161.75 14 *e* **PKPab 11 17 43.2 +1.7**
BOT Bacolet 161.78 13 *e* **PKPab 11 17 43.0 +1.4**
TRN Trinidad (W) 162.11 16 *e* **PKPab 11 17 42.5 -0.5**
LPAZ La Paz 165.13 131 *e*PKPdf **PKPdf 11 16 57.1 +1.5**
LPAZ *e*PKPab **PKPab 11 17 59.7 +2.4**
BDFB Brasilia 167.81 222 PKP **PKPdf 11 16 57.4 +0.4**
BDFB PKPab **PKPab 11 18 09.1 +0.6**
BDFB PP **PP 11 21 57.2 -0.8**
BDFB Brasilia 167.81 222 PKP **PKPdf 11 16 57.4 +0.4**
comp=Z,43nm,1.0s,baz=47,slow=1.5,SNR=43
BDFB PKPab **PKPab 11 18 09.1 +0.6**
comp=Z,28nm,0.7s,baz=146,slow=4.0,SNR=12
BDFB PP **PP 11 21 57.2 -0.8**
comp=Z,16nm,1.0s,baz=195,slow=2.8,SNR=2.6
SIV San Ignacio 169.71 155 PKP **PKPdf 11 16 58.8 +0.7**
SIV PKPab **PKPab 11 18 17.4 +0.7**
SIV PP **PP 11 22 03.9 -2.7**
SIV SKKPbc 11 25 30.8
SIV San Ignacio 169.71 155 PKP **PKPdf 11 16 58.8 +0.7**
comp=Z,95nm,1.1s,baz=197,slow=1.0,SNR=153
SIV PKPab **PKPab 11 18 17.4 +0.7**
comp=Z,93nm,0.7s,baz=226,slow=5.0,SNR=36
SIV PP **PP 11 22 03.9 -2.7**
comp=Z,26nm,1.2s,baz=221,slow=6.5,SNR=3.4
SIV SKKPbc 11 25 30.8
comp=Z,20nm,1.0s,baz=156,slow=4.6,SNR=3.7
SAML Samuel 173.00 109 *e*PKPdf **PKPdf 11 17 00

LAST	**Lasithi**	**1.23**	**355**	*e*PN		**Pn**	**11 02 32.1**	**-0.5**
LAST	**Lasithi**	**1.23**	**355**	*e*Pn		**Pn**	**11 02 32.1**	**-0.5**
SIVA	**Sivas**	**1.26**	**329**	*e*PN		**Pn**	**11 02 33.5**	**+0.5**
SIVA	**Sivas**	**1.26**	**329**	*e*Pn		**Pn**	**11 02 33.5**	**+0.5**
ZKR	**Zakros**	**1.28**	**23**	*e*PN		**Pb**	**11 02 34.0**	**-0.4**
ZKR	**Zakros**	**1.28**	**23**	*e*Pn		**Pb**	**11 02 34.0**	**-0.4**
NPS	**Neapolis**	**1.32**	**0**	*e*Pn		**Pn**	**11 02 33.8**	**-0.1**
NPS				*e*SN		**Sn**	**11 02 48.1**	**-2.7**
NPS	**Neapolis**	**1.32**	**0**	*e*Pn		**Pn**	**11 02 33.8**	**-0.1**
NPS				*e*Sn		**Sn**	**11 02 48.1**	**-2.7**
IDI	**Anoyia**	**1.47**	**337**	*e*PN		**Pb**	**11 02 37.0**	**-0.7**
IDI	**Anoyia**	**1.47**	**337**	*e*Pn		**Pb**	**11 02 37.0**	**-0.7**
IDI	**Anoyia**	**1.47**	**337**	P		**Pb**	**11 02 37.2**	**-0.5**
	8.4nm,0.3s,baz=161,slow=16,SNR=52							
VAM	**Vamos**	**1.87**	**322**	*e*PN		**Pn**	**11 02 42.9**	**+1.5**
VAM				*e*SN		**Sn**	**11 03 03.3**	**-0.9**
VAM	**Vamos**	**1.87**	**322**	*e*Pn		**Pn**	**11 02 42.9**	**+1.5**
VAM				*e*Sn		**Sn**	**11 03 03.3**	**-0.9**
KARN	**Karanos**	**2.02**	**317**	*e*PB		**Pn**	**11 02 45.2**	**+1.7**
KARN	**Karanos**	**2.02**	**317**	*e*Pb		**Pn**	**11 02 45.2**	**+1.7**
LTBQ	**Tobruq**	**2.35**	**217**	*i* P		**Pn**	**11 02 48.9**	**+0.9**
	SNR=24							
LTBQ				*e*S		Sn	11 03 09.8	-6.3
	49nm,0.7s,SNR=24							
SLUM		**2.46**	**188**	P		**Pn**	**11 02 50.7**	**+1.1**
	baz=186							
SLUM		**2.46**	**188**	P		**Pn**	**11 02 50.7**	**+1.1**
SLUM				S		**Sn**	**11 03 19.6**	**+0.8**
HMAT	**Matruh**	**3.10**	**156**	P		**Pn**	**11 02 59.5**	**+1.1**
	baz=156							
HMAT	**Matruh**	**3.10**	**156**	P		**Pn**	**11 02 59.5**	**+1.1**
APE	**Apeiranthos**	**3.12**	**359**	*e*PN		**Pn**	**11 02 59.9**	**+1.2**
APE	**Apeiranthos**	**3.12**	**359**	*e*Pn		**Pn**	**11 02 59.9**	**+1.2**
AKAS	**Kas**	**4.00**	**54**	*i* P		Pn	11 03 13.9	+3.1
AKAS				*i* S		**Sn**	**11 03 56.9**	**-0.1**
AKAS	**Kas**	**4.00**	**54**	*i* P		Pn	11 03 13.9	+3.1
AKAS				*i* S		**Sn**	**11 03 56.9**	**-0.1**
GOLH	**Golhisar**	**4.61**	**43**	*i* P		**Pn**	**11 03 20.7**	**+1.5**
GOLH				*i* S		**Sn**	**11 04 15.7**	**+3.7**
GOLH	**Golhisar**	**4.61**	**43**	*i* P		**Pn**	**11 03 20.7**	**+1.5**
GOLH				*i* S		**Sn**	**11 04 15.7**	**+3.7**
SWA2		**4.68**	**182**	P		**Pn**	**11 03 21.2**	**+1.1**
	baz=181							
SWA2				AMP			11 04 00.0	
	comp=N,70µm,0.4s,logA/T=5.2,baz=181							
SWA2				S		**Sn**	**11 04 12.3**	**-1.3**
	baz=181							
SWA2		**4.68**	**182**	P		**Pn**	**11 03 21.2**	**+1.1**
SWA2				S		**Sn**	**11 04 12.3**	**-1.3**
LJBD	**Adjabya**	**5.48**	**238**	*i* P		**Pn**	**11 03 32.6**	**+1.6**
	SNR=23							
LJBD				*e*S		Sn	11 04 25.0	-8.2
	SNR=23							
HNAT	**Natroun**	**6.05**	**134**	P		**Pn**	**11 03 39.8**	**+0.9**
	baz=135							
HNAT	**Natroun**	**6.05**	**134**	P		**Pn**	**11 03 39.8**	**+0.9**
GLL	**Jalalah**	**6.78**	**128**	P		**Pn**	**11 03 49.3**	**+0.4**
	baz=129							
GLL	**Jalalah**	**6.78**	**128**	P		**Pn**	**11 03 49.3**	**+0.4**
HFRF	**Wahat Farafira**	**7.16**	**160**	P		**Pn**	**11 03 55.1**	**+1.1**
	baz=160							
HFRF	**Wahat Farafira**	**7.16**	**160**	P		**Pn**	**11 03 55.2**	**+1.1**
AMAG	**Maghara**	**7.23**	**115**	P		**Pn**	**11 03 54.5**	**-0.6**
	baz=116							
AMAG	**Maghara**	**7.23**	**115**	P		**Pn**	**11 03 54.5**	**-0.6**
SUZ		**7.38**	**122**	P		**Pn**	**11 03 56.8**	**-0.4**
	baz=123							
SUZ		**7.38**	**122**	P		**Pn**	**11 03 56.8**	**-0.4**
RSH		**7.47**	**111**	P		**Pn**	**11 03 57.7**	**-0.8**
	baz=113							
RSH		**7.47**	**111**	P		**Pn**	**11 03 57.7**	**-0.8**
HNKL	**Nakhl**	**8.16**	**117**	P		**Pn**	**11 04 07.3**	**-0.6**
	baz=118							
HNKL				S		Sn	11 05 32.5	-6.9
	baz=118							
HNKL	**Nakhl**	**8.16**	**117**	P		**Pn**	**11 04 07.3**	**-0.6**
MMAI	**Mount Meron Ar**	**8.24**	**94**	P		**Pn**	**11 04 07.0**	**-2.0**
	comp=N,2.7nm,0.3s,baz=266,slow=14,SNR=4.8							
MMAI				S		**Sn**	**11 05 37.8**	**-3.5**
	comp=N,4.4nm,0.3s,baz=262,slow=24,SNR=5.1							
BRTR	**Keskin Array B**	**8.65**	**46**	P		**Pn**	**11 04 16.2**	**+1.5**
	comp=N,0.2nm,0.3s,baz=229,slow=14,SNR=7.9							
HKAT	**Jabal Katrina**	**8.98**	**125**	P		**Pn**	**11 04 19.1**	**-0.2**
	baz=126							
HKAT	**Jabal Katrina**	**8.98**	**125**	P		**Pn**	**11 04 19.1**	**-0.2**
EIL	**Elat**	**9.02**	**116**	P		**Pn**	**11 04 20.1**	**+0.4**
	comp=N,0.9nm,0.3s,baz=315,slow=14,SNR=6.7							
EIL				S		**Sn**	**11 05 57.8**	**-2.7**
	comp=N,1.0nm,0.3s,baz=9.5,slow=18,SNR=3.4							
ASF	**Jabal al Asfar**	**9.64**	**97**	S		**Sn**	**11 06 13.3**	**-2.5**
	comp=N,0.2nm,0.3s,baz=0.0,slow=20,SNR=3.0							
KBZ	**Khabaz**	**16.62**	**49**	P		**P**	**11 06 04.7**	**+0.3**
	comp=N,0.2nm,0.3s,baz=259,slow=10,SNR=4.0							
AKASG	**Malin Array Be**	**16.96**	**8**	P		**Pn**	**11 06 06.3**	**-0.2**
	comp=N,0.9nm,0.3s,baz=198,slow=10,SNR=9.5							
DAVOX	**Davos/Dischmat**	**17.51**	**322**	P		**P**	**11 06 16.1**	**+1.6**
	comp=N,0.4nm,0.3s,baz=184,slow=18,SNR=3.6							
ESDC	**Sonseca Array**	**24.29**	**292**	P		**P**	**11 07 27.1**	**+0.6**
	comp=N,0.1nm,0.2s,baz=98,slow=9.2,SNR=8.8							
MDT	**Midelt**	**25.22**	**276**	P		**P**	**11 07 35.7**	**+0.7**
	comp=N,1.3nm,0.8s,baz=108,slow=9.6,SNR=3.6							
EKA	**Eskdalemuir Ar**	**29.25**	**326**	P		**P**	**11 08 12.3**	**+1.5**
	comp=N,0.7nm,0.7s,baz=131,slow=7.6,SNR=3.0							
TORD	**Torodi Ar. Bea**	**30.01**	**232**	P		**P**	**11 08 19.2**	**+1.3**
	comp=N,0.6nm,0.5s,baz=34,slow=9.1,SNR=8.8							
ARCES	**ARCESS Array B**	**35.65**	**360**	P		**P**	**11 09 05.3**	**-1.3**
	comp=N,0.8nm,0.7s,baz=185,slow=9.6,SNR=3.8							

*ISCJB **04** 11:03:06.6±0.5,51.45N±0.02×15.97E±0.03,h0km, Error ellipse: s-maj=3.7km s-min=2.1km az=19.3*
*IPEC **04** 11:03:06.2±0.3,51.60N×16.22E,h0km,ML2.8/3, Error ellipse: s-maj=3.2km s-min=1.7km az=66.0*
*IDC **04** 11:03:07.9±0.8,51.49N×16.07E,h0km,mb1 3.5/7, mb1mx3.5/27,mbtmp3.4/7,ML2.9/7, Error ellipse: s-maj=13.6km s-min=7.1km az=113.0*
*WAR **04** 11:03:07.7,51.54N×16.04E*
*CSEM **04** 11:03:07.2±0.2,51.51N×16.03E,h2km,ML3.7/9,Ms3.5, Error ellipse: s-maj=3.6km s-min=2.2km az=21.0*
*PRU **04** 11:03:08.3,51.48N×16.04E,h0km*
*BGR **04** 11:03:08.4±0.3,51.50N×16.03E,h1km,ML3.2/23, Error ellipse: s-maj=3.3km s-min=2.2km az=17.0*
*VIE **04** 11:03:10.6±0.6,51.26N×16.01E,h0km,mb2.7/5,ML3.2/5, Ms3.5/1, Error ellipse: s-maj=3.6km s-min=2.7km az=167.0*
72 km WNW of Wroclaw Suspected Mining induced.
ISC 04 11:03:05.0±0.7,51.56N±0.03×16.09E±0.02,h0km,n82,
σ1§39/156,5C-1D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.73**	**170**	*e*Pg		**Pb**	**11 03 21.2**	**+0.5**
	SNR=17							
KSP				*e*Sg		**Sb**	**11 03 30.8**	**-0.3**
KSP	**Ksiaz**	**0.73**	**170**	*e*Pg		**Pb**	**11 03 21.1**	**+0.5**
KSP				*e*Sg		**Sb**	**11 03 30.7**	**-0.4**
KSP	**Ksiaz**	**0.73**	**170**	*e*		**Sn**	**11 03 34.8**	**+0.4**
KSP	**Ksiaz**	**0.73**	**170**	Pg		**Pb**	**11 03 21.2**	**+0.5**
	SNR=17							
KSP				Sg		**Sb**	**11 03 30.8**	**-0.3**
UPC	**Upice**	**1.06**	**183**	*e*PG		**Pb**	**11 03 26.8**	**+0.6**
UPC				*e*SG		**Sg**	**11 03 39.4**	**+0.5**
	comp=Z,156nm,0.3s							
UPC	**Upice**	**1.06**	**183**	Pg		**Pb**	**11 03 26.8**	**+0.6**
UPC				Sg		**Sg**	**11 03 39.4**	**+0.5**
	156nm,0.3s							
DPC	**Dobruska-Polom**	**1.22**	**173**	*e*Pg		**Pn**	**11 03 30.0**	**+0.6**
	SNR=50							
DPC				*e*Sg		**Sb**	**11 03 45.9**	**+0.6**
DPC	**Dobruska-Polom**	**1.22**	**173**	*e*PG		**Pn**	**11 03 29.8**	**+0.4**
DPC				*e*SG		**Sg**	**11 03 44.7**	**+0.5**
DPC	**Dobruska-Polom**	**1.22**	**173**	Pg		**Pn**	**11 03 29.8**	**+0.4**
DPC				Sg		**Sg**	**11 03 44.7**	**+0.5**
PVCC	**Panska Ves**	**1.41**	**223**	*e*Pn		**Pb**	**11 03 33.3**	**+1.0**
	SNR=2.5							
PVCC				*e*Pg		**Pg**	**11 03 33.8**	**+1.8**
	SNR=51							
PVCC				*e*Sg		**Sn**	**11 03 52.4**	**+1.2**
PVCC	**Panska Ves**	**1.41**	**223**	*e*PG		**Pb**	**11 03 33.2**	**+1.0**
PVCC				*e*SG		**Sn**	**11 03 51.3**	**+0.1**
	comp=Z,344nm,0.4s							
PVCC	**Panska Ves**	**1.41**	**223**	Pg		**Pb**	**11 03 33.2**	**+1.0**
PVCC				Sg		**Sn**	**11 03 51.3**	**+0.1**
	344nm,0.4s							

BRG	**Berggiesshubel**	**1.51**	**244**	PN		**Pn**	**11 03 33.8**	**+0.4**
BRG				PG		**Pg**	**11 03 35.4**	**+1.4**
BRG				SG		**Sn**	**11 03 55.2**	**+1.4**
	229nm,0.3s							
KRLC	**Kraliky**	**1.55**	**163**	*e*PG		**Pg**	**11 03 36.0**	**+1.3**
KRLC				*e*SG		**Sg**	**11 03 55.5**	**+0.7**
KRLC	**Kraliky**	**1.55**	**163**	Pg		**Pg**	**11 03 36.0**	**+1.3**
KRLC				Sg		**Sg**	**11 03 55.5**	**+0.7**
PRA	**Prague**	**1.82**	**216**	PG		**Pg**	**11 03 40.0**	**+0.1**
PRA				SG		**Sb**	**11 04 03.0**	**+0.4**
FBE	**Freiberg**	**1.83**	**251**	*e*Pg		**Pg**	**11 03 41.4**	**+1.3**
	SNR=8.4							
FBE				*e*Sg		**Sg**	**11 04 05.2**	**+1.4**
FBE	**Freiberg**	**1.83**	**251**	Pg		**Pg**	**11 03 41.4**	**+1.3**
	SNR=8.4							
FBE				Sg		**Sg**	**11 04 05.2**	**+1.4**
PRU	**Pruhonice**	**1.85**	**213**	*e*Pn		**Pn**	**11 03 39.2**	**+1.1**
	SNR=6.1							
PRU				*e*Sg		**Sg**	**11 04 05.3**	**+0.7**
PRU	**Pruhonice**	**1.85**	**213**	*e*PN		**Pn**	**11 03 39.0**	**+0.9**
PRU				*e*PG		**Pg**	**11 03 41.0**	**+0.5**
PRU				*e*SG		**Sg**	**11 04 04.8**	**+0.2**
	comp=Z,100nm,0.3s							
PRU	**Pruhonice**	**1.85**	**213**	Pn		**Pn**	**11 03 39.2**	**+1.1**
	SNR=6.1							
CLL	**Collm**	**1.95**	**264**	*e*Pn		**Pn**	**11 03 40.1**	**+0.8**
	SNR=7.1							
CLL				*e*Pg		**Pg**	**11 03 43.6**	**+1.3**
	SNR=3.2							
CLL				*e*Sg		**Sg**	**11 04 08.3**	**+0.7**
CLL	**Collm**	**1.95**	**264**	*e*Pn		**Pn**	**11 03 40.0**	**+0.8**
CLL				*e*Pg		**Pg**	**11 03 43.0**	**+0.7**
CLL				*i*			11 03 47.3	
CLL				*e*			11 03 59.0	
CLL				*i* Sg		**Sg**	**11 04 08.7**	**+1.2**
	comp=Z,78nm,0.7s							
CLL	**Collm**	**1.95**	**264**	Pn		**Pn**	**11 03 40.1**	**+0.8**
	SNR=7.1							
MORC	**Moravsky Berou**	**2.01**	**152**	*e*Pn		**Pn**	**11 03 41.5**	**+1.2**
	SNR=6.5							
MORC				*e*Pg		**Pg**	**11 03 44.5**	**+1.0**
	SNR=15							
MORC				*e*Sg		**Sg**	**11 04 10.1**	**+0.4**
MORC	**Moravsky Berou**	**2.01**	**152**	Pn		**Pn**	**11 03 41.5**	**+1.2**
	SNR=6.5							
OKC	**Ostrava-Krasne**	**2.17**	**142**	*e*Pg		**Pg**	**11 03 49.0**	**+2.5**
	SNR=4.5							
OKC				*e*Sg		**Sg**	**11 04 15.9**	**+1.3**
OKC	**Ostrava-Krasne**	**2.17**	**142**	*e*PN		**Pn**	**11 03 43.5**	**+1.2**
OKC				*e*PG		**Pg**	**11 03 47.1**	**+0.6**
OKC				*e*SG		**Sg**	**11 04 15.4**	**+0.8**
	comp=Z,109nm,0.5s							
OKC	**Ostrava-Krasne**	**2.17**	**142**	Pn		**Pn**	**11 03 43.5**	**+1.2**
OKC	**Ostrava-Krasne**	**2.17**	**142**	Pg		**Pg**	**11 03 49.0**	**+2.5**
	SNR=4.5							
OKC				Sg		**Sg**	**11 04 15.9**	**+1.3**
VRAC	**Vranov**	**2.28**	**172**	*e*Pn		**Pb**	**11 03 46.0**	**-1.0**
	SNR=6.5							
VRAC				*e*Sg		**Sg**	**11 04 19.8**	**+1.6**
VRAC	**Vranov**	**2.28**	**172**	*e*Pn		**Pn**	**11 03 45.4**	**+1.5**
	baz=354							
VRAC				*e*Sg		**Sg**	**11 04 18.3**	**+0.1**
	comp=Z,46nm,0.3s,baz=354							
VRAC	**Vranov**	**2.28**	**172**	Pn		**Pn**	**11 03 44.9**	**+1.0**
	comp=Z,1.7nm,0.3s,baz=351,slow=16,SNR=13							
VRAC				Lg		Lg	11 04 17.5	
	comp=Z,12nm,0.3s,baz=61,slow=19,SNR=14							
TREC	**Trest**	**2.30**	**190**	*e*PN		**Pn**	**11 03 45.4**	**+1.2**
TREC				*e*PG		**Pg**	**11 03 49.0**	**-0.1**
TREC				*e*SG		**Sg**	**11 04 18.5**	**-0.4**
	comp=Z,61nm,0.4s							
TREC	**Trest**	**2.30**	**190**	Pn		**Pn**	**11 03 45.4**	**+1.2**
KRUC	**Moravsky**	**2.51**	**175**	*e*Pn		**Pb**	**11 03 49.5**	**-1.5**
	SNR=4.2							
KRUC				*e*Pg		**Pg**	**11 03 53.5**	**+0.4**
	SNR=6.1							
KRUC				*e*Sg		**Sg**	**11 04 27.3**	**+1.7**
KRUC	**Moravsky**	**2.51**	**175**	*e*Pn		**Pn**	**11 03 48.8**	**+1.7**
	baz=358							
KRUC	**Moravsky**	**2.51**	**175**	Pg		**Pg**	**11 03 53.5**	**+0.4**
	SNR=6.1							
KRUC				*e*Sg		**Sg**	**11 04 26.0**	**+0.4**
	comp=Z,34nm,0.4s,baz=358							
TANN	**Tannenbergstha**	**2.56**	**245**	*e*Pn		**Pn**	**11 03 49.5**	**+1.7**
	SNR=7.1							
TANN				*e*Pg		**Pg**	**11 03 56.5**	**+2.4**
	SNR=3.2							
TANN				*e*Sg		**Sg**	**11 04 27.4**	**+0.1**
TANN	**Tannenbergstha**	**2.56**	**245**	Pn		**Pn**	**11 03 49.5**	**+1.7**
	SNR=7.1							
WERD	**Werda**	**2.63**	**246**	*e*Pn		**Pn**	**11 03 50.4**	**+1.6**
	SNR=3.5							
WERD				*e*Pg		**Pg**	**11 03 55.9**	**+0.5**
	SNR=5.3							
WERD				*e*Sg		**Sg**	**11 04 29.2**	**-0.4**
WERD	**Werda**	**2.63**	**246**	Pn		**Pn**	**11 03 50.4**	**+1.6**
	SNR=3.5							
OJC	**Ojcow**	**2.71**	**118**	*e*Pn		**Pn**	**11 03 51.7**	**+1.9**
	SNR=1.5							
OJC				*e*Pg		**Pg**	**11 03 59.6**	**+2.8**
	SNR=8.0							
OJC				*e*Sg		**Sg**	**11 04 34.8**	**+2.9**
OJC	**Ojcow**	**2.71**	**118**	Pn		**Pn**	**11 03 51.7**	**+1.9**
	SNR=1.5							
JAVC	**Velka Javorina**	**2.89**	**159**	*e*Pn		**Pb**	**11 03 55.8**	**-1.7**
	SNR=3.7							
JAVC				*e*Pg		**Pg**	**11 04 02.1**	**+1.7**
	SNR=3.3							
JAVC				*e*Sg		**Sg**	**11 04 39.7**	**+1.9**
JAVC	**Velka Javorina**	**2.89**	**159**	Pn		**Pb**	**11 03 55.8**	**-1.7**
	SNR=3.7							
KHC	**Kasperske Hory**	**2.92**	**214**	*e*Pn		**Pn**	**11 03 53.8**	**+1.1**
	SNR=7.7							
KHC				*e*Pg		**Pg**	**11 04 00.5**	**-0.4**
	SNR=3.5							
KHC				*e*Sg		**Sg**	**11 04 38.2**	**-0.4**
KHC	**Kasperske Hory**	**2.92**	**214**	*e*PN		**Pn**	**11 03 53.7**	**+1.0**
KHC				*e*PG		**Pg**	**11 04 00.3**	**-0.6**
KHC				*e*SN		**Sn**	**11 04 28.6**	**+0.2**
KHC				*e*SG		**Sg**	**11 04 38.0**	**-0.6**
	comp=Z,24nm,0.3s							
KHC	**Kasperske Hory**	**2.92**	**214**	Pn		**Pn**	**11 03 53.8**	**+1.1**
	SNR=7.7							
MOX	**Moxa**	**2.96**	**254**	*e*Pn		**Pn**	**11 03 54.4**	**+1.1**
	SNR=2.4							
MOX				*e*Pg		**Pg**	**11 04 02.9**	**+1.1**
	SNR=4.4							
MOX				*e*Sg		**Sg**	**11 04 41.0**	**+0.8**
MOX	**Moxa**	**2.96**	**254**	Pn		**Pn**	**11 03 54.4**	**+1.1**
	SNR=2.4							
MOX	**Moxa**	**2.96**	**254**	Pg		**Pg**	**11 04 02.9**	**+1.1**
	SNR=4.4							
MOX				Sg		**Sg**	**11 04 41.0**	**+0.8**
MANZ	**Manzenberg**	**2.98**	**240**	*e*Pn		**Pn**	**11 03 55.5**	**+2.0**
	SNR=9.6							
MANZ				*e*Pg		**Pg**	**11 04 03.7**	**+1.6**
	SNR=1.6							
MANZ				*e*Sg		**Sg**	**11 04 41.0**	**+0.4**
MANZ	**Manzenberg**	**2.98**	**240**	Pn		**Pn**	**11 03 55.5**	**+2.0**
	SNR=9.6							
MANZ	**Manzenberg**	**2.98**	**240**	Pg		**Pg**	**11 04 03.7**	**+1.6**
	SNR=1.6							
MANZ				Sg		**Sg**	**11 04 41.0**	**+0.4**
ROTZ	**Rotzenmuhle**	**3.05**	**235**	*e*Pn		**Pn**	**11 03 56.5**	**+2.0**
	SNR=10							
ROTZ				*e*Sg		**Sg**	**11 04 42.3**	**-0.7**
ROTZ	**Rotzenmuhle**	**3.05**	**235**	Pn		**Pn**	**11 03 56.5**	**+2.0**
	SNR=10							
ROTZ				Sg		**Sg**	**11 04 42.3**	**-0.7**
GEC2	**GERESS Array S**	**3.12**	**210**	*e*Pn		**Pn**	**11 03 57.9**	**+2.4**
	SNR=7.7							
GEC2				*e*Pg		**Pg**	**11 04 04.2**	**-0.6**
	SNR=3.4							
GEC2				*e*Sg		**Sg**	**11 04 45.3**	**+0.1**
GEC2	**GERESS Array S**	**3.12**	**210**	Pn		**Pn**	**11 03 57.9**	**+2.4**
	SNR=7.7							
GERES	**GERESS Array B**	**3.12**	**210**	Pn		**Pn**	**11 03 57.6**	**+2.0**
	comp=Z,2.3nm,0.3s,baz=31,slow=13,SNR=57							
GERES				Pg		**Pg**	**11 04 04.0**	**-0.8**
	comp=Z,7.6nm,0.3s,baz=32,slow=19,SNR=41							
GERES				Lg		Lg	11 04 43.6	
	comp=Z,4.1nm,0.3s,baz=33,slow=24,SNR=7.8							
WET	**Wettzell**	**3.17**	**222**	*e*Pn		**Pn**	**11 03 58.0**	**+1.8**
	SNR=8.1							
WET				*e*Sg		**Sg**	**11 04 46.6**	**-0.3**
WET	**Wettzell**	**3.17**	**222**	Pn		**Pn**	**11 03 58.0**	**+1.8**
	SNR=8.1							
WET				Sg		**Sg**	**11 04 46.6**	**-0.3**
CLZ	**Clausthal**	**3.57**	**277**	*e*Pn		**Pn**	**11 04 03.7**	**+2.1**
	SNR=2.9							
CLZ				*e*Sg		**Sg**	**11 05 01.7**	**+2.2**
CLZ	**Clausthal**	**3.57**	**277**	Pn		**Pn**	**11 04 03.7**	**+2.1**
	SNR=2.9							
CLZ				Sg		**Sg**	**11 05 01.7**	**+2.2**
GRA1	**Grafenberg Arr**	**3.62**	**241**	Sg		**Sg**	**11 05 02.6**	**+1.4**
GRF	**Grafenberg Arr**	**3.62**	**241**	*e*Sg		**Sg**	**11 05 02.6**	**+1.4**
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P		**Pn**	**11 04 02.8**	**+0.4**
BSD				*i* S		**Sn**	**11 04 43.6**	**-2.3**
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P		**Pn**	**11 04 02.9**	**+0.5**
	SNR=49							
CONA	**Conrad Observa**	**3.64**	**182**	⇓*i* Pn		**Pn**	**11 04 04.9**	**+2.3**
CONA				⇑*i* Sg		**Sg**	**11 05 00.0**	**-1.9**
	comp=Z,28nm,0.4s							
CONA	**Conrad Observa**	**3.64**	**182**	Pn		**Pn**	**11 04 04.9**	**+2.3**
CONA				Sg		**Sg**	**11 05 00.0**	**-1.9**
	comp=Z,28nm,0.4s							
MOA	**Molln**	**3.90**	**198**	⇑*i* Pn		**Pn**	**11 04 07.9**	**+1.7**
	SNR=7.7							
MOA				⇑*i* Sg		**Sg**	**11 05 10.0**	**-0.2**
	comp=Z,26nm,0.6s							
MOA	**Molln**	**3.90**	**198**	Pn		**Pn**	**11 04 07.9**	**+1.7**
	SNR=7.7							
MOA				Sg		**Sg**	**11 05 10.0**	**-0.2**
	comp=Z,26nm,0.6s							
KBA	**Koelnbreinsper**	**4.83**	**203**	⇑*i* Pn		**Pn**	**11 04 21.4**	**+2.3**
	SNR=10							
KBA				⇑*i* Sg		**Sg**	**11 05 40.5**	**+0.4**
	comp=Z,12nm,0.6s							
KBA	**Koelnbreinsper**	**4.83**	**203**	Pn		**Pn**	**11 04 21.4**	**+2.3**
	SNR=10							
KBA				Sg		**Sg**	**11 05 40.5**	**+0.4**
	comp=Z,12nm,0.6s							
DAVOX	**Davos/Dischmat**	**6.28**	**223**	Pn		**Pn**	**11 04 41.3**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=29,slow=13,SNR=3.4							
DAVOX				Lg		Lg	11 06 26.3	
	comp=Z,0.6nm,0.3s,baz=162,slow=22,SNR=3.7							
UDBI	**Udbina**	**7.04**	**182**	Sn		Pb	11 05 13.5	+5.3
AKASG	**Malin Array Be**	**8.31**	**91**	Pn		**Pn**	**11 05 06.7**	**0.0**
	comp=Z,0.8nm,0.3s,baz=279,slow=12,SNR=7.5							
HFS	**Hagfors**	**8.70**	**352**	Pn		**Pn**	**11 05 12.5**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=169,slow=16,SNR=3.0							
FINES	**FINESS Array B**	**11.32**	**25**	Pn		**Pn**	**11 05 47.2**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=209,slow=11,SNR=7.7							
FINES				Sn		**Sn**	**11 07 49.7**	**-5.3**
	comp=Z,0.2nm,0.3s,baz=212,slow=20,SNR=5.0							
EKA	**Eskdalemuir Ar**	**12.07**	**296**	Pn		**Pn**	**11 05 56.0**	**-2.1**
	baz=105,slow=13,SNR=2.7							
ESDC	**Sonseca Array**	**18.31**	**237**	Pn		**Pn**	**11 07 19.0**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=52,slow=12,SNR=4.0							
ARCES	**ARCESS Array B**	**18.58**	**10**	Pn		**P**	**11 07 21.1**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=196,slow=13,SNR=4.4							

*NEIC **04** 11:04:08.0±0.3,6.68N×123.53E,h640km±4km,mb5.6/33, Error ellipse: s-maj=6.0km s-min=3.5km az=68.0*
*ISCJB **04** 11:04:07.1±0.2,6.73N±0.03×123.60E±0.04,h645km±2km, mb5.5/89, Error ellipse: s-maj=5.7km s-min=3.6km az=159.6*
*MOS **04** 11:04:07.5±0.8,6.71N×123.52E,h654km,mb5.5/15, Error ellipse: s-maj=13.5km s-min=7.1km az=116.8*
*AUST **04** 11:04:08.3±0.2,6.69N×123.54E,h636km, Error ellipse: s-maj=1.0km s-min=0.7km az=37.0*
*IDC **04** 11:04:08.2±0.6,6.71N×123.53E,h640km±6km,mb4.7/47, mb1 4.8/48,mb1mx4.7/50,mbtmp4.7/48, Error ellipse: s-maj=9.2km s-min=5.4km az=65.0*
*BJI **04** 11:04:12.4,7.45N×123.34E,h632km,mB5.2/2,mb5.7/6*
ISC 04 11:04:07.9±0.4,6.65N±0.04×123.52E±0.05,h641km±4km,
**n347,σ1§41/425,mb5.5/87,8C-4D,Mindan

NACB eS S 11 10 31.7 +4.4
YHNB Yeheng 18.03 354 eP P 11 07 41.3 -0.9
132nm,0.7s
YHNB eS S 11 10 33.8 -2.0
QIZ Qiongzhong 18.12 314 eP P 11 07 43.7 +0.7
122nm,0.6s
TATO Taipei 18.32 354 eP P 11 07 43.4 -1.3
324nm,0.6s
QZH Quanzhou 18.79 346 ↓j/P P 11 07 47.0 -1.9
QZH AMB AMB
comp=Z,400nm,0.8s
JAY Jayapura 19.43 117 P P 11 07 55.5 +0.5
baz=19,SNR=12
MYKOM **Kota Tinggi** 20.20 257 P P 11 08 03.2 +1.4
KTGM Kuala Trenggan 20.32 267 P P 11 08 04.5 +1.6
BTDF Bukit Timah Da 20.38 256 P P 11 08 04.3 +0.8
baz=20,SNR=8.8
BTDF P P 11 08 04.3 +0.8
baz=20,SNR=8.8
JOW Kunigami 20.57 12 eP P 11 08 05.6 +0.6
KGM Kluang 20.66 258 P P 11 08 07.6 +1.6
FITZ Fitzroy Crossi 24.69 175 eP P 11 08 41.6 0.0
143nm,0.5s
FITZ S S 11 12 14.7 -6.0
FITZ ScP ScP 11 14 35.1 0.0
FITZ Fitzroy Crossi 24.69 175 P P 11 08 42.1 +0.5
142nm,0.5s,baz=6.1,slow=11,SNR=14
FITZ S S 11 12 14.7 -6.0
77nm,1.1s,baz=108,slow=20,SNR=7.8
FITZ ScP ScP 11 14 35.1 0.0
39nm,0.6s,baz=299,slow=4.7,SNR=6.6
PSI Prapat 24.80 262 P P 11 08 43.9 +1.0
PSI S S 11 12 17.4 -5.6
PSI ScP ScP 11 14 35.6 -0.1
PSI Prapat 24.80 262 P P 11 08 43.9 +1.0
171nm,0.8s,baz=64,slow=10,SNR=14
PSI S S 11 12 17.4 -5.6
95nm,1.0s,baz=149,slow=19,SNR=27
PSI ScP ScP 11 14 35.6 -0.1
45nm,0.6s,baz=208,slow=2.5,SNR=16
LHMI Lhok Sumawe 26.46 268 P P 11 08 59.3 +2.0
baz=26,SNR=4.4
CM31 Chiang Mai Arr 26.66 298 eP P 11 09 00.5 +1.6
117nm,0.5s
CMAR Chiang Mai Arr 26.66 298 P P 11 09 00.6 +1.7
CMAR ScP ScP 11 14 42.0 +1.1
CMAR Chiang Mai Arr 26.66 298 P P 11 09 00.6 +1.7
126nm,0.6s,baz=125,slow=7.5,SNR=67
CMAR ScP ScP 11 14 42.0 +1.1
14nm,1.0s,baz=148,slow=2.1,SNR=5.1
ENH Enshi 26.94 332 eP P 11 09 01.6 +0.4
368nm,0.9s
KMI Kunming 27.06 315 P P 11 09 04.7 +2.1
KMI AMB AMB
comp=Z,280nm,1.1s
JNU Nakatsue 27.21 14 P P 11 09 02.6 -0.9
JNU Nakatsue 27.21 14 P P 11 09 02.6 -0.9
23nm,0.5s,baz=180,slow=9.1,SNR=8.5
MBWA Marble Bar 27.89 188 eP P 11 09 09.5 0.0
379nm,0.8s
COEN Coen 28.28 136 eP P 11 09 12.4 -0.6
2µm,0.6s
PMG Port Moresby 28.45 124 P P 11 09 13.9 -0.5
PMG ScP ScP 11 14 47.0 +0.4
PMG Port Moresby 28.45 124 P P 11 09 13.9 -0.5
231nm,0.8s,baz=324,slow=8.4,SNR=5.7
PMG ScP ScP 11 14 47.0 +0.4
39nm,0.8s,baz=35,slow=3.2,SNR=4.8
WRAB Tennant Creek 28.49 158 eP P 11 09 14.6 -0.1
WRAB Tennant Creek 28.49 158 P P 11 09 14.9 +0.2
12µm,0.5s,SNR=13
WRAB Tennant Creek 28.49 158 eP P 11 09 14.6 -0.1
1µm,0.5s
WRA Warramunga Arr 28.49 158 P P 11 09 14.8 +0.1
WRA PcP PcP 11 12 05.3 +0.6
WRA S S 11 13 16.3 -3.6
WRA ScP ScP 11 14 46.5 -0.1
WRA e 11 41 12.6
WRA Warramunga Arr 28.49 158 P P 11 09 14.8 +0.1
721nm,0.5s,baz=336,slow=9.7,SNR=34
WRA PcP PcP 11 12 05.3 +0.6
24nm,0.6s,baz=325,slow=2.9,SNR=5.1
WRA S S 11 13 16.3 -3.6
85nm,0.9s,baz=338,slow=16,SNR=6.5
WRA ScP ScP 11 14 46.5 -0.1
34nm,0.5s,baz=342,slow=3.2,SNR=11
WRA P3KPbc 11 41 12.6
1.2nm,0.5s,baz=155,slow=3.8,SNR=16
GIRL Giralia 30.50 197 P P 11 09 34.2 +2.3
baz=31,SNR=4.6
RABL Rabaul 30.56 110 P P 11 09 34.4 +1.8
baz=31,SNR=10
KSAR Wonju Array Be 30.90 7 P P 11 09 36.1 +1.0
KSAR ScP ScP 11 14 54.2 0.0
KSRS Korea Array 30.92 7 P P 11 09 36.1 +0.9
18nm,0.5s,baz=181,slow=9.3,SNR=16
KSRS ScP ScP 11 14 54.2 0.0
3.7nm,0.6s,baz=178,slow=2.8,SNR=6.2
ASAR Alice Springs 31.80 162 P P 11 09 43.8 +0.9
ASAR PcP PcP 11 12 13.8 +0.2
ASAR S S 11 14 10.2 -0.2
ASAR ScP ScP 11 14 57.0 -0.6
ASAR ScS ScS 11 18 58.2 +0.3
ASAR e 11 40 56.0
ASAR Alice Springs 31.80 162 P P 11 09 43.8 +0.9
405nm,0.4s,baz=343,slow=6.7,SNR=49
ASAR PcP PcP 11 12 13.8 +0.2
29nm,0.4s,baz=343,slow=2.9,SNR=4.8
ASAR S S 11 14 10.2 -0.2
101nm,0.9s,baz=353,slow=19,SNR=10
ASAR ScP ScP 11 14 57.0 -0.6
49nm,0.7s,baz=348,slow=3.1,SNR=8.4
ASAR ScS ScS 11 18 58.2 +0.3
4.1nm,0.6s,baz=86,slow=8.4,SNR=5.2
ASAR P3KPbc 11 40 56.0
0.7nm,0.9s,baz=157,slow=3.9,SNR=4.0
BJT Baijiatuau 33.87 350 eP P 11 10 00.2 +0.2
192nm,0.7s
CTA Charters Tower 34.73 140 P P 11 10 08.5 +1.0
CTA ScP ScP 11 15 07.9 -0.1
CTA Charters Tower 34.73 140 P P 11 10 08.5 +1.0
187nm,0.6s,baz=330,slow=9.3,SNR=9.4
CTA ScP ScP 11 15 07.9 -0.1
56nm,0.8s,baz=340,slow=1.5,SNR=6.3
CTAO Charters Tower 34.73 140 eP P 11 10 08.5 +1.0
CTAO pmax pmax
comp=Z,227nm,0.6s
CTAO Charters Tower 34.73 140 eP P 11 10 08.5 +1.0
comp=Z,227nm,0.6s
FORT Forrest 37.47 174 eP P 11 10 30.2 +0.5
comp=Z,1µm,0.6s
LSA Lhasa 38.12 311 eP P 11 10 37.1 +1.6
comp=Z,284nm,0.7s
USRK Ussuriysk Arra 38.13 10 P P 11 10 35.2 +0.4
comp=Z,26nm,0.7s,baz=212,slow=6.6,SNR=6.3
HNR Honiara 39.66 113 P P 11 10 47.8 +0.3
HNR Honiara 39.66 113 P P 11 10 47.8 +0.3
comp=Z,416nm,0.6s,baz=349,slow=3.3,SNR=11
NWAO Narrogin (SRO) 39.81 188 eP P 11 10 49.2 +0.8
comp=Z,181nm,0.6s
NWAO Narrogin (SRO) 39.81 188 P P 11 10 49.2 +0.8
comp=Z,180nm,0.4s,baz=15,slow=10,SNR=9.7
ASAJ Asahikawa 40.89 21 eP P 11 10 57.3 +0.5
comp=Z,31nm,0.4s
ASAJ Asahikawa 40.89 21 P P 11 10 56.9 +0.2
comp=Z,58nm,0.3s,baz=215,slow=6.9,SNR=80
RKGY Rocky Gully 41.50 188 P P 11 11 03.7 +2.0
baz=42,SNR=8.2
EIDS Eidsvold 41.62 141 eP P 11 11 02.7 0.0
comp=Z,214nm,0.7s
STKA Stephens Creek 42.02 157 eP P 11 11 06.6 +0.8
comp=Z,68nm,0.5s
STKA Stephens Creek 42.02 157 P P 11 11 07.0 +1.2
comp=Z,336nm,0.4s,baz=337,slow=9.2,SNR=24
PALK Pallekele 42.49 273 P P 11 11 10.0 +0.1
comp=Z,482nm,0.7s,SNR=5.8
PALK Pallekele 42.49 273 eP P 11 11 11.1 +1.2
comp=Z,51nm,0.7s
HIA Hailar 42.59 356 eP P 11 11 10.6 +0.7
comp=Z,133nm,0.7s
ULN Ulaanbaatar 43.40 344 eP P 11 11 17.0 +0.6
comp=Z,165nm,0.9s
SONM Songino Array 43.56 343 P P 11 11 18.3 +0.6
SONM ScP ScP 11 15 41.9 -0.2
SONM Songino Array 43.56 343 P P 11 11 18.3 +0.6
comp=Z,94nm,0.9s,baz=160,slow=8.4,SNR=21
SONM ScP ScP 11 15 41.9 -0.2
comp=Z,14nm,0.9s,baz=149,slow=4.0,SNR=4.1
ARMA Armidale 45.66 145 eP P 11 11 35.2 +1.3
comp=Z,313nm,0.7s
YNG Young 47.04 152 P P 11 11 45.6 +1.5
baz=47,SNR=9.7
MGCD Mangrove Creek 47.52 148 P P 11 11 50.0 +2.4
baz=48,SNR=13
TLY Talaya 47.80 343 P P 11 11 50.4 +1.0
comp=Z,1µm,0.6s,SNR=9.9
CNB Canberra Magne 48.33 151 P P 11 11 55.9 +2.2
baz=48,SNR=4.9
MILA Mila 49.66 153 P P 11 12 04.7 +1.4
baz=50,SNR=12
MNCY Minicoy 50.06 275 /P P 11 12 16.0 +9.4
KAAM Kaadhehdhoo 50.77 265 P P 11 12 12.6 +0.8
baz=51,SNR=3.9
DZM Mont Dzumac 50.82 125 P P 11 12 13.8 +1.7
DZM Mont Dzumac 50.82 125 P P 11 12 13.8 +1.7
comp=Z,96nm,0.5s,baz=291,slow=8.6
LHI Lord Howe Isla 50.92 140 P P 11 12 14.3 +1.8
baz=51,SNR=5.8
MKAR Makanchi Array 53.35 326 P P 11 12 30.6 +1.0
MKAR 11 13 26.2
MKAR Makanchi Array 53.35 326 P P 11 12 30.6 +1.0
MKAR PcP PcP 11 13 26.2 0.0
MKAR ScP ScP 11 16 23.2 -0.5
MKAR e 11 49 44.1
MKAR Makanchi Array 53.35 326 P P 11 12 30.6 +1.0
comp=Z,286nm,0.6s,baz=120,slow=8.2,SNR=95
MKAR PcP PcP 11 13 26.2 0.0
comp=Z,52nm,0.6s,baz=135,slow=3.8,SNR=5.3
MKAR ScP ScP 11 16 23.2 -0.5
comp=Z,34nm,0.8s,baz=131,slow=4.8,SNR=7.2
MKAR P4KPbc 11 49 44.1
comp=Z,2.0nm,0.7s,baz=119,slow=5.1,SNR=10.0
MOO Moorlands 53.41 158 P P 11 12 31.7 +1.7
baz=54,SNR=3.5
TAU Tasmania Unive 53.87 158 eP P 11 12 34.4 +1.2
TAU pmax pmax
comp=Z,138nm,0.8s
TAU Tasmania Unive 53.87 158 P P 11 12 34.2 +1.0
comp=Z,907nm,0.6s,SNR=13
TAU Tasmania Unive 53.87 158 eP P 11 12 34.4 +1.2
comp=Z,138nm,0.8s
PETK Petropavlovsk- 54.04 25 P P 11 12 34.7 +0.5
PETK 11 13 27.9
PETK Petropavlovsk- 54.04 25 P P 11 12 34.7 +0.5
PETK PcP PcP 11 13 27.9 -0.8
PETK Petropavlovsk- 54.04 25 P P 11 12 34.7 +0.5
comp=Z,23nm,0.7s,baz=218,slow=6.4,SNR=18
PETK PcP PcP 11 13 27.9 -0.8
comp=Z,2.1nm,0.4s,baz=199,slow=4.1,SNR=6.9
ULHL Ulahol 54.72 318 P P 11 12 40.7 +1.2
SNR=18
KZA Kyzart 55.31 317 P P 11 12 45.6 +1.7
SNR=32
YAK Yakutsk 55.45 4d/P P 11 12 44.0 +0.2
YAK pmax pmax
comp=Z,162nm,0.7s
YAK pmax pmax
comp=N,38nm,0.9s
TKM2 Tokmak 2 55.45 319 P P 11 12 45.5 +0.9
SNR=8.8
AAK Ala-Archa 56.06 318 eP P 11 12 49.7 +1.0
AAK pmax pmax
comp=Z,57nm,0.8s
AAK Ala-Archa 56.06 318 P P 11 12 50.0 +1.3
SNR=6.2
AAK Ala-Archa 56.06 318 P P 11 12 49.2 +0.6
comp=Z,410nm,0.5s,SNR=6.4
AAK Ala-Archa 56.06 318 eP P 11 12 49.6 +1.0
comp=Z,57nm,0.8s
AAK ScP ScP 11 16 34.7 -1.3
AAK Ala-Archa 56.06 318 P P 11 12 49.8 +1.2
comp=Z,25nm,0.4s,baz=134,slow=9.3,SNR=11
AAK ScP ScP 11 16 34.7 -1.3
comp=Z,8.8nm,0.5s,baz=108,slow=8.4,SNR=6.7
USP Ospenovka 56.33 318 P P 11 12 51.3 +1.0
SNR=6.5
AML Almayashu 56.38 317 P P 11 12 52.6 +1.5
SNR=18
EKS2 Erkin-Say 56.55 318 P P 11 12 53.6 +1.6
SNR=6.9
ZALV Zalesovo Beam 56.56 334 P P 11 12 50.9 -0.7
ZALV Zalesovo Beam 56.56 334 P P 11 12 50.9 -0.7
ZALV PKKP PKKPdf 11 34 13.9 -1.1
ZALV Zalesovo Beam 56.56 334 P P 11 12 50.9 -0.7
comp=Z,61nm,0.5s,baz=128,slow=6.4,SNR=20
ZALV PKKP PKKPdf 11 34 13.9 -1.1
comp=Z,6.2nm,1.0s,baz=308,slow=4.7,SNR=7.6
KBL Kabul 57.22 307 eP P 11 12 57.0 +0.2
KBL pmax pmax
comp=Z,160nm,0.8s
KBL Kabul 57.22 307 eP P 11 12 57.0 +0.2
comp=Z,160nm,0.8s
KBL Kabul 57.22 307 P P 11 12 57.4 +0.6
baz=57,SNR=11
KURBB **Kurchatov Arra** 57.57 328 P P 11 12 58.8 +0.3
comp=Z,306nm,0.7s,baz=131,slow=6.5,SNR=72
KURBB PcP PcP 11 13 44.0 +1.4
comp=Z,45nm,0.4s,baz=128,slow=6.1,SNR=9.3
KURBB PKKP PKKPdf 11 34 11.4 -2.2
comp=Z,4.1nm,1.0s,baz=305,slow=2.9,SNR=7.6
KURK Kurchatov 57.58 328 eP P 11 12 58.7 +0.1
KURK 11 13 44.1
KURK pmax pmax
comp=Z,341nm,0.7s
KURK Kurchatov 57.58 328 P P 11 12 59.9 +1.3
comp=Z,6µm,0.6s,SNR=40
KURK Kurchatov 57.58 328 eP P 11 12 58.7 +0.1
comp=Z,341nm,0.7s
KURK PcP PcP 11 13 44.0 +1.4
KURK PKKP PKKPdf 11 34 11.4 -2.1
NVS Novosibirsk 57.84 334 eP P 11 13 00.0 -0.3
NVS pmax pmax
comp=Z,652nm,0.4s
NVS pmax pmax
comp=N,106nm,0.8s
NVS pmax pmax
comp=E,67nm,0.5s
KKAR Karatay Array 58.93 317 eP P 11 13 08.2 +0.4
KKAR pmax pmax
comp=Z,109nm,0.7s
KKAR Karatay Array 58.93 317 eP P 11 13 08.2 +0.4
comp=Z,109nm,0.7s
MSVF Nonsavu 59.04 115 P P 11 13 10.9 +1.9
comp=Z,636nm,1.2s,SNR=8.7
FX1 Attu Island--F 61.23 32 P P 11 13 23.0 +0.3
FX1 Attu Island--F 61.23 32 P P 11 13 23.0 +0.3
comp=Z,14nm,0.4s,baz=180,slow=3.0,SNR=9.1
BVAR Borovoye Array 63.14 327 P P 11 13 35.0 -0.1
BVAR Borovoye Array 63.14 327 P P 11 13 35.0 -0.1
BVAR PKKP PKKPdf 11 33 59.2 -7.2
BVAR Borovoye Array 63.14 327 P P 11 13 35.0 -0.1
comp=Z,90nm,0.8s,baz=126,slow=7.4,SNR=33
BVAR PKKP PKKPdf 11 33 59.2 -7.2
comp=Z,4.8nm,0.9s,baz=298,slow=3.1,SNR=10
BRVK Borovoye 63.22 327 eP P 11 13 35.1 -0.4
BRVK pmax pmax
comp=Z,238nm,0.9s
BRVK Borovoye 63.22 327 P P 11 13 35.3 -0.2
comp=Z,1µm,0.9s,SNR=17
BRVK Borovoye 63.22 327 eP P 11 13 35.1 -0.4
comp=Z,238nm,0.9s
RPZ Rata Peaks 65.98 144 eP P 11 13 53.5 +0.5
RPZ Rata Peaks 65.98 144 P P 11 13 53.9 +0.9
comp=Z,158nm,0.5s,baz=300,slow=1.7,SNR=55
UOSS Wadi Hilu 66.67 294 P P 11 13 57.3 -0.3
comp=Z,442nm,0.4s,SNR=15
KHZ Kahutara 66.72 142 eP P 11 13 57.3 -0.1
SNZO South Karori 66.84 140 eP P 11 13 57.5 -0.7
URZ Urewera 66.85 136 eP P 11 13 58.4 0.0
URZ Urewera 66.85 136 P P 11 13 58.5 +0.1
comp=Z,45nm,0.4s,baz=258,slow=6.8,SNR=19
MRIV Mauritius Mete 70.17 246 eP P 11 14 18.6 -0.1
ARU Arti 70.77 328 P P 11 14 21.4 -0.1
comp=Z,2µm,0.6s,SNR=20
QRN Al-Qurain 74.22 298 eP P 11 14 41.6 -0.2
QRN AMb AMb 11 14 42.3
comp=Z,673nm,0.7s
UMR Umm Al-Rimmam 74.41 299 eP P 11 14 42.6 -0.2
UMR AMb AMb 11 14 43.5
comp=Z,361nm,0.6s
KBD Kabd 74.42 298 eP P 11 14 42.8 -0.2
KBD AMb AMb 11 14 43.5
comp=Z,179nm,1.1s
NAY Al-Naaiem 74.82 298 eP P 11 14 44.6 -0.6
NAY AMb AMb 11 14 46.0
comp=Z,225nm,0.6s
FALS False Pass 74.86 35 eP P 11 14 44.6 -0.2
comp=Z,80nm,0.6s
RST Umm Al-Ruwaisa 75.03 299 eP P 11 14 45.7 -0.7
RST AMb AMB 11 14 47.0
comp=Z,3µm,0.9s
RAYN Ar Rayn 76.41 293 P P 11 14 54.1 0.0
comp=Z,2µm,0.7s,SNR=16
GEVA Gevas 78.43 308 /P P 11 15 06.0 +1.2
KBZ Khabaz 78.66 313 P P 11 15 05.2 -0.5
KBZ Khabaz 78.66 313 P P 11 15 05.2 -0.5
KBZ Khabaz 78.66 313 P P 11 15 05.2 -0.5
comp=Z,38nm,0.9s,baz=203,slow=3.3,SNR=6.3
EKAR Karacoban 79.21 309 /P P 11 15 11.3 +2.2
OPO Ambohidratompo 79.27 250 P P 11 15 09.7 +0.1
OPO Ambohidratompo 79.27 250 P P 11 15 09.7 +0.1
comp=Z,21nm,0.5s,baz=85,slow=4.0,SNR=20
ARTV Artvin 79.33 311 /P P 11 15 10.8 +1.2
DAGI Agillar 79.34 310 /P P 11 15 10.7 +1.2
HOMI Horasan 79.34 309 /P P 11 15 11.2 +1.5
DDEM Demirkent 79.46 310 /P P 11 15 11.2 +1.1
ATD Arta Tunnel 79.59 280 P P 11 15 12.7 +1.5
ATD Arta Tunnel 79.59 280 P P 11 15 12.7 +1.5
comp=Z,49nm,0.6s,baz=80,slow=6.0,SNR=12
ERZM Erzurum 79.75 309 /P P 11 15 13.6 +1.8
BNGL BINGOL 79.92 308 /P P 11 15 14.1 +1.4
KOPT Kop Dagi 80.42 309 /P P 11 15 17.2 +1.8
KDAK Kodiak Island 81.16 33 P P 11 15 19.0 +0.7
comp=Z,651nm,0.6s,SNR=16
KDAK Kodiak Island 81.16 33 eP P 11 15 18.8 +0.5
KDAK Kodiak Island 81.16 33 P P 11 15 18.9 +0.5
comp=Z,73nm,0.7s,baz=263,slow=6.5,SNR=24
KELT Kelkit 81.37 310 /P P 11 15 21.5 +1.4
ELZG Elazig 81.63 308 /P P 11 15 22.8 +1.4
KEMA Kemaliye 81.98 309 /P P 11 15 24.4 +1.3
BPAW Bear Paw Mtn. 82.09 26 eP P 11 15 23.4 +0.4
comp=Z,66nm,0.9s
SUSE Susehri 82.17 310 /P P 11 15 25.1 +1.0
ANN Anapa 82.58 314 eP P 11 15 24.3 -1.5
ANN pmax pmax
comp=Z,408nm,1.1s
GZT Gaziantep 82.80 307 /P P 11 15 28.4 +1.1
OBN Obninsk 82.84 325 P P 11 15 26.0 -0.8
comp=Z,3µm,0.5s,SNR=6.5
MCK McKinley 82.99 27 eP P 11 15 27.4 -0.1
MCK pmax pmax
comp=Z,22nm,0.5s
MCK McKinley 82.99 27 eP P 11 15 27.4 -0.1
comp=Z,22nm,0.5s
SCER sogukcermik 83.01 309 /P P 11 15 29.4 +1.1
AYKD Aykdinkavak 83.40 307 /P P 11 15 30.9 +0.8
LVZ Lovozero 83.45 338 P P 11 15 29.2 -0.5
comp=Z,408nm,0.9s,SNR=5.2
PINB Pinarbasi 83.64 308 /P P 11 15 32.4 +0.8
ASF Jabal al Asfar 83.65 302 P P 11 15 32.4 +0.8
ASF Jabal al Asfar 83.65 302 P P 11 15 32.4 +0.8
comp=Z,80nm,0.8s,baz=53,slow=3.6,SNR=31
ILAR Eielson Array 83.86 26 P P 11 15 30.4 -1.3
ILAR PKKPbc **PKKPbc** 11 33 41.4 -4.0
ILAR Eielson Array 83.86 26 P P 11 15 30.4 -1.3
comp=Z,5.2nm,0.6s,baz=259,slow=4.2,SNR=9.9
ILAR PKKPbc **PKKPbc** 11 33 41.4 -4.0
comp=Z,0.4nm,0.3s,baz=103,slow=1.4,SNR=6.1
HAVZ Havza 84.02 311 /P P 11 15 33.8 +0.7
YAYL Yayladag 84.04 306 /P P 11 15 34.2 +0.7
CTKT Corum 84.75 310 /P P 11 15 36.7 -0.2
MMAI Mount Meron Ar 84.84 303 P P 11 15 38.1 +0.8
MMAI Mount Meron Ar 84.84 303 P P 11 15 38.1 +0.8
comp=Z,34nm,0.8s,baz=87,slow=7.4,SNR=12
GULE Gulek 85.02 307 /P P 11 15 38.6 +0.4
JOF Joensuu 85.13 333 eP P 11 15 36.5 -1.4
JOF pmax pmax
comp=Z,111nm,0.6s
JOF Joensuu 85.13 333 ep P 11 15 36.5 -1.4
comp=Z,111nm,0.6s
CDAG Cicekdag 85.15 309 /P P 11 15 38.2 -0.5
EIL Elat 85.51 299 P P 11 15 41.0 +0.5
EIL Elat 85.51 299 P P 11 15 41.2 +0.8
baz=86,SNR=7.5
EIL Elat 85.51 299 P P 11 15 41.0 +0.5
comp=Z,40nm,0.8s,baz=46,slow=2.1,SNR=11
ILGA Ilgaz 85.53 311 /P P 11 15 40.7 +0.1
BRTR Keskin Array B 85.70 309 P P 11 15 40.0 -1.4
BRTR e 11 51 32.4
BRTR Keskin Array B 85.70 309 P P 11 15 40.0 -1.4
comp=Z,38nm,0.8s,baz=136,slow=4.2,SNR=36
BRTR P4KPbc 11 51 32.4
comp=Z,0.7nm,0.5s,baz=108,slow=4.7,SNR=6.2
ELDT Eldivan 85.80 310 /P P 11 15 41.6 -0.2
KEV Kevo 86.06 340 eP P 11 15 40.6 -1.6
KEV pmax pmax
comp=Z,10.0nm,0.7s
KEV Kevo 86.06 340 ep P 11 15 40.6 -1.6
comp=Z,10nm,0.7s
BBAL Bala 86.12 309 /P P 11 15 43.5 +0.2
CSS Prodhromos 86.39 305 eP P 11 15 44.1 -0.5
KMBO Kilima Mbogo 86.42 268 P P 11 15 45.5 +0.2
KMBO Kilima Mbogo 86.42 268 P P 11 15 46.3 +0.9
baz=86,SNR=4.7
KMBO Kilima Mbogo 86.42 268 P P 11 15 45.5 +0.2
comp=Z,24nm,0.9s,baz=67,slow=6.7,SNR=10
ERMK Ermenek 86.56 306 /P P 11 15 45.4 -0.2
ARCES **ARCESS Array B** 86.61 340 P P 11 15 43.8 -1.0
ARCES PKKPbc **PKKPbc** 11 33 35.2 -3.8
ARCES ARCESS Array B 86.61 340 P P 11 15 43.8 -1.0
comp=Z,20nm,0.5s,baz=88,slow=5.6,SNR=15
ARCES PKKPbc **PKKPbc** 11 33 35.2 -3.8
comp=Z,0.6nm,0.4s,baz=250,slow=3.7,SNR=7.7
ARE0 ARCESS Array S 86.61 340 eP P 11 15 44.2 -0.7
VNDA Vanda 86.72 172 P P 11 15 45.9 +0.8
VNDA Vanda 86.72 172 P P 11 15 45.9 +0.8
comp=Z,45nm,0.5s,baz=314,slow=6.4,SNR=24
SPA0 Spitsbergen Ar 87.01 349 eP P 11 15 46.0 -0.6
SPITS Spitsbergen Ar 87.01 349 P P 11 15 46.3 -0.2
SPITS PKKPbc **PKKPbc** 11 33 34.4 -3.9
SPITS Spitsbergen Ar 87.01 349 P P 11 15 46.3 -0.2
comp=Z,36nm,0.5s,baz=95,slow=7.2,SNR=44
SPITS PKKPbc **PKKPbc** 11 33 34.4 -3.9
comp=Z,22nm,1.1s,baz=148,slow=4.9,SNR=7.6
KAF Kangasniemi 87.54 332 eP P 11 15 47.5 -1.8
KAF pmax pmax
comp=Z,46nm,0.5s
KAF Kangasniemi 87.54 332 ep P 11 15 47.5 -1.8
comp=Z,46nm,0.5s
AKASG **Malin Array Be** 87.62 321 P P 11 15 48.8 -1.1
AKASG **Malin Array Be** 87.62 321 P P 11 15 48.8 -1.1
AKASG e 11 51 40.4
AKASG Malin Array Be 87.62 321 P P 11 15 48.8 -1.1
comp=Z,19nm,0.5s,baz=68,slow=4.8,SNR=11
AKASG P4KPbc 11 51 40.4
comp=Z,1.2nm,0.7s,baz=70,slow=4.1,SNR=8.7
FINES FINESS Array B 87.76 332 P P 11 15 49.5 -0.8
FINES PKKPbc **PKKPbc** 11 33 33.8 -2.2
FINES FINESS Array B 87.76 332 P P 11 15 49.5 -0.8
comp=Z,35nm,0.6s,baz=57,slow=5.1,SNR=21
FINES PKKPbc **PKKPbc** 11 33 33.8 -2.2
comp=Z,5.7nm,1.0s,baz=192,slow=2.4,SNR=8.5
BOLV Bolvadin 87.89 309 /P P 11 15 51.3 -0.3
BORA Eskisehir 88.13 310 /P P 11 15 51.9 -0.8
INK Inuvik 88.62 21 P P 11 15 54.0 -0.1
INK PKKP **PKKPdf** 11 33 29.5 +2.5
INK Inuvik 88.62 21 P P 11 15 54.0 -0.1
comp=Z,5.5nm,0.6s,baz=288,slow=3.8,SNR=5.1
INK PKKP **PKKPdf** 11 33 29.5 +2.5
comp=Z,2.0nm,0.9s,baz=77,slow=3.3,SNR=4.2
TRO Tromso 88.84 340 eP P 11 15 54.1 -1.1
KHAL Karahalli 89.06 308 /P P 11 15 55.8 -1.3
GOLH Golhisar 89.16 307 /P P 11 15 56.8 -0.7
DURS Dursunbey 89.68 310 /P P 11 15 59.2 -0.7
MANT Manisa 89.77 309 /P P 11 15 60.0 -0.5
TURN Turunc 89.97 307 /P P 11 16 00.9 -0.2
BALY Balya 90.31 310 /P P 11 16 01.8 -0.9
MLR Muntele Rosu 90.59 316 P P 11 16 03.4 -0.5
MLR PKKPbc **PKKPbc** 11 33 27.3 -1.4
MLR Muntele Rosu 90.59 316 P P 11 16 03.4 -0.5
comp=Z,5.5nm,0.7s,baz=16,slow=7.4,SNR=6.0
MLR PKKPbc **PKKPbc** 11 33 27.3 -1.4
comp=Z,1.2nm,0.9s,baz=270,slow=6.1,SNR=5.1
SUW Suwalki 90.70 325 eP P 11 16 03.5 -0.6
SUW pmax pmax
comp=Z,125nm,0.7s

SUW	**Suwalki**	**90.70**	**325**	*e*P	**P**	**11 16 03.5**	**-0.6**
	comp=Z,125nm,0.7s							
LOF	**Lofoten**	**91.17**	**339**	*e*P	**P**	**11 16 04.8**	**-1.1**
FLOS	**Flostrand**	**91.88**	**338**	*e*P	**P**	**11 16 07.8**	**-1.5**
NSS	**Namsos**	**93.09**	**336**	*e*P	**P**	**11 16 12.7**	**-2.1**
IDI	**Anoyia**	**93.19**	**306**	P	**P**	**11 16 14.8**	**-1.3**
IDI	**Anoyia**	**93.19**	**306**	P	**P**	**11 16 14.8**	**-1.3**
	comp=Z,18nm,0.8s,baz=66,slow=5.4,SNR=5.7							
HFS	**Hagfors**	**93.95**	**332**	P	**P**	**11 16 17.6**	**-1.3**
HFS				PP	**PP**	**11 20 15.1**	**-1.1**
HFS				PKKP	**PKKPdf**	**11 33 17.6**	**0.0**
HFS	**Hagfors**	**93.95**	**332**	P	**P**	**11 16 17.6**	**-1.3**
	comp=Z,10nm,0.5s,baz=108,slow=4.8,SNR=7.3							
HFS				PP	**PP**	**11 20 15.1**	**-1.1**
	comp=Z,23nm,0.9s,baz=106,slow=9.2,SNR=3.6							
HFS				PKKP	**PKKPdf**	**11 33 17.6**	**0.0**
	comp=Z,1.9nm,0.4s,baz=204,slow=3.3,SNR=11							
NB2	**NORSAR Subarra**	**94.76**	**333**	P	**P**	**11 16 21.0**	**-1.6**
	comp=Z,16nm,0.7s,baz=68,slow=4.6							
NB2	**NORSAR Subarra**	**94.76**	**333**	P	**P**	**11 16 21.0**	**-1.6**
	baz=68,slow=4.6							
NOA	**NORSAR Array B**	**94.76**	**333**	P	**P**	**11 16 20.6**	**-2.0**
NOA				PP	**PP**	**11 20 19.9**	**-2.4**
NOA				PKKP	**PKKPdf**	**11 33 16.5**	**+0.2**
NOA	**NORSAR Array B**	**94.76**	**333**	P	**P**	**11 16 20.6**	**-2.0**
	comp=Z,14nm,0.8s,baz=69,slow=4.4,SNR=7.4							
NOA				PP	**PP**	**11 20 19.9**	**-2.4**
	comp=Z,3.6nm,0.8s,baz=70,slow=7.6,SNR=3.9							
NOA				PKKP	**PKKPdf**	**11 33 16.5**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=249,slow=2.3,SNR=3.4							
VRAC	**Vranov**	**95.87**	**321**	P	**P**	**11 16 27.7**	**-0.1**
VRAC				*e*		11 52 20.7		
VRAC	**Vranov**	**95.87**	**321**	P	**P**	**11 16 27.7**	**-0.1**
	comp=Z,24nm,1.0s,baz=82,slow=6.2,SNR=3.9							
VRAC				P4KPbc		11 52 20.7		
	comp=Z,1.4nm,0.5s,baz=56,slow=8.4,SNR=4.9							
QSPA	**South Pole Qui**	**96.54**	**180**	PKKPbc	PKKPbc	11 33 11.6	-3.1	
QSPA	**South Pole Qui**	**96.54**	**180**	PKKPbc	PKKPbc	11 33 11.5	-3.1	
	comp=Z,3.2nm,0.8s,baz=202,slow=1.1,SNR=5.7							
CLL	**Collm**	**97.41**	**324**	*e*Pdif	**P**	**11 16 35.0**	**+0.4**
CLL				*es*P	**sP**	**11 19 57.0**	**+1.6**
GERES	**GERESS Array B**	**97.82**	**321**	P	Pdif	11 16 36.5	-0.2	
GERES				PP	**PP**	**11 20 45.5**	**-0.4**
GERES				PKKP	PKKPbc	11 32 59.1	-11	
GERES				*e*		11 52 28.9		
GERES	**GERESS Array B**	**97.82**	**321**	P	Pdif	11 16 36.5	-0.2	
	comp=Z,5.5nm,0.7s,baz=67,slow=5.4,SNR=6.9							
GERES				PP	**PP**	**11 20 45.5**	**-0.4**
	comp=Z,5.1nm,0.9s,baz=90,slow=6.9,SNR=4.3							
GERES				PKKP	PKKPbc	11 32 59.1	-11	
	comp=Z,4.1nm,1.0s,baz=250,slow=2.0,SNR=5.5							
GERES				P4KPbc		11 52 28.9		
	comp=Z,4.1nm,1.0s,baz=64,slow=4.5,SNR=15							
YKA	**Yellowknife Ar**	**98.14**	**23**	P	Pdif	11 16 37.5	-0.1	
YKA				PKKPbc	**PKKPbc**	**11 33 05.5**	**-4.0**	
YKA				SKKP		11 35 44.2		
YKA				*e*		11 52 29.9		
YKA	**Yellowknife Ar**	**98.14**	**23**	P	Pdif	11 16 37.5	0.0	
	comp=Z,3.1nm,0.8s,baz=306,slow=4.9,SNR=3.7							
YKA				PKKPbc	**PKKPbc**	**11 33 05.5**	**-4.0**	
	comp=Z,1.5nm,0.4s,baz=121,slow=3.6,SNR=11							
YKA				SKKP		11 35 44.2		
	comp=Z,0.8nm,0.5s,baz=123,slow=2.2,SNR=4.5							
YKA				P4KPbc		11 52 29.9		
	comp=Z,2.3nm,1.0s,baz=302,slow=5.1,SNR=5.9							
BOSA	**Boshof**	**100.39**	**242**	PKKPbc	PKKPbc	11 33 02.5	+0.3	
BOSA	**Boshof**	**100.39**	**242**	PKKPbc	PKKPbc	11 33 02.5	+0.3	
	comp=Z,2.7nm,0.9s,baz=241,slow=3.8,SNR=5.2							
DAVOX	**Davos/Dischmat**	**100.96**	**320**	P4KPbc		11 52 43.2		
	comp=Z,12nm,1.0s,baz=64,slow=4.2,SNR=16							
MEM	**Membach**	**101.75**	**325**	P	**Pdif**	**11 16 57.4**	**+3.5**	
	comp=Z,26nm,1.8s							
WLF	**Walferdange**	**102.08**	**324**	P	**Pdif**	**11 16 57.9**	**+2.5**	
	comp=Z,26nm,1.7s							
EKA	**Eskdalemuir Ar**	**104.16**	**332**	PKKPbc	PKKPbc	11 32 49.9	-2.4	
EKA				SKKPbc	SKKPbc	11 35 29.4	-3.8	
EKA	**Eskdalemuir Ar**	**104.16**	**332**	PKKPbc	PKKPbc	11 32 49.9	-2.4	
	comp=Z,1.7nm,0.3s,baz=238,slow=3.0,SNR=23							
EKA				SKKPbc	SKKPbc	11 35 29.4	-3.8	
	comp=Z,0.5nm,0.4s,baz=254,slow=2.7,SNR=5.0							
SNAA	**Sanae**	**107.19**	**195**	PKKPbc	PKKPbc	11 32 39.4	-4.1	
SNAA	**Sanae**	**107.19**	**195**	PKKPbc	PKKPbc	11 32 39.4	-4.1	
	comp=Z,1.2nm,0.7s,baz=18,slow=2.8,SNR=8.6							
NVAR	**Mina Array Bea**	**107.29**	**46**	PKKPbc	PKKPbc	11 32 41.6	-1.0	
NVAR				P4KP		11 53 12.3		
NVAR	**Mina Array Bea**	**107.29**	**46**	PKKPbc	PKKPbc	11 32 41.6	-1.0	
	comp=Z,1.5nm,0.7s,baz=124,slow=4.8,SNR=3.8							
NVAR				P4KP		11 53 12.3		
	comp=Z,3.3nm,0.9s,baz=281,slow=5.9,SNR=14							
PDAR	**Pinedale Array**	**111.20**	**39**	P4KP		11 53 30.6		
	comp=Z,0.7nm,0.9s,baz=2.9,slow=1.8,SNR=4.6							
ESDC	**Sonseca Array**	**113.16**	**318**	P4KP		11 53 37.1		
	comp=Z,0.1nm,0.3s,baz=60,slow=3.5,SNR=7.8							
SRIG	**Santa Rosalia**	**116.41**	**55**	P	**Pdif**	**11 18 01.3**	**+1.7**	
MDT	**Midelt**	**117.03**	**312**	PKP	**PKPdf**	**11 21 42.5**	**+0.1**	
MDT	**Midelt**	**117.03**	**312**	PKP	**PKPdf**	**11 21 42.5**	**+0.1**	
	comp=Z,4.1nm,0.8s,baz=290,slow=0.4,SNR=5.7							
SCHQ	**Schefferville**	**118.13**	**7**	PKP	**PKPdf**	**11 21 43.8**	**+0.1**	
SCHQ	**Schefferville**	**118.13**	**7**	PKP	**PKPdf**	**11 21 43.8**	**+0.1**	
	comp=Z,11nm,0.9s,baz=331,slow=2.7,SNR=4.7							
CGIG		**118.47**	**50**	P	**Pdif**	**11 18 13.0**	**+4.1**	
TORD	**Torodi Ar. Bea**	**118.96**	**289**	PKP	**PKPdf**	**11 21 46.0**	**-0.3**	
TORD				PKKPbc	**PKKPbc**	**11 32 03.5**	**+0.3**	
TORD				SKKP		11 35 33.3		
TORD	**Torodi Ar. Bea**	**118.96**	**289**	PKP	**PKPdf**	**11 21 46.0**	**-0.3**	
	comp=Z,15nm,0.7s,baz=70,slow=1.7,SNR=18							
TORD				PKKPbc	**PKKPbc**	**11 32 03.5**	**+0.3**	
	comp=Z,6.7nm,0.9s,baz=282,slow=3.3,SNR=17							
TORD				SKKP		11 35 33.3		
	comp=Z,14nm,1.2s,baz=265,slow=2.6,SNR=9.8							
HPIG		**121.86**	**53**	P	**Pdif**	**11 18 20.7**	**-3.4**	
TXAR	**Lajitas Array**	**122.23**	**49**	PKP	**PKPdf**	**11 21 52.9**	**+0.4**	
TXAR				SKP		11 24 27.4		
TXAR				P'P'		11 40 33.5		
TXAR	**Lajitas Array**	**122.23**	**49**	PKP	**PKPdf**	**11 21 52.9**	**+0.4**	
	comp=Z,3.0nm,0.8s,baz=300,slow=1.8,SNR=5.0							
TXAR				SKP		11 24 27.5		
	comp=Z,1.0nm,0.5s,baz=0.4,slow=1.1,SNR=5.9							
TXAR				PKPPKP	**P'P'df**	**11 40 33.5**	**-3.1**	
	comp=Z,0.2nm,0.5s,baz=107,slow=3.1,SNR=8.4							
SADO	**Sadowa**	**124.90**	**20**	PKP	**PKPdf**	**11 21 57.0**	**0.0**	
SADO	**Sadowa**	**124.90**	**20**	PKP	**PKPdf**	**11 21 57.0**	**0.0**	
	comp=Z,13nm,0.7s,baz=326,slow=3.6,SNR=4.9							
DBIC	**Dimbokro**	**126.82**	**283**	PKP	**PKPdf**	**11 22 01.9**	**+0.4**	
DBIC				PKKPbc	**PKKPbc**	**11 31 34.4**	**+0.9**	
DBIC	**Dimbokro**	**126.82**	**283**	PKP	**PKPdf**	**11 22 01.9**	**+0.4**	
	comp=Z,10nm,0.6s,baz=309,slow=1.2,SNR=3.7							
DBIC				PKKPbc	**PKKPbc**	**11 31 34.4**	**+0.9**	
	comp=Z,4.2nm,0.4s,baz=241,slow=3.2,SNR=13							
TKL	**Tuckaleechee C**	**130.70**	**30**	PKP	**PKPdf**	**11 22 08.9**	**+0.6**	
TKL				SKPbc	**SKPbc**	**11 24 34.0**	**-0.1**	
TKL	**Tuckaleechee C**	**130.70**	**30**	PKP	**PKPdf**	**11 22 08.9**	**+0.6**	
	comp=Z,9.7nm,0.4s,baz=121,slow=2.0,SNR=13							
TKL				SKPbc	**SKPbc**	**11 24 34.0**	**-0.1**	
	comp=Z,60nm,0.8s,baz=157,slow=5.4,SNR=22							
USHA	**Ushuaia**	**131.01**	**171**	PKP	**PKPdf**	**11 22 09.3**	**+1.1**	
USHA				SKPbc	**SKPab**	**11 24 35.3**	**+0.1**	
USHA	**Ushuaia**	**131.01**	**171**	PKP	**PKPdf**	**11 22 09.3**	**+1.1**	
	comp=Z,11nm,0.8s,baz=275,slow=3.1,SNR=5.6							
USHA				SKPbc	**SKPab**	**11 24 35.3**	**+0.1**	
	comp=Z,47nm,0.8s,baz=172,slow=2.4,SNR=21							
TEIG	**Tepich**	**138.88**	**49**	SKPbc	**SKPbc**	**11 24 59.9**	**-0.1**	
TEIG	**Tepich**	**138.88**	**49**	SKPbc	**SKPbc**	**11 24 59.9**	**-0.1**	
	comp=Z,6.2nm,0.4s,baz=308,slow=0.7,SNR=7.8							
APG	**El Apazote**	**140.03**	**57**	SKPbc	**SKPbc**	**11 25 02.1**	**-1.3**	
APG	**El Apazote**	**140.03**	**57**	SKPbc	**SKPbc**	**11 25 02.1**	**-1.3**	
	comp=Z,12nm,0.7s,baz=274,slow=8.2,SNR=9.1							
PLCA	**Paso Flores**	**143.81**	**162**	*e*PKPdf	**PKPdf**	**11 22 32.8**	**+0.6**	
PLCA				PKP	PKPab	11 22 33.1	+1.3	
PLCA				SKPbc	**SKiKP**	**11 25 12.5**	**-0.1**	
PLCA	**Paso Flores**	**143.81**	**162**	PKP	**PKPdf**	**11 22 33.1**	**+0.9**	
	comp=Z,60nm,0.5s,baz=245,slow=2.9,SNR=58							
PLCA				SKPbc	**SKiKP**	**11 25 12.5**	**-0.1**	
	comp=Z,26nm,0.8s,baz=185,slow=1.4,SNR=9.8							
JTS	**JuntasAbangare**	**147.03**	**60**	*e*PKPbc	**PKPbc**	**11 22 41.4**	**-0.2**	
JTS	**JuntasAbangare**	**147.03**	**60**	PKPbc	**PKPbc**	**11 22 41.5**	**0.0**	
	comp=Z,23nm,0.3s,baz=307,slow=5.7,SNR=45							
TRQA	**Tornquist**	**148.34**	**172**	*e*PKPbc	**PKPbc**	**11 22 44.5**	**+0.3**	
CFAA	**Coronel Fontan**	**152.85**	**158**	PKPbc	**PKPbc**	**11 22 55.1**	**+0.3**	
CFAA	**Coronel Fontan**	**152.85**	**158**	PKPbc	**PKPbc**	**11 22 55.1**	**+0.3**	
	comp=Z,3.1nm,0.4s,baz=200,slow=2.6,SNR=26							
CPUP	**Villa Florida**	**160.41**	**178**	PKPab	**PKPab**	**11 23 42.4**	**+0.6**	
CPUP				PP	PP	11 27 00.6	-25	
CPUP	**Villa Florida**	**160.41**	**178**	PKPab	**PKPab**	**11 23 42.4**	**+0.6**	
	comp=Z,11nm,0.7s,baz=156,slow=3.5,SNR=4.7							
CPUP				PP	PP	11 27 00.6	-25	
	comp=Z,26nm,1.1s,baz=343,slow=3.1,SNR=3.3							
LPAZ	**La Paz**	**165.11**	**131**	*e*PKPab	**PKPab**	**11 24 05.2**	**+1.5**	
BDFB	**Brasilia**	**167.81**	**222**	PP	PP	11 28 04.6	+0.1	
BDFB	**Brasilia**	**167.81**	**222**	PP	PP	11 28 04.6	+0.1	
	comp=Z,16nm,1.0s,baz=356,slow=1.5,SNR=6.3							
SIV	**San Ignacio**	**169.69**	**155**	PKPab	**PKPab**	**11 24 23.5**	**+0.4**	
SIV				PP	PP	11 28 04.8	-8.2	
SIV	**San Ignacio**	**169.69**	**155**	PKPab	**PKPab**	**11 24 23.5**	**+0.4**	
	comp=Z,11nm,0.6s,baz=208,slow=5.6,SNR=8.2							
SIV				PP	PP	11 28 04.8	-8.2	
	comp=Z,63nm,1.0s,baz=238,slow=6.0,SNR=6.5							

*ISCJB **04** 11:07:44.7±0.3, 6°.71N±0°.05×123°.59E±0°.07, h650km, mb4.6/33, Error ellipse: s-maj=10.1km s-min=5.9km az=153.6*

*MAN **04** 11:07:44, 6°.81N×123°.35E, h629km, mb5.6, ML4.6, MS4.9*

*NEIC **04** 11:07:46.9±0.8, 6°.70N×123°.56E, h663km±12km, mb4.9/13, Error ellipse: s-maj=16.9km s-min=7.7km az=64.0*

*IDC **04** 11:07:47.6±1.6, 6°.69N×123°.55E, h670km±24km, mb4.0/23, mb1 4.1/23, mb1mx4.1/31, mbtmp4.0/23, Error ellipse: s-maj=16.9km s-min=7.4km az=67.0*

ISC 04 11:07:46.5±0.4, 6.76N±0°.06×123°.55E±0°.09, h650km, n81, σ1°55/87, mb4.7/33, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MYLDM	**Lahad Datu**	**5.26**	**253**	P	**P**	**11 09 25.0**	**+0.4**
SDKM	**Sandakan**	**6.42**	**260**	P	**P**	**11 09 32.7**	**-1.2**
SDKM	**Sandakan**	**6.42**	**260**	P	**P**	**11 09 32.8**	**-1.1**
KDM	**Kudat**	**6.67**	**272**	P	**P**	**11 09 34.6**	**-1.4**
TNTI	**Ternate**	**7.06**	**147**	P	S	11 11 23.7	+12
KKM	**Kota Kinabalu**	**7.33**	**265**	P	**P**	**11 09 40.4**	**-1.3**
KKM	**Kota Kinabalu**	**7.33**	**265**	*e*Pn	**P**	**11 09 40.6**	**-1.2**
LUWI	**Luwuk**	**7.79**	**186**	P	**S**	**11 11 23.0**	**-0.3**
APSI	**Ampana**	**7.85**	**194**	P	**S**	**11 11 28.2**	**+3.8**
TWG	**Pinlang**	**16.14**	**352**	*e*P	**P**	**11 11 02.8**	**-0.4**
	64nm,0.6s						
YULB	**Yu-li**	**16.68**	**353**	*e*P	**P**	**11 11 07.6**	**-0.5**
	19nm,0.5s						
TPUB	**Ta-pu**	**16.68**	**351**	*e*P	**P**	**11 11 08.6**	**+0.5**
	67nm,0.4s						
MYKOM	**Kota Tinggi**	**20.25**	**257**	P	P	11 11 33.6	-6.9
FITZ	**Fitzroy Crossi**	**24.79**	**175**	*e*P	**P**	**11 12 17.9**	**-2.7**
	168nm,1.3s						
CM31	**Chiang Mai Arr**	**26.64**	**298**	*e*P	**P**	**11 12 38.2**	**+1.3**
	29nm,0.6s						
CMAR	**Chiang Mai Arr**	**26.64**	**298**	P	**P**	**11 12 38.0**	**+1.1**
CMAR				PKKKP		11 46 00.9	
CMAR				P'P'		11 46 52.0	
CMAR				P'P'ab	P'P'ab	11 48 42.3	-16
CMAR	**Chiang Mai Arr**	**26.64**	**298**	P	**P**	**11 12 38.0**	**+1.1**
	28nm,0.8s,baz=119,slow=7.4,SNR=14						
CMAR				P3KP		11 46 00.9	
	3.4nm,1.0s,baz=279,slow=5.5,SNR=6.3						
CMAR				PKPPKP	**P'P'df**	**11 46 52.0**	**+4.0**
	1.7nm,0.9s,baz=86,slow=1.4,SNR=3.2						
CMAR				PKP2ab		11 48 42.3	
	2.2nm,1.0s,baz=122,slow=3.4,SNR=6.3						
WRAB	**Tennant Creek**	**28.58**	**158**	*e*P	**P**	**11 12 52.5**	**-1.1**
	128nm,0.9s						
WRA	**Warramunga Arr**	**28.58**	**158**	P	**P**	**11 12 52.3**	**-1.4**
WRA	**Warramunga Arr**	**28.58**	**158**	P	**P**	**11 12 52.3**	**-1.4**
	48nm,0.4s,baz=341,slow=9.1,SNR=9.4						
KSAR	**Wonju Array Be**	**30.79**	**7**	P	**P**	**11 13 13.1**	**+0.8**
KSAR				PKKKP		11 45 44.3	
KSAR				P'P'ab	P'P'ab	11 48 24.4	-13
KSRS	**Korea Array**	**30.81**	**7**	P	**P**	**11 13 13.1**	**+0.7**
	2.5nm,0.6s,baz=180,slow=9.6,SNR=4.7						
KSRS				P3KP		11 45 44.3	
	0.8nm,0.9s,baz=20,slow=4.0,SNR=4.0						
KSRS				PKP2ab		11 48 24.4	
	4.3nm,1.2s,baz=335,slow=2.0,SNR=3.2						
ASAR	**Alice Springs**	**31.89**	**162**	P	**P**	**11 13 21.3**	**-0.5**
ASAR				PcP	**PcP**	**11 15 51.1**	**-0.4**
ASAR				S	**S**	**11 17 49.0**	**-0.4**
ASAR				*e*		11 44 29.3	
ASAR				P'P'		11 46 47.0	
ASAR				P'P'ab	**P'P'ab**	**11 48 32.5**	**+0.4**
ASAR	**Alice Springs**	**31.89**	**162**	P	**P**	**11 13 21.3**	**-0.5**
	31nm,0.3s,baz=342,slow=7.0,SNR=11						
ASAR				PcP	**PcP**	**11 15 51.1**	**-0.4**
	5.0nm,0.5s,baz=343,slow=2.9,SNR=1.9						
ASAR				S	**S**	**11 17 49.0**	**-0.4**
	27nm,0.9s,baz=352,slow=20,SNR=8.6						
ASAR				P3KPbc		11 44 29.3	
	2.9nm,1.0s,baz=157,slow=5.0,SNR=6.5						
ASAR				PKPPKP	P'P'df	11 46 47.0	+6.2
	0.5nm,0.7s,baz=108,slow=3.0,SNR=4.0						
ASAR				PKP2ab		11 48 32.5	
	2.7nm,1.2s,baz=152,slow=4.1,SNR=4.3						
CTA	**Charters Tower**	**34.79**	**141**	P	**P**	**11 13 46.1**	**+0.1**
CTA	**Charters Tower**	**34.79**	**141**	P	**P**	**11 13 46.1**	**+0.1**
	40nm,0.8s,baz=320,slow=7.9,SNR=3.3						
USRK	**Ussuriysk Arra**	**38.02**	**10**	P	**P**	**11 14 12.0**	**+0.1**
	4.2nm,0.5s,baz=187,slow=7.5,SNR=6.0						
USRK				PKP2ab		11 48 04.1	
	10nm,1.1s,baz=0.0,slow=1.4,SNR=8.7						
LSA	**Lhasa**	**38.08**	**311**	*e*P	**P**	**11 14 14.5**	**+1.2**
	43nm,0.7s						
BWNR	**Bhubaneshwar**	**38.97**	**294**	*e*P	**P**	**11 14 19.0**	**-1.0**
BWNR				*e*S	**ScP**	**11 19 02.0**	**+1.0**
ASAJ	**Asahikawa**	**40.77**	**21**	*e*P	**P**	**11 14 34.4**	**+0.5**
	26nm,1.3s						
ASAJ	**Asahikawa**	**40.77**	**21**	P	**P**	**11 14 34.7**	**+0.9**
	8.6nm,0.3s,baz=204,slow=6.8,SNR=22						
EIDS	**Eidsvold**	**41.68**	**141**	*e*P	**P**	**11 14 40.5**	**-0.8**
	45nm,1.0s						
STKA	**Stephens Creek**	**42.10**	**157**	*e*P	**P**	**11 14 44.3**	**-0.2**
STKA	**Stephens Creek**	**42.10**	**157**	P	**P**	**11 14 44.4**	**0.0**
	22nm,0.4s,baz=348,slow=9.2,SNR=5.3						
SONM	**Songino Array**	**43.47**	**343**	P	**P**	**11 14 55.1**	**+0.2**
SONM				P'P'ab	**P'P'ab**	**11 47 47.1**	**+4.9**
SONM	**Songino Array**	**43.47**	**343**	P	**P**	**11 14 55.1**	**+0.2**
	6.8nm,0.6s,baz=159,slow=7.9,SNR=5.3						
SONM				PKP2ab		11 47 47.1	
	6.1nm,1.3s,baz=354,slow=2.9,SNR=5.3						
ARMA	**Armidale**	**45.73**	**145**	*e*P	**P**	**11 15 13.7**	**+1.3**
	29nm,0.8s						
SDNR	**Sundarnagar**	**49.92**	**306**	*e*S	**S**	**11 22 07.0**	**-0.7**
DZM	**Mont Dzumac**	**50.86**	**126**	P	**P**	**11 15 50.8**	**+0.5**
DZM	**Mont Dzumac**	**50.86**	**126**	P	**P**	**11 15 50.8**	**+0.5**
	9.4nm,0.5s,baz=253,slow=10,SNR=6.9						
MK31	**Makanchi Array**	**53.28**	**326**	*e*P	**P**	**11 16 08.0**	**+0.9**
MKAR	**Makanchi Array**	**53.28**	**326**	P	**P**	**11 16 08.1**	**+1.0**
MKAR				⇑*e*		11 46 43.9	
MKAR	**Makanchi Array**	**53.28**	**326**	P	**P**	**11 16 08.1**	**+1.0**
	28nm,0.4s,baz=119,slow=6.6,SNR=19						
MKAR				PKP2bc		11 46 43.9	
	1.7nm,1.0s,baz=22,slow=1.6,SNR=3.9						
PETK	**Petropavlovsk-**	**53.93**	**25**	P	**P**	**11 16 12.2**	**+0.8**
PETK				P'P'		11 46 16.3	
PETK	**Petropavlovsk-**	**53.93**	**25**	P	**P**	**11 16 12.2**	**+0.8**
	3.2nm,0.5s,baz=196,slow=6.9,SNR=7.8						
PETK				PKPPKP	**P'P'df**	**11 46 16.3**	**+0.6**
	2.7nm,0.5s,baz=304,slow=3.6,SNR=4.6						
ZALV	**Zalesovo Beam**	**56.48**	**334**	P	**P**	**11 16 28.8**	**-0.2**
ZALV	**Zalesovo Beam**	**56.48**	**334**	P	**P**	**11 16 28.8**	**-0.2**
	4.4nm,0.4s,baz=121,slow=5.5,SNR=4.2						
EKS2	**Erkin-Say**	**56.49**	**318**	*e*P	**P**	**11 16 31.1**	**+1.6**
	23nm,0.9s						
KURBB	**Kurchatov Arra**	**57.50**	**328**	P	**P**	**11 16 36.4**	**+0.4**
	31nm,0.6s,baz=131,slow=6.5,SNR=19						
KURK	**Kurchatov**	**57.50**	**328**	*e*P	**P**	**11 16 36.0**	**0.0**
	35nm,0.6s						
BVAR	**Borovoye Array**	**63.07**	**327**	P	**P**	**11 17 13.4**	**+0.9**
BVAR	**Borovoye Array**	**63.07**	**327**	P	**P**	**11 17 13.4**	**+0.9**
	9.5nm,0.7s,baz=133,slow=6.3,SNR=7.1						
BRVK	**Borovoye**	**63.15**	**327**	*e*P	**P**	**11 17 12.3**	**-0.6**
	62nm,1.2s						
RPZ	**Rata Peaks**	**66.05**	**144**	P	**P**	**11 17 31.1**	**-0.2**
RPZ	**Rata Peaks**	**66.05**	**144**	P	**P**	**11 17 31.1**	**-0.2**
	17nm,0.6s,baz=321,slow=3.0,SNR=7.9						
KDAK	**Kodiak Island**	**81.05**	**33**	P	**P**	**11 18 56.0**	**+0.5**
KDAK	**Kodiak Island**	**81.05**	**33**	P	**P**	**11 18 56.0**	**+0.5**
	22nm,0.7s,baz=126,slow=19,SNR=4.3						
ASF	**Jabal al Asfar**	**83.62**	**302**	P	**P**	**11 19 09.7**	**+0.6**
ASF	**Jabal al Asfar**	**83.62**	**302**	P	**P**	**11 19 09.7**	**+0.6**
	8.4nm,0.9s,baz=104,slow=18,SNR=3.6						
ILAR	**Eielson Array**	**83.75**	**26**	P	**P**	**11 19 07.3**	**-1.6**
ILAR	**Eielson Array**	**83.75**	**26**	P	**P**	**11 19 07.3**	**-1.6**
	12nm,1.1s,baz=266,slow=3.7,SNR=5.3						
BRTR	**Keskin Array B**	**85.66**	**309**	P	**P**	**11 19 17.9**	**-1.1**
BRTR	**Keskin Array B**	**85.66**	**309**	P	**P**	**11 19 17.9**	**-1.1**
	5.5nm,0.8s,baz=139,slow=5.7,SNR=4.1						
ARCES	**ARCESS Array B**	**86.53**	**340**	P	**P**	**11 19 21.4**	**-0.7**
ARCES	**ARCESS Array B**	**86.53**	**340**	P	**P**	**11 19 21.4**	**-0.7**
	11nm,1.0s,baz=80,slow=5.4,SNR=3.8						
VNDA	**Vanda**	**86.82**	**172**	P	**P**	**11 19 21.9**	**-1.4**
VNDA	**Vanda**	**86.82**	**172**	P	**P**	**11 19 21.9**	**-1.4**
	12nm,0.8s,baz=313,slow=9.1,SNR=5.0						
SPITS	**Spitsbergen Ar**	**86.91**	**349**	P	**P**	**11 19 23.2**	**-0.7**
SPITS	**Spitsbergen Ar**	**86.91**	**349**	P	**P**	**11 19 23.2**	**-0.7**
	28nm,0.9s,baz=84,slow=5.2,SNR=7.0						
AKASG	**Malin Array Be**	**87.56**	**321**	P	**P**	**11 19 25.8**	**-1.6**
AKASG	**Malin Array Be**	**87.56**	**321**	P	**P**	**11 19 25.8**	**-1.6**
	17nm,1.1s,baz=69,slow=5.2,SNR=4.2						
PLCA	**Paso Flores**	**143.90**	**162**	*e*PKPbc	PKPbc	11 26 09.6	0.0
PLCA	**Paso Flores**	**143.90**	**162**	PKP	PKPbc	11 26 09.0	-0.7
	14nm,0.8s,baz=200,slow=5.2,SNR=6.2						
TRQA	**Tornquist**	**148.44**	**172**	*e*PKPbc	**PKPbc**	**11 26 22.5**	**+0.4**
BCIP	**Isla Barro Col**	**151.83**	**56**	*e*PKPdf	**PKPdf**	**11 26 22.5**	**-1.0**
BCIP				*e*PKPab	**PKPab**	**11 26 39.5**	**-3.4**
LSP	**Las Mesas**	**153.09**	**23**	*e*PKPbc	**PKPbc**	**11 26 29.8**	**-3.4**
OBIP	**Obispado Ponce**	**153.39**	**22**	*e*PKPbc	**PKPbc**	**11 26 30.6**	**-3.3**
SJG	**San Juan**	**153.50**	**21**	*e*PKPbc	**PKPdf**	**11 26 29.5**	**+3.8**
SJG	**San Juan**	**153.50**	**21**	PKPbc	**PKPdf**	**11 26 29.9**	**+4.1**
	33nm,0.9s,baz=263,slow=20,SNR=13						
STVI	**Saint Thomas**	**153.67**	**18**	*e*PKPbc	**PKPbc**	**11 26 31.5**	**-3.0**
MTP	**Monte Pirata**	**153.72**	**20**	*e*PKPbc	**PKPbc**	**11 26 32.0**	**-2.6**

**IDC 04 11:18:45.2±3.5, 11°.17S×163°.64E, h54km±29km, mb3.7/4, mb1 3.9/7, mb1mx3.7/22,

HDA	**Harding Lake**	**3.27**	**38**	P		**Pn**	**11 23 32.9**	**+0.5**
MDM	**Murphy Dome**	**3.41**	**25**	P		**Pn**	**11 23 34.6**	**+0.4**
COLA	**College**	**3.41**	**28**	P		**Pn**	**11 23 34.6**	**+0.3**
BMRM	**Bremner River**	**3.48**	**103**	P		**Pn**	**11 23 34.6**	**-0.7**
IL1	**Eielson Array**	**3.56**	**34**	P		**Pn**	**11 23 36.5**	**+0.1**
ILAR	**Eielson Array**	**3.56**	**34**	P		**Pn**	**11 23 36.0**	**-0.3**
ILAR				S		**Sn**	**11 24 15.4**	**-2.2**
ILAR	**Eielson Array**	**3.56**	**34**	P		**Pn**	**11 23 36.0**	**-0.3**
	38nm,0.3s,baz=216,slow=13,SNR=306							
ILAR				S		**Sn**	**11 24 15.4**	**-2.2**
	58nm,0.3s,baz=209,slow=18,SNR=12							
ILAR				LR		LR	11 25 09.0	
	comp=Z,948nm,18.0s,baz=265,slow=42							
GOAT	**Goat Mountain**	**3.57**	**109**	P		**Pn**	**11 23 36.1**	**-0.4**
KAPH	**Katmai Pasha**	**3.60**	**204**	P		**Pn**	**11 23 37.7**	**+0.8**
GLM	**Gilmore Dome**	**3.61**	**30**	P		**Pn**	**11 23 37.5**	**+0.5**
RAGM	**Ragged Mountai**	**3.68**	**112**	P		**Pn**	**11 23 39.4**	**+1.5**
MENT	**Mentasta**	**3.80**	**71**	*e*Pn		**Pn**	**11 23 40.2**	**+0.7**
MENT				*e*Sn		Sn	11 24 37.4	+14
VRDI	**Verde Repeater**	**3.95**	**96**	P		**Pn**	**11 23 41.7**	**0.0**
KAKN	**Katmai Knife C**	**4.03**	**207**	P		**Pn**	**11 23 43.1**	**+0.5**
SCRK	**Sand Creek**	**4.04**	**56**	P		**Pn**	**11 23 43.5**	**+0.7**
KELA	**Mount Kelaz**	**4.06**	**213**	P		**Pn**	**11 23 44.0**	**+0.9**
MCARA	**McCarthy VSAT**	**4.12**	**94**	P		**Pn**	**11 23 44.3**	**+0.5**
KABR	**Katmai Barrier**	**4.16**	**206**	P		**Pn**	**11 23 45.2**	**+0.8**
KDAK	**Kodiak Island**	**4.18**	**187**	P		**Pn**	**11 23 44.1**	**-0.4**
KDAK				S		**Sn**	**11 24 28.8**	**-3.5**
KDAK	**Kodiak Island**	**4.18**	**187**	P		**Pn**	**11 23 44.1**	**-0.4**
	28nm,0.3s,baz=359,slow=13,SNR=419							
KDAK				S		**Sn**	**11 24 28.8**	**-3.5**
	17nm,0.3s,baz=150,slow=20,SNR=9.2							
IM04	**Indian Mountai**	**4.19**	**348**	*e*Pn		**Pn**	**11 23 45.3**	**+0.6**
IM3	**Indian Mountai**	**4.20**	**348**	P		**Pn**	**11 23 45.1**	**+0.4**
IMA2	**Indian Mountai**	**4.27**	**348**	P		**Pn**	**11 23 46.1**	**+0.2**
KHIT	**Khitrov Hills**	**4.30**	**106**	P		**Pn**	**11 23 45.8**	**-0.5**
CAHL	**Cahill**	**4.30**	**207**	P		**Pn**	**11 23 47.1**	**+0.8**
GRIN	**Grindle Hills**	**4.33**	**109**	P		**Pn**	**11 23 46.3**	**-0.4**
KJL	**Kejulik**	**4.36**	**209**	P		**Pn**	**11 23 48.3**	**+1.2**
PTPK	**Patty Peak**	**4.42**	**95**	P		**Pn**	**11 23 48.6**	**+0.5**
BALM	**Baldy**	**4.52**	**97**	P		**Pn**	**11 23 49.2**	**-0.1**
KIAG	**Kiagna River**	**4.54**	**99**	P		**Pn**	**11 23 49.4**	**-0.3**
KULT	**Kultieth River**	**4.62**	**107**	P		**Pn**	**11 23 51.3**	**+0.8**
ISLE	**Juniper Island**	**4.65**	**102**	P		**Pn**	**11 23 51.4**	**+0.3**
BARK	**Barkley Ridge**	**4.66**	**105**	P		**Pn**	**11 23 51.0**	**-0.1**
BCA3	**Beaver Creek A**	**4.69**	**71**	P		**Pn**	**11 23 52.1**	**+0.6**
OHAK	**Old Harbor**	**4.79**	**191**	P		**Pn**	**11 23 51.9**	**-0.9**
BAGL	**Bagley Icefiel**	**4.81**	**103**	P		**Pn**	**11 23 54.0**	**+0.9**
BARN	**Barnard Glacie**	**4.83**	**96**	P		**Pn**	**11 23 54.5**	**+0.9**
GRNC	**Granite Creek**	**4.88**	**100**	P		**Pn**	**11 23 54.3**	**+0.1**
MESA	**MESA**	**5.00**	**106**	P		**Pn**	**11 23 56.2**	**+0.4**
RKAV	**Rock Avalanche**	**5.22**	**104**	P		**Pn**	**11 23 59.6**	**+0.8**
TABL	**Table Mountain**	**5.26**	**102**	P		**Pn**	**11 23 59.5**	**+0.1**
COLD	**Coldfoot**	**5.37**	**6**	P		**Pn**	**11 24 01.4**	**+0.9**
FYU	**Fort Yukon**	**5.43**	**28**	P		**Pn**	**11 24 02.6**	**+1.2**
EGAK	**Eagle**	**5.50**	**54**	P		**Pn**	**11 24 02.7**	**+0.3**
SII	**Sitkinak Islan**	**5.53**	**195**	P		**Pn**	**11 24 02.7**	**-0.3**
SAMH	**Samovar Hills**	**5.55**	**104**	P		**Pn**	**11 24 03.7**	**+0.5**
DAWY	**Dawson**	**5.96**	**93**	P		**Pn**	**11 24 09.4**	**+0.7**
ANNW	**Aniakchak Nort**	**6.00**	**217**	P		**Pn**	**11 24 11.2**	**+1.8**
BM3	**Burnt Mountain**	**6.28**	**25**	P		**Pn**	**11 24 13.4**	**+0.4**
CHGN	**Chignik**	**6.63**	**215**	*e*Pn		**Pn**	**11 24 17.7**	**-0.1**
HYT	**Haines Junctio**	**6.86**	**93**	P		**Pn**	**11 24 21.1**	**+0.2**
WHY	**Whitehorse**	**8.14**	**91**	P		**Pn**	**11 24 38.2**	**-0.1**
SKAG	**Skagway**	**8.34**	**100**	P		**Pn**	**11 24 40.9**	**-0.1**
BESE	**Bessie Mountai**	**8.96**	**104**	P		**Pn**	**11 24 49.0**	**-0.4**
SIT	**Sitka**	**9.58**	**113**	P		**Pn**	**11 24 57.5**	**-0.3**
INK	**Inuvik**	**9.92**	**42**	P		**Pn**	**11 25 02.8**	**+0.5**
INK	**Inuvik**	**9.92**	**42**	P		**Pn**	**11 25 02.8**	**+0.5**
	3.4nm,0.3s,baz=244,slow=17,SNR=61							
DLBC	**Dease Lake**	**11.26**	**98**	P		**Pn**	**11 25 20.6**	**0.0**
DLBC	**Dease Lake**	**11.26**	**98**	P		**Pn**	**11 25 20.6**	**0.0**
	0.9nm,0.3s,baz=298,slow=12,SNR=16							
BBB	**Bella Bella**			LR		LR	11 32 30.2	
	comp=Z,817nm,21.2s,baz=294,slow=36							
YKA	**Yellowknife Ar**	**17.11**	**72**	P		**P**	**11 26 36.0**	**+0.6**
YKA				ScP		**ScP**	**11 34 39.7**	**+1.5**
YKA	**Yellowknife Ar**	**17.11**	**72**	P		**P**	**11 26 35.9**	**+0.6**
	0.3nm,0.3s,baz=286,slow=11,SNR=8.6							
YKA				ScP		**ScP**	**11 34 39.7**	**+1.5**
	0.1nm,0.3s,baz=273,slow=2.2,SNR=4.4							
FX1	**Attu Island--F**	**20.78**	**260**	P		**P**	**11 27 16.4**	**+1.0**
FX1	**Attu Island--F**	**20.78**	**260**	P		**P**	**11 27 16.4**	**+1.0**
	9.7nm,0.5s,baz=309,slow=9.3,SNR=8.0							
RES	**Resolute Bay**	**23.32**	**34**	P		**P**	**11 27 41.1**	**-0.1**
RES	**Resolute Bay**	**23.32**	**34**	P		**P**	**11 27 41.1**	**-0.1**
	23nm,0.9s,baz=71,slow=3.6,SNR=3.5							
SPITS	**Spitsbergen Ar**	**39.95**	**4**	P		**P**	**11 30 05.2**	**-1.2**
SPITS	**Spitsbergen Ar**	**39.95**	**4**	P		**P**	**11 30 05.2**	**-1.2**
	14nm,0.9s,baz=339,slow=6.5,SNR=8.2							
SCHQ	**Schefferville**	**41.96**	**60**	P		**P**	**11 30 24.3**	**+1.2**
SCHQ	**Schefferville**	**41.96**	**60**	P		**P**	**11 30 24.3**	**+1.2**
	3.2nm,0.8s,baz=354,slow=9.2,SNR=3.4							
TXAR	**Lajitas Array**	**45.06**	**114**	P		**P**	**11 30 51.1**	**+2.7**
TXAR	**Lajitas Array**	**45.06**	**114**	P		**P**	**11 30 51.1**	**+2.7**
	1.3nm,0.9s,baz=6.3,slow=1.1,SNR=7.4							
ARCES	**ARCESS Array B**	**48.82**	**1**	P		**P**	**11 31 15.3**	**-1.6**
ARCES				PcP		**PcP**	**11 32 39.6**	**-0.2**
ARCES	**ARCESS Array B**	**48.82**	**1**	P		**P**	**11 31 15.3**	**-1.6**
	2.2nm,0.8s,baz=359,slow=7.2,SNR=5.2							
ARCES				PcP		**PcP**	**11 32 39.6**	**-0.2**
	1.6nm,0.6s,baz=0.0,slow=2.2,SNR=3.7							
KSRS	**Korea Array**	**53.44**	**282**	P		**P**	**11 31 52.0**	**+0.2**
	3.4nm,0.8s,baz=27,slow=7.1,SNR=19							
KSAR	**Wonju Array Be**	**53.47**	**282**	P		**P**	**11 31 52.0**	**0.0**
SONM	**Songino Array**	**54.23**	**306**	P		**P**	**11 31 58.6**	**+0.9**
SONM	**Songino Array**	**54.23**	**306**	P		**P**	**11 31 58.6**	**+0.9**
	5.2nm,0.8s,baz=33,slow=7.3,SNR=15							
ZALV	**Zalesovo Beam**	**56.24**	**324**	P		**P**	**11 32 11.0**	**-0.8**
ZALV	**Zalesovo Beam**	**56.24**	**324**	P		**P**	**11 32 11.0**	**-0.8**
	5.6nm,0.6s,baz=30,slow=6.8,SNR=18							
NOA	**NORSAR Array B**	**56.66**	**10**	P		**P**	**11 32 13.8**	**-1.0**
NOA	**NORSAR Array B**	**56.66**	**10**	P		**P**	**11 32 13.8**	**-1.0**
	2.6nm,1.0s,baz=360,slow=7.1,SNR=3.2							
FINES	**FINESS Array B**	**56.95**	**1**	P		**P**	**11 32 15.9**	**-0.8**
FINES	**FINESS Array B**	**56.95**	**1**	P		**P**	**11 32 15.9**	**-0.8**
	5.6nm,1.0s,baz=2.3,slow=7.0,SNR=6.3							
HFS	**Hagfors**	**57.75**	**9**	P		**P**	**11 32 21.3**	**-1.1**
HFS	**Hagfors**	**57.75**	**9**	P		**P**	**11 32 21.3**	**-1.1**
	1.2nm,0.4s,baz=15,slow=6.0,SNR=2.8							
HHC	**Hu-ho-hao-te**	**57.92**	**297**	*e*P		**P**	**11 32 24.8**	**+0.9**
HHC				pP		**pP**	**11 32 48.8**	**-0.5**
HHC				sP		**sP**	**11 33 00.0**	**-0.8**
HHC				PP		**PP**	**11 34 34.9**	**+2.0**
HHC				S		**S**	**11 40 14.4**	**-1.2**
HHC				sS		**sS**	**11 40 56.6**	**-2.5**
HHC				SS		**SS**	**11 44 08.3**	**+1.0**
HHC				AMB		AMB		
	comp=Z,33nm,0.9s							
HHC				LR		LR		
	comp=N,750nm,15.7s							
HHC				LR		LR		
	comp=E,570nm,16.1s							
HHC				LR		LR		
	comp=Z,560nm,15.0s							
EKA	**Eskdalemuir Ar**	**60.49**	**20**	P		**P**	**11 32 41.0**	**-0.3**
EKA	**Eskdalemuir Ar**	**60.49**	**20**	P		**P**	**11 32 41.0**	**-0.3**
	0.5nm,0.3s,baz=338,slow=5.4,SNR=14							
BVAR	**Borovoye Array**	**60.69**	**332**	P		**P**	**11 32 42.0**	**-0.7**
BVAR	**Borovoye Array**	**60.69**	**332**	P		**P**	**11 32 42.0**	**-0.7**
	4.0nm,0.7s,baz=39,slow=9.3,SNR=7.5							
KURK	**Kurchatov**	**60.83**	**326**	P		**P**	**11 32 43.5**	**-0.2**
KURK				PcP		**PcP**	**11 33 25.4**	**-1.0**
KURBB	**Kurchatov Arra**	**60.94**	**326**	P		**P**	**11 32 43.4**	**-0.9**
	1.9nm,0.6s,baz=30,slow=6.6,SNR=7.4							
KURBB				PcP		**PcP**	**11 33 25.4**	**-1.4**
	1.1nm,0.5s,baz=26,slow=4.3,SNR=5.6							
MKAR	**Makanchi Array**	**63.36**	**322**	P		**P**	**11 32 59.6**	**-1.1**
MKAR	**Makanchi Array**	**63.36**	**322**	P		**P**	**11 32 59.6**	**-1.1**
	1.4nm,0.5s,baz=40,slow=6.4,SNR=16							
WMQ	**Urumqi**	**64.35**	**316**	*e*P		P	11 33 12.0	+4.7
AKASG	**Malin Array Be**	**67.73**	**359**	P		**P**	**11 33 27.9**	**-0.8**
AKASG	**Malin Array Be**	**67.73**	**359**	P		**P**	**11 33 27.9**	**-0.8**
	3.5nm,0.5s,baz=2.5,slow=6.5,SNR=21							
AAK	**Ala-Archa**	**69.38**	**325**	P		**P**	**11 33 39.4**	**+0.1**
AAK	**Ala-Archa**	**69.38**	**325**	P		**P**	**11 33 39.4**	**+0.1**
	1.6nm,0.5s,baz=121,slow=5.9,SNR=4.3							
CD2	**Chengdu**	**69.67**	**298**	P		**P**	**11 33 43.7**	**+2.6**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.5s							
GYA	**Guiyang**	**72.30**	**293**	*e*P		**P**	**11 33 58.0**	**+0.9**
GYA				AMB		AMB		
	comp=Z,10.0nm,1.0s							
ESDC	**Sonseca Array**	**75.42**	**25**	P		**P**	**11 34 15.1**	**+0.1**
	1.2nm,0.7s,baz=344,slow=5.4,SNR=5.0							
CMAR	**Chiang Mai Arr**	**82.68**	**296**	P		**P**	**11 34 54.3**	**-0.5**
CMAR	**Chiang Mai Arr**	**82.68**	**296**	P		**P**	**11 34 54.3**	**-0.5**
	1.1nm,0.9s,baz=18,slow=7.3,SNR=5.0							
ASHO	**Ashiyiah**	**90.89**	**335**	P		P	11 35 26.6	-8.2
	SNR=12							
HOQ	**Hoqain**	**91.70**	**334**	P		P	11 35 31.4	-7.1
	SNR=5.2							
SMDO	**Samad**	**92.05**	**333**	P		P	11 35 34.7	-5.5
	SNR=9.6							
ARQ	**Araqi**	**92.10**	**334**	P		P	11 35 28.9	-11
	SNR=6.8							
WBK	**Wadi Bani Khal**	**92.28**	**332**	P		**P**	**11 35 39.0**	**-2.2**
	SNR=9.6							
BSY	**Bisya**	**92.54**	**334**	P		P	11 35 31.2	-11
	SNR=8.1							
JMDO	**Jabal Madar**	**92.71**	**333**	P		P	11 35 34.5	-8.6
	SNR=8.6							
BOSA	**Boshof**	**146.63**	**5**	PKPbc		**PKPbc**	**11 42 11.8**	**-0.2**
BOSA	**Boshof**	**146.63**	**5**	PKPbc		**PKPbc**	**11 42 11.8**	**-0.2**
	3.3nm,0.8s,baz=330,slow=3.7,SNR=5.9							
QSPA	**South Pole Qui**	**151.72**	**180**	PKPbc		**PKPbc**	**11 42 23.4**	**-0.1**
QSPA				PKPab		**PKPab**	**11 42 33.6**	**+0.7**
QSPA	**South Pole Qui**	**151.72**	**180**	PKPbc		**PKPbc**	**11 42 23.4**	**-0.1**
	4.4nm,0.7s,baz=285,slow=1.7,SNR=24							
QSPA				PKPab		**PKPab**	**11 42 33.6**	**+0.7**
	1.6nm,0.5s,baz=60,slow=2.2,SNR=14							

IDC 04 11:32:11.2±9.8, 6°50N×123°24E, h626km±160km, mb3.1/7, mb1 3.3/8, mb1mx2.9/27, mbtmp3.2/8, Error ellipse: s-maj=86.8km s-min=23.9km az=50.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
BATI	**Baumata**	**16.61**	**179**	P	P	11	35 34.2	+1.0
	3.5nm,0.3s,baz=290,slow=6.2,SNR=5.2							
FITZ	**Fitzroy Crossi**	**24.56**	**175**	P	P	11	36 44.6	+0.2
	2.5nm,1.0s,baz=3.9,slow=13,SNR=7.8							
WRA	**Warramunga Arr**	**28.46**	**158**	P	P	11	37 17.8	-0.7
	4.7nm,0.5s,baz=332,slow=10,SNR=64							
ASAR	**Alice Springs**	**31.74**	**161**	P	P	11	37 47.0	+0.5
	2.6nm,0.4s,baz=342,slow=6.8,SNR=114							
CTA	**Charters Tower**	**34.79**	**140**	P	P	11	38 11.7	-0.4
	1.7nm,0.5s,baz=298,slow=5.6,SNR=3.4							
STKA	**Stephens Creek**	**41.99**	**156**	P	P	11	39 10.1	+0.3
	1.7nm,0.5s,baz=342,slow=8.6,SNR=7.1							
MKAR	**Makanchi Array**	**53.32**	**326**	P	P	11	40 34.1	+0.4
	1.4nm,0.4s,baz=120,slow=8.2,SNR=22							
KURBB	**Kurchatov Arra**	**57.55**	**328**	P	P	11	41 02.1	-0.6
	0.8nm,0.2s,baz=129,slow=6.4,SNR=6.0							

*AUST **04** 11:36:39.6±7.0, 6°.01S×151°.33E, h18km, Error ellipse: s-maj=1.5km s-min=1.2km az=286.0*
*ISCJB **04** 11:36:40.4±0.6, 6°.04S±0°.08×151°.41E±0°.10, h41km, mb4.3/9, MS5.6/1, Error ellipse: s-maj=16.5km s-min=7.6km az=36.0*
*IDC **04** 11:36:43.8±5.3, 5°.87S×151°.22E, h52km±45km, mb4.1/7, mb1 4.3/8, mb1mx3.9/19, mbtmp4.2/8, ML2.9/1, Error ellipse: s-maj=37.9km s-min=25.2km az=110.0*
*NEIC **04** 11:36:43.4±2.5, 6°.01S×151°.38E, h54km±22km, mb4.3/5, Error ellipse: s-maj=23.3km s-min=14.9km az=111.0*

ISC 04 11:36:42.2±0.7, 6°.0S±0°.1×151°.4E±0°.1, h41km, n40, σ0s86/41, mb4.5/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
RABL	**Rabaul**	**1.91**	**24**	P	**Pn**	**11**	**37 13.6**	**+1.2**
	baz=2.0,SNR=11							
PMG	**Port Moresby**	**5.42**	**231**	*e*Pn	**Pn**	**11**	**38 01.9**	**+1.3**
	90nm,0.9s							
PMG				*e*Sn	**Sn**	**11**	**39 01.0**	**-0.7**
PMG	**Port Moresby**	**5.42**	**231**	P	**Pn**	**11**	**38 02.4**	**+1.8**
	2.8nm,0.3s,baz=45,slow=9.3,SNR=14							
PMG				S	**Sn**	**11**	**39 02.2**	**+0.5**
	17nm,0.3s,baz=182,slow=14,SNR=8.9							
TLE	**Tual**	**18.57**	**270**	P	P	11	40 50.1	-5.8
	baz=18,SNR=4.0							
EIDS	**Eidsvold**	**19.31**	**181**	*e*P	**P**	**11**	**41 02.3**	**-1.6**
	8.5nm,0.8s							
EIDS	**Eidsvold**	**19.31**	**181**	P	**P**	**11**	**41 02.8**	**-1.1**
	baz=19,SNR=4.8							
KDU	**Kakadu**	**19.83**	**249**	P	**P**	**11**	**41 09.4**	**-0.2**
	baz=20,SNR=11							
RMQ	**Roma**	**20.57**	**187**	P	**P**	**11**	**41 17.4**	**-0.3**
	baz=21,SNR=25							
QLP	**Quilpie**	**21.62**	**198**	P	**P**	**11**	**41 28.8**	**-0.2**
	baz=22,SNR=4.7							
WRAB	**Tennant Creek**	**21.62**	**228**	*e*P	**P**	**11**	**41 28.2**	**-0.9**
	22nm,1.1s							
WRA	**Warramunga Arr**	**21.64**	**228**	P	**P**	**11**	**41 27.8**	**-1.4**
WRA	**Warramunga Arr**	**21.64**	**228**	P	**P**	**11**	**41 27.8**	**-1.4**
	4.6nm,0.7s,baz=54,slow=10,SNR=36							
KNRA	**Kununurra**	**24.21**	**245**	P	**P**	**11**	**41 54.7**	**-0.6**
	baz=24,SNR=9.0							
AS31	**Alice Springs**	**24.36**	**222**	*e*P	**P**	**11**	**41 56.0**	**-0.6**
ASAR	**Alice Springs**	**24.36**	**222**	P	**P**	**11**	**41 56.2**	**-0.4**
ASAR	**Alice Springs**	**24.36**	**222**	P	**P**	**11**	**41 56.2**	**-0.4**
	8.8nm,0.6s,baz=57,slow=9.1,SNR=96							
CMSA	**Cobar Meteorol**	**26.01**	**191**	P	**P**	**11**	**42 10.8**	**-0.7**
	baz=26,SNR=5.7							
STKA	**Stephens Creek**	**27.37**	**198**	*e*P	**P**	**11**	**42 24.1**	**+0.3**
	2.0nm,1.1s							
STKA				*e*		11	42 38.8	
STKA	**Stephens Creek**	**27.37**	**198**	P	**P**	**11**	**42 25.3**	**+1.6**
	baz=27,SNR=5.4							
STKA	**Stephens Creek**	**27.37**	**198**	P	**P**	**11**	**42 24.4**	**+0.7**
	2.3nm,0.8s,baz=6.0,slow=14,SNR=7.3							
FITZ	**Fitzroy Crossi**	**27.89**	**242**	*e*P	**P**	**11**	**42 27.8**	**-0.6**
	7.5nm,0.8s							
FITZ	**Fitzroy Crossi**	**27.89**	**242**	P	**P**	**11**	**42 28.1**	**-0.4**
	baz=28,SNR=11							
FITZ	**Fitzroy Crossi**	**27.89**	**242**	P	**P**	**11**	**42 28.1**	**-0.4**
	8.9nm,0.8s,baz=72,slow=8.7,SNR=32							
TOO	**Toolangi**	**31.93**	**189**	P	P	11	43 18.4	+14
	baz=32,SNR=6.1							
MEEK	**Meekatharra**	**37.40**	**233**	P	**P**	**11**	**43 51.1**	**-0.4**
	baz=37,SNR=5.8							
CISI	**Cisompet, Garu**	**43.30**	**265**	P	**P**	**11**	**44 40.4**	**-0.1**
	baz=43,SNR=4.4							
ZALV	**Zalesovo Beam**	**81.34**	**327**	P	**P**	**11**	**48 53.2**	**-1.2**
ZALV	**Zalesovo Beam**	**81.34**	**327**	P	**P**	**11**	**48 53.2**	**-1.2**
	0.5nm,0.4s,baz=108,slow=4.7,SNR=3.1							
MCK	**McKinley**	**82.46**	**23**	*e*P	**P**	**11**	**48 59.0**	**-1.1**
	3.7nm,0.7s							
ILAR	**Eielson Array**	**83.75**	**22**	P	**P**	**11**	**49 06.5**	**-0.3**
ILAR	**Eielson Array**	**83.75**	**22**	P	**P**	**11**	**49 06.5**	**-0.3**
	3.2nm,0.6s,baz=248,slow=5.4,SNR=69							
INK	**Inuvik**	**90.03**	**21**	P	**P**	**11**	**49 37.5**	**+0.3**
INK	**Inuvik**	**90.03**	**21**	P	**P**	**11**	**49 37.5**	**+0.3**
	4.1nm,1.0s,baz=228,slow=2.9,SNR=4.8							
VRAC	**Vranov**	**122.46**	**327**	LR	LR	11	37 35.5	
	comp=Z,1μm,19.7s,baz=345,slow=35							
GERES	**GERESS Array B**	**124.29**	**327**	PKP	**PKPdf**	**11**	**55 37.5**	**+0.6**
GERES	**GERESS Array B**	**124.29**	**327**	PKP	**PKPdf**	**11**	**55 37.5**	**+0.6**
	0.8nm,0.6s,baz=76,slow=1.2,SNR=5.1							
TORD	**Torodi Ar. Bea**	**149.30**	**286**	PKPbc	**PKPbc**	**11**	**56 27.8**	**+0.1**
TORD	**Torodi Ar. Bea**	**149.30**	**286**	PKPbc	**PKPbc**	**11**	**56 27.8**	**+0.1**
	3.4nm,0.7s,baz=64,slow=2.5,SNR=21							
BDFB	**Brasilia**	**151.19**	**138**	PKPbc	**PKPbc**	**11**	**56 32.5**	**+0.1**
BDFB				PKPab	**PKPab**	**11**	**56 40.9**	**+0.8**
BDFB	**Brasilia**	**151.19**	**138**	PKPbc	**PKPbc**	**11**	**56 32.5**	**+0.1**
	1.4nm,0.6s,baz=180,slow=3.0,SNR=2.9							
BDFB				PKPab	**PKPab**	**11**	**56 40.9**	**+0.8**
	1.9nm,0.4s,baz=172,slow=6.7,SNR=4.4							

*ISK **04** 11:47:19.5, 37°.67N×26°.81E, h8km, MD2.9*
*DDA **04** 11:47:19.4, 37°.62N×26°.79E, h8km, MD2.9*
*CSEM **04** 11:47:20.2±0.1, 37°.64N×26°.80E, h8km, ML2.5/2, Error ellipse: s-maj=3.7km s-min=3.4km az=127.0*
*ATH **04** 11:47:20.0, 37°.61N×26°.78E, h7km±6km, MD2.5/3*
*THE **04** 11:47:20.2, 37°.67N×26°.86E, h12km, ML2.5/2, Error ellipse: s-maj=2.0km s-min=0.4km az=88.0*

ISC 04 11:47:20.2±0.8, 37°.64N±0°.02×26°.79E±0°.02, h10km±5km, n54, σ0s42/77, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
SMG	**Samos**	**0.08**	**29**	P	**Pg**	**11**	**47 22.6**	**-0.1**
SMG				S	**Sg**	**11**	**47 24.4**	**0.0**
SMG	**Samos**	**0.08**	**29**	*e*PG	**Pg**	**11**	**47 22.6**	**-0.1**
SMG				*e*SG	**Sg**	**11**	**47 24.3**	**-0.1**
SMG	**Samos**	**0.08**	**29**	P	**Pg**	**11**	**47 22.6**	**-0.1**
SMG				*e*Sg	**Sg**	**11**	**47 24.3**	**-0.1**
GCAM	**G?zelcaml?**	**0.36**	**80**	*i* P	**Pg**	**11**	**47 27.3**	**-0.1**
GCAM				*i* S	**Sg**	**11**	**47 32.8**	**+0.6**
GCAM	**G?zelcaml?**	**0.36**	**80**	*i* P	**Pg**	**11**	**47 27.3**	**-0.1**
GCAM				*i* S	**Sg**	**11**	**47 32.8**	**+0.6**
BODT	**Bodrum**	**0.71**	**144**	*e*PG	**Pg**	**11**	**47 34.0**	**+0.1**
BODT				*e*SG	**Sb**	**11**	**47 44.7**	**+0.2**
BODT	**Bodrum**	**0.71**	**144**	*e*Pg	**Pg**	**11**	**47 34.0**	**+0.1**
BODT				*e*Sg	**Sb**	**11**	**47 44.7**	**+0.2**
BDRM	**Kayabasi**	**0.77**	**137**	*i* P	**Pg**	**11**	**47 35.0**	**-0.2**
BDRM				*i* S	**Sb**	**11**	**47 46.4**	**+0.1**
BDRM	**Kayabasi**	**0.77**	**137**	*i* P	**Pg**	**11**	**47 35.0**	**-0.2**
BDRM				*i* S	**Sb**	**11**	**47 46.4**	**+0.1**
IZM	**Izmir**	**0.85**	**26**	*e*PG	**Pg**	**11**	**47 35.7**	**-0.9**
IZM	**Izmir**	**0.85**	**26**	*e*Pg	**Pg**	**11**	**47 35.7**	**-0.9**
AYDN	**Tasoluk**	**0.87**	**88**	*i* P	**Pg**	**11**	**47 36.7**	**-0.3**
AYDN				*i* S	**Sb**	**11**	**47 48.7**	**-0.4**
AYDN	**Tasoluk**	**0.87**	**88**	*i* P	**Pg**	**11**	**47 36.7**	**-0.3**
AYDN				*i* S	**Sb**	**11**	**47 48.7**	**-0.4**
CHOS	**Chios island**	**0.95**	**323**	P	**Pg**	**11**	**47 38.0**	**-0.5**
CHOS				S	**Sb**	**11**	**47 51.6**	**+0.2**
CHOS	**Chios island**	**0.95**	**323**	*e*PG	**Pg**	**11**	**47 38.0**	**-0.5**
CHOS	**Chios island**	**0.95**	**323**	*e*PG	**Pg**	**11**	**47 38.0**	**-0.5**
CHOS				*e*SB	**Sb**	**11**	**47 51.6**	**+0.2**
CHOS	**Chios island**	**0.95**	**323**	P	**Pg**	**11**	**47 38.0**	**-0.5**
CHOS				S	**Sb**	**11**	**47 51.6**	**+0.2**
NIS1	**Nisyros Isl.**	**1.08**	**163**	*e*PN	**Pn**	**11**	**47 41.5**	**+0.2**
NIS1	**Nisyros Isl.**	**1.08**	**163**	*e*Pn	**Pn**	**11**	**47 41.6**	**+0.2**
DAT	**Datca**	**1.10**	**145**	*e*PN	**Pg**	**11**	**47 40.7**	**-0.8**
DAT	**Datca**	**1.10**	**145**	*e*Pn	**Pg**	**11**	**47 40.7**	**-0.8**
APE	**Apeiranthos**	**1.15**	**241**	P	**Pg**	**11**	**47 41.8**	**-0.5**
APE				S	**Sn**	**11**	**47 58.7**	**+0.5**
APE	**Apeiranthos**	**1.15**	**241**	*e*PN	**Pg**	**11**	**47 41.9**	**-0.4**
APE	**Apeiranthos**	**1.15**	**241**	*e*Pn

baz=199
NSTT Nanjuang 0.72 285 *e*P **Pn 11 56 27.2 -0.6**
baz=285
NSTT *e*S **Sn 11 56 37.9 -0.6**
baz=285
TWS1 Kuangyinshan 0.72 334⇑ *i*P **Pn 11 56 27.4 -0.4**
baz=335
TWS1 S **Sn 11 56 38.0 -0.5**
baz=335
TEGC Jichi Village 0.77 196 *e*P **Pn 11 56 28.7 +0.3**
baz=202
HSN Hsinchu 0.81 296 *e*P **Pn 11 56 28.4 -0.5**
baz=310
HSN *e*S **Sn 11 56 39.0 -1.3**
baz=310
TWY Chenhua 0.84 349 *e*P **Pn 11 56 29.4 +0.1**
baz=341
TWY *e*S **Sn 11 56 42.0 +1.0**
baz=341
TWQ1 Liyutan 0.91 264⇓ *e*P **Pn 11 56 29.8 -0.4**
baz=263
NSY Sanyi 0.92 268 *e*P **Pn 11 56 30.1 -0.2**
baz=268
NSY *e*S **Sn 11 56 43.1 +0.2**
baz=268
SMLT Sun Moon Lake 0.97 235 *e*P **Pn 11 56 31.4 +0.3**
baz=235
SMLT S **Sn 11 56 45.4 +1.1**
baz=235
SSLB Suanglung 0.99 229 *e*Pg **Pn 11 56 31.6 +0.3**
SSLB *e*Sg **Sn 11 56 44.4 -0.3**
TYC Yuchr 0.99 237 P **Pn 11 56 31.8 +0.5**
baz=234
TYC *e*S **Sn 11 56 45.9 +1.3**
baz=234
EHY Hungye 1.02 204 *e*P **Pn 11 56 29.7 -2.1**
baz=196
TCU Taichung 1.04 253 *e*P **Pn 11 56 32.2 +0.3**
baz=253
YOJ Yonaguni jima 1.13 89 *e*P **Pn 11 56 32.9 -0.2**
baz=82
YULB Yu-li 1.14 202 *e*Pn **Pn 11 56 30.9 -2.3**
WNT Mingjian 1.14 240 *e*P **Pn 11 56 33.4 +0.2**
baz=250
TWF1 Yuli 1.18 202⇑ *e*P **Pn 11 56 31.7 -2.0**
baz=200
PCYT Pengchaiyu 1.21 13 *e*P **Pn 11 56 33.3 -0.9**
baz=14
YUS Yu-Shan 1.21 218 *e*P **Pn 11 56 34.5 -0.2**
baz=211
ALS Alishan 1.28 223 ⇑P **Pn 11 56 36.2 +0.8**
baz=235
ALS *e*S **Sn 11 56 53.1 +1.2**
baz=235
CHN5 Tsauling 1.31 230 *e*P **Pn 11 56 36.0 +0.5**
baz=241
CHN5 *e*S **Sn 11 56 53.4 +1.2**
baz=241
WGK Gukeng 1.34 236 *e*P **Pn 11 56 36.4 +0.5**
baz=245
CHKT Chengkung 1.40 195 *e*P **Pn 11 56 36.5 -0.1**
baz=194
ELDTW Lidau 1.43 209 *e*P **Pn 11 56 36.2 -1.1**
baz=202
TPUB Ta-pu 1.55 223 *e*Pn **Pn 11 56 38.9 +0.2**
TPUB *e*Sn **Sn 11 56 59.5 +1.6**
CHY Chiayi 1.55 233 *e*P **Pn 11 56 38.8 0.0**
baz=244
CHY *e*S **Sn 11 56 58.6 +0.7**
baz=244
WTP Ta-pu 1.60 222 *e*P **Pn 11 56 39.7 +0.3**
baz=233
WTP *e*S **Sn 11 57 01.6 +2.5**
baz=233
CHN1 Nanshi 1.70 222 *e*P **Pn 11 56 40.9 +0.1**
baz=235
CHN1 *e*S **Sn 11 57 03.2 +1.8**
baz=235
SGST Jiashian 1.74 219 *e*P **Pn 11 56 41.5 +0.2**
baz=230
TWG Pinlang 1.74 202 *e*P **Pn 11 56 39.0 -2.4**
baz=193
TWG Pinlang 1.74 202 *e*Pn **Pn 11 56 39.1 -2.2**
CHN3 Shinhua 1.88 224 *e*P **Pn 11 56 44.3 +1.1**
baz=223
SCLT Jiali 1.92 229 *e*P **Pn 11 56 42.5 -1.2**
baz=228
ECL Taimali 1.99 202 *e*P **Pn 11 56 43.5 -1.2**
baz=195
TWM1 Shoushan 2.04 218 *e*P **Pn 11 56 45.1 -0.3**
baz=228
SGLT Jiouru 2.08 215 *e*P **Pn 11 56 46.8 +0.9**
baz=226
EAST Anshuo 2.23 203 *e*P **Pn 11 56 47.3 -0.6**
baz=195
SCZT Fangliau 2.32 207 *e*P **Pn 11 56 50.0 +0.8**
baz=218
LAY Lan-yu 2.41 185 *e*P **Pn 11 56 48.9 -1.6**
baz=179
KNM Kinmen 3.04 270 *e*P **Pn 11 56 58.8 -0.2**
baz=269

*AUST **04** 12:02:59.4, 27°.55S×173°.60W, h0km*
*ISCJB **04** 12:03:41.0±1.0, 26°.53S±0°.08×177°.6W±0°.2, h150km, mb4.2/13, Error ellipse: s-maj=21.1km s-min=9.5km az=157.7*
*NEIC **04** 12:03:42.5±1.6, 26°.55S×177°.64W, h150km±13km, mb4.3/7, Error ellipse: s-maj=25.1km s-min=14.0km az=65.0*
*IDC **04** 12:03:45.3±2.5, 26°.68S×177°.77W, h167km±16km, mb3.9/9, mb1 4.0/10, mb1mx3.8/19, mbtmp3.9/10, Error ellipse: s-maj=32.2km s-min=15.3km az=46.0*

ISC 04 12:03:41.9±0.9, 26°.50S±0°.08×177°.5W±0°.2, h150km, n44, σ1$38/47, mb4.2/13, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.76**	**187**	P	**Pn**	**12 04 26.2**	**0.0**
RAO				S	**Sn**	**12 05 02.4**	**+1.9**
RAO	**Raoul Island**	**2.76**	**187**	P	**Pn**	**12 04 26.2**	**0.0**
	132nm,0.3s,baz=36,slow=17,SNR=8.3						
RAO				S	**Sn**	**12 05 02.4**	**+1.9**
	256nm,0.3s,baz=240,slow=22,SNR=7.0						
MSVF	**Nonsavu**	**9.64**	**334**	*e*Pn	**Pn**	**12 05 57.2**	**-0.1**
URZ	**Urewera**	**12.56**	**200**	P	**P**	**12 06 40.1**	**-0.8**
URZ				S	Sn	12 08 44.8	-9.5
URZ	**Urewera**	**12.56**	**200**	P	**P**	**12 06 40.1**	**-0.8**
	1.8nm,0.3s,baz=322,slow=19,SNR=6.0						
URZ				S	Sn	12 08 44.8	-9.5
	1.7nm,0.3s,baz=321,slow=18,SNR=9.6						
EIDS	**Eidsvold**	**28.22**	**265**	P	**P**	**12 09 22.9**	**+2.1**
	baz=32,SNR=4.4						
RMQ	**Roma**	**30.13**	**262**	P	**P**	**12 09 39.6**	**+2.0**
	baz=33,SNR=6.5						
CTA	**Charters Tower**	**33.80**	**273**	P	**P**	**12 10 10.4**	**+0.6**
CTA	**Charters Tower**	**33.80**	**273**	P	**P**	**12 10 10.4**	**+0.6**
	2.8nm,0.5s,baz=108,slow=6.5,SNR=12						
CTAO	**Charters Tower**	**33.80**	**273**	*e*P	**P**	**12 10 11.5**	**+1.7**
	3.1nm,0.6s						
QLP	**Quilpie**	**34.13**	**261**	P	**P**	**12 10 12.9**	**+0.4**
	baz=37,SNR=4.1						
STKA	**Stephens Creek**	**35.94**	**252**	*e*P	**P**	**12 10 28.4**	**+0.4**
	0.5nm,0.8s						
STKA	**Stephens Creek**	**35.94**	**252**	P	**P**	**12 10 28.5**	**+0.5**
	2.4nm,0.9s,baz=88,slow=11,SNR=3.7						
AS31	**Alice Springs**	**43.88**	**263**	*e*P	**P**	**12 11 32.7**	**-1.0**
ASAR	**Alice Springs**	**43.88**	**263**	P	**P**	**12 11 33.0**	**-0.7**
ASAR	**Alice Springs**	**43.88**	**263**	P	**P**	**12 11 33.0**	**-0.7**
	3.2nm,0.7s,baz=98,slow=7.4,SNR=113						
WRAB	**Tennant Creek**	**44.51**	**268**	*e*P	**P**	**12 11 37.7**	**-1.0**
	5.6nm,0.9s						
WRA	**Warramunga Arr**	**44.52**	**268**	P	**P**	**12 11 37.7**	**-1.0**
WRA	**Warramunga Arr**	**44.52**	**268**	P	**P**	**12 11 37.7**	**-1.0**
	2.2nm,0.4s,baz=104,slow=7.9,SNR=58						
FORT	**Forrest**	**47.56**	**252**	*e*P	**P**	**12 12 00.4**	**-2.0**
	19nm,0.6s						
FORT	**Forrest**	**47.56**	**252**	P	**P**	**12 12 00.8**	**-1.7**
	baz=50,SNR=20						
KDU	**Kakadu**	**48.78**	**276**	P	**P**	**12 12 12.1**	**+0.1**
	baz=52,SNR=3.7						
KNRA	**Kununurra**	**50.95**	**271**	P	**P**	**12 12 29.8**	**+1.5**
	baz=54,SNR=4.5						
SBA	**Scott Base**	**51.94**	**184**	*e*P	**P**	**12 12 36.9**	**+2.1**
	42nm,1.8s						
VNDA	**Vanda**	**52.00**	**186**	*e*P	**P**	**12 12 36.1**	**+0.8**
	3.6nm,0.7s						
VNDA	**Vanda**	**52.00**	**186**	P	**P**	**12 12 36.5**	**+1.3**
	3.3nm,0.6s,baz=2.6,slow=7.8,SNR=37						
FITZ	**Fitzroy Crossi**	**52.89**	**267**	*e*P	**P**	**12 12 41.7**	**-1.0**
	7.7nm,1.1s						
FITZ	**Fitzroy Crossi**	**52.89**	**267**	P	**P**	**12 12 42.1**	**-0.6**
	baz=56,SNR=7.3						
FITZ	**Fitzroy Crossi**	**52.89**	**267**	P	**P**	**12 12 42.1**	**-0.6**
	2.5nm,0.6s,baz=125,slow=6.5,SNR=13						
FAKI	**Fak Fak**	**53.49**	**287**	P	P	12 12 43.0	-4.1
	baz=57,SNR=4.7						
MEEK	**Meekatharra**	**56.55**	**254**	P	**P**	**12 13 06.9**	**-2.1**
	baz=60,SNR=4.6						
MORW	**Morawa**	**58.12**	**251**	P	**P**	**12 13 18.4**	**-1.5**
	baz=61,SNR=8.4						
QSPA	**South Pole Qui**	**63.59**	**180**	P	**P**	**12 13 56.7**	**+0.2**
QSPA	**South Pole Qui**	**63.59**	**180**	P	**P**	**12 13 56.7**	**+0.2**
	6.7nm,0.8s,baz=24,slow=2.0,SNR=42						
MAW	**Mawson**	**76.09**	**200**	P	**P**	**12 15 12.9**	**+0.4**
MAW	**Mawson**	**76.09**	**200**	P	**P**	**12 15 12.9**	**+0.4**
	3.3nm,0.6s,baz=140,slow=7.3,SNR=13						
SYO	**Syowa Base**	**80.99**	**193**⇓	*e*P	**P**	**12 15 37.4**	**-1.9**
KSRS	**Korea Array**	**81.68**	**319**	P	**P**	**12 15 46.3**	**+3.0**
	0.6nm,0.6s,baz=130,slow=6.3,SNR=3.8						
KSAR	**Wonju Array Be**	**81.69**	**319**	P	**P**	**12 15 46.3**	**+2.9**
SNAA	**Sanae**	**82.02**	**178**	*e*P	**P**	**12 15 43.1**	**-1.7**
	4.6nm,0.9s						
HFS	**Hagfors**	**145.51**	**350**	PKPbc	**PKPab**	**12 23 03.4**	**+1.1**
HFS	**Hagfors**	**145.51**	**350**	PKPbc	**PKPab**	**12 23 03.4**	**+1.1**
	1.5nm,0.4s,baz=46,slow=4.3,SNR=5.3						
TORD	**Torodi Ar. Bea**	**166.69**	**177**	PKP	**PKPdf**	**12 23 28.5**	**-1.6**
TORD				PKPab	**PKPab**	**12 24 32.6**	**-0.7**
TORD	**Torodi Ar. Bea**	**166.69**	**177**	PKP	**PKPdf**	**12 23 28.5**	**-1.6**
	0.1nm,0.5s,baz=197,slow=0.7,SNR=3.2						
TORD				PKPab	**PKPab**	**12 24 32.6**	**-0.7**
	0.4nm,0.5s,baz=188,slow=3.1,SNR=5.2						

*IDC **04** 12:15:42.4±0.6, 15°.32S×173°.13W, h0km, mb4.2/13, mb1 4.4/13, mb1mx4.3/22, mbtmp4.2/13, Error ellipse: s-maj=23.4km s-min=14.1km az=137.0*
*NEIC **04** 12:15:44.0±0.4, 15°.24S×173°.14W, h10km, mb4.7/5, Error ellipse: s-maj=22.0km s-min=12.3km az=121.0*
*ISCJB **04** 12:15:45.5±0.5, 15°.2S±0°.1×173°.3W±0°.1, h33km, mb4.2/16, Error ellipse: s-maj=21.9km s-min=12.0km az=34.5*
*SZGRF **04** 12:15:50.7, 15°.76S×171°.39W, h33km, Samoa Islands region*

ISC 04 12:15:47.0±0.6, 15°.4S±0°.1×172°.9W±0°.1, h29km, n55, σ1$60/50, mb4.5/16, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.82**	**36**	*e*Pn	Pn	12 16 06.5	-10
AFI				Sn	Sn	12 16 23.9	-15
AFI	**Afiamalu**	**1.82**	**36**	Pn	Pn	12 16 06.7	-10
	69nm,0.3s,baz=234,slow=14,SNR=54						
AFI				Sn	Sn	12 16 23.9	-15
	715nm,0.3s,baz=285,slow=20,SNR=38						
MSVF	**Nonsavu**	**9.00**	**254**	*e*Pn	Pn	12 18 04.0	+8.7
DZM	**Mont Dzumac**	**20.67**	**248**	P	**P**	**12 20 27.2**	**+2.5**
DZM	**Mont Dzumac**	**20.67**	**248**	P	**P**	**12 20 27.2**	**+2.5**
	4.8nm,0.8s,baz=75,slow=18,SNR=2.7						
URZ	**Urewera**	**24.44**	**199**	P	**P**	**12 21 00.9**	**-2.3**
URZ	**Urewera**	**24.44**	**199**	P	**P**	**12 21 00.9**	**-2.3**
	14nm,0.6s,baz=3.2,slow=6.2,SNR=6.4						
STKA	**Stephens Creek**	**44.48**	**240**	*e*P	**P**	**12 23 54.1**	**-1.8**
	1.9nm,1.3s						
STKA	**Stephens Creek**	**44.48**	**240**	P	**P**	**12 23 54.0**	**-1.9**
	1.7nm,0.7s,baz=103,slow=9.8,SNR=4.3						
WRA	**Warramunga Arr**	**50.33**	**257**	P	P	12 24 38.5	-3.2
WRA				S	**S**	**12 31 54.1**	**+1.0**
WRA	**Warramunga Arr**	**50.33**	**257**	P	P	12 24 38.5	-3.2
	1.2nm,0.8s,baz=92,slow=7.1,SNR=12						
WRA				S	**S**	**12 31 54.1**	**+1.0**
	0.2nm,0.7s,baz=93,slow=27,SNR=3.1						
AS31	**Alice Springs**	**50.59**	**252**	*e*P	**P**	**12 24 41.9**	**-1.7**
ASAR	**Alice Springs**	**50.59**	**252**	P	P	12 24 41.2	-2.4
ASAR	**Alice Springs**	**50.59**	**252**	P	P	12 24 41.2	-2.4
	4.3nm,0.7s,baz=89,slow=7.9,SNR=30						
SBA	**Scott Base**	**63.30**	**185**	*e*P	**P**	**12 26 14.4**	**+1.6**
	5.6nm,0.8s						
VNDA	**Vanda**	**63.44**	**186**	*e*P	**P**	**12 26 14.2**	**+0.5**
	3.4nm,0.9s						
VNDA	**Vanda**	**63.44**	**186**	P	**P**	**12 26 14.9**	**+1.2**
	3.0nm,0.8s,baz=28,slow=8.3,SNR=11						
PETK	**Petropavlovsk-**	**72.77**	**342**	P	**P**	**12 27 11.8**	**-0.6**
PETK	**Petropavlovsk-**	**72.77**	**342**	P	**P**	**12 27 11.8**	**-0.6**
	8.7nm,0.9s,baz=155,slow=11,SNR=4.1						
NVAR	**Mina Array Bea**	**73.98**	**42**	P	**P**	**12 27 20.8**	**+0.5**
NVAR	**Mina Array Bea**	**73.98**	**42**	P	**P**	**12 27 20.8**	**+0.5**
	0.8nm,0.8s,baz=223,slow=9.6,SNR=4.4						
QSPA	**South Pole Qui**	**74.66**	**180**	P	**P**	**12 27 24.1**	**+0.5**
QSPA	**South Pole Qui**	**74.66**	**180**	P	**P**	**12 27 24.1**	**+0.5**
	5.8nm,0.9s,baz=49,slow=3.1,SNR=5.5						
TXAR	**Lajitas Array**	**80.19**	**56**	P	**P**	**12 27 54.6**	**-0.6**
TXAR	**Lajitas Array**	**80.19**	**56**	P	**P**	**12 27 54.6**	**-0.6**
	1.5nm,1.1s,baz=209,slow=6.9,SNR=7.8						
ANMO	**Albuquerque**	**80.41**	**50**	P	**P**	**12 27 57.9**	**+1.5**
ANMO	**Albuquerque**	**80.41**	**50**	P	**P**	**12 27 57.9**	**+1.5**
	0.3nm,0.4s,baz=239,slow=5.9,SNR=2.7						
MCK	**McKinley**	**81.02**	**11**	*e*P	**P**	**12 27 57.0**	**-1.7**
	9.5nm,1.1s						
PDAR	**Pinedale Array**	**81.92**	**42**	P	**P**	**12 28 04.9**	**+0.6**
PDAR	**Pinedale Array**	**81.92**	**42**	P	**P**	**12 28 04.9**	**+0.6**
	0.6nm,0.8s,baz=227,slow=3.3,SNR=4.2						
COLA	**College**	**82.26**	**11**	*e*P	**P**	**12 28 02.6**	**-2.6**
	22nm,0.8s						
ILAR	**Eielson Array**	**82.34**	**11**	P	**P**	**12 28 03.8**	**-1.8**
ILAR	**Eielson Array**	**82.34**	**11**	P	**P**	**12 28 03.8**	**-1.8**
	0.7nm,0.7s,baz=210,slow=6.9,SNR=8.3						
MAW	**Mawson**	**87.96**	**198**	P	**P**	**12 28 34.2**	**+0.3**
MAW	**Mawson**	**87.96**	**198**	P	**P**	**12 28 34.2**	**+0.3**
	3.3nm,0.9s,baz=107,slow=6.6,SNR=6.4						
TSUM	**Tsumeb**	**144.12**	**197**	*e*PKPdf	PKPbc	12 35 19.1	0.0
DPC	**Dobruska-Polom**	**144.34**	**350**	*e*PKP	**PKPab**	**12 35 16.2**	**-2.2**
DPC				*e*K		12 35 19.8	
VRAC	**Vranov**	**145.29**	**349**	PKPbc	**PKPbc**	**12 35 21.1**	**-0.7**
VRAC	**Vranov**	**145.29**	**349**	PKPbc	**PKPbc**	**12 35 21.1**	**-0.7**
	4.0nm,0.8s,baz=0.0,slow=1.0,SNR=4.5						
ROTZ	**Rotzenmuhle**	**145.46**	**354**	*e*PKPbc	**PKPab**	**12 35 25.8**	**+3.3**
GRF	**Grafenberg Arr**	**145.62**	**355**	*e*PKPbc	**PKPab**	**12 35 26.5**	**+3.4**
WLF	**Walferdange**	**145.81**	**1**	*e*PKPbc	**PKPab**	**12 35 26.9**	**+3.1**
KHC	**Kasperske Hory**	**145.94**	**352**	*e*PKP	**PKPbc**	**12 35 24.0**	**+0.2**
KHC				*ep*PKP	**PKiKP**	**12 35 27.2**	**-0.1**
KHC	**Kasperske Hory**	**145.94**	**352**	*e*PKPdf	**PKPab**	**12 35 24.4**	**+0.1**
GEC2	**GERESS Array S**	**146.20**	**352**	*e*PKPbc	**PKPab**	**12 35 28.0**	**+2.6**
GERES	**GERESS Array B**	**146.20**	**352**	PKPbc	**PKPbc**	**12 35 24.8**	**+0.1**
GERES	**GERESS Array B**	**146.20**	**352**	PKPbc	**PKPbc**	**12 35 24.8**	**+0.1**
	3.7nm,1.0s,baz=2.7,slow=4.2,SNR=14						
BR131	**Keskin Array B**	**146.46**	**321**	*e*PKPbc	**PKPbc**	**12 35 26.3**	**+0.5**
BRTR	**Keskin Array B**	**146.46**	**321**	PKPbc	**PKPbc**	**12 35 26.4**	**+0.5**
BRTR	**Keskin Array B**	**146.46**	**321**	PKPbc	**PKPbc**	**12 35 26.4**	**+0.5**
	3.4nm,0.9s,baz=91,slow=2.6,SNR=9.5						
BFO	**Black Forest**	**147.13**	**359**	*e*PKPbc	**PKPab**	**12 35 30.5**	**+1.5**
BFO	**Black Forest**	**147.13**	**359**	*e*PKPbc	**PKPbc**	**12 35 27.7**	**+0.3**
FUR	**Furstenfeldbru**	**147.13**	**355**	*e*PKPbc	**PKPab**	**12 35 31.9**	**+2.9**
DAVOX	**Davos/Dischmat**	**148.62**	**356**	PKPbc	**PKPbc**	**12 35 31.9**	**+0.3**
DAVOX	**Davos/Dischmat**	**148.62**	**356**	PKPbc	**PKPbc**	**12 35 31.9**	**+0.3**
	4.7nm,1.0s,baz=324,slow=4.2,SNR=4.7						

IDC 04 12:17:26.8±7.9, 16°.49S×173°.09W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/19, mbtmp3.7/3, Error ellipse: s-maj=377.0km s-min=35.1km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**49.89**	**258**	P	P	12 26 22.6	+0.1
	0.2nm,0.4s,baz=97,slow=6.9,SNR=5.7						
ASAR	**Alice Springs**	**50.06**	**253**	P	P	12 26 22.9	-0.9
	1.3nm,0.5s,baz=93,slow=7.4,SNR=5.1						
ILAR	**Eielson Array**	**83.45**	**11**	P	P	12 29 54.7	-1.1
	0.4nm,0.6s,baz=224,slow=7.3,SNR=6.4						
BRTR	**Keskin Array B**	**147.18**	**320**	PKPbc	PKPbc	12 37 12.6	+0.1
	0.7nm,0.6s,baz=90,slow=2.9,SNR=2.8						
GERES	**GERESS Array B**	**147.26**	**352**	PKPbc	PKPbc	12 37 12.7	+0.3
	0.6nm,0.6s,baz=3.7,slow=3.0,SNR=3.6						

*ISCJB **04** 12:39:44.9±0.7, 48°.88N±0°.08×156°.1E±0°.2, h34km, mb3.7/10, Error ellipse: s-maj=17.7km s-min=6.0km az=33.2*
*MOS **04** 12:39:46.3±0.8, 48°.95N×155°.99E, h47km, mb4.0/5, Error ellipse: s-maj=24.5km s-min=12.6km az=67.6*

*IDC **04** 12:39:48.1±0.8, 48°.93N×156°.01E, h47km±6km, mb3.3/9, mb1 3.6/12, mb1mx3.5/27, mbtmp3.5/12, MS3.4/1, Ms1 3.4/1, ms1mx3.0/34, Error ellipse: s-maj=19.2km s-min=11.8km az=122.0*

ISC 04 12:39:47.4±0.8, 48°.90N±0°.10×156°.1E±0°.1, h34km, n19, σ1$42/25, mb3.6/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.79**	**1**	*e*PN	Pn	12 40 09.5	-6.3
SKR				*e*S	Sn	12 40 30.5	-6.7
SKR				pmax	pmax		
	comp=E,80nm,0.6s						
SKR				pmax	pmax		
	comp=Z,100nm,0.6s						
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				smax	smax		
	comp=N,460nm,0.5s						
SKR				smax	smax		
	comp=E,250nm,0.5s						
SKR				smax	smax		
	comp=Z,230nm,0.5s						
PETK	**Petropavlovsk-**	**4.34**	**13**	PN	**Pn**	**12 40 51.3**	**+0.4**
PETK				S	**Sn**	**12 41 41.0**	**+0.7**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK				smax	smax		
	comp=N,1.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,381nm,18.6s						
PETK	**Petropavlovsk-**	**4.34**	**13**	P	**Pn**	**12 40 51.3**	**+0.4**
	comp=Z,1.6nm,0.3s,baz=181,slow=15,SNR=30						
PETK				S	**Sn**	**12 41 41.0**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=167,slow=16,SNR=2.5						
PETK				LR	LR	12 42 27.4	
	comp=Z,381nm,18.6s,baz=37,slow=37						
PET	**Petropavlovsk**	**4.45**	**21**	*e*PN	**Pn**	**12 40 52.2**	**-0.1**
PET				*e*S	**Sn**	**12 41 42.9**	**+0.1**
PET				smax	smax		
	comp=N,109nm,0.6s						
PET				smax	smax		
	comp=E,109nm,0.7s						
ASAJ	**Asahikawa**	**10.43**	**248**	P	**Pn**	**12 42 16.4**	**+1.9**
	comp=E,0.6nm,0.3s,baz=78,slow=11,SNR=6.5						
ERM	**Erimo**	**11.37**	**238**	*i* PN	**Pn**	**12 42 27.8**	**+0.6**
USRK	**Ussuriysk Arra**	**17.18**	**263**	P	**P**	**12 43 45.2**	**-0.6**
	comp=E,0.2nm,0.3s,baz=70,slow=8.3,SNR=3.6						
KSRS	**Korea Array**	**23.35**	**251**	P	**P**	**12 44 52.0**	**-0.5**
	comp=E,1.2nm,0.5s,baz=50,slow=9.7,SNR=5.6						
ILAR	**Eielson Array**	**33.63**	**41**	P	**P**	**12 46 24.3**	**0.0**
	comp=E,0.3nm,0.6s,baz=252,slow=7.0,SNR=4.8						
ZALV	**Zalesovo Beam**	**42.98**	**305**	P	**P**	**12 47 41.5**	**-1.4**
ZALV	**Zalesovo Beam**	**42.98**	**305**	P	**P**	**12 47 41.5**	**-1.4**
	comp=E,0.4nm,0.4s,baz=64,slow=3.4,SNR=2.7						
MKAR	**Makanchi Array**	**47.72**	**297**	*e*P	**P**	**12 48 19.4**	**-1.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**47.72**	**297**	P	**P**	**12 48 18.9**	**-1.7**
	comp=Z,0.9nm,0.8s,baz=64,slow=8.2,SNR=8.5						
MKAR				pP	**pP**	**12 48 31.6**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=63,slow=6.3,SNR=3.8						
CMAR	**Chiang Mai Arr**	**54.79**	**257**	P	**P**	**12 49 14.0**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=28,slow=7.0,SNR=4.8						
CMAR				pP	**pP**	**12 49 26.4**	**+2.3**
	comp=Z,0.9nm,0.5s,baz=37,slow=7.3,SNR=2.6						
FINES	**FINESS Array B**	**62.92**	**336**	P	**P**	**12 50 08.3**	**-1.4**
	comp=Z,11nm,1.2s,baz=62,slow=4.5,SNR=8.1						
WRA	**Warramunga Arr**	**71.22**	**202**	P	**P**	**12 51 01.6**	**-1.2**
	comp=Z,0.7nm,1.1s,baz=21,slow=6.8,SNR=3.5						
TXAR	**Lajitas Array**	**74.73**	**63**	P	**P**	**12 51 22.9**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=297,slow=5.8,SNR=5.5						
TXAR				pP	**PcP**	**12 51 36.8**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=299,slow=5.3,SNR=4.9						
TXAR				sP	**sP**	**12 51 42.6**	**+4.2**
	comp=Z,0.2nm,0.6s,baz=321,slow=3.2,SNR=2.6						
ASAR	**Alice Springs**	**74.90**	**201**	P	**P**	**12 51 23.9**	**-0.6**
	comp=Z,0.2nm,0.8s,baz=9.4,slow=5.8,SNR=2.9						
GERES	**GERESS Array B**	**77.35**	**336**	P	**P**	**12 51 38.1**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=29,slow=6.7,SNR=2.5						

IDC 04 12:47:53.4±5.6, 16°.37S×172°.65W, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.5/20, mbtmp3.4/4, ML1.2/1, MS3.2/1, Ms1 3.2/1, ms1mx3.1/16, Error ellipse: s-maj=203.2km s-min=27.0km az=132.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.59**	**19**	Pn	Pn	12 48 36.3	-0.3
	2.8nm,0.3s,baz=214,slow=11,SNR=2.0						
AFI				Sn	Sn	12 49 02.9	-6.0
	14nm,0.3s,baz=188,slow=19,SNR=5.0						
AFI				LR	LR	12 49 21.3	
	comp=Z,492nm,19.2s,baz=288,slow=34						
WRA	**Warramunga Arr**	**50.33**	**257**	P	P	12 56 53.3	+0.9
	0.1nm,0.6s,baz=94,slow=7.6,SNR=2.7						
ASAR	**Alice Springs**	**50.59**	**253**	P	P	12 56 52.8	-1.0
	0.8nm,0.7s,baz=88,slow=8.3,SNR=14						
ILAR	**Eielson Array**	**83.25**	**11**	P	P	13 00 21.5	+0.1
	0.3nm,0.8s,baz=219,slow=6.5,SNR=4.2						

GUC 04 12:49:05.9±0.5, 22°.35S×70°.54W, h42km±1km, ML3.5, 2C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB07	**Plate Boundary**	**0.87**	**45**⇓	*i* P	Pn	12 49 21.2	-0.7
PB07				*i* S	Sn	12 49 33.4	-0.1
PB07				AML	AML	12 49 33.5	
	comp=E,1μm,0.2s						
PB04	**Plate Boundary**	**0.98**	**85**	*i* P	Pn	12 49 15.4	-7.8
PB04				*i* S	Sn	12 49 22.4	-13
PB04				AML	AML	12 49 22.9	
	comp=N,9μm,0.2s						
CEN1	**Los Morros**	**1.08**	**163**⇓	*i* P	Pn	12 49 28.1	+3.2
CEN1				*i* S	Sn	12 49 44.5	+5.8
PB10	**Plate Boundary**	**1.16**	**181**⇑	*i* P	Pn	12 49 26.4	+0.7
PB10				*i* S	Sn	12 49 42.1	+1.7
PB10				AML	AML	12 49 42.5	

*IDC **04** 13:04:13.5±0.8, 55.39N×166.16E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.6/30, mbtmp3.7/8, ML3.3/1, Error ellipse: s-maj=23.4km s-min=11.8km az=26.0*
*MOS **04** 13:04:14.8±1.6, 55.42N×166.51E, h18km, mb4.3/5, Error ellipse: s-maj=15.5km s-min=12.6km az=154.9*
*KRSC **04** 13:04:15.9±0.4, 55.37N×166.44E, h22km±21km, ML4.0*
*ISCJB **04** 13:04:17.1±0.5, 55.33N±0.03×166.50E±0.04, h37km±7km, mb3.8/7, Error ellipse: s-maj=5.7km s-min=4.3km az=4.9*

ISC 04 13:04:15.8±1.4, 55.43N±0.05×166.56E±0.06, h17km±8km, n53, σ1°37/84, mb3.7/7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.40**	**236**	**PN**	**Pg**	**13 04 24.0**	**0.0**
BKI				S	**Sg**	**13 04 29.3**	**-0.3**
BKI	**Bering**	**0.40**	**236**	**P**	**Pg**	**13 04 24.0**	**0.0**
BKI				S	**Sg**	**13 04 29.6**	**-0.3**
KBTR	**Krutoberegovo**	**2.25**	**292**	**PN**	**Pn**	**13 04 50.7**	**-1.5**
KBTR				S	**Sn**	**13 05 16.6**	**-2.9**
KBTR	**Krutoberegovo**	**2.25**	**292**	**P**	**Pn**	**13 04 50.7**	**-1.5**
KBTR				S	**Sn**	**13 05 16.6**	**-2.9**
MKZ	**Mys Kozlova**	**2.91**	**255**	**PN**	**Pn**	**13 05 01.4**	**+0.1**
MKZ				S	**Sn**	**13 05 34.5**	**-1.3**
MKZ	**Mys Kozlova**	**2.91**	**255**	**P**	**Pn**	**13 05 01.4**	**+0.1**
MKZ				S	**Sn**	**13 05 34.5**	**-1.3**
SMKR	**Semkarok**	**3.08**	**294**	**P**	**Pn**	**13 05 03.9**	**+0.2**
SMKR				S	**Sn**	**13 05 39.9**	**-0.2**
BDR	**Baidarnaya**	**3.21**	**293**	**P**	**Pn**	**13 05 06.5**	**+1.0**
BDR				S	**Sn**	**13 05 43.7**	**+0.3**
SRKR	**Sorokina**	**3.26**	**294**	**P**	**Pn**	**13 05 06.6**	**+0.4**
SRKR				S	**Sn**	**13 05 44.2**	**-0.4**
BZGR	**Bezymyannyi-Gr**	**3.36**	**281**	**P**	**Pn**	**13 05 09.0**	**+1.5**
BZGR				S	**Sn**	**13 05 48.4**	**+1.5**
KLY	**Klyuchi**	**3.44**	**287**	**PN**	**Pn**	**13 05 07.8**	**-0.7**
KLY				S	**Sn**	**13 05 46.9**	**-2.0**
KLY	**Klyuchi**	**3.44**	**287**	**P**	**Pn**	**13 05 07.8**	**-0.7**
KLY				S	**Sn**	**13 05 46.9**	**-2.0**
BZMR	**Bezymyannaya**	**3.47**	**281**	**S**	**Sn**	**13 05 51.8**	**+2.0**
BZWR	**Bezymyannyi-We**	**3.47**	**281**	**P**	**Pn**	**13 05 10.7**	**+1.6**
BZWR				S	**Sn**	**13 05 51.1**	**+1.3**
KRSR	**Krestovskiy**	**3.47**	**286**	**P**	**Pn**	**13 05 10.3**	**+1.3**
KRSR				S	**Sn**	**13 05 51.0**	**+1.3**
KIRR	**Kirishev**	**3.56**	**281**	**P**	**Pn**	**13 05 11.4**	**+1.1**
KIRR				S	**Sn**	**13 05 52.5**	**+0.6**
KMNR	**Kamenistaya**	**3.60**	**278**	**P**	**Pn**	**13 05 12.4**	**+1.6**
KMNR				S	**Sn**	**13 05 53.9**	**+1.0**
KPT	**Kopyto**	**3.62**	**281**	**P**	**Pn**	**13 05 12.8**	**+1.6**
KPT				S	**Sn**	**13 05 54.8**	**+1.3**
TUMR	**Tumrok**	**3.66**	**270**	**P**	**Pn**	**13 05 13.3**	**+1.6**
TUMR				S	**Sn**	**13 05 55.1**	**+0.6**
KOZR	**Kozyr**	**3.82**	**282**	**PN**	**Pn**	**13 05 15.7**	**+2.0**
KOZR				S	**Sn**	**13 06 00.2**	**+2.0**
KOZ	**Kozyrevsk**	**3.83**	**282**	**P**	**Pn**	**13 05 15.7**	**+1.8**
KOZ				S	**Sn**	**13 06 00.2**	**+1.7**
SRDR	**Sredinnyy**	**3.95**	**286**	**P**	**Pn**	**13 05 17.0**	**+1.3**
SRDR				S	**Sn**	**13 06 02.1**	**+0.5**
ESO	**Esso**	**4.47**	**280**	PN	Pn	13 05 25.2	+2.4
ESO				S	**Sn**	**13 06 16.6**	**+2.2**
ESO	**Esso**	**4.47**	**280**	**P**	Pn	13 05 25.2	+2.4
ESO				S	**Sn**	**13 06 16.6**	**+2.2**
FX1	**Attu Island--F**	**4.65**	**121**	Pn	**Pn**	**13 05 25.3**	**+0.2**
	4.0nm,0.3s,baz=304,slow=17,SNR=6.5						
FX1				Sn	**Sn**	**13 06 19.2**	**+0.6**
	4.0nm,0.3s,baz=71,slow=22,SNR=10						
NLC	**Nalytchevo**	**4.79**	**245**	**S**	**Sn**	**13 06 20.3**	**-1.7**
SDLR	**Sedlovina**	**4.98**	**248**	**P**	**Pn**	**13 05 31.3**	**+1.5**
SDLR				S	**Sn**	**13 06 26.7**	**-0.2**
SMAR	**Somma**	**5.03**	**248**	**P**	**Pn**	**13 05 31.8**	**+1.3**
SMAR				S	**Sn**	**13 06 27.7**	**-0.6**
KRER	**Koryakskii**	**5.04**	**248**	**P**	**Pn**	**13 05 32.4**	**+1.8**
KRER				S	**Sn**	**13 06 28.8**	**+0.4**
UGLR	**Uglovaya**	**5.04**	**247**	**P**	**Pn**	**13 05 32.3**	**+1.7**
UGLR				S	**Sn**	**13 06 28.9**	**+0.4**
AVH	**Avacha**	**5.06**	**248**	**P**	Pn	13 05 32.8	+1.9
AVH				S	**Sn**	**13 06 29.9**	**+1.0**
KRX	**Arik**	**5.06**	**249**	**P**	**Pn**	**13 05 32.4**	**+1.4**
KRX				S	**Sn**	**13 06 28.7**	**-0.3**
KOK	**Koryaka**	**5.10**	**248**	**P**	**Pn**	**13 05 33.0**	**+1.6**
KOK				S	**Sn**	**13 06 30.6**	**+0.7**
PET	**Petropavlovsk**	**5.22**	**246**	*e*PN	Pn	13 05 35.0	+2.0
PET	**Petropavlovsk**	**5.22**	**246**	P	**Pn**	**13 05 34.6**	**+1.6**
PET				S	**Sn**	**13 06 32.2**	**-0.5**
GNL	**Ganaly**	**5.30**	**254**	P	Pn	13 05 36.2	+2.0
GNL				S	**Sn**	**13 06 35.6**	**+0.7**
RUS	**Russkaya**	**5.62**	**241**	PN	**Pn**	**13 05 39.3**	**+0.9**
RUS	**Russkaya**	**5.62**	**241**	P	**Pn**	**13 05 39.3**	**+0.9**
RUS				S	**Sn**	**13 06 40.9**	**-1.6**
PETK	**Petropavlovsk-**	**5.69**	**250**	PN	**Pn**	**13 05 41.2**	**+1.8**
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PETK	**Petropavlovsk-**	**5.69**	**250**	Pn	**Pn**	**13 05 41.2**	**+1.8**
	comp=Z,2.8nm,0.3s,baz=78,slow=15,SNR=101						
PETK				Sn	**Sn**	**13 06 42.0**	**-2.2**
	comp=Z,0.8nm,0.3s,baz=99,slow=19,SNR=4.0						
MTVR	**Mutnovka**	**5.75**	**243**	P	**Pn**	**13 05 42.0**	**+1.5**
MTVR				S	**Sn**	**13 06 44.3**	**-1.8**
ASAK	**Asacha**	**5.96**	**243**	P	Pn	13 05 45.3	+2.2
ASAK				S	**Sn**	**13 06 51.4**	**+0.5**
APC	**Apacha**	**6.06**	**249**	P	Pn	13 05 46.9	+2.4
APC				S	**Sn**	**13 06 54.6**	**+1.2**
ILAR	**Eielson Array**	**24.45**	**49**	P	**P**	**13 09 35.0**	**+1.8**
	comp=Z,2.3nm,1.0s,baz=260,slow=8.4,SNR=18						
INK	**Inuvik**	**29.66**	**41**	P	**P**	**13 10 22.2**	**+2.2**
	comp=Z,2.5nm,1.1s,baz=307,slow=5.1,SNR=3.3						
KSRS	**Korea Array**	**31.58**	**252**	P	**P**	**13 10 36.0**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=122,slow=38,SNR=9.1						
SPITS	**Spitsbergen Ar**	**45.41**	**352**	P	**P**	**13 12 32.3**	**-0.5**
	comp=Z,6.8nm,0.9s,baz=219,slow=5.2,SNR=1.7						
KURK	**Kurchatov**	**49.66**	**304**	P	**P**	**13 13 06.4**	**+0.3**
KURK						13 14 26.2	
KURBB	**Kurchatov Arra**	**49.77**	**304**	**P**	**P**	**13 13 06.4**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=50,slow=6.9,SNR=4.5						
KURBB				PcP	**PcP**	**13 14 26.2**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=64,slow=6.4,SNR=6.8						
MKAR	**Makanchi Array**	**50.50**	**298**	**P**	**P**	**13 13 11.2**	**-1.3**
MKAR	**Makanchi Array**	**50.50**	**298**	**P**	**P**	**13 13 11.2**	**-1.3**
	comp=Z,0.1nm,0.4s,baz=65,slow=8.4,SNR=3.0						
TXAR	**Lajitas Array**	**66.27**	**73**	P	P	13 15 06.0	+3.0
	comp=Z,1.7nm,0.6s,baz=298,slow=4.5,SNR=12						
QSPA	**South Pole Qui**	**145.18**	**180**	PKPbc	**PKPbc**	**13 23 50.4**	**0.0**
	comp=Z,0.8nm,0.9s,baz=28,slow=1.9,SNR=4.1						

IDC 04 13:08:58.9±4.9, 0.69N×101.82E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/23, mbtmp3.5/4, Error ellipse: s-maj=273.0km s-min=23.0km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**37.90**	**125**	P	P	13 16 17.0	-1.2
	0.5nm,0.9s,baz=304,slow=8.8,SNR=4.7						
ASAR	**Alice Springs**	**39.47**	**130**	P	P	13 16 32.0	+0.7
	0.2nm,0.5s,baz=298,slow=7.8,SNR=7.8						
MKAR	**Makanchi Array**	**48.99**	**342**	P	P	13 17 47.0	-0.3
	0.4nm,0.4s,baz=155,slow=8.9,SNR=13						
ZALV	**Zalesovo Beam**	**54.91**	**348**	P	P	13 18 31.4	+0.1
	0.4nm,0.3s,baz=164,slow=7.0,SNR=3.8						

IDC 04 13:12:35.8±7.6, 6.17S×150.36E, h100km±52km, mb3.1/3, mb1 3.2/4, mb1mx3.0/18, mbtmp3.1/4, MS2.8/1, Ms1 2.8/1, ms1mx2.7/15, Error ellipse: s-maj=93.6km s-min=51.2km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.52**	**224**	P	Pn	13 13 42.9	+0.8
	1.5nm,0.3s,baz=47,slow=5.1,SNR=6.4						
PMG				S	Sn	13 14 33.5	0.0
	0.9nm,0.3s,baz=330,slow=20,SNR=2.1						
PMG				LR	LR	13 15 28.1	
	comp=Z,96nm,18.6s,baz=69,slow=38						
WRA	**Warramunga Arr**	**20.73**	**227**	P	P	13 17 08.1	-0.4
	0.6nm,0.6s,baz=51,slow=10,SNR=6.4						
ASAR	**Alice Springs**	**23.52**	**221**	P	P	13 17 36.8	-0.3
	0.8nm,0.7s,baz=53,slow=8.9,SNR=14						
FITZ	**Fitzroy Crossi**	**26.88**	**242**	P	P	13 18 08.8	+1.4
	1.0nm,0.6s,baz=60,slow=8.1,SNR=4.1						
TORD	**Torodi Ar. Bea**	**148.36**	**285**	PKPbc	PKPdf	13 32 08.9	+0.9
	0.3nm,0.7s,baz=80,slow=3.4,SNR=3.7						
TORD				PKPab	PKPab	13 32 15.7	+0.6
	0.6nm,0.7s,baz=75,slow=3.0,SNR=4.4						

*ISCJB **04** 13:24:52.5±0.5, 0.85S±0.04×99.75E±0.05, h90km±5km, mb3.9/11, Error ellipse: s-maj=9.8km s-min=4.6km az=139.3*
*IDC **04** 13:24:53.3±0.9, 0.76S×100.02E, h75km±5km, mb3.7/11, mb1 3.8/12, mb1mx3.6/25, mbtmp3.7/12, MS3.9/2, Ms1 3.9/2, ms1mx3.3/41, Error ellipse: s-maj=36.5km s-min=12.1km az=62.0*
*DJA **04** 13:24:54.2±0.3, 1.1S±3.1×100.0E±.1, h50km±7km, M4.3/15, mb4.3/2, MLv4.3/15*

ISC 04 13:24:52.9±0.6, 0.82S±0.05×99.75E±0.05, h77km±5km, n35, σ1°32/47, mb4.0/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**0.72**	**98**	P	**Pn**	**13 25 08.8**	**+0.2**
PDSI				S	**Sn**	**13 25 19.5**	**-0.7**
PPI	**Padang Panjang**	**0.74**	**61**	P	**Pn**	**13 25 09.3**	**+0.5**
PPI				S	**Sn**	**13 25 19.3**	**-1.2**
MNSI	**Mandailing Nat**	**1.61**	**354**	P	**Pn**	**13 25 20.8**	**+1.2**
SDSI	**Sungai Dareh**	**1.68**	**94**	P	**Pn**	**13 25 23.4**	**+2.9**
SDSI				S	**Sn**	**13 25 41.9**	**+0.4**
BKNI	**Bangkinang**	**1.72**	**49**	P	**Pn**	**13 25 22.7**	**+1.7**
BKNI				S	**Sn**	**13 25 43.7**	**+1.4**
RGRI	**Rengat**	**2.63**	**80**	P	**Pn**	**13 25 35.2**	**+2.0**
RGRI				S	**Sn**	**13 26 04.4**	**+0.3**
GSI	**Gunungsitoli**	**3.02**	**314**	P	**Pn**	**13 25 40.2**	**+1.6**
GSI				S	**Sn**	**13 26 14.8**	**+1.0**
MASI	**Maura Aman, Be**	**3.40**	**133**	P	**Pn**	**13 25 45.9**	**+2.2**
PSI	**Prapat**	**3.69**	**347**	P	**Pn**	**13 25 47.4**	**-0.3**
	8.7nm,0.3s,baz=183,slow=17,SNR=17						
KSI	**Kapahiang**	**4.00**	**135**	P	Pn	13 25 55.3	+3.3
KSI				S	**Sn**	**13 26 38.0**	**+0.3**
FRIM	**Kepong**	**4.44**	**25**	P	**Pn**	**13 25 58.8**	**+0.9**
KGM	**Kluang**	**4.54**	**52**	P	Pn	13 26 02.7	+3.4
SNSI	**Sinabang, Aceh**	**4.69**	**313**	P	**Pn**	**13 26 03.2**	**+2.0**
KCSI	**Kotacane, Aceh**	**4.74**	**335**	P	**Pn**	**13 26 02.8**	**+0.8**
MNAI	**Manna**	**4.76**	**138**	P	**Pn**	**13 26 03.2**	**+0.9**
MNAI				S	**Sn**	**13 26 55.5**	**-0.7**
MYKOM	**Kota Tinggi**	**4.85**	**58**	P	**Pn**	**13 26 05.9**	**+2.4**
MYKOM	**Kota Tinggi**	**4.85**	**58**	P	**Pn**	**13 26 04.4**	**+0.9**
IPM	**Ipoh**	**5.41**	**14**	P	**Pn**	**13 26 12.8**	**+1.6**
IPM	**Ipoh**	**5.41**	**14**	P	**Pn**	**13 26 13.3**	**+2.1**
	18nm,1.1s,0.1nm						
MDSI	**Maura Dua**	**5.73**	**130**	P	**Pn**	**13 26 16.9**	**+1.4**
MDSI				S	**Sn**	**13 27 21.0**	**+1.0**
KULM	**Kulim**	**6.13**	**8**	P	**Pn**	**13 26 22.6**	**+1.7**
BATI	**Baumata**	**25.54**	**112**	LR	LR	13 41 48.9	
	comp=Z,233nm,21.5s,baz=67,slow=40						
FITZ	**Fitzroy Crossi**	**30.69**	**126**	P	**P**	**13 30 58.4**	**-2.3**
	1.2nm,0.8s,baz=316,slow=9.7,SNR=3.3						
WRA	**Warramunga Arr**	**38.81**	**122**	P	**P**	**13 32 08.7**	**-2.0**
	1.3nm,0.4s,baz=303,slow=8.9,SNR=19						
WRA				PcP	**PcP**	**13 34 20.6**	**-0.2**
	0.2nm,0.4s,baz=315,slow=2.5,SNR=3.2						
ASAR	**Alice Springs**	**40.16**	**127**	P	**P**	**13 32 20.3**	**-1.6**
	0.5nm,0.3s,baz=301,slow=7.3,SNR=53						
ASAR				pP	**pP**	**13 32 40.4**	**0.0**
	0.7nm,0.8s,baz=299,slow=8.2,SNR=3.5						
ASAR				PcP	**PcP**	**13 34 25.1**	**+0.1**
	0.5nm,0.6s,baz=308,slow=2.7,SNR=5.7						
JNU	**Nakatsue**	**44.72**	**38**	P	**P**	**13 32 58.4**	**-0.3**
	4.9nm,0.9s,baz=213,slow=2.9,SNR=3.1						
KSRS	**Korea Array**	**46.14**	**31**	P	**P**	**13 33 08.2**	**-1.6**
	0.9nm,0.6s,baz=225,slow=8.1,SNR=6.6						
SONM	**Songino Array**	**48.80**	**6**	P	**P**	**13 33 30.6**	**+0.2**
	0.6nm,0.6s,baz=201,slow=7.7,SNR=3.0						
MKAR	**Makanchi Array**	**49.83**	**344**	P	**P**	**13 33 38.7**	**+0.5**
	0.8nm,0.3s,baz=156,slow=8.5,SNR=34						
MKAR				pP	**pP**	**13 33 58.0**	**+0.6**
	0.4nm,0.3s,baz=156,slow=8.7,SNR=4.6						
MKAR				sP	**sP**	**13 34 06.7**	**+0.7**
	0.5nm,0.4s,baz=144,slow=7.6,SNR=3.4						
STKA	**Stephens Creek**	**50.12**	**132**	P	**P**	**13 33 40.5**	**-0.2**
	1.3nm,0.5s,baz=311,slow=8.6,SNR=12						
ZALV	**Zalesovo Beam**	**55.97**	**349**	P	**P**	**13 34 23.1**	**-0.1**
	1.0nm,0.5s,baz=157,slow=8.0,SNR=5.9						
ZALV				pP	**pP**	**13 34 42.2**	**-0.4**
	0.9nm,0.4s,baz=148,slow=7.4,SNR=3.5						
ZALV				sP	**sP**	**13 34 50.8**	**-0.4**
	1.6nm,0.7s,baz=188,slow=6.5,SNR=3.5						
MAW	**Mawson**	**71.36**	**194**	LR	LR	14 01 27.2	
	comp=Z,125nm,20.8s,baz=351,slow=31						
VNDA	**Vanda**	**83.36**	**169**	P	**P**	**13 37 12.8**	**+1.7**
	0.4nm,0.6s,baz=306,slow=5.2,SNR=3.8						
ARCES	**ARCESS Array B**	**85.28**	**340**	P	**P**	**13 37 21.3**	**+0.3**
	1.3nm,0.9s,baz=92,slow=3.6,SNR=6.0						
ARCES				pP	**pP**	**13 37 41.3**	**-0.5**
	2.4nm,1.1s,baz=90,slow=4.2,SNR=2.0						
TXAR	**Lajitas Array**	**143.91**	**36**	PKP	PKPbc	13 44 17.9	-0.4
	0.9nm,0.5s,baz=270,slow=0.9,SNR=15						

CRAAG 04 13:36:02.5, 36.58N×1.34E, MI2.7, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EBNR	**Beni Rached**	**0.33**	**151**	P	Pg	13 36 06.1	-2.8
ECHA	**Ech Chlef**	**0.43**	**177**	P	Pg	13 36 08.4	-2.3
EANR	**'Ain N'Sour**	**0.66**	**197**	P	Pg	13 36 11.0	-4.2

IDC 04 13:38:39.5±69.0, 23.61S×176.18W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/17, mbtmp3.8/3, MS3.2/1, Ms1 3.2/1, ms1mx2.9/35, Error ellipse: s-maj=1278.0km s-min=169.1km az=88.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**10.51**	**24**	LR	LR	13 43 56.1	
	comp=Z,119nm,19.9s,baz=199,slow=30						
STKA	**Stephens Creek**	**38.08**	**248**	P	P	13 46 00.3	+0.2
	1.6nm,0.9s,baz=112,slow=11,SNR=2.5						
ASAR	**Alice Springs**	**45.53**	**259**	P	P	13 47 00.9	-0.4
	0.2nm,0.3s,baz=104,slow=7.7,SNR=22						
WRA	**Warramunga Arr**	**45.92**	**265**	P	P	13 47 04.1	-0.2
	0.6nm,0.4s,baz=104,slow=8.3,SNR=19						

IDC 04 13:39:09.6±4.2, 46.23N×27.79W, h0km, mb3.5/1, mb1 3.4/2, mb1mx3.1/31, mbtmp3.3/2, ML4.3/1, MS3.8/1, Ms1 3.8/1, ms1mx2.9/42, Error ellipse: s-maj=128.9km s-min=63.0km az=30.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**18.59**	**102**	P	P	13 43 28.2	0.0
	0.2nm,0.3s,baz=298,slow=12,SNR=4.1						
INK	**Inuvik**	**53.26**	**333**	LR	LR	14 10 35.7	
	comp=Z,90nm,18.3s,baz=132,slow=35						
MKAR	**Makanchi Array**	**68.95**	**44**	P	P	13 50 16.3	0.0
	0.4nm,0.6s,baz=316,slow=4.0,SNR=3.9						
ASAR	**Alice Springs**	**153.08**	**40**	PKPbc	PKPbc	13 59 09.1	-0.1
	0.3nm,0.9s,baz=347,slow=1.0,SNR=4.2						

*ISCJB **04** 13:42:06.6±0.3, 41.87N±0.01×19.10E±0.02, h7km±2km, Error ellipse: s-maj=2.5km s-min=2.1km az=22.9*
*CSEM **04** 13:42:06.8±0.1, 41.86N×19.13E, h2km, ML3.1/3, Error ellipse: s-maj=2.3km s-min=2.0km az=133.0*
*BEO **04** 13:42:06.4±0.6, 41.82N×19.19E, h0km±2km, ML3.0/1*
*ROM **04** 13:42:06.5±0.1, 41.87N×19.17E, h10km, Ml3.2/24, Error ellipse: s-maj=2.9km s-min=1.8km az=107.0*
*TIR **04** 13:42:06.0±2.6, 41.93N×19.13E, h13km±89km, ML3.5*
*THE **04** 13:42:07.2, 41.87N×19.12E, h0km±2km, ML3.1/3, Error ellipse: s-maj=2.2km s-min=0.9km az=278.0*
*PDG **04** 13:42:07.1±0.5, 41.88N×19.14E, h12km, MD3.2/7, ML3.2/11, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*
*SKO **04** 13:42:09.1, 41.92N×19.23E, h6km, M2.5, ML3.0*

ISC 04 13:42:07.5±0.9, 41.87N±0.02×19.13E±0.02, h9km±6km, n182, σ0°97/251, 16C-27D, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ULC	**Ulcinj**	**0.12**	**42**	*i*P*i*Pg	**Pg**	**13 42 10.4**	**+0.1**
ULC				*e*Sg	**Sg**	**13 42 12.4**	**+0.1**
ULC	**Ulcinj**	**0.12**	**42**	*i*P*i*Pg	**Pg**	**13 42 10.4**	**+0.1**
ULC				*e*Sg	**Sg**	**13 42 12.4**	**+0.1**
DRME	**Dracevica, Mon**	**0.32**	**7**	*i*P*i*Pg	**Pg**	**13 42 13.5**	**-0.3**
DRME				*e*Sg	**Sg**	**13 42 18.2**	**+0.2**
DRME	**Dracevica, Mon**	**0.32**	**7**	*i*P*i*Pg	**Pg**	**13 42 13.5**	**-0.3**
DRME				*e*Sg	**Sg**	**13 42 18.2**	**+0.2**
BUM	**Brajici-Budva**	**0.46**	**338**	*i*P*i*Pg	**Pg**	**13 42 16.4**	**-0.1**
BUM				*e*Sg	**Sg**	**13 42 23.5**	**+0.9**
BUM	**Brajici-Budva**	**0.46**	**338**	*i*P*i*Pg	**Pg**	**13 42 16.4**	**-0.1**
BUM				*e*Sg	**Sg**	**13 42 23.5**	**+0.9**
PDG	**Podgorica**	**0.56**	**9**	P	**Pg**	**13 42 17.4**	**-1.0**
PDG				S	**Sg**	**13 42 26.8**	**+1.0**
PDG	**Podgorica**	**0.56**	**9**	Pn	**Pg**	**13 42 17.4**	**-1.0**
PDG				Sn	**Sg**	**13 42 25.8**	**-0.1**
	561nm,0.4s						
PDG	**Podgorica**	**0.56**	**9**	*i*P*i*Pg	**Pg**	**13 42 17.4**	**-1.0**
PDG				*e*Sg	**Sg**	**13 42 25.7**	**-0.1**
PDG	**Podgorica**	**0.56**	**9**	Pn	**Pg**	**13 42 17.4**	**-1.0**
PDG				*e*Sg	**Sg**	**13 42 25.7**	**-0.1**
PDG				S	**Sg**	**13 42 26.8**	**+1.0**
TTG	**Podgorica**	**0.56**	**9**	*i*P*i*Pg	**Pg**	**13 42 17.4**	**-1.0**
TTG				*e*Sg	**Sg**	**13 42 25.8**	**-0.1**
PUK	**Puka**	**0.59**	**73**	*e*PG	**Pg**	**13 42 17.9**	**-1.1**
PUK				*e*SG	**Sg**	**13 42 25.6**	**-1.1**
PUK	**Puka**	**0.59**	**73**	*e*Pg	**Pg**	**13 42 17.9**	**-1.1**
	SNR=102						
PUK				*e*Sg	**Sg**	**13 42 25.6**	**-1.1**
	SNR=102						
HCY	**Herceg Novi**	**0.75**	**321**	*i*P*i*Pg	**Pg**	**13 42 21.1**	**-0.7**
HCY				*e*Sg	**Sb**	**13 42 32.7**	**-0.3**
HCY	**Herceg Novi**	**0.75**	**321**	*i*P*i*Pg	**Pg**	**13 42 21.1**	**-0.7**
HCY				*e*Sg	**Sb**	**13 42 32.7**	**-0.3**
TIR	**Tirane**	**0.76**	**133**	*e*PG	**Pb**	**13 42 22.6**	**-0.2**
TIR				*e*SG	**Sn**	**13 42 36.8**	**+0.8**
TIR	**Tirane**	**0.76**	**133**	P	**Pg**	**13 42 21.6**	**-0.5**
TIR	**Tirane**	**0.76**	**133**	*e*Pg	**Pb**	**13 42 22.6**	**-0.2**
	SNR=97						
TIR				S	**Sb**	**13 42 32.7**	**-0.6**
TIR				*e*Sg	**Sn**	**13 42 36.8**	**+0.8**
	SNR=97						
TIR	**Tirane**	**0.76**	**133**	Pn	**Pg**	**13 42 21.4**	**-0.7**
	467nm,0.3s						
TIR	**Tirane**	**0.76**	**133**	P	**Pg**	**13 42 21.6**	**-0.5**
TIR	**Tirane**	**0.76**	**133**	*e*Pg	**Pb**	**13 42 22.6**	**-0.2**
	SNR=97						
TIR				S	**Sb**	**13 42 32.7**	**-0.6**
TIR				*e*Sg	**Sn**	**13 42 36.8**	**+0.8**
	SNR=97						
BCI	**Bajram Curri**	**0.85**	**54**	*e*PG	**Pg**	**13 42 22.1**	**-1.8**
BCI				*e*SG	**Sg**	**13 42 35.3**	**+0.3**
BCI	**Bajram Curri**	**0.85**	**54**	*e*Pg	**Pg**	**13 42 22.1**	**-1.8**
	SNR=97						
BCI				*e*Sg	**Sg**	**13 42 35.3**	**+0.3**
	SNR=97						
NKME	**Niksic**	**0.90**	**352**	*i*P*i*Pg	**Pg**	**13 42 23.6**	**-1.3**
NKME				*e*Sg	**Sb**	**13 42 38.0**	**+0.4**
NKME	**Niksic**	**0.90**	**352**	*i*P*i*Pg	**Pg**	**13 42 23.6**	**-1.3**
NKME				*e*Sg	**Sb**	**13 42 38.0**	**+0.4**
NKY	**Niksic**	**0.95**	**354**	*i*P*i*Pg	**Pg**	**13 42 24.4**	**-1.3**
NKY				*e*Sg	**Sb**	**13 42 39.0**	**+0.1**
NKY	**Niksic**	**0.95**	**354**	*i*P*i*Pg	**Pg**	**13 42 24.4**	**-1.3**
NKY				*e*Sg	**Sb**	**13 42 39.0**	**+0.1**
PVY	**Plav**	**0.95**	**40**	*i*P*i*Pg	**Pg**	**13 42 24.3**	**-1.4**
PVY				*e*Sg	**Sb**	**13 42 39.6**	**+0.7**
PVY	**Plav**	**0.95**	**40**	*i*P*i*Pg	**Pg**	**13 42 24.3**	**-1.4**
PVY				*e*Sg	**Sb**	**13 42 39.6**	**+0.7**
PHP	**Peshkopia**	**1.00**	**100**	*e*PG	**Pg**	**13 42 25.1**	**-1.5**
PHP				*e*SG	**Sb**	**13 42 40.7**	**+0.5**
PHP	**Peshkopia**	**1.00**	**100**	P	**Pg**	**13 42 25.4**	**-1.2**
PHP	**Peshkopia**	**1.00**	**100**	*e*Pg	**Pb**	**13 42 25.1**	**-1.5**
	SNR=95						
PHP				S	**Sb**	**13 42 40.8**	**+0.6**
	SNR=95						
PHP	**Peshkopia**	**1.00**	**100**	P	**Pg**	**13 42 25.4**	**-1.2**
PHP				*e*Sg	**Sb**	**13 42 40.7**	**+0.5**
	SNR=95						
**TREB

MRVN	Minervino Murg comp=E,74nm,0.5s	2.35	251		Pn	Pn	13 42 45.8	-0.5
MRVN	Minervino Murg comp=E,74nm,0.5s	2.35	251		Pn	Pn	13 42 45.8	-0.5
MIGL	Miglionico	2.39	239		Pn	Pn	13 42 46.9	0.0
MIGL	Miglionico	2.39	239		Pn	Pn	13 42 46.9	0.0
MSAG	Monte S. Angel	2.42	267		Pn	Pn	13 42 46.9	-0.4
MSAG	Monte S. Angel	2.42	267		Pn	Pn	13 42 46.9	-0.4
IGT	Igoumenitsa	2.51	158		P	Pn	13 42 48.5	0.0
IGT					S	Sn	13 43 20.7	+1.5
IGT	Igoumenitsa	2.51	158		P	Pn	13 42 48.5	0.0
IGT					S	Sn	13 43 20.7	+1.5
TRUS	Trudelj	2.53	21	*e*	Pn	Pn	13 42 48.0	-0.8
TRUS	Trudelj	2.53	21	*e*	Pn	Pn	13 42 48.0	-0.8
KZN	Kozani	2.53	127	*e*	P	Pn	13 42 50.0	+1.1
SGRT	San Giovanni R	2.54	268		Pn	Pn	13 42 48.3	-0.6
SGRT	San Giovanni R	2.54	268		Pn	Pn	13 42 48.3	-0.6
PALZ	Palazzo San Ge	2.56	250		Pn	Pn	13 42 49.3	+0.1
PALZ	Palazzo San Ge	2.56	250		Pn	Pn	13 42 49.3	+0.1
JAN	Janina	2.57	149	*e*	P	Pn	13 42 49.1	-0.2
GRG	Griva	2.62	109	*e*	P	Pn	13 42 50.8	+0.7
ACER	Acerenza	2.63	247		Pn	Pn	13 42 50.1	-0.2
ACER	Acerenza	2.63	247		Pn	Pn	13 42 50.1	-0.2
VAY	Valandovo	2.64	101	*e*	Sn	Sn	13 43 21.1	-1.2
VAY	Valandovo	2.64	101	*e*	Pn	Pb	13 42 52.8	-2.0
VAY					*e*	Sn	13 43 22.6	+0.3
VAY	comp=E,33nm,0.6s				*e*	Lg	13 43 22.8	
VAY	comp=N,40nm,0.6s				*e*	Lg	Lg	13 43 22.9
VAY	Valandovo	2.64	101	*e*	Sn	Sn	13 43 21.1	-1.2
BOLS	Boljevac	2.85	46	*e*	Pn	Pn	13 42 52.4	-0.8
BOLS	Boljevac	2.85	46	*e*	Pn	Pn	13 42 52.4	-0.8
SALB	San Lorenzo Be comp=N,45nm,0.4s	2.90	228		Pn	Pn	13 42 53.3	-0.7
SALB	San Lorenzo Be comp=N,45nm,0.4s	2.90	228		Pn	Pn	13 42 53.3	-0.7
ZAPS	Zavoj	2.94	60	*e*	Sn	Sn	13 43 30.7	+0.8
ZAPS	Zavoj	2.94	60	*e*	Sn	Sn	13 43 30.7	+0.8
MRLC	Muro Lucano	2.96	249		Pn	Pn	13 42 54.3	-0.4
MRLC	Muro Lucano	2.96	249		Pn	Pn	13 42 54.3	-0.4
SIRI	Monte Sirino -	2.99	237		Pn	Pn	13 42 55.3	+0.1
SIRI	Monte Sirino -	2.99	237		Pn	Pn	13 42 55.3	+0.1
LIT	Litokhoron	3.10	124	*e*	P	Pn	13 42 56.9	+0.3
MMN	Mormanno comp=N,19nm,0.4s	3.10	231		Pn	Pn	13 42 57.7	+1.2
MMN	Mormanno comp=N,19nm,0.4s	3.10	231		Pn	Pn	13 42 57.7	+1.2
VTS	Vitosha	3.11	75	*e*	Sn	Sn	13 43 34.4	+0.1
VTS	Vitosha	3.11	75	||| *e*	P	Pn	13 42 58.2	+1.3
VTS	Vitosha	3.11	75	*e*	Sn	Sn	13 43 34.4	+0.1
CUC	Castrocucco comp=N,60nm,0.7s	3.14	234		Pn	Pn	13 42 57.2	+0.1
CUC	Castrocucco comp=N,60nm,0.7s	3.14	234		Pn	Pn	13 42 57.2	+0.1
MCRV	Calabrutti - M comp=N,45nm,0.3s	3.18	251		Pn	Pn	13 42 57.0	-0.8
MCRV	Calabrutti - M comp=N,45nm,0.3s	3.18	251		Pn	Pn	13 42 57.0	-0.8
CDRU	Civita di Ruta comp=N,22nm,0.3s	3.20	246		Pn	Pn	13 42 57.4	-0.7
CDRU	Civita di Ruta comp=N,22nm,0.3s	3.20	246		Pn	Pn	13 42 57.4	-0.7
MGR	Morigerati comp=N,38nm,0.6s	3.21	239		Pn	Pn	13 42 58.5	+0.3
MGR	Morigerati comp=N,38nm,0.6s	3.21	239		Pn	Pn	13 42 58.5	+0.3
CMPR	Campora	3.28	243		Pn	Pn	13 42 58.6	-0.6
CMPR	Campora	3.28	243		Pn	Pn	13 42 58.6	-0.6
FGSL	Fruska Gora	3.32	8	*e*	Pn	Pn	13 42 59.4	-0.3
FRGS	Fruska Gora	3.32	8	*e*	Pn	Pn	13 42 59.4	-0.3
SERS	Sersale	3.39	214		Pn	Pn	13 42 59.3	-1.4
SERS	Sersale	3.39	214		Pn	Pn	13 42 59.3	-1.4
PTRJ	Pietraroja comp=N,79nm,0.6s	3.49	263		Pn	Pn	13 43 02.6	+0.6
PTRJ	Pietraroja comp=N,79nm,0.6s	3.49	263		Pn	Pn	13 43 02.6	+0.6
NVR	Nevrokopi	3.58	97	*e*	P	Pn	13 43 04.5	+1.2
PLG	Polygyros	3.58	113	*e*	P	Pn	13 43 04.4	+1.1
SGG	Gregorio Mates comp=N,40nm,0.4s	3.60	264		Pn	Pn	13 43 04.3	+0.8
SGG	Gregorio Mates comp=N,40nm,0.4s	3.60	264		Pn	Pn	13 43 04.3	+0.8
UDBI	Udbina	3.62	318	*e*	Pn	Pn	13 43 05.5	+1.6
UDBI						Sn	Sn	13 43 47.9	+1.2
LPEL	Lama dei Pelig comp=N,38nm,0.2s	3.69	274		Pn	Pn	13 43 05.9	+1.1
LPEL	Lama dei Pelig comp=N,38nm,0.2s	3.69	274		Pn	Pn	13 43 05.9	+1.1
AGG	Agios Georgios	3.75	138	*e*	P	Pn	13 43 06.4	+0.8
CERA	Filignano comp=N,41nm,0.5s	3.84	268		Pn	Pn	13 43 08.6	+1.8
CERA	Filignano comp=N,41nm,0.5s	3.84	268		Pn	Pn	13 43 08.6	+1.8
NVLJ	Novalja	4.12	312	*e*	Pn	Pn	13 43 10.7	+0.2
NVLJ						Sn	Sn	13 43 56.9	-1.9
BZS	Buzias	4.15	25	||| *i*	Pn	Pn	13 43 10.8	-0.3
BZS	Buzias	4.15	25	||| *i*	P	Pn	13 43 11.2	+0.1
BZS	Buzias	4.15	25	||| *i*	P	Pn	13 43 11.4	+0.3
BZS	Buzias	4.15	25	||| *i*	Pn	Pn	13 43 10.8	-0.3
TERO	Teramo comp=N,34nm,0.7s	4.17	282		Pn	Pn	13 43 11.8	+0.4
TERO	Teramo comp=N,34nm,0.7s	4.17	282		Pn	Pn	13 43 11.8	+0.4
GZR	Gura Zlata	4.40	36	↑	*i*	P	Pn	13 43 15.8	+1.2
FIAM	Fiamignano comp=N,24nm,0.5s	4.50	277		Pn	Pn	13 43 17.3	+1.4
FIAM	Fiamignano comp=N,24nm,0.5s	4.50	277		Pn	Pn	13 43 17.3	+1.4
LNSS	Leonessa comp=N,38nm,0.5s	4.58	281		Pn	Pn	13 43 18.1	+1.0
LNSS	Leonessa comp=N,38nm,0.5s	4.58	281		Pn	Pn	13 43 18.1	+1.0
BOJS	Bojanci	4.59	324	*i*	Pn	Pn	13 43 18.0	+0.9
BOJS				*i*	Sn	Sn	13 44 10.5	-0.1
FDMO	Fiordimonte comp=N,19nm,0.8s	4.62	287		Pn	Pn	13 43 18.0	+0.5
FDMO	Fiordimonte comp=N,19nm,0.8s	4.62	287		Pn	Pn	13 43 18.0	+0.5
SIRR	Siria	4.76	22	↑	*i*	P	Pn	13 43 19.2	-0.2
VISS	Visnje	5.01	323	*i*	Pn	Pn	13 43 24.0	+1.2
VISS					*i*	Sn	Sn	13 44 20.1	-0.7
FSSB	Fossombrone comp=N,59nm,0.4s	5.02	293		Pn	Pn	13 43 22.9	-0.1
FSSB	Fossombrone comp=N,59nm,0.4s	5.02	293		Pn	Pn	13 43 22.9	-0.1
PIEI	Pieia comp=N,11nm,0.3s	5.14	291		Pn	Pn	13 43 24.8	+0.2
PIEI	Pieia comp=N,11nm,0.3s	5.14	291		Pn	Pn	13 43 24.8	+0.2
SKDS	Skadanscina	5.22	316	*i*	Pn	Pn	13 43 25.4	-0.3
SKDS					*i*	Sn	Sn	13 44 23.9	-2.2
ARR	Arges	5.31	47	||| *i*	P	Pn	13 43 29.2	+2.2
JAVS	Javornik	5.44	319	*i*	Pn	Pn	13 43 29.1	+0.3
JAVS					*i*	Sn	Sn	13 44 29.5	-2.0
DRGR		5.55	26	↑	*i*	P	Pn	13 43 30.8	+0.5
VOIR		5.58	48	||| *i*	P	Pn	13 43 32.9	+2.2
VOY	Vojsko	5.62	319	*e*	Pn	Pn	13 43 31.8	+0.5
VOY					*e*	Sn	Sn	13 44 35.1	-0.9
SOKA	Soboth SNR=4.6	5.63	330	*i*	Pn	Pn	13 43 32.1	+0.6
PSZ	Piszkesteto	6.07	5	↑	*i*	P	Pn	13 43 31.4	-6.1
MLR	Muntele Rosu	6.12	51	↑	*i*	P	Pn	13 43 40.7	+2.5
PLOR	Plostina	6.73	51	||| *i*	P	Pn	13 43 49.4	+2.9
VRI	Vrincioaia	6.79	51	↑	*i*	P	Pn	13 43 50.1	+2.9
BURAR	Bucovina Array	7.19	35	↑	*i*	P	Pn	13 43 54.3	+1.4
STHS	Stebnicka Huta	7.69	10	*e*	PN	P	Pn	13 44 02.0	+2.4

MAN 04 13:42:31,13.46N×120.17E,h38km,mb4.1,ML2.9,MS2.7, 1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
TGY	Tagaytay City	0.98	49	||| *i*	P	Pn	13 42 49.4	+1.0
SJMP	San Jose	1.36	137	*e*	P	Pn	13 42 55.4	+1.9
SJMP				*e*	S	Sn	13 43 11.6	+1.4
BUSP	Coron	1.45	179	*e*	P	Pn	13 42 56.2	+1.5
BUSP				*e*	S	Sn	13 43 14.3	+1.9
ENPP	El Nido	2.35	198	*e*	P	Pn	13 43 08.5	+1.3
CUYO	Cuyo Island	2.72	162	*e*	P	Pn	13 43 13.7	+1.5

*CSEM **04** 13:42:44.8,38.93N×20.20E,h4km,MD2.8,After ATH*
ATH 04 13:42:44.9,38.92N×20.19E,h3km,MD2.8/5,Greece

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
VLS	Valsamata	0.81	157	*e*	PB	Pg	13 43 00.4	0.0
VLS				*e*	SG	Sb	13 43 11.9	-1.0
VLS	Valsamata	0.81	157	*e*	Pg	Pg	13 43 00.4	0.0
VLS				*e*	Sg	Sb	13 43 11.9	-1.0
RLS	Riolos of Patr	1.32	130	*e*	PB	Pg	13 43 10.1	-0.1
RLS				*e*	SB	Sn	13 43 28.0	-0.3
RLS	Riolos of Patr	1.32	130	*e*	Pn	Pg	13 43 10.1	-0.1
RLS				*e*	Sb	Sn	13 43 28.0	-0.3
LAKA	Lakka	1.56	115	*e*	PG	Pn	13 43 13.8	+0.2
LAKA	Lakka	1.56	115	*e*	Pb	Pn	13 43 13.8	+0.2
KALE	Kalithea	1.61	108	*e*	PG	Pn	13 43 14.7	+0.3
KALE	Kalithea	1.61	108	*e*	Pg	Pn	13 43 14.7	+0.3
KLV	Kalavryta, Ach	1.77	119	*e*	PB	Pb	13 43 17.8	-0.3
KLV	Kalavryta, Ach	1.77	119	*e*	Pb	Pb	13 43 17.8	-0.3
AMT	Artemida-Makis	1.83	139	*e*	PB	Pb	13 43 19.4	+0.3
AMT	Artemida-Makis	1.83	139	*e*	Pb	Pb	13 43 19.4	+0.3

*CSEM **04** 13:49:02.9±6.0,45.20N×27.26W,h10km,mb3.9/4,Error ellipse: s-maj=171.1km s-min=42.3km az=82.0*
*ISCJB **04** 13:49:03.7±1.1,46.0N±0.1×27.3W±0.1,h13km,mb3.7/10, MS3.6/1,Error ellipse: s-maj=21.8km s-min=12.9km az=25.3*
*IDC **04** 13:49:03.8±1.1,46.37N×27.42W,h0km,mb3.6/5, mb1 3.8/6,mb1mx3.5/32,mbtmp3.6/6,MS3.6/1,Ms1 3.6/1, ms1mx2.8/53,Error ellipse: s-maj=40.7km s-min=23.0km az=19.0*
ISC 04 13:49:05.2±1.1,46.2N±0.2×27.4W±0.1,h13km,n50, σ1§55/44,mb4.0/10,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PGAV	Gavieira, Arco 25nm,2.0s	14.37	100	*e*	P	Pn	13 52 27.1	-1.2
PGAV	Gavieira, Arco 25nm,2.0s	14.37	100	*e*	P	Pn	13 52 27.1	-1.2
PCAB	Cabril 27nm,2.0s	14.64	101	*e*	P	Pn	13 52 30.9	-1.0
PCAB	Cabril 27nm,2.0s	14.64	101	*e*	P	Pn	13 52 30.9	-1.0
PMAFR	Mafra 92nm,1.3s	15.15	112	*e*	P	Pn	13 52 36.1	-2.7
PMAFR	Mafra 92nm,1.3s	15.15	112	*e*	P	Pn	13 52 36.1	-2.7
PVIS	Viseu 14nm,1.7s	15.16	104	*e*	P	Pn	13 52 37.6	-1.4
PVIS	Viseu 14nm,1.7s	15.16	104	*e*	P	Pn	13 52 37.6	-1.4
PBRG	Braganca 14nm,1.7s	15.48	99	*e*	P	Pn	13 52 42.2	-0.9
PBRG	Braganca 14nm,1.7s	15.48	99	*e*	P	Pn	13 52 42.2	-0.9
MVO	Moncorvo 13nm,1.4s	15.55	102	*e*	P	Pn	13 52 42.5	-1.6
MVO	Moncorvo 13nm,1.4s	15.55	102	*e*	P	Pn	13 52 42.5	-1.6
PMTG	Montargil 20nm,2.0s	15.77	110	*e*	P	Pn	13 52 45.6	-1.3
PMTG	Montargil 20nm,2.0s	15.77	110	*e*	P	Pn	13 52 45.6	-1.3
EVOP	Sao Brissos 2.8nm,0.6s	16.14	111	*e*	P	Pn	13 52 49.9	-1.7
EVO	Evora 5.6nm,0.6s	16.21	111	*e*	P	Pn	13 52 49.9	-2.6
ESDC	Sonseca Array 0.8nm,0.3s,baz=300,slow=13,SNR=9.8	18.31	102		P	P	13 53 20.5	+1.5
SJPF	Ste Jean 10nm,0.9s	18.84	90	*e*	P	Pn	13 53 26.8	+1.6
SJPF	Ste Jean 5.2nm,0.9s	18.84	90	*e*	P	Pn	13 53 26.8	+1.6
ETSF	Etsaut 5.0nm,0.5s	19.37	90	*e*	P	Pn	13 53 31.9	+0.2
TCF	Toulx Ste Croi 16nm,1.0s	20.43	79	*e*	P	P	13 53 42.3	+0.3
TCF	Toulx Ste Croi 7.9nm,1.0s	20.43	79	*e*	P	P	13 53 42.3	+0.3
CAF	Calvia 8.0nm,1.0s	20.62	83	*e*	P	P	13 53 44.8	+0.8
CAF	Calviac 4.0nm,1.0s	20.62	83	*e*	P	P	13 53 44.8	+0.8
AVF	Avril sur Loir 29nm,1.4s	21.12	77	*e*	P	P	13 53 49.5	+0.1
AVF	Avril sur Loir 14nm,1.4s	21.12	77	*e*	P	P	13 53 49.5	+0.1
MTLF	Montolieu 33nm,1.7s	21.16	87	*e*	P	P	13 53 52.0	+2.1
LOR	Lormes 18nm,1.2s	21.38	76	*e*	P	P	13 53 53.6	+1.3
LOR	Lormes 8.8nm,1.2s	21.38	76	*e*	P	P	13 53 53.6	+1.3
SMF	Signal de Mont 24nm,1.3s	21.47	77	*e*	P	P	13 53 51.8	-1.4
SMF	Signal de Mont 12nm,1.3s	21.47	77	*e*	P	P	13 53 51.8	-1.4
MDT	Midelt 1.1nm,0.8s,baz=311,slow=8.7,SNR=4.1	21.97	119		P	P	13 54 01.5	+2.7
PAGF	Fort de Pagny 3.2nm,1.0s	22.46	72	*e*	P	P	13 54 02.8	-1.0
PAGF	Fort de Pagny 1.6nm,1.0s	22.46	72	*e*	P	P	13 54 02.8	-1.0
HAU	Haudompre	22.94	73	*e*	P	P	13 54 09.3	+0.4
HAU	Haudompre	22.94	73	*e*	P	P	13 54 09.3	+0.4
SBF	Sospel	24.61	83	*e*	P	P	13 54 25.7	+0.6
SBF	Sospel	24.61	83	*e*	P	P	13 54 25.7	+0.6
SADO	Sadowa comp=Z,98nm,20.3s,baz=262,slow=37	35.79	287		LR	LR	14 10 57.9	
TORD	Torodi Ar. Bea 0.8nm,0.8s,baz=336,slow=7.8,SNR=5.0	41.06	134		P	P	13 56 49.4	+1.0
BRTR	Keskin Array B 0.7nm,0.8s,baz=318,slow=7.8,SNR=3.3	44.16	76		P	P	13 57 14.6	+0.9
H10N2	ASCENSION HYDR baz=350,slow=0.7,SNR=5.1	54.99	164		T	T	14 57 57.3	
H10N3	ASCENSION HYDR baz=350,slow=0.7,SNR=5.5	55.00	164		T	T	14 57 55.1	
H10N1	ASCENSION HYDR baz=350,slow=0.7,SNR=4.8	55.01	164		T	T	14 57 52.5	
H10S1	ASCENSION HYDR baz=351,slow=0.7,SNR=26	56.05	165		T	T	14 59 11.1	
H10S3	ASCENSION HYDR baz=351,slow=0.7,SNR=32	56.05	165		T	T	14 59 13.4	
H10S2	ASCENSION HYDR baz=351,slow=0.7,SNR=23	56.06	165		T	T	14 59 12.4	
TXAR	Lajitas Array 1.0nm,0.9s,baz=62,slow=6.6,SNR=8.9	60.37	283		P	P	13 59 14.8	+0.8
MKAR	Makanchi Array 0.9nm,0.8s,baz=323,slow=6.0,SNR=7.5	68.79	44		P	P	14 00 08.5	-0.3
ASAR	Alice Springs 0.5nm,0.8s,baz=1.4,slow=3.0,SNR=5.0	152.93	40		PKPbc	PKPbc	14 09 01.7	-0.5
ASAR					PKPab	PKPab	14 09 08.6	-4.7
	0.5nm,0.8s,baz=352,slow=2.4,SNR=4.1							

IDC 04 13:49:47.5±2.4,1.77N×127.15E,h0km,mb3.1/3, mb1 3.3/3,mb1mx3.2/20,mbtmp3.1/3,Error ellipse: s-maj=200.7km s-min=26.9km az=66.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
WRA	Warramunga Arr 0.2nm,0.4s,baz=341,slow=11,SNR=7.5	22.70	162		P	P	13 54 50.0	-1.1
ASAR	Alice Springs 0.1nm,0.4s,baz=344,slow=11,SNR=3.9	26.12	166		P	P	13 55 24.3	+0.8
MKAR	Makanchi Array 0.2nm,0.5s,baz=119,slow=6.8,SNR=4.2	59.40	326		P	P	13 59 51.8	-0.1

*ISCJB **04** 14:00:46.8±0.6,46.30N±0.09×27.34W±0.08,h16km, mb4.1/27,MS3.8/13,Error ellipse: s-maj=12.7km s-min=7.4km az=17.9*
*IDC **04** 14:00:46.2±0.7,46.52N×27.33W,h0km,mb3.9/11, mb1 4.0/12,mb1mx3.8/32,mbtmp3.9/12,ML4.8/1,MS3.8/14, Ms1 3.8/14,ms1mx3.5/49,Error ellipse: s-maj=24.7km s-min=17.3km az=28.0*
*CSEM **04** 14:00:47.5±0.2,46.46N×27.44W,h10km,mb4.3/16,Error ellipse: s-maj=8.8km s-min=5.1km az=7.0*
*NEIC **04** 14:00:47.6±0.3,46.46N×27.43W,h10km,mb4.5/25,Error ellipse: s-maj=9.0km s-min=5.1km az=185.0*
ISC 04 14:00:48.6±0.6,46.4N±0.1×27.3W±0.09,h16km,n182, σ1§11/170,mb4.1/27,MS3.8/13,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PGAV	Gavieira, Arco 37nm,0.7s	14.38	101	*e*	P	Pn	14 04 09.2	-2.3
PCAB	Cabril 37nm,2.0s	14.65	102	*e*	P	Pn	14 04 12.7	-2.4
POLO	Lamas de Olo 12nm,1.4s	14.95	103	*e*	P	Pn	14 04 16.4	-2.9
PVIS	Viseu 25nm,1.9s	15.19	105	*e*	P	Pn	14 04 20.3	-2.1
PMAFR	Mafra 96nm,1.3s	15.20	113	*e*	P	Pn	14 04 19.4	-3.1
PBRG	Braganca 17nm,1.7s	15.48	100	*e*	P	Pn	14 04 24.0	-2.3
MVO	Moncorvo 21nm,1.2s	15.56	102	*e*	P	Pn	14 04 24.6	-2.7
PMTG	Montargil 25nm,1.7s	15.82	111	*e*	P	Pn	14 04 27.2	-3.3
EVOP	Sao Brissos 17nm,1.0s	16.19	112	*e*	P	Pn	14 04 32.0	-3.3
EVOP	Sao Brissos 8.4nm,1.0s	16.19	112	*e*	P	Pn	14 04 32.0	-3.3
EVO	Evora 17nm,1.0s	16.26	112	*e*	P	Pn	14 04 32.0	-4.2
EVO	241nm,19.5s				*e*	R		
ROSF	Rostrenen 20nm,1.3s	16.41	74	*e*	P	Pn	14 04 36.3	-1.7
ROSF	Rostrenen 20nm,1.3s	16.41	74	*e*	P	Pn	14 04 36.3	-1.7
ROSF	Rostrenen 10nm,1.3s	16.41	74	*e*	P	Pn	14 04 36.3	-1.7
SGMF	Saint Gilles 59nm,1.4s	16.89	75	*e*	P	Pn	14 04 43.4	-0.7
SGMF	Saint Gilles 59nm,1.4s	16.89	75	*e*	P	Pn	14 04 43.4	-0.7
SGMF	Saint Gilles 30nm,1.4s	16.89	75	*e*	P	Pn	14 04 43.4	-0.7
PAB	San Pablo 17nm,0.7s	18.13	104	*e*	P	Pn	14 04 59.7	0.0
PAB	San Pablo 17nm,0.7s	18.13	104	*e*	P	Pn	14 04 59.7	0.0
FLN	La Foliniere 230nm,21.0s	18.24	73	*e*	P R	Pn	14 05 00.9	0.0
FLN	La Foliniere	18.24	73	*e*	P	Pn	14 05 00.9	0.0
FLN	La Foliniere	18.24	73	*e*	P	Pn	14 05 00.9	0.0
ESDC	Sonseca Array	18.32	103		P	Pn	14 05 03.2	+1.2
ESDC	Sonseca Array	18.32	103		P	Pn	14 05 03.2	+1.2
ESDC	Sonseca Array 0.7nm,0.3s,baz=299,slow=13,SNR=21	18.32	103		P	Pn	14 05 03.2	+1.2
ESDC	comp=Z,207nm,18.6s,baz=300,slow=32				LR	LR	14 10 36.7	
ESLA	Sonseca Array	18.32	103	*e*	P	Pn	14 05 03.0	+0.9
ESLA	Sonseca Array	18.32	103	*e*	P	Pn	14 05 03.0	+0.9
MFF	Saint Martin d 31nm,1.3s	18.69	79	*e*	P	Pn	14 05 07.1	+0.7
MFF	Saint Martin d 31nm,1.3s	18.69	79	*e*	P	Pn	14 05 07.1	+0.7
MFF	Saint Martin d 15nm,1.3s	18.69	79	*e*	P	Pn	14 05 07.1	+0.7
SJPF	Ste Jean 6.8nm,0.7s	18.80	91	*e*	P	Pn	14 05 08.1	+0.3
SJPF	Ste Jean 6.8nm,0.7s	18.80	91	*e*	P	Pn	14 05 08.1	+0.3
SJPF	Ste Jean 3.4nm,0.7s	18.80	91	*e*	P	Pn	14 05 08.1	+0.3
ETSF	Etsaut 12nm,0.6s	19.34	91	*e*	P	Pn	14 05 14.8	+0.5
ETSF	Etsaut 12nm,0.6s	19.34	91	*e*	P	Pn	14 05 14.8	+0.5
ETSF	Etsaut 5.8nm,0.6s	19.34	91	*e*	P	Pn	14 05 14.8	+0.5
LFF	La Frestale	19.64	84	*e*	P	P	14 05 16.9	+0.5
LFF	La Frestale	19.64	84	*e*	P	P	14 05 16.9	+0.5
LFF	La Frestale	19.64	84	*e*	P	P	14 05 16.9	+0.5
EPF	Esparros	19.91	90	*e*	P	Pn	14 05 20.9	-0.3
EPF	Esparros	19.91	90	*e*	P	Pn	14 05 20.9	-0.3
EPF	Esparros	19.91	90	*e*	P	Pn	14 05 20.9	-0.3
TCF	Toulx Ste Croi 30nm,1.1s	20.35	80	*e*	P	P	14 05 24.6	+0.4
TCF	Toulx Ste Croi 30nm,1.1s	20.35	80	*e*	P	P	14 05 24.6	+0.4
TCF	Toulx Ste Croi 15nm,1.1s	20.35	80	*e*	P	P	14 05 24.6	+0.4
CAF	Calviac 11nm,0.9s	20.55	83	*e*	P	P	14 05 27.0	+0.6
CAF	Calviac 11nm,0.9s	20.55	83	*e*	P	P	14 05 27.0	+0.6
CAF	Calviac 5.4nm,0.9s	20.55	83	*e*	P	P	14 05 27.0	+0.6
AVF	Avril sur Loir 16nm,1.0s	21.04	78	*e*	P	P	14 05 32.3	+0.8
AVF	Avril sur Loir 16nm,1.0s	21.04	78	*e*	P	P	14 05 32.3	+0.8
AVF	Avril sur Loir 8.2nm,1.0s	21.04	78	*e*	P	P	14 05 32.3	+0.8
SSF	Saint Saulge 28nm,1.1s	21.09	77	*e*	P	P	14 05 32.9	+0.7
SSF	Saint Saulge 28nm,1.1s	21.09	77	*e*	P	P	14 05 32.9	+0.7
SSF	Saint Saulge 14nm,1.1s	21.09	77	*e*	P	P	14 05 32.9	+0.7
MTLF	Montolieu 21nm,1.3s	21.11	88	*e*	P	P	14 05 33.7	+1.3
MTLF	Montolieu 21nm,1.3s	21.11	88	*e*	P	P	14 05 33.7	+1.3
MTLF	Montolieu 11nm,1.3s	21.11	88	*e*	P	P	14 05 33.7	+1.3
BAIF	Baives 34nm,1.4s	21.25	69	*e*	P	P	14 05 34.1	+0.3
BAIF	Baives 34nm,1.4s	21.25	69	*e*	P	P	14 05 34.1	+0.3
BAIF	Baives 17nm,1.4s	21.25	69	*e*	P	P	14 05 34.1	+0.3
LOR	Lormes 21nm,1.2s	21.30	76	*e*	P	P	14 05 35.1	+0.7
LOR	185nm,22.5s				*e*	R		
LOR	Lormes 21nm,1.2s	21.30	76	*e*	P	P	14 05 35.1	+0.7
LOR	Lormes 11nm,1.2s	21.30	76	*e*	P	P	14 05 35.1	+0.7
SMF	Signal de Mont 20nm,1.2s	21.39	78	*e*	P	P	14 05 36.0	+0.6
SMF	Signal de Mont 20nm,1.2s	21.39	78	*e*	P	P	14 05 36.0	+0.6
SMF	Signal de Mont 10nm,1.2s	21.39	78	*e*	P	P	14 05 36.0	+0.6
GIVF	Givet	21.64	68	*e*	P	P	14 05 38.3	+0.3
GIVF	Givet	21.64	68	*e*	P	P	14 05 38.3

ORIF	**Oris-en-Rattie**	**23.18**	**82**	*eP*		**P**	**14 05 55.3**	**+0.8**
	14nm,1.1s							
ORIF	**Oris-en-Rattie**	**23.18**	**82**	*eP*		**P**	**14 05 55.3**	**+0.8**
	6.8nm,1.1s							
HINF	**Hinteralfeld**	**23.21**	**74**	*eP*		**P**	**14 05 55.2**	**+0.5**
HINF	**Hinteralfeld**	**23.21**	**74**	*eP*		**P**	**14 05 55.2**	**+0.5**
HINF	**Hinteralfeld**	**23.21**	**74**	*eP*		**P**	**14 05 55.2**	**+0.5**
SMRF	**Simiane la Rot**	**23.23**	**84**	*eP*		**P**	**14 05 56.6**	**+1.6**
	16nm,1.2s							
SMRF	**Simiane la Rot**	**23.23**	**84**	*eP*		**P**	**14 05 56.6**	**+1.6**
	16nm,1.2s							
SMRF	**Simiane la Rot**	**23.23**	**84**	*eP*		**P**	**14 05 56.6**	**+1.6**
	8.1nm,1.2s							
CDF	**Champ du Feu**	**23.40**	**72**	*eP*		**P**	**14 05 56.8**	**+0.1**
CDF	**Champ du Feu**	**23.40**	**72**	*eP*		**P**	**14 05 56.8**	**+0.1**
CDF	**Champ du Feu**	**23.40**	**72**	*eP*		**P**	**14 05 56.8**	**+0.1**
MBDF	**Montbardon**	**23.84**	**82**	*eP*		**P**	**14 06 02.1**	**+1.1**
	34nm,1.6s							
MBDF	**Montbardon**	**23.84**	**82**	*eP*		**P**	**14 06 02.1**	**+1.1**
	34nm,1.6s							
MBDF	**Montbardon**	**23.84**	**82**	*eP*		**P**	**14 06 02.1**	**+1.1**
	17nm,1.6s							
SFJD	**Kangerlussuaq**	**23.99**	**338**	LR		LR	14 13 26.8	
	comp=Z,280nm,19.1s,baz=120,slow=32							
LMR	**La Mourre**	**24.08**	**85**	*eP*		**P**	**14 06 03.9**	**+0.8**
	50nm,1.2s							
LMR	**La Mourre**	**24.08**	**85**	*eP*		**P**	**14 06 03.9**	**+0.8**
	50nm,1.2s							
LMR	**La Mourre**	**24.08**	**85**	*eP*		**P**	**14 06 03.9**	**+0.8**
	25nm,1.2s							
FRF	**La Foret Royal**	**24.10**	**84**	*eP*		**P**	**14 06 04.1**	**+0.7**
FRF	**La Foret Royal**	**24.10**	**84**	*eP*		**P**	**14 06 04.1**	**+0.7**
FRF	**La Foret Royal**	**24.10**	**84**	*eP*		**P**	**14 06 04.1**	**+0.7**
SBF	**Sospel**	**24.55**	**83**	*eP*		**P**	**14 06 07.2**	**-0.3**
SBF	**Sospel**	**24.55**	**83**	*eP*		**P**	**14 06 07.2**	**-0.3**
SBF	**Sospel**	**24.55**	**83**	*eP*		**P**	**14 06 07.2**	**-0.3**
DAVOX	**Davos/Dischmat**	**25.43**	**75**	LR		LR	14 15 26.9	
	comp=Z,146nm,18.2s,baz=245,slow=35							
PGF	**Pioggiola**	**26.07**	**85**	*eP*		**P**	**14 06 20.9**	**-0.4**
	16nm,0.9s							
PGF	**Pioggiola**	**26.07**	**85**	*eP*		**P**	**14 06 20.9**	**-0.4**
	16nm,0.9s							
PGF	**Pioggiola**	**26.07**	**85**	*eP*		**P**	**14 06 20.9**	**-0.4**
	8.1nm,0.9s							
SCHQ	**Schefferville**	**26.14**	**303**	LR		LR	14 14 34.3	
	comp=Z,210nm,20.1s,baz=90,slow=32							
GERES	**GERESS Array B**	**27.54**	**70**	LR		LR	14 16 54.7	
	comp=Z,183nm,20.2s,baz=71,slow=35							
HFS	**Hagfors**	**27.60**	**45**	LR		LR	14 15 54.7	
	comp=Z,141nm,19.4s,baz=145,slow=33							
VRAC	**Vranov**	**29.32**	**68**	LR		LR	14 17 51.8	
	comp=Z,189nm,19.0s,baz=255,slow=35							
KEST	**Kesra**	**29.40**	**98**	LR		LR	14 17 39.7	
	comp=Z,77nm,18.1s,baz=33,slow=34							
AKASG	**Malin Array Be**	**36.91**	**62**	P		**P**	**14 07 55.2**	**-1.1**
AKASG	**Malin Array Be**	**36.91**	**62**	P		**P**	**14 07 55.2**	**-1.1**
AKASG	**Malin Array Be**	**36.91**	**62**	P		**P**	**14 07 55.2**	**-1.1**
	1.4nm,0.5s,baz=285,slow=8.5,SNR=5.5							
TOA0	**Torodi Ar. Sit**	**41.18**	**134**	*eP*		**P**	**14 08 32.9**	**+0.4**
TOA0	**Torodi Ar. Sit**	**41.18**	**134**	*eP*		**P**	**14 08 32.8**	**+0.4**
TORD	**Torodi Ar. Bea**	**41.18**	**134**	P		**P**	**14 08 31.7**	**-0.7**
TORD	**Torodi Ar. Bea**	**41.18**	**134**	P		**P**	**14 08 31.7**	**-0.7**
TORD	**Torodi Ar. Bea**	**41.18**	**134**	P		**P**	**14 08 31.7**	**-0.7**
	2.3nm,0.8s,baz=328,slow=8.1,SNR=15							
TORD				LR		LR	14 24 29.0	
	comp=Z,221nm,18.1s,baz=320,slow=34							
DBIC	**Dimbokro**	**44.07**	**147**	P		**P**	**14 08 57.0**	**+1.2**
	6.6nm,1.0s							
DBIC	**Dimbokro**	**44.07**	**147**	P		**P**	**14 08 57.0**	**+1.2**
	6.6nm,1.0s							
DBIC	**Dimbokro**	**44.07**	**147**	P		**P**	**14 08 57.5**	**+1.6**
	2.1nm,0.8s,baz=258,slow=2.3,SNR=3.7							
BRTR	**Keskin Array B**	**44.08**	**76**	P		**P**	**14 08 56.7**	**+0.8**
BRTR				PcP		**PcP**	**14 10 40.7**	**-0.3**
BRTR	**Keskin Array B**	**44.08**	**76**	P		**P**	**14 08 56.7**	**+0.8**
BRTR	**Keskin Array B**	**44.08**	**76**	PcP		**PcP**	**14 10 40.7**	**-0.3**
BRTR	**Keskin Array B**	**44.08**	**76**	P		**P**	**14 08 56.7**	**+0.8**
	1.1nm,0.8s,baz=316,slow=6.0,SNR=5.0							
BRTR				PcP		**PcP**	**14 10 40.7**	**-0.3**
	0.7nm,0.7s,baz=15,slow=5.1,SNR=3.6							
ULM	**Lac du Bonnet**	**44.27**	**301**	LR		LR	14 26 45.7	
	comp=Z,98nm,18.2s,baz=23,slow=35							
AKTO	**Aktyubinsk**	**53.79**	**52**	LR		LR	14 35 53.1	
	comp=Z,71nm,18.7s,baz=202,slow=39							
H10N2	**ASCENSION HYDR**	**55.19**	**164**	T		T	15 09 39.4	
	baz=351							
H10N3	**ASCENSION HYDR**	**55.20**	**164**	T		T	15 09 31.8	
	baz=351							
H10N1	**ASCENSION HYDR**	**55.21**	**164**	T		T	15 09 38.3	
	baz=351							
PDAR	**Pinedale Array**	**56.13**	**299**	P		**P**	**14 10 26.4**	**-1.0**
PDAR	**Pinedale Array**	**56.13**	**299**	P		**P**	**14 10 26.4**	**-1.0**
PDAR	**Pinedale Array**	**56.13**	**299**	P		**P**	**14 10 26.4**	**-1.0**
	0.7nm,0.8s,baz=56,slow=8.0,SNR=3.8							
PDAR				LR		LR	14 32 44.4	
	comp=Z,94nm,18.8s,baz=62,slow=34							
H10S1	**ASCENSION HYDR**	**56.25**	**165**	T		T	15 10 57.2	
	baz=345,slow=0.7							
H10S3	**ASCENSION HYDR**	**56.25**	**165**	T		T	15 10 53.3	
	baz=345,slow=0.7							
H10S2	**ASCENSION HYDR**	**56.26**	**165**	T		T	15 10 58.0	
	baz=345,slow=0.7							
MSTX	**Muleshoe**	**56.90**	**286**	*eP*		**P**	**14 10 32.8**	**-0.1**
MSTX	**Muleshoe**	**56.90**	**286**	*eP*		**P**	**14 10 32.8**	**-0.1**
ILAR	**Eielson Array**	**59.61**	**334**	P		**P**	**14 10 51.4**	**+0.1**
ILAR	**Eielson Array**	**59.61**	**334**	P		**P**	**14 10 51.3**	**+0.1**
ILAR	**Eielson Array**	**59.61**	**334**	P		**P**	**14 10 51.3**	**+0.1**
	0.3nm,0.7s,baz=36,slow=7.3,SNR=4.1							
TXAR	**Lajitas Array**	**60.35**	**283**	P		**P**	**14 10 57.5**	**+0.6**
TXAR	**Lajitas Array**	**60.35**	**283**	P		**P**	**14 10 57.5**	**+0.6**
TXAR	**Lajitas Array**	**60.35**	**283**	P		**P**	**14 10 57.5**	**+0.6**
	1.4nm,0.8s,baz=70,slow=6.7,SNR=11							
TXAR				LR		LR	14 36 17.8	
	comp=Z,160nm,18.4s,baz=5.0,slow=35							
BDFB	**Brasilia**	**64.50**	**202**	LR		LR	14 34 48.4	
	comp=Z,187nm,20.9s,baz=104,slow=32							
ZALV	**Zalesovo Beam**	**64.67**	**37**	P		**P**	**14 11 24.7**	**-0.5**
ZALV	**Zalesovo Beam**	**64.67**	**37**	P		**P**	**14 11 24.7**	**-0.5**
ZALV	**Zalesovo Beam**	**64.67**	**37**	P		**P**	**14 11 24.7**	**-0.5**
	0.3nm,0.4s,baz=303,slow=8.0,SNR=2.8							
EKS2	**Erkin-Say**	**67.11**	**52**	*eP*		**P**	**14 11 42.5**	**+1.1**
	6.9nm,0.9s							
EKS2				*e*			14 11 48.5	
EKS2	**Erkin-Say**	**67.11**	**52**	*eP*		**P**	**14 11 42.5**	**+1.1**
	6.9nm,0.9s							
MK31	**Makanchi Array**	**68.61**	**44**	*eP*		**P**	**14 11 50.5**	**-0.1**
MK31	**Makanchi Array**	**68.61**	**44**	*eP*		**P**	**14 11 50.5**	**-0.1**
MKAR	**Makanchi Array**	**68.61**	**44**	P		**P**	**14 11 50.6**	**0.0**
MKAR	**Makanchi Array**	**68.61**	**44**	P		**P**	**14 11 50.6**	**0.0**
MKAR	**Makanchi Array**	**68.61**	**44**	P		**P**	**14 11 50.6**	**0.0**
	3.0nm,0.7s,baz=331,slow=5.8,SNR=24							
KSH	**Kashi**	**70.48**	**53**	P		**P**	**14 12 04.3**	**+1.9**
KSH				pP		**pP**	**14 12 11.4**	**+3.8**
KSH				sP		sP	14 12 17.3	+7.8
KSH				AMB		AMB		
	comp=Z,8.0nm,1.0s							
SONM	**Songino Array**	**77.82**	**30**	P		**P**	**14 12 44.6**	**-0.5**
SONM	**Songino Array**	**77.82**	**30**	P		**P**	**14 12 44.6**	**-0.5**
SONM	**Songino Array**	**77.82**	**30**	P		**P**	**14 12 44.6**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=348,slow=6.7,SNR=4.7							
VNDA	**Vanda**	**148.56**	**184**	P		**PKPdf**	**14 20 28.9**	**-0.6**
VNDA				PKPbc		**PKPbc**	**14 20 34.0**	**+0.9**
VNDA	**Vanda**	**148.56**	**184**	P		**PKPdf**	**14 20 28.9**	**-0.6**
VNDA	**Vanda**	**148.56**	**184**	PKPbc		**PKPbc**	**14 20 34.0**	**+0.9**
	comp=Z,1.3nm,0.9s,baz=237,slow=3.1,SNR=7.7							
WRA	**Warramunga Arr**	**149.63**	**36**	PKPbc		**PKPbc**	**14 20 36.8**	**-0.7**
WRA	**Warramunga Arr**	**149.63**	**36**	PKPbc		**PKPbc**	**14 20 36.8**	**-0.7**
WRA	**Warramunga Arr**	**149.63**	**36**	PKPbc		**PKPbc**	**14 20 36.8**	**-0.7**
	comp=Z,2.7nm,1.0s,baz=330,slow=3.3,SNR=8.7							
ASAR	**Alice Springs**	**152.75**	**40**	PKPbc		**PKPbc**	**14 20 43.4**	**-1.3**
ASAR	**Alice Springs**	**152.75**	**40**	PKPbc		**PKPbc**	**14 20 43.4**	**-1.3**
ASAR	**Alice Springs**	**152.75**	**40**	PKPbc		**PKPbc**	**14 20 43.4**	**-1.3**
	comp=Z,1.6nm,0.8s,baz=342,slow=2.0,SNR=25							

IDC 04 14:01:23.9±2.2**,14°66S**×**174°05W,h0**km**,mb3.9**/6,**
mb1 4.3/6**,mb1mx4.0**/18**,mbtmp3.9**/6**,Error ellipse:
s-maj=155.4km s-min=24.3km az=153.0,Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.32**	**72**	Pn	Pn	14 01 56.0	-7.5
	7.2nm,0.3s,baz=53,slow=19,SNR=9.2						
AFI				Sn	Sn	14 02 19.6	-13
	17nm,0.3s,baz=80,slow=22,SNR=6.8						
H11S2	**WAKE ISLAND Hy**	**38.01**	**329**	T	T	14 50 28.7	
	baz=152,slow=0.7,SNR=23						
H11S3	**WAKE ISLAND Hy**	**38.02**	**329**	T	T	14 50 26.9	
	baz=152,slow=0.7,SNR=25						
H11S1	**WAKE ISLAND Hy**	**38.03**	**329**	T	T	14 50 23.5	
	baz=152,slow=0.7,SNR=31						
H11N3	**WAKE ISLAND Hy**	**38.96**	**331**	T	T	14 51 29.5	
	baz=152,slow=0.7,SNR=19						
H11N1	**WAKE ISLAND Hy**	**38.97**	**331**	T	T	14 51 30.0	
	baz=152,slow=0.7,SNR=18						
H11N2	**WAKE ISLAND Hy**	**38.98**	**331**	T	T	14 51 31.0	
	baz=152,slow=0.7,SNR=19						
WRA	**Warramunga Arr**	**49.41**	**256**	P	P	14 10 16.1	+0.1
	1.5nm,1.0s,baz=91,slow=7.0,SNR=4.7						
ASAR	**Alice Springs**	**49.75**	**251**	P	P	14 10 18.6	+0.1
	5.2nm,0.7s,baz=85,slow=8.0,SNR=98						
NVAR	**Mina Array Bea**	**74.20**	**42**	P	P	14 13 03.6	+0.6
	0.7nm,0.8s,baz=227,slow=9.3,SNR=3.8						
TXAR	**Lajitas Array**	**80.72**	**56**	P	P	14 13 39.1	-0.6
	0.5nm,1.0s,baz=206,slow=8.3,SNR=3.6						
PDAR	**Pinedale Array**	**82.14**	**42**	P	P	14 13 46.8	-0.2
	1.0nm,1.1s,baz=270,slow=8.1,SNR=2.8						
CMAR	**Chiang Mai Arr**	**91.79**	**288**	P	P	14 14 32.3	-2.1
	0.4nm,0.6s,baz=60,slow=2.5,SNR=3.8						
BRTR	**Keskin Array B**	**145.19**	**321**	PKPbc	PKPdf	14 21 04.7	+0.6
	1.0nm,0.9s,baz=95,slow=1.6,SNR=3.1						

*NIED **04** 14:02:00,24.˚60N×122.˚00E,h83**km**,Mw4.4 Best double couple: M**o**4.62000×10**15** NP1:**φ**s337.00000°,δ85.00000°, λ-54.00000°. NP2:**φ**s73.00000°,δ36.00000°, λ-172.00000°.*

*BJI **04** 14:02:09.8,24.˚67N×121.˚94E,h10**km**,mB4.8/9,mb4.3/25, ML4.4/7,Ms4.4/8,Ms7 4.1/9*

*ISCJB **04** 14:02:15.3±0.2,24.˚72N±0.˚02×122.˚05E±0.˚02,h76**km**±1**km**, mb4.1/35,Error ellipse: s-maj=2.9km s-min=2.2km az=153.7*

*NEIC **04** 14:02:15.7±0.5,24.˚67N×122.˚08E,h71**km**±5**km**,mb4.6/9, Error ellipse: s-maj=8.2km s-min=6.0km az=70.0*

NEIC Felt [II] at Taipei. Also felt at Hsin-tien and Tan-tzu-wo. Recorded [3 TAP] in I-lan; [2 TAP] in Hua-lien and T'ao-yuan; [1 TAP] in Nan-t'ou and T'ai-chung.

*TAP **04** 14:02:16.2,24.˚66N×122.˚03E,h65**km**,ML4.9,B*

*JMA **04** 14:02:16.1±0.3,24.˚58N×122.˚03E,h64**km**,M4.5*

*IDC **04** 14:02:17.7±0.8,24.˚74N×122.˚13E,h88**km**±7**km**,mb3.9/26, mb1 4.1/28,mb1mx4.0/36,mbtmp4.0/28,Error ellipse: s-maj=13.3km s-min=9.1km az=72.0*

ISC 04 14:02:16.5±0.5**,24°69N**±0.˚03×**122°04E**±0.˚02**,h76**km**±3**km**,**
n171,σ1**§44**/248**,mb4.2**/35**,9C-27D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.19**	**246**	⇓*iP*	**Pn**	**14 02 26.3**	**-1.5**
	baz=250						
ILA	**Ilan**	**0.27**	**287**	⇓*iP*	**Pn**	**14 02 27.2**	**-0.9**
	baz=296						
ILA				S	**Sn**	14 02 35.4	-1.3
	baz=296						
TWB1	**Santiao Chiao**	**0.33**	**352**	⇓*iP*	**Pn**	**14 02 27.2**	**-1.3**
	baz=351						
TWB1				S	**Sn**	**14 02 34.5**	**-2.8**
	baz=351						
TWE	**Neicheng**	**0.34**	**276**	⇓*iP*	**Pn**	**14 02 27.7**	**-0.9**
	baz=287						
TWE				*eS*	**Sn**	**14 02 35.5**	**-1.9**
	baz=287						
ENA	**Nanau**	**0.37**	**226**	⇓*iP*	**Pn**	**14 02 27.9**	**-0.9**
	baz=227						
ENA				*eS*	**Sn**	**14 02 36.5**	**-1.4**
	baz=227						
ENTT	**Nioudou**	**0.43**	**264**	⇓*iP*	**Pn**	**14 02 28.7**	**-0.6**
	baz=273						
NWF	**Wu-fen Shan**	**0.45**	**329**	⇓*iP*	**Pn**	**14 02 28.5**	**-1.1**
	baz=325						
NWF				*i* S	**Sn**	**14 02 37.0**	**-2.2**
	baz=325						
EHP	**Heping Village**	**0.46**	**216**	*eP*	**Pn**	**14 02 28.4**	**-1.1**
	baz=212						
EHP				S	**Sn**	**14 02 38.7**	**-0.5**
	baz=212						
TWA	**Mucha**	**0.51**	**306**	⇓*iP*	**Pn**	**14 02 29.0**	**-1.0**
	baz=316						
TWA				*i* S	**Sn**	**14 02 37.6**	**-2.2**
	baz=316						
TATO	**Taipei**	**0.58**	**300**	*ePg*	**Pn**	**14 02 29.2**	**-1.4**
TATO				*eSg*	**Sn**	**14 02 38.1**	**-2.9**
TAP1	**Taipei**	**0.58**	**307**	⇓P	**Pn**	**14 02 29.7**	**-1.0**
	baz=316						
TAP1				*eS*	**Sn**	**14 02 38.6**	**-2.5**
	baz=316						
TAP	**Taipei**	**0.60**	**306**	⇓P	**Pn**	**14 02 29.7**	**-1.1**
	baz=316						
TAP				*eS*	**Sn**	**14 02 38.9**	**-2.4**
	baz=316						
YHNB	**Yeheng**	**0.60**	**269**	*ePg*	**Pn**	**14 02 30.2**	**-0.7**
YHNB				*eSn*	**Sn**	**14 02 40.4**	**-1.2**
NSK	**Sanguang**	**0.62**	**269**	⇓*iP*	**Pn**	**14 02 30.5**	**-0.5**
	baz=271						
NSK				*eS*	**Sn**	**14 02 40.4**	**-1.5**
	baz=271						
NACB	**Ninganchiao**	**0.65**	**218**	*eP*	**Pn**	**14 02 29.5**	**-1.9**
NNS	**Nan Shan**	**0.65**	**248**	⇓*iP*	**Pn**	**14 02 30.9**	**-0.5**
	baz=242						
NNS				S	**Sn**	**14 02 41.5**	**-1.1**
	baz=242						
TWS1	**Kuangyinshan**	**0.70**	**307**	⇓*iP*	**Pn**	**14 02 31.2**	**-0.6**
	baz=312						
TWS1				*eS*	**Sn**	**14 02 41.6**	**-1.6**
	baz=312						
TWY	**Chenhua**	**0.71**	**326**	⇓P	**Pn**	**14 02 31.2**	**-0.7**
	baz=327						
TWY				*eS*	**Sn**	**14 02 41.6**	**-1.8**
	baz=327						
TWD	**Chiawan**	**0.72**	**214**	⇓P	**Pn**	**14 02 30.7**	**-1.4**
	baz=226						
TWD				*eS*	**Sn**	**14 02 41.8**	**-1.9**
	baz=226						
HWA	**Hwalien**	**0.81**	**209**	P	**Pn**	**14 02 32.3**	**-0.8**
	baz=199						
WHF	**Hehuan Shan**	**0.89**	**233**	⇓*iP*	**Pn**	**14 02 33.6**	**-0.7**
	baz=233						
WHF				*eS*	**Sn**	**14 02 45.8**	**-1.8**
	baz=233						
TWT	**Tachien**	**0.89**	**241**	⇓*iP*	**Pn**	**14 02 34.3**	**+0.1**
	baz=234						
TWT				*eS*	**Sn**	**14 02 46.8**	**-0.6**
	baz=234						
YOJ	**Yonaguni jima**	**0.92**	**104**	P	**Pn**	**14 02 33.2**	**-1.1**
YOJ				S	**Sn**	**14 02 45.6**	**-1.9**
YOJ	**Yonaguni jima**	**0.92**	**104**	⇓*iP*	**Pn**	**14 02 33.4**	**-0.9**
	baz=103						
YOJ				S	**Sn**	**14 02 46.0**	**-1.6**
	baz=103						
PCYT	**Pengchaiyu**	**0.94**	**2**	P	**Pn**	**14 02 34.4**	**-0.2**
	baz=2.0						
PCYT				*i* S	**Sn**	**14 02 47.8**	**-0.3**
	baz=2.0						
ESF	**Shoufeng Towns**	**0.94**	**211**	*eP*	**Pn**	**14 02 33.3**	**-1.3**
	baz=222						
NSTT	**Nanjuang**	**0.94**	**267**	⇑P	**Pn**	**14 02 34.4**	**-0.3**
	baz=267						
NSTT				*eS*	**Sn**	**14 02 46.9**	**-1.3**
	baz=267						
HSN	**Hsinchu**	**0.98**	**277**	⇓P	**Pn**	**14 02 34.5**	**-0.5**
	baz=280						
HSN				S	**Sn**	**14 02 47.8**	**-1.1**
	baz=280						
ESL	**Shilin**	**1.03**	**213**	⇓*iP*	**Pn**	**14 02 33.8**	**-1.8**
	baz=221						
TEGC	**Jichi Village**	**1.07**	**205**	*eP*	**Pn**	**14 02 35.5**	**-0.7**
	baz=204						
TEGC				*eS*	**Sn**	**14 02 50.1**	**-0.8**
	baz=204						
NSY	**Sanyi**	**1.19**	**257**	⇑*iP*	**Pn**	**14 02 38.0**	**+0.3**
	baz=257						
NSY				S	**Sn**	**14 02 53.6**	**0.0**
	baz=257						
TWQ1	**Liyutan**	**1.20**	**254**	⇑*iP*	**Pn**	**14 02 37.8**	**0.0**
	baz=254						
TWQ1				*eS*	**Sn**	**14 02 53.5**	**-0.3**
	baz=254						
SMLT	**Sun Moon Lake**	**1.31**	**233**	⇓*eP*	**Pn**	**14 02 39.5**	**+0.2**
	baz=232						
SMLT				*eS*	**Sn**	**14 02 57.2**	**+0.8**
	baz=232						
TYC	**Yuchr**	**1.33**	**234**	⇓*iP*	**Pn**	**14 02 39.8**	**+0.4**
	baz=227						
TYC				*eS*	**Sn**	**14 02 56.9**	**+0.3**
	baz=227						
SSLB	**Suanglung**	**1.33**	**228**	*ePn*	**Pn**	**14 02 38.7**	**-0.8**
EHY	**Hungye**	**1.34**	**209**	*eP*	**Pn**	**14 02 37.3**	**-2.3**
	baz=209						
TCU	**Taichung**	**1.35**	**247**	*eP*	**Pn**	**14 02 39.7**	**0.0**
	baz=246						
TCU				*eS*	**Sn**	**14 02 56.9**	**-0.3**
	baz=246						
YULB	**Yu-li**	**1.45**	**208**	*ePn*	**Pn**	**14 02 38.8**	**-2.3**
WNT	**Mingjian**	**1.47**	**237**	⇑P	**Pn**	**14 02 41.5**	**+0.2**
	baz=248						
WNT				*eS*	**Sn**	**14 03 00.1**	**+0.1**
	baz=248						
TWF1	**Yuli**	**1.49**	**207**	⇓*eP*	**Pn**	**14 02 39.5**	**-2.1**
	baz=207						
YUS	**Yu-Shan**	**1.55**	**220**	⇓*iP*	**Pn**	**14 02 42.7**	**-0.1**
	baz=209						
YUS				*eS*	**Sn**	**14 03 02.0**	**-0.6**
	baz=209						
IRIF	**Iriomote-Funau**	**1.58**	**102**	P	**Pn**	**14 02 41.9**	**-0.8**
IRIF				S	**Sn**	**14 03 01.4**	**-1.1**
ALS	**Alishan**	**1.62**	**224**	⇓*iP*	**Pn**	**14 02 44.1**	**+0.5**
	baz=235						
ALS				*eS*	**Sn**	**14 03 05.5**	**+1.5**
	baz=235						
CHN5	**Tsauling**	**1.65**	**229**	⇑P	**Pn**	**14 02 44.0**	**+0.4**
	baz=240						
CHN5				*eS*	**Sn**	**14 03 05.5**	**+1.3**
	baz=240						
WGK	**Gukeng**	**1.67**	**234**	⇓P	**Pn**	**14 02 44.6**	**+0.6**
	baz=245						
WGK				*eS*	**Sn**	**14 03 05.5**	**+0.8**
	baz=245						
CHKT	**Chengkung**	**1.69**	**201**	*eP*	**Pn**	**14 02 42.4**	**-1.8**
	baz=192						
CHKT				*eS*	**Sn**	**14 03 01.4**	**-3.8**
	baz=192						
HATJ	**Hateruma jima**	**1.73**	**111**	P	**Pn**	**14 02 44.1**	**-0.6**
HATJ				S	**Sn**	**14 03 06.3**	**+0.3**
ELDTW	**Lidau**	**1.76**	**212**	*eP*	**Pn**	**14 02 43.6**	**-1.6**
	baz=205						
WTCT	**Ta-ch'eng**	**1.80**	**243**	P	**Pn**	**14 02 45.2**	**-0.4**
	baz=242						
WTCT				S	**Sn**	**14 03 06.6**	**-1.1**
	baz=242						
JKRS	**Kuro-shima**	**1.85**	**104**	P	**Pn**	**14 02 46.1**	**-0.2**
JKRS				S	**Sn**	**14 03 08.3**	**-0.6**
TPUB	**Ta-pu**	**1.89**	**223**	*ePn*	**Pn**	**14 02 47.0**	**+0.2**
TPUB				*eSn*	**Sn**	**14 03 11.7**	**+1.9**
CHY	**Chiayi**	**1.89**	**232**	*eP*	**Pn**	**14 02 47.1**	**+0.3**
	baz=242						
WTP	**Ta-pu**	**1.94**	**223**	⇑P	**Pn**	**14 02 47.9**	**+0.4**
	baz=234						
WTP				*eS*	**Sn**	**14 03 12.4**	**+1.4**
	baz=234						
JIJ	**Ishigaki jima**	**1.94**	**99**	P	**Pn**	**14 02 46.7**	**-0.8**
WSF	**Szhu**	**1.96**	**238**	P	**Pn**	**14 02 47.4**	**-0.3**
	baz=236						
WSF				S	**Sn**	**14 03 11.1**	**-0.4**
	baz=236						
CHN1	**Nanshi**	**2.03**	**223**	⇑*eP*	**Pn**	**14 02 49.2**	**+0.4**
	baz=234						
CHN1				*eS*	**Sn**	**14 03 13.8**	**+0.5**
	baz=234						
TWG	**Pinlang**	**2.06**	**206**	*eP*	**Pn**	**14 02 46.6**	**-2.4**
	baz=198						
TWG	**Pinlang**	**2.06**	**206**	*ePn*	**Pn**	**14 02 46.7**	**-2.4**
SGST	**Jiashian**	**2.08**	**220**	⇑P	**Pn**	**14 02 50.1**	**+0.8**
	baz=231						
SGST				*eS*	**Sn**	**14 03 15.2**	**+0.8**
	baz=231						
CHN3	**Shinhua**	**2.21**	**224**	*eP*	**Pn**	**14 02 52.3**	**+1.2**
	baz=235						
SCLT	**Jiali**	**2.26**	**229**	*eP*	**Pn**	**14 02 51.5**	**-0.2**
	baz=227						
SCLT				*eS*	**Sn**	**14 03 18.8**	**+0.1**
	baz=227						
ECL	**Taimali**	**2.30**	**206**	*eP*	**Pn**	**14 02 51.0**	**-1.3**
	baz=200						
TAI1	**Yung-k'ang**	**2.33**	**226**	*eP*	**Pn**	**14 02 53.3**	**+0.6**
	baz=237						
TWM1	**Shoushan**	**2.37**	**219**	*eP*	**Pn**	**14 02 54.5**	**+1.2**
	baz=230						
SGLT	**Jiouru**	**2.41**	**216**	*eP*	**Pn**	**14 02 54.2**	**+0.4**
	baz=217						
JTJ	**Tarama**	**2.43**	**90**	P	**Pn**	**14 02 54.5**	**+0.5**
JTJ				S	**Sn**	**14 03 23.3**	**+0.6**
PNG	**Penghu**	**2.52**	**244**	*eP*	**Pn**	**14 02 53.0**	**-2.

XAN				LR	LR			
	comp=E,91nm,6.3s							
XAN				LR	LR			
	comp=Z,93nm,8.8s							
CD2	**Chengdu**	**17.31**	**295**	P	**P**	**14 06 16.2**	**+2.6**	
CD2				pP	Pn	14 06 19.8	+6.5	
CD2				sP	sP	14 06 23.2	-15	
CD2				PP	**pP**	**14 06 30.9**	**+2.1**	
CD2				S	**S**	**14 09 31.4**	**+1.9**	
CD2				sS	Sn	14 09 36.7	+11	
CD2				AMB	AMB			
	comp=Z,30nm,1.0s							
CD2				LR	LR			
	comp=Z,1µm,5.9s							
CBIJ	**Chichi jima**	**18.29**	**78**	P	**P**	**14 06 24.6**	**+0.3**	
JCJ	**Chichijima**	**18.29**	**78**	P	**P**	**14 06 24.6**	**+0.3**	
	6.4nm,0.3s,baz=282,slow=20,SNR=2.4							
HHC	**Hu-ho-hao-te**	**18.34**	**334**	*eP*	**P**	**14 06 21.3**	**-3.6**	
HHC				PP	**PnPn**	**14 06 36.9**	**-2.9**	
HHC				S	**S**	**14 09 43.8**	**-6.1**	
HHC				SS	**SnSn**	**14 10 07.7**	**+2.1**	
HHC				AMB	AMB			
	comp=Z,49nm,1.0s							
HHC				LR	LR			
	comp=N,540nm,10.9s							
HHC				LR	LR			
	comp=E,700nm,10.3s							
HHC				LR	LR			
	comp=Z,400nm,10.2s							
CN2	**Changchun**	**19.27**	**8**	*eP*	**Pn**	**14 06 36.0**	**-0.7**	
CN2				AMB	AMB			
	comp=Z,20nm,0.9s							
LZH	**Lanzhou**	**19.34**	**310**	*eP*	**Pn**	**14 06 39.8**	**+2.1**	
LZH				pP	pP	14 06 44.3	-7.0	
LZH				sP	sP	14 06 48.1	-13	
LZH				AMB	AMB			
	comp=Z,31nm,1.1s							
LZH				AMB	AMB			
	comp=Z,170nm,5.0s							
MDJ	**Mudanjiang**	**20.81**	**15**	P	Pn	14 06 53.2	-1.6	
MDJ				AMB	AMB			
	comp=Z,11nm,1.6s							
MDJ				AMB	AMB			
	comp=Z,79nm,4.6s							
USRK	**Ussuriysk Arra**	**21.10**	**20**	P	**P**	**14 06 56.0**	**+1.3**	
	2.0nm,0.7s,baz=224,slow=8.1,SNR=3.8							
CHTO	**Chiang Mai**	**22.22**	**259**	P	**P**	**14 07 08.2**	**+1.3**	
	15nm,1.0s							
CHTO				*e*		14 07 25.5		
CMAR	**Chiang Mai Arr**	**22.34**	**258**	P	**P**	**14 07 09.1**	**+0.9**	
CMAR				pP	**pP**	**14 07 27.2**	**+3.3**	
CMAR				PcP	**PcP**	**14 11 01.9**	**+0.8**	
CMAR	**Chiang Mai Arr**	**22.34**	**258**	P	**P**	**14 07 09.1**	**+0.9**	
	1.9nm,0.8s,baz=64,slow=8.4,SNR=13							
CMAR				pP	**pP**	**14 07 27.2**	**+3.3**	
	5.5nm,0.9s,baz=56,slow=8.2,SNR=11							
CMAR				PcP	**PcP**	**14 11 01.8**	**+0.8**	
	0.8nm,0.7s,baz=34,slow=1.6,SNR=8.9							
GTA	**Gaotai**	**23.79**	**313**	*eP*	**P**	**14 07 24.4**	**+2.0**	
GTA				pP	pP	14 07 29.0	-10	
GTA				sP	sP	14 07 32.2	-17	
GTA				AMB	AMB			
	comp=Z,5.0nm,0.9s							
ASAJ	**Asahikawa**	**25.63**	**36**	P	**P**	**14 07 37.8**	**-1.0**	
ASAJ	**Asahikawa**	**25.63**	**36**	P	**P**	**14 07 37.8**	**-1.0**	
	6.1nm,0.8s,baz=252,slow=6.4,SNR=6.6							
ULN	**Ulaanbaatar**	**26.00**	**337**	*eP*	**P**	**14 07 43.0**	**+0.6**	
	4.7nm,0.8s							
SONM	**Songino Array**	**26.22**	**336**	P	**P**	**14 07 45.1**	**+0.9**	
SONM				ScP	**ScP**	**14 14 40.0**	**-2.3**	
SONM	**Songino Array**	**26.22**	**336**	P	**P**	**14 07 45.1**	**+0.9**	
	7.2nm,1.0s,baz=149,slow=11,SNR=21							
SONM				ScP	**ScP**	**14 14 40.0**	**-2.3**	
	2.5nm,1.2s,baz=129,slow=2.0,SNR=4.8							
WMQ	**Urumqi**	**33.88**	**313**	*eP*	**P**	**14 08 53.1**	**+1.2**	
WMQ				LR	LR			
	comp=N,240nm,6.0s							
WMQ				LR	LR			
	comp=E,190nm,5.2s							
WMQ				LR	LR			
	comp=Z,75nm,22.0s							
MKAR	**Makanchi Array**	**38.53**	**315**	P	**P**	**14 09 32.2**	**+0.7**	
MKAR				PcP	**PcP**	**14 11 42.5**	**-0.4**	
MKAR				ScP	**ScP**	**14 15 23.4**	**-0.8**	
MKAR	**Makanchi Array**	**38.53**	**315**	P	**P**	**14 09 32.2**	**+0.7**	
	1.4nm,0.4s,baz=102,slow=10,SNR=45							
MKAR				PcP	**PcP**	**14 11 42.5**	**-0.4**	
	0.3nm,0.6s,baz=108,slow=4.7,SNR=3.1							
MKAR				ScP	**ScP**	**14 15 23.4**	**-0.8**	
	0.5nm,0.7s,baz=102,slow=5.6,SNR=4.8							
ZAA0	**Zalesovo Array**	**40.25**	**326**	*eP*	**P**	**14 09 44.9**	**-0.7**	
ZALV	**Zalesovo Beam**	**40.25**	**326**	P	**P**	**14 09 45.5**	**-0.1**	
ZALV	**Zalesovo Beam**	**40.25**	**326**	P	**P**	**14 09 45.5**	**-0.1**	
	2.1nm,0.4s,baz=112,slow=8.3,SNR=14							
TKM2	**Tokmak 2**	**42.07**	**307**	*eP*	**P**	**14 10 02.7**	**+1.6**	
	3.8nm,0.5s							
KURK	**Kurchatov**	**42.21**	**319**	*eP*	**P**	**14 10 01.4**	**-0.4**	
	1.1nm,0.4s							
FITZ	**Fitzroy Crossi**	**42.67**	**175**	P	**P**	**14 10 05.0**	**-0.8**	
FITZ				PcP	**PcP**	**14 11 56.3**	**-0.2**	
FITZ	**Fitzroy Crossi**	**42.67**	**175**	P	**P**	**14 10 05.0**	**-0.8**	
	2.0nm,0.8s,baz=12,slow=10.0,SNR=4.9							
FITZ				PcP	**PcP**	**14 11 56.3**	**-0.2**	
	2.0nm,0.6s,baz=3.0,slow=4.7,SNR=11							
COEN	**Coen**	**43.60**	**149**	*eP*	**P**	**14 10 14.0**	**+0.7**	
KKAR	**Karatay Array**	**45.79**	**307**	*eP*	**P**	**14 10 31.8**	**+1.2**	
	1.6nm,0.4s							
WRAB	**Tennant Creek**	**45.94**	**164**	*eP*	**P**	**14 10 31.8**	**-0.2**	
	12nm,0.9s							
WRA	**Warramunga Arr**	**45.95**	**164**	P	**P**	**14 10 31.6**	**-0.3**	
WRA				PcP	**PcP**	**14 12 06.8**	**-0.9**	
WRA	**Warramunga Arr**	**45.95**	**164**	P	**P**	**14 10 31.6**	**-0.3**	
	10nm,0.6s,baz=345,slow=8.6,SNR=74							
WRA				PcP	**PcP**	**14 12 06.8**	**-0.9**	
	1.6nm,0.6s,baz=344,slow=3.7,SNR=4.5							
BRVK	**Borovoye**	**47.85**	**320**	*eP*	**P**	**14 10 45.1**	**-1.3**	
	3.2nm,0.6s							
AS31	**Alice Springs**	**49.42**	**166**	*eP*	**P**	**14 10 59.6**	**+0.8**	
ASAR	**Alice Springs**	**49.42**	**166**	P	**P**	**14 10 59.5**	**+0.6**	
ASAR				PcP	**PcP**	**14 12 19.8**	**-0.4**	
ASAR	**Alice Springs**	**49.42**	**166**	P	**P**	**14 10 59.5**	**+0.6**	
	1.2nm,0.3s,baz=354,slow=7.4,SNR=39							
ASAR				PcP	**PcP**	**14 12 19.8**	**-0.4**	
	1.8nm,0.6s,baz=344,slow=3.4,SNR=9.3							
HNR	**Honiara**	**50.17**	**128**	PcP	**PcP**	**14 12 23.9**	**+0.8**	
HNR	**Honiara**	**50.17**	**128**	PcP	**PcP**	**14 12 23.9**	**+0.8**	
	13nm,0.3s,baz=192,slow=24,SNR=4.0							
CTA	**Charters Tower**	**50.36**	**150**	P	**P**	**14 11 06.8**	**+0.8**	
CTA	**Charters Tower**	**50.36**	**150**	P	**P**	**14 11 06.8**	**+0.8**	
	3.4nm,0.5s,baz=323,slow=10,SNR=8.4							
CTAO	**Charters Tower**	**50.36**	**150**	*eP*	**P**	**14 11 03.9**	**-2.1**	
	10nm,1.2s							
ABKAR	**Akbulak array**	**53.65**	**314**	*eP*	**P**	**14 11 30.8**	**+0.7**	
	8.5nm,0.5s							
STKA	**Stephens Creek**	**59.27**	**161**	P	**P**	**14 12 10.1**	**-0.1**	
STKA				pP	**pP**	**14 12 32.6**	**+3.0**	
STKA	**Stephens Creek**	**59.27**	**161**	P	**P**	**14 12 10.1**	**-0.1**	
	5.1nm,0.7s,baz=332,slow=7.8,SNR=12							
STKA				pP	**pP**	**14 12 32.6**	**+3.0**	
	1.9nm,0.7s,baz=326,slow=3.8,SNR=2.2							
DZM	**Mont Dzumac**	**63.41**	**133**	P	**P**	**14 12 37.9**	**-0.5**	
DZM	**Mont Dzumac**	**63.41**	**133**	P	**P**	**14 12 37.9**	**-0.5**	
	3.6nm,0.7s,baz=321,slow=14,SNR=4.1							
KBZ	**Khabaz**	**65.77**	**309**	P	**P**	**14 12 54.4**	**+1.0**	
KBZ	**Khabaz**	**65.77**	**309**	P	**P**	**14 12 54.4**	**+1.0**	
	1.6nm,0.6s,baz=194,slow=4.5,SNR=3.9							
KDAK	**Kodiak Island**	**67.05**	**35**	P	**P**	**14 13 00.9**	**-0.4**	
KDAK	**Kodiak Island**	**67.05**	**35**	P	**P**	**14 13 00.9**	**-0.4**	
	5.3nm,0.7s,baz=215,slow=20,SNR=6.0							
ILAR	**Eielson Array**	**68.41**	**27**	P	**P**	**14 13 07.9**	**-1.9**	
ILAR				pP	**pP**	**14 13 31.1**	**+1.3**	
ILAR	**Eielson Array**	**68.41**	**27**	P	**P**	**14 13 07.9**	**-1.9**	
	0.5nm,0.6s,baz=271,slow=5.7,SNR=13							
ILAR				pP	**pP**	**14 13 31.1**	**+1.3**	
	0.5nm,0.7s,baz=272,slow=3.9,SNR=2.8							
SPITS	**Spitsbergen Ar**	**69.16**	**348**	P	**P**	**14 13 13.8**	**-0.5**	
SPITS	**Spitsbergen Ar**	**69.16**	**348**	P	**P**	**14 13 13.8**	**-0.5**	
	3.5nm,0.7s,baz=99,slow=15,SNR=3.8							
ARCES	**ARCESS Array B**	**69.37**	**338**	P	**P**	**14 13 15.1**	**-0.6**	
ARCES	**ARCESS Array B**	**69.37**	**338**	P	**P**	**14 13 15.1**	**-0.6**	
	2.1nm,0.8s,baz=44,slow=6.6,SNR=7.0							
FINES	**FINESS Array B**	**71.41**	**330**	P	**P**	**14 13 28.3**	**+0.1**	
FINES	**FINESS Array B**	**71.41**	**330**	P	**P**	**14 13 28.3**	**+0.1**	
	1.3nm,0.5s,baz=39,slow=4.9,SNR=7.7							
INK	**Inuvik**	**72.47**	**22**	P	**P**	**14 13 33.6**	**-0.8**	
	2.9nm,0.7s,baz=294,slow=12,SNR=7.6							
AKASG	**Malin Array Be**	**73.01**	**318**	P	**P**	**14 13 37.0**	**-1.0**	
AKASG	**Malin Array Be**	**73.01**	**318**	P	**P**	**14 13 37.0**	**-1.0**	
	0.6nm,0.4s,baz=61,slow=6.7,SNR=4.0							
BRTR	**Keskin Array B**	**73.50**	**306**	P	**P**	**14 13 41.9**	**+0.6**	
BRTR	**Keskin Array B**	**73.50**	**306**	P	**P**	**14 13 41.9**	**+0.6**	
	2.7nm,0.8s,baz=102,slow=6.7,SNR=12							
MLR	**Muntele Rosu**	**76.86**	**314**	P	**P**	**14 14 00.8**	**+0.4**	
MLR	**Muntele Rosu**	**76.86**	**314**	P	**P**	**14 14 00.8**	**+0.4**	
	0.5nm,0.7s,baz=180,slow=5.1,SNR=4.3							
KOLS	**Kolonicke sedl**	**77.85**	**318**	*eP*	**P**	**14 14 04.1**	**-1.7**	
NOA	**NORSAR Array B**	**78.14**	**332**	P	**P**	**14 14 05.2**	**-2.0**	
NOA	**NORSAR Array B**	**78.14**	**332**	P	**P**	**14 14 05.2**	**-2.0**	
	1.0nm,0.8s,baz=278,slow=3.2,SNR=2.8							
YKA	**Yellowknife Ar**	**82.21**	**23**	P	**P**	**14 14 27.9**	**-1.0**	
YKA	**Yellowknife Ar**	**82.21**	**23**	P	**P**	**14 14 27.9**	**-1.0**	
	1.3nm,0.5s,baz=308,slow=4.9,SNR=7.7							
YBH	**Yreka Blue Hor**	**90.86**	**43**	P	**P**	**14 15 11.1**	**-0.8**	
YBH	**Yreka Blue Hor**	**90.86**	**43**	P	**P**	**14 15 11.1**	**-0.8**	
	2.1nm,1.0s,baz=301,slow=6.6,SNR=3.4							
NVAR	**Mina Array Bea**	**95.54**	**43**	P	**P**	**14 15 33.8**	**+0.2**	
NVAR	**Mina Array Bea**	**95.54**	**43**	P	**P**	**14 15 33.8**	**+0.2**	
	1.7nm,0.7s,baz=288,slow=5.6,SNR=11							
SDV	**Santo Domingo**	**144.42**	**22**	*e*PKP	**PKPab**	**14 21 42.5**	**-0.8**	
OTAV	**Otavalo**	**148.26**	**42**	PKPbc	**PKPbc**	**14 21 55.1**	**-0.2**	

IDC 04 14:06:45.0±13.0, 31.11S×179.15W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/16, mbtmp4.0/4, ML3.3/1, MS2.9/1, Ms1 2.9/1, ms1mx2.6/41, Error ellipse: s-maj=237.8km s-min=39.6km az=85.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.14**	**30**	LR	LR	14 07 58.3	
	comp=Z,301nm,21.2s,baz=227,slow=34						
URZ	**Urewera**	**7.77**	**202**	Pn	Pn	14 08 39.7	+0.4
	0.5nm,0.3s,baz=252,slow=6.4,SNR=2.1						
URZ				Sn	Sn	14 10 06.7	-1.3
	1.9nm,0.3s,baz=169,slow=22,SNR=16						
STKA	**Stephens Creek**	**33.36**	**258**	P	P	14 13 25.9	+1.0
	1.2nm,0.5s,baz=97,slow=11,SNR=3.0						
ASAR	**Alice Springs**	**42.09**	**268**	P	P	14 14 38.7	-0.2
	0.9nm,0.5s,baz=106,slow=7.5,SNR=15						
WRA	**Warramunga Arr**	**43.14**	**274**	P	P	14 14 47.0	-0.6
	1.0nm,0.3s,baz=111,slow=8.2,SNR=20						

IDC 04 14:10:26.9±14.0, 0.83S×125.10E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.4/21, mbtmp3.8/3, Error ellipse: s-maj=228.0km s-min=196.3km az=164.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.04**	**155**	P	P	14 15 11.7	-1.0
	0.4nm,0.3s,baz=334,slow=10,SNR=10.0						
ASAR	**Alice Springs**	**24.25**	**160**	P	P	14 15 45.9	-0.1
	1.6nm,0.4s,baz=342,slow=9.3,SNR=48						
STKA	**Stephens Creek**	**34.59**	**155**	P	P	14 17 18.4	+0.7
	0.5nm,0.3s,baz=331,slow=10,SNR=3.8						

*ISCJB **04** 14:13:27.0±0.8, 33.86N±0.02×25.31E±0.02, h14km±5km, mb4.0/33, Error ellipse: s-maj=3.4km s-min=2.5km az=135.5*
*IDC **04** 14:13:27.1±0.8, 33.99N×25.23E, h0km, mb4.1/15, mb1 4.2/22, mb1mx4.1/36, mbtmp4.1/22, ML4.5/7, Error ellipse: s-maj=19.3km s-min=13.8km az=178.0*
*HLW **04** 14:13:28.9, 34.08N×25.13E, h33km±33km, Md4.0, Ml4.2*
*NSSC **04** 14:13:28.8±2.7, 34.09N×25.31E, h37km±999km, ML3.5*
*NEIC **04** 14:13:31.3±1.9, 33.89N×25.25E, h31km±14km, mb4.2/20, Error ellipse: s-maj=8.2km s-min=4.5km az=195.0*
*CSEM **04** 14:13:31.0±0.1, 33.89N×25.29E, h30km, mb4.1/19, Error ellipse: s-maj=4.1km s-min=2.9km az=36.0*
*MOS **04** 14:13:31.0±1.0, 33.98N×25.17E, h33km, mb4.3/23, Error ellipse: s-maj=7.3km s-min=4.3km az=104.9*
*ATH **04** 14:13:34.1, 34.09N×25.15E, h45km, MD3.5/7*
*ISK **04** 14:13:34.8, 34.51N×25.42E, h73km, ML3.5*
*THE **04** 14:13:35.9, 34.23N×25.16E, h11km±3km, ML3.6/4, Error ellipse: s-maj=4.8km s-min=1.0km az=183.0*
*NIC **04** 14:13:54.8±0.2, 34.86N×25.76E, h80km, mb4.8, ML4.4, MW3.5*

ISC 04 14:13:29.6±0.4, 33.84N±0.02×25.27E±0.03, h19km±3km, n456, σ1.31/466, mb4.0/32, 2C-2D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**1.23**	**342**	*e*PG	**Pn**	**14 13 51.1**	**-0.6**
SIVA	**Sivas**	**1.23**	**342**	*e*P	**Pb**	**14 13 52.2**	**0.0**
SIVA	**Sivas**	**1.23**	**342**	*e*Pg	**Pn**	**14 13 51.2**	**-0.6**
SIVA	**Sivas**	**1.23**	**342**	*e*P	**Pb**	**14 13 52.2**	**0.0**
LAST	**Lasithi**	**1.33**	**8**	*e*P	**Pb**	**14 13 54.2**	**+0.3**
LAST	**Lasithi**	**1.33**	**8**	*e*P	**Pb**	**14 13 54.2**	**+0.3**
GVD	**Gavdhos**	**1.39**	**316**	*e*PN	**Pb**	**14 13 55.6**	**+0.6**
GVD				*e*SN	**Sn**	**14 14 12.0**	**+0.2**
GVD	**Gavdhos**	**1.39**	**316**	*e*P	**Pb**	**14 13 54.8**	**-0.2**
GVD				*e*S	**Sn**	**14 14 10.0**	**-1.8**
GVD	**Gavdhos**	**1.39**	**316**	*e*P	**Pn**	**14 13 53.7**	**-0.3**
GVD	**Gavdhos**	**1.39**	**316**	*e*P	**Pn**	**14 13 53.7**	**-0.3**
GVD	**Gavdhos**	**1.39**	**316**	*e*Pn	**Pb**	**14 13 55.6**	**+0.6**
GVD				*e*S	**Sn**	**14 14 10.0**	**-1.8**
GVD				*e*Sn	**Sn**	**14 14 12.0**	**+0.2**
NPS	**Neapolis**	**1.45**	**11**	P	**Pb**	**14 13 56.4**	**+0.5**
NPS				S	**Sn**	**14 14 10.9**	**-2.3**
NPS	**Neapolis**	**1.45**	**11**	*e*P	**Pn**	**14 13 56.1**	**+0.2**
NPS	**Neapolis**	**1.45**	**11**	*e*P	**Pb**	**14 13 56.1**	**+0.2**
NPS				S	**Sn**	**14 14 10.9**	**-2.3**
IDI	**Anoyia**	**1.48**	**348**	P	**Pb**	**14 13 55.9**	**-0.5**
IDI				S	**Sn**	**14 14 10.6**	**-3.4**
IDI	**Anoyia**	**1.48**	**348**	*e*PG	**Pn**	**14 13 52.5**	**-2.7**
IDI	**Anoyia**	**1.48**	**348**	*e*P	**Pn**	**14 13 55.8**	**+0.6**
IDI	**Anoyia**	**1.48**	**348**	*e*P	**Pb**	**14 13 56.0**	**-0.5**
IDI	**Anoyia**	**1.48**	**348**	*e*Pg	**Pn**	**14 13 52.5**	**-2.7**
IDI	**Anoyia**	**1.48**	**348**	*e*P	**Pb**	**14 13 56.0**	**-0.5**
IDI				S	**Sn**	**14 14 10.6**	**-3.4**
IDI	**Anoyia**	**1.48**	**348**	Pn	**Pb**	**14 13 56.2**	**-0.3**
	23nm,0.3s,baz=174,slow=14,SNR=180						
ZKR	**Zakros**	**1.49**	**31**	P	**Pg**	**14 13 57.8**	**-0.7**
ZKR				S	**Sb**	**14 14 14.9**	**-0.4**
ZKR	**Zakros**	**1.49**	**31**	*e*PG	**Pn**	**14 13 52.7**	**-2.7**
ZKR	**Zakros**	**1.49**	**31**	*e*P	**Pg**	**14 13 57.7**	**-0.7**
ZKR	**Zakros**	**1.49**	**31**	*e*Pg	**Pn**	**14 13 52.7**	**-2.7**
ZKR	**Zakros**	**1.49**	**31**	*e*P	**Pg**	**14 13 57.7**	**-0.7**
ZKR				S	**Sb**	**14 14 14.9**	**-0.4**
VAM	**Vamos**	**1.79**	**331**	P	**Pb**	**14 14 00.7**	**-1.1**
VAM				S	**Sn**	**14 14 19.7**	**-2.0**
VAM	**Vamos**	**1.79**	**331**	*e*P	**Pn**	**14 14 00.6**	**+1.1**
VAM	**Vamos**	**1.79**	**331**	*e*P	**Pn**	**14 14 00.6**	**+1.1**
VAM				S	**Sn**	**14 14 19.7**	**-2.0**
KARN	**Karanos**	**1.91**	**325**	*e*PN	**Pn**	**14 14 01.4**	**+0.2**
KARN	**Karanos**	**1.91**	**325**	*e*P	**Pn**	**14 14 02.2**	**+1.0**
KARN	**Karanos**	**1.91**	**325**	*e*Pn	**Pn**	**14 14 01.4**	**+0.2**
KARN	**Karanos**	**1.91**	**325**	*e*P	**Pn**	**14 14 02.2**	**+1.0**
LTBQ	**Tobruq**	**2.11**	**213**	*i* P	**Pb**	**14 14 06.7**	**-0.5**
	SNR=24						
LTBQ				*e*S	**Sn**	**14 14 30.3**	**+0.8**
	283nm,0.4s,SNR=24						
KARP	**Karpathos**	**2.31**	**42**	P	**Pb**	**14 14 09.7**	**-0.9**
KARP				S	**Sn**	**14 14 36.2**	**+1.7**
KARP	**Karpathos**	**2.31**	**42**	*e*P	**Pb**	**14 14 09.4**	**-1.2**
KARP	**Karpathos**	**2.31**	**42**	*e*P	**Pb**	**14 14 09.4**	**-1.2**
KARP				S	**Sn**	**14 14 36.2**	**+1.7**
SLUM		**2.34**	**181**	P	**Pn**	**14 14 07.3**	**+0.3**
SANT	**Santorini**	**2.53**	**4**	P	**Pn**	**14 14 10.5**	**+0.9**
SANT				S	**Sn**	**14 14 37.1**	**-2.8**
SANT	**Santorini**	**2.53**	**4**	*e*PN	Pn	14 14 05.4	-4.2
SANT	**Santorini**	**2.53**	**4**	*e*P	**Pn**	**14 14 09.6**	**0.0**
SANT	**Santorini**	**2.53**	**4**	*e*Pn	Pn	14 14 05.4	-4.2
SANT	**Santorini**	**2.53**	**4**	*e*P	**Pn**	**14 14 09.6**	**0.0**
SANT				S	**Sn**	**14 14 37.1**	**-2.8**
THR1	**Thera Island**	**2.53**	**4**	*e*Pn	Pn	14 14 06.0	-3.6
THR3	**Thira Island,**	**2.56**	**2**	P	**Pn**	**14 14 11.3**	**+1.2**
THR3	**Thira Island,**	**2.56**	**2**	P	**Pn**	**14 14 11.3**	**+1.2**
THR5	**Thira Island,**	**2.57**	**1**	*e*Pn	**Pn**	**14 14 07.1**	**-3.1**
ANKY	**Antikythira Is**	**2.59**	**322**	P	**Pn**	**14 14 11.7**	**+1.3**
ANKY				S	**Sn**	**14 14 39.9**	**-1.4**
ANKY	**Antikythira Is**	**2.59**	**322**	P	**Pn**	**14 14 11.7**	**+1.3**
ANKY				S	**Sn**	**14 14 39.9**	**-1.4**
KYTH	**Kithira**	**3.04**	**324**	P	**Pn**	**14 14 18.2**	**+1.5**
KYTH	**Kithira**	**3.04**	**324**	P	**Pn**	**14 14 18.2**	**+1.5**
NIS3	**Nisyros Isl.**	**3.13**	**29**	P	**Pn**	**14 14 19.8**	**+1.9**
NIS3				S	**Sn**	**14 14 54.5**	**-0.3**
HMAT	**Matruh**	**3.15**	**150**	P	**Pn**	**14 14 17.7**	**-0.4**
	baz=150						
HMAT				S	**Sn**	**14 14 53.9**	**-1.1**
	baz=150						
HMAT	**Matruh**	**3.15**	**150**	P	**Pn**	**14 14 17.7**	**-0.4**
HMAT				S	**Sn**	**14 14 53.9**	**-1.1**
NIS2	**Nisyros Isl.**	**3.15**	**29**	P	**Pn**	**14 14 20.3**	**+2.2**
NIS1	**Nisyros Isl.**	**3.17**	**29**	*e*PN	**Pn**	**14 14 15.6**	**-2.8**
NIS1	**Nisyros Isl.**	**3.17**	**29**	*e*Pn	**Pn**	**14 14 15.6**	**-2.8**
APE	**Apeiranthos**	**3.23**	**4**	P	**Pn**	**14 14 19.6**	**+0.4**
APE	**Apeiranthos**	**3.23**	**4**	*i* P	**Pn**	**14 14 19.4**	**+0.2**
APE	**Apeiranthos**	**3.23**	**4**	*e*PN	Pn	14 14 14.9	-4.4
APE	**Apeiranthos**	**3.23**	**4**	*e*P	**Pn**	**14 14 20.5**	**+1.3**
APE	**Apeiranthos**	**3.23**	**4**	*e*Pn	Pn	14 14 14.9	-4.4
APE	**Apeiranthos**	**3.23**	**4**	*e*P	**Pn**	**14 14 20.5**	**+1.3**
ARG	**Arkhangelos**	**3.33**	**44**	P	Pn	14 14 24.0	+3.4
ARG	**Arkhangelos**	**3.33**	**44**	P	Pn	14 14 24.0	+3.4
DAT	**Datca**	**3.45**	**33**	*e*PN	Pn	14 14 18.8	-3.5
DAT	**Datca**	**3.45**	**33**	*e*Pn	Pn	14 14 18.8	-3.5
VLI	**Veliai**	**3.45**	**327**	P	**Pn**	**14 14 22.6**	**+0.4**
VLI				S	**Sn**	**14 14 59.4**	**-3.1**
VLI	**Veliai**	**3.45**	**327**	P	**Pn**	**14 14 22.6**	**+0.4**
VLI				S	**Sn**	**14 14 59.4**	**-3.1**
BODT	**Bodrum**	**3.62**	**27**	*e*PN	**Pn**	**14 14 22.3**	**-2.3**
BODT	**Bodrum**	**3.62**	**27**	*e*Pn	**Pn**	**14 14 22.3**	**-2.3**
BDRM	**Kayabasi**	**3.68**	**28**	*i* P	**Pn**	**14 14 26.9**	**+1.5**
BDRM	**Kayabasi**	**3.68**	**28**	*i* P	**Pn**	**14 14 26.9**	**+1.5**
DIDY	**Didyma**	**4.00**	**336**	P	**Pn**	**14 14 29.4**	**-0.4**
DIDY				S	**Sn**	**14 15 13.4**	**-2.8**
DIDY	**Didyma**	**4.00**	**336**	P	**Pn**	**14 14 29.4**	**-0.4**
DIDY				S	**Sn**	**14 15 13.4**	**-2.8**
DALY	**Dalyan (Mu¨la**	**4.06**	**42**	*e*PN	**Pn**	**14 14 29.2**	**-1.4**
DALY	**Dalyan (Mu¨la**	**4.06**	**42**	*e*Pn	**Pn**	**14 14 29.2**	**-1.4**
YER	**Yerkesik**	**4.11**	**36**	*e*PN	**Pn**	**14 14 29.2**	**-2.1**
YER	**Yerkesik**	**4.11**	**36**	*e*Pn	**Pn**	**14 14 29.2**	**-2.1**
FETY	**Fethiye**	**4.19**	**47**	*e*PN	**Pn**	**14 14 30.7**	**-1.7**
FETY	**Fethiye**	**4.19**	**47**	*e*Pn	**Pn**	**14 14 30.7**	**-1.7**
AKAS	**Kas**	**4.29**	**55**	*i* P	**Pn**	**14 14 35.7**	**+1.8**
AKAS	**Kas**	**4.29**	**55**	*i* P	**Pn**	**14 14 35.7**	**+1.8**
AYDN	**Tasoluk**	**4.36**	**28**	*i* P	**Pn**	**14 14 37.1**	**+2.2**
AYDN	**Tasoluk**	**4.36**	**28**	*i* P	**Pn**	**14 14 37.1**	**+2.2**
CHOS	**Chios island**	**4.58**	**8**	*e*PN	**Pn**	**14 14 34.7**	**-3.2**
CHOS	**Chios island**	**4.58**	**8**	*e*Pn	**Pn**	**14 14 34.7**	**-3.2**
SWA2		**4.59**	**178**	P	**Pn**	**14 14 38.9**	**+1.0**
	baz=176						
SWA2				S	**Sn**	**14 15 27.9**	**-2.7**
	baz=176						
SWA2				AMP		14 16 00.0	
	comp=N,360µm,0.5s,logA/T=5.9,baz=176						
SWA2		**4.59**	**178**	P	**Pn**	**14 14 38.9**	**+1.0**
SWA2				S	**Sn**	**14 15 27.9**	**-2.7**
ELL	**Elmali**	**4.78**	**51**	*e*PN	**Pn**	**14 14 39.1**	**-1.5**
ELL	**Elmali**	**4.78**	**51**	*e*Pn	**Pn**	**14 14 39.1**	**-1.5**

LZLA	Zalla	8.44	233	*i* P		Pn	14 15 31.5	+0.6				
	SNR=22											
MMAI	Mount Meron Ar	8.51	93	Pn		Pn	14 15 31.6	-0.3				
MMAI				Sn		Sn	14 17 04.0	-3.4				
MMAI	Mount Meron Ar	8.51	93	Pn		Pn	14 15 31.6	-0.3				
MMAI				Sn		Sn	14 17 04.1	-3.4				
MMAI	Mount Meron Ar	8.51	93	Pn		Pn	14 15 31.6	-0.3				
	comp=N,7.7nm,0.3s,baz=274,slow=12,SNR=9.9											
MMAI				Sn		Sn	14 17 04.1	-3.4				
	comp=N,12nm,0.3s,baz=269,slow=23,SNR=11											
MMLI	Mount Malkishu	8.63	97	Pn		Pn	14 15 32.8	-0.6				
NIG	Nigde	8.69	58	*e*PN		Pn	14 15 33.0	-1.4				
NIG	Nigde	8.69	58	*e*Pn		Pn	14 15 33.0	-1.4				
KSDI	Kefar Szold	8.70	91	Pn		Pn	14 15 34.5	+0.1				
HMDT	Nahal Hemdat	8.76	98	Pn		Pn	14 15 34.9	-0.2				
CEL	Celeste	8.78	303	*e*P		Pn	14 15 35.0	-0.4				
	comp=N,17nm,0.3s											
CEL	Celeste	8.78	303	*e*P		Pn	14 15 35.0	-0.4				
	comp=N,17nm,0.3s											
DSI	Dead Sea	8.82	102	Pn		Pn	14 15 36.3	+0.3				
KRMI	Paran Flat	8.85	112	Pn		Pn	14 15 36.7	+0.3				
MZDA	Masada	8.88	104	Pn		Pn	14 15 36.9	+0.1				
BRBR	Barbar	8.92	90	*e*P		Pn	14 15 35.1	-2.5				
BRBR				*e*S		Sn	14 17 09.0	-8.6				
BRBR				AML		AML	14 17 17.2					
	comp=Z,52nm,0.8s											
BRBR				AML		AML	14 17 18.1					
	comp=N,32nm,0.6s											
BRBR				AML		AML	14 17 22.1					
	comp=E,60nm,0.8s											
PRNI	Paran	8.96	110	Pn		Pn	14 15 38.8	+0.8				
ZFRI	Zfri	9.01	109	Pn		Pn	14 15 38.3	-0.3				
ARNB	Al Arnab	9.03	74	*e*P		Pn	14 15 36.5	-2.4				
ARNB				*e*S		Sn	14 17 09.2	-11				
ARNB				AML		AML	14 17 20.3					
	comp=N,26nm,0.6s											
ARNB				AML		AML	14 17 24.2					
	comp=Z,55nm,0.7s											
ARNB				AML		AML	14 17 29.0					
	comp=E,52nm,0.6s											
TR2		9.06	125	P		Pn	14 15 39.5	+0.2				
	baz=125											
TR2		9.06	125	P		Pn	14 15 39.5	+0.2				
HRFI	Mount Harif	9.13	112	Pn		Pn	14 15 40.7	+0.5				
EIL	Elat	9.23	114	Pn		Pn	14 15 41.2	-0.5				
EIL				Sn		Sn	14 17 18.7	-6.3				
EIL	Elat	9.23	114	Pn		Pn	14 15 41.7	0.0				
EIL				Sn		Sn	14 17 18.7	-6.3				
EIL	Elat	9.23	114	Pn		Pn	14 15 41.2	-0.5				
	comp=E,1.9nm,0.3s,baz=209,slow=13,SNR=24											
EIL				Sn		Sn	14 17 18.7	-6.3				
	comp=E,6.6nm,0.3s,baz=352,slow=12,SNR=7.1											
MARH	Ras Al Marh	9.32	86	*e*P		Pn	14 15 44.2	+1.0				
MARH				*e*S		Sn	14 17 16.9	-11				
MARH				AML		AML	14 17 30.4					
	comp=Z,53nm,0.5s											
MARH				AML		AML	14 17 31.2					
	comp=N,16nm,0.7s											
MARH				AML		AML	14 17 33.3					
	comp=E,42nm,0.6s											
MARH	Ras Al Marh	9.32	86	*e*P		Pn	14 15 44.2	+1.0				
	SNR=90											
BTCH	Batrach	9.45	73	*e*P		Pn	14 15 41.5	-3.2				
BTCH				*e*S		Sn	14 17 19.8	-11				
TR1		9.46	126	P		Pn	14 15 45.1	+0.4				
	baz=126											
TR1		9.46	126	P		Pn	14 15 45.1	+0.4				
CUC	Castrocucco	9.74	312	*e*P		Pn	14 15 48.1	-0.6				
	comp=E,15nm,0.5s											
CUC	Castrocucco	9.74	312	*e*P		Pn	14 15 48.1	-0.6				
	comp=E,15nm,0.5s											
ASF	Jabal al Asfar	9.91	96	Pn		Pn	14 15 51.8	+0.8				
ASF				Sn		Sn	14 17 34.4	-7.4				
ASF	Jabal al Asfar	9.91	96	Pn		Pn	14 15 51.8	+0.8				
	comp=E,1.1nm,0.3s,baz=262,slow=7.1,SNR=4.8											
ASF				Sn		Sn	14 17 34.4	-7.4				
	comp=E,0.8nm,0.3s,baz=323,slow=19,SNR=3.3											
STON	Ston	10.79	329	*e*Pn		Pn	14 15 59.2	-3.7				
STON				Sn		Sn	14 17 50.5	-13				
DIVS	Divibare	11.03	340	*e*Pn		Pn	14 16 06.1	-0.2				
UDBI	Udbina	12.96	328	*e*Pn		Pn	14 16 30.1	-2.6				
UDBI				Sn		Sn	14 18 44.1	-12				
NVLJ	Novalja	13.39	326	*e*Pn		Pn	14 16 33.7	-4.7				
NVLJ				Sn		Sn	14 18 53.0	-14				
ANN	Anapa	14.42	37	*e*P		Pn	14 16 52.2	-0.3				
ANN				pmax		pmax						
	comp=Z,13nm,1.8s											
KOLS	Kolonicke sedl	15.24	352	*e*P		Pn	14 17 02.8	-0.8				
KOLS	Kolonicke sedl	15.24	352	*e*PN		Pn	14 17 02.8	-0.8				
KOLS	Kolonicke sedl	15.24	352	*e*Pn		Pn	14 17 02.8	-0.8				
STHS	Stebnicka Huta	15.85	350	*e*P		Pn	14 17 11.5	0.0				
STHS	Stebnicka Huta	15.85	350	*e*PN		Pn	14 17 11.5	0.0				
STHS	Stebnicka Huta	15.85	350	*e*Pn		Pn	14 17 11.5	0.0				
VRAC	Vranov	16.74	340	Pn		Pn	14 17 22.2	-0.7				
VRAC	Vranov	16.74	340	Pn		Pn	14 17 22.2	-0.7				
VRAC	Vranov	16.74	340	Pn		Pn	14 17 22.2	-0.7				
	comp=Z,0.8nm,0.3s,baz=145,slow=9.7,SNR=9.0											
GNI	Garni	16.77	62	Pn		P	14 17 26.6	+1.0				
GNI	Garni	16.77	62	*i* P		P	14 17 25.8	+0.2				
	comp=Z,11nm,1.0s											
GNI	Garni	16.77	62	Pn		P	14 17 26.6	+1.0				
GNI	Garni	16.77	62	Pn		P	14 17 26.6	+1.0				
	comp=Z,0.7nm,0.3s,baz=34,slow=14,SNR=4.1											
OKC	Ostrava-Krasne	16.83	344	*e*P		P	14 17 27.0	+1.0				
OKC	Ostrava-Krasne	16.83	344	*e*P		P	14 17 27.0	+1.0				
OKC	Ostrava-Krasne	16.83	344	*e*P		P	14 17 27.0	+1.0				
KIV	Kislovodsk	16.88	48⇓	*e*P		Pn	14 17 25.4	+0.7				
KIV				*e*S		Sn	14 20 29.2	-2.5				
KIV				pmax		pmax						
	comp=Z,7.0nm,0.9s											
KIV	Kislovodsk	16.88	48	*e*P		Pn	14 17 25.4	+0.7				
	comp=Z,7.0nm,0.9s											
KBZ	Khabaz	16.89	49	P		P	14 17 26.7	0.0				
KBZ	Khabaz	16.89	49	Pn		P	14 17 26.7	0.0				
KBZ	Khabaz	16.89	49	P		P	14 17 26.7	0.0				
KBZ	Khabaz	16.89	49	Pn		P	14 17 26.7	0.0				
	comp=Z,0.1nm,0.3s,baz=263,slow=7.1,SNR=8.4											
KIEV	Kiev	17.09	9	*e*P		Pn	14 17 27.5	+0.3				
KIEV				pmax		pmax						
	comp=Z,10.0nm,0.6s											
KIEV	Kiev	17.09	9	*e*P		Pn	14 17 27.5	+0.3				
	comp=Z,10nm,0.6s											
KIEV	Kiev	17.09	9	*e*P		Pn	14 17 27.5	+0.3				
	comp=Z,10.0nm,0.6s											
AKASG	Malin Array Be	17.10	9	P		Pn	14 17 25.8	-1.5				
AKASG				pmax		pmax						
	comp=Z,4.0nm,0.3s											
AKASG	Malin Array Be	17.10	9	Pn		Pn	14 17 25.8	-1.5				
AKASG	Malin Array Be	17.10	9	Pn		Pn	14 17 25.8	-1.5				
AKASG	Malin Array Be	17.10	9	Pn		Pn	14 17 25.8	-1.5				
	comp=Z,4.4nm,0.3s,baz=203,slow=10,SNR=25											
ZEI	Tsey	17.11	53	*e*P		P	14 17 29.8	+0.4				
ZEI				pmax		pmax						
	comp=Z,9.0nm,1.1s											
ZEI	Tsey	17.11	53	*e*P		P	14 17 29.8	+0.4				
	comp=Z,9.0nm,1.1s											
GEC2	GERESS Array S	17.29	334	*e*P		P	14 17 31.6	+0.4				
GEC2				pmax		pmax						
	comp=Z,20nm,0.9s											
GEC2	GERESS Array S	17.29	334	*e*P		P	14 17 31.6	+0.4				
	comp=Z,20nm,0.9s											
GEC2	GERESS Array S	17.29	334	*e*P		P	14 17 31.6	+0.4				
	comp=Z,20nm,0.9s											
GERES	GERESS Array B	17.29	334	P		Pn	14 17 29.9	0.0				
GERES	GERESS Array B	17.29	334	P		Pn	14 17 29.9	0.0				
	comp=Z,1.0nm,0.3s											
GERES	GERESS Array B	17.29	334	P		Pn	14 17 29.9	0.0				
	comp=Z,1.3nm,0.3s,baz=152,slow=11,SNR=26											
LMR	La Mourre	17.43	308	*e*P		Pn	14 17 30.6	-0.9				
LMR	La Mourre	17.43	308	*e*P		Pn	14 17 30.6	-0.9				
LMR	La Mourre	17.43	308	*e*P		Pn	14 17 30.6	-0.9				
LMR	La Mourre	17.43	308	*e*P		Pn	14 17 30.6	-0.9				
FRF	La Foret Royal	17.44	309	*e*P		Pn	14 17 31.5	-0.2				
FRF	La Foret Royal	17.44	309	*e*P		Pn	14 17 31.5	-0.2				
FRF	La Foret Royal	17.44	309	*e*P		Pn	14 17 31.5	-0.2				
FRF	La Foret Royal	17.44	309	*e*P		Pn	14 17 31.5	-0.2				
KHC	Kasperske Hory	17.57	334	*e*P		P	14 17 34.3	0.0				
KHC	Kasperske Hory	17.57	334	*e*P		P	14 17 34.3	0.0				
KHC				*e*pP		pP	14 17 41.9	+2.2				
KHC	Kasperske Hory	17.57	334	*e*P		P	14 17 34.6	+0.3				
	comp=Z,28nm,1.3s											
KHC	Kasperske Hory	17.57	334	*e*P		P	14 17 34.3	0.0				
DPC	Dobruska-Polom	17.76	341	*e*P		Pn	14 17 32.0	-3.6				
DPC	Dobruska-Polom	17.76	341	*e*P		Pn	14 17 32.0	-3.6				
DPC				*ex*		x	14 17 35.1					
WET	Wettzell	17.85	333	*e*P		P	14 17 37.2	-0.1				
WET				pmax		pmax						
	comp=Z,26nm,1.2s											
WET	Wettzell	17.85	333	*e*P		P	14 17 37.2	-0.1				
	comp=Z,26nm,1.2s											
WET	Wettzell	17.85	333	*e*P		P	14 17 37.2	-0.1				
	comp=Z,26nm,1.2s											
MBDF	Montbardon	17.93	313	*e*P		Pn	14 17 35.5	-2.4				
	comp=Z,25nm,1.2s											
MBDF	Montbardon	17.93	313	*e*P		Pn	14 17 35.5	-2.4				
MBDF				pmax		pmax						
	comp=Z,25nm,1.3s											
MBDF	Montbardon	17.93	313	*e*P		Pn	14 17 35.5	-2.4				
	comp=Z,25nm,1.3s											
MBDF	Montbardon	17.93	313	*e*P		Pn	14 17 35.5	-2.4				
	comp=Z,25nm,1.3s											
PRU	Pruhonice	17.97	337	*e*P		Pn	14 17 37.5	-0.6				
PRU	Pruhonice	17.97	337	*e*P		Pn	14 17 37.5	-0.6				
PRU	Pruhonice	17.97	337	*e*P		Pn	14 17 37.5	-0.6				
UPC	Upice	17.99	341	*e*P		P	14 17 38.7	-0.1				
UPC	Upice	17.99	341	*e*P		P	14 17 38.7	-0.1				
UPC	Upice	17.99	341	*e*P		P	14 17 38.7	-0.1				
SMRF	Simiane la Rot	18.32	309	*e*P		P	14 17 43.4	+0.8				
SMRF	Simiane la Rot	18.32	309	*e*P		P	14 17 43.4	+0.8				
SMRF	Simiane la Rot	18.32	309	*e*P		P	14 17 43.4	+0.8				
LPG	La Plagne	18.36	315	*e*P		Pn	14 17 44.3	+1.1				
LPG	La Plagne	18.36	315	*e*P		Pn	14 17 44.3	+1.1				
LPG	La Plagne	18.36	315	*e*P		Pn	14 17 44.3	+1.1				
LPG	La Plagne	18.36	315	*e*P		Pn	14 17 44.3	+1.1				
GRA1	Grafenberg Arr	18.94	331	*e*P		Pn	14 17 51.3	+1.3				
	comp=Z,52nm,1.2s											
GRF	Grafenberg Arr	18.94	331	*e*P		Pn	14 17 51.3	+1.3				
GRF				pmax		pmax						
	comp=Z,52nm,1.2s											
GRF	Grafenberg Arr	18.94	331	*e*P		Pn	14 17 51.3	+1.3				
	comp=Z,52nm,1.2s											
TANN	Tannenbergstha	19.05	334	*e*P		P	14 17 50.6	+0.1				
	comp=Z,16nm,1.2s											
VIVF	Saint-Julien-l	19.30	311	*e*P		Pn	14 17 54.7	+0.3				
VIVF	Saint-Julien-l	19.30	311	*e*P		Pn	14 17 54.7	+0.3				
VIVF	Saint-Julien-l	19.30	311	*e*P		Pn	14 17 54.7	+0.3				
VIVF	Saint-Julien-l	19.30	311	*e*P		Pn	14 17 54.7	+0.3				
CABF	La Chapelle	19.36	317	*e*P		P	14 17 54.4	+0.4				
	comp=Z,17nm,1.0s											
CABF	La Chapelle	19.36	317	*e*P		P	14 17 54.4	+0.4				
CABF				pmax		pmax						
	comp=Z,17nm,1.0s											
CABF	La Chapelle	19.36	317	*e*P		P	14 17 54.4	+0.4				
	comp=Z,17nm,1.0s											
CABF	La Chapelle	19.36	317	*e*P		P	14 17 54.4	+0.4				
	comp=Z,8.4nm,1.0s											
LASF	Ste Croix	19.48	308	*e*P		P	14 17 54.3	-1.0				
	comp=Z,22nm,1.2s											
LASF	Ste Croix	19.48	308	*e*P		P	14 17 54.3	-1.0				
	comp=Z,22nm,1.2s											
LASF	Ste Croix	19.48	308	*e*P		P	14 17 54.3	-1.0				
	comp=Z,11nm,1.2s											
CLL	Collm	19.61	337⇑	*i*P		P	14 17 56.1	-0.4				
CLL				pmax		pmax						
	comp=Z,40nm,1.7s											
CLL	Collm	19.61	337	*e*P		P	14 17 56.1	-0.4				
	comp=Z,40nm,1.7s											
CLL	Collm	19.61	337⇑	*i*P		P	14 17 56.1	-0.4				
	comp=Z,40nm,1.7s											
CLL	Collm	19.61	337	*i* P		P	14 17 56.1	-0.4				
	comp=Z,40nm,1.7s											
HINF	Hinteralfeld	19.66	321	*e*P		P	14 17 57.9	+0.7				
	comp=Z,2.0nm,0.4s											
HINF	Hinteralfeld	19.66	321	*e*P		P	14 17 57.9	+0.7				
HINF				pmax		pmax						
	comp=Z,2.0nm,0.4s											
HINF	Hinteralfeld	19.66	321	*e*P		P	14 17 57.9	+0.7				
	comp=Z,2.0nm,0.4s											
HINF	Hinteralfeld	19.66	321	*e*P		P	14 17 57.9	+0.7				
	comp=Z,1.0nm,0.4s											
CDF	Champ du Feu	19.82	323	*e*P		P	14 17 59.4	+0.4				
	comp=Z,9.3nm,0.9s											
CDF	Champ du Feu	19.82	323	*e*P		P	14 17 59.4	+0.4				
CDF				pmax		pmax						
	comp=Z,9.0nm,0.9s											
CDF	Champ du Feu	19.82	323	*e*P		P	14 17 59.4	+0.4				
	comp=Z,9.3nm,0.9s											
CDF	Champ du Feu	19.82	323	*e*P		P	14 17 59.4	+0.4				
	comp=Z,4.7nm,0.9s											
VORD	Divnogorie	19.94	27	*e*P		Pn	14 18 01.1	-0.8				
VORD				pmax		pmax						
	comp=Z,10.0nm,0.8s											
VORD				pmax		pmax						
	comp=E,20nm,0.9s											
VORD	Divnogorie	19.94	27	*e*Pn		Pn	14 18 01.1	-0.8				
	comp=E,10.0nm,0.8s											
HAU	Haudompre	20.04	321	*e*P		P	14 18 02.1	+0.8				
HAU	Haudompre	20.04	321	*e*P		P	14 18 02.1	+0.8				
HAU	Haudompre	20.04	321	*e*P		P	14 18 02.1	+0.8				
HAU	Haudompre	20.04	321	*e*P		P	14 18 02.1	+0.8				
VSR	Storozhevoye	20.10	26	*e*P		Pn	14 18 03.6	-0.2				
VSR				pmax		pmax						
	comp=Z,10.0nm,1.0s											
VSR				pmax		pmax						
	comp=N,10.0nm,0.7s											
VSR				pmax		pmax						
	comp=E,10.0nm,1.5s											
VSR	Storozhevoye	20.10	26	*e*P		Pn	14 18 03.6	-0.2				
	comp=E,10.0nm,0.7s											
TAM	Tamanrasset	20.54	243	*e*P		Pn	14 18 10.0	+0.6				
TAM				pmax		pmax						
	comp=Z,6.0nm,0.8s											
TAM	Tamanrasset	20.54	243	*e*P		Pn	14 18 10.0	+0.6				
	comp=Z,6.0nm,0.8s											
TAM	Tamanrasset	20.54	243	*e*P		Pn	14 18 10.0	+0.6				
	comp=Z,6.0nm,0.8s											
SMF	Signal de Mont	20.68	315	*e*P		P	14 18 07.3	-1.0				
	comp=Z,17nm,1.3s											
SMF	Signal de Mont	20.68	315	*e*P		P	14 18 07.3	-1.0				
SMF				pmax		pmax						
	comp=Z,17nm,1.3s											
SMF	Signal de Mont	20.68	315	*e*P		P	14 18 07.3	-1.0				
	comp=Z,17nm,1.3s											
SMF	Signal de Mont	20.68	315	*e*P		P	14 18 07.3	-1.0				
	comp=Z,8.4nm,1.3s											
PAGF	Fort de Pagny	20.71	321	*e*P		P	14 18 09.0	+0.5				
	comp=Z,4.1nm,0.8s											
PAGF	Fort de Pagny	20.71	321	*e*P		P	14 18 09.0	+0.5				
	comp=Z,4.1nm,0.8s											
PAGF	Fort de Pagny	20.71	321	*e*P		P	14 18 09.0	+0.5				
	comp=Z,2.0nm,0.8s											
VRHR	Novokhopersk	20.96	30	*e*P		Pn	14 18 15.4	+1.5				
VRHR				pmax		pmax						
	comp=Z,40nm,0.7s											
VRHR				pmax		pmax						
	comp=N,30nm,0.8s											
VRHR				pmax		pmax						
	comp=E,30nm,1.3s											
LOR	Lormes	21.00	316	*e*P		P	14 18 11.3	-0.4				
	comp=E,7.2nm,0.8s											
LOR	Lormes	21.00	316	*e*P		P	14 18 11.3	-0.4				
	comp=E,7.2nm,0.8s											
LOR	Lormes	21.00	316	*e*P		P	14 18 11.3	-0.4				
	comp=E,3.6nm,0.8s											
CAF	Calviac	21.00	309	*e*P		P	14 18 12.3	+0.5				
	comp=E,6.5nm,0.8s											
CAF	Calviac	21.00	309	*e*P		P	14 18 12.3	+0.5				
CAF				pmax		pmax						
	comp=Z,7.0nm,0.8s											
CAF	Calviac	21.00	309	*e*P		P	14 18 12.3	+0.5				
	comp=Z,6.5nm,0.8s											
CAF	Calviac	21.00	309	*e*P		P	14 18 12.3	+0.5				
	comp=Z,3.2nm,0.8s											
MEZF	Maizieres J'vi	21.03	320	*e*P		P	14 18 12.5	+0.5				
MEZF	Maizieres J'vi	21.03	320	*e*P		P	14 18 12.5	+0.5				
MEZF	Maizieres J'vi	21.03	320	*e*P		P	14 18 12.5	+0.5				
AVF	Avril sur Loir	21.05	314	*e*P		P	14 18 13.0	+0.8				
	comp=Z,1.9nm,0.5s											
AVF	Avril sur Loir	21.05	314	*e*P		P	14 18 13.0	+0.8				
AVF				pmax		pmax						
	comp=Z,2.0nm,0.5s											
AVF	Avril sur Loir	21.05	314	*e*P		P	14 18 13.0	+0.8				
	comp=Z,1.9nm,0.5s											
AVF	Avril sur Loir	21.05	314	*e*P		P	14 18 13.0	+0.8				
	comp=Z,0.9nm,0.5s											
SSF	Saint Saulge	21.09	315	*e*P		P	14 18 12.5	-0.2				
SSF	Saint Saulge	21.09	315	*e*P		P	14 18 12.5	-0.2				
SSF	Saint Saulge	21.09	315	*e*P		P	14 18 12.5	-0.2				
SSF	Saint Saulge	21.09	315	*e*P		P	14 18 12.5	-0.2				
TCF	Toulx Ste Croi	21.50	312	*e*P		P	14 18 17.3	+0.2				
TCF	Toulx Ste Croi	21.50	312	*e*P		P	14 18 17.3	+0.2				
TCF	Toulx Ste Croi	21.50	312	*e*P		P	14 18 17.3	+0.2				
TCF	Toulx Ste Croi	21.50	312	*e*P		P	14 18 17.3	+0.2				
RJF	Les Rejaudoux	21.51	309	*e*P		P	14 18 17.2	0.0				
	comp=Z,7.5nm,0.8s											
RJF	Les Rejaudoux	21.51	309	*e*P		P	14 18 17.2	0.0				
RJF				pmax		pmax						
	comp=Z,8.0nm,0.8s											
RJF	Les Rejaudoux	21.51	309	*e*P		P	14 18 17.2	0.0				
	comp=Z,7.5nm,0.8s											
RJF	Les Rejaudoux	21.51	309	*e*P		P	14 18 17.2	0.0				
	comp=Z,3.8nm,0.8s											
HYF	Humbligny	21.71	315	*e*P		P	14 18 19.3	0.0				
HYF	Humbligny	21.71	315	*e*P		P	14 18 19.3	0.0				
HYF	Humbligny	21.71	315	*e*P		P	14 18 19.3	0.0				
GIVF	Givet	22.14	323	*e*P		P	14 18 24.3	+0.4				
	comp=Z,10.0nm,0.6s											
GIVF	Givet	22.14	323	*e*P		P	14 18 24.3	+0.4				
GIVF				pmax		pmax						
	comp=Z,10.0nm,0.6s											
GIVF	Givet	22.14	323	*e*P		P	14 18 24.3	+0.4				
	comp=Z,10.0nm,0.6s											
GIVF	Givet	22.14	323	*e*P		P	14 18 24.3	+0.4				
	comp=Z,5.0nm,0.6s											
BAIF	Baives	22.42	323	*e*P		P	14 18 26.5	-0.4				
	comp=Z,19nm,0.7s											
BAIF	Baives	22.42	323	*e*P		P	14 18 26.5	-0.4				
BAIF				pmax		pmax						
	comp=Z,19nm,0.7s											
BAIF	Baives	22.42	323	*e*P		P	14 18 26.5	-0.4				
	comp=Z,19nm,0.7s											
BAIF	Baives	22.42	323	*e*P		P	14 18 26.5	-0.4				
	comp=Z,9.6nm,0.7s											
OBN	Obninsk	22.69	17⇓	*e*P		P	14 18 30.7	+1.0				
OBN				*e*S		S	14 22 39.6	+2.7				
OBN				pmax		pmax						
	comp=Z,8.0nm,0.6s											
OBN	Obninsk	22.69	17	*e*P		P	14 18 30.7	+1.0				
	comp=Z,8.0nm,0.6s											
IKAZ	Kazeroun	22.92	93	*e*P		P	14 18 31.1	-1.7				
MFF	Saint Martin d	23.10	311	*e*P		P	14 18 32.6	-1.5				
MFF	Saint Martin d	23.10	311	*e*P		P	14 18 32.6	-1.5				
MFF	Saint Martin d	23.10	311	*e*P		P	14 18 32.6	-1.5				
MFF	Saint Martin d	23.10	311	*e*P		P	14 18 32.6	-1.5				
LDF	La Druitiere	23.98	316	*e*P		P	14 18 42.1	-0.5				
	comp=Z,9.5nm,0.6s											
LDF	La Druitiere	23.98	316	*e

	comp=Z,2.5nm,0.6s,baz=269,slow=7.0,SNR=29						
NVS	**Novosibirsk**	**44.97**	**44**	*e*P	**P**	**14 21 44.1**	**+0.9**
NVS	**Novosibirsk**	**44.97**	**44**	*e*P	**P**	**14 21 44.1**	**+0.9**
ZALV	**Zalesovo Beam**	**45.86**	**45**	P	**P**	**14 21 50.6**	**+0.3**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.4s						
ZALV	**Zalesovo Beam**	**45.86**	**45**	P	**P**	**14 21 50.6**	**+0.3**
ZALV	**Zalesovo Beam**	**45.86**	**45**	P	**P**	**14 21 50.6**	**+0.3**
	comp=Z,4.0nm,0.4s						
ZALV	**Zalesovo Beam**	**45.86**	**45**	P	**P**	**14 21 50.6**	**+0.3**
	comp=Z,3.6nm,0.4s,baz=268,slow=8.6,SNR=25						
DANN	**Dangsing**	**49.82**	**80**	*e*P	**P**	**14 22 23.6**	**+1.9**
	comp=Z,36nm,0.9s						
GKN	**Gorkha**	**50.66**	**80**	*e*P	**P**	**14 22 29.1**	**+1.1**
	comp=Z,11nm,0.8s						
DMN	**Daman**	**51.20**	**80**	*e*P	**P**	**14 22 33.7**	**+1.6**
	comp=Z,9.2nm,0.6s						
KKN	**Kakani**	**51.27**	**80**	*e*P	**P**	**14 22 33.7**	**+1.1**
	comp=Z,9.7nm,0.7s						
PKI	**Pulchoki**	**51.46**	**80**	*e*P	**P**	**14 22 35.2**	**+1.0**
GUN	**Gumba**	**51.72**	**79**	*e*P	**P**	**14 22 37.4**	**+1.3**
JIRN	**Jiri**	**52.07**	**79**	*e*P	**P**	**14 22 39.9**	**+1.2**
	comp=Z,14nm,0.8s						
ZAK	**Zakamensk**	**57.56**	**48**	*e*P	**P**	**14 23 18.1**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.8s						
ZAK	**Zakamensk**	**57.56**	**48**	*e*P	**P**	**14 23 18.1**	**+0.3**
	comp=Z,2.0nm,1.8s						
SONM	**Songino Array**	**60.26**	**50**	P	**P**	**14 23 37.8**	**+1.1**
SONM	**Songino Array**	**60.26**	**50**	P	**P**	**14 23 37.8**	**+1.1**
SONM	**Songino Array**	**60.26**	**50**	P	**P**	**14 23 37.8**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=281,slow=7.4,SNR=5.3						
USRK	**Ussuriysk Arra**	**77.71**	**45**	P	**P**	**14 25 25.2**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=339,slow=4.7,SNR=5.4						
KDAK	**Kodiak Island**	**88.71**	**359**	P	**P**	**14 26 19.8**	**-1.6**
KDAK	**Kodiak Island**	**88.71**	**359**	P	**P**	**14 26 19.8**	**-1.6**
KDAK	**Kodiak Island**	**88.71**	**359**	P	**P**	**14 26 19.8**	**-1.6**
	comp=Z,1.7nm,0.3s,baz=148,slow=15,SNR=6.3						
ASAR	**Alice Springs**	**117.72**	**101**	PKP	**PKPdf**	**14 32 15.5**	**+0.7**
ASAR	**Alice Springs**	**117.72**	**101**	PKIKP	**PKPdf**	**14 32 15.5**	**+0.7**
ASAR	**Alice Springs**	**117.72**	**101**	PKP	**PKPdf**	**14 32 15.5**	**+0.7**
	comp=Z,0.3nm,0.9s,baz=322,slow=1.2,SNR=2.6						

*ISCJB **04** 14:22:02.6±1.3,38°.41N±0°.10×73°.3E±0°.1,h107km, mb4.0/4, Error ellipse: s-maj=16.8km s-min=12.3km az=31.0*
*IDC **04** 14:22:03.8±5.5,38°.35N×73°.57E,h114km±48km,mb3.7/4, mb1 3.4/8,mb1mx3.1/31,mbtmp3.3/8, Error ellipse: s-maj=57.7km s-min=43.1km az=98.0*

ISC 04 14:22:04.1±1.7,38°.4N±0°.1×73°.3E±0°.1,h107km,n10, σ1§40/12,mb3.9/4,3C,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**4.31**	**11**	P	**Pn**	**14 23 09.3**	**+1.7**
	2.8nm,0.3s,baz=131,slow=5.8,SNR=24						
AAK				S	**Sn**	**14 23 57.8**	**+0.9**
	3.0nm,0.3s,baz=325,slow=17,SNR=24						
TKM2	**Tokmak 2**	**4.82**	**20**	⇑Pg	**Pn**	**14 23 15.6**	**+1.0**
	2.0nm,0.6s						
TKM2				⇑Lg	Lg	14 24 07.4	
	14nm,0.8s						
KK31	**Karatay Array**	**5.15**	**336**	⇑Pn	**Pn**	**14 23 20.2**	**+1.3**
	6.4nm,0.3s,baz=138,slow=12,SNR=303						
KK31				S	**Sn**	**14 24 15.4**	**-1.8**
	5.3nm,0.3s,baz=143,slow=22,SNR=9.7						
MKAR	**Makanchi Array**	**10.65**	**35**	P	**Pn**	**14 24 32.8**	**-0.7**
	0.1nm,0.3s,baz=215,slow=13,SNR=3.0						
KURBB	**Kurchatov Arra**	**12.75**	**15**	P	**Pn**	**14 24 59.1**	**-2.2**
	0.1nm,0.3s,baz=208,slow=12,SNR=2.8						
ZALV	**Zalesovo Beam**	**17.41**	**23**	P	**P**	**14 25 58.5**	**-1.3**
	0.3nm,0.3s,baz=223,slow=11,SNR=6.3						
FINES	**FINESS Array B**	**36.98**	**324**	P	**P**	**14 29 02.4**	**-0.3**
	1.7nm,0.7s,baz=123,slow=5.1,SNR=3.6						
ARCES	**ARCESS Array B**	**40.12**	**336**	P	**P**	**14 29 29.6**	**+0.7**
	1.5nm,0.9s,baz=109,slow=7.7,SNR=11						
HFS	**Hagfors**	**42.74**	**320**	P	**P**	**14 29 50.9**	**+0.5**
	15nm,1.2s,baz=88,slow=11,SNR=5.1						
TORD	**Torodi Ar. Bea**	**67.62**	**269**	P	**P**	**14 32 49.1**	**-0.5**
	0.2nm,0.3s,baz=45,slow=3.0,SNR=3.8						

*IDC **04** 14:25:14.5±2.1,2°.01S×128°.28E,h0km,mb3.5/2, mb1 3.7/4,mb1mx3.4/21,mbtmp3.5/4,ML3.3/2, Error ellipse: s-maj=122.6km s-min=25.7km az=70.0*
*DJA **04** 14:25:20.3±0.3,2°.5S±2°×12°.8E±°,h60km,M3.4/5,MLv3.4/5*

ISC 04 14:25:18.0±0.9,2°.00S±0°.05×128°.45E±0°.09,h34km,n9, σ1§85/12,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**1.65**	**325**	P	**Pn**	**14 25 43.5**	**-1.1**
LBMI				S	**Sn**	**14 26 04.3**	**-0.4**
AAI	**Ambon**	**1.69**	**189**	P	**Pb**	**14 25 48.0**	**-0.5**
AAI				S	**Sb**	**14 26 11.8**	**+2.4**
NLAI	**Namlea**	**1.82**	**228**	P	**Pn**	**14 25 46.5**	**-0.4**
TNTI	**Ternate**	**2.96**	**339**	P	**Pn**	**14 26 03.2**	**+0.6**
SWI	**Sorong**	**3.03**	**68**	P	Pb	14 26 08.2	-3.1
SWI				S	**Sb**	**14 26 48.4**	**+0.5**
FITZ	**Fitzroy Crossi**	**16.23**	**190**	Pn	**P**	**14 29 05.7**	**-0.6**
	0.1nm,0.3s,baz=7.5,slow=13,SNR=3.6						
WRA	**Warramunga Arr**	**18.74**	**163**	P	**P**	**14 29 34.7**	**+0.7**
	0.2nm,0.3s,baz=342,slow=13,SNR=6.7						
ASAR	**Alice Springs**	**22.17**	**167**	P	**P**	**14 30 12.9**	**+1.7**
	1.2nm,0.4s,baz=347,slow=12,SNR=45						
ASAR				S	**S**	**14 34 09.5**	**-4.3**
	0.2nm,0.7s,baz=342,slow=21,SNR=3.4						
MKAR	**Makanchi Array**	**63.23**	**326**	P	**P**	**14 35 43.9**	**+0.9**
	0.2nm,0.4s,baz=121,slow=7.6,SNR=4.7						

*ISCJB **04** 14:28:45.0±0.6,41°.05N±0°.03×143°.28E±0°.06,h45km±6km, mb3.8/10, Error ellipse: s-maj=8.4km s-min=3.9km az=34.8*
*JMA **04** 14:28:45.3±0.1,41°.04N×143°.19E,h41km,M3.9*
*MOS **04** 14:28:46.7±1.4,41°.11N×143°.08E,h52km,mb4.1/7, Error ellipse: s-maj=20.8km s-min=13.7km az=86.4*
*IDC **04** 14:28:49.5±2.9,41°.07N×143°.08E,h63km±24km,mb3.6/10, mb1 3.7/13,mb1mx3.6/28,mbtmp3.6/13,ML3.4/2, Error ellipse: s-maj=24.6km s-min=20.8km az=146.0*

ISC 04 14:28:46.7±0.9,41°.05N±0°.04×143°.25E±0°.06,h38km±2km, n37,σ1§10/44,mb4.0/10,1C-5D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**0.96**	**356**	⇓P	**Pn**	**14 29 02.9**	**-0.7**
JEM				*e*S	**Sn**	**14 29 15.1**	**-1.0**
JNBK	**Urakawa-nobuka**	**1.28**	**343**	⇓P	**Pn**	**14 29 07.5**	**-0.5**
JNBK				*e*S	**Sn**	**14 29 24.2**	**+0.3**
JANG	**Nango**	**1.48**	**243**	P	**Pn**	**14 29 09.5**	**-1.3**
JANG				*e*S	**Sn**	**14 29 28.6**	**-0.3**
JCH	**Churui**	**1.56**	**3**	P	**Pn**	**14 29 11.2**	**-0.7**
JCH				*e*S	**Sn**	**14 29 30.4**	**-0.4**
JTM	**Tenmabayashi**	**1.67**	**262**	P	**Pn**	**14 29 12.8**	**-0.6**
JTM				*e*S	**Sn**	**14 29 32.5**	**-1.1**
JOT	**Ohata**	**1.69**	**282**	⇓P	**Pn**	**14 29 12.8**	**-0.8**
JOT				*e*S	**Sn**	**14 29 32.7**	**-1.3**
JKB	**Kayabe**	**1.86**	**297**	P	**Pn**	**14 29 14.8**	**-1.1**
JKB				*e*S	**Sn**	**14 29 37.3**	**-0.9**
JFR	**Furan**	**2.17**	**347**	P	**Pn**	**14 29 20.6**	**+0.4**
JOM	**Ohasama**	**2.17**	**224**	⇑P	**Pn**	**14 29 19.8**	**-0.5**
JOM				*e*S	**Sn**	**14 29 45.1**	**-0.8**
JAK	**Akkeshi**	**2.22**	**29**	P	**Pn**	**14 29 19.6**	**-1.3**
JAK				*e*S	**Sn**	**14 29 45.5**	**-1.6**
JEW	**Eniwo**	**2.23**	**324**	P	**Pn**	**14 29 21.0**	**-0.1**
JEW				*e*S	**Sn**	**14 29 48.0**	**+0.6**
JAR	**Ashorobuto**	**2.28**	**10**	P	**Pn**	**14 29 20.8**	**-0.9**
JAR				*e*S	**Sn**	**14 29 47.0**	**-1.4**
JMK	**Ichinoseki**	**2.61**	**217**	⇓P	**Pn**	**14 29 26.1**	**-0.2**
JMK				*e*S	**Sn**	**14 29 56.8**	**+0.1**
ASAJ	**Asahikawa**	**3.10**	**351**	P	**Pn**	**14 29 33.8**	**+0.8**
	4.0nm,0.3s,baz=205,slow=14,SNR=87						
YUK	**Yuzh-Kuril'sk**	**3.55**	**32**	*d*P	**Pn**	**14 29 39.3**	**+0.1**
YUK				*i* S	**Sn**	**14 30 18.4**	**-1.4**
YUK				pmax	pmax		
	comp=E,41nm,0.4s						
YUK				pmax	pmax		
	comp=N,27nm,0.3s						
YUK				pmax	pmax		
	comp=Z,101nm,0.3s						
YUK				smax	smax		
	comp=N,109nm,0.6s						

YUK				smax	smax		
	comp=E,187nm,0.6s						
USRK	**Ussuriysk Arra**	**8.88**	**294**	P	**Pn**	**14 30 54.1**	**+1.9**
	comp=E,0.2nm,0.3s,baz=96,slow=14,SNR=4.1						
KSRS	**Korea Array**	**12.41**	**258**	P	**Pn**	**14 31 43.4**	**+2.8**
	comp=E,0.2nm,0.3s,baz=63,slow=14,SNR=5.8						
FX1	**Attu Island--F**	**23.41**	**50**	P	**P**	**14 33 55.0**	**+3.0**
	comp=E,2.8nm,0.5s,baz=286,slow=18,SNR=3.4						
SONM	**Songino Array**	**26.98**	**297**	P	**P**	**14 34 24.1**	**-0.6**
	comp=E,0.7nm,0.6s,baz=86,slow=7.8,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**29.29**	**129**	T	T	15 05 41.7	
	baz=325,slow=0.7,SNR=36						
H11N1	**WAKE ISLAND Hy**	**29.30**	**129**	T	T	15 05 37.8	
	baz=325,slow=0.7,SNR=46						
H11N3	**WAKE ISLAND Hy**	**29.31**	**129**	T	T	15 05 46.2	
	baz=325,slow=0.7,SNR=34						
H11S1	**WAKE ISLAND Hy**	**30.14**	**131**	T	T	15 07 20.8	
	baz=328,slow=0.7,SNR=31						
H11S3	**WAKE ISLAND Hy**	**30.14**	**131**	T	T	15 07 20.6	
	baz=328,slow=0.7,SNR=13						
H11S2	**WAKE ISLAND Hy**	**30.16**	**131**	T	T	15 07 13.3	
	baz=328,slow=0.7,SNR=13						
ZALV	**Zalesovo Beam**	**40.38**	**309**	P	**P**	**14 36 19.7**	**-0.9**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**40.38**	**309**	P	**P**	**14 36 19.7**	**-0.9**
	comp=Z,1.1nm,0.4s,baz=75,slow=11,SNR=8.0						
MKAR	**Makanchi Array**	**43.31**	**299**	P	**P**	**14 36 43.8**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**43.31**	**299**	P	**P**	**14 36 43.8**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=84,slow=11,SNR=15						
ILAR	**Eielson Array**	**45.36**	**34**	P	**P**	**14 37 01.4**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=260,slow=5.8,SNR=5.9						
ARCES	**ARCESS Array B**	**60.75**	**339**	P	**P**	**14 38 53.1**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=27,slow=7.1,SNR=4.3						
WRA	**Warramunga Arr**	**61.24**	**190**	P	**P**	**14 38 57.3**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=7.5,slow=6.7,SNR=5.4						
FINES	**FINESS Array B**	**65.93**	**332**	P	**P**	**14 39 28.0**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=40,slow=6.2,SNR=7.6						
KBZ	**Khabaz**	**69.38**	**310**	P	**P**	**14 39 50.8**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=217,slow=1.1,SNR=4.4						
AKASG	**Malin Array Be**	**71.99**	**322**	P	**P**	**14 40 05.3**	**-0.9**
AKASG	**Malin Array Be**	**71.99**	**322**	P	**P**	**14 40 05.2**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=42,slow=6.2,SNR=2.0						
SNAA	**Sanae**	**145.00**	**198**	PKP	**PKPbc**	**14 48 17.8**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=100,slow=6.1,SNR=4.2						

IDC 04 14:30:08.4±3.4,15°.03S×172°.62W,h0km,mb3.7/3, mb1 4.0/3,mb1mx3.6/19,mbtmp3.7/3,Error ellipse: s-maj=184.1km s-min=32.9km az=145.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.38**	**36**	Pn	Pg	**14 30 26.9**	**-8.1**
	58nm,0.3s,baz=51,slow=1.8,SNR=37						
AFI				Sn	Sg	14 30 39.3	-14
	111nm,0.3s,baz=45,slow=19,SNR=30						
H11S2	**WAKE ISLAND Hy**	**39.05**	**328**	T	T	15 19 15.4	
	baz=150,slow=0.7,SNR=10						
H11S3	**WAKE ISLAND Hy**	**39.06**	**328**	T	T	15 19 14.2	
	baz=150,slow=0.7,SNR=12						
H11S1	**WAKE ISLAND Hy**	**39.07**	**328**	T	T	15 19 15.6	
	baz=150,slow=0.7,SNR=6.5						
H11N3	**WAKE ISLAND Hy**	**39.98**	**329**	T	T	15 20 21.8	
	baz=149,slow=0.7						
H11N1	**WAKE ISLAND Hy**	**39.98**	**329**	T	T	15 20 22.1	
	baz=149,slow=0.7						
H11N2	**WAKE ISLAND Hy**	**39.99**	**329**	T	T	15 20 22.7	
	baz=149,slow=0.7						
ASAR	**Alice Springs**	**50.94**	**252**	P	P	14 39 11.4	-0.7
	0.7nm,0.8s,baz=88,slow=7.5,SNR=5.9						
NVAR	**Mina Array Bea**	**73.55**	**42**	P	P	14 41 43.6	0.0
	1.0nm,0.8s,baz=232,slow=9.2,SNR=5.9						
ILAR	**Eielson Array**	**81.94**	**11**	P	P	14 42 28.7	-0.9
	0.3nm,0.6s,baz=207,slow=5.8,SNR=5.6						
BRTR	**Keskin Array B**	**146.34**	**322**	PKPbc	PKPab	14 49 52.9	+0.4
	0.7nm,0.6s,baz=149,slow=0.7,SNR=5.0						

*TIF **04** 14:32:47.0,42°.54N×43°.48E,h14km*
*ISCJB **04** 14:32:47.9±0.4,42°.58N±0°.03×43°.44E±0°.03,h7km±4km, Error ellipse: s-maj=4.4km s-min=3.8km az=148.8*
*CSEM **04** 14:32:47.7±0.2,42°.54N×43°.45E,h2km,mb3.9, Error ellipse: s-maj=3.9km s-min=2.4km az=130.0*
*DDA **04** 14:32:47.8,42°.33N×43°.52E,h4km,MD3.2*
*MOS **04** 14:32:50.0±1.2,42°.68N×43°.62E,h16km,mb3.9/1, Error ellipse: s-maj=12.0km s-min=7.6km az=86.3*

ISC 04 14:32:47.7±0.8,42°.55N±0°.02×43°.45E±0°.02,h10km±5km, n42,σ0§86/77,6C-3D,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.04**	**8**	P	**Pg**	**14 32 49.7**	**-0.1**
ONI				S	**Sg**	**14 32 51.4**	**+0.2**
DIGR	**Digorskoe uzhe**	**0.36**	**16**	⇓*i*PG	**Pg**	**14 32 54.9**	**0.0**
DIGR				*i* S	**Sg**	**14 33 00.8**	**+1.0**
DIGR	**Digorskoe uzhe**	**0.36**	**16**	*i* Pg	**Pg**	**14 32 54.9**	**0.0**
DIGR				*i* Sg	**Sg**	**14 33 00.8**	**+1.0**
ZEI	**Tsey**	**0.41**	**55**	⇓*i*PG	**Pg**	**14 32 55.6**	**-0.3**
ZEI				*i* S	**Sg**	**14 33 01.6**	**+0.3**
ZEI	**Tsey**	**0.41**	**55**	*i* Pg	**Pg**	**14 32 55.6**	**-0.3**
ZEI				*i* Sg	**Sg**	**14 33 01.6**	**+0.3**
LACR	**Lac**	**0.69**	**66**	⇓*i*PG	**Pg**	**14 33 00.4**	**-0.6**
LACR				*i* S	**Sg**	**14 33 09.9**	**-0.1**
LACR	**Lac**	**0.69**	**66**	*i* Pg	**Pg**	**14 33 00.4**	**-0.6**
LACR				*i* Sg	**Sg**	**14 33 09.9**	**-0.1**
KORR	**Kora**	**0.70**	**40**	⇑*i*PG	**Pg**	**14 33 01.6**	**+0.3**
KORR				*e*S	**Sb**	**14 33 11.6**	**-0.2**
KORR	**Kora**	**0.70**	**40**	*i* Pg	**Pg**	**14 33 01.6**	**+0.3**
KORR				*e*Sg	**Sb**	**14 33 11.6**	**-0.2**
LSNR	**Lesken**	**0.78**	**21**	*e*PG	**Pg**	**14 33 02.6**	**-0.1**
LSNR				*e*S	**Sb**	**14 33 13.7**	**-0.2**
LSNR	**Lesken**	**0.78**	**21**	*e*Pg	**Pg**	**14 33 02.6**	**-0.1**
LSNR				*e*Sg	**Sb**	**14 33 13.7**	**-0.2**
NEY	**Neytrino**	**0.88**	**323**	⇑*i*PG	**Pg**	**14 33 04.8**	**+0.2**
NEY				*i* S	**Sg**	**14 33 16.5**	**+0.5**
NEY	**Neytrino**	**0.88**	**323**	*i* Pg	**Pg**	**14 33 04.8**	**+0.2**
NEY				*i* Sg	**Sg**	**14 33 16.5**	**+0.5**
STDR	**Stavd-Durt**	**0.93**	**29**	*e*PG	**Pn**	**14 33 06.8**	**-0.1**
STDR				*e*S	**Sn**	**14 33 19.8**	**-0.5**
STDR	**Stavd-Durt**	**0.93**	**29**	*e*Pg	**Pn**	**14 33 06.8**	**-0.1**
STDR				*e*Sg	**Sn**	**14 33 19.8**	**-0.5**
VLKR	**Vladikavkaz**	**1.03**	**61**	*e*PG	**Pb**	**14 33 07.3**	**-0.4**
VLKR				*e*S	**Sn**	**14 33 21.6**	**-1.2**
VLKR	**Vladikavkaz**	**1.03**	**61**	*e*Pg	**Pb**	**14 33 07.3**	**-0.4**
VLKR				*e*Sg	**Sn**	**14 33 21.6**	**-1.2**
AKH	**Akhalkalaki**	**1.14**	**178**	P	**Pb**	**14 33 08.3**	**-1.3**
AKH				S	**Sb**	**14 33 23.7**	**-0.9**
BTKR	**Batakoyurt**	**1.15**	**44**	*e*PG	**Pn**	**14 33 09.5**	**-0.3**
BTKR				*e*S	**Sn**	**14 33 25.4**	**-0.2**
BTKR	**Batakoyurt**	**1.15**	**44**	*e*Pg	**Pn**	**14 33 09.5**	**-0.3**
BTKR				*e*Sg	**Sn**	**14 33 25.4**	**-0.2**
EPOS	**Posof**	**1.18**	**207**	*i* P	Pn	14 33 02.8	-7.6
EPOS				*i* S	Sb	14 33 19.2	-6.3
KUBR	**Kubataba**	**1.25**	**359**	⇑*i*PG	**Pg**	**14 33 12.6**	**+1.0**
KUBR				*i* S	**Sg**	**14 33 31.6**	**+3.8**
KUBR	**Kubataba**	**1.25**	**359**	*i* Pg	**Pg**	**14 33 12.6**	**+1.0**
TBLG	**Delisi**	**1.27**	**130**	P	**Pg**	**14 33 13.2**	**+1.2**
TBLG				S	**Sg**	**14 33 30.3**	**+1.9**
SHAR	**Shatzhatmas**	**1.32**	**335**	⇑*e*PG	**Pb**	**14 33 13.1**	**+0.4**
SHAR				*i* S	**Sg**	**14 33 31.1**	**+0.9**
SHAR	**Shatzhatmas**	**1.32**	**335**	*e*Pg	**Pb**	**14 33 13.1**	**+0.4**
SHAR				*i* Sg	**Sg**	**14 33 31.1**	**+0.9**
PYA	**Pyatigorsk**	**1.51**	**349**	⇑*i*PG	**Pg**	**14 33 17.0**	**+0.4**
PYA				*i* S	**Sg**	**14 33 37.5**	**+1.4**
PYA	**Pyatigorsk**	**1.51**	**349**	*i* Pg	**Pg**	**14 33 17.0**	**+0.4**
PYA				*i* Sg	**Sg**	**14 33 37.5**	**+1.4**
DOMR	**Dombai**	**1.53**	**299**	⇑*i*PG	**Pn**	**14 33 14.5**	**-0.7**
ARTV	**Artvin**	**1.78**	**220**	*i* P	**Pn**	**14 33 19.2**	**+0.6**
ARTV				*i* S	**Sb**	**14 33 42.8**	**0.0**
ARTV	**Artvin**	**1.78**	**220**	*i* P	**Pn**	**14 33 19.2**	**+0.6**
ARTV				*i* S	**Sb**	**14 33 42.8**	**0.0**
DBOC	**Borcka**	**1.79**	**228**	*i* P	**Pn**	**14 33 19.0**	**+0.3**
DBOC				*i* S	**Sb**	**14 33 42.8**	**-0.4**
DBOC	**Borcka**	**1.79**	**228**	*i* P	**Pn**	**14 33 19.0**	**+0.3**
DBOC				*i* S	**Sb**	**14 33 42.8**	**-0.4**
DGRG	**David-gareji**	**1.81**	**127**	P	**Pg**	**14 33 24.1**	**+1.7**
DGRG				S	**Sg**	**14 33 48.0**	**+2.1**
DAGI	**Agillar**	**1.87**	**218**	*i* P	**Pb**	**14 33 20.9**	**-1.0**
DAGI				*i* S	**Sb**	**14 33 45.7**	**+0.3**

DBAD	**Bademkaya**	**2.02**	**221**	*i* P	**Pb**	**14 33 23.4**	**-1.1**
DBAD				*i* S	**Sb**	**14 33 50.3**	**+0.6**
DBAD	**Bademkaya**	**2.02**	**221**	*i* P	**Pb**	**14 33 23.4**	**-1.1**
DBAD				*i* S	**Sb**	**14 33 50.3**	**+0.6**
DDEM	**Demirkent**	**2.09**	**218**	*i* P	**Pb**	**14 33 24.6**	**-1.1**
DDEM				*i* S	**Sb**	**14 33 51.8**	**0.0**
DDEM	**Demirkent**	**2.09**	**218**	*i* P	**Pb**	**14 33 24.6**	**-1.1**
DDEM				*i* S	**Sb**	**14 33 51.8**	**0.0**
GOF	**Gofitskoye**	**2.52**	**354**	*e*PN	**Pn**	**14 33 28.3**	**-0.4**
GOF				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GOF	**Gofitskoye**	**2.52**	**354**	*e*Pn	**Pn**	**14 33 28.3**	**-0.4**
	comp=Z,10.0nm,0.8s						
SOC	**Sochi**	**2.92**	**292**	*e*PN	**Pg**	**14 33 42.6**	**-1.0**
SOC				*e*		14 34 28.7	
SOC				pmax	pmax		
	comp=Z,6.0nm,0.5s						

*IDC **04** 14:38:34.3±1.2,15°.48S×173°.22W,h0km,mb4.0/8, mb1 4.3/8,mb1mx4.1/20,mbtmp4.0/8, Error ellipse: s-maj=62.8km s-min=19.5km az=145.0*
*NEIC **04** 14:38:35.9±0.6,15°.49S×173°.17W,h10km,mb4.5/3, Error ellipse: s-maj=28.6km s-min=11.4km az=143.0*
*ISCJB **04** 14:38:38.6±0.6,15°.5S±0°.2×173°.3W±0°.2,h42km,mb4.1/9, Error ellipse: s-maj=33.0km s-min=13.1km az=142.5*

ISC 04 14:38:40.4±0.8,15°.5S±0°.2×173°.3W±0°.2,h42km,n31, σ0§40/20,mb4.1/9,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.15**	**43**	Pn	Pn	14 39 05.0	-8.9
AFI				Sn	Sn	14 39 26.8	-13
AFI	**Afiamalu**	**2.15**	**43**	Pn	Pn	14 39 05.0	-8.9
	21nm,0.3s,baz=67,slow=4.1,SNR=20						
AFI				Sn	Sn	14 39 26.8	-13
	156nm,0.3s,baz=41,slow=19,SNR=18						
MSVF	**Nonsavu**	**8.60**	**254**	*e*P	Pn	14 40 52.3	+10
DZM	**Mont Dzumac**	**20.26**	**248**	P	Pn	14 43 14.9	+0.1
	8.9nm,0.8s						
DZM	**Mont Dzumac**	**20.26**	**248**	P	Pn	14 43 12.8	-2.0
	3.6nm,0.9s,baz=294,slow=20,SNR=2.2						
H11S2	**WAKE ISLAND Hy**	**39.10**	**329**	T	T	15 27 54.6	
	baz=152,slow=0.7,SNR=17						
H11S3	**WAKE ISLAND Hy**	**39.11**	**329**	T	T	15 28 03.7	
	baz=152,slow=0.7,SNR=23						
H11S1	**WAKE ISLAND Hy**	**39.12**	**329**	T	T	15 27 58.7	
	baz=152,slow=0.7,SNR=28						
H11N3	**WAKE ISLAND Hy**	**40.05**	**330**	T	T	15 29 14.1	
	baz=152,slow=0.7,SNR=26						
H11N1	**WAKE ISLAND Hy**	**40.05**	**330**	T	T	15 29 18.6	
	baz=152,slow=0.7,SNR=20						
H11N2	**WAKE ISLAND Hy**	**40.06**	**330**	T	T	15 29 15.4	
	baz=152,slow=0.7,SNR=27						
STKA	**Stephens Creek**	**44.08**	**240**	P	**P**	**14 46 44.6**	**0.0**
STKA	**Stephens Creek**	**44.08**	**240**	P	**P**	**14 46 44.6**	**0.0**
	3.3nm,0.9s,baz=84,slow=8.7,SNR=10						
AS31	**Alice Springs**	**50.18**	**252**	*e*P	**P**	**14 47 32.0**	**-0.4**
ASAR	**Alice Springs**	**50.18**	**252**	P	**P**	**14 47 32.2**	**-0.2**
ASAR	**Alice Springs**	**50.18**	**252**	P	**P**	**14 47 32.2**	**-0.2**
	5.4nm,0.6s,baz=87,slow=7.4,SNR=114						
SBA	**Scott Base**	**63.16**	**185**	*e*P	**P**	**14 49 03.7**	**+0.1**
PETK	**Petropavlovsk-**	**72.75**	**342**	P	**P**	**14 50 04.0**	**-0.1**
PETK	**Petropavlovsk-**	**72.75**	**342**	P	**P**	**14 50 04.0**	**-0.1**
	5.8nm,1.0s,baz=154,slow=8.0,SNR=2.9						
NVAR	**Mina Array Bea**	**74.33**

HNR S **S** **14 48 27.7 +5.4**
7.5nm,0.3s,baz=357,slow=18,SNR=8.5
CTA **Charters Tower** **14.51 188** P **P** **14 46 33.9 0.0**
CTA **Charters Tower** **14.51 188** ⇓P **P** **14 46 34.1 +0.2**
baz=15
CTA **Charters Tower** **14.51 188** P **P** **14 46 33.9 0.0**
3.9nm,0.3s,baz=10.0,slow=14,SNR=84
CTA LR LR 14 51 42.0
comp=Z,679nm,20.2s,baz=27,slow=35
CTAO **Charters Tower** **14.51 188** *e*P **P** **14 46 33.5 -0.4**
CTAO pmax pmax
comp=Z,300nm,1.2s
CTAO **Charters Tower** **14.51 188** *e*P **P** **14 46 33.5 -0.4**
comp=Z,300nm,1.2s
TLE **Tual** **15.61 269** ⇑P **P** **14 46 47.7 +1.5**
baz=16,SNR=3.1
PATS **Pohnpei** **15.85 39** ⇑P **P** **14 46 49.0 +0.2**
baz=16,SNR=16
KDU **Kakadu** **17.22 245** ⇑P **P** **14 47 04.2 +0.3**
baz=17,SNR=134
SWI **Sorong** **17.78 285** P **P** **14 47 08.8 -1.2**
comp=Z,33nm,0.7s
SWI **Sorong** **17.78 285** ⇓P **Pn** **14 47 12.1 +0.4**
baz=18,SNR=3.7
PALU **Palau** **18.98 313** ⇑P **Pn** **14 47 24.5 -1.3**
baz=19,SNR=36
WRAB **Tennant Creek** **19.72 223** *e*P **P** **14 47 31.9 +0.9**
WRAB pmax pmax
comp=Z,151nm,0.6s
WRAB **Tennant Creek** **19.72 223** P **P** **14 47 32.0 +0.9**
comp=Z,1μm,0.7s,SNR=91
WRAB **Tennant Creek** **19.72 223** *e*P **P** **14 47 31.9 +0.9**
comp=Z,151nm,0.6s
WRA **Warramunga Arr** **19.73 223** P **P** **14 47 31.8 +0.6**
WRA S **S** **14 51 03.3 -0.9**
WRA ScS **ScS** **14 58 47.6 +2.8**
WRA **Warramunga Arr** **19.73 223** P **P** **14 47 31.8 +0.6**
comp=Z,22nm,0.3s,baz=41,slow=10,SNR=452
WRA S **S** **14 51 03.3 -0.9**
comp=Z,1.3nm,0.3s,baz=45,slow=20,SNR=22
WRA ScS **ScS** **14 58 47.6 +2.8**
comp=Z,0.1nm,0.3s,baz=24,slow=2.6,SNR=4.7
EIDS **Eidsvold** **19.77 173** *e*P **P** **14 47 33.0 +1.5**
comp=Z,320nm,1.0s
EIDS **Eidsvold** **19.77 173** ⇓P **P** **14 47 32.8 +1.3**
baz=20,SNR=101
RMQ **Roma** **20.72 179** ⇓P **P** **14 47 43.4 +1.7**
baz=21,SNR=174
QLP **Quilpie** **21.20 190** ⇑P **P** **14 47 47.9 +1.2**
baz=21,SNR=194
KNRA **Kununurra** **21.71 241** ⇓P **P** **14 47 52.0 -0.3**
baz=22,SNR=286
AS06 **Alice Springs** **22.67 216** ⇓P **P** **14 48 02.3 +0.8**
baz=23
ASAR **Alice Springs** **22.72 217** P **P** **14 48 03.2 +1.3**
ASAR S **S** **14 51 57.3 +0.1**
ASAR ScS **ScS** **14 58 58.6 +3.2**
ASAR *e* 15 21 34.0
ASAR **Alice Springs** **22.72 217** P **P** **14 48 03.2 +1.3**
comp=Z,106nm,0.8s,baz=52,slow=9.2,SNR=385
ASAR S **S** **14 51 57.3 +0.1**
comp=Z,4.9nm,0.8s,baz=32,slow=17,SNR=3.2
ASAR LR LR 14 57 07.2
comp=Z,658nm,19.6s,baz=15,slow=37
ASAR ScS **ScS** **14 58 58.6 +3.2**
comp=Z,2.1nm,1.1s,baz=61,slow=9.7,SNR=4.9
ASAR P3KPbc 15 21 34.0
comp=Z,2.4nm,1.0s,baz=213,slow=3.7,SNR=10
DZM **Mont Dzumac** **23.88 135** P **P** **14 48 12.9 +0.4**
DZM S **S** **14 52 20.3 +4.4**
DZM ScP **ScP** **14 55 13.6 +1.0**
DZM **Mont Dzumac** **23.88 135** P **P** **14 48 12.9 +0.4**
comp=Z,484nm,1.1s,baz=301,slow=6.5,SNR=144
DZM S **S** **14 52 20.3 +4.4**
comp=Z,4.9nm,1.0s,baz=119,slow=19,SNR=2.6
DZM ScP **ScP** **14 55 13.6 +1.0**
comp=Z,9.6nm,1.1s,baz=50,slow=16,SNR=3.9
ARMA **Armidale** **24.82 173** *e*P **P** **14 48 22.1 +1.1**
comp=Z,249nm,1.3s
ARMA **Armidale** **24.82 173** ⇑P **P** **14 48 21.7 +0.7**
baz=25,SNR=25
BATI **Baumata** **24.93 258** P **P** **14 48 21.8 -0.3**
comp=Z,20nm,0.9s
BATI **Baumata** **24.93 258** P **P** **14 48 22.3 +0.2**
BATI **Baumata** **24.93 258** P **P** **14 48 22.3 +0.2**
comp=Z,24nm,0.5s,baz=154,slow=3.6,SNR=11
FITZ **Fitzroy Crossi** **25.46 239** *e*P **P** **14 48 26.1 -0.7**
comp=Z,114nm,0.8s
FITZ pP **pP** **14 49 02.2 -0.4**
FITZ S **S** **14 52 42.2 +1.3**
FITZ **Fitzroy Crossi** **25.46 239** ⇓P **P** **14 48 26.5 -0.3**
baz=26,SNR=122
FITZ **Fitzroy Crossi** **25.46 239** P **P** **14 48 27.3 +0.5**
comp=Z,65nm,0.4s,baz=55,slow=11,SNR=251
FITZ pP **pP** **14 49 02.2 -0.4**
comp=Z,83nm,0.7s,baz=85,slow=8.0,SNR=7.2
FITZ S **S** **14 52 42.2 +1.3**
comp=Z,5.8nm,0.8s,baz=69,slow=20,SNR=3.4
FITZ LR LR 14 59 15.6
comp=Z,282nm,18.9s,baz=60,slow=38
CMSA **Cobar Meteorol** **25.88 185** ⇑P **P** **14 48 30.9 +0.5**
baz=26,SNR=100
STKA **Stephens Creek** **26.86 193** *e*P **P** **14 48 39.1 -0.1**
comp=Z,11nm,0.9s
STKA **Stephens Creek** **26.86 193** ⇑P **P** **14 48 39.4 +0.1**
baz=27,SNR=6.0
STKA **Stephens Creek** **26.86 193** P **P** **14 48 39.3 +0.1**
comp=Z,18nm,0.5s,baz=355,slow=8.4,SNR=56
STKA LR LR 15 00 02.3
comp=Z,600nm,18.1s,baz=293,slow=38
MGCD **Mangrove Creek** **27.53 175** ⇓P **P** **14 48 46.3 +1.1**
baz=28,SNR=12
RIV **Riverview** **28.15 175** ⇑P **P** **14 48 52.1 +1.5**
baz=28
YNG **Young** **28.50 180** ⇑P **P** **14 48 54.8 +1.0**
baz=29,SNR=60
HTT **Hallett** **29.02 197** ⇓P **P** **14 48 59.2 +0.8**
baz=29
BBOO **Buckleboo** **29.38 202** *e*P **P** **14 49 01.8 +0.3**
comp=Z,345nm,0.8s
BBOO **Buckleboo** **29.38 202** ⇓P **P** **14 49 01.8 +0.3**
baz=30,SNR=24
CAN **Canberra** **29.53 179** *e*P **P** **14 49 04.2 +1.3**
CAN pmax pmax
comp=Z,82nm,0.8s
CAN **Canberra** **29.53 179** *e*P **P** **14 49 04.2 +1.3**
comp=Z,82nm,0.8s
CAN **Canberra** **29.53 179** ⇓P **P** **14 49 04.0 +1.1**
baz=30
CNB **Canberra Magne** **29.53 178** ⇑P **P** **14 49 03.9 +0.9**
baz=30,SNR=36
MILA **Mila** **31.26 179** ⇓P **P** **14 49 19.5 +1.3**
baz=32,SNR=28
FORT **Forrest** **31.48 215** *e*P **P** **14 49 20.6 +0.5**
comp=Z,50nm,0.6s
FORT **Forrest** **31.48 215** ⇓P **P** **14 49 20.9 +0.8**
baz=32,SNR=44
ARPS **Mount Arapiles** **31.55 190** ⇓P **P** **14 49 21.7 +1.1**
baz=32
MYLDM **Lahad Datu** **31.76 289** P **P** **14 49 23.7 +1.0**
MBWA **Marble Bar** **31.79 238** *e*P **P** **14 49 23.1 +0.2**
comp=Z,9.9nm,0.4s
TOO **Toolangi** **31.88 184** ⇑P **P** **14 49 24.6 +1.0**
baz=32,SNR=28
TSM **Tawau** **32.07 287** P P 14 49 18.6 -6.8
SDKM **Sandakan** **33.13 289** P **P** **14 49 35.9 +1.1**
KKM **Kota Kinabalu** **34.19 289** P **P** **14 49 44.4 +0.5**
MEEK **Meekatharra** **35.26 230** ⇓P **P** **14 49 53.8 +0.8**
baz=35,SNR=30
BTM **Bintulu** **36.38 283** P **P** **14 50 01.9 -0.6**
MOO **Moorlands** **36.65 182** ⇑P **P** **14 50 06.5 +2.1**
baz=37,SNR=6.4
SBUM **Sibu** **37.04 282** P P 14 50 03.4 -4.8
TAU **Tasmania Unive** **37.12 181** *e*P **P** **14 50 09.7 +1.3**
TAU pmax pmax
comp=Z,75nm,1.4s
TAU **Tasmania Unive** **37.12 181** P **P** **14 50 10.0 +1.7**
comp=Z,232nm,1.5s,SNR=7.3
TAU **Tasmania Unive** **37.12 181** *e*P **P** **14 50 09.7 +1.3**
comp=Z,75nm,1.4s
MORW **Morawa** **38.46 229** ⇑P **P** **14 50 20.2 +0.3**
baz=39,SNR=4.2
KLBR **Kellerberrin** **38.60 224** ⇑P **P** **14 50 20.9 -0.1**
baz=39,SNR=43
BLDU **Ballidu** **38.79 226** ⇑P **P** **14 50 23.1 +0.5**
baz=39,SNR=23
RAO **Raoul Island** **39.52 130** P P 14 50 33.4 +4.8
comp=Z,557nm,1.1s,baz=240,slow=20,SNR=2.8
NWAO **Narrogin (SRO)** **39.74 223** P **P** **14 50 30.6 +0.2**
NWAO **Narrogin (SRO)** **39.74 223** P **P** **14 50 30.6 +0.2**
comp=Z,6.0nm,0.5s,baz=55,slow=2.3,SNR=3.8
YHNB **Yeheng** **40.02 320** *e*P **P** **14 50 33.9 +1.0**
RKGY **Rocky Gully** **40.92 221** ⇓P **P** **14 50 40.5 +0.5**
baz=41,SNR=8.4
URZ **Urewera** **41.62 145** P **P** **14 50 45.8 +0.2**
URZ **Urewera** **41.62 145** P **P** **14 50 45.8 +0.2**
comp=Z,20nm,0.6s,baz=118,slow=22,SNR=12
JNU **Nakatsue** **42.00 338** *e*P **P** **14 50 49.7 +0.8**
comp=Z,81nm,0.9s
JNU **Nakatsue** **42.00 338** P **P** **14 50 49.8 +0.9**
comp=Z,130nm,0.8s,baz=142,slow=3.2,SNR=100
RPZ **Rata Peaks** **42.83 156** *e*P **P** **14 50 56.3 +0.9**
comp=Z,46nm,0.6s
RPZ **Rata Peaks** **42.83 156** P **P** **14 50 56.3 +0.9**
comp=Z,48nm,0.6s,baz=291,slow=2.9,SNR=46
MAJO **Matsushiro** **43.05 348** *e*P **P** **14 50 56.9 -0.4**
MAJO pmax pmax
comp=Z,233nm,1.4s
MAJO **Matsushiro** **43.05 348** *e*P **P** **14 50 56.9 -0.4**
comp=Z,232nm,1.4s
NJ2 **Nanjing** **46.89 325** *e*P **P** **14 51 28.0 +0.4**
NJ2 pP **pP** **14 52 07.5 +0.9**
NJ2 sP **sP** **14 52 27.2 +1.0**
NJ2 ScP **ScP** **14 56 30.5 -4.2**
NJ2 S **S** **14 58 07.0 +1.9**
NJ2 sS **sS** **14 59 14.0 +0.9**
NJ2 AMB AMB
comp=Z,420nm,0.8s
NJ2 AMB AMB
comp=Z,820nm,5.9s
NJ2 LR LR
comp=Z,2μm,18.9s
NJ2 LR LR
comp=Z,2μm,18.2s
NJ2 LR LR
comp=Z,2μm,17.0s
KSRS **Korea Array** **46.95 338** P **P** **14 51 28.7 +0.8**
comp=Z,66nm,0.9s,baz=152,slow=8.9,SNR=185
KSRS ScP **ScP** **14 56 32.9 -2.0**
comp=Z,3.6nm,1.1s,baz=144,slow=5.9,SNR=5.4
KSAR **Wonju Array Be** **46.96 338** P **P** **14 51 28.7 +0.7**
KSAR ScP **ScP** **14 56 32.9 -2.0**
INCN **Inchon** **47.48 336** *e*P **P** **14 51 33.2 +1.1**
comp=Z,101nm,0.9s
FRIM **Kepong** **47.57 280** P **P** **14 51 32.2 -1.0**
PPI **Padang Panjang** **48.22 274** P **P** **14 51 36.5 -1.7**
PPI **Padang Panjang** **48.22 274** ⇓P **P** **14 51 36.9 -1.2**
baz=48
IPM **Ipoh** **48.39 281** P **P** **14 51 39.5 -0.1**
WHN **Wuhan** **48.57 320** P **P** **14 51 41.0 +0.5**
PANO **Nakornpanom** **48.85 298** P **P** **14 51 44.3 +1.3**
comp=Z,14nm,1.4s
KULM **Kulim** **48.92 282** P **P** **14 51 40.5 -3.1**
SKNT **Sakolnakorn** **49.34 298** P **P** **14 51 46.0 -0.7**
comp=Z,24nm,1.0s
YUK **Yuzh-Kuril'sk** **49.51 358***c* *i*P P 14 51 50.7 +3.3
YUK *i* *PP pP 14 52 28.3 +1.5
YUK *e* 14 53 50.0
YUK *i* S S 14 58 52.3 +11
YUK *e*SS **SS** **15 02 11.0 -5.0**
ASAJ **Asahikawa** **49.82 355** P **P** **14 51 50.5 +0.8**
ASAJ **Asahikawa** **49.82 355** P **P** **14 51 50.5 +0.8**
comp=Z,33nm,1.1s,baz=184,slow=16,SNR=15
PSI **Prapat** **50.15 278** P **P** **14 51 50.7 -2.3**
PSI **Prapat** **50.15 278** ⇓P **P** **14 51 51.2 -1.8**
baz=50,SNR=3.4
PSI **Prapat** **50.15 278** P **P** **14 51 50.7 -2.3**
comp=Z,3.6nm,0.3s,baz=1.1,slow=13,SNR=6.4
DL2 **Dalian** **50.81 333** P **P** **14 51 57.6 +0.3**
DL2 AMB AMB
comp=Z,140nm,1.2s
GSI **Gunungsitoli** **51.24 276** ⇓P **P** **14 51 58.9 -2.2**
baz=51
GYA **Guiyang** **51.53 310**⇑ *i*P **P** **14 52 05.0 +1.9**
GYA pP **pP** **14 52 44.0 +1.3**
GYA sP **sP** **14 53 03.2 +1.0**
GYA PcP **PcP** **14 53 16.8 +2.0**
GYA PP **PP** **14 54 05.7 +3.4**
GYA ScP **ScP** **14 56 55.5 +0.6**
GYA PcS **PcS** **14 57 13.2 0.0**
GYA S **S** **14 59 10.0 -0.2**
GYA AMB AMB
comp=Z,40nm,1.0s
GYA AMB AMB
comp=Z,130nm,5.9s
ENH **Enshi** **51.64 316** *e*P **P** **14 52 03.1 -0.6**
comp=Z,14nm,0.9s
USRK **Ussuriysk Arra** **51.79 345** P **P** **14 52 05.8 +1.3**
comp=Z,34nm,0.7s,baz=180,slow=7.4,SNR=68
USRK pP **pP** **14 52 44.2 0.0**
comp=Z,5.1nm,0.7s,baz=164,slow=5.8,SNR=2.0
SNY **Shenyang** **52.41 337** ⇓P **P** **14 52 10.0 +0.9**
SNY S **S** **14 59 21.6 +0.1**
SNY AMB AMB
comp=Z,53nm,0.6s
SNY LR LR
comp=Z,250nm,6.6s
SNY LR LR
comp=Z,230nm,6.6s
SNY LR LR
comp=Z,250nm,7.2s
YSS **Yuzh-Sakhalins** **52.62 355**⇑ *e*P **P** **14 52 11.6 +1.1**
YSS pmax pmax
comp=Z,70nm,1.1s
MDJ **Mudanjiang** **52.83 343** P **P** **14 52 13.0 +0.9**
MDJ pP **pP** **14 52 49.0 -3.0**
MDJ PP **PP** **14 54 14.4 +0.8**
MDJ S **S** **14 59 29.2 +2.2**
MDJ **Mudanjiang** **52.83 343** *e*P **P** **14 52 13.1 +1.0**
comp=Z,70nm,1.2s
NANT **Nan** **52.92 299** P **P** **14 52 13.2 -0.2**
comp=Z,61nm,0.7s
CN2 **Changchun** **53.42 339** *e*P **P** **14 52 17.0 +0.5**
CN2 PcP **PcP** **14 53 21.0 -0.3**
CN2 *e*S **S** **14 59 34.9 -0.2**
CN2 AMB AMB
comp=Z,20nm,0.9s
PAYA **Payao** **53.86 299** P **P** **14 52 20.2 0.0**
comp=Z,7.9nm,1.0s,comp=Z,81nm
KMI **Kunming** **53.92 307** P **P** **14 52 21.1 +0.3**
KMI pP **pP** **14 53 03.7 +3.0**
KMI S S 14 59 34.8 -8.1
KMI AMB AMB
comp=Z,14nm,1.3s
BJT **Baijiatuan** **54.29 330** *e*P **P** **14 52 23.0 +0.1**
comp=Z,149nm,1.5s
BJI **Beijing** **54.30 330** P **P** **14 52 23.3 +0.3**
BJI S **S** **14 59 50.1 +3.1**
BJI SS **SS** **15 03 35.7 +3.7**
BJI AMB AMB
comp=Z,51nm,1.4s
BJI AMB AMB
comp=Z,340nm,4.6s
BJI LR LR
comp=Z,460nm,16.0s
BJI LR LR
comp=Z,320nm,16.7s
BJI LR LR
comp=Z,160nm,20.9s
XAN **Xi'an** **54.33 319** P **P** **14 52 23.0 -0.4**
XAN AMB AMB
comp=Z,19nm,1.1s
XAN AMB AMB
comp=Z,80nm,5.6s
CM31 **Chiang Mai Arr** **54.34 297** *e*P **P** **14 52 22.6 -1.0**
comp=Z,3.5nm,0.4s
CMAR **Chiang Mai Arr** **54.34 297** P **P** **14 52 23.4 -0.2**
CMAR pP **pP** **14 53 02.3 -1.4**
CMAR ⇑*e* 15 22 47.0
CMAR **Chiang Mai Arr** **54.34 297** P **P** **14 52 23.5 -0.2**
comp=Z,3.3nm,0.5s,baz=124,slow=5.7,SNR=34
CMAR pP **pP** **14 53 02.3 -1.4**
comp=Z,6.2nm,1.0s,baz=118,slow=5.3,SNR=4.7
CMAR PKP2bc 15 22 47.0
comp=Z,0.7nm,0.8s,baz=305,slow=3.2,SNR=3.0
CHTO **Chiang Mai** **54.47 298** *e*P **P** **14 52 24.0 -0.6**
CHTO *e*PP **pP** **14 53 04.4 -0.3**
CHTO pmax pmax
comp=Z,35nm,1.1s
CHTO **Chiang Mai** **54.47 298** *e*P **P** **14 52 24.0 -0.6**
comp=Z,35nm,1.1s
CHTO *e*pP **pP** **14 53 04.3 -0.3**
CHTO **Chiang Mai** **54.47 298** P **P** **14 52 25.9 +1.3**
comp=Z,38nm,0.9s
CD2 **Chengdu** **56.06 313** P **P** **14 52 36.0 +0.2**
CD2 pP **pP** **14 53 17.5 +1.4**
CD2 sP **sP** **14 53 36.8 +1.4**
CD2 PP **PP** **14 54 46.1 +3.3**
CD2 S **S** **15 00 10.7 -0.2**
CD2 sS **sS** **15 01 20.8 -0.1**
CD2 SS **SS** **15 04 00.1 0.0**
CD2 AMB AMB
comp=Z,30nm,0.5s
CD2 AMB AMB
comp=Z,300nm,4.7s
KLR **Kul'dur** **56.56 347**⇑ *i*P **P** **14 52 36.7 -2.2**
KLR pmax pmax
comp=N,82nm,1.6s
KLR pmax pmax
comp=E,88nm,1.6s
KLR pmax pmax
comp=Z,400nm,1.6s
HHC **Hu-ho-hao-te** **57.30 327** *e*P **P** **14 52 45.3 +0.9**
HHC pP **pP** **14 53 25.7 +0.9**
HHC sP **sP** **14 53 45.1 +1.0**
HHC PP **PP** **14 54 56.6 +2.9**
HHC S **S** **15 00 27.1 +0.2**
HHC sS **sS** **15 01 37.8 +0.6**
HHC SS **SS** **15 04 22.0 +2.7**
HHC AMB AMB
comp=Z,91nm,1.1s
HHC AMB AMB
comp=Z,530nm,5.1s
HHC LR LR
comp=Z,500nm,14.3s
HHC LR LR
comp=Z,600nm,15.1s
HHC LR LR
comp=Z,510nm,15.7s
BTO **Baotou** **57.97 326** *e*P **P** **14 52 49.0 -0.1**
LZH **Lanzhou** **58.88 318** *e*P **P** **14 52 56.9 +1.3**
LZH pP **pP** **14 53 37.7 +1.5**
LZH PcP **PcP** **14 53 41.8 -1.3**
LZH sP **sP** **14 53 56.4 +1.0**
LZH PP **PP** **14 55 09.6 +1.7**
LZH *e*S **S** **15 00 46.5 -1.3**
LZH sS **sS** **15 01 56.3 -2.1**
LZH SS **SS** **15 04 48.3 +3.8**
LZH AMB AMB
comp=Z,23nm,1.0s
LZH AMB AMB
comp=Z,130nm,4.0s
PEA0B **Petropavlovsk-** **59.06 7** *e*P **P** **14 52 57.7 +1.4**
PETK **Petropavlovsk-** **59.06 7** P **P** **14 52 57.5 +1.2**
PETK **Petropavlovsk-** **59.06 7** P **P** **14 52 57.5 +1.2**
PETK **Petropavlovsk-** **59.06 7** P **P** **14 52 57.5 +1.2**
comp=Z,172nm,1.1s,baz=165,slow=6.7,SNR=150
PET **Petropavlovsk** **59.09 7** *e*P **P** **14 52 57.6 +1.2**
PET pmax pmax
comp=Z,134nm,1.1s
HIA **Hailar** **60.13 339** *e*P **P** **14 53 04.6 +0.9**
comp=Z,162nm,1.0s
FX1 **Attu Island--F** **61.97 17** *e*P **P** **14 53 16.7 +0.8**
FX1 **Attu Island--F** **61.97 17** P **P** **14 53 16.6 +0.7**
comp=Z,149nm,0.8s,baz=152,slow=4.7,SNR=25
SHL **Shillong** **63.02 302** *e*P **P** **14 53 23.5 -0.2**
GTA **Gaotai** **63.39 319** *e*P **P** **14 53 26.3 +0.5**
GTA pP **pP** **14 54 07.8 +0.8**
GTA sP **sP** **14 54 26.4 +0.3**
GTA AMB AMB
comp=Z,11nm,1.2s
ULN **Ulaanbaatar** **64.50 330** *e*P **P** **14 53 33.8 +0.9**
comp=Z,75nm,1.4s
CIT **Chita** **64.68 337** *e*P **P** **14 53 34.4 +0.5**
CIT *e* 14 54 16.4
CIT pmax pmax
comp=Z,228nm,1.8s
SONM **Songino Array** **64.80 330** P **P** **14 53 35.2 +0.4**
SONM ⇑*e* 15 22 23.4
SONM **Songino Array** **64.80 330** P **P** **14 53 35.2 +0.4**
comp=Z,15nm,0.7s,baz=148,slow=5.9,SNR=45
SONM PKP2bc 15 22 23.4
comp=Z,5.7nm,1.2s,baz=295,slow=1.9,SNR=8.9
LSA **Lhasa** **65.17 306** P **P** **14 53 38.2 +0.2**
LSA AMB AMB
comp=Z,20nm,0.8s
LSA **Lhasa** **65.17 306** *e*P **P** **14 53 38.0 0.0**
LSA pmax pmax
comp=Z,13nm,0.6s
LSA **Lhasa** **65.17 306** *e*P **P** **14 53 38.0 0.0**
comp=Z,13nm,0.6s
CLNS **Chul'man** **65.18 346** *e*P **P** **14 53 37.1 +0.1**
CLNS pmax pmax
comp=Z,84nm,1.1s
CLNS pmax pmax
comp=N,37nm,1.0s
CLNS pmax pmax
comp=E,7.0nm,0.8s
TAPN **Taplejung** **67.15 303** *e*P **P** **14 53 49.9 -0.6**
comp=E,18nm,0.6s
ODAN **Odare** **67.26 302** *e*P **P** **14 53 50.3 -0.8**
RAMN **Ramite** **67.95 302** *e*P **P** **14 53 54.8 -0.6**
ZAK **Zakamensk** **68.02 331** *e*P **P** **14 53 55.0 -0.2**
ZAK pmax pmax
comp=Z,19nm,1.5s
SEY **Seymchan** **68.46 2***c**e*P **P** **14 53 58.6 +1.1**
JIRN **Jiri** **68.53 302** *e*P **P** **14 53 58.6 -0.6**
comp=Z,35nm,0.7s
TLY **Talaya** **68.70 332** *e*P **P** **14 54 00.4 +1.1**
TLY *e* 15 03 26.6
TLY pmax pmax
comp=Z,39nm,1.9s
IRK **Irkutsk** **68.78 333** *e*P **P** **14 53 59.8 0.0**
IRK pmax pmax
comp=Z,65nm,1.9s
GUN **Gumba** **68.87 303** *e*P **P** **14 54 00.6 -0.6**
comp=Z,52nm,0.4s
YAK **Yakutsk** **69.02 351** *e*P **P** **14 54 00.9 -0.1**
YAK pmax pmax
comp=Z,79nm,1.0s
YAK pmax pmax
comp=N,43nm,1.3s
YAK pmax pmax
comp=E,13nm,1.4s
PKI **Pulchoki** **69.16 302** *e*P **P** **14 54 01.9 -1.1**
KKN **Kakani** **69.33 302** *e*P **P** **14 54 03.2 -0.7**
comp=E,16nm,0.4s
DMN **Daman** **69.42 302** *e*P **P** **14 54 03.9 -0.6**
comp=E,34nm,0.6s
GKN **Gorkha** **69.94 302** *e*P **P** **14 54 06.6 -1.0**
comp=E,34nm,0.6s
MOY **Mondy** **69.95 331** *e*P **P** **14 54 08.0 +0.9**
MOY pmax pmax
comp=Z,67nm,2.7s
UNV **Unalaska Valle** **70.27 26** *e*P **P** **14 54 08.6 -0.2**
comp=Z,197nm,1.2s
KOLN **Koldanda** **70.74 302** *e*P **P** **14 54 11.5 -1.0**
comp=Z,33nm,0.6s
AKUT **Akutan** **70.78 27** *e*P **P** **14 54 12.1 +0.2**
comp=Z,214nm,1.0s
DANN **Dangsing** **70.78 302** *e*P **P** **14 54 11.6 -1.3**
comp=Z,23nm,0.6s
VNDA **Vanda** **72.18 177** *e*P **P** **14 54 20.6 +0.7**
comp=Z,13nm,1.0s
VNDA pP **pP** **14 54 59.6 -2.5**
VNDA **Vanda** **72.18 177** P **P** **14 54 20.4 +0.5**
comp=Z,9.8nm,0.8s,baz=334,slow=6.3,SNR=59
VNDA pP **pP** **14 54 59.6 -2.5**
comp=Z,6.1nm,0.7s,baz=329,slow=6.2,SNR=6.0
FALS **False Pass** **72.30 27** *e*P **P** **14 54 21.8 +0.9**
comp=Z,83nm,0.5s
SBA **Scott Base** **72.80 176** *e*P **P** **14 54 25.4 +1.8**
SBA pmax pmax
comp=Z,20nm,1.3s
SBA **Scott Base** **72.80 176** *e*P **P** **14 54 25.4 +1.8**
comp=Z,20nm,1.3s
HVS **Khovu-Aksy** **73.37 328***d* *i*P **P** **14 54 28.0 +0.5**
HVS pmax pmax
comp=Z,230nm,1.2s
WMQ **Urumqi** **73.46 319** P **P** **14 54 27.7 -0.4**
WMQ S **SKiKP** **15 03 40.8 -0.1**
WMQ AMB AMB
comp=Z,25nm,0.8s
WMQ AMB AMB
comp=Z,270nm,5.0s
WMQ LR LR

comp=Z,100nm,26.0s
WMQ LR LR
comp=Z,140nm,21.0s
WMQ LR LR
comp=Z,69nm,23.4s
SDPT Sand Point 73.94 28 *e*P **P 14 54 30.5 0.0**
comp=Z,150nm,1.0s
CHGN Chignik 75.44 27 *e*P **P 14 54 39.0 -0.1**
MK31 Makanchi Array 78.14 320 *i* P **P 14 54 54.2 -0.4**
MK31 Makanchi Array 78.14 320 *e*P **P 14 54 54.0 -0.6**
MKAR Makanchi Array 78.14 320 P **P 14 54 54.2 -0.4**
MKAR Makanchi Array 78.14 320 P **P 14 54 54.2 -0.4**
MKAR PKKPbc **PKKPbc 15 13 52.1 -2.7**
MKAR P'P' 15 21 54.5
MKAR Makanchi Array 78.14 320 ⇓P **P 14 54 54.2 -0.4**
baz=78
MKAR Makanchi Array 78.14 320 P **P 14 54 54.2 -0.4**
comp=Z,8.3nm,0.6s,baz=96,slow=8.4,SNR=118
MKAR PKKPbc **PKKPbc 15 13 52.1 -2.7**
comp=Z,0.2nm,0.5s,baz=318,slow=1.9,SNR=3.0
MKAR PKPPKP **P'P'df 15 21 54.5 -1.2**
comp=Z,0.7nm,1.0s,baz=8.5,slow=2.9,SNR=3.0
OHAK Old Harbor 78.32 28 *e*P **P 14 54 55.5 +0.2**
comp=Z,78nm,0.9s
KDAK Kodiak Island 78.93 28 P **P 14 54 59.0 +0.4**
comp=Z,379nm,1.1s,SNR=15
KDAK Kodiak Island 78.93 28 *e*P **P 14 54 59.6 +1.1**
comp=Z,68nm,1.1s
KDAK Kodiak Island 78.93 28 P **P 14 54 58.7 +0.2**
comp=Z,44nm,0.8s,baz=205,slow=2.8,SNR=34
ZAA0 Zalesovo Array 79.48 327 *e*P **P 14 55 00.3 -1.3**
ZALV Zalesovo Beam 79.48 327 P **P 14 55 00.1 -1.6**
ZALV Zalesovo Beam 79.48 327 P **P 14 55 00.1 -1.6**
ZALV Zalesovo Beam 79.48 327 P **P 14 55 00.1 -1.6**
comp=Z,8.9nm,0.3s,baz=117,slow=5.9,SNR=66
RSO Redoubt South 80.19 25 *e*P **P 14 55 04.9 -0.7**
comp=Z,53nm,0.9s
KSH Kashi 80.20 312 P **P 14 55 07.1 +1.0**
KSH pP **pP 14 55 50.3 +1.2**
KSH PP **PP 14 58 15.0 +3.9**
KSH S **S 15 04 58.6 +1.9**
KSH SKS **SKSac 15 05 05.4 -2.0**
KSH sS **sS 15 06 12.4 +0.9**
KSH SS **SS 15 10 17.2 +5.4**
KSH AMB AMB
comp=Z,12nm,0.8s
KSH AMB AMB
comp=Z,140nm,4.0s
KSH LR LR
comp=Z,110nm,5.8s
KSH LR LR
comp=Z,150nm,6.1s
KSH LR LR
comp=Z,100nm,5.2s
NVS Novosibirsk 80.69 328 ⇓*i*P **P 14 55 06.4 -1.7**
NVS *i* 14 55 52.9
NVS pmax pmax
comp=N,8.0nm,1.2s
NVS pmax pmax
comp=Z,28nm,1.2s
NVS pmax pmax
comp=E,17nm,1.4s
ULHL Ulahol 80.76 314 P **P 14 55 09.4 +0.3**
SNR=9.9
TKM2 Tokmak 2 81.40 315 *i* P **P 14 55 12.1 -0.3**
TKM2 Tokmak 2 81.40 315 P **P 14 55 12.2 -0.3**
SNR=28
TKM2 Tokmak 2 81.40 315 *e*P **P 14 55 11.9 -0.6**
comp=E,16nm,0.6s
KZA Kyzart 81.42 314 P **P 14 55 13.2 +0.4**
SNR=34
SEW Seward 81.47 27 *e*P **P 14 55 12.6 +0.5**
comp=E,169nm,1.0s
PPLA Purkeypile 81.65 23 *e*P **P 14 55 13.6 +0.3**
comp=E,62nm,1.2s
KURK Kurchatov 81.78 323 *e*P **P 14 55 13.0 -0.9**
KURK pmax pmax
comp=Z,17nm,1.1s
KURK Kurchatov 81.78 323 P **P 14 55 13.1 -0.9**
comp=Z,122nm,1.0s,SNR=17
KURK Kurchatov 81.78 323 *e*P **P 14 55 13.0 -0.9**
comp=Z,17nm,1.1s
KBK Karagaybulak 81.79 314 P **P 14 55 14.2 -0.3**
SNR=9.3
KURBB Kurchatov Arra 81.81 323 P **P 14 55 12.8 -1.3**
comp=Z,6.3nm,0.9s,baz=109,slow=4.4,SNR=64
CHMS Chumysh 82.02 315 P **P 14 55 15.1 -0.4**
SNR=10.0
FRU Bishkek 82.07 315 *e*P **P 14 55 15.0 -0.8**
AAK Ala-Archa 82.11 314 *i* P **P 14 55 15.9 -0.2**
AAK pmax pmax
comp=Z,62nm,1.7s
AAK Ala-Archa 82.11 314 P **P 14 55 15.9 -0.2**
SNR=11
AAK Ala-Archa 82.11 314 P **P 14 55 16.9 +0.8**
comp=Z,74nm,0.5s,SNR=7.0
AAK Ala-Archa 82.11 314 *e*P **P 14 55 15.8 -0.3**
comp=Z,6.9nm,0.6s
AAK Ala-Archa 82.11 314 P **P 14 55 15.9 -0.2**
comp=Z,6.5nm,0.6s,baz=116,slow=5.0,SNR=28
USP Ospenovka 82.27 315 P **P 14 55 16.4 -0.3**
SNR=9.3
PMR Palmer 82.28 25 *e*P **P 14 55 15.6 -0.7**
PMR pmax pmax
comp=Z,95nm,1.0s
PMR Palmer 82.28 25 *e*P **P 14 55 15.6 -0.7**
comp=Z,95nm,1.0s
AML Almayashu 82.55 314 P **P 14 55 18.9 +0.1**
SNR=30
EKS2 Erkin-Say 82.63 314 *e*P **P 14 55 18.3 -0.4**
EKS2 pmax pmax
comp=Z,30nm,1.2s
EKS2 Erkin-Say 82.63 314 P **P 14 55 18.7 -0.1**
SNR=24
EKS2 Erkin-Say 82.63 314 *e*P **P 14 55 18.3 -0.4**
comp=Z,30nm,1.2s
IM04 Indian Mountai 82.65 20 *e*P **P 14 55 17.9 -0.3**
IM04 *e*pP **pP 14 56 00.8 -0.8**
TRF Thorofare Moun 82.68 23 *e*P **P 14 55 17.4 -1.2**
comp=Z,44nm,0.8s
BPAW Bear Paw Mtn. 82.72 23 *e*P **P 14 55 17.7 -0.9**
comp=Z,66nm,1.1s
BPAW *e*pP **pP 14 56 02.7 +0.8**
MAW Mawson 83.11 203 P **P 14 55 20.5 -0.1**
MAW pP **pP 14 56 02.0 -1.8**
MAW Mawson 83.11 203 ⇓P **P 14 55 20.7 +0.2**
baz=83,SNR=11
MAW Mawson 83.11 203 P **P 14 55 20.5 -0.1**
comp=Z,3.0nm,0.6s,baz=83,slow=9.1,SNR=19
MAW pP **pP 14 56 02.0 -1.8**
comp=Z,3.5nm,0.7s,baz=70,slow=7.6,SNR=3.4
MCK McKinley 83.34 23 *e*P **P 14 55 20.7 -1.1**
MCK McKinley 83.34 23 *e*P **P 14 55 20.7 -1.1**
comp=Z,230nm,1.0s
DIV Divide 83.55 26 *e*P **P 14 55 23.7 +0.8**
comp=Z,167nm,1.0s
BMRM Bremner River 84.00 27 *e*P **P 14 55 25.8 +0.5**
comp=Z,142nm,1.1s
COLA College 84.28 23 *e*P **P 14 55 24.4 -2.1**
COLA College 84.28 23 *e*P **P 14 55 24.4 -2.1**
comp=Z,361nm,0.8s
PAX Paxson 84.43 25 *e*P **P 14 55 26.6 -0.8**
PAX pmax pmax
comp=Z,37nm,0.9s
PAX Paxson 84.43 25 *e*P **P 14 55 26.6 -0.8**
comp=Z,37nm,0.9s
COLD Coldfoot 84.52 20 *e*P **P 14 55 27.9 +0.3**
comp=Z,80nm,1.0s
ILAR Eielson Array 84.61 23 P **P 14 55 27.1 -1.1**
ILAR PKKP **PKKPdf 15 13 34.6 +2.4**
ILAR Eielson Array 84.61 23 P **P 14 55 27.0 -1.1**
comp=Z,78nm,0.6s,baz=251,slow=4.4,SNR=710
ILAR PKKP **PKKPdf 15 13 34.6 +2.4**
comp=Z,0.2nm,0.6s,baz=356,slow=1.6,SNR=6.8
KK31 Karatay Array 85.06 314 *i* P **P 14 55 30.1 -0.9**
KK31 pmax pmax
comp=Z,29nm,0.9s
KKAR Karatay Array 85.06 314 *e*P **P 14 55 29.8 -1.2**
KKAR pmax pmax
comp=Z,34nm,1.0s
KKAR Karatay Array 85.06 314 *e*P **P 14 55 29.8 -1.2**
comp=Z,34nm,1.0s
MENT Mentasta 85.15 25 *e*P **P 14 55 30.6 -0.3**
EGAK Eagle 86.87 24 *e*P **P 14 55 39.1 -0.2**
comp=Z,93nm,0.9s
EGAK *e*pP **pP 14 56 21.9 -1.1**

VOSK Vostochnaya 86.91 324 P **P 14 55 36.9 -2.9**
VOSK pmax pmax
comp=Z,12nm,1.2s
HYT Haines Junctio 87.22 28 *e*P **P 14 55 41.7 +0.4**
SIT Sitka 87.29 32 *e*P **P 14 55 41.9 +0.5**
SIT pmax pmax
comp=Z,42nm,1.1s
SIT Sitka 87.29 32 *e*P **P 14 55 41.9 +0.5**
comp=Z,42nm,1.1s
BVA0 Borovoye Array 87.33 324 *i* P **P 14 55 39.9 -1.8**
BVA0 pmax pmax
comp=Z,31nm,1.2s
BVAR Borovoye Array 87.33 324 P **P 14 55 39.9 -1.8**
BVAR Borovoye Array 87.33 324 P **P 14 55 39.9 -1.8**
BVAR Borovoye Array 87.33 324 P **P 14 55 39.9 -1.8**
comp=Z,10nm,0.9s,baz=104,slow=6.3,SNR=23
DAWY Dawson 87.36 25 *e*P **P 14 55 41.9 +0.1**
DAWY *e*pP **pP 14 56 24.1 -1.4**
BRVK Borovoye 87.39 324 *d* i P **P 14 55 40.3 -1.8**
BRVK pmax pmax
comp=Z,28nm,1.7s
BRVK Borovoye 87.39 324 *e*P **P 14 55 40.4 -1.7**
comp=Z,16nm,1.2s
SKAG Skagway 87.90 30 *e*P **P 14 55 45.0 +0.7**
comp=Z,77nm,1.2s
WRAK Wrangell Islan 88.74 33 *e*P **P 14 55 48.5 +0.3**
DLBC Dease Lake 90.36 31 *e*P **P 14 55 56.7 +0.7**
DLBC Dease Lake 90.36 31 P **P 14 55 56.4 +0.4**
comp=Z,18nm,1.0s,baz=250,slow=4.6,SNR=27
INK Inuvik 90.82 21 *e*P **P 14 55 57.0 -0.7**
comp=Z,54nm,1.1s
INK Inuvik 90.82 21 P **P 14 55 57.2 -0.5**
comp=Z,47nm,1.1s,baz=252,slow=5.4,SNR=28
SYO Syowa Base 91.40 200 ‖*e*P **P 14 56 02.1 +1.6**
IMYA Miami 91.96 306 *e*P **P 14 56 01.9 -2.1**
IMOG Moghan 92.55 306 *e*P P 14 56 03.6 -3.3
HUMO Hull Mountain 92.77 48 *e*P **P 14 56 07.4 0.0**
comp=Z,18nm,1.0s
YBH Yreka Blue Hor 92.87 49 P **P 14 56 07.9 -0.2**
YBH Yreka Blue Hor 92.87 49 P **P 14 56 07.9 -0.2**
comp=Z,14nm,1.0s,baz=215,slow=2.6,SNR=14
AB31 Akbulak array 93.25 319 *i* P **P 14 56 07.2 -2.2**
AB31 pmax pmax
comp=Z,1.0nm,0.3s
ABKAR Akbulak array 93.25 319 *e*P **P 14 56 07.1 -2.3**
comp=Z,3.1nm,0.7s
IKRD Kardeh 93.27 306 *e*P P 14 56 03.1 -7.1
BEKR Beckworth 94.52 51 P **P 14 56 15.4 -0.3**
comp=Z,7.5nm,1.1s
ARU Arti 94.59 326 *e*P **P 14 56 13.3 -2.1**
ARU 15 00 04.0
ARU S **SKSac 15 06 31.0 -2.8**
ARU SS **SS 15 13 33.9 -6.1**
PAHR Pah Rah Range 95.26 51 *e*P **P 14 56 18.7 -0.4**
comp=Z,6.7nm,1.0s
WVOR Wild Horse Val 95.94 48 *e*P **P 14 56 21.7 -0.4**
WVOR pmax pmax
comp=Z,4.0nm,1.0s
WVOR Wild Horse Val 95.94 48 *e*P **P 14 56 21.7 -0.4**
comp=Z,4.2nm,1.0s
BMO Blue Mountains 96.98 46 *e*P **P 14 56 26.0 -0.7**
BMO pmax pmax
comp=Z,5.0nm,1.0s
BMO Blue Mountains 96.98 46 *e*P **P 14 56 26.0 -0.7**
comp=Z,5.4nm,1.0s
NEW Newport 97.15 42 *e*P **P 14 56 26.9 -0.4**
comp=Z,11nm,1.2s
NEW Newport 97.15 42 P **P 14 56 25.2 -2.1**
comp=Z,8.2nm,1.0s,baz=239,slow=3.0,SNR=6.6
PFO Pinyon Flat Ob 97.36 57 *e*Sg **P 14 56 26.1 -2.5**
comp=Z,5.2nm,0.4s
YKA Yellowknife Ar 98.21 28 P **P 14 56 31.2 -0.4**
YKA Yellowknife Ar 98.21 28 P **P 14 56 31.2 -0.4**
comp=Z,15nm,1.0s,baz=276,slow=4.8,SNR=20
MAIT Maitri 98.49 193 *e*P Pdif 14 56 34.8 +2.0
HLID Hailey 99.06 47 P **Pdif 14 56 35.7 -0.4**
baz=99
EDM Edmonton 99.43 37 *e*P **Pdif 14 56 36.3 -1.1**
EDM Edmonton 99.43 37 *e*Pdif **Pdif 14 56 36.2 -1.1**
TPAW Teton Pass 101.58 47 *e*Pdif **Pdif 14 56 46.5 -0.9**
comp=Z,13nm,1.0s
EGMT Eagleton 102.09 42 P **Pdif 14 56 49.4 0.0**
baz=102
C19A Slack Wire Ran 102.59 42 P **Pdif 14 56 51.7 +0.1**
baz=103
PDAR Pinedale Array 102.64 48 P **Pdif 14 56 51.1 -1.0**
PDAR PP PP 15 01 00.1 -7.7
PDAR Pinedale Array 102.64 48 P **Pdif 14 56 51.2 -1.0**
comp=Z,3.6nm,0.9s,baz=252,slow=2.6,SNR=15
PDAR PP PP 15 01 00.1 -7.7
comp=Z,1.1nm,1.1s,baz=309,slow=5.0,SNR=4.0
D19A Cripps Ranch, 102.75 43 P **Pdif 14 56 52.3 -0.1**
baz=103
F19A Roth Farm, Mol 102.83 44 P **Pdif 14 56 52.6 -0.2**
baz=103
I19A Meteetse 102.95 46 P **Pdif 14 56 52.3 -1.2**
baz=103
O19A Miners Draw (B 103.13 50 P **Pdif 14 56 53.2 -1.1**
baz=103
K19A Absolon Red Bu 103.16 47 P **Pdif 14 56 53.5 -0.9**
baz=103
B20A Solberg Farm, 103.20 42 P **Pdif 14 56 53.9 -0.4**
baz=103
C20A Veseth Ranch, 103.29 42 P **Pdif 14 56 53.7 -1.0**
baz=103
K20A Yellowstone Ra 103.54 48 P **Pdif 14 56 55.0 -1.1**
baz=104
L20A Wamsutter 103.59 48 P **Pdif 14 56 55.8 -0.6**
baz=104
N20A Spence Gulch, 103.75 49 P **Pdif 14 56 56.0 -1.1**
baz=104
M20A Sweetwater, Wa 103.75 49 P **Pdif 14 56 56.5 -0.6**
baz=104
O20A White River Ci 103.81 50 P **Pdif 14 56 56.7 -0.7**
baz=104
KLMR Klimovskoe 104.07 331 *e*P **Pdif 14 56 48.6 -9.2**
KLMR *e* 15 01 17.1
KLMR pmax pmax
comp=Z,33nm,1.5s
I21A Big Trails, Te 104.20 46 P **Pdif 14 56 58.0 -1.0**
baz=104
K21A Alcova 104.34 48 P **Pdif 14 56 59.1 -0.6**
baz=104
M21A Separation Pea 104.36 49 P **Pdif 14 56 59.0 -0.9**
baz=104
R21A Cimarron 104.48 52 P **Pdif 14 56 59.5 -0.9**
baz=104
I22A 9 Mile Ranch, 104.77 46 P **Pdif 14 57 01.7 +0.2**
baz=105
J22A Midwest 104.83 47 P **Pdif 14 57 01.1 -0.6**
baz=105
K22A Casper 104.88 47 P **Pdif 14 57 01.9 -0.1**
baz=105
Q22A Crested Butte, 104.94 51 P **Pdif 14 57 02.4 -0.2**
baz=105
ARCES ARCESS Array B 106.37 342 Pdif **Pdif 14 57 06.2 -1.6**
ARCES PKiKP **PKiKP 15 01 16.8 -1.3**
ARCES PKKPbc **PKKPbc 15 12 37.6 -4.5**
ARCES ARCESS Array B 106.37 342 Pdiff **Pdif 14 57 06.2 -1.6**
comp=Z,1.7nm,0.5s,baz=68,slow=6.4,SNR=17
ARCES PKiKP **PKiKP 15 01 16.8 -1.3**
comp=Z,2.3nm,0.9s,baz=94,slow=1.4,SNR=9.8
ARCES PKKPbc **PKKPbc 15 12 37.6 -4.5**
comp=Z,2.9nm,1.0s,baz=252,slow=6.5,SNR=14
TXAR Lajitas Array 108.36 61 PKiKP **PKiKP 15 01 22.6 -0.5**
TXAR PP PP 15 01 43.3 -6.7
TXAR Lajitas Array 108.36 61 PKiKP **PKiKP 15 01 22.6 -0.5**
comp=Z,0.7nm,0.9s,baz=282,slow=2.4,SNR=5.4
TXAR PP PP 15 01 43.3 -6.7
comp=Z,1.0nm,1.0s,baz=262,slow=6.3,SNR=4.3
FINES FINESS Array B 109.98 334 Pdif **Pdif 14 57 21.4 -2.6**
FINES PKiKP **PKiKP 15 01 24.2 -0.8**
FINES PP **PP 15 01 59.5 -0.9**
FINES FINESS Array B 109.98 334 Pdiff **Pdif 14 57 21.4 -2.6**
comp=Z,5.0nm,0.9s,baz=66,slow=4.7,SNR=6.1
FINES PKiKP **PKiKP 15 01 24.2 -0.8**
comp=Z,2.1nm,0.6s,baz=90,slow=3.7,SNR=7.4
FINES PP **PP 15 01 59.5 -0.9**
comp=Z,8.8nm,1.1s,baz=111,slow=7.7,SNR=5.0
BRTR Keskin Array B 112.58 311 PKiKP **PKiKP 15 01 28.3 -2.6**
BRTR PP PP 15 02 13.5 -6.6
BRTR Keskin Array B 112.58 311 PKiKP **PKiKP 15 01 28.3 -2.6**
comp=Z,0.3nm,0.4s,baz=355,slow=3.0,SNR=4.8
BRTR PP PP 15 02 13.5 -6.6
comp=Z,1.0nm,0.9s,baz=103,slow=5.6,SNR=3.6
AKASG Malin Array Be 112.60 323 PKiKP **PKiKP 15 01 28.7 -1.6**

AKASG PP **PP 15 02 18.4 -1.2**
AKASG PKKPbc **PKKPbc 15 12 18.5 -3.0**
AKASG Malin Array Be 112.60 323 PKiKP **PKiKP 15 01 28.7 -1.6**
comp=Z,2.2nm,0.8s,baz=60,slow=2.9,SNR=8.7
AKASG PP **PP 15 02 18.4 -1.2**
comp=Z,3.1nm,0.9s,baz=56,slow=7.0,SNR=8.6
AKASG PKKPbc **PKKPbc 15 12 18.5 -3.0**
comp=Z,0.8nm,0.5s,baz=271,slow=3.4,SNR=5.2
NB2 NORSAR Subarra 116.16 338 PKPdf **PKPdf 15 01 35.0 -1.9**
comp=Z,3.3nm,1.2s,baz=44,slow=1.9
NOA NORSAR Array B 116.16 338 PKP **PKPdf 15 01 35.5 -1.4**
NOA NORSAR Array B 116.16 338 PKP **PKPdf 15 01 35.5 -1.4**
comp=Z,1.7nm,0.7s,baz=55,slow=1.6,SNR=3.9
KOLS Kolonicke sedl 117.43 323 *e*PKIKP **PKPdf 15 01 39.2 -0.5**
KOLS Kolonicke sedl 117.43 323 *e*PKP **PKPdf 15 01 39.2 -0.5**
STHS Stebnicka Huta 117.83 324 *e*PKIKP **PKPdf 15 01 39.8 -0.6**
STHS Stebnicka Huta 117.83 324 *e*PKP **PKPdf 15 01 39.8 -0.6**
BORG Borgarnes 120.56 355 PKP **PKPdf 15 01 45.0 -0.1**
BORG Borgarnes 120.56 355 PKP **PKPdf 15 01 45.0 -0.1**
comp=Z,10nm,1.0s,baz=74,slow=7.4,SNR=3.6
ZST Bratislava 120.82 324 *e*PKIKP **PKPdf 15 01 46.1 -0.1**
ZST Bratislava 120.82 324 *e*PKP **PKPdf 15 01 46.1 -0.1**
BRG Berggiesshubel 121.16 328 *e*PKP **PKPdf 15 01 46.0 -0.8**
comp=Z,10.0nm,0.9s
BRG Berggiesshubel 121.16 328 *e*PKIKP **PKPdf 15 01 46.0 -0.8**
BRG pmax pmax
comp=Z,10.0nm,0.9s
BRG Berggiesshubel 121.16 328 *e*PKPdf **PKPdf 15 01 46.0 -0.8**
PRU Pruhonice 121.33 327 *e*PKIKP **PKPdf 15 01 45.7 -1.4**
PRU Pruhonice 121.33 327 *e*PKPdf **PKPdf 15 01 45.7 -1.4**
CLL Collm 121.41 329 ⇑*i*PKIKP **PKPdf 15 01 46.3 -0.9**
CLL pmax pmax
comp=Z,8.0nm,0.7s
CLL Collm 121.41 329 *e*PKPdf **PKPdf 15 01 46.5 -0.7**
CLL Collm 121.41 329 ⇑*i*PKPdf **PKPdf 15 01 46.3 -0.9**
comp=Z,8.0nm,0.7s
APG El Apazote 121.47 76 PKP **PKPdf 15 01 48.0 -0.6**
APG El Apazote 121.47 76 PKP **PKPdf 15 01 48.0 -0.6**
comp=Z,2.8nm,0.6s,baz=297,slow=9.0,SNR=3.4
PLCA Paso Flores 121.63 146 PKP **PKPdf 15 01 47.4 -0.7**
PLCA Paso Flores 121.63 146 PKP **PKPdf 15 01 47.4 -0.7**
comp=Z,3.1nm,0.5s,baz=209,slow=1.6,SNR=8.0
CONA Conrad Observa 121.67 324 *i* PKPdf **PKPdf 15 01 46.9 -1.0**
comp=Z,4.0nm,0.7s,SNR=6.5
TANN Tannenbergstha 122.20 328 *e*PKPdf **PKPdf 15 01 48.2 -0.7**
KHC Kasperske Hory 122.33 327 *i* PKIKP **PKPdf 15 01 48.3 -0.8**
KHC Kasperske Hory 122.33 327 *i* PKPdf **PKPdf 15 01 48.3 -0.8**
KHC *ex* x 15 01 53.9
KHC Kasperske Hory 122.33 327 *e*PKPdf **PKPdf 15 01 48.2 -0.8**
GEC2 GERESS Array S 122.42 326 *e*PKIKP **PKPdf 15 01 48.5 -0.9**
GEC2 GERESS Array S 122.42 326 *e*PKPdf **PKPdf 15 01 48.5 -0.9**
GERES GERESS Array B 122.42 326 PKP **PKPdf 15 01 48.3 -1.1**
GERES PKKPbc **PKKPab 15 11 45.5 0.0**
GERES GERESS Array B 122.42 326 PKP **PKPdf 15 01 48.3 -1.1**
comp=Z,3.8nm,0.7s,baz=72,slow=1.5,SNR=20
GERES PKKPbc **PKKPab 15 11 45.5 0.0**
comp=Z,0.6nm,0.6s,baz=270,slow=2.7,SNR=3.6
MOX Moxa 122.50 329 *e*PKIKP **PKPdf 15 01 48.5 -0.9**
MOX Moxa 122.50 329 *e*PKPdf **PKPdf 15 01 48.5 -0.9**
WET Wettzell 122.70 327 *e*PKIKP **PKPdf 15 01 49.2 -0.6**
WET Wettzell 122.70 327 *e*PKPdf **PKPdf 15 01 49.2 -0.6**
SOKA Soboth 122.80 323 ⇑*i*PKPdf **PKPdf 15 01 48.8 -1.3**
comp=Z,5.5nm,0.8s,SNR=6.9
GRF Grafenberg Arr 123.27 328 *e*PKIKP **PKPdf 15 01 50.1 -0.8**
GRF Grafenberg Arr 123.27 328 *e*PKPdf **PKPdf 15 01 50.1 -0.8**
SCHQ Schefferville 123.36 24 PKP **PKPdf 15 01 50.5 -0.4**
SCHQ Schefferville 123.36 24 PKP **PKPdf 15 01 50.5 -0.4**
comp=Z,4.8nm,1.0s,baz=5.7,slow=10,SNR=3.4
RJOB Jochberg 123.53 326 *e*PKPdf **PKPdf 15 01 50.1 -1.4**
KBA Koelnbreinsper 123.57 325 ⇓*i*PKPdf **PKPdf 15 01 49.8 -1.9**
comp=Z,3.8nm,0.6s
FUR Furstenfeldbru 124.13 327 *e*PKIKP **PKPdf 15 01 51.6 -1.0**
FUR Furstenfeldbru 124.13 327 *e*PKPdf **PKPdf 15 01 51.6 -1.0**
ABTA Abfaltersbach 124.23 325 ⇑*i*PKPdf **PKPdf 15 01 51.4 -1.5**
comp=Z,14nm,1.3s
MOTA Moosalm 124.70 326 ⇑*i*PKPdf **PKPdf 15 01 52.5 -1.3**
comp=Z,9.1nm,0.7s,SNR=7.6
STU Stuttgart 124.89 328 *e*PKPdf **PKPdf 15 01 53.3 -0.7**
FETA Feichten 125.09 326 ⇑*i*PKiKP **PKPdf 15 01 53.9 -0.8**
comp=Z,14nm,1.1s,SNR=11
MEM Membach 125.30 332 PKP **PKPdf 15 01 54.3 -0.4**
DAVA Damuels 125.41 326 ⇑*i*PKPdf **PKPdf 15 01 54.2 -1.0**
comp=Z,11nm,0.7s,SNR=5.5
BFO Black Forest 125.61 328 *e*PKIKP **PKPdf 15 01 54.3 -1.1**
BFO Black Forest 125.61 328 *e*PKPdf **PKPdf 15 01 54.3 -1.1**
DAVOX Davos/Dischmat 125.71 326 PKP **PKPdf 15 01 55.0 -0.8**
DAVOX Davos/Dischmat 125.71 326 PKP **PKPdf 15 01 55.0 -0.8**
baz=213,slow=11
BCLA Clavier 125.76 332 PKP **PKPdf 15 01 55.2 -0.4**
WLF Walferdange 125.86 331 PKP **PKPdf 15 01 56.1 +0.3**
WLF Walferdange 125.86 331 *e*PKPdf **PKPdf 15 01 55.6 -0.2**
SNF Seneffe 126.18 332 PKP **PKPdf 15 01 56.3 -0.1**
GIVF Givet 126.20 332 *e*PKIKP **PKPdf 15 01 56.0 -0.5**
comp=Z,35nm,1.0s
GIVF Givet 126.20 332 *e*PKIKP **PKPdf 15 01 56.0 -0.5**
GIVF Givet 126.20 332 *e*PKPdf **PKPdf 15 01 56.0 -0.5**
DOU Dourbes 126.32 332 PKP **PKPdf 15 01 56.5 -0.1**
BAIF Baives 126.52 332 *e*PKIKP **PKPdf 15 01 56.7 -0.3**
comp=Z,8.2nm,0.8s
BAIF Baives 126.52 332 *e*PKIKP **PKPdf 15 01 56.7 -0.3**
BAIF Baives 126.52 332 *e*PKPdf **PKPdf 15 01 56.7 -0.3**
HINF Hinteralfeld 126.71 328 *e*PKIKP **PKPdf 15 01 56.6 -1.0**
comp=Z,28nm,1.0s
HINF Hinteralfeld 126.71 328 *e*PKIKP **PKPdf 15 01 56.6 -1.0**
HINF Hinteralfeld 126.71 328 *e*PKPdf **PKPdf 15 01 56.6 -1.0**
PAGF Fort de Pagny 126.80 330 *e*PKIKP **PKPdf 15 01 57.1 -0.6**
comp=Z,3.2nm,1.0s
PAGF Fort de Pagny 126.80 330 *e*PKPdf **PKPdf 15 01 57.1 -0.6**
HAU Haudompre 126.85 329 *e*PKIKP **PKPdf 15 01 57.0 -0.8**
comp=Z,19nm,0.8s
HAU Haudompre 126.85 329 *e*PKIKP **PKPdf 15 01 57.0 -0.8**
HAU Haudompre 126.85 329 *e*PKPdf **PKPdf 15 01 57.0 -0.8**
JTS JuntasAbangare 126.99 81 *e*PKPdf **PKPdf 15 01 58.9 -0.1**
MEZF Maizieres J'vi 127.17 330 *e*PKIKP **PKPdf 15 01 58.0 -0.3**
MEZF Maizieres J'vi 127.17 330 *e*PKPdf **PKPdf 15 01 58.0 -0.3**
CABF La Chapelle 127.88 328 *e*PKIKP **PKPdf 15 01 59.6 -0.3**
comp=Z,29nm,1.0s
CABF La Chapelle 127.88 328 *e*PKIKP **PKPdf 15 01 59.6 -0.3**
CABF La Chapelle 127.88 328 *e*PKPdf **PKPdf 15 01 59.6 -0.3**
LPL La Plagne 128.22 326 *e*PKIKP **PKPdf 15 02 00.2 -0.5**
LPL La Plagne 128.22 326 *e*PKIKP **PKPdf 15 02 00.2 -0.5**
LPL La Plagne 128.22 326 *e*PKPdf **PKPdf 15 02 00.2 -0.5**
LPG La Plagne 128.22 326 *e*PKIKP **PKPdf 15 02 00.3 -0.5**
LPG La Plagne 128.22 326 *e*PKIKP **PKPdf 15 02 00.3 -0.5**
LPG La Plagne 128.22 326 *e*PKPdf **PKPdf 15 02 00.3 -0.5**
BNI Bardonecchia 128.53 326 PKIKP **PKPdf 15 02 00.8 -0.4**
BNI Bardonecchia 128.53 326 PKPdf **PKPdf 15 02 00.8 -0.4**
LOR Lormes 128.60 330 *e*PKIKP **PKPdf 15 02 00.7 -0.5**
LOR Lormes 128.60 330 *e*PKPdf **PKPdf 15 02 00.7 -0.5**
PGF Pioggiola 128.65 322 *e*PKIKP **PKPdf 15 02 00.6 -0.9**
comp=Z,71nm,1.2s
PGF Pioggiola 128.65 322 *e*PKIKP **PKPdf 15 02 00.6 -0.9**
PGF Pioggiola 128.65 322 *e*PKPdf **PKPdf 15 02 00.6 -0.9**
MBDF Montbardon 128.68 325 *e*PKIKP **PKPdf 15 01 59.1 -2.5**
comp=Z,16nm,1.1s
MBDF Montbardon 128.68 325 *e*PKIKP **PKPdf 15 01 59.1 -2.5**
MBDF Montbardon 128.68 325 *e*PKPdf **PKPdf 15 01 59.1 -2.5**
SBF Sospel 128.82 324 *e*PKIKP **PKPdf 15 02 00.7 -1.0**
comp=Z,20nm,0.8s
SBF Sospel 128.82 324 *e*PKIKP **PKPdf 15 02 00.7 -1.0**
SBF Sospel 128.82 324 *e*PKPdf **PKPdf 15 02 00.7 -1.0**
SSF Saint Saulge 128.91 330 *e*PKIKP **PKPdf 15 02 01.4 -0.3**
comp=Z,18nm,0.9s
SSF Saint Saulge 128.91 330 *e*PKIKP **PKPdf 15 02 01.4 -0.3**
SSF Saint Saulge 128.91 330 *e*PKPdf **PKPdf 15 02 01.4 -0.3**
SMF Signal de Mont 129.03 329 *e*PKIKP **PKPdf 15 02 01.4 -0.6**
comp=Z,3.4nm,1.1s
SMF Signal de Mont 129.03 329 *e*PKIKP **PKPdf 15 02 01.4 -0.6**
SMF Signal de Mont 129.03 329 *e*PKPdf **PKPdf 15 02 01.4 -0.6**
ORIF Oris-en-Rattie 129.06 326 *e*PKIKP **PKPdf 15 02 01.7 -0.5**
comp=Z,7.4nm,0.8s
ORIF Oris-en-Rattie 129.06 326 *e*PKIKP **PKPdf 15 02 01.7 -0.5**
ORIF Oris-en-Rattie 129.06 326 *e*PKPdf **PKPdf 15 02 01.7 -0.5**
CFAA Coronel Fontan 129.06 139 PKP **PKPdf 15 02 01.9 -0.7**
CFAA pPKP **pPKPdf 15 02 46.1 -2.5**
CFAA SKPbc SKPbc 15 05 10.4 +3.1
CFAA Coronel Fontan 129.06 139 PKP **PKPdf 15 02 01.9 -0.7**
comp=Z,0.6nm,0.5s,baz=229,slow=3.2,SNR=14
CFAA pPKP **pPKPdf 15 02 46.1 -2.5**
comp=Z,0.9nm,0.8s,baz=241,slow=1.9,SNR=4.5
CFAA SKPbc SKPbc 15 05 10.4 +3.1
comp=Z,0.2nm,0.5s,baz=252,slow=4.1,SNR=3.3
AVF Avril sur Loir 129.18 330 *e*PKIKP **PKPdf 15 02 01.5 -0.7**

	comp=Z,10nm,1.0s							
AVF	**Avril sur Loir**	**129.18**	**330**	*e*PKIKP	**PKPdf**	**15 02 01.5**	**-0.7**
AVF	**Avril sur Loir**	**129.18**	**330**	*e*PKIKP	**PKPdf**	**15 02 01.5**	**-0.7**
FRF	**La Foret Royal**	**129.46**	**324**	*e*PKIKP	**PKPdf**	**15 02 02.1**	**-0.8**
FRF	**La Foret Royal**	**129.46**	**324**	*e*PKIKP	**PKPdf**	**15 02 02.1**	**-0.8**
FRF	**La Foret Royal**	**129.46**	**324**	*e*PKPdf	**PKPdf**	**15 02 02.1**	**-0.8**
LDF	**La Druitiere**	**129.55**	**333**	*e*PKIKP	**PKPdf**	**15 02 02.2**	**-0.7**
LDF	**La Druitiere**	**129.55**	**333**	*e*PKIKP	**PKPdf**	**15 02 02.2**	**-0.7**
LDF	**La Druitiere**	**129.55**	**333**	*e*PKPdf	**PKPdf**	**15 02 02.2**	**-0.7**
FLN	**La Foliniere**	**129.59**	**334**	*e*PKIKP	**PKPdf**	**15 02 02.5**	**-0.4**
	comp=Z,11nm,0.7s							
FLN	**La Foliniere**	**129.59**	**334**	*e*PKIKP	**PKPdf**	**15 02 02.5**	**-0.4**
FLN	**La Foliniere**	**129.59**	**334**	*e*PKPdf	**PKPdf**	**15 02 02.5**	**-0.4**
LMR	**La Mourre**	**129.68**	**324**	*e*PKIKP	**PKPdf**	**15 02 02.6**	**-0.7**
LMR	**La Mourre**	**129.68**	**324**	*e*PKIKP	**PKPdf**	**15 02 02.6**	**-0.7**
LMR	**La Mourre**	**129.68**	**324**	*e*PKPdf	**PKPdf**	**15 02 02.6**	**-0.7**
VIVF	**Saint-Julien-l**	**129.76**	**327**	*e*PKIKP	**PKPdf**	**15 02 03.1**	**-0.4**
	comp=Z,7.4nm,0.9s							
VIVF	**Saint-Julien-l**	**129.76**	**327**	*e*PKIKP	**PKPdf**	**15 02 03.1**	**-0.4**
VIVF	**Saint-Julien-l**	**129.76**	**327**	*e*PKPdf	**PKPdf**	**15 02 03.1**	**-0.4**
SMRF	**Simiane la Rot**	**129.82**	**325**	*e*PKIKP	**PKPdf**	**15 02 03.6**	**0.0**
	comp=Z,20nm,1.0s							
SMRF	**Simiane la Rot**	**129.82**	**325**	*e*PKPdf	**PKPdf**	**15 02 03.6**	**0.0**
GRR	**Gorron**	**130.03**	**334**	*e*PKIKP	**PKPdf**	**15 02 03.5**	**-0.3**
	comp=Z,19nm,0.8s							
GRR	**Gorron**	**130.03**	**334**	*e*PKIKP	**PKPdf**	**15 02 03.5**	**-0.3**
GRR	**Gorron**	**130.03**	**334**	*e*PKPdf	**PKPdf**	**15 02 03.5**	**-0.3**
TCF	**Toulx Ste Croi**	**130.09**	**330**	*e*PKIKP	**PKPdf**	**15 02 03.8**	**-0.2**
	comp=Z,14nm,0.8s							
TCF	**Toulx Ste Croi**	**130.09**	**330**	*e*PKIKP	**PKPdf**	**15 02 03.8**	**-0.2**
TCF	**Toulx Ste Croi**	**130.09**	**330**	*e*PKPdf	**PKPdf**	**15 02 03.8**	**-0.2**
LASF	**Ste Croix**	**130.71**	**327**	*e*PKIKP	**PKPdf**	**15 02 05.0**	**-0.3**
	comp=Z,18nm,0.9s							
LASF	**Ste Croix**	**130.71**	**327**	*e*PKPdf	**PKPdf**	**15 02 05.0**	**-0.3**
SGMF	**Saint Gilles**	**130.87**	**335**	*e*PKIKP	**PKPdf**	**15 02 05.0**	**-0.4**
	comp=Z,10nm,0.6s							
SGMF	**Saint Gilles**	**130.87**	**335**	*e*PKIKP	**PKPdf**	**15 02 05.0**	**-0.4**
SGMF	**Saint Gilles**	**130.87**	**335**	*e*PKPdf	**PKPdf**	**15 02 05.0**	**-0.4**
MFF	**Saint Martin d**	**131.02**	**332**	*e*PKIKP	**PKPdf**	**15 02 05.4**	**-0.3**
MFF	**Saint Martin d**	**131.02**	**332**	*e*PKIKP	**PKPdf**	**15 02 05.4**	**-0.3**
MFF	**Saint Martin d**	**131.02**	**332**	*e*PKPdf	**PKPdf**	**15 02 05.4**	**-0.3**
ROSF	**Rostrenen**	**131.11**	**335**	*e*PKIKP	**PKPdf**	**15 02 05.4**	**-0.4**
	comp=Z,7.0nm,0.6s							
ROSF	**Rostrenen**	**131.11**	**335**	*e*PKIKP	**PKPdf**	**15 02 05.4**	**-0.4**
ROSF	**Rostrenen**	**131.11**	**335**	*e*PKPdf	**PKPdf**	**15 02 05.4**	**-0.4**
QUIF	**Quistinic**	**131.39**	**335**	*e*PKIKP	**PKPdf**	**15 02 05.9**	**-0.5**
	comp=Z,16nm,0.8s							
QUIF	**Quistinic**	**131.39**	**335**	*e*PKIKP	**PKPdf**	**15 02 05.9**	**-0.5**
QUIF	**Quistinic**	**131.39**	**335**	*e*PKPdf	**PKPdf**	**15 02 05.9**	**-0.5**
ATAH	**Atahualpa**	**131.59**	**105**	PKP	**PKPdf**	**15 02 09.6**	**+1.3**
ATAH				SKPbc	**SKPab**	**15 05 22.1**	**+3.8**
ATAH	**Atahualpa**	**131.59**	**105**	PKP	**PKPdf**	**15 02 09.6**	**+1.3**
	comp=Z,7.8nm,0.8s,baz=90,slow=3.3,SNR=8.0							
ATAH				SKPbc	**SKPab**	**15 05 22.1**	**+3.8**
	comp=Z,33nm,1.0s,baz=256,slow=2.9,SNR=24							
KEST	**Kesra**	**131.97**	**314**	PKP	**PKPdf**	**15 02 08.2**	**+0.2**
KEST	**Kesra**	**131.97**	**314**	PKP	**PKPdf**	**15 02 08.2**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=354,slow=6.0,SNR=4.7							
MTLF	**Montolieu**	**132.09**	**327**	*e*PKIKP	**PKPdf**	**15 02 07.7**	**-0.2**
	comp=Z,5.0nm,0.8s							
MTLF	**Montolieu**	**132.09**	**327**	*e*PKIKP	**PKPdf**	**15 02 07.7**	**-0.2**
MTLF	**Montolieu**	**132.09**	**327**	*e*PKPdf	**PKPdf**	**15 02 07.7**	**-0.2**
OTAV	**Otavalo**	**132.90**	**95**	*e*PKPdf	**PKPdf**	**15 02 10.9**	**+0.1**
EPF	**Esparros**	**133.31**	**328**	*e*PKIKP	**PKPdf**	**15 02 10.3**	**0.0**
	comp=Z,5.6nm,0.8s							
EPF	**Esparros**	**133.31**	**328**	*e*PKIKP	**PKPdf**	**15 02 10.3**	**0.0**
EPF	**Esparros**	**133.31**	**328**	*e*PKPdf	**PKPdf**	**15 02 10.3**	**0.0**
ETSF	**Etsaut**	**133.88**	**328**	*e*PKIKP	**PKPdf**	**15 02 12.2**	**+0.9**
	comp=Z,11nm,0.8s							
ETSF	**Etsaut**	**133.88**	**328**	*e*PKIKP	**PKPdf**	**15 02 12.2**	**+0.9**
ETSF	**Etsaut**	**133.88**	**328**	*e*PKPdf	**PKPdf**	**15 02 12.2**	**+0.9**
SJPF	**Ste Jean**	**134.07**	**329**	*e*PKIKP	**PKPdf**	**15 02 12.3**	**+0.7**
	comp=Z,5.9nm,0.8s							
SJPF	**Ste Jean**	**134.07**	**329**	*e*PKIKP	**PKPdf**	**15 02 12.3**	**+0.7**
SJPF	**Ste Jean**	**134.07**	**329**	*e*PKPdf	**PKPdf**	**15 02 12.3**	**+0.7**
ROSC	**El Rosal**	**137.43**	**89**	PKPpre	PKPpre	15 02 13.5	
ROSC				PKP	**PKiKP**	**15 02 20.3**	**-0.8**
ROSC	**El Rosal**	**137.43**	**89**	PKhKP	PKPpre	15 02 13.5	
	comp=Z,11nm,0.5s,baz=82,slow=21,SNR=3.5							
ROSC				PKP	**PKiKP**	**15 02 20.3**	**-0.8**
	comp=Z,19nm,0.5s,baz=98,slow=23,SNR=7.8							
ESDC	**Sonseca Array**	**137.97**	**328**	PKP	**PKPdf**	**15 02 17.8**	**-1.3**
ESDC				SKKPbc	SKKPbc	15 14 26.5	+2.6
ESDC	**Sonseca Array**	**137.97**	**328**	PKP	**PKPdf**	**15 02 17.8**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=24,slow=2.1,SNR=4.2							
ESDC				SKKPbc	SKKPbc	15 14 26.5	+2.6
	comp=Z,0.5nm,0.6s,baz=243,slow=3.5,SNR=5.3							
CPUP	**Villa Florida**	**139.58**	**143**	*e*PKPdf	**PKPdf**	**15 02 22.4**	**+0.1**
CPUP				PKP	**PKPdf**	**15 02 22.5**	**+0.3**
CPUP				SKPbc	**SKPbc**	**15 05 41.6**	**+0.1**
CPUP	**Villa Florida**	**139.58**	**143**	PKP	**PKPdf**	**15 02 22.5**	**+0.3**
	comp=Z,3.0nm,0.7s,baz=270,slow=2.6,SNR=5.4							
CPUP				SKPbc	**SKPbc**	**15 05 41.6**	**+0.1**
	comp=Z,3.8nm,0.9s,baz=299,slow=4.7,SNR=3.6							
EVO	**Evora**	**140.91**	**330**	*e*PKIKP	**PKPdf**	**15 02 24.1**	**-0.2**
	comp=Z,13nm,1.1s							
EVOP	**Sao Brissos**	**140.97**	**330**	*e*PKIKP	**PKPdf**	**15 02 24.1**	**-0.3**
EVOP	**Sao Brissos**	**140.97**	**330**	*e*PKPdf	**PKPdf**	**15 02 24.1**	**-0.3**
MDT	**Midelt**	**143.10**	**321**	SKKPbc	SKKPbc	15 13 51.2	-12
	comp=Z,1.6nm,0.8s,baz=223,slow=8.3,SNR=6.5							
OBIP	**Obispado Ponce**	**143.66**	**67**	*e*PKPpre	PKPbc	15 02 26.3	-1.4
CELP	**Cerrillos**	**143.67**	**67**	*e*PKPdf	PKPab	15 02 26.3	-0.6
SIV	**San Ignacio**	**143.74**	**127**	PKP	PKPab	15 02 27.2	0.0
SIV				pPKP	pPKPdf	15 03 10.6	-5.5
SIV				SKPbc	**SKiKP**	**15 05 53.2**	**-0.1**
SIV	**San Ignacio**	**143.74**	**127**	PKP	PKPab	15 02 27.2	0.0
	comp=Z,18nm,0.7s,baz=250,slow=3.7,SNR=48							
SIV				pPKP	pPKPdf	15 03 10.6	-5.5
	comp=Z,3.9nm,0.7s,baz=212,slow=6.5,SNR=1.6							
SIV				SKPbc	**SKiKP**	**15 05 53.2**	**-0.1**
	comp=Z,4.8nm,0.8s,baz=178,slow=4.5,SNR=4.7							
SJG	**San Juan**	**144.06**	**67**	*e*PKPpre	**PKPab**	**15 02 27.1**	**-1.2**
MTP	**Monte Pirata**	**144.60**	**67**	*e*PKP	**PKPab**	**15 02 29.9**	**-0.6**
STVI	**Saint Thomas**	**145.08**	**66**	*e*PKP	**PKPbc**	**15 02 31.1**	**-0.9**
SAML	**Samuel**	**145.31**	**115**	*e*PKP	**PKPdf**	**15 02 32.2**	**-0.6**
CDVI	**St. Croix**	**145.42**	**67**	*e*PKP	**PKPdf**	**15 02 32.6**	**-0.2**
TOA0	**Torodi Ar. Sit**	**146.37**	**285**	*e*PKPdf	**PKPdf**	**15 02 34.4**	**-0.2**
TORD	**Torodi Ar. Bea**	**146.37**	**285**	PKPbc	**PKPdf**	**15 02 34.3**	**-0.2**
TORD				SKPbc	**SKPbc**	**15 05 56.0**	**-2.4**
TORD				SKKPbc	**SKKPbc**	**15 13 52.1**	**+3.2**
TORD	**Torodi Ar. Bea**	**146.37**	**285**	PKPbc	**PKPdf**	**15 02 34.3**	**-0.2**
	comp=Z,10nm,0.3s,baz=77,slow=2.7,SNR=199							
TORD				SKPbc	**SKPbc**	**15 05 56.0**	**-2.4**
	comp=Z,3.2nm,1.0s,baz=56,slow=2.8,SNR=3.5							
TORD				SKKPbc	**SKKPbc**	**15 13 52.1**	**+3.2**
	comp=Z,4.3nm,1.0s,baz=287,slow=4.0,SNR=14							
SPB	**Sao Paulo**	**147.07**	**153**	*e*PKPbc	**PKPbc**	**15 02 38.4**	**+0.6**
KIC	**Kosan Boka**	**153.30**	**273**	*e*P	**PKPbc**	**15 02 52.2**	**-1.0**
	comp=Z,62nm,1.5s							
BDFB	**Brasilia**	**153.31**	**143**	PKP	**PKPdf**	**15 02 45.5**	**-0.1**
BDFB				PKPbc	**PKPbc**	**15 02 53.2**	**0.0**
BDFB				PKPab	**PKPab**	**15 03 06.2**	**+0.5**
BDFB	**Brasilia**	**153.31**	**143**	PKP	**PKPdf**	**15 02 45.5**	**-0.1**
	comp=Z,3.2nm,0.8s,baz=252,slow=9.7,SNR=5.6							
BDFB				PKPbc	**PKPbc**	**15 02 53.2**	**0.0**
	comp=Z,6.0nm,0.4s,baz=171,slow=1.9,SNR=16							
BDFB				PKPab	**PKPab**	**15 03 06.2**	**+0.5**
	comp=Z,20nm,0.8s,baz=199,slow=4.1,SNR=18							
DBIC	**Dimbokro**	**153.42**	**274**	*e*PKPbc	**PKPbc**	**15 02 53.3**	**0.0**
DBIC	**Dimbokro**	**153.42**	**274**	PKPbc	**PKPbc**	**15 02 52.0**	**-1.4**
	comp=Z,4.4nm,0.6s,baz=76,slow=1.1,SNR=8.0							
TIC	**Toumodi**	**153.58**	**274**	*e*P	**PKPdf**	**15 02 49.7**	**+3.8**
	comp=Z,6.8nm,0.3s							
LIC	**Lamto**	**153.59**	**273**	*e*PKIKP	**PKPdf**	**15 02 45.0**	**-0.9**
LIC	**Lamto**	**153.59**	**273**	*e*P	**PKPbc**	**15 02 52.2**	**-1.6**
	comp=Z,17nm,0.7s							
LIC	**Lamto**	**153.59**	**273**	*e*PKPdf	**PKPdf**	**15 02 45.0**	**-0.9**

TAP 04 14:46:43.2, 23°.21N×121°.38E, h20km, ML3.9, 7C-7D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CHKT	**Chengkung**	**0.11**	**189**	⇑*iP*		Pb	14 46 47.8	-0.8
	baz=178							
CHKT				*i* S		Sb	14 46 50.9	-1.4
	baz=178							
TWF1	**Yuli**	**0.17**	**331**	⇓*iP*		Pb	14 46 48.5	-0.1
	baz=322							
TWF1				*i* S		Sb	14 46 52.4	+0.1
	baz=322							
EHY	**Hungye**	**0.30**	**349**	P		Pb	14 46 49.9	-0.1
	baz=335							
EHY				S		Sb	14 46 55.7	+1.1
	baz=335							
ELDTW	**Lidau**	**0.34**	**267**	⇑*iP*		Pb	14 46 50.5	-0.2
	baz=267							
ELDTW				S		Sb	14 46 55.5	-0.2
	baz=267							
TWG	**Pinlang**	**0.48**	**217**	⇓*iP*		Pb	14 46 52.6	-0.4
	baz=226							
TWG				S		Sb	14 46 59.8	+0.1
	baz=226							
YUS	**Yu-Shan**	**0.49**	**305**	⇓P		Pb	14 46 53.7	-0.1
	baz=299							
YUS				S		Sb	14 47 00.6	-0.3
	baz=299							
TTN	**Taitung**	**0.50**	**206**	*e*P		Pb	14 46 53.6	+0.3
	baz=209							
TEGC	**Jichi Village**	**0.52**	**16**	*e*P		Pb	14 46 53.8	+0.1
	baz=21							
ESL	**Shilin**	**0.61**	**4**	*e*P		Pb	14 46 54.0	-1.3
	baz=354							
ALS	**Alishan**	**0.61**	**300**	⇓P		Pb	14 46 55.9	+0.1
	baz=300							
ALS				S		Sb	14 47 04.7	+0.4
	baz=300							
ESF	**Shoufeng Towns**	**0.67**	**10**	*e*P		Pb	14 46 54.4	-1.9
	baz=356							
WTP	**Ta-pu**	**0.71**	**273**	⇑*iP*		Pn	14 46 57.7	-0.5
	baz=274							
WTP				S		Sn	14 47 07.6	-1.0
	baz=274							
ECL	**Taimali**	**0.72**	**213**	*e*P		Pb	14 46 55.7	-1.5
	baz=214							
SGST	**Jiashian**	**0.75**	**261**	⇑*iP*		Pn	14 46 58.3	-0.4
	baz=259							
SGST				*i* S		Sn	14 47 09.3	-0.1
	baz=259							
CHN5	**Tsauling**	**0.76**	**301**	⇓P		Pn	14 46 58.8	-0.1
	baz=301							
CHN5				*e*S		Sn	14 47 09.9	0.0
	baz=301							
CHN1	**Nanshi**	**0.79**	**269**	⇑*iP*		Pn	14 46 59.3	0.0
	baz=269							
CHN1				*i* S		Sn	14 47 10.9	+0.4
	baz=269							
HWA	**Hwalien**	**0.79**	**15**	*e*P		Pb	14 46 57.6	-0.8
	baz=359							
SMLT	**Sun Moon Lake**	**0.81**	**327**	*e*P		Pb	14 46 58.6	-0.2
	baz=333							
TYC	**Yuchr**	**0.85**	**325**	⇓P		Pb	14 46 59.3	0.0
	baz=330							
TWD	**Chiawan**	**0.89**	**13**	*e*P		Pb	14 46 58.3	-1.7
	baz=358							
TWD				*e*S		Sn	14 47 12.6	-0.4
	baz=358							
WGK	**Gukeng**	**0.89**	**302**	*e*P		Pn	14 47 01.6	+0.9
	baz=302							
WNT	**Mingjian**	**0.93**	**316**	P		Pn	14 47 01.9	+0.7
	baz=315							
WNT				S		Sn	14 47 15.2	+1.3
	baz=315							
CHY	**Chiayi**	**0.93**	**288**	⇑*iP*		Pn	14 47 02.0	+0.9
	baz=289							
WHF	**Hehuan Shan**	**0.94**	**353**	*e*P		Pb	14 47 00.3	-1.1
	baz=1.0							
CHN3	**Shinhua**	**0.95**	**262**	*e*P		Pn	14 47 02.9	+1.5
	baz=271							
CHN3				*e*S		Sn	14 47 17.9	+3.6
	baz=271							
SGLT	**Jiouru**	**0.95**	**240**	*e*P		Pn	14 47 02.0	+0.5
	baz=241							
EAST	**Anshuo**	**0.96**	**211**	*e*P		Pb	14 46 59.6	-1.6
	baz=214							
TAW	**Tawu**	**0.96**	**208**	*e*P		Pb	14 46 58.5	-2.6
	baz=217							
TAW				*e*S		Sb	14 47 11.7	-1.6
	baz=217							
TWM1	**Shoushan**	**0.96**	**247**	⇑*eP*		Pn	14 47 02.9	+1.2
	baz=249							
TWT	**Tachien**	**1.06**	**350**	*e*P		Pb	14 47 01.6	-1.5
	baz=347							
TAI1	**Yung-k'ang**	**1.08**	**261**	*e*P		Pb	14 47 04.4	+1.2
	baz=272							
SCZT	**Fangliau**	**1.09**	**220**	P		Pn	14 47 02.8	-0.5
	baz=218							
SCLT	**Jiali**	**1.09**	**269**	*e*P		Pb	14 47 04.5	+1.0
	baz=269							
SCLT				*e*S		Sn	14 47 21.4	+3.4
	baz=269							
TCU	**Taichung**	**1.14**	**325**	*e*P		Pb	14 47 04.9	+0.6
	baz=324							
TCU				*e*S		Sn	14 47 21.2	+2.1
	baz=324							
WSF	**Szhu**	**1.15**	**292**	*e*P		Pb	14 47 05.0	+0.5
	baz=292							
WSF				*e*S		Sn	14 47 20.9	+1.6
	baz=292							
LAY	**Lan-yu**	**1.17**	**172**	⇓*eP*		Pn	14 47 02.2	-2.3
	baz=160							
LAY				*e*S		Sb	14 47 16.7	-3.0
	baz=160							
KAU	**Kaohsiung**	**1.18**	**238**	*e*P		Pb	14 47 07.9	+3.0
	baz=241							
NNS	**Nan Shan**	**1.23**	**360**	*e*P		Pn	14 47 04.3	-1.2
	baz=10.0							
ENA	**Nanau**	**1.26**	**15**	*e*P		Pn	14 47 05.0	-0.7
TWQ1	**Liyutan**	**1.27**	**334**	*e*P		Pb	14 47 07.1	+0.6
	baz=332							
TWQ1				*e*S		Sb	14 47 24.9	+2.6
	baz=332							
NSY	**Sanyi**	**1.33**	**335**	*e*P		Pb	14 47 08.2	+0.6
	baz=333							
NSY				*e*S		Sb	14 47 27.1	+2.8
	baz=333							
HEN	**Hengchun**	**1.34**	**207**	*e*P		Pb	14 47 07.9	+0.3
	baz=202							
TWK1	**Hengchun**	**1.37**	**203**	*e*P		Pn	14 47 07.2	0.0
	baz=198							
ENTT	**Nioudou**	**1.44**	**7**	*e*P		Pn	14 47 07.1	-1.1
	baz=3.0							
TWC	**Suao**	**1.46**	**17**	*e*P		Pn	14 47 07.8	-0.6
	baz=360							
NSTT	**Nanjuang**	**1.46**	**346**	*e*P		Pn	14 47 09.3	-0.4
	baz=343							
NSK	**Sanguang**	**1.46**	**359**	*e*P		Pn	14 47 07.5	-1.1
	baz=8.0							
TWE	**Neicheng**	**1.53**	**10**	*e*P		Pn	14 47 09.5	+0.1
	baz=7.0							
TWA	**Mucha**	**1.78**	**6**	*e*P		Pn	14 47 12.0	-0.9
	baz=13							
TWS1	**Kuangyinshan**	**1.89**	**1**	*e*P		Pn	14 47 15.3	+0.9
	baz=12							
TWS1				*e*S		Sb	14 47 39.6	-0.6
	baz=12							
NWF	**Wu-fen Shan**	**1.89**	**11**	*e*P		Pn	14 47 15.1	+0.6
	baz=7.0							
YOJ	**Yonaguni jima**	**1.94**	**50**	*e*P		Pn	14 47 14.1	-1.1
	baz=49							

*IDC **04** 15:02:25.4±0.7, 14°.79S×177°.11W, h0km, mb4.1/15, mb1 4.3/15, mb1mx4.3/21, mbtmp4.1/15, MS4.3/14, Ms1 4.3/14, ms1mx4.1/29, Error ellipse: s-maj=31.7km s-min=15.4km az=145.0*

*ISCJB **04** 15:02:29.1±0.4, 14°.9S±0°.1×177°.17W±0°.09, h33km, mb4.2/20, MS4.3/12, Error ellipse: s-maj=17.2km s-min=9.3km az=148.0*

*NEIC **04** 15:02:32.9±1.7, 14°.85S×177°.19W, h52km±16km, mb4.5/8, Error ellipse: s-maj=13.7km s-min=8.8km az=153.0*

ISC 04 15:02:31.1±0.6, 14°.8S±0°.1×177°.1W±0°.1, h35km, n71, σ1§21/46, mb4.3/20, MS4.4/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**5.25**	**81**	Pn		Pn	15 03 38.7	-8.5
AFI				Sn		Sn	15 04 35.1	-12
AFI	**Afiamalu**	**5.25**	**81**	Pn		Pn	15 03 38.7	-8.5
	9.5nm,0.3s,baz=273,slow=6.9,SNR=13							
AFI				Sn		Sn	15 04 35.1	-12
	4.2nm,0.3s,baz=73,slow=20,SNR=2.7							
AFI				LR		LR	15 05 17.5	
	comp=Z,3μm,19.1s,baz=83,slow=33							
MSVF	**Nonsavu**	**5.50**	**237**	*e*P		**Pn**	**15 03 50.8**	**+0.1**
RAO	**Raoul Island**	**14.43**	**183**	LR		LR	15 10 23.5	
	comp=Z,2μm,21.8s,baz=353,slow=33							
DZM	**Mont Dzumac**	**17.19**	**243**	*e*P		**P**	**15 06 34.6**	**+4.5**
	118nm,1.6s							
DZM				*e*LR		LR	15 11 11.1	
	2μm,26.1s							
DZM	**Mont Dzumac**	**17.19**	**243**	*e*P		**P**	**15 06 32.7**	**+2.6**
	487nm,2.3s							
DZM	**Mont Dzumac**	**17.19**	**243**	P		**P**	**15 06 32.3**	**+2.2**
	0.2nm,0.3s,baz=97,slow=16,SNR=12							
RAR	**Rarotonga**	**17.69**	**114**	LR		LR	15 10 43.6	
	comp=Z,31nm,21.7s,baz=269,slow=28							
HNR	**Honiara**	**23.04**	**281**	LR		LR	15 15 30.2	
	comp=Z,373nm,19.0s,baz=287,slow=34							
URZ	**Urewera**	**23.94**	**191**	LR		LR	15 15 19.2	
	comp=Z,1μm,18.9s,baz=26,slow=32							
PPT	**Papeete**	**26.59**	**100**	P		**P**	**15 08 08.3**	**+1.9**
PPT	**Papeete**	**26.59**	**100**	P		**P**	**15 08 08.3**	**+1.9**
	62nm,0.9s,baz=103,slow=12,SNR=3.7							
PPT2	**Papeete2**	**26.59**	**100**	*e*LQ		LQ	15 13 25.0	
	888nm,26.5s							
PPT2				*e*LR		LR	15 14 30.6	
	1μm,26.5s,baz=265							
TBI	**Tubuai**	**27.46**	**112**	*e*LQ		LQ	15 13 35.0	
	970nm,31.2s							
TBI				*e*LR		LR	15 15 09.4	
	1μm,28.2s,baz=285							
CTA	**Charters Tower**	**35.29**	**256**	P		**P**	**15 09 22.9**	**-0.2**
CTA	**Charters Tower**	**35.29**	**256**	P		**P**	**15 09 22.9**	**-0.2**
	1.3nm,0.8s,baz=58,slow=13,SNR=3.6							
PMG	**Port Moresby**	**35.31**	**275**	LR		LR	15 21 08.4	
	comp=Z,505nm,20.6s,baz=306,slow=32							
H11S2	**WAKE ISLAND Hy**	**36.70**	**334**	T		T	15 48 45.0	
	baz=158,slow=0.7,SNR=8.9							
H11S3	**WAKE ISLAND Hy**	**36.71**	**334**	T		T	15 48 42.4	
	baz=158,slow=0.7,SNR=11							
H11S1	**WAKE ISLAND Hy**	**36.72**	**334**	T		T	15 48 46.3	
	baz=158,slow=0.7,SNR=8.7							
H11N3	**WAKE ISLAND Hy**	**37.71**	**335**	T		T	15 49 56.3	
	baz=182,SNR=5.3							
H11N1	**WAKE ISLAND Hy**	**37.71**	**335**	T		T	15 49 55.9	
	baz=182,SNR=25							
H11N2	**WAKE ISLAND Hy**	**37.72**	**335**	T		T	15 50 02.7	
	baz=182,SNR=9.6							
RKT	**Rikitea**	**40.60**	**108**	*e*LR		LR	15 21 12.0	
	837nm,27.8s							
STKA	**Stephens Creek**	**41.27**	**238**	*e*P		**P**	**15 10 12.7**	**-0.6**
	2.9nm,1.2s							
STKA	**Stephens Creek**	**41.27**	**238**	P		**P**	**15 10 12.2**	**-1.0**
	4.4nm,0.8s,baz=37,slow=8.2,SNR=10							
WRA	**Warramunga Arr**	**46.49**	**256**	P		**P**	**15 10 53.8**	**-1.6**
WRA	**Warramunga Arr**	**46.49**	**256**	P		**P**	**15 10 53.8**	**-1.6**
	1.7nm,0.9s,baz=88,slow=7.4,SNR=9.0							
WRA					LR	LR	15 28 23.7	
	comp=Z,465nm,21.2s,baz=85,slow=34							
AS31	**Alice Springs**	**46.90**	**251**	*e*P		**P**	**15 10 57.2**	**-1.3**
ASAR	**Alice Springs**	**46.90**	**251**	P		**P**	**15 10 57.6**	**-0.9**
ASAR	**Alice Springs**	**46.90**	**251**	P		**P**	**15 10 57.6**	**-0.9**
	3.8nm,0.8s,baz=84,slow=8.3,SNR=44							
ASAR					LR	LR	15 28 54.9	
	comp=Z,489nm,20.1s,baz=98,slow=34							
FITZ	**Fitzroy Crossi**	**54.82**	**258**	P		**P**	**15 11 58.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**54.82**	**258**	P		**P**	**15 11 58.1**	**-0.1**
	1.4nm,0.7s,baz=128,slow=8.4,SNR=4.5							
FITZ					LR	LR	15 34 31.5	
	comp=Z,351nm,18.1s,baz=360,slow=35							
BATI	**Baumata**	**57.86**	**267**	LR		LR	15 34 12.9	
	comp=Z,306nm,19.8s,baz=350,slow=33							
DRV	**

mb4.2/31,MS4.2/21,Error ellipse: s-maj=7.8km s-min=6.1km az=151.4
*NEIC **04** 15:08:58.2±0.4, 1.02S×67.63E, h10km, mb4.5/6, Error ellipse: s-maj=11.3km s-min=6.9km az=146.0*
*GCMT **04** 15:09:01.4±0.3, 1.21S×67.58E, h14km±2km, MW5.1, Moment Tensor Solution. s15,c16; s82,c110; Moment tensor: Scale 10^{16}Nm; M_{rr}-1.78±.33; $M_{\theta\theta}$-3.79±.20; $M_{\phi\phi}$5.56±.30; $M_{r\theta}$0.42±.53; $M_{r\phi}$-1.07±.20; $M_{\theta\phi}$1.10±.49; Best double couple: $M_0$4.90000×10^{16} NP1:ϕ_s217.00000°, δ86.00000°, λ-16.00000°. NP2:ϕ_s309.00000°, δ74.00000°, λ-176.00000°. Principal axes: T 5.8300, Plg8.0000°, Azm264.0000°; N -1.7900, Plg74.0000°, Azm22.0000°; P -4.0500, Plg14.0000°, Azm172.0000°; Data Used: IU II IC G CN.*

ISC 04 15:08:59.2±0.4, 0.96S±0.05×67.61E±0.07, h15km, n90, σ0.95/65, mb4.3/31, MS4.2/21, 1C, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**6.32**	**148**	Pn	**Pn**	**15 10 31.9**	**+0.3**
	baz=318,slow=0.1,SNR=103						
H08N2				T	T	15 16 49.8	
	baz=326,slow=0.7,SNR=3843						
H08N3	**Diego Garcia H**	**6.33**	**148**	Pn	**Pn**	**15 10 32.0**	**+0.2**
	baz=318,slow=0.1,SNR=74						
H08N3				T	T	15 16 52.8	
	baz=326,slow=0.7,SNR=5702						
H08N1	**Diego Garcia H**	**6.34**	**148**	Pn	**Pn**	**15 10 31.9**	**0.0**
	baz=318,slow=0.1,SNR=72						
H08N1				T	T	15 16 54.1	
	baz=326,slow=0.7,SNR=4365						
H08S3	**Diego Garcia H**	**8.22**	**144**	Pn	**Pn**	**15 10 58.3**	**+0.5**
	baz=177,slow=0.5,SNR=22						
H08S3				T	T	15 19 22.6	
	baz=354,slow=0.6,SNR=41						
H08S1	**Diego Garcia H**	**8.22**	**144**	Pn	**Pn**	**15 10 59.0**	**+1.1**
	baz=177,slow=0.5,SNR=7.5						
H08S1				T	T	15 19 26.5	
	baz=354,slow=0.6,SNR=36						
H08S2	**Diego Garcia H**	**8.24**	**144**	Pn	**Pn**	**15 10 58.6**	**+0.6**
	baz=177,slow=0.5,SNR=33						
H08S2				T	T	15 19 23.5	
	baz=354,slow=0.6,SNR=40						
MSEY	**Mahe Island**	**12.66**	**253**	*eP*	**Pn**	**15 12 00.0**	**+1.0**
	299nm,1.0s						
PALK	**Pallekele**	**15.41**	**58**	*eP*	**Pn**	**15 12 35.4**	**-1.0**
OPO	**Ambohidratompo**	**26.61**	**228**	LR	LR	15 22 30.1	
	comp=Z,306nm,18.4s,baz=233,slow=31						
ATD	**Arta Tunnel**	**27.56**	**297**	LR	LR	15 23 46.2	
	comp=Z,294nm,18.4s,baz=314,slow=32						
KMBO	**Kilima Mbogo**	**30.35**	**269**	*eP*	**P**	**15 15 10.5**	**-0.6**
	5.4nm,1.3s						
KMBO	**Kilima Mbogo**	**30.35**	**269**	P	**P**	**15 15 11.6**	**+0.4**
	1.8nm,0.7s,baz=52,slow=6.1,SNR=5.0						
KMBO				LR	LR	15 25 30.8	
	comp=Z,722nm,21.0s,baz=92,slow=33						
PSI	**Prapat**	**31.53**	**83**	LR	LR	15 25 37.2	
	comp=Z,625nm,21.5s,baz=162,slow=32						
CMAR	**Chiang Mai Arr**	**36.35**	**56**	P	**P**	**15 16 04.3**	**+1.3**
CMAR	**Chiang Mai Arr**	**36.35**	**56**	P	**P**	**15 16 04.3**	**+1.3**
	1.4nm,0.9s,baz=246,slow=11,SNR=7.3						
CMAR				LR	LR	15 31 21.5	
	comp=Z,211nm,18.1s,baz=236,slow=37						
CHTO	**Chiang Mai**	**36.52**	**56**	*eP*	**P**	**15 16 04.7**	**+0.2**
	24nm,1.3s						
LSA	**Lhasa**	**37.87**	**34**	*eP*	**P**	**15 16 18.6**	**+2.3**
	6.3nm,0.7s						
LSZ	**Lusaka**	**41.43**	**248**	P	**P**	**15 16 44.9**	**-0.9**
LSZ	**Lusaka**	**41.43**	**248**	P	**P**	**15 16 44.9**	**-0.9**
	7.7nm,0.5s,baz=62,slow=9.0,SNR=24						
EKS2	**Erkin-Say**	**43.77**	**7**	*eP*	**P**	**15 17 06.6**	**+2.1**
	22nm,1.4s						
AAK	**Ala-Archa**	**43.83**	**7**	P	**P**	**15 17 06.0**	**+1.0**
AAK	**Ala-Archa**	**43.83**	**7**	P	**P**	**15 17 06.0**	**+1.0**
	0.8nm,0.4s,baz=192,slow=7.0,SNR=5.9						
LBTB	**Lobatse**	**47.08**	**236**	P	**P**	**15 17 31.4**	**+0.5**
LBTB	**Lobatse**	**47.08**	**236**	P	**P**	**15 17 31.0**	**0.0**
	3.9nm,0.9s,baz=93,slow=12,SNR=4.2						
BOSA	**Boshof**	**48.89**	**232**	P	**P**	**15 17 44.4**	**-0.5**
BOSA	**Boshof**	**48.89**	**232**	P	**P**	**15 17 44.4**	**-0.5**
	2.1nm,0.5s,baz=35,slow=8.3,SNR=9.0						
BOSA				LR	LR	15 34 51.7	
	comp=Z,256nm,21.4s,baz=71,slow=32						
MKAR	**Makanchi Array**	**49.27**	**13**	P	**P**	**15 17 47.1**	**-0.3**
MKAR	**Makanchi Array**	**49.27**	**13**	P	**P**	**15 17 47.1**	**-0.3**
	0.6nm,0.8s,baz=190,slow=6.2,SNR=5.3						
MKAR				LR	LR	15 39 34.1	
	comp=Z,190nm,20.8s,baz=24,slow=37						
KBZ	**Khabaz**	**49.68**	**337**	P	**P**	**15 17 50.6**	**0.0**
KBZ	**Khabaz**	**49.68**	**337**	P	**P**	**15 17 50.6**	**0.0**
	4.1nm,0.9s,baz=168,slow=4.0,SNR=7.6						
KBZ				LR	LR	15 38 19.0	
	comp=Z,154nm,19.7s,baz=157,slow=35						
ABKAR	**Akbulak array**	**50.45**	**353**	*eP*	**P**	**15 17 56.1**	**-0.3**
BRTR	**Keskin Array B**	**51.03**	**326**	P	**P**	**15 18 01.1**	**+0.1**
BRTR	**Keskin Array B**	**51.03**	**326**	P	**P**	**15 18 01.1**	**+0.1**
	1.7nm,0.8s,baz=145,slow=9.7,SNR=9.1						
BRTR				LR	LR	15 38 28.6	
	comp=Z,135nm,19.2s,baz=288,slow=35						
BR131	**Keskin Array S**	**51.03**	**326**	*eP*	**P**	**15 18 01.5**	**+0.5**
	2.2nm,0.7s						
AKTO	**Aktyubinsk**	**51.85**	**352**	P	**P**	**15 18 05.9**	**-0.9**
AKTO	**Aktyubinsk**	**51.85**	**352**	P	**P**	**15 18 05.9**	**-0.9**
	2.1nm,0.8s,baz=162,slow=4.0,SNR=4.9						
AKTO				LR	LR	15 37 42.2	
	comp=Z,45nm,19.0s,baz=114,slow=33						
KURBB	**Kurchatov Arra**	**52.23**	**9**	P	**P**	**15 18 09.7**	**+0.1**
	0.9nm,0.6s,baz=204,slow=7.6,SNR=7.1						
TSUM	**Tsumeb**	**52.23**	**246**	*eP*	**P**	**15 18 10.7**	**+0.3**
	7.6nm,1.0s						
KURK	**Kurchatov**	**52.33**	**9**	*eP*	**P**	**15 18 10.3**	**0.0**
BVAR	**Borovoye Array**	**53.84**	**2**	P	**P**	**15 18 20.6**	**-0.8**
BVAR	**Borovoye Array**	**53.84**	**2**	P	**P**	**15 18 20.6**	**-0.8**
	0.6nm,0.6s,baz=122,slow=16,SNR=2.8						
H01W3	**Cape Leeuwin H**	**54.90**	**133**	T	T	16 17 59.1	
	baz=299,slow=0.7,SNR=6.1						
H01W2	**Cape Leeuwin H**	**54.91**	**133**	T	T	16 17 52.7	
	baz=299,slow=0.7,SNR=8.0						
H01W1	**Cape Leeuwin H**	**54.92**	**133**	T	T	16 17 44.2	
	baz=299,slow=0.7,SNR=4.5						
ZALV	**Zalesovo Beam**	**56.55**	**12**	P	**P**	**15 18 40.4**	**-0.6**
ZALV	**Zalesovo Beam**	**56.55**	**12**	P	**P**	**15 18 40.4**	**-0.6**
	0.5nm,0.4s,baz=193,slow=6.1,SNR=5.6						
ZALV				LR	LR	15 43 45.9	
	comp=Z,140nm,21.0s,baz=70,slow=37						
CTBH	**Cotabato--PC H**	**57.08**	**81**	↑*iP*	**P**	**15 18 46.0**	**+0.5**
SONM	**Songino Array**	**59.15**	**29**	P	**P**	**15 18 59.6**	**0.0**
SONM	**Songino Array**	**59.15**	**29**	P	**P**	**15 18 59.6**	**0.0**
	0.5nm,0.6s,baz=224,slow=5.8,SNR=6.8						
SONM				LR	LR	15 44 41.2	
	comp=Z,332nm,18.2s,baz=46,slow=36						
AKASG	**Malin Array Be**	**60.95**	**333**	P	**P**	**15 19 10.2**	**-1.5**
AKASG	**Malin Array Be**	**60.95**	**333**	P	**P**	**15 19 10.2**	**-1.5**
	0.8nm,0.6s,baz=114,slow=5.4,SNR=4.6						
MAW	**Mawson**	**66.60**	**182**	P	**P**	**15 19 46.3**	**-2.3**
MAW	**Mawson**	**66.60**	**182**	P	**P**	**15 19 46.3**	**-2.3**
	2.6nm,0.8s,baz=305,slow=3.0,SNR=3.6						
TORD	**Torodi Ar. Bea**	**66.81**	**285**	P	**P**	**15 19 50.7**	**-0.4**
TORD	**Torodi Ar. Bea**	**66.81**	**285**	P	**P**	**15 19 50.7**	**-0.4**
	0.4nm,1.0s,baz=96,slow=4.1,SNR=3.0						
TORD				LR	LR	15 49 40.7	
	comp=Z,278nm,18.1s,baz=105,slow=37						
KSAR	**Wonju Array Be**	**67.38**	**48**	P	**P**	**15 19 54.2**	**0.0**
KSRS	**Korea Array**	**67.42**	**48**	P	**P**	**15 19 54.2**	**-0.2**
	1.2nm,1.0s,baz=242,slow=6.0,SNR=3.2						
WRA	**Warramunga Arr**	**67.84**	**111**	P	**P**	**15 19 57.0**	**-0.4**
WRA	**Warramunga Arr**	**67.84**	**111**	P	**P**	**15 19 57.0**	**-0.4**
	5.0nm,0.9s,baz=282,slow=5.9,SNR=11						
WRA				LR	LR	15 43 56.3	
	comp=Z,222nm,21.0s,baz=250,slow=31						
ASAR	**Alice Springs**	**67.96**	**115**	P	**P**	**15 19 57.6**	**-0.6**
ASAR	**Alice Springs**	**67.96**	**115**	P	**P**	**15 19 57.6**	**-0.6**
	1.4nm,0.7s,baz=284,slow=5.4,SNR=17						
ASAR				LR	LR	15 44 07.8	
	comp=Z,173nm,21.0s,baz=280,slow=31						
DAVOX	**Davos/Dischmat**	**69.22**	**322**	P	**P**	**15 20 05.6**	**-0.2**
DAVOX	**Davos/Dischmat**	**69.22**	**322**	P	**P**	**15 20 05.6**	**-0.2**
	1.2nm,0.3s,baz=336,slow=20,SNR=2.3						
MBDF	**Montbardon**	**70.39**	**319**	*eP*	**P**	**15 20 15.4**	**+2.4**
MBDF	**Montbardon**	**70.39**	**319**	*eP*	**P**	**15 20 15.4**	**+2.4**
LPG	**La Plagne**	**70.69**	**319**	*eP*	P	15 20 19.4	+4.4
LPG	**La Plagne**	**70.69**	**319**	*eP*	P	15 20 19.4	+4.4
LPL	**La Plagne**	**70.71**	**319**	*eP*	P	15 20 18.7	+3.7
LPL	**La Plagne**	**70.71**	**319**	*eP*	P	15 20 18.7	+3.7
ORIF	**Oris-en-Rattie**	**71.05**	**319**	*eP*	P	15 20 20.7	+3.8
ORIF	**Oris-en-Rattie**	**71.05**	**319**	*eP*	P	15 20 20.7	+3.8
LASF	**Ste Croix**	**72.11**	**317**	*eP*	P	15 20 27.0	+3.7
	37nm,1.6s						
LASF	**Ste Croix**	**72.11**	**317**	*eP*	P	15 20 27.0	+3.7
DBIC	**Dimbokro**	**72.70**	**277**	P	**P**	**15 20 28.0**	**+0.6**
DBIC	**Dimbokro**	**72.70**	**277**	P	**P**	**15 20 28.0**	**+0.6**
	2.4nm,1.0s,baz=74,slow=7.4,SNR=2.3						
DBIC				LR	LR	15 51 59.9	
	comp=Z,172nm,18.6s,baz=72,slow=36						
SSF	**Saint Saulge**	**73.36**	**320**	*eP*	P	15 20 35.4	+4.8
	18nm,1.1s						
SSF	**Saint Saulge**	**73.36**	**320**	*eP*	P	15 20 35.4	+4.8
ETSF	**Etsaut**	**74.81**	**315**	*eP*	P	15 20 43.1	+3.8
	20nm,1.4s						
ETSF	**Etsaut**	**74.81**	**315**	*eP*	P	15 20 43.1	+3.8
NOA	**NORSAR Array B**	**75.24**	**335**	LR	LR	15 53 41.9	
	comp=Z,91nm,20.5s,baz=60,slow=36						
SJPF	**Ste Jean**	**75.34**	**315**	*eP*	P	15 20 46.2	+3.9
	13nm,1.0s						
SJPF	**Ste Jean**	**75.34**	**315**	*eP*	P	15 20 46.2	+3.9
ARCES	**ARCESS Array B**	**75.80**	**346**	LR	LR	15 54 38.6	
	comp=Z,161nm,21.5s,baz=114,slow=36						
STKA	**Stephens Creek**	**75.91**	**123**	LR	LR	15 51 01.2	
	comp=Z,153nm,21.9s,baz=44,slow=33						
ESDC	**Sonseca Array**	**76.50**	**311**	P	**P**	**15 20 49.1**	**+0.1**
ESDC	**Sonseca Array**	**76.50**	**311**	P	**P**	**15 20 49.1**	**+0.1**
	0.2nm,0.5s,baz=102,slow=3.0,SNR=3.1						
HNR	**Honiara**	**92.15**	**99**	LR	LR	16 00 14.2	
	comp=Z,74nm,20.7s,baz=199,slow=33						
RPZ	**Rata Peaks**	**99.04**	**134**	LR	LR	15 56 07.8	
	comp=Z,227nm,19.8s,baz=230,slow=29						
TXAR	**Lajitas Array**	**150.58**	**344**	PKPbc	**PKPbc**	**15 28 52.0**	**+0.5**
TXAR	**Lajitas Array**	**150.58**	**344**	PKPbc	**PKPbc**	**15 28 52.0**	**+0.5**
	1.9nm,0.9s,baz=64,slow=2.9,SNR=11						

IDC 04 15:11:05.9±2.1, 0.76N×127.39E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/20, mbtmp3.4/3, MS4.1/1, Ms1 4.1/1, ms1mx2.9/20, Error ellipse: s-maj=165.3km s-min=24.9km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.67**	**162**	P	P	15 15 58.7	+0.4
	0.4nm,0.5s,baz=343,slow=9.7,SNR=6.9						
ASAR	**Alice Springs**	**25.09**	**166**	P	P	15 16 32.3	-0.2
	0.3nm,0.5s,baz=342,slow=7.3,SNR=13						
ASAJ	**Asahikawa**	**45.25**	**15**	LR	LR	15 37 26.7	
	comp=Z,217nm,21.2s,baz=345,slow=35						
MKAR	**Makanchi Array**	**60.37**	**326**	P	P	15 21 16.9	-0.1
	0.4nm,0.4s,baz=120,slow=8.0,SNR=7.9						

IDC 04 15:24:07.8±2.7, 52.95N×37.02W, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/30, mbtmp3.4/3, MS3.6/5, Ms1 3.6/5, ms1mx3.1/39, Error ellipse: s-maj=92.7km s-min=47.1km az=41.0, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFJD	**Kangerlussuaq**	**15.58**	**340**	LR	LR	15 32 33.7	
	comp=Z,134nm,18.4s,baz=113,slow=32						
ESDC	**Sonseca Array**	**26.14**	**107**	P	P	15 29 42.5	-1.1
	0.2nm,0.4s,baz=304,slow=9.1,SNR=4.1						
NOA	**NORSAR Array B**	**26.91**	**53**	LR	LR	15 38 25.2	
	comp=Z,54nm,18.5s,baz=190,slow=32						
BRTR	**Keskin Array B**	**48.59**	**76**	P	P	15 32 53.6	+0.5
	0.4nm,0.5s,baz=295,slow=7.8,SNR=2.6						
TORD	**Torodi Ar. Bea**	**50.22**	**128**	P	P	15 33 06.1	+0.7
	0.4nm,0.8s,baz=336,slow=9.4,SNR=2.9						
ROSC	**El Rosal**	**56.88**	**226**	LR	LR	15 53 30.5	
	comp=Z,54nm,19.1s,baz=210,slow=31						
ZALV	**Zalesovo Beam**	**63.03**	**34**	LR	LR	16 00 28.4	
	comp=Z,108nm,20.5s,baz=70,slow=35						
AAK	**Ala-Archa**	**68.06**	**48**	LR	LR	16 02 59.0	
	comp=Z,79nm,20.8s,baz=1.4,slow=34						
ASAR	**Alice Springs**	**149.95**	**17**	PKPbc	PKPbc	15 43 59.3	-0.7
	0.2nm,0.5s,baz=350,slow=2.3,SNR=9.7						

IDC 04 15:24:11.7±8.6, 14.81S×172.73W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/19, mbtmp3.8/2, MS4.2/2, Ms1 4.2/2, ms1mx3.3/40, Error ellipse: s-maj=377.9km s-min=66.7km az=139.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.28**	**46**	Pn	Pg	15 24 31.6	-4.8
	34nm,0.3s,baz=160,slow=1.1,SNR=34						
AFI				Sn	Sg	15 24 47.6	-5.6
	329nm,0.3s,baz=180,slow=19,SNR=47						
H11S2	**WAKE ISLAND Hy**	**38.80**	**328**	T	T	16 13 05.0	
	baz=149,SNR=6.0						
H11S3	**WAKE ISLAND Hy**	**38.82**	**328**	T	T	16 13 49.6	
	baz=149,SNR=3.1						
H11S1	**WAKE ISLAND Hy**	**38.82**	**328**	T	T	16 12 20.4	
	baz=149,SNR=4.9						
H11N3	**WAKE ISLAND Hy**	**39.73**	**329**	T	T	16 14 54.5	
	baz=148,slow=0.7,SNR=4.6						
H11N1	**WAKE ISLAND Hy**	**39.74**	**329**	T	T	16 14 56.5	
	baz=148,slow=0.7,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**39.75**	**329**	T	T	16 14 56.8	
	baz=148,slow=0.7,SNR=3.6						
WRA	**Warramunga Arr**	**50.61**	**256**	P	P	15 33 13.0	+0.1
	0.7nm,1.0s,baz=90,slow=6.7,SNR=9.0						
ASAR	**Alice Springs**	**50.91**	**251**	P	P	15 33 14.8	-0.4
	1.7nm,0.6s,baz=90,slow=7.7,SNR=31						
NWAO	**Narrogin (SRO)**	**65.47**	**240**	LR	LR	15 59 42.2	
	comp=Z,77nm,21.6s,slow=32						
JOW	**Kunigami**	**70.67**	**306**	LR	LR	15 59 31.8	
	comp=Z,4.7nm,20.8s,slow=30						
JNU	**Nakatsue**	**71.88**	**313**	LR	LR	15 59 19.9	
	comp=Z,355nm,21.7s,baz=90,slow=29						
BRTR	**Keskin Array B**	**146.10**	**322**	PKPbc	PKPdf	15 43 53.5	+0.1
	0.2nm,0.4s,baz=26,slow=3.7,SNR=2.4						

IDC 04 15:26:50.2±8.9, 6.35S×152.24E, h103km±61km, mb3.3/3, mb1 3.4/4, mb1mx3.1/18, mbtmp3.2/4, Error ellipse: s-maj=90.0km s-min=58.8km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.88**	**239**	P	Pn	15 28 14.8	-0.1
	0.7nm,0.3s,baz=352,slow=7.1,SNR=3.3						
PMG				S	Sn	15 29 21.8	+0.9
	0.7nm,0.3s,baz=332,slow=17,SNR=2.4						
WRA	**Warramunga Arr**	**22.02**	**230**	P	P	15 31 37.1	+0.7
	0.7nm,0.7s,baz=56,slow=10,SNR=6.8						
ASAR	**Alice Springs**	**24.64**	**224**	P	P	15 32 01.2	-0.1
	0.6nm,0.6s,baz=59,slow=9.5,SNR=16						
FITZ	**Fitzroy Crossi**	**28.45**	**243**	P	P	15 32 34.9	-0.7
	1.9nm,0.7s,baz=72,slow=10,SNR=5.6						
TORD	**Torodi Ar. Bea**	**150.22**	**285**	PKPbc	PKPbc	15 46 30.2	-0.1
	0.5nm,0.9s,baz=89,slow=2.5,SNR=3.6						

WEL 04 15:30:57.2±0.2, 37.57S×177.65E, h93km±1km, ML3.5/5, 5D, Error ellipse: s-maj=1.1km s-min=0.8km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.52**	**90**	P*	Pn	15 31 12.4	0.0
MXZ					AML	15 31 26.1	
MXZ					AML	15 31 29.0	
PUZ	**Puketiti**	**0.70**	**137**		Pn	15 31 13.8	-0.2
PUZ					Sn	15 31 26.1	-0.5
PUZ					AML	15 31 26.8	
MWZ	**Matawai**	**0.78**	**187**	P*	Pn	15 31 14.6	-0.1
MWZ				S*	Sn	15 31 28.4	+0.4
MWZ					AML	15 31 29.1	
MWZ					AML	15 31 29.1	
MWZ					AML	15 31 29.3	
URZ	**Urewera**	**0.81**	**211**	↓P*	Pn	15 31 14.9	-0.2
URZ				S*	Sn	15 31 28.4	-0.1
URZ					AML	15 31 30.0	
MARZ	**Manawahe**	**0.88**	**241**	P*	Pn	15 31 15.7	-0.1
OPRZ	**Ohinepanea**	**0.91**	**252**	↓P*	Pn	15 31 16.1	0.0
CNGZ	**Carnagh Statio**	**1.02**	**155**	PN	Pn	15 31 17.4	+0.1
LIRZ	**Lichensteins R**	**1.09**	**246**	P*	Pn	15 31 18.5	+0.3
RRRZ	**Republican Roa**	**1.19**	**229**	P*	Pn	15 31 19.1	-0.1
PRRZ	**Plateau Road**	**1.36**	**226**	↓P*	Pn	15 31 21.4	0.0
RAHZ	**Arahi**	**1.42**	**198**	PN	Pn	15 31 21.9	-0.2
RAHZ					SN	15 31 40.9	-0.1
ALRZ	**Allen Road**	**1.43**	**226**	↓P*	Pn	15 31 22.3	0.0
KNZ	**Kokohu**	**1.45**	**179**	*e*PN	Pn	15 31 21.5	-1.0
MHGZ	**Mahia Peninsul**	**1.60**	**173**	*e*PN	Pn	15 31 23.7	-0.6
NMHZ	**Naumai**	**1.67**	**203**	PN	Pn	15 31 25.2	-0.1
TOZ	**Tahuroa Road**	**1.71**	**264**	P*	Pn	15 31 26.0	+0.3
MCHZ	**McNeill Hill**	**2.02**	**201**	PN	Pn	15 31 28.8	-1.0
MKAZ	**Moumakai**	**2.03**	**282**	↓PN	Pn	15 31 30.4	+0.5
BHHZ	**Black Hill Sta**	**2.29**	**212**	PN	Pn	15 31 32.5	-0.9
PNHZ	**Pukenui**	**2.61**	**205**	PN	Pn	15 31 35.2	-2.4
MRZ	**Mangatainoka R**	**3.49**	**207**	PN	Pn	15 31 45.7	-3.6
MRZ					SN	15 32 24.6	-5.0
HOWZ	**Holdsworth Sta**	**3.72**	**206**	PN	Pn	15 31 48.5	-4.0
TCW	**Tory Channel**	**4.48**	**215**	SN	Sn	15 32 47.5	-6.1
MQZ	**McQueen's Vall**	**7.22**	**210**	SN	Sn	15 33 49.4	-11

*IDC **04** 15:33:26.7±12.0, 33.12N×141.86E, h0km, mb3.3/3, mb1 3.4/3, mb1mx3.2/24, mbtmp3.3/3, Error ellipse: s-maj=467.6km s-min=33.9km az=65.0*
*ISCJB **04** 15:33:38.8±1.0, 32.72N±0.06×140.7E±0.1, h79km±9km, mb3.2/3, Error ellipse: s-maj=14.7km s-min=8.9km az=15.7*
*JMA **04** 15:33:40.1±0.2, 32.78N×140.76E, h57km, M3.1*
ISC 04 15:33:39.5±1.7, 32.70N±0.09×140.7E±0.1, h68km±15km, n12, σ0.72/20, mb3.4/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**0.86**	**295**	P	**Pn**	**15 33 56.4**	**+0.2**
JHCJ				S	**Sn**	**15 34 07.4**	**-1.1**
JHJ2	**Mitsune**	**0.87**	**298**	P	**Pn**	**15 33 56.6**	**+0.4**
JHJ2				S	**Sn**	**15 34 08.9**	**+0.3**
BSO1	**Boso 1**	**1.96**	**6**	P	**Pn**	**15 34 10.1**	**+0.1**
BSO1				*e*S	**Sn**	**15 34 33.4**	**+0.2**
JKO	**Kozu shima**	**1.99**	**318**	P	**Pn**	**15 34 11.9**	**+1.0**
JKO				S	**Sn**	**15 34 34.5**	**-0.3**
BSO2	**Boso 2**	**2.04**	**1**	*e*S	**Sn**	**15 34 35.4**	**-0.3**
BSO3	**Boso 3**	**2.10**	**355**	P	**Pn**	**15 34 12.6**	**+0.4**
BSO3				*e*S	**Sn**	**15 34 37.0**	**-0.1**
JIM2	**Oshima 3**	**2.28**	**332**	P	**Pn**	**15 34 15.2**	**+0.3**
JIM2				S	**Sn**	**15 34 40.7**	**-1.2**
JIZS	**Izushimoda**	**2.53**	**323**	P	**Pn**	**15 34 19.4**	**+1.1**
JIZS				S	**Sn**	**15 34 48.2**	**+0.2**
JOD2	**Odawara 2**	**2.89**	**332**	P	**Pn**	**15 34 23.9**	**+0.7**
JOD2				S	**Sn**	**15 34 55.6**	**-1.3**
MKAR	**Makanchi Array**	**46.06**	**306**	P	**P**	**15 41 56.3**	**-0.1**
	0.4nm,0.6s,baz=83,slow=9.6,SNR=5.2						
WRA	**Warramunga Arr**	**52.70**	**188**	P	**P**	**15 42 47.1**	**0.0**
	0.4nm,0.9s,baz=7.7,slow=7.7,SNR=5.6						
ASAR	**Alice Springs**	**56.43**	**188**	P	**P**	**15 43 13.9**	**-0.2**
	0.1nm,0.7s,baz=3.8,slow=7.4,SNR=4.9						

MAN 04 15:40:52, 13.61N×120.77E, h1km, mb4.3, ML3.1, MS2.9, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.21**	**121**	↓*iP*	Pg	15 40 56.3	+0.2
TGY	**Tagaytay City**	**0.52**	**19**	↑*iP*	Pg	15 41 02.7	+0.7
LQP	**Lukban**	**0.90**	**56**	*eP*	Pg	15 41 06.6	-3.0
SJMP	**San Jose**	**1.19**	**163**	*eP*	Pn	15 41 16.2	+0.4
BUSP	**Coron**	**1.69**	**199**	*eP*	Pn	15 41 21.6	-1.1
OTRP	**Odiongan**	**1.74**	**135**	*eP*	Pn	15 41 22.9	-0.5
ENPP	**El Nido**	**2.73**	**209**	*eP*	Pn	15 41 39.2	+2.3
CUYO	**Cuyo Island**	**2.75**	**175**	*eP*	Pn	15 41 37.8	+0.5

DJA 04 15:42:36.9±1.5, 3.S±9.×10.1E±1.1, h10km, M3.5/6, MLv3.5/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASI	**Maura Aman, Be**	**0.97**	**121**	P	Pg	15 42 55.2	-0.6
MASI				S	Sb	15 43 08.9	-0.1
KSI	**Kapahiang**	**1.56**	**130**	P	Pn	15 43 05.0	+0.2
KSI				S	Sb	15 43 26.0	+0.2
PDSI	**Padang**	**1.96**	**331**	P	Pn	15 43 10.9	+0.7
PDSI				S	Sb	15 43 37.3	+0.1
MNAI	**

PDAR	**Pinedale Array**	**56.11**	**299**	P		**P**	**16 09 14.6**	**-1.3**
	0.3nm,0.4s,baz=64,slow=6.1,SNR=3.5							
H10S1	**ASCENSION HYDR**	**56.17**	**165**	T		T	17 09 45.3	
	baz=350,slow=0.7,SNR=21							
H10S3	**ASCENSION HYDR**	**56.18**	**165**	T		T	17 09 46.0	
	baz=350,slow=0.7,SNR=21							
H10S2	**ASCENSION HYDR**	**56.19**	**165**	T		T	17 09 46.7	
	baz=350,slow=0.7,SNR=20							
TXAR	**Lajitas Array**	**60.30**	**283**	P		**P**	**16 09 47.0**	**+1.8**
	1.1nm,0.8s,baz=72,slow=8.3,SNR=9.0							
KURBB	**Kurchatov Arra**	**64.28**	**43**	P		**P**	**16 10 11.1**	**-0.3**
	0.7nm,0.6s,baz=318,slow=6.8,SNR=12							
AAK	**Ala-Archa**	**67.64**	**51**	P		**P**	**16 10 35.2**	**+1.8**
	0.6nm,0.3s,baz=270,slow=4.0,SNR=2.6							
MKAR	**Makanchi Array**	**68.73**	**44**	P		**P**	**16 10 40.3**	**+0.3**
	1.4nm,0.7s,baz=322,slow=6.0,SNR=14							
SONM	**Songino Array**	**77.93**	**30**	P		**P**	**16 11 33.9**	**-0.5**
	0.7nm,0.8s,baz=337,slow=3.4,SNR=3.9							
WRA	**Warramunga Arr**	**149.75**	**36**	PKPbc		**PKPbc**	**16 19 26.1**	**-0.4**
	1.4nm,0.9s,baz=335,slow=3.2,SNR=6.4							
ASAR	**Alice Springs**	**152.86**	**40**	PKPbc		**PKPbc**	**16 19 33.6**	**0.0**
	0.9nm,0.9s,baz=349,slow=2.2,SNR=12							

MAN 04 16:34:48,16.09N×120.06E,h7km,mb4.3,ML3.1,MS2.9, 1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.32**	**334**	*e*P	Pb	16 34 55.7	-0.4
SCZP	**Santa Cruz**	**0.34**	**205**	*e*P	Pb	16 34 56.1	-0.3
BCPH	**Baguio City Da**	**0.58**	**60**	⇑*i*P	Pg	16 34 59.7	+0.3
BALP	**Baler**	**1.50**	**103**	*e*P	Pb	16 35 15.9	-0.3
ABRA	**Dolores**	**1.67**	**22**	*e*P	Pn	16 35 16.3	-1.4
CAUP	**Cauayan**	**1.89**	**63**	*e*P	Pb	16 35 23.2	+0.3
APYP	**Conner**	**2.09**	**33**	*e*P	Pn	16 35 23.8	+0.2

*ISCJB **04** 16:46:46.5±0.6, 1.61N±0.05×127.38E±0.04,h128km, mb4.1/6, Error ellipse: s-maj=8.0km s-min=5.5km az=24.8*
*DJA **04** 16:46:49.2±0.6,2.7N±4.4×127.7E±*, *h103km±10km, M4.3/9, mb4.6/6,mB5.0/4, MLv4.1/9, Mw(mB)4.3/4*
*AUST **04** 16:46:56.2±2.0, 0.81N×127.41E,h169km, Error ellipse: s-maj=3.2km s-min=1.1km az=359.0*
*IDC **04** 16:46:58.6±7.3, 1.12N×126.92E,h232km±70km, mb3.6/6, mb1 3.8/8, mb1mx3.3/23, mbtmp3.6/8, MS3.0/1, Ms1 3.0/1, ms1mx2.6/43, Error ellipse: s-maj=60.9km s-min=13.2km az=58.0*

ISC 04 16:46:47.2±0.9, 1.58N±0.08×127.36E±0.07, h128km, n29, σ1.55/32, mb4.0/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.80**	**180**	P	**Pn**	**16 47 09.3**	**+1.1**
LBMI	**Labuha**	**2.21**	**176**	P	**Pn**	**16 47 25.0**	**+1.3**
SGSI	**Sangihe**	**2.78**	**319**	P	**Pn**	**16 47 31.2**	**+0.2**
SGSI				S	**Sn**	**16 48 04.2**	**-0.5**
KMSI	**Cibinong**	**3.53**	**254**	P	**Pn**	**16 47 41.7**	**+1.0**
KMSI				S	**Sn**	**16 48 23.0**	**+1.0**
SWI	**Sorong**	**4.59**	**122**	P	**Pn**	**16 47 55.9**	**+1.1**
SWI	**Sorong**	**4.59**	**122**	P	**Pn**	**16 47 56.3**	**+1.5**
	baz=4.2,SNR=4.6						
NLAI	**Namlea**	**4.79**	**183**	P	**Pn**	**16 47 57.6**	**0.0**
LUWI	**Luwuk**	**5.28**	**240**	P	**Pn**	**16 48 06.6**	**+2.5**
	68nm,0.9s,4μm1.0nm						
LUWI				S	**Sn**	**16 49 04.7**	**+0.8**
	68nm,0.9s,4μm1.0nm						
LUWI	**Luwuk**	**5.28**	**240**	P	**Pn**	**16 48 06.9**	**+2.8**
	baz=5.0,SNR=5.8						
MRSI	**Marisa**	**5.53**	**259**	P	**Pn**	**16 48 08.4**	**+0.9**
	38nm,0.6s,763nm0.2nm						
MRSI				S	**Sn**	**16 49 09.6**	**-0.4**
	38nm,0.6s,763nm0.2nm						
APSI	**Ampana**	**6.23**	**247**	P	**Pn**	**16 48 17.3**	**+0.5**
	59nm,0.5s,2μm						
FAKI	**Fak Fak**	**6.62**	**132**	P	**Pn**	**16 48 24.6**	**+2.5**
	baz=6.1,SNR=5.1						
BNSI	**Bone**	**9.37**	**231**	P	**Pn**	**16 49 00.8**	**+1.6**
SPSI	**Sidrap Palu**	**9.38**	**234**	P	**Pn**	**16 49 00.8**	**+1.5**
	36nm,0.5s,764nm						
KAPI	**Kappang**	**10.04**	**229**	P	**Pn**	**16 49 10.2**	**+2.0**
	2.2nm,0.3s,baz=357,slow=5.3,SNR=10						
KAPI				S	**Sn**	**16 50 55.3**	**-3.7**
	1.7nm,0.3s,baz=337,slow=24,SNR=7.9						
SOEI	**Soe**	**11.67**	**195**	P	P	16 49 46.3	+8.2
	baz=11,SNR=3.5						
BATI	**Baumata**	**12.27**	**197**	LR	LR	16 55 42.4	
	comp=Z,68nm,18.0s,baz=243,slow=45						
KDU	**Kakadu**	**15.05**	**160**	P	**Pn**	**16 50 14.9**	**+1.5**
	baz=14,SNR=5.7						
KNRA	**Kununurra**	**17.20**	**175**	P	**P**	**16 50 39.1**	**-0.3**
	baz=16,SNR=4.0						
FITZ	**Fitzroy Crossi**	**19.63**	**185**	P	**P**	**16 51 05.0**	**-0.9**
	baz=19,SNR=9.1						
FITZ	**Fitzroy Crossi**	**19.63**	**185**	P	**P**	**16 51 05.1**	**-0.9**
	0.3nm,0.3s,baz=17,slow=12,SNR=14						
WRA	**Warramunga Arr**	**22.46**	**163**	P	**P**	**16 51 34.9**	**-1.0**
	7.8nm,0.3s,baz=340,slow=10,SNR=128						
ASAR	**Alice Springs**	**25.89**	**166**	P	**P**	**16 52 06.5**	**-0.8**
	1.4nm,0.3s,baz=343,slow=7.7,SNR=82						
BBOO	**Buckleboo**	**35.18**	**167**	P	**P**	**16 53 28.4**	**-0.6**
	baz=35,SNR=9.7						
STKA	**Stephens Creek**	**35.91**	**159**	P	**P**	**16 53 35.1**	**-0.2**
	baz=35,SNR=30						
STKA	**Stephens Creek**	**35.91**	**159**	P	**P**	**16 53 35.0**	**-0.2**
	11nm,0.7s,baz=337,slow=7.7,SNR=36						
MKAR	**Makanchi Array**	**59.67**	**326**	P	**P**	**16 56 39.5**	**+1.4**
	0.6nm,0.3s,baz=122,slow=7.9,SNR=16						
KURBB	**Kurchatov Arra**	**63.88**	**328**	P	**P**	**16 57 07.3**	**+1.1**
	0.4nm,0.4s,baz=127,slow=6.0,SNR=5.3						
VNDA	**Vanda**	**81.23**	**173**	P	**P**	**16 58 45.7**	**-2.7**
	0.5nm,0.6s,baz=319,slow=6.0,SNR=5.7						

IDC 04 16:48:54.5±1.2, 46.62N×27.19W, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/32, mbtmp3.4/5, ML4.2/1, MS3.4/6, Ms1 3.4/6, ms1mx3.0/47, Error ellipse: s-maj=41.1km s-min=29.6km az=18.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**18.27**	**104**	P	P	16 53 10.5	+0.8
	0.2nm,0.3s,baz=299,slow=12,SNR=4.2						
ESDC				LR	LR	16 59 12.8	
	comp=Z,65nm,18.2s,baz=250,slow=34						
SFJD	**Kangerlussuaq**	**23.83**	**337**	LR	LR	17 01 14.8	
	comp=Z,87nm,20.7s,baz=150,slow=31						
GERES	**GERESS Array B**	**27.36**	**70**	LR	LR	17 06 19.4	
	comp=Z,41nm,18.4s,baz=333,slow=38						
TORD	**Torodi Ar. Bea**	**41.26**	**134**	P		16 56 41.2	-0.3
	0.8nm,0.9s,baz=334,slow=8.8,SNR=4.6						
TORD				LR	LR	17 12 37.5	
	comp=Z,86nm,18.4s,baz=310,slow=34						
TKL	**Tuckaleechee C**	**43.15**	**276**	LR	LR	17 12 25.8	
	comp=Z,36nm,20.2s,baz=353,slow=33						
DBIC	**Dimbokro**	**44.20**	**147**	LR	LR	17 13 01.2	
	comp=Z,51nm,18.3s,baz=354,slow=33						
H10S1	**ASCENSION HYDR**	**56.43**	**165**	T	T	17 59 01.7	
	baz=350,slow=0.7,SNR=10						
H10S3	**ASCENSION HYDR**	**56.44**	**165**	T	T	17 59 03.2	
	baz=350,slow=0.7,SNR=5.9						
H10S2	**ASCENSION HYDR**	**56.45**	**165**	T	T	17 59 02.8	
	baz=350,slow=0.7,SNR=5.0						
TXAR	**Lajitas Array**	**60.41**	**282**	P	P	16 59 06.2	+0.3
	0.2nm,0.7s,baz=54,slow=4.6,SNR=4.4						
KURBB	**Kurchatov Arra**	**63.93**	**43**	P	P	16 59 28.5	-0.5
	0.1nm,0.2s,baz=313,slow=7.8,SNR=4.5						
MKAR	**Makanchi Array**	**68.38**	**44**	P	P	16 59 58.3	+0.6
	0.4nm,0.7s,baz=336,slow=6.8,SNR=4.6						
ASAR	**Alice Springs**	**152.51**	**40**	PKPbc	PKPbc	17 08 52.0	-0.8
	0.5nm,1.0s,baz=20,slow=3.0,SNR=3.3						

*ISCJB **04** 16:57:46.8±0.5, 51.40N±0.02×16.04E±0.03, h0km, Error ellipse: s-maj=3.7km s-min=2.1km az=15.0*
*IPEC **04** 16:57:46.2±0.3, 51.56N×16.23E, h0km, ML2.5/3, Error ellipse: s-maj=3.3km s-min=1.7km az=67.0*
*CSEM **04** 16:57:47.8±0.2, 51.43N×16.06E, h2km, ML3.6/7, Error ellipse: s-maj=4.3km s-min=2.5km az=16.0*
*IDC **04** 16:57:48.4±1.2, 51.49N×16.00E, h0km, mb1 3.4/3, mb1mx3.1/23, mbtmp3.2/3, ML2.7/3, Error ellipse: s-maj=22.7km s-min=9.8km az=132.0*
*PRU **04** 16:57:48.6, 51.43N×16.07E, h0km*
*BGR **04** 16:57:48.3±0.3, 51.47N×16.10E, h1km, ML3.1/23, Error ellipse: s-maj=3.3km s-min=2.2km az=18.0*
*VIE **04** 16:57:49.6±0.4, 51.26N×16.12E, h0km, mb2.3/4, ML3.2/4, Error ellipse: s-maj=2.9km s-min=2.6km az=28.0 64 km WNW of Wroclaw Suspected Mining induced.*

ISC 04 16:57:46.5±0.8, 51.52N±0.03×16.09E±0.02, h0km, n80, σ0.99/149, 2C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**169**	*e*Pg	**Pg**	**16 58 00.3**	**+0.7**
	SNR=39						
KSP				*e*Sg	**Sg**	**16 58 09.7**	**+1.2**
KSP	**Ksiaz**	**0.69**	**169**	*e*Pg	**Pg**	**16 58 00.2**	**+0.5**
KSP				*e*Sg	**Sg**	**16 58 09.3**	**+0.8**
KSP	**Ksiaz**	**0.69**	**169**	Pg	**Pg**	**16 58 00.3**	**+0.7**
	SNR=39						
KSP				Sg	**Sg**	**16 58 09.7**	**+1.2**
UPC	**Upice**	**1.01**	**183**	*e*PG	**Pg**	**16 58 06.0**	**+0.1**
UPC				*e*SG	**Sg**	**16 58 18.2**	**-0.8**
	comp=Z,119nm,0.4s						
UPC	**Upice**	**1.01**	**183**	Pg	**Pg**	**16 58 06.0**	**+0.1**
UPC				Sg	**Sg**	**16 58 18.2**	**-0.8**
	119nm,0.4s						
DPC	**Dobruska-Polom**	**1.18**	**173**	*e*Pg	**Pg**	**16 58 09.2**	**+0.1**
	SNR=72						
DPC				*e*Sg	**Sg**	**16 58 24.8**	**+0.5**
DPC	**Dobruska-Polom**	**1.18**	**173**	*e*PG	**Pg**	**16 58 09.0**	**-0.1**
DPC				*e*SG	**Sg**	**16 58 23.3**	**-1.0**
DPC	**Dobruska-Polom**	**1.18**	**173**	Pg	**Pg**	**16 58 09.2**	**+0.1**
	SNR=72						
DPC				Sg	**Sg**	**16 58 23.3**	**-1.0**
PVCC	**Panska Ves**	**1.38**	**225**	*e*Pg	**Pb**	**16 58 13.9**	**+0.8**
	SNR=32						
PVCC				*e*Sg	**Sn**	**16 58 32.2**	**+0.3**
PVCC	**Panska Ves**	**1.38**	**225**	*e*PG	**Sg**	**16 58 12.8**	**-0.1**
PVCC				*e*SG	**Sg**	**16 58 30.7**	**0.0**
	comp=Z,441nm,0.2s						
PVCC	**Panska Ves**	**1.38**	**225**	Pg	**Pg**	**16 58 12.8**	**-0.1**
PVCC				Sg	**Sn**	**16 58 32.2**	**+0.3**
BRG	**Berggiesshubel**	**1.49**	**245**	PN	**Pn**	**16 58 14.5**	**-0.1**
BRG				PG	**Pg**	**16 58 15.5**	**+0.4**
BRG				SG	**Sn**	**16 58 35.7**	**+0.9**
	206nm,0.4s						
PRA	**Prague**	**1.79**	**217**	PG	**Pn**	**16 58 19.0**	**+0.4**
PRA				SG	**Sn**	**16 58 42.0**	**0.0**
PRU	**Pruhonice**	**1.82**	**213**	*e*Pn	**Pn**	**16 58 18.8**	**-0.2**
	SNR=1.7						
PRU				*e*Sg	**Sg**	**16 58 45.0**	**+0.1**
PRU	**Pruhonice**	**1.82**	**213**	*e*PN	**Pn**	**16 58 18.8**	**-0.2**
PRU				*e*PG	**Pb**	**16 58 20.0**	**-0.6**
PRU				*e*SG	**Sb**	**16 58 44.0**	**+0.1**
	comp=Z,136nm,0.4s						
PRU	**Pruhonice**	**1.82**	**213**	Pn	**Pn**	**16 58 18.8**	**-0.2**
	SNR=1.7						
FBE	**Freiberg**	**1.82**	**252**	*e*Pg	**Pg**	**16 58 21.5**	**+0.1**
	SNR=12						
FBE				*e*Sg	**Sg**	**16 58 45.8**	**+0.9**
FBE	**Freiberg**	**1.82**	**252**	Pg	**Pg**	**16 58 21.5**	**+0.1**
	SNR=12						
FBE				Sg	**Sg**	**16 58 45.8**	**+0.9**
CLL	**Collm**	**1.94**	**265**	*e*Pn	**Pn**	**16 58 20.2**	**-0.6**
	SNR=4.6						
CLL				*e*Pg	**Pg**	**16 58 23.8**	**+0.1**
	SNR=4.9						
CLL				*e*Sg	**Sg**	**16 58 50.3**	**+1.4**
CLL	**Collm**	**1.94**	**265**	*e*Pn	**Pn**	**16 58 20.0**	**-0.7**
CLL				*e*Pg	**Pg**	**16 58 24.0**	**+0.3**
CLL				*e*		16 58 26.0	
CLL				*i* Sg	**Sg**	**16 58 50.0**	**+1.1**
	comp=Z,48nm,0.8s						
CLL	**Collm**	**1.94**	**265**	Pn	**Pn**	**16 58 20.2**	**-0.6**
	SNR=4.6						
MORC	**Moravsky Berou**	**1.97**	**151**	*e*Pn	**Pn**	**16 58 20.6**	**-0.7**
	SNR=12						
MORC				*e*Sg	**Sb**	**16 58 48.7**	**+0.2**
MORC	**Moravsky Berou**	**1.97**	**151**	*e*Pn	**Pn**	**16 58 20.8**	**-0.4**
	baz=336						
MORC				Sg	**Sb**	**16 58 48.7**	**+0.2**
OKC	**Ostrava-Krasne**	**2.13**	**141**	*e*Pn	**Pn**	**16 58 22.2**	**-1.1**
	SNR=1.6						
OKC				*e*Pg	**Pb**	**16 58 26.5**	**+0.5**
	SNR=3.6						
OKC				*e*Sg	**Sg**	**16 58 54.6**	**-0.4**
OKC	**Ostrava-Krasne**	**2.13**	**141**	*e*PN	**Pn**	**16 58 22.8**	**-0.6**
OKC				*e*PG	**Pb**	**16 58 26.2**	**+0.2**
OKC				*e*SG	**Sb**	**16 58 53.8**	**+0.8**
	comp=Z,52nm,0.5s						
OKC	**Ostrava-Krasne**	**2.13**	**141**	Pn	**Pn**	**16 58 22.8**	**-0.6**
VRAC	**Vranov**	**2.23**	**171**	*e*Pn	**Pn**	**16 58 25.4**	**+0.6**
	SNR=6.4						
VRAC				*e*Sg	**Sg**	**16 58 58.1**	**-0.2**
VRAC	**Vranov**	**2.23**	**171**	*e*Pn	**Pn**	**16 58 25.1**	**+0.3**
	baz=354						
VRAC				*e*Sg	**Sb**	**16 58 57.2**	**+1.3**
	comp=Z,50nm,0.6s,baz=354						
TREC	**Trest**	**2.26**	**190**	*e*PN	**Pn**	**16 58 25.5**	**+0.4**
TREC				*e*PG	**Pb**	**16 58 27.9**	**-0.2**
TREC				*e*SG	**Sb**	**16 58 57.3**	**+0.7**
	comp=Z,50nm,0.3s						
TREC	**Trest**	**2.26**	**190**	Pn	**Pn**	**16 58 25.5**	**+0.4**
KRUC	**Moravsky**	**2.46**	**175**	*e*Pn	**Pn**	**16 58 28.5**	**+0.5**
	SNR=4.2						
KRUC				*e*Pg	**Pb**	**16 58 32.8**	**+1.1**
	SNR=6.3						
KRUC				*e*Sg	**Sg**	**16 59 05.6**	**0.0**
KRUC	**Moravsky**	**2.46**	**175**	*e*Pn	**Pn**	**16 58 28.2**	**+0.2**
	baz=358						
KRUC	**Moravsky**	**2.46**	**175**	Pg	**Pb**	**16 58 32.8**	**+1.1**
	SNR=6.3						
KRUC				*e*Sg	**Sg**	**16 59 04.6**	**-1.1**
	comp=Z,13nm,0.2s,baz=358						
TANN	**Tannenbergstha**	**2.54**	**246**	*e*Pn	**Pn**	**16 58 29.9**	**+0.8**
	SNR=4.3						
TANN				*e*Sg	**Sg**	**16 59 09.1**	**+1.0**
TANN	**Tannenbergstha**	**2.54**	**246**	Pn	**Pn**	**16 58 29.9**	**+0.8**
	SNR=4.3						
TANN				Sg	**Sg**	**16 59 09.1**	**+1.0**
WERD	**Werda**	**2.62**	**247**	*e*Pn	**Pn**	**16 58 30.5**	**+0.4**
	SNR=3.3						
WERD				*e*Sg	**Sg**	**16 59 09.9**	**-0.7**
WERD	**Werda**	**2.62**	**247**	Pn	**Pn**	**16 58 30.5**	**+0.4**
	SNR=3.3						
WERD				Sg	**Sg**	**16 59 09.9**	**-0.7**
OJC	**Ojcow**	**2.69**	**117**	*e*Pg	**Pg**	**16 58 38.6**	**+0.6**
OJC				*e*Sg	**Sg**	**16 59 13.1**	**+0.3**
OJC	**Ojcow**	**2.69**	**117**	*e*Pg	**Pg**	**16 58 38.6**	**+0.6**
OJC				Sg	**Sg**	**16 59 13.3**	**+0.5**
JAVC	**Velka Javorina**	**2.85**	**158**	*e*Pn	**Pn**	**16 58 34.9**	**+1.6**
	SNR=6.8						
JAVC	**Velka Javorina**	**2.85**	**158**	Pn	**Pn**	**16 58 34.9**	**+1.6**
	SNR=6.8						
KHC	**Kasperske Hory**	**2.88**	**215**	*e*Pn	**Pn**	**16 58 33.9**	**+0.2**
	SNR=4.5						
KHC				*e*Sg	**Sg**	**16 59 18.2**	**-0.7**
KHC	**Kasperske Hory**	**2.88**	**215**	*e*PN	**Pn**	**16 58 33.8**	**+0.2**
KHC				*e*PG	**Pb**	**16 58 39.3**	**+0.6**
KHC				*e*SN	**Sn**	**16 59 08.8**	**-0.2**
KHC				*e*SG	**Sg**	**16 59 17.4**	**-1.5**
	comp=Z,23nm,0.3s						
KHC	**Kasperske Hory**	**2.88**	**215**	Pn	**Pn**	**16 58 33.9**	**+0.2**
	SNR=4.5						
KHC	**Kasperske Hory**	**2.88**	**215**	Pg	**Pb**	**16 58 39.3**	**+0.6**
KHC				Sn	**Sn**	**16 59 08.8**	**-0.2**
KHC				Sg	**Sg**	**16 59 18.2**	**-0.7**
MOX	**Moxa**	**2.95**	**255**	*e*Pn	**Pn**	**16 58 35.0**	**+0.3**
	SNR=2.5						
MOX				*e*Sg	**Sg**	**16 59 22.0**	**+0.7**
MOX	**Moxa**	**2.95**	**255**	Pn	**Pn**	**16 58 35.0**	**+0.3**
	SNR=2.5						
MOX				Sg	**Sg**	**16 59 22.0**	**+0.7**
MANZ	**Manzenberg**	**2.95**	**240**	*e*Pn	**Pn**	**16 58 36.2**	**+1.5**
	SNR=5.1						
MANZ				*e*Sg	**Sg**	**16 59 21.4**	**0.0**
MANZ	**Manzenberg**	**2.95**	**240**	Pn	**Pn**	**16 58 36.2**	**+1.5**
	SNR=5.1						
MANZ				Sg	**Sg**	**16 59 21.4**	**0.0**
ROTZ	**Rotzenmuhle**	**3.03**	**236**	*e*Pn	**Pn**	**16 58 36.2**	**+0.5**
	SNR=5.3						
ROTZ				*e*Sg	**Sg**	**16 59 23.5**	**-0.2**
ROTZ	**Rotzenmuhle**	**3.03**	**236**	Pn	**Pn**	**16 58 36.2**	**+0.5**
	SNR=5.3						
ROTZ				Sg	**Sg**	**16 59 23.5**	**-0.2**
GEC2	**GERESS Array S**	**3.08**	**211**	*e*Pn	**Pn**	**16 58 37.0**	**+0.5**
	SNR=7.5						
GEC2				*e*Sg	**Sg**	**16 59 24.1**	**-1.4**
GEC2	**GERESS Array S**	**3.08**	**211**	Pn	**Pn**	**16 58 37.0**	**+0.5**
	SNR=7.5						
GEC2				Sg	**Sg**	**16 59 24.1**	**-1.4**
GERES	**GERESS Array B**	**3.08**	**211**	Pn	**Pn**	**16 58 37.3**	**+0.8**
	comp=Z,1.1nm,0.3s,baz=30,slow=12,SNR=34						
GERES				Pg	**Pb**	**16 58 44.1**	**+1.8**
	comp=Z,2.0nm,0.3s,baz=28,slow=15,SNR=20						
GERES				Sn	**Sn**	**16 59 14.2**	**+0.1**
	comp=Z,2.8nm,0.3s,baz=26,slow=27,SNR=8.0						
GERES				Lg	Lg	16 59 22.9	
	comp=Z,9.1nm,0.3s,baz=33,slow=27,SNR=14						
SMOL	**Smolenice**	**3.13**	**163**	*e*	**Pg**	**16 58 46.6**	**+0.2**
SMOL	**Smolenice**	**3.13**	**163**	*e*SG	**Sg**	**16 59 27.1**	**+0.1**
SMOL	**Smolenice**	**3.13**	**163**	*e*Sg	**Sg**	**16 59 27.1**	**+0.1**
WET	**Wettzell**	**3.14**	**222**	*e*Sg	**Sg**	**16 59 26.4**	**-1.0**
WET	**Wettzell**	**3.14**	**222**	Sg	**Sg**	**16 59 26.4**	**-1.0**
ZST	**Bratislava**	**3.39**	**168**	*e*SG	**Sg**	**16 59 32.8**	**-2.5**
ZST	**Bratislava**	**3.39**	**168**	*e*Sg	**Sg**	**16 59 32.8**	**-2.5**
NIE	**Niedzica**	**3.42**	**126**	*e*P	**Pg**	**16 58 52.2**	**+0.1**
NIE				*e*S	**Sg**	**16 59 35.6**	**-0.8**
CLZ	**Clausthal**	**3.57**	**277**	*e*Pn	**Pn**	**16 58 44.3**	**+1.1**
	SNR=4.1						
CLZ				*e*Sg	**Sg**	**16 59 42.7**	**+1.5**
CLZ	**Clausthal**	**3.57**	**277**	Pn	**Pn**	**16 58 44.3**	**+1.1**
	SNR=4.1						
CLZ				Sg	**Sg**	**16 59 42.7**	**+1.5**
CONA	**Conrad Observa**	**3.59**	**182**	⇑*i*Pn	**Pn**	**16 58 43.6**	**0.0**
CONA				⇓*i*Sg	**Sg**	**16 59 40.1**	**-1.8**
	comp=Z,34nm,0.4s						
CONA	**Conrad Observa**	**3.59**	**182**	Pn	**Pn**	**16 58 43.6**	**0.0**
CONA				Sg	**Sg**	**16 59 40.1**	**-1.8**
	comp=Z,34nm,0.4s						
GRA1	**Grafenberg Arr**	**3.60**	**241**	Pn	**Pn**	**16 58 45.5**	**+2.0**
	SNR=1.9						
GRA1				Sg	**Sg**	**16 59 42.8**	**+0.8**
GRF	**Grafenberg Arr**	**3.60**	**241**	*e*Pn	**Pn**	**16 58 45.5**	**+2.0**
	SNR=1.9						
GRF				*e*Sg	**Sg**	**16 59 42.8**	**+0.8**
BSD	**Bornholm Skovb**	**3.67**	**349**	*i* P	**Pn**	**16 58 43.3**	**-1.2**
BSD				*i* S	**Sn**	**16 59 25.9**	**-2.6**
BSD	**Bornholm Skovb**	**3.67**	**349**	*i* P	**Pn**	**16 58 43.3**	**-1.2**
MOA	**Molln**	**3.86**	**199**	⇑*i*Pn	**Pn**	**16 58 47.7**	**+0.6**
MOA				⇓*i*Sg	**Sg**	**16 59 49.7**	**-0.6**
	comp=Z,18nm,0.5s						
MOA	**Molln**	**3.86**	**199**	Pn	**Pn**	**16 58 47.7**	**+0.6**
MOA				Sg	**Sg**	**16 59 49.7**	**-0.6**
	comp=Z,18nm,0.5s						
STHS	**Stebnicka Huta**	**3.91**	**121**	*e*PN	**Pn**	**16 58 48.6**	**+0.8**
STHS				*e*		16 59 02.7	
STHS	**Stebnicka Huta**	**3.91**	**121**	*e*SG	**Sg**	**16 59 55.1**	**+3.1**
STHS	**Stebnicka Huta**	**3.91**	**121**	*e*Pn	**Pn**	**16 58 48.6**	**+0.8**
STHS				*e*Sg	**Sg**	**16 59 55.1**	**+3.1**
KOLS	**Kolonicke sedl**	**4.74**	**121**	*e*PN	**Pn**	**16 59 01.2**	**+2.0**
KOLS				*e*		16 59 17.4	
KOLS	**Kolonicke sedl**	**4.74**	**121**	*e*SG	**Sg**	**17 00 17.4**	**-1.3**
KOLS	**Kolonicke sedl**	**4.74**	**121**	*e*Pn	**Pn**	**16 59 01.2**	**+2.0**
AKASG	**Malin Array Be**	**8.31**	**90**	Pn	**Pn**	**16 59 47.0**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=280,slow=12,SNR=4.2						
FINES	**FINESS Array B**	**11.36**	**25**	Pn	**Pn**	**17 00 27.4**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=213,slow=12,SNR=1.8						

*IDC **04** 17:02:25.4±0.4, 15.59S×172.96W, h0km, mb4.7/25, mb1 4.8/25, mb1mx4.8/28, mbtmp4.7/25, Error ellipse: s-maj=19.0km s-min=10.8km az=138.0*
*NEIC **04** 17:02:26.6±0.2, 15.64S×172.89W, h10km, mb5.4/65, Error ellipse: s-maj=9.8km s-min=4.5km az=143.0*
*AUST **04** 17:02:26.5±1.8, 15.50S×172.36W, h23km, Error ellipse: s-maj=1.4km s-min=0.9km az=299.0*
*BJI **04** 17:02:27.0, 14.76S×172.22W, h10km, mB5.7/24, mb5.0/32, Ms5.3/16, Ms7 4.9/20*
*ISCJB **04** 17:02:28.2±0.2, 15.67S±0.06×172.91W±0.04, h29km, mb5.1/103, MS4.8/10, Error ellipse: s-maj=9.2km s-min=4.0km az=153.9*
*SZGRF **04** 17:02:31.0, 15.85S×172.84W, h33km, Samoa Islands region*
*MOS **04** 17:02:31.2±1.2, 15.05S×172.76W, h33km, mb5.4/24, MS4.8/4, Error ellipse: s-maj=15.8km s-min=9.4km az=68.4*
*GCMT **04** 17:02:32.1±0.3, 15.65S×172.47W, h12km, MW5.1, Moment Tensor Solution. s30,c34; s70,c108; Moment tensor: Scale 10^{16}Nm; M_{rr}-4.87±.22; $M_{\theta\theta}$0.84±.20; $M_{\phi\phi}$4.03±.18; $M_{r\theta}$-1.21±.70; $M_{r\phi}$-1.80±.17; $M_{\theta\phi}$-1.24±.61; Best double couple: $M_0$5.10000×10^{16} NP1:ϕ_s352.00000°, δ51.00000°, λ

QLP **Quilpie** 41.33 248 P P 17 10 15.9 +2.8
baz=42,SNR=3.5
COEN **Coen** 42.55 266 eP P 17 10 21.1 -2.1
comp=Z,154nm,1.0s
COEN **Coen** 42.55 266 P P 17 10 22.8 -0.4
baz=43,SNR=8.9
STKA **Stephens Creek** 44.38 240 eP P 17 10 35.5 -2.2
comp=Z,3.5nm,0.9s
STKA **Stephens Creek** 44.38 240 P P 17 10 36.9 -0.9
baz=45,SNR=23
STKA **Stephens Creek** 44.38 240 P P 17 10 37.0 -0.7
comp=Z,13nm,0.8s,baz=82,slow=8.8,SNR=36
BBOO **Buckleboo** 49.15 240 eP P 17 11 13.7 -1.4
comp=Z,233nm,0.8s
BBOO **Buckleboo** 49.15 240 P P 17 11 14.1 -1.1
baz=50,SNR=6.5
WRAB **Tennant Creek** 50.33 257 eP P 17 11 22.2 -2.1
WRAB pmax pmax
comp=Z,22nm,1.3s
WRAB **Tennant Creek** 50.33 257 eP P 17 11 22.2 -2.1
comp=Z,22nm,1.3s
WRA **Warramunga Arr** 50.34 257 P P 17 11 22.4 -2.0
WRA **Warramunga Arr** 50.34 257 P P 17 11 22.4 -2.0
comp=Z,1.7nm,0.5s,baz=91,slow=6.9,SNR=22
AS31 **Alice Springs** 50.57 252 eP P 17 11 24.2 -1.9
ASAR **Alice Springs** 50.57 252 P P 17 11 24.1 -2.0
ASAR S S 17 18 39.0 0.0
ASAR **Alice Springs** 50.57 252 P P 17 11 24.1 -2.0
comp=Z,14nm,0.6s,baz=86,slow=7.7,SNR=333
ASAR S S 17 18 39.0 0.0
comp=Z,2.3nm,1.1s,baz=86,slow=15,SNR=9.8
KDU **Kakadu** 53.03 266 P P 17 11 44.6 +0.1
baz=53,SNR=4.0
FORT **Forrest** 55.79 243 P P 17 12 03.4 -1.0
baz=56,SNR=9.2
KNRA **Kununurra** 56.10 261 P P 17 12 06.3 -0.5
baz=56,SNR=5.6
FITZ **Fitzroy Crossi** 58.72 258 P P 17 12 24.2 -1.0
FITZ **Fitzroy Crossi** 58.72 258 P P 17 12 24.2 -1.0
comp=Z,1.9nm,0.8s,baz=128,slow=4.8,SNR=3.5
SOEI **Soe** 61.50 267 P P 17 12 44.8 +0.3
baz=62,SNR=3.4
SBA **Scott Base** 62.96 185 eP P 17 12 55.3 +2.2
SBA pmax pmax
comp=Z,21nm,0.9s
SBA **Scott Base** 62.96 185 eP P 17 12 55.3 +2.2
comp=Z,21nm,0.9s
VNDA **Vanda** 63.10 186 eP P 17 12 55.7 +1.6
comp=Z,12nm,0.9s
VNDA **Vanda** 63.10 186 P P 17 12 56.8 +2.7
comp=Z,8.4nm,0.9s,baz=11,slow=6.5,SNR=53
MEEK **Meekatharra** 64.23 248 P P 17 13 02.3 -0.2
baz=65,SNR=5.8
KLBR **Kellerberrin** 64.60 242 P P 17 13 04.4 -0.4
baz=65,SNR=9.6
MAJO **Matsushiro** 69.58 320 eP P 17 13 36.0 -0.1
MAJO pmax pmax
comp=Z,148nm,2.6s
MAJO **Matsushiro** 69.58 320 eP P 17 13 36.0 -0.1
comp=Z,148nm,2.6s
MAT **Matsushiro** 69.58 320 P P 17 13 35.4 -0.7
YUK **Yuzh-Kuril'sk** 70.45 330 eP P 17 13 44.0 +2.8
YUK eS S 17 22 55.6 +3.3
YUK MLR MLR
comp=Z,662nm,22.0s
ARVC **Arvin** 71.94 44 ⇑P P 17 13 50.9 +0.4
baz=72
ASAJ **Asahikawa** 72.14 328 P P 17 13 51.6 +0.2
ASAJ **Asahikawa** 72.14 328 P P 17 13 51.6 +0.2
comp=Z,13nm,0.9s,baz=87,slow=12,SNR=4.0
VES **Vestal, Richgr** 72.18 43 ⇑P P 17 13 52.2 +0.3
baz=72
MURC **Murrieta** 72.20 46 ⇓P P 17 13 52.5 +0.4
baz=72
BFSC **Mount Baldy Ra** 72.23 46 ⇑P P 17 13 52.7 +0.2
baz=72
RCTC **Rector, Farmer** 72.35 43 ⇓P P 17 13 53.1 +0.1
baz=72
EDW2 **Edwards Air Fo** 72.37 45 ⇓P P 17 13 53.2 +0.1
baz=72
ISA **Isabella** 72.48 44 eP P 17 13 52.6 -1.3
ISA pmax pmax
comp=Z,21nm,1.2s
ISA **Isabella** 72.48 44 eP P 17 13 52.6 -1.3
comp=Z,21nm,1.2s
ISA **Isabella** 72.48 44 ⇑P P 17 13 54.3 +0.4
baz=73
CMB **Columbia Colle** 72.63 41 eP P 17 13 54.3 -0.3
CMB pmax pmax
comp=Z,9.0nm,1.1s
CMB **Columbia Colle** 72.63 41 eP P 17 13 54.3 -0.3
comp=Z,8.7nm,1.1s
CHGN **Chignik** 72.77 8 eP P 17 13 54.0 -1.0
LRMC **Laurel Mountai** 72.91 44 ⇑P P 17 13 57.0 +0.5
baz=73
PETK **Petropavlovsk-** 73.13 342 P P 17 13 57.1 -0.1
PETK **Petropavlovsk-** 73.13 342 P P 17 13 57.1 -0.1
PETK **Petropavlovsk-** 73.13 342 P P 17 13 57.1 -0.1
comp=Z,22nm,0.9s,baz=130,slow=8.3,SNR=14
BELC **Belle Mtn. Jos** 73.25 47 ⇓P P 17 13 58.9 +0.4
baz=73
MPMC **Manual Prospec** 73.37 44 ⇑P P 17 13 59.7 +0.4
baz=74
GSC **Goldstone** 73.41 45 ⇑P P 17 13 59.8 +0.4
baz=74
BC3 **Big Chuckawall** 73.45 47 ⇓P P 17 14 00.1 +0.4
baz=74
HEC **Hector,Ludlow** 73.47 46 ⇑P P 17 14 00.2 +0.4
baz=74
WAKR **Walker** 73.51 41 eP P 17 14 00.2 +0.1
GLA **Glamis** 73.58 48 ⇓P P 17 14 00.9 +0.5
baz=74
BEKR **Beckworth** 73.75 39 eP P 17 14 00.9 -0.5
comp=Z,8.9nm,1.6s
GMRC **Granite Mounta** 73.91 46 ⇑P P 17 14 02.6 +0.2
baz=74
IRM **Iron Mountain** 73.93 47 ⇓P P 17 14 02.7 +0.3
baz=74
FURC **Furnace Creek,** 74.02 44 ⇓P P 17 14 03.2 +0.5
baz=74
YSS **Yuzh-Sakhalins** 74.07 330 eP P 17 14 03.0 +0.2
Y12C **Blythe** 74.16 47 ⇓P P 17 14 04.4 +0.7
baz=74
NVAR **Mina Array Bea** 74.19 42 P P 17 14 04.3 +0.2
NVAR **Mina Array Bea** 74.19 42 P P 17 14 04.3 +0.2
comp=Z,6.2nm,0.9s,baz=229,slow=10,SNR=31
113A **Mohawk Valley,** 74.19 49 ⇓P P 17 14 04.3 +0.4
baz=74
PAHR **Pah Rah Range** 74.25 40 eP P 17 14 04.9 +0.6
comp=Z,22nm,1.4s
NV11 **Mina Array Sit** 74.28 42 eP P 17 14 02.8 -1.8
PDMCI **Parker Dam,Lak** 74.72 47 ⇓P P 17 14 07.4 +0.5
baz=75
MOD **Modoc** 75.02 38 eP P 17 14 06.7 -2.0
comp=Z,496nm,2.8s
Z14A **Wintersburg** 75.09 48 ⇓P P 17 14 09.6 +0.5
baz=75
SHPR **Sheep Range** 75.18 45 eP P 17 14 07.7 -2.1
K05A **Summer Lake** 75.19 37 eP P 17 14 10.5 +0.8
comp=Z,156nm,2.1s
W13A **Hualapai Mount** 75.31 47 ⇑P P 17 14 10.7 +0.1
baz=76
Y14A **Wickenburg** 75.34 48 ⇓P P 17 14 11.2 +0.5
baz=76
PINOR **Pine Mountain** 75.87 36 eP P 17 14 14.5 +1.2
R11A **Troy Canyon, C** 75.90 43 eP P 17 14 14.1 +0.1
R11A **Troy Canyon, C** 75.90 43 ⇓P P 17 14 14.3 +0.4
baz=76
TUC **Tucson** 76.15 50 eP P 17 14 15.0 -0.3
TUC pmax pmax
comp=Z,155nm,2.9s
TUC **Tucson** 76.15 50 eP P 17 14 15.0 -0.3
comp=Z,155nm,2.9s
E03A **Lebam** 76.17 33 eP P 17 14 16.0 +1.1
comp=Z,75nm,1.4s
WVOR **Wild Horse Val** 76.33 38 eP P 17 14 15.3 -0.9
WVOR pmax pmax
comp=Z,111nm,2.4s
WVOR **Wild Horse Val** 76.33 38 eP P 17 14 15.3 -0.9
comp=Z,111nm,2.4s
X16A **Lo Mia Camp, P** 76.70 48 ⇑P P 17 14 19.4 +0.9
baz=77
KSRS **Korea Array** 76.81 315 P P 17 14 20.4 +1.7
comp=Z,2.3nm,0.9s,baz=130,slow=5.6,SNR=12
I07A **Izee** 76.82 36 eP P 17 14 19.4 +0.5
comp=Z,155nm,2.5s
KSAR **Wonju Array Be** 76.83 315 P P 17 14 20.4 +1.5

319A **Douglas** 76.83 52 ⇑P P 17 14 20.3 +1.0
baz=77
G06A **Carlson Farm,** 76.89 35 eP P 17 14 20.3 +1.1
comp=Z,177nm,2.5s
J08A **Circle Bar Ran** 76.98 37 eP P 17 14 20.3 +0.5
comp=Z,192nm,2.8s
U15A **North Rim** 77.11 46 ⇑P P 17 14 21.7 +0.8
baz=77
WUAZ **Wupatki** 77.29 47 ⇑P P 17 14 22.3 +0.5
baz=78
320A **Kipp Ranch, An** 77.39 52 ⇓P P 17 14 23.3 +0.9
baz=78
D05A **Enumclaw** 77.41 33 eP P 17 14 23.0 +1.0
comp=Z,125nm,1.5s
ELK **Elko** 77.45 41 eP P 17 14 21.7 -0.9
comp=Z,73nm,2.5s
220A **Playas Peak, P** 77.65 52 ⇑P P 17 14 24.9 +1.0
baz=78
INCN **Inchon** 77.70 315 eP P 17 14 25.5 +1.6
comp=Z,115nm,1.8s
X18A **Snowflake** 77.83 49 ⇓P P 17 14 25.9 +1.1
baz=78
G08A **Pilot Rock** 77.86 36 eP P 17 14 25.0 +0.3
comp=Z,203nm,2.8s
120A **U Bar Ranch, L** 77.86 51 ⇑P P 17 14 26.2 +1.1
baz=78
USRK **Usuriysk Arra** 78.01 323 P P 17 14 26.2 +0.9
comp=Z,4.6nm,0.9s,baz=84,slow=5.9,SNR=9.9
LTY **Liberty** 78.15 33 eP P 17 14 26.1 -0.1
comp=Z,92nm,2.4s
Z20A **Nine Sixteen R** 78.16 51 ⇓P P 17 14 27.7 +1.0
baz=78
HAWA **Hanford** 78.22 35 eP P 17 14 26.9 +0.4
comp=Z,67nm,1.8s
221A **Mesquite Ranch** 78.26 52 ⇑P P 17 14 28.5 +1.3
baz=78
W18A **Petrified Fore** 78.27 48 ⇑P P 17 14 28.1 +0.8
baz=78
SPU **Mount Spurr** 78.43 10 eP P 17 14 26.3 -1.1
121A **Cookes Peak, D** 78.49 51 ⇑P P 17 14 29.7 +1.1
baz=79
BMO **Blue Mountains** 78.54 37 eP P 17 14 27.8 -0.7
comp=Z,95nm,2.3s
MFID **Camas Ranch** 78.58 39 ⇑P P 17 14 29.1 +0.4
baz=79
Y20A **Horse Springs,** 78.68 50 ⇓P P 17 14 30.5 +0.8
baz=79
DUG **Dugway** 78.71 43 eP P 17 14 29.8 +0.3
DUG pmax pmax
comp=Z,14nm,1.3s
DUG **Dugway** 78.71 43 eP P 17 14 29.8 +0.3
comp=Z,14nm,1.3s
DUG **Dugway** 78.71 43 ⇓P P 17 14 30.3 +0.7
baz=79
X20A **Quemado** 78.89 49 ⇑P P 17 14 31.6 +0.8
baz=79
Z21A **St. Cloud Mine** 78.93 51 ⇓P P 17 14 32.2 +1.2
baz=79
Q16A **Castle Valley** 79.14 44 ⇓P P 17 14 33.6 +1.6
baz=79
W20A **Ramah** 79.16 49 ⇑P P 17 14 33.4 +1.2
baz=79
F10A **Beach Ranch, E** 79.24 36 eP P 17 14 32.1 -0.1
comp=Z,131nm,2.2s
Y21A **Point of Rocks** 79.25 50 ⇑P P 17 14 33.7 +0.9
baz=79
TMUT **Trail Mountain** 79.30 44 eP P 17 14 34.4 +1.4
comp=Z,20nm,1.0s
PMR **Palmer** 79.33 11 eP P 17 14 31.7 -0.5
PMR pmax pmax
comp=Z,41nm,1.4s
PMR **Palmer** 79.33 11 eP P 17 14 31.7 -0.5
comp=Z,41nm,1.4s
X21A **Alamocita Cree** 79.37 50 ⇑P P 17 14 34.1 +0.7
baz=80
MPU **Maple Canyon** 79.39 43 eP P 17 14 34.1 +0.8
comp=Z,12nm,1.2s
Z22A **Elephant Butte** 79.44 51 ⇑P P 17 14 34.4 +0.7
baz=80,SNR=8.8
WRAK **Wrangell Islan** 79.45 22 eP P 17 14 32.1 -0.9
comp=Z,14nm,1.2s
HLID **Hailey** 79.52 39 eP P 17 14 33.3 -0.7
comp=Z,104nm,2.3s
HLID **Hailey** 79.52 39 ⇑P P 17 14 34.4 +0.5
baz=80
B08A **Colville Reser** 79.54 33 eP P 17 14 33.5 -0.3
comp=Z,32nm,1.5s
MDJ **Mudanjiang** 79.65 322 P P 17 14 35.0 +0.6
MDJ sP sP 17 14 39.3 -7.7
MDJ PcP PcP 17 14 42.5 +0.4
MDJ S S 17 24 39.3 +4.6
MDJ AMB AMB
comp=Z,13nm,2.3s
MDJ AMB AMB
comp=Z,130nm,6.1s
SRU **San Rafael** 79.67 44 eP P 17 14 33.5 -1.4
SRU pmax pmax
comp=Z,16nm,1.2s
SRU **San Rafael** 79.67 44 eP P 17 14 33.5 -1.4
comp=Z,16nm,1.2s
U20A **Newcomb** 79.73 48 ⇓P P 17 14 36.0 +0.7
baz=80
Y22A **Socorro** 79.74 50 ⇓P P 17 14 35.9 +0.5
baz=80
324A **Moseley Ranch,** 79.77 53 ⇓P P 17 14 35.5 -0.1
baz=80,SNR=8.7
JLU **Jordanelle** 79.81 43 eP P 17 14 36.1 +0.4
comp=Z,16nm,1.2s
425A **Indio Mountain** 79.87 54 ⇓P P 17 14 36.1 0.0
baz=80,SNR=7.1
MNTX **Cornudas Mount** 79.95 53 eP P 17 14 35.1 -1.3
comp=Z,56nm,2.1s
Z23A **Rita Site, Whi** 79.99 51 ⇑P P 17 14 37.0 +0.3
baz=80
224A **Cornudas Mount** 80.01 53 ⇑P P 17 14 37.3 +0.4
baz=80,SNR=9.6
626A **Big Bend Ranch** 80.03 55 ⇓P P 17 14 37.3 +0.4
baz=80,SNR=9.6
BNM **Barren Site** 80.09 50 eP P 17 14 36.5 -0.8
comp=Z,90nm,2.3s
325A **Bean Ranch, Si** 80.13 54 ⇓P P 17 14 38.2 +0.6
baz=80
526A **Mary Lane Ranc** 80.27 55 ⇑P P 17 14 38.4 +0.1
baz=80,SNR=11
TXAR **Lajitas Array** 80.31 56 P P 17 14 38.9 +0.4
TXAR **Lajitas Array** 80.31 56 P P 17 14 38.9 +0.4
comp=Z,6.4nm,1.0s,baz=232,slow=6.2,SNR=39
124A **Stringfield Ra** 80.33 52 ⇓P P 17 14 39.1 +0.5
baz=80
U21A **Nageezi** 80.37 48 ⇑P P 17 14 39.5 +0.7
baz=80
Y23A **Lovelace Mesa,** 80.42 51 ⇓P P 17 14 39.8 +0.7
baz=81
S20A **Disappointment** 80.53 46 ⇑P P 17 14 40.3 +0.6
baz=81
CAST **Castle Rocks** 80.53 9 eP P 17 14 37.0 -1.8
225A **Deer Hill, Car** 80.56 53 ⇓P P 17 14 40.1 +0.3
baz=81,SNR=6.5
ANMO **Albuquerque** 80.57 50 eP P 17 14 40.2 +0.4
comp=Z,20nm,1.4s
426A **McDonald Obser** 80.57 54 ⇓P P 17 14 40.2 +0.2
baz=81,SNR=23
627A **Terlingua Ranc** 80.58 56 ⇑P P 17 14 40.3 +0.4
baz=81,SNR=19
NEW **Newport** 80.66 34 P P 17 14 38.5 -1.4
NEW **Newport** 80.66 34 ⇓P P 17 14 40.2 +0.4
baz=81
NEW **Newport** 80.66 34 P P 17 14 38.5 -1.4
comp=Z,1.7nm,0.6s,baz=274,slow=14,SNR=4.3
Z24A **Sheeppen Canyo** 80.67 52 ⇓P P 17 14 40.9 +0.5
baz=81
V22A **San Miguel Ran** 80.67 49 ⇑P P 17 14 40.8 +0.3
baz=81
527A **Woodward Ranch** 80.69 55 ⇑P P 17 14 40.5 0.0
baz=81,SNR=14
PV15 **Paradox Valley** 80.69 46 eP P 17 14 41.0 +0.5
T21A **Navajo Lake** 80.72 47 ⇑P P 17 14 41.2 +0.6
baz=81
M17A **Scullys Gap (B** 80.76 42 ⇑P P 17 14 40.3 -0.4
baz=81
NJ2 **Nanjing** 80.84 307 eP P 17 14 43.9 +2.8
NJ2 AMB AMB
comp=Z,20nm,0.9s
S21A **Coal Bank Pass** 80.85 47 ⇓P P 17 14 42.1 +0.7
baz=81
TRF **Thorofare Moun** 80.85 10 eP P 17 14 39.8 -0.8
comp=Z,32nm,1.1s
SKAG **Skagway** 80.87 18 eP P 17 14 41.4 +0.8

comp=Z,17nm,1.0s
Y24A **Capitan** 80.88 51 ⇓P P 17 14 41.8 +0.2
baz=81,SNR=8.3
326A **Caldwell Ranch** 80.88 54 ⇑P P 17 14 42.1 +0.7
baz=81
W23A **Werner Place,** 80.89 50 ⇓P P 17 14 42.0 +0.5
baz=81
125A **Gardner Draw,** 80.92 52 ⇑P P 17 14 41.8 +0.1
baz=81,SNR=5.9
U22A **Llaves** 80.92 48 ⇑P P 17 14 42.3 +0.6
baz=81
GDL2 **Guadalupe Moun** 80.95 53 eP P 17 14 42.8 +0.9
P19A **Cripple Cowboy** 80.97 45 ⇓P P 17 14 42.2 +0.3
baz=81
628A **Black Gap, Mar** 80.99 56 ⇑P P 17 14 42.2 +0.1
baz=81,SNR=12
226B **Tecolote Peak,** 81.05 53 ⇑P P 17 14 42.8 +0.4
baz=81,SNR=12
V23A **Ortiz Mt. (NFS** 81.12 49 ⇑P P 17 14 43.2 +0.3
baz=81
427A **Hayter Ranch,** 81.14 55 ⇑P P 17 14 43.1 +0.3
baz=81,SNR=12
Z25A **Roswell** 81.14 52 ⇓P P 17 14 43.2 +0.4
baz=81,SNR=6.1
MCMT **McKenzie Canyo** 81.15 39 eP P 17 14 43.0 +0.2
comp=Z,27nm,1.9s
T22A **Edith** 81.18 48 ⇑P P 17 14 43.3 +0.2
baz=81
O19A **Miners Draw (B** 81.19 44 ⇓P P 17 14 43.5 +0.5
baz=81
P20A **De Beque** 81.30 45 ⇑P P 17 14 44.1 +0.5
baz=82
RRI2 **Red Ridge** 81.31 40 eP P 17 14 44.2 +0.6
comp=Z,127nm,2.3s
PAX **Paxson** 81.31 12 eP P 17 14 42.2 -0.8
PAX pmax pmax
comp=Z,65nm,2.0s
PAX **Paxson** 81.31 12 eP P 17 14 42.2 -0.8
comp=Z,65nm,2.0s
BPAW **Bear Paw Mtn.** 81.34 9 eP P 17 14 41.6 -1.5
MCK **McKinley** 81.34 10 eP P 17 14 42.7 -0.4
MCK pmax pmax
comp=Z,41nm,0.9s
MCK **McKinley** 81.34 10 eP P 17 14 42.6 -0.4
comp=Z,41nm,0.9s
528A **Cox Ranch, San** 81.34 55 ⇑P P 17 14 44.1 +0.1
baz=82,SNR=11
R21A **Cimarron** 81.35 46 ⇑P P 17 14 44.0 0.0
baz=82,SNR=12
U23A **El Rito** 81.38 49 ⇑P P 17 14 44.6 +0.5
baz=82,SNR=6.2
126A **Clayton Basin,** 81.40 53 ⇓P P 17 14 44.4 +0.1
baz=82
Y25A **Mesa, Roswell** 81.43 51 ⇑P P 17 14 44.2 -0.2
baz=82,SNR=7.3
W24A **Lazy 6 Ranch,** 81.46 50 ⇑P P 17 14 44.3 -0.3
baz=82,SNR=5.8
Q21A **Lamborn Mesa,** 81.55 46 ⇑P P 17 14 45.3 +0.4
baz=82
S22A **4UR Ranch, Cre** 81.57 47 ⇓P P 17 14 45.3 +0.1
baz=82,SNR=12
MSO **Missoula** 81.60 36 eP P 17 14 44.1 -0.9
comp=Z,44nm,1.6s
MSO **Missoula** 81.60 36 ⇓P P 17 14 44.2 -0.8
baz=82,SNR=7.8
REDW **Red Top Meadow** 81.61 41 eP P 17 14 45.5 +0.3
comp=Z,54nm,1.7s
428A **Kincaid Ranch,** 81.65 55 ⇓P P 17 14 45.9 +0.3
baz=82,SNR=7.8
BSMT **Bassoo Peak** 81.69 35 eP P 17 14 45.5 -0.1
Z26A **Caprock** 81.69 52 ⇑P P 17 14 45.8 0.0
baz=82,SNR=12
SNOW **Snow King Moun** 81.72 41 eP P 17 14 46.4 +0.5
comp=Z,215nm,2.5s
CN2 **Changchun** 81.72 320 eP P 17 14 46.2 +0.7
CN2 epP PcP 17 14 50.9 -0.3
CN2 eS S 17 24 55.5 -0.9
CN2 AMB AMB
comp=Z,30nm,1.0s
CN2 LR LR
comp=Z,300nm,18.0s
M19A **Rock Springs** 81.76 43 ⇑P P 17 14 46.3 +0.2
baz=82
529A **Stev Forest Ra** 81.78 56 ⇑P P 17 14 46.7 +0.5
baz=82
V24A **Rampart Ranch,** 81.78 49 ⇑P P 17 14 46.4 +0.1
baz=82,SNR=6.2
DLBC **Dease Lake** 81.80 21 P P 17 14 44.2 -1.5
DLBC **Dease Lake** 81.80 21 P P 17 14 44.2 -1.5
comp=Z,2.7nm,1.0s,baz=210,slow=10,SNR=7.5
328A **Wristen Ranch,** 81.82 54 ⇑P P 17 14 46.0 -0.4
baz=82,SNR=8.9
R22A **Saguache, Gunn** 81.84 47 ⇓P P 17 14 47.3 +0.6
baz=82,SNR=5.9
MOOW **Moose Ponds** 81.87 40 eP P 17 14 47.0 +0.4
comp=Z,74nm,2.2s
LOHW **Long Hollow** 81.89 40 eP P 17 14 47.0 +0.3
comp=Z,206nm,2.9s
LRM **Limekiln Ridge** 81.92 38 eP P 17 14 46.6 -0.3
SNY **Shenyang** 81.92 317 ⇓P P 17 14 46.2 -0.4
SNY AMB AMB
comp=Z,24nm,1.7s
SNY LR LR
comp=Z,340nm,5.1s
SNY LR LR
comp=Z,190nm,6.0s
SNY LR LR
comp=Z,310nm,6.0s
127A **Arkansas Junct** 81.92 53 ⇑P P 17 14 47.4 +0.4
baz=82
P21A **Newcastle** 81.96 45 ⇑P P 17 14 47.2 +0.1
baz=82,SNR=5.5
QLMT **Earthquake Lak** 82.01 39 eP P 17 14 48.4 +1.2
Q22A **Crested Butte,** 82.02 46 ⇓P P 17 14 47.5 -0.1
baz=82,SNR=12
N20A **Spence Gulch,** 82.03 44 ⇑P P 17 14 47.5 -0.1
baz=82,SNR=8.7
CHMT **Chamberlain Mo** 82.04 37 eP P 17 14 46.3 -1.1
FLWY **Flagg Ranch** 82.07 40 eP P 17 14 48.5 +0.9
comp=Z,175nm,2.3s
Y26A **Elida** 82.09 52 ⇑P P 17 14 47.4 -0.4
baz=82,SNR=8.5
PDAR **Pinedale Array** 82.12 42 P P 17 14 47.0 -0.9
PDAR **Pinedale Array** 82.12 42 P P 17 14 47.0 -0.9
comp=Z,2.5nm,0.6s,baz=214,slow=3.7,SNR=15
W25A **X Bar L Ranch,** 82.16 50 ⇓P P 17 14 47.7 -0.5
baz=82,SNR=6.0
429A **Davenport Ranc** 82.24 55 ⇓P P 17 14 48.3 -0.3
baz=82,SNR=15
O21A **Pagoda** 82.27 45 ⇓P P 17 14 48.7 -0.1
baz=82
228A **UT Block 9, Go** 82.29 54 ⇑P P 17 14 49.1 +0.2
baz=82
T24B **San Luis** 82.29 48 ⇓P P 17 14 49.3 +0.3
baz=82
Z27A **Tatum** 82.30 52 ⇓P P 17 14 48.7 -0.2
baz=82
H17A **Grant Village** 82.31 40 ⇓P P 17 14 48.9 0.0
baz=82
V25A **Rancho No Teng** 82.31 50 ⇑P P 17 14 48.8 -0.2
baz=82,SNR=12
BOZ **Bozeman (W)** 82.31 38 eP P 17 14 48.4 -0.4
BOZ pmax pmax
comp=Z,9.0nm,1.0s
BOZ **Bozeman (W)** 82.31 38 eP P 17 14 48.4 -0.4
comp=Z,8.9nm,1.0s
X26A **CR and CF Fran** 82.36 51 ⇑P P 17 14 49.5 +0.2
baz=82
M20A **Sweetwater, Wa** 82.39 43 ⇓P P 17 14 49.2 -0.2
baz=82,SNR=7.5
P22A **Eagle** 82.46 45 ⇑P P 17 14 49.9 +0.1
baz=83
R23A **Moffat** 82.47 47 ⇑P P 17 14 50.0 0.0
baz=83
530A **J-C Ranch, Com** 82.49 56 ⇑P P 17 14 49.7 -0.2
baz=83,SNR=5.8
SDCO **Great Sand Dun** 82.50 48 eP P 17 14 48.6 -1.5
comp=Z,46nm,1.9s
329A **Wagon Wheel Ra** 82.51 54 ⇑P P 17 14 50.5 +0.5
baz=83
L20A **Wamsutter** 82.54 43 ⇓P P 17 14 50.2 +0.1
baz=83,SNR=11
Y27A **Causey** 82.57 52 ⇑P P 17 14 50.4 0.0
baz=83
128A **Castleberry Fa** 82.57 53 ⇓P P 17 14 50.2 -0.2
baz=83,SNR=6.9
COLA **College** 82.58 10 eP P 17 14 48.8 -0.7
COLA pmax pmax

	comp=Z,59nm,0.9s										
COLA	**College**	**82.58**	**10**	*e*P		**P**		**17 14 48.8**	**-0.7**
	comp=Z,59nm,0.9s										
K19A	**Absolon Red Bu**	**82.61**	**42**	⇑P		**P**		**17 14 49.7**	**-0.7**
	baz=83,SNR=5.7										
ILAR	**Eielson Array**	**82.66**	**11**	P		**P**		**17 14 48.9**	**-1.1**
ILAR	**Eielson Array**	**82.66**	**11**	P		**P**		**17 14 48.9**	**-1.1**
	comp=Z,6.4nm,0.8s,baz=212,slow=5.9,SNR=53										
S24A	**Houchin Ranch,**	**82.66**	**48**	⇑P		**P**		**17 14 51.4**	**+0.4**
	baz=83,SNR=9.5										
J19A	**Crowheart**	**82.69**	**41**	⇑P		**P**		**17 14 50.9**	**0.0**
	baz=83										
U25A	**Circle Dot Ran**	**82.70**	**49**	⇑P		**P**		**17 14 51.0**	**-0.1**
	baz=83,SNR=9.3										
631A	**Perdido Creek**	**82.82**	**57**	⇑P		**P**		**17 14 51.3**	**-0.3**
	baz=83,SNR=13										
430A	**Baggett Ranch,**	**82.82**	**55**	⇑P		**P**		**17 14 51.6**	**0.0**
	baz=83										
229A	**Bryant Ranch,**	**82.83**	**54**	⇑P		**P**		**17 14 51.8**	**+0.1**
	baz=83										
K20A	**Yellowstone Ra**	**82.85**	**42**	⇓P		**P**		**17 14 51.5**	**-0.2**
	baz=83										
WALA	**Waterton Lakes**	**82.85**	**35**	*e*P		**P**		**17 14 49.6**	**-1.8**
	comp=Z,0.3nm,1.0s										
O22A	**Kremmling**	**82.87**	**45**	⇑P		**P**		**17 14 51.7**	**-0.3**
	baz=83,SNR=24										
MSTX	**Muleshoe**	**82.90**	**52**	*e*P		**P**		**17 14 51.8**	**-0.2**
MSTX	**Muleshoe**	**82.90**	**52**	⇑P		**P**		**17 14 51.6**	**-0.5**
	baz=83,SNR=8.5										
V26A	**Tequesquite Ra**	**82.90**	**50**	⇑P		**P**		**17 14 52.2**	**+0.1**
	baz=83										
Z28A	**Tucker Farm, M**	**82.92**	**53**	⇓P		**P**		**17 14 52.3**	**+0.2**
	baz=83										
M21A	**Separation Pea**	**82.99**	**43**	⇑P		**P**		**17 14 52.0**	**-0.6**
	baz=83,SNR=10										
P23A	**Jefferson**	**83.00**	**46**	⇑P		**P**		**17 14 53.6**	**+0.8**
	baz=83,SNR=10										
SEY	**Seymchan**	**83.00**	**345**	*c*e	P	**P**		**17 14 50.9**	**-0.8**
R24A	**Sanders Place,**	**83.00**	**47**	⇓P		**P**		**17 14 52.6**	**0.0**
	baz=83,SNR=15										
H18A	**Shoshone NF, C**	**83.01**	**40**	⇑P		**P**		**17 14 52.9**	**+0.3**
	baz=83										
T25A	**Trinidad**	**83.02**	**48**	⇓P		**P**		**17 14 52.6**	**-0.1**
	baz=83										
129A	**Stewart Farms,**	**83.05**	**53**	⇓P		**P**		**17 14 53.0**	**+0.2**
	baz=83										
I19A	**Meeteetse**	**83.11**	**41**	⇑P		**P**		**17 14 53.0**	**0.0**
	baz=83,SNR=8.2										
330A	**Mertzon**	**83.11**	**55**	⇑P		**P**		**17 14 53.1**	**0.0**
	baz=83										
531A	**Rocksprings**	**83.13**	**56**	P		**P**		**17 14 53.6**	**+0.4**
	baz=83										
W27A	**Bowe Ranch, En**	**83.13**	**51**	⇓P		**P**		**17 14 53.3**	**0.0**
	baz=83										
L21A	**Rawlins**	**83.16**	**43**	⇑P		**P**		**17 14 52.9**	**-0.4**
	baz=83,SNR=5.9										
U26A	**Atchley Ranch,**	**83.19**	**49**	⇓P		**P**		**17 14 53.4**	**-0.2**
	baz=83,SNR=14										
N22A	**Wattenberg Ran**	**83.22**	**44**	⇑P		**P**		**17 14 54.1**	**+0.3**
	baz=83,SNR=8.6										
S25A	**Robets Cordova**	**83.23**	**48**	⇑P		**P**		**17 14 54.1**	**+0.3**
	baz=83										
Y28A	**McKinney Farm,**	**83.27**	**52**	⇓P		**P**		**17 14 54.4**	**+0.4**
	baz=83										
431A	**Sonora**	**83.28**	**56**	⇑P		**P**		**17 14 54.3**	**+0.2**
	baz=83										
Q24A	**Divide**	**83.29**	**47**	⇑P		**P**		**17 14 54.4**	**+0.1**
	baz=83,SNR=8.9										
O23A	**Lake Granby, G**	**83.32**	**45**	⇑P		**P**		**17 14 54.3**	**0.0**
	baz=84,SNR=9.0										
ISCO	**Idaho Springs**	**83.34**	**46**	*e*P		**P**		**17 14 55.0**	**+0.5**
ISCO				pmax		pmax					
	comp=Z,89nm,2.4s										
ISCO	**Idaho Springs**	**83.34**	**46**	*e*P		**P**		**17 14 55.0**	**+0.5**
	comp=Z,89nm,2.4s										
ISCO	**Idaho Springs**	**83.34**	**46**	⇓P		**P**		**17 14 54.6**	**+0.1**
	baz=84,SNR=7.2										
230A	**Sterling City**	**83.35**	**54**	⇓P		**P**		**17 14 54.7**	**+0.4**
	baz=84										
J20A	**Shoshoni**	**83.35**	**42**	⇑P		**P**		**17 14 54.1**	**-0.2**
	baz=84,SNR=11										
M22A	**Cedar Creek Ra**	**83.41**	**44**	⇑P		**P**		**17 14 55.1**	**+0.4**
	baz=84										
H19A	**Powell**	**83.43**	**40**	⇓P		**P**		**17 14 54.8**	**+0.2**
	baz=84,SNR=8.3										
Z29A	**Hungry Hill Ra**	**83.43**	**53**	⇑P		**P**		**17 14 55.2**	**+0.4**
	baz=84										
632A	**Uvalde**	**83.49**	**57**	⇑P		**P**		**17 14 54.9**	**-0.2**
	baz=84,SNR=6.8										
R25A	**Fountain Ranch**	**83.55**	**48**	⇑P		**P**		**17 14 55.1**	**-0.3**
	baz=84,SNR=10.0										
K21A	**Alcova**	**83.55**	**43**	⇑P		**P**		**17 14 54.7**	**-0.6**
	baz=84,SNR=8.7										
GCMT	**Greycliff**	**83.57**	**39**	*e*P		**P**		**17 14 55.3**	**+0.1**
	comp=Z,26nm,1.5s										
QIZ	**Qiongzhong**	**83.58**	**292**	P		**P**		**17 14 56.5**	**+0.8**
QIZ				S		**S**		**17 25 18.2**	**+1.8**
QIZ				AMB		AMB					
	comp=Z,16nm,1.7s										
QIZ				AMB		AMB					
	comp=Z,280nm,5.4s										
QIZ				LR		LR					
	comp=Z,620nm,16.1s										
V27A	**Dan Oppiter Fa**	**83.59**	**50**	⇑P		**P**		**17 14 56.1**	**+0.5**
	baz=84										
DAWY	**Dawson**	**83.60**	**14**	*e*P		**P**		**17 14 53.6**	**-1.3**
N23A	**Red Feather La**	**83.61**	**45**	⇑P		**P**		**17 14 55.9**	**+0.2**
	baz=84,SNR=10										
I20A	**Worland**	**83.61**	**41**	⇓P		**P**		**17 14 55.1**	**-0.4**
	baz=84,SNR=14										
532A	**Rocksprings**	**83.63**	**56**	⇓P		**P**		**17 14 55.4**	**-0.5**
	baz=84,SNR=6.2										
331A	**San Angelo**	**83.66**	**55**	⇑P		**P**		**17 14 56.0**	**0.0**
	baz=84										
Y29A	**Porterfield Fa**	**83.69**	**52**	⇓P		**P**		**17 14 56.1**	**-0.1**
	baz=84,SNR=8.2										
130A	**Snyder**	**83.74**	**54**	⇑P		**P**		**17 14 56.7**	**+0.4**
	baz=84										
J21A	**Lysite**	**83.76**	**42**	⇓P		**P**		**17 14 56.1**	**-0.2**
	baz=84,SNR=17										
L22A	**Ellis Ranch, M**	**83.80**	**43**	⇑P		**P**		**17 14 57.0**	**+0.4**
	baz=84										
EGAK	**Eagle**	**83.81**	**13**	*e*P		**P**		**17 14 56.0**	**+0.1**
	comp=Z,140nm,2.2s										
JCT	**Junction City**	**83.85**	**56**	⇓P		**P**		**17 14 56.9**	**0.0**
	baz=84										
O24A	**Longmont**	**83.86**	**46**	⇑P		**P**		**17 14 57.5**	**+0.6**
	baz=84										
U27A	**Thompson Grove**	**83.87**	**50**	⇓P		**P**		**17 14 57.0**	**0.0**
	baz=84										
Z30A	**Sanderson Ranc**	**83.88**	**53**	⇑P		**P**		**17 14 56.6**	**-0.5**
	baz=84,SNR=7.2										
Q25A	**Bedland, Calha**	**83.90**	**47**	⇑P		**P**		**17 14 57.1**	**-0.1**
	baz=84										
S26A	**Kim**	**83.90**	**48**	⇑P		**P**		**17 14 56.7**	**-0.5**
	baz=84,SNR=9.6										
X29A	**Tulia**	**83.91**	**52**	⇓P		**P**		**17 14 57.1**	**-0.1**
	baz=84										
H20A	**Greybull**	**83.95**	**41**	⇓P		**P**		**17 14 56.2**	**-1.0**
	baz=84,SNR=5.2										
231A	**Bronte**	**83.99**	**55**	⇓P		**P**		**17 14 56.9**	**-0.7**
	baz=84,SNR=8.9										
432A	**Menard**	**84.00**	**56**	⇑P		**P**		**17 14 57.5**	**-0.2**
	baz=84										
K22A	**Casper**	**84.03**	**43**	⇓P		**P**		**17 14 57.4**	**-0.3**
	baz=84										
F19A	**Roth Farm, Mol**	**84.04**	**39**	⇓P		**P**		**17 14 57.8**	**+0.1**
	baz=84,SNR=5.5										
I21A	**Big Trails, Te**	**84.08**	**41**	⇓P		**P**		**17 14 57.3**	**-0.7**
	baz=84,SNR=16										
G20A	**Bridger**	**84.17**	**40**	⇑P		**P**		**17 14 58.6**	**+0.2**
	baz=84										
R26A	**Arlington**	**84.21**	**48**	⇓P		**P**		**17 14 58.2**	**-0.5**
	baz=84,SNR=13										
T27A	**Campo**	**84.21**	**49**	⇑P		**P**		**17 14 58.9**	**+0.1**
	baz=84										
W29A	**Amraillo**	**84.22**	**51**	⇑P		**P**		**17 14 58.9**	**+0.2**
	baz=84										
131A	**Roby**	**84.22**	**54**	⇓P		**P**		**17 14 58.8**	**0.0**
	baz=84										
P25A	**Willow Gulch B**	**84.22**	**46**	⇑P		**P**		**17 14 58.7**	**-0.1**
	baz=84,SNR=5.8										
332A	**Millersview**	**84.23**	**55**	⇓P		**P**		**17 14 58.7**	**-0.2**
	baz=84,SNR=7.7										
Y30A	**Stafford Cattl**	**84.29**	**53**	⇑P		**P**		**17 14 59.4**	**+0.2**
	baz=84										
N24A	**Carr**	**84.30**	**45**	⇓P		**P**		**17 14 59.4**	**+0.2**
	baz=84,SNR=8.2										
L23A	**Garrett**	**84.33**	**44**	⇑P		**P**		**17 14 58.8**	**-0.5**
	baz=84,SNR=6.6										
COLD	**Coldfoot**	**84.39**	**9**	*e*P		**P**		**17 14 59.5**	**+0.8**
J22A	**Midwest**	**84.41**	**42**	⇑P		**P**		**17 14 59.9**	**+0.2**
	baz=85										
Q26A	**Hugo**	**84.42**	**47**	⇑P		**P**		**17 15 00.0**	**+0.2**
	baz=85										
E19A	**Rath Farm, Rou**	**84.43**	**39**	⇑P		**P**		**17 14 59.5**	**-0.1**
	baz=85,SNR=9.8										
F20A	**Billings**	**84.50**	**39**	⇓P		**P**		**17 15 00.1**	**+0.1**
	baz=85										
232A	**Coleman**	**84.50**	**55**	⇓P		**P**		**17 14 60.0**	**-0.2**
	baz=85,SNR=6.5										
X30A	**Coker Ranch, T**	**84.53**	**52**	⇓P		**P**		**17 15 00.2**	**-0.1**
	baz=85										
H21A	**Big Horn, Sher**	**84.62**	**41**	⇓P		**P**		**17 15 00.5**	**-0.1**
	baz=85										
M24A	**Cheyenne**	**84.62**	**44**	⇓P		**P**		**17 15 00.7**	**-0.1**
	baz=85										
I22A	**9 Mile Ranch,**	**84.63**	**42**	⇑P		**P**		**17 15 00.3**	**-0.4**
	baz=85,SNR=8.8										
EGMT	**Eagleton**	**84.64**	**37**	*e*P		**P**		**17 15 00.8**	**+0.2**
	comp=Z,96nm,1.9s										
EGMT	**Eagleton**	**84.64**	**37**	⇓P		**P**		**17 15 00.2**	**-0.4**
	baz=85,SNR=5.5										
Z31A	**Sharp Cattle R**	**84.66**	**53**	⇑P		**P**		**17 15 00.5**	**-0.5**
	baz=85,SNR=7.1										
R27A	**Eads**	**84.66**	**48**	⇑P		**P**		**17 15 00.6**	**-0.4**
	baz=85										
K23A	**Bowen Ranch, D**	**84.67**	**43**	⇑P		**P**		**17 15 00.3**	**-0.7**
	baz=85,SNR=7.5										
T28A	**Walsh**	**84.68**	**49**	⇑P		**P**		**17 15 01.2**	**+0.2**
	baz=85										
D19A	**Cripps Ranch,**	**84.72**	**38**	⇓P		**P**		**17 15 00.9**	**-0.2**
	baz=85,SNR=9.9										
ABTX	**Abilene, Hawle**	**84.78**	**54**	*e*P		**P**		**17 15 00.8**	**-0.8**
ABTX	**Abilene, Hawle**	**84.78**	**54**	⇓P		**P**		**17 15 01.3**	**-0.3**
	baz=85,SNR=8.9										
G21A	**Lodge Grass**	**84.80**	**40**	⇓P		**P**		**17 15 01.9**	**+0.4**
	baz=85										
L24A	**Wheatland**	**84.81**	**44**	⇓P		**P**		**17 15 02.0**	**+0.3**
	baz=85										
P26A	**Davis Ranch, A**	**84.81**	**47**	⇓P		**P**		**17 15 01.9**	**+0.1**
	baz=85										
Y31A	**Rekieta Farm,**	**84.81**	**53**	⇑P		**P**		**17 15 01.1**	**-0.6**
	baz=85,SNR=5.3										
E20A	**Meyer Farm, Mu**	**84.85**	**39**	⇑P		**P**		**17 15 01.7**	**+0.1**
	baz=85,SNR=6.4										
C19A	**Slack Wire Ran**	**84.91**	**37**	⇑P		**P**		**17 15 02.0**	**+0.1**
	baz=85,SNR=17										
S28A	**Manter**	**85.03**	**49**	⇑P		**P**		**17 15 03.4**	**+0.5**
	baz=85										
H22A	**Clearmont**	**85.04**	**41**	⇑P		**P**		**17 15 03.0**	**+0.3**
	baz=85										
KSCO	**Kaye Shedlock'**	**85.09**	**47**	⇓P		**P**		**17 15 03.6**	**+0.5**
	baz=85										
D20A	**Manuel Ranch,**	**85.13**	**38**	⇓P		**P**		**17 15 03.6**	**+0.6**
	baz=85										
Z32A	**Haskell**	**85.17**	**54**	⇓P		**P**		**17 15 03.3**	**-0.2**
	baz=85,SNR=22										
X31A	**McDonald Ranch**	**85.28**	**52**	⇑P		**P**		**17 15 04.0**	**-0.1**
	baz=85										
B19A	**Brinkman Farms**	**85.33**	**37**	⇓P		**P**		**17 15 04.4**	**+0.4**
	baz=86										
G22A	**Birney**	**85.37**	**41**	⇑P		**P**		**17 15 04.4**	**0.0**
	baz=86										
R28A	**Tribune**	**85.39**	**48**	⇑P		**P**		**17 15 04.1**	**-0.6**
	baz=86,SNR=9.6										
Y32A	**R-V Farms, Ver**	**85.46**	**53**	⇓P		**P**		**17 15 04.6**	**-0.3**
	baz=86,SNR=9.5										
EDM	**Edmonton**	**85.47**	**31**	*e*P		**P**		**17 15 03.9**	**-0.7**
EDM	**Edmonton**	**85.47**	**31**	*e*P		**P**		**17 15 03.9**	**-0.7**
E21A	**Keefer Ranch,**	**85.50**	**39**	⇑P		**P**		**17 15 04.9**	**0.0**
	baz=86,SNR=6.0										
U30A	**WK&E Inc. Balk**	**85.52**	**50**	⇑P		**P**		**17 15 05.2**	**0.0**
	baz=86										
W31A	**Holland Ranch,**	**85.53**	**52**	⇑P		**P**		**17 15 05.3**	**0.0**
	baz=86										
F22A	**Rosebud**	**85.65**	**40**	⇓P		**P**		**17 15 06.0**	**+0.3**
	baz=86										
A19A	**Klindworth Far**	**85.68**	**36**	⇓P		**P**		**17 15 05.5**	**-0.3**
	baz=86,SNR=7.2										
D21A	**La Casta Ranch**	**85.80**	**39**	⇑P		**P**		**17 15 06.0**	**-0.4**
	baz=86,SNR=6.5										
V31A	**Spring Creek L**	**85.83**	**51**	⇑P		**P**		**17 15 07.5**	**+0.8**
	baz=86										
B20A	**Solberg Farm,**	**85.86**	**37**	⇓P		**P**		**17 15 06.5**	**-0.1**
	baz=86,SNR=6.7										
G23A	**Biddle**	**85.93**	**41**	⇑P		**P**		**17 15 07.2**	**+0.1**
	baz=86										
LAO	**LASA Array**	**86.09**	**39**	*e*P		**P**		**17 15 07.5**	**-0.4**
	comp=Z,148nm,2.1s										
A20A	**Cobblestone Ra**	**86.12**	**37**	⇓P		**P**		**17 15 08.3**	**+0.4**
	baz=86										
BJI	**Beijing**	**86.13**	**313**	P		**P**		**17 15 08.9**	**+0.8**
BJI				S		**S**		**17 25 42.5**	**+1.7**
BJI				SS		**SS**		**17 31 20.6**	**+0.4**
BJI				AMB		AMB			
	comp=Z,26nm,1.7s								
BJI				AMB		AMB			
	comp=Z,260nm,3.6s								
BJI				LR		LR			
	comp=Z,440nm,27.2s								
BJI				LR		LR			
	comp=Z,310nm,25.0s								
BJI				LR		LR			
	comp=Z,230nm,26.6s								
E22A	**Miles City**	**86.14**	**40**	⇓P		**P**		**17 15 08.3**	**+0.2**
	baz=86								
F23A	**Volborg**	**86.15**	**40**	⇑P		**P**		**17 15 08.3**	**+0.1**
	baz=86								
H24A	**Dirks Ranch, A**	**86.25**	**42**	⇓P		**P**		**17 15 07.8**	**-0.9**
	baz=86,SNR=6.6								
WHTX	**Lake Whitney**	**86.27**	**55**	⇓P		**P**		**17 15 09.5**	**+0.5**
	baz=86								
RSSD	**Black Hills**	**86.31**	**42**	*e*P		**P**		**17 15 08.9**	**-0.3**
RSSD	**Black Hills**	**86.31**	**42**	*e*P		**P**		**17 15 08.8**	**-0.3**
D22A	**Cohagen**	**86.33**	**39**	⇓P		**P**		**17 15 09.1**	**+0.1**
	baz=86								
B21A	**Ellsworth Farm**	**86.44**	**37**	⇑P		**P**		**17 15 09.7**	**+0.3**
	baz=87								
T31A	**Randall Ranch,**	**86.46**	**50**	⇓P		**P**		**17 15 10.1**	**+0.3**
	baz=87								
I25A	**Rochford**	**86.46**	**42**	⇓P		**P**		**17 15 09.9**	**-0.1**
	baz=87								
A21A	**Bergtoll Ranch**	**86.76**	**37**	⇓P		**P**		**17 15 10.8**	**-0.2**
	baz=87,SNR=7.5								
B22A	**Reddig Ranch S**	**86.98**	**38**	⇓P		**P**		**17 15 11.9**	**-0.3**
	baz=87,SNR=6.4								
C23A	**Lambert**	**87.23**	**39**	⇓P		**P**		**17 15 13.9**	**+0.5**
	baz=87								
B23A	**Brockton**	**87.65**	**38**	⇓P		**P**		**17 15 15.8**	**+0.4**
	baz=88								
MAW	**Mawson**	**87.66**	**198**	P		**P**		**17 15 16.7**	**+1.6**
MAW	**Mawson**	**87.66**	**198**	P		**P**		**17 15 17.0**	**+1.9**
	baz=88,SNR=18								
MAW	**Mawson**	**87.66**	**198**	P		**P**		**17 15 16.7**	**+1.6**
	comp=Z,14nm,0.9s,baz=111,slow=6.0,SNR=24								
G26A	**Maurine**	**87.74**	**42**	⇑P		**P**		**17 15 15.9**	**0.0**
	baz=88								
D25A	**Fairfield**	**88.08**	**40**	⇑P		**P**		**17 15 18.1**	**+0.6**
	baz=88								
DGMT	**Dagmar**	**88.12**	**38**	⇓P		**P**		**17 15 17.9**	**+0.3**
	baz=88								
I28A	**Midland**	**88.14**	**43**	⇑P		**P**		**17 15 18.1**	**+0.3**
	baz=88								
F27A	**Lemmon**	**88.35**	**41**	⇓P		**P**		**17 15 19.7**	**+0.9**
	baz=88								
INK	**Inuvik**	**88.46**	**14**	P		**P**		**17 15 18.4**	**-0.2**
INK	**Inuvik**	**88.46**	**14**	P		**P**		**17 15 18.4**	**-0.2**
	comp=Z,13nm,0.9s,baz=210,slow=6.1,SNR=12								
J29A	**Okreek**	**88.46**	**44**	⇓P		**P**		**17 15 19.2**	**-0.1**
	baz=89								
K30A	**Basset**	**88.65**	**45**	⇑P		**P**		**17 15 20.4**	**+0.1**
	baz=89								
I29A	**Vivian Onida**	**88.72**	**43**	⇑P		**P**		**17 15 20.4**	**-0.1**
	baz=89								
GYA	**Guiyang**	**88.72**	**298**	P		**P**		**17 15 22.8**	**+1.7**
GYA				PP		**PP**		**17 18 52.0**	**+1.7**
GYA				SKS		**SKSac**		**17 25 49.4**	**+0.5**
GYA				S		**S**		**17 26 07.0**	**+0.4**
GYA				SS		**SS**		**17 32 01.8**	**+2.8**
GYA				AMB		AMB			
	comp=Z,20nm,1.0s								
GYA				AMB		AMB			
	comp=Z,150nm,8.4s								
GYA				LR		LR			
	comp=Z,610nm,19.8s								
GYA				LR		LR			
	comp=Z,530nm,20.9s								
GYA				LR		LR			
	comp=Z,660nm,21.2s								
J30A	**Dallas**	**88.99**	**44**	⇑P		**P**		**17 15 21.9**	**0.0**
	baz=89								
H29A	**Onida**	**89.02**	**43**	⇓P		**P**		**17 15 21.7**	**-0.2**
	baz=89								
PSI	**Prapat**	**89.10**	**273**	P		**P**		**17 15 22.4**	**-0.8**
PSI	**Prapat**	**89.10**	**273**	P		**P**		**17 15 23.6**	**+0.5**
	baz=90,SNR=3.6								
PSI	**Prapat**	**89.10**	**273**	P		**P**		**17 15 22.4**	**-0.8**
	comp=Z,5.6nm,0.8s,baz=178,slow=9.4,SNR=5.1								
C26A	**Wahner Farm, P**	**89.12**	**39**	⇓P		**P**		**17 15 22.7**	**+0.4**
	baz=89								
YAK	**Yakutsk**	**89.66**	**337**	*e*P		**P**		**17 15 22.6**	**-1.8**
YAK				pmax		pmax			
	comp=Z,13nm,0.9s								
HHC	**Hu-ho-hao-te**	**89.69**	**313**	*e*P		**P**		**17 15 26.1**	**+0.8**
HHC				pP		**pP**		**17 15 31.0**	**-3.6**
HHC				sP		**sP**		**17 15 33.2**	**-4.8**
HHC				PP		**PP**		**17 19 00.0**	**+2.3**
HHC				S		**S**		**17 26 14.1**	**-1.0**
HHC				sS		**ScS**		**17 26 21.8**	**+2.4**
HHC				SS		**SS**		**17 32 11.2**	**-1.2**
HHC				AMB		AMB			
	comp=Z,56nm,1.0s								
HHC				AMB		AMB			
	comp=Z,260nm,5.4s								
HHC				LR		LR			
	comp=Z,520nm,17.0s								
HHC				LR		LR			
	comp=Z,530nm,16.2s								
HHC				LR		LR			
	comp=Z,530nm,17.1s								
F29A	**Eureka**	**89.74**	**42**	⇓P		**P**		**17 15 24.6**	**-0.7**
	baz=90								
YKA	**Yellowknife Ar**	**90.17**	**23**	P		**P**		**17 15 26.6**	**-0.2**
YKA	**Yellowknife Ar**	**90.17**	**23**	P		**P**		**17 15 26.6**	**-0.2**
	comp=Z,7.9nm,0.8s,baz=236,slow=4.1,SNR=13								
JTS	**JuntasAbangare**	**90.69**	**80**	*e*P		**P**		**17 15 32.0**	**+1.6**
	comp=Z,170nm,1.2s								
ECSD	**EROS Data Cent**	**91.08**	**45**	*e*P		**P**		**17 15 30.5**	**-1.1**
	comp=Z,14nm,1.5s								
A29A	**Manning Farm,**	**91.31**	**39**	⇑P		**P**		**17 15 32.5**	**+0.1**
	baz=91								
KMI	**Kunming**	**91.70**	**295**	P		P		17 15 39.3	+4.1
KMI				AMB		AMB			
	comp=Z,4.0nm,1.2s								
SYO	**Syowa Base**	**92.38**	**191**	*e*X		**P**		**17 15 36.7**	**-0.5**
SYO	**Syowa Base**	**92.38**	**191**	*e*P		pP		17 15 44.3	-2.2
CD2	**Chengdu**	**92.49**	**301**	P		**P**		**17 15 40.6**	**+2.2**
CD2				AMB		AMB			
	comp=Z,30nm,0.5s								
CD2				AMB		AMB			
	comp=Z,390nm,4.3s								
SNAA	**Sanae**	**92.54**	**177**	*e*P		**P**		**17 15 39.3**	**+1.4**
	comp=Z,14nm,1.2s								
CMAR	**Chiang Mai Arr**	**93.28**	**288**	P		**P**		**17 15 43.2**	**+0.9**
CMAR	**Chiang Mai Arr**	**93.28**	**288**	P		**P**		**17 15 43.2**	**+0.9**
	comp=Z,1.3nm,0.9s,baz=91,slow=1.7,SNR=7.6								
ULM	**Lac du Bonnet**	**93.82**	**39**	P		**P**		**17 15 42.9**	**-1.1**
ULM	**Lac du Bonnet**	**93.82**	**39**	P		**P**		**17 15 42.9**	**-1.1**
	comp=Z,3.7nm,0.8s,baz=224,slow=5.3,SNR=3.9								
LZH	**Lanzhou**	**93.90**	**306**	*e*P		**P**		**17 15 46.4**	**+1.4**
LZH				pP		**pP**		**17 15 50.4**	**-3.9**
LZH				sP		**sP**		**17 15 52.9**	**-4.8**
LZH				AMB		AMB			
	comp=Z,18nm,1.1s								
ULN	**Ulaanbaatar**	**95.07**	**318**	*e*P		**P**		**17 15 50.6**	**+0.5**
	comp=Z,25nm,1.9s								
SONM	**Songino Array**	**95.49**	**318**	P		**P**		**17 15 49.9**	**-2.1**
SONM	**Songino Array**	**95.49**	**318**	P		**P**		**17 15 49.9**	**-2.1**
	comp=Z,1.2nm,0.9s,baz=108,slow=3.4,SNR=5.2								
ZAK	**Zakamensk**	**98.16**	**320**	*e*P		**P**		**17 16 01.2**	**-2.7**
ZAK				pmax

comp=Z,2.0nm,0.7s
SCER sogukcermik 144.54 319 *i* P **PKPdf 17 22 03.3 -0.5**
UPC Upice 144.60 350 *e*PKIKP PKPbc 17 22 02.0 -0.1
UPC *e* 17 22 09.8
UPC Upice 144.60 350 *e*PKP PKPbc 17 22 02.0 -0.1
UPC *ep*PKP **PKiKP 17 22 09.8 +2.7**
KOLS Kolonicke sedl 144.67 343 *e*PKIKP PKPbc 17 22 02.4 0.0
KOLS Kolonicke sedl 144.67 343 *e*PKP PKPbc 17 22 02.4 0.0
DPC Dobruska-Polom 144.70 350 *e*PKIKP PKPbc 17 22 02.3 -0.2
DPC *e* 17 22 10.6
DPC Dobruska-Polom 144.70 350 *e*PKP PKPbc 17 22 02.3 -0.2
DPC *ep*PKP pPKPdf 17 22 03.3 -2.7
HAVZ Havza 144.71 321 *i* P PKPab 17 22 02.9 +0.1
NIE Niedzica 144.75 345 *e*PX **PKPab 17 22 03.0 +0.4**
PVCC Panska Ves 144.79 352 *e*PKIKP **PKPdf 17 22 03.8 +0.1**
PVCC *e* 17 22 11.2
PVCC Panska Ves 144.79 352 *e*PKP **PKPdf 17 22 03.8 +0.1**
PVCC *ex* x 17 22 11.2
OKC Ostrava-Krasne 144.85 348 *e*PKIKP PKPbc 17 22 03.1 +0.2
OKC *e* 17 22 09.8
OKC Ostrava-Krasne 144.85 348 *e*PKP PKPbc 17 22 03.1 +0.2
OKC *ep*PKP **PKiKP 17 22 09.8 +2.2**
BUR08 Bucovina Ar. S 144.88 339 *e*PKPdf PKPbc 17 22 03.4 +0.1
BURAR Bucovina Array 144.90 339 ⇓*i*P PKPbc 17 22 03.4 +0.1
UZH Uzhgorod 144.94 343 *e*PKIKP **PKPab 17 22 02.1 -1.1**
UZH *e* 17 22 09.7
MOX Moxa 145.00 355 *e*PKIKP **PKPab 17 22 02.7 -0.7**
MOX MLR MLR
comp=Z,400nm,19.0s
MOX Moxa 145.00 355 *e*PKPbc **PKPab 17 22 02.7 -0.7**
MORC Moravsky Berou 145.03 348 *e*PKIKP **PKPab 17 22 02.9 -0.7**
MORC Moravsky Berou 145.03 348 ⇑*i*P **PKPdf 17 22 04.0 -0.2**
MORC Moravsky Berou 145.03 348 *e*PKPdf **PKPab 17 22 02.9 -0.7**
TANN Tannenbergstha 145.15 354 *e*PKPbc **PKPbc 17 22 03.6 -0.4**
MEM Membach 145.20 1 PKP **PKPdf 17 22 04.2 -0.2**
SNF Seneffe 145.24 3 PKP **PKPdf 17 22 04.4 0.0**
TESR Tescani 145.30 336 ⇑*i*P **PKPbc 17 22 04.2 -0.3**
TRPA Tarpa 145.31 342 ⇑*i*P **PKPbc 17 22 04.2 -0.2**
TRPA Tarpa 145.31 342 ⇓*e* **PKPbc 17 22 04.3 -0.2**
PRU Pruhonice 145.32 352 *e*PKIKP **PKPbc 17 22 04.3 -0.2**
PRU *e* 17 22 11.4
PRU Pruhonice 145.32 352 *e*PKP **PKPbc 17 22 04.3 -0.2**
PRU *ex* x 17 22 11.4
BCLA Clavier 145.37 2 PKP **PKPab 17 22 04.5 -0.2**
BMR Baia Mare 145.42 340 ⇓*i*P **PKPdf 17 22 05.5 +0.6**
TLCR 145.46 333 ⇑*i*P **PKPab 17 22 06.3 0.0**
CTKT Corum 145.54 321 *i* P **PKPab 17 22 06.6 +0.6**
TNS Taunus Mts 145.59 359 *e*PKIKP **PKPdf 17 22 05.1 -0.1**
TNS Taunus Mts 145.59 359 *e*PKPbc **PKPdf 17 22 05.1 -0.1**
GZT Gaziantep 145.59 315 *i* P **PKPab 17 22 06.4 +0.1**
VRAC Vranov 145.65 349 ⇑*i*P **PKPdf 17 22 04.2 -1.1**
VRAC Vranov 145.65 349 PKPbc **PKPab 17 22 05.6 -0.3**
VRAC Vranov 145.65 349 PKPbc **PKPab 17 22 05.6 -0.3**
comp=Z,16nm,1.0s,baz=5.6,slow=3.1,SNR=20
DOU Dourbes 145.66 3 PKP **PKPab 17 22 05.7 -0.2**
PINB Pinarbasi 145.67 317 *i* P **PKPab 17 22 06.9 +0.2**
CFR Carcaliu 145.76 333 ⇑*i*P **PKPab 17 22 06.3 -0.1**
VRI Vrincioaia 145.80 335 ⇑*i*P **PKPab 17 22 06.3 -0.2**
ROTZ Rotzenmuhle 145.82 354 *e*PKPbc **PKPab 17 22 06.3 -0.2**
PLOR Plostina 145.84 336 ⇓*i*P **PKPdf 17 22 05.9 +0.1**
TREC Trest 145.86 350 *e*PKIKP **PKPbc 17 22 06.0 -0.2**
TREC *e* 17 22 14.1
TREC Trest 145.86 350 *e*PKP **PKPbc 17 22 06.0 -0.2**
TREC *ex* x 17 22 14.1
ILGA Ilgaz 145.90 323 *i* P **PKPab 17 22 08.2 +0.8**
KMBO Kilima Mbogo 145.91 243 *e*PKPab **PKPab 17 22 08.4 +0.1**
KMBO PKPbc **PKPab 17 22 08.8 +0.6**
KMBO Kilima Mbogo 145.91 243 PKPbc **PKPab 17 22 08.8 +0.6**
comp=Z,7.7nm,0.9s,baz=47,slow=5.9,SNR=20
GRF Grafenberg Arr 145.98 355 *e*PKIKP **PKPab 17 22 06.9 -0.2**
GRF Grafenberg Arr 145.98 355 *e*PKPbc **PKPab 17 22 06.9 -0.2**
AYKD Aykdinkavak 146.08 315 *i* P **PKPab 17 22 08.0 0.0**
WLF Walferdange 146.15 1 PKP **PKPab 17 22 07.7 0.0**
WLF Walferdange 146.15 1 *e*PKIKP **PKPab 17 22 07.3 -0.4**
WLF Walferdange 146.15 1 *e*PKPbc **PKPab 17 22 07.5 -0.2**
WLF Walferdange 146.15 1 *e*PKPbc **PKPab 17 22 07.3 -0.4**
TIRR Tirgusor 146.21 332 ⇑*i*P **PKPbc 17 22 06.9 -0.5**
KUZU Kuzuini 146.22 314 *i* P **PKPab 17 22 08.4 -0.1**
PSZ Piszkesteto 146.24 345 *e*PKP2 **PKPbc 17 22 07.5 0.0**
PSZ Piszkesteto 146.24 345 ⇑*i*P **PKPdf 17 22 05.8 -0.6**
PSZ Piszkesteto 146.24 345 *e*PKPbc **PKPbc 17 22 07.5 0.0**
PSZ Piszkesteto 146.24 345 ⇑*e* **PKPab 17 22 08.8 +0.6**
SMOL Smolenice 146.25 348 *e*PKP2 **PKPab 17 22 08.5 +0.4**
SMOL Smolenice 146.25 348 *e*PKP **PKPab 17 22 08.5 +0.4**
TLB Topalu 146.27 333 ⇑*i*P **PKPab 17 22 07.9 -0.4**
KHC Kasperske Hory 146.29 352 *e*PKP2 **PKPdf 17 22 06.8 +0.4**
KHC Kasperske Hory 146.29 352 *e*PKP **PKPdf 17 22 06.8 +0.4**
KHC *ex* x 17 22 15.2
KHC Kasperske Hory 146.29 352 *e*PKPdf **PKPdf 17 22 06.9 +0.4**
ANDN Andirin 146.30 316 *i* P **PKPbc 17 22 07.5 -0.6**
WET Wettzell 146.36 353 *e*PKP2 **PKPbc 17 22 07.7 -0.1**
WET Wettzell 146.36 353 *e*PKPbc **PKPbc 17 22 07.7 -0.1**
CDAG Cicekdag 146.40 320 *i* P **PKPab 17 22 09.0 -0.2**
MLR Muntele Rosu 146.42 336 ⇑*i*P **PKPab 17 22 08.6 -0.4**
MLR Muntele Rosu 146.42 336 PKPbc **PKPbc 17 22 07.6 -0.5**
MLR Muntele Rosu 146.42 336 PKPbc **PKPbc 17 22 07.6 -0.5**
comp=Z,3.0nm,1.1s,baz=350,slow=2.6,SNR=12
DRGR 146.45 341 ⇑*i*P **PKPbc 17 22 08.0 -0.2**
ISR Istrita 146.48 335 ⇑*i*P **PKPab 17 22 08.6 -0.6**
GEC2 GERESS Array S 146.56 352 *e*PKP2 **PKPbc 17 22 08.3 -0.1**
GEC2 GERESS Array S 146.56 352 *e*PKPbc **PKPbc 17 22 08.3 -0.1**
GERES GERESS Array B 146.56 352 PKPbc **PKPbc 17 22 08.1 -0.3**
GERES GERESS Array B 146.56 352 PKPbc **PKPbc 17 22 08.1 -0.3**
comp=Z,4.6nm,1.0s,baz=29,slow=3.0,SNR=30
AVNT Avonos 146.60 319 *i* P **PKPdf 17 22 07.9 +0.4**
ZST Bratislava 146.62 348 *e*PKP2 **PKPab 17 22 09.2 -0.4**
ZST Bratislava 146.62 348 *e*PKP **PKPab 17 22 09.2 -0.4**
ZST *e* 17 29 51.8
BR131 Keskin Array S 146.79 321 *e*PKPab **PKPbc 17 22 09.8 +0.3**
BRTR Keskin Array B 146.79 321 PKPbc **PKPab 17 22 10.1 -0.7**
BRTR Keskin Array B 146.79 321 PKPbc **PKPab 17 22 10.1 -0.7**
comp=Z,17nm,0.8s,baz=108,slow=2.3,SNR=56
VOIR 146.81 337 ⇓*i*P **PKPab 17 22 09.9 -0.6**
LANF Langenberg 146.84 359 PKP **PKPdf 17 22 07.9 +0.6**
BUD Budapest 146.87 345 ⇑*e*PKPdf **PKPab 17 22 10.2 -0.3**
STU Stuttgart 147.02 358 *e*PKPbc **PKPbc 17 22 09.9 +0.3**
ARR Arges 147.02 337 ⇓*i*P **PKPbc 17 22 10.0 +0.2**
PKSG 147.10 346 ⇑*e* **PKPbc 17 22 10.3 +0.4**
CONA Conrad Observa 147.12 349 ⇓*i*pPKPdf **PKPbc 17 22 10.6 +0.5**
comp=Z,28nm,1.4s,SNR=6.9
PKSN Nyarlorinc 147.19 344 ⇓*e* **PKPbc 17 22 10.5 +0.4**
ANTO Ankara 147.20 322 *e*PKIKP **PKPdf 17 22 08.9 +0.6**
ANTO *e* 17 22 11.6
ANTO Ankara 147.20 322 *e*PKP **PKPdf 17 22 04.6 -3.7**
ANTO Ankara 147.20 322 *e*PKPdf **PKPdf 17 22 08.9 +0.6**
ANTO *e*PKPab **PKPab 17 22 11.6 -0.7**
BBAL Bala 147.21 321 *i* P **PKPdf 17 22 07.8 -0.6**
SOP Sopron 147.22 348 ⇓*e* **PKPab 17 22 10.9 -1.0**
PKS7 Kunszentmiklos 147.24 345 ⇑*e*PKPdf **PKPdf 17 22 08.8 +0.8**
SIRR Siria 147.25 341 ⇓*i*P **PKPbc 17 22 10.2 -0.2**
PKST T‴s 147.31 346 ⇑*e* **PKPbc 17 22 10.9 +0.4**
MOA Molln 147.45 351 ⇓*i*pPKPdf **PKPbc 17 22 11.0 +0.1**
comp=Z,13nm,1.1s,SNR=5.6
BFO Black Forest 147.49 359 *e*PKP2 **PKPbc 17 22 10.4 -0.6**
BFO Black Forest 147.49 359 *e*PKPbc **PKPbc 17 22 11.0 0.0**
BFO Black Forest 147.49 359 *e*PKPbc **PKPbc 17 22 10.4 -0.6**
FUR Furstenfeldbru 147.49 355 *e*PKP2 **PKPbc 17 22 11.4 +0.4**
FUR Furstenfeldbru 147.49 355 *e*PKPbc **PKPbc 17 22 11.4 +0.4**
GULE Gulek 147.51 317 *i* P **PKPbc 17 22 10.4 -1.2**
THEF They Montfort 147.59 2 PKP **PKPbc 17 22 11.3 +0.1**
ECH Echery 147.61 0 *e*PKP2 **PKPbc 17 22 11.0 -0.3**
ECH Echery 147.61 0 PKP **PKPab 17 22 13.1 -0.4**
ECH Echery 147.61 0 *e*PKPbc **PKPbc 17 22 11.0 -0.3**
GZR Gura Zlata 147.66 339 ⇑*i*P **PKPbc 17 22 11.5 -0.1**
PKS2 Kecel 147.74 344 ⇑*e* **PKPbc 17 22 12.4 +0.7**
RJOB Jochberg 147.76 353 *e*PKPbc **PKPbc 17 22 11.8 0.0**
ARSA Arzberg 147.83 349 ⇓*i*sPKPdf **PKPbc 17 22 12.0 +0.1**
comp=Z,11nm,1.0s,SNR=5.2
BZS Buzias 147.85 341 ⇓*i*P **PKPbc 17 22 12.1 +0.1**
PKS9 Tamasi 147.88 346 ⇑*e*PKPdf **PKPbc 17 22 12.2 +0.1**
FELD Feldberg im Sc 147.95 359 PKP **PKPbc 17 22 12.4 0.0**
MOF Molkenrain 147.98 0 PKP **PKPbc 17 22 12.8 +0.4**
RETA Reutte 148.21 355 *i* sPKPdf **PKPbc 17 22 12.8 -0.2**
comp=Z,14nm,1.3s,SNR=11
MOTA Moosalm 148.32 355 ⇓*i*sPKPdf **PKPbc 17 22 12.9 -0.5**
comp=Z,14nm,0.9s,SNR=12
BEHE Becsehely 148.34 347 ⇑*e* **PKPab 17 22 16.6 +0.2**
ASF Jabal al Asfar 148.47 307 PKPbc **PKPbc 17 22 13.3 -0.9**
ASF Jabal al Asfar 148.47 307 PKPbc **PKPbc 17 22 13.3 -0.9**
comp=Z,5.5nm,0.8s,baz=68,slow=3.1,SNR=11
SOKA Soboth 148.47 350 *i* sPKPdf **PKPbc 17 22 13.6 -0.2**
comp=Z,16nm,1.2s,SNR=10.0
LOMF Lomont 148.48 0 PKP **PKPbc 17 22 14.1 +0.4**
PERS Pernice 148.50 350 *i* PKPbc **PKPbc 17 22 13.1 -0.6**
BORA Eskisehir 148.54 324 *i* P **PKPbc 17 22 13.8 -0.3**
ABTA Abfaltersbach 148.77 353 ⇑*i*sPKPdf **PKPbc 17 22 14.2 -0.3**
comp=Z,16nm,1.0s,SNR=7.1
DAVOX Davos/Dischmat 148.97 356 PKPbc **PKPbc 17 22 14.9 -0.2**
DAVOX Davos/Dischmat 148.97 356 PKPbc **PKPbc 17 22 14.9 -0.2**
comp=Z,7.0nm,0.8s,baz=351,slow=4.0,SNR=6.0
BOLV Bolvadin 149.04 322 *i* P **PKPbc 17 22 15.2 -0.3**
ERMK Ermenek 149.10 317 *i* P **PKPdf 17 22 13.5 +1.8**
LJU Ljubljana 149.17 350 *i* PKPbc **PKPbc 17 22 15.7 +0.3**
MMAI Mount Meron Ar 149.24 309 PKPbc **PKPbc 17 22 17.3 +1.2**
MMAI Mount Meron Ar 149.24 309 PKPbc **PKPbc 17 22 17.3 +1.2**
comp=Z,19nm,0.9s,baz=46,slow=4.9,SNR=18
TUE Stuetta 149.31 357 *e*PKPdf **PKPdf 17 22 11.3 -0.4**
TUE *e*PKPbc **PKPbc 17 22 15.8 -0.2**
JAVS Javornik 149.39 351 *i* PKPbc **PKPbc 17 22 15.3 -0.8**
BOJS Bojanci 149.56 349 *i* PKPdf **PKPdf 17 22 12.4 +0.5**
BOJS *i* PKPbc **PKPbc 17 22 16.2 -0.2**
GDZ Gediz 149.63 324 *i* P **PKPbc 17 22 16.9 0.0**
GAZI Gazipasa 149.73 317 *i* P **PKPbc 17 22 15.5 -1.7**
CSS Prodhromos 149.76 314 *e*PKPbc **PKPbc 17 22 17.4 +0.1**
CSS *e*PKPab **PKPab 17 22 22.1 -0.6**
DURS Dursunbey 149.82 326 *i* P **PKPdf 17 22 13.8 +1.3**
PYM Petit Puy Mans 149.87 6 PKP **PKPdf 17 22 13.3 +0.8**
ISP Isparta 149.88 321 *e*PKP2 **PKPbc 17 22 17.4 -0.2**
ISP Isparta 149.88 321 *e*PKPbc **PKPbc 17 22 17.4 -0.2**
VTS Vitosha 149.92 336 ⇑*i*P **PKPbc 17 22 16.7 -0.9**
KHAL Karahalli 150.12 323 *i* P **PKPbc 17 22 17.6 -0.6**
BALY Balya 150.18 327 *i* P **PKPbc 17 22 17.2 -0.9**
SSB Saint Sauveur 150.47 4 *e*PKP2 **PKPbc 17 22 18.4 -0.3**
SSB Saint Sauveur 150.47 4 *e*PKPbc **PKPbc 17 22 18.4 -0.3**
KORT Korkueli 150.51 320 *i* P **PKPbc 17 22 19.1 -0.1**
PGAV Gavieira, Arco 150.66 24 *e*LR LR 18 24 01.2
comp=Z,975nm,22.0s
AKHS Akhisar 150.70 326 *i* P **PKPdf 17 22 14.1 +0.2**
BNI Bardonecchia 150.77 1 *e*PKIKP **PKPbc 17 22 20.3 +0.8**
BNI Bardonecchia 150.77 1 *e*PKPbc **PKPbc 17 22 20.3 +0.8**
GOLH Golhisar 150.84 321 *i* P **PKPbc 17 22 16.6 -0.7**
ONZL Cakiroluk 150.84 323 *i* P **PKPbc 17 22 19.0 -0.9**
PCAB Cabril 150.97 24 *e*PKPbc **PKPbc 17 22 20.4 +0.4**
EIL Elat 150.99 303 PKPbc **PKPbc 17 22 21.1 +0.8**
EIL Elat 150.99 303 PKPbc **PKPbc 17 22 21.1 +0.8**
comp=Z,15nm,0.9s,baz=352,slow=3.5,SNR=11
POLO Lamas de Olo 151.35 24 *e*PKPbc **PKPbc 17 22 21.3 +0.4**
PBRG Braganca 151.37 22 *e*PKPbc **PKPbc 17 22 21.4 +0.5**
PVRL Vila Real 151.46 24 *e*PKPbc **PKPbc 17 22 21.8 +0.7**
MVO Moncorvo 151.82 23 *e*PKPbc **PKPbc 17 22 22.6 +0.6**
MVO Moncorvo 151.82 23 *e*LR LR 18 27 25.8
comp=Z,680nm,20.0s
GCAM G?zelcaml? 151.86 325 *i* P **PKPbc 17 22 21.5 -0.6**
PVIS Viseu 151.87 25 *e*PKPbc **PKPbc 17 22 22.1 0.0**
PVIS Viseu 151.87 25 *e*PKPab **PKPab 17 22 31.0 -0.1**
LARF Larau 151.90 13 PKP **PKPbc 17 22 22.9 +0.8**
ATE Arette 151.91 12 PKP **PKPbc 17 22 22.4 +0.3**
PMOZ Porto Moniz, M 152.10 48 *e*LR LR 18 24 10.5
comp=Z,600nm,22.0s
PCAS Casmilo, Conde 152.17 26 *e*PKPbc **PKPbc 17 22 22.8 +0.1**
PCAS Casmilo, Conde 152.17 26 *e*PKPab **PKPab 17 22 32.1 -0.3**
BDRM Kayabasi 152.19 324 *i* P **PKPdf 17 22 18.3 +2.1**
MTE Manteigas 152.27 25 *e*PKPbc **PKPbc 17 22 23.4 +0.4**
MTE Manteigas 152.27 25 *e*LR LR 18 26 21.8
comp=Z,510nm,22.0s
MTE Manteigas 152.27 25 *e*PKPdf **PKPdf 17 22 16.6 +0.2**
MTE *e*PKPbc **PKPbc 17 22 22.8 -0.2**
PTOM Tomar 152.57 27 *e*PKPbc **PKPbc 17 22 24.1 +0.5**
PCBR Castelo Branco 152.78 25 *e*PKPbc **PKPbc 17 22 24.3 +0.2**
PMTG Montargil 153.10 27 *e*PKPbc **PKPbc 17 22 25.0 +0.2**
PMTG Montargil 153.10 27 *e*PKPab **PKPab 17 22 36.1 -0.2**
PMRV Marv??o 153.16 26 *e*PKPbc **PKPbc 17 22 25.2 +0.2**
PMRV Marv??o 153.16 26 *e*PKPab **PKPab 17 22 36.5 0.0**
PMRV Marv??o 153.16 26 *e*LR LR 18 24 05.6
PNCL Nicolau / Gran 153.74 29 *e*PKPbc **PKPbc 17 22 26.6 +0.4**
ESDC Sonseca Array 154.23 20 PKP **PKPdf 17 22 19.2 +0.1**
ESDC PKPbc **PKiKP 17 22 27.7 +0.3**
ESDC PKPab **PKPab 17 22 41.4 +0.3**
ESDC Sonseca Array 154.23 20 PKP **PKPdf 17 22 19.2 +0.1**
comp=Z,0.1nm,0.2s,baz=346,slow=3.4,SNR=4.9
ESDC PKPbc **PKiKP 17 22 27.7 +0.3**
comp=Z,1.7nm,0.7s,baz=338,slow=2.5,SNR=14
ESDC PKPab **PKPab 17 22 41.4 +0.3**
comp=Z,1.2nm,0.7s,baz=323,slow=3.8,SNR=4.4
PVAQ Vaqueiros 154.69 29 *e*LR LR 18 22 22.5
comp=Z,478nm,24.0s
MDT Midelt 159.90 30 PKP **PKPdf 17 22 26.7 +0.1**
MDT PKPab **PKPab 17 23 06.5 +0.7**
MDT Midelt 159.90 30 PKP **PKPdf 17 22 26.7 +0.1**
comp=Z,2.0nm,0.9s,baz=244,slow=3.9,SNR=4.8
MDT PKPab **PKPab 17 23 06.5 +0.7**
comp=Z,5.3nm,1.0s,baz=329,slow=3.5,SNR=8.6
KEST Kesra 160.00 355 PKPab **PKPab 17 23 06.1 +0.1**
KEST Kesra 160.00 355 PKPab **PKPab 17 23 06.1 +0.1**
comp=Z,1.5nm,0.8s,baz=317,slow=9.1,SNR=5.0
TORD Torodi Ar. Bea 174.07 115 PKP **PKPdf 17 22 36.2 -1.2**
TORD PKPab **PKPab 17 24 08.2 -0.6**
TORD Torodi Ar. Bea 174.07 115 PKP **PKPdf 17 22 36.2 -1.2**
comp=Z,1.5nm,0.9s,baz=164,slow=0.7,SNR=7.7
TORD PKPab **PKPab 17 24 08.2 -0.6**
comp=Z,1.6nm,0.8s,baz=256,slow=4.7,SNR=7.5

*ISCJB **04** 17:04:10.7±0.8, 37°.23N±0°.06×71°.9E±0°.1, h130km, Error ellipse: s-maj=14.3km s-min=5.2km az=153.8*
*NNC **04** 17:04:19.4±2.8, 37°.85N×71°.90E, h147km±30km, mb3.0, mpv3.7, Error ellipse: s-maj=24.4km s-min=13.2km az=10.0*

ISC 04 17:04:10.9±1.4,**37°.34N**±0°.10×**71°.9E**±0°.1,**h130**km,**n25,** σ1**98**/27,**4C-4D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AML	**Almayashu**	**4.99**	**16**	P		**Pn**	**17 05 26.1**	**+2.0**
	SNR=68							
UCH	**Uchtor**	**5.29**	**22**	P		**Pn**	**17 05 30.6**	**+2.4**
	SNR=5.3							
KZA	**Kyzart**	**5.40**	**28**	P		**Pn**	**17 05 30.7**	**+1.0**
	SNR=6.7							
EKS2	**Erkin-Say**	**5.52**	**15**	P		**Pn**	**17 05 33.5**	**+2.6**
	SNR=18							
AAK	**Ala-Archa**	**5.66**	**20**	P		**Pn**	**17 05 35.0**	**+2.0**
	SNR=26							
KBK	**Karagaybulak**	**5.81**	**23**	P		Pn	17 05 38.5	+3.6
	SNR=8.9							
KK31	**Karatay Array**	**5.86**	**350**	⇓P		**Pn**	**17 05 37.8**	**+2.4**
	2.6nm,0.3s,baz=165,slow=12,SNR=125							
KK31				S		**Sn**	**17 06 38.6**	**-2.7**
	11nm,0.5s,baz=175,slow=23,SNR=23							
ULHL	**Ulahol**	**5.94**	**33**	P		**Pn**	**17 05 38.0**	**+1.2**
	SNR=15							
CHMS	**Chumysh**	**6.07**	**20**	P		**Pn**	**17 05 40.4**	**+2.1**
	SNR=14							
USP	**Ospenovka**	**6.25**	**18**	P		**Pn**	**17 05 42.5**	**+1.7**
	SNR=5.1							
TKM2	**Tokmak 2**	**6.26**	**26**	⇑P		**Pn**	**17 05 42.7**	**+1.7**
	5.0nm,0.6s							
TKM2				⇑S		**Sn**	**17 06 50.2**	**-1.3**
	2.1nm,0.5s							
TKM2	**Tokmak 2**	**6.26**	**26**	P		**Pn**	**17 05 42.7**	**+1.7**
	SNR=15							
MK31	**Makanchi Array**	**12.20**	**36**	P		**Pn**	**17 07 00.9**	**+0.6**
	0.7nm,0.9s,baz=235,slow=4.8,SNR=4.6							
DANN	**Dangsing**	**13.41**	**129**	*e*P		**Pn**	**17 07 15.4**	**-0.9**
	9.3nm,0.4s							
KOLN	**Koldanda**	**13.72**	**131**	*e*P		**Pn**	**17 07 19.5**	**-0.8**
	7.0nm,0.5s							
KURBB	**Kurchatov Arra**	**14.11**	**18**	⇑P		**Pn**	**17 07 26.6**	**+1.8**
	2.1nm,0.8s							
GKN	**Gorkha**	**14.20**	**127**	*e*P		**Pn**	**17 07 24.9**	**-1.4**
	14nm,0.6s							
KURK	**Kurchatov**	**14.22**	**18**	⇓P		**Pn**	**17 07 28.2**	**+2.1**
	2.0nm,1.1s							
AB31	**Akbulak array**	**14.72**	**328**	⇑P		**P**	**17 07 34.8**	**-0.4**
	1.0nm,0.5s,baz=134,slow=13,SNR=34							
AB31				S		Sn	17 10 06.7	-8.7
	1.6nm,0.6s,baz=151,slow=22,SNR=9.3							
KKN	**Kakani**	**14.76**	**126**	*e*P		**Pn**	**17 07 31.8**	**-1.6**
	6.9nm,0.5s							
DMN	**Daman**	**14.77**	**127**	*e*P		**Pn**	**17 07 32.8**	**-0.8**
	6.4nm,0.4s							
PKI	**Pulchoki**	**14.99**	**127**	*e*P		**Pn**	**17 07 36.3**	**-0.1**
GUN	**Gumba**	**15.07**	**125**	*e*P		**Pn**	**17 07 36.5**	**-0.9**
JIRN	**Jiri**	**15.44**	**125**	*e*P		**Pn**	**17 07 42.0**	**0.0**
	11nm,0.4s							
AKTO	**Aktyubinsk**	**16.43**	**327**	⇓P		**P**	**17 07 57.9**	**+3.8**
	3.3nm,0.8s							
AKTO				⇓S		**Sn**	**17 10 52.8**	**-3.7**
	1.9nm,0.7s							

*IDC **04** 17:09:51.6±0.4, 16°.40S×173°.22W, h0km, mb4.7/27, mb1 4.8/28, mb1mx4.7/33, mbtmp4.7/28, ML4.4/1, MS4.9/27, Ms1 4.9/27, ms1mx4.9/31, Error ellipse: s-maj=16.3km s-min=11.6km az=133.0*
*NEIC **04** 17:09:53.2±0.2, 16°.35S×173°.26W, h10km, mb5.0/46, MS5.2/85, MW5.3, Error ellipse: s-maj=11.8km s-min=6.0km az=137.0, Moment Tensor Solutions. s34 Moment tensor: Scale 10^{17}Nm; M_{rr}0.62; $M_{\theta\theta}$-0.35; $M_{\phi\phi}$-0.27; $M_{r\theta}$-0.12; $M_{r\phi}$0.11; $M_{\theta\phi}$1.07; Best double couple: $M_0$1.20000×10^{17} NP1:ϕ_s140.00000°, δ14.00000°, λ62.00000°. NP2:ϕ_s349.00000°, δ78.00000°, λ97.00000°. Principal axes: T 1.3300, Plg56.0000°, Azm267.0000°; N -0.3100, Plg6.0000°, Azm167.0000°; P -1.0300, Plg32.0000°, Azm73.0000°;*
*AUST **04** 17:09:55.3±1.5, 16°.56S×173°.26W, h10km Error ellipse: s-maj=31.3km s-min=15.8km az=58.0*
*ISCJB **04** 17:09:55.2±0.2, 16°.44S±0°.06×173°.29W±0°.04, h32km, mb4.9/89, MS5.1/124, Error ellipse: s-maj=9.3km s-min=3.7km az=153.2*
*BJI **04** 17:09:55.6, 15°.61S×173°.53W, h10km, mB5.5/19, mb4.9/26, Ms5.2/12, Ms7 4.8/15*
*MOS **04** 17:09:56.2±1.8, 16°.36S×173°.27W, h33km, mb5.2/19, MS5.1/18, Error ellipse: s-maj=15.6km s-min=11.2km az=51.3*
*GCMT **04** 17:10:02.7±0.1, 16°.41S×172°.80W, h39km, MW5.5, Moment Tensor Solution. s88,c141; s6,c6; Moment tensor: Scale 10^{17}Nm; M_{rr}1.17±.04; $M_{\theta\theta}$0.31±.03; $M_{\phi\phi}$-1.48±.03; $M_{r\theta}$-0.76±.03; $M_{r\phi}$0.31±.02; $M_{\theta\phi}$0.99±.03; Best double couple: $M_0$1.90000×10^{17} NP1:ϕ_s330.00000°, δ68.00000°, λ70.00000°. NP2:ϕ_s194.00000°, δ30.00000°, λ130.00000°. Principal axes: T 1.7800, Plg62.0000°, Azm209.0000°; N 0.1600, Plg18.0000°, Azm338.0000°; P -1.9400, Plg20.0000°, Azm75.0000°; Data Used: II IU CN IC G. Surface waves: sta=103, comp=185, per= 50.*
*DJA **04** 17:10:14.7±4.6, 17°S±12°×17°4W±1°8, h155km±37km, M5.0/27, mB5.6/4, mb5.0/27, Mw(mB)5.1/4*

ISC 04 17:09:56.9±0.3,**16°.45S**±0°.07×**173°.19W**±0°.06,**h32**km, **n506,** σ1**9**21/424,**mb5.0**/89,**MS5.2**/124,**21C-24D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.87**	**29**	*e*Pn		Pn	17 10 35.3	-5.3
AFI				*e*Sn		**Sn**	**17 11 09.9**	**-4.2**
AFI	**Afiamalu**	**2.87**	**29**	Pn		Pn	17 10 35.6	-5.0
	71nm,0.3s,baz=85,slow=1.5,SNR=72							
AFI				Sn		Sn	17 11 07.6	-6.5
	894nm,0.3s,baz=60,slow=20,SNR=15							
RAR	**Rarotonga**	**13.56**	**113**	Pn		Pn	17 13 00.8	-6.3
RAR	**Rarotonga**	**13.56**	**113**	Pn		Pn	17 13 00.8	-6.3
	4.4nm,0.3s,baz=270,slow=14,SNR=3.6							
RAR				LR		LR	17 16 53.4	
	comp=Z,5μm,20.8s,baz=270,slow=31							
KNTN	**Kanton**	**13.66**	**6**	*e*Pn		Pn	17 13 05.0	-3.6
DZM	**Mont Dzumac**	**20.01**	**251**	*e*P		Pn	17 14 30.7	+1.5
	175nm,1.1s							
DZM				*e*LQ		LQ	17 18 15.3	
	2μm,23.4s							
DZM				*e*LR		LR	17 19 06.1	
	17μm,24.9s							
DZM	**Mont Dzumac**	**20.01**	**251**	*e*P		**P**	**17 14 25.2**	**-2.1**
	82nm,1.0s							
DZM	**Mont Dzumac**	**20.01**	**251**	P		**P**	**17 14 27.6**	**+0.3**
	1.0nm,0.3s,baz=71,slow=15,SNR=21							
PPT	**Papeete**	**22.61**	**96**	LR		LR	17 21 31.6	
	comp=Z,3μm,19.2s,baz=275,slow=31							
PPT2	**Papeete2**	**22.61**	**96**	*e*S		**S**	**17 19 04.2**	**+3.0**
	7μm,28.0s							
PPT2				*e*LR		LR	17 20 20.0	
	7μm,24.2s,baz=260							
TBI	**Tubuai**	**23.33**	**111**	*e*LR		LR	17 20 34.8	
	7μm,26.5s,baz=292							
URZ	**Urewera**	**23.34**	**200**	*e*P		**P**	**17 15 01.3**	**-1.2**
	37nm,0.4s							
URZ	**Urewera**	**23.34**	**200**	P		**P**	**17 15 01.2**	**-1.3**
	37nm,0.4s,baz=270,slow=3.4,SNR=38							
XMAS	**Kiritimati**	**24.07**	**42**	*e*P		P	17 15 04.9	-4.7
	52nm,0.9s							
HNR	**Honiara**	**27.07**	**282**	LR		LR	17 24 46.6	
	comp=Z,9μm,20.7s,baz=118,slow=33							
RPZ	**Rata Peaks**	**30.30**	**203**	*e*P		**P**	**17 16 06.2**	**+1.0**
	382nm,2.1s							
RPZ	**Rata Peaks**	**30.30**	**203**	P		**P**	**17 16 08.1**	**+2

baz=48,SNR=7.9
WRAB Tennant Creek 49.80 258 *eP* **P** **17 18 45.6 -1.5**
WRAB pmax pmax
comp=Z,9.0nm,0.8s
WRAB Tennant Creek 49.80 258 *eP* **P** **17 18 45.6 -1.5**
comp=Z,8.6nm,0.8s
WRA Warramunga Arr 49.81 258 P **P** **17 18 45.2 -1.9**
WRA Warramunga Arr 49.81 258 P **P** **17 18 45.2 -1.9**
comp=Z,2.6nm,0.4s,baz=94,slow=7.5,SNR=20
WRA LR LR 17 38 51.6
comp=Z,3μm,19.9s,baz=105,slow=35
AS31 Alice Springs 49.98 253 *eP* **P** **17 18 46.2 -2.3**
ASAR Alice Springs 49.98 253 P **P** **17 18 46.4 -2.1**
ASAR S **S** **17 25 56.2 -1.2**
ASAR Alice Springs 49.98 253 P **P** **17 18 46.4 -2.1**
comp=Z,38nm,0.7s,baz=89,slow=8.6,SNR=178
ASAR S **S** **17 25 56.2 -1.2**
comp=Z,0.6nm,0.9s,baz=83,slow=15,SNR=3.0
ASAR LR LR 17 39 12.2
comp=Z,3μm,18.4s,baz=93,slow=35
KDU Kakadu 52.60 266 ⇑P **P** **17 19 08.4 +0.2**
baz=52,SNR=7.1
FORT Forrest 55.13 244 *eP* **P** **17 19 25.4 -1.0**
comp=Z,19nm,0.7s
FORT Forrest 55.13 244 ⇓P **P** **17 19 26.0 -0.5**
baz=55
FAKI Fak Fak 55.25 278 ⇑P **P** **17 19 28.1 +0.4**
baz=55
KNRA Kununurra 55.61 262 ⇓P **P** **17 19 29.7 -0.5**
baz=56,SNR=4.5
SWI Sorong 56.84 280 P **P** **17 19 38.7 -0.2**
comp=Z,66nm,0.8s,comp=Z,721nm
SWI Sorong 56.84 280 ⇓P **P** **17 19 38.7 -0.2**
baz=57,SNR=7.4
FITZ Fitzroy Crossi 58.20 259 P **P** **17 19 49.3 +0.8**
FITZ Fitzroy Crossi 58.20 259 ⇓P **P** **17 19 48.7 +0.3**
baz=58,SNR=11
FITZ Fitzroy Crossi 58.20 259 P **P** **17 19 49.3 +0.8**
comp=Z,1.1nm,0.5s,baz=102,slow=8.2,SNR=11
AAI Ambon 58.89 276 P **P** **17 19 52.3 -1.0**
comp=Z,36nm,0.9s
NLAI Namlea 60.06 276 P **P** **17 20 00.7 -0.7**
comp=Z,26nm,1.7s
LBMI Labuha 60.47 279 P **P** **17 20 04.0 -0.2**
comp=Z,45nm,1.8s
SOEI Soe 61.08 268 P **P** **17 20 08.5 -0.1**
comp=Z,146nm,1.1s,comp=Z,2μm
SOEI Soe 61.08 268 ⇑P **P** **17 20 08.8 +0.3**
baz=61,SNR=25
JCJ Chichijima 61.23 314 LR LR 17 41 39.5
comp=Z,456nm,19.9s,baz=122,slow=31
BATI Baumata 61.56 267 P **P** **17 20 11.1 -0.6**
comp=Z,31nm,0.9s
BATI Baumata 61.56 267 P **P** **17 20 11.3 -0.3**
BATI Baumata 61.56 267 P **P** **17 20 11.3 -0.3**
comp=Z,34nm,0.9s,baz=120,slow=2.8,SNR=7.7
SBA Scott Base 62.23 185 *eP* **P** **17 20 15.6 +0.5**
SBA pmax pmax
comp=Z,38nm,1.5s
SBA Scott Base 62.23 185 *eP* **P** **17 20 15.6 +0.5**
comp=Z,38nm,1.5s
VNDA Vanda 62.36 186 *eP* **P** **17 20 16.5 +0.6**
comp=Z,70nm,2.3s
VNDA Vanda 62.36 186 P **P** **17 20 16.5 +0.6**
comp=Z,4.4nm,1.1s,baz=7.3,slow=6.4,SNR=12
VNDA LR LR 17 42 19.8
comp=Z,378nm,20.6s,baz=17,slow=31
MMRI Maumere 63.29 268 P **P** **17 20 22.0 -1.2**
comp=Z,56nm,1.3s
MMRI Maumere 63.29 268 *eP* **P** **17 20 23.8 +0.5**
comp=Z,102nm,1.4s
KLBR Kellerberrin 63.93 243 ⇓P **P** **17 20 26.2 -1.0**
baz=64,SNR=10
RKGY Rocky Gully 64.41 239 ⇓P **P** **17 20 30.2 -0.1**
baz=64
LUWI Luwuk 64.84 277 P **P** **17 20 33.9 +0.5**
comp=Z,75nm,1.4s
LUWI Luwuk 64.84 277 ⇓P **P** **17 20 34.0 +0.6**
baz=65
BLDU Ballidu 64.90 244 ⇓P **P** **17 20 32.8 -0.8**
baz=65,SNR=6.7
DAV Davao City (W) 64.91 286 PFAKE 17 20 40.0 +6.1
DAV LR LR
comp=Z,412nm,19.0s
APSI Ampana 65.95 276 P **P** **17 20 40.2 -0.4**
comp=Z,67nm,1.5s
BNSI Bone 66.43 272 P **P** **17 20 43.5 -0.2**
comp=Z,29nm,1.9s
KAPI Kappang 66.60 272 PFAKE 17 21 00.0 +15
KAPI LR LR
comp=Z,249nm,21.0s
MAT Matsushiro 69.87 320 P **P** **17 21 05.6 +0.8**
MAT S S 17 30 22.0 +10
FX1 Attu Island--F 70.04 351 LR LR 17 44 55.2
comp=Z,1μm,22.0s,baz=177,slow=30
ERM Erimo 70.75 327 PFAKE 17 21 20.0 +10
ERM LR LR
comp=Z,517nm,22.0s
MYLDM Lahad Datu 70.85 282 P **P** **17 21 12.0 +0.8**
comp=Z,24nm,1.6s
YUK Yuzh-Kuril'sk 70.86 330 P P 17 21 18.9 +8.3
YUK *eS* SKiKP 17 30 43.0 -7.9
YUK MLR MLR
comp=Z,453nm,22.0s
ASAJ Asahikawa 72.53 328 P **P** **17 21 19.9 -0.8**
ASAJ Asahikawa 72.53 328 P **P** **17 21 19.9 -0.8**
comp=Z,12nm,0.9s,baz=314,slow=17,SNR=4.6
ASAJ LR LR 17 50 05.5
comp=Z,238nm,20.3s,baz=61,slow=33
JNU Nakatsue 72.66 313 P **P** **17 21 20.3 -1.5**
JNU Nakatsue 72.66 313 P **P** **17 21 20.3 -1.5**
comp=Z,6.3nm,0.8s,baz=251,slow=5.7,SNR=4.0
JNU LR LR 17 48 42.4
comp=Z,268nm,20.3s,baz=114,slow=32
EDW2 Edwards Air Fo 73.14 45 P **P** **17 21 26.1 +1.4**
baz=73
ISA Isabella 73.26 44 *eP* **P** **17 21 23.3 -2.0**
ISA pmax pmax
comp=Z,30nm,1.5s
ISA Isabella 73.26 44 *eP* **P** **17 21 23.3 -2.0**
comp=Z,30nm,1.5s
ISA Isabella 73.26 44 P **P** **17 21 25.6 +0.3**
baz=73
KKM Kota Kinabalu 73.28 282 PFAKE 17 21 40.0 +14
KKM LR LR
comp=Z,268nm,20.0s
PET Petropavlovsk 73.33 343 *eP* P 17 21 32.0 +6.8
PET *eS* **SKiKP** **17 31 00.1 +5.8**
CMB Columbia Colle 73.42 41 *eP* **P** **17 21 24.7 -1.5**
CMB pmax pmax
comp=Z,7.0nm,1.0s
CMB Columbia Colle 73.42 41 *eP* **P** **17 21 24.6 -1.5**
comp=Z,7.0nm,1.0s
PFO Pinyon Flat Ob 73.49 47 LR LR 17 45 52.1
comp=Z,2μm,21.2s,baz=337,slow=29
CHGN Chignik 73.53 9 *eP* **P** **17 21 26.8 +0.6**
QSPA South Pole Qui 73.60 180 P **P** **17 21 26.4 -0.5**
comp=Z,18nm,1.2s
QSPA South Pole Qui 73.60 180 P **P** **17 21 26.4 -0.5**
comp=Z,13nm,0.7s,baz=48,slow=2.9,SNR=31
PETK Petropavlovsk- 73.68 342 P **P** **17 21 26.5 -0.8**
PETK Petropavlovsk- 73.68 342 P **P** **17 21 26.5 -0.8**
PETK Petropavlovsk- 73.68 342 P **P** **17 21 26.5 -0.8**
comp=Z,7.1nm,0.8s,baz=131,slow=8.5,SNR=7.2
PETK LR LR 17 48 49.7
comp=Z,202nm,19.1s,baz=151,slow=32
MPMC Manual Prospec 74.14 44 P **P** **17 21 30.9 +0.3**
baz=74
WAKR Walker 74.30 41 *eP* **P** **17 21 31.2 -0.3**
YBH Yreka Blue Hor 74.31 37 P **P** **17 21 30.5 -0.9**
YBH Yreka Blue Hor 74.31 37 P **P** **17 21 30.5 -0.9**
comp=Z,4.9nm,0.7s,baz=226,slow=0.9,SNR=11
YBH LR LR 17 47 05.2
comp=Z,2μm,20.4s,baz=257,slow=30
YSS Yuzh-Sakhalins 74.49 330 *eP* **P** **17 21 31.5 -0.6**
BEKR Beckworth 74.54 40 *eP* **P** **17 21 31.6 -1.3**
comp=Z,13nm,1.5s
GMRC Granite Mounta 74.68 46 P **P** **17 21 33.9 +0.2**
baz=75
FURC Furnace Creek, 74.80 44 P **P** **17 21 35.1 +0.9**
baz=75
NVAR Mina Array Bea 74.97 42 P **P** **17 21 35.2 -0.2**
NVAR Mina Array Bea 74.97 42 P **P** **17 21 35.2 -0.2**
comp=Z,3.9nm,0.8s,baz=225,slow=8.4,SNR=19
NVAR LR LR 17 47 29.6
comp=Z,2μm,20.4s,baz=111,slow=30
PBKI Pangkalan Bun 74.99 272 P **P** **17 21 35.1 -0.7**
comp=Z,112nm,1.1s
NV11 Mina Array Sit 75.07 42 *eP* **P** **17 21 34.8 -1.1**
KDAK Kodiak Island 75.91 11 P **P** **17 21 39.3 -0.7**
KDAK LR LR
comp=Z,2μm,21.0s
KDAK Kodiak Island 75.91 11 P **P** **17 21 39.3 -0.7**
comp=Z,11nm,1.0s,baz=295,slow=11,SNR=4.9
STKI Sintang 75.95 274 P **P** **17 21 40.9 -0.5**
comp=Z,27nm,1.8s,comp=Z,2μm
SHPR Sheep Range 75.96 45 *eP* **P** **17 21 42.1 +1.0**
K05A Summer Lake 75.98 37 *eP* **P** **17 21 43.1 +2.0**
comp=Z,31nm,1.1s
Y14A Wickenburg 76.10 48 P **P** **17 21 42.9 +1.1**
baz=76
H04A Detroit Lake 76.50 35 *eP* **P** **17 21 45.6 +1.8**
comp=Z,66nm,1.8s
R11A Troy Canyon, C 76.68 43 *eP* **P** **17 21 45.5 +0.3**
R11A Troy Canyon, C 76.68 43 P **P** **17 21 44.7 -0.5**
baz=77
BMN Battle Mountai 76.81 41 PFAKE 17 22 00.0 +14
BMN LR LR
comp=Z,2μm,22.0s
TUC Tucson 76.90 50 *eP* **P** **17 21 46.9 +0.5**
TUC pmax pmax
comp=Z,12nm,1.2s
TUC Tucson 76.90 50 *eP* **P** **17 21 46.9 +0.5**
comp=Z,12nm,1.2s
KSRS Korea Array 77.04 316 P **P** **17 21 46.5 -0.4**
comp=Z,1.7nm,1.0s,baz=297,slow=28,SNR=4.5
KSRS LR LR 17 50 15.4
comp=Z,172nm,18.9s,baz=129,slow=32
KSAR Wonju Array Be 77.06 316 P **P** **17 21 46.5 -0.6**
WVOR Wild Horse Val 77.13 38 *eP* **P** **17 21 45.1 -2.4**
WVOR pmax pmax
comp=Z,12nm,1.3s
WVOR Wild Horse Val 77.13 38 *eP* **P** **17 21 45.0 -2.4**
comp=Z,12nm,1.3s
KSM Kuching 77.48 275 PFAKE 17 22 00.0 +10
KSM LR LR
comp=Z,245nm,22.0s
I07A Izee 77.62 36 *eP* **P** **17 21 51.2 +1.0**
comp=Z,11nm,1.0s
LEM Lembang 77.76 266 P **P** **17 21 51.3 -0.5**
LEM Lembang 77.76 266 ⇑P **P** **17 21 51.6 -0.2**
baz=78
INCN Inchon 77.93 315 PFAKE 17 22 00.0 +8.0
INCN LR LR
comp=Z,388nm,21.0s
320A Kipp Ranch, An 78.13 52 P **P** **17 21 53.7 +0.3**
baz=78
ELK Elko 78.23 41 *eP* **P** **17 21 53.0 -0.9**
comp=Z,11nm,1.3s
USRK Ussuriysk Arra 78.34 323 P **P** **17 21 54.0 0.0**
comp=Z,1.9nm,0.8s,baz=120,slow=6.8,SNR=5.4
USRK LR LR 17 49 02.4
comp=Z,463nm,21.5s,baz=120,slow=30
220A Playas Peak, P 78.39 52 P **P** **17 21 55.2 +0.4**
baz=78
120A U Bar Ranch, L 78.61 51 P **P** **17 21 56.4 +0.3**
baz=79
G08A Pilot Rock 78.66 36 *eP* **P** **17 21 56.2 +0.3**
comp=Z,14nm,1.1s
SSE Sheshan 78.75 307 P **P** **17 21 56.4 -0.2**
SSE sP sP 17 22 01.0 -9.4
SSE S **S** **17 31 52.7 +0.5**
SSE AMB AMB
comp=Z,20nm,0.8s
SSE AMB AMB
comp=Z,420nm,5.3s
SSE LR LR
comp=Z,530nm,5.6s
SSE LR LR
comp=Z,670nm,5.6s
SSE LR LR
comp=Z,630nm,5.2s
Z20A Nine Sixteen R 78.91 51 P **P** **17 21 57.6 0.0**
baz=79
MVU Marysvale 79.00 44 PFAKE 17 22 10.0 +12
MVU LR LR
comp=Z,2μm,22.0s
HAWA Hanford 79.02 35 PFAKE 17 22 10.0 +12
HAWA LR LR
comp=Z,2μm,21.0s
121A Cookes Peak, D 79.24 51 P **P** **17 21 59.9 +0.4**
baz=79
BMO Blue Mountains 79.34 37 *eP* **P** **17 21 56.7 -3.0**
comp=Z,18nm,1.4s
BMO LR LR
comp=Z,1μm,20.0s
MFID Camas Ranch 79.38 39 P **P** **17 22 00.4 +0.5**
baz=80
Y20A Horse Springs, 79.44 50 P **P** **17 22 01.0 +0.4**
baz=80
DUG Dugway 79.49 43 PFAKE 17 22 10.0 +9.3
DUG LR LR
comp=Z,2μm,21.0s
Q16A Castle Valley 79.91 44 P **P** **17 22 02.9 -0.2**
baz=80
W20A Ramah 79.92 49 P **P** **17 22 03.0 -0.2**
baz=80
MDJ Mudanjiang 79.97 322 P **P** **17 22 03.7 +0.7**
MDJ sP sP 17 22 08.5 -8.3
MDJ S **S** **17 32 09.5 +4.8**
MDJ sS **SKSac** **17 32 14.2 -3.7**
MDJ AMB AMB
comp=Z,9.0nm,1.8s
MDJ AMB AMB
comp=Z,160nm,8.6s
MDJ LR LR
comp=Z,440nm,30.2s
MDJ LR LR
comp=Z,330nm,29.2s
MDJ LR LR
comp=Z,360nm,31.1s
F10A Beach Ranch, E 80.04 36 *eP* **P** **17 22 04.9 +1.4**
comp=Z,12nm,1.0s
TMUT Trail Mountain 80.08 44 *eP* **P** **17 22 07.1 +3.0**
comp=Z,145nm,2.3s
Z22A Elephant Butte 80.18 51 P **P** **17 22 04.5 0.0**
baz=80
V20A Brimhall 80.26 48 P **P** **17 22 04.7 -0.3**
baz=80
HLID Hailey 80.31 39 *eP* **P** **17 22 03.0 -2.0**
comp=Z,27nm,1.5s
HLID LR LR
comp=Z,1μm,21.0s
HLID Hailey 80.31 39 P **P** **17 22 05.2 +0.1**
baz=80
B08A Colville Reser 80.34 33 *eP* **P** **17 22 05.6 +0.6**
comp=Z,7.6nm,0.9s
U20A Newcomb 80.50 48 P **P** **17 22 06.6 +0.4**
baz=81
324A Moseley Ranch, 80.50 53 P **P** **17 22 07.3 +0.9**
baz=81
425A Indio Mountain 80.60 54 P **P** **17 22 06.6 -0.2**
baz=81
MNTX Cornudas Mount 80.69 53 *eP* **P** **17 22 06.6 -0.5**
comp=Z,2.5nm,1.0s
MNTX LR LR
comp=Z,1μm,20.0s
Z23A Rita Site, Whi 80.73 51 P **P** **17 22 08.5 +1.0**
baz=81
224A Cornudas Mount 80.75 53 P **P** **17 22 07.7 +0.1**
baz=81
626A Big Bend Ranch 80.75 56 P **P** **17 22 07.5 -0.2**
baz=81
BNM Barren Site 80.84 50 *eP* **P** **17 22 06.5 -1.6**
comp=Z,5.8nm,1.1s
325A Bean Ranch, Si 80.86 54 P **P** **17 22 07.9 -0.5**
baz=81
PV05 Paradox Valley 80.91 46 *eP* **P** **17 22 05.4 -3.0**
NJ2 Nanjing 80.95 307 *eP* **P** **17 22 08.4 -0.1**
NJ2 AMB AMB
comp=Z,20nm,1.0s
526A Mary Lane Ranc 81.00 55 P **P** **17 22 09.5 +0.5**
baz=81
TXAR Lajitas Array 81.03 56 P **P** **17 22 09.3 +0.2**
TXAR Lajitas Array 81.03 56 P **P** **17 22 09.3 +0.2**
comp=Z,0.8nm,0.7s,baz=216,slow=6.2,SNR=8.7
TXAR LR LR 17 49 55.4
comp=Z,1μm,21.4s,baz=315,slow=30
225A Deer Hill, Car 81.30 53 P **P** **17 22 10.6 0.0**
baz=81
426A McDonald Obser 81.30 55 P **P** **17 22 09.8 -0.9**
baz=81
627A Terlingua Ranc 81.30 56 P **P** **17 22 10.7 +0.1**
baz=81
S20A Disappointment 81.30 46 P **P** **17 22 10.7 +0.1**
baz=81
ANMO Albuquerque 81.32 50 *eP* **P** **17 22 10.4 -0.3**
comp=Z,9.6nm,1.2s
ANMO LR LR
comp=Z,1μm,20.0s
527A Woodward Ranch 81.41 55 P **P** **17 22 11.9 +0.7**
baz=82
V22A San Miguel Ran 81.43 49 P **P** **17 22 12.0 +0.7**
baz=82
NEW Newport 81.46 34 LR LR 17 51 43.7
comp=Z,1μm,19.3s,baz=233,slow=31
TRF Thorofare Moun 81.61 10 *eP* **P** **17 22 10.0 -1.5**
comp=Z,14nm,0.8s
S21A Coal Bank Pass 81.62 47 P **P** **17 22 12.0 -0.4**
baz=82
Y24A Capitan 81.62 51 P **P** **17 22 12.2 -0.1**
baz=82
125A Gardner Draw, 81.66 53 P **P** **17 22 11.7 -0.7**
baz=82
628A Black Gap, Mar 81.71 56 P **P** **17 22 12.7 +0.1**
baz=82
P19A Cripple Cowboy 81.74 45 P **P** **17 22 12.9 0.0**
baz=82
226B Tecolote Peak, 81.79 53 P **P** **17 22 13.0 0.0**
baz=82
427A Hayter Ranch, 81.86 55 P **P** **17 22 14.0 +0.4**
baz=82
Q20A Ridgley Place, 81.88 45 P **P** **17 22 13.1 -0.4**
baz=82
AHID Auburn Hatcher 81.93 41 PFAKE 17 22 20.0 +6.2
AHID LR LR
comp=Z,2μm,21.0s
O19A Miners Draw (B 81.97 44 P **P** **17 22 14.1 +0.1**
baz=82
CN2 Changchun 82.01 320 *eP* **P** **17 22 14.6 +0.7**
CN2 *eS* **S** **17 32 25.8 -0.2**
CN2 AMB AMB
comp=Z,10.0nm,0.9s
CN2 LR LR
comp=Z,300nm,13.0s
MCK McKinley 82.11 11 *eP* **P** **17 22 13.0 -1.0**
MCK pmax pmax
comp=Z,28nm,0.9s
MCK McKinley 82.11 11 *eP* **P** **17 22 13.0 -1.0**
comp=Z,28nm,0.9s
R21A Cimarron 82.12 46 P **P** **17 22 15.1 +0.2**
baz=82
U23A El Rito 82.14 49 P **P** **17 22 15.3 +0.3**
baz=82
126A Clayton Basin, 82.14 53 P **P** **17 22 15.2 +0.2**
baz=82
Y25A Mesa, Roswell 82.18 51 P **P** **17 22 15.1 -0.1**
baz=82
W24A Lazy 6 Ranch, 82.21 50 P **P** **17 22 15.8 +0.4**
baz=82
S22A 4UR Ranch, Cre 82.33 47 P **P** **17 22 15.9 -0.1**
baz=82
REDW Red Top Meadow 82.39 41 *eP* **P** **17 22 15.9 -0.3**
comp=Z,25nm,1.4s
MSO Missoula 82.40 37 P **P** **17 22 16.0 0.0**
baz=82
Z26A Caprock 82.44 52 P **P** **17 22 15.5 -0.9**
baz=83
SNOW Snow King Moun 82.51 41 *eP* **P** **17 22 16.3 -0.5**
comp=Z,17nm,1.1s
V24A Rampart Ranch, 82.54 50 P **P** **17 22 17.6 +0.5**
baz=83
DLBC Dease Lake 82.60 21 *eP* **P** **17 22 16.2 -0.5**
DLBC Dease Lake 82.60 21 P **P** **17 22 15.0 -1.7**
comp=Z,2.7nm,0.9s,baz=217,slow=11,SNR=4.0
R22A Saguache, Gunn 82.61 47 P **P** **17 22 16.3 -1.2**
baz=83
MOOW Moose Ponds 82.66 40 *eP* **P** **17 22 16.3 -1.3**
comp=Z,26nm,1.8s
P21A Newcastle 82.73 45 P **P** **17 22 17.5 -0.5**
baz=83
Q22A Crested Butte, 82.79 46 P **P** **17 22 17.8 -0.6**
baz=83
N20A Spence Gulch, 82.81 44 P **P** **17 22 17.9 -0.5**
baz=83
Y26A Elida 82.83 52 P **P** **17 22 18.4 -0.2**
baz=83
W25A X Bar L Ranch, 82.91 50 P **P** **17 22 18.7 -0.3**
baz=83
BW06 Boulder Array 82.91 42 PFAKE 17 22 30.0 +11
BW06 LR LR
comp=Z,2μm,20.0s
PDAR Pinedale Array 82.91 42 P **P** **17 22 18.1 -0.9**
PDAR Pinedale Array 82.91 42 P **P** **17 22 18.1 -0.9**
comp=Z,4.8nm,0.7s,baz=216,slow=3.5,SNR=19
PDAR LR LR 17 53 50.4
comp=Z,2μm,18.7s,baz=240,slow=32
429A Davenport Ranc 82.96 55 P **P** **17 22 18.4 -0.9**
baz=83
V25A Rancho No Teng 83.06 50 P **P** **17 22 19.1 -0.7**
baz=83
BOZ Bozeman (W) 83.11 38 *eP* **P** **17 22 18.9 -0.9**
BOZ pmax pmax
comp=Z,4.0nm,0.8s
BOZ MLR MLR
comp=Z,2μm,21.0s
BOZ Bozeman (W) 83.11 38 *eP* **P** **17 22 18.9 -0.9**
comp=Z,4.5nm,0.8s
BOZ LR LR
comp=Z,2μm,21.0s
M20A Sweetwater, Wa 83.17 43 P **P** **17 22 20.2 -0.1**
baz=83
P22A Eagle 83.23 45 P **P** **17 22 20.5 -0.2**
baz=83
R23A Moffat 83.24 47 P **P** **17 22 20.5 -0.3**
baz=83
LKWY Lake 83.29 40 PFAKE 17 22 30.0 +9.1
LKWY LR LR
comp=Z,1μm,20.0s
Y27A Causey 83.31 52 P **P** **17 22 21.4 +0.3**
baz=83
L20A Wamsutter 83.32 43 P **P** **17 22 21.2 +0.2**
baz=84
COLA College 83.35 11 *eP* **P** **17 22 18.8 -1.5**
COLA pmax pmax
comp=Z,31nm,0.9s
COLA MLR MLR
comp=Z,2μm,21.0s
COLA College 83.35 11 *eP* **P** **17 22 18.8 -1.5**
comp=Z,31nm,0.9s
COLA LR LR
comp=Z,2μm,21.0s
K19A Absolon Red Bu 83.39 42 P **P** **17 22 21.2 -0.1**
baz=84
S24A Houchin Ranch, 83.43 48 P **P** **17 22 21.5 -0.3**
baz=84
ILAR Eielson Array 83.43 11 P **P** **17 22 19.3 -1.5**
ILAR Eielson Array 83.43 11 P **P** **17 22 19.3 -1.5**
comp=Z,2.5nm,0.7s,baz=229,slow=6.0,SNR=19
ILAR LR LR 17 52 10.2
comp=Z,534nm,21.8s,baz=210,slow=30
U25A Circle Dot Ran 83.46 49 P **P** **17 22 21.4 -0.5**
baz=84
J19A Crowheart 83.48 41 P **P** **17 22 21.5 -0.2**
baz=84
QIZ Qiongzhong 83.48 292 P **P** **17 22 21.0 -1.1**
QIZ S **S** **17 32 42.6 +0.7**
QIZ AMB AMB
comp=Z,10.0nm,2.1s
QIZ AMB AMB
comp=Z,380nm,6.8s
631A Perdido Creek 83.53 57 P **P** **17 22 21.7 -0.5**
baz=84
K20A Yellowstone Ra 83.64 42 P **P** **17 22 21.6 -1.0**
baz=84
MSTX Muleshoe 83.64 52 P **P** **17 22 22.4 -0.3**
baz=84
O22A Kremmling 83.64 45 P **P** **17 22 22.6 -0.3**
baz=84
V26A Tequesquite Ra 83.65 50 P **P** **17 22 23.3 +0.5**
baz=84
R24A Sanders Place, 83.76 47 P **P** **17 22 23.8 +0.4**
baz=84
P23A Jefferson 83.77 46 P **P** **17 22 23.8 +0.3**
baz=84
M21A Separation Pea 83.77 43 P **P** **17 22 23.4 0.0**
baz=84
H18A Shoshone NF, C 83.80 40 P **P** **17 22 23.2 -0.3**
baz=84
W27A Bowe Ranch, En 83.88 51 P **P** **17 22 23.5 -0.4**
baz=84
I19A Meeteetse 83.90 41 P **P** **17 22 23.4 -0.5**

baz=84
L21A Rawlins 83.94 43 P P 17 22 24.2 0.0
baz=84
U26A Atchley Ranch, 83.94 49 P P 17 22 24.3 0.0
baz=84
S25A Robets Cordova 83.99 48 P P 17 22 24.7 +0.2
baz=84
N22A Wattenberg Ran 84.00 45 P P 17 22 24.8 +0.2
baz=84
Q24A Divide 84.06 47 P P 17 22 26.0 +1.0
baz=84
230A Sterling City 84.08 54 P P 17 22 25.1 +0.2
baz=84
ISCO Idaho Springs 84.11 46 PFAKE 17 22 40.0 +15
ISCO LR LR
comp=Z,956nm,20.0s
ISCO Idaho Springs 84.11 46 P P 17 22 25.7 +0.5
baz=84
J20A Shoshoni 84.14 42 P P 17 22 25.1 0.0
baz=84
632A Uvalde 84.20 57 P P 17 22 25.7 +0.2
baz=84
H19A Powell 84.22 40 P P 17 22 25.7 +0.2
baz=84
R25A Fountain Ranch 84.31 48 P P 17 22 25.8 -0.3
baz=84
K21A Alcova 84.33 43 P P 17 22 26.0 -0.2
baz=84
532A Rocksprings 84.34 56 P P 17 22 25.9 -0.4
baz=84
GCMT Greycliff 84.36 39 *e*P P 17 22 23.5 -2.7
comp=Z,7.9nm,1.0s
DAWY Dawson 84.38 14 *e*P P 17 22 24.0 -1.7
N23A Red Feather La 84.39 45 P P 17 22 26.2 -0.3
baz=84
I20A Worland 84.40 41 P P 17 22 26.2 -0.2
baz=84
Y29A Porterfield Fa 84.43 52 P P 17 22 26.5 -0.2
baz=85
J21A Lysite 84.54 42 P P 17 22 26.9 -0.3
baz=85
JCT Junction City 84.56 56 PFAKE 17 22 40.0 +13
JCT LR LR
comp=Z,971nm,19.0s
H03N2 Juan Fernandez 84.56 123 T T 18 56 14.1
baz=254,slow=0.7,SNR=6.4
H03N3 Juan Fernandez 84.57 123 T T 18 56 18.7
baz=254,slow=0.7,SNR=3.3
H03N1 Juan Fernandez 84.58 123 T T 18 56 18.0
baz=254,slow=0.7,SNR=3.0
EGAK Eagle 84.59 13 *e*P P 17 22 25.3 -1.3
comp=Z,8.6nm,0.9s
EGAK LR LR
comp=Z,1μm,20.0s
Z30A Sanderson Ranc 84.62 53 P P 17 22 26.4 -1.2
baz=85
S26A Kim 84.66 48 P P 17 22 27.7 -0.1
baz=85
F19A Roth Farm, Mol 84.83 39 P P 17 22 28.7 +0.3
baz=85
I21A Big Trails, Te 84.86 42 P P 17 22 28.0 -0.8
baz=85
332A Millersview 84.95 55 P P 17 22 29.0 -0.3
baz=85
W29A Amraillo 84.96 51 P P 17 22 28.8 -0.6
baz=85
KVTX Kingsville 85.02 60 PFAKE 17 22 40.0 +10
KVTX LR LR
comp=Z,841nm,19.0s
Y30A Stafford Cattl 85.03 53 P P 17 22 29.5 -0.2
baz=85
L23A Garrett 85.11 44 P P 17 22 30.1 0.0
baz=85
COLD Coldfoot 85.14 9 *e*P P 17 22 28.4 -1.0
comp=Z,13nm,1.1s
J22A Midwest 85.20 42 P P 17 22 30.6 +0.1
baz=85
232A Coleman 85.22 55 P P 17 22 30.5 -0.2
baz=85
E19A Rath Farm, Rou 85.23 39 P P 17 22 29.8 -0.6
baz=85
Z31A Sharp Cattle R 85.39 53 P P 17 22 31.7 +0.2
baz=86
I22A 9 Mile Ranch, 85.42 42 P P 17 22 32.2 +0.7
baz=86
EGMT Eagleton 85.44 37 PFAKE 17 22 40.0 +8.5
EGMT LR LR
comp=Z,2μm,21.0s
EGMT Eagleton 85.44 37 P P 17 22 32.3 +0.9
baz=86
ABTX Abilene, Hawle 85.51 54 P P 17 22 32.7 +0.6
baz=86
Y31A Rekieta Farm, 85.55 53 P P 17 22 32.8 +0.5
baz=86
E20A Meyer Farm, Mu 85.64 39 P P 17 22 32.4 -0.1
baz=86
C19A Slack Wire Ran 85.70 38 P P 17 22 32.3 -0.4
baz=86
Z32A Haskell 85.90 54 P P 17 22 33.7 -0.3
baz=86
B19A Brinkman Farms 86.13 37 P P 17 22 35.8 +1.0
baz=86
Y32A R-V Farms, Ver 86.19 53 P P 17 22 35.2 -0.3
baz=86
EDM Edmonton 86.27 31 *e*P P 17 22 34.5 -0.9
EDM Edmonton 86.27 31 *e*P P 17 22 34.5 -0.9
BJT Baijiatuau 86.33 313 PFAKE 17 22 50.0 +14
BJT LR LR
comp=Z,183nm,19.0s
BJI Beijing 86.33 313 P P 17 22 36.3 +0.4
BJI S S 17 33 11.4 +2.0
BJI AMB AMB
comp=Z,13nm,1.9s
BJI AMB AMB
comp=Z,100nm,6.9s
BJI LR LR
comp=Z,460nm,27.8s
BJI LR LR
comp=Z,310nm,24.9s
BJI LR LR
comp=Z,230nm,28.4s
COCO West Island 86.59 258 PFAKE 17 22 50.0 +12
COCO LR LR
comp=Z,1μm,19.0s
MAW Mawson 86.87 199 *e*P P 17 22 37.6 -0.5
comp=Z,10.0nm,1.6s
MAW Mawson 86.87 199 ⇓P P 17 22 37.4 -0.7
baz=87,SNR=15
MAW Mawson 86.87 199 P P 17 22 37.9 -0.2
comp=Z,7.0nm,0.8s,baz=117,slow=7.1,SNR=24
MAW LR LR 18 02 00.4
comp=Z,861nm,18.4s,baz=121,slow=36
LAO LASA Array 86.89 39 PFAKE 17 22 50.0 +11
LAO LR LR
comp=Z,1μm,22.0s
A20A Cobblestone Ra 86.92 37 P P 17 22 38.8 +0.1
baz=87
I25A Rochford 87.25 43 P P 17 22 40.6 0.0
baz=87
A21A Bergtoll Ranch 87.56 37 P P 17 22 41.8 +0.1
baz=88
PANO Nakornpanom 87.59 289 P P 17 22 45.9 +3.4
comp=Z,31nm,1.5s,comp=Z,4μm
ENH Enshi 87.65 302 PFAKE 17 22 50.0 +7.4
ENH LR LR
comp=Z,35nm,19.0s
KULM Kulim 87.81 276 PFAKE 17 22 50.0 +6.3
KULM LR LR
comp=Z,374nm,20.0s
SKNT Sakolnakorn 88.11 288 P P 17 22 48.2 +3.2
comp=Z,33nm,2.2s,comp=Z,2μm
HIA Hailar 88.15 323 PFAKE 17 22 50.0 +5.5
HIA LR LR
comp=Z,417nm,19.0s
PLCA Paso Flores 88.66 132 LR LR 17 53 55.7
comp=Z,448nm,18.0s,baz=140,slow=30
GYA Guiyang 88.71 298 P P 17 22 48.0 +0.2
GYA PP PP 17 26 19.2 +2.1
GYA SKS SKSac 17 33 14.9 -0.5
GYA S S 17 33 31.6 -1.4
GYA SS SS 17 39 25.2 -0.2
GYA AMB AMB
comp=Z,20nm,1.0s
GYA AMB AMB
comp=Z,120nm,6.4s
GYA LR LR
comp=Z,540nm,19.6s
GYA LR LR
comp=Z,480nm,20.2s
GYA LR LR
comp=Z,510nm,21.0s
PSI Prapat 88.75 273 P P 17 22 47.4 -0.9
PSI Prapat 88.75 273 ⇑P P 17 22 48.9 +0.5
baz=89,SNR=4.7
PSI Prapat 88.75 273 P P 17 22 47.4 -0.9
comp=Z,8.3nm,1.0s,baz=208,slow=10,SNR=6.8
DGMT Dagmar 88.92 38 PFAKE 17 23 00.0 +12
DGMT LR LR
comp=Z,2μm,20.0s
GSI Gunungsitoli 89.63 271 ⇑P P 17 22 53.6 +1.3
baz=90
HHC Hu-ho-hao-te 89.88 313 *e*P P 17 22 51.8 -1.2
HHC pP PcP 17 22 56.7 +2.4
HHC sP sP 17 22 59.0 -7.9
HHC PP PP 17 26 26.7 +0.5
HHC SKS SKSac 17 33 20.1 -1.5
HHC S S 17 33 41.8 -1.6
HHC sS ScS 17 33 49.0 +1.4
HHC AMB AMB
comp=Z,35nm,1.0s
HHC AMB AMB
comp=Z,520nm,5.7s
HHC LR LR
comp=Z,760nm,16.6s
HHC LR LR
comp=Z,680nm,16.3s
HHC LR LR
comp=Z,660nm,17.5s
YAK Yakutsk 90.15 337 *e*P P 17 23 02.5 +9.0
YAK pmax pmax
comp=Z,11nm,1.3s
KSU1 Kansas State U 90.20 49 PFAKE 17 23 10.0 +16
KSU1 LR LR
comp=Z,1μm,20.0s
YKA Yellowknife Ar 90.97 23 P P 17 22 56.2 -1.2
YKA Yellowknife Ar 90.97 23 P P 17 22 56.2 -1.2
comp=Z,0.6nm,0.6s,baz=85,slow=8.1,SNR=2.7
JTS JuntasAbangare 91.20 80 PFAKE 17 23 10.0 +10
JTS LR LR
comp=Z,962nm,21.0s
NANT Nan 91.63 289 P P 17 23 04.3 +2.8
SNAA Sanae 91.85 177 *e*P P 17 23 00.7 -0.9
comp=Z,15nm,1.3s
SNAA Sanae 91.85 177 P P 17 23 01.2 -0.5
comp=Z,3.4nm,1.1s,baz=224,slow=1.7,SNR=16
ECSD EROS Data Cent 91.86 45 PFAKE 17 23 10.0 +8.0
ECSD LR LR
comp=Z,1μm,22.0s
CD2 Chengdu 92.52 301 P P 17 23 06.7 +1.3
CD2 AMB AMB
comp=Z,20nm,0.5s
FFC Flin Flon 92.86 33 PFAKE 17 23 20.0 +14
FFC LR LR
comp=Z,563nm,20.0s
MAIT Maitri 92.93 182 *e*P P 17 23 04.1 -2.4
CMAR Chiang Mai Arr 93.13 288 P P 17 23 09.6 +1.2
CMAR Chiang Mai Arr 93.13 288 P P 17 23 09.6 +1.2
comp=Z,2.7nm,0.9s,baz=89,slow=2.5,SNR=17
CMAR LR LR 18 00 55.1
comp=Z,144nm,20.6s,baz=110,slow=33
CHTO Chiang Mai 93.23 289 *e*P P 17 23 08.3 -0.6
CHTO pmax pmax
comp=Z,14nm,1.0s
CHTO MLR MLR
comp=Z,287nm,22.0s
CHTO Chiang Mai 93.23 289 *e*P P 17 23 08.3 -0.6
comp=Z,14nm,1.0s
CHTO LR LR
comp=Z,287nm,22.0s
AGMN Agassiz Nation 93.95 41 PFAKE 17 23 20.0 +8.5
AGMN LR LR
comp=Z,1μm,20.0s
OXF Oxford 94.18 55 PFAKE 17 23 20.0 +7.1
OXF LR LR
comp=Z,1μm,20.0s
ULM Lac du Bonnet 94.62 39 LR LR 17 58 40.3
comp=Z,2μm,22.0s,baz=243,slow=31
LRAL Lakeview Retre 95.69 57 PFAKE 17 23 30.0 +10
LRAL LR LR
comp=Z,740nm,20.0s
BCIP Isla Barro Col 95.74 82 PFAKE 17 23 30.0 +10
BCIP LR LR
comp=Z,354nm,20.0s
SONM Songino Array 95.75 318 LR LR 18 00 51.6
comp=Z,266nm,20.6s,baz=98,slow=32
JFWS Jewell Farm 95.99 47 PFAKE 17 23 30.0 +9.0
JFWS LR LR
comp=Z,1μm,22.0s
HDIL Hopedale 96.00 50 PFAKE 17 23 30.0 +8.9
HDIL LR LR
comp=Z,2μm,20.0s
EYMN Ely 96.61 42 PFAKE 17 23 30.0 +6.3
EYMN LR LR
comp=Z,1μm,20.0s
COWI Conover 97.64 44 PFAKE 17 23 40.0 +12
COWI LR LR
comp=Z,2μm,21.0s
ROSC El Rosal 99.84 88 LR LR 17 59 18.9
comp=Z,366nm,20.6s,baz=204,slow=30
ACSO Alum Creek Sta 100.59 51 PFAKE 17 23 50.0 +8.3
ACSO LR LR
comp=Z,1μm,19.0s
BLA Blacksburg 101.92 55 PFAKE 17 24 00.0 +12
BLA LR LR
comp=Z,1μm,20.0s
GTBY Guantanamo Bay 102.84 73 PFAKE 17 24 00.0 +7.8
GTBY LR LR
comp=Z,336nm,19.0s
ERPA Erie 103.17 50 PFAKE 17 24 00.0 +6.8
ERPA LR LR
comp=Z,1μm,19.0s
CNNC Cliffs of the 103.55 57 PFAKE 17 24 10.0 +15
CNNC LR LR
comp=Z,617nm,20.0s
CBN Corbin 104.47 54 PFAKE 17 24 10.0 +11
CBN LR LR
comp=Z,1μm,22.0s
BINY Binghamton 106.13 50 PFAKE 17 28 30.0
BINY LR LR
comp=Z,1μm,20.0s
GRTK Grand Turk 106.81 72 PFAKE 17 28 30.0
GRTK LR LR
comp=Z,424nm,20.0s
NCB Newcomb 107.62 48 PFAKE 17 28 30.0
NCB LR LR
comp=Z,1μm,21.0s
LBNH Lisbon 109.29 48 PFAKE 17 28 40.0
LBNH LR LR
comp=Z,1μm,22.0s
DGAR Diego Garcia 110.88 255 PFAKE 17 28 40.0
DGAR LR LR
comp=Z,1μm,21.0s
GRGR Grenville 113.78 84 PFAKE 17 28 40.0
GRGR LR LR
comp=Z,160nm,22.0s
BBSR BB Station 114.05 61 PFAKE 17 28 40.0 +6.7
BBSR LR LR
comp=Z,496nm,21.0s
KURK Kurchatov 114.06 319 PFAKE 17 28 40.0 +7.2
KURK LR LR
comp=Z,141nm,21.0s
ANWB Willy Bob 114.76 78 PFAKE 17 28 50.0 +15
ANWB LR LR
comp=Z,253nm,20.0s
KSH Kashi 116.25 306 PKP PKPdf 17 28 40.0 +2.4
KSH PP PP 17 29 47.8 +4.2
KSH PKS PKSdf 17 32 17.6 +3.3
KSH SKKS 17 36 42.8
AAK Ala-Archa 117.31 310 PFAKE 17 28 50.0 +10
AAK LR LR
comp=Z,187nm,21.0s
KBS Kingsbay 117.44 359 PFAKE 17 28 50.0 +11
KBS LR LR
comp=Z,292nm,21.0s
EKS2 Erkin-Say 117.83 310 PFAKE 17 28 50.0 +9.5
EKS2 LR LR
comp=Z,184nm,19.0s
BRVK Borovoye 118.88 322 PFAKE 17 28 50.0 +8.0
BRVK LR LR
comp=Z,283nm,21.0s
KEV Kevo 125.26 352 PFAKE 17 29 00.0 +6.3
KEV LR LR
comp=Z,335nm,19.0s
ARCES ARCESS Array B 125.67 352 PKP PKPdf 17 28 54.1 -0.5
ARCES ARCESS Array B 125.67 352 PKP PKPdf 17 28 54.1 -0.5
comp=Z,2.5nm,0.9s,baz=345,slow=1.4,SNR=8.0
ABPO Ambohimpanom 126.87 230 PFAKE 17 29 10.0 +11
ABPO LR LR
comp=Z,930nm,20.0s
MSEY Mahe Island 127.50 251 PFAKE 17 29 10.0 +10
MSEY LR LR
comp=Z,676nm,22.0s
BORG Borgarnes 128.11 15 PFAKE 17 29 10.0 +11
BORG LR LR
comp=Z,1μm,20.0s
BOSA Boshof 131.78 202 PKP PKPdf 17 29 05.8 -1.9
BOSA Boshof 131.78 202 PKP PKPdf 17 29 05.8 -1.9
comp=Z,3.1nm,0.9s,baz=106,slow=7.4,SNR=4.4
FINES FINESS Array B 133.00 347 PKP PKPdf 17 29 12.5 +3.8
FINES FINESS Array B 133.00 347 PKP PKPdf 17 29 12.5 +3.8
comp=Z,5.6nm,0.9s,baz=66,slow=3.4,SNR=2.7
GNI Garni 139.54 313 PFAKE 17 29 30.0 +8.2
GNI LR LR
comp=Z,179nm,20.0s
ESK Eskdalemuir 140.45 9 PFAKE 17 29 30.0 +7.3
ESK LR LR
comp=Z,749nm,19.0s
AKASG Malin Array Be 141.38 337 PKIKP PKPdf 17 29 25.6 +1.1
AKASG Malin Array Be 141.38 337 PKP PKPdf 17 29 25.6 +1.1
AKASG Malin Array Be 141.38 337 PKP PKPdf 17 29 25.6 +1.1
comp=Z,0.3nm,0.4s,baz=35,slow=4.1,SNR=4.0
KIEV Kiev 141.39 337 PFAKE 17 29 40.0 +15
KIEV LR LR
comp=Z,357nm,21.0s
TSUM Tsumeb 143.02 197 PKP PKPdf 17 29 27.1 -1.5
TSUM Tsumeb 143.02 197 PKP PKPdf 17 29 27.1 -1.5
comp=Z,1.5nm,0.8s,baz=117,slow=4.5,SNR=2.3
LVV L'vov 143.91 341 *e*PKIKP PKPbc 17 29 28.0 +1.2
KWP Kalwaria Pacla 144.48 342 PFAKE 17 29 40.0 +10
KWP LR LR
comp=Z,540nm,22.0s
MALT Malatya 144.74 314 ⇓ *i*P PKPbc 17 29 30.5 +0.5
KSP Ksiaz 144.85 350 *e*PKIKP PKPdf 17 29 32.3 +1.6
CLL Collm 144.87 353 *e*PKIKP PKPab 17 29 29.0 -0.7
CLL *i* 17 29 41.3
CLL MLR MLR
comp=Z,400nm,18.4s
CLL Collm 144.87 353 *e*PKPdf PKPab 17 29 29.0 -0.7
CLL *i* 17 29 41.3
CLL *e*SS SS 17 52 06.0 +33
CLL *e*SSS SSS 17 57 18.0
CLL LmH 18 40 00.0
comp=N,300nm,20.1s
CLL LmH 18 40 00.0
comp=E,300nm,21.8s
CLL LmV 18 43 00.0
comp=Z,400nm,18.4s
STHS Stebnicka Huta 145.09 343 *e*PKIKP PKPdf 17 29 31.1 0.0
STHS *e* 17 29 46.0
STHS Stebnicka Huta 145.09 343 *e*PKP PKPdf 17 29 31.1 0.0
STHS *e* 17 29 46.0
BRG Berggiesshubel 145.18 352 *e*PKP PKPdf 17 29 45.6 +14
comp=Z,39nm,2.0s
BRG
comp=N,311nm,14.2s
BRG
comp=E,248nm,19.4s
BRG
comp=Z,539nm,18.8s
UPC Upice 145.22 350 *e*PKIKP PKPdf 17 29 31.4 +0.1
UPC *e* 17 29 41.4
UPC Upice 145.22 350 *e*PKP PKPdf 17 29 31.4 +0.1
UPC *ex* x 17 29 41.4
KOLS Kolonicke sedl 145.23 342 *e*PKP2 PKPbc 17 29 30.0 -1.0
KOLS Kolonicke sedl 145.23 342 *e*PKP PKPbc 17 29 30.0 -1.0
KOLS *e* 17 29 46.2
KMBO Kilima Mbogo 145.25 243 PKPbc PKPdf 17 29 32.7 -0.1
KMBO *e*PKPdf PKPab 17 29 33.4 +0.8
KMBO LR LR
comp=Z,342nm,21.0s
KMBO Kilima Mbogo 145.25 243 PKPbc PKPdf 17 29 32.7 -0.1
comp=Z,11nm,1.0s,baz=93,slow=2.8,SNR=20
DPC Dobruska-Polom 145.32 349 *i* PKIKP PKPbc 17 29 31.4 +0.1
DPC *e* 17 29 40.9
DPC *e* 17 29 46.9
DPC Dobruska-Polom 145.32 349 *i* PKP PKPbc 17 29 31.4 +0.1
DPC *ex* x 17 29 40.9
DPC *ex* x 17 29 46.9
BUR08 Bucovina Ar. S 145.39 338 *e*PKPdf PKPab 17 29 32.0 +0.1
BURAR Bucovina Array 145.41 338 ⇓ *i*P PKPbc 17 29 31.0 -0.8
PVCC Panska Ves 145.43 351 *e*PKIKP PKPab 17 29 34.8 +3.0
PVCC *e* 17 29 41.5
PVCC MLR MLR
comp=Z,600nm,19.4s
PVCC Panska Ves 145.43 351 *e*PKP PKPab 17 29 34.8 +3.0
PVCC *ex* x 17 29 41.5
PVCC AMS AMS 18 38 40.0
comp=Z,600nm,19.4s
OKC Ostrava-Krasne 145.45 347 *e*PKIKP PKPdf 17 29 31.2 -0.5
OKC *e* 17 29 41.0
OKC *e* 17 29 47.1
OKC Ostrava-Krasne 145.45 347 *e*PKP PKPdf 17 29 31.2 -0.5
OKC *ex* x 17 29 41.0
OKC *ex* x 17 29 47.1
UZH Uzhgorod 145.49 342 *e*PKIKP PKPdf 17 29 31.5 -0.3
UZH *e* 17 29 40.5
UZH *i* 17 29 46.3
MORC Moravsky Berou 145.64 348 *e*PKP2 PKPdf 17 29 31.9 -0.2
MORC Moravsky Berou 145.64 348 ⇑ *i*P PKPdf 17 29 31.7 -0.4
MORC Moravsky Berou 145.64 348 *e*PKPdf PKPdf 17 29 31.9 -0.2
MOX Moxa 145.67 355 *e*L L 18 41 48.3
comp=Z,392nm,19.0s
TESR Tescani 145.78 335 ⇑ *i*P PKPbc 17 29 32.9 0.0
MEM Membach 145.92 1 PKP PKPdf 17 29 32.8 +0.4
PRU Pruhonice 145.96 351 *i* PKP2 PKPbc 17 29 33.2 -0.1
PRU MLR MLR
comp=Z,500nm,20.0s
PRU Pruhonice 145.96 351 *i* PKP PKPbc 17 29 33.2 -0.1
PRU *ex* x 17 29 42.7
PRU *ex* x 17 29 48.9
PRU AMS AMS 18 40 00.0
comp=Z,500nm,20.0s
SNF Seneffe 145.96 3 PKP PKPab 17 29 34.8 +1.0
BCLA Clavier 146.09 2 PKP PKPdf 17 29 33.2 +0.5
CFR Carcaliu 146.22 332 ⇓ *i*P PKPdf 17 29 33.3 +0.2
VRAC Vranov 146.27 348 ⇑ *i*P PKPab 17 29 36.2 +1.2
VRI Vrincioaia 146.27 335 ⇑ *i*P PKPbc 17 29 34.5 +0.1
ROTZ Rotzenmuhle 146.48 354 *e*PKPbc PKPbc 17 29 35.3 +0.4
TREC Trest 146.49 350 *e*PKP2 PKPdf 17 29 33.5 0.0
TREC MLR MLR
comp=Z,500nm,21.4s
TREC Trest 146.49 350 *e*PKP PKPdf 17 29 33.5 0.0
TREC *ex* x 17 29 43.8
TREC *ex* x 17 29 50.4
TREC AMS AMS 18 33 40.0
comp=Z,500nm,21.4s
GRF Grafenberg Arr 146.65 355 *e*PKP2 PKPbc 17 29 35.8 +0.4
GRF MLR MLR
comp=Z,500nm,21.4s
GRF Grafenberg Arr 146.65 355 *e*PKPbc PKPbc 17 29 35.8 +0.4
GRF *e*L L 18 38 35.3
comp=Z,459nm,21.4s
TLB Topalu 146.72 332 ⇑ *i*P PKPab 17 29 44.5 +7.6
DOPR Dopca 146.73 336 ⇓ *i*P PKPab 17 29 39.3 +2.4
PSZ Piszkesteto 146.82 344 ⇑ *i*P PKPdf 17 29 29.4 -4.8
PSZ Piszkesteto 146.82 344 PFAKE 17 29 50.0 +13
PSZ LR LR
comp=Z,353nm,21.0s
SMOL Smolenice 146.86 347 *e*PKP2 PKPab 17 29 38.0 +0.7
SMOL Smolenice 146.86 347 *e*PKP PKPab 17 29 38.0 +0.7
WLF Walferdange 146.87 1 PKP PKPab 17 29 36.3 +0.3
MLR Muntele Rosu 146.90 335 ⇑ *i*P PKPbc 17 29 35.6 -0.8
MLR Muntele Rosu 146.90 335 PKPbc PKPbc 17 29 36.1 -0.2
MLR Muntele Rosu 146.90 335 PKPbc PKPbc 17 29 36.1 -0.2
comp=Z,1.3nm,1.0s,baz=148,slow=6.7,SNR=7.6
KHC Kasperske Hory 146.94 352 *e*PKP2 PKPbc 17 29 35.9 -0.4
KHC MLR MLR
comp=Z,600nm,17.1s
KHC Kasperske Hory 146.94 352 *e*PKP PKPbc 17 29 35.9 -0.4
KHC *ex* x 17 29 45.7
KHC *ex* x 17 29 52.0
KHC AMS AMS 18 38 50.0
comp=Z,600nm,17.1s
KHC Kasperske Hory 146.94 352 *e*PKPdf PKPbc 17 29 35.6 -0.7
DRGR 146.99 340 ⇓ *i*P PKPab 17 29 41.1 +3.1

BR131	**Keskin Array S**	**147.09**	**320**	*e*PKPdf	**PKPdf**	**17**	**29**	**35.9**	**+0.9**
BR131				*e*PKPab	**PKPab**	**17**	**29**	**38.6**	**-0.1**
BRTR	**Keskin Array B**	**147.09**	**320**	PKPbc	**PKPbc**	**17**	**29**	**37.0**	**-0.1**
BRTR	**Keskin Array B**	**147.09**	**320**	PKPbc	**PKPbc**	**17**	**29**	**37.0**	**-0.1**
	comp=Z,8.3nm,0.9s,baz=132,slow=1.7,SNR=27								
GEC2	**GERESS Array S**	**147.20**	**352**	*e*PKP2	**PKPbc**	**17**	**29**	**37.0**	**-0.1**
GEC2	**GERESS Array S**	**147.20**	**352**	*e*PKPbc	**PKPbc**	**17**	**29**	**37.0**	**-0.1**
GERES	**GERESS Array B**	**147.20**	**352**	PKPbc	**PKPbc**	**17**	**29**	**36.4**	**-0.7**
GERES	**GERESS Array B**	**147.20**	**352**	PKPbc	**PKPbc**	**17**	**29**	**36.4**	**-0.7**
	comp=Z,2.2nm,0.8s,baz=28,slow=3.2,SNR=18								
VOIR		**147.30**	**336**	⇓*i*P	**PKPbc**	**17**	**29**	**37.6**	**+0.1**
ANTO	**Ankara**	**147.52**	**321**	*e*PKP2	**PKPbc**	**17**	**29**	**38.7**	**+0.5**
ANTO				MLR	MLR				
	comp=Z,272nm,20.0s								
ANTO	**Ankara**	**147.52**	**321**	*e*PKPbc	**PKPbc**	**17**	**29**	**38.7**	**+0.5**
ANTO				LR	LR				
	comp=Z,272nm,20.0s								
ARR	**Arges**	**147.52**	**336**	⇑*i*P	**PKPbc**	**17**	**29**	**38.7**	**+0.7**
CONA	**Conrad Observa**	**147.73**	**349**	⇑*i*sPKPdf	**PKPbc**	**17**	**29**	**38.5**	**0.0**
	comp=Z,15nm,1.6s								
BFO	**Black Forest**	**148.18**	**358**	*e*PKIKP	**PKPdf**	**17**	**29**	**37.7**	**+1.3**
BFO				MLR	MLR				
	comp=Z,496nm,22.0s								
BFO	**Black Forest**	**148.18**	**358**	*e*PKPbc	**PKPbc**	**17**	**29**	**39.6**	**-0.1**
BFO	**Black Forest**	**148.18**	**358**	*e*PKPdf	**PKPdf**	**17**	**29**	**37.7**	**+1.3**
BFO				LR	LR				
	comp=Z,496nm,22.0s								
GZR	**Gura Zlata**	**148.18**	**338**	⇑*i*P	**PKPab**	**17**	**29**	**46.1**	**+3.4**
ECH	**Echery**	**148.32**	**360**	*e*PKIKP	**PKPdf**	**17**	**29**	**37.3**	**+0.7**
ECH				MLR	MLR				
	comp=Z,558nm,21.0s								
ECH	**Echery**	**148.32**	**360**	*e*PKPdf	**PKPdf**	**17**	**29**	**37.3**	**+0.7**
ECH				LR	LR				
	comp=Z,558nm,21.0s								
BZS	**Buzias**	**148.38**	**340**	⇑*i*P	**PKPbc**	**17**	**29**	**39.2**	**-1.0**
RJOB	**Jochberg**	**148.41**	**352**	*e*PKPbc	**PKPbc**	**17**	**29**	**40.4**	**+0.1**
ASF	**Jabal al Asfar**	**148.57**	**305**	PKPbc	**PKPbc**	**17**	**29**	**41.4**	**+0.1**
ASF	**Jabal al Asfar**	**148.57**	**305**	PKPbc	**PKPbc**	**17**	**29**	**41.4**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=49,slow=4.0,SNR=4.8								
PERS	**Pernice**	**149.12**	**349**	*e*PKPbc	**PKPab**	**17**	**29**	**49.8**	**+3.4**
MMAI	**Mount Meron Ar**	**149.37**	**308**	PKPbc	**PKPbc**	**17**	**29**	**42.2**	**-1.0**
MMAI	**Mount Meron Ar**	**149.37**	**308**	PKPbc	**PKPbc**	**17**	**29**	**42.2**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=56,slow=5.4,SNR=3.0								
ABTA	**Abfaltersbach**	**149.42**	**352**	⇓*i*PKIKP	**PKPbc**	**17**	**29**	**42.4**	**-0.5**
	comp=Z,6.2nm,1.0s								
DAVOX	**Davos/Dischmat**	**149.65**	**356**	PKPbc	**PKPbc**	**17**	**29**	**43.2**	**-0.4**
DAVOX	**Davos/Dischmat**	**149.65**	**356**	PKPbc	**PKPbc**	**17**	**29**	**43.2**	**-0.4**
	comp=Z,4.0nm,0.8s,baz=327,slow=9.8,SNR=6.5								
CSS	**Prodhromos**	**149.97**	**313**	*e*PKPdf	**PKPdf**	**17**	**29**	**39.8**	**+0.1**
CSS				LR	LR				
	comp=Z,254nm,20.0s								
TUE	**Stuetta**	**149.99**	**356**	*e*PKPdf	**PKPdf**	**17**	**29**	**40.0**	**+0.4**
TUE				*e*PKPbc	**PKiKP**	**17**	**29**	**46.3**	**+0.9**
JAVS	**Javornik**	**150.02**	**350**	*i* PKPdf	**PKPbc**	**17**	**29**	**44.3**	**-0.2**
ISP	**Isparta**	**150.18**	**320**	PFAKE		17	29	50.0	-1.2
ISP				LR	LR				
	comp=Z,378nm,20.0s								
BOJS	**Bojanci**	**150.18**	**348**	*i* PKPdf	**PKPbc**	**17**	**29**	**44.5**	**-0.2**
VTS	**Vitosha**	**150.41**	**335**	⇓*i*P	**PKPbc**	**17**	**29**	**43.9**	**-1.7**
MBAR	**Mbarara**	**150.94**	**237**	PFAKE		17	29	50.0	+2.3
MBAR				LR	LR				
	comp=Z,639nm,20.0s								
EIL	**Elat**	**151.04**	**302**	PKPab	**PKPab**	**17**	**29**	**55.4**	**+0.5**
EIL	**Elat**	**151.04**	**302**	PKPab	**PKPab**	**17**	**29**	**55.4**	**+0.5**
	comp=Z,7.3nm,1.0s,baz=5.6,slow=4.8,SNR=5.0								
SSB	**Saint Sauveur**	**151.19**	**3**	*e*PKIKP	**PKPdf**	**17**	**29**	**42.9**	**+1.6**
SSB				*e*		17	29	47.2	
SSB				*e*		17	29	54.5	
SSB	**Saint Sauveur**	**151.19**	**3**	*e*PKPdf	**PKPdf**	**17**	**29**	**42.9**	**+1.6**
SSB				*e*PKPbc	**PKPbc**	**17**	**29**	**47.2**	**0.0**
SSB				*e*PKPab	**PKPab**	**17**	**29**	**54.5**	**-0.5**
BNI	**Bardonecchia**	**151.48**	**0**	*e*PKIKP	**PKPdf**	**17**	**29**	**43.7**	**+1.8**
BNI				*e*		17	29	56.6	
BNI				MLR	MLR				
	comp=Z,873nm,19.0s								
BNI	**Bardonecchia**	**151.48**	**0**	*e*PKPdf	**PKPdf**	**17**	**29**	**43.6**	**+1.8**
BNI				*e*PKPab	**PKPab**	**17**	**29**	**56.5**	**+0.2**
BNI				LR	LR				
	comp=Z,873nm,19.0s								
MTE	**Manteigas**	**153.08**	**25**	PFAKE		17	30	00.0	-3.1
MTE				LR	LR				
	comp=Z,581nm,20.0s								
ESDC	**Sonseca Array**	**155.03**	**20**	PKPbc	PKPdf	17	29	57.4	+10
ESDC				PKPab	**PKPab**	**17**	**30**	**11.2**	**-0.1**
ESDC	**Sonseca Array**	**155.03**	**20**	PKPbc	PKPdf	17	29	57.4	+10
	comp=Z,0.1nm,0.4s,baz=13,slow=2.0,SNR=4.7								
ESDC				PKPab	**PKPab**	**17**	**30**	**11.2**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=315,slow=3.1,SNR=5.7								
CUC	**Castrocucco**	**155.26**	**343**	PFAKE		17	30	00.0	-12
CUC				LR	LR				
	comp=Z,295nm,20.0s								
CEL	**Celeste**	**156.85**	**342**	PFAKE		17	30	00.0	+10
CEL				LR	LR				
	comp=Z,284nm,20.0s								
DBIC	**Dimbokro**	**165.01**	**129**	PKPab	**PKPab**	**17**	**30**	**56.1**	**+0.7**
DBIC	**Dimbokro**	**165.01**	**129**	PKPab	**PKPab**	**17**	**30**	**56.1**	**+0.7**
	comp=Z,2.9nm,1.0s,baz=168,slow=4.7,SNR=3.4								
TORD	**Torodi Ar. Bea**	**174.06**	**123**	PKP	**PKPdf**	**17**	**30**	**02.0**	**-2.2**
TORD				PKPab	**PKPab**	**17**	**31**	**35.4**	**-0.2**
TORD	**Torodi Ar. Bea**	**174.06**	**123**	PKP	**PKPdf**	**17**	**30**	**02.0**	**-2.2**
	comp=Z,0.6nm,0.9s,baz=237,slow=2.1,SNR=3.1								
TORD				PKPab	**PKPab**	**17**	**31**	**35.4**	**-0.2**
	comp=Z,1.9nm,1.0s,baz=279,slow=3.6,SNR=3.6								

IDC 04 17:19:19.0±5.1, 16°.09S×172°.50W, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/19, mbtmp3.7/4, Error ellipse: s-maj=237.0km s-min=33.4km az=136.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.27**	**18**	Pn	Pn	17 19 51.9	-6.0
	9.5nm,0.3s,baz=181,slow=7.8,SNR=9.8						
AFI				Sn	Sn	17 20 19.4	-7.3
	49nm,0.3s,baz=47,slow=19,SNR=8.9						
STKA	**Stephens Creek**	**44.46**	**241**	P	P	17 27 32.8	+0.6
	0.6nm,0.4s,baz=107,slow=11,SNR=4.0						
WRA	**Warramunga Arr**	**50.54**	**257**	P	P	17 28 19.7	0.0
	0.4nm,0.8s,baz=96,slow=6.1,SNR=3.8						
ASAR	**Alice Springs**	**50.73**	**252**	P	P	17 28 19.9	-1.1
	0.6nm,0.5s,baz=89,slow=7.7,SNR=23						
ILAR	**Eielson Array**	**82.95**	**11**	P	P	17 31 44.8	-0.7
	0.4nm,0.8s,baz=228,slow=5.7,SNR=4.4						
BRTR	**Keskin Array B**	**147.23**	**321**	PKPbc	PKPbc	17 39 05.3	+0.4
	0.8nm,0.9s,baz=88,slow=4.8,SNR=3.7						

IDC 04 17:28:34.2±3.9, 23°.01N×11°.49W, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.5/25, mbtmp3.7/4, ML3.1/1, Error ellipse: s-maj=116.0km s-min=43.5km az=81.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDT	**Midelt**	**11.50**	**30**	Lg	Lg	17 34 47.1	
	0.2nm,0.3s,baz=321,slow=15,SNR=4.0						
TORD	**Torodi Ar. Bea**	**15.91**	**126**	Pn	Pn	17 32 19.8	+0.2
	0.1nm,0.3s,baz=314,slow=14,SNR=2.9						
TORD				Sn	Sn	17 35 11.0	-5.7
	0.1nm,0.3s,baz=301,slow=20,SNR=3.6						
TORD				Lg	Lg	17 37 10.9	
	0.0nm,0.3s,baz=322,slow=27,SNR=2.7						
GERES	**GERESS Array B**	**32.59**	**31**	P	P	17 35 06.4	-1.0
	0.6nm,0.8s,baz=220,slow=8.6,SNR=4.0						
FINES	**FINESS Array B**	**46.23**	**24**	P	P	17 37 01.2	+0.4
	5.8nm,1.0s,baz=198,slow=5.4,SNR=3.4						
MKAR	**Makanchi Array**	**76.08**	**45**	P	P	17 40 24.3	+0.6
	0.2nm,0.5s,baz=299,slow=6.8,SNR=4.7						
ASAR	**Alice Springs**	**148.27**	**98**	PKPbc	PKPbc	17 48 22.0	-1.0
	0.4nm,0.7s,baz=300,slow=1.7,SNR=8.5						

BER 04 17:50:30.5±0.9, 71°.15N×8°.14W, h10km, MD3.0, ML3.7, 2C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNW	**Jan Mayen West**	**0.15**	**218**	⇑*i*P	Pg	17 50 33.7	-0.2
JNW				*e*S	Sg	17 50 35.2	-1.0
JNW				AML	AML	17 50 45.3	
	comp=Z,20μm,0.4s						
JNE	**Jan Mayen East**	**0.17**	**198**	⇑*i*P	Pg	17 50 34.0	-0.1
JNE				AML	AML	17 50 46.9	
	comp=Z,16μm,0.6s						
JMI	**Jan Mayen**	**0.29**	**221**	*e*P	Pg	17 50 35.8	-0.6
JMI				*e*S	Sg	17 50 40.5	+0.1
JMI				AML	AML	17 50 41.7	
	comp=Z,3μm,0.4s						

*BKK **04** 17:51:48.4±0.4, 6°.5S×14°.8E±°, h10km, M5.6/10, mB5.4/3, mb5.2/10, MLv5.9/1, Mw(mB)4.8/3*

*BJI **04** 17:51:50.7, 5°.94S×147°.90E, h77km, mB5.3/23, mb4.9/21, Ms5.2/13, Ms7 4.8/12*

*AUST **04** 17:51:52.2±0.6, 5°.85S×147°.56E, h62km±6km, Error ellipse: s-maj=8.6km s-min=4.8km az=97.0*

*ISCJB **04** 17:51:53.0±1.0, 5°.95S±0°.03×147°.65E±0°.04, h84km±9km, mb4.9/47, Error ellipse: s-maj=7.5km s-min=5.5km az=166.6*

*IDC **04** 17:51:54.9±0.5, 5°.98S×147°.46E, h84km±4km, mb4.4/15, mb1 4.6/19, mb1mx4.6/21, mbtmp4.5/19, MS3.9/15, Ms1 3.9/15, ms1mx3.8/27, Error ellipse: s-maj=14.1km s-min=7.3km az=95.0*

*NEIC **04** 17:51:54.4±1.1, 5°.95S×147°.56E, h84km±10km, mb5.1/25, Error ellipse: s-maj=7.5km s-min=7.0km az=46.0*

*GCMT **04** 17:51:57.4±0.3, 6°.06S×147°.63E, h77km±3km, MW5.0, Moment Tensor Solution. s21,c26; s60,c97; Moment tensor: Scale 10^16Nm; Mrr1.74±.21; Mθθ-4.26±.14; Mφφ2.52±.20; Mrθ0.11±.12; Mrφ0.52±.16; Mθφ-2.24±.13; Best double couple: M₀4.40000×10^16 NP1:φs132.00000°, δ65.00000°, λ147.00000°. NP2:φs237.00000°, δ61.00000°, λ29.00000°. Principal axes: T 4.4200, Plg40.0000°, Azm93.0000°; N -0.1000, Plg50.0000°, Azm279.0000°; P -4.3100, Plg3.0000°, Azm185.0000°; Data Used: IC G IU II CN.*

*DJA **04** 17:52:02.0±1.1, 7°.5S×147°.7E±1°.1, h54km±7km, M5.0/19, mB5.4/12, mb5.1/19, MLv5.3/2, Mw(mB)4.8/12*

ISC 04 17:51:54.5±0.3, 6°.07S±0°.04×147°.60E±0°.05, h77km±2km, h77km:pP-P, n162, σ1s68/200, mb4.9/46, 14C-8D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.34**	**188**	P	Pn	**17 52 45.3**	**+0.8**
PMG	**Port Moresby**	**3.34**	**188**	*e*Pn	Pn	**17 52 45.2**	**+0.8**
PMG				*e*Sn	Sn	**17 53 22.4**	**-0.6**
PMG				S	Sn	**17 53 25.9**	**+2.8**
PMG	**Port Moresby**	**3.34**	**188**	P	Pn	**17 52 45.2**	**+0.8**
	113nm,0.3s,baz=12,slow=5.5,SNR=430						
PMG				S	Sn	**17 53 25.9**	**+2.8**
	279nm,0.3s,baz=25,slow=22,SNR=11						
JAY	**Jayapura**	**7.73**	**297**	P	Pn	**17 53 46.6**	**+2.2**
	60nm,1.2s,3μm0.5nm						
COEN	**Coen**	**8.97**	**209**	*e*Pn	Pn	**17 54 01.3**	**+0.1**
COEN				*e*Sn	Sn	**17 55 36.3**	**-4.4**
COEN	**Coen**	**8.97**	**209**	⇑P	Pn	**17 54 01.2**	**-0.1**
	baz=9.2,SNR=214						
SRPI	**Serui, Papua**	**12.08**	**290**	P	Pn	**17 54 44.3**	**+0.6**
	76nm,0.8s						
HNR	**Honiara**	**12.68**	**106**	P	Pn	**17 54 54.0**	**+2.2**
HNR	**Honiara**	**12.68**	**106**	P	Pn	**17 54 54.0**	**+2.2**
	2.8nm,0.3s,baz=201,slow=5.1,SNR=19						
HNR				LR	LR	17 59 12.2	
	comp=Z,295nm,19.3s,baz=237,slow=34						
CTA	**Charters Tower**	**14.00**	**185**	P	Pn	**17 55 11.5**	**+2.2**
CTA	**Charters Tower**	**14.00**	**185**	⇑P	Pn	**17 55 11.6**	**+2.3**
	baz=14						
CTA	**Charters Tower**	**14.00**	**185**	P	Pn	**17 55 11.5**	**+2.2**
	1.1nm,0.3s,baz=4.7,slow=14,SNR=31						
CTAO	**Charters Tower**	**14.00**	**185**	*e*Pn	Pn	**17 55 09.4**	**+0.1**
KDU	**Kakadu**	**16.30**	**245**	⇑P	Pn	**17 55 37.6**	**-1.2**
	baz=16,SNR=60						
SWI	**Sorong**	**17.11**	**287**	P	P	**17 55 49.6**	**+0.3**
	62nm,1.0s,2μm						
WRAB	**Tennant Creek**	**18.86**	**222**	P	P	**17 56 08.0**	**-0.6**
	924nm,0.8s,SNR=69						
WRAB	**Tennant Creek**	**18.86**	**222**	*e*P	P	**17 56 08.7**	**+0.1**
	117nm,0.8s						
WRA	**Warramunga Arr**	**18.88**	**222**	P	P	**17 56 08.2**	**-0.6**
WRA				S	S	**17 59 36.6**	**-2.7**
WRA	**Warramunga Arr**	**18.88**	**222**	P	P	**17 56 08.2**	**-0.6**
	9.5nm,0.3s,baz=46,slow=11,SNR=160						
WRA				S	S	**17 59 36.6**	**-2.7**
	0.6nm,0.3s,baz=43,slow=20,SNR=5.0						
WRA				LR	LR	18 03 55.4	
	comp=Z,234nm,21.5s,baz=105,slow=38						
EIDS	**Eidsvold**	**19.48**	**171**	*e*P	Pn	**17 56 17.4**	**+0.2**
	263nm,1.0s						
EIDS	**Eidsvold**	**19.48**	**171**	⇓P	Pn	**17 56 18.0**	**+0.8**
	baz=20,SNR=77						
AAI	**Ambon**	**19.48**	**276**	P	Pn	**17 56 18.3**	**+1.0**
	78nm,0.8s,985nm						
RMQ	**Roma**	**20.33**	**177**	⇓P	Pn	17 56 27.0	-0.2
	baz=21,SNR=126						
NLAI	**Namlea**	**20.63**	**277**	P	Pn	17 56 29.5	-1.3
	47nm,0.8s						
QLP	**Quilpie**	**20.65**	**189**	⇑P	Pn	17 56 29.9	-1.0
	baz=21,SNR=146						
LBMI	**Labuha**	**20.77**	**284**	P	pP	17 56 46.7	+1.5
	1μm81nm,1.0s						
KNRA	**Kununurra**	**20.80**	**241**	⇓P	P	**17 56 28.8**	**-0.8**
	baz=21,SNR=51						
AS06	**Alice Springs**	**21.85**	**215**	⇑P	P	**17 56 41.8**	**+0.9**
	baz=22						
AS31	**Alice Springs**	**21.90**	**216**	*e*P	P	**17 56 42.1**	**+0.6**
ASAR	**Alice Springs**	**21.91**	**216**	P	P	**17 56 42.1**	**+0.7**
ASAR				S	S	**18 00 36.5**	**-2.8**
ASAR				ScP	ScP	**18 04 09.5**	**+0.7**
ASAR	**Alice Springs**	**21.91**	**216**	P	P	**17 56 42.1**	**+0.7**
	31nm,0.6s,baz=45,slow=9.1,SNR=641						
ASAR				S	S	**18 00 36.5**	**-2.8**
	7.8nm,0.9s,baz=50,slow=1.1,SNR=6.2						
ASAR				ScP	ScP	**18 04 09.5**	**+0.7**
	2.1nm,0.9s,baz=64,slow=2.4,SNR=5.0						
ASAR				LR	LR	18 06 29.5	
	comp=Z,202nm,20.6s,baz=37,slow=40						
SOEI	**Soe**	**23.40**	**260**	P	P	**17 56 57.4**	**+0.4**
	102nm,1.1s,2μm						
SOEI	**Soe**	**23.40**	**260**	⇑P	P	**17 56 57.3**	**+0.3**
	baz=23,SNR=15						
BATI	**Baumata**	**24.05**	**259**	P	P	**17 57 03.8**	**+1.1**
	54nm,0.9s						
BATI	**Baumata**	**24.05**	**259**	P	P	**17 57 02.4**	**-0.2**
BATI	**Baumata**	**24.05**	**259**	P	P	**17 57 02.4**	**-0.2**
	62nm,0.7s,baz=101,slow=1.8,SNR=17						
DZM	**Mont Dzumac**	**24.18**	**133**	P	P	**17 57 04.8**	**+0.9**
	4.7nm,0.9s						
DZM	**Mont Dzumac**	**24.18**	**133**	P	P	**17 57 04.8**	**+0.9**
	64nm,0.7s,baz=320,slow=6.7,SNR=43						
ARMA	**Armidale**	**24.52**	**172**	*e*P	P	**17 57 06.1**	**-0.7**
	73nm,0.7s						
ARMA	**Armidale**	**24.52**	**172**	⇓P	P	**17 57 09.0**	**+2.1**
	baz=25,SNR=72						
FITZ	**Fitzroy Crossi**	**24.54**	**239**	*e*P	P	**17 57 07.2**	**+0.2**
	101nm,0.6s						
FITZ	**Fitzroy Crossi**	**24.54**	**239**	⇓P	P	**17 57 08.0**	**+0.9**
	baz=25,SNR=452						
FITZ	**Fitzroy Crossi**	**24.54**	**239**	P	P	**17 57 07.6**	**+0.5**
	97nm,0.5s,baz=58,slow=7.4,SNR=195						
FITZ				LR	LR	18 07 03.9	
	comp=Z,216nm,19.6s,baz=167,slow=37						
LUWI	**Luwuk**	**25.27**	**280**	P	pP	17 57 30.0	-1.7
	1μm138nm,1.2s						
MMRI	**Maumere**	**25.28**	**263**	P	P	**17 57 15.2**	**+1.3**
	68nm,1.1s,685nm						
MMRI	**Maumere**	**25.28**	**263**	*e*P	P	**17 57 14.8**	**+0.9**
	53nm,0.8s						
CMSA	**Cobar Meteorol**	**25.40**	**184**	⇑P	P	**17 57 16.6**	**+1.9**
	baz=26,SNR=28						
STKA	**Stephens Creek**	**26.28**	**192**	*e*P	P	**17 57 23.9**	**+1.1**
	52nm,1.8s						
STKA	**Stephens Creek**	**26.28**	**192**	⇓P	P	**17 57 23.7**	**+1.0**
	baz=27,SNR=35						
STKA	**Stephens Creek**	**26.28**	**192**	P	P	**17 57 24.1**	**+1.4**
	48nm,0.9s,baz=4.5,slow=9.6,SNR=43						
STKA				LR	LR	18 07 50.4	
	comp=Z,371nm,18.0s,baz=18,slow=36						
KAPI	**Kappang**	**27.74**	**271**	*e*P	P	**17 57 36.5**	**+0.4**
YNG	**Young**	**28.10**	**179**	⇑P	P	**17 57 41.3**	**+2.3**
	baz=28,SNR=34						
HTT	**Hallett**	**28.39**	**195**	⇑P	P	**17 57 43.3**	**+1.6**
	baz=29						
BBOO	**Buckleboo**	**28.70**	**201**	*e*P	P	**17 57 43.0**	**-1.3**
	797nm,1.1s						
BBOO	**Buckleboo**	**28.70**	**201**	⇓P	P	**17 57 45.2**	**+0.9**
	baz=29,SNR=5.1						
CAN	**Canberra**	**29.14**	**178**	*e*P	P	**17 57 47.8**	**-0.4**
	13nm,0.8s						
FORT	**Forrest**	**30.68**	**214**	*e*P	P	**17 58 01.3**	**-0.5**
	61nm,0.8s						
FORT	**Forrest**	**30.68**	**214**	⇑P	P	**17 58 02.4**	**+0.5**
	baz=31,SNR=14						
H11S3	**WAKE ISLAND Hy**	**30.82**	**37**	T	T	18 30 47.2	
	baz=217,slow=0.7,SNR=3.6						
H11S2	**WAKE ISLAND Hy**	**30.83**	**37**	T	T	18 30 30.1	
	baz=217,slow=0.7,SNR=2.2						
H11S1	**WAKE ISLAND Hy**	**30.84**	**37**	T	T	18 31 07.3	
	baz=217						
MBWA	**Marble Bar**	**30.88**	**238**	*e*P	P	**17 58 02.6**	**-1.2**
	14nm,0.7s						
ARPS	**Mount Arapiles**	**31.01**	**189**	⇑P	P	**17 58 06.1**	**+1.4**
	baz=31						
H11N1	**WAKE ISLAND Hy**	**31.89**	**36**	T	T	18 32 33.2	
	baz=224						
H11N3	**WAKE ISLAND Hy**	**31.90**	**36**	T	T	18 32 15.0	
	baz=224						
H11N2	**WAKE ISLAND Hy**	**31.91**	**36**	T	T	18 32 26.0	
	baz=224						
MSVF	**Nonsavu**	**31.91**	**114**	*e*P	P	**17 58 11.2**	**-1.8**
MEEK	**Meekatharra**	**34.37**	**230**	⇑P	P	**17 58 35.1**	**+0.8**
	baz=34,SNR=40						
UGM	**Wanagama**	**36.84**	**265**	*e*P	P	**17 58 56.3**	**+0.7**
	392nm,1.5s						
KLBR	**Kellerberrin**	**37.74**	**224**	⇓P	P	**17 59 02.9**	**-0.1**
	baz=38,SNR=79						
NWAO	**Narrogin (SRO)**	**38.88**	**223**	*e*P	P	**17 59 12.8**	**+0.3**
NWAO	**Narrogin (SRO)**	**38.88**	**223**	P	P	**17 59 12.4**	**-0.1**
	30nm,1.0s,baz=42,slow=7.5,SNR=12						
NWAO				LR	LR	18 16 55.6	
	comp=Z,287nm,19.6s,baz=99,slow=39						
SSLB	**Suanglung**	**39.46**	**320**	*e*P	P	**17 59 16.9**	**-0.6**
	272nm,2.1s						
RAO	**Raoul Island**	**39.88**	**130**	LR	LR	18 12 58.3	
	comp=Z,336nm,19.8s,baz=351,slow=32						
RKGY	**Rocky Gully**	**40.07**	**221**	⇑P	P	**17 59 23.1**	**+0.7**
	baz=40,SNR=12						
KNTN	**Kanton**	**40.68**	**87**	*e*P	P	**17 59 28.6**	**+0.9**
	120nm,0.8s						
AFI	**Afiamalu**	**40.70**	**104**	LR	LR	18 14 04.5	
	comp=Z,92nm,21.1s,baz=206,slow=32						
URZ	**Urewera**	**41.75**	**144**	*e*P	P	**17 59 36.9**	**+0.8**
	736nm,2.8s						
JNU	**Nakatsue**	**42.09**	**339**	*e*P	P	**17 59 38.8**	**-0.2**
JNU	**Nakatsue**	**42.09**	**339**	P	P	**17 59 38.6**	**-0.4**
	11nm,0.8s,baz=132,slow=4.5,SNR=6.1						
RPZ	**Rata Peaks**	**42.79**	**155**	*e*P	P	**17 59 46.2**	**+1.7**
	430nm,2.4s						
RPZ	**Rata Peaks**	**42.79**	**155**	LR	LR	18 14 53.7	
	comp=Z,584nm,19.2s,baz=344,slow=32						
KHZ	**Kahutara**	**42.88**	**152**	*e*P	P	**17 59 45.7**	**+0.5**
	301nm,1.8s						
BFZ	**Birch Farm**	**42.95**	**148**	*e*P	P	**17 59 46.6**	**+0.7**
	126nm,1.2s						
MAJO	**Matsushiro**	**43.29**	**349**	*e*P	P	**17 59 45.8**	**-2.8**
	54nm,1.5s						
MAT	**Matsushiro**	**43.29**	**349**	P	P	**17 59 46.7**	**-1.9**
MAT				S	S	**18 06 07.6**	**-2.8**
QIZ	**Qiongzhong**	**44.79**	**305**	P	P	**18 00 01.1**	**+0.2**
QIZ				S	S	**18 06 34.2**	**+1.6**
NJ2	**Nanjing**	**46.77**	**326**	*e*P	P	18 00 12.6	-3.7
NJ2				S	S	**18 07 05.5**	**+4.8**
NJ2				AMB	AMB		
	comp=Z,20nm,1.1s						
NJ2				LR	LR		
	comp=N,3μm,17.1s						
NJ2				LR	LR		
	comp=E,950nm,27.0s						
NJ2				LR	LR		
	comp=Z,2μm,22.2s						
KSRS	**Korea Array**	**47.03**	**339**	P	P	**18 00 17.5**	**-0.7**
	3.3nm,0.8s,baz=157,slow=9.1,SNR=15						
KSRS				pP	**pP**	**18 00 37.8**	**+0.5**
	1.0nm,0.6s,baz=158,slow=9.2,SNR=2.8						
KSRS				LR	LR	18 18 36.8	
	comp=Z,99nm,19.0s,baz=152,slow=34						
KSAR	**Wonju Array Be**	**47.04**	**338**	P	P	**18 00 17.5**	**-0.7**
KSAR				pP	**pP**	**18 00 37.8**	**+0.4**
USRK	**Ussuriysk Arra**	**51.98**	**346**	P	P	**18 00 53.6**	**-2.1**
	4.5nm,0.8s,baz=171,slow=9.1,SNR=7.3						
USRK				pP	**pP**	**18 01 15.0**	**-0.1**
	2.2nm,0.7s,baz=133,slow

comp=Z,70nm,19.8s,baz=343,slow=32
WMQ Urumqi 73.24 319 *e*P **P** **18 03 19.4 +2.0**
MKAR Makanchi Array 77.93 320 P **P** **18 03 41.9 -2.3**
MKAR PKKPbc **PKKPbc** **18 22 44.5 -2.3**
MKAR Makanchi Array 77.93 320 P **P** **18 03 41.9 -2.3**
2.3nm,0.8s,baz=130,slow=4.8,SNR=18
MKAR PKKPbc **PKKPbc** **18 22 44.5 -2.3**
0.6nm,0.8s,baz=321,slow=1.7,SNR=5.2
ZALV Zalesovo Beam 79.39 328 P **P** **18 03 49.1 -2.8**
ZALV pP **pP** **18 04 12.6 -0.1**
ZALV PKKPbc **PKKPbc** **18 22 40.8 -3.0**
ZALV P'P' 18 30 47.8
ZALV Zalesovo Beam 79.39 328 P **P** **18 03 49.1 -2.8**
1.4nm,0.5s,baz=123,slow=6.9,SNR=9.1
ZALV pP **pP** **18 04 12.6 -0.1**
1.9nm,0.7s,baz=110,slow=5.9,SNR=3.1
ZALV PKKPbc **PKKPbc** **18 22 40.8 -3.0**
0.3nm,0.4s,baz=328,slow=5.1,SNR=3.6
ZALV PKPPKP **P'P'df** **18 30 47.8 +3.6**
0.2nm,0.3s,baz=308,slow=4.9,SNR=3.8
KSH Kashi 79.87 312 *e*P **P** **18 03 57.5 +2.4**
KSH pP **pP** **18 04 17.4 +1.6**
KSH sP **sP** **18 04 27.9 +3.7**
KSH S **S** **18 13 53.7 +1.1**
KSH SKS **SKSac** **18 14 02.1 -3.6**
KSH ScS **ScS** **18 14 11.8 -1.4**
KSH sS **sS** **18 14 27.2 -0.7**
KSH AMB AMB
comp=Z,62nm,4.3s
KSH LR LR
comp=N,110nm,5.2s
KSH LR LR
comp=E,200nm,4.6s
KSH LR LR
comp=Z,170nm,5.5s
TKM2 Tokmak 2 81.12 315 *e*P **P** **18 04 00.9 -0.9**
3.4nm,0.9s
KURK Kurchatov 81.62 323 *e*P **P** **18 04 01.9 -2.1**
2.4nm,1.0s
AAK Ala-Archa 81.82 314 *e*P **P** **18 04 04.7 -0.7**
1.8nm,0.6s
EKS2 Erkin-Say 82.33 314 *e*P **P** **18 04 05.3 -2.8**
3.8nm,0.9s
MAW Mawson 82.41 203 P **P** **18 04 07.3 -0.5**
MAW Mawson 82.41 203 P **P** **18 04 07.3 -0.5**
4.9nm,0.7s,baz=107,slow=6.2,SNR=18
IM04 Indian Mountai 83.33 21 *e*P **P** **18 04 11.9 -0.7**
KKAR Karatay Array 84.77 314 *e*P **P** **18 04 18.7 -1.7**
6.4nm,1.1s
COLA College 84.98 23 *e*P **P** **18 04 18.8 -2.1**
21nm,0.8s
COLD Coldfoot 85.19 20 *e*P **P** **18 04 19.6 -2.3**
6.8nm,0.9s
ILAR Eielson Array 85.31 23 P P 18 04 19.4 -3.3
ILAR pP pP 18 04 45.0 +1.4
ILAR Eielson Array 85.31 23 P P 18 04 19.4 -3.3
5.1nm,0.8s,baz=251,slow=4.8,SNR=39
ILAR pP pP 18 04 45.0 +1.4
2.9nm,0.8s,baz=255,slow=4.6,SNR=5.4
EGAK Eagle 87.58 24 *e*P **P** **18 04 32.1 -1.6**
11nm,1.4s
HYT Haines Junctio 87.97 28 *e*P **P** **18 04 33.1 -2.7**
DAWY Dawson 88.08 25 *e*P **P** **18 04 33.4 -2.8**
SYO Syowa Base 90.73 200⇑*e*P **P** **18 04 47.2 -1.3**
NVAR Mina Array Bea 96.94 52 P **P** **18 05 16.9 -1.1**
NVAR PP **PP** **18 09 13.5 -0.8**
NVAR Mina Array Bea 96.94 52 P **P** **18 05 16.9 -1.1**
1.1nm,0.9s,baz=275,slow=7.3,SNR=5.7
NVAR PP **PP** **18 09 13.5 -0.8**
0.1nm,0.3s,baz=285,slow=6.9,SNR=4.2
PDAR Pinedale Array 103.52 48 Pdiff **Pdif** **18 05 46.5 -0.8**
0.8nm,0.8s,baz=240,slow=5.0,SNR=5.3
TXAR Lajitas Array 109.27 61 PKiKP **PKiKP** **18 10 17.1 +0.6**
TXAR PP **PP** **18 10 46.3 -0.3**
TXAR Lajitas Array 109.27 61 PKiKP **PKiKP** **18 10 17.1 +0.6**
0.3nm,0.6s,baz=340,slow=3.3,SNR=4.3
TXAR PP **PP** **18 10 46.3 -0.3**
0.3nm,0.9s,baz=274,slow=5.9,SNR=3.6
AKASG Malin Array Be 112.44 323 PKKPbc PKKPbc 18 21 10.5 -2.8
0.1nm,0.2s,baz=260,slow=4.4,SNR=4.5
KOLS Kolonicke sedl 117.27 323 *e*PKP **PKPdf** **18 10 31.9 +0.9**
STHS Stebnicka Huta 117.68 324 *e*PKP **PKPdf** **18 10 31.2 -0.6**
PLCA Paso Flores 121.73 146 PKP **PKPdf** **18 10 38.8 -1.2**
PLCA Paso Flores 121.73 146 PKP **PKPdf** **18 10 38.8 -1.2**
5.0nm,0.8s,baz=208,slow=3.0,SNR=6.8
GERES GERESS Array B 122.30 326 PKP **PKPdf** **18 10 39.1 -1.7**
GERES PKKPbc **PKKPab** **18 20 36.6 -0.4**
GERES GERESS Array B 122.30 326 PKP **PKPdf** **18 10 39.1 -1.7**
0.6nm,0.7s,baz=119,slow=1.7,SNR=6.3
GERES PKKPbc **PKKPab** **18 20 36.6 -0.4**
0.3nm,0.7s,baz=224,slow=3.7,SNR=4.5
TKL Tuckaleechee C 124.50 51 PKP **PKPdf** **18 10 44.3 -1.1**
TKL Tuckaleechee C 124.50 51 PKP **PKPdf** **18 10 44.3 -1.1**
4.1nm,0.8s,baz=158,slow=5.1,SNR=6.1
SNF Seneffe 126.16 332 PKP **PKPdf** **18 10 47.8 -0.3**
CPUP Villa Florida 139.72 144 *e*PKPdf **PKPdf** **18 11 13.8 -0.4**
CPUP PKP **PKPdf** **18 11 14.2 0.0**
CPUP Villa Florida 139.72 144 PKhKP PKPpre 18 11 06.3
0.9nm,0.5s,baz=224,slow=7.0,SNR=3.8
CPUP PKP **PKPdf** **18 11 14.2 0.0**
5.3nm,0.8s,baz=293,slow=2.4,SNR=8.4
SIV San Ignacio 144.13 128 PKP **PKPab** **18 11 20.4 +0.2**
SIV San Ignacio 144.13 128 PKP **PKPab** **18 11 20.4 +0.2**
17nm,0.7s,baz=254,slow=4.4,SNR=74
MTP Monte Pirata 145.52 67 *e*PKPdf **PKPdf** **18 11 24.2 -0.5**
TOA0 Torodi Ar. Sit 145.69 284 *e*PKPdf **PKPdf** **18 11 24.0 -1.1**
TORD Torodi Ar. Bea 145.69 284 PKPbc **PKPdf** **18 11 21.9 -3.1**
TORD pPKPbc pPKPbc 18 11 45.8 -1.4
TORD Torodi Ar. Bea 145.69 284 PKPbc **PKPdf** **18 11 21.9 -3.1**
4.2nm,0.7s,baz=57,slow=2.5,SNR=22
TORD pPKPbc pPKPbc 18 11 45.8 -1.4
4.6nm,0.8s,baz=76,slow=4.5,SNR=6.4
SAML Samuel 145.88 116 *e*PKPdf **PKPdf** **18 11 25.6 +0.2**
STVI Saint Thomas 145.99 66 *e*PKPdf **PKPdf** **18 11 25.2 -0.3**
CDVI St. Croix 146.33 67 *e*PKPdf **PKPdf** **18 11 26.3 +0.3**
SPB Sao Paulo 147.06 154 *e*PKPbc **PKPbc** **18 11 29.8 +0.4**
DBIC Dimbokro 152.62 273 PKPbc **PKPbc** **18 11 43.6 +0.3**
DBIC Dimbokro 152.62 273 PKPbc **PKPbc** **18 11 43.6 +0.3**
2.2nm,0.9s,baz=82,slow=2.2,SNR=4.5
BDFB Brasilia 153.46 145 PKP **PKPdf** **18 11 38.0 +0.5**
BDFB PKPbc **PKiKP** **18 11 45.2 0.0**
BDFB Brasilia 153.46 145 PKP **PKPdf** **18 11 38.0 +0.5**
5.6nm,0.8s,baz=173,slow=3.6,SNR=11
BDFB PKPbc **PKiKP** **18 11 45.2 0.0**
26nm,0.7s,baz=215,slow=2.1,SNR=28

*IDC **04** 17:54:00.5±18.0, 32°.23N×139°.02E, h272km±89km, mb3.2/4, mb1 3.2/7, mb1mx3.0/27, mbtmp3.2/7, Error ellipse: s-maj=215.5km s-min=41.8km az=158.0*
*JMA **04** 17:54:01.1±0.4, 32°.41N×139°.13E, h289km±4km, M3.5*
ISC 04 17:54:02.4±1.4, 32°.5N±0°.1×139°.0E±0°.1, h280km±9km, n23, σ0s61/28, mb3.6/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
JHCJ	**Hachijojimakas**	**0.90**	**47**	P		**Pn**	**17 54 39.7**	**-0.5**
JHCJ				*e*S		**S**	**17 55 10.1**	**0.0**
JHJ2	**Mitsune**	**0.94**	**46**	P		**Pn**	**17 54 40.4**	**0.0**
JKO	**Kozu shima**	**1.73**	**3**	P		**Pn**	**17 54 45.8**	**+0.5**
JHMK	**Hamakita**	**2.58**	**336**	P		**Pn**	**17 54 53.0**	**+0.5**
HMMJ	**Hamamatsu 2**	**2.63**	**336**	P		**Pn**	**17 54 53.8**	**+0.7**
BSO3	**Boso 3**	**2.65**	**28**	P		**Pn**	**17 54 52.4**	**-0.6**
BSO3				S		**S**	**17 55 33.3**	**0.0**
JIE	**Ise**	**2.73**	**316**	P		**Pn**	**17 54 54.4**	**+0.3**
BSO1	**Boso 1**	**2.73**	**36**	P		**Pn**	**17 54 53.3**	**-0.2**
BSO1				S		**S**	**17 55 34.6**	**+0.3**
BSO4	**Boso 4**	**2.76**	**23**	P		**Pn**	**17 54 54.8**	**+0.6**
BSO4				S		**S**	**17 55 34.6**	**-0.9**
JOD2	**Odawara 2**	**2.80**	**1**	S		**S**	**17 55 37.1**	**+0.6**
JKN2	**Miekihoku**	**2.91**	**308**	P		**Pn**	**17 54 55.8**	**0.0**
JAO	**Obara**	**3.16**	**333**	P		**Pn**	**17 54 59.3**	**+0.8**
JRY	**Ryogami san**	**3.55**	**358**	P		**Pn**	**17 55 03.5**	**+0.8**
JYT	**Yasato**	**3.89**	**14**	P		**Pn**	**17 55 05.6**	**-0.7**
JAG	**Ashikaga**	**3.98**	**5**	P		**Pn**	**17 55 07.1**	**-0.2**
MAT	**Matsushiro**	**4.13**	**351**	P		**Pn**	**17 55 09.2**	**+0.1**
MAT				*e*S		**S**	**17 56 00.9**	**-1.5**
KSRS	**Korea Array**	**10.38**	**302**	P		**Pn**	**17 56 25.8**	**+0.5**
	0.2nm,0.3s,baz=114,slow=13,SNR=11							
ASAJ	**Asahikawa**	**11.97**	**13**	P		**Pn**	**17 56 45.1**	**+0.3**
	0.3nm,0.3s,baz=198,slow=3.2,SNR=3.6							
USRK	**Ussuriysk Arra**	**12.95**	**337**	P		**P**	**17 56 57.9**	**+0.1**
	0.5nm,0.3s,baz=143,slow=11,SNR=7.7							
SONM	**Songino Array**	**29.03**	**312**	P		**P**	**17 59 36.8**	**-0.1**
	0.6nm,0.5s,baz=119,slow=9.6,SNR=2.6							
MKAR	**Makanchi Array**	**45.03**	**306**	P		**P**	**18 01 49.9**	**-0.7**
	0.3nm,0.5s,baz=92,slow=8.1,SNR=5.0							
ARCES	**ARCESS Array B**	**67.58**	**340**	P		**P**	**18 04 29.5**	**+0.9**
	1.5nm,0.9s,baz=67,slow=9.3,SNR=4.8							
FINES	**FINESS Array B**	**71.94**	**332**	P		**P**	**18 04 55.1**	**0.0**
	2.0nm,0.9s,baz=163,slow=10.0,SNR=4.1							

*IDC **04** 17:59:12.8±0.7, 2°.05N×128°.76E, h0km, mb3.8/10, mb1 3.9/10, mb1mx3.8/20, mbtmp3.8/10, MS4.1/1, Ms1 4.2/1, ms1mx3.1/30, Error ellipse: s-maj=64.0km s-min=15.5km az=75.0*
*ISCJB **04** 17:59:16.5±0.5, 2°.07N±0°.04×129°.10E±0°.05, h40km, mb3.8/10, MS4.2/1, Error ellipse: s-maj=7.5km s-min=6.0km az=168.9*
*DJA **04** 17:59:18.7±3.7, 2°.N±5°×12°.9E±°, h40km±47km, M4.4/7, mb4.6/4, MLv4.3/7*
ISC 04 17:59:18.4±0.7, 2°.05N±0°.06×129°.10E±0°.08, h40km, n20, σ0s76/24, mb3.8/10, 1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
TNTI	**Ternate**	**2.15**	**234**	P		**Pn**	**17 59 51.6**	**-0.2**
TNTI				S		**Sn**	**18 00 17.1**	**-0.2**
LBMI	**Labuha**	**3.12**	**211**	P		**Pn**	**18 00 04.3**	**-0.8**
LBMI				S		**Sn**	**18 00 41.8**	**+0.7**
SWI	**Sorong**	**3.61**	**143**	P		**Pn**	**18 00 11.8**	**0.0**
SWI				S		**Sn**	**18 00 51.9**	**-1.3**
SGSI	**Sangihe**	**3.92**	**295**	P		**Pn**	**18 00 15.8**	**-0.3**
KMSI	**Cibinong**	**5.33**	**254**	P		**Pn**	**18 00 35.1**	**-0.4**
	161nm,0.9s,1.0nm							
NLAI	**Namlea**	**5.62**	**201**	P		**Pn**	**18 00 38.8**	**-0.7**
	16nm,1.2s,0.1nm							
DAV	**Davao City (W)**	**6.10**	**325**	P		**Pn**	**18 00 46.6**	**+0.5**
	83nm,0.5s,0.8nm							
CTBH	**Cotabato--PC H**	**7.06**	**317**⇑	*i*P		**Pn**	**18 00 59.5**	**+0.2**
MRSI	**Marisa**	**7.33**	**258**	P		**Pn**	**18 01 02.3**	**-0.7**
WRA	**Warramunga Arr**	**22.45**	**167**	P		**P**	**18 04 14.6**	**+0.4**
	1.9nm,0.8s,baz=345,slow=11,SNR=6.1							
ASAR	**Alice Springs**	**25.99**	**170**	P		**P**	**18 04 48.5**	**+0.9**
	0.9nm,0.8s,baz=350,slow=7.7,SNR=5.3							
ASAR				PcP		**PcP**	**18 08 15.5**	**+0.1**
	0.4nm,0.7s,baz=330,slow=1.0,SNR=4.9							
KSRS	**Korea Array**	**35.25**	**358**	P		**P**	**18 06 09.5**	**+0.4**
	0.8nm,0.6s,baz=174,slow=9.3,SNR=5.9							
STKA	**Stephens Creek**	**35.77**	**162**	P		**P**	**18 06 14.9**	**+1.2**
	1.1nm,0.5s,baz=346,slow=10,SNR=5.4							
SONM	**Songino Array**	**49.65**	**340**	P		**P**	**18 08 05.7**	**-0.5**
	0.9nm,0.8s,baz=153,slow=9.1,SNR=4.7							
MKAR	**Makanchi Array**	**60.28**	**325**	P		**P**	**18 09 22.3**	**-0.7**
	0.9nm,0.5s,baz=114,slow=8.5,SNR=15							
ZALV	**Zalesovo Beam**	**63.16**	**332**	P		**P**	**18 09 41.7**	**-0.4**
	0.3nm,0.4s,baz=128,slow=9.3,SNR=2.5							
VNDA	**Vanda**	**81.48**	**173**	P		**P**	**18 11 31.6**	**+0.6**
	0.8nm,0.9s,baz=313,slow=5.5,SNR=4.9							
ILAR	**Eielson Array**	**85.59**	**25**	P		**P**	**18 11 53.5**	**+1.1**
	0.4nm,0.9s,baz=244,slow=7.9,SNR=3.2							
ARCES	**ARCESS Array B**	**92.83**	**340**	P		**P**	**18 12 25.1**	**-1.4**
	0.7nm,0.8s,baz=64,slow=6.3,SNR=3.5							
ARCES				LR		LR	18 54 49.8	
	comp=Z,89nm,18.3s,baz=151,slow=36							
TORD	**Torodi Ar. Bea**	**125.69**	**288**	PKP		**PKPdf**	**18 18 16.0**	**-0.7**
	0.7nm,0.9s,baz=59,slow=0.8,SNR=3.8							

IDC 04 18:12:47.5±16.0, 19°.42S×173°.72W, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.8/20, mbtmp4.1/5, Error ellipse: s-maj=316.4km s-min=142.6km az=82.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
CTA	**Charters Tower**	**37.61**	**262**	P		P	18 20 05.0	+0.7
	0.8nm,0.4s,baz=80,slow=11,SNR=5.8							
STKA	**Stephens Creek**	**41.88**	**244**	P		P	18 20 39.6	-0.2
	1.2nm,0.8s,baz=107,slow=14,SNR=3.1							
ASAR	**Alice Springs**	**48.68**	**255**	P		P	18 21 33.4	-0.6
	2.4nm,0.8s,baz=92,slow=8.2,SNR=21							
WRA	**Warramunga Arr**	**48.74**	**260**	P		Pn	18 21 33.8	-0.7
	1.0nm,0.3s,baz=97,slow=7.3,SNR=14							
FITZ	**Fitzroy Crossi**	**57.17**	**261**	P		P	18 22 37.0	+0.3
	2.2nm,1.0s,baz=92,slow=5.8,SNR=11							

*CSEM **04** 18:13:32.8, 33°.71N×25°.70E, h8km, MD3.5, After ATH*
*ATH **04** 18:13:32.8, 33°.71N×25°.70E, h8km±3km, MD3.5/6*
*IDC **04** 18:13:34.7±1.5, 33°.94N×25°.65E, h0km, mb3.6/4, mb1 3.5/8, mb1mx3.3/27, mbtmp3.3/8, ML3.7/3, Error ellipse: s-maj=26.0km s-min=24.9km az=154.0*
*ISCJB **04** 18:13:36.7±0.8, 33°.81N±0°.07×25°.76E±0°.07, h33km, mb3.4/4, Error ellipse: s-maj=10.5km s-min=6.6km az=33.3*
ISC 04 18:13:38.9±1.1, 33°.81N±0°.09×25°.68E±0°.07, h35km, n29, σ1s34/33, mb3.4/4, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
LAST	**Lasithi**	**1.36**	**353**	*e*Pg		**Pn**	**18 13 59.8**	**-1.7**
LAST	**Lasithi**	**1.36**	**353**	*e*Pg		**Pn**	**18 13 59.8**	**-1.7**
ZKR	**Zakros**	**1.38**	**19**	*e*PB		**Pn**	**18 14 00.5**	**-1.1**
ZKR	**Zakros**	**1.38**	**19**	*e*Pb		**Pn**	**18 14 00.5**	**-1.1**
SIVA	**Sivas**	**1.40**	**329**	*e*PB		**Pn**	**18 14 01.2**	**-0.8**
SIVA	**Sivas**	**1.40**	**329**	*e*Pb		**Pn**	**18 14 01.2**	**-0.8**
NPS	**Neapolis**	**1.45**	**358**	*e*PB		**Pn**	**18 14 01.1**	**-1.6**
NPS				*e*SB		**Sn**	**18 14 22.8**	**+2.3**
NPS	**Neapolis**	**1.45**	**358**	*e*Pb		**Pn**	**18 14 01.1**	**-1.6**
NPS				*e*Sb		**Sn**	**18 14 22.8**	**+2.3**
IDI	**Anoyia**	**1.61**	**336**	*e*PN		**Pn**	**18 14 05.2**	**+0.3**
IDI	**Anoyia**	**1.61**	**336**	*e*Pn		**Pn**	**18 14 05.2**	**+0.3**
IDI	**Anoyia**	**1.61**	**336**	Pn		**Pn**	**18 14 04.6**	**-0.4**
	2.6nm,0.3s,baz=160,slow=8.4,SNR=23							
IDI				Sn		**Sn**	**18 14 27.8**	**+3.2**
	12nm,0.3s,baz=258,slow=20,SNR=13							
VAM	**Vamos**	**2.01**	**323**	*e*PN		**Pn**	**18 14 10.8**	**+0.5**
VAM	**Vamos**	**2.01**	**323**	*e*Pn		**Pn**	**18 14 10.8**	**+0.5**
KARP	**Karpathos**	**2.12**	**35**	*e*PN		**Pn**	**18 14 12.4**	**+0.5**
KARP	**Karpathos**	**2.12**	**35**	*e*Pn		**Pn**	**18 14 12.4**	**+0.5**
KARN	**Karanos**	**2.15**	**318**	*e*PN		**Pn**	**18 14 12.4**	**+0.1**
KARN	**Karanos**	**2.15**	**318**	*e*Pn		**Pn**	**18 14 12.4**	**+0.1**
SANT	**Santorini**	**2.56**	**356**	*e*PB		**Pn**	**18 14 17.9**	**-0.1**
SANT	**Santorini**	**2.56**	**356**	*e*Pb		**Pn**	**18 14 17.9**	**-0.1**
APE	**Apeiranthos**	**3.25**	**358**	*e*PN		**Pn**	**18 14 27.6**	**+0.1**
APE	**Apeiranthos**	**3.25**	**358**	*e*Pn		**Pn**	**18 14 27.6**	**+0.1**
MMAI	**Mount Meron Ar**	**8.17**	**93**	Pn		**Pn**	**18 15 34.8**	**-0.2**
	0.4nm,0.3s,baz=264,slow=13,SNR=3.2							
MMAI				Sn		**Sn**	**18 17 06.0**	**-0.1**
	0.6nm,0.3s,baz=259,slow=20,SNR=2.8							
BRTR	**Keskin Array B**	**8.69**	**45**	Pn		**Pn**	**18 15 42.5**	**+0.2**
	0.0nm,0.3s,baz=226,slow=14,SNR=2.2							
AKASG	**Malin Array Be**	**17.08**	**8**	Pn		**Pn**	**18 17 34.0**	**-0.7**
	0.6nm,0.3s,baz=198,slow=11,SNR=4.5							
GERES	**GERESS Array B**	**17.47**	**333**	P		**Pn**	**18 17 37.7**	**-2.1**
	0.1nm,0.3s,baz=142,slow=12,SNR=4.6							
FINES	**FINESS Array B**	**27.65**	**0**	P		**P**	**18 19 21.1**	**-2.0**
	2.0nm,0.8s,baz=187,slow=11,SNR=5.1							
TORD	**Torodi Ar. Bea**	**29.98**	**232**	P		**P**	**18 19 45.8**	**+1.6**
	0.2nm,0.6s,baz=34,slow=8.1,SNR=4.3							
ARCES	**ARCESS Array B**	**35.78**	**360**	P		**P**	**18 20 32.2**	**-2.1**
	0.7nm,0.7s,baz=181,slow=8.0,SNR=5.7							
MKAR	**Makanchi Array**	**44.17**	**55**	P		**P**	**18 21 45.2**	**+1.0**
	0.2nm,0.6s,baz=270,slow=6.1,SNR=3.3							

*ISCJB **04** 18:25:58.6±0.4, 2°.09N±0°.04×129°.09E±0°.06, h40km, mb3.9/12, Error ellipse: s-maj=9.0km s-min=5.5km az=153.9*
*DJA **04** 18:25:59.6±3.1, 2°.N±7°×12°.9E±°, h38km±39km, M4.5/6, mb4.8/3, mB5.1/1, MLv4.4/6, Mw(mB)4.5/1*
*IDC **04** 18:26:03.2±4.5, 2°.06N×128°.93E, h64km±43km, mb3.6/13, mb1 3.8/14, mb1mx3.7/23, mbtmp3.7/14, ML4.0/1, Error ellipse: s-maj=33.7km s-min=13.8km az=71.0*
ISC 04 18:26:00.6±0.6, 2°.11N±0°.06×129°.14E±0°.08, h40km, n33, σ1s14/30, mb3.9/12, 1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
TNTI	**Ternate**	**2.22**	**233**	P		**Pn**	**18 26 34.2**	**-0.7**
TNTI				S		**Sn**	**18 27 03.2**	**+2.1**
LBMI	**Labuha**	**3.19**	**211**	P		**Pn**	**18 26 47.3**	**-0.9**
SWI	**Sorong**	**3.63**	**144**	P		**Pn**	**18 26 53.9**	**-0.5**
SWI				S		**Sn**	**18 27 36.2**	**+0.2**
SGSI	**Sangihe**	**3.94**	**294**	P		**Pn**	**18 26 57.8**	**-0.7**
KMSI	**Cibinong**	**5.38**	**254**	P		**Pn**	**18 27 18.0**	**-0.4**
	226nm,0.7s,2µm0.8nm							
MATI	**Mati**	**5.60**	**329**	*e*P		**Pn**	**18 27 22.2**	**+0.8**
MATI				*e*S		Px	18 27 49.3	
NLAI	**Namlea**	**5.69**	**201**	P		**Pn**	**18 27 21.1**	**-1.6**
	22nm,0.5s,0.1nm							
BUKP	**Musuan**	**7.03**	**325**	*e*P		**Pn**	**18 27 41.8**	**+0.8**
CTBH	**Cotabato--PC H**	**7.04**	**316**⇑	*i*P		**Pn**	**18 27 43.0**	**+1.8**
MRSI	**Marisa**	**7.38**	**257**	P		**Pn**	**18 27 45.7**	**-0.2**
PAGZ	**Pagadian**	**8.09**	**315**	*e*P		**Pn**	**18 27 53.0**	**-2.6**
IPIL	**Ipil**	**8.64**	**311**	*e*P		**Pn**	**18 28 01.6**	**-1.5**
KAPI	**Kappang**	**11.75**	**233**	P		**Pn**	**18 28 45.9**	**+0.1**
	1.0nm,0.3s,baz=91,slow=15,SNR=4.3							
FITZ	**Fitzroy Crossi**	**20.38**	**190**	P		**P**	**18 30 34.1**	**+0.1**
	1.4nm,0.4s,baz=23,slow=9.4,SNR=17							
WRA	**Warramunga Arr**	**22.50**	**167**	P		**P**	**18 30 56.5**	**-0.5**
	1.6nm,0.5s,baz=345,slow=11,SNR=16							
ASAR	**Alice Springs**	**26.04**	**170**	P		**P**	**18 31 30.6**	**+0.3**
	0.7nm,0.5s,baz=352,slow=7.9,SNR=50							
ASAR				PcP		**PcP**	**18 34 57.9**	**+0.1**
	0.4nm,0.6s,baz=347,slow=2.1,SNR=5.7							
CMAR	**Chiang Mai Arr**	**33.77**	**301**	P		**P**	**18 32 39.0**	**+0.2**
	0.7nm,0.9s,baz=115,slow=8.5,SNR=4.3							
KSRS	**Korea Array**	**35.19**	**358**	P		**P**	**18 32 51.7**	**+0.9**
	1.5nm,0.5s,baz=176,slow=9.8,SNR=12							
STKA	**Stephens Creek**	**35.81**	**162**	P		**P**	**18 32 57.1**	**+0.9**
	2.0nm,0.5s,baz=339,slow=7.1,SNR=15							
H11S3	**WAKE ISLAND Hy**	**40.23**	**64**	T		T	19 16 30.1	
	baz=251,slow=0.7,SNR=4.7							
H11S2	**WAKE ISLAND Hy**	**40.24**	**64**	T		T	19 16 32.4	
	baz=251,slow=0.7,SNR=5.6							
H11S1	**WAKE ISLAND Hy**	**40.24**	**64**	T		T	19 16 31.7	
	baz=251,slow=0.7,SNR=7.0							
H11N1	**WAKE ISLAND Hy**	**40.83**	**62**	T		T	19 17 43.3	
H11N2	**WAKE ISLAND Hy**	**40.84**	**62**	T		T	19 17 44.2	
H11N3	**WAKE ISLAND Hy**	**40.84**	**62**	T		T	19 17 44.6	
	SNR=4.5							
SONM	**Songino Array**	**49.61**	**340**	P		**P**	**18 34 47.9**	**-0.2**
	0.8nm,0.6s,baz=154,slow=6.4,SNR=7.4							
PETK	**Petropavlovsk-**	**56.05**	**20**	P		**P**	**18 35 37.5**	**+2.1**
	2.0nm,0.7s,baz=149,slow=6.1,SNR=4.7							
MKAR	**Makanchi Array**	**60.26**	**325**	P		**P**	**18 36 04.7**	**-0.3**
	1.3nm,0.5s,baz=118,slow=8.3,SNR=25							
ZALV	**Zalesovo Beam**	**63.12**	**332**	P		**P**	**18 36 22.3**	**-1.8**
	0.4nm,0.4s,baz=111,slow=8.1,SNR=3.7							
BVAR	**Borovoye Array**	**69.98**	**327**	P		**P**	**18 37 06.7**	**-1.2**
	1.0nm,0.7s,baz=150,slow=9.6,SNR=4.7							
ILAR	**Eielson Array**	**85.52**	**25**	P		**P**	**18 38 34.5**	**+0.2**
	0.3nm,0.8s,baz=238,slow=5.2,SNR=3.5							
ARCES	**ARCESS Array B**	**92.79**	**340**	P		**P**	**18 39 07.5**	**-1.1**
	1.0nm,0.7s,baz=88,slow=6.2,SNR=6.6							
TORD	**Torodi Ar. Bea**	**125.71**	**288**	PKP		**PKPdf**	**18 44 58.4**	**-0.6**
	0.5nm,0.7s,baz=28,slow=2.0,SNR=4.3							

*ISCJB **04** 18:27:25.2±1.1, 46°.5N±0°.2×27°.4W±0°.1, h13km, mb4.1/12, MS3.8/4, Error ellipse: s-maj=25.9km s-min=14.5km az=8.7*
*IDC **04** 18:27:25.1±0.9, 46°.48N×27°.33W, h0km, mb3.9/5, mb1 3.9/6, mb1mx3.6/33, mbtmp3.8/6, ML4.4/1, MS3.8/4, Ms1 3.8/4, ms1mx3.3/42, Error ellipse: s-maj=32.6km s-min=25.6km az=3.0*
ISC 04 18:27:26.8±1.0, 46°.3N±0°.2×27°.3W±0°.1, h13km, n32, σ1s25/26, mb4.2/12, MS3.7/4, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
EVO	**Evora**	**16.19**	**112**	*e*P		**Pn**	**18 31 10.1**	**-3.9**
	19nm,1.2s							
EDSC	**Sonseca Array**	**18.28**	**103**	P		**P**	**18 31 41.9**	**+1.6**
	0.2nm,0.3s,baz=300,slow=12,SNR=12							
MFF	**Saint Martin d**	**18.70**	**79**	*e*P		**P**	**18 31 44.9**	**+0.1**
	42nm,1.5s							
SJPF	**Ste Jean**	**18.79**	**90**	*e*P		**Pn**	**18 31 47.2**	**+1.0**
	18nm,1.3s							
ETSF	**Etsaut**	**19.32**	**90**	*e*P		**Pn**	**18 31 53.0**	**+0.3**
	17nm,1.1s							
LFF	**La Frestale**	**19.64**	**84**	*e*P		**P**	**18 31 55.9**	**+0.9**
EPF	**Esparros**	**19.90**	**89**	*e*P		**P**	**18 31 58.5**	**+0.5**
TCF	**Toulx Ste Croi**	**20.36**	**79**	*e*P		**P**	**18 32 04.1**	**+1.2**
	42nm,1.6s							
CAF	**Calviac**	**20.55**	**83**	*e*P		**P**	**18 32 06.2**	**+1.1**
	8.5nm,0.9s							
AVF	**Avril sur Loir**	**21.05**	**77**	*e*P		**P**	**18 32 10.6**	**+0.3**
	29nm,1

BCPH	**Baguio City Da**	**0.86**	**281**	⇑*iP*	Pb	18 38 25.9	-1.6
BOLP	**Bolinao**	**1.49**	**277**	*e*P	Pb	18 38 37.3	-0.8
SCZP	**Santa Cruz**	**1.55**	**254**	*e*P	Pn	18 38 37.7	+0.4
ABRA	**Dolores**	**1.60**	**334**	*e*P	Pn	18 38 37.6	-0.3
APYP	**Conner**	**1.65**	**353**	*e*P	Pn	18 38 39.1	+0.4

IDC 04 18:39:03.6±2.9, 16°.05S×172°.32W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/19, mbtmp3.9/4, ML1.1/1, Error ellipse: s-maj=104.0km s-min=20.8km az=125.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.19**	**14**	Pn	Pn	18 39 41.3	-0.2
	2.9nm,0.3s,baz=111,slow=14,SNR=2.2						
AFI				Sn	Sn	18 40 10.0	+0.6
	20nm,0.3s,baz=59,slow=21,SNR=10.0						
STKA	**Stephens Creek**	**44.62**	**241**	P	P	18 47 17.6	-0.4
	2.4nm,0.8s,baz=101,slow=10.0,SNR=4.7						
WRA	**Warramunga Arr**	**50.71**	**257**	P	P	18 48 05.6	0.0
	0.7nm,0.9s,baz=97,slow=6.9,SNR=3.9						
ASAR	**Alice Springs**	**50.90**	**252**	P	P	18 48 06.4	-0.6
	2.8nm,0.8s,baz=88,slow=8.4,SNR=41						
ILAR	**Eielson Array**	**82.89**	**11**	P	P	18 51 28.8	-0.9
	0.4nm,0.8s,baz=221,slow=6.6,SNR=3.8						
BRTR	**Keskin Array B**	**147.32**	**321**	PKPbc	PKPab	18 58 50.8	-0.6
	0.5nm,0.8s,baz=8.2,slow=0.6,SNR=3.2						

IDC 04 18:43:09.2±3.3, 25°.48N×128°.01E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.4/24, mbtmp3.3/4, Error ellipse: s-maj=196.3km s-min=22.1km az=66.0, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**28.08**	**328**	P	P	18 49 03.2	+0.7
	0.1nm,0.4s,baz=134,slow=6.2,SNR=2.3						
MKAR	**Makanchi Array**	**41.89**	**313**	P	P	18 51 00.4	-0.9
	0.1nm,0.5s,baz=90,slow=8.6,SNR=2.8						
WRA	**Warramunga Arr**	**45.56**	**172**	P	P	18 51 30.4	-0.6
	1.3nm,0.6s,baz=353,slow=8.6,SNR=7.1						
ASAR	**Alice Springs**	**49.18**	**173**	P	P	18 51 59.6	+0.5
	0.3nm,0.8s,baz=2.0,slow=7.7,SNR=6.2						

IDC 04 18:44:01.5±14.0, 24°.28S×179°.12E, h611km±169km, mb2.8/4, mb1 3.1/4, mb1mx2.8/17, mbtmp2.8/4, Error ellipse: s-maj=183.2km s-min=64.3km az=158.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**30.68**	**271**	P	P	18 49 29.4	+0.8
	1.6nm,0.4s,baz=103,slow=9.9,SNR=7.0						
ASAR	**Alice Springs**	**41.18**	**261**	P	P	18 50 54.3	-0.5
	0.3nm,0.3s,baz=91,slow=7.3,SNR=15						
WRA	**Warramunga Arr**	**41.58**	**267**	P	P	18 50 57.7	-0.3
	0.5nm,0.3s,baz=102,slow=8.3,SNR=18						
TXAR	**Lajitas Array**	**91.31**	**58**	P	P	18 56 03.2	-0.4
	0.4nm,0.7s,baz=203,slow=5.2,SNR=4.3						
ARCES	**ARCESS Array B**	**132.09**	**348**	PKP	PKPdf	19 02 07.2	+1.1
	2.6nm,1.0s,baz=46,slow=3.5,SNR=4.5						

MAN 04 19:13:02, 15°.18N×120°.65E, h15km, mb4.1, ML2.9, MS2.6, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCPH	**Palayan**	**0.58**	**48**	*i*P	Pg	19 13 13.3	-0.1
BALP	**Baler**	**1.05**	**58**	*e*P	Pb	19 13 21.3	-0.7
BALP				*e*S	Sb	19 13 28.5	-7.1
TGY	**Tagaytay City**	**1.10**	**165**	⇑*iP*	Pb	19 13 22.4	-0.5
BCPH	**Baguio City Da**	**1.20**	**357**	⇑*iP*	Pn	19 13 19.5	-5.0
CAUP	**Cauayan**	**2.09**	**32**	*e*P	Pn	19 13 37.7	+1.2
PALP	**Palanan**	**2.54**	**42**	*e*P	Pg	19 13 50.0	-0.6
APYP	**Conner**	**2.73**	**12**	*e*P	Pn	19 13 46.8	+1.5

IDC 04 19:19:18.8±4.8, 16°.07S×173°.65W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/18, mbtmp3.9/4, MS3.7/3, Ms1 3.7/3, ms1mx3.2/38, Error ellipse: s-maj=215.7km s-min=32.1km az=137.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.81**	**40**	Pn	Pn	19 20 01.3	-3.9
	30nm,0.3s,baz=264,slow=3.4,SNR=6.7						
AFI				Sn	Sn	19 20 28.3	-12
	80nm,0.3s,baz=154,slow=22,SNR=10						
DZM	**Mont Dzumac**	**19.73**	**249**	*e*LR	LR	19 28 57.9	
	437nm,25.3s						
PPT2	**Papeete2**	**23.09**	**97**	*e*LR	LR	19 29 42.9	
	183nm,25.5s						
URZ	**Urewera**	**23.55**	**198**	LR	LR	19 31 02.6	
	comp=Z,109nm,19.8s,baz=44,slow=30						
TBI	**Tubuai**	**23.87**	**111**	*e*LR	LR	19 29 53.3	
	178nm,31.0s						
HNR	**Honiara**	**26.56**	**281**	LR	LR	19 34 11.6	
	comp=Z,192nm,19.7s,baz=48,slow=34						
STKA	**Stephens Creek**	**43.49**	**240**	P	P	19 27 23.8	-0.4
	2.8nm,0.7s,baz=90,slow=5.5,SNR=4.7						
WRA	**Warramunga Arr**	**49.46**	**257**	P	P	19 28 10.7	-0.6
	0.5nm,0.4s,baz=93,slow=6.8,SNR=4.3						
ASAR	**Alice Springs**	**49.67**	**252**	P	P	19 28 12.8	-0.1
	3.7nm,0.5s,baz=89,slow=8.4,SNR=84						
NEW	**Newport**	**81.40**	**34**	LR	LR	19 58 20.2	
	comp=Z,62nm,20.2s,baz=119,slow=29						
ILAR	**Eielson Array**	**83.15**	**11**	P	P	19 31 45.3	-0.9
	0.1nm,0.5s,baz=232,slow=6.0,SNR=5.9						
BRTR	**Keskin Array B**	**146.52**	**320**	PKPbc	PKPab	19 39 03.9	+0.3
	0.5nm,0.7s,baz=18,slow=1.8,SNR=3.8						

IDC 04 19:24:22.3±2.0, 24°.17S×66°.82W, h176km±18km, mb3.7/3, mb1 3.5/6, mb1mx3.3/19, mbtmp3.5/6, Error ellipse: s-maj=25.3km s-min=15.5km az=115.0, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**7.51**	**189**	P	Pn	19 26 10.9	+1.8
	0.1nm,0.3s,baz=22,slow=13,SNR=17						
CFAA				S	Sn	19 27 29.8	-3.8
	0.3nm,0.3s,baz=139,slow=22,SNR=18						
CPUP	**Villa Florida**	**8.86**	**106**	P	Pn	19 26 28.1	+1.2
	0.5nm,0.3s,baz=254,slow=11,SNR=3.7						
SIV	**San Ignacio**	**9.77**	**35**	P	Pn	19 26 38.4	-0.6
	0.2nm,0.3s,baz=230,slow=15,SNR=4.0						
BDFB	**Brasilia**	**19.60**	**68**	P	P	19 28 37.9	+0.6
	0.6nm,0.3s,baz=239,slow=12,SNR=11						
ATAH	**Atahualpa**	**20.25**	**325**	P	P	19 28 45.1	+0.5
	4.6nm,0.6s,baz=279,slow=20,SNR=2.0						
TORD	**Torodi Ar. Bea**	**76.48**	**69**	P	P	19 35 52.4	-0.7
	0.8nm,0.5s,baz=260,slow=5.8,SNR=23						
MAW	**Mawson**	**81.22**	**163**	P	P	19 36 19.3	+1.3
	2.8nm,0.6s,baz=245,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**128.37**	**204**	PKP	PKPdf	19 43 08.3	-0.3
	0.5nm,0.7s,baz=139,slow=1.9,SNR=11						
WRA	**Warramunga Arr**	**131.55**	**207**	PKP	PKPdf	19 43 14.7	0.0
	0.4nm,0.4s,baz=156,slow=1.9,SNR=9.4						
ZALV	**Zalesovo Beam**	**143.47**	**28**	PKP	PKPbc	19 43 33.5	+0.3
	1.1nm,0.5s,baz=312,slow=3.7,SNR=7.3						
MKAR	**Makanchi Array**	**146.56**	**40**	PKPbc	PKPdf	19 43 41.6	+0.5
	2.5nm,0.7s,baz=314,slow=2.8,SNR=18						

*BGR **04** 19:27:01.5±1.1, 47°.44N×6°.45E, h10km, ML1.8/1, Error ellipse: s-maj=11.1km s-min=6.7km az=57.0*
*LDG **04** 19:27:02.3±0.0, 47°.43N×6°.45E, h16km, Md2.9/2, Ml2.3/21, Error ellipse: s-maj=1.0km s-min=0.8km az=123.0*
*STR **04** 19:27:03.1±0.3, 47°.43N×6°.51E, h10km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*ZUR **04** 19:27:03.0, 47°.44N×6°.53E, h19km±2km, ML1.9/7*

CSEM 04 19:27:01.3±0.1, 47°.41N×6°.43E, h15km, ML2.3/22, 7C-4D, Error ellipse: s-maj=2.6km s-min=2.1km az=138.0, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LOMF	**Lomont**	**0.27**	**102**	Pg	Pb	19 27 08.9	+0.8
LOMF				Sg	Sb	19 27 12.5	-0.1
LOMF	**Lomont**	**0.27**	**102**	Pg	Pb	19 27 08.9	+0.8
LOMF				Sg	Sb	19 27 12.5	-0.1
BRANT	**Les Verrieres**	**0.47**	**177**	⇓*i*Pg	Pn	19 27 13.1	-0.6
	219nm,0.1s						
BRANT				*e*Sg	Sb	19 27 20.1	+1.7
	219nm,0.1s						
BRANT	**Les Verrieres**	**0.47**	**177**	⇓*i*Pg	Pn	19 27 13.1	-0.6
	219nm,0.1s						
BRANT				*e*Sg	Sb	19 27 20.1	+1.7
	219nm,0.1s						
HINF	**Hinteralfeld**	**0.50**	**35**	*e*Pg	Pb	19 27 12.2	+0.4
	SNR=1.0						
HINF				*e*Sg	Sb	19 27 18.8	-0.2
	68nm,0.2s,SNR=1.0						
HINF	**Hinteralfeld**	**0.50**	**35**	*e*Pg	Pb	19 27 12.2	+0.4
	SNR=1.0						
HINF				*e*Sg	Sb	19 27 18.8	-0.2
	34nm,0.2s,SNR=1.0						
BOURR	**Bourrignon**	**0.54**	**91**	⇑*i*Pg	Pb	19 27 13.1	+0.5
	201nm,0.3s						
BOURR				*e*Sg	Sb	19 27 20.0	-0.3
	201nm,0.3s						
BOURR	**Bourrignon**	**0.54**	**91**	⇑*i*Pg	Pb	19 27 13.1	+0.5
	201nm,0.3s						
BOURR				*e*Sg	Sb	19 27 20.0	-0.3
	201nm,0.3s						
HAU	**Haudompre**	**0.60**	**354**	*e*P	Pn	19 27 14.8	-0.6
	SNR=1.0						
HAU				*e*Sg	Sg	19 27 21.4	+0.2
HAU				*e*Sn	Sb	19 27 23.2	+1.3
	61nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**0.60**	**354**	*e*P	Pn	19 27 14.8	-0.6
	SNR=1.0						
HAU				*e*Sg	Sg	19 27 21.4	+0.2
HAU				*e*Sn	Sb	19 27 23.2	+1.3
	30nm,0.3s,SNR=1.0						
MOF	**Molkenrain**	**0.65**	**47**	Pg	Pb	19 27 14.8	+0.3
MOF				Sg	Sb	19 27 23.2	-0.2
MOF	**Molkenrain**	**0.65**	**47**	Pg	Pb	19 27 14.8	+0.3
MOF				Sg	Sb	19 27 23.2	-0.2
BBS	**Basel-Blauen**	**0.73**	**85**	Pg	Pb	19 27 16.0	+0.2
CABF	**La Chapelle**	**0.83**	**197**	*e*Pn	Pn	19 27 18.8	+0.2
	SNR=1.0						
CABF	**La Chapelle**	**0.83**	**197**	*e*P	Pn	19 27 19.5	+0.9
	SNR=1.0						
CABF				*e*Sg	Sn	19 27 29.9	-0.9
	22nm,0.2s,SNR=1.0						
CABF	**La Chapelle**	**0.83**	**197**	*e*Pn	Pn	19 27 18.8	+0.2
	SNR=1.0						
CABF	**La Chapelle**	**0.83**	**197**	*e*P	Pn	19 27 19.5	+0.9
	SNR=1.0						
CABF				*e*Sg	Sn	19 27 29.9	-0.9
	11nm,0.2s,SNR=1.0						
BALST	**Balsthal**	**0.86**	**94**	*e*Pg	Pg	19 27 18.4	+0.2
	SNR=36						
BALST				*e*Sg	Sb	19 27 29.4	-0.1
BALST	**Balsthal**	**0.86**	**94**	*i* P1	Pb	19 27 18.0	-0.1
	94nm,0.4s						
BALST	**Balsthal**	**0.86**	**94**	*i* P	Pb	19 27 18.0	-0.1
	94nm,0.4s						
BALST	**Balsthal**	**0.86**	**94**	Pg	Pg	19 27 18.4	+0.3
	SNR=36						
BALST				Sg	Sb	19 27 29.4	-0.1
THEF	**They Montfort**	**0.87**	**340**	Pg	Pn	19 27 19.7	+0.6
THEF				Sg	Sn	19 27 31.5	0.0
THEF	**They Montfort**	**0.87**	**340**	Pg	Pn	19 27 19.7	+0.6
THEF				Sg	Sn	19 27 31.5	0.0
GIMEL	**St. Georges /**	**0.88**	**188**	⇓*i*P1	Pn	19 27 20.2	+0.9
	174nm,0.2s						
GIMEL	**St. Georges /**	**0.88**	**188**	⇓*i*P	Pn	19 27 20.2	+0.9
	174nm,0.2s						
ECH	**Echery**	**0.94**	**31**	*e*Pg	Pg	19 27 19.6	0.0
	SNR=2.6						
ECH				*e*Sg	Sb	19 27 30.2	-1.6
ECH	**Echery**	**0.94**	**31**	Pg	Pn	19 27 20.4	+0.3
ECH	**Echery**	**0.94**	**31**	Pg	Pg	19 27 19.6	0.0
	SNR=2.6						
ECH				Sg	Sb	19 27 30.2	-1.6
SULZ	**Cheisacher**	**1.14**	**83**	*e*Pg	Pn	19 27 21.6	-1.2
	SNR=3.1						
SULZ				*e*Sg	Sb	19 27 37.5	-0.1
SULZ	**Cheisacher**	**1.14**	**83**	⇑*i*P1	Pn	19 27 21.6	-1.3
	28nm,0.8s						
SULZ	**Cheisacher**	**1.14**	**83**	⇑*iP*	Pn	19 27 21.6	-1.3
	28nm,0.8s						
SULZ				Sg	Sb	19 27 37.5	-0.1
CDF	**Champ du Feu**	**1.15**	**29**	*e*Pn	Pn	19 27 21.6	-1.4
	SNR=1.0						
CDF	**Champ du Feu**	**1.15**	**29**	*e*Pg	Pg	19 27 23.6	-0.1
CDF				*e*Sg	Sn	19 27 38.3	-0.3
	9.3nm,0.2s						
CDF	**Champ du Feu**	**1.15**	**29**	*e*Pn	Pn	19 27 21.6	-1.4
	SNR=1.0						
CDF	**Champ du Feu**	**1.15**	**29**	*e*Pg	Pg	19 27 23.6	-0.1
CDF				*e*Sg	Sn	19 27 38.3	-0.3
	4.7nm,0.2s						
FELD	**Feldberg im Sc**	**1.16**	**66**	Pg	Pn	19 27 23.2	0.0
FELD	**Feldberg im Sc**	**1.16**	**66**	Pg	Pn	19 27 23.2	0.0
SFTF	**Sexfontaines**	**1.23**	**311**	*e*Pn	Pn	19 27 23.3	-0.7
SFTF	**Sexfontaines**	**1.23**	**311**	*e*Pg	Pg	19 27 25.3	+0.2
SFTF				*e*Sg	Sg	19 27 41.6	+0.4
	9.1nm,0.2s						
SFTF	**Sexfontaines**	**1.23**	**311**	*e*Pn	Pn	19 27 23.3	-0.7
SFTF	**Sexfontaines**	**1.23**	**311**	*e*Pg	Pg	19 27 25.3	+0.2
SFTF				*e*Sg	Sg	19 27 41.6	+0.4
	4.6nm,0.2s						
PAGF	**Fort de Pagny**	**1.24**	**338**	*e*Pn	Pn	19 27 23.1	-1.0
PAGF	**Fort de Pagny**	**1.24**	**338**	*e*Pg	Pg	19 27 25.0	-0.3
	baz=145						
PAGF				*e*Sg	Sg	19 27 41.6	+0.1
	1.3nm,0.2s						
PAGF	**Fort de Pagny**	**1.24**	**338**	*e*Pn	Pn	19 27 23.1	-1.0
PAGF	**Fort de Pagny**	**1.24**	**338**	*e*Pg	Pg	19 27 25.0	-0.3
	baz=145						
PAGF				*e*Sg	Sg	19 27 41.6	+0.1
	0.6nm,0.2s						
MEZF	**Maizieres J'vi**	**1.43**	**320**	*e*Pg	Pg	19 27 29.0	+0.1
	SNR=1.0						
MEZF				*e*Sg	Sg	19 27 47.6	0.0
	8.3nm,0.3s,SNR=1.0						
MEZF	**Maizieres J'vi**	**1.43**	**320**	*e*Pg	Pg	19 27 29.0	+0.1
	SNR=1.0						
MEZF				*e*Sg	Sg	19 27 47.6	0.0
	4.2nm,0.3s,SNR=1.0						
SLE	**Schleitheim**	**1.44**	**75**	*e*Pn	Pn	19 27 25.4	-1.5
	SNR=2.5						
SLE				*e*Pg	Pb	19 27 27.9	+0.1
	SNR=6.6						
SLE				*e*Sg	Sn	19 27 45.8	+0.2
SLE	**Schleitheim**	**1.44**	**75**	⇑*i*P1		19 27 25.3	
	31nm,0.6s						
SLE	**Schleitheim**	**1.44**	**75**	Pn	Pn	19 27 25.4	-1.5
	SNR=2.5						
FLACH	**Flaach**	**1.46**	**83**	⇑*i*P1		19 27 26.0	
	9.3nm,0.2s						
FLACH	**Flaach**	**1.46**	**83**	⇑*iP*	Pn	19 27 26.0	-1.1
	9.3nm,0.2s						
BFO	**Black Forest**	**1.57**	**54**	*e*Pg	Pg	19 27 31.6	0.0
	SNR=3.0						
BFO				*e*Sg	Sb	19 27 50.8	+0.9
BFO	**Black Forest**	**1.57**	**54**	Pg	Pg	19 27 31.6	0.0
	SNR=3.0						
BFO				Sg	Sb	19 27 50.8	+0.9
LOR	**Lormes**	**1.76**	**266**	*e*Pn	Pn	19 27 30.9	-0.3
LOR	**Lormes**	**1.76**	**266**	*e*P	Pb	19 27 32.8	-0.5
	SNR=1.0						
LOR	**Lormes**	**1.76**	**266**	*e*Pg	Pg	19 27 35.8	+0.7
	baz=86						
LOR				*e*Sn	Sn	19 27 51.6	-1.8
	SNR=1.0						
LOR				*e*Sg	Sg	19 27 58.1	+0.1
	4.5nm,0.2s,SNR=1.0						
LOR	**Lormes**	**1.76**	**266**	*e*Pn	Pn	19 27 30.9	-0.3
LOR	**Lormes**	**1.76**	**266**	*e*P	Pb	19 27 32.8	-0.5
	SNR=1.0						
LOR	**Lormes**	**1.76**	**266**	*e*Pg	Pg	19 27 35.8	+0.7
	baz=86						
LOR				*e*Sn	Sn	19 27 51.6	-1.8
	SNR=1.0						
LOR				*e*Sg	Sg	19 27 58.1	+0.1
	2.2nm,0.2s,SNR=1.0						
LPL	**La Plagne**	**1.91**	**174**	*e*Pg	Pg	19 27 38.5	+0.3
	SNR=1.0						
LPL				*e*Sg	Sg	19 28 03.1	-0.1
	2.0nm,0.4s						
LPL	**La Plagne**	**1.91**	**174**	*e*Pg	Pg	19 27 38.5	+0.3
	SNR=1.0						
LPL				*e*Sg	Sg	19 28 03.1	-0.1
	1.0nm,0.4s						
LPG	**La Plagne**	**1.93**	**173**	*e*Pg	Pg	19 27 38.7	0.0
LPG				*e*Sg	Sg	19 28 03.7	-0.3
	1.4nm,0.3s						
LPG	**La Plagne**	**1.93**	**173**	*e*Pg	Pg	19 27 38.7	0.0
LPG				*e*Sg	Sg	19 28 03.7	-0.3
	0.7nm,0.3s						
SMF	**Signal de Mont**	**1.93**	**248**	*e*Pn	Pn	19 27 33.1	-0.5
	SNR=1.0						
SMF	**Signal de Mont**	**1.93**	**248**	*e*Pg	Pg	19 27 38.4	0.0
	SNR=1.0						
SMF				*e*Sn	Sn	19 27 55.5	-2.2
	SNR=1.0						
SMF				*e*Sg	Sg	19 28 03.3	-0.2
	4.2nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**1.93**	**248**	*e*Pn	Pn	19 27 33.1	-0.5
	SNR=1.0						
SMF	**Signal de Mont**	**1.93**	**248**	*e*Pg	Pg	19 27 38.4	0.0
	SNR=1.0						
SMF				*e*Sn	Sn	19 27 55.5	-2.2
	SNR=1.0						
SMF				*e*Sg	Sg	19 28 03.3	-0.2
	2.1nm,0.2s,SNR=1.0						
SSF	**Saint Saulge**	**2.02**	**261**	*e*P	Pb	19 27 36.5	-1.3
	SNR=1.0						
SSF	**Saint Saulge**	**2.02**	**261**	*e*Pg	Pg	19 27 40.4	+0.2
SSF				*e*Sg	Sg	19 28 06.3	-0.2
	2.0nm,0.2s,SNR=1.0						
SSF	**Saint Saulge**	**2.02**	**261**	*e*P	Pb	19 27 36.5	-1.3
	SNR=1.0						
SSF	**Saint Saulge**	**2.02**	**261**	*e*Pg	Pg	19 27 40.4	+0.2
SSF				*e*Sg	Sg	19 28 06.3	-0.2
	1.0nm,0.2s,SNR=1.0						
PLONS	**Plons/SG**	**2.04**	**99**	*e*Sg	Sg	19 28 06.0	-1.2
PLONS	**Plons/SG**	**2.04**	**99**	Sg	Sg	19 28 06.0	-1.2
AVF	**Avril sur Loir**	**2.19**	**255**	*e*Pn	Pn	19 27 36.6	-0.6
	SNR=1.0						
AVF	**Avril sur Loir**	**2.19**	**255**	*e*Pg	Pg	19 27 42.4	-1.0
	SNR=1.0						
AVF				*e*Sg	Sg	19 28 11.6	-0.3
	0.9nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**2.19**	**255**	*e*Pn	Pn	19 27 36.6	-0.6
	SNR=1.0						
AVF	**Avril sur Loir**	**2.19**	**255**	*e*Pg	Pg	19 27 42.4	-1.0
	SNR=1.0						
AVF				*e*Sg	Sg	19 28 11.6	-0.3
	0.4nm,0.2s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**2.52**	**189**	*e*Pn	Pn	19 27 41.8	-0.1
ORIF	**Oris-en-Rattie**	**2.52**	**189**	*e*Pg	Pg	19 27 49.5	-0.3
ORIF				*e*Sg	Sg	19 28 21.5	-1.1
	2.9nm,0.3s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**2.52**	**189**	*e*Pn	Pn	19 27 41.8	-0.1
ORIF	**Oris-en-Rattie**	**2.52**	**189**	*e*Pg	Pg	19 27 49.5	-0.3
ORIF				*e*Sg	Sg	19 28 21.5	-1.1
	1.5nm,0.3s,SNR=1.0						
MBDF	**Montbardon**	**2.69**	**175**	*e*Sg	Sg	19 28 27.1	-1.2
	0.4nm,0.2s						
MBDF	**Montbardon**	**2.69**	**175**	*e*Sg	Sg	19 28 27.1	-1.2
	0.2nm,0.2s						
VIVF	**Saint-Julien-l**	**2.83**	**206**	*e*Pn	Pn	19 27 45.3	-0.8
VIVF	**Saint-Julien-l**	**2.83**	**206**	*e*Pg	Pg	19 27 55.2	-0.5
VIVF				*e*Sg	Sg	19 28 31.4	-1.0
	3.1nm,0.2s,SNR=1.0						
VIVF	**Saint-Julien-l**	**2.83**	**206**	*e*Pn	Pn	19 27 45.3	-0.8
VIVF	**Saint-Julien-l**	**2.83**	**206**	*e*Pg	Pg	19 27 55.2	-0.5
VIVF				*e*Sg	Sg	19 28 31.4	-1.0
	1.5nm,0.2s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.11**	**250**	*e*Pn	Pn	19 27 49.3	-0.5
TCF				*e*Sn	Sn	19 28 23.6	-3.1
	SNR=1.0						
TCF				*e*Sg	Sg	19 28 40.1	-1.2
	0.9nm,0.2s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.11**	**250**	*e*Pn	Pn	19 27 49.3	-0.5
TCF				*e*Sn	Sn	19 28 23.6	-3.1
	SNR=1.0						
TCF				*e*Sg	Sg	19 28 40.1	-1.2
	0.4nm,0.2s,SNR=1.0						
SBF	**Sospel**	**3.62**	**168**	*e*Sg	Sg	19 28 57.2	-0.4
	19nm,0.8s,SNR=1.0						
SBF	**Sospel**	**3.62**	**168**	*e*Sg	Sg	19 28 57.2	-0.4
	9.3nm,0.8s,SNR=1.0						
LASF	**Ste Croix**	**3.79**	**209**	*e*Pn	Pn	19 27 58.3	-0.9
LASF				*e*Sg	Sg	19 29 01.2	-1.9
	1.5nm,0.3s,SNR=1.0						
LASF	**Ste Croix**	**3.79**	**209**	*e*Pn	Pn	19 27 58.3	-0.9
LASF				*e*Sg	Sg	19 29 01.2	-1.9
	0.8nm,0.3s,SNR=1.0						
FLN	**La Foliniere**	**4.83**	**289**	*e*Pn	Pn	19 28 12.9	-0.5
FLN	**La Foliniere**	**4.83**	**289**	*e*Pn	Pn	19 28 12.9	-0.5
MTLF	**Montolieu**	**5.04**	**218**	*e*Pn	Pn	19 28 15.3	-1.0
MTLF				*e*Sg	Sg	19 29 40.7	-2.3
	0.4nm,0.3s						
MTLF	**Montolieu**	**5.04**	**218**	*e*Pn	Pn	19 28 15.3	-1.0
MTLF				*e*Sg	Sg	19 29 40.7	-2.3
	0.2nm,0.3s						

IDC 04 19:34:03.4±3.5, 0°.93S×99°.57E, h0km, mb3.7/4, mb1 3.7/4, mb1mx3.4/22, mbtmp3.7/4, Error ellipse: s-maj=162.6km s-min=26.7km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**27.80**	**255**	T	T	20 08 13.5	
	baz=77,slow=0.7,SNR=16						
H08S3	**Diego Garcia H**	**27.81**	**255**	T	T	20 08 00.0	
	baz=77,slow=0.7,SNR=13			

AUST ***04*** *19:42:48.5±71.0, 9˚.23S×170˚.13E, h2km±2km, Error ellipse: s-maj=4.3km s-min=2.4km az=335.0*
ISCJB ***04*** *19:43:29.6±0.7, 11˚.39S±0˚.08×166˚.3E±0˚.1, h59km, mb4.3/16, MS3.6/3, Error ellipse: s-maj=14.1km s-min=11.2km az=0.0*
IDC ***04*** *19:43:31.9±3.4, 11˚.40S×166˚.33E, h67km±29km, mb4.1/16, mb1 4.2/18, mb1mx4.1/25, mbtmp4.1/18, ML4.3/2, MS3.6/4, Ms1 3.6/4, ms1mx3.3/31, Error ellipse: s-maj=20.5km s-min=17.1km az=87.0*

ISC 04 19:43:31.1±0.7, 11˚.36S±0˚.10×166˚.4E±0˚.1, h59km, n37, σ0$69/28, mb4.4/16, MS3.5/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.59**	**286**	P	**Pn**	**19 45 05.7**	**+0.4**
	21nm,0.3s,baz=148,slow=2.6,SNR=26						
DZM	**Mont Dzumac**	**10.65**	**180**	eLR	LR	19 46 13.4	
	403nm,25.4s						
DZM	**Mont Dzumac**	**10.65**	**180**	P	**Pn**	**19 46 01.6**	**+0.6**
	0.8nm,0.3s,baz=22,slow=22,SNR=8.2						
PMG	**Port Moresby**	**18.98**	**274**	LR	LR	19 54 25.3	
	comp=Z,182nm,20.2s,baz=325,slow=34						
CTA	**Charters Tower**	**21.18**	**243**	P	**P**	**19 48 12.5**	**+0.7**
	8.2nm,0.8s,baz=84,slow=12,SNR=12						
AFI	**Afiamalu**	**21.49**	**99**	LR	LR	19 54 19.8	
	comp=Z,159nm,18.3s,baz=283,slow=30						
RMQ	**Roma**	**22.39**	**225**	P	**P**	**19 48 25.1**	**+0.4**
	baz=27,SNR=9.1						
ARMA	**Armidale**	**23.38**	**214**	P	**P**	**19 48 35.5**	**+0.7**
	baz=27,SNR=5.6						
QLP	**Quilpie**	**25.75**	**231**	P	**P**	**19 48 56.4**	**0.0**
	baz=30,SNR=4.9						
H11S2	**WAKE ISLAND Hy**	**29.67**	**1**	T	T	20 20 03.6	
	baz=182,slow=0.7,SNR=23						
H11S3	**WAKE ISLAND Hy**	**29.67**	**1**	T	T	20 20 18.6	
	baz=28,slow=0.7,SNR=6.1						
H11S1	**WAKE ISLAND Hy**	**29.68**	**1**	T	T	20 20 11.3	
STKA	**Stephens Creek**	**30.63**	**224**	P	**P**	**19 49 40.1**	**+0.3**
	baz=35,SNR=7.6						
STKA	**Stephens Creek**	**30.63**	**224**	P	**P**	**19 49 39.8**	**0.0**
	4.6nm,0.8s,baz=40,slow=8.7,SNR=12						
H11N1	**WAKE ISLAND Hy**	**30.89**	**1**	T	T	20 21 41.4	
	baz=184,slow=0.7,SNR=6.0						
H11N3	**WAKE ISLAND Hy**	**30.89**	**1**	T	T	20 21 44.6	
	baz=184,slow=0.7,SNR=5.5						
H11N2	**WAKE ISLAND Hy**	**30.90**	**1**	T	T	20 21 42.8	
	baz=184,slow=0.7,SNR=6.5						
WRA	**Warramunga Arr**	**31.94**	**251**	P	**P**	**19 49 50.4**	**-1.1**
	7.5nm,0.9s,baz=81,slow=9.0,SNR=25						
RPZ	**Rata Peaks**	**32.49**	**174**	P	**P**	**19 49 56.1**	**0.0**
	6.9nm,0.6s,baz=186,slow=16,SNR=5.5						
KDU	**Kakadu**	**33.15**	**264**	P	**P**	**19 50 01.7**	**-0.5**
	baz=37,SNR=3.2						
ASAR	**Alice Springs**	**33.19**	**244**	P	**P**	**19 50 00.9**	**-1.5**
	6.4nm,0.8s,baz=74,slow=9.6,SNR=45						
ASAR				PcP	**PcP**	**19 52 43.8**	**-0.4**
	1.3nm,0.7s,baz=63,slow=2.8,SNR=11						
RAR	**Rarotonga**	**33.89**	**111**	LR	LR	20 00 32.8	
	comp=Z,203nm,19.2s,baz=135,slow=30						
FITZ	**Fitzroy Crossi**	**39.88**	**255**	P	**P**	**19 50 59.0**	**-0.4**
	baz=44,SNR=9.0						
FITZ	**Fitzroy Crossi**	**39.88**	**255**	P	**P**	**19 50 59.0**	**-0.4**
	6.0nm,0.7s,baz=89,slow=5.8,SNR=13						
BATI	**Baumata**	**41.93**	**267**	P	**P**	**19 51 17.2**	**+0.9**
	9.1nm,0.7s,baz=126,slow=4.0,SNR=4.3						
MEEK	**Meekatharra**	**47.35**	**244**	P	**P**	**19 51 59.5**	**+0.1**
	baz=52,SNR=7.6						
KLBR	**Kellerberrin**	**49.04**	**238**	P	**P**	**19 52 11.6**	**-0.9**
	baz=53,SNR=9.0						
NWAO	**Narrogin (SRO)**	**49.78**	**236**	P	**P**	**19 52 17.4**	**-0.6**
	6.5nm,0.7s,baz=68,slow=8.1,SNR=5.6						
KSRS	**Korea Array**	**60.48**	**325**	P	**P**	**19 53 35.1**	**+0.3**
	0.7nm,0.6s,baz=122,slow=7.4,SNR=5.0						
KSRS				LR	LR	20 15 39.8	
	comp=Z,32nm,20.0s,baz=325,slow=32						
VNDA	**Vanda**	**66.19**	**181**	P	**P**	**19 54 11.8**	**-0.3**
	3.1nm,1.1s,baz=337,slow=7.7,SNR=9.5						
CMAR	**Chiang Mai Arr**	**72.79**	**293**	P	**P**	**19 54 55.0**	**+1.2**
	2.2nm,0.9s,baz=117,slow=4.6,SNR=12						
SONM	**Songino Array**	**79.28**	**324**	P	**P**	**19 55 30.2**	**-0.1**
	1.2nm,0.7s,baz=140,slow=4.9,SNR=7.7						
ILAR	**Eielson Array**	**83.62**	**18**	P	**P**	**19 55 52.1**	**-0.6**
	0.7nm,0.6s,baz=250,slow=5.3,SNR=12						
NVAR	**Mina Array Bea**	**85.77**	**50**	P	**P**	**19 56 05.4**	**+0.9**
	0.6nm,0.6s,baz=213,slow=6.5,SNR=3.5						
MKAR	**Makanchi Array**	**94.16**	**317**	P	**P**	**19 56 43.5**	**0.0**
	4.2nm,0.8s,baz=95,slow=6.1,SNR=30						
ZALV	**Zalesovo Beam**	**94.16**	**324**	P	**P**	**19 56 42.6**	**-0.7**
	1.1nm,0.6s,baz=108,slow=4.1,SNR=6.7						
ARCES	**ARCESS Array B**	**116.79**	**346**	PKP	**PKPdf**	**20 02 07.5**	**-0.8**
	1.3nm,0.8s,baz=54,slow=1.6,SNR=6.5						

IDC ***04*** *19:46:10.2±0.9, 33˚.90N×25˚.67E, h0km, mb4.0/11, mb1 4.1/19, mb1mx4.0/34, mbtmp4.0/19, ML3.9/8, Error ellipse: s-maj=18.4km s-min=14.3km az=10.0*
CSEM ***04*** *19:46:11.9±0.2, 34˚.00N×25˚.60E, h10km, ML3.1/2, Error ellipse: s-maj=7.6km s-min=4.8km az=46.0*
ISCJB ***04*** *19:46:13.9±0.3, 33˚.92N±0˚.02×25˚.64E±0˚.03, h63km±4km, mb3.9/13, Error ellipse: s-maj=4.9km s-min=3.4km az=161.8*
HLW ***04*** *19:46:13.1, 34˚.21N×25˚.50E, h32km±33km, Md3.2, MI3.2*
THE ***04*** *19:46:15.9, 34˚.17N×25˚.60E, h0km±1km, ML3.1/2, Error ellipse: s-maj=3.4km s-min=0.9km az=171.0*

ISC 04 19:46:14.9±0.8, 33˚.94N±0˚.03×25˚.62E±0˚.04, h39km±3km, n100, σ1$71/122, mb4.1/13, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**1.22**	**355**	P	**Pn**	**19 46 34.8**	**-0.7**
LAST				S	**Sn**	**19 46 49.8**	**-1.1**
LAST	**Lasithi**	**1.22**	**355**	P	**Pn**	**19 46 34.8**	**-0.7**
LAST				S	**Sn**	**19 46 49.8**	**-1.1**
SIVA	**Sivas**	**1.27**	**328**	P	**Pn**	**19 46 35.7**	**-0.3**
SIVA				S	**Sn**	**19 46 52.7**	**+0.9**
SIVA	**Sivas**	**1.27**	**328**	P	**Pn**	**19 46 35.7**	**-0.3**
SIVA				S	**Sn**	**19 46 52.7**	**+0.9**
ZKR	**Zakros**	**1.27**	**23**	P	**Pn**	**19 46 36.6**	**+0.5**
ZKR				S	**Sn**	**19 46 52.6**	**+0.6**
ZKR	**Zakros**	**1.27**	**23**	P	**Pn**	**19 46 36.6**	**+0.5**
ZKR				S	**Sn**	**19 46 52.6**	**+0.6**
NPS	**Neapolis**	**1.32**	**360**	P	**Pn**	**19 46 36.6**	**-0.2**
NPS				S	**Sn**	**19 46 52.2**	**-1.0**
NPS	**Neapolis**	**1.32**	**360**	P	**Pn**	**19 46 36.6**	**-0.2**
NPS				S	**Sn**	**19 46 52.2**	**-1.0**
IDI	**Anoyia**	**1.47**	**336**	P	**Pn**	**19 46 39.1**	**+0.2**
IDI	**Anoyia**	**1.47**	**336**	P	**Pn**	**19 46 39.1**	**+0.2**
IDI	**Anoyia**	**1.47**	**336**	Pn	**Pn**	**19 46 40.5**	**+1.6**
	9.1nm,0.3s,baz=164,slow=16,SNR=57						
IDI				Sn	**Sn**	**19 47 02.2**	**+5.2**
	16nm,0.3s,baz=47,slow=16,SNR=9.8						
GVD	**Gavdhos**	**1.55**	**306**	P	**Pn**	**19 46 41.4**	**+1.4**
GVD	**Gavdhos**	**1.55**	**306**	P	**Pn**	**19 46 41.4**	**+1.4**
VAM	**Vamos**	**1.87**	**322**	P	**Pn**	**19 46 45.6**	**+1.2**
VAM				S	**Sn**	**19 47 08.2**	**+1.4**
VAM	**Vamos**	**1.87**	**322**	P	**Pn**	**19 46 45.6**	**+1.2**
VAM				S	**Sn**	**19 47 08.2**	**+1.4**
KARN	**Karanos**	**2.02**	**317**	P	**Pn**	**19 46 47.8**	**+1.3**
KARN				S	**Sn**	**19 47 13.0**	**+2.5**
KARN	**Karanos**	**2.02**	**317**	P	**Pn**	**19 46 47.8**	**+1.3**
KARN				S	**Sn**	**19 47 13.0**	**+2.5**
KARP	**Karpathos**	**2.04**	**38**	P	**Pn**	**19 46 48.0**	**+1.2**
KARP				S	**Sn**	**19 47 13.3**	**+2.2**
KARP	**Karpathos**	**2.04**	**38**	P	**Pn**	**19 46 48.0**	**+1.2**
LTBQ	**Tobruq**	**2.36**	**218**	*i* P	**Pn**	**19 46 53.4**	**+2.3**
	SNR=44						
LTBQ				*e*S	**Sn**	**19 47 17.2**	**-1.6**
	101nm,0.5s,SNR=44						
SLUM		**2.47**	**188**	S	**Sn**	**19 47 22.1**	**+0.7**
	baz=186						
SLUM				AMP		19 47 00.0	
	comp=N,90μm,0.8s,logA/T=5.1,baz=186						
SLUM		**2.47**	**188**	P	**Pn**	**19 46 53.3**	**+0.8**
SLUM				S	**Sn**	**19 47 22.1**	**+0.7**
APE	**Apeiranthos**	**3.12**	**359**	P	**Pn**	**19 47 02.3**	**+0.7**
APE				S	**Sn**	**19 47 38.8**	**+1.1**
APE	**Apeiranthos**	**3.12**	**359**	P	**Pn**	**19 47 02.3**	**+0.7**
APE				S	**Sn**	**19 47 38.8**	**+1.1**
SWA2		**4.69**	**182**	P	**Pn**	**19 47 24.1**	**+1.1**
	baz=181						
SWA2				S	**Sn**	**19 48 14.9**	**-1.2**
	baz=181						
SWA2		**4.69**	**182**	P	**Pn**	**19 47 24.1**	**+1.1**
SWA2				S	**Sn**	**19 48 14.9**	**-1.2**
LJBD	**Adjabya**	**5.49**	**238**	*i* P	**Pn**	**19 47 35.6**	**+1.6**
	SNR=43						
LUJL	**Ujela**	**6.06**	**219**	*i* P	**Pn**	**19 47 42.4**	**+0.5**
	SNR=43						
AWBH		**6.27**	**152**	P	**Pn**	**19 47 45.8**	**+1.0**
	baz=152						
AWBH		**6.27**	**152**	P	**Pn**	**19 47 45.8**	**+1.0**
HSAF	**As Saff**	**6.64**	**129**	P	**Pn**	**19 47 51.0**	**+1.1**
	baz=130						
HSAF	**As Saff**	**6.64**	**129**	P	**Pn**	**19 47 51.0**	**+1.1**
GLL	**Jalalah**	**6.77**	**128**	P	**Pn**	**19 47 52.8**	**+1.1**
	baz=129						
GLL	**Jalalah**	**6.77**	**128**	P	**Pn**	**19 47 52.8**	**+1.1**
HFRF	**Wahat Farafira**	**7.16**	**160**	P	**Pn**	**19 47 58.6**	**+1.6**
	baz=160						
HFRF	**Wahat Farafira**	**7.16**	**160**	P	**Pn**	**19 47 58.6**	**+1.6**
SUZ		**7.37**	**122**	P	**Pn**	**19 48 00.3**	**+0.4**
	baz=123						
SUZ		**7.37**	**122**	P	**Pn**	**19 48 00.3**	**+0.4**
RSH		**7.46**	**111**	P	**Pn**	**19 48 01.8**	**+0.6**
	baz=112						
RSH		**7.46**	**111**	P	**Pn**	**19 48 01.8**	**+0.6**
HNKL	**Nakhl**	**8.15**	**117**	P	**Pn**	**19 48 10.5**	**-0.2**
	baz=118						
HNKL				S	**Sn**	**19 49 36.3**	**-5.3**
	baz=118						
HNKL	**Nakhl**	**8.15**	**117**	P	**Pn**	**19 48 10.5**	**-0.2**
MMAI	**Mount Meron Ar**	**8.23**	**94**	Pn	**Pn**	**19 48 09.9**	**-1.8**
	comp=N,1.5nm,0.3s,baz=273,slow=11,SNR=5.2						
MMAI				Sn	**Sn**	**19 49 40.6**	**-2.8**
	comp=N,2.7nm,0.3s,baz=259,slow=24,SNR=7.0						
BRTR	**Keskin Array B**	**8.64**	**46**	Pn	**Pn**	**19 48 18.6**	**+1.1**
	comp=N,0.1nm,0.3s,baz=228,slow=14,SNR=12						
HKAT	**Jabal Katrina**	**8.97**	**125**	P	**Pn**	**19 48 21.9**	**-0.2**
	baz=125						
HKAT	**Jabal Katrina**	**8.97**	**125**	P	**Pn**	**19 48 21.9**	**-0.2**
EIL	**Elat**	**9.01**	**116**	Pn	**Pn**	**19 48 22.9**	**+0.5**
	comp=N,0.9nm,0.3s,baz=348,slow=15,SNR=6.9						
EIL				Sn	**Sn**	**19 50 02.0**	**-0.6**
	comp=N,1.8nm,0.3s,baz=328,slow=18,SNR=4.2						
KBZ	**Khabaz**	**16.61**	**49**	Pn	**P**	**19 50 05.7**	**-1.0**
	comp=N,0.1nm,0.3s,baz=238,slow=6.9,SNR=5.3						
VRAC	**Vranov**	**16.75**	**339**	Pn	**P**	**19 50 09.1**	**+0.8**
	comp=N,0.3nm,0.3s,baz=168,slow=9.8,SNR=4.7						
AKASG	**Malin Array Be**	**16.96**	**8**	Pn	**P**	**19 50 10.2**	**-0.4**
	comp=N,1.0nm,0.3s,baz=199,slow=10,SNR=21						
SBF	**Sospel**	**17.24**	**310**	*e*P	Pn	19 50 07.4	-5.3
	comp=N,57nm,1.2s						
GERES	**GERESS Array B**	**17.34**	**333**	P	**Pn**	**19 50 13.2**	**-0.6**
	comp=N,0.2nm,0.3s,baz=149,slow=12,SNR=20						
DAVOX	**Davos/Dischmat**	**17.52**	**322**	P	**P**	**19 50 18.7**	**+1.7**
	comp=N,0.2nm,0.3s,baz=143,slow=9.9,SNR=8.0						
FRF	**La Foret Royal**	**17.61**	**309**	*e*P	**Pn**	**19 50 12.5**	**-4.6**
	comp=N,49nm,1.5s						
KHC	**Kasperske Hory**	**17.62**	**333**	*e*P	**P**	**19 50 19.5**	**+1.6**
MBDF	**Montbardon**	**18.08**	**312**	*e*P	**Pn**	**19 50 19.1**	**-4.0**
	comp=N,10nm,0.8s						
LPG	**La Plagne**	**18.49**	**314**	*e*P	**P**	**19 50 25.5**	**-2.4**
LPG	**La Plagne**	**18.49**	**314**	*e*P	**P**	**19 50 25.5**	**-2.4**
LPL	**La Plagne**	**18.52**	**314**	*e*P	**P**	**19 50 25.4**	**-2.6**
LPL	**La Plagne**	**18.52**	**314**	*e*P	**P**	**19 50 25.4**	**-2.6**
ORIF	**Oris-en-Rattie**	**18.73**	**312**	*e*P	**P**	**19 50 27.7**	**-2.6**
ORIF	**Oris-en-Rattie**	**18.73**	**312**	*e*P	**P**	**19 50 27.7**	**-2.6**
GRF	**Grafenberg Arr**	**18.99**	**330**	*e*P	**Pn**	**19 50 36.0**	**+2.0**
	comp=Z,3.0nm,0.9s						
CABF	**La Chapelle**	**19.49**	**316**	*e*P	**P**	**19 50 37.1**	**-1.4**
CABF	**La Chapelle**	**19.49**	**316**	*e*P	**P**	**19 50 37.1**	**-1.4**
HINF	**Hinteralfeld**	**19.77**	**320**	*e*P	**P**	**19 50 40.3**	**-1.2**
	comp=Z,9.4nm,0.9s						
HINF	**Hinteralfeld**	**19.77**	**320**	*e*P	**P**	**19 50 40.3**	**-1.2**
	comp=Z,4.7nm,0.9s						
CDF	**Champ du Feu**	**19.92**	**322**	*e*P	**P**	**19 50 41.9**	**-1.3**
	comp=Z,5.6nm,0.8s						
CDF	**Champ du Feu**	**19.92**	**322**	*e*P	**P**	**19 50 41.9**	**-1.3**
	comp=Z,2.8nm,0.8s						
HAU	**Haudompre**	**20.15**	**320**	*e*P	**P**	**19 50 44.7**	**-1.0**
	comp=Z,11nm,1.0s						
HAU	**Haudompre**	**20.15**	**320**	*e*P	**P**	**19 50 44.7**	**-1.0**
	comp=Z,5.4nm,1.0s						
PAGF	**Fort de Pagny**	**20.81**	**320**	*e*P	**P**	**19 50 51.3**	**-1.5**
PAGF	**Fort de Pagny**	**20.81**	**320**	*e*P	**P**	**19 50 51.3**	**-1.5**
SMF	**Signal de Mont**	**20.82**	**314**	*e*P	**P**	**19 50 50.6**	**-2.3**
SMF	**Signal de Mont**	**20.82**	**314**	*e*P	**P**	**19 50 50.6**	**-2.3**
SFTF	**Sexfontaines**	**20.98**	**319**	*e*P	**P**	**19 50 53.2**	**-1.4**
SFTF	**Sexfontaines**	**20.98**	**319**	*e*P	**P**	**19 50 53.2**	**-1.4**
LOR	**Lormes**	**21.13**	**316**	*e*P	**P**	**19 50 54.9**	**-1.3**
LOR	**Lormes**	**21.13**	**316**	*e*P	**P**	**19 50 54.9**	**-1.3**
TCF	**Toulx Ste Croi**	**21.65**	**312**	*e*P	**P**	**19 51 00.2**	**-1.6**
TCF	**Toulx Ste Croi**	**21.65**	**312**	*e*P	**P**	**19 51 00.2**	**-1.6**
RJF	**Les Rejaudoux**	**21.68**	**309**	*e*P	**P**	**19 51 00.9**	**-1.2**
RJF	**Les Rejaudoux**	**21.68**	**309**	*e*P	**P**	**19 51 00.9**	**-1.2**
LFF	**La Frestale**	**22.05**	**307**	*e*P	**P**	**19 51 03.7**	**-2.3**
	comp=Z,18nm,1.0s						
LFF	**La Frestale**	**22.05**	**307**	*e*P	**P**	**19 51 03.7**	**-2.3**
	comp=Z,8.9nm,1.0s						
LDF	**La Druitiere**	**24.11**	**315**	*e*P	**P**	**19 51 23.3**	**-3.5**
	comp=Z,20nm,1.0s						
LDF	**La Druitiere**	**24.11**	**315**	*e*P	**P**	**19 51 23.3**	**-3.5**
	comp=Z,9.9nm,1.0s						
ESDC	**Sonseca Array**	**24.30**	**292**	P	**P**	**19 51 29.9**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=84,slow=9.3,SNR=9.9						
FLN	**La Foliniere**	**24.40**	**315**	*e*P	**P**	**19 51 26.6**	**-2.8**
FLN	**La Foliniere**	**24.40**	**315**	*e*P	**P**	**19 51 26.6**	**-2.8**
MDT	**Mideit**	**25.23**	**276**	P	**P**	**19 51 38.5**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=90,slow=14,SNR=4.6						
HFS	**Hagfors**	**27.35**	**347**	P	**P**	**19 51 56.7**	**+0.8**
	comp=Z,4.0nm,0.9s,baz=174,slow=14,SNR=2.5						
FINES	**FINESS Array B**	**27.52**	**0**	P	**P**	**19 51 56.9**	**-0.5**
	comp=Z,5.7nm,0.9s,baz=180,slow=9.0,SNR=6.8						
EKA	**Eskdalemuir Ar**	**29.26**	**326**	P	**P**	**19 52 15.7**	**+2.7**
	comp=Z,1.5nm,0.8s,baz=126,slow=13,SNR=3.5						
TORD	**Torodi Ar. Bea**	**30.02**	**232**	P	**P**	**19 52 21.0**	**+0.9**
	comp=Z,1.4nm,0.8s,baz=33,slow=9.4,SNR=11						
ARCES	**ARCESS Array B**	**35.65**	**360**	P	**P**	**19 53 07.8**	**-0.8**
	comp=Z,5.1nm,1.2s,baz=171,slow=8.6,SNR=5.6						
MKAR	**Makanchi Array**	**44.14**	**56**	P	**P**	**19 54 20.8**	**+1.2**
	comp=Z,1.5nm,0.8s,baz=268,slow=7.6,SNR=10						
ZALV	**Zalesovo Beam**	**45.58**	**45**	P	**P**	**19 54 31.8**	**+0.9**
	comp=Z,1.5nm,0.5s,baz=266,slow=9.0,SNR=8.9						
SONM	**Songino Array**	**59.97**	**50**	P	**P**	**19 56 18.8**	**+1.5**
	comp=Z,0.5nm,0.7s,baz=290,slow=6.0,SNR=3.5						
SCHQ	**Schefferville**	**64.36**	**320**	P	**P**	**19 56 46.5**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=44,slow=17,SNR=3.7						

ATH 04 19:47:04.4, 36˚.88N×22˚.96E, h5km, MD2.9/4, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLI	**Veliai**	**0.16**	**187**	*e*PG	Pg	19 47 07.9	+0.2
VLI	**Veliai**	**0.16**	**187**	*e*Pg	Pg	19 47 07.9	+0.2
ITM	**Ithomi**	**0.88**	**290**	*e*PB	Pg	19 47 21.5	+0.2
ITM				*e*SB	Sg	19 47 33.3	+0.5
PYL	**PYLOS**	**0.98**	**271**	*e*PB	Pg	19 47 23.3	+0.1
AMT	**Artemida-Makis**	**1.19**	**303**	*e*PB	Pg	19 47 27.0	-0.4

ISCJB ***04*** *19:56:11.2±0.4, 6˚.02N±0˚.03×126˚.03E±0˚.05, h81km±4km, mb4.2/18, Error ellipse: s-maj=7.9km s-min=4.2km az=168.4*
MAN ***04*** *19:56:11.6˚.11N×126˚.09E, h66km, mb4.9, ML3.8, MS3.9*
AUST ***04*** *19:56:12.1, 6˚.00N×126˚.01E, h60km*
DJA ***04*** *19:56:13.3±0.6, 6˚.N±5˚×12˚.6E±˚, h71km±16km, M4.8/6, mB5.4/5, mb4.9/6, MLv4.8/3, Mw(mB)4.8/5, Mwp5.4/1*
IDC ***04*** *19:56:17.4±4.2, 5˚.91N×125˚.75E, h126km±39km, mb4.0/18, mb1 4.0/19, mb1mx3.9/30, mbtmp4.0/19, MS3.7/1, Ms1 3.7/1, ms1mx2.7/44, Error ellipse: s-maj=25.4km s-min=9.9km az=85.0*

ISC 04 19:56:11.9±0.8, 6˚.01N±0˚.04×126˚.00E±0˚.06, h71km±8km, n67, σ1$32/67, mb4.4/18, 4C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.96**	**15**	*e*P	**Pn**	**19 56 29.6**	**-0.4**
MATI				*e*S	**Sn**	**19 56 42.5**	**-0.9**
GSPH	**General Santos**	**1.05**	**274**	*i e*P	**Pn**	**19 56 29.8**	**-1.4**
GSPH				*e*S	**Sn**	**19 56 43.5**	**-2.1**
DAV	**Davao City (W)**	**1.13**	**338**	P	**Pn**	**19 56 32.5**	**+0.4**
DMPH	**Davao City--Mi**	**1.17**	**335**	*i* P	**Pn**	**19 56 33.2**	**+0.5**
DMPH				*e*S	**Sn**	**19 56 47.4**	**-0.7**
KCP	**Kidapawan**	**1.34**	**317**	*i* P	**Pn**	**19 56 35.6**	**+0.7**
KCP				*i* S	**Sn**	**19 56 53.0**	**+0.8**
BUKP	**Musuan**	**2.08**	**333**	*e*P	**Pn**	**19 56 45.7**	**+1.1**
CTBH	**Cotabato--PC H**	**2.12**	**305**	*i e*P	**Pn**	**19 56 45.6**	**+0.5**
SGSI	**Sangihe**	**2.36**	**192**	P	**Pn**	**19 56 49.2**	**+0.7**
SGSI				S	**Sn**	**19 57 17.6**	**+1.2**
CGP	**Cagayan de Oro**	**2.75**	**332**	*i e*P	**Pn**	**19 56 54.0**	**+0.3**
CGP				*e*S	**Sn**	**19 57 26.8**	**+0.9**
BUTP	**Butuan**	**2.96**	**353**	*e*P	**Pn**	**19 56 58.5**	**+1.9**
PAGZ	**Pagadian**	**3.18**	**305**	*e*P	**Pn**	**19 57 01.4**	**+1.9**
DCPH	**Dipolog City**	**3.67**	**314**	*e*P	**Pn**	**19 57 08.2**	**+2.0**
SCPH	**Surigao**	**3.78**	**352**	*i e*P	**Pn**	**19 57 07.1**	**-0.6**
IPIL	**Ipil**	**3.84**	**298**	*i e*P	**Pn**	**19 57 09.8**	**+1.2**
ZMPH	**Zamboanga City**	**4.03**	**284**	*i i*P	**Pn**	**19 57 11.6**	**+0.5**
ZMPH				*i* S	**Sn**	**19 57 59.6**	**+2.6**
TBP	**Tagbilaran**	**4.22**	**330**	*e*P	**Pn**	**19 57 14.7**	**+0.8**
MSLP	**Maasin**	**4.25**	**345**	*e*P	**Pn**	**19 57 15.1**	**+0.9**
TNTI	**Ternate**	**5.38**	**165**	P	**Pn**	**19 57 31.3**	**+1.6**
	212nm,0.9s,4μm1.1nm						
KMSI	**Cibinong**	**5.77**	**201**	P	Pn	19 57 49.9	+15
RCP	**Roxas**	**6.38**	**330**	*i e*P	**Pn**	**19 57 45.4**	**+2.0**
LBMI	**Labuha**	**6.77**	**167**	P	**Pn**	**19 57 50.0**	**+1.3**
	61nm,1.0s,1μm						
MRSI	**Marisa**	**6.83**	**217**	P	**Pn**	**19 57 50.2**	**+0.7**
	93nm,0.7s,5μm						
MRSI				S	**Sn**	**19 59 03.6**	**-2.3**
	93nm,0.7s,5μm						
LUWI	**Luwuk**	**7.72**	**205**	P	**Pn**	**19 58 04.6**	**+3.1**
	119nm,1.2s,2μm						
LUWI	**Luwuk**	**7.72**	**205**	P	**Pn**	**19 58 04.7**	**+3.1**
	baz=7.7,SNR=20						
SWI	**Sorong**	**8.61**	**142**	P	**Pn**	**19 58 15.5**	**+1.6**
	23nm,0.9s						
SWI	**Sorong**	**8.61**	**142**	P	**Pn**	**19 58 13.8**	**0.0**
	baz=8.6,SNR=7.7						
NLAI	**Namlea**	**9.26**	**173**	P	**Pn**	**19 58 22.2**	**-0.4**
AAI	**Ambon**	**9.88**	**167**	P	Pn	19 58 35.2	+4.0
	baz=9.9,SNR=5.3						
FAKI	**Fak Fak**	**10.85**	**145**	P	**Pn**	**19 58 45.0**	**+0.7**
	baz=11,SNR=5.6						
SOEI	**Soe**	**15.76**	**186**	P	**P**	**19 59 55.0**	**+2.6**
	baz=16,SNR=8.1						
BATI	**Baumata**	**16.28**	**188**	P	**P**	**19 59 59.0**	**+1.0**
	5.1nm,0.3s,baz=281,slow=2.1,SNR=13						
JAY	**Jayapura**	**16.95**	**120**	P	P	20 00 11.5	+6.0
	baz=17,SNR=3.2						
KDU	**Kakadu**	**19.66**	**161**	P	**Pn**	**20 00 36.6**	**-0.6**
	baz=20,SNR=13						
KNRA	**Kununurra**	**21.72**	**173**	P	**P**	**20 00 57.3**	**0.0**
	baz=22,SNR=27						
FITZ	**Fitzroy Crossi**	**23.96**	**181**	P	**P**	**20 01 19.6**	**-0.2**
	baz=24,SNR=27						
FITZ	**Fitzroy Crossi**	**23.96**	**181**	P	**P**	**20 01 19.6**	**-0.2**
	2.8nm,0.4s,baz=341,slow=3.0,SNR=36						
PMG	**Port Moresby**	**26.06**	**126**	LR	LR	20 12 12.7	
	comp=Z,148nm,18.1s,baz=138,slow=36						
COEN	**Coen**	**26.16**	**139**	P	**P**	**20 01 39.4**	**-0.4**
	baz=26,SNR=5.5						
WRA	**Warramunga Arr**	**27.07**	**163**	P	**P**	**20 01 46.8**	**-1.1**
	0.7nm,0.5s,baz=340,slow=10,SNR=16						
ASAR	**Alice Springs**	**30.49**	**166**	P	**P**	**20 02 17.8**	**-0.

*AUST **04** 20:11:06.5±0.0,3˚12S×137˚61E,h74km,Error ellipse: s-maj=1.6km s-min=0.9km az=17.0*
*DJA **04** 20:11:07.8±0.4,3˚S×7˚×13˚8E×˚,h83km×34km,M4.5/6, mb4.5/5,mB5.7/1,MLv4.5/6,Mw(mB)5.2/1*
ISC 04 20:11:06.3±0.8,3˚22S±0˚07×137˚53E±0˚08,h54km,n30, σ1s27/28,mb3.8/7,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**1.86**	**316**	P	**Pn**	**20 11 36.0**	**+0.2**
BAKI	**Biak**	**2.47**	**325**	P	**Pn**	**20 11 44.9**	**+0.8**
BAKI				S	**Sn**	**20 12 13.0**	**-0.1**
JAY	**Jayapura**	**3.25**	**78**	P	**Pn**	**20 11 55.9**	**+1.1**
JAY	**Jayapura** baz=3.2,SNR=34	**3.25**	**78**	P	**Pn**	**20 11 56.1**	**+1.3**
KMPI	**Kaimana, Papua**	**3.85**	**263**	P	**Pn**	**20 12 05.3**	**+2.3**
FAKI	**Fak Fak**	**5.29**	**273**	P	**Pn**	**20 12 22.5**	**-0.2**
FAKI	**Fak Fak** baz=5.4,SNR=28	**5.29**	**273**	P	**Pn**	**20 12 22.9**	**+0.1**
TLE	**Tual** 50nm,1.0s,0.3nm	**5.35**	**243**	P	Pn	20 12 27.2	+3.6
TLE	**Tual** baz=5.5,SNR=5.5	**5.35**	**243**	P	Pn	20 12 27.5	+3.9
MMPI	**Merauke** 215nm,0.7s,7μm1.9nm	**5.93**	**152**	P	Pn	20 12 36.0	+4.4
MMPI	**Merauke** baz=6.0,SNR=3.6	**5.93**	**152**	P	Pn	20 12 36.5	+5.0
SWI	**Sorong** 42nm,0.5s	**6.69**	**290**	P	**Pn**	**20 12 42.6**	**+0.6**
SWI	**Sorong** baz=6.7,SNR=13	**6.69**	**290**	P	**Pn**	**20 12 42.7**	**+0.7**
LBMI	**Labuha** 21nm,1.1s	**10.35**	**284**	P	**Pn**	**20 13 32.5**	**+0.3**
KDU	**Kakadu** baz=11,SNR=52	**10.65**	**208**	P	**Pn**	**20 13 36.0**	**-0.3**
COEN	**Coen** baz=12,SNR=44	**12.03**	**153**	P	**Pn**	**20 13 56.1**	**+0.9**
SOEI	**Soe** baz=15,SNR=3.5	**14.69**	**243**	P	**P**	**20 14 38.6**	**+2.5**
KNRA	**Kununurra** baz=15,SNR=77	**15.09**	**214**	P	**Pn**	**20 14 35.3**	**-1.0**
BATI	**Baumata** 1.4nm,0.3s,baz=29,slow=7.1,SNR=5.0	**15.42**	**243**	Pn	**P**	**20 14 42.8**	**-1.3**
WRA	**Warramunga Arr** 3.7nm,0.3s,baz=13,slow=12,SNR=59	**16.91**	**190**	P	**Pn**	**20 14 57.5**	**-1.8**
WRA	0.6nm,0.3s,baz=10,slow=22,SNR=8.2			S	Sn	20 17 53.4	-13
FITZ	**Fitzroy Crossi** baz=19,SNR=23	**18.83**	**217**	P	**Pn**	**20 15 22.9**	**+0.2**
FITZ	**Fitzroy Crossi** 0.8nm,0.3s,baz=37,slow=11,SNR=32	**18.83**	**217**	P	**Pn**	**20 15 22.7**	**-0.1**
FITZ	1.1nm,0.3s,baz=168,slow=12,SNR=14			S	Sn	20 18 41.3	-12
FITZ	comp=Z,51nm,20.2s,baz=165,slow=37			LR	LR	20 22 54.2	
ASAR	**Alice Springs** 23nm,0.4s,baz=18,slow=12,SNR=262	**20.62**	**189**	P	**P**	**20 15 42.7**	**+1.3**
ASAR	5.6nm,0.8s,baz=8.2,slow=24,SNR=16			S	**S**	**20 19 25.5**	**-3.6**
STKA	**Stephens Creek** 1.3nm,0.5s,baz=354,slow=6.6,SNR=4.7	**28.76**	**173**	P	**P**	**20 16 58.5**	**-0.5**
CMAR	**Chiang Mai Arr** 1.3nm,1.0s,baz=125,slow=6.3,SNR=4.9	**43.68**	**301**	P	**P**	**20 19 06.0**	**-0.3**
MKAR	**Makanchi Array** 1.2nm,0.5s,baz=107,slow=8.8,SNR=19	**69.48**	**323**	P	**P**	**20 22 09.1**	**-0.1**
ZALV	**Zalesovo Beam** 0.5nm,0.4s,baz=98,slow=5.7,SNR=3.1	**71.79**	**330**	P	**P**	**20 22 21.8**	**-1.2**
KURBB	**Kurchatov Arra** 0.5nm,0.6s,baz=121,slow=4.8,SNR=7.5	**73.47**	**325**	P	**P**	**20 22 32.1**	**-1.0**
VNDA	**Vanda** 0.5nm,0.6s,baz=324,slow=8.0,SNR=8.8	**75.38**	**175**	P	**P**	**20 22 43.5**	**-0.2**
BVAR	**Borovoye Array** 0.7nm,0.6s,baz=113,slow=11,SNR=4.3	**79.06**	**325**	P	**P**	**20 23 04.3**	**-0.4**

*ISCJB **04** 20:13:32.1±0.4,14˚03N±0˚05×92˚24W±0˚04,h33km, mb4.6/39,MS4.0/12,Error ellipse: s-maj=7.5km s-min=5.1km az=34.1*
*NEIC **04** 20:13:32.9±0.7,13˚97N×92˚43W,mb4.6/28,MD4.5(MEX), Error ellipse: s-maj=12.9km s-min=8.0km az=207.0*
*MEX **04** 20:13:32.9±0.8,13˚77N×92˚75W,h20km,MD4.5*
*BJI **04** 20:13:33.6,14˚30N×92˚30W,h28km,mB5.5/2,Ms5.0/2, Ms7 4.8/1*
*IDC **04** 20:13:39.6±2.5,14˚14N×92˚03W,h90km±21km,mb4.1/14, mb1 4.2/18,mb1mx4.0/31,mbtmp4.0/18,MS3.9/10, Ms1 3.9/10,ms1mx3.6/36,Error ellipse: s-maj=26.5km s-min=13.6km az=53.0*
ISC 04 20:13:33.1±0.6,13˚83N±0˚06×92˚64W±0˚04,h46km,n311, σ1s72/312,mb4.6/40,MS4.0/12,105C-103D,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.94**	**343**	*e*P	**Pn**	**20 14 01.6**	**-2.2**
PCIG				*i* S	**Sn**	**20 14 25.6**	**-1.4**
PCIG		**1.94**	**343**	*e*P	**Pn**	**20 14 01.6**	**-2.2**
PCIG				*i* S	**Sn**	**20 14 25.6**	**-1.4**
APG	**El Apazote**	**2.41**	**61**	P	**Pn**	**20 14 08.4**	**-1.9**
APG	**El Apazote** 22nm,0.3s,baz=214,slow=8.4,SNR=468	**2.41**	**61**	P	**Pn**	**20 14 08.4**	**-1.9**
APG	comp=Z,392nm,19.3s,baz=238,slow=32			LR	LR	20 14 36.2	
CCIG	**Comitan**	**2.48**	**11**	*i* P	**Pn**	**20 14 11.6**	**+0.3**
CCIG				*i* S	**Sn**	**20 14 40.7**	**+0.2**
CCIG	**Comitan**	**2.48**	**11**	*i* P	**Pn**	**20 14 11.6**	**+0.3**
CCIG				*i* S	**Sn**	**20 14 40.7**	**+0.2**
TGIG		**2.97**	**351**	*e*P	**Pn**	**20 14 17.5**	**-0.3**
TGIG				*i* S	**Sn**	**20 14 52.3**	**+0.1**
TGIG		**2.97**	**351**	*e*P	**Pn**	**20 14 17.5**	**-0.3**
TGIG				*i* S	**Sn**	**20 14 52.3**	**+0.1**
HUIG	**Huatulco**	**3.87**	**300**	*i* P	**Pn**	**20 14 28.5**	**-1.6**
HUIG				*i* S	**Sn**	**20 15 12.5**	**-1.9**
HUIG	**Huatulco**	**3.87**	**300**	*i* P	**Pn**	**20 14 28.5**	**-1.6**
HUIG				*i* S	**Sn**	**20 15 12.5**	**-1.9**
VHO	**Vista Hermosa**	**5.10**	**310**	*i* P	**Pn**	**20 14 45.3**	**-1.9**
VHO				*e*S	**Sn**	**20 15 43.7**	**-1.2**
VHO	**Vista Hermosa**	**5.10**	**310**	*i* P	**Pn**	**20 14 45.3**	**-1.9**
VHO				*e*S	**Sn**	**20 15 43.7**	**-1.2**
TGUH	**Tegucigalpa,Un**	**5.21**	**87**	*e*Pn	**Pn**	**20 14 46.1**	**-2.5**
SCIG	**Sabancuy**	**5.29**	**15**	*i* P	**Pn**	**20 14 51.0**	**+1.3**
SCIG				*i* S	**Sn**	**20 15 51.2**	**+1.8**
SCIG	**Sabancuy**	**5.29**	**15**	*i* P	**Pn**	**20 14 51.0**	**+1.3**
SCIG				*i* S	**Sn**	**20 15 51.2**	**+1.8**
TPIG	**Tehuac#an**	**6.43**	**316**	*i* P	**Pn**	**20 15 06.1**	**+0.5**
TPIG				*i* S	**Sn**	**20 16 17.0**	**-0.8**
TPIG	**Tehuac#an**	**6.43**	**316**	*i* P	**Pn**	**20 15 06.1**	**+0.5**
TPIG				*i* S	**Sn**	**20 16 17.0**	**-0.8**
TEIG	**Tepich**	**7.60**	**33**	*e*Pn	Pn	20 15 16.7	-4.7
TEIG				*e*Sn	Sn	20 16 36.2	-10
TEIG	**Tepich** 8.3nm,0.3s,baz=236,slow=23,SNR=29	**7.60**	**33**	P	**Pn**	**20 15 20.1**	**-1.3**
TEIG	baz=186,slow=22,SNR=1.0			S	**Sn**	**20 16 41.3**	**-5.0**
JTS	**JuntasAbangare**	**8.30**	**114**	*e*Pn	**Pn**	**20 15 31.1**	**0.0**
JTS	**JuntasAbangare** 0.9nm,0.3s,baz=314,slow=18,SNR=4.6	**8.30**	**114**	P	**Pn**	**20 15 30.8**	**-0.3**
732A	**Laxson Ranch,** baz=16,SNR=18	**16.31**	**336**	⇑P	**P**	**20 17 22.4**	**+1.0**
632A	**Uvalde** baz=17,SNR=5.7	**16.95**	**338**	⇓P	**P**	**20 17 27.8**	**-0.6**
631A	**Perdido Creek** baz=17,SNR=7.4	**17.16**	**336**	⇑P	**P**	**20 17 30.7**	**-0.1**
532A	**Rocksprings** baz=17,SNR=6.5	**17.55**	**339**	⇑P	**P**	**20 17 34.9**	**-0.3**
532A	baz=17			⇓S	**Sn**	**20 20 47.0**	**-2.2**
JCT	**Junction City** baz=18	**17.84**	**339**	⇓P	**P**	**20 17 39.4**	**+1.1**
530A	**J-C Ranch, Com** baz=18,SNR=8.4	**18.12**	**335**	⇑P	**Pn**	**20 17 42.6**	**+1.1**
432A	**Menard** baz=18	**18.20**	**340**	⇑P	**Pn**	**20 17 43.3**	**+0.8**
628A	**Black Gap, Mar** baz=18,SNR=13	**18.24**	**330**	⇑P	**Pn**	**20 17 44.4**	**+1.4**
431A	**Sonora** baz=18,SNR=8.2	**18.31**	**338**	⇓P	**Pn**	**20 17 45.1**	**+1.3**
627A	**Terlingua Ranc** baz=18,SNR=17	**18.46**	**329**	⇓P	**Pn**	**20 17 47.5**	**+1.8**
529A	**Stev Forest Ra** baz=18,SNR=14	**18.47**	**333**	⇑P	**Pn**	**20 17 46.7**	**+0.9**
TXAR	**Lajitas Array**	**18.50**	**328**	P	**Pn**	**20 17 48.8**	**+2.5**
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=153,slow=14,SNR=45	**18.50**	**328**	P	**Pn**	**20 17 48.8**	**+2.5**
WHTX	**Lake Whitney**	**18.61**	**347**	*e*Pn	**P**	**20 17 46.0**	**-0.7**
WHTX	**Lake Whitney** baz=18	**18.61**	**347**	⇓P	**Pn**	**20 17 48.0**	**+0.7**
430A	**Baggett Ranch,** baz=18,SNR=13	**18.64**	**336**	⇓P	**Pn**	**20 17 49.1**	**+1.2**
332A	**Millersview** baz=18,SNR=11	**18.65**	**341**	⇑P	**Pn**	**20 17 48.7**	**+0.8**
528A	**Cox Ranch, San** baz=19,SNR=6.0	**18.76**	**332**	⇓P	**Pn**	**20 17 50.5**	**+1.1**
429A	**Davenport Ranc** baz=19,SNR=13	**18.76**	**334**	⇑P	**Pn**	**20 17 50.3**	**+1.0**
331A	**San Angelo** baz=19,SNR=13	**18.81**	**339**	⇓P	**Pn**	**20 17 50.2**	**+0.4**
626A	**Big Bend Ranch** baz=19,SNR=16	**18.92**	**328**	⇓P	**Pn**	**20 17 52.7**	**+1.4**
232A	**Coleman** baz=19,SNR=15	**19.09**	**341**	⇓P	**Pn**	**20 17 53.3**	**+0.1**
527A	**Woodward Ranch** baz=19,SNR=14	**19.14**	**330**	⇓P	**Pn**	**20 17 55.2**	**+1.2**
330A	**Mertzon** baz=19,SNR=18	**19.17**	**337**	⇓P	**Pn**	**20 17 54.6**	**+0.4**
428A	**Kincaid Ranch,** baz=19,SNR=11	**19.19**	**333**	⇓P	**Pn**	**20 17 55.5**	**+1.0**
526A	**Mary Lane Ranc** baz=19,SNR=12	**19.31**	**329**	⇓P	**Pn**	**20 17 57.1**	**+1.2**
231A	**Bronte** baz=19,SNR=8.8	**19.34**	**340**	⇓P	**Pn**	**20 17 56.4**	**+0.2**
329A	**Wagon Wheel Ra** baz=19,SNR=7.8	**19.55**	**336**	⇓P	**Pn**	**20 17 59.2**	**+0.4**
230A	**Sterling City** baz=19,SNR=23	**19.58**	**338**	⇑P	**Pn**	**20 17 58.8**	**-0.3**
427A	**Hayter Ranch,** baz=19	**19.62**	**331**	⇓P	**Pn**	**20 18 00.2**	**+0.6**
ABTX	**Abilene, Hawle**	**19.77**	**342**	*e*P	**P**	**20 17 59.8**	**+0.3**
ABTX	**Abilene, Hawle** baz=20,SNR=15	**19.77**	**342**	⇓P	**Pn**	**20 18 01.0**	**-0.3**
426A	**McDonald Obser** baz=20,SNR=11	**19.77**	**330**	⇓P	**Pn**	**20 18 02.1**	**+0.6**
LRAL	**Lakeview Retre** 18nm,1.2s	**19.80**	**14**	*e*P	**P**	**20 17 58.6**	**-1.1**
328A	**Wristen Ranch,** baz=20,SNR=34	**19.81**	**334**	⇑P	**Pn**	**20 18 02.2**	**+0.4**
229A	**Bryant Ranch,** baz=20,SNR=8.7	**19.91**	**337**	⇓P	**Pn**	**20 18 02.8**	**-0.3**
131A	**Roby** baz=20,SNR=8.0	**20.05**	**341**	⇓P	Pn	20 18 03.7	-0.9
ROSC	**El Rosal**	**20.13**	**115**	P	Pn	20 18 04.7	-1.4
ROSC				*e*Pn	Pn	20 18 09.1	+2.9
ROSC	**El Rosal** 0.5nm,0.3s,baz=284,slow=23,SNR=7.4	**20.13**	**115**	P	**P**	**20 18 04.7**	**+0.8**
130A	**Snyder** baz=20,SNR=8.2	**20.17**	**339**	⇑P	Pn	20 18 05.0	-1.1
326A	**Caldwell Ranch** baz=20	**20.28**	**331**	⇓P	Pn	20 18 07.2	-0.2
425A	**Indio Mountain** baz=20,SNR=12	**20.35**	**328**	⇓P	Pn	20 18 07.7	-0.6
228A	**UT Block 9, Go** baz=20,SNR=14	**20.36**	**335**	⇑P	Pn	20 18 07.5	-0.9
Z32A	**Haskell** baz=20,SNR=22	**20.36**	**343**	⇓P	**P**	**20 18 06.9**	**+1.0**
129A	**Stewart Farms,** baz=20,SNR=22	**20.52**	**337**	⇓P	**P**	**20 18 08.9**	**+1.2**
227A	**Bennet, Jal** baz=20,SNR=21	**20.56**	**333**	⇑P	Pn	20 18 10.2	-0.6
Z31A	**Sharp Cattle R** baz=20,SNR=27	**20.57**	**342**	⇓P	**P**	**20 18 09.1**	**+1.0**
128A	**Castleberry Fa** baz=20,SNR=51	**20.75**	**336**	⇓P	**P**	**20 18 11.6**	**+1.4**
325A	**Bean Ranch, Si** baz=21	**20.81**	**329**	⇓P	Pn	20 18 13.1	-0.8
Z30A	**Sanderson Ranc** baz=21,SNR=55	**20.85**	**340**	⇑P	**P**	**20 18 11.9**	**+0.7**
226B	**Tecolote Peak,** baz=21,SNR=26	**21.01**	**332**	⇓P	**P**	**20 18 15.3**	**+2.3**
Y32A	**R-V Farms, Ver** baz=21	**21.01**	**344**	⇑P	**P**	**20 18 13.7**	**+0.8**
Z29A	**Hungry Hill Ra** baz=21,SNR=18	**21.03**	**338**	⇑P	**P**	**20 18 14.0**	**+0.8**
324A	**Moseley Ranch,** baz=21,SNR=8.6	**21.13**	**328**	⇓P	**P**	**20 18 15.9**	**+1.5**
127A	**Arkansas Junct** baz=21,SNR=9.4	**21.16**	**334**	⇑P	**P**	**20 18 15.7**	**+1.1**
Y31A	**Rekieta Farm,** baz=21,SNR=16	**21.20**	**342**	⇑P	**P**	**20 18 16.0**	**+1.0**
GOGA	**Godfrey** 14nm,0.9s	**21.20**	**22**	*e*Pn	**P**	**20 18 15.7**	**+0.8**
MNTX	**Cornudas Mount** 7.3nm,0.9s	**21.28**	**329**	*e*P	**P**	**20 18 16.8**	**+1.0**
Z28A	**Tucker Farm, M** baz=21,SNR=9.7	**21.31**	**337**	⇓P	**P**	**20 18 17.3**	**+1.1**
Y30A	**Stafford Cattl** baz=21,SNR=12	**21.32**	**341**	⇓P	**P**	**20 18 17.0**	**+0.7**
225A	**Deer Hill, Car** baz=21,SNR=17	**21.34**	**331**	⇑P	**P**	**20 18 18.5**	**+1.8**
126A	**Clayton Basin,** baz=21,SNR=17	**21.42**	**333**	⇑P	**P**	**20 18 19.0**	**+1.6**
Y29A	**Porterfield Fa** baz=21,SNR=10	**21.56**	**339**	⇑P	**P**	**20 18 20.0**	**+1.1**
Z27A	**Tatum** baz=21,SNR=21	**21.65**	**335**	⇑P	**P**	**20 18 21.0**	**+1.1**
224A	**Cornudas Mount** baz=22,SNR=22	**21.66**	**329**	⇑P	**P**	**20 18 21.6**	**+1.6**
125A	**Gardner Draw,** baz=22,SNR=27	**21.72**	**332**	⇑P	**P**	**20 18 22.1**	**+1.5**
X31A	**McDonald Ranch** baz=22,SNR=21	**21.75**	**343**	⇑P	**P**	**20 18 21.8**	**+1.0**
Y28A	**McKinney Farm,** baz=22,SNR=29	**21.81**	**338**	⇑P	**P**	**20 18 22.8**	**+1.3**
X30A	**Coker Ranch, T** baz=22,SNR=25	**21.84**	**341**	⇓P	**P**	**20 18 22.9**	**+1.1**
Z26A	**Caprock** baz=22,SNR=47	**21.94**	**334**	⇓P	**P**	**20 18 24.4**	**+1.5**
MSTX	**Muleshoe** baz=22,SNR=12	**22.06**	**337**	⇑P	**P**	**20 18 25.0**	**+0.7**
X29A	**Tulia** baz=22,SNR=19	**22.10**	**340**	⇓P	**P**	**20 18 25.6**	**+0.9**
124A	**Stringfield Ra** baz=22,SNR=15	**22.13**	**330**	⇓P	**P**	**20 18 27.6**	**+2.4**
Y27A	**Causey** baz=22,SNR=13	**22.13**	**336**	⇑P	**P**	**20 18 26.1**	**+1.0**
SWET	**Sewnee** 17nm,1.0s	**22.14**	**15**	*e*P	**P**	**20 18 22.9**	**-2.1**
TUL1	**Tulsa**	**22.17**	**353**	*e*P	**P**	**20 18 23.3**	**-1.9**
TUL1	**Tulsa** baz=22	**22.17**	**353**	⇑P	**P**	**20 18 24.7**	**-0.6**
W31A	**Holland Ranch,** baz=22,SNR=5.0	**22.26**	**344**	⇑P	**P**	**20 18 27.5**	**+1.2**
Z25A	**Roswell** baz=22,SNR=20	**22.27**	**332**	⇑P	**P**	**20 18 27.9**	**+1.4**
Y26A	**Elida** baz=22	**22.43**	**335**	⇑P	**P**	**20 18 30.0**	**+1.7**
222A	**Williams Famil** baz=22	**22.50**	**326**	⇓P	**P**	**20 18 30.8**	**+1.8**
Z24A	**Sheeppen Canyo** baz=22,SNR=12	**22.61**	**331**	⇑P	**P**	**20 18 31.8**	**+1.6**
WVT	**Waverly** 5.5nm,0.8s	**22.62**	**10**	*e*P	**P**	**20 18 28.0**	**-2.1**
W29A	**Amarillo** baz=22,SNR=19	**22.70**	**341**	⇓P	**P**	**20 18 31.6**	**+0.5**
320A	**Kiger Ranch, An** baz=23	**22.73**	**323**	⇑P	**P**	**20 18 33.0**	**+1.6**
CPCT	**Cooper Cave**	**22.73**	**17**	*e*P	**P**	**20 18 28.5**	**-2.8**
X27A	**F and S Farms,** baz=23,SNR=11	**22.78**	**337**	⇑P	**P**	**20 18 32.3**	**+0.3**
V31A	**Spring Creek L** baz=22,SNR=17	**22.79**	**345**	⇓P	**P**	**20 18 32.7**	**+0.8**
Y25A	**Mesa, Roswell** baz=23,SNR=15	**22.80**	**333**	⇑P	**P**	**20 18 33.4**	**+1.2**
Z23A	**Rita Site, Whi** baz=23,SNR=8.1	**22.96**	**330**	⇓P	**P**	**20 18 35.3**	**+1.4**
X26A	**CR and CF Fran** baz=23,SNR=9.6	**22.97**	**336**	⇓P	**P**	**20 18 34.9**	**+1.0**
V30A	**Spur Ranch, Mi** baz=23	**23.01**	**343**	⇑P	**P**	**20 18 34.9**	**+0.7**
W28A	**Vega** baz=23,SNR=8.5	**23.01**	**340**	⇑P	**P**	**20 18 35.1**	**+0.7**
Y24A	**Capitan** baz=23,SNR=9.2	**23.13**	**332**	⇓P	**P**	**20 18 37.3**	**+1.6**
220A	**Playas Peak, P** baz=23	**23.14**	**324**	⇑P	**P**	**20 18 38.1**	**+2.4**
W27A	**Bowe Ranch, En** baz=23,SNR=26	**23.14**	**338**	⇓P	**P**	**20 18 36.5**	**+0.9**
TKL	**Tuckaleechee C**	**23.15**	**19**	P	**P**	**20 18 34.1**	**-1.5**
TKL	**Tuckaleechee C** 15nm,1.1s,baz=189,slow=9.5,SNR=13	**23.15**	**19**	P	**P**	**20 18 34.1**	**-1.5**
TKL	comp=Z,402nm,18.4s,baz=203,slow=41			LR	LR	20 29 15.4	
121A	**Cookes Peak, D** baz=23,SNR=11	**23.19**	**326**	⇓P	**P**	**20 18 38.7**	**+2.5**
319A	**Douglas** baz=23	**23.20**	**322**	⇑P	**P**	**20 18 39.3**	**+3.0**
X25A	**Clemmons Ranch** baz=23,SNR=13	**23.30**	**334**	⇓P	**P**	**20 18 38.9**	**+1.6**
Z22A	**Elephant Butte** baz=23	**23.32**	**328**	⇓P	**P**	**20 18 39.7**	**+2.2**
V29A	**Stinnett** baz=23	**23.36**	**342**	⇑P	**P**	**20 18 38.9**	**+1.3**
Y23A	**Lovelace Mesa,** baz=23,SNR=7.0	**23.43**	**331**	⇑P	**P**	**20 18 40.9**	**+2.4**
W26A	**Owens Ranch, T** baz=23	**23.43**	**337**	⇓P	**P**	**20 18 39.7**	**+1.2**
V28A	**Channing** baz=23	**23.47**	**340**	⇓P	**P**	**20 18 39.7**	**+0.9**
X24A	**Lazy VL Ranch,** baz=24	**23.67**	**333**	⇑P	**P**	**20 18 42.5**	**+1.7**
120A	**U Bar Ranch, L** baz=24,SNR=7.5	**23.68**	**325**	⇑P	**P**	**20 18 43.9**	**+3.0**
V27A	**Dan Oppiter Fa** baz=23	**23.68**	**339**	⇓P	**P**	**20 18 42.3**	**+1.5**
U30A	**WK&E Inc. Balk** baz=24,SNR=16	**23.72**	**344**	⇑P	**P**	**20 18 42.1**	**+1.0**
Z21A	**St. Cloud Mine** baz=24	**23.73**	**327**	⇓P	**P**	**20 18 43.3**	**+1.9**
W25A	**X Bar L Ranch,** baz=24,SNR=14	**23.82**	**335**	⇑P	**P**	**20 18 43.8**	**+1.8**
U29A	**Oasis Ranch, S** baz=24	**23.82**	**343**	⇑P	**P**	**20 18 43.3**	**+1.3**
Y22A	**Socorro** baz=24,SNR=5.7	**23.87**	**329**	⇓P	**P**	**20 18 45.9**	**+3.3**
SIUC	**Southern Illin** 30nm,0.8s	**23.98**	**7**	*e*P	**P**	**20 18 40.8**	**-2.6**
T31A	**Randall Ranch,** baz=24,SNR=7.0	**24.01**	**346**	⇑P	**P**	**20 18 44.0**	**+0.3**
X23A	**Hourglass Bar** baz=24	**24.02**	**332**	⇓P	**P**	**20 18 46.5**	**+2.4**
TZTN	**Tazewell** 28nm,1.1s	**24.04**	**18**	*e*P	**P**	**20 18 41.4**	**-2.6**
U28A	**Mallet** baz=24	**24.04**	**341**	⇑P	**P**	**20 18 45.3**	**+1.2**
V26A	**Tequesquite Ra** baz=24,SNR=8.0	**24.06**	**337**	⇑P	**P**	**20 18 45.5**	**+1.1**
Z20A	**Nine Sixteen R** baz=24,SNR=9.0	**24.08**	**326**	⇓P	**P**	**20 18 47.2**	**+2.7**
T30A	**Plains** baz=24,SNR=10.0	**24.18**	**344**	⇑P	**P**	**20 18 46.7**	**+1.4**
W24A	**Lazy 6 Ranch,** baz=24,SNR=8.4	**24.20**	**334**	⇑P	**P**	**20 18 47.8**	**+2.1**
U27A	**Thompson Grove** baz=24,SNR=18	**24.28**	**340**	⇓P	**P**	**20 18 47.9**	**+1.6**
Y21A	**Point of Rocks** baz=24	**24.28**	**328**	⇑P	**P**	**20 18 49.3**	**+2.8**
V25A	**Rancho No Teng** baz=24,SNR=9.2	**24.42**	**336**	⇓P	**P**	**20 18 49.4**	**+1.8**
ANMO	**Albuquerque** 8.8nm,0.9s	**24.45**	**332**	P	**P**	**20 18 49.9**	**+1.9**
ANMO	**Albuquerque** 2.6nm,0.7s,baz=137,slow=9.3,SNR=9.6	**24.45**	**332**	P	**P**	**20 18 49.9**	**+1.9**
S31A	**Mullinville** baz=24	**24.46**	**347**	⇓P	**P**	**20 18 49.2**	**+1.3**
T29A	**Hugoton** baz=24,SNR=12	**24.48**	**343**	⇑P	**P**	**20 18 49.3**	**+1.2**
U26A	**Atchley Ranch,** baz=24,SNR=11	**24.58**	**338**	⇑P	**P**	**20 18 51.1**	**+2.0**
V24A	**Rampart Ranch,** baz=24	**24.59**	**335**	⇓P	**P**	**20 18 51.7**	**+2.4**
X21A	**Alamocita Cree** baz=24	**24.68**	**329**	⇑P	**P**	**20 18 52.8**	**+2.7**
T28A	**Walsh** baz=24	**24.69**	**342**	⇑P	**P**	**20 18 50.7**	**+0.7**
S30A	**Montezuma** baz=24,SNR=7.1	**24.71**	**345**	⇓P	**P**	**20 18 51.2**	**+1.0**
TUC	**Tucson** 8.5nm,1.2s	**24.77**	**321**	*e*P	**P**	**20 18 55.4**	**+4.6**
TUC				*e*pP	**pP**	**20 19 06.1**	**+3.3**
SLM	**Saint Louis** 27nm,0.7s	**24.80**	**4**	*e*P	**P**	**20 18 50.5**	**-0.3**
T27A	**Campo** baz=25	**24.83**	**341**	⇑P	**P**	**20 18 52.9**	**+1.6**
U25A	**Circle Dot Ran** baz=25,SNR=10	**24.83**	**337**	⇑P	**P**	**20 18 53.0**	**+1.6**
S29A	**Ulysses** baz=25,SNR=20	**24.87**	**344**	⇑P	**P**	**20 18 53.1**	**+1.5**
WCI	**Wyandotte Cave** 23nm,0.8s	**24.94**	**12**	*e*P	**P**	**20 18 50.1**	**-2.1**
V23A	**Ortiz Mt. (NFS** baz=25	**24.99**	**333**	⇓P	**P**	**20 18 55.8**	**+2.9**
R31A	**Burdett** baz=25,SNR=12	**25.11**	**347**	⇑P	**P**	**20 18 55.1**	**+1.4**
OLIL	**Olney** 22nm,0.8s	**25.13**	**8**	*e*P	**P**	**20 18 52.8**	**-1.0**
R30A	**Dighton** baz=25,SNR=11	**25.28**	**346**	⇓P	**P**	**20 18 56.1**	**+0.8**
KSU1	**Kansas State U** 16nm,0.6s	**25.41**	**353**	*e*P	**P**	**20 18 56.6**	**+0.2**
V22A	**San Miguel Ran** baz=25	**25.45**	**332**	⇑P	**P**	**20 18 59.5**	**+2.4**
T25A	**Trinidad** baz=25,SNR=9.2	**25.48**	**338**	⇓P	**P**	**20 18 58.8**	**+1.4**
U23A	**El Rito** baz=25,SNR=18	**25.49**	**334**	⇓P	**P**	**20 18 59.7**	**+2.3**
W20A	**Ramah** baz=25,SNR=5.8	**25.58**	**329**	⇑P	**P**	**20 19 00.8**	**+2.6**
S26A	**Kim** baz=25	**25.58**	**340**	⇑P	**P**	**20 19 00.2**	**+2.0**
R29A	**Marienthal** baz=25	**25.63**	**344**	⇓P	**P**	**20 18 60.0**	**+1.5**
V21A	**Milan** baz=26	**25.70**	**331**	⇓P	**P**	**20 19 02.1**	**+2.7**
Q31A	**Ellis** baz=26	**25.78**	**348**	⇓P	**P**	**20 19 01.7**	**+2.0**
T24B	**San Luis** baz=26	**25.78**	**336**	⇓P	**P**	**20 19 02.2**	**+2.1**
U22A	**Llaves** baz=26	**25.82**	**333**	⇓P	**P**	**20 19 02.7**	**+2.3**
Q30A	**Quinter** baz=26	**25.93**	**346**	⇑P	**P**	**20 19 02.9**	**+1.8**
S25A	**Robets Cordova** baz=26	**25.95**	**338**	⇑P	**P**	**20 19 03.9**	**+2.3**
R27A	**Eads** baz=26	**25.97**	**342**	⇓P	**P**	**20 19 03.4**	**+1.7**
T23A	**Casias Ranch,** baz=26	**26.02**	**335**	⇑P	**P**	**20 19 05.1**	**+2.8**
Q29A	**Oakley** baz=26,SNR=8.3	**26.03**	**345**	⇓P	**P**	**20 19 04.0**	**+2.0**
R26A	**Arlington** baz=26	**26.19**	**340**	⇓P	**P**	**20 19 06.2**	**+2.5**
S24A	**Houchin Ranch,** baz=26,SNR=5.3	**26.22**	**337**	⇑P	**P**	**20 19 06.4**	**+2.3**
P31A	**Stockton** baz=26	**26.27**	**348**	⇑P	**P**	**20 19 06.1**	**+1.8**
R25A	**Fountain Ranch** baz=26,SNR=7.7	**26.33**	**339**	⇓P	**P**	**20 19 06.5**	**+1.6**
T22A	**Edith** baz=26	**26.37**	**334**	⇓P	**P**	**20 19 07.7**

baz=28
N27A **Anderson Farm,** 28.23 344 ⇑P P 20 19 23.6 +1.7
baz=28
N20A **Spence Gulch,** 30.17 336 ⇑P P 20 19 41.9 +2.6
baz=30,SNR=5.8
L22A **Ellis Ranch, M** 30.54 340 ⇓P P 20 19 43.8 +1.3
baz=30
J26A **Sides Ranch, S** 30.72 345 ⇑P P 20 19 45.4 +1.5
baz=30
I29A **Vivian Onida** 30.80 349 ⇓P P 20 19 45.2 +0.7
baz=30
L21A **Rawlins** 30.81 338 ⇑P P 20 19 46.5 +1.6
baz=31
G30A **Faulkton** 31.68 351 ⇓P P 20 19 51.7 -0.5
baz=31
R11A **Troy Canyon, C** 31.78 324 ⇑P P 20 19 56.6 +3.2
baz=32
PDAR **Pinedale Array** 32.32 336 P P 20 19 59.3 +1.1
PDAR **Pinedale Array** 32.32 336 P P 20 19 59.3 +1.1
3.0nm,1.0s,baz=141,slow=9.6,SNR=6.5
RCTC **Rector, Farmer** 32.69 318 ⇑P P 20 20 04.7 +3.5
baz=33
SADO **Sadowa** 32.91 18 P P 20 19 59.4 -3.6
SADO **Sadowa** 32.91 18 P P 20 19 59.4 -3.6
5.8nm,0.7s,baz=199,slow=8.6,SNR=4.8
I19A **Meeteetse** 33.20 338 ⇓P P 20 20 08.4 +2.7
baz=33
NV11 **Mina Array Sit** 33.33 322 *e*P P 20 20 08.9 +1.9
SNOW **Snow King Moun** 33.38 336 *e*P P 20 20 09.2 +1.8
36nm,0.8s
NVAR **Mina Array Bea** 33.42 322 P P 20 20 11.7 +3.9
NVAR **Mina Array Bea** 33.42 322 P P 20 20 11.7 +3.9
5.3nm,0.8s,baz=138,slow=8.9,SNR=31
NVAR LR LR 20 35 40.4
comp=Z,219nm,18.8s,baz=290,slow=40
LOHW **Long Hollow** 33.44 336 *e*P P 20 20 10.2 +2.3
12nm,0.9s
E26A **Carlson Angus** 33.57 348 ⇑P P 20 20 10.3 +1.5
baz=33
MOOW **Moose Ponds** 33.61 336 *e*P P 20 20 10.5 +1.1
8.0nm,1.0s
I17A **Pilgrim Ck.** 33.69 336 ⇓P P 20 20 11.7 +1.6
baz=34
E25A **Miller Ranch,** 33.80 347 ⇓P P 20 20 12.3 +1.4
baz=34
D28A **Regan** 33.91 350 ⇑P P 20 20 11.8 0.0
baz=34,SNR=6.0
H18A **Shoshone NF, C** 33.99 338 ⇑P P 20 20 14.7 +2.0
baz=34
E24A **Baker** 34.07 346 ⇑P P 20 20 14.5 +1.3
baz=34
D26A **Manning** 34.10 348 ⇓P P 20 20 14.8 +1.4
baz=34
C28A **Hausauer Farms** 34.39 351 ⇑P P 20 20 15.7 -0.2
baz=34
MDND **Maddock** 34.41 352 ⇓P P 20 20 15.7 -0.3
baz=34,SNR=6.1
AGMN **Agassiz Nation** 34.47 356 *e*P P 20 20 16.2 -0.3
8.6nm,1.1s
C27A **Sayler Ranch,** 34.58 349 ⇑P P 20 20 17.8 +0.3
baz=34
D24A **Glendive** 34.59 346 ⇓P P 20 20 19.3 +1.6
baz=34
F19A **Roth Farm, Mol** 34.77 340 ⇓P P 20 20 21.0 +1.7
baz=34
B30A **Myrvik Farm, E** 34.84 353 ⇑P P 20 20 20.5 +0.8
baz=34
D23A **Lindsay** 34.86 345 ⇓P P 20 20 21.4 +1.4
baz=35
C25A **Freed Ranch, W** 34.92 347 ⇓P P 20 20 21.7 +1.3
baz=35
B29A **Wagenman Farm,** 34.98 352 ⇑P P 20 20 21.3 +0.3
baz=35
C24A **Savage** 35.01 346 ⇓P P 20 20 22.6 +1.4
baz=35
HLID **Hailey** 35.03 332 *e*P P 20 20 24.4 +2.8
4.9nm,0.8s
HLID **Hailey** 35.03 332 ⇓P P 20 20 23.7 +2.0
baz=35,SNR=12
E20A **Meyer Farm, Mu** 35.08 341 ⇓P P 20 20 23.2 +1.3
baz=35
D22A **Cohagen** 35.10 344 ⇑P P 20 20 23.1 +1.1
baz=35,SNR=11
B28A **Dugan Ranch, T** 35.10 351 ⇓P P 20 20 21.8 -0.2
baz=35,SNR=5.5
B27A **Peters Farms,** 35.20 350 ⇑P P 20 20 24.6 +1.7
baz=35
D21A **La Casta Ranch** 35.25 343 ⇑P P 20 20 25.3 +2.0
baz=35
E19A **Rath Farm, Rou** 35.25 341 ⇑P P 20 20 24.8 +1.5
baz=35
A30A **Hoffart Farm,** 35.32 354 ⇓P P 20 20 24.5 +0.7
baz=35
D20A **Manuel Ranch,** 35.60 342 ⇑P P 20 20 28.6 +2.2
baz=35
LRM **Limekiln Ridge** 36.01 336 *e*P P 20 20 31.8 +1.7
B23A **Brockton** 36.02 346 ⇑P P 20 20 31.2 +1.4
baz=36
A25A **Svangstu Ranch** 36.06 348 ⇑P P 20 20 31.4 +1.2
baz=36
B22A **Reddig Ranch S** 36.11 345 ⇑P P 20 20 31.7 +1.0
baz=36,SNR=5.4
A24A **Westby** 36.23 347 ⇓P P 20 20 32.2 +0.6
baz=36
ULM **Lac du Bonnet** 36.41 356 P P 20 20 32.5 -0.7
ULM **Lac du Bonnet** 36.41 356 P P 20 20 32.5 -0.7
1.9nm,0.5s,baz=187,slow=4.8,SNR=4.2
ULM LR LR 20 38 16.4
comp=Z,68nm,19.5s,baz=235,slow=41
C19A **Slack Wire Ran** 36.46 341 ⇑P P 20 20 35.5 +1.8
baz=36
A22A **Carney Farms,** 36.73 345 ⇑P P 20 20 37.5 +1.5
baz=36
J08A **Circle Bar Ran** 36.85 328 *e*P P 20 20 39.9 +2.7
9.0nm,0.8s
EGMT **Eagleton** 36.94 341 ⇑P P 20 20 39.3 +1.5
baz=37
A21A **Bergtoll Ranch** 36.99 344 ⇓P P 20 20 39.7 +1.6
baz=37
B19A **Brinkman Farms** 37.07 342 ⇑P P 20 20 40.7 +1.8
baz=37
A20A **Cobblestone Ra** 37.16 343 ⇓P P 20 20 41.3 +1.7
baz=37
CHMT **Chamberlain Mo** 37.23 336 *e*P P 20 20 42.4 +2.0
CHMT *ep*P pP 20 20 49.7 -3.1
MSO **Missoula** 37.43 336 *e*P P 20 20 44.2 +2.1
7.3nm,0.9s
MSO **Missoula** 37.43 336 ⇑P P 20 20 43.6 +1.5
baz=37,SNR=5.1
A19A **Klindworth Far** 37.43 342 ⇓P P 20 20 43.4 +1.4
baz=37
C09A **Chrisman Ranch** 40.02 333 *e*P P 20 21 06.0 +2.4
9.0nm,0.9s
LON **Longmire** 40.91 329 *e*P P 20 21 12.1 +1.0
3.7nm,0.8s
EDM **Edmonton** 42.59 342 *e*P P 20 21 25.9 +1.2
SIV **San Ignacio** 43.03 132 P P 20 21 28.4 -0.2
SIV **San Ignacio** 43.03 132 P P 20 21 28.4 -0.2
3.2nm,0.9s,baz=316,slow=7.1,SNR=7.6
SCHQ **Schefferville** 45.59 21 P P 20 21 45.8 -2.8
SCHQ **Schefferville** 45.59 21 P P 20 21 45.8 -2.8
5.2nm,0.9s,baz=238,slow=4.4,SNR=3.6
SCHQ LR LR 20 41 42.9
comp=Z,384nm,20.0s,baz=280,slow=37
YKA **Yellowknife Ar** 51.05 347 P P 20 22 31.3 +0.8
YKA **Yellowknife Ar** 51.05 347 P P 20 22 31.3 +0.8
12nm,0.7s,baz=150,slow=7.4,SNR=17
DLBC **Dease Lake** 52.56 336 *e*P P 20 22 43.6 +1.6
DLBC **Dease Lake** 52.56 336 P P 20 22 45.1 +3.2
14nm,0.9s,baz=144,slow=5.2,SNR=25
BDFB **Brasilia** 52.96 122 LR LR 20 47 19.9
comp=Z,84nm,18.0s,baz=149,slow=38
INK **Inuvik** 60.42 344 P P 20 23 38.6 +1.0
INK **Inuvik** 60.42 344 P P 20 23 38.6 +1.0
6.2nm,0.9s,baz=135,slow=12,SNR=7.7
EGAK **Eagle** 60.64 338 *e*P P 20 23 40.5 +1.4
PAX **Paxson** 61.35 335 *e*P P 20 23 45.5 +1.4
36nm,1.9s
KDAK **Kodiak Island** 62.53 328 P P 20 23 53.9 +1.8
KDAK **Kodiak Island** 62.53 328 P P 20 23 53.9 +1.8
2.8nm,0.6s,baz=88,slow=10,SNR=4.9
ILAR **Eielson Array** 62.75 337 P P 20 23 54.5 +1.1
ILAR **Eielson Array** 62.75 337 P P 20 23 54.5 +1.1
7.9nm,1.1s,baz=126,slow=4.5,SNR=24
MCK **McKinley** 63.09 335 *e*P P 20 23 55.7 0.0
26nm,1.4s
COLA **College** 63.16 337 *e*P P 20 23 56.6 +0.5
19nm,0.3s
TRF **Thorofare Moun** 63.53 335 *e*P P 20 24 00.3 +1.6
9.0nm,0.9s
CAST **Castle Rocks** 64.26 335 *e*P P 20 24 04.6 +1.2
6.7nm,0.9s
COLD **Coldfoot** 65.06 339 *e*P P 20 24 10.3 +1.8
5.6nm,1.0s
ESDC **Sonseca Array** 80.31 52 P P 20 25 37.3 -2.3
ESDC **Sonseca Array** 80.31 52 P P 20 25 37.3 -2.3
0.8nm,0.8s,baz=284,slow=5.8,SNR=5.9
NOA **NORSAR Array B** 84.59 28 LR LR 21 01 59.0
comp=Z,40nm,18.2s,baz=0.0,slow=34
HFS **Hagfors** 86.05 29 LR LR 21 05 28.9
comp=Z,69nm,19.1s,baz=257,slow=36
ARCES **ARCESS Array B** 86.49 18 LR LR 21 02 50.6
comp=Z,86nm,20.1s,baz=96,slow=34
FINES **FINESS Array B** 90.91 25 LR LR 21 08 23.4
comp=Z,75nm,18.2s,baz=206,slow=36
VRAC **Vranov** 91.71 38 LR LR 21 05 18.6
comp=Z,27nm,20.9s,baz=344,slow=34
KURK **Kurchatov** 115.28 6 PKP PKPdf 20 32 10.1 +0.4
KURBB **Kurchatov Arra** 115.36 6 PKP PKPdf 20 32 10.1 +0.2
0.5nm,0.7s,baz=354,slow=1.9,SNR=7.4
MKAR **Makanchi Array** 119.48 4 PKP PKPdf 20 32 17.2 -0.8
MKAR **Makanchi Array** 119.48 4 PKP PKPdf 20 32 17.2 -0.8
0.3nm,0.6s,baz=20,slow=3.9,SNR=3.9
HHC **Hu-ho-hao-te** 121.15 339 *e*PKP PKPdf 20 32 21.5 0.0
HHC sPKP 20 32 36.0
HHC SKS SKSdf 20 39 28.8 -1.3
HHC SKKS SKKSac 20 40 41.6 -6.2
HHC SS SS 20 50 18.2 -1.6
HHC PPMZ
340nm,6.9s
HHC LR LR
comp=N,210nm,19.3s
HHC LR LR
comp=E,260nm,19.3s
HHC LR LR
comp=Z,220nm,19.1s
WMQ **Urumqi** 122.63 360 *e*PKP PKPdf 20 32 26.6 +2.4
WMQ LR LR
comp=N,53nm,18.6s
WMQ LR LR
comp=E,55nm,19.4s
CD2 **Chengdu** 132.81 341 PKP PKPdf 20 32 46.5 +2.6
GYA **Guiyang** 135.77 335 *e*Pdif Pdif 20 29 53.8 +0.5
GYA PKP PKiKP 20 32 51.2 -0.1
GYA sPKP 20 33 07.8
GYA PP PP 20 35 32.6 +5.9
GYA PPMZ
90nm,7.5s
CMAR **Chiang Mai Arr** 145.94 340 PKPbc PKPab 20 33 10.1 +1.0
6.5nm,0.7s,baz=342,slow=3.8,SNR=25

IDC 04 20:17:35.8±1.2, **46.53N**×**27.36W, h0**km, **mb3.5**/4,
mb1 3.6/5, **mb1mx3.4**/31, **mbtmpg3.5**/5, **ML4.5/1**, **MS3.3**/3,
Ms1 3.3/3, **ms1mx2.9**/29, **Error ellipse: s-maj=46.1km**
s-min=26.0km az=12.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**18.37**	**103**	P	P	20 21 52.9	+0.8
	0.3nm,0.3s,baz=300,slow=12,SNR=4.3						
ESDC				LR	LR	20 27 03.8	
	comp=Z,88nm,19.8s,baz=295,slow=31						
KEST	**Kesra**	**29.43**	**98**	LR	LR	20 33 40.9	
	comp=Z,32nm,20.1s,baz=289,slow=33						
TORD	**Torodi Ar. Bea**	**41.29**	**134**	P	P	20 25 22.5	-0.4
	0.6nm,0.9s,baz=335,slow=6.6,SNR=4.3						
TORD				LR	LR	20 41 08.1	
	comp=Z,71nm,18.4s,baz=325,slow=34						
BRTR	**Keskin Array B**	**44.06**	**76**	P	P	20 25 45.8	+0.3
	0.4nm,0.8s,baz=290,slow=8.6,SNR=3.8						
H10S1	**ASCENSION HYDR**	**56.38**	**165**	T	T	21 27 50.1	
	baz=350,slow=0.7,SNR=7.8						
H10S3	**ASCENSION HYDR**	**56.39**	**165**	T	T	21 27 50.8	
	baz=350,slow=0.7,SNR=8.1						
H10S2	**ASCENSION HYDR**	**56.40**	**165**	T	T	21 27 51.5	
	baz=350,slow=0.7,SNR=8.3						
TXAR	**Lajitas Array**	**60.31**	**282**	P	P	20 27 46.8	+0.4
	0.4nm,0.9s,baz=85,slow=5.5,SNR=2.7						
MKAR	**Makanchi Array**	**68.53**	**44**	P	P	20 28 39.9	0.0
	0.8nm,0.8s,baz=335,slow=5.4,SNR=7.1						
ASAR	**Alice Springs**	**152.65**	**40**	PKPbc	PKPbc	20 37 33.5	-0.9
	0.4nm,0.8s,baz=0.0,slow=1.9,SNR=4.1						

*IDC **04** 20:22:07.2±0.6, 15°.87S×173°.37W, h0km, mb4.2/13,*
mb1 4.5/14, mb1mx4.3/22, mbtmp4.2/14, ML2.5/1, MS4.0/11,
Ms1 4.1/11, ms1mx3.8/31, Error ellipse: s-maj=34.6km
s-min=14.5km az=143.0
*NEIC **04** 20:22:08.7±0.5, 15°.79S×173°.41W, h10km, mb4.8/5, Error*
ellipse: s-maj=27.7km s-min=9.3km az=146.0
*AUST **04** 20:22:12.3±0.0, 16°.03S×172°.50W, h74km, Error ellipse:*
s-maj=1.6km s-min=1.4km az=251.0
*ISCJB **04** 20:22:15.8±0.5, 16°.0S±0°.2×173°.5W±0°.1, h79km, mb4.2/17,*
Error ellipse: s-maj=26.2km s-min=9.7km az=148.4

ISC 04 20:22:17.8±0.6, **16.0S**±0°.2×**173.5W**±0°.1, **h79**km, **n91,**
σ1s03/72, mb4.3/17, 13C-4D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.62**	**39**	*e*Pn	Pn	20 22 45.8	-12
AFI				Sn	Sn	20 23 12.4	-17
AFI	**Afiamalu**	**2.62**	**39**	Pn	Pn	20 22 46.9	-11
	66nm,0.3s,baz=220,slow=4.8,SNR=23						
AFI				Sn	Sn	20 23 12.4	-17
	235nm,0.3s,baz=50,slow=23,SNR=13						
AFI				LR	LR	20 23 38.7	
	comp=Z,941nm,20.1s,baz=228,slow=37						
NIUE	**Niue**	**4.57**	**133**	P	Pn	20 23 11.1	-14
	baz=3.9,SNR=52						
RAR	**Rarotonga**	**13.98**	**114**	LR	LR	20 28 58.3	
	comp=Z,695nm,20.1s,baz=315,slow=30						
DZM	**Mont Dzumac**	**19.93**	**249**	*e*P	Pn	20 26 57.4	+11
	65nm,1.4s						
DZM				*e*LR	LR	20 31 49.2	
	2μm,25.1s						
DZM	**Mont Dzumac**	**19.93**	**249**	*e*P	**P**	**20 26 41.2**	**-2.4**
	14nm,0.7s						
PPT	**Papeete**	**22.92**	**97**	LR	LR	20 33 46.7	
	comp=Z,403nm,18.3s,baz=222,slow=31						
PPT2	**Papete2**	**22.92**	**97**	eLQ	LQ	20 31 32.3	
	424nm,27.5s						
PPT2				*e*LR	LR	20 32 33.1	
	844nm,24.5s,baz=263						
TBI	**Tubuai**	**23.74**	**112**	*e*LR	LR	20 32 50.0	
	1μm,26.8s,baz=289						
RKT	**Rikitea**	**36.88**	**107**	*e*LR	LR	20 38 55.3	
	500nm,25.2s						
CTA	**Charters Tower**	**38.46**	**258**	P	**P**	**20 29 32.9**	**+0.5**
CTA	**Charters Tower**	**38.46**	**258**	P	**P**	**20 29 32.9**	**+0.5**
	2.1nm,0.7s,baz=115,slow=8.3,SNR=2.1						
H11S2	**WAKE ISLAND Hy**	**39.42**	**330**	T	T	21 11 18.7	
	baz=152,slow=0.7,SNR=33						
H11S3	**WAKE ISLAND Hy**	**39.44**	**330**	T	T	21 11 30.2	
	baz=152,slow=0.7,SNR=14						
H11S1	**WAKE ISLAND Hy**	**39.44**	**330**	T	T	21 11 30.9	
	baz=152,slow=0.7,SNR=20						
CMSA	**Cobar Meteorol**	**40.21**	**240**	P	**P**	**20 29 45.9**	**-0.9**
	baz=41,SNR=6.2						
H11N3	**WAKE ISLAND Hy**	**40.38**	**331**	T	T	21 12 32.0	
	baz=152,slow=0.7,SNR=22						
H11N1	**WAKE ISLAND Hy**	**40.38**	**331**	T	T	21 12 32.3	
	baz=152,slow=0.7,SNR=14						
H11N2	**WAKE ISLAND Hy**	**40.40**	**331**	T	T	21 12 33.4	
	baz=152,slow=0.7,SNR=29						
COEN	**Coen**	**41.89**	**267**	*e*P	**P**	**20 29 59.7**	**-1.1**
	47nm,0.8s						
COEN	**Coen**	**41.89**	**267**	P	**P**	**20 30 02.3**	**+1.5**
	baz=43,SNR=11						
TOO	**Toolangi**	**42.06**	**231**	P	**P**	**20 30 01.1**	**-0.8**
	baz=43,SNR=3.9						
STKA	**Stephens Creek**	**43.70**	**240**	*e*P	**P**	**20 30 14.4**	**-0.8**
STKA	**Stephens Creek**	**43.70**	**240**	P	**P**	**20 30 14.6**	**-0.6**
	baz=44,SNR=11						
STKA	**Stephens Creek**	**43.70**	**240**	P	**P**	**20 30 14.4**	**-0.8**
	7.9nm,0.8s,baz=76,slow=9.6,SNR=16						
WRA	**Warramunga Arr**	**49.66**	**257**	P	**P**	**20 31 00.9**	**-1.1**
WRA	**Warramunga Arr**	**49.66**	**257**	P	**P**	**20 31 00.9**	**-1.1**
	4.7nm,0.8s,baz=90,slow=6.5,SNR=28						
WRA				LR	LR	20 50 58.9	
	comp=Z,368nm,21.4s,baz=120,slow=35						
AS31	**Alice Springs**	**49.88**	**252**	*e*P	**P**	**20 31 01.9**	**-1.7**
ASAR	**Alice Springs**	**49.88**	**252**	P	**P**	**20 31 02.0**	**-1.6**

ASAR **Alice Springs** 49.88 252 P P 20 31 02.0 -1.6
5.7nm,0.6s,baz=87,slow=8.5,SNR=54
ASAR LR LR 20 51 19.7
comp=Z,391nm,18.9s,baz=89,slow=35
KDU **Kakadu** 52.37 266 P P 20 31 22.9 +0.5
baz=53,SNR=3.4
KNRA **Kununurra** 55.42 262 P P 20 31 44.7 +0.1
baz=59,SNR=7.8
FITZ **Fitzroy Crossi** 58.03 258 P P 20 32 02.9 -0.2
FITZ **Fitzroy Crossi** 58.03 258 P P 20 32 03.7 +0.6
baz=59,SNR=4.1
FITZ **Fitzroy Crossi** 58.03 258 P P 20 32 02.9 -0.2
2.1nm,0.6s,baz=150,slow=2.2,SNR=9.3
JCJ **Chichijima** 60.71 314 LR LR 20 55 04.3
comp=Z,219nm,18.8s,baz=132,slow=33
SOEI **Soe** 60.84 268 P P 20 32 24.7 +2.0
baz=62,SNR=4.2
VNDA **Vanda** 62.80 186 P P 20 32 35.6 +1.0
VNDA **Vanda** 62.80 186 P P 20 32 35.6 +1.0
0.9nm,0.8s,baz=5.1,slow=9.2,SNR=6.1
VNDA LR LR 20 53 07.5
comp=Z,52nm,20.8s,baz=198,slow=30
KLBR **Kellerberrin** 63.92 242 P P 20 32 42.5 -0.3
baz=65,SNR=6.6
FX1 **Attu Island--F** 69.54 351 LR LR 20 56 52.9
comp=Z,130nm,19.6s,baz=344,slow=30
NVAR **Mina Array Bea** 74.79 42 P P 20 33 48.9 -1.0
NVAR **Mina Array Bea** 74.79 42 P P 20 33 48.9 -1.0
1.9nm,0.9s,baz=230,slow=9.9,SNR=7.6
MOD **Modoc** 75.61 38 *e*P P 20 33 53.7 -0.8
25nm,1.3s
USRK **Ussuriysk Arra** 77.80 323 LR LR 21 08 15.3
comp=Z,86nm,18.6s,baz=46,slow=36
HLID **Hailey** 80.11 39 *e*P P 20 34 19.2 -0.2
4.7nm,1.2s
TXAR **Lajitas Array** 80.98 56 P P 20 34 23.5 -0.8
TXAR **Lajitas Array** 80.98 56 P P 20 34 23.5 -0.8
0.5nm,0.9s,baz=218,slow=5.9,SNR=5.7
ANMO **Albuquerque** 81.22 50 P P 20 34 24.0 -1.5
ANMO **Albuquerque** 81.22 50 P P 20 34 24.0 -1.5
2.0nm,1.0s,baz=232,slow=2.9,SNR=3.8
PDAR **Pinedale Array** 82.73 42 P P 20 34 32.2 -1.2
PDAR **Pinedale Array** 82.73 42 P P 20 34 32.2 -1.2
1.6nm,0.9s,baz=219,slow=4.0,SNR=11
PDAR LR LR 21 06 24.6
comp=Z,100nm,20.0s,baz=240,slow=32
SMCO **Snowmass** 82.75 46 *e*P P 20 34 32.0 -1.8
11nm,1.5s
ILAR **Eielson Array** 83.02 11 P P 20 34 33.6 -0.4
ILAR **Eielson Array** 83.02 11 P P 20 34 33.6 -0.4
0.6nm,0.6s,baz=236,slow=6.3,SNR=12
MAW **Mawson** 87.23 199 P P 20 34 55.8 +0.6
MAW **Mawson** 87.23 199 P P 20 34 55.8 +0.6
1.1nm,0.8s,baz=137,slow=7.4,SNR=6.1
CMAR **Chiang Mai Arr** 92.74 288 P P 20 35 23.9 +2.0
CMAR **Chiang Mai Arr** 92.74 288 P P 20 35 23.9 +2.0
2.5nm,0.4s,baz=98,slow=2.5,SNR=5.9
CMAR LR LR 21 14 08.7
comp=Z,55nm,20.0s,baz=349,slow=34
ARCES **ARCESS Array B** 125.17 352 PKP PKPdf 20 41 09.3 +0.7
ARCES **ARCESS Array B** 125.17 352 PKP PKPdf 20 41 09.3 +0.7
1.1nm,0.7s,baz=5.7,slow=3.7,SNR=6.7
MALT **Malatya** 144.22 315 ⇑*i*P PKPdf 20 41 45.6 +0.5
BRG **Berggiesshubel** 144.68 352 *e*(P) PKPdf 20 41 52.2 +6.9
11nm,1.6s
UPC **Upice** 144.71 350 *e*PKP PKPdf 20 41 45.9 +0.4
DPC **Dobruska-Polom** 144.81 349 *e*PKP PKPdf 20 41 46.1 +0.4
BURAR **Bucovina Array** 144.87 338 ⇑*i*P PKPdf 20 41 46.6 +0.6
OKC **Ostrava-Krasne** 144.93 347 *e*PKP PKPdf 20 41 46.4 +0.6
OKC *ex* x 20 41 55.8
MORC **Moravsky Berou** 145.12 348 ⇑*i*P PKPdf 20 41 46.1 -0.1
GHRR 145.30 334 ⇓*i*P PKPab 20 41 48.2 +1.6
TRPA **Tarpa** 145.33 341 ⇑*i*P PKPab 20 41 47.3 +0.6
TLCR 145.37 332 ⇑*i*P PKPab 20 41 47.8 +0.9
PRU **Pruhonice** 145.46 351 *e*PKP PKPab 20 41 47.8 +0.7
PRU *ex* x 20 41 53.7
CFR **Carcaliu** 145.68 332 ⇑*i*P PKPdf 20 41 46.8 -0.4
VRI **Vrincioaia** 145.74 335 ⇑*i*P PKPab 20 41 49.4 +1.1
VRAC **Vranov** 145.76 348 ⇓*i*P PKPdf 20 41 44.6 -2.7
PLOR **Plostina** 145.78 335 ⇓*i*P PKPab 20 41 49.2 +0.7
TREC **Trest** 145.97 350 *e*PKP PKPbc 20 41 48.4 -0.1
PSZ **Piszkesteto** 146.29 344 ⇑*i*P PKPab 20 41 51.5 +1.1
MLR **Muntele Rosu** 146.36 335 ⇑*i*P PKPdf 20 41 48.5 -0.1
KHC **Kasperske Hory** 146.44 352 *e*PKP PKPab 20 41 51.8 +0.9
KHC *ex* x 20 42 01.2
DRGR 146.46 340 ⇑*i*P PKPab 20 41 51.2 +0.1
BRTR **Keskin Array B** 146.56 320 PKPbc PKPab 20 41 52.0 +0.1
BRTR **Keskin Array B** 146.56 320 PKPbc PKPab 20 41 52.0 +0.1
9.2nm,1.2s,baz=100,slow=1.4,SNR=20
GERES **GERESS Array B** 146.70 351 PKPbc PKPab 20 41 51.6 -0.4
GERES **GERESS Array B** 146.70 351 PKPbc PKPab 20 41 51.6 -0.4
0.8nm,0.8s,baz=11,slow=2.7,SNR=8.7
VOIR 146.76 336 ⇑*i*P PKPbc 20 41 51.3 +0.3
ARR **Arges** 146.98 336 ⇓*i*P PKPab 20 41 53.6 +0.4
ANTO **Ankara** 146.99 321 ⇑*i*P PKPab 20 41 52.9 -0.5
BZS **Buzias** 147.85 340 ⇑*i*P PKPbc 20 41 54.6 +0.7
TORD **Torodi Ar. Bea** 174.53 120 PKP PKPdf 20 42 19.7 +0.3
TORD **Torodi Ar. Bea** 174.53 120 PKP PKPdf 20 42 19.7 +0.3
0.5nm,1.0s,baz=86,slow=1.5,SNR=2.3

IDC 04 20:30:32.7±0.8, **14°.63S**×**177°.31W, h0**km, **mb3.7**/9,
mb1 4.0/9, **mb1mx3.9**/18, **mbtmp3.7**/9, **MS4.0**/6, **Ms1 4.0**/6,
ms1mx3.6/31, **Error ellipse: s-maj=40.9km**
s-min=20.2km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.41**	**83**	LR	LR	20 33 34.8	
	comp=Z,802nm,19.5s,baz=278,slow=34						
URZ	**Urewera**		**24.05**	**191**	LR	LR	20 43 40.5
	comp=Z,342nm,18.2s,baz=78,slow=33						
STKA	**Stephens Creek**	**41.19**	**238**	P	P	20 38 19.4	+0.2
	2.3nm,1.0s,baz=82,slow=14,SNR=3.1						
STKA				LR	LR	20 52 37.6	
	comp=Z,243nm,19.6s,baz=26,slow=32						
WRA	**Warramunga Arr**	**46.35**	**256**	P	P	20 39 01.0	0.0
	0.6nm,0.9s,baz=93,slow=9.5,SNR=2.0						
ASAR	**Alice Springs**	**46.77**	**251**	P	P	20 39 03.6	-0.7
	1.1nm,0.9s,baz=89,slow=8.4,SNR=8.2						
VNDA	**Vanda**	**63.78**	**185**	P	P	20 41 06.2	0.0
	1.3nm,1.1s,baz=338,slow=9.8,SNR=3.6						
KSRS	**Korea Array**	**73.00**	**317**	P	P	20 42 04.9	+0.5
	0.9nm,0.9s,baz=120,slow=7.6,SNR=4.2						
YBH	**Yreka Blue Hor**	**75.33**	**39**	LR	LR	21 07 23.5	
	comp=Z,74nm,18.8s,baz=241,slow=29						
NVAR	**Mina Array Bea**	**76.34**	**44**	P	P	20 42 24.2	+0.1
	0.9nm,0.8s,baz=226,slow=9.1,SNR=4.6						
NVAR				LR	LR	21 10 06.7	
	comp=Z,62nm,19.9s,baz=106,slow=31						
ILAR	**Eielson Array**	**82.48**	**13**	P	P	20 42 57.0	+0.3
	0.5nm,1.0s,baz=214,slow=6.1,SNR=4.8						
TXAR	**Lajitas Array**	**83.36**	**58**	P	P	20 43 02.9	+0.7
	0.3nm,0.8s,baz=234,slow=7.7,SNR=4.6						
TXAR				LR	LR	21 12 25.0	
	comp=Z,96nm,18.4s,baz=175,slow=30						
PDAR	**Pinedale Array**	**84.26**	**43**	P	P	20 43 05.6	-1.2
	1.0nm,0.9s,baz=204,slow=3.3,SNR=5.1						
BRTR	**Keskin Array B**	**143.13**	**319**	PKP	PKPdf	20 50 08.1	-1.3
	0.8nm,0.9s,baz=132,slow=1.8,SNR=4.6						
GERES	**GERESS Array B**	**144.70**	**347**	PKP	PKPbc	20 50 11.1	+0.6
	0.4nm,0.7s,baz=253,slow=1.0,SNR=2.6						

IDC 04 20:42:21.5±0.9, **15°.15S**×**173°.41W, h0**km, **mb4.0**/7,
mb1 4.3/7, **mb1mx4.1**/18, **mbtmp4.0**/7, **Error ellipse:**
s-maj=43.1km s-min=20.9km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.00**	**52**	Pn	Pn	20 42 49.7	-7.0
	82nm,0.3s,baz=321,slow=4.9,SNR=7.2						
AFI				Sn	Sn	20 43 07.1	-15
	235nm,0.3s,baz=55,slow=22,SNR=7.0						
H11S2	**WAKE ISLAND Hy**	**38.74**	**329**	T	T	21 31 23.6	
	baz=152,slow=0.7,SNR=6.6						
H11S3	**WAKE ISLAND Hy**	**38.76**	**329**	T	T	21 31 27.0	
	baz=152,slow=0.7,SNR=7.0						
H11S1	**WAKE ISLAND Hy**	**38.76**	**329**	T	T	21 31 17.7	
	baz=152,slow=0.7,SNR=9.1						
H11N3	**WAKE ISLAND Hy**	**39.69**	**330**	T	T	21 32 25.1	
	baz=152,slow=0.7,SNR=9.3						
H11N1	**WAKE ISLAND Hy**	**39.70**	**330**	T	T	21 32 36.0	
	baz=152,slow=0.7,SNR=7.7						
H11N2	**WAKE ISLAND Hy**	**39.71**	**330**	T	T	21 32 43.0	
	baz=152,slow=0.7,SNR=10						

STKA	**Stephens Creek**	**44.16**	**240**	P		P	20 50 31.8	-0.4	
	2.1nm,0.7s,baz=106,slow=11,SNR=3.4								
WRA	**Warramunga Arr**	**49.90**	**257**	P		P	20 51 16.8	-0.5	
	0.8nm,0.4s,baz=92,slow=6.7,SNR=9.2								
ASAR	**Alice Springs**	**50.18**	**252**	P		P	20 51 18.8	-0.6	
	5.8nm,0.8s,baz=85,slow=8.6,SNR=46								
VNDA	**Vanda**	**63.62**	**186**	P		P	20 52 54.1	+0.2	
	0.8nm,0.8s,baz=343,slow=1.6,SNR=5.9								
TXAR	**Lajitas Array**	**80.48**	**56**	P		P	20 54 36.0	+0.1	
	0.9nm,1.0s,baz=215,slow=4.1,SNR=5.3								
PDAR	**Pinedale Array**	**82.08**	**42**	P		P	20 54 43.1	-1.1	
	0.6nm,0.8s,baz=187,slow=2.5,SNR=4.6								
ILAR	**Eielson Array**	**82.20**	**11**	P		P	20 54 43.3	-0.7	
	1.1nm,0.9s,baz=213,slow=5.7,SNR=8.6								
GERES	**GERESS Array B**	**145.89**	**352**	PKPbc		PKPbc	21 02 03.0	0.0	
	1.2nm,0.9s,baz=18,slow=4.8,SNR=7.9								
BRTR	**Keskin Array B**	**145.96**	**321**	PKPbc		PKPab	21 02 04.7	+0.5	
	7.2nm,1.0s,baz=106,slow=1.8,SNR=24								

NSSC ***04*** *20:58:16.4±1.6,34.°12N×36.°84E, h29km±15km, MD1.3, ML2.5*
CSEM ***04*** *20:58:18.5±0.2,34.°20N×36.°83E, h2km, ML2.5, Error ellipse: s-maj=4.6km s-min=4.1km az=89.0*
GRAL ***04*** *20:58:20.3±0.4,34.°13N×36.°79E, h2km,4km, MD3.5*

ISC 04 20:58:18.4±1.1,34.°14N±0.°02×36.°84E±0.°03, h4km±10km, n36, σ1°13/53, 3C-4D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MARH	**Ras Al Marh**	**0.32**	**249**	*e*P	**Pg**	**20 58 25.0**	**+0.4**
MARH				*e*S	**Sg**	**20 58 29.5**	**+0.7**
MARH				AML	AML	20 58 31.4	
	comp=E,1μm,0.6s						
MARH				AML	AML	20 58 31.9	
	comp=N,1μm,0.2s						
MARH				AML	AML	20 58 33.8	
	comp=Z,2μm,0.3s						
MARH	**Ras Al Marh**	**0.32**	**249**	*e*P	**Pg**	**20 58 25.0**	**+0.4**
	SNR=127						
MARH				*e*S	**Sg**	**20 58 29.5**	**+0.7**
	comp=Z,2μm,0.3s,SNR=126						
FKH	**Fakeheh**	**0.37**	**287**	*e*P	**Pg**	**20 58 26.4**	**+0.9**
FKH				*e*S	**Sg**	**20 58 30.8**	**+0.4**
FKH	**Fakeheh**	**0.37**	**287**	*e*P	**Pg**	**20 58 26.4**	**+0.9**
FKH				*e*S	**Sg**	**20 58 30.8**	**+0.4**
ROOS	**tl_alroos**	**0.38**	**85**	*e*P	**Pg**	**20 58 25.9**	**+0.3**
ROOS				*e*S	**Sg**	**20 58 30.2**	**-0.4**
ROOS				AML	AML	20 58 31.8	
	comp=E,38nm,0.3s						
ROOS				AML	AML	20 58 36.8	
	comp=N,16nm,0.2s						
ROOS				AML	AML	20 58 37.4	
	comp=Z,28nm,0.2s						
ROOS	**tl_alroos**	**0.38**	**85**	*e*P	**Pg**	**20 58 25.9**	**+0.3**
	SNR=121						
ROOS				*e*S	**Sg**	**20 58 30.2**	**-0.4**
	comp=Z,28nm,0.2s,SNR=119						
HAWK	**Haweek**	**0.52**	**317**	*e*P	**Pg**	**20 58 26.2**	**-2.2**
HAWK				*e*S	**Sg**	**20 58 35.6**	**+0.4**
HAWK				AML	AML	20 58 37.0	
	comp=N,799nm,0.3s						
HAWK				AML	AML	20 58 37.1	
	comp=E,732nm,0.7s						
HAWK				AML	AML	20 58 37.5	
	comp=Z,696nm,0.4s						
HAWK	**Haweek**	**0.52**	**317**	*e*P	**Pg**	**20 58 26.2**	**-2.2**
	SNR=110						
HAWK				*e*S	**Sg**	**20 58 35.6**	**+0.4**
	comp=Z,696nm,0.4s,SNR=109						
HWQ	**Hawqa**	**0.75**	**281**	*e*P	**Pg**	**20 58 33.1**	**+0.3**
HWQ	**Hawqa**	**0.75**	**281**	*e*P	**Pg**	**20 58 33.1**	**+0.3**
QASN	**Qassioun**	**0.76**	**218**	*e*P	**Pg**	**20 58 30.8**	**-2.2**
QASN				*e*S	**Sg**	**20 58 41.1**	**-1.8**
QASN				AML	AML	20 58 42.8	
	comp=Z,368nm,0.3s						
QASN				AML	AML	20 58 45.2	
	comp=N,822nm,0.3s						
BHL	**Bhannes**	**1.01**	**257**	*e*P	**Pg**	**20 58 37.8**	**+0.1**
BHL	**Bhannes**	**1.01**	**257**	*e*P	**Pg**	**20 58 37.8**	**+0.1**
RCY	**Rachaya**	**1.05**	**233**	*e*P	**Pg**	**20 58 38.7**	**+0.1**
RCY				*e*S	**Sg**	**20 58 52.1**	**0.0**
KSDI	**Kefar Szold**	**1.36**	**226**	Pn	**Pn**	**20 58 43.4**	**-0.7**
KSDI				Sn	**Sn**	**20 59 04.0**	**+1.4**
MMA0	**Mount Meron ar**	**1.64**	**227**	Pn	**Pb**	**20 58 48.9**	**-0.3**
MMC7	**Mount Meron ar**	**1.64**	**228**	Pn	**Pn**	**20 58 48.0**	**0.0**
NAQL	**Naqoura**	**1.74**	**235**	*e*P	**Pn**	**20 58 50.0**	**+0.7**
BLGI	**Bet Lehem HaGe**	**1.96**	**225**	Pn	**Pn**	**20 58 53.6**	**+1.2**
YAYL	**Yayladag**	**1.98**	**343**	*i*P	**Pn**	**20 58 53.3**	**+0.6**
YAYL				*i*S	**Sb**	**20 59 20.8**	**+0.7**
YAYL	**Yayladag**	**1.98**	**343**	*i*P	**Pn**	**20 58 53.3**	**+0.6**
YAYL				*i*S	**Sb**	**20 59 20.8**	**+0.7**
MMLI	**Mount Malkishu**	**2.07**	**215**	Pn	**Pn**	**20 58 54.5**	**+0.6**
MMLI				Sn	**Sb**	**20 59 22.9**	**+0.4**
OFRI	**'Ofer**	**2.17**	**226**	Pn	**Pn**	**20 58 56.2**	**+1.0**
HMDT	**Nahal Hemdat**	**2.18**	**211**	Pn	**Pn**	**20 58 55.7**	**+0.4**
HMDT				Sn	**Sb**	**20 59 25.6**	**0.0**
SLTI	**Sal'it**	**2.42**	**219**	Pn	**Pn**	**20 59 00.3**	**+1.6**
DSI	**Dead Sea**	**2.84**	**206**	Pn	**Pn**	**20 59 05.4**	**+1.0**
DSI				Sn	**Sb**	**20 59 42.2**	**-2.5**
CSS	**Prodhromos**	**3.01**	**287**	Pn	**Pn**	**20 59 05.9**	**-0.9**
MZDA	**Masada**	**3.08**	**204**	Pn	**Pn**	**20 59 09.3**	**+1.6**
MZDA				Sn	**Sb**	**20 59 48.9**	**-2.7**
AYKD	**Aykdinkavak**	**3.27**	**360**	*i*P	**Pn**	**20 59 11.0**	**+0.6**
ANDN	**Andirin**	**3.46**	**354**	*i*P	**Pn**	**20 59 13.8**	**+0.8**
ANDN	**Andirin**	**3.46**	**354**	*i*P	**Pn**	**20 59 13.8**	**+0.8**
AYK	**Aydincik**	**3.51**	**306**	*i*P	**Pn**	**20 59 11.0**	**-2.6**
KZIT	**Kziot**	**3.83**	**213**	Pn	**Pn**	**20 59 18.9**	**+0.9**
RMNI	**Mount Ramon**	**3.94**	**207**	Pn	**Pn**	**20 59 21.3**	**+1.6**
PRNI	**Paran**	**4.08**	**203**	Pn	**Pn**	**20 59 22.6**	**+1.1**
MALT	**Malatya**	**4.36**	**17**	Pn	**Pn**	**20 59 25.2**	**-0.2**

IDC 04 21:11:19.5±1.3, 46.°57N×27.°41W, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.3/31, mbtmp3.4/4, ML3.8/1, MS3.4/4, Ms1 3.4/4, ms1mx3.0/32, Error ellipse: s-maj=48.6km s-min=29.9km az=20.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**18.41**	**104**	P	P	21 15 37.4	+1.1
	0.1nm,0.3s,baz=303,slow=14,SNR=3.3						
ESDC				LR	LR	21 21 02.7	
	comp=Z,59nm,20.1s,baz=215,slow=32						
GERES	**GERESS Array B**	**27.52**	**70**	LR	LR	21 26 37.1	
	comp=Z,60nm,18.1s,baz=147,slow=33						
SPITS	**Spitsbergen Ar**	**35.80**	**14**	LR	LR	21 29 10.9	
	comp=Z,80nm,19.7s,baz=235,slow=30						
TORD	**Torodi Ar. Bea**	**41.34**	**134**	P	P	21 19 06.5	-0.6
	0.6nm,1.0s,baz=320,slow=8.4,SNR=3.9						
TXAR	**Lajitas Array**	**60.27**	**282**	P	P	21 21 30.1	+0.3
	0.3nm,0.7s,baz=55,slow=7.8,SNR=4.0						
TXAR				LR	LR	21 46 27.1	
	comp=Z,54nm,21.0s,baz=60,slow=35						
MKAR	**Makanchi Array**	**68.52**	**44**	P	P	21 22 23.4	-0.1
	0.9nm,0.7s,baz=334,slow=8.4,SNR=8.1						
ASAR	**Alice Springs**	**152.64**	**40**	PKPbc	PKPbc	21 31 17.7	-0.4
	0.4nm,0.7s,baz=354,slow=1.6,SNR=4.9						

IDC 04 21:12:55.5±1.7, 15.°59S×173.°48W, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.9/18, mbtmp3.9/6, MS3.6/3, Ms1 3.7/3, ms1mx3.2/30, Error ellipse: s-maj=103.0km s-min=22.3km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.34**	**45**	Pn	Pn	21 13 27.7	-7.6
	130nm,0.3s,baz=132,slow=0.6,SNR=54						
AFI				Sn	Sn	21 13 47.2	-18
	453nm,0.3s,baz=18,slow=17,SNR=18						
DZM	**Mont Dzumac**	**20.06**	**248**	*e*LR	LR	21 22 13.1	
	195nm,24.2s						
PPT2	**Papeete2**	**22.99**	**98**	*e*LR	LR	21 23 31.3	
	121nm,24.8s						
TBI	**Tubuai**	**23.90**	**113**	*e*LR	LR	21 23 51.7	
	211nm,27.8s						
HNR	**Honiara**	**26.64**	**280**	LR	LR	21 27 04.3	
	comp=Z,78nm,21.0s,baz=153,slow=32						
STKA	**Stephens Creek**	**43.88**	**240**	P	P	21 21 03.0	-1.0
	2.0nm,0.9s,baz=106,slow=15,SNR=2.3						
WRA	**Warramunga Arr**	**49.73**	**257**	P	P	21 21 49.0	-1.1
	1.0nm,0.7s,baz=94,slow=6.5,SNR=8.5						
ASAR	**Alice Springs**	**49.98**	**252**	P	P	21 21 52.9	+0.9
	3.2nm,0.6s,baz=87,slow=8.2,SNR=51						

FITZ	**Fitzroy Crossi**	**58.10**	**258**	LR		LR	21 46 09.5		
	comp=Z,61nm,20.1s,baz=317,slow=34								
VNDA	**Vanda**	**63.19**	**186**	LR		LR	21 45 08.6		
	comp=Z,87nm,18.2s,baz=142,slow=31								
TXAR	**Lajitas Array**	**80.78**	**56**	P		P	21 25 11.8	+0.4	
	0.2nm,0.8s,baz=240,slow=4.2,SNR=3.6								
PDAR	**Pinedale Array**	**82.45**	**42**	P		P	21 25 19.8	-0.5	
	0.3nm,0.5s,baz=180,slow=6.7,SNR=3.9								
ILAR	**Eielson Array**	**82.64**	**11**	P		P	21 25 18.9	-1.4	
	0.4nm,0.7s,baz=218,slow=6.0,SNR=4.9								
BRTR	**Keskin Array B**	**146.25**	**321**	PKPbc		PKPab	21 32 39.1	-0.2	
	2.1nm,1.0s,baz=119,slow=1.5,SNR=7.6								
GERES	**GERESS Array B**	**146.31**	**351**	PKPbc		PKPbc	21 32 38.5	+0.1	
	0.8nm,0.9s,baz=99,slow=4.2,SNR=6.7								

IDC 04 21:20:00.5±2.1, 5.°36S×152.°99E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.6/17, mbtmp3.5/6, Error ellipse: s-maj=74.9km s-min=24.9km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.22**	**230**	P	P	21 25 09.2	-0.2
	1.1nm,0.9s,baz=52,slow=9.6,SNR=3.0						
ASAR	**Alice Springs**	**25.86**	**223**	P	P	21 25 34.6	+0.5
	0.3nm,0.5s,baz=58,slow=7.7,SNR=4.6						
SONM	**Songino Array**	**66.90**	**328**	P	P	21 30 56.1	+1.4
	0.2nm,0.6s,baz=151,slow=6.6,SNR=2.4						
MKAR	**Makanchi Array**	**80.87**	**319**	P	P	21 32 15.6	-1.0
	0.2nm,0.5s,baz=103,slow=5.0,SNR=2.3						
ZALV	**Zalesovo Beam**	**81.72**	**326**	P	P	21 32 20.3	-0.6
	0.5nm,0.6s,baz=114,slow=5.9,SNR=2.5						
ILAR	**Eielson Array**	**82.61**	**22**	P	P	21 32 25.6	+0.3
	0.7nm,0.9s,baz=235,slow=6.3,SNR=5.3						
TORD	**Torodi Ar. Bea**	**150.66**	**287**	PKPbc	PKPbc	21 39 55.0	-0.7
	0.3nm,0.8s,baz=70,slow=2.0,SNR=4.3						

ISCJB ***04*** *21:31:44.8±0.5,4.°50S±0.°06×125.°43E±0.°06, h441km, mb3.4/4, Error ellipse: s-maj=8.8km s-min=7.6km az=163.0*
DJA ***04*** *21:31:44.7±1.2,4.°S±9.°×12.°5E±.°, h463km±20km, M4.0/7, mb4.1/5, mB4.3/2, MLv4.0/7, Mw(mB)3.5/2*
IDC ***04*** *21:31:46.4±2.2,4.°58S×125.°19E, h471km±25km, mb3.0/5, mb1 3.3/9, mb1mx3.0/25, mbtmp3.2/9, Error ellipse: s-maj=49.8km s-min=10.4km az=60.0*

ISC 04 21:31:44.8±0.8, 4.°49S±0.°08×125.°40E±0.°09, h441km, n25, σ1°38/28, mb3.5/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**2.10**	**54**	P	**P**	**21 32 46.5**	**+1.4**
AAI	**Ambon**	**2.90**	**74**	P	**P**	**21 32 51.0**	**+0.6**
AAI	**Ambon**	**2.90**	**74**	P	**P**	**21 32 51.1**	**+0.7**
	baz=16,SNR=5.4						
LBMI	**Labuha**	**4.36**	**29**	P	**P**	**21 33 04.7**	**+2.0**
BNSI	**Bone**	**5.28**	**271**	P	**P**	**21 33 13.4**	**+1.9**
	116nm,0.8s,1μm0.4nm						
BKSI	**Bulukumba**	**5.32**	**261**	P	**P**	**21 33 13.6**	**+1.7**
	45nm,0.6s,446nm0.2nm						
SPSI	**Sidrap Palu**	**5.64**	**275**	P	**P**	**21 33 16.6**	**+1.5**
	33nm,0.9s,0.1nm						
KAPI	**Kappang**	**5.65**	**264**	P	**P**	**21 33 15.6**	**+0.3**
	4.2nm,0.3s,baz=83,slow=5.3,SNR=8.7						
BATI	**Baumata**	**5.94**	**197**	P	**P**	**21 33 20.1**	**+1.9**
	20nm,0.5s						
BATI	**Baumata**	**5.94**	**197**	P	**P**	**21 33 19.9**	**+1.7**
	8.7nm,0.3s,baz=32,slow=2.5,SNR=10.0						
BATI				S	**S**	**21 34 34.8**	**+0.3**
	8.8nm,0.3s,baz=104,slow=7.9,SNR=9.4						
FAKI	**Fak Fak**	**7.01**	**77**	P	**P**	**21 33 29.7**	**+0.1**
FAKI	**Fak Fak**	**7.01**	**77**	P	**P**	**21 33 29.9**	**+0.3**
	baz=19,SNR=16						
KDU	**Kakadu**	**10.74**	**140**	P	**P**	**21 34 12.1**	**+2.0**
	baz=25,SNR=4.7						
KNRA	**Kununurra**	**11.60**	**164**	P	**P**	**21 34 20.7**	**+1.2**
	baz=25,SNR=6.8						
FITZ	**Fitzroy Crossi**	**13.54**	**179**	P	**P**	**21 34 41.0**	**+0.5**
	baz=25,SNR=26						
FITZ	**Fitzroy Crossi**	**13.54**	**179**	P	**P**	**21 34 41.0**	**+0.5**
	1.2nm,0.3s,baz=17,slow=9.2,SNR=51						
FITZ				S	**S**	**21 37 03.6**	**-1.9**
	0.3nm,0.3s,baz=190,slow=19,SNR=13						
WRA	**Warramunga Arr**	**17.66**	**151**	P	**P**	**21 35 24.5**	**0.0**
	1.6nm,0.3s,baz=332,slow=9.9,SNR=38						
COEN	**Coen**	**19.90**	**119**	P	**P**	**21 35 45.7**	**-0.2**
	baz=34,SNR=7.1						
ASAR	**Alice Springs**	**20.76**	**158**	P	**P**	**21 35 54.6**	**+0.8**
	2.4nm,0.4s,baz=351,slow=15,SNR=46						
ASAR				S	**S**	**21 39 14.3**	**-2.1**
	0.5nm,0.7s,baz=334,slow=14,SNR=4.7						
STKA	**Stephens Creek**	**31.20**	**153**	P	**P**	**21 37 27.0**	**+0.7**
	baz=45,SNR=6.5						
STKA	**Stephens Creek**	**31.20**	**153**	P	**P**	**21 37 26.3**	**0.0**
	1.5nm,0.5s,baz=328,slow=7.6,SNR=8.1						
CMAR	**Chiang Mai Arr**	**34.63**	**312**	P	**P**	**21 37 55.6**	**-0.1**
	0.6nm,0.7s,baz=136,slow=7.7,SNR=5.7						
MKAR	**Makanchi Array**	**63.66**	**328**	P	**P**	**21 41 30.4**	**-1.1**
	0.5nm,0.5s,baz=113,slow=8.4,SNR=12						
ZALV	**Zalesovo Beam**	**67.36**	**335**	P	**P**	**21 41 52.1**	**-2.5**
	0.4nm,0.3s,baz=104,slow=6.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**123.81**	**283**	PKP	**PKPdf**	**21 49 51.1**	**-1.6**
	0.2nm,0.5s,baz=57,slow=1.9,SNR=6.3						

ISCJB ***04*** *21:50:48.6±0.5,31.°78N±0.°02×49.°51E±0.°01, h14km±3km, mb5.0/187, MS4.7/67, Error ellipse: s-maj=2.7km s-min=1.8km az=12.8*
BJI ***04*** *21:50:48.1,31.°80N×49.°70E, h10km, mB5.3/32, mb4.8/40, Ms5.3/40, Ms7 5.1/41*
ISN ***04*** *21:50:48.3±2.6,31.°85N×49.°69E, h0km, ML5.0*
THR ***04*** *21:50:49.6±0.8,31.°82N×49.°50E, h15km±9km, ML5.1*
CSEM ***04*** *21:50:50.3±0.1,31.°85N×49.°49E, h10km, mb5.0/99, Ms4.7, Error ellipse: s-maj=3.3km s-min=2.3km az=6.0*
MOS ***04*** *21:50:51.7±1.2,31.°89N×49.°50E, h33km, mb5.2/84, MS4.5/34, Error ellipse: s-maj=5.2km s-min=3.1km az=122.4*
TEH ***04*** *21:50:51.6,31.°86N×49.°49E, h3km, ML5.1*
NEIC ***04*** *21:50:52.3,31.°87N×49.°49E, h9km, mb5.1/95, MN5.1(TEH), After TEH.*
NEIC Felt at Ahvaz and Masjed Soleyman.
BKK ***04*** *21:50:52.7±0.3,32.°N±6.°×5.°0E±.°, h10km, M5.3/15, mB5.3/6, mb5.1/15, MLv5.9/1, Mw(mB)4.7/6*
IDC ***04*** *21:50:53.8±1.4,31.°97N×49.°53E, h36km±9km, mb4.4/32, mb1 4.4/38, mb1mx4.4/44, mbtmp4.4/38, ML3.8/3, MS4.7/32, Ms1 4.7/32, ms1mx4.5/46, Error ellipse: s-maj=12.3km s-min=9.9km az=159.0*
DJA ***04*** *21:50:55.3±1.0,32.°N±7.°×4.°9E±.°, h52km±16km, M5.0/8, mB5.5/5, mb5.1/8, Mw(mB)4.9/5*

ISC 04 21:50:50.2±0.3, 31.°80N±0.°02×49.°59E±0.°02, h15km±1km, h15km:pP-P, n1327, σ1°62/1359, mb5.0/190, MS4.7/67, 47C-49D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IPIR	**Pirpir**	**1.41**	**51**	*e*Pn	**Pn**	**21 51 15.7**	**0.0**
IPIR				*e*Sg	**Sg**	**21 51 36.9**	**+1.1**
IPIR				*e*		21 51 39.1	
	comp=Z,41μm,0.2s						
IPIR	**Pirpir**	**1.41**	**51**	*e*Pn	**Pn**	**21 51 15.7**	**0.0**
IPIR				*e*Sg	**Sg**	**21 51 36.9**	**+1.1**
KHMZ	**Khomeyn**	**1.96**	**9**	*e*Pg	**Pb**	**21 51 25.4**	**-0.4**
KHMZ				*e*Sg	**Sb**	**21 51 51.5**	**+1.4**
KHMZ				AML	AML	21 51 56.9	
	comp=N,12μm,0.4s						
KHMZ				AML	AML	21 52 00.1	
	comp=E,15μm,0.6s						
KHMZ	**Khomeyn**	**1.96**	**9**	*e*Pg	**Pb**	**21 51 25.4**	**-0.4**
KHMZ				*e*Sg	**Sb**	**21 51 51.5**	**+1.4**
IKMR	**Kamar-syah**	**2.00**	**329**	*e*Pn	**Pn**	**21 51 24.9**	**+1.5**
IKMR				*e*Sg	**Sb**	**21 51 51.8**	**+0.9**
IKMR				*e*		21 51 53.0	
	comp=Z,0.0nm,0.3s						
IKMR	**Kamar-syah**	**2.00**	**329**	*e*Pn	**Pn**	**21 51 24.9**	**+1.5**
IKMR				*e*Sg	**Sb**	**21 51 51.8**	**+0.9**
IGAR	**Gharneh**	**2.16**	**73**	*e*Pn	**Pb**	**21 51 29.2**	**0.0**
IGAR				*e*		21 52 03.9	
	comp=Z,58μm,0.2s						
IKLH	**Kolahrood**	**2.26**	**47**	*e*Pn	**Pb**	**21 51 29.8**	**-1.1**
IKLH				*e*Sg	**Sg**	**21 52 02.4**	**-0.6**
IKLH				*e*		21 52 08.3	

	comp=Z,25μm,0.3s								
IKLH	**Kolahrood**	**2.26**	**47**	*e*Pn		**Pb**	**21 51 30.3**	**-0.6**	
IKLH	**Kolahrood**	**2.26**	**47**	Pn		**Pb**	**21 51 30.3**	**-0.6**	
IKLH				*e*Sg		**Sg**	**21 52 02.4**	**-0.6**	
IKFM	**Kafar-mosalman**	**2.27**	**320**	*e*Pn		**Pn**	**21 51 28.3**	**+1.2**	
IKFM				*e*Sg		**Sb**	**21 51 58.4**	**-0.3**	
IKFM				*e*			21 52 13.9		
	comp=Z,0.0nm,0.7s								
IDOB	**Doab**	**2.31**	**329**	*e*Pn		**Pn**	**21 51 28.9**	**+0.9**	
IDOB				*e*			21 52 15.9		
	comp=Z,0.0nm,0.8s								
IDOB	**Doab**	**2.31**	**329**	*e*Pn		**Pn**	**21 51 28.9**	**+0.9**	
IZEF	**Zefreh**	**2.56**	**64**	*e*Pn		**Pb**	**21 51 34.3**	**-1.7**	
IZEF				*e*			21 52 22.7		
	comp=Z,54μm,0.3s								
IZEF	**Zefreh**	**2.56**	**64**	Pn		**Pb**	**21 51 34.1**	**-1.9**	
IZEF	**Zefreh**	**2.56**	**64**	Pn		**Pb**	**21 51 34.1**	**-1.9**	
UMR	**Umm Al-Rimmam**	**2.76**	**216**	*e*P		**Pb**	**21 51 37.3**	**-2.0**	
UMR				AML		AML	21 52 24.0		
	comp=Z,2μm,0.4s								
UMR	**Umm Al-Rimmam**	**2.76**	**216**	*e*P		**Pb**	**21 51 37.3**	**-2.0**	
IKAZ	**Kazeroun**	**2.79**	**136**	*e*Pn		**Pb**	**21 51 38.7**	**-1.3**	
IKAZ				*e*			21 52 30.5		
	comp=Z,42μm,0.2s								
IKAZ	**Kazeroun**	**2.79**	**136**	Pn		**Pb**	**21 51 39.0**	**-1.0**	
IKAZ	**Kazeroun**	**2.79**	**136**	Pn		**Pb**	**21 51 39.0**	**-1.0**	
NASN	**Na'in**	**2.90**	**69**	*e*Pn		**Pn**	**21 51 39.2**	**+3.0**	
NASN	**Na'in**	**2.90**	**69**	*e*Pn		**Pn**	**21 51 39.2**	**+3.0**	
IKOM	**Komasi**	**2.95**	**324**	*e*Pn		**Pn**	**21 51 37.5**	**+0.8**	
IKOM				*e*			21 52 32.4		
	comp=Z,79μm,0.3s								
IKOM	**Komasi**	**2.95**	**324**	Pn		**Pn**	**21 51 37.7**	**+1.0**	
IKOM				Sn		**Sn**	**21 52 10.6**	**-1.3**	
IKOM	**Komasi**	**2.95**	**324**	Pn		**Pn**	**21 51 37.7**	**+1.0**	
IKOM				Sn		**Sn**	**21 52 10.6**	**-1.3**	
NSR	**Nassriya**	**3.06**	**256**	*i*P		**Pn**	**21 51 38.2**	**+0.2**	
NSR	**Nassriya**	**3.06**	**256**	*i*P		**Pn**	**21 51 38.2**	**+0.2**	
	SNR=39								
KBD	**Kabd**	**3.09**	**213**	*e*P		**Pb**	**21 51 42.1**	**-2.7**	
KBD				AML		AML	21 52 31.8		
	comp=Z,1μm,0.5s								
KBD	**Kabd**	**3.09**	**213**	*e*P		**Pb**	**21 51 42.1**	**-2.7**	
RST	**Umm Al-Ruwaisa**	**3.20**	**225**	*e*P		Pb	21 51 43.5	-3.3	
RST	**Umm Al-Ruwaisa**	**3.20**	**225**	*e*P		Pb	21 51 43.5	-3.3	
NAY	**Al-Naaiem**	**3.25**	**219**	*e*P		Pb	21 51 44.4	-3.3	
NAY				AML		AML	21 52 27.2		
	comp=Z,748nm,0.5s								
NAY	**Al-Naaiem**	**3.25**	**219**	*e*P		Pb	21 51 44.3	-3.3	
IBDR	**Badra**	**3.36**	**294**	*i*P		**Pn**	**21 51 41.8**	**-0.4**	
QRN	**Al-Qurain**	**3.37**	**206**	*e*P		Pn	21 51 45.9	+3.6	
QRN				AML		AML	21 52 29.9		
	comp=Z,1μm,0.3s								
ISFB	**Sefidab**	**3.38**	**40**	*e*Pn		**Pn**	**21 51 44.8**	**+2.2**	
ISFB				*e*			21 51 55.9		
	comp=Z,30μm,0.2s								
ISFB	**Sefidab**	**3.38**	**40**	Pn		**Pn**	**21 51 44.7**	**+2.2**	
ISFB	**Sefidab**	**3.38**	**40**	Pn		**Pn**	**21 51 44.7**	**+2.2**	
ISAD	**Sadrabad**	**3.48**	**87**	*e*Pn		Pn	21 51 47.4	+3.2	
ISAD				*e*			21 53 08.5		
	comp=Z,34μm,0.4s								
ISAD	**Sadrabad**	**3.48**	**87**	Pn		**Pn**	**21 51 47.2**	**+3.0**	
ISAD	**Sadrabad**	**3.48**	**87**	Pn		**Pn**	**21 51 47.2**	**+3.0**	
IPAR	**Pars**	**3.55**	**122**	*e*Pn		Pn	21 51 48.9	+3.8	
IPAR				*e*			21 52 45.2		
	comp=Z,21μm,0.4s								
IPAR	**Pars**	**3.55**	**122**	Pn		Pn	21 51 48.8	+3.7	
IPAR	**Pars**	**3.55**	**122**	Pn		Pn	21 51 48.8	+3.7	
IVIS	**Veis**	**3.56**	**321**	*e*Pn		**Pn**	**21 51 45.7**	**+0.6**	
IVIS				*e*			21 53 00.8		
	comp=Z,64μm,0.3s								
IVIS	**Veis**	**3.56**	**321**	Pn		**Pn**	**21 51 45.6**	**+0.5**	
IVIS	**Veis**	**3.56**	**321**	Pn		**Pn**	**21 51 45.6**	**+0.5**	
IGHG	**Ghaleghazi**	**3.58**	**316**	*e*Pn		**Pn**	**21 51 46.2**	**+0.7**	
IGHG				*e*			21 53 10.2

ISHM					*e*Pn		Pn	21 52 07.4	+1.8
IBAF	**Bafgh**		**5.09**	**91**	*e*			21 52 25.9	
	comp=Z,4µm,0.3s								
IBAF					⇑*e*Pn		Pn	21 52 09.3	+3.1
IANJ	**Anjilo**		**5.13**	**43**	*e*Pn		**Pn**	**21 52 07.8**	**+0.9**
IANJ					*e*			21 53 43.6	
	comp=Z,8µm,0.3s								
IANJ	**Anjilo**		**5.13**	**43**	Pn		**Pn**	**21 52 07.7**	**+0.9**
IANJ	**Anjilo**		**5.13**	**43**	*e*Pn		**Pn**	**21 52 07.8**	**+0.9**
IKRK	**Kirkuk**		**5.67**	**311**	*e*Pn		**Pn**	**21 52 14.1**	**+0.2**
IKRK	**Kirkuk**		**5.67**	**311**	*e*Pn		**Pn**	**21 52 14.1**	**+0.2**
	SNR=39								
IGLO	**Ghaloghah**		**5.86**	**36**	*e*Pn		**Pn**	**21 52 19.5**	**+2.7**
ISRB	**Sarab**		**6.22**	**346**	*e*Pn		**Pn**	**21 52 21.6**	**-0.1**
ISRB					*e*			21 54 27.9	
	comp=Z,15µm,0.7s								
ISRB	**Sarab**		**6.22**	**346**	Pn		**Pn**	**21 52 21.6**	**-0.1**
ISRB	**Sarab**		**6.22**	**346**	*e*Pn		**Pn**	**21 52 21.6**	**-0.1**
IBST	**Bostanabad**		**6.29**	**340**	*e*Pn		**Pn**	**21 52 23.1**	**+0.4**
IBST					*e*			21 54 40.6	
	comp=Z,8µm,0.6s								
IBST	**Bostanabad**		**6.29**	**340**	Pn		**Pn**	**21 52 22.9**	**+0.2**
IBST	**Bostanabad**		**6.29**	**340**	*e*Pn		**Pn**	**21 52 23.1**	**+0.4**
KRBR	**Kerman**		**6.42**	**105**	*e*Pn		**Pn**	**21 52 27.1**	**+2.6**
KRBR					Sn		**Sn**	**21 53 38.4**	**+0.7**
KRBR	**Kerman**		**6.42**	**105**	*e*Pn		**Pn**	**21 52 27.1**	**+2.6**
TABS	**Tabas**		**6.60**	**72**	*e*Pn		**Pn**	**21 52 29.3**	**+2.4**
TABS	**Tabas**		**6.60**	**72**	*e*Pn		**Pn**	**21 52 29.3**	**+2.4**
IHRS	**Heris**		**6.83**	**343**	*e*Pn		**Pn**	**21 52 30.3**	**+0.2**
IHRS					*e*			21 54 48.1	
	comp=Z,6µm,0.6s								
IHRS	**Heris**		**6.83**	**343**	Pn		**Pn**	**21 52 30.3**	**+0.2**
IHRS	**Heris**		**6.83**	**343**	*e*Pn		**Pn**	**21 52 30.3**	**+0.2**
ITBZ	**Tabriz**		**7.01**	**337**	*e*Pn		**Pn**	**21 52 33.1**	**+0.5**
ITBZ					*e*			21 54 56.5	
	comp=Z,2µm,0.5s								
ITBZ	**Tabriz**		**7.01**	**337**	Pn		**Pn**	**21 52 33.7**	**+1.1**
ITBZ	**Tabriz**		**7.01**	**337**	Pn		**Pn**	**21 52 33.7**	**+1.1**
MSL	**Mosul**		**7.07**	**312**	*e*Pn		**Pn**	**21 52 36.1**	**+2.9**
IMND	**Minoodasht**		**7.26**	**40**	*e*Pn		**Pn**	**21 52 37.1**	**+1.4**
IMND	**Minoodasht**		**7.26**	**40**	*e*Pn		**Pn**	**21 52 37.1**	**+1.4**
CUKT	**Cukurca**		**7.34**	**319**	*e*P		**Pn**	**21 52 36.4**	**-0.7**
CUKT	**Cukurca**		**7.34**	**319**	*e*P		**Pn**	**21 52 36.4**	**-0.7**
IBND	**Bandar-abas**		**7.44**	**124**	*e*Pn		**Pn**	**21 52 39.2**	**+1.0**
IBND					*e*			21 54 22.1	
	comp=Z,6µm,0.3s								
IBND	**Bandar-abas**		**7.44**	**124**	Pn		**Pn**	**21 52 39.1**	**+0.9**
IBND	**Bandar-abas**		**7.44**	**124**	*e*Pn		**Pn**	**21 52 39.2**	**+1.0**
IMRD	**Marand**		**7.60**	**336**	*e*Pn		**Pn**	**21 52 41.3**	**+0.7**
IMRD					*e*			21 55 06.1	
	comp=Z,3µm,0.5s								
IMRD	**Marand**		**7.60**	**336**	Pn		**Pn**	**21 52 42.6**	**+2.0**
IMRD	**Marand**		**7.60**	**336**	Pn		**Pn**	**21 52 42.6**	**+2.0**
ITEG	**Tejag**		**7.82**	**80**	*e*Pn		**Pn**	**21 52 46.2**	**+2.5**
ITEG					*e*			21 53 32.0	
	comp=Z,2µm,0.3s								
ITEG	**Tejag**		**7.82**	**80**	Pn		**Pn**	**21 52 46.1**	**+2.4**
ITEG	**Tejag**		**7.82**	**80**	*e*Pn		**Pn**	**21 52 46.2**	**+2.5**
IKOO	**Kooshah**		**8.01**	**83**	*e*Pn		**Pn**	**21 52 48.9**	**+2.6**
IKOO					*e*			21 55 24.7	
	comp=Z,3µm,0.5s								
IKOO	**Kooshah**		**8.01**	**83**	Pn		**Pn**	**21 52 48.9**	**+2.6**
IKOO	**Kooshah**		**8.01**	**83**	*e*Pn		**Pn**	**21 52 48.9**	**+2.6**
SIRT	**Sirnak**		**8.19**	**316**	*e*P		**Pn**	**21 52 47.1**	**-1.5**
SIRT	**Sirnak**		**8.19**	**316**	*e*P		**Pn**	**21 52 47.1**	**-1.5**
BANOM	**Banah**		**8.29**	**133**	P		**Pn**	**21 52 50.5**	**+0.5**
	SNR=55								
NAZ	**Nazwa, Dubai**		**8.63**	**140**	P		**Pn**	**21 52 56.3**	**+1.6**
CLDR	**Caldiran**		**8.67**	**329**	*e*P		Pn	21 52 59.4	+4.1
ISFR	**Sfrayin**		**8.70**	**51**	*e*Pn		**Pn**	**21 52 57.3**	**+1.5**
ISFR					*e*			21 52 59.9	
	comp=Z,7µm,0.4s								
ISFR	**Sfrayin**		**8.70**	**51**	Pn		**Pn**	**21 52 58.2**	**+2.4**
ISFR	**Sfrayin**		**8.70**	**51**	*e*Pn		**Pn**	**21 52 57.3**	**+1.5**
IDAH	**Dahanechah**		**8.75**	**81**	*e*Pn		**Pn**	**21 52 58.9**	**+2.4**
IDAH					*e*			21 53 43.0	
	comp=Z,1µm,0.3s								
IDAH	**Dahanechah**		**8.75**	**81**	Pn		Pn	21 52 59.8	+3.3
IDAH	**Dahanechah**		**8.75**	**81**	Pn		Pn	21 52 59.8	+3.3
ASUD	**Al Ashush, Dub**		**8.75**	**143**	P		**Pn**	**21 52 57.8**	**+1.5**
FAQ	**Al Faqa, Dubai**		**8.79**	**142**	P		**Pn**	**21 52 58.2**	**+1.4**
IKRD	**Kardeh**		**8.89**	**54**	*e*Pn		Pn	21 53 10.2	+12
IKRD					*e*			21 53 13.7	
	comp=Z,1µm,0.2s								
IKRD	**Kardeh**		**8.89**	**54**	Pn		Pn	21 53 10.5	+12
IKRD	**Kardeh**		**8.89**	**54**	Pn		Pn	21 53 10.5	+12
UOSS	**Wadi Hilu**		**8.97**	**138**	Pn		**Pn**	**21 53 01.0**	**+1.7**
	comp=Z,466nm,0.4s,SNR=21								
IAKL	**Akhelmad**		**8.97**	**55**	*e*Pn		**Pn**	**21 53 01.3**	**+1.8**
IAKL					*e*			21 53 15.7	
	comp=Z,1µm,0.2s								
IAKL	**Akhelmad**		**8.97**	**55**	Pn		**Pn**	**21 53 01.4**	**+1.9**
RAYN	**Ar Rayn**		**9.01**	**205**	Pn		**Pn**	**21 52 59.5**	**-0.3**
	comp=Z,942nm,0.5s								
RAYN	**Ar Rayn**		**9.01**	**205**	*e*Pn		**Pn**	**21 52 59.2**	**-0.6**
RAYN					*e*Sn		**Sn**	**21 54 41.2**	**+0.2**
RAYN	**Ar Rayn**		**9.01**	**205**	*e*Pn		**Pn**	**21 52 59.2**	**-0.6**
RAYN					*e*Sn		**Sn**	**21 54 41.2**	**+0.2**
HATD	**Hatta, Dubai**		**9.02**	**139**	P		**Pn**	**21 53 01.4**	**+1.4**
ASHO	**Ashiyiah**		**9.09**	**140**	Pn		**Pn**	**21 53 03.5**	**+2.5**
	SNR=13								
ASHO	**Ashiyiah**		**9.09**	**140**	P		**Pn**	**21 53 02.1**	**+1.1**
	SNR=33								
ASHO	**Ashiyiah**		**9.09**	**140**	Pn		**Pn**	**21 53 03.5**	**+2.5**
	SNR=13								
IMOG	**Moghan**		**9.16**	**59**	*e*			21 53 28.0	
	comp=Z,797nm,0.3s								
IMOG					*e*Pn		**Pn**	**21 53 04.4**	**+2.2**
BTMT	**Batman**		**9.21**	**316**	*e*P		**Pn**	**21 53 02.8**	**+0.2**
BTMT	**Batman**		**9.21**	**316**	*e*P		**Pn**	**21 53 02.8**	**+0.2**
GNI	**Garni**		**9.21**	**336**	Pn		Pn	21 53 06.7	+4.0
	SNR=13								
GNI	**Garni**		**9.21**	**336**	*e*P		Pn	21 53 08.2	+5.5
GNI	**Garni**		**9.21**	**336**	*e*Pn		**Pn**	**21 53 04.1**	**+1.4**
GNI	**Garni**		**9.21**	**336**	P		**Pn**	**21 53 03.8**	**+1.1**
	SNR=8.6								
GNI	**Garni**		**9.21**	**336**	*e*Pn		**Pn**	**21 53 04.1**	**+1.4**
GNI	**Garni**		**9.21**	**336**	Pn		**Pn**	**21 53 05.8**	**+3.1**
	comp=Z,0.2nm,0.3s,baz=359,slow=14,SNR=6.8								
GNI					LR		LR	21 57 18.2	
	comp=Z,3µm,18.9s,baz=154,slow=42								
IEMG	**Emamgholi**		**9.33**	**51**	*e*			21 53 11.3	
	comp=Z,2µm,0.2s								
IEMG					*e*Pn		**Pn**	**21 53 06.1**	**+1.6**
ISRO	**Mashad**		**9.35**	**59**	*e*Pn		**Pn**	**21 53 06.0**	**+1.5**
ISRO	**Mashad**		**9.35**	**59**	*e*Pn		**Pn**	**21 53 06.0**	**+1.5**
MAZI	**Mazidag**		**9.42**	**309**	*e*P		**Pn**	**21 53 04.3**	**-1.2**
MAZI	**Mazidag**		**9.42**	**309**	*e*P		**Pn**	**21 53 04.3**	**-1.2**
AGRB	**Hanur-Ägry**		**9.43**	**327**	*e*P		**Pn**	**21 53 08.5**	**+2.7**
DIY	**Diyarbakir**		**9.81**	**311**	*e*P		**Pn**	**21 53 10.0**	**-0.8**
DIY	**Diyarbakir**		**9.81**	**311**	*e*P		**Pn**	**21 53 10.0**	**-0.8**
IMYA	**Miami**		**9.82**	**60**	*e*Pn		**Pn**	**21 53 12.9**	**+1.8**
IMYA					*e*			21 54 10.1	
	comp=Z,1µm,0.6s								
IMYA	**Miami**		**9.82**	**60**	Pn		**Pn**	**21 53 13.1**	**+2.0**
IMYA	**Miami**		**9.82**	**60**	*e*Pn		**Pn**	**21 53 12.9**	**+1.8**
VRTB	**Varto-Mus**		**9.89**	**320**	*e*P		**Pn**	**21 53 12.8**	**+0.8**
VRTB	**Varto-Mus**		**9.89**	**320**	*e*P		**Pn**	**21 53 12.8**	**+0.8**
DGRG	**David-gareji**		**10.21**	**342**	P		**Pn**	**21 53 18.2**	**+1.9**
BNGB	**Bing ¶‖**		**10.22**	**317**	*e*Pn		**Pn**	**21 53 16.5**	**+0.1**
BINT	**Bingol**		**10.25**	**316**	*e*P		**Pn**	**21 53 16.5**	**-0.4**
KARS	**Kars**		**10.26**	**331**	*e*P		Pn	21 53 20.7	+3.7
ARQ	**Araqi**		**10.43**	**142**	Pn		**Pn**	**21 53 22.3**	**+3.0**
	SNR=21								
ARQ	**Araqi**		**10.43**	**142**	Pn		**Pn**	**21 53 22.3**	**+3.0**
	SNR=21								
EZM	**Erzurum**		**10.49**	**323**	*e*P		**Pn**	**21 53 21.5**	**+1.3**
TBLG	**Delisi**		**10.65**	**340**	P		**Pn**	**21 53 23.1**	**+0.9**
AKH	**Akhalkalaki**		**10.77**	**335**	P		**Pn**	**21 53 24.5**	**+0.4**
ASF	**Jabal al Asfar**		**10.79**	**275**	Pn		**Pn**	**21 53 22.7**	**-1.6**
ASF	**Jabal al Asfar**		**10.79**	**275**	Pn		**Pn**	**21 53 22.7**	**-1.6**
	comp=Z,7.7nm,0.3s,baz=41,slow=8.0,SNR=63								
PTK	**Pertek**		**10.93**	**313**	*e*P		**Pn**	**21 53 25.4**	**-0.8**
PTK	**Pertek**		**10.93**	**313**	*e*P		**Pn**	**21 53 25.4**	**-0.8**
DDEM	**Demirkent**		**11.06**	**327**	*i*P		Pn	21 53 34.9	+7.0
DAGI	**Agillar**		**11.13**	**328**	*i*P		Pn	21 53 34.2	+5.3
EPOS	**Posof**		**11.14**	**332**	*i*P		Pn	21 53 22.3	-6.8
ERZN	**Erzincan**		**11.17**	**317**	*e*P		**Pn**	**21 53 29.6**	**+0.2**
DBAD	**Bademkaya**		**11.18**	**328**	*i*P		**Pn**	**21 53 31.9**	**+2.3**
ARTV	**Artvin**		**11.21**	**329**	*i*P		**Pn**	**21 53 32.5**	**+2.4**
MALT	**Malatya**		**11.22**	**308**	*e*P		**Pn**	**21 53 29.2**	**-0.9**
MALT	**Malatya**		**11.22**	**308**	*e*P		**Pn**	**21 53 29.2**	**-0.9**
MAK	**Makhachkala**		**11.27**	**352**	*e*P		**Pn**	**21 53 32.7**	**+2.1**
MAK					*e*S		**Sn**	**21 55 40.5**	**+4.3**
MAK					pmax		pmax		
	comp=Z,170nm,1.6s								
MAK					MLR		MLR		
	comp=Z,3µm,10.0s								
MAK	**Makhachkala**		**11.27**	**352**	*e*P		**Pn**	**21 53 32.7**	**+2.1**
	comp=Z,170nm,1.6s								
BSY	**Bisya**		**11.27**	**141**	Pn		Pn	21 53 33.9	+3.1
	SNR=26								
BSYO	**Bisya**		**11.30**	**141**	Pn		**Pn**	**21 53 33.9**	**+2.7**
	SNR=26								
DBOC	**Borcka**		**11.46**	**328**	*i*P		**Pn**	**21 53 33.4**	**+0.1**
DBOC	**Borcka**		**11.46**	**328**	*i*P		**Pn**	**21 53 33.4**	**+0.1**
EZC	**Erzincan**		**11.49**	**317**	*e*P		**Pn**	**21 53 33.2**	**-0.6**
EZC	**Erzincan**		**11.49**	**317**	*e*P		**Pn**	**21 53 33.3**	**-0.6**
SMDO	**Samad**		**11.49**	**137**	Pn		**Pn**	**21 53 35.0**	**+1.1**
	SNR=22								
SMDO	**Samad**		**11.49**	**137**	Pn		**Pn**	**21 53 35.0**	**+1.1**
	SNR=22								
BCA	**Borcka**		**11.56**	**329**	*e*P		**Pn**	**21 53 37.4**	**+2.8**
KEMA	**Kemaliye**		**11.71**	**313**	*i*P		Pn	21 53 33.4	-3.5
KEMA	**Kemaliye**		**11.71**	**313**	*i*P		Pn	21 53 33.4	-3.5
HWQ	**Hawqa**		**11.72**	**286**	*e*P		**Pn**	**21 53 38.2**	**+1.2**
RCY	**Rachaya**		**11.72**	**282**	*e*P		**Pn**	**21 53 38.4**	**+1.3**
ILIC	**ilic-Erzincan**		**11.78**	**313**	*e*P		**Pn**	**21 53 37.0**	**-0.7**
ILIC	**ilic-Erzincan**		**11.78**	**313**	*e*P		**Pn**	**21 53 37.0**	**-0.7**
ONI	**Oni**		**11.83**	**337**	P		**Pn**	**21 53 39.9**	**+1.5**
ZEI	**Tsey**		**11.87**	**339**	*e*P		**Pn**	**21 53 41.2**	**+2.2**
ZEI					pmax		pmax		
	comp=Z,34nm,1.4s								
GUMT	**Gumushane**		**11.89**	**319**	*e*P		**Pn**	**21 53 39.6**	**+0.3**
GUMT	**Gumushane**		**11.89**	**319**	*e*P		**Pn**	**21 53 39.6**	**+0.3**
BHL	**Bhannes**		**11.91**	**284**	*e*P		**Pn**	**21 53 38.9**	**-0.8**
HMDT	**Nahal Hemdat**		**11.95**	**276**	Pn		**Pn**	**21 53 40.0**	**-0.1**
HTY	**Hatay**		**11.97**	**295**	*e*P		**Pn**	**21 53 38.3**	**-2.0**
DARE	**Darende-Malaty**		**11.99**	**308**	*e*P		**Pn**	**21 53 39.3**	**-1.3**
DARE	**Darende-Malaty**		**11.99**	**308**	*e*P		**Pn**	**21 53 39.3**	**-1.3**
MMLI	**Mount Malkishu**		**12.04**	**277**	*e*P		**Pn**	**21 53 40.8**	**-0.4**
MMLI	**Mount Malkishu**		**12.04**	**277**	Pn		**Pn**	**21 53 40.6**	**-0.7**
MMA0	**Mount Meron ar**		**12.06**	**280**	Pn		**Pn**	**21 53 42.9**	**+1.3**
MMAI	**Mount Meron Ar**		**12.06**	**280**	Pn		**Pn**	**21 53 41.9**	**+0.3**
MMAI	**Mount Meron Ar**		**12.06**	**280**	Pn		**Pn**	**21 53 41.9**	**+0.3**
MMAI	**Mount Meron Ar**		**12.06**	**280**	Pn		**Pn**	**21 53 41.9**	**+0.3**
	comp=Z,3.0nm,0.3s,baz=87,slow=17,SNR=22								
JMDO	**Jabal Madar**		**12.06**	**139**	Pn		P	21 53 48.1	-6.4
	SNR=18								
DSI	**Dead Sea**		**12.11**	**273**	Pn		**Pn**	**21 53 41.4**	**-0.9**
MZDA	**Masada**		**12.15**	**271**	Pn		**Pn**	**21 53 42.8**	**0.0**
SLTI	**Sal'it**		**12.36**	**276**	Pn		**Pn**	**21 53 45.4**	**-0.3**
OFRI	**'Ofer**		**12.40**	**278**	Pn		**Pn**	**21 53 47.0**	**+0.7**
ZFRI	**Zfri**		**12.41**	**268**	Pn		**Pn**	**21 53 44.8**	**-1.5**
PRNI	**Paran**		**12.59**	**267**	Pn		**Pn**	**21 53 47.6**	**-1.3**
NCK	**Nalchik**		**12.60**	**340**	*i*P		Pn	21 53 51.4	+2.5
HRFI	**Mount Harif**		**12.62**	**266**	*e*P		**Pn**	**21 53 50.7**	**+1.4**
HRFI	**Mount Harif**		**12.62**	**266**	Pn		**Pn**	**21 53 47.8**	**-1.5**
RMNI	**Mount Ramon**		**12.76**	**268**	Pn		**Pn**	**21 53 50.3**	**-0.9**
EIL	**Elat**		**12.78**	**264**	Pn		**Pn**	**21 53 50.0**	**-1.4**
EIL	**Elat**		**12.78**	**264**	Pn		**Pn**	**21 53 49.5**	**-1.9**
EIL	**Elat**		**12.78**	**264**	Pn		**Pn**	**21 53 50.0**	**-1.4**
	comp=Z,2.8nm,0.3s,baz=81,slow=4.7,SNR=29								
MBRI	**Mt Berech**		**12.78**	**265**	Pn		**Pn**	**21 53 49.5**	**-2.0**
KRMI	**Paran Flat**		**12.87**	**266**	Pn		**Pn**	**21 53 50.4**	**-2.3**
KZIT	**Kziot**		**13.02**	**270**	*e*P		**Pn**	**21 53 54.6**	**-0.1**
KZIT	**Kziot**		**13.02**	**270**	Pn		**Pn**	**21 53 53.9**	**-0.8**
KZIT	**Kziot**		**13.02**	**270**	*e*P		**Pn**	**21 53 54.6**	**-0.1**
KBZ	**Khabaz**		**13.03**	**338**	P		**Pn**	**21 53 58.2**	**+3.5**
KBZ					MLR		MLR		
	comp=Z,703nm,18.8s								
KBZ	**Khabaz**		**13.03**	**338**	Pn		Pn	21 53 58.2	+3.5
KBZ					ScP		**ScP**	**22 02 59.6**	**-0.4**
KBZ	**Khabaz**		**13.03**	**338**	Pn		Pn	21 53 58.2	+3.5
KBZ					ScP		**ScP**	**22 02 59.6**	**-0.4**
KBZ	**Khabaz**		**13.03**	**338**	Pn		Pn	21 53 58.2	+3.5
	comp=Z,0.1nm,0.3s,baz=151,slow=9.0,SNR=13								
KBZ					LR		LR	21 58 56.1	
	comp=Z,703nm,18.8s,baz=148,slow=38								
KBZ					ScP		**ScP**	**22 02 59.6**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=240,slow=0.4,SNR=6.4								
SVSK	**Karacayir**		**13.03**	**312**	*e*P		**Pn**	**21 53 53.5**	**-1.2**
SVSK	**Karacayir**		**13.03**	**312**	*e*P		**Pn**	**21 53 53.5**	**-1.2**
RSDY	**Resadiye-TOKAT**		**13.11**	**314**	*e*P		**Pn**	**21 53 55.1**	**-0.8**
RSDY	**Resadiye-TOKAT**		**13.11**	**314**	*e*P		**Pn**	**21 53 55.1**	**-0.8**
KARA	**Karaisali**		**13.16**	**298**	*e*P		**Pn**	**21 53 54.9**	**-1.7**
KARA	**Karaisali**		**13.16**	**298**	*e*P		**Pn**	**21 53 54.9**	**-1.7**
BNN	**Bunyan**		**13.24**	**306**	*e*P		**Pn**	**21 53 55.7**	**-2.1**
BNN	**Bunyan**		**13.24**	**306**	*e*P		**Pn**	**21 53 55.7**	**-2.1**
KIV	**Kislovodsk**		**13.30**	**338**‖	*e*P		**Pn**	**21 54 01.2**	**+2.7**
KIV					*e*S		**Sn**	**21 56 31.9**	**+5.8**
KIV					pmax		pmax		
	comp=Z,92nm,1.7s								
KIV					MLR		MLR		
	comp=Z,2µm,15.0s								
KIV	**Kislovodsk**		**13.30**	**338**	Pn		**Pn**	**21 54 01.4**	**+2.9**
	comp=Z,357nm,1.0s,SNR=9.3								
TOKT	**Tokat**		**13.54**	**313**	*e*P		**Pn**	**21 54 00.4**	**-1.4**
TOKT	**Tokat**		**13.54**	**313**	*e*P		**Pn**	**21 54 00.4**	**-1.4**
ERBA	**Erbaa**		**13.62**	**314**	*i*P		**Pn**	**21 54 01.7**	**-1.2**
ERBA	**Erbaa**		**13.62**	**314**	*i*P		**Pn**	**21 54 01.7**	**-1.2**
NIG	**Nigde**		**13.80**	**301**	*e*P		**Pn**	**21 54 03.3**	**-2.3**
NIG	**Nigde**		**13.80**	**301**	*e*P		**Pn**	**21 54 03.3**	**-2.3**
LFK	**Lefkose**		**13.84**	**289**	*e*P		**Pn**	**21 54 03.7**	**-2.2**
LFK	**Lefkose**		**13.84**	**289**	*e*P		**Pn**	**21 54 03.7**	**-2.2**
AVNT	**Avonos**		**13.90**	**304**	*i*P		**P**	**21 54 13.2**	**-1.9**
IKL	**Isikli**		**13.92**	**293**	*e*P		**Pn**	**21 54 04.8**	**-2.1**
IKL	**Isikli**		**13.92**	**293**	*e*P		**Pn**	**21 54 04.8**	**-2.1**
CSS	**Prodhromos**		**13.95**	**287**	*e*P		**Pn**	**21 54 05.2**	**-2.2**
CSS	**Prodhromos**		**13.95**	**287**	*e*Pn		**Pn**	**21 54 09.4**	**+2.0**
CSS					*e*Sn		**Sn**	**21 56 46.3**	**+4.3**
CSS	**Prodhromos**		**13.95**	**287**	*e*P		**Pn**	**21 54 05.2**	**-2.2**
CSS	**Prodhromos**		**13.95**	**287**	*e*Pn		**Pn**	**21 54 09.4**	**+2.0**
CSS					*e*Sn		**Sn**	**21 56 46.3**	**+4.3**
YOZ	**Yozgat**		**13.98**	**308**	*e*P		**Pn**	**21 54 06.3**	**-1.6**
YOZ	**Yozgat**		**13.98**	**308**	*e*P		**Pn**	**21 54 06.3**	**-1.6**
SOC	**Sochi**		**14.11**	**329**c	*i*P		**Pn**	**21 54 09.6**	**+0.1**
SOC					*e*			21 56 48.8	
SOC					pmax		pmax		
	comp=Z,69nm,1.1s								
SOC	**Sochi**		**14.11**	**329**	*i*P		**Pn**	**21 54 09.6**	**+0.1**
	comp=Z,69nm,1.1s								
SOC					*e*S		**Sn**	**21 56 48.8**	**+3.0**
GOF	**Gofitskoye**		**14.19**	**341**	*e*P		**Pn**	**21 54 11.8**	**+1.2**
GOF					pmax		pmax		
	comp=Z,90nm,1.2s								
GOF	**Gofitskoye**		**14.19**	**341**	*e*P		**Pn**	**21 54 11.8**	**+1.2**
	comp=Z,90nm,1.2s								
KVT	**Kavak**		**14.29**	**314**	*e*P		**Pn**	**21 54 11.6**	**-0.5**
LEF	**Lefka**		**14.33**	**288**	*e*P		**Pn**	**21 54 10.8**	**-1.8**
CDAG	**Cicekdag**		**14.61**	**307**	*i*P		**P**	**21 54 22.7**	**-0.2**
CDAG	**Cicekdag**		**14.61**	**307**	*i*P		**P**	**21 54 22.7**	**-0.2**
SULT	**Sultanhani-AKS**		**14.64**	**300**	*e*P		**Pn**	**21 54 14.2**	**-2.6**
CORM	**Corum**		**14.71**	**309**	*e*P		**Pn**	**21 54 15.7**	**-2.1**
ABTO	**Aybut**		**14.77**	**166**	Pn		**Pn**	**21 54 17.3**	**-1.4**
	SNR=15								
ABTO	**Aybut**		**14.77**	**166**	Pn		**Pn**	**21 54 17.3**	**-1.4**
	SNR=15								
CTKT	**Corum**		**14.83**	**311**	*i*P		**P**	**21 54 23.8**	**-1.6**
CTKT	**Corum**		**14.83**	**311**	*i*P		**P**	**21 54 23.8**	**-1.6**
RBK	**Rabkut**		**14.83**	**163**	Pn		**Pn**	**21 54 18.9**	**-0.7**
	SNR=16								
RBK	**Rabkut**		**14.83**	**163**	Pn		**Pn**	**21 54 18.9**	**-0.7**
	SNR=16								
KAMT	**Kaman**		**14.96**	**305**	*e*P		**Pn**	**21 54 18.6**	**-2.6**
GAZI	**Gazipasa**		**14.99**	**292**	*i*P		**Pn**	**21 54 18.8**	**-2.9**
HDMB	**Hadim**		**15.03**	**295**	*e*P		**Pn**	**21 54 19.4**	**-2.9**
DIKM	**Dikmen**		**15.11**	**315**	*e*P		**Pn**	**21 54 22.1**	**-1.0**
BR131	**Keskin Array S**		**15.16**	**306**	*e*Pn		**Pn**	**21 54 25.6**	**+1.6**
	comp=Z,25nm,0.5s								
BR131	**Keskin Array S**		**15.16**	**306**	*e*Pn		**Pn**	**21 54 25.6**	**+1.6**
	comp=Z,25nm,0.5s								
BRTR	**Keskin Array B**		**15.16**	**306**	Pn		**Pn**	**21 54 24.6**	**+0.7**
BRTR					ScP		**ScP**	**22 03 03.6**	**-0.4**
BRTR	**Keskin Array B**		**15.16**	**306**	Pn		**Pn**	**21 54 24.6**	**+0.7**
BRTR					ScP		**ScP**	**22 03 03.6**	**-0.4**
BRTR	**Keskin Array B**		**15.16**	**306**	Pn		**Pn**	**21 54 24.6**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=130,slow=13,SNR=8.1								
BRTR					ScP		**ScP**	**22 03 03.6**	**-0.4**
	comp=Z,0.0nm,0.3s,baz=153,slow=4.9,SNR=5.6								
KONT	**Konya--Tatoy**		**15.41**	**298**	*e*P		**Pn**	**21 54 24.8**	**-2.4**
AFSR	**Af'ar-Bala (A**		**15.44**	**304**	*e*P		**Pn**	**21 54 25.3**	**-2.2**
BBAL	**Bala**		**15.44**	**305**	*i*P		**P**	**21 54 33.0**	**+0.9**
BBAL	**Bala**		**15.44**	**305**	*i*P		**P**	**21 54 33.0**	**+0.9**
TOS	**Tosya**		**15.54**	**311**	*e*P		**Pn**	**21 54 27.1**	**-1.8**
CANT	**Cankiri**		**15.59**	**309**	*e*P		**Pn**	**21 54 27.5**	**-1.9**
ELDT	**Eldivan**		**15.66**	**308**	*i*P		**Pn**	**21 54 31.4**	**+0.9**
ELDT	**Eldivan**		**15.66**	**308**	*i*P		**Pn**	**21 54 31.4**	**+0.9**
ANTO	**Ankara**		**15.81**	**305**	*e*P		**Pn**	**21 54 34.0**	**+1.6**
ANTO					*e*			21 57 33.7	
ANTO	**Ankara**		**15.81**	**305**	Pn		**P**	**21 54 37.7**	**+1.6**
	SNR=14								
ANTO	**Ankara**		**15.81**	**305**	*e*P		**Pn**	**21 54 31.1**	**-1.3**
ANTO	**Ankara**		**15.81**	**305**⇑	*i*P		**P**	**21 54 36

	comp=E,850nm,20.0s							
VRHR	**Novokhopersk**	**20.16**	**345**	*e*P		**P**	**21 55 23.2**	**-0.7**
	comp=E,570nm,1.8s							
NPS	**Neapolis**	**20.28**	**286**	P		Pn	21 55 26.9	-0.4
NPS	**Neapolis**	**20.28**	**286**	P		Pn	21 55 26.9	-0.4
NPS	**Neapolis**	**20.28**	**286**	P		Pn	21 55 26.9	-0.4
NPS	**Neapolis**	**20.28**	**286**	P		Pn	21 55 26.9	-0.4
CHOS	**Chios island**	**20.32**	**295**	P		Pn	21 55 27.3	-0.6
CHOS	**Chios island**	**20.32**	**295**	P		Pn	21 55 27.3	-0.6
CHOS	**Chios island**	**20.32**	**295**	P		Pn	21 55 27.3	-0.6
PRK	**Paraskevi**	**20.35**	**298**	P		**P**	**21 55 26.7**	**+0.7**
PRK	**Paraskevi**	**20.35**	**298**	P		**P**	**21 55 26.7**	**+0.7**
PRK	**Paraskevi**	**20.35**	**298**	P		**P**	**21 55 26.7**	**+0.7**
PRK	**Paraskevi**	**20.35**	**298**	P		**P**	**21 55 26.7**	**+0.7**
LAST	**Lasithi**	**20.38**	**286**	P		**P**	**21 55 26.7**	**+0.2**
LAST	**Lasithi**	**20.38**	**286**	P		**P**	**21 55 26.7**	**+0.2**
LAST	**Lasithi**	**20.38**	**286**	P		**P**	**21 55 26.7**	**+0.2**
MANR	**Mangalia**	**20.42**	**312**⇑	*i*P		**P**	**21 55 23.5**	**-3.2**
SANT	**Santorini**	**20.49**	**289**	*e*P		Pn	21 55 29.0	-0.8
	comp=E,95nm,0.7s							
SANT	**Santorini**	**20.49**	**289**	*e*P		Pn	21 55 29.0	-0.8
	comp=E,95nm,0.7s							
APE	**Apeiranthos**	**20.51**	**291**	P		**P**	**21 55 28.1**	**+0.2**
APE	**Apeiranthos**	**20.51**	**291**	P		**P**	**21 55 28.1**	**+0.2**
APE	**Apeiranthos**	**20.51**	**291**⇑	*i*P		P	21 55 22.5	-5.4
APE	**Apeiranthos**	**20.51**	**291**	P		**P**	**21 55 28.1**	**+0.2**
APE	**Apeiranthos**	**20.51**	**291**	P		**P**	**21 55 28.1**	**+0.2**
PSN	**Preselentsi**	**20.61**	**311**	*i* P		**P**	**21 55 27.9**	**-0.9**
PSN	**Preselentsi**	**20.61**	**311**	*i* P		**P**	**21 55 27.9**	**-0.9**
VORD	**Divnogorie**	**20.61**	**341**	*e*P		**P**	**21 55 26.3**	**-2.5**
VORD				*e*S		**S**	**21 59 12.2**	**-6.4**
VORD					pmax	pmax		
	comp=Z,150nm,0.9s							
VORD					pmax	pmax		
	comp=E,90nm,1.0s							
VORD					smax	smax		
	comp=E,120nm,0.9s							
VORD					smax	smax		
	comp=Z,30nm,2.5s							
VORD					MLR	MLR		
	comp=Z,2µm,16.0s							
VORD					MLR	MLR		
	comp=E,1µm,17.0s							
VORD	**Divnogorie**	**20.61**	**341**	*e*P		**P**	**21 55 26.3**	**-2.5**
	comp=E,150nm,0.9s							
BOZC	**Bozcaada**	**20.67**	**299**	*i* P		**P**	**21 55 30.6**	**+1.1**
TIRR	**Tirgusor**	**20.84**	**313**	*e*P		Pn	21 55 32.9	-0.9
TIRR					pmax	pmax		
	comp=Z,58nm,0.8s							
TIRR	**Tirgusor**	**20.84**	**313**⇑	*i*P		**P**	**21 55 31.5**	**+0.2**
TIRR	**Tirgusor**	**20.84**	**313**	*e*P		Pn	21 55 32.9	-0.9
	comp=Z,58nm,0.8s							
TIRR	**Tirgusor**	**20.84**	**313**	*e*P		Pn	21 55 32.8	-1.0
	comp=Z,58nm,0.8s							
IDI	**Anoyia**	**20.87**	**286**	P		**P**	**21 55 31.8**	**0.0**
IDI	**Anoyia**	**20.87**	**286**	*e*P		**P**	**21 55 32.2**	**+0.4**
	comp=Z,132nm,0.8s							
IDI	**Anoyia**	**20.87**	**286**	P		**P**	**21 55 31.8**	**0.0**
IDI	**Anoyia**	**20.87**	**286**	P		**P**	**21 55 32.0**	**+0.2**
	comp=Z,47nm,0.7s,baz=85,slow=12,SNR=36							
VSR	**Storozhevoye**	**20.87**	**341**	*e*P		**P**	**21 55 29.5**	**-2.1**
VSR				*e*S		S	21 59 16.7	-7.1
VSR					pmax	pmax		
	comp=Z,120nm,1.0s							
VSR					pmax	pmax		
	comp=N,210nm,1.7s							
VSR					pmax	pmax		
	comp=E,140nm,1.7s							
VSR					smax	smax		
	comp=E,450nm,4.5s							
VSR					smax	smax		
	comp=Z,200nm,4.4s							
VSR					smax	smax		
	comp=N,150nm,1.1s							
VSR					MLR	MLR		
	comp=E,1µm,17.0s							
VSR					MLR	MLR		
	comp=Z,2µm,17.0s							
VSR					MLR	MLR		
	comp=N,1µm,20.0s							
VSR	**Storozhevoye**	**20.87**	**341**	*e*P		**P**	**21 55 29.5**	**-2.1**
	comp=N,120nm,1.0s							
TLCR		**20.98**	**316**⇑	*i*P		**P**	**21 55 31.5**	**-1.2**
TLCR		**20.98**	**316**⇑	*i*P		**P**	**21 55 31.5**	**-1.2**
ALN	**Alexandroupoli**	**20.98**	**302**	P		**P**	**21 55 34.2**	**+1.4**
ALN	**Alexandroupoli**	**20.98**	**302**	P		**P**	**21 55 34.2**	**+1.4**
ALN	**Alexandroupoli**	**20.98**	**302**	P		**P**	**21 55 34.2**	**+1.4**
ALN	**Alexandroupoli**	**20.98**	**302**	P		**P**	**21 55 34.2**	**+1.4**
MSAB	**Monastry St. A**	**21.03**	**312**⇓	*i*P		**P**	**21 55 32.8**	**-0.5**
MSAB	**Monastry St. A**	**21.03**	**312**⇓	*i*P		**P**	**21 55 32.8**	**-0.5**
ATD	**Arta Tunnel**	**21.11**	**199**	P		**P**	**21 55 37.9**	**+3.5**
ATD	**Arta Tunnel**	**21.11**	**199**	P		**P**	**21 55 37.9**	**+3.5**
ATD	**Arta Tunnel**	**21.11**	**199**	P		**P**	**21 55 37.9**	**+3.5**
	comp=N,10nm,0.9s,baz=12,slow=11,SNR=8.4							
ATD					LR	LR	22 04 20.4	
	comp=N,3µm,21.3s,baz=183,slow=38							
TLB	**Topalu**	**21.14**	**313**⇑	*i*P		**P**	**21 55 34.6**	**+0.1**
TLB	**Topalu**	**21.14**	**313**⇑	*i*P		**P**	**21 55 34.6**	**+0.1**
VOR	**Voronezh**	**21.33**	**342**	*e*P		**P**	**21 55 37.0**	**+0.5**
VOR				*e*S		**S**	**21 59 28.0**	**-4.8**
VOR					pmax	pmax		
	comp=Z,480nm,2.0s							
VOR	**Voronezh**	**21.33**	**342**	*e*P		**P**	**21 55 37.0**	**+0.5**
	comp=Z,480nm,2.0s							
CFR	**Carcaliu**	**21.38**	**315**⇓	*i*P		**P**	**21 55 35.9**	**-1.2**
CFR	**Carcaliu**	**21.38**	**315**⇓	*i*P		**P**	**21 55 35.9**	**-1.2**
RDO	**Rodhopi**	**21.42**	**303**	P		**P**	**21 55 39.1**	**+1.5**
RDO	**Rodhopi**	**21.42**	**303**	P		**P**	**21 55 39.1**	**+1.5**
RDO	**Rodhopi**	**21.42**	**303**	P		**P**	**21 55 39.1**	**+1.5**
VAM	**Vamos**	**21.44**	**287**	P		**P**	**21 55 38.4**	**+0.6**
VAM	**Vamos**	**21.44**	**287**	P		**P**	**21 55 38.4**	**+0.6**
VAM	**Vamos**	**21.44**	**287**	P		**P**	**21 55 38.4**	**+0.6**
VAM	**Vamos**	**21.44**	**287**	P		**P**	**21 55 38.4**	**+0.6**
GVD	**Gavdhos**	**21.51**	**285**	*e*P		**P**	**21 55 38.8**	**+0.2**
	comp=Z,342nm,1.0s							
GVD	**Gavdhos**	**21.51**	**285**	*e*P		**P**	**21 55 38.8**	**+0.2**
	comp=Z,342nm,1.0s							
KARN	**Karanos**	**21.67**	**287**	P		**P**	**21 55 41.6**	**+1.3**
KARN	**Karanos**	**21.67**	**287**	P		**P**	**21 55 41.6**	**+1.3**
KARN	**Karanos**	**21.67**	**287**	P		**P**	**21 55 41.6**	**+1.3**
AML	**Almayashu**	**21.78**	**55**	*i* P		**P**	**21 55 42.9**	**+1.1**
AML	**Almayashu**	**21.78**	**55**	P		**P**	**21 55 43.0**	**+1.1**
	SNR=102							
AML	**Almayashu**	**21.78**	**55**	P		**P**	**21 55 42.9**	**+1.1**
	SNR=104							
LTBQ	**Tobruq**	**21.78**	**278**	*i* P		**P**	**21 55 41.9**	**+0.4**
	comp=Z,483nm,1.6s,SNR=34							
LTBQ				*e*S		**S**	**21 59 40.8**	**-1.2**
	SNR=37							
SZH	**Strazhica**	**21.90**	**308**	*i* P		**P**	**21 55 41.1**	**-1.7**
SZH	**Strazhica**	**21.90**	**308**	*i* P		**P**	**21 55 41.1**	**-1.7**
PGOR	**Pogoanele**	**21.95**	**313**⇑	*i*P		**P**	**21 55 47.8**	**+4.6**
PTL	**Penteli**	**21.96**	**294**	P		**P**	**21 55 44.0**	**+0.5**
PTL	**Penteli**	**21.96**	**294**	P		**P**	**21 55 44.0**	**+0.5**
PTL	**Penteli**	**21.96**	**294**	P		**P**	**21 55 44.0**	**+0.5**
KIS	**Kishinev**	**22.00**	**320**⇓	*i*P		**P**	**21 55 42.0**	**-1.7**
	comp=Z,200nm,1.5s							
KIS				*i* S		**S**	**21 59 40.0**	**-5.9**
	comp=Z,400nm,1.8s							
KIS	**Kishinev**	**22.00**	**320**	*i* PcP		Sn	21 59 52.0	-4.5
KIS					LRM	MLR	22 06 04.0	
	comp=Z,700nm,12.0s							
KIS	**Kishinev**	**22.00**	**320**x	*i*P		**P**	**21 55 42.0**	**-1.7**
KIS				*e*			21 55 52.0	
KIS				*e*			21 56 18.0	
KIS				*i* S		**S**	**21 59 40.0**	**-5.9**
KIS				*i*			21 59 52.0	
KIS					pmax	pmax		
	comp=Z,200nm,1.5s							
KIS					pmax	pmax		
	comp=Z,200nm,2.0s							
KIS					smax	smax		
	comp=Z,400µm,1.8s							
KIS					smax	smax		
	comp=E,700nm,1.5s							
KIS					MLR	MLR		
	comp=Z,900nm,12.0s							
KIS					MLR	MLR		
	comp=E,500nm,14.0s							
KIS					MLR	MLR		
	comp=Z,700nm,12.0s							
KIS	**Kishinev**	**22.00**	**320**⇓	*i*P		**P**	**21 55 44.4**	**+0.7**
KIS	**Kishinev**	**22.00**	**320**	*i* P		**P**	**21 55 42.0**	**-1.7**
	comp=Z,200nm,2.0s							
LEOM	**Leova**	**22.02**	**318**⇓	*i*P		**P**	**21 55 43.4**	**-0.5**
LEOM	**Leova**	**22.02**	**318**⇓	*i*P		**P**	**21 55 43.4**	**-0.5**
EKS2	**Erkin-Say**	**22.02**	**54**	*e*P		**P**	**21 55 45.5**	**+1.3**
EKS2					pmax	pmax		
	comp=Z,46nm,0.9s							
EKS2	**Erkin-Say**	**22.02**	**54**	P		**P**	**21 55 45.5**	**+1.3**
	SNR=33							
EKS2	**Erkin-Say**	**22.02**	**54**	*e*P		**P**	**21 55 45.5**	**+1.3**
	comp=Z,46nm,0.9s							
EKS2	**Erkin-Say**	**22.02**	**54**	*e*P		**P**	**21 55 45.5**	**+1.3**
	comp=Z,46nm,0.9s							
ERET	**Eretria**	**22.07**	**295**	P		**P**	**21 55 45.9**	**+1.2**
ERET	**Eretria**	**22.07**	**295**	P		**P**	**21 55 45.9**	**+1.2**
THN	**Thein Dam**	**22.12**	**81**	*e*P		**P**	**21 55 41.0**	**-4.2**
AOS	**Alonnisos**	**22.15**	**297**	P		**P**	**21 55 46.5**	**+1.1**
AOS	**Alonnisos**	**22.15**	**297**	P		**P**	**21 55 46.5**	**+1.1**
AOS	**Alonnisos**	**22.15**	**297**	P		**P**	**21 55 46.5**	**+1.1**
RZN	**Rozhen**	**22.18**	**303**	*i* P		**P**	**21 55 47.1**	**+1.2**
RZN	**Rozhen**	**22.18**	**303**	*i* P		**P**	**21 55 47.1**	**+1.2**
GRER		**22.19**	**314**⇑	*i*P		**P**	**21 55 46.8**	**+1.0**
GRER		**22.19**	**314**⇑	*i*P		**P**	**21 55 46.8**	**+1.0**
PETR	**Petresti**	**22.21**	**315**⇑	*i*P		**P**	**21 55 46.9**	**+0.9**
PETR	**Petresti**	**22.21**	**315**⇑	*i*P		**P**	**21 55 46.9**	**+0.9**
GHRR		**22.28**	**316**⇑	*i*P		**P**	**21 55 47.3**	**+0.6**
GHRR		**22.28**	**316**⇑	*i*P		**P**	**21 55 47.3**	**+0.6**
MRKA	**Markates**	**22.28**	**295**	P		**P**	**21 55 48.0**	**+1.1**
MRKA	**Markates**	**22.28**	**295**	P		**P**	**21 55 48.0**	**+1.1**
PVL	**Pavlikeni**	**22.29**	**308**	*i* P		P	21 55 52.2	+5.3
SULR		**22.30**	**312**⇑	*i*P		**P**	**21 55 49.5**	**+2.5**
PLD	**Plovdiv**	**22.32**	**304**	P		**P**	**21 55 48.9**	**+1.6**
PLD	**Plovdiv**	**22.32**	**304**	P		**P**	**21 55 48.9**	**+1.6**
PLD	**Plovdiv**	**22.32**	**304**	P		**P**	**21 55 48.9**	**+1.6**
PLD	**Plovdiv**	**22.32**	**304**	P		**P**	**21 55 48.9**	**+1.6**
ISR	**Istrita**	**22.33**	**313**⇓	*i*P		**P**	**21 55 49.1**	**+1.8**
ISR	**Istrita**	**22.33**	**313**⇓	*i*P		**P**	**21 55 49.1**	**+1.8**
UCH	**Uchtor**	**22.38**	**55**	*i* P		**P**	**21 55 50.0**	**+1.6**
UCH	**Uchtor**	**22.38**	**55**	P		**P**	**21 55 50.0**	**+1.6**
	SNR=14							
UCH	**Uchtor**	**22.38**	**55**	*i* P		**P**	**21 55 50.0**	**+1.6**
AAK	**Ala-Archa**	**22.51**	**54**	*e*P		**P**	**21 55 50.1**	**+0.6**
AAK	**Ala-Archa**	**22.51**	**54**	P		**P**	**21 55 51.2**	**+1.7**
	SNR=44							
AAK	**Ala-Archa**	**22.51**	**54**	P		**P**	**21 55 51.0**	**+1.5**
	SNR=13							
AAK	**Ala-Archa**	**22.51**	**54**	P		**P**	**21 55 50.0**	**+0.6**
	comp=Z,222nm,1.2s,SNR=10.0							
AAK	**Ala-Archa**	**22.51**	**54**	*e*P		**P**	**21 55 50.0**	**+0.6**
AAK				*e*ScP		**ScP**	**22 03 18.2**	**-2.0**
AAK	**Ala-Archa**	**22.51**	**54**	*e*P		**P**	**21 55 50.1**	**+0.6**
AAK				*e*ScP		**ScP**	**22 03 18.2**	**-2.0**
AAK	**Ala-Archa**	**22.51**	**54**	P		**P**	**21 55 50.9**	**+1.5**
	comp=Z,4.1nm,0.5s,baz=210,slow=7.2,SNR=19							
AAK					ScP	**ScP**	**22 03 18.3**	**-2.0**
	comp=Z,3.6nm,0.6s,baz=203,slow=3.0,SNR=7.8							
AAK					LR	LR	22 05 59.0	
	comp=Z,4µm,20.4s,baz=251,slow=40							
VLI	**Veliai**	**22.54**	**290**	P		**P**	**21 55 47.5**	**-2.2**
VLI	**Veliai**	**22.54**	**290**	P		**P**	**21 55 47.5**	**-2.2**
VLI	**Veliai**	**22.54**	**290**	P		**P**	**21 55 47.5**	**-2.2**
VRI	**Vrincioaia**	**22.58**	**315**⇓	*i*P		**P**	**21 55 50.5**	**+0.5**
VRI	**Vrincioaia**	**22.58**	**315**⇓	*i*P		**P**	**21 55 50.5**	**+0.5**
SMIA	**Simia**	**22.61**	**296**	P		**P**	**21 55 52.4**	**+2.0**
PLOR	**Plostina**	**22.62**	**315**⇓	*i*P		**P**	**21 55 50.5**	**0.0**
PLOR	**Plostina**	**22.62**	**315**⇓	*i*P		**P**	**21 55 50.5**	**0.0**
FRU	**Bishkek**	**22.66**	**54**	*e*P		**P**	**21 55 53.0**	**+2.0**
FRU				*i*			21 56 20.0	
FRU					pmax	pmax		
	comp=Z,160nm,2.0s							
FRU					MLR	MLR		
	comp=Z,7µm,17.0s							
FRU	**Bishkek**	**22.66**	**54**	*e*P		**P**	**21 55 53.0**	**+2.0**
	comp=Z,160nm,2.0s							
NEO	**Neokhori**	**22.67**	**297**	P		**P**	**21 55 52.9**	**+1.8**
NEO	**Neokhori**	**22.67**	**297**	P		**P**	**21 55 52.9**	**+1.8**
NEO	**Neokhori**	**22.67**	**297**	P		**P**	**21 55 52.9**	**+1.8**
NVR	**Nevrokopi**	**22.69**	**302**	P		**P**	**21 55 51.2**	**0.0**
NVR	**Nevrokopi**	**22.69**	**302**	P		**P**	**21 55 51.2**	**0.0**
NVR	**Nevrokopi**	**22.69**	**302**	P		**P**	**21 55 51.2**	**0.0**
XOR	**Xorichti**	**22.71**	**297**	P		**P**	**21 55 52.4**	**+0.9**
XOR	**Xorichti**	**22.71**	**297**	P		**P**	**21 55 52.4**	**+0.9**
XOR	**Xorichti**	**22.71**	**297**	P		**P**	**21 55 52.4**	**+0.9**
KSH	**Kashi**	**22.72**	**63**	P		**P**	**21 55 49.5**	**-2.2**
KSH				pP		**pP**	**21 55 52.2**	**-3.8**
KSH				sP		**sP**	**21 55 54.2**	**-3.7**
KSH				PP		**PnPn**	**21 56 12.8**	**-2.8**
KSH				S		S	21 59 45.8	-14
KSH				sS		sS	21 59 57.6	-10
KSH				SS		**SnSn**	**22 00 26.7**	**-3.2**
KSH				PcS		**PcS**	**22 03 26.1**	**+3.5**
KSH				AMB		AMB		
	comp=Z,79nm,0.9s							
KSH				AMB		AMB		
	comp=Z,350nm,4.7s							
KSH				LR		LR		
	comp=Z,2µm,11.0s							
KSH				LR		LR		
	comp=Z,4µm,14.6s							
KSH				LR		LR		
	comp=Z,6µm,17.4s							
PLG	**Polygyros**	**22.74**	**299**	P		**P**	**21 55 51.3**	**-0.5**
PLG	**Polygyros**	**22.74**	**299**	P		**P**	**21 55 51.3**	**-0.5**
PLG	**Polygyros**	**22.74**	**299**	P		**P**	**21 55 51.3**	**-0.5**
PLG	**Polygyros**	**22.74**	**299**	P		**P**	**21 55 51.3**	**-0.5**
USP	**Ospenovka**	**22.74**	**53**	*i* P		**P**	**21 55 52.4**	**+0.6**
USP	**Ospenovka**	**22.74**	**53**	P		**P**	**21 55 52.4**	**+0.6**
	SNR=21							
USP	**Ospenovka**	**22.74**	**53**	*i* P		**P**	**21 55 52.4**	**+0.6**
IAS	**Iasi**	**22.81**	**319**⇓	*i*P		**P**	**21 55 50.2**	**-2.2**
IAS	**Iasi**	**22.81**	**319**⇓	*i*P		**P**	**21 55 50.2**	**-2.2**
CHMS	**Chumysh**	**22.81**	**54**	*i* P		**P**	**21 55 56.1**	**+3.6**
CHMS	**Chumysh**	**22.81**	**54**	P		**P**	**21 55 56.1**	**+3.6**
	SNR=23							
CHMS	**Chumysh**	**22.81**	**54**	*i* P		**P**	**21 55 56.1**	**+3.6**
SRS	**Serrai**	**22.82**	**301**	P		**P**	**21 55 52.1**	**-0.5**
SRS	**Serrai**	**22.82**	**301**	P		**P**	**21 55 52.1**	**-0.5**
SRS	**Serrai**	**22.82**	**301**	P		**P**	**21 55 52.1**	**-0.5**
SRS	**Serrai**	**22.82**	**301**	P		**P**	**21 55 52.1**	**-0.5**
KBK	**Karagaybulak**	**22.83**	**55**	*i* P		**P**	**21 55 56.0**	**+3.1**
KBK	**Karagaybulak**	**22.83**	**55**	P		**P**	**21 55 56.0**	**+3.1**
	SNR=34							
KBK	**Karagaybulak**	**22.83**	**55**	*i* P		**P**	**21 55 56.0**	**+3.1**
PGB	**Panagyurishte**	**22.85**	**305**	*i* P		**P**	**21 55 53.9**	**+1.0**
PGB	**Panagyurishte**	**22.85**	**305**	*i* P		**P**	**21 55 53.9**	**+1.0**
KZA	**Kyzart**	**22.85**	**56**	*i* P		**P**	**21 55 54.7**	**+1.3**
KZA	**Kyzart**	**22.85**	**56**	P		**P**	**21 55 54.7**	**+1.3**
	SNR=33							
KZA	**Kyzart**	**22.85**	**56**	*i* P		**P**	**21 55 54.7**	**+1.3**
MLR	**Muntele Rosu**	**22.87**	**313**⇑	*i*P		**P**	**21 55 56.1**	**+2.9**
SOH	**Sokhos**	**22.92**	**300**	P		**P**	**21 55 58.2**	**+4.6**
SOH	**Sokhos**	**22.92**	**300**	P		**P**	**21 55 58.2**	**+4.6**
SOH	**Sokhos**	**22.92**	**300**	P		**P**	**21 55 58.2**	**+4.6**
SOH	**Sokhos**	**22.92**	**300**	P		**P**	**21 55 58.2**	**+4.6**
TESR	**Tescani**	**22.96**	**316**⇓	*i*P		**P**	**21 55 53.3**	**-0.7**
TESR	**Tescani**	**22.96**	**316**⇓	*i*P		**P**	**21 55 53.3**	**-0.7**
AGG	**Agios Georgios**	**23.30**	**296**	P		**P**	**21 55 56.4**	**-1.2**
AGG	**Agios Georgios**	**23.30**	**296**	P		**P**	**21 55 56.4**	**-1.2**
AGG	**Agios Georgios**	**23.30**	**296**	P		**P**	**21 55 56.4**	**-1.2**
AGG	**Agios Georgios**	**23.30**	**296**	P		**P**	**21 55 56.4**	**-1.2**
TKM2	**Tokmak 2**	**23.37**	**54**	*i* P		**P**	**21 55 59.2**	**+0.8**
TKM2	**Tokmak 2**	**23.37**	**54**	P		**P**	**21 55 59.2**	**+0.8**
	SNR=70							
TKM2	**Tokmak 2**	**23.37**	**54**	*e*P		**P**	**21 55 59.2**	**+0.8**
	comp=Z,64nm,1.0s							
TKM2	**Tokmak 2**	**23.37**	**54**	*i* P		**P**	**21 55 59.2**	**+0.8**
ITM	**Ithomi**	**23.39**	**291**	P		**P**	**21 55 58.2**	**-0.2**
ITM	**Ithomi**	**23.39**	**291**	P		**P**	**21 55 58.2**	**-0.2**
ITM	**Ithomi**	**23.39**	**291**	P		**P**	**21 55 58.2**	**-0.2**
VOIR		**23.41**	**313**⇓	*i*P		**P**	**21 55 58.8**	**+0.2**
VOIR		**23.41**	**313**⇓	*i*P		**P**	**21 55 58.8**	**+0.2**
MPEP	**Malo Peshtene**	**23.42**	**307**	*i* P		**P**	**21 56 01.9**	**+3.2**
DOPR	**Dopca**	**23.44**	**314**⇑	*i*P		**P**	**21 56 01.5**	**+2.6**
MAKR	**Makrakomi, Fth**	**23.46**	**295**	P		**P**	**21 56 00.4**	**+1.3**
MAKR	**Makrakomi, Fth**	**23.46**	**295**	P		**P**	**21 56 00.4**	**+1.3**
MAKR	**Makrakomi, Fth**	**23.46**	**295**	P		**P**	**21 56 00.4**	**+1.3**
SMLA	**Simla**	**23.51**	**84**	*i* P		**P**	**21 56 00.9**	**+1.3**
VTS	**Vitosha**	**23.53**	**305**	P		**P**	**21 56 00.2**	**+0.3**
VTS	**Vitosha**	**23.53**	**305**	P		**P**	**21 56 00.2**	**+0.3**
VTS	**Vitosha**	**23.53**	**305**⇑	*i*P		**P**	**21 56 01.4**	**+1.5**
VTS	**Vitosha**	**23.53**	**305**	*i* P		**P**	**21 56 00.0**	**+0.1**
VTS	**Vitosha**	**23.53**	**305**	P		**P**	**21 56 00.2**	**+0.3**
VTS	**Vitosha**	**23.53**	**305**	P		**P**	**21 56 00.2**	**+0.3**
ULHL	**Ulahol**	**23.61**	**56**	*i* P		**P**	**21 56 01.9**	**+1.1**
ULHL	**Ulahol**	**23.61**	**56**	*i* P		**P**	**21 56 01.9**	**+1.1**
	SNR=31							
ULHL	**Ulahol**	**23.61**	**56**	*i* P		**P**	**21 56 01.9**	**+1.1**
VAY	**Valandovo**	**23.62**	**301**	*e*P		**P**	**21 56 00.1**	**-0.6**
	comp=Z,40nm,1.2s							
ARR	**Arges**	**23.64**	**312**⇑	*i*P		**P**	**21 56 01.8**	**+0.9**
ARR	**Arges**	**23.64**	**312**⇑	*i*P		**P**	**21 56 01.8**	**+0.9**
THL	**Klokotos Trika**	**23.64**	**297**	P		**P**	**21 56 00.2**	**-0.7**
THL	**Klokotos Trika**	**23.64**	**297**	P		**P**	**21 56 00.2**	**-0.7**
GRG	**Griva**	**23.65**	**300**	P		**P**	**21 56 01.6**	**+0.6**
GRG	**Griva**	**23.65**	**300**	P		**P**	**21 56 01.6**	**+0.6**
GRG	**Griva**	**23.65**	**300**	P		**P**	**21 56 01.6**	**+0.6**
GRG	**Griva**	**23.65**	**300**	P		**P**	**21 56 01.6**	**+0.6**
MDB	**Medias**	**24.15**	**314**⇓	*i*P		**P**	**21 56 09.9**	**+4.3**
AKASG	**Malin Array Be**	**24.18**	**327**	P		**P**	**21 56 04.2**	**-1.6**
AKASG							21 59 45.6	
AKASG					pmax	pmax		
	comp=Z,7.0nm,0.3s							
AKASG	**Malin Array Be**	**24.18**	**327**	P		**P**	**21 56 04.2**	**-1.6**
AKASG				PcP		**PcP**	**21 59 45.6**	**-0.6**
AKASG				ScP		**ScP**	**22 03 21.8**	**-2.5**
AKASG	**Malin Array Be**	**24.18**	**327**	P		**P**	**21 56 04.2**	**-1.6**
	comp=Z,7.0nm,0.3s							
AKASG	**Malin Array Be**	**24.18**	**327**	P		**P**	**21 56 04.2**	**-1.6**
	comp=Z,6.9nm,0.3s,baz=136,slow=8.9,SNR=110							
AKASG				PcP		**PcP**	**21 59 45.6**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=96,slow=2.2,SNR=4.2							
AKASG				ScP		**ScP**	**22 03 21.8**	**-2.5**
	comp=Z,1.7nm,0.5s,baz=108,slow=2.2,SNR=10							
KIEV	**Kiev**	**24.18**	**327**	*e*P		**P**	**21 56 04.4**	**-1.4**
KIEV				S		**S**	**22 00 21.0**	**-2.3**
KIEV					pmax	pmax		
	comp=Z,39nm,0.7s							
KIEV	**Kiev**	**24.18**	**327**	*e*P		**P**	**21 56 04.4**	**-1.4**
	comp=Z,40nm,0.7s							
KIEV				S		**S**	**22 00 21.0**	**-2.3**
KIEV	**Kiev**	**24.18**	**327**	*e*P		**P**	**21 56 04.4**	**-1.4**
	comp=Z,39nm,0.7s							
KIEV				S		**S**	**22 00 21.0**	**-2.3**
LOT	**Lotru**	**24.22**	**312**⇑	*i*P		**P**	**21 56 06.0**	**-0.4**
LOT	**Lotru**	**24.22**	**312**⇑	*i*P		**P**	**21 56 06.0**	**-0.4**
MARJ	**Al Marj**	**24.29**	**280**	*i* P		**P**	**21 56 08.1**	**+1.0**
	comp=Z,204nm,1.6s,SNR=28							
MARJ				*e*S		**S**	**22 00 25.0**	**-0.5**
	SNR=29							
FNA	**Florina**	**24.36**	**300**	P		**P**	**21 56 09.0**	**+1.2**
FNA	**Florina**	**24.36**	**300**	P		**P**	**21 56 09.0**	**+1.2**
FNA	**Florina**	**24.36**	**300**	P		**P**	**21 56 09.0**	**+1.2**
FNA	**Florina**	**24.36**	**300**	P		**P**	**21 56 09.0**	**+1.2**
BURAR	**Bucovina Array**	**24.37**	**317**⇓	*i*P		**P**	**21 56 08.3**	**+0.5**
BURAR	**Bucovina Array**	**24.37**	**317**⇓	*i*P		**P**	**21 56 08.3**	**+0.5**
BUR08	**Bucovina Ar. S**	**24.40**	**317**	*e*P		**P**	**21 56 07.7**	**-0.4**
BUR08				*e*S		**S**	**22 00 28.9**	**+1.7**
BUR08	**Bucovina Ar. S**	**24.40**	**317**	*e*P		**P**	**21 56 07.7**	**-0.4**
BUR08				*e*S		**S**	**22 00 28.9**	**+1.7**
AAA	**Alma-Ata**	**24.42**	**54**	*e*P		**P**	**21 56 09.6**	**+1.4**
AAA				*e*S		**S**	**22 00 25.6**	**-1.9**
AAA					pmax	pmax		
	comp=Z,900nm,5.1s							
AAA					smax	smax		
	comp=E,1µm,13.8s							
AAA					MLR	MLR		
	comp=Z,9µm,16.0s							
AAA	**Alma-Ata**	**24.42**	**54**	*e*P		**P**	**21 56 09.6**	**+1.4**
	comp=Z,900nm,5.1s							
BIA	**Bitola**	**24.46**	**300**	*e*P		**P**	**21 56 13.1**	**+4.5**
LKFR	**Kufra**	**24.47

BVAR MLR MLR
comp=Z,2µm,18.6s
BVAR Borovoye Array 26.01 29 P **P** **21 56 22.6 +0.2**
BVAR ScP **ScP** **22 03 25.8 -3.6**
BVAR Borovoye Array 26.01 29 P **P** **21 56 22.6 +0.2**
comp=Z,2µm,18.6s
BVAR ScP **ScP** **22 03 25.8 -3.6**
BVAR Borovoye Array 26.01 29 P **P** **21 56 22.6 +0.2**
comp=Z,18nm,0.5s,baz=226,slow=8.1,SNR=73
BVAR ScP **ScP** **22 03 25.8 -3.6**
comp=Z,3.8nm,0.5s,baz=219,slow=2.5,SNR=14
BVAR LR LR 22 08 14.3
comp=Z,2µm,18.6s,baz=45,slow=40
VOSK Vostochnaya 26.04 30 *eP* **P** **21 56 22.7 -0.1**
VOSK pmax pmax
comp=Z,16nm,0.9s
VOSK Vostochnaya 26.04 30 *eP* **P** **21 56 22.7 -0.1**
comp=Z,16nm,0.9s
VOSK Vostochnaya 26.04 30 *eP* **P** **21 56 22.7 -0.1**
comp=Z,16nm,0.9s
SVE Sverdlovsk 26.17 14‖ *eP* **P** **21 56 23.5 -0.4**
SVE *eS* **S** **22 00 58.1 +3.0**
SVE pmax pmax
comp=Z,34nm,0.9s
SVE MLR MLR
comp=Z,3µm,15.0s
SVE Sverdlovsk 26.17 14 *eP* **P** **21 56 23.5 -0.4**
comp=Z,34nm,0.9s
TRPA Tarpa 26.19 316⇑ *iP* **P** **21 56 27.1 +3.0**
TRPA Tarpa 26.19 316 *eP* **P** **21 56 25.1 +1.0**
TRPA Tarpa 26.19 316 *eP* **P** **21 56 25.1 +1.0**
LVV L'vov 26.23 321 *eP* P 21 56 34.4 +10
LVV MLR MLR
comp=Z,400nm,14.0s
LVV MLR MLR
comp=N,100nm,11.0s
LVV MLR MLR
comp=E,300nm,15.0s
DIVS Divibare 26.23 306 P P 21 56 19.2 -5.4
DIVS Divibare 26.23 306 *eP* **P** **21 56 23.6 -1.0**
BBLS Lazići 26.56 306 *eP* **P** **21 56 26.0 -1.6**
UZH Uzhgorod 26.58 317 *eP* **P** **21 56 25.9 -1.7**
UZH *e* 21 56 39.5
UZH *eS* **S** **22 00 56.1 -5.5**
UZH Uzhgorod 26.58 317 *eP* **P** **21 56 25.9 -1.7**
KOLS Kolonicke sedl 26.74 318 *eP* **P** **21 56 28.8 -0.3**
KOLS Kolonicke sedl 26.74 318 *eP* **P** **21 56 28.8 -0.3**
KOLS Kolonicke sedl 26.74 318 *eP* **P** **21 56 28.8 -0.3**
KWP Kalwaria Pacla 26.85 319 *eP* **P** **21 56 30.6 +0.5**
KWP pmax pmax
comp=Z,151nm,1.4s
KWP Kalwaria Pacla 26.85 319⇑ *iP* **P** **21 56 31.5 +1.4**
KWP Kalwaria Pacla 26.85 319 *eP* **P** **21 56 30.6 +0.5**
comp=Z,151nm,1.4s
KWP Kalwaria Pacla 26.85 319 *eP* **P** **21 56 30.2 +0.2**
KWP Kalwaria Pacla 26.85 319 *eP* **P** **21 56 30.3 +0.2**
PKSN Nyarlorinc 27.29 312 *eP* **P** **21 56 35.7 +1.7**
PKSN Nyarlorinc 27.29 312 *eP* **P** **21 56 35.7 +1.7**
MICGM Minsk 27.46 332‖ *eP* **P** **21 56 31.0 -4.5**
MNK Minsk 27.48 332‖ *eP* **P** **21 56 31.0 -4.6**
MNK pmax pmax
comp=Z,160nm,1.5s
MNK pmax pmax
comp=E,250nm,1.2s
MNK MLR MLR
comp=Z,3µm,14.0s
PKS2 Kecel 27.55 311 *eP* **P** **21 56 31.7 -4.7**
STHS Stebnicka Huta 27.57 318 *eP* **P** **21 56 39.1 +2.6**
STHS Stebnicka Huta 27.57 318 *eP* **P** **21 56 39.1 +2.6**
PSZ Piszkesteto 27.68 314 *eP* **P** **21 56 39.3 +1.6**
PSZ pmax pmax
comp=Z,24nm,0.9s
PSZ Piszkesteto 27.68 314⇑ *iP* P 21 56 42.7 +5.0
PSZ Piszkesteto 27.68 314 *eP* **P** **21 56 39.3 +1.6**
comp=Z,24nm,0.9s
PSZ Piszkesteto 27.68 314‖ *e* P 21 56 48.2 +11
PSZ Piszkesteto 27.68 314 *eP* **P** **21 56 39.3 +1.6**
comp=Z,24nm,0.9s
PKS7 Kunszentmiklos 27.79 312 *eP* P 21 56 45.2 +6.7
LZLA Zalla 27.83 272 *i P* **P** **21 56 40.4 +1.3**
comp=Z,54nm,1.3s,SNR=28
LZLA *eS* **S** **22 01 21.6 -0.1**
SNR=28
PKS9 Tamasi 28.19 311 *eP* **P** **21 56 41.4 -0.7**
PKS9 Tamasi 28.19 311 *eP* **P** **21 56 41.4 -0.7**
NACGM Naroch 28.19 332 *e* **P** **21 56 39.0 -3.0**
SOKR Solikamsk 28.22 8 *eP* **P** **21 56 42.5 +0.4**
SOKR S **S** **22 01 23.3 -3.8**
SOKR pmax pmax
comp=Z,20nm,1.0s
SOKR Solikamsk 28.22 8 *eP* **P** **21 56 42.5 +0.4**
comp=Z,20nm,1.0s
CEL Celeste 28.23 293 *eP* **P** **21 56 44.3 +1.7**
comp=Z,40nm,0.9s
CEL Celeste 28.23 293 *eP* **P** **21 56 44.3 +1.7**
comp=Z,40nm,0.9s
PKSG 28.41 312 *eP* P 21 56 36.9 -7.1
CUC Castrocucco 28.43 296 *eP* **P** **21 56 47.4 +3.0**
comp=Z,23nm,0.8s
CUC Castrocucco 28.43 296 *eP* **P** **21 56 47.4 +3.0**
comp=Z,23nm,0.8s
KURBB Kurchatov Arra 28.49 40 P **P** **21 56 45.6 +0.8**
comp=Z,7.8nm,0.6s,baz=243,slow=9.4,SNR=66
KURBB ScP **ScP** **22 03 33.3 -3.6**
comp=Z,1.9nm,0.7s,baz=239,slow=3.8,SNR=10
PKST T"s 28.58 312 *eP* **P** **21 56 45.2 -0.4**
PKST T"s 28.58 312 *eP* **P** **21 56 45.2 -0.4**
KURK Kurchatov 28.59 40 *c iP* **P** **21 56 46.5 +0.9**
KURK pmax pmax
comp=Z,41nm,2.5s
KURK Kurchatov 28.59 40 P **P** **21 56 46.9 +1.4**
SNR=10
KURK Kurchatov 28.59 40 P **P** **21 56 46.2 +0.6**
comp=Z,176nm,1.0s,SNR=19
KURK Kurchatov 28.59 40 *eP* **P** **21 56 46.1 +0.5**
comp=Z,12nm,0.8s
KURK ScP **ScP** **22 03 33.3 -3.9**
KURK Kurchatov 28.59 40 *i P* **P** **21 56 46.5 +0.9**
comp=Z,41nm,2.5s
KURK ScP **ScP** **22 03 33.3 -3.9**
OJC Ojcow 28.77 318 *eP* **P** **21 56 47.6 +0.3**
OJC Ojcow 28.77 318 *eP* **P** **21 56 48.2 +1.0**
comp=Z,22nm,1.0s
OJC Ojcow 28.77 318 *eP* **P** **21 56 47.6 +0.3**
OJC Ojcow 28.77 318 *eP* **P** **21 56 47.6 +0.3**
SUW Suwalki 29.15 327 *eP* **P** **21 56 49.9 -0.6**
SUW pmax pmax
comp=Z,111nm,1.1s
SUW Suwalki 29.15 327 *eP* **P** **21 56 49.9 -0.6**
comp=Z,111nm,1.1s
SUW Suwalki 29.15 327 *eP* **P** **21 56 49.6 -0.9**
SUW Suwalki 29.15 327 *eP* **P** **21 56 49.7 -0.8**
MK31 Makanchi Array 29.15 50 *eP* **P** **21 56 51.4 +0.7**
MK31 Makanchi Array 29.15 50 *eP* **P** **21 56 51.4 +0.7**
MK31 Makanchi Array 29.15 50 *eP* **P** **21 56 51.4 +0.7**
MKAR Makanchi Array 29.15 50 P **P** **21 56 51.5 +0.8**
MKAR 21 59 57.8
MKAR pmax pmax
comp=Z,6.0nm,0.6s
MKAR MLR MLR
comp=Z,2µm,19.4s
MKAR Makanchi Array 29.15 50 *eP* **P** **21 56 51.4 +0.8**
MKAR PcP **PcP** **21 59 57.8 -0.2**
MKAR ScP **ScP** **22 03 36.2 -3.0**
MKAR Makanchi Array 29.15 50 P **P** **21 56 51.5 +0.8**
comp=Z,6.0nm,0.6s
MKAR Makanchi Array 29.15 50 PcP **PcP** **21 59 57.8 -0.2**
comp=Z,2µm,19.4s
MKAR Makanchi Array 29.15 50 P **P** **21 56 51.5 +0.8**
comp=Z,5.6nm,0.6s,baz=246,slow=10,SNR=82
MKAR PcP **PcP** **21 59 57.8 -0.2**
comp=Z,1.3nm,0.5s,baz=256,slow=3.7,SNR=3.3
MKAR ScP **ScP** **22 03 36.2 -3.0**
comp=Z,2.0nm,0.9s,baz=259,slow=4.3,SNR=4.8
MKAR LR LR 22 10 30.3
comp=Z,2µm,19.4s,baz=232,slow=40
ZST Bratislava 29.51 313 *eP* **P** **21 56 52.7 -1.1**
ZST Bratislava 29.51 313 *eP* **P** **21 56 52.7 -1.1**
ZST Bratislava 29.51 313 *eP* **P** **21 56 52.7 -1.1**
OKC Ostrava-Krasne 29.55 317 *eP* **P** **21 56 53.6 -0.5**
OKC MLR MLR
comp=Z,600nm,12.5s
OKC Ostrava-Krasne 29.55 317 *eP* **P** **21 56 53.6 -0.5**
OKC AMS AMS 22 11 00.0
comp=Z,600nm,12.5s
OKC Ostrava-Krasne 29.55 317 *eP* **P** **21 56 53.6 -0.5**
comp=Z,600nm,12.5s
SOP Sopron 29.67 312‖ *eP* **P** **21 56 55.8 +0.6**
SOP Sopron 29.67 312‖ *eP* **P** **21 56 55.8 +0.6**
DANN Dangsing 29.69 88 *eP* **P** **21 56 57.2 +1.2**
comp=Z,146nm,1.0s
KLMR Klimovskoe 29.81 350 *eP* P 21 56 53.2 -3.1
KLMR pmax pmax
comp=Z,105nm,1.8s
KLMR MLR MLR
comp=Z,738nm,11.0s
MORC Moravsky Berou 29.87 316 *eP* **P** **21 56 58.8 +1.7**
MORC pmax pmax
comp=Z,199nm,3.0s
MORC Moravsky Berou 29.87 316⇑ *iP* P 21 57 01.3 +4.2
MORC Moravsky Berou 29.87 316 *eP* **P** **21 56 58.8 +1.7**
comp=Z,199nm,3.0s
MORC Moravsky Berou 29.87 316 *eP* **P** **21 56 58.8 +1.7**
comp=Z,199nm,3.0s
VRAC Vranov 30.25 315‖ *iP* **P** **21 56 59.8 -0.6**
VRAC Vranov 30.25 315‖ *iP* **P** **21 56 59.8 -0.6**
VRAC Vranov 30.25 315 LR LR 22 11 55.5
comp=Z,432nm,18.0s,baz=110,slow=42
LSHF Shwairf 30.31 276 *i P* **P** **21 57 02.2 +1.1**
SNR=27
GKN Gorkha 30.53 88 *eP* **P** **21 57 04.1 +0.8**
comp=Z,46nm,0.7s
DPC Dobruska-Polom 30.83 317 *eP* **P** **21 57 06.4 +0.9**
DPC *e* 22 03 44.1
DPC pmax pmax
comp=Z,100nm,1.2s
DPC Dobruska-Polom 30.83 317 *eP* **P** **21 57 04.4 -1.1**
DPC *ex* x 21 57 16.9
DPC AMS AMS 22 13 20.0
DPC Dobruska-Polom 30.83 317 *eP* **P** **21 57 06.4 +0.9**
comp=Z,100nm,1.2s
DPC *e*ScP **ScP** **22 03 44.1 -0.4**
DPC Dobruska-Polom 30.83 317 *eP* **P** **21 57 06.4 +0.9**
comp=Z,100nm,1.2s
DPC *e*ScP **ScP** **22 03 44.1 -0.4**
GHAR Gharyan 30.88 280 *i P* **P** **21 57 07.3 +1.1**
SNR=27
LUMB Murzuk 30.91 268 *i P* **P** **21 57 05.8 -0.7**
SNR=27
TREC Trest 30.91 314 *eP* **P** **21 57 06.1 -0.2**
TREC *e* 21 57 11.1
TREC MLR MLR
comp=Z,700nm,15.0s
TREC Trest 30.91 314 *eP* **P** **21 57 06.1 -0.2**
TREC *ep*P **pP** **21 57 11.1 +0.3**
TREC AMS AMS 22 13 20.0
comp=Z,700nm,15.0s
TREC Trest 30.91 314 *eP* **P** **21 57 06.1 -0.2**
comp=Z,700nm,15.0s
DMN Daman 31.04 88 *eP* **P** **21 57 08.8 +0.9**
comp=Z,62nm,0.7s
KSP Ksiaz 31.05 318 *eP* P 21 57 12.1 +4.7
UPC Upice 31.07 317 *eP* **P** **21 57 07.8 +0.2**
UPC Upice 31.07 317 *eP* **P** **21 57 07.8 +0.2**
UPC Upice 31.07 317 *eP* **P** **21 57 07.8 +0.2**
KKN Kakani 31.14 88 *eP* **P** **21 57 09.6 +0.9**
comp=Z,50nm,0.6s
PKI Pulchoki 31.31 88 *eP* **P** **21 57 11.1 +0.8**
comp=Z,66nm,0.6s
KBA Koelnbreinsper 31.56 309⇑ *iP* **P** **21 57 11.8 -0.3**
comp=Z,33nm,0.8s,SNR=13
KBA Koelnbreinsper 31.56 309 P **P** **21 57 11.8 -0.3**
comp=Z,33nm,0.8s,SNR=13
GUN Gumba 31.61 88 *eP* **P** **21 57 14.1 +1.0**
comp=Z,153nm,0.9s
PRU Pruhonice 31.74 315 *eP* P 21 57 20.3 +6.8
PRU Pruhonice 31.74 315 *eP* P 21 57 20.3 +6.8
PRU AMS AMS 22 14 00.0
comp=Z,600nm,15.6s
PRA Prague 31.84 315 P P 21 57 21.0 +6.7
GEC2 GERESS Array S 31.86 313 *eP* **P** **21 57 16.4 +1.7**
GEC2 GERESS Array S 31.86 313 *eP* **P** **21 57 16.4 +1.7**
GEC2 *eS*cP **ScP** **22 03 46.9 -1.2**
GEC2 GERESS Array S 31.86 313 *eP* **P** **21 57 16.4 +1.7**
GEC2 *eS*cP **ScP** **22 03 46.9 -1.2**
GERES GERESS Array B 31.86 313 P P **21 57 13.8 -0.9**
GERES PcP **PcP** **22 00 06.5 +1.4**
GERES ScP **ScP** **22 03 46.7 -1.4**
GERES GERESS Array B 31.86 313 P **P** **21 57 13.8 -0.9**
GERES GERESS Array B 31.86 313 P **P** **21 57 13.8 -0.9**
comp=Z,0.8nm,0.5s,baz=115,slow=8.2,SNR=11
GERES PcP **PcP** **22 00 06.6 +1.4**
comp=Z,0.9nm,0.6s,baz=132,slow=2.9,SNR=3.0
GERES ScP **ScP** **22 03 46.7 -1.4**
comp=Z,1.2nm,0.9s,baz=122,slow=4.9,SNR=6.5
PVCC Panska Ves 31.93 316 *eP* **P** **21 57 14.4 -0.7**
PVCC MLR MLR
comp=Z,700nm,16.9s
PVCC Panska Ves 31.93 316 *eP* **P** **21 57 14.4 -0.7**
PVCC AMS AMS 22 14 00.0
comp=Z,700nm,16.9s
PVCC Panska Ves 31.93 316 *eP* **P** **21 57 14.4 -0.7**
comp=Z,700nm,16.9s
JIRN Jiri 31.95 88 *eP* **P** **21 57 16.8 +0.8**
comp=Z,50nm,0.6s
KHC Kasperske Hory 32.03 313 *eP* **P** **21 57 15.5 -0.6**
KHC *e* 21 57 20.5
KHC *eS* **S** **22 02 22.1 -5.2**
KHC MLR MLR
comp=Z,600nm,16.0s
KHC Kasperske Hory 32.03 313 *eP* **P** **21 57 15.5 -0.6**
KHC *ep*P **pP** **21 57 20.5 -0.2**
KHC *eS* **S** **22 02 22.1 -5.2**
KHC AMS AMS 22 13 10.0
comp=Z,600nm,16.0s
KHC Kasperske Hory 32.03 313 *eP* **P** **21 57 17.2 +1.1**
comp=Z,33nm,1.6s
KHC Kasperske Hory 32.03 313 *eP* **P** **21 57 15.5 -0.6**
WMQ Urumqi 32.13 57 P **P** **21 57 17.8 +0.7**
WMQ pP **pP** **21 57 22.2 +0.5**
WMQ sP **sP** **21 57 24.8 +1.2**
WMQ PP **PnPn** **21 58 24.5 +1.7**
WMQ S **S** **22 02 29.0 -0.1**
WMQ sS **sS** **22 02 35.8 -0.9**
WMQ ScS **ScS** **22 07 50.0 +2.2**
WMQ AMB AMB
comp=Z,25nm,0.7s
WMQ AMB AMB
comp=Z,330nm,4.4s
WMQ LR LR
comp=Z,2µm,13.8s
WMQ LR LR
comp=Z,2µm,15.4s
WMQ LR LR
comp=Z,1µm,15.6s
BRG Berggiesshubel 32.43 316 *eP* **P** **21 57 19.6 +0.1**
comp=Z,20nm,1.9s
BRG *e* 21 57 37.4
comp=Z,7.5nm,0.9s
BRG
comp=N,678nm,14.0s
BRG
comp=E,453nm,15.5s
BRG
comp=Z,478nm,15.5s
BRG Berggiesshubel 32.43 316 *eP* **P** **21 57 19.6 +0.1**
BRG *e* 21 57 37.4
BRG pmax pmax
comp=Z,20nm,1.9s
BRG MLR MLR
comp=N,678nm,14.0s
BRG MLR MLR
comp=E,453nm,15.5s
BRG MLR MLR
comp=Z,478nm,15.5s
BRG Berggiesshubel 32.43 316 *eP* **P** **21 57 19.6 +0.1**
comp=Z,20nm,1.9s
RAMN Ramite 32.50 89 *eP* **P** **21 57 20.9 +0.1**
WATA Walderalm 32.79 309⇑ *iP* **P** **21 57 21.7 -1.2**
comp=Z,16nm,0.5s,SNR=13
WATA Walderalm 32.79 309 P **P** **21 57 21.7 -1.2**
comp=Z,16nm,0.5s,SNR=13
VLC Villacollemand 32.98 303 *eP* **P** **21 57 25.7 +1.3**
comp=Z,57nm,1.1s
VLC Villacollemand 32.98 303 *eP* **P** **21 57 25.7 +1.3**
comp=Z,57nm,1.1s
NVS Novosibirsk 33.09 36⇑ *iP* **P** **21 57 25.2 -0.1**
NVS *i* 21 58 48.5
NVS pmax pmax
comp=Z,7.0nm,0.8s
NVS Novosibirsk 33.09 36 *i* P **P** **21 57 25.2 -0.1**
MOTA Moosalm 33.10 309‖ *iP* **P** **21 57 24.1 -1.6**
comp=Z,22nm,0.7s,SNR=17
MOTA Moosalm 33.10 309 P **P** **21 57 24.1 -1.6**
comp=Z,22nm,0.7s,SNR=17
CLL Collm 33.14 317 *eP* **P** **21 57 25.0 -0.7**
CLL *e* 21 57 30.0
CLL *eS* **S** **22 02 43.0 -1.5**
CLL pmax pmax
comp=Z,10.0nm,1.4s
CLL MLR MLR
comp=Z,400nm,19.8s
CLL Collm 33.14 317 *e*(P) P 21 57 30.0 +4.3
CLL *e*PP **PP** **21 58 40.0 -0.6**
CLL *e*PPPP 21 58 52.0
CLL *eS* **S** **22 02 43.0 -1.5**
CLL *e*PcS **PcS** **22 03 51.0 -2.8**
CLL *e*(SS) 22 04 30.0
CLL *e* 22 05 48.0
CLL LV 22 13 00.0
comp=Z,400nm,19.8s
CLL Collm 33.14 317 *eP* **P** **21 57 25.0 -0.7**
comp=Z,10.0nm,1.4s
TMCR Tamitsa 33.19 351 *eP* **P** **21 57 25.3 -0.7**
TMCR *e* 22 00 07.2
TMCR pmax pmax
comp=Z,38nm,0.7s
TMCR Tamitsa 33.19 351 *eP* **P** **21 57 25.3 -0.7**
comp=Z,38nm,0.7s
ODAN Odare 33.20 89 *eP* **P** **21 57 27.6 +0.7**
JOF Joensuu 33.25 345 *eP* **P** **21 57 25.8 -0.8**
JOF pmax pmax
comp=Z,9.0nm,0.6s
JOF Joensuu 33.25 345 *ep* **P** **21 57 25.8 -0.8**
comp=Z,9.4nm,0.6s
JOF Joensuu 33.25 345 *eP* **P** **21 57 25.8 -0.8**
comp=Z,9.0nm,0.6s
FETA Feichten 33.28 309‖ *iP* **P** **21 57 26.7 -0.5**
comp=Z,34nm,0.7s,SNR=20
FETA Feichten 33.28 309 P **P** **21 57 26.7 -0.5**
comp=Z,34nm,0.7s,SNR=20
TAPN Taplejung 33.33 88 *eP* **P** **21 57 29.1 +1.1**
comp=Z,71nm,1.0s
VSL Villasalto 33.35 295 *eP* **P** **21 57 27.9 +0.1**
comp=Z,29nm,0.8s
VSL Villasalto 33.35 295 *eP* **P** **21 57 27.9 +0.1**
comp=Z,29nm,0.8s
RETA Reutte 33.36 309⇑ *iP* **P** **21 57 26.4 -1.5**
comp=Z,10nm,0.5s,SNR=6.0
RETA Reutte 33.36 309 P **P** **21 57 26.4 -1.5**
comp=Z,10nm,0.5s,SNR=6.0
FINES FINESS Array B 33.38 340 P **P** **21 57 26.7 -1.0**
FINES FINESS Array B 33.38 340 P **P** **21 57 26.7 -1.0**
comp=Z,1µm,19.9s
FINES FINESS Array B 33.38 340 P **P** **21 57 26.7 -1.0**
comp=Z,6.1nm,0.4s,baz=146,slow=9.7,SNR=118
FINES LR LR 22 12 33.9
comp=Z,1µm,19.9s,baz=150,slow=39
ZAA0 Zalesovo Array 33.48 38 *eP* **P** **21 57 28.3 -0.3**
ZAA0 *eP*P **PP** **21 58 46.3 +2.0**
ZAA0 Zalesovo Array 33.48 38 *eP* **P** **21 57 28.3 -0.3**
ZALV Zalesovo Beam 33.48 38 P **P** **21 57 28.6 0.0**
ZALV pmax pmax
comp=Z,15nm,0.5s
ZALV MLR MLR
comp=Z,1µm,18.2s
ZALV Zalesovo Beam 33.48 38 P **P** **21 57 28.6 0.0**
ZALV ScP **ScP** **22 03 49.2 -4.2**
ZALV Zalesovo Beam 33.48 38 P **P** **21 57 28.6 0.0**
ZALV Zalesovo Beam 33.48 38 P **P** **21 57 28.6 0.0**
comp=Z,14nm,0.5s,baz=253,slow=10,SNR=86
ZALV ScP **ScP** **22 03 49.2 -4.2**
comp=Z,1.5nm,0.5s,baz=251,slow=3.9,SNR=4.9
ZALV LR LR 22 12 37.4
comp=Z,1µm,18.1s,baz=249,slow=39
KEST Kesra 33.53 288 *eP* **P** **21 57 32.1 +2.7**
KEST Kesra 33.53 288 *eP* **P** **21 57 32.1 +2.7**
KEST Kesra 33.53 288 P **P** **21 57 30.7 +1.3**
comp=Z,1.1nm,0.8s,baz=233,slow=6.4,SNR=7.5
GRA1 Grafenberg Arr 33.67 313 *eP* **P** **21 57 30.4 0.0**
comp=Z,400nm,19.2s
GRF Grafenberg Arr 33.67 313 *eP* **P** **21 57 30.4 0.0**
GRF pmax pmax
comp=Z,79nm,1.7s
GRF MLR MLR
comp=Z,400nm,19.2s
GRF Grafenberg Arr 33.67 313 *eP* **P** **21 57 30.4 0.0**
comp=Z,79nm,1.7s
GRF *eL* L 22 20 09.5
comp=Z,354nm,19.2s
GRFO Grafenberg 33.67 313 *eP* **P** **21 57 30.1 -0.3**
GRFO pmax pmax
comp=Z,102nm,1.9s
GRFO Grafenberg 33.67 313 *eP* **P** **21 57 30.1 -0.3**
comp=Z,102nm,1.9s
GRFO Grafenberg 33.67 313 *eP* **P** **21 57 30.1 -0.3**
comp=Z,102nm,1.9s
MOX Moxa 33.73 315 *eL* L 22 14 20.3
comp=Z,443nm,18.8s
BSD Bornholm Skovb 33.75 324 *i P* **P** **21 57 29.8 -1.2**
BSD Bornholm Skovb 33.75 324 *i P* **P** **21 57 29.8 -1.2**
BSD Bornholm Skovb 33.75 324 *i P* **P** **21 57 29.9 -1.1**
BSD Bornholm Skovb 33.75 324 *i P* **P** **21 57 29.8 -1.2**
DAVOX Davos/Dischmat 33.79 308 P **P** **21 57 31.1 -0.6**
DAVOX Davos/Dischmat 33.79 308 P **P** **21 57 31.1 -0.6**
comp=Z,276nm,19.9s
DAVOX Davos/Dischmat 33.79 308 P **P** **21 57 31.1 -0.6**
comp=Z,4.7nm,0.5s,baz=79,slow=5.2,SNR=8.9
DAVOX LR LR 22 13 23.3
comp=Z,276nm,19.9s,baz=92,slow=40
KAF Kangasniemi 33.85 341 *eP* **P** **21 57 30.5 -1.2**
KAF pmax pmax
comp=Z,4.0nm,0.4s
KAF Kangasniemi 33.85 341 *ep* **P** **21 57 30.5 -1.2**
comp=Z,4.1nm,0.4s
KAF Kangasniemi 33.85 341 *eP* **P** **21 57 30.5 -1.2**
comp=Z,4.0nm,0.4s
DAVA Damuels 33.90 309 *i P* **P** **21 57 31.4 -1.2**
comp=Z,51nm,0.5s,SNR=23
DAVA Damuels 33.90 309 P **P** **21 57 31.4 -1.2**
comp=Z,51nm,0.5s,SNR=23
TUE Stuetta 34.09 307 *eP* **P** **21 57 34.6 +0.3**
comp=Z,10nm,0.7s
TUE Stuetta 34.09 307 *eP* **P** **21 57 34.6 +0.3**
comp=Z,10nm,0.7s
LGHD Ghdames 34.36 278 *i P* **P** **21 57 38.4 +1.7**
comp=Z,64nm,1.6s,SNR=27
LGHD *eS* **S** **22 03 04.1 +0.1**
SNR=28
KMBO Kilima Mbogo 34.77 202 *eP* P 21 57 45.6 +5.1
KMBO Kilima Mbogo 34.77 202 LR LR 22 12 23.5
comp=Z,1µm,20.7s,baz=98,slow=37
SPAK Spaichingen-Ko 34.80 310 *eP* **P** **21 57 43.4 +3.1**
SBF Sospel 35.05 302 *eP* **P** **21 57 41.2 -1.3**
comp=Z,62nm,0.8s
SBF Sospel 35.05 302 *eP* **P** **21 57 41.2 -1.3**
SBF pmax pmax
comp=Z,63nm,0.8s
SBF Sospel 35.05 302 *eP* **P** **21 57 41.2 -1.3**
comp=Z,62nm,0.8s
SBF Sospel 35.05 302 *eP* **P** **21 57 41.2 -1.3**
comp=Z,31nm,0.8s
LUCF Luceram 35.12 302 *eP* P 21 57 48.2 +5.1
LUCF Luceram 35.12 302 *eP* P 21 57 48.2 +5.1
BFO Black Forest 35.15 310 *eP* **P** **21 57 46.1 +2.8**
BFO pmax pmax
comp=Z,58nm,2.3s
BFO Black Forest 35.15 310 *eP* **P** **21 57 46.0 +2.8**
comp=Z,58nm,2.3s
BFO Black Forest 35.15 310 *eP* **P** **21 57 46.0 +2.8**
comp=Z,58nm,2.3s
TOUF Mont Tournerai 35.20 303 *eP* P 21 57 49.5 +5.5
TOUF Mont Tournerai 35.20 303 *eP* P 21 57 49.5 +5.5
FELD Feldberg im Sc 35.27 309 *eP* P 21 57 48.6 +4.2
SENIN Lac Senin/Sane 35.47 307 *eP* **P** **21 57 46.4 +0.2**
comp=Z,75nm,1.9s
SENIN Lac Senin/Sane 35.47 307 *eP* **P** **21 57 46.4 +0.2**
comp=Z,75nm,1.9s
MBDF Montbardon 35.62 304 *eP* **P** **21 57 46.3 -1.2**
comp=Z,45nm,0.8s
MBDF Montbardon 35.62 304 *eP* **P** **21 57 46.3 -1.2**
MBDF pmax pmax
comp=Z,45nm,0.8s
MBDF Montbardon 35.62 304 *eP* **P** **21 57 46.3 -1.2**
comp=Z,45nm,0.8s
MBDF Montbardon 35.62 304 *eP* **P** **21 57 46.3 -1.2**

comp=Z,22nm,0.8s
LSA Lhasa 35.62 82 P **P 21 57 49.4 +1.3**
LSA Lhasa 35.62 82 *e*P **P 21 57 49.9 +1.8**
LSA pmax pmax
comp=Z,70nm,1.3s
LSA Lhasa 35.62 82 *e*P **P 21 57 49.9 +1.8**
comp=Z,70nm,1.3s
LSA Lhasa 35.62 82 *e*P **P 21 57 49.9 +1.8**
comp=Z,70nm,1.3s
LMR La Mourre 35.68 301 *e*P **P 21 57 46.6 -1.2**
LMR La Mourre 35.68 301 *e*P **P 21 57 46.6 -1.2**
LMR La Mourre 35.68 301 *e*P **P 21 57 46.6 -1.2**
LMR La Mourre 35.68 301 *e*P **P 21 57 46.6 -1.2**
BNI Bardonecchia 35.72 304 *e*P **P 21 57 47.8 -0.5**
BNI pmax pmax
comp=Z,35nm,0.8s
BNI Bardonecchia 35.72 304 *e*P **P 21 57 47.8 -0.5**
comp=Z,35nm,0.8s
BNI Bardonecchia 35.72 304 *e*P **P 21 57 47.8 -0.5**
comp=Z,35nm,0.8s
LPG La Plagne 35.72 305 *e*P **P 21 57 47.3 -1.2**
comp=Z,65nm,0.8s
LPG La Plagne 35.72 305 *e*P **P 21 57 47.3 -1.2**
LPG pmax pmax
comp=Z,65nm,0.8s
LPG La Plagne 35.72 305 *e*P **P 21 57 47.3 -1.2**
comp=Z,65nm,0.8s
LPG La Plagne 35.72 305 *e*P **P 21 57 47.3 -1.2**
comp=Z,32nm,0.8s
LPL La Plagne 35.74 305 *e*P **P 21 57 47.3 -1.3**
comp=Z,47nm,0.7s
LPL La Plagne 35.74 305 *e*P **P 21 57 47.3 -1.3**
LPL pmax pmax
comp=Z,47nm,0.7s
LPL La Plagne 35.74 305 *e*P **P 21 57 47.3 -1.3**
comp=Z,47nm,0.7s
LPL La Plagne 35.74 305 *e*P **P 21 57 47.3 -1.3**
comp=Z,24nm,0.7s
RSL Roselend 35.83 305 *e*P P 21 57 53.3 +4.0
RSL Roselend 35.83 305 *e*P P 21 57 53.3 +4.0
MOF Molkenrain 35.84 309 *e*P P 21 57 54.3 +5.0
CDF Champ du Feu 35.85 310 *e*P **P 21 57 48.6 -0.8**
comp=Z,7.1nm,0.7s
CDF Champ du Feu 35.85 310 *e*P **P 21 57 48.6 -0.8**
CDF pmax pmax
comp=Z,7.0nm,0.6s
CDF Champ du Feu 35.85 310 *e*P **P 21 57 48.6 -0.8**
comp=Z,7.1nm,0.6s
CDF Champ du Feu 35.85 310 *e*P **P 21 57 48.6 -0.8**
comp=Z,3.5nm,0.7s
ECH Echery 35.89 310 *e*P **P 21 57 51.7 +2.1**
ECH pmax pmax
comp=Z,13nm,1.0s
ECH Echery 35.89 310 *e*P **P 21 57 51.7 +2.1**
comp=Z,13nm,1.0s
ECH Echery 35.89 310 *e*P **P 21 57 51.7 +2.1**
comp=Z,13nm,1.0s
LOMF Lomont 35.95 308 *e*P P 21 57 54.9 +4.7
HINF Hinteralfeld 36.02 309 *e*P **P 21 57 48.9 -1.8**
comp=Z,39nm,1.3s
HINF Hinteralfeld 36.02 309 *e*P **P 21 57 48.9 -1.8**
HINF pmax pmax
comp=Z,39nm,1.3s
HINF Hinteralfeld 36.02 309 *e*P **P 21 57 48.9 -1.8**
comp=Z,39nm,1.3s
HINF Hinteralfeld 36.02 309 *e*P **P 21 57 48.9 -1.8**
comp=Z,19nm,1.3s
ORIF Oris-en-Rattie 36.27 304 *e*P **P 21 57 51.2 -1.8**
comp=Z,22nm,0.8s
ORIF *e*R
comp=Z,421nm,19.2s
ORIF Oris-en-Rattie 36.27 304 *e*P **P 21 57 51.2 -1.8**
ORIF pmax pmax
comp=Z,22nm,0.8s
ORIF Oris-en-Rattie 36.27 304 *e*P **P 21 57 51.2 -1.8**
comp=Z,22nm,0.8s
ORIF Oris-en-Rattie 36.27 304 *e*P **P 21 57 51.2 -1.8**
comp=Z,11nm,0.8s
CABF La Chapelle 36.33 307 *e*P **P 21 57 52.5 -1.0**
comp=Z,87nm,0.9s
CABF La Chapelle 36.33 307 *e*P **P 21 57 52.5 -1.0**
CABF pmax pmax
comp=Z,87nm,0.9s
CABF La Chapelle 36.33 307 *e*P **P 21 57 52.5 -1.0**
comp=Z,87nm,0.9s
CABF La Chapelle 36.33 307 *e*P **P 21 57 52.5 -1.0**
comp=Z,44nm,0.9s
HAU Haudompre 36.38 309 *e*P **P 21 57 52.4 -1.5**
HAU *e*R
comp=Z,333nm,17.5s
HAU Haudompre 36.38 309 *e*P **P 21 57 52.4 -1.5**
HAU Haudompre 36.38 309 *e*P **P 21 57 52.4 -1.5**
HAU Haudompre 36.38 309 *e*P **P 21 57 52.4 -1.5**
SMRF Simiane la Rot 36.40 302 *e*P **P 21 57 52.7 -1.4**
comp=Z,43nm,1.4s
SMRF Simiane la Rot 36.40 302 *e*P **P 21 57 52.7 -1.4**
comp=Z,43nm,1.4s
SMRF Simiane la Rot 36.40 302 *e*P **P 21 57 52.7 -1.4**
comp=Z,22nm,1.4s
WLF Walferdange 36.84 312 *e*P **P 21 57 59.9 +2.2**
WLF pmax pmax
comp=Z,18nm,0.9s
WLF Walferdange 36.84 312 *e*P **P 21 57 59.9 +2.2**
comp=Z,18nm,0.9s
WLF Walferdange 36.84 312 *e*P **P 21 57 59.9 +2.2**
comp=Z,18nm,0.9s
PAGF Fort de Pagny 36.89 310 *e*P **P 21 57 56.7 -1.5**
comp=Z,30nm,1.6s
PAGF Fort de Pagny 36.89 310 *e*P **P 21 57 56.7 -1.5**
comp=Z,30nm,1.6s
PAGF Fort de Pagny 36.89 310 *e*P **P 21 57 56.7 -1.5**
comp=Z,15nm,1.6s
HFS Hagfors 36.95 331 P **P 21 57 57.4 -1.0**
HFS Hagfors 36.95 331 P **P 21 57 57.4 -1.0**
comp=Z,1µm,19.1s
HFS Hagfors 36.95 331 P **P 21 57 57.4 -1.0**
comp=Z,34nm,0.5s,baz=136,slow=8.6,SNR=134
HFS LR LR 22 14 07.9
comp=Z,1µm,19.1s,baz=212,slow=38
VIVF Saint-Julien-l 37.12 304 *e*P **P 21 57 58.4 -1.7**
comp=Z,27nm,1.2s
VIVF Saint-Julien-l 37.12 304 *e*P **P 21 57 58.4 -1.7**
VIVF pmax pmax
comp=Z,27nm,1.2s
VIVF Saint-Julien-l 37.12 304 *e*P **P 21 57 58.4 -1.7**
comp=Z,27nm,1.2s
VIVF Saint-Julien-l 37.12 304 *e*P **P 21 57 58.4 -1.7**
comp=Z,14nm,1.2s
LVZ Lovozero 37.18 351 P **P 21 58 00.7 +0.3**
comp=Z,140nm,0.5s,SNR=7.1
SSB Saint Sauveur 37.24 304 *e*P **P 21 58 02.5 +1.2**
SSB pmax pmax
comp=Z,8.0nm,0.8s
SSB Saint Sauveur 37.24 304 *e*P **P 21 58 02.5 +1.2**
comp=Z,7.5nm,0.8s
SSB Saint Sauveur 37.24 304 *e*P **P 21 58 02.5 +1.2**
comp=Z,8.0nm,0.8s
MUD Monsted U'grnd 37.25 324 *e*P P 21 58 06.2 +5.2
MUD pmax pmax
comp=Z,43nm,1.0s
MUD Monsted U'grnd 37.25 324 *i* P P 21 58 06.2 +5.2
comp=Z,43nm,1.0s
SFTF Sexfontaines 37.28 309 *e*P **P 21 57 59.9 -1.6**
comp=Z,77nm,1.3s
SFTF Sexfontaines 37.28 309 *e*P **P 21 57 59.9 -1.6**
comp=Z,77nm,1.3s
SFTF Sexfontaines 37.28 309 *e*P **P 21 57 59.9 -1.6**
comp=Z,38nm,1.3s
MEZF Maizieres J'vi 37.33 310 *e*P **P 21 58 00.5 -1.3**
comp=Z,40nm,0.9s
MEZF Maizieres J'vi 37.33 310 *e*P **P 21 58 00.5 -1.3**
comp=Z,40nm,0.9s
MEZF Maizieres J'vi 37.33 310 *e*P **P 21 58 00.5 -1.3**
comp=Z,20nm,0.9s
HVS Khovu-Aksy 37.59 46 *d i* P **P 21 58 05.4 +1.3**
LASF Ste Croix 37.64 302 *e*P **P 21 58 03.0 -1.6**
comp=Z,9.5nm,0.7s
LASF Ste Croix 37.64 302 *e*P **P 21 58 03.0 -1.6**
comp=Z,9.5nm,0.7s
LASF Ste Croix 37.64 302 *e*P **P 21 58 03.0 -1.6**
comp=Z,4.8nm,0.7s
SMF Signal de Mont 37.87 306 *e*P **P 21 58 04.9 -1.6**
comp=Z,35nm,0.7s
SMF Signal de Mont 37.87 306 *e*P **P 21 58 04.9 -1.6**
SMF pmax pmax
comp=Z,35nm,0.7s
SMF Signal de Mont 37.87 306 *e*P **P 21 58 04.9 -1.6**
comp=Z,35nm,0.7s
SMF Signal de Mont 37.87 306 *e*P **P 21 58 04.9 -1.6**
comp=Z,18nm,0.7s
LOR Lormes 37.93 308 *e*P **P 21 58 05.1 -1.9**
comp=Z,15nm,0.8s
LOR *e*R
comp=Z,522nm,20.5s
LOR Lormes 37.93 308 *e*P **P 21 58 05.1 -1.9**
comp=Z,15nm,0.8s
LOR Lormes 37.93 308 *e*P **P 21 58 05.1 -1.9**
comp=Z,7.7nm,0.8s
SSF Saint Saulge 38.15 307 *e*P **P 21 58 07.3 -1.5**
comp=Z,26nm,0.9s
SSF Saint Saulge 38.15 307 *e*P **P 21 58 07.3 -1.5**
SSF pmax pmax
comp=Z,26nm,0.9s
SSF Saint Saulge 38.15 307 *e*P **P 21 58 07.3 -1.5**
comp=Z,26nm,0.9s
SSF Saint Saulge 38.15 307 *e*P **P 21 58 07.3 -1.5**
comp=Z,13nm,0.9s
BAIF Baives 38.15 312 *e*P **P 21 58 07.9 -0.9**
comp=Z,30nm,1.0s
BAIF Baives 38.15 312 *e*P **P 21 58 07.9 -0.9**
BAIF pmax pmax
comp=Z,30nm,1.0s
BAIF Baives 38.15 312 *e*P **P 21 58 07.9 -0.9**
comp=Z,30nm,1.0s
BAIF Baives 38.15 312 *e*P **P 21 58 07.9 -0.9**
comp=Z,15nm,1.0s
SNF Seneffe 38.20 313 P P 21 58 14.4 +5.3
AVF Avril sur Loir 38.22 307 *e*P **P 21 58 07.8 -1.6**
comp=Z,42nm,1.2s
AVF Avril sur Loir 38.22 307 *e*P **P 21 58 07.8 -1.6**
AVF pmax pmax
comp=Z,42nm,1.2s
AVF Avril sur Loir 38.22 307 *e*P **P 21 58 07.8 -1.6**
comp=Z,42nm,1.2s
AVF Avril sur Loir 38.22 307 *e*P **P 21 58 07.8 -1.6**
comp=Z,21nm,1.2s
AGO Saint Agoulin 38.30 305 *e*P P 21 58 15.6 +5.5
AGO Saint Agoulin 38.30 305 *e*P P 21 58 15.6 +5.5
PYM Petit Puy Mans 38.36 305 *e*P P 21 58 15.7 +5.0
PYM Petit Puy Mans 38.36 305 *e*P P 21 58 15.7 +5.0
KONO Kongsberg 38.47 328 *e*P **P 21 58 11.3 0.0**
KONO Kongsberg 38.47 328 *e*P **P 21 58 11.3 0.0**
KONO Kongsberg 38.47 328 *e*P **P 21 58 11.3 0.0**
NB2 NORSAR Subarra 38.47 331 P **P 21 58 09.6 -1.8**
comp=Z,10nm,0.6s,baz=123,slow=8.6
NB2 NORSAR Subarra 38.47 331 P **P 21 58 09.6 -1.8**
comp=Z,10nm,0.6s,SNR=8.4
NOA NORSAR Array B 38.47 331 P **P 21 58 09.7 -1.7**
NOA NORSAR Array B 38.47 331 P **P 21 58 09.7 -1.7**
comp=Z,896nm,19.6s
NOA NORSAR Array B 38.47 331 P **P 21 58 09.7 -1.7**
comp=Z,10nm,0.6s,baz=122,slow=8.4,SNR=36
NOA LR LR 22 15 05.0
comp=Z,896nm,19.6s,baz=120,slow=38
NAO01 NORSAR Array S 38.50 331 *e*P **P 21 58 11.1 -0.5**
comp=Z,22nm,0.8s
NAO01 NORSAR Array S 38.50 331 *e*P **P 21 58 11.1 -0.5**
comp=Z,22nm,0.8s
EMHD Djebel Mahouad 38.63 290 P P 21 58 25.5 +12
EMHD Djebel Mahouad 38.63 290 P P 21 58 25.5 +12
MTLF Montolieu 38.80 301 *e*P **P 21 58 12.8 -1.6**
comp=Z,22nm,1.6s
MTLF Montolieu 38.80 301 *e*P **P 21 58 12.8 -1.6**
MTLF pmax pmax
comp=Z,22nm,1.6s
MTLF Montolieu 38.80 301 *e*P **P 21 58 12.8 -1.6**
comp=Z,22nm,1.6s
MTLF Montolieu 38.80 301 *e*P **P 21 58 12.8 -1.6**
comp=Z,11nm,1.6s
TCF Toulx Ste Croi 38.96 306 *e*P **P 21 58 14.3 -1.4**
comp=Z,14nm,0.8s
TCF Toulx Ste Croi 38.96 306 *e*P **P 21 58 14.3 -1.4**
TCF pmax pmax
comp=Z,15nm,0.8s
TCF Toulx Ste Croi 38.96 306 *e*P **P 21 58 14.3 -1.4**
comp=Z,14nm,0.8s
TCF Toulx Ste Croi 38.96 306 *e*P **P 21 58 14.3 -1.4**
comp=Z,7.2nm,0.8s
CAF Calviac 38.97 304 *e*P **P 21 58 14.2 -1.6**
comp=Z,13nm,1.2s
CAF Calviac 38.97 304 *e*P **P 21 58 14.2 -1.6**
CAF pmax pmax
comp=Z,13nm,1.2s
CAF Calviac 38.97 304 *e*P **P 21 58 14.2 -1.6**
comp=Z,13nm,1.2s
CAF Calviac 38.97 304 *e*P **P 21 58 14.2 -1.6**
comp=Z,6.3nm,1.2s
RJF Les Rejaudoux 39.38 304 *e*P **P 21 58 17.9 -1.2**
comp=Z,8.6nm,0.8s
RJF *e*R
comp=Z,402nm,18.0s
RJF Les Rejaudoux 39.38 304 *e*P **P 21 58 17.9 -1.2**
RJF pmax pmax
comp=Z,9.0nm,0.8s
RJF Les Rejaudoux 39.38 304 *e*P **P 21 58 17.9 -1.2**
comp=Z,8.6nm,0.8s
RJF Les Rejaudoux 39.38 304 *e*P **P 21 58 17.9 -1.2**
comp=Z,4.3nm,0.8s
MLS Moulis 39.62 300 *e*P P 21 58 25.1 +3.9
MLS Moulis 39.62 300 *e*P P 21 58 25.1 +3.9
EBNR Beni Rached 39.76 290 P P 21 58 30.0 +7.5
EBNR Beni Rached 39.76 290 P P 21 58 30.0 +7.5
ECHA Ech Chlef 39.91 290 P P 21 58 32.0 +8.4
ECHA Ech Chlef 39.91 290 P P 21 58 32.0 +8.4
LFF La Frestale 39.91 304 *e*P **P 21 58 22.3 -1.3**
comp=Z,25nm,0.9s
LFF La Frestale 39.91 304 *e*P **P 21 58 22.3 -1.3**
LFF pmax pmax
comp=Z,25nm,0.9s
LFF La Frestale 39.91 304 *e*P **P 21 58 22.3 -1.3**
comp=Z,25nm,0.9s
LFF La Frestale 39.91 304 *e*P **P 21 58 22.3 -1.3**
comp=Z,13nm,0.9s
TAM Tamanrasset 39.95 268 *e*P **P 21 58 25.6 +1.2**
TAM pmax pmax
comp=Z,14nm,1.1s
TAM Tamanrasset 39.95 268 *e*P **P 21 58 25.6 +1.2**
comp=Z,14nm,1.1s
TAM Tamanrasset 39.95 268 *e*P **P 21 58 25.6 +1.2**
comp=Z,14nm,1.1s
KEV Kevo 40.07 348 *e*P **P 21 58 24.1 -0.5**
KEV pmax pmax
comp=Z,180nm,2.6s
KEV Kevo 40.07 348 *e*p **P 21 58 23.2 -1.4**
comp=Z,5.0nm,0.5s
KEV Kevo 40.07 348 *e*P **P 21 58 24.1 -0.5**
comp=Z,180nm,2.6s
KEV Kevo 40.07 348 *e*P **P 21 58 23.2 -1.4**
comp=Z,5.0nm,0.5s
ETRT Tiaret 40.08 289 P P 21 58 39.0 +14
ETRT Tiaret 40.08 289 P P 21 58 39.0 +14
EANR 'Ain N'Sour 40.15 290 P P 21 58 35.0 +9.2
EANR 'Ain N'Sour 40.15 290 P P 21 58 35.0 +9.2
ARCES ARCESS Array B 40.16 347 P **P 21 58 24.4 -0.9**
ARCES PP **PP 21 59 57.0 -0.6**
ARCES ScP **ScP 22 04 15.7 -2.3**
ARCES ARCESS Array B 40.16 347 P **P 21 58 24.5 -0.9**
comp=Z,2.0nm,0.4s
ARCES ARCESS Array B 40.16 347 PP PP 21 59 57.0 -0.6
ARCES ARCESS Array B 40.16 347 P **P 21 58 24.4 -0.9**
comp=Z,1.8nm,0.4s,baz=159,slow=7.5,SNR=36
ARCES PP **PP 21 59 57.0 -0.6**
comp=Z,5.5nm,0.7s,baz=141,slow=10,SNR=5.2
ARCES ScP **ScP 22 04 15.7 -2.3**
comp=Z,3.7nm,0.5s,baz=155,slow=3.7,SNR=25
ARCES LR LR 22 16 29.8
comp=Z,842nm,19.4s,baz=150,slow=38
ARE0 ARCESS Array S 40.16 347 *e*P **P 21 58 24.7 -0.6**
ARE0 *e*PP **PP 21 59 57.6 0.0**
ARE0 ARCESS Array S 40.16 347 *e*P **P 21 58 24.7 -0.6**
EPF Esparros 40.18 301 *e*P **P 21 58 24.9 -1.0**
comp=Z,4.8nm,0.7s
EPF Esparros 40.18 301 *e*P **P 21 58 24.9 -1.0**
EPF pmax pmax
comp=Z,5.0nm,0.7s
EPF Esparros 40.18 301 *e*P **P 21 58 24.9 -1.0**
comp=Z,4.8nm,0.7s
EPF Esparros 40.18 301 *e*P **P 21 58 24.9 -1.0**
comp=Z,2.4nm,0.7s
MFF Saint Martin d 40.60 306 *e*P **P 21 58 27.3 -2.0**
comp=Z,15nm,0.7s
MFF Saint Martin d 40.60 306 *e*P **P 21 58 27.3 -2.0**
comp=Z,15nm,0.8s
MFF pmax pmax
comp=Z,15nm,0.7s
MFF Saint Martin d 40.60 306 *e*P **P 21 58 27.3 -2.0**
comp=Z,7.7nm,0.7s
LDF La Druitiere 40.74 309 *e*P **P 21 58 28.7 -1.7**
comp=Z,17nm,0.6s
LDF La Druitiere 40.74 309 *e*P **P 21 58 28.7 -1.7**
LDF pmax pmax
comp=Z,17nm,0.6s
LDF La Druitiere 40.74 309 *e*P **P 21 58 28.7 -1.7**
comp=Z,17nm,0.6s
LDF La Druitiere 40.74 309 *e*P **P 21 58 28.7 -1.7**
comp=Z,8.3nm,0.6s
ETSF Etsaut 40.84 300 *e*P **P 21 58 30.5 -0.9**
comp=Z,5.7nm,0.7s
ETSF Etsaut 40.84 300 *e*P **P 21 58 30.5 -0.9**
ETSF pmax pmax
comp=Z,6.0nm,0.7s
ETSF Etsaut 40.84 300 *e*P **P 21 58 30.5 -0.9**
comp=Z,5.7nm,0.7s
ETSF Etsaut 40.84 300 *e*P **P 21 58 30.5 -0.9**
comp=Z,2.8nm,0.7s
FLN La Foliniere 41.00 309 *e*P **P 21 58 30.3 -2.2**
comp=Z,19nm,0.5s
FLN *e*R
comp=Z,596nm,19.5s
FLN La Foliniere 41.00 309 *e*P **P 21 58 30.3 -2.2**
FLN pmax pmax
comp=Z,19nm,0.5s
FLN La Foliniere 41.00 309 *e*P **P 21 58 30.3 -2.2**
comp=Z,19nm,0.5s
FLN La Foliniere 41.00 309 *e*P **P 21 58 30.3 -2.2**
comp=Z,9.4nm,0.5s
GTA Gaotai 41.09 65 *e*P **P 21 58 34.5 +0.9**
GTA pP **pP 21 58 38.8 +0.5**
GTA sP **sP 21 58 42.1 +2.0**
GTA S **S 22 04 44.6 -1.4**
GTA sS **sS 22 04 52.6 -1.1**
GTA SS SS 22 07 40.8 -7.6
GTA AMB AMB
comp=Z,6.0nm,0.8s
GTA AMB AMB
comp=Z,170nm,5.0s
GTA LR LR
comp=Z,730nm,10.9s
GTA LR LR
comp=Z,1µm,16.2s
GTA LR LR
comp=Z,2µm,15.9s
LARF Larrau 41.15 301 *e*P P 21 58 38.0 +4.1
LARF Larrau 41.15 301 *e*P P 21 58 38.0 +4.1
GRR Gorron 41.21 309 *e*P **P 21 58 32.3 -2.0**
comp=Z,44nm,0.9s
GRR Gorron 41.21 309 *e*P **P 21 58 32.3 -2.0**
GRR pmax pmax
comp=Z,44nm,0.9s
GRR Gorron 41.21 309 *e*P **P 21 58 32.3 -2.0**
comp=Z,44nm,0.9s
GRR Gorron 41.21 309 *e*P **P 21 58 32.3 -2.0**
comp=Z,22nm,0.9s
SJPF Ste Jean 41.32 301 *e*P **P 21 58 34.5 -0.8**
comp=Z,8.6nm,0.7s
SJPF Ste Jean 41.32 301 *e*P **P 21 58 34.5 -0.8**
SJPF pmax pmax
comp=Z,9.0nm,0.7s
SJPF Ste Jean 41.32 301 *e*P **P 21 58 34.5 -0.8**
comp=Z,8.6nm,0.7s
SJPF Ste Jean 41.32 301 *e*P **P 21 58 34.5 -0.8**
comp=Z,4.3nm,0.7s
MOY Mondy 42.17 46 *e*P **P 21 58 44.4 +2.1**
MOY Mondy 42.17 46 *e*P **P 21 58 44.4 +2.1**
SGMF Saint Gilles 42.33 308 *e*P **P 21 58 42.1 -1.4**
comp=Z,26nm,0.6s
SGMF Saint Gilles 42.33 308 *e*P **P 21 58 42.1 -1.4**
SGMF pmax pmax
comp=Z,26nm,0.6s
SGMF Saint Gilles 42.33 308 *e*P **P 21 58 42.1 -1.4**
comp=Z,26nm,0.6s
SGMF Saint Gilles 42.33 308 *e*P **P 21 58 42.1 -1.4**
comp=Z,13nm,0.6s
QUIF Quistinic 42.73 308 *e*P **P 21 58 45.2 -1.4**
comp=Z,25nm,0.5s
QUIF Quistinic 42.73 308 *e*P **P 21 58 45.2 -1.4**
QUIF pmax pmax
comp=Z,25nm,0.5s
QUIF Quistinic 42.73 308 *e*P **P 21 58 45.2 -1.4**
comp=Z,25nm,0.5s
QUIF Quistinic 42.73 308 *e*P **P 21 58 45.2 -1.4**
comp=Z,12nm,0.5s
ROSF Rostrenen 42.82 308 *e*P **P 21 58 45.4 -2.0**
comp=Z,15nm,0.4s
ROSF Rostrenen 42.82 308 *e*P **P 21 58 45.4 -2.0**
ROSF pmax pmax
comp=Z,15nm,0.4s
ROSF Rostrenen 42.82 308 *e*P **P 21 58 45.4 -2.0**
comp=Z,15nm,0.4s
ROSF Rostrenen 42.82 308 *e*P **P 21 58 45.4 -2.0**
comp=Z,7.3nm,0.4s
ZAK Zakamensk 43.48 49 *e*P **P 21 58 52.5 -0.3**
ZAK pmax pmax
comp=Z,6.0nm,1.4s
ZAK Zakamensk 43.48 49 *e*P **P 21 58 52.5 -0.3**
comp=Z,6.0nm,1.4s
ESDC Sonseca Array 43.63 296 P **P 21 58 54.5 +0.3**
ESDC Sonseca Array 43.63 296 P **P 21 58 54.5 +0.3**
ESDC Sonseca Array 43.63 296 P **P 21 58 54.4 +0.3**
comp=Z,1.2nm,0.5s,baz=76,slow=7.5,SNR=16
ESLA Sonseca Array 43.63 296 *e*P **P 21 58 54.7 +0.5**
comp=Z,1.2nm,0.7s
ESLA Sonseca Array 43.63 296 *e*P **P 21 58 54.7 +0.5**
comp=Z,1.2nm,0.7s
TLY Talaya 43.81 47 *e*P P 21 58 59.7 +4.3
TLY *e*S S 22 05 18.3 -7.3
PAB San Pablo 43.94 296 *e*P **P 21 58 57.5 +0.8**
PAB San Pablo 43.94 296 *e*P **P 21 58 57.5 +0.8**
comp=Z,370nm,2.0s
PAB San Pablo 43.94 296 *e*P **P 21 58 57.5 +0.8**
IRK Irkutsk 44.25 46 *e*P **P 21 58 58.6 -0.3**
IRK pmax pmax
comp=Z,41nm,3.2s
IRK Irkutsk 44.25 46 *e*P **P 21 58 58.6 -0.3**
comp=Z,41nm,3.2s
LZH Lanzhou 44.73 69 *e*P **P 21 59 04.4 +1.3**
LZH pP **pP 21 59 08.0 +0.2**
LZH sP **sP 21 59 10.9 +1.2**
LZH PcP **PP 22 00 48.9 +1.4**
LZH *e*S **S 22 05 39.4 -0.2**
LZH sS **sS 22 05 46.0 -1.3**
LZH SS SS 22 08 50.1 -10
LZH AMB AMB
comp=Z,69nm,1.0s
LZH AMB AMB
comp=Z,230nm,4.5s
LZH LR LR
comp=Z,2µm,17.2s
LZH LR LR
comp=Z,2µm,14.7s
LZH LR LR
comp=Z,3µm,19.8s
LIJA Lijar 45.17 292 *i* P **P 21 59 05.0 -1.6**
SONM Songino Array 45.44 52 P **P 21 59 09.1 +0.5**
SONM Songino Array 45.44 52 P **P 21 59 09.1 +0.5**
comp=Z,703nm,18.1s
SONM Songino Array 45.44 52 P **P 21 59 09.1 +0.5**
comp=Z,1.9nm,0.5s,baz=271,slow=8.2,SNR=19
SONM LR LR 22 22 11.4
comp=Z,703nm,18.1s,baz=265,slow=41
PBRG Braganca 45.48 299 *e*P **P 21 59 11.4 +2.5**
comp=Z,34nm,1.8s
CMAI Chiengmai2 45.69 93 P **P 21 59 12.5 +1.5**
comp=Z,23nm,0.9s
MVO Moncorvo 45.77 298 *e*P **P 21 59 12.7 +1.4**
comp=Z,26nm,1.9s
MVO Moncorvo 45.77 298 *e*P **P 21 59 12.7 +1.4**
comp=Z,26nm,1.9s
CD2 Chengdu 45.85 76 P **P 21 59 13.0 +1.0**
CD2 pP **pP 21 59 17.5 +0.8**
CD2 sP **sP 21 59 20.0 +1.5**
CD2 PP **PP 22 01 00.5 +1.1**
CD2 S **S 22 05 55.5 -0.2**
CD2 sS **sS 22 06 02.5 -1.0**
CD2 SS **ScS 22 09 11.2 +3.4**
CD2 AMB AMB
comp=Z,20nm,0.5s
CD2 AMB AMB

	comp=Z,2µm,5.3s								
CD2					LR	LR			
	comp=Z,930nm,6.6s								
CD2					LR	LR			
	comp=Z,830nm,5.9s								
ULN	**Ulaanbaatar**	**45.89**	**52**	P	**P**		**21 59 13.3**	**+1.1**	
	comp=Z,15nm,1.2s								
ULN	**Ulaanbaatar**	**45.89**	**52**	*eP*	**P**		**21 59 12.1**	**-0.1**	
	comp=Z,12nm,0.9s								
ULN	**Ulaanbaatar**	**45.89**	**52**	*eP*	**P**		**21 59 12.1**	**-0.1**	
	comp=Z,12nm,0.9s								
CHTO	**Chiang Mai**	**46.09**	**94**	*eP*	**P**		**21 59 14.5**	**+0.6**	
CHTO				pmax	pmax				
	comp=Z,110nm,1.2s								
CHTO	**Chiang Mai**	**46.09**	**94**	P	**P**		**21 59 14.2**	**+0.2**	
	comp=Z,98nm,1.1s								
CHTO	**Chiang Mai**	**46.09**	**94**	*eP*	**P**		**21 59 14.5**	**+0.6**	
	comp=Z,110nm,1.2s								
CHTO	**Chiang Mai**	**46.09**	**94**	P	**P**		**21 59 15.0**	**+1.1**	
	comp=Z,98nm,1.1s								
CHTO	**Chiang Mai**	**46.09**	**94**	*eP*	**P**		**21 59 14.5**	**+0.6**	
	comp=Z,110nm,1.2s								
PBAR	**Barrancos**	**46.22**	**294**	*eP*	**P**		**21 59 15.3**	**+0.5**	
	comp=Z,32nm,1.0s								
PBAR	**Barrancos**	**46.22**	**294**	*eP*	**P**		**21 59 15.3**	**+0.5**	
	comp=Z,32nm,1.0s								
CM31	**Chiang Mai Arr**	**46.25**	**94**	*eP*	**P**		**21 59 15.8**	**+0.6**	
	comp=Z,2.4nm,0.4s								
CM31	**Chiang Mai Arr**	**46.25**	**94**	*eP*	**P**		**21 59 15.8**	**+0.6**	
	comp=Z,2.4nm,0.4s								
CMAR	**Chiang Mai Arr**	**46.25**	**94**	P	**P**		**21 59 16.1**	**+0.9**	
CMAR				PP	PP		22 01 11.0	+7.2	
CMAR				ScP	**ScP**		**22 04 43.0**	**-0.5**	
CMAR	**Chiang Mai Arr**	**46.25**	**94**	P	**P**		**21 59 16.1**	**+0.9**	
	comp=Z,5.0nm,0.7s								
CMAR	**Chiang Mai Arr**	**46.25**	**94**	P	**P**		**21 59 16.1**	**+0.9**	
	comp=Z,5.1nm,0.7s,baz=292,slow=7.9,SNR=31								
CMAR				PP	PP		22 01 11.0	+7.2	
	comp=Z,4.6nm,1.0s,baz=288,slow=7.9,SNR=4.3								
CMAR				ScP	**ScP**		**22 04 43.0**	**-0.5**	
	comp=Z,2.0nm,0.9s,baz=292,slow=5.0,SNR=7.8								
CMAR				LR	LR		22 22 18.6		
	comp=Z,284nm,18.6s,baz=188,slow=41								
MTE	**Manteigas**	**46.26**	**297**	*eP*	**P**		**21 59 16.4**	**+1.3**	
	comp=Z,48nm,2.1s								
MTE	**Manteigas**	**46.26**	**297**	*eP*	**P**		**21 59 15.4**	**+0.3**	
	comp=Z,30nm,1.1s								
MTE	**Manteigas**	**46.26**	**297**	*eP*	**P**		**21 59 16.4**	**+1.3**	
	comp=Z,48nm,2.1s								
PVRL	**Vila Real**	**46.27**	**299**	*eP*	**P**		**21 59 17.6**	**+2.4**	
	comp=Z,41nm,1.7s								
PMRV	**Marv??o**	**46.29**	**296**	*eP*	**P**		**21 59 16.1**	**+0.8**	
	comp=Z,24nm,1.4s								
PMRV	**Marv??o**	**46.29**	**296**	*eP*	**P**		**21 59 16.1**	**+0.8**	
	comp=Z,24nm,1.4s								
PCBR	**Castelo Branco**	**46.29**	**297**	*eP*	**P**		**21 59 15.9**	**+0.6**	
	comp=Z,57nm,2.0s								
PCBR	**Castelo Branco**	**46.29**	**297**	*eP*	**P**		**21 59 15.9**	**+0.6**	
	comp=Z,57nm,2.0s								
POLO	**Lamas de Olo**	**46.32**	**299**	*eP*	**P**		**21 59 16.3**	**+0.7**	
	comp=Z,17nm,1.7s								
POLO	**Lamas de Olo**	**46.32**	**299**	*eP*	**P**		**21 59 16.3**	**+0.7**	
	comp=Z,17nm,1.7s								
PVIS	**Viseu**	**46.48**	**298**	*eP*	**P**		**21 59 17.7**	**+0.9**	
	comp=Z,44nm,1.7s								
PVIS	**Viseu**	**46.48**	**298**	*eP*	**P**		**21 59 17.7**	**+0.9**	
	comp=Z,44nm,1.7s								
PGAV	**Gavieira, Arco**	**46.60**	**300**	*eP*	P		21 59 22.1	+4.3	
	comp=Z,61nm,1.7s								
PAYA	**Payao**	**46.64**	**93**	P	**P**		**21 59 20.5**	**+2.2**	
	comp=Z,7.5nm,1.0s,comp=Z,86nm								
KMI	**Kunming**	**46.81**	**84**	P	**P**		**21 59 20.8**	**+1.0**	
KMI				pP	**pP**		**21 59 25.5**	**+1.0**	
KMI				S	**S**		**22 06 06.4**	**-3.6**	
KMI				SS	ScS		22 09 23.5	+8.9	
KMI				AMB	AMB				
	comp=Z,24nm,1.0s								
KMI				LR	LR				
	comp=Z,400nm,15.6s								
KMI				LR	LR				
	comp=Z,670nm,11.3s								
KMI				LR	LR				
	comp=Z,670nm,16.1s								
PVAQ	**Vaqueiros**	**46.89**	**293**	*eP*	**P**		**21 59 22.8**	**+2.8**	
	comp=Z,23nm,1.4s								
EVO	**Evora**	**46.92**	**295**	*eP*	**P**		**21 59 19.8**	**-0.4**	
	comp=Z,14nm,0.8s								
EVO				*eR*					
	comp=Z,274nm,21.5s								
EVOP	**Sao Brissos**	**47.00**	**295**	*eP*	**P**		**21 59 19.8**	**-1.0**	
EVOP				pmax	pmax				
	comp=Z,14nm,0.8s								
EVOP	**Sao Brissos**	**47.00**	**295**	*eP*	**P**		**21 59 19.8**	**-1.0**	
	comp=Z,14nm,0.8s								
EVOP	**Sao Brissos**	**47.00**	**295**	*eP*	**P**		**21 59 19.8**	**-1.0**	
	comp=Z,6.8nm,0.8s								
PCAS	**Casmilo, Conde**	**47.03**	**297**	*eP*	**P**		**21 59 21.9**	**+0.8**	
	comp=Z,47nm,1.9s								
PCAS	**Casmilo, Conde**	**47.03**	**297**	*eP*	**P**		**21 59 21.9**	**+0.8**	
	comp=Z,47nm,1.9s								
PTOM	**Tomar**	**47.04**	**296**	*eP*	**P**		**21 59 22.5**	**+1.4**	
	comp=Z,59nm,1.3s								
PTOM	**Tomar**	**47.04**	**296**	*eP*	**P**		**21 59 22.5**	**+1.4**	
	comp=Z,59nm,1.3s								
PCVE	**Castro Verde**	**47.10**	**294**	*eP*	**P**		**21 59 23.9**	**+2.3**	
	comp=Z,22nm,1.4s								
PNCL	**Nicolau / Gran**	**47.39**	**294**	*eP*	P		21 59 29.1	+5.2	
	comp=Z,29nm,1.2s								
PACT	**Alcochete**	**47.51**	**295**	*eP*	P		21 59 31.2	+6.4	
TORD	**Torodi Ar. Bea**	**47.58**	**258**	P	**P**		**21 59 25.9**	**+0.3**	
TORD	**Torodi Ar. Bea**	**47.58**	**258**	P	**P**		**21 59 25.9**	**+0.3**	
TORD	**Torodi Ar. Bea**	**47.58**	**258**	P	**P**		**21 59 25.9**	**+0.3**	
	comp=Z,20nm,0.6s,baz=55,slow=7.8								
TORD				LR	LR		22 22 07.1		
	comp=Z,1µm,20.6s,baz=40,slow=39								
NANT	**Nan**	**47.59**	**93**	P	**P**		**21 59 27.3**	**+1.6**	
	comp=Z,71nm,0.9s								
PFVI	**Vila Bisbo**	**47.81**	**293**	*eP*	**P**		**21 59 28.4**	**+1.2**	
	comp=Z,47nm,1.4s								
PFVI	**Vila Bisbo**	**47.81**	**293**	*eP*	**P**		**21 59 28.4**	**+1.2**	
	comp=Z,47nm,1.4s								
SPITS	**Spitsbergen Ar**	**48.70**	**351**	P	**P**		**21 59 33.3**	**-0.2**	
SPITS	**Spitsbergen Ar**	**48.70**	**351**	P	**P**		**21 59 33.3**	**-0.2**	
	comp=Z,492nm,18.8s								
SPITS	**Spitsbergen Ar**	**48.70**	**351**	P	**P**		**21 59 33.3**	**-0.2**	
	comp=Z,19nm,0.4s,baz=138,slow=10,SNR=124								
SPITS				LR	LR		22 22 12.5		
	comp=Z,492nm,18.8s,baz=125,slow=39								
XAN	**Xi'an**	**49.24**	**71**	P	**P**		**21 59 38.1**	**-0.2**	
XAN				pP	**pP**		**21 59 42.1**	**-0.9**	
XAN				S	**S**		**22 06 41.0**	**-2.9**	
XAN				sS	**sS**		**22 06 48.5**	**-3.1**	
XAN				AMB	AMB				
	comp=Z,61nm,3.8s								
XAN				LR	LR				
	comp=Z,660nm,17.5s								
XAN				LR	LR				
	comp=Z,540nm,19.1s								
XAN				LR	LR				
	comp=Z,580nm,17.5s								
GYA	**Guiyang**	**49.66**	**81**	P	**P**		**21 59 42.2**	**+0.5**	
GYA				PP	**PP**		**22 01 36.5**	**+0.4**	
GYA				ScP	**ScP**		**22 04 57.8**	**-0.2**	
GYA				S	**S**		**22 06 49.0**	**-1.0**	
GYA				SS	**SS**		**22 10 17.2**	**-5.0**	
GYA				AMB	AMB				
	comp=Z,20nm,1.0s								
GYA				AMB	AMB				
	comp=Z,120nm,5.0s								
GYA				LR	LR				
	comp=Z,640nm,17.6s								
GYA				LR	LR				
	comp=Z,580nm,18.0s								
GYA				LR	LR				
	comp=Z,610nm,17.5s								
HHC	**Hu-ho-hao-te**	**49.82**	**61**	*eP*	**P**		**21 59 41.5**	**-1.2**	
HHC				pP	**pP**		**21 59 46.0**	**-1.4**	
HHC				sP	**sP**		**21 59 48.6**	**-0.7**	
HHC				PP	**PP**		**22 01 37.5**	**+0.2**	
HHC				S	**S**		**22 06 48.7**	**-3.2**	
HHC				sS	**sS**		**22 06 56.6**	**-3.1**	
HHC				SS	**SS**		**22 10 17.5**	**-6.8**	
HHC				AMB	AMB				
	comp=Z,26nm,0.9s								
HHC				AMB	AMB				
	comp=Z,510nm,5.2s								
HHC				LR	LR				
	comp=Z,2µm,14.3s								
HHC				LR	LR				
	comp=Z,2µm,14.1s								
HHC				LR	LR				
	comp=Z,3µm,14.1s								
KBS	**Kingsbay**	**49.85**	**351**	*eP*	**P**		**21 59 42.8**	**+0.6**	
	comp=Z,7.7nm,0.9s,SNR=23								
JMIC	**Jan Mayen**	**49.99**	**339**	LR	LR		22 22 07.7		
	comp=Z,354nm,19.0s,baz=248,slow=38								
OPO	**Ambohidratompo**	**50.13**	**183**	P	**P**		**21 59 47.4**	**+2.2**	
OPO	**Ambohidratompo**	**50.13**	**183**	P	**P**		**21 59 47.4**	**+2.2**	
OPO	**Ambohidratompo**	**50.13**	**183**	P	**P**		**21 59 47.4**	**+2.2**	
	comp=Z,1.9nm,0.8s,baz=29,slow=5.7,SNR=4.2								
ENH	**Enshi**	**50.76**	**75**	*eP*	**P**		**21 59 49.8**	**-0.1**	
	comp=Z,8.2nm,0.7s								
ENH	**Enshi**	**50.76**	**75**	*eP*	**P**		**21 59 49.8**	**-0.1**	
	comp=Z,8.2nm,0.7s								
LSZ	**Lusaka**	**51.11**	**207**	*eP*	**P**		**21 59 54.9**	**+2.3**	
LSZ	**Lusaka**	**51.11**	**207**	*eP*	P		21 59 56.2	+3.6	
	comp=Z,97nm,2.5s								
LSZ	**Lusaka**	**51.11**	**207**	*eP*	P		21 59 56.2	+3.6	
	comp=Z,97nm,2.5s								
SKNT	**Sakolnakorn**	**51.20**	**93**	P	**P**		**21 59 54.6**	**+1.3**	
	comp=Z,30nm,0.8s								
PANO	**Nakornpanom**	**51.65**	**93**	P	**P**		**21 59 57.9**	**+1.2**	
	comp=Z,391nm,0.9s								
CHBT	**CHBT**	**51.83**	**99**	P	**P**		**21 59 59.5**	**+1.5**	
CHBT	**CHBT**	**51.83**	**99**	P	**P**		**22 00 00.4**	**+2.4**	
	comp=Z,26nm,1.3s								
BJI	**Beijing**	**53.43**	**61**	P	**P**		**22 00 08.7**	**-0.8**	
BJI				S	**S**		**22 07 40.1**	**-1.3**	
BJI				SS	**SS**		**22 11 21.8**	**+0.6**	
BJI				LR	LR				
	comp=Z,990nm,15.8s								
BJI				LR	LR				
	comp=Z,970nm,20.7s								
BJI				LR	LR				
	comp=Z,2µm,18.3s								
WHN	**Wuhan**	**54.66**	**73**	P	**P**		**22 00 18.8**	**+0.2**	
WHN				S	**S**		**22 08 00.2**	**+2.0**	
WHN				LR	LR				
	comp=Z,3µm,16.6s								
IPM	**Ipoh**	**55.25**	**108**	*eP*	**P**		**22 00 24.3**	**+1.1**	
	comp=Z,26nm,0.9s								
IPM	**Ipoh**	**55.25**	**108**	*eP*	**P**		**22 00 24.3**	**+1.1**	
	comp=Z,26nm,0.9s								
QIZ	**Qiongzhong**	**55.27**	**88**	P	**P**		**22 00 22.4**	**-0.8**	
QIZ				S	**S**		**22 08 05.7**	**-1.1**	
QIZ				LR	LR				
	comp=Z,240nm,21.0s								
QIZ	**Qiongzhong**	**55.27**	**88**	*eP*	**P**		**22 00 24.2**	**+1.0**	
QIZ	**Qiongzhong**	**55.27**	**88**	*eP*	**P**		**22 00 24.2**	**+1.0**	
DBIC	**Dimbokro**	**56.48**	**256**	*eP*	**P**		**22 00 30.1**	**-1.8**	
DBIC	**Dimbokro**	**56.48**	**256**	*eP*	**P**		**22 00 32.5**	**+0.6**	
	comp=Z,18nm,0.9s								
DBIC	**Dimbokro**	**56.48**	**256**	*eP*	**P**		**22 00 32.5**	**+0.6**	
	comp=Z,18nm,0.9s								
DBIC	**Dimbokro**	**56.48**	**256**	P	**P**		**22 00 32.2**	**+0.3**	
	comp=Z,3.0nm,0.3s,baz=36,slow=7.7,SNR=23								
DBIC				LR	LR		22 27 18.8		
	comp=Z,3µm,18.5s,baz=36,slow=39								
KIC	**Kosan Boka**	**56.55**	**255**	*eP*	**P**		**22 00 32.4**	**-0.1**	
	comp=Z,132nm,1.3s								
TIC	**Toumodi**	**56.63**	**256**	*eP*	**P**		**22 00 34.0**	**+1.0**	
	comp=Z,12nm,0.4s								
LIC	**Lamto**	**56.87**	**255**	*eP*	**P**		**22 00 34.4**	**-0.3**	
	comp=Z,29nm,0.6s								
LIC				*eR*					
	comp=Z,4µm,17.2s								
LIC	**Lamto**	**56.87**	**255**	*eP*	**P**		**22 00 34.9**	**+0.2**	
	comp=Z,48nm,0.6s								
LIC	**Lamto**	**56.87**	**255**	*eP*	**P**		**22 00 34.4**	**-0.3**	
	comp=Z,29nm,0.6s								
LIC	**Lamto**	**56.87**	**255**	*eP*	**P**		**22 00 34.4**	**-0.3**	
	comp=Z,14nm,0.6s								
MSNA	**Messina**	**57.01**	**202**	*eP*	**P**		**22 00 36.7**	**+1.3**	
MSNA				AMB	AMB		22 00 41.7		
	comp=Z,20nm,5.7s								
NJ2	**Nanjing**	**57.79**	**70**	*eP*	**P**		**22 00 40.1**	**-0.9**	
NJ2				pP	**pP**		**22 00 42.9**	**-2.9**	
NJ2				S	**S**		**22 08 34.5**	**-5.3**	
NJ2				AMB	AMB				
	comp=Z,10.0nm,0.9s								
NJ2				AMB	AMB				
	comp=Z,2µm,5.6s								
NJ2				LR	LR				
	comp=Z,2µm,15.1s								
NJ2				LR	LR				
	comp=Z,1µm,17.4s								
NJ2				LR	LR				
	comp=Z,2µm,23.9s								
YAK	**Yakutsk**	**57.89**	**33**	*eP*	**P**		**22 00 39.2**	**-2.0**	
YAK				pmax	pmax				
	comp=Z,21nm,0.8s								
CN2	**Changchun**	**59.18**	**55**	*eP*	**P**		**22 00 51.5**	**+1.0**	
CN2				*eS*	**S**		**22 08 55.9**	**-1.7**	
CN2				LR	LR				
	comp=Z,1µm,16.0s								
CN2				LR	LR				
	comp=Z,2µm,16.0s								
CN2				LR	LR				
	comp=Z,2µm,16.0s								
TSUM	**Tsumeb**	**59.28**	**216**	*eP*	**P**		**22 00 49.6**	**-2.0**	
TSUM	**Tsumeb**	**59.28**	**216**	*eP*	**P**		**22 00 53.2**	**+1.7**	
	comp=Z,3.3nm,0.8s								
TSUM	**Tsumeb**	**59.28**	**216**	*eP*	**P**		**22 00 53.2**	**+1.7**	
	comp=Z,3.3nm,0.8s								
SUMG	**Summit**	**59.42**	**340**	*eP*	**P**		**22 00 52.5**	**+0.3**	
SUMG				pmax	pmax				
	comp=Z,25nm,1.1s								
SUMG	**Summit**	**59.42**	**340**	*i* P	**P**		**22 00 52.0**	**-0.2**	
	comp=Z,16nm,0.9s								
SUMG	**Summit**	**59.42**	**340**	*i* P	**P**		**22 00 52.7**	**+0.5**	
	comp=Z,16nm,0.9s								
SUMG	**Summit**	**59.42**	**340**	*eP*	**P**		**22 00 52.5**	**+0.3**	
	comp=Z,25nm,1.1s								
SUMG	**Summit**	**59.42**	**340**	*i* P	**P**		**22 00 52.0**	**-0.2**	
	comp=Z,16nm,0.9s,SNR=21								
SSE	**Sheshan**	**59.99**	**70**	P	**P**		**22 00 57.7**	**+1.4**	
SSE				S	**S**		**22 09 08.2**	**-0.2**	
SSE				AMB	AMB				
	comp=Z,13nm,1.0s								
SSE				AMB	AMB				
	comp=Z,480nm,5.1s								
SSE				LR	LR				
	comp=Z,740nm,15.8s								
SSE				LR	LR				
	comp=Z,900nm,15.8s								
SSE				LR	LR				
	comp=Z,1µm,12.6s								
SLR	**Silverton**	**60.72**	**202**	*eP*	P		22 00 58.1	-3.3	
SLR				AMB	AMB		22 01 36.2		
	comp=Z,40nm,3.0s								
LBTB	**Lobatse**	**60.97**	**205**	*eP*	**P**		**22 01 04.2**	**+1.2**	
LBTB				AMB	AMB		22 01 17.0		
	comp=Z,28nm,5.8s								
LBTB	**Lobatse**	**60.97**	**205**	*eP*	**P**		**22 01 04.9**	**+1.9**	
	comp=Z,264nm,3.0s								
LBTB	**Lobatse**	**60.97**	**205**	*eP*	**P**		**22 01 04.9**	**+1.9**	
	comp=Z,264nm,3.0s								
MDJ	**Mudanjiang**	**61.79**	**53**	P	**P**		**22 01 07.6**	**-0.8**	
MDJ				PcP	**PcP**		**22 01 48.8**	**-0.6**	
MDJ				S	**S**		**22 09 32.4**	**+1.4**	
MDJ				SS	**SS**		**22 13 37.8**	**+5.3**	
MDJ				AMB	AMB				
	comp=Z,7.0nm,2.0s								
MDJ				AMB	AMB				
	comp=Z,92nm,4.8s								
MDJ				LR	LR				
	comp=Z,290nm,21.7s								
MDJ				LR	LR				
	comp=Z,190nm,25.3s								
MDJ				LR	LR				
	comp=Z,560nm,18.1s								
BBTS	**Babate**	**62.26**	**271**	LR	LR		22 29 45.7		
	comp=Z,471nm,18.4s,baz=71,slow=38								
YHNB	**Yeheng**	**62.62**	**77**	*eP*	**P**		**22 01 16.4**	**+2.1**	
YHNB	**Yeheng**	**62.62**	**77**	*eP*	**P**		**22 01 16.4**	**+2.1**	
KSAR	**Wonju Array Be**	**62.94**	**61**	P	**P**		**22 01 15.6**	**-0.5**	
KSAR	**Wonju Array Be**	**62.94**	**61**	P	**P**		**22 01 15.6**	**-0.5**	
KSRS	**Korea Array**	**62.96**	**61**	P	**P**		**22 01 15.6**	**-0.7**	
	comp=Z,840nm,18.0s								
KSRS	**Korea Array**	**62.96**	**61**	P	**P**		**22 01 15.6**	**-0.7**	
	comp=Z,3.9nm,0.6s,baz=281,slow=7.2,SNR=20								
KSRS				LR	LR		22 32 16.9		
	comp=Z,840nm,18.0s,baz=289,slow=40								
SEK	**Senekal**	**63.34**	**202**	*eP*	**P**		**22 01 16.9**	**-2.0**	
SEK				AMB	AMB		22 01 44.6		
	comp=Z,53nm,3.3s								
USRK	**Ussuriysk Arra**	**63.55**	**53**	P	**P**		**22 01 18.9**	**-1.2**	
	comp=Z,5.9nm,0.8s,baz=289,slow=4.9,SNR=16								
USRK				LR	LR		22 31 49.6		
	comp=Z,841nm,18.4s,baz=290,slow=39								
BOSA	**Boshof**	**64.39**	**204**	*eP*	**P**		**22 01 26.6**	**+0.8**	
BOSA				AMB	AMB		22 01 31.1		
	comp=Z,47nm,4.2s								
BOSA	**Boshof**	**64.39**	**204**	*eP*	**P**		**22 01 26.3**	**+0.5**	
	comp=Z,17nm,1.1s								
BOSA	**Boshof**	**64.39**	**204**	P	**P**		**22 01 26.5**	**+0.7**	
	comp=Z,2µm,18.2s								
BOSA	**Boshof**	**64.39**	**204**	P	**P**		**22 01 26.5**	**+0.7**	
	comp=Z,5.9nm,0.8s,baz=20,slow=6.8,SNR=14								
BOSA				LR	LR		22 30 44.9		
	comp=Z,2µm,18.2s,baz=348,slow=37								
UPI	**Upington**	**65.63**	**207**	*eP*	**P**		**22 01 30.6**	**-3.2**	
UPI				AMB	AMB		22 02 15.9		
	comp=Z,30nm,3.5s								
KKM	**Kota Kinabalu**	**66.99**	**97**	*eP*	**P**		**22 01 44.1**	**+1.1**	
	comp=Z,34nm,1.0s								
KKM	**Kota Kinabalu**	**66.99**	**97**	*eP*	**P**		**22 01 44.1**	**+1.1**	
	comp=Z,34nm,1.0s								
SEY	**Seymchan**	**67.66**	**29**	*ceP*	**P**		**22 01 46.0**	**-0.3**	
SEY	**Seymchan**	**67.66**	**29**	*eP*	**P**		**22 01 46.0**	**-0.3**	
CVNA	**Calvinia**	**68.99**	**207**	*eP*	**P**		**22 01 57.2**	**+2.2**	
CVNA				AMB	AMB		22 02 17.8		
	comp=Z,44nm,3.3s								
ASAJ	**Asahikawa**	**70.63**	**50**	LR	LR		22 35 55.1		
	comp=Z,1µm,18.3s,baz=348,slow=38								
MJAR	**Matsushiro Arr**	**70.89**	**58**	LR	LR		22 35 58.3		
	comp=Z,616nm,18.1s,baz=295,slow=38								
YUK	**Yuzh-Kuril'sk**	**72.77**	**49**	*c i* P	P		22 02 29.2	+11	
YUK				*i*			22 02 42.0		
YUK				*eS*	SKiKP		22 12 07.7	+16	
YUK				MLR	MLR				
	comp=N,1µm,22.0s								
YUK				MLR	MLR				
	comp=E,925nm,20.0s								
YUK				MLR	MLR				
	comp=Z,1µm,20.0s								
FRB	**Frobisher Bay**	**73.08**	**336**	P	**P**		**22 02 18.2**	**-1.2**	
FRB	**Frobisher Bay**	**73.08**	**336**	P	**P**		**22 02 18.2**	**-1.2**	
	comp=Z,8.0nm,0.7s								
FRB	**Frobisher Bay**	**73.08**	**336**	P	**P**		**22 02 18.2**	**-1.2**	
	comp=Z,3.9nm,0.4s,baz=50,slow=8.0,SNR=4.9								
PETK	**Petropavlovsk-**	**75.00**	**36**	LR	LR		22 38 32.1		
	comp=Z,529nm,18.6s,baz=307,slow=38								
SCHQ	**Schefferville**	**77.97**	**328**	*eP*	**P**		**22 02 47.1**	**-0.6**	
SCHQ	**Schefferville**	**77.97**	**328**	*eP*	**P**		**22 02 47.1**	**-0.6**	
SCHQ	**Schefferville**	**77.97**	**328**	P	**P**		**22 02 46.6**	**-1.1**	
	comp=Z,3.6nm,0.4s,baz=77,slow=5.7,SNR=22								
SCHQ				LR	LR		22 38 04.6		
	comp=Z,171nm,19.1s,baz=58,slow=36								
COLD	**Coldfoot**	**80.15**	**8**	*eP*	**P**		**22 02 59.7**	**+0.3**	
	comp=Z,13nm,1.0s								
COLD	**Coldfoot**	**80.15**	**8**	*eP*	**P**		**22 02 59.7**	**+0.3**	
	comp=Z,13nm,1.0s								
INK	**Inuvik**	**80.17**	**1**	*eP*	**P**		**22 02 58.5**	**-0.9**	
	comp=Z,5.1nm,0.6s								
INK	**Inuvik**	**80.17**	**1**	P	**P**		**22 02 58.5**	**-0.9**	
	comp=Z,3.0nm,0.7s								
INK	**Inuvik**	**80.17**	**1**	P	**P**		**22 02 58.5**	**-0.9**	
	comp=Z,1.5nm,0.4s,baz=350,slow=5.0,SNR=5.1								
IM04	**Indian Mountai**	**80.89**	**9**	*eP*	**P**		**22 03 02.9**	**-0.5**	
IM04	**Indian Mountai**	**80.89**	**9**	*eP*	**P**		**22 03 02.9**	**-0.5**	
COLA	**College**	**82.68**	**7**	*eP*	**P**		**22 03 15.8**	**+3.0**	
COLA				pmax	pmax				
	comp=Z,47nm,0.8s								
COLA	**College**	**82.68**	**7**	*eP*	**P**		**22 03 15.8**	**+3.0**	
	comp=Z,47nm,0.8s								
COLA	**College**	**82.68**	**7**	*eP*	**P**		**22 03 15.8**	**+3.0**	
	comp=Z,47nm,0.8s								
ILAR	**Eielson Array**	**82.89**	**7**	P	**P**		**22 03 12.8**	**-1.1**	
ILAR	**Eielson Array**	**82.89**	**7**	P	**P**		**22 03 12.8**	**-1.1**	
	comp=Z,239nm,18.4s								
ILAR	**Eielson Array**	**82.89**	**7**	P	**P**		**22 03 12.8**	**-1.1**	
	comp=Z,2.8nm,0.7s,baz=305,slow=4.5,SNR=12								
ILAR				LR	LR		22 50 24.0		
	comp=Z,239nm,18.4s,baz=101,slow=43								
BPAW	**Bear Paw Mtn.**	**83.05**	**9**	*eP*	**P**		**22 03 14.6**	**-0.2**	
	comp=Z,15nm,0.9s								
BPAW	**Bear Paw Mtn.**	**83.05**	**9**	*eP*	**P**		**22 03 14.6**	**-0.2**	
	comp=Z,15nm,0.9s								
EGAK	**Eagle**	**83.38**	**5**	*eP*	**P**		**22 03 16.0**	**-0.4**	
	comp=Z,17nm,1.0s								
EGAK	**Eagle**	**83.38**	**5**	*eP*	**P**		**22 03 16.0**	**-0.4**	
	comp=Z,17nm,1.0s								
CAST	**Castle Rocks**	**83.55**	**10**	*eP*	**P**		**22 03 17.1**	**-0.3**	
	comp=Z,21nm,0.9s								
CAST	**Castle Rocks**	**83.55**	**10**	*eP*	**P**		**22 03 17.1

ARG	**Arkhangelos**	**1.54**	**68**	*e*Pb		Pn		21 52 11.5	+1.9

*SKO **04** 21:51:54.4, 41°.31N×22°.67E, h10km, M0.1, ML0.6*
THE 04 21:51:55.1, 41°.31N×22°.66E, h2km±15km**, ML1.0/2, Error ellipse: s-maj=15.1km s-min=0.5km az=352.0, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.07**	**280**	P	Pg	21 51 56.1	-0.4
VAY				S	Sg	21 51 57.7	+0.3
VAY	**Valandovo**	**0.07**	**280**	*i* Pg	Pg	21 51 56.9	+0.5
VAY				*i* Sg	Sg	21 51 58.1	+0.8
VAY				*e*Lg	Lg	21 51 58.2	
	comp=E,37nm,0.5s						
VAY				*e*Lg	Lg	21 51 58.3	
	comp=N,68nm,0.2s						
KNT	**Kendrikon**	**0.23**	**129**	P	Pg	21 51 59.7	+0.1
KNT				S	Sg	21 52 03.0	+0.3
GRG	**Griva**	**0.40**	**209**	P	Pg	21 52 02.9	0.0
GRG				S	Sg	21 52 08.4	+0.3

*CSEM **04** 21:53:21.5, 38°.31N×22°.08E, h11km, MD2.0, After ATH*
ATH 04 21:53:21.5, 38°.31N×22°.08E, h11km±1km**, MD2.0/6, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIZ	**Trizonia**	**0.06**	**354**	*e*Pg	Pg	21 53 23.7	0.0
TRIZ	**Trizonia**	**0.06**	**354**	*e*Pg	Pg	21 53 23.7	0.0
KALE	**Kalithea**	**0.09**	**30**	*e*PG	Pg	21 53 24.4	+0.1
KALE				*e*SG	Sg	21 53 26.3	0.0
KALE	**Kalithea**	**0.09**	**30**	*e*Pg	Pg	21 53 24.4	+0.1
KALE				*e*Sg	Sg	21 53 26.3	0.0
LAKA	**Lakka**	**0.11**	**229**	*e*PG	Pg	21 53 24.5	+0.1
LAKA				*e*SG	Sg	21 53 26.3	-0.1
LAKA	**Lakka**	**0.11**	**229**	*e*Pg	Pg	21 53 24.5	+0.1
LAKA				*e*Sg	Sg	21 53 26.3	-0.1
PSA1	**Psathopyrgos**	**0.15**	**276**	*e*PG	Pg	21 53 25.4	+0.4
EFP	**Efpalio**	**0.18**	**310**	*e*PG	Pg	21 53 25.3	-0.2
EFP	**Efpalio**	**0.18**	**310**	*e*Pg	Pg	21 53 25.3	-0.2
KLV	**Kalavryta, Ach**	**0.27**	**168**	*e*PG	Pg	21 53 27.0	-0.2
KLV	**Kalavryta, Ach**	**0.27**	**168**	*e*Pg	Pg	21 53 27.0	-0.2
GUR	**Goura**	**0.43**	**151**	*e*PB	Pg	21 53 29.8	-0.3
GUR	**Goura**	**0.43**	**151**	*e*Pb	Pg	21 53 29.8	-0.3
RLS	**Riolos of Patr**	**0.55**	**243**	*e*PB	Pg	21 53 32.1	0.0
RLS	**Riolos of Patr**	**0.55**	**243**	*e*Pb	Pg	21 53 32.1	0.0
AMT	**Artemida-Makis**	**0.83**	**201**	*e*PG	Pg	21 53 37.0	-0.6
AMT	**Artemida-Makis**	**0.83**	**201**	*e*Pg	Pg	21 53 37.0	-0.6

IDC 04 21:55:23.1±1.8, 2°.57N×127°.29E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/22, mbtmp3.6/5, Error ellipse: s-maj=184.4km s-min=20.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.42**	**163**	P	P	22 00 33.2	-0.9
	0.9nm,0.5s,baz=342,slow=10,SNR=2.9						
ASAR	**Alice Springs**	**26.87**	**166**	P	P	22 01 07.0	+1.2
	0.4nm,0.6s,baz=342,slow=10,SNR=4.2						
STKA	**Stephens Creek**	**36.86**	**159**	P	P	22 02 32.6	-0.7
	0.4nm,0.3s,baz=23,slow=7.7,SNR=3.8						
MKAR	**Makanchi Array**	**58.82**	**325**	P	P	22 05 23.3	-0.1
	0.2nm,0.3s,baz=117,slow=7.8,SNR=4.5						
KURBB	**Kurchatov Arra**	**63.01**	**327**	P	P	22 05 51.8	0.0
	0.4nm,0.6s,baz=129,slow=6.5,SNR=5.5						

IDC 04 21:55:58.3±4.4, 16°.37S×173°.10W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/20, mbtmp3.9/5, MS3.5/4, Ms1 3.5/4, ms1mx3.2/33, Error ellipse: s-maj=203.9km s-min=29.9km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.76**	**28**	Pn	Pn	21 56 37.9	-6.1
	64nm,0.3s,baz=130,slow=1.1,SNR=28						
AFI				Sn	Sn	21 57 03.5	-14
	383nm,0.3s,baz=72,slow=22,SNR=31						
DZM	**Mont Dzumac**	**20.13**	**250**	*e*LR	LR	22 05 42.8	
	307nm,25.3s						
PPT	**Papeete**	**22.53**	**96**	LR	LR	22 07 15.6	
	comp=Z,103nm,20.1s,baz=187,slow=30						
PPT2	**Papeete2**	**22.53**	**97**	*e*LR	LR	22 06 25.7	
	181nm,25.5s						
TBI	**Tubuai**	**23.27**	**111**	*e*LR	LR	22 06 41.4	
	206nm,26.0s						
HNR	**Honiara**	**27.14**	**281**	LR	LR	22 11 10.8	
	comp=Z,127nm,19.9s,baz=108,slow=34						
H11S2	**WAKE ISLAND Hy**	**39.94**	**329**	T	T	22 45 07.9	
H11S3	**WAKE ISLAND Hy**	**39.95**	**329**	T	T	22 45 11.4	
	baz=153,slow=0.7,SNR=10						
H11S1	**WAKE ISLAND Hy**	**39.95**	**329**	T	T	22 45 07.4	
	baz=300,slow=0.7,SNR=11						
H11N3	**WAKE ISLAND Hy**	**40.89**	**331**	T	T	22 46 25.6	
	baz=152,slow=0.7,SNR=15						
H11N1	**WAKE ISLAND Hy**	**40.90**	**330**	T	T	22 46 22.0	
	baz=152,slow=0.7,SNR=9.3						
H11N2	**WAKE ISLAND Hy**	**40.91**	**331**	T	T	22 46 26.8	
	baz=152,slow=0.7,SNR=7.1						
STKA	**Stephens Creek**	**43.81**	**241**	P	P	22 04 06.0	-0.3
	0.7nm,0.6s,baz=87,slow=15,SNR=3.1						
STKA				LR	LR	22 18 26.6	
	comp=Z,86nm,19.0s,baz=205,slow=31						
WRA	**Warramunga Arr**	**49.91**	**258**	P	P	22 04 53.8	-0.4
	0.8nm,0.8s,baz=99,slow=6.2,SNR=3.3						
ASAR	**Alice Springs**	**50.09**	**253**	P	P	22 04 55.1	-0.4
	2.2nm,0.8s,baz=85,slow=8.4,SNR=20						
ILAR	**Eielson Array**	**83.33**	**11**	P	P	22 08 25.6	-1.1
	0.3nm,0.6s,baz=228,slow=5.9,SNR=5.5						
CMAR	**Chiang Mai Arr**	**93.19**	**288**	P	P	22 09 15.9	+0.7
	0.7nm,0.7s,baz=80,slow=2.6,SNR=5.3						
CFAA	**Coronel Fontan**	**93.67**	**124**	LR	LR	22 43 11.4	
	comp=Z,9.5nm,19.1s,baz=225,slow=30						
BRTR	**Keskin Array B**	**147.08**	**320**	PKPbc	PKPbc	22 15 43.9	+0.1
	2.6nm,1.1s,baz=80,slow=1.5,SNR=8.1						
GERES	**GERESS Array B**	**147.13**	**352**	PKPbc	PKPbc	22 15 43.1	-0.4
	0.4nm,0.7s,baz=350,slow=4.0,SNR=3.1						

*IDC **04** 22:05:56.1±0.4, 57°.66S×25°.17W, h0km, mb4.7/13, mb1 4.7/15, mb1mx4.6/19, mbtmp4.7/15, ML5.0/2, MS3.9/7, Ms1 3.9/7, ms1mx3.8/19, Error ellipse: s-maj=17.5km s-min=14.4km az=61.0*
*ISCJB **04** 22:06:01.3±0.3, 57°.67S±0°.06×25°.3W±0°.1, h49km, mb4.8/25, MS4.0/5, Error ellipse: s-maj=9.4km s-min=8.6km az=143.2*
*NEIC **04** 22:06:02.0±1.6, 57°.66S×25°.33W, h41km±14km, mb4.9/14, Error ellipse: s-maj=8.2km s-min=6.3km az=217.0*
ISC 04 22:06:03.0±0.3, 57.72S±0°.07×25.42W±0°.07, h49km, n103, σ0.96/115, mb4.8/25, MS3.9/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**16.82**	**155**	*e*Pn	Pn	22 09 53.7	-1.0
	12nm,0.7s						
SNAA				*e*Sn	Sn	22 12 50.7	-10
SNAA	**Sanae**	**16.82**	**155**	Pn	Pn	22 09 54.0	-0.8
	1.3nm,0.3s,baz=326,slow=13,SNR=98						
SNAA				Sn	Sn	22 12 44.7	-16
	0.0nm,0.3s,baz=27,slow=2.9,SNR=1.5						
SNAA				LR	LR	22 14 48.9	
	comp=Z,106nm,20.5s,baz=15,slow=32						
PMSA	**Palmer Station**	**19.60**	**233**	P	Pn	22 10 28.8	+0.4
PMSA	**Palmer Station**	**19.60**	**233**	P	Pn	22 10 28.8	+0.4
	1.5nm,0.3s,baz=89,slow=8.3,SNR=5.4						
PMSA				LR	LR	22 16 39.6	
	comp=Z,549nm,19.2s,baz=23,slow=33						
EFI	**East Falkland**	**19.67**	**274**	*e*Pn	P	22 10 27.2	-0.3
	138nm,0.5s						
MAIT	**Maitri**	**20.31**	**145**	*e*P	P	22 10 31.8	-2.5
USHA	**Ushuaia**	**23.76**	**258**	P	P	22 11 12.2	+1.7
USHA	**Ushuaia**	**23.76**	**258**	P	P	22 11 12.2	+1.7
	11nm,0.6s,baz=90,slow=10,SNR=8.4						
USHA				LR	LR	22 18 13.5	
	comp=Z,792nm,18.8s,baz=53,slow=31						
QSPA	**South Pole Qui**	**32.53**	**180**	*e*P	P	22 12 29.5	+0.5
QSPA				*e*pP	pP	22 12 42.0	+0.3
QSPA	**South Pole Qui**	**32.53**	**180**	P	P	22 12 29.3	+0.4
	14nm,0.6s,baz=204,slow=3.2,SNR=48						
PLCA	**Paso Flores**	**33.26**	**281**	P	P	22 12 35.2	-0.2
PLCA				PcP	PcP	22 15 16.9	+0.2
PLCA	**Paso Flores**	**33.26**	**281**	P	P	22 12 35.2	-0.2
	5.5nm,1.0s,baz=171,slow=8.8,SNR=5.0						
PLCA				PcP	PcP	22 15 16.9	+0.2
	2.5nm,0.7s,baz=13,slow=8.0,SNR=4.1						
PLCA				LR	LR	22 26 26.1	
	comp=Z,238nm,20.0s,baz=139,slow=37						
SPB	**Sao Paulo**	**37.60**	**326**	*e*P	P	22 13 12.5	-0.2
	15nm,0.6s						
SPB				*e*PP	PP	22 14 38.0	-1.1
MAW	**Mawson**	**38.23**	**142**	P	P	22 13 16.9	-0.7
MAW				PcP	PcP	22 15 31.1	+0.3
MAW	**Mawson**	**38.23**	**142**	P	P	22 13 16.9	-0.7
	1.4nm,0.6s,baz=230,slow=9.1,SNR=7.8						
MAW				PcP	PcP	22 15 31.1	+0.3
	2.8nm,0.7s,baz=245,slow=5.6,SNR=6.4						
CPUP	**Villa Florida**	**38.64**	**311**	*e*P	P	22 13 20.2	-1.2
	25nm,0.5s						
CPUP				*e*PcP	PcP	22 15 32.9	+0.2
CPUP				PcP	PcP	22 15 33.1	+0.5
CPUP	**Villa Florida**	**38.64**	**311**	P	P	22 13 21.1	-0.3
	3.8nm,0.5s,baz=143,slow=7.1,SNR=20						
CPUP				PcP	PcP	22 15 33.1	+0.5
	4.0nm,0.6s,baz=118,slow=2.4,SNR=5.5						
CPUP				LR	LR	22 28 27.0	
	comp=Z,92nm,18.2s,baz=160,slow=35						
SBA	**Scott Base**	**44.48**	**184**	*e*P	P	22 14 10.4	+1.8
	12nm,0.8s						
VNDA	**Vanda**	**44.95**	**182**	*e*P	P	22 14 13.4	+1.1
	14nm,0.8s						
VNDA	**Vanda**	**44.95**	**182**	P	P	22 14 13.4	+1.1
	13nm,0.7s,baz=187,slow=6.5,SNR=75						
VNDA				LR	LR	22 30 58.3	
	comp=Z,117nm,18.7s,baz=167,slow=33						
BDFB	**Brasilia**	**45.30**	**329**	*e*P	P	22 14 15.5	-0.4
BDFB	**Brasilia**	**45.30**	**329**	P	P	22 14 17.1	+1.2
	7.1nm,0.7s,baz=170,slow=6.1,SNR=16						
BOSA	**Boshof**	**45.49**	**73**	P	P	22 14 16.5	-0.9
BOSA	**Boshof**	**45.49**	**73**	P	P	22 14 16.5	-0.9
	2.2nm,0.6s,baz=213,slow=6.1,SNR=6.9						
LVC	**Limon Verde**	**46.97**	**300**	*e*P	P	22 14 28.9	-0.3
	7.4nm,0.6s						
LBTB	**Lobatse**	**48.61**	**70**	*e*P	P	22 14 40.9	-0.8
H10S2	**ASCENSION HYDR**	**49.35**	**14**	T	T	23 08 03.4	
	SNR=42						
H10S3	**ASCENSION HYDR**	**49.36**	**14**	T	T	23 08 02.6	
H10S1	**ASCENSION HYDR**	**49.37**	**14**	T	T	23 08 03.6	
TSUM	**Tsumeb**	**49.70**	**58**	*e*P	P	22 14 49.8	-0.3
H10N1	**ASCENSION HYDR**	**50.47**	**14**	T	T	23 09 21.0	
	baz=181,slow=0.6,SNR=6.1						
H10N3	**ASCENSION HYDR**	**50.47**	**14**	T	T	23 09 26.7	
	baz=181,slow=0.6,SNR=19						
H10N2	**ASCENSION HYDR**	**50.49**	**14**	T	T	23 09 23.7	
	baz=181,slow=0.6,SNR=11						
LPAZ	**La Paz**	**52.13**	**304**	*e*P	P	22 15 08.8	-0.1
	7.1nm,0.5s						
SAML	**Samuel**	**56.66**	**314**	*e*P	P	22 15 40.9	-0.3
	32nm,0.6s						
LSZ	**Lusaka**	**58.11**	**66**	*e*P	P	22 15 51.3	-0.2
	8.4nm,1.0s						
LIC	**Lamto**	**65.84**	**22**	*e*P	P	22 16 43.3	+0.1
	21nm,0.6s						
KIC	**Kosan Boka**	**66.03**	**23**	*e*P	P	22 16 44.4	0.0
	16nm,0.7s						
TIC	**Toumodi**	**66.25**	**22**	*e*P	P	22 16 46.0	+0.2
	19nm,0.7s						
DBIC	**Dimbokro**	**66.31**	**22**	*e*P	P	22 16 45.5	-0.6
	7.4nm,0.7s						
DBIC	**Dimbokro**	**66.31**	**22**	P	P	22 16 45.9	-0.3
	10nm,1.0s,baz=151,slow=5.3,SNR=9.6						
DBIC				LR	LR	22 37 35.1	
	comp=Z,167nm,18.4s,baz=95,slow=29						
OTAV	**Otavalo**	**71.38**	**303**	*e*P	P	22 17 18.9	+0.5
	7.7nm,0.7s						
ROSC	**El Rosal**	**73.71**	**309**	*e*P	P	22 17 32.5	+0.5
ROSC	**El Rosal**	**73.71**	**309**	P	P	22 17 32.3	+0.2
	4.9nm,0.4s,baz=92,slow=19,SNR=4.7						
TOA0	**Torodi Ar. Sit**	**74.06**	**28**	*e*P	P	22 17 33.6	+0.1
TORD	**Torodi Ar. Bea**	**74.06**	**28**	P	P	22 17 34.1	+0.6
TORD	**Torodi Ar. Bea**	**74.06**	**28**	P	P	22 17 34.1	+0.6
	17nm,0.6s,baz=198,slow=6.6,SNR=259						
SDV	**Santo Domingo**	**75.87**	**314**	*e*P	P	22 17 44.5	+0.2
	13nm,0.7s						
TAM	**Tamanrasset**	**84.28**	**28**	*e*P	P	22 18 30.6	+1.3
	1.9nm,1.0s						
STKA	**Stephens Creek**	**90.08**	**169**	*e*P	P	22 18 57.0	-0.4
STKA	**Stephens Creek**	**90.08**	**169**	P	P	22 18 56.9	-0.5
	2.2nm,0.8s,baz=186,slow=22,SNR=3.8						
ASAR	**Alice Springs**	**97.10**	**161**	P	P	22 19 28.9	-0.9
ASAR	**Alice Springs**	**97.10**	**161**	P	P	22 19 28.9	-0.9
	1.9nm,0.7s,baz=181,slow=4.1,SNR=22						
PDAR	**Pinedale Array**	**122.04**	**300**	PKP	**PKPdf**	22 24 50.4	-1.0
PDAR	**Pinedale Array**	**122.04**	**300**	PKP	**PKPdf**	22 24 50.4	-1.0
	0.9nm,0.5s,baz=137,slow=6.2,SNR=7.3						
ULM	**Lac du Bonnet**	**122.12**	**314**	PKP	**PKPdf**	22 24 49.9	-1.1
ULM	**Lac du Bonnet**	**122.12**	**314**	PKP	**PKPdf**	22 24 49.9	-1.1
	1.5nm,0.5s,baz=187,slow=2.9,SNR=5.1						
NVAR	**Mina Array Bea**	**122.92**	**291**	PKP	**PKPdf**	22 24 53.9	+0.7
NVAR	**Mina Array Bea**	**122.92**	**291**	PKP	**PKPdf**	22 24 53.9	+0.7
	1.3nm,0.7s,baz=152,slow=3.8,SNR=9.6						
CMAR	**Chiang Mai Arr**	**123.58**	**110**	PKP	**PKPdf**	22 24 54.2	-0.5
CMAR	**Chiang Mai Arr**	**123.58**	**110**	PKP	**PKPdf**	22 24 54.3	-0.5
	1.5nm,0.3s,baz=226,slow=3.9,SNR=16						
FINES	**FINESS Array B**	**125.41**	**27**	PKP	**PKPdf**	22 24 56.5	-0.4
FINES	**FINESS Array B**	**125.41**	**27**	PKP	**PKPdf**	22 24 56.5	-0.4
	5.2nm,0.9s,baz=202,slow=1.5,SNR=16						
FIA1	**FINESS Array S**	**125.41**	**27**	*e*PKPdf	**PKPdf**	22 24 56.5	-0.3
KAF	**Kangasniemi**	**126.04**	**27**	*ep*	**PKPdf**	22 24 56.9	-1.1
	3.2nm,0.6s						
CHMT	**Chamberlain Mo**	**126.90**	**301**	*e*PKPdf	**PKPdf**	22 25 00.2	-0.3
BMO	**Blue Mountains**	**127.28**	**297**	*e*PKPdf	**PKPdf**	22 25 00.8	-0.3
ABKAR	**Akbulak array**	**127.52**	**55**	*e*PKPdf	**PKPdf**	22 25 00.9	-0.4
JOF	**Joensuu**	**127.99**	**29**	*ep*	**PKPdf**	22 25 01.2	-0.5
	4.7nm,0.7s						
KSH	**Kashi**	**128.08**	**74**	PKP	**PKPdf**	22 25 03.6	+0.7
KSH				sPKP		22 25 19.0	
KSH				*e*PP	PP	22 27 11.8	+4.5
KSH				PKS	**PKSdf**	22 28 39.6	+0.1
KSH				SS	SS	22 44 15.5	-2.3
EKS2	**Erkin-Say**	**129.27**	**70**	*e*PKPdf	**PKPdf**	22 25 04.7	-0.4
AAK	**Ala-Archa**	**129.62**	**71**	*e*PKPdf	**PKPdf**	22 25 05.4	-0.3
AAK	**Ala-Archa**	**129.62**	**71**	PKP	**PKPdf**	22 25 05.4	-0.3
	3.4nm,0.6s,baz=166,slow=3.6,SNR=15						
ARCES	**ARCESS Array B**	**132.14**	**22**	PKP	**PKPdf**	22 25 09.1	-0.3
ARCES	**ARCESS Array B**	**132.14**	**22**	PKP	**PKPdf**	22 25 09.1	-0.3
	1.9nm,0.7s,baz=216,slow=2.3,SNR=11						
GYA	**Guiyang**	**134.14**	**112**	*e*Pdif	**Pdif**	22 22 15.0	+0.6
GYA				PKP	**PKiKP**	22 25 15.4	-0.7
GYA				sPKP		22 25 30.6	
GYA				PP	PP	22 27 50.8	+4.5
GYA				PPMZ			
	110nm,7.8s						
BVAR	**Borovoye Array**	**134.85**	**58**	PKP	**PKPdf**	22 25 15.6	+0.5
BVAR	**Borovoye Array**	**134.85**	**58**	PKP	**PKPdf**	22 25 15.6	+0.5
	1.7nm,0.7s,baz=240,slow=2.9,SNR=7.7						
CD2	**Chengdu**	**136.28**	**105**	PKP	**PKPdf**	22 25 19.3	+0.8
MK31	**Makanchi Array**	**136.49**	**72**	*e*PKPdf	**PKPdf**	22 25 17.8	-0.6
MKAR	**Makanchi Array**	**136.49**	**72**	PKPpre	PKPpre	22 25 09.6	
MKAR				PKP	**PKPdf**	22 25 18.8	+0.4
MKAR	**Makanchi Array**	**136.49**	**72**	PKhKP	PKPpre	22 25 09.6	
	0.3nm,0.7s,baz=235,slow=4.3,SNR=3.9						
MKAR				PKP	**PKPdf**	22 25 18.8	+0.4
	1.3nm,0.8s,baz=240,slow=3.2,SNR=9.2						
KURBB	**Kurchatov Arra**	**137.13**	**65**	PKP	**PKPdf**	22 25 19.3	-0.1
	1.3nm,0.6s,baz=228,slow=2.4,SNR=15						
KURK	**Kurchatov**	**137.23**	**65**	PKP	**PKPdf**	22 25 19.3	-0.3
KURK				*e*PKPdf	**PKiKP**	22 25 19.4	-2.0
WMQ	**Urumqi**	**137.28**	**79**	*e*PKP	**PKPdf**	22 25 21.1	+1.1
YKA	**Yellowknife Ar**	**138.05**	**316**	PKP	**PKPdf**	22 25 20.8	+0.1
YKA	**Yellowknife Ar**	**138.05**	**316**	PKP	**PKPdf**	22 25 20.8	+0.1
	6.2nm,0.7s,baz=132,slow=2.1,SNR=8.6						
LZH	**Lanzhou**	**140.35**	**101**	PKP	**PKPdf**	22 25 25.4	-0.6
LZH				sPKP		22 25 39.7	
ZALV	**Zalesovo Beam**	**142.22**	**65**	PKPpre	PKPpre	22 25 22.6	
ZALV	**Zalesovo Beam**	**142.22**	**65**	PKhKP	PKPpre	22 25 22.6	
	0.9nm,0.5s,baz=220,slow=2.2,SNR=5.7						
HHC	**Hu-ho-hao-te**	**147.94**	**103**	*e*PKPbc	**PKPdf**	22 25 37.8	-1.1
HHC				pPKP	**PKPab**	22 25 48.4	+3.6
HHC				sPKP		22 25 52.6	
HHC				PP	PP	22 29 11.8	+1.3
HHC				SKS	**SKSdf**	22 32 41.7	-1.3
HHC				SKKS	**SKKSac**	22 35 56.9	-0.2
HHC				SS	SS	22 48 14.1	+1.7
HHC				PPMZ			
	430nm,7.6s						
SONM	**Songino Array**	**149.84**	**88**	PKP	**PKPdf**	22 25 40.4	-1.4
SONM				PKPbc	**PKPbc**	22 25 46.3	-0.4
SONM	**Songino Array**	**149.84**	**88**	PKP	**PKPdf**	22 25 40.4	-1.4
	9.9nm,0.7s,baz=247,slow=3.1,SNR=4.0						
SONM				PKPbc	**PKPbc**	22 25 46.3	-0.4
	1.2nm,0.5s,baz=218,slow=2.7,SNR=5.8						
DIV	**Divide**	**150.38**	**302**	*e*PKPdf	**PKPdf**	22 25 41.3	-0.9
JNU	**Nakatsue**	**150.61**	**137**	PKPbc	**PKPbc**	22 25 48.5	-0.4
JNU	**Nakatsue**	**150.61**	**137**	PKPbc	**PKPbc**	22 25 48.5	-0.4
	6.9nm,0.8s,baz=206,slow=16,SNR=4.8						
ILAR	**Eielson Array**	**151.94**	**309**	PKPbc	**PKPbc**	22 25 50.8	-0.1
ILAR	**Eielson Array**	**151.94**	**309**	PKPbc	**PKPbc**	22 25 50.8	-0.1
	16nm,0.8s,baz=135,slow=4.7,SNR=128						
KDAK	**Kodiak Island**	**152.40**	**293**	PKPbc	**PKPbc**	22 25 52.3	+0.3
KDAK	**Kodiak Island**	**152.40**	**293**	PKPbc	**PKPbc**	22 25 52.3	+0.3
	28nm,0.6s,baz=139,slow=3.2,SNR=48						
KSAR	**Wonju Array Be**	**153.18**	**128**	PKPbc	**PKPbc**	22 25 54.1	-0.4
KSRS	**Korea Array**	**153.21**	**128**	PKPbc	**PKPbc**	22 25 54.1	-0.4
	2.6nm,0.8s,baz=198,slow=2.7,SNR=8.6						
MDJ	**Mudanjiang**	**159.72**	**119**	PKP	**PKPdf**	22 25 57.2	+1.9

JMA 04 22:07:36.5±0.1, 25°.64N×125°.90E, h75km±3km, M3.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.98**	**207**	P	Pn	22 07 55.0	-0.1
JOGS				*e*S	Sn	22 08 08.8	-0.1
JMJ	**Miyako jima 2**	**0.99**	**214**	P	Pn	22 07 55.2	+0.1
JMJ				S	Sn	22 08 08.7	-0.3
JKE	**Kume jima 2**	**1.05**	**49**	P	Pn	22 07 56.1	+0.2
JKE				S	Sn	22 08 10.0	-0.3
JTJ	**Tarama**	**1.47**	**228**	P	Pn	22 08 01.6	+0.3
JTJ				S	Sn	22 08 19.9	0.0
JAGN	**Aguni-jima**	**1.53**	**52**	P	Pn	22 08 02.8	+0.8
JAGN				S	Sn	22 08 21.5	+0.1
JJT2	**Tamagusuku 2**	**1.74**	**73**	P	Pn	22 08 05.4	+0.6
JIJ	**Ishigaki jima**	**2.04**	**232**	P	Pn	22 08 08.6	-0.2
JIJ				*e*S	Sn	22 08 31.8	-1.6
JKRS	**Kuro-shima**	**2.21**	**231**	P	Pn	22 08 11.4	+0.3
JIH	**Iheya**	**2.32**	**53**	P	Pn	22 08 12.9	+0.4
IRIF	**Iriomote-Funau**	**2.36**	**237**	P	Pn	22 08 13.3	+0.2
JOW	**Kunigami**	**2.44**	**60**	P	Pn	22 08 14.1	-0.1
JTK	**Tokunoshima**	**3.47**	**51**	P	Pn	22 08 27.7	-0.4
JAMN	**Amaminishikomi**	**3.91**	**48**	P	Pn	22 08 34.6	+0.5
JAMN				*e*S	Sn	22 09 16.6	-2.2

MEX 04 22:08:27.6±0.8, 16°.63N×94°.34W, h108km±13km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**1.17**	**83**	*i* P	Pn	22 08 49.6	-1.0
TGIG				*i* S	Sn	22 09 06.0	-2.0
PCIG		**1.41**	**130**	*e*P	Pn	22 08 52.1	-1.2
PCIG				*i* S	Sn	22 09 11.0	-1.7
HUIG	**Huatulco**	**1.91**	**244**	*e*P	Pn	22 08 57.5	-1.9
HUIG				*i* S	Sn	22 09 22.6	-0.9
CCIG	**Comitan**	**2.14**	**99**	*i* P	Pn	22 09 01.5	-1.1
CCIG				*i* S	Sn	22 09 26.9	-2.3
VHO	**Vista Hermosa**	**2.34**	**281**	*e*P	Pn	22 09 03.8	-1.3
VHO				*i* S	Sn	22 09 32.3	-1.6

*DDA **04** 22:36:21.3, 39°.95N×34°.09E, h3km, ML3.7*
*ISK **04** 22:36:21.2, 40°.00N×34°.11E, h3km, MD3.6*
*CSEM **04** 22:36:22.2±0.1, 39°.99N×34°.09E, h2km, ML3.7, Error ellipse: s-maj=3.4km s-min=3.0km az=9.0*
ISC 04 22:36:21.7±1.2, 39°.99N±0°.03×34°.10E±0°.02, h2km±12km**, n81, σ0.96/90, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDAG	**Cicekdag**	**0.42**	**150**	*i* P	**Pg**	22 36 29.5	-0.2
CDAG				*i* S	**Sg**	22 36 35.4	+0.1
CDAG	**Cic

IKL	**Isikli**	**3.76**	**185**	*e*Pn	**Pn**	**22 37 22.2**	**+1.6**
GUMT	**Gumushane**	**4.14**	**82**	*e*PN	**Pn**	**22 37 27.3**	**+1.3**
GUMT	**Gumushane**	**4.14**	**82**	*e*PN	**Pn**	**22 37 27.3**	**+1.3**
PTK	**Pertek**	**4.24**	**103**	*e*PN	**Pn**	**22 37 28.9**	**+1.4**
PTK	**Pertek**	**4.24**	**103**	*e*Pn	**Pn**	**22 37 28.9**	**+1.4**
ERZN	**Erzincan**	**4.35**	**94**	*e*PN	**Pn**	**22 37 30.5**	**+1.6**

IDC 04 22:36:44.7±8.5, 16.11S×171.53W, h0 km, mb3.7/2, mb1 4.0/2, mb1mx3.6/20, mbtmp3.7/2, Error ellipse: s-maj=455.9km s-min=44.5km az=144.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**51.44**	**257**	P	P	22 45 51.6	-0.5
	0.3nm,0.3s,baz=96,slow=6.8,SNR=2.0						
ASAR	**Alice Springs**	**51.61**	**252**	P	P	22 45 53.6	+0.2
	1.0nm,0.4s,baz=90,slow=7.7,SNR=26						
GERES	**GERESS Array B**	**147.07**	**354**	PKPbc	PKPbc	22 56 29.1	-0.7
	0.7nm,0.9s,baz=20,slow=3.2,SNR=5.2						
BRTR	**Keskin Array B**	**147.83**	**322**	PKPbc	PKPbc	22 56 31.3	-0.9
	0.6nm,0.7s,baz=86,slow=4.1,SNR=4.4						

DJA 04 22:40:29.5±1.2, 1.5S, 97.10E±1.0, h17 km±11 km, M3.5/4, MLv3.5/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**0.41**	**90**	P	Pb	22 40 38.5	+0.1
PDSI				S	Sn	22 40 50.1	+2.1
PPI	**Padang Panjang**	**0.57**	**38**	P	Pg	22 40 40.5	-0.3
PPI				S	Sb	22 40 49.6	+0.8
SDSI	**Sungai Dareh**	**1.38**	**91**	P	Pn	22 40 52.9	-1.1
MNSI	**Mandailing Nat**	**1.76**	**344**	P	Pn	22 40 58.9	-0.3

JMA 04 23:12:58.5±0.2, 28.13N×141.00E, h301 km, M3.8, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.47**	**134**	P	Pn	23 13 41.8	+0.2
CBIJ				*e*S	S	23 14 15.5	-0.5
JHHJ	**Haha-jima-NKT**	**1.82**	**145**	P	Pn	23 13 44.1	0.0
JHHJ				*e*S	S	23 14 19.6	-0.8
JHJ2	**Mitsune**	**5.07**	**349**	P	Pn	23 14 17.9	+1.1
JHJ2				*e*S	S	23 15 19.5	-0.2
BSO1	**Boso 1**	**6.50**	**360**	P	Pn	23 14 34.0	+0.9
BSO1				*e*S	S	23 15 50.8	+1.3
BSO3	**Boso 3**	**6.66**	**357**	P	Pn	23 14 36.8	+1.4
BSO3				*e*S	S	23 15 52.6	-1.1
BSO4	**Boso 4**	**6.86**	**355**	P	Pn	23 14 39.6	+1.6
BSO4				*e*S	S	23 15 57.7	-0.7
JRY	**Ryogami san**	**8.06**	**348**	P	Pn	23 14 53.4	+0.6
JAG	**Ashikaga**	**8.37**	**351**	P	Pn	23 14 55.6	-1.0
JAG				*e*S	S	23 16 27.7	-4.8
JHO	**Hitachi**	**8.46**	**358**	P	Pn	23 14 59.0	+1.3
JHO				*e*S	S	23 16 30.1	-4.4

IDC 04 23:20:10.3±2.3, 9.75S×123.47E, h0 km, mb3.5/1, mb1 3.8/3, mb1mx3.5/19, mbtmp3.6/3, ML3.8/2, Error ellipse: s-maj=220.1km s-min=33.1km az=54.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.59**	**135**	Pn	Pn	23 23 37.2	-1.0
	0.5nm,0.3s,baz=312,slow=13,SNR=5.5						
WRA				Sn	Sn	23 26 05.5	-15
	0.6nm,0.3s,baz=319,slow=25,SNR=3.8						
ASAR	**Alice Springs**	**17.05**	**146**	P	Pn	23 24 11.0	+0.6
	0.3nm,0.3s,baz=318,slow=11,SNR=23						
ASAR				S	Sn	23 27 11.2	-10
	0.4nm,0.3s,baz=315,slow=22,SNR=9.6						
MKAR	**Makanchi Array**	**67.20**	**331**	P	P	23 31 06.3	0.0
	0.2nm,0.4s,baz=142,slow=6.9,SNR=4.2						

*IDC **04** 23:38:40.9±2.3, 6.74S×128.83E, h0 km, mb3.4/1, mb1 3.5/3, mb1mx3.3/18, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=123.5km s-min=33.7km az=67.0*

ISC 04 23:38:46.1±1.7, 7.0S±0.1×128.6E±0.1, h35 km, n7, σ1s50/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDU	**Kakadu**	**6.82**	**146**	P	**Sn**	**23 41 38.5**	**-1.6**
	baz=5.1,SNR=10						
KNRA	**Kununurra**	**8.62**	**179**	P	Pn	23 40 52.8	+4.4
	baz=1.8,SNR=7.4						
WSI	**Waingapu**	**8.62**	**252**	P	**Sn**	**23 42 24.8**	**+0.2**
	baz=8.5,SNR=3.8						
FITZ	**Fitzroy Crossi**	**11.40**	**194**	P	**Pn**	**23 41 26.9**	**+0.4**
	baz=4.2,SNR=5.6						
WRA	**Warramunga Arr**	**14.02**	**157**	Pn	**Pn**	**23 42 04.2**	**+1.9**
	0.1nm,0.3s,baz=338,slow=13,SNR=1.6						
WRA				Sn	Sn	23 44 23.7	-13
	1.2nm,0.3s,baz=330,slow=22,SNR=9.3						
ASAR	**Alice Springs**	**17.33**	**163**	P	**P**	**23 42 46.0**	**-0.6**
	0.1nm,0.3s,baz=335,slow=10,SNR=6.0						
ASAR				S	Sn	23 45 45.4	-12
	0.3nm,0.3s,baz=346,slow=26,SNR=4.3						
MKAR	**Makanchi Array**	**67.47**	**327**	P	**P**	**23 49 38.1**	**-0.4**
	0.2nm,0.4s,baz=116,slow=6.6,SNR=2.6						

IDC 04 23:50:16.0±58.0, 18.55S×179.34W, h0 km, mb4.1/3, mb1 4.3/3, mb1mx3.8/19, mbtmp4.1/3, Error ellipse: s-maj=1052.0km s-min=169.2km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.55**	**242**	P	P	23 57 32.0	-0.1
	1.3nm,0.8s,baz=90,slow=9.1,SNR=2.9						
WRA	**Warramunga Arr**	**43.65**	**260**	P	P	23 58 22.7	0.0
	1.5nm,0.3s,baz=97,slow=7.8,SNR=5.0						
ASAR	**Alice Springs**	**43.77**	**255**	P	P	23 58 23.4	-0.2
	1.9nm,0.5s,baz=86,slow=8.2,SNR=31						

*IDC **05** 00:13:40.2±6.2, 38.70N×70.26E, h0 km, mb4.0/2, mb1 3.8/5, mb1mx3.4/29, mbtmp3.7/5, ML3.3/2, Error ellipse: s-maj=105.4km s-min=26.0km az=161.0*
*NNC **05** 00:13:44.9±2.5, 39.06N×69.95E, h0 km, mb3.9, mpv3.6, Error ellipse: s-maj=18.6km s-min=14.3km az=9.0*

ISC 05 00:13:44.2±2.0, 38.9N±0.1×69.96E±0.08, h13 km, n23, σ1s73/30, 13C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.21**	**5**	⇑Pn	**Pn**	**00 14 50.1**	**+2.0**
	4.7nm,0.5s,baz=198,slow=14,SNR=204						
KK31				⇑Pg	**Pb**	**00 14 58.4**	**+0.3**
	6.7nm,0.5s,baz=177,slow=15,SNR=5.1						
KK31				⇓Sn	**Sn**	**00 15 38.6**	**+1.5**
	16nm,0.5s						
KK31				Lg	Lg	00 15 54.0	
	17nm,0.4s,baz=182,slow=29,SNR=7.5						
AML	**Almayashu**	**4.29**	**40**	P	**Pn**	**00 14 49.2**	**-0.4**
	SNR=54						
EKS2	**Erkin-Say**	**4.74**	**36**	P	**Pn**	**00 14 56.9**	**+1.5**
	SNR=12						
UCH	**Uchtor**	**4.79**	**45**	P	**Pn**	**00 14 58.2**	**+1.7**
	SNR=8.6						
AAK	**Ala-Archa**	**5.07**	**41**	P	**Pn**	**00 14 59.8**	**-0.1**
	SNR=19						
KZA	**Kyzart**	**5.12**	**50**	P	**Pn**	**00 15 00.0**	**-1.0**
	SNR=100						
KBK	**Karagaybulak**	**5.32**	**44**	P	**Pn**	**00 15 03.8**	**+0.3**
	SNR=62						
CHMS	**Chumysh**	**5.46**	**40**	P	**Pn**	**00 15 04.9**	**-0.3**
	SNR=16						
USP	**Ospenovka**	**5.54**	**37**	P	**Pn**	**00 15 06.0**	**-0.3**
	SNR=9.2						
ULHL	**Ulahol**	**5.83**	**53**	P	**Pn**	**00 15 08.9**	**-1.6**
	SNR=12						
TKM2	**Tokmak 2**	**5.85**	**45**	⇓Pn	**Pn**	**00 15 09.6**	**-1.2**
TKM2				⇓Sn	**Sn**	**00 16 20.8**	**+2.9**
	18nm,0.8s						
TKM2				⇑Lg	Lg	00 16 43.4	
	20nm,0.7s						
TKM2	**Tokmak 2**	**5.85**	**45**	P	**Pn**	**00 15 10.2**	**-0.6**
	SNR=48						
MK31	**Makanchi Array**	**11.99**	**45**	⇑Pn	**Pn**	**00 16 33.0**	**-1.6**
	1.2nm,0.8s,baz=228,slow=14,SNR=5.3						
MK31				⇑Lg	Lg	00 20 02.6	
	2.5nm,0.8s						
MKAR	**Makanchi Array**	**11.99**	**45**	Pn	**Pn**	**00 16 32.8**	**-1.9**
	0.1nm,0.3s,baz=229,slow=14,SNR=5.6						
MKAR				Lg	Lg	00 19 58.3	
	0.0nm,0.3s,baz=225,slow=33,SNR=2.5						
AB31	**Akbulak array**	**12.59**	**328**	Pn	**Pn**	**00 16 43.4**	**+0.5**
	1.7nm,0.6s,baz=141,slow=12,SNR=49						
AB31				Sn	**Sn**	**00 19 00.8**	**-2.1**
	9.6nm,0.8s,baz=150,slow=22,SNR=12						
KURBB	**Kurchatov Arra**	**13.19**	**25**	Pn	Pn	00 16 47.4	-3.7
	0.1nm,0.3s,baz=212,slow=12,SNR=5.5						
VOSK	**Vostochnaya**	**13.83**	**3**	⇑Pn	**Pn**	**00 17 01.5**	**+1.6**
	0.5nm,0.7s						
VOSK				⇑Sn	**Sn**	**00 19 28.7**	**-4.6**
	2.3nm,0.9s						
VOSK				⇓Lg	Lg	00 20 58.4	
	7.2nm,1.5s						
BVA0	**Borovoye Array**	**14.12**	**1**	⇓Pn	**Pn**	**00 17 04.3**	**+0.5**
	0.7nm,0.6s,baz=165,slow=9.2,SNR=6.2						
BVA0				⇑Sn	**Sn**	**00 19 39.6**	**-0.6**
	1.1nm,0.7s						
BVA0				⇑Lg	Lg	00 21 06.9	
	5.8nm,1.2s						
BRVK	**Borovoye**	**14.15**	**1**	⇓Pn	**Pn**	**00 17 04.7**	**+0.5**
	5.4nm,1.1s						
BRVK				⇑Sn	**Sn**	**00 19 39.6**	**-1.4**
	4.8nm,1.4s						
BRVK				⇑Lg	Lg	00 21 05.7	
	9.5nm,1.2s						
AKTO	**Aktyubinsk**	**14.30**	**328**	⇑Pn	**Pn**	**00 17 07.9**	**+1.7**
	7.4nm,0.9s						
AKTO				⇑Sn	**Sn**	**00 19 42.8**	**-1.7**
	6.9nm,1.1s						
ZALV	**Zalesovo Beam**	**18.14**	**29**	P	**Pn**	**00 17 52.2**	**-3.3**
	0.4nm,0.3s,baz=222,slow=12,SNR=8.7						
FINES	**FINESS Array B**	**35.04**	**325**	P	**P**	**00 20 36.8**	**+0.5**
	3.4nm,1.0s,baz=101,slow=9.9,SNR=4.0						
ARCES	**ARCESS Array B**	**38.61**	**337**	P	**P**	**00 21 06.8**	**+0.2**
	1.3nm,0.9s,baz=99,slow=7.5,SNR=5.1						

IDC 05 00:17:05.5±3.4, 16.50S×177.05W, h0 km, mb4.2/3, mb1 4.4/3, mb1mx3.8/18, mbtmp4.2/3, Error ellipse: s-maj=187.7km s-min=35.8km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.45**	**240**	P	P	00 24 46.5	+0.4
	1.2nm,0.4s,baz=78,slow=9.7,SNR=4.1						
WRA	**Warramunga Arr**	**46.18**	**258**	P	P	00 25 32.2	-0.3
	0.9nm,0.5s,baz=93,slow=7.2,SNR=4.2						
ASAR	**Alice Springs**	**46.44**	**253**	P	P	00 25 34.2	-0.4
	5.5nm,0.6s,baz=88,slow=8.4,SNR=61						
BRTR	**Keskin Array B**	**144.68**	**317**	PKP	PKPab	00 36 42.3	-1.1
	0.3nm,0.4s,baz=45,slow=2.2,SNR=3.4						
GERES	**GERESS Array B**	**146.56**	**347**	PKPbc	PKPbc	00 36 49.0	-0.1
	0.2nm,0.5s,baz=21,slow=3.4,SNR=3.5						
DAVOX	**Davos/Dischmat**	**149.26**	**351**	PKPbc	PKPbc	00 36 56.1	-0.4
	baz=15,slow=20						

*CSEM **05** 00:18:55.2±0.3, 43.63N×20.53E, h2 km, ML1.3, Error ellipse: s-maj=5.2km s-min=4.6km az=122.0*

BEO 05 00:18:56.1±0.3, 43.64N×20.52E, h0 km±3 km, ML1.3/6, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVAS	**Ivanjica**	**0.28**	**257**	*e*Pg	Pg	00 19 01.2	-0.3
IVAS				*e*Sg	Sg	00 19 05.3	+0.2
IVAS	**Ivanjica**	**0.28**	**257**	*e*Pg	Pg	00 19 01.2	-0.3
IVAS				*e*Sg	Sg	00 19 05.3	+0.2
GRUS	**Gruza**	**0.29**	**30**	*e*Pg	Pg	00 19 00.8	-0.8
GRUS				*e*Sg	Sg	00 19 05.9	+0.5
GRUS	**Gruza**	**0.29**	**30**	*e*Pg	Pg	00 19 00.8	-0.8
GRUS				*e*Sg	Sg	00 19 05.9	+0.5
SJES	**Sjenica**	**0.55**	**227**	*e*Pg	Pg	00 19 05.6	-1.2
SJES				*e*Sg	Sg	00 19 12.7	-1.4
TRUS	**Trudelj**	**0.59**	**352**	*e*Sg	Sg	00 19 13.9	-1.2
TRUS	**Trudelj**	**0.59**	**352**	*e*Sg	Sg	00 19 13.9	-1.2
DIVS	**Divibare**	**0.60**	**320**	*e*Pg	Pg	00 19 06.8	-0.9
DIVS				*e*Sg	Sg	00 19 14.4	-1.2
DIVS	**Divibare**	**0.60**	**320**	*e*Pg	Pg	00 19 06.8	-0.9
DIVS				*e*Sg	Sg	00 19 14.4	-1.2
SELS	**Selova**	**0.61**	**134**	*e*Pg	Pg	00 19 07.3	-0.5
SVIS	**Svilajnac**	**0.80**	**39**	*e*Sg	Sg	00 19 22.0	+0.1
BBLS	**Lazići**	**0.84**	**286**	*e*Pg	Pg	00 19 11.3	-1.0
BBLS				*e*Sg	Sg	00 19 23.5	+0.2
BBLS	**Lazići**	**0.84**	**286**	*e*Pg	Pg	00 19 11.3	-1.0
BBLS				*e*Sg	Sg	00 19 23.5	+0.2
ZATK	**Zatriq**	**1.19**	**176**	P	Pb	00 19 19.9	+0.2
ZATK				S	Sg	00 19 33.8	-0.9
ZAPS	**Zavoj**	**1.58**	**103**	*e*Pg	Pn	00 19 24.2	-1.2
ZAPS				*e*Sg	Sn	00 19 45.9	-0.7

*SKO **05** 00:19:01.2, 41.58N×20.46E, h6 km, M1.9, ML2.3*
*THE **05** 00:19:01.9, 41.52N×20.45E, h13 km, ML2.3/2, Error ellipse: s-maj=0.8km s-min=0.4km az=33.0*
*PDG **05** 00:19:01.6±0.2, 41.55N×20.48E, h13 km, ML2.4/11, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*
*TIR **05** 00:19:02.6±3.1, 41.51N×20.47E, h11 km±291 km, ML3.0*
*CSEM **05** 00:19:02.3±0.3, 41.56N×20.47E, h2 km, ML2.3/2, Error ellipse: s-maj=6.5km s-min=4.5km az=37.0*

ISC 05 00:19:02.0±0.9, 41.54N±0.02×20.45E±0.02, h10 km±6km, n54, σ1s30/91, 11C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.15**	**356**	*e*PG	**Pg**	**00 19 05.6**	**+0.1**
PHP				*e*SG	**Sg**	**00 19 08.4**	**+0.5**
PHP	**Peshkopia**	**0.15**	**356**	P	**Pg**	**00 19 05.5**	**+0.1**
PHP				S	**Sg**	**00 19 08.6**	**+0.7**
PHP	**Peshkopia**	**0.15**	**356**	P	**Pg**	**00 19 05.5**	**+0.1**
PHP				S	**Sg**	**00 19 08.6**	**+0.7**
TIR	**Tirane**	**0.48**	**247**	*e*PG	**Pn**	**00 19 14.2**	**-0.8**
TIR				*e*SG	**Sb**	**00 19 25.2**	**+5.5**
TIR	**Tirane**	**0.48**	**247**	P	**Pg**	**00 19 11.0**	**-0.4**
TIR				S	**Sg**	**00 19 18.3**	**+0.5**
TIR	**Tirane**	**0.48**	**247**	P	**Pg**	**00 19 11.0**	**-0.4**
TIR	**Tirane**	**0.48**	**247**	*e*Pg	**Pn**	**00 19 14.2**	**-0.8**
	SNR=90						
TIR				S	**Sg**	**00 19 18.3**	**+0.5**
PUK	**Puka**	**0.66**	**321**	*e*PG	Pg	00 19 11.1	-3.7
PUK				*e*SG	**Sg**	**00 19 19.0**	**-4.5**
PUK	**Puka**	**0.66**	**321**	*e*Pg	Pg	00 19 11.1	-3.7
	SNR=91						
PUK				*e*Sg	**Sg**	**00 19 19.0**	**-4.5**
	SNR=91						
PRZK	**Prizren**	**0.71**	**18**	P	**Pb**	**00 19 16.4**	**-0.2**
BIA	**Bitola**	**0.83**	**128**	P	**Pg**	**00 19 17.2**	**-0.9**
BIA				S	**Sg**	**00 19 29.5**	**+0.5**
BIA	**Bitola**	**0.83**	**128**	*i* Pg	**Pg**	**00 19 17.9**	**-0.2**
BIA				*i* Sg	**Sn**	**00 19 32.3**	**+0.1**
BIA	**Bitola**	**0.83**	**128**	*i* Pg	**Pg**	**00 19 17.4**	**-0.7**
BIA				S	**Sg**	**00 19 29.5**	**+0.5**
BIA				*i* Sg	**Sn**	**00 19 31.8**	**-0.4**
SKO	**Skopje**	**0.86**	**59**	*e*Pg	**Pb**	**00 19 19.0**	**0.0**
SKO				*i* Sg	**Sn**	**00 19 32.7**	**-0.1**
SKO				*e*Lg	Lg	00 19 33.7	
	comp=N,166nm,0.3s						
SKO				*e*Lg	Lg	00 19 33.7	
	comp=E,112nm,0.6s						
SKO	**Skopje**	**0.86**	**59**	*e*Pg	**Pb**	**00 19 18.5**	**-0.5**
SKO				*i* Sg	**Sn**	**00 19 32.1**	**-0.6**
SKO				*e*Lg	Lg	00 19 33.1	
	comp=E,166nm,0.3s						
BCI	**Bajram Curri**	**0.88**	**341**	*e*PG	**Pg**	**00 19 18.5**	**-0.5**
BCI	**Bajram Curri**	**0.88**	**341**	*e*Pg	**Pg**	**00 19 18.5**	**-0.5**
	SNR=90						
ULC	**Ulcinj**	**1.00**	**296**	⇑*i*Pg	**Pg**	**00 19 20.2**	**-1.1**
ULC				*e*Sg	**Sn**	**00 19 36.1**	**-0.2**
ULC	**Ulcinj**	**1.00**	**296**	P	**Pg**	**00 19 20.2**	**-1.1**
ULC				*e*Sg	**Sn**	**00 19 36.1**	**-0.2**
FNA	**Florina**	**1.02**	**137**	P	**Pg**	**00 19 21.1**	**-0.6**
FNA				S	**Sb**	**00 19 35.8**	**+0.4**
FNA	**Florina**	**1.02**	**137**	P	**Pg**	**00 19 21.1**	**-0.6**
FNA				S	**Sb**	**00 19 35.8**	**+0.4**
PEJK	**Peje**	**1.11**	**353**	P	**Pb**	**00 19 22.3**	**-1.1**
PVY	**Plav**	**1.12**	**341**	⇑*i*Pg	**Pb**	**00 19 22.4**	**-1.2**
PVY				*e*Sg	**Sn**	**00 19 40.3**	**+0.8**
PVY	**Plav**	**1.12**	**341**	⇑*i*Pg	**Pb**	**00 19 22.4**	**-1.2**
PVY				*e*Sg	**Sn**	**00 19 40.3**	**+0.8**
DRME	**Dracevica, Mon**	**1.15**	**305**	⇓*i*Pg	**Pb**	**00 19 23.1**	**-0.9**
DRME				*e*Sg	**Sn**	**00 19 41.2**	**+1.2**
DRME	**Dracevica, Mon**	**1.15**	**305**	⇓*i*Pg	**Pb**	**00 19 23.1**	**-0.9**
DRME				*e*Sg	**Sn**	**00 19 41.2**	**+1.2**
NEST	**Nestorio**	**1.21**	**158**	P	Pn	00 19 23.9	-1.1
NEST				S	**Sb**	**00 19 40.0**	**-0.7**
PDG	**Podgorica**	**1.27**	**315**	P	Pn	00 19 24.6	-1.1
PDG				S	**Sb**	**00 19 42.0**	**-0.3**
PDG	**Podgorica**	**1.27**	**315**	P	Pn	00 19 24.6	-1.1
PDG	**Podgorica**	**1.27**	**315**	⇑*i*Pg	Pn	00 19 25.0	-0.7
PDG				S	**Sb**	**00 19 42.0**	**-0.3**
PDG				*e*Sg	**Sg**	**00 19 45.1**	**+2.3**
TTG	**Podgorica**	**1.27**	**315**	⇑*i*Pg	Pn	00 19 25.0	-0.7
TTG				*e*Sg	**Sg**	**00 19 45.1**	**+2.3**
SMRK	**Smrekonice**	**1.38**	**15**	P	**Pg**	**00 19 28.4**	**-0.2**
BUM	**Brajici-Budva**	**1.39**	**304**	⇑*i*Pg	Pn	00 19 27.5	-0.1
BUM				*e*Sg	**Sg**	**00 19 48.8**	**+1.9**
BUM	**Brajici-Budva**	**1.39**	**304**	⇑*i*Pg	Pn	00 19 27.5	-0.1
BEY	**Berane**	**1.40**	**343**	⇑*i*Pg	Pn	00 19 26.9	-0.8
BEY	**Berane**	**1.40**	**343**	P	**Pg**	**00 19 30.3**	**+1.4**
BEY				*e*Sg	**Sg**	**00 19 48.4**	**+1.3**
IVA	**Berane**	**1.40**	**343**	⇑*i*Pg	Pn	00 19 26.9	-0.8
IVA				*e*Sg	**Sg**	**00 19 48.4**	**+1.3**
VAY	**Valandovo**	**1.60**	**97**	*e*Pn	**Pg**	**00 19 32.8**	**-0.1**
VAY				*i* Sg	**Sg**	**00 19 55.1**	**+1.4**
VAY				*e*Lg	Lg	00 19 57.6	
	comp=N,17nm,0.6s						
VAY				*e*Lg	Lg	00 19 58.5	
	comp=E,17nm,0.7s						
VAY	**Valandovo**	**1.60**	**97**	*e*Pn	**Pg**	**00 19 32.7**	**-0.1**
VAY				*i* Sg	**Sg**	**00 19 55.0**	**+1.4**
VAY				*e*Lg	Lg	00 19 57.6	
	comp=E,17nm,0.6s						
NKME	**Niksic**	**1.66**	**318**	⇑*i*Pn	**Pn**	**00 19 31.6**	**+0.3**
NKME				*e*Sn	**Sg**	**00 19 55.4**	**-0.1**
NKME	**Niksic**	**1.66**	**318**	⇑*i*Pn	**Pn**	**00 19 31.6**	**+0.3**
NKY	**Niksic**	**1.68**	**320**	⇓*i*Pn	**Pb**	**00 19 32.2**	**-0.8**
NKY				*e*Sn	**Sg**	**00 19 55.6**	**-0.4**
NKY	**Niksic**	**1.68**	**320**	⇓*i*Pn	**Pn**	**00 19 32.2**	**-0.8**
HCY	**Herceg Novi**	**1.72**	**303**	⇓*i*Pn	**Pn**	**00 19 32.5**	**+0.4**
HCY				*e*Sn	**Sg**	**00 19 56.9**	**-0.5**
HCY	**Herceg Novi**	**1.72**	**303**	*e*Sn	**Sg**	**00 19 56.9**	**-0.5**
HCY	**Herceg Novi**	**1.72**	**303**	⇓*i*Pn	**Pn**	**00 19 32.5**	**+0.4**
PLE	**Pljevlja**	**1.96**	**337**	*e*Pn	**Pn**	**00 19 35.5**	**+0.1**
PLE				*e*Sn	**Sb**	**00 20 02.0**	**-0.4**
PLE	**Pljevlja**	**1.96**	**337**	*e*Pn	**Pn**	**00 19 35.5**	**+0.1**
PLE				*e*Sn	**Sb**	**00 20 02.0**	**-0.4**
UPM	**Unac-Piva**	**2.02**	**326**	⇓*i*Pn	**Pn**	**00 19 36.8**	**+0.4**
UPM				*e*Sn	**Sb**	**00 20 03.6**	**-0.7**
UPM	**Unac-Piva**	**2.02**	**326**	⇓*i*Pn	**Pn**	**00 19 36.8**	**+0.4**
UPM				*e*Sn	**Sb**	**00 20 03.6**	**-0.7**
STON	**Ston**	**2.44**	**304**	*i* Pn	**Pn**	**00 19 43.5**	**+1.6**
STON				Sn	**Sb**	**00 20 15.5**	**-0.7**
STON	**Ston**	**2.44**	**304**	*i* Pn	**Pn**	**00 19 43.5**	**+1.6**
UDBI	**Udbina**	**4.56**	**313**	*e*Pn	Pn	00 20 14.3	+3.3
UDBI				Sn	**Sn**	**00 21 07.9**	**+3.8**
UDBI	**Udbina**	**4.56**	**313**	*e*Pn	Pn	00 20 14.3	+3.3

*NIED **05** 00:35:00, 42.40N×141.60E, h8 km, Mw4.7 Best double couple: M0 1.10000×10^16 NP1: φs352.00000°, δ52.00000°, λ102.00000°. NP2: φs153.00000°, δ40.00000°, λ76.00000°.*
*BJI **05** 00:35:06.5, 42.34N×142.01E, h10 km, mB5.1/28, mb4.7/40, Ms4.6/32, Ms7 4.3/27*
*IDC **05** 00:35:09.4±0.5, 42.47N×141.60E, h0 km, mb4.6/33, mb1 4.7/36, mb1mx4.7/38, mbtmp4.6/36, ML3.8/2, MS3.8/18, Ms1 3.8/18, ms1mx3.6/51, Error ellipse: s-maj=13.7km s-min=10.7km az=153.0*
*DJA **05** 00:35:12.0±1.9, 42°N±21'×14°2E±3'0, h10 km, M5.1/7, mb5.1/7*
*NEIC **05** 00:35:12.7±0.7, 42.49N×141.60E, h23 km±4 km, mb4.9/71, MW4.6(NIED), Error ellipse: s-maj=6.1km s-min=3.4km az=168.0*
NEIC Felt [II] at Sapporo. Also felt at Ebetsu, Hakodate and Otaru. Recorded [3 JMA] in southwestern Hokkaido. Recorded [2 JMA] in Aomori, Honshu.
*JMA **05** 00:35:12.7, 42.45N×141.56E, h20 km±1 km, M4.7 Broadband fault plane solution: P waves. NP1: φs357.00000°, δ57.00000°, λ112.00000°. NP2: φs140.00000°, δ39.00000°, λ60.00000°. Principal axes: T Plg69.0000°, Azm314.0000°; N Plg18.0000°, Azm164.0000°; P Plg10.0000°, Azm71.0000°;*
JMA Felt III J1.
*ISCJB **05** 00:35:13.4±0.3, 42.48N±0.02×141.56E±0.02, h33 km±3 km, mb4.8/192, MS4.1/29 Error ellipse: s-maj=3.9km s-min=2.3km az=165.9*
*MOS **05** 00:35:14.8±1.1, 42.51N×141.58E, h50 km, mb5.1/76, Error ellipse: s-maj=6.5km s-min=4.6km az=106.4*
*SZGRF **05** 00:35:15.7, 43.38N×143.11E, h16 km, mb5.0, Hokkaido, Japan, region*

ISC 05 00:35:12.5±0.4, 42.48N±0.03×141.61E±0.02, h19 km±1 km, h19 km:pP-P, n766, σ1s04/813, mb4.9/192, MS4.2/30, 158C-174D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res

YSS MLR MLR
comp=Z,2μm,14.0s
YSS MLR MLR
comp=N,2μm,11.0s
YSS MLR MLR
comp=E,2μm,14.0s
KUR Kuril'sk 5.29 57 ⇓*i* PN Pn 00 36 35.3 +4.8
KUR *i* S Sn 00 37 37.4 +6.5
KUR pmax pmax
comp=Z,69nm,0.4s
KUR pmax pmax
comp=E,142nm,1.0s
KUR pmax pmax
comp=N,121nm,0.7s
KUR smax smax
comp=N,32nm,0.5s
KUR smax smax
comp=E,174nm,0.5s
KUR MLR MLR
comp=N,2μm,13.0s
KUR MLR MLR
comp=E,2μm,14.0s
KUR MLR MLR
comp=Z,2μm,14.0s
MAJO Matsushiro 6.49 205 *e*PN Pn 00 36 50.8 +3.8
MAJO Matsushiro 6.49 205 *e*Pn Pn 00 36 50.8 +3.8
MAT Matsushiro 6.49 205 P **Pn 00 36 49.1 +2.1**
MAT *e*S **Sn 00 38 01.2 +0.8**
MJAR Matsushiro Arr 6.49 205 Pn Pn 00 36 50.5 +3.5
comp=Z,3.3nm,0.3s,baz=75,slow=13,SNR=27
USRK Ussuriysk Arra 7.22 287 Pn **Pn 00 36 57.7 +0.7**
comp=Z,1.8nm,0.3s,baz=92,slow=14,SNR=15
USRK LR LR 00 39 34.4
comp=Z,386nm,20.3s,baz=247,slow=37
MDJ Mudanjiang 8.99 288 P Pn 00 37 30.3 +9.1
MDJ S Sn 00 39 26.7 +25
MDJ PcP **PcP 00 43 48.0 +3.5**
MDJ ScP **ScP 00 47 20.2 +4.9**
MDJ Mudanjiang 8.99 288 *e*Pn Pn 00 37 25.2 +4.1
KLR Kul'dur 9.63 318 *e*PN Pn 00 37 34.0 +4.0
KLR pmax pmax
comp=E,62nm,1.6s
KLR pmax pmax
comp=Z,100nm,1.6s
KLR MLR MLR
comp=Z,6μm,11.0s
KSRS Korea Array 11.64 249 Pn Pn 00 38 02.8 +5.3
comp=Z,1.3nm,0.3s,baz=60,slow=13,SNR=16
KSRS Sn Sn 00 40 13.0 +6.2
comp=Z,0.7nm,0.3s,baz=64,slow=24,SNR=16
KS01 Wonju Array Si 11.65 249 *e*Pn Pn 00 38 02.2 +4.6
KS15 Wonju Array Si 11.67 249 *e*Pn Pn 00 38 02.8 +4.8
KS15 *e*Sn **Sn 00 40 13.0 +5.4**
CN2 Changchun 11.88 282 *e*P **Pn 00 38 03.0 +2.2**
CN2 *e*S **Sn 00 40 15.9 +3.1**
CN2 AMB AMB
comp=Z,10.0nm,0.5s
CN2 AMB AMB
comp=Z,300nm,7.0s
CN2 LR LR
comp=Z,700nm,13.0s
CN2 LR LR
comp=Z,500nm,13.0s
TJN Taejon 12.58 246 *i* PN **Pn 00 38 10.8 +0.4**
JNU Nakatsue 12.61 226 *e*Pn **Pn 00 38 11.5 +0.7**
JNU Nakatsue 12.61 226 Pn **Pn 00 38 10.2 -0.7**
comp=Z,1.1nm,0.3s,baz=332,slow=15,SNR=6.9
SNY Shenyang 13.40 273 ⇓P **P 00 38 32.9 +2.0**
SNY S S 00 41 03.8 -10
PEA0 Petropavlovsk- 15.12 40 *e*Pn **Pn 00 38 41.0 -4.0**
PETK Petropavlovsk- 15.12 40 P **Pn 00 38 45.1 +0.2**
PETK MLR MLR
comp=Z,331nm,18.7s
PETK Petropavlovsk- 15.12 40 Pn **Pn 00 38 45.1 +0.2**
baz=257,slow=14,SNR=3.7
PETK LR LR 00 44 45.4
comp=Z,331nm,18.7s,baz=233,slow=38
PET Petropavlovsk 15.53 41 *e*P P 00 39 06.1 +12
PET MLR MLR
comp=Z,700nm,17.0s
DL2 Dalian 15.57 263 P **P 00 38 53.4 -1.6**
DL2 *e*S **Sn 00 41 47.2 +4.5**
DL2 AMB AMB
comp=Z,48nm,1.5s
DL2 AMB AMB
comp=Z,250nm,5.2s
DL2 LR LR
comp=Z,380nm,4.7s
DL2 LR LR
comp=Z,350nm,4.2s
HIA Hailar 16.64 302 *e*Pn **Pn 00 39 05.2 +0.7**
comp=Z,39nm,1.2s
BJI Beijing 19.26 271 P **P 00 39 34.5 -1.2**
BJI S **Sn 00 43 09.3 -2.7**
BJI AMB AMB
comp=Z,35nm,1.5s
BJI AMB AMB
comp=Z,140nm,3.6s
BJI LR LR
comp=Z,630nm,14.3s
BJI LR LR
comp=Z,510nm,11.3s
BJT Baijiatuau 19.27 271 *e*P **P 00 39 34.9 -0.9**
comp=Z,39nm,0.7s
NJ2 Nanjing 20.83 247 *e*P **P 00 39 52.8 -0.1**
NJ2 AMB AMB
comp=Z,13nm,0.9s
YAK Yakutsk 20.83 344 *e*P **P 00 39 51.8 -0.8**
YAK pmax pmax
comp=N,37nm,1.1s
YAK pmax pmax
comp=Z,37nm,0.8s
YAK pmax pmax
comp=E,13nm,1.1s
YAK MLR MLR
comp=E,355nm,11.0s
YAK MLR MLR
comp=Z,635nm,12.0s
YAK MLR MLR
comp=N,478nm,11.0s
SEY Seymchan 21.44 14 ⇓*i* P **P 00 39 58.4 -0.8**
HHC Hu-ho-hao-te 22.45 276 *e*P **P 00 40 08.4 -2.0**
HHC sP **sP 00 40 16.6 -1.9**
HHC PP **PnPn 00 40 36.5 +3.0**
HHC PcP **PcP 00 40 05.6 +1.3**
HHC S S **00 44 09.8 -6.2**
HHC PcS **PcS 00 47 43.3 +0.1**
HHC AMB AMB
comp=N,44nm,1.0s
HHC AMB AMB
comp=N,470nm,5.6s
HHC LR LR
comp=N,800nm,10.4s
HHC LR LR
comp=N,830nm,10.5s
HHC LR LR
comp=N,700nm,10.8s
FX1 Attu Island--F 23.47 53 *e*P **P 00 40 20.2 -0.4**
FX1 Attu Island--F 23.47 53 P **P 00 40 20.7 +0.1**
comp=N,16nm,0.6s,baz=217,slow=20,SNR=6.4
FX1 LR LR 00 48 17.3
comp=N,132nm,19.9s,baz=89,slow=34
ULN Ulaanbaatar 24.81 294 P **P 00 40 34.0 +0.6**
comp=N,10nm,0.7s
ULN Ulaanbaatar 24.81 294 *e*P **P 00 40 32.1 -1.3**
WHN Wuhan 24.83 250 ⇑P **P 00 40 33.6 +0.1**
SONA1 Songino Array 25.25 294 *e*P **P 00 40 36.4 -0.9**
SONM Songino Array 25.25 294 P **P 00 40 36.8 -0.5**
comp=N,5.2nm,0.6s,baz=88,slow=8.7,SNR=25
SONM LR LR 00 49 34.2
comp=N,125nm,18.8s,baz=271,slow=34
XAN Xi'an 26.89 263 P P 00 40 34.0 -18
TLY Talaya 27.17 303 *e*P **P 00 40 55.3 +0.8**
TLY *e*S **S 00 45 29.3 -2.7**
TLY pmax pmax
comp=Z,16nm,0.9s
TLY MLR MLR
comp=Z,218nm,12.0s
ZAK Zakamensk 27.32 300 *e*P **P 00 40 55.8 -0.2**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
LZH Lanzhou 29.74 270 *e*P **P 00 41 18.0 +0.3**
LZH pP **pP 00 41 23.9 +0.2**
LZH sP **sP 00 41 28.6 +2.5**
LZH AMB AMB
comp=Z,38nm,1.4s
LZH AMB AMB
comp=Z,170nm,4.5s
LZH LR LR
comp=Z,320nm,11.4s
LZH LR LR
comp=Z,400nm,13.4s
LZH LR LR
comp=Z,370nm,16.0s
H11N2 WAKE ISLAND Hy 31.14 129 T T 01 14 06.0
baz=325
H11N1 WAKE ISLAND Hy 31.15 129 T T 01 14 06.7
baz=325,slow=0.7
H11N3 WAKE ISLAND Hy 31.16 129 T T 01 14 08.4
baz=325,slow=0.7
GTA Gaotai 31.49 279 *e*P **P 00 41 31.0 -2.1**
GTA S **S 00 46 36.0 -4.3**
GTA AMB AMB
comp=Z,4.0nm,0.7s
GTA AMB AMB
comp=Z,370nm,4.5s
GTA LR LR
comp=Z,180nm,11.4s
GTA LR LR
comp=Z,380nm,12.8s
GTA LR LR
comp=Z,820nm,13.3s
H11S1 WAKE ISLAND Hy 32.00 131 T T 01 15 18.2
baz=327,slow=0.7,SNR=1735
H11S3 WAKE ISLAND Hy 32.01 131 T T 01 15 18.4
baz=327,slow=0.7,SNR=1181
H11S2 WAKE ISLAND Hy 32.02 131 T T 01 15 19.4
baz=327,slow=0.7,SNR=870
CD2 Chengdu 32.22 262 P **P 00 41 42.2 +2.7**
CD2 pP **pP 00 41 46.6 +1.1**
CD2 sP **sP 00 41 49.2 +1.3**
CD2 PP **PnPn 00 42 48.7 +3.0**
CD2 S **S 00 46 53.2 +1.5**
CD2 SS **SnSn 00 48 45.8 +2.7**
CD2 AMB AMB
comp=Z,20nm,0.6s
CD2 AMB AMB
comp=Z,410nm,5.7s
CD2 LR LR
comp=Z,1μm,4.9s
CD2 LR LR
comp=Z,460nm,8.3s
GYA Guiyang 32.67 252 P **P 00 41 43.8 +0.2**
GYA PP **PnPn 00 42 52.6 +1.0**
GYA PcP **PcP 00 44 31.8 +2.6**
GYA S **S 00 47 00.4 +1.5**
GYA ScP **ScP 00 48 14.0 +2.0**
GYA SS **SnSn 00 48 53.8 -0.5**
GYA ScS **ScS 00 52 11.5 -0.4**
GYA AMB AMB
comp=Z,20nm,0.8s
GYA AMB AMB
comp=Z,130nm,5.0s
GYA LR LR
comp=Z,670nm,16.6s
GYA LR LR
comp=Z,590nm,17.0s
GYA LR LR
comp=Z,630nm,16.5s
HVS Khovu-Aksy 33.39 302 *d i*P **P 00 41 49.8 +0.2**
HVS pmax pmax
comp=Z,125nm,1.6s
QIZ Qiongzhong 35.60 239 P **P 00 42 10.7 +1.8**
QIZ S **S 00 47 45.8 +1.7**
KMI Kunming 36.27 254 P **P 00 42 15.4 +0.5**
KMI PP **PP 00 43 39.0 +1.6**
KMI S **S 00 47 53.0 -1.7**
KMI SS **SnSn 00 50 18.1 -3.6**
KMI AMB AMB
comp=Z,12nm,0.6s
ZAA0 Zalesovo Array 38.53 307 *e*P **P 00 42 34.2 +0.8**
ZALV Zalesovo Beam 38.53 307 P **P 00 42 33.6 +0.1**
ZALV 00 44 46.0
ZALV pmax pmax
comp=Z,10.0nm,0.6s
ZALV MLR MLR
comp=Z,54nm,19.1s
ZALV Zalesovo Beam 38.53 307 P **P 00 42 33.6 +0.1**
comp=Z,9.7nm,0.6s,baz=86,slow=8.1,SNR=45
ZALV PcP **PcP 00 44 46.0 +0.1**
comp=Z,5.6nm,0.5s,baz=90,slow=2.9,SNR=14
ZALV LR LR 00 58 11.6
comp=Z,54nm,19.1s,baz=249,slow=36
WMQ Urumqi 38.77 291 P **P 00 42 36.2 +0.5**
WMQ pP **pP 00 42 40.8 -0.9**
WMQ sP **sP 00 42 43.2 -0.9**
WMQ PP **PnPn 00 44 08.4 +1.8**
WMQ PcP **PcP 00 44 48.0 +1.1**
WMQ S **S 00 48 31.7 -0.3**
WMQ ScS **ScS 00 52 44.3 -0.3**
WMQ AMB AMB
comp=Z,66nm,0.9s
WMQ AMB AMB
comp=Z,200nm,3.6s
WMQ LR LR
comp=Z,750nm,16.4s
WMQ LR LR
comp=Z,260nm,11.8s
SDPT Sand Point 39.03 50 *e*P **P 00 42 36.2 -1.4**
comp=Z,21nm,0.8s
NVS Novosibirsk 39.35 309 ⇑*i* P **P 00 42 40.4 +0.1**
NVS pmax pmax
comp=N,12nm,1.6s
NVS pmax pmax
comp=E,28nm,1.6s
NVS pmax pmax
comp=Z,35nm,1.6s
CHGN Chignik 40.09 49 *e*P **P 00 42 45.9 -0.5**
SKNT Sakolnakorn 40.90 243 P **P 00 42 54.5 +1.0**
comp=Z,21nm,1.1s
SVW2 Sparrevohn 41.20 41 *e*P **P 00 42 55.3 -0.2**
comp=Z,30nm,1.6s
MK01 Makanchi Array 41.56 297 *e*P **P 00 42 58.5 -0.2**
MK01 *e*PcP **PcP 00 44 56.3 +0.6**
MK31 Makanchi Array 41.56 297 P **P 00 42 58.6 -0.1**
MK31 pmax pmax
comp=Z,6.0nm,0.6s
MK32 Makanchi Array 41.56 297 *e*P **P 00 42 58.7 0.0**
MK32 *e*PcP **PcP 00 44 56.1 +0.4**
MKAR Makanchi Array 41.56 297 *e*P **P 00 42 58.8 0.0**
MKAR *e* 00 44 56.0
MKAR Makanchi Array 41.56 297 *e*P **P 00 42 58.8 0.0**
MKAR *e*PcP **PcP 00 44 56.0 +0.2**
MKAR Makanchi Array 41.56 297 P **P 00 42 58.7 0.0**
comp=Z,3.1nm,0.6s,baz=83,slow=9.2,SNR=38
MKAR PcP **PcP 00 44 56.1 +0.4**
comp=Z,2.7nm,0.6s,baz=72,slow=5.1,SNR=9.8
MKAR LR LR 01 00 24.4
comp=Z,45nm,18.1s,baz=255,slow=36
PAYA Payao 42.02 250 P **P 00 43 04.4 +1.6**
comp=Z,11nm,1.2s,comp=Z,320nm
LSA Lhasa 42.15 269 *e*P **P 00 43 04.9 +0.7**
LSA pmax pmax
comp=Z,10.0nm,1.0s
LSA Lhasa 42.15 269 *e*P **P 00 43 04.9 +0.7**
comp=Z,9.9nm,1.0s
CMAI Chiengmai2 42.22 251 P **P 00 43 05.3 +0.8**
comp=Z,85nm,0.7s
RSO Redoubt South 42.63 42 *e*P **P 00 43 07.0 -0.5**
RSO *e*PcP **PcP 00 44 59.8 +0.6**
PPLA Purkeypile 42.70 38 *e*P **P 00 43 08.1 +0.1**
comp=Z,25nm,1.2s
CAST Castle Rocks 42.72 37 *e*P **P 00 43 08.4 +0.4**
comp=Z,10.0nm,1.0s
OHAK Old Harbor 42.77 47 *e*P **P 00 43 08.0 -0.4**
comp=Z,53nm,1.4s
KURK Kurchatov 42.86 304 ⇑*i* P **P 00 43 09.1 -0.1**
KURK pmax pmax
comp=Z,17nm,0.8s
KURK Kurchatov 42.86 304 *e*P **P 00 43 09.1 -0.1**
comp=Z,21nm,0.8s
KURK *e*PcP **PcP 00 44 59.6 -0.2**
SPU Mount Spurr 42.90 41 *e*P **P 00 43 10.1 +0.6**
KURBB Kurchatov Arra 42.94 304 P **P 00 43 09.9 0.0**
comp=Z,26nm,0.7s,baz=76,slow=8.8,SNR=129
KURBB PcP **PcP 00 45 00.5 +0.3**
comp=Z,2.5nm,0.7s,baz=84,slow=3.1,SNR=5.4
CHTO Chiang Mai 43.03 250 *e*P **P 00 43 10.8 -0.2**
CHTO pmax pmax
comp=Z,51nm,0.8s
CHTO Chiang Mai 43.03 250 P **P 00 43 11.6 +0.6**
comp=Z,92nm,0.9s
CHTO Chiang Mai 43.03 250 *e*P **P 00 43 10.8 -0.2**
comp=Z,51nm,0.8s
CHTO Chiang Mai 43.03 250 P **P 00 43 11.6 +0.6**
comp=Z,92nm,0.9s
KDAK Kodiak Island 43.06 46 *e*P **P 00 43 10.3 -0.5**
comp=Z,375nm,2.6s
KDAK Kodiak Island 43.06 46 P **P 00 43 10.9 +0.2**
comp=Z,8.9nm,0.6s,baz=294,slow=4.7,SNR=17
CM31 Chiang Mai Arr 43.28 250 *e*P **P 00 43 13.7 +0.7**
CM31 *e*PP **PcP 00 45 02.1 +0.3**
CMAR Chiang Mai Arr 43.28 250 P **P 00 43 13.7 +0.7**
comp=Z,4.2nm,0.9s,baz=36,slow=7.1,SNR=18
CMAR PcP **PcP 00 45 02.1 +0.3**
comp=Z,1.5nm,0.7s,baz=340,slow=2.6,SNR=5.4
CM01 Chiang Mai Arr 43.29 250 *e*P **P 00 43 13.1 +0.1**
MCK McKinley 44.10 37 *e*P **P 00 43 18.6 -0.5**
MCK pmax pmax
comp=Z,12nm,1.0s
MCK McKinley 44.10 37 *e*P **P 00 43 18.6 -0.5**
comp=Z,12nm,1.0s
COLA College 44.46 35 *e*P **P 00 43 22.0 +0.1**
COLA pmax pmax
comp=Z,13nm,0.9s
COLA College 44.46 35 *e*P **P 00 43 22.0 +0.1**
comp=Z,13nm,0.9s
IL1 Eielson Array 44.88 35 *e*P **P 00 43 25.1 -0.2**
ILAR Eielson Array 44.88 35 P **P 00 43 25.1 -0.1**
comp=Z,5.5nm,0.9s,baz=272,slow=6.7,SNR=50
ILAR LR LR 01 04 49.7
comp=Z,56nm,18.3s,baz=290,slow=40
ILB Eielson Array 44.88 35 *e*P **P 00 43 25.1 -0.1**
TAPN Taplejung 45.96 269 *e*P **P 00 43 35.2 +0.6**
ODAN Odare 46.47 268 *e*P **P 00 43 39.2 +0.6**
comp=Z,143nm,1.2s
MENT Mentasta 46.54 37 *e*P **P 00 43 38.6 +0.1**
VOSK Vostochnaya 46.90 308 *e*P **P 00 43 41.2 -0.2**
VOSK pmax pmax
comp=Z,26nm,1.1s
VOSK Vostochnaya 46.90 308 *e*P **P 00 43 41.1 -0.2**
comp=Z,26nm,1.1s
JIRN Jiri 46.91 270 *e*P **P 00 43 42.7 +0.5**
comp=Z,133nm,1.1s
RAMN Ramite 47.00 269 *e*P **P 00 43 43.0 +0.2**
comp=Z,172nm,0.9s
GUN Gumba 47.00 271 *e*P **P 00 43 43.2 +0.3**
comp=Z,162nm,0.6s
BVA0 Borovoye Array 47.15 309 *i* P **P 00 43 43.1 -0.2**
BVA0 pmax pmax
comp=Z,26nm,1.0s
BVAR Borovoye Array 47.15 309 P **P 00 43 43.0 -0.3**
BVAR 00 45 15.0
BVAR pmax pmax
comp=Z,9.0nm,0.7s
BVAR MLR MLR
comp=Z,104nm,18.3s
BVAR Borovoye Array 47.15 309 P **P 00 43 43.0 -0.3**
comp=Z,8.7nm,0.7s,baz=79,slow=9.2,SNR=41
BVAR PcP **PcP 00 45 15.0 +0.3**
comp=Z,4.3nm,0.5s,baz=77,slow=3.6,SNR=12
BVAR LR LR 01 05 07.1
comp=Z,104nm,18.3s,baz=265,slow=38
BRVK Borovoye 47.20 309 *c i*P **P 00 43 43.8 +0.1**
BRVK pmax pmax
comp=Z,21nm,1.0s
BRVK Borovoye 47.20 309 *e*P **P 00 43 43.5 -0.2**
comp=Z,17nm,1.0s
EGAK Eagle 47.31 35 *e*P **P 00 43 44.0 -0.4**
comp=Z,12nm,0.9s
TKM2 Tokmak 2 47.35 294 *e*P **P 00 43 45.4 +0.1**
TKM2 pmax pmax
comp=Z,35nm,0.8s
TKM2 Tokmak 2 47.35 294 P **P 00 43 46.1 +0.8**
SNR=35
TKM2 Tokmak 2 47.35 294 *e*P **P 00 43 45.4 +0.1**
comp=Z,35nm,0.8s
KKN Kakani 47.51 271 *e*P **P 00 43 47.1 +0.4**
comp=Z,116nm,0.9s
PKI Pulchoki 47.54 271 *e*P **P 00 43 47.2 +0.2**
comp=Z,65nm,0.8s
DMN Daman 47.74 271 *e*P **P 00 43 48.9 +0.4**
comp=Z,118nm,0.8s
GKN Gorkha 47.87 272 *e*P **P 00 43 50.0 +0.6**
comp=Z,80nm,0.7s
KZA Kyzart 47.93 293 *i* P **P 00 43 51.3 +1.3**
KZA Kyzart 47.93 293 P **P 00 43 51.3 +1.3**
SNR=20
USP Ospenovka 47.95 295 *i* P **P 00 43 50.5 +0.8**
USP Ospenovka 47.95 295 P **P 00 43 50.5 +0.8**
SNR=9.2
AAK Ala-Archa 48.21 294 *e*P **P 00 43 51.4 -0.5**
AAK pmax pmax
comp=Z,9.0nm,0.8s
AAK Ala-Archa 48.21 294 P **P 00 43 52.7 +0.8**
SNR=9.2
AAK Ala-Archa 48.21 294 *e*P **P 00 43 51.4 -0.5**
comp=Z,8.7nm,0.8s
AAK Ala-Archa 48.21 294 P **P 00 43 51.9 0.0**
comp=Z,6.3nm,0.8s,baz=99,slow=5.4,SNR=14
DANN Dangsing 48.33 273 *e*P **P 00 43 53.9 +0.8**
comp=Z,523nm,0.7s
KSH Kashi 48.51 290 P P 00 43 58.9 +4.7
KSH pP pP 00 44 02.3 +2.0
KSH sP sP 00 44 05.1 +2.4
KSH PcP PcP 00 45 25.6 +5.6
KSH PP **PP 00 45 50.3 +3.5**
KSH S **S 00 50 57.3 +2.8**
KSH ScS **ScS 00 53 47.2 +1.3**
KSH AMB AMB
comp=Z,10.0nm,1.2s
KSH AMB AMB
comp=Z,160nm,4.7s
KSH LR LR
comp=Z,110nm,5.9s
KSH LR LR
comp=Z,230nm,12.6s
KSH LR LR
comp=Z,140nm,8.7s
EKS2 Erkin-Say 48.68 295 *e*P **P 00 43 55.5 0.0**
EKS2 *e* 00 45 21.0
EKS2 pmax pmax
comp=Z,10.0nm,0.7s
EKS2 Erkin-Say 48.68 295 P **P 00 43 55.6 0.0**
SNR=12
EKS2 Erkin-Say 48.68 295 *e*P **P 00 43 55.5 0.0**
comp=Z,10.0nm,0.7s
EKS2 *e*PcP **PcP 00 45 20.9 +0.4**
KOLN Koldanda 48.77 272 *e*P **P 00 43 57.4 +1.0**
AML Almayashu 48.96 294 *i* P **P 00 43 58.5 +0.6**
AML Almayashu 48.96 294 P **P 00 43 58.5 +0.6**
SNR=13
INK Inuvik 49.52 29 *e*P **P 00 44 00.6 -0.7**
comp=Z,7.1nm,0.7s
INK *e*PcP **PcP 00 45 23.5 +0.6**
INK Inuvik 49.52 29 P **P 00 44 01.3 +0.1**
comp=Z,3.7nm,0.5s,baz=266,slow=4.4,SNR=26
HYT Haines Junctio 49.91 39 *e*P **P 00 44 05.8 +1.2**
KK31 Karatay Array 50.68 296 *i* P **P 00 44 10.3 -0.2**
KK31 pmax pmax
comp=Z,13nm,1.0s
KKAR Karatay Array 50.68 296 *e*P **P 00 44 09.8 -0.7**
KKAR Karatay Array 50.68 296 *e*P **P 00 44 09.8 -0.7**
SVE Sverdlovsk 51.25 316 ⇑*i* P **P 00 44 15.5 +0.9**
SVE *e*S S 00 51 43.1 +11
SVE *e* 00 54 00.0
SVE pmax pmax
comp=Z,24nm,0.8s
SVE MLR MLR
comp=Z,501nm,15.0s
THN Thein Dam 52.07 282 *e*P **P 00 44 18.9 -2.2**
SOKR Solikamsk 52.17 320 *e*P **P 00 44 18.6 -2.7**
SOKR pmax pmax
comp=Z,10.0nm,0.6s
SOKR MLR MLR
comp=Z,220nm,19.0s
ARU Arti 52.47 316 *c i*P **P 00 44 23.5 -0.1**
ARU 00 45 33.6
ARU 00 46 21.0
ARU S **S 00 51 48.9 +0.2**
ARU SS **SS 00 55 22.5 -3.7**
ARU pmax pmax
comp=Z,27nm,1.7s
ARU MLR MLR
comp=Z,297nm,15.0s
AB31 Akbulak array 54.65 307 *e*P **P 00 44 39.8 0.0**
AB31 pmax pmax
comp=Z,7.0nm,0.5s

ABKAR **Akbulak array** 54.65 337 *e*P P 00 44 39.3 -0.5
SPA0 **Spitsbergen Ar** 55.22 348 *e*P P 00 44 41.7 -1.9
SPITS **Spitsbergen Ar** 55.22 348 P P 00 44 41.7 -1.9
comp=Z,10nm,0.9s,baz=54,slow=7.3,SNR=5.0
SPITS LR LR 01 09 14.8
comp=Z,98nm,20.0s,baz=10.0,slow=37
AKTO **Aktyubinsk** 55.24 309 P P 00 44 44.4 +0.3
AKTO pmax pmax
comp=Z,8.0nm,0.7s
AKTO **Aktyubinsk** 55.24 309 P P 00 44 44.4 +0.3
comp=Z,8.4nm,0.7s,baz=75,slow=8.8,SNR=23
KBL **Kabul** 55.76 288 *e*P P 00 44 47.5 -0.7
KBL pmax pmax
comp=Z,10.0nm,0.8s
KBL **Kabul** 55.76 288 *e*P P 00 44 47.5 -0.7
comp=Z,10nm,0.8s
RES **Resolute Bay** 57.30 15 *e*P P 00 44 58.1 -0.2
comp=Z,68nm,1.6s
RES **Resolute Bay** 57.30 15 P P 00 44 58.1 -0.2
comp=Z,10nm,0.7s,baz=300,slow=13,SNR=3.7
TMCR **Tamitsa** 58.08 330 *e*P P 00 45 02.3 -1.6
TMCR *e* 00 45 51.6
TMCR pmax pmax
comp=Z,35nm,1.4s
KEV **Kevo** 58.42 338 *e*P P 00 45 04.4 -1.9
KEV pmax pmax
comp=Z,5.0nm,0.6s
KEV **Kevo** 58.42 338 *e*p P 00 45 04.4 -1.9
comp=Z,4.5nm,0.6s
ARA0 **ARCESS Array S** 58.97 338 *e*P P 00 45 09.8 -0.3
ARCES **ARCESS Array B** 58.97 338 P P 00 45 09.8 -0.3
comp=Z,1.7nm,0.6s,baz=58,slow=8.2,SNR=18
ARCES LR LR 01 12 49.0
comp=Z,122nm,18.9s,baz=174,slow=38
YKA **Yellowknife Ar** 59.06 32 P P 00 45 10.5 -0.3
comp=Z,7.3nm,1.0s,baz=304,slow=6.7,SNR=4.6
KLMR **Klimovskoe** 59.28 326 *e*P P 00 45 11.2 -1.1
KLMR pmax pmax
comp=Z,52nm,1.6s
IMYA **Miami** 60.97 294 *e*P P 00 45 25.2 +0.6
JOF **Joensuu** 61.26 331 *e*P P 00 45 25.7 -0.2
JOF pmax pmax
comp=Z,7.0nm,0.5s
JOF **Joensuu** 61.26 331 *e*p P 00 45 25.7 -0.2
comp=Z,6.6nm,0.5s
IAKL **Akhelmad** 61.74 295 *e*P P 00 45 30.7 +0.8
IKRD **Kardeh** 61.80 295 *e*P P 00 45 26.7 -3.6
FITZ **Fitzroy Crossi** 62.05 197 *e*P P 00 45 31.6 0.0
comp=Z,9.2nm,1.0s
WRA **Warramunga Arr** 62.47 188 *e*P P 00 45 33.5 -1.0
WRA **Warramunga Arr** 62.47 188 P P 00 45 33.5 -1.0
comp=Z,2.8nm,0.5s,baz=3.9,slow=6.7,SNR=13
NLWA **Neilton Lookou** 62.99 49 *e*P P 00 45 39.0 +1.1
comp=Z,26nm,1.2s
MOS **Moscow** 63.01 322 *e*P P 00 45 35.5 -2.2
MOS pmax pmax
comp=Z,53nm,1.7s
KAF **Kangasniemi** 63.56 332 *e*P P 00 45 40.4 -0.9
KAF pmax pmax
comp=Z,5.0nm,0.5s
KAF **Kangasniemi** 63.56 332 *e*p P 00 45 40.4 -0.9
comp=Z,4.9nm,0.5s
VRHR **Novokhopersk** 63.81 316 *e*P P 00 45 42.1 -1.0
VRHR pmax pmax
comp=Z,20nm,0.6s
VRHR pmax pmax
comp=N,9.0nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,0.7s
OBN **Obninsk** 63.87 322 *c i*P P 00 45 43.2 -0.2
OBN pmax pmax
comp=Z,33nm,1.6s
OBN MLR MLR
comp=Z,200nm,15.0s
FIA0 **FINESS Array S** 64.09 331 *e*P P 00 45 44.5 -0.3
FIA0 **FINESS Array S** 64.09 331 *e*P P 00 45 44.5 -0.3
FINES **FINESS Array B** 64.09 331 P P 00 45 44.5 -0.3
comp=Z,10.0nm,0.4s,baz=55,slow=7.6,SNR=129
FINES LR LR 01 15 40.1
comp=Z,127nm,19.5s,baz=221,slow=38
F04A **Amboy** 64.65 50 *e*P P 00 45 48.4 -0.3
comp=Z,322nm,2.9s
LTY **Liberty** 64.85 48 *e*P P 00 45 49.5 -0.7
comp=Z,24nm,1.6s
B08A **Colville Reser** 64.93 47 *e*pP pP 00 45 56.5 -0.4
VSR **Storozhevoye** 64.98 317 *e*P P 00 45 50.7 -0.1
VSR pmax pmax
comp=Z,20nm,0.5s
VSR pmax pmax
comp=N,10.0nm,0.6s
VSR pmax pmax
comp=E,9.0nm,0.6s
EDM **Edmonton** 65.03 40 *e*P P 00 45 50.4 -0.7
EDM **Edmonton** 65.03 40 *e*P P 00 45 50.4 -0.7
VORD **Divnogorie** 65.07 317 *e*P P 00 45 50.8 -0.5
VORD pmax pmax
comp=E,20nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s
SUMG **Summit** 65.24 0 *e*P P 00 45 52.1 -0.5
SUMG pmax pmax
comp=Z,323nm,2.8s
SUMG **Summit** 65.24 0 *e*P P 00 45 52.1 -0.5
comp=Z,323nm,2.8s
MAK **Makhachkala** 65.29 306 *e*P P 00 45 53.6 +0.7
MAK MLR MLR
comp=Z,261nm,16.0s
IANJ **Anjilo** 65.61 296 *e*P P 00 45 56.2 +0.8
HAWA **Hanford** 65.99 48 *e*P P 00 45 57.3 -0.1
comp=Z,5.9nm,0.9s
NEW **Newport** 66.17 46 ⇑P P 00 45 58.2 -0.4
baz=66
AS01 **Alice Springs** 66.19 188 *e*P P 00 45 58.3 -0.6
AS12 **Alice Springs** 66.20 188 *e*P P 00 45 58.6 -0.2
ASAR **Alice Springs** 66.20 188 P P 00 45 58.6 -0.2
comp=Z,1.5nm,0.5s,baz=7.2,slow=6.1,SNR=18
ILAS **Lasjerd** 66.29 297 *e*P P 00 46 00.7 +0.9
GOF **Gofitskoye** 66.64 310 *e*P P 00 46 01.7 +0.1
GOF pmax pmax
comp=Z,30nm,1.0s
E09A **Wood Farm, Sta** 66.68 48 *e*P P 00 46 02.1 +0.2
comp=Z,31nm,1.5s
IBAF **Bafgh** 66.78 292 *e*P P 00 46 02.9 0.0
K05A **Summer Lake** 67.43 52 *e*P P 00 46 07.5 +0.6
comp=Z,13nm,1.1s
KIV **Kislovodsk** 67.51 309 *c i*P P 00 46 07.7 +0.4
KIV *i* 00 48 37.8
KIV *i* SS SS 00 59 28.1 +5.7
KIV pmax pmax
comp=Z,36nm,1.0s
KIV MLR MLR
comp=Z,100nm,16.0s
ZEI **Tsey** 67.52 308 *e*P P 00 46 06.4 -1.1
ZEI pmax pmax
comp=Z,7.0nm,1.0s
KBZ **Khabaz** 67.53 309 P P 00 46 07.9 +0.7
KBZ pmax pmax
comp=Z,7.0nm,0.9s
KBZ **Khabaz** 67.53 309 *e*P P 00 46 07.9 +0.7
KBZ **Khabaz** 67.53 309 P P 00 46 07.9 +0.7
comp=Z,6.7nm,0.8s,baz=48,slow=6.4,SNR=18
IMEH **Mehriz** 67.55 292 *e*P P 00 46 07.6 -0.3
ISAD **Sadrabad** 67.87 293 *e*P P 00 46 10.2 +0.3
BMO **Blue Mountains** 68.17 49 *e*P P 00 46 11.7 +0.2
comp=Z,22nm,1.9s
IZEF **Zefreh** 68.19 295 *e*P P 00 46 12.1 +0.2
IKLH **Kolahrood** 68.44 296 *e*P P 00 46 13.7 +0.2
GNI **Garni** 68.63 305 *e*P P 00 46 15.2 +0.7
comp=Z,15nm,1.1s
GNI **Garni** 68.63 305 P P 00 46 14.3 -0.2
comp=Z,1.4nm,0.5s,baz=34,slow=3.3,SNR=6.5
SLMT **Seeley Lake** 68.72 45 *e*P P 00 46 15.5 +0.6
MSO **Missoula** 68.75 46 *e*P P 00 46 14.8 -0.2
comp=Z,13nm,1.5s
MSO **Missoula** 68.75 46 ⇑P P 00 46 14.6 -0.4
baz=68
WVOR **Wild Horse Val** 68.92 51 *e*P P 00 46 17.3 +1.1
WVOR pmax pmax
comp=Z,13nm,1.5s
WVOR **Wild Horse Val** 68.92 51 *e*P P 00 46 17.2 +1.1
comp=Z,13nm,1.5s
FFC **Flin Flon** 69.07 34 *i*P P 00 46 17.7 +1.0
FFC **Flin Flon** 69.07 34 *e*P P 00 46 15.8 -0.9
comp=Z,18nm,0.9s
HFS **Hagfors** 69.20 335 LR LR 01 19 49.6
comp=Z,126nm,18.0s,baz=83,slow=39

NB2 **NORSAR Subarra** 69.24 337 P P 00 46 17.2 -0.5
comp=Z,19nm,0.8s,baz=37,slow=6.5
NB2 **NORSAR Subarra** 69.24 337 P P 00 46 17.2 -0.5
baz=37,slow=6.5
NB200 **NORSAR Array S** 69.24 337 *e*P P 00 46 17.5 -0.2
NOA **NORSAR Array B** 69.24 337 P P 00 46 17.5 -0.2
comp=Z,12nm,0.8s,baz=36,slow=6.3,SNR=28
NOA LR LR 01 22 27.6
comp=Z,39nm,18.1s,baz=20,slow=41
NBO02 **NORSAR Array S** 69.33 337 *e*P P 00 46 18.0 -0.3
SOC **Sochi** 69.42 311 *e*P P 00 46 15.1 -4.0
BEKR **Beckworth** 69.51 54 *e*P P 00 46 20.1 +0.2
comp=Z,5.9nm,1.3s
MFID **Camas Ranch** 69.91 49 ⇓P P 00 46 22.8 +0.6
baz=70
ANN **Anapa** 69.91 313 *e*P P 00 46 17.1 -4.9
ANN *e**PP pP 00 46 27.5 -0.8
ANN *e* 00 48 54.3
ANN *eS* S 00 55 21.9 -8.9
ANN pmax pmax
comp=Z,18nm,1.5s
A19A **Klindworth Far** 70.02 41 ⇑P P 00 46 23.1 +0.3
baz=70
AKASG **Malin Array Be** 70.11 321 P P 00 46 22.8 -0.4
AKASG pmax pmax
comp=Z,10.0nm,0.5s
AKASG **Malin Array Be** 70.11 321 P P 00 46 22.8 -0.4
comp=Z,9.5nm,0.5s,baz=43,slow=6.0,SNR=55
AKBB **Malin Array Si** 70.11 321 *e*P P 00 46 22.8 -0.4
AKBB **Malin Array Si** 70.11 321 *e*P P 00 46 22.8 -0.4
EGMT **Eagleton** 70.12 43 ⇑P P 00 46 23.5 +0.1
baz=70
KIEV **Kiev** 70.12 321 *e*P P 00 46 22.2 -1.1
KIEV pmax pmax
comp=Z,15nm,0.7s
KIEV **Kiev** 70.12 321 *e*P P 00 46 22.1 -1.1
comp=Z,15nm,0.7s
LRM **Limekiln Ridge** 70.19 46 *e*P P 00 46 24.2 +0.1
PAHR **Pah Rah Range** 70.19 54 *e*P P 00 46 24.5 +0.4
comp=Z,8.4nm,1.1s
B19A **Brinkman Farms** 70.23 42 ⇓P P 00 46 24.4 +0.4
baz=70
A20A **Cobblestone Ra** 70.45 41 ⇑P P 00 46 25.6 +0.2
baz=70
HLID **Hailey** 70.60 48 *e*P P 00 46 26.1 -0.4
comp=Z,23nm,2.3s
CMB **Columbia Colle** 70.64 56 *e*P P 00 46 26.9 +0.2
CMB pmax pmax
comp=Z,15nm,1.3s
CMB **Columbia Colle** 70.64 56 *e*P P 00 46 26.9 +0.2
comp=Z,15nm,1.3s
C19A **Slack Wire Ran** 70.67 42 ⇓P P 00 46 26.9 +0.1
baz=70,SNR=6.9
B20A **Solberg Farm,** 70.70 41 ⇓P P 00 46 26.7 -0.3
baz=70
BOZ **Bozeman (W)** 70.74 45 *e*P P 00 46 27.6 +0.2
BOZ pmax pmax
comp=Z,17nm,1.6s
BOZ **Bozeman (W)** 70.74 45 *e*P P 00 46 27.6 +0.2
comp=Z,17nm,1.6s
A21A **Bergtoll Ranch** 70.85 40 ⇑P P 00 46 28.3 +0.5
baz=71
IDHR **Dehrash** 70.98 300 *e*P P 00 46 28.5 -0.6
IGHG **Ghaleghazi** 71.10 299 *e*P P 00 46 29.5 -0.3
D19A **Cripps Ranch,** 71.14 43 ⇑P P 00 46 29.9 +0.2
baz=71,SNR=6.1
C20A **Veseth Ranch,** 71.20 42 ⇑P P 00 46 30.4 +0.4
baz=71,SNR=6.1
A22A **Carney Farms,** 71.33 40 ⇑P P 00 46 31.0 +0.2
baz=71
D20A **Manuel Ranch,** 71.56 43 ⇓P P 00 46 32.5 +0.4
baz=71,SNR=6.1
C21A **Desert Coulee** 71.57 41 ⇑P P 00 46 32.4 +0.2
baz=71
SIM **Simferopol'** 71.59 314 *de*P P 00 46 35.1 +2.8
SIM pmax pmax
comp=Z,14nm,0.7s
SIM MLR MLR
comp=Z,48nm,8.7s
NV01 **Mina Array Sit** 71.65 55 *e*P P 00 46 32.7 -0.4
NVAR **Mina Array Bea** 71.65 55 P P 00 46 33.8 +0.7
comp=Z,7nm,0.8s,baz=280,slow=6.9,SNR=12
E19A **Rath Farm, Rou** 71.66 43 ⇑P P 00 46 32.9 +0.1
baz=71,SNR=5.5
MLAC **Mammoth Lakes** 71.84 55 ⇓P P 00 46 34.5 +0.2
baz=72
E20A **Meyer Farm, Mu** 71.96 43 ⇑P P 00 46 34.7 +0.1
baz=72
F19A **Roth Farm, Mol** 71.99 44 ⇑P P 00 46 35.1 +0.2
baz=72,SNR=5.8
H17A **Grant Village** 72.13 46 ⇓P P 00 46 36.3 +0.4
baz=72
B23A **Brockton** 72.14 40 ⇑P P 00 46 36.1 +0.5
baz=72
D21A **La Casta Ranch** 72.14 42 ⇑P P 00 46 36.2 +0.5
baz=72
C22A **Vida** 72.22 41 ⇓P P 00 46 36.4 +0.4
baz=72
FLWY **Flagg Ranch** 72.27 46 *e*P P 00 46 36.3 -0.4
comp=Z,56nm,2.3s
H18A **Shoshone NF, C** 72.42 45 ⇑P P 00 46 38.0 +0.5
baz=72
RRI2 **Red Ridge** 72.43 47 *e*P P 00 46 37.2 -0.5
comp=Z,70nm,2.2s
F20A **Billings** 72.44 44 ⇓P P 00 46 37.8 +0.3
baz=72
I17A **Pilgrim Ck.** 72.45 46 ⇓P P 00 46 38.3 +0.5
baz=72
MOOW **Moose Ponds** 72.47 46 *e*P P 00 46 35.9 -2.0
comp=Z,40nm,2.0s
DGMT **Dagmar** 72.51 40 ⇓P P 00 46 38.2 +0.3
baz=72
C23A **Lambert** 72.51 41 ⇑P P 00 46 38.2 +0.4
baz=72
TPAW **Teton Pass** 72.54 47 *e*P P 00 46 36.8 -1.6
comp=Z,42nm,1.9s
SMMC **Simmler** 72.61 58 ⇑P P 00 46 39.1 +0.4
baz=72
REDW **Red Top Meadow** 72.67 47 *e*P P 00 46 39.9 +0.8
comp=Z,14nm,1.4s
H19A **Powell** 72.78 45 ⇑P P 00 46 39.6 -0.1
baz=72
G20A **Bridger** 72.80 44 ⇓P P 00 46 39.9 +0.2
baz=72
VES **Vestal, Richgr** 72.84 57 ⇓P P 00 46 40.8 +0.9
baz=73
D23A **Lindsay** 72.94 41 ⇑P P 00 46 41.3 +0.8
baz=73
BEL **Belsk** 72.99 326 *e*P P 00 46 41.5 +1.0
LVV **L'vov** 73.09 323 *e*P P 00 46 42.1 +0.9
E22A **Miles City** 73.10 42 ⇑P P 00 46 42.3 +1.0
baz=73
A26A **Wade Farm, Ken** 73.21 38 ⇓P P 00 46 42.8 +0.8
baz=73
R11A **Troy Canyon, C** 73.33 53 *e*P P 00 46 43.1 0.0
R11A **Troy Canyon, C** 73.33 53 ⇓P P 00 46 43.6 +0.6
baz=73
ISA **Isabella** 73.33 57 ⇓P P 00 46 43.1 +0.1
baz=73
UMR **Umm Al-Rimmam** 73.36 295 *e*P P 00 46 42.1 -0.9
UMR AMb AMB 00 46 48.2
comp=Z,49nm,0.9s
F22A **Rosebud** 73.41 43 ⇓P P 00 46 43.4 +0.2
baz=73
D24A **Glendive** 73.41 41 ⇓P P 00 46 43.9 +0.7
baz=73
H20A **Greybull** 73.42 44 ⇑P P 00 46 43.8 +0.5
baz=73
ARVC **Arvin** 73.46 57 ⇓P P 00 46 44.7 +1.1
baz=73
LEOM **Leova** 73.53 319 ⇓*i*P P 00 46 44.4 +0.6
MALT **Malatya** 73.58 307 ⇑*i*P P 00 46 46.1 +1.7
MPMC **Manual Prospec** 73.68 56 ⇓P P 00 46 45.7 +0.6
baz=74
J19A **Crowheart** 73.70 46 ⇑P P 00 46 45.7 +0.6
baz=73
DUG **Dugway** 73.72 50 *e*P P 00 46 45.0 -0.2
DUG pmax pmax
comp=Z,14nm,1.3s
DUG **Dugway** 73.72 50 *e*P P 00 46 45.0 -0.2
comp=Z,14nm,1.3s
DUG **Dugway** 73.72 50 ⇓P P 00 46 45.7 +0.5
baz=74
I20A **Worland** 73.72 45 ⇑P P 00 46 45.3 +0.1
baz=74,SNR=6.3
BW06 **Boulder Array** 73.78 47 *e*P P 00 46 45.2 -0.5
PD31 **Pinedale Array** 73.78 47 *e*P P 00 46 45.9 +0.2

PDAR **Pinedale Array** 73.78 47 P P 00 46 45.9 +0.2
comp=Z,1.6nm,0.6s,baz=243,slow=2.1,SNR=15
PDAR LR LR 01 19 03.7
comp=Z,51nm,19.0s,baz=67,slow=36
G22A **Birney** 73.78 43 ⇑P P 00 46 45.8 +0.3
baz=74
FURC **Furnace Creek,** 73.80 55 ⇑P P 00 46 46.6 +1.1
baz=74
H21A **Big Horn, Sher** 73.81 44 ⇓P P 00 46 46.0 +0.3
baz=74
E24A **Baker** 73.81 41 ⇑P P 00 46 45.9 +0.3
baz=74
KWP **Kalwaria Pacla** 73.81 324 ⇓*i*P P 00 46 47.0 +1.5
KWP **Kalwaria Pacla** 73.81 324 *e*P P 00 46 46.6 +1.1
PRAR **RASCA** 73.86 320 ⇑*i*P P 00 46 46.5 +0.7
NAY **Al-Naaiem** 73.87 295 *e*P P 00 46 44.7 -1.4
NAY AMb AMB 00 46 46.8
comp=Z,24nm,1.5s
D25A **Fairfield** 73.87 40 ⇑P P 00 46 46.2 +0.3
baz=74
F23A **Volborg** 73.87 42 ⇓P P 00 46 46.4 +0.5
baz=74
RST **Umm Al-Ruwaisa** 73.87 295 *e*P P 00 46 44.5 -1.6
RST AMb AMB 00 46 47.1
comp=Z,376nm,0.9s
BLG **Laguna Peak** 73.97 58 ⇓P P 00 46 48.1 +1.5
baz=74
A28A **Rude Farm, Bot** 74.00 37 ⇑P P 00 46 47.3 +0.7
baz=74
M17A **Scullys Gap (B** 74.06 48 ⇑P P 00 46 48.1 +0.8
baz=74
L18A **Fontenelle, Gr** 74.09 47 ⇓P P 00 46 47.8 +0.3
baz=74
LEOC **Leona Valley** 74.11 58 *e*P P 00 46 48.2 +0.6
K19A **Absolon Red Bu** 74.12 46 ⇓P P 00 46 48.1 +0.5
baz=74
EDW2 **Edwards Air Fo** 74.14 57 ⇓P P 00 46 48.6 +0.9
baz=74
J20A **Shoshoni** 74.16 45 ⇑P P 00 46 48.0 +0.2
baz=74
BUR04 **Bucovina Ar. S** 74.16 321 *e*P P 00 46 46.7 -0.9
BURAR **Bucovina Array** 74.16 321 ⇓*i*P P 00 46 48.1 +0.5
H22A **Clearmont** 74.19 43 ⇑P P 00 46 48.1 +0.2
baz=74
JLU **Jordanelle** 74.21 49 *e*P P 00 46 47.9 -0.3
comp=Z,12nm,0.6s
G23A **Biddle** 74.25 43 ⇓P P 00 46 48.3 +0.1
baz=74
I21A **Big Trails, Te** 74.25 45 ⇓P P 00 46 48.4 0.0
baz=74,SNR=8.7
F24A **Ekalaka** 74.26 42 ⇑P P 00 46 48.4 +0.2
baz=74
TESR **Tescani** 74.27 319 ⇓*i*P P 00 46 49.1 +0.9
NLU **North Lily Min** 74.30 50 *e*P P 00 46 48.6 -0.2
comp=Z,10nm,0.5s
B28A **Dugan Ranch, T** 74.30 38 ⇑P P 00 46 48.9 +0.6
baz=74
WMUT **West Mountain** 74.35 50 *e*P P 00 46 51.3 +2.3
DAU **Daniels Canyon** 74.45 49 *e*P P 00 46 50.3 +0.6
DAU **Daniels Canyon** 74.45 49 *e*P P 00 46 50.3 +0.6
J21A **Lysite** 74.50 45 ⇓P P 00 46 49.9 +0.1
baz=74
CFR **Carcaliu** 74.50 318 ⇑*i*P P 00 46 50.4 +0.9
K20A **Yellowstone Ra** 74.50 46 ⇓P P 00 46 50.0 +0.2
baz=74
MPU **Maple Canyon** 74.50 50 *e*P P 00 46 49.8 -0.1
comp=Z,16nm,1.3s
KOLS **Kolonicke sedl** 74.52 323 *e*P P 00 46 49.6 0.0
KOLS pmax pmax
comp=Z,5.0nm,1.0s
KOLS **Kolonicke sedl** 74.52 323 *e*P P 00 46 49.6 0.0
GSC **Goldstone** 74.60 56 ⇓P P 00 46 51.1 +0.7
baz=74
I22A **9 Mile Ranch,** 74.61 44 ⇓P P 00 46 50.5 +0.1
baz=74
STHS **Stebnicka Huta** 74.61 324 *e*P P 00 46 51.2 +1.1
STHS pmax pmax
comp=Z,8.0nm,0.7s
STHS **Stebnicka Huta** 74.61 324 *e*P P 00 46 51.1 +1.0
OJC **Ojcow** 74.62 326 *e*P P 00 46 50.5 +0.4
OJC **Ojcow** 74.62 326 *e*P P 00 46 49.2 -0.9
comp=Z,28nm,0.8s
OJC **Ojcow** 74.62 326 *e*P P 00 46 50.5 +0.4
F25A **Bowman** 74.68 41 ⇑P P 00 46 50.9 +0.2
baz=74
VRI **Vrincioaia** 74.70 319 ⇑*i*P P 00 46 52.0 +1.3
B29A **Wagenman Farm,** 74.74 37 ⇑P P 00 46 51.1 +0.2
baz=74
PLOR **Plostina** 74.75 319 ⇑*i*P P 00 46 52.4 +1.4
E26A **Carlson Angus** 74.77 40 ⇑P P 00 46 51.2 +0.1
baz=74
BFSC **Mount Baldy Ra** 74.77 58 *e*P P 00 46 52.5 +1.1
BFSC **Mount Baldy Ra** 74.77 58 ⇑P P 00 46 52.3 +0.8
baz=74
SHPR **Sheep Range** 74.80 54 *e*P P 00 46 51.5 -0.2
A30A **Hoffart Farm,** 74.85 36 ⇑P P 00 46 51.9 +0.4
baz=74
ULM **Lac du Bonnet** 74.89 34 *e*P P 00 46 52.0 +0.3
ULM **Lac du Bonnet** 74.89 34 P P 00 46 52.0 +0.3
comp=Z,5.0nm,1.0s,baz=314,slow=7.0,SNR=3.7
ARCR **ARCALIA** 74.94 321 ⇑*i*P P 00 46 53.8 +1.7
J22A **Midwest** 74.95 44 ⇑P P 00 46 52.6 +0.2
baz=75,SNR=6.3
L20A **Wamsutter** 74.95 46 ⇓P P 00 46 52.5 0.0
baz=75
H24A **Dirks Ranch, A** 74.99 42 ⇑P P 00 46 52.6 +0.1
baz=75
TRPA **Tarpa** 75.00 323 ⇓*i*P P 00 46 53.8 +1.5
NIE **Niedzica** 75.01 325 *e*P P 00 46 53.3 +0.8
NIE **Niedzica** 75.01 325 *e*P P 00 46 53.3 +0.8
I23A **Meade Ranch, G** 75.09 43 ⇑P P 00 46 53.7 +0.6
baz=75
K21A **Alcova** 75.09 45 ⇓P P 00 46 54.1 +0.8
baz=75
D28A **Regan** 75.13 39 ⇓P P 00 46 53.4 +0.2
baz=75
CCUT **Cedar City** 75.17 53 *e*P P 00 46 54.2 +0.3
comp=Z,13nm,1.5s
HEC **Hector,Ludlow** 75.20 56 ⇓P P 00 46 54.7 +0.8
baz=75
B30A **Myrvik Farm, E** 75.20 37 ⇑P P 00 46 53.9 +0.3
baz=75
BBRC **Big Bear Solar** 75.21 57 ⇓P P 00 46 54.4 +0.3
baz=75
G25A **Newell** 75.23 42 ⇓P P 00 46 54.2 +0.4
baz=75
BR101 **Keskin Array S** 75.39 311 *e*P P 00 46 55.1 +0.2
BR101 *e*PP PP 00 49 46.0 +2.6
BRTR **Keskin Array B** 75.39 311 P P 00 46 55.1 +0.2
comp=Z,2.4nm,0.9s,baz=105,slow=2.8,SNR=9.3
BRTR PP PP 00 49 46.0 +2.6
comp=Z,1.1nm,1.0s,baz=54,slow=6.3,SNR=4.4
F27A **Lemmon** 75.41 40 ⇓P P 00 46 55.3 +0.5
baz=75
MSAB **Monastry St. A** 75.43 317 ⇓*i*P P 00 46 56.1 +1.2
K22A **Casper** 75.46 45 ⇓P P 00 46 55.5 +0.2
baz=75
MURC **Murrieta** 75.47 58 ⇓P P 00 46 56.2 +0.8
baz=75
L21A **Rawlins** 75.50 46 ⇑P P 00 46 55.8 +0.1
baz=75
G26A **Maurine** 75.55 41 ⇓P P 00 46 55.7 0.0
baz=75
KSP **Ksiaz** 75.57 328 *e*P P 00 46 56.1 +0.5
KSP **Ksiaz** 75.57 328 *e*P P 00 46 56.4 +0.8
I24A **Kuemmerle Ranc** 75.58 43 ⇑P P 00 46 56.2 +0.2
baz=75
OKC **Ostrava-Krasne** 75.60 326 *e*P P 00 46 56.5 +0.7
OKC *e* 00 47 01.4
OKC **Ostrava-Krasne** 75.60 326 *e*P P 00 46 56.5 +0.7
OKC *e*pP pP 00 47 01.4 -0.7
GMRC **Granite Mounta** 75.65 56 ⇑P P 00 46 57.2 +0.8
baz=75
RSSD **Black Hills** 75.69 43 *e*P P 00 46 55.4 -1.3
RSSD pmax pmax
comp=Z,17nm,0.7s
RSSD **Black Hills** 75.69 43 *e*P P 00 46 55.4 -1.3
comp=Z,17nm,0.7s
C30A **Mose, Pekin** 75.70 37 ⇓P P 00 46 56.5 +0.1
baz=75
O19A **Miners Draw (B** 75.71 48 ⇑P P 00 46 57.1 +0.3
baz=76
M21A **Separation Pea** 75.75 46 ⇑P P 00 46 57.4 +0.2
baz=76
BR231 **Keskin MP Arra** 75.79 311 *e*P P 00 46 55.3 -1.9
N20A **Spence Gulch,** 75.81 47 ⇓P P 00 46 58.1 +0.7

baz=76,SNR=7.0
G27A Dupree 75.81 41 ⇓P P 00 46 57.7 +0.5
baz=76
VOIR 75.82 319⇑*i*P P 00 46 58.5 +1.3
MORC Moravsky Berou 75.89 326 *e*P P 00 46 56.2 -1.3
MORC pmax pmax
comp=Z,14nm,0.8s
MORC Moravsky Berou 75.89 326⇑*i*P P 00 46 59.1 +1.6
MORC Moravsky Berou 75.89 326 *e*P P 00 46 56.2 -1.3
comp=Z,14nm,0.8s
I25A Rochford 75.92 43 ⇑P P 00 46 57.8 -0.1
baz=76
DRGR 75.92 322⇑*i*P P 00 46 59.0 +1.2
PFO Pinyon Flat Ob 75.93 57 *e*P P 00 46 56.2 -1.9
comp=Z,30nm,1.3s
PFO Pinyon Flat Ob 75.93 57 ⇓P P 00 46 58.4 +0.3
baz=76
UPC Upice 75.94 328 *e*P P 00 46 58.8 +1.1
UPC *e* 00 47 03.8
UPC Upice 75.94 328 *e*P P 00 46 58.8 +1.1
UPC *epP* **pP** 00 47 03.8 -0.3
DPC Dobruska-Polom 75.94 327 *e*P P 00 46 57.3 -0.5
DPC pmax pmax
comp=Z,120nm,1.2s
DPC Dobruska-Polom 75.94 327 *e*P P 00 46 59.1 +1.3
DPC *epP* **pP** 00 47 03.7 -0.5
DPC Dobruska-Polom 75.94 327 *e*P P 00 46 57.3 -0.5
comp=Z,120nm,1.2s
BELC Belle Mtn. Jos 75.96 57 ⇓P P 00 46 58.7 +0.4
baz=76
109C Camp Elliot, M 76.00 58 ⇓P P 00 46 59.2 +0.8
baz=76
INCR INCERC-Sediu C 76.01 318⇓*i*P P 00 47 00.3 +2.1
F28A McLaughlin 76.01 40 ⇓P P 00 46 58.1 -0.1
baz=76
E29A Napoleon 76.02 39 ⇑P P 00 46 58.1 -0.2
baz=76
D30A Buchanan 76.02 38 ⇓P P 00 46 58.2 0.0
baz=76
ARR Arges 76.07 320⇓*i*P P 00 47 00.3 +1.6
P19A Cripple Cowboy 76.25 49 ⇓P P 00 47 00.4 +0.5
baz=76
L23A Garrett 76.27 45 ⇑P P 00 47 00.1 0.0
baz=76
M22A Cedar Creek Ra 76.31 46 ⇓P P 00 47 00.9 +0.6
baz=76
PSZ Piszkesteto 76.33 324 *e*P P 00 46 59.1 -1.0
PSZ pmax pmax
comp=Z,10.0nm,0.9s
PSZ Piszkesteto 76.33 324⇓*i*P P 00 47 01.4 +1.3
PSZ Piszkesteto 76.33 324 *e*P P 00 46 59.0 -1.0
comp=Z,9.8nm,0.9s
IRM Iron Mountain 76.37 56 ⇓P P 00 47 01.6 +1.1
baz=76
E30A Jud 76.40 38 ⇓P P 00 47 00.2 -0.3
baz=76
LOT Lotru 76.42 320⇑*i*P P 00 47 01.3 +0.6
BRG Berggiesshubel 76.46 329 *e*P P 00 47 01.1 +0.5
comp=Z,8.4nm,0.9s
BRG Berggiesshubel 76.46 329 *e*P P 00 47 01.1 +0.5
BRG *e* 00 47 05.7
BRG pmax pmax
comp=Z,8.0nm,0.9s
BRG Berggiesshubel 76.46 329 *e*P P 00 47 01.4 +0.8
comp=Z,9.0nm,1.0s
CLL Collm 76.46 330 *i*P P 00 47 00.6 0.0
CLL *i* 00 47 06.0
CLL pmax pmax
comp=Z,43nm,0.8s
CLL Collm 76.46 330 *e*P P 00 47 01.2 +0.6
comp=Z,19nm,0.8s
CLL Collm 76.46 330 *i*P P 00 47 00.6 0.0
comp=Z,19nm,0.8s
CLL *i* pP **pP** 00 47 06.0 -1.0
F29A Eureka 76.48 39 ⇑P P 00 47 00.9 0.0
baz=76
PVCC Panska Ves 76.49 328 *e*P P 00 47 01.6 +0.8
PVCC Panska Ves 76.49 328 *e*P P 00 47 01.6 +0.8
PVCC *epP* **pP** 00 47 04.7 -2.5
W13A Hualapai Mount 76.51 55 ⇑P P 00 47 02.0 +0.5
baz=76
BC3 Big Chuckawall 76.52 57 ⇓P P 00 47 02.6 +1.1
baz=76
NRDL Niedersach Rie 76.54 332 *e*P P 00 47 01.7 +0.7
comp=Z,7.0nm,0.9s
U15A North Rim 76.56 53 ⇑P P 00 47 02.9 +1.0
baz=76
VRAC Vranov 76.65 327⇓*i*P P 00 47 02.8 +1.0
VRAC Vranov 76.65 327 LR LR 01 24 01.0
comp=Z,113nm,19.0s,baz=292,slow=38
I27A Quinn 76.71 42 ⇑P P 00 47 02.7 +0.4
baz=76
J26A Sides Ranch, S 76.76 43 ⇑P P 00 47 03.2 +0.6
baz=76
H28A Mission Ridge 76.77 41 ⇓P P 00 47 03.1 +0.5
baz=76
SWSC Sam W. Stewart 76.79 57 *e*P P 00 47 03.5 +0.7
SIRR Siria 76.79 322⇑*i*P P 00 47 04.0 +1.3
N22A Wattenberg Ran 76.81 46 ⇓P P 00 47 04.1 +1.0
baz=76
PDMCI Parker Dam,Lak 76.90 55 ⇓P P 00 47 04.0 +0.6
baz=77
SMOL Smolenice 76.92 326 *e*P P 00 47 05.2 +1.9
SMOL Smolenice 76.92 326 *e*P P 00 47 05.2 +1.9
PRU Pruhonice 76.93 328 *e*P P 00 47 03.6 +0.3
PRU *e* 00 47 09.0
PRU Pruhonice 76.93 328 *e*P P 00 47 03.6 +0.3
PRU *epP* **pP** 00 47 09.0 -0.7
PRU AMS AMS 01 24 00.0
GZR Gura Zlata 76.93 321⇑*i*P P 00 47 04.4 +0.9
CLZ Clausthal 76.98 331 *e*P P 00 47 04.6 +0.9
CLZ pmax pmax
comp=Z,22nm,0.9s
CLZ Clausthal 76.98 331 *e*P P 00 47 04.6 +0.9
comp=Z,22nm,0.9s
N23A Red Feather La 77.01 46 ⇑P P 00 47 04.4 +0.1
baz=77
Y12C Blythe 77.03 56 ⇑P P 00 47 05.2 +1.0
baz=77
Q20A Ridgley Place, 77.11 49 ⇑P P 00 47 05.0 +0.3
baz=77
TREC Trest 77.11 327 *e*P P 00 47 04.9 +0.5
TREC *e* 00 47 10.2
TREC Trest 77.11 327 *e*P P 00 47 04.9 +0.5
TREC *epP* **pP** 00 47 10.2 -0.6
P21A Newcastle 77.17 48 ⇓P P 00 47 06.1 +0.9
baz=77
H29A Onida 77.19 40 ⇑P P 00 47 04.9 -0.1
baz=77
M24A Cheyenne 77.19 45 ⇓P P 00 47 06.4 +1.2
baz=77
I28A Midland 77.20 41 ⇓P P 00 47 04.9 -0.1
baz=77
O22A Kremmling 77.21 47 ⇓P P 00 47 05.7 +0.2
baz=77,SNR=8.1
BZS Buzias 77.30 321⇑*i*P P 00 47 06.3 +0.8
GLA Glamis 77.32 57 ⇓P P 00 47 06.8 +0.9
baz=77
G30A Faulkton 77.32 39 ⇑P P 00 47 05.8 +0.1
baz=77
J27A Elkhorn Farm, 77.33 42 ⇑P P 00 47 06.3 +0.5
baz=77
P22A Eagle 77.50 47 ⇑P P 00 47 07.6 +0.5
baz=77,SNR=6.7
MOX Moxa 77.52 330 *e*P P 00 47 07.4 +0.8
MOX pmax pmax
comp=Z,7.0nm,1.0s
MOX Moxa 77.52 330 *e*P P 00 47 07.4 +0.8
comp=Z,7.0nm,1.0s
O23A Lake Granby, G 77.52 46 ⇑P P 00 47 08.1 +0.9
baz=77
J28A Allard Ranch, 77.59 42 ⇑P P 00 47 08.1 +0.9
baz=77
Q21A Lamborn Mesa, 77.59 48 ⇓P P 00 47 08.5 +1.0
baz=77
M25A Palm-Egli Farm 77.62 45 ⇓P P 00 47 08.5 +0.9
baz=77
Y14A Wickenburg 77.83 55 ⇓P P 00 47 09.6 +0.9
baz=78
S20A Disappointment 77.86 50 ⇓P P 00 47 09.5 +0.4
baz=78
BRSD Miller 77.93 40 ⇓P P 00 47 09.3 +0.3
baz=78
R21A Cimarron 77.93 49 ⇓P P 00 47 10.0 +0.6
baz=78,SNR=5.6
Q22A Crested Butte, 77.94 48 ⇓P P 00 47 10.0 +0.5
baz=78,SNR=6.3
UBBA Unterbreizbach 77.96 331 *e*P P 00 47 09.5 +0.6
comp=Z,28nm,1.8s
ISCO Idaho Springs 77.97 47 *e*P P 00 47 07.4 -2.4
ISCO pmax pmax
comp=Z,14nm,1.5s
ISCO Idaho Springs 77.97 47 *e*P P 00 47 07.4 -2.4
comp=Z,14nm,1.5s
ISCO Idaho Springs 77.97 47 ⇓P P 00 47 10.3 +0.6
baz=78,SNR=6.4
KHC Kasperske Hory 77.99 328 *e*P P 00 47 09.8 +0.4
KHC *e* 00 47 15.5
KHC Kasperske Hory 77.99 328 *e*P P 00 47 09.8 +0.4
KHC *epP* **pP** 00 47 15.5 -0.2
KHC Kasperske Hory 77.99 328 *e*P P 00 47 08.4 -1.0
comp=Z,9.9nm,0.8s
ROTZ Rotzenmuhle 78.01 329 *e*P P 00 47 10.7 +1.3
comp=Z,7.0nm,0.9s
O24A Longmont 78.03 46 ⇑P P 00 47 10.7 +0.9
baz=78
CONA Conrad Observa 78.03 326⇑*i*P P 00 47 10.7 +1.0
comp=Z,12nm,1.5s
J29A Okreek 78.05 41 ⇓P P 00 47 10.3 +0.5
baz=78
K28A Ten Mile Ranch 78.05 42 ⇑P P 00 47 10.2 +0.4
baz=78
P23A Jefferson 78.16 47 ⇓P P 00 47 11.6 +0.8
baz=78
113A Mohawk Valley, 78.16 56 ⇓P P 00 47 11.6 +1.1
baz=78
GEC2 GERESS Array S 78.17 328 *e*P P 00 47 11.1 +0.7
GEC2 pmax pmax
comp=Z,4.0nm,0.9s
GEC2 GERESS Array S 78.17 328 *e*P P 00 47 11.1 +0.7
comp=Z,4.0nm,0.9s
GERES GERESS Array B 78.17 328 P P 00 47 10.8 +0.4
comp=Z,2.3nm,0.6s,baz=38,slow=5.5,SNR=27
GERES LR LR 01 24 30.6
comp=Z,86nm,19.5s,baz=199,slow=38
MVCO Mesa Verde 78.21 50 ⇓P P 00 47 11.9 +0.9
baz=78
WET Wettzell 78.26 328 *e*P P 00 47 11.9 +1.1
WET pmax pmax
comp=Z,11nm,1.0s
WET Wettzell 78.26 328 *e*P P 00 47 11.9 +1.1
comp=Z,11nm,1.0s
Z14A Wintersburg 78.26 55 ⇑P P 00 47 12.1 +1.1
baz=78
BUG Bochum--Univer 78.39 333 *e*P P 00 47 11.8 +0.4
comp=Z,28nm,1.1s
GRF Grafenberg Arr 78.44 330 *e*P P 00 47 13.0 +1.2
GRF *e*PP **pP** 00 47 17.6 -0.6
GRF pmax pmax
comp=Z,22nm,0.8s
GRF Grafenberg Arr 78.44 330 *e*P P 00 47 13.0 +1.2
comp=Z,22nm,0.8s
GRF *epP* **pP** 00 47 17.6 -0.6
GRFO Grafenberg 78.44 330 *e*P P 00 47 11.0 -0.8
GRFO pmax pmax
comp=Z,17nm,0.8s
GRFO Grafenberg 78.44 330 *e*P P 00 47 11.0 -0.8
comp=Z,16nm,0.8s
X16A Lo Mia Camp, P 78.44 54 ⇑P P 00 47 13.8 +1.5
baz=78
ISP Isparta 78.46 311⇑*i*P P 00 47 14.7 +2.5
J30A Dallas 78.51 41 ⇓P P 00 47 12.7 +0.4
baz=78
O25A Wiggins 78.54 46 ⇑P P 00 47 13.6 +0.9
baz=78
RAYN Ar Rayn 78.77 291 *e*P P 00 47 12.9 -1.2
comp=Z,11nm,0.8s
S22A 4UR Ranch, Cre 78.77 49 ⇑P P 00 47 15.0 +0.7
baz=78,SNR=6.5
VTS Vitosha 78.82 319⇓*i*P P 00 47 15.0 +0.8
Q24A Divide 78.82 47 ⇓P P 00 47 15.2 +0.7
baz=79
N27A Anderson Farm, 78.86 44 ⇑P P 00 47 14.9 +0.5
baz=79
T21A Navajo Lake 78.91 50 ⇑P P 00 47 15.9 +1.0
baz=79
K30A Basset 78.94 41 ⇓P P 00 47 15.6 +0.9
baz=79
P25A Willow Gulch B 78.95 46 ⇑P P 00 47 16.2 +1.2
baz=79
TNS Taunus Mts 79.01 331 *e*P P 00 47 15.6 +0.6
TNS pmax pmax
comp=Z,13nm,1.3s
TNS Taunus Mts 79.01 331 *e*P P 00 47 15.6 +0.6
comp=Z,13nm,1.3s
R23A Moffat 79.01 48 ⇑P P 00 47 16.5 +1.0
baz=79
OGNE Ogallala 79.02 44 ⇓P P 00 47 16.4 +1.1
baz=79
V20A Brimhall 79.23 51 ⇓P P 00 47 17.8 +1.2
baz=79
U21A Nageezi 79.24 50 ⇑P P 00 47 17.5 +0.7
baz=79
T22A Edith 79.25 49 ⇓P P 00 47 17.5 +0.7
baz=79
214A Organ Pipe Nat 79.31 56 ⇑P P 00 47 17.9 +1.1
baz=79
Q25A Bedland, Calha 79.34 46 ⇓P P 00 47 18.1 +0.9
baz=79
PERS Pernice 79.37 326 *i*P P 00 47 17.2 +0.2
SOKA Soboth 79.37 326⇑*i*P P 00 47 17.4 +0.4
comp=Z,15nm,1.3s,SNR=12
R24A Sanders Place, 79.37 47 ⇑P P 00 47 17.8 +0.5
baz=79,SNR=6.4
RJOB Jochberg 79.43 328 *e*P P 00 47 18.5 +1.2
comp=Z,12nm,0.9s
BEBN Eben Emael 79.47 333 P P 00 47 17.8 +0.4
SDCO Great Sand Dun 79.51 48 *e*P P 00 47 16.7 -1.5
comp=Z,7.6nm,1.3s
MEM Membach 79.52 333 P P 00 47 18.0 +0.3
comp=Z,6.4nm,1.3s
ECSD EROS Data Cent 79.56 39 *e*P P 00 47 16.7 -1.4
comp=Z,5.8nm,0.8s
FUR Furstenfeldbru 79.67 329 *e*P P 00 47 19.5 +0.9
FUR pmax pmax
comp=Z,20nm,0.9s
FUR Furstenfeldbru 79.67 329 *e*P P 00 47 19.5 +0.9
comp=Z,20nm,0.9s
W20A Ramah 79.68 52 ⇑P P 00 47 19.8 +0.7
baz=79,SNR=6.3
L31A Butterfield Fa 79.69 41 ⇑P P 00 47 19.5 +0.6
baz=79
V21A Milan 79.70 51 ⇑P P 00 47 20.1 +0.9
baz=79
T23A Casias Ranch, 79.72 49 ⇓P P 00 47 20.3 +0.9
baz=80
U22A Llaves 79.73 50 ⇓P P 00 47 20.4 +1.0
baz=80
KBA Koelnbreinsper 79.74 327⇑*i*P P 00 47 20.5 +1.3
comp=Z,25nm,1.2s,SNR=11
S24A Houchin Ranch, 79.74 48 ⇑P P 00 47 20.4 +0.8
baz=80
R25A Fountain Ranch 79.88 47 ⇓P P 00 47 20.6 +0.5
baz=80
BCLA Clavier 79.92 333 P P 00 47 20.3 +0.5
STU Stuttgart 79.95 330 *e*P P 00 47 20.6 +0.6
comp=Z,19nm,1.0s
V22A San Miguel Ran 80.03 50 ⇓P P 00 47 22.3 +1.2
baz=80
SCHQ Schefferville 80.07 16 *e*P P 00 47 20.3 -0.3
comp=Z,168nm,2.7s
SCHQ Schefferville 80.07 16 P P 00 47 20.3 -0.3
comp=Z,1.9nm,0.5s,baz=9.5,slow=6.1,SNR=6.7
SCHQ LR LR 01 27 51.7
comp=Z,95nm,18.7s,baz=43,slow=40
T24B San Luis 80.07 48 ⇓P P 00 47 23.0 +1.7
baz=80
LJU Ljubljana 80.09 326 *i*P P 00 47 20.4 -0.5
X20A Quemado 80.09 52 ⇑P P 00 47 22.6 +1.2
baz=80,SNR=6.3
U23A El Rito 80.14 49 ⇑P P 00 47 22.3 +0.7
baz=80,SNR=6.4
S25A Robets Cordova 80.15 47 ⇓P P 00 47 21.8 +0.2
baz=80
SNF Seneffe 80.18 334 P P 00 47 20.6 -0.6
R26A Arlington 80.22 46 ⇑P P 00 47 22.3 +0.4
baz=80
WATA Walderalm 80.23 328⇑*i*P P 00 47 22.3 +0.6
comp=Z,3.7nm,0.5s,SNR=6.6
TUC Tucson 80.30 55 *e*P P 00 47 20.3 -2.1
TUC pmax pmax
comp=Z,11nm,1.3s
TUC Tucson 80.30 55 *e*P P 00 47 20.3 -2.1
comp=Z,11nm,1.3s
GIVF Givet 80.35 333 *e*P P 00 47 21.6 -0.6
MOTA Moosalm 80.41 328⇑*i*P P 00 47 22.9 +0.2
comp=Z,24nm,1.1s,SNR=15
DOU Dourbes 80.43 334 P P 00 47 21.4 -1.2
T25A Trinidad 80.55 48 ⇓P P 00 47 24.2 +0.5
baz=80
V23A Ortiz Mt. (NFS 80.57 50 ⇓P P 00 47 25.3 +1.4
baz=80
R27A Eads 80.58 46 ⇓P P 00 47 24.4 +0.7
baz=80
X21A Alamocita Cree 80.58 52 ⇑P P 00 47 24.9 +0.9
baz=80,SNR=9.6
BAIF Baives 80.59 334 *e*P P 00 47 23.0 -0.4
U24A Moreno Valley 80.59 49 ⇓P P 00 47 25.4 +1.3
baz=80
Y20A Horse Springs, 80.61 52 ⇓P P 00 47 25.4 +1.2
baz=80,SNR=7.0
BFO Black Forest 80.64 331 *e*P P 00 47 24.4 +0.6
BFO pmax pmax
comp=Z,17nm,1.5s
BFO Black Forest 80.64 331 *e*P P 00 47 24.4 +0.6
comp=Z,17nm,1.5s
BFO Black Forest 80.64 331 *e*P P 00 47 22.9 -0.9
comp=Z,7.7nm,1.1s
FETA Feichten 80.82 328⇑*i*P P 00 47 24.8 -0.2
comp=Z,6.0nm,0.9s
DAVA Damuels 80.93 329⇓*i*P P 00 47 26.3 +0.7
comp=Z,16nm,1.0s
CDF Champ du Feu 80.95 331 *e*P P 00 47 25.2 -0.3
comp=Z,29nm,1.2s
Y21A Point of Rocks 80.95 52 ⇑P P 00 47 27.2 +1.2
baz=81
P30A Selden 80.97 44 ⇓P P 00 47 26.2 +0.4
baz=81
LAZ Ladron 80.98 51 *e*P P 00 47 25.3 -0.8
X22A Bernardo 80.98 51 ⇑P P 00 47 27.4 +1.4
baz=81
ANMO Albuquerque 80.98 50 *e*P P 00 47 24.6 -1.5
comp=Z,11nm,1.3s
W23A Werner Place, 81.00 50 ⇓P P 00 47 27.5 +1.3
baz=81
Z20A Nine Sixteen R 81.05 53 ⇑P P 00 47 27.5 +1.0
baz=81,SNR=16
U25A Circle Dot Ran 81.08 48 ⇓P P 00 47 25.9 -0.7
baz=81
Q29A Oakley 81.08 45 ⇑P P 00 47 26.4 -0.1
baz=81
V24A Rampart Ranch, 81.09 49 ⇓P P 00 47 27.9 +1.2
baz=81
FELD Feldberg im Sc 81.14 330 *e*P P 00 47 26.9 +0.3
R29A Marienthal 81.35 45 ⇓P P 00 47 28.6 +0.8
baz=81
PAGF Fort de Pagny 81.37 332 *e*P P 00 47 27.6 -0.1
comp=Z,9.2nm,0.9s
V25A Rancho No Teng 81.38 49 ⇓P P 00 47 28.7 +0.5
baz=81
W24A Lazy 6 Ranch, 81.39 50 ⇑P P 00 47 29.4 +1.1
baz=81,SNR=7.7
Q30A Quinter 81.41 44 ⇑P P 00 47 28.4 +0.3
baz=81
Y22A Socorro 81.42 52 ⇑P P 00 47 29.2 +0.9
baz=81
120A U Bar Ranch, L 81.43 54 ⇑P P 00 47 29.4 +0.9
baz=81,SNR=5.5
P31A Stockton 81.43 43 ⇑P P 00 47 28.9 +0.7
baz=81
U26A Atchley Ranch, 81.45 48 ⇓P P 00 47 29.4 +0.9
baz=81
Z21A St. Cloud Mine 81.45 52 ⇓P P 00 47 29.7 +1.1
baz=81,SNR=11
BNM Barren Site 81.46 51 *e*P P 00 47 26.8 -1.9
THEF They Montfort 81.56 332 *e*P P 00 47 28.9 +0.2
HINF Hinteralfeld 81.60 331 *e*P P 00 47 28.2 -0.7
comp=Z,4.5nm,0.7s
HAU Haudompre 81.62 331 *e*P P 00 47 28.3 -0.7
comp=Z,11nm,0.9s
HAU *e*R
comp=Z,90nm,20.5s
MEZF Maizieres J'vi 81.65 332 *e*P P 00 47 29.0 -0.1
comp=Z,24nm,1.1s
TUE Stuetta 81.81 329 *e*P P 00 47 28.3 -2.0
comp=Z,7.8nm,0.8s
319A Douglas 81.87 55 ⇓P P 00 47 31.1 +0.4
baz=82
V26A Tequesquite Ra 81.87 48 ⇑P P 00 47 30.8 +0.1
baz=82
R30A Dighton 81.90 45 ⇑P P 00 47 30.6 -0.2
baz=82
SFTF Sexfontaines 81.91 332 *e*P P 00 47 30.2 -0.3
comp=Z,36nm,1.1s
W25A X Bar L Ranch, 81.92 49 ⇑P P 00 47 31.7 +0.7
baz=82,SNR=8.7
U27A Thompson Grove 81.94 47 ⇑P P 00 47 31.5 +0.4
baz=82
121A Cookes Peak, D 81.94 53 ⇓P P 00 47 31.9 +0.8
baz=82,SNR=7.5
Y23A Lovelace Mesa, 81.94 51 ⇓P P 00 47 32.0 +0.8
baz=82,SNR=8.0
220A Playas Peak, P 81.94 54 ⇑P P 00 47 31.3 +0.1
baz=82
S29A Ulysses 81.96 45 ⇓P P 00 47 31.5 +0.5
baz=82
LOMF Lomont 82.01 331 *e*P P 00 47 28.4 -2.7
X25A Clemmons Ranch 82.31 50 ⇓P P 00 47 34.2 +1.2
baz=82
Z23A Rita Site, Whi 82.33 52 ⇓P P 00 47 34.3 +1.2
baz=82
W26A Owens Ranch, T 82.40 49 ⇓P P 00 47 34.7 +1.2
baz=82
222A Williams Famil 82.65 53 ⇓P P 00 47 35.8 +1.0
baz=82
SENIN Lac Senin/Sane 82.67 330 *e*P P 00 47 34.4 -0.4
comp=Z,6.0nm,0.8s
Y25A Mesa, Roswell 82.73 50 ⇓P P 00 47 35.5 +0.3
baz=82,SNR=6.8
X26A CR and CF Fran 82.77 49 ⇓P P 00 47 36.3 +0.8
baz=82
Z24A Sheeppen Canyo 82.78 51 ⇓P P 00 47 36.3 +0.7
baz=82
W27A Bowe Ranch, En 82.81 48 ⇑P P 00 47 36.3 +0.7
baz=82
CABF La Chapelle 82.90 331 *e*P P 00 47 35.2 -0.6
T31A Randall Ranch, 83.11 45 ⇓P P 00 47 37.5 +0.5
baz=83
LOR Lormes 83.12 333 *e*P P 00 47 36.4 -0.5
comp=Z,18nm,0.8s
LOR *e*R
comp=Z,115nm,19.2s
124A Stringfield Ra 83.18 51 ⇓P P 00 47 38.0 +0.3
baz=83,SNR=5.0
Z25A Roswell 83.18 51 ⇓P P 00 47 38.1 +0.5
baz=83,SNR=5.3
FLN La Foliniere 83.20 336 *e*P P 00 47 36.6 -0.6
comp=Z,15nm,0.9s
FLN *e*R
comp=Z,94nm,18.8s
LDF La Druitiere 83.25 336 *e*P P 00 47 36.9 -0.5
IDI Anoyia 83.40 313 *e*P P 00 47 38.1 -0.5
comp=Z,41nm,1.4s
IDI Anoyia 83.40 313 P P 00 47 38.1 -0.5
comp=Z,9.5nm,0.5s,baz=41,slow=8.3,SNR=19
SSF Saint Saulge 83.42 333 *e*P P 00 47 37.9 -0.5
comp=Z,16nm,0.9s
V30A Spur Ranch, Mi 83.58 46 ⇑P P 00 47 39.7 +0.2
baz=83
224A Cornudas Mount 83.59 52 ⇓P P 00 47 40.3 +0.5
baz=83,SNR=11
LPL La Plagne 83.60 330 *e*P P 00 47 39.6 0.0
comp=Z,12nm,0.7s
LPG La Plagne 83.61 330 *e*P P 00 47 39.8 +0.1
comp=Z,11nm,0.6s
Z26A Caprock 83.61 50 ⇓P P 00 47 40.0 +0.3
baz=83,SNR=18
Y27A Causey 83.62 49 ⇓P P 00 47 40.4 +0.6
baz=83
GRR Gorron 83.65 336 *e*P P 00 47 39.1 -0.4
comp=Z,19nm,1.0s
SMF Signal de Mont 83.66 332 *e*P P 00 47 39.3 -0.4
comp=Z,29nm,1.1s
125A Gardner Draw, 83.67 51 ⇓P P 00 47 40.5 +0.4
baz=83,SNR=12
AVF Avril sur Loir 83.70 333 *e*P P 00 47 39.6 -0.2
comp=Z,25nm,0.8s
MSTX Muleshoe 83.78 49 ⇑P P 00 47 41.0 +0.4
baz=84
MNTX Cornudas Mount 83.95 52 *e*P P 00 47 40.5 -0.9
comp=Z,11nm,1.4s

225A	Deer Hill, Car baz=84	83.97	51	⇑P		P	00 47 42.3	+0.6
Z27A	Tatum baz=84,SNR=19	84.01	50	⇓P		P	00 47 41.8	0.0
X29A	Tulia baz=84	84.02	48	⇓P		P	00 47 42.3	+0.5
126A	Clayton Basin, baz=84,SNR=5.3	84.05	51	⇑P		P	00 47 42.4	+0.4
324A	Moseley Ranch, baz=84	84.08	52	⇑P		P	00 47 42.8	+0.5
MBDF	Montbardon comp=Z,9.2nm,0.7s	84.25	329	*eP*		P	00 47 43.1	+0.2
SGMF	Saint Gilles	84.28	337	*eP*		P	00 47 42.6	-0.1
226B	Tecolote Peak, baz=84,SNR=12	84.38	51	⇑P		P	00 47 44.3	+0.6
ROSF	Rostrenen comp=Z,7.2nm,0.7s	84.41	337	*eP*		P	00 47 43.3	-0.1
W31A	Holland Ranch, baz=84	84.41	46	⇑P		P	00 47 44.8	+1.0
AGO	Saint Agoulin	84.42	332	*eP*		P	00 47 44.4	+0.8
ORIF	Oris-en-Rattie comp=Z,17nm,1.0s	84.42	330	*eP*		P	00 47 43.6	-0.1
ORIF	comp=Z,95nm,20.0s			*eR*				
Y29A	Porterfield Fa baz=84	84.47	48	⇑P		P	00 47 44.7	+0.6
Z28A	Tucker Farm, M baz=84	84.50	49	⇑P		P	00 47 44.5	+0.3
TCF	Toulx Ste Croi	84.53	333	*eP*		P	00 47 44.1	0.0
SBF	Sospel comp=Z,36nm,0.8s	84.73	329	*eP*		P	00 47 45.1	-0.1
X31A	McDonald Ranch baz=84	84.81	47	⇑P		P	00 47 46.4	+0.7
425A	Indio Mountain baz=85,SNR=12	84.85	52	⇓P		P	00 47 46.6	+0.4
Z29A	Hungry Hill Ra baz=85,SNR=10	84.90	49	⇓P		P	00 47 46.4	+0.2
VIVF	Saint-Julien-l comp=Z,27nm,1.1s	84.92	331	*eP*		P	00 47 46.1	0.0
128A	Castleberry Fa baz=85	84.94	50	⇓P		P	00 47 47.1	+0.7
MFF	Saint Martin d comp=Z,21nm,1.1s	85.02	335	*eP*		P	00 47 45.6	-0.9
326A	Caldwell Ranch baz=85,SNR=8.8	85.05	51	⇑P		P	00 47 47.5	+0.5
Z30A	Sanderson Ranc baz=85	85.20	48	⇓P		P	00 47 48.3	+0.6
PGF	Pioggiola comp=Z,84nm,1.3s	85.22	327	*eP*		P	00 47 46.9	-0.9
228A	UT Block 9, Go baz=85	85.25	50	⇓P		P	00 47 49.2	+1.2
FRF	La Foret Royal comp=Z,28nm,1.2s	85.29	329	*eP*		P	00 47 47.1	-0.8
WMOK	Wichita Mounta	85.37	46	*eP*		P	00 47 46.3	-2.3
WMOK	comp=Z,9.0nm,1.3s			pmax		pmax		
WMOK	Wichita Mounta comp=Z,9.0nm,1.3s	85.37	46	*eP*		P	00 47 46.2	-2.3
426A	McDonald Obser baz=85	85.49	52	⇓P		P	00 47 49.9	+0.5
LMR	La Mourre comp=Z,34nm,1.0s	85.54	329	*eP*		P	00 47 48.6	-0.6
Y32A	R-V Farms, Ver baz=85	85.58	47	⇓P		P	00 47 50.1	+0.6
RJF	Les Rejaudoux comp=Z,24nm,1.3s	85.63	333	*eP*		P	00 47 49.6	0.0
RJF	comp=Z,121nm,20.5s			*eR*				
328A	Wristen Ranch, baz=85,SNR=5.2	85.67	51	⇓P		P	00 47 50.4	+0.2
Z31A	Sharp Cattle R baz=86	85.71	48	⇓P		P	00 47 50.5	+0.2
427A	Hayter Ranch, baz=86,SNR=5.6	85.72	51	⇑P		P	00 47 50.8	+0.3
CAF	Calviac comp=Z,22nm,0.9s	85.77	332	*eP*		P	00 47 51.0	+0.6
229A	Bryant Ranch, baz=86	85.80	50	⇓P		P	00 47 51.6	+0.8
130A	Snyder baz=86	85.80	49	⇑P		P	00 47 51.2	+0.5
LASF	Ste Croix comp=Z,14nm,1.1s	85.88	331	*eP*		P	00 47 51.2	+0.3
526A	Mary Lane Ranc baz=86,SNR=7.4	85.90	52	⇓P		P	00 47 51.5	+0.1
TUL1	Tulsa baz=86	86.02	43	⇓P		P	00 47 52.5	+0.8
329A	Wagon Wheel Ra baz=86	86.06	50	⇑P		P	00 47 53.2	+1.1
131A	Roby baz=86	86.06	48	⇑P		P	00 47 52.7	+0.7
Z32A	Haskell baz=86	86.09	47	⇓P		P	00 47 52.4	+0.3
527A	Woodward Ranch baz=86	86.12	52	⇑P		P	00 47 52.8	+0.3
LFF	La Frestale comp=Z,25nm,0.9s	86.21	333	*eP*		P	00 47 53.0	+0.6
428A	Kincaid Ranch, baz=86,SNR=8.2	86.23	51	⇓P		P	00 47 53.4	+0.5
PMOR	Pomariorio Ree comp=Z,12nm,0.2s	86.24	114	*eT*		T	02 23 00.8	
626A	Big Bend Ranch baz=86,SNR=7.0	86.25	53	⇑P		P	00 47 53.6	+0.5
230A	Sterling City baz=86	86.25	49	⇓P		P	00 47 53.5	+0.5
ABTX	Abilene, Hawle baz=86	86.51	48	⇓P		P	00 47 54.8	+0.6
330A	Mertzon baz=86	86.58	50	⇓P		P	00 47 55.2	+0.6
528A	Cox Ranch, San baz=86,SNR=8.9	86.59	51	⇓P		P	00 47 55.3	+0.6
231A	Bronte baz=86	86.66	49	⇑P		P	00 47 55.5	+0.5
LTX	Lajitas	86.69	53	*eP*		P	00 47 55.7	+0.5
LTX	Lajitas	86.69	53	*eP*		P	00 47 55.7	+0.5
TX31	Lajitas Ar. Si	86.69	53	*eP*		P	00 47 52.9	-2.3
TXAR	Lajitas Array comp=Z,3.6nm,0.9s,baz=294,slow=4.4,SNR=30	86.69	53	P		P	00 47 55.7	+0.5
429A	Davenport Ranc baz=86	86.76	51	⇓P		P	00 47 56.0	+0.5
627A	Terlingua Ranc baz=86	86.76	52	⇑P		P	00 47 56.2	+0.6
529A	Stev Forest Ra baz=87,SNR=6.6	86.94	51	⇑P		P	00 47 57.0	+0.6
PPT2	Papeete2 comp=Z,92nm,22.8s	86.97	117	*eLR*		LR	01 15 26.1	
430A	Baggett Ranch, baz=87	87.01	50	⇓P		P	00 47 57.0	+0.2
628A	Black Gap, Mar baz=87	87.03	52	⇓P		P	00 47 57.3	+0.4
232A	Coleman baz=87	87.07	48	⇓P		P	00 47 57.6	+0.6
331A	San Angelo baz=87	87.07	49	⇑P		P	00 47 57.5	+0.5
MTLF	Montolieu comp=Z,12nm,0.9s	87.11	332	*eP*		P	00 47 57.2	+0.3
332A	Millersview baz=87	87.40	49	⇑P		P	00 47 59.1	+0.5
530A	J-C Ranch, Com baz=87	87.43	51	⇑P		P	00 47 59.8	+1.0
431A	Sonora baz=87	87.44	50	⇓P		P	00 47 59.6	+0.7
SIUC	Southern Illin comp=Z,21nm,1.0s	87.75	38	*eP*		P	00 47 58.2	-1.8
432A	Menard baz=88	87.75	49	⇓P		P	00 48 00.9	+0.6
PBMO	Poplar Bluff	87.95	39	*eP*		P	00 47 59.6	-1.5
EPF	Esparros comp=Z,10.0nm,0.9s	88.03	333	*eP*		P	00 48 01.2	-0.2
JCT	Junction City baz=88	88.05	49	⇓P		P	00 48 02.6	+0.9
WHTX	Lake Whitney baz=88	88.19	47	⇓P		P	00 48 03.1	+0.9
532A	Rocksprings baz=88	88.26	50	⇑P		P	00 48 03.3	+0.6
631A	Perdido Creek baz=88	88.42	51	⇑P		P	00 48 04.2	+0.8
ETSF	Etsaut comp=Z,6.3nm,0.7s	88.45	333	*eP*		P	00 48 04.0	+0.6
SJPF	Ste Jean	88.48	334	*eP*		P	00 48 02.3	-1.2
632A	Uvalde baz=88	88.80	50	⇑P		P	00 48 06.0	+0.8
732A	Laxson Ranch, baz=89	89.28	51	⇓P		P	00 48 08.3	+0.8
KEST	Kesra comp=Z,0.5nm,0.5s,baz=99,slow=13,SNR=4.0	90.78	323	P		P	00 48 13.0	-1.5
TBI	Tubuai comp=Z,14nm,0.3s	91.19	121	*eT*		T	02 29 13.8	
ES19	SONSECA Array	92.42	334	*eP*		P	00 48 20.9	-1.1
ESDC	Sonseca Array	92.47	334	*eP*		P	00 48 21.8	-0.4
ESDC	Sonseca Array comp=Z,1.3nm,0.6s,baz=16,slow=4.3,SNR=16	92.47	334	P		P	00 48 21.8	-0.4
MDT	Midelt comp=Z,58nm,18.2s,baz=327,slow=38	98.91	332	LR		LR	01 37 33.5	
KMBO	Kilima Mbogo	101.33	279	P		Pdif	00 49 02.4	-0.5
TOA0	comp=Z,1.8nm,0.9s,baz=30,slow=8.4,SNR=6.4 Torodi Ar. Sit	113.53	317	*eP*KiKP		PKiKP	00 53 48.9	-0.9
TOA0				*eP*P		PP	00 54 34.5	-6.1
TORD	Torodi Ar. Bea comp=Z,0.6nm,0.5s,baz=1.4,slow=1.5,SNR=13	113.53	317	PKiKP		PKiKP	00 53 48.9	-0.9
TORD				PP		PP	00 54 34.5	-6.1
TORD	comp=Z,2.7nm,1.0s,baz=26,slow=6.6,SNR=12			PKKPbc		PKKPbc	01 04 32.0	+0.1
DBIC	comp=Z,0.2nm,0.6s,baz=223,slow=2.0,SNR=4.2 Dimbokro	122.33	320	*eP*KPdf		PKPdf	00 54 06.3	-0.4
DBIC	Dimbokro comp=Z,2.8nm,0.7s,baz=76,slow=2.0,SNR=5.2	122.33	320	PKP		PKPdf	00 54 06.5	-0.2
MAW	Mawson comp=Z,11nm,0.7s,baz=123,slow=4.8,SNR=6.4	124.48	207	PKP		PKPdf	00 54 10.6	+1.6
QSPA	South Pole Qui	132.22	180	*eP*KPdf		PKPdf	00 54 23.4	-0.6
QSPA	South Pole Qui comp=Z,2.9nm,0.9s,baz=333,slow=2.9,SNR=7.3	132.22	180	PKP		PKPdf	00 54 23.3	-0.6
SNAA	Sanae	145.97	199	*eP*KPdf		PKPdf	00 54 48.8	0.0
H03N2	Juan Fernandez baz=297,slow=0.7,SNR=23	147.05	88	T		T	03 39 57.0	
H03N3	Juan Fernandez baz=297,slow=0.7,SNR=23	147.06	88	T		T	03 39 58.0	
H03N1	Juan Fernandez baz=297,slow=0.7,SNR=24	147.06	88	T		T	03 39 57.9	
LCO	Las Campanas	150.72	73	*e*PKPbc		PKPbc	00 55 02.8	-1.0
BDFB	Brasilia	152.00	20	*e*PKPbc		PKPbc	00 55 06.7	-0.1
BDFB	Brasilia comp=Z,6.4nm,0.8s,baz=315,slow=2.9,SNR=11	152.00	20	PKPbc		PKPbc	00 55 06.2	-0.5
PLCA	Paso Flores	155.96	97	*e*PKPab		PKPab	00 55 32.5	+0.1
PLCA	Paso Flores comp=Z,4.4nm,0.9s,baz=203,slow=4.9,SNR=4.1	155.96	97	PKPab		PKPab	00 55 32.5	+0.1

MAN 05 00:46:19,12°.43N×120°.34E,h25km,mb4.1,ML2.9,MS2.6,1C-1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUSP	Coron	0.45	197	*eP*	Pn	00 46 30.0	+0.2
SJMP	San Jose	0.76	88	*eP*	Pb	00 46 33.1	-0.6
PGP	Puerto Galera	1.22	29	⇓*iP*	Pn	00 46 40.0	-0.6
BOAC	Boac	1.79	55	*eP*	Pb	00 46 50.8	-0.3
AUQP	San Andres	2.44	69	*eP*	Pn	00 46 58.5	+1.1
RCP	Roxas	2.51	110	*eP*	Pn	00 46 59.4	+1.1

IDC 05 00:52:23.8±3.4,6°.52S×151°.22E,h0km,mb3.7/3,mb1 4.0/3,mb1mx3.5/18,mbtmp3.7/3,Error ellipse: s-maj=124.9km s-min=45.0km az=125.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 1.6nm,0.9s,baz=53,slow=9.9,SNR=2.8	21.13	229	P	P	00 57 10.1	-0.4
ASAR	Alice Springs 0.6nm,0.5s,baz=56,slow=8.8,SNR=14	23.82	222	P	P	00 57 38.4	-0.4
FITZ	Fitzroy Crossi 1.4nm,0.4s,baz=66,slow=7.3,SNR=10.0	27.47	243	P	P	00 58 11.9	0.0
TORD	Torodi Ar. Bea 0.4nm,0.7s,baz=85,slow=2.8,SNR=3.6	149.28	285	PKPbc	PKPbc	01 12 15.6	-0.1

MAN 05 00:53:58,12°.43N×120°.44E,h32km,mb4.0,ML2.8,MS2.5,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUSP	Coron	0.48	209	*eP*	Pn	00 54 09.6	+0.8
BUSP				*eS*	Sn	00 54 18.1	+2.0
SJMP	San Jose	0.67	87	*eP*	Pb	00 54 12.6	+1.4
LUBP	Lubang	1.31	352	*eP*	Pb	00 54 21.3	-0.7

NIED ***05*** *00:58:00,25°.20N×126°.90E,h14km,Mw4.4 Best double couple: M0 4.57000×10^15 NP1:φs 40.00000°,δ 74.00000°,λ 88.00000°. NP2:φs 227.00000°,δ 16.00000°,λ 97.00000°.*
IDC ***05*** *00:58:44.2±0.7,25°.21N×126°.86E,h0km,mb4.2/17,mb1 4.3/20,mb1mx4.1/31,mbtmp4.1/20,ML3.5/3,MS3.6/9,Ms1 3.6/9,ms1mx3.4/37,Error ellipse: s-maj=27.8km s-min=14.3km az=73.0*
ISCJB ***05*** *00:58:48.2±0.6,25°.14N±0°.05×126°.98E±0°.05,h42km±5km,mb4.2/22,MS3.8/6,Error ellipse: s-maj=9.5km s-min=5.0km az=142.9*
NEIC ***05*** *00:58:48.9±0.5,25°.17N×126°.87E,h35km,mb4.6/5,MW4.4(NIED),Error ellipse: s-maj=10.5km s-min=7.7km az=120.0*
JMA ***05*** *00:58:48.6±0.1,25°.15N×126°.90E,h28km,M4.0*
ISC 05 00:58:48.1±1.5,25°.16N±0°.07×126°.96E±0°.06,h27km±10km,n81,σ0 97/80,mb4.3/22,MS3.8/6,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	Kume jima 2	1.17	352	P	Pb	00 59 09.3	-0.3
JKE				*eS*	Sb	00 59 24.8	+0.4
JJT2	Tamagusuku 2	1.21	36	P	Pb	00 59 10.5	+0.3
JJT2				*eS*	Sb	00 59 26.5	+1.1
JAGN	Aguni-jima	1.44	10	P	Pb	00 59 13.6	-0.7
JOGS	Gusukube	1.47	254	P	Pb	00 59 13.3	-1.4
JMJ	Miyako jima 2	1.55	257	P	Pn	00 59 13.9	0.0
JOW	Kunigami	2.04	35	P	Pn	00 59 22.4	+1.7
JOW	Kunigami	2.04	35	*e*Pn	Pn	00 59 19.3	-1.4
JIH	Iheya	2.07	26	P	Pb	00 59 23.8	-1.2
JTJ	Tarama	2.11	256	P	Pn	00 59 21.8	+0.2
JTJ				*eS*	Sn	00 59 47.0	0.0
JIJ	Ishigaki jima	2.68	253	P	Pn	00 59 29.2	-0.2
JIJ				*eS*	Sn	01 00 00.9	-0.1
JTK	Tokunoshima	3.16	34	P	Pn	00 59 36.7	+0.6
JAMN	Amaminishikomi	3.65	32	P	Pn	00 59 43.1	+0.3
JMZ	Minamidaito 2	3.91	79	P	Pn	00 59 44.4	-1.9
JMZ				*eS*	Sn	01 00 25.6	-5.7
JAM	Amami Oshima	4.01	36	P	Pn	00 59 47.8	+0.1
JAM				*eS*	Sn	01 00 27.0	-6.8
YHNB	Yeheng	5.09	266	*e*Pg	Pb	01 00 18.2	+1.7
YULB	Yu-li	5.46	252	*e*Pn	Pn	01 00 05.0	-2.7
TPUB	Ta-pu	6.07	254	*e*Pn	Pn	01 00 13.1	-3.0
JNU	Nakatsue	8.64	22	*e*Pn	Pn	01 00 50.1	-1.3
JNU	Nakatsue 0.5nm,0.3s,baz=297,slow=2.3,SNR=4.4	8.64	22	Pn	Pn	01 00 51.3	-0.1
JNU	comp=Z,319nm,18.6s,baz=209,slow=42			LR	LR	01 04 46.1	
KSAR	Wonju Array Be	12.27	3	Pn	Pn	01 01 41.2	+0.3
KSRS	Korea Array 0.2nm,0.3s,baz=184,slow=15,SNR=3.5	12.28	4	Pn	Pn	01 01 41.2	+0.1
KSRS	comp=Z,213nm,18.2s,baz=20,slow=40			LR	LR	01 06 52.7	
MJAR	Matsushiro Arr	14.88	38	Pn	Pn	01 02 18.2	+1.5
MJAR	Matsushiro Arr 0.3nm,0.3s,baz=210,slow=9.7,SNR=2.4	14.88	38	Pn	Pn	01 02 18.3	+1.5
MJAR	comp=Z,91nm,20.9s,baz=230,slow=37			LR	LR	01 08 02.2	
SONM	Songino Array	27.86	330	P	P	01 04 34.0	-1.5
SONM	Songino Array 2.5nm,0.5s,baz=148,slow=11,SNR=10	27.86	330	P	P	01 04 34.0	-1.5
TAPN	Taplejung 19nm,0.8s	35.17	282	*eP*	P	01 05 41.4	+1.2
ODAN	Odare 42nm,0.8s	35.51	282	*eP*	P	01 05 44.1	+1.1
RAMN	Ramite 13nm,0.6s	36.20	282	*eP*	P	01 05 49.2	+0.3
PETK	Petropavlovsk- comp=Z,61nm,18.3s,baz=88,slow=40	36.20	31	LR	LR	01 22 36.7	
JIRN	Jiri 12nm,0.6s	36.48	283	*eP*	P	01 05 52.4	+0.9
GUN	Gumba 8.4nm,0.4s	36.73	284	*eP*	P	01 05 54.2	+0.5
PKI	Pulchoki 13nm,0.4s	37.18	283	*eP*	P	01 05 57.9	+0.5
KKN	Kakani 18nm,0.7s	37.27	283	*eP*	P	01 05 58.8	+0.7
DMN	Daman	37.45	283	*eP*	P	01 06 00.3	+0.7
GKN	Gorkha	37.82	284	*eP*	P	01 06 03.3	+0.7
DANN	Dangsing 30nm,0.6s	38.56	285	*eP*	P	01 06 10.2	+1.2
KOLN	Koldanda	38.76	284	*eP*	P	01 06 11.8	+1.2
MK31	Makanchi Array	41.41	313	*eP*	P	01 06 31.6	-0.6
MKAR	Makanchi Array	41.41	313	P	P	01 06 31.6	-0.5
MKAR	7.3nm,0.6s,baz=99,slow=10,SNR=90	41.41	313	P	P	01 06 31.6	-0.5
MKAR	comp=Z,89nm,19.1s,baz=262,slow=38			LR	LR	01 25 05.5	
ZALV	Zalesovo Beam	42.42	324	P	P	01 06 39.0	-1.2
ZALV	Zalesovo Beam 2.0nm,0.6s,baz=109,slow=7.9,SNR=11	42.42	324	P	P	01 06 39.0	-1.2
FITZ	Fitzroy Crossi	43.02	182	*eP*	P	01 06 43.6	-1.8
FITZ	Fitzroy Crossi 3.9nm,0.8s,baz=69,slow=3.4,SNR=6.7	43.02	182	P	P	01 06 45.8	+0.4
KURK	Kurchatov 2.2nm,0.5s	44.82	318	*eP*	P	01 06 58.6	-0.9
KURBB	Kurchatov Arra 1.9nm,0.4s,baz=107,slow=9.2,SNR=30	44.85	317	P	P	01 06 59.1	-0.7
TKM2	Tokmak 2 15nm,1.1s	45.37	306	*eP*	P	01 07 03.5	-0.9
WRAB	Tennant Creek	45.40	170	*eP*	P	01 07 05.0	+0.5
WRA	Warramunga Arr	45.41	170	P	P	01 07 04.9	+0.3
WRA	Warramunga Arr 3.1nm,0.7s,baz=352,slow=8.5,SNR=8.4	45.41	170	P	P	01 07 04.9	+0.3
AAK	Ala-Archa	46.15	306	P	P	01 07 10.8	+0.3
AAK	Ala-Archa 0.9nm,0.4s,baz=75,slow=7.5,SNR=4.9	46.15	306	P	P	01 07 10.8	+0.3
ASAR	Alice Springs	49.01	172	P	P	01 07 33.5	+1.0
ASAR	Alice Springs 1.3nm,0.7s,baz=356,slow=9.2,SNR=18	49.01	172	P	P	01 07 33.5	+1.0
KKAR	Karatay Array 2.0nm,0.6s	49.10	306	*eP*	P	01 07 33.0	-0.2
BVAR	Borovoye Array	50.31	319	P	P	01 07 41.4	-0.8
BVAR	Borovoye Array 1.2nm,0.6s,baz=98,slow=8.4,SNR=6.9	50.31	319	P	P	01 07 41.4	-0.8
KBL	Kabul 4.3nm,0.5s	50.51	295	*eP*	P	01 07 44.4	+0.1
ABKAR	Akbulak array 6.1nm,0.6s	56.54	314	*eP*	P	01 08 28.0	0.0
AKTO	Aktyubinsk	57.77	315	P	P	01 08 36.8	+0.1
AKTO	Aktyubinsk 2.5nm,0.7s,baz=102,slow=12,SNR=14	57.77	315	P	P	01 08 36.8	+0.1
ILAR	Eielson Array	65.91	28	P	P	01 09 31.6	+0.3
ILAR	Eielson Array 0.5nm,0.7s,baz=249,slow=5.8,SNR=6.2	65.91	28	P	P	01 09 31.6	+0.3
GNI	Garni comp=Z,44nm,18.2s,baz=259,slow=40	68.55	305	LR	LR	01 44 21.9	
KBZ	Khabaz	68.95	309	P	P	01 09 51.9	+1.1
KBZ	Khabaz 2.9nm,0.9s,baz=52,slow=1.6,SNR=8.0	68.95	309	P	P	01 09 51.9	+1.1
SPITS	Spitsbergen Ar comp=Z,58nm,20.5s,baz=145,slow=41	69.63	348	LR	LR	01 46 37.9	
ARCES	ARCESS Array B	70.58	339	P	P	01 09 59.9	-0.5
ARCES	ARCESS Array B 1.8nm,0.9s,baz=68,slow=8.1,SNR=6.8	70.58	339	P	P	01 09 59.9	-0.5
FINES	FINESS Array B	73.22	330	P	P	01 10 16.1	-0.3
FINES	FINESS Array B 4.4nm,0.9s,baz=49,slow=4.8,SNR=10	73.22	330	P	P	01 10 16.1	-0.3
AKASG	Malin Array Be comp=Z,76nm,20.6s,baz=70,slow=38	75.59	319	LR	LR	01 46 04.6	
BRTR	Keskin Array B	76.78	308	P	P	01 10 37.7	+0.1
BRTR	Keskin Array B 1.7nm,1.0s,baz=123,slow=4.6,SNR=9.1	76.78	308	P	P	01 10 37.7	+0.1
NB2	NORSAR Subarra comp=Z,5.5nm,1.1s,baz=57,slow=5.3	79.76	334	P	P	01 10 53.1	-0.4
NOA	NORSAR Array B	79.76	334	P	P	01 10 53.7	+0.2
NOA	NORSAR Array B comp=Z,2.4nm,0.9s,baz=55,slow=5.2,SNR=5.7	79.76	334	P	P	01 10 53.7	+0.2
CLL	Collm	84.36	325	*eP*	P	01 11 19.0	+1.2
GERES	GERESS Array B	85.35	322	P	P	01 11 22.2	-0.8
GERES	GERESS Array B comp=Z,0.5nm,0.6s,baz=47,slow=5.9,SNR=5.9	85.35	322	P	P	01 11 22.2	-0.8
SCHQ	Schefferville comp=Z,60nm,18.3s,baz=39,slow=36	99.45	8	LR	LR	01 58 13.6	

NIED ***05*** *01:00:00,25°.20N×126°.90E,h5km,Mw4.1 Best double couple: M0 1.76000×10^15 NP1:φs 186.00000°,δ 82.00000°,λ -28.00000°. NP2:φs 280.00000°,δ 62.00000°,λ -171.00000°.*
IDC ***05*** *01:00:26.4±0.8,25°.20N×126°.88E,h0km,mb4.0/15,mb1 4.1/16,mb1mx4.0/28,mbtmp4.0/16,ML3.6/1,Error ellipse: s-maj=32.8km s-min=15.7km az=72.0*
ISCJB ***05*** *01:00:28.8±0.5,25°.10N±0°.05×126°.98E±0°.05,h28km,mb4.0/15,Error ellipse: s-maj=8.6km s-min=4.4km az=142.8*
JMA ***05*** *01:00:31.0±0.1,25°.16N×126°.91E,h37km,M3.8*
ISC 05 01:00:30.0±0.7,25°.11N±0°.07×127°.01E±0°.06,h28km,n27,σ0 99/31,mb4.0/15,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	Tamagusuku 2	1.23	33	P	Pb	01 00 52.4	-0.1
JJT2				*eS*	Sb	01 01 07.8	-0.1
JKE	Kume jima 2	1.23	351	P	Pn	01 00 51.4	+0.1
JKE				*eS*	Sn	01 01 06.5	-0.4
JAGN	Aguni-jima	1.49	8	P	Pn	01 00 55.5	+0.6
JOGS	Gusukube	1.49	257	P	Pn	01 00 55.3	+0.4
JOGS				*eS*	Sn	01 01 12.7	-0.8
JMJ	Miyako jima 2	1.58	260	P	Pn	01 00 56.5	+0.4
JOW	Kunigami	2.06	33	P	Pb	01 01 05.3	-1.4
JTJ	Tarama	2.14	258	P	Pn	01 01 03.7	-0.2
JTJ				*eS*	Sn	01 01 28.8	-0.7
JIJ	Ishigaki jima	2.71	255	*eS*	Sn	01 01 42.2	-1.2
JAMN	Amaminishikomi	3.68	31	P	Pn	01 01 26.0	+1.1
JMZ	Minamidaito 2	3.88	79	P	Pn	01 01 26.2	-1.5
JAM	Amami Oshima	4.03	35	P	Pn	01 01 29.8	0.0
JNU	Nakatsue 0.6nm,0.3s,baz=239,slow=5.9,SNR=2.8	8.67	22	Pn	Pn	01 02 34.4	+0.8
SONM	Songino Array 1.6nm,0.5s,baz=146,slow=10.0,SNR=5.1	27.92	330	P	P	01 06 16.8	-1.1
MKAR	Makanchi Array 4.8nm,0.6s,baz=99,slow=10,SNR=18	41.47	313	P	P	01 08 13.7	-0.8
ZALV	Zalesovo Beam 0.6nm,0.3s,baz=114,slow=7.7,SNR=4.3	42.48	324	P	P	01 08 20.0	-2.5
FITZ	Fitzroy Crossi 0.9nm,0.6s,baz=18,slow=15,SNR=3.5	42.97	182	P	P	01 08 27.8	+1.0
KURBB	Kurchatov Arra 1.4nm,0.5s,baz=107,slow=9.1,SNR=9.4	44.91	318	P	P	01 08 41.3	-0.8
WRA	Warramunga Arr 2.3nm,0.7s,baz=353,slow=8.3,SNR=4.7	45.35	170	P	P	01 08 47.0	+1.2
ASAR	Alice Springs 0.6nm,0.6s,baz=353,slow=10,SNR=5.7	48.95	172	P	P	01 09 15.4	+1.5
BVAR	Borovoye Array 0.7nm,0.6s,baz=116,slow=13,SNR=3.7	50.38	319	P	P	01 09 23.8	-0.7
AKTO	Aktyubinsk 1.2nm,0.7s,baz=101,slow=13,SNR=4.5	57.84	315	P	P	01 10 19.1	+0.2
ILAR	Eielson Array 0.4nm,0.7s,baz=265,slow=5.4,SNR=4.4	65.94	28	P	P	01 11 13.5	+0.3
KBZ	Khabaz 1.3nm,0.7s,baz=166,slow=2.5,SNR=3.9	69.01	309	P

7.7nm,1.1s,baz=90,slow=2.8,SNR=5.1
NB2 NORSAR Subarra 146.18 353 PKP PKPab 01 22 11.5 +2.8
comp=Z,1.6nm,0.8s,baz=16,slow=3.4
NOA NORSAR Array B 146.18 353 PKPbc PKPab 01 22 08.6 -0.1
comp=Z,2.9nm,0.9s,baz=10,slow=2.3,SNR=5.6
HFS Hagfors 146.76 351 PKPbc PKPbc 01 22 09.1 -0.6
comp=Z,4.4nm,0.9s,baz=64,slow=3.4,SNR=5.4
AKASG Malin Array Be 149.87 327 PKPbc PKPbc 01 22 16.9 -1.3
comp=Z,0.2nm,0.3s,baz=47,slow=2.2,SNR=8.4
BRTR Keskin Array B 152.41 304 PKPbc PKPbc 01 22 24.3 -0.5
comp=Z,0.4nm,0.6s,baz=14,slow=1.8,SNR=3.4
BRTR PKPab PKPab 01 22 35.7 +0.8
comp=Z,0.6nm,0.8s,baz=32,slow=3.0,SNR=3.8
TORD Torodi Ar. Bea 165.50 172 PKPab PKPab 01 23 31.1 -0.5
comp=Z,2.6nm,1.3s,baz=191,slow=4.1,SNR=6.2

IDC 05 01:07:35.9±1.4, 15°.04S×171°.89W, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.7/19, mbtmp3.6/4, MS3.6/5, Ms1 3.6/5, ms1mx3.3/24, Error ellipse: s-maj=48.9km s-min=21.9km az=132.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.13**	**6**	Pn	Pg	01 07 58.1	+0.2
	135nm,0.3s,baz=202,slow=19,SNR=14						
AFI				Sn	Sg	01 08 12.4	-0.2
	354nm,0.3s,baz=165,slow=19,SNR=11						
RAO	**Raoul Island**	**15.20**	**200**	LR	LR	01 14 58.4	
	comp=Z,154nm,18.7s,baz=349,slow=29						
URZ	**Urewera**	**25.09**	**201**	LR	LR	01 21 47.8	
	comp=Z,79nm,20.4s,baz=325,slow=34						
H11S2	**WAKE ISLAND Hy**	**39.44**	**327**	T	T	01 57 16.6	
	baz=148,slow=0.7,SNR=4.7						
H11S3	**WAKE ISLAND Hy**	**39.45**	**327**	T	T	01 57 17.2	
	baz=148,slow=0.7,SNR=6.8						
H11S1	**WAKE ISLAND Hy**	**39.45**	**327**	T	T	01 57 17.9	
	baz=148,slow=0.7,SNR=6.4						
H11N3	**WAKE ISLAND Hy**	**40.35**	**328**	T	T	01 58 24.9	
	baz=147						
H11N1	**WAKE ISLAND Hy**	**40.36**	**328**	T	T	01 58 24.3	
	baz=147						
H11N2	**WAKE ISLAND Hy**	**40.37**	**328**	T	T	01 58 26.8	
	baz=147						
WRA	**Warramunga Arr**	**51.34**	**256**	P	P	01 16 42.0	-0.6
	0.4nm,0.3s,baz=92,slow=7.0,SNR=3.0						
ASAR	**Alice Springs**	**51.60**	**252**	P	P	01 16 43.9	-0.7
	0.8nm,0.4s,baz=90,slow=7.7,SNR=12						
YBH	**Yreka Blue Hor**	**72.44**	**36**	LR	LR	01 43 21.9	
	comp=Z,52nm,20.7s,baz=98,slow=30						
KSRS	**Korea Array**	**76.93**	**315**	LR	LR	01 54 03.7	
	comp=Z,20nm,18.3s,baz=175,slow=36						
TXAR	**Lajitas Array**	**79.21**	**56**	P	P	01 19 42.3	-1.0
	0.1nm,0.5s,baz=224,slow=5.0,SNR=3.2						
ILAR	**Eielson Array**	**81.82**	**11**	P	P	01 19 58.2	+1.7
	0.2nm,0.5s,baz=224,slow=4.9,SNR=6.3						
ULM	**Lac du Bonnet**	**92.75**	**39**	LR	LR	02 00 54.3	
	comp=Z,50nm,18.6s,baz=17,slow=34						
BRTR	**Keskin Array B**	**146.78**	**323**	PKPbc	PKPab	01 27 21.4	-0.3
	0.3nm,0.6s,baz=64,slow=3.4,SNR=3.2						

*ISN **05** 01:57:51.6±3.6, 38°.86N×38°.69E, h0km, ML3.4*
*DDA **05** 01:58:08.5, 38°.37N×39°.29E, h5km, ML4.0*
*ISK **05** 01:58:08.7, 38°.33N×39°.21E, h11km, MD3.7*
*ISCJB **05** 01:58:09.1±0.5, 38°.31N±0°.02×39°.23E±0°.02, h7km±4km, mb3.2/3, Error ellipse: s-maj=3.6km s-min=2.7km az=39.1*
*CSEM **05** 01:58:09.2±0.1, 38°.33N×39°.24E, h2km, ML4.0, Error ellipse: s-maj=3.6km s-min=3.2km az=43.0*
*IDC **05** 01:58:09.3±1.2, 38°.18N×39°.40E, h0km, mb3.3/3, mb1 3.3/7, mb1mx3.2/29, mbtmp3.3/7, ML3.1/3, Error ellipse: s-maj=21.2km s-min=13.9km az=148.0*
*NSSC **05** 01:58:11.5±1.7, 38°.20N×39°.35E, h3km±51km, MD1.9, ML3.7*

ISC 05 01:58:09.5±1.1, 38°.33N±0°.02×39°.25E±0°.02, h3km±9km, n111, σ1°06/142, mb3.4/3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.27**	**309**	*i* P	**Pg**	**01 58 14.5**	**-0.2**
ELZG				*i* S	**Sg**	**01 58 18.7**	**+0.5**
ELZG	**Elazig**	**0.27**	**309**	*i* P	**Pg**	**01 58 14.5**	**-0.2**
ELZG				*i* S	**Sg**	**01 58 18.7**	**+0.5**
PTK	**Pertek**	**0.57**	**11**	*e*Pg	**Pg**	**01 58 20.1**	**-0.4**
PTK				*e*Sg	**Sg**	**01 58 29.3**	**+1.3**
PTK	**Pertek**	**0.57**	**11**	*e*Pg	**Pg**	**01 58 20.1**	**-0.4**
PTK				*e*Sg	**Sg**	**01 58 29.3**	**+1.3**
MALT	**Malatya**	**0.65**	**269**	*e*PG	**Pg**	**01 58 20.8**	**-1.1**
MALT	**Malatya**	**0.65**	**269**	*e*Pg	**Pg**	**01 58 20.8**	**-1.1**
DIYA	**Diyarbakir**	**0.80**	**120**	*i* P	**Pg**	**01 58 25.2**	**+0.4**
DIYA				*i* S	**Sb**	**01 58 36.5**	**-0.8**
DIYA	**Diyarbakir**	**0.80**	**120**	*i* P	**Pg**	**01 58 25.2**	**+0.4**
DIYA				*i* S	**Sb**	**01 58 36.5**	**-0.8**
DIY	**Diyarbakir**	**0.88**	**119**	*e*PG	**Pg**	**01 58 26.9**	**+0.5**
DIY	**Diyarbakir**	**0.88**	**119**	*e*Pg	**Pg**	**01 58 26.9**	**+0.5**
KEMA	**Kemaliye**	**1.11**	**328**	*i* P	**Pg**	**01 58 28.7**	**-2.1**
KEMA				*i* S	**Sg**	**01 58 44.6**	**-0.6**
KEMA	**Kemaliye**	**1.11**	**328**	*i* P	**Pg**	**01 58 28.7**	**-2.1**
KEMA				*i* S	**Sg**	**01 58 44.6**	**-0.6**
BINT	**Bingol**	**1.11**	**60**	*e*Pn	**Pn**	**01 58 33.7**	**+1.5**
ATAB	**Bozova**	**1.14**	**222**	*i* P	**Pg**	**01 58 31.8**	**+0.4**
ATAB				*i* S	**Sn**	**01 58 48.5**	**-0.2**
ATAB	**Bozova**	**1.14**	**222**	*i* P	**Pg**	**01 58 31.8**	**+0.4**
ATAB				*i* S	**Sn**	**01 58 48.5**	**-0.2**
ILIC	**ilic-Erzincan**	**1.24**	**335**	*e*PN	**Pg**	**01 58 31.8**	**-1.5**
ILIC	**ilic-Erzincan**	**1.24**	**335**	*e*Pn	**Pg**	**01 58 31.8**	**-1.5**
MAZI	**Mazidag**	**1.28**	**132**	*e*PN	**Pg**	**01 58 33.2**	**-0.9**
MAZI	**Mazidag**	**1.28**	**132**	*e*Pn	**Pg**	**01 58 33.2**	**-0.9**
BNGB	**Bing¶ll**	**1.30**	**59**	*e*PN	**Pg**	**01 58 33.7**	**-0.7**
ERZN	**Erzincan**	**1.31**	**16**	*e*PN	**Pg**	**01 58 32.8**	**-1.8**
DARE	**Darende-Malaty**	**1.41**	**280**	*e*PN	**Pn**	**01 58 34.0**	**-2.2**
EZC	**Erzincan**	**1.42**	**3**	*e*PN	**Pn**	**01 58 35.2**	**-1.3**
EZC	**Erzincan**	**1.42**	**3**	*e*Pn	**Pn**	**01 58 35.2**	**-1.3**
MARD	**Mardin**	**1.58**	**129**	*i* P	**Pn**	**01 58 37.5**	**-1.1**
MARD				*i* S	**Sn**	**01 58 59.2**	**-0.4**
BNGL	**BINGOL**	**1.61**	**67**	*i* P	**Pn**	**01 58 38.9**	**-0.2**
BNGL				*i* S	**Sg**	**01 59 03.3**	**+2.0**
GZT	**Gaziantep**	**1.65**	**234**	*i* P	**Pn**	**01 58 39.0**	**-0.6**
GZT				*i* S	**Sg**	**01 59 03.9**	**+1.3**
BEST	**Besiri**	**1.65**	**105**	*i* P	**Pn**	**01 58 38.9**	**-0.6**
BEST				*i* S	**Sn**	**01 59 00.7**	**-0.7**
KBSD	**Kabsdagh**	**1.68**	**142**	*e*P	**Pn**	**01 58 39.7**	**-0.1**
KBSD				*e*S	**Sn**	**01 58 58.7**	**-3.1**
KBSD				AML	AML	01 59 04.8	
	comp=E,2μm,0.3s						
KBSD				AML	AML	01 59 05.2	
	comp=Z,1μm,0.3s						
KBSD				AML	AML	01 59 05.8	
	comp=N,3μm,0.4s						
KBSD	**Kabsdagh**	**1.68**	**142**	*e*P	**Pn**	**01 58 39.7**	**-0.1**
	SNR=57						
KBSD				*e*S	**Sn**	**01 58 58.7**	**-3.1**
	comp=N,3μm,0.4s,SNR=49						
BTMT	**Batman**	**1.77**	**94**	*e*PN	**Pn**	**01 58 40.2**	**-0.9**
BTMT	**Batman**	**1.77**	**94**	*e*Pn	**Pn**	**01 58 40.2**	**-0.9**
KELT	**Kelkit**	**1.82**	**0**	*i* P	**Pn**	**01 58 42.0**	**+0.1**
KELT				*i* S	**Sn**	**01 59 06.1**	**+0.5**
KELT	**Kelkit**	**1.82**	**0**	*i* P	**Pn**	**01 58 42.0**	**+0.1**
KELT				*i* S	**Sn**	**01 59 06.1**	**+0.5**
VRTB	**Varto-Mus**	**1.91**	**64**	*e*PN	**Pn**	**01 58 43.2**	**0.0**
VRTB	**Varto-Mus**	**1.91**	**64**	*e*Pn	**Pn**	**01 58 43.2**	**0.0**
SFNV	**Sufian**	**2.03**	**160**	*e*P	**Pn**	**01 58 44.7**	**+0.1**
SFNV				*e*S	**Sn**	**01 59 09.6**	**-0.9**
SFNV				AML	AML	01 59 21.8	
	comp=Z,654nm,0.4s						
SFNV				AML	AML	01 59 22.8	
	comp=N,1μm,0.6s						
SFNV				AML	AML	01 59 27.4	
	comp=E,2μm,0.5s						
SFNV	**Sufian**	**2.03**	**160**	*e*P	**Pn**	**01 58 44.7**	**+0.1**
	SNR=45						
SFNV				*e*S	**Sn**	**01 59 09.6**	**-0.9**
	comp=E,2μm,0.5s,SNR=40						
KMRS	**Kahramanmaras**	**2.03**	**247**	*e*PN	**Pn**	**01 58 43.6**	**-1.1**
KMRS	**Kahramanmaras**	**2.03**	**247**	*e*Pn	**Pn**	**01 58 43.6**	**-1.1**
SUSE	**Susehri**	**2.05**	**337**	*i* P	**Pb**	**01 58 47.0**	**-0.4**
SUSE				*i* S	**Sb**	**01 59 14.2**	**+0.8**
SUSE	**Susehri**	**2.05**	**337**	*i* P	**Pb**	**01 58 47.0**	**-0.4**
GUMT	**Gumushane**	**2.14**	**5**	*e*PN	**Pn**	**01 58 45.2**	**-1.0**
GUMT	**Gumushane**	**2.14**	**5**	*e*Pn	**Pn**	**01 58 45.2**	**-1.0**
AYKD	**Aykdinkavak**	**2.14**	**245**	*i* P	**Pn**	**01 58 45.7**	**-0.4**
AYKD				*i* S	**Sb**	**01 59 15.7**	**-0.2**
SCER	**sogukcermik**	**2.25**	**313**	*i* P	**Pn**	**01 58 48.9**	**+1.1**
SCER				*i* S	**Sn**	**01 59 15.7**	**-0.5**
SCER	**sogukcermik**	**2.25**	**313**	*i* P	**Pn**	**01 58 48.9**	**+1.1**
SCER				*i* S	**Sn**	**01 59 15.7**	**-0.5**
PINB	**Pinarbasi**	**2.26**	**280**	*i* P	**Pn**	**01 58 49.7**	**+1.6**
PINB				*i* S	**Sg**	**01 59 22.8**	**+0.6**
PINB	**Pinarbasi**	**2.26**	**280**	*i* P	**Pn**	**01 58 49.7**	**+1.6**
EZM	**Erzurum**	**2.28**	**46**	*e*PN	**Pn**	**01 58 47.6**	**-0.7**
SVSK	**Karacayir**	**2.36**	**313**	*e*PN	**Pn**	**01 58 48.4**	**-0.8**
SVSK	**Karacayir**	**2.36**	**313**	*e*Pn	**Pn**	**01 58 48.4**	**-0.8**
EKAR	**Karacoban**	**2.39**	**66**	*i* P	**Pb**	**01 58 51.7**	**-1.6**
EKAR				*i* S	**Sg**	**01 59 28.3**	**+2.2**
EKAR	**Karacoban**	**2.39**	**66**	*i* P	**Pb**	**01 58 51.7**	**-1.6**
ANDN	**Andirin**	**2.42**	**253**	*e*P	**Pn**	**01 58 50.0**	**0.0**
ANDN				*e*S	**Sb**	**01 59 25.8**	**+1.8**
ANDN	**Andirin**	**2.42**	**253**	*e*P	**Pn**	**01 58 50.0**	**0.0**
RSDY	**Resadiye-TOKAT**	**2.55**	**325**	*e*PN	**Pn**	**01 58 50.7**	**-1.1**
RSDY	**Resadiye-TOKAT**	**2.55**	**325**	*e*Pn	**Pn**	**01 58 50.7**	**-1.1**
ESPY	**Espiye-Giresun**	**2.62**	**351**	*e*PN	**Pn**	**01 58 52.2**	**-0.5**
ESPY	**Espiye-Giresun**	**2.62**	**351**	*e*Pn	**Pn**	**01 58 52.2**	**-0.5**
SIRT	**Sirnak**	**2.65**	**107**	*e*PN	**Pn**	**01 58 53.0**	**-0.3**
SIRT	**Sirnak**	**2.65**	**107**	*e*Pn	**Pn**	**01 58 53.0**	**-0.3**
BNN	**Bunyan**	**2.72**	**282**	*e*PN	**Pn**	**01 58 53.3**	**-0.9**
BNN	**Bunyan**	**2.72**	**282**	*e*Pn	**Pn**	**01 58 53.3**	**-0.9**
JHLN	**Al Jahlan**	**2.73**	**194**	*e*P	**Pn**	**01 58 55.1**	**+0.9**
JHLN				*e*S	**Sn**	**01 59 25.8**	**-2.0**
JHLN	**Al Jahlan**	**2.73**	**194**	*e*P	**Pn**	**01 58 55.2**	**+0.9**
	SNR=45						
JHLN				*e*S	**Sn**	**01 59 25.8**	**-2.0**
	SNR=40						
MZRK	**Al-Mazaregh**	**2.74**	**155**	*e*P	**Pn**	**01 58 53.5**	**-0.9**
MZRK				*e*S	**Sn**	**01 59 25.1**	**-2.9**
MZRK				AML	AML	01 59 39.5	
	comp=N,955nm,0.7s						
MZRK				AML	AML	01 59 43.4	
	comp=Z,281nm,0.4s						
MZRK				AML	AML	01 59 43.6	
	comp=E,617nm,0.6s						
MZRK	**Al-Mazaregh**	**2.74**	**155**	*e*P	**Pn**	**01 58 53.5**	**-0.9**
	SNR=45						
MZRK				*e*S	**Sn**	**01 59 25.1**	**-2.9**
	comp=E,617nm,0.6s,SNR=40						
KOZT	**Kozan**	**2.84**	**254**	*e*PN	**Pn**	**01 58 55.1**	**-0.6**
KOZT	**Kozan**	**2.84**	**254**	*e*Pn	**Pn**	**01 58 55.1**	**-0.6**
TOKT	**Tokat**	**2.89**	**314**	*e*PN	**Pn**	**01 58 56.1**	**-0.5**
TOKT	**Tokat**	**2.89**	**314**	*e*Pn	**Pn**	**01 58 56.1**	**-0.5**
TOKA	**Tokat**	**2.93**	**314**	*i* P	**Pn**	**01 58 57.9**	**+0.8**
TOKA				*i* S	**Sn**	**01 59 32.8**	**0.0**
TOKA	**Tokat**	**2.93**	**314**	*i* P	**Pn**	**01 58 57.9**	**+0.8**
TOKA				*i* S	**Sn**	**01 59 32.8**	**0.0**
AGRB	**Hanur-Agry**	**3.17**	**66**	*e*PN	**Pn**	**01 59 00.1**	**-0.4**
AGRB	**Hanur-Agry**	**3.17**	**66**	*e*Pn	**Pn**	**01 59 00.1**	**-0.4**
HTY	**Hatay**	**3.32**	**229**	*e*PN	**Pn**	**01 59 02.2**	**-0.2**
HTY	**Hatay**	**3.32**	**229**	*e*Pn	**Pn**	**01 59 02.2**	**-0.2**
YOZ	**Yozgat**	**3.33**	**294**	*e*PN	**Pn**	**01 59 02.1**	**-0.5**
YOZ	**Yozgat**	**3.33**	**294**	*e*Pn	**Pn**	**01 59 02.2**	**-0.5**
AVNT	**Avonos**	**3.48**	**279**	*i* P	**Pn**	**01 59 06.2**	**+1.5**
AVNT	**Avonos**	**3.48**	**279**	*i* P	**Pn**	**01 59 06.2**	**+1.5**
KARA	**Karaisali**	**3.49**	**254**	*e*PN	**Pn**	**01 59 04.5**	**-0.2**
KARA	**Karaisali**	**3.49**	**254**	*e*Pn	**Pn**	**01 59 04.5**	**-0.2**
HAKT	**HAKKARI**	**3.61**	**101**	*i* P	**Pn**	**01 59 06.1**	**-0.5**
HAKT	**HAKKARI**	**3.61**	**101**	*i* P	**Pn**	**01 59 06.1**	**-0.5**
BCA	**Borcka**	**3.61**	**30**	*e*PN	**Pn**	**01 59 06.5**	**+0.2**
BCA	**Borcka**	**3.61**	**30**	*e*Pn	**Pn**	**01 59 06.6**	**+0.2**
NIG	**Nigde**	**3.66**	**268**	*e*PN	**Pn**	**01 59 06.8**	**-0.5**
NIG	**Nigde**	**3.66**	**268**	*e*Pn	**Pn**	**01 59 06.8**	**-0.5**
KVT	**Kavak**	**3.70**	**319**	*e*PN	**Pn**	**01 59 07.3**	**-0.3**
KVT	**Kavak**	**3.70**	**319**	*e*Pn	**Pn**	**01 59 07.3**	**-0.3**
CLDR	**Caldiran**	**3.74**	**76**	*e*PN	**Pn**	**01 59 08.8**	**+0.4**
CLDR	**Caldiran**	**3.74**	**76**	*e*Pn	**Pn**	**01 59 08.8**	**+0.4**
CORM	**Corum**	**4.04**	**299**	*e*PN	**Pn**	**01 59 12.3**	**0.0**
CORM	**Corum**	**4.04**	**299**	*e*Pn	**Pn**	**01 59 12.3**	**0.0**
DIKM	**Dikmen**	**4.52**	**319**	*e*PN	**Pn**	**01 59 18.2**	**-0.6**
DIKM	**Dikmen**	**4.52**	**319**	*e*Pn	**Pn**	**01 59 18.2**	**-0.6**
BRTR	**Keskin Array B**	**4.59**	**289**	Pn	**Pn**	**01 59 21.2**	**+1.3**
	comp=E,0.5nm,0.3s,baz=112,slow=11,SNR=44						
BRTR				Lg	Lg	02 00 42.1	
	baz=112,slow=33,SNR=3.5						
GNI	**Garni**	**4.63**	**65**	*e*PN	**Pn**	**01 59 21.1**	**+0.5**
GNI	**Garni**	**4.63**	**65**	*e*Pn	**Pn**	**01 59 21.1**	**+0.5**
GNI	**Garni**	**4.63**	**65**	Pn	**Pn**	**01 59 20.8**	**+0.2**
	comp=E,0.9nm,0.3s,baz=297,slow=2.3,SNR=5.2						
AFSR	**Af˙ar-Bala (A**	**4.95**	**285**	*e*PN	**Pn**	**01 59 25.2**	**+0.3**
AFSR	**Af˙ar-Bala (A**	**4.95**	**285**	*e*Pn	**Pn**	**01 59 25.2**	**+0.3**
IKRK	**Kirkuk**	**5.02**	**124**	*e*Pn	Pn	01 59 21.0	-4.7
	baz=309						
IKRK				*e*Sn	Sn	02 00 17.0	-7.3
MMAI	**Mount Meron Ar**	**6.16**	**212**	Pn	**Pn**	**01 59 41.0**	**-0.4**
	comp=E,0.9nm,0.3s,baz=30,slow=15,SNR=6.4						
MMAI				Lg	Lg	02 01 23.0	
	comp=E,0.7nm,0.3s,baz=32,slow=21,SNR=2.7						
ASF	**Jabal al Asfar**	**6.44**	**198**	Pn	**Pn**	**01 59 44.3**	**-1.0**
	comp=E,0.4nm,0.3s,baz=330,slow=20,SNR=3.6						
ASF				Lg	Lg	02 01 29.6	
	comp=E,0.3nm,0.3s,baz=296,slow=7.6,SNR=2.1						
EIL	**Elat**	**9.34**	**204**	Lg	Lg	02 03 06.7	
	comp=E,0.1nm,0.3s,baz=66,slow=20,SNR=1.9						
GERES	**GERESS Array B**	**21.19**	**308**	P	**P**	**02 02 57.1**	**+0.9**
	comp=E,0.2nm,0.4s,baz=106,slow=9.8,SNR=4.2						
KURBB	**Kurchatov Arra**	**30.24**	**53**	P	**P**	**02 04 23.0**	**+1.6**
	comp=E,0.2nm,0.2s,baz=256,slow=7.6,SNR=2.6						
MKAR	**Makanchi Array**	**32.47**	**61**	P	**P**	**02 04 42.9**	**+1.8**
	comp=E,0.4nm,0.8s,baz=267,slow=13,SNR=2.1						

BJI 05 02:11:37.7, 24°.96N×98°.66E, h15km, ML3.9/5, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**3.70**	**87**	Pg	Pg	02 12 49.1	+0.1
KMI				Sg	Sg	02 13 33.3	-4.0
KMI				SMN			
	230nm,0.9s						
KMI				SME			
	220nm,1.0s						

IDC 05 02:22:31.5±1.2, 6°.38S×152°.74E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.8/19, mbtmp4.0/7, ML2.8/1, MS2.6/2, Ms1 2.6/2, ms1mx2.6/21, Error ellipse: s-maj=50.3km s-min=23.8km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.29**	**241**	Pn	Pn	02 24 06.3	+0.8
	1.3nm,0.3s,baz=106,slow=7.4,SNR=2.7						
PMG				Sn	Sn	02 25 14.6	-3.6
	1.1nm,0.3s,baz=131,slow=20,SNR=2.5						
PMG				LR	LR	02 25 43.9	
	comp=Z,49nm,19.8s,baz=61,slow=31						
HNR	**Honiara**	**7.76**	**113**	LR	LR	02 26 11.2	
	comp=Z,49nm,19.2s,baz=140,slow=28						
WRA	**Warramunga Arr**	**22.38**	**231**	P	P	02 27 32.1	+0.5
	1.5nm,0.7s,baz=58,slow=10,SNR=4.6						
ASAR	**Alice Springs**	**24.96**	**225**	P	P	02 27 57.2	+0.2
	3.1nm,0.7s,baz=62,slow=8.9,SNR=27						
STKA	**Stephens Creek**	**27.42**	**201**	P	P	02 28 17.8	-1.2
	1.3nm,0.5s,baz=34,slow=7.3,SNR=2.0						
ZALV	**Zalesovo Beam**	**82.43**	**326**	P	P	02 34 54.9	-0.7
	0.5nm,0.3s,baz=93,slow=5.8,SNR=4.0						
QSPA	**South Pole Qui**	**83.59**	**180**	P	P	02 35 02.0	+0.3
	1.6nm,0.6s,baz=4.2,slow=1.5,SNR=6.6						
ILAR	**Eielson Array**	**83.64**	**22**	P	P	02 35 02.2	+0.6
	0.4nm,0.6s,baz=246,slow=4.8,SNR=5.8						
TORD	**Torodi Ar. Bea**	**150.70**	**285**	PKPbc	PKPbc	02 42 26.3	-0.5
	1.1nm,0.7s,baz=75,slow=2.5,SNR=9.2						

DJA 05 02:47:59.2±1.4, 1°.8S±7°×110°.0E±°, h76km±8km, M3.5/3, MLv3.5/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.32**	**121**	P	Pn	02 48 12.2	+1.0
PDSI				S	Sn	02 48 23.2	+3.2
PPI	**Padang Panjang**	**0.36**	**35**	P	Pn	02 48 12.8	+1.4
PPI				S	Sn	02 48 23.5	+3.1
SDSI	**Sungai Dareh**	**1.25**	**98**	P	Pn	02 48 22.1	+0.9
SDSI				S	Sn	02 48 38.5	+0.9

GUC 05 02:51:59.3±0.3, 23°.78S×67°.21W, h220km, ML3.8, 2C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	**Plate Boundary**	**2.58**	**305**	⇓*i* P		02 52 53.2	+7.9
PB04				*e*S	S	02 53 34.0	+13
PB09	**Plate Boundary**	**2.72**	**316**	*e*P	Pn	02 52 49.8	+2.6
PB09				*i* S	S	02 53 27.5	+3.1
PB09				AML	AML	02 53 30.1	
	comp=N,154nm,0.3s						
CEN1	**Los Morros**	**2.77**	**277**	*e*P	Pn	02 52 50.5	+2.9
CEN1				*i* S	S	02 53 29.4	+4.2
ANCH	**Antofagasta**	**2.94**	**271**	*i* P	Pn	02 52 51.1	+1.9
ANCH				*i* S	S	02 53 30.2	+2.0
PB10	**Plate Boundary**	**3.08**	**274**	⇑*i* P	Pn	02 52 52.8	+1.9
PB10				*i* S	S	02 53 33.5	+2.4
PB07	**Plate Boundary**	**3.20**	**309**	⇑*i* P	Pn	02 52 54.7	+2.0
PB07				*i* S	S	02 53 36.7	+2.4
PB01	**Plate Boundary**	**3.44**	**322**	*e*P	Pn	02 52 57.2	+1.9
PB01				*i* S	S	02 53 42.0	+2.9
HMBC	**Humberstone**	**4.28**	**324**	*i* P	Pn	02 53 06.5	+1.0
HMBC				*i* S	S	02 53 59.2	+1.8

*IDC **05** 02:59:21.3±0.8, 8°.45N×126°.44E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.7/25, mbtmp3.8/8, MS3.1/1, Ms1 3.1/1, ms1mx2.6/41, Error ellipse: s-maj=55.5km s-min=17.3km az=80.0*
*ISCJB **05** 02:59:24.3±0.6, 8°.45N±0°.05×126°.05E±0°.06, h34km, mb3.8/8, MS3.0/1, Error ellipse: s-maj=8.8km s-min=6.8km az=166.1*

ISC 05 02:59:25.7±0.8, 8°.48N±0°.05×126°.02E±0°.08, h34km, n24, σ1°85/20, mb3.8/8, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.63**	**321**	*e*P	**Pn**	**02 59 36.4**	**-1.7**
BUTP				*e*S	**Sb**	**02 59 43.7**	**-3.4**
BUKP	**Musuan**	**1.12**	**238**	*e*P	**Pn**	**02 59 42.0**	**-3.0**
SCPH	**Surigao**	**1.40**	**338**	⇑*e*P	**Pb**	**02 59 49.4**	**-1.9**
MATI	**Mati**	**1.54**	**171**	*e*P	**Pn**	**02 59 49.0**	**-1.8**
MSLP	**Maasin**	**2.00**	**325**	*e*P	**Pn**	**02 59 57.9**	**+0.7**
CTBH	**Cotabato--PC H**	**2.15**	**235**	⇑*i* P	**Pn**	**02 59 58.6**	**-0.6**
CTBH				*i* S	**Sn**	**03 00 26.2**	**+1.4**
TBP	**Tagbilaran**	**2.45**	**300**	*e*P	**Pn**	**03 00 03.4**	**+0.2**
TBP				*e*S	**Sn**	**03 00 30.3**	**-1.7**
DCPH	**Dipolog City**	**2.64**	**273**	⇑*e*P	**Pn**	**03 00 06.9**	**+1.0**
PAGZ	**Pagadian**	**2.68**	**257**	*e*P	**Pn**	**03 00 07.2**	**+0.7**
FITZ	**Fitzroy Crossi**	**26.41**	**181**	P	**P**	**03 04 58.7**	**-0.6**
	3.1nm,1.1s,baz=128,slow=5.0,SNR=3.5						
KSRS	**Korea Array**	**28.90**	**3**	LR	LR	03 15 56.1	
	comp=Z,33nm,18.0s,baz=261,slow=34						
WRA	**Warramunga Arr**	**29.40**	**164**	P	**P**	**03 05 24.9**	**-1.2**
	0.8nm,1.0s,baz=346,slow=10,SNR=2.7						
ASAR	**Alice Springs**	**32.86**	**167**	P	**P**	**03 05 57.0**	**+0.4**
	0.5nm,0.6s,baz=342,slow=7.3,SNR=7.3						
USRK	**Ussuriysk Arra**	**35.97**	**7**	P	**P**	**03 06 22.1**	**-1.0**
	2.6nm,0.7s,baz=204,slow=6.1,SNR=3.3						
H11S3	**WAKE ISLAND Hy**	**40.70**	**72**	T	T	03 50 12.0	
	baz=278,slow=0.7,SNR=5.8						
H11S1	**WAKE ISLAND Hy**	**40.71**	**72**	T	T	03 50 13.0	
	baz=278,slow=0.7,SNR=3.5						
H11S2	**WAKE ISLAND Hy**	**40.71**	**72**	T	T	03 50 12.6	
	baz=278						
H11N1	**WAKE ISLAND Hy**	**41.08**	**70**	T	T	03 50 36.9	
	baz=270						
H11N2	**WAKE ISLAND Hy**	**41.09**	**70**	T	T	03 50 37.5	
	baz=270				

JIH	**Iheya**	**1.75**	**288**	P	**Pn**	**04 18 58.7**	**-0.7**
JIH				*e*S	**Sn**	**04 19 19.8**	**-0.7**
JZK	**Kikaishima**	**1.81**	**4**	*e*S	**Sn**	**04 19 22.3**	**+0.3**
JAMN	**Amaminishikomi**	**1.84**	**341**	P	**Pn**	**04 18 59.5**	**-1.0**
JAMN				*e*S	**Sn**	**04 19 20.5**	**-2.0**
JJT2	**Tamagusuku 2**	**1.91**	**260**	P	**Pn**	**04 19 00.9**	**-0.5**
JJT2				*e*S	**Sn**	**04 19 23.6**	**-0.6**
JAM	**Amami Oshima**	**1.92**	**354**	P	**Pn**	**04 19 00.7**	**-0.9**
JAM				S	**Sn**	**04 19 22.4**	**-2.1**
JAGN	**Aguni-jima**	**2.33**	**273**	P	**Pn**	**04 19 05.6**	**-1.6**
JAGN				S	**Sn**	**04 19 33.1**	**-1.4**
JKE	**Kume jima 2**	**2.74**	**267**	P	**Pn**	**04 19 11.5**	**-1.4**
JKE				S	**Sn**	**04 19 41.8**	**-3.0**
JNN	**Nakanoshima**	**3.33**	**1**	*e*S	**Sn**	**04 19 57.0**	**-2.4**
MKAR	**Makanchi Array**	**42.44**	**311**	P	P	04 26 17.3	-5.4
	0.2nm,0.5s,baz=112,slow=10,SNR=4.4						
WRA	**Warramunga Arr**	**46.37**	**174**	P	**P**	**04 26 55.4**	**+1.1**
	1.5nm,1.1s,baz=354,slow=8.4,SNR=4.7						
ASAR	**Alice Springs**	**50.02**	**175**	P	P	04 27 25.2	+2.7
	0.4nm,0.8s,baz=9.9,slow=11,SNR=4.2						
ASAR				LR	LR	04 46 27.6	
	comp=Z,105nm,19.3s,baz=92,slow=34						
BVAR	**Borovoye Array**	**51.04**	**318**	LR	LR	04 50 51.2	
	comp=Z,51nm,18.7s,baz=171,slow=39						
FINES	**FINESS Array B**	**73.34**	**331**	P	**P**	**04 30 00.4**	**+1.3**
	3.5nm,0.9s,baz=66,slow=4.7,SNR=4.8						
GERES	**GERESS Array B**	**85.85**	**324**	P	**P**	**04 31 09.2**	**+1.7**
	0.2nm,0.3s,baz=31,slow=6.2,SNR=4.0						

IDC 05 04:20:26.4±6.2, 16°28S×173°.64W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/18, mbtmp3.8/3, MS2.8/1, Ms1 2.8/1, ms1mx2.5/27, Error ellipse: s-maj=256.0km s-min=62.3km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**26.62**	**282**	LR	LR	04 33 39.3	
	comp=Z,21nm,20.6s,baz=157,slow=30						
STKA	**Stephens Creek**	**43.40**	**241**	P	P	04 28 30.9	-0.2
	0.4nm,0.4s,baz=75,slow=12,SNR=2.8						
WRA	**Warramunga Arr**	**49.43**	**258**	P	P	04 29 18.3	-0.3
	0.3nm,0.5s,baz=90,slow=6.5,SNR=2.2						
ASAR	**Alice Springs**	**49.53**	**253**	P	P	04 29 20.1	0.0
	2.1nm,0.6s,baz=88,slow=8.5,SNR=31						
BRTR	**Keskin Array B**	**146.69**	**320**	PKPbc	PKPdf	04 40 09.9	+0.8
	0.4nm,0.7s,baz=41,slow=4.6,SNR=3.3						

MAN 05 04:22:30, 8°35N×122°.95E, h36km, mb4.0, ML2.8, MS2.5, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.46**	**60**	*e*P	Pn	04 22 42.6	+2.6
DCPH				*e*S	Sn	04 22 49.7	+2.7
PAGZ	**Pagadian**	**0.66**	**139**	*e*P	Pn	04 22 45.4	+2.5
PAGZ				*e*S	Sn	04 22 54.2	+2.1
IPIL	**Ipil**	**0.67**	**214**	*i*P	Pn	04 22 45.7	+2.6

IDC 05 04:27:44.7±2.4, 16°.53S×173°.33W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/21, mbtmp3.8/3, Error ellipse: s-maj=68.2km s-min=51.2km az=27.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.00**	**30**	Pn	Pn	04 28 20.3	-13
	15nm,0.3s,baz=222,slow=15,SNR=9.4						
AFI				Sn	Sn	04 28 45.7	-25
	67nm,0.3s,baz=277,slow=19,SNR=17						
WRA	**Warramunga Arr**	**19.62**	**258**	P	P	04 36 38.5	-0.3
	0.3nm,0.4s,baz=92,slow=7.3,SNR=2.9						
ASAR	**Alice Springs**	**49.84**	**253**	P	P	04 36 40.0	0.0
	1.4nm,0.6s,baz=88,slow=8.1,SNR=18						
QSPA	**South Pole Qui**	**73.52**	**180**	P	P	04 39 19.3	0.0
	1.3nm,1.0s,baz=42,slow=1.1,SNR=3.6						
BRTR	**Keskin Array B**	**147.06**	**320**	PKPbc	PKPbc	04 47 29.4	-0.7
	0.4nm,0.4s,baz=88,slow=3.3,SNR=4.1						

IDC 05 04:33:50.4±2.7, 1°.10N×97°.37E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/27, mbtmp3.6/7, ML4.2/1, Error ellipse: s-maj=109.7km s-min=20.1km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.32**	**5**	P	Pn	04 37 53.9	+0.1
	0.3nm,0.3s,baz=197,slow=12,SNR=3.0						
H08S2	**Diego Garcia H**	**26.29**	**250**	T	T	05 06 27.7	
	baz=71,slow=0.7,SNR=458						
H08S3	**Diego Garcia H**	**26.29**	**250**	T	T	05 06 29.3	
	baz=71,slow=0.7,SNR=458						
H08S1	**Diego Carcia H**	**26.31**	**250**	T	T	05 06 30.4	
	baz=71,slow=0.7,SNR=276						
H08N1	**Diego Carcia H**	**27.33**	**254**	T	T	05 08 39.0	
	baz=112,slow=0.7,SNR=3.7						
H08N2	**Diego Garcia H**	**27.34**	**254**	T	T	05 08 40.7	
	baz=112,slow=0.7,SNR=2.9						
H08N3	**Diego Garcia H**	**27.35**	**254**	T	T	05 08 38.8	
	baz=112						
H01W3	**Cape Leeuwin H**	**39.09**	**158**	T	T	05 22 37.6	
	baz=330						
H01W2	**Cape Leeuwin H**	**39.10**	**158**	T	T	05 22 37.5	
	baz=330						
H01W1	**Cape Leeuwin H**	**39.11**	**158**	T	T	05 22 38.3	
	baz=330						
WRA	**Warramunga Arr**	**41.84**	**122**	P	P	04 41 42.3	-0.2
	0.3nm,0.7s,baz=301,slow=8.8,SNR=3.9						
ASAR	**Alice Springs**	**43.20**	**127**	P	P	04 41 53.5	-0.1
	0.1nm,0.3s,baz=303,slow=7.7,SNR=3.8						
SONM	**Songino Array**	**47.20**	**8**	P	P	04 42 24.9	-0.2
	0.9nm,0.6s,baz=187,slow=9.4,SNR=6.0						
MKAR	**Makanchi Array**	**47.38**	**346**	P	P	04 42 26.6	+0.2
	0.7nm,0.7s,baz=162,slow=9.1,SNR=7.8						
KURBB	**Kurchatov Arra**	**51.87**	**345**	P	P	04 43 00.1	-0.4
	0.6nm,0.8s,baz=167,slow=6.6,SNR=4.7						
ZALV	**Zalesovo Beam**	**53.68**	**351**	P	P	04 43 13.7	-0.2
	0.9nm,0.3s,baz=184,slow=7.0,SNR=5.2						

*IDC **05** 05:03:37.7±1.2, 55°.56S×27°.30W, h0km, mb3.5/2, mb1 3.5/3, mb1mx3.4/15, mbtmp3.4/3, ML2.9/1, MS3.2/1, Ms1 3.2/1, ms1mx2.9/8, Error ellipse: s-maj=60.2km s-min=27.9km az=93.0*

ISC 05 05:03:39.2±1.4, 55°.5S±0°.2×27°.5W±0°.4, h10km, n14, σ1°38/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	**Neumayer--Watz**	**17.75**	**158**	*e*P	**P**	**05 07 48.8**	**+2.0**
SNAA	**Sanae**	**19.30**	**156**	*e*P	**Pn**	**05 08 04.3**	**-0.6**
SNAA	**Sanae**	**19.30**	**156**	P	**Pn**	**05 08 03.9**	**-1.0**
	0.0nm,0.3s,baz=310,slow=13,SNR=11						
CPUP	**Villa Florida**	**36.34**	**311**	LR	LR	05 24 00.8	
	comp=Z,34nm,20.7s,baz=272,slow=34						
VNDA	**Vanda**	**47.10**	**183**	P	**P**	**05 12 10.3**	**-0.2**
	0.3nm,0.5s,baz=181,slow=10.0,SNR=5.3						
H10S2	**ASCENSION HYDR**	**47.53**	**17**	T	T	06 03 52.9	
	baz=190,slow=0.7,SNR=20						
H10S3	**ASCENSION HYDR**	**47.54**	**17**	T	T	06 03 44.0	
	baz=190,slow=0.7,SNR=21						
H10S1	**ASCENSION HYDR**	**47.55**	**17**	T	T	06 03 45.0	
	baz=190,slow=0.7,SNR=15						
H10N1	**ASCENSION HYDR**	**48.65**	**17**	T	T	06 05 06.1	
	baz=189						
H10N3	**ASCENSION HYDR**	**48.65**	**17**	T	T	06 05 08.5	
	baz=189,slow=0.7						
H10N2	**ASCENSION HYDR**	**48.67**	**17**	T	T	06 05 10.3	
	baz=189,slow=0.7						
TORD	**Torodi Ar. Bea**	**72.67**	**30**	P	**P**	**05 15 07.9**	**+1.0**
	0.4nm,0.6s,baz=204,slow=6.2,SNR=8.5						
ILAR	**Eielson Array**	**149.64**	**312**	PKPbc	**PKPbc**	**05 23 27.4**	**0.0**
	1.2nm,0.7s,baz=110,slow=2.7,SNR=16						
SONM	**Songino Array**	**150.85**	**86**	PKPbc	**PKPbc**	**05 23 30.1**	**-0.9**
	0.4nm,0.7s,baz=256,slow=3.0,SNR=3.0						
SONM				PKPab	**PKPab**	**05 23 36.8**	**-1.5**
	0.5nm,0.5s,baz=264,slow=2.9,SNR=3.5						

IDC 05 05:16:57.6±2.3, 5°.00N×126°.74E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/23, mbtmp3.7/3, Error ellipse: s-maj=223.8km s-min=25.9km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.89**	**163**	P	P	05 22 31.1	-0.2
	0.8nm,0.4s,baz=344,slow=10,SNR=3.9						
STKA	**Stephens Creek**	**39.31**	**160**	P	P	05 24 28.6	+0.2
	0.4nm,0.3s,baz=331,slow=10,SNR=3.3						
MKAR	**Makanchi Array**	**56.53**	**325**	P	P	05 26 41.7	-0.1
	0.3nm,0.4s,baz=121,slow=7.0,SNR=9.2						

*IDC **05** 05:19:42.4±0.7, 14°.99S×173°.53W, h0km, mb4.1/11, mb1 4.3/11, mb1mx4.2/19, mbtmp4.1/11, MS3.8/4, Ms1 3.7/4, ms1mx3.3/26, Error ellipse: s-maj=31.1km s-min=17.0km az=124.0*
*NEIC **05** 05:19:44.4±0.4, 14°.95S×173°.60W, h10km, mb4.3/5, Error ellipse: s-maj=19.4km s-min=10.0km az=134.0*
*ISCJB **05** 05:19:45.5±0.5, 14°.9S±0°.1×173°.7W±0°.1, h30km, mb4.2/15, MS3.7/4, Error ellipse: s-maj=21.4km s-min=11.0km az=135.4*

ISC 05 05:19:47.3±0.6, 15°.0S±0°.1×173°.6W±0°.2, h30km, n50, σ0°87/39, mb4.2/15, MS3.6/4, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.07**	**60**	Pn	Pn	05 20 10.3	-10
AFI				Sn	Sn	05 20 28.9	-16
AFI	**Afiamalu**	**2.07**	**60**	Pn	Pn	05 20 10.3	-10
	222nm,0.3s,baz=42,slow=3.0,SNR=55						
AFI				Sn	Sn	05 20 28.9	-16
	540nm,0.3s,baz=45,slow=22,SNR=13						
MSVF	**Nonsavu**	**8.46**	**250**	*e*Pn	Pn	05 21 58.9	+11
DZM	**Mont Dzumac**	**20.17**	**247**	*e*P	**P**	**05 24 18.6**	**-1.0**
	2.2nm,0.6s						
URZ	**Urewera**	**24.62**	**198**	P	**P**	**05 25 04.8**	**-0.2**
URZ	**Urewera**	**24.62**	**198**	P	**P**	**05 25 04.8**	**-0.2**
	3.9nm,0.5s,baz=0.0,slow=3.0,SNR=3.5						
URZ				LR	LR	05 33 33.3	
	comp=Z,133nm,20.1s,baz=128,slow=34						
HNR	**Honiara**	**26.40**	**279**	LR	LR	05 34 03.9	
	comp=Z,95nm,18.2s,baz=232,slow=32						
RPZ	**Rata Peaks**	**31.51**	**202**	LR	LR	05 36 56.6	
	comp=Z,283nm,18.9s,baz=358,slow=33						
H11S2	**WAKE ISLAND Hy**	**38.48**	**329**	T	T	06 08 46.6	
	baz=151,slow=0.7,SNR=10						
H11S3	**WAKE ISLAND Hy**	**38.49**	**329**	T	T	06 08 47.6	
	baz=151,slow=0.7,SNR=10						
H11S1	**WAKE ISLAND Hy**	**38.49**	**329**	T	T	06 08 50.6	
	baz=151,slow=0.7,SNR=9.8						
H11N3	**WAKE ISLAND Hy**	**39.42**	**330**	T	T	06 09 56.1	
	baz=152,slow=0.7,SNR=16						
H11N1	**WAKE ISLAND Hy**	**39.43**	**330**	T	T	06 09 56.4	
	baz=152,slow=0.7,SNR=15						
H11N2	**WAKE ISLAND Hy**	**39.44**	**330**	T	T	06 09 56.8	
	baz=152,slow=0.7,SNR=17						
STKA	**Stephens Creek**	**44.08**	**239**	P	**P**	**05 27 52.5**	**-0.3**
STKA	**Stephens Creek**	**44.08**	**239**	P	**P**	**05 27 52.5**	**-0.3**
	2.0nm,0.8s,baz=90,slow=10,SNR=6.4						
STKA				LR	LR	05 45 30.5	
	comp=Z,121nm,18.1s,baz=26,slow=35						
WRAB	**Tennant Creek**	**49.73**	**256**	*e*P	**P**	**05 28 39.0**	**+1.8**
	1.6nm,0.6s						
WRA	**Warramunga Arr**	**49.74**	**256**	P	**P**	**05 28 36.5**	**-0.8**
WRA	**Warramunga Arr**	**49.74**	**256**	P	**P**	**05 28 36.5**	**-0.8**
	1.8nm,0.7s,baz=90,slow=7.5,SNR=5.7						
AS31	**Alice Springs**	**50.05**	**252**	*e*P	**P**	**05 28 38.9**	**-0.7**
ASAR	**Alice Springs**	**50.05**	**252**	P	**P**	**05 28 39.0**	**-0.6**
ASAR	**Alice Springs**	**50.05**	**252**	P	**P**	**05 28 39.0**	**-0.6**
	8.1nm,0.7s,baz=86,slow=8.4,SNR=72						
VNDA	**Vanda**	**63.79**	**186**	*e*P	**P**	**05 30 16.7**	**+0.6**
VNDA	**Vanda**	**63.79**	**186**	P	**P**	**05 30 16.2**	**+0.1**
	2.2nm,1.0s,baz=0.9,slow=5.9,SNR=9.3						
PETK	**Petropavlovsk-**	**72.15**	**342**	P	**P**	**05 31 09.6**	**+0.7**
PETK	**Petropavlovsk-**	**72.15**	**342**	P	**P**	**05 31 09.6**	**+0.7**
	2.0nm,0.6s,baz=97,slow=7.8,SNR=4.0						
NVAR	**Mina Array Bea**	**74.14**	**42**	P	**P**	**05 31 20.5**	**-0.8**
NVAR	**Mina Array Bea**	**74.14**	**42**	P	**P**	**05 31 20.5**	**-0.8**
	0.4nm,0.6s,baz=219,slow=12,SNR=3.6						
QSPA	**South Pole Qui**	**75.08**	**180**	*e*P	**P**	**05 31 27.6**	**+1.4**
	3.3nm,0.8s						
HLID	**Hailey**	**79.42**	**39**	*e*P	**P**	**05 31 50.9**	**0.0**
	2.7nm,1.0s						
TXAR	**Lajitas Array**	**80.54**	**56**	P	**P**	**05 31 56.6**	**-0.6**
TXAR	**Lajitas Array**	**80.54**	**56**	P	**P**	**05 31 56.6**	**-0.6**
	0.7nm,1.0s,baz=197,slow=3.8,SNR=5.7						
COLA	**College**	**81.97**	**11**	*e*P	**P**	**05 32 03.6**	**-0.2**
	19nm,0.8s						
ILAR	**Eielson Array**	**82.06**	**11**	P	**P**	**05 32 03.6**	**-0.7**
ILAR	**Eielson Array**	**82.06**	**11**	P	**P**	**05 32 03.6**	**-0.7**
	1.2nm,1.0s,baz=212,slow=6.1,SNR=8.0						
PDAR	**Pinedale Array**	**82.08**	**42**	P	**P**	**05 32 04.2**	**-1.1**
PDAR	**Pinedale Array**	**82.08**	**42**	P	**P**	**05 32 04.2**	**-1.1**
	0.6nm,0.6s,baz=210,slow=3.5,SNR=5.9						
ABTX	**Abilene, Hawle**	**84.98**	**55**	*e*P	**P**	**05 32 19.9**	**-0.2**
MAW	**Mawson**	**88.14**	**199**	*e*P	**P**	**05 32 34.9**	**0.0**
MAW	**Mawson**	**88.14**	**199**	P	**P**	**05 32 34.4**	**-0.5**
	1.7nm,0.6s,baz=121,slow=8.2,SNR=11						
ARCES	**ARCESS Array B**	**124.14**	**352**	PKP	**PKPdf**	**05 38 41.9**	**-0.4**
ARCES	**ARCESS Array B**	**124.14**	**352**	PKP	**PKPdf**	**05 38 41.9**	**-0.4**
	1.0nm,0.8s,baz=305,slow=3.2,SNR=3.2						
KHC	**Kasperske Hory**	**145.41**	**352**	*e*PKP	**PKPab**	**05 39 24.0**	**+1.5**
KHC	**Kasperske Hory**	**145.41**	**352**	*e*PKPbc	**PKPab**	**05 39 24.2**	**+1.7**
GERES	**GERESS Array B**	**145.68**	**351**	PKPbc	**PKPab**	**05 39 23.3**	**-0.3**
GERES	**GERESS Array B**	**145.68**	**351**	PKPbc	**PKPab**	**05 39 23.3**	**-0.3**
	2.2nm,0.8s,baz=17,slow=5.6,SNR=15						
BR131	**Keskin Array S**	**145.68**	**321**	*e*PKPdf	**PKPab**	**05 39 25.3**	**+1.3**
BRTR	**Keskin Array B**	**145.68**	**321**	PKPbc	**PKPab**	**05 39 25.1**	**+1.2**
BRTR	**Keskin Array B**	**145.68**	**321**	PKPbc	**PKPab**	**05 39 25.1**	**+1.2**
	3.8nm,0.7s,baz=104,slow=2.8,SNR=18						
BFO	**Black Forest**	**146.68**	**358**	*e*PKPbc	**PKPab**	**05 39 28.3**	**+1.0**

WEL 05 05:29:26.6±0.4, 37°.80S×176°.07E, h180km±4km, ML3.5/12, 1C-1D, Error ellipse: s-maj=6.4km s-min=5.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.94**	**120**	*i*PN	Pn	05 29 53.8	-0.1
URZ				SN	Sn	05 30 14.7	-0.2
URZ				AML	AML	05 30 15.1	
MWZ	**Matawai**	**1.27**	**116**	PN	Pn	05 29 56.6	+0.1
WHVZ	**Whangaehu Hut**	**1.53**	**194**	PN	Pn	05 29 59.7	+0.5
WNVZ	**Wahianoa**	**1.57**	**193**	PN	Pn	05 29 59.8	+0.3
MOVZ	**Moawhango**	**1.63**	**189**	*i*PN	Pn	05 29 59.9	0.0
MOVZ				SN	Sn	05 30 26.6	+0.7
BHHZ	**Black Hill Sta**	**1.69**	**180**	PN	Pn	05 30 00.3	-0.2
BHHZ				SN	Sn	05 30 26.1	-0.9
PUZ	**Puketiti**	**1.75**	**100**	PN	Pn	05 29 59.8	-1.2
PUZ				SN	Sn	05 30 27.5	-0.3
PUZ				AML	AML	05 30 30.4	
MHGZ	**Mahia Peninsul**	**1.98**	**134**	PN	Pn	05 30 03.2	-0.2
KAHZ	**Kahuranaki**	**2.09**	**163**	PN	Pn	05 30 04.4	-0.3
PNHZ	**Pukenui**	**2.12**	**177**	PN	Pn	05 30 04.3	-0.7
TSZ	**Takapari Road**	**2.26**	**182**	PN	Pn	05 30 05.7	-0.9
PXZ	**Pawanui**	**2.32**	**165**	PN	Pn	05 30 06.5	-0.6
PXZ				AML	AML	05 30 40.9	
DVHZ	**Dannevirke**	**2.50**	**178**	PN	Pn	05 30 07.8	-1.5
PRWZ	**Pori Road**	**2.76**	**182**	PN	Pn	05 30 10.2	-2.1
MRZ	**Mangatainoka R**	**2.89**	**187**	PN	Pn	05 30 11.8	-2.1
MRZ				AML	AML	05 30 50.2	
MRZ				AML	AML	05 30 50.9	
OGWZ	**Otaki Gorge**	**3.10**	**193**	PN	Pn	05 30 14.5	-1.9
HOWZ	**Holdsworth Sta**	**3.13**	**188**	PN	Pn	05 30 14.3	-2.5
KIW	**Kapiti Island**	**3.19**	**196**	PN	Pn	05 30 15.0	-2.5
CAW	**Cannon Point**	**3.40**	**193**	PN	Pn	05 30 17.5	-2.6
MSWZ	**Moikau Station**	**3.67**	**190**	PN	Pn	05 30 20.2	-3.3
TCW	**Tory Channel**	**3.68**	**202**	PN	Pn	05 30 21.3	-2.3
PLWZ	**Palliser**	**3.82**	**189**	PN	Pn	05 30 22.2	-3.3
TUWZ	**Tuamarina**	**3.98**	**204**	PN	Pn	05 30 25.1	-2.3
QRZ	**Quartz Range**	**4.09**	**221**	PN	Pn	05 30 26.1	-2.6
THZ	**Tophouse**	**4.65**	**211**	PN	Pn	05 30 33.4	-2.6
KHZ	**Kahutara**	**5.01**	**202**	PN	Pn	05 30 37.0	-3.6

*BJI **05** 05:51:18.9, 46°.77N×28°.10W, h8km, mB5.5/11, mb5.0/18, Ms5.1/6, Ms7 4.8/5*
*IDC **05** 05:51:19.7±0.6, 46°.39N×27°.46W, h0km, mb4.2/21, mb1 4.3/23, mb1mx4.2/36, mbtmp4.2/23, ML4.4/2, MS3.8/32, Ms1 3.8/32, ms1mx3.7/45, Error ellipse: s-maj=20.0km s-min=11.0km az=16.0*
*MOS **05** 05:51:19.9±0.8, 46°.42N×27°.36W, h10km, mb4.9/44, Error ellipse: s-maj=9.0km s-min=5.3km az=159.3*
*ISCJB **05** 05:51:20.1±0.1, 46°.25N±0°.05×27°.40W±0°.02, h16km, mb4.6/111, MS3.9/36, Error ellipse: s-maj=7.1km s-min=1.8km az=5.5*
*CSEM **05** 05:51:21.5±0.1, 46°.44N×27°.36W, h10km, mb4.7/76, Error ellipse: s-maj=8.7km s-min=2.3km az=6.0*
*NEIC **05** 05:51:21.7±0.2, 46°.45N×27°.35W, h10km, mb4.8/82, Error ellipse: s-maj=7.6km s-min=2.1km az=187.0*

ISC 05 05:51:22.0±0.4, 46°.31N±0°.08×27°.37W±0°.05, h16km, n759, σ1°00/755, mb4.7/111, MS3.9/36, 124C-111D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGAV	**Gavieira, Arco**	**14.38**	**101**	*e*P	**Pn**	**05 54 42.7**	**-2.2**
	96nm,2.3s						
POLO	**Lamas de Olo**	**14.95**	**102**	*e*P	**Pn**	**05 54 50.1**	**-2.6**
	27nm,1.8s						
PMAFR	**Mafra**	**15.18**	**112**	*e*P	**Pn**	**05 54 53.1**	**-2.6**
	133nm,1.7s						
PBRG	**Braganca**	**15.48**	**99**	*e*P	**Pn**	**05 54 58.1**	**-1.6**
	32nm,1.0s						
MVO	**Moncorvo**	**15.56**	**102**	*e*P	**Pn**	**05 54 58.7**	**-2.0**
	28nm,1.6s						
MTE	**Manteigas**	**15.56**	**105**	*e*P	**Pn**	**05 54 58.8**	**-1.9**
	30nm,2.1s						
PMTG	**Montargil**	**15.80**	**110**	*e*P	**Pn**	**05 55 01.8**	**-2.0**
	60nm,1.7s						
PMRV	**Marv??o**	**16.16**	**108**	*e*P	**Pn**	**05 55 07.1**	**-1.2**
	57nm,1.8s						
PNCL	**Nicolau / Gran**	**16.16**	**114**	*e*P	**Pn**	**05 55 06.6**	**-1.7**
	31nm,1.6s						
EVOP	**Sao Brissos**	**16.17**	**112**	*e*P	**Pn**	**05 55 04.0**	**-4.5**
EVOP				pmax	pmax		
	comp=Z,22nm,0.9s						
EVOP	**Sao Brissos**	**16.17**	**112**	*e*P	**Pn**	**05 55 04.0**	**-4.5**
	comp=Z,22nm,0.9s						
EVO	**Evora**	**16.24**	**112**	*e*P	Pn	05 55 04.0	-5.4
	comp=Z,22nm,0.9s						
EVO				*e*R			
	comp=Z,418nm,20.2s						
EVO	**Evora**	**16.24**	**112**	*e*P	**Pn**	**05 55 07.0**	**-2.4**
	comp=Z,29nm,1.8s						
ROSF	**Rostrenen**	**16.45**	**74**	*e*P	**Pn**	**05 55 08.3**	**-3.6**
	comp=Z,18nm,0.8s						
ROSF	**Rostrenen**	**16.45**	**74**	*e*P	**Pn**	**05 55 08.3**	**-3.6**
ROSF				pmax	pmax		
	comp=Z,18nm,0.8s						
ROSF	**Rostrenen**	**16.45**	**74**	*e*P	**Pn**	**05 55 08.3**	**-3.6**
	comp=Z,18nm,0.8s						
ROSF	**Rostrenen**	**16.45**	**74**	*e*P	**Pn**	**05 55 08.3**	**-3.6**
	comp=Z,18nm,0.8s						
QUIF	**Quistinic**	**16.54**	**76**	*e*P	**Pn**	**05 55 11.1**	**-2.0**
	comp=Z,132nm,1.4s						
QUIF	**Quistinic**	**16.54**	**76**	*e*P	**Pn**	**05 55 11.1**	**-2.0**
QUIF				pmax	pmax		
	comp=Z,132nm,1.4s						
QUIF	**Quistinic**	**16.54**	**76**	*e*P	**Pn**	**05 55 11.1**	**-2.0**
	comp=Z,132nm,1.4s						
MORF	**Marmelete**	**16.57**	**116**	*e*P	**Pn**	**05 55 12.7**	**-0.9**
	comp=Z,32nm,1.5s						
MORF	**Marmelete**	**16.57**	**116**	*e*P	**Pn**	**05 55 13.0**	**-0.6**
PFVI	**Vila Bisbo**	**16.57**	**117**	*e*P	**Pn**	**05 55 13.0**	**-0.6**
	comp=Z,36nm,1.1s						
PCVE	**Castro Verde**	**16.75**	**114**	*e*P	**Pn**	**05 55 14.5**	**-1.4**
	comp=Z,26nm,1.6s						
SGMF	**Saint Gilles**	**16.93**	**74**	*e*P	**Pn**	**05 55 17.0**	**-1.0**
	comp=Z,161nm,1.4s						
SGMF	**Saint Gilles**	**16.93**	**74**	*e*P	**Pn**	**05 55 17.0**	**-1.0**
SGMF				pmax	pmax		
	comp=Z,161nm,1.4s						
SGMF	**Saint Gilles**	**16.93**	**74**	*e*P	**Pn**	**05 55 17.0**	**-1.0**
	comp=Z,161nm,1.4s						
PBDV	**Barranco-do-Ve**	**17.06**	**115**	*e*P	**Pn**	**05 55 19.7**	**-0.1**
	comp=Z,34nm,1.7s						
PBDV	**Barranco-do-Ve**	**17.06**	**115**	*e*P	**Pn**	**05 55 19.7**	**-0.1**
	comp=Z,34nm,1.7s						
PBAR	**Barrancos**	**17.07**	**111**	*e*P	**Pn**	**05 55 18.5**	**-1.4**
	comp=Z,35nm,1.7s						
PVAQ	**Vaqueiros**	**17.09**	**114**	*e*P	**Pn**	**05 55 20.3**	**+0.1**
	comp=Z,26nm,2.0s						
PVAQ	**Vaqueiros**	**17.09**	**114**	*e*P	**Pn**	**05 55 20.3**	**+0.1**
	comp=Z,26nm,2.0s						
EKA	**Eskdalemuir Ar**	**17.68**	**50**	P	**Pn**	**05 55 26.4**	**-1.0**
EKA	**Eskdalemuir Ar**	**17.68**	**50**	P	**Pn**	**05 55 26.4**	**-1.0**
EKA	**Eskdalemuir Ar**	**17.68**	**50**	P	**Pn**	**05 55 26.4**	**-1.0**
	baz=248,slow=8.8,SNR=12						
GRR	**Gorron**	**18.05**	**74**	*e*P	**P**	**05 55 32.8**	**+0.4**
	comp=Z,48nm,1.1s						
GRR	**Gorron**	**18.05**	**74**	*e*P	**

EPF Esparros 19.93 89 *e*P Pn 05 55 54.3 -0.5
EPF Esparros 19.93 89 *e*P Pn 05 55 54.3 -0.5
EPF Esparros 19.93 89 *e*P Pn 05 55 54.3 -0.5
RJF Les Rejaudoux 20.12 82 *e*P P 05 55 54.8 -0.2
comp=Z,36nm,1.2s
RJF *e*R
comp=Z,603nm,21.5s
RJF Les Rejaudoux 20.12 82 *e*P P 05 55 54.8 -0.2
RJF pmax pmax
comp=Z,36nm,1.2s
RJF Les Rejaudoux 20.12 82 *e*P P 05 55 54.8 -0.2
comp=Z,36nm,1.2s
RJF Les Rejaudoux 20.12 82 *e*P P 05 55 54.8 -0.2
comp=Z,18nm,1.2s
TCF Toulx Ste Croi 20.39 79 *e*P P 05 55 58.5 +0.5
comp=Z,78nm,1.0s
TCF Toulx Ste Croi 20.39 79 *e*P P 05 55 58.5 +0.5
TCF pmax pmax
comp=Z,78nm,1.0s
TCF Toulx Ste Croi 20.39 79 *e*P P 05 55 58.5 +0.5
comp=Z,78nm,1.0s
TCF Toulx Ste Croi 20.39 79 *e*P P 05 55 58.5 +0.5
comp=Z,39nm,1.0s
CAF Calviac 20.58 83 *e*P P 05 55 59.9 -0.2
comp=Z,42nm,1.1s
CAF Calviac 20.58 83 *e*P P 05 55 59.9 -0.2
CAF pmax pmax
comp=Z,42nm,1.1s
CAF Calviac 20.58 83 *e*P P 05 55 59.9 -0.2
comp=Z,42nm,1.1s
CAF Calviac 20.58 83 *e*P P 05 55 59.9 -0.2
comp=Z,21nm,1.1s
SALF Salau 20.61 90 *e*P Pn 05 56 01.8 -1.0
SALF Salau 20.61 90 *e*P Pn 05 56 01.8 -1.0
VERF Verneugheol 20.68 81 *e*P P 05 56 01.6 +0.4
VERF Verneugheol 20.68 81 *e*P P 05 56 01.6 +0.4
FRNF Fournols 20.82 82 *e*P P 05 56 03.0 +0.4
FRNF Fournols 20.82 82 *e*P P 05 56 03.0 +0.4
PYM Petit Puy Mans 21.04 80 *e*P P 05 56 05.8 +0.7
PYM Petit Puy Mans 21.04 80 *e*P P 05 56 05.8 +0.7
AGO Saint Agoulin 21.06 80 *e*P P 05 56 06.0 +0.7
AGO Saint Agoulin 21.06 80 *e*P P 05 56 06.0 +0.7
AVF Avril sur Loir 21.07 77 *e*P P 05 56 05.3 0.0
comp=Z,47nm,1.1s
AVF Avril sur Loir 21.07 77 *e*P P 05 56 05.3 0.0
AVF pmax pmax
comp=Z,47nm,1.1s
AVF Avril sur Loir 21.07 77 *e*P P 05 56 05.3 0.0
comp=Z,47nm,1.1s
AVF Avril sur Loir 21.07 77 *e*P P 05 56 05.3 0.0
comp=Z,24nm,1.1s
SSF Saint Saulge 21.13 77 *e*P P 05 56 05.9 -0.1
comp=Z,33nm,0.9s
SSF Saint Saulge 21.13 77 *e*P P 05 56 05.9 -0.1
SSF pmax pmax
comp=Z,33nm,0.9s
SSF Saint Saulge 21.13 77 *e*P P 05 56 05.9 -0.1
comp=Z,33nm,0.9s
SSF Saint Saulge 21.13 77 *e*P P 05 56 05.9 -0.1
comp=Z,16nm,0.9s
MTLF Montolieu 21.14 87 *e*P P 05 56 06.2 +0.1
comp=Z,137nm,1.7s
MTLF Montolieu 21.14 87 *e*P P 05 56 06.2 +0.1
MTLF pmax pmax
comp=Z,137nm,1.7s
MTLF Montolieu 21.14 87 *e*P P 05 56 06.2 +0.1
comp=Z,137nm,1.7s
MTLF Montolieu 21.14 87 *e*P P 05 56 06.2 +0.1
comp=Z,68nm,1.7s
BAIF Baives 21.30 68 *e*P P 05 56 07.3 -0.4
comp=Z,58nm,1.2s
BAIF Baives 21.30 68 *e*P P 05 56 07.3 -0.4
BAIF pmax pmax
comp=Z,58nm,1.2s
BAIF Baives 21.30 68 *e*P P 05 56 07.3 -0.4
comp=Z,58nm,1.2s
BAIF Baives 21.30 68 *e*P P 05 56 07.3 -0.4
comp=Z,29nm,1.2s
VALF Valcebollere 21.31 90 *e*P P 05 56 08.4 +0.3
VALF Valcebollere 21.31 90 *e*P P 05 56 08.4 +0.3
SNF Seneffe 21.33 67 P P 05 56 07.8 -0.3
SNF Seneffe 21.33 67 P P 05 56 07.7 -0.3
LOR Lormes 21.33 76 *e*P P 05 56 08.2 0.0
comp=Z,89nm,1.3s
LOR *e*R
comp=Z,283nm,21.8s
LOR Lormes 21.33 76 *e*P P 05 56 08.2 0.0
comp=Z,89nm,1.3s
LOR Lormes 21.33 76 *e*P P 05 56 08.2 0.0
comp=Z,44nm,1.3s
SMF Signal de Mont 21.43 78 *e*P P 05 56 09.0 -0.2
comp=Z,29nm,0.9s
SMF Signal de Mont 21.43 78 *e*P P 05 56 09.0 -0.2
SMF pmax pmax
comp=Z,29nm,0.9s
SMF Signal de Mont 21.43 78 *e*P P 05 56 09.0 -0.2
comp=Z,29nm,0.9s
SMF Signal de Mont 21.43 78 *e*P P 05 56 09.0 -0.2
comp=Z,15nm,0.9s
DOU Dourbes 21.54 68 P P 05 56 10.5 +0.1
DOU Dourbes 21.54 68 P P 05 56 10.5 +0.1
GIVF Givet 21.69 68 *e*P P 05 56 11.9 -0.1
comp=Z,58nm,1.0s
GIVF Givet 21.69 68 *e*P P 05 56 11.9 -0.1
GIVF pmax pmax
comp=Z,58nm,1.0s
GIVF Givet 21.69 68 *e*P P 05 56 11.9 -0.1
comp=Z,58nm,1.0s
GIVF Givet 21.69 68 *e*P P 05 56 11.9 -0.1
comp=Z,29nm,1.0s
MEZF Maizieres J'vi 21.96 72 *e*P P 05 56 15.3 +0.4
MEZF Maizieres J'vi 21.96 72 *e*P P 05 56 15.3 +0.4
MEZF Maizieres J'vi 21.96 72 *e*P P 05 56 15.3 +0.4
BCLA Clavier 21.99 67 P P 05 56 15.0 -0.2
comp=Z,23nm,1.9s
BCLA Clavier 21.99 67 P P 05 56 14.9 -0.2
comp=Z,23nm,1.9s
SFTF Sexfontaines 21.99 73 *e*P P 05 56 14.1 -1.1
SFTF Sexfontaines 21.99 73 *e*P P 05 56 14.1 -1.1
SFTF Sexfontaines 21.99 73 *e*P P 05 56 14.1 -1.1
MDT Midelt 22.02 120 P P 05 56 16.9 +1.1
MDT Midelt 22.02 120 P P 05 56 16.9 +1.1
MDT Midelt 22.02 120 P P 05 56 16.9 +1.1
comp=Z,4.3nm,0.9s,baz=326,slow=10.0,SNR=15
MDT LR LR 06 02 50.7
comp=Z,205nm,22.0s,baz=152,slow=31
LASF Ste Croix 22.05 84 *e*P P 05 56 16.0 +0.1
comp=Z,34nm,0.9s
LASF Ste Croix 22.05 84 *e*P P 05 56 16.0 +0.1
comp=Z,34nm,0.9s
LASF Ste Croix 22.05 84 *e*P P 05 56 16.0 +0.1
comp=Z,17nm,0.9s
SSB Saint Sauveur 22.20 81 *e*P P 05 56 18.4 +0.9
SSB pmax pmax
comp=Z,20nm,1.1s
SSB Saint Sauveur 22.20 81 *e*P P 05 56 18.4 +0.9
comp=Z,20nm,1.1s
SSB Saint Sauveur 22.20 81 *e*P P 05 56 18.4 +0.9
comp=Z,20nm,1.1s
BEBN Eben Emael 22.21 66 P P 05 56 18.5 +0.9
BEBN Eben Emael 22.21 66 P P 05 56 18.4 +0.9
VIVF Saint-Julien-l 22.39 82 *e*P P 05 56 20.4 +0.8
comp=Z,86nm,1.5s
VIVF Saint-Julien-l 22.39 82 *e*P P 05 56 20.4 +0.8
VIVF pmax pmax
comp=Z,86nm,1.5s
VIVF Saint-Julien-l 22.39 82 *e*P P 05 56 20.4 +0.8
comp=Z,86nm,1.5s
VIVF Saint-Julien-l 22.39 82 *e*P P 05 56 20.4 +0.8
comp=Z,43nm,1.5s
PAGF Fort de Pagny 22.40 72 *e*P P 05 56 19.4 -0.2
comp=Z,11nm,0.9s
PAGF Fort de Pagny 22.40 72 *e*P P 05 56 19.4 -0.2
comp=Z,11nm,0.9s
PAGF Fort de Pagny 22.40 72 *e*P P 05 56 19.4 -0.2
comp=Z,5.3nm,0.9s
MEM Membach 22.43 67 P P 05 56 21.1 +1.3
comp=Z,14nm,1.3s
MEM Membach 22.43 67 *e*P P 05 56 20.5 +0.6
MEM Membach 22.43 67 *e*P P 05 56 20.5 +0.6
MEM Membach 22.43 67 *e*P P 05 56 20.5 +0.6
THEF They Montfort 22.62 73 *e*P P 05 56 21.4 -0.5
THEF They Montfort 22.62 73 *e*P P 05 56 21.4 -0.5
HAU Haudompre 22.89 73 *e*P P 05 56 24.0 -0.8
comp=Z,28nm,0.9s
HAU *e*R
comp=Z,240nm,20.0s
HAU Haudompre 22.89 73 *e*P P 05 56 24.0 -0.8
HAU pmax pmax
comp=Z,28nm,0.9s
HAU Haudompre 22.89 73 *e*P P 05 56 24.0 -0.8
comp=Z,28nm,0.9s
HAU Haudompre 22.89 73 *e*P P 05 56 24.0 -0.8
comp=Z,14nm,0.9s
CABF La Chapelle 22.95 77 *e*P P 05 56 25.2 -0.4
comp=Z,133nm,1.5s
CABF La Chapelle 22.95 77 *e*P P 05 56 25.2 -0.4
CABF pmax pmax
comp=Z,133nm,1.5s
CABF La Chapelle 22.95 77 *e*P P 05 56 25.2 -0.4
comp=Z,133nm,1.5s
CABF La Chapelle 22.95 77 *e*P P 05 56 25.2 -0.4
comp=Z,66nm,1.5s
RUP Ruppelstein 23.16 69 *e*P P 05 56 28.2 +0.6
ORIF Oris-en-Rattie 23.20 81 *e*P P 05 56 29.1 +0.9
ORIF *e*R
comp=Z,446nm,21.0s
ORIF Oris-en-Rattie 23.20 81 *e*P P 05 56 29.1 +0.9
ORIF Oris-en-Rattie 23.20 81 *e*P P 05 56 29.1 +0.9
ORIF Oris-en-Rattie 23.20 81 *e*P P 05 56 29.1 +0.9
HINF Hinteralfeld 23.25 74 *e*P P 05 56 28.6 +0.1
comp=Z,67nm,1.4s
HINF Hinteralfeld 23.25 74 *e*P P 05 56 28.6 +0.1
HINF pmax pmax
comp=Z,67nm,1.4s
HINF Hinteralfeld 23.25 74 *e*P P 05 56 28.6 +0.1
comp=Z,67nm,1.4s
HINF Hinteralfeld 23.25 74 *e*P P 05 56 28.6 +0.1
comp=Z,34nm,1.4s
SMRF Simiane la Rot 23.26 84 *e*P P 05 56 29.5 +0.8
comp=Z,161nm,1.8s
SMRF Simiane la Rot 23.26 84 *e*P P 05 56 29.5 +0.8
comp=Z,161nm,1.8s
SMRF Simiane la Rot 23.26 84 *e*P P 05 56 29.5 +0.8
comp=Z,81nm,1.8s
ECH Echery 23.39 73 *e*P P 05 56 29.5 -0.4
ECH Echery 23.39 73 *e*P P 05 56 29.5 -0.4
MOF Molkenrain 23.43 74 *e*P P 05 56 29.6 -0.8
MOF Molkenrain 23.43 74 *e*P P 05 56 29.6 -0.8
CDF Champ du Feu 23.44 72 *e*P P 05 56 30.1 -0.4
comp=Z,94nm,1.6s
CDF Champ du Feu 23.44 72 *e*P P 05 56 30.1 -0.4
CDF pmax pmax
comp=Z,94nm,1.6s
CDF Champ du Feu 23.44 72 *e*P P 05 56 30.1 -0.4
comp=Z,94nm,1.6s
CDF Champ du Feu 23.44 72 *e*P P 05 56 30.1 -0.4
comp=Z,47nm,1.6s
ABH Alteburg 23.46 68 *e*P P 05 56 30.7 +0.1
WLS Welschbruch 23.49 72 *e*P P 05 56 31.1 +0.1
WLS Welschbruch 23.49 72 *e*P P 05 56 31.1 +0.1
LPL La Plagne 23.64 79 *e*P P 05 56 32.9 +0.3
LPL La Plagne 23.64 79 *e*P P 05 56 32.9 +0.3
LPL La Plagne 23.64 79 *e*P P 05 56 32.9 +0.3
LPL La Plagne 23.64 79 *e*P P 05 56 32.9 +0.3
LPG La Plagne 23.65 80 *e*P P 05 56 33.1 +0.3
LPG La Plagne 23.65 80 *e*P P 05 56 33.1 +0.3
LPG La Plagne 23.65 80 *e*P P 05 56 33.1 +0.3
LPG La Plagne 23.65 80 *e*P P 05 56 33.1 +0.3
LIBD Limburg 23.70 73 *e*P P 05 56 32.5 -0.4
LANF Langenberg 23.72 71 *e*P P 05 56 32.5 -0.6
LANF Langenberg 23.72 71 *e*P P 05 56 32.5 -0.6
BBS Basel-Blauen 23.75 74 *e*P P 05 56 35.1 +1.7
SENIN Lac Senin/Sane 23.82 77 *e*P P 05 56 36.1 +1.7
comp=Z,20nm,1.1s
SENIN Lac Senin/Sane 23.82 77 *e*P P 05 56 36.1 +1.7
comp=Z,20nm,1.1s
KTD Kalmit 23.86 70 *e*P P 05 56 35.6 +1.1
MBDF Montbardon 23.87 81 *e*P P 05 56 36.0 +1.3
comp=Z,50nm,1.1s
MBDF Montbardon 23.87 81 *e*P P 05 56 36.0 +1.3
MBDF pmax pmax
comp=Z,50nm,1.1s
MBDF Montbardon 23.87 81 *e*P P 05 56 36.0 +1.3
comp=Z,50nm,1.1s
MBDF Montbardon 23.87 81 *e*P P 05 56 36.0 +1.3
comp=Z,25nm,1.1s
FELD Feldberg im Sc 24.01 73 *e*P P 05 56 36.5 +0.5
FELD Feldberg im Sc 24.01 73 *e*P P 05 56 36.5 +0.5
SFJD Kangerlussuaq 24.07 338 P P 05 56 34.7 -1.5
SFJD Kangerlussuaq 24.07 338 P P 05 56 34.7 -1.5
SFJD Kangerlussuaq 24.07 338 P P 05 56 34.7 -1.5
comp=Z,8.7nm,0.9s,baz=153,slow=14,SNR=3.0
SFJD LR LR 06 03 50.8
comp=Z,475nm,20.5s,baz=140,slow=31
LMR La Mourre 24.11 85 *e*P P 05 56 36.5 -0.3
LMR La Mourre 24.11 85 *e*P P 05 56 36.5 -0.3
LMR La Mourre 24.11 85 *e*P P 05 56 36.5 -0.3
LMR La Mourre 24.11 85 *e*P P 05 56 36.5 -0.3
FRF La Foret Royal 24.13 84 *e*P P 05 56 36.9 -0.1
comp=Z,17nm,0.8s
FRF La Foret Royal 24.13 84 *e*P P 05 56 36.9 -0.1
FRF pmax pmax
comp=Z,17nm,0.8s
FRF La Foret Royal 24.13 84 *e*P P 05 56 36.9 -0.1
comp=Z,17nm,0.8s
FRF La Foret Royal 24.13 84 *e*P P 05 56 36.9 -0.1
comp=Z,87nm,0.8s
CALN Calern 24.23 84 *e*P P 05 56 39.4 +1.2
CALN Calern 24.23 84 *e*P P 05 56 39.4 +1.2
TOUF Mont Tournerai 24.40 83 *e*P P 05 56 40.9 +1.2
TOUF Mont Tournerai 24.40 83 *e*P P 05 56 40.9 +1.2
LUCF Luceram 24.51 83 *e*P P 05 56 39.9 -0.7
LUCF Luceram 24.51 83 *e*P P 05 56 39.9 -0.7
SBF Sospel 24.58 83 *e*P P 05 56 41.3 +0.1
comp=Z,63nm,1.0s
SBF Sospel 24.58 83 *e*P P 05 56 41.3 +0.1
SBF pmax pmax
comp=Z,63nm,1.0s
SBF Sospel 24.58 83 *e*P P 05 56 41.3 +0.1
comp=Z,63nm,1.0s
SBF Sospel 24.58 83 *e*P P 05 56 41.3 +0.1
comp=Z,31nm,1.0s
TUE Stuetta 25.18 76 *e*P P 05 56 46.5 -0.3
comp=Z,7.7nm,1.0s
TUE Stuetta 25.18 76 *e*P P 05 56 46.5 -0.3
comp=Z,7.7nm,1.0s
DAVOX Davos/Dischmat 25.47 75 P P 05 56 50.8 +1.4
DAVOX Davos/Dischmat 25.47 75 P P 05 56 50.8 +1.4
DAVOX Davos/Dischmat 25.47 75 P P 05 56 50.8 +1.4
comp=Z,12nm,0.8s,baz=296,slow=14,SNR=14
DAVOX LR LR 06 05 53.7
comp=Z,258nm,18.3s,baz=273,slow=34
GRA1 Grafenberg Arr 25.85 68 *e*P P 05 56 52.6 0.0
comp=Z,10.0nm,1.1s
GRF Grafenberg Arr 25.85 68 *e*P P 05 56 52.6 0.0
GRF pmax pmax
comp=Z,10.0nm,1.1s
GRF Grafenberg Arr 25.85 68 *e*P P 05 56 52.6 0.0
comp=Z,10.0nm,1.1s
PGF Pioggiola 26.09 85 *e*P P 05 56 54.7 -0.2
comp=Z,77nm,1.4s
PGF Pioggiola 26.09 85 *e*P P 05 56 54.7 -0.2
PGF pmax pmax
comp=Z,77nm,1.4s
PGF Pioggiola 26.09 85 *e*P P 05 56 54.7 -0.2
comp=Z,77nm,1.4s
PGF Pioggiola 26.09 85 *e*P P 05 56 54.7 -0.2
comp=Z,39nm,1.4s
SCHQ Schefferville 26.17 304 *e*P P 05 56 55.0 -0.5
comp=Z,55nm,1.8s
SCHQ Schefferville 26.17 304 *e*P P 05 56 55.0 -0.5
comp=Z,55nm,1.8s
SCHQ Schefferville 26.17 304 P P 05 56 53.4 -2.1
comp=Z,8.3nm,0.9s,baz=93,slow=4.7,SNR=5.8
SCHQ LR LR 06 05 26.7
comp=Z,280nm,18.2s,baz=111,slow=32
JMIC Jan Mayen 26.37 14 P P 05 56 57.4 +0.3
JMIC Jan Mayen 26.37 14 P P 05 56 57.4 +0.3
JMIC Jan Mayen 26.37 14 P P 05 56 57.4 +0.3
comp=Z,24nm,0.3s,baz=140,slow=6.1,SNR=3.0
NOA NORSAR Array B 26.70 42 LR LR 06 06 00.3
comp=Z,58nm,20.7s,baz=255,slow=33
CLL Collm 26.80 64 *e*P P 05 57 01.0 -0.1
CLL *e*S S 06 01 42.0 +5.6
CLL Collm 26.80 64 *e*P P 05 57 01.0 -0.1
CLL *e*S S 06 01 42.0 +5.6
CLL *e* 06 02 36.0
CLL Collm 26.80 64 *e*P P 05 57 01.0 -0.1
SUMG Summit 26.85 353 *e*P P 05 57 00.5 -1.3
SUMG pmax pmax
comp=Z,16nm,1.1s
SUMG Summit 26.85 353 *e*P P 05 57 00.6 -1.3
SUMG pmax pmax
comp=Z,9.0nm,0.9s
SUMG Summit 26.85 353 *i*P P 05 57 00.6 -1.3
comp=Z,8.8nm,0.9s
SUMG Summit 26.85 353 *e*P P 05 57 00.5 -1.3
comp=Z,16nm,1.1s
SUMG Summit 26.85 353 *e*P P 05 57 00.5 -1.3
comp=Z,16nm,1.1s
BRG Berggiesshubel 27.43 65 *e*P P 05 57 03.0 -3.8
comp=Z,5.1nm,1.0s
BRG Berggiesshubel 27.43 65 *e*P P 05 57 03.0 -3.8
BRG pmax pmax
comp=Z,5.0nm,1.0s
KHC Kasperske Hory 27.45 69 *e*P P 05 57 06.9 -0.2
KHC Kasperske Hory 27.45 69 *e*P P 05 57 06.9 -0.2
KHC Kasperske Hory 27.45 69 *e*P P 05 57 06.9 -0.2
GERES GERESS Array B 27.58 70 P P 05 57 08.3 0.0
GERES GERESS Array B 27.58 70 P P 05 57 08.3 0.0
GERES GERESS Array B 27.58 70 P P 05 57 08.3 0.0
comp=Z,1.7nm,0.8s,baz=280,slow=8.0,SNR=9.8
GERES LR LR 06 07 29.0
comp=Z,295nm,18.9s,baz=180,slow=35
HFS Hagfors 27.68 45 LR LR 06 06 51.6
comp=Z,52nm,18.8s,baz=76,slow=34
PRU Pruhonice 27.93 67 *e*P P 05 57 11.2 -0.1
PRU Pruhonice 27.93 67 *e*P P 05 57 11.2 -0.1
PRU Pruhonice 27.93 67 *e*P P 05 57 11.2 -0.1
FRB Frobisher Bay 28.65 322 P P 05 57 16.3 -1.2
FRB Frobisher Bay 28.65 322 P P 05 57 16.3 -1.2
FRB Frobisher Bay 28.65 322 P P 05 57 16.3 -1.2
comp=Z,9.5nm,0.9s,baz=125,slow=18,SNR=2.8
FRB LR LR 06 05 60.0
comp=Z,197nm,19.5s,baz=142,slow=31
UPC Upice 28.79 66 *e*P P 05 57 20.6 +1.7
UPC Upice 28.79 66 *e*P P 05 57 20.6 +1.7
UPC Upice 28.79 66 *e*P P 05 57 20.6 +1.7
DPC Dobruska-Polom 29.01 66 *e*P P 05 57 22.7 +1.8
DPC Dobruska-Polom 29.01 66 *e*P P 05 57 22.7 +1.8
DPC Dobruska-Polom 29.01 66 *e*P P 05 57 22.7 +1.8
VRAC Vranov 29.36 68 LR LR 06 08 46.0
comp=Z,383nm,19.0s,baz=265,slow=36
KEST Kesra 29.40 98 *e*P P 05 57 24.8 +0.2
KEST Kesra 29.40 98 *e*P P 05 57 24.8 +0.2
KEST Kesra 29.40 98 P P 05 57 24.5 -0.1
comp=Z,2.2nm,0.9s,baz=266,slow=8.8,SNR=10
KEST LR LR 06 08 15.0
comp=Z,175nm,18.9s,baz=227,slow=34
ZST Bratislava 29.93 70 *e*P P 05 57 43.1 +14
ZST Bratislava 29.93 70 *e* P 05 57 43.1 +14
ZST *e* 06 13 58.9
STHS Stebnicka Huta 32.31 66 *e*P P 05 57 51.1 +1.0
STHS pmax pmax
comp=Z,3.0nm,0.9s
STHS Stebnicka Huta 32.31 66 *e*P P 05 57 51.1 +1.0
STHS Stebnicka Huta 32.31 66 *e*P P 05 57 51.1 +1.0
comp=Z,3.0nm,0.9s
LONY Lake Ozonia 32.78 285 *e*P P 05 57 55.6 +1.4
comp=Z,18nm,1.2s
LONY Lake Ozonia 32.78 285 *e*P P 05 57 55.6 +1.4
comp=Z,18nm,1.2s
FINES FINESS Array B 33.85 44 P P 05 58 04.3 +1.0
FINES FINESS Array B 33.85 44 P P 05 58 04.3 +1.0
FINES FINESS Array B 33.85 44 P P 05 58 04.3 +1.0
comp=Z,5.2nm,1.0s,baz=259,slow=13,SNR=2.5
FINES LR LR 06 10 22.6
comp=Z,70nm,19.4s,baz=328,slow=34
ARCES ARCESS Array B 34.73 29 P P 05 58 11.0 +0.2
ARCES ARCESS Array B 34.73 29 P P 05 58 11.0 +0.2
ARCES ARCESS Array B 34.73 29 P P 05 58 11.0 +0.2
comp=Z,4.3nm,1.0s,baz=241,slow=9.6,SNR=4.9
ARCES LR LR 06 09 24.8
comp=Z,38nm,18.8s,baz=360,slow=31
KIEV Kiev 36.96 62 *e*P P 05 58 29.4 -0.8
KIEV pmax pmax
comp=Z,67nm,2.5s
KIEV Kiev 36.96 62 *e*P P 05 58 29.4 -0.8
comp=Z,67nm,2.5s
KIEV Kiev 36.96 62 *e*P P 05 58 29.4 -0.8
comp=Z,67nm,2.5s
AKASG Malin Array Be 36.97 62 P P 05 58 28.8 -1.4
AKASG Malin Array Be 36.97 62 P P 05 58 28.8 -1.4
AKASG Malin Array Be 36.97 62 P P 05 58 28.8 -1.4
AKASG Malin Array Be 36.97 62 P P 05 58 28.8 -1.4
comp=Z,3.1nm,0.8s,baz=281,slow=8.5,SNR=11
AKASG LR LR 06 14 20.5
comp=Z,146nm,20.0s,baz=305,slow=37
OBN Obninsk 40.10 53 *e*P P 05 58 56.3 -0.1
OBN *e*SS SS 06 09 05.9 +67
OBN pmax pmax
comp=Z,7.0nm,1.2s
OBN MLR MLR
comp=Z,200nm,18.0s
OBN Obninsk 40.10 53 *e*P P 05 58 56.3 -0.1
comp=Z,7.0nm,1.2s
ACSO Alum Creek Sta 40.24 282 *e*P P 05 59 02.2 +4.4
comp=Z,25nm,1.2s
H05N1 Guadeloupe/Mar 40.97 234 T T 06 42 41.3
TORD Torodi Ar. Bea 41.14 134 P P 05 59 05.4 0.0
TORD Torodi Ar. Bea 41.14 134 P P 05 59 05.4 0.0
TORD Torodi Ar. Bea 41.14 134 P P 05 59 05.4 0.0
comp=Z,3.3nm,0.9s,baz=328,slow=8.6,SNR=17
TORD LR LR 06 15 13.0
comp=Z,475nm,18.0s,baz=335,slow=35
DBIC Dimbokro 44.01 147 LR LR 06 16 49.4
comp=Z,197nm,18.4s,baz=316,slow=35
BR131 Keskin Array S 44.11 76 *e*P P 05 59 30.2 +0.5
comp=Z,0.8nm,0.6s
BR131 Keskin Array S 44.11 76 *e*P P 05 59 30.2 +0.5
comp=Z,0.8nm,0.6s
BRTR Keskin Array B 44.11 76 P P 05 59 30.1 +0.5
BRTR Keskin Array B 44.11 76 P P 05 59 30.1 +0.5
BRTR Keskin Array B 44.11 76 P P 05 59 30.1 +0.5
comp=Z,3.2nm,1.0s,baz=302,slow=7.1,SNR=11
BRTR LR LR 06 17 48.2
comp=Z,64nm,19.9s,baz=306,slow=36
ANN Anapa 44.25 67 *e*P P 05 59 28.9 -1.5
ANN *e* 06 01 10.7
ANN *e*S S 06 06 03.0 -0.2
ANN pmax pmax
comp=Z,11nm,0.7s
ANN MLR MLR
comp=Z,149nm,12.0s
ANN Anapa 44.25 67 *e*P P 05 59 28.9 -1.5
comp=Z,11nm,0.7s
ULM Lac du Bonnet 44.30 301 P P 05 59 30.1 -0.8
ULM Lac du Bonnet 44.30 301 P P 05 59 30.0 -0.8
ULM Lac du Bonnet 44.30 301 P P 05 59 30.1 -0.8
comp=Z,2.7nm,0.7s,baz=38,slow=8.8,SNR=3.0
ULM LR LR 06 16 06.7
comp=Z,179nm,19.8s,baz=28,slow=34
SPMN St. Paul 44.47 293 *e*P P 05 59 32.8 +0.6
SPMN St. Paul 44.47 293 ⇓P P 05 59 32.4 +0.2
baz=44
SPMN St. Paul 44.47 293 *e*P P 05 59 32.8 +0.6
WVT Waverly 45.59 280 *e*P P 05 59 41.7 +0.5
WVT pmax pmax
comp=Z,8.0nm,1.1s
WVT Waverly 45.59 280 *e*P P 05 59 41.7 +0.5
comp=Z,8.1nm,1.1s
WVT Waverly 45.59 280 *e*P P 05 59 41.7 +0.5
comp=Z,8.1nm,1.1s
FFC Flin Flon 46.07 309 *i*P P 05 59 45.6 +0.8
FFC Flin Flon 46.07 309 *e*P P 05 59 45.2 +0.4
comp=Z,36nm,1.2s
FFC Flin Flon 46.07 309 *e*P P 05 59 45.2 +0.4
comp=Z,36nm,1.2s
A30A Hoffart Farm, 46.28 300 ⇓P P 05 59 46.5 -0.1
baz=46
B30A Myrvik Farm, E 46.50 300 ⇓P P 05 59 48.1 -0.2
baz=46
A29A Manning Farm, 46.84 301 ⇓P P 05 59 50.9 -0.1
baz=46
C30A Mose, Pekin 46.92 299 ⇑P P 05 59 50.9 -0.6
baz=47
MDND Maddock 47.53 300 ⇑P P 05 59 56.9 +0.6
baz=47
ECSD EROS Data Cent 47.58 293 *e*P P 05 59 57.4 +0.6
comp=Z,6.2nm,1.0s
ECSD EROS Data Cent 47.58 293 *e*P P 05 59 57.4 +0.6
comp=Z,6.2nm,1.0s
E30A Jud 47.72 298 ⇑P P 05 59 58.0 +0.1
baz=47
D29A Pettibone, Tap 47.88 299 ⇑P P 05 59 59.7 +0.6
baz=48

KIV **Kislovodsk** 47.98 66 *eP* P 05 59 59.8 -0.2
KIV *eS* S 06 07 16.6 +19
KIV pmax pmax
comp=Z,3.0nm,0.8s
KIV **Kislovodsk** 47.98 66 *eP* P 05 59 59.8 -0.2
comp=Z,3.0nm,0.8s
C28A **Hausauer Farms** 48.06 300 ⇑P P 06 00 00.7 +0.2
baz=48
E29A **Napoleon** 48.14 298 ⇑P P 06 00 00.8 -0.3
baz=48
KBZ **Khabaz** 48.23 66 P P 06 00 03.4 +1.6
KBZ **Khabaz** 48.23 66 P P 06 00 03.4 +1.6
KBZ **Khabaz** 48.23 66 P P 06 00 03.3 +1.6
KBZ **Khabaz** 48.23 66 P P 06 00 03.4 +1.6
comp=Z,0.8nm,0.5s,baz=295,slow=10,SNR=3.5
KBZ LR LR 06 21 07.6
comp=Z,76nm,19.7s,baz=126,slow=37
D28A **Regan** 48.41 299 ⇑P P 06 00 02.8 -0.4
baz=48
G30A **Faulkton** 48.51 296 ⇓P P 06 00 04.0 +0.1
baz=48
A26A **Wade Farm, Ken** 48.51 302 ⇓P P 06 00 03.7 -0.2
baz=48
E28A **Huff** 48.78 299 ⇑P P 06 00 06.3 +0.3
baz=48
MMAI **Mount Meron Ar** 48.90 82 LR LR 06 22 33.7
comp=Z,55nm,19.1s,baz=255,slow=38
D27A **Center** 49.03 300 ⇑P P 06 00 08.4 +0.4
baz=49
YKA **Yellowknife Ar** 49.17 322 P P 06 00 08.0 -0.7
YKA **Yellowknife Ar** 49.17 322 P P 06 00 08.0 -0.7
YKA **Yellowknife Ar** 49.17 322 P P 06 00 08.0 -0.7
comp=Z,3.8nm,0.9s,baz=53,slow=7.1,SNR=4.1
ZEI **Tsey** 49.33 67 *eP* P 06 00 10.7 +0.2
ZEI pmax pmax
comp=Z,14nm,1.4s
ZEI **Tsey** 49.33 67 *eP* P 06 00 10.7 +0.2
comp=Z,14nm,1.4s
E27A **Carson** 49.38 299 ⇑P P 06 00 10.4 -0.2
baz=49
H29A **Onida** 49.42 296 ⇑P P 06 00 10.8 -0.1
baz=49
J30A **Dallas** 49.61 294 ⇑P P 06 00 12.5 +0.1
baz=49
D26A **Manning** 49.62 300 ⇓P P 06 00 12.5 0.0
baz=49
G28A **Parade** 49.63 297 ⇓P P 06 00 12.5 -0.1
baz=49
A24A **Westby** 49.65 303 ⇓P P 06 00 12.6 0.0
baz=49
BGNE **Belgrade** 49.72 291 ⇓P P 06 00 13.1 -0.2
baz=50
I29A **Vivian Onida** 49.77 295 ⇓P P 06 00 13.9 +0.3
baz=50
L31A **Butterfield Fa** 49.77 293 ⇑P P 06 00 14.1 +0.4
baz=50
H28A **Mission Ridge** 49.89 296 ⇑P P 06 00 14.3 -0.2
baz=50
KSU1 **Kansas State U** 49.92 288 *eP* P 06 00 15.3 +0.5
comp=Z,20nm,0.9s
KSU1 **Kansas State U** 49.92 288 *eP* P 06 00 15.3 +0.5
comp=Z,20nm,0.9s
F27A **Lemmon** 49.92 298 ⇑P P 06 00 14.4 -0.4
baz=50,SNR=5.2
DGMT **Dagmar** 49.98 302 ⇓P P 06 00 14.9 -0.3
baz=50
K30A **Basset** 50.01 294 ⇑P P 06 00 15.5 0.0
baz=50
D25A **Fairfield** 50.09 300 ⇓P P 06 00 15.8 -0.2
baz=50
J29A **Okreek** 50.09 295 ⇑P P 06 00 16.3 +0.2
baz=50
G27A **Dupree** 50.11 298 ⇓P P 06 00 16.3 +0.1
baz=50
N32A **Stulken Farm,** 50.15 291 ⇑P P 06 00 16.6 +0.1
baz=50
M31A **Lambtecht Ranc** 50.29 292 ⇑P P 06 00 17.6 +0.1
baz=50
I28A **Midland** 50.32 296 ⇑P P 06 00 17.9 +0.1
baz=50
O32A **Brockman Farm,** 50.40 290 ⇓P P 06 00 18.6 +0.1
baz=50
ASF **Jabal al Asfar** 50.42 82 LR LR 06 21 16.6
comp=Z,35nm,20.4s,baz=160,slow=36
B23A **Brockton** 50.45 303 ⇓P P 06 00 19.3 +0.6
baz=50,SNR=9.5
G26A **Maurine** 50.56 298 ⇑P P 06 00 19.3 -0.3
baz=50
J28A **Allard Ranch,** 50.66 295 ⇑P P 06 00 20.8 +0.4
baz=50
I27A **Quinn** 50.84 296 ⇑P P 06 00 21.6 -0.1
baz=51
B22A **Reddig Ranch S** 51.11 303 ⇓P P 06 00 23.7 -0.1
baz=51
TUL1 **Tulsa** 51.11 284 *eP* P 06 00 23.9 0.0
TUL1 **Tulsa** 51.11 284 ⇓P P 06 00 24.0 +0.2
baz=51
TUL1 **Tulsa** 51.11 284 *eP* P 06 00 23.9 0.0
ARU **Arti** 51.20 45*d* *iP* P 06 00 25.7 +1.5
ARU 06 02 20.3
ARU S S 06 07 47.1 +5.6
ARU SS SS 06 11 17.7 +1.4
ARU pmax pmax
comp=Z,10.0nm,1.7s
ARU **Arti** 51.20 45 *iP* P 06 00 25.7 +1.5
comp=Z,10.0nm,1.7s
J27A **Elkhorn Farm,** 51.23 295 ⇓P P 06 00 24.6 -0.1
baz=51
GNI **Garni** 51.23 69 LR LR 06 25 06.5
comp=Z,43nm,19.3s,baz=313,slow=40
A21A **Bergtoll Ranch** 51.31 304 ⇑P P 06 00 25.3 +0.1
baz=51
C22A **Vida** 51.32 302 ⇓P P 06 00 25.5 +0.2
baz=51
I26A **New Underwood** 51.36 297 ⇑P P 06 00 25.5 -0.1
baz=51
P31A **Stockton** 51.51 290 ⇓P P 06 00 26.7 -0.1
baz=51
O30A **MW Ranch, Wils** 51.60 291 ⇑P P 06 00 27.1 -0.4
baz=51
B21A **Ellsworth Farm** 51.64 303 ⇑P P 06 00 27.5 -0.2
baz=51
D22A **Cohagen** 51.79 302 ⇓P P 06 00 28.9 +0.1
baz=52
J26A **Sides Ranch, S** 51.86 296 ⇑P P 06 00 29.2 -0.3
baz=52
I25A **Rochford** 51.90 297 ⇓P P 06 00 29.8 0.0
baz=52
A20A **Cobblestone Ra** 51.94 304 ⇓P P 06 00 29.6 -0.3
baz=52
E22A **Miles City** 52.01 301 ⇑P P 06 00 30.4 -0.1
baz=52
H24A **Dirks Ranch, A** 52.03 298 ⇓P P 06 00 29.3 -1.5
baz=52
LAO **LASA Array** 52.05 301 *eP* P 06 00 31.7 +0.9
comp=Z,25nm,1.5s
LAO **LASA Array** 52.05 301 *eP* P 06 00 31.7 +0.9
comp=Z,25nm,1.5s
F23A **Volborg** 52.05 300 ⇓P P 06 00 30.7 -0.1
baz=52
O29A **4D Ranch, Culb** 52.10 291 ⇓P P 06 00 31.4 +0.2
baz=52
R31A **Burdett** 52.28 289 ⇑P P 06 00 32.4 -0.2
baz=52
G23A **Biddle** 52.31 299 ⇑P P 06 00 32.4 -0.4
baz=52
D21A **La Casta Ranch** 52.31 302 ⇓P P 06 00 33.3 +0.6
baz=52
I24A **Kuemmerle Ranc** 52.54 297 ⇓P P 06 00 34.1 -0.5
baz=52
C20A **Veseth Ranch,** 52.58 303 ⇓P P 06 00 34.4 -0.3
baz=52
S31A **Mullinville** 52.62 288 ⇓P P 06 00 35.2 +0.1
baz=52
B19A **Brinkman Farms** 52.74 304 ⇑P P 06 00 35.3 -0.6
baz=52,SNR=7.8
EDM **Edmonton** 52.77 311 *eP* P 06 00 35.5 -0.5
EDM **Edmonton** 52.77 311 *eP* P 06 00 35.5 -0.5
EDM **Edmonton** 52.77 311 *eP* P 06 00 35.5 -0.5
R30A **Dighton** 52.77 289 ⇓P P 06 00 35.9 -0.4
baz=52,SNR=5.8
N27A **Anderson Farm,** 52.85 293 ⇑P P 06 00 36.9 +0.1
baz=53
Q29A **Oakley** 52.89 290 ⇓P P 06 00 37.5 +0.3
baz=53
D20A **Manuel Ranch,** 52.97 302 ⇑P P 06 00 37.6 0.0
baz=53
T31A **Randall Ranch,** 53.04 288 ⇓P P 06 00 38.4 +0.2
baz=53
O27A **Beecher Island** 53.15 292 ⇓P P 06 00 39.4 +0.3
baz=53
C19A **Slack Wire Ran** 53.17 303 ⇑P P 06 00 38.9 -0.2
baz=53,SNR=6.9
E20A **Meyer Farm, Mu** 53.27 302 ⇓P P 06 00 39.7 -0.2
baz=53
INK **Inuvik** 53.32 334 LR LR 06 21 29.3
comp=Z,163nm,18.7s,baz=14,slow=34
D19A **Cripps Ranch,** 53.37 303 ⇑P P 06 00 40.3 -0.2
baz=53
EGMT **Eagleton** 53.43 304 *eP* P 06 00 41.8 +0.8
comp=Z,70nm,2.2s
EGMT **Eagleton** 53.43 304 ⇓P P 06 00 40.6 -0.4
baz=53
EGMT **Eagleton** 53.43 304 *eP* P 06 00 41.8 +0.8
comp=Z,70nm,2.2s
H21A **Big Horn, Sher** 53.61 299 ⇓P P 06 00 42.5 +0.1
baz=53
T30A **Plains** 53.62 288 ⇓P P 06 00 43.0 +0.4
baz=53
O26A **Horse Wrangler** 53.66 293 ⇓P P 06 00 42.9 0.0
baz=53
I22A **9 Mile Ranch,** 53.66 298 ⇑P P 06 00 43.0 +0.2
baz=53
E19A **Rath Farm, Rou** 53.68 302 ⇓P P 06 00 42.7 -0.2
baz=53
S29A **Ulysses** 53.69 289 ⇓P P 06 00 43.4 +0.4
baz=53
L24A **Wheatland** 53.70 295 ⇑P P 06 00 42.9 -0.2
baz=53
R28A **Tribune** 53.74 290 ⇑P P 06 00 43.5 +0.1
baz=54
K23A **Bowen Ranch, D** 53.74 297 ⇑P P 06 00 43.5 0.0
baz=54
WMOK **Wichita Mounta** 53.79 285 *eP* P 06 00 44.1 +0.4
WMOK pmax pmax
comp=Z,8.0nm,1.1s
WMOK **Wichita Mounta** 53.79 285 *eP* P 06 00 44.1 +0.4
comp=Z,8.0nm,1.1s
WMOK **Wichita Mounta** 53.79 285 *eP* P 06 00 44.1 +0.4
comp=Z,8.0nm,1.1s
V31A **Spring Creek L** 53.90 286 ⇓P P 06 00 45.2 +0.6
baz=54
M24A **Cheyenne** 53.94 295 ⇓P P 06 00 45.6 +0.7
baz=54
G20A **Bridger** 54.00 300 ⇑P P 06 00 44.8 -0.4
baz=54
T29A **Hugoton** 54.07 289 ⇑P P 06 00 46.4 +0.5
baz=54
F19A **Roth Farm, Mol** 54.09 301 ⇓P P 06 00 45.5 -0.4
baz=54
I21A **Big Trails, Te** 54.20 298 ⇓P P 06 00 45.8 -0.9
baz=54,SNR=6.8
H20A **Greybull** 54.26 300 ⇓P P 06 00 46.4 -0.8
baz=54,SNR=7.5
W31A **Holland Ranch,** 54.31 286 ⇑P P 06 00 48.1 +0.6
baz=54
N24A **Carr** 54.33 294 ⇑P P 06 00 47.9 +0.1
baz=54
K22A **Casper** 54.36 297 ⇓P P 06 00 47.4 -0.5
baz=54,SNR=6.5
R27A **Leds** 54.41 291 ⇑P P 06 00 47.8 -0.6
baz=54,SNR=5.7
WHTX **Lake Whitney** 54.51 281 ⇑P P 06 00 49.4 +0.5
baz=54
Q26A **Hugo** 54.52 292 ⇓P P 06 00 49.4 +0.2
baz=54
J21A **Lysite** 54.54 298 ⇓P P 06 00 48.8 -0.6
baz=54
T28A **Walsh** 54.63 289 ⇓P P 06 00 50.3 +0.4
baz=54
I20A **Worland** 54.63 299 ⇑P P 06 00 49.6 -0.3
baz=54
L22A **Ellis Ranch, M** 54.64 296 ⇑P P 06 00 50.2 +0.1
baz=54
X31A **McDonald Ranch** 54.65 285 ⇑P P 06 00 49.9 -0.1
baz=54,SNR=5.6
Y32A **R-V Farms, Ver** 54.66 284 ⇑P P 06 00 50.6 +0.5
baz=54
H19A **Powell** 54.76 300 ⇑P P 06 00 51.0 +0.2
baz=54
K21A **Alcova** 54.81 297 ⇑P P 06 00 50.9 -0.4
baz=54,SNR=5.0
R26A **Arlington** 54.83 291 ⇓P P 06 00 51.1 -0.2
baz=55
J20A **Shoshoni** 54.93 298 ⇑P P 06 00 51.7 -0.4
baz=55,SNR=7.4
N23A **Red Feather La** 54.96 295 ⇓P P 06 00 52.3 -0.2
baz=55,SNR=6.4
Z32A **Haskell** 55.09 284 ⇓P P 06 00 52.9 -0.3
baz=55,SNR=9.8
I19A **Meeteetse** 55.11 300 ⇑P P 06 00 53.5 +0.1
baz=55
H10N2 **ASCENSION HYDR** 55.11 164 T T 07 00 17.2
baz=350,slow=0.7,SNR=8.7
H10N3 **ASCENSION HYDR** 55.12 164 T T 07 00 15.6
baz=350,slow=0.7,SNR=13
H10N1 **ASCENSION HYDR** 55.13 164 T T 07 00 16.7
baz=350,slow=0.7,SNR=12
H18A **Shoshone NF, C** 55.16 301 ⇓P P 06 00 53.4 -0.4
baz=55
WALA **Waterton Lakes** 55.23 307 *eP* P 06 00 54.0 -0.1
comp=Z,0.6nm,0.9s
WALA **Waterton Lakes** 55.23 307 *eP* P 06 00 54.0 -0.1
comp=Z,0.6nm,0.9s
Y31A **Rekieta Farm,** 55.23 285 ⇓P P 06 00 53.5 -0.7
baz=55,SNR=7.7
L21A **Rawlins** 55.26 297 ⇓P P 06 00 54.5 -0.1
baz=55
RWWY **Rawlins** 55.31 296 *eP* P 06 01 01.5 +6.5
comp=Z,8.8nm,0.9s
O23A **Lake Granby, G** 55.33 294 ⇑P P 06 00 54.8 -0.4
baz=55
N22A **Wattenberg Ran** 55.34 295 ⇑P P 06 00 55.1 -0.1
baz=55
X30A **Coker Ranch, T** 55.36 286 ⇑P P 06 00 55.5 +0.3
baz=55
ISCO **Idaho Springs** 55.37 294 *eP* P 06 00 56.7 +1.2
ISCO pmax pmax
comp=Z,6.0nm,1.3s
ISCO **Idaho Springs** 55.37 294 *eP* P 06 00 56.7 +1.2
comp=Z,6.3nm,1.3s
ISCO **Idaho Springs** 55.37 294 ⇓P P 06 00 55.1 -0.4
baz=55,SNR=5.1
ISCO **Idaho Springs** 55.37 294 *eP* P 06 00 56.7 +1.2
comp=Z,6.3nm,1.3s
M21A **Separation Pea** 55.45 296 ⇑P P 06 00 55.7 -0.3
baz=55,SNR=7.4
R25A **Fountain Ranch** 55.45 291 ⇑P P 06 00 56.0 +0.1
baz=55
K20A **Yellowstone Ra** 55.47 298 ⇑P P 06 00 55.2 -0.8
baz=55
W29A **Amarillo** 55.48 287 ⇓P P 06 00 56.2 +0.1
baz=55,SNR=6.0
V28A **Channing** 55.49 288 ⇓P P 06 00 57.1 +0.9
baz=55
U27A **Thompson Grove** 55.50 289 ⇑P P 06 00 56.6 +0.3
baz=55
Z31A **Sharp Cattle R** 55.54 284 ⇓P P 06 00 56.2 -0.2
baz=55,SNR=6.0
J19A **Crowheart** 55.57 299 ⇑P P 06 00 56.8 +0.1
baz=55
ABTX **Abilene, Hawle** 55.61 283 ⇑P P 06 00 56.7 -0.3
baz=55
K19A **Absolon Red Bu** 55.69 298 ⇓P P 06 00 56.5 -1.1
baz=55
Y30A **Stafford Cattl** 55.71 285 ⇑P P 06 00 58.7 +0.9
baz=56
P23A **Jefferson** 55.75 293 ⇑P P 06 00 58.6 +0.3
baz=56
O22A **Kremmling** 55.76 294 ⇓P P 06 00 58.3 0.0
baz=56
BOZ **Bozeman (W)** 55.79 302 *eP* P 06 00 58.5 +0.3
BOZ pmax pmax
comp=Z,3.0nm,0.9s
BOZ **Bozeman (W)** 55.79 302 *eP* P 06 00 58.5 +0.3
comp=Z,3.2nm,0.9s
BOZ **Bozeman (W)** 55.79 302 *eP* P 06 00 58.5 +0.3
comp=Z,3.2nm,0.9s
L20A **Wamsutter** 55.83 297 ⇑P P 06 00 58.1 -0.6
baz=56,SNR=5.7
X29A **Tulia** 55.91 286 ⇑P P 06 00 59.2 0.0
baz=56,SNR=6.4
R24A **Sanders Place,** 55.94 292 ⇓P P 06 00 59.4 -0.1
baz=56
SLMT **Seeley Lake** 55.98 305 *eP* P 06 00 59.6 0.0
SLMT **Seeley Lake** 55.98 305 *eP* P 06 00 59.6 0.0
CHMT **Chamberlain Mo** 56.03 304 *eP* P 06 00 59.9 -0.1
CHMT **Chamberlain Mo** 56.03 304 *eP* P 06 00 59.9 -0.1
M20A **Sweetwater, Wa** 56.03 297 ⇓P P 06 00 59.8 -0.3
baz=56
232A **Coleman** 56.06 282 ⇓P P 06 00 59.8 -0.4
baz=56,SNR=12
131A **Roby** 56.09 284 ⇑P P 06 00 60.0 -0.4
baz=56
PDAR **Pinedale Array** 56.15 299 P P 06 00 59.9 -1.2
PDAR **Pinedale Array** 56.15 299 P P 06 00 59.8 -1.2
PDAR **Pinedale Array** 56.15 299 P P 06 00 59.9 -1.2
comp=Z,1.9nm,0.9s,baz=65,slow=7.1,SNR=15
PDAR LR LR 06 23 08.1
comp=Z,172nm,19.6s,baz=86,slow=34
H10S1 **ASCENSION HYDR** 56.17 165 T T 07 01 34.5
baz=350,slow=0.7,SNR=53
H10S3 **ASCENSION HYDR** 56.17 165 T T 07 01 32.6
baz=350,slow=0.7,SNR=95
H10S2 **ASCENSION HYDR** 56.18 165 T T 07 01 35.8
baz=350,slow=0.7,SNR=91
X28A **Dimmitt** 56.20 286 ⇓P P 06 01 02.3 +1.1
baz=56
P22A **Eagle** 56.21 294 ⇑P P 06 01 01.8 +0.4
baz=56
Z30A **Sanderson Ranc** 56.22 285 ⇑P P 06 01 01.0 -0.4
baz=56
Y29A **Porterfield Fa** 56.24 286 ⇓P P 06 01 01.6 0.0
baz=56
LOHW **Long Hollow** 56.31 300 *eP* P 06 01 02.2 +0.1
comp=Z,4.7nm,1.1s
LOHW **Long Hollow** 56.31 300 *eP* P 06 01 02.2 +0.1
comp=Z,4.7nm,1.1s
MOOW **Moose Ponds** 56.32 300 *eP* P 06 01 02.3 +0.1
comp=Z,8.8nm,1.5s
MOOW **Moose Ponds** 56.32 300 *eP* P 06 01 02.3 +0.1
comp=Z,8.8nm,1.5s
BSMT **Bassoo Peak** 56.38 306 *eP* P 06 01 01.2 -1.2
BSMT **Bassoo Peak** 56.38 306 *eP* P 06 01 01.2 -1.2
R23A **Moffat** 56.42 292 ⇑P P 06 01 02.8 -0.2
baz=56
332A **Millersview** 56.43 282 ⇑P P 06 01 02.6 -0.2
baz=56,SNR=12
N20A **Spence Gulch,** 56.45 296 ⇑P P 06 01 02.8 -0.3
baz=56,SNR=9.6
W27A **Bowe Ranch, En** 56.45 287 ⇑P P 06 01 03.2 +0.2
baz=56
MSO **Missoula** 56.47 305 *eP* P 06 01 02.1 -0.8
comp=Z,5.4nm,1.0s
MSO **Missoula** 56.47 305 ⇑P P 06 01 02.2 -0.8
baz=56
MSO **Missoula** 56.47 305 *eP* P 06 01 02.1 -0.8
comp=Z,5.4nm,1.0s
231A **Bronte** 56.48 283 ⇑P P 06 01 03.4 +0.2
baz=56
SNOW **Snow King Moun** 56.49 300 *eP* P 06 01 04.2 +0.8
comp=Z,14nm,1.4s
SNOW **Snow King Moun** 56.49 300 *eP* P 06 01 04.2 +0.8
comp=Z,14nm,1.4s
V26A **Tequesquite Ra** 56.49 289 ⇑P P 06 01 03.2 -0.1
baz=56
130A **Snyder** 56.52 284 ⇑P P 06 01 04.2 +0.7
baz=56
U25A **Circle Dot Ran** 56.55 290 ⇓P P 06 01 04.3 +0.5
baz=56,SNR=8.2
TPAW **Teton Pass** 56.59 300 *eP* P 06 01 04.3 +0.2
comp=Z,6.3nm,1.1s
TPAW **Teton Pass** 56.59 300 *eP* P 06 01 04.3 +0.2
comp=Z,6.3nm,1.1s
Y28A **McKinney Farm,** 56.59 286 ⇓P P 06 01 04.1 0.0
baz=56
REDW **Red Top Meadow** 56.60 300 *eP* P 06 01 04.3 +0.1
comp=Z,16nm,1.4s
REDW **Red Top Meadow** 56.60 300 *eP* P 06 01 04.3 +0.1
comp=Z,16nm,1.4s
Z29A **Hungry Hill Ra** 56.62 285 ⇓P P 06 01 03.7 -0.5
baz=56,SNR=8.1
Q22A **Crested Butte,** 56.73 293 ⇑P P 06 01 05.3 +0.1
baz=56
432A **Menard** 56.77 282 ⇑P P 06 01 05.0 -0.3
baz=57
O20A **White River Ci** 56.84 295 ⇓P P 06 01 05.8 -0.1
baz=56
RRI2 **Red Ridge** 56.89 300 *eP* P 06 01 06.7 +0.4
comp=Z,32nm,2.3s
RRI2 **Red Ridge** 56.89 300 *eP* P 06 01 06.7 +0.4
comp=Z,32nm,2.3s
MSTX **Muleshoe** 56.91 286 *eP* P 06 01 06.9 +0.6
MSTX **Muleshoe** 56.91 286 ⇓P P 06 01 06.3 0.0
baz=57,SNR=15
MSTX **Muleshoe** 56.91 286 *eP* P 06 01 06.9 +0.6
L18A **Fontenelle, Gr** 56.92 298 ⇓P P 06 01 05.0 -1.4
baz=57
331A **San Angelo** 56.94 282 ⇑P P 06 01 06.5 0.0
baz=57
V25A **Rancho No Teng** 57.01 289 ⇑P P 06 01 06.7 -0.5
baz=57
JCT **Junction City** 57.02 281 *eP* P 06 01 07.6 +0.5
JCT pmax pmax
comp=Z,12nm,1.1s
JCT **Junction City** 57.02 281 *eP* P 06 01 07.6 +0.5
comp=Z,12nm,1.1s
JCT **Junction City** 57.02 281 ⇓P P 06 01 07.2 +0.2
baz=57
JCT **Junction City** 57.02 281 *eP* P 06 01 07.6 +0.5
comp=Z,12nm,1.1s
230A **Sterling City** 57.05 283 ⇑P P 06 01 07.5 +0.2
baz=57
Z28A **Tucker Farm, M** 57.06 285 ⇑P P 06 01 07.2 -0.2
baz=57,SNR=7.6
129A **Stewart Farms,** 57.10 284 ⇓P P 06 01 07.7 0.0
baz=57,SNR=9.0
Y27A **Causey** 57.22 286 ⇓P P 06 01 08.5 0.0
baz=57
W25A **X Bar L Ranch,** 57.28 288 ⇑P P 06 01 09.2 +0.2
baz=57
O19A **Miners Draw (B** 57.29 296 ⇑P P 06 01 09.1 +0.1
baz=57,SNR=10
P20A **De Beque** 57.30 295 ⇓P P 06 01 09.5 +0.5
baz=57
532A **Rocksprings** 57.31 281 ⇓P P 06 01 09.2 +0.1
baz=57,SNR=5.6
330A **Mertzon** 57.38 283 ⇓P P 06 01 09.7 +0.1
baz=57
R21A **Cimarron** 57.42 293 ⇓P P 06 01 09.5 -0.6
baz=57
NEW **Newport** 57.44 308 *eP* P 06 01 09.6 -0.2
comp=Z,13nm,1.1s
NEW **Newport** 57.44 308 ⇓P P 06 01 09.7 -0.2
baz=57
NEW **Newport** 57.44 308 *eP* P 06 01 09.6 -0.2
comp=Z,13nm,1.1s
431A **Sonora** 57.44 282 ⇓P P 06 01 10.5 +0.4
baz=57
229A **Bryant Ranch,** 57.47 284 ⇑P P 06 01 10.8 +0.5
baz=57
128A **Castleberry Fa** 57.53 285 ⇑P P 06 01 11.1 +0.5
baz=57
Q20A **Ridgley Place,** 57.55 294 ⇓P P 06 01 11.5 +0.6
baz=57
M17A **Scullys Gap (B** 57.57 298 ⇑P P 06 01 11.0 -0.1
baz=57
P19A **Cripple Cowboy** 57.59 295 ⇑P P 06 01 11.5 +0.3
baz=57
632A **Uvalde** 57.61 280 ⇑P P 06 01 11.6 +0.4
baz=57,SNR=5.6
U23A **El Rito** 57.75 290 ⇓P P 06 01 12.3 -0.1
baz=58
430A **Baggett Ranch,** 57.80 282 ⇓P P 06 01 12.9 +0.2
baz=58,SNR=5.8
T22A **Edith** 57.81 292 ⇓P P 06 01 12.9 +0.1
baz=58,SNR=5.4
ROSC **El Rosal** 57.86 239 LR LR 06 22 09.8
comp=Z,83nm,20.1s,baz=26,slow=32
329A **Wagon Wheel Ra** 57.88 283 ⇑P P 06 01 13.7 +0.5
baz=58
W24A **Lazy 6 Ranch,** 57.91 289 ⇑P P 06 01 13.7 +0.3
baz=58,SNR=5.4
127A **Arkansas Junct** 58.08 285 ⇑P P 06 01 15.1 +0.5
baz=58
Z26A **Caprock** 58.13 286 ⇑P P 06 01 16.2 +1.2
baz=58
631A **Perdido Creek** 58.21 281 ⇓P P 06 01 15.9 +0.5
baz=58
Y25A **Mesa, Roswell** 58.21 287 ⇓P P 06 01 15.7 +0.2
baz=58
732A **Laxson Ranch,** 58.22 280 ⇓P P 06 01 15.8 +0.3
baz=58

T21A	Navajo Lake	58.23	292	⇓P		P		06 01 16.6	+0.9	
	baz=58									
530A	J-C Ranch, Com	58.27	282	⇑P		P		06 01 15.8	-0.1	
	baz=58,SNR=8.6									
429A	Davenport Ranc	58.35	283	⇓P		P		06 01 17.1	+0.6	
	baz=58									
W23A	Werner Place,	58.42	289	⇓P		P		06 01 18.0	+0.9	
	baz=58									
227A	Bennet, Jal	58.44	285	⇑P		P		06 01 17.6	+0.5	
	baz=58									
328A	Wristen Ranch,	58.50	284	⇑P		P		06 01 17.6	+0.1	
	baz=58									
B08A	Colville Reser	58.59	309	*e*P		P		06 01 17.2	-0.6	
	comp=Z,9.4nm,0.9s									
B08A	Colville Reser	58.59	309	*e*P		P		06 01 17.2	-0.6	
	comp=Z,9.4nm,0.9s									
HLID	Hailey	58.61	302	*e*P		P		06 01 19.1	+0.9	
	comp=Z,11nm,1.6s									
HLID	Hailey	58.61	302	⇓P		P		06 01 18.2	0.0	
	baz=58									
HLID	Hailey	58.61	302	*e*P		P		06 01 19.1	+0.9	
	comp=Z,11nm,1.6s									
Z25A	Roswell	58.62	287	⇑P		P		06 01 18.8	+0.5	
	baz=58									
U21A	Nageezi	58.64	291	⇑P		P		06 01 18.9	+0.3	
	baz=58									
Y24A	Capitan	58.70	288	⇑P		P		06 01 19.2	+0.2	
	baz=58									
BRVK	Borovoye	58.74	44⇑	*i*P		P		06 01 19.9	+1.2	
BRVK				pmax		pmax				
	comp=Z,8.0nm,1.7s									
BRVK	Borovoye	58.74	44	*i* P		P		06 01 19.9	+1.2	
	comp=Z,8.0nm,1.7s									
BVAR	Borovoye Array	58.81	44	LR		LR		06 27 55.5		
	comp=Z,78nm,19.2s,baz=151,slow=37									
428A	Kincaid Ranch,	58.82	283	⇓P		P		06 01 19.6	-0.2	
	baz=59,SNR=5.3									
SRU	San Rafael	58.86	296	*e*P		P		06 01 22.5	+2.4	
SRU				pmax		pmax				
	comp=Z,4.0nm,1.0s									
SRU	San Rafael	58.86	296	*e*P		P		06 01 22.5	+2.4	
	comp=Z,3.6nm,1.0s									
SRU	San Rafael	58.86	296	*e*P		P		06 01 22.5	+2.4	
	comp=Z,3.6nm,1.0s									
529A	Stev Forest Ra	58.88	282	⇓P		P		06 01 21.0	+0.9	
	baz=59									
125A	Gardner Draw,	58.95	286	⇑P		P		06 01 21.2	+0.5	
	baz=59									
226B	Tecolote Peak,	58.98	285	⇑P		P		06 01 20.8	0.0	
	baz=59,SNR=8.3									
Z24A	Sheeppen Canyo	59.01	287	⇑P		P		06 01 22.3	+1.1	
	baz=59									
E09A	Wood Farm, Sta	59.02	306	*e*P		P		06 01 20.3	-0.5	
	comp=Z,5.3nm,0.9s									
E09A	Wood Farm, Sta	59.02	306	*e*P		P		06 01 20.3	-0.5	
	comp=Z,5.3nm,0.9s									
Y23A	Lovelace Mesa,	59.10	288	⇑P		P		06 01 22.9	+1.1	
	baz=59									
427A	Hayter Ranch,	59.23	284	⇓P		P		06 01 22.8	+0.2	
	baz=59,SNR=6.7									
528A	Cox Ranch, San	59.24	283	⇓P		P		06 01 22.9	+0.2	
	baz=59,SNR=9.1									
326A	Caldwell Ranch	59.33	285	⇑P		P		06 01 23.6	+0.4	
	baz=59,SNR=9.4									
BNM	Barren Site	59.35	289	*e*P		P		06 01 25.6	+2.0	
	comp=Z,11nm,1.5s									
BNM	Barren Site	59.35	289	*e*P		P		06 01 25.6	+2.0	
	comp=Z,11nm,1.5s									
Q16A	Castle Valley	59.38	296	*e*P		P		06 01 24.3	+0.6	
Q16A	Castle Valley	59.38	296	*e*P		P		06 01 24.3	+0.6	
225A	Deer Hill, Car	59.40	286	⇓P		P		06 01 24.6	+0.7	
	baz=59									
124A	Stringfield Ra	59.46	287	⇑P		P		06 01 24.7	+0.4	
	baz=59,SNR=7.8									
MFID	Camas Ranch	59.53	302	⇑P		P		06 01 24.8	+0.3	
	baz=59									
BMO	Blue Mountains	59.53	304	*e*P		P		06 01 23.7	-0.8	
	comp=Z,2.3nm,1.0s									
BMO	Blue Mountains	59.53	304	*e*P		P		06 01 23.7	-0.8	
	comp=Z,2.2nm,1.0s									
Z23A	Rita Site, Whi	59.63	288	⇓P		P		06 01 25.3	0.0	
	baz=59									
DUG	Dugway	59.64	298	*e*P		P		06 01 26.0	+0.6	
DUG				pmax		pmax				
	comp=Z,5.0nm,0.9s									
DUG	Dugway	59.64	298	*e*P		P		06 01 26.0	+0.6	
	comp=Z,5.2nm,0.9s									
DUG	Dugway	59.64	298	⇓P		P		06 01 25.3	-0.1	
	baz=59,SNR=6.5									
DUG	Dugway	59.64	298	*e*P		P		06 01 26.0	+0.6	
	comp=Z,5.2nm,0.9s									
ILAR	Eielson Array	59.68	334	P		P		06 01 24.6	-0.5	
ILAR	Eielson Array	59.68	334	P		P		06 01 24.6	-0.5	
ILAR	Eielson Array	59.68	334	P		P		06 01 24.6	-0.5	
	comp=Z,0.7nm,0.9s,baz=44,slow=6.3,SNR=6.7									
ILAR				LR		LR		06 25 58.6		
	comp=Z,91nm,18.6s,baz=82,slow=35									
Y22A	Socorro	59.70	289	⇓P		P		06 01 26.5	+0.6	
	baz=59,SNR=6.6									
628A	Black Gap, Mar	59.73	282	⇓P		P		06 01 26.6	+0.5	
	baz=60									
527A	Woodward Ranch	59.81	283	⇓P		P		06 01 27.2	+0.5	
	baz=60									
HAWA	Hanford	59.86	307	*e*P		P		06 01 26.6	0.0	
	comp=Z,10nm,1.2s									
HAWA	Hanford	59.86	307	*e*P		P		06 01 26.6	0.0	
	comp=Z,10nm,1.2s									
224A	Cornudas Mount	59.89	286	⇑P		P		06 01 27.7	+0.5	
	baz=60									
X21A	Alamocita Cree	59.92	290	⇓P		P		06 01 28.4	+0.9	
	baz=60									
LTY	Liberty	59.97	308	*e*P		P		06 01 26.5	-0.9	
	comp=Z,15nm,1.1s									
LTY	Liberty	59.97	308	*e*P		P		06 01 26.5	-0.9	
	comp=Z,15nm,1.1s									
W20A	Ramah	59.97	291	⇑P		P		06 01 28.3	+0.5	
	baz=60									
Z22A	Elephant Butte	60.12	288	⇑P		P		06 01 29.3	+0.5	
	baz=60									
526A	Mary Lane Ranc	60.18	283	⇓P		P		06 01 29.7	+0.5	
	baz=60,SNR=6.0									
G08A	Pilot Rock	60.20	306	*e*P		P		06 01 28.4	-0.7	
	comp=Z,30nm,2.2s									
G08A	Pilot Rock	60.20	306	*e*P		P		06 01 28.5	-0.7	
	comp=Z,30nm,2.2s									
324A	Moseley Ranch,	60.26	286	⇑P		P		06 01 29.9	+0.2	
	baz=60									
MVU	Marysvale	60.28	296	*e*P		P		06 01 30.9	+1.0	
	comp=Z,3.8nm,0.8s									
MVU	Marysvale	60.28	296	*e*P		P		06 01 30.9	+1.0	
	comp=Z,3.8nm,0.8s									
425A	Indio Mountain	60.33	285	⇑P		P		06 01 30.8	+0.6	
	baz=60,SNR=5.8									
TXAR	Lajitas Array	60.35	283	P		P		06 01 30.9	+0.5	
TXAR	Lajitas Array	60.35	283	P		P		06 01 30.9	+0.5	
TXAR	Lajitas Array	60.35	283	P		P		06 01 30.9	+0.5	
	comp=Z,3.2nm,0.9s,baz=70,slow=6.7,SNR=22									
TXAR				LR		LR		06 27 21.4		
	comp=Z,312nm,19.4s,baz=0.0,slow=36									
626A	Big Bend Ranch	60.53	283	⇑P		P		06 01 32.4	+0.8	
	baz=60,SNR=7.0									
Z21A	St. Cloud Mine	60.55	289	⇓P		P		06 01 32.6	+0.8	
	baz=60									
Y20A	Horse Springs,	60.64	290	⇑P		P		06 01 33.1	+0.6	
	baz=60									
ELK	Elko	60.78	300	*e*P		P		06 01 34.5	+1.2	
	comp=Z,7.3nm,1.3s									
ELK	Elko	60.78	300	*e*P		P		06 01 34.5	+1.2	
	comp=Z,7.3nm,1.3s									
J08A	Circle Bar Ran	61.10	304	*e*P		P		06 01 35.7	+0.4	
	comp=Z,7.8nm,1.0s									
J08A	Circle Bar Ran	61.10	304	*e*P		P		06 01 35.7	+0.4	
	comp=Z,7.8nm,1.0s									
121A	Cookes Peak, D	61.10	288	⇑P		P		06 01 36.3	+0.8	
	baz=61									
CCUT	Cedar City	61.58	296	*e*P		P		06 01 39.8	+1.0	
	comp=Z,7.4nm,1.0s									
CCUT	Cedar City	61.58	296	*e*P		P		06 01 39.8	+1.0	
	comp=Z,7.4nm,1.0s									
U15A	North Rim	61.60	294	⇑P		P		06 01 39.0	0.0	
	baz=61									
NLWA	Neilton Lookou	61.61	310	*e*P		P		06 01 38.9	+0.3	
	comp=Z,15nm,1.1s									
NLWA	Neilton Lookou	61.61	310	*e*P		P		06 01 38.8	+0.3	
	comp=Z,15nm,1.1s									
WVOR	Wild Horse Val	61.76	303	*e*P		P		06 01 40.7	+0.9	
WVOR				pmax		pmax				
	comp=Z,7.0nm,1.0s									
WVOR	Wild Horse Val	61.76	303	*e*P		P		06 01 40.7	+0.9	
	comp=Z,7.3nm,1.0s									
WVOR	Wild Horse Val	61.76	303	*e*P		P		06 01 40.7	+0.9	
	comp=Z,7.3nm,1.0s									
220A	Playas Peak, P	61.99	288	⇑P		P		06 01 42.7	+1.2	
	baz=62									
X16A	Lo Mia Camp, P	62.31	292	⇑P		P		06 01 44.7	+1.0	
	baz=62									
R11A	Troy Canyon, C	62.47	298	*e*P		P		06 01 44.9	+0.2	
	comp=Z,38nm,2.7s									
R11A	Troy Canyon, C	62.47	298	⇓P		P		06 01 44.6	-0.1	
	baz=62									
R11A	Troy Canyon, C	62.47	298	*e*P		P		06 01 44.9	+0.2	
	comp=Z,38nm,2.7s									
IPAR	Pars	62.80	74	*e*P		P		06 01 47.8	+0.7	
IPAR	Pars	62.80	74	*e*P		P		06 01 47.8	+0.7	
319A	Douglas	62.82	288	⇑P		P		06 01 47.8	+0.8	
	baz=63									
K05A	Summer Lake	62.88	304	*e*P		P		06 01 48.1	+0.8	
	comp=Z,39nm,1.6s									
K05A	Summer Lake	62.88	304	*e*P		P		06 01 48.2	+0.8	
	comp=Z,39nm,1.6s									
MOD	Modoc	63.06	303	*e*P		P		06 01 49.0	+0.5	
	comp=Z,82nm,1.7s									
MOD	Modoc	63.06	303	*e*P		P		06 01 49.0	+0.5	
	comp=Z,82nm,1.7s									
ISRV	Sarvestan	63.13	75	*e*P		P		06 01 50.9	+1.5	
ISRV	Sarvestan	63.13	75	*e*P		P		06 01 50.9	+1.5	
W13A	Hualapai Mount	63.45	294	⇓P		P		06 01 52.1	+0.9	
	baz=63									
NVAR	Mina Array Bea	64.07	299	P		P		06 01 55.1	-0.2	
NVAR	Mina Array Bea	64.07	299	P		P		06 01 55.1	-0.2	
NVAR	Mina Array Bea	64.07	299	P		P		06 01 55.1	-0.2	
	comp=Z,0.3nm,0.7s,baz=66,slow=7.0,SNR=4.4									
NVAR				LR		LR		06 28 00.6		
	comp=Z,123nm,19.3s,baz=251,slow=34									
KURK	Kurchatov	64.21	43⇑	*i*P		P		06 01 56.4	+0.7	
KURK				pmax		pmax				
	comp=Z,4.0nm,1.7s									
KURK	Kurchatov	64.21	43	*e*P		P		06 01 56.3	+0.6	
	comp=Z,1.9nm,0.9s									
KURK	Kurchatov	64.21	43	*e*P		P		06 01 56.3	+0.6	
	comp=Z,1.9nm,0.9s									
ZALV	Zalesovo Beam	64.75	37	LR		LR		06 31 55.5		
	comp=Z,69nm,18.1s,baz=78,slow=38									
MPMC	Manual Prospec	65.09	297	⇑P		P		06 02 02.6	+0.6	
	baz=65									
KKAR	Karatay Array	65.09	53	*e*P		P		06 02 02.5	+0.9	
KKAR	Karatay Array	65.09	53	*e*P		P		06 02 02.5	+0.9	
KKAR	Karatay Array	65.09	53	*e*P		P		06 02 02.5	+0.9	
GSC	Goldstone	65.15	296	⇓P		P		06 02 03.1	+0.8	
	baz=65									
EKS2	Erkin-Say	67.18	52	*e*P		P		06 02 16.5	+1.3	
EKS2	Erkin-Say	67.18	52	*e*P		P		06 02 16.5	+1.3	
EKS2	Erkin-Say	67.18	52	*e*P		P		06 02 16.5	+1.3	
AAK	Ala-Archa	67.59	51	*c i*P		P		06 02 18.2	+0.3	
AAK				pmax		pmax				
	comp=Z,15nm,1.2s									
AAK	Ala-Archa	67.59	51	*e*P		P		06 02 19.4	+1.6	
	comp=Z,4.5nm,1.1s									
AAK	Ala-Archa	67.59	51	*i* P		P		06 02 18.2	+0.3	
	comp=Z,15nm,1.2s									
AAK	Ala-Archa	67.59	51	LR		LR		06 35 54.3		
	comp=Z,89nm,18.4s,baz=136,slow=40									
TKM2	Tokmak 2	67.99	51	*e*P		P		06 02 21.7	+1.3	
TKM2				pmax		pmax				
	comp=Z,6.0nm,1.2s									
TKM2	Tokmak 2	67.99	51	*e*P		P		06 02 21.7	+1.3	
	comp=Z,6.3nm,1.2s									
TKM2	Tokmak 2	67.99	51	*e*P		P		06 02 21.7	+1.3	
	comp=Z,6.3nm,1.2s									
MK31	Makanchi Array	68.69	44	*e*P		P		06 02 25.2	+0.7	
MK31	Makanchi Array	68.69	44	*e*P		P		06 02 25.1	+0.7	
MK31	Makanchi Array	68.69	44	*e*P		P		06 02 25.1	+0.7	
MKAR	Makanchi Array	68.69	44	P		P		06 02 25.2	+0.7	
MKAR	Makanchi Array	68.69	44	P		P		06 02 25.1	+0.7	
MKAR	Makanchi Array	68.69	44	P		P		06 02 25.1	+0.7	
MKAR	Makanchi Array	68.69	44	P		P		06 02 25.1	+0.7	
	comp=Z,3.3nm,0.8s,baz=323,slow=6.0,SNR=26									
HVS	Khovu-Aksy	70.47	35	*e*P		P		06 02 36.8	+1.3	
HVS				pmax		pmax				
	comp=Z,15nm,1.2s									
HVS	Khovu-Aksy	70.47	35	*e*P		P		06 02 36.8	+1.3	
	comp=Z,15nm,1.2s									
KSH	Kashi	70.54	53	P		P		06 02 38.9	+2.7	
KSH				sP		sP		06 02 43.7	+0.4	
KSH				PcP		PcP		06 02 56.8	-0.6	
KSH				PP		PP		06 05 12.4	+0.4	
KSH				S		S		06 11 45.9	-3.1	
KSH				AMB		AMB				
	comp=Z,12nm,1.2s									
KSH				AMB		AMB				
	comp=Z,140nm,5.4s									
KSH				LR		LR				
	comp=Z,140nm,5.0s									
KSH				LR		LR				
	comp=Z,98nm,8.2s									
KSH				LR		LR				
	comp=Z,140nm,5.8s									
WMQ	Urumqi	73.45	43	*e*P		P		06 02 54.4	+0.9	
WMQ				LR		LR				
	comp=Z,120nm,28.0s									
WMQ				LR		LR				
	comp=Z,110nm,25.8s									
SONM	Songino Array	77.90	30	P		P		06 03 19.3	+0.3	
SONM	Songino Array	77.90	30	P		P		06 03 19.3	+0.3	
SONM	Songino Array	77.90	30	P		P		06 03 19.3	+0.3	
	comp=Z,1.6nm,1.0s,baz=316,slow=5.5,SNR=7.8									
GTA	Gaotai	82.46	39	*e*P		P		06 03 44.7	+1.0	
GTA				pP		pP		06 03 49.0	0.0	
GTA				sP		sP		06 03 52.4	+1.5	
GTA				AMB		AMB				
	comp=Z,5.0nm,1.2s									
HHC	Hu-ho-hao-te	85.80	30	*e*P		P		06 03 58.1	-2.6	
HHC				pP		PcP		06 04 02.9	-0.6	
HHC				PP		PP		06 07 17.9	-1.3	
HHC				SKS		SKSac		06 14 19.4	-6.3	
HHC				S		SKKSac		06 14 27.2	-5.6	
HHC				SS		SS		06 20 05.3	-3.1	
HHC				AMB		AMB				
	comp=Z,46nm,0.6s									
HHC				AMB		AMB				
	comp=Z,190nm,5.8s									
HHC				LR		LR				
	comp=Z,230nm,17.0s									
HHC				LR		LR				
	comp=Z,370nm,17.6s									
HHC				LR		LR				
	comp=Z,480nm,17.3s									
LZH	Lanzhou	86.98	38	*e*P		P		06 04 07.8	+1.2	
LZH				pP		pP		06 04 15.9	+4.0	
LZH				AMB		AMB				
	comp=Z,27nm,1.2s									
LZH				AMB		AMB				
	comp=Z,75nm,4.5s									
CN2	Changchun	87.10	19	*e*P		P		06 04 06.4	-0.4	
CN2				AMB		AMB				
	comp=Z,10.0nm,0.9s									
MDJ	Mudanjiang	87.19	16	P		P		06 04 07.0	-0.3	
MDJ				AMB		AMB				
	comp=Z,5.0nm,0.9s									
MDJ				AMB		AMB				
	comp=Z,200nm,5.4s									
BOSA	Boshof	88.47	136	LR		LR		06 42 00.6		
	comp=Z,96nm,19.2s,baz=116,slow=34									
CD2	Chengdu	91.34	40	P		P		06 04 26.7	-0.4	
CD2				AMB		AMB				
	comp=Z,10.0nm,0.5s									
KMI	Kunming	95.77	44	P		P		06 04 46.4	-1.4	
KMI				AMB		AMB				
	comp=Z,7.0nm,0.8s									
GYA	Guiyang	96.46	40	*e*P		P		06 04 51.0	+0.2	
GYA				PP		PP		06 08 45.7	+1.9	
GYA				SKS		SKSac		06 15 25.6	-1.5	
GYA				S		S		06 16 07.3	-3.5	
GYA				SS		SS		06 22 41.2	-1.4	
GYA				AMB		AMB				
	comp=Z,10.0nm,1.0s									
GYA				AMB		AMB				
	comp=Z,80nm,5.8s									
GYA				LR		LR				
	comp=Z,370nm,20.8s									
GYA				LR		LR				
	comp=Z,290nm,21.0s									
GYA				LR		LR				
	comp=Z,330nm,20.5s									
QSPA	South Pole Qui	136.19	180	PKP		PKPdf		06 10 41.3	0.0	
QSPA	South Pole Qui	136.19	180	PKIKP		PKPdf		06 10 41.3	0.0	
QSPA	South Pole Qui	136.19	180	PKP		PKPdf		06 10 41.3	0.0	
	comp=Z,0.5nm,0.7s,baz=63,slow=2.3,SNR=3.9									
VNDA	Vanda	148.47	184	PKPbc		PKPab		06 11 08.6	-1.1	
VNDA	Vanda	148.47	184	PKPbc		PKPab		06 11 08.6	-1.1	
VNDA	Vanda	148.47	184	PKPbc		PKPab		06 11 08.6	-1.1	
	comp=Z,1.1nm,0.8s,baz=234,slow=3.9,SNR=4.1									
WRA	Warramunga Arr	149.72	36	PKP		PKPdf		06 11 06.1	-0.3	
WRA				PKPbc		PKPbc		06 11 10.9	-0.2	
WRA	Warramunga Arr	149.72	36	PKIKP		PKPdf		06 11 06.1	-0.3	
WRA	Warramunga Arr	149.72	36	PKPbc		PKPbc		06 11 10.9	-0.2	
WRA	Warramunga Arr	149.72	36	PKP		PKPdf		06 11 06.1	-0.3	
	comp=Z,0.6nm,0.9s,baz=331,slow=3.0,SNR=2.2									
WRA				PKPbc		PKPbc		06 11 10.9	-0.2	
	comp=Z,2.2nm,0.9s,baz=336,slow=3.0,SNR=34									
ASAR	Alice Springs	152.82	40	PKPbc		PKPbc		06 11 17.6	-0.7	
ASAR	Alice Springs	152.82	40	PKPbc		PKPbc		06 11 17.6	-0.7	
ASAR	Alice Springs	152.82	40	PKPbc		PKPbc		06 11 17.6	-0.7	
	comp=Z,0.9nm,0.9s,baz=15,slow=2.1,SNR=7.4									

ISCJB ***05*** *05:58:58.0±0.8, 61°.4S±0°.1×35°.0W±0°.3, h10km, mb4.1/8, MS3.4/3, Error ellipse: s-maj=21.6km s-min=15.1km az=152.1*

IDC ***05*** *05:58:58.9±1.3, 61°.24S×34°.91W, h0km, mb4.4/5, mb1 4.3/6, mb1mx4.0/16, mbtmp4.3/6, ML4.1/1, MS3.5/4, Ms1 3.5/4, ms1mx3.3/21, Error ellipse: s-maj=49.8km s-min=24.4km az=14.0*

NEIC ***05*** *05:58:59.7±0.6, 61°.30S×35°.06W, h10km, mb4.0/2, Error ellipse: s-maj=20.1km s-min=15.6km az=51.0*

ISC 05 05:58:59.6±0.8, 61°.5S±0°.1×34°.9W±0°.2, h10km, n34, σ1§00/23, mb4.3/8, MS3.6/3, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	Sanae	16.09	143	*e*Pn	P	06 02 48.6	-0.3
SNAA				*e*Sn	Sn	06 05 42.9	-0.8
SNAA	Sanae	16.09	143	Pn	Pn	06 02 46.9	+1.4
	0.7nm,0.3s,baz=322,slow=11,SNR=102						
SNAA				Sn	Sn	06 05 40.9	-2.8
	0.1nm,0.3s,baz=320,slow=19,SNR=5.4						
USHA	Ushuaia	18.75	276	LR	LR	06 08 33.8	
	comp=Z,197nm,18.3s,baz=200,slow=31						
QSPA	South Pole Qui	28.78	180	*e*P	P	06 05 04.6	+7.3
	4.5nm,1.0s						
QSPA	South Pole Qui	28.78	180	P	P	06 05 04.3	+6.9
	1.9nm,0.7s,baz=161,slow=6.7,SNR=16						
QSPA				LR	LR	06 16 27.8	
	comp=Z,47nm,18.2s,baz=352,slow=36						
CFAA	Coronel Fontan	36.90	309	P	P	06 06 07.5	-0.8
CFAA	Coronel Fontan	36.90	309	P	P	06 06 07.5	-0.8
	0.1nm,0.5s,baz=176,slow=10,SNR=3.3						
CPUP	Villa Florida	38.25	326	LR	LR	06 20 40.7	
	comp=Z,80nm,18.8s,baz=167,slow=34						
MAW	Mawson	38.25	142	LR	LR	06 19 28.3	
	comp=Z,91nm,21.5s,baz=59,slow=32						
VNDA	Vanda	40.89	185	*e*P	P	06 06 42.0	+0.8
	0.8nm,0.3s						
SUR	Sutherland	45.84	77	P	P	06 07 23.4	+1.5
SUR	Sutherland	45.84	77	P	P	06 07 23.4	+1.5
	3.3nm,0.9s,baz=185,slow=11,SNR=3.0						
BOSA	Boshof	51.08	78	P	P	06 08 02.5	+0.4
BOSA	Boshof	51.08	78	P	P	06 08 02.5	+0.4
	3.7nm,0.8s,baz=227,slow=7.4,SNR=5.3						
LBTB	Lobatse	54.29	76	P	P	06 08 26.2	+0.3
LBTB	Lobatse	54.29	76	P	P	06 08 26.2	+0.3
	5.2nm,0.6s,baz=222,slow=9.8,SNR=11						
H10S2	ASCENSION HYDR	54.48	25	T	T	07 06 42.6	
	baz=192,slow=0.7,SNR=48						
H10S3	ASCENSION HYDR	54.48	25	T	T	07 06 47.4	
	baz=192,slow=0.7,SNR=39						
H10S1	ASCENSION HYDR	54.49	25	T	T	07 06 49.1	
	baz=192,slow=0.7,SNR=35						
H10N1	ASCENSION HYDR	55.59	25	T	T	07 08 03.1	
	baz=201,slow=0.6,SNR=22						
H10N3	ASCENSION HYDR	55.59	25	T	T	07 08 11.7	
	baz=201,slow=0.6,SNR=48						
H10N2	ASCENSION HYDR	55.61	25	T	T	07 08 12.1	
	baz=201,slow=0.6,SNR=24						
DBIC	Dimbokro	71.82	32	P	P	06 10 21.2	-1.0
DBIC	Dimbokro	71.82	32	P	P	06 10 21.2	-1.0
	5.0nm,1.0s,baz=180,slow=5.1,SNR=3.1						
TORD	Torodi Ar. Bea	79.77	36	P	P	06 11 07.5	-0.1
TORD	Torodi Ar. Bea	79.77	36	P	P	06 11 07.5	-0.1
	2.9nm,0.8s,baz=195,slow=6.8,SNR=16						
MKAR	Makanchi Array	141.99	83	PKPpre	PKPpre	06 18 28.0	
MKAR	Makanchi Array	141.99	83	PKhKP	PKPpre	06 18 28.0	
	0.3nm,0.7s,baz=224,slow=4.0,SNR=2.9						
INK	Inuvik	147.25	317	PKPbc	PKPbc	06 18 41.5	+0.2
INK	Inuvik	147.25	317	PKPb

JHS **Saijyo** **8.37 312** P Pn 06 08 12.5 +3.4
JNU **Nakatsue** **9.07 296** *e*Pn Pn 06 08 23.6 +5.0
JNU **Nakatsue** **9.07 296** P Pn 06 08 23.2 +4.6
1.4nm,0.3s,baz=122,slow=7.5,SNR=15
JNU LR LR 06 11 16.2
comp=Z,154nm,21.0s,baz=105,slow=34
JMK **Ichinoseki** **9.39 3** P Pn 06 08 19.5 -3.5
JMK *e*S Sn 06 09 55.0 -12
JOT **Ohata** **11.81 2** P **Pn** **06 08 52.8 -2.6**
JOT *e*S Sn 06 10 58.4 -6.9
ERM **Erimo** **12.61 9** *e*P **Pn** **06 09 03.5 -2.3**
KSRS **Korea Array** **13.21 310** P **P** **06 09 16.6 -2.6**
0.5nm,0.3s,baz=123,slow=13,SNR=6.8
KSRS LR LR 06 13 02.6
comp=Z,43nm,20.8s,baz=158,slow=31
KSRS ScP **ScP** **06 17 58.1 +0.8**
0.1nm,0.3s,baz=358,slow=1.1,SNR=6.7
KSAR **Wonju Array Be** **13.23 310** P **Pn** **06 09 16.6 +2.7**
KSAR ScP **ScP** **06 17 58.1 +0.8**
ASAJ **Asahikawa** **14.63 6** *e*Pn **Pn** **06 09 29.4 -2.5**
ASAJ S Sn 06 12 00.3 -13
ASAJ **Asahikawa** **14.63 6** P **Pn** **06 09 29.3 -2.5**
4.1nm,0.3s,baz=190,slow=13,SNR=21
ASAJ S Sn 06 12 00.3 -13
0.7nm,0.3s,baz=216,slow=17,SNR=2.8
USRK **Ussuriysk Arra** **16.16 337** P **Pn** **06 09 48.6 -2.4**
1.5nm,0.3s,baz=147,slow=12,SNR=27
MDJ **Mudanjiang** **17.41 333** P **P** **06 10 04.9 -0.8**
MDJ AMB AMB
comp=Z,18nm,0.8s
MDJ AMB AMB
comp=Z,170nm,5.5s
SSLB **Suanglung** **18.49 257** *e*P **Pn** **06 10 22.1 +2.8**
CN2 **Changchun** **18.68 324** *e*P **P** **06 10 20.0 +0.3**
CN2 AMB AMB
comp=Z,10.0nm,0.5s
NJ2 **Nanjing** **18.87 283** *e*P **P** **06 10 22.6 +0.8**
NJ2 AMB AMB
comp=Z,23nm,0.8s
KLR **Kul'dur** **20.79 343** *e*P **P** **06 10 38.2 -4.2**
BJI **Beijing** **22.58 304** P **P** **06 11 00.8 -0.5**
BJI S S 06 14 52.3 -7.8
BJI AMB AMB
comp=Z,16nm,0.5s
BJI AMB AMB
comp=Z,130nm,5.9s
BJI LR LR
comp=N,460nm,25.0s
BJI LR LR
comp=E,360nm,25.1s
BJI LR LR
comp=Z,49nm,22.1s
WHN **Wuhan** **22.76 279** ⇓P **P** **06 11 05.0 +1.9**
H11N2 **WAKE ISLAND Hy** **25.74 106** T T 06 38 39.8
baz=297
H11N1 **WAKE ISLAND Hy** **25.75 106** T T 06 38 36.9
baz=297,slow=0.7
H11N3 **WAKE ISLAND Hy** **25.76 106** T T 06 38 41.1
baz=297,slow=0.7
H11S3 **WAKE ISLAND Hy** **26.16 109** T T 06 39 44.1
baz=306,slow=0.7
H11S1 **WAKE ISLAND Hy** **26.16 109** T T 06 39 49.9
baz=306
H11S2 **WAKE ISLAND Hy** **26.18 109** T T 06 39 44.8
baz=306,slow=0.7
HHC **Hu-ho-hao-te** **26.18 303** *e*P **P** **06 11 32.6 -1.7**
HHC pP pP 06 12 08.8 +9.1
HHC sP sP 06 12 29.6 +16
HHC PcP **PcP** **06 15 00.4 +2.0**
HHC S S 06 15 46.5 -11
HHC sS sS 06 16 48.7 +6.4
HHC PcS **PcS** **06 18 39.8 +0.3**
HHC AMB AMB
comp=Z,31nm,1.0s
HHC AMB AMB
comp=Z,380nm,5.1s
HHC LR LR
comp=N,500nm,12.2s
HHC LR LR
comp=E,440nm,12.3s
HHC LR LR
comp=Z,190nm,12.2s
XAN **Xi'an** **27.26 288** P **P** **06 11 45.4 +1.3**
XAN AMB AMB
comp=Z,3.0nm,0.6s
XAN AMB AMB
comp=Z,33nm,4.1s
CLNS **Chul'man** **29.45 342** *e*P **P** **06 12 04.3 +1.1**
CLNS pmax pmax
comp=Z,25nm,0.8s
CLNS pmax pmax
comp=N,24nm,1.0s
CLNS pmax pmax
comp=E,9.0nm,0.8s
GYA **Guiyang** **30.09 272** *e*P **P** **06 12 11.4 +2.1**
GYA pP pP 06 12 48.6 +14
GYA sP sP 06 13 09.0 +20
GYA S **S** **06 16 54.8 -4.7**
GYA sS sS 06 17 58.4 +14
GYA ScP **ScP** **06 18 35.5 -4.2**
GYA PcS **PcS** **06 18 53.1 +1.0**
GYA ScS **ScS** **06 22 30.0 -5.7**
GYA AMB AMB
comp=E,10.0nm,0.8s
ULN **Ulaanbaatar** **31.62 315** *e*P **P** **06 12 22.9 +0.3**
comp=E,5.7nm,1.0s
CD2 **Chengdu** **31.80 282** P **P** **06 12 26.9 +2.7**
CD2 AMB AMB
comp=E,30nm,0.5s
SONM **Songino Array** **32.02 314** P **P** **06 12 25.8 -0.3**
SONM ScP **ScP** **06 18 45.9 +0.1**
SONM **Songino Array** **32.02 314** P **P** **06 12 25.8 -0.3**
comp=E,1.7nm,0.5s,baz=119,slow=8.5,SNR=14
SONM ScP **ScP** **06 18 45.9 +0.1**
comp=E,1.0nm,0.8s,baz=135,slow=4.2,SNR=5.1
SONM LR LR 06 23 34.5
comp=E,68nm,21.7s,baz=18,slow=33
KMI **Kunming** **33.85 272** P P 06 12 46.6 +4.2
KMI AMB AMB
comp=E,8.0nm,0.7s
SEY **Seymchan** **34.26 10** *e*P **P** **06 12 46.4 +1.3**
GTA **Gaotai** **34.80 297** *e*P **P** **06 12 51.5 +1.2**
GTA pP pP 06 13 28.4 +12
GTA sP sP 06 13 49.0 +19
GTA AMB AMB
comp=E,3.0nm,0.7s
ZAK **Zakamensk** **34.88 317** *e*P **P** **06 12 48.9 -1.9**
TLY **Talaya** **35.19 319** *e*P **P** **06 12 54.2 +0.9**
TLY 06 23 03.1
TLY pmax pmax
comp=Z,4.0nm,0.9s
TLY MLR MLR
comp=Z,55nm,14.0s
CHTO **Chiang Mai** **39.32 264** *e*P **P** **06 13 30.1 +1.5**
CHTO **Chiang Mai** **39.32 264** *e*P **P** **06 13 30.1 +1.5**
comp=Z,69nm,0.8s
CMAR **Chiang Mai Arr** **39.46 263** P **P** **06 13 30.9 +1.1**
CMAR **Chiang Mai Arr** **39.46 263** P **P** **06 13 30.9 +1.1**
comp=Z,2.4nm,0.3s,baz=77,slow=4.9
HVS **Khovu-Aksy** **40.90 315** ⇓*i*P **P** **06 13 40.8 -0.5**
HVS pmax pmax
comp=Z,38nm,1.0s
WMQ **Urumqi** **44.06 304** *e*P **P** **06 14 07.5 +0.5**
WMQ pP pP 06 14 45.9 +12
WMQ sP sP 06 15 05.7 +19
WMQ PP **PP** **06 15 53.1 +1.4**
WMQ S S 06 20 22.9 -7.7
WMQ sS sS 06 21 29.7 +13
WMQ ScS **SS** **06 23 45.7 -6.2**
WMQ AMB AMB
comp=Z,8.0nm,0.7s
WMQ AMB AMB
comp=Z,86nm,3.6s
WMQ LR LR
comp=Z,230nm,5.2s
WMQ LR LR
comp=Z,160nm,7.2s
WMQ LR LR
comp=Z,45nm,21.4s
ZAA0 **Zalesovo Array** **46.75 318** *e*P **P** **06 14 27.9 -0.1**
ZALV **Zalesovo Beam** **46.75 318** P **P** **06 14 27.8 -0.1**
ZALV 06 16 00.1
ZALV pmax pmax
comp=Z,3.0nm,0.4s
ZALV **Zalesovo Beam** **46.75 318** P **P** **06 14 27.8 -0.1**
ZALV PcP **PcP** **06 16 00.1 +0.7**
ZALV **Zalesovo Beam** **46.75 318** P **P** **06 14 27.8 -0.1**
comp=Z,3.2nm,0.4s,baz=101,slow=7.7,SNR=13
ZALV PcP **PcP** **06 16 00.1 +0.7**
comp=Z,3.4nm,0.6s,baz=106,slow=3.2,SNR=8.9
NVS **Novosibirsk** **47.80 319** *i*P **P** **06 14 35.6 -0.4**
MK31 **Makanchi Array** **47.88 308** *i*P **P** **06 14 36.1 -0.7**
MK31 pmax pmax
comp=Z,1.0nm,0.3s
MK31 **Makanchi Array** **47.88 308** *e*P **P** **06 14 36.3 -0.5**
MKAR **Makanchi Array** **47.88 308** *e*P **P** **06 14 36.5 -0.3**
MKAR 06 16 04.5
MKAR **Makanchi Array** **47.88 308** *e*P **P** **06 14 36.5 -0.3**
comp=Z,3.6nm,0.5s
MKAR PcP **PcP** **06 16 04.5 +0.8**
MKAR ScP **ScP** **06 19 46.4 -0.7**
MKAR **Makanchi Array** **47.88 308** P **P** **06 14 36.2 -0.6**
comp=Z,3.3nm,0.6s,baz=90,slow=9.5,SNR=37
MKAR PcP **PcP** **06 16 04.5 +0.8**
comp=Z,1.6nm,0.7s,baz=66,slow=6.8,SNR=5.3
MKAR ScP **ScP** **06 19 46.4 -0.7**
comp=Z,1.5nm,0.7s,baz=74,slow=4.9,SNR=7.8
SDPT **Sand Point** **48.71 41** *e*P **P** **06 14 43.0 0.0**
comp=Z,23nm,0.7s
WRAB **Tennant Creek** **49.56 188** *e*P **P** **06 14 50.5 +0.7**
WRAB pmax pmax
comp=Z,1.0nm,0.4s
WRAB **Tennant Creek** **49.56 188** *e*P **P** **06 14 50.5 +0.7**
comp=Z,0.9nm,0.4s
WRA **Warramunga Arr** **49.57 188** P **P** **06 14 50.1 +0.1**
WRA pP **pP** **06 15 15.7 -1.7**
WRA **Warramunga Arr** **49.57 188** P **P** **06 14 50.1 +0.1**
comp=Z,2.5nm,0.6s,baz=4.9,slow=7.7,SNR=10
WRA pP **pP** **06 15 15.7 -1.7**
comp=Z,4.0nm,0.9s,baz=6.8,slow=8.1,SNR=5.7
KURK **Kurchatov** **50.31 313** *d*iP **P** **06 14 54.3 -0.9**
KURK pmax pmax
comp=Z,6.0nm,0.8s
KURK **Kurchatov** **50.31 313** *e*P **P** **06 14 54.3 -0.9**
comp=Z,8.1nm,1.1s
KSH **Kashi** **53.17 299** P P 06 15 20.9 +4.0
KSH pP pP 06 15 59.4 +15
KSH PcP **PcP** **06 16 26.8 +3.4**
KSH PP PP 06 17 24.6 +6.8
KSH S **S** **06 22 33.8 -4.9**
KSH sS sS 06 23 44.6 +18
KSH SS **SS** **06 26 14.1 -5.4**
KSH AMB AMB
comp=Z,5.0nm,0.4s
KSH AMB AMB
comp=Z,44nm,3.7s
KSH LR LR
comp=Z,110nm,6.8s
KSH LR LR
comp=Z,100nm,4.2s
KSH LR LR
comp=Z,170nm,5.4s
KDAK **Kodiak Island** **53.25 38** P **P** **06 15 17.2 +0.3**
KDAK **Kodiak Island** **53.25 38** P **P** **06 15 17.2 +0.3**
comp=Z,10nm,0.6s,baz=213,slow=3.3,SNR=24
ASAR **Alice Springs** **53.30 188** P **P** **06 15 17.8 +0.1**
ASAR ScP **ScP** **06 20 09.6 -1.0**
ASAR **Alice Springs** **53.30 188** P **P** **06 15 17.8 +0.1**
comp=Z,0.4nm,0.3s,baz=0.5,slow=5.5,SNR=13
ASAR ScP **ScP** **06 20 09.6 -1.0**
comp=Z,0.5nm,0.8s,baz=338,slow=3.0,SNR=4.4
RSO **Redoubt South** **53.31 35** *e*P **P** **06 15 18.5 +0.9**
AAK **Ala-Archa** **53.76 303** ⇓*i*P **P** **06 15 19.7 -1.4**
AAK pmax pmax
comp=Z,4.0nm,0.8s
CAST **Castle Rocks** **53.88 31** *e*P **P** **06 15 23.3 +1.8**
comp=Z,5.5nm,0.6s
BPAW **Bear Paw Mtn.** **54.43 30** *e*P **P** **06 15 26.5 +1.1**
comp=Z,65nm,2.6s
VOSK **Vostochnaya** **54.99 316** *e*P **P** **06 15 29.6 -0.1**
VOSK pmax pmax
comp=Z,12nm,0.8s
VOSK **Vostochnaya** **54.99 316** *e*P **P** **06 15 29.6 -0.1**
comp=Z,12nm,0.8s
PMR **Palmer** **55.12 33** *e*P **P** **06 15 31.1 +0.7**
PMR pmax pmax
comp=Z,12nm,1.0s
PMR **Palmer** **55.12 33** *e*P **P** **06 15 31.1 +0.7**
comp=Z,12nm,1.0s
MCK **McKinley** **55.30 31** *e*P **P** **06 15 32.5 +0.7**
MCK pmax pmax
comp=Z,7.0nm,1.0s
MCK **McKinley** **55.30 31** *e*P **P** **06 15 32.5 +0.7**
comp=Z,7.2nm,1.0s
BVA0 **Borovoye Array** **55.33 316** *i*P **P** **06 15 31.5 -0.6**
BVA0 pmax pmax
comp=Z,12nm,0.6s
BRVK **Borovoye** **55.39 316** ⇓*i*P **P** **06 15 32.3 -0.2**
BRVK pmax pmax
comp=Z,9.0nm,0.6s
BRVK **Borovoye** **55.39 316** *e*P **P** **06 15 31.9 -0.6**
comp=Z,10nm,0.8s
COLA **College** **55.83 29** *e*P **P** **06 15 37.0 +1.6**
COLA pmax pmax
comp=Z,12nm,0.8s
COLA **College** **55.83 29** *e*P **P** **06 15 37.0 +1.6**
comp=Z,12nm,0.8s
ILAR **Eielson Array** **56.24 29** P P **06 15 38.6 +0.2**
ILAR **Eielson Array** **56.24 29** P P **06 15 38.6 +0.2**
comp=Z,3.1nm,0.8s,baz=268,slow=6.0,SNR=34
KK31 **Karatay Array** **56.56 304** *i*P **P** **06 15 40.8 -0.3**
KK31 pmax pmax
comp=Z,2.0nm,0.3s
KKAR **Karatay Array** **56.56 304** *e*P **P** **06 15 41.0 -0.1**
KKAR pmax pmax
comp=Z,2.0nm,0.3s
KKAR **Karatay Array** **56.56 304** *e*P **P** **06 15 41.0 -0.1**
comp=Z,2.5nm,0.3s
PAX **Paxson** **56.85 32** *e*P **P** **06 15 44.1 +1.2**
PAX pmax pmax
comp=Z,13nm,1.4s
PAX **Paxson** **56.85 32** *e*P **P** **06 15 44.1 +1.2**
comp=Z,13nm,1.4s
BMRM **Bremner River** **57.32 34** *e*P **P** **06 15 47.8 +1.6**
comp=Z,6.4nm,0.8s
EGAK **Eagle** **58.70 29** *e*P **P** **06 15 56.1 +0.5**
SVE **Sverdlovsk** **60.46 322** ⇑*e*P **P** **06 16 08.4 +0.6**
SVE pmax pmax
comp=Z,18nm,0.8s
STKA **Stephens Creek** **61.09 179** pP pP 06 16 40.8 0.0
STKA **Stephens Creek** **61.09 179** pP pP 06 16 40.8 0.0
comp=Z,1.3nm,0.7s,baz=127,slow=1.9,SNR=2.1
INK **Inuvik** **61.39 25** P **P** **06 16 14.5 +0.6**
INK **Inuvik** **61.39 25** P **P** **06 16 14.5 +0.6**
comp=Z,4.0nm,0.8s,baz=320,slow=3.6,SNR=10
ARU **Arti** **61.66 321** *d*iP **P** **06 16 16.1 +0.2**
ARU 06 18 29.2
ARU S **S** **06 24 29.9 +0.9**
ARU SS **SS** **06 28 33.3 +1.5**
ARU pmax pmax
comp=Z,26nm,1.0s
SOKR **Solikamsk** **61.97 325** *c*iP **P** **06 16 18.7 +0.8**
SOKR pmax pmax
comp=Z,20nm,1.0s
ABKAR **Akbulak array** **62.42 313** *e*P **P** **06 16 21.0 -0.1**
comp=Z,7.8nm,0.4s
SPITS **Spitsbergen Ar** **67.73 349** P P **06 16 56.4 +1.4**
SPITS **Spitsbergen Ar** **67.73 349** P P **06 16 56.4 +1.4**
comp=Z,4.2nm,0.8s,baz=66,slow=14,SNR=5.4
TMCR **Tamitsa** **69.04 333** *e*P **P** **06 17 04.8 +1.5**
TMCR *e* 06 17 23.2
TMCR *e* 06 19 42.7
TMCR pmax pmax
comp=Z,6.0nm,0.2s
KLMR **Klimovskoe** **69.78 329** *e*P **P** **06 17 07.6 -0.4**
KLMR pmax pmax
comp=Z,18nm,0.8s
KEV **Kevo** **70.22 340** *e*P **P** **06 17 10.8 +0.3**
KEV pmax pmax
comp=Z,3.0nm,0.6s
KEV **Kevo** **70.22 340** *e*p **P** **06 17 10.8 +0.3**
comp=Z,3.3nm,0.6s
YKA **Yellowknife Ar** **70.64 28** P P **06 17 12.3 -0.8**
YKA **Yellowknife Ar** **70.64 28** P P **06 17 12.3 -0.8**
comp=Z,3.2nm,0.8s,baz=297,slow=6.4,SNR=3.4
ARCES **ARCESS Array B** **70.78 340** P **P** **06 17 14.8 +0.9**
ARCES **ARCESS Array B** **70.78 340** P P **06 17 14.8 +0.9**
comp=Z,3.2nm,0.5s,baz=71,slow=9.1,SNR=46
ARE0 **ARCESS Array S** **70.78 340** *e*P **P** **06 17 15.6 +1.6**
JOF **Joensuu** **72.29 333** *e*P **P** **06 17 23.4 +0.4**
JOF pmax pmax
comp=Z,4.0nm,0.5s
JOF **Joensuu** **72.29 333** *e*p **P** **06 17 23.4 +0.4**
comp=Z,4.1nm,0.5s
OBN **Obninsk** **73.75 325** *e*P **P** **06 17 32.0 +0.3**
OBN pmax pmax
comp=Z,34nm,1.6s
B08A **Colville Reser** **74.67 43** *e*P **P** **06 17 38.5 +1.1**
comp=Z,4.3nm,0.9s
KAF **Kangasniemi** **74.68 334** *e*P **P** **06 17 37.1 0.0**
KAF pmax pmax
comp=Z,4.0nm,0.5s
KAF **Kangasniemi** **74.68 334** *e*p **P** **06 17 37.1 0.0**
comp=Z,3.6nm,0.5s
FINES **FINESS Array B** **75.15 333** P P **06 17 40.4 +0.6**
FINES **FINESS Array B** **75.15 333** P P **06 17 40.4 +0.6**
comp=Z,3.3nm,0.4s,baz=67,slow=5.5,SNR=25
KBZ **Khabaz** **75.35 312** P **P** **06 17 40.8 -0.5**
KBZ pmax pmax
comp=Z,3.0nm,0.7s
KBZ **Khabaz** **75.35 312** P P **06 17 40.8 -0.5**
KBZ **Khabaz** **75.35 312** P P **06 17 40.8 -0.5**
comp=Z,3.3nm,0.7s,baz=94,slow=3.7,SNR=6.5
KIV **Kislovodsk** **75.38 312** *e*P **P** **06 17 41.4 -0.2**
KIV pmax pmax
comp=Z,6.0nm,1.2s
EDM **Edmonton** **75.67 37** *e*P **P** **06 17 43.0 0.0**
EDM **Edmonton** **75.67 37** *e*P **P** **06 17 43.0 0.0**
J08A **Circle Bar Ran** **77.55 47** *e*P **P** **06 17 55.7 +1.8**
comp=Z,6.2nm,1.0s
BEKR **Beckworth** **77.98 51** *e*P **P** **06 17 57.7 +1.3**
comp=Z,9.0nm,1.7s
ANN **Anapa** **78.30 315** *e*P **P** **06 17 55.5 -2.3**
ANN *e**PP **pP** **06 18 28.6 +1.2**
ANN *e* 06 20 54.0
ANN *e*S **S** **06 27 39.0 -4.3**
ANN *e**SS **sS** **06 28 36.1 +1.7**
ANN *e*SS **SS** **06 32 47.4 0.0**
ANN pmax pmax
comp=Z,18nm,1.2s
KBD **Kabd** **78.53 297** *e*P **P** **06 17 58.9 -0.5**
KBD AMb AMB 06 18 04.1
comp=Z,40nm,1.5s
QRN **Al-Qurain** **78.55 296** *e*P **P** **06 17 59.0 -0.5**
NAY **Al-Naaiem** **78.84 297** *e*P **P** **06 18 00.5 -0.6**
NAY AMb AMB 06 18 02.3
comp=Z,17nm,1.2s
RST **Umm Al-Ruwaisa** **78.92 298** *e*P **P** **06 18 00.9 -0.6**
RST AMb AMB 06 18 01.6
comp=Z,149nm,0.7s
AKASG **Malin Array Be** **79.84 323** P **P** **06 18 06.3 +0.2**
AKASG pmax pmax
comp=Z,5.0nm,0.4s
AKASG **Malin Array Be** **79.84 323** P **P** **06 18 06.3 +0.2**
AKASG **Malin Array Be** **79.84 323** P **P** **06 18 06.3 +0.2**
comp=Z,8.1nm,0.6s,baz=50,slow=5.7,SNR=28
KIEV **Kiev** **79.85 323** *e*P **P** **06 18 06.5 +0.3**
KIEV pmax pmax
comp=Z,10.0nm,0.6s
KIEV **Kiev** **79.85 323** *e*P **P** **06 18 06.5 +0.3**
comp=Z,9.9nm,0.6s
LRM **Limekiln Ridge** **80.01 43** *e*P **P** **06 18 09.1 +1.7**
NVAR **Mina Array Bea** **80.08 51** P **P** **06 18 09.3 +1.4**
NVAR pP **pP** **06 18 36.9 -0.8**
NVAR **Mina Array Bea** **80.08 51** P **P** **06 18 09.3 +1.4**
comp=Z,1.8nm,0.7s,baz=285,slow=5.9,SNR=16
NVAR pP **pP** **06 18 36.9 -0.8**
comp=Z,0.9nm,0.8s,baz=292,slow=5.1,SNR=2.4
NVAR LR LR 06 49 40.9
comp=Z,51nm,20.9s,baz=268,slow=32
HFS **Hagfors** **80.64 336** P **P** **06 18 10.6 +0.4**
HFS **Hagfors** **80.64 336** P **P** **06 18 10.6 +0.4**
comp=Z,3.5nm,0.5s,baz=5.7,slow=1.5,SNR=17
NB2 **NORSAR Subarra** **80.83 338** P **P** **06 18 11.6 +0.4**
comp=Z,2.4nm,0.8s,baz=42,slow=5.6
NOA **NORSAR Array B** **80.83 338** P **P** **06 18 11.7 +0.4**
NOA **NORSAR Array B** **80.83 338** P **P** **06 18 11.7 +0.4**
comp=Z,2.6nm,0.7s,baz=43,slow=5.3,SNR=7.1
RAYN **Ar Rayn** **82.92 293** *e*P **P** **06 18 23.7 +0.8**
comp=Z,3.0nm,0.8s
BR131 **Keskin Array S** **83.34 312** *e*P **P** **06 18 25.5 +0.6**
comp=Z,5.1nm,0.7s
BRTR **Keskin Array B** **83.34 312** P **P** **06 18 25.8 +0.8**
BRTR **Keskin Array B** **83.34 312** P **P** **06 18 25.8 +0.8**
comp=Z,6.5nm,0.8s,baz=99,slow=3.8,SNR=33
PDAR **Pinedale Array** **83.43 44** P **P** **06 18 26.3 +0.9**
PDAR **Pinedale Array** **83.43 44** P **P** **06 18 26.3 +0.9**
comp=Z,0.5nm,0.6s,baz=245,slow=2.7,SNR=4.3
CFR **Carcaliu** **83.63 319** ⇑P **P** **06 18 26.9 +0.9**
CFR **Carcaliu** **83.63 319** ⇑*i*P **P** **06 18 26.9 +0.9**
TESR **Tescani** **83.67 321** ⇑*i*P **P** **06 18 27.4 +1.1**
BURAR **Bucovina Array** **83.79 322** ⇑P **P** **06 18 28.3 +1.3**
BURAR **Bucovina Array** **83.79 322** ⇑*i*P **P** **06 18 28.3 +1.3**
KWP **Kalwaria Pacla** **83.83 325** *e*P **P** **06 18 28.2 +1.1**
KWP **Kalwaria Pacla** **83.83 325** *e*P **P** **06 18 28.2 +1.1**
KWP **Kalwaria Pacla** **83.83 325** *e*P **P** **06 18 28.0 +0.9**
VRI **Vrincioaia** **84.02 320** ⇑P **P** **06 18 29.2 +1.1**
VRI **Vrincioaia** **84.02 320** ⇑*i*P **P** **06 18 29.2 +1.1**
TLB **Topalu** **84.03 318** ⇑P **P** **06 18 28.9 +0.8**
TLB **Topalu** **84.03 318** ⇑*i*P **P** **06 18 28.9 +0.8**
PLOR **Plostina** **84.07 320** ⇑P **P** **06 18 29.7 +1.3**
PLOR **Plostina** **84.07 320** ⇑*i*P **P** **06 18 29.7 +1.3**
KOLS **Kolonicke sedl** **84.50 324** *e*P **P** **06 18 31.5 +1.0**
KOLS **Kolonicke sedl** **84.50 324** *e*P **P** **06 18 31.5 +1.0**
STHS **Stebnicka Huta** **84.70 325** *e*P **P** **06 18 32.4 +0.9**
STHS **Stebnicka Huta** **84.70 325** *e*P **P** **06 18 32.4 +0.9**
TRPA **Tarpa** **84.87 324** ⇑*i*P **P** **06 18 33.4 +1.1**
ASF **Jabal al Asfar** **85.15 304** P **P** **06 18 34.6 +0.5**
ASF **Jabal al Asfar** **85.15 304** P **P** **06 18 34.6 +0.5**
comp=Z,2.6nm,0.8s,baz=352,slow=3.8,SNR=4.9
VOIR **85.21 320** ⇑P **P** **06 18 34.7 +0.5**
VOIR **85.21 320** ⇑*i*P **P** **06 18 34.7 +0.5**
ARR **Arges** **85.49 321** ⇑*i*P **P** **06 18 37.1 +1.6**
MMAI **Mount Meron Ar** **85.77 306** P **P** **06 18 38.1 +0.9**
MMAI **Mount Meron Ar** **85.77 306** P **P** **06 18 38.1 +0.9**
comp=Z,2.8nm,0.4s,baz=8.9,slow=5.9,SNR=6.0
KSP **Ksiaz** **86.11 328** *e*P **P** **06 18 39.3 +0.9**
KSP **Ksiaz** **86.11 328** *e*P **P** **06 18 39.3 +0.9**
DPC **Dobruska-Polom** **86.44 328** *e*P **P** **06 18 40.7 +0.6**
DPC **Dobruska-Polom** **86.44 328** *e*P **P** **06 18 40.7 +0.6**
KHC **Kasperske Hory** **88.56 328** *e*P **P** **06 18 51.0 +0.7**
KHC **Kasperske Hory** **88.56 328** *e*P **P** **06 18 51.0 +0.7**
GERES **GERESS Array B** **88.71 328** P **P** **06 18 51.2 +0.1**
GERES **GERESS Array B** **88.71 328** P **P** **06 18 51.2 +0.1**
comp=Z,1.5nm,0.6s,baz=46,slow=5.8,SNR=9.7
EKA **Eskdalemuir Ar** **89.95 340** P **P** **06 18 57.6 +1.1**
EKA **Eskdalemuir Ar** **89.95 340** P P **06 18 57.6 +1.1**
comp=Z,1.5nm,0.8s,baz=26,slow=8.2,SNR=3.5
DAVOX **Davos/Dischmat** **91.98 329** P **P** **06 19 06.7 +0.3**
DAVOX **Davos/Dischmat** **91.98 329** P P **06 19 06.7 +0.3**
comp=Z,5.1nm,0.7s,baz=202,slow=5.3,SNR=3.9
TXAR **Lajitas Array** **95.21 52** P **P** **06 19 22.7 +1.2**
TXAR pP **pP** **06 19 50.9 -1.1**
TXAR **Lajitas Array** **95.21 52** P P **06 19 22.7 +1.2**
comp=Z,1.0nm,0.7s,baz=301,slow=2.4,SNR=11
TXAR pP **pP** **06 19 50.9 -1.1**
comp=Z,0.3nm,0.5s,baz=316,slow=3.5,SNR=2.1
QSPA **South Pole Qui** **119.31 180** PKP **PKPdf** **06 24 45.8 +0.4**
QSPA **South Pole Qui** **119.31 180** PKP **PKPdf** **06 24 45.7 +0.4**
comp=Z,1.2nm,0.8s,baz=343,slow=4.1,SNR=6.5
TORD **Torodi Ar. Bea** **121.95 311** PKP **PKPdf** **06 24 52.2 +0.2**
TORD **Torodi Ar. Bea** **121.95 311** PKP **PKPdf** **06 24 52.2 +0.2**
comp=Z,0.2nm,0.5s,baz=85,slow=1.4,SNR=6.0
SAML **Samuel** **149.70 52** *e*PKPdf **PKPdf** **06 25 44.5 +1.8**
SAML *e*PKPbc **PKPbc** **06 25 48.1 +0.6**
SAML *e*PKPab **PKPab** **06 25 52.7 -0.3**
LPAZ **La Paz** **150.50 70** *e*PKPdf **PKPdf** **06 25 46.8 +2.2**
LPAZ *e*PKPbc **PKiKP** **06 25 51.7 +1.0**

*ISCJB **05** 06:13:11.5±0.4, 50°.31N±0°.04×18°.77E±0°.03, h0km, Error ellipse: s-maj=5.3km s-min=2.5km az=9.1*
*IPEC **05** 06:13:13.4±0.2, 50°.28N×18°.80E, h2km±1km, ML2.4/3, Error ellipse: s-maj=2.4km s-min=1.1km az=168.0*
*CSEM **05** 06:13:13.1±0.2, 50°.29N×18°.80E, h2km, ML3.2/6, Error ellipse: s-maj=5.5km s-min=2.2km az=5.0*
*IDC **05** 06:13:13.9±0.8, 50°.06N×18°.80E, h0km, mb1 3.7/4, mb1mx3.4/24, mbtmp3.6/4, ML2.9/5, Error ellipse: s-maj=14.0km s-min=6.6km az=153.0*
*PRU **05** 06:13:14.8, 50°.22N×18°.76E, h0km*
*WAR **05** 06:13:14.0, 50°.23N×18°.84E*
*VIE **05** 06:13:15.2±0.9, 49°.70N×18°.90E, h0km, mb2.4/4, ML2.7/4, Error ellipse: s-maj=5.6km s-min=3.8km az=103.0 49 km*

ESE of Ostrava Suspected Mining induced.

ISC 05 06:13:12.2±0.7, 50°26'N±0'03×18°76'E±0'02, h0km, n52, σ1♦41/81, 12C-8D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.41**	**244**	*e*Pg	**Pb**	**06 13 23.2**	**+0.9**
RAC				*e*Sg	**Sb**	**06 13 30.0**	**+1.0**
OKC	**Ostrava-Krasne**	**0.58**	**223**	*e*PG	**Pb**	**06 13 25.3**	**+0.1**
OKC				*e*SG	**Sg**	**06 13 32.8**	**+2.0**
	comp=Z,73nm,0.5s						
OKC	**Ostrava-Krasne**	**0.58**	**223**	Pg	**Pb**	**06 13 25.3**	**+0.1**
OKC				Sg	**Sg**	**06 13 32.8**	**+2.0**
	73nm,0.5s						
OJC	**Ojcow**	**0.67**	**93**	*e*Pg	**Pg**	**06 13 25.7**	**+0.7**
OJC				*e*Sg	**Sg**	**06 13 34.0**	**+0.4**
OJC	**Ojcow**	**0.67**	**93**	*e*Pg	**Pg**	**06 13 25.7**	**+0.7**
OJC				*e*Sg	**Sg**	**06 13 34.0**	**+0.4**
MORC	**Moravsky Berou**	**0.92**	**239**	↑*i*P	**Pb**	**06 13 31.8**	**+0.7**
MORC	**Moravsky Berou**	**0.92**	**239**	*e*Pg	**Pb**	**06 13 31.4**	**+0.3**
	baz=58						
MORC	**Moravsky Berou**	**0.92**	**239**	*i*P	**Pb**	**06 13 31.8**	**+0.7**
MORC				*e*Sg	**Sg**	**06 13 43.3**	**+1.5**
	53nm,0.3s,baz=58						
NIE	**Niedzica**	**1.31**	**129**	*e*Pg	**Pn**	**06 13 38.0**	**+0.2**
NIE				*e*Sg	**Sn**	**06 13 55.8**	**-0.2**
NIE	**Niedzica**	**1.31**	**129**	*e*Pg	**Pn**	**06 13 38.0**	**+0.2**
NIE				*e*Sg	**Sn**	**06 13 55.8**	**-0.2**
DPC	**Dobruska-Polom**	**1.57**	**274**	*e*PG	**Pb**	**06 13 42.2**	**+0.1**
DPC				*e*SG	**Sb**	**06 14 02.9**	**+0.4**
DPC	**Dobruska-Polom**	**1.57**	**274**	Pg	**Pb**	**06 13 42.2**	**+0.1**
DPC				Sg	**Sb**	**06 14 02.9**	**+0.4**
KSP	**Ksiaz**	**1.68**	**291**	*e*Pg	**Pg**	**06 13 46.1**	**+1.7**
KSP				*e*Sg	**Sg**	**06 14 08.8**	**+2.7**
KSP	**Ksiaz**	**1.68**	**291**	*e*Pn	**Pn**	**06 13 43.6**	**+0.7**
KSP	**Ksiaz**	**1.68**	**291**	*e*Pn	**Pn**	**06 13 43.6**	**+0.7**
KSP	**Ksiaz**	**1.68**	**291**	*i* Pg	**Pg**	**06 13 46.2**	**+1.8**
KSP				*i* Sg	**Sg**	**06 14 09.2**	**+3.1**
VRAC	**Vranov**	**1.70**	**237**	↓*i*P	**Pg**	**06 13 44.9**	**+0.2**
VRAC	**Vranov**	**1.70**	**237**	*e*Pn	**Pb**	**06 13 44.6**	**+0.3**
	baz=55						
VRAC	**Vranov**	**1.70**	**237**	↓*i*P	**Pg**	**06 13 44.9**	**+0.2**
VRAC				*e*Sg	**Sg**	**06 14 07.4**	**+0.7**
	36nm,0.4s,baz=55						
VRAC	**Vranov**	**1.70**	**237**	Pg	**Pb**	**06 13 44.1**	**-0.2**
	8.0nm,0.3s,baz=60,slow=16,SNR=27						
VRAC				Lg	Lg	06 14 06.9	
	10nm,0.3s,baz=146,slow=23,SNR=17						
STHS	**Stebnicka Huta**	**1.81**	**117**	*e*PN	**Pn**	**06 13 45.4**	**+0.7**
STHS				*e*SN	**Sg**	**06 14 13.2**	**+2.7**
STHS	**Stebnicka Huta**	**1.81**	**117**	*e*Pn	**Pn**	**06 13 45.4**	**+0.7**
STHS				*e*Sn	**Sg**	**06 14 13.2**	**+2.7**
KRUC	**Moravsky**	**1.95**	**233**	*e*Pn	**Pb**	**06 13 47.9**	**-0.7**
	baz=51						
KRUC				*e*Sn	**Sb**	**06 14 14.3**	**+0.9**
	19nm,0.3s,baz=51						
PSZ	**Piszkesteto**	**2.46**	**162**	↑*i*P	**Pg**	**06 14 00.2**	**+0.9**
PSZ	**Piszkesteto**	**2.46**	**162**	↓*e*Pdiff	**Pg**	**06 14 00.1**	**+0.8**
KWP	**Kalwaria Pacla**	**2.62**	**102**	↑*i*P	**Pb**	**06 14 00.9**	**+0.8**
KWP	**Kalwaria Pacla**	**2.62**	**102**	↑*i*P	**Pb**	**06 14 00.9**	**+0.8**
KOLS	**Kolonicke sedl**	**2.64**	**119**	*e*PN	**Pn**	**06 13 56.2**	**+0.1**
KOLS				*e*SN	**Sn**	**06 14 29.2**	**+0.4**
KOLS	**Kolonicke sedl**	**2.64**	**119**	*e*Pn	**Pn**	**06 13 56.2**	**+0.1**
KOLS				*e*Sn	**Sn**	**06 14 29.2**	**+0.4**
PRU	**Pruhonice**	**2.73**	**266**	*e*PG	**Pb**	**06 14 00.8**	**-1.1**
PRU				*e*SG	**Sg**	**06 14 40.0**	**+0.1**
	comp=Z,11nm,0.5s						
PKSG		**2.88**	**185**	↑*e*	**Pg**	**06 14 09.1**	**+1.7**
CONA	**Conrad Observa**	**3.01**	**220**	↓*i*Sn	**Sn**	**06 14 33.5**	**-4.5**
CONA				↑*i*Sg	**Sb**	**06 14 43.9**	**-0.2**
	6.9nm,0.5s						
PKST	**T**s**	**3.04**	**189**	↓*e*	**Pg**	**06 14 12.6**	**+2.1**
BRG	**Berggiesshubel**	**3.13**	**283**	PN	**Pg**	**06 14 11.8**	**-0.4**
BRG				PG	Pb	06 14 16.8	+8.0
BRG				SG	**Sg**	**06 14 54.3**	**+1.5**
	16nm,0.5s						
TRPA	**Tarpa**	**3.27**	**129**	↑*i*P	**Pg**	**06 14 14.5**	**-0.3**
KHC	**Kasperske Hory**	**3.55**	**253**	*e*PN	**Pn**	**06 14 09.4**	**+0.8**
KHC				*ex*	x	06 14 15.4	
KHC				*e*SN	**Sn**	**06 14 51.0**	**-0.3**
KHC				*e*SG	**Sg**	**06 15 07.4**	**+1.2**
	comp=Z,22nm,0.6s						
KHC	**Kasperske Hory**	**3.55**	**253**	Pn	**Pn**	**06 14 09.4**	**+0.8**
KHC				Sn	**Sn**	**06 14 51.0**	**-0.3**
KHC				Sg	**Sg**	**06 15 07.4**	**+1.2**
	22nm,0.6s						
GERES	**GERESS Array B**	**3.59**	**249**	Pn	**Pn**	**06 14 10.8**	**+1.7**
	0.6nm,0.3s,baz=67,slow=14,SNR=9.0						
GERES				Pg	**Pb**	**06 14 17.0**	**+0.5**
	2.3nm,0.3s,baz=70,slow=17,SNR=22						
GERES				Sn	**Sn**	**06 14 48.8**	**-3.5**
	1.5nm,0.3s,baz=59,slow=26,SNR=3.8						
GERES				Lg	Lg	06 15 06.8	
	1.6nm,0.3s,baz=68,slow=30,SNR=4.4						
CLL	**Collm**	**3.80**	**288**	*e*Pg	**Pg**	**06 14 26.0**	**+0.9**
CLL				*e*Sg	**Sg**	**06 15 18.0**	**+3.7**
	comp=Z,13nm,0.6s						
MOA	**Molln**	**3.81**	**233**	↓*i*Sg	**Sg**	**06 15 13.5**	**-1.2**
	comp=Z,16nm,0.7s						
MOA	**Molln**	**3.81**	**233**	Sg	**Sg**	**06 15 13.5**	**-1.2**
	comp=Z,16nm,0.7s						
DRGR		**4.35**	**141**	↑*i*P	**Pn**	**06 14 20.4**	**+0.8**
DRGR		**4.35**	**141**	↑*i*P	**Pn**	**06 14 20.4**	**+0.8**
BURAR	**Bucovina Array**	**5.01**	**119**	↓*i*P	**Pn**	**06 14 29.5**	**+0.8**
BURAR	**Bucovina Array**	**5.01**	**119**	↓*i*P	**Pn**	**06 14 29.5**	**+0.8**
GZR	**Gura Zlata**	**5.57**	**149**	↑*i*P	**Pn**	**06 14 37.1**	**+0.8**
GZR	**Gura Zlata**	**5.57**	**149**	↑*i*P	**Pn**	**06 14 37.1**	**+0.8**
AKASG	**Malin Array Be**	**6.69**	**82**	Pn	**Pn**	**06 14 49.9**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=268,slow=13,SNR=2.4						
AKASG				Pg	**Pb**	**06 15 09.2**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=266,slow=14,SNR=4.8						
AKASG				Sn	**Sn**	**06 16 05.6**	**-3.0**
	comp=Z,0.4nm,0.3s,baz=271,slow=22,SNR=2.5						
AKASG				Lg	Lg	06 16 39.3	
	comp=Z,0.9nm,0.3s,baz=273,slow=29,SNR=5.1						
DAVOX	**Davos/Dischmat**	**6.85**	**243**	Lg	Lg	06 16 54.4	
	comp=Z,0.6nm,0.3s,baz=343,slow=20,SNR=3.2						
HFS	**Hagfors**	**10.31**	**346**	Pn	**Pn**	**06 15 40.8**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=115,slow=13,SNR=2.9						
NOA	**NORSAR Array B**	**11.60**	**341**	Pn	**Pn**	**06 15 56.7**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=154,slow=12,SNR=2.8						
FINES	**FINESS Array B**	**11.93**	**17**	Pn	**Pn**	**06 16 01.0**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=200,slow=12,SNR=4.7						

IDC 05 06:14:37.2±7.2, 15°69'S×173°18'W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.6/18, mbtmp3.9/2, MS3.2/1, Ms1 3.2/1, ms1mx2.7/26, Error ellipse: s-maj=357.0km s-min=46.3km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S2	**WAKE ISLAND Hy**	**39.32**	**329**	T	T	07 03 11.5	
	baz=150						
H11S3	**WAKE ISLAND Hy**	**39.33**	**329**	T	T	07 03 12.5	
	baz=150						
H11S1	**WAKE ISLAND Hy**	**39.34**	**329**	T	T	07 03 12.8	
	baz=150						
H11N3	**WAKE ISLAND Hy**	**40.27**	**330**	T	T	07 04 19.7	
	baz=152,slow=0.7,SNR=3.7						
H11N1	**WAKE ISLAND Hy**	**40.27**	**330**	T	T	07 04 17.5	
	baz=152,slow=0.7,SNR=5.3						
H11N2	**WAKE ISLAND Hy**	**40.28**	**330**	T	T	07 04 21.0	
	baz=152,slow=0.7,SNR=5.2						
WRA	**Warramunga Arr**	**49.99**	**257**	P	P	06 23 33.4	-0.3
	0.4nm,0.5s,baz=94,slow=7.4,SNR=2.8						
ASAR	**Alice Springs**	**50.23**	**252**	P	P	06 23 35.5	0.0
	1.9nm,0.5s,baz=87,slow=7.9,SNR=32						
FITZ	**Fitzroy Crossi**	**58.36**	**258**	LR	LR	06 44 58.8	
	comp=Z,22nm,19.7s,baz=269,slow=31						
GERES	**GERESS Array B**	**146.46**	**352**	PKPbc	PKPdf	06 34 19.2	+0.1
	0.3nm,0.2s,baz=358,slow=5.3,SNR=3.5						
BRTR	**Keskin Array B**	**146.51**	**321**	PKPbc	PKPbc	06 34 20.6	-0.5
	0.7nm,0.7s,baz=79,slow=4.2,SNR=3.9						

IDC 05 06:19:51.2±1.2, 4°96'N×126°52'E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.8/25, mbtmp4.0/9, Error ellipse: s-maj=160.5km s-min=16.4km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.91**	**163**	P	P	06 25 24.5	-0.7
	1.1nm,0.4s,baz=345,slow=10,SNR=3.0						
ASAR	**Alice Springs**	**29.35**	**166**	P	P	06 25 57.1	+1.1
	0.4nm,0.5s,baz=348,slow=7.6,SNR=4.2						
STKA	**Stephens Creek**	**39.35**	**160**	P	P	06 27 22.2	-0.2
	2.0nm,0.9s,baz=328,slow=11,SNR=3.4						
SONM	**Songino Array**	**46.07**	**341**	P	P	06 28 17.9	+0.9
	0.2nm,0.4s,baz=146,slow=8.5,SNR=2.2						
MKAR	**Makanchi Array**	**56.43**	**325**	P	P	06 29 35.2	+0.5
	0.7nm,0.5s,baz=118,slow=7.2,SNR=12						
KURBB	**Kurchatov Arra**	**60.60**	**327**	P	P	06 30 03.6	0.0
	1.1nm,0.6s,baz=120,slow=7.8,SNR=9.2						
BVAR	**Borovoye Array**	**66.18**	**327**	P	P	06 30 39.8	-0.9
	0.5nm,0.4s,baz=79,slow=9.0,SNR=3.4						
ARCES	**ARCESS Array B**	**89.23**	**340**	P	P	06 32 48.0	-0.7
	2.2nm,0.9s,baz=81,slow=6.7,SNR=3.1						
FINES	**FINESS Array B**	**90.66**	**332**	P	P	06 32 55.2	-0.3
	7.0nm,1.1s,baz=29,slow=4.4,SNR=4.8						

*AUST **05** 06:19:52.8±7.4, 11°60S×117°04E, h0km, Error ellipse: s-maj=1.5km s-min=1.0km az=33.0*
*ISCJB **05** 06:19:55.7±0.5, 11°65S±0°05×117°09E±0°06, h26km, mb3.7/1, Error ellipse: s-maj=9.5km s-min=5.0km az=141.0*
*IDC **05** 06:20:06.1±2.0, 11°84S×117°88E, h0km, mb3.7/1, mb1 4.1/5, mb1mx3.7/20, mbtmp3.9/5, ML3.9/4, Error ellipse: s-maj=65.3km s-min=24.7km az=42.0*
*DJA **05** 06:20:06.3±0.8, 11°S±14°×11°6E±°, h106km±40km, M4.4/9, mb4.4/1, MLv4.5/9*

ISC 05 06:19:57.5±0.8, 11°72S±0°07×116°96E±0°06, h26km, n21, σ2♦25/23, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTNI	**Mataram**	**3.16**	**346**	P	Pn	06 20 49.1	+3.5
MTNI				S	**Sn**	**06 21 23.6**	**+1.1**
WSI	**Waingapu**	**3.86**	**58**	P	**Pb**	**06 21 07.2**	**+2.2**
SRBI	**Singaraja**	**4.00**	**334**	P	**Pn**	**06 20 58.6**	**+1.4**
SRBI				S	**Sn**	**06 21 41.5**	**-1.7**
BYJI	**Banyuwangi**	**4.32**	**323**	P	**Pn**	**06 21 03.2**	**+1.6**
BYJI				S	**Sn**	**06 21 48.9**	**-2.3**
ABJI	**Asem Bagus**	**4.73**	**325**	P	**Pn**	**06 21 08.4**	**+1.1**
GMJI	**Gumukmas**	**4.87**	**314**	P	**Pn**	**06 21 09.2**	**+0.1**
GMJI				S	**Sn**	**06 22 02.2**	**-2.5**
BLJI	**Banyuglugur**	**5.16**	**320**	P	**Pn**	**06 21 12.7**	**-0.4**
BLJI				S	**Sn**	**06 22 08.1**	**-3.6**
PWJI	**Pagerwojo**	**6.27**	**305**	P	**Pn**	**06 21 29.0**	**+0.7**
PWJI				S	**Sn**	**06 22 34.4**	**-4.8**
BATI	**Baumata**	**6.75**	**78**	Pn	**Pn**	**06 21 35.8**	**+0.7**
	1.5nm,0.3s,baz=247,slow=13,SNR=3.1						
BATI				Sn	**Sn**	**06 22 47.0**	**-4.2**
	3.6nm,0.3s,baz=8.9,slow=19,SNR=3.5						
UGM	**Wanagama**	**7.38**	**300**	P	**Pn**	**06 21 46.4**	**+2.6**
	baz=7.4,SNR=9.3						
FITZ	**Fitzroy Crossi**	**10.52**	**128**	P	**Pn**	**06 22 26.3**	**-0.4**
	baz=11,SNR=17						
FITZ	**Fitzroy Crossi**	**10.52**	**128**	Pn	**Pn**	**06 22 25.9**	**-0.8**
	1.5nm,0.3s,baz=307,slow=8.4,SNR=37						
FITZ				Sn	Sn	06 24 15.3	-8.4
	1.4nm,0.3s,baz=165,slow=20,SNR=6.3						
GIRL	**Giralia**	**11.17**	**193**	P	**Pn**	**06 22 38.2**	**+2.6**
	baz=11,SNR=6.4						
KNRA	**Kununurra**	**12.13**	**110**	P	**Pn**	**06 22 47.5**	**-1.2**
	baz=12,SNR=6.1						
MEEK	**Meekatharra**	**14.92**	**174**	P	**Pn**	**06 23 27.8**	**+0.9**
	baz=15,SNR=14						
MORW	**Morawa**	**17.28**	**183**	P	**Pn**	**06 23 59.0**	**+1.8**
	baz=18,SNR=10						
WRA	**Warramunga Arr**	**18.60**	**118**	Pn	**P**	**06 24 13.0**	**0.0**
	0.4nm,0.3s,baz=293,slow=14,SNR=5.1						
WRA				Sn	Sn	06 27 25.3	-16
	0.2nm,0.3s,baz=292,slow=22,SNR=2.8						
BLDU	**Ballidu**	**18.80**	**181**	P	Pn	06 24 21.7	+5.9
	baz=19,SNR=5.5						
ASAR	**Alice Springs**	**20.02**	**129**	P	Pn	06 24 34.0	+3.5
	0.4nm,0.3s,baz=313,slow=12,SNR=20						
ASAR				S	S	06 28 02.4	-10
	0.1nm,0.3s,baz=306,slow=24,SNR=5.6						
KAAM	**Kaadhehdhoo**	**45.31**	**282**	P	P	06 28 10.5	-3.2
	baz=45,SNR=3.2						
MKAR	**Makanchi Array**	**65.99**	**335**	P	P	06 30 57.4	+16
	0.4nm,0.5s,baz=148,slow=6.5,SNR=3.3						

IDC 05 06:26:16.8±4.7, 15°21S×173°22W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.6/18, mbtmp3.8/2, Error ellipse: s-maj=255.5km s-min=21.1km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.91**	**47**	Pn	Pn	06 26 49.7	-0.9
	baz=229,slow=9.3,SNR=1.6						
AFI				Sn	Sb	06 27 16.2	-0.8
	29nm,0.3s,baz=144,slow=19,SNR=5.2						
WRA	**Warramunga Arr**	**50.05**	**257**	P	P	06 35 12.9	-0.8
	0.5nm,0.8s,baz=92,slow=7.3,SNR=2.3						
ASAR	**Alice Springs**	**50.33**	**252**	P	P	06 35 15.6	-0.2
	1.7nm,0.8s,baz=85,slow=8.6,SNR=19						
BRTR	**Keskin Array B**	**146.12**	**321**	PKPbc	PKPab	06 45 59.8	-0.2
	0.2nm,0.3s,baz=97,slow=4.5,SNR=2.7						

*IDC **05** 06:35:51.5±0.9, 34°03N×25°57E, h0km, mb4.0/14, mb1 4.1/21, mb1mx4.0/34, mbtmp4.0/21, ML4.1/6, MS3.3/2, Ms1 3.3/2, ms1mx2.5/38, Error ellipse: s-maj=18.9km s-min=14.2km az=168.0*
*ISCJB **05** 06:35:52.8±0.4, 33°90N±0°04×25°67E±0°04, h17km, mb3.9/18, MS3.2/2, Error ellipse: s-maj=5.5km s-min=4.5km az=177.2*
*ATH **05** 06:35:53.8, 34°00N×25°55E, h14km±2km, MD3.5/6*
*CSEM **05** 06:35:53.6±0.2, 33°98N×25°69E, h10km, mb4.0/8, Error ellipse: s-maj=6.7km s-min=4.9km az=31.0*
*MOS **05** 06:35:55.5±1.6, 34°07N×25°47E, h33km, mb4.2/12, Error ellipse: s-maj=11.9km s-min=7.0km az=80.2*
*THE **05** 06:36:01.6, 34°44N×25°56E, h13km±2km, ML3.2/1, Error ellipse: s-maj=2.7km s-min=0.7km az=333.0*

ISC 05 06:35:54.1±0.5, 34°01N±0°04×25°60E±0°03, h17km, n119, σ1♦37/128, mb4.0/18, 1C, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**1.15**	**355**	P	**Pn**	**06 36 15.3**	**-0.2**
LAST				S	**Sb**	**06 36 26.2**	**-4.1**
LAST	**Lasithi**	**1.15**	**355**	*e*PG	**Pn**	**06 36 15.5**	**0.0**
LAST	**Lasithi**	**1.15**	**355**	*e*Pg	**Pn**	**06 36 15.5**	**0.0**
SIVA	**Sivas**	**1.20**	**327**	P	**Pg**	**06 36 17.5**	**+0.3**
SIVA	**Sivas**	**1.20**	**327**	*e*PB	**Pb**	**06 36 16.4**	**+0.1**
SIVA	**Sivas**	**1.20**	**327**	*e*Pb	**Pb**	**06 36 16.4**	**+0.1**
SIVA	**Sivas**	**1.20**	**327**	P	**Pg**	**06 36 17.5**	**+0.3**
ZKR	**Zakros**	**1.21**	**25**	P	**Pg**	**06 36 17.4**	**-0.1**
ZKR				S	**Sb**	**06 36 30.4**	**-1.6**
ZKR	**Zakros**	**1.21**	**25**	*e*PB	**Pg**	**06 36 17.3**	**-0.2**
ZKR	**Zakros**	**1.21**	**25**	*e*Pb	**Pg**	**06 36 17.3**	**-0.2**
ZKR				S	**Sb**	**06 36 30.4**	**-1.6**
NPS	**Neapolis**	**1.25**	**0**	P	**Pn**	**06 36 17.0**	**+0.2**
NPS	**Neapolis**	**1.25**	**0**	*e*PN	**Pn**	**06 36 16.9**	**+0.2**
NPS	**Neapolis**	**1.25**	**0**	P	**Pn**	**06 36 17.0**	**+0.2**
IDI	**Anoyia**	**1.40**	**335**	P	**Pb**	**06 36 20.1**	**+0.2**
IDI	**Anoyia**	**1.40**	**335**	*e*PB	**Pb**	**06 36 20.3**	**+0.4**
IDI	**Anoyia**	**1.40**	**335**	P	**Pb**	**06 36 20.1**	**+0.2**
IDI	**Anoyia**	**1.40**	**335**	Pn	**Pb**	**06 36 20.1**	**+0.2**
	16nm,0.3s,baz=163,slow=15,SNR=48						
GVD	**Gavdhos**	**1.50**	**304**	P	**Pg**	**06 36 22.3**	**-0.7**
GVD	**Gavdhos**	**1.50**	**304**	*e*PB	**Pb**	**06 36 21.9**	**+0.4**
GVD	**Gavdhos**	**1.50**	**304**	*e*Pb	**Pb**	**06 36 21.9**	**+0.4**
GVD	**Gavdhos**	**1.50**	**304**	P	**Pg**	**06 36 22.3**	**-0.7**
VAM	**Vamos**	**1.81**	**321**	P	**Pb**	**06 36 26.8**	**0.0**
VAM	**Vamos**	**1.81**	**321**	*e*PN	**Pb**	**06 36 26.2**	**-0.6**
VAM	**Vamos**	**1.81**	**321**	*e*Pn	**Pb**	**06 36 26.2**	**-0.6**
VAM	**Vamos**	**1.81**	**321**	P	**Pb**	**06 36 26.8**	**0.0**
KARN	**Karanos**	**1.96**	**315**	P	**Pb**	**06 36 28.7**	**-0.7**
KARN	**Karanos**	**1.96**	**315**	*e*PN	**Pb**	**06 36 28.7**	**-0.7**
KARN	**Karanos**	**1.96**	**315**	P	**Pb**	**06 36 28.7**	**-0.7**
KARP	**Karpathos**	**2.00**	**40**	P	**Pb**	**06 36 29.8**	**-0.2**
KARP				S	**Sn**	**06 36 51.8**	**0.0**
KARP	**Karpathos**	**2.00**	**40**	*e*PN	**Pb**	**06 36 29.8**	**-0.2**
KARP				*e*SN	**Sg**	**06 36 56.8**	**-1.7**
KARP	**Karpathos**	**2.00**	**40**	*e*Pn	**Pb**	**06 36 29.8**	**-0.2**
KARP				S	**Sn**	**06 36 51.8**	**0.0**
SANT	**Santorini**	**2.36**	**357**	P	**Pn**	**06 36 32.7**	**+0.6**
SANT	**Santorini**	**2.36**	**357**	*e*PN	**Pb**	**06 36 35.0**	**-1.1**
SANT	**Santorini**	**2.36**	**357**	P	**Pn**	**06 36 32.7**	**+0.6**
SANT	**Santorini**	**2.36**	**357**	*e*Pn	**Pb**	**06 36 35.0**	**-1.1**
LTBQ	**Tobruq**	**2.41**	**216**	*i* P	**Pn**	**06 36 33.4**	**+0.7**
	SNR=111						
ANKY	**Antikythira Is**	**2.65**	**315**	P	**Pb**	**06 36 38.7**	**-2.3**
ANKY	**Antikythira Is**	**2.65**	**315**	P	**Pb**	**06 36 38.7**	**-2.3**
NIS3	**Nisyros Isl.**	**2.86**	**26**	P	**Pn**	**06 36 41.0**	**+2.1**
NIS2	**Nisyros Isl.**	**2.87**	**26**	P	**Pn**	**06 36 40.9**	**+1.8**
NIS1	**Nisyros Isl.**	**2.89**	**26**	P	**Pn**	**06 36 41.5**	**+2.1**
NIS1	**Nisyros Isl.**	**2.89**	**26**	P	**Pn**	**06 36 41.5**	**+2.1**
APE	**Apeiranthos**	**3.05**	**359**	P	**Pn**	**06 36 42.5**	**+0.9**
APE	**Apeiranthos**	**3.05**	**359**	*e*P	**Pn**	**06 36 42.5**	**+0.9**
APE	**Apeiranthos**	**3.05**	**359**	*e*PN	**Pn**	**06 36 44.0**	**+2.4**
APE	**Apeiranthos**	**3.05**	**359**	P	**Pn**	**06 36 42.5**	**+0.9**
APE	**Apeiranthos**	**3.05**	**359**	*e*Pn	**Pn**	**06 36 44.0**	**+2.4**
KYTH	**Kithira**	**3.09**	**318**	P	**Pn**	**06 36 43.9**	**+1.8**
KYTH	**Kithira**	**3.09**	**318**	P	**Pn**	**06 36 43.9**	**+1.8**
VLI	**Veliai**	**3.47**	**322**	P	**Pn**	**06 36 47.9**	**+0.6**
VLI	**Veliai**	**3.47**	**322**	*e*PN	**Pn**	**06 36 49.4**	**+2.1**
VLI	**Veliai**	**3.47**	**322**	P	**Pn**	**06 36 47.9**	**+0.6**
VLI	**Veliai**	**3.47**	**322**	*e*Pn	**Pn**	**06 36 49.4**	**+2.1**
LAKA	**Lakka**	**5.14**	**326**	P	**Pn**	**06 37 12.5**	**+2.2**
LAKA	**Lakka**	**5.14**	**326**	P	**Pn**	**06 37 12.5**	**+2.2**
LJBD	**Adjabya**	**5.51**	**237**	*i* P	**Pn**	**06 37 15.3**	**-0.1**
	SNR=76						
MMAI	**Mount Meron Ar**	**8.25**	**94**	Pn	**Pn**	**06 37 52.4**	**-0.6**
	1.1nm,0.3s,baz=264,slow=14,SNR=3.1						
MMAI				Sn	**Sn**	**06 39 23.1**	**-2.8**
	1.2nm,0.3s,baz=283,slow=26,SNR=2.7						
BRTR	**Keskin Array B**	**8.60**	**46**	P	**Pn**	**06 37 58.9**	**+1.0**
BRTR	**Keskin Array B**	**8.60**	**46**	Pn	**Pn**	**06 37 58.9**	**+1.0**
	0.1nm,0.3s,baz=222,slow=13,SNR=10.0						
BRTR				Sn	**Sn**	**06 39 29.4**	**-5.1**
	0.1nm,0.3s,baz=213,slow=24,SNR=2.3						
EIL	**Elat**	**9.05**	**116**	Pn	**Pn**	**06 38 03.4**	**-0.6**
	1.1nm,0.3s,baz=336,slow=12,SNR=4.6						
EIL				Sn	**Sn**	**06 39 41.3**	**-4.3**
	0.7nm,0.3s,baz=38,slow=17,SNR=2.1						
ASF	**Jabal al Asfar**	**9.65**	**98**	Pn	Pn	06 38 18.0	+5.7
	0.2nm,0.3s,baz=232,slow=18,SNR=3.1						
ASF				Sn	**Sn**	**06 40 04.1**	**+3.7**
	0.3nm,0.3s,baz=342,slow=20,SNR=2.4						
ANN	**Anapa**	**14.12**	**37**	*e*P	**Pn**	**06 39 14.2**	**+1.0**
ANN				*e*S	**Sn**	**06 41 48.1**	**-1.2**
ANN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ANN	**Anapa**	**14.12**	**37**	*e*P	**Pn**	**06 39 14.2**	**+1.0**
	comp=Z,8.0nm,1.0s						
KIV	**Kislovodsk**	**16.56**	**48**	↑*i*P	**P**	**06 39 49.7**	**+1.7**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KIV	**Kislovodsk**	**16.56**	**48**	*i* P	**P**	**06 39 49.7**	**+1.7**
	comp=Z,8.0nm,1.1s						
KBZ	**Khabaz**	**16.57**	**49**	P	**P**	**06 39 48.4**	**+0.4**
KBZ	**Khabaz**	**16.57**	**49**	P	**P**	**06 39 48.4**	**+0.4**
KBZ	**Khabaz**	**16.57**	**49**	Pn	**P**	**06 39 48.4**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=291,slow=7.2,SNR=4.8						
VRAC	**Vranov**	**16.68**	**339**	P	**P**	**06 39 48.5**	**-0.7**
	comp=Z,1.0nm,0.3s						
VRAC	**Vranov**	**16.68**	**339**	Pn	**P**	**06 39 48.5**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=192,slow=7.9,SNR=3.3						
ZEI	**Tsey**	**16.78**	**53**	*e*P	**P**	**06

*ISCJB **05** 06:43:54.3±0.9, 15.75S±0.09×172.0W±0.2, h23km, mb3.7/7, MS3.3/1, Error ellipse: s-maj=25.7km s-min=10.3km az=21.3*

ISC 05 06:43:56.2±1.0, 15.6S±0.1×172.0W±0.2, h23km, n13, σ0.33/11, mb3.7/7, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.71**	**8**	Pn	**Pn**	**06 44 24.8**	**0.0**
	23nm,0.3s,baz=194,slow=21,SNR=5.6						
AFI				Sn	**Sb**	**06 44 48.1**	**-0.1**
	230nm,0.3s,baz=0.3,slow=24,SNR=21						
PPT	**Papeete**	**21.58**	**98**	LR	LR	06 53 45.0	
	comp=Z,126nm,20.9s,baz=332,slow=28						
PPT2	**Papeete2**	**21.58**	**98**	*e*LR	LR	06 53 26.0	
	160nm,24.5s						
TBI	**Tubuai**	**22.58**	**113**	*e*LR	LR	06 53 55.4	
	150nm,29.0s						
STKA	**Stephens Creek**	**45.09**	**240**	P	**P**	**06 52 11.0**	**+0.2**
	0.7nm,0.5s,baz=78,slow=9.3,SNR=3.7						
WRA	**Warramunga Arr**	**51.10**	**257**	P	**P**	**06 52 57.3**	**-0.1**
	0.8nm,0.9s,baz=91,slow=7.5,SNR=2.5						
ASAR	**Alice Springs**	**51.32**	**252**	P	**P**	**06 52 59.0**	**-0.2**
	4.5nm,0.9s,baz=87,slow=8.2,SNR=16						
NVAR	**Mina Array Bea**	**73.60**	**41**	P	**P**	**06 55 28.2**	**+0.1**
	0.4nm,0.5s,baz=218,slow=11,SNR=3.6						
TXAR	**Lajitas Array**	**79.62**	**56**	P	**P**	**06 56 02.0**	**-0.1**
	0.4nm,0.8s,baz=234,slow=7.7,SNR=5.0						
PDAR	**Pinedale Array**	**81.54**	**41**	P	**P**	**06 56 12.0**	**-0.3**
	0.6nm,0.8s,baz=213,slow=2.9,SNR=6.1						
ILAR	**Eielson Array**	**82.41**	**11**	P	**P**	**06 56 16.7**	**+0.7**
	0.6nm,0.7s,baz=219,slow=6.0,SNR=11						
ARCES	**ARCESS Array B**	**125.00**	**353**	PKP	**PKPdf**	**07 02 53.5**	**-0.4**
	1.7nm,0.9s,baz=45,slow=0.3,SNR=4.7						
BRTR	**Keskin Array B**	**147.16**	**322**	PKPbc	**PKPbc**	**07 03 37.8**	**-0.1**
	0.8nm,0.7s,baz=79,slow=3.1,SNR=3.4						

IDC 05 06:56:25.6±0.9, 5.09N×126.86E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/23, mbtmp3.8/7, Error ellipse: s-maj=65.7km s-min=19.5km az=76.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**23.07**	**183**	P	P	07 01 34.0	+1.0
	3.2nm,1.0s,baz=17,slow=11,SNR=3.4						
WRA	**Warramunga Arr**	**25.94**	**164**	P	P	07 01 59.5	-0.4
	3.2nm,0.9s,baz=343,slow=10,SNR=4.9						
ASAR	**Alice Springs**	**29.39**	**167**	P	P	07 02 31.9	+1.0
	0.2nm,0.5s,baz=345,slow=6.7,SNR=4.6						
STKA	**Stephens Creek**	**39.35**	**160**	P	P	07 03 55.1	-1.7
	0.8nm,0.4s,baz=343,slow=16,SNR=3.3						
MKAR	**Makanchi Array**	**56.52**	**325**	P	P	07 06 08.8	-1.0
	0.5nm,0.8s,baz=132,slow=8.0,SNR=4.9						
ILAR	**Eielson Array**	**83.83**	**25**	P	P	07 08 57.0	+0.2
	0.2nm,0.6s,baz=260,slow=4.5,SNR=3.8						
ARCES	**ARCESS Array B**	**89.23**	**340**	P	P	07 09 24.3	+1.1
	3.1nm,1.0s,baz=64,slow=4.1,SNR=3.2						
TORD	**Torodi Ar. Bea**	**122.61**	**289**	PKP	PKPdf	07 15 23.7	-0.7
	0.3nm,0.9s,baz=81,slow=3.8,SNR=3.3						

WEL 05 07:07:29.4±0.2, 35.64S×178.45E, h33km, ML3.9/3, Error ellipse: s-maj=3.4km s-min=1.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**2.43**	**184**	PN	Pn	07 08 06.2	-0.7
PUZ				SN	Sn	07 08 34.0	-1.5
PUZ				AML	AML	07 08 46.2	
MWZ	**Matawai**	**2.79**	**195**	P*	Pn	07 08 11.8	0.0
MWZ				*e*S*	Sn	07 08 43.9	-0.4
MWZ				AML	AML	07 08 53.6	
URZ	**Urewera**	**2.82**	**202**	P*	Pn	07 08 12.6	+0.4
URZ				S*	Sn	07 08 45.0	-0.1
URZ				AML	AML	07 08 53.3	
CNGZ	**Carnagh Statio**	**2.84**	**184**	PN	Pn	07 08 11.5	-1.0
CNGZ				*e*SN	Sn	07 08 42.7	-2.9
BHHZ	**Black Hill Sta**	**4.28**	**206**	P*	Pn	07 08 31.5	-0.9

*AUST **05** 07:12:27.6, 16.32S×171.31W, h5km*
*IDC **05** 07:12:30.0±0.6, 16.37S×171.99W, h0km, mb4.4/11, mb1 4.6/12, mb1mx4.4/22, mbtmp4.4/12, ML1.9/1, MS3.7/9, Ms1 3.7/9, ms1mx3.5/29, Error ellipse: s-maj=26.6km s-min=15.0km az=124.0*
*NEIC **05** 07:12:32.0±0.2, 16.32S×172.15W, h10km, mb4.5/25, Error ellipse: s-maj=10.8km s-min=4.8km az=132.0*
*ISCJB **05** 07:12:33.1±0.3, 16.50S±0.09×171.95W±0.08, h26km, mb4.6/45, MS3.9/10, Error ellipse: s-maj=15.9km s-min=6.7km az=142.7*

ISC 05 07:12:34.3±0.5, 16.33S±0.07×172.0W±0.1, h26km, n99, σ1.9/54/87, mb4.6/46, MS3.8/10, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.42**	**4**	*e*Pn	**Pn**	**07 13 10.6**	**-1.6**
AFI				*e*Sn	**Sn**	**07 13 38.8**	**-2.2**
AFI	**Afiamalu**	**2.42**	**4**	Pn	**Pn**	**07 13 10.3**	**-1.9**
	17nm,0.3s,baz=267,slow=7.5,SNR=12						
AFI				Sn	**Sn**	**07 13 37.4**	**-3.5**
	48nm,0.3s,baz=136,slow=20,SNR=7.0						
NIUE	**Niue**	**3.35**	**145**	P	Pn	07 13 14.7	-10
	baz=3.1,SNR=28						
MSVF	**Nonsavu**	**9.65**	**260**	*e*Pn	Pn	07 14 55.1	+3.4
DZM	**Mont Dzumac**	**21.16**	**251**	*e*LR	LR	07 21 56.0	
	420nm,24.6s						
DZM	**Mont Dzumac**	**21.16**	**251**	P	**P**	**07 17 13.8**	**-4.0**
DZM	**Mont Dzumac**	**21.16**	**251**	P	**P**	**07 17 13.8**	**-4.0**
	5.0nm,0.7s,baz=90,slow=17,SNR=4.8						
PPT	**Papeete**	**21.45**	**97**	LR	LR	07 22 24.3	
	comp=Z,108nm,21.4s,baz=279,slow=28						
PPT2	**Papeete2**	**21.45**	**97**	*e*LR	LR	07 22 09.3	
	253nm,24.8s						
TBI	**Tubuai**	**22.27**	**112**	*e*LR	LR	07 22 22.1	
	235nm,28.0s						
URZ	**Urewera**	**23.87**	**202**	P	**P**	**07 17 45.5**	**-0.1**
URZ	**Urewera**	**23.87**	**202**	P	**P**	**07 17 45.5**	**-0.1**
	25nm,0.7s,baz=11,slow=3.8,SNR=8.1						
HNR	**Honiara**	**28.20**	**281**	LR	LR	07 28 13.8	
	comp=Z,145nm,19.7s,baz=244,slow=34						
RPZ	**Rata Peaks**	**30.87**	**204**	P	P	07 18 53.2	+4.7
RPZ	**Rata Peaks**	**30.87**	**204**	P	P	07 18 53.2	+4.7
	11nm,0.6s,baz=74,slow=2.2,SNR=9.7						
EIDS	**Eidsvold**	**35.59**	**249**	P	**P**	**07 19 32.8**	**+2.9**
	baz=36,SNR=5.2						
ARMA	**Armidale**	**36.07**	**241**	P	**P**	**07 19 32.6**	**-1.4**
	baz=37,SNR=5.8						
CNB	**Canberra Magne**	**39.30**	**234**	P	**P**	**07 20 01.3**	**0.0**
	baz=40,SNR=4.8						
PMG	**Port Moresby**	**40.38**	**275**	LR	LR	07 33 03.8	
	comp=Z,82nm,18.2s,baz=66,slow=31						
H11S2	**WAKE ISLAND Hy**	**40.48**	**328**	T	T	08 03 43.2	
	baz=150						
H11S3	**WAKE ISLAND Hy**	**40.49**	**328**	T	T	08 03 40.5	
	baz=150						
H11S1	**WAKE ISLAND Hy**	**40.49**	**328**	T	T	08 03 43.1	
	baz=150						
CMSA	**Cobar Meteorol**	**41.29**	**241**	P	**P**	**07 20 17.0**	**-0.7**
	baz=42,SNR=8.5						
QLP	**Quilpie**	**41.84**	**248**	P	**P**	**07 20 20.5**	**-1.8**
	baz=42,SNR=3.5						
STKA	**Stephens Creek**	**44.78**	**241**	*e*P	**P**	**07 20 44.9**	**-1.1**
	2.1nm,1.0s						
STKA	**Stephens Creek**	**44.78**	**241**	P	**P**	**07 20 45.1**	**-0.9**
	baz=45,SNR=7.0						
STKA	**Stephens Creek**	**44.78**	**241**	P	**P**	**07 20 45.3**	**-0.7**
	29nm,1.3s,baz=84,slow=8.5,SNR=15						
STKA				LR	LR	07 36 19.6	
	comp=Z,113nm,18.6s,baz=26,slow=32						
WRAB	**Tennant Creek**	**50.97**	**257**	*e*P	**P**	**07 21 33.1**	**-1.1**
	3.1nm,0.7s						
WRA	**Warramunga Arr**	**50.98**	**257**	P	**P**	**07 21 32.9**	**-1.3**
WRA	**Warramunga Arr**	**50.98**	**257**	P	**P**	**07 21 32.9**	**-1.3**
	2.8nm,0.6s,baz=95,slow=8.1,SNR=11						
AS31	**Alice Springs**	**51.14**	**253**	*e*P	**P**	**07 21 34.0**	**-1.4**
ASAR	**Alice Springs**	**51.14**	**253**	P	**P**	**07 21 34.2**	**-1.2**
ASAR	**Alice Springs**	**51.14**	**253**	P	**P**	**07 21 34.2**	**-1.2**
	16nm,0.5s,baz=88,slow=8.7,SNR=268						
VNDA	**Vanda**	**62.60**	**186**	P	**P**	**07 22 56.3**	**+0.6**
VNDA	**Vanda**	**62.60**	**186**	P	**P**	**07 22 56.3**	**+0.6**
	2.0nm,1.0s,baz=1.8,slow=7.8,SNR=6.2						
YBH	**Yreka Blue Hor**	**73.52**	**36**	LR	LR	07 48 31.4	
	comp=Z,46nm,19.1s,baz=293,slow=29						
QSPA	**South Pole Qui**	**73.72**	**180**	*e*P	**P**	**07 24 04.4**	**-1.4**
QSPA	**South Pole Qui**	**73.72**	**180**	P	**P**	**07 24 04.2**	**-1.6**
	3.6nm,0.9s,baz=54,slow=1.5,SNR=11						
NVAR	**Mina Array Bea**	**74.11**	**41**	P	**P**	**07 24 09.4**	**+0.8**
NVAR	**Mina Array Bea**	**74.11**	**41**	P	**P**	**07 24 09.4**	**+0.8**
	2.5nm,0.8s,baz=225,slow=9.9,SNR=13						
MOD	**Modoc**	**75.01**	**37**	*e*P	**P**	**07 24 14.6**	**+0.9**
	207nm,2.3s						
WVOR	**Wild Horse Val**	**76.31**	**38**	*e*P	**P**	**07 24 21.8**	**+0.7**
	5.2nm,1.2s						
CCUT	**Cedar City**	**76.82**	**44**	*e*P	**P**	**07 24 25.8**	**+1.5**
	9.7nm,1.5s						
J08A	**Circle Bar Ran**	**76.97**	**37**	*e*P	**P**	**07 24 25.9**	**+1.1**
	6.5nm,1.1s						
ELK	**Elko**	**77.38**	**41**	*e*P	**P**	**07 24 28.2**	**+0.9**
	3.0nm,0.9s						
G08A	**Pilot Rock**	**77.88**	**35**	*e*P	**P**	**07 24 30.9**	**+1.0**
	6.8nm,1.2s						
MVU	**Marysvale**	**78.10**	**44**	*e*P	**P**	**07 24 33.2**	**+1.8**
	5.4nm,0.9s						
BMO	**Blue Mountains**	**78.54**	**36**	*e*P	**P**	**07 24 34.1**	**+0.6**
	5.2nm,1.6s						
DUG	**Dugway**	**78.61**	**42**	*e*P	**P**	**07 24 34.4**	**+0.4**
	3.2nm,0.9s						
TMUT	**Trail Mountain**	**79.18**	**44**	*e*P	**P**	**07 24 39.2**	**+1.8**
	7.9nm,1.0s						
F10A	**Beach Ranch, E**	**79.26**	**35**	*e*P	**P**	**07 24 38.0**	**+0.5**
	5.7nm,1.0s						
HLID	**Hailey**	**79.48**	**39**	*e*P	**P**	**07 24 39.8**	**+1.0**
	5.6nm,1.0s						
HVU	**Hansel Valley**	**79.50**	**41**	*e*P	**P**	**07 24 39.6**	**+0.8**
	3.7nm,0.9s						
SRU	**San Rafael**	**79.54**	**44**	*e*P	**P**	**07 24 40.5**	**+1.3**
	26nm,1.9s						
B08A	**Colville Reser**	**79.61**	**33**	*e*P	**P**	**07 24 39.5**	**+0.3**
	4.7nm,1.1s						
JLU	**Jordanelle**	**79.71**	**42**	*e*P	**P**	**07 24 41.2**	**+1.0**
	4.2nm,0.9s						
TXAR	**Lajitas Array**	**79.99**	**55**	P	**P**	**07 24 42.0**	**+0.3**
TXAR	**Lajitas Array**	**79.99**	**55**	P	**P**	**07 24 42.0**	**+0.3**
	1.2nm,0.9s,baz=223,slow=6.1,SNR=11						
TXAR				LR	LR	07 50 55.7	
	comp=Z,39nm,20.1s,baz=180,slow=29						
ANMO	**Albuquerque**	**80.35**	**49**	*e*P	**P**	**07 24 44.5**	**+0.8**
	2.4nm,0.8s						
NEW	**Newport**	**80.71**	**34**	LR	LR	07 55 30.3	
	comp=Z,56nm,19.1s,baz=21,slow=32						
RRI2	**Red Ridge**	**81.24**	**40**	*e*P	**P**	**07 24 49.7**	**+1.3**
	6.5nm,1.1s						
TRF	**Thorofare Moun**	**81.30**	**10**	*e*P	**P**	**07 24 48.5**	**+0.4**
	60nm,2.4s						
REDW	**Red Top Meadow**	**81.54**	**40**	*e*P	**P**	**07 24 50.8**	**+0.9**
TPAW	**Teton Pass**	**81.55**	**40**	*e*P	**P**	**07 24 51.1**	**+1.1**
SNOW	**Snow King Moun**	**81.66**	**40**	*e*P	**P**	**07 24 51.6**	**+1.1**
	100nm,3.0s						
IMW	**Indian Meadow**	**81.77**	**40**	*e*P	**P**	**07 24 52.4**	**+1.2**
	6.8nm,1.4s						
MCK	**McKinley**	**81.78**	**10**	*e*P	**P**	**07 24 51.3**	**+0.8**
NJ2	**Nanjing**	**81.83**	**307**	*e*P	**P**	**07 24 52.9**	**+1.6**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
SMCO	**Snowmass**	**81.97**	**45**	*e*P	**P**	**07 24 53.7**	**+1.2**
	8.2nm,1.3s						
PDAR	**Pinedale Array**	**82.04**	**41**	P	**P**	**07 24 52.5**	**0.0**
PDAR	**Pinedale Array**	**82.04**	**41**	P	**P**	**07 24 52.5**	**0.0**
	1.4nm,1.0s,baz=219,slow=3.8,SNR=7.5						
DLBC	**Dease Lake**	**82.07**	**21**	LR	LR	07 58 59.6	
	comp=Z,71nm,18.3s,baz=203,slow=34						
MSTX	**Muleshoe**	**82.64**	**52**	*e*P	**P**	**07 24 56.3**	**+0.5**
	8.2nm,1.0s						
CN2	**Changchun**	**82.69**	**320**	*e*P	**P**	**07 24 58.0**	**+2.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
PMBI	**Palembang**	**82.72**	**269**	P	P	07 25 00.2	+3.7
	baz=83,SNR=3.7						
COLA	**College**	**83.03**	**10**	*e*P	**P**	**07 24 57.6**	**+0.8**
	23nm,1.1s						
ILAR	**Eielson Array**	**83.10**	**11**	P	**P**	**07 24 57.5**	**+0.2**
ILAR	**Eielson Array**	**83.10**	**11**	P	**P**	**07 24 57.5**	**+0.2**
	1.2nm,0.7s,baz=226,slow=6.1,SNR=17						
DAWY	**Dawson**	**83.98**	**14**	*e*P	**P**	**07 25 03.1**	**+1.2**
ABTX	**Abilene, Hawle**	**84.48**	**54**	*e*P	**P**	**07 25 05.3**	**+0.1**
MAW	**Mawson**	**87.35**	**198**	P	**P**	**07 25 18.8**	**+0.2**
MAW	**Mawson**	**87.35**	**198**	P	**P**	**07 25 18.8**	**+0.2**
	1.8nm,0.9s,baz=120,slow=14,SNR=4.0						
GYA	**Guiyang**	**89.70**	**298**	*e*P	**P**	**07 25 32.6**	**+1.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**90.67**	**312**	*e*P	**P**	**07 25 36.2**	**+1.3**
HHC				sP	**sP**	**07 25 43.2**	**-3.2**
HHC				PP	**PP**	**07 29 13.6**	**+3.0**
HHC				SKS	**SKSac**	**07 36 05.2**	**+0.2**
HHC				S	**S**	**07 36 29.0**	**-0.5**
HHC				sS	**ScS**	**07 36 37.0**	**+4.1**
HHC				SS	**SS**	**07 42 33.8**	**+1.8**
HHC				AMB	AMB		
	comp=Z,31nm,1.0s						
HHC				AMB	AMB		
	comp=Z,390nm,5.7s						
HHC				LR	LR		
	comp=N,320nm,17.8s						
HHC				LR	LR		
	comp=E,200nm,16.1s						
HHC				LR	LR		
	comp=Z,210nm,18.0s						
KMI	**Kunming**	**92.67**	**295**	P	**P**	**07 25 47.4**	**+2.7**
KMI				AMB	AMB		
	comp=Z,11nm,1.4s						
CD2	**Chengdu**	**93.47**	**301**	P	**P**	**07 25 50.9**	**+2.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
ULM	**Lac du Bonnet**	**93.79**	**39**	LR	LR	08 00 58.3	
	comp=Z,55nm,18.4s,baz=14,slow=31						
LZH	**Lanzhou**	**94.89**	**306**	*e*P	P	07 26 00.9	+6.3
LZH				pP	pP	07 26 06.5	+3.5
LZH				sP	sP	07 26 10.8	+4.7
LZH				AMB	AMB		
	comp=Z,14nm,1.0s						
GTA	**Gaotai**	**98.84**	**308**	*e*P	Pdif	07 26 14.1	+1.8
GTA				pP	pP	07 26 18.3	-2.5
GTA				sP	sP	07 26 21.4	-2.4
GTA				AMB	AMB		
	comp=Z,6.0nm,0.6s						
CLL	**Collm**	**144.88**	**355**	*e*PKPdf	**PKPab**	**07 32 08.0**	**0.0**
KMBO	**Kilima Mbogo**	**146.34**	**242**	PKPbc	**PKPab**	**07 32 15.2**	**+0.2**
KMBO	**Kilima Mbogo**	**146.34**	**242**	PKPbc	**PKPab**	**07 32 15.2**	**+0.2**
	2.5nm,0.8s,baz=106,slow=4.0,SNR=5.8						
GERES	**GERESS Array B**	**147.25**	**353**	PKPbc	**PKPbc**	**07 32 15.8**	**+0.4**
GERES	**GERESS Array B**	**147.25**	**353**	PKPbc	**PKPbc**	**07 32 15.8**	**+0.4**
	0.3nm,0.3s,baz=350,slow=1.6,SNR=5.0						
BR131	**Keskin Array S**	**147.75**	**321**	*e*PKPbc	**PKPbc**	**07 32 18.1**	**+0.9**
BRTR	**Keskin Array B**	**147.75**	**321**	PKPbc	**PKPbc**	**07 32 16.8**	**-0.4**
BRTR	**Keskin Array B**	**147.75**	**321**	PKPbc	**PKPbc**	**07 32 16.8**	**-0.4**
	3.4nm,1.0s,baz=126,slow=1.7,SNR=11						
TORD	**Torodi Ar. Bea**	**173.10**	**116**	PKPab	**PKPab**	**07 34 07.2**	**-2.3**
TORD	**Torodi Ar. Bea**	**173.10**	**116**	PKPab	**PKPab**	**07 34 07.2**	**-2.3**
	1.6nm,1.0s,baz=253,slow=4.9,SNR=5.9						

IDC 05 07:19:36.2±1.2, 16.38S×172.02W, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.9/20, mbtmp3.8/7, ML1.5/1, Error ellipse: s-maj=57.7km s-min=20.1km az=141.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.47**	**5**	Pn	Pn	07 20 17.3	-0.5
	6.1nm,0.3s,baz=164,slow=15,SNR=4.2						
AFI				Sn	Sn	07 20 43.5	-5.3
	19nm,0.3s,baz=116,slow=20,SNR=7.3						
STKA	**Stephens Creek**	**44.71**	**241**	P	P	07 27 51.2	-0.1
	2.4nm,0.7s,baz=96,slow=12,SNR=5.9						
WRA	**Warramunga Arr**	**50.92**	**257**	P	P	07 28 39.1	-0.6
	0.6nm,0.5s,baz=94,slow=8.5,SNR=3.4						
ASAR	**Alice Springs**	**51.08**	**253**	P	P	07 28 40.4	-0.5
	4.7nm,0.6s,baz=88,slow=8.6,SNR=89						
NVAR	**Mina Array Bea**	**74.18**	**41**	P	P	07 31 15.0	-0.1
	0.7nm,0.9s,baz=226,slow=12,SNR=4.0						
TXAR	**Lajitas Array**	**80.06**	**55**	P	P	07 31 47.9	-0.3
	0.4nm,0.9s,baz=236,slow=7.5,SNR=3.2						
ILAR	**Eielson Array**	**83.15**	**11**	P	P	07 32 03.1	-0.5
	0.3nm,0.7s,baz=217,slow=4.4,SNR=3.3						
BRTR	**Keskin Array B**	**147.75**	**321**	PKPbc	PKPab	07 39 25.2	-0.6
	1.0nm,0.8s,baz=101,slow=2.9,SNR=3.5						

IDC 05 07:35:30.4±5.2, 20.69S×178.59W, h596km±63km, mb2.9/8, mb1 3.2/8, mb1mx3.0/19, mbtmp2.9/8, Error ellipse: s-maj=85.2km s-min=21.9km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.21**	**244**	P	P	07 41 52.5	-0.1
	0.5nm,0.4s,baz=95,slow=13,SNR=2.8						
ASAR	**Alice Springs**	**43.94**	**257**	P	P	07 42 46.1	0.0
	1.2nm,0.5s,baz=95,slow=8.0,SNR=30						
ASAR				PcP	PcP	07 44 18.9	+0.2
	0.3nm,0.6s,baz=104,slow=3.7,SNR=5.3						
WRA	**Warramunga Arr**	**44.03**	**262**	P	P	07 42 46.4	-0.5
	0.4nm,0.3s,baz=97,slow=7.6,SNR=6.2						
YBH	**Yreka Blue Hor**	**80.78**	**39**	P	P	07 46 43.9	+0.9
	1.7nm,1.0s,baz=252,slow=6.4						
NVAR	**Mina Array Bea**	**81.54**	**44**	P	P	07 46 47.1	-0.1
	0.3nm,0.5s,baz=247,slow=4.6,SNR=3.7						
TXAR	**Lajitas Array**	**87.62**	**58**	P	P	07 47 16.5	-0.3
	0.5nm,1.0s,baz=226,slow=7.5,SNR=4.0						
ILAR	**Eielson Array**	**88.62**	**13**	P	P	07 47 19.8	-0.6
	0.2nm,0.5s,baz=226,slow=5.9,SNR=3.6						
PDAR	**Pinedale Array**	**89.48**	**43**	P	P	07 47 24.8	-0.5
	0.6nm,0.8s,baz=216,slow=4.0,SNR=5.2						
ARCES	**ARCESS Array B**	**129.01**	**349**	PKP	PKPdf	07 53 30.3	-0.5
	1.2nm,0.8s,baz=350,slow=1.0,SNR=3.8						
AKASG	**Malin Array Be**	**142.91**	**331**	PKP	PKPdf	07 53 54.0	-2.8
	0.2nm,0.3s,baz=41,slow=4.3,SNR=7.1						
BRTR	**Keskin Array B**	**146.56**	**312**	PKPbc	PKPbc	07 54 06.5	+0.1
	0.5nm,0.6s,baz=88,slow=4.9,SNR=3.4						

GUC 05 07:52:15.1±0.5, 28.37S×71.04W, h47km±246km, ML4.1, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**0.70**	**155**	*i* P	Pn	07 52 30.1	+0.9
LCO				*i* S	Sn	07 52 40.8	+1.5
CPCH	**Copiapo**	**1.18**	**31**	*i* P	Pn	07 52 36.0	+0.8
CPCH				*i* S	Sn	07 52 51.2	+1.1
CPCH				AML	AML	07 52 53.3	
	comp=N,29μm,0.1s						
CDCH	**Caldera**	**1.31**	**8**	*i* P	Pn	07 52 37.3	+0.3
CDCH				*i* P	Pn	07 52 37.3	+0.3
TLL	**Tololo Astrono**	**1.80**	**174**	*i* P	Pn	07 52 46.1	+2.0
TLL				*i* S	Sn	07 53 08.7	+2.7
TLL				AML	AML	07 53 10.0	
	comp=E,505nm,0.4s						
CMCH	**Combarbala**	**2.79**	**179**	*i* P	Pn	07 52 58.1	+0.6
CMCH				*i* S	Sn	07 53 30.7	+0.7
CMCH				AML	AML	07 53 47.8	
	comp=N,2μm,0.6s						
CHNG	**Los Chungos**	**3.52**	**186**	*i* P	Pn	07 53 07.6	+0.3
CHNG				AML	AML	07 54 12.8	
	comp=E,97nm,0.4s						
CLCH	**Cerro Calan**	**5.03**	**175**	*i* P	Pn	07 53 28.7	+0.6

*IDC **05** 08:01:54.6±1.1, 34.19N×25.99E, h0km, mb4.0/12, mb1 4.0/17, mb1mx3.9/33, mbtmp3.9/17, ML3.8/5, Error ellipse: s-maj=23.2km s-min=16.7km az=172.0*
*ATH **05** 08:01:55.5, 33.95N×26.04E, h20km±1km, MD3.6/12*
*ISCJB **05** 08:01:55.9±1.0, 33.97N±0.03×26.20E±0.03, h20km±9km, mb3.8/12, Error ellipse: s-maj=5.4km s-min=4.5km az=39.2*
*CSEM **05** 08:01:56.1±0.2, 34.04N×26.11E, h2km, MD3.6, Error ellipse: s-maj=5.4km s-min=4.6km az=175.0*
*THE **05** 08:02:02.1, 34.43N×26.06E, h4km±3km, Error ellipse: s-maj=3.6km s-min=1.1km az=48.0*
*HLW **05** 08:02:02.1, 33.92N×25.89E, h25km±11km, Md3.4, MI3.4*

ISC 05 08:01:54.6±1.4, 34.03N±0.03×26.18E±0.03, h5km±9km, n92, σ1.9/68/122, mb3.9/12, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**1.09**	**2**	P	**Pg**	**08 02 15.4**	**-0.1**
ZKR				S	**Sg**	**08 02 26.1**	**-3.5**
ZKR	**Zakros**	**1.09**	**2**	*e*P	**Pg**	**08 02 15.4**	**-0.1**
ZKR	**Zakros**	**1.09**	**2**	*e*PN	**Pn**	**08 02 18.0**	**+1.4**
ZKR				*e*SN	**Sn**	**08 02 34.2**	**+2.1**
ZKR	**Zakros**	**1.09**	**2**	P	**Pg**	**08 02 15.4**	**-0.1**
ZKR	**Zakros**	**1.09**	**2**	*e*Pn	**Pn**	**08 02 18.0**	**+1.4**
ZKR				S	**Sg**	**08 02 26.1**	**-3.5**
ZKR				*e*Sn	**Sn**	**08 02 34.2**	**+2.1**
LAST	**Lasithi**	**1.27**	**333**	P	**Pn**	**08 02 19.2**	**0.0**
LAST	**Lasithi**	**1.27**	**333**	*e*PN	**Pg**	**08 02 19.7**	**+0.7**
LAST				*e*SN	**Sn**	**08 02 37.8**	**+1.1**
LAST	**Lasithi**	**1.27**	**333**	P	**Pn**	**08 02 19.2**	**0.0**
LAST	**Lasithi**	**1.27**	**333**	*e*PN	**Pg**	**08 02 19.7**	**+0.7**
LAST				*e*Sn	**Sn**	**08 02 37.8**	**+1.1**
**NP

AKAS				*i* S		**Sn**	**08 03 32.9**	**-0.6**
VLI	**Veliai**	**3.77**	**316**	*e*PN		**Pn**	**08 02 54.1**	**+0.6**
VLI	**Veliai**	**3.77**	**316**	*e*Pn		**Pn**	**08 02 54.1**	**+0.6**
AYDN	**Tasoluk**	**3.88**	**20**	*i* P		**Pn**	**08 02 57.0**	**+1.9**
AYDN				*i* S		**Sn**	**08 03 41.9**	**+0.8**
AYDN	**Tasoluk**	**3.88**	**20**	*i* P		**Pn**	**08 02 57.0**	**+1.9**
AYDN				*i* S		**Sn**	**08 03 41.9**	**+0.8**
GOLH	**Golhisar**	**4.23**	**40**	*i* P		**Pn**	**08 03 02.1**	**+2.2**
GOLH				*i* S		**Sn**	**08 03 54.1**	**+4.4**
GOLH	**Golhisar**	**4.23**	**40**	*i* P		**Pn**	**08 03 02.1**	**+2.2**
GOLH				*i* S		**Sn**	**08 03 54.1**	**+4.4**
SWA2	baz=185	**4.81**	**188**	P		**Pn**	**08 03 09.4**	**+1.7**
SWA2		**4.81**	**188**	P		**Pn**	**08 03 09.4**	**+1.7**
KULA	**Kula-Manisa**	**4.91**	**23**	*e*PG		**Pg**	**08 03 29.3**	**+0.6**
KULA	**Kula-Manisa**	**4.91**	**23**	*e*Pg		**Pg**	**08 03 29.3**	**+0.6**
GAZI	**Gazipasa**	**5.49**	**65**	*i* P		**Pn**	**08 03 17.5**	**+0.4**
GAZI				*i* S		**Sn**	**08 04 17.1**	**-3.7**
GAZI	**Gazipasa**	**5.49**	**65**	*i* P		**Pn**	**08 03 17.5**	**+0.4**
KCTX	**Karacabey (Bur**	**6.47**	**15**	*e*PN		**Pn**	**08 03 33.1**	**+2.5**
KCTX	**Karacabey (Bur**	**6.47**	**15**	*e*Pn		**Pn**	**08 03 33.1**	**+2.5**
GULE	**Gulek**	**7.72**	**63**	*i* P		**Pn**	**08 03 50.4**	**+2.5**
GULE	**Gulek**	**7.72**	**63**	*i* P		**Pn**	**08 03 50.4**	**+2.5**
BRTR	**Keskin Array B**	**8.25**	**44**	Pn		**Pn**	**08 03 57.1**	**+2.0**
	0.1nm,0.3s,baz=198,slow=12,SNR=6.9							
EIL	**Elat**	**8.63**	**118**	Pn		**Pn**	**08 04 02.9**	**+2.6**
	0.6nm,0.3s,baz=357,slow=18,SNR=2.6							
KBZ	**Khabaz**	**16.20**	**48**	Pn		**P**	**08 05 48.0**	**+1.8**
	0.1nm,0.3s,baz=233,slow=3.2,SNR=6.0							
AKASG	**Malin Array Be**	**16.81**	**7**	Pn		**Pn**	**08 05 50.8**	**+0.1**
	1.2nm,0.3s,baz=193,slow=10,SNR=8.5							
GERES	**GERESS Array B**	**17.48**	**332**	Pn		**P**	**08 06 00.7**	**+0.2**
	0.2nm,0.3s,baz=158,slow=12,SNR=4.3							
ESDC	**Sonseca Array**	**24.70**	**292**	P		**P**	**08 07 16.1**	**-0.7**
	1.4nm,0.6s,baz=81,slow=9.3,SNR=6.9							
HFS	**Hagfors**	**27.37**	**346**	P		**P**	**08 07 38.6**	**-2.0**
	2.1nm,0.8s,baz=153,slow=13,SNR=2.4							
FINES	**FINESS Array B**	**27.43**	**360**	P		**P**	**08 07 39.3**	**-1.9**
	5.2nm,0.7s,baz=170,slow=12,SNR=6.9							
NOA	**NORSAR Array B**	**28.71**	**345**	P		**P**	**08 07 51.2**	**-1.4**
	0.7nm,0.8s,baz=155,slow=12,SNR=3.3							
EKA	**Eskdalemuir Ar**	**29.45**	**325**	P		**P**	**08 07 58.1**	**-1.0**
	1.2nm,0.7s,baz=113,slow=11,SNR=4.1							
TORD	**Torodi Ar. Bea**	**30.44**	**233**	P		**P**	**08 08 08.7**	**+0.4**
	0.8nm,0.5s,baz=36,slow=9.3,SNR=7.3							
ARCES	**ARCESS Array B**	**35.56**	**360**	P		**P**	**08 08 50.2**	**-2.3**
	2.2nm,0.8s,baz=179,slow=8.5,SNR=8.0							
BVAR	**Borovoye Array**	**36.54**	**45**	P		**P**	**08 09 01.5**	**+0.5**
	2.0nm,0.7s,baz=256,slow=6.0,SNR=10							
KURBB	**Kurchatov Arra**	**41.19**	**50**	P		**P**	**08 09 40.9**	**+0.8**
	2.0nm,0.8s,baz=276,slow=8.7,SNR=18							
MKAR	**Makanchi Array**	**43.71**	**56**	P		**P**	**08 10 01.2**	**+0.5**
	0.9nm,0.7s,baz=278,slow=7.4,SNR=9.1							
SONM	**Songino Array**	**59.56**	**50**	P		**P**	**08 12 00.6**	**+1.3**
	0.3nm,0.4s,baz=309,slow=6.9,SNR=3.2							
SCHQ	**Schefferville**	**64.59**	**320**	P		**P**	**08 12 32.5**	**-0.3**
	2.7nm,0.6s,baz=218,slow=10,SNR=6.6							

IDC 05 08:14:16.9±2.3, 1°.66S×99°.45E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/23, mbtmp3.3/3, Error ellipse: s-maj=127.1km s-min=28.8km az=51.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**27.51**	**257**	T	T	08 48 03.4	
	baz=77						
H08S3	**Diego Garcia H**	**27.51**	**257**	T	T	08 48 07.2	
	baz=77						
H08S1	**Diego Garcia H**	**27.53**	**257**	T	T	08 48 05.7	
	baz=77						
H01W3	**Cape Leeuwin H**	**35.78**	**159**	T	T	08 59 05.2	
	baz=337						
H01W2	**Cape Leeuwin H**	**35.79**	**159**	T	T	08 59 06.8	
	baz=337						
H01W1	**Cape Leeuwin H**	**35.79**	**159**	T	T	08 59 06.5	
	baz=337						
WRA	**Warramunga Arr**	**38.64**	**120**	P	P	08 21 42.2	-0.2
	0.5nm,1.0s,baz=296,slow=8.5,SNR=2.9						
ASAR	**Alice Springs**	**39.90**	**126**	P	P	08 21 52.9	-0.1
	0.2nm,0.5s,baz=301,slow=7.9,SNR=5.1						
MKAR	**Makanchi Array**	**50.55**	**345**	P	P	08 23 17.2	-0.1
	0.2nm,0.4s,baz=156,slow=8.7,SNR=4.7						
CPUP	**Villa Florida**	**144.27**	**217**	PKP	PKPdf	08 33 55.2	-0.6
	0.2nm,0.3s,baz=117,slow=2.3,SNR=3.0						
TXAR	**Lajitas Array**	**144.76**	**36**	PKP	PKPdf	08 33 56.2	-0.6
	0.6nm,0.8s,baz=272,slow=2.5,SNR=11						

IDC 05 08:17:40.6±1.0, 16°.24S×173°.54W, h0km, mb3.9/7, mb1 4.2/7, mb1mx3.9/19, mbtmp3.9/7, MS3.4/2, Ms1 3.4/2, ms1mx3.0/27, Error ellipse: s-maj=51.3km s-min=20.4km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.87**	**37**	Pn	Pn	08 18 22.7	-5.1
	16nm,0.3s,baz=266,slow=22,SNR=14						
AFI				Sn	Sn	08 18 51.3	-12
	41nm,0.3s,baz=60,slow=20,SNR=11						
AFI				LR	LR	08 19 02.8	
	comp=Z,273nm,21.3s,baz=275,slow=29						
DZM	**Mont Dzumac**	**19.77**	**250**	LR	LR	08 26 49.8	
	comp=Z,235nm,20.3s,baz=221,slow=28						
URZ	**Urewera**	**23.43**	**199**	P	P	08 22 51.4	-0.1
	5.7nm,0.5s,baz=25,slow=17,SNR=3.9						
H11S2	**WAKE ISLAND Hy**	**39.61**	**330**	T	T	09 07 33.3	
	baz=152,slow=0.7,SNR=4.5						
H11S3	**WAKE ISLAND Hy**	**39.62**	**330**	T	T	09 07 40.8	
	baz=152,slow=0.7,SNR=3.0						
H11S1	**WAKE ISLAND Hy**	**39.63**	**330**	T	T	09 07 37.8	
	baz=152,slow=0.7,SNR=4.6						
H11N3	**WAKE ISLAND Hy**	**40.57**	**331**	T	T	09 08 45.5	
	baz=153,slow=0.5						
H11N1	**WAKE ISLAND Hy**	**40.58**	**331**	T	T	09 08 45.8	
	baz=153,slow=0.5						
H11N2	**WAKE ISLAND Hy**	**40.59**	**331**	T	T	09 08 50.1	
	baz=153,slow=0.5						
STKA	**Stephens Creek**	**43.51**	**241**	P	P	08 25 45.8	-0.2
	3.7nm,1.0s,baz=61,slow=9.8,SNR=5.2						
WRA	**Warramunga Arr**	**49.53**	**257**	P	P	08 26 33.1	-0.4
	0.8nm,0.8s,baz=96,slow=9.2,SNR=5.6						
ASAR	**Alice Springs**	**49.73**	**253**	P	P	08 26 34.8	-0.3
	3.6nm,0.6s,baz=88,slow=8.6,SNR=47						
NVAR	**Mina Array Bea**	**75.04**	**42**	P	P	08 29 23.7	-0.8
	0.6nm,0.9s,baz=229,slow=8.2,SNR=3.6						
PDAR	**Pinedale Array**	**82.98**	**42**	P	P	08 30 09.3	+1.3
	0.3nm,0.6s,baz=211,slow=1.7,SNR=3.6						
ILAR	**Eielson Array**	**83.29**	**11**	P	P	08 30 08.1	-0.7
	0.2nm,0.7s,baz=221,slow=6.1,SNR=6.1						
BRTR	**Keskin Array B**	**146.72**	**320**	PKPbc	PKPab	08 37 25.5	-0.5
	0.5nm,0.8s,baz=57,slow=5.8,SNR=2.7						

*BJI **05** 08:28:42.7, 16°.40S×173°.50W, h5km, mB5.5/4, mb4.9/5, Ms5.0/2, Ms7.4.6/2*
*IDC **05** 08:28:42.0±0.6, 16°.02S×173°.06W, h0km, mb4.0/10, mb1 4.3/10, mb1mx4.1/20, mbtmp4.0/10, MS3.9/2, Ms1 3.9/2, ms1mx3.2/31, Error ellipse: s-maj=31.8km s-min=17.3km az=132.0*
*ISCJB **05** 08:28:48.8±0.3, 16°.3S±0°.1×173°.78W±0°.09, h26km, mb4.5/40, MS4.1/3, Error ellipse: s-maj=17.2km s-min=7.5km az=142.9*
*NEIC **05** 08:28:48.1±0.3, 16°.33S×173°.67W, h10km, mb4.6/27, Error ellipse: s-maj=15.3km s-min=5.8km az=138.0*

ISC 05 08:28:49.8±0.5, 16°.2S±0°.1×173°.7W±0°.1, h26km, n90, σ1s67/71, mb4.5/40, MS4.1/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.94**	**39**	Pn	**Pn**	**08 29 36.0**	**+1.0**
AFI				Sn	Sn	08 29 42.8	-27
AFI	**Afiamalu**	**2.94**	**39**	Pn	Pn	08 29 17.3	-18
	35nm,0.3s,baz=204,slow=1.1,SNR=13						
AFI				Sn	Sn	08 29 42.8	-27
	183nm,0.3s,baz=295,slow=21,SNR=6.6						
MSVF	**Nonsavu**	**8.07**	**258**	*e*Pn	**Pn**	**08 30 46.3**	**+0.9**
DZM	**Mont Dzumac**	**19.66**	**250**	*e*P	**P**	**08 33 16.2**	**-0.7**
	7.7nm,1.1s						
DZM	**Mont Dzumac**	**19.66**	**250**	P	**Pn**	**08 33 22.3**	**+3.9**
	3.3nm,0.7s,baz=72,slow=20,SNR=2.3						
PPT2	**Papeete2**	**23.09**	**97**	*e*S	S	08 37 48.7	-15
	228nm,26.2s						
PPT2				*e*LR	LR	08 38 55.6	
	175nm,23.5s						
URZ	**Urewera**	**23.40**	**199**	*e*P	**P**	**08 33 57.9**	**+1.3**
URZ	**Urewera**	**23.40**	**199**	P	**P**	**08 33 55.9**	**-0.6**
	4.7nm,0.5s,baz=333,slow=4.4,SNR=3.2						
TBI	**Tubuai**	**23.83**	**111**	*e*LR	LR	08 39 27.0	
	283nm,24.0s						
HNR	**Honiara**	**26.58**	**281**	LR	LR	08 43 59.7	
	comp=Z,178nm,18.9s,baz=78,slow=34						
H11S2	**WAKE ISLAND Hy**	**39.55**	**330**	T	T	09 18 11.4	
	baz=152,slow=0.7,SNR=4.8						
H11S3	**WAKE ISLAND Hy**	**39.56**	**330**	T	T	09 18 24.9	
	baz=152,slow=0.7,SNR=3.6						
H11S1	**WAKE ISLAND Hy**	**39.57**	**330**	T	T	09 18 11.0	
	baz=152,slow=0.7,SNR=3.6						
H11N3	**WAKE ISLAND Hy**	**40.51**	**331**	T	T	09 19 33.9	
	baz=154						
H11N1	**WAKE ISLAND Hy**	**40.51**	**331**	T	T	09 19 34.7	
	baz=154						
H11N2	**WAKE ISLAND Hy**	**40.53**	**331**	T	T	09 19 28.7	
	baz=154						
STKA	**Stephens Creek**	**43.40**	**241**	*e*P	**P**	**08 36 51.4**	**+1.0**
STKA	**Stephens Creek**	**43.40**	**241**	P	**P**	**08 36 51.1**	**+0.6**
	1.8nm,0.5s,baz=72,slow=12,SNR=7.4						
WRA	**Warramunga Arr**	**49.41**	**257**	P	**P**	**08 37 38.2**	**+0.4**
WRA	**Warramunga Arr**	**49.41**	**257**	P	**P**	**08 37 38.2**	**+0.4**
	1.1nm,0.5s,baz=89,slow=6.7,SNR=6.9						
AS31	**Alice Springs**	**49.61**	**253**	*e*P	**P**	**08 37 39.4**	**0.0**
ASAR	**Alice Springs**	**49.61**	**253**	P	**P**	**08 37 39.5**	**+0.2**
ASAR	**Alice Springs**	**49.61**	**253**	P	**P**	**08 37 39.5**	**+0.2**
	4.4nm,0.5s,baz=88,slow=8.4,SNR=99						
SBA	**Scott Base**	**62.40**	**185**	*e*P	**P**	**08 39 10.4**	**+0.5**
	5.0nm,1.0s						
VNDA	**Vanda**	**62.52**	**186**	*e*P	**P**	**08 39 10.5**	**-0.2**
VNDA	**Vanda**	**62.52**	**186**	P	**P**	**08 39 09.7**	**-1.1**
	2.3nm,1.0s,baz=0.3,slow=10,SNR=8.1						
NVAR	**Mina Array Bea**	**75.12**	**42**	P	P	08 40 22.9	-7.1
NVAR	**Mina Array Bea**	**75.12**	**42**	P	P	08 40 22.9	-7.1
	0.5nm,0.6s,baz=226,slow=10,SNR=6.1						
NV11	**Mina Array Sit**	**75.21**	**42**	*e*P	**P**	**08 40 31.0**	**+0.5**
KDAK	**Kodiak Island**	**75.78**	**11**	LR	LR	09 09 15.5	
	comp=Z,82nm,18.3s,baz=248,slow=32						
MOD	**Modoc**	**75.93**	**38**	*e*P	**P**	**08 40 35.6**	**+1.1**
	28nm,0.9s						
K05A	**Summer Lake**	**76.09**	**37**	*e*P	**P**	**08 40 37.5**	**+2.1**
SHPR	**Sheep Range**	**76.13**	**45**	*e*P	**P**	**08 40 34.8**	**-0.9**
H04A	**Detroit Lake**	**76.58**	**35**	*e*P	**P**	**08 40 39.4**	**+1.4**
	9.5nm,0.9s						
E03A	**Lebam**	**77.04**	**33**	*e*P	P	08 40 42.8	+2.4
	17nm,0.8s						
WVOR	**Wild Horse Val**	**77.24**	**38**	*e*P	**P**	**08 40 43.4**	**+1.5**
	9.2nm,1.3s						
I07A	**Izee**	**77.72**	**37**	*e*P	**P**	**08 40 45.9**	**+1.4**
	5.8nm,1.0s						
J08A	**Circle Bar Ran**	**77.88**	**38**	*e*P	**P**	**08 40 47.1**	**+1.8**
	6.2nm,1.0s						
D05A	**Enumclaw**	**78.28**	**33**	*e*P	**P**	**08 40 46.1**	**-1.3**
	31nm,1.3s						
G08A	**Pilot Rock**	**78.75**	**36**	*e*P	**P**	**08 40 51.6**	**+1.5**
	8.6nm,1.0s						
LTY	**Liberty**	**79.02**	**34**	*e*P	**P**	**08 40 53.0**	**+1.5**
	6.1nm,1.1s						
HAWA	**Hanford**	**79.10**	**35**	*e*P	**P**	**08 40 53.9**	**+1.9**
	7.4nm,0.9s						
MVU	**Marysvale**	**79.17**	**45**	*e*P	**P**	**08 40 54.7**	**+1.9**
	2.7nm,0.6s						
BMO	**Blue Mountains**	**79.44**	**37**	*e*P	**P**	**08 40 55.3**	**+1.3**
	5.6nm,1.3s						
MDJ	**Mudanjiang**	**79.53**	**323**	P	**P**	**08 40 56.4**	**+2.2**
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,170nm,6.0s						
DUG	**Dugway**	**79.64**	**43**	*e*P	**P**	**08 40 56.5**	**+1.3**
F10A	**Beach Ranch, E**	**80.14**	**36**	*e*P	**P**	**08 40 59.1**	**+1.4**
	7.3nm,0.8s						
B08A	**Colville Reser**	**80.41**	**33**	*e*P	**P**	**08 41 00.3**	**+1.3**
	6.9nm,0.9s						
HLID	**Hailey**	**80.43**	**39**	*e*P	**P**	**08 41 01.0**	**+1.6**
	5.6nm,1.0s						
SRU	**San Rafael**	**80.61**	**45**	*e*P	**P**	**08 41 02.0**	**+1.5**
	8.5nm,1.3s						
JLU	**Jordanelle**	**80.74**	**43**	*e*P	**P**	**08 41 02.7**	**+1.4**
	4.9nm,1.1s						
TXAR	**Lajitas Array**	**81.29**	**56**	P	P	08 40 57.2	-7.0
TXAR	**Lajitas Array**	**81.29**	**56**	P	P	08 40 57.2	-7.0
	0.1nm,0.5s,baz=217,slow=8.9,SNR=6.7						
TRF	**Thorofare Moun**	**81.49**	**10**	*e*P	**P**	**08 41 06.8**	**+2.2**
	7.2nm,0.9s						
ANMO	**Albuquerque**	**81.53**	**50**	*e*P	P	08 41 00.9	-4.6
	4.5nm,1.2s						
CN2	**Changchun**	**81.56**	**320**	*e*P	**P**	**08 41 05.0**	**-0.2**
MCMT	**McKenzie Canyo**	**82.06**	**39**	*e*P	**P**	**08 41 09.5**	**+1.4**
	1.8nm,0.8s						
RRI2	**Red Ridge**	**82.23**	**41**	*e*P	**P**	**08 41 10.7**	**+1.6**
	3.0nm,0.7s						
MSO	**Missoula**	**82.50**	**37**	*e*P	**P**	**08 41 11.6**	**+1.4**
	7.7nm,1.3s						
TPAW	**Teton Pass**	**82.53**	**41**	*e*P	**P**	**08 41 12.4**	**+1.8**
	4.9nm,1.0s						
IMW	**Indian Meadow**	**82.75**	**40**	*e*P	**P**	**08 41 13.3**	**+1.5**
LOHW	**Long Hollow**	**82.81**	**41**	*e*P	**P**	**08 41 13.6**	**+1.6**
	5.0nm,1.3s						
CHMT	**Chamberlain Mo**	**82.94**	**37**	*e*P	**P**	**08 41 13.8**	**+1.2**
BW06	**Boulder Array**	**83.05**	**42**	*e*P	**P**	**08 41 14.4**	**+1.0**
	2.3nm,0.8s						
PDAR	**Pinedale Array**	**83.05**	**42**	P	P	08 41 07.3	-6.0
PDAR	**Pinedale Array**	**83.05**	**42**	P	P	08 41 07.3	-6.0
	0.7nm,0.8s,baz=253,slow=1.5,SNR=4.9						
COLA	**College**	**83.22**	**11**	*e*P	P	08 41 16.2	+2.8
ILAR	**Eielson Array**	**83.31**	**11**	P	P	08 41 08.2	-5.6
ILAR	**Eielson Array**	**83.31**	**11**	P	P	08 41 08.2	-5.6
	0.8nm,0.9s,baz=235,slow=5.6,SNR=8.7						
IMA2	**Indian Mountai**	**83.42**	**8**	*e*P	P	08 41 17.2	+2.7
DAWY	**Dawson**	**84.29**	**14**	*e*P	P	08 41 15.3	-3.6
ABTX	**Abilene, Hawle**	**85.75**	**54**	*e*P	**P**	**08 41 27.7**	**+0.7**
EDM	**Edmonton**	**86.33**	**32**	*e*P	**P**	**08 41 31.0**	**+1.6**
MAW	**Mawson**	**86.92**	**199**	*e*P	**P**	**08 41 31.8**	**-0.3**
MAW	**Mawson**	**86.92**	**199**	P	**P**	**08 41 31.3**	**-0.8**
	2.0nm,1.0s,baz=180,slow=1.0,SNR=3.6						
GYA	**Guiyang**	**88.21**	**298**	*e*P	**P**	**08 41 37.8**	**-1.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**89.40**	**313**	*e*P	**P**	**08 41 42.4**	**-2.1**
HHC				sP	sP	08 41 49.4	-6.6
HHC				PP	**PP**	**08 45 15.3**	**-0.7**
HHC				SKS	**SKSac**	**08 52 09.8**	**-3.4**
HHC				S	**SKKSac**	**08 52 29.1**	**+3.6**
HHC				SS	**SS**	**08 58 26.3**	**-2.8**
HHC				AMB	AMB		
	comp=Z,370nm,5.7s						
HHC				LR	LR		
	comp=N,240nm,18.6s						
HHC				LR	LR		
	comp=E,230nm,15.9s						
HHC				LR	LR		
	comp=Z,140nm,15.5s						
KMI	**Kunming**	**91.16**	**296**	P	**P**	**08 41 51.3**	**-1.8**
KMI				AMB	AMB		
	comp=Z,15nm,0.6s						
CD2	**Chengdu**	**92.03**	**301**	P	**P**	**08 41 56.0**	**-0.8**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
KMBO	**Kilima Mbogo**	**144.94**	**243**	PKPbc	**PKPdf**	**08 48 26.8**	**+0.8**
KMBO				*e*PKPdf	**PKiKP**	**08 48 28.8**	**-1.0**
KMBO	**Kilima Mbogo**	**144.94**	**243**	PKPbc	**PKPdf**	**08 48 26.8**	**+0.8**
	2.4nm,0.9s,baz=108,slow=3.6,SNR=6.6						
GRFO	**Grafenberg**	**146.39**	**354**	*e*PKPbc	**PKPab**	**08 48 29.8**	**+0.6**
BRTR	**Keskin Array B**	**146.63**	**320**	PKPbc	**PKPdf**	**08 48 27.9**	**0.0**
BRTR	**Keskin Array B**	**146.63**	**320**	PKPbc	**PKPdf**	**08 48 27.9**	**0.0**
	2.3nm,0.8s,baz=107,slow=1.3,SNR=14						
GERES	**GERESS Array B**	**146.92**	**351**	PKPbc	**PKPdf**	**08 48 25.8**	**-2.3**
GERES	**GERESS Array B**	**146.92**	**351**	PKPbc	**PKPdf**	**08 48 25.8**	**-2.3**
	0.2nm,0.3s,baz=20,slow=3.2,SNR=2.9						
CRES	**Cresnjev**	**149.52**	**347**	*i* PKPbc	**PKPab**	**08 48 41.0**	**-0.7**
JAVS	**Javornik**	**149.73**	**349**	*i* PKPbc	**PKPab**	**08 48 41.3**	**-1.4**
TORD	**Torodi Ar. Bea**	**174.56**	**124**	PKP	**PKPdf**	**08 48 54.0**	**-4.2**
TORD				PKPab	PKPab	08 50 24.4	-7.1
TORD	**Torodi Ar. Bea**	**174.56**	**124**	PKP	**PKPdf**	**08 48 54.0**	**-4.2**
	0.3nm,0.8s,baz=335,slow=1.5,SNR=2.3						
TORD				PKPab	PKPab	08 50 24.4	-7.1
	2.5nm,1.3s,baz=270,slow=1.2,SNR=3.9						

*ISCJB **05** 08:29:05.1±0.7, 0°.61N±0°.07×121°.48E±0°.07, h113km, mb3.6/5, Error ellipse: s-maj=11.1km s-min=8.9km az=42.0*
*IDC **05** 08:29:06.0±7.1, 0°.43N×121°.41E, h109km±72km, mb3.3/5, mb1 3.4/6, mb1mx3.2/24, mbtmp3.3/6, ML3.7/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/21, Error ellipse: s-maj=71.1km s-min=18.9km az=60.0*
*DJA **05** 08:29:09.0±0.8, 1°.1N±7°×12°.1E±°, h62km±10km, M4.4/7, mb4.8/2, MLv4.2/7*

ISC 05 08:29:06.4±0.9, 0°.53N±0°.08×121°.48E±0°.08, h113km, n14, σ1s63/15, mb3.8/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.46**	**96**	P	**Pn**	**08 29 21.8**	**-1.5**
MRSI				S	**Sn**	**08 29 34.2**	**-1.8**
LUWI	**Luwuk**	**2.02**	**140**	P	Pn	08 29 43.3	+3.5
LUWI				S	**Sn**	**08 30 06.8**	**+1.5**
PCI	**Palu**	**2.17**	**229**	P	**Pn**	**08 29 43.3**	**+1.5**
KMSI	**Cibinong**	**2.50**	**89**	P	**Pn**	**08 29 48.7**	**+2.8**
KKSI	**Kolaka, Sulawe**	**4.67**	**178**	P	Pn	08 30 22.6	+7.8
SPSI	**Sidrap Palu**	**4.78**	**201**	P	**Pn**	**08 30 17.1**	**+0.8**
BNSI	**Bone**	**5.08**	**196**	P	**Pn**	**08 30 21.5**	**+1.1**
	44nm,0.6s,0.2nm						
KAPI	**Kappang**	**5.77**	**197**	P	**Pn**	**08 30 27.2**	**-2.5**
	2.1nm,0.3s,baz=358,slow=11,SNR=4.8						
KAPI				S	**Sn**	**08 31 32.4**	**-2.2**
	1.3nm,0.3s,baz=210,slow=20,SNR=2.4						
MTKI	**Muara Teweh, K**	**6.75**	**258**	P	**Pn**	**08 30 43.4**	**+0.4**
WRA	**Warramunga Arr**	**23.93**	**149**	P	**P**	**08 34 09.5**	**-0.7**
	1.1nm,0.9s,baz=324,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**26.91**	**154**	P	**P**	**08 34 37.0**	**-0.1**
	0.2nm,0.6s,baz=342,slow=14,SNR=4.0						
ASAR				LR	LR	08 45 04.2	
	comp=Z,46nm,19.1s,baz=93,slow=36						
SONM	**Songino Array**	**48.91**	**347**	P	**P**	**08 37 41.6**	**+0.6**
	3.3nm,1.0s,baz=166,slow=9.6,SNR=12						
MKAR	**Makanchi Array**	**57.38**	**329**	P	**P**	**08 38 43.4**	**+0.4**
	0.7nm,0.6s,baz=123,slow=8.6,SNR=8.6						
KURBB	**Kurchatov Arra**	**61.76**	**330**	P	**P**	**08 39 13.0**	**0.0**
	0.6nm,0.6s,baz=126,slow=6.0,SNR=5.3						

IDC 05 08:30:51.0±2.6, 14°.64S×172°.37W, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.5/4, Error ellipse: s-maj=129.5km s-min=16.5km az=140.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**0.93**	**39**	Pn	Pb	08 31 10.7	+0.6
	6.9nm,0.3s,baz=209,slow=16,SNR=3.3						
AFI				Sn	Sn	08 31 25.2	-0.3
	220nm,0.3s,baz=82,slow=5.2,SNR=11						
WRA	**Warramunga Arr**	**50.99**	**256**	P	P	08 39 55.7	+0.6
	0.7nm,0.8s,baz=93,slow=7.4,SNR=2.7						
ASAR	**Alice Springs**	**51.29**	**251**	P	P	08 39 55.7	-1.7
	0.6nm,0.8s,baz=85,slow=8.0,SNR=2.9						
NVAR	**Mina Array Bea**	**73.10**	**42**	P	P	08 42 24.1	+0.5
	0.4nm,0.7s,baz=229,slow=8.2,SNR=3.0						
ILAR	**Eielson Array**	**81.51**	**11**	P	P	08 43 11.0	+1.0
	0.4nm,0.9s,baz=226,slow=6.2,SNR=3.6						

IDC 05 08:33:23.4±32.0, 17°.54S×179°.61W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/19, mbtmp3.9/4, MS3.9/1, Ms1 3.9/1, ms1mx3.1/31, Error ellipse: s-maj=608.5km s-min=145.4km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.81**	**240**	P	P	08 40 42.0	+0.3
	1.1nm,0.6s,baz=84,slow=10,SNR=4.6						
WRA	**Warramunga Arr**	**43.58**	**259**	P	P	08 41 29.2	-0.4
	0.9nm,0.8s,baz=95,slow=7.2,SNR=2.9						
WRA				LR	LR	08 58 37.9	
	comp=Z,148nm,18.5s,baz=45,slow=35						
ASAR	**Alice Springs**	**43.79**	**254**	P	P	08 41 30.8	-0.5
	1.9nm,0.5s,baz=88,slow=8.6,SNR=32						
**FITZ

STKA	**Stephens Creek**	**44.02**	**240**	P		**P**	**08 59 08.6**	**-0.4**
	2.0nm,0.7s,baz=96,slow=8.6,SNR=4.1							
STKA				LR		LR	09 16 09.7	
	comp=Z,78nm,18.6s,baz=28,slow=34							
WRAB	**Tennant Creek**	**49.87**	**257**	*eP*		P	08 59 51.0	-3.8
	3.2nm,0.8s							
WRA	**Warramunga Arr**	**49.88**	**257**	P		**P**	**08 59 54.7**	**-0.2**
WRA	**Warramunga Arr**	**49.88**	**257**	P		**P**	**08 59 54.7**	**-0.2**
	1.6nm,0.9s,baz=89,slow=8.0,SNR=5.4							
WRA				LR		LR	09 20 49.9	
	comp=Z,208nm,18.1s,baz=105,slow=36							
AS31	**Alice Springs**	**50.13**	**252**	*eP*		**P**	**08 59 56.6**	**-0.3**
ASAR	**Alice Springs**	**50.13**	**252**	P		**P**	**08 59 56.6**	**-0.2**
ASAR	**Alice Springs**	**50.13**	**252**	P		**P**	**08 59 56.6**	**-0.2**
	5.7nm,0.6s,baz=86,slow=7.8,SNR=83							
VNDA	**Vanda**	**63.20**	**186**	P		**P**	**09 01 28.3**	**-0.5**
VNDA	**Vanda**	**63.20**	**186**	P		**P**	**09 01 28.3**	**-0.5**
	0.3nm,0.6s,baz=29,slow=1.2,SNR=2.5							
MJAR	**Matsushiro Arr**	**69.13**	**320**	LR		LR	09 25 44.0	
	comp=Z,86nm,21.3s,baz=130,slow=30							
NVAR	**Mina Array Bea**	**74.41**	**42**	P		**P**	**09 02 38.9**	**-0.4**
NVAR	**Mina Array Bea**	**74.41**	**42**	P		**P**	**09 02 38.9**	**-0.4**
	0.4nm,0.7s,baz=218,slow=11,SNR=3.5							
KDAK	**Kodiak Island**	**75.08**	**11**	P		**P**	**09 02 42.0**	**-0.4**
KDAK	**Kodiak Island**	**75.08**	**11**	P		**P**	**09 02 42.0**	**-0.4**
	2.2nm,0.7s,baz=170,slow=6.1,SNR=4.3							
KSRS	**Korea Array**	**76.34**	**316**	P		**P**	**09 02 50.7**	**+0.6**
	0.5nm,0.6s,baz=126,slow=6.2,SNR=3.0							
KSAR	**Wonju Array Be**	**76.36**	**316**	P		**P**	**09 02 50.7**	**+0.5**
PDAR	**Pinedale Array**	**82.34**	**42**	P		**P**	**09 03 23.6**	**+0.6**
PDAR	**Pinedale Array**	**82.34**	**42**	P		**P**	**09 03 23.6**	**+0.6**
	0.5nm,0.9s,baz=216,slow=4.5,SNR=3.2							
ILAR	**Eielson Array**	**82.61**	**11**	P		**P**	**09 03 22.2**	**-1.4**
ILAR	**Eielson Array**	**82.61**	**11**	P		**P**	**09 03 22.2**	**-1.4**
	0.5nm,0.8s,baz=224,slow=6.4,SNR=9.1							
MAW	**Mawson**	**87.65**	**199**	P		**P**	**09 03 49.0**	**+0.1**
MAW	**Mawson**	**87.65**	**199**	P		**P**	**09 03 49.0**	**+0.1**
	1.8nm,0.9s,baz=51,slow=6.5,SNR=3.2							
KMBO	**Kilima Mbogo**	**145.53**	**244**	PKPbc		**PKPab**	**09 10 41.4**	**+0.7**
KMBO	**Kilima Mbogo**	**145.53**	**244**	PKPbc		**PKPab**	**09 10 41.4**	**+0.7**
	0.9nm,0.5s,baz=121,slow=5.5,SNR=2.5							
BRTR	**Keskin Array B**	**146.35**	**321**	PKPbc		**PKPab**	**09 10 42.5**	**-0.4**
BRTR	**Keskin Array B**	**146.35**	**321**	PKPbc		**PKPab**	**09 10 42.5**	**-0.4**
	4.2nm,0.9s,baz=92,slow=2.6,SNR=18							
TORD	**Torodi Ar. Bea**	**174.59**	**116**	PKP		**PKPdf**	**09 11 13.1**	**+1.7**
TORD	**Torodi Ar. Bea**	**174.59**	**116**	PKP		**PKPdf**	**09 11 13.1**	**+1.7**
	0.7nm,1.0s,baz=298,slow=1.7,SNR=2.9							

*ISCJB **05** 09:02:24.7±1.9, 12°.20N±0°.06×142°.1E±0°.1, h93km±17km, mb4.3/23, Error ellipse: s-maj=17.8km s-min=10.1km az=177.1*

*IDC **05** 09:02:26.1±0.8, 12°.25N×142°.23E, h91km±7km, mb4.1/17, mb1 4.2/17,mb1mx4.0/30,mbtmp4.1/17,MS3.4/2, Ms1 3.4/2,ms1mx2.9/37,Error ellipse: s-maj=21.9km s-min=10.1km az=79.0*

*NEIC **05** 09:02:27.4±1.4, 12°.19N×142°.22E, h103km±12km, mb4.5/5, Error ellipse: s-maj=12.9km s-min=7.7km az=85.0*

ISC 05 09:02:26.2±0.6, 12°.20N±0°.07×142°.2E±0°.1, h91km±5km, h91km:pP-P,n53,σ1§06/67,mb4.3/23,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.98**	**62**	*e*Pn	**Pn**	**09 03 11.8**	**+0.4**
PMG	**Port Moresby**	**22.03**	**167**	P	**P**	**09 07 13.0**	**-0.4**
PMG	**Port Moresby**	**22.03**	**167**	P	**P**	**09 07 13.0**	**-0.4**
	8.2nm,0.6s,baz=346,slow=9.6,SNR=3.8						
JNU	**Nakatsue**	**23.25**	**335**	P	**P**	**09 07 29.1**	**+3.3**
JNU				pP	**pP**	**09 07 45.2**	**+0.7**
JNU	**Nakatsue**	**23.25**	**335**	P	**P**	**09 07 29.1**	**+3.3**
	9.3nm,0.8s,baz=150,slow=3.9,SNR=5.3						
JNU				pP	**pP**	**09 07 45.2**	**+0.7**
	14nm,1.0s,baz=158,slow=4.5,SNR=4.3						
JNU				LR	LR	09 14 11.6	
	comp=Z,84nm,20.4s,baz=241,slow=30						
CTA	**Charters Tower**	**32.34**	**173**	P	**P**	**09 08 47.4**	**+0.4**
CTA	**Charters Tower**	**32.34**	**173**	P	**P**	**09 08 47.4**	**+0.4**
	3.1nm,0.6s,baz=317,slow=9.1,SNR=4.7						
WRAB	**Tennant Creek**	**32.84**	**194**	*eP*	**P**	**09 08 51.1**	**-0.3**
	10nm,0.7s						
WRA	**Warramunga Arr**	**32.85**	**194**	P	**P**	**09 08 51.7**	**+0.2**
WRA				pP	**pP**	**09 09 12.9**	**+0.6**
WRA	**Warramunga Arr**	**32.85**	**194**	P	**P**	**09 08 51.7**	**+0.2**
	9.6nm,0.7s,baz=14,slow=9.4,SNR=34						
WRA				pP	**pP**	**09 09 12.9**	**+0.6**
	2.8nm,0.7s,baz=11,slow=9.7,SNR=3.2						
USRK	**Ussuriysk Arra**	**33.07**	**347**	P	**P**	**09 08 53.8**	**+0.7**
	2.2nm,0.7s,baz=163,slow=9.1,SNR=5.2						
AS31	**Alice Springs**	**36.55**	**193**	*eP*	**P**	**09 09 23.4**	**+0.1**
ASAR	**Alice Springs**	**36.55**	**193**	P	**P**	**09 09 23.7**	**+0.4**
ASAR				pP	**pP**	**09 09 45.0**	**+0.6**
ASAR				PcP	**PcP**	**09 11 45.6**	**+0.5**
ASAR	**Alice Springs**	**36.55**	**193**	P	**P**	**09 09 23.7**	**+0.4**
	3.2nm,0.6s,baz=18,slow=12,SNR=79						
ASAR				pP	**pP**	**09 09 45.0**	**+0.6**
	0.9nm,0.7s,baz=16,slow=13,SNR=2.3						
ASAR				PcP	**PcP**	**09 11 45.6**	**+0.5**
	1.5nm,0.8s,baz=13,slow=3.9,SNR=7.0						
DZM	**Mont Dzumac**	**41.56**	**145**	P	**P**	**09 10 06.0**	**+0.8**
DZM	**Mont Dzumac**	**41.56**	**145**	P	**P**	**09 10 06.0**	**+0.8**
	8.9nm,0.8s,baz=297,slow=6.8,SNR=6.7						
PETK	**Petropavlovsk-**	**42.66**	**14**	LR	LR	09 27 29.2	
	comp=Z,43nm,18.4s,baz=62,slow=35						
STKA	**Stephens Creek**	**43.83**	**181**	P	**P**	**09 10 22.4**	**-0.9**
STKA	**Stephens Creek**	**43.83**	**181**	P	**P**	**09 10 22.4**	**-0.9**
	1.5nm,0.3s,baz=333,slow=9.6,SNR=6.6						
MSVF	**Nonsavu**	**46.26**	**129**	*eP*	**P**	**09 10 43.3**	**+0.5**
	38nm,1.0s						
SONM	**Songino Array**	**46.40**	**327**	P	**P**	**09 10 44.4**	**+0.8**
SONM				pP	**pP**	**09 11 05.3**	**-0.2**
SONM				PcP	**PcP**	**09 12 16.4**	**-0.7**
SONM	**Songino Array**	**46.40**	**327**	P	**P**	**09 10 44.4**	**+0.8**
	1.0nm,0.6s,baz=143,slow=7.8,SNR=7.1						
SONM				pP	**pP**	**09 11 05.3**	**-0.2**
	1.0nm,0.8s,baz=145,slow=9.6,SNR=3.1						
SONM				PcP	**PcP**	**09 12 16.4**	**-0.7**
	0.8nm,0.6s,baz=144,slow=4.8,SNR=3.1						
RAO	**Raoul Island**	**56.41**	**138**	LR	LR	09 30 51.1	
	comp=Z,1μm,18.8s,baz=2.6,slow=30						
MK31	**Makanchi Array**	**60.68**	**317**	*eP*	**P**	**09 12 28.2**	**+0.3**
MKAR	**Makanchi Array**	**60.68**	**317**	P	**P**	**09 12 28.4**	**+0.5**
MKAR				pP	**pP**	**09 12 50.4**	**-0.3**
MKAR	**Makanchi Array**	**60.68**	**317**	P	**P**	**09 12 28.4**	**+0.5**
	3.9nm,0.7s,baz=95,slow=8.8,SNR=35						
MKAR				pP	**pP**	**09 12 50.4**	**-0.3**
	1.2nm,0.6s,baz=97,slow=8.3,SNR=4.4						
KURK	**Kurchatov**	**63.96**	**321**	P	**P**	**09 12 49.9**	**+0.2**
KURK				pP	**pP**	**09 13 10.2**	**-2.5**
KURBB	**Kurchatov Arra**	**64.00**	**321**	P	**P**	**09 12 49.9**	**-0.1**
	4.9nm,0.7s,baz=103,slow=7.2,SNR=30						
KURBB				pP	**pP**	**09 13 10.2**	**-2.7**
	2.3nm,0.7s,baz=103,slow=7.5,SNR=4.7						
AAK	**Ala-Archa**	**65.43**	**311**	P	**P**	**09 13 00.0**	**+0.4**
AAK	**Ala-Archa**	**65.43**	**311**	P	**P**	**09 13 00.0**	**+0.4**
	0.8nm,0.3s,baz=188,slow=14,SNR=2.7						
KDAK	**Kodiak Island**	**66.64**	**32**	P	**P**	**09 13 06.3**	**-0.5**
KDAK	**Kodiak Island**	**66.64**	**32**	P	**P**	**09 13 06.3**	**-0.5**
	1.9nm,0.6s,baz=231,slow=13,SNR=3.5						
ILAR	**Eielson Array**	**70.94**	**25**	P	**P**	**09 13 32.0**	**-1.4**
ILAR	**Eielson Array**	**70.94**	**25**	P	**P**	**09 13 32.0**	**-1.4**
	1.7nm,0.5s,baz=248,slow=6.1,SNR=46						
ABKAR	**Akbulak array**	**75.80**	**318**	*eP*	**P**	**09 14 01.5**	**-0.8**
	3.0nm,0.7s						
YKA	**Yellowknife Ar**	**85.29**	**27**	P	**P**	**09 14 51.8**	**-1.0**
YKA	**Yellowknife Ar**	**85.29**	**27**	P	**P**	**09 14 51.8**	**-1.0**
	1.2nm,0.6s,baz=292,slow=5.1,SNR=4.1						
ARCES	**ARCESS Array B**	**87.58**	**342**	P	**P**	**09 15 02.7**	**-1.1**
ARCES	**ARCESS Array B**	**87.58**	**342**	P	**P**	**09 15 02.7**	**-1.1**
	2.3nm,0.6s,baz=66,slow=7.5,SNR=25						
BEKR	**Beckworth**	**87.93**	**50**	*eP*	**P**	**09 15 06.4**	**0.0**
	0.8nm,0.6s						
WVOR	**Wild Horse Val**	**88.54**	**47**	*eP*	**P**	**09 15 09.3**	**+0.2**
	6.3nm,1.1s						
NVAR	**Mina Array Bea**	**89.84**	**51**	P	**P**	**09 15 16.1**	**+0.6**
NVAR	**Mina Array Bea**	**89.84**	**51**	P	**P**	**09 15 16.1**	**+0.6**
	4.3nm,0.6s,baz=268,slow=5.6,SNR=40						
NV11	**Mina Array Sit**	**89.95**	**51**	*eP*	**P**	**09 15 15.9**	**+0.1**
FINES	**FINESS Array B**	**91.29**	**334**	P	**P**	**09 15 19.3**	**-2.0**
FINES	**FINESS Array B**	**91.29**	**334**	P	**P**	**09 15 19.3**	**-2.0**
	4.6nm,0.6s,baz=65,slow=3.8,SNR=14						
TORD	**Torodi Ar. Bea**	**133.40**	**301**	PKP	**PKPdf**	**09 21 32.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**133.40**	**301**	PKP	**PKPdf**	**09 21 32.6**	**-0.2**
	0.3nm,0.8s,baz=48,slow=2.1,SNR=2.7						

LCO	**Las Campanas**	**145.15**	**124**	*e*PKPbc		**PKPbc**	**09 21 53.4**	**-0.4**
LVC	**Limon Verde**	**148.66**	**114**	*e*PKPbc		**PKPbc**	**09 22 02.2**	**-1.8**
LPAZ	**La Paz**	**150.37**	**101**	*e*PKPdf		**PKPdf**	**09 22 04.2**	**+0.8**
CPUP	**Villa Florida**	**156.89**	**130**	PKPab		**PKPab**	**09 22 42.6**	**+0.7**
CPUP	**Villa Florida**	**156.89**	**130**	PKPab		**PKPab**	**09 22 42.6**	**+0.7**
	2.2nm,0.7s,baz=215,slow=6.0,SNR=5.4							

IDC 05 09:14:32.8±2.8, 17°.29S×174°.38W, h129km±28km, mb3.3/5,mb1 3.6/6,mb1mx3.4/20,mbtmp3.4/6, Error ellipse: s-maj=45.0km s-min=19.0km az=133.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.19**	**37**	P	Pn	09 15 35.2	-0.1
	21nm,0.3s,baz=101,slow=5.2,SNR=24						
AFI				S	Sn	09 16 19.7	-4.0
	36nm,0.3s,baz=66,slow=22,SNR=15						
URZ	**Urewera**	**22.19**	**198**	P	P	09 19 18.5	0.0
	2.8nm,0.3s,baz=292,slow=19,SNR=4.8						
WRA	**Warramunga Arr**	**48.52**	**258**	P	P	09 23 03.2	+0.1
	0.3nm,0.8s,baz=97,slow=6.7,SNR=3.2						
ASAR	**Alice Springs**	**48.66**	**253**	P	P	09 23 03.9	-0.3
	0.3nm,0.5s,baz=88,slow=8.8,SNR=11						
PDAR	**Pinedale Array**	**84.29**	**42**	P	P	09 26 50.6	+0.1
	0.8nm,0.7s,baz=228,slow=3.4,SNR=8.7						
ILAR	**Eielson Array**	**84.47**	**11**	P	P	09 26 50.5	-0.1
	0.3nm,0.5s,baz=199,slow=4.7,SNR=4.6						

*ISK **05** 09:15:10.3, 37°.26N×28°.29E, h15km, MD2.4*

*ISCJB **05** 09:15:11.6±0.5, 37°.23N±0°.03×28°.19E±0°.04, h0km, Error ellipse: s-maj=5.3km s-min=4.3km az=43.1*

*CSEM **05** 09:15:11.6±0.2, 37°.23N×28°.22E, h2km, MD2.4, Error ellipse: s-maj=6.2km s-min=4.8km az=49.0*

*DDA **05** 09:15:11.5, 37°.25N×28°.16E, h7km, MD2.8*

ISC 05 09:15:12.1±1.0, 37°.25N±0°.03×28°.23E±0°.03, h0km, n20, σ1§01/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.12**	**161**	*e*PG	**Pg**	**09 15 13.4**	**-0.9**
YER				*e*SG	**Sg**	**09 15 17.2**	**+1.3**
YER	**Yerkesik**	**0.12**	**161**	*e*Pg	**Pg**	**09 15 13.4**	**-0.9**
YER				*e*Sg	**Sg**	**09 15 17.2**	**+1.3**
AYDN	**Tasoluk**	**0.50**	**326**	*i* P	**Pg**	**09 15 21.1**	**-0.6**
AYDN				*i* S	**Sg**	**09 15 28.5**	**+0.3**
AYDN	**Tasoluk**	**0.50**	**326**	*i* P	**Pg**	**09 15 21.1**	**-0.6**
AYDN				*i* S	**Sg**	**09 15 28.5**	**+0.3**
DALY	**Dalyan (Mu¨la**	**0.55**	**142**	*e*PG	**Pg**	**09 15 21.0**	**-1.5**
DALY	**Dalyan (Mu¨la**	**0.55**	**142**	*e*Pg	**Pg**	**09 15 21.0**	**-1.5**
BDRM	**Kayabasi**	**0.66**	**254**	*i* P	**Pg**	**09 15 23.2**	**-1.5**
BDRM				*i* S	**Sg**	**09 15 33.3**	**+0.2**
BDRM	**Kayabasi**	**0.66**	**254**	*i* P	**Pg**	**09 15 23.2**	**-1.5**
BDRM				*i* S	**Sg**	**09 15 33.3**	**+0.2**
DAT	**Datca**	**0.74**	**226**	*e*PG	**Pg**	**09 15 26.1**	**-0.1**
DAT	**Datca**	**0.74**	**226**	*e*Pg	**Pg**	**09 15 26.1**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**0.75**	**339**	*e*PG	**Pg**	**09 15 25.7**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**0.75**	**339**	*e*Pg	**Pg**	**09 15 25.7**	**-0.8**
BODT	**Bodrum**	**0.76**	**256**	*e*PG	**Pg**	**09 15 26.1**	**-0.6**
BODT	**Bodrum**	**0.76**	**256**	*e*Pg	**Pg**	**09 15 26.1**	**-0.6**
FETY	**Fethiye**	**0.91**	**132**	*e*PG	**Pg**	**09 15 28.0**	**-1.6**
FETY	**Fethiye**	**0.91**	**132**	*e*Pg	**Pg**	**09 15 28.0**	**-1.6**
AKAS	**Kas**	**1.50**	**132**	*i* P	**Pg**	**09 15 40.7**	**0.0**
AKAS				*i* S	Sn	09 16 06.9	+6.3
AKAS	**Kas**	**1.50**	**132**	*i* P	**Pg**	**09 15 40.7**	**0.0**
KHAL	**Karahalli**	**1.50**	**41**	*i* P	**Pb**	**09 15 40.5**	**-0.4**
KHAL				*i* S	**Sn**	**09 16 02.0**	**+1.3**
KHAL	**Karahalli**	**1.50**	**41**	*i* P	**Pb**	**09 15 40.5**	**-0.4**
KHAL				*i* S	**Sn**	**09 16 02.0**	**+1.3**

*ISCJB **05** 09:15:39.4±0.6, 39°.09N±0°.03×27°.42E±0°.06, h0km, Error ellipse: s-maj=6.4km s-min=3.9km az=165.3*

*ISK **05** 09:15:39.7, 39°.10N×27°.47E, h10km, MD2.6*

*CSEM **05** 09:15:39.4±0.3, 39°.09N×27°.42E, h1km, MD2.6, Error ellipse: s-maj=6.9km s-min=4.7km az=82.0*

*DDA **05** 09:15:41.4, 39°.13N×27°.60E, h7km, MD2.7*

ISC 05 09:15:40.1±0.8, 39°.10N±0°.02×27°.49E±0°.03, h0km, n31, σ1§18/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.34**	**132**	*i* P	**Pg**	**09 15 47.2**	**+0.7**
AKHS				*i* S	**Sb**	**09 15 52.8**	**-2.1**
AKHS	**Akhisar**	**0.34**	**132**	*i* P	**Pg**	**09 15 47.2**	**+0.7**
AKHS				*i* S	**Sb**	**09 15 52.8**	**-2.1**
AKS	**Akhisar**	**0.34**	**132**	*e*PG	**Pg**	**09 15 47.0**	**+0.4**
AKS				*e*SG	**Sg**	**09 15 52.5**	**+1.6**
AKS	**Akhisar**	**0.34**	**132**	*e*Pg	**Pg**	**09 15 47.0**	**+0.4**
AKS				*e*Sg	**Sg**	**09 15 52.5**	**+1.6**
BALB	**Balikesir**	**0.61**	**29**	*e*PG	**Pg**	**09 15 52.5**	**+0.6**
BALB				*e*SG	**Sg**	**09 16 01.4**	**+1.5**
BALB	**Balikesir**	**0.61**	**29**	*e*Pg	**Pg**	**09 15 52.5**	**+0.6**
BALB				*e*Sg	**Sg**	**09 16 01.4**	**+1.5**
BALY	**Balya**	**0.64**	**9**	*i* P	**Pb**	**09 15 53.9**	**-0.4**
BALY				*i* S	**Sb**	**09 16 02.8**	**-1.1**
BALY	**Balya**	**0.64**	**9**	*i* P	**Pb**	**09 15 53.9**	**-0.4**
IZM	**Izmir**	**0.73**	**194**	*e*PG	**Pg**	**09 15 54.0**	**-0.1**
IZM	**Izmir**	**0.73**	**194**	*e*Pg	**Pg**	**09 15 54.0**	**-0.1**
GONE	**Gonen-Balikesi**	**0.95**	**9**	*e*PG	**Pb**	**09 15 58.9**	**-0.6**
GONE	**Gonen-Balikesi**	**0.95**	**9**	*e*Pg	**Pb**	**09 15 58.9**	**-0.6**
DST	**Dursunbey**	**1.01**	**60**	*e*PG	**Pg**	**09 15 59.6**	**+0.2**
DST	**Dursunbey**	**1.01**	**60**	*e*Pg	**Pg**	**09 15 59.6**	**+0.2**
KULA	**Kula-Manisa**	**1.08**	**122**	*e*PN	**Pg**	**09 16 00.7**	**-0.2**
KULA	**Kula-Manisa**	**1.08**	**122**	*e*Pn	**Pg**	**09 16 00.7**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.20**	**165**	*e*PN	**Pg**	**09 16 02.5**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.20**	**165**	*e*Pn	**Pg**	**09 16 02.5**	**-0.6**
KRBG	**Karabiga-Canak**	**1.30**	**353**	*e*PN	**Pg**	**09 16 04.6**	**-0.4**
KRBG	**Karabiga-Canak**	**1.30**	**353**	*e*Pn	**Pg**	**09 16 04.6**	**-0.4**
CHOS	**Chios island**	**1.33**	**238**	*e*PN	**Pg**	**09 16 05.0**	**-0.7**
CHOS	**Chios island**	**1.33**	**238**	*e*Pn	**Pg**	**09 16 05.0**	**-0.7**
BOZC	**Bozcaada**	**1.34**	**304**	*i* P	**Pn**	**09 16 08.0**	**+1.9**
BOZC				*i* S	**Sn**	**09 16 28.1**	**+3.5**
KCTX	**Karacabey (Bur**	**1.34**	**30**	*e*PN	**Pg**	**09 16 05.0**	**-0.8**
KCTX	**Karacabey (Bur**	**1.34**	**30**	*e*Pn	**Pg**	**09 16 05.0**	**-0.8**
LPK	**Lapseki**	**1.39**	**336**	*e*PN	**Pn**	**09 16 05.7**	**-1.1**
LPK	**Lapseki**	**1.39**	**336**	*e*Pn	**Pn**	**09 16 05.7**	**-1.1**
TVSB	**Tavsanli**	**1.57**	**77**	*e*PN	**Pn**	**09 16 08.9**	**-0.4**
TVSB	**Tavsanli**	**1.57**	**77**	*e*Pn	**Pn**	**09 16 08.9**	**-0.4**
RKY	**Sarkoy-Tekirda**	**1.60**	**351**	*e*PN	**Pn**	**09 16 08.2**	**-1.6**
RKY	**Sarkoy-Tekirda**	**1.60**	**351**	*e*Pn	**Pn**	**09 16 08.2**	**-1.6**

MEX 05 09:16:13.7±0.7, 16°.66N×100°.11W, h5km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.32**	**49**	*i* P	Pg	09 16 16.4	-3.6
ACX				*i* S	Sg	09 16 21.1	-3.3
CAIG	**El Cayaco**	**0.42**	**339**	*e*P	Pg	09 16 20.6	-1.2
CAIG				*i* S	Sg	09 16 27.7	+0.4
MEIG	**Mezcala**	**1.35**	**20**	*e*P	Pn	09 16 36.1	-3.2
MEIG				*i* S	Sb	09 16 52.1	-5.2
ZIIG	**Zihuatanejo**	**1.60**	**306**	*i* P	Pn	09 16 39.5	-3.2
ZIIG				*i* S	Sn	09 16 59.4	-4.4
ARIG	**Puente Sto Nin**	**1.63**	**352**	*e*P	Pn	09 16 40.2	-3.0
ARIG				*i* S	Sn	09 17 00.6	-4.1
PLIG	**Platanillo**	**1.82**	**18**	*e*P	Pn	09 16 42.9	-3.0
PLIG				*i* S	Sn	09 17 04.8	-4.7
PNIG	**Pinotepa**	**1.92**	**98**	*i* P	Pn	09 16 42.8	-4.3
PNIG				*i* S	Sn	09 17 06.3	-5.4
YAIG	**Yautepec**	**2.41**	**24**	*e*P	Pn	09 16 50.6	-3.4
YAIG				*i* S	Sn	09 17 18.9	-5.2
PPM	**Popocatepetl**	**2.78**	**30**	*e*P	Pn	09 16 56.5	-3.1
PPM				*i* S	Sn	09 17 30.1	-4.0
MOIG	**Morelia**	**3.18**	**341**	*i* P	Pn	09 17 02.4	-2.3
MOIG				*i* S	Sn	09 17 38.5	-4.7
VHO	**Vista Hermosa**	**3.26**	**82**	*i* P	Pn	09 17 02.3	-3.5
VHO				*i* S	Sn	09 17 40.5	-4.7
MMIG	**Aquila**	**3.49**	**298**	*i* P	Pn	09 17 06.5	-2.2

*ISCJB **05** 09:22:47.9±0.2, 16°.52S±0°.06×173°.16W±0°.05, h10km, mb4.9/95,MS4.7/31, Error ellipse: s-maj=10.0km s-min=4.3km az=149.3*

*IDC **05** 09:22:47.7±0.5, 16°.46S×173°.23W, h0km, mb4.6/20, mb1 4.7/20,mb1mx4.7/24,mbtmp4.6/20,MS4.6/22, Ms1 4.5/22,ms1mx4.5/29,Error ellipse: s-maj=18.9km s-min=14.3km az=113.0*

*NEIC **05** 09:22:49.3±0.2, 16°.44S×173°.23W, h10km, mb4.9/61, Error ellipse: s-maj=9.5km s-min=4.5km az=140.0*

*AUST **05** 09:22:49.9±0.3, 16°.43S×172°.72W, h30km, Error ellipse: s-maj=6.7km s-min=5.3km az=42.0*

*BJI **05** 09:22:49.2, 15°.79S×172°.65W, h11km, mB5.6/21, mb5.0/25,Ms5.3/14,Ms7 4.9/15*

*MOS **05** 09:22:53.8±2.1, 16°.24S×172°.95W, h33km, mb5.1/14, Error ellipse: s-maj=14.8km s-min=10.1km az=63.4*

*GCMT **05** 09:22:56.7±0.2, 16°.50S×172°.65W, h44km±1km, MW5.1, Moment Tensor Solution. s41,c55; s81,c128; Moment tensor: Scale 10^{16}Nm; M_{rr}3.22±.21; $M_{\theta\theta}$0.74±.16; $M_{\phi\phi}$-3.96±.15; $M_{r\theta}$1.01±.16; $M_{\theta\phi}$-1.43±.11; $M_{\phi r}$4.07±.17; Best double couple: $M_0$5.70000×10^{16} NP1:ϕ_s14.00000°, δ69.00000°, λ89.00000°. NP2:ϕ_s198.00000°, δ21.00000°, λ94.00000°. Principal axes: T 5.0800, Plg66.0000°, Azm282.0000°; N 1.1300, Plg1.0000°, Azm15.0000°; P -6.2200, Plg24.0000°, Azm105.0000°; Data Used: IU II IC G CN.*

*BKK **05** 09:22:57.2±0.5, 16°.5S±12°×17°.4W±°, h10km, M5.4/13, mB6.0/1,mb5.4/13,Mw(mB)5.6/1*

*SZGRF **05** 09:22:58.2, 15°.78S×171°.80W, h33km, mb4.6, Samoa Islands region*

ISC 05 09:22:50.3±0.6, 16°.58S±0°.07×173°.03W±0°.06, h15km±3km, h18km:pP-P,n405,σ1§24/396,mb4.9/95,MS4.7/31, 49C-11D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.92**	**25**	*e*Pn	Pn	09 23 30.5	-5.7
AFI				Sn	Sn	09 24 00.6	-11
AFI	**Afiamalu**	**2.92**	**25**	Pn	Pn	09 23 30.6	-5.7
	46nm,0.3s,baz=276,slow=1.0,SNR=23						
AFI				Sn	Sn	09 24 00.6	-11
	269nm,0.3s,baz=59,slow=22,SNR=14						
NIUE	**Niue**	**3.86**	**130**	⇑P	**Pn**	**09 23 46.8**	**-2.4**
	baz=3.8,SNR=90						
MSVF	**Nonsavu**	**8.60**	**261**	*e*P	Pn	09 25 01.2	+6.8
MSVF	**Nonsavu**	**8.60**	**261**	Pn	Pn	09 25 01.9	+7.5
	1μm,1.1s,SNR=24						
MSVF	**Nonsavu**	**8.60**	**261**	*e*Pn	Pn	09 25 01.2	+6.8
RAR	**Rarotonga**	**13.36**	**112**	Pn	Pn	09 25 56.3	-3.2
RAR	**Rarotonga**	**13.36**	**112**	Pn	Pn	09 25 56.3	-3.2
	5.6nm,0.3s,baz=48,slow=0.0,SNR=4.1						
RAR				LR	LR	09 30 04.1	
	comp=Z,2μm,18.0s,baz=135,slow=32						
DZM	**Mont Dzumac**	**20.12**	**251**	*e*P	**P**	**09 27 23.9**	**0.0**
	235nm,1.2s						
DZM				*e*LR	LR	09 32 10.9	
	6μm,24.8s						
DZM	**Mont Dzumac**	**20.12**	**251**	P	**P**	**09 27 24.5**	**+0.7**
DZM	**Mont Dzumac**	**20.12**	**251**	P	**P**	**09 27 24.5**	**+0.7**
	1.0nm,0.3s,baz=90,slow=16,SNR=12						
PPT2	**Papeete2**	**22.44**	**96**	*e*LR	LR	09 33 11.1	
	3μm,24.5s,baz=

	comp=Z,13nm,0.9s									
MEEK	**Meekatharra**	**63.70**	**248**	⇑P		**P**		**09 33 20.5**	**-1.2**
	baz=64,SNR=5.6									
KLBR	**Kellerberrin**	**64.01**	**243**	⇑P		**P**		**09 33 22.0**	**-1.5**
	baz=64									
NWAO	**Narrogin (SRO)**	**64.36**	**241**	LR		LR		10 01 23.3		
	comp=Z,534nm,18.2s,baz=236,slow=36									
MJAR	**Matsushiro Arr**	**70.07**	**320**	P		**P**		**09 34 00.5**	**-1.3**
MJAR	**Matsushiro Arr**	**70.07**	**320**	P		**P**		**09 34 00.5**	**-1.3**
	comp=Z,1.3nm,0.8s,baz=166,slow=6.6,SNR=3.7									
MJAR				LR		LR		09 59 12.9		
	comp=Z,343nm,21.6s,baz=130,slow=31									
PASC	**Pasadena Art C**	**72.59**	**45**	*eP*		**P**		**09 34 17.5**	**+0.3**
	comp=Z,115nm,1.6s									
ASAJ	**Asahikawa**	**72.73**	**328**	P		**P**		**09 34 15.7**	**-2.1**
ASAJ	**Asahikawa**	**72.73**	**328**	P		**P**		**09 34 15.7**	**-2.1**
	comp=Z,15nm,0.9s,baz=194,slow=23,SNR=4.4									
ASAJ				LR		LR		09 59 40.5		
	comp=Z,222nm,20.8s,baz=7.3,slow=30									
JNU	**Nakatsue**	**72.86**	**313**	P		**P**		**09 34 17.6**	**-1.3**
JNU	**Nakatsue**	**72.86**	**313**	P		**P**		**09 34 17.6**	**-1.3**
	comp=Z,11nm,0.9s,baz=86,slow=14,SNR=2.6									
EDW2	**Edwards Air Fo**	**73.12**	**45**	P		**P**		**09 34 20.3**	**-0.1**
	baz=73									
CMB	**Columbia Colle**	**73.42**	**41**	*eP*		**P**		**09 34 22.0**	**0.0**
CMB				pmax		pmax				
	comp=Z,13nm,1.2s									
CMB	**Columbia Colle**	**73.42**	**41**	*eP*		**P**		**09 34 22.0**	**0.0**
	comp=Z,13nm,1.2s									
CHGN	**Chignik**	**73.64**	**8**	*eP*		**P**		**09 34 23.8**	**+1.1**
LRMC	**Laurel Mountai**	**73.67**	**44**	P		**P**		**09 34 23.8**	**+0.2**
	baz=74									
WDC	**Whiskeytown Da**	**73.69**	**38**	*eP*		**P**		**09 34 23.8**	**+0.3**
WDC				pmax		pmax				
	comp=Z,11nm,1.1s									
WDC	**Whiskeytown Da**	**73.69**	**38**	*eP*		**P**		**09 34 23.8**	**+0.3**
	comp=Z,11nm,1.1s									
PETK	**Petropavlovsk-**	**73.86**	**342**	P		**P**		**09 34 21.9**	**-2.4**
PETK	**Petropavlovsk-**	**73.86**	**342**	P		**P**		**09 34 21.9**	**-2.4**
PETK	**Petropavlovsk-**	**73.86**	**342**	P		**P**		**09 34 21.9**	**-2.4**
	comp=Z,3.4nm,0.6s,baz=124,slow=8.9,SNR=4.1									
PETK				LR		LR		10 08 11.7		
	comp=Z,90nm,18.6s,baz=152,slow=37									
BELC	**Belle Mtn. Jos**	**74.00**	**46**	P		**P**		**09 34 25.7**	**+0.1**
	baz=74									
MPMC	**Manual Prospec**	**74.13**	**44**	P		**P**		**09 34 26.5**	**0.0**
	baz=74									
GSC	**Goldstone**	**74.16**	**45**	P		**P**		**09 34 26.7**	**+0.2**
	baz=74									
WAKR	**Walker**	**74.29**	**41**	*eP*		**P**		**09 34 27.7**	**+0.3**
BEKR	**Beckworth**	**74.55**	**39**	*eP*		**P**		**09 34 27.5**	**-1.3**
	comp=Z,7.6nm,1.3s									
GMRC	**Granite Mounta**	**74.66**	**46**	P		**P**		**09 34 29.5**	**0.0**
	baz=75									
IRM	**Iron Mountain**	**74.68**	**47**	P		**P**		**09 34 29.6**	**+0.1**
	baz=75									
FURC	**Furnace Creek,**	**74.78**	**44**	P		**P**		**09 34 30.0**	**+0.1**
	baz=75									
NVAR	**Mina Array Bea**	**74.97**	**42**	P		**P**		**09 34 31.1**	**-0.2**
NVAR	**Mina Array Bea**	**74.97**	**42**	P		**P**		**09 34 31.1**	**-0.2**
	comp=Z,3.9nm,0.8s,baz=226,slow=9.7,SNR=26									
NVAR				LR		LR		10 00 23.3		
	comp=Z,487nm,20.6s,baz=256,slow=30									
PAHR	**Pah Rah Range**	**75.05**	**40**	*eP*		**P**		**09 34 32.3**	**+0.6**
	comp=Z,9.4nm,1.1s									
NV11	**Mina Array Sit**	**75.06**	**42**	*eP*		**P**		**09 34 31.4**	**-0.3**
SHPR	**Sheep Range**	**75.94**	**45**	*eP*		**P**		**09 34 37.1**	**+0.2**
K05A	**Summer Lake**	**76.00**	**37**	*eP*		**P**		**09 34 37.6**	**+0.6**
	comp=Z,34nm,1.2s									
R11A	**Troy Canyon, C**	**76.67**	**43**	*eP*		**P**		**09 34 40.8**	**-0.2**
	comp=Z,10.0nm,1.3s									
R11A	**Troy Canyon, C**	**76.67**	**43**	P		**P**		**09 34 41.3**	**+0.2**
	baz=77									
BMN	**Battle Mountai**	**76.81**	**40**	*eP*		**P**		**09 34 41.3**	**-0.4**
BMN				pmax		pmax				
	comp=Z,13nm,1.3s									
BMN	**Battle Mountai**	**76.81**	**40**	*eP*		**P**		**09 34 41.3**	**-0.4**
	comp=Z,13nm,1.3s									
E03A	**Lebam**	**77.00**	**33**	*eP*		**P**		**09 34 43.1**	**+0.8**
	comp=Z,29nm,1.1s									
WVOR	**Wild Horse Val**	**77.14**	**38**	*eP*		**P**		**09 34 43.1**	**-0.3**
WVOR				pmax		pmax				
	comp=Z,9.0nm,1.1s									
WVOR	**Wild Horse Val**	**77.14**	**38**	*eP*		**P**		**09 34 43.1**	**-0.3**
	comp=Z,8.6nm,1.1s									
KSRS	**Korea Array**	**77.25**	**316**	P		**P**		**09 34 43.6**	**-0.4**
	comp=Z,2.3nm,1.0s,baz=127,slow=6.0,SNR=6.6									
KSAR	**Wonju Array Be**	**77.27**	**316**	P		**P**		**09 34 43.6**	**-0.5**
X16A	**Lo Mia Camp, P**	**77.43**	**48**	P		**P**		**09 34 46.2**	**+0.8**
	baz=78									
319A	**Douglas**	**77.53**	**52**	P		**P**		**09 34 46.8**	**+0.8**
	baz=78									
I07A	**Izee**	**77.63**	**36**	*eP*		**P**		**09 34 46.4**	**+0.2**
	comp=Z,125nm,2.9s									
CCUT	**Cedar City**	**77.71**	**45**	*eP*		**P**		**09 34 47.4**	**+0.5**
	comp=Z,7.6nm,1.1s									
J08A	**Circle Bar Ran**	**77.78**	**37**	*eP*		**P**		**09 34 47.2**	**+0.1**
	comp=Z,13nm,1.1s									
ARUT	**Antelope Range**	**77.79**	**44**	*eP*		**P**		**09 34 47.7**	**+0.4**
ARUT	**Antelope Range**	**77.79**	**44**	*eP*		**P**		**09 34 47.7**	**+0.4**
	comp=Z,205nm,1.1s									
U15A	**North Rim**	**77.86**	**46**	P		**P**		**09 34 48.3**	**+0.5**
	baz=78									
320A	**Kipp Ranch, An**	**78.08**	**52**	P		**P**		**09 34 49.7**	**+0.7**
	baz=78									
ELK	**Elko**	**78.23**	**41**	*eP*		**P**		**09 34 49.6**	**-0.2**
	comp=Z,5.7nm,1.0s									
D05A	**Enumclaw**	**78.24**	**33**	*eP*		P		09 34 52.6	+3.3
	comp=Z,36nm,1.3s									
220A	**Playas Peak, P**	**78.35**	**52**	P		**P**		**09 34 51.2**	**+0.7**
	baz=79									
USRK	**Ussuriysk Arra**	**78.54**	**323**	P		**P**		**09 34 49.8**	**-1.3**
	comp=Z,2.0nm,0.8s,baz=96,slow=7.7,SNR=5.1									
USRK				LR		LR		10 02 42.9		
	comp=Z,362nm,21.8s,baz=297,slow=31									
G08A	**Pilot Rock**	**78.68**	**36**	*eP*		**P**		**09 34 51.8**	**-0.2**
	comp=Z,11nm,1.1s									
Z20A	**Nine Sixteen R**	**78.87**	**50**	P		**P**		**09 34 53.9**	**+0.5**
	baz=79									
MVU	**Marysvale**	**78.99**	**44**	*eP*		**P**		**09 34 54.8**	**+0.8**
	comp=Z,13nm,1.1s									
HAWA	**Hanford**	**79.04**	**35**	*eP*		**P**		**09 34 55.9**	**+2.1**
	comp=Z,18nm,0.3s									
121A	**Cookes Peak, D**	**79.20**	**51**	P		**P**		**09 34 55.4**	**+0.2**
	baz=79									
SPU	**Mount Spurr**	**79.30**	**10**	*eP*		**P**		**09 34 53.7**	**-1.2**
BMO	**Blue Mountains**	**79.35**	**37**	*eP*		**P**		**09 34 54.9**	**-0.7**
	comp=Z,7.3nm,1.2s									
Y20A	**Horse Springs,**	**79.40**	**50**	P		**P**		**09 34 56.4**	**+0.1**
	baz=80									
Z21A	**St. Cloud Mine**	**79.64**	**51**	P		**P**		**09 34 57.8**	**+0.2**
	baz=80									
F10A	**Beach Ranch, E**	**80.06**	**36**	*eP*		**P**		**09 34 58.8**	**-0.7**
	comp=Z,8.3nm,1.0s									
TMUT	**Trail Mountain**	**80.07**	**44**	*eP*		**P**		**09 35 00.6**	**+0.7**
	comp=Z,17nm,0.9s									
Z22A	**Elephant Butte**	**80.14**	**51**	P		**P**		**09 35 00.4**	**+0.1**
	baz=80									
MDJ	**Mudanjiang**	**80.17**	**322**	P		P		09 35 04.3	+4.3
MDJ				AMB		AMB				
	comp=Z,4.0nm,0.9s									
MDJ				AMB		AMB				
	comp=Z,130nm,5.8s									
PMR	**Palmer**	**80.20**	**11**	*eP*		**P**		**09 34 58.8**	**-0.9**
PMR				pmax		pmax				
	comp=Z,18nm,1.2s									
PMR	**Palmer**	**80.20**	**11**	*eP*		**P**		**09 34 58.8**	**-0.9**
	comp=Z,18nm,1.2s									
HLID	**Hailey**	**80.31**	**39**	*eP*		**P**		**09 35 00.8**	**-0.2**
	comp=Z,8.5nm,1.0s									
HLID	**Hailey**	**80.31**	**39**	P		**P**		**09 35 00.9**	**-0.1**
	baz=80									
B08A	**Colville Reser**	**80.37**	**33**	*eP*		**P**		**09 35 00.2**	**-0.8**
	comp=Z,7.1nm,1.0s									
SRU	**San Rafael**	**80.43**	**44**	*eP*		**P**		**09 35 01.5**	**-0.2**
SRU				pmax		pmax				
	comp=Z,7.0nm,0.8s									
SRU	**San Rafael**	**80.43**	**44**	*eP*		**P**		**09 35 01.5**	**-0.2**
	comp=Z,7.2nm,0.8s									
324A	**Moseley Ranch,**	**80.46**	**53**	P		**P**		**09 35 01.8**	**-0.2**
	baz=81									
425A	**Indio Mountain**	**80.55**	**54**	P		**P**		**09 35 03.1**	**+0.6**
	baz=81									
BMRM	**Bremmer River**	**80.57**	**14**	*eP*		**P**		**09 35 01.3**	**-0.5**
	comp=Z,40nm,1.0s									
JLU	**Jordanelle**	**80.58**	**43**	*eP*		**P**		**09 35 02.7**	**+0.1**
	comp=Z,11nm,1.4s									
DAU	**Daniels Canyon**	**80.61**	**43**	*eP*		**P**		**09 35 02.8**	**0.0**
DAU	**Daniels Canyon**	**80.61**	**43**	*eP*		**P**		**09 35 02.8**	**0.0**
MNTX	**Cornudas Mount**	**80.64**	**53**	*eP*		**P**		**09 35 02.6**	**-0.2**
	comp=Z,2.6nm,1.2s									
626A	**Big Bend Ranch**	**80.70**	**55**	P		**P**		**09 35 03.5**	**+0.2**
	baz=81									
224A	**Cornudas Mount**	**80.70**	**53**	P		**P**		**09 35 03.3**	**0.0**
	baz=81									
325A	**Bean Ranch, Si**	**80.82**	**53**	P		**P**		**09 35 03.8**	**-0.2**
	baz=81									
526A	**Mary Lane Ranc**	**80.94**	**55**	P		**P**		**09 35 04.8**	**+0.2**
	baz=81									
NJ2	**Nanjing**	**81.16**	**307**	*eP*		**P**		**09 35 06.4**	**+0.9**
426A	**McDonald Obser**	**81.25**	**54**	P		**P**		**09 35 06.1**	**-0.3**
	baz=82									
225A	**Deer Hill, Car**	**81.25**	**53**	P		**P**		**09 35 06.2**	**-0.1**
	baz=82									
CAST	**Castle Rocks**	**81.40**	**9**	*eP*		**P**		**09 35 04.6**	**-1.5**
	comp=Z,18nm,1.6s									
GDL2	**Guadalupe Moun**	**81.64**	**53**	*eP*		**P**		**09 35 09.3**	**+1.0**
TRF	**Thorofare Moun**	**81.72**	**10**	*eP*		**P**		**09 35 06.7**	**-1.3**
	comp=Z,38nm,1.6s									
226B	**Tecolote Peak,**	**81.74**	**53**	P		**P**		**09 35 08.9**	**+0.1**
	baz=82									
427A	**Hayter Ranch,**	**81.81**	**55**	P		**P**		**09 35 09.2**	**0.0**
	baz=82									
MCMT	**McKenzie Canyo**	**81.95**	**39**	*eP*		**P**		**09 35 08.9**	**-0.9**
	comp=Z,1.6nm,0.9s									
528A	**Cox Ranch, San**	**82.01**	**55**	P		**P**		**09 35 10.6**	**+0.3**
	baz=82									
RRI2	**Red Ridge**	**82.09**	**40**	*eP*		**P**		**09 35 10.7**	**+0.1**
	comp=Z,20nm,1.4s									
Y25A	**Mesa, Roswell**	**82.14**	**51**	P		**P**		**09 35 10.8**	**0.0**
	baz=82									
BPAW	**Bear Paw Mtn.**	**82.21**	**10**	*eP*		P		09 35 14.3	+4.0
	comp=Z,15nm,1.6s									
MCK	**McKinley**	**82.21**	**11**	*eP*		**P**		**09 35 09.5**	**-0.9**
MCK				pmax		pmax				
	comp=Z,18nm,1.0s									
MCK	**McKinley**	**82.21**	**11**	*eP*		**P**		**09 35 09.5**	**-0.9**
	comp=Z,18nm,1.0s									
CN2	**Changchun**	**82.22**	**320**	*eP*		**P**		**09 35 10.6**	**-0.2**
CN2				*eS*		**S**		**09 45 26.3**	**+0.7**
CN2				AMB		AMB				
	comp=Z,10.0nm,0.7s									
CN2				AMB		AMB				
	comp=Z,300nm,5.0s									
CN2				LR		LR				
	comp=Z,300nm,18.0s									
CN2				LR		LR				
	comp=Z,300nm,18.0s									
CN2				LR		LR				
	comp=Z,400nm,17.0s									
HYT	**Haines Junctio**	**82.23**	**17**	*eP*		**P**		**09 35 10.3**	**-0.4**
428A	**Kincaid Ranch,**	**82.33**	**55**	P		**P**		**09 35 12.1**	**+0.2**
	baz=82									
REDW	**Red Top Meadow**	**82.39**	**41**	*eP*		**P**		**09 35 12.1**	**0.0**
	comp=Z,14nm,1.4s									
TPAW	**Teton Pass**	**82.40**	**40**	*eP*		**P**		**09 35 12.2**	**0.0**
	comp=Z,11nm,1.3s									
MSO	**Missoula**	**82.41**	**36**	*eP*		**P**		**09 35 12.6**	**+0.6**
	comp=Z,16nm,1.4s									
O20A	**White River Ci**	**82.47**	**44**	P		**P**		**09 35 12.5**	**0.0**
	baz=83									
SNOW	**Snow King Moun**	**82.50**	**41**	*eP*		**P**		**09 35 12.8**	**0.0**
	comp=Z,11nm,1.1s									
BSMT	**Basson Peak**	**82.51**	**35**	*eP*		**P**		**09 35 11.2**	**-1.3**
	comp=Z,7.8nm,1.1s									
MENT	**Mentasta**	**82.52**	**13**	*eP*		**P**		**09 35 11.3**	**-0.7**
IMW	**Indian Meadow**	**82.62**	**40**	*eP*		**P**		**09 35 13.3**	**0.0**
	comp=Z,12nm,1.1s									
LOHW	**Long Hollow**	**82.68**	**40**	*eP*		**P**		**09 35 13.3**	**-0.2**
	comp=Z,14nm,1.5s									
LRM	**Limekiln Ridge**	**82.72**	**38**	*eP*		**P**		**09 35 13.1**	**-0.7**
	comp=Z,28nm,0.9s									
N20A	**Spence Gulch,**	**82.79**	**44**	P		**P**		**09 35 14.3**	**+0.1**
	baz=83									
QLMT	**Earthquake Lak**	**82.80**	**39**	*eP*		**P**		**09 35 14.9**	**+0.7**
I17A	**Pilgrim Ck.**	**82.85**	**40**	P		**P**		**09 35 14.9**	**+0.4**
	baz=83									
CHMT	**Chamberlain Mo**	**82.85**	**37**	*eP*		**P**		**09 35 13.8**	**-0.6**
FLWY	**Flagg Ranch**	**82.86**	**40**	*eP*		**P**		**09 35 14.9**	**+0.4**
	comp=Z,24nm,1.2s									
SMCO	**Snowmass**	**82.87**	**46**	*ep*	P		pP	09 35 36.1	+16	
PDAR	**Pinedale Array**	**82.91**	**42**	P		**P**		**09 35 14.0**	**-0.8**
PDAR	**Pinedale Array**	**82.91**	**42**	P		**P**		**09 35 14.0**	**-0.8**
	comp=Z,4.0nm,0.8s,baz=215,slow=3.2,SNR=36									
PDAR				LR		LR		10 06 14.8		
	comp=Z,325nm,19.2s,baz=245,slow=31									
YMR	**Madison River**	**83.00**	**39**	*eP*		**P**		**09 35 15.5**	**+0.2**
	comp=Z,18nm,1.6s									
BOZ	**Bozeman (W)**	**83.11**	**38**	*eP*		**P**		**09 35 15.1**	**-0.6**
BOZ				pmax		pmax				
	comp=Z,11nm,1.4s									
BOZ	**Bozeman (W)**	**83.11**	**38**	*eP*		**P**		**09 35 15.1**	**-0.6**
	comp=Z,11nm,1.4s									
M20A	**Sweetwater, Wa**	**83.16**	**43**	P		**P**		**09 35 16.2**	**+0.1**
	baz=83									
K19A	**Absolon Red Bu**	**83.39**	**42**	P		**P**		**09 35 16.6**	**-0.6**
	baz=84									
COLA	**College**	**83.45**	**11**	*eP*		**P**		**09 35 16.3**	**-0.4**
COLA				pmax		pmax				
	comp=Z,25nm,1.1s									
COLA	**College**	**83.45**	**11**	*eP*		**P**		**09 35 16.3**	**-0.4**
	comp=Z,25nm,1.1s									
631A	**Perdido Creek**	**83.47**	**57**	P		**P**		**09 35 17.7**	**0.0**
	baz=84									
J19A	**Crowheart**	**83.47**	**41**	P		**P**		**09 35 17.1**	**-0.6**
	baz=84									
ILAR	**Eielson Array**	**83.53**	**11**	P		**P**		**09 35 15.7**	**-1.6**
ILAR	**Eielson Array**	**83.53**	**11**	P		**P**		**09 35 15.7**	**-1.6**
	comp=Z,1.6nm,0.7s,baz=231,slow=6.2,SNR=22									
ILAR				LR		LR		10 10 20.4		
	comp=Z,100nm,18.2s,baz=215,slow=34									
IM04	**Indian Mountai**	**83.57**	**8**	*eP*		**P**		**09 35 17.5**	**0.0**
MSTX	**Muleshoe**	**83.60**	**52**	*eP*		**P**		**09 35 19.0**	**+0.6**
O22A	**Kremmling**	**83.62**	**45**	P		**P**		**09 35 18.2**	**-0.4**
	baz=84									
K20A	**Yellowstone Ra**	**83.63**	**42**	P		**P**		**09 35 17.7**	**-0.7**
	baz=84									
QIZ	**Qiongzhong**	**83.67**	**292**	P		P		09 35 13.3	-5.7	
QIZ	**Qiongzhong**	**83.67**	**292**	S		**S**		**09 45 41.8**	**+0.3**
QIZ				LR		LR				
	comp=Z,440nm,27.0s									
IMA2	**Indian Mountai**	**83.68**	**8**	*eP*		P		09 35 24.8	+6.7	
IMA2				*epP*		pP		09 35 31.5	+8.3	
M21A	**Separation Pea**	**83.76**	**43**	P		**P**		**09 35 18.8**	**-0.5**
	baz=84									
H18A	**Shoshone NF, C**	**83.80**	**40**	P		**P**		**09 35 19.2**	**-0.1**
	baz=84									
I19A	**Meeteetse**	**83.90**	**41**	P		**P**		**09 35 19.8**	**0.0**
	baz=84									
RWWY	**Rawlins**	**83.90**	**43**	*eP*		P		09 35 23.3	+3.3	
	comp=Z,40nm,1.6s									
N22A	**Wattenberg Ran**	**83.98**	**44**	P		**P**		**09 35 20.6**	**+0.1**
	baz=84									
J20A	**Shoshoni**	**84.13**	**42**	P		**P**		**09 35 21.1**	**+0.1**
	baz=84									
M22A	**Cedar Creek Ra**	**84.17**	**44**	P		**P**		**09 35 21.4**	**0.0**
	baz=84									
H19A	**Powell**	**84.22**	**40**	P		**P**		**09 35 21.6**	**+0.2**
	baz=84									
K21A	**Alcova**	**84.32**	**43**	P		**P**		**09 35 21.6**	**-0.4**
	baz=84									
GCMT	**Greycliff**	**84.36**	**39**	*eP*		**P**		**09 35 21.7**	**-0.4**
	comp=Z,5.5nm,1.1s									
N23A	**Red Feather La**	**84.37**	**45**	P		**P**		**09 35 21.9**	**-0.5**
	baz=85									
I20A	**Worland**	**84.40**	**41**	P		**P**		**09 35 21.7**	**-0.5**
	baz=85									
DAWY	**Dawson**	**84.47**	**14**	*eP*		**P**		**09 35 21.1**	**-1.0**
J21A	**Lysite**	**84.54**	**42**	P		**P**		**09 35 22.7**	**-0.4**
	baz=85									
L22A	**Ellis Ranch, M**	**84.57**	**43**	P		**P**		**09 35 23.4**	**+0.1**
	baz=85									
X29A	**Tulia**	**84.61**	**52**	P		**P**		**09 35 22.7**	**-0.8**
	baz=85									
EGAK	**Eagle**	**84.68**	**13**	*eP*		**P**		**09 35 21.9**	**-1.2**
	comp=Z,9.3nm,1.0s									
F19A	**Roth Farm, Mol**	**84.83**	**39**	P		**P**		**09 35 24.1**	**-0.4**
	baz=85									
I21A	**Big Trails, Te**	**84.86**	**42**	P		**P**		**09 35 23.9**	**-0.7**
	baz=85									
131A	**Roby**	**84.90**	**54**	P		**P**		**09 35 24.2**	**-0.8**
	baz=85									
332A	**Millersview**	**84.90**	**55**	P		**P**		**09 35 24.5**	**-0.5**
	baz=85									
L23A	**Garrett**	**85.09**	**44**	P		**P**		**09 35 25.6**	**-0.3**
	baz=85									
E19A	**Rath Farm, Rou**	**85.23**	**39**	P		**P**		**09 35 26.0**	**-0.3**
	baz=85									
COLD	**Coldfoot**	**85.25**	**9**	*eP*		**P**		**09 35 25.6**	**-0.2**
	comp=Z,8.8nm,1.1s									
ABTX	**Abilene, Hawle**	**85.46**	**54**	P		**P**		**09 35 27.4**	**-0.4**
	baz=86									
D19A	**Cripps Ranch,**	**85.53**	**38**	P		**P**		**09 35 27.5**	**-0.3**
	baz=86									
E20A	**Meyer Farm, Mu**	**85.65**	**39**	P		**P**		**09 35 28.3**	**-0.1**
	baz=86									
C19A	**Slack Wire Ran**	**85.72**	**37**	P		**P**		**09 35 28.5**	**-0.2**
	baz=86									
Z32A	**Haskell**	**85.85**	**54**	P		**P**		**09 35 29.5**	**-0.1**
	baz=86									
EDM	**Edmonton**	**86.30**	**31**	*eP*		**P**		**09 35 30.5**	**-1.0**
EDM	**Edmonton**	**86.30**	**31**	*eP*		**P**		**09 35 30.5**	**-1.0**
BJI	**Beijing**	**86.54**	**313**	P		**P**		**09 35 33.8**	**+1.0**
BJI				S		**S**		**09 46 10.0**	**+1.1**
BJI				SS		**SS**		**09 51 52.5**	**+2.4**
BJI				AMB		AMB				
	comp=Z,11nm,1.6s									
BJI				AMB		AMB				
	comp=Z,200nm,5.4s									
BJI				LR		LR				
	comp=Z,390nm,25.9s									
BJI				LR		LR				
	comp=Z,400nm,24.8s									
MAW	**Mawson**	**86.79**	**199**	P		**P**		**09 35 33.8**	**+0.1**
MAW	**Mawson**	**86.79**	**199**	P		**P**		**09 35 33.8**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=103,slow=3.9,SNR=10									
MAW				LR		LR		10 10 55.1		
	comp=Z,290nm,21.5s,baz=128,slow=33									
IPM	**Ipoh**	**87.39**	**275**	*eP*		**P**		**09 35 36.8**	**-0.8**
	comp=Z,30nm,1.0s									
PANO	**Nakornpanom**	**87.78**	**288**	P		**P**		**09 35 39.9**	**+0.5**
	comp=Z,13nm,1.5s									
SKNT	**Sakolnakorn**	**88.30**	**288**	P		**P**		**09 35 42.7**	**+0.8**
	comp=Z,13nm,1.3s									
PLCA	**Paso Flores**	**88.46**	**132**	P		**P**		**09 35 43.4**	**+1.0**
PLCA	**Paso Flores**	**88.46**	**132**	P		**P**		**09 35 43.4**	**+1.0**
	comp=Z,2.8nm,0.9s,baz=217,slow=16,SNR=3.7									
PLCA				LR		LR		10 05 51.3		
	comp=Z,453nm,19.5s,baz=316,slow=29									
GYA	**Guiyang**	**88.91**	**298**	P		**P**		**09 35 46.4**	**+1.7**
GYA				PP		**PP**		**09 39 17.2**	**+2.7**
GYA				SKS		**SKSac**		**09 46 12.8**	**-1.5**
GYA				S		**S**		**09 46 32.0**	**-0.5**
GYA				SS		**SS**		**09 52 25.5**	**-0.1**
GYA				AMB		AMB				
	comp=Z,20nm,1.0s									
GYA				AMB		AMB				
	comp=Z,120nm,6.2s									
GYA				LR		LR				
	comp=Z,550nm,19.4s									
GYA				LR		LR				
	comp=Z,490nm,20.0s									
GYA				LR		LR				
	comp=Z,520nm,19.6s									
PSI	**Prapat**	**88.92**	**273**	P		**P**		**09 35 43.9**	**-1.1**
PSI	**Prapat**	**88.92**	**273**	P		**P**		**09 35 43.9**	**-1.1**
	comp=Z,20nm,1.1s,baz=169,slow=4.8,SNR=6.6									
HHC	**Hu-ho-hao-te**	**90.09**	**313**	*eP*		**P**		**09 35 49.9**	**0.0**
HHC				sP		**sP**		**09 35 56.9**	**0.0**
HHC				PP		**PP**		**09 39 25.3**	**+1.8**
HHC				SKS		**SKSac**		**09 46 18.3**	**-2.3**
HHC				S		**S**		**09 46 40.1**	**-2.8**
HHC				sS		**ScS**		**09 46 48.1**	**+1.2**
HHC				SS		**SS**		**09 52 42.0**	**-0.1**
HHC				AMB		AMB				
	comp=Z,54nm,1.0s									
HHC				AMB		AMB				
	comp=Z,330nm,5.8s									
HHC				LR		LR				
	comp=Z,510nm,16.5s									
HHC				LR		LR				

CLL	**Collm**	**145.02 353**	*e*PKPdf	**PKPdf**	**09 42 28.0 +1.1**
CLL			*e*PKiKP	**PKPdf**	**09 42 32.0 +5.1**
CLL			LmV		10 52 00.0
	comp=Z,100nm,21.4s				
STHS	**Stebnicka Huta**	**145.26 344**	*e*PKIKP	**PKPdf**	**09 42 28.7 +1.3**
STHS	**Stebnicka Huta**	**145.26 344**	*e*PKP	**PKPdf**	**09 42 28.7 +1.3**
KMBO	**Kilima Mbogo**	**145.33 242**	*e*PKPbc	**PKPdf**	**09 42 29.1 +0.2**
KMBO	**Kilima Mbogo**	**145.33 242**	PKPbc	**PKPdf**	**09 42 29.1 +0.2**
	comp=Z,19nm,1.1s,baz=62,slow=3.0,SNR=25				
BRG	**Berggiesshubel**	**145.34 352**	*e*PKP	PKPdf	09 42 34.4 +6.9
	comp=Z,13nm,1.5s				
BRG	**Berggiesshubel**	**145.34 352**	*e*PKIKP	PKPdf	09 42 34.4 +6.9
BRG			pmax	pmax	
	comp=Z,13nm,1.5s				
UPC	**Upice**	**145.38 350**	*e*PKIKP	**PKPab**	**09 42 29.9 +2.3**
UPC	**Upice**	**145.38 350**	*e*PKP	**PKPab**	**09 42 29.9 +2.3**
UPC			*ep*PKP	**pPKPdf**	**09 42 33.4 +0.5**
KOLS	**Kolonicke sedl**	**145.40 342**	*e*PKIKP	**PKPab**	**09 42 27.8 0.0**
KOLS	**Kolonicke sedl**	**145.40 342**	*e*PKP	**PKPab**	**09 42 27.8 0.0**
DPC	**Dobruska-Polom**	**145.48 349**	*e*PKIKP	**PKPdf**	**09 42 27.9 0.0**
DPC	**Dobruska-Polom**	**145.48 349**	*e*PKP	**PKPab**	**09 42 28.5 +0.4**
DPC			*ep*PKP	**pPKPdf**	**09 42 33.2 0.0**
DPC	**Dobruska-Polom**	**145.48 349**	*e*PKPab	**PKPdf**	**09 42 27.9 0.0**
BURAR	**Bucovina Array**	**145.59 338**	⇑PKIKP	**PKPbc**	**09 42 28.5 +0.1**
BURAR	**Bucovina Array**	**145.59 338**	⇑*i*P	**PKPab**	**09 42 28.5 +0.1**
OKC	**Ostrava-Krasne**	**145.62 347**	*e*PKIKP	**PKPab**	**09 42 30.1 +1.6**
OKC	**Ostrava-Krasne**	**145.62 347**	*e*PKP	**PKPab**	**09 42 30.1 +1.6**
OKC			*ep*PKP	**pPKPdf**	**09 42 33.1 -0.2**
UZH	**Uzhgorod**	**145.67 342**	*e*PKP2	**PKPdf**	**09 42 27.5 -0.6**
UZH			*i*		09 42 31.1
UZH			*e*		09 42 39.5
MORC	**Moravsky Berou**	**145.80 348**	*e*PKP2	**PKPdf**	**09 42 28.3 -0.1**
MORC	**Moravsky Berou**	**145.80 348**	⇑*i*P	**PKPbc**	**09 42 29.0 +0.1**
MORC	**Moravsky Berou**	**145.80 348**	*e*PKPdf	**PKPdf**	**09 42 28.3 -0.1**
MOX	**Moxa**	**145.81 355**	*e*PKIKP	**PKPab**	**09 42 29.7 +0.5**
MOX			MLR	MLR	
	comp=Z,100nm,20.3s				
MOX	**Moxa**	**145.81 355**	*e*PKPbc	**PKPab**	**09 42 29.7 +0.5**
MOX			*e*L	L	10 49 54.9
	comp=Z,128nm,20.3s				
BEBN	**Eben Emael**	**145.85 1**	PKP	**PKPab**	**09 42 30.1 +0.8**
TESR	**Tescani**	**145.97 335**	⇑*i*P	**PKPbc**	**09 42 29.4 0.0**
GZT	**Gaziantep**	**146.01 313**	*i* P	**PKPab**	**09 42 31.0 +0.4**
TRPA	**Tarpa**	**146.04 341**	⇑*i*P	**PKPab**	**09 42 33.3 +3.2**
MEM	**Membach**	**146.05 1**	PKP	**PKPab**	**09 42 31.6 +1.5**
TLCR		**146.10 332**	⇑PKP2	**PKPab**	**09 42 30.7 +0.3**
TLCR		**146.10 332**	⇑*i*P	**PKPab**	**09 42 30.7 +0.3**
PRU	**Pruhonice**	**146.12 351**	*e*PKP2	**PKPab**	**09 42 30.4 0.0**
PRU			MLR	MLR	
	comp=Z,200nm,19.9s				
PRU	**Pruhonice**	**146.12 351**	*e*PKP	**PKPab**	**09 42 30.4 0.0**
PRU			*ep*PKP	**pPKPdf**	**09 42 34.9 +0.7**
PRU			AMS	AMS	10 46 00.0
	comp=Z,200nm,19.9s				
BCLA	**Clavier**	**146.22 2**	PKP	**PKPab**	**09 42 31.9 +1.1**
CFR	**Carcaliu**	**146.41 333**	⇑PKP2	**PKPbc**	**09 42 31.1 +0.3**
CFR	**Carcaliu**	**146.41 333**	⇑*i*P	**PKPbc**	**09 42 31.1 +0.3**
TNS	**Taunus Mts**	**146.42 358**	*e*PKIKP	**PKPdf**	**09 42 29.2 -0.3**
TNS	**Taunus Mts**	**146.42 358**	*e*PKPbc	**PKPdf**	**09 42 29.2 -0.3**
ILGA	**Ilgaz**	**146.43 322**	*i* P	**PKPab**	**09 42 33.5 +1.3**
VRAC	**Vranov**	**146.43 349**	⇓*i*P	**PKPbc**	**09 42 30.9 +0.1**
VRI	**Vrincioaia**	**146.46 335**	⇑PKP2	**PKPab**	**09 42 31.8 -0.1**
VRI	**Vrincioaia**	**146.46 335**	⇑*i*P	**PKPab**	**09 42 31.8 -0.1**
PLOR	**Plostina**	**146.50 335**	⇑PKP2	**PKPab**	**09 42 35.8 +3.7**
PLOR	**Plostina**	**146.50 335**	⇑*i*P	**PKPab**	**09 42 35.8 +3.7**
DOU	**Dourbes**	**146.51 3**	PKP	**PKPdf**	**09 42 28.6 -0.9**
ROTZ	**Rotzenmuhle**	**146.63 354**	*e*PKPbc	**PKPab**	**09 42 32.0 -0.3**
TREC	**Trest**	**146.64 350**	*e*PKP2	**PKPab**	**09 42 32.0 -0.4**
TREC	**Trest**	**146.64 350**	*e*PKP	**PKPab**	**09 42 32.0 -0.4**
TREC			*ep*PKP	**pPKPdf**	**09 42 36.7 +1.6**
GRF	**Grafenberg Arr**	**146.79 355**	*e*PKP2	**PKPab**	**09 42 34.1 +1.1**
GRF			MLR	MLR	
	comp=Z,100nm,21.6s				
GRF	**Grafenberg Arr**	**146.79 355**	*e*PKPbc	**PKPab**	**09 42 34.1 +1.1**
GRF			*e*L	L	10 49 26.0
	comp=Z,118nm,21.6s				
TIRR	**Tirgusor**	**146.84 331**	⇑PKIKP	**PKPbc**	**09 42 31.6 -0.4**
TIRR	**Tirgusor**	**146.84 331**	⇑*i*P	**PKPbc**	**09 42 31.6 -0.4**
HARR	**Harsova**	**146.88 332**	⇑PKP2	**PKPab**	**09 42 33.8 +0.3**
HARR	**Harsova**	**146.88 332**	⇑*i*P	**PKPab**	**09 42 33.8 +0.3**
TLB	**Topalu**	**146.91 332**	⇑PKP2	**PKPbc**	**09 42 32.4 +0.2**
TLB	**Topalu**	**146.91 332**	⇑*i*P	**PKPbc**	**09 42 32.3 +0.1**
DOPR	**Dopca**	**146.91 336**	⇑*i*P	**PKPab**	**09 42 36.0 +2.4**
PSZ	**Piszkesteto**	**146.99 344**	*e*PKIKP	**PKPbc**	**09 42 31.5 -0.9**
PSZ	**Piszkesteto**	**146.99 344**	⇑*i*P	**PKPab**	**09 42 35.7 +1.8**
PSZ	**Piszkesteto**	**146.99 344**	*e*PKPdf	**PKPbc**	**09 42 31.6 -0.9**
WLF	**Walferdange**	**147.00 1**	PKP	**PKPab**	**09 42 34.1 +0.3**
WLF	**Walferdange**	**147.00 1**	*e*PKPbc	**PKPab**	**09 42 34.2 +0.4**
AVNT	**Avonos**	**147.08 318**	*i* P	**PKPbc**	**09 42 33.2 0.0**
KHC	**Kasperske Hory**	**147.09 352**	*e*PKP2	**PKPbc**	**09 42 32.2 -0.5**
KHC	**Kasperske Hory**	**147.09 352**	*e*PKP	**PKPab**	**09 42 34.1 -0.1**
KHC			*ep*PKP	**pPKPdf**	**09 42 38.0 +2.1**
KHC			*ex*	x	09 43 01.0
KHC	**Kasperske Hory**	**147.09 352**	*e*PKPbc	**PKPbc**	**09 42 32.2 -0.5**
ISR	**Istrita**	**147.14 334**	⇑PKP2	**PKPab**	**09 42 35.8 +1.2**
ISR	**Istrita**	**147.14 334**	⇑*i*P	**PKPab**	**09 42 35.8 +1.2**
DRGR		**147.16 340**	⇓PKP2	**PKPab**	**09 42 34.2 -0.4**
DRGR		**147.16 340**	⇓*i*P	**PKPab**	**09 42 34.2 -0.4**
WET	**Wettzell**	**147.17 353**	*e*PKP2	**PKPab**	**09 42 35.0 +0.5**
WET	**Wettzell**	**147.17 353**	*e*PKPbc	**PKPab**	**09 42 35.0 +0.5**
BR131	**Keskin Array S**	**147.29 320**	*e*PKPdf	**PKPbc**	**09 42 30.3 -1.1**
BRTR	**Keskin Array B**	**147.29 320**	PKPbc	**PKPbc**	**09 42 33.7 0.0**
BRTR	**Keskin Array B**	**147.29 320**	PKPbc	**PKPbc**	**09 42 33.7 0.0**
	comp=Z,8.9nm,0.9s,baz=116,slow=2.9,SNR=26				
GEC2	**GERESS Array S**	**147.35 352**	*e*PKP2	**PKPbc**	**09 42 33.8 +0.3**
GEC2	**GERESS Array S**	**147.35 352**	*e*PKPbc	**PKPbc**	**09 42 33.8 +0.3**
GEC2	**GERESS Array S**	**147.35 352**	*e*PKPab	**PKPab**	**09 42 34.9 -0.5**
GERES	**GERESS Array B**	**147.35 352**	PKPbc	**PKPbc**	**09 42 33.1 -0.4**
GERES	**GERESS Array B**	**147.35 352**	PKPbc	**PKPbc**	**09 42 33.1 -0.4**
	comp=Z,3.4nm,0.9s,baz=42,slow=2.2,SNR=16				
ZST	**Bratislava**	**147.39 347**	*e*PKP2	**PKPbc**	**09 42 33.9 +0.4**
ZST	**Bratislava**	**147.39 347**	*e*PKP	**PKPbc**	**09 42 33.9 +0.4**
VOIR		**147.48 336**	⇑PKP2	**PKPab**	**09 42 35.9 0.0**
VOIR		**147.48 336**	⇑*i*P	**PKPab**	**09 42 35.9 0.0**
LANF	**Langenberg**	**147.68 359**	PKP	**PKPab**	**09 42 36.8 +0.3**
ARR	**Arges**	**147.70 326**	⇑*i*P	**PKPbc**	**09 42 34.7 +0.2**
ANTO	**Ankara**	**147.72 321**	⇓PKIKP	**PKPbc**	**09 42 34.0 -0.8**
ANTO	**Ankara**	**147.72 321**	⇓*i*P	**PKPbc**	**09 42 34.0 -0.8**
ANTO	**Ankara**	**147.72 321**	*e*PKPbc	**PKPbc**	**09 42 34.1 -0.8**
CONA	**Conrad Observa**	**147.89 349**	⇑*i*PKPbc	**PKPdf**	**09 42 32.5 +0.5**
	comp=Z,26nm,1.5s				
GULE	**Gulek**	**147.95 315**	*i* P	**PKPbc**	**09 42 35.3 -0.3**
SIRR	**Siria**	**147.97 341**	⇑*i*P	**PKPbc**	**09 42 36.1 +0.9**
BFO	**Black Forest**	**148.32 358**	*e*PKP2	**PKPbc**	**09 42 36.5 +0.5**
BFO	**Black Forest**	**148.32 358**	*e*PKPbc	**PKPbc**	**09 42 37.2 +1.2**
BFO	**Black Forest**	**148.32 358**	*e*PKPbc	**PKPbc**	**09 42 36.5 +0.5**
GZR	**Gura Zlata**	**148.36 339**	⇑PKP2	**PKPab**	**09 42 39.7 +0.3**
GZR	**Gura Zlata**	**148.36 339**	⇑*i*P	**PKPab**	**09 42 39.7 +0.3**
ECH	**Echery**	**148.45 360**	PKP	**PKPab**	**09 42 40.4 +0.8**
BZS	**Buzias**	**148.56 340**	⇑PKP2	**PKPab**	**09 42 42.6 +2.4**
BZS	**Buzias**	**148.56 340**	⇑*i*P	**PKPab**	**09 42 42.5 +2.4**
RJOB	**Jochberg**	**148.56 352**	*e*PKPbc	**PKPbc**	**09 42 37.9 +1.2**
ASF	**Jabal al Asfar**	**148.77 305**	PKPbc	**PKPbc**	**09 42 37.6 -0.2**
ASF	**Jabal al Asfar**	**148.77 305**	PKPbc	**PKPbc**	**09 42 37.6 -0.2**
	comp=Z,2.2nm,0.7s,baz=4.4,slow=6.4,SNR=6.2				
FELD	**Feldberg im Sc**	**148.78 359**	PKP	**PKPab**	**09 42 42.0 +0.9**
MOF	**Molkenrain**	**148.82 360**	PKP	**PKPab**	**09 42 42.8 +1.6**
LOMF	**Lomont**	**149.32 0**	PKP	**PKPbc**	**09 42 40.4 +1.7**
FETA	**Feichten**	**149.49 355**	⇓*i*PKiKP	**PKPbc**	**09 42 39.2 0.0**
	comp=Z,20nm,1.2s				
ABTA	**Abfaltersbach**	**149.57 352**	⇑*i*PKPbc	**PKPbc**	**09 42 37.4 -2.0**
	comp=Z,10nm,1.0s				
MMAI	**Mount Meron Ar**	**149.58 308**	PKPbc	**PKPbc**	**09 42 40.0 +0.2**
MMAI	**Mount Meron Ar**	**149.58 308**	PKPbc	**PKPbc**	**09 42 40.0 +0.2**
	comp=Z,1.1nm,0.3s,baz=36,slow=6.2,SNR=6.1				
TUE	**Stuetta**	**150.13 357**	*e*PKPbc	**PKPbc**	**09 42 40.9 0.0**
SENIN	**Lac Senin/Sane**	**150.30 360**	*e*PKPab	**PKPab**	**09 42 52.0 +4.5**
VTS	**Vitosha**	**150.59 335**	⇑PKIKP	**PKPbc**	**09 42 42.3 +0.3**
VTS	**Vitosha**	**150.59 335**	⇑*i*P	**PKPbc**	**09 42 42.3 +0.3**
BALY	**Balya**	**150.75 326**	*i* P	**PKPbc**	**09 42 41.0 -1.4**
EIL	**Elat**	**151.25 302**	PKPbc	**PKPbc**	**09 42 44.1 +0.4**
EIL	**Elat**	**151.25 302**	PKPbc	**PKPbc**	**09 42 44.1 +0.4**
	comp=Z,4.5nm,0.8s,baz=80,slow=11,SNR=3.0				
SSB	**Saint Sauveur**	**151.32 4**	*e*PKIKP	**PKPbc**	**09 42 43.7 +0.2**
SSB	**Saint Sauveur**	**151.32 4**	*e*PKPbc	**PKPbc**	**09 42 43.7 +0.2**
ESDC	**Sonseca Array**	**155.09 20**	PKPab	**PKPab**	**09 43 07.3 -0.2**
ESDC	**Sonseca Array**	**155.09 20**	PKPab	**PKPab**	**09 43 07.3 -0.2**
	comp=Z,0.1nm,0.3s,baz=320,slow=2.7,SNR=3.2				
TORD	**Torodi Ar. Bea**	**173.86 123**	PKP	**PKPdf**	**09 42 58.9 -1.3**
TORD			PKPab	**PKPab**	**09 44 30.5 -0.1**
TORD			PP	**PP**	**09 48 23.5 +1.2**
	comp=Z,1.9nm,1.0s,baz=312,slow=1.0,SNR=9.5				
TORD			PKPab	**PKPab**	**09 44 30.5 -0.1**
	comp=Z,3.4nm,0.9s,baz=253,slow=3.8,SNR=12				
TORD			PP	**PP**	**09 48 23.5 +1.2**
	comp=Z,0.6nm,1.0s,baz=283,slow=3.1,SNR=2.8				

NNC 05 09:26:58.7±3.2, 53°.55N × 87°.26E, h0km, mb 3.8, mpv 3.5, 6C-5D, Error ellipse: s-maj=23.4km s-min=20.0km az=45.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**6.03**	**245**	⇑Pn		Pn	09 28 29.4	+0.4
	1.2nm,0.7s							
KURK				⇓Sn		Sn	09 29 39.4	+0.7
	1.5nm,0.5s							
KURK				⇓Lg		Lg	09 30 10.1	
	16nm,1.2s							
KURBB	**Kurchatov Arra**	**6.12**	**245**	⇑Pn		Pn	09 28 31.3	+0.9
	3.9nm,0.4s							
KURBB				⇓Sn		Sn	09 29 43.0	+1.9
	10nm,0.8s							
KURBB				⇑Lg		Lg	09 30 14.4	
	14nm,1.1s							
MK31	**Makanchi Array**	**7.47**	**207**	⇑Pn		Pn	09 28 48.9	-0.1
	2.6nm,0.9s,baz=29,slow=13,SNR=21							
MK31				⇓Sn		Sn	09 30 15.3	+0.9
	1.0nm,0.6s,baz=37,slow=26,SNR=3.7							
MK31				⇑Lg		Lg	09 30 53.5	
	11nm,1.2s,baz=38,slow=30,SNR=3.5							
VOSK	**Vostochnaya**	**9.82**	**272**	⇑Pn		Pn	09 29 20.3	-0.7
	1.0nm,0.5s							
VOSK				⇓Sn		Sn	09 31 11.3	-0.6
	5.3nm,1.1s							

ROM 05 09:40:19.4±0.1, 43°.13N × 13°.44E, h26km, Md1.5/3, Ml1.7/3, Error ellipse: s-maj=1.9km s-min=0.6km az=128.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.27**	**250**	Pg		Pb	09 40 26.3	+0.1
FDMO				Sg		Sb	09 40 31.3	+0.5
	39nm,0.1s							
GUMA	**Gualdo di Mace**	**0.37**	**100**	Pg		Pb	09 40 24.3	-3.3
GUMA				Sg		Sb	09 40 27.8	-5.4
	205nm,0.3s							
NRCA	**Norcia**	**0.38**	**219**	Pg		Pb	09 40 27.8	0.0
NRCA				Sg		Sb	09 40 34.1	+0.5
	52nm,0.2s							

IDC 05 09:42:54.4±0.7, 2°.12N × 128°.73E, h0km, mb 3.8/12, mb1 3.9/12, mb1mx3.8/23, mbtmp3.8/12, MS4.2/2, Ms1 4.2/2, ms1mx3.4/32, Error ellipse: s-maj=44.9km s-min=14.1km az=77.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.33**	**188**	P		Pn	09 47 33.8	-0.5
	0.8nm,0.4s,baz=18,slow=13,SNR=4.4							
WRA	**Warramunga Arr**	**22.61**	**166**	P		P	09 47 56.6	-0.4
	1.7nm,0.7s,baz=345,slow=10,SNR=20							
ASAR	**Alice Springs**	**26.13**	**169**	P		P	09 48 30.4	-0.1
	1.1nm,0.6s,baz=353,slow=7.6,SNR=6.8							
KSRS	**Korea Array**	**35.17**	**359**	P		P	09 49 50.5	+0.4
	1.2nm,0.7s,baz=173,slow=8.5,SNR=5.3							
STKA	**Stephens Creek**	**35.95**	**161**	P		P	09 49 56.8	-0.1
	0.8nm,0.4s,baz=328,slow=8.9,SNR=4.8							
SONM	**Songino Array**	**49.46**	**340**	P		P	09 51 46.7	+0.1
	0.9nm,0.8s,baz=154,slow=8.7,SNR=5.2							
PETK	**Petropavlovsk-**	**56.19**	**21**	P		P	09 52 37.0	+0.9
	5.6nm,1.1s,baz=214,slow=10,SNR=3.6							
MKAR	**Makanchi Array**	**60.00**	**325**	P		P	09 53 03.6	+0.6
	1.3nm,0.7s,baz=121,slow=8.2,SNR=14							
ZALV	**Zalesovo Beam**	**62.92**	**333**	LR		LR	10 24 46.8	
	comp=Z,132nm,19.2s,baz=159,slow=40							
KURBB	**Kurchatov Arra**	**64.16**	**327**	P		P	09 53 30.5	-0.3
	1.1nm,0.5s,baz=127,slow=6.2,SNR=9.6							
BVAR	**Borovoye Array**	**69.75**	**327**	P		P	09 54 05.3	-1.0
	0.7nm,0.6s,baz=72,slow=6.2,SNR=2.6							
VNDA	**Vanda**	**81.60**	**173**	P		P	09 55 13.6	-0.2
	0.8nm,0.8s,baz=347,slow=3.4,SNR=4.2							
ILAR	**Eielson Array**	**85.69**	**25**	P		P	09 55 34.3	-0.7
	0.3nm,0.8s,baz=251,slow=5.5,SNR=4.7							
AKASG	**Malin Array Be**	**94.39**	**321**	LR		LR	10 45 34.4	
	comp=Z,130nm,21.2s,baz=60,slow=40							

IDC 05 09:43:49.2±2.7, 15°.55S × 173°.36W, h0km, mb 3.8/5, mb1 4.2/5, mb1mx3.9/19, mbtmp3.8/5, MS3.7/2, Ms1 3.7/2, ms1mx3.2/30, Error ellipse: s-maj=160.9km s-min=23.3km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.23**	**43**	Pn		Pn	09 44 23.5	-4.1
	83nm,0.3s,baz=143,slow=1.1,SNR=38							
AFI				Sn		Sn	09 44 43.2	-13
	235nm,0.3s,baz=75,slow=22,SNR=28							
URZ	**Urewera**	**24.14**	**199**	LR		LR	09 57 37.6	
	comp=Z,198nm,20.6s,baz=148,slow=34							
RPZ	**Rata Peaks**	**31.06**	**202**	LR		LR	09 59 49.9	
	comp=Z,102nm,18.6s,baz=209,slow=31							
H11S2	**WAKE ISLAND Hy**	**39.12**	**329**	T		T	10 32 38.9	
	baz=152,slow=0.7,SNR=4.2							
H11S3	**WAKE ISLAND Hy**	**39.13**	**329**	T		T	10 32 39.8	
	baz=152,slow=0.7,SNR=5.3							
H11S1	**WAKE ISLAND Hy**	**39.13**	**329**	T		T	10 32 40.1	
	baz=152,slow=0.7,SNR=5.0							
H11N3	**WAKE ISLAND Hy**	**40.06**	**330**	T		T	10 33 51.0	
	baz=154							
H11N1	**WAKE ISLAND Hy**	**40.07**	**330**	T		T	10 33 51.4	
	baz=154							
H11N2	**WAKE ISLAND Hy**	**40.08**	**330**	T		T	10 33 52.3	
	baz=154							
WRA	**Warramunga Arr**	**49.85**	**257**	P		P	09 52 44.1	-0.5
	0.6nm,0.5s,baz=91,slow=7.1,SNR=13							
ASAR	**Alice Springs**	**50.10**	**252**	P		P	09 52 46.2	-0.3
	1.3nm,0.5s,baz=88,slow=8.0,SNR=26							
NVAR	**Mina Array Bea**	**74.41**	**42**	P		P	09 55 29.4	-0.1
	0.9nm,0.7s,baz=232,slow=11,SNR=9.6							
PDAR	**Pinedale Array**	**82.35**	**42**	P		P	09 56 13.3	0.0
	0.6nm,0.8s,baz=209,slow=2.4,SNR=6.2							
ILAR	**Eielson Array**	**82.58**	**11**	P		P	09 56 12.9	-0.8
	0.4nm,0.9s,baz=230,slow=6.5,SNR=5.3							
BRTR	**Keskin Array B**	**146.30**	**321**	PKPbc		PKPab	10 03 33.3	+0.2
	0.6nm,0.7s,baz=338,slow=1.6,SNR=3.0							

*IDC **05** 09:46:57.7±1.1, 10°.65N × 91°.47E, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.8/29, mbtmp3.9/9, Error ellipse: s-maj=40.6km s-min=16.2km az=59.0*
*ISCJB **05** 09:46:58.7±0.8, 10°.71N±0°.10 × 91°.6E±0°.1, h17km, mb4.0/10, Error ellipse: s-maj=22.5km s-min=11.6km az=154.2*
*NEIC **05** 09:46:59.4±0.6, 10°.70N × 91°.57E, h10km, mb4.5/2, Error ellipse: s-maj=16.7km s-min=9.1km az=66.0*
ISC 05 09:47:00.5±1.0, 10°.7N±0°.1 × 91°.6E±0°.2, h17km, n24, σ0s64/21, mb4.1/10, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.49**	**42**	Pn		**Pn**	**09 49 29.5**	**-0.7**
CMAR	**Chiang Mai Arr**	**10.49**	**42**	Pn		**Pn**	**09 49 29.5**	**-0.7**
	baz=234,slow=13							
ENH	**Enshi**	**25.62**	**38**	P		**P**	**09 52 29.5**	**+0.3**
	8.9nm,0.7s							
H08S3	**Diego Garcia H**	**26.33**	**227**	T		T	10 20 08.5	
	baz=47,slow=0.7							
H08S2	**Diego Garcia H**	**26.34**	**227**	T		T	10 20 09.8	
	baz=47							
H08S1	**Diego Carcia H**	**26.35**	**227**	T		T	10 20 12.9	
	baz=47,slow=0.7							
MK31	**Makanchi Array**	**36.80**	**349**	*e*P		**P**	**09 54 08.1**	**+0.6**
MKAR	**Makanchi Array**	**36.80**	**349**	P		**P**	**09 54 08.0**	**+0.4**
MKAR	**Makanchi Array**	**36.80**	**349**	P		**P**	**09 54 08.0**	**+0.4**
	1.2nm,0.6s,baz=168,slow=8.4,SNR=7.4							
SONM	**Songino Array**	**39.04**	**16**	P		**P**	**09 54 27.3**	**+0.8**
SONM	**Songino Array**	**39.04**	**16**	P		**P**	**09 54 27.3**	**+0.8**
	1.7nm,0.6s,baz=199,slow=8.2,SNR=12							
KURBB	**Kurchatov Arra**	**41.20**	**347**	P		**P**	**09 54 44.9**	**+0.7**
	0.4nm,0.3s,baz=166,slow=7.4,SNR=5.3							
KURK	**Kurchatov**	**41.27**	**348**	P		**P**	**09 54 44.9**	**+0.1**
FITZ	**Fitzroy Crossi**	**44.18**	**130**	P		**P**	**09 55 08.3**	**-0.6**
FITZ	**Fitzroy Crossi**	**44.18**	**130**	P		**P**	**09 55 08.3**	**-0.6**
	3.0nm,0.9s,baz=331,slow=9.2,SNR=4.1							
WRA	**Warramunga Arr**	**51.98**	**126**	P		**P**	**09 56 09.1**	**-0.2**
WRA	**Warramunga Arr**	**51.98**	**126**	P		**P**	**09 56 09.1**	**-0.2**
	1.9nm,0.7s,baz=305,slow=8.3,SNR=15							
WRAB	**Tennant Creek**	**51.98**	**126**	*e*P		**P**	**09 56 08.7**	**-0.5**
	2.8nm,0.6s							
ASAR	**Alice Springs**	**53.68**	**130**	P		**P**	**09 56 21.7**	**-0.1**
ASAR	**Alice Springs**	**53.68**	**130**	P		**P**	**09 56 21.7**	**-0.1**
	2.2nm,0.8s,baz=306,slow=6.7,SNR=22							
BRTR	**Keskin Array B**	**58.66**	**310**	P		**P**	**09 56 56.4**	**-1.0**
BRTR	**Keskin Array B**	**58.66**	**310**	P		**P**	**09 56 56.4**	**-1.0**
	0.3nm,0.4s,baz=101,slow=7.5,SNR=2.8							
STKA	**Stephens Creek**	**63.90**	**133**	P		**P**	**09 57 33.4**	**+0.7**
STKA	**Stephens Creek**	**63.90**	**133**	P		**P**	**09 57 33.4**	**+0.7**
	0.8nm,0.5s,baz=321,slow=6.5,SNR=2.3							

IDC 05 10:01:10.9±0.9, 12°.07N × 143°.16E, h0km, mb 3.9/9, mb1 4.1/9, mb1mx3.9/25, mbtmp3.9/9, Error ellipse: s-maj=41.9km s-min=19.3km az=95.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
H11N1	**WAKE ISLAND Hy**	**24.04**	**69**	T		T	10 31 42.5	
	baz=258,slow=0.7,SNR=6.3							
H11N2	**WAKE ISLAND Hy**	**24.05**	**69**	T		T	10 31 38.3	
	baz=258,slow=0.7,SNR=4.4							
H11N3	**WAKE ISLAND Hy**	**24.05**	**69**	T		T	10 31 40.0	
	baz=258,slow=0.7,SNR=4.6							
MJAR	**Matsushiro Arr**	**24.77**	**350**	P		P	10 06 33.8	-0.6
	0.4nm,0.6s,baz=174,slow=12,SNR=3.7							
WRA	**Warramunga Arr**	**32.97**	**195**	P		P	10 07 47.3	-0.4
	1.7nm,0.9s,baz=19,slow=9.8,SNR=9.0							
ASAR	**Alice Springs**	**36.65**	**194**	P		P	10 08 19.4	0.0
	0.3nm,0.5s,baz=26,slow=12,SNR=9.3							
SONM	**Songino Array**	**47.04**	**327**	P		P	10 09 45.5	+1.1
	0.5nm,0.5s,baz=151,slow=7.1,SNR=3.9							
MKAR	**Makanchi Array**	**61.44**	**317**	P		P	10 11 30.0	+0.8
	0.4nm,0.7s,baz=85,slow=5.5,SNR=4.5							
ILAR	**Eielson Array**	**70.65**	**25**	P		P	10 12 27.4	-0.7
	1.7nm,0.5s,baz=247,slow=6.0,SNR=44							
ARCES	**ARCESS Array B**	**88.00**	**342**	P		P	10 14 02.5	-0.2
	0.5nm,0.4s,baz=81,slow=7.6,SNR=10.0							
NVAR	**Mina Array Bea**	**89.17**	**51**	P		P	10 14 11.0	+1.9
	0.5nm,0.7s,baz=274,slow=6.2,SNR=5.7							
FINES	**FINESS Array B**	**91.82**	**335**	P		P	10 14 18.7

CUKT	**Cukurca**	**3.39**	**124**	*e*PN	**Pn**	**10 19 35.2 +0.1**
CUKT	**Cukurca**	**3.39**	**124**	*e*Pn	**Pn**	**10 19 35.2 +0.1**

WEL 05 10:27:02.1±0.3, 37.87S×176.12E, h252km±4km, ML3.6/10, 1C, Error ellipse: s-maj=8.0km s-min=6.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.87**	**117**	PN	Pn	10 27 36.9	+0.3
URZ				SN	S	10 28 03.7	-0.1
MWZ	**Matawai**	**1.20**	**113**	*e*PN	Pn	10 27 38.5	-0.1
MWZ				SN	S	10 28 06.5	-0.8
MWZ				AML	AML	10 28 09.7	
BKZ	**Black Stump Fm**	**1.33**	**168**	⇑PN	Pn	10 27 39.8	+0.3
BKZ				SN	S	10 28 08.5	-0.4
BKZ				AML	AML	10 28 12.8	
WNVZ	**Wahianoa**	**1.52**	**196**	PN	Pn	10 27 40.8	-0.1
MOVZ	**Moawhango**	**1.57**	**191**	PN	Pn	10 27 40.8	-0.3
MOVZ				SN	S	10 28 11.4	-0.7
BHHZ	**Black Hill Sta**	**1.62**	**182**	PN	Pn	10 27 41.6	0.0
TSZ	**Takapari Road**	**2.19**	**183**	PN	Pn	10 27 46.0	-0.5
TSZ				SN	S	10 28 21.0	-0.7
DVHZ	**Dannevirke**	**2.43**	**179**	PN	Pn	10 27 48.5	-0.3
MRZ	**Mangatainoka R**	**2.82**	**188**	PN	Pn	10 27 51.5	-1.3
MRZ				SN	S	10 28 30.9	-2.0
MRZ				AML	AML	10 28 32.9	
OGWZ	**Otaki Gorge**	**3.04**	**194**	PN	Pn	10 27 53.7	-1.4
HOWZ	**Holdsworth Sta**	**3.07**	**189**	PN	Pn	10 27 53.9	-1.4
KIW	**Kapiti Island**	**3.14**	**197**	PN	Pn	10 27 54.6	-1.5
CAW	**Cannon Point**	**3.34**	**194**	PN	Pn	10 27 56.5	-1.8
TCW	**Tory Channel**	**3.63**	**203**	PN	Pn	10 27 59.7	-1.9
TUWZ	**Tuamarina**	**3.94**	**205**	PN	Pn	10 28 03.0	-2.1
NNZ	**Nelson**	**3.96**	**212**	PN	Pn	10 28 02.2	-3.2
QRZ	**Quartz Range**	**4.06**	**222**	PN	Pn	10 28 02.9	-3.8
THZ	**Tophouse**	**4.62**	**211**	PN	Pn	10 28 09.6	-3.6
KHZ	**Kahutara**	**4.96**	**203**	PN	Pn	10 28 14.7	-2.6
DSZ	**Denniston Nort**	**5.11**	**219**	PN	Pn	10 28 14.7	-4.5
LTZ	**Lake Taylor**	**5.73**	**210**	PN	Pn	10 28 22.9	-3.9
OXZ	**Oxford**	**6.28**	**208**	PN	Pn	10 28 28.9	-4.7
MQZ	**McQueen's Vall**	**6.40**	**203**	PN	Pn	10 28 30.5	-4.6

*IDC **05** 10:27:53.7±1.0,5.16S×102.24E, h0km, mb4.2/15, mb1 4.3/15, mb1mx4.1/25, mbtmp4.2/15, MS3.4/3, Ms1 3.5/3, ms1mx3.1/35, Error ellipse: s-maj=35.6km s-min=13.7km az=51.0*

*ISCJB **05** 10:27:57.8±0.5,5.17S±0.06×102.26E±0.04, h44km, mb4.2/18, MS3.9/1, Error ellipse: s-maj=8.3km s-min=5.4km az=18.4*

*NEIC **05** 10:27:59.2±0.5,5.08S×102.41E, h35km, mb4.5/3, Error ellipse: s-maj=19.5km s-min=6.6km az=224.0*

*DJA **05** 10:28:01.0±0.6,5°S±3'×10°3E±°, h10km, M4.7/11, mb4.9/2, mB5.2/2, MLv4.6/11, Mw(mB)4.6/2*

ISC 05 10:28:00.2±0.7,5.08S±0.08×102.35E±0.08, h44km, n62, σ0s90/48, mb4.3/18, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**0.93**	**40**	P	**Pn**	**10 28 16.3**	**-0.6**
MNAI				S	**Sn**	**10 28 30.2**	**+1.1**
KSI	**Kapahiang**	**1.44**	**10**	P	**Pn**	**10 28 23.9**	**0.0**
LWLI	**Liwa**	**1.70**	**88**	P	**Pn**	**10 28 27.5**	**0.0**
LWLI				S	**Sn**	**10 28 50.5**	**+2.3**
MDSI	**Maura Dua**	**1.91**	**72**	P	**Pn**	**10 28 29.5**	**-0.8**
MDSI				S	**Sn**	**10 28 54.1**	**+0.9**
KASI	**Kota Agung**	**2.18**	**102**	P	**Pn**	**10 28 33.5**	**-0.5**
KASI				S	**Sn**	**10 28 59.4**	**-0.4**
KLI	**Kotabumi**	**2.50**	**85**	P	**Pn**	**10 28 39.2**	**+0.7**
BLSI	**Bandar Lampung**	**2.90**	**96**	P	Pn	10 28 49.0	+5.1
PMBI	**Palembang**	**3.22**	**49**	P	Pn	10 28 53.1	+4.8
CBJI	**Citeko**	**4.67**	**107**	P	Pn	10 29 13.8	+5.6
PPBI	**Pangkal Pinang**	**4.76**	**53**	P	Pn	10 29 04.8	-4.7
PPI	**Padang Panjang** 69nm,0.7s,1μm0.4nm	**4.99**	**337**	P	Pn	10 29 19.6	+7.0
LEM	**Lembang**	**5.52**	**109**	P	Pn	10 29 27.8	+7.8
CISI	**Cisompet, Garu**	**5.96**	**115**	P	**Pn**	**10 29 27.6**	**+1.5**
PSI	**Prapat** comp=Z,160nm,18.6s,baz=344,slow=42	**8.54**	**336**	LR	LR	10 33 51.9	
KAPI	**Kappang**	**17.33**	**91**	Pn	**Pn**	**10 31 56.1**	**-3.0**
KAPI	**Kappang** comp=Z,63nm,18.3s,baz=288,slow=40	**17.33**	**91**	LR	LR	10 39 26.3	
BATI	**Baumata**	**21.72**	**105**	P	**P**	**10 32 46.6**	**-1.3**
BATI	**Baumata** 14nm,0.3s,baz=301,slow=19,SNR=4.2	**21.72**	**105**	P	**P**	**10 32 46.6**	**-1.3**
CMAR	**Chiang Mai Arr**	**23.62**	**352**	P	**P**	**10 33 06.8**	**-0.7**
CMAR	**Chiang Mai Arr** 2.0nm,0.3s,baz=184,slow=9.3,SNR=8.3	**23.62**	**352**	P	**P**	**10 33 06.8**	**-0.7**
FITZ	**Fitzroy Crossi**	**26.18**	**122**	P	**P**	**10 33 30.6**	**-0.3**
FITZ	**Fitzroy Crossi** 1.1nm,0.5s,baz=299,slow=10,SNR=4.7	**26.18**	**122**	P	**P**	**10 33 30.6**	**-0.3**
H08S2	**Diego Garcia H** baz=87,slow=0.7,SNR=15	**29.78**	**264**	T	T	11 04 58.2	
H08S3	**Diego Garcia H** baz=87,slow=0.7,SNR=69	**29.79**	**264**	T	T	11 05 01.4	
H08S1	**Diego Garcia H** baz=87,slow=0.7,SNR=47	**29.80**	**264**	T	T	11 05 02.2	
H08N1	**Diego Garcia H** baz=69,slow=0.2,SNR=12	**31.20**	**266**	T	T	11 07 16.2	
H08N2	**Diego Garcia H** baz=69,slow=0.2,SNR=11	**31.22**	**266**	T	T	11 07 31.2	
H08N3	**Diego Garcia H** baz=69,slow=0.2,SNR=10	**31.23**	**266**	T	T	11 07 21.7	
H01W3	**Cape Leeuwin H** baz=338,slow=0.7,SNR=25	**31.60**	**161**	T	T	11 07 02.0	
H01W2	**Cape Leeuwin H** baz=338,slow=0.7,SNR=22	**31.61**	**161**	T	T	11 07 02.9	
H01W1	**Cape Leeuwin H** baz=338,slow=0.7,SNR=17	**31.62**	**161**	T	T	11 07 03.5	
WRA	**Warramunga Arr**	**34.45**	**118**	P	**P**	**10 34 43.2**	**-0.8**
WRA	**Warramunga Arr** 0.6nm,0.3s,baz=306,slow=8.5,SNR=26	**34.45**	**118**	P	**P**	**10 34 43.2**	**-0.8**
WRAB	**Tennant Creek**	**34.45**	**118**	*e*P	**P**	**10 34 43.0**	**-1.1**
ASAR	**Alice Springs**	**35.57**	**124**	P	**P**	**10 34 53.6**	**0.0**
ASAR	**Alice Springs** 0.6nm,0.5s,baz=294,slow=7.6,SNR=16	**35.57**	**124**	P	**P**	**10 34 53.6**	**0.0**
AS31	**Alice Springs**	**35.57**	**124**	*e*P	**P**	**10 34 53.8**	**+0.1**
STKA	**Stephens Creek**	**45.37**	**131**	P	**P**	**10 36 14.9**	**+0.4**
STKA	**Stephens Creek** 5.8nm,0.6s,baz=308,slow=8.1,SNR=23	**45.37**	**131**	P	**P**	**10 36 14.9**	**+0.4**
KSAR	**Wonju Array Be**	**48.53**	**27**	P	**P**	**10 36 39.6**	**+0.6**
KSRS	**Korea Array** 0.5nm,0.4s,baz=229,slow=6.7,SNR=3.4	**48.56**	**27**	P	**P**	**10 36 39.6**	**+0.4**
SONM	**Songino Array**	**52.81**	**3**	P	**P**	**10 37 12.3**	**+1.0**
SONM	**Songino Array** 5.1nm,0.9s,baz=182,slow=10.0,SNR=22	**52.81**	**3**	P	**P**	**10 37 12.3**	**+1.0**
MJAR	**Matsushiro Arr**	**53.27**	**36**	P	**P**	**10 37 15.9**	**+1.2**
MJAR	**Matsushiro Arr** 0.7nm,0.5s,baz=201,slow=6.7,SNR=4.3	**53.27**	**36**	P	**P**	**10 37 15.9**	**+1.2**
TKM2	**Tokmak 2** 3.1nm,0.6s	**53.58**	**336**	*e*P	**P**	**10 37 17.6**	**+0.5**
EKS2	**Erkin-Say** 2.2nm,0.7s	**54.13**	**334**	*e*P	**P**	**10 37 21.2**	**+0.2**
MK31	**Makanchi Array**	**54.62**	**343**	*e*P	**P**	**10 37 24.4**	**0.0**
MKAR	**Makanchi Array**	**54.62**	**343**	P	**P**	**10 37 24.4**	**0.0**
MKAR	**Makanchi Array** 2.8nm,0.7s,baz=146,slow=8.4,SNR=33	**54.62**	**343**	P	**P**	**10 37 24.4**	**0.0**
USRK	**Ussuriysk Arra** 2.9nm,0.8s,baz=205,slow=8.4,SNR=4.9	**55.83**	**25**	P	**P**	**10 37 33.0**	**-0.1**
KKAR	**Karatay Array**	**55.95**	**332**	*e*P	**P**	**10 37 33.8**	**-0.3**
ZALV	**Zalesovo Beam**	**60.62**	**348**	P	**P**	**10 38 06.7**	**+0.3**
ZALV	**Zalesovo Beam** 3.3nm,0.3s,baz=174,slow=6.0,SNR=5.6	**60.62**	**348**	P	**P**	**10 38 06.7**	**+0.3**
ABKAR	**Akbulak array** 5.1nm,0.7s	**65.45**	**331**	*e*P	**P**	**10 38 38.5**	**-0.1**
KBZ	**Khabaz**	**72.15**	**319**	P	**P**	**10 39 19.3**	**-1.1**
KBZ	**Khabaz** 0.8nm,0.3s,baz=109,slow=7.8,SNR=3.8	**72.15**	**319**	P	**P**	**10 39 19.3**	**-1.1**
BRTR	**Keskin Array B**	**77.12**	**313**	P	**P**	**10 39 49.5**	**0.0**
BRTR	**Keskin Array B** 1.2nm,0.7s,baz=100,slow=6.4,SNR=6.5	**77.12**	**313**	P	**P**	**10 39 49.5**	**0.0**
VNDA	**Vanda** comp=Z,55nm,18.2s,baz=193,slow=34	**78.71**	**169**	LR	LR	11 13 08.2	
FINES	**FINESS Array B**	**87.91**	**332**	P	**P**	**10 40 45.5**	**+0.6**
FINES	**FINESS Array B** 4.4nm,1.0s,baz=92,slow=10,SNR=4.9	**87.91**	**332**	P	**P**	**10 40 45.5**	**+0.6**

*ISCJB **05** 10:31:27.4±0.5,55.66N±0.07×158.38W±0.08, h72km±5km, mb3.8/12, Error ellipse: s-maj=12.6km s-min=3.5km az=148.3*

*NEIC **05** 10:31:28.9,55.61N×158.35W, h33km, ML3.8(AEIC), After AEIC.*

NEIC Felt at Chignik.

*IDC **05** 10:31:29.3±3.6,56.07N±158.61W, h51km±30km, mb3.7/12, mb1 3.9/16, mb1mx3.7/30, mbtmp3.7/16, ML3.8/4, MS3.3/1, Ms1 3.3/1, ms1mx2.5/43, Error ellipse: s-maj=26.8km s-min=15.3km az=16.0*

ISC 05 10:31:28.5±1.1, 55.66N±0.08×158.40W±0.05, h59km±10km, n93, σ1s08/96, mb3.8/12, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHGN	**Chignik**	**0.64**	**359**	P	**Pn**	**10 31 41.0**	**-1.0**
VNHG	**Veniaminof 1**	**0.71**	**323**	P	**Pn**	**10 31 42.7**	**-0.2**
ANPB	**Aniakchak Plen**	**1.15**	**3**	P	**Pn**	**10 31 48.0**	**-0.4**
ANPK	**Aniakchak Peak**	**1.19**	**7**	P	**Pn**	**10 31 48.9**	**-0.2**
SDPT	**Sand Point**	**1.22**	**256**	P	**Pn**	**10 31 49.3**	**-0.1**
SDPT				S	**Sn**	**10 32 04.8**	**-0.1**
ANNW	**Aniakchak Nort**	**1.31**	**4**	P	**Pn**	**10 31 51.2**	**+0.5**
PS4A	**Pavlof South-4**	**1.99**	**262**	P	**Pn**	**10 31 59.6**	**-0.2**
DOL	**Dolgoi Island**	**2.04**	**257**	P	**Pn**	**10 32 00.2**	**-0.3**
PLBL	**Peulik Blue Cr**	**2.22**	**22**	P	**Pn**	**10 32 03.7**	**+0.7**
DTNA	**Dutton South F**	**2.26**	**258**	P	**Pn**	**10 32 03.3**	**-0.1**
DT1	**Dutton Round H**	**2.28**	**258**	P	**Pn**	**10 32 03.5**	**-0.2**
DRIA	**Deer Island**	**2.32**	**254**	P	**Pn**	**10 32 04.0**	**-0.2**
PLK3	**Peulik 3**	**2.35**	**29**	P	**Pn**	**10 32 05.9**	**+1.2**
PLK3				S	**Sn**	**10 32 34.1**	**+1.7**
PLK1	**Peulik 1**	**2.36**	**24**	P	**Pn**	**10 32 05.4**	**+0.6**
PLK5	**Peulik 5**	**2.49**	**19**	P	**Pn**	**10 32 07.5**	**+1.0**
KJL	**Kejulik**	**2.86**	**32**	P	**Pn**	**10 32 12.7**	**+1.1**
CAHL	**Cahill**	**2.94**	**34**	P	**Pn**	**10 32 13.6**	**+0.9**
FALS	**False Pass**	**2.98**	**256**	P	**Pn**	**10 32 14.1**	**+0.8**
FALS				S	**Sn**	**10 32 48.9**	**+1.1**
KABR	**Katmai Barrier**	**3.11**	**36**	P	**Pn**	**10 32 15.8**	**+0.7**
KELA	**Mount Kelaz**	**3.14**	**26**	P	**Pn**	**10 32 16.5**	**+1.0**
KAKN	**Katmai Knife C**	**3.21**	**33**	P	**Pn**	**10 32 17.3**	**+0.8**
OHAK	**Old Harbor**	**3.24**	**59**	P	**Pn**	**10 32 16.8**	**0.0**
OHAK				S	**Sn**	**10 32 53.7**	**-0.3**
SSLW	**Shishaldin Wes**	**3.40**	**257**	P	**Pn**	**10 32 19.8**	**+0.8**
SSBA	**Shishaldin**	**3.40**	**257**	P	**Pn**	**10 32 19.7**	**+0.6**
KAPH	**Katmai Pasha**	**3.68**	**35**	P	**Pn**	**10 32 24.3**	**+1.4**
WESN	**West Dahl Nort**	**3.72**	**255**	P	**Pn**	**10 32 24.1**	**+0.7**
KDAK	**Kodiak Island**	**3.84**	**54**	P	**Pn**	**10 32 25.0**	**0.0**
KDAK				S	**Sn**	**10 33 06.8**	**-2.1**
KDAK	**Kodiak Island** 17nm,0.3s,baz=238,slow=6.8,SNR=214	**3.84**	**54**	P	**Pn**	**10 32 25.0**	**0.0**
KDAK	14nm,0.3s,baz=122,slow=23,SNR=6.7			S	**Sn**	**10 33 06.8**	**-2.1**
MCNL	**McNeil River**	**4.16**	**30**	P	**Pn**	**10 32 30.6**	**+1.2**
AUI	**Augustine Isla**	**4.56**	**34**	P	**Pn**	**10 32 35.8**	**+1.1**
OPT	**Oil Point**	**4.87**	**33**	P	**Pn**	**10 32 40.1**	**+1.0**
CNPM	**China Poot**	**5.46**	**42**	P	**Pn**	**10 32 47.5**	**+0.3**
SVW2	**Sparrevohn**	**5.65**	**14**	P	**Pn**	**10 32 50.7**	**+1.0**
RDWB	**Redoubt West**	**5.67**	**29**	P	**Pn**	**10 32 51.1**	**+1.0**
RSO	**Redoubt South** 88nm,0.7s	**5.67**	**30**	*e*Pn	**Pn**	**10 32 51.1**	**+0.9**
NCT	**North Crescent**	**5.70**	**28**	P	**Pn**	**10 32 51.9**	**+1.3**
BRLK	**Bradley Lake**	**5.75**	**41**	P	**Pn**	**10 32 50.8**	**-0.4**
CKL	**Chakachamna La**	**6.40**	**27**	P	**Pn**	**10 33 01.4**	**+1.3**
SPU	**Mount Spurr**	**6.46**	**28**	P	**Pn**	**10 33 02.6**	**+1.8**
SLKM	**Skilak Lake**	**6.51**	**38**	P	**Pn**	**10 33 01.7**	**+0.2**
SEW	**Seward**	**6.53**	**43**	P	**Pn**	**10 33 00.9**	**-0.8**
STLK	**Strandline Lak**	**6.78**	**28**	P	**Pn**	**10 33 06.1**	**+0.8**
TT01	**Tatalina**	**7.37**	**9**	P	**Pn**	**10 33 12.8**	**-0.5**
PWL	**Port Wells**	**7.43**	**41**	P	**Pn**	**10 33 13.7**	**-0.5**
PMR	**Palmer**	**7.66**	**35**	P	**Pn**	**10 33 16.8**	**-0.5**
PPLA	**Purkeypile**	**7.92**	**21**	P	**Pn**	**10 33 21.9**	**+1.0**
CAST	**Castle Rocks**	**8.41**	**20**	P	**Pn**	**10 33 28.3**	**+0.8**
KLU	**Klutina**	**8.75**	**43**	P	**Pn**	**10 33 31.9**	**-0.3**
TRF	**Thorofare Moun**	**8.82**	**24**	P	**Pn**	**10 33 33.6**	**+0.3**
BPAW	**Bear Paw Mtn.**	**9.24**	**21**	P	**Pn**	**10 33 39.3**	**+0.5**
MCK	**McKinley**	**9.39**	**27**	P	**Pn**	**10 33 39.9**	**-1.0**
BARK	**Barkley Ridge**	**9.67**	**54**	P	**Pn**	**10 33 44.6**	**-0.2**
PAX	**Paxson**	**9.85**	**37**	P	**Pn**	**10 33 47.3**	**+0.1**
BAGL	**Bagley Icefiel**	**9.89**	**54**	P	**Pn**	**10 33 47.5**	**-0.2**
KIAG	**Kiagna River**	**9.94**	**51**	P	**Pn**	**10 33 47.9**	**-0.7**
BALM	**Baldy**	**10.00**	**51**	P	**Pn**	**10 33 48.9**	**-0.3**
MENT	**Mentasta**	**10.44**	**40**	*e*Pn	**Pn**	**10 33 56.5**	**+1.2**
IM04	**Indian Mountai**	**10.59**	**10**	*e*Pn	**Pn**	**10 33 58.0**	**+0.8**
COLA	**College** 27nm,0.9s	**10.60**	**25**	*e*Pn	**Pn**	**10 33 57.2**	**-0.2**
IMA2	**Indian Mountai**	**10.69**	**10**	*e*Pn	**Pn**	**10 33 59.3**	**+0.6**
ILAR	**Eielson Array**	**10.76**	**27**	P	**Pn**	**10 33 57.1**	**-2.4**
ILAR				S	Sn	10 35 50.0	-8.3
ILAR	**Eielson Array** 1.1nm,0.3s,baz=217,slow=14,SNR=46	**10.76**	**27**	P	**Pn**	**10 33 57.1**	**-2.4**
ILAR	0.2nm,0.3s,baz=212,slow=7.9,SNR=3.5			S	Sn	10 35 50.0	-8.3
EGAK	**Eagle** 3.2nm,0.6s	**12.48**	**36**	*e*Pn	**Pn**	**10 34 22.5**	**-0.5**
DAWY	**Dawson**	**12.68**	**41**	*e*Pn	**Pn**	**10 34 27.0**	**+1.2**
DLBC	**Dease Lake**	**15.63**	**68**	P	**Pn**	**10 35 05.6**	**+0.8**
DLBC	**Dease Lake** 0.1nm,0.3s,baz=274,slow=7.5,SNR=4.0	**15.63**	**68**	P	**Pn**	**10 35 05.6**	**+0.8**
INK	**Inuvik**	**17.06**	**32**	P	**Pn**	**10 35 22.1**	**-0.4**
INK	**Inuvik** 0.2nm,0.3s,baz=216,slow=15,SNR=8.8	**17.06**	**32**	P	**Pn**	**10 35 22.1**	**-0.4**
YKA	**Yellowknife Ar**	**23.12**	**55**	P	**P**	**10 36 29.6**	**+0.5**
YKA	**Yellowknife Ar** 2.1nm,0.7s,baz=276,slow=10,SNR=4.1	**23.12**	**55**	P	**P**	**10 36 29.5**	**+0.5**
PETK	**Petropavlovsk-**	**25.38**	**283**	P	**P**	**10 36 48.8**	**-1.0**
PETK	**Petropavlovsk-** 3.1nm,0.8s,baz=92,slow=10,SNR=11	**25.38**	**283**	P	**P**	**10 36 48.8**	**-1.0**
NEW	**Newport**	**26.16**	**89**	P	**P**	**10 36 60.0**	**+3.0**
NEW	**Newport** 2.2nm,0.7s,baz=308,slow=4.4,SNR=4.3	**26.16**	**89**	P	**P**	**10 36 60.0**	**+3.0**
YBH	**Yreka Blue Hor** comp=Z,68nm,21.8s,baz=329,slow=31	**27.01**	**106**	LR	LR	10 45 23.1	
NVAR	**Mina Array Bea**	**31.74**	**106**	P	P	10 37 50.5	+3.7
NVAR	**Mina Array Bea** 0.8nm,0.7s,baz=306,slow=8.8,SNR=8.3	**31.74**	**106**	P	P	10 37 50.5	+3.7
PDAR	**Pinedale Array**	**33.69**	**92**	P	**P**	**10 38 06.2**	**+2.4**
PDAR	**Pinedale Array** 0.9nm,0.6s,baz=297,slow=5.3,SNR=8.1	**33.69**	**92**	P	**P**	**10 38 06.2**	**+2.4**
ULM	**Lac du Bonnet**	**36.91**	**72**	P	**P**	**10 38 31.9**	**+0.8**
ULM	**Lac du Bonnet** 1.7nm,0.5s,baz=318,slow=6.7,SNR=3.6	**36.91**	**72**	P	**P**	**10 38 31.9**	**+0.8**
SONM	**Songino Array**	**54.96**	**305**	P	**P**	**10 40 52.8**	**-0.4**
SONM	**Songino Array** 1.6nm,0.7s,baz=46,slow=6.8,SNR=8.4	**54.96**	**305**	P	**P**	**10 40 52.8**	**-0.4**
ARCES	**ARCESS Array B**	**55.08**	**358**	P	**P**	**10 40 52.7**	**-0.9**
ARCES	**ARCESS Array B** 1.6nm,0.8s,baz=28,slow=8.1,SNR=4.8	**55.08**	**358**	P	**P**	**10 40 52.7**	**-0.9**
FINES	**FINESS Array B**	**63.18**	**358**	P	**P**	**10 41 48.0**	**-1.7**
FINES	**FINESS Array B** 7.6nm,1.1s,baz=4.1,slow=5.9,SNR=3.3	**63.18**	**358**	P	**P**	**10 41 48.0**	**-1.7**
MKAR	**Makanchi Array**	**65.92**	**319**	P	**P**	**10 42 06.5**	**-1.3**
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=49,slow=6.0,SNR=6.1	**65.92**	**319**	P	**P**	**10 42 06.5**	**-1.3**
AKASG	**Malin Array Be**	**73.82**	**355**	P	**P**	**10 42 55.4**	**-0.7**
AKASG	**Malin Array Be** 0.5nm,0.3s,baz=8.9,slow=5.6,SNR=4.2	**73.82**	**355**	P	**P**	**10 42 55.4**	**-0.7**
GERES	**GERESS Array B**	**75.65**	**5**	P	**P**	**10 43 07.5**	**+0.5**
GERES	**GERESS Array B** 0.2nm,0.3s,baz=349,slow=9.0,SNR=3.1	**75.65**	**5**	P	**P**	**10 43 07.5**	**+0.5**

IDC 05 10:34:16.7±0.9, 1.88N×128.24E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.6/21, mbtmp3.6/7, Error ellipse: s-maj=90.9km s-min=16.6km az=74.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.8nm,0.6s,baz=346,slow=11,SNR=5.5	**22.50**	**165**	P	P	10 39 18.2	+0.2
ASAR	**Alice Springs** 0.3nm,0.7s,baz=350,slow=7.2,SNR=5.0	**25.98**	**168**	P	P	10 39 51.6	+0.3
KSRS	**Korea Array** 0.6nm,0.6s,baz=171,slow=8.8,SNR=4.0	**35.40**	**360**	P	P	10 41 14.3	0.0
STKA	**Stephens Creek** 0.6nm,0.4s,baz=346,slow=12,SNR=3.0	**35.88**	**160**	P	P	10 41 18.2	-0.3
SONM	**Songino Array** 0.4nm,0.4s,baz=151,slow=7.0,SNR=3.4	**49.53**	**341**	P	P	10 43 08.9	-0.4
MKAR	**Makanchi Array** 0.8nm,0.6s,baz=121,slow=8.0,SNR=10	**59.93**	**325**	P	P	10 44 24.9	+0.2
VNDA	**Vanda** 0.5nm,0.8s,baz=308,slow=8.6,SNR=3.5	**81.42**	**173**	P	P	10 46 35.0	0.0
TORD	**Torodi Ar. Bea** 0.4nm,0.8s,baz=101,slow=1.5,SNR=2.6	**124.92**	**287**	PKP	PKPdf	10 53 19.4	-0.4

*IDC **05** 10:40:40.2±0.8,52.20N×171.26W, h0km, mb4.0/17, mb1 4.2/19, mb1mx4.1/30, mbtmp4.0/19, ML3.8/2, MS3.4/1, Ms1 3.4/1, ms1mx2.7/41, Error ellipse: s-maj=26.6km s-min=13.5km az=164.0*

*NEIC **05** 10:40:46.0,52.21N×171.09W, h26km, mb3.9/3, ML4.0(AEIC), After AEIC.*

*ISCJB **05** 10:40:46.0±0.7,52.12N±0.1×171.16W±0.07, h55km±5km, mb4.0/17, MS3.4/1, Error ellipse: s-maj=17.9km s-min=4.8km az=161.2*

ISC 05 10:40:47.5±1.4, 52.3N±0.1×171.09W±0.05, h51km±12km, n81, σ1s31/75, mb3.9/17, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**1.53**	**62**	P	**Pn**	**10 41 11.5**	**-0.9**
NIKH				S	**Sn**	**10 41 30.5**	**-0.7**
KOFP	**Korovin Flat P**	**1.84**	**271**	P	**Pn**	**10 41 15.8**	**-0.9**
KOKL	**Mount Kliuchef**	**1.91**	**273**	P	**Pn**	**10 41 16.6**	**-1.0**
OKSP	**Okmok Steeple**	**1.96**	**59**	P	**Pn**	**10 41 17.9**	**-0.4**
OKSP				S	**Sn**	**10 41 41.9**	**+0.2**
OKSO	**Okmok South**	**2.08**	**58**	P	**Pn**	**10 41 19.4**	**-0.6**
OKSO				S	**Sn**	**10 41 46.5**	**+1.8**
OKCE	**Okmok Cone E**	**2.12**	**56**	P	**Pn**	**10 41 21.0**	**+0.6**
OKTU	**Okmok Mt. Tuli**	**2.16**	**58**	P	**Pn**	**10 41 21.9**	**+0.9**
OKFG	**Magazine Ridge**	**2.24**	**58**	P	**Pn**	**10 41 21.9**	**-0.1**
OKFG				S	**Sn**	**10 41 50.4**	**+2.0**
MCIR	**Makushin Cirqu**	**3.04**	**55**	P	**Pn**	**10 41 33.3**	**+0.3**
MSW	**Makushin Switc**	**3.07**	**56**	P	**Pn**	**10 41 34.8**	**+1.3**
MSW				S	**Sn**	**10 42 12.3**	**+3.3**
MTBL	**Makushin Table**	**3.15**	**56**	P	**Pn**	**10 41 35.8**	**+1.2**
UNV	**Unalaska Valle**	**3.19**	**59**	P	**Pn**	**10 41 34.9**	**0.0**
UNV				S	**Sn**	**10 42 14.4**	**+2.8**
ADK	**Adak**	**3.47**	**266**	P	**Pn**	**10 41 39.3**	**+0.4**
ZRO	**Akutan Zero**	**3.57**	**57**	P	**Pn**	**10 41 42.1**	**+1.8**
LVA	**Lava Point**	**3.58**	**56**	P	**Pn**	**10 41 42.2**	**+1.8**
AKGG	**Akutan Green G**	**3.62**	**56**	P	**Pn**	**10 41 42.0**	**+1.1**
AKUT	**Akutan**	**3.70**	**58**	P	**Pn**	**10 41 42.2**	**+0.2**
SSBA	**Shishaldin**	**4.85**	**56**	P	**Pn**	**10 41 59.1**	**+1.2**
SPIA	**Saint Paul Isl**	**4.93**	**5**	P	**Pn**	**10 42 00.4**	**+1.4**
FALS	**False Pass**	**5.25**	**58**	P	**Pn**	**10 42 05.4**	**+2.1**
DTNA	**Dutton South F**	**5.99**	**58**	P	**Pn**	**10 42 14.5**	**+1.2**
AMKA	**Amchitka**	**6.02**	**265**	P	**Pn**	**10 42 14.4**	**+0.5**
SDPT	**Sand Point**	**7.00**	**60**	P	**Pn**	**10 42 28.0**	**+0.8**
CHGN	**Chignik**	**8.44**	**56**	*e*Pn	**Pn**	**10 42 48.6**	**+1.7**
KDAK	**Kodiak Island**	**11.95**	**55**	Pn	Pn	10 43 32.1	-2.7
KDAK				Sn	**Sn**	**10 45 42.1**	**-4.3**
KDAK	**Kodiak Island** 0.8nm,0.3s,baz=271,slow=8.9,SNR=9.8	**11.95**	**55**	Pn	Pn	10 43 32.1	-2.7
KDAK	0.1nm,0.3s,baz=100,slow=6.1,SNR=2.0			Sn	**Sn**	**10 45 42.1**	**-4.3**
RSO	**Redoubt South** 34nm,0.7s	**13.02**	**44**	Pn	**Pn**	**10 43 50.9**	**+1.3**
BPAW	**Bear Paw Mtn.** 4.4nm,0.7s	**15.80**	**34**	*e*Pn	**P**	**10 44 28.7**	**-0.6**
MCK	**McKinley** 12nm,1.2s	**16.31**	**37**	*e*Pn	**Pn**	**10 44 33.9**	**+1.2**
ILAR	**Eielson Array**	**17.63**	**35**	P	**Pn**	**10 44 48.1**	**-0.9**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=231,slow=9.7,SNR=13	**17.63**	**35**	P	**Pn**	**10 44 48.1**	**-0.9**
PETK	**Petropavlovsk-**	**18.86**	**285**	P	**P**	**10 45 02.6**	**-0.5**
PETK	**Petropavlovsk-** 0.3nm,0.3s,ba

PDAR	**Pinedale Array**	**82.39**	**41**	P	P	10 53 58.0	-0.9	
	0.7nm,0.9s,baz=252,slow=3.0,SNR=4.7							
ILAR	**Eielson Array**	**83.14**	**11**	P	P	10 54 01.6	-0.3	
	1.4nm,1.1s,baz=232,slow=5.8,SNR=6.8							
GERES	**GERESS Array B**	**147.11**	**352**	PKPbc	PKPbc	11 01 20.1	+0.5	
	0.3nm,0.2s,baz=20,slow=4.3,SNR=5.9							
BRTR	**Keskin Array B**	**147.32**	**321**	PKPbc	PKPbc	11 01 20.6	0.0	
	1.9nm,1.0s,baz=90,slow=2.5,SNR=6.5							

IDC 05 10:42:11.9±1.2, 1.72N×127.75E, h0km, mb3.4/5, mb1 3.7/5, mb1mx3.5/21, mbtmp3.5/5, MS3.0/1, Ms1 3.0/1, ms1mx2.4/27, Error ellipse: s-maj=79.7km s-min=22.6km az=75.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
FITZ	**Fitzroy Crossi**	**19.80**	**186**	LR		LR		10 55 07.1	
	comp=Z,50nm,20.6s,baz=316,slow=39								
WRA	**Warramunga Arr**	**22.48**	**164**	P		P		10 47 12.3	-0.8
	0.6nm,0.7s,baz=344,slow=10.0,SNR=4.4								
ASAR	**Alice Springs**	**25.93**	**167**	P		P		10 47 45.8	-0.4
	0.2nm,0.4s,baz=352,slow=7.1,SNR=4.0								
STKA	**Stephens Creek**	**35.90**	**160**	P		P		10 49 14.2	+0.2
	0.8nm,0.6s,baz=356,slow=11,SNR=3.6								
MKAR	**Makanchi Array**	**59.77**	**325**	P		P		10 52 19.1	+0.2
	0.3nm,0.5s,baz=115,slow=7.7,SNR=3.6								
ILAR	**Eielson Array**	**86.47**	**25**	P		P		10 54 56.6	+0.3
	0.3nm,0.7s,baz=249,slow=6.9,SNR=2.6								

IDC 05 11:04:27.2±1.0, 2.09N×128.59E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/22, mbtmp3.6/6, Error ellipse: s-maj=57.2km s-min=17.7km az=84.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
FITZ	**Fitzroy Crossi**	**20.28**	**188**	P		Pn		11 09 06.0	-0.5
	0.9nm,0.7s,baz=353,slow=8.1,SNR=5.3								
WRA	**Warramunga Arr**	**22.61**	**166**	P		P		11 09 29.0	-0.8
	0.9nm,0.7s,baz=344,slow=11,SNR=5.6								
ASAR	**Alice Springs**	**26.12**	**169**	P		P		11 10 02.6	-0.5
	0.4nm,0.7s,baz=352,slow=7.3,SNR=8.5								
KSRS	**Korea Array**	**35.20**	**359**	P		P		11 11 22.4	-0.8
	0.9nm,0.6s,baz=180,slow=10.0,SNR=4.6								
MJAR	**Matsushiro Arr**	**35.41**	**3**	P		P		11 11 25.2	+0.1
	0.8nm,0.5s,baz=194,slow=10,SNR=4.0								
MKAR	**Makanchi Array**	**59.95**	**325**	P		P		11 14 35.8	+0.3
	1.2nm,0.7s,baz=116,slow=8.2,SNR=13								

IDC 05 11:05:30.9±4.1, 15.16S×167.27E, h147km±35km, mb3.6/10, mb1 3.8/11, mb1mx3.6/21, mbtmp3.7/11, Error ellipse: s-maj=26.1km s-min=19.6km az=35.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
DZM	**Mont Dzumac**	**6.92**	**186**	P		P	Pn	11 07 09.5	-0.4
	baz=176,slow=19								
DZM				S		S	Sn	11 08 27.0	-0.5
	6.0nm,0.3s,baz=298,slow=21,SNR=7.3								
URZ	**Urewera**	**24.59**	**161**	P		P		11 10 39.2	+1.9
	7.6nm,0.6s,baz=310,slow=7.9,SNR=5.1								
STKA	**Stephens Creek**	**28.72**	**230**	P		P		11 11 15.3	+1.0
	5.0nm,0.6s,baz=47,slow=8.1,SNR=20								
WRA	**Warramunga Arr**	**31.73**	**257**	P		P		11 11 40.2	-0.9
	0.6nm,0.8s,baz=86,slow=9.2,SNR=3.3								
ASAR	**Alice Springs**	**32.52**	**250**	P		P		11 11 47.5	-0.5
	3.1nm,0.8s,baz=79,slow=9.2,SNR=24								
ASAR				PcP		PcP		11 14 31.1	-0.3
	0.2nm,0.7s,baz=83,slow=2.1,SNR=4.2								
FITZ	**Fitzroy Crossi**	**39.94**	**260**	P		P		11 12 51.2	+0.1
	1.7nm,0.8s,baz=102,slow=9.3,SNR=3.0								
VNDA	**Vanda**	**62.43**	**181**	P		P		11 15 37.0	-0.8
	0.7nm,0.5s,baz=356,slow=7.4,SNR=15								
CMAR	**Chiang Mai Arr**	**75.13**	**294**	P		P		11 16 58.3	+0.9
	0.5nm,0.4s,baz=112,slow=4.1,SNR=3.9								
SONM	**Songino Array**	**82.85**	**324**	P		P		11 17 39.3	+0.3
	0.6nm,0.5s,baz=151,slow=6.6,SNR=3.8								
ILAR	**Eielson Array**	**86.94**	**18**	P		P		11 17 58.7	-0.1
	0.3nm,0.8s,baz=260,slow=5.0,SNR=3.2								
MKAR	**Makanchi Array**	**97.52**	**316**	P		P		11 18 47.6	-0.6
	0.6nm,0.7s,baz=87,slow=6.8,SNR=7.0								
ARCES	**ARCESS Array B**	**120.67**	**345**	PKP		PKPdf		11 24 03.6	-1.1
	1.5nm,0.5s,baz=65,slow=1.2,SNR=15								
TORD	**Torodi Ar. Bea**	**165.87**	**264**	PKP		PKPdf		11 25 17.9	-1.2
	0.8nm,0.6s,baz=77,slow=0.7,SNR=5.9								

IDC 05 11:11:31.5±2.9, 33.55S×178.97W, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.6/15, mbtmp3.5/3, ML3.7/1, MS3.3/1, Ms1 3.2/1, ms1mx2.8/10, Error ellipse: s-maj=70.5km s-min=35.7km az=117.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
URZ	**Urewera**	**5.68**	**213**	Pn		Pn		11 12 57.5	+0.3
	2.2nm,0.3s,baz=45,slow=4.3,SNR=11								
URZ				Sn		Sn		11 14 02.2	-0.9
	3.1nm,0.3s,baz=316,slow=23,SNR=7.8								
STKA	**Stephens Creek**	**33.09**	**262**	LR		LR		11 29 48.0	
	comp=Z,46nm,18.2s,baz=207,slow=33								
ASAR	**Alice Springs**	**42.23**	**271**	P		P		11 19 26.4	-0.1
	0.3nm,0.7s,baz=112,slow=7.1,SNR=4.3								
WRA	**Warramunga Arr**	**43.50**	**276**	P		P		11 19 36.8	-0.1
	0.4nm,0.5s,baz=115,slow=7.3,SNR=7.5								
FINES	**FINESS Array B**	**147.77**	**338**	PKPbc		PKPbc		11 31 16.7	-0.7
	3.2nm,0.9s,baz=62,slow=9.6,SNR=2.8								

IDC 05 12:19:21.5±6.4, 21.07S×177.28W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/17, mbtmp3.5/2, MS3.8/1, Ms1 3.8/1, ms1mx2.9/23, Error ellipse: s-maj=350.3km s-min=56.0km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
ASAR	**Alice Springs**	**45.05**	**257**	P		P		12 27 38.9	-0.6
	0.7nm,0.8s,baz=96,slow=7.9,SNR=8.3								
WRA	**Warramunga Arr**	**45.19**	**262**	P		P		12 27 41.0	+0.4
	0.4nm,0.7s,baz=96,slow=8.2,SNR=7.2								
FITZ	**Fitzroy Crossi**	**53.62**	**263**	LR		LR		12 49 01.5	
	comp=Z,90nm,20.6s,baz=193,slow=33								
AKASG	**Malin Array Be**	**143.84**	**331**	PKP		PKPdf		12 38 57.7	-0.9
	1.0nm,0.4s,baz=40,slow=3.8,SNR=5.7								
BRTR	**Keskin Array B**	**147.72**	**312**	PKPbc		PKPbc		12 39 08.0	-0.6
	0.4nm,0.5s,baz=114,slow=1.7,SNR=2.8								

IDC 05 12:23:52.8±2.7, 15.95S×173.22W, h0km, mb3.6/4, mb1 4.0/5, mb1mx3.7/20, mbtmp3.7/5, ML2.1/1, Error ellipse: s-maj=140.3km s-min=21.9km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
AFI	**Afiamalu**	**2.46**	**35**	Pn		Pn		12 24 32.7	-1.6
	22nm,0.3s,baz=107,slow=2.9,SNR=17								
WRA	**Warramunga Arr**	**49.89**	**257**	P		P		12 32 48.1	-0.5
	0.3nm,0.6s,baz=97,slow=6.7,SNR=3.6								
ASAR	**Alice Springs**	**50.11**	**252**	P		P		12 32 50.0	-0.2
	1.9nm,0.7s,baz=88,slow=8.5,SNR=28								
NVAR	**Mina Array Bea**	**74.61**	**42**	P		P		12 35 34.6	+0.3
	0.3nm,0.7s,baz=234,slow=8.8,SNR=2.9								
ILAR	**Eielson Array**	**82.94**	**11**	P		P		12 36 19.9	+0.7
	0.3nm,0.7s,baz=228,slow=6.3,SNR=6.5								

*AUST **05** 12:24:05.4±0.0, 15.56S×172.43W, h37km, Error ellipse: s-maj=1.5km s-min=1.2km az=243.0*
*BJI **05** 12:24:05.8, 15.90S×172.90W, h10km, mB5.4/5, mb4.9/6*
*IDC **05** 12:24:06.2±0.6, 16.23S×173.31W, h0km, mb4.4/17, mb1 4.5/18, mb1mx4.5/23, mbtmp4.3/18, ML3.7/1, MS3.8/3, Ms1 3.8/3, ms1mx3.5/20, Error ellipse: s-maj=22.7km s-min=14.6km az=131.0*
*ISCJB **05** 12:24:07.9±0.3, 16.35S±0.07×173.21W±0.05, h26km, mb4.5/32, MS4.0/2, Error ellipse: s-maj=10.3km s-min=6.3km az=153.5*
*SZGRF **05** 12:24:07.8, 16.83S×173.44W, h33km, Tonga Islands*
*NEIC **05** 12:24:07.5±0.3, 16.21S×173.24W, h10km, mb4.7/15, Error ellipse: s-maj=11.4km s-min=6.7km az=145.0*
ISC 05 12:24:09.8±0.4, 16.24S±0.07×173.14W±0.07, h26km, n146, s0996/133, mb4.5/32, 13D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
AFI	**Afiamalu**	**2.67**	**30**	*e*Pn		**Pn**		**12 24 49.6**	**-1.6**
AFI				Sn		Sn		12 25 15.0	-7.7
AFI	**Afiamalu**	**2.67**	**30**	Pn		Pn		12 24 47.4	-3.8
	44nm,0.3s,baz=48,slow=16,SNR=12								
AFI				Sn		Sn		12 25 15.0	-7.7
	392nm,0.3s,baz=60,slow=20,SNR=12								
AFI				LR		LR		12 25 45.5	
	comp=Z,615nm,19.2s,baz=180,slow=36								
NIUE	**Niue**	**4.16**	**133**	P		**Pn**		**12 25 10.1**	**-1.6**
	baz=4.3,SNR=13								
MSVF	**Nonsavu**	**8.56**	**259**	*e*Pn		**Pn**		**12 26 14.8**	**+2.6**
RAR	**Rarotonga**	**13.59**	**113**	*e*Pn		**Pn**		**12 27 21.0**	**0.0**
DZM	**Mont Dzumac**	**20.13**	**250**	*e*P		Pn		12 28 43.5	-0.6
	68nm,1.3s								
DZM				*e*LQ		LQ		12 32 28.6	
	676nm,27.1s								
DZM				*e*LR		LR		12 33 21.4	
	2μm,25.5s								
DZM	**Mont Dzumac**	**20.13**	**250**	P		**P**		**12 28 42.3**	**+0.2**
DZM	**Mont Dzumac**	**20.13**	**250**	P		**P**		**12 28 42.3**	**+0.2**
	0.2nm,0.3s,baz=108,slow=20,SNR=3.7								
PPT2	**Papeete2**	**22.58**	**97**	*e*LR		LR		12 34 34.6	
	979nm,24.8s,baz=262								
PPT	**Papeete**	**22.58**	**97**	LR		LR		12 36 14.1	
	comp=Z,205nm,21.2s,baz=298,slow=32								
TBI	**Tubuai**	**23.35**	**111**	*e*LR		LR		12 34 49.7	
	1μm,27.0s,baz=288								
URZ	**Urewera**	**23.55**	**199**	P		**P**		**12 29 16.2**	**-1.9**
URZ	**Urewera**	**23.55**	**199**	P		**P**		**12 29 16.2**	**-1.9**
	8.3nm,0.6s,baz=90,slow=2.0,SNR=7.3								
HNR	**Honiara**	**27.08**	**281**	P		**P**		**12 29 49.9**	**-0.7**
	18nm,1.0s								
ARMA	**Armidale**	**35.13**	**240**	*e*P		**P**		**12 31 00.6**	**-0.9**
ARMA	**Armidale**	**35.13**	**240**	P		**P**		**12 31 00.5**	**-1.0**
	baz=36,SNR=6.7								
RKT	**Rikitea**	**36.50**	**107**	*e*LR		LR		12 40 49.1	
	806nm,29.2s,baz=284								
H11S2	**WAKE ISLAND Hy**	**39.81**	**329**	T		T		13 13 44.6	
	baz=152,slow=0.7,SNR=23								
H11S3	**WAKE ISLAND Hy**	**39.83**	**329**	T		T		13 13 21.8	
	baz=152,slow=0.7,SNR=24								
H11S1	**WAKE ISLAND Hy**	**39.83**	**329**	T		T		13 13 14.0	
	baz=152,slow=0.7,SNR=17								
CMSA	**Cobar Meteorol**	**40.35**	**240**	P		**P**		**12 31 44.0**	**-1.5**
	baz=41,SNR=12								
H11N3	**WAKE ISLAND Hy**	**40.76**	**331**	T		T		13 15 04.1	
	baz=156,SNR=39								
H11N1	**WAKE ISLAND Hy**	**40.77**	**330**	T		T		13 14 24.1	
	baz=156,slow=0.7,SNR=15								
H11N2	**WAKE ISLAND Hy**	**40.78**	**331**	T		T		13 14 38.8	
	baz=156,slow=0.7,SNR=15								
QLP	**Quilpie**	**40.83**	**248**	P		**P**		**12 31 47.7**	**-1.8**
	baz=42,SNR=5.1								
COEN	**Coen**	**42.18**	**267**	P		**P**		**12 32 00.9**	**+0.1**
	baz=43,SNR=4.6								
STKA	**Stephens Creek**	**43.84**	**241**	*e*P		**P**		**12 32 13.1**	**-0.9**
STKA	**Stephens Creek**	**43.84**	**241**	P		**P**		**12 32 13.0**	**-0.9**
	baz=45,SNR=4.7								
STKA	**Stephens Creek**	**43.84**	**241**	P		**P**		**12 32 11.8**	**-2.2**
	6.0nm,0.8s,baz=92,slow=10.0,SNR=10								
JAY	**Jayapura**	**47.40**	**282**	P		**P**		**12 32 42.2**	**-0.3**
	baz=48,SNR=4.2								
WRA	**Warramunga Arr**	**49.90**	**257**	P		**P**		**12 32 59.6**	**-2.0**
WRA				PcP		**PcP**		**12 34 22.2**	**+0.4**
WRA	**Warramunga Arr**	**49.90**	**257**	P		**P**		**12 32 59.6**	**-2.0**
	2.8nm,0.7s,baz=92,slow=6.7,SNR=31								
WRA				PcP		**PcP**		**12 34 22.2**	**+0.4**
	1.8nm,0.7s,baz=86,slow=3.5,SNR=4.8								
AS31	**Alice Springs**	**50.09**	**253**	*e*P		**P**		**12 33 01.2**	**-1.9**
ASAR	**Alice Springs**	**50.09**	**253**	P		**P**		**12 33 01.1**	**-2.0**
ASAR	**Alice Springs**	**50.09**	**253**	P		**P**		**12 33 01.1**	**-2.0**
	10nm,0.8s,baz=90,slow=8.0,SNR=43								
KDU	**Kakadu**	**52.66**	**266**	P		**P**		**12 33 21.2**	**-1.1**
	baz=53,SNR=4.8								
KNRA	**Kununurra**	**55.69**	**262**	P		**P**		**12 33 43.2**	**-1.2**
	baz=56,SNR=6.4								
FITZ	**Fitzroy Crossi**	**58.29**	**259**	P		**P**		**12 34 01.8**	**-1.0**
FITZ	**Fitzroy Crossi**	**58.29**	**259**	P		**P**		**12 34 02.0**	**-0.8**
	baz=59,SNR=5.0								
FITZ	**Fitzroy Crossi**	**58.29**	**259**	P		**P**		**12 34 01.8**	**-1.0**
	1.6nm,0.7s,baz=67,slow=3.4,SNR=8.3								
SOEI	**Soe**	**61.14**	**268**	P		**P**		**12 34 23.2**	**+0.5**
	baz=62,SNR=4.2								
VNDA	**Vanda**	**62.57**	**186**	P		**P**		**12 34 33.1**	**+2.0**
VNDA	**Vanda**	**62.57**	**186**	P		**P**		**12 34 33.1**	**+2.0**
	0.7nm,0.7s,baz=352,slow=7.1,SNR=3.9								
MEEK	**Meekatharra**	**63.73**	**248**	P		**P**		**12 34 38.4**	**-1.3**
	baz=65,SNR=4.1								
KLBR	**Kellerberrin**	**64.07**	**242**	P		**P**		**12 34 41.1**	**-0.7**
	baz=65,SNR=6.2								
MJAR	**Matsushiro Arr**	**69.74**	**320**	P		**P**		**12 35 16.1**	**-1.6**
MJAR	**Matsushiro Arr**	**69.74**	**320**	P		**P**		**12 35 16.1**	**-1.6**
	1.3nm,0.6s,baz=171,slow=6.6,SNR=7.3								
PETK	**Petropavlovsk-**	**73.50**	**342**	P		**P**		**12 35 40.4**	**+0.4**
PETK	**Petropavlovsk-**	**73.50**	**342**	P		**P**		**12 35 40.4**	**+0.4**
	3.7nm,0.7s,baz=133,slow=6.8,SNR=7.2								
YBH	**Yreka Blue Hor**	**74.12**	**37**	P		**P**		**12 35 45.3**	**+1.3**
YBH	**Yreka Blue Hor**	**74.12**	**37**	P		**P**		**12 35 45.3**	**+1.3**
	3.0nm,0.6s,baz=164,slow=2.2,SNR=6.7								
NVAR	**Mina Array Bea**	**74.78**	**42**	P		**P**		**12 35 49.2**	**+1.1**
NVAR	**Mina Array Bea**	**74.78**	**42**	P		**P**		**12 35 49.2**	**+1.1**
	2.0nm,0.6s,baz=228,slow=9.8,SNR=17								
MOD	**Modoc**	**75.63**	**38**	*e*P		**P**		**12 35 53.3**	**+0.5**
	28nm,1.1s								
K05A	**Summer Lake**	**75.79**	**37**	*e*P		**P**		**12 35 55.2**	**+1.4**
	85nm,2.1s								
KSRS	**Korea Array**	**76.93**	**316**	P		**P**		**12 36 01.1**	**+1.0**
	1.1nm,0.8s,baz=127,slow=5.5,SNR=5.5								
WVOR	**Wild Horse Val**	**76.94**	**38**	*e*P		**P**		**12 36 00.4**	**+0.2**
	4.2nm,1.0s								
KSAR	**Wonju Array Be**	**76.95**	**316**	P		**P**		**12 36 01.1**	**+0.9**
J08A	**Circle Bar Ran**	**77.58**	**38**	*e*P		**P**		**12 36 04.9**	**+1.1**
	5.1nm,1.1s								
USRK	**Ussuriysk Arra**	**78.20**	**323**	P		**P**		**12 36 08.3**	**+1.3**
	2.6nm,0.7s,baz=194,slow=5.3,SNR=5.0								
G08A	**Pilot Rock**	**78.47**	**36**	*e*P		**P**		**12 36 09.8**	**+1.2**
	6.5nm,1.2s								
F10A	**Beach Ranch, E**	**79.85**	**36**	*e*P		**P**		**12 36 16.7**	**+0.5**
	4.4nm,1.0s								
HLID	**Hailey**	**80.12**	**39**	*e*P		**P**		**12 36 18.4**	**+0.6**
	26nm,2.4s								
B08A	**Colville Reser**	**80.14**	**33**	*e*P		**P**		**12 36 17.8**	**+0.2**
	6.7nm,1.4s								
BMRM	**Bremner River**	**80.27**	**14**	*e*P		**P**		**12 36 16.1**	**-1.9**
ANMO	**Albuquerque**	**81.15**	**50**	*e*P		**P**		**12 36 24.3**	**+0.8**
TRF	**Thorofare Moun**	**81.41**	**10**	*e*P		**P**		**12 36 23.8**	**-0.4**
	6.0nm,0.8s								
GDL2	**Guadalupe Moun**	**81.52**	**53**	*e*P		**P**		**12 36 25.3**	**-0.2**
MCK	**McKinley**	**81.90**	**11**	*e*P		**P**		**12 36 26.1**	**-0.5**
	7.8nm,0.8s								
TPAW	**Teton Pass**	**82.21**	**41**	*e*P		**P**		**12 36 29.5**	**+0.5**
	13nm,1.6s								
IMW	**Indian Meadow**	**82.43**	**40**	*e*P		**P**		**12 36 30.8**	**+0.6**
	15nm,1.8s								
BW06	**Boulder Array**	**82.72**	**42**	*e*P		**P**		**12 36 31.5**	**-0.2**
	2.2nm,0.7s								
PDAR	**Pinedale Array**	**82.72**	**42**	P		**P**		**12 36 32.0**	**+0.4**
PDAR	**Pinedale Array**	**82.72**	**42**	P		**P**		**12 36 32.0**	**+0.4**
	2.5nm,0.7s,baz=213,slow=3.1,SNR=25								
COLA	**College**	**83.14**	**11**	*e*P		**P**		**12 36 32.0**	**-1.0**
	8.8nm,0.8s								
ILAR	**Eielson Array**	**83.22**	**11**	P		**P**		**12 36 32.8**	**-0.6**
ILAR	**Eielson Array**	**83.22**	**11**	P		**P**		**12 36 32.8**	**-0.6**
	1.6nm,0.6s,baz=230,slow=6.2,SNR=43								
HRY	**Holter Researc**	**83.36**	**37**	*e*P		**P**		**12 36 35.3**	**+0.6**
DAWY	**Dawson**	**84.17**	**14**	*e*P		**P**		**12 36 38.7**	**+0.3**
EDM	**Edmonton**	**86.07**	**31**	*e*P		**P**		**12 36 47.5**	**-0.6**
MAW	**Mawson**	**87.08**	**199**	P		**P**		**12 36 54.1**	**+1.2**
MAW	**Mawson**	**87.08**	**199**	P		**P**		**12 36 54.1**	**+1.2**
	baz=88,SNR=9.7								
MAW	**Mawson**	**87.08**	**199**	P		**P**		**12 36 54.1**	**+1.2**
	5.1nm,0.7s,baz=131,slow=6.3,SNR=22								
CMAR	**Chiang Mai Arr**	**93.12**	**288**	P		**P**		**12 37 23.5**	**+1.4**
CMAR	**Chiang Mai Arr**	**93.12**	**288**	P		**P**		**12 37 23.5**	**+1.4**
	1.4nm,0.6s,baz=93,slow=2.2,SNR=8.6								
SONM	**Songino Array**	**95.64**	**318**	P		**P**		**12 37 33.0**	**-0.2**
SONM	**Songino Array**	**95.64**	**318**	P		**P**		**12 37 33.0**	**-0.2**
	0.5nm,0.5s,baz=76,slow=6.3,SNR=4.1								
SONM				LR		LR		13 14 28.5	
	comp=Z,118nm,19.4s,baz=305,slow=32								
BVAR	**Borovoye Array**	**118.70**	**322**	PKP		**PKPdf**		**12 42 55.1**	**-0.4**
BVAR	**Borovoye Array**	**118.70**	**322**	PKP		**PKPdf**		**12 42 55.1**	**-0.4**
	0.3nm,0.3s,baz=48,slow=2.2,SNR=3.7								
ARCES	**ARCESS Array B**	**125.47**	**352**	PKP		**PKPdf**		**12 43 08.2**	**+0.2**
	1.8nm,0.7s,baz=13,slow=1.6,SNR=11								
FINES	**FINESS Array B**	**132.82**	**348**	PKP		**PKPdf**		**12 43 22.5**	**+0.4**
FINES	**FINESS Array B**	**132.82**	**348**	PKP		**PKPdf**		**12 43 22.5**	**+0.4**
	8.3nm,1.0s,baz=27,slow=6.4,SNR=4.2								
AKASG	**Malin Array Be**	**141.21**	**337**	PKPpre		PKPpre		12 43 33.1	
AKASG	**Malin Array Be**	**141.21**	**337**	PKhKP		PKPpre		12 43 33.1	
	0.4nm,0.3s,baz=48,slow=3.9,SNR=6.3								
OJC	**Ojcow**	**144.53**	**346**	*e*PKPdf		PKPbc		12 43 42.6	0.0
OJC	**Ojcow**	**144.53**	**346**	*e*PX		PKPbc		12 43 42.6	+0.1
CLL	**Collm**	**144.68**	**353**	*i* PKPdf		PKPbc		12 43 43.0	+0.1
	comp=Z,5.0nm,0.7s								
STHS	**Stebnicka Huta**	**144.90**	**344**	*e*PKP		**PKPdf**		**12 43 44.5**	**-0.1**
UPC	**Upice**	**145.03**	**350**	*e*PKP		**PKPdf**		**12 43 44.8**	**0.0**
KOLS	**Kolonicke sedl**	**145.05**	**342**	*e*PKP		**PKPdf**		**12 43 44.7**	**-0.2**
DPC	**Dobruska-Polom**	**145.13**	**349**	*e*PKP		**PKPdf**		**12 43 45.3**	**+0.3**
DPC				*ep*PKP		**PKiKP**		**12 43 49.6**	**+0.7**
DPC	**Dobruska-Polom**	**145.13**	**349**	*e*PKPdf		**PKPdf**		**12 43 45.3**	**+0.3**
NIE	**Niedzica**	**145.15**	**345**	*e*PX		**PKPdf**		**12 43 45.2**	**+0.1**
OKC	**Ostrava-Krasne**	**145.26**	**347**	*e*PKP		**PKPdf**		**12 43 45.6**	**+0.4**
KMBO	**Kilima Mbogo**	**145.39**	**243**	*e*PKPdf		**PKPdf**		**12 43 47.5**	**+0.7**
KMBO				PKPbc		**PKPdf**		**12 43 47.7**	**+0.9**
KMBO	**Kilima Mbogo**	**145.39**	**243**	PKPbc		**PKPdf**		**12 43 47.7**	**+0.9**
	comp=Z,1.7nm,0.6s,baz=40,slow=20,SNR=8.4								
MORC	**Moravsky Berou**	**145.45**	**348**	↓*i*P		**PKPab**		**12 43 46.2**	**+0.4**
MORC	**Moravsky Berou**	**145.45**	**348**	*e*PKPdf		**PKPbc**		**12 43 45.2**	**-0.3**
MOX	**Moxa**	**145.47**	**355**	*e*PKPbc		**PKPab**		**12 43 46.1**	**+0.3**
TANN	**Tannenbergstha**	**145.62**	**354**	*e*PKPbc		**PKPab**		**12 43 46.7**	**+0.3**
PRU	**Pruhonice**	**145.77**	**351**	*e*PKP		**PKPab**		**12 43 47.2**	**+0.3**
CFR	**Carcaliu**	**146.06**	**333**	↓*i*P		**PKPab**		**12 43 48.1**	**0.0**
VRI	**Vrincioaia**	**146.11**	**335**	↓*i*P		**PKPab**		**12 43 48.2**	**-0.1**
PLOR	**Plostina**	**146.16**	**335**	↓*i*P		**PKPab**		**12 43 48.3**	**-0.2**
ROTZ	**Rotzenmuhle**	**146.28**	**354**	*e*PKPbc		**PKPab**		**12 43 49.3**	**+0.5**
GRF	**Grafenberg Arr**	**146.45**	**355**	*e*PKPbc		**PKPab**		**12 43 49.9**	**+0.4**
TIRR	**Tirgusor**	**146.49**	**332**	↓*i*P		**PKPdf**		**12 43 48.0**	**+0.6**
DOPR	**Dopca**	**146.56**	**336**	↓*i*P		**PKPab**		**12 43 50.3**	**+0.2**
PSZ	**Piszkesteto**	**146.64**	**344**	↓*i*P		**PKPab**		**12 43 50.6**	**+0.3**
KHC	**Kasperske Hory**	**146.74**	**352**	*e*PKP		**PKPbc**		**12 43 49.6**	**+0.1**
KHC	**Kasperske Hory**	**146.74**	**352**	*e*PKPdf		**PKPdf**		**12 43 48.5**	**+0.7**
DRUM		**146.81**	**340**	↓*i*P		**PKPab**		**12 43 49.8**	**0.0**
BR131	**Keskin Array S**	**146.97**	**320**	*e*PKPdf		**PKPbc**		**12 43 51.0**	**+0.5**
BRTR	**Keskin Array B**	**146.97**	**320**	PKPbc		**PKPbc**		**12 43 51.1**	**+0.5**
BRTR	**Keskin Array B**	**146.97**	**320**	PKPbc		**PKPbc**		**12 43 51.1**	**+0.5**
	comp=Z,9.1nm,0.8s,baz=113,slow=2.3,SNR=39								
GEC2

	comp=Z,33nm,0.4s							
YSS	**Yuzh-Sakhalins**	**5.92**	**178**	*e*PN	Pn	12	35	13.0 +2.9
YSS	**Yuzh-Sakhalins**	**5.92**	**178**	*e*P	Pn	12	35	13.0 +2.9
YSS				AMB	AMB	12	35	14.0
	comp=Z,23nm,0.3s							
BMKR	**Bomnak**	**8.30**	**288**	*e*Sg	Sg	12	38	17.0 +8.1
BMKR				A	A	12	38	19.5
	comp=Z,3.0nm,0.7s							
KROS	**Kirovskiy**	**9.36**	**286**	*e*Sg		12	38	53.4
KROS				A	A	12	38	58.7
	comp=Z,13nm,0.9s							

*CSEM **05** 12:41:16.8±0.2,41°.03N×25°.94E,h2km,MD3.2,Error ellipse: s-maj=5.5km s-min=3.2km az=15.0*
*ISCJB **05** 12:41:17.2±0.5,41°.01N±0°.02×25°.93E±0°.02,h4km±4km, Error ellipse: s-maj=4.2km s-min=2.9km az=15.6*
*THE **05** 12:41:17.3,41°.06N×25°.93E,h1km±1km,ML2.5/5,Error ellipse: s-maj=2.0km s-min=0.9km az=126.0*
*ATH **05** 12:41:17.3,41°.02N×25°.88E,h5km±3km,MD3.2/5*
*DDA **05** 12:41:18,40°.97N×26°.02E,h7km,ML3.4*

ISC 05 12:41:17.7±0.8,41°.02N±0°.02×25°.93E±0°.02,h13km±5km, n58,σ0°83/91,Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALN	**Alexandroupoli**	**0.15**	**143**	P	**Pg**	**12 41 21.1**	**-0.1**
ALN				S	**Sg**	**12 41 23.8**	**+0.1**
ALN	**Alexandroupoli**	**0.15**	**143**	*e*PG	**Pg**	**12 41 21.1**	**-0.1**
ALN				*e*SG	**Sg**	**12 41 23.9**	**+0.2**
ALN	**Alexandroupoli**	**0.15**	**143**	P	**Pg**	**12 41 21.1**	**-0.1**
ALN				S	**Sg**	**12 41 23.8**	**+0.1**
RDO	**Rodhopi**	**0.32**	**294**	P	**Pg**	**12 41 23.4**	**-0.9**
RDO				S	**Sg**	**12 41 27.8**	**-0.9**
RDO	**Rodhopi**	**0.32**	**294**	*e*PG	**Pg**	**12 41 23.4**	**-0.9**
RDO				*e*SG	**Sg**	**12 41 28.0**	**-0.7**
RDO	**Rodhopi**	**0.32**	**294**	P	**Pg**	**12 41 23.4**	**-0.9**
RDO				*e*Sg	**Sg**	**12 41 28.0**	**-0.7**
SMTH	**Samothraki Isl**	**0.62**	**209**	P	**Pg**	**12 41 29.4**	**-0.3**
SMTH				S	**Sb**	**12 41 39.7**	**+0.6**
SMTH	**Samothraki Isl**	**0.62**	**209**	*e*PB	**Pg**	**12 41 29.5**	**-0.3**
SMTH				*e*SB	**Sg**	**12 41 37.7**	**-0.3**
SMTH	**Samothraki Isl**	**0.62**	**209**	*e*Pb	**Pg**	**12 41 29.5**	**-0.3**
SMTH				*e*Sb	**Sg**	**12 41 37.7**	**-0.3**
SMTH				S	**Sb**	**12 41 39.7**	**+0.6**
LPK	**Lapseki**	**0.90**	**135**	*e*PG	**Pg**	**12 41 34.2**	**-0.8**
LPK				*e*SG	**Sg**	**12 41 45.5**	**-1.3**
LPK	**Lapseki**	**0.90**	**135**	*e*Pg	**Pg**	**12 41 34.2**	**-0.8**
LPK				*e*Sg	**Sg**	**12 41 45.5**	**-1.3**
RKY	**Sarkoy-Tekirda**	**1.00**	**109**	*e*PN	**Pg**	**12 41 36.4**	**-0.6**
RKY	**Sarkoy-Tekirda**	**1.00**	**109**	*e*Pn	**Pg**	**12 41 36.4**	**-0.6**
SART	**Tekirdag**	**1.00**	**109**	*i* P	**Pg**	**12 41 35.8**	**-1.2**
SART				*i* S	**Sg**	**12 41 49.0**	**-1.1**
SART	**Tekirdag**	**1.00**	**109**	*i* P	**Pg**	**12 41 35.8**	**-1.2**
SART				*i* S	**Sg**	**12 41 49.0**	**-1.1**
KAVA	**Kavala**	**1.07**	**269**	P	**Pg**	**12 41 37.3**	**-1.0**
KAVA				S	**Sb**	**12 41 52.5**	**+0.5**
KAVA	**Kavala**	**1.07**	**269**	P	**Pg**	**12 41 37.3**	**-1.0**
KAVA				S	**Sb**	**12 41 52.5**	**+0.5**
BOZC	**Bozcaada**	**1.18**	**175**	*i* P	**Pb**	**12 41 40.3**	**+0.5**
BOZC				*i* S	**Sg**	**12 41 54.9**	**-0.7**
KRBG	**Karabiga-Canak**	**1.21**	**120**	*e*PN	**Pg**	**12 41 39.9**	**-1.1**
KRBG				*e*SN	**Sb**	**12 41 56.6**	**+0.5**
KRBG	**Karabiga-Canak**	**1.21**	**120**	*e*Pn	**Pg**	**12 41 39.9**	**-1.1**
KRBG				*e*Sn	**Sb**	**12 41 56.6**	**+0.5**
TKR	**Tekirdag**	**1.22**	**91**	*e*PN	**Pn**	**12 41 42.1**	**+1.7**
TKR	**Tekirdag**	**1.22**	**91**	*e*Pn	**Pn**	**12 41 42.1**	**+1.7**
PHSR	**Pinarhisar**	**1.35**	**62**	*e*PN	**Pg**	**12 41 45.0**	**+1.4**
PHSR	**Pinarhisar**	**1.35**	**62**	*e*Pn	**Pg**	**12 41 45.0**	**+1.4**
PLD	**Plovdiv**	**1.43**	**320**	*e*PN	**Pn**	**12 41 43.5**	**+0.2**
PLD	**Plovdiv**	**1.43**	**320**	*e*Pn	**Pn**	**12 41 43.5**	**+0.2**
JMB	**Yambol**	**1.53**	**18**	P	**Pn**	**12 41 45.2**	**+0.4**
JMB				S	**Sn**	**12 42 04.4**	**-0.2**
JMB	**Yambol**	**1.53**	**18**	P	**Pn**	**12 41 45.2**	**+0.4**
JMB				S	**Sn**	**12 42 04.4**	**-0.2**
NVR	**Nevrokopi** 95nm,0.3s	**1.60**	**283**	P	**Pn**	**12 41 45.9**	**+0.2**
NVR				S	**Sb**	**12 42 07.8**	**+0.6**
NVR	**Nevrokopi**	**1.60**	**283**	*e*PG	**Pn**	**12 41 46.5**	**+0.8**
NVR				*e*SB	**Sb**	**12 42 08.0**	**+0.8**
NVR	**Nevrokopi** 95nm,0.3s	**1.60**	**283**	P	**Pn**	**12 41 45.9**	**+0.2**
NVR	**Nevrokopi**	**1.60**	**283**	*e*Pg	**Pn**	**12 41 46.5**	**+0.8**
NVR				S	**Sb**	**12 42 07.8**	**+0.6**
OUR	**Ouranopolis**	**1.63**	**246**	P	**Pn**	**12 41 46.9**	**+0.8**
OUR				S	**Sb**	**12 42 09.5**	**+1.4**
OUR	**Ouranopolis**	**1.63**	**246**	P	**Pn**	**12 41 46.9**	**+0.8**
OUR				S	**Sb**	**12 42 09.5**	**+1.4**
BNT	**Bandirma**	**1.65**	**113**	*e*PN	**Pn**	**12 41 46.1**	**-0.3**
BNT	**Bandirma**	**1.65**	**113**	*e*Pn	**Pn**	**12 41 46.1**	**-0.3**
GONE	**Gonen-Balikesi**	**1.65**	**125**	*e*PN	**Pn**	**12 41 46.1**	**-0.3**
GONE	**Gonen-Balikesi**	**1.65**	**125**	*e*Pn	**Pn**	**12 41 46.1**	**-0.3**
SLVT	**Silivri**	**1.74**	**82**	*e*PN	**Pg**	**12 41 50.3**	**-0.7**
SLVT	**Silivri**	**1.74**	**82**	*e*Pn	**Pg**	**12 41 50.3**	**-0.7**
SRS	**Serrai**	**1.77**	**274**	P	**Pn**	**12 41 48.5**	**+0.4**
SRS				S	**Sb**	**12 42 12.4**	**+0.2**
SRS	**Serrai**	**1.77**	**274**	P	**Pn**	**12 41 48.5**	**+0.4**
SRS				S	**Sb**	**12 42 12.4**	**+0.2**
AYVA	**Ayvalik**	**1.80**	**161**	*i* P	**Pb**	**12 41 51.0**	**+0.5**
AYVA				*i* S	**Sn**	**12 42 11.0**	**-0.2**
AYVA	**Ayvalik**	**1.80**	**161**	*i* P	**Pb**	**12 41 51.0**	**+0.5**
AYVA				*i* S	**Sn**	**12 42 11.0**	**-0.2**
BALY	**Balya**	**1.81**	**134**	*i* P	**Pn**	**12 41 49.1**	**+0.4**
BALY				*i* S	**Sb**	**12 42 13.8**	**+0.4**
BALY	**Balya**	**1.81**	**134**	*i* P	**Pn**	**12 41 49.1**	**+0.4**
BALY				*i* S	**Sb**	**12 42 13.8**	**+0.4**
CTYL	**Yal??k??y-??at**	**1.84**	**75**	*e*PN	**Pb**	**12 41 51.3**	**+0.2**
CTYL	**Yal??k??y-??at**	**1.84**	**75**	*e*Pn	**Pb**	**12 41 51.3**	**+0.2**
CTKS	**Kestanelik-??a**	**1.96**	**83**	*e*PN	**Pb**	**12 41 53.4**	**+0.2**
CTKS	**Kestanelik-??a**	**1.96**	**83**	*e*Pn	**Pb**	**12 41 53.4**	**+0.2**
PLG	**Polygyros**	**2.00**	**252**	*e*PG	**Pb**	**12 41 54.1**	**+0.2**
PLG				*e*SN	**Sb**	**12 42 20.4**	**+1.8**
PLG	**Polygyros**	**2.00**	**252**	*e*Pg	**Pb**	**12 41 54.1**	**+0.2**
BGKT	**Bogazkoy**	**2.15**	**85**	*e*PN	**Pb**	**12 41 55.5**	**-1.1**
BGKT	**Bogazkoy**	**2.15**	**85**	*e*Pn	**Pb**	**12 41 55.5**	**-1.1**
KLYT	**Kilyos**	**2.36**	**83**	*e*PN	**Pb**	**12 41 58.6**	**-1.5**
KLYT	**Kilyos**	**2.36**	**83**	*e*Pn	**Pb**	**12 41 58.6**	**-1.5**
ISK	**Istanbul-Kandi**	**2.37**	**88**	*e*PN	**Pn**	**12 41 58.1**	**+1.9**
ISK	**Istanbul-Kandi**	**2.37**	**88**	*e*Pn	**Pn**	**12 41 58.1**	**+1.9**

IDC 05 12:45:09.0±4.5,46°.47N×27°.39W,h0km,mb3.7/2, mb1 3.7/3,mb1mx3.4/31,mbtmp3.6/3,ML4.7/1,MS3.6/8, Ms1 3.6/8,ms1mx3.2/41,Error ellipse: s-maj=109.3km s-min=42.0km az=74.0,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**18.37**	**103**	P	P	12 49 25.3	0.0
	0.5nm,0.3s,baz=298,slow=13,SNR=5.8						
ESDC				LR	LR	12 55 08.5	
	comp=Z,103nm,21.2s,baz=270,slow=33						
GERES	**GERESS Array B**	**27.54**	**70**	LR	LR	13 01 18.0	
	comp=Z,66nm,20.1s,baz=339,slow=35						
TORD	**Torodi Ar. Bea**	**41.26**	**134**	P	P	12 52 55.7	-0.2
	1.0nm,0.9s,baz=330,slow=8.5,SNR=5.2						
TORD				LR	LR	13 08 41.6	
	comp=Z,75nm,20.8s,baz=260,slow=34						
DBIC	**Dimbokro**	**44.15**	**147**	LR	LR	13 09 48.9	
	comp=Z,50nm,18.6s,baz=188,slow=34						
NVAR	**Mina Array Bea**	**63.98**	**299**	LR	LR	13 22 31.3	
	comp=Z,101nm,20.8s,baz=185,slow=35						
MKAR	**Makanchi Array**	**68.58**	**44**	P	P	12 56 13.4	0.0
	0.7nm,0.7s,baz=322,slow=5.9,SNR=10.0						
MKAR				LR	LR	13 24 35.3	
	comp=Z,44nm,21.7s,baz=2.6,slow=34						
MATP	**Matopo**	**83.52**	**129**	LR	LR	13 34 51.2	
	comp=Z,57nm,19.3s,baz=163,slow=36						
SUR	**Sutherland**	**89.73**	**141**	LR	LR	13 33 21.0	
	comp=Z,68nm,21.1s,baz=28,slow=32						

*AUST **05** 12:46:33.4±3.6,16°.89S×172°.11W,h0km,Error ellipse: s-maj=2.0km s-min=1.1km az=32.0*
*IDC **05** 12:46:35.3±0.5,16°.93S×172°.59W,h0km,mb4.5/16, mb1 4.7/17,mb1mx4.7/22,mbtmp4.5/17,ML2.4/1,MS3.9/7, Ms1 3.9/7,ms1mx3.6/30,Error ellipse: s-maj=21.7km s-min=13.6km az=124.0*
*BJI **05** 12:46:35.9,16°.59S×172°.24W,h5km,mB5.4/13,mb5.0/19, Ms5.2/5,Ms7 4.9/5*

*ISCJB **05** 12:46:37.1±0.2,17°.01S±0°.06×172°.40W±0°.05,h17km, mb4.7/48,MS4.3/8,Error ellipse: s-maj=10.0km s-min=6.3km az=151.4*
*NEIC **05** 12:46:37.3±0.2,16°.95S×172°.35W,h10km,mb4.8/24, Error ellipse: s-maj=11.4km s-min=6.5km az=125.0*
*MOS **05** 12:46:40.6±1.7,16°.91S×172°.63W,h33km,mb5.0/9,Error ellipse: s-maj=14.5km s-min=10.6km az=55.5*

ISC 05 12:46:38.3±0.3,16°.96S±0°.07×172°.30W±0°.07,h17km, n351,σ1♀01/341,mb4.7/48,MS4.3/8,87C-108D,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.07**	**10**	*e*Pn	**Pn**	**12 47 23.4**	**-2.8**
AFI				Sn	Sn	12 47 54.4	-8.2
AFI	**Afiamalu**	**3.07**	**10**	Pn	**Pn**	**12 47 23.7**	**-2.5**
	26nm,0.3s,baz=215,slow=15,SNR=4.2						
AFI				Sn	Sn	12 47 54.4	-8.2
	37nm,0.3s,baz=12,slow=22,SNR=8.1						
AFI				LR	LR	12 48 33.9	
	comp=Z,1μm,19.9s,baz=256,slow=38						
NIUE	**Niue**	**3.09**	**133**	P	Pn	12 47 21.4	-4.9
	baz=3.0,SNR=12						
MSVF	**Nonsavu**	**9.25**	**264**	*e*P	**Pn**	**12 48 52.5**	**+1.5**
MSVF	**Nonsavu**	**9.25**	**264**	*e*Pn	**Pn**	**12 48 52.5**	**+1.5**
RAR	**Rarotonga**	**12.57**	**112**	LR	LR	12 52 36.5	
	comp=Z,372nm,20.9s,baz=135,slow=28						
DZM	**Mont Dzumac**	**20.66**	**252**	*e*LR	LR	12 56 09.0	
	644nm,25.9s						
PPT2	**Papeete2**	**21.71**	**95**	*e*S	**S**	**12 55 26.3**	**-2.4**
	695nm,26.0s						
PPT2				*e*LR	LR	12 56 31.5	
	731nm,24.8s,baz=250						
PPT	**Papeete**	**21.71**	**95**	LR	LR	12 57 20.1	
	comp=Z,316nm,19.9s,baz=259,slow=29						
TBI	**Tubuai**	**22.35**	**110**	*e*LR	LR	12 56 40.3	
	947nm,28.0s,baz=286						
URZ	**Urewera**	**23.17**	**202**	P	**P**	**12 51 42.5**	**-1.5**
URZ	**Urewera**	**23.17**	**202**	P	**P**	**12 51 42.5**	**-1.5**
	18nm,0.7s,baz=357,slow=4.7,SNR=8.9						
RPZ	**Rata Peaks**	**30.17**	**204**	P	**P**	**12 52 47.6**	**0.0**
RPZ	**Rata Peaks**	**30.17**	**204**	P	**P**	**12 52 47.6**	**0.0**
	3.9nm,0.6s,baz=23,slow=13,SNR=2.0						
RKT	**Rikitea**	**35.53**	**106**	*e*LR	LR	13 02 44.6	
	506nm,27.0s						
QLP	**Quilpie**	**41.32**	**249**	P	P	12 54 19.0	-4.3
	baz=42,SNR=5.1						
STKA	**Stephens Creek**	**44.20**	**242**	*e*P	**P**	**12 54 44.1**	**-2.5**
STKA	**Stephens Creek**	**44.20**	**242**	P	**P**	**12 54 43.8**	**-2.9**
	baz=44,SNR=6.1						
STKA	**Stephens Creek**	**44.20**	**242**	P	**P**	**12 54 43.9**	**-2.8**
	3.2nm,0.8s,baz=75,slow=5.2,SNR=7.4						
WRAB	**Tennant Creek**	**50.53**	**258**	*e*P	P	12 55 31.5	-4.6
WRAB				pmax	pmax		
	comp=Z,21nm,1.4s						
WRAB	**Tennant Creek**	**50.53**	**258**	*e*P	P	12 55 31.5	-4.6
	comp=Z,21nm,1.4s						
WRA	**Warramunga Arr**	**50.53**	**258**	P	P	12 55 32.0	-4.1
WRA	**Warramunga Arr**	**50.53**	**258**	P	P	12 55 32.0	-4.1
	comp=Z,3.6nm,0.8s,baz=95,slow=7.7,SNR=31						
AS31	**Alice Springs**	**50.65**	**253**	*e*P	P	12 55 32.9	-4.1
ASAR	**Alice Springs**	**50.65**	**253**	P	P	12 55 33.1	-3.9
ASAR	**Alice Springs**	**50.65**	**253**	P	P	12 55 33.1	-3.9
	comp=Z,13nm,0.8s,baz=89,slow=8.3,SNR=100						
SBA	**Scott Base**	**61.79**	**185**	*e*P	**P**	**12 56 56.7**	**+1.0**
SBA				pmax	pmax		
	comp=Z,19nm,1.0s						
SBA	**Scott Base**	**61.79**	**185**	*e*P	**P**	**12 56 56.7**	**+1.0**
	comp=Z,19nm,1.0s						
SOEI	**Soe**	**61.92**	**268**	P	**P**	**12 56 57.1**	**-0.6**
	baz=62,SNR=5.0						
VNDA	**Vanda**	**61.95**	**186**	*e*P	**P**	**12 56 57.0**	**+0.3**
VNDA	**Vanda**	**61.95**	**186**	P	**P**	**12 56 56.4**	**-0.3**
	comp=Z,8.7nm,0.9s,baz=7.6,slow=6.4,SNR=42						
MJAR	**Matsushiro Arr**	**70.80**	**320**	P	**P**	**12 57 53.4**	**-0.7**
MJAR	**Matsushiro Arr**	**70.80**	**320**	P	**P**	**12 57 53.4**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=160,slow=6.1,SNR=4.7						
MONP	**Monument Peak**	**72.84**	**47**	⇑P	**P**	**12 58 07.5**	**+0.9**
	baz=73						
EDW2	**Edwards Air Fo**	**72.90**	**44**	⇑P	**P**	**12 58 07.9**	**+1.2**
	baz=73						
ISA	**Isabella**	**73.04**	**43**	⇓P	**P**	**12 58 08.2**	**+0.7**
	baz=73						
CMB	**Columbia Colle**	**73.24**	**40**	*e*P	**P**	**12 58 09.4**	**+0.7**
CMB				pmax	pmax		
	comp=Z,9.0nm,1.4s						
CMB	**Columbia Colle**	**73.24**	**40**	*e*P	**P**	**12 58 09.4**	**+0.7**
	comp=Z,9.2nm,1.4s						
LRMC	**Laurel Mountai**	**73.45**	**44**	⇓P	**P**	**12 58 10.8**	**+0.8**
	baz=74						
CWC	**Cottonwood Cre**	**73.75**	**43**	⇓P	**P**	**12 58 12.8**	**+1.0**
	baz=74						
MPMC	**Manual Prospec**	**73.92**	**44**	⇓P	**P**	**12 58 13.8**	**+0.9**
	baz=74						
MLAC	**Mammoth Lakes**	**73.97**	**42**	⇓P	**P**	**12 58 14.6**	**+1.4**
	baz=74						
HEC	**Hector,Ludlow**	**73.99**	**45**	⇓P	**P**	**12 58 13.9**	**+0.7**
	baz=74						
YBH	**Yreka Blue Hor**	**74.21**	**36**	*e*P	**P**	**12 58 14.9**	**+0.6**
BEKR	**Beckworth**	**74.39**	**39**	*e*P	**P**	**12 58 15.7**	**+0.1**
	comp=Z,1.4nm,0.8s						
PETK	**Petropavlovsk-**	**74.43**	**342**	P	**P**	**12 58 15.2**	**-0.1**
PETK	**Petropavlovsk-**	**74.43**	**342**	P	**P**	**12 58 15.2**	**-0.1**
PETK	**Petropavlovsk-**	**74.43**	**342**	P	**P**	**12 58 15.2**	**-0.1**
	comp=Z,3.5nm,0.8s,baz=127,slow=11,SNR=4.3						
PETK				LR	LR	13 25 14.4	
	comp=Z,39nm,21.7s,baz=12,slow=31						
NVAR	**Mina Array Bea**	**74.79**	**41**	P	**P**	**12 58 18.6**	**+0.6**
NVAR	**Mina Array Bea**	**74.79**	**41**	P	**P**	**12 58 18.6**	**+0.6**
	comp=Z,4.1nm,1.0s,baz=226,slow=8.8,SNR=13						
Z14A	**Wintersburg**	**75.55**	**48**	⇑P	**P**	**12 58 23.5**	**+1.4**
	baz=76						
MOD	**Modoc**	**75.70**	**37**	*e*P	**P**	**12 58 23.1**	**+0.1**
	comp=Z,21nm,1.0s						
Y14A	**Wickenburg**	**75.81**	**48**	⇑P	**P**	**12 58 24.9**	**+1.2**
	baz=76						
W13A	**Hualapai Mount**	**75.81**	**46**	⇑P	**P**	**12 58 24.7**	**+0.8**
	baz=76						
K05A	**Summer Lake**	**75.88**	**36**	*e*P	**P**	**12 58 25.0**	**+0.9**
	comp=Z,65nm,2.0s						
R11A	**Troy Canyon, C**	**76.47**	**43**	⇑P	**P**	**12 58 28.5**	**+0.9**
	baz=77						
X16A	**Lo Mia Camp, P**	**77.16**	**48**	⇓P	**P**	**12 58 32.4**	**+0.9**
	baz=77						
319A	**Douglas**	**77.22**	**51**	⇑P	**P**	**12 58 33.0**	**+1.2**
	baz=77						
U15A	**North Rim**	**77.62**	**46**	⇑P	**P**	**12 58 35.3**	**+1.2**
	baz=78						
J08A	**Circle Bar Ran**	**77.66**	**37**	*e*P	**P**	**12 58 34.6**	**+0.5**
	comp=Z,6.1nm,1.1s						
320A	**Kipp Ranch, An**	**77.77**	**52**	⇓P	**P**	**12 58 36.3**	**+1.4**
	baz=78						
KSRS	**Korea Array**	**78.00**	**315**	P	**P**	**12 58 37.4**	**+1.5**
	comp=Z,4.6nm,1.0s,baz=126,slow=5.9,SNR=17						
KSAR	**Wonju Array Be**	**78.02**	**315**	P	**P**	**12 58 37.4**	**+1.4**
220A	**Playas Peak, P**	**78.04**	**51**	⇓P	**P**	**12 58 37.6**	**+1.2**
	baz=78						
KSM	**Kuching**	**78.38**	**275**	P	**P**	**12 58 40.2**	**+1.6**
	baz=79,SNR=3.3						
Z20A	**Nine Sixteen R**	**78.57**	**50**	⇑P	**P**	**12 58 40.7**	**+1.3**
	baz=79						
G08A	**Pilot Rock**	**78.58**	**35**	*e*P	**P**	**12 58 39.5**	**+0.4**
	comp=Z,12nm,1.6s						
221A	**Mesquite Ranch**	**78.65**	**51**	⇓P	**P**	**12 58 40.2**	**+0.4**
	baz=79						
MVU	**Marysvale**	**78.77**	**44**	*e*P	**P**	**12 58 42.4**	**+1.9**
	comp=Z,33nm,2.3s						
121A	**Cookes Peak, D**	**78.89**	**51**	⇑P	**P**	**12 58 42.0**	**+0.9**
	baz=79						
SVW2	**Sparrevohn**	**78.94**	**8**	*e*P	P	12 58 35.1	-5.4
	comp=Z,7.3nm,0.8s						
Y20A	**Horse Springs,**	**79.11**	**50**	⇑P	**P**	**12 58 43.4**	**+0.9**
	baz=79						
MFID	**Camas Ranch**	**79.24**	**38**	⇓P	**P**	**12 58 43.7**	**+0.9**
	baz=80						
USRK	**Ussuriysk Arra**	**79.26**	**323**	P	**P**	**12 58 44.0**	**+1.4**
	comp=Z,2.8nm,1.0s,baz=131,slow=5.3,SNR=4.2						
DUG	**Dugway**	**79.29**	**42**	⇑P	**P**	**12 58 43.8**	**+0.7**
	baz=80						
X20A	**Quemado**	**79.33**	**49**	⇑P	**P**	**12 58 44.1**	**+0.5**
	baz=80						
Z21A	**St. Cloud Mine**	**79.34**	**50**	⇑P	**P**	**12 58 44.9**	**+1.2**
	baz=80						
W20A	**Ramah**	**79.61**	**48**	⇓P	**P**	**12 58 46.2**	**+1.1**
	baz=80						
Y21A	**Point of Rocks**	**79.67**	**50**	⇓P	**P**	**12 58 45.4**	**-0.1**
	baz=80						
X21A	**Alamocita Cree**	**79.80**	**49**	⇑P	**P**	**12 58 46.6**	**+0.5**
	baz=80						
Z22A	**Elephant Butte**	**79.84**	**51**	⇓P	**P**	**12 58 47.6**	**+1.3**
	baz=80						
F10A	**Beach Ranch, E**	**79.96**	**35**	*e*P	**P**	**12 58 46.5**	**-0.1**
	comp=Z,11nm,1.2s						
324A	**Moseley Ranch,**	**80.12**	**53**	⇓P	**P**	**12 58 48.9**	**+1.1**
	baz=80						
HLID	**Hailey**	**80.17**	**39**	*e*P	**P**	**12 58 48.2**	**+0.4**
	comp=Z,6.1nm,1.0s						
HLID	**Hailey**	**80.17**	**39**	⇑P	**P**	**12 58 48.3**	**+0.5**
	baz=80,SNR=9.9						
U20A	**Newcomb**	**80.21**	**47**	⇓P	**P**	**12 58 49.2**	**+1.0**
	baz=80						
425A	**Indio Mountain**	**80.21**	**54**	⇓P	**P**	**12 58 49.0**	**+0.7**
	baz=80						
SRU	**San Rafael**	**80.21**	**44**	*e*P	**P**	**12 58 48.5**	**+0.3**
SRU				pmax	pmax		
	comp=Z,6.0nm,1.1s						
SRU	**San Rafael**	**80.21**	**44**	*e*P	**P**	**12 58 48.5**	**+0.3**
	comp=Z,5.6nm,1.1s						
W21A	**San Fidel**	**80.22**	**49**	⇓P	**P**	**12 58 49.4**	**+1.0**
	baz=80						
B08A	**Colville Reser**	**80.30**	**33**	*e*P	**P**	**12 58 48.0**	**-0.3**
	comp=Z,3.7nm,1.0s						
626A	**Big Bend Ranch**	**80.34**	**55**	⇑P	**P**	**12 58 50.4**	**+1.4**
	baz=80						
224A	**Cornudas Mount**	**80.38**	**52**	⇓P	**P**	**12 58 50.7**	**+1.4**
	baz=81						
Z23A	**Rita Site, Whi**	**80.39**	**51**	⇑P	**P**	**12 58 50.4**	**+1.1**
	baz=81						
V21A	**Milan**	**80.56**	**48**	⇓P	**P**	**12 58 51.3**	**+1.1**
	baz=81						
LPM	**Los Pinos Moun**	**80.58**	**50**	*e*P	P	12 58 46.2	-4.1
526A	**Mary Lane Ranc**	**80.59**	**55**	⇑P	**P**	**12 58 51.3**	**+0.9**
	baz=81						
124A	**Stringfield Ra**	**80.71**	**52**	⇑P	**P**	**12 58 52.1**	**+1.0**
	baz=81						
BMRM	**Bremner River**	**80.78**	**13**	*e*P	**P**	**12 58 51.6**	**+1.0**
	comp=Z,132nm,2.4s						
Y23A	**Lovelace Mesa,**	**80.82**	**50**	⇓P	**P**	**12 58 52.5**	**+0.8**
	baz=81						
U21A	**Nageezi**	**80.84**	**48**	⇓P	**P**	**12 58 52.7**	**+1.0**
	baz=81						
225A	**Deer Hill, Car**	**80.92**	**53**	⇓P	**P**	**12 58 53.0**	**+0.8**
	baz=81						
527A	**Woodward Ranch**	**81.00**	**55**	⇑P	**P**	**12 58 52.9**	**+0.2**
	baz=81,SNR=6.0						
ANMO	**Albuquerque**	**81.00**	**49**	*e*P	**P**	**12 58 53.7**	**+1.2**
	comp=Z,3.3nm,1.0s						
ANMO	**Albuquerque**	**81.00**	**49**	P	**P**	**12 58 54.1**	**+1.5**
	comp=Z,3.0nm,1.0s,baz=240,slow=4.9,SNR=5.5						
Z24A	**Sheeppen Canyo**	**81.06**	**51**	⇓P	**P**	**12 58 53.6**	**+0.7**
	baz=81						
Y24A	**Capitan**	**81.28**	**51**	⇑P	**P**	**12 58 55.0**	**+0.9**
	baz=82						
628A	**Black Gap, Mar**	**81.29**	**56**	⇓P	**P**	**12 58 55.0**	**+1.0**
	baz=82						
125A	**Gardner Draw,**	**81.29**	**52**	⇓P	**P**	**12 58 55.2**	**+1.1**
	baz=82						
226B	**Tecolote Peak,**	**81.41**	**53**	⇑P	**P**	**12 58 54.7**	**0.0**
	baz=82,SNR=7.2						
427A	**Hayter Ranch,**	**81.47**	**54**	⇓P	**P**	**12 58 55.8**	**+0.8**
	baz=82						
P19A	**Cripple Cowboy**	**81.51**	**44**	⇓P	**P**	**12 58 56.4**	**+1.2**
	baz=82						
Z25A	**Roswell**	**81.52**	**52**	⇓P	**P**	**12 58 56.2**	**+0.9**
	baz=82						
V23A	**Ortiz Mt. (NFS**	**81.57**	**49**	⇑P	**P**	**12 58 56.4**	**+0.8**
	baz=82						
X24A	**Lazy VL Ranch,**	**81.57**	**50**	⇓P	**P**	**12 58 56.4**	**+0.8**
	baz=82						
Q20A	**Ridgley Place,**	**81.63**	**45**	⇑P	**P**	**12 58 56.7**	**+0.9**
	baz=82						
528A	**Cox Ranch, San**	**81.65**	**55**	⇓P	**P**	**12 58 56.2**	**+0.1**
	baz=82,SNR=5.2						

	baz=83							
M20A	Sweetwater, Wa	82.96	43	⇑P		P	12 59 03.3	+0.6
	baz=83							
R23A	Moffat	82.96	47	⇓P		P	12 59 03.6	+0.6
	baz=83							
BOZ	Bozeman (W)	82.98	38	*e*P		P	12 59 02.8	+0.1
BOZ					pmax	pmax		
	comp=Z,6.0nm,1.2s							
BOZ	Bozeman (W)	82.98	38	*e*P		P	12 59 02.8	+0.1
	comp=Z,5.6nm,1.2s							
P22A	Eagle	82.98	45	⇑P		P	12 59 03.2	+0.3
	baz=83							
631A	Perdido Creek	83.09	57	⇓P		P	12 59 04.3	+0.8
	baz=83							
L20A	Wamsutter	83.12	42	⇓P		P	12 59 03.7	+0.1
	baz=83,SNR=8.8							
S24A	Houchin Ranch,	83.14	47	⇑P		P	12 59 04.2	+0.3
	baz=83							
U25A	Circle Dot Ran	83.15	49	⇓P		P	12 59 04.3	+0.4
	baz=83							
K19A	Absolon Red Bu	83.20	42	⇑P		P	12 59 04.1	+0.2
	baz=83							
Z28A	Tucker Farm, M	83.28	52	⇓P		P	12 59 05.3	+0.8
	baz=84							
J19A	Crowheart	83.30	41	⇑P		P	12 59 05.0	+0.6
	baz=84							
V26A	Tequesquite Ra	83.33	50	⇑P		P	12 59 05.4	+0.7
	baz=84							
O22A	Kremmling	83.40	45	⇓P		P	12 59 05.1	-0.1
	baz=84,SNR=5.3							
330A	Mertzon	83.43	55	⇑P		P	12 59 05.0	-0.2
	baz=84							
HRY	Holter Researc	83.44	37	*e*P		P	12 59 05.7	+0.7
K20A	Yellowstone Ra	83.44	42	⇓P		P	12 59 04.7	-0.5
	baz=84,SNR=6.4							
T25A	Trinidad	83.48	48	⇓P		P	12 59 06.1	+0.6
	baz=84							
R24A	Sanders Place,	83.48	47	⇓P		P	12 59 06.1	+0.6
	baz=84							
P23A	Jefferson	83.51	46	⇓P		P	12 59 06.3	+0.5
	baz=84							
W27A	Bowe Ranch, En	83.54	51	⇑P		P	12 59 06.4	+0.6
	baz=84							
M21A	Separation Pea	83.55	43	⇑P		P	12 59 05.8	-0.1
	baz=84,SNR=5.2							
U26A	Atchley Ranch,	83.62	49	⇑P		P	12 59 07.1	+0.8
	baz=84							
H18A	Shoshone NF, C	83.64	40	⇑P		P	12 59 07.0	+0.8
	baz=84							
Y28A	McKinney Farm,	83.65	52	⇓P		P	12 59 07.2	+0.8
	baz=84							
COLA	College	83.69	10	*e*P		P	12 59 05.3	-0.4
COLA					pmax	pmax		
	comp=Z,16nm,1.0s							
COLA	College	83.69	10	*e*P		P	12 59 05.3	-0.4
	comp=Z,16nm,1.0s							
S25A	Robets Cordova	83.69	48	⇑P		P	12 59 06.5	-0.2
	baz=84							
L21A	Rawlins	83.72	43	⇑P		P	12 59 06.9	+0.2
	baz=84							
I19A	Meeteetse	83.73	40	⇓P		P	12 59 07.2	+0.5
	baz=84							
632A	Uvalde	83.76	57	⇑P		P	12 59 07.6	+0.7
	baz=84							
N22A	Wattenberg Ran	83.77	44	⇑P		P	12 59 07.2	+0.2
	baz=84							
ILAR	Eielson Array	83.77	11	P		P	12 59 05.0	-1.0
ILAR	Eielson Array	83.77	11	P		P	12 59 05.0	-1.0
	comp=Z,1.8nm,0.7s,baz=221,slow=5.1,SNR=23							
Q24A	Divide	83.79	46	⇓P		P	12 59 07.8	+0.6
	baz=84							
O23A	Lake Granby, G	83.84	45	⇑P		P	12 59 08.1	+0.7
	baz=84							
IM04	Indian Mountai	83.85	8	*e*P		P	12 59 06.5	-0.1
ISCO	Idaho Springs	83.86	45	⇓P		P	12 59 07.6	0.0
	baz=84							
532A	Rocksprings	83.92	56	⇑P		P	12 59 08.2	+0.5
	baz=84							
X28A	Dimmitt	83.95	51	⇑P		P	12 59 08.6	+0.7
	baz=84							
J20A	Shoshoni	83.95	41	⇑P		P	12 59 08.1	+0.3
	baz=84,SNR=6.2							
M22A	Cedar Creek Ra	83.96	44	⇑P		P	12 59 08.6	+0.6
	baz=84							
R25A	Fountain Ranch	84.02	47	⇓P		P	12 59 08.9	+0.7
	baz=84							
Y29A	Porterfield Fa	84.07	52	⇑P		P	12 59 09.3	+0.8
	baz=84							
K21A	Alcova	84.13	42	⇑P		P	12 59 08.3	-0.4
	baz=84,SNR=6.9							
JCT	Junction City	84.14	56	⇓P		P	12 59 09.6	+0.8
	baz=84							
N23A	Red Feather La	84.15	44	⇑P		P	12 59 09.5	+0.6
	baz=84							
GCMT	Greyclif	84.22	39	*e*P		P	12 59 09.1	+0.1
	comp=Z,4.1nm,1.1s							
I20A	Worland	84.22	41	⇑P		P	12 59 09.5	+0.5
	baz=84,SNR=6.9							
Z30A	Sanderson Ranc	84.24	53	⇓P		P	12 59 09.3	0.0
	baz=84							
432A	Menard	84.30	55	⇑P		P	12 59 09.7	0.0
	baz=84							
U27A	Thompson Grove	84.30	49	⇓P		P	12 59 09.6	0.0
	baz=84							
231A	Bronte	84.31	54	⇓P		P	12 59 09.9	+0.2
	baz=84							
S26A	Kim	84.36	48	⇑P		P	12 59 10.1	+0.1
	baz=84							
L22A	Ellis Ranch, M	84.37	43	⇑P		P	12 59 10.6	+0.7
	baz=85							
Q25A	Bedland, Calha	84.39	47	⇓P		P	12 59 10.4	+0.2
	baz=85							
332A	Millersview	84.54	55	⇑P		P	12 59 11.2	+0.3
	baz=85							
131A	Roby	84.56	54	⇓P		P	12 59 10.1	-0.8
	baz=85							
H20A	Greybull	84.57	40	⇑P		P	12 59 10.6	-0.2
	baz=85							
K22A	Casper	84.61	43	⇓P		P	12 59 11.1	0.0
	baz=85							
Y30A	Stafford Cattl	84.66	52	⇓P		P	12 59 11.5	+0.1
	baz=85							
DAWY	Dawson	84.67	14	*e*P		P	12 59 10.7	-0.1
I21A	Big Trails, Te	84.68	41	⇓P		P	12 59 11.3	-0.1
	baz=85,SNR=8.2							
F19A	Roth Farm, Mol	84.69	39	⇓P		P	12 59 11.9	+0.5
	baz=85							
P25A	Willow Gulch B	84.72	46	⇓P		P	12 59 12.5	+0.7
	baz=85							
G20A	Bridger	84.81	40	⇓P		P	12 59 12.7	+0.7
	baz=85							
232A	Coleman	84.82	55	⇑P		P	12 59 12.2	-0.1
	baz=85							
N24A	Carr	84.83	45	⇑P		P	12 59 13.2	+0.9
	baz=85							
L23A	Garrett	84.89	43	⇑P		P	12 59 13.1	+0.5
	baz=85							
EGAK	Eagle	84.89	13	*e*P		P	12 59 12.4	+0.7
	comp=Z,37nm,2.1s							
Q26A	Hugo	84.91	47	⇓P		P	12 59 13.4	+0.8
	baz=85							
X30A	Coker Ranch, T	84.91	52	⇑P		P	12 59 13.2	+0.5
	baz=85							
J22A	Midwest	85.00	42	⇑P		P	12 59 12.8	-0.2
	baz=85,SNR=5.9							
Z31A	Sharp Cattle R	85.00	53	⇓P		P	12 59 13.9	+0.7
	baz=85							
E19A	Rath Farm, Rou	85.09	38	⇓P		P	12 59 13.9	+0.6
	baz=85							
ABTX	Abilene, Hawle	85.11	54	⇓P		P	12 59 14.1	+0.5
	baz=85							
R27A	Eads	85.13	48	⇑P		P	12 59 14.3	+0.5
	baz=85							
F20A	Billings	85.14	39	⇑P		P	12 59 14.1	+0.5
	baz=85							
Y31A	Rekieta Farm,	85.18	53	⇓P		P	12 59 14.6	+0.6
	baz=85							
I22A	9 Mile Ranch,	85.23	41	⇓P		P	12 59 14.6	+0.4
	baz=85							
H21A	Big Horn, Sher	85.23	41	⇓P		P	12 59 14.7	+0.6
	baz=85							
K23A	Bowen Ranch, D	85.24	43	⇓P		P	12 59 15.2	+1.0
	baz=85							
D19A	Cripps Ranch,	85.39	38	⇓P		P	12 59 14.9	+0.1
	baz=86							
G21A	Lodge Grass	85.43	40	⇓P		P	12 59 15.6	+0.5
	baz=86							
E20A	Meyer Farm, Mu	85.50	39	⇓P		P	12 59 16.5	+1.1
	baz=86							
Z32A	Haskell	85.51	53	⇓P		P	12 59 16.4	+0.7
	baz=86							
COLD	Coldfoot	85.52	8	*e*P		P	12 59 16.1	+1.2
C19A	Slack Wire Ran	85.59	37	⇓P		P	12 59 16.8	+1.0
	baz=86							
D20A	Manuel Ranch,	85.80	38	⇑P		P	12 59 17.3	+0.5
	baz=86							
Y32A	R-V Farms, Ver	85.82	53	⇑P		P	12 59 17.5	+0.4
	baz=86							
R28A	Tribune	85.86	48	⇓P		P	12 59 18.1	+0.8
	baz=86							
W31A	Holland Ranch,	85.91	51	⇓P		P	12 59 18.3	+0.6
	baz=86							
B19A	Brinkman Farms	86.02	37	⇑P		P	12 59 18.5	+0.6
	baz=86							
C20A	Veseth Ranch,	86.19	38	⇓P		P	12 59 19.3	+0.6
	baz=86							
EDM	Edmonton	86.26	31	*e*P		P	12 59 19.2	+0.2
EDM	Edmonton	86.26	31	*e*P		P	12 59 19.1	+0.2
A19A	Klindworth Far	86.38	36	⇑P		P	12 59 20.3	+0.6
	baz=87							
B20A	Solberg Farm,	86.54	37	⇑P		P	12 59 21.3	+0.9
	baz=87							
WHTX	Lake Whitney	86.57	55	⇓P		P	12 59 21.5	+0.6
	baz=87							
MAW	Mawson	86.66	198	P		P	12 59 20.4	-0.3
MAW	Mawson	86.66	198	P		P	12 59 20.2	-0.5
	baz=87,SNR=11							
MAW	Mawson	86.66	198	P		P	12 59 20.4	-0.3
	comp=Z,7.7nm,0.9s,baz=115,slow=4.7,SNR=19							
APG	El Apazote	86.75	73	P		P	12 59 22.8	+0.4
APG	El Apazote	86.75	73	P		P	12 59 22.8	+0.4
	comp=Z,3.6nm,0.9s,baz=225,slow=11,SNR=3.6							
A20A	Cobblestone Ra	86.82	37	⇓P		P	12 59 22.3	+0.5
	baz=87							
PLCA	Paso Flores	87.69	132	P		P	12 59 27.3	+0.9
PLCA	Paso Flores	87.69	132	P		P	12 59 27.3	+0.9
	comp=Z,5.1nm,0.9s,baz=236,slow=6.7,SNR=4.4							
GYA	Guiyang	89.70	298	*e*P		P	12 59 36.4	+0.3
GYA				PP		PP	13 03 09.8	+1.3
GYA				SKS		SKSac	13 10 03.2	-3.2
GYA				S		S	13 10 25.8	-1.7
GYA				SS		SS	13 16 25.5	+0.9
GYA				AMB		AMB		
	comp=Z,10.0nm,1.0s							
GYA				AMB		AMB		
	comp=Z,90nm,6.7s							
GYA				LR		LR		
	comp=Z,450nm,19.8s							
GYA				LR		LR		
	comp=Z,390nm,20.2s							
GYA				LR		LR		
	comp=Z,420nm,19.9s							
TEIG	Tepich	90.35	69	LR		LR	13 30 58.7	
	comp=Z,60nm,21.9s,baz=76,slow=29							
JTS	JuntasAbangare	90.45	79	P		P	12 59 41.1	+1.3
JTS	JuntasAbangare	90.45	79	P		P	12 59 41.1	+1.3
	comp=Z,9.2nm,0.8s,baz=252,slow=6.3,SNR=6.1							
JTS				LR		LR	13 32 42.5	
	comp=Z,88nm,20.4s,baz=166,slow=30							
HHC	Hu-ho-hao-te	90.85	313	*e*P		P	12 59 40.5	-0.6
HHC				PP		PP	13 03 19.0	+1.7
HHC				SKS		SKSac	13 10 09.9	-2.6
HHC				S		S	13 10 34.6	-2.9
HHC				sS		ScS	13 10 42.5	+1.7
HHC				SS		SS	13 16 40.8	+0.1
HHC				AMB		AMB		
	comp=Z,29nm,1.1s							
HHC				AMB		AMB		
	comp=Z,400nm,5.1s							
HHC				LR		LR		
	comp=Z,340nm,17.0s							
HHC				LR		LR		
	comp=Z,400nm,17.5s							
HHC				LR		LR		
	comp=Z,200nm,18.6s							
SNAA	Sanae	91.30	177	*e*P		P	12 59 41.6	-1.1
SNAA	Sanae	91.30	177	*e*P		P	12 59 41.4	-1.3
	comp=Z,4.0nm,1.0s							
VNA2	Neumayer--Watz	91.72	175	*e*P		P	12 59 44.2	-0.4
VNA1	Neumayer--Stat	91.91	175	*e*P		P	12 59 41.4	-4.0
KMI	Kunming	92.65	295	P		P	12 59 51.5	+1.5
KMI				AMB		AMB		
	comp=Z,9.0nm,1.6s							
CD2	Chengdu	93.52	301	P		P	12 59 54.4	+0.8
CD2				AMB		AMB		
	comp=Z,10.0nm,0.5s							
CMAR	Chiang Mai Arr	94.10	288	P		P	12 59 57.3	+0.8
CMAR	Chiang Mai Arr	94.10	288	P		P	12 59 57.3	+0.8
	comp=Z,2.4nm,0.9s,baz=103,slow=2.6,SNR=6.0							
KURK	Kurchatov	115.00	318	*i* PKIKP		PKPdf	13 05 17.1	-1.2
KSH	Kashi	117.24	306	*e*PKP		PKPdf	13 05 23.2	+0.1
BRVK	Borovoye	119.81	322	⇓*i*PKIKP		PKPdf	13 05 27.0	-0.5
ARU	Arti	125.22	328	*e*PKIKP		PKPdf	13 05 36.5	-1.2
KLMR	Klimovskoe	130.61	340	*e*P		Pdif	13 02 42.3	+4.0
KLMR				pmax		pmax		
	comp=Z,10.0nm,1.2s							
BOSA	Boshof	131.62	201	PKP		PKPdf	13 05 52.0	+1.0
BOSA	Boshof	131.62	201	PKP		PKPdf	13 05 52.0	+1.0
	comp=Z,4.2nm,1.0s,baz=90,slow=4.0,SNR=4.2							
AKASG	Malin Array Be	142.18	338	PKHKP		PKPpre	13 06 04.3	
AKASG							13 06 09.4	
AKASG	Malin Array Be	142.18	338	PKPpre		PKPpre	13 06 04.2	
AKASG				PKP		PKPdf	13 06 09.4	-0.2
AKASG	Malin Array Be	142.18	338	PKHKP		PKPpre	13 06 04.2	
	comp=Z,0.2nm,0.3s,baz=36,slow=3.9,SNR=3.4							
AKASG				PKP		PKPdf	13 06 09.4	-0.2
	comp=Z,0.6nm,0.5s,baz=36,slow=2.6,SNR=5.5							
CLL	Collm	145.47	354	*e*PKPdf		PKPab	13 06 16.0	+0.4
CLL				*e*			13 06 26.0	
ATD	Arta Tunnel	145.54	266	PKPbc		PKPab	13 06 16.5	-0.5
ATD	Arta Tunnel	145.54	266	PKPbc		PKPab	13 06 16.5	-0.5
	comp=Z,11nm,0.6s,baz=226,slow=5.0,SNR=12							
MALT	Malatya	145.71	314	⇓PKIKP		PKPab	13 06 18.2	+1.2
MALT	Malatya	145.71	314	⇓*i*P		PKPab	13 06 18.1	+1.1
KMBO	Kilima Mbogo	145.76	241	PKPbc		PKPbc	13 06 17.5	-0.3
KMBO				*e*PKPdf		PKPab	13 06 18.2	+0.1
KMBO	Kilima Mbogo	145.76	241	PKPbc		PKPbc	13 06 17.5	-0.3
	comp=Z,4.2nm,0.2s,baz=60,slow=6.1,SNR=16							
BRG	Berggiesshubel	145.80	353	*e*P		PKPbc	13 06 16.2	-0.2
	comp=Z,5.7nm,1.1s							
BRG	Berggiesshubel	145.80	353	*e*PKP2		PKPbc	13 06 16.2	-0.2
BRG				pmax		pmax		
	comp=Z,6.0nm,1.1s							
STHS	Stebnicka Huta	145.81	344	*e*PKP		PKPab	13 06 26.6	+10
UPC	Upice	145.87	351	*e*PKP2		PKPab	13 06 17.4	+0.3
UPC	Upice	145.87	351	*e*PKP		PKPab	13 06 17.4	+0.3
UPC				*ex*		x	13 06 28.4	
KOLS	Kolonicke sedl	145.97	343	*e*PKP2		PKPbc	13 06 16.8	-0.2
KOLS	Kolonicke sedl	145.97	343	*e*PKP		PKPbc	13 06 16.8	-0.2
DPC	Dobruska-Polom	145.97	350	*e*PKP2		PKPbc	13 06 17.0	-0.1
DPC	Dobruska-Polom	145.97	350	*e*PKP		PKPbc	13 06 17.0	-0.1
DPC				*ex*		x	13 06 26.9	
BURAR	Bucovina Array	146.20	339	⇑PKP2		PKPab	13 06 23.3	+4.7
BURAR	Bucovina Array	146.20	339	⇑*i*P		PKPab	13 06 23.3	+4.7
UZH	Uzhgorod	146.24	342	*e*PKHKP		PKPpre	13 06 13.7	
UZH				*i*			13 06 15.7	
UZH				*e*			13 06 21.3	
UZH				*i*			13 06 28.1	
VRI	Vrincioaia	147.09	335	⇓PKP2		PKPbc	13 06 20.8	+0.4
VRI	Vrincioaia	147.09	335	⇓*i*P		PKPbc	13 06 20.8	+0.4
GRF	Grafenberg Arr	147.22	356	*e*PKP2		PKPbc	13 06 21.1	+0.4
GRF	Grafenberg Arr	147.22	356	*e*PKP		PKPbc	13 06 21.1	+0.4
TIRR	Tirgusor	147.50	332	⇓PKP2		PKPab	13 06 22.3	-1.3
TIRR	Tirgusor	147.50	332	⇓*i*P		PKPab	13 06 22.3	-1.3
KHC	Kasperske Hory	147.56	353	*e*PKP2		PKPbc	13 06 21.6	-0.1
KHC	Kasperske Hory	147.56	353	*e*PKP		PKPbc	13 06 22.1	+0.5
KHC				*ex*		x	13 06 31.8	
KHC	Kasperske Hory	147.56	353	*e*PKPbc		PKPbc	13 06 21.6	-0.1
TLB	Topalu	147.57	332	⇓PKP2		PKPab	13 06 22.6	-1.2
TLB	Topalu	147.57	332	⇓*i*P		PKPab	13 06 22.6	-1.2
MLR	Muntele Rosu	147.72	336	⇓*i*P		PKPbc	13 06 22.7	+0.4
DRGR		147.75	341	⇓PKP2		PKPbc	13 06 22.6	+0.3
DRGR		147.75	341	⇓*i*P		PKPbc	13 06 22.6	+0.3
GERES	GERESS Array B	147.82	353	PKPbc		PKPbc	13 06 23.1	+0.6
GERES	GERESS Array B	147.82	353	PKPbc		PKPbc	13 06 23.1	+0.6
	comp=Z,0.9nm,0.5s,baz=48,slow=2.0,SNR=11							
BR131	Keskin Array S	148.03	320	*e*PKPbc		PKPbc	13 06 23.3	-0.1
BRTR	Keskin Array B	148.03	320	PKPbc		PKPbc	13 06 23.3	-0.1
BRTR	Keskin Array B	148.03	320	PKPbc		PKPbc	13 06 23.3	-0.1
	comp=Z,11nm,0.9s,baz=132,slow=1.8,SNR=36							
VOIR		148.11	337	⇑PKP2		PKPbc	13 06 24.4	+1.1
VOIR		148.11	337	⇑*i*P		PKPbc	13 06 24.4	+1.1
ARR	Arges	148.32	337	⇓*i*P		PKPab	13 06 25.2	-1.7
CONA	Conrad Observa	148.39	350	⇑*i*pPKPdf		PKPbc	13 06 23.1	-0.8
	comp=Z,9.1nm,1.1s							
SIRR	Siria	148.55	341	⇓*i*P		PKPbc	13 06 25.3	+0.9
GZR	Gura Zlata	148.97	339	⇑*i*P		PKPbc	13 06 25.9	+0.4
BZS	Buzias	149.15	341	⇓PKP2		PKPbc	13 06 25.6	-0.3
BZS	Buzias	149.15	341	⇓*i*P		PKPbc	13 06 25.6	-0.3
PERS	Pernice	149.77	350	*i* PKPbc		PKPbc	13 06 27.0	-0.5
FETA	Feichten	149.92	356	⇑*i*PKPbc		PKPbc	13 06 27.0	-1.0
	comp=Z,12nm,1.0s							
ABTA	Abfaltersbach	150.03	353	⇑*i*PKPbc		PKPbc	13 06 27.6	-0.5
	comp=Z,16nm,1.0s,SNR=6.7							
LJU	Ljubljana	150.45	350	*i* PKPbc		PKPbc	13 06 29.0	-0.1
TUE	Stuetta	150.54	358	*e*PKPbc		PKPbc	13 06 28.6	-0.9
VTS	Vitosha	151.22	336	⇓PKIKP		PKPbc	13 06 31.6	+0.4
VTS	Vitosha	151.22	336	⇓*i*P		PKPbc	13 06 31.6	+0.4
SSB	Saint Sauveur	151.64	5	*e*PKIKP		PKPdf	13 06 28.2	+2.5
SSB	Saint Sauveur	151.64	5	*e*PKPdf		PKPdf	13 06 28.2	+2.5
ESDC	Sonseca Array	155.19	22	PKPab		PKPab	13 06 56.2	+0.5
ESDC	Sonseca Array	155.19	22	PKPab		PKPab	13 06 56.2	+0.5
	comp=Z,0.2nm,0.3s,baz=326,slow=3.3,SNR=4.9							
TORD	Torodi Ar. Bea	173.07	122	PKP		PKPdf	13 06 45.4	-2.2
TORD				PKPab		PKPab	13 08 14.0	-0.7
TORD	Torodi Ar. Bea	173.07	122	PKP		PKPdf	13 06 45.4	-2.2
	comp=Z,2.1nm,1.1s,baz=311,slow=1.6,SNR=7.0							
TORD				PKPab		PKPab	13 08 14.0	-0.7
	comp=Z,3.3nm,0.9s,baz=251,slow=4.2,SNR=15							

IDC 05 12:47:54.2±2.9, 16.96S×173.17W, h0km, mb4.5/4, mb1 4.6/4, mb1mx4.1/20, mbtmp4.5/4, MS4.0/3, Ms1 4.0/3, ms1mx3.5/28, Error ellipse: s-maj=68.7km s-min=43.1km az=100.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	22.87	200	P	P	12 52 59.3	0.0
	11nm,0.5s,baz=138,slow=1.5,SNR=7.8						
PMG	Port Moresby	39.29	276	LR	LR	13 09 12.2	
	comp=Z,281nm,20.1s,baz=309,slow=32						
STKA	Stephens Creek	43.47	241	P	P	12 55 59.1	-0.2
	3.9nm,1.0s,baz=96,slow=9.9,SNR=3.7						
WRA	Warramunga Arr	49.72	258	P	P	12 56 48.3	-0.3
	2.0nm,0.5s,baz=96,slow=6.9,SNR=12						
ASAR	Alice Springs	49.85	253	P	P	12 56 49.7	+0.1
	6.2nm,0.5s,baz=87,slow=8.6,SNR=10						
MJAR	Matsushiro Arr	70.27	320	LR	LR	13 22 30.3	
	comp=Z,91nm,21.2s,baz=125,slow=30						
ANMO	Albuquerque	81.64	50	LR	LR	13 29 20.5	
	comp=Z,110nm,21.9s,baz=208,slow=30						
BRTR	Keskin Array B	147.49	320	PKPbc	PKPbc	13 07 39.9	-0.8
	2.2nm,0.9s,baz=126,slow=2.5,SNR=2.2						

*BKK **05** 12:50:48.8±1.5, 2°S±15°×10°E±°, h10km, M4.6/9, mB4.9/3, mb4.5/9, MLv4.7/4, Mw(mB)4.2/3*

*BJI **05** 12:50:54.8, 1.63S×99.77E, h91km, mB5.1/25, mb4.8/36*

*AUST **05** 12:50:55.1±0.6, 1.25S×99.17E, h48km, Error ellipse: s-maj=1.7km s-min=0.7km az=246.0*

*ISCJB **05** 12:51:00.7±0.5, 0.89S±0.04×99.71E±0.04, h86km±4km, mb4.6/44, Error ellipse: s-maj=7.6km s-min=4.5km az=141.3*

*DJA **05** 12:51:02.2±0.4, 1°S±3°×10°E±°, h56km±7km, M5.1/14, mb5.1/12, mB5.6/7, MLv5.1/14, Mw(mB)5.1/7*

*IDC **05** 12:51:03.0±2.9, 0.75S×99.93E, h89km±25km, mb4.1/21, mb1 4.2/23, mb1mx4.1/27, mbtmp4.1/23, Error ellipse: s-maj=18.2km s-min=11.1km az=54.0*

*NEIC **05** 12:51:03.1±0.7, 0.79S×99.87E, h94km±6km, mb4.8/13, Error ellipse: s-maj=9.3km s-min=4.9km az=58.0*

NEIC Felt [III] at Padangpanjang and Pariaman.

ISC 05 12:51:02.8±0.4, 0.91S±0.04×99.77E±0.05, h92km±2km, h92km:pP-P, n208, σ1§41/227, mb4.7/44, 17C-13D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	Padang	0.69	90	P	Pn	12 51 18.7	-0.7
PDSI				S	Sn	12 51 29.1	-2.8
PPI	Padang Panjang	0.77	54	P	Pn	12 51 19.1	-1.1
PPI	Padang Panjang	0.77	54	P	Pn	12 51 19.1	-1.1
	baz=1.5,SNR=326						
RGRI	Rengat	2.62	78	P	Pn	12 51 43.9	+0.6
RGRI				S	Sn	12 52 15.7	+1.2
PSI	Prapat	3.78	347	P	Pn	12 51 56.2	-2.9
PSI	Prapat	3.78	347	P	Pn	12 51 56.3	-2.9
	baz=4.0,SNR=75						
PSI	Prapat	3.78	347	P	Pn	12 51 56.2	-2.9
	65nm,0.3s,baz=336,slow=7.8,SNR=197						
KSI	Kapahiang	3.92	134	P	Pn	12 52 01.8	+0.9
KSI				S	Sn	12 52 47.2	+1.3
FRIM	Kepong	4.52	24	P	Pn	12 52 08.3	-0.7
KGM	Kluang	4.59	51	P	Pn	12 52 09.8	-0.1
BTDF	Bukit Timah Da	4.59	61	P	Pn	12 52 09.9	0.0
	baz=5.3,SNR=8.0						
BTDF				P	Pn	12 52 09.9	0.0
	baz=5.3,SNR=8.0						
MNAI	Manna	4.68	137	P	Pn	12 52 11.0	-0.1
MNAI

5.3nm,1.0s
KAPI Kappang 20.36 102 *e*P **P 12 55 32.4 +0.2**
34nm,1.1s
KAPI Kappang 20.36 102 P **P 12 55 32.6 +0.4**
25nm,1.1s,baz=284,slow=11,SNR=5.0
CMAI Chiengmai2 20.73 358 P **P 12 55 36.0 -0.2**
28nm,1.1s
BKSI Bulukumba 20.79 103 P Pn 12 55 43.8 +3.8
QIZ Qiongzhong 22.15 26 P **P 12 55 51.1 -0.1**
QIZ sP **sP 12 56 20.6 -0.3**
QIZ S **S 12 59 49.9 +0.2**
QIZ AMB AMB
comp=Z,11nm,1.1s
QIZ AMB AMB
comp=Z,320nm,6.1s
MRSI Marisa 22.21 87 P **P 12 55 53.5 +1.5**
KMI Kunming 26.04 6 P **P 12 56 28.6 +0.8**
KMI S **S 13 00 53.3 +0.9**
KMI AMB AMB
comp=Z,15nm,0.6s
KMI LR LR
comp=Z,95nm,26.6s
TBP Tagbilaran 26.20 66 *e*P **P 12 56 32.1 +3.0**
MSLP Maasin 27.27 66 *e*P **P 12 56 35.1 -3.7**
H08S2 Diego Garcia H 28.00 255 T T 13 24 53.9
baz=76,slow=0.7,SNR=360
H08S3 Diego Garcia H 28.00 255 T T 13 24 55.5
baz=76,slow=0.7,SNR=287
GYA Guiyang 28.01 13 P **P 12 56 46.8 +1.4**
GYA pP **pP 12 57 07.4 +1.2**
GYA sP **sP 12 57 18.0 +1.1**
GYA PP **PnPn 12 57 40.4 +2.6**
GYA S **S 13 01 23.8 +0.5**
GYA sS **sS 13 02 00.5 +1.1**
GYA ScP **ScP 13 03 30.0 -1.1**
GYA ScS **ScS 13 07 22.0 -1.9**
GYA AMB AMB
comp=Z,10.0nm,0.8s
GYA AMB AMB
comp=Z,120nm,4.7s
GYA LR LR
comp=N,550nm,17.6s
GYA LR LR
comp=E,490nm,18.0s
GYA LR LR
comp=Z,520nm,17.6s
H08S1 Diego Carcia H 28.01 255 T T 13 25 01.7
baz=76,slow=0.7,SNR=218
ODAN Odare 30.08 338 *e*P **P 12 57 04.2 +0.4**
51nm,0.5s
TAPN Taplejung 30.40 338 *e*P **P 12 57 07.5 +0.8**
31nm,0.5s
RAMN Ramite 30.47 336 *e*P **P 12 57 08.2 +0.9**
FITZ Fitzroy Crossi 30.62 125 P **P 12 57 07.6 -0.8**
baz=31,SNR=3.3
JIRN Jiri 31.26 336 *e*P **P 12 57 14.9 +0.5**
PKI Pulchoki 31.51 335 *e*P **P 12 57 16.6 +0.1**
LSA Lhasa 31.53 346 P **P 12 57 16.6 -0.3**
LSA Lhasa 31.53 346 *e*P **P 12 57 16.2 -0.7**
6.2nm,0.6s
GUN Gumba 31.61 336 *e*P **P 12 57 18.2 +0.7**
91nm,0.4s
DMN Daman 31.67 335 *e*P **P 12 57 18.0 +0.1**
KKN Kakani 31.75 335 *e*P **P 12 57 18.8 +0.3**
18nm,0.3s
CD2 Chengdu 31.87 6 P **P 12 57 21.1 +1.7**
CD2 AMB AMB
comp=Z,30nm,0.5s
CD2 AMB AMB
comp=Z,610nm,5.2s
GKN Gorkha 32.21 334 *e*P **P 12 57 22.9 +0.4**
12nm,0.3s
KOLN Koldanda 32.48 333 *e*P **P 12 57 25.5 +0.6**
FAKI Fak Fak 32.52 94 P **P 12 57 24.4 -0.9**
baz=33,SNR=5.2
DANN Dangsing 32.90 333 *e*P **P 12 57 29.0 +0.3**
32nm,0.5s
WHN Wuhan 34.22 23 ⇑P P 12 57 33.9 -5.9
XAN Xi'an 35.81 13 P **P 12 57 50.6 -2.9**
XAN AMB AMB
comp=Z,4.0nm,0.5s
XAN AMB AMB
comp=Z,36nm,4.6s
H01W3 Cape Leeuwin H 36.36 160 T T 13 36 13.9
baz=335,slow=0.7,SNR=4.7
H01W2 Cape Leeuwin H 36.37 160 T T 13 36 27.6
baz=335,slow=0.7,SNR=3.7
H01W1 Cape Leeuwin H 36.38 160 T T 13 36 12.1
baz=335,slow=0.7,SNR=4.2
LZH Lanzhou 37.00 5 *e*P **P 12 58 06.4 +2.7**
LZH AMB AMB
comp=Z,25nm,1.4s
LZH AMB AMB
comp=Z,100nm,5.0s
NJ2 Nanjing 37.43 27 *e*P **P 12 58 08.2 +1.0**
NJ2 AMB AMB
comp=Z,13nm,0.9s
WRA Warramunga Arr 38.75 121 P **P 12 58 17.4 -1.1**
WRA PcP **PcP 13 00 28.4 -0.2**
WRA Warramunga Arr 38.75 121 P **P 12 58 17.4 -1.1**
1.2nm,0.5s,baz=309,slow=8.9,SNR=14
WRA PcP **PcP 13 00 28.3 -0.2**
0.7nm,0.4s,baz=310,slow=2.9,SNR=5.4
ASAR Alice Springs 40.08 127 P **P 12 58 29.1 -0.5**
ASAR PcP **PcP 13 00 33.0 +0.3**
ASAR S **S 13 04 23.8 -5.5**
ASAR Alice Springs 40.08 127 P **P 12 58 29.1 -0.5**
2.3nm,0.7s,baz=297,slow=7.8,SNR=12
ASAR PcP **PcP 13 00 33.0 +0.3**
1.8nm,0.5s,baz=307,slow=2.7,SNR=7.2
ASAR S **S 13 04 23.8 -5.5**
1.2nm,0.8s,baz=296,slow=14,SNR=9.1
GTA Gaotai 40.13 0 *e*P **P 12 58 28.9 -0.9**
GTA pP **pP 12 58 50.1 -1.3**
GTA sP **sP 12 59 01.4 -0.5**
GTA AMB AMB
comp=Z,5.0nm,0.5s
HHC Hu-ho-hao-te 42.93 13 *e*P **P 12 58 52.4 -0.2**
HHC pP **pP 12 59 15.2 +0.8**
HHC sP **sP 12 59 26.9 +2.0**
HHC PP **PP 13 00 36.0 +1.9**
HHC S **S 13 05 10.3 -0.6**
HHC sS **sS 13 05 49.6 +1.2**
HHC AMB AMB
comp=Z,39nm,0.9s
HHC AMB AMB
comp=Z,420nm,4.9s
HHC LR LR
comp=N,410nm,14.5s
HHC LR LR
comp=E,630nm,15.6s
HHC LR LR
comp=Z,370nm,14.9s
BJI Beijing 43.43 18 P **P 12 58 55.5 -1.0**
BJI AMB AMB
comp=Z,20nm,0.8s
BJI AMB AMB
comp=Z,130nm,4.2s
JNU Nakatsue 44.78 38 *e*P **P 12 59 06.2 -1.3**
15nm,0.8s
KSH Kashi 45.76 334 P **P 12 59 14.0 -1.3**
KSH pP **pP 12 59 35.4 -1.9**
KSH sP **sP 12 59 44.7 -3.0**
KSH PcP **PcP 13 00 50.3 -1.3**
KSH PP **PP 13 01 06.7 +2.4**
KSH S **S 13 05 56.5 +4.4**
KSH SS **SS 13 09 12.1 -5.8**
KSH AMB AMB
comp=Z,70nm,5.4s
KSH LR LR
comp=N,81nm,4.3s
KSH LR LR
comp=E,120nm,4.5s
KSH LR LR
comp=Z,140nm,7.0s
WMQ Urumqi 45.83 348 P **P 12 59 16.6 +1.0**
WMQ pP **pP 12 59 39.6 +1.9**
WMQ sP **sP 12 59 51.0 +2.9**
WMQ PcP **PcP 13 00 53.0 +1.4**
WMQ PP **PP 13 01 05.9 +1.1**
WMQ S **S 13 05 52.2 -0.6**
WMQ sS **sS 13 06 32.4 +1.8**
WMQ SS ScS 13 09 10.1 +7.5
WMQ AMB AMB
comp=Z,49nm,0.8s
WMQ AMB AMB
comp=Z,200nm,4.6s
WMQ LR LR
comp=N,180nm,6.0s
WMQ LR LR
comp=E,190nm,5.6s
WMQ LR LR
comp=Z,40nm,19.8s
KSAR Wonju Array Be 46.18 31 P **P 12 59 17.5 -0.9**
KSRS Korea Array 46.21 31 P **P 12 59 17.5 -1.1**
12nm,0.8s,baz=224,slow=8.2,SNR=43
MANU Manus Island 47.59 92 P P 12 59 49.6 +20
baz=48,SNR=3.6
KZA Kyzart 48.19 336 P **P 12 59 35.2 +0.7**
SNR=5.8
TKM2 Tokmak 2 48.75 336 P **P 12 59 39.0 +0.4**
SNR=20
TKM2 Tokmak 2 48.75 336 *e*P **P 12 59 38.9 +0.4**
17nm,0.4s
AML Almayashu 48.89 334 P **P 12 59 40.4 +0.6**
SNR=14
SONM Songino Array 48.89 6 P **P 12 59 38.9 -0.5**
SONM PcP **PcP 13 01 02.3 -0.2**
SONM Songino Array 48.89 6 P **P 12 59 38.9 -0.5**
9.5nm,0.5s,baz=187,slow=9.5,SNR=78
SONM PcP **PcP 13 01 02.3 -0.2**
1.9nm,0.4s,baz=175,slow=3.9,SNR=5.3
AAK Ala-Archa 48.96 335 *e*P **P 12 59 40.6 +0.5**
5.2nm,1.0s
AAK PcP **PcP 13 01 03.0 0.0**
AAK Ala-Archa 48.96 335 P **P 12 59 41.2 +1.1**
2.0nm,0.4s,baz=103,slow=5.7,SNR=7.2
AAK PcP **PcP 13 01 03.0 0.0**
2.8nm,0.6s,baz=182,slow=7.7,SNR=4.1
ULN Ulaanbaatar 48.99 6 *e*P **P 12 59 39.4 -0.8**
8.8nm,0.6s
EKS2 Erkin-Say 49.29 335 P **P 12 59 43.5 +0.9**
SNR=10
EKS2 Erkin-Say 49.29 335 *e*P **P 12 59 42.9 +0.4**
9.6nm,0.6s
USP Ospenovka 49.48 336 P **P 12 59 44.3 +0.4**
SNR=13
MK31 Makanchi Array 49.93 344 *e*P **P 12 59 46.9 -0.3**
MKAR Makanchi Array 49.93 344 *e*P **P 12 59 47.0 -0.1**
MKAR Makanchi Array 49.93 344 P **P 12 59 47.0 -0.1**
9.5nm,0.3s,baz=159,slow=8.3,SNR=228
STKA Stephens Creek 50.04 132 P **P 12 59 49.5 +1.2**
STKA Stephens Creek 50.04 132 P **P 12 59 50.1 +1.7**
baz=50,SNR=8.8
STKA Stephens Creek 50.04 132 P **P 12 59 49.5 +1.2**
2.2nm,0.5s,baz=315,slow=11,SNR=11
CN2 Changchun 50.09 24 *e*P **P 12 59 50.9 +2.5**
KKAR Karatay Array 51.09 333 *e*P **P 12 59 55.8 -0.2**
MJAR Matsushiro Arr 51.59 40 P **P 12 59 57.8 -2.1**
MJAR Matsushiro Arr 51.59 40 P **P 12 59 57.8 -2.1**
2.7nm,0.8s,baz=223,slow=7.8,SNR=6.7
MDJ Mudanjiang 52.52 27 P **P 13 00 06.4 -0.2**
MDJ pP **pP 13 00 27.6 -1.5**
MDJ sP **sP 13 00 38.9 -0.5**
MDJ S **S 13 07 25.5 -0.8**
MDJ sS **sS 13 08 02.4 -2.4**
MDJ SS **SS 13 11 07.7 +1.9**
MDJ AMB AMB
comp=Z,8.0nm,0.7s
MDJ AMB AMB
comp=Z,130nm,6.4s
MDJ LR LR
comp=N,120nm,8.1s
MDJ LR LR
comp=E,150nm,5.9s
MDJ LR LR
comp=Z,180nm,6.7s
USRK Ussuriysk Arra 53.31 29 P **P 13 00 11.5 -0.9**
20nm,0.7s,baz=227,slow=5.4,SNR=32
KURK Kurchatov 54.51 344 *e*P **P 13 00 20.7 -0.3**
11nm,1.0s
ZAA0 Zalesovo Array 56.06 349 *e*P **P 13 00 31.4 -0.7**
ZALV Zalesovo Beam 56.06 349 P **P 13 00 31.6 -0.5**
ZALV Zalesovo Beam 56.06 349 P **P 13 00 31.6 -0.5**
42nm,0.4s,baz=178,slow=6.1,SNR=150
VOSK Vostochnaya 58.64 340 *e*P **P 13 00 49.2 -1.0**
14nm,0.4s
ASAJ Asahikawa 58.85 35 P **P 13 00 51.6 -0.3**
ASAJ Asahikawa 58.85 35 P **P 13 00 51.6 -0.3**
5.7nm,0.5s,baz=79,slow=8.7,SNR=9.9
BRVK Borovoye 59.15 340 *e*P **P 13 00 52.7 -1.1**
7.5nm,0.6s
ABKAR Akbulak array 60.58 331 *e*P **P 13 01 02.8 -0.8**
KBZ Khabaz 67.34 319 P **P 13 01 48.3 +0.2**
KBZ Khabaz 67.34 319 P **P 13 01 48.3 +0.2**
1.2nm,0.5s,baz=125,slow=5.9,SNR=5.2
PETK Petropavlovsk- 72.09 32 P **P 13 02 15.8 -1.3**
PETK Petropavlovsk- 72.09 32 P **P 13 02 15.8 -1.3**
6.0nm,0.8s,baz=211,slow=4.3,SNR=7.2
BRTR Keskin Array B 72.42 312 P **P 13 02 18.5 -1.0**
BRTR Keskin Array B 72.42 312 P **P 13 02 18.5 -1.0**
1.3nm,0.8s,baz=111,slow=6.8,SNR=5.6
BOSA Boshof 75.98 241 P **P 13 02 42.3 +1.8**
BOSA Boshof 75.98 241 P **P 13 02 42.3 +1.8**
1.3nm,0.4s,baz=81,slow=9.2,SNR=4.1
AKASG Malin Array Be 78.49 322 P **P 13 02 53.3 -0.5**
AKASG Malin Array Be 78.49 322 P **P 13 02 53.3 -0.5**
0.7nm,0.6s,baz=95,slow=4.1,SNR=6.1
BUR08 Bucovina Ar. S 80.31 319 *e*P **P 13 03 04.8 +0.8**
JOF Joensuu 81.14 334 *e*p **P 13 03 06.5 -1.4**
3.6nm,0.7s
KOLS Kolonicke sedl 82.48 320 *e*P **P 13 03 16.6 +1.4**
FINES FINESS Array B 83.05 332 P **P 13 03 17.7 -0.1**
FINES FINESS Array B 83.05 332 P **P 13 03 17.7 -0.1**
3.3nm,0.5s,baz=104,slow=4.9,SNR=12
KAF Kangasniemi 83.11 333 *e*p **P 13 03 17.2 -1.0**
10nm,0.6s
STHS Stebnicka Huta 83.23 320 *e*P **P 13 03 20.8 +1.7**
VNDA Vanda 83.27 169 P **P 13 03 21.1 +2.3**
VNDA Vanda 83.27 169 P **P 13 03 21.1 +2.3**
0.5nm,0.6s,baz=311,slow=2.5,SNR=5.1
KEV Kevo 84.93 341 *e*p **P 13 03 26.6 -0.7**
3.4nm,0.7s
ARCES ARCESS Array B 85.38 340 P **P 13 03 29.5 0.0**
ARCES ARCESS Array B 85.38 340 P **P 13 03 29.5 0.0**
3.7nm,0.5s,baz=100,slow=5.0,SNR=54
DPC Dobruska-Polom 86.50 320 *e*P **P 13 03 36.9 +1.3**
GERES GERESS Array B 88.08 319 P **P 13 03 43.8 +0.5**
GERES GERESS Array B 88.08 319 P **P 13 03 43.8 +0.5**
0.8nm,0.4s,baz=100,slow=4.1,SNR=7.4
CLL Collm 88.68 321 *e*P **P 13 03 47.0 +1.2**
NIUE Niue 89.99 109 P P 13 03 58.9 +6.2
baz=90,SNR=7.9
KEST Kesra 90.87 306 *e*P **P 13 03 56.8 +0.2**
KEST pP **pP 13 04 18.9 -2.2**
KEST Kesra 90.87 306 P **P 13 03 58.3 +1.7**
2.5nm,0.8s,baz=163,slow=1.1,SNR=8.5
KEST pP **pP 13 04 18.9 -2.2**
1.0nm,0.7s,baz=80,slow=6.1,SNR=2.7
IM04 Indian Mountai 97.49 23 *e*P **P 13 04 25.5 -0.7**
ILAR Eielson Array 100.61 24 P **Pdif 13 04 39.1 -1.0**
ILAR Eielson Array 100.61 24 P **Pdif 13 04 39.1 -1.0**
0.2nm,0.5s,baz=280,slow=3.8,SNR=4.8
NVAR Mina Array Bea 128.90 38 PKP **PKPdf 13 10 00.8 +0.3**
NVAR Mina Array Bea 128.90 38 PKP **PKPdf 13 10 00.8 +0.3**
0.5nm,0.7s,baz=304,slow=2.1,SNR=3.9
PKM Peak Mountain 129.97 43 ⇓P **PKPdf 13 10 02.1 -0.5**
baz=130
R11A Troy Canyon, C 130.61 37 ⇑P **PKPdf 13 10 04.3 +0.5**
baz=130
J20A Shoshoni 130.97 27 ⇓P **PKPdf 13 10 04.3 +0.1**
baz=131
Z32A Haskell 143.05 27 ⇓P PKPbc 13 10 24.0 +0.4
baz=143
131A Roby 143.14 29 ⇑P PKPbc 13 10 23.8 -0.1
baz=143
526A Mary Lane Ranc 143.19 36 ⇑P PKPbc 13 10 24.8 +0.5
baz=143
329A Wagon Wheel Ra 143.28 32 ⇑P PKPbc 13 10 24.4 0.0
baz=143
527A Woodward Ranch 143.41 35 ⇑P PKPbc 13 10 25.1 +0.2
baz=143,SNR=12
230A Sterling City 143.42 31 ⇑P PKPab 13 10 23.7 +0.1
baz=143,SNR=5.7
428A Kincaid Ranch, 143.49 34 ⇓P PKPbc 13 10 26.0 +1.0
baz=143
626A Big Bend Ranch 143.54 36 ⇓P PKPbc 13 10 25.3 +0.1
baz=143,SNR=8.1
ABTX Abilene, Hawle 143.54 28 ⇑P PKPbc 13 10 25.2 +0.2
baz=143
330A Mertzon 143.77 31 ⇓P PKPbc 13 10 25.8 0.0
baz=144
231A Bronte 143.78 30 ⇑P PKPbc 13 10 25.9 +0.1
baz=144
528A Cox Ranch, San 143.86 34 ⇓P PKPbc 13 10 26.0 -0.1
baz=144,SNR=7.2
429A Davenport Ranc 144.00 33 ⇑P **PKPab 13 10 26.1 +0.2**
baz=144,SNR=5.6
627A Terlingua Ranc 144.05 36 P PKPbc 13 10 26.6 -0.2
baz=144
232A Coleman 144.14 29 ⇓P **PKPab 13 10 26.0 -0.4**
baz=144,SNR=7.2
BDFB Brasilia 144.17 241 PKP **PKPdf 13 10 29.2 +0.1**
BDFB Brasilia 144.17 241 PKP **PKPdf 13 10 29.2 +0.1**
2.7nm,0.4s,baz=137,slow=6.3,SNR=3.9
529A Stev Forest Ra 144.21 34 ⇑P PKPbc 13 10 27.3 +0.1
baz=144
430A Baggett Ranch, 144.23 32 ⇑P PKPbc 13 10 27.2 0.0
baz=144
331A San Angelo 144.23 30 ⇑P PKPbc 13 10 27.0 -0.1
baz=144
MIAR Mount Ida 144.29 19 *e*PKPdf **PKPab 13 10 26.6 -0.2**
628A Black Gap, Mar 144.31 35 ⇓P PKPbc 13 10 27.8 +0.4
baz=144
332A Millersview 144.51 29 ⇑P **PKPab 13 10 27.5 -0.2**
baz=144,SNR=20
530A J-C Ranch, Com 144.67 33 ⇓P **PKPab 13 10 28.4 0.0**
baz=144,SNR=26
432A Menard 144.90 30 ⇓P **PKPab 13 10 28.6 -0.6**
baz=145,SNR=6.6
CPUP Villa Florida 145.05 218 *e*PKPdf **PKPdf 13 10 30.9 +0.7**
CPUP PKPbc **PKPdf 13 10 31.5 +1.3**
CPUP pPKPbc pPKPbc 13 10 51.8 -3.4
CPUP Villa Florida 145.05 218 PKPbc **PKPdf 13 10 31.5 +1.3**
3.6nm,0.6s,baz=122,slow=3.9,SNR=8.3
CPUP pPKPbc pPKPbc 13 10 51.8 -3.4
5.9nm,0.7s,baz=59,slow=1.2,SNR=6.7
WHTX Lake Whitney 145.07 26 ⇑P **PKPbc 13 10 28.6 -1.1**
baz=145
531A Rocksprings 145.08 32 P **PKPbc 13 10 29.8 -0.1**
baz=145
JCT Junction City 145.21 30 *e*PKPdf **PKPbc 13 10 29.9 -0.4**
JCT Junction City 145.21 30 ⇓P **PKPbc 13 10 30.1 -0.2**
baz=145,SNR=20
532A Rocksprings 145.44 31 ⇓P **PKPdf 13 10 30.5 -0.4**
baz=145,SNR=18
631A Perdido Creek 145.66 33 ⇑P **PKPdf 13 10 31.3 +0.1**
baz=145,SNR=9.1
632A Uvalde 146.00 31 ⇑P **PKPbc 13 10 32.7 0.0**
baz=146,SNR=9.4

*IDC **05** 13:03:10.9±0.6,16°.12S×171°.63W,h0km,mb4.3/12,*
mb1 4.5/12,mb1mx4.4/21,mbtmp4.3/12,MS3.8/7,
Ms1 3.8/7,ms1mx3.5/32,Error ellipse: s-maj=27.5km
s-min=15.7km az=123.0
*NEIC **05** 13:03:12.7±0.2,16°.07S×171°.75W,h10km,mb4.5/21,*
Error ellipse: s-maj=13.6km s-min=5.8km az=136.0
*ISCJB **05** 13:03:16.0±0.3,16°.05S±0°.09×171°.84W±0°.07,h41km,*
mb4.4/34,MS3.8/6,Error ellipse: s-maj=15.3km
s-min=6.7km az=145.9

ISC 05 13:03:16.7±0.5,15°.85S±0°.07×171°.9W±0°.1,h41km,n291,
σ1s14/280,mb4.4/34,MS3.8/6,94C-118D,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.93**	**4**	*e*P		**Pn**	**13 03 44.8**	**-2.4**
AFI					Sn	**Sn**	**13 04 08.9**	**-1.5**
AFI				*e*S		**Sn**	**13 04 09.6**	**-0.8**
AFI	**Afiamalu**	**1.93**	**4**	Pn		**Pn**	**13 03 44.9**	**-2.4**
87nm,0.3s,baz=41,slow=1.7,SNR=30								
AFI					Sn	**Sn**	**13 04 08.9**	**-1.5**
505nm,0.3s,baz=145,slow=21,SNR=24								
AFI					LR	LR	13 04 26.0	
comp=Z,565nm,18.9s,baz=75,slow=34								
MSVF	**Nonsavu**	**9.80**	**258**	*e*P		Pn	13 05 39.1	+3.9
47nm,1.4s								
DZM	**Mont Dzumac**	**21.38**	**250**	*e*LR		LR	13 13 22.7	
721nm,25.1s								
DZM	**Mont Dzumac**	**21.38**	**250**	LR		LR	13 13 55.1	
comp=Z,173nm,19.1s,baz=15,slow=30								
PPT	**Papeete**	**21.46**	**98**	*e*LR		LR	13 13 48.9	
comp=Z,170nm,19.4s,baz=282,slow=30								
PPT2	**Papeete2**	**21.46**	**98**	*e*LR		LR	13 12 45.9	
523nm,25.0s,baz=260								
TBI	**Tubuai**	**22.41**	**113**	*e*LR		LR	13 13 00.5	
547nm,29.2s,baz=289								
URZ	**Urewera**	**24.33**	**201**	*e*P		**P**	**13 08 31.2**	**+0.5**
URZ	**Urewera**	**24.33**	**201**	P		**P**	**13 08 31.0**	**+0.3**
45nm,1.1s,baz=33,slow=4.4,SNR=9.6								
RPZ	**Rata Peaks**	**31.33**	**204**	P		**P**	**13 09 33.4**	**+0.1**
RPZ	**Rata Peaks**	**31.33**	**204**	P		**P**	**13 09 33.4**	**+0.1**
4.7nm,0.8s,baz=152,slow=18,SNR=2.0								
H11S2	**WAKE ISLAND Hy**	**40.10**	**328**	T		T	13 53 21.7	
baz=152								
H11S3	**WAKE ISLAND Hy**	**40.11**	**327**	T		T	13 53 25.7	
baz=152								
H11S1	**WAKE ISLAND Hy**	**40.12**	**328**	T		T	13 53 23.8	
baz=152								
H11N3	**WAKE ISLAND Hy**	**41.02**	**329**	T		T	13 54 29.1	
baz=152,slow=0.7,SNR=5.2								
H11N1	**WAKE ISLAND Hy**	**41.03**	**329**	T		T	13 54 20.2	
baz=152								
H11N2	**WAKE ISLAND Hy**	**41.04**	**329**	T		T	13 54 30.4	
baz=152,slow=0.7,SNR=3.4								
STKA	**Stephens Creek**	**45.06**	**241**	*e*P		**P**	**13 11 29.4**	**+0.5**
3.9nm,1.5s								
STKA	**Stephens Creek**	**45.06**	**241**	P		**P**	**13 11 29.4**	**+0.5**
4.4nm,1.0s,baz=89,slow=9.3,SNR=8.5								
STKA					LR	LR	13 27 02.5	
comp=Z,81nm,18.2s,baz=25,slow=32								
WRAB	**Tennant Creek**	**51.13**	**257**	*e*P		**P**	**13 12 16.4**	**+0.4**
WRA	**Warramunga Arr**	**51.14**	**257**	P		**P**	**13 12 16.9**	**+0.8**
WRA	**Warramunga Arr**	**51.14**	**257**	P		**P**	**13 12 16.9**	**+0.8**
2.4nm,0.8s,baz=91,slow=6.3,SNR=12								
AS31	**Alice Springs**	**51.34**	**252**	*e*P		**P**	**13 12 18.2**	**+0.7**
ASAR	**Alice Springs**	**51.34**	**252**	P		**P**	**13 12 17.5**	**0.0**
ASAR	**Alice Springs**	**51.34**	**252**	P		**P**	**13 12 17.5**	**0.0**
6.2nm,0.8s,baz=87,slow=8.2,SNR=73								
VNDA	**Vanda**	**63.08**	**186**	P		**P**	**13 13 37.6**	**-1.9**
VNDA	**Vanda**	**63.08**	**186**	P		**P**	**13 13 37.6**	**-1.9**
1.2nm,0.9s,baz=4.2,slow=5.7,SNR=5.9								
NWAO	**Narrogin (SRO)**	**65.65**	**241**	LR		LR	13 37 55.8	
comp=Z,108nm,20.4s,baz=125,slow=32								
MJAR	**Matsushiro Arr**	**70.21**	**319**	LR		LR	13 39 19.1	
comp=Z,89nm,21.0s,baz=110,slow=31								
EDW2	**Edwards Air Fo**	**71.85**	**44**	⇓P		**P**	**13 14 37.4**	**+1.8**
baz=72								
ISA	**Isabella**	**71.98**	**43**	⇓P		**P**	**13 14 38.0**	**+1.5**
baz=72								
LRMC	**Laurel Mountai**	**72.39**	**44**	⇓P		**P**	**13 14 40.3**	**+1.3**
baz=73								
MPMC	**Manual Prospec**	**72.86**	**44**	⇓P		**P**	**13 14 43.2**	**+1.3**
baz=73								
GSC	**Goldstone**	**72.89**	**45**	⇓P		**P**	**13 14 43.1**	**+1.2**
baz=73								
GMRC	**Granite Mounta**	**73.38**	**46**	⇓P		**P**	**13 14 46.0**	**+1.1**
baz=74								
PETK	**Petropavlovsk-**	**73.50**	**341**	P		**P**	**13 14 47.2**	**+2.3**
PETK	**Petropavlovsk-**	**73.50**	**341**	P		**P**	**13 14 47.2**	**+2.3**
3.2nm,0.8s,baz=137,slow=11,SNR=4.2								
FURC	**Furnace Creek,**	**73.51**	**44**	⇑P		**P**	**13 14 46.8**	**+1.4**
baz=74								
TUQ	**Turquoise Moun**	**73.56**	**45**	⇑P		**P**	**13 14 46.9**	**+1.0**
baz=74								
SHOC	**Shoshone**	**73.58**	**44**	⇑P		**P**	**13 14 47.0**	**+1.2**
baz=74								
113A	**Mohawk Valley,**	**73.63**	**48**	⇓P		**P**	**13 14 47.2**	**+1.0**
baz=74								
NVAR	**Mina Array Bea**	**73.71**	**41**	P		**P**	**13 14 47.8**	**+1.0**
NVAR	**Mina Array Bea**	**73.71**	**41**	P		**P**	**13 14 47.8**	**+1.0**
2.0nm,0.7s,baz=225,slow=9.9,SNR=16								
NVAR					LR	LR	13 38 35.0	
comp=Z,139nm,19.8s,baz=294,slow=29								
Z14A	**Wintersburg**	**74.53**	**48**	⇓P		**P**	**13 14 53.3**	**+1.9**
baz=75								
MOD	**Modoc**	**74.60**	**37**	*e*P		**P**	**13 14 52.5**	**+0.7**
30nm,1.2s								
MOD				*e*			13 15 08.7	
R11A	**Troy Canyon, C**	**75.41**	**43**	⇑P		**P**	**13 14 58.1**	**+1.5**
baz=76								
WVOR	**Wild Horse Val**	**75.90**	**38**	*e*P		**P**	**13 14 59.8**	**+0.5**
4.9nm,1.1s								
X16A	**Lo Mia Camp, P**	**76.14**	**48**	⇓P		**P**	**13 15 02.6**	**+1.7**
baz=76								
319A	**Douglas**	**76.24**	**51**	⇓P		**P**	**13 15 03.0**	**+1.6**

	baz=76						
U15A	North Rim	76.58	46	⇓P	P	13 15 05.3	+1.8
	baz=77						
320A	Kipp Ranch, An	76.79	52	⇑P	P	13 15 06.1	+1.5
	baz=77						
ELK	Elko	76.98	41	P	P	13 15 05.4	-0.2
220A	Playas Peak, P	77.06	51	⇓P	P	13 15 07.5	+1.4
	baz=77,SNR=5.4						
120A	U Bar Ranch, L	77.28	51	⇓P	P	13 15 09.0	+1.7
	baz=78						
KSRS	Korea Array	77.49	315	P	P	13 15 12.1	+4.0
	0.9nm,0.9s,baz=140,slow=6.1,SNR=4.3						
KSAR	Wonju Array Be	77.51	315	P	P	13 15 12.1	+3.8
Z20A	Nine Sixteen R	77.58	50	⇓P	P	13 15 10.6	+1.6
	baz=78						
W18A	Petrified Fore	77.71	48	⇓P	P	13 15 11.1	+1.4
	baz=78						
MVU	Marysvale	77.72	44	eP	P	13 15 11.4	+1.7
	2.9nm,0.9s						
121A	Cookes Peak, D	77.90	51	⇑P	P	13 15 11.9	+1.0
	baz=78						
Y20A	Horse Springs,	78.11	50	⇓P	P	13 15 13.6	+1.6
	baz=78,SNR=5.6						
BMO	Blue Mountains	78.13	36	eP	P	13 15 12.4	+0.7
	6.0nm,1.4s						
MFID	Camas Ranch	78.14	38	⇓P	P	13 15 13.3	+1.4
	baz=78						
DUG	Dugway	78.22	42	eP	P	13 15 13.2	+0.8
	4.7nm,1.1s						
DUG	Dugway	78.22	42	⇑P	P	13 15 14.0	+1.6
	baz=78						
222A	Williams Famil	78.22	52	⇑P	P	13 15 13.6	+1.0
	baz=78						
X20A	Quemado	78.32	49	⇓P	P	13 15 14.5	+1.4
	baz=78						
Z21A	St. Cloud Mine	78.35	50	⇓P	P	13 15 14.8	+1.4
	baz=78,SNR=9.3						
W20A	Ramah	78.60	48	⇑P	P	13 15 16.3	+1.6
	baz=79,SNR=7.5						
Y21A	Point of Rocks	78.67	50	⇓P	P	13 15 16.4	+1.3
	baz=79						
X21A	Alamocita Cree	78.80	49	⇓P	P	13 15 16.9	+1.1
	baz=79,SNR=5.1						
TMUT	Trail Mountain	78.80	44	eP	P	13 15 17.6	+1.8
	9.7nm,0.9s						
Z22A	Elephant Butte	78.85	51	⇑P	P	13 15 17.2	+1.2
	baz=79,SNR=5.5						
V20A	Brimhall	78.94	48	⇑P	P	13 15 18.0	+1.5
	baz=79						
HLID	Hailey	79.07	39	eP	P	13 15 17.9	+0.9
	7.2nm,1.0s						
HLID	Hailey	79.07	39	⇓P	P	13 15 18.7	+1.7
	baz=79,SNR=11						
123A	Bell Site, Whi	79.09	52	⇑P	P	13 15 19.0	+1.7
	baz=79						
324A	Moseley Ranch,	79.16	53	⇑P	P	13 15 19.3	+1.6
	baz=79						
Y22A	Socorro	79.16	50	⇑P	P	13 15 19.1	+1.4
	baz=79						
U20A	Newcomb	79.18	47	⇓P	P	13 15 19.2	+1.4
	baz=79,SNR=8.3						
LAZ	Ladron	79.25	50	eP	P	13 15 19.6	+1.3
	5.5nm,1.4s						
425A	Indio Mountain	79.26	54	⇑P	P	13 15 19.2	+0.9
	baz=79						
X22A	Bernardo	79.39	50	⇑P	P	13 15 20.3	+1.4
	baz=80						
626A	Big Bend Ranch	79.40	55	⇑P	P	13 15 20.2	+1.2
	baz=80						
Z23A	Rita Site, Whi	79.40	51	⇓P	P	13 15 20.4	+1.4
	baz=80						
224A	Cornudas Mount	79.41	52	⇑P	P	13 15 20.3	+1.2
	baz=80						
V21A	Milan	79.54	48	⇓P	P	13 15 21.4	+1.6
	baz=80,SNR=11						
MVCO	Mesa Verde	79.60	47	⇓P	P	13 15 21.5	+1.4
	baz=80						
526A	Mary Lane Ranc	79.65	55	⇓P	P	13 15 21.6	+1.2
	baz=80						
124A	Stringfield Ra	79.73	52	⇓P	P	13 15 22.4	+1.4
	baz=80						
U21A	Nageezi	79.82	48	⇓P	P	13 15 22.8	+1.4
	baz=80,SNR=17						
Y23A	Lovelace Mesa,	79.83	50	⇓P	P	13 15 22.8	+1.4
	baz=80						
225A	Deer Hill, Car	79.95	53	⇓P	P	13 15 23.5	+1.4
	baz=80						
ANMO	Albuquerque	80.00	49	eP	P	13 15 23.3	+1.0
	12nm,1.4s						
S20A	Disappointment	80.00	46	⇑P	P	13 15 23.9	+1.5
	baz=80						
PV01	Paradox Valley	80.00	46	eP	P	13 15 23.4	+1.1
	613nm,1.1s						
X23A	Hourglass Bar	80.03	50	⇓P	P	13 15 23.8	+1.3
	baz=80						
527A	Woodward Ranch	80.06	55	⇓P	P	13 15 23.8	+1.1
	baz=80						
Z24A	Sheeppen Canyo	80.08	51	⇓P	P	13 15 23.8	+1.0
	baz=80						
V22A	San Miguel Ran	80.11	48	⇑P	P	13 15 24.1	+1.1
	baz=80						
R20A	Redvale	80.16	46	⇑P	P	13 15 24.6	+1.5
	baz=80						
326A	Caldwell Ranch	80.26	54	⇓P	P	13 15 25.0	+1.3
	baz=80						
M17A	Scullys Gap (B	80.28	42	⇑P	P	13 15 24.9	+1.2
	baz=80						
Y24A	Capitan	80.29	51	⇓P	P	13 15 25.1	+1.2
	baz=80,SNR=8.0						
W23A	Werner Place,	80.32	49	⇓P	P	13 15 25.4	+1.3
	baz=80,SNR=6.4						
125A	Gardner Draw,	80.32	52	⇓P	P	13 15 25.2	+1.2
	baz=80						
628A	Black Gap, Mar	80.36	56	⇑P	P	13 15 25.5	+1.3
	baz=80						
U22A	Llaves	80.37	48	⇓P	P	13 15 25.4	+1.1
	baz=81						
226B	Tecolote Peak,	80.44	53	⇓P	P	13 15 25.7	+1.1
	baz=81,SNR=9.1						
P19A	Cripple Cowboy	80.45	44	⇓P	P	13 15 26.2	+1.5
	baz=81						
427A	Hayter Ranch,	80.52	54	⇓P	P	13 15 26.2	+1.2
	baz=81						
Z25A	Roswell	80.54	52	⇑P	P	13 15 26.5	+1.3
	baz=81						
V23A	Ortiz Mt. (NFS	80.56	49	⇑P	P	13 15 26.6	+1.3
	baz=81,SNR=6.5						
X24A	Lazy VL Ranch,	80.58	50	⇓P	P	13 15 26.6	+1.1
	baz=81						
Q20A	Ridgley Place,	80.59	45	⇑P	P	13 15 26.7	+1.4
	baz=81						
T22A	Edith	80.63	47	⇑P	P	13 15 26.8	+1.1
	baz=81						
O19A	Miners Draw (B	80.69	44	⇓P	P	13 15 27.0	+1.2
	baz=81						
MCMT	McKenzie Canyo	80.71	38	eP	P	13 15 27.3	+1.3
	3.3nm,1.0s						
528A	Cox Ranch, San	80.71	55	⇓P	P	13 15 27.0	+0.8
	baz=81						
P20A	De Beque	80.79	45	⇓P	P	13 15 27.4	+1.0
	baz=81,SNR=5.1						
126A	Clayton Basin,	80.80	52	⇓P	P	13 15 27.4	+0.9
	baz=81						
R21A	Cimarron	80.82	46	⇓P	P	13 15 28.0	+1.3
	baz=81,SNR=5.1						
U23A	El Rito	80.82	48	⇑P	P	13 15 28.0	+1.3
	baz=81						
RRI2	Red Ridge	80.84	40	eP	P	13 15 27.9	+1.2
	5.7nm,0.9s						
Y25A	Mesa, Roswell	80.84	51	⇓P	P	13 15 27.2	+0.4
	baz=81,SNR=9.3						
W24A	Lazy 6 Ranch,	80.88	50	⇑P	P	13 15 27.9	+0.9
	baz=81,SNR=9.3						
L18A	Fontenelle, Gr	80.91	42	⇓P	P	13 15 28.4	+1.3
	baz=81						
Q21A	Lamborn Mesa,	81.02	45	⇓P	P	13 15 29.2	+1.5
	baz=81						
S22A	4UR Ranch, Cre	81.02	47	⇑P	P	13 15 29.7	+1.8
	baz=81,SNR=7.8						
428A	Kincaid Ranch,	81.03	55	⇑P	P	13 15 29.0	+1.2
	baz=81						
Z26A	Caprock	81.10	52	⇓P	P	13 15 28.9	+0.7
	baz=81,SNR=9.5						
X25A	Clemmons Ranch	81.13	50	⇑P	P	13 15 28.8	+0.5
	baz=81						
REDW	Red Top Meadow	81.14	40	eP	P	13 15 29.2	+0.9
	3.9nm,1.1s						
529A	Stev Forest Ra	81.15	55	⇑P	P	13 15 29.0	+0.6
	baz=81						
TPAW	Teton Pass	81.15	40	eP	P	13 15 29.5	+1.1
	5.4nm,0.9s						
MSO	Missoula	81.19	36	⇓P	P	13 15 29.6	+1.3
	baz=82						
O20A	White River Ci	81.20	44	⇑P	P	13 15 29.7	+1.0
	baz=81						
328A	Wristen Ranch,	81.20	54	⇑P	P	13 15 29.3	+0.6
	baz=81						
V24A	Rampart Ranch,	81.21	49	⇓P	P	13 15 29.9	+1.0
	baz=81						
M19A	Rock Springs	81.27	42	⇓P	P	13 15 30.2	+1.2
	baz=82						
MCK	McKinley	81.30	10	eP	P	13 15 29.9	+1.5
	10.0nm,0.9s						
MCK				e		13 15 38.5	
IMW	Indian Meadow	81.37	40	eP	P	13 15 30.4	+0.8
	3.1nm,0.8s						
P21A	Newcastle	81.44	45	⇑P	P	13 15 31.0	+1.1
	baz=82						
Q22A	Crested Butte,	81.49	46	⇓P	P	13 15 31.6	+1.3
	baz=82,SNR=5.3						
Y26A	Elida	81.49	51	⇓P	P	13 15 31.0	+0.8
	baz=82						
N20A	Spence Gulch,	81.52	43	⇓P	P	13 15 31.2	+0.8
	baz=82,SNR=5.6						
QLMT	Earthquake Lak	81.56	39	eP	P	13 15 32.3	+1.8
	0.3nm,0.4s						
W25A	X Bar L Ranch,	81.58	50	⇑P	P	13 15 31.3	+0.6
	baz=82,SNR=6.0						
429A	Davenport Ranc	81.61	55	⇑P	P	13 15 31.3	+0.5
	baz=82						
FLWY	Flagg Ranch	81.61	40	eP	P	13 15 31.9	+1.2
	5.5nm,1.2s						
BW06	Boulder Array	81.65	41	eP	P	13 15 31.4	+0.4
	2.8nm,0.9s						
PDAR	Pinedale Array	81.65	41	P	P	13 15 31.4	+0.4
PDAR	Pinedale Array	81.65	41	P	P	13 15 31.4	+0.4
	2.4nm,0.8s,baz=212,slow=3.3,SNR=22						
Z27A	Tatum	81.69	52	⇓P	P	13 15 32.1	+0.8
	baz=82						
T24B	San Luis	81.73	48	⇓P	P	13 15 32.7	+1.1
	baz=82						
V25A	Rancho No Teng	81.74	49	⇓P	P	13 15 32.2	+0.6
	baz=82,SNR=7.3						
X26A	CR and CF Fran	81.77	51	⇓P	P	13 15 32.4	+0.6
	baz=82,SNR=5.5						
H17A	Grant Village	81.85	39	⇑P	P	13 15 32.5	+0.5
	baz=82						
530A	J-C Ranch, Com	81.86	56	⇓P	P	13 15 32.4	+0.2
	baz=82						
329A	Wagon Wheel Ra	81.89	54	⇓P	P	13 15 32.8	+0.5
	baz=82						
M20A	Sweetwater, Wa	81.90	43	⇓P	P	13 15 33.5	+1.2
	baz=82						
R23A	Moffat	81.93	47	⇓P	P	13 15 34.0	+1.3
	baz=82						
P22A	Eagle	81.94	45	⇑P	P	13 15 33.9	+1.3
	baz=82						
128A	Castleberry Fa	81.96	53	⇑P	P	13 15 33.2	+0.5
	baz=82,SNR=5.9						
Y27A	Causey	81.97	52	⇓P	P	13 15 33.7	+1.0
	baz=82						
L20A	Wamsutter	82.05	42	⇓P	P	13 15 34.1	+1.0
	baz=82,SNR=9.4						
S24A	Houchin Ranch,	82.11	47	⇓P	P	13 15 34.9	+1.3
	baz=82						
K19A	Absolon Red Bu	82.13	41	⇑P	P	13 15 34.0	+0.5
	baz=82						
U25A	Circle Dot Ran	82.14	49	⇑P	P	13 15 34.5	+0.8
	baz=82,SNR=8.7						
J19A	Crowheart	82.22	41	⇓P	P	13 15 34.7	+0.8
	baz=82,SNR=5.6						
MSTX	Muleshoe	82.30	52	eP	P	13 15 34.9	+0.4
MSTX	Muleshoe	82.30	52	⇑P	P	13 15 35.2	+0.7
	baz=82,SNR=7.0						
Z28A	Tucker Farm, M	82.31	52	⇓P	P	13 15 35.5	+0.9
	baz=82						
V26A	Tequesquite Ra	82.33	50	⇓P	P	13 15 35.6	+1.0
	baz=82						
O22A	Kremmling	82.35	45	⇑P	P	13 15 35.8	+0.9
	baz=83,SNR=10						
K20A	Yellowstone Ra	82.37	42	⇑P	P	13 15 35.2	+0.5
	baz=83,SNR=5.0						
129A	Stewart Farms,	82.44	53	⇑P	P	13 15 36.0	+0.8
	baz=83						
R24A	Sanders Place,	82.45	47	⇑P	P	13 15 36.5	+1.2
	baz=83						
T25A	Trinidad	82.46	48	⇓P	P	13 15 36.5	+1.2
	baz=83						
P23A	Jefferson	82.47	46	⇓P	P	13 15 37.1	+1.6
	baz=83						
330A	Mertzon	82.48	55	⇑P	P	13 15 35.7	+0.3
	baz=83						
M21A	Separation Pea	82.49	43	⇓P	P	13 15 36.3	+0.8
	baz=83,SNR=7.5						
COLA	College	82.54	10	eP	P	13 15 36.0	+1.2
	52nm,1.0s						
W27A	Bowe Ranch, En	82.55	50	⇓P	P	13 15 36.4	+0.7
	baz=83,SNR=6.9						
H18A	Shoshone NF, C	82.56	40	⇓P	P	13 15 37.0	+1.3
	baz=83						
ILAR	Eielson Array	82.61	11	P	P	13 15 36.4	+1.2
ILAR	Eielson Array	82.61	11	P	P	13 15 36.4	+1.2
	2.1nm,0.7s,baz=222,slow=6.1,SNR=30						
U26A	Atchley Ranch,	82.62	49	⇑P	P	13 15 37.1	+0.9
	baz=83,SNR=7.7						
I19A	Meeteetse	82.64	40	⇓P	P	13 15 37.0	+0.9
	baz=83						
L21A	Rawlins	82.66	43	⇑P	P	13 15 37.3	+1.0
	baz=83						
Y28A	McKinney Farm,	82.67	52	⇑P	P	13 15 37.2	+0.8
	baz=83						
S25A	Robets Cordova	82.68	48	⇓P	P	13 15 37.4	+0.9
	baz=83,SNR=7.9						
N22A	Wattenberg Ran	82.71	44	⇓P	P	13 15 37.9	+1.2
	baz=83,SNR=8.8						
Q24A	Divide	82.76	46	⇑P	P	13 15 38.0	+1.1
	baz=83,SNR=8.5						
O23A	Lake Granby, G	82.80	45	⇓P	P	13 15 38.2	+1.0
	baz=83						
ISCO	Idaho Springs	82.82	45	eP	P	13 15 37.8	+0.5
	2.4nm,0.9s						
ISCO	Idaho Springs	82.82	45	⇑P	P	13 15 38.0	+0.7
	baz=83						
Z29A	Hungry Hill Ra	82.82	53	⇓P	P	13 15 37.7	+0.5
	baz=83						
J20A	Shoshoni	82.88	41	⇑P	P	13 15 38.4	+1.1
	baz=83,SNR=7.3						
H19A	Powell	82.97	40	⇑P	P	13 15 39.1	+1.4
	baz=83,SNR=6.8						
532A	Rocksprings	82.99	56	⇑P	P	13 15 37.4	-0.7
	baz=83						
R25A	Fountain Ranch	83.00	47	⇓P	P	13 15 38.9	+0.8
	baz=83,SNR=6.5						
331A	San Angelo	83.03	55	⇓P	P	13 15 38.5	+0.2
	baz=83						
K21A	Alcova	83.06	42	⇑P	P	13 15 39.0	+0.7
	baz=83,SNR=6.4						
Y29A	Porterfield Fa	83.09	52	⇑P	P	13 15 38.9	+0.4
	baz=83						
N23A	Red Feather La	83.10	44	⇑P	P	13 15 39.7	+1.0
	baz=83						
I20A	Worland	83.14	41	⇓P	P	13 15 39.5	+0.9
	baz=83,SNR=8.3						
Z30A	Sanderson Ranc	83.27	53	⇑P	P	13 15 39.7	+0.2
	baz=83						
J21A	Lysite	83.28	42	⇓P	P	13 15 40.3	+0.8
	baz=84,SNR=14						
U27A	Thompson Grove	83.30	49	⇑P	P	13 15 40.0	+0.4
	baz=84						
L22A	Ellis Ranch, M	83.31	43	⇑P	P	13 15 40.9	+1.3
	baz=84,SNR=6.3						
X29A	Tulia	83.31	52	⇑P	P	13 15 40.2	+0.6
	baz=84						
S26A	Kim	83.35	48	⇓P	P	13 15 40.6	+0.8
	baz=84,SNR=5.6						
Q25A	Bedland, Calha	83.36	47	⇑P	P	13 15 41.0	+1.0
	baz=84						
432A	Menard	83.36	55	⇓P	P	13 15 40.0	0.0
	baz=84						
231A	Bronte	83.37	54	⇑P	P	13 15 40.3	+0.3
	baz=84						
H20A	Greybull	83.49	40	⇑P	P	13 15 41.4	+1.0
	baz=84						
DAWY	Dawson	83.51	14	eP	P	13 15 41.2	+1.3
K22A	Casper	83.54	42	⇑P	P	13 15 41.4	+0.7
	baz=84						
F19A	Roth Farm, Mol	83.59	39	⇑P	P	13 15 42.0	+1.2
	baz=84,SNR=7.8						
131A	Roby	83.60	54	⇓P	P	13 15 41.6	+0.4
	baz=84						
332A	Millersview	83.60	55	⇓P	P	13 15 41.7	+0.5
	baz=84						
I21A	Big Trails, Te	83.60	41	⇓P	P	13 15 41.9	+0.9
	baz=84,SNR=11						
PHWY	Pilot Hill	83.61	44	eP	P	13 15 42.1	+0.8
	2.3nm,0.7s						
W29A	Amraillo	83.63	51	⇑P	P	13 15 42.2	+0.9
	baz=84						
T27A	Campo	83.65	49	⇓P	P	13 15 41.7	+0.3
	baz=84						
R26A	Arlington	83.66	47	⇓P	P	13 15 41.9	+0.5
	baz=84,SNR=11						
P25A	Willow Gulch B	83.68	46	⇓P	P	13 15 42.6	+1.0
	baz=84,SNR=8.7						
Y30A	Stafford Cattl	83.69	52	⇓P	P	13 15 42.4	+0.8
	baz=84						
G20A	Bridger	83.72	40	⇓P	P	13 15 42.4	+0.8
	baz=84						
U28A	Mallet	83.72	50	⇑P	P	13 15 42.3	+0.6
	baz=84						
N24A	Carr	83.78	45	⇓P	P	13 15 44.0	+1.9
	baz=84						
L23A	Garrett	83.83	43	⇓P	P	13 15 43.2	+0.9
	baz=84,SNR=8.8						
232A	Coleman	83.87	55	⇓P	P	13 15 43.6	+1.1
	baz=84						
Q26A	Hugo	83.88	47	⇑P	P	13 15 43.9	+1.3
	baz=84						
J22A	Midwest	83.93	42	⇑P	P	13 15 43.6	+0.9
	baz=84,SNR=12						
X30A	Coker Ranch, T	83.93	52	⇑P	P	13 15 43.5	+0.7
	baz=84						
E19A	Rath Farm, Rou	83.99	38	⇓P	P	13 15 44.2	+1.3
	baz=84,SNR=7.3						
Z31A	Sharp Cattle R	84.04	53	⇓P	P	13 15 43.4	0.0
	baz=84						
F20A	Billings	84.05	39	⇑P	P	13 15 44.3	+1.1
	baz=84						
T28A	Walsh	84.11	49	⇓P	P	13 15 44.3	+0.5
	baz=84						
M24A	Cheyenne	84.11	44	⇑P	P	13 15 44.5	+0.7
	baz=84						
R27A	Eads	84.11	48	⇑P	P	13 15 44.4	+0.7
	baz=84						
H21A	Big Horn, Sher	84.15	41	⇑P	P	13 15 44.9	+1.1
	baz=84						
I22A	9 Mile Ranch,	84.15	41	⇑P	P	13 15 44.8	+0.9
	baz=84,SNR=5.8						
ABTX	Abilene, Hawle	84.16	54	eP	P	13 15 44.2	+0.3
ABTX	Abilene, Hawle	84.16	54	⇓P	P	13 15 44.5	+0.5
	baz=84						
K23A	Bowen Ranch, D	84.17	43	⇓P	P	13 15 44.9	+1.0
	baz=84,SNR=5.3						
Y31A	Rekieta Farm,	84.21	52	⇑P	P	13 15 44.8	+0.6
	baz=84						
EGMT	Eagleton	84.23	37	⇓P	P	13 15 45.4	+1.4
	baz=84						
P26A	Davis Ranch, A	84.28	46	⇑P	P	13 15 45.2	+0.7
	baz=84						
D19A	Cripps Ranch,	84.29	38	⇓P	P	13 15 45.8	+1.4
	baz=85,SNR=5.9						
L24A	Wheatland	84.30	44	⇓P	P	13 15 46.2	+1.5
	baz=84						
G21A	Lodge Grass	84.34	40	⇓P	P	13 15 45.6	+0.9
	baz=85						
E20A	Meyer Farm, Mu	84.41	39	⇑P	P	13 15 46.3	+1.4
	baz=85						
C19A	Slack Wire Ran	84.48	37	⇑P	P	13 15 46.8	+1.4
	baz=85						
KSCO	Kaye Shedlock'	84.54	47	⇓P	P	13 15 47.2	+1.3
	baz=85						
Z32A	Haskell	84.55	53	⇓P	P	13 15 46.8	+0.8
	baz=85						
O26A	Horse Wrangler	84.59	46	⇓P	P	13 15 47.3	+1.2
	baz=85						
M25A	Palm-Egli Farm	84.61	44	⇑P	P	13 15 47.2	+0.9
	baz=85						
K24A	Anderson Ranch	84.69	43	⇓P	P	13 15 47.7	+1.1
	baz=85						
D20A	Manuel Ranch,	84.70	38	⇑P	P	13 15 47.8	+1.4
	baz=85,SNR=8.0						
R28A	Tribune	84.84	48	⇑P	P	13 15 48.2	+0.9
	baz=85,SNR=6.1						
Y32A	R-V Farms, Ver	84.85	53	⇑P	P	13 15 48.2	+0.8
	baz=85						
G22A	Birney	84.90	40	⇑P	P	13 15 48.6	+1.1
	baz=85						
Q28A	Sharon Springs	85.13	47	⇑P	P	13 15 49.9	+1.1
	baz=85						
O27A	Beecher Island	85.15	46	⇑P	P	13 15 50.3	+1.4
	baz=85						
V31A	Spring Creek L	85.24	51	⇓P	P	13 15 50.5	+1.1
	baz=85						
A19A	Klindworth Far	85.27	36	⇑P	P	13 15 50.5	+1.3
	baz=86						
I24A	Kuemmerle Ranc	85.33	42	⇑P	P	13 15 50.7	+1.0
	baz=86						
D21A	La Casta Ranch	85.36	38	⇓P	P	13 15 50.9	+1.1
	baz=86						
N27A	Anderson Farm,	85.37	45	⇓P	P	13 15 50.6	+0.6
	baz=86						
B20A	Solberg Farm,	85.44	37	⇓P	P	13 15 51.4	+1.3
	baz=86						
WHTX	Lake Whitney	85.64	55	⇓P	P	13 15 52.2	+0.8
	baz=86						
R30A	Dighton	85.92	48	⇓P	P	13 15 53.6	+0.9
	baz=86						
B21A	Ellsworth Farm	86.01	37	⇑P	P	13 15 54.0	+1.1
	baz=86						
Q30A	Quinter	86.23	48	⇑P	P	13 15 55.1	+0.8
	baz=86						
MAW	Mawson	87.82	198	P	P	13 15 59.8	-1.6
MAW	Mawson	87.82	198	P	P	13 15 59.8	-1.6
	1.6nm,0.5s,baz=93,slow=13,SNR=15						
KHC	Kasperske Hory	146.51	353	ePKPbc	PKPab	13 22 54.9	+0.3
KMBO	Kilima Mbogo	146.62	242	PKPbc	PKPbc	13 22 55.2	-0.1
KMBO	Kilima Mbogo	146.62	242	PKPbc	PKPbc	13 22 55.2	-0.1
	1.6nm,0.8s,baz=30,slow=20,SNR=3.6						
GERES	GERESS Array B	146.78	353	PKPbc	PKPab	13 22 55.8	+0.1
GERES	GERESS Array B	146.78	353	PKPbc	PKPab	13 22 55.8	+0.1
	1.5nm,0.7s,baz=29,slow=3.0,SNR=10						
BR131	Keskin Array S	147.40	322	ePKPbc	PKPab	13 22 58.0	-0.6
BRTR	Keskin Array B	147.40	322	PKPbc	PKPab	13 22 58.2	-0.4
BRTR	Keskin Array B	147.40	322	PKPbc	PKPab	13 22 58.2	-0.4
	2.2nm,0.8s,baz=108,slow=1.6,SNR=10.0						
BFO	Black Forest	147.61	360	ePKPbc	PKPab	13 22 58.1	-0.8
TORD	Torodi Ar. Bea	173.25	113	PKP	PKPdf	13 23 21.5	-1.1
TORD				PKPab	PKPab	13 24 48.0	-2.6
TORD	Torodi Ar. Bea	173.25	113	PKP	PKPdf	13 23 21.5	-1.1
	1.2nm,1.1s,baz=233,slow=0.7,SNR=4.4						
TORD				PKPab	PKPab	13 24 48.0	-2.6
	0.6nm,0.6s,baz=263,slow=4.3,SNR=4.6						

**IDC 05 13:05:13.1±8.6,16°52S×172°25W,h0km,mb3.9/3, mb1 4.1/4,mb1mx3.7/20,mbtmp3.9/4,ML2.1/1,MS4.2/1

PMG Sn Sn 13 16 44.1 -2.1
1.7nm,0.3s,baz=207,slow=18,SNR=4.8
WRA Warramunga Arr 17.64 217 P P 13 19 07.2 +0.6
0.2nm,0.3s,baz=45,slow=12,SNR=16
ASAR Alice Springs 20.87 211 P P 13 19 40.5 -1.4
0.4nm,0.5s,baz=58,slow=8.8,SNR=6.6
FITZ Fitzroy Crossi 22.80 236 P P 13 20 02.4 -0.3
1.0nm,0.5s,baz=46,slow=12,SNR=5.5
STKA Stephens Creek 26.11 187 P P 13 20 34.4 +0.6
1.2nm,0.9s,baz=32,slow=9.5,SNR=3.1
AFI Afiamalu 42.87 104 LR LR 13 39 21.0
comp=Z,91nm,19.6s,baz=121,slow=34

*ISCJB **05** 13:17:55.5±0.8,58°52.N±0.05'×6°61.E±0.07',h0km,Error ellipse: s-maj=8.0km s-min=3.4km az=38.1*
*BER **05** 13:17:56.9±2.6,58°42.N×6°57.E,h0km,MD2.1,ML1.9, ML1.8(NAO),Explosion*
*CSEM **05** 13:17:56.9±0.5,58°51.N×6°67.E,h1km,ML1.9,Error ellipse: s-maj=10.8km s-min=4.5km az=39.0,Mining explosion.*
*NAO **05** 13:17:59.8±4.9,58°59.N×6°78.E,ML1.8*
ISC 05 13:17:55.0±1.4,58°42.N±0.07'×6°51.E±0.05',h0km,n23, σ1§12/43,1C,Southern Norway

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SNART	**Snartemo**	**0.37**	**102**	⇑*iP*		**Pg**	**13 18 02.8**	**+0.6**
SNART				*eS*		**Sg**	**13 18 08.3**	**+1.3**
SNART				AML		AML	13 18 12.5	
	comp=Z,105nm,0.8s							
BLS5	**Blasjo**	**1.01**	**358**	*eP*		**Pg**	**13 18 15.2**	**+0.8**
BLS5				*eS*		**Sb**	**13 18 30.4**	**+1.2**
BLS5				AML		AML	13 18 34.1	
	comp=Z,29nm,0.3s							
KMY	**Karmoy**	**1.04**	**321**	*eP*		**Pg**	**13 18 14.4**	**-0.4**
KMY				*eS*		**Sb**	**13 18 30.1**	**+0.2**
KMY				AML		AML	13 18 32.6	
	comp=Z,83nm,0.4s							
HOMB	**Homborsund**	**1.06**	**97**	*e*Pg		**Pb**	**13 18 16.6**	**+0.4**
HOMB				*eS*		**Sg**	**13 18 29.4**	**+0.4**
HOMB				AML		AML	13 18 33.0	
	comp=Z,31nm,0.3s							
HOMB	**Homborsund**	**1.06**	**97**	*e*Pg		**Pb**	**13 18 16.6**	**+0.4**
	SNR=90							
HOMB				*eS*		**Sg**	**13 18 29.4**	**+0.4**
	comp=Z,83nm,0.4s,SNR=90							
ODD1	**Odda**	**1.50**	**2**	*eP*		**Pb**	**13 18 24.0**	**+0.2**
ODD1				*e*Sg		**Sn**	**13 18 44.9**	**+1.3**
ODD1				AML		AML	13 18 48.0	
	comp=Z,34nm,0.5s							
ODD1	**Odda**	**1.50**	**2**	*eP*		**Pb**	**13 18 24.0**	**+0.2**
	SNR=50							
ODD1				*e*Sg		**Sn**	**13 18 44.9**	**+1.3**
	comp=Z,34nm,0.5s,SNR=90							
EGD	**Espegrend**	**1.98**	**341**	*eP*		**Pn**	**13 18 28.6**	**-1.1**
EGD				*e*Sg		**Sg**	**13 18 58.3**	**-0.1**
KONO	**Kongsberg**	**2.02**	**51**	*e*Pg		**Pb**	**13 18 32.5**	**0.0**
KONO				*e*Sg		**Sg**	**13 19 00.3**	**+0.5**
KONO				AML		AML	13 19 03.7	
	comp=Z,11nm,0.4s							
KONO	**Kongsberg**	**2.02**	**51**	*e*Pg		**Pb**	**13 18 32.5**	**0.0**
	SNR=90							
ASK	**Askoy**	**2.18**	**343**	*eP*		**Pn**	**13 18 31.8**	**-0.6**
ASK				*e*Sg		**Sb**	**13 19 02.9**	**+0.1**
ASK				AML		AML	13 19 08.2	
	comp=Z,20nm,0.4s							
HYA	**Hoyanger**	**2.76**	**357**	*eP*		**Pn**	**13 18 41.4**	**+0.9**
SUE	**Sulen**	**2.79**	**342**	*eP*		**Pn**	**13 18 41.1**	**+0.2**
SUE				*eS*		**Sn**	**13 19 14.1**	**-1.2**
SUE	**Sulen**	**2.79**	**342**	*eP*		**Pn**	**13 18 41.1**	**+0.2**
	SNR=50							
SUE				*eS*		**Sn**	**13 19 14.1**	**-1.2**
	SNR=50							
NC602	**NORSAR Array S**	**3.46**	**46**	*eP*		**Pn**	**13 18 50.4**	**+0.4**
NC602	**NORSAR Array S**	**3.46**	**46**	*eP*		**Pn**	**13 18 50.4**	**+0.4**
	SNR=50							
NB2	**NORSAR Subarra**	**3.55**	**40**	Pn		**Pn**	**13 18 51.4**	**0.0**
	baz=220,slow=14							
NB2				Pg		**Pb**	**13 18 58.8**	**+0.1**
	baz=216,slow=16							
NB2				Sn		**Sn**	**13 19 32.4**	**-1.6**
NB2				Lg		Lg	13 19 44.7	
	baz=221,slow=37							
NB2	**NORSAR Subarra**	**3.55**	**40**	Pn		**Pn**	**13 18 51.4**	**0.0**
	baz=220,slow=14							
NB2				Pg		**Pb**	**13 18 58.8**	**+0.1**
	baz=216,slow=16							
NB2				Sn		**Sn**	**13 19 32.4**	**-1.6**
NB2				Lg		Lg	13 19 44.7	
	baz=221,slow=37							
NB2	**NORSAR Subarra**	**3.55**	**40**	Pn		**Pn**	**13 18 51.3**	**0.0**
	baz=220,slow=13,SNR=50							
NB2	**NORSAR Subarra**	**3.55**	**40**	Pg		**Pb**	**13 18 58.8**	**+0.1**
	baz=216,slow=15,SNR=3.9							
NB2				Sn		**Sn**	**13 19 32.4**	**-1.6**
	SNR=50							
NB2				Lg		Lg	13 19 44.7	
	baz=221,slow=32,SNR=3.8							
HFS	**Hagfors**	**4.07**	**62**	Pn		**Pn**	**13 18 58.5**	**+0.1**
	baz=246,slow=14							
HFS				Sn		**Sn**	**13 19 43.6**	**-3.1**
	baz=244,slow=28							
HFS				Lg		Lg	13 19 58.6	
	baz=246,slow=28							
HFS	**Hagfors**	**4.07**	**62**	Pn		**Pn**	**13 18 58.5**	**+0.1**
	baz=246,slow=14							
HFS				Sn		**Sn**	**13 19 43.6**	**-3.1**
	baz=244,slow=28							
HFS				Lg		Lg	13 19 58.6	
	baz=246,slow=28							
HFS	**Hagfors**	**4.07**	**62**	Pn		**Pn**	**13 18 58.5**	**+0.1**
	baz=246,slow=13,SNR=50							
HFS				Sn		**Sn**	**13 19 43.6**	**-3.1**
	baz=244,slow=24,SNR=50							
HFS				Lg		Lg	13 19 58.6	
	baz=246,slow=24,SNR=2.7							

*ISCJB **05** 13:18:51.1±0.4,22°42.S±0.04'×68°48.W±0.04',h99km±2km, mb4.6/63,Error ellipse: s-maj=7.4km s-min=4.9km az=139.3*
*IDC **05** 13:18:53.7±0.4,22°39.S×68°46.W,h104km±3km,mb4.4/26, mb1 4.5/29,mb1mx4.4/33,mbtmp4.4/29,MS4.2/2, Ms1 4.2/2,ms1mx3.2/28,Error ellipse: s-maj=12.9km s-min=9.3km az=53.0*
*GUC **05** 13:18:53.0±0.6,22°47.S×68°79.W,h110km±7km,ML5.0*
*NEIC **05** 13:18:53.6±0.2,22°44.S×68°45.W,mb4.6/43,Error ellipse: s-maj=7.3km s-min=4.7km az=49.0*
NEIC Felt [III] at Calama and Maria Elena. Also felt at Antofagasta.
*BJI **05** 13:18:54.3,22°50.S×68°50.W,h99km,mB5.1/4*
ISC 05 13:18:53.1±0.3,22°44.S±0.04'×68°51.W±0.05',h105km±2km, h105km:pP-P,n500,σ0§97/543,mb4.7/63,180C-164D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LVC	**Limon Verde**	**0.41**	**246**	*e*Pn		**Pn**	**13 19 08.2**	**-0.9**
LVC				*e*Sn		**Sn**	**13 19 17.7**	**-3.4**
PB04	**Plate Boundary**	**0.92**	**281**	⇑*i*P		Pn	13 19 17.9	+4.8
PB04				*i* S		Sn	13 19 36.9	+8.8
PB04				AML		AML	13 19 41.4	
	comp=N,23μm,0.7s							
PB09	**Plate Boundary**	**0.94**	**313**	⇑*i*P		**Pn**	**13 19 12.9**	**-0.5**
PB09				*i* S		**Sn**	**13 19 27.8**	**-0.9**
PB09				AML		AML	13 19 28.7	
	comp=N,124μm,0.6s							
PB07	**Plate Boundary**	**1.46**	**299**	⇑*i*P		**Pn**	**13 19 17.8**	**-1.6**
PB07				*i* S		**Sn**	**13 19 36.7**	**-2.6**
PB07				AML		AML	13 19 37.3	
	comp=N,33μm,0.5s							
PB01	**Plate Boundary**	**1.66**	**327**	⇑*i*P		**Pn**	**13 19 21.1**	**-0.6**
PB01				*i* S		**Sn**	**13 19 42.5**	**-1.0**
PB01				AML		AML	13 19 44.0	
	comp=E,17μm,0.3s							
ANCH	**Antofagasta**	**2.14**	**234**	⇑*i*P		**Pn**	**13 19 25.7**	**-1.9**
ANCH				*i* S		**Sn**	**13 19 50.0**	**-4.1**
HMBC	**Humberstone**	**2.51**	**329**	⇓*i*P		**Pn**	**13 19 30.8**	**-1.8**
HMBC				*i* S		**Sn**	**13 20 00.3**	**-2.6**
HMBC				AML		AML	13 20 14.8	
	comp=N,8μm,0.5s							
LPAZ	**La Paz**	**6.13**	**3**	*e*Pn		**Pn**	**13 20 23.2**	**+1.3**
	comp=N,221nm,0.8s							
LCO	**Las Campanas**	**6.83**	**196**	*e*Pn		Pn	13 20 25.2	-5.8
	comp=N,206nm,0.6s							
CFAA	**Coronel Fontan**	**9.13**	**179**	P		Pn	13 20 58.3	-3.7
CFAA				S		Sn	13 22 34.0	-8.9
CFAA	**Coronel Fontan**	**9.13**	**179**	P		Pn	13 20 58.3	-3.7
	comp=N,0.2nm,0.3s,baz=348,slow=14,SNR=18							
CFAA				S		Sn	13 22 34.0	-8.9
	comp=N,0.5nm,0.3s,baz=318,slow=18,SNR=3.7							
SIV	**San Ignacio**	**9.52**	**49**	P		**Pn**	**13 21 05.3**	**-2.0**
SIV				S		**Sn**	**13 22 48.6**	**-3.9**
SIV	**San Ignacio**	**9.52**	**49**	P		**Pn**	**13 21 05.3**	**-2.0**
	comp=N,9.2nm,0.3s,baz=264,slow=9.9,SNR=181							
SIV				S		**Sn**	**13 22 48.6**	**-3.9**
	comp=N,2.5nm,0.3s,baz=184,slow=22,SNR=4.1							
CPUP	**Villa Florida**	**10.90**	**113**	*e*Pn		**Pn**	**13 21 24.4**	**-1.6**
	comp=N,228nm,0.8s							
CPUP	**Villa Florida**	**10.90**	**113**	P		**Pn**	**13 21 24.7**	**-1.3**
	comp=N,1.2nm,0.3s,baz=278,slow=11,SNR=40							
H03N1	**Juan Fernandez**	**14.29**	**218**	T		T	13 34 59.3	
	baz=40,slow=0.7,SNR=59							
H03N2	**Juan Fernandez**	**14.30**	**218**	T		T	13 34 51.7	
	baz=40,slow=0.7,SNR=45							
H03N3	**Juan Fernandez**	**14.31**	**218**	T		T	13 34 52.1	
	baz=40,slow=0.7,SNR=71							
SAML	**Samuel**	**14.36**	**22**	*e*P		Pn	13 22 06.8	-4.9
	comp=N,9.3nm,0.9s							
TRQA	**Tornquist**	**16.54**	**162**	*e*P		**Pn**	**13 22 38.0**	**-0.9**
	comp=N,33nm,0.7s							
PLCA	**Paso Flores**	**18.32**	**185**	P		**P**	**13 22 58.5**	**-0.6**
PLCA	**Paso Flores**	**18.32**	**185**	P		**P**	**13 22 58.5**	**-0.6**
	comp=N,0.2nm,0.3s,baz=347,slow=10,SNR=8.1							
SPB	**Sao Paulo**	**19.44**	**97**	*e*P		**P**	**13 23 11.3**	**-0.1**
	comp=N,108nm,0.8s							
BDFB	**Brasilia**	**20.51**	**74**	P		**P**	**13 23 22.5**	**-0.7**
BDFB	**Brasilia**	**20.51**	**74**	P		**P**	**13 23 22.5**	**-0.7**
	comp=N,60nm,0.7s,baz=252,slow=12,SNR=81							
OTAV	**Otavalo**	**24.54**	**335**	*e*P		**P**	**13 24 04.8**	**+1.2**
	comp=N,29nm,0.9s							
RCBR	**Riachuelo**	**35.55**	**67**	P		**P**	**13 25 40.9**	**+0.3**
RCBR	**Riachuelo**	**35.55**	**67**	P		**P**	**13 25 40.9**	**+0.3**
	comp=N,6μm,0.7s,baz=231,slow=11,SNR=22							
JTS	**JuntasAbangare**	**36.31**	**332**	P		**P**	**13 25 48.7**	**+1.8**
JTS	**JuntasAbangare**	**36.31**	**332**	P		**P**	**13 25 48.7**	**+1.8**
	comp=N,5.1nm,0.8s,baz=202,slow=5.4,SNR=4.9							
APG	**El Apazote**	**42.99**	**328**	P		**P**	**13 26 43.5**	**+1.0**
APG				pP		**pP**	**13 27 08.1**	**+1.3**
APG	**El Apazote**	**42.99**	**328**	P		**P**	**13 26 43.5**	**+1.0**
	comp=N,14nm,1.0s,baz=181,slow=9.1,SNR=9.3							
APG				pP		**pP**	**13 27 08.1**	**+1.3**
	comp=N,11nm,0.9s,baz=155,slow=7.9,SNR=6.2							
TEIG	**Tepich**	**46.60**	**334**	P		**P**	**13 27 10.5**	**-0.3**
TEIG	**Tepich**	**46.60**	**334**	P		**P**	**13 27 10.5**	**-0.3**
	comp=N,9.7nm,0.6s,baz=158,slow=5.4,SNR=5.6							
732A	**Laxson Ranch,**	**59.23**	**328**	⇑P		**P**	**13 28 43.2**	**-0.4**
	baz=60,SNR=6.1							
TKL	**Tuckaleechee C**	**59.57**	**346**	P		**P**	**13 28 45.3**	**-0.5**
TKL				pP		**pP**	**13 29 11.7**	**+0.3**
TKL	**Tuckaleechee C**	**59.57**	**346**	P		**P**	**13 28 45.3**	**-0.5**
	comp=N,6.1nm,0.8s,baz=152,slow=9.6,SNR=7.1							
TKL				pP		**pP**	**13 29 11.7**	**+0.3**
	comp=N,6.6nm,0.8s,baz=149,slow=9.5,SNR=4.4							
VNA2	**Neumayer--Watz**	**59.64**	**161**	*e*P		**P**	**13 28 46.6**	**+0.7**
632A	**Uvalde**	**59.78**	**328**	⇑P		**P**	**13 28 46.9**	**-0.6**
	baz=60							
631A	**Perdido Creek**	**60.09**	**328**	⇓P		**P**	**13 28 48.9**	**-0.6**
	baz=60,SNR=8.6							
532A	**Rocksprings**	**60.36**	**329**	⇑P		**P**	**13 28 51.0**	**-0.3**
	baz=61,SNR=6.1							
JCT	**Junction City**	**60.60**	**329**	*e*P		**P**	**13 28 52.8**	**-0.2**
	comp=N,17nm,0.8s							
JCT	**Junction City**	**60.60**	**329**	⇓P		**P**	**13 28 52.6**	**-0.4**
	baz=61,SNR=6.7							
WHTX	**Lake Whitney**	**60.80**	**332**	*e*P		**P**	**13 28 53.7**	**-0.5**
WHTX	**Lake Whitney**	**60.80**	**332**	⇓P		**P**	**13 28 54.0**	**-0.2**
	baz=61,SNR=5.2							
432A	**Menard**	**60.92**	**329**	⇓P		**P**	**13 28 54.6**	**-0.5**
	baz=61,SNR=8.5							
WVT	**Waverly**	**61.06**	**342**	*e*P		**P**	**13 28 54.2**	**-1.7**
	comp=N,14nm,0.8s							
530A	**J-C Ranch, Com**	**61.07**	**328**	⇓P		**P**	**13 28 55.9**	**-0.3**
	baz=61,SNR=10							
431A	**Sonora**	**61.15**	**328**	⇓P		**P**	**13 28 56.5**	**-0.2**
	baz=62							
SNAA	**Sanae**	**61.27**	**161**	*e*P		**P**	**13 28 57.0**	**0.0**
SNAA	**Sanae**	**61.27**	**161**	*e*P		**P**	**13 28 57.0**	**0.0**
	comp=N,23nm,1.4s							
SNAA	**Sanae**	**61.27**	**161**	P		**P**	**13 28 57.4**	**+0.4**
	comp=N,2.6nm,0.7s,baz=286,slow=7.5,SNR=10							
332A	**Millersview**	**61.32**	**330**	⇑P		**P**	**13 28 57.2**	**-0.6**
	baz=62,SNR=12							
628A	**Black Gap, Mar**	**61.33**	**326**	⇑P		**P**	**13 28 58.1**	**+0.2**
	baz=62,SNR=12							
529A	**Stev Forest Ra**	**61.50**	**327**	⇑P		**P**	**13 28 59.2**	**+0.1**
	baz=62,SNR=14							
430A	**Baggett Ranch,**	**61.55**	**328**	⇑P		**P**	**13 28 58.8**	**-0.6**
	baz=62,SNR=5.3							
627A	**Terlingua Ranc**	**61.56**	**325**	⇓P		**P**	**13 28 59.4**	**-0.1**
	baz=62							
331A	**San Angelo**	**61.59**	**329**	⇓P		**P**	**13 28 59.2**	**-0.5**
	baz=62							
232A	**Coleman**	**61.70**	**330**	⇓P		**P**	**13 28 59.9**	**-0.5**
	baz=62,SNR=12							
429A	**Davenport Ranc**	**61.74**	**327**	⇑P		**P**	**13 29 00.4**	**-0.3**
	baz=62,SNR=9.0							
528A	**Cox Ranch, San**	**61.81**	**326**	⇑P		**P**	**13 29 00.9**	**-0.4**
	baz=62,SNR=5.7							
330A	**Mertzon**	**62.02**	**328**	⇑P		**P**	**13 29 01.9**	**-0.7**
	baz=62							
626A	**Big Bend Ranch**	**62.03**	**325**	⇓P		**P**	**13 29 03.0**	**+0.3**
	baz=62,SNR=16							
231A	**Bronte**	**62.05**	**330**	⇑P		**P**	**13 29 01.8**	**-0.9**
	baz=62							
428A	**Kincaid Ranch,**	**62.22**	**327**	⇓P		**P**	**13 29 04.2**	**+0.3**
	baz=62							
527A	**Woodward Ranch**	**62.23**	**326**	⇑P		**P**	**13 29 03.7**	**-0.3**
	baz=62,SNR=7.8							
ABTX	**Abilene, Hawle**	**62.32**	**330**	⇑P		**P**	**13 29 04.1**	**-0.3**
	baz=63							
230A	**Sterling City**	**62.39**	**329**	⇑P		**P**	**13 29 04.6**	**-0.4**
	baz=63							
526A	**Mary Lane Ranc**	**62.41**	**325**	⇓P		**P**	**13 29 05.3**	**-0.1**
	baz=63,SNR=8.2							
329A	**Wagon Wheel Ra**	**62.48**	**328**	⇓P		**P**	**13 29 05.2**	**-0.5**
	baz=63,SNR=5.3							
427A	**Hayter Ranch,**	**62.68**	**326**	⇑P		**P**	**13 29 06.7**	**-0.3**
	baz=63,SNR=5.2							
131A	**Roby**	**62.70**	**330**	⇓P		**P**	**13 29 06.8**	**-0.3**
	baz=63,SNR=7.6							
229A	**Bryant Ranch,**	**62.79**	**328**	⇑P		**P**	**13 29 07.5**	**-0.2**
	baz=63							
328A	**Wristen Ranch,**	**62.81**	**327**	⇑P		**P**	**13 29 07.3**	**-0.5**
	baz=63,SNR=7.8							
Z32A	**Haskell**	**62.82**	**331**	⇓P		**P**	**13 29 07.3**	**-0.4**
	baz=63							
426A	**McDonald Obser**	**62.86**	**326**	⇑P		**P**	**13 29 08.6**	**+0.2**
	baz=63							
BBTS	**Babate**	**62.87**	**59**	P		**P**	**13 29 08.5**	**+0.1**
BBTS	**Babate**	**62.87**	**59**	P		**P**	**13 29 08.5**	**+0.1**
	comp=N,44nm,0.9s,baz=258,slow=1.5,SNR=6.2							
130A	**Snyder**	**62.91**	**329**	⇓P		**P**	**13 29 07.9**	**-0.5**
	baz=63,SNR=7.5							
Z31A	**Sharp Cattle R**	**63.13**	**331**	⇑P		**P**	**13 29 09.3**	**-0.5**
	baz=63,SNR=9.0							
228A	**UT Block 9, Go**	**63.30**	**328**	⇑P		**P**	**13 29 10.5**	**-0.5**
	baz=64							
326A	**Caldwell Ranch**	**63.35**	**326**	⇑P		**P**	**13 29 11.4**	**-0.1**
	baz=64,SNR=5.3							
129A	**Stewart Farms,**	**63.36**	**329**	⇑P		**P**	**13 29 11.3**	**-0.2**
	baz=64							
Y32A	**R-V Farms, Ver**	**63.39**	**331**	⇓P		**P**	**13 29 11.1**	**-0.4**
	baz=64,SNR=5.0							
425A	**Indio Mountain**	**63.46**	**325**	⇑P		**P**	**13 29 12.3**	**+0.1**
	baz=64,SNR=12							
TUL1	**Tulsa**	**63.52**	**335**	⇑P		**P**	**13 29 12.3**	**-0.1**
	baz=64							
Z30A	**Sanderson Ranc**	**63.55**	**330**	⇑P		**P**	**13 29 11.8**	**-0.8**
	baz=64,SNR=9.1							
227A	**Bennet, Jal**	**63.56**	**327**	⇓P		**P**	**13 29 12.9**	**+0.1**
	baz=64							
128A	**Castleberry Fa**	**63.66**	**328**	⇓P		**P**	**13 29 13.0**	**-0.4**
	baz=64							
Y31A	**Rekieta Farm,**	**63.72**	**331**	⇑P		**P**	**13 29 13.4**	**-0.4**
	baz=64,SNR=8.6							
ACSO	**Alum Creek Sta**	**63.80**	**348**	*e*P		**P**	**13 29 13.1**	**-0.9**
Z29A	**Hungry Hill Ra**	**63.80**	**329**	⇑P		**P**	**13 29 13.4**	**-1.0**
	baz=64,SNR=6.2							
325A	**Bean Ranch, Si**	**63.91**	**326**	⇑P		**P**	**13 29 15.0**	**-0.2**
	baz=64							
Y30A	**Stafford Cattl**	**63.94**	**330**	⇓P		**P**	**13 29 15.1**	**-0.1**
	baz=64							
226B	**Tecolote Peak,**	**64.05**	**327**	⇑P		**P**	**13 29 16.2**	**+0.2**
	baz=64,SNR=7.5							
Z28A	**Tucker Farm, M**	**64.15**	**329**	⇓P		**P**	**13 29 16.0**	**-0.7**
	baz=64							
X31A	**McDonald Ranch**	**64.16**	**331**	⇑P		**P**	**13 29 16.6**	**+0.1**
	baz=64							
324A	**Moseley Ranch,**	**64.23**	**325**	⇑P		**P**	**13 29 16.3**	**-1.0**
	baz=64,SNR=13							
GDL2	**Guadalupe Moun**	**64.25**	**327**	*e*P		**P**	**13 29 17.5**	**+0.1**
	comp=N,4.4nm,0.8s							
Y29A	**Porterfield Fa**	**64.28**	**330**	⇓P		**P**	**13 29 16.8**	**-0.7**
	baz=65							
MNTX	**Cornudas Mount**	**64.38**	**325**	*e*P		**P**	**13 29 16.8**	**-1.3**
	comp=N,3.5nm,0.9s							
X30A	**Coker Ranch, T**	**64.40**	**331**	⇓P		**P**	**13 29 17.4**	**-0.8**
	baz=65,SNR=6.1							
126A	**Clayton Basin,**	**64.43**	**327**	⇓P		**P**	**13 29 18.5**	**-0.1**
	baz=65							
Z27A	**Tatum**	**64.57**	**328**	⇓P		**P**	**13 29 18.4**	**-1.0**
	baz=65,SNR=8.5							
Y28A	**McKinney Farm,**	**64.59**	**329**	⇑P		**P**	**13 29 19.0**	**-0.5**
	baz=65							
W31A	**Holland Ranch,**	**64.61**	**332**	⇑P		**P**	**13 29 18.9**	**-0.6**
	baz=65							
224A	**Cornudas Mount**	**64.75**	**326**	⇓P		**P**	**13 29 20.0**	**-0.6**
	baz=65,SNR=9.8							
125A	**Gardner Draw,**	**64.77**	**327**	⇑P		**P**	**13 29 20.1**	**-0.7**
	baz=65,SNR=7.5							
X29A	**Tulia**	**64.78**	**330**	⇓P		**P**	**13 29 20.4**	**-0.3**
	baz=65							
SFIN	**Scholer Farm**	**64.86**	**344**	*e*P		**P**	**13 29 19.0**	**-1.9**
SFIN	**Scholer Farm**	**64.86**	**344**	⇑P		**P**	**13 29 20.0**	**-0.9**
	baz=65							
MSTX	**Muleshoe**	**64.89**	**329**	*e*P		**P**	**13 29 21.2**	**-0.3**
MSTX	**Muleshoe**	**64.89**	**329**	⇓P		**P**	**13 29 21.4**	**-0.1**
	baz=65							
Z26A	**Caprock**	**64.92**	**328**	⇑P		**P**	**13 29 21.1**	**-0.6**
	baz=65,SNR=6.5							
Y27A	**Causey**	**65.01**	**329**	⇑P		**P**	**13 29 21.5**	**-0.7**
	baz=65,SNR=7.7							
V31A	**Spring Creek L**	**65.06**	**332**	⇑P		**P**	**13 29 22.4**	**-0.1**
	baz=65							
X28A	**Dimmitt**	**65.07**	**330**	⇑P		**P**	**13 29 22.5**	**-0.2**
	baz=65							
124A	**Stringfield Ra**	**65.21**	**326**	⇓P		**P**	**13 29 23.4**	**-0.4**
	baz=66,SNR=7.6							
Z25A	**Roswell**	**65.29**	**327**	⇓P		**P**	**13 29 23.8**	**-0.3**
	baz=66							
W29A	**Amraillo**	**65.31**	**330**	⇑P		**P**	**13 29 24.1**	**0.0**
	baz=66							
Y26A	**Elida**	**65.36**	**328**	⇑P		**P**	**13 29 25.2**	**+0.7**
	baz=66							
V30A	**Spur Ranch, Mi**	**65.42**	**332**	⇑P		**P**	**13 29 25.4**	**+0.6**
	baz=66							
222A	**Williams Famil**	**65.61**	**324**	⇑P		**P**	**13 29 26.7**	**+0.5**
	baz=66,SNR=6.2							
Z24A	**Sheeppen Canyo**	**65.66**	**327**	⇓P		**P**	**13 29 26.4**	**-0.2**
	baz=66,SNR=13							
Y25A	**Mesa, Roswell**	**65.79**	**327**	⇑P		**P**	**13 29 26.9**	**-0.4**
	baz=66,SNR=9.0							
320A	**Kipp Ranch, An**	**65.81**	**323**	⇑P		**P**	**13 29 27.9**	**+0.4**
	baz=66							
X26A	**CR and CF Fran**	**65.86**	**328**	⇑P		**P**	**13 29 27.6**	**-0.2**
	baz=66,SNR=7.4							
221A	**Mesquite Ranch**	**65.91**	**324**	⇓P		**P**	**13 29 28.7**	**+0.6**
	baz=66							
W27A	**Bowe Ranch, En**	**65.92**	**329**	⇓P		**P**	**13 29 28.0**	**-0.1**
	baz=66							
122A	**Conniff Cattle**	**66.02**	**325**	⇑P		**P**	**13 29 29.6**	**+0.8**
	baz=66							
Z23A	**Rita Site, Whi**	**66.05**	**326**	⇓P		**P**	**13 29 29.2**	**+0.2**
	baz=66,SNR=6.2							
V28A	**Channing**	**66.10**	**330**	⇓P		**P**	**13 29 29.2**	**0.0**
	baz=66							
Y24A	**Capitan**	**66.17**	**327**	⇑P		**P**	**13 29 30.8**	**+1.0**
	baz=66							
220A	**Playas Peak, P**	**66.24**	**323**	⇑P		**P**	**13 29 30.7**	**+0.5**
	baz=66,SNR=5.5							
319A	**Douglas**	**66.26**	**322**	⇑P		**P**	**13 29 31.2**	**+0.8**
	baz=66							
W26A	**Owens Ranch, T**	**66.28**	**329**	⇑P		**P**	**13 29 30.4**	**0.0**
	baz=67,SNR=6.5							
121A	**Cookes Peak, D**	**66.31**	**324**	⇑P		**P**	**13 29 31.7**	**+1.0**
	baz=67							
Z22A	**Elephant Butte**	**66.43**	**325**	⇓P		**P**	**13 29 32.3**	**+0.9**
	baz=67,SNR=11							
S31A	**Mullinville**	**66.48**	**334**	⇓P		**P**	**13 29 31.9**	**+0.3**
	baz=67							
Y23A	**Lovelace Mesa,**	**66.49**	**326**	⇓

baz=68,SNR=15
X20A Quemado 68.23 325 ⇓P P 13 29 43.7 +0.8
baz=68
T25A Trinidad 68.24 330 ⇓P P 13 29 43.1 +0.2
baz=69
O32A Brockman Farm, 68.27 336 ⇓P P 13 29 42.7 -0.1
baz=69
LIC Lamto 68.30 73 eP P 13 29 42.9 -0.6
comp=N,19nm,0.6s
R27A Eads 68.45 332 ⇓P P 13 29 44.3 +0.3
baz=69
V22A San Miguel Ran 68.48 327 ⇓P P 13 29 45.3 +0.9
baz=69,SNR=14
TIC Toumodi 68.50 73 eP P 13 29 44.4 -0.3
comp=N,75nm,1.1s
KIC Kosan Boka 68.61 73 eP P 13 29 45.2 -0.2
comp=N,77nm,1.0s
DBIC Dimbokro 68.65 73 eP P 13 29 45.7 0.0
comp=N,48nm,1.0s
DBIC Dimbokro 68.65 73 P P 13 29 45.8 +0.2
comp=N,34nm,0.9s,baz=211,slow=6.4,SNR=23
Q28A Sharon Springs 68.68 333 ⇓P P 13 29 45.3 -0.1
baz=69
S25A Robets Cordova 68.68 330 ⇑P P 13 29 45.8 +0.2
baz=69,SNR=7.8
W20A Ramah 68.68 326 ⇑P P 13 29 46.7 +1.1
baz=69
214A Organ Pipe Nat 68.72 320 ⇑P P 13 29 46.7 +1.0
baz=69
R26A Arlington 68.75 331 ⇓P P 13 29 46.1 +0.2
baz=69,SNR=11
V21A Milan 68.76 327 ⇓P P 13 29 47.2 +1.0
baz=69
U22A Llaves 68.81 328 ⇑P P 13 29 47.8 +1.3
baz=69
O30A MW Ranch, Wils 68.89 335 ⇑P P 13 29 47.5 +0.8
baz=69
KSCO Kaye Shedlock' 68.98 332 ⇑P P 13 29 47.8 +0.5
baz=69
X18A Snowflake 69.00 324 ⇓P P 13 29 48.3 +0.7
baz=69
R25A Fountain Ranch 69.00 330 ⇓P P 13 29 47.4 -0.1
baz=69,SNR=5.1
S24A Houchin Ranch, 69.02 329 ⇑P P 13 29 48.5 +0.7
baz=69,SNR=6.0
O29A 4D Ranch, Culb 69.14 334 ⇑P P 13 29 49.2 +1.0
baz=70
V20A Brimhall 69.18 326 ⇓P P 13 29 49.2 +0.5
baz=70,SNR=5.2
BGNE Belgrade 69.22 337 eP P 13 29 48.7 +0.1
BGNE Belgrade 69.22 337 ⇓P P 13 29 48.2 -0.4
baz=70,SNR=5.0
U21A Nageezi 69.25 327 ⇓P P 13 29 49.7 +0.5
baz=70,SNR=7.4
Q26A Hugo 69.30 331 ⇑P P 13 29 49.6 +0.3
baz=70,SNR=5.2
W18A Petrified Fore 69.33 325 ⇑P P 13 29 50.7 +1.1
baz=70
T22A Edith 69.34 328 ⇑P P 13 29 50.4 +0.7
baz=70,SNR=5.5
P27A Ficken Ranch, 69.41 332 ⇑P P 13 29 50.5 +0.5
baz=70
R24A Sanders Place, 69.45 330 ⇑P P 13 29 51.1 +0.8
baz=70
M31A Lambtecht Ranc 69.47 336 ⇑P P 13 29 50.7 +0.5
baz=70
O28A Krutsinger Ran 69.55 333 ⇑P P 13 29 51.4 +0.7
baz=70
Q25A Bedland, Calha 69.61 331 ⇑P P 13 29 51.8 +0.5
baz=70
T21A Navajo Lake 69.63 327 ⇓P P 13 29 52.2 +0.7
baz=70,SNR=5.8
U20A Newcomb 69.65 326 ⇓P P 13 29 52.6 +1.0
baz=70
N29A Votaw Ranch, W 69.67 335 ⇓P P 13 29 52.3 +0.9
baz=70
X16A Lo Mia Camp, P 69.73 323 ⇑P P 13 29 53.2 +1.1
baz=70,SNR=6.6
P26A Davis Ranch, A 69.74 332 ⇑P P 13 29 52.5 +0.4
baz=70
R23A Moffat 69.75 329 ⇓P P 13 29 52.9 +0.6
baz=70
113A Mohawk Valley, 69.87 320 ⇑P P 13 29 54.2 +1.5
baz=70
S22A 4UR Ranch, Cre 69.88 328 ⇓P P 13 29 53.5 +0.4
baz=70
O27A Beecher Island 69.89 333 ⇓P P 13 29 53.5 +0.6
baz=70,SNR=7.4
N28A Pribbeno Ranch 69.92 334 ⇑P P 13 29 53.6 +0.5
baz=70
M30A Dale-Ortello V 69.98 335 ⇑P P 13 29 54.0 +0.6
baz=70
Q24A Divide 70.06 330 ⇓P P 13 29 54.6 +0.4
baz=70,SNR=9.2
P25A Willow Gulch B 70.07 331 ⇓P P 13 29 54.7 +0.7
baz=70,SNR=10
L31A Butterfield Fa 70.14 336 ⇓P P 13 29 54.8 +0.5
baz=70
R22A Saguache, Gunn 70.23 329 ⇑P P 13 29 56.2 +1.0
baz=70
S21A Coal Bank Pass 70.28 328 ⇓P P 13 29 56.3 +0.7
baz=71
MVCO Mesa Verde 70.29 327 eP P 13 29 56.4 +0.8
comp=N,8.2nm,0.9s
MVCO Mesa Verde 70.29 327 ⇑P P 13 29 56.0 +0.5
baz=71,SNR=9.5
O26A Horse Wrangler 70.29 332 ⇓P P 13 29 56.3 +0.9
baz=71
OGNE Ogallala 70.34 334 ⇓P P 13 29 56.2 +0.6
baz=71
N27A Anderson Farm, 70.43 333 ⇓P P 13 29 57.1 +1.0
baz=71
WUAZ Wupatki 70.51 324 ⇑P P 13 29 57.8 +1.0
baz=71
O25A Wiggins 70.54 332 ⇑P P 13 29 57.9 +1.1
baz=71
S20A Disappointment 70.70 327 ⇓P P 13 29 59.1 +1.1
baz=71,SNR=7.2
P23A Jefferson 70.71 330 ⇓P P 13 29 59.0 +0.8
baz=71
R21A Cimarron 70.72 328 ⇑P P 13 29 58.9 +0.8
baz=71,SNR=7.1
N26A Koester Ranch, 70.74 333 ⇓P P 13 29 58.7 +0.6
baz=71
Q22A Crested Butte, 70.80 329 ⇓P P 13 29 59.9 +1.2
baz=71
SPMN St. Paul 70.89 342 ⇑P P 13 29 58.9 +0.2
baz=71
ISCO Idaho Springs 70.95 331 eP P 13 29 59.9 +0.3
comp=N,12nm,1.3s
ISCO Idaho Springs 70.95 331 ⇑P P 13 30 00.1 +0.5
baz=71,SNR=6.4
M27A Reverse DX Ran 70.97 334 ⇓P P 13 29 59.8 +0.4
baz=71
R20A Redvale 70.98 328 ⇑P P 13 30 00.6 +0.9
baz=71,SNR=11
Y12C Blythe 71.01 321 ⇑P P 13 30 01.3 +1.7
baz=71
K29A Lazy Trails An 71.20 336 ⇑P P 13 30 01.3 +0.6
baz=72
M26A McRoberts Ranc 71.23 333 ⇓P P 13 30 01.0 0.0
baz=72
P22A Eagle 71.31 330 ⇓P P 13 30 02.2 +0.5
baz=72,SNR=5.8
J30A Dallas 71.38 337 ⇑P P 13 30 02.4 +0.6
baz=72
O23A Lake Granby, G 71.42 331 ⇓P P 13 30 02.9 +0.5
baz=72,SNR=9.3
N24A Carr 71.45 332 ⇑P P 13 30 03.5 +1.0
baz=72
BC3 Big Chuckawall 71.49 320 ⇓P P 13 30 04.0 +1.2
baz=72
MONP Monument Peak 71.54 319 ⇓P P 13 30 04.2 +1.0
baz=72
K28A Ten Mile Ranch 71.57 335 ⇓P P 13 30 04.1 +1.1
baz=72
P21A Newcastle 71.58 329 ⇓P P 13 30 04.1 +0.8
baz=72,SNR=9.4
W13A Hualapai Mount 71.60 322 ⇑P P 13 30 05.0 +1.5
baz=72
O22A Kremmling 71.67 330 ⇓P P 13 30 04.2 +0.3
baz=72,SNR=15
U15A North Rim 71.68 324 ⇑P P 13 30 05.2 +1.2
baz=72,SNR=11
J29A Okreek 71.76 336 ⇑P P 13 30 04.5 +0.5
baz=72
K27A Flueckinger Fa 71.90 334 ⇑P P 13 30 05.6 +0.7
baz=72
M24A Cheyenne 71.95 332 ⇑P P 13 30 06.4 +1.0
baz=72,SNR=7.6
N23A Red Feather La 71.98 331 ⇓P P 13 30 06.1 +0.3
baz=72,SNR=8.5
P20A De Beque 72.01 329 ⇓P P 13 30 07.1 +1.3
baz=72
BELC Belle Mtn. Jos 72.06 320 ⇓P P 13 30 07.9 +1.7
baz=72
PHWY Pilot Hill 72.09 332 eP P 13 30 07.1 +0.7
comp=N,11nm,1.3s
J28A Allard Ranch, 72.12 336 ⇓P P 13 30 06.4 +0.2
baz=72,SNR=6.4
N22A Wattenberg Ran 72.14 331 ⇑P P 13 30 07.6 +1.0
baz=72,SNR=6.7
J27A Elkhorn Farm, 72.27 335 ⇑P P 13 30 08.1 +0.9
baz=73,SNR=7.4
I29A Vivian Onida 72.28 336 ⇓P P 13 30 07.4 +0.3
baz=73
K26A Motz Farm, Whi 72.28 334 ⇓P P 13 30 08.0 +0.8
baz=73
GMRC Granite Mounta 72.40 321 ⇑P P 13 30 08.9 +0.7
baz=73,SNR=5.7
P19A Cripple Cowboy 72.40 328 ⇓P P 13 30 09.0 +0.8
baz=73,SNR=21
O20A White River Ci 72.44 329 eP P 13 30 09.3 +0.9
O20A White River Ci 72.44 329 ⇑P P 13 30 09.2 +0.8
baz=73,SNR=7.3
MURC Murrieta 72.50 319 ⇑P P 13 30 09.6 +0.9
baz=73
I28A Midland 72.58 336 ⇓P P 13 30 09.0 +0.1
baz=73
J26A Sides Ranch, S 72.75 334 ⇑P P 13 30 11.1 +1.1
baz=73
H29A Onida 72.77 337 ⇓P P 13 30 10.1 +0.1
baz=73
SRU San Rafael 72.77 327 eP P 13 30 10.9 +0.6
comp=N,12nm,0.9s
HEC Hector,Ludlow 72.83 320 ⇓P P 13 30 11.2 +0.6
baz=73
L23A Garrett 72.86 332 ⇓P P 13 30 11.3 +0.4
baz=73
K24A Anderson Ranch 72.97 333 ⇑P P 13 30 12.5 +1.1
baz=73
I27A Quinn 72.98 335 ⇑P P 13 30 11.8 +0.5
baz=73
O19A Miners Draw (B 72.99 329 ⇓P P 13 30 12.0 +0.4
baz=73,SNR=7.7
N20A Spence Gulch, 73.00 330 ⇓P P 13 30 12.1 +0.4
baz=73,SNR=6.6
TUQ Turquoise Moun 73.02 321 ⇑P P 13 30 13.0 +1.2
baz=73
CCUT Cedar City 73.09 324 eP P 13 30 13.6 +1.2
comp=N,10nm,0.8s
H28A Mission Ridge 73.10 336 ⇑P P 13 30 12.2 +0.3
baz=73
J25A Sunshine Ranch 73.10 334 ⇓P P 13 30 12.9 +0.8
baz=73
MVU Marysvale 73.18 326 eP P 13 30 13.8 +1.0
comp=N,9.6nm,1.0s
M21A Separation Pea 73.19 331 ⇑P P 13 30 13.3 +0.5
baz=74,SNR=5.7
BFSC Mount Baldy Ra 73.22 319 ⇑P P 13 30 14.6 +1.6
baz=74
ARUT Antelope Range 73.30 324 eP P 13 30 15.1 +1.6
comp=N,107nm,1.1s
K23A Bowen Ranch, D 73.34 332 ⇓P P 13 30 14.5 +0.9
baz=74
J24A Dixon Ranch, L 73.41 333 ⇓P P 13 30 14.6 +0.7
baz=74
M20A Sweetwater, Wa 73.48 330 ⇓P P 13 30 15.2 +0.7
baz=74
L21A Rawlins 73.48 331 ⇑P P 13 30 14.8 +0.3
baz=74,SNR=15
K22A Casper 73.65 332 ⇑P P 13 30 16.5 +1.1
baz=74
F29A Eureka 73.67 338 ⇓P P 13 30 15.5 +0.3
baz=74
RSSD Black Hills 73.81 334 eP P 13 30 17.0 +0.7
comp=N,32nm,0.9s
I24A Kuemmerle Ranc 73.83 334 ⇑P P 13 30 17.2 +0.8
baz=74
EDW2 Edwards Air Fo 73.85 319 ⇓P P 13 30 17.6 +1.0
baz=74
E30A Jud 73.94 339 ⇓P P 13 30 16.7 -0.1
baz=74
L20A Wamsutter 73.95 330 ⇑P P 13 30 17.6 +0.3
baz=74,SNR=7.0
K21A Alcova 73.96 331 ⇓P P 13 30 17.9 +0.7
baz=74,SNR=17
BLG Laguna Peak 73.99 318 ⇑P P 13 30 18.5 +1.1
baz=74
H25A Fruitdale 74.05 335 ⇑P P 13 30 17.8 +0.2
baz=74
LRMC Laurel Mountai 74.08 320 ⇑P P 13 30 18.9 +0.8
baz=74
DAU Daniels Canyon 74.12 327 eP P 13 30 19.6 +1.2
comp=N,6.9nm,1.3s
G26A Maurine 74.22 336 ⇓P P 13 30 18.4 -0.2
baz=74,SNR=5.6
E29A Napoleon 74.24 338 ⇓P P 13 30 20.1 +1.5
baz=75
J22A Midwest 74.24 332 ⇑P P 13 30 18.8 0.0
baz=75,SNR=12
FURC Furnace Creek, 74.28 321 ⇑P P 13 30 20.3 +1.4
baz=75
MPMC Manual Prospec 74.36 321 ⇑P P 13 30 20.7 +1.0
baz=75
D30A Buchanan 74.42 339 ⇑P P 13 30 19.7 +0.2
baz=75
G27A Dupree 74.42 336 ⇓P P 13 30 18.0 -1.6
baz=74
G25A Newell 74.45 335 ⇑P P 13 30 20.5 +0.6
baz=75
K20A Yellowstone Ra 74.47 331 ⇑P P 13 30 19.8 -0.3
baz=75,SNR=5.3
L19A Farson 74.50 330 ⇓P P 13 30 21.3 +0.9
baz=75
H24A Dirks Ranch, A 74.53 334 ⇓P P 13 30 20.4 0.0
baz=75,SNR=11
J21A Lysite 74.61 332 ⇑P P 13 30 21.6 +0.6
baz=75
E28A Huff 74.61 338 ⇓P P 13 30 21.1 +0.3
baz=75
I22A 9 Mile Ranch, 74.63 333 ⇑P P 13 30 21.2 +0.1
baz=75,SNR=8.2
M17A Scullys Gap (B 74.64 328 ⇓P P 13 30 22.0 +0.7
baz=75
D29A Pettibone, Tap 74.65 339 ⇓P P 13 30 21.5 +0.6
baz=75
ISA Isabella 74.68 320 ⇓P P 13 30 22.3 +0.8
baz=75
L18A Fontenelle, Gr 74.68 329 ⇓P P 13 30 21.7 +0.2
baz=75,SNR=12
F26A Lodgepole 74.72 336 ⇑P P 13 30 21.9 +0.5
baz=75
DUG Dugway 74.75 326 eP P 13 30 22.7 +0.9
comp=N,7.0nm,1.0s
DUG Dugway 74.75 326 ⇓P P 13 30 22.1 +0.3
baz=75,SNR=6.0
K19A Absolon Red Bu 74.83 330 ⇑P P 13 30 22.2 -0.1
baz=75,SNR=5.4
C30A Mose, Pekin 74.84 340 ⇑P P 13 30 22.6 +0.5
baz=75
R11A Troy Canyon, C 74.88 323 ⇑P P 13 30 23.2 +0.5
baz=75,SNR=7.2
J20A Shoshoni 74.90 331 ⇓P P 13 30 23.0 +0.3
baz=75
I21A Big Trails, Te 74.92 332 ⇓P P 13 30 22.6 -0.1
baz=75,SNR=16
CWC Cottonwood Cre 74.97 321 ⇓P P 13 30 24.3 +1.1
baz=75
PKM Peak Mountain 74.98 318 ⇓P P 13 30 24.4 +1.1
baz=75
F25A Bowman 75.08 336 ⇑P P 13 30 23.9 +0.4
baz=75
D28A Regan 75.10 338 ⇓P P 13 30 24.1 +0.6
baz=75
PDAR Pinedale Array 75.11 330 P P 13 30 24.0 0.0
PDAR pP pP 13 30 51.3 +0.7
PDAR Pinedale Array 75.11 330 P P 13 30 24.0 0.0
comp=N,0.9nm,0.6s,baz=149,slow=7.5,SNR=10
PDAR pP pP 13 30 51.3 +0.7
comp=N,1.0nm,0.8s,baz=240,slow=5.0,SNR=3.2
BW06 Boulder Array 75.11 330 eP P 13 30 24.1 +0.1
comp=N,3.5nm,1.0s
H22A Clearmont 75.14 333 ⇓P P 13 30 24.1 +0.2
baz=76
VES Vestal, Richgr 75.16 320 ⇓P P 13 30 25.5 +1.4
baz=75
E26A Carlson Angus 75.16 336 ⇑P P 13 30 24.6 +0.7
baz=76
G23A Biddle 75.24 334 ⇑P P 13 30 25.2 +0.7
baz=76
J19A Crowheart 75.27 331 ⇓P P 13 30 24.9 +0.1
baz=76,SNR=9.0
MDND Maddock 75.34 339 ⇑P P 13 30 24.9 0.0
baz=76,SNR=5.8
I20A Worland 75.39 332 ⇑P P 13 30 25.9 +0.5
baz=76
F24A Ekalaka 75.39 335 ⇑P P 13 30 25.7 +0.4
baz=76,SNR=5.2
B30A Myrvik Farm, E 75.45 340 ⇑P P 13 30 25.3 -0.2
baz=76,SNR=7.4
H21A Big Horn, Sher 75.46 333 ⇓P P 13 30 26.1 +0.3
baz=76
C28A Hausauer Farms 75.49 338 ⇓P P 13 30 26.1 +0.4
baz=76
SYO Syowa Base 75.49 159⇓eP P 13 30 24.6 -0.9
SYO Syowa Base 75.49 159⇓ePcP PcP 13 30 36.2 -1.9
E25A Miller Ranch, 75.54 336 ⇓P P 13 30 26.9 +0.8
baz=76
G22A Birney 75.63 333 ⇑P P 13 30 27.1 +0.5
baz=76
D26A Manning 75.63 337 ⇑P P 13 30 26.7 +0.2
baz=76
F23A Volborg 75.67 334 ⇑P P 13 30 27.4 +0.5
baz=76
H20A Greybull 75.76 332 ⇑P P 13 30 27.5 0.0
baz=76,SNR=6.4
B29A Wagenman Farm, 75.80 339 ⇑P P 13 30 27.5 0.0
baz=76,SNR=8.3
I19A Meeteetse 75.84 331 ⇑P P 13 30 28.5 +0.4
baz=76,SNR=8.0
C27A Sayler Ranch, 75.88 338 ⇑P P 13 30 29.2 +1.3
baz=76
A30A Hoffart Farm, 75.88 340 ⇓P P 13 30 28.4 +0.5
baz=76
E24A Baker 75.94 335 ⇑P P 13 30 29.1 +0.7
baz=76,SNR=6.8
VNDA Vanda 75.99 190 P P 13 30 29.6 +1.3
VNDA pP pP 13 30 56.7 +1.8
VNDA Vanda 75.99 190 P P 13 30 29.6 +1.3
comp=N,1.7nm,0.9s,baz=191,slow=2.6,SNR=5.8
VNDA pP pP 13 30 56.7 +1.8
comp=N,1.1nm,0.8s,baz=219,slow=2.8,SNR=3.2
G21A Lodge Grass 76.01 333 ⇓P P 13 30 29.0 +0.1
baz=76,SNR=8.7
D25A Fairfield 76.05 336 ⇓P P 13 30 30.0 +0.9
baz=76
F22A Rosebud 76.07 334 ⇓P P 13 30 29.5 +0.3
baz=76
B28A Dugan Ranch, T 76.12 339 ⇑P P 13 30 29.9 +0.7
baz=76
A29A Manning Farm, 76.16 340 ⇓P P 13 30 29.1 -0.4
baz=76,SNR=7.2
REDW Red Top Meadow 76.17 330 eP P 13 30 30.4 +0.5
comp=N,5.9nm,0.8s
LOHW Long Hollow 76.25 330 eP P 13 30 30.7 +0.2
comp=N,1.6nm,0.5s
TPAW Teton Pass 76.32 330 eP P 13 30 31.4 +0.6
comp=N,13nm,1.0s
ULM Lac du Bonnet 76.33 342 P P 13 30 29.7 -0.7
ULM Lac du Bonnet 76.33 342 P P 13 30 29.7 -0.7
comp=N,1.4nm,0.4s,baz=182,slow=5.0,SNR=4.1
H19A Powell 76.34 332 ⇑P P 13 30 31.5 +0.7
baz=77
D24A Glendive 76.40 336 ⇓P P 13 30 32.1 +1.1
baz=77
ELK Elko 76.41 325 eP P 13 30 31.9 +0.5
comp=N,5.2nm,1.2s
MOOW Moose Ponds 76.42 330 eP P 13 30 31.9 +0.5
comp=N,3.1nm,0.8s
G20A Bridger 76.44 332 ⇓P P 13 30 31.5 +0.2
baz=77,SNR=6.0
F21A Absaloka Mine, 76.46 333 ⇑P P 13 30 32.3 +0.9
baz=77
NVAR Mina Array Bea 76.46 322 P P 13 30 32.5 +0.7
NVAR pP pP 13 30 58.2 -0.2
NVAR Mina Array Bea 76.46 322 P P 13 30 32.5 +0.7
comp=N,1.7nm,0.8s,baz=161,slow=7.1,SNR=11
NVAR pP pP 13 30 58.2 -0.2
comp=N,2.9nm,1.0s,baz=146,slow=6.6,SNR=5.8
I17A Pilgrim Ck. 76.47 330 ⇑P P 13 30 32.4 +0.8
baz=77,SNR=7.3
E22A Miles City 76.48 334 ⇓P P 13 30 32.5 +1.1
baz=77
A28A Rude Farm, Bot 76.48 339 ⇑P P 13 30 32.1 +0.7
baz=77
C25A Freed Ranch, W 76.50 337 ⇑P P 13 30 32.2 +0.7
baz=77
IMW Indian Meadow 76.62 330 eP P 13 30 33.4 +0.8
comp=N,17nm,1.3s
IMW epP pP 13 31 00.4 +1.0
H18A Shoshone NF, C 76.64 331 ⇑P P 13 30 32.9 +0.2
baz=77,SNR=18
FLWY Flagg Ranch 76.65 330 eP P 13 30 33.5 +0.8
comp=N,16nm,0.9s
C24A Savage 76.78 336 ⇑P P 13 30 33.8 +0.7
baz=77,SNR=6.7
D23A Lindsay 76.79 335 ⇑P P 13 30 33.7 +0.5
baz=77,SNR=5.5
F20A Billings 76.87 333 ⇓P P 13 30 34.0 +0.3
baz=77
E21A Keefer Ranch, 77.02 334 ⇓P P 13 30 34.9 +0.5
baz=77
A26A Wade Farm, Ken 77.07 338 ⇓P P 13 30 35.8 +1.1
baz=77
D22A Cohagen 77.15 335 ⇓P P 13 30 36.3 +1.1
baz=78
F19A Roth Farm, Mol 77.25 332 ⇓P P 13 30 36.0 +0.1
baz=78,SNR=6.7
TOA0 Torodi Ar. Sit 77.33 70 eP P 13 30 36.3 -0.5
TORD Torodi Ar. Bea 77.33 70 P P 13 30 36.6 -0.2
TORD pP pP 13 31 03.6 +0.1
TORD Torodi Ar. Bea 77.33 70 P P 13 30 36.6 -0.2
comp=N,20nm,0.6s,baz=256,slow=5.2,SNR=165
TORD pP pP 13 31 03.6 +0.1
comp=N,11nm,0.8s,baz=250,slow=5.3,SNR=3.3
D21A La Casta Ranch 77.41 334 ⇓P P 13 30 37.1 +0.5
baz=78,SNR=5.3
E20A Meyer Farm, Mu 77.42 333 ⇑P P 13 30 37.1 +0.4
baz=78,SNR=6.8
DGMT Dagmar 77.48 337 ⇓P P 13 30 38.2 +1.2
baz=78
A25A Svangstu Ranch 77.48 337 ⇑P P 13 30 37.9 +0.9
baz=78
GCMT Greycliff 77.52 332 eP P 13 30 38.2 +0.8
comp=N,6.9nm,0.9s
C22A Vida 77.52 335 ⇓P P 13 30 38.2 +1.0
baz=78
E19A Rath Farm, Rou 77.67 333 ⇑P P 13 30 38.4 +0.3
baz=78,SNR=21
B23A Brockton 77.77 336 ⇓P P 13 30 39.2 +0.6
baz=78
SUR Sutherland 77.78 120 P P 13 30 41.1 +1.7
SUR pP pP 13 31 09.0 +2.8
SUR Sutherland 77.78 120 P P 13 30 41.1 +1.7
comp=N,11nm,0.7s,baz=240,slow=10,SNR=9.5
SUR pP pP 13 31 09.0 +2.8
comp=N,9.3nm,0.8s,baz=240,slow=5.1,SNR=3.6
A24A Westby 77.79 337 ⇑P P 13 30 39.6 +0.9
baz=78
D20A Manuel Ranch, 77.89 334 ⇑P P 13 30 39.4 0.0
baz=78,SNR=8.3
PAHR Pah Rah Range 77.95 322 eP P 13 30 41.2 +1.3
comp=N,13nm,0.8s
B22A Reddig Ranch S 78.02 335 ⇓P P 13 30 40.1 +0.1
baz=78
HLID Hailey 78.03 328 eP P 13 30 41.5 +1.2
comp=N,13nm,0.9s
HLID Hailey 78.03 328 ⇑P P 13 30 41.4 +1.0
baz=78,SNR=25
D19A Cripps Ranch, 78.26 333 ⇓P P 13 30 41.7 +0.3
baz=79,SNR=5.9
BOZ Bozeman (W) 78.28 331 eP P 13 30 41.9 +0.3
comp=N,3.9nm,1.1s
C20A Veseth Ranch, 78.34 334 ⇓P P 13 30 42.2 +0.5
baz=79
B21A Ellsworth Farm 78.52 335 ⇑P P 13 30 43.7 +0.9
baz=79
A22A Carney Farms, 78.56 336 ⇓P P 13 30 43.8 +0.9
baz=79
MFID Camas Ranch 78.64 327 ⇑P P 13 30 44.5 +0.9
baz=79,SNR=6.9
C19A Slack Wire Ran 78.78 333 ⇑P P 13 30 44.8 +0.6
baz=79

B20A	**Solberg Farm,** baz=79	**78.92**	**334**	⇑P		**P**	**13**	**30**	**45.7 +0.7**
A21A	**Bergtoll Ranch** baz=79	**78.94**	**335**	⇑P		**P**	**13**	**30**	**45.7 +0.7**
A20A	**Cobblestone Ra** baz=80	**79.24**	**335**	⇑P		**P**	**13**	**30**	**47.1 +0.5**
EGMT	**Eagleton** baz=80	**79.30**	**333**	⇓P		**P**	**13**	**30**	**47.3 +0.2**
B19A	**Brinkman Farms** baz=80	**79.31**	**334**	⇓P		**P**	**13**	**30**	**47.8 +0.8**
TSUM	**Tsumeb** comp=N,37nm,0.9s	**79.42**	**106**	*e*P		**P**	**13**	**30**	**49.4 +0.9**
TSUM	**Tsumeb** comp=N,28nm,0.8s,baz=240,slow=5.4,SNR=26	**79.42**	**106**	P		**P**	**13**	**30**	**49.7 +1.2**
A19A	**Klindworth Far** baz=80	**79.60**	**334**	⇑P		**P**	**13**	**30**	**49.0 +0.4**
MOD	**Modoc** comp=N,24nm,1.0s	**79.95**	**323**	*e*P		**P**	**13**	**30**	**51.0 +0.2**
MSO	**Missoula** baz=80	**80.22**	**330**	⇓P		**P**	**13**	**30**	**52.7 +0.6**
BMO	**Blue Mountains** comp=N,12nm,1.1s	**80.41**	**327**	*e*P		**P**	**13**	**30**	**53.5 +0.3**
BSMT	**Bassoo Peak** comp=N,5.4nm,0.9s	**81.37**	**331**	*e*P		**P**	**13**	**30**	**58.5 +0.2**
WALA	**Waterton Lakes** comp=N,0.1nm,0.8s	**81.87**	**332**	*e*P		**P**	**13**	**31**	**00.3 -0.5**
MDT	**Midelt**	**82.07**	**50**	P		**P**	**13**	**31**	**03.4 +1.2**
MDT	**Midelt** comp=N,6.9nm,0.9s,baz=239,slow=6.1,SNR=12	**82.07**	**50**	P		**P**	**13**	**31**	**03.4 +1.2**
BOSA	**Boshof** comp=N,25nm,1.0s	**82.68**	**118**	*e*P		**P**	**13**	**31**	**05.8 +0.1**
BOSA	**Boshof** comp=N,17nm,0.8s,baz=259,slow=5.2,SNR=25	**82.68**	**118**	P		**P**	**13**	**31**	**05.9 +0.2**
NEW	**Newport** baz=83	**82.75**	**330**	⇑P		**P**	**13**	**31**	**05.7 +0.4**
MAW	**Mawson**	**83.32**	**163**	P		**P**	**13**	**31**	**08.4 +0.4**
MAW				pP		**pP**	**13**	**31**	**36.6 +1.5**
MAW	**Mawson** comp=N,2.7nm,0.8s,baz=226,slow=9.9,SNR=8.8	**83.32**	**163**	P		**P**	**13**	**31**	**08.4 +0.4**
MAW				pP		**pP**	**13**	**31**	**36.6 +1.5**
LBTB	**Lobatse** comp=N,18nm,1.0s	**84.29**	**115**	*e*P		**P**	**13**	**31**	**14.2 +0.3**
LBTB				pP		**pP**	**13**	**31**	**42.7 +1.6**
LBTB	**Lobatse** comp=N,14nm,0.8s,baz=251,slow=6.6,SNR=13	**84.29**	**115**	P		**P**	**13**	**31**	**14.2 +0.3**
LBTB				pP		**pP**	**13**	**31**	**42.7 +1.6**
TAM	**Tamanrasset** comp=N,13nm,1.3s	**84.92**	**63**	*e*P		**P**	**13**	**31**	**17.8 +0.8**
ESDC	**Sonseca Array**	**86.25**	**44**	P		**P**	**13**	**31**	**23.9 +0.7**
ESDC	**Sonseca Array** comp=N,0.8nm,0.5s,baz=235,slow=5.3,SNR=12	**86.25**	**44**	P		**P**	**13**	**31**	**23.9 +0.7**
MATP	**Matopo**	**88.52**	**111**	P		**P**	**13**	**31**	**35.8 +1.1**
MATP	**Matopo** comp=N,7.4nm,0.7s,baz=252,slow=5.4,SNR=11	**88.52**	**111**	P		**P**	**13**	**31**	**35.8 +1.1**
LSZ	**Lusaka** comp=N,85nm,19.4s,baz=16,slow=33	**90.27**	**107**	LR		LR	14	08	26.1
YKA	**Yellowknife Ar**	**92.20**	**340**	P		**P**	**13**	**31**	**50.4 -0.1**
YKA				pP		**pP**	**13**	**32**	**18.6 +0.7**
YKA	**Yellowknife Ar** comp=N,4.3nm,0.7s,baz=132,slow=4.7,SNR=11	**92.20**	**340**	P		**P**	**13**	**31**	**50.4 -0.1**
YKA				pP		**pP**	**13**	**32**	**18.6 +0.7**
KEST	**Kesra**	**93.58**	**53**	P		**P**	**13**	**31**	**58.7 +1.0**
KEST	**Kesra** comp=N,0.8nm,0.7s,baz=309,slow=6.5,SNR=4.3	**93.58**	**53**	P		**P**	**13**	**31**	**58.7 +1.0**
RPZ	**Rata Peaks** comp=N,117nm,19.0s,baz=142,slow=28	**94.50**	**319**	LR		LR	14	03	20.5
DLBC	**Dease Lake**	**95.21**	**332**	P		**P**	**13**	**32**	**05.2 +0.6**
DLBC	**Dease Lake** comp=N,3.0nm,0.9s,baz=108,slow=3.2,SNR=4.7	**95.21**	**332**	P		**P**	**13**	**32**	**05.2 +0.6**
ILAR	**Eielson Array**	**105.25**	**334**	PP		PP	13	37	14.0 +2.0
ILAR	**Eielson Array** comp=N,0.4nm,0.9s,baz=96,slow=5.5,SNR=4.4	**105.25**	**334**	PP		PP	13	37	14.0 +2.0
H11S2	**WAKE ISLAND Hy** baz=106,slow=0.6,SNR=84	**128.36**	**276**	T		T	15	58	10.8
H11S1	**WAKE ISLAND Hy** baz=106,slow=0.6,SNR=53	**128.37**	**276**	T		T	15	58	07.5
H11S3	**WAKE ISLAND Hy** baz=106,slow=0.6,SNR=60	**128.37**	**276**	T		T	15	58	12.2
H11N3	**WAKE ISLAND Hy** baz=107,slow=0.7,SNR=58	**128.46**	**278**	T		T	15	58	37.8
H11N2	**WAKE ISLAND Hy** baz=172,slow=0.7,SNR=59	**128.47**	**278**	T		T	15	58	18.0
ASAR	**Alice Springs**	**129.25**	**207**	PKP		**PKPdf**	**13**	**37**	**49.7 -0.3**
ASAR				pPKP		**pPKPdf**	**13**	**38**	**19.5 +0.9**
ASAR	**Alice Springs** comp=N,2.0nm,0.8s,baz=137,slow=2.4,SNR=13	**129.25**	**207**	PKP		**PKPdf**	**13**	**37**	**49.7 -0.3**
ASAR				pPKP		**pPKPdf**	**13**	**38**	**19.5 +0.9**
ABKAR	**Akbulak array** comp=N,2.8nm,0.8s,baz=140,slow=2.2,SNR=10	**131.59**	**43**	*e*PKPdf		**PKPdf**	**13**	**37**	**54.9 +1.4**
WRA	**Warramunga Arr**	**132.33**	**210**	PKP		**PKPdf**	**13**	**37**	**56.1 +0.3**
WRA				pPKP		**pPKPdf**	**13**	**38**	**24.2 -0.3**
WRA				SKPbc		**SKPab**	**13**	**41**	**14.0 -0.3**
WRA	**Warramunga Arr** comp=N,2.0nm,0.8s,baz=156,slow=1.7,SNR=8.9	**132.33**	**210**	PKP		**PKPdf**	**13**	**37**	**56.1 +0.3**
WRA				pPKP		**pPKPdf**	**13**	**38**	**24.2 -0.3**
WRA				SKPbc		**SKPab**	**13**	**41**	**14.0 -0.3**
ZALV	**Zalesovo Beam**	**142.64**	**26**	PKP		**PKPdf**	**13**	**38**	**12.2 -1.5**
ZALV				pPKP		**pPKPdf**	**13**	**38**	**42.3 0.0**
ZALV				SKP			13	41	43.9
ZALV	**Zalesovo Beam** comp=N,0.7nm,0.4s,baz=315,slow=3.8,SNR=6.2	**142.64**	**26**	PKP		**PKPdf**	**13**	**38**	**12.2 -1.5**
ZALV				pPKP		**pPKPdf**	**13**	**38**	**42.3 0.0**
ZALV	comp=N,1.6nm,0.6s,baz=289,slow=2.3,SNR=2.6			SKP			13	41	43.9
AAK	**Ala-Archa** comp=N,1.5nm,0.7s,baz=304,slow=3.3,SNR=4.4	**143.27**	**48**	PKPpre		PKPpre	13	38	12.1
AAK	**Ala-Archa** comp=N,1.0nm,0.4s,baz=220,slow=7.9,SNR=3.1	**143.27**	**48**	PKhKP		PKPpre	13	38	12.1
KSH	**Kashi**	**145.39**	**52**	⇑/PKPbc		**PKPab**	**13**	**38**	**19.9 +0.4**
KSH				pPKP		**pPKPdf**	**13**	**38**	**47.4 -0.4**
KSH				sPKP			13	38	57.4
KSH				PP		**PP**	**13**	**41**	**43.7 +3.6**
KSH				PKS		**PKSdf**	**13**	**41**	**52.7 -2.0**
KSH				SKS		**SKSdf**	**13**	**45**	**19.8 +0.9**
KSH				SKKS		**SKKSac**	**13**	**48**	**22.2 -0.3**
KSH				SS		**SS**	**14**	**00**	**22.9 -1.0**
KSH	comp=N,62nm,4.9s			PPMZ					
KSH	comp=N,84nm,4.0s			LR		LR			
KSH	comp=N,100nm,4.5s			LR		LR			
KSH	comp=N,140nm,5.8s			LR		LR			
MK31	**Makanchi Array**	**146.17**	**37**	*e*PKPdf		**PKPdf**	**13**	**38**	**20.4 +0.3**
MKAR	**Makanchi Array**	**146.17**	**37**	PKPbc		**PKPbc**	**13**	**38**	**21.3 +0.1**
MKAR				pPKPbc		pPKPbc	13	38	52.6 +3.1
MKAR	**Makanchi Array** comp=N,4.5nm,0.8s,baz=314,slow=2.5,SNR=29	**146.17**	**37**	PKPbc		**PKPbc**	**13**	**38**	**21.3 +0.1**
MKAR				pPKPbc		pPKPbc	13	38	52.6 +3.1
ASAJ	**Asahikawa**	**146.50**	**318**	PKPbc		**PKPbc**	**13**	**38**	**21.8 -0.4**
ASAJ	**Asahikawa** comp=N,15nm,1.0s,baz=288,slow=20,SNR=3.8	**146.50**	**318**	PKPbc		**PKPbc**	**13**	**38**	**21.8 -0.4**
WMQ	**Urumqi**	**151.00**	**37**	*e*PKPbc		**PKPdf**	**13**	**38**	**27.5 -0.6**
KAPI	**Kappang**	**151.54**	**197**	PKPbc		**PKPbc**	**13**	**38**	**36.0 0.0**
KAPI	**Kappang** comp=N,5.3nm,0.3s,baz=180,slow=8.1,SNR=4.2	**151.54**	**197**	PKPbc		**PKPbc**	**13**	**38**	**36.0 0.0**
USRK	**Ussuriysk Arra** comp=N,3.8nm,0.8s,baz=20,slow=3.7,SNR=5.1	**152.50**	**327**	PKPbc		**PKPbc**	**13**	**38**	**37.1 -0.1**
USRK				pPKPbc		**pPKPbc**	**13**	**39**	**05.3 -0.4**
	comp=N,2.8nm,0.8s,baz=29,slow=6.6,SNR=3.6								
MJAR	**Matsushiro Arr**	**152.94**	**307**	PKPbc		**PKPbc**	**13**	**38**	**38.5 0.0**
MJAR				pPKPbc		**pPKPbc**	**13**	**39**	**07.2 +0.2**
MJAR	**Matsushiro Arr** comp=N,3.1nm,1.0s,baz=109,slow=1.4,SNR=7.5	**152.94**	**307**	PKPbc		**PKPbc**	**13**	**38**	**38.5 0.0**
MJAR				pPKPbc		**pPKPbc**	**13**	**39**	**07.2 +0.2**
	comp=N,2.3nm,0.8s,baz=125,slow=1.3,SNR=4.1								
SONM	**Songino Array**	**154.34**	**8**	PKP		**PKPdf**	**13**	**38**	**34.0 +1.1**
SONM				pPKP		**pPKPdf**	**13**	**38**	**60.0 -1.7**
SONM	**Songino Array** comp=N,0.7nm,0.8s,baz=95,slow=1.6,SNR=4.8	**154.34**	**8**	PKP		**PKPdf**	**13**	**38**	**34.0 +1.1**
SONM				pPKP		**pPKPdf**	**13**	**38**	**60.0 -1.7**
	comp=N,0.8nm,0.7s,baz=337,slow=4.8,SNR=2.6								
KSRS	**Korea Array** comp=N,0.8nm,0.6s,baz=288,slow=1.3,SNR=7.2	**159.40**	**320**	PKP		**PKPdf**	**13**	**38**	**40.4 +0.9**
KSRS				PKPab		**PKPab**	**13**	**39**	**17.9 +0.3**
	comp=N,1.5nm,0.8s,baz=54,slow=3.3,SNR=7.0								
KSAR	**Wonju Array Be**	**159.43**	**320**	PKP		**PKPdf**	**13**	**38**	**40.4 +0.8**
KSAR				PKPab		**PKPab**	**13**	**39**	**17.9 +0.2**
HHC	**Hu-ho-hao-te**	**161.65**	**360**	*e*PKP		**PKPdf**	**13**	**38**	**39.3 -2.7**
HHC				pPKP		**pPKPdf**	**13**	**39**	**06.1 -4.7**
HHC				sPKP			13	39	16.8
HHC				PKS		**PKSdf**	**13**	**42**	**11.4 -3.9**
HHC				PP		**PP**	**13**	**43**	**11.4 +1.2**
HHC				SKS		**SKSdf**	**13**	**45**	**33.0 -4.6**
HHC				SKKS		**SKKSac**	**13**	**49**	**48.3 -1.5**
HHC				SS		**SS**	**14**	**03**	**18.0 -0.6**
HHC	comp=N,170nm,9.9s			PPMZ					
HHC	comp=N,150nm,19.0s			LR		LR			
HHC	comp=N,160nm,19.7s			LR		LR			
HHC	comp=N,260nm,20.1s			LR		LR			
CMAR	**Chiang Mai Arr**	**167.59**	**106**	PKP		**PKPdf**	**13**	**38**	**50.1 +2.4**
CMAR				PKPab		**PKPab**	**13**	**39**	**54.8 +0.5**
CMAR	**Chiang Mai Arr** comp=N,0.7nm,1.0s,baz=318,slow=1.2,SNR=3.8	**167.59**	**106**	PKP		**PKPdf**	**13**	**38**	**50.1 +2.4**
CMAR				PKPab		**PKPab**	**13**	**39**	**54.8 +0.5**
	comp=N,1.6nm,0.8s,baz=258,slow=5.1,SNR=10								
CD2	**Chengdu**	**169.10**	**38**	PKP		**PKPdf**	**13**	**38**	**46.7 -1.8**
KMI	**Kunming**	**171.56**	**70**	PKP		**PKPdf**	**13**	**38**	**47.9 -2.3**
GYA	**Guiyang**	**174.06**	**47**	*e*PKP		**PKPdf**	**13**	**38**	**50.2 -0.9**
GYA				pPKP		**pPKPdf**	**13**	**39**	**17.8 -2.1**
GYA				sPKP			13	39	29.0
GYA				PKPab		**PKPab**	**13**	**40**	**23.4 +0.6**
GYA				PKS		**PKSdf**	**13**	**42**	**21.5 -2.0**
GYA				PP		**PP**	**13**	**44**	**15.9 +1.2**
GYA	comp=N,70nm,8.2s			PPMZ					

IDC 05 13:22:20.9±1.9, 5.98S×151.29E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/19, mbtmp3.8/5, ML2.4/1, Error ellipse: s-maj=104.1km s-min=23.3km az=131.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.33**	**230**	Pn		Pn	Pn	13 23 43.8	+2.0
	0.8nm,0.3s,baz=239,slow=18,SNR=3.3								
PMG				Sn		Sn	Sn	13 24 42.3	-1.6
	3.0nm,0.3s,baz=137,slow=20,SNR=5.7								
WRA	**Warramunga Arr**	**21.54**	**228**	P		P	P	13 27 10.2	-1.8
	2.0nm,0.6s,baz=53,slow=11,SNR=22								
ASAR	**Alice Springs**	**24.27**	**222**	P		P	P	13 27 39.6	-0.5
	2.5nm,0.7s,baz=55,slow=9.3,SNR=50								
FITZ	**Fitzroy Crossi**	**27.78**	**242**	P		P	P	13 28 13.8	+2.0
	1.8nm,0.7s,baz=63,slow=8.2,SNR=5.6								
ILAR	**Eielson Array**	**83.81**	**22**	P		P	P	13 34 51.8	-0.2
	0.3nm,0.6s,baz=245,slow=5.9,SNR=6.1								
TORD	**Torodi Ar. Bea**	**149.21**	**286**	PKPbc		PKPbc	PKPbc	13 42 11.6	-0.9
	0.3nm,0.5s,baz=61,slow=3.2,SNR=4.9								

DJA 05 13:29:17.8±0.4, 1°S±5°×10°1E±°, h10km, M3.6/3, MLv3.6/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**0.78**	**278**	P		Pg	Pg	13 29 31.7	-1.2
PDSI	**Padang**	**0.79**	**244**	P		Pg	Pg	13 29 32.0	-1.0
PDSI				S		Sg	Sg	13 29 42.4	-0.9
BKNI	**Bangkinang**	**0.90**	**352**	P		Pg	Pg	13 29 34.1	-1.1
RGRI	**Rengat**	**1.18**	**79**	P		Pg	Pg	13 29 49.1	+8.5
RGRI				S		Pg	Pg	13 29 49.1	+8.5

*ISCJB **05** 13:31:24.2±1.1, 6.0S±0.2×151.2E±0.2, h41km, mb3.9/6, MS3.2/1, Error ellipse: s-maj=44.6km s-min=11.3km az=41.0*

*IDC **05** 13:31:28.1±5.4, 6.03S×151.13E, h58km±45km, mb3.7/6, mb1 3.9/7, mb1mx3.5/19, mbtmp3.7/7, ML2.5/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/30, Error ellipse: s-maj=64.8km s-min=23.2km az=118.0*

ISC 05 13:31:26.0±1.3, 6.0S±0.3×151.3E±0.3, h41km, n8, σ0s86/9, mb3.9/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.29**	**231**	P		**Pn**	**Pn**	**13 32 43.0**	**+0.5**
	1.3nm,0.3s,baz=38,slow=12,SNR=4.6								
PMG				S			**Sn**	**13 33 43.0**	**+0.8**
	2.8nm,0.3s,baz=191,slow=23,SNR=4.5								
WRA	**Warramunga Arr**	**21.50**	**228**	P		**P**	**P**	**13 36 11.1**	**-0.5**
	3.7nm,0.4s,baz=53,slow=10,SNR=52								
ASAR	**Alice Springs**	**24.23**	**222**	P		**P**	**P**	**13 36 39.0**	**-0.1**
	5.0nm,0.6s,baz=54,slow=9.2,SNR=96								
ASAR				LR		LR	LR	13 45 13.8	
	comp=Z,80nm,18.3s,baz=276,slow=34								
STKA	**Stephens Creek**	**27.25**	**198**	P		**P**	**P**	**13 37 06.3**	**-0.1**
	1.2nm,0.7s,baz=8.7,slow=13,SNR=3.2								
FITZ	**Fitzroy Crossi**	**27.75**	**242**	P		**P**	**P**	**13 37 09.3**	**-1.7**
	1.0nm,0.5s,baz=55,slow=12,SNR=6.0								
PETK	**Petropavlovsk-**	**59.18**	**4**	P		**P**	**P**	**13 41 22.7**	**+0.1**
	1.5nm,0.8s,baz=219,slow=8.4,SNR=2.3								
ILAR	**Eielson Array**	**83.87**	**22**	P		**P**	**P**	**13 43 51.6**	**+0.5**
	0.5nm,0.6s,baz=248,slow=6.0,SNR=7.8								
TORD	**Torodi Ar. Bea**	**149.23**	**286**	PKPbc		**PKPbc**	**PKPbc**	**13 51 11.3**	**0.0**
	1.0nm,0.8s,baz=96,slow=3.0,SNR=6.6								

IDC 05 13:35:36.8±3.3, 14.74S×172.43W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/20, mbtmp3.7/4, Error ellipse: s-maj=166.4km s-min=19.4km az=142.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.03**	**38**	Pn		Pg	Pg	13 35 56.4	-0.3
	76nm,0.3s,baz=110,slow=1.3,SNR=74								
AFI				Sn		Sg	Sg	13 36 09.7	-0.5
	122nm,0.3s,baz=72,slow=20,SNR=17								
H11S2	**WAKE ISLAND Hy** baz=151,slow=0.7,SNR=40	**38.90**	**327**	T		T	T	14 24 43.7	
H11S3	**WAKE ISLAND Hy** baz=151,slow=0.7,SNR=39	**38.91**	**327**	T		T	T	14 24 39.9	
H11S1	**WAKE ISLAND Hy** baz=151,slow=0.7,SNR=32	**38.91**	**327**	T		T	T	14 24 50.2	
H11N3	**WAKE ISLAND Hy** baz=150,slow=0.7,SNR=21	**39.82**	**329**	T		T	T	14 25 50.0	
H11N1	**WAKE ISLAND Hy** baz=150,slow=0.7,SNR=13	**39.82**	**329**	T		T	T	14 25 54.6	
H11N2	**WAKE ISLAND Hy** baz=150,slow=0.7,SNR=15	**39.84**	**329**	T		T	T	14 25 50.5	
WRA	**Warramunga Arr**	**50.91**	**256**	P		P	P	13 44 39.8	-0.4
	0.4nm,0.9s,baz=88,slow=6.6,SNR=3.3								
ASAR	**Alice Springs**	**51.21**	**251**	P		P	P	13 44 40.9	-1.6
	1.1nm,0.9s,baz=88,slow=7.9,SNR=12								
NVAR	**Mina Array Bea**	**73.21**	**42**	P		P	P	13 47 10.8	+0.8
	0.4nm,0.6s,baz=218,slow=12,SNR=3.5								
ILAR	**Eielson Array**	**81.62**	**11**	P		P	P	13 47 57.5	+1.2
	1.0nm,1.1s,baz=217,slow=6.2,SNR=3.4								
GERES	**GERESS Array B**	**145.61**	**353**	PKPbc		PKPab	PKPab	13 55 19.4	+1.7
	0.4nm,0.4s,baz=288,slow=1.3,SNR=4.4								
BRTR	**Keskin Array B**	**146.22**	**322**	PKPbc		PKPab	PKPab	13 55 21.3	+0.9
	1.3nm,0.9s,baz=66,slow=1.5,SNR=4.1								

IDC 05 13:40:29.9±5.1, 14.98S×172.40W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/20, mbtmp3.9/3, Error ellipse: s-maj=202.3km s-min=17.5km az=132.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.22**	**30**	Pn		Pn	Pn	13 40 54.8	+0.4
	117nm,0.3s,baz=51,slow=2.0,SNR=41								
AFI				Sn		Sn	Sn	13 41 11.2	-0.4
	367nm,0.3s,baz=48,slow=22,SNR=20								
STKA	**Stephens Creek**	**45.09**	**240**	P		P	P	13 48 47.6	-0.5
	1.1nm,0.8s,baz=80,slow=7.8,SNR=3.4								
WRA	**Warramunga Arr**	**50.88**	**256**	P		P	P	13 49 32.9	-0.3
	0.4nm,0.8s,baz=94,slow=6.9,SNR=4.4								
ASAR	**Alice Springs**	**51.16**	**252**	P		P	P	13 49 35.5	+0.2
	3.2nm,0.6s,baz=88,slow=7.7,SNR=89								

WEL 05 14:00:21.0±0.3, 45.44S×166.63E, h21km±1km, ML3.5/11, 1C-2D, Error ellipse: s-maj=2.6km s-min=1.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.37**	**96**	⇓P*		Pb	Pb	14 00 28.8	+0.1
DCZ				S*		Sb	Sb	14 00 33.9	-0.2
DCZ				AML		AML	AML	14 00 34.4	
DCZ				AML		AML	AML	14 00 35.2	
DCZ				AML		AML	AML	14 00 36.1	
PYZ	**Puysegur Point**	**0.73**	**177**	P*		Pb	Pb	14 00 34.4	-0.6
PYZ				S*		Sb	Sb	14 00 43.8	-0.8
WHZ	**Wether Hill Ro**	**1.03**	**117**	PN		Pb	Pb	14 00 39.8	-0.3
WHZ				*e*SN		Sn	Sn	14 00 53.7	-0.3
WHZ				AML		AML	AML	14 00 57.2	
MLZ	**Mavora Lakes**	**1.09**	**86**	⇓PN		Pn	Pn	14 00 40.2	-0.8
MLZ				SN		Sb	Sb	14 00 54.1	-1.0
MLZ				AML		AML	AML	14 00 55.7	
MSZ	**Milford Sound**	**1.20**	**51**	⇑PN		Pn	Pn	14 00 41.4	-1.0
MSZ				AML		AML	AML	14 01 01.1	
MSZ				AML		AML	AML	14 01 01.9	
MSZ				AML		AML	AML	14 01 03.5	
MSZ				AML		AML	AML	14 01 05.8	
APZ	**The Paps**	**1.69**	**146**	PN		Pb	Pb	14 00 50.3	-1.1
WKZ	**Wanaka**	**1.80**	**71**	PN		Pn	Pn	14 00 51.8	+1.0
WKZ				AML		AML	AML	14 01 22.6	
WKZ				AML		AML	AML	14 01 22.6	
WKZ				AML		AML	AML	14 01 22.9	
WKZ				AML		AML	AML	14 01 22.9	
EAZ	**Earnscleugh**	**1.90**	**85**	AML		AML	AML	14 01 18.6	
EAZ				AML		AML	AML	14 01 22.6	
EAZ				AML		AML	AML	14 01 22.6	
EAZ				AML		AML	AML	14 01 24.3	
JCZ	**Jackson Bay**	**2.04**	**49**	PN		Pn	Pn	14 00 54.5	+0.3
JCZ				AML		AML	AML	14 01 31.3	
JCZ				AML		AML	AML	14 01 33.2	
SYZ	**Scrubby Hill**	**2.07**	**123**	PN		Pn	Pn	14 00 55.7	+1.3
TUZ	**Tuapeka**	**2.17**	**105**	AML		AML	AML	14 01 27.8	
LBZ	**Lake Benmore**	**2.74**	**69**	PN		Pn	Pn	14 01 04.2	+0.6
ODZ	**Otahua Downs**	**2.87**	**84**	PN		Pn	Pn	14 01 05.8	+0.5
FOZ	**Fox Glacier**	**2.88**	**51**	AML		AML	AML	14 01 59.9	

WEL 05 14:01:34.5±0.5, 45.50S×166.71E, h18km±1km, ML4.1/15, 1D, Error ellipse: s-maj=4.4km s-min=3.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.31**	**87**	P*		Pg	Pg	14 01 40.9	-0.3
DCZ				AML		AML	AML	14 01 46.3	
DCZ				S*		Sb	Sb	14 01 46.3	+0.1
PYZ	**Puysegur Point**	**0.67**	**182**	⇓P*		Pb	Pb	14 01 46.6	-1.1
WHZ	**Wether Hill Ro**	**0.95**	**115**	P*		Pb	Pb	14 01 52.0	-0.5
WHZ				S*		Sg	Sg	14 02 05.7	0.0
WHZ				AML		AML	AML	14 02 09.5	
MLZ	**Mavora Lakes**	**1.04**	**82**	P*		Pb	Pb	14 01 52.5	-1.6
MLZ				*e*S*		Sb	Sb	14 02 06.4	-1.1
MLZ				AML		AML	AML	14 02 08.3	
MSZ	**Milford Sound**	**1.19**	**47**	PN		Pn	Pn	14 01 53.7	-2.6
MSZ				AML		AML	AML	14 02 15.5	
MSZ				AML		AML	AML	14 02 17.9	
APZ	**The Paps**	**1.60**	**147**	PN		Pn	Pn	14 02 02.3	+0.2
APZ				SN		Sb	Sb	14 02 23.3	-0.3
WKZ	**Wanaka**	**1.76**	**69**	PN		Pn	Pn	14 02 04.6	+0.3
WKZ				AML		AML	AML	14 02 33.1	
WKZ				AML		AML	AML	14 02 33.1	
WKZ				AML		AML	AML	14 02 33.7	
WKZ				AML		AML	AML	14 02 33.7	
EAZ	**Earnscleugh**	**1.85**	**83**	PN		Pn	Pn	14 02 06.0	+0.6
EAZ				AML		AML	AML	14 02 34.3	
EAZ				AML		AML	AML	14 02 34.3	
EAZ				AML		AML	AML	14 02 34.9	
EAZ				AML		AML	AML	14 02 35.7	
SYZ	**Scrubby Hill**	**1.98**	**123**	PN		Pn	Pn	14 02 08.2	+1.0
JCZ	**Jackson Bay**	**2.04**	**46**	AML		AML	AML	14 02 43.6	
JCZ				AML		AML	AML	14 02 45.5	
TUZ	**Tuapeka**	**2.10**	**104**	PN		Pn	Pn	14 02 09.7	+1.0
TUZ				AML		AML	AML	14 02 38.4	
TUZ				AML		AML	AML	14 02 40.1	
LBZ	**Lake Benmore**	**2.70**	**67**	PN		Pn	Pn	14 02 16.7	-0.4
LBZ				AML		AML	AML	14 03 05.0	
LBZ				AML		AML	AML	14 03 12.2	
ODZ	**Otahua Downs**	**2.81**	**82**	PN		Pn	Pn	14 02 18.1	-0.5
FOZ	**Fox Glacier**	**2.87**	**49**	AML		AML	AML	14 03 12.2	
FOZ				AML		AML	AML	14 03 12.8	
RPZ	**Rata Peaks**	**3.58**	**62**	AML		AML	AML	14 03 15.6	
RPZ				AML		AML	AML	14 03 21.1	
WVZ	**Waitaha Valley**	**3.77**	**51**	AML		AML	AML	14 03 36.0	
WVZ				AML		AML	AML	14 03 36.2	
OXZ	**Oxford**	**4.39**	**62**	PN		Pn	Pn	14 02 39.0

MAT S **S** **14 13 45.3 -2.4**
MAT Matsushiro 2.88 17 P **Pn** **14 13 00.4 -0.1**
MAT S **S** **14 13 46.5 -1.2**
BSO1 Boso 1 3.28 74 ⇓P **Pn** **14 13 01.0 -2.4**
BSO1 S **S** **14 13 50.5 -2.6**
JHS Saijyo 3.56 291 P **Pn** **14 13 07.6 +0.8**
JHS S **S** **14 14 00.3 +1.2**
JTO Tosashimizu 3.77 257 ⇑P **Pn** **14 13 09.3 +0.5**
JTO S **S** **14 14 02.8 0.0**
SAI Saigo 3.96 309 ⇑P **Pn** **14 13 11.2 +0.6**
JNU Nakatsue 5.29 265 *eP* **Pn** **14 13 25.7 +0.8**
18nm,0.8s
JNU S **S** **14 14 31.5 -0.7**
JNU Nakatsue 5.29 265 P **Pn** **14 13 25.9 +0.9**
8.1nm,0.3s,baz=73,slow=5.0,SNR=80
JNU S **S** **14 14 31.5 -0.7**
1.4nm,0.3s,baz=339,slow=17,SNR=7.1
CBIJ Chichi jima 7.95 146 P Pn 14 13 49.1 -6.5
CBIJ S S 14 15 15.9 -12
JCJ Chichijima 7.95 146 P Pn 14 13 49.1 -6.5
113nm,0.3s,baz=348,slow=7.4,SNR=29
JCJ S S 14 15 15.9 -12
70nm,0.3s,baz=289,slow=24,SNR=12
KSRS Korea Array 8.37 299 P **P** **14 14 01.9 -0.9**
18nm,0.3s,baz=111,slow=13,SNR=873
KSRS S **S** **14 15 38.2 +1.1**
baz=102,slow=28,SNR=2.4
KSRS ScP **ScP** **14 22 50.4 0.0**
0.1nm,0.3s,baz=186,slow=1.0,SNR=6.4
KSAR Wonju Array Be 8.39 298 P **P** **14 14 01.9 -1.2**
KSAR S **S** **14 15 38.2 +0.6**
KSAR ScP **ScP** **14 22 50.4 0.0**
TJN Taejon 8.44 291 *i* P **Pn** **14 14 02.4 +1.2**
INCN Inchon 9.33 296 *eP* **P** **14 14 13.2 -0.4**
182nm,1.0s
ERM Erimo 9.48 28 *eP* **Pn** **14 14 11.8 -1.7**
ERM Erimo 9.48 28 *eP* **Pn** **14 14 11.6 -1.8**
22nm,0.4s
ASAJ Asahikawa 11.15 21 *eP* **Pn** **14 14 33.2 -0.1**
9.7nm,0.4s
ASAJ Asahikawa 11.15 21 P **Pn** **14 14 33.5 +0.2**
8.3nm,0.3s,baz=245,slow=13,SNR=57
USRK Ussuriysk Arra 11.15 340 P **P** **14 14 34.0 +0.3**
34nm,0.3s,baz=148,slow=11,SNR=352
YUK Yuzh-Kuril'sk 12.27 31 *d iP* **Pn** **14 14 46.7 +0.2**
YUK *i* S **S** **14 16 57.8 -4.2**
YUK pmax pmax
comp=E,32nm,0.5s
YUK pmax pmax
comp=Z,66nm,0.5s
YUK pmax pmax
comp=N,30nm,0.5s
YUK pmax pmax
comp=Z,158nm,2.8s
YUK smax smax
comp=N,951nm,2.6s
YUK smax smax
comp=E,604nm,2.6s
MDJ Mudanjiang 12.30 334 P **Pn** **14 14 47.4 +0.5**
MDJ S **S** **14 17 05.3 +2.5**
MDJ PcP **PcP** **14 19 57.7 +1.1**
MDJ PcS **PcS** **14 23 29.7 -1.1**
MDJ ScS **ScS** **14 26 30.5 -0.9**
MDJ AMB AMB
comp=E,83nm,0.7s
MDJ AMB AMB
comp=E,140nm,6.2s
MDJ LR LR
comp=E,96nm,7.2s
MDJ LR LR
comp=E,140nm,7.8s
MDJ LR LR
comp=E,190nm,6.5s
MDJ Mudanjiang 12.30 334 *eP* **P** **14 14 46.1 -0.3**
comp=E,55nm,0.6s
CN2 Changchun 13.53 321 *eP* **Pn** **14 15 01.4 0.0**
CN2 AMB AMB
comp=E,20nm,1.2s
YSS Yuzh-Sakhalins 13.82 16 ⇓ *iP* **Pn** **14 15 05.0 +0.2**
YSS *eS* **S** **14 17 28.7 -4.7**
YSS pmax pmax
comp=Z,60nm,0.7s
YSS smax smax
comp=E,110nm,1.1s
KLR Kul'dur 15.95 347 *eP* **P** **14 15 22.8 -3.6**
YHNB Yeheng 16.49 241 *eP* **P** **14 15 31.4 -1.2**
SSLB Suanglung 17.33 239 *eP* **P** **14 15 38.4 -3.2**
comp=E,78nm,0.9s
YULB Yu-li 17.34 237 P **P** **14 15 39.1 -2.5**
comp=E,29nm,0.6s
TWG Pinlang 17.86 236 *eP* **P** **14 15 44.9 -2.3**
comp=E,169nm,0.5s
TPUB Ta-pu 17.87 239 *eP* **P** **14 15 45.9 -1.4**
comp=E,46nm,0.4s
BJI Beijing 17.89 296 P **P** **14 15 47.5 +0.2**
BJI AMB AMB
comp=E,22nm,0.9s
BJI AMB AMB
comp=E,220nm,5.4s
WHN Wuhan 19.57 267 ⇑P **P** **14 16 05.3 +0.1**
HIA Hailar 20.16 325 P **P** **14 16 09.5 -1.3**
comp=E,92nm,0.8s
HHC Hu-ho-hao-te 21.50 297 *eP* **P** **14 16 22.5 -0.7**
HHC sP **sP** **14 18 03.2 -0.5**
HHC S **S** **14 19 54.8 -1.8**
HHC PcP **PcP** **14 20 11.8 +0.3**
HHC AMB AMB
comp=E,39nm,0.9s
HHC AMB AMB
comp=E,130nm,5.9s
HHC LR LR
comp=E,490nm,10.8s
HHC LR LR
comp=E,540nm,11.8s
HHC LR LR
comp=E,370nm,12.2s
XAN Xi'an 23.41 279 P **P** **14 16 39.9 -0.7**
XAN AMB AMB
comp=E,5.0nm,0.8s
XAN AMB AMB
comp=E,50nm,5.5s
ENH Enshi 23.70 269 *eP* **P** **14 16 42.6 -0.6**
comp=E,81nm,0.6s
PETK Petropavlovsk- 24.25 31 P **P** **14 16 50.6 +2.8**
PETK pmax pmax
comp=Z,2.0nm,0.9s
PETK Petropavlovsk- 24.25 31 P **P** **14 16 50.6 +2.8**
PETK Petropavlovsk- 24.25 31 P **P** **14 16 50.6 +2.8**
comp=Z,1.9nm,0.9s,baz=229,slow=13,SNR=3.1
ULN Ulaanbaatar 26.58 311 P **P** **14 17 10.6 +1.7**
comp=Z,9.0nm,1.0s
ULN Ulaanbaatar 26.58 311 *eP* **P** **14 17 10.0 +1.2**
comp=Z,9.6nm,0.9s
SONM Songino Array 26.98 311 P **P** **14 17 13.6 +1.2**
SONM pP **PP** **14 18 20.2 -1.8**
SONM PcP **PcP** **14 20 23.9 +0.4**
SONM Songino Array 26.98 311 P **P** **14 17 13.6 +1.2**
comp=Z,2.2nm,0.6s,baz=117,slow=8.8,SNR=12
SONM pP **PP** **14 18 20.2 -1.8**
comp=Z,2.7nm,0.8s,baz=125,slow=9.2,SNR=3.1
SONM PcP **PcP** **14 20 23.9 +0.4**
comp=Z,0.9nm,0.6s,baz=132,slow=4.0,SNR=3.6
GYA Guiyang 27.30 263 ⇑ *iP* **P** **14 17 14.6 -0.9**
GYA pP **pP** **14 18 20.4 -0.3**
GYA sP **sP** **14 19 02.0 -0.4**
GYA PcP **PcP** **14 20 25.3 +0.6**
GYA S **S** **14 21 28.0 -0.7**
GYA ScP **ScP** **14 23 30.3 -0.4**
GYA PcS **PcS** **14 24 04.5 -2.5**
GYA ScS **ScS** **14 27 21.8 -1.3**
GYA AMB AMB
comp=Z,60nm,0.4s
LZH Lanzhou 27.34 284 *eP* **P** **14 17 16.2 +0.4**
LZH pP **pP** **14 18 21.4 +0.5**
LZH sP **sP** **14 19 02.1 -0.6**
LZH AMB AMB
comp=Z,15nm,1.0s
CD2 Chengdu 28.30 273 P **P** **14 17 23.3 -0.9**
CD2 pP **pP** **14 18 29.5 -0.4**
CD2 sP **sP** **14 19 10.2 -1.1**
CD2 PcP **PcP** **14 20 27.5 +0.5**
CD2 S **S** **14 21 44.3 +0.2**
CD2 sS **sS** **14 23 40.8 -4.1**
CD2 AMB AMB
comp=Z,80nm,0.6s
CD2 AMB AMB
comp=Z,100nm,4.1s
YAK Yakutsk 28.67 353 *eP* **P** **14 17 24.9 -2.0**
ZAK Zakamensk 29.79 314 *eP* **P** **14 17 37.5 +0.4**
ZAK *e* 14 18 46.4
ZAK pmax pmax
comp=Z,2.0nm,1.4s
GTA Gaotai 30.36 292 *eP* **P** **14 17 42.1 -0.1**
GTA pP **pP** **14 18 48.8 +0.3**
GTA sP **sP** **14 19 29.2 -0.5**
GTA PcP **PcP** **14 20 33.0 +0.8**
GTA AMB AMB
comp=Z,10.0nm,0.9s
KMI Kunming 31.08 263 P **P** **14 17 48.5 -0.3**
KMI AMB AMB
comp=Z,16nm,1.1s
MYLDM Lahad Datu 33.33 215 P **P** **14 18 09.0 +1.0**
MYLDM Lahad Datu 33.33 215 P **P** **14 18 09.1 +1.1**
comp=Z,50nm,0.9s
SDKM Sandakan 33.58 218 P **P** **14 18 10.4 +0.2**
UBPT Khong Chiam 34.02 245 P **P** **14 18 14.1 +0.2**
UBPT Khong Chiam 34.02 245 P **P** **14 18 13.9 0.0**
comp=Z,74nm,0.9s
SKNT Sakolnakorn 34.14 249 P **P** **14 18 14.8 -0.1**
comp=Z,61nm,0.9s
TSM Tawau 34.40 216 P **P** **14 18 16.5 -0.7**
HVS Khovu-Aksy 35.84 312 *c iP* **P** **14 18 29.3 +0.3**
HVS pmax pmax
comp=Z,76nm,1.0s
MRSI Marisa 36.08 206 P **P** **14 18 30.3 -1.0**
comp=Z,63nm,1.0s,comp=Z,757nm
CMAI Chiengmai2 36.48 258 P **P** **14 18 35.2 +0.3**
comp=Z,56nm,1.3s
CHTO Chiang Mai 37.13 256 *eP* **P** **14 18 39.9 -0.2**
CHTO pmax pmax
comp=Z,119nm,0.9s
CHTO Chiang Mai 37.13 256 P **P** **14 18 39.9 -0.2**
comp=Z,155nm,0.9s
CHTO Chiang Mai 37.13 256 *eP* **P** **14 18 39.9 -0.2**
comp=Z,119nm,0.9s
CHTO Chiang Mai 37.13 256 P **P** **14 18 39.9 -0.2**
comp=Z,155nm,0.9s
CM31 Chiang Mai Arr 37.32 256 *eP* **P** **14 18 41.5 -0.2**
comp=Z,9.3nm,0.4s
CMAR Chiang Mai Arr 37.32 256 P **P** **14 18 41.8 +0.1**
CMAR PcP **PcP** **14 20 52.6 +0.2**
CMAR ScP **ScP** **14 24 06.3 +1.2**
CMAR Chiang Mai Arr 37.32 256 P **P** **14 18 41.8 +0.1**
comp=Z,14nm,0.6s,baz=50,slow=7.5,SNR=94
CMAR PcP **PcP** **14 20 52.6 +0.2**
comp=Z,0.8nm,0.5s,baz=65,slow=2.2,SNR=4.4
CMAR ScP **ScP** **14 24 06.3 +1.2**
comp=Z,0.3nm,0.4s,baz=2.4,slow=1.0,SNR=4.6
BTM Bintulu 37.82 222 P **P** **14 18 45.8 0.0**
SBUM Sibu 38.92 222 P **P** **14 18 54.6 -0.3**
SBUM Sibu 38.92 222 P **P** **14 18 54.4 -0.5**
comp=Z,27nm,1.1s
LSA Lhasa 39.10 277 *eP* **P** **14 18 57.2 +0.4**
LSA pmax pmax
comp=Z,6.0nm,0.6s
LSA Lhasa 39.10 277 *eP* **P** **14 18 57.1 +0.4**
comp=Z,6.3nm,0.6s
WMQ Urumqi 39.32 300 P **P** **14 18 58.3 +0.4**
WMQ pP **pP** **14 20 07.5 +0.6**
WMQ PP **PP** **14 20 40.0 +3.1**
WMQ sP **sP** **14 20 46.6 -0.9**
WMQ AMB AMB
comp=Z,15nm,1.0s
WMQ AMB AMB
comp=Z,180nm,4.8s
WMQ LR LR
comp=Z,220nm,5.8s
WMQ LR LR
comp=Z,190nm,5.6s
WMQ LR LR
comp=Z,29nm,15.8s
MTKI Muara Teweh, K 40.39 216 P **P** **14 19 07.4 +0.5**
comp=Z,94nm,0.7s
KSM Kuching 40.80 224 P **P** **14 19 10.8 +0.5**
KSM Kuching 40.80 224 P **P** **14 19 10.3 +0.1**
comp=Z,96nm,0.9s
KSM Kuching 40.80 224 *eP* **P** **14 19 10.3 +0.1**
comp=Z,62nm,0.8s
STKI Sintang 41.30 221 P **P** **14 19 14.7 +0.4**
comp=Z,44nm,1.1s,comp=Z,7µm
ZALV Zalesovo Beam 41.65 315 P **P** **14 19 16.7 +0.1**
ZALV 14 21 05.3
ZALV pmax pmax
comp=Z,3.0nm,0.4s
ZALV Zalesovo Beam 41.65 315 P **P** **14 19 16.7 +0.1**
ZALV PcP **PcP** **14 21 05.3 -0.5**
ZALV ScP **ScP** **14 24 20.5 -0.9**
ZALV Zalesovo Beam 41.65 315 P **P** **14 19 16.7 +0.1**
comp=Z,2.5nm,0.4s,baz=96,slow=8.7,SNR=14
ZALV PcP **PcP** **14 21 05.3 -0.5**
comp=Z,7.9nm,0.6s,baz=101,slow=3.2,SNR=21
ZALV ScP **ScP** **14 24 20.5 -0.9**
comp=Z,1.2nm,0.6s,baz=103,slow=4.6,SNR=5.2
KAPI Kappang 41.96 206 P **P** **14 19 18.6 -0.9**
comp=Z,48nm,1.2s
BKSI Bulukumba 42.10 206 P **P** **14 19 19.7 -0.9**
KTGM Kuala Trenggan 42.41 236 P **P** **14 19 23.7 +0.6**
NVS Novosibirsk 42.68 316 *eP* **P** **14 19 24.8 0.0**
NVS *e* 14 21 07.7
NVS *eS* **S** **14 25 19.3 -1.4**
NVS pmax pmax
comp=Z,12nm,1.0s
NVS pmax pmax
comp=E,5.0nm,0.6s
NVS smax smax
comp=E,30nm,2.6s
NVS smax smax
comp=N,8.0nm,1.8s
TAPN Taplejung 42.73 275 *eP* **P** **14 19 25.7 -0.3**
comp=N,23nm,0.5s
MK31 Makanchi Array 43.00 305 *eP* **P** **14 19 28.0 +0.5**
MK31 pmax pmax
comp=Z,5.0nm,0.3s
MK31 Makanchi Array 43.00 305 *eP* **P** **14 19 27.9 +0.5**
MKAR Makanchi Array 43.00 305 P **P** **14 19 28.0 +0.5**
MKAR 14 21 10.2
MKAR pmax pmax
comp=Z,4.0nm,0.3s
MKAR Makanchi Array 43.00 305 P **P** **14 19 28.0 +0.5**
MKAR PcP **PcP** **14 21 10.2 -0.3**
MKAR ScP **ScP** **14 24 26.4 -0.6**
MKAR Makanchi Array 43.00 305 P **P** **14 19 28.0 +0.5**
comp=Z,4.2nm,0.3s,baz=85,slow=9.6,SNR=174
MKAR PcP **PcP** **14 21 10.2 -0.3**
comp=Z,1.4nm,0.4s,baz=80,slow=5.4,SNR=5.0
MKAR ScP **ScP** **14 24 26.4 -0.6**
comp=Z,0.6nm,0.5s,baz=84,slow=6.0,SNR=4.5
ODAN Odare 43.18 275 *eP* **P** **14 19 29.1 -0.3**
comp=Z,43nm,0.7s
RAMN Ramite 43.80 275 *eP* **P** **14 19 34.0 -0.4**
comp=Z,55nm,0.5s
JIRN Jiri 43.88 276 *eP* **P** **14 19 35.4 +0.2**
comp=Z,88nm,0.4s
PMG Port Moresby 43.99 166 P **P** **14 19 34.8 -0.7**
PMG Port Moresby 43.99 166 P **P** **14 19 34.8 -0.7**
comp=Z,5.6nm,0.4s,baz=143,slow=0.2,SNR=7.9
GUN Gumba 44.05 277 *eP* **P** **14 19 36.5 0.0**
comp=Z,23nm,0.4s
KULM Kulim 44.17 238 P **P** **14 19 37.6 +0.5**
IPM Ipoh 44.48 237 P **P** **14 19 39.4 -0.1**
IPM Ipoh 44.48 237 *eP* **P** **14 19 38.7 -0.8**
comp=Z,35nm,0.6s
PKI Pulchoki 44.56 276 *eP* **P** **14 19 39.9 -0.5**
comp=Z,21nm,0.6s
KKN Kakani 44.59 277 *eP* **P** **14 19 40.3 -0.2**
comp=Z,17nm,0.5s
KGM Kluang 44.71 232 P **P** **14 19 41.9 +0.5**
DMN Daman 44.80 277 *eP* **P** **14 19 41.9 -0.3**
comp=Z,14nm,0.5s
FRIM Kepong 44.95 235 P **P** **14 19 43.1 -0.1**
GKN Gorkha 45.05 277 *eP* **P** **14 19 43.6 -0.4**
comp=Z,42nm,0.7s
KURK Kurchatov 45.29 310 *d iP* **P** **14 19 45.5 +0.2**
KURK pmax pmax
comp=Z,15nm,1.0s
KURK Kurchatov 45.29 310 *eP* **P** **14 19 44.9 -0.5**
comp=Z,14nm,0.6s
DANN Dangsing 45.65 278 *eP* **P** **14 19 49.0 +0.2**
comp=Z,86nm,0.3s
KOLN Koldanda 45.98 278 *eP* **P** **14 19 51.4 0.0**
comp=Z,34nm,0.7s
TKM2 Tokmak 2 48.18 300 *i* P **P** **14 20 08.4 +0.5**
TKM2 Tokmak 2 48.18 300 P **P** **14 20 08.4 +0.5**
SNR=8.6
TKM2 Tokmak 2 48.18 300 *eP* **P** **14 20 08.2 +0.3**
comp=Z,3.4nm,0.5s
KZA Kyzart 48.59 299 *i* P **P** **14 20 12.6 +1.3**
KZA Kyzart 48.59 299 P **P** **14 20 12.6 +1.3**
SNR=7.3
KSH Kashi 48.61 295 P P 14 20 15.1 +4.0
KSH pP pP 14 21 27.6 +4.2
KSH PcP **PcP** **14 21 35.1 +4.6**
KSH sP sP 14 22 06.5 +3.5
KSH PP PP 14 22 15.2 +7.4
KSH S S 14 26 52.6 +7.2
KSH SS **SS** **14 30 26.3 +5.9**
KSH AMB AMB
comp=Z,11nm,0.7s
KSH AMB AMB
comp=Z,85nm,4.8s
KSH LR LR
comp=Z,73nm,4.3s
KSH LR LR
comp=Z,97nm,5.6s
KSH LR LR
comp=Z,100nm,5.3s
KBK Karagaybulak 48.70 300 *i* P **P** **14 20 12.4 +0.6**
KBK Karagaybulak 48.70 300 P **P** **14 20 12.4 +0.6**
SNR=6.9
USP Ospenovka 48.90 301 *i* P **P** **14 20 13.0 -0.1**
USP Ospenovka 48.90 301 P **P** **14 20 13.0 -0.1**
SNR=5.2
AAK Ala-Archa 49.03 300 *eP* **P** **14 20 13.2 -1.1**
AAK pmax pmax
comp=Z,3.0nm,0.8s
AML Almayashu 49.71 299 *i* P **P** **14 20 20.6 +0.9**
AML Almayashu 49.71 299 P **P** **14 20 20.6 +0.9**
SNR=8.6
VOSK Vostochnaya 49.92 313 P **P** **14 20 20.1 -0.5**
VOSK pmax pmax
comp=Z,9.0nm,0.7s
BRVK Borovoye 50.31 314 *d iP* **P** **14 20 23.7 +0.3**
BRVK pmax pmax
comp=Z,9.0nm,1.0s
BRVK Borovoye 50.31 314 *eP* **P** **14 20 23.7 +0.3**
comp=Z,14nm,1.1s
NDI New Delhi 50.89 281 *eP* **P** **14 20 25.0 -3.1**
KK31 Karatay Array 51.79 301 P **P** **14 20 34.5 0.0**
KK31 pmax pmax
comp=Z,5.0nm,0.4s
KKAR Karatay Array 51.79 301 *eP* **P** **14 20 34.5 0.0**
KKAR pmax pmax
comp=Z,8.0nm,0.5s
KKAR Karatay Array 51.79 301 *eP* **P** **14 20 34.5 0.0**
comp=Z,7.6nm,0.5s
KDAK Kodiak Island 51.82 40 P **P** **14 20 35.2 +0.8**
KDAK Kodiak Island 51.82 40 P **P** **14 20 35.2 +0.8**
comp=Z,2.1nm,0.5s,baz=270,slow=8.1,SNR=5.8
FITZ Fitzroy Crossi 52.75 194 *eP* **P** **14 20 41.3 -0.4**
comp=Z,5.8nm,0.7s
WRAB Tennant Creek 53.48 183 *eP* **P** **14 20 45.8 -1.2**
WRAB pmax pmax
comp=Z,7.0nm,0.6s
WRAB Tennant Creek 53.48 183 *eP* **P** **14 20 45.8 -1.2**
comp=Z,7.3nm,0.6s
WRA Warramunga Arr 53.49 183 P **P** **14 20 46.2 -0.9**
WRA Warramunga Arr 53.49 183 P **P** **14 20 46.2 -0.9**
comp=Z,5.4nm,0.3s,baz=360,slow=7.6,SNR=42
ILAR Eielson Array 54.08 31 P **P** **14 20 51.5 +0.8**
ILAR PcP **PcP** **14 21 51.1 +0.8**
ILAR pP **pP** **14 22 05.8 +1.0**
ILAR Eielson Array 54.08 31 P **P** **14 20 51.5 +0.8**
comp=Z,0.2nm,0.4s,baz=244,slow=6.2,SNR=4.3
ILAR PcP **PcP** **14 21 51.1 +0.8**
comp=Z,0.5nm,0.7s,baz=283,slow=7.7,SNR=4.6
ILAR pP **pP** **14 22 05.8 +1.0**
comp=Z,1.0nm,0.9s,baz=269,slow=6.9,SNR=3.8
SVE Sverdlovsk 55.32 319 ⇓ *iP* **P** **14 21 00.6 +1.0**
SVE pmax pmax
comp=Z,17nm,0.9s
KBL Kabul 55.35 291 *eP* **P** **14 21 00.1 -0.4**
KBL pmax pmax
comp=Z,5.0nm,0.5s
KBL Kabul 55.35 291 *eP* **P** **14 21 00.1 -0.4**
comp=Z,5.4nm,0.5s
ARU Arti 56.52 319 *d iP* **P** **14 21 08.1 0.0**
ARU 14 21 56.7
ARU *PP **pP** **14 22 23.6 +0.7**
ARU S **S** **14 28 33.6 +2.6**
ARU SS **SS** **14 32 20.2 -3.8**
ARU pmax pmax
comp=Z,19nm,1.0s
AB31 Akbulak array 57.40 311 P **P** **14 21 14.1 -0.2**
AB31 pmax pmax
comp=Z,6.0nm,0.4s
ABKAR Akbulak array 57.40 311 *eP* **P** **14 21 14.2 -0.1**
comp=Z,8.6nm,0.5s
INK Inuvik 58.84 26 P **P** **14 21 24.9 +1.2**
INK Inuvik 58.84 26 P **P** **14 21 24.9 +1.2**
comp=Z,1.4nm,0.6s,baz=12,slow=5.3,SNR=4.5
DZM Mont Dzumac 62.15 149 P **P** **14 21 47.7 +1.0**
DZM Mont Dzumac 62.15 149 P **P** **14 21 47.7 +1.0**
comp=Z,5.9nm,0.5s,baz=90,slow=23,SNR=7.3
IEMG Emamgholi 62.16 298 *eP* **P** **14 21 47.6 +0.6**
IKRD Kardeh 62.51 297 *eP* **P** **14 21 45.2 -4.1**
ISFR Sfrayin 62.78 298 *eP* **P** **14 21 51.7 +0.6**
IDAH Dahanechah 63.11 293 *eP* **P** **14 21 53.4 +0.2**
ITEG Tejag 63.90 293 *eP* **P** **14 21 58.5 +0.2**
KLMR Klimovskoe 64.64 328 *eP* **P** **14 22 01.0 -1.2**
KLMR pmax pmax
comp=Z,11nm,0.9s
KEV Kevo 65.23 339 *eP* **P** **14 22 06.0 +0.1**
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 65.23 339 *ep* **P** **14 22 06.0 +0.1**
comp=Z,0.9nm,0.4s
STKA Stephens Creek 65.44 176 P **P** **14 22 07.4 -0.2**
STKA Stephens Creek 65.44 176 P **P** **14 22 07.4 -0.2**
comp=Z,1.4nm,0.4s,baz=341,slow=9.0,SNR=4.9
ARCES ARCESS Array B 65.80 339 P **P** **14 22 10.0 +0.5**
ARCES ARCESS Array B 65.80 339 P **P** **14 22 10.0 +0.5**
comp=Z,3.1nm,0.7s,baz=63,slow=8.1,SNR=25
ARE0 ARCESS Array S 65.80 339 *eP* **P** **14 22 10.2 +0.7**
JOF Joensuu 67.17 331 *eP* **P** **14 22 17.4 -0.8**
JOF pmax pmax
comp=Z,5.0nm,0.5s
JOF Joensuu 67.17 331 *ep* **P** **14 22 17.4 -0.8**
comp=Z,5.0nm,0.5s
IFIR Firoozkooh 67.22 298 *eP* **P** **14 22 20.3 +0.9**
VRHR Novokhopersk 67.74 317 *eP* **P** **14 22 20.9 -1.0**
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,20nm,0.8s
IDMV Damavand 67.78 299 *eP* **P** **14 22 23.3 +0.4**
OBN Obninsk 68.59 323 *eP* **P** **14 22 26.2 -0.9**
OBN *e*PP **pP** **14 23 49.9 +4.7**
OBN pmax pmax
comp=Z,9.0nm,0.9s
IR5 Iran Long-Peri 69.00 299 *eP* **P** **14 22 30.8 +0.6**
VSR Storozhevoye 69.06 318 *eP* **P** **14 22 29.9 -0.1**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR pmax pmax
comp=N,4.0nm,0.4s
VSR pmax pmax
comp=E,5.0nm,0.5s
VORD Divnogorie 69.11 318 *eP* **P** **14 22 29.4 -0.9**
VORD pmax pmax
comp=E,10.0nm,0.6s
VORD pmax pmax
comp=Z,6.0nm,0.6s
KAF Kangasniemi 69.57 332 *eP* **P** **14 22 32.6 -0.3**
KAF pmax pmax
comp=Z,13nm,0.4s
KAF Kangasniemi 69.57 332 *ep* **P** **14 22 32.6 -0.3**
comp=Z,13nm,0.4s
IPAR Pars 69.62 293 *eP* **P** **14 22 34.9 +0.6**
ISRV Sarvestan 69.79 292 *eP* **P** **14 22 35.1 -0.2**
ISRB Sarab 69.89 303 *eP* **P** **14 22 35.0 -0.6**
FIA1 FINESS Array S 70.04 332 *eP* **P** **14 22 35.9 +0.2**
FINES FINESS Array B 70.04 332 P **P** **14 22 35.9 +0.2**
FINES FINESS Array B 70.04 332 P **P** **14 22 35.9 +0.2**
comp=Z,15nm,0.4s,baz=57,slow=6.1,SNR=180

IHRS	**Heris**	**70.10 303**	*e*P	**P**	**14 22 37.0 +0.1**
KBZ	**Khabaz**	**70.35 310**	P	**P**	**14 22 38.3 +0.3**
KBZ			pmax	pmax	
	comp=Z,10.0nm,0.9s				
KBZ	**Khabaz**	**70.35 310**	P	**P**	**14 22 38.3 +0.3**
KBZ	**Khabaz**	**70.35 310**	P	**P**	**14 22 38.3 +0.3**
	comp=Z,10nm,0.8s,baz=68,slow=2.6,SNR=22				
KIV	**Kislovodsk**	**70.38 310**	*d* P	**P**	**14 22 38.5 +0.2**
KIV			*i* *PP	**pP**	**14 23 57.5 +0.6**
KIV			pmax	pmax	
	comp=Z,17nm,1.2s				
IKAZ	**Kazeroun**	**70.58 293**	*e*P	**P**	**14 22 39.3 -0.7**
IMRD	**Marand**	**70.84 304**	*e*P	**P**	**14 22 41.9 +0.6**
DGAR	**Diego Garcia**	**73.62 249**	*e*P	**P**	**14 22 55.9 -1.7**
KBD	**Kabd**	**74.03 295**	*e*P	**P**	**14 22 59.5 -0.3**
KBD			AMb	AMB	14 23 00.5
	comp=Z,41nm,0.6s				
RDF	**Al-Radifah**	**74.26 294**	*e*P	**P**	**14 23 01.0 -0.2**
RDF			AMb	AMB	14 23 02.1
	comp=Z,97nm,0.7s				
NAY	**Al-Naaiem**	**74.33 295**	*e*P	**P**	**14 23 01.0 -0.6**
NAY			AMb	AMB	14 23 01.8
	comp=Z,44nm,0.6s				
RST	**Umm Al-Ruwaisa**	**74.39 295**	*e*P	**P**	**14 23 01.1 -0.9**
RST			AMb	AMB	14 23 02.1
	comp=Z,384nm,0.7s				
AKASG	**Malin Array Be**	**74.69 321**	P	**P**	**14 23 03.0 -0.2**
AKASG			*PP	**pP**	**14 24 23.7 +0.8**
AKASG			pmax	pmax	
	comp=Z,5.0nm,0.4s				
AKASG	**Malin Array Be**	**74.69 321**	P	**P**	**14 23 03.0 -0.2**
AKASG			pP	**pP**	**14 24 23.7 +0.8**
AKASG	**Malin Array Be**	**74.69 321**	P	**P**	**14 23 03.0 -0.2**
	comp=Z,6.8nm,0.4s,baz=50,slow=6.2,SNR=28				
AKASG			pP	**pP**	**14 24 23.7 +0.8**
	comp=Z,0.4nm,0.4s,baz=47,slow=5.8,SNR=1.6				
KIEV	**Kiev**	**74.70 321**	*e*P	**P**	**14 23 02.8 -0.5**
KIEV			pmax	pmax	
	comp=Z,9.0nm,0.8s				
KIEV	**Kiev**	**74.70 321**	*e*P	**P**	**14 23 02.8 -0.5**
	comp=Z,9.0nm,0.8s				
NB2	**NORSAR Subarra**	**75.79 336**	P	**P**	**14 23 09.3 0.0**
	comp=Z,7.2nm,0.6s,baz=43,slow=5.6				
NOA	**NORSAR Array B**	**75.79 336**	P	**P**	**14 23 09.3 0.0**
NOA	**NORSAR Array B**	**75.79 336**	P	**P**	**14 23 09.3 0.0**
	comp=Z,7.3nm,0.7s,baz=45,slow=5.6,SNR=27				
MALT	**Malatya**	**75.98 307**	⇑P	**P**	**14 23 12.2 +1.3**
MALT	**Malatya**	**75.98 307**	⇑*i*P	**P**	**14 23 12.2 +1.3**
BR131	**Keskin Array S**	**78.34 310**	*e*P	**P**	**14 23 23.8 -0.1**
	comp=Z,5.4nm,0.8s				
BRTR	**Keskin Array B**	**78.34 310**	P	**P**	**14 23 24.2 +0.3**
BRTR			pP	**pP**	**14 24 46.2 +1.8**
BRTR	**Keskin Array B**	**78.34 310**	P	**P**	**14 23 24.2 +0.3**
	comp=Z,6.3nm,0.8s,baz=97,slow=5.1,SNR=22				
BRTR			pP	**pP**	**14 24 46.2 +1.8**
	comp=Z,1.6nm,0.8s,baz=101,slow=4.0,SNR=3.5				
KWP	**Kalwaria Pacla**	**78.68 323**	*e*P	**P**	**14 23 26.1 +0.7**
VRI	**Vrincioaia**	**78.89 318**	⇑P	**P**	**14 23 28.1 +1.5**
VRI	**Vrincioaia**	**78.89 318**	⇑*i*P	**P**	**14 23 28.1 +1.5**
KOLS	**Kolonicke sedl**	**79.34 323**	*e*P	**P**	**14 23 29.5 +0.5**
KOLS			pmax	pmax	
	comp=Z,3.0nm,1.2s				
KOLS	**Kolonicke sedl**	**79.34 323**	*e*P	**P**	**14 23 29.5 +0.5**
STHS	**Stebnicka Huta**	**79.55 323**	*e*P	**P**	**14 23 31.1 +1.0**
STHS			pmax	pmax	
	comp=Z,8.0nm,1.6s				
STHS	**Stebnicka Huta**	**79.55 323**	*e*P	**P**	**14 23 31.1 +1.0**
NVAR	**Mina Array Bea**	**79.72 51**	P	**P**	**14 23 33.1 +1.6**
NVAR			pP	**pP**	**14 24 53.4 +1.1**
NVAR	**Mina Array Bea**	**79.72 51**	P	**P**	**14 23 33.1 +1.6**
	comp=Z,0.6nm,0.7s,baz=293,slow=4.6,SNR=4.0				
NVAR			pP	**pP**	**14 24 53.4 +1.1**
	comp=Z,1.0nm,0.9s,baz=304,slow=4.0,SNR=4.0				
TRPA	**Tarpa**	**79.72 322**	⇓*i*P	**P**	**14 23 31.9 +0.9**
VOIR		**80.08 319**	⇓P	**P**	**14 23 33.7 +0.6**
VOIR		**80.08 319**	⇓*i*P	**P**	**14 23 33.7 +0.6**
ARR	**Arges**	**80.35 319**	⇓*i*P	**P**	**14 23 35.6 +1.1**
OKC	**Ostrava-Krasne**	**80.78 325**	⇓*i*P	**P**	**14 23 37.3 +0.8**
KSP	**Ksiaz**	**80.96 327**	*e*P	**P**	**14 23 38.0 +0.5**
MORC	**Moravsky Berou**	**81.11 325**	⇑*i*P	**P**	**14 23 39.0 +0.7**
PSZ	**Piszkesteto**	**81.21 323**	⇑*i*P	**P**	**14 23 39.9 +1.0**
DPC	**Dobruska-Polom**	**81.29 326**	⇓*i*P	**P**	**14 23 40.1 +0.8**
UPC	**Upice**	**81.32 326**	⇓*i*P	**P**	**14 23 40.3 +0.9**
PVCC	**Panska Ves**	**81.97 327**	*i* P	**P**	**14 23 43.4 +0.7**
PVCC	**Panska Ves**	**81.97 327**	⇓*i*P	**P**	**14 23 43.4 +0.7**
BRG	**Berggiesshubel**	**82.00 328**	*e*P	**P**	**14 23 43.2 +0.3**
	comp=Z,12nm,1.3s				
BRG	**Berggiesshubel**	**82.00 328**	*e*P	**P**	**14 23 43.2 +0.3**
BRG			pmax	pmax	
	comp=Z,13nm,1.3s				
BRG	**Berggiesshubel**	**82.00 328**	*e*P	**P**	**14 23 43.3 +0.4**
	comp=Z,12nm,1.3s				
CLL	**Collm**	**82.11 328**	*i* P	**P**	**14 23 43.5 +0.1**
CLL			pmax	pmax	
	comp=Z,5.0nm,1.0s				
CLL	**Collm**	**82.11 328**	*e*P	**P**	**14 23 43.6 +0.1**
	comp=Z,15nm,1.0s				
CLL	**Collm**	**82.11 328**	*i* P	**P**	**14 23 43.5 +0.1**
	comp=Z,15nm,1.0s				
CLL			*e*PcP	**PcP**	**14 23 48.0 +0.2**
PRU	**Pruhonice**	**82.36 327**	*i* P	**P**	**14 23 45.2 +0.5**
PRU	**Pruhonice**	**82.36 327**	⇓*i*P	**P**	**14 23 45.2 +0.5**
PDAR	**Pinedale Array**	**82.41 43**	P	**P**	**14 23 45.9 +0.4**
PDAR	**Pinedale Array**	**82.41 43**	P	**P**	**14 23 45.9 +0.4**
	comp=Z,0.7nm,0.8s,baz=300,slow=2.9,SNR=5.4				
TREC	**Trest**	**82.41 326**	*i* P	**P**	**14 23 45.3 +0.2**
TREC	**Trest**	**82.41 326**	⇓*i*P	**P**	**14 23 45.3 +0.2**
CLZ	**Clausthal**	**82.84 330**	*e*P	**P**	**14 23 47.8 +0.6**
CLZ			pmax	pmax	
	comp=Z,18nm,1.0s				
CLZ	**Clausthal**	**82.84 330**	*e*P	**P**	**14 23 47.8 +0.6**
	comp=Z,18nm,1.0s				
VTS	**Vitosha**	**82.91 317**	⇑P	**P**	**14 23 48.8 +0.9**
VTS	**Vitosha**	**82.91 317**	⇑*i*P	**P**	**14 23 48.8 +0.9**
KHC	**Kasperske Hory**	**83.41 327**	⇓*i*P	**P**	**14 23 50.3 +0.1**
KHC	**Kasperske Hory**	**83.41 327**	⇓*i*P	**P**	**14 23 50.3 +0.1**
GEC2	**GERESS Array S**	**83.56 326**	*e*P	**P**	**14 23 51.0 0.0**
GEC2			pmax	pmax	
	comp=Z,5.0nm,0.7s				
GEC2	**GERESS Array S**	**83.56 326**	*e*P	**P**	**14 23 51.0 0.0**
	comp=Z,5.0nm,0.7s				
GERES	**GERESS Array B**	**83.56 326**	P	**P**	**14 23 50.9 0.0**
GERES	**GERESS Array B**	**83.56 326**	P	**P**	**14 23 50.9 0.0**
	comp=Z,3.5nm,0.7s,baz=40,slow=5.2,SNR=25				
ROTZ	**Rotzenmuhle**	**83.58 328**	*e*P	**P**	**14 23 51.5 +0.6**
	comp=Z,20nm,1.7s				
TXAR	**Lajitas Array**	**94.86 50**	P	**P**	**14 24 47.4 +2.8**
TXAR	**Lajitas Array**	**94.86 50**	P	**P**	**14 24 47.4 +2.8**
	comp=Z,0.2nm,0.4s,baz=309,slow=4.3,SNR=2.5				
TORD	**Torodi Ar. Bea**	**116.95 310**	PKP	**PKPdf**	**14 30 04.2 -1.2**
TORD	**Torodi Ar. Bea**	**116.95 310**	PKP	**PKPdf**	**14 30 04.2 -1.2**
	comp=Z,0.6nm,0.5s,baz=54,slow=1.7,SNR=12				
BOSA	**Boshof**	**122.47 255**	PKP	**PKPdf**	**14 30 15.1 -0.7**
BOSA	**Boshof**	**122.47 255**	PKP	**PKPdf**	**14 30 15.1 -0.7**
	comp=Z,2.1nm,0.8s,baz=222,slow=3.8,SNR=4.2				
DBIC	**Dimbokro**	**126.03 311**	PKP	**PKPdf**	**14 30 22.5 -0.4**
DBIC	**Dimbokro**	**126.03 311**	PKP	**PKPdf**	**14 30 22.5 -0.4**
	comp=Z,1.0nm,0.4s,baz=141,slow=4.4,SNR=3.1				

IDC 05 14:12:49.5±2.3, 18°30S×175°54W, h200km±21km, mb3.9/17, mb1 4.1/18, mb1mx4.0/24, mbtmp3.9/18, Error ellipse: s-maj=15.2km s-min=11.0km az=125.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.67**	**40**	P	Pn	14 14 12.7	0.0
	16nm,0.3s,baz=304,slow=3.0,SNR=10						
AFI				S	Sn	14 15 13.7	-4.7
	73nm,0.3s,baz=46,slow=22,SNR=11						
DZM	**Mont Dzumac**	**17.32**	**255**	P	Pn	14 16 40.7	+1.0
	0.9nm,0.3s,baz=75,slow=18,SNR=14						
URZ	**Urewera**	**20.89**	**196**	P	P	14 17 16.2	-0.1
	13nm,0.4s,baz=37,slow=8.7,SNR=17						
URZ				S	S	14 20 48.1	-9.4
	11nm,0.8s,baz=80,slow=17,SNR=4.1						
CTA	**Charters Tower**	**95.08**	**261**	P	P	14 19 32.1	-0.2
	7.6nm,0.5s,baz=88,slow=10,SNR=19						
H11S2	**WAKE ISLAND Hy**	**40.52**	**334**	T	T	15 01 27.6	
	baz=152,slow=0.7,SNR=5.5						
H11S3	**WAKE ISLAND Hy**	**40.53**	**334**	T	T	15 01 29.1	
	baz=152,slow=0.7,SNR=4.9						
H11S1	**WAKE ISLAND Hy**	**40.53**	**334**	T	T	15 01 28.9	
	baz=152,slow=0.7,SNR=6.4						
STKA	**Stephens Creek**	**40.85**	**242**	P	P	14 20 12.0	+0.1
	4.1nm,0.4s,baz=87,slow=9.3,SNR=36						
WRA	**Warramunga Arr**	**47.25**	**259**	P	P	14 21 01.9	-0.9
	6.3nm,0.4s,baz=98,slow=6.4,SNR=36						
ASAR	**Alice Springs**	**47.31**	**254**	P	P	14 21 03.0	-0.4
	65nm,0.6s,baz=90,slow=8.4,SNR=1145						
FITZ	**Fitzroy Crossi**	**55.66**	**260**	P	P	14 22 05.0	-0.2
	3.7nm,0.3s,baz=142,slow=6.5						
BATI	**Baumata**	**59.26**	**269**	P	P	14 22 30.8	+0.3
	19nm,0.7s,baz=27,slow=2.3,SNR=3.4						
VNDA	**Vanda**	**60.30**	**186**	P	P	14 22 37.2	+0.7
	3.1nm,0.9s,baz=7.7,slow=6.2,SNR=14						
MJAR	**Matsushiro Arr**	**69.88**	**322**	P	P	14 23 38.5	-0.2
	3.5nm,0.7s,baz=171,slow=6.5,SNR=13						
JNU	**Nakatsue**	**72.33**	**315**	P	P	14 23 53.8	+0.2
	7.1nm,0.8s,baz=114,slow=5.4,SNR=4.3						
PETK	**Petropavlovsk-**	**74.79**	**344**	P	P	14 24 07.3	-0.1
	2.0nm,0.7s,baz=118,slow=9.9,SNR=9.1						
KSRS	**Korea Array**	**76.83**	**317**	P	P	14 24 20.4	+1.1
	1.7nm,0.7s,baz=136,slow=6.5,SNR=9.3						
NVAR	**Mina Array Bea**	**77.84**	**42**	P	P	14 24 24.9	-0.3
	0.6nm,0.7s,baz=224,slow=8.4,SNR=4.8						
TXAR	**Lajitas Array**	**83.92**	**57**	P	P	14 24 57.3	-0.1
	0.4nm,0.6s,baz=232,slow=3.0,SNR=4.5						
MAW	**Mawson**	**84.40**	**199**	P	P	14 24 58.4	-0.6
	1.4nm,0.6s,baz=216,slow=8.7,SNR=5.3						
H03N2	**Juan Fernandez**	**85.42**	**124**	T	T	15 58 11.8	
	baz=254,slow=0.7,SNR=5.2						
H03N3	**Juan Fernandez**	**85.42**	**124**	T	T	15 58 09.0	
	baz=254,slow=0.7,SNR=3.0						
H03N1	**Juan Fernandez**	**85.44**	**124**	T	T	15 58 10.7	
	baz=254,slow=0.7,SNR=3.3						
ILAR	**Eielson Array**	**85.68**	**12**	P	P	14 25 04.3	-0.9
	0.5nm,0.5s,baz=226,slow=5.4,SNR=9.8						
PDAR	**Pinedale Array**	**85.78**	**42**	P	P	14 25 07.6	+1.0
	0.5nm,0.7s,baz=235,slow=3.2,SNR=4.2						
CMAR	**Chiang Mai Arr**	**91.59**	**289**	P	P	14 25 35.2	+0.9
	3.2nm,0.9s,baz=90,slow=3.7,SNR=16						
ARCES	**ARCESS Array B**	**127.16**	**351**	PKP	PKPdf	14 31 28.4	-0.9
	2.6nm,0.9s,baz=5.2,slow=3.0,SNR=3.3						
TORD	**Torodi Ar. Bea**	**174.22**	**152**	PKPab	PKPab	14 34 07.6	-1.1
	0.5nm,0.8s,baz=192,slow=4.9,SNR=2.6						

IDC 05 14:18:58.0±54.0, 19°25S×174°77W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/19, mbtmp4.0/3, MS3.7/1, Ms1 3.8/1, ms1mx2.8/34, Error ellipse: s-maj=1024.0km s-min=164.1km az=82.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.06**	**243**	P	P	14 26 43.8	+0.2
	2.1nm,1.2s,baz=79,slow=10,SNR=2.8						
ASAR	**Alice Springs**	**47.77**	**255**	P	P	14 27 37.1	-0.3
	2.2nm,0.5s,baz=98,slow=7.4,SNR=28						
WRA	**Warramunga Arr**	**47.80**	**260**	P	P	14 27 37.4	-0.2
	0.9nm,0.4s,baz=98,slow=8.2,SNR=11						
VNDA	**Vanda**	**59.44**	**186**	LR	LR	14 52 49.6	
	comp=Z,58nm,18.2s,baz=139,slow=34						

*IDC **05** 14:25:36.1±2.5, 8°62N×127°21E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/25, mbtmp3.7/4, Error ellipse: s-maj=98.1km s-min=23.5km az=65.0*
*ISCJB **05** 14:25:39.0±1.3, 8°.5N±0°.1×127°.3E±0°.1, h39km, mb3.5/4, Error ellipse: s-maj=20.8km s-min=11.1km az=43.4*

ISC 05 14:25:41.4±1.4, 8°.6N±0°.1×127°.2E±0°.1, h39km, n8, σ1°27/8, mb3.6/4, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.65**	**284**	*e*P	**Pn**	**14 26 06.4**	**-1.4**
BUTP				*e*S	**Sn**	**14 26 29.5**	**+1.8**
MATI	**Mati**	**1.88**	**211**	*e*P	Pn	14 26 07.1	-3.9
SCPH	**Surigao**	**2.11**	**305**	⇓*e*P	**Pn**	**14 26 13.8**	**-0.3**
BUKP	**Musuan**	**2.26**	**253**	*e*P	**Pn**	**14 26 15.3**	**-1.0**
FITZ	**Fitzroy Crossi**	**26.54**	**183**	P	**P**	**14 31 17.0**	**+1.3**
	0.9nm,0.5s,baz=0.0,slow=9.3,SNR=8.0						
CMAR	**Chiang Mai Arr**	**29.17**	**293**	P	**P**	**14 31 38.9**	**-0.4**
	0.5nm,0.4s,baz=112,slow=5.9,SNR=5.3						
ASAR	**Alice Springs**	**32.69**	**169**	P	**P**	**14 32 10.2**	**0.0**
	0.1nm,0.4s,baz=344,slow=7.4,SNR=5.9						
MKAR	**Makanchi Array**	**53.95**	**323**	P	**P**	**14 35 01.4**	**0.0**
	0.4nm,0.5s,baz=111,slow=7.5,SNR=9.3						

DDA 05 14:46:27.9, 38°88N×27°05E, h7km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALY	**Balya**	**0.97**	**27**	*i* P	Pb	14 46 47.2	0.0
BALY				*i* S	Sn	14 47 01.2	-0.9
DURS	**Dursunbey**	**1.32**	**56**	*i* P	Pn	14 46 52.7	-0.2
DURS				*i* S	Sb	14 47 10.4	-0.2

IDC 05 14:54:23.3±4.4, 16°21S×172°87W, h0km, mb4.1/5, mb1 4.3/6, mb1mx3.9/22, mbtmp4.1/6, ML2.7/1, MS3.7/4, Ms1 3.7/4, ms1mx3.2/37, Error ellipse: s-maj=183.2km s-min=22.9km az=134.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.52**	**25**	Pn	Pn	14 55 05.4	-0.2
	96nm,0.3s,baz=191,slow=2.4,SNR=40						
AFI				Sn	Sn	14 55 30.0	-7.1
	192nm,0.3s,baz=211,slow=23,SNR=13						
DZM	**Mont Dzumac**	**20.39**	**250**	*e*LR	LR	15 04 51.7	
	477nm,25.4s						
DZM	**Mont Dzumac**	**20.39**	**250**	LR	LR	15 05 06.9	
	comp=Z,319nm,21.8s,baz=204,slow=32						
PPT	**Papeete**	**22.32**	**97**	LR	LR	15 07 01.5	
	comp=Z,111nm,18.2s,baz=350,slow=34						
PPT2	**Papeete2**	**22.32**	**97**	*e*LR	LR	15 04 53.7	
	274nm,24.8s						
TBI	**Tubuai**	**23.12**	**112**	*e*LR	LR	15 05 10.5	
	320nm,26.0s						
HNR	**Honiara**	**27.33**	**281**	LR	LR	15 09 29.7	
	comp=Z,199nm,20.4s,baz=341,slow=33						
RKT	**Rikitea**	**36.26**	**107**	*e*LR	LR	15 11 08.5	
	214nm,29.5s						
H11N3	**WAKE ISLAND Hy**	**40.87**	**330**	T	T	15 44 48.2	
	baz=152,slow=0.7,SNR=4.9						
H11N1	**WAKE ISLAND Hy**	**40.87**	**330**	T	T	15 44 47.4	
	baz=152,slow=0.7,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	**40.88**	**330**	T	T	15 44 49.5	
	baz=152,slow=0.7,SNR=4.7						
STKA	**Stephens Creek**	**44.09**	**241**	P	P	15 02 33.3	-0.2
	2.9nm,0.8s,baz=106,slow=10,SNR=6.1						
STKA				LR	LR	15 18 02.3	
	comp=Z,84nm,20.2s,baz=28,slow=32						
WRA	**Warramunga Arr**	**50.16**	**257**	P	P	15 03 20.3	-0.8
	0.5nm,0.4s,baz=95,slow=8.5,SNR=29						
ASAR	**Alice Springs**	**50.35**	**253**	P	P	15 03 22.4	-0.2
	5.1nm,0.8s,baz=83,slow=8.4,SNR=37						
ILAR	**Eielson Array**	**83.14**	**11**	P	P	15 06 50.0	-0.7
	0.3nm,0.8s,baz=189,slow=4.6,SNR=3.6						
CMAR	**Chiang Mai Arr**	**93.36**	**288**	P	P	15 07 42.1	+1.2
	1.1nm,0.9s,baz=86,slow=3.0,SNR=5.5						
BRTR	**Keskin Array B**	**147.11**	**321**	PKPbc	PKPbc	15 14 08.9	+0.1
	0.7nm,0.6s,baz=113,slow=2.8,SNR=6.8						

IDC 05 14:56:00.7±1.9, 2°29S×68°74E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.5/25, mbtmp3.6/6, MS3.4/3, Ms1 3.5/3, ms1mx3.1/36, Error ellipse: s-maj=57.6km s-min=27.1km az=66.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**4.60**	**151**	Pn	Pn	14 57 10.6	-0.6
H08N2				T	T	15 01 58.0	
	baz=330,slow=0.7,SNR=318						
H08N3	**Diego Garcia H**	**4.61**	**151**	Pn	Pn	14 57 10.9	-0.4
H08N3				T	T	15 01 56.6	
	baz=330,slow=0.7,SNR=153						
H08N1	**Diego Garcia H**	**4.62**	**151**	Pn	Pn	14 57 11.0	-0.5
H08N1				T	T	15 01 59.7	
	baz=330,slow=0.7,SNR=304						
H08S3	**Diego Garcia H**	**6.48**	**145**	Pn	Pn	14 57 37.2	0.0
H08S3				T	T	15 04 37.3	
	baz=6.4,SNR=11						
H08S1	**Diego Garcia H**	**6.49**	**145**	Pn	Pn	14 57 37.3	0.0
H08S1				T	T	15 04 32.7	
	baz=6.4,SNR=14						
H08S2	**Diego Garcia H**	**6.50**	**145**	Pn	Pn	14 57 37.8	+0.4
H08S2				T	T	15 04 37.7	
	baz=6.4,SNR=11						
PSI	**Prapat**	**30.59**	**81**	LR	LR	15 12 02.3	
	comp=Z,162nm,19.2s,baz=135,slow=31						
CMAR	**Chiang Mai Arr**	**36.17**	**54**	P	P	15 03 05.8	+0.5
	0.6nm,0.8s,baz=235,slow=11,SNR=3.0						
CMAR				LR	LR	15 16 02.0	
	comp=Z,44nm,19.6s,baz=235,slow=33						
MKAR	**Makanchi Array**	**50.31**	**12**	P	P	15 04 58.2	-0.9
	0.4nm,0.8s,baz=204,slow=9.1,SNR=4.0						
ZALV	**Zalesovo Beam**	**57.62**	**11**	P	P	15 05 52.4	-0.1
	0.4nm,0.4s,baz=208,slow=5.7,SNR=2.8						
SONM	**Songino Array**	**59.75**	**28**	P	P	15 06 10.4	+2.7
	0.7nm,0.6s,baz=219,slow=6.7,SNR=4.8						
WRA	**Warramunga Arr**	**66.31**	**111**	P	P	15 06 51.7	0.0
	0.5nm,0.6s,baz=280,slow=6.2,SNR=4.4						
ASAR	**Alice Springs**	**66.38**	**115**	P	P	15 06 51.8	-0.3
	0.4nm,0.6s,baz=284,slow=6.4,SNR=7.5						
STKA	**Stephens Creek**	**74.25**	**122**	P	P	15 07 40.1	0.0
	1.0nm,0.7s,baz=312,slow=14,SNR=2.9						
NOA	**NORSAR Array B**	**76.91**	**335**	LR	LR	15 38 45.2	
	comp=Z,16nm,19.4s,baz=320,slow=33						
TXAR	**Lajitas Array**	**152.15**	**346**	PKPbc	PKPbc	15 15 59.5	+0.3
	0.3nm,0.7s,baz=294,slow=0.9,SNR=3.1						

IDC 05 15:09:58.0±7.5, 15°65S×173°84W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/19, mbtmp3.6/3, Error ellipse: s-maj=349.4km s-min=33.1km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.64**	**49**	Pn	Pn	15 10 38.6	-3.5
	5.1nm,0.3s,baz=301,slow=19,SNR=4.8						
AFI				Sn	Sn	15 11 02.8	-12
	18nm,0.3s,baz=126,slow=21,SNR=7.0						
WRA	**Warramunga Arr**	**49.37**	**257**	P	P	15 18 49.2	-0.6
	0.8nm,1.0s,baz=94,slow=7.0,SNR=3.4						
ASAR	**Alice Springs**	**49.63**	**252**	P	P	15 18 51.7	0.0
	0.9nm,0.6s,baz=88,slow=7.9,SNR=16						
ILAR	**Eielson Array**	**82.77**	**11**	P	P	15 22 23.0	-0.6
	0.2nm,0.6s,baz=224,slow=5.0,SNR=5.8						
BRTR	**Keskin Array B**	**146.08**	**320**	PKPbc	PKPbc	15 29 40.8	+0.2
	1.0nm,0.8s,baz=94,slow=3.0,SNR=5.1						
GERES	**GERESS Array B**	**146.32**	**351**	PKPbc	PKPdf	15 29 40.1	+0.4
	0.1nm,0.3s,baz=15,slow=4.6,SNR=3.8						

JMA 05 15:22:52.8±0.2, 43°99N×147°86E, h0km, M4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.66**	**249**	P	Pn	15 23 23.3	+0.2
NEM2				*e*S	Sn	15 23 45.2	+0.1
JRA	**Rausu**	**1.98**	**269**	P	Pn	15 23 28.0	+0.5
JRA				*e*S	Sn	15 23 53.8	+0.8
JNK	**Nakash**	**2.31**	**261**	P	Pn	15 23 32.8	+0.7
JNK				*e*S	Sn	15 24 02.1	+0.9
JAK	**Akkeshi**	**2.51**	**248**	P	Pn	15 23 35.4	+0.6
JAK				*e*S	Sn	15 24 07.0	+1.0
JTKR	**Abashiri--Toko**	**2.85**	**271**	P	Pn	15 23 41.0	+1.5
JAR	**Ashorobuto**	**3.05**	**258**	P	Pn	15 23 43.6	+1.3
JAR				*e*S	Sn	15 24 21.9	+2.4
JOB	**Onbets**	**3.13**	**251**	P	Pn	15 23 44.6	+1.3
JOB				*e*S	Sn	15 24 22.8	+1.5
JCH	**Churui**	**3.56**	**249**	P	Pn	15 23 50.1	+0.8
JCH				*e*S	Sn	15 24 33.3	+1.3
JKK2	**Kamakawa 2**	**3.69**	**270**	P	Pn	15 23 53.3	+2.1
JNBK	**Urakawa-nobuka**	**4.11**	**247**	P	Pn	15 23 57.7	+0.9

*IDC **05** 15:32:54.3±0.7, 2°.14N×128°.84E, h0km, mb3.8/11, mb1 4.0/11, mb1mx3.9/22, mbtmp3.8/11, Error ellipse: s-maj=47.8km s-min=13.9km az=80.0*
*ISCJB **05** 15:32:58.1±0.5, 2°.16N±0°.05×128°.96E±0°.04, h40km, mb3.9/10, Error ellipse: s-maj=6.6km s-min=6.2km az=162.0*
*DJA **05** 15:32:59.6±0.7, 2°.N±4°×12°.9E±°, h70km±21km, M4.6/6, mb4.8/3, mB5.2/1, MLv4.5/6, Mw(mB)4.6/1*

ISC 05 15:33:00.1±0.7, 2°.16N±0°.06×128°.96E±0°.07, h40km, n25, σ1°36/25, mb3.9/10, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.11**	**229**	P	**Pn**	**15 33 33.2**	**+0.3**
TNTI				S	**Sn**	**15 33 57.6**	**-0.3**
LBMI	**Labuha**	**3.14**	**208**	P	**Pn**	**15 33 45.3**	**-1.8**
LBMI				S	**Sn**	**15 34 22.9**	**-0.5**
SGSI	**Sangihe**	**3.75**	**294**	P	**Pn**	**15 33 54.1**	**-1.4**
SGSI				S	**Sn**	**15 34 38.5**	**0.0**
SWI	**Sorong**	**3.78**	**143**	P	**Pn**	**15 33 53.8**	**-2.1**
KMSI	**Cibinong**	**5.22**	**253**	P	**Pn**	**15 34 16.6**

BOQS	**Boqueron**	**2.89**	**320**	*eP*	**Pn**	**15 37 42.1**	**+0.1**
BOQS				*eS*	**Sn**	**15 38 14.7**	**-0.8**
SBLS	**San Blas**	**3.19**	**316**	*eP*	**Pn**	**15 37 46.1**	**0.0**
SBLS				*eS*	**Sn**	**15 38 23.5**	**+0.4**
SNJE	**San Jose**	**3.20**	**317**	*eP*	**Pn**	**15 37 46.2**	**0.0**
CGA2	**Cerro Gallo 2**	**3.22**	**118**	*eP*	**Pn**	**15 37 47.6**	**+1.2**
CGA2				*eS*	**Sn**	**15 38 26.2**	**+2.6**
RBDL	**Robledal**	**3.43**	**319**	*eP*	**Pn**	**15 37 50.2**	**+0.8**
BUS	**Buena Vista**	**4.05**	**119**	*eP*	**Pn**	**15 37 59.5**	**+1.3**
BUS				*eS*	**Sn**	**15 38 45.7**	**+1.2**
APG	**El Apazote**	**4.59**	**319**	Pn	**Pn**	**15 38 07.2**	**+1.7**
	0.7nm,0.3s,baz=216,slow=23,SNR=4.2						
APG				Sn	**Sn**	**15 39 00.1**	**+2.4**
	0.7nm,0.3s,baz=106,slow=20,SNR=2.5						
ACR	**Cerro Adams**	**5.02**	**124**	*eP*	**Pn**	**15 38 08.5**	**-2.7**
ACR				*eS*	**Sn**	**15 39 03.3**	**-4.7**
TXAR	**Lajitas Array**	**23.34**	**322**	P	**P**	**15 42 04.2**	**+0.7**
	2.8nm,0.7s,baz=137,slow=9.0,SNR=30						
TXAR				PcP	**PcP**	**15 45 52.3**	**+2.5**
	0.5nm,0.9s,baz=191,slow=2.8,SNR=4.2						
TKL	**Tuckaleechee C**	**24.25**	**7**	P	**P**	**15 42 12.2**	**+0.5**
	4.4nm,0.5s,baz=192,slow=12,SNR=7.2						
PDAR	**Pinedale Array**	**36.62**	**332**	P	**P**	**15 44 01.1**	**-0.3**
	0.9nm,0.6s,baz=132,slow=10,SNR=8.6						
PDAR				PcP	**PcP**	**15 46 24.9**	**+1.0**
	0.5nm,0.8s,baz=110,slow=6.8,SNR=3.7						
NVAR	**Mina Array Bea**	**38.45**	**320**	P	P	15 44 19.3	+2.4
	0.4nm,0.6s,baz=129,slow=7.1,SNR=3.4						
NVAR				PcP	**PcP**	**15 46 32.4**	**+2.8**
	0.8nm,0.7s,baz=150,slow=4.9,SNR=7.3						
ULM	**Lac du Bonnet**	**39.24**	**351**	P	**P**	**15 44 21.4**	**-1.6**
	2.3nm,0.7s,baz=170,slow=9.1,SNR=3.9						
SCHQ	**Schefferville**	**46.14**	**16**	P	**P**	**15 45 16.3**	**-2.6**
	3.3nm,0.6s,baz=194,slow=9.6,SNR=4.2						
BDFB	**Brasilia**	**47.39**	**124**	P	**P**	**15 45 30.1**	**+0.8**
	1.3nm,0.3s,baz=281,slow=14,SNR=4.4						
YKA	**Yellowknife Ar**	**54.52**	**345**	P	**P**	**15 46 22.4**	**+0.3**
	1.1nm,0.8s,baz=138,slow=7.7,SNR=3.3						
ILAR	**Eielson Array**	**66.90**	**336**	P	**P**	**15 47 45.0**	**-1.4**
	0.4nm,0.6s,baz=170,slow=5.2,SNR=4.7						
KURBB	**Kurchatov Arra**	**116.90**	**10**	PKP	**PKPdf**	**15 55 39.3**	**+0.3**
	0.1nm,0.4s,baz=339,slow=2.9,SNR=4.3						
KSRS	**Korea Array**	**121.10**	**328**	PKP	**PKPdf**	**15 55 48.4**	**+0.9**
	0.8nm,0.7s,baz=10,slow=2.7,SNR=4.4						
MKAR	**Makanchi Array**	**121.21**	**8**	PKP	**PKPdf**	**15 55 46.7**	**-0.8**
	0.1nm,0.4s,baz=2.7,slow=1.6,SNR=3.2						
ASAR	**Alice Springs**	**139.00**	**247**	PKP	**PKPdf**	**15 56 23.0**	**+1.3**
	0.3nm,0.7s,baz=105,slow=3.4,SNR=3.4						
WRA	**Warramunga Arr**	**139.09**	**253**	PKP	**PKPdf**	**15 56 24.3**	**+2.3**
	0.9nm,0.7s,baz=85,slow=1.2,SNR=5.8						
CMAR	**Chiang Mai Arr**	**149.57**	**348**	PKPbc	**PKPab**	**15 56 45.8**	**-3.8**
	3.4nm,0.8s,baz=341,slow=3.5,SNR=22						

*ISCJB **05** 15:44:13.1±0.7, 10°.30S±0°.08×161°.56E±0°.09, h85km, mb3.6/10, Error ellipse: s-maj=15.2km s-min=7.4km az=143.5*
*IDC **05** 15:44:13.5±0.7, 10°.25S×161°.59E, h74km±4km, mb3.5/10, mb1 3.7/11, mb1mx3.6/21, mbtmp3.6/11, MS4.0/3, Ms1 4.0/3, ms1mx3.3/23, Error ellipse: s-maj=14.4km s-min=9.5km az=40.0*
*AUST **05** 15:44:31.4±0.0, 9°.48S×161°.21E, h276km, Error ellipse: s-maj=2.1km s-min=1.2km az=315.0*

ISC 05 15:44:13.7±0.7, 10°.20S±0°.08×161°.64E±0°.10, h85km, n20, σ1s62/29, mb3.7/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.83**	**294**	P		**Pn**	**15 44 43.5**	**-0.1**
	417nm,0.3s,baz=160,slow=4.9,SNR=131							
HNR				S		**Sn**	**15 45 05.0**	**-1.3**
	372nm,0.3s,baz=210,slow=18,SNR=6.8							
DZM	**Mont Dzumac**	**12.67**	**159**	P		**Pn**	**15 47 12.2**	**+1.4**
	5.6nm,0.3s,baz=336,slow=16,SNR=102							
DZM				S		**Sn**	**15 49 28.1**	**-2.0**
	1.0nm,0.3s,baz=307,slow=20,SNR=5.7							
CTA	**Charters Tower**	**17.79**	**235**	P		**Pn**	**15 48 16.9**	**+1.0**
	0.6nm,0.3s,baz=56,slow=11,SNR=8.0							
COEN	**Coen**	**18.44**	**256**	P		Pn	15 48 27.0	+3.3
	baz=18,SNR=4.5							
RMQ	**Roma**	**20.27**	**215**	P		Pn	15 48 48.3	+3.1
	baz=21,SNR=6.5							
WRA	**Warramunga Arr**	**28.04**	**247**	P		**P**	**15 49 56.5**	**-0.7**
	0.7nm,0.6s,baz=75,slow=9.0,SNR=13							
WRA				pP		**pP**	**15 50 15.9**	**-0.8**
	2.6nm,0.5s,baz=77,slow=9.1,SNR=9.7							
STKA	**Stephens Creek**	**28.45**	**218**	P		**P**	**15 50 01.3**	**+0.6**
	0.7nm,0.4s,baz=54,slow=7.2,SNR=1.9							
STKA				LR		LR	16 00 50.8	
	comp=Z,73nm,18.8s,baz=26,slow=35							
ASAR	**Alice Springs**	**29.64**	**240**	P		**P**	**15 50 10.4**	**-1.0**
	0.6nm,0.8s,baz=62,slow=10,SNR=7.2							
ASAR				pP		**pP**	**15 50 29.9**	**-1.1**
	1.7nm,0.7s,baz=79,slow=9.0,SNR=9.7							
KNRA	**Kununurra**	**32.48**	**257**	P		**P**	**15 50 36.2**	**-0.1**
	baz=32,SNR=4.8							
RPZ	**Rata Peaks**	**34.38**	**168**	LR		LR	16 02 04.6	
	comp=Z,596nm,18.6s,baz=234,slow=31							
FITZ	**Fitzroy Crossi**	**35.73**	**253**	P		**P**	**15 51 03.9**	**-0.6**
	baz=36,SNR=5.5							
FITZ	**Fitzroy Crossi**	**35.73**	**253**	P		**P**	**15 51 03.7**	**-0.8**
	2.7nm,0.6s,baz=86,slow=6.3,SNR=11							
FITZ				pP		**pP**	**15 51 23.8**	**-0.6**
	2.9nm,0.8s,baz=123,slow=8.5,SNR=3.1							
MEEK	**Meekatharra**	**43.73**	**242**	P		**P**	**15 52 12.1**	**+1.2**
	baz=44,SNR=3.6							
USRK	**Ussuriysk Arra**	**60.46**	**336**	P		**P**	**15 54 15.2**	**+0.7**
	1.3nm,0.7s,baz=176,slow=6.9,SNR=3.1							
USRK				pP		**pP**	**15 54 35.6**	**-0.4**
	3.3nm,0.8s,baz=159,slow=8.4,SNR=4.4							
PSI	**Prapat**	**63.76**	**278**	LR		LR	16 25 20.0	
	comp=Z,204nm,18.3s,baz=75,slow=39							
VNDA	**Vanda**	**67.30**	**180**	P		**P**	**15 55 00.2**	**+1.3**
	0.3nm,0.3s,baz=273,slow=20,SNR=9.4							
VNDA				pP		**pP**	**15 55 18.0**	**-2.8**
	0.8nm,0.8s,baz=356,slow=5.5,SNR=3.1							
CMAR	**Chiang Mai Arr**	**68.08**	**295**	P		**P**	**15 55 06.7**	**+1.8**
	0.6nm,0.7s,baz=138,slow=4.6,SNR=6.0							
CMAR				pP		**pP**	**15 55 23.9**	**-2.9**
	0.6nm,0.7s,baz=123,slow=5.1,SNR=4.4							
SONM	**Songino Array**	**75.64**	**325**	P		**P**	**15 55 51.5**	**+1.8**
	1.2nm,0.6s,baz=146,slow=6.1,SNR=8.2							
SONM				pP		**pP**	**15 56 10.2**	**-1.8**
	1.2nm,0.7s,baz=130,slow=4.8,SNR=4.1							
SONM				sP		**sP**	**15 56 18.3**	**-2.9**
	1.2nm,0.7s,baz=134,slow=5.7,SNR=4.0							
ILAR	**Eielson Array**	**84.04**	**20**	P		**P**	**15 56 35.8**	**+1.3**
	0.4nm,0.7s,baz=249,slow=4.7,SNR=2.7							
ILAR				pP		**pP**	**15 56 55.4**	**-1.8**
	0.4nm,0.5s,baz=258,slow=4.6,SNR=3.1							
MKAR	**Makanchi Array**	**90.16**	**318**	P		**P**	**15 57 05.5**	**+0.8**
	0.2nm,0.6s,baz=84,slow=5.9,SNR=3.2							
MKAR				pP		**pP**	**15 57 27.3**	**-0.2**
	0.6nm,0.7s,baz=96,slow=6.0,SNR=4.5							

*ISCJB **05** 15:44:31.4±0.7, 11°.51N±0°.09×87°.36W±0°.07, h52km±7km, mb3.9/9, MS3.2/1, Error ellipse: s-maj=18.3km s-min=3.9km az=39.0*
*CASC **05** 15:44:31.7±2.0, 11°.50N×87°.39W, h43km±217km, MD4.1*
*IDC **05** 15:44:34.1±1.4, 11°.86N×87°.01W, h42km±13km, mb3.7/9, mb1 3.9/11, mb1mx3.7/25, mbtmp3.7/11, ML2.9/2, MS3.4/1, Ms1 3.4/1, ms1mx2.7/33, Error ellipse: s-maj=36.3km s-min=8.5km az=43.0*

ISC 05 15:44:32.7±0.7, 11°.57N±0°.08×87°.32W±0°.07, h40km±7km, n40, σ1s20/46, mb3.9/9, 1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.93**	**50**	||*iP*	**Pn**	**15 44 50.0**	**+0.6**
HUEN		**1.35**	**56**	*eP*		**Pn**	**15 44 55.5**	**+0.3**
CNCH	**Conchagua**	**1.77**	**343**	*eP*		**Pn**	**15 45 00.6**	**-0.4**
GBS2	**Las Lilas**	**1.97**	**112**	*iP*		**Pn**	**15 45 02.5**	**-1.2**
GBS2				*iS*		**Sn**	**15 45 28.9**	**+1.7**
GB1A	**Borinquen Arri**	**2.02**	**112**	*iS*		**Sn**	**15 45 28.9**	**+0.2**
BLLM	**Bellamira**	**2.06**	**334**	*eP*		**Pn**	**15 45 04.3**	**-0.7**
VSM	**San Miguel**	**2.07**	**333**	*eP*		**Pn**	**15 45 04.4**	**-0.8**
CUI	**Cuipilapa**	**2.30**	**113**	*iP*		**Pn**	**15 45 08.0**	**-0.2**
CAHU	**Cacacuatique**	**2.35**	**338**	*eP*		**Pn**	**15 45 09.3**	**+0.2**
TGUH	**Tegucigalpa,Un**	**2.47**		*eP*		**Pn**	**15 45 10.9**	**+0.4**
AMAS	**Alto Masis**	**2.47**	**113**	*iP*		**Pn**	**15 45 10.9**	**+0.2**
JTS	**JuntasAbangare**	**2.65**	**119**	P		**Pn**	**15 45 12.8**	**-0.2**
	2.0nm,0.3s,baz=327,slow=19,SNR=6.1							
JTS				S		**Sn**	**15 45 43.3**	**-0.6**
	19nm,0.3s,baz=72,slow=23,SNR=7.5							
LFRS	**El Faro**	**2.66**	**320**	*eP*		**Pn**	**15 45 12.5**	**-0.7**
CAO	**Cobano**	**2.86**	**130**	*eP*		Pn	15 45 22.5	+6.6
BOQS	**Boqueron**	**2.88**	**318**	*eP*		**Pn**	**15 45 15.8**	**-0.6**
BOQS				*eS*		**Sn**	**15 45 49.8**	**-0.1**
CGA2	**Cerro Gallo 2**	**3.20**	**119**	*eP*		Pn	15 45 26.5	+5.8
CGA2				*eS*		Sn	15 46 05.3	+7.6
RTR	**El Retiro**	**3.24**	**316**	*eP*		**Pn**	**15 45 21.3**	**0.0**
RBDL	**Robledal**	**3.42**	**318**	*eP*		**Pn**	**15 45 24.1**	**+0.3**
BUS	**Buena Vista**	**4.03**	**119**	*eP*		**Pn**	**15 45 33.4**	**+1.0**
BUS				*eS*		**Sn**	**15 46 21.4**	**+2.8**
APG	**El Apazote**	**4.59**	**318**	P		**Pn**	**15 45 41.4**	**+1.5**
	0.8nm,0.3s,baz=47,slow=12,SNR=4.2							
APG				S		**Sn**	**15 46 34.3**	**+2.3**
	1.0nm,0.3s,baz=246,slow=20,SNR=2.8							
ACR	**Cerro Adams**	**5.01**	**125**	*eP*		**Pn**	**15 45 43.6**	**-1.9**
ACR				*eS*		Sn	15 46 35.0	-7.2
CTCR	**Cotoan**	**5.21**	**120**	*eP*		**Pn**	**15 45 48.5**	**+0.1**
CTCR				*eS*		**Sn**	**15 46 45.4**	**-2.1**
BRU2	**Volcan**	**5.32**	**121**	*eP*		Pn	15 45 55.0	+5.1
BRU2				*eS*		**Sn**	**15 46 48.8**	**-1.3**
ATAH	**Atahualpa**	**20.59**	**154**	LR		LR	15 56 10.0	
	comp=Z,111nm,21.0s,baz=184,slow=34							
TXAR	**Lajitas Array**	**23.34**	**322**	P		**P**	**15 49 38.1**	**+0.4**
	2.8nm,0.6s,baz=134,slow=9.6,SNR=38							
TXAR				PcP		**PcP**	**15 53 27.4**	**+3.4**
	0.5nm,0.8s,baz=140,slow=3.1,SNR=5.0							
TKL	**Tuckaleechee C**	**24.19**	**7**	P		**P**	**15 49 45.1**	**-0.5**
	5.3nm,0.5s,baz=183,slow=12,SNR=8.2							
PDAR	**Pinedale Array**	**36.60**	**332**	P		**P**	**15 51 34.8**	**-0.7**
	0.8nm,0.6s,baz=131,slow=9.7,SNR=9.5							
PDAR				PcP		**PcP**	**15 53 58.4**	**+0.4**
	0.6nm,0.9s,baz=94,slow=4.6,SNR=5.7							
NVAR	**Mina Array Bea**	**38.45**	**319**	P		**P**	**15 51 52.1**	**+1.1**
	1.0nm,0.9s,baz=140,slow=7.1,SNR=4.0							
NVAR				PcP		**PcP**	**15 54 05.1**	**+1.4**
	0.7nm,0.7s,baz=136,slow=5.0,SNR=5.3							
ULM	**Lac du Bonnet**	**39.20**	**351**	P		**P**	**15 51 55.7**	**-1.2**
	1.6nm,0.5s,baz=154,slow=12,SNR=2.8							
SCHQ	**Schefferville**	**46.08**	**16**	P		**P**	**15 52 51.3**	**-1.4**
	2.1nm,0.4s,baz=249,slow=11,SNR=5.4							
BDFB	**Brasilia**	**47.38**	**124**	P		**P**	**15 53 03.3**	**-0.1**
	3.8nm,0.8s,baz=311,slow=9.4,SNR=4.0							
YKA	**Yellowknife Ar**	**54.49**	**345**	P		**P**	**15 53 54.6**	**-1.5**
	0.7nm,0.7s,baz=160,slow=7.8,SNR=3.3							
ILAR	**Eielson Array**	**66.87**	**336**	P		**P**	**15 55 20.2**	**-0.3**
	0.3nm,0.5s,baz=150,slow=3.8,SNR=4.8							
KURBB	**Kurchatov Arra**	**116.85**	**10**	PKP		**PKPdf**	**16 03 12.7**	**-0.4**
	0.3nm,0.6s,baz=347,slow=1.6,SNR=5.2							
SONM	**Songino Array**	**119.61**	**349**	PKP		**PKPdf**	**16 03 18.5**	**-0.2**
	0.4nm,0.5s,baz=116,slow=3.4,SNR=3.0							
KSRS	**Korea Array**	**121.08**	**328**	PKP		**PKPdf**	**16 03 22.7**	**+1.2**
	0.8nm,0.6s,baz=5.6,slow=2.1,SNR=4.6							
MKAR	**Makanchi Array**	**121.16**	**8**	PKP		**PKPdf**	**16 03 20.2**	**-1.3**
	0.2nm,0.4s,baz=340,slow=3.1,SNR=4.3							
ASAR	**Alice Springs**	**139.06**	**247**	PKP		**PKPdf**	**16 03 57.2**	**+1.2**
	0.4nm,0.7s,baz=105,slow=2.2,SNR=2.8							
WRA	**Warramunga Arr**	**139.15**	**253**	PKP		**PKPdf**	**16 03 56.9**	**+0.7**
	0.8nm,0.9s,baz=91,slow=2.3,SNR=5.0							
CMAR	**Chiang Mai Arr**	**149.53**	**348**	PKPbc		**PKPbc**	**16 04 19.0**	**+0.2**
	3.0nm,0.7s,baz=344,slow=3.8,SNR=24							

IDC 05 15:55:46.2±1.5, 2°.20N×128°.69E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.5/23, mbtmp3.5/6, Error ellipse: s-maj=133.6km s-min=17.9km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.70**	**166**	P		P	16 00 50.1	+0.4
	1.0nm,0.6s,baz=346,slow=10,SNR=5.4							
ASAR	**Alice Springs**	**26.21**	**169**	P		P	16 01 22.2	-0.7
	0.3nm,0.7s,baz=349,slow=7.2,SNR=5.3							
STKA	**Stephens Creek**	**36.04**	**161**	P		P	16 02 49.2	-0.2
	0.7nm,0.5s,baz=320,slow=16,SNR=2.5							
MKAR	**Makanchi Array**	**59.92**	**325**	P		P	16 05 55.1	+0.9
	0.6nm,0.7s,baz=115,slow=7.9,SNR=6.5							
KURBB	**Kurchatov Arra**	**64.07**	**327**	P		P	16 06 21.3	-0.7
	0.5nm,0.7s,baz=121,slow=7.3,SNR=6.8							
BVAR	**Borovoye Array**	**69.66**	**327**	P		P	16 06 57.6	+0.1
	0.2nm,0.4s,baz=111,slow=6.8,SNR=2.1							

*IDC **05** 16:05:48.7±0.8, 5°.94S×151°.53E, h0km, mb4.2/16, mb1 4.4/17, mb1mx4.3/20, mbtmp4.2/17, ML3.4/1, MS3.2/2, Ms1 3.2/2, ms1mx2.4/33, Error ellipse: s-maj=26.4km s-min=12.5km az=118.0*
*ISCJB **05** 16:05:53.6±0.4, 5°.98S±0°.06×151°.42E±0°.08, h41km, mb4.2/20, MS3.5/1, Error ellipse: s-maj=12.9km s-min=6.1km az=33.6*
*NEIC **05** 16:05:56.7±1.9, 5°.98S×151°.36E, h55km±17km, mb4.6/5, Error ellipse: s-maj=16.1km s-min=9.3km az=113.0*
*AUST **05** 16:05:58.1, 6°.15S×151°.63E, h100km*

ISC 05 16:05:55.0±0.6, 6°.01S±0°.07×151°.58E±0°.09, h41km, n58, σ1s40/60, mb4.1/20, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.89**	**18**	P		**Pn**	**16 06 25.2**	**+0.4**
	baz=2.0,SNR=4.0							
PMG	**Port Moresby**	**5.53**	**232**	Pn		**Pn**	**16 07 14.5**	**-0.4**
PMG				Sn		**Sn**	**16 08 16.4**	**-0.8**
PMG	**Port Moresby**	**5.53**	**232**	Pn		**Pn**	**16 07 14.5**	**-0.4**
	8.4nm,0.3s,baz=43,slow=9.7,SNR=50							
PMG				Sn		**Sn**	**16 08 16.4**	**-0.8**
	2.9nm,0.3s,baz=303,slow=20,SNR=3.2							
MANU	**Manus Island**	**5.76**	**313**	P		**Pn**	**16 07 18.7**	**+0.8**
	baz=5.9,SNR=5.2							
HNR	**Honiara**	**8.96**	**113**	LR		LR	16 10 38.8	
	comp=Z,67nm,21.0s,baz=229,slow=32							
JAY	**Jayapura**	**11.38**	**287**	P		Pn	16 08 42.4	+7.2
	baz=12,SNR=18							
KDU	**Kakadu**	**19.98**	**249**	P		**P**	**16 10 23.4**	**-0.6**
	baz=20,SNR=6.5							
RMQ	**Roma**	**20.55**	**187**	P		**P**	**16 10 30.5**	**+0.4**
	baz=20,SNR=12							
PALU	**Palau**	**21.61**	**308**	P		**P**	**16 10 45.2**	**+3.5**
	baz=22,SNR=3.1							
QLP	**Quilpie**	**21.63**	**198**	P		**P**	**16 10 43.8**	**+2.1**
	baz=22,SNR=7.3							
WRAB	**Tennant Creek**	**21.73**	**229**	*eP*		**P**	**16 10 41.6**	**-1.4**
	12nm,0.9s							
WRA	**Warramunga Arr**	**21.74**	**229**	P		**P**	**16 10 41.5**	**-1.5**
WRA	**Warramunga Arr**	**21.74**	**229**	P		**P**	**16 10 41.5**	**-1.5**
	8.3nm,0.9s,baz=54,slow=10,SNR=29							
KNRA	**Kununurra**	**24.36**	**245**	P		**P**	**16 11 10.0**	**+0.6**
	baz=24,SNR=7.2							
AS31	**Alice Springs**	**24.44**	**222**	*eP*		**P**	**16 11 09.1**	**-1.1**
ASAR	**Alice Springs**	**24.45**	**222**	P		**P**	**16 11 09.3**	**-0.9**
ASAR				S		**S**	**16 15 32.6**	**+5.0**
ASAR	**Alice Springs**	**24.45**	**222**	P		**P**	**16 11 09.3**	**-0.9**
	12nm,0.7s,baz=53,slow=9.4,SNR=97							
ASAR				S		**S**	**16 15 32.6**	**+5.0**
	1.2nm,1.1s,baz=37,slow=17,SNR=4.2							
STKA	**Stephens Creek**	**27.38**	**199**	*eP*		**P**	**16 11 37.5**	**+0.9**
	0.9nm,1.1s							
STKA	**Stephens Creek**	**27.38**	**199**	P		**P**	**16 11 37.8**	**+1.2**
	baz=27,SNR=4.5							
STKA	**Stephens Creek**	**27.38**	**199**	P		**P**	**16 11 37.0**	**+0.4**
	3.0nm,0.8s,baz=3.5,slow=12,SNR=6.0							
BATI	**Baumata**	**27.94**	**260**	P		**P**	**16 11 41.0**	**-0.9**
BATI	**Baumata**	**27.94**	**260**	P		**P**	**16 11 41.0**	**-0.9**
	11nm,0.5s,baz=77,slow=19,SNR=2.8							
FITZ	**Fitzroy Crossi**	**28.02**	**242**	*eP*		**P**	**16 11 41.5**	**-0.9**
	6.1nm,0.6s							
FITZ	**Fitzroy Crossi**	**28.02**	**242**	P		**P**	**16 11 41.6**	**-0.9**
	baz=28,SNR=20							
FITZ	**Fitzroy Crossi**	**28.02**	**242**	P		**P**	**16 11 41.5**	**-0.9**
	6.7nm,0.6s,baz=71,slow=7.4,SNR=35							
MEEK	**Meekatharra**	**37.51**	**233**	P		**P**	**16 13 04.5**	**-0.7**
	baz=38,SNR=4.5							
KSRS	**Korea Array**	**48.54**	**335**	P		**P**	**16 14 32.1**	**-2.0**
	0.5nm,0.9s,baz=149,slow=8.8,SNR=3.0							
KSRS				LR		LR	16 33 36.2	
	comp=Z,45nm,18.6s,baz=173,slow=34							
KSAR	**Wonju Array Be**	**48.55**	**335**	P		**P**	**16 14 32.1**	**-2.1**
CMAR	**Chiang Mai Arr**	**57.30**	**296**	P		**P**	**16 15 39.2**	**+0.1**
CMAR	**Chiang Mai Arr**	**57.30**	**296**	P		**P**	**16 15 39.2**	**+0.1**
	0.5nm,0.7s,baz=123,slow=5.7,SNR=4.4							
PETK	**Petropavlovsk-**	**59.12**	**4**	P		**P**	**16 15 52.0**	**+0.8**
PETK	**Petropavlovsk-**	**59.12**	**4**	P		**P**	**16 15 51.9**	**+0.8**
	0.8nm,0.6s,baz=161,slow=8.1,SNR=3.3							
SONM	**Songino Array**	**66.70**	**329**	P		**P**	**16 16 41.7**	**-0.3**
SONM	**Songino Array**	**66.70**	**329**	P		**P**	**16 16 41.7**	**-0.3**
	0.4nm,0.4s,baz=140,slow=3.8,SNR=4.4							
VNDA	**Vanda**	**71.68**	**178**	P		**P**	**16 17 12.1**	**0.0**
VNDA	**Vanda**	**71.68**	**178**	P		**P**	**16 17 12.1**	**0.0**
	0.8nm,0.8s,baz=281,slow=7.0,SNR=4.2							
MKAR	**Makanchi Array**	**80.43**	**319**	P		**P**	**16 18 01.7**	**-0.8**
MKAR	**Makanchi Array**	**80.43**	**319**	P		**P**	**16 18 01.7**	**-0.8**
	0.4nm,0.7s,baz=90,slow=7.5,SNR=5.0							
ZALV	**Zalesovo Beam**	**81.48**	**327**	P		**P**	**16 18 06.1**	**-1.8**
ZALV	**Zalesovo Beam**	**81.48**	**327**	P		**P**	**16 18 06.1**	**-1.8**
	0.9nm,0.5s,baz=108,slow=6.7,SNR=4.5							
MCK	**McKinley**	**82.44**	**23**	*eP*		**P**	**16 18 12.7**	**0.0**
	11nm,0.9s							
COLA	**College**	**83.42**	**22**	*eP*		**P**	**16 18 17.5**	**-0.2**
	17nm,0.6s							
ILAR	**Eielson Array**	**83.73**	**22**	P		**P**	**16 18 18.8**	**-0.6**
ILAR	**Eielson Array**	**83.73**	**22**	P		**P**	**16 18 18.8**	**-0.6**
	4.4nm,0.7s,baz=246,slow=5.4,SNR=39							
MAW	**Mawson**	**84.00**	**203**	P		**P**	**16 18 20.5**	**-0.2**
MAW	**Mawson**	**84.00**	**203**	P		**P**	**16 18 20.5**	**-0.2**
	1.6nm,1.0s,baz=60,slow=8.1,SNR=4.9							
EGAK	**Eagle**	**85.94**	**23**	*eP*		**P**	**16 18 31.8**	**+1.3**
	3.0nm,0.8s							
HYT	**Haines Junctio**	**86.06**	**28**	*eP*		**P**	**16 18 33.1**	**+1.8**
DAWY	**Dawson**	**86.38**	**24**	*eP*		**P**	**16 18 34.3**	**+1.5**
NVAR	**Mina Array Bea**	**93.78**	**52**	P		**P**	**16 19 08.7**	**+0.4**
NVAR	**Mina Array Bea**	**93.78**	**52**	P		**P**	**16 19 08.7**	**+0.4**
	0.4nm,0.6s,baz=262,slow=6.1,SNR=3.7							
YKA	**Yellowknife Ar**	**97.05**	**28**	P		**P**	**16 19 22.2**	**-0.1**
YKA	**Yellowknife Ar**	**97.05**	**28**	P		**P**	**16 19 22.2**	**-0.1**
	0.6nm,0.5s,baz=266,slow=6.5,SNR=3.2							
GERES	**GERESS Array B**	**124.42**	**328**	PKP		**PKPdf**	**16 24 49.5**	**-0.5**
GERES	**GERESS Array B**	**124.42**	**328**	PKP		**PKPdf**	**16 24 49.5**	**-0.5**
	0.4nm,0.5s,baz=78,slow=1.9,SNR=6.5							
TOA0	**Torodi Ar. Sit**	**149.49**	**286**	*e*PKPbc		**PKPbc**	**16 25 40.2**	**-0.7**
TORD	**Torodi Ar. Bea**	**149.49**	**286**	PKPbc		**PKPbc**	**16 25 40.5**	**-0.4**
TORD	**Torodi Ar. Bea**	**149.49**	**286**	PKPbc		**PKPbc**	**16 25 40.5**	**-0.4**
	4.5nm,0.7s,baz=71,slow=2.6,SNR=24							

*ISCJB **05** 16:23:12.8±1.1, 13°.31N±0°.04×120°.04E±0°.09, h16km, mb4.1/3, Error ellipse: s-maj=12.9km s-min=6.4km az=2.1*
*MAN **05** 16:23:13, 13°.33N×120°.17E, h1km, mb4.5, ML3.3, MS3.2*
*IDC **05** 16:24:52.7±16.0, 8°.07N×123°.53E, h599km±247km, mb2.7/5, mb1 3.0/5, mb1mx2.6/24, mbtmp2.7/5, Error ellipse: s-maj=144.5km s-min=26.0km az=52.0*

ISC 05 16:23:13.2±1.0, 13°.31N±0°.04×120°.16E±0°.08, h16km, n14, σ1s23/16, mb4.0/3, 1C-4D, Mindoro

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

H05S1 S Sn 16 29 57.1 +0.8
AGPR Aguadilla, PR 4.09 276 eP Pn 16 29 10.5 +1.0
MCLT Moule a Chique 4.68 157 eP Pn 16 29 19.5 +1.8
MCLT eS Sn 16 30 12.6 +1.4
SVB Belmont 4.99 162 eP Pn 16 29 24.5 +2.7
SVB Belmont 4.99 162 eP Pn 16 29 24.5 +2.7
SDDR Presa de Saban 8.08 278 eP Pn 16 30 04.8 +0.4
58nm,0.6s
GRTK Grand Turk 8.54 295 eP Pn 16 30 08.7 -2.0
ROSC El Rosal 17.28 222 LR LR 16 39 06.3
comp=Z,95nm,20.1s,baz=23,slow=38
OTAV Otavalo 23.44 223 eP P 16 33 17.6 +1.1
12nm,1.0s
TEIG Tepich 24.13 279 P P 16 33 22.6 +0.1
TEIG Tepich 24.13 279 P P 16 33 22.6 +0.1
9.2nm,0.5s,baz=95,slow=9.5,SNR=5.7
TKL Tuckaleechee C 25.54 318 LR LR 16 41 54.9
comp=Z,73nm,21.0s,baz=204,slow=32
APG El Apazote 26.66 268 P P 16 33 45.7 -0.1
APG El Apazote 26.66 268 P P 16 33 45.7 -0.1
9.8nm,0.7s,baz=102,slow=6.2,SNR=12
ATAH Atahualpa 29.37 213 P P 16 34 09.3 -0.9
ATAH Atahualpa 29.37 213 P P 16 34 09.3 -0.9
3.7nm,0.5s,baz=53,slow=13,SNR=3.9
SADO Sadowa 29.94 336 LR LR 16 45 05.1
comp=Z,95nm,18.5s,baz=138,slow=34
SIV San Ignacio 33.87 177 P P 16 34 47.7 -1.5
SIV San Ignacio 33.87 177 P P 16 34 47.7 -1.5
2.5nm,0.5s,baz=24,slow=9.1,SNR=9.4
SIV LR LR 16 48 40.3
comp=Z,74nm,21.4s,slow=36
LPAZ La Paz 34.52 189 P P 16 34 54.4 -1.1
LPAZ La Paz 34.52 189 P P 16 34 54.4 -1.1
0.8nm,0.4s,baz=30,slow=9.4,SNR=3.6
LPAZ LR LR 16 49 03.8
comp=Z,88nm,21.6s,baz=46,slow=36
632A Uvalde 35.55 296 ⇓P P 16 35 03.9 +0.2
baz=36
732A Laxson Ranch, 35.58 294 ⇑P P 16 35 03.5 -0.4
baz=36
JCT Junction City 35.75 297 eP P 16 35 05.2 -0.2
15nm,0.9s
JCT Junction City 35.75 297 ⇓P P 16 35 05.1 -0.3
baz=36,SNR=6.4
532A Rocksprings 35.77 297 ⇑P P 16 35 05.5 -0.1
baz=36,SNR=11
432A Menard 35.82 298 ⇓P P 16 35 05.9 -0.2
baz=36
332A Millersview 35.89 299 ⇓P P 16 35 06.5 -0.2
baz=36
232A Coleman 35.92 300 ⇓P P 16 35 07.0 +0.1
baz=36
ABTX Abilene, Hawle 36.10 301 eP P 16 35 07.3 -1.1
ABTX Abilene, Hawle 36.10 301 ⇑P P 16 35 08.7 +0.2
baz=36
Z32A Haskell 36.15 302 ⇑P P 16 35 08.8 0.0
baz=36
631A Perdido Creek 36.21 295 ⇓P P 16 35 09.4 0.0
baz=36
Y32A R-V Farms, Ver 36.31 303 ⇓P P 16 35 10.5 +0.3
baz=36
231A Bronte 36.49 300 ⇓P P 16 35 11.6 -0.2
baz=36
BDFB Brasilia 36.52 156 P P 16 35 12.1 -0.1
BDFB Brasilia 36.52 156 P P 16 35 12.1 -0.1
3.1nm,0.8s,baz=332,slow=13,SNR=3.1
Z31A Sharp Cattle R 36.69 302 ⇓P P 16 35 13.4 0.0
baz=37
131A Roby 36.72 301 ⇑P P 16 35 14.1 +0.3
baz=37
SCHQ Schefferville 36.84 356 P P 16 35 15.3 +0.9
SCHQ Schefferville 36.84 356 P P 16 35 15.3 +0.9
3.9nm,0.6s,baz=201,slow=6.2,SNR=6.3
Y31A Rekieta Farm, 36.95 303 ⇓P P 16 35 15.5 -0.1
baz=37
530A J-C Ranch, Com 36.99 296 ⇓P P 16 35 16.2 +0.1
baz=37
430A Baggett Ranch, 37.02 297 ⇑P P 16 35 16.2 -0.2
baz=37
W31A Holland Ranch, 37.05 305 ⇓P P 16 35 16.7 +0.1
baz=37
330A Mertzon 37.09 298 ⇑P P 16 35 16.7 -0.3
baz=37,SNR=5.2
230A Sterling City 37.14 299 ⇓P P 16 35 17.1 -0.3
baz=37
130A Snyder 37.18 300 ⇑P P 16 35 17.6 -0.1
baz=37
T31A Randall Ranch, 37.47 308 ⇑P P 16 35 20.2 +0.2
baz=38
Z30A Sanderson Ranc 37.48 301 ⇓P P 16 35 20.2 0.0
baz=38
S31A Mullinville 37.51 309 ⇓P P 16 35 20.7 +0.3
baz=38
429A Davenport Ranc 37.55 297 ⇓P P 16 35 20.0 -0.8
baz=38,SNR=7.3
529A Stev Forest Ra 37.74 296 ⇓P P 16 35 22.1 -0.3
baz=38,SNR=7.0
329A Wagon Wheel Ra 37.78 298 ⇓P P 16 35 22.6 -0.2
baz=38,SNR=9.4
Z29A Hungry Hill Ra 37.94 301 ⇑P P 16 35 24.1 0.0
baz=38
Y29A Porterfield Fa 38.06 302 ⇑P P 16 35 24.9 -0.3
baz=38
628A Black Gap, Mar 38.22 295 ⇓P P 16 35 26.6 +0.2
baz=38,SNR=11
528A Cox Ranch, San 38.23 296 ⇑P P 16 35 26.6 0.0
baz=38,SNR=7.4
428A Kincaid Ranch, 38.23 297 ⇓P P 16 35 27.1 +0.4
baz=38,SNR=17
ECSD EROS Data Cent 38.25 319 eP P 16 35 25.8 -0.7
5.1nm,0.6s
W29A Amraillo 38.37 304 ⇑P P 16 35 28.0 +0.2
baz=38
228A UT Block 9, Go 38.42 299 ⇓P P 16 35 27.9 -0.3
baz=38
328A Wristen Ranch, 38.46 298 ⇑P P 16 35 27.9 -0.6
baz=38
Q30A Quinter 38.55 311 ⇓P P 16 35 29.6 +0.4
baz=38
T29A Hugoton 38.71 307 ⇓P P 16 35 30.9 +0.3
baz=39
S29A Ulysses 38.73 308 ⇑P P 16 35 31.0 +0.3
baz=39
427A Hayter Ranch, 38.86 297 ⇑P P 16 35 31.7 -0.3
baz=39,SNR=5.1
TXAR Lajitas Array 38.87 295 P P 16 35 31.7 -0.3
TXAR PcP PcP 16 37 43.9 +1.1
TXAR Lajitas Array 38.87 295 P P 16 35 31.7 -0.3
1.8nm,0.6s,baz=116,slow=7.5,SNR=27
TXAR PcP PcP 16 37 43.9 +1.1
0.9nm,0.6s,baz=118,slow=5.7,SNR=5.4
O30A MW Ranch, Wils 38.89 312 ⇑P P 16 35 32.2 +0.2
baz=39
L31A Butterfield Fa 38.92 316 ⇑P P 16 35 32.5 +0.3
baz=39
527A Woodward Ranch 38.93 296 ⇑P P 16 35 32.9 +0.3
baz=39
MSTX Muleshoe 38.97 302 ⇓P P 16 35 33.1 +0.3
baz=39
Q29A Oakley 39.06 310 ⇓P P 16 35 33.6 +0.1
baz=39
Z27A Tatum 39.18 301 ⇓P P 16 35 34.4 -0.2
baz=39
Y27A Causey 39.27 302 ⇓P P 16 35 35.4 0.0
baz=39
626A Big Bend Ranch 39.30 295 ⇓P P 16 35 35.8 +0.2
baz=39
T28A Walsh 39.32 307 ⇑P P 16 35 35.9 +0.3
baz=39
M30A Dale-Ortello V 39.33 314 ⇑P P 16 35 36.5 +0.8
baz=39
526A Mary Lane Ranc 39.33 296 ⇑P P 16 35 35.8 -0.1
baz=39
O29A 4D Ranch, Culb 39.40 312 ⇑P P 16 35 37.0 +0.8
baz=39
326A Caldwell Ranch 39.43 298 ⇓P P 16 35 36.6 -0.1
baz=39
R28A Tribune 39.48 309 ⇑P P 16 35 37.4 +0.3
baz=40
126A Clayton Basin, 39.71 300 ⇓P P 16 35 39.1 +0.1
baz=40
226B Tecolote Peak, 39.72 299 ⇑P P 16 35 39.0 -0.1
baz=40
Z26A Caprock 39.80 301 ⇓P P 16 35 39.4 -0.4
baz=40
J30A Dallas 39.87 317 ⇑P P 16 35 40.5 +0.4
baz=40
P28A Saint Francis 39.87 311 ⇓P P 16 35 40.7 +0.5
baz=40
W26A Owens Ranch, T 40.04 303 ⇓P P 16 35 41.6 -0.1
baz=40
R27A Eads 40.20 308 ⇓P P 16 35 42.8 -0.2
baz=40
425A Indio Mountain 40.20 297 ⇓P P 16 35 43.2 0.0
baz=40,SNR=7.5
V26A Tequesquite Ra 40.23 304 ⇑P P 16 35 42.9 -0.5
baz=40,SNR=6.1
125A Gardner Draw, 40.23 299 ⇑P P 16 35 42.9 -0.5
baz=40
225A Deer Hill, Car 40.27 299 ⇑P P 16 35 44.1 +0.2
baz=40
KSCO Kaye Shedlock' 40.31 310 ⇑P P 16 35 44.2 +0.3
baz=40
AGMN Agassiz Nation 40.37 326 eP P 16 35 44.1 -0.1
5.2nm,0.5s
Z25A Roswell 40.40 300 ⇑P P 16 35 44.6 -0.1
baz=40
J29A Okreek 40.45 317 ⇑P P 16 35 45.6 +0.6
baz=40
P27A Ficken Ranch, 40.46 310 ⇑P P 16 35 45.5 +0.3
baz=40
S26A Kim 40.50 307 ⇓P P 16 35 45.9 +0.3
baz=40
Y25A Mesa, Roswell 40.52 301 ⇑P P 16 35 46.2 +0.5
baz=40
OGNE Ogallala 40.58 313 ⇑P P 16 35 46.7 +0.6
baz=41
W25A X Bar L Ranch, 40.62 303 ⇑P P 16 35 46.8 +0.2
baz=41
MNTX Cornudas Mount 40.67 298 eP P 16 35 46.8 -0.2
3.2nm,0.7s
324A Moseley Ranch, 40.72 297 ⇑P P 16 35 47.4 -0.1
baz=41
224A Cornudas Mount 40.85 298 ⇑P P 16 35 48.5 -0.1
baz=41,SNR=7.9
U25A Circle Dot Ran 40.88 305 ⇓P P 16 35 48.8 +0.1
baz=41
N27A Anderson Farm, 40.88 312 ⇑P P 16 35 48.4 -0.2
baz=41
124A Stringfield Ra 40.90 299 ⇑P P 16 35 49.4 +0.3
baz=41
Q26A Hugo 40.94 309 ⇑P P 16 35 49.6 +0.5
baz=41
Z24A Sheeppen Canyo 40.95 300 ⇓P P 16 35 49.9 +0.5
baz=41
J28A Allard Ranch, 41.05 316 ⇑P P 16 35 50.5 +0.6
baz=41
Y24A Capitan 41.12 301 ⇑P P 16 35 51.2 +0.4
baz=41
O26A Horse Wrangler 41.23 311 ⇑P P 16 35 52.0 +0.5
baz=41
S25A Robets Cordova 41.24 307 ⇓P P 16 35 52.1 +0.4
baz=41
F29A Eureka 41.29 320 ⇑P P 16 35 52.0 +0.2
baz=41
W24A Lazy 6 Ranch, 41.37 303 ⇓P P 16 35 53.4 +0.5
baz=41,SNR=5.4
C30A Mose, Pekin 41.47 324 ⇓P P 16 35 54.1 +0.9
baz=42
H28A Mission Ridge 41.47 318 ⇓P P 16 35 53.5 +0.2
baz=42
E29A Napoleon 41.55 321 ⇓P P 16 35 54.1 +0.2
baz=42
ULM Lac du Bonnet 41.57 328 P P 16 35 53.8 -0.2
ULM Lac du Bonnet 41.57 328 P P 16 35 53.8 -0.2
10nm,0.5s,baz=128,slow=9.2,SNR=18
Y23A Lovelace Mesa, 41.63 301 ⇑P P 16 35 54.9 0.0
baz=42
Z23A Rita Site, Whi 41.65 300 ⇑P P 16 35 55.2 +0.2
baz=42
S24A Houchin Ranch, 41.83 307 ⇑P P 16 35 56.4 -0.3
baz=42
R24A Sanders Place, 41.91 308 ⇓P P 16 35 58.0 +0.7
baz=42
W23A Werner Place, 41.95 303 ⇓P P 16 35 58.3 +0.6
baz=42
A30A Hoffart Farm, 42.06 325 ⇑P P 16 35 58.5 +0.4
baz=42
ANMO Albuquerque 42.16 302 eP P 16 35 59.9 +0.6
3.0nm,0.9s
ANMO Albuquerque 42.16 302 P P 16 36 00.3 +1.0
3.6nm,0.9s,baz=116,slow=7.3,SNR=6.6
G27A Dupree 42.37 319 ⇑P P 16 36 01.3 +0.6
baz=42
I26A New Underwood 42.37 316 ⇓P P 16 36 01.0 +0.3
baz=42
B29A Wagenman Farm, 42.38 324 ⇓P P 16 36 01.2 +0.5
baz=42
L25A Engebretsen Ra 42.38 313 ⇓P P 16 36 01.5 +0.7
baz=42
D28A Regan 42.41 322 ⇑P P 16 36 01.4 +0.5
baz=42
A29A Manning Farm, 42.56 325 ⇓P P 16 36 02.3 +0.2
baz=43
V22A San Miguel Ran 42.72 304 ⇓P P 16 36 04.5 +0.6
baz=43
ISCO Idaho Springs 42.76 310 ⇑P P 16 36 04.3 +0.1
baz=43
121A Cookes Peak, D 42.82 299 ⇓P P 16 36 05.3 +0.7
baz=43
Z21A St. Cloud Mine 42.84 300 ⇓P P 16 36 05.6 +0.7
baz=43
Y21A Point of Rocks 42.96 301 ⇓P P 16 36 06.7 +0.8
baz=43,SNR=7.5
S22A 4UR Ranch, Cre 43.09 306 ⇓P P 16 36 07.3 +0.3
baz=43
H25A Fruitdale 43.10 317 ⇓P P 16 36 07.6 +0.9
baz=43
X21A Alamocita Cree 43.13 301 ⇑P P 16 36 07.8 +0.5
baz=43
220A Playas Peak, P 43.35 298 ⇓P P 16 36 09.8 +0.8
baz=43
I24A Kuemmerle Ranc 43.47 316 ⇑P P 16 36 10.9 +1.2
baz=44
120A U Bar Ranch, L 43.53 298 ⇓P P 16 36 11.2 +0.8
baz=44
O22A Kremmling 43.55 310 ⇑P P 16 36 10.4 -0.2
baz=44
H24A Dirks Ranch, A 43.77 317 ⇓P P 16 36 12.7 +0.6
baz=44
S21A Coal Bank Pass 43.81 306 ⇓P P 16 36 13.3 +0.5
baz=44
W20A Ramah 43.84 302 ⇑P P 16 36 13.8 +0.9
baz=44
D25A Fairfield 44.03 320 ⇑P P 16 36 14.8 +0.7
baz=44
A26A Wade Farm, Ken 44.12 323 ⇑P P 16 36 14.8 +0.1
baz=44
S20A Disappointment 44.29 306 ⇓P P 16 36 17.1 +0.6
baz=44
K22A Casper 44.33 313 ⇑P P 16 36 17.3 +0.7
baz=44
CPUP Villa Florida 44.44 173 P P 16 36 15.8 -1.6
CPUP Villa Florida 44.44 173 P P 16 36 15.8 -1.6
1.6nm,0.4s,baz=338,slow=6.3,SNR=7.2
CPUP LR LR 16 57 39.9
comp=Z,66nm,18.8s,baz=246,slow=40
J22A Midwest 44.56 314 ⇑P P 16 36 18.9 +0.5
baz=44
M21A Separation Pea 44.58 311 ⇑P P 16 36 19.6 +0.8
baz=45
L21A Rawlins 44.69 312 ⇓P P 16 36 19.9 +0.2
baz=45
K21A Alcova 44.83 313 ⇓P P 16 36 21.2 +0.5
baz=45,SNR=7.3
G22A Birney 45.10 317 ⇓P P 16 36 23.6 +0.9
baz=45
J21A Lysite 45.20 314 ⇓P P 16 36 24.2 +0.6
baz=45
E22A Miles City 45.36 318 ⇑P P 16 36 25.3 +0.7
baz=45
L20A Wamsutter 45.39 312 ⇓P P 16 36 25.9 +0.7
baz=45
C23A Lambert 45.46 320 ⇓P P 16 36 26.4 +1.0
baz=46
O19A Miners Draw (B 45.48 309 ⇑P P 16 36 26.2 +0.3
baz=46
K20A Yellowstone Ra 45.59 313 ⇑P P 16 36 27.4 +0.6
baz=46
J20A Shoshoni 45.64 314 ⇑P P 16 36 27.7 +0.7
baz=46
D22A Cohagen 45.79 319 ⇓P P 16 36 29.1 +1.0
baz=46,SNR=6.3
C22A Vida 45.86 320 ⇓P P 16 36 29.5 +0.9
baz=46
K19A Absolon Red Bu 46.00 313 ⇓P P 16 36 30.5 +0.5
baz=46
B22A Reddig Ranch S 46.16 321 ⇑P P 16 36 31.9 +0.9
baz=46
WUAZ Wupatki 46.22 302 ⇑P P 16 36 32.4 +0.7
baz=46
D21A La Casta Ranch 46.27 319 ⇑P P 16 36 33.1 +1.2
baz=46,SNR=8.2
G20A Bridger 46.36 316 ⇑P P 16 36 33.2 +0.5
baz=46
A22A Carney Farms, 46.42 322 ⇓P P 16 36 33.8 +0.8
baz=46
BW06 Boulder Array 46.48 312 eP P 16 36 34.3 +0.5
5.3nm,1.0s
PDAR Pinedale Array 46.48 312 P P 16 36 33.9 0.0
PDAR PcP PcP 16 38 08.4 +0.3
PDAR Pinedale Array 46.48 312 P P 16 36 33.9 0.0
2.4nm,0.7s,baz=117,slow=8.8,SNR=21
PDAR PcP PcP 16 38 08.4 +0.3
1.0nm,0.7s,baz=113,slow=5.7,SNR=6.6
I19A Meeteetse 46.48 314 ⇑P P 16 36 34.5 +0.7
baz=46
F20A Billings 46.52 317 ⇓P P 16 36 34.7 +0.8
baz=46
L18A Fontenelle, Gr 46.58 311 ⇓P P 16 36 35.4 +0.8
baz=47
E20A Meyer Farm, Mu 46.77 318 ⇑P P 16 36 37.1 +1.3
baz=47
B21A Ellsworth Farm 46.84 320 ⇓P P 16 36 37.7 +1.4
baz=47
M17A Scullys Gap (B 46.91 310 ⇓P P 16 36 38.0 +0.7
baz=47
D20A Manuel Ranch, 46.99 318 ⇑P P 16 36 38.4 +0.8
baz=47,SNR=5.5
A21A Bergtoll Ranch 47.02 321 ⇓P P 16 36 38.9 +1.2
baz=47
F19A Roth Farm, Mol 47.06 317 ⇓P P 16 36 39.4 +1.3
baz=47
U15A North Rim 47.10 303 ⇓P P 16 36 40.3 +1.5
baz=47
H18A Shoshone NF, C 47.15 315 ⇓P P 16 36 39.7 +0.7
baz=47
C20A Veseth Ranch, 47.15 319 ⇑P P 16 36 40.0 +1.3
baz=47
E19A Rath Farm, Rou 47.18 317 ⇓P P 16 36 40.2 +1.2
baz=47
Y14A Wickenburg 47.34 300 ⇓P P 16 36 41.4 +1.0
baz=47
D19A Cripps Ranch, 47.49 318 ⇓P P 16 36 42.8 +1.3
baz=48
TPAW Teton Pass 47.67 313 P P 16 36 43.8 +0.6
2.0nm,0.6s
H17A Grant Village 47.68 314 ⇓P P 16 36 43.7 +0.5
baz=48
W13A Hualapai Mount 48.19 301 ⇓P P 16 36 48.1 +0.8
baz=48
DUG Dugway 48.20 308 ⇑P P 16 36 48.0 +0.9
baz=48
ARUT Antelope Range 48.22 305 P P 16 36 48.3 +0.9
100nm,1.1s
PDMCI Parker Dam,Lak 48.31 300 ⇑P P 16 36 48.9 +1.0
baz=48
EGMT Eagleton 48.36 319 ⇓P P 16 36 49.5 +1.3
baz=48
QLMT Earthquake Lak 48.39 314 eP P 16 36 50.5 +1.9
0.5nm,0.5s
BGU Big Grassy Mou 48.52 309 eP P 16 36 50.2 +0.6
6.9nm,0.9s
IRM Iron Mountain 49.13 300 ⇑P P 16 36 55.0 +0.7
baz=49
BC3 Big Chuckawall 49.34 299 ⇑P P 16 36 56.6 +0.6
baz=49
GMRC Granite Mounta 49.61 301 ⇓P P 16 36 58.8 +0.8
baz=50
TUQ Turquoise Moun 49.89 301 ⇓P P 16 37 00.9 +0.8
baz=50
R11A Troy Canyon, C 49.98 305 ⇓P P 16 37 01.8 +0.9
baz=50
MONP Monument Peak 50.09 298 ⇓P P 16 37 02.6 +0.8
baz=50
MFID Camas Ranch 51.09 312 ⇓P P 16 37 09.5 +0.4
baz=51
EDW2 Edwards Air Fo 51.53 300 ⇓P P 16 37 13.2 +0.8
baz=52
NVAR Mina Array Bea 52.11 305 P P 16 37 17.3 +0.4
NVAR Mina Array Bea 52.11 305 P P 16 37 17.3 +0.4
1.2nm,0.8s,baz=98,slow=6.5,SNR=8.6
BSC Santa Cruz Isl 52.83 299 ⇓P P 16 37 22.2 +0.1
baz=53
NEW Newport 53.12 317 ⇓P P 16 37 24.3 +0.3
baz=53
MDT Midelt 53.98 62 LR LR 16 57 49.5
comp=Z,55nm,18.5s,baz=330,slow=33
H10N3 ASCENSION HYDR 54.20 114 T T 17 35 52.7
baz=299,slow=0.7,SNR=53
H10N2 ASCENSION HYDR 54.20 114 T T 17 35 53.0
baz=299,slow=0.7,SNR=53
H10N1 ASCENSION HYDR 54.22 114 T T 17 35 54.2
baz=299,slow=0.7,SNR=68
H10S3 ASCENSION HYDR 54.60 115 T T 17 36 21.6
baz=300,slow=0.7,SNR=17
H10S1 ASCENSION HYDR 54.60 115 T T 17 36 20.0
baz=300,slow=0.7,SNR=23
H10S2 ASCENSION HYDR 54.62 115 T T 17 36 24.8
baz=300,slow=0.7,SNR=19
YBH Yreka Blue Hor 55.84 309 P P 16 37 42.4 -1.5
YBH Yreka Blue Hor 55.84 309 P P 16 37 42.4 -1.5
2.2nm,0.8s,baz=50,slow=7.8,SNR=3.9
YKA Yellowknife Ar 56.90 334 P P 16 37 50.8 -0.2
YKA Yellowknife Ar 56.90 334 P P 16 37 50.8 -0.2
4.0nm,0.6s,baz=104,slow=7.5,SNR=18
SJPF Ste Jean 57.24 50 eP P 16 38 03.4 +10
19nm,0.9s
SJPF Ste Jean 57.24 50 eP P 16 38 03.4 +10
19nm,0.9s
LIC Lamto 57.51 94 eP P 16 38 04.6 +8.5
9.1nm,0.6s
LIC Lamto 57.51 94 eP P 16 38 04.6 +8.5
9.1nm,0.6s
DBIC Dimbokro 57.54 94 P P 16 37 56.8 +0.5
DBIC Dimbokro 57.54 94 P P 16 37 56.8 +0.5
2.0nm,0.6s,baz=285,slow=10,SNR=3.5
ETSF Etsaut 57.71 50 eP P 16 38 06.6 +9.4
ETSF Etsaut 57.71 50 eP P 16 38 06.6 +9.4
EKA Eskdalemuir Ar 58.18 35 P P 16 37 59.9 -0.2
EKA Eskdalemuir Ar 58.18 35 P P 16 37 59.9 -0.2
0.1nm,0.3s,baz=258,slow=5.7,SNR=2.9
EPF Esparros 58.38 50 eP P 16 38 11.3 +9.5
6.0nm,0.6s
EPF Esparros 58.38 50 eP P 16 38 11.3 +9.5
6.0nm,0.6s
MFF Saint Martin d 58.39 46 eP P 16 38 10.9 +9.1
7.6nm,0.8s
MFF Saint Martin d 58.39 46 eP P 16 38 10.9 +9.1
7.6nm,0.8s
FLN La Foliniere 58.46 43 eP P 16 38 11.2 +9.0
FLN La Foliniere 58.46 43 eP P 16 38 11.2 +9.0
CAF Calviac 59.76 48 eP P 16 38 20.8 +9.4
CAF Calviac 59.76 48 eP P 16 38 20.8 +9.4
MTLF Montolieu 59.77 50 eP P 16 38 20.4 +9.0
MTLF Montolieu 59.77 50 eP P 16 38 20.4 +9.0
TCF Toulx Ste Croi 59.98 47 eP P 16 38 21.6 +8.8
9.4nm,0.8s
TCF Toulx Ste Croi 59.98 47 eP P 16 38 21.6 +8.8
9.4nm,0.8s
AVF Avril sur Loir 60.80 46 eP P 16 38 27.0 +8.6
AVF Avril sur Loir 60.80 46 eP P 16 38 27.0 +8.6
SMF Signal de Mont 61.13 46 eP P 16 38 29.4 +8.8
SMF Signal de Mont 61.13 46 eP P 16 38 29.4 +8.8
LOR Lormes 61.19 46 eP P 16 38 29.5 +8.5
LOR Lormes 61.19 46 eP P 16 38 29.5 +8.5
GIVF Givet 62.06 42 eP P 16 38 35.5 +8.7
GIVF Givet 62.06 42 eP P 16 38 35.5 +8.7
MEZF Maizieres J'vi 62.08 44 eP P 16 38 35.9 +8.9
25nm,0.6s
MEZF Maizieres J'vi 62.08 44 eP P 16 38 35.9 +8.9
25nm,0.6s
TORD Torodi Ar. Bea 62.08 84 P P 16 38 27.7 +0.2
TORD Torodi Ar. Bea 62.08 84 P P 16 38 27.7 +0.2
1.1nm,1.1s,baz=286,slow=5.6,SNR=4.2
CABF La Chapelle 62.67 46 eP P 16 38 39.9 +8.8
CABF La Chapelle 62.67 46 eP P 16 38 39.9 +8.8
FRF La Foret Royal 63.00 50 eP P 16 38 42.0 +8.8
FRF La Foret Royal 63.00 50 eP P 16 38 42.0 +8.8
LPL La Plagne 63.09 48 eP P 16 38 43.5 +9.4
6.9nm,0.6s
LPL La Plagne 63.09 48 eP P 16 38 43.5 +9.4

	6.9nm,0.6s								
LPG	**La Plagne**	**63.10**	**48**	*e*P		P		16 38 43.8	+10
	6.0nm,0.5s								
LPG	**La Plagne**	**63.10**	**48**	*e*P		P		16 38 43.8	+10
	6.0nm,0.5s								
HINF	**Hinteralfeld**	**63.24**	**45**	*e*P		P		16 38 43.0	+8.2
HINF	**Hinteralfeld**	**63.24**	**45**	*e*P		P		16 38 43.0	+8.2
INK	**Inuvik**	**66.24**	**337**	*e*P		**P**		**16 38 53.7**	**-0.2**
INK	**Inuvik**	**66.24**	**337**	P		**P**		**16 38 53.5**	**-0.4**
	5.8nm,0.9s,baz=99,slow=6.3,SNR=5.8								
NB2	**NORSAR Subarra**	**66.65**	**31**	P		**P**		**16 38 57.0**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=265,slow=6.5								
NOA	**NORSAR Array B**	**66.65**	**31**	P		**P**		**16 38 57.3**	**+0.6**
NOA	**NORSAR Array B**	**66.65**	**31**	P		**P**		**16 38 57.3**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=218,slow=24,SNR=2.6								
GERES	**GERESS Array B**	**67.81**	**44**	P		**P**		**16 39 05.0**	**+0.6**
GERES	**GERESS Array B**	**67.81**	**44**	P		**P**		**16 39 05.0**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=289,slow=4.1,SNR=4.3								
EGAK	**Eagle**	**68.85**	**333**	*e*P		**P**		**16 39 11.0**	**+0.5**
	comp=Z,2.1nm,0.6s								
ILAR	**Eielson Array**	**71.31**	**333**	P		**P**		**16 39 25.4**	**-0.2**
ILAR	**Eielson Array**	**71.31**	**333**	P		**P**		**16 39 25.4**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=100,slow=4.0,SNR=16								
ARCES	**ARCESS Array B**	**72.66**	**22**	P		**P**		**16 39 33.9**	**+0.3**
ARCES	**ARCESS Array B**	**72.66**	**22**	P		**P**		**16 39 33.9**	**+0.3**
	comp=Z,2.6nm,0.9s,baz=355,slow=9.7,SNR=3.6								
TRF	**Thorofare Moun**	**72.90**	**332**	*e*P		**P**		**16 39 35.5**	**+0.2**
	comp=Z,6.8nm,0.7s								
BPAW	**Bear Paw Mtn.**	**73.13**	**333**	*e*P		**P**		**16 39 36.1**	**-0.4**
	comp=Z,5.2nm,1.0s								
IMA2	**Indian Mountai**	**74.02**	**335**	*e*P		**P**		**16 39 41.9**	**+0.1**
BRTR	**Keskin Array B**	**83.49**	**50**	P		**P**		**16 40 35.2**	**+0.8**
BRTR	**Keskin Array B**	**83.49**	**50**	P		**P**		**16 40 35.2**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=242,slow=5.2,SNR=3.8								
SNAA	**Sanae**	**98.14**	**164**	LR		LR		17 25 09.0	
	comp=Z,30nm,18.4s,baz=269,slow=35								
KSH	**Kashi**	**111.01**	**33**	PKP		PKiKP		16 46 27.4	-13
KSH				sPKP				16 47 06.9	
KSH				PP		**PP**		**16 47 19.7**	**+2.0**
KSH				PKS		PKSdf		16 50 07.5	-9.3
KSH				SKS		SKSdf		16 53 38.2	-12
KSH				SKKS		SKKSac		16 54 05.3	-15
KSH	**Kashi**	**111.01**	**33**	SS		SS		17 02 32.4	-15
KSH				PPMZ					
	comp=Z,79nm,4.0s								
KSH				LR		LR			
	comp=N,90nm,6.8s								
KSH				LR		LR			
	comp=E,88nm,4.3s								
CN2	**Changchun**	**117.98**	**353**	*e*PKP		**PKPdf**		**16 46 56.6**	**+3.5**
HHC	**Hu-ho-hao-te**	**121.17**	**5**	*e*PKP		**PKPdf**		**16 46 58.2**	**-1.3**
HHC				PP		**PP**		**16 48 31.3**	**+3.0**
HHC				SKS		**SKSdf**		**16 54 05.2**	**-4.8**
HHC				SKKS		SKKSac		16 55 19.4	-8.2
HHC				SS		**SS**		**17 04 57.6**	**-1.3**
HHC				LR		LR			
	comp=E,230nm,21.6s								
HHC				LR		LR			
	comp=E,220nm,19.4s								
HHC				LR		LR			
	comp=E,220nm,19.4s								
CD2	**Chengdu**	**129.64**	**15**	PKP		**PKPdf**		**16 47 15.1**	**-0.8**
KMI	**Kunming**	**134.84**	**19**	PKP		**PKPdf**		**16 47 27.1**	**+1.0**
STKA	**Stephens Creek**	**154.01**	**233**	PKPbc		**PKPbc**		**16 48 05.9**	**-0.4**
STKA	**Stephens Creek**	**154.01**	**233**	PKPbc		**PKPbc**		**16 48 05.9**	**-0.4**
	comp=E,1.8nm,0.9s,baz=12,slow=3.5,SNR=4.6								
ASAR	**Alice Springs**	**163.40**	**248**	PKPab		**PKPab**		**16 48 59.3**	**-1.4**
ASAR	**Alice Springs**	**163.40**	**248**	PKPab		**PKPab**		**16 48 59.3**	**-1.4**
	comp=E,1.0nm,0.7s,baz=106,slow=4.1,SNR=12								
WRA	**Warramunga Arr**	**163.66**	**261**	PKP		**PKPdf**		**16 48 08.5**	**-1.5**
WRA				PKPab		**PKPab**		**16 49 00.5**	**-1.4**
WRA	**Warramunga Arr**	**163.66**	**261**	PKP		**PKPdf**		**16 48 08.5**	**-1.5**
	comp=E,1.3nm,1.1s,baz=92,slow=1.5,SNR=4.6								
WRA				PKPab		**PKPab**		**16 49 00.5**	**-1.4**
	comp=E,0.6nm,0.8s,baz=93,slow=3.9,SNR=5.7								

IDC 05 16:42:51.0±1.1, 46°33'N×27°37'W, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.5/33, mbtmp3.6/6, MS3.6/9, Ms1 3.5/9, ms1mx3.0/51, Error ellipse: s-maj=39.7km s-min=22.0km az=13.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
ESDC	**Sonseca Array**	**18.33**	**103**	P		P	16 47 07.2	+0.4
	0.5nm,0.3s,baz=299,slow=12,SNR=5.0							
ESDC				LR		LR	16 52 42.8	
	comp=Z,55nm,19.9s,baz=145,slow=32							
DAVOX	**Davos/Dischmat**	**25.46**	**75**	LR		LR	16 57 34.3	
	comp=Z,62nm,19.1s,baz=267,slow=35							
SCHQ	**Schefferville**	**26.16**	**303**	LR		LR	16 57 12.4	
	comp=Z,43nm,18.4s,baz=90,slow=33							
GERES	**GERESS Array B**	**27.58**	**70**	LR		LR	16 59 19.0	
	comp=Z,63nm,18.5s,baz=139,slow=36							
VRAC	**Vranov**	**29.36**	**68**	LR		LR	16 59 25.8	
	comp=Z,58nm,19.8s,baz=242,slow=34							
AKASG	**Malin Array Be**	**36.96**	**62**	P		P	16 50 01.0	-0.6
	0.3nm,0.4s,baz=281,slow=8.5,SNR=4.2							
TORD	**Torodi Ar. Bea**	**41.15**	**134**	P		P	16 50 36.6	-0.4
	0.7nm,0.7s,baz=333,slow=8.7,SNR=3.4							
TORD				LR		LR	17 06 05.4	
	comp=Z,119nm,18.6s,baz=75,slow=34							
PDAR	**Pinedale Array**	**56.15**	**299**	P		P	16 52 31.4	-1.1
	0.2nm,0.4s,baz=34,slow=6.6,SNR=3.0							
H10S1	**ASCENSION HYDR**	**56.18**	**165**	T		T	17 53 07.9	
	baz=350,slow=0.7,SNR=5.6							
H10S3	**ASCENSION HYDR**	**56.19**	**165**	T		T	17 53 04.1	
	baz=350,slow=0.7,SNR=7.9							
H10S2	**ASCENSION HYDR**	**56.20**	**165**	T		T	17 53 08.2	
	baz=350,slow=0.7,SNR=7.4							
TXAR	**Lajitas Array**	**60.35**	**283**	P		P	16 53 02.9	+1.0
	0.6nm,0.8s,baz=70,slow=8.7,SNR=4.6							
PFO	**Pinyon Flat Ob**	**66.02**	**294**	LR		LR	17 20 50.8	
	comp=Z,52nm,18.0s,baz=109,slow=34							
LPIG	**La Paz**	**68.25**	**282**	LR		LR	17 22 42.4	
	comp=Z,84nm,18.8s,baz=217,slow=35							
MKAR	**Makanchi Array**	**68.67**	**44**	P		P	16 53 56.4	+0.4
	1.2nm,0.7s,baz=322,slow=5.4,SNR=14							
ASAJ	**Asahikawa**	**89.50**	**7**	LR		LR	17 37 29.6	
	comp=Z,161nm,18.3s,baz=184,slow=37							

IDC 05 16:44:44.3±1.2, 5°81'S×151°43'E, h0km, mb4.0/5, mb1 4.3/5, mb1mx3.8/18, mbtmp4.1/5, Error ellipse: s-maj=48.6km s-min=23.1km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
PMG	**Port Moresby**	**5.54**	**230**	Pn		Pn	16 46 11.6	+3.4
	6.7nm,0.3s,baz=40,slow=9.0,SNR=26							
PMG				Sn		Sn	16 47 15.0	+2.3
	12nm,0.3s,baz=335,slow=23,SNR=8.4							
WRA	**Warramunga Arr**	**21.76**	**228**	P		P	16 49 37.7	0.0
	1.2nm,0.5s,baz=54,slow=10,SNR=13							
ASAR	**Alice Springs**	**24.50**	**222**	P		P	16 50 05.3	-0.2
	3.2nm,0.7s,baz=51,slow=8.7,SNR=35							
FITZ	**Fitzroy Crossi**	**27.99**	**242**	P		P	16 50 37.5	+0.5
	2.9nm,0.5s,baz=53,slow=8.5,SNR=20							
ZALV	**Zalesovo Beam**	**81.23**	**327**	P		P	16 57 01.8	-0.2
	0.5nm,0.5s,baz=103,slow=6.4,SNR=3.1							
ILAR	**Eielson Array**	**83.60**	**22**	P		P	16 57 14.3	+0.1
	1.6nm,0.7s,baz=249,slow=5.6,SNR=12							
QSPA	**South Pole Qui**	**84.16**	**180**	P		P	16 57 16.7	-0.6
	baz=63,slow=4.5							
TORD	**Torodi Ar. Bea**	**149.30**	**286**	PKPbc		PKPbc	17 04 36.2	0.0
	1.5nm,0.7s,baz=62,slow=2.2,SNR=11							

MAN 05 16:50:03, 13°30N×120°25E, h14km, mb4.1, ML3.0, MS2.7, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
LUBP	**Lubang**	**0.43**	**359**	*e*P		Pb	16 50 12.5	0.0
LUBP				*e*S		Sg	16 50 17.8	+0.2
PGP	**Puerto Galera**	**0.71**	**73**	*e*P		Pg	16 50 11.9	-5.0
SJMP	**San Jose**	**1.19**	**134**	*e*P		Pn	16 50 23.6	-1.6
SJMP				*e*S		Sb	16 50 34.9	-5.6
BUSP	**Coron**	**1.29**	**182**	*e*P		Pb	16 50 27.2	+0.2
BOAC	**Boac**	**1.56**	**84**	*e*P		Pn	16 50 30.9	+0.6

*IDC **05** 16:51:27.9±1.4, 7°78S×118°72E, h0km, mb3.5/3, mb1 3.7/7, mb1mx3.5/25, mbtmp3.6/7, ML3.2/3, Error ellipse: s-maj=49.5km s-min=17.7km az=53.0*

*DJA **05** 16:51:41.3±0.6, 6°S×71°8E, h60km, M3.8/6, MLv3.8/6*

ISC 05 16:51:35.6±1.1, 7°65S±0°05×119°09E±0°07, h35km, n15, σ1196/15, mb3.6/3, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
WSI	**Waingapu**	**2.33**	**149**	P		**Sn**	**16 52 39.2**	**+0.2**
BKSI	**Bulukumba**	**2.53**	**24**	P		**Pn**	**16 52 15.4**	**+1.1**
BKSI				S		**Sn**	**16 52 45.8**	**+1.9**
KAPI	**Kappang**	**2.70**	**14**	P		**Pn**	**16 52 17.0**	**+0.4**
KAPI	**Kappang**	**2.70**	**14**	Pn		**Pn**	**16 52 16.1**	**-0.5**
	3.7nm,0.3s,baz=202,slow=9.2,SNR=12							
KAPI				Sn		**Sn**	**16 52 49.1**	**+1.0**
	15nm,0.3s,baz=192,slow=22,SNR=10							
MTNI	**Mataram**	**3.05**	**251**	P		**Pn**	**16 52 23.2**	**+1.8**
MMRI	**Maumere**	**3.27**	**108**	P		**Pn**	**16 52 24.6**	**+0.2**
BNSI	**Bone**	**3.38**	**17**	P		**Pn**	**16 52 27.3**	**+1.3**
SPSI	**Sidrap Palu**	**3.73**	**11**	P		**Pn**	**16 52 31.7**	**+1.0**
SPSI				S		Sn	16 52 49.1	-24
KKSI	**Kolaka, Sulawe**	**4.30**	**37**	P		Pn	16 52 43.2	+4.7
BATI	**Baumata**	**5.18**	**120**	Pn		**Pn**	**16 52 50.6**	**-0.2**
	0.9nm,0.3s,baz=165,slow=16,SNR=1.9							
BATI				Sn		**Sn**	**16 53 54.4**	**+4.9**
	1.2nm,0.3s,baz=307,slow=20,SNR=2.4							
FITZ	**Fitzroy Crossi**	**12.19**	**149**	Pn		Pn	16 54 24.1	-2.7
	0.1nm,0.3s,baz=315,slow=7.1,SNR=3.3							
FITZ				Sn		Sn	16 56 32.1	-9.5
	0.1nm,0.3s,baz=180,slow=20,SNR=4.0							
WRA	**Warramunga Arr**	**19.18**	**131**	P		**P**	**16 55 54.7**	**-1.7**
	0.3nm,0.3s,baz=311,slow=9.9,SNR=19							
ASAR	**Alice Springs**	**21.34**	**140**	P		**P**	**16 56 18.9**	**-1.0**
	0.9nm,0.3s,baz=314,slow=9.5,SNR=43							
MKAR	**Makanchi Array**	**63.30**	**333**	P		P	17 01 58.1	-2.9
	0.3nm,0.5s,baz=135,slow=7.2,SNR=4.8							
ZALV	**Zalesovo Beam**	**67.82**	**339**	P		**P**	**17 02 27.7**	**-2.3**
	0.5nm,0.5s,baz=126,slow=7.3,SNR=2.5							

IDC 05 16:52:43.2±2.7, 16°70S×171°91W, h0km, mb4.2/4, mb1 4.5/4, mb1mx3.9/21, mbtmp4.2/4, MS3.0/2, Ms1 3.0/2, ms1mx2.8/41, Error ellipse: s-maj=177.5km s-min=28.4km az=146.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
AFI	**Afiamalu**	**2.78**	**3**	Pn		Pn	16 53 23.8	-5.4
	7.3nm,0.3s,baz=92,slow=17,SNR=8.1							
AFI				Sn		Sn	16 53 52.0	-11
	19nm,0.3s,baz=172,slow=22,SNR=16							
RAR	**Rarotonga**	**12.32**	**113**	LR		LR	16 58 34.3	
	comp=Z,17nm,20.8s,baz=135,slow=28							
RAO	**Raoul Island**	**13.66**	**203**	LR		LR	17 00 21.4	
	comp=Z,227nm,18.1s,baz=339,slow=34							
DZM	**Mont Dzumac**	**21.10**	**252**	*e*LR		LR	17 02 32.5	
	132nm,23.6s							
PPT2	**Papeete2**	**21.36**	**96**	*e*LR		LR	17 02 22.6	
	61nm,23.5s							
TBI	**Tubuai**	**22.09**	**111**	*e*LR		LR	17 02 37.9	
	83nm,27.5s							
STKA	**Stephens Creek**	**44.65**	**241**	P		P	17 00 58.1	+0.2
	5.7nm,0.9s,baz=84,slow=9.5,SNR=8.5							
WRA	**Warramunga Arr**	**50.95**	**258**	P		P	17 01 46.4	-0.6
	1.3nm,0.8s,baz=95,slow=8.4,SNR=6.3							
ASAR	**Alice Springs**	**51.09**	**253**	P		P	17 01 47.8	-0.2
	6.8nm,0.6s,baz=88,slow=8.2,SNR=83							
NVAR	**Mina Array Bea**	**74.35**	**41**	P		P	17 04 22.8	-0.4
	0.6nm,0.8s,baz=233,slow=8.9,SNR=4.2							
BRTR	**Keskin Array B**	**148.06**	**321**	PKPbc		PKPbc	17 12 31.6	+0.2
	1.6nm,1.0s,baz=48,slow=1.8,SNR=4.9							

*PLV **05** 16:53:07.8±0.4, 22°38N×101°88E, h5km±4km, MD3.7*

*IDC **05** 16:53:08.1±0.6, 22°20N×101°84E, h0km, mb4.2/19, mb1 4.3/20, mb1mx4.1/31, mbtmp4.2/20, ML4.8/1, MS3.8/8, Ms1 3.8/8, ms1mx3.4/41, Error ellipse: s-maj=17.3km s-min=12.8km az=77.0*

*BJI **05** 16:53:08.6, 22°22N×101°95E, h7km, mB4.8/13, mb4.3/20, ML4.6/10, Ms4.6/18, Ms7 4.3/15*

*ISCJB **05** 16:53:10.1±1.3, 22°22N±0°03×101°77E±0°03, h22km±10km, mb4.4/40, MS3.7/7, Error ellipse: s-maj=5.8km s-min=4.6km az=14.3*

*NEIC **05** 16:53:11.8±1.3, 22°13N×101°88E, h26km±10km, mb4.4/12, Error ellipse: s-maj=6.0km s-min=5.0km az=107.0*

ISC 05 16:53:11.0±0.7, 22°16N±0°03×101°88E±0°03, h18km±3km, n124, σ1940/144, mb4.4/40, MS3.7/7, 2C-5D, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
DBV	**Dienbien**	**1.31**	**126**	*e*Pg		**Pb**	**16 53 35.5**	**+0.3**
DBV				*e*Sg		**Sg**	**16 53 54.4**	**+0.8**
TGV	**Tuan Giao**	**1.54**	**111**	*e*Pg		**Pb**	**16 53 39.3**	**+0.3**
TGV				*e*Sg		**Sg**	**16 54 00.2**	**-0.5**
SLVN	**Son La**	**2.06**	**113**	*e*Pn		**Pn**	**16 53 44.2**	**-0.5**
SLVN				*e*Pg		**Pb**	**16 53 48.9**	**+1.1**
SLVN				*e*Sg		**Sg**	**16 54 17.1**	**-0.1**
KMI	**Kunming**	**3.05**	**15**	Pn		**Pn**	**16 54 00.8**	**+2.2**
KMI				Sg		**Sg**	**16 54 48.6**	**-0.5**
KMI				SMN				
	comp=Z,610nm,1.0s							
KMI				SME				
	comp=Z,690nm,1.0s							
KMI				LR		LR		
	comp=N,6μm,3.8s							
KMI				LR		LR		
	comp=E,6μm,5.7s							
KMI	**Kunming**	**3.05**	**15**	Pn		**Pn**	**16 54 00.8**	**+2.2**
KMI				Sg		**Sg**	**16 54 48.6**	**-0.5**
CHTO	**Chiang Mai**	**4.32**	**220**	*e*Pn		**Pn**	**16 54 15.1**	**-0.7**
CM31	**Chiang Mai Arr**	**4.60**	**217**	*e*Pn		**Pn**	**16 54 19.5**	**-0.2**
CM31				*e*Pg		Pb	16 54 34.7	+3.6
CM31				*e*Sg		**Sg**	**16 55 36.3**	**-2.4**
CMAR	**Chiang Mai Arr**	**4.60**	**217**	Pn		**Pn**	**16 54 19.4**	**-0.2**
CMAR				Pg		**Pb**	**16 54 34.0**	**+2.8**
CMAR				Lg		Lg	16 55 33.3	
CMAR	**Chiang Mai Arr**	**4.60**	**217**	Pn		**Pn**	**16 54 19.4**	**-0.2**
	11nm,0.3s,baz=27,slow=13,SNR=135							
CMAR				Pg		**Pb**	**16 54 34.0**	**+2.8**
	15nm,0.3s,baz=33,slow=15,SNR=66							
CMAR				Lg		Lg	16 55 33.3	
	7.2nm,0.3s,baz=45,slow=32,SNR=6.9							
GYA	**Guiyang**	**6.11**	**45**	*i*Pn		**Pn**	**16 54 41.3**	**+0.8**
GYA				Sn		**Sn**	**16 55 52.7**	**+2.6**
GYA				Sg		**Sg**	**16 56 22.2**	**-5.0**
GYA				SMN				
	comp=Z,550nm,1.0s							
GYA				SME				
	comp=Z,510nm,1.0s							
GYA				LR		LR		
	comp=N,5μm,9.0s							
GYA				LR		LR		
	comp=E,5μm,9.3s							
GYA				LR		LR		
	comp=Z,2μm,7.8s							
GYA	**Guiyang**	**6.11**	**45**	*i*Pn		**Pn**	**16 54 41.3**	**+0.8**
GYA				Sn		**Sn**	**16 55 52.7**	**+2.6**
GYA				*e*			16 56 22.2	
QIZ	**Qiongzhong**	**8.09**	**111**	*e*Pn		**Pn**	**16 55 05.5**	**-2.0**
	24nm,0.6s							
SHL	**Shillong**	**9.75**	**292**	*e*P		**Pn**	**16 55 31.0**	**+0.4**
SHL				*e*S		Sn	16 57 51.0	+31
ENH	**Enshi**	**10.57**	**39**	Pn		**Pn**	**16 55 40.9**	**-0.8**
	14nm,0.6s							
LSA	**Lhasa**	**12.22**	**310**	P		**Pn**	**16 56 05.8**	**+1.2**
LSA	**Lhasa**	**12.22**	**310**	P		**Pn**	**16 56 04.8**	**+0.2**
	6.8nm,0.8s							
XAN	**Xi'an**	**13.36**	**26**	P		**Pn**	**16 56 18.4**	**-1.4**
XAN				S		**Sn**	**16 58 48.4**	**+0.5**
XAN				AMB		AMB		
	comp=Z,2.0nm,1.1s							
XAN				AMB		AMB		
	comp=Z,59nm,4.5s							
XAN				LR		LR		
	comp=N,1μm,12.6s							
XAN				LR		LR		
	comp=E,960nm,12.6s							
XAN				LR		LR		
	comp=Z,460nm,10.9s							
XAN	**Xi'an**	**13.36**	**26**	P		**Pn**	**16 56 18.4**	**-1.4**
XAN				S		**Sn**	**16 58 48.4**	**+0.5**
TAPN	**Taplejung**	**13.87**	**295**	*e*P		**Pn**	**16 56 24.2**	**-2.7**
	164nm,1.3s							
WHN	**Wuhan**	**13.95**	**51**	P		P	16 56 39.0	+3.3

LZH	**Lanzhou**	**13.98**	**7**	*e*P		**Pn**		**16 56 28.7**	**+0.4**
LZH				pP		P		16 56 31.7	-4.6
LZH				sP				16 56 34.7	
LZH				PP		**PnPn**		**16 56 42.3**	**+5.8**
LZH				*e*S		**Sn**		**16 59 05.4**	**+2.2**
LZH				sS		sS		16 59 09.1	
LZH				SS		**SnSn**		**16 59 20.3**	**+4.3**
LZH				AMB		AMB			
	comp=Z,61nm,1.1s								
LZH				AMB		AMB			
	comp=Z,230nm,4.0s								
LZH				LR		LR			
	comp=N,900nm,13.7s								
LZH				LR		LR			
	comp=E,1μm,13.3s								
LZH				LR		LR			
	comp=Z,1μm,14.3s								
LZH	**Lanzhou**	**13.98**	**7**	*e*P		**Pn**		**16 56 28.7**	**+0.4**
ODAN	**Odare**	**13.99**	**292**	*e*P		**Pn**		**16 56 27.1**	**-1.5**
	52nm,1.0s								
JIRN	**Jiri**	**15.24**	**294**	*e*P		**Pn**		**16 56 43.7**	**-2.0**
	35nm,0.9s								
GUN	**Gumba**	**15.58**	**295**	*e*P		**Pn**		**16 56 48.5**	**-1.6**
	119nm,0.9s								
PKI	**Pulchoki**	**15.88**	**293**	*e*P		**Pn**		**16 56 53.2**	**-0.8**
	48nm,0.8s								
KKN	**Kakani**	**16.05**	**294**	*e*P		**Pn**		**16 56 54.6**	**-1.5**
	60nm,0.8s								
GKN	**Gorkha**	**16.66**	**294**	*e*P		**Pn**		**16 57 02.1**	**-1.6**
	45nm,0.7s								
GTA	**Gaotai**	**17.28**	**355**	*e*P		**P**		**16 57 14.0**	**+1.1**
GTA				pP		**pP**		**16 57 18.1**	**+0.1**
GTA				sP		**sP**		**16 57 21.3**	**+1.0**
GTA				AMB		AMB			
	comp=Z,10.0nm,1.0s								
GTA				AMB		AMB			
	comp=Z,220nm,4.5s								
GTA				LR		LR			
	comp=N,870nm,10.7s								
GTA				LR		LR			
	comp=E,780nm,7.6s								
GTA				LR		LR			
	comp=Z,1μm,11.2s								
GTA	**Gaotai**	**17.28**	**355**	*e*P		**P**		**16 57 14.0**	**+1.1**
GTA				*e*pP		**pP**		**16 57 18.1**	**+0.1**
GTA				sP		**sP**		**16 57 21.3**	**+1.0**
KOLN	**Koldanda**	**17.48**	**292**	*e*P		**Pn**		**16 57 13.6**	**-0.5**
DANN	**Dangsing**	**17.50**	**294**	*e*P		**Pn**		**16 57 13.4**	**-1.0**
	107nm,1.2s								
NJ2	**Nanjing**	**18.02**	**53**	*e*P		**P**		**16 57 21.2**	**+0.3**
NJ2				S		**Sn**		**17 00 37.0**	**-4.1**
NJ2				AMB		AMB			
	comp=Z,20nm,0.9s								
NJ2				LR		LR			
	comp=N,3μm,14.6s								
NJ2				LR		LR			
	comp=E,2μm,17.6s								
NJ2	**Nanjing**	**18.02**	**53**	*e*P		**P**		**16 57 21.2**	**+0.3**
NJ2				S		**Sn**		**17 00 37.0**	**-4.1**
PSI	**Prapat**	**19.46**	**189**	P		**Pn**		**16 57 41.5**	**+3.4**
PSI	**Prapat**	**19.46**	**189**	P		**Pn**		**16 57 41.5**	**+3.4**
	0.7nm,0.3s,baz=325,slow=11,SNR=5.0								
PSI				LR		LR		17 05 04.3	
	comp=Z,339nm,18.9s,baz=330,slow=37								
SONM	**Songino Array**	**25.87**	**7**	P		**P**		**16 58 42.4**	**+0.7**
SONM	**Songino Array**	**25.87**	**7**	P		**P**		**16 58 42.4**	**+0.7**
	3.9nm,0.7s,baz=187,slow=9.6,SNR=15								
SONM				LR		LR		17 10 05.4	
	comp=Z,467nm,19.6s,baz=5.1,slow=39								
ULN	**Ulaanbaatar**	**25.98**	**8**	*e*P		**P**		**16 58 42.1**	**-0.6**
	11nm,1.3s								
MK31	**Makanchi Array**	**29.24**	**332**	*e*P		**P**		**16 59 12.8**	**+1.0**
MKAR	**Makanchi Array**	**29.24**	**332**	P		**P**		**16 59 12.1**	**+0.2**
MKAR	**Makanchi Array**	**29.24**	**332**	P		**P**		**16 59 12.1**	**+0.2**
	2.6nm,0.8s,baz=137,slow=9.1,SNR=18								
MKAR				LR		LR		17 10 59.6	
	comp=Z,123nm,18.9s,baz=292,slow=37								
TKM2	**Tokmak 2**	**30.11**	**320**	*e*P		**P**		**16 59 20.8**	**+1.0**
	2.4nm,0.8s								
AAK	**Ala-Archa**	**30.62**	**318**	*e*P		**P**		**16 59 25.4**	**+1.2**
	6.9nm,1.0s								
AAK	**Ala-Archa**	**30.62**	**318**	P		**P**		**16 59 25.4**	**+1.2**
	3.7nm,0.8s,baz=119,slow=5.6,SNR=8.2								
EKS2	**Erkin-Say**	**31.08**	**318**	*e*P		**P**		**16 59 28.8**	**+0.5**
	4.5nm,1.0s								
USRK	**Ussuriysk Arra**	**33.14**	**41**	LR		LR		17 12 55.9	
	comp=Z,86nm,20.1s,baz=85,slow=36								
KKAR	**Karatay Array**	**33.38**	**316**	*e*P		**P**		**16 59 48.7**	**+0.5**
	1.5nm,0.7s								
KURK	**Kurchatov**	**33.80**	**333**	*e*P		**P**		**16 59 52.4**	**+0.5**
	1.7nm,0.8s								
ZAA0	**Zalesovo Array**	**34.27**	**342**	*e*P		**P

LPG	La Plagne	77.97	314	*eP*	P	17 05 08.5	-0.1	
	comp=Z,6.8nm,0.8s							
LPG	La Plagne	77.97	314	*eP*	P	17 05 08.5	-0.1	
	comp=Z,6.8nm,0.8s							
LPL	La Plagne	77.98	314	*eP*	P	17 05 08.4	-0.1	
	comp=Z,5.9nm,0.6s							
LPL	La Plagne	77.98	314	*eP*	P	17 05 08.4	-0.1	
	comp=Z,5.9nm,0.6s							
BAIF	Baives	78.05	319	*eP*	P	17 05 08.6	+0.1	
BAIF	Baives	78.05	319	*eP*	P	17 05 08.6	+0.1	
MBDF	Montbardon	78.22	314	*eP*	P	17 05 10.3	+0.5	
	comp=Z,16nm,1.1s							
MBDF	Montbardon	78.22	314	*eP*	P	17 05 10.3	+0.5	
	comp=Z,16nm,1.1s							
FRF	La Foret Royal	78.69	312	*eP*	P	17 05 11.6	-0.6	
	comp=Z,27nm,1.2s							
FRF	La Foret Royal	78.69	312	*eP*	P	17 05 11.6	-0.6	
	comp=Z,27nm,1.2s							
ORIF	Oris-en-Rattie	78.75	314	*eP*	P	17 05 12.1	-0.5	
	comp=Z,31nm,1.5s							
ORIF	Oris-en-Rattie	78.75	314	*eP*	P	17 05 12.1	-0.5	
	comp=Z,31nm,1.5s							
ILAR	Eielson Array	78.76	24	P	P	17 05 10.4	-1.8	
ILAR	Eielson Array	78.76	24	P	P	17 05 10.4	-1.8	
	comp=Z,0.4nm,0.7s,baz=258,slow=5.4,SNR=4.2							
LMR	La Mourre	78.86	312	*eP*	P	17 05 12.7	-0.4	
	comp=Z,34nm,1.3s							
LMR	La Mourre	78.86	312	*eP*	P	17 05 12.7	-0.4	
	comp=Z,34nm,1.3s							
LOR	Lormes	79.25	317	*eP*	P	17 05 14.6	-0.6	
LOR	Lormes	79.25	317	*eP*	P	17 05 14.6	-0.6	
SMF	Signal de Mont	79.48	316	*eP*	P	17 05 15.9	-0.6	
SMF	Signal de Mont	79.48	316	*eP*	P	17 05 15.9	-0.6	
SSF	Saint Saulge	79.55	317	*eP*	P	17 05 16.4	-0.4	
	comp=Z,6.3nm,0.8s							
SSF	Saint Saulge	79.55	317	*eP*	P	17 05 16.4	-0.4	
	comp=Z,6.3nm,0.8s							
AVF	Avril sur Loir	79.74	316	*eP*	P	17 05 17.3	-0.6	
AVF	Avril sur Loir	79.74	316	*eP*	P	17 05 17.3	-0.6	
MTLF	Montolieu	81.78	313	*eP*	P	17 05 28.4	-0.5	
	comp=Z,13nm,1.2s							
MTLF	Montolieu	81.78	313	*eP*	P	17 05 28.4	-0.5	
	comp=Z,13nm,1.2s							
LBTB	Lobatse	87.61	242	P	P	17 05 58.0	-0.6	
LBTB	Lobatse	87.61	242	P	P	17 05 58.0	-0.6	
	comp=Z,2.4nm,0.9s,baz=131,slow=6.9,SNR=3.4							
TORD	Torodi Ar. Bea	94.29	286	P	P	17 06 29.4	-0.5	
TORD	Torodi Ar. Bea	94.29	286	P	P	17 06 29.4	-0.5	
	comp=Z,0.3nm,0.7s,baz=92,slow=4.2,SNR=3.0							
TXAR	Lajitas Array	123.20	27	PKP	PKPdf	17 12 07.0	-0.4	
TXAR	Lajitas Array	123.20	27	PKP	PKPdf	17 12 07.0	-0.4	
	comp=Z,0.2nm,0.7s,baz=337,slow=4.3,SNR=4.1							

IDC 05 16:55:05.5±1.0, 2°13N×128°79E, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.6/22, mbtmp3.6/7, Error ellipse: s-maj=64.2km s-min=17.5km az=77.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.34**	**189**	P		P	16 59 44.0	+0.5
	0.7nm,0.7s,baz=6.5,slow=12,SNR=2.6							
WRA	**Warramunga Arr**	**22.60**	**166**	P		P	17 00 07.9	-0.1
	1.5nm,0.7s,baz=344,slow=10,SNR=6.7							
ASAR	**Alice Springs**	**26.12**	**169**	P		P	17 00 40.1	-1.4
	0.2nm,0.4s,baz=354,slow=7.1,SNR=7.7							
STKA	**Stephens Creek**	**35.94**	**161**	P		P	17 02 09.1	+1.2
	1.5nm,0.5s,baz=328,slow=9.2,SNR=4.4							
SONM	**Songino Array**	**49.47**	**340**	P		P	17 03 57.8	0.0
	0.7nm,0.7s,baz=152,slow=6.5,SNR=2.7							
MKAR	**Makanchi Array**	**60.03**	**325**	P		P	17 05 14.2	-0.1
	0.9nm,0.6s,baz=118,slow=7.8,SNR=10							
ILAR	**Eielson Array**	**85.66**	**25**	P		P	17 07 45.8	-0.1
	0.3nm,0.7s,baz=268,slow=5.4,SNR=3.3							

*ISCJB **05** 17:03:23.5±0.4, 18°.72S±0°.08×169°.29E±0°.07, h201km, mb4.4/32, Error ellipse: s-maj=11.9km s-min=7.7km az=149.7*

*IDC **05** 17:03:28.4±1.4, 18°.73S×169°.28E, h238km±12km, mb4.0/20, mb1 4.2/22, mb1mx4.0/29, mbtmp4.1/22, Error ellipse: s-maj=13.0km s-min=11.6km az=155.0*

*NEIC **05** 17:03:29.6±0.7, 18°.75S×169°.21E, h250km±6km, mb4.6/10, Error ellipse: s-maj=9.2km s-min=6.2km az=163.0*

*AUST **05** 17:03:37.6, 18°.98S×167°.89E, h200km*

ISC 05 17:03:24.3±0.5, 18°.62S±0°.07×169°.32E±0°.08, h201km, n90, σ1s96/98, mb4.5/32, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.37**	**218**	P		Pn	17 04 35.2	+4.3
DZM				S		**S**	**17 05 27.0**	**+4.3**
DZM	**Mont Dzumac**	**4.37**	**218**	P		Pn	17 04 35.2	+4.3
	18nm,0.3s,baz=62,slow=17,SNR=130							
DZM				S		**S**	**17 05 27.0**	**+4.3**
	5.3nm,0.3s,baz=91,slow=21,SNR=3.1							
MSVF	**Nonsavu**	**8.35**	**85**	*eP*		Pn	17 05 28.8	+6.6
	9.3nm,0.7s							
HNR	**Honiara**	**12.88**	**314**	P		P	**17 06 24.2**	**+0.5**
HNR	**Honiara**	**12.88**	**314**	P		P	**17 06 24.2**	**+0.5**
	14nm,0.3s,baz=193,slow=1.3,SNR=29							
EIDS	**Eidsvold**	**18.19**	**245**	P		**Pn**	**17 07 24.8**	**+0.2**
	baz=17,SNR=7.9							
RMQ	**Roma**	**20.52**	**244**	P		P	17 07 49.5	+2.1
	baz=19,SNR=18							
URZ	**Urewera**	**20.72**	**162**	P		P	**17 07 50.9**	**+1.7**
URZ	**Urewera**	**20.72**	**162**	P		P	**17 07 50.9**	**+1.7**
	6.8nm,0.5s,baz=116,slow=8.6,SNR=5.3							
CTA	**Charters Tower**	**21.81**	**262**	P		P	**17 08 01.0**	**+0.2**
CTA	**Charters Tower**	**21.81**	**262**	P		P	**17 08 01.0**	**+0.2**
	10nm,0.5s,baz=290,slow=3,SNR=22							
CTAO	**Charters Tower**	**21.81**	**262**	*eP*		P	**17 08 01.2**	**+0.4**
	12nm,0.6s							
PMG	**Port Moresby**	**23.34**	**290**	*eP*		P	**17 08 16.5**	**+1.6**
	70nm,0.9s							
PMG	**Port Moresby**	**23.34**	**290**	P		P	**17 08 16.6**	**+1.6**
	62nm,0.8s,baz=99,slow=6.5,SNR=20							
QLP	**Quilpie**	**24.45**	**247**	P		P	**17 08 25.5**	**+0.7**
	baz=23,SNR=10.0							
CMSA	**Cobar Meteorol**	**24.90**	**234**	P		P	**17 08 29.4**	**+0.4**
	baz=24,SNR=12							
COEN	**Coen**	**25.51**	**277**	P		P	**17 08 38.8**	**+4.2**
	baz=24,SNR=5.5							
STKA	**Stephens Creek**	**28.24**	**237**	*eP*		P	**17 08 59.2**	**+0.4**
	1.1nm,0.6s							
STKA	**Stephens Creek**	**28.24**	**237**	P		P	**17 08 59.5**	**+0.7**
	baz=27,SNR=14							
STKA	**Stephens Creek**	**28.24**	**237**	P		P	**17 08 59.5**	**+0.7**
	5.8nm,0.6s,baz=56,slow=9.4,SNR=24							
BBOO	**Buckleboo**	**32.98**	**238**	P		P	**17 09 40.6**	**+0.3**
	baz=32,SNR=5.8							
WRAB	**Tennant Creek**	**33.00**	**262**	*eP*		P	**17 09 39.8**	**-0.9**
	4.6nm,0.3s							
WRA	**Warramunga Arr**	**33.01**	**262**	P		P	**17 09 39.9**	**-0.9**
WRA				S		S	17 14 37.4	-7.1
WRA	**Warramunga Arr**	**33.01**	**262**	P		P	**17 09 39.9**	**-0.9**
	7.7nm,0.5s,baz=96,slow=8.5,SNR=167							
WRA				S		S	17 14 37.4	-7.1
	2.1nm,0.9s,baz=89,slow=15,SNR=7.2							
AS31	**Alice Springs**	**33.35**	**255**	*eP*		P	**17 09 43.5**	**-0.3**
ASAR	**Alice Springs**	**33.36**	**255**	P		P	**17 09 43.7**	**-0.1**
ASAR				S		**S**	**17 14 44.0**	**-5.8**
ASAR				ScP		**ScP**	**17 15 43.5**	**-2.8**
ASAR	**Alice Springs**	**33.36**	**255**	P		P	**17 09 43.7**	**-0.1**
	57nm,0.5s,baz=81,slow=8.7,SNR=1948							
ASAR				S		**S**	**17 14 44.0**	**-5.8**
	0.9nm,0.8s,baz=83,slow=16,SNR=5.5							
ASAR				ScP		**ScP**	**17 15 43.5**	**-2.8**
	0.2nm,0.5s,baz=97,slow=3.9,SNR=4.8							
KDU	**Kakadu**	**35.92**	**274**	P		P	**17 10 05.8**	**0.0**
	baz=35,SNR=15							
KNRA	**Kununurra**	**38.81**	**268**	P		P	**17 10 29.7**	**-0.3**
	baz=37,SNR=49							
FAKI	**Fak Fak**	**39.49**	**289**	P		P	**17 10 35.8**	**+0.1**
	baz=38,SNR=7.5							
SWI	**Sorong**	**41.29**	**291**	P		P	**17 10 51.5**	**+1.0**
	baz=40,SNR=11							
FITZ	**Fitzroy Crossi**	**41.38**	**264**	*eP*		P	**17 10 50.7**	**-0.5**
	35nm,0.9s							
FITZ	**Fitzroy Crossi**	**41.38**	**264**	P		P	**17 10 51.5**	**+0.4**
	baz=40,SNR=72							
FITZ	**Fitzroy Crossi**	**41.38**	**264**	P		P	**17 10 51.5**	**+0.4**
	24nm,0.6s,baz=101,slow=7.0,SNR=138							
AAI	**Ambon**	**42.85**	**285**	P		P	**17 11 03.6**	**+0.6**
	baz=42,SNR=3.5							
BATI	**Baumata**	**44.90**	**274**	P		P	**17 11 20.1**	**+0.6**
	24nm,0.7s,baz=101,slow=17,SNR=7.7							
MBWA	**Marble Bar**	**46.55**	**258**	*eP*		P	**17 11 32.1**	**-0.1**
	34nm,0.8s							
MEEK	**Meekatharra**	**47.23**	**251**	P		P	**17 11 37.1**	**-0.4**
	baz=46,SNR=40							
KLBR	**Kellerberrin**	**48.05**	**244**	P		P	**17 11 42.7**	**-1.0**
	baz=47,SNR=12							
NWAO	**Narrogin (SRO)**	**48.57**	**242**	P		P	**17 11 46.5**	**-1.1**
NWAO	**Narrogin (SRO)**	**48.57**	**242**	P		P	**17 11 46.5**	**-1.1**
	baz=90,slow=8.1							
MORW	**Morawa**	**49.48**	**247**	P		P	**17 11 54.1**	**-0.5**
	baz=48,SNR=4.2							
QIZ	**Qiongzhong**	**69.34**	**299**	P		P	**17 14 10.7**	**+0.1**
QIZ				pP		pP	17 15 07.4	+10
QIZ				S		S	17 22 54.8	-6.4
QIZ				AMB		AMB		
	comp=Z,18nm,1.7s							
QIZ				AMB		AMB		
	comp=Z,230nm,4.9s							
QIZ				LR		LR		
	comp=Z,590nm,11.1s							
FX1	**Attu Island--F**	**71.28**	**2**	P		P	**17 14 21.8**	**+0.3**
FX1	**Attu Island--F**	**71.28**	**2**	P		P	**17 14 21.8**	**+0.3**
	8.9nm,0.6s,baz=248,slow=5.4,SNR=3.8							
QSPA	**South Pole Qui**	**71.43**	**180**	P		P	**17 14 21.9**	**-0.8**
QSPA	**South Pole Qui**	**71.43**	**180**	P		P	**17 14 21.8**	**-0.8**
	2.1nm,0.9s,baz=49,slow=1.1,SNR=5.0							
CN2	**Changchun**	**73.97**	**329**	*eP*		P	**17 14 40.8**	**+3.2**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.7s							
GYA	**Guiyang**	**75.53**	**305**	*eP*		P	**17 14 49.3**	**+2.2**
GYA				pP		pP	17 15 47.8	+13
GYA				sP		sP	17 16 15.2	+19
GYA				S		**S**	**17 24 08.0**	**-3.4**
GYA				SKS		SKSac	17 24 29.7	-8.5
GYA				AMB		AMB		
	comp=Z,10.0nm,1.0s							
KMI	**Kunming**	**78.01**	**302**	P		P	**17 15 02.7**	**+1.5**
KMI				AMB		AMB		
	comp=Z,8.0nm,1.1s							
CMAR	**Chiang Mai Arr**	**78.32**	**294**	P		P	**17 15 03.6**	**+0.9**
CMAR	**Chiang Mai Arr**	**78.32**	**294**	P		P	**17 15 03.6**	**+0.9**
	2.4nm,0.7s,baz=131,slow=4.5,SNR=22							
MAW	**Mawson**	**79.04**	**202**	P		P	**17 15 05.5**	**-0.3**
MAW	**Mawson**	**79.04**	**202**	P		P	**17 15 05.5**	**-0.3**
	1.3nm,0.8s,baz=118,slow=12,SNR=3.5							
HHC	**Hu-ho-hao-te**	**79.80**	**319**	*eP*		P	**17 15 10.9**	**+0.5**
HHC				sP		sP	17 16 38.5	+18
HHC				PP		**PP**	**17 18 18.4**	**+3.5**
HHC				S		**S**	**17 24 54.4**	**-2.2**
HHC				sS		sS	17 26 39.1	+18
HHC				SS		**SS**	**17 30 13.8**	**+2.9**
HHC				AMB		AMB		
	comp=Z,52nm,1.1s							
HHC				AMB		AMB		
	comp=Z,340nm,6.7s							
HHC				LR		LR		
	comp=N,360nm,16.4s							
HHC				LR		LR		
	comp=E,300nm,17.0s							
HHC				LR		LR		
	comp=Z,310nm,15.8s							
CD2	**Chengdu**	**79.92**	**307**	P		P	**17 15 12.4**	**+1.2**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.5s							
CD2				AMB		AMB		
	comp=Z,310nm,5.5s							
LZH	**Lanzhou**	**82.37**	**312**	*eP*		P	**17 15 25.3**	**+1.1**
LZH				pP		pP	17 16 24.2	+11
LZH				sP		sP	17 16 49.9	+16
LZH				AMB		AMB		
	comp=Z,12nm,1.0s							
KDAK	**Kodiak Island**	**82.42**	**19**	P		P	**17 15 24.6**	**+1.0**
KDAK	**Kodiak Island**	**82.42**	**19**	P		P	**17 15 24.6**	**+1.0**
	5.7nm,0.9s,baz=355,slow=4.5,SNR=3.6							
CMB	**Columbia Colle**	**86.69**	**48**	*eP*		P	**17 15 46.5**	**+0.9**
	6.5nm,0.8s							
SONM	**Songino Array**	**86.77**	**323**	P		P	**17 15 46.4**	**+0.5**
SONM	**Songino Array**	**86.77**	**323**	P		P	**17 15 46.4**	**+0.5**
	0.3nm,0.3s,baz=128,slow=2.4,SNR=3.8							
YBH	**Yreka Blue Hor**	**86.80**	**44**	P		P	**17 15 47.3**	**+1.2**
YBH	**Yreka Blue Hor**	**86.80**	**44**	P		P	**17 15 47.3**	**+1.2**
	4.5nm,0.8s,baz=192,slow=4.1							
NVAR	**Mina Array Bea**	**88.33**	**48**	P		P	**17 15 54.4**	**+0.8**
NVAR	**Mina Array Bea**	**88.33**	**48**	P		P	**17 15 54.4**	**+0.8**
	1.9nm,0.8s,baz=228,slow=8.3,SNR=13							
MOD	**Modoc**	**88.47**	**45**	*eP*		P	**17 15 54.9**	**+0.7**
	32nm,1.1s							
ILAR	**Eielson Array**	**89.62**	**17**	P		P	**17 15 57.5**	**-1.2**
ILAR	**Eielson Array**	**89.62**	**17**	P		P	**17 15 57.5**	**-1.2**
	1.1nm,0.4s,baz=238,slow=5.1,SNR=19							
SNAA	**Sanae**	**89.78**	**182**	P		P	**17 15 57.5**	**-2.2**
SNAA	**Sanae**	**89.78**	**182**	P		P	**17 15 57.5**	**-2.2**
	0.8nm,0.6s,baz=208,slow=4.9,SNR=19							
WVOR	**Wild Horse Val**	**89.82**	**45**	*eP*		P	**17 16 01.0**	**+0.6**
	8.0nm,1.0s							
INK	**Inuvik**	**95.93**	**18**	P		P	**17 16 26.9**	**-0.7**
INK	**Inuvik**	**95.93**	**18**	P		P	**17 16 26.9**	**-0.7**
	2.1nm,0.9s,baz=214,slow=7.3,SNR=2.6							
PDAR	**Pinedale Array**	**96.14**	**47**	P		P	**17 16 31.4**	**+1.8**
PDAR	**Pinedale Array**	**96.14**	**47**	P		P	**17 16 31.4**	**+1.8**
	0.4nm,0.8s,baz=251,slow=5.6,SNR=3.1							
KAAM	**Kaadhehdhoo**	**96.15**	**268**	P		P	17 16 46.7	+17
	baz=95,SNR=3.1							
TXAR	**Lajitas Array**	**96.40**	**61**	P		P	**17 16 31.7**	**+0.7**
TXAR	**Lajitas Array**	**96.40**	**61**	P		P	**17 16 31.7**	**+0.7**
	1.1nm,0.8s,baz=224,slow=5.2,SNR=7.5							
WMQ	**Urumqi**	**96.83**	**314**	*eP*		P	**17 16 32.3**	**-0.2**
ARCES	**ARCESS Array B**	**124.49**	**345**	PKP		**PKPdf**	**17 21 57.2**	**-1.7**
ARCES	**ARCESS Array B**	**124.49**	**345**	PKP		**PKPdf**	**17 21 57.2**	**-1.7**
	0.6nm,0.4s,baz=73,slow=1.9,SNR=12							
FINES	**FINESS Array B**	**130.04**	**338**	SKPbc		**SKPbc**	**17 25 08.0**	**-5.4**
FINES	**FINESS Array B**	**130.04**	**338**	SKPbc		**SKPbc**	**17 25 08.0**	**-5.4**
	3.4nm,0.8s,baz=72,slow=4.5,SNR=5.7							
GERES	**GERESS Array B**	**143.98**	**332**	PKP		**PKPab**	**17 22 33.6**	**-0.1**
GERES				SKPbc		**SKPbc**	**17 25 51.2**	**-4.5**
GERES	**GERESS Array B**	**143.98**	**332**	PKP		**PKPab**	**17 22 33.6**	**-0.1**
	0.9nm,0.7s,baz=29,slow=3.8,SNR=8.2							
GERES				SKPbc		**SKPbc**	**17 25 51.2**	**-4.5**
	0.5nm,0.7s,baz=71,slow=3.3,SNR=3.8							
MOA	**Molln**	**144.46**	**331**	*i* PKPdf		**PKPab**	**17 22 35.0**	**-0.4**
	4.8nm,0.9s							
TORD	**Torodi Ar. Bea**	**166.91**	**247**	PKP		**PKPdf**	**17 23 05.3**	**-1.5**
TORD	**Torodi Ar. Bea**	**166.91**	**247**	PKP		**PKPdf**	**17 23 05.3**	**-1.5**
	0.7nm,0.9s,baz=26,slow=1.7,SNR=4.0							

IDC 05 17:10:59.2±9.3, 16°.32S×171°.83W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/21, mbtmp4.0/3, ML1.1/1, Error ellipse: s-maj=232.6km s-min=25.4km az=110.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.40**	**1**	Pn		Pn	17 11 40.5	+0.7
	2.8nm,0.3s,baz=78,slow=18,SNR=2.5							
AFI				Sn		Sn	17 12 09.1	-0.9
	24nm,0.3s,baz=17,slow=20,SNR=6.0							
STKA	**Stephens Creek**	**44.91**	**241**	P		P	17 19 16.2	+0.3
	1.2nm,0.4s,baz=106,slow=11,SNR=4.5							
WRA	**Warramunga Arr**	**51.12**	**257**	P		P	17 20 03.5	-0.7
	0.8nm,0.7s,baz=98,slow=6.0,SNR=5.8							
ASAR	**Alice Springs**	**51.27**	**253**	P		P	17 20 05.3	-0.1
	2.2nm,0.6s,baz=88,slow=9.0,SNR=47							

*MOS **05** 17:12:01.7±1.7, 46°.67N×152°.87E, h33km, mb4.2/11, Error ellipse: s-maj=15.7km s-min=10.7km az=49.2*

*ISCJB **05** 17:12:03.8±0.5, 46°.59N±0°.09×152°.53E±0°.10, h52km, mb3.8/17, Error ellipse: s-maj=15.6km s-min=4.0km az=144.2*

*JMA **05** 17:12:03.9±0.7, 46°.80N×152°.66E, h30km, M4.5*

*IDC **05** 17:12:08.3±2.4, 46°.73N×152°.59E, h74km±21km, mb3.5/18, mb1 3.7/22, mb1mx3.7/30, mbtmp3.5/22, MS2.8/1, Ms1 2.8/1, ms1mx2.4/37, Error ellipse: s-maj=18.3km s-min=11.6km az=146.0*

ISC 05 17:12:04.8±0.7, 46°.5N±0°.1×152°.71E±0°.09, h52km, n63, σ1s79/61, mb3.7/17, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.62**	**251**	*i*P		**Pn**	**17 13 00.8**	**+2.4**
KUR				*i* S		**Sn**	**17 13 43.0**	**+3.1**
KUR				pmax		pmax		
	comp=Z,25nm,0.5s							
KUR				pmax		pmax		
	comp=E,20nm,0.2s							
KUR				pmax		pmax		
	comp=Z,52nm,0.5s							
KUR				smax		smax		
	comp=E,63nm,0.6s							
KUR				smax		smax		
	comp=N,130nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**5.44**	**245**	*i* PN		**Pn**	**17 13 24.7**	**+1.4**
YUK				pmax		pmax		
	comp=Z,116nm,2.5s							
YUK				pmax		pmax		
	comp=N,26nm,0.4s							
YUK				pmax		pmax		
	comp=E,43nm,0.4s							
YUK				pmax		pmax		
	comp=Z,65nm,0.4s							
YUK				MLR		MLR		
	comp=N,767nm,5.0s							
YUK				MLR		MLR		
	comp=Z,315nm,5.0s							
NEM2	**Nemuro 2**	**5.87**	**240**	P		**Pn**	**17 13 29.2**	**0.0**
NEM2				*e*S		**Sn**	**17 14 32.2**	**-2.9**
JRA	**Rausu**	**5.95**	**247**	P		**Pn**	**17 13 33.2**	**+2.9**
JNK	**Nakash**	**6.38**	**245**	P		**Pn**	**17 13 38.3**	**+2.1**
JNK				*e*S		**Sn**	**17 14 47.5**	**-0.2**
JAK	**Akkeshi**	**6.71**	**241**	P		**Pn**	**17 13 40.8**	**+0.1**
JAK				*e*S		**Sn**	**17 14 53.3**	**-2.4**
JTKR	**Abashiri--Toko**	**6.72**	**251**	P		Pn	17 13 43.9	+3.1
YSS	**Yuzh-Sakhalins**	**6.86**	**277**	*e*PN		Pn	17 13 47.4	+4.7
JMP	**Maruseppu**	**7.07**	**252**	P		Pn	17 13 49.1	+3.5
JAR	**Ashorobuto**	**7.12**	**246**	P		**Pn**	**17 13 48.6**	**+2.2**
JAR				*e*S		**Sn**	**17 15 07.7**	**+1.8**
JOB	**Onbets**	**7.29**	**243**	P		**Pn**	**17 13 50.0**	**+1.4**
JOB				*e*S		**Sn**	**17 15 08.9**	**-1.0**
PETK	**Petropavlovsk-**	**7.33**	**24**	PN		**Pn**	**17 13 49.7**	**+0.5**
PETK	**Petropavlovsk-**	**7.33**	**24**	P		**Pn**	**17 13 49.7**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=180,slow=13,SNR=6.0							
PETK				S		**Sn**	**17 15 07.0**	**-3.9**
	baz=265,slow=25,SNR=2.3							
JKK2	**Kamakawa 2**	**7.52**	**253**	P		Pn	17 13 55.2	+3.3
ASAJ	**Asahikawa**	**7.53**	**255**	P		Pn	17 13 55.5	+3.6
	comp=Z,0.8nm,0.3s,baz=101,slow=15,SNR=8.6							
ASAJ				S		**Sn**	**17 15 20.1**	**+4.3**
	baz=330,slow=20,SNR=1.7							
ASAJ				LR		LR	17 17 37.8	
	comp=Z,74nm,18.9s,baz=331,slow=44							
JCH	**Churui**	**7.74**	**243**	P		**Pn**	**17 13 55.6**	**+0.8**
JCH				*e*S		**Sn**	**17 15 18.5**	**-2.5**
JEM	**Erimo**	**8.21**	**240**	P		**Pn**	**17 14 02.8**	**+1.6**
JEM				*e*S		**Sn**	**17 15 29.7**	**-2.7**
JBT2	**Biratori 2**	**8.28**	**247**	P		**Pn**	**17 14 03.3**	**+1.2**
JBT2				*e*S		**Sn**	**17 15 35.4**	**+1.2**
JNBK	**Urakawa-nobuka**	**8.30**	**243**	P		**Pn**	**17 14 02.3**	**-0.2**
JNBK				*e*S		Sn	17 15 28.2	-6.5
JNB	**Noboribetsu**	**9.28**	**248**	P		**Pn**	**17 14 16.9**	**+1.1**
JNB				*e*S		**Sn**	**17 15 58.7**	**0.0**
JKB	**Kayabe**	**9.58**	**245**	P		**Pn**	**17 14 19.8**	**-0.2**
JKB				*e*S		**Sn**	**17 16 00.8**	**-5.4**
JYM2	**Yakumo 2**	**9.88**	**248**	P		**Pn**	**17 14 24.9**	**+0.8**
JANG	**Nango**	**10.20**	**237**	P		**Pn**	**17 14 25.9**	**-2.6**
JANG				*e*S		Sn	17 16 11.5	-10
JTM	**Tenmabayashi**	**10.20**	**240**	P		**Pn**	**17 14 27.6**	**-0.9**
JTM				*e*S		Sn	17 16 13.8	-7.5
JTH	**Tanohata**	**10.29**	**234**	P		**Pn**	**17 14 27.6**	**-2.1**
JTH				*e*S		Sn	17 16 14.0	-10
JOSM	**Okushiri--Mats**	**10.47**	**250**	P		**Pn**	**17 14 32.8**	**+0.6**
OFUJ	**Ofunato**	**11.00**	**231**	*e*S		Sn	17 16 31.6	-9.4
JRG	**Rokugo**	**11.36**	**235**	P		**Pn**	**17 14 43.5**	**-0.8**
JRG				*e*S		Sn	17 16 42.0	-7.6
JIO	**Ouri**	**11.63**	**230**	*e*S		Sn	17 16 46.0	-10
MJAR	**Matsushiro Arr**	**14.73**	**233**	P		**Pn**	**17 15 31.8**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=31,slow=7.9,SNR=3.8							
USRK	**Ussuriysk Arra**	**14.75**	**268**	P		**P**	**17 15 33.1**	**-2.0**
	comp=Z,0.5nm,0.3s,baz=73,slow=12,SNR=5.7							
KSRS	**Korea Array**	**20.47**	**253**	P		Pn	17 16 40.8	+0.2
	comp=Z,2.1nm,0.6s,baz=54,slow=11,SNR=12							
H11N2	**WAKE ISLAND Hy**	**29.15**	**152**	T		T	17 49 29.4	
	baz=342,slow=0.7,SNR=183							
H11N1	**WAKE ISLAND Hy**	**29.17**	**152**	T		T	17 49 33.0	
	baz=342,slow=0.7,SNR=76							
H11N3	**WAKE ISLAND Hy**	**29.17**	**152**	T		T	17 49 26.1	
	baz=342,slow=0.7,SNR=97							
H11S1	**WAKE ISLAND Hy**	**30.23**	**153**	T		T	17 50 49.6	
	baz=347							
H11S3	**WAKE ISLAND Hy**	**30.24**	**153**	T		T	17 50 45.8	
	baz=347							
H11S2	**WAKE ISLAND Hy**	**30.25**	**153**	T		T	17 50 48.1	
	baz=347							
SONM	**Songino Array**	**31.15**	**290**	P		**P**	**17 18 17.7**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=77,slow=6.2

mb4.7/88,MS4.2/34,Error ellipse: s-maj=4.6km s-min=3.7km az=44.9

NEIC ***05*** *17:17:55.8±0.2,24.80N×128.05E,h10km,mb4.9/16, MW4.5(NIED),Error ellipse: s-maj=5.8km s-min=5.0km az=112.0*

MOS ***05*** *17:17:57.9±1.1,24.82N×128.11E,h33km,mb5.2/31, MS4.4/8,Error ellipse: s-maj=10.5km s-min=5.7km az=117.1*

JMA ***05*** *17:17:58.8±0.3,25.00N×127.98E,h75km,M4.3*

DJA ***05*** *17:18:04.1±3.6,25.1N±8.3×12.8E±1.3,h59km±34km,M4.9/8, mb4.9/8*

ISC 05 17:17:57.1±0.4,24.87N±0.03×128.09E±0.03,h17km±2km, n265,σ1$85/331,mb4.8/89,MS4.2/34,25C-11D,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJT2	**Tamagusuku 2**	**1.30**	**346**	P	**Pn**	**17 18 19.8**	**-0.7**
JJT2				S	**Sn**	**17 18 34.9**	**-2.6**
JKE	**Kume jima 2**	**1.86**	**321**	P	**Pn**	**17 18 27.3**	**-1.0**
JKE				*eS*	**Sn**	**17 18 48.2**	**-3.3**
JAGN	**Aguni-jima**	**1.87**	**336**	P	**Pn**	**17 18 27.5**	**-0.9**
JAGN				S	**Sn**	**17 18 48.4**	**-3.2**
JOW	**Kunigami**	**1.96**	**5**	P	**Pn**	**17 18 28.5**	**-1.1**
JOW				S	**Sn**	**17 18 50.2**	**-3.6**
JOW	**Kunigami**	**1.96**	**5**	*eP*	**Pn**	**17 18 28.1**	**-1.5**
JIH	**Iheya**	**2.16**	**357**	P	**Pn**	**17 18 31.7**	**-0.6**
JIH				*eS*	**Sn**	**17 18 55.3**	**-3.3**
JOGS	**Gusukube**	**2.44**	**268**	P	**Pn**	**17 18 35.7**	**-0.5**
JOGS				*eS*	**Sn**	**17 19 03.4**	**-2.3**
JMJ	**Miyako jima 2**	**2.54**	**269**	P	**Pn**	**17 18 37.1**	**-0.5**
JMJ				*eS*	**Sn**	**17 19 05.6**	**-2.6**
JMZ	**Minamidaito 2**	**2.99**	**71**	P	Pn	17 18 40.4	-3.3
JMZ				*eS*	Sn	17 19 13.3	-5.8
JTK	**Tokunoshima**	**3.00**	**15**	P	**Pn**	**17 18 42.8**	**-1.1**
JTK				*eS*	**Sn**	**17 19 14.4**	**-5.2**
JTJ	**Tarama**	**3.09**	**266**	P	**Pn**	**17 18 44.3**	**-0.8**
JTJ				*eS*	**Sn**	**17 19 17.8**	**-3.9**
JAMN	**Amaminishikomi**	**3.49**	**16**	P	**Pn**	**17 18 49.8**	**-0.9**
JAMN				*eS*	**Sn**	**17 19 26.9**	**-4.8**
JIJ	**Ishigaki jima**	**3.63**	**263**	P	**Pn**	**17 18 51.2**	**-1.3**
JIJ				*eS*	**Sn**	**17 19 29.5**	**-5.5**
JKRS	**Kuro-shima**	**3.77**	**261**	P	**Pn**	**17 18 53.7**	**-0.8**
JKRS				*eS*	**Sn**	**17 19 34.4**	**-4.1**
JAM	**Amami Oshima**	**3.78**	**21**	P	**Pn**	**17 18 53.2**	**-1.4**
JAM				*eS*	**Sn**	**17 19 33.3**	**-5.3**
JZK	**Kikaishima**	**3.82**	**26**	P	**Pn**	**17 18 55.0**	**-0.2**
JZK				*eS*	**Sn**	**17 19 35.8**	**-3.9**
HATJ	**Hateruma jima**	**3.99**	**259**	P	**Pn**	**17 18 57.2**	**-0.3**
HATJ				*eS*	Sn	17 19 37.7	-6.2
IRIF	**Iriomote-Funau**	**4.00**	**263**	P	**Pn**	**17 18 57.2**	**-0.5**
IRIF				*eS*	**Sn**	**17 19 40.1**	**-4.2**
YOJ	**Yonaguni jima**	**4.64**	**266**	P	**Pn**	**17 19 05.8**	**-0.6**
YOJ				*eS*	**Sn**	**17 19 54.8**	**-5.1**
JNN	**Nakanoshima**	**5.20**	**17**	P	**Pn**	**17 19 11.4**	**-2.7**
JNN				*eS*	Sn	17 20 07.7	-6.0
YHNB	**Yeheng**	**6.11**	**270**	*eP*	**Pn**	**17 19 27.3**	**+0.6**
	87nm,0.8s						
YULB	**Yu-li**	**6.38**	**258**	*eP*	Pn	17 19 26.9	-3.4
	74nm,0.7s						
SSLB	**Suanglung**	**6.60**	**262**	*eP*	**Pn**	**17 19 30.7**	**-2.7**
	79nm,0.9s						
TWG	**Pinlang**	**6.74**	**254**	*eP*	Pn	17 19 31.3	-4.0
	174nm,0.6s						
TPUB	**Ta-pu**	**6.99**	**259**	*eP*	**Pn**	**17 19 37.4**	**-1.4**
	56nm,0.4s						
JNU	**Nakatsue**	**8.57**	**16**	*eP*	**Pn**	**17 20 00.4**	**-0.1**
	27nm,0.8s						
JNU				Sn	Sn	17 21 30.2	-6.7
JNU	**Nakatsue**	**8.57**	**16**	Pn	**Pn**	**17 20 00.6**	**+0.1**
	2.9nm,0.3s,baz=184,slow=8.3,SNR=29						
JNU				Sn	Sn	17 21 30.2	-6.7
	0.9nm,0.3s,baz=153,slow=11,SNR=2.2						
JNU				LR	LR	17 24 10.4	
	comp=Z,193nm,18.5s,baz=203,slow=44						
SSE	**Sheshan**	**8.70**	**317**	P	**Pn**	**17 20 01.7**	**-0.4**
SSE				S	**Sn**	**17 21 39.4**	**-0.4**
SSE				AMB	AMB		
	comp=Z,35nm,1.0s						
SSE				AMB	AMB		
	comp=Z,280nm,4.5s						
SSE				LR	LR		
	comp=N,790nm,16.3s						
SSE				LR	LR		
	comp=E,880nm,16.3s						
SSE				LR	LR		
	comp=Z,1μm,13.3s						
NJ2	**Nanjing**	**10.82**	**313**	*eP*	**Pn**	**17 20 31.1**	**-0.2**
NJ2				AMB	AMB		
	comp=Z,19nm,0.7s						
KSAR	**Wonju Array Be**	**12.53**	**359**	Pn	**Pn**	**17 20 54.3**	**-0.3**
KSRS	**Korea Array**	**12.54**	**359**	Pn	**Pn**	**17 20 54.3**	**-0.5**
	0.2nm,0.3s,baz=178,slow=14,SNR=13						
KSRS				LR	LR	17 25 52.4	
	comp=Z,137nm,19.1s,baz=181,slow=38						
JCJ	**Chichijima**	**12.87**	**77**	LR	LR	17 25 23.0	
	comp=Z,256nm,18.5s,baz=139,slow=35						
MJAR	**Matsushiro Arr**	**14.51**	**34**	Pn	**Pn**	**17 21 21.9**	**+0.1**
MJAR	**Matsushiro Arr**	**14.51**	**34**	Pn	**Pn**	**17 21 21.9**	**+0.1**
	0.2nm,0.3s,baz=187,slow=18,SNR=2.8						
SNY	**Shenyang**	**17.32**	**349**	⇑P	**P**	**17 22 01.7**	**+2.3**
SNY				S	**Sn**	**17 25 11.7**	**+1.3**
SNY				AMB	AMB		
	comp=Z,15nm,1.7s						
SNY				AMB	AMB		
	comp=Z,340nm,5.6s						
SNY				LR	LR		
	comp=N,910nm,14.5s						
SNY				LR	LR		
	comp=Z,1μm,16.1s						
QIZ	**Qiongzhong**	**17.89**	**255**	P	**Pn**	**17 22 03.6**	**-1.7**
QIZ				S	**Sn**	**17 25 22.9**	**-1.6**
BJI	**Beijing**	**18.13**	**329**	P	**P**	**17 22 08.4**	**0.0**
BJI				S	**Sn**	**17 25 32.2**	**+2.1**
BJI				AMB	AMB		
	comp=Z,26nm,1.3s						
BJI				AMB	AMB		
	comp=Z,400nm,6.4s						
BJI				LR	LR		
	comp=N,720nm,16.6s						
BJI				LR	LR		
	comp=E,650nm,21.7s						
BJI				LR	LR		
	comp=Z,320nm,29.8s						
XAN	**Xi'an**	**19.00**	**303**	P	**P**	**17 22 17.8**	**-0.3**
XAN				S	**Sn**	**17 25 44.5**	**-6.9**
XAN				AMB	AMB		
	comp=Z,58nm,6.9s						
XAN				LR	LR		
	comp=N,470nm,13.3s						
XAN				LR	LR		
	comp=E,320nm,16.1s						
XAN				LR	LR		
	comp=Z,340nm,15.0s						
CN2	**Changchun**	**19.01**	**354**	*eP*	**Pn**	**17 22 19.3**	**+0.6**
CN2				*eS*	**Sn**	**17 25 52.3**	**+1.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				AMB	AMB		
	comp=Z,300nm,4.0s						
CN2				LR	LR		
	comp=N,400nm,15.0s						
CN2				LR	LR		
	comp=E,600nm,15.0s						
CN2				LR	LR		
	comp=Z,400nm,15.0s						
GYA	**Guiyang**	**19.38**	**279**	⇓*i*P	**Pn**	**17 22 26.2**	**+2.7**
GYA				PP	**PnPn**	**17 22 40.6**	**+4.0**
GYA				S	Sn	17 25 53.2	-7.4
GYA				SS	**SnSn**	**17 26 20.9**	**+6.1**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s						
GYA				AMB	AMB		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=N,650nm,15.6s						
GYA				LR	LR		
	comp=E,590nm,16.0s						
GYA				LR	LR		
	comp=Z,640nm,15.2s						
USRK	**Ussuriysk Arra**	**19.54**	**8**	P	**Pn**	**17 22 26.1**	**+0.9**
	0.5nm,0.3s,baz=190,slow=9.6,SNR=26						
USRK				LR	LR	17 31 12.5	
	comp=Z,138nm,18.3s,baz=171,slow=41						
MDJ	**Mudanjiang**	**19.73**	**3**	P	**Pn**	**17 22 29.7**	**+2.2**
MDJ				pP	**pP**	**17 22 32.6**	**+1.9**
MDJ				sP	**sP**	**17 22 35.3**	**+2.4**
MDJ				ScS	**ScS**	**17 34 02.6**	**+0.8**
MDJ				AMB	AMB		
	comp=Z,16nm,1.4s						
MDJ				AMB	AMB		
	comp=Z,130nm,6.6s						
MDJ				LR	LR		
	comp=N,110nm,5.2s						
MDJ				LR	LR		
	comp=E,200nm,9.6s						
MDJ				LR	LR		
	comp=Z,260nm,8.7s						
HHC	**Hu-ho-hao-te**	**21.07**	**323**	*eP*	**P**	**17 22 39.4**	**-1.2**
HHC				sP	**sP**	**17 22 47.1**	**-0.5**
HHC				PP	**PnPn**	**17 23 03.1**	**+3.3**
HHC				S	**S**	**17 26 29.6**	**-5.1**
HHC				sS	Sn	17 26 36.1	-5.1
HHC				PcP	**PcP**	**17 26 46.3**	**-0.6**
HHC				SS	**SnSn**	**17 27 02.4**	**+6.1**
HHC				AMB	AMB		
	comp=Z,35nm,0.9s						
HHC				AMB	AMB		
	comp=Z,680nm,5.3s						
HHC				LR	LR		
	comp=N,980nm,11.9s						
HHC				LR	LR		
	comp=E,960nm,12.2s						
HHC				LR	LR		
	comp=Z,960nm,12.1s						
ERM	**Erimo**	**21.17**	**32**	*eP*	**P**	**17 22 42.9**	**+1.4**
ERM				pmax	pmax		
	comp=Z,20nm,1.0s						
MYLDM	**Lahad Datu**	**21.64**	**207**	P	P	17 23 06.1	+19
CD2	**Chengdu**	**22.31**	**291**	P	**P**	**17 22 53.6**	**-0.4**
CD2				pP	**pP**	**17 22 57.8**	**-0.9**
CD2				sP	**sP**	**17 23 00.6**	**-0.3**
CD2				PP	**PnPn**	**17 23 20.3**	**+3.6**
CD2				S	**S**	**17 26 53.5**	**-5.3**
CD2				sS	sS	17 26 59.8	-6.8
CD2				SS	**SnSn**	**17 27 33.2**	**+6.7**
CD2				AMB	AMB		
	comp=Z,70nm,0.9s						
CD2				AMB	AMB		
	comp=Z,230nm,3.9s						
CD2				LR	LR		
	comp=Z,1μm,7.7s						
CD2				LR	LR		
	comp=Z,2μm,10.1s						
ASAJ	**Asahikawa**	**22.55**	**28**	P	**P**	**17 22 58.4**	**+2.0**
ASAJ	**Asahikawa**	**22.55**	**28**	P	**P**	**17 22 58.4**	**+2.0**
	comp=Z,9.4nm,0.9s,baz=180,slow=3.0,SNR=5.0						
KMI	**Kunming**	**22.97**	**276**	P	**P**	**17 23 03.1**	**+1.9**
KMI				pP	**pP**	**17 23 05.5**	**-0.5**
KMI				sP	**sP**	**17 23 06.9**	**-1.2**
KMI				PP	**PnPn**	**17 23 31.5**	**+5.5**
KMI				S	**S**	**17 27 06.4**	**-4.7**
KMI				SS	**SnSn**	**17 27 49.1**	**+6.0**
KMI				AMB	AMB		
	comp=Z,14nm,1.4s						
KMI				AMB	AMB		
	comp=Z,93nm,3.1s						
KMI				LR	LR		
	comp=Z,640nm,9.2s						
KMI				LR	LR		
	comp=Z,450nm,18.0s						
KMI				LR	LR		
	comp=Z,390nm,13.0s						
UBPT	**Khong Chiam**	**23.26**	**250**	P	**P**	**17 23 01.7**	**-2.2**
UBPT	**Khong Chiam**	**23.26**	**250**	P	P	17 23 09.5	+5.6
	comp=Z,19nm,1.3s						
LZH	**Lanzhou**	**23.63**	**304**	*eP*	**P**	**17 23 06.9**	**-0.8**
LZH				pP	**pP**	**17 23 10.7**	**-1.9**
LZH				sP	**sP**	**17 23 13.5**	**-1.3**
LZH				PP	**PnPn**	**17 23 37.6**	**+2.7**
LZH				*eS*	**S**	**17 27 16.1**	**-5.7**
LZH				sS	sS	17 27 22.6	-7.5
LZH				AMB	AMB		
	comp=Z,18nm,1.0s						
LZH				AMB	AMB		
	comp=Z,100nm,4.9s						
LZH				LR	LR		
	comp=Z,1μm,15.5s						
LZH				LR	LR		
	comp=Z,660nm,13.8s						
LZH				LR	LR		
	comp=Z,1μm,15.9s						
SKNT	**Sakolnakorn**	**23.82**	**255**	P	**P**	**17 23 11.9**	**+2.4**
	comp=Z,30nm,1.2s						
TNTI	**Ternate**	**23.97**	**182**	P	**P**	**17 23 11.8**	**+1.0**
	comp=Z,50nm,1.4s						
YUK	**Yuzh-Kuril'sk**	**23.99**	**33**	*c i*P	P	17 23 18.3	+7.5
YUK				MLR	MLR		
	comp=N,204nm,21.0s						
YUK				MLR	MLR		
	comp=E,141nm,21.0s						
YUK				MLR	MLR		
	comp=Z,143nm,21.0s						
KLR	**Kul'dur**	**24.48**	**6**	*eP*	**P**	**17 23 11.8**	**-3.5**
KLR				pmax	pmax		
	comp=Z,130nm,1.8s						
YSS	**Yuzh-Sakhalins**	**24.95**	**24**	*eP*	**P**	**17 23 20.0**	**+0.5**
YSS				*e*		17 23 34.0	
YSS				pmax	pmax		
	comp=Z,50nm,1.1s						
CMAI	**Chiengmai2**	**27.27**	**265**	P	**P**	**17 23 43.0**	**+2.0**
	comp=Z,180nm,0.7s,comp=Z,6μm						
CHTO	**Chiang Mai**	**27.68**	**263**	P	**P**	**17 23 47.8**	**+3.3**
	comp=Z,24nm,2.0s						
CHTO	**Chiang Mai**	**27.68**	**263**	P	P	17 23 50.0	+5.5
	comp=Z,25nm,2.0s						
CMAR	**Chiang Mai Arr**	**27.79**	**262**	P	**P**	**17 23 45.8**	**+0.2**
CMAR				PcP	**PcP**	**17 27 01.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**27.79**	**262**	P	**P**	**17 23 45.8**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=66,slow=7.8,SNR=14						
CMAR				PcP	**PcP**	**17 27 01.1**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=16,slow=1.3,SNR=9.3						
CMAR				LR	LR	17 35 44.4	
	comp=Z,52nm,20.1s,baz=261,slow=39						
GTA	**Gaotai**	**27.85**	**308**	*eP*	**P**	**17 23 45.3**	**-0.6**
GTA				pP	**pP**	**17 23 49.3**	**-1.7**
GTA				sP	**sP**	**17 23 52.6**	**-0.5**
GTA				S	**S**	**17 28 30.6**	**+2.0**
GTA				sS	**sS**	**17 28 37.5**	**+0.5**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.6s						
GTA				AMB	AMB		
	comp=Z,140nm,4.5s						
GTA				LR	LR		
	comp=Z,470nm,14.2s						
GTA				LR	LR		
	comp=Z,580nm,12.1s						
GTA				LR	LR		
	comp=Z,600nm,12.1s						
ULN	**Ulaanbaatar**	**28.34**	**329**	P	**P**	**17 23 52.2**	**+1.8**
	comp=Z,9.9nm,1.2s						
ULN	**Ulaanbaatar**	**28.34**	**329**	*eP*	**P**	**17 23 52.1**	**+1.8**
	comp=Z,6.6nm,0.8s						
SONM	**Songino Array**	**28.63**	**329**	P	**P**	**17 23 53.6**	**+0.7**
SONM	**Songino Array**	**28.63**	**329**	P	**P**	**17 23 53.6**	**+0.7**
	comp=Z,3.0nm,0.8s,baz=137,slow=8.4,SNR=7.9						
SONM				LR	LR	17 36 57.1	
	comp=Z,344nm,19.2s,baz=238,slow=40						
KAPI	**Kappang**	**30.80**	**196**	LR	LR	17 35 04.6	
	comp=Z,79nm,21.5s,baz=250,slow=34						
SHL	**Shillong**	**32.70**	**279**	*eP*	**P**	**17 24 31.0**	**+1.9**
LSA	**Lhasa**	**33.09**	**287**	P	**P**	**17 24 34.2**	**+1.4**
BATI	**Baumata**	**35.13**	**188**	P	**P**	**17 24 47.0**	**-3.0**
BATI	**Baumata**	**35.13**	**188**	P	**P**	**17 24 47.0**	**-3.0**
	comp=Z,16nm,0.6s,baz=158,slow=4.9,SNR=5.2						
BATI				LR	LR	17 40 08.6	
	comp=Z,149nm,18.3s,baz=160,slow=38						
PSI	**Prapat**	**35.66**	**237**	P	**P**	**17 24 53.3**	**-1.4**
PSI	**Prapat**	**35.66**	**237**	P	**P**	**17 24 53.3**	**-1.4**
	comp=Z,7.5nm,0.8s,baz=24,slow=3.2,SNR=4.4						
PETK	**Petropavlovsk-**	**35.92**	**31**	P	**P**	**17 24 56.5**	**+0.1**
PETK						17 27 25.8	
PETK	**Petropavlovsk-**	**35.92**	**31**	P	**P**	**17 24 56.5**	**+0.1**
PETK				PcP	**PcP**	**17 27 25.8**	**+2.6**
PETK	**Petropavlovsk-**	**35.92**	**31**	P	**P**	**17 24 56.5**	**+0.1**
	comp=Z,5.6nm,0.9s,baz=191,slow=4.5,SNR=5.9						
PETK				PcP	**PcP**	**17 27 25.8**	**+2.6**
	comp=Z,5.6nm,1.1s,baz=208,slow=2.5,SNR=3.3						
TAPN	**Taplejung**	**36.23**	**283**	*eP*	**P**	**17 25 01.0**	**+1.2**
	comp=Z,29nm,0.7s						
PET	**Petropavlovsk**	**36.31**	**31**	*eP*	**P**	**17 25 00.8**	**+1.1**
PET				*eS*	**S**	**17 30 37.8**	**-2.0**
PET				pmax	pmax		
	comp=Z,14nm,0.7s						
PET				MLR	MLR		
	comp=Z,100nm,15.0s						
ODAN	**Odare**	**36.57**	**282**	*eP*	**P**	**17 25 03.6**	**+1.0**
	comp=Z,78nm,0.8s						
HVS	**Khovu-Aksy**	**37.15**	**324**	*eP*	**P**	**17 25 07.8**	**+0.8**
YAK	**Yakutsk**	**37.16**	**1**	*eP*	**P**	**17 25 04.2**	**-2.6**
YAK				*e*		17 25 17.4	
YAK				pmax	pmax		
	comp=E,4.0nm,1.4s						
YAK				pmax	pmax		
	comp=Z,21nm,1.0s						
YAK				pmax	pmax		
	comp=N,12nm,1.3s						
JIRN	**Jiri**	**37.55**	**284**	*eP*	**P**	**17 25 12.0**	**+0.9**
	comp=N,30nm,0.7s						
GUN	**Gumba**	**37.80**	**284**	*eP*	**P**	**17 25 14.2**	**+1.0**
	comp=N,41nm,0.8s						
WMQ	**Urumqi**	**37.88**	**310**	P	**P**	**17 25 13.2**	**-0.1**
WMQ				pP	**pP**	**17 25 17.7**	**-0.8**
WMQ				sP	**sP**	**17 25 20.2**	**-0.4**
WMQ				S	**S**	**17 31 03.9**	**-0.1**
WMQ				sS	**sS**	**17 31 11.4**	**-1.2**
WMQ				SS	**SnSn**	**17 33 39.9**	**-5.4**
WMQ				ScS	**ScS**	**17 35 23.0**	**-2.3**
WMQ				AMB	AMB		
	comp=N,8.0nm,1.0s						
WMQ				AMB	AMB		
	comp=N,130nm,5.0s						
WMQ				LR	LR		
	comp=N,330nm,12.2s						
WMQ				LR	LR		
	comp=N,460nm,11.4s						
WMQ				LR	LR		
	comp=N,260nm,16.2s						
PKI	**Pulchoki**	**38.25**	**284**	*eP*	**P**	**17 25 17.5**	**+0.6**
	comp=N,39nm,0.9s						
KKN	**Kakani**	**38.34**	**284**	*eP*	**P**	**17 25 18.3**	**+0.7**
	comp=N,34nm,0.7s						
DMN	**Daman**	**38.51**	**284**	*eP*	**P**	**17 25 19.8**	**+0.7**
	comp=N,39nm,1.0s						
PMG	**Port Moresby**	**38.82**	**149**	LR	LR	17 37 57.7	
	comp=N,161nm,20.9s,baz=168,slow=31						
GKN	**Gorkha**	**38.88**	**284**	*eP*	**P**	**17 25 22.7**	**+0.6**
	comp=N,44nm,0.9s						
DANN	**Dangsing**	**39.62**	**285**	*eP*	**P**	**17 25 29.5**	**+1.1**
	comp=N,99nm,0.7s						
KOLN	**Koldanda**	**39.82**	**284**	*eP*	**P**	**17 25 30.6**	**+0.6**
	comp=N,49nm,0.6s						
SEY	**Seymchan**	**41.35**	**17**	*eP*	**P**	**17 25 42.8**	**+0.9**
MK31	**Makanchi Array**	**42.35**	**313**	*eP*	**P**	**17 25 50.0**	**-0.3**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MK31	**Makanchi Array**	**42.35**	**313**	*eP*	**P**	**17 25 50.1**	**-0.3**
MKAR	**Makanchi Array**	**42.35**	**313**	P	**P**	**17 25 50.2**	**-0.2**
MKAR	**Makanchi Array**	**42.35**	**313**	P	**P**	**17 25 50.1**	**-0.2**
MKAR	**Makanchi Array**	**42.35**	**313**	P	**P**	**17 25 50.1**	**-0.2**
	comp=Z,8.3nm,0.6s,baz=99,slow=10,SNR=63						
MKAR				LR	LR	17 44 58.0	
	comp=Z,149nm,18.9s,baz=117,slow=38						
FITZ	**Fitzroy Crossi**	**42.78**	**183**	*eP*	**P**	**17 25 53.1**	**-0.9**
	comp=Z,14nm,1.0s						
FITZ	**Fitzroy Crossi**	**42.78**	**183**	P	**P**	**17 25 53.7**	**-0.3**
	comp=Z,11nm,0.7s,baz=3.2,slow=7.9,SNR=27						
FITZ				LR	LR	17 42 40.9	
	comp=Z,58nm,21.6s,baz=199,slow=35						
ZAA0	**Zalesovo Array**	**43.25**	**324**	*eP*	**P**	**17 25 57.1**	**-0.4**
ZALV	**Zalesovo Beam**	**43.25**	**324**	P	**P**	**17 25 57.3**	**-0.2**
ZALV						17 27 45.1	
ZALV	**Zalesovo Beam**	**43.25**	**324**	P	**P**	**17 25 57.3**	**-0.2**
ZALV				PcP	**PcP**	**17 27 45.1**	**-1.3**
ZALV	**Zalesovo Beam**	**43.25**	**324**	P	**P**	**17 25 57.3**	**-0.2**
	comp=Z,10nm,0.6s,baz=108,slow=8.2,SNR=48						
ZALV				PcP	**PcP**	**17 27 45.1**	**-1.3**
	comp=Z,2.0nm,0.7s,baz=134,slow=4.3,SNR=3.7						
ZALV				LR	LR	17 45 36.5	
	comp=Z,239nm,19.5s,baz=70,slow=38						
NVS	**Novosibirsk**	**44.47**	**324**	*eP*	P	17 26 02.7	-4.5
NVS				*eS*	**S**	**17 32 37.2**	**-4.2**
NVS				pmax	pmax		
	comp=Z,25nm,2.2s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.6s						
NVS				smax	smax		
	comp=E,48nm,2.9s						
NVS				smax	smax		
	comp=N,26nm,3.5s						
WRAB	**Tennant Creek**	**44.95**	**172**	*eP*	**P**	**17 26 10.9**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,18nm,0.8s						
WRAB	**Tennant Creek**	**44.95**	**172**	*eP*	**P**	**17 26 10.8**	**-0.6**
	comp=Z,18nm,0.8s						
WRA	**Warramunga Arr**	**44.96**	**172**	P	**P**	**17 26 11.2**	**-0.3**
WRA				PcP	**PcP**	**17 27 52.1**	**-0.6**
WRA	**Warramunga Arr**	**44.96**	**172**	P	**P**	**17 26 11.2**	**-0.3**
	comp=Z,14nm,0.8s,baz=350,slow=8.5,SNR=54						
WRA				PcP	**PcP**	**17 27 52.1**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=346,slow=4.1,SNR=3.8						
KURK	**Kurchatov**	**45.72**	**318**	⇓*i*P	**P**	**17 26 17.1**	**-0.2**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
KURK	**Kurchatov**	**45.72**	**318**	*eP*	**P**	**17 26 16.9**	**-0.3**
	comp=Z,9.6nm,1.2s						
KURK				PcP	**PcP**	**17 27 54.4**	**-0.6**
KURBB	**Kurchatov Arra**	**45.75**	**317**	P	**P**	**17 26 17.5**	**0.0**
	comp=Z,8.2nm,0.2s,baz=104,slow=8.6,SNR=17						
KURBB				PcP	**PcP**	**17 27 54.4**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=106,slow=3.5,SNR=8.2						
KSH	**Kashi**	**45.85**	**302**	P	P	17 26 23.1	+4.5
KSH				pP	pP	17 26 27.5	+3.6
KSH				sP	sP	17 26 30.9	+5.0
KSH				PcP	**PcP**	**17 27 59.3**	**+3.5**
KSH				PP	**PP**	**17 28 08.2**	**+2.2**
KSH				S	**S**	**17 33 05.1**	**+2.9**
KSH				sS	sS	17 33 12.5	+1.7
KSH				AMB	AMB		
	comp=Z,9.0nm,0.8s						
KSH				AMB	AMB		
	comp=Z,140nm,4.9s						
KSH				LR	LR		
	comp=Z,120nm,4.7s						
KSH				LR	LR		
	comp=Z,160nm,5.3s						
KSH				LR	LR		
	comp=Z,72nm,6.0s						
TKM2	**Tokmak 2**	**46.37**	**306**	*eP*	**P**	**17 26 23.0**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,13nm,0.9s						
TKM2	**Tokmak 2**	**46.37**	**306**	*eP*	**P**	**17 26 22.9**	**+0.2**
	comp=Z,13nm,0.9s						
AAK	**Ala-Archa**	**47.15**	**306**	*d i*P	**P**	**17 26 29.6**	**+0.8**
AAK				pmax	pmax		
	comp=Z,16nm,1.7s						
AAK	**Ala-Archa**	**47.15**	**306**	*eP*	**P**	**17 26 29.8**	**+1.0**
	comp=Z,3.4nm,0.9s						
AAK				PcP	**PcP**	**17 28 00.9**	**+0.5**
AAK	**Ala-Archa**	**47.15**	**306**	P	**P**	**17 26 28.7**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=98,slow=6.3,SNR=6.6						
AAK				PcP	**PcP**	**17 28 00.9**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=223,slow=5.6,SNR=3.6						
CTA	**Charters Tower**	**48.06**	**157**	P	**P**	**17 26 35.8**	**-0.1**
CTA	**Charters Tower**	**48.06**	**157**	P	**P**	**17 26 35.8**	**-0

VOSK	**Vostochnaya**	**50.80**	**319**	P	**P**	**17 26 56.0**	**-0.5**
VOSK				pmax	pmax			
	comp=Z,8.0nm,0.9s							
BVA0	**Borovoye Array**	**51.21**	**319**	P	**P**	**17 26 59.9**	**+0.4**
BVA0				pmax	pmax			
	comp=Z,15nm,0.8s							
BVAR	**Borovoye Array**	**51.21**	**319**	P	**P**	**17 27 00.0**	**+0.5**
BVAR						17 28 14.9		
BVAR	**Borovoye Array**	**51.21**	**319**	P	**P**	**17 27 00.0**	**+0.5**
BVAR				PcP	**PcP**	**17 28 14.9**	**+0.2**
BVAR	**Borovoye Array**	**51.21**	**319**	P	**P**	**17 27 00.0**	**+0.5**
	comp=Z,9.6nm,0.6s,baz=90,slow=8.6,SNR=35							
BVAR				PcP	**PcP**	**17 28 14.9**	**+0.2**
	comp=Z,4.5nm,0.8s,baz=116,slow=3.4,SNR=6.2							
BRVK	**Borovoye**	**51.27**	**319**	*d* *i* P	**P**	**17 27 00.7**	**+0.7**
BRVK				pmax	pmax			
	comp=Z,49nm,1.7s							
BRVK	**Borovoye**	**51.27**	**319**	*e* P	**P**	**17 27 00.5**	**+0.4**
	comp=Z,28nm,1.0s							
KBL	**Kabul**	**51.56**	**295**	*e* P	**P**	**17 27 03.3**	**+0.6**
KBL				pmax	pmax			
	comp=Z,41nm,0.8s							
KBL	**Kabul**	**51.56**	**295**	*e* P	**P**	**17 27 03.3**	**+0.6**
	comp=Z,41nm,0.8s							
SVE	**Sverdlovsk**	**57.26**	**323** ⇑	*e* P	**P**	**17 27 43.9**	**+0.4**
SVE				*e*S	**S**	**17 35 40.0**	**+1.4**
SVE				pmax	pmax			
	comp=Z,20nm,1.3s							
SVE				MLR	MLR			
	comp=Z,535nm,18.0s							
AB31	**Akbulak array**	**57.48**	**314**	*i* P	**P**	**17 27 45.7**	**+0.4**
AB31				pmax	pmax			
	comp=Z,9.0nm,0.6s							
ABKAR	**Akbulak array**	**57.48**	**314**	*e* P	**P**	**17 27 45.8**	**+0.5**
	comp=Z,9.4nm,0.6s							
STKA	**Stephens Creek**	**57.89**	**166**	P	**P**	**17 27 48.0**	**-0.2**
STKA	**Stephens Creek**	**57.89**	**166**	P	**P**	**17 27 48.0**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=329,slow=11,SNR=8.5							
STKA				LR	LR	17 49 52.0		
	comp=Z,124nm,20.7s,baz=25,slow=33							
ARU	**Arti**	**58.38**	**322**	*d* *i* P	**P**	**17 27 51.4**	**0.0**
ARU						17 28 39.6		
ARU						17 29 59.4		
ARU				S	**S**	**17 35 54.0**	**+0.6**
ARU				pmax	pmax			
	comp=Z,30nm,1.7s							
ARU				MLR	MLR			
	comp=Z,477nm,18.0s							
IMYA	**Miami**	**58.56**	**299**	*e* P	**P**	**17 27 54.1**	**+0.9**
IDAH	**Dahanechah**	**59.39**	**295**	*e* P	**P**	**17 27 59.9**	**+0.7**
SOKR	**Solikamsk**	**59.45**	**326**	*e* P	**P**	**17 28 00.4**	**+1.7**
SOKR				pmax	pmax			
	comp=Z,9.0nm,0.9s							
SOKR				MLR	MLR			
	comp=Z,120nm,13.0s							
IEMG	**Emamgholi**	**59.53**	**300**	*e* P	**P**	**17 28 00.4**	**+0.3**
DZM	**Mont Dzumac**	**59.71**	**138**	P	**P**	**17 28 01.8**	**+0.7**
DZM	**Mont Dzumac**	**59.71**	**138**	P	**P**	**17 28 01.8**	**+0.7**
	comp=Z,5.5nm,0.8s,baz=294,slow=20,SNR=3.6							
IKRD	**Kardeh**	**59.74**	**299**	*e* P	P	17 27 57.5	-4.1	
ISFR	**Sfrayin**	**60.10**	**300**	*e* P	**P**	**17 28 05.4**	**+1.3**
IMA2	**Indian Mountai**	**62.77**	**27**	*e* P	**P**	**17 28 21.8**	**+0.4**
IBAF	**Bafgh**	**63.20**	**294**	*e* P	**P**	**17 28 24.7**	**-0.2**
KDAK	**Kodiak Island**	**63.68**	**36**	P	**P**	**17 28 27.6**	**+0.2**
KDAK	**Kodiak Island**	**63.68**	**36**	P	**P**	**17 28 27.6**	**+0.2**
	comp=Z,8.7nm,1.0s,baz=253,slow=2.3,SNR=5.4							
MCK	**McKinley**	**64.91**	**29**	*e* P	**P**	**17 28 35.0**	**-0.4**
MCK				pmax	pmax			
	comp=Z,11nm,0.8s							
MCK	**McKinley**	**64.91**	**29**	*e* P	**P**	**17 28 35.0**	**-0.4**
	comp=Z,11nm,0.8s							
IZEF	**Zefreh**	**65.54**	**296**	*e* P	**P**	**17 28 40.6**	**+0.3**
ILAR	**Eielson Array**	**65.69**	**28**	P	**P**	**17 28 39.4**	**-1.0**
ILAR	**Eielson Array**	**65.69**	**28**	P	**P**	**17 28 39.4**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=247,slow=6.8,SNR=7.6							
KLMR	**Klimovskoe**	**67.92**	**328**	*e* P	**P**	**17 28 53.8**	**-0.9**
KLMR				pmax	pmax			
	comp=Z,33nm,1.5s							
KLMR				MLR	MLR			
	comp=Z,446nm,16.0s							
TMCR	**Tamitsa**	**67.94**	**332**	*e* P	**P**	**17 28 55.6**	**+0.9**
TMCR				*e*		17 31 28.0		
TMCR				pmax	pmax			
	comp=Z,12nm,0.4s							
VRHR	**Novokhopersk**	**68.90**	**318**	*e* P	**P**	**17 29 00.1**	**-0.9**
VRHR				pmax	pmax			
	comp=Z,30nm,1.1s							
VRHR				pmax	pmax			
	comp=N,10.0nm,0.5s							
VRHR				pmax	pmax			
	comp=E,30nm,0.9s							
ZEI	**Tsey**	**69.46**	**309**	*e* P	**P**	**17 29 04.7**	**-0.2**
ZEI				pmax	pmax			
	comp=Z,18nm,0.9s							
GOF	**Gofitskoye**	**69.47**	**311**	*e* P	**P**	**17 29 05.7**	**+1.1**
KBZ	**Khabaz**	**69.92**	**310**	P	**P**	**17 29 08.4**	**+1.0**
KBZ	**Khabaz**	**69.92**	**310**	P	**P**	**17 29 08.3**	**+1.0**
KBZ	**Khabaz**	**69.92**	**310**	P	**P**	**17 29 08.3**	**+1.0**
	comp=Z,17nm,0.8s,baz=99,slow=4.2,SNR=42							
KIV	**Kislovodsk**	**70.01**	**310**	*d* *i* P	**P**	**17 29 09.1**	**+1.0**
KIV				*i*		17 29 21.1		
KIV				*e*		17 29 28.0		
KIV				pmax	pmax			
	comp=Z,43nm,1.2s							
KIV				MLR	MLR			
	comp=Z,100nm,17.0s							
MOS	**Moscow**	**70.07**	**323**	*e* P	**P**	**17 29 05.8**	**-2.3**
MOS				*e*		17 29 26.3		
MOS				pmax	pmax			
	comp=Z,48nm,0.8s							
AFI	**Afiamalu**	**70.17**	**116**	LR	LR	17 59 22.8		
	comp=Z,110nm,18.5s,baz=176,slow=36							
INK	**Inuvik**	**70.18**	**23**	P	**P**	**17 29 09.2**	**+0.7**
INK	**Inuvik**	**70.18**	**23**	P	**P**	**17 29 09.2**	**+0.7**
	comp=Z,5.2nm,0.8s,baz=279,slow=7.4,SNR=6.1							
VORD	**Divnogorie**	**70.36**	**318**	*e* P	**P**	**17 29 08.5**	**-1.4**
VORD				pmax	pmax			
	comp=Z,8.0nm,0.3s							
VORD				pmax	pmax			
	comp=E,60nm,0.7s							
VSR	**Storozhevoye**	**70.37**	**318**	*e* P	**P**	**17 29 09.8**	**-0.2**
VSR				pmax	pmax			
	comp=Z,10.0nm,0.5s							
VSR				pmax	pmax			
	comp=N,20nm,1.4s							
VSR				pmax	pmax			
	comp=E,10.0nm,0.8s							
OBN	**Obninsk**	**70.82**	**323**	*d* *i* P	**P**	**17 29 13.1**	**+0.4**
OBN				*i*		17 29 24.2		
OBN				*i*		17 29 34.4		
OBN				*e*		17 31 52.4		
OBN				pmax	pmax			
	comp=Z,27nm,1.2s							
OBN				MLR	MLR			
	comp=Z,100nm,17.0s							
JOF	**Joensuu**	**71.17**	**331**	*e* P	**P**	**17 29 14.0**	**-0.6**
JOF				pmax	pmax			
	comp=Z,7.0nm,0.7s							
JOF	**Joensuu**	**71.17**	**331**	*e*p P	**P**	**17 29 14.0**	**-0.6**
	comp=Z,6.7nm,0.7s							
ARCES	**ARCESS Array B**	**71.22**	**339**	P	**P**	**17 29 14.7**	**-0.2**
ARCES	**ARCESS Array B**	**71.22**	**339**	P	**P**	**17 29 14.7**	**-0.2**
	comp=Z,3.3nm,0.9s,baz=24,slow=6.9,SNR=4.6							
ARCES				LR	LR	18 02 05.7		
	comp=Z,113nm,20.3s,baz=93,slow=37							
SOC	**Sochi**	**72.18**	**310**	*e* P	**P**	**17 29 20.0**	**-1.1**
SOC				MLR	MLR			
	comp=Z,213nm,19.0s							
ANN	**Anapa**	**73.36**	**312**	*e* P	**P**	**17 29 25.3**	**-2.8**
ANN				*e*		17 29 41.5		
ANN				*e*		17 32 09.6		
ANN				*e*S	**S**	**17 38 52.0**	**-4.4**
ANN				*e*SS	**SS**	**17 43 38.0**	**0.0**
ANN				pmax	pmax			
	comp=Z,34nm,1.1s							
KAF	**Kangasniemi**	**73.62**	**331**	*e* P	**P**	**17 29 28.1**	**-1.2**
KAF				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KAF	**Kangasniemi**	**73.62**	**331**	*e*p P	**P**	**17 29 28.1**	**-1.2**
	comp=Z,4.2nm,0.8s							
FINES	**FINESS Array B**	**73.98**	**331**	P	**P**	**17 29 31.3**	**-0.1**
FINES	**FINESS Array B**	**73.98**	**331**	P	**P**	**17 29 31.3**	**-0.1**
	comp=Z,5.9nm,0.8s,baz=98,slow=6.0,SNR=10							
FINES				LR	LR	18 06 07.1		
	comp=Z,363nm,18.1s,baz=37,slow=39							

MALT	**Malatya**	**74.78**	**305**	⇑P	**P**	**17 29 38.7**	**+2.0**
AKASG	**Malin Array Be**	**76.48**	**320**	P	**P**	**17 29 46.0**	**0.0**
AKASG	**Malin Array Be**	**76.48**	**320**	P	**P**	**17 29 46.0**	**0.0**
AKASG	**Malin Array Be**	**76.48**	**320**	P	**P**	**17 29 46.0**	**0.0**
	comp=Z,6.7nm,0.7s,baz=56,slow=6.0,SNR=24							
AKASG				LR	LR	18 06 41.8		
	comp=Z,217nm,19.0s,baz=110,slow=38							
RES	**Resolute Bay**	**76.90**	**11**	P	**P**	**17 29 47.9**	**-0.1**
RES	**Resolute Bay**	**76.90**	**11**	P	**P**	**17 29 47.9**	**-0.1**
	comp=Z,7.1nm,0.8s,baz=306,slow=2.8,SNR=3.7							
BR131	**Keskin Array S**	**77.77**	**308**	*e*P	**P**	**17 29 54.4**	**+0.7**
	comp=Z,3.6nm,0.8s							
BRTR	**Keskin Array B**	**77.77**	**308**	P	**P**	**17 29 54.2**	**+0.5**
BRTR	**Keskin Array B**	**77.77**	**308**	P	**P**	**17 29 54.2**	**+0.5**
	comp=Z,5.3nm,0.9s,baz=93,slow=5.4,SNR=8.5							
RPZ	**Rata Peaks**	**78.82**	**150**	P	**P**	**17 29 57.2**	**-1.8**
RPZ	**Rata Peaks**	**78.82**	**150**	P	**P**	**17 29 57.2**	**-1.8**
	comp=Z,9.6nm,0.8s,baz=318,slow=8.8,SNR=4.1							
CFR	**Carcaliu**	**79.36**	**315**	⇑P	**P**	**17 30 02.8**	**+0.7**
CFR	**Carcaliu**	**79.36**	**315**	⇑*i*P	**P**	**17 30 02.8**	**+0.7**
TIRR	**Tirgusor**	**79.48**	**314**	⇑P	**P**	**17 30 03.7**	**+0.9**
TIRR	**Tirgusor**	**79.48**	**314**	⇑*i*P	**P**	**17 30 03.7**	**+0.9**
TLB	**Topalu**	**79.67**	**314**	⇑P	**P**	**17 30 04.8**	**+1.0**
TLB	**Topalu**	**79.67**	**314**	⇑*i*P	**P**	**17 30 04.8**	**+1.0**
TESR	**Tescani**	**79.74**	**317**	⇑*i*P	**P**	**17 30 05.0**	**+0.8**
YKA	**Yellowknife Ar**	**79.80**	**25**	P	**P**	**17 30 04.5**	**+0.3**
YKA	**Yellowknife Ar**	**79.80**	**25**	P	**P**	**17 30 04.5**	**+0.3**
	comp=Z,3.2nm,0.8s,baz=306,slow=5.3,SNR=7.7							
VRI	**Vrincioaia**	**79.97**	**316**	⇑P	**P**	**17 30 07.1**	**+1.6**
VRI	**Vrincioaia**	**79.97**	**316**	⇑*i*P	**P**	**17 30 07.1**	**+1.6**
MSAB	**Monastry St. A**	**80.01**	**314**	⇑*i*P	**P**	**17 30 07.0**	**+1.3**
PLOR	**Plostina**	**80.02**	**316**	⇑P	**P**	**17 30 07.0**	**+1.2**
PLOR	**Plostina**	**80.02**	**316**	⇑*i*P	**P**	**17 30 07.0**	**+1.2**
NB2	**NORSAR Subarra**	**80.47**	**334**	P	**P**	**17 30 07.2**	**-0.7**
	comp=Z,6.7nm,0.8s,baz=53,slow=5.6							
NOA	**NORSAR Array B**	**80.47**	**334**	P	**P**	**17 30 07.6**	**-0.3**
NOA	**NORSAR Array B**	**80.47**	**334**	P	**P**	**17 30 07.6**	**-0.3**
	comp=Z,5.0nm,0.7s,baz=52,slow=5.5,SNR=16							
NOA				LR	LR	18 09 01.9		
	comp=Z,115nm,19.9s,baz=60,slow=38							
MLR	**Muntele Rosu**	**80.62**	**316**	⇑*i*P	**P**	**17 30 10.1**	**+0.9**
EIL	**Elat**	**80.64**	**298**	LR	LR	18 11 18.1		
	comp=Z,68nm,18.5s,baz=89,slow=40							
KWP	**Kalwaria Pacla**	**80.73**	**321**	⇑P	**P**	**17 30 10.7**	**+1.2**
KWP	**Kalwaria Pacla**	**80.73**	**321**	*e*P	**P**	**17 30 10.5**	**+1.0**
	comp=Z,22nm,1.1s							
KWP	**Kalwaria Pacla**	**80.73**	**321**	*e*P	**P**	**17 30 10.3**	**+0.8**
VOIR		**81.21**	**316**	⇓P	**P**	**17 30 12.7**	**+0.4**
VOIR		**81.21**	**316**	⇓*i*P	**P**	**17 30 12.7**	**+0.4**
KOLS	**Kolonicke sedl**	**81.30**	**320**	*e*P	**P**	**17 30 14.4**	**+1.8**
KOLS				pmax	pmax			
	comp=Z,5.0nm,1.5s							
KOLS	**Kolonicke sedl**	**81.30**	**320**	*e*P	**P**	**17 30 14.3**	**+1.7**
STHS	**Stebnicka Huta**	**81.67**	**321**	*e*P	**P**	**17 30 16.7**	**+2.2**
STHS				pmax	pmax			
	comp=Z,3.0nm,1.1s							
STHS	**Stebnicka Huta**	**81.67**	**321**	*e*P	**P**	**17 30 16.7**	**+2.2**
DRGR		**82.04**	**318**	⇑P	**P**	**17 30 17.0**	**+0.4**
DRGR		**82.04**	**318**	⇑*i*P	**P**	**17 30 17.0**	**+0.4**
SUMG	**Summit**	**82.37**	**356**	⇓*i*P	**P**	**17 30 19.0**	**+0.7**
SUMG				*i*		17 30 31.4		
SUMG				pmax	pmax			
	comp=Z,11nm,0.9s							
SUMG	**Summit**	**82.37**	**356**	⇓*i*P	**P**	**17 30 19.0**	**+0.7**
	comp=Z,11nm,0.9s							
SUMG				*i*		17 30 31.4		
SUMG	**Summit**	**82.37**	**356**	*e*P	**P**	**17 30 18.7**	**+0.5**
	comp=Z,14nm,1.0s							
MPEP	**Malo Peshtene**	**83.00**	**315**	P	**P**	**17 30 22.8**	**+1.2**
OKC	**Ostrava-Krasne**	**83.21**	**322**	*e*P	**P**	**17 30 22.1**	**-0.4**
OKC	**Ostrava-Krasne**	**83.21**	**322**	*e*P	**P**	**17 30 22.1**	**-0.4**
VTS	**Vitosha**	**83.70**	**314**	⇑P	**P**	**17 30 26.8**	**+1.4**
VTS	**Vitosha**	**83.70**	**314**	⇑*i*P	**P**	**17 30 26.8**	**+1.4**
VTS	**Vitosha**	**83.70**	**314**	P	**P**	**17 30 26.3**	**+0.9**
MMB	**Musomiste**	**83.82**	**313**	P	**P**	**17 30 26.0**	**+0.1**
DPC	**Dobruska-Polom**	**83.95**	**323**	*e*P	**P**	**17 30 28.2**	**+1.8**
DPC				*e*		17 30 40.7		
DPC	**Dobruska-Polom**	**83.95**	**323**	*e*P	**P**	**17 30 28.2**	**+1.8**
DPC				*ex*	x	17 30 40.7		
KKB	**Krupnik**	**84.12**	**314**	P	**P**	**17 30 27.6**	**+0.2**
PVCC	**Panska Ves**	**84.80**	**324**	*e*P	**P**	**17 30 31.6**	**+1.0**
PVCC	**Panska Ves**	**84.80**	**324**	*e*P	**P**	**17 30 31.6**	**+1.0**
BRG	**Berggiesshubel**	**84.94**	**325**	*e*P	**P**	**17 30 32.3**	**+1.0**
	comp=Z,12nm,1.4s							
BRG				*e*		17 30 43.9		
	comp=Z,11nm,1.5s							
BRG	**Berggiesshubel**	**84.94**	**325**	*e*P	**P**	**17 30 32.3**	**+1.0**
BRG				*e*		17 30 43.9		
BRG				pmax	pmax			
	comp=Z,12nm,1.4s							
PRU	**Pruhonice**	**85.11**	**324**	*e*P	**P**	**17 30 33.0**	**+0.8**
PRU				MLR	MLR			
	comp=Z,200nm,17.5s							
PRU	**Pruhonice**	**85.11**	**324**	*e*P	**P**	**17 30 33.0**	**+0.8**
PRU				AMS	AMS	18 11 00.0		
	comp=Z,200nm,17.5s							
CLL	**Collm**	**85.19**	**325**	⇑*i*P	**P**	**17 30 33.4**	**+0.9**
CLL				*i*		17 30 42.3		
CLL				pmax	pmax			
	comp=Z,15nm,1.1s							
CLL				MLR	MLR			
	comp=Z,300nm,20.9s							
CLL	**Collm**	**85.19**	**325**	⇑*i*P	**P**	**17 30 33.4**	**+0.9**
	comp=Z,11nm,1.1s							
CLL				*e*		17 30 44.0		
CLL				LmV		18 11 00.0		
	comp=Z,300nm,20.9s							
CONA	**Conrad Observa**	**85.50**	**321**	⇑*i*PcP	**P**	**17 30 35.8**	**+1.5**
	comp=Z,14nm,1.3s							
KHC	**Kasperske Hory**	**86.11**	**323**	*e*P	**P**	**17 30 38.6**	**+1.4**
KHC				*e*		17 30 50.5		
KHC	**Kasperske Hory**	**86.11**	**323**	*e*P	**P**	**17 30 38.6**	**+1.4**
KHC				*ex*	x	17 30 50.5		
GERES	**GERESS Array B**	**86.20**	**323**	P	**P**	**17 30 38.2**	**+0.4**
GERES	**GERESS Array B**	**86.20**	**323**	P	**P**	**17 30 38.2**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=50,slow=4.4,SNR=18							
GERES				LR	LR	18 12 13.6		
	comp=Z,174nm,19.3s,baz=240,slow=38							
YBH	**Yreka Blue Hor**	**86.92**	**45**	P	**P**	**17 30 42.7**	**+1.2**
YBH	**Yreka Blue Hor**	**86.92**	**45**	P	**P**	**17 30 42.7**	**+1.2**
	comp=Z,3.5nm,0.8s,baz=28,slow=17,SNR=2.7							
MOD	**Modoc**	**88.36**	**44**	*e*P	**P**	**17 30 48.6**	**+0.1**
	comp=Z,33nm,1.1s							
SLMT	**Seeley Lake**	**89.33**	**37**	*e*P	**P**	**17 30 53.5**	**+0.6**
	comp=Z,2.2nm,0.7s							
PPT	**Papeete**	**90.57**	**109**	LR	LR	18 08 25.4		
	comp=Z,104nm,19.6s,baz=13,slow=34							
NVAR	**Mina Array Bea**	**91.53**	**46**	P	**P**	**17 31 04.5**	**+1.1**
NVAR	**Mina Array Bea**	**91.53**	**46**	P	**P**	**17 31 04.5**	**+1.1**
	comp=Z,1.7nm,0.8s,baz=278,slow=4.5,SNR=6.0							
PDAR	**Pinedale Array**	**94.30**	**39**	P	**P**	**17 31 15.8**	**-0.3**
PDAR	**Pinedale Array**	**94.30**	**39**	P	**P**	**17 31 15.8**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=271,slow=1.7,SNR=7.8							
TORD	**Torodi Ar. Bea**	**115.50**	**300**	PKP	**PKPdf**	**17 36 38.3**	**-0.7**
TORD	**Torodi Ar. Bea**	**115.50**	**300**	PKP	**PKPdf**	**17 36 38.3**	**-0.7**
	comp=Z,1.0nm,0.9s,baz=26,slow=2.6,SNR=5.1							
MAIT	**Maitri**	**121.89**	**200**	*e*P	PKPdf	17 36 42.5	-7.1	
DBIC	**Dimbokro**	**124.50**	**298**	PKP	**PKPdf**	**17 36 56.2**	**-0.1**
DBIC	**Dimbokro**	**124.50**	**298**	PKP	**PKPdf**	**17 36 56.2**	**-0.1**
	comp=Z,3.0nm,0.7s,baz=347,slow=1.9,SNR=3.6							

*ISCJB **05** 17:27:57.9±0.3, 44°.46N±0°.02×6°.90E±0°.03, h11km±3km, Error ellipse: s-maj=3.7km s-min=2.7km az=155.3*
*CSEM **05** 17:27:58.2±0.0, 44°.47N×6°.93E, h10km, ML1.6/9, Error ellipse: s-maj=0.9km s-min=0.6km az=67.0*
*GEN **05** 17:27:58.3, 44°.45N×6°.89E, h6km, ML1.0*
*STR **05** 17:27:58.5±0.1, 44°.48N×6°.93E, h5km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **05** 17:27:58.7±0.0, 44°.48N×6°.94E, h2km, Md1.6/1, Ml1.8/7, Error ellipse: s-maj=0.9km s-min=0.5km az=70.0*

ISC 05 17:27:58.7±0.9, **44°.47N**±0°.02×**6°.93E**±0°.02, **h9**km±6km, **n36,** σ0**°43**/66, **France**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SURF	**Saint Ours**	**0.09**	**276**			Pg	**Pg**	**17 28 00.8**	**-0.3**
SURF						Sg	**Sg**	**17 28 02.4**	**-0.5**
SURF	**Saint Ours**	**0.09**	**276**			Pg	**Pg**	**17 28 00.8**	**-0.3**
SURF						Sg	**Sg**	**17 28 02.4**	**-0.5**
PZZ	**Stroppo**	**0.14**	**75**	P		P	**Pg**	**17 28 02.1**	**+0.3**
PZZ				S		S	**Sg**	**17 28 04.5**	**+0.5**
MBDF	**Montbardon**	**0.28**	**336**	*e*Pg		**Pg**	**Pg**	**17 28 04.3**	**0.0**
MBDF				*e*Sg		**Sg**	**Sg**	**17 28 09.0**	**+0.9**
	13nm,0.2s								
MBDF	**Montbardon**	**0.28**	**336**	*e*Pg		**Pg**	**Pg**	**17 28 04.3**	**0.0**
MBDF				*e*Sg		**Sg**	**Sg**	**17 28 09.0**	**+0.9**
	6.6nm,0.2s								
OG22	**Abries**	**0.35**	**1**	Pg		**Pg**	**Pg**	**17 28 05.5**	**-0.2**
OG22				Sg		**Sg**	**Sg**	**17 28 10.3**	**-0.1**
OG22	**Abries**	**0.35**	**1**	Pg		**Pg**	**Pg**	**17 28 05.5**	**-0.2**
OG22				Sg		**Sg**	**Sg**	**17 28 10.3**	**-0.1**
ENR	**Entracque**	**0.43**	**125**	P		**Pg**	**Pg**	**17 28 06.8**	**-0.2**
ENR				S		**Sg**	**Sg**	**17 28 12.7**	**+0.1**
TOUF	**Mont Tournerai**	**0.51**	**154**	Pg		**Pg**	**Pg**	**17 28 08.6**	**0.0**
TOUF	**Mont Tournerai**	**0.51**	**154**	Pg		**Pg**	**Pg**	**17 28 08.6**	**0.0**
LUCF	**Luceram**	**0.65**	**153**	Pg		**Pg**	**Pg**	**17 28 11.3**	**+0.1**
LUCF	**Luceram**	**0.65**	**153**	Pg		**Pg**	**Pg**	**17 28 11.3**	**+0.1**
SAOF	**Saorge**	**0.66**	**137**	Pg		**Pg**	**Pg**	**17 28 11.2**	**-0.2**
SAOF				Sg		**Sg**	**Sg**	**17 28 19.7**	**-0.3**
SAOF	**Saorge**	**0.66**	**137**	Pg		**Pg**	**Pg**	**17 28 11.2**	**-0.2**
SAOF				Sg		**Sg**	**Sg**	**17 28 19.7**	**-0.3**
SBF	**Sospel**	**0.71**	**149**	*e*Pg		**Pg**	**Pg**	**17 28 12.4**	**+0.1**
SBF				*e*Sg		**Sg**	**Sg**	**17 28 21.5**	**0.0**
	1.9nm,0.2s								
SBF	**Sospel**	**0.71**	**149**	*e*Pg		**Pg**	**Pg**	**17 28 12.4**	**+0.1**
SBF				*e*Sg		**Sg**	**Sg**	**17 28 21.5**	**0.0**
	0.9nm,0.2s								
RSP	**Reno Superiore**	**0.72**	**19**	P		**Pg**	**Pg**	**17 28 12.4**	**-0.1**
RSP				S		**Sg**	**Sg**	**17 28 21.8**	**-0.1**
NEGI	**Seborga**	**0.83**	**138**	P		**Pg**	**Pg**	**17 28 14.3**	**-0.4**
NEGI				S		**Sg**	**Sg**	**17 28 25.2**	**-0.4**
ORIF	**Oris-en-Rattie**	**0.87**	**301**	*e*Pg		**Pg**	**Pg**	**17 28 15.3**	**-0.2**
ORIF				*e*Sg		**Sg**	**Sg**	**17 28 26.5**	**-0.4**
	1.8nm,0.3s								
ORIF	**Oris-en-Rattie**	**0.87**	**301**	*e*Pg		**Pg**	**Pg**	**17 28 15.3**	**-0.2**
ORIF				*e*Sg		**Sg**	**Sg**	**17 28 26.5**	**-0.4**
	0.9nm,0.3s								
RORO	**Rocca Rossa**	**0.89**	**113**	P		**Pg**	**Pg**	**17 28 15.3**	**-0.5**
RORO				S		**Sg**	**Sg**	**17 28 27.0**	**-0.3**
FRF	**La Foret Royal**	**0.93**	**193**	*e*Pg		**Pg**	**Pg**	**17 28 16.1**	**-0.5**
FRF	**La Foret Royal**	**0.93**	**193**	*e*Pn		**Pb**	**Pb**	**17 28 17.3**	**+0.3**
FRF				*e*Sg		**Sg**	**Sg**	**17 28 28.6**	**-0.1**
	3.6nm,0.2s								
FRF	**La Foret Royal**	**0.93**	**193**	*e*Pg		**Pg**	**Pg**	**17 28 16.1**	**-0.5**
FRF	**La Foret Royal**	**0.93**	**193**	*e*Pn		**Pb**	**Pb**	**17 28 17.3**	**+0.3**
FRF				*e*Sg		**Sg**	**Sg**	**17 28 28.6**	**-0.1**
	1.8nm,0.2s								
LPG	**La Plagne**	**1.03**	**353**	*e*Pg		**Pg**	**Pg**	**17 28 18.3**	**-0.3**
LPG				*e*Sg		**Sg**	**Sg**	**17 28 31.7**	**-0.3**
	1.9nm,0.2s								
LPG	**La Plagne**	**1.03**	**353**	*e*Pg		**Pg**	**Pg**	**17 28 18.3**	**-0.3**
LPG				*e*Sg		**Sg**	**Sg**	**17 28 31.7**	**-0.3**
	0.9nm,0.2s								
LPL	**La Plagne**	**1.05**	**352**	*e*Pg		**Pg**	**Pg**	**17 28 18.5**	**-0.4**
LPL				*e*Sg		**Sg**	**Sg**	**17 28 32.3**	**-0.4**
	1.1nm,0.2s								
LPL	**La Plagne**	**1.05**	**352**	*e*Pg		**Pg**	**Pg**	**17 28 18.5**	**-0.4**
LPL				*e*Sg		**Sg**	**Sg**	**17 28 32.3**	**-0.4**
	0.6nm,0.2s								
SMRF	**Simiane la Rot**	**1.09**	**244**	*e*P		**Pn**	**Pn**	**17 28 21.1**	**+0.9**
SMRF				*e*Sg		**Sg**	**Sg**	**17 28 33.7**	**-0.2**
	1.2nm,0.2s								
SMRF	**Simiane la Rot**	**1.09**	**244**	*e*P		**Pn**	**Pn**	**17 28 21.1**	**+0.9**
SMRF				*e*Sg		**Sg**	**Sg**	**17 28 33.7**

CASC 05 17:44:57.2±2.6, 9°.30N×83°.63W, h9km±9km, MD3.6, 4C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUS	**Buena Vista**	**0.28**	**332**↑	*eP*	Pg	17 45 03.9	+0.4
BUS				*eS*	Sg	17 45 07.8	+0.1
QCR	**Quepos**	**0.55**	**283**	*eP*	Pg	17 45 08.0	+0.2
SJS	**Escuela Geolog**	**0.76**	**326**	*eP*	Pg	17 45 11.7	-0.4
SJS				*eS*	Sg	17 45 21.3	-0.9
ACR	**Cerro Adams**	**0.79**	**145**	*eP*	Pg	17 45 11.5	-1.0
ACR				*eS*	Sg	17 45 22.1	-0.7
CTCR	**Cotoan**	**0.95**	**115**↑	*iP*	Pg	17 45 14.9	-0.8
CTCR				*eS*	Sb	17 45 29.4	+0.5
BRU2	**Volcan**	**1.05**	**119**↑	*iP*	Pg	17 45 16.8	-0.9
TBS2		**1.08**	**118**	*eP*	Pg	17 45 17.2	-1.0
TBS2				*eS*	Sg	17 45 31.6	-0.9
CGA2	**Cerro Gallo 2**	**1.09**	**311**	*eP*	Pg	17 45 17.4	-1.0
CGA2				*eS*	Sg	17 45 32.3	-0.4
CNI	**Changuinola**	**1.10**	**84**	*iP*	Pg	17 45 17.8	-0.5
CNI				*eS*	Sb	17 45 33.2	+0.4
BRU	**Baru**	**1.16**	**115**	*eP*	Pb	17 45 19.2	-0.8
BRU				*eS*	Sn	17 45 38.0	+1.4
CAO	**Cobano**	**1.51**	**285**↑	*iP*	Pn	17 45 24.0	-0.4
CAO				*eS*	Sb	17 45 45.0	+0.3
JCR	**Jicaral**	**1.56**	**290**	*eP*	Pn	17 45 24.8	-0.4
JCR				*eS*	Sn	17 45 45.6	-0.1
CHPA	**Chiripa**	**1.70**	**312**	*iP*	Pb	17 45 28.1	-0.7
CHPA				*iS*	Sb	17 45 50.6	+0.2
PTEN	**Parque Tenorio**	**1.94**	**316**	*iP*	Pn	17 45 31.4	+0.9
CUI	**Cuipilapa**	**2.03**	**312**	*iP*	Pn	17 45 32.2	+0.6
LIM1	**Limonal**	**2.12**	**311**	*iP*	Pn	17 45 33.7	+0.8
BCIP	**Isla Barro Col**	**3.74**	**92**↓	*iP*	Pn	17 45 55.6	+0.5
BCIP				*eS*	Sn	17 46 38.6	-0.7

*ISCJB **05** 17:51:28.8±0.7, 2°.2S±0°.1×68°.8E±0°.1, h10km, mb4.0/16, MS3.8/19, Error ellipse: s-maj=17.4km s-min=14.9km az=28.1*
*IDC **05** 17:51:29.2±0.8, 2°.23S×68°.73E, h0km, mb3.8/12, mb1 3.9/12, mb1mx3.8/28, mbtmp3.8/12, MS3.8/19, Ms1 3.8/19, ms1mx3.7/38, Error ellipse: s-maj=20.7km s-min=20.1km az=136.0*
*NEIC **05** 17:51:30.7±0.6, 2°.24S×68°.74E, h10km, mb4.7/4, Error ellipse: s-maj=17.3km s-min=14.7km az=117.0*
ISC 05 17:51:30.9±0.8, 2°.3S±0°.1×68°.7E±0°.1, h10km, n47, σ1§18/33, mb4.0/16, MS3.8/19, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**4.65**	**151**	T	T	17 57 15.8	
	baz=330,slow=0.7,SNR=332						
H08N3	**Diego Garcia H**	**4.66**	**151**	T	T	17 57 16.8	
	baz=330,slow=0.7,SNR=414						
H08N1	**Diego Garcia H**	**4.67**	**151**	T	T	17 57 17.4	
	baz=330,slow=0.7,SNR=288						
OPO	**Ambohidratompo**	**26.61**	**231**	LR	LR	18 05 34.3	
	comp=Z,231nm,21.1s,baz=56,slow=32						
ATD	**Arta Tunnel**	**29.14**	**299**	LR	LR	18 06 41.5	
	comp=Z,55nm,20.4s,baz=122,slow=31						
PSI	**Prapat**	**30.61**	**81**	LR	LR	18 08 23.9	
	comp=Z,228nm,19.2s,baz=262,slow=33						
CMAR	**Chiang Mai Arr**	**36.17**	**54**	P	**P**	**17 58 33.9**	**0.0**
CMAR	**Chiang Mai Arr**	**36.17**	**54**	P	**P**	**17 58 33.9**	**0.0**
	1.5nm,1.0s,baz=246,slow=11,SNR=8.8						
CMAR				LR	LR	18 10 55.9	
	comp=Z,90nm,21.4s,baz=256,slow=32						
LSZ	**Lusaka**	**41.99**	**250**	P	**P**	**17 59 23.5**	**+0.6**
LSZ	**Lusaka**	**41.99**	**250**	P	**P**	**17 59 23.5**	**+0.6**
	2.6nm,0.8s,baz=61,slow=10.0,SNR=4.5						
EKS2	**Erkin-Say**	**44.93**	**5**	*eP*	**P**	**17 59 47.3**	**+1.2**
	19nm,1.4s						
AAK	**Ala-Archa**	**44.98**	**6**	P	**P**	**17 59 46.9**	**+0.4**
AAK	**Ala-Archa**	**44.98**	**6**	P	**P**	**17 59 46.9**	**+0.4**
	0.8nm,0.4s,baz=204,slow=18,SNR=2.8						
TKM2	**Tokmak 2**	**45.39**	**7**	*eP*	**P**	**17 59 50.1**	**+0.3**
	15nm,1.2s						
BOSA	**Boshof**	**48.99**	**233**	P	**P**	**18 00 17.6**	**-0.5**
BOSA	**Boshof**	**48.99**	**233**	P	**P**	**18 00 17.6**	**-0.5**
	0.6nm,0.4s,baz=117,slow=2.3,SNR=1.9						
MKAR	**Makanchi Array**	**50.28**	**12**	P	**P**	**18 00 25.9**	**-1.6**
MKAR				PcP	**PcP**	**18 01 48.4**	**+2.0**
MKAR	**Makanchi Array**	**50.28**	**12**	P	**P**	**18 00 25.9**	**-1.6**
	0.5nm,0.8s,baz=195,slow=10,SNR=4.4						
MKAR				PcP	**PcP**	**18 01 48.4**	**+2.0**
	1.4nm,1.1s,baz=197,slow=3.3,SNR=4.4						
MKAR				LR	LR	18 23 20.0	
	comp=Z,48nm,18.7s,baz=20,slow=38						
KBZ	**Khabaz**	**51.30**	**336**	P	**P**	**18 00 36.9**	**+1.7**
KBZ	**Khabaz**	**51.30**	**336**	P	**P**	**18 00 36.9**	**+1.7**
	1.2nm,0.7s,baz=218,slow=9.4,SNR=3.6						
KBZ				LR	LR	18 22 27.5	
	comp=Z,78nm,20.2s,baz=63,slow=36						
ABKAR	**Akbulak array**	**51.85**	**353**	*eP*	**P**	**18 00 38.3**	**-0.9**
	7.3nm,1.1s						
BRTR	**Keskin Array B**	**52.71**	**326**	P	**P**	**18 00 45.8**	**-0.2**
BRTR	**Keskin Array B**	**52.71**	**326**	P	**P**	**18 00 45.8**	**-0.2**
	0.8nm,0.9s,baz=150,slow=13,SNR=4.1						
BRTR				LR	LR	18 23 07.5	
	comp=Z,72nm,19.6s,baz=113,slow=36						
KURK	**Kurchatov**	**53.44**	**8**	*eP*	**P**	**18 00 48.8**	**-2.1**
	7.8nm,1.3s						
BRVK	**Borovoye**	**55.12**	**1**	*eP*	**P**	**18 01 03.5**	**+0.4**
BATI	**Baumata**	**55.12**	**101**	LR	LR	18 21 35.6	
	comp=Z,192nm,18.4s,baz=273,slow=33						
ZALV	**Zalesovo Beam**	**57.58**	**11**	P	**P**	**18 01 19.2**	**-1.5**
ZALV	**Zalesovo Beam**	**57.58**	**11**	P	**P**	**18 01 19.2**	**-1.5**
	0.7nm,0.5s,baz=189,slow=7.6,SNR=3.3						
ZALV				LR	LR	18 25 52.2	
	comp=Z,47nm,20.6s,baz=67,slow=36						
FITZ	**Fitzroy Crossi**	**57.95**	**110**	LR	LR	18 21 20.9	
	comp=Z,59nm,19.0s,baz=256,slow=31						
SONM	**Songino Array**	**59.73**	**28**	P	**P**	**18 01 36.9**	**+0.9**
SONM	**Songino Array**	**59.73**	**28**	P	**P**	**18 01 36.9**	**+0.9**
	2.0nm,0.9s,baz=219,slow=7.4,SNR=5.4						
SONM				LR	LR	18 27 21.0	
	comp=Z,120nm,18.8s,baz=43,slow=36						
AKASG	**Malin Array Be**	**62.59**	**333**	P	**P**	**18 01 54.2**	**-1.0**
AKASG	**Malin Array Be**	**62.59**	**333**	P	**P**	**18 01 54.2**	**-1.0**
	0.2nm,0.3s,baz=148,slow=4.4,SNR=2.9						
MAW	**Mawson**	**65.36**	**182**	LR	LR	18 23 24.4	
	comp=Z,229nm,20.0s,baz=174,slow=29						
WRA	**Warramunga Arr**	**66.35**	**111**	P	**P**	**18 02 19.2**	**-1.2**
WRA	**Warramunga Arr**	**66.35**	**111**	P	**P**	**18 02 19.2**	**-1.2**
	0.8nm,0.9s,baz=285,slow=5.8,SNR=3.9						
ASAR	**Alice Springs**	**66.42**	**115**	P	**P**	**18 02 21.8**	**+0.9**
ASAR	**Alice Springs**	**66.42**	**115**	P	**P**	**18 02 21.8**	**+0.9**
	0.6nm,0.9s,baz=292,slow=4.9,SNR=4.0						
JNU	**Nakatsue**	**68.26**	**53**	LR	LR	18 30 54.7	
	comp=Z,66nm,18.1s,baz=65,slow=35						
FINES	**FINESS Array B**	**71.39**	**340**	LR	LR	18 35 22.9	
	comp=Z,62nm,18.5s,baz=185,slow=37						
DBIC	**Dimbokro**	**73.97**	**278**	LR	LR	18 34 53.7	
	comp=Z,59nm,18.8s,baz=34,slow=35						
MJAR	**Matsushiro Arr**	**75.00**	**51**	LR	LR	18 36 41.6	
	comp=Z,49nm,19.1s,baz=235,slow=36						
NOA	**NORSAR Array B**	**76.86**	**335**	LR	LR	18 37 17.2	
	comp=Z,41nm,19.3s,baz=145,slow=36						
ARCES	**ARCESS Array B**	**77.31**	**346**	LR	LR	18 38 11.4	
	comp=Z,51nm,21.9s,baz=347,slow=36						
QSPA	**South Pole Qui**	**87.75**	**180**	LR	LR	18 35 27.0	
	comp=Z,54nm,20.7s,baz=352,slow=30						
TXAR	**Lajitas Array**	**152.10**	**346**	PKPbc	**PKPbc**	**18 11 26.6**	**-0.8**
TXAR	**Lajitas Array**	**152.10**	**346**	PKPbc	**PKPbc**	**18 11 26.6**	**-0.8**
	1.7nm,1.0s,baz=318,slow=3.4,SNR=4.8						

*ISK **05** 17:54:25.1, 35°.73N×31°.24E, h12km, MD3.5*
*ISCJB **05** 17:54:26.6±1.5, 35°.75N±0°.06×31°.28E±0°.04, h17km±14km, Error ellipse: s-maj=10.5km s-min=4.6km az=22.3*
*CSEM **05** 17:54:26.4±0.2, 35°.74N×31°.26E, h10km, MD2.9, Error ellipse: s-maj=7.8km s-min=3.8km az=16.0*
*DDA **05** 17:54:28.0, 35°.96N×31°.31E, h25km, MD2.9*
ISC 05 17:54:27.6±1.3, 35°.78N±0°.05×31°.26E±0°.03, h27km±14km, n63, σ1§43/74, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**0.97**	**62**	*iP*	**Pn**	**17 54 45.7**	**+0.3**
GAZI				*iS*	**Sb**	**17 54 56.3**	**-1.8**
GAZI	**Gazipasa**	**0.97**	**62**	*iP*	**Pn**	**17 54 45.7**	**+0.3**
GAZI				*iS*	**Sb**	**17 54 56.3**	**-1.8**
AKAS	**Kas**	**1.42**	**289**	*iP*	**Pb**	**17 54 53.4**	**0.0**
AKAS				*iS*	**Sb**	**17 55 13.7**	**+2.6**
AKAS	**Kas**	**1.42**	**289**	*iP*	**Pb**	**17 54 53.4**	**0.0**
KORT	**Korkueli**	**1.42**	**329**	*iP*	**Pn**	**17 54 52.0**	**+0.3**
KORT				*iS*	**Sb**	**17 55 14.9**	**+3.7**
KORT	**Korkueli**	**1.42**	**329**	*iP*	**Pn**	**17 54 52.0**	**+0.3**
ELL	**Elmali**	**1.46**	**312**	*ePN*	**Pn**	**17 54 52.1**	**-0.1**
ELL				*eSN*	**Sb**	**17 55 11.9**	**-0.4**
ELL	**Elmali**	**1.46**	**312**	*ePn*	**Pn**	**17 54 52.1**	**-0.1**
ELL				*eSn*	**Sb**	**17 55 11.9**	**-0.4**
LEF	**Lefka**	**1.48**	**116**	*ePN*	**Pn**	**17 54 51.5**	**-1.0**
LEF				*eSN*	**Sn**	**17 55 11.3**	**+0.3**
LEF	**Lefka**	**1.48**	**116**	*ePn*	**Pn**	**17 54 51.5**	**-1.0**
LEF				*eSn*	**Sn**	**17 55 11.3**	**+0.3**
HDMB	**Hadim**	**1.54**	**40**	*ePN*	**Pn**	**17 54 53.8**	**+0.3**
HDMB	**Hadim**	**1.54**	**40**	*ePn*	**Pn**	**17 54 53.8**	**+0.3**
ERMK	**Ermenek**	**1.59**	**57**	*iP*	Pn	17 54 50.3	-3.8
ERMK				*iS*	**Sb**	**17 55 17.9**	**+1.8**
BCK	**Bucak**	**1.76**	**342**	*ePN*	**Pn**	**17 54 56.8**	**+0.4**
BCK	**Bucak**	**1.76**	**342**	*ePn*	**Pn**	**17 54 56.8**	**+0.4**
LFK	**Lefkose**	**1.92**	**104**	*ePN*	**Pn**	**17 54 58.3**	**-0.2**
LFK	**Lefkose**	**1.92**	**104**	*ePn*	**Pn**	**17 54 58.3**	**-0.2**
FETY	**Fethiye**	**1.96**	**296**	*ePN*	**Pn**	**17 54 59.1**	**+0.1**
FETY	**Fethiye**	**1.96**	**296**	*ePn*	**Pn**	**17 54 59.1**	**+0.1**
GOLH	**Golhisar**	**2.00**	**317**	*iP*	**Pb**	**17 55 03.5**	**+0.2**
GOLH				*iS*	**Sn**	**17 55 20.4**	**-3.4**
IKL	**Isikli**	**2.02**	**76**	*ePN*	**Pn**	**17 55 00.6**	**+0.8**
IKL	**Isikli**	**2.02**	**76**	*ePn*	**Pn**	**17 55 00.6**	**+0.8**
ISP	**Isparta**	**2.12**	**344**	*ePN*	**Pn**	**17 55 02.3**	**+1.0**
ISP	**Isparta**	**2.12**	**344**	*ePn*	**Pn**	**17 55 02.3**	**+1.0**
KONT	**Konya--Tatoy**	**2.33**	**22**	*ePN*	**Pn**	**17 55 05.7**	**+1.5**
KONT	**Konya--Tatoy**	**2.33**	**22**	*ePn*	**Pn**	**17 55 05.7**	**+1.5**
DALY	**Dalyan (Mu¨la**	**2.35**	**297**	*ePN*	**Pn**	**17 55 04.7**	**+0.4**
DALY	**Dalyan (Mu¨la**	**2.35**	**297**	*ePn*	**Pn**	**17 55 04.7**	**+0.4**
TURN	**Turunc**	**2.41**	**298**	*iP*	**Pb**	**17 55 09.6**	**-0.5**
DNZL	**Cakiroluk**	**2.61**	**318**	*iP*	**Pb**	**17 55 11.2**	**-2.5**
DNZL				*iS*	**Sn**	**17 55 37.3**	**-1.6**
DNZL	**Cakiroluk**	**2.61**	**318**	*iP*	**Pb**	**17 55 11.2**	**-2.5**
YER	**Yerkesik**	**2.75**	**300**	*ePN*	**Pn**	**17 55 10.8**	**+0.8**
YER	**Yerkesik**	**2.75**	**300**	*ePn*	**Pn**	**17 55 10.8**	**+0.8**
KHL	**Karahalli**	**2.89**	**332**	*ePN*	**Pn**	**17 55 13.0**	**+1.1**
KHL	**Karahalli**	**2.89**	**332**	*ePn*	**Pn**	**17 55 13.0**	**+1.1**
BOLV	**Bolvadin**	**2.94**	**355**	*iP*	Pn	17 55 38.9	-8.2
BOLV				*iS*	Sn	17 55 38.9	-8.2
BOLV	**Bolvadin**	**2.94**	**355**	*iP*	**Pn**	**17 55 13.8**	**+1.2**
KHAL	**Karahalli**	**2.95**	**332**	*iP*	**Pn**	**17 55 14.2**	**+1.5**
KHAL				*iS*	**Sn**	**17 55 45.0**	**-2.2**
KHAL	**Karahalli**	**2.95**	**332**	*iP*	**Pn**	**17 55 14.2**	**+1.5**
DAT	**Datca**	**3.12**	**289**	*ePN*	**Pn**	**17 55 15.9**	**+0.8**
DAT	**Datca**	**3.12**	**289**	*ePn*	**Pn**	**17 55 15.9**	**+0.8**
KARA	**Karaisali**	**3.39**	**63**	*ePN*	**Pn**	**17 55 19.8**	**+1.1**
KARA	**Karaisali**	**3.39**	**63**	*ePn*	**Pn**	**17 55 19.8**	**+1.1**
KULA	**Kula-Manisa**	**3.43**	**323**	*ePN*	**Pn**	**17 55 20.4**	**+1.1**
KULA	**Kula-Manisa**	**3.43**	**323**	*ePn*	**Pn**	**17 55 20.4**	**+1.1**
BODT	**Bodrum**	**3.43**	**293**	*ePN*	**Pn**	**17 55 20.4**	**+1.1**
BODT	**Bodrum**	**3.43**	**293**	*ePn*	**Pn**	**17 55 20.4**	**+1.1**
MANT	**Manisa**	**3.46**	**322**	*iP*	**Pn**	**17 55 21.9**	**+2.0**
MANT	**Manisa**	**3.46**	**322**	*iP*	**Pn**	**17 55 21.9**	**+2.0**
SVRH	**Sivrihisar-ESK**	**3.67**	**3**	*ePN*	**Pn**	**17 55 24.0**	**+1.4**
SVRH	**Sivrihisar-ESK**	**3.67**	**3**	*ePn*	**Pn**	**17 55 24.0**	**+1.4**
DEMI	**Demirci**	**3.83**	**329**	*iP*	**Pn**	**17 55 26.4**	**+1.5**
DEMI	**Demirci**	**3.83**	**329**	*iP*	**Pn**	**17 55 26.4**	**+1.5**
TVSB	**Tavsanli**	**3.93**	**339**	*ePN*	**Pn**	**17 55 28.3**	**+2.1**
TVSB	**Tavsanli**	**3.93**	**339**	*ePn*	**Pn**	**17 55 28.3**	**+2.1**
HTY	**Hatay**	**3.97**	**84**	*ePN*	**Pn**	**17 55 28.1**	**+1.5**
HTY	**Hatay**	**3.97**	**84**	*ePn*	**Pn**	**17 55 28.1**	**+1.5**
BNN	**Bunyan**	**4.77**	**49**	*ePN*	**Pn**	**17 55 39.6**	**+1.9**
BNN	**Bunyan**	**4.77**	**49**	*ePn*	**Pn**	**17 55 39.6**	**+1.9**
MMLI	**Mount Malkishu**	**4.80**	**133**	*ePN*	**Pn**	**17 55 39.8**	**+1.7**
MMLI	**Mount Malkishu**	**4.80**	**133**	*ePn*	**Pn**	**17 55 39.8**	**+1.7**
KMRS	**Kahramanmaras**	**4.85**	**68**	*ePN*	**Pn**	**17 55 40.8**	**+2.0**
KMRS	**Kahramanmaras**	**4.85**	**68**	*ePn*	**Pn**	**17 55 40.8**	**+2.0**

*DJA **05** 17:55:24.6±1.1, 0°.N±7°×13°.2E±°, h10km, M4.6/4, mb5.0/3, mB5.6/1, MLv4.5/4, Mw(mB)5.1/1*
*ISCJB **05** 17:55:30.5±1.4, 0°.3S±0°.1×132°.44E±0°.08, h33km, mb3.7/2, Error ellipse: s-maj=16.7km s-min=12.0km az=10.1*
*IDC **05** 17:55:33.1±3.3, 1°.11S×130°.02E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.5/21, mbtmp3.6/3, ML3.8/1, Error ellipse: s-maj=246.5km s-min=25.9km az=70.0*
*AUST **05** 17:55:40.0±6.8, 1°.14S×131°.93E, h1km, Error ellipse: s-maj=3.6km s-min=1.4km az=8.0*
ISC 05 17:55:32.8±1.6, 0°.3S±0°.1×132°.27E±0°.09, h33km, n15, σ1§67/15, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.15**	**241**	P	**Pn**	**17 55 50.2**	**-2.3**
SWI				S	**Sb**	**17 56 09.5**	**+0.8**
SWI	**Sorong**	**1.15**	**241**	P	**Pn**	**17 55 51.0**	**-1.5**
	baz=0.7,SNR=145						
FAKI	**Fak Fak**	**2.59**	**180**	P	**Pn**	**17 56 13.1**	**+0.7**
FAKI	**Fak Fak**	**2.59**	**180**	P	**Pn**	**17 56 13.1**	**+0.7**
	baz=1.8,SNR=118						
BNDI	**Bandanaira**	**4.80**	**209**	P	**Pn**	**17 56 44.5**	**+1.6**
	baz=3.9,SNR=3.8						
AAI	**Ambon**	**5.28**	**230**	P	**Pn**	**17 56 51.9**	**+2.6**
	69nm,1.5s,0.3nm						
AAI	**Ambon**	**5.28**	**230**	P	**Pn**	**17 56 51.8**	**+2.5**
	baz=4.5,SNR=6.4						
TLE	**Tual**	**5.31**	**175**	P	**Pn**	**17 56 50.5**	**+0.7**
	baz=4.6,SNR=7.6						
KMSI	**Cibinong**	**8.34**	**276**	P	Pn	17 57 21.9	-9.5
KDU	**Kakadu**	**12.30**	**179**	P	**Pn**	**17 58 23.5**	**-2.2**
	baz=12,SNR=5.8						
KNRA	**Kununurra**	**15.66**	**193**	P	**Pn**	**17 59 10.1**	**-0.9**
	baz=15,SNR=6.0						
FITZ	**Fitzroy Crossi**	**18.84**	**200**	P	**P**	**17 59 48.9**	**-1.2**
	baz=18,SNR=4.1						
WRA	**Warramunga Arr**	**19.62**	**174**	P	**P**	**17 59 58.2**	**-0.4**
	0.3nm,0.3s,baz=351,slow=12,SNR=12						
ASAR	**Alice Springs**	**23.27**	**176**	P	**P**	**18 00 37.4**	**-0.3**
	3.7nm,0.9s,baz=353,slow=9.4,SNR=26						
MKAR	**Makanchi Array**	**64.03**	**324**	P	**P**	**18 06 04.4**	**+1.1**
	0.3nm,0.4s,baz=116,slow=7.5,SNR=6.1						

*ISCJB **05** 18:08:25.5±0.2, 7°.12S±0°.03×129°.44E±0°.04, h139km, mb4.4/28, Error ellipse: s-maj=5.1km s-min=4.3km az=158.6*
*IDC **05** 18:08:28.6±2.1, 7°.12S×129°.37E, h151km±19km, mb4.1/19, mb1 4.2/22, mb1mx4.2/27, mbtmp4.2/22, Error ellipse: s-maj=13.8km s-min=9.2km az=81.0*
*NEIC **05** 18:08:29.9±1.2, 7°.13S×129°.34E, h165km±12km, mb4.1/7, Error ellipse: s-maj=9.7km s-min=7.0km az=59.0*
*AUST **05** 18:08:29.1±0.0, 7°.18S×129°.46E, h163km, Error ellipse: s-maj=0.7km s-min=0.6km az=259.0*
*DJA **05** 18:08:30.1±0.2, 7°.S±3°×13°.0E±°, h161km±6km, M4.8/24, mB5.3/15, mb4.9/24, MLv5.2/14, Mw(mB)4.7/15*
*BKK **05** 18:08:37.9±0.8, 8°.S±7°×12°.9E±°, h261km±11km, M4.8/13, mB4.9/3, mb4.6/13, MLv4.9/1, Mw(mB)4.2/3*
ISC 05 18:08:27.4±0.3, 7°.16S±0°.05×129°.38E±0°.05, h139km, n140, σ1§22/130, mb4.4/28, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.08**	**113**	P	Pn	18 09 07.6	+4.8
BNDI	**Bandanaira**	**2.67**	**11**	P	Pn	18 09 16.0	+5.8
BNDI	**Bandanaira**	**2.67**	**11**	P	Pn	18 09 15.8	+5.6
	baz=2.7,SNR=39						
AAI	**Ambon**	**3.64**	**341**	P	Pn	18 09 27.8	+5.1
AAI	**Ambon**	**3.64**	**341**	P	Pn	18 09 27.8	+5.1
	baz=3.7,SNR=89						
TLE	**Tual**	**3.67**	**66**	P	Pn	18 09 27.8	+4.8
TLE				S	**Sn**	**18 10 08.2**	**+2.1**
TLE	**Tual**	**3.67**	**66**	P	Pn	18 09 27.8	+4.8
	baz=3.6,SNR=122						
NLAI	**Namlea**	**4.50**	**330**	P	Pn	18 09 40.0	+5.9
FAKI	**Fak Fak**	**5.09**	**34**	P	**Pn**	**18 09 43.1**	**+1.2**
	115nm,0.7s,6μm1.4nm						
FAKI	**Fak Fak**	**5.09**	**34**	P	**Pn**	**18 09 43.1**	**+1.2**
	baz=5.1,SNR=127						
SOEI	**Soe**	**5.67**	**243**	P	**Pn**	**18 09 52.7**	**+2.9**
	127nm,0.7s,7μm2.3nm						
SOEI	**Soe**	**5.67**	**243**	P	**Pn**	**18 09 52.5**	**+2.7**
	baz=5.7,SNR=71						
KDU	**Kakadu**	**6.28**	**151**	P	**Pn**	**18 09 58.8**	**+1.0**
	baz=6.3,SNR=1000						
BATI	**Baumata**	**6.41**	**241**	P	**Pn**	**18 10 02.4**	**+2.8**
	118nm,0.5s,4μm1.3nm						
BATI	**Baumata**	**6.41**	**241**	P	**Pn**	**18 10 01.8**	**+2.2**
BATI				S	**Sn**	**18 11 12.3**	**+0.7**
BATI	**Baumata**	**6.41**	**241**	P	**Pn**	**18 10 01.8**	**+2.2**
	46nm,0.3s,baz=84,slow=1.8,SNR=75						
BATI				S	**Sn**	**18 11 12.3**	**+0.7**
	114nm,0.3s,baz=55,slow=21,SNR=14						
SWI	**Sorong**	**6.53**	**17**	P	**Pn**	**18 10 02.3**	**+1.1**
	34nm,0.7s,4μm0.9nm						
SWI	**Sorong**	**6.53**	**17**	P	**Pn**	**18 10 02.0**	**+0.9**
	baz=6.6,SNR=24						
LBMI	**Labuha**	**6.74**	**344**	P	Pn	18 10 08.8	+4.8
	209nm,0.6s,2μm0.7nm						
BBSI	**Bau Bau**	**6.96**	**283**	P	Pn	18 10 12.8	+5.8
	61nm,1.1s,0.2nm						
MMRI	**Maumere**	**7.22**	**258**	P	**Pn**	**18 10 13.2**	**+2.7**
	80nm,0.6s,1μm0.4nm						
TNTI	**Ternate**	**8.13**	**346**	P	Pn	18 10 26.4	+3.8
	162nm,0.8s,1μm						
KNRA	**Kununurra**	**8.49**	**184**	P	**Pn**	**18 10 27.3**	**-0.1**
	baz=8.5,SNR=274						
BAKI	**Biak**	**8.95**	**49**	P	Pn	18 10 37.5	+3.8
	202nm,0.7s,0.7nm						
WSI	**Waingapu**	**9.32**	**254**	P	**Pn**	**18 10 39.4**	**+0.8**
	393nm,0.5s,6μm						
WSI	**Waingapu**	**9.32**	**254**	P	**Pn**	**18 10 39.1**	**+0.5**
	baz=9.4,SNR=6.8						
MRSI	**Marisa**	**10.61**	**315**	P	Pn	18 11 00.8	+5.0
	47nm,1.3s						
PCI	**Palu**	**11.36**	**303**	P	**Pn**	**18 11 06.5**	**+0.7**
	1μm,0.7s,70μm						
SGSI	**Sangihe**	**11.44**	**340**	P	**Pn**	**18 11 07.0**	**+0.3**
	519nm,0.4s,13μm						
FITZ	**Fitzroy Crossi**	**11.47**	**198**	P	**Pn**	**18 11 05.5**	**-1.6**
FITZ				S	Sn	18 13 05.7	-8.2
FITZ	**Fitzroy Crossi**	**11.47**	**198**	P	**Pn**	**18 11 05.4**	**-1.7**
	baz=12,SNR=281						
FITZ	**Fitzroy Crossi**	**11.47**	**198**	P	**Pn**	**18 11 05.5**	**-1.6**
	8.9nm,0.3s,baz=33,slow=11,SNR=230						
FITZ				S	Sn	18 13 05.7	-8.2
	19nm,0.3s,baz=129,slow=15,SNR=9.3						
JAY	**Jayapura**	**12.19**	**68**	P	**P**	**18 11 23.9**	**+0.5**
	baz=12,SNR=3.9						
WRA	**Warramunga Arr**	**13.59**	**160**	P	**Pn**	**18 11 32.1**	**-2.5**
WRA				S	Sn	18 13 54.0	-11
WRA	**Warramunga Arr**	**13.59**	**160**	P	**Pn**	**18 11 32.1**	**-2.5**
	2.6nm,0.3s,baz=336,slow=14,SNR=128						
WRA				S	Sn	18 13 54.0	-11
	9.4nm,0.3s,baz=331,slow=24,SNR=12						
COEN	**Coen**	**15.15**	**118**	P	**Pn**	**18 11 53.1**	**-1.2**
	baz=15,SNR=18						
MTKI	**Muara Teweh, K**	**15.70**	**293**	P	**P**	**18 12 05.7**	**+3.4**
	66nm,0.8s						
ASAR	**Alice Springs**	**16.98**	**166**	P	**P**	**18 12 16.4**	**0.0**
ASAR				S	S	18 15 16.0	-10
ASAR	**Alice Springs**	**16.98**	**166**	P	**P**	**18 12 16.4**	**0.0**
	7.0nm,0.3s,baz=344,slow=8.7,SNR=415						
ASAR				S	S	18 15 16.0	-10
	2.5nm,0.3s,baz=337,slow=22,SNR=5.7						
PWJI	**Pagerwojo**	**17.44**	**266**	P	**P**	**18 12 21.7**	**+0.2**
	36nm,0.7s						
SJI	**Sawahan**	**17.47**	**267**	P	**Pn**	**18 12 24.2**	**+1.4**
	57nm,0.5s,1μm						
PMG	**Port Moresby**	**17.74**	**98**	P	**Pn**	**18 12 29.4**	**+3.5**
PMG	**Port Moresby**	**17.74**	**98**	P	**Pn**	**18 12 27.0**	**+

DANN	**Dangsing**	**56.41**	**311**	*eP*	**P**	**18 17 54.2**	**-0.9**
	comp=Z,18nm,0.5s							
SONM	**Songino Array**	**58.40**	**342**	P	**P**	**18 18 08.6**	**+0.1**
SONM	**Songino Array**	**58.40**	**342**	P	**P**	**18 18 08.6**	**+0.1**
	comp=Z,2.1nm,0.4s,baz=156,slow=6.3,SNR=7.5							
PETK	**Petropavlovsk-**	**64.67**	**18**	P	**P**	**18 18 50.6**	**+0.4**
PETK	**Petropavlovsk-**	**64.67**	**18**	P	**P**	**18 18 50.6**	**+0.4**
	comp=Z,3.4nm,0.7s,baz=189,slow=8.7,SNR=4.9							
MK31	**Makanchi Array**	**68.02**	**327**	*eP*	**P**	**18 19 11.3**	**-0.4**
MKAR	**Makanchi Array**	**68.02**	**327**	P	**P**	**18 19 11.3**	**-0.4**
MKAR	**Makanchi Array**	**68.02**	**327**	P	**P**	**18 19 11.3**	**-0.4**
	comp=Z,4.8nm,0.6s,baz=117,slow=8.1,SNR=68							
TKM2	**Tokmak 2**	**69.71**	**321**	*eP*	**P**	**18 19 22.3**	**-0.3**
	comp=Z,1.9nm,0.6s							
AAK	**Ala-Archa**	**70.26**	**320**	*eP*	**P**	**18 19 26.0**	**+0.1**
	comp=Z,2.3nm,0.8s							
ZAA0	**Zalesovo Array**	**71.45**	**334**	*eP*	**P**	**18 19 30.8**	**-1.8**
ZALV	**Zalesovo Beam**	**71.45**	**334**	P	**P**	**18 19 31.4**	**-1.1**
ZALV	**Zalesovo Beam**	**71.45**	**334**	P	**P**	**18 19 31.4**	**-1.1**
	comp=Z,5.1nm,0.6s,baz=124,slow=5.0,SNR=25							
KURK	**Kurchatov**	**72.33**	**329**	*eP*	**P**	**18 19 37.0**	**-0.9**
	comp=Z,7.3nm,1.0s							
VNDA	**Vanda**	**72.37**	**173**	P	**P**	**18 19 37.1**	**-0.6**
VNDA	**Vanda**	**72.37**	**173**	P	**P**	**18 19 37.1**	**-0.6**
	comp=Z,1.9nm,0.5s,baz=314,slow=6.4,SNR=31							
MAW	**Mawson**	**74.58**	**201**	*eP*	**P**	**18 19 51.1**	**+0.3**
	comp=Z,0.8nm,0.7s							
MAW	**Mawson**	**74.58**	**201**	P	**P**	**18 19 51.3**	**+0.5**
	baz=75,SNR=17							
MAW	**Mawson**	**74.58**	**201**	P	**P**	**18 19 51.1**	**+0.3**
	comp=Z,5.2nm,0.6s,baz=73,slow=6.3,SNR=23							
BRVK	**Borovoye**	**77.94**	**328**	*eP*	**P**	**18 20 07.4**	**-2.6**
	comp=Z,6.9nm,1.0s							
OPO	**Ambohidratompo**	**80.38**	**252**	P	**P**	**18 20 25.2**	**+1.0**
OPO	**Ambohidratompo**	**80.38**	**252**	P	**P**	**18 20 25.2**	**+1.0**
	comp=Z,1.7nm,0.6s,baz=73,slow=6.6,SNR=3.5							
ABKAR	**Akbulak array**	**82.25**	**322**	*eP*	**P**	**18 20 32.1**	**-1.1**
	comp=Z,2.9nm,0.6s							
QSPA	**South Pole Qui**	**82.82**	**180**	P	**P**	**18 20 35.3**	**-0.7**
QSPA	**South Pole Qui**	**82.82**	**180**	P	**P**	**18 20 35.3**	**-0.7**
	comp=Z,4.9nm,0.6s,baz=306,slow=2.0,SNR=16							
SYO	**Syowa Base**	**83.29**	**201**↑	*eP*	**P**	**18 20 37.0**	**-1.2**
NAY	**Al-Naaiem**	**86.64**	**300**	*eP*	**P**	**18 20 54.2**	**-1.6**
NAY				AMb	AMB	18 20 55.5		
	comp=Z,21nm,1.7s							
RST	**Umm Al-Ruwaisa**	**86.90**	**300**	*eP*	**P**	**18 20 56.0**	**-1.1**
RST				AMb	AMB	18 20 57.0		
	comp=Z,138nm,1.0s							
KDAK	**Kodiak Island**	**89.68**	**32**	P	**P**	**18 21 08.9**	**-0.5**
KDAK	**Kodiak Island**	**89.68**	**32**	P	**P**	**18 21 08.9**	**-0.5**
	comp=Z,4.1nm,0.8s,baz=198,slow=6.4,SNR=3.3							
ILAR	**Eielson Array**	**93.75**	**25**	P	**P**	**18 21 26.1**	**-2.2**
ILAR	**Eielson Array**	**93.75**	**25**	P	**P**	**18 21 26.1**	**-2.2**
	comp=Z,1.2nm,0.7s,baz=273,slow=4.6,SNR=8.2							
ARCES	**ARCESS Array B**	**101.51**	**340**	P	**Pdif**	**18 22 01.1**	**-2.0**
ARCES	**ARCESS Array B**	**101.51**	**340**	P	**Pdif**	**18 22 01.1**	**-2.0**
	comp=Z,2.0nm,0.8s,baz=74,slow=8.9,SNR=4.9							
STHS	**Stebnicka Huta**	**107.18**	**319**	PDIF	**Pdif**	**18 22 28.0**	**-0.8**
GERES	**GERESS Array B**	**112.14**	**320**	PKiKP	**PKiKP**	**18 26 45.7**	**-1.0**
GERES	**GERESS Array B**	**112.14**	**320**	PKiKP	**PKiKP**	**18 26 45.7**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=75,slow=1.5,SNR=5.4							
TORD	**Torodi Ar. Bea**	**128.23**	**281**	PKP	**PKPdf**	**18 27 17.4**	**-1.0**
TORD	**Torodi Ar. Bea**	**128.23**	**281**	PKP	**PKPdf**	**18 27 17.4**	**-1.0**
	comp=Z,3.0nm,0.6s,baz=81,slow=1.8,SNR=23							
DBIC	**Dimbokro**	**134.58**	**272**	PKP	**PKPdf**	**18 27 30.6**	**+0.1**
DBIC	**Dimbokro**	**134.58**	**272**	PKP	**PKPdf**	**18 27 30.6**	**+0.1**
	comp=Z,2.9nm,0.4s,baz=39,slow=4.8,SNR=8.1							
CPUP	**Villa Florida**	**146.08**	**169**	PKPbc	**PKPdf**	**18 27 51.0**	**+0.1**
CPUP	**Villa Florida**	**146.08**	**169**	PKPbc	**PKPdf**	**18 27 51.0**	**+0.1**
	comp=Z,6.4nm,0.7s,baz=243,slow=3.5,SNR=10.0							
LPAZ	**La Paz**	**150.97**	**143**	PKPbc	**PKPbc**	**18 28 06.0**	**+0.3**
LPAZ	**La Paz**	**150.97**	**143**	PKPbc	**PKPbc**	**18 28 06.0**	**+0.3**
	comp=Z,4.6nm,0.3s,baz=61,slow=1.9,SNR=34							

KRSC ***05*** *18:12:24.7±4.0, 53.62N×161.85E, h10km±10km, ML4.1*
IDC ***05*** *18:12:24.7±0.7, 53.93N×161.67E, h0km, mb3.6/10, mb1 3.8/12, mb1mx3.7/29, mbtmp3.6/12, ML4.0/2, MS2.9/1, Ms1 2.9/1, ms1mx2.4/43, Error ellipse: s-maj=21.7km s-min=12.9km az=172.0*
MOS ***05*** *18:12:24.0±1.2, 53.67N×161.94E, h7km, mb4.0/5, Error ellipse: s-maj=14.1km s-min=8.5km az=77.4*
ISCJB ***05*** *18:12:27.0±0.5, 53.57N±0.02×161.99E±0.04, h38km±6km, mb3.5/10, Error ellipse: s-maj=4.7km s-min=2.6km az=33.9*

ISC 05 18:12:29.3±1.0, 53.64N±0.03×161.89E±0.04, h37km±1km, n64, σ1°40/113, mb3.5/10, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.92**	**354**	PN	**Pn**	**18 12 42.7**	**-3.0**
MKZ				S	**Sn**	**18 12 56.1**	**-1.6**
MKZ	**Mys Kozlova**	**0.92**	**354**	*i* P	**Pn**	**18 12 42.7**	**-3.0**
MKZ				*i* S	**Sn**	**18 12 56.1**	**-1.6**
KII	**Karymskiy**	**1.50**	**286**	*i* P	**Pn**	**18 12 50.9**	**-2.8**
KII				*i* S	**Sn**	**18 13 12.7**	**+0.7**
NLC	**Nalytchevo**	**1.59**	**254**	PN	**Pn**	**18 12 54.6**	**-0.3**
NLC				S	**Sn**	**18 13 14.3**	**+0.2**
NLC	**Nalytchevo**	**1.59**	**254**	*i* P	**Pn**	**18 12 54.6**	**-0.3**
NLC				*i* S	**Sn**	**18 13 14.3**	**+0.2**
SDLR	**Sedlovina**	**1.83**	**260**	*i* P	**Pn**	**18 12 56.6**	**-1.7**
SDLR				*i* S	**Sn**	**18 13 18.4**	**-1.9**
UGLR	**Uglovaya**	**1.88**	**258**	*i* P	**Pn**	**18 12 57.6**	**-1.4**
UGLR				*i* S	**Sn**	**18 13 19.9**	**-1.6**
SMAR	**Somma**	**1.89**	**260**	*i* P	**Pn**	**18 12 57.3**	**-1.8**
SMAR				*i* S	**Sn**	**18 13 20.0**	**-1.7**
KRER	**Koryakskii**	**1.91**	**261**	*i* P	**Pn**	**18 12 57.9**	**-1.5**
KRER				*i* S	**Sn**	**18 13 21.1**	**-1.1**
AVH	**Avacha**	**1.92**	**260**	*i* P	**Pn**	**18 12 58.2**	**-1.3**
AVH				*i* S	**Sn**	**18 13 23.0**	**+0.6**
TUMR	**Tumrok**	**1.94**	**329**	*i* P	**Pn**	**18 12 58.3**	**-1.4**
TUMR				*i* S	**Sn**	**18 13 22.3**	**-0.5**
KRX	**Arik**	**1.96**	**263**	*i* P	**Pn**	**18 12 58.2**	**-1.8**
KRX				*i* S	**Sn**	**18 13 22.0**	**-1.3**
KOK	**Koryaka**	**1.98**	**261**	*i* P	**Pn**	**18 12 59.3**	**-0.9**
KOK				*i* S	**Sn**	**18 13 22.7**	**-1.1**
PET	**Petropavlovsk**	**2.04**	**254**	*e*PN	**Pn**	**18 12 59.7**	**-1.2**
PET				*e*S	**Sn**	**18 13 26.2**	**+1.1**
PET				pmax	pmax		
	comp=Z,22nm,0.4s						
PET				smax	smax		
	comp=E,352nm,0.5s						
PET				smax	smax		
	comp=N,207nm,0.4s						
PET	**Petropavlovsk**	**2.04**	**254**	*e*P	**Pn**	**18 12 59.5**	**-1.4**
PET				*i* S	**Sn**	**18 13 23.5**	**-1.6**
KMNR	**Kamenistaya**	**2.33**	**336**	*i* P	**Pn**	**18 13 04.8**	**-0.3**
KMNR				*i* S	**Sn**	**18 13 34.1**	**+1.7**
GNL	**Ganaly**	**2.35**	**273**	*i* P	**Pn**	**18 13 04.4**	**-1.0**
GNL				*i* S	**Sn**	**18 13 33.4**	**+0.4**
RUS	**Russkaya**	**2.37**	**241**	PN	**Pn**	**18 13 05.2**	**-0.3**
RUS				S	**Sn**	**18 13 33.2**	**-0.1**
RUS	**Russkaya**	**2.37**	**241**	*e*P	**Pn**	**18 13 05.2**	**-0.3**
RUS				*i* S	**Sn**	**18 13 33.2**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**2.41**	**344**	*e*P	**Pn**	**18 13 06.4**	**+0.2**
BZGR				*i* S	**Sn**	**18 13 35.5**	**+1.1**
BZMR	**Bezymyannaya**	**2.44**	**341**	*e*P	**Pn**	**18 13 07.4**	**+0.8**
BZMR				*i* S	**Sn**	**18 13 36.5**	**+1.2**
ZLN	**Zelenaya**	**2.46**	**346**	*e*P	**Pn**	**18 13 07.3**	**+0.4**
ZLN				*i* S	**Sn**	**18 13 36.3**	**+0.5**
BZWR	**Bezymyannyi-We**	**2.46**	**341**	*e*P	**Pn**	**18 13 07.2**	**+0.2**
BZWR				*i* S	**Sn**	**18 13 37.5**	**+1.6**
KIRR	**Kirishev**	**2.48**	**340**	*e*P	**Pn**	**18 13 07.3**	**0.0**
KIRR				*i* S	**Sn**	**18 13 37.9**	**+1.5**
MTVR	**Mutnovka**	**2.52**	**244**	*e*P	**Pn**	**18 13 08.0**	**+0.3**
MTVR				*i* S	**Sn**	**18 13 38.4**	**+1.2**
KPT	**Kopyto**	**2.52**	**338**	*e*P	**Pn**	**18 13 07.6**	**-0.1**
KPT				*i* S	**Sn**	**18 13 38.0**	**+0.8**
GRL	**Gorelyy**	**2.54**	**246**	*e*P	**Pn**	**18 13 06.8**	**-1.3**
GRL				*i* S	**Sn**	**18 13 39.4**	**+1.6**
LGNR	**Loginova**	**2.54**	**345**	*e*P	**Pn**	**18 13 09.1**	**+0.9**
LGNR				*i* S	**Sn**	**18 13 40.7**	**+2.6**
PETK	**Petropavlovsk-**	**2.57**	**260**	PN	**Pn**	**18 13 07.9**	**-0.3**
PETK				pmax	pmax		
	comp=Z,10.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,219nm,19.5s						
PETK	**Petropavlovsk-**	**2.57**	**260**	Pn	**Pn**	**18 13 07.9**	**-0.3**
	comp=Z,9.6nm,0.3s,baz=81,slow=19,SNR=168						
PETK				LR	LR	18 13 41.1	
	comp=Z,219nm,19.5s,baz=80,slow=30						
PETK				Sn	**Sn**	**18 13 41.6**	**+3.5**
	comp=Z,13nm,0.3s,baz=108,slow=19,SNR=6.9						
CIRR	**Tsirk**	**2.57**	**346**	*e*P	**Pn**	**18 13 08.3**	**-0.1**
CIRR				*i* S	**Sn**	**18 13 39.9**	**+1.5**
KBTR	**Krutoberegovo**	**2.63**	**11**	PN	**Pn**	**18 13 08.9**	**-0.2**
KBTR				S	**Sn**	**18 13 41.4**	**+1.7**
KBTR	**Krutoberegovo**	**2.63**	**11**	*e*P	**Pn**	**18 13 08.9**	**-0.2**
KBTR				*i* S	**Sn**	**18 13 41.4**	**+1.7**
KOZ	**Kozyrevsk**	**2.69**	**335**	*e*P	**Pn**	**18 13 10.2**	**+0.2**
KOZ				*i* S	**Sn**	**18 13 43.7**	**+2.5**
KOZR	**Kozyr**	**2.69**	**335**	PN	**Pn**	**18 13 10.2**	**+0.2**
KOZR				S	**Sn**	**18 13 43.7**	**+2.4**
KRSR	**Krestovskiy**	**2.69**	**344**	*e*P	**Pn**	**18 13 09.7**	**-0.4**
KRSR				*i* S	**Sn**	**18 13 43.5**	**+2.0**
ASAK	**Asacha**	**2.72**	**244**	*e*P	**Pn**	**18 13 11.7**	**+1.3**
ASAK				*i* S	**Sn**	**18 13 43.9**	**+1.8**
KLY	**Klyuchi**	**2.77**	**346**	PN	**Pn**	**18 13 09.2**	**-1.9**
KLY				S	**Sn**	**18 13 43.1**	**-0.1**
KLY	**Klyuchi**	**2.77**	**346**	*i* P	**Pn**	**18 13 09.2**	**-1.9**
KLY				*i* S	**Sn**	**18 13 43.1**	**-0.1**
BKI	**Bering**	**2.85**	**55**	PN	**Pn**	**18 13 12.0**	**-0.2**
BKI				S	**Sn**	**18 13 43.4**	**-1.8**
BKI	**Bering**	**2.85**	**55**	*i* P	**Pn**	**18 13 12.0**	**-0.2**
BKI				*i* S	**Sn**	**18 13 43.4**	**-1.8**
APC	**Apacha**	**2.93**	**258**	*e*P	**Pn**	**18 13 14.5**	**+1.3**
APC				*i* S	**Sn**	**18 13 48.7**	**+1.6**
ESO	**Esso**	**2.94**	**322**	PN	**Pn**	**18 13 12.6**	**-0.8**
ESO				S	**Sn**	**18 13 47.4**	**-0.1**
ESO	**Esso**	**2.94**	**322**	*e*P	**Pn**	**18 13 12.6**	**-0.8**
ESO				*i* S	**Sn**	**18 13 47.4**	**-0.1**
SMKR	**Semkarok**	**2.96**	**355**	*e*P	**Pn**	**18 13 14.5**	**+0.8**
SMKR				*i* S	**Sn**	**18 13 50.4**	**+2.4**
BDR	**Baidarnaya**	**2.96**	**353**	*e*P	**Pn**	**18 13 14.4**	**+0.7**
BDR				*i* S	**Sn**	**18 13 50.4**	**+2.4**
SRDR	**Sredinnyy**	**2.96**	**336**	*e*P	**Pn**	**18 13 12.4**	**-1.3**
SRDR				*i* S	**Sn**	**18 13 48.9**	**+0.9**
SRKR	**Sorokina**	**3.05**	**352**	*e*P	**Pn**	**18 13 15.4**	**+0.4**
SRKR				*i* S	**Sn**	**18 13 51.9**	**+1.7**
MIPR	**Malaya Ipel'ka**	**3.39**	**248**	*e*P	**Pn**	**18 13 17.9**	**-1.7**
PAU	**Pauzhetka**	**3.79**	**237**	PN	**Pn**	**18 13 25.3**	**+0.3**
PAU	**Pauzhetka**	**3.79**	**237**	*e*P	**Pn**	**18 13 25.3**	**+0.3**
SKR	**Severo-Kuril's**	**4.62**	**233**	*e*P	**Pn**	**18 13 36.1**	**-0.4**
SKR				*i* S	**Sn**	**18 14 28.3**	**-0.6**
FX1	**Attu Island--F**	**6.81**	**92**	Pn	**Pn**	**18 14 07.1**	**+0.6**
	comp=Z,15nm,0.3s,baz=268,slow=6.7,SNR=29						
FX1				Sn	**Sn**	**18 15 20.3**	**-2.4**
	comp=Z,2.1nm,0.3s,baz=188,slow=19,SNR=2.3						
MJAR	**Matsushiro Arr**	**23.73**	**233**	P	**P**	**18 17 40.5**	**+2.7**
	comp=Z,1.2nm,0.7s,baz=26,slow=8.8,SNR=5.9						
ILAR	**Eielson Array**	**27.66**	**46**	P	**P**	**18 18 11.2**	**-2.0**
	comp=Z,0.4nm,0.7s,baz=253,slow=8.2,SNR=4.4						
KSRS	**Korea Array**	**28.42**	**249**	P	**P**	**18 18 20.1**	**0.0**
	comp=Z,0.5nm,0.6s,baz=42,slow=8.7,SNR=3.4						
MKAR	**Makanchi Array**	**48.88**	**296**	P	**P**	**18 21 09.0**	**-2.0**
MKAR	**Makanchi Array**	**48.88**	**296**	P	**P**	**18 21 09.0**	**-2.0**
	comp=Z,0.2nm,0.5s,baz=32,slow=8.5,SNR=2.3						
CMAR	**Chiang Mai Arr**	**59.34**	**259**	P	**P**	**18 22 28.9**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=28,slow=7.2,SNR=6.0						
FINES	**FINESS Array B**	**60.04**	**337**	P	**P**	**18 22 30.7**	**-1.0**
	comp=Z,1.8nm,0.8s,baz=39,slow=12,SNR=3.6						
NOA	**NORSAR Array B**	**63.31**	**345**	P	**P**	**18 22 53.3**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=16,slow=8.3,SNR=4.2						
GERES	**GERESS Array B**	**74.40**	**339**	P	**P**	**18 24 02.8**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=46,slow=5.8,SNR=4.3						
WRA	**Warramunga Arr**	**77.04**	**207**	P	**P**	**18 24 19.3**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=5.9,slow=6.0,SNR=2.9						
ASAR	**Alice Springs**	**80.71**	**206**	P	**P**	**18 24 40.0**	**+1.7**
	comp=Z,0.2nm,0.7s,baz=18,slow=5.2,SNR=2.6						

KRSC 05 18:35:12.5±4.9, 54.89N×160.60E, h159km±59km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUMR	**Tumrok**	**0.47**	**327**	*e*P	Pn	18 35 35.9	+1.0
MKZ	**Mys Kozlova**	**0.74**	**117**	*e*P	Pn	18 35 36.5	+0.4
MKZ				*i* S	Sn	18 35 54.1	-0.1
KMNR	**Kamenistaya**	**0.89**	**347**	*e*P	Pn	18 35 38.4	+1.0
ESO	**Esso**	**1.50**	**315**	*e*P	Pn	18 35 43.4	+0.7
SRDR	**Sredinnyy**	**1.52**	**341**	*e*P	Pn	18 35 42.3	-0.6
SMKR	**Semkarok**	**1.77**	**16**	*e*P	Pn	18 35 46.6	+1.0
SMKR				*i* S	Sn	18 36 12.5	+1.3
SRKR	**Sorokina**	**1.80**	**10**	*e*P	Pn	18 35 46.7	+0.8
SRKR				*i* S	Sn	18 36 12.5	+0.7
KBTR	**Krutoberegovo**	**1.83**	**43**	*e*P	Pn	18 35 47.3	+1.2
KBTR				*i* S	Sn	18 36 12.3	+0.2
NLC	**Nalytchevo**	**1.88**	**204**	*e*P	Pn	18 35 49.1	+2.4
NLC				*i* S	Sn	18 36 12.6	-0.4
GNL	**Ganaly**	**1.96**	**234**	*e*P	Pn	18 35 48.4	+0.5
BKI	**Bering**	**3.11**	**82**	*e*P	Pn	18 36 03.1	+1.7
BKI				*i* S	Sn	18 36 39.2	-0.2

WEL 05 18:50:37.9±0.2, 36.82S×177.46E, h173km±4km, ML3.5/8, Error ellipse: s-maj=4.4km s-min=3.2km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**1.41**	**154**	PN	Pn	18 51 08.3	0.0
PUZ				SN	Sn	18 51 31.1	-0.9
PUZ				AML	AML	18 52 05.6	
URZ	**Urewera**	**1.47**	**191**	PN	Pn	18 51 09.0	+0.1
URZ				SN	Sn	18 51 33.3	+0.2
MWZ	**Matawai**	**1.52**	**178**	PN	Pn	18 51 10.0	+0.5
MWZ				SN	Sn	18 51 34.0	0.0
MWZ				AML	AML	18 51 43.3	
BKZ	**Black Stump Fm**	**2.47**	**198**	PN	Pn	18 51 19.9	+0.1
BKZ				*e*SN	Sn	18 51 52.6	0.0
BHHZ	**Black Hill Sta**	**2.89**	**202**	PN	Pn	18 51 24.9	0.0
PNHZ	**Pukenui**	**3.25**	**197**	PN	Pn	18 51 28.5	-0.8
PNHZ				SN	Sn	18 52 08.1	-1.3
TSZ	**Takapari Road**	**3.45**	**200**	PN	Pn	18 51 31.2	-0.5
DVHZ	**Dannevirke**	**3.62**	**196**	PN	Pn	18 51 32.7	-1.1
MRZ	**Mangatainoka R**	**4.11**	**200**	PN	Pn	18 51 38.8	-1.3
MRZ				AML	AML	18 51 49.9	
OGWZ	**Otaki Gorge**	**4.38**	**203**	PN	Pn	18 51 41.5	-2.0
CAW	**Cannon Point**	**4.68**	**203**	PN	Pn	18 51 44.9	-2.5
TCW	**Tory Channel**	**5.04**	**209**	PN	Pn	18 51 49.6	-2.6
QRZ	**Quartz Range**	**5.56**	**222**	PN	Pn	18 51 57.7	-1.2
THZ	**Tophouse**	**6.08**	**214**	PN	Pn	18 52 03.5	-2.2
LTZ	**Lake Taylor**	**7.17**	**212**	PN	Pn	18 52 17.1	-3.2

BJI ***05*** *18:52:42.4, 15.30S×173.60W, h5km, mB5.6/13, mb5.0/17, Ms5.2/6, Ms7 4.9/5*
IDC ***05*** *18:52:42.3±0.5, 15.15S×173.61W, h0km, mb4.5/13, mb1 4.7/14, mb1mx4.5/23, mbtmp4.5/14, ML3.6/1, Error ellipse: s-maj=27.1km s-min=13.1km az=129.0*
NEIC ***05*** *18:52:43.7±0.2, 15.21S×173.63W, h10km, mb4.8/24, Error ellipse: s-maj=15.2km s-min=6.1km az=137.0*
SZGRF ***05*** *18:52:45.0, 16.48S×173.65W, h33km, mb4.6, Tonga Islands*
ISCJB ***05*** *18:52:47.0±0.2, 15.35S±0.07×173.63W±0.06, h42km, mb4.7/43, MS4.8/3, Error ellipse: s-maj=11.7km s-min=6.4km az=144.3*
AUST ***05*** *18:52:49.9±0.0, 15.09S×172.83W, h104km, Error ellipse: s-maj=1.6km s-min=1.3km az=241.0*
GCMT ***05*** *18:52:54.2±0.2, 14.99S×173.34W, h12km, MW5.3, Moment Tensor Solution. s37,c48; s93,c134; Moment tensor: Scale 10^17Nm; Mrr-0.06±.01; Mθθ0.24±.01; Mφφ-0.18±.01; Mrθ-1.07±.03; Mθφ0.00±.01; Mφr0.48±.03; Best double couple: M0 1.20000×10^17 NP1:φs115.00000°, δ87.00000°, λ-82.00000°. NP2:φs224.00000°, δ8.00000°, λ-161.00000°. Principal axes: T 1.2400, Plg42.0000°, Azm197.0000°; N -0.1100, Plg8.0000°, Azm294.0000°; P -1.1300, Plg47.0000°, Azm33.0000°; Data Used: IU II IC G CN.*

ISC 05 18:52:48.4±0.4, 15.35S±0.08×173.50W±0.09, h42km, n322, σ0.79/316, mb4.8/43, MS4.8/3, 104C-101D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.19**	**50**	Pn	Pn	18 53 17.6	-4.9
AFI				Sn	Sn	18 53 37.4	-11
AFI	**Afiamalu**	**2.19**	**50**	Pn	Pn	18 53 17.6	-4.9
	1μm,0.3s,baz=61,slow=1.7,SNR=539						
AFI				Sn	Sn	18 53 37.4	-11
	2μm,0.3s,baz=131,slow=5.5,SNR=9.7						
NIUE	**Niue**	**5.04**	**138**	P	**Pn**	**18 54 01.2**	**-0.3**
	baz=4.9,SNR=119						
MSVF	**Nonsavu**	**8.45**	**253**	*e*P	Pn	18 54 57.2	+8.8
DZM	**Mont Dzumac**	**20.13**	**248**	*e*Pn	Pn	18 57 29.7	+8.4
	64nm,1.2s						
DZM				*e*LR	LR	19 02 27.0	
	3μm,26.6s						
DZM	**Mont Dzumac**	**20.13**	**248**	P	Pn	18 57 24.2	+2.9
DZM	**Mont Dzumac**	**20.13**	**248**	P	Pn	18 57 24.2	+2.9
	8.0nm,0.8s,baz=75,slow=20,SNR=5.7						
PPT2	**Papeete2**	**23.04**	**99**	*e*LR	LR	19 03 12.7	
	321nm,29.5s						
TBI	**Tubuai**	**24.01**	**113**	*e*LQ	LQ	19 02 44.6	
	466nm,26.5s						
TBI				*e*LR	LR	19 03 40.3	
	351nm,26.5s						
URZ	**Urewera**	**24.29**	**198**	*e*P	**P**	**18 58 00.7**	**-1.1**
URZ	**Urewera**	**24.29**	**198**	P	**P**	**18 58 02.5**	**+0.6**
	11nm,0.4s,baz=4.8,slow=6.3,SNR=11						
LHI	**Lord Howe Isla**	**29.77**	**232**	P	P	18 58 41.9	-9.2
	baz=30,SNR=4.0						
RPZ	**Rata Peaks**	**31.20**	**202**	P	**P**	**18 59 03.5**	**-0.2**
RPZ	**Rata Peaks**	**31.20**	**202**	P	**P**	**18 59 03.5**	**-0.2**
	12nm,0.6s,baz=144,slow=5.2,SNR=7.5						
CNB	**Canberra Magne**	**38.71**	**232**	P	**P**	**19 00 08.2**	**-0.4**
	baz=39,SNR=4.9						
H11S2	**WAKE ISLAND Hy**	**38.87**	**329**	T	T	19 40 55.2	
	baz=150,slow=0.7						
H11S3	**WAKE ISLAND Hy**	**38.88**	**329**	T	T	19 40 56.9	
	baz=150,slow=0.7						
H11S1	**WAKE ISLAND Hy**	**38.89**	**329**	T	T	19 40 56.7	
	baz=150,slow=0.7						
H11N3	**WAKE ISLAND Hy**	**39.82**	**330**	T	T	19 42 06.4	
	baz=144						
H11N1	**WAKE ISLAND Hy**	**39.82**	**330**	T	T	19 42 03.0	
	baz=144						
H11N2	**WAKE ISLAND Hy**	**39.84**	**330**	T	T	19 42 08.6	
	baz=144						
CMSA	**Cobar Meteorol**	**40.50**	**239**	P	**P**	**19 00 23.0**	**-0.5**
	baz=41,SNR=10.0						
STKA	**Stephens Creek**	**43.98**	**240**	*e*P	**P**	**19 00 51.0**	**-0.9**
	2.5nm,1.3s						
STKA				P	**P**	**19 00 51.7**	**-0.2**
STKA	**Stephens Creek**	**43.98**	**240**	P	**P**	**19 00 51.8**	**-0.1**
	baz=45,SNR=7.6						
STKA	**Stephens Creek**	**43.98**	**240**	P	**P**	**19 00 51.7**	**-0.2**
	4.0nm,0.7s,baz=71,slow=8.2,SNR=10.0						
WRAB	**Tennant Creek**	**49.76**	**257**	*e*P	**P**	**19 01 35.5**	**-1.7**
	11nm,0.9s						
WRA	**Warramunga Arr**	**49.77**	**257**	P	**P**	**19 01 36.0**	**-1.2**
WRA	**Warramunga Arr**	**49.77**	**257**	P	**P**	**19 01 36.0**	**-1.2**
	1.0nm,0.4s,baz=91,slow=6.9,SNR=28						
ASAR	**Alice Springs**	**50.04**	**252**	P	**P**	**19 01 38.2**	**-1.1**
ASAR	**Alice Springs**	**50.04**	**252**	P	**P**	**19 01 38.2**	**-1.1**
	7.9nm,0.8s,baz=86,slow=8.4,SNR=87						
VNDA	**Vanda**	**63.42**	**186**	P	**P**	**19 03 15.6**	**+2.3**
VNDA	**Vanda**	**63.42**	**186**	P	**P**	**19 03 15.6**	**+2.3**
	2.7nm,0.8s,baz=9.3,slow=6.7,SNR=17						
SMMC	**Simmler**	**71.45**	**44**	⇓P	**P**	**19 04 06.1**	**+1.3**
	baz=72						
VES	**Vestal, Richgr**	**72.37**	**44**	⇓P	**P**	**19 04 10.8

	8.3nm,0.9s							
Y21A	**Point of Rocks**	79.52	50	⇓P		P	19 04 52.4	+1.0
	baz=80							
X21A	**Alamocita Cree**	79.64	50	⇓P		P	19 04 52.8	+0.8
	baz=80							
HLID	**Hailey**	79.64	39	*e*P		P	19 04 51.8	+0.1
	18nm,1.1s							
HLID	**Hailey**	79.64	39	⇓P		P	19 04 52.8	+1.1
	baz=80							
Z22A	**Elephant Butte**	79.72	51	⇑P		P	19 04 53.6	+1.2
	baz=80							
V20A	**Brimhall**	79.75	48	⇓P		P	19 04 54.2	+1.7
	baz=80							
SRU	**San Rafael**	79.87	45	*e*P		P	19 04 53.2	+0.1
	20nm,1.4s							
Y22A	**Socorro**	80.02	51	⇑P		P	19 04 55.2	+1.2
	baz=80							
324A	**Moseley Ranch,**	80.08	54	⇑P		P	19 04 54.4	+0.1
	baz=80,SNR=6.7							
LAZ	**Ladron**	80.09	50	*e*P		P	19 04 55.1	+0.7
	12nm,1.8s							
LENM	**Lemitar**	80.11	51	*e*P		P	19 04 55.3	+0.8
	3.9nm,1.0s							
425A	**Indio Mountain**	80.20	54	⇓P		P	19 04 55.5	+0.5
	baz=80,SNR=8.5							
MNTX	**Cornudas Mount**	80.27	53	*e*P		P	19 04 54.9	-0.3
	15nm,1.4s							
Z23A	**Rita Site, Whi**	80.28	52	⇑P		P	19 04 56.2	+0.9
	baz=80							
224A	**Cornudas Mount**	80.32	53	⇓P		P	19 04 55.7	+0.1
	baz=80,SNR=6.1							
V21A	**Milan**	80.35	49	⇑P		P	19 04 56.4	+0.6
	baz=80							
626A	**Big Bend Ranch**	80.37	56	⇑P		P	19 04 56.1	+0.2
	baz=80,SNR=6.0							
325A	**Bean Ranch, Si**	80.45	54	⇑P		P	19 04 55.9	-0.5
	baz=81,SNR=9.3							
526A	**Mary Lane Ranc**	80.61	55	⇓P		P	19 04 57.2	0.0
	baz=81,SNR=7.4							
U21A	**Nageezi**	80.62	48	⇓P		P	19 04 57.4	+0.2
	baz=81,SNR=5.5							
124A	**Stringfield Ra**	80.63	52	⇑P		P	19 04 58.3	+1.0
	baz=81							
TXAR	**Lajitas Array**	80.66	56	P		P	19 04 57.5	+0.1
TXAR	**Lajitas Array**	80.66	56	P		P	19 04 57.5	+0.1
	5.4nm,1.1s,baz=214,slow=4.2,SNR=23							
Y23A	**Lovelace Mesa,**	80.70	51	⇑P		P	19 04 58.6	+0.9
	baz=81							
PV01	**Paradox Valley**	80.75	46	*e*P		P	19 04 58.2	+0.3
	362nm,0.9s							
S20A	**Disappointment**	80.76	47	⇓P		P	19 04 57.8	-0.2
	baz=81,SNR=6.7							
225A	**Deer Hill, Car**	80.87	53	⇑P		P	19 04 59.9	+1.2
	baz=81							
X23A	**Hourglass Bar**	80.88	50	⇓P		P	19 04 59.5	+0.9
	baz=81							
627A	**Terlingua Ranc**	80.93	56	⇓P		P	19 04 59.0	+0.1
	baz=81,SNR=10							
T21A	**Navajo Lake**	80.96	48	⇓P		P	19 04 60.0	+0.9
	baz=81							
Z24A	**Sheeppen Canyo**	80.97	52	⇓P		P	19 04 59.7	+0.6
	baz=81							
CN2	**Changchun**	80.99	320	*e*P		P	19 04 59.7	+1.0
CN2				AMB		AMB		
	comp=Z,10.0nm,0.7s							
527A	**Woodward Ranch**	81.03	55	⇑P		P	19 04 59.3	-0.1
	baz=81,SNR=6.3							
S21A	**Coal Bank Pass**	81.08	47	⇑P		P	19 04 60.0	+0.2
	baz=81,SNR=16							
MCK	**McKinley**	81.09	11	*e*P		P	19 04 57.5	-1.3
	7.1nm,0.9s							
W23A	**Werner Place,**	81.16	50	⇓P		P	19 05 00.6	+0.5
	baz=81							
Y24A	**Capitan**	81.16	51	⇓P		P	19 05 01.0	+0.9
	baz=81							
P19A	**Cripple Cowboy**	81.17	45	⇓P		P	19 05 00.8	+0.7
	baz=81							
U22A	**Llaves**	81.18	49	⇑P		P	19 05 01.0	+0.8
	baz=81							
326A	**Caldwell Ranch**	81.20	54	⇓P		P	19 05 01.0	+0.7
	baz=81							
Q20A	**Ridgley Place,**	81.32	46	⇓P		P	19 05 00.9	0.0
	baz=82,SNR=6.9							
628A	**Black Gap, Mar**	81.34	56	⇑P		P	19 05 01.3	+0.3
	baz=82,SNR=6.0							
226B	**Tecolote Peak,**	81.37	53	⇑P		P	19 05 01.1	0.0
	baz=82,SNR=11							
O19A	**Miners Draw (B**	81.39	44	⇑P		P	19 05 02.1	+1.0
	baz=82							
T22A	**Edith**	81.42	48	⇓P		P	19 05 02.7	+1.1
	baz=82							
RRI2	**Red Ridge**	81.45	41	*e*P		P	19 05 01.4	-0.2
	29nm,1.6s							
427A	**Hayter Ranch,**	81.47	55	⇑P		P	19 05 02.0	+0.3
	baz=82,SNR=11							
P20A	**De Beque**	81.51	45	⇓P		P	19 05 03.0	+1.2
	baz=82							
R21A	**Cimarron**	81.57	47	⇑P		P	19 05 02.3	+0.1
	baz=82,SNR=8.5							
528A	**Cox Ranch, San**	81.69	56	⇑P		P	19 05 02.8	-0.1
	baz=82,SNR=7.4							
MSO	**Missoula**	81.69	37	⇓P		P	19 05 03.0	+0.4
	baz=82							
126A	**Clayton Basin,**	81.71	53	⇓P		P	19 05 03.9	+1.0
	baz=82							
Y25A	**Mesa, Roswell**	81.72	52	⇑P		P	19 05 02.5	-0.5
	baz=82,SNR=6.2							
W24A	**Lazy 6 Ranch,**	81.73	50	⇓P		P	19 05 03.9	+0.8
	baz=82							
REDW	**Red Top Meadow**	81.75	41	*e*P		P	19 05 03.3	+0.2
	26nm,1.5s							
TPAW	**Teton Pass**	81.76	41	*e*P		P	19 05 03.4	+0.2
	7.7nm,0.9s							
Q21A	**Lamborn Mesa,**	81.77	46	⇓P		P	19 05 04.2	+1.0
	baz=82							
S22A	**4UR Ranch, Cre**	81.80	47	⇓P		P	19 05 03.8	+0.2
	baz=82,SNR=9.5							
M19A	**Rock Springs**	81.94	43	⇑P		P	19 05 05.0	+0.9
	baz=82							
IMW	**Indian Meadow**	81.97	40	*e*P		P	19 05 04.3	0.0
	21nm,1.3s							
428A	**Kincaid Ranch,**	81.99	55	⇑P		P	19 05 04.7	+0.3
	baz=82,SNR=5.9							
Z26A	**Caprock**	82.00	52	⇓P		P	19 05 05.4	+1.0
	baz=82							
X25A	**Clemmons Ranch**	82.00	51	⇑P		P	19 05 05.5	+1.1
	baz=82							
MOOW	**Moose Ponds**	82.02	41	*e*P		P	19 05 04.2	-0.3
	21nm,1.9s							
LOHW	**Long Hollow**	82.04	41	*e*P		P	19 05 04.8	+0.2
	13nm,1.5s							
529A	**Stev Forest Ra**	82.12	56	⇑P		P	19 05 05.7	+0.6
	baz=82,SNR=6.8							
QLMT	**Earthquake Lak**	82.14	39	*e*P		P	19 05 05.1	0.0
CHMT	**Chamberlain Mo**	82.14	37	*e*P		P	19 05 04.4	-0.6
	7.5nm,1.4s							
328A	**Wristen Ranch,**	82.15	55	⇑P		P	19 05 05.9	+0.7
	baz=82							
P21A	**Newcastle**	82.17	46	⇓P		P	19 05 06.1	+0.7
	baz=82							
I17A	**Pilgrim Ck.**	82.21	40	⇓P		P	19 05 06.4	+0.9
	baz=82							
FLWY	**Flagg Ranch**	82.21	40	*e*P		P	19 05 06.2	+0.7
	23nm,1.4s							
N20A	**Spence Gulch,**	82.22	44	⇑P		P	19 05 06.3	+0.7
	baz=82							
127A	**Arkansas Junct**	82.23	53	⇓P		P	19 05 06.5	+0.8
	baz=82							
Q22A	**Crested Butte,**	82.24	46	⇑P		P	19 05 06.8	+1.0
	baz=82							
PDAR	**Pinedale Array**	82.29	42	P		P	19 05 05.5	-0.4
PDAR	**Pinedale Array**	82.29	42	P		P	19 05 05.5	-0.4
	3.4nm,1.0s,baz=208,slow=2.9,SNR=23							
ILAR	**Eielson Array**	82.41	11	P		P	19 05 05.2	-0.6
ILAR	**Eielson Array**	82.41	11	P		P	19 05 05.2	-0.6
	0.9nm,0.5s,baz=225,slow=6.2,SNR=11							
W25A	**X Bar L Ranch,**	82.44	50	⇓P		P	19 05 07.6	+0.8
	baz=83							
IMA2	**Indian Mountai**	82.52	8	P		P	19 05 06.5	+0.1
T24B	**San Luis**	82.54	48	⇑P		P	19 05 08.2	+0.8
	baz=83							
YNR	**Norris Junctio**	82.54	40	*e*P		P	19 05 08.5	+1.3
	6.8nm,0.9s							
M20A	**Sweetwater, Wa**	82.58	44	⇓P		P	19 05 07.8	+0.4
	baz=83							
429A	**Davenport Ranc**	82.58	56	⇓P		P	19 05 07.2	-0.3
	baz=83,SNR=9.8							
V25A	**Rancho No Teng**	82.58	50	⇑P		P	19 05 08.3	+0.8
	baz=83							
Z27A	**Tatum**	82.60	53	⇑P		P	19 05 08.2	+0.6
	baz=83							
X26A	**CR and CF Fran**	82.65	51	⇓P		P	19 05 08.3	+0.4
	baz=83							
P22A	**Eagle**	82.68	46	⇓P		P	19 05 08.6	+0.6
	baz=83							
R23A	**Moffat**	82.71	47	⇑P		P	19 05 08.9	+0.6
	baz=83							
L20A	**Wamsutter**	82.72	43	⇑P		P	19 05 07.8	-0.4
	baz=83,SNR=5.7							
K19A	**Absolon Red Bu**	82.77	42	⇓P		P	19 05 08.6	+0.2
	baz=83							
QIZ	**Qiongzhong**	82.80	292	P		P	19 05 08.3	-0.5
QIZ						S	19 15 26.2	+1.8
329A	**Wagon Wheel Ra**	82.84	55	⇑P		P	19 05 09.2	+0.3
	baz=83							
530A	**J O Ranch, Com**	82.84	56	⇑P		P	19 05 09.3	+0.4
	baz=83							
J19A	**Crowheart**	82.85	42	⇑P		P	19 05 08.1	-0.7
	baz=83,SNR=6.3							
Y27A	**Causey**	82.87	52	⇓P		P	19 05 09.3	+0.3
	baz=83							
128A	**Castleberry Fa**	82.89	54	⇑P		P	19 05 10.0	+0.9
	baz=83							
W26A	**Owens Ranch, T**	82.90	51	⇓P		P	19 05 09.9	+0.7
	baz=83							
S24A	**Houchin Ranch,**	82.91	48	⇑P		P	19 05 09.9	+0.5
	baz=83							
U25A	**Circle Dot Ran**	82.97	49	⇓P		P	19 05 10.3	+0.8
	baz=83							
O22A	**Kremmling**	83.08	45	⇑P		P	19 05 10.1	0.0
	baz=83,SNR=12							
H18A	**Shoshone NF, C**	83.15	40	⇓P		P	19 05 11.0	+0.7
	baz=83							
229A	**Bryant Ranch,**	83.16	54	⇓P		P	19 05 11.2	+0.7
	baz=83							
V26A	**Tequesquite Ra**	83.17	50	⇓P		P	19 05 11.1	+0.6
	baz=83							
M21A	**Separation Pea**	83.18	44	⇓P		P	19 05 10.0	-0.5
	baz=83,SNR=7.8							
631A	**Perdido Creek**	83.18	57	⇑P		P	19 05 11.0	+0.5
	baz=83							
MSTX	**Muleshoe**	83.20	52	*e*P		P	19 05 10.9	+0.2
MSTX				*e*			19 05 27.7	
MSTX	**Muleshoe**	83.20	52	⇓P		P	19 05 11.5	+0.8
	baz=83							
P23A	**Jefferson**	83.22	46	⇓P		P	19 05 11.2	+0.3
	baz=83							
Z28A	**Tucker Farm, M**	83.22	53	⇑P		P	19 05 11.5	+0.7
	baz=83							
R24A	**Sanders Place,**	83.24	48	⇑P		P	19 05 11.8	+0.9
	baz=83							
I19A	**Meeteetse**	83.26	41	⇑P		P	19 05 10.8	-0.1
	baz=83,SNR=5.8							
RWWY	**Rawlins**	83.32	44	*e*P		P	19 05 09.4	-1.9
	12nm,1.0s							
L21A	**Rawlins**	83.34	43	⇑P		P	19 05 11.7	+0.4
	baz=84							
W27A	**Bowe Ranch, En**	83.42	51	⇑P		P	19 05 11.9	+0.1
	baz=84							
N22A	**Wattenberg Ran**	83.43	45	⇓P		P	19 05 12.6	+0.6
	baz=84							
330A	**Mertzon**	83.44	55	⇑P		P	19 05 12.3	+0.3
	baz=84							
U26A	**Atchley Ranch,**	83.45	50	⇓P		P	19 05 12.6	+0.5
	baz=84							
S25A	**Robets Cordova**	83.48	48	⇑P		P	19 05 12.6	+0.4
	baz=84							
J20A	**Shoshoni**	83.52	42	⇑P		P	19 05 12.8	+0.6
	baz=84							
Q24A	**Divide**	83.52	47	⇑P		P	19 05 13.2	+0.7
	baz=84							
O23A	**Lake Granby, G**	83.53	45	⇑P		P	19 05 13.3	+0.8
	baz=84							
ISCO	**Idaho Springs**	83.56	46	⇓P		P	19 05 13.4	+0.7
	baz=84							
H19A	**Powell**	83.57	40	⇑P		P	19 05 13.3	+0.9
	baz=84							
Y28A	**McKinney Farm,**	83.58	52	⇑P		P	19 05 13.2	+0.6
	baz=84							
M22A	**Cedar Creek Ra**	83.60	44	⇓P		P	19 05 13.1	+0.3
	baz=84							
230A	**Sterling City**	83.68	55	⇑P		P	19 05 13.8	+0.7
	baz=84							
K21A	**Alcova**	83.72	43	⇓P		P	19 05 12.7	-0.6
	baz=84,SNR=7.9							
Z29A	**Hungry Hill Ra**	83.74	53	⇓P		P	19 05 13.8	+0.3
	baz=84							
I20A	**Worland**	83.77	41	⇓P		P	19 05 12.8	-0.6
	baz=84,SNR=6.6							
N23A	**Red Feather La**	83.81	45	⇑P		P	19 05 14.5	+0.6
	baz=84							
632A	**Uvalde**	83.86	57	⇑P		P	19 05 14.8	+0.8
	baz=84							
J21A	**Lysite**	83.92	42	⇓P		P	19 05 15.2	+0.9
	baz=84							
532A	**Rocksprings**	83.98	57	⇑P		P	19 05 15.4	+0.6
	baz=84							
L22A	**Ellis Ranch, M**	83.99	44	⇓P		P	19 05 15.5	+0.8
	baz=84							
Y29A	**Porterfield Fa**	84.00	53	⇑P		P	19 05 15.6	+0.8
	baz=84							
331A	**San Angelo**	84.00	55	⇓P		P	19 05 15.5	+0.7
	baz=84							
130A	**Snyder**	84.06	54	⇑P		P	19 05 15.7	+0.6
	baz=84							
H20A	**Greybull**	84.10	41	⇓P		P	19 05 16.0	+0.9
	baz=84							
S26A	**Kim**	84.16	49	⇑P		P	19 05 15.9	+0.3
	baz=84							
F19A	**Roth Farm, Mol**	84.17	39	⇑P		P	19 05 15.9	+0.6
	baz=84							
Z30A	**Sanderson Ranc**	84.20	53	⇑P		P	19 05 15.6	-0.2
	baz=84							
X29A	**Tulia**	84.20	52	⇓P		P	19 05 15.7	-0.1
	baz=84							
K22A	**Casper**	84.21	43	⇓P		P	19 05 15.8	0.0
	baz=84							
I21A	**Big Trails, Te**	84.24	42	⇑P		P	19 05 14.8	-1.0
	baz=84,SNR=8.6							
G20A	**Bridger**	84.31	40	⇑P		P	19 05 16.4	+0.3
	baz=84							
W29A	**Amraillo**	84.50	51	⇑P		P	19 05 18.1	+0.8
	baz=85							
L23A	**Garrett**	84.52	44	⇓P		P	19 05 17.8	+0.4
	baz=85							
131A	**Roby**	84.54	54	⇓P		P	19 05 17.8	+0.3
	baz=85							
E19A	**Rath Farm, Rou**	84.56	39	⇓P		P	19 05 17.9	+0.6
	baz=85							
332A	**Millersview**	84.57	56	⇓P		P	19 05 17.7	+0.1
	baz=85							
J22A	**Midwest**	84.58	42	⇑P		P	19 05 16.9	-0.7
	baz=85,SNR=8.4							
Y30A	**Stafford Cattl**	84.60	53	⇑P		P	19 05 17.9	+0.1
	baz=85							
F20A	**Billings**	84.63	40	⇓P		P	19 05 17.9	+0.2
	baz=85							
EGMT	**Eagleton**	84.74	37	⇑P		P	19 05 19.1	+0.9
	baz=85							
H21A	**Big Horn, Sher**	84.77	41	⇓P		P	19 05 19.1	+0.6
	baz=85							
I22A	**9 Mile Ranch,**	84.80	42	⇑P		P	19 05 19.2	+0.6
	baz=85							
M24A	**Cheyenne**	84.82	45	⇓P		P	19 05 19.7	+0.8
	baz=85							
232A	**Coleman**	84.83	55	⇑P		P	19 05 19.5	+0.5
	baz=85							
D19A	**Cripps Ranch,**	84.84	38	⇓P		P	19 05 19.6	+0.8
	baz=85							
V29A	**Stinnett**	84.89	51	⇓P		P	19 05 20.1	+0.8
	baz=85							
R27A	**Eads**	84.91	48	⇑P		P	19 05 20.1	+0.7
	baz=85							
T28A	**Walsh**	84.94	50	⇓P		P	19 05 20.1	+0.6
	baz=85							
Z31A	**Sharp Cattle R**	84.97	54	⇓P		P	19 05 19.9	+0.2
	baz=85							
E20A	**Meyer Farm, Mu**	84.97	39	⇓P		P	19 05 20.0	+0.6
	baz=85							
C19A	**Slack Wire Ran**	85.02	38	⇑P		P	19 05 19.1	-0.5
	baz=85,SNR=6.8							
ABTX	**Abilene, Hawle**	85.11	54	*e*P		P	19 05 20.4	0.0
ABTX				*e*			19 05 36.6	
ABTX	**Abilene, Hawle**	85.11	54	⇑P		P	19 05 20.1	-0.2
	baz=85							
Y31A	**Rekieta Farm,**	85.12	53	⇓P		P	19 05 20.6	+0.2
	baz=85							
D20A	**Manuel Ranch,**	85.25	39	⇓P		P	19 05 21.6	+0.9
	baz=85							
BJI	**Beijing**	85.37	314	P		P	19 05 21.2	-0.2
BJI				S		S	19 15 52.4	+3.2
BJI				SS		SS	19 21 27.3	+2.1
BJI				AMB		AMB		
	comp=Z,11nm,0.7s							
BJI				AMB		AMB		
	comp=Z,240nm,4.5s							
BJI				LR		LR		
	comp=N,400nm,24.9s							
BJI				LR		LR		
	comp=E,340nm,26.3s							
B19A	**Brinkman Farms**	85.43	37	⇓P		P	19 05 22.3	+0.8
	baz=86							
C20A	**Veseth Ranch,**	85.62	38	⇓P		P	19 05 23.9	+1.4
	baz=86							
N26A	**Koester Ranch,**	85.65	46	⇑P		P	19 05 23.7	+0.8
	baz=86							
Y32A	**R-V Farms, Ver**	85.77	53	⇓P		P	19 05 24.1	+0.5
	baz=86							
A19A	**Klindworth Far**	85.77	37	⇓P		P	19 05 23.8	+0.5
	baz=86							
W31A	**Holland Ranch,**	85.82	52	⇑P		P	19 05 24.4	+0.6
	baz=86							
A20A	**Cobblestone Ra**	86.22	37	⇑P		P	19 05 26.1	+0.6
	baz=86							
WHTX	**Lake Whitney**	86.61	56	*e*P		P	19 05 27.9	+0.1
MAW	**Mawson**	87.81	199	P		P	19 05 33.5	+0.6
MAW	**Mawson**	87.81	199	P		P	19 05 33.5	+0.6
	3.3nm,0.7s,baz=130,slow=8.6,SNR=12							
GYA	**Guiyang**	87.94	298	*e*P		P	19 05 33.8	-0.6
GYA				PP		PP	19 09 02.0	+0.7
GYA				SKS		SKSac	19 16 01.4	+1.4
GYA				S		S	19 16 15.5	+0.4
GYA				SS		SS	19 22 05.0	+1.3
GYA				AMB		AMB		
	comp=Z,10.0nm,1.0s							
GYA				AMB		AMB		
	comp=Z,90nm,6.5s							
GYA				LR		LR		
	comp=N,450nm,19.8s							
GYA				LR		LR		
	comp=E,390nm,20.2s							
GYA				LR		LR		
	comp=Z,420nm,19.9s							
HHC	**Hu-ho-hao-te**	88.92	313	*e*P		P	19 05 36.9	-1.9
HHC				sP		sP	19 05 43.9	-12
HHC				PP		PP	19 09 08.7	-0.2
HHC				SKS		SKSac	19 16 03.7	-1.5
HHC				S		S	19 16 22.1	-1.7
HHC				SS		SS	19 22 18.2	+0.7
HHC				AMB		AMB		
	comp=Z,34nm,0.9s							
HHC				AMB		AMB		
	comp=Z,410nm,5.3s							
HHC				LR		LR		
	comp=N,240nm,17.5s							
HHC				LR		LR		
	comp=E,500nm,18.4s							
HHC				LR		LR		
	comp=Z,150nm,19.0s							
KMI	**Kunming**	90.92	296	P		P	19 05 48.5	-0.1
KMI				AMB		AMB		
	comp=Z,5.0nm,0.8s							
CD2	**Chengdu**	91.70	301	P		P	19 05 51.5	-0.4
CD2				AMB		AMB		
	comp=Z,10.0nm,0.5s							
ARCES	**ARCESS Array B**	124.54	352	PKP		PKPdf	19 11 41.9	-0.8
ARCES	**ARCESS Array B**	124.54	352	PKP		PKPdf	19 11 41.9	-0.8
	3.6nm,1.0s,baz=5.0,slow=2.8,SNR=3.5							
AKASG	**Malin Array Be**	140.25	337	PKP		PKPdf	19 12 11.3	-1.3
AKASG	**Malin Array Be**	140.25	337	PKP		PKPdf	19 12 11.3	-1.3
	0.5nm,0.6s,baz=17,slow=2.0,SNR=3.8							
STHS	**Stebnicka Huta**	143.95	344	*e*PKP		PKPdf	19 12 22.4	+3.0
STHS				*e*			19 12 32.6	
UPC	**Upice**	144.09	350	*e*PKP		PKPbc	19 12 18.2	+0.6
DPC	**Dobruska-Polom**	144.19	349	*e*PKP		PKPdf	19 12 18.8	-1.0
MOX	**Moxa**	144.55	354	*e*L		L	20 11 22.9	
	comp=Z,97nm,21.1s							
TANN	**Tannenbergstha**	144.69	353	*e*PKPbc		PKPbc	19 12 19.4	-0.1
PRU	**Pruhonice**	144.84	351	*e*PKP		PKPbc	19 12 20.1	+0.2
PRU				*ex*		x	19 12 38.2	
CFR	**Carcaliu**	145.11	333	⇓*i*P		PKPab	19 12 20.8	-0.2
ROTZ	**Rotzenmuhle**	145.36	353	*e*PKPbc		PKPab	19 12 21.7	-0.1
KMBO	**Kilima Mbogo**	145.47	244	PKPbc		PKPab	19 12 23.6	0.0
KMBO	**Kilima Mbogo**	145.47	244	PKPbc		PKPab	19 12 23.6	0.0
	comp=Z,3.0nm,1.1s,baz=51,slow=22,SNR=4.8							
GRF	**Grafenberg Arr**	145.53	355	*e*PKPbc		PKPab	19 12 22.5	0.0
GRF				*e*L		L	20 22 36.6	
	comp=Z,111nm,18.3s							
TIRR	**Tirgusor**	145.55	332	⇓*i*P		PKPdf	19 12 22.0	-0.2
TIRR	**Tirgusor**	145.55	332	*e*PKPdf		PKPdf	19 12 21.9	-0.2
TLB	**Topalu**	145.61	332	⇓*i*P		PKPbc	19 12 22.3	-0.3
PSZ	**Piszkesteto**	145.69	344	⇓*i*P		PKPab	19 12 23.4	+0.2
WLF	**Walferdange**	145.77	0	*e*PKPbc		PKPab	19 12 23.4	+0.1
MLR	**Muntele Rosu**	145.78	335	⇑*i*P		PKPab	19 12 23.5	-0.2
KHC	**Kasperske Hory**	145.81	352	*e*PKP		PKPab	19 12 23.6	0.0
KHC				*ex*		x	19 12 37.5	
DRGR		145.86	340	⇑*i*P		PKPbc	19 12 22.9	-0.5
WET	**Wettzell**	145.89	353	*e*PKPbc		PKPbc	19 12 23.0	-0.4
BRTR	**Keskin Array B**	146.06	321	PKPbc		PKPbc	19 12 24.0	-0.3
BRTR	**Keskin Array B**	146.06	321	PKPbc		PKPbc	19 12 24.0	-0.3
	comp=Z,5.5nm,0.8s,baz=101,slow=1.8,SNR=23							
GEC2	**GERESS Array S**	146.07	351	*e*PKPbc		PKPbc	19 12 24.0	0.0
GERES	**GERESS Array B**	146.07	351	PKPbc		PKPbc	19 12 23.5	-0.5
GERES	**GERESS Array B**	146.07	351	PKPbc		PKPbc	19 12 23.5	-0.5
	comp=Z,2.0nm,0.7s,baz=20,slow=4.3,SNR=19							
ZST	**Bratislava**	146.10	347	*e*PKP		PKPab	19 12 24.5	-0.1
VOIR		146.18	336	⇑*i*P		PKPbc	19 12 24.1	-0.3
CONA	**Conrad Observ

KSRS Korea Array 75.26 316 P P 19 04 43.3 +0.1
1.7nm,0.8s,baz=166,slow=8.1,SNR=11
MDJ Mudanjiang 78.14 323 P P 19 05 08.3 +8.9
MDJ AMB AMB
comp=Z,7.0nm,1.3s
MDJ AMB AMB
comp=Z,160nm,6.0s
TXAR Lajitas Array 80.80 56 P P 19 05 15.1 +0.7
comp=Z,4.4nm,1.0s,baz=238,slow=7.2,SNR=8.8
ILAR Eielson Array 81.96 11 P P 19 05 20.3 +0.7
comp=Z,1.7nm,0.9s,baz=210,slow=5.2,SNR=6.4
YKA Yellowknife Ar 89.78 24 P P 19 05 59.3 +0.9
comp=Z,1.8nm,0.9s,baz=250,slow=4.3,SNR=3.6
ARCES ARCESS Array B 123.90 352 PKP PKPdf 19 11 58.1 +0.3
comp=Z,6.3nm,1.1s,baz=95,slow=1.9,SNR=2.9
AKASG Malin Array Be 139.51 337 PKP PKPdf 19 12 25.7 -2.1
comp=Z,0.2nm,0.4s,baz=33,slow=3.0,SNR=4.2
KOLS Kolonicke sedl 143.38 342 *e*PKP PKPab 19 12 30.8 0.0
KMBO Kilima Mbogo 145.22 246 PKPbc PKPbc 19 12 39.0 0.0
comp=Z,2.9nm,0.9s,baz=80,slow=3.3,SNR=4.8
BRTR Keskin Array B 145.26 321 PKPbc PKPbc 19 12 37.8 -0.5
comp=Z,7.6nm,0.9s,baz=122,slow=1.6,SNR=9.9
GERES GERESS Array B 145.42 351 PKPbc PKPbc 19 12 36.6 -1.8
comp=Z,2.3nm,0.8s,baz=29,slow=3.0,SNR=10
ESDC Sonseca Array 153.71 17 PKPbc PKPbc 19 12 59.8 +0.1
comp=Z,0.3nm,0.5s,baz=324,slow=2.4,SNR=3.3
ESDC PKPab PKPab 19 13 09.5 -2.8
comp=Z,0.2nm,0.3s,baz=322,slow=2.6,SNR=5.6
TORD Torodi Ar. Bea 175.58 111 PKP PKPdf 19 13 11.2 -0.2
comp=Z,0.6nm,0.9s,baz=173,slow=1.6,SNR=2.4

GUC 05 19:14:29.4±0.6, 35°.39S×72°.51W, h9km±3km, MD4.2, ML4.1, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTCH	**Constitucion**	**0.10**	**54**	⇓*i*P	Pg	19 14 32.0	+0.2
CTCH				AML	AML	19 14 43.0	
	comp=E,89μm,0.7s						
TALC	**Talca**	**0.72**	**91**	⇑*i*P	Pg	19 14 43.0	-0.3
TALC				*i* S	Sb	19 14 53.5	-0.6
TALC				AML	AML	19 14 55.2	
	comp=E,13μm,0.6s						
LNCH	**Linares**	**0.87**	**122**	⇓*i*P	Pg	19 14 45.9	-0.4
LNCH				*i* S	Sb	19 14 58.1	-0.4
LNCH				AML	AML	19 14 59.6	
	comp=E,11μm,0.5s						
NICH	**Los Niches**	**1.12**	**70**	⇑*i*P	Pg	19 14 49.9	-1.1
NICH				*i* S	Sg	19 15 05.3	-0.2
NICH				AML	AML	19 15 08.5	
	comp=E,14μm,0.6s						
CCHI	**Chillan**	**1.26**	**164**	⇑*i*P	Pn	19 14 51.6	-1.6
CCHI				*i* S	Sb	19 15 09.0	-0.7
CACH	**El Canelo**	**2.02**	**52**	*e*P	Pn	19 15 04.1	+0.2
CHCH	**Chadas Angostu**	**2.11**	**47**	⇑*i*P	Pn	19 15 05.7	+0.7

WEL 05 19:24:41.4±0.4, 36°.53S×177°.05E, h247km±4km, ML3.8/7, 2C, Error ellipse: s-maj=6.5km s-min=5.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.44**	**136**	AML	AML	19 25 08.9	
MXZ				PN	Pn	19 25 19.2	+0.2
MXZ				SN	S	19 25 48.1	-0.5
URZ	**Urewera**	**1.73**	**178**	⇑PN	Pn	19 25 21.8	+0.6
URZ				SN	S	19 25 52.2	-0.5
PUZ	**Puketiti**	**1.82**	**148**	⇑PN	Pn	19 25 21.9	-0.1
PUZ				AML	AML	19 25 23.0	
PUZ				SN	S	19 25 53.1	-1.0
MWZ	**Matawai**	**1.84**	**168**	PN	Pn	19 25 22.1	-0.1
MWZ				SN	S	19 25 54.3	-0.2
MWZ				AML	AML	19 25 56.0	
CNGZ	**Carnagh Statio**	**2.16**	**155**	PN	Pn	19 25 25.4	+0.4
NMHZ	**Naumai**	**2.57**	**184**	*e*PN	Pn	19 25 29.8	+0.5
NMHZ				*e*SN	S	19 26 06.2	-0.8
BKZ	**Black Stump Fm**	**2.67**	**189**	PN	Pn	19 25 30.1	-0.1
BKZ				SN	S	19 26 08.4	-0.5
MCHZ	**McNeill Hill**	**2.92**	**185**	PN	Pn	19 25 32.5	-0.3
PNHZ	**Pukenui**	**3.44**	**191**	PN	Pn	19 25 37.8	-0.9
MRZ	**Mangatainoka R**	**4.28**	**195**	PN	Pn	19 25 47.3	-1.1
MRZ				AML	AML	19 25 58.7	
OGWZ	**Otaki Gorge**	**4.53**	**198**	PN	Pn	19 25 49.7	-1.6
TCW	**Tory Channel**	**5.15**	**204**	*e*PN	Pn	19 25 58.8	0.0
QRZ	**Quartz Range**	**5.56**	**218**	PN	Pn	19 26 02.5	-1.4
THZ	**Tophouse**	**6.14**	**210**	PN	Pn	19 26 09.8	-1.4

IDC 05 19:27:46.2±2.1, 5°.80S×129°.21E, h0km, mb3.3/1, mb1 3.7/4, mb1mx3.4/20, mbtmp3.5/4, ML3.6/3, MS4.0/1, Ms1 4.0/1, ms1mx2.8/19, Error ellipse: s-maj=95.3km s-min=27.2km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNRA	**Kununurra**	**9.83**	**183**	P	Pn	19 30 13.8	+4.9
	baz=17,SNR=12						
FITZ	**Fitzroy Crossi**	**12.71**	**196**	Pn	Pn	19 30 50.5	+2.0
	0.4nm,0.3s,baz=37,slow=12,SNR=36						
FITZ				Sn	Sn	19 32 57.9	-13
	0.2nm,0.3s,baz=108,slow=20,SNR=4.0						
WRA	**Warramunga Arr**	**14.92**	**161**	Pn	Pn	19 31 19.6	+1.0
	0.2nm,0.3s,baz=341,slow=14,SNR=11						
WRA				Sn	Sn	19 33 49.3	-16
	0.1nm,0.3s,baz=337,slow=23,SNR=3.2						
ASAR	**Alice Springs**	**18.33**	**166**	P	Pn	19 32 00.4	-1.8
	0.2nm,0.3s,baz=342,slow=13,SNR=18						
ASAR				S	Sn	19 35 16.5	-11
	0.1nm,0.3s,baz=350,slow=27,SNR=3.1						
DZM	**Mont Dzumac**	**39.44**	**118**	LR	LR	19 48 29.6	
	comp=Z,222nm,19.3s,baz=28,slow=32						
MKAR	**Makanchi Array**	**66.80**	**327**	P	P	19 38 39.7	0.0
	0.1nm,0.4s,baz=138,slow=7.1,SNR=4.0						

IDC 05 19:57:21.1±4.5, 2°.74S×139°.88E, h0km, mb3.1/2, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=172.4km s-min=29.0km az=89.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.94**	**197**	P	Pn	20 01 30.6	-1.7
	0.1nm,0.3s,baz=19,slow=12,SNR=6.7						
ASAR	**Alice Springs**	**21.60**	**195**	P	P	20 02 13.5	+0.7
	0.6nm,0.8s,baz=24,slow=8.1,SNR=7.0						
MKAR	**Makanchi Array**	**70.52**	**322**	P	P	20 08 38.0	+0.1
	0.1nm,0.4s,baz=105,slow=6.3,SNR=3.4						

IDC 05 20:27:59.0±2.8, 23°.67N×44°.86W, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/27, mbtmp3.8/5, MS3.4/7, Ms1 3.5/7, ms1mx3.2/29, Error ellipse: s-maj=101.2km s-min=26.4km az=17.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJG	**San Juan**	**20.64**	**258**	LR	LR	20 38 37.3	
	comp=Z,71nm,19.3s,baz=102,slow=31						
ROSC	**El Rosal**	**34.01**	**241**	LR	LR	20 47 59.7	
	comp=Z,72nm,18.7s,baz=233,slow=35						
H10S3	**ASCENSION HYDR**	**43.84**	**134**	T	T	21 22 47.8	
	baz=320,slow=0.7,SNR=14						
H10S1	**ASCENSION HYDR**	**43.85**	**134**	T	T	21 22 46.7	
	baz=320,slow=0.7,SNR=14						
H10S2	**ASCENSION HYDR**	**43.86**	**134**	T	T	21 22 48.6	
	baz=320,slow=0.7,SNR=10.0						
TORD	**Torodi Ar. Bea**	**45.22**	**95**	P	P	20 36 18.1	-0.2
	2.2nm,0.8s,baz=299,slow=8.8,SNR=22						
LPAZ	**La Paz**	**45.77**	**212**	LR	LR	20 54 22.8	
	comp=Z,54nm,20.9s,baz=56,slow=35						
KEST	**Kesra**	**48.05**	**63**	P	P	20 36 40.9	+0.5
	1.6nm,0.8s,baz=270,slow=2.7,SNR=6.9						
KEST				LR	LR	20 54 16.0	
	comp=Z,23nm,19.5s,baz=263,slow=33						
NOA	**NORSAR Array B**	**53.28**	**30**	LR	LR	20 55 59.7	
	comp=Z,24nm,20.0s,baz=185,slow=32						
PDAR	**Pinedale Array**	**56.04**	**307**	P	P	20 37 40.2	+0.1
	0.7nm,1.0s,baz=66,slow=12,SNR=4.4						
FINES	**FINESS Array B**	**60.39**	**31**	LR	LR	21 01 15.5	
	comp=Z,59nm,18.0s,baz=179,slow=33						
BRTR	**Keskin Array B**	**66.72**	**55**	P	P	20 38 51.8	-0.5
	0.2nm,0.4s,baz=264,slow=5.8,SNR=2.8						
ILAR	**Eielson Array**	**73.81**	**334**	P	P	20 39 34.9	-0.2
	0.6nm,0.9s,baz=53,slow=5.4,SNR=6.0						
MKAR	**Makanchi Array**	**95.18**	**33**	LR	LR	21 21 24.3	
	comp=Z,39nm,18.7s,baz=346,slow=34						

NIED ***05*** *20:32:00, 37°.30N×143°.10E, h11km, Mw3.8 Best double couple: M0 5.91000×10^14 NP1:φs 11.00000°, δ 62.00000°, λ 76.00000°. NP2:φs 219.00000°, δ 31.00000°, λ 114.00000°.*

IDC ***05*** *20:32:46.0±1.2, 37°.33N×143°.54E, h0km, mb3.8/8, mb1 3.9/12, mb1mx3.8/28, mbtmp3.8/12, ML3.6/3, MS2.7/2, Ms1 2.7/2, ms1mx2.4/47, Error ellipse: s-maj=27.6km s-min=22.8km az=172.0*

ISCJB ***05*** *20:32:49.4±0.7, 37°.29N±0°.03×143°.04E±0°.05, h24km, mb3.8/8, Error ellipse: s-maj=6.2km s-min=4.4km az=22.5*

JMA ***05*** *20:32:50.2±0.2, 37°.30N×143°.07E, h45km, M3.8*

ISC 05 20:32:50.7±0.9, 37°.32N±0°.05×143°.11E±0°.08, h24km, n36, σ 1°.50/44, mb3.9/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.79**	**272**	P	Pn	**20 33 18.9**	**-1.2**
JFK				*e*S	Sn	**20 33 39.7**	**-2.3**
JIO	**Ouri**	**1.80**	**310**	P	Pn	**20 33 19.4**	**-0.9**
JIO				*e*S	Sn	**20 33 40.6**	**-1.7**
ONAJ	**Iwakimizuishiy**	**1.86**	**264**	P	Pn	**20 33 19.9**	**-1.3**
ONAJ				*e*S	Sn	**20 33 41.0**	**-2.9**
JMM	**Marumori**	**1.92**	**287**	P	Pn	**20 33 20.7**	**-1.2**
JMM				*e*S	Sn	**20 33 42.7**	**-2.7**
JOU	**Okura**	**2.20**	**299**	P	Pn	**20 33 25.4**	**-0.4**
JOU				*e*S	Sn	**20 33 51.7**	**-0.7**
JMK	**Ichinoseki**	**2.21**	**318**	P	Pn	**20 33 25.3**	**-0.6**
JFT	**Otama**	**2.22**	**276**	P	Pn	**20 33 26.0**	**-0.1**
JFT				*e*S	Sn	**20 33 52.8**	**+0.1**
JOM	**Ohasama**	**2.58**	**327**	P	Pn	**20 33 30.5**	**-0.6**
JOM				*e*S	Sn	**20 34 00.2**	**-1.5**
JYK	**Kaneyama**	**2.70**	**307**	P	Pn	**20 33 32.4**	**-0.2**
JRG	**Rokugo**	**2.85**	**318**	P	Pn	**20 33 34.8**	**+0.1**
JRG				*e*S	Sn	**20 34 09.0**	**+0.6**
JAG	**Ashikaga**	**3.07**	**254**	P	Pn	**20 33 37.1**	**-0.6**
JAG				*e*S	Sn	**20 34 11.6**	**-2.0**
BSO1	**Boso 1**	**3.17**	**214**	P	Pn	**20 33 38.1**	**-0.5**
BSO1				*e*S	Sn	**20 34 14.7**	**-0.7**
JANG	**Nango**	**3.30**	**338**	P	Pn	**20 33 40.0**	**-0.9**
JANG				*e*S	Sn	**20 34 17.0**	**-2.3**
JRY	**Ryogami san**	**3.63**	**250**	P	Pn	**20 33 44.9**	**-0.5**
JRY				*e*S	Sn	**20 34 24.9**	**-2.6**
JOD2	**Odawara 2**	**3.84**	**239**	P	Pn	**20 33 47.7**	**-0.7**
JOD2				*e*S	Sn	**20 34 30.1**	**-2.7**
MJAR	**Matsushiro Arr**	**4.00**	**260**	Pn	Pn	**20 33 51.4**	**+0.8**
	3.4nm,0.3s,baz=124,slow=9.2,SNR=45						
MJAR				Sn	Sn	**20 34 35.9**	**-0.9**
	1.5nm,0.3s,baz=84,slow=9.1,SNR=5.7						
MAT	**Matsushiro**	**4.01**	**260**	P	Pn	**20 33 50.8**	**+0.2**
MAT				S	Sn	**20 34 36.1**	**-0.7**
MAT	**Matsushiro**	**4.01**	**260**	P	Pn	**20 33 52.3**	**+1.7**
JOT	**Ohata**	**4.36**	**339**	*e*S	Sn	**20 34 42.6**	**-3.0**
ASAJ	**Asahikawa**	**6.80**	**357**	Pn	Pn	**20 34 29.4**	**+0.4**
	1.4nm,0.3s,baz=247,slow=33,SNR=14						
ASAJ				Sn	Sn	20 35 33.9	-12
	0.6nm,0.3s,baz=184,slow=8.8,SNR=2.7						
ASAJ				LR	LR	20 38 06.3	
	comp=Z,63nm,18.7s,baz=162,slow=47						
USRK	**Ussuriysk Arra**	**10.88**	**313**	Pn	Pn	**20 35 26.2**	**+1.3**
	0.1nm,0.3s,baz=118,slow=12,SNR=2.4						
KSRS	**Korea Array**	**12.09**	**275**	Pn	Pn	**20 35 43.5**	**+2.1**
	0.1nm,0.3s,baz=88,slow=13,SNR=4.5						
KSRS				LR	LR	20 39 52.3	
	comp=Z,33nm,18.7s,baz=175,slow=34						
H11N2	**WAKE ISLAND Hy**	**27.15**	**124**	T	T	21 07 01.1	
	baz=318,slow=0.7,SNR=17						
H11N1	**WAKE ISLAND Hy**	**27.16**	**124**	T	T	21 07 03.5	
	baz=318,slow=0.7,SNR=8.4						
H11N3	**WAKE ISLAND Hy**	**27.17**	**124**	T	T	21 07 02.3	
	baz=318,slow=0.7,SNR=11						
H11S1	**WAKE ISLAND Hy**	**27.90**	**126**	T	T	21 07 57.6	
	baz=320,slow=0.7,SNR=6.5						
H11S3	**WAKE ISLAND Hy**	**27.90**	**126**	T	T	21 08 01.9	
	baz=320,slow=0.7,SNR=6.9						
H11S2	**WAKE ISLAND Hy**	**27.91**	**126**	T	T	21 08 02.0	
	baz=320,slow=0.7,SNR=6.2						
SONM	**Songino Array**	**28.76**	**303**	P	P	**20 38 47.4**	**+0.9**
	3.0nm,0.3s,baz=102,slow=9.0,SNR=6.3						
ZALV	**Zalesovo Beam**	**42.73**	**312**	P	P	**20 40 47.1**	**+1.4**
	1.4nm,0.7s,baz=79,slow=7.7,SNR=7.9						
MKAR	**Makanchi Array**	**45.12**	**302**	P	P	**20 41 06.1**	**+1.0**
	1.2nm,0.7s,baz=88,slow=10.0,SNR=13						
ILAR	**Eielson Array**	**48.53**	**33**	P	P	20 41 26.9	-4.5
	0.4nm,0.8s,baz=246,slow=6.8,SNR=2.3						
WRA	**Warramunga Arr**	**57.55**	**190**	P	P	**20 42 38.7**	**+0.4**
	0.9nm,0.8s,baz=11,slow=7.4,SNR=3.3						
KBZ	**Khabaz**	**71.74**	**311**	P	P	**20 44 11.0**	**+0.2**
	2.1nm,0.8s,baz=29,slow=1.2,SNR=5.1						
NOA	**NORSAR Array B**	**74.44**	**338**	P	P	**20 44 28.1**	**+1.5**
	1.1nm,0.8s,baz=41,slow=5.9,SNR=3.5						
PDAR	**Pinedale Array**	**76.50**	**46**	P	P	**20 44 36.5**	**-2.5**
	0.1nm,0.5s,baz=299,slow=0.9,SNR=2.4						

IDC 05 20:34:40.1±1.8, 15°.01S×173°.57W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.8/19, mbtmp3.7/5, MS3.6/2, Ms1 3.6/2, ms1mx3.1/27, Error ellipse: s-maj=108.1km s-min=24.1km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.05**	**58**	Pn	Pn	20 35 12.7	-3.2
	13nm,0.3s,baz=210,slow=3.7,SNR=10						
AFI				Sn	Sn	20 35 32.1	-10
	41nm,0.3s,baz=80,slow=22,SNR=7.3						
PPT	**Papeete**	**23.16**	**100**	LR	LR	20 45 40.3	
	comp=Z,132nm,20.3s,baz=357,slow=28						
PPT2	**Papeete2**	**23.16**	**100**	*e*LR	LR	20 45 02.6	
	114nm,26.8s						
PAE	**Paea**	**23.16**	**100**	*e*T	T	21 03 20.6	
	3.4nm,0.3s						
TBI	**Tubuai**	**24.20**	**114**	*e*T	T	21 04 48.9	
	12nm,0.4s						
RKT	**Rikitea**	**37.27**	**108**	*e*T	T	21 21 03.7	
	3.2nm,0.4s						
H11S2	**WAKE ISLAND Hy**	**38.55**	**329**	T	T	21 22 58.3	
	baz=152,slow=0.7,SNR=104						
H11S3	**WAKE ISLAND Hy**	**38.56**	**329**	T	T	21 23 00.3	
	baz=152,slow=0.7,SNR=109						
H11S1	**WAKE ISLAND Hy**	**38.56**	**329**	T	T	21 23 10.1	
	baz=152,slow=0.7,SNR=110						
H11N3	**WAKE ISLAND Hy**	**39.49**	**330**	T	T	21 24 10.7	
	baz=152,slow=0.7,SNR=55						
H11N1	**WAKE ISLAND Hy**	**39.50**	**330**	T	T	21 24 09.3	
	baz=152,slow=0.7,SNR=60						
H11N2	**WAKE ISLAND Hy**	**39.51**	**330**	T	T	21 24 10.4	
	baz=152,slow=0.7,SNR=72						
WRA	**Warramunga Arr**	**49.78**	**256**	P	P	20 43 34.1	-0.8
	0.5nm,0.8s,baz=90,slow=7.0,SNR=3.4						
ASAR	**Alice Springs**	**50.08**	**252**	P	P	20 43 36.9	-0.3
	2.4nm,0.8s,baz=84,slow=8.4,SNR=17						
NVAR	**Mina Array Bea**	**74.15**	**42**	LR	LR	21 13 10.4	
	comp=Z,36nm,19.7s,baz=286,slow=31						
TXAR	**Lajitas Array**	**80.53**	**56**	P	P	20 46 54.3	-0.4
	0.2nm,0.6s,baz=207,slow=7.9,SNR=2.5						
PDAR	**Pinedale Array**	**82.08**	**42**	P	P	20 47 03.3	+0.5
	0.5nm,0.6s,baz=190,slow=3.5,SNR=5.4						
ILAR	**Eielson Array**	**82.09**	**11**	P	P	20 47 00.4	-1.6
	0.6nm,0.9s,baz=234,slow=4.0,SNR=3.5						
GERES	**GERESS Array B**	**145.73**	**351**	PKPbc	PKPab	20 54 21.9	+0.5
	0.6nm,0.7s,baz=90,slow=2.7,SNR=5.0						
BRTR	**Keskin Array B**	**145.75**	**321**	PKPbc	PKPab	20 54 23.0	+1.1
	0.6nm,0.7s,baz=129,slow=3.3,SNR=4.2						

IDC 05 20:42:42.9±4.7, 16°.26S×173°.22W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/21, mbtmp3.9/4, MS3.6/1, Ms1 3.6/1, ms1mx2.9/29, Error ellipse: s-maj=214.4km s-min=31.0km az=137.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.72**	**31**	Pn	Pn	20 43 22.0	-6.0
	8.4nm,0.3s,baz=287,slow=0.9,SNR=7.7						
AFI				Sn	Sn	20 43 51.9	-10
	34nm,0.3s,baz=66,slow=19,SNR=11						
HNR	**Honiara**	**27.01**	**281**	LR	LR	20 58 05.1	
	comp=Z,117nm,18.6s,baz=100,slow=34						
STKA	**Stephens Creek**	**43.77**	**241**	P	P	20 50 50.1	-0.4
	2.3nm,0.8s,baz=87,slow=7.7,SNR=3.3						
WRA	**Warramunga Arr**	**49.83**	**257**	P	P	20 51 38.0	-0.1
	0.3nm,0.3s,baz=94,slow=7.0,SNR=17						
ASAR	**Alice Springs**	**50.02**	**253**	P	P	20 51 39.4	-0.2
	2.7nm,0.6s,baz=89,slow=8.6,SNR=26						
ILAR	**Eielson Array**	**83.25**	**11**	P	P	20 55 10.5	-0.4
	0.2nm,0.5s,baz=223,slow=6.1,SNR=3.2						
BRTR	**Keskin Array B**	**146.93**	**320**	PKPbc	PKPbc	21 02 27.9	0.0
	0.3nm,0.5s,baz=120,slow=1.2,SNR=3.0						

IDC 05 20:47:12.6±1.0, 55°.57S×29°.29W, h0km, mb4.0/2, mb1 4.0/3, mb1mx3.7/17, mbtmp3.8/3, ML3.6/1, Error ellipse: s-maj=66.6km s-min=26.2km az=93.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**19.67**	**155**	P	P	20 51 42.0	-0.8
	0.2nm,0.3s,baz=321,slow=12,SNR=56						
VNDA	**Vanda**	**46.99**	**183**	P	P	20 55 45.8	+1.1
	1.5nm,0.6s,baz=188,slow=4.5,SNR=19						
TORD	**Torodi Ar. Bea**	**73.24**	**32**	P	P	20 58 46.6	+1.3
	0.5nm,0.4s,baz=197,slow=6.6,SNR=12						
FINES	**FINESS Array B**	**124.52**	**29**	PKP	PKPdf	21 06 11.5	-0.7
	4.2nm,0.9s,baz=169,slow=1.9,SNR=8.0						
ARCES	**ARCESS Array B**	**130.94**	**22**	PKP	PKPdf	21 06 23.8	-0.5
	2.5nm,0.9s,baz=214,slow=3.7,SNR=5.3						
ILAR	**Eielson Array**	**148.91**	**313**	PKPbc	PKPbc	21 06 59.5	-1.2
	1.0nm,0.8s,baz=128,slow=2.6,SNR=8.1						
SONM	**Songino Array**	**151.88**	**87**	PKPbc	PKPbc	21 07 06.4	-2.1
	1.2nm,0.5s,baz=217,slow=2.7,SNR=4.3						

IDC 05 20:50:01.8±50.0, 16°.43S×175°.21W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/19, mbtmp3.8/3, MS3.8/2, Ms1 3.8/2, ms1mx3.1/33, Error ellipse: s-maj=942.0km s-min=170.1km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**13.00**	**191**	LR	LR	20 57 00.1	
	comp=Z,591nm,20.1s,baz=187,slow=32						
STKA	**Stephens Creek**	**42.02**	**240**	P	P	20 57 55.4	+0.2
	0.9nm,0.7s,baz=100,slow=12,SNR=3.4						
WRA	**Warramunga Arr**	**47.92**	**258**	P	P	20 58 42.1	-0.3
	0.2nm,0.4s,baz=95,slow=7.3,SNR=8.7						
ASAR	**Alice Springs**	**48.14**	**253**	P	P	20 58 43.8	-0.3
	2.6nm,0.6s,baz=89,slow=8.4,SNR=29						
NVAR	**Mina Array Bea**	**76.26**	**43**	LR	LR	21 28 15.9	
	comp=Z,41nm,18.3s,baz=286,slow=30						

IDC 05 21:04:58.3±5.0, 21°.63S×167°.58E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/17, mbtmp3.5/3, Error ellipse: s-maj=204.8km s-min=29.3km az=147.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**1.15**	**247**	Pn	Pb	21 05 20.8	-0.3
	2.0nm,0.3s,baz=57,slow=20,SNR=27						
DZM				Sn	Sn	21 05 48.2	+10
	6.8nm,0.3s,baz=111,slow=23,SNR=9.9						
WRA	**Warramunga Arr**	**31.09**	**267**	P	P	21 11 18.0	-0.6
	0.3nm,0.8s,baz=96,slow=8.3,SNR=2.7						
ASAR	**Alice Springs**	**31.11**	**260**	P	P	21 11 20.2	+1.5
	0.5nm,0.7s,baz=90,slow=9.1,SNR=6.8						
ILAR	**Eielson Array**	**92.97**	**18**	P	P	21 18 12.6	-0.3
	0.3nm,0.8s,baz=250,slow=6.6,SNR=3.4						

WEL 05 21:05:51.6±0.2, 38°.82S×175°.84E, h114km±1km, ML3.6/14, 7C-1D, Error ellipse: s-maj=1.5km s-min=1.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KATZ	**Kakaramea**	**0.19**	**216**	PN	Pn	21 06 07.4	-0.3
KRVZ	**Karewarewa**	**0.32**	**209**	PN	Pn	21 06 08.0	-0.1
WTVZ	**West Tongariro**	**0.36**	**213**	PN	Pn	21 06 08.1	-0.2
OTVZ	**Oturere**	**0.37**	**202**	PN	Pn	21 06 08.1	-0.3
NGZ	**Ngauruhoe**	**0.40**	**208**	PN	Pn	21 06 08.4	-0.2
WPVZ	**Whakapapa**	**0.45**	**211**	⇑PN	Pn	21 06 08.7	-0.1
TUVZ	**Tukino**	**0.47**	**198**	⇑PN	Pn	21 06 08.9	0.0
TUVZ				SN	Sn	21 06 21.7	-0.2
FWVZ	**Far West T-bar**	**0.49**	**207**	PN	Pn	21 06 08.7	-0.4
FWVZ				SN	Sn	21 06 21.5	-0.8
WHVZ	**Whangaehu Hut**	**0.50**	**203**	PN	Pn	21 06 08.9	-0.3
WHVZ				SN	Sn	21 06 21.8	-0.7
TRVZ	**Turoa**	**0.53**	**205**	PN	Pn	21 06 09.2	-0.2
WNVZ	**Wahianoa**	**0.54**	**200**	⇑PN	Pn	21 06 09.4	-0.1
WNVZ				SN	Sn	21 06 22.2	-0.6
TLZ	**Tolley Road**	**0.54**	**334**	PN	Pn	21 06 09.3	0.0
TLZ				SN	Sn	21 06 22.3	-0.5
MQVZ	**Moawhango**	**0.59**	**187**	PN	Pn	21 06 09.3	-0.3
PKVZ	**Pokaka**	**0.61**	**219**	⇑PN	Pn	21 06 09.6	-0.2
BKZ	**Black Stump Fm**	**0.61**	**125**	PN	Pn	21 06 09.8	0.0
BKZ				AML	AML	21 06 22.8	
BKZ				AML	AML	21 06 24.2	
MTVZ	**Mangateitei**	**0.64**	**207**	PN	Pn	21 06 09.8	-0.1
BHHZ	**Black Hill Sta**	**0.69**	**166**	PN	Pn	21 06 10.2	-0.2

mb1 4.3/16,mb1mx4.2/25,mbtmp4.2/16,MS3.4/2, Ms1 3.4/2,ms1mx2.5/39,Error ellipse: s-maj=34.4km s-min=13.1km az=50.0

ISCJB ***05*** *21:12:45.0±0.4,4°.74S±0°.05×102°.51E±0°.05,h56km, mb4.2/22,MS3.8/1,Error ellipse: s-maj=9.1km s-min=4.4km az=38.3*

NEIC ***05*** *21:12:44.8±0.5,4°.56S×102°.64E,h35km,mb4.4/7,Error ellipse: s-maj=20.9km s-min=6.7km az=48.0*

AUST ***05*** *21:12:45.9,4°.85S×102°.44E,h60km*

DJA ***05*** *21:12:50.0±1.1,5°.5±8°×107°.3E±°,h28km±7km,M4.2/8, MLv4.2/8*

ISC 05 21:12:47.2±0.6,4°.64S±0°.08×102°.63E±0°.09,h56km,n75, σ0s84/71,mb4.2/22,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**0.43**	**49**	P	**Pn**	**21 12 58.5**	**+0.4**
MNAI				S	**Sn**	**21 13 05.7**	**-0.2**
MNAI	**Manna**	**0.43**	**49**	P	**Pn**	**21 12 57.7**	**-0.3**
	baz=0.7,SNR=220						
KSI	**Kapahiang**	**0.98**	**358**	P	**Pn**	**21 13 06.2**	**+1.3**
KSI				S	**Sn**	**21 13 19.4**	**+1.4**
LWLI	**Liwa**	**1.47**	**105**	P	**Pn**	**21 13 12.2**	**+0.7**
LWLI				S	**Sn**	**21 13 29.7**	**-0.1**
MDSI	**Maura Dua**	**1.55**	**84**	P	**Pn**	**21 13 13.8**	**+1.4**
KASI	**Kota Agung**	**2.06**	**115**	P	**Pn**	**21 13 20.7**	**+1.4**
KASI				S	**Sn**	**21 13 43.2**	**-0.7**
KLI	**Kotabumi**	**2.23**	**96**	P	Pn	21 13 24.9	+3.2
BLSI	**Bandar Lampung**	**2.70**	**106**	P	Pn	21 13 31.6	+3.4
PPI	**Padang Panjang**	**4.72**	**332**	P	Pn	21 14 01.5	+5.7
PPI	**Padang Panjang**	**4.72**	**332**	P	**Pn**	**21 13 57.5**	**+1.7**
	baz=4.8,SNR=5.4						
CISI	**Cisompet, Garu**	**5.91**	**120**	P	**Pn**	**21 14 12.4**	**+0.1**
	baz=6.0,SNR=14						
XMIS	**Christmas Isla**	**6.53**	**153**	P	Pn	21 14 14.8	-5.9
	baz=6.5,SNR=4.5						
PSI	**Prapat**	**8.27**	**333**	LR	LR	21 17 36.2	
	comp=Z,67nm,19.1s,baz=108,slow=36						
UGM	**Wanagama**	**8.49**	**113**	P	**Pn**	**21 14 49.2**	**+1.6**
	baz=8.6,SNR=4.3						
BATI	**Baumata**	**21.57**	**106**	P	**P**	**21 17 32.4**	**+0.1**
BATI	**Baumata**	**21.57**	**106**	P	**P**	**21 17 32.4**	**+0.1**
	10.0nm,0.3s,baz=321,slow=6.5,SNR=2.8						
CM31	**Chiang Mai Arr**	**23.24**	**351**	*eP*	**P**	**21 17 46.5**	**-3.2**
	3.7nm,0.5s						
CMAR	**Chiang Mai Arr**	**23.24**	**351**	P	**P**	**21 17 48.9**	**-0.8**
CMAR	**Chiang Mai Arr**	**23.24**	**351**	P	**P**	**21 17 48.9**	**-0.8**
	4.9nm,0.9s,baz=183,slow=8.8,SNR=28						
FITZ	**Fitzroy Crossi**	**26.18**	**123**	P	**P**	**21 18 17.6**	**+1.0**
	baz=26,SNR=4.5						
FITZ	**Fitzroy Crossi**	**26.18**	**123**	P	**P**	**21 18 17.4**	**+0.8**
	2.7nm,0.7s,baz=10.0,slow=3.9,SNR=6.7						
KNRA	**Kununurra**	**27.92**	**115**	P	**P**	**21 18 31.4**	**-0.9**
	baz=28,SNR=4.6						
H08S2	**Diego Garcia H**	**30.11**	**263**	T	T	21 49 48.3	
	baz=218,slow=0.7,SNR=26						
H08S3	**Diego Garcia H**	**30.11**	**263**	T	T	21 49 49.0	
	baz=86,slow=0.7,SNR=17						
H08S1	**Diego Carcia H**	**30.13**	**263**	T	T	21 49 55.8	
	SNR=5.6						
NWAO	**Narrogin (SRO)**	**31.27**	**156**	LR	LR	21 29 16.2	
	comp=Z,220nm,20.4s,baz=94,slow=32						
H01W3	**Cape Leeuwin H**	**31.93**	**162**	T	T	21 52 54.0	
	baz=339,slow=0.7,SNR=10						
H01W2	**Cape Leeuwin H**	**31.94**	**162**	T	T	21 52 53.9	
	baz=339,slow=0.7,SNR=12						
H01W1	**Cape Leeuwin H**	**31.94**	**162**	T	T	21 52 56.4	
	baz=339,slow=0.7,SNR=7.7						
WRA	**Warramunga Arr**	**34.41**	**119**	P	**P**	**21 19 29.1**	**-0.4**
WRA				PcP	**PcP**	**21 22 04.0**	**-0.2**
WRA	**Warramunga Arr**	**34.41**	**119**	P	**P**	**21 19 29.1**	**-0.4**
	0.6nm,0.3s,baz=263,slow=9.3,SNR=21						
WRA				PcP	**PcP**	**21 22 04.0**	**-0.2**
	0.3nm,0.4s,baz=298,slow=2.1,SNR=1.4						
WRAB	**Tennant Creek**	**34.42**	**119**	*eP*	**P**	**21 19 28.7**	**-0.8**
	1.5nm,0.4s						
ODAN	**Odare**	**34.61**	**336**	*eP*	**P**	**21 19 31.2**	**-0.1**
	6.4nm,0.4s						
TAPN	**Taplejung**	**34.92**	**336**	*eP*	**P**	**21 19 34.4**	**+0.4**
	8.4nm,0.5s						
ASAR	**Alice Springs**	**35.59**	**125**	P	**P**	**21 19 39.8**	**+0.2**
ASAR				PcP	**PcP**	**21 22 08.1**	**+0.5**
ASAR	**Alice Springs**	**35.59**	**125**	P	**P**	**21 19 39.8**	**+0.2**
	0.8nm,0.3s,baz=300,slow=7.9,SNR=22						
ASAR				PcP	**PcP**	**21 22 08.1**	**+0.5**
	0.6nm,0.6s,baz=305,slow=2.5,SNR=5.8						
JIRN	**Jiri**	**35.82**	**335**	*eP*	**P**	**21 19 42.5**	**+0.7**
	8.1nm,0.4s						
GUN	**Gumba**	**36.17**	**334**	*eP*	**P**	**21 19 45.5**	**+0.7**
	14nm,0.3s						
KKN	**Kakani**	**36.33**	**334**	*eP*	**P**	**21 19 46.1**	**+0.1**
	12nm,0.5s						
GKN	**Gorkha**	**36.80**	**333**	*eP*	**P**	**21 19 50.2**	**+0.2**
	8.8nm,0.4s						
KOLN	**Koldanda**	**37.09**	**331**	*eP*	**P**	**21 19 53.0**	**+0.5**
	20nm,0.8s						
DANN	**Dangsing**	**37.50**	**332**	*eP*	**P**	**21 19 56.3**	**+0.2**
	24nm,0.5s						
STKA	**Stephens Creek**	**45.45**	**131**	*eP*	**P**	**21 21 00.6**	**-0.3**
	0.5nm,0.5s						
STKA	**Stephens Creek**	**45.45**	**131**	P	**P**	**21 21 01.8**	**+1.0**
	baz=46,SNR=6.3						
STKA	**Stephens Creek**	**45.45**	**131**	P	**P**	**21 21 01.4**	**+0.6**
	3.1nm,0.6s,baz=318,slow=5.6,SNR=9.4						
KSAR	**Wonju Array Be**	**48.02**	**27**	P	**P**	**21 21 21.0**	**+0.2**
KSRS	**Korea Array**	**48.05**	**27**	P	**P**	**21 21 21.0**	**0.0**
	1.1nm,0.8s,baz=247,slow=6.4,SNR=4.3						
SONM	**Songino Array**	**52.36**	**3**	P	**P**	**21 21 53.9**	**+0.3**
SONM	**Songino Array**	**52.36**	**3**	P	**P**	**21 21 53.9**	**+0.3**
	4.3nm,0.6s,baz=182,slow=9.0,SNR=13						
TKM2	**Tokmak 2**	**53.30**	**335**	*eP*	**P**	**21 22 00.0**	**-0.7**
	3.5nm,0.5s						
EKS2	**Erkin-Say**	**53.86**	**334**	*eP*	**P**	**21 22 04.2**	**-0.6**
	5.6nm,0.8s						
MK31	**Makanchi Array**	**54.28**	**343**	*eP*	**P**	**21 22 06.8**	**-0.8**
MKAR	**Makanchi Array**	**54.28**	**343**	P	**P**	**21 22 07.0**	**-0.6**
MKAR	**Makanchi Array**	**54.28**	**343**	P	**P**	**21 22 07.0**	**-0.6**
	4.3nm,0.6s,baz=150,slow=8.8,SNR=53						
USRK	**Ussuriysk Arra**	**55.32**	**25**	P	**P**	**21 22 14.7**	**-0.4**
	3.3nm,0.8s,baz=227,slow=4.3,SNR=6.9						
KURK	**Kurchatov**	**58.88**	**342**	*eP*	**P**	**21 22 38.1**	**-2.1**
	2.6nm,0.8s						
ZAA0	**Zalesovo Array**	**60.26**	**348**	*eP*	**P**	**21 22 48.5**	**-1.0**
ZALV	**Zalesovo Beam**	**60.26**	**348**	P	**P**	**21 22 48.7**	**-0.9**
ZALV	**Zalesovo Beam**	**60.26**	**348**	P	**P**	**21 22 48.7**	**-0.9**
	8.9nm,0.4s,baz=163,slow=5.4,SNR=49						
DZM	**Mont Dzumac**	**64.02**	**112**	*eP*	**P**	**21 23 15.7**	**+0.1**
ABKAR	**Akbulak array**	**65.21**	**331**	*eP*	**P**	**21 23 21.8**	**-0.8**
	2.5nm,0.6s						
KBZ	**Khabaz**	**72.01**	**319**	P	**P**	**21 24 05.9**	**+0.8**
KBZ	**Khabaz**	**72.01**	**319**	P	**P**	**21 24 05.9**	**+0.8**
	0.7nm,0.5s,baz=98,slow=6.3,SNR=3.6						
BRTR	**Keskin Array B**	**77.03**	**312**	P	**P**	**21 24 34.4**	**-0.2**
BRTR	**Keskin Array B**	**77.03**	**312**	P	**P**	**21 24 34.4**	**-0.2**
	1.8nm,0.8s,baz=134,slow=7.1,SNR=12						
AKASG	**Malin Array Be**	**83.17**	**322**	P	**P**	**21 25 06.5**	**-0.7**
AKASG	**Malin Array Be**	**83.17**	**322**	P	**P**	**21 25 06.5**	**-0.7**
	0.4nm,0.4s,baz=81,slow=4.8,SNR=4.1						
FINES	**FINESS Array B**	**87.66**	**332**	P	**P**	**21 25 29.3**	**0.0**
FINES	**FINESS Array B**	**87.66**	**332**	P	**P**	**21 25 29.3**	**0.0**
	3.8nm,1.0s,baz=106,slow=6.2,SNR=7.7						
GERES	**GERESS Array B**	**92.75**	**319**	P	**P**	**21 25 54.3**	**+0.7**
GERES	**GERESS Array B**	**92.75**	**319**	P	**P**	**21 25 54.3**	**+0.7**
	0.2nm,0.5s,baz=76,slow=4.1,SNR=2.3						
NVAR	**Mina Array Bea**	**129.88**	**42**	PKP	**PKPdf**	**21 31 52.0**	**+0.8**
NVAR	**Mina Array Bea**	**129.88**	**42**	PKP	**PKPdf**	**21 31 52.0**	**+0.8**
	0.3nm,0.5s,baz=342,slow=2.3,SNR=3.5						
TXAR	**Lajitas Array**	**145.03**	**42**	PKPbc	**PKPbc**	**21 32 18.5**	**0.0**
TXAR	**Lajitas Array**	**145.03**	**42**	PKPbc	**PKPbc**	**21 32 18.5**	**0.0**
	1.2nm,0.4s,baz=257,slow=0.9,SNR=18						

IDC ***05*** *21:30:31.1±0.8,3°.58N×126°.71E,h0km,mb4.1/11, mb1 4.2/11,mb1mx4.0/26,mbtmp4.1/11,Error ellipse: s-maj=53.8km s-min=13.8km az=68.0*

ISCJB ***05*** *21:30:36.0±0.5,3°.54N±0°.09×126°.76E±0°.2,h53km, mb4.1/14,Error ellipse: s-maj=27.6km s-min=8.7km az=158.7*

NEIC ***05*** *21:30:36.0±0.4,3°.56N×126°.73E,h35km,mb4.4/4,Error ellipse: s-maj=24.5km s-min=7.1km az=64.0*

ISC 05 21:30:38.1±0.6,3°.6N±0°.1×126°.7E±0°.2,h53km,n28, σ0s72/32,mb4.1/14,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.55**	**183**	P	**P**	**21 35 22.5**	**-0.6**
	2.4nm,0.5s,baz=17,slow=8.7,SNR=13						
WRAB	**Tennant Creek**	**24.51**	**162**	*eP*	**P**	**21 35 52.1**	**-0.6**
	16nm,0.8s						
WRA	**Warramunga Arr**	**24.52**	**163**	P	**P**	**21 35 52.0**	**-0.8**
WRA				PcP	**PcP**	**21 39 31.5**	**+1.2**
WRA	**Warramunga Arr**	**24.52**	**163**	P	**P**	**21 35 52.0**	**-0.8**
	14nm,0.8s,baz=5.8,slow=8.6,SNR=90						
WRA				PcP	**PcP**	**21 39 31.5**	**+1.2**
	0.2nm,0.4s,baz=306,slow=4.6,SNR=1.4						
AS31	**Alice Springs**	**27.94**	**166**	*eP*	**P**	**21 36 23.8**	**+0.1**
ASAR	**Alice Springs**	**27.95**	**166**	P	**P**	**21 36 23.8**	**0.0**
ASAR				PcP	**PcP**	**21 39 39.4**	**+1.2**
ASAR	**Alice Springs**	**27.95**	**166**	P	**P**	**21 36 23.8**	**0.0**
	0.6nm,0.4s,baz=355,slow=7.9,SNR=19						
ASAR				PcP	**PcP**	**21 39 39.4**	**+1.2**
	0.6nm,0.4s,baz=352,slow=2.2,SNR=6.9						
CMAR	**Chiang Mai Arr**	**30.96**	**301**	P	**P**	**21 36 51.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**30.96**	**301**	P	**P**	**21 36 51.0**	**+0.5**
	0.6nm,0.8s,baz=124,slow=6.8,SNR=4.9						
KSAR	**Wonju Array Be**	**33.74**	**2**	P	**P**	**21 37 15.1**	**+0.5**
KSRS	**Korea Array**	**33.76**	**2**	P	**P**	**21 37 15.1**	**+0.4**
	0.5nm,0.4s,baz=182,slow=9.6,SNR=2.0						
STKA	**Stephens Creek**	**37.97**	**159**	*eP*	**P**	**21 37 50.4**	**-0.5**
	0.7nm,0.7s						
STKA	**Stephens Creek**	**37.97**	**159**	P	**P**	**21 37 51.2**	**+0.4**
	3.6nm,0.7s,baz=344,slow=7.4,SNR=12						
DZM	**Mont Dzumac**	**46.44**	**125**	*eP*	**P**	**21 38 59.9**	**-0.2**
MK31	**Makanchi Array**	**57.70**	**325**	*eP*	**P**	**21 40 22.7**	**-0.7**
MKAR	**Makanchi Array**	**57.70**	**325**	P	**P**	**21 40 23.2**	**-0.2**
MKAR	**Makanchi Array**	**57.70**	**325**	P	**P**	**21 40 23.2**	**-0.2**
	0.9nm,0.4s,baz=118,slow=7.6,SNR=22						
KURBB	**Kurchatov Arra**	**61.88**	**327**	P	**P**	**21 40 52.0**	**0.0**
	2.5nm,0.8s,baz=125,slow=6.1,SNR=22						
KURK	**Kurchatov**	**61.89**	**328**	*eP*	**P**	**21 40 51.4**	**-0.6**
	1.3nm,0.6s						
BVAR	**Borovoye Array**	**67.47**	**327**	P	**P**	**21 41 28.9**	**+0.6**
BVAR	**Borovoye Array**	**67.47**	**327**	P	**P**	**21 41 28.9**	**+0.6**
	1.0nm,0.6s,baz=159,slow=4.6,SNR=12						
BRVK	**Borovoye**	**67.54**	**327**	*eP*	**P**	**21 41 28.5**	**-0.2**
	3.7nm,0.9s						
BRTR	**Keskin Array B**	**90.13**	**310**	P	**P**	**21 43 32.1**	**-0.9**
BRTR	**Keskin Array B**	**90.13**	**310**	P	**P**	**21 43 32.1**	**-0.9**
	0.7nm,0.8s,baz=114,slow=5.5,SNR=4.2						
ARCES	**ARCESS Array B**	**90.61**	**340**	P	**P**	**21 43 33.5**	**-1.0**
ARCES	**ARCESS Array B**	**90.61**	**340**	P	**P**	**21 43 33.5**	**-1.0**
	1.9nm,0.8s,baz=79,slow=6.3,SNR=4.6						
TORD	**Torodi Ar. Bea**	**122.97**	**288**	PKP	**PKPdf**	**21 49 30.3**	**+0.7**
TORD	**Torodi Ar. Bea**	**122.97**	**288**	PKP	**PKPdf**	**21 49 30.3**	**+0.7**
	0.2nm,0.7s,baz=57,slow=3.1,SNR=2.1						

IDC 05 21:32:56.5±4.5,17°.10S×177°.38W,h0km,mb3.9/4, mb1 4.1/4,mb1mx3.8/19,mbtmp3.9/4,Error ellipse: s-maj=197.3km s-min=32.9km az=139.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.88**	**241**	P	P	21 40 32.7	+0.5
	2.0nm,0.8s,baz=80,slow=11,SNR=3.5						
WRA	**Warramunga Arr**	**45.75**	**259**	P	P	21 41 19.6	-0.4
	0.6nm,0.7s,baz=96,slow=8.2,SNR=4.1						
ASAR	**Alice Springs**	**45.96**	**253**	P	P	21 41 21.4	-0.3
	3.1nm,0.7s,baz=86,slow=8.7,SNR=31						
ILAR	**Eielson Array**	**84.88**	**13**	P	P	21 45 32.7	0.0
	0.3nm,0.5s,baz=206,slow=4.0,SNR=3.2						

MEX 05 21:37:01.7±1.2,17°.82N×103°.05W,h10km±17km,MD3.9, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.55**	**328**	*i* P	Pg	21 37 10.5	-1.9
MMIG				*i* S	Sg	21 37 18.1	-1.4
ZIIG	**Zihuatanejo**	**1.52**	**98**	*i* P	Pn	21 37 25.1	-3.9
ZIIG				*i* S	Sn	21 37 44.4	-4.4
R15V		**1.61**	**327**	*eP*	Pn	21 37 27.7	-2.6
R15V				*eS*	Sn	21 37 47.0	-4.3
EZ5V		**1.73**	**342**	*eP*	Pn	21 37 29.0	-3.3
EZ5V				*i* S	Sn	21 37 49.8	-4.9
MOIG	**Morelia**	**2.55**	**43**	*i* P	Pn	21 37 40.5	-3.0
MOIG				*i* S	Sn	21 38 09.8	-5.1
ARIG	**Puente Sto Nin**	**2.61**	**79**	*i* P	Pn	21 37 40.7	-3.3
ARIG				*i* S	Sn	21 38 11.8	-3.9
SFJM	**Santa Fe**	**2.65**	**0**	*i* P	Pn	21 37 41.2	-3.6
SFJM				*i* S	Sn	21 38 13.3	-3.9
ANIG	**Ahuacatlan**	**3.50**	**337**	*i* P	Pn	21 37 53.6	-2.8
ANIG				*i* S	Sn	21 38 33.5	-4.6
ZAIG	**Zacatecas**	**4.94**	**5**	*i* P	Pn	21 38 14.3	-2.1
ZAIG				*i* S	Sn	21 39 10.8	-3.2

BJI ***05*** *21:38:46.1,1°.59N×128°.89E,h63km,mB5.3/20,mb4.7/32, Ms4.8/9,Ms7 4.4/10*

AUST ***05*** *21:38:47.8±1.0,2°.10N×129°.05E,h40km±9km,Error ellipse: s-maj=11.7km s-min=7.4km az=51.0*

ISCJB ***05*** *21:38:48.0±0.6,2°.07N±0°.03×128°.96E±0°.03,h51km±6km, mb4.8/64,MS3.9/3,Error ellipse: s-maj=5.5km s-min=4.3km az=136.6*

IDC ***05*** *21:38:49.9±3.2,2°.10N×128°.85E,h52km±29km,mb4.1/21, mb1 4.2/23,mb1mx4.2/28,mbtmp4.1/23,ML4.2/2,MS3.2/2, Ms1 3.2/2,ms1mx2.9/33,Error ellipse: s-maj=23.0km s-min=10.8km az=79.0*

DJA ***05*** *21:38:50.1±1.1,2°.N±3°×12°.9E±°,h39km±11km,M4.8/35, mB5.4/16,mb5.0/35,MLv4.9/13,Mw(mB)4.8/16*

NEIC ***05*** *21:38:51.7±0.9,2°.07N×128°.80E,h68km±9km,mb4.8/30, Error ellipse: s-maj=7.7km s-min=4.8km az=69.0*

ISC 05 21:38:51.1±0.4,2°.07N±0°.04×128°.96E±0°.05,h63km±2km, n197,σ1s34/239,mb4.7/64,2C-6D,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.05**	**231**	P	**Pn**	**21 39 21.1**	**-2.2**
TNTI				S	**Sn**	**21 39 48.5**	**+0.7**
TNTI	**Ternate**	**2.05**	**231**	*ePn*	**Pn**	**21 39 20.5**	**-2.8**
TNTI				*eSn*	**Sn**	**21 39 46.0**	**-1.9**
LBMI	**Labuha**	**3.06**	**209**	P	**Pn**	**21 39 35.5**	**-1.6**
LBMI				S	**Sn**	**21 40 12.6**	**+0.1**
SWI	**Sorong**	**3.71**	**142**	P	Pn	21 39 42.0	-3.9
SWI				S	**Sn**	**21 40 23.4**	**-5.0**
SWI	**Sorong**	**3.71**	**142**	||P	Pn	21 39 42.3	-3.6
	baz=3.7						
SGSI	**Sangihe**	**3.79**	**295**	P	**Pn**	**21 39 45.4**	**-1.6**
SGSI	**Sangihe**	**3.79**	**295**	P	**Pn**	**21 39 45.1**	**-1.9**
SGSI				S	**Sn**	**21 40 30.9**	**+0.5**
KMSI	**Cibinong**	**5.20**	**253**	P	**Pn**	**21 40 06.7**	**+0.4**
KMSI	**Cibinong**	**5.20**	**253**	P	**Pn**	**21 40 05.4**	**-0.9**
	698nm,0.8s,9μm2.9nm						
KMSI				S	**Sn**	**21 41 05.8**	**+0.8**
	698nm,0.8s,9μm2.9nm						
NLAI	**Namlea**	**5.59**	**199**	P	**Pn**	**21 40 09.7**	**-2.0**
	70nm,0.5s,1μm0.3nm						
AAI	**Ambon**	**5.77**	**188**	P	**Pn**	**21 40 13.1**	**-1.1**
	58nm,0.7s,3μm0.3nm						
FAKI	**Fak Fak**	**5.94**	**146**	P	**Pn**	**21 40 14.8**	**-1.8**
	49nm,0.9s,1μm0.4nm						
BNDI	**Bandanaira**	**6.61**	**172**	P	**Pn**	**21 40 24.3**	**-1.4**
	139nm,0.7s,1.2nm						
LUWI	**Luwuk**	**6.92**	**244**	P	**Pn**	**21 40 32.5**	**+2.6**
LUWI	**Luwuk**	**6.92**	**244**	P	**Pn**	**21 40 27.1**	**-2.8**
	158nm,0.8s,1μm0.6nm						
MRSI	**Marisa**	**7.20**	**257**	P	**Pn**	**21 40 32.6**	**-1.1**
	109nm,0.6s,1μm0.4nm						
BAKI	**Biak**	**7.84**	**114**	P	**Pn**	**21 40 42.2**	**-0.4**
	188nm,0.8s,0.6nm						
APSI	**Ampana**	**7.89**	**248**	P	**Pn**	**21 40 41.9**	**-1.3**
KKSI	**Kolaka, Sulawe**	**9.58**	**230**	P	**Pn**	**21 41 05.9**	**-0.5**
	44nm,0.4s,2μm						
BBSI	**Bau Bau**	**9.85**	**220**	P	Pn	21 41 31.1	+21
	47nm,0.9s						
BBSI	**Bau Bau**	**9.85**	**220**	P	**Pn**	**21 41 08.9**	**-1.2**
	47nm,0.9s						
SAUI	**Saumlaki**	**10.25**	**167**	P	**Pn**	**21 41 13.8**	**-1.7**
	255nm,0.9s						
TTSI	**Tana Toraja**	**10.46**	**241**	P	**Pn**	**21 41 16.9**	**-1.4**
	92nm,1.0s,949nm0.3nm						
TTSI	**Tana Toraja**	**10.46**	**241**	P	**Pn**	**21 41 15.8**	**-2.5**
	92nm,1.0s,957nm						
MYLDM	**Lahad Datu**	**10.89**	**287**	P	Pn	21 41 33.5	+9.2

MYLDM	**Lahad Datu**	**10.89**	**287**	P	**Pn**	**21 41 25.4**	**+1.2**
	50nm,1.3s						
BNSI	**Bone**	**10.94**	**234**	P	Pn	21 41 24.8	-0.1
	46nm,0.7s,693nm0.2nm						
BNSI	**Bone**	**10.94**	**234**	P	**Pn**	**21 41 24.0**	**-0.9**
	55nm,1.0s,690nm						
SPSI	**Sidrap Palu**	**10.97**	**237**	P	Pn	21 41 25.1	-0.2
	66nm,0.8s,0.2nm						
SPSI	**Sidrap Palu**	**10.97**	**237**	P	**Pn**	**21 41 24.1**	**-1.2**
	66nm,0.8s						
TSM	**Tawau**	**11.29**	**282**	P	**Pn**	**21 41 29.7**	**0.0**
BKSI	**Bulukumba**	**11.48**	**230**	P	Pn	21 41 35.1	+2.8
BKSI	**Bulukumba**	**11.48**	**230**	P	**Pn**	**21 41 32.1**	**-0.2**
	41nm,0.7s						
KAPI	**Kappang**	**11.58**	**233**	P	Pn	21 41 42.5	+8.8
	35nm,1.0s						
KAPI	**Kappang**	**11.58**	**233**	P	**Pn**	**21 41 32.6**	**-1.1**
	35nm,1.0s						
KAPI	**Kappang**	**11.58**	**233**	*ePn*	Pn	21 41 34.0	+0.3
KAPI	**Kappang**	**11.58**	**233**	P	**Pn**	**21 41 32.1**	**-1.6**
	2.2nm,0.3s,baz=223,slow=3.1,SNR=4.9						
KAPI				LR	LR	21 46 02.7	
	comp=Z,125nm,19.9s,baz=172,slow=38						
SDKM	**Sandakan**	**12.26**	**287**	P	**Pn**	**21 41 45.5**	**+2.4**
MMRI	**Maumere**	**12.57**	**212**	*ePn*	**Pn**	**21 41 46.4**	**-0.8**
KDM	**Kudat**	**13.01**	**292**	P	**Pn**	**21 41 53.2**	**-0.1**
BATI	**Baumata**	**13.29**	**203**	P	Pn	21 41 56.4	-0.5
BATI	**Baumata**	**13.29**	**203**	P	**Pn**	**21 41 56.4**	**-0.5**
	1.0nm,0.3s,baz=37,slow=10,SNR=2.5						
KKM	**Kota Kinabalu**	**13.31**	**288**	P	Pn	21 41 58.6	+1.2
KKM	**Kota Kinabalu**	**13.31**	**288**	*ePn*	**Pn**	**21 41 58.0**	**+0.6**
MTNI	**Mataram**	**16.60**	**230**	P	**P**	**21 42 44.6**	**+3.2**
	66nm,0.5s,2μm						
MTNI	**Mataram**	**16.60**	**230**	P	**P**	**21 42 43.0**	**+1.6**
SBUM	**Sibu**	**16.73**	**272**	P	**P**	**21 42 42.5**	**-0.4**
SBUM	**Sibu**	**16.73**	**272**	P	**Pn**	**21 42 40.5**	**-1.0**
	46nm,1.0s						
SBUM	**Sibu**	**16.73**	**272**	*ePn*	Pn	21 42 40.6	-1.0
	28nm,0.8s						
STKI	**Sintang**	**17.59**	**264**	P	Pn	21 42 51.3	-0.8
	20nm,1.6s,5μm						
KNRA	**Kununurra**	**17.63**	**181**	||P	Pn	21 42 52.4	-0.1
	baz=18,SNR=5.2						
GMJI	**Gumukmas**	**18.57**	**236**	P	**Pn**	**21 43 04.1**	**+0.1**
	44nm,1.2s						
KSM	**Kuching**	**18.65**	**268**	P	**Pn**	**21 43 05.8**	**+0.8**
KSM	**Kuching**	**18.65**	**268**	P	**P**	**21 43 03.7**	**-0.3**
	56nm,0.8s						
KSM	**Kuching**	**18.65**	**268**	*ePn*	**P**	**21 43 03.9**	**-0.2**
	41nm,0.8s						
KSM	**Kuching**	**18.65**	**268**	↑P	**P**	**21 43 04.0**	**0.0**
	baz=19,SNR=14						
KRKI	**Karangkates**	**19.35**	**238**	P	**Pn**	**21 43 12.6**	**-0.6**
	153nm,0.8s,13μm						
GUMO	**Guam**	**19.46**	**53**	*eP*	**Pn**	**21 43 14.8**	**+0.3**
	350nm,1.5s						
SJI	**Sawahan**	**19.73**	**240**	P	**P**	**21 43 15.6**	**-0.2**
	137nm,1.4s,2μm						
NGJI	**Ngawi**	**19.82**	**242**	P	**Pn**	**21 43 18.1**	**-0.7**
	102nm,1.1s						
PWJI	**Pagerwojo**	**19.83**	**239**	P	**P**	**21 43 17.1**	**+0.2**
PWJI	**Pagerwojo**	**19.83**	**239**	P	**P**	**21 43 16.3**	**-0.6**
	91nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.31**	**189**	*eP*	**P**	**21 43 22.8**	**+0.8**
FITZ	**Fitzroy Crossi**	**20.31**	**189**	||P	**P**	**21 43 21.4**	**-0.6**
	baz=20,SNR=7.9						
FITZ	**Fitzroy Crossi**	**20.31**	**189**	P	**P**	**21 43 21.2**	**-0.8**
	3.1nm,0.5s,baz=17,slow=6.5,SNR=15						
FITZ				LR	LR	21 52 24.9	
	comp=Z,77nm,19.5s,baz=12,slow=40						
PCJI	**Pacitan**	**20.46**	**240**	P	**P**	**21 43 23.3**	**-0.4**
	121nm,1.1s						
UGM	**Wanagama**	**20.89**	**241**	*e

STKA	Stephens Creek	35.83	161	P		P	21 45 45.2	+0.6	
	4.9nm,0.5s,baz=334,slow=9.7,SNR=24								
NWAO	Narrogin (SRO)	36.53	197	*eP*		P	21 45 50.4	-0.2	
	116nm,2.1s								
XAN	Xi'an	36.91	332	P		P	21 45 53.0	-0.9	
XAN				AMB		AMB			
	comp=Z,5.0nm,0.9s								
XAN				AMB		AMB			
	comp=Z,130nm,4.7s								
CD2	Chengdu	37.30	323	P		P	21 45 57.0	-0.3	
CD2				pP		pP	21 46 13.0	-0.1	
CD2				sP		sP	21 46 20.6	+0.1	
CD2				PP		PnPn	21 47 26.1	+1.4	
CD2				S		S	21 51 39.4	-1.1	
CD2				sS		sS	21 52 06.5	-0.8	
CD2				SS		SnSn	21 54 13.9	-8.1	
CD2				AMB		AMB			
	comp=Z,20nm,0.8s								
CD2				AMB		AMB			
	comp=Z,580nm,5.3s								
CD2				LR		LR			
	comp=Z,740nm,5.3s								
RKGY	Rocky Gully	38.18	196	⇓P		P	21 46 05.6	+1.1	
	baz=38,SNR=6.9								
ARMA	Armidale	38.87	148	*eP*		P	21 46 11.7	+1.1	
	48nm,1.5s								
ARMA	Armidale	38.87	148	⇓P		P	21 46 11.4	+0.8	
	baz=39,SNR=5.4								
H11N1	WAKE ISLAND Hy	41.01	62	T		T	22 30 31.9		
	baz=253,slow=0.7,SNR=6.1								
H11N2	WAKE ISLAND Hy	41.02	62	T		T	22 30 43.4		
	baz=253,slow=0.7,SNR=7.7								
H11N3	WAKE ISLAND Hy	41.02	62	T		T	22 30 37.6		
	baz=253,slow=0.7,SNR=7.0								
LZH	Lanzhou	41.07	328	*eP*		P	21 46 29.3	+0.5	
LZH				pP		pP	21 46 45.3	+0.6	
LZH				sP		sP	21 46 52.6	+0.5	
LZH				PP		PnPn	21 48 09.0	-0.5	
LZH				PcP		PcP	21 48 30.0	+2.4	
LZH				*e*S		S	21 52 37.3	+0.2	
LZH				sS		sS	21 53 04.0	-0.2	
LZH				SS		SS	21 55 41.2	-0.5	
LZH				AMB		AMB			
	comp=Z,36nm,1.1s								
LZH				AMB		AMB			
	comp=Z,260nm,4.8s								
CN2	Changchun	41.67	356	*eP*		P	21 46 36.1	+2.7	
HHC	Hu-ho-hao-te	41.69	340	*eP*		P	21 46 34.2	+0.5	
HHC				pP		pP	21 46 49.4	-0.3	
HHC				sP		sP	21 46 56.4	-0.7	
HHC				PP		PnPn	21 48 15.0	-1.6	
HHC				S		S	21 52 46.9	+0.8	
HHC				sS		sS	21 53 13.8	+0.6	
HHC				SS		SS	21 55 50.0	-3.8	
HHC				AMB		AMB			
	comp=Z,30nm,1.0s								
HHC				AMB		AMB			
	comp=Z,340nm,6.4s								
HHC				LR		LR			
	comp=N,440nm,14.3s								
HHC				LR		LR			
	comp=E,490nm,15.2s								
HHC				LR		LR			
	comp=Z,360nm,15.3s								
USRK	Ussuriysk Arra	42.04	3	P		P	21 46 36.2	-0.1	
	3.1nm,0.7s,baz=192,slow=7.8,SNR=7.4								
MDJ	Mudanjiang	42.37	1	P		P	21 46 40.0	+0.9	
MDJ				pP		pP	21 46 55.2	+0.1	
MDJ				sP		sP	21 47 02.1	-0.4	
MDJ				PP		PP	21 48 20.3	+1.9	
MDJ				PcP		PcP	21 48 31.7	+0.2	
MDJ				S		S	21 52 57.2	+1.3	
MDJ				ScS		ScS	21 56 35.3	+0.3	
MDJ				AMB		AMB			
	comp=Z,10.0nm,1.5s								
MDJ				AMB		AMB			
	comp=Z,140nm,5.9s								
SHL	Shillong	42.65	307	*eP*		P	21 46 43.0	+1.1	
LSA	Lhasa	45.20	311	P		P	21 47 03.2	+0.5	
LSA	Lhasa	45.20	311	*eP*		P	21 47 03.5	+0.8	
	4.8nm,0.6s								
GTA	Gaotai	45.67	328	*eP*		P	21 47 05.5	-0.3	
GTA				pP		pP	21 47 21.2	-0.8	
GTA				sP		sP	21 47 28.2	-1.1	
GTA				AMB		AMB			
	comp=Z,7.0nm,0.8s								
TAPN	Taplejung	46.79	306	*eP*		P	21 47 14.9	-0.1	
	12nm,0.7s								
ODAN	Odare	46.84	306	*eP*		P	21 47 15.0	-0.3	
	23nm,0.7s								
JIRN	Jiri	48.15	306	*eP*		P	21 47 25.4	-0.2	
	17nm,0.6s								
GUN	Gumba	48.50	306	*eP*		P	21 47 28.0	-0.3	
	22nm,0.5s								
PKI	Pulchoki	48.74	306	*eP*		P	21 47 29.4	-0.8	
	9.5nm,0.6s								
KKN	Kakani	48.94	306	*eP*		P	21 47 30.8	-0.7	
	10nm,0.7s								
DMN	Daman	49.01	305	*eP*		P	21 47 31.4	-0.7	
	15nm,0.8s								
ULN	Ulaanbaatar	49.40	341	P		P	21 47 34.3	-0.3	
ULN	Ulaanbaatar	49.40	341	*eP*		P	21 47 33.9	-0.7	
	11nm,0.9s								
GKN	Gorkha	49.54	306	*eP*		P	21 47 35.3	-0.7	
	7.5nm,0.7s								
SONM	Songino Array	49.59	340	P		P	21 47 35.2	-0.9	
SONM	Songino Array	49.59	340	P		P	21 47 35.2	-0.9	
	4.2nm,0.8s,baz=153,slow=9.3,SNR=12								
DANN	Dangsing	50.39	306	*eP*		P	21 47 42.3	-0.3	
	34nm,0.6s								
WMQ	Urumqi	55.36	325	P		P	21 48 18.9	+0.2	
WMQ				pP		pP	21 48 34.8	-0.6	
WMQ				sP		sP	21 48 41.8	-0.7	
WMQ				PP		PP	21 50 25.6	+2.5	
WMQ				AMB		AMB			
	comp=Z,13nm,1.0s								
WMQ				AMB		AMB			
	comp=Z,210nm,4.4s								
WMQ				LR		LR			
	comp=N,210nm,5.6s								
WMQ				LR		LR			
	comp=E,150nm,5.0s								
PETK	Petropavlovsk-	56.16	20	P		P	21 48 24.9	+0.7	
PETK	Petropavlovsk-	56.16	20	P		P	21 48 24.9	+0.7	
	4.3nm,0.7s,baz=189,slow=6.9,SNR=4.5								
MK31	Makanchi Array	60.19	325	*eP*		P	21 48 51.7	-0.8	
MKAR	Makanchi Array	60.19	325	*eP*		P	21 48 52.3	-0.2	
MKAR	Makanchi Array	60.19	325	P		P	21 48 52.0	-0.5	
	6.3nm,0.7s,baz=120,slow=8.4,SNR=27								
KSH	Kashi	60.79	315	*eP*		P	21 48 57.7	+0.8	
KSH				sP		sP	21 49 21.9	+1.1	
KSH				PcP		PcP	21 49 43.3	+3.1	
KSH				PP		PP	21 51 13.3	+1.9	
KSH				S		S	21 57 10.8	+1.2	
KSH				sS		sS	21 57 38.2	+0.1	
KSH				ScS		ScS	21 58 43.3	+0.7	
KSH				AMB		AMB			
	comp=Z,3.0nm,0.9s								
KSH				AMB		AMB			
	comp=Z,87nm,5.5s								
KSH				LR		LR			
	comp=N,130nm,4.9s								
KSH				LR		LR			
	comp=E,120nm,4.9s								
KSH				LR		LR			
	comp=Z,85nm,4.6s								
TKM2	Tokmak 2	62.46	318	*eP*		P	21 49 07.8	-0.4	
	2.8nm,0.7s								
ZAA0	Zalesovo Array	63.08	333	*eP*		P	21 49 09.7	-2.1	
ZALV	Zalesovo Beam	63.08	333	P		P	21 49 10.5	-1.2	
ZALV	Zalesovo Beam	63.08	333	P		P	21 49 10.5	-1.2	
	2.9nm,0.7s,baz=116,slow=6.9,SNR=11								
AAK	Ala-Archa	63.08	318	P		P	21 49 11.8	-0.4	
AAK	Ala-Archa	63.08	318	P		P	21 49 11.8	-0.4	
	0.7nm,0.4s,baz=170,slow=1.4,SNR=4.4								
EKS2	Erkin-Say	63.57	317	*eP*		P	21 49 15.7	+0.2	
	3.9nm,0.8s								
KBL	Kabul	64.30	308	*eP*		P	21 49 18.4	-2.1	
	4.4nm,0.6s								
KURBB	Kurchatov Arra	64.33	327	P		P	21 49 19.2	-0.8	
	6.6nm,0.7s,baz=126,slow=6.1,SNR=36								
KURK	Kurchatov	64.33	327	*eP*		P	21 49 19.3	-0.8	
	5.9nm,0.8s								
KKAR	Karatay Array	65.96	317	*eP*		P	21 49 30.2	-0.6	
VOSK	Vostochnaya	69.47	327	*eP*		P	21 49 51.7	-1.0	
	4.9nm,0.8s								
BVAR	Borovoye Array	69.92	327	P		P	21 49 54.9	-0.6	
BVAR	Borovoye Array	69.92	327	P		P	21 49 54.9	-0.6	
	3.2nm,0.7s,baz=125,slow=7.6,SNR=24								
BRVK	Borovoye	69.99	327	*eP*		P	21 49 54.8	-1.1	
	7.2nm,0.7s								
IDAH	Dahanechah	71.35	304	*eP*		P	21 50 04.8	-0.1	
IKOO	Kooshah	72.02	303	*eP*		P	21 50 08.3	-0.6	
ISFR	Sfrayin	73.60	308	*eP*		P	21 50 18.1	-0.2	
ABKAR	Akbulak array	74.84	321	*eP*		P	21 50 24.0	-0.8	
ISAD	Sadrabad	76.42	302	*eP*		P	21 50 34.3	-0.3	
ISRV	Sarvestan	76.66	300	*eP*		P	21 50 35.7	-0.4	
ISFB	Sefidab	77.88	305	*eP*		P	21 50 41.0	-1.5	
IKLH	Kolahrood	78.33	303	*eP*		P	21 50 44.4	-0.8	
VNDA	Vanda	81.51	173	*eP*		P	21 51 02.3	+1.1	
VNDA	Vanda	81.51	173	P		P	21 51 01.8	+0.7	
	3.9nm,0.8s,baz=312,slow=6.4,SNR=19								
KDAK	Kodiak Island	82.10	32	P		P	21 51 05.5	+0.9	
KDAK	Kodiak Island	82.10	32	P		P	21 51 05.5	+0.9	
	6.9nm,0.6s,baz=290,slow=21,SNR=9.6								
MAW	Mawson	82.99	201	P		P	21 51 09.3	+0.3	
MAW	Mawson	82.99	201	P		P	21 51 09.3	+0.3	
	0.7nm,0.5s,baz=22,slow=3.9,SNR=4.3								
IMA2	Indian Mountai	82.99	24	*eP*		P	21 51 10.1	+0.8	
PPLA	Purkeypile	83.09	27	*eP*		P	21 51 10.4	+0.5	
RAYN	Ar Rayn	83.18	293	*eP*		P	21 51 09.9	-1.1	
	3.2nm,0.8s								
CAST	Castle Rocks	83.22	26	*eP*		P	21 51 12.1	+1.7	
	40nm,2.0s								
COLD	Coldfoot	84.55	23	*eP*		P	21 51 19.1	+2.1	
	11nm,1.4s								
MCK	McKinley	84.65	26	*eP*		P	21 51 18.9	+1.2	
	8.1nm,0.8s								
ILAR	Eielson Array	85.64	25	P		P	21 51 22.8	+0.3	
ILAR	Eielson Array	85.64	25	P		P	21 51 22.8	+0.3	
	0.9nm,0.7s,baz=261,slow=5.7,SNR=6.5								
DIV	Divide	85.91	29	*eP*		P	21 51 25.5	+1.5	
	18nm,0.9s								
BMRM	Bremner River	86.47	29	*eP*		P	21 51 26.9	+0.1	
ARCES	ARCESS Array B	92.77	340	P		P	21 51 54.6	-1.6	
ARCES	ARCESS Array B	92.77	340	P		P	21 51 54.6	-1.6	
	4.3nm,1.0s,baz=76,slow=5.1,SNR=5.6								
BRTR	Keskin Array B	92.79	310	P		P	21 51 55.8	-1.4	
BRTR	Keskin Array B	92.79	310	P		P	21 51 55.8	-1.4	
	0.3nm,0.5s,baz=70,slow=5.1,SNR=2.5								
RKT	Rikitea	96.38	113	*e*LR		LR	21 52 17.4		
	466nm,28.5s,baz=144								
TORD	Torodi Ar. Bea	125.55	288	PKP		PKPdf	21 57 46.1	-0.2	
TORD	Torodi Ar. Bea	125.55	288	PKP		PKPdf	21 57 46.1	-0.2	
	1.0nm,0.7s,baz=52,slow=2.0,SNR=7.7								

IDC 05 21:46:20.1±3.6, 2°27S×68°60E, 0km, mb3.5/5, 4, mb1 3.8/4, mb1mx3.4/25, mbtmp3.5/4, Error ellipse: s-maj=96.2km s-min=35.3km az=71.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N2	Diego Garcia H	4.69	149	T	T	21 52 10.8	
	baz=330,slow=0.7,SNR=517						
H08N3	Diego Garcia H	4.70	150	T	T	21 52 09.5	
	baz=330,slow=0.7,SNR=512						
H08N1	Diego Garcia H	4.71	149	T	T	21 52 11.6	
	baz=330,slow=0.7,SNR=546						
CMAR	Chiang Mai Arr	36.28	54	P	P	21 53 25.8	+0.1
	0.2nm,0.4s,baz=243,slow=6.0,SNR=3.0						
ZALV	Zalesovo Beam	57.63	11	P	P	21 56 11.8	-0.1
	0.5nm,0.6s,baz=198,slow=4.2,SNR=2.8						
WRA	Warramunga Arr	66.45	111	P	P	21 57 10.8	-1.2
	0.5nm,0.8s,baz=289,slow=6.0,SNR=2.8						
ASAR	Alice Springs	66.52	115	P	P	21 57 13.8	+1.4
	0.2nm,0.3s,baz=288,slow=6.7,SNR=4.6						

IDC 05 21:47:00.6±1.8, 2°06N×128°81E, 0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/22, mbtmp3.4/4, MS4.1/1, Ms1 4.1/1, ms1mx2.9/25, Error ellipse: s-maj=106.1km s-min=23.2km az=72.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	20.28	189	P	P	21 51 38.4	+0.4
	1.2nm,0.7s,baz=22,slow=11,SNR=2.7						
WRA	Warramunga Arr	22.53	166	P	P	21 52 02.3	0.0
	0.7nm,0.7s,baz=346,slow=11,SNR=5.0						
ASAR	Alice Springs	26.05	169	P	P	21 52 35.5	-0.4
	0.3nm,0.5s,baz=346,slow=7.8,SNR=4.1						
DZM	Mont Dzumac	43.88	125	LR	LR	22 09 43.6	
	comp=Z,231nm,20.1s,baz=69,slow=31						
MKAR	Makanchi Array	60.11	325	P	P	21 57 10.2	+0.4
	0.6nm,0.7s,baz=112,slow=7.7,SNR=7.8						
TORD	Torodi Ar. Bea	125.41	288	PKP	PKPdf	22 06 03.9	-0.8
	0.2nm,0.6s,baz=100,slow=4.4,SNR=2.2						

IDC 05 21:56:35.1±0.9, 2°05N×128°69E, 0km, mb3.8/9, mb1 4.0/9, mb1mx3.8/21, mbtmp3.9/9, MS3.6/4, Ms1 3.6/4, ms1mx3.2/36, Error ellipse: s-maj=76.7km s-min=14.8km az=75.0

ISCJB 05 21:56:38.4±0.4, 2°09N±0°04×129°00E±0°05, h40km, mb4.1/12, MS3.8/3, Error ellipse: s-maj=6.6km s-min=5.8km az=160.7

NEIC 05 21:56:40.1±0.4, 2°02N×128°56E, h35km, mb4.3/6, Error ellipse: s-maj=31.6km s-min=6.3km az=76.0

DJA 05 21:56:42.8±0.5, 2°N±4°×12°9E±°, h98km±20km, M4.5/13, mb4.5/9, mB5.1/2, MLv4.6/13, Mw(mB)4.4/2

ISC 05 21:56:40.4±0.7, 2°05N±0°06×129°03E±0°07, h40km, n49, σ1°19/41, mb4.0/12, MS3.7/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	Ternate	2.09	233	P	Pn	21 57 13.5	+0.5
TNTI				S	Sn	21 57 39.9	+2.1
LBMI	Labuha	3.08	210	P	Pn	21 57 25.9	-0.7
LBMI				S	Sn	21 58 01.0	-1.1
SWI	Sorong	3.66	142	P	Pn	21 57 34.0	-0.5
SGSI	Sangihe	3.85	295	P	Pn	21 57 37.9	+0.7
SGSI				S	Sn	21 58 23.5	+2.2
KMSI	Cibinong	5.25	254	P	Pn	21 57 56.2	-0.3
	382nm,0.9s,5μm1.8nm						
KMSI				S	Sn	21 58 55.5	-0.3
	382nm,0.9s,5μm1.8nm						
NLAI	Namlea	5.60	200	P	Pn	21 57 57.8	-3.4
	20nm,0.4s,0.1nm						
AAI	Ambon	5.76	188	P	Pn	21 58 04.1	+0.6
	28nm,0.6s,0.2nm						
FAKI	Fak Fak	5.90	147	P	Pn	21 58 07.0	+1.7
	31nm,1.0s,0.2nm						
BNDI	Bandanaira	6.59	172	P	Pn	21 58 15.5	+0.7
	127nm,1.2s,0.6nm						
LUWI	Luwuk	6.97	244	P	Pn	21 58 17.9	-2.1
	60nm,1.1s,892nm0.3nm						
MRSI	Marisa	7.25	258	P	Pn	21 58 25.5	+1.5
	40nm,1.4s,0.2nm						
BAKI	Biak	7.78	114	P	Pn	21 58 35.2	+4.0
TTSI	Tana Toraja	10.50	241	P	Pn	21 59 12.9	+4.3
KAPI	Kappang	11.62	233	LR	LR	22 03 53.1	
	comp=Z,113nm,19.7s,baz=284,slow=39						
FITZ	Fitzroy Crossi	20.30	189	*eP*	P	22 01 12.2	-0.9
	4.8nm,0.9s						
FITZ	Fitzroy Crossi	20.30	189	P	P	22 01 12.2	-0.9
	0.9nm,0.4s,baz=39,slow=14,SNR=8.0						
WRAB	Tennant Creek	22.46	167	*eP*	P	22 01 37.3	+0.9
	14nm,1.1s						
WRA	Warramunga Arr	22.47	167	P	P	22 01 37.0	+0.6
WRA	Warramunga Arr	22.47	167	P	P	22 01 37.0	+0.6
	9.3nm,1.0s,baz=345,slow=10,SNR=8.6						
AS31	Alice Springs	26.00	170	*eP*	P	22 02 10.2	+0.4
ASAR	Alice Springs	26.00	170	P	P	22 02 10.6	+0.8
ASAR	Alice Springs	26.00	170	P	P	22 02 10.6	+0.8
	1.1nm,0.7s,baz=0.3,slow=6.6,SNR=9.7						
HNR	Honiara	32.85	111	LR	LR	22 16 49.9	
	comp=Z,90nm,19.0s,baz=326,slow=37						
KSAR	Wonju Array Be	35.23	358	P	P	22 03 31.4	+0.3
KSRS	Korea Array	35.24	358	P	P	22 03 31.4	+0.2
	1.3nm,0.8s,baz=170,slow=10,SNR=5.0						
MJAR	Matsushiro Arr	35.35	13	LR	LR	22 15 45.7	
	comp=Z,287nm,18.1s,baz=65,slow=32						
STKA	Stephens Creek	35.79	162	*eP*	P	22 03 37.0	+1.1
	0.7nm,0.7s						
STKA	Stephens Creek	35.79	162	P	P	22 03 36.8	+0.8
	1.1nm,0.4s,baz=338,slow=13,SNR=6.9						
NWAO	Narrogin (SRO)	36.53	197	*eP*	P	22 03 40.8	-1.5
	27nm,1.3s						
H11S3	WAKE ISLAND Hy	40.36	64	T	T	22 47 09.5	
	baz=250,slow=0.7,SNR=8.7						
H11S2	WAKE ISLAND Hy	40.38	64	T	T	22 47 09.7	
	baz=250,slow=0.7,SNR=6.9						
H11S1	WAKE ISLAND Hy	40.38	64	T	T	22 47 10.1	
	baz=250,slow=0.7,SNR=8.8						
H11N1	WAKE ISLAND Hy	40.96	62	T	T	22 48 17.2	
	baz=252,slow=0.7,SNR=3.5						
H11N2	WAKE ISLAND Hy	40.97	62	T	T	22 48 43.3	
	baz=252,slow=0.7,SNR=2.6						
H11N3	WAKE ISLAND Hy	40.98	62	T	T	22 48 41.4	
	baz=252,slow=0.7,SNR=4.1						
ULN	Ulaanbaatar	49.43	341	*eP*	P	22 05 25.8	-0.9
	4.8nm,0.9s						
SONM	Songino Array	49.63	340	P	P	22 05 28.4	+0.3
SONM	Songino Array	49.63	340	P	P	22 05 28.4	+0.3
	0.6nm,0.5s,baz=160,slow=9.2,SNR=3.5						
MK31	Makanchi Array	60.24	325	*eP*	P	22 06 42.2	-2.4
MKAR	Makanchi Array	60.24	325	P	P	22 06 44.3	-0.4
MKAR	Makanchi Array	60.24	325	P	P	22 06 44.3	-0.4
	0.8nm,0.5s,baz=118,slow=7.0,SNR=22						
MKAR				LR	LR	22 32 31.4	
	comp=Z,53nm,18.1s,baz=357,slow=36						
ZAA0	Zalesovo Array	63.12	332	*eP*	P	22 07 02.9	-1.1
ZALV	Zalesovo Beam	63.12	332	P	P	22 07 01.7	-2.2
ZALV	Zalesovo Beam	63.12	332	P	P	22 07 01.7	-2.2
	0.4nm,0.4s,baz=107,slow=5.1,SNR=5.3						
KURK	Kurchatov	64.38	327	*eP*	P	22 07 10.8	-1.5
	5.3nm,1.3s						
VNDA	Vanda	81.49	173	P	P	22 08 53.9	+0.8
VNDA	Vanda	81.49	173	P	P	22 08 53.9	+0.8
	1.3nm,0.9s,baz=310,slow=5.2,SNR=7.1						
TORD	Torodi Ar. Bea	125.61	288	PKP	PKPdf	22 15 39.2	+0.6
TORD	Torodi Ar. Bea	125.61	288	PKP	PKPdf	22 15 39.2	+0.6
	0.3nm,0.8s,baz=29,slow=1.4,SNR=3.4						

IDC 05 22:05:26.6±10.0, 15°84S×173°39W, 0km, mb3.6/2, mb1 3.8/3, mb1mx3.5/20, mbtmp3.6/3, ML1.5/1, Error ellipse: s-maj=501.4km s-min=30.4km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	2.47	39	Pn	Pn	22 06 06.3	-1.9
	6.3nm,0.3s,baz=308,slow=20,SNR=2.1						
AFI				Sn	Sn	22 06 36.3	-2.9
	41nm,0.3s,baz=208,slow=23,SNR=6.3						
WRA	Warramunga Arr	49.76	257	P	P	22 14 20.5	-0.8
	0.3nm,0.3s,baz=91,slow=6.7,SNR=1.6						
ASAR	Alice Springs	49.99	252	P	P	22 14 22.2	-0.8
	0.6nm,0.4s,baz=89,slow=7.9,SNR=9.1						
BRTR	Keskin Array B	146.50	321	PKPbc	PKPab	22 25 11.8	+0.6
	0.5nm,0.7s,baz=72,slow=0.6,SNR=4.3						

ISCJB 05 22:13:01.6±0.9, 20°45S±0°2×178°1W±0°2, h569km, mb3.8/8, Error ellipse: s-maj=28.6km s-min=17.2km az=146.5

IDC 05 22:13:05.2±6.5, 20°36S×178°11W, h598km±75km, mb3.3/8, mb1 3.5/8, mb1mx3.3/18, mbtmp3.3/8, Error ellipse: s-maj=35.5km s-min=24.0km az=72.0

AUST 05 22:13:18.9±15.0, 20°57S×178°87E, h464km±1km, Error ellipse: s-maj=8.0km s-min=2.5km az=241.0

ISC 05 22:13:02.6±0.9, 20°3S±0°2×178°0W±0°2, h569km, n16, σ1°08/15, mb3.9/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	33.48	264	P	P	22 18 56.1	+0.4
	8.0nm,0.5s,baz=92,slow=11,SNR=14						
STKA	Stephens Creek	37.84	244	P	P	22 19 31.9	+0.3
	baz=35,SNR=8.3						
STKA	Stephens Creek	37.84	244	P	P	22 19 31.7	+0.1
	3.3nm,0.5s,baz=100,slow=10.0,SNR=12						
BBOO	Buckleboo	42.60	243	P	P	22 20 09.2	-0.3
	baz=40,SNR=20						
ASAR	Alice Springs	44.53	257	P	P	22 20 24.8	+0.1
	9.6nm,0.5s,baz=96,slow=7.6,SNR=147						
WRA	Warramunga Arr	44.59	262	P	P	22 20 24.8	-0.4
	4.6nm,0.6s,baz=92,slow=6.5,SNR=54						
KDU	Kakadu	47.91	271	P	P	22 20 50.7	+0.5
	baz=45,SNR=4.1						
FITZ	Fitzroy Crossi	53.02	262	P	P	22 21 28.0	+0.5
	baz=50,SNR=4.7						
VNDA	Vanda	58.10	185	P	P	22 22 01.4	-0.2
	0.9nm,1.0s,baz=26,slow=4.1,SNR=3.2						
WSI	Waingapu	60.21	270	P	P	22 22 25.4	+8.6
	baz=57,SNR=3.9						
PETK	Petropavlovsk-	76.07	345	P	P	22 23 52.5	+0.5
	1.9nm,0.7s,baz=156,slow=7.9,SNR=2.7						
TXAR	Lajitas Array	86.98	57	P	P	22 24 50.1	+1.8
	0.2nm,0.6s,baz=356,slow=3.8,SNR=3.7						
ILAR	Eielson Array	88.13	13	P	P	22 24 51.6	-1.1
	0.3nm,0.5s,baz=204,slow=5.1,SNR=3.1						
AKASG	Malin Array Be	142.83	331	PKP	PKPdf	22 31 28.7	-2.8
	0.1nm,0.3s,baz=43,slow=4.5,SNR=24						
BRTR	Keskin Array B	146.68	312	PKPbc	PKPbc	22 31 41.8	+0.3
	0.8nm,0.5s,baz=136,slow=4.0,SNR=6.4						
GERES	GERESS Array B	150.00	344	PKPbc	PKPbc	22 31 49.2	-0.2
	0.6nm,0.7s,baz=341,slow=2.8,SNR=4.8						

CSEM 05 22:33:26.8±1.6, 49°91N×18°59E, h1km, Error ellipse: s-maj=25.8km s-min=21.2km az=76.0

PRU 05 22:33:28.1, 49°82N×18°52E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	Ostrava-Krasne	0.24	274	*e*PG	Pg	22 33 33.3	+0.5
OKC				*e*SG	Sg	22 33 35.5	-0.4
	comp=Z,5.4nm,0.4s						
OKC	Ostrava-Krasne	0.24	274	Pg	Pg	22 33 33.3	+0.5
O

DZM **Mont Dzumac** 20.27 248 P P 22 50 07.9 +0.3
DZM **Mont Dzumac** 20.27 248 P P 22 50 07.9 +0.3
12nm,1.0s,baz=79,slow=18,SNR=3.1
DZM LR LR 22 56 13.9
comp=Z,253nm,19.4s,baz=37,slow=32
PAE **Paea** 22.87 99 eT T 23 13 50.0
6.8nm,0.3s
PPT **Papeete** 22.87 99 LR LR 22 58 14.9
comp=Z,180nm,18.1s,baz=197,slow=34
PPT2 **Papeete2** 22.87 99 eLQ LQ 22 54 41.6
1µm,30.2s
PPT2 eLR LR 22 55 59.7
460nm,24.8s
OUZ **Omahuta** 22.96 208 eP P 22 50 34.4 -1.8
30nm,0.9s
TVO **Taravao** 23.18 99 eT T 23 14 03.4
14nm,0.4s
TBI **Tubuai** 23.83 113 eLQ LQ 22 55 07.9
545nm,32.2s
TBI eLR LR 22 56 20.5
518nm,24.5s,baz=293
TBI **Tubuai** 23.83 113 eT T 23 14 50.7
21nm,0.3s
URZ **Urewera** 24.29 199 eP P 22 50 49.1 +0.3
201nm,2.1s
URZ **Urewera** 24.29 199 P P 22 50 49.3 +0.5
9.4nm,0.5s,baz=9.2,slow=8.2,SNR=6.8
PMOR **Pomariorio Ree** 24.54 92 eT T 23 16 04.3
5.1nm,0.3s
VAH **Vaihoa** 24.78 93 eT T 23 16 11.2
7.9nm,0.3s
BKZ **Black Stump Fm** 25.31 199 eP P 22 50 58.7 +0.6
275nm,1.9s
HNR **Honiara** 26.76 280 LR LR 23 00 27.8
comp=Z,278nm,19.7s,baz=89,slow=34
WHZ **Wether Hill Ro** 34.22 204 eP P 22 52 18.3 +1.2
335nm,2.4s
EIDS **Eidsvold** 34.72 248 eP P 22 52 18.9 -2.7
57nm,2.3s
ARMA **Armidale** 35.41 239 eP P 22 52 26.3 -1.3
134nm,2.5s
RKT **Rikitea** 36.92 108 eLR LR 23 02 35.7
261nm,24.2s
RKT **Rikitea** 36.92 108 eT T 23 31 20.2
6.7nm,0.3s
H11S2 **WAKE ISLAND Hy** 39.01 329 T T 23 34 52.3
baz=154,slow=0.7,SNR=28
H11S3 **WAKE ISLAND Hy** 39.02 329 T T 23 34 50.6
H11S1 **WAKE ISLAND Hy** 39.02 329 T T 23 34 40.0
baz=177,slow=0.7,SNR=18
H11N3 **WAKE ISLAND Hy** 39.95 330 T T 23 35 46.2
baz=152,slow=0.7,SNR=32
H11N1 **WAKE ISLAND Hy** 39.96 330 T T 23 35 43.7
baz=152,slow=0.7,SNR=13
H11N2 **WAKE ISLAND Hy** 39.97 330 T T 23 35 48.1
baz=152,slow=0.7,SNR=24
CMSA **Cobar Meteorol** 40.62 239 ⇓P P 22 53 10.3 -1.1
baz=41,SNR=6.3
QLP **Quilpie** 40.99 247 ⇓P P 22 53 13.5 -1.0
baz=42,SNR=5.1
COEN **Coen** 42.06 266 eP P 22 53 23.8 +0.3
96nm,0.8s
COEN **Coen** 42.06 266 ⇑P P 22 53 24.7 +1.2
baz=43,SNR=11
STKA **Stephens Creek** 44.10 240 eP P 22 53 39.5 -0.3
2.3nm,0.8s
STKA PcP PcP 22 55 25.2 +0.7
STKA **Stephens Creek** 44.10 240 ⇑P P 22 53 39.3 -0.5
baz=45,SNR=9.3
STKA **Stephens Creek** 44.10 240 P P 22 53 39.4 -0.3
9.5nm,0.7s,baz=86,slow=9.2,SNR=20
STKA PcP PcP 22 55 25.2 +0.7
1.6nm,0.7s,baz=352,slow=19,SNR=3.0
STKA LR LR 23 09 25.1
comp=Z,154nm,19.8s,baz=29,slow=32
BBOO **Buckleboo** 48.88 240 eP P 22 54 16.5 -0.7
277nm,0.9s
BBOO **Buckleboo** 48.88 240 ⇓P P 22 54 16.3 -1.0
baz=50,SNR=11
WRAB **Tennant Creek** 49.91 257 eP P 22 54 23.9 -1.4
8.5nm,0.7s
WRA **Warramunga Arr** 49.92 257 P P 22 54 24.2 -1.1
WRA PcP PcP 22 55 45.5 +0.2
WRA **Warramunga Arr** 49.92 257 P P 22 54 24.2 -1.1
8.5nm,0.6s,baz=91,slow=6.9,SNR=82
WRA PcP PcP 22 55 45.5 +0.2
4.2nm,0.7s,baz=88,slow=3.7,SNR=7.9
WRA LR LR 23 14 26.1
comp=Z,128nm,21.0s,baz=100,slow=35
AS31 **Alice Springs** 50.18 252 eP P 22 54 26.4 -1.0
AS31 ePcP PcP 22 55 46.3 0.0
ASAR **Alice Springs** 50.18 252 P P 22 54 26.5 -0.9
ASAR PcP PcP 22 55 46.7 +0.4
ASAR **Alice Springs** 50.18 252 P P 22 54 26.5 -0.9
15nm,0.7s,baz=86,slow=8.2,SNR=159
ASAR PcP PcP 22 55 46.7 +0.4
2.3nm,0.7s,baz=93,slow=5.3,SNR=4.9
ASAR LR LR 23 13 53.9
comp=Z,362nm,20.5s,baz=78,slow=34
SBA **Scott Base** 63.25 185 eP P 22 56 01.9 +2.7
7.1nm,0.8s
VNDA **Vanda** 63.38 186 eP P 22 56 01.9 +1.9
VNDA PcP PcP 22 56 38.3 +1.6
VNDA **Vanda** 63.38 186 P P 22 56 01.8 +1.8
3.9nm,0.9s,baz=6.3,slow=6.4,SNR=16
VNDA PcP PcP 22 56 38.3 +1.6
2.0nm,0.7s,baz=333,slow=4.6,SNR=3.8
VNDA LR LR 23 20 18.0
comp=Z,58nm,18.6s,baz=315,slow=33
MEEK **Meekatharra** 63.88 248 ⇓P P 22 56 03.8 -0.5
baz=65,SNR=4.9
KLBR **Kellerberrin** 64.31 242 ⇓P P 22 56 06.7 -0.2
baz=65,SNR=8.6
BFSC **Mount Baldy Ra** 72.37 46 ⇑P P 22 56 57.5 +0.2
baz=72
EDW2 **Edwards Air Fo** 72.49 45 ⇓P P 22 56 58.4 +0.4
baz=73
MONP **Monument Peak** 72.51 48 ⇓P P 22 56 58.1 -0.2
baz=73
ISA **Isabella** 72.60 44 ⇑P P 22 56 58.7 0.0
baz=73
DVTC **Desert V Tower** 72.62 48 ⇑P P 22 56 59.1 +0.3
baz=73
PETK **Petropavlovsk-** 72.66 342 P P 22 56 59.5 +1.0
PETK **Petropavlovsk-** 72.66 342 P P 22 56 59.5 +1.0
10nm,0.8s,baz=139,slow=9.9,SNR=9.9
PETK LR LR 23 29 34.4
comp=Z,26nm,18.8s,baz=261,slow=36
LPIG **La Paz** 72.97 58 LR LR 23 21 09.7
comp=Z,66nm,19.5s,baz=142,slow=29
LRMC **Laurel Mountai** 73.03 45 ⇑P P 22 57 02.0 +0.7
baz=73
BELC **Belle Mtn. Jos** 73.40 47 ⇓P P 22 57 03.8 +0.3
baz=74
MPMC **Manual Prospec** 73.48 44 ⇑P P 22 57 04.4 +0.4
baz=74
GSC **Goldstone** 73.53 45 ⇓P P 22 57 04.3 +0.1
baz=74
YBH **Yreka Blue Hor** 73.56 37 P P 22 57 05.0 +0.8
YBH **Yreka Blue Hor** 73.56 37 P P 22 57 05.0 +0.8
5.2nm,0.9s,baz=200,slow=4.0,SNR=7.6
WAKR **Walker** 73.60 41 eP P 22 57 03.6 -1.1
2.4nm,0.6s
BC3 **Big Chuckawall** 73.60 47 ⇑P P 22 57 04.8 +0.2
baz=74
HEC **Hector,Ludlow** 73.61 46 ⇓P P 22 57 05.0 +0.3
baz=74
GLA **Glamis** 73.74 48 ⇓P P 22 57 05.6 +0.2
baz=74
HUMO **Hull Mountain** 73.97 36 eP P 22 57 07.6 +1.1
6.0nm,1.1s
GMRC **Granite Mounta** 74.05 46 ⇓P P 22 57 07.5 +0.2
baz=74
IRM **Iron Mountain** 74.08 47 ⇑P P 22 57 08.0 +0.6
baz=74
TUQ **Turquoise Moun** 74.21 46 ⇑P P 22 57 08.4 +0.2
baz=74
SHOC **Shoshone** 74.22 45 ⇑P P 22 57 08.2 +0.1
baz=74
NVAR **Mina Array Bea** 74.28 42 P P 22 57 08.5 -0.2
NVAR **Mina Array Bea** 74.28 42 P P 22 57 08.5 -0.2
1.1nm,0.6s,baz=234,slow=8.8,SNR=8.9
Y12C **Blythe** 74.31 48 ⇑P P 22 57 08.7 +0.1
baz=74
113A **Mohawk Valley,** 74.36 49 ⇑P P 22 57 09.1 +0.2
baz=74
QSPA **South Pole Qui** 74.64 180 eP P 22 57 10.5 +0.3
14nm,0.9s
214A **Organ Pipe Nat** 74.66 50 ⇑P P 22 57 10.8 +0.1
baz=75
PDMCI **Parker Dam,Lak** 74.87 47 ⇓P P 22 57 12.2 +0.3
baz=75
KDAK **Kodiak Island** 74.91 11 P P 22 57 11.8 +0.3
KDAK **Kodiak Island** 74.91 11 P P 22 57 11.8 +0.3
7.8nm,0.6s,baz=188,slow=1.0,SNR=6.8
MOD **Modoc** 75.08 38 eP P 22 57 10.3 -2.9
37nm,0.9s
Z14A **Wintersburg** 75.25 49 ⇑P P 22 57 14.4 +0.3
baz=75
SHPR **Sheep Range** 75.31 45 eP P 22 57 15.0 +0.4
W13A **Hualapai Mount** 75.46 47 ⇓P P 22 57 15.7 +0.2
baz=76
Y14A **Wickenburg** 75.50 48 ⇑P P 22 57 15.9 +0.3
baz=76
H04A **Detroit Lake** 75.71 35 eP P 22 57 16.6 +0.1
12nm,0.9s
PINOR **Pine Mountain** 75.91 36 eP P 22 57 18.8 +1.2
21nm,1.0s
R11A **Troy Canyon, C** 76.01 43 ⇓P P 22 57 18.7 +0.1
baz=76
KSRS **Korea Array** 76.22 316 P P 22 57 21.9 +2.4
1.1nm,0.7s,baz=111,slow=6.9,SNR=4.2
KSRS LR LR 23 29 57.8
comp=Z,55nm,18.7s,baz=12,slow=35
KSAR **Wonju Array Be** 76.23 316 P P 22 57 21.9 +2.2
TUC **Tucson** 76.33 51 eP P 22 57 20.9 +0.5
4.0nm,0.9s
I07A **Izee** 76.86 37 eP P 22 57 23.4 +0.2
13nm,1.1s
X16A **Lo Mia Camp, P** 76.86 48 ⇓P P 22 57 23.7 +0.2
baz=77
319A **Douglas** 77.03 52 ⇓P P 22 57 24.3 -0.2
baz=77
CCUT **Cedar City** 77.08 45 eP P 22 57 25.5 +0.8
6.9nm,1.2s
U15A **North Rim** 77.25 46 ⇓P P 22 57 25.8 +0.1
baz=77
USRK **Ussuriysk Arra** 77.43 323 P P 22 57 28.1 +1.8
5.7nm,1.0s,baz=113,slow=2.9,SNR=8.2
USRK LR LR 23 25 45.4
comp=Z,148nm,19.9s,baz=78,slow=31
WUAZ **Wupatki** 77.44 48 ⇓P P 22 57 27.3 +0.6
baz=78
320A **Kipp Ranch, An** 77.59 52 ⇑P P 22 57 28.3 +0.6
baz=78
PGC **Sidney** 77.60 31 eP P 22 57 26.3 -0.7
220A **Playas Peak, P** 77.84 52 ⇑P P 22 57 29.5 +0.5
baz=78
G08A **Pilot Rock** 77.89 36 eP P 22 57 29.1 +0.1
14nm,1.0s
120A **U Bar Ranch, L** 78.06 51 ⇑P P 22 57 30.7 +0.5
baz=78
Z20A **Nine Sixteen R** 78.34 51 ⇓P P 22 57 32.3 +0.5
baz=78
BMO **Blue Mountains** 78.58 37 eP P 22 57 32.1 -0.7
9.0nm,1.1s
121A **Cookes Peak, D** 78.69 52 ⇓P P 22 57 34.1 +0.3
baz=79
DUG **Dugway** 78.81 43 eP P 22 57 34.9 +0.7
8.1nm,1.1s
DUG **Dugway** 78.81 43 ⇓P P 22 57 34.9 +0.7
baz=79
Y20A **Horse Springs,** 78.86 50 ⇓P P 22 57 35.1 +0.4
baz=79
X20A **Quemado** 79.06 50 ⇑P P 22 57 36.7 +0.9
baz=79
E09A **Wood Farm, Sta** 79.08 35 eP P 22 57 35.2 -0.1
9.6nm,1.0s
Z21A **St. Cloud Mine** 79.12 51 ⇑P P 22 57 37.0 +0.9
baz=79
Q16A **Castle Valley** 79.26 45 ⇓P P 22 57 37.3 +0.6
baz=79
F10A **Beach Ranch, E** 79.28 36 eP P 22 57 36.4 -0.2
12nm,0.8s
W20A **Ramah** 79.33 49 ⇑P P 22 57 37.7 +0.5
baz=80
TMUT **Trail Mountain** 79.42 44 eP P 22 57 38.8 +1.1
12nm,0.9s
Y21A **Point of Rocks** 79.43 50 ⇓P P 22 57 38.5 +0.7
baz=80
BMRM **Bremner River** 79.50 14 eP P 22 57 37.5 +0.2
30nm,1.1s
B08A **Colville Reser** 79.54 33 eP P 22 57 37.1 -0.7
8.6nm,1.0s
X21A **Alamocita Cree** 79.54 50 ⇑P P 22 57 38.7 +0.3
baz=80
HLID **Hailey** 79.58 39 ⇑P P 22 57 38.9 +0.6
baz=80
Z22A **Elephant Butte** 79.63 51 ⇓P P 22 57 39.3 +0.5
baz=80
V20A **Brimhall** 79.66 48 ⇑P P 22 57 39.2 +0.2
baz=80
C09A **Chrisman Ranch** 79.77 34 eP P 22 57 39.2 +0.2
14nm,1.1s
SRU **San Rafael** 79.79 45 eP P 22 57 31.9 -7.7
7.9nm,0.9s
U20A **Newcomb** 79.89 48 ⇑P P 22 57 40.8 +0.7
baz=80
JLU **Jordanelle** 79.91 43 eP P 22 57 40.6 +0.3
11nm,1.2s
Y22A **Socorro** 79.92 51 ⇑P P 22 57 40.7 +0.2
baz=80
324A **Moseley Ranch,** 79.98 53 ⇓P P 22 57 40.6 -0.2
baz=80,SNR=5.4
425A **Indio Mountain** 80.09 54 ⇓P P 22 57 41.7 +0.3
baz=80,SNR=7.9
MNTX **Cornudas Mount** 80.17 53 eP P 22 57 41.3 -0.3
10nm,1.5s
Z23A **Rine Site, Whi** 80.18 52 ⇓P P 22 57 42.4 +0.6
baz=80
224A **Cornudas Mount** 80.22 53 ⇓P P 22 57 42.1 +0.1
baz=80,SNR=6.2
NJ2 **Nanjing** 80.23 307 eP P 22 57 42.4 +0.5
NJ2 AMB AMB
comp=Z,7.0nm,0.6s
V21A **Milan** 80.26 49 ⇑P P 22 57 42.5 +0.2
baz=80
626A **Big Bend Ranch** 80.27 56 ⇑P P 22 57 42.2 0.0
baz=80,SNR=8.6
CAST **Castle Rocks** 80.29 10 eP P 22 57 40.7 -0.9
6.4nm,1.0s
MVCO **Mesa Verde** 80.29 47 ⇓P P 22 57 42.1 -0.3
baz=80
LPM **Los Pinos Moun** 80.34 50 eP P 22 57 43.3 +0.7
325A **Bean Ranch, Si** 80.35 54 ⇓P P 22 57 42.7 -0.1
baz=80,SNR=12
W22A **Albuquerque** 80.50 50 ⇓P P 22 57 43.5 0.0
baz=81
526A **Mary Lane Ranc** 80.50 55 ⇓P P 22 57 43.6 0.0
baz=81,SNR=8.1
U21A **Nageezi** 80.53 48 ⇑P P 22 57 44.4 +0.7
baz=81
124A **Stringfield Ra** 80.53 52 ⇑P P 22 57 43.8 0.0
baz=81
TXAR **Lajitas Array** 80.55 56 P P 22 57 43.5 -0.3
TXAR **Lajitas Array** 80.55 56 P P 22 57 43.5 -0.3
4.0nm,1.0s,baz=231,slow=6.0,SNR=25
TXAR LR LR 23 25 37.8
comp=Z,70nm,19.0s,baz=200,slow=30
Y23A **Lovelace Mesa,** 80.60 51 ⇓P P 22 57 44.2 +0.1
baz=81
TRF **Thorofare Moun** 80.61 10 eP P 22 57 42.6 -0.8
17nm,1.2s
NEW **Newport** 80.67 34 eP P 22 57 43.6 -0.3
NEW **Newport** 80.67 34 ⇓P P 22 57 43.6 -0.3
baz=81
NEW **Newport** 80.67 34 P P 22 57 43.2 -0.8
2.3nm,0.8s,baz=254,slow=3.5,SNR=4.3
S20A **Disappointment** 80.67 47 ⇑P P 22 57 44.8 +0.3
baz=81
ANMO **Albuquerque** 80.75 50 eP P 22 57 45.0 +0.2
ANMO **Albuquerque** 80.75 50 P P 22 57 44.9 0.0
4.2nm,0.9s,baz=238,slow=6.5,SNR=9.4
225A **Deer Hill, Car** 80.77 53 ⇑P P 22 57 45.4 +0.4
baz=81
426A **McDonald Obser** 80.80 55 ⇑P P 22 57 45.1 -0.2
baz=81,SNR=12
627A **Terlingua Ranc** 80.82 56 ⇑P P 22 57 45.5 +0.2
baz=81,SNR=10
V22A **San Miguel Ran** 80.84 49 ⇓P P 22 57 45.4 0.0
baz=81
M17A **Scullys Gap (B** 80.86 43 ⇓P P 22 57 45.3 -0.1
baz=81
Z24A **Sheeppen Canyo** 80.87 52 ⇑P P 22 57 45.7 +0.2
baz=81
T21A **Navajo Lake** 80.87 48 ⇑P P 22 57 45.6 +0.1
baz=81
527A **Woodward Ranch** 80.92 55 ⇑P P 22 57 45.6 -0.2
baz=81,SNR=8.3
S21A **Coal Bank Pass** 81.00 47 ⇑P P 22 57 46.9 +0.6
baz=81
W23A **Werner Place,** 81.06 50 ⇓P P 22 57 47.0 +0.4
baz=81
Y24A **Capitan** 81.07 51 ⇓P P 22 57 46.5 -0.1
baz=81,SNR=6.7
P19A **Cripple Cowboy** 81.09 45 ⇑P P 22 57 46.5 -0.1
baz=81
PAX **Paxson** 81.09 12 eP P 22 57 39.8 -6.1
12nm,0.5s
326A **Caldwell Ranch** 81.10 54 ⇑P P 22 57 46.6 -0.1
baz=81
MCK **McKinley** 81.11 11 eP P 22 57 45.9 0.0
18nm,1.0s
125A **Gardner Draw,** 81.12 53 ⇓P P 22 57 47.0 +0.1
baz=81
CN2 **Changchun** 81.14 320 eP P 22 57 47.7 +1.2
CN2 AMB AMB
comp=Z,10.0nm,0.4s
GDL2 **Guadalupe Moun** 81.16 53 eP P 22 57 44.0 -3.0
HYT **Haines Junctio** 81.19 17 eP P 22 57 47.1 +0.6
MCMT **McKenzie Canyo** 81.21 39 eP P 22 57 46.5 -0.7
6.5nm,1.0s
628A **Black Gap, Mar** 81.23 56 ⇑P P 22 57 47.6 +0.3
baz=81
Q20A **Ridgley Place,** 81.24 46 ⇓P P 22 57 47.6 +0.2
baz=81
226B **Tecolote Peak,** 81.27 53 ⇓P P 22 57 47.3 -0.2
baz=81,SNR=11
T22A **Edith** 81.33 48 ⇑P P 22 57 48.2 +0.2
baz=82
Z25A **Roswell** 81.34 52 ⇓P P 22 57 48.1 +0.1
baz=82
427A **Hayter Ranch,** 81.36 55 ⇑P P 22 57 47.8 -0.3
baz=82,SNR=6.1
P20A **De Beque** 81.43 45 ⇓P P 22 57 48.3 -0.1
baz=82
R21A **Cimarron** 81.49 46 ⇑P P 22 57 48.8 -0.1
baz=82,SNR=6.6
L18A **Fontenelle, Gr** 81.50 42 ⇑P P 22 57 48.9 +0.2
baz=82
U23A **El Rito** 81.55 49 ⇓P P 22 57 49.5 +0.4
baz=82
528A **Cox Ranch, San** 81.58 56 ⇑P P 22 57 49.1 -0.2
baz=82,SNR=5.8
126A **Clayton Basin,** 81.61 53 ⇑P P 22 57 49.4 0.0
baz=82
Y25A **Mesa, Roswell** 81.62 52 ⇓P P 22 57 49.3 -0.1
baz=82,SNR=5.5
W24A **Lazy 6 Ranch,** 81.64 50 ⇓P P 22 57 49.5 -0.1
baz=82
MSO **Missoula** 81.64 37 eP P 22 57 48.8 -0.5
18nm,1.2s
MSO **Missoula** 81.64 37 ⇑P P 22 57 48.9 -0.3
baz=82,SNR=6.8
DLMT **Dillon** 81.64 38 eP P 22 57 49.9 +0.6
9.3nm,0.9s
Q21A **Lamborn Mesa,** 81.69 46 ⇓P P 22 57 50.4 +0.6
baz=82
REDW **Red Top Meadow** 81.69 41 eP P 22 57 45.1 -4.6
19nm,1.3s
TPAW **Teton Pass** 81.69 41 eP P 22 57 49.9 +0.2
17nm,1.1s
S22A **4UR Ranch, Cre** 81.72 47 ⇓P P 22 57 49.9 -0.1
baz=82,SNR=10.0
BSMT **Bassoo Peak** 81.72 35 eP P 22 57 49.2 -0.6
SNOW **Snow King Moun** 81.80 41 eP P 22 57 50.9 +0.5
9.1nm,0.8s
M19A **Rock Springs** 81.87 43 ⇑P P 22 57 50.7 0.0
baz=82
428A **Kincaid Ranch,** 81.88 55 ⇑P P 22 57 50.9 +0.1
baz=82,SNR=5.2
Z26A **Caprock** 81.90 52 ⇓P P 22 57 51.0 +0.1
baz=82
X25A **Clemmons Ranch** 81.90 51 ⇑P P 22 57 51.2 +0.2
baz=82
IMW **Indian Meadow** 81.90 40 eP P 22 57 51.4 +0.5
14nm,1.2s
JTMT **Jette** 81.95 36 eP P 22 57 50.2 -0.7
MOOW **Moose Ponds** 81.95 41 eP P 22 57 51.8 +0.7
11nm,1.4s
V24A **Rampart Ranch,** 81.96 50 ⇓P P 22 57 51.5 +0.1
baz=82
T23A **Casias Ranch,** 81.97 48 ⇑P P 22 57 51.5 +0.1
baz=82
LOHW **Long Hollow** 81.97 41 eP P 22 57 51.4 +0.2
8.1nm,1.1s
LRM **Limekiln Ridge** 81.97 38 eP P 22 57 51.2 +0.1
R22A **Saguache, Gunn** 81.98 47 ⇑P P 22 57 52.1 +0.6
baz=82
L19A **Farson** 82.02 42 ⇑P P 22 57 51.7 +0.2
baz=82
328A **Wristen Ranch,** 82.04 54 ⇓P P 22 57 51.6 0.0
baz=82
QLMT **Earthquake Lak** 82.07 39 eP P 22 57 52.8 +1.1
CHMT **Chamberlain Mo** 82.08 37 eP P 22 57 51.3 -0.3
SLMT **Seeley Lake** 82.12 36 eP P 22 57 51.0 -0.8
127A **Arkansas Junct** 82.13 53 ⇓P P 22 57 52.5 +0.3
baz=82
N20A **Spence Gulch,** 82.14 44 ⇓P P 22 57 51.7 -0.5
baz=82,SNR=6.3
FLWY **Flagg Ranch** 82.14 40 eP P 22 57 52.9 +0.8
16nm,1.0s
Q22A **Crested Butte,** 82.16 46 ⇑P P 22 57 52.5 +0.1
baz=82,SNR=9.2
BW06 **Boulder Array** 82.22 42 eP P 22 57 51.6 -0.9
9.9nm,1.1s
PDAR **Pinedale Array** 82.22 42 P P 22 57 51.9 -0.7
PDAR **Pinedale Array** 82.22 42 P P 22 57 51.9 -0.7
4.8nm,1.0s,baz=236,slow=2.7,SNR=29
PDAR LR LR 23 28 18.2
comp=Z,88nm,18.1s,baz=162,slow=31
SMCO **Snowmass** 82.26 46 eP P 22 57 53.5 +0.4
14nm,1.3s
Y26A **Elida** 82.28 52 ⇑P P 22 57 52.8 -0.2
baz=82
W25A **X Bar L Ranch,** 82.34 50 ⇑P P 22 57 53.1 -0.1
baz=82
COLA **College** 82.35 11 eP P 22 57 51.2 -1.1
56nm,1.0s
ILAR **Eielson Array** 82.43 11 P P 22 57 52.2 -0.6
ILAR **Eielson Array** 82.43 11 P P 22 57 52.2 -0.6
2.2nm,0.9s,baz=221,slow=5.6,SNR=12
ILAR LR LR 23 27 22.4
comp=Z,48nm,20.8s,baz=285,slow=30
T24B **San Luis** 82.45 48 ⇓P P 22 57 54.0 +0.1
baz=83
429A **Davenport Ranc** 82.47 56 ⇓P P 22 57 53.5 -0.4
baz=83,SNR=15
V25A **Rancho No Teng** 82.49 50 ⇑P P 22 57 54.1 +0.1
baz=83,SNR=13
Z27A **Tatum** 82.50 53 ⇓P P 22 57 53.9 -0.1
baz=83
M20A **Sweetwater, Wa** 82.50 43 ⇑P P 22 57 54.3 +0.3
baz=83
228A **UT Block 9, Go** 82.50 54 ⇓P P 22 57 54.3 +0.2
baz=83
X26A **CR and CF Fran** 82.55 51 ⇑P P 22 57 54.7 +0.3
baz=83
P22A **Eagle** 82.59 46 ⇓P P 22 57 54.8 +0.2
baz=83
R23A **Moffat** 82.62 47 ⇑P P 22 57 55.0 +0.2
baz=83,SNR=7.3
L20A **Wamsutter** 82.64 43 ⇑P P 22 57 54.9 +0.2
baz=83,SNR=14
K19A **Absolon Red Bu** 82.70 42 ⇑P P 22 57 54.5 -0.5
baz=83,SNR=6.5
530A **J-C Ranch, Com** 82.73 56 ⇑P P 22 57 55.1 -0.1
baz=83
329A **Wagon Wheel Ra** 82.73 55 ⇓P P 22 57 55.0 -0.3
baz=83,SNR=5.9
Y27A **Causey** 82.77 52 ⇓P P 22 57 55.2 -0.3
baz=83
J19A **Crowheart** 82.78 42 ⇓P P 22 57 55.1 -0.3
baz=83,SNR=11
128A **Castleberry Fa** 82.78 53 ⇓P P 22 57 55.3 -0.3
baz=83,SNR=5.4
W26A **Owens Ranch, T** 82.81 51 ⇑P P 22 57 56.4 +0.7
baz=83
S24A **Houchin Ranch,** 82.82 48 ⇑P P 22 57 56.2 +0.3
baz=83,SNR=6.1
WALA **Waterton Lakes** 82.87 35 eP P 22 57 55.2 -0.4
0.5nm,1.5s
U25A **Circle Dot Ran** 82.88 49 ⇓P P 22 57 56.5 +0.4
baz=83

Q23A	Hartsel	82.93	47	⇓P		P	22 57 56.5	+0.1	
	baz=83,SNR=6.8								
K20A	Yellowstone Ra	82.95	42	⇓P		P	22 57 55.9	-0.4	
	baz=83,SNR=6.5								
O22A	Kremmling	83.00	45	⇓P		P	22 57 56.8	+0.1	
	baz=83,SNR=12								
229A	Bryant Ranch,	83.05	54	⇑P		P	22 57 56.8	-0.1	
	baz=83								
430A	Baggett Ranch,	83.06	56	⇑P		P	22 57 56.7	-0.3	
	baz=83								
631A	Perdido Creek	83.07	57	⇑P		P	22 57 56.5	-0.5	
	baz=83,SNR=5.3								
V26A	Tequesquite Ra	83.08	50	⇑P		P	22 57 57.0	0.0	
	baz=83								
H18A	Shoshone NF, C	83.08	40	⇓P		P	22 57 57.0	+0.1	
	baz=83								
MSTX	Muleshoe	83.10	52	⇓P		P	22 57 57.1	0.0	
	baz=83								
M21A	Separation Pea	83.10	44	⇑P		P	22 57 57.1	0.0	
	baz=83,SNR=13								
X27A	F and S Farms,	83.13	51	⇓P		P	22 57 57.5	+0.2	
	baz=83								
P23A	Jefferson	83.13	46	⇑P		P	22 57 58.2	+0.7	
	baz=83								
R24A	Sanders Place,	83.15	47	⇑P		P	22 57 57.6	+0.2	
	baz=83,SNR=9.4								
T25A	Trinidad	83.18	49	⇑P		P	22 57 57.6	-0.1	
	baz=83								
I19A	Meeteetse	83.19	41	⇓P		P	22 57 57.6	+0.1	
	baz=83,SNR=9.1								
RWWY	Rawlins	83.24	44	*e*P		P	22 58 03.9	+6.0	
	19nm,1.0s								
L21A	Rawlins	83.26	43	⇑P		P	22 57 57.5	-0.5	
	baz=83,SNR=5.2								
129A	Stewart Farms,	83.27	54	⇓P		P	22 57 58.0	0.0	
	baz=83								
W27A	Bowe Ranch, En	83.32	51	⇑P		P	22 57 58.1	-0.1	
	baz=84								
330A	Mertzon	83.34	55	⇓P		P	22 57 58.1	-0.3	
	baz=84								
N22A	Wattenberg Ran	83.35	45	⇓P		P	22 57 58.4	-0.1	
	baz=84,SNR=5.8								
U26A	Atchley Ranch,	83.36	50	⇑P		P	22 57 58.6	0.0	
	baz=84								
S25A	Robets Cordova	83.39	48	⇑P		P	22 57 58.6	0.0	
	baz=84,SNR=9.9								
DAWY	Dawson	83.41	14	*e*P		P	22 57 58.0	+0.1	
Q24A	Divide	83.44	47	⇑P		P	22 57 59.2	+0.2	
	baz=84,SNR=11								
J20A	Shoshoni	83.44	42	⇓P		P	22 57 59.0	+0.3	
	baz=84,SNR=8.0								
O23A	Lake Granby, G	83.45	45	⇓P		P	22 57 58.8	-0.2	
	baz=84								
Y28A	McKinney Farm,	83.47	52	⇑P		P	22 57 58.7	-0.4	
	baz=84								
ISCO	Idaho Springs	83.48	46	*e*P		P	22 57 59.5	+0.3	
	6.1nm,1.0s								
ISCO	Idaho Springs	83.48	46	⇓P		P	22 57 59.2	0.0	
	baz=84,SNR=5.3								
H19A	Powell	83.50	40	⇓P		P	22 57 59.6	+0.5	
	baz=84,SNR=9.0								
431A	Sonora	83.52	56	⇓P		P	22 57 59.4	+0.1	
	baz=84								
M22A	Cedar Creek Ra	83.52	44	⇓P		P	22 57 59.4	+0.1	
	baz=84								
230A	Sterling City	83.57	55	⇑P		P	22 57 59.3	-0.2	
	baz=84								
GCMT	Greycliff	83.63	39	*e*P		P	22 57 59.3	-0.3	
	14nm,1.1s								
Z29A	Hungry Hill Ra	83.64	53	⇓P		P	22 57 59.4	-0.5	
	baz=84								
K21A	Alcova	83.65	43	⇑P		P	22 57 59.7	-0.2	
	baz=84,SNR=9.6								
I20A	Worland	83.70	41	⇑P		P	22 58 00.1	0.0	
	baz=84,SNR=13								
R25A	Fountain Ranch	83.70	48	⇑P		P	22 57 60.0	-0.2	
	baz=84								
N23A	Red Feather La	83.73	45	⇑P		P	22 58 00.5	0.0	
	baz=84,SNR=11								
632A	Uvalde	83.74	57	⇓P		P	22 58 00.2	-0.3	
	baz=84								
T26A	Comanche Natio	83.79	49	⇓P		P	22 58 00.3	-0.4	
	baz=84								
J21A	Lysite	83.85	42	⇑P		P	22 58 00.8	-0.1	
	baz=84,SNR=11								
532A	Rocksprings	83.88	57	⇓P		P	22 58 00.6	-0.5	
	baz=84,SNR=5.6								
331A	San Angelo	83.89	55	⇑P		P	22 58 00.8	-0.4	
	baz=84								
Y29A	Porterfield Fa	83.90	53	⇑P		P	22 58 01.5	+0.2	
	baz=84								
L22A	Ellis Ranch, M	83.91	44	⇓P		P	22 58 01.5	+0.3	
	baz=84								
130A	Snyder	83.96	54	⇑P		P	22 58 01.8	+0.3	
	baz=84								
O24A	Longmont	83.99	46	⇑P		P	22 58 01.9	+0.3	
	baz=84								
H20A	Greybull	84.03	41	⇑P		P	22 58 01.4	-0.3	
	baz=84,SNR=8.4								
U27A	Thompson Grove	84.05	50	⇓P		P	22 58 01.6	-0.4	
	baz=84								
Q25A	Bedland, Calha	84.05	47	⇑P		P	22 58 02.0	-0.1	
	baz=84								
S26A	Kim	84.07	49	⇓P		P	22 58 01.8	-0.2	
	baz=84,SNR=6.0								
JCT	Junction City	84.09	56	⇓P		P	22 58 02.2	0.0	
	baz=84								
Z30A	Sanderson Ranc	84.09	53	⇓P		P	22 58 01.6	-0.6	
	baz=84,SNR=8.9								
F19A	Roth Farm, Mol	84.10	39	⇓P		P	22 58 02.1	+0.1	
	baz=84,SNR=18								
COLD	Coldfoot	84.14	9	*e*P		P	22 58 02.6	+1.0	
	6.6nm,1.1s								
K22A	Casper	84.14	43	⇑P		P	22 58 02.3	-0.1	
	baz=84								
I21A	Big Trails, Te	84.17	42	⇓P		P	22 58 02.1	-0.4	
	baz=84,SNR=15								
231A	Bronte	84.22	55	⇓P		P	22 58 02.7	-0.1	
	baz=84								
432A	Menard	84.24	56	⇓P		P	22 58 02.7	-0.3	
	baz=84								
G20A	Bridger	84.25	40	⇓P		P	22 58 02.7	-0.1	
	baz=84								
P25A	Willow Gulch B	84.36	47	⇓P		P	22 58 03.8	+0.2	
	baz=84,SNR=5.4								
W29A	Amraillo	84.41	51	⇑P		P	22 58 03.4	-0.4	
	baz=85,SNR=5.3								
N24A	Carr	84.43	45	⇑P		P	22 58 04.1	+0.3	
	baz=85								
131A	Roby	84.44	54	⇑P		P	22 58 03.7	-0.2	
	baz=85								
L23A	Garrett	84.44	44	⇓P		P	22 58 03.7	-0.3	
	baz=85,SNR=7.8								
332A	Millersview	84.47	56	⇑P		P	22 58 03.5	-0.6	
	baz=85,SNR=7.9								
E19A	Rath Farm, Rou	84.49	39	⇓P		P	22 58 04.1	+0.1	
	baz=85,SNR=11								
Y30A	Stafford Cattl	84.50	53	⇓P		P	22 58 04.0	-0.2	
	baz=85								
J22A	Midwest	84.51	42	⇓P		P	22 58 03.9	-0.3	
	baz=85,SNR=10								
F20A	Billings	84.56	40	⇑P		P	22 58 04.7	+0.3	
	baz=85								
EGMT	Eagleton	84.69	37	*e*P		P	22 58 05.0	+0.1	
	15nm,1.0s								
EGMT	Eagleton	84.69	37	⇓P		P	22 58 04.8	-0.1	
	baz=85,SNR=5.0								
H21A	Big Horn, Sher	84.70	41	⇓P		P	22 58 05.1	0.0	
	baz=85								
I22A	9 Mile Ranch,	84.72	42	⇓P		P	22 58 05.1	-0.1	
	baz=85,SNR=7.5								
232A	Coleman	84.73	55	⇑P		P	22 58 05.2	-0.3	
	baz=85								
X30A	Coker Ranch, T	84.73	52	⇓P		P	22 58 05.1	-0.3	
	baz=85								
M24A	Cheyenne	84.75	45	⇓P		P	22 58 05.2	-0.2	
	baz=85								
K23A	Bowen Ranch, D	84.77	43	⇓P		P	22 58 05.6	+0.1	
	baz=85								
D19A	Cripps Ranch,	84.78	38	⇑P		P	22 58 05.6	+0.3	
	baz=85,SNR=15								
T28A	Walsh	84.85	49	⇓P		P	22 58 06.0	0.0	
	baz=85								
Z31A	Sharp Cattle R	84.87	54	⇑P		P	22 58 05.6	-0.5	
	baz=85,SNR=6.8								
G21A	Lodge Grass	84.88	40	⇑P		P	22 58 06.3	+0.3	
	baz=85								
E20A	Meyer Farm, Mu	84.91	39	⇑P		P	22 58 06.2	+0.1	
	baz=85,SNR=11								
C19A	Slack Wire Ran	84.96	38	⇑P		P	22 58 06.6	+0.4	
	baz=85,SNR=19								
P26A	Davis Ranch, A	84.96	47	⇓P		P	22 58 07.5	+1.0	
	baz=85								
ABTX	Abilene, Hawle	85.00	54	*e*P		P	22 58 06.2	-0.6	
ABTX	Abilene, Hawle	85.00	54	⇓P		P	22 58 06.4	-0.4	
	baz=85,SNR=11								
Y31A	Rekieta Farm,	85.02	53	⇓P		P	22 58 06.4	-0.5	
	baz=85,SNR=6.3								
H22A	Clearmont	85.13	41	⇓P		P	22 58 07.1	-0.1	
	baz=85								
D20A	Manuel Ranch,	85.19	38	⇓P		P	22 58 07.5	+0.1	
	baz=85,SNR=11								
B19A	Brinkman Farms	85.37	37	⇓P		P	22 58 08.8	+0.6	
	baz=86								
V30A	Spur Ranch, Mi	85.38	51	⇑P		P	22 58 08.9	+0.3	
	baz=86								
Z32A	Haskell	85.38	54	⇓P		P	22 58 08.4	-0.2	
	baz=86,SNR=24								
EDM	Edmonton	85.45	31	*e*P		P	22 58 08.2	-0.3	
G22A	Birney	85.45	41	⇓P		P	22 58 08.9	0.0	
	baz=86								
R28A	Tribune	85.56	48	⇓P		P	22 58 09.5	0.0	
	baz=86								
C20A	Veseth Ranch,	85.56	38	⇑P		P	22 58 09.5	+0.3	
	baz=86,SNR=15								
E21A	Keefer Ranch,	85.57	39	⇑P		P	22 58 10.1	+0.8	
	baz=86								
Y32A	R-V Farms, Ver	85.67	53	⇑P		P	22 58 10.0	-0.1	
	baz=86								
A19A	Klindworth Far	85.72	37	⇓P		P	22 58 10.2	+0.2	
	baz=86								
W31A	Holland Ranch,	85.72	52	⇓P		P	22 58 10.0	-0.3	
	baz=86,SNR=5.5								
O27A	Beecher Island	85.82	47	⇑P		P	22 58 11.0	+0.2	
	baz=86								
D21A	La Casta Ranch	85.86	39	⇓P		P	22 58 10.9	+0.1	
	baz=86								
M26A	McRoberts Ranc	85.89	45	⇑P		P	22 58 10.3	-0.8	
	baz=86								
I24A	Kuemmerle Ranc	85.91	43	⇓P		P	22 58 11.9	+0.7	
	baz=86								
V31A	Spring Creek L	86.02	51	⇓P		P	22 58 12.1	+0.3	
	baz=86								
F23A	Volborg	86.23	41	⇑P		P	22 58 12.7	+0.1	
	baz=86								
H24A	Dirks Ranch, A	86.35	42	⇓P		P	22 58 12.6	-0.6	
	baz=86,SNR=5.2								
D22A	Cohagen	86.40	39	⇓P		P	22 58 13.9	+0.5	
	baz=86								
WHTX	Lake Whitney	86.50	56	⇑P		P	22 58 13.9	-0.2	
	baz=87								
I25A	Rochford	86.57	43	⇓P		P	22 58 14.2	-0.2	
	baz=87								
T31A	Randall Ranch,	86.64	50	⇑P		P	22 58 14.7	-0.1	
	baz=87								
A21A	Bergtoll Ranch	86.80	37	⇓P		P	22 58 15.7	+0.4	
	baz=87								
B22A	Reddig Ranch S	87.03	38	⇑P		P	22 58 16.8	+0.4	
	baz=87,SNR=5.5								
P30A	Selden	87.15	48	⇑P		P	22 58 17.4	+0.2	
	baz=87								
R31A	Burdett	87.19	49	⇓P		P	22 58 16.9	-0.6	
	baz=87								
J27A	Elkhorn Farm,	87.39	44	⇓P		P	22 58 18.4	+0.1	
	baz=88								
A22A	Carney Farms,	87.39	37	⇑P		P	22 58 18.4	+0.2	
	baz=88								
B23A	Brockton	87.70	38	⇑P		P	22 58 20.2	+0.5	
	baz=88								
MAW	Mawson	87.81	199	*e*P		P	22 58 20.8	+0.9	
MAW	Mawson	87.81	199	P		P	22 58 21.0	+1.2	
	4.6nm,0.7s,baz=138,slow=4.5,SNR=12								
G26A	Maurine	87.83	42	⇓P		P	22 58 21.0	+0.7	
	baz=88								
GYA	Guiyang	88.11	298	*e*P		P	22 58 22.0	-0.2	
GYA				PP		PP	23 01 51.6	+1.9	
GYA				SKS		SKSac	23 08 47.5	-0.5	
GYA				S		S	23 09 04.2	+0.5	
GYA				SS		SS	23 14 55.5	+2.2	
GYA				AMB		AMB			
	comp=Z,10.0nm,1.0s								
GYA				AMB		AMB			
	comp=Z,90nm,6.3s								
GYA				LR		LR			
	comp=N,470nm,19.5s								
GYA				LR		LR			
	comp=E,360nm,20.0s								
GYA				LR		LR			
	comp=Z,460nm,19.6s								
INK	Inuvik	88.25	14	P		P	22 58 20.9	-0.8	
INK	Inuvik	88.25	14	P		P	22 58 20.9	-0.8	
	3.8nm,0.7s,baz=244,slow=9.8,SNR=4.5								
D26A	Manning	88.65	40	⇑P		P	22 58 24.3	+0.1	
	baz=89								
A25A	Svangstu Ranch	89.03	38	⇓P		P	22 58 26.0	+0.1	
	baz=89								
HHC	Hu-ho-hao-te	89.09	313	*e*P		P	22 58 24.5	-2.0	
HHC				sP		sP	22 58 31.5	-12	
HHC				PP		PP	23 01 56.6	-0.5	
HHC				SKS		SKSac	23 08 51.5	-1.6	
HHC				S		S	23 09 10.2	-2.1	
HHC				SS		SS	23 15 06.3	-0.5	
HHC				AMB		AMB			
	comp=Z,39nm,1.1s								
HHC				AMB		AMB			
	comp=Z,170nm,5.8s								
HHC				LR		LR			
	comp=N,310nm,17.3s								
HHC				LR		LR			
	comp=E,380nm,16.9s								
HHC				LR		LR			
	comp=Z,340nm,17.1s								
J30A	Dallas	89.11	45	⇓P		P	22 58 26.3	-0.1	
	baz=89								
YKA	Yellowknife Ar	90.07	23	P		P	22 58 29.8	-0.6	
YKA	Yellowknife Ar	90.07	23	P		P	22 58 29.8	-0.6	
	2.5nm,0.9s,baz=228,slow=4.6,SNR=7.1								
KMI	Kunming	91.10	296	P		P	22 58 37.3	+0.9	
KMI				AMB		AMB			
	comp=Z,4.0nm,0.9s								
A29A	Manning Farm,	91.37	39	⇓P		P	22 58 36.5	-0.3	
	baz=92								
B30A	Myrvik Farm, E	91.76	40	⇓P		P	22 58 38.5	-0.1	
	baz=92								
CD2	Chengdu	91.88	301	P		P	22 58 39.3	-0.4	
CD2				AMB		AMB			
	comp=Z,10.0nm,0.5s								
SYO	Syowa Base	92.61	191	⇓*e*P		P	22 58 40.4	-1.8	
CMAR	Chiang Mai Arr	92.69	288	P		P	22 58 44.7	+1.1	
CMAR	Chiang Mai Arr	92.69	288	P		P	22 58 44.7	+1.1	
	0.9nm,0.7s,baz=123,slow=2.0,SNR=5.9								
SNAA	Sanae	92.90	177	*e*P		P	22 58 44.1	+0.4	
ULM	Lac du Bonnet	93.89	39	LR		LR	23 39 19.0		
	comp=Z,88nm,18.0s,baz=303,slow=34								
LPAZ	La Paz	99.74	110	LR		LR	23 33 04.8		
	comp=Z,64nm,21.5s,baz=126,slow=29								
ROSC	El Rosal	99.93	88	LR		LR	23 34 43.3		
	comp=Z,47nm,18.9s,baz=143,slow=30								
KSH	Kashi	115.54	307	*e*PKP		PKPdf	23 04 04.5	-8.8	
KSH				sPKP			23 04 39.8		
ARCES	ARCESS Array B	124.62	352	PKP		PKPdf	23 04 28.8	-1.0	
ARCES	ARCESS Array B	124.62	352	PKP		PKPdf	23 04 28.8	-1.0	
	3.2nm,0.8s,baz=10,slow=1.4,SNR=7.4								
FINES	FINESS Array B	131.96	348	PKP		PKPdf	23 04 44.8	+0.9	
FINES	FINESS Array B	131.96	348	PKP		PKPdf	23 04 44.8	+0.9	
	1.8nm,0.7s,baz=3.8,slow=5.7,SNR=5.5								
AKASG	Malin Array Be	140.37	338	PKPpre		PKPpre	23 04 54.5		
AKASG				PKP		PKPdf	23 04 59.1	-0.7	
AKASG	Malin Array Be	140.37	338	PKhKP		PKPpre	23 04 54.5		
	0.4nm,0.4s,baz=33,slow=3.0,SNR=4.1								
AKASG				PKP		PKPdf	23 04 59.1	-0.7	
	1.9nm,0.8s,baz=32,slow=3.1,SNR=4.2								
KWP	Kalwaria Pacla	143.45	342	*e*PKPdf		PKPbc	23 05 02.2	-0.4	
CLL	Collm	143.83	353	*i* PKPdf		PKPbc	23 05 04.2	+0.5	
	comp=Z,4.0nm,0.9s								
MALT	Malatya	143.92	315	⇑*i*P		PKPdf	23 05 06.7	0.0	
TSUM	Tsumeb	143.98	198	*e*PKPdf		PKPdf	23 05 06.2	-1.2	
STHS	Stebnicka Huta	144.05	344	*e*PKP		PKPdf	23 05 05.6	-0.9	
DPC	Dobruska-Polom	144.28	349	*i* PKP		PKPdf	23 05 05.9	-1.0	
DPC				*ep*PKP		PKiKP	23 05 11.2	+0.7	
NIE	Niedzica	144.30	345	*e*PKP		PKPdf	23 05 06.0	-0.9	
OKC	Ostrava-Krasne	144.41	347	*i* PKP		PKPbc	23 05 05.5	0.0	
OKC				*ep*PKP		PKiKP	23 05 11.9	+1.2	
TESR	Tescani	144.78	336	⇓*i*P		PKPdf	23 05 07.5	-0.3	
GUNZ	Gunzen	144.83	354	*e*PKPbc		PKPdf	23 05 07.0	-0.8	
TRPA	Tarpa	144.84	341	⇓*i*P		PKPdf	23 05 07.5	-0.3	
PRU	Pruhonice	144.92	351	*i* PKP		PKPdf	23 05 07.4	-0.5	
PRU				*ep*PKP		PKiKP	23 05 14.2	+2.5	
TLCR		144.93	332	⇓*i*P		PKPdf	23 05 08.4	+0.3	
VRAC	Vranov	145.23	349	⇑*i*P		PKPdf	23 05 08.8	+0.3	
CFR	Carcaliu	145.24	333	⇑*i*P		PKPdf	23 05 09.0	+0.4	
TNS	Taunus Mts	145.24	358	*e*PKPbc		PKPdf	23 05 08.5	-0.1	
VRI	Vrincioaia	145.28	335	⇑*i*P		PKPdf	23 05 08.9	+0.2	
PLOR	Plostina	145.32	335	⇓*i*P		PKPab	23 05 09.4	+0.6	
ROTZ	Rotzenmuhle	145.43	354	*e*PKPbc		PKPab	23 05 09.4	+0.4	
TREC	Trest	145.44	350	*i* PKP		PKPab	23 05 09.1	0.0	
TREC				*ep*PKP		PKiKP	23 05 14.1	+1.2	
GRF	Grafenberg Arr	145.60	355	*e*PKPbc		PKPab	23 05 10.0	+0.3	
KMBO	Kilima Mbogo	145.60	244	*e*PKPdf		PKPab	23 05 10.7	-0.4	
KMBO				PKPbc		PKPab	23 05 11.3	+0.3	
KMBO	Kilima Mbogo	145.60	244	PKPbc		PKPab	23 05 11.3	+0.3	
	comp=Z,5.7nm,0.9s,baz=17,slow=3.3,SNR=14								
TIRR	Tirgusor	145.68	332	⇑*i*P		PKPab	23 05 10.6	+0.5	
TIRR	Tirgusor	145.68	332	*e*PKPdf		PKPab	23 05 09.6	-0.5	
DOPR	Dopca	145.73	337	⇑*i*P		PKPab	23 05 11.8	+1.5	
TLB	Topalu	145.74	332	⇓*i*P		PKPab	23 05 10.9	+0.6	
WLF	Walferdange	145.83	1	PKP		PKPab	23 05 10.8	+0.3	
WLF	Walferdange	145.83	1	*e*PKPbc		PKPab	23 05 10.8	+0.3	
WLF	Walferdange	145.83	1	*e*PKPdf		PKPab	23 05 10.1	-0.4	
KHC	Kasperske Hory	145.89	352	*i* PKP		PKPab	23 05 10.5	-0.3	
KHC				*ep*PKP		PKiKP	23 05 16.4	+2.6	
KHC	Kasperske Hory	145.89	352	*e*PKPdf		PKPab	23 05 10.1	-0.7	
MLR	Muntele Rosu	145.90	336	⇑*i*P		PKPab	23 05 10.9	-0.2	
WET	Wettzell	145.97	353	*e*PKPbc		PKPab	23 05 10.9	-0.2	
GEC2	GERESS Array S	146.16	352	*e*PKPbc		PKPab	23 05 11.3	-0.6	
GERES	GERESS Array B	146.16	352	PKPbc		PKPbc	23 05 10.9	-0.3	
GERES	GERESS Array B	146.16	352	PKPbc		PKPbc	23 05 10.9	-0.3	
	comp=Z,2.8nm,0.8s,baz=27,slow=4.5,SNR=16								
ZST	Bratislava	146.19	347	*e*PKP		PKPab	23 05 13.3	+1.4	
BR131	Keskin Array S	146.21	321	*e*PKPdf		PKPbc	23 05 10.6	-1.1	
BRTR	Keskin Array B	146.21	321	PKPbc		PKPab	23 05 12.3	-0.1	
BRTR	Keskin Array B	146.21	321	PKPbc		PKPab	23 05 12.3	-0.1	
	comp=Z,10nm,0.8s,baz=120,slow=1.7,SNR=40								
VOIR		146.30	336	⇓*i*P		PKPab	23 05 12.5	0.0	
SULR		146.44	334	⇑*i*P		PKPab	23 05 12.5	-0.5	
ARR	Arges	146.52	337	⇑*i*P		PKPab	23 05 13.9	+0.5	
ANTO	Ankara	146.63	322	⇑*i*P		PKPab	23 05 13.7	-0.3	
CONA	Conrad Observa	146.69	349	⇓*ip*PKPdf		PKPbc	23 05 13.4	-0.6	
	comp=Z,6.9nm,0.9s,SNR=9.0								
MOA	Molln	147.04	351	⇑*i*PKPab		PKPab	23 05 14.1	-1.1	
	comp=Z,9.3nm,1.6s								
BFO	Black Forest	147.14	358	*e*PKPbc		PKPab	23 05 14.3	-1.3	
BFO	Black Forest	147.14	358	*e*PKPdf		PKPdf	23 05 11.0	-0.8	
GZR	Gura Zlata	147.17	339	⇑*i*P		PKPab	23 05 14.5	-1.4	
RJOB	Jochberg	147.36	352	*e*PKPbc		PKPbc	23 05 14.9	+0.2	
SOKA	Soboth	148.05	349	⇓*ip*PKPdf		PKPbc	23 05 16.3	-0.3	
	comp=Z,4.7nm,0.9s,SNR=4.7								
PERS	Pernice	148.07	349	*i* PKPbc		PKPbc	23 05 16.3	-0.4	
DAVA	Damuels	148.10	356	⇑*i*sPKPdf		PKPbc	23 05 17.0	+0.1	
	comp=Z,11nm,1.1s								
FETA	Feichten	148.30	355	⇑*i*sPKPdf		PKPbc	23 05 17.7	+0.4	
	comp=Z,6.7nm,1.0s								
ABTA	Abfaltersbach	148.37	352	⇑*ip*PKPdf		PKPbc	23 05 16.9	-0.5	
	comp=Z,6.9nm,0.8s,SNR=5.8								
LJU	Ljubljana	148.75	349	*i* PKPbc		PKPbc	23 05 18.2	-0.1	
CRNS	Crni Vrh	148.76	350	*i* PKPbc		PKPbc	23 05 17.9	-0.5	
VTS	Vitosha	149.41	336	⇑*i*P		PKPbc	23 05 20.9	+0.6	
ESDC	Sonseca Array	154.09	19	PKPbc		PKPbc	23 05 30.6	-0.5	
ESDC	Sonseca Array	154.09	19	PKPbc		PKPbc	23 05 30.6	-0.5	
	comp=Z,0.5nm,0.6s,baz=319,slow=3.1,SNR=5.4								
TORD	Torodi Ar. Bea	174.67	114	PKP		PKPdf	23 05 39.7	-1.9	
TORD	Torodi Ar. Bea	174.67	114	PKP		PKPdf	23 05 39.7	-1.9	
	comp=Z,0.8nm,0.9s,baz=262,slow=2.5,SNR=4.3								

NIED ***05*** *22:49:00.3, 35.90N × 137.60E, h17km, Mw4.0 Best double couple: M0 1.32000 × 1015 NP1: ϕs 65.00000°, δ90.00000°, λ-168.00000°. NP2: ϕs 335.00000°, δ78.00000°, λ0.00000°.*

JMA 05 22:49:30.8, 35.94N × 137.65E, h8km, M3.9, 4D Broadband fault plane solution: P waves. NP1: ϕs 243.00000°, δ82.00000°, λ154.00000°. **NP2:** ϕs 337.00000°, δ64.00000°, λ9.00000°. **Principal axes:** T Plg24.0000°, Azm197.0000°; N Plg63.0000°, Azm47.0000°; P Plg12.0000°, Azm293.0000°; **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	IS

KZLR				*i*			23 43 55.4				
MK31	**Makanchi Array**	**5.06 225**		⇓Pn	Pn		23 43 54.7	+3.3			
	comp=N,44nm,0.5s,baz=51,slow=13,SNR=1172										
MK31				⇑Pg	**Pg**		**23 44 10.6**	**-1.2**			
	comp=N,9.4nm,0.3s,baz=58,slow=15,SNR=3.8										
MK31				⇑Sn	**Sn**		**23 44 53.0**	**+2.8**			
	comp=N,29nm,0.5s,baz=69,slow=29,SNR=4.8										
MK31				Lg	Lg		23 45 17.2				
	comp=N,251nm,0.9s,baz=58,slow=30,SNR=5.3										
MK31	**Makanchi Array**	**5.06 225**	*i*	Pn	Pn		23 43 54.6	+3.3			
MK31				pmax	pmax						
	comp=Z,25nm,0.2s										
MKAR	**Makanchi Array**	**5.06 225**		PN	Pn		23 43 54.6	+3.2			
MKAR							23 44 52.6				
MKAR				pmax	pmax						
	comp=Z,29nm,0.3s										
MKAR				smax	smax						
	comp=N,20nm,0.3s										
MKAR				MLR	MLR						
	comp=Z,142nm,19.4s										
MKAR	**Makanchi Array**	**5.06 225**		Pn	Pn		23 43 54.6	+3.2			
	comp=Z,29nm,0.3s,baz=51,slow=12,SNR=1409										
MKAR				Sn	**Sn**		**23 44 52.6**	**+2.4**			
	comp=Z,20nm,0.3s,baz=54,slow=20,SNR=2.0										
MKAR				Lg	Lg		23 45 15.7				
	comp=Z,21nm,0.3s,baz=51,slow=32,SNR=5.2										
MKAR				LR	LR		23 46 00.7				
	comp=Z,142nm,19.4s,baz=35,slow=40										
NVS	**Novosibirsk**	**5.10 331**	*i*	PN	**Pn**		**23 43 53.8**	**+2.0**			
NVS			*e*				23 44 10.4				
NVS			*e*				23 44 54.6				
NVS	**Novosibirsk**	**5.10 331**	*e*	Pn	**Pn**		**23 43 53.8**	**+2.0**			
NVS			*e*	Pg	**Pg**		**23 44 10.4**	**-2.1**			
NVS			*e*	Sn	**Sn**		**23 44 54.6**	**+3.5**			
NVS			*e*	Sg	**Sg**		**23 45 19.6**	**+1.0**			
KURK	**Kurchatov**	**5.69 276**		⇑Pn	Pn		23 44 02.8	+3.0			
	comp=Z,15nm,0.7s										
KURK				⇑Sn	**Sn**		**23 45 07.7**	**+2.2**			
	comp=Z,16nm,0.6s										
KURK				⇑Lg	Lg		23 45 34.4				
	comp=Z,65nm,0.6s										
KURK	**Kurchatov**	**5.69 276**		PN	Pn		23 44 04.0	+4.1			
KURK							23 45 09.7				
KURK				pmax	pmax						
	comp=Z,8.0nm,0.3s										
KURK				smax	smax						
	comp=N,7.0nm,0.3s										
KURBB	**Kurchatov Arra**	**5.75 275**		⇓Pn	Pn		23 44 03.5	+2.8			
	comp=N,34nm,0.4s										
KURBB				⇑Sn	**Sn**		**23 45 09.1**	**+2.1**			
	comp=N,146nm,0.8s										
KURBB				⇑Lg	Lg		23 45 36.1				
	comp=N,159nm,0.5s										
KURBB	**Kurchatov Arra**	**5.75 275**		Pn	Pn		23 44 04.0	+3.3			
	comp=N,7.7nm,0.3s,baz=89,slow=15,SNR=229										
KURBB				Sn	**Sn**		**23 45 09.7**	**+2.7**			
	comp=N,7.2nm,0.3s,baz=84,slow=28,SNR=5.7										
KURBB				Lg	Lg		23 45 41.9				
	comp=N,14nm,0.3s,baz=83,slow=34,SNR=6.2										
KRAR	**Krasnoyarsk**	**6.41 28**	*i*	PN	**Pn**		**23 44 10.4**	**+0.7**			
VOSK	**Vostochnaya**	**10.55 289**		⇓Pn	**Pn**		**23 45 06.7**	**+0.2**			
	comp=N,3.2nm,0.5s										
VOSK				⇓Sn	**Sn**		**23 47 01.9**	**-3.1**			
	comp=N,12nm,0.8s										
VOSK				⇑Lg	Lg		23 48 10.8				
	comp=N,14nm,0.9s										
VOSK	**Vostochnaya**	**10.55 289**	*i*	P	**Pn**		**23 45 06.7**	**+0.2**			
BVA0	**Borovoye Array**	**10.94 290**		⇑Pn	**Pn**		**23 45 11.1**	**-0.7**			
	comp=N,2.9nm,0.5s,baz=93,slow=14,SNR=9.0										
BVA0				⇑Sn	**Sn**		**23 47 13.5**	**-1.0**			
	comp=N,11nm,0.8s,baz=60,slow=22,SNR=4.3										
BVAR	**Borovoye Array**	**10.94 290**		P	**Pn**		**23 45 13.3**	**+1.4**			
BVAR							23 47 13.8				
BVAR				pmax	pmax						
	comp=Z,1.0nm,0.3s										
BVAR				smax	smax						
	comp=N,2.0nm,0.3s										
BVAR	**Borovoye Array**	**10.94 290**		Pn	**Pn**		**23 45 13.3**	**+1.4**			
	comp=N,0.8nm,0.3s,baz=107,slow=14,SNR=12										
BVAR				Sn	**Sn**		**23 47 13.8**	**-0.7**			
	comp=N,1.9nm,0.3s,baz=86,slow=21,SNR=6.2										
BRVK	**Borovoye**	**11.01 290**		⇑Pn	**Pn**		**23 45 12.3**	**-0.4**			
	comp=N,10.0nm,0.7s										
BRVK				⇓Sn	**Sn**		**23 47 16.1**	**0.0**			
	comp=N,17nm,0.7s										
BRVK	**Borovoye**	**11.01 290**	*e*	P	**Pn**		**23 45 12.6**	**-0.2**			
TKM2	**Tokmak 2**	**11.14 232**		⇑Pn	**Pn**		**23 45 15.8**	**+1.0**			
	comp=N,3.8nm,0.6s										
TKM2				⇑Sn	Sn		23 47 23.6	+3.8			
	comp=N,11nm,0.9s										
TKM2				⇑Lg	Lg		23 48 28.1				
	comp=N,31nm,1.2s										
AAK	**Ala-Archa**	**11.91 234**		P	Pn		23 45 27.1	+1.8			
AAK				pmax	pmax						
	comp=Z,1.0nm,0.3s										
AAK				MLR	MLR						
	comp=Z,110nm,19.5s										
AAK	**Ala-Archa**	**11.91 234**		Pn	Pn		23 45 27.1	+1.8			
	comp=Z,0.5nm,0.3s,baz=54,slow=8.5,SNR=3.9										
AAK				Lg	Lg		23 48 52.3				
	comp=Z,0.1nm,0.3s,baz=223,slow=23,SNR=7.7										
AAK				LR	LR		23 50 12.3				
	comp=Z,110nm,19.5s,baz=60,slow=38										
SONM	**Songino Array**	**12.62 95**		Lg	Lg		23 49 08.3				
	comp=Z,0.3nm,0.3s,baz=297,slow=26,SNR=5.0										
KK31	**Karatay Array**	**13.78 244**		⇑Pn	**Pn**		**23 45 50.5**	**-0.2**			
	comp=Z,2.8nm,0.8s,baz=46,slow=14,SNR=6.6										
KK31				⇑Sn	Sn		23 48 27.7	+3.7			
	comp=Z,2.9nm,0.7s,baz=51,slow=21,SNR=6.2										
KK31				⇑Lg	Lg		23 49 53.6				
	comp=Z,12nm,0.9s,baz=47,slow=26,SNR=5.4										
AB31	**Akbulak array**	**17.80 277**		⇑Pn	**P**		**23 46 42.8**	**-1.1**			
	comp=Z,1.6nm,0.5s,baz=96,slow=7.3,SNR=4.2										
AB31	**Akbulak array**	**17.80 277**	*i*	P	**P**		**23 46 42.7**	**-1.1**			
AB31				pmax	pmax						
	comp=Z,4.0nm,0.6s										
ARU	**Arti**	**18.17 300**	*c*	*i* P	**P**		**23 46 47.4**	**-0.5**			
ARU				S	**Sn**		**23 50 11.3**	**+0.8**			
ARU				pmax	pmax						
	comp=Z,2.0nm,0.6s										
BRTR	**Keskin Array B**	**38.74 275**		P	P		23 50 01.6	+1.7			
	comp=Z,0.5nm,0.5s,baz=90,slow=6.9,SNR=2.8										
NOA	**NORSAR Array B**	**41.80 315**		P	**P**		**23 50 24.8**	**-0.2**			
	comp=Z,1.0nm,0.7s,baz=63,slow=7.8,SNR=3.5										
CLL	**Collm**	**45.11 301**	*e*	P	**P**		**23 50 51.0**	**-0.7**			
GERES	**GERESS Array B**	**45.98 298**		P	**P**		**23 51 00.1**	**+1.4**			
	comp=Z,0.4nm,0.7s,baz=246,slow=5.7,SNR=3.7										
TORD	**Torodi Ar. Bea**	**77.35 275**		P	**P**		**23 54 30.0**	**-0.7**			
	comp=Z,0.3nm,0.9s,baz=44,slow=4.5,SNR=1.8										
ASAR	**Alice Springs**	**84.41 138**		P	**P**		**23 55 04.9**	**-3.2**			
	comp=Z,0.3nm,0.8s,baz=329,slow=6.5,SNR=2.5										

*CSEM **06** 00:06:49.7, 41.57N×15.31E, h10km, MD2.3/21, After ROM*

ROM 06 00:06:49.7±0.1, 41.57N×15.31E, h10km±1km, Md2.3/21, MI1.7/15, Error ellipse: s-maj=1.3km s-min=1.1km az=160.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MELA	**Melanico ??? S**	**0.20**	**315**	Pg	Pg	00 06 54.4	+0.6
MELA				Sg	Sg	00 06 58.4	+1.7
	679nm,0.2s						
MELA	**Melanico ??? S**	**0.20**	**315**	Pg	Pg	00 06 54.4	+0.6
MELA				Sg	Sg	00 06 58.4	+1.7
	679nm,0.2s						
MOCO	**Biccari - m.te**	**0.23**	**210**	Pg	Pg	00 06 55.1	+0.5
MOCO				Sg	Sg	00 06 59.5	+1.6
	114nm,0.4s						
CIGN	**Sant'Elia a Pi**	**0.32**	**286**	Pg	Pb	00 06 56.9	-0.6
CIGN				Sg	Sb	00 07 01.8	-0.9
	62nm,0.5s						
CIGN	**Sant'Elia a Pi**	**0.32**	**286**	Pg	Pb	00 06 56.9	-0.6
CIGN				Sg	Sb	00 07 01.8	-0.9
	62nm,0.5s						
SGRT	**San Giovanni R**	**0.37**	**60**	Pg	Pg	00 06 57.8	+0.6
SGRT				Sg	Sb	00 07 03.5	-1.0
	27nm,0.5s						
SGRT	**San Giovanni R**	**0.37**	**60**	Pg	Pg	00 06 57.8	+0.6
SGRT				Sg	Sb	00 07 03.5	-1.0
	27nm,0.5s						
SGTA	**Sant Agata di**	**0.43**	**175**	Pg	Pg	00 06 58.2	-0.2
	25nm,0.4s						
SGTA	**Sant Agata di**	**0.43**	**175**	Pg	Pg	00 06 58.2	-0.2
	25nm,0.4s						

MSAG	**Monte S. Angel**	**0.47**	**72**	Pg	Pb		00 06 59.7	-0.5			
MSAG				Sg	Sg		00 07 06.0	+0.6			
	36nm,0.2s										
MSAG	**Monte S. Angel**	**0.47**	**72**	Pg	Pb		00 06 59.7	-0.5			
MSAG				Sg	Sg		00 07 06.0	+0.6			
	36nm,0.2s										
SACR	**S. Croce Del S**	**0.49**	**250**	Pg	Pg		00 06 59.4	+0.1			
SACR	**S. Croce Del S**	**0.49**	**250**	Pg	Pg		00 06 59.4	+0.1			
IPES	**Pescosannita**	**0.49**	**227**	Pg	Pg		00 06 59.7	+0.4			
IPES				Sg	Sb		00 07 07.0	-0.7			
MRB1	**Monte Rocchett**	**0.51**	**210**	Pg	Pg		00 07 00.1	+0.4			
MRB1				Sg	Sb		00 07 07.6	-0.7			
MRB1	**Monte Rocchett**	**0.51**	**210**	Pg	Pg		00 07 00.1	+0.4			
MRB1				Sg	Sb		00 07 07.6	-0.7			
PSB1	**Pescosannita**	**0.51**	**228**	Pg	Pg		00 06 59.8	+0.1			
PSB1				Sg	Sb		00 07 07.8	-0.5			
	18nm,0.2s										
PSB1	**Pescosannita**	**0.51**	**228**	Pg	Pg		00 06 59.8	+0.1			
PSB1				Sg	Sb		00 07 07.8	-0.5			
	18nm,0.2s										
BSSO	**Busso**	**0.54**	**268**	Pg	Pg		00 07 00.7	+0.3			
BSSO				Sg	Sb		00 07 09.0	-0.3			
	56nm,0.4s										
BSSO	**Busso**	**0.54**	**268**	Pg	Pg		00 07 00.7	+0.3			
BSSO				Sg	Sb		00 07 09.0	-0.3			
	56nm,0.4s										
CAFE	**Carife**	**0.54**	**186**	Pg	Pg		00 07 00.5	+0.1			
CAFE				Sg	Sb		00 07 09.3	-0.1			
CAFE	**Carife**	**0.54**	**186**	Pg	Pg		00 07 00.5	+0.1			
CAFE				Sg	Sb		00 07 09.3	-0.1			
TRIV	**Trivento**	**0.60**	**289**	Pg	Pg		00 07 01.6	+0.1			
TRIV	**Trivento**	**0.60**	**289**	Pg	Pg		00 07 01.6	+0.1			
PTRJ	**Pietraroja**	**0.62**	**251**	Pg	Pg		00 07 01.1	-0.8			
PTRJ				Sg	Sb		00 07 11.6	-0.1			
	66nm,0.2s										
PTRJ	**Pietraroja**	**0.62**	**251**	Pg	Pg		00 07 01.1	-0.8			
PTRJ				Sg	Sb		00 07 11.6	-0.1			
	66nm,0.2s										
SNAL	**S. Angelo Dei**	**0.65**	**187**	Pg	Pg		00 07 01.9	-0.5			
SNAL	**S. Angelo Dei**	**0.65**	**187**	Pg	Pg		00 07 01.9	-0.5			
SGG	**Gregorio Mates**	**0.72**	**256**	Pg	Pg		00 07 03.0	-0.8			
	15nm,0.4s										
SGG	**Gregorio Mates**	**0.72**	**256**	Pg	Pg		00 07 03.0	-0.8			
	15nm,0.4s										
MCRV	**Calabrutti - M**	**0.79**	**188**	Pg	Pg		00 07 04.1	-1.1			
	16nm,0.2s										
MCRV	**Calabrutti - M**	**0.79**	**188**	Pg	Pg		00 07 04.1	-1.1			
	16nm,0.2s										
PALZ	**Palazzo San Ge**	**0.79**	**142**	Pg	Pb		00 07 05.8	+0.2			
	20nm,0.3s										
PALZ	**Palazzo San Ge**	**0.79**	**142**	Pg	Pb		00 07 05.8	+0.2			
	20nm,0.3s										
VAGA	**Valle Agricola**	**0.82**	**260**	Pg	Pg		00 07 05.3	-0.4			
VAGA	**Valle Agricola**	**0.82**	**260**	Pg	Pg		00 07 05.3	-0.4			
MRVN	**Minervino Murg**	**0.84**	**127**	Pg	Pg		00 07 05.1	-0.8			
	9.0nm,0.2s										
MRVN	**Minervino Murg**	**0.84**	**127**	Pg	Pg		00 07 05.1	-0.8			
	9.0nm,0.2s										
RNI2	**Rionero Sannit**	**0.88**	**279**	Pg	Pg		00 07 05.4	-1.4			
RNI2	**Rionero Sannit**	**0.88**	**279**	Pg	Pg		00 07 05.4	-1.4			
LPEL	**Lama dei Pelig**	**0.97**	**300**	Pg	Pg		00 07 07.3	-1.2			
	29nm,0.2s										
LPEL	**Lama dei Pelig**	**0.97**	**300**	Pg	Pg		00 07 07.3	-1.2			
	29nm,0.2s										
AMUR	**Altamura**	**1.18**	**124**	Pg	Pb		00 07 12.0	-0.2			
	12nm,0.5s										
AMUR	**Altamura**	**1.18**	**124**	Pg	Pb		00 07 12.0	-0.2			
	12nm,0.5s										

*HLW **06** 00:11:54.3, 35.30N×23.87E, h33km±26km, Md3.8, MI3.8*
*IDC **06** 00:11:54.8±1.0, 34.84N×23.90E, h0km, mb3.9/9, mb1 4.0/17, mb1mx3.9/34, mbtmpb3.8/17, ML3.7/8, MS3.6/2, Ms1 3.6/2, ms1mx2.6/45, Error ellipse: s-maj=20.4km s-min=15.2km az=179.0*
*CSEM **06** 00:11:59.7±0.2, 34.72N×23.99E, h20km, ML3.7/4, Error ellipse: s-maj=4.5km s-min=2.8km az=36.0*
*ATH **06** 00:12:00.3, 34.87N×23.94E, h30km, MD3.8/39, ML3.4*
*THE **06** 00:12:02.5, 34.93N×24.02E, h13km, ML3.7/4, Error ellipse: s-maj=1.1km s-min=0.6km az=188.0*

ISC 06 00:12:00.4±0.9, 34.82N±0.05×23.97E±0.03, h29km±5km, n266, σ1°36/260, mb3.9/9, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.10**	**79**	P	**Pb**	**00 12 05.2**	**-0.4**
GVD				S	**Sb**	**00 12 08.4**	**-0.8**
GVD	**Gavdhos**	**0.10**	**79**	*e*PB	**Pb**	**00 12 05.6**	**0.0**
GVD				*e*SB	**Sb**	**00 12 10.3**	**+1.1**
GVD	**Gavdhos**	**0.10**	**79**	P	**Pb**	**00 12 05.2**	**-0.4**
GVD	**Gavdhos**	**0.10**	**79**	*e*Pb	**Pb**	**00 12 05.6**	**0.0**
GVD				S	**Sb**	**00 12 08.4**	**-0.8**
GVD				*e*Sb	Sb	00 12 10.3	+1.2
KARN	**Karanos**	**0.58**	**356**	P	**Pb**	**00 12 11.9**	**-0.2**
KARN				S	**Sb**	**00 12 19.2**	**-1.0**
KARN	**Karanos**	**0.58**	**356**	*e*PN	**Pb**	**00 12 12.0**	**-0.2**
KARN				*e*SN	**Sb**	**00 12 20.2**	**0.0**
KARN	**Karanos**	**0.58**	**356**	P	**Pb**	**00 12 11.9**	**-0.2**
KARN				*e*Sn	**Sb**	**00 12 20.2**	**0.0**
VAM	**Vamos**	**0.61**	**18**	P	**Pb**	**00 12 12.6**	**-0.1**
VAM				S	**Sb**	**00 12 19.4**	**-1.6**
VAM	**Vamos**	**0.61**	**18**	*e*PN	**Pb**	**00 12 12.9**	**+0.2**
VAM				*e*SN	**Sb**	**00 12 21.5**	**+0.5**
VAM	**Vamos**	**0.61**	**18**	P	**Pb**	**00 12 12.6**	**-0.1**
VAM	**Vamos**	**0.61**	**18**	*e*Pn	**Pb**	**00 12 12.9**	**+0.2**
VAM				*e*Sn	**Sb**	**00 12 21.5**	**+0.5**
SIVA	**Sivas**	**0.71**	**74**	P	**Pn**	**00 12 15.0**	**+0.4**
SIVA				S	**Sb**	**00 12 24.3**	**+0.4**
SIVA	**Sivas**	**0.71**	**74**	*e*PN	**Pn**	**00 12 14.9**	**+0.4**
SIVA				*e*SN	**Sn**	**00 12 26.2**	**+1.7**
SIVA	**Sivas**	**0.71**	**74**	*e*Pn	**Pn**	**00 12 14.9**	**+0.4**
SIVA				S	**Sb**	**00 12 24.3**	**+0.4**
SIVA				*e*Sn	**Sn**	**00 12 26.2**	**+1.7**
IDI	**Anoyia**	**0.89**	**58**	P	**Pn**	**00 12 17.5**	**+0.6**
IDI				S	**Sn**	**00 12 29.1**	**+0.2**
IDI	**Anoyia**	**0.89**	**58**	*e*PN	**Pn**	**00 12 18.0**	**+1.1**
IDI				*e*SN	**Sn**	**00 12 30.1**	**+1.2**
IDI	**Anoyia**	**0.89**	**58**	P	**Pn**	**00 12 17.5**	**+0.6**
IDI	**Anoyia**	**0.89**	**58**	*e*Pn	**Pn**	**00 12 18.0**	**+1.1**
IDI				S	**Sn**	**00 12 29.1**	**+0.2**
IDI				*e*Sn	**Sn**	**00 12 30.1**	**+1.2**
IDI	**Anoyia**	**0.89**	**58**	Pn	**Pb**	**00 12 16.8**	**-0.4**
	140nm,0.3s,baz=234,slow=15,SNR=868						
IDI				Sn	**Sn**	**00 12 32.6**	**+3.8**
	211nm,0.3s,baz=325,slow=19,SNR=43						
ANKY	**Antikythira Is**	**1.18**	**332**	P	**Pb**	**00 12 22.7**	**+0.5**
ANKY				S	**Sn**	**00 12 38.2**	**+2.2**
ANKY	**Antikythira Is**	**1.18**	**332**	*e*PN	**Pb**	**00 12 22.6**	**+0.4**
ANKY				*e*SN	**Sn**	**00 12 37.3**	**+1.3**
ANKY	**Antikythira Is**	**1.18**	**332**	P	**Pb**	**00 12 22.7**	**+0.5**
ANKY				*e*Sn	**Sn**	**00 12 37.3**	**+1.3**
ANKY				S	**Sn**	**00 12 38.2**	**+2.2**
LAST	**Lasithi**	**1.28**	**74**	P	**Pb**	**00 12 24.3**	**+0.3**
LAST	**Lasithi**	**1.28**	**74**	*e*PN	**Pb**	**00 12 24.7**	**+0.7**
LAST	**Lasithi**	**1.28**	**74**	P	**Pb**	**00 12 24.3**	**+0.3**
LAST	**Lasithi**	**1.28**	**74**	*e*Pn	**Pb**	**00 12 24.7**	**+0.7**
NPS	**Neapolis**	**1.42**	**71**	P	**Pb**	**00 12 26.1**	**-0.1**
NPS	**Neapolis**	**1.42**	**71**	*e*PN	**Pb**	**00 12 26.8**	**+0.6**
NPS	**Neapolis**	**1.42**	**71**	P	**Pb**	**00 12 26.1**	**-0.1**
NPS	**Neapolis**	**1.42**	**71**	*e*Pn	**Pb**	**00 12 26.8**	**+0.6**
KYTH	**Kithira**	**1.64**	**333**	P	**Pb**	**00 12 29.0**	**-1.1**
KYTH	**Kithira**	**1.64**	**333**	*e*PN	**Pb**	**00 12 29.3**	**-0.8**
KYTH	**Kithira**	**1.64**	**333**	P	**Pb**	**00 12 29.0**	**-1.1**
KYTH	**Kithira**	**1.64**	**333**	*e*Pn	**Pb**	**00 12 29.3**	**-0.8**
ZKR	**Zakros**	**1.87**	**80**	*e*PN	**Pb**	**00 12 32.6**	**-1.2**
ZKR	**Zakros**	**1.87**	**80**	*e*Pn	**Pb**	**00 12 32.6**	**-1.2**
SANT	**Santorini**	**1.96**	**38**	P	**Pn**	**00 12 33.1**	**+1.3**
SANT				S	**Sb**	**00 12 58.1**	**-1.5**
SANT	**Santorini**	**1.96**	**38**	*e*PN	**Pn**	**00 12 33.2**	**+1.4**
SANT	**Santorini**	**1.96**	**38**	P	**Pn**	**00 12 33.1**	**+1.3**
SANT				S	**Sb**	**00 12 58.1**	**-1.5**
THR1	**Thera Island**	**1.96**	**38**	P	**Pn**	**00 12 33.2**	**+1.4**
THR1	**Thera Island**	**1.96**	**38**	P	**Pn**	**00 12 33.2**	**+1.4**
THR3	**Thira Island,**	**1.97**	**36**	P	**Pn**	**00 12 33.5**	**+1.8**
THR3	**Thira Island,**	**1.97**	**36**	P	**Pn**	**00 12 33.5**	**+1.8**
THR2	**Thira island,**	**2.01**	**36**	P	**Pn**	**00 12 33.7**	**+1.3**
THR2	**Thira island,**	**2.01**	**36**	P	**Pn**	**00 12 33.7**	**+1.3**
VLI	**Veliai**	**2.07**	**336**	P	**Pn**	**00 12 34.8**	**+1.6**
VLI	**Veliai**	**2.07**	**336**	*e*PB	**Pb**	**00 12 35.5**	**-1.8**
VLI	**Veliai**	**2.07**	**336**	P	**Pn**	**00 12 34.8**	**+1.6**
VLI	**Veliai**	**2.07**	**336**	*e*Pb	**Pb**	**00 12 35.5**	**-1.8**

APE	**Apeiranthos**	**2.57**	**29**	P	**Pn**		**00 12 40.9**	**+0.7**			
APE				S	**Sn**		**00 13 11.2**	**+0.7**			
APE	**Apeiranthos**	**2.57**	**29**	*e*PN	**Pn**		**00 12 40.3**	**+0.2**			
APE				*e*SN	**Sn**		**00 13 11.1**	**+0.6**			
APE	**Apeiranthos**	**2.57**	**29**	*e*PN	**Pn**		**00 12 40.8**	**+0.6**			
APE	**Apeiranthos**	**2.57**	**29**	P	**Pn**		**00 12 40.9**	**+0.7**			
APE				S	**Sn**		**00 13 11.2**	**+0.7**			
KARP	**Karpathos**	**2.71**	**74**	P	**Pn**		**00 12 43.9**	**+1.9**			
KARP	**Karpathos**	**2.71**	**74**	*e*PN	**Pn**		**00 12 44.1**	**+2.1**			
KARP	**Karpathos**	**2.71**	**74**	P	**Pn**		**00 12 43.9**	**+1.9**			
DIDY	**Didyma**	**2.72**	**347**	P	**Pn**		**00 12 43.2**	**+1.0**			
DIDY	**Didyma**	**2.72**	**347**	P	**Pn**		**00 12 43.2**	**+1.0**			
DID	**Didima**	**2.75**	**348**	P	**Pn**		**00 12 43.5**	**+1.0**			
DID				S	**Sn**		**00 13 15.8**	**+1.1**			
DID	**Didima**	**2.75**	**348**	*e*PN	**Pn**		**00 12 43.2**	**+0.7**			
DID	**Didima**	**2.75**	**348**	P	**Pn**		**00 12 43.5**	**+1.0**			
DID				S	**Sn**		**00 13 15.8**	**+1.1**			
PYL	**PYLOS**	**2.75**	**319**	*e*PN	**Pn**		**00 12 43.8**	**+1.3**			
PYL	**PYLOS**	**2.75**	**319**	*e*Pn	**Pn**		**00 12 43.8**	**+1.3**			
LTBQ	**Tobruq**	**2.76**	**181**	*i* P	Pn		00 12 42.9	+0.2			
	SNR=24										
VLX	**Vlachokerasia**	**2.85**	**334**	P	**Pn**		**00 12 45.9**	**+1.9**			
VLX	**Vlachokerasia**	**2.85**	**334**	P	**Pn**		**00 12 45.9**	**+1.9**			
ITM	**Ithomi**	**2.88**	**325**	P	**Pn**		**00 12 46.1**	**+1.8**			
ITM	**Ithomi**	**2.88**	**325**	*e*PN	**Pn**		**00 12 46.4**	**+2.1**			
ITM	**Ithomi**	**2.88**	**325**	P	**Pn**		**00 12 46.1**	**+1.8**			
ITM	**Ithomi**	**2.88**	**325**	*e*Pn	**Pn**		**00 12 46.4**	**+2.1**			
NAIG	**Nisos Aigina**	**2.96**	**353**	*e*PN	**Pn**		**00 12 46.2**	**+0.8**			
NAIG	**Nisos Aigina**	**2.96**	**353**	*e*Pn	**Pn**		**00 12 46.2**	**+0.8**			
NIS3	**Nisyros Isl.**	**3.13**	**55**	P	**Pn**		**00 12 49.4**	**+1.7**			
ATH	**Athens Observa**	**3.15**	**356**	*e*PN	**Pn**		**00 12 48.9**	**+0.9**			
ATH	**Athens Observa**	**3.15**	**356**	*e*Pn	**Pn**		**00 12 48.9**	**+0.9**			
NIS1	**Nisyros Isl.**	**3.16**	**55**	*e*PN	**Pn**		**00 12 50.3**	**+2.2**			
NIS1	**Nisyros Isl.**	**3.16**	**55**	*e*Pn	**Pn**		**00 12 50.3**	**+2.2**			
PTL	**Penteli**	**3.22**	**358**	P	**Pn**		**00 12 49.8**	**+0.7**			
PTL	**Penteli**	**3.22**	**358**	*e*PN	**Pn**		**00 12 49.7**	**+0.7**			
PTL	**Penteli**	**3.22**	**358**	P	**Pn**		**00 12 49.8**	**+0.7**			
AMT	**Artemida-Makis**	**3.27**	**327**	P	**Pn**		**00 12 51.8**	**+2.1**			
AMT	**Artemida-Makis**	**3.27**	**327**	*e*PN	**Pn**		**00 12 51.8**	**+2.1**			
AMT	**Artemida-Makis**	**3.27**	**327**	P	**Pn**		**00 12 51.8**	**+2.1**			
LTK	**Loutraki**	**3.30**	**346**	P	**Pn**		**00 12 51.4**	**+1.3**			
LTK	**Loutraki**	**3.30**	**346**	*e*PN	**Pn**		**00 12 51.1**	**+1

LUJL	**Ujela**	**6.12**	**202**	*i* P		Pn	00 13 27.5	-1.4	
	SNR=23								
GRG	**Griva**	**6.25**	**349**	*e*PN		**Pn**	**00 13 32.8**	**+2.2**	
GRG	**Griva**	**6.25**	**349**	*e*Pn		**Pn**	**00 13 32.8**	**+2.2**	
SUTC	**Sutluce-Ispart**	**6.27**	**63**	*e*PN		**Pn**	**00 13 31.6**	**+0.6**	
SUTC	**Sutluce-Ispart**	**6.27**	**63**	*e*Pn		**Pn**	**00 13 31.6**	**+0.6**	
FNA	**Florina**	**6.30**	**342**	*e*PN		**Pn**	**00 13 32.0**	**+0.7**	
FNA	**Florina**	**6.30**	**342**	*e*Pn		**Pn**	**00 13 32.0**	**+0.7**	
TVSB	**Tavsanli**	**6.37**	**42**	*e*PN		**Pn**	**00 13 32.8**	**+0.5**	
TVSB	**Tavsanli**	**6.37**	**42**	*e*Pn		**Pn**	**00 13 32.8**	**+0.5**	
RKY	**Sarkoy-Tekirda**	**6.38**	**22**	*e*PN		**Pn**	**00 13 33.9**	**+1.4**	
RKY	**Sarkoy-Tekirda**	**6.38**	**22**	*e*Pn		**Pn**	**00 13 33.9**	**+1.4**	
RDO	**Rodhopi**	**6.43**	**11**	*e*PN		**Pn**	**00 13 35.5**	**+2.4**	
RDO	**Rodhopi**	**6.43**	**11**	*e*Pn		**Pn**	**00 13 35.5**	**+2.4**	
NVR	**Nevrokopi**	**6.52**	**359**	*e*PN		**Pn**	**00 13 35.8**	**+1.5**	
NVR	**Nevrokopi**	**6.52**	**359**	*e*Pn		**Pn**	**00 13 35.8**	**+1.5**	
SEYT	**Eskypehyr**	**7.22**	**47**	*i* P		**Pn**	**00 13 46.4**	**+2.4**	
SEYT	**Eskypehyr**	**7.22**	**47**	*i* P		**Pn**	**00 13 46.4**	**+2.4**	
HDMB	**Hadim**	**7.23**	**70**	*e*PN		**Pn**	**00 13 45.0**	**+0.7**	
HDMB	**Hadim**	**7.23**	**70**	*e*Pn		**Pn**	**00 13 45.0**	**+0.7**	
KONT	**Konya--Tatoy**	**7.45**	**63**	*e*PN		**Pn**	**00 13 47.4**	**+0.3**	
KONT	**Konya--Tatoy**	**7.45**	**63**	*e*Pn		**Pn**	**00 13 47.4**	**+0.3**	
ERMK	**Ermenek**	**7.49**	**73**	*i* P		**Pn**	**00 13 48.7**	**+0.8**	
ERMK	**Ermenek**	**7.49**	**73**	*i* P		**Pn**	**00 13 48.7**	**+0.8**	
AWBH		**7.72**	**146**	P		Pn	00 13 49.3	-1.6	
	baz=147								
AWBH		**7.72**	**146**	P		Pn	00 13 49.3	-1.6	
VTS	**Vitosha**	**7.78**	**356**	*e*PN		**Pn**	**00 13 55.4**	**+3.6**	
VTS	**Vitosha**	**7.78**	**356**	*e*Pn		**Pn**	**00 13 55.4**	**+3.6**	
LFK	**Lefkose**	**7.85**	**84**	*e*PN		**Pn**	**00 13 53.1**	**+0.4**	
LFK	**Lefkose**	**7.85**	**84**	*e*Pn		**Pn**	**00 13 53.1**	**+0.4**	
IKL	**Isikli**	**8.04**	**77**	*e*PN		**Pn**	**00 13 55.5**	**+0.3**	
IKL	**Isikli**	**8.04**	**77**	*e*Pn		**Pn**	**00 13 55.6**	**+0.3**	
KOT	**Kottamia**	**8.24**	**124**	P		Pn	00 13 55.6	-2.4	
	baz=126								
KOT	**Kottamia**	**8.24**	**124**	P		Pn	00 13 55.6	-2.4	
HSAF	**As Saff**	**8.25**	**127**	P		Pn	00 13 55.3	-2.9	
	baz=129								
HSAF	**As Saff**	**8.25**	**127**	P		Pn	00 13 55.3	-2.9	
GLL	**Jalalah**	**8.38**	**126**	P		Pn	00 13 57.6	-2.4	
	baz=128								
GLL				S		Sn	00 15 26.4	-7.3	
	baz=128								
GLL	**Jalalah**	**8.38**	**126**	P		Pn	00 13 57.6	-2.4	
HFRF	**Wahat Farafira**	**8.51**	**153**	P		Pn	00 14 00.5	-1.2	
	baz=153								
HFRF				S		Sn	00 15 30.6	-6.0	
	baz=153								
HFRF	**Wahat Farafira**	**8.51**	**153**	P		Pn	00 14 00.4	-1.2	
AMAG	**Maghara**	**8.82**	**116**	P		Pn	00 14 02.7	-3.4	
	baz=118								
RSH		**9.06**	**112**	P		Pn	00 14 05.6	-3.6	
	baz=114								
GULE	**Gulek**	**9.09**	**71**	*i* P		**Pn**	**00 14 11.1**	**+1.4**	
GULE	**Gulek**	**9.09**	**71**	*i* P		**Pn**	**00 14 11.1**	**+1.4**	
BRTR	**Keskin Array B**	**9.12**	**55**	Pn		Pn	00 14 08.6	-1.6	
	comp=N,0.2nm,0.3s,baz=229,slow=13,SNR=11								
NIG	**Nigde**	**9.18**	**66**	*e*PN		**Pn**	**00 14 10.8**	**-0.1**	
NIG	**Nigde**	**9.18**	**66**	*e*Pn		**Pn**	**00 14 10.9**	**-0.1**	
KARA	**Karaisali**	**9.30**	**72**	*e*PN		**Pn**	**00 14 12.5**	**0.0**	
KARA	**Karaisali**	**9.30**	**72**	*e*Pn		**Pn**	**00 14 12.5**	**0.0**	
GRUS	**Gruza**	**9.40**	**345**	*e*Pn		Pn	00 14 17.6	+3.8	
STON	**Ston**	**9.41**	**331**	*e*Pn		Pn	00 14 11.1	-2.8	
STON				Sn		Sn	00 15 48.0	-11	
MMAI	**Mount Meron Ar**	**9.67**	**98**	Pn		Pn	00 14 14.4	-3.2	
	comp=N,3.5nm,0.3s,baz=304,slow=12,SNR=23								
MMAI				Sn		Sn	00 15 57.3	-8.0	
	comp=N,1.1nm,0.3s,baz=306,slow=18,SNR=3.1								
HKAT	**Jabal Katrina**	**10.59**	**124**	P		Pn	00 14 27.5	-2.9	
	baz=125								
HKAT	**Jabal Katrina**	**10.59**	**124**	P		Pn	00 14 27.5	-2.9	
EIL	**Elat**	**10.62**	**116**	Pn		Pn	00 14 27.9	-2.6	
	comp=N,0.6nm,0.3s,baz=316,slow=6.1,SNR=26								
EIL				Sn		Sn	00 16 20.0	-8.5	
	comp=N,0.7nm,0.3s,baz=292,slow=18,SNR=4.4								
ASF	**Jabal al Asfar**	**11.11**	**100**	Pn		Pn	00 14 36.2	-1.2	
	comp=N,0.4nm,0.3s,baz=300,slow=20,SNR=4.3								
UDBI	**Udbina**	**11.57**	**329**	*e*Pn		Pn	00 14 40.6	-2.9	
UDBI				Sn		Sn	00 16 42.0	-10	
NVLJ	**Novalja**	**11.98**	**327**	Sn		Sn	00 16 52.7	-9.0	
KEST	**Kesra**	**11.99**	**279**	Sn		Sn	00 16 54.8	-7.3	
	comp=N,0.1nm,0.3s,baz=61,slow=19,SNR=4.0								
VRAC	**Vranov**	**15.47**	**342**	Pn		**Pn**	**00 15 34.5**	**-1.8**	
	comp=N,0.2nm,0.3s,baz=132,slow=10,SNR=1.9								
GERES	**GERESS Array B**	**15.94**	**335**	Pn		**Pn**	**00 15 42.1**	**-0.5**	
	comp=N,0.1nm,0.3s,baz=136,slow=16,SNR=3.5								
AKASG	**Malin Array Be**	**16.32**	**12**	Pn		**Pn**	**00 15 44.8**	**-2.6**	
	comp=N,0.5nm,0.3s,baz=207,slow=10.0,SNR=2.8								
KBZ	**Khabaz**	**17.11**	**53**	P		**Pn**	**00 15 57.0**	**-0.3**	
	comp=N,0.1nm,0.3s,baz=261,slow=7.1,SNR=8.7								
GNI	**Garni**	**17.31**	**66**	LR		LR	00 24 01.7		
	comp=N,91nm,19.1s,baz=77,slow=42								
ESDC	**Sonseca Array**	**22.71**	**291**	P		**P**	**00 16 58.9**	**-1.0**	
	comp=N,0.2nm,0.4s,baz=85,slow=8.8,SNR=6.2								
HFS	**Hagfors**	**26.20**	**348**	P		P	00 17 30.4	-1.9	
	comp=N,3.0nm,0.8s,baz=160,slow=10,SNR=8.1								
FINES	**FINESS Array B**	**26.68**	**2**	P		**P**	**00 17 34.8**	**-1.8**	
	comp=N,8.5nm,1.2s,baz=161,slow=13,SNR=2.8								
NOA	**NORSAR Array B**	**27.49**	**347**	P		P	00 17 41.9	-2.0	
	comp=N,1.3nm,0.9s,baz=26,slow=10,SNR=3.9								
TORD	**Torodi Ar. Bea**	**29.53**	**229**	P		P	00 18 01.2	-1.2	
	comp=N,1.1nm,0.7s,baz=31,slow=8.9,SNR=19								
ARCES	**ARCESS Array B**	**34.70**	**1**	P		P	00 18 45.4	-2.5	
	comp=N,1.2nm,0.7s,baz=187,slow=9.1,SNR=5.3								
MKAR	**Makanchi Array**	**44.77**	**56**	P		P	00 20 10.3	-1.0	
	comp=N,1.5nm,0.4s,baz=269,slow=7.8,SNR=19								
ZALV	**Zalesovo Beam**	**45.94**	**46**	P		P	00 20 18.8	-1.6	
	comp=N,1.3nm,0.3s,baz=268,slow=8.9,SNR=9.6								
ILAR	**Eielson Array**	**80.48**	**356**	P		P	00 24 07.4	-1.7	
	comp=N,0.2nm,0.7s,baz=1.0,slow=9.9,SNR=3.3								
JOW	**Kunigami**	**85.78**	**60**	LR		LR	01 04 09.2		
	comp=N,68nm,19.6s,baz=110,slow=36								

IDC 06 00:13:16.1±0.9, 24°.29S×82°.50E, h0km, mb4.2/10, mb1 4.3/10, mb1mx4.1/22, mbtmp4.2/10, Error ellipse: s-maj=30.3km s-min=22.4km az=61.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**19.13**	**328**	T	T	00 37 31.6	
	baz=150,slow=0.7,SNR=34						
H08S1	**Diego Garcia H**	**19.14**	**328**	T	T	00 37 31.4	
	baz=150,slow=0.7,SNR=33						
H08S3	**Diego Garcia H**	**19.15**	**328**	T	T	00 37 32.4	
	baz=150,slow=0.7,SNR=38						
H08N1	**Diego Garcia H**	**20.98**	**326**	T	T	00 39 50.6	
	baz=151,slow=0.7,SNR=6.1						
H08N3	**Diego Garcia H**	**20.99**	**326**	T	T	00 39 52.5	
	baz=151,slow=0.7,SNR=8.5						
H08N2	**Diego Garcia H**	**21.00**	**326**	T	T	00 39 50.2	
	baz=151,slow=0.7,SNR=7.6						
CMAR	**Chiang Mai Arr**	**45.42**	**22**	P	P	00 21 37.8	+1.1
	1.1nm,0.3s,baz=212,slow=7.9,SNR=9.8						
ASAR	**Alice Springs**	**46.75**	**100**	P	P	00 21 46.9	-0.6
	1.6nm,0.8s,baz=267,slow=6.7,SNR=17						
ASAR				PcP	PcP	00 23 20.6	-0.3
	0.7nm,0.7s,baz=270,slow=2.7,SNR=4.5						
WRA	**Warramunga Arr**	**48.00**	**96**	P	P	00 21 57.3	+0.1
	4.3nm,0.8s,baz=258,slow=8.0,SNR=12						
QSPA	**South Pole Qui**	**65.82**	**180**	P	P	00 24 03.5	+0.4
	1.8nm,0.8s,baz=273,slow=3.0,SNR=5.1						
MKAR	**Makanchi Array**	**70.75**	**360**	P	P	00 24 33.9	-0.1
	1.6nm,0.7s,baz=169,slow=6.3,SNR=14						
KSRS	**Korea Array**	**74.81**	**36**	P	P	00 24 59.2	+1.0
	1.2nm,0.6s,baz=206,slow=5.2,SNR=4.0						
SONM	**Songino Array**	**74.94**	**16**	P	P	00 24 58.5	-0.5
	1.1nm,0.6s,baz=198,slow=4.1,SNR=4.6						
ZALV	**Zalesovo Beam**	**77.94**	**1**	P	P	00 25 14.8	-0.8
	5.0nm,0.6s,baz=193,slow=4.7,SNR=29						
TORD	**Torodi Ar. Bea**	**87.16**	**286**	P	P	00 26 05.5	+0.8
	1.9nm,1.0s,baz=126,slow=6.1,SNR=3.3						
AKASG	**Malin Array Be**	**88.21**	**329**	P	P	00 26 09.0	+0.2
	1.8nm,0.7s,baz=126,slow=4.1,SNR=5.2						
ILAR	**Eielson Array**	**128.62**	**25**	PKP	PKPdf	00 32 22.5	-2.1
	0.4nm,0.7s,baz=278,slow=2.6,SNR=3.3						

*BJI **06** 00:16:01.5, 46°.50N×27°.30W, h5km, mB5.5/26, mb5.0/33, Ms5.2/14, Ms7 4.8/13*
*IGIL **06** 00:16:01.8, 46°.53N×27°.29W, h10km, mb5.7*
*MOS **06** 00:16:02.6±0.8, 46°.45N×27°.33W, h10km, mb5.3/120, MS4.3/38, Error ellipse: s-maj=5.5km s-min=3.4km az=152.2*
*IDC **06** 00:16:02.9±0.3, 46°.53N×27°.36W, h0km, mb4.8/50, mb1 4.9/52, mb1mx4.9/54, mbtmp4.8/52, ML5.0/2, MS4.3/37, Ms1 4.3/37, ms1mx4.2/48, Error ellipse: s-maj=10.2km s-min=8.0km az=16.0*
*ISCJB **06** 00:16:02.3±0.1, 46°.36N±0°.02×27°.36W±0°.01, h10km, mb5.1/286, MS4.4/81, Error ellipse: s-maj=3.2km s-min=1.1km az=3.5*
*NEIC **06** 00:16:04.6±0.1, 46°.50N×27°.30W, h10km, mb5.3/160, Error ellipse: s-maj=3.5km s-min=1.3km az=4.0*
*CSEM **06** 00:16:04.3±0.1, 46°.46N×27°.34W, h10km, mb5.1/99, Ms4.5, Mw4.9, Error ellipse: s-maj=3.4km s-min=1.5km az=3.0*
*PDA **06** 00:16:04.5, 46°.49N×27°.29W, h10km, mb5.2*
*GCMT **06** 00:16:07.3±0.3, 46°.47N×27°.17W, h13km±1km, MW4.9, Moment Tensor Solution. s26,c32; s78,c121; Moment tensor: Scale 10^{16}Nm; M_{rr}-1.03±.12; $M_{\theta\theta}$-1.10±.09; $M_{\phi\phi}$2.13±.10; $M_{r\theta}$-0.70±.25; $M_{\theta\phi}$-1.18±.06; $M_{\phi r}$-2.00±.33; Best double couple: $M_0$3.00000×10^{16} NP1:ϕ_s17.00000°, δ77.00000°, λ-52.00000°. NP2:ϕ_s122.00000°, δ39.00000°, λ-160.00000°. Principal axes: T 3.2400, Plg23.0000°, Azm79.0000°; N -0.4300, Plg37.0000°, Azm187.0000°; P -2.8100, Plg44.0000°, Azm324.0000°; Data Used: IU II G CN IC.*
*SZGRF **06** 00:16:09.4, 46°.53N×26°.96W, h10km, mb5.1, MS4.5, Northern Mid-Atlantic Ridge*
*BGS **06** 00:16:10.2±2.8, 46°.78N×26°.86W, h10km, mb5.3*
*DJA **06** 00:16:21.5±11.0, 46°N±17°×2°7W±3°7, h123km±96km, M4.9/7, mB5.4/2, mb4.9/7, Mw(mB)4.9/2*

ISC 06 00:16:05.8±0.4, 46°.43N±0°.04×27°.33W±0°.03, h18km±1km, h18km:pP-P, n2020, σ0s95/2057, mb5.1/286, MS4.4/83, 425C-253D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADH	**Angra Heroismo**	**7.77**	**179**	*e*P	**Pn**	**00 17 56.9**	**-0.9**
	459nm,0.9s						
ADH	**Angra Heroismo**	**7.77**	**179**	*e*P	Pn	00 18 03.8	+5.4
	459nm,0.9s						
PMAN	**Manadas**	**7.81**	**184**	*e*P	Pn	00 18 03.8	+5.4
	233nm,1.1s						
PSET	**Sete Cidades**	**8.68**	**172**	*e*P	**Pn**	**00 18 08.1**	**-2.3**
	382nm,1.0s						
PSET	**Sete Cidades**	**8.68**	**172**	*e*P	**Pn**	**00 18 08.1**	**-2.3**
	382nm,1.0s						
CMLA	**Cha da Macela**	**8.76**	**171**	*e*P	Pn	00 18 07.4	-4.1
	307nm,1.1s						
CMLA	**Cha da Macela**	**8.76**	**171**	*e*P	**Pn**	**00 18 10.2**	**-1.3**
CMLA	**Cha da Macela**	**8.76**	**171**	*e*Pn	**Pn**	**00 18 10.2**	**-1.3**
CMLA	**Cha da Macela**	**8.76**	**171**	*e*P	**Pn**	**00 18 10.2**	**-1.3**
PDA	**Ponta Delgada**	**8.76**	**171**	*e*P	**Pn**	**00 18 09.3**	**-2.1**
	231nm,0.7s						
PDA	**Ponta Delgada**	**8.76**	**171**	*e*P	**Pn**	**00 18 09.3**	**-2.1**
	231nm,0.7s						
PSMA	**Santa Maria**	**9.56**	**169**	*e*P	Pn	00 18 15.0	-7.5
	240nm,1.2s						
PSMN	**Pico do Norte,**	**9.56**	**169**	*e*P	**Pn**	**00 18 20.4**	**-2.1**
	195nm,0.9s						
PSMN	**Pico do Norte,**	**9.56**	**169**	*e*P	**Pn**	**00 18 20.4**	**-2.1**
	195nm,0.9s						
VAL	**Valentia**	**12.46**	**57**	*e*P	**Pn**	**00 19 00.0**	**-1.9**
VAL	**Valentia**	**12.46**	**57**	*i*/*e*S	Sn	00 21 13.3	-6.8
PCAB	**Cabril**	**14.65**	**102**	*i* P	**Pn**	**00 19 29.3**	**-2.7**
	268nm,0.6s						
POLO	**Lamas de Olo**	**14.95**	**103**	*e*P	**Pn**	**00 19 33.1**	**-3.0**
	89nm,0.9s						
PVRL	**Vila Real**	**15.05**	**103**	*e*P	**Pn**	**00 19 34.1**	**-3.3**
	145nm,1.4s						
PCAS	**Casmilo, Conde**	**15.11**	**108**	*e*P	**Pn**	**00 19 34.4**	**-3.9**
	123nm,1.7s						
PVIS	**Viseu**	**15.19**	**105**	*e*P	**Pn**	**00 19 35.6**	**-3.6**
	112nm,1.4s						
PMAFR	**Mafra**	**15.21**	**113**	*e*P	**Pn**	**00 19 35.9**	**-3.6**
	277nm,1.8s						
PMST	**Lisbon--Monsan**	**15.40**	**113**	*e*P	**Pn**	**00 19 38.9**	**-3.0**
	397nm,1.0s						
PTOM	**Tomar**	**15.40**	**109**	*e*P	**Pn**	**00 19 37.7**	**-4.3**
	131nm,1.1s						
PTOM	**Tomar**	**15.40**	**109**	*e*T	T	00 33 43.4	
LIS	**Lisbon**	**15.43**	**113**	*e*P	**Pn**	**00 19 39.7**	**-2.7**
LIS				AMb	AMB	00 19 51.3	
	comp=Z,134nm,1.0s						
LIS	**Lisbon**	**15.43**	**113**	*e*P	**Pn**	**00 19 39.7**	**-2.7**
	comp=Z,134nm,1.0s						
LIS	**Lisbon**	**15.43**	**113**	*e*P	**Pn**	**00 19 39.7**	**-2.7**
PBRG	**Braganca**	**15.48**	**100**	*e*P	**Pn**	**00 19 40.9**	**-2.2**
	comp=Z,141nm,1.2s						
ALMR	**Almeirim**	**15.54**	**111**	*e*P	**Pn**	**00 19 40.6**	**-3.2**
ALMR				AMb	AMB	00 19 49.8	
	comp=Z,515nm,1.4s						
ALMR	**Almeirim**	**15.54**	**111**	*e*P	**Pn**	**00 19 40.6**	**-3.2**
	comp=Z,515nm,1.4s						
ALMR	**Almeirim**	**15.54**	**111**	*e*P	**Pn**	**00 19 40.7**	**-3.2**
MVO	**Moncorvo**	**15.56**	**102**	*e*P	**Pn**	**00 19 41.3**	**-2.9**
	comp=Z,164nm,1.0s						
MVO				*e*LR	LR	00 23 23.0	
	comp=Z,2μm,18.0s						
MTE	**Manteigas**	**15.57**	**106**	*e*P	**Pn**	**00 19 40.7**	**-3.6**
	comp=Z,128nm,1.3s						
MTE				*e*LQ	LQ	00 22 43.9	
MTE				*e*LR	LR	00 23 24.0	
	comp=Z,2μm,18.0s						
MTE	**Manteigas**	**15.57**	**106**	*e*Pn	**Pn**	**00 19 40.6**	**-3.7**
	comp=Z,62nm,0.8s						
MTE	**Manteigas**	**15.57**	**106**	*e*Pn	**Pn**	**00 19 40.6**	**-3.7**
	comp=Z,62nm,0.8s						
PACT	**Alcochete**	**15.60**	**113**	*e*P	**Pn**	**00 19 41.2**	**-3.4**
	comp=Z,303nm,1.5s						
PMOZ	**Porto Moniz, M**	**15.65**	**147**	*e*P	**Pn**	**00 19 44.1**	**-1.3**
	comp=Z,237nm,1.3s						
PMOZ				*e*LQ	LQ	00 23 06.5	
PMOZ				*e*LR	LR	00 23 31.2	
	comp=Z,1μm,18.0s						
GMM	**Mts of Mourne**	**15.69**	**52**	*e*P	**Pn**	**00 19 45.4**	**-0.3**
PMPST	**Porto Santo, M**	**15.76**	**144**	*e*P	**Pn**	**00 19 45.2**	**-1.6**
PMPS	**Porto Santo**	**15.78**	**144**	*e*P	**Pn**	**00 19 45.4**	**-1.6**
	comp=Z,321nm,1.7s						
PMTG	**Montargil**	**15.82**	**111**	*e*P	**Pn**	**00 19 43.8**	**-3.7**
	comp=Z,137nm,1.7s						
PMTG	**Montargil**	**15.82**	**111**	*e*T	T	00 33 50.0	
PMAR	**Madeira**	**15.84**	**146**	*e*P	**Pn**	**00 19 46.3**	**-1.7**
	comp=Z,215nm,0.9s						
PCBR	**Castelo Branco**	**15.90**	**107**	*e*P	**Pn**	**00 19 44.5**	**-3.9**
	comp=Z,126nm,1.6s						
DYA	**Yadsworthy**	**16.02**	**67**	*e*P	**Pn**	**00 19 50.3**	**+0.4**
DYA				AMB	AMB	00 19 54.8	
	comp=Z,161nm,1.4s						
PMRV	**Marv??o**	**16.17**	**108**	*e*P	**Pn**	**00 19 48.9**	**-3.0**
	comp=Z,159nm,1.7s						
PMRV				*e*LQ	LQ	00 23 07.0	
PMRV				*e*LR	LR	00 23 49.8	
	comp=Z,1μm,20.0s						
PMRV	**Marv??o**	**16.17**	**108**	*e*T	T	00 34 04.2	
PNCL	**Nicolau / Gran**	**16.18**	**114**	*e*P	**Pn**	**00 19 49.0**	**-3.1**
	comp=Z,125nm,0.9s						
EVOP	**Sao Brissos**	**16.19**	**112**	*e*P	Pn	00 19 47.0	-5.2
EVOP				pmax	pmax		
	comp=Z,104nm,0.9s						
EVOP	**Sao Brissos**	**16.19**	**112**	*e*P	Pn	00 19 47.0	-5.2
	comp=Z,104nm,0.9s						
EVO	**Evora**	**16.26**	**112**	*e*P	Pn	00 19 47.0	-6.1
	comp=Z,104nm,0.9s						
EVO				*e*R			
	comp=Z,1μm,19.5s						
EVO	**Evora**	**16.26**	**112**	*e*P	**Pn**	**00 19 50.0**	**-3.1**
	comp=Z,70nm,2.4s						
PESTR	**Estremoz**	**16.34**	**110**	*e*P	**Pn**	**00 19 49.9**	**-4.3**
	comp=Z,138nm,1.0s						
WME	**Myndd Eilian**	**16.34**	**56**	*e*P	**Pn**	**00 19 55.0**	**+1.0**
WME	**Myndd Eilian**	**16.34**	**56**	*e*P	**Pn**	**00 19 55.0**	**+1.0**
YLL	**Llanberis**	**16.35**	**57**	*e*P	**Pn**	**00 19 52.8**	**-1.3**
ROSF	**Rostrenen**	**16.39**	**75**	⇑*i*P	**Pn**	**00 19 52.4**	**-2.3**
	comp=Z,223nm,1.0s						
ROSF	**Rostrenen**	**16.39**	**75**	⇑*i*P	**Pn**	**00 19 52.4**	**-2.3**
ROSF				pmax	pmax		
	comp=Z,223nm,1.0s						
ROSF	**Rostrenen**	**16.39**	**75**	⇑*i*P	**Pn**	**00 19 52.4**	**-2.3**
	comp=Z,223nm,1.0s						
PTEO	**Sao Teotonio**	**16.40**	**116**	*e*P	**Pn**	**00 19 52.7**	**-2.2**
	comp=Z,236nm,1.5s						
QUIF	**Quistinic**	**16.49**	**76**	⇑*i*P	**Pn**	**00 19 53.5**	**-2.4**
	comp=Z,153nm,1.0s						
QUIF	**Quistinic**	**16.49**	**76**	⇑*i*P	**Pn**	**00 19 53.5**	**-2.4**
QUIF				pmax	pmax		
	comp=Z,153nm,1.0s						
QUIF	**Quistinic**	**16.49**	**76**	⇑*i*P	**Pn**	**00 19 53.5**	**-2.4**
	comp=Z,153nm,1.0s						
WPM1	**Penmaenmawr**	**16.54**	**57**	*e*P	**Pn**	**00 19 55.2**	**-1.4**
MORF	**Marmelete**	**16.60**	**117**	*e*P	**Pn**	**00 19 55.7**	**-1.8**
	comp=Z,146nm,1.9s						
MORF	**Marmelete**	**16.60**	**117**	*e*P	**Pn**	**00 19 55.7**	**-1.8**
PFVI	**Vila Bisbo**	**16.60**	**117**	*e*P	**Pn**	**00 19 55.1**	**-2.3**
	comp=Z,158nm,2.0s						
PCVE	**Castro Verde**	**16.78**	**115**	*e*P	**Pn**	**00 19 57.5**	**-2.2**
	comp=Z,87nm,1.2s						
MCH1	**Michaelchurch**	**16.81**	**62**	*e*P	**Pn**	**00 19 59.0**	**-1.0**
MCH1				AMB	AMB	00 20 05.1	
	comp=Z,175nm,1.6s						
FOEL	**Foel Wylfa**	**16.86**	**59**	*e*P	**Pn**	**00 19 59.1**	**-1.6**
FOEL				AMB	AMB	00 20 00.1	
	comp=Z,100nm,2.7s						
SGMF	**Saint Gilles**	**16.87**	**75**	⇑*i*P	**Pn**	**00 19 58.9**	**-1.9**
	comp=Z,318nm,1.2s						
SGMF	**Saint Gilles**	**16.87**	**75**	⇑*i*P	**Pn**	**00 19 58.9**	**-1.9**
SGMF				pmax	pmax		
	comp=Z,318nm,1.2s						
SGMF	**Saint Gilles**	**16.87**	**75**	⇑*i*P	**Pn**	**00 19 58.9**	**-1.9**
	comp=Z,318nm,1.2s						
HLM1	**Long Mynd**	**16.97**	**60**	*e*P	**Pn**	**00 20 00.6**	**-1.5**
HLM1				AMB	AMB	00 20 03.9	
	comp=Z,99nm,2.9s						
OLDB	**Oldbury-Upon-S**	**17.03**	**63**	*e*P	**Pn**	**00 20 03.0**	**+0.3**
OLDB	**Oldbury-Upon-S**	**17.03**	**63**	*e*P	**Pn**	**00 20 03.0**	**+0.3**
PGBU	**Glenifferbraes**	**17.07**	**48**	*e*P	**Pn**	**00 20 03.5**	**+0.3**
PGBU				AMB	AMB	00 20 07.9	
	comp=Z,115nm,1.0s						
PGBU	**Glenifferbraes**	**17.07**	**48**	*e*P	**Pn**	**00 20 03.5**	**+0.3**
PBDV	**Barranco-do-Ve**	**17.09**	**116**	*e*P	**Pn**	**00 20 02.8**	**-0.8**
	comp=Z,171nm,1.1s						
PBAR	**Barrancos**	**17.09**	**112**	*e*P	**Pn**	**00 20 00.3**	**-3.3**
	comp=Z,73nm,2.2s						
PVAQ	**Vaqueiros**	**17.12**	**115**	*e*P	**Pn**	**00 20 02.1**	**-1.9**
	comp=Z,96nm,2.7s						
PVAQ				*e*LQ	LQ	00 23 25.3	
PVAQ				*e*LR	LR	00 24 12.5	
	comp=Z,1μm,20.0s						
BATH	**Bath**	**17.14**	**64**	*e*P	**Pn**	**00 20 02.7**	**-1.4**
KESW	**Keswick, Cumbr**	**17.37**	**53**	*e*P	**Pn**	**00 20 06.5**	**-0.5**
KAC	**Achnashellach**	**17.44**	**43**	*e*P	**P**	**00 20 08.6**	**-0.3**
KAC	**Achnashellach**	**17.44**	**43**	*e*P	**P**	**00 20 08.6**	**-0.3**
STNC	**Stoke**	**17.49**	**58**	*e*P	**P**	**00 20 10.0**	**+0.4**
STNC				AMB	AMB	00 20 12.5	
	comp=Z,220nm,2.2s						
STNC	**Stoke**	**17.49**	**58**	*e*P	**P**	**00 20 10.0**	**+0.4**
SSW	**Stow on the Wo**	**17.50**	**62**	*e*P	**P**	**00 20 09.8**	**+0.1**
SSW	**Stow on the Wo**	**17.50**	**62**	*e*P	**P**	**00 20 09.8**	**+0.1**
ECK	**Cauldkaine Hil**	**17.55**	**51**	*e*P	**Pn**	**00 20 08.6**	**-0.6**
ESK	**Eskdalemuir**	**17.56**	**51**	*e*P	**Pn**	**00 20 08.2**	**-1.1**
ESK	**Eskdalemuir**	**17.56**	**51**	*i* P	**Pn**	**00 20 09.7**	**+0.4**
ESK	**Eskdalemuir**	**17.56**	**51**	Pn	**Pn**	**00 20 09.8**	**+0.4**
	comp=Z,413nm,1.0s,SNR=

ETSF	**Etsaut**	19.33	91	⇑	*i*P	P	00 20 30.2	+0.2
	comp=Z,220nm,0.7s							
ETSF	**Etsaut**	19.33	91	⇑	*i*P	P	00 20 30.2	+0.2
	comp=Z,110nm,0.7s							
REYF	**Montagne du Re**	19.39	90		*e*P	P	00 20 31.1	+0.5
REYF	**Montagne du Re**	19.39	90		*e*P	P	00 20 31.1	+0.5
LFF	**La Frestale**	19.63	84	⇑	*i*P	P	00 20 33.2	+0.1
	comp=Z,170nm,0.8s							
LFF	**La Frestale**	19.63	84	⇑	*i*P	P	00 20 33.2	+0.1
LFF					pmax	pmax		
	comp=Z,170nm,0.8s							
LFF	**La Frestale**	19.63	84	⇑	*i*P	P	00 20 33.2	+0.1
	comp=Z,170nm,0.8s							
LFF	**La Frestale**	19.63	84	⇑	*i*P	P	00 20 33.2	+0.1
	comp=Z,85nm,0.8s							
LABF	**Labassere**	19.72	90		*e*P	Pn	00 20 35.2	-0.5
LABF	**Labassere**	19.72	90		*e*P	Pn	00 20 35.2	-0.5
VIEF	**Viey**	19.74	90		*e*P	P	00 20 34.9	+0.5
VIEF	**Viey**	19.74	90		*e*P	P	00 20 34.9	+0.5
RTC	**Rabat Centre**	19.90	121		*e*P	P	00 20 35.7	-0.4
RTC	**Rabat Centre**	19.90	121		*e*P	P	00 20 35.7	-0.4
EPF	**Esparros**	19.91	90	⇑	*i*P	P	00 20 36.3	0.0
	comp=Z,88nm,0.9s							
EPF	**Esparros**	19.91	90	⇑	*i*P	P	00 20 36.3	0.0
EPF					pmax	pmax		
	comp=Z,88nm,0.9s							
EPF	**Esparros**	19.91	90	⇑	*i*P	P	00 20 36.3	0.0
	comp=Z,88nm,0.9s							
EPF	**Esparros**	19.91	90	⇑	*i*P	P	00 20 36.3	0.0
	comp=Z,44nm,0.9s							
RJF	**Les Rejaudoux**	20.08	83	⇑	*i*P	P	00 20 38.0	0.0
	comp=Z,99nm,1.0s							
RJF					*e*R			
	comp=Z,2µm,20.5s							
RJF	**Les Rejaudoux**	20.08	83	⇑	*i*P	P	00 20 38.0	0.0
RJF					pmax	pmax		
	comp=Z,99nm,1.0s							
RJF	**Les Rejaudoux**	20.08	83	⇑	*i*P	P	00 20 38.0	0.0
	comp=Z,99nm,1.0s							
RJF	**Les Rejaudoux**	20.08	83	⇑	*i*P	P	00 20 38.0	0.0
	comp=Z,49nm,1.0s							
MELF	**Melles**	20.25	90		*e*P	P	00 20 40.3	+0.3
MELF	**Melles**	20.25	90		*e*P	P	00 20 40.3	+0.3
TCF	**Toulx Ste Croi**	20.34	80	⇑	*i*P	P	00 20 41.4	+0.5
	comp=Z,580nm,1.0s							
TCF	**Toulx Ste Croi**	20.34	80	⇑	*i*P	P	00 20 41.4	+0.5
TCF					pmax	pmax		
	comp=Z,580nm,1.0s							
TCF	**Toulx Ste Croi**	20.34	80	⇑	*i*P	P	00 20 41.4	+0.5
	comp=Z,580nm,1.0s							
TCF	**Toulx Ste Croi**	20.34	80	⇑	*i*P	P	00 20 41.4	+0.5
	comp=Z,290nm,1.0s							
MLS	**Moulis**	20.45	89		*e*P	P	00 20 42.4	+0.2
MLS	**Moulis**	20.45	89		*e*P	P	00 20 42.4	+0.2
HYF	**Humbligny**	20.46	77	⇑	*i*P	P	00 20 42.5	+0.3
HYF	**Humbligny**	20.46	77	⇑	*i*P	P	00 20 42.5	+0.3
HYF	**Humbligny**	20.46	77	⇑	*i*P	P	00 20 42.5	+0.3
CAF	**Calviac**	20.55	83	⇑	*i*P	P	00 20 43.0	-0.1
	comp=Z,243nm,1.1s							
CAF	**Calviac**	20.55	83	⇑	*i*P	P	00 20 43.0	-0.1
CAF					pmax	pmax		
	comp=Z,243nm,1.1s							
CAF	**Calviac**	20.55	83	⇑	*i*P	P	00 20 43.0	-0.1
	comp=Z,243nm,1.1s							
CAF	**Calviac**	20.55	83	⇑	*i*P	P	00 20 43.0	-0.1
	comp=Z,122nm,1.1s							
SALF	**Salau**	20.59	90		*e*P	P	00 20 44.3	+0.6
SALF	**Salau**	20.59	90		*e*P	P	00 20 44.3	+0.6
FRNF	**Fournols**	20.77	82		*e*P	P	00 20 46.2	+0.6
FRNF	**Fournols**	20.77	82		*e*P	P	00 20 46.2	+0.6
PYM	**Petit Puy Mans**	21.00	81		*e*P	P	00 20 48.6	+0.5
PYM	**Petit Puy Mans**	21.00	81		*e*P	P	00 20 48.6	+0.5
AGO	**Saint Agoulin**	21.01	80		*e*P	P	00 20 48.6	+0.4
AGO	**Saint Agoulin**	21.01	80		*e*P	P	00 20 48.6	+0.4
AVF	**Avril sur Loir**	21.02	78	⇑	*i*P	P	00 20 48.3	+0.1
	comp=Z,178nm,0.9s							
AVF	**Avril sur Loir**	21.02	78	⇑	*i*P	P	00 20 48.3	+0.1
AVF					pmax	pmax		
	comp=Z,178nm,0.9s							
AVF	**Avril sur Loir**	21.02	78	⇑	*i*P	P	00 20 48.3	+0.1
	comp=Z,178nm,0.9s							
AVF	**Avril sur Loir**	21.02	78	⇑	*i*P	P	00 20 48.3	+0.1
	comp=Z,89nm,0.9s							
SSF	**Saint Saulge**	21.08	77	⇑	*i*P	P	00 20 49.0	+0.1
	comp=Z,153nm,0.8s							
SSF	**Saint Saulge**	21.08	77	⇑	*i*P	P	00 20 49.0	+0.1
SSF					pmax	pmax		
	comp=Z,153nm,0.8s							
SSF	**Saint Saulge**	21.08	77	⇑	*i*P	P	00 20 49.0	+0.1
	comp=Z,153nm,0.8s							
SSF	**Saint Saulge**	21.08	77	⇑	*i*P	P	00 20 49.0	+0.1
	comp=Z,77nm,0.8s							
MTLF	**Montolieu**	21.11	88	⇑	*i*P	P	00 20 49.1	-0.1
	comp=Z,197nm,1.0s							
MTLF	**Montolieu**	21.11	88	⇑	*i*P	P	00 20 49.1	-0.1
MTLF					pmax	pmax		
	comp=Z,197nm,1.0s							
MTLF	**Montolieu**	21.11	88	⇑	*i*P	P	00 20 49.1	-0.1
	comp=Z,197nm,1.0s							
MTLF	**Montolieu**	21.11	88	⇑	*i*P	P	00 20 49.1	-0.1
	comp=Z,98nm,1.0s							
BAIF	**Baives**	21.23	69	⇑	*i*P	P	00 20 50.3	-0.1
	comp=Z,176nm,0.9s							
BAIF	**Baives**	21.23	69	⇑	*i*P	P	00 20 50.3	-0.1
BAIF					pmax	pmax		
	comp=Z,176nm,0.9s							
BAIF	**Baives**	21.23	69	⇑	*i*P	P	00 20 50.3	-0.1
	comp=Z,176nm,0.9s							
BAIF	**Baives**	21.23	69	⇑	*i*P	P	00 20 50.3	-0.1
	comp=Z,88nm,0.9s							
CARF	**Carcanieres**	21.23	89		*e*P	P	00 20 50.4	-0.3
CARF	**Carcanieres**	21.23	89		*e*P	P	00 20 50.4	-0.3
SNF	**Seneffe**	21.26	67		P	P	00 20 50.9	+0.1
LBL	**Lubilhac**	21.28	82		*e*P	P	00 20 51.5	+0.4
LBL	**Lubilhac**	21.28	82		*e*P	P	00 20 51.5	+0.4
LOR	**Lormes**	21.28	76	⇑	*i*P	P	00 20 51.1	0.0
	comp=Z,339nm,1.0s							
LOR					*e*R			
	comp=Z,1µm,20.5s							
LOR	**Lormes**	21.28	76	⇑	*i*P	P	00 20 51.1	0.0
	comp=Z,339nm,1.0s							
LOR	**Lormes**	21.28	76	⇑	*i*P	P	00 20 51.1	0.0
	comp=Z,169nm,1.0s							
VALF	**Valcebollere**	21.29	90		*e*P	P	00 20 51.5	+0.2
VALF	**Valcebollere**	21.29	90		*e*P	P	00 20 51.5	+0.2
UCC	**Uccle**	21.31	67		P	P	00 20 51.4	+0.2
	comp=Z,91nm,1.2s							
PLDF	**La Plantade**	21.37	80		*e*P	P	00 20 52.1	+0.1
PLDF	**La Plantade**	21.37	80		*e*P	P	00 20 52.1	+0.1
SMF	**Signal de Mont**	21.38	78	⇑	*i*P	P	00 20 52.2	+0.1
	comp=Z,246nm,1.1s							
SMF	**Signal de Mont**	21.38	78	⇑	*i*P	P	00 20 52.2	+0.1
SMF					pmax	pmax		
	comp=Z,246nm,1.1s							
SMF	**Signal de Mont**	21.38	78	⇑	*i*P	P	00 20 52.2	+0.1
	comp=Z,246nm,1.1s							
SMF	**Signal de Mont**	21.38	78	⇑	*i*P	P	00 20 52.2	+0.1
	comp=Z,123nm,1.1s							
LRDF	**Laroque-de-Fa**	21.46	88		*e*P	P	00 20 52.9	-0.1
LRDF	**Laroque-de-Fa**	21.46	88		*e*P	P	00 20 52.9	-0.1
DOU	**Dourbes**	21.48	68		P	P	00 20 53.1	0.0
	comp=Z,60nm,1.2s							
COLF	**Collangettes**	21.52	81		*e*P	P	00 20 53.9	+0.3
COLF	**Collangettes**	21.52	81		*e*P	P	00 20 53.9	+0.3
GIVF	**Givet**	21.62	68	⇑	*i*P	P	00 20 54.6	-0.1
	comp=Z,358nm,1.0s							
GIVF	**Givet**	21.62	68	⇑	*i*P	P	00 20 54.6	-0.1
GIVF					pmax	pmax		
	comp=Z,358nm,1.0s							
GIVF	**Givet**	21.62	68	⇑	*i*P	P	00 20 54.6	-0.1
	comp=Z,358nm,1.0s							
GIVF	**Givet**	21.62	68	⇑	*i*P	P	00 20 54.6	-0.1
	comp=Z,179nm,1.0s							
MEZF	**Maizieres J'vi**	21.91	73	⇑	*i*P	P	00 20 57.7	0.0
	comp=Z,295nm,1.0s							
MEZF	**Maizieres J'vi**	21.91	73	⇑	*i*P	P	00 20 57.7	0.0
	comp=Z,295nm,1.0s							
MEZF	**Maizieres J'vi**	21.91	73	⇑	*i*P	P	00 20 57.7	0.0
	comp=Z,148nm,1.0s							
BCLA	**Clavier**	21.92	68		P	P	00 20 57.4	-0.4
	comp=Z,68nm,1.4s							
SFTF	**Sexfontaines**	21.93	73	⇑	*i*P	P	00 20 57.9	-0.1
	comp=Z,461nm,1.1s							
SFTF	**Sexfontaines**	21.93	73	⇑	*i*P	P	00 20 57.9	-0.1
	comp=Z,461nm,1.1s							
SFTF	**Sexfontaines**	21.93	73	⇑	*i*P	P	00 20 57.9	-0.1
	comp=Z,230nm,1.1s							
LASF	**Ste Croix**	22.01	85	⇑	*i*P	P	00 20 59.1	+0.2
	comp=Z,183nm,0.7s							
LASF	**Ste Croix**	22.01	85	⇑	*i*P	P	00 20 59.1	+0.2
	comp=Z,183nm,0.7s							
LASF	**Ste Croix**	22.01	85	⇑	*i*P	P	00 20 59.1	+0.2
	comp=Z,91nm,0.7s							
MDT	**Midelt**	22.06	120		P	P	00 20 59.7	+0.1
MDT	**Midelt**	22.06	120		P	P	00 20 59.7	+0.1
MDT	**Midelt**	22.06	120		P	P	00 20 59.7	+0.1
	comp=Z,38nm,0.9s,baz=313,slow=10,SNR=32							
MDT						LR	LR	00 28 00.3
	comp=Z,508nm,21.1s,baz=318,slow=32							
BEBN	**Eben Emael**	22.14	67		P	P	00 20 59.8	-0.5
	comp=Z,45nm,1.1s							
SSB	**Saint Sauveur**	22.15	81		*e*P	P	00 21 00.7	+0.2
SSB					pmax	pmax		
	comp=Z,118nm,1.0s							
SSB	**Saint Sauveur**	22.15	81		*e*P	P	00 21 00.9	+0.4
SSB	**Saint Sauveur**	22.15	81		*e*P	P	00 21 00.7	+0.2
	comp=Z,118nm,1.0s							
SSB	**Saint Sauveur**	22.15	81		*e*P	P	00 21 00.7	+0.2
	comp=Z,118nm,1.0s							
HGN	**Heimansgroeve**	22.31	67		*e*P	P	00 21 01.3	-0.7
	comp=Z,75nm,1.0s							
HGN					*e*S	S	00 25 07.6	+1.2
HGN					*e*L	L	00 28 27.3	
	comp=Z,1µm,20.0s							
PAGF	**Fort de Pagny**	22.34	72	⇑	*i*P	P	00 21 02.0	-0.4
	comp=Z,79nm,1.2s							
PAGF	**Fort de Pagny**	22.34	72	⇑	*i*P	P	00 21 02.0	-0.4
	comp=Z,79nm,1.2s							
PAGF	**Fort de Pagny**	22.34	72	⇑	*i*P	P	00 21 02.0	-0.4
	comp=Z,40nm,1.2s							
VIVF	**Saint-Julien-l**	22.35	82	⇑	*i*P	P	00 21 03.1	+0.5
	comp=Z,191nm,1.1s							
VIVF	**Saint-Julien-l**	22.35	82	⇑	*i*P	P	00 21 03.1	+0.5
VIVF					pmax	pmax		
	comp=Z,191nm,1.1s							
VIVF	**Saint-Julien-l**	22.35	82	⇑	*i*P	P	00 21 03.1	+0.5
	comp=Z,191nm,1.1s							
VIVF	**Saint-Julien-l**	22.35	82	⇑	*i*P	P	00 21 03.1	+0.5
	comp=Z,95nm,1.1s							
MEM	**Membach**	22.36	67		P	P	00 21 01.9	-0.7
	comp=Z,65nm,1.0s							
MEM	**Membach**	22.36	67		*e*P	P	00 21 02.1	-0.5
MEM					pmax	pmax		
	comp=Z,110nm,0.9s							
MEM	**Membach**	22.36	67		*e*P	P	00 21 02.1	-0.5
	comp=Z,110nm,0.9s							
MEM	**Membach**	22.36	67		*e*P	P	00 21 02.1	-0.5
	comp=Z,110nm,0.9s							
WLF	**Walferdange**	22.51	69		P	P	00 21 03.6	-0.6
	comp=Z,53nm,1.2s							
WLF	**Walferdange**	22.51	69		*e*P	P	00 21 03.2	-1.0
WLF					pmax	pmax		
	comp=Z,75nm,0.9s							
WLF					MLR	MLR		
	comp=Z,1µm,19.0s							
WLF	**Walferdange**	22.51	69		*e*P	P	00 21 03.8	-0.4
	comp=Z,91nm,1.0s							
WLF	**Walferdange**	22.51	69		*e*P	P	00 21 03.2	-1.0
	comp=Z,75nm,0.9s							
WLF					LR	LR		
	comp=Z,1µm,19.0s							
WLF	**Walferdange**	22.51	69		*e*P	P	00 21 03.2	-1.0
	comp=Z,75nm,0.9s							
THEF	**They Montfort**	22.56	73		*e*P	P	00 21 04.2	-0.5
THEF	**They Montfort**	22.56	73		*e*P	P	00 21 04.2	-0.5
HAU	**Haudompre**	22.83	74	⇑	*i*P	P	00 21 06.9	-0.7
	comp=Z,231nm,1.1s							
HAU					*e*R			
	comp=Z,637nm,18.0s							
HAU	**Haudompre**	22.83	74	⇑	*i*P	P	00 21 06.9	-0.7
HAU					pmax	pmax		
	comp=Z,231nm,1.1s							
HAU	**Haudompre**	22.83	74	⇑	*i*P	P	00 21 06.9	-0.7
	comp=Z,231nm,1.1s							
HAU	**Haudompre**	22.83	74	⇑	*i*P	P	00 21 06.9	-0.7
	comp=Z,116nm,1.1s							
WTSB	**Winterswijk**	22.84	63		*e*P	P	00 21 07.0	-0.6
	comp=Z,134nm,1.2s							
OG26	**St.-Nazaire-De**	22.86	83		*e*P	P	00 21 08.6	+0.6
OG26	**St.-Nazaire-De**	22.86	83		*e*P	P	00 21 08.6	+0.6
CABF	**La Chapelle**	22.90	77	⇑	*i*P	P	00 21 08.2	-0.3
	comp=Z,428nm,1.3s							
CABF	**La Chapelle**	22.90	77	⇑	*i*P	P	00 21 08.2	-0.3
CABF					pmax	pmax		
	comp=Z,428nm,1.3s							
CABF	**La Chapelle**	22.90	77	⇑	*i*P	P	00 21 08.2	-0.3
	comp=Z,428nm,1.3s							
CABF	**La Chapelle**	22.90	77	⇑	*i*P	P	00 21 08.2	-0.3
	comp=Z,214nm,1.3s							
RUP	**Ruppelstein**	23.09	69		*e*P	P	00 21 10.0	-0.4
BUG	**Bochum--Univer**	23.13	65		*e*P	P	00 21 10.2	-0.4
	comp=Z,132nm,1.1s							
ORIF	**Oris-en-Rattie**	23.16	82	⇑	*i*P	P	00 21 12.0	+0.8
	comp=Z,143nm,1.0s							
ORIF					*e*R			
	comp=Z,2µm,21.5s							
ORIF	**Oris-en-Rattie**	23.16	82	⇑	*i*P	P	00 21 12.0	+0.8
ORIF					pmax	pmax		
	comp=Z,143nm,1.0s							
ORIF	**Oris-en-Rattie**	23.16	82	⇑	*i*P	P	00 21 12.0	+0.8
	comp=Z,143nm,1.0s							
ORIF	**Oris-en-Rattie**	23.16	82	⇑	*i*P	P	00 21 12.0	+0.8
	comp=Z,72nm,1.0s							
HINF	**Hinteralfeld**	23.20	74	⇑	*i*P	P	00 21 10.7	-0.7
	comp=Z,253nm,1.4s							
HINF	**Hinteralfeld**	23.20	74	⇑	*i*P	P	00 21 10.7	-0.7
HINF					pmax	pmax		
	comp=Z,253nm,1.4s							
HINF	**Hinteralfeld**	23.20	74	⇑	*i*P	P	00 21 10.7	-0.7
	comp=Z,253nm,1.4s							
HINF	**Hinteralfeld**	23.20	74	⇑	*i*P	P	00 21 10.7	-0.7
	comp=Z,126nm,1.4s							
SMRF	**Simiane la Rot**	23.22	84	⇑	*i*P	P	00 21 12.5	+0.8
	comp=Z,207nm,1.3s							
SMRF	**Simiane la Rot**	23.22	84	⇑	*i*P	P	00 21 12.5	+0.8
	comp=Z,207nm,1.3s							
SMRF	**Simiane la Rot**	23.22	84	⇑	*i*P	P	00 21 12.5	+0.8
	comp=Z,104nm,1.3s							
GDM	**Grand'Maison**	23.25	81		*e*P	P	00 21 12.6	+0.5
GDM	**Grand'Maison**	23.25	81		*e*P	P	00 21 12.6	+0.5
LOMF	**Lomont**	23.26	75		*e*P	P	00 21 11.5	-0.6
LOMF	**Lomont**	23.26	75		*e*P	P	00 21 11.5	-0.6
ECH	**Echery**	23.34	73		*e*P	P	00 21 12.6	-0.2
ECH					pmax	pmax		
	comp=Z,79nm,1.0s							
ECH	**Echery**	23.34	73		*e*P	P	00 21 12.6	-0.2
ECH	**Echery**	23.34	73		*e*P	P	00 21 12.6	-0.2
	comp=Z,79nm,1.0s							
ECH	**Echery**	23.34	73		*e*P	P	00 21 12.6	-0.2
MOF	**Molkenrain**	23.38	74		*e*P	P	00 21 12.6	-0.7
MOF	**Molkenrain**	23.38	74		*e*P	P	00 21 12.6	-0.7
CDF	**Champ du Feu**	23.38	72	⇑	*i*P	P	00 21 12.9	-0.5
	comp=Z,121nm,1.0s							
CDF	**Champ du Feu**	23.38	72	⇑	*i*P	P	00 21 12.9	-0.5
CDF					pmax	pmax		
	comp=Z,121nm,1.0s							
CDF	**Champ du Feu**	23.38	72	⇑	*i*P	P	00 21 12.9	-0.5
	comp=Z,121nm,1.0s							
CDF	**Champ du Feu**	23.38	72	⇑	*i*P	P	00 21 12.9	-0.5
	comp=Z,61nm,1.0s							
ABH	**Alteburg**	23.39	69		*e*P	P	00 21 13.9	+0.5
IBBN	**Ibbenburen**	23.43	63		*e*P	P	00 21 13.8	+0.2
	comp=Z,117nm,1.0s							
WLS	**Welschbruch**	23.43	72		*e*P	P	00 21 13.0	-0.8
WLS	**Welschbruch**	23.43	72		*e*P	P	00 21 13.0	-0.8
OG25	**Le Caire**	23.45	83		*e*P	P	00 21 15.0	+1.0
OG25	**Le Caire**	23.45	83		*e*P	P	00 21 15.0	+1.0
RSL	**Roselend**	23.48	79		*e*P	P	00 21 14.1	-0.2
RSL	**Roselend**	23.48	79		*e*P	P	00 21 14.1	-0.2
LPL	**La Plagne**	23.59	80	⇑	*i*P	P	00 21 15.7	+0.2
	comp=Z,123nm,1.1s							
LPL	**La Plagne**	23.59	80	⇑	*i*P	P	00 21 15.7	+0.2
LPL					pmax	pmax		
	comp=Z,123nm,1.1s							
LPL	**La Plagne**	23.59	80	⇑	*i*P	P	00 21 15.7	+0.2
	comp=Z,123nm,1.1s							
LPL	**La Plagne**	23.59	80	⇑	*i*P	P	00 21 15.7	+0.2
	comp=Z,62nm,1.1s							
LPG	**La Plagne**	23.61	80	⇑	*i*P	P	00 21 16.0	+0.2
	comp=Z,104nm,1.2s							
LPG	**La Plagne**	23.61	80	⇑	*i*P	P	00 21 16.0	+0.2
LPG					pmax	pmax		
	comp=Z,104nm,1.2s							
LPG	**La Plagne**	23.61	80	⇑	*i*P	P	00 21 16.0	+0.2
	comp=Z,104nm,1.2s							
LPG	**La Plagne**	23.61	80	⇑	*i*P	P	00 21 16.0	+0.2
	comp=Z,52nm,1.2s							
LIBD	**Limburg**	23.64	73		*e*P	P	00 21 15.6	-0.1
LANF	**Langenberg**	23.66	71		*e*P	P	00 21 15.6	-0.3
LANF	**Langenberg**	23.66	71		*e*P	P	00 21 15.6	-0.3
BNI	**Bardonecchia**	23.67	81		*e*P	P	00 21 16.7	+0.4
BNI					MLR	MLR		
	comp=Z,1µm,20.0s							
BNI	**Bardonecchia**	23.67	81		*e*P	P	00 21 16.7	+0.4
BNI					LR	LR		
	comp=Z,1µm,20.0s							
BNI	**Bardonecchia**	23.67	81		*e*P	P	00 21 16.7	+0.4
	comp=Z,1µm,20.0s							
BBS	**Basel-Blauen**	23.69	75		*e*P	P	00 21 15.7	-0.6
EANR	**'Ain N'Sour**	23.70	106		P	P	00 21 15.7	-0.8
EANR	**'Ain N'Sour**	23.70	106		P	P	00 21 15.7	-0.8
ECHA	**Ech Chlef**	23.76	105		P	P	00 21 16.5	-0.5
ECHA	**Ech Chlef**	23.76	105		P	P	00 21 16.5	-0.5
SENIN	**Lac Senin/Sane**	23.77	77		*e*P	P	00 21 17.5	+0.2
SENIN	**Lac Senin/Sane**	23.77	77		*e*P	P	00 21 17.5	+0.2
EBNR	**Beni Rached**	23.79	105		P	P	00 21 17.8	+0.4
EBNR	**Beni Rached**	23.79	105		P	P	00 21 17.8	+0.4
MBDF	**Montbardon**	23.83	82	⇑	*i*P	P	00 21 17.9	+0.2
	comp=Z,206nm,1.0s							
MBDF	**Montbardon**	23.83	82	⇑	*i*P	P	00 21 17.9	+0.2
MBDF					pmax	pmax		
	comp=Z,206nm,1.0s							
MBDF	**Montbardon**	23.83	82	⇑	*i*P	P	00 21 17.9	+0.2
	comp=Z,206nm,1.0s							
MBDF	**Montbardon**	23.83	82	⇑	*i*P	P	00 21 17.9	+0.2
	comp=Z,103nm,1.0s							
OG22	**Abries**	23.92	81		*e*P	P	00 21 18.3	-0.4
OG22	**Abries**	23.92	81		*e*P	P	00 21 18.3	-0.4
SURF	**Saint Ours**	23.92	82		*e*P	P	00 21 19.5	+0.8
SURF	**Saint Ours**	23.92	82		*e*P	P	00 21 19.5	+0.8
TNS	**Taunus Mts**	23.94	68		*e*P	P	00 21 18.8	+0.1
TNS					pmax	pmax		
	comp=Z,48nm,1.3s							
TNS	**Taunus Mts**	23.94	68		*e*P	P	00 21 18.8	+0.1
	comp=Z,48nm,1.3s							
TNS	**Taunus Mts**	23.94	68		*e*P	P	00 21 18.8	+0.1
	comp=Z,48nm,1.3s							
FELD	**Feldberg im Sc**	23.95	74		*e*P	P	00 21 18.2	-0.7
FELD	**Feldberg im Sc**	23.95	74		*e*P	P	00 21 18.2	-0.7
SFJD	**Kangerlussuaq**	23.97	338		*i*P	P	00 21 18.1	-0.6
	comp=Z,26nm,0.8s							
SFJD					*e*R			
	comp=Z,2µm,20.0s							
SFJD	**Kangerlussuaq**	23.97	338		*e*P	P	00 21 17.5	-1.2
	comp=Z,60nm,1.1s							
SFJD	**Kangerlussuaq**	23.97	338		*e*P	P	00 21 17.5	-1.2
	comp=Z,60nm,1.1s							
SFJD	**Kangerlussuaq**	23.97	338		P	P	00 21 17.9	-0.8
	comp=Z,30nm,0.8s,baz=156,slow=5.2,SNR=12							
SFJD						LR	LR	00 28 39.7
	comp=Z,2µm,18.9s,baz=128,slow=32							
LMR	**La Mourre**	24.07	85	⇑	*i*P	P	00 21 19.8	-0.1
	comp=Z,151nm,1.2s							
LMR	**La Mourre**	24.07	85	⇑	*i*P	P	00 21 19.8	-0.1
LMR					pmax	pmax		
	comp=Z,151nm,1.2s							
LMR	**La Mourre**	24.07	85	⇑	*i*P	P	00 21 19.8	-0.1
	comp=Z,151nm,1.2s							
LMR	**La Mourre**	24.07	85	⇑	*i*P	P	00 21 19.8	-0.1
	comp=Z,75nm,1.2s							
BFO	**Black Forest**	24.09	72		*e*P	P	00 21 19.7	-0.4
BFO					pmax	pmax		
	comp=Z,286nm,2.5s							
BFO	**Black Forest**	24.09	72		*e*P	P	00 21 19.7	-0.4
	comp=Z,286nm,2.5s							
BFO	**Black Forest**	24.09	72		P	P	00 21 19.0	-1.1
	comp=Z,135nm,0.9s,SNR=7.5							
BFO	**Black Forest**	24.09	72		*e*P	P	00 21 19.7	-0.4
	comp=Z,286nm,2.5s				

KONO **Kongsberg** 25.45 45 *e*P P 00 21 32.3 0.0
comp=Z,264nm,0.9s
KONO **Kongsberg** 25.45 45 *e*P P 00 21 32.3 0.0
comp=Z,264nm,0.9s
FUORN **Ofenpass-Fuorn** 25.71 76 *e*P P 00 21 36.1 +1.1
comp=Z,30nm,1.0s
FUORN **Ofenpass-Fuorn** 25.71 76 *e*P P 00 21 36.1 +1.1
comp=Z,30nm,1.0s
ILULI **Ilulissat** 25.77 341 ⇓*i*P P 00 21 33.6 -1.4
ILULI pmax pmax
comp=Z,130nm,1.0s
ILULI MLR MLR
comp=Z,2µm,20.0s
GRA1 **Grafenberg Arr** 25.78 69 *e*P P 00 21 35.6 +0.2
comp=Z,2µm,19.3s
GRF **Grafenberg Arr** 25.78 69 *e*P P 00 21 35.6 +0.2
GRF pmax pmax
comp=Z,69nm,1.0s
GRF MLR MLR
comp=Z,2µm,19.3s
GRF **Grafenberg Arr** 25.78 69 *e*P P 00 21 35.6 +0.2
comp=Z,69nm,1.0s
GRF *e*L L 00 30 55.1
comp=Z,2µm,19.3s
GRFO **Grafenberg** 25.78 69 *e*P P 00 21 34.2 -1.2
GRFO pmax pmax
comp=Z,60nm,1.0s
GRFO **Grafenberg** 25.78 69 *e*P P 00 21 34.1 -1.2
comp=Z,60nm,1.0s
GRFO **Grafenberg** 25.78 69 *e*P P 00 21 34.2 -1.2
comp=Z,60nm,1.0s
RETA **Reutte** 25.85 74⇑*i*P P 00 21 36.1 0.0
comp=Z,22nm,1.1s,SNR=12
RETA **Reutte** 25.85 74 P P 00 21 36.1 0.0
comp=Z,22nm,1.1s,SNR=12
MOX **Moxa** 25.92 66 *e*P P 00 21 36.5 -0.1
MOX pmax pmax
comp=Z,35nm,1.1s
MOX **Moxa** 25.92 66 *e*P P 00 21 36.5 -0.1
comp=Z,35nm,1.1s
MOX **Moxa** 25.92 66 *e*P P 00 21 36.5 -0.1
comp=Z,35nm,1.1s
FETA **Feichten** 25.93 75⇑*i*P P 00 21 37.5 +0.6
comp=Z,61nm,0.9s,SNR=36
FETA **Feichten** 25.93 75 P P 00 21 37.5 +0.6
comp=Z,61nm,0.9s,SNR=36
NEUB **Neuenburg** 25.97 65 *e*P P 00 21 37.1 +0.1
comp=Z,53nm,1.1s
PGF **Pioggiola** 26.06 85⇑*i*P P 00 21 37.8 -0.3
comp=Z,161nm,1.0s
PGF **Pioggiola** 26.06 85⇑*i*P P 00 21 37.8 -0.3
PGF pmax pmax
comp=Z,161nm,1.0s
PGF **Pioggiola** 26.06 85⇑*i*P P 00 21 37.8 -0.3
comp=Z,161nm,1.0s
PGF **Pioggiola** 26.06 85⇑*i*P P 00 21 37.8 -0.3
comp=Z,81nm,1.0s
FUR **Furstenfeldbru** 26.06 72 *e*P P 00 21 38.3 +0.4
FUR pmax pmax
comp=Z,71nm,1.1s
FUR **Furstenfeldbru** 26.06 72 *e*P P 00 21 38.3 +0.4
comp=Z,71nm,1.1s
FUR **Furstenfeldbru** 26.06 72 *e*P P 00 21 38.3 +0.4
comp=Z,71nm,1.1s
SCHQ **Schefferville** 26.13 303 *e*P P 00 21 38.0 -0.5
SCHQ **Schefferville** 26.13 303 *e*P P 00 21 38.0 -0.5
SCHQ **Schefferville** 26.13 303 P P 00 21 37.1 -1.3
comp=Z,40nm,1.0s,baz=94,slow=11,SNR=14
SCHQ LR LR 00 30 16.3
comp=Z,906nm,18.6s,baz=85,slow=33
LLD **Lille Linde** 26.18 56 *e*P P 00 21 37.6 -1.2
LLD pmax pmax
comp=Z,55nm,0.9s
LLD **Lille Linde** 26.18 56 *i*P P 00 21 37.6 -1.2
comp=Z,55nm,0.9s
LLD **Lille Linde** 26.18 56 *e*P P 00 21 37.6 -1.2
comp=Z,55nm,0.9s
PLN **Plauen** 26.28 67 *e*P P 00 21 39.7 -0.2
comp=Z,145nm,1.1s
MANZ **Manzenberg** 26.31 68 *e*P P 00 21 40.5 +0.3
comp=Z,105nm,1.1s
COP **Copenhagen** 26.32 55 *i*P P 00 21 41.0 +0.9
COP pmax pmax
comp=Z,21nm,0.9s
COP **Copenhagen** 26.32 55 *i*P P 00 21 41.0 +0.9
comp=Z,21nm,0.9s
COP **Copenhagen** 26.32 55 *i*P P 00 21 41.0 +0.9
comp=Z,21nm,0.9s,SNR=28
WERD **Werda** 26.38 67 *e*P P 00 21 40.5 -0.3
comp=Z,42nm,1.5s
ROTZ **Rotzenmuhle** 26.40 68 *e*P P 00 21 41.0 0.0
comp=Z,43nm,1.4s
GUNZ **Gunzen** 26.41 67 *e*P P 00 21 40.8 -0.3
comp=Z,36nm,1.0s
WATA **Walderalm** 26.43 74⇑*i*P P 00 21 41.6 +0.2
comp=Z,40nm,1.0s,SNR=20
WATA **Walderalm** 26.43 74 P P 00 21 41.6 +0.2
comp=Z,40nm,1.0s,SNR=20
WERN **Wernitzgruen** 26.44 67 *e*P P 00 21 41.1 -0.3
comp=Z,37nm,0.9s
SET **Setif** 26.45 101 P P 00 21 42.0 +0.3
SET **Setif** 26.45 101 P P 00 21 42.0 +0.3
VLC **Villacollemand** 26.47 81 *e*P P 00 21 41.5 -0.2
comp=Z,61nm,1.1s
VLC LR LR
comp=Z,677nm,19.0s
VLC **Villacollemand** 26.47 81 *e*P P 00 21 41.5 -0.2
comp=Z,61nm,1.1s
TANN **Tannenbergstha** 26.48 67 *e*P P 00 21 41.5 -0.3
comp=Z,38nm,1.0s
OSPF **L'Ospedale** 26.52 87 *e*P P 00 21 41.6 -0.6
OSPF **L'Ospedale** 26.52 87 *e*P P 00 21 41.6 -0.6
DFRA **Djebel Bou Aff** 26.59 100 P P 00 21 43.0 +0.1
DFRA **Djebel Bou Aff** 26.59 100 P P 00 21 43.0 +0.1
NB2 **NORSAR Subarra** 26.60 43 P P 00 21 42.5 -0.2
comp=Z,1.0nm,0.8s,baz=253,slow=10
NB2 **NORSAR Subarra** 26.60 43 P P 00 21 42.5 -0.2
comp=Z,1.0nm,0.8s,SNR=9.5
NOA **NORSAR Array B** 26.60 43 P P 00 21 42.8 +0.1
NOA **NORSAR Array B** 26.60 43 P P 00 21 42.8 +0.1
comp=Z,251nm,18.5s
NOA **NORSAR Array B** 26.60 43 P P 00 21 42.8 +0.1
comp=Z,9.2nm,0.8s,baz=254,slow=9.2,SNR=18
NOA LR LR 00 31 05.0
comp=Z,251nm,18.5s,baz=255,slow=34
CKHR **Kef el Ahmar** 26.63 101 P P 00 21 43.0 -0.3
CKHR **Kef el Ahmar** 26.63 101 P P 00 21 43.0 -0.3
CLL **Collm** 26.73 65⇑*i*P P 00 21 43.4 -0.5
CLL *e*S S 00 26 21.0 +2.6
CLL MLR MLR
comp=Z,600nm,19.2s
CLL **Collm** 26.73 65 *e*P P 00 21 43.8 -0.1
comp=Z,27nm,1.2s
CLL **Collm** 26.73 65⇑*i*P P 00 21 43.4 -0.5
comp=Z,42nm,1.3s
CLL *e*PP PnPn 00 22 28.0 +3.0
CLL *e*S S 00 26 21.0 +2.6
CLL LmV 00 31 00.0
comp=Z,600nm,19.2s
CLL **Collm** 26.73 65 *i*P P 00 21 43.4 -0.5
CLL *e*S S 00 26 21.0 +2.6
comp=Z,600nm,19.2s
SUMG **Summit** 26.74 353 *e*P P 00 21 43.9 -0.3
SUMG **Summit** 26.74 353 *i*P P 00 21 43.4 -0.8
comp=Z,37nm,0.9s
SUMG **Summit** 26.74 353 *e*P P 00 21 43.9 -0.3
SUMG **Summit** 26.74 353 *e*P P 00 21 43.9 -0.3
WET **Wettzell** 26.93 69 *e*P P 00 21 45.5 -0.3
WET pmax pmax
comp=Z,33nm,1.1s
WET **Wettzell** 26.93 69 *e*P P 00 21 45.5 -0.3
comp=Z,33nm,1.1s
WET **Wettzell** 26.93 69 *e*P P 00 21 45.5 -0.3
comp=Z,33nm,1.1s
FBE **Freiberg** 26.99 65 *e*P P 00 21 46.3 +0.1
comp=Z,36nm,1.3s
RUE **Ruedersdorf** 27.11 62 *e*P P 00 21 46.8 -0.5
comp=Z,40nm,0.8s
RUE **Ruedersdorf** 27.11 62 *e*P P 00 21 46.8 -0.5
comp=Z,40nm,0.8s
CAEH 'Ain El Ouahch 27.13 98 P P 00 21 46.0 -1.7
CAEH 'Ain El Ouahch 27.13 98 P P 00 21 46.0 -1.7
RJOB **Jochberg** 27.15 72 *e*P P 00 21 47.7 -0.1
comp=Z,18nm,1.0s
CASM **Ain Smara** 27.16 100 P P 00 21 47.3 -0.7
CASM **Ain Smara** 27.16 100 P P 00 21 47.3 -0.7
ABTA **Abfaltersbach** 27.18 75⇑*i*P P 00 21 48.3 +0.1
comp=Z,43nm,1.1s,SNR=25
ABTA **Abfaltersbach** 27.18 75 P P 00 21 48.3 +0.1
comp=Z,43nm,1.1s,SNR=25
CKFL **Kef-Lekhel** 27.24 99 P P 00 21 48.0 -0.8
CKFL **Kef-Lekhel** 27.24 99 P P 00 21 48.0 -0.8
BRG **Berggiesshubel** 27.36 65 *e*P P 00 21 49.3 -0.3
comp=Z,31nm,1.3s
BRG *e* 00 21 53.0
comp=Z,42nm,1.2s
BRG S S 00 26 35.0 +6.5
BRG comp=N,647nm,10.5s
BRG comp=E,530nm,15.8s
BRG comp=Z,816nm,17.5s
BRG **Berggiesshubel** 27.36 65 *e*P P 00 21 49.3 -0.3
BRG *e* 00 21 53.0
BRG S S 00 26 35.0 +6.5
BRG pmax pmax
comp=Z,31nm,1.3s
BRG MLR MLR
comp=N,647nm,10.5s
BRG MLR MLR
comp=E,530nm,15.8s
BRG MLR MLR
comp=Z,816nm,17.5s
BRG **Berggiesshubel** 27.36 65 *e*P P 00 21 49.4 -0.3
comp=Z,42nm,1.2s
BRG **Berggiesshubel** 27.36 65 *e*P P 00 21 49.3 -0.3
comp=Z,31nm,1.3s
KHC **Kasperske Hory** 27.39 69 *e*P P 00 21 49.8 -0.1
KHC *e* 00 21 53.9
KHC MLR MLR
comp=Z,1µm,16.3s
KHC **Kasperske Hory** 27.39 69 *e*P P 00 21 49.8 -0.1
KHC *ep*P **pP** 00 21 53.9 -1.5
KHC *es*P **sP** 00 21 58.5 +0.8
KHC AMS AMS 00 32 10.0
comp=Z,1µm,16.3s
KHC **Kasperske Hory** 27.39 69 *e*P P 00 21 49.3 -0.6
KHC **Kasperske Hory** 27.39 69 *e*P P 00 21 49.8 -0.1
GEC2 **GERESS Array S** 27.52 70 *e*P P 00 21 51.1 -0.1
GEC2 pmax pmax
comp=Z,28nm,1.1s
GEC2 **GERESS Array S** 27.52 70 *e*P P 00 21 51.1 -0.1
comp=Z,28nm,1.1s
GEC2 **GERESS Array S** 27.52 70 *e*P P 00 21 50.8 -0.3
GEC2 **GERESS Array S** 27.52 70 *e*P P 00 21 50.8 -0.3
GERES **GERESS Array B** 27.52 70 P P 00 21 51.0 -0.2
GERES **GERESS Array B** 27.52 70 P P 00 21 51.0 -0.1
comp=Z,1µm,18.0s
GERES **GERESS Array B** 27.52 70 P P 00 21 51.0 -0.2
comp=Z,14nm,0.9s,baz=280,slow=8.0,SNR=81
GERES LR LR 00 32 23.6
comp=Z,1µm,18.0s,baz=285,slow=36
VSL **Villasalto** 27.55 91 *e*P P 00 21 50.8 -0.6
comp=Z,31nm,1.1s
VSL LR LR
comp=Z,486nm,19.0s
VSL **Villasalto** 27.55 91 *e*P P 00 21 50.8 -0.6
comp=Z,31nm,1.1s
HFS **Hagfors** 27.58 45 P P 00 21 51.7 +0.3
HFS **Hagfors** 27.58 45 P P 00 21 51.7 +0.3
comp=Z,319nm,20.9s
HFS **Hagfors** 27.58 45 P P 00 21 51.7 +0.3
comp=Z,2.6nm,0.8s,baz=214,slow=10,SNR=3.5
HFS LR LR 00 31 05.4
comp=Z,319nm,20.9s,baz=136,slow=33
CMAH **Djebel Manchou** 27.60 98 P P 00 21 50.0 -2.0
CMAH **Djebel Manchou** 27.60 98 P P 00 21 50.0 -2.0
KBA **Koelnbreinsper** 27.66 74⇑*i*P P 00 21 52.6 +0.1
comp=Z,29nm,1.0s,SNR=18
KBA **Koelnbreinsper** 27.66 74 P P 00 21 52.6 +0.1
comp=Z,29nm,1.0s,SNR=18
PRA **Prague** 27.78 67 P P 00 21 55.0 +1.6
PVCC **Panska Ves** 27.80 66 *e*P P 00 21 52.9 -0.7
PVCC *e* 00 21 57.1
PVCC **Panska Ves** 27.80 66 *e*P P 00 21 52.9 -0.7
PVCC *ep*P **pP** 00 21 57.1 -2.0
PVCC *es*P **sP** 00 22 01.4 +0.1
PVCC AMS AMS 00 34 10.0
PVCC **Panska Ves** 27.80 66 *e*P P 00 21 52.9 -0.7
PRU **Pruhonice** 27.86 67 *i*P P 00 21 54.2 +0.1
PRU *e* 00 21 58.6
PRU MLR MLR
comp=Z,1µm,19.5s
PRU **Pruhonice** 27.86 67 *i*P P 00 21 54.2 +0.1
PRU *ep*P **pP** 00 21 58.6 -1.0
PRU AMS AMS 00 32 20.0
comp=Z,1µm,19.5s
PRU **Pruhonice** 27.86 67 P P 00 21 54.2 +0.1
EMMW **East Machias** 27.94 281 *e*P P 00 21 54.1 -0.7
comp=Z,82nm,1.1s
MYKA **Terra Mystica** 27.97 74 *i*P P 00 21 55.1 0.0
comp=Z,36nm,1.0s,SNR=14
MYKA **Terra Mystica** 27.97 74 P P 00 21 55.1 0.0
comp=Z,36nm,1.0s,SNR=14
ROBS **Robic** 27.98 75 *i*P P 00 21 54.6 -0.5
CADS **Cadrg** 28.14 75 *i*P P 00 21 56.2 -0.4
VOY **Vojsko** 28.29 76 *e*P P 00 21 57.8 -0.3
VOY *e* 00 22 07.5
TRI **Trieste** 28.30 76 *e*P P 00 21 57.9 -0.1
TRI pmax pmax
comp=Z,38nm,0.9s
TRI **Trieste** 28.30 76 *e*P P 00 21 57.9 -0.1
comp=Z,38nm,0.9s
JAVS **Javornik** 28.45 76 *i*P P 00 21 59.2 -0.3
FRB **Frobisher Bay** 28.57 322 P P 00 21 59.1 -1.1
FRB **Frobisher Bay** 28.57 322 P P 00 21 59.1 -1.1
comp=Z,58nm,0.9s,baz=102,slow=8.2,SNR=17
FRB LR LR 00 30 48.8
comp=Z,817nm,18.2s,baz=277,slow=31
TREC **Trest** 28.59 68 *i*P P 00 22 00.4 -0.2
TREC *e* 00 22 03.5
TREC *e* 00 22 06.8
TREC MLR MLR
comp=Z,2µm,18.6s
TREC **Trest** 28.59 68 *i*P P 00 22 00.4 -0.2
TREC *ep*P **pP** 00 22 03.5 -2.6
TREC *es*P **sP** 00 22 06.8 -1.6
TREC AMS AMS 00 32 50.0
comp=Z,2µm,18.6s
TREC **Trest** 28.59 68 P P 00 22 00.4 -0.2
OBKA **Obir** 28.60 74⇑*i*P P 00 22 00.3 -0.5
comp=Z,84nm,0.9s,SNR=45
OBKA **Obir** 28.60 74 P P 00 22 00.3 -0.5
comp=Z,84nm,0.9s,SNR=45
UPC **Upice** 28.72 66 *e*P P 00 22 01.9 +0.2
UPC *e* 00 22 05.0
UPC *e* 00 22 11.0
UPC **Upice** 28.72 66 *e*P P 00 22 01.9 +0.2
UPC *ep*P **pP** 00 22 05.0 -2.2
UPC *ex* x 00 22 11.0
UPC **Upice** 28.72 66 P P 00 22 01.9 +0.2
KSP **Ksiaz** 28.84 65⇑*e*P P 00 22 02.6 -0.2
KSP **Ksiaz** 28.84 65 *e*P P 00 22 02.7 -0.1
SOKA **Soboth** 28.88 74⇑*i*P P 00 22 02.1 -1.2
comp=Z,30nm,1.0s,SNR=24
SOKA **Soboth** 28.88 74 P P 00 22 02.1 -1.2
comp=Z,30nm,1.0s,SNR=24
DPC **Dobruska-Polom** 28.94 66 *e*P P 00 22 03.5 -0.2
DPC pmax pmax
comp=Z,66nm,1.0s
DPC **Dobruska-Polom** 28.94 66 *e*P P 00 22 03.1 -0.6
DPC *ep*P **pP** 00 22 08.2 -1.0
DPC AMS AMS 00 33 00.0
DPC **Dobruska-Polom** 28.94 66 *e*P P 00 22 03.5 -0.2
comp=Z,66nm,1.0s
DPC **Dobruska-Polom** 28.94 66 P P 00 22 03.1 -0.6
PERS **Pernice** 28.95 74 *i*P P 00 22 02.7 -1.2
VISS **Visnje** 28.99 76 *i*P P 00 22 03.7 -0.5
PKME **Peaks-Kenny Pk** 29.01 283 *e*P P 00 22 04.7 +0.4
comp=Z,82nm,1.0s
ARSA **Arzberg** 29.06 73⇑*i*P P 00 22 04.2 -0.6
comp=Z,64nm,1.0s,SNR=46
ARSA **Arzberg** 29.06 73 P P 00 22 04.2 -0.6
comp=Z,64nm,1.0s,SNR=46
CONA **Conrad Observa** 29.12 71 *i*P P 00 22 05.1 -0.3
comp=Z,16nm,1.0s,SNR=8.3
CONA **Conrad Observa** 29.12 71 P P 00 22 05.1 -0.3
comp=Z,16nm,1.0s,SNR=8.3
GKP **Gorka Klasztor** 29.14 60 *e*P P 00 22 05.7 +0.3
VRAC **Vranov** 29.30 68⇑*i*P P 00 22 06.7 -0.2
VRAC **Vranov** 29.30 68 P P 00 22 06.2 -0.7
VRAC **Vranov** 29.30 68⇑*i*P P 00 22 06.7 -0.2
VRAC **Vranov** 29.30 68 P P 00 22 06.2 -0.7
comp=Z,12nm,1.0s,baz=279,slow=9.1,SNR=19
VRAC LR LR 00 33 40.0
comp=Z,2µm,18.0s,baz=277,slow=36
BOJS **Bojanci** 29.36 76 *i*P P 00 22 07.3 -0.1
NVLJ **Novalja** 29.39 78 P P 00 22 06.7 -1.0
KEST **Kesra** 29.40 98 *e*P P 00 22 07.8 -0.1
KEST **Kesra** 29.40 98 P P 00 22 07.2 -0.8
comp=Z,14nm,0.9s,baz=268,slow=2.4,SNR=44
KEST LR LR 00 33 09.5
comp=Z,613nm,18.1s,baz=102,slow=35
SOP **Sopron** 29.63 71⇓*e*P P 00 22 09.5 -0.3
MORC **Moravsky Berou** 29.81 67 ⇑P P 00 22 11.4 -0.1
MORC **Moravsky Berou** 29.81 67⇑*i*P P 00 22 11.4 -0.1
MORC **Moravsky Berou** 29.81 67 *e*P P 00 22 11.2 -0.3
MORC **Moravsky Berou** 29.81 67 *e*P P 00 22 11.4 -0.1
ZST **Bratislava** 29.86 70 *e*P P 00 22 12.4 +0.5
ZST **Bratislava** 29.86 70 *e*P P 00 22 12.4 +0.5
SMOL **Smolenice** 30.00 69 *e*P P 00 22 13.9 +0.8
SMOL **Smolenice** 30.00 69 *e*P P 00 22 13.9 +0.8
SMOL **Smolenice** 30.00 69 *e*P P 00 22 13.9 +0.8
UDBI **Udbina** 30.00 78 P P 00 22 12.5 -0.7
BEHE **Becsehely** 30.09 74⇑*e*P P 00 22 13.1 -0.8
OKC **Ostrava-Krasne** 30.19 67 *e*P P 00 22 14.4 -0.3
OKC *e* 00 22 20.1
OKC MLR MLR
comp=Z,1µm,17.7s
OKC **Ostrava-Krasne** 30.19 67 *e*P P 00 22 14.4 -0.3
OKC *ep*P **pP** 00 22 20.1 -0.1
OKC AMS AMS 00 33 50.0
comp=Z,1µm,17.7s
OKC **Ostrava-Krasne** 30.19 67 P P 00 22 14.4 -0.3
DAG **Danmarks Havn** 30.66 4 *i*P P 00 22 19.4 +0.8
DAG pmax pmax
comp=Z,16nm,1.0s
DAG MLR MLR
comp=Z,330nm,11.0s
DAG **Danmarks Havn** 30.66 4 *i*P P 00 22 19.4 +0.8
comp=Z,16nm,1.0s
DAG
comp=Z,320nm,11.0s
DAG **Danmarks Havn** 30.66 4 *i*P P 00 22 19.4 +0.8
comp=Z,16nm,1.0s
PKST **T``s** 30.71 72⇓*e*P P 00 22 19.1 -0.3
PKSG 30.91 71⇓*e*P P 00 22 20.7 -0.4
PKS9 **Tamasi** 31.06 73⇑*e*P P 00 22 21.7 -0.7
LBNH **Lisbon** 31.12 282 *e*P P 00 22 23.2 +0.2
LBNH pmax pmax
comp=Z,32nm,1.0s
LBNH **Lisbon** 31.12 282 *e*P P 00 22 23.2 +0.2
comp=Z,32nm,1.0s
OJC **Ojcow** 31.15 66 *e*P P 00 22 23.2 -0.1
OJC **Ojcow** 31.15 66 *e*P P 00 22 23.2 -0.1
comp=Z,23nm,1.1s
OJC **Ojcow** 31.15 66 *e*P P 00 22 23.2 -0.1
OJC **Ojcow** 31.15 66 *e*P P 00 22 23.2 -0.1
FFD **Franklin Falls** 31.20 281 *e*P P 00 22 24.9 +1.2
comp=Z,120nm,1.1s
BUD **Budapest** 31.30 71⇑*e*P P 00 22 24.6 +0.1
WES **Weston** 31.38 279 *e*P P 00 22 26.1 +0.8
WES pmax pmax
comp=Z,164nm,1.1s
WES **Weston** 31.38 279 *e*P P 00 22 26.1 +0.8
comp=Z,164nm,1.1s
HRV **Adam Dziewonsk** 31.50 279 *e*P P 00 22 26.6 +0.3
HRV pmax pmax
comp=Z,42nm,1.2s
HRV **Adam Dziewonsk** 31.50 279 *e*P P 00 22 26.6 +0.3
comp=Z,42nm,1.2s
PKS7 **Kunszentmiklos** 31.51 72⇓*e*P P 00 22 26.2 -0.2
HNH **Hanover** 31.55 282 *e*P P 00 22 28.0 +1.3
NIE **Niedzica** 31.65 67 *e*P P 00 22 27.6 -0.1
NIE **Niedzica** 31.65 67 *e*P P 00 22 27.6 -0.1
NIE **Niedzica** 31.65 67 *e*P P 00 22 27.6 -0.1
PKS2 **Kecel** 31.70 73⇓*e*P P 00 22 28.0 -0.1
PSZ **Piszkesteto** 31.75 70 *e*P P 00 22 29.3 +0.7
PSZ pmax pmax
comp=Z,42nm,1.2s
PSZ MLR MLR
comp=Z,487nm,21.0s
PSZ **Piszkesteto** 31.75 70⇑*i*P P 00 22 28.8 +0.2
PSZ **Piszkesteto** 31.75 70 *e*P P 00 22 29.3 +0.7
comp=Z,42nm,1.2s
PSZ LR LR
comp=Z,487nm,21.0s
PSZ **Piszkesteto** 31.75 70⇑*e*P P 00 22 29.4 +0.8
PSZ **Piszkesteto** 31.75 70⇑*i*P P 00 22 28.8 +0.2
CUC **Castrocucco** 31.79 86 *e*P P 00 22 28.1 -0.9
comp=Z,18nm,0.9s
STON **Ston** 31.90 80 P P 00 22 28.8 -1.1
PKSN **Nyarlorinc** 32.01 72⇓*e*P P 00 22 31.1 +0.3
MDV **Middlebury** 32.05 283 *e*P P 00 22 32.8 +1.1
QUA2 **Belchertown** 32.13 279 *e*P P 00 22 31.8 -0.1
comp=Z,49nm,1.0s
STHS **Stebnicka Huta** 32.24 67 *e*P P 00 22 33.9 +1.0
STHS pmax pmax
comp=Z,23nm,1.0s
STHS **Stebnicka Huta** 32.24 67 *e*P P 00 22 33.9 +1.0
STHS **Stebnicka Huta** 32.24 67 *e*P P 00 22 33.9 +1.0
comp=Z,23nm,1.0s
SUW **Suwalki** 32.59 58 *e*P P 00 22 35.0 -0.7
SUW pmax pmax
comp=Z,42nm,0.9s
SUW **Suwalki** 32.59 58 *e*P P 00 22 35.0 -0.7
comp=Z,42nm,0.9s
SUW **Suwalki** 32.59 58 *e*P P 00 22 35.1 -0.7
SUW **Suwalki** 32.59 58 *e*P P 00 22 35.2 -0.6
ACCN **Adirondack Com** 32.60 282 *e*P P 00 22 37.1 +1.1
comp=Z,59nm,1.1s
CEL **Celeste** 32.63 89 *e*P P 00 22 34.8 -1.6
comp=Z,57nm,1.0s
NCB **Newcomb** 32.76 283 *e*P P 00 22 38.6 +1.2
LONY **Lake Ozonia** 32.77 284 *e*P P 00 22 38.1 +0.5
comp=Z,119nm,1.3s
TRY **Troy** 32.85 281 *e*P P 00 22 39.6 +1.4
YLE **Yale** 32.91 278 *e*P P 00 22 39.8 +1.0
comp=Z,160nm,1.0s
BBTS **Babate** 32.94 161 P P 00 22 39.4 +0.3
BBTS **Babate** 32.94 161 P P 00 22 39.4 +0.3
comp=Z,26nm,1.0s,baz=14,slow=2.3,SNR=4.3
BBTS LR LR 00 33 09.3
comp=Z,312nm,19.0s,baz=116,slow=31
DIVS **Divibare** 33.00 77 P P 00 22 38.3 -1.4
DIVS **Divibare** 33.00 77⇑*i*P P 00 22 39.1 -0.6
KOLS **Kolonicke sedl** 33.02 67 *e*P P 00 22 40.0 +0.4
KOLS pmax pmax
comp=Z,16nm,1.1s
KOLS **Kolonicke sedl** 33.02 67 *e*P P 00 22 40.0 +0.4
KOLS **Kolonicke sedl** 33.02 67 *e*P P 00 22 40.0 +0.4
comp=Z,16nm,1.1s
UZH **Uzhgorod** 33.11 68 *e*P P 00 22 36.9 -3.5
UZH *e* 00 22 39.3
UZH *e* 00 23 51.7
UZH *e* 00 25 28.5
UZH *e*S S 00 27 51.1 -7.4
UZH MLR MLR
comp=N,300nm,15.0s
UZH MLR MLR
comp=E,900nm,15.0s
UZH MLR MLR
comp=Z,400nm,15.0s
KWP **Kalwaria Pacla** 33.12 66 ⇑P P 00 22 41.1 +0.6
KWP **Kalwaria Pacla** 33.12 66⇑*i*P P 00 22 41.1 +0.6
KWP **Kalwaria Pacla** 33.12 66 *e*P P 00 22 40.5 0.0
comp=Z,50nm,1.0s
KWP LR LR
comp=Z,659nm,19.0s
KWP **Kalwaria Pacla** 33.12 66 *e*P P 00 22 41.1 +0.6
KWP **Kalwaria Pacla** 33.12 66 *e*P P 00 22 41.1 +0.6
SIRR **Siria** 33.38 72⇑*i*P P 00 22 42.5 -0.4
TRPA **Tarpa** 33.40 69⇑*i*P P 00 22 43.2 +0.2
TRPA **Tarpa** 33.40 69⇑*e*P P 00 22 43.4 +0.4
TRPA **Tarpa** 33.40 69⇑*e*P P 00 22 43.4 +0.4
BZS **Buzias** 33.56 73 ⇓P P 00 22 44.3 -0.1
BZS **Buzias** 33.56 73⇓*i*P P 00 22 44.3 -0.1
BZS **Buzias** 33.56 73⇓*i*P P 00 22 44.3 -0.1
FINES **FINESS Array B** 33.75 44 P P 00 22 45.6 -0.3
FINES **FINESS Array B** 33.75 44 P P 00 22 45.6 -0.3
comp=Z,8.0nm,0.8s,baz=204,slow=4.2,SNR=9.1
FINES LR LR 00 35 17.8
comp=Z,313nm,19.4s,baz=107,slow=34
KAF **Kangasniemi** 33.88 43 *e*P P 00 22 49.7 +2.7
KAF pmax pmax

comp=Z,17nm,0.8s
KAF Kangasniemi 33.88 43 *ep* **P 00 22 49.7 +2.7**
comp=Z,17nm,0.8s
LVV L'vov 33.91 65 *eP* **P 00 22 47.2 -0.1**
LVV *eS* **S 00 28 12.0 +1.1**
LVV MLR MLR
comp=N,200nm,17.0s
LVV MLR MLR
comp=Z,200nm,17.0s
LVV MLR MLR
comp=E,200nm,18.0s
DRGR 33.91 71 ⇑ *i*P **P 00 22 47.3 -0.2**
DRGR 33.91 71 ⇑ *i*P **P 00 22 47.3 -0.2**
DRGR 33.91 71 ⇑ *i*P **P 00 22 47.3 -0.2**
TIR Tirane 33.99 81 *eP* **P 00 22 48.9 +0.7**
TIR Tirane 33.99 81 *eP* **P 00 22 48.9 +0.7**
GHAR Gharyan 34.00 100 *eS* **S 00 28 16.5 +3.7**
SNR=31
ISAL Salakas 34.07 55 *eP* **P 00 22 48.2 -0.5**
ISAL AMB AMB 00 22 51.0
comp=Z,16nm,1.2s
VSU Vasula 34.13 49 *eP* **P 00 22 48.8 -0.4**
VSU pmax pmax
comp=Z,76nm,1.2s
BMR Baia Mare 34.15 69 ⇑ *i*P **P 00 22 50.0 +0.5**
BMR Baia Mare 34.15 69 ⇑ *i*P **P 00 22 50.0 +0.5**
BMR Baia Mare 34.15 69 ⇑ *i*P **P 00 22 50.0 +0.5**
IIGN Ignalina 34.16 55 *eP* **P 00 22 48.0 -1.4**
IIGN AMB AMB 00 22 50.0
comp=Z,10nm,1.0s
PHP Peshkopia 34.24 80 P **P 00 22 50.4 0.0**
PHP Peshkopia 34.24 80 P **P 00 22 50.4 0.0**
PHP Peshkopia 34.24 80 P **P 00 22 50.4 0.0**
PHP Peshkopia 34.24 80 P **P 00 22 50.4 0.0**
GZR Gura Zlata 34.41 73 ⇓ *i*P **P 00 22 51.6 -0.2**
GZR Gura Zlata 34.41 73 ⇓ *i*P **P 00 22 51.6 -0.2**
GZR Gura Zlata 34.41 73 ⇓ *i*P **P 00 22 51.6 -0.2**
NACGM Naroch 34.54 56 *e* P 00 22 49.0 -3.8
ARCES ARCESS Array B 34.62 30 P **P 00 22 52.4 -0.9**
ARCES ARCESS Array B 34.62 30 P **P 00 22 52.4 -0.9**
comp=Z,15nm,1.0s,baz=258,slow=5.9,SNR=14
ARCES LR LR 00 35 34.2
comp=Z,198nm,19.3s,baz=83,slow=34
BINY Binghamton 34.63 281 *eP* **P 00 22 53.9 +0.1**
comp=Z,48nm,0.9s
SKO Skopje 34.80 79 *i* P **P 00 22 55.8 +0.6**
LOT Lotru 35.05 73 ⇓ *i*P **P 00 22 56.9 -0.5**
IGT Igoumenitsa 35.10 84 P **P 00 22 57.7 -0.1**
IGT Igoumenitsa 35.10 84 P **P 00 22 57.7 -0.1**
IGT Igoumenitsa 35.10 84 P **P 00 22 57.7 -0.1**
IGT Igoumenitsa 35.10 84 P **P 00 22 57.7 -0.1**
BIA Bitola 35.12 81 *i* P **P 00 22 58.1 0.0**
KEV Kevo 35.18 29 *eP* **P 00 22 58.4 +0.3**
KEV pmax pmax
comp=Z,7.0nm,0.8s
KEV Kevo 35.18 29 *ep* **P 00 22 58.4 +0.3**
comp=Z,7.3nm,0.8s
KEV Kevo 35.18 29 *eP* **P 00 22 58.4 +0.3**
comp=Z,7.3nm,0.8s
NEST Nestorio 35.20 82 P **P 00 22 59.3 +0.5**
MNK Minsk 35.21 56 *eP* P 00 22 55.0 -3.5
MDB Medias 35.21 71 ⇓ *i*P **P 00 22 59.5 +0.8**
MDB Medias 35.21 71 ⇓ *i*P **P 00 22 59.5 +0.8**
MDB Medias 35.21 71 ⇓ *i*P **P 00 22 59.5 +0.8**
MICGM Minsk 35.23 56 *e* P 00 22 55.0 -3.8
FNA Florina 35.26 81 P **P 00 22 59.0 -0.2**
FNA Florina 35.26 81 P **P 00 22 59.0 -0.2**
FNA Florina 35.26 81 P **P 00 22 59.0 -0.2**
FNA Florina 35.26 81 P **P 00 22 59.0 -0.2**
BURAR Bucovina Array 35.28 68 ⇑ *i*P **P 00 22 59.6 +0.2**
BURAR Bucovina Array 35.28 68 ⇑ *i*P **P 00 22 59.6 +0.2**
TAM Tamanrasset 35.47 120 *eP* **P 00 23 01.4 +0.1**
TAM pmax pmax
comp=Z,19nm,1.2s
TAM Tamanrasset 35.47 120 *eP* **P 00 23 01.4 +0.1**
comp=Z,19nm,1.2s
ARR Arges 35.64 72 ⇓ *i*P **P 00 23 02.6 +0.1**
KZN Kozani 35.74 82 P **P 00 23 02.9 -0.5**
KZN Kozani 35.74 82 P **P 00 23 02.9 -0.5**
KZN Kozani 35.74 82 P **P 00 23 02.9 -0.5**
KZN Kozani 35.74 82 P **P 00 23 02.9 -0.5**
VTS Vitosha 35.75 77 P **P 00 23 03.1 -0.4**
VTS Vitosha 35.75 77 ⇓ *i*P **P 00 23 03.1 -0.4**
VTS Vitosha 35.75 77 *eP* **P 00 23 03.2 -0.3**
VTS Vitosha 35.75 77 ⇓ *i*P **P 00 23 03.1 -0.4**
VTS Vitosha 35.75 77 P **P 00 23 03.0 -0.4**
VTS Vitosha 35.75 77 P **P 00 23 03.1 -0.4**
VTS Vitosha 35.75 77 P **P 00 23 03.0 -0.4**
SADO Sadowa 35.76 287 P **P 00 23 02.3 -1.1**
SADO Sadowa 35.76 287 P **P 00 23 02.3 -1.1**
comp=Z,24nm,1.1s,baz=74,slow=9.6,SNR=5.3
SADO LR LR 00 36 45.8
comp=Z,1µm,20.2s,baz=77,slow=35
MPEP Malo Peshtene 35.80 76 P **P 00 23 03.5 -0.3**
MVL Millersville 35.83 278 *eP* **P 00 23 05.2 +1.2**
VAY Valandovo 35.84 80 *i* P **P 00 23 01.9 -2.2**
GRG Griva 35.88 80 P **P 00 23 04.1 -0.5**
GRG Griva 35.88 80 P **P 00 23 04.1 -0.5**
GRG Griva 35.88 80 P **P 00 23 04.1 -0.5**
GRG Griva 35.88 80 P **P 00 23 04.1 -0.5**
VOIR 35.89 72 ⇑ P **P 00 23 04.0 -0.6**
VOIR 35.89 72 ⇑ *i*P **P 00 23 04.0 -0.6**
VOIR 35.89 72 ⇑ *i*P **P 00 23 04.0 -0.6**
SPITS Spitsbergen Ar 35.93 14 P **P 00 23 03.5 -1.1**
SPITS Spitsbergen Ar 35.93 14 P **P 00 23 03.5 -1.1**
comp=Z,60nm,1.2s,baz=150,slow=1.8,SNR=4.8
DOPR Dopca 35.93 71 ⇑ *i*P **P 00 23 05.1 +0.2**
KKB Krupnik 35.96 79 P **P 00 23 05.0 -0.2**
KNT Kendrikon 36.13 80 P **P 00 23 05.5 -1.2**
KNT Kendrikon 36.13 80 P **P 00 23 05.5 -1.2**
KNT Kendrikon 36.13 80 P **P 00 23 05.5 -1.2**
KNT Kendrikon 36.13 80 P **P 00 23 05.5 -1.2**
HUMR Humele 36.18 74 ⇑ *i*P **P 00 23 06.7 -0.3**
JOF Joensuu 36.21 41 *eP* **P 00 23 08.1 +1.1**
JOF pmax pmax
comp=Z,6.0nm,0.6s
JOF Joensuu 36.21 41 *ep* **P 00 23 08.1 +1.1**
comp=Z,5.8nm,0.6s
JOF Joensuu 36.21 41 *eP* **P 00 23 08.1 +1.1**
comp=Z,5.8nm,0.6s
THL Klokotos Trika 36.24 83 P **P 00 23 07.0 -0.6**
LIT Litokhoron 36.33 82 P **P 00 23 07.3 -1.0**
LIT Litokhoron 36.33 82 P **P 00 23 07.3 -1.0**
LIT Litokhoron 36.33 82 P **P 00 23 07.3 -1.0**
LIT Litokhoron 36.33 82 P **P 00 23 07.3 -1.0**
EVR Evrytania 36.40 84 P **P 00 23 10.1 +1.0**
EVR Evrytania 36.40 84 P **P 00 23 10.1 +1.0**
EVR Evrytania 36.40 84 P **P 00 23 10.1 +1.0**
PGB Panagyurishte 36.41 77 P **P 00 23 09.1 0.0**
MLR Muntele Rosu 36.46 72 ⇑ *i*P **P 00 23 09.1 -0.5**
MLR Muntele Rosu 36.46 72 ⇑ *i*P **P 00 23 09.1 -0.5**
MMB Musomiste 36.52 79 P **P 00 23 11.7 -0.6**
TESR Tescani 36.56 70 ⇓ *i*P **P 00 23 09.6 -0.7**
SSPA Standing Stone 36.59 280 *eP* **P 00 23 10.8 +0.2**
comp=Z,40nm,1.1s
SSPA Standing Stone 36.59 280 *eP* **P 00 23 10.8 +0.2**
comp=Z,40nm,1.1s
EFP Efpalio 36.70 84 P **P 00 23 11.9 +0.4**
NVR Nevrokopi 36.71 79 P **P 00 23 10.2 -1.4**
NVR Nevrokopi 36.71 79 P **P 00 23 10.2 -1.4**
NVR Nevrokopi 36.71 79 P **P 00 23 10.2 -1.4**
AGG Agios Georgios 36.71 83 P **P 00 23 11.7 0.0**
AGG Agios Georgios 36.71 83 P **P 00 23 11.7 0.0**
AGG Agios Georgios 36.71 83 P **P 00 23 11.7 0.0**
AGG Agios Georgios 36.71 83 P **P 00 23 11.7 0.0**
ZIMR 36.77 75 ⇓ *i*P **P 00 23 12.6 +0.6**
ZIMR 36.77 75 ⇓ *i*P **P 00 23 12.6 +0.6**
PLOR Plostina 36.79 71 ⇓ *i*P **P 00 23 11.8 -0.5**
PLOR Plostina 36.79 71 ⇓ *i*P **P 00 23 11.8 -0.5**
PLOR Plostina 36.79 71 ⇓ *i*P **P 00 23 11.8 -0.5**
VRI Vrincioaia 36.84 71 ⇑ P **P 00 23 11.3 -1.3**
VRI Vrincioaia 36.84 71 ⇑ *i*P **P 00 23 11.3 -1.3**
VRI Vrincioaia 36.84 71 ⇑ *i*P **P 00 23 11.3 -1.3**
LAKA Lakka 36.84 85 P **P 00 23 13.4 +0.6**
LAKA Lakka 36.84 85 P **P 00 23 13.4 +0.6**
LAKA Lakka 36.84 85 P **P 00 23 13.4 +0.6**
PLG Polygyros 36.85 81 P **P 00 23 12.2 -0.7**
PLG Polygyros 36.85 81 P **P 00 23 12.2 -0.7**
PLG Polygyros 36.85 81 P **P 00 23 12.2 -0.7**
PLG Polygyros 36.85 81 P **P 00 23 12.2 -0.7**
KALE Kalithea 36.88 84 P **P 00 23 13.8 +0.7**
KALE Kalithea 36.88 84 P **P 00 23 13.8 +0.7**
KALE Kalithea 36.88 84 P **P 00 23 13.8 +0.7**
KIEV Kiev 36.88 62 *eP* **P 00 23 11.5 -1.4**
KIEV Kiev 36.88 62 *eP* **P 00 23 11.5 -1.4**
KIEV Kiev 36.88 62 *eP* **P 00 23 11.5 -1.4**
AKASG Malin Array Be 36.89 62 P **P 00 23 11.8 -1.2**
AKASG 00 24 36.6
AKASG pmax pmax
comp=Z,26nm,0.9s
AKASG pmax pmax
comp=Z,7.0nm,0.9s
AKASG MLR MLR
comp=Z,766nm,18.4s
AKASG Malin Array Be 36.89 62 P **P 00 23 11.8 -1.2**
AKASG PP **PP 00 24 36.6 -0.3**
AKASG Malin Array Be 36.89 62 P **P 00 23 11.8 -1.2**
AKASG Malin Array Be 36.89 62 P **P 00 23 11.8 -1.2**
comp=Z,26nm,0.9s,baz=282,slow=8.7,SNR=30
AKASG PP **PP 00 24 36.6 -0.3**
comp=Z,7.2nm,0.9s,baz=282,slow=11,SNR=5.2
AKASG LR LR 00 39 14.2
comp=Z,766nm,18.4s,baz=290,slow=38
PVL Pavlikeni 36.92 75 P **P 00 23 12.4 -0.9**
PLD Plovdiv 36.96 77 P **P 00 23 13.4 -0.2**
PLD Plovdiv 36.96 77 P **P 00 23 13.4 -0.2**
PLD Plovdiv 36.96 77 P **P 00 23 13.7 +0.1**
PLD Plovdiv 36.96 77 P **P 00 23 13.4 -0.2**
PLD Plovdiv 36.96 77 P **P 00 23 13.4 -0.2**
ISR Istrita 36.99 72 ⇓⇓ P **P 00 23 13.4 -0.6**
ISR Istrita 36.99 72 ⇓⇓ *i*P **P 00 23 13.4 -0.6**
ISR Istrita 36.99 72 ⇓⇓ *i*P **P 00 23 13.4 -0.6**
KLV Kalavryta, Ach 37.06 85 P **P 00 23 15.3 +0.7**
KLV Kalavryta, Ach 37.06 85 P **P 00 23 15.3 +0.7**
KLV Kalavryta, Ach 37.06 85 P **P 00 23 15.3 +0.7**
AXAR Agios Charalam 37.06 83 P **P 00 23 14.6 0.0**
AXAR Agios Charalam 37.06 83 P **P 00 23 14.6 0.0**
AXAR Agios Charalam 37.06 83 P **P 00 23 14.6 0.0**
DSF Desfina 37.14 84 P **P 00 23 14.8 -0.5**
DSF Desfina 37.14 84 P **P 00 23 14.8 -0.5**
DSF Desfina 37.14 84 P **P 00 23 14.8 -0.5**
RZN Rozhen 37.14 78 P **P 00 23 15.5 0.0**
XOR Xorichti 37.14 82 P **P 00 23 14.7 -0.6**
XOR Xorichti 37.14 82 P **P 00 23 14.7 -0.6**
XOR Xorichti 37.14 82 P **P 00 23 14.7 -0.6**
APA Apatity 37.19 34 ⇑ *i*P **P 00 23 15.6 +0.3**
APA MLR MLR
comp=Z,500nm,12.0s
NEO Neokhori 37.19 82 P **P 00 23 15.1 -0.6**
NEO Neokhori 37.19 82 P **P 00 23 15.1 -0.6**
NEO Neokhori 37.19 82 P **P 00 23 15.1 -0.6**
PAIG Paliouri 37.22 81 P **P 00 23 15.5 -0.4**
PAIG Paliouri 37.22 81 P **P 00 23 15.5 -0.4**
PAIG Paliouri 37.22 81 P **P 00 23 15.5 -0.4**
PAIG Paliouri 37.22 81 P **P 00 23 15.5 -0.4**
OUR Ouranopolis 37.24 80 P **P 00 23 15.4 -0.6**
OUR Ouranopolis 37.24 80 P **P 00 23 15.4 -0.6**
OUR Ouranopolis 37.24 80 P **P 00 23 15.4 -0.6**
OUR Ouranopolis 37.24 80 P **P 00 23 15.4 -0.6**
GUR Goura 37.24 85 P **P 00 23 16.2 -0.1**
GUR Goura 37.24 85 P **P 00 23 16.2 -0.1**
GUR Goura 37.24 85 P **P 00 23 16.2 -0.1**
SZH Strazhica 37.30 75 P **P 00 23 16.3 -0.3**
KAVA Kavala 37.31 79 P **P 00 23 16.7 +0.1**
KAVA Kavala 37.31 79 P **P 00 23 16.7 +0.1**
KAVA Kavala 37.31 79 P **P 00 23 16.7 +0.1**
LKR Lokris 37.35 83 P **P 00 23 16.4 -0.6**
LKR Lokris 37.35 83 P **P 00 23 16.4 -0.6**
LKR Lokris 37.35 83 P **P 00 23 16.4 -0.6**
SMIA Simia 37.38 83 P **P 00 23 16.5 -0.9**
SKIA Skiathos 37.42 82 P **P 00 23 17.2 -0.5**
LTK Loutraki 37.63 84 P **P 00 23 18.9 -0.5**
LTK Loutraki 37.63 84 P **P 00 23 18.9 -0.5**
LTK Loutraki 37.63 84 P **P 00 23 18.9 -0.5**
KDZ Kurdzhali 37.63 78 P **P 00 23 18.8 -0.6**
ALLY Alegheny Colle 37.68 282 *eP* **P 00 23 20.3 +0.5**
comp=Z,123nm,1.3s
ALLY Alegheny Colle 37.68 282 *eP* **P 00 23 20.3 +0.5**
comp=Z,123nm,1.3s
LVZ Lovozero 37.68 33 *d i*P **P 00 23 20.0 +0.5**
LVZ pmax pmax
comp=Z,29nm,0.8s
KIS Kishinev 37.79 68 *eP* **P 00 23 18.0 -2.7**
KIS Kishinev 37.79 68 *e*PP PP 00 24 42.5 -4.4
KIS Kishinev 37.79 68 *e*PcS **PP 00 24 48.0 +1.1**
KIS Kishinev 37.79 68 *e*PPP PPP 00 25 13.0
KIS *eS* **S 00 29 06.0 -4.4**
KIS *e*SSS SSS 00 32 00.0
KIS *e*LR LR 00 35 30.0
comp=Z,400nm,19.0s
KIS Kishinev 37.79 68 *eP* **P 00 23 18.0 -2.7**
KIS *e* 00 24 48.0
KIS *e*PPP PPP 00 25 13.0
KIS *eS* **S 00 29 06.0 -4.4**
KIS MLR MLR
comp=Z,700nm,19.0s
KIS MLR MLR
comp=N,600nm,19.0s
KIS MLR MLR
comp=E,400nm,19.0s
KIS MLR MLR
comp=Z,700nm,19.0s
RDO Rodhopi 37.93 78 P **P 00 23 22.2 +0.3**
RDO Rodhopi 37.93 78 P **P 00 23 22.2 +0.3**
RDO Rodhopi 37.93 78 P **P 00 23 22.2 +0.3**
CFR Carcaliu 38.01 71 ⇓⇓ P **P 00 23 20.8 -1.7**
CFR Carcaliu 38.01 71 ⇓⇓ *i*P **P 00 23 20.8 -1.7**
CFR Carcaliu 38.01 71 ⇓⇓ *i*P **P 00 23 20.8 -1.7**
DIDY Didyma 38.07 85 P **P 00 23 22.2 -1.1**
JMB Yambol 38.07 76 P **P 00 23 22.8 -0.3**
JMB Yambol 38.07 76 P **P 00 23 22.8 -0.3**
JMB Yambol 38.07 76 P **P 00 23 22.7 -0.3**
JMB Yambol 38.07 76 P **P 00 23 22.8 -0.3**
JMB Yambol 38.07 76 P **P 00 23 22.8 -0.3**
DID Didima 38.07 85 P **P 00 23 21.9 -1.3**
DID Didima 38.07 85 P **P 00 23 21.9 -1.3**
DID Didima 38.07 85 P **P 00 23 21.9 -1.3**
TLB Topalu 38.18 72 ⇓⇓ P **P 00 23 22.4 -1.5**
TLB Topalu 38.18 72 ⇓⇓ *i*P **P 00 23 22.4 -1.5**
TLB Topalu 38.18 72 ⇓⇓ *i*P **P 00 23 22.4 -1.5**
MSAB Monastry St. A 38.23 73 ⇓⇓ *i*P **P 00 23 22.9 -1.5**
PTL Penteli 38.23 84 P **P 00 23 24.4 -0.2**
PTL Penteli 38.23 84 P **P 00 23 24.4 -0.2**
PTL Penteli 38.23 84 P **P 00 23 24.4 -0.2**
LIA Limnos Island 38.26 80 P **P 00 23 25.4 +0.7**
LIA Limnos Island 38.26 80 P **P 00 23 25.4 +0.7**
LIA Limnos Island 38.26 80 P **P 00 23 25.4 +0.7**
PRD Provadia 38.31 74 P **P 00 23 24.2 -0.9**
MCWV Mont Chateau 38.37 279 *eP* **P 00 23 26.6 +0.9**
comp=Z,58nm,1.3s
MCWV Mont Chateau 38.37 279 *eP* **P 00 23 26.6 +0.9**
comp=Z,58nm,1.3s
ALN Alexandroupoli 38.39 78 P **P 00 23 25.8 0.0**
ALN Alexandroupoli 38.39 78 P **P 00 23 25.8 0.0**
ALN Alexandroupoli 38.39 78 P **P 00 23 25.8 0.0**
ALN Alexandroupoli 38.39 78 P **P 00 23 25.8 0.0**
TLCR 38.45 71 ⇑ *i*P **P 00 23 24.2 -2.0**
TIRR Tirgusor 38.47 72 ⇓⇓ P **P 00 23 25.0 -1.4**
TIRR Tirgusor 38.47 72 ⇓⇓ *i*P **P 00 23 25.0 -1.4**
TIRR Tirgusor 38.47 72 *eP* **P 00 23 24.4 -2.1**
comp=Z,33nm,1.0s
TIRR Tirgusor 38.47 72 ⇓⇓ *i*P **P 00 23 25.0 -1.4**
PSN Preselentsi 38.63 73 P **P 00 23 26.3 -1.5**
MANR Mangalia 38.84 73 ⇓⇓ *i*P **P 00 23 28.5 -1.1**
LPK Lapseki 39.11 79 *eP* **P 00 23 32.4 +0.6**
TMCR Tamitsa 39.15 39 *eP* P 00 23 36.0 +4.2
TMCR *e* 00 25 38.5
TMCR pmax pmax
comp=Z,44nm,1.1s
RKY Sarkoy-Tekirda 39.25 78 *eP* **P 00 23 33.4 +0.3**
KRBG Karabiga-Canak 39.47 78 *eP* **P 00 23 35.3 +0.5**
CTYL Yal??k??y-??at 39.65 76 *eP* **P 00 23 35.7 -0.5**
APE Apeiranthos 39.87 84 ⇑ P **P 00 23 38.2 -0.1**
APE Apeiranthos 39.87 84 ⇑ *i*P **P 00 23 38.2 -0.1**
APE Apeiranthos 39.87 84 ⇑ *i*P **P 00 23 38.2 -0.1**
GONE Gonen-Balikesi 39.89 79 *eP* **P 00 23 38.7 +0.4**
BLA Blacksburg 39.96 276 *eP* **P 00 23 40.2 +1.2**
BLA pmax pmax
comp=Z,29nm,1.1s
BLA Blacksburg 39.96 276 *eP* **P 00 23 40.2 +1.2**
comp=Z,29nm,1.1s
BLA Blacksburg 39.96 276 *eP* **P 00 23 40.2 +1.2**
comp=Z,29nm,1.1s
RES Resolute Bay 39.98 338 *eP* **P 00 23 38.3 -0.3**
RES Resolute Bay 39.98 338 P **P 00 23 37.2 -1.4**
comp=Z,36nm,0.9s,baz=97,slow=7.8,SNR=9.2
BALY Balya 39.99 79 *i* P **P 00 23 39.9 +0.7**
BALY Balya 39.99 79 *i* P **P 00 23 39.9 +0.7**
OBN Obninsk 40.01 53 *c i*P **P 00 23 38.5 -0.6**
OBN *e* 00 25 08.1
OBN *eS* S 00 29 49.8 +6.2
OBN *eSS* **SS 00 32 38.9 -1.5**
OBN pmax pmax
comp=Z,34nm,1.2s
OBN MLR MLR
comp=Z,500nm,17.0s
BGKT Bogazkoy 40.10 77 *eP* **P 00 23 39.9 -0.2**
BALB Balikesir 40.21 79 *eP* **P 00 23 41.4 +0.4**
ACSO Alum Creek Sta 40.24 282 *eP* **P 00 23 42.2 +1.0**
comp=Z,96nm,1.1s
ACSO Alum Creek Sta 40.24 282 *eP* **P 00 23 42.2 +1.0**
comp=Z,96nm,1.1s
KCTX Karacabey (Bur 40.24 78 *eP* **P 00 23 41.4 +0.1**
KLYT Kilyos 40.25 76 *eP* **P 00 23 41.8 +0.5**
KLMR Klimovskoe 40.28 44 *eP* **P 00 23 39.9 -1.4**
KLMR *e* 00 25 15.8
KLMR pmax pmax
comp=Z,35nm,1.5s
KLMR MLR MLR
comp=Z,364nm,15.0s
ISK Istanbul-Kandi 40.35 77 *eP* **P 00 23 42.2 +0.1**
IDI Anoyia 40.36 87 *eP* **P 00 23 43.1 +0.7**
comp=Z,33nm,0.9s
IDI Anoyia 40.36 87 *eP* **P 00 23 43.1 +0.7**
comp=Z,33nm,0.9s
MDNY Mudanya-Bursa 40.55 78 *eP* **P 00 23 44.1 +0.3**
FCC Fort Churchill 40.66 313 *eP* **P 00 23 44.8 +0.4**
FCC Fort Churchill 40.66 313 *eP* **P 00 23 44.8 +0.4**
comp=Z,2.9nm,1.0s
FCC Fort Churchill 40.66 313 *eP* **P 00 23 44.8 +0.4**
comp=Z,2.9nm,1.0s
ULDT Uludag 40.83 78 *i* P **P 00 23 46.5 +0.2**
ULDT Uludag 40.83 78 *i* P **P 00 23 46.6 +0.2**
HRT Hereke 40.87 77 *eP* **P 00 23 46.4 -0.1**
AYDB Zeytinkoy-Aydi 41.05 81 *eP* **P 00 23 48.7 +0.6**
DEMI Demirci 41.07 79 *i* P **P 00 23 48.3 +0.1**
DEMI Demirci 41.07 79 *i* P **P 00 23 48.3 +0.1**
ADVT Abdulvahap 41.10 77 *eP* **P 00 23 48.6 +0.3**
TORD Torodi Ar. Bea 41.20 134 P **P 00 23 48.4 -1.0**
TORD Torodi Ar. Bea 41.20 134 P **P 00 23 48.3 -1.0**
TORD Torodi Ar. Bea 41.20 134 P **P 00 23 48.4 -1.0**
comp=Z,32nm,0.9s,baz=329,slow=9.2,SNR=132
TORD LR LR 00 39 59.6
comp=Z,2µm,18.2s,baz=330,slow=35
CAVI Cavuskoy 41.28 77 *eP* **P 00 23 49.2 -0.7**
KULA Kula-Manisa 41.29 80 *eP* **P 00 23 50.1 +0.1**
TVSB Tavsanli 41.38 79 *eP* **P 00 23 51.3 +0.5**
GULT Gulveren 41.62 77 *eP* **P 00 23 53.4 +0.6**
SIM Simferopol' 41.99 69 *eP* **P 00 23 58.0 +2.4**
SIM *e* 00 25 30.0
SIM *eS* S 00 30 20.0 +6.7
SIM pmax pmax
comp=Z,11nm,1.3s
SIM MLR MLR
comp=Z,300nm,14.0s
MDUB Mudurnu 42.06 76 *eP* **P 00 23 57.1 +0.7**
SEYT Eskypehyr 42.28 78 *i* P **P 00 23 58.0 -0.2**
SEYT Eskypehyr 42.28 78 *i* P **P 00 23 58.0 -0.2**
TZTN Tazewell 42.45 277 *eP* P 00 24 03.0 +3.5
comp=Z,60nm,1.6s
EYMN Ely 42.50 296 *eP* **P 00 23 59.8 0.0**
comp=Z,32nm,1.0s
EYMN Ely 42.50 296 *eP* **P 00 23 59.8 0.0**
comp=Z,32nm,1.0s
SJG San Juan 42.63 242 LR LR 00 37 48.3
comp=Z,434nm,21.6s,baz=95,slow=31
VSR Storozhevoye 42.70 58 *eP* **P 00 24 00.3 -0.9**
VSR pmax pmax
comp=Z,30nm,1.2s
VSR pmax pmax
comp=N,8.0nm,0.7s
VSR pmax pmax
comp=E,30nm,1.0s
VSR MLR MLR
comp=Z,510nm,13.0s
VSR MLR MLR
comp=N,520nm,20.0s
VSR MLR MLR
comp=E,270nm,14.0s
SVRH Sivrihisar-ESK 42.77 77 *eP* **P 00 24 02.4 +0.2**
ISP Isparta 42.91 80 *eP* **P 00 24 02.7 -0.6**
ISP Isparta 42.91 80 PFAKE 00 24 10.0 +6.7
ISP LR LR
comp=Z,444nm,19.0s
SFIN Scholer Farm 42.94 284 *eP* **P 00 24 04.2 +0.9**
SFIN Scholer Farm 42.94 284 ⇓⇓ P **P 00 24 03.7 +0.4**
baz=43
SFIN Scholer Farm 42.94 284 *eP* **P 00 24 04.2 +0.9**
TKL Tuckaleechee C 43.07 276 P **P 00 24 04.8 +0.3**
TKL Tuckaleechee C 43.07 276 P **P 00 24 04.8 +0.3**
TKL Tuckaleechee C 43.07 276 P **P 00 24 04.8 +0.3**
comp=Z,7.3nm,0.8s,baz=79,slow=9.4,SNR=7.9
AKAS Kas 43.10 83 *i* P **P 00 24 05.0 +0.1**
AKAS Kas 43.10 83 *i* P **P 00 24 05.0 +0.1**
BCK Bucak 43.14 80 *eP* **P 00 24 05.4 +0.3**
BLO Bloomington 43.14 282 *eP* P 00 23 59.9 -5.1
BLO Bloomington 43.14 282 *eP* P 00 23 59.9 -5.1
ANTO Ankara 43.42 76 *eP* **P 00 24 07.8 +0.4**
ANTO pmax pmax
comp=Z,27nm,0.9s
ANTO MLR MLR
comp=Z,344nm,21.0s
ANTO Ankara 43.42 76 P **P 00 24 08.2 +0.8**
SNR=8.6
ANTO Ankara 43.42 76 *eP* **P 00 24 07.8 +0.4**
ANTO Ankara 43.42 76 ⇑ *i*P **P 00 24 07.7 +0.4**
ANTO Ankara 43.42 76 *eP* **P 00 24 07.8 +0.4**
comp=Z,27nm,0.9s
ANTO LR LR
comp=Z,344nm,21.0s
ANTO Ankara 43.42 76 ⇑ *i*P **P 00 24 07.7 +0.4**
WCI Wyandotte Cave 43.46 281 *eP* **P 00 24 07.7 +0.1**
WCI pmax pmax
comp=Z,38nm,1.1s
WCI Wyandotte Cave 43.46 281 *eP* **P 00 24 07.7 +0.1**
comp=Z,38nm,1.1s
WCI Wyandotte Cave 43.46 281 *eP* **P 00 24 07.7 +0.1**
comp=Z,38nm,1.1s
CPCT Cooper Cave 43.70 277 *eP* **P 00 24 10.9 +1.3**
CPCT Cooper Cave 43.70 277 *eP* **P 00 24 10.9 +1.3**
AFSR Af˙ar-Bala (A 43.82 77 *eP* **P 00 24 11.0 +0.4**
JFWS Jewell Farm 43.84 289 *eP* **P 00 24 11.3 +0.7**
JFWS pmax pmax
comp=Z,49nm,1.4s
JFWS Jewell Farm 43.84 289 *eP* **P 00 24 11.3 +0.7**
comp=Z,49nm,1.4s
JFWS Jewell Farm 43.84 289 *eP* **P 00 24 11.3 +0.7**
comp=Z,49nm,1.4s
TIC Toumodi 44.05 147 *eP* **P 00 24 11.9 -0.6**
comp=Z,85nm,1.2s
BR131 Keskin Array S 44.06 76 *eP* **P 00 24 12.4 -0.2**
comp=Z,19nm,0.9s
BR131 *e*PcP **PP 00 25 55.2 0.0**
BR131 Keskin Array S 44.06 76 *eP* **P 00 24 12.4 -0.2**
comp=Z,19nm,0.9s
BRTR Keskin Array B 44.06 76 P **P 00 24 12.8 +0.3**
BRTR PcP **PcP 00 25 57.5 -0.2**
BRTR Keskin Array B 44.06 76 P **P 00 24 12.9 +0.3**
BRTR Keskin Array B 44.06 76 PcP **PcP 00 25 57.5 -0.2**
comp=Z,220nm,21.6s
BRTR Keskin Array B 44.06 76 P **P 00 24 12.8 +0.3**
comp=Z,25nm,1.0s,baz=298,slow=5.5,SNR=81
BRTR PcP **PcP 00 25 57.5 -0.2**
comp=Z,3.1nm,0.9s,baz=200,slow=2.3,SNR=3.7
BRTR LR LR 00 42 24.0
comp=Z,220nm,21.6s,baz=110,slow=36
DBIC Dimbokro 44.09 147 *eP* **P 00 24 12.8 0.0**
DBIC Dimbokro 44.09 147 *eP* **P 00 24 12.8 0.0**
DBIC Dimbokro 44.09 147 P **P 00 24 12.4 -0.4**
comp=Z,26nm,0.9s,baz=326,slow=8.2,SNR=16
DBIC LR LR 00 41 18.2
comp=Z,887nm,18.8s,baz=318,slow=34
KONT Konya--Tatoy 44.09 79 *eP* **P 00 24 12.8 +0.1**
GOGA Godfrey 44.10 274 *eP* **P 00 24 14.0 +1.2**
GOGA pmax pmax
comp=Z,34nm,1.2s
GOGA Godfrey 44.10 274 *eP* **P 00 24 14.0 +1.2**
comp=Z,34nm,1.2s

GOGA	Godfrey	44.10	274		*e*P		P	00 24 14.0	+1.2
	comp=Z,34nm,1.2s									
VRHR	Novokhopersk	44.18	58		*e*P		P	00 24 12.9	-0.3
VRHR					pmax		pmax			
	comp=Z,10.0nm,0.8s									
VRHR					pmax		pmax			
	comp=N,10.0nm,0.6s									
VRHR					pmax		pmax			
	comp=E,30nm,1.1s									
ANN	Anapa	44.18	68		*e*P		P	00 24 09.0	-4.3
ANN					*e*			00 25 54.6		
ANN					*e*S		S	00 30 42.0	-3.5
ANN					*e*SS		SS	00 34 05.9	+2.8
ANN					pmax		pmax			
	comp=Z,42nm,1.0s									
ANN					MLR		MLR			
	comp=Z,556nm,17.0s									
ULM	Lac du Bonnet	44.27	301		P		P	00 24 13.4	-0.5
ULM	Lac du Bonnet	44.27	301		P		P	00 24 13.4	-0.5
ULM	Lac du Bonnet	44.27	301		P		P	00 24 13.4	-0.5
	comp=Z,10.0nm,0.8s,baz=56,slow=8.3,SNR=14									
ULM					LR		LR	00 40 56.0		
	comp=Z,561nm,19.1s,baz=224,slow=34									
HDIL	Hopedale	44.32	286		*e*P		P	00 24 15.5	+1.0
	comp=Z,98nm,1.4s									
HDIL	Hopedale	44.32	286		*e*P		P	00 24 15.5	+1.0
	comp=Z,98nm,1.4s									
KIC	Kosan Boka	44.42	147		*e*P		P	00 24 14.9	-0.6
	comp=Z,80nm,1.1s									
OLIL	Olney	44.42	283		*e*P		P	00 24 16.1	+0.8
	comp=Z,52nm,1.3s									
OLIL	Olney	44.42	283		*e*P		P	00 24 16.1	+0.8
	comp=Z,52nm,1.3s									
LIC	Lamto	44.44	147		*e*P		P	00 24 14.9	-0.7
	comp=Z,50nm,1.0s									
SPMN	St. Paul	44.45	293		*e*P		P	00 24 16.0	+0.5
SPMN	St. Paul	44.45	293		⇑P		P	00 24 15.5	0.0
	baz=44									
SPMN	St. Paul	44.45	293		*e*P		P	00 24 16.0	+0.5
SULT	Sultanhani-AKS	44.75	78		*e*P		P	00 24 19.0	+1.0
SWET	Sewanee	44.79	277		*e*P		P	00 24 19.4	+1.0
	comp=Z,34nm,0.9s									
SWET	Sewanee	44.79	277		*e*P		P	00 24 19.4	+1.0
	comp=Z,34nm,0.9s									
SDDR	Presa de Saban	45.20	248		*e*P		P	00 24 23.6	+1.9
	comp=Z,72nm,1.1s									
SDDR	Presa de Saban	45.20	248		*e*P		P	00 24 23.6	+1.9
	comp=Z,72nm,1.1s									
TIGA	Tifton	45.31	271		⇓P		P	00 24 22.6	+0.1
	baz=45									
WVT	Waverly	45.60	280		*e*P		P	00 24 24.7	0.0
WVT					pmax		pmax			
	comp=Z,37nm,1.1s									
WVT	Waverly	45.60	280		*e*P		P	00 24 24.7	0.0
	comp=Z,37nm,1.1s									
WVT	Waverly	45.60	280		*e*P		P	00 24 24.7	0.0
	comp=Z,37nm,1.1s									
SIUC	Southern Illin	45.70	282		*e*P		P	00 24 26.2	+0.7
SIUC	Southern Illin	45.70	282		*e*P		P	00 24 26.2	+0.7
SLM	Saint Louis	45.91	284		*e*P		P	00 24 28.1	+1.0
SLM					pmax		pmax			
	comp=Z,76nm,1.2s									
SLM	Saint Louis	45.91	284		*e*P		P	00 24 28.1	+1.0
	comp=Z,76nm,1.2s									
SLM	Saint Louis	45.91	284		*e*P		P	00 24 28.1	+1.0
	comp=Z,76nm,1.2s									
BNN	Bunyan	45.98	76		*e*P		P	00 24 28.8	+0.9
FFC	Flin Flon	46.02	309		*i* P		P	00 24 28.0	+0.2
FFC	Flin Flon	46.02	309		P		P	00 24 28.0	+0.2
	comp=Z,327nm,1.0s,SNR=18									
FFC	Flin Flon	46.02	309		*e*P		P	00 24 27.6	-0.2
FFC	Flin Flon	46.02	309		*e*P		P	00 24 27.6	-0.2
RSDY	Resadiye-TOKAT	46.19	73		*e*P		P	00 24 29.5	+0.2
SOC	Sochi	46.20	68		*e*P		P	00 24 28.6	-0.7
SOC					*e*			00 26 07.1		
SOC					*e*S		S	00 31 16.5	+1.8
SOC					*e*SS		SS	00 34 40.4	+0.7
SOC					pmax		pmax			
	comp=Z,17nm,0.6s									
SOC					MLR		MLR			
	comp=Z,359nm,18.0s									
SOC	Sochi	46.20	68		*e*PcP		PcP	00 26 07.1	+2.2
SOC					*e*S		S	00 31 16.5	+1.8
SCIA	State Center	46.25	289		*e*P		P	00 24 30.6	+0.8
	comp=Z,137nm,1.6s									
SCIA	State Center	46.25	289		*e*P		P	00 24 30.6	+0.8
	comp=Z,137nm,1.6s									
CSS	Prodhromos	46.34	82		*e*P		P	00 24 30.4	-0.2
CSS					LR		LR			
	comp=Z,251nm,19.0s									
CSS	Prodhromos	46.34	82		*e*P		P	00 24 30.4	-0.2
B30A	Myrvik Farm, E	46.47	300		⇑P		P	00 24 31.4	0.0
	baz=46,SNR=30									
A29A	Manning Farm,	46.80	301		⇓P		P	00 24 33.7	-0.4
	baz=47,SNR=9.7									
ESPY	Espiye-Giresun	46.85	72		*e*P		P	00 24 35.1	+0.6
C30A	Mose, Pekin	46.88	299		⇓P		P	00 24 34.0	-0.7
	baz=47,SNR=6.5									
B29A	Wagenman Farm,	47.07	300		⇑P		P	00 24 35.7	-0.5
	baz=47									
D30A	Buchanan	47.32	298		⇑P		P	00 24 37.4	-0.7
	baz=47,SNR=5.2									
AYKD	Aykdinkavak	47.38	77		*i* P		P	00 24 38.7	0.0
KMRS	Kahramanmaras	47.39	77		*e*P		P	00 24 39.2	+0.4
A28A	Rude Farm, Bot	47.42	301		⇑P		P	00 24 38.6	-0.3
	baz=47									
MDND	Maddock	47.50	300		*e*P		P	00 24 39.8	+0.3
	comp=Z,29nm,0.9s									
MDND	Maddock	47.50	300		⇓P		P	00 24 39.0	-0.5
	baz=47									
MDND	Maddock	47.50	300		*e*P		P	00 24 39.8	+0.3
	comp=Z,29nm,0.9s									
ECSD	EROS Data Cent	47.56	293		*e*P		P	00 24 40.0	0.0
	comp=Z,46nm,1.2s									
ECSD	EROS Data Cent	47.56	293		*e*P		P	00 24 40.0	0.0
	comp=Z,46nm,1.2s									
OXF	Oxford	47.56	279		*e*P		P	00 24 39.4	-0.7
OXF					pmax		pmax			
	comp=Z,37nm,1.1s									
OXF	Oxford	47.56	279		*e*P		P	00 24 39.4	-0.7
	comp=Z,37nm,1.1s									
OXF	Oxford	47.56	279		*e*P		P	00 24 39.4	-0.7
	comp=Z,37nm,1.1s									
GOF	Gofitskoye	47.61	65		*e*P		P	00 24 41.3	+0.9
GOF					pmax		pmax			
	comp=Z,40nm,1.0s									
ARNB	Al Arnab	47.65	79		*i* P		P	00 24 40.6	-0.3
ARNB	Al Arnab	47.65	79		*i* P		P	00 24 40.6	-0.3
	SNR=23									
B28A	Dugan Ranch, T	47.68	301		⇑P		P	00 24 40.6	-0.3
	baz=48									
E30A	Jud	47.69	298		⇓P		P	00 24 41.0	0.0
	baz=48,SNR=5.4									
D29A	Pettibone, Tap	47.85	299		⇑P		P	00 24 42.4	+0.1
	baz=48,SNR=5.6									
EZC	Erzincan	47.85	73		*e*P		P	00 24 43.3	+0.8
KIV	Kislovodsk	47.91	66		*c i*P		P	00 24 43.1	+0.2
KIV					*e*S		S	00 31 46.8	+7.5
KIV					pmax		pmax			
	comp=Z,13nm,1.0s									
KIV					MLR		MLR			
	comp=Z,400nm,15.0s									
KIV	Kislovodsk	47.91	66		*i* P		P	00 24 43.1	+0.2
	comp=Z,13nm,1.0s									
A27A	Ledoux Ranch,	47.98	302		⇑P		P	00 24 43.0	-0.2
	baz=48									
MALT	Malatya	47.99	75		⇑P		P	00 24 43.7	+0.2
MALT	Malatya	47.99	75		*e*P		P	00 24 43.9	+0.4
MALT	Malatya	47.99	75		⇑*i*P		P	00 24 43.7	+0.2
MALT	Malatya	47.99	75		P		P	00 24 43.7	+0.2
C28A	Hausauer Farms	48.03	300		⇓P		P	00 24 43.6	0.0
	baz=48,SNR=10									
F30A	Leola	48.07	297		⇑P		P	00 24 43.6	-0.4
	baz=48									
E29A	Napoleon	48.11	298		⇓P		P	00 24 43.7	-0.5
	baz=48									
CHVG	Ch'k'valeri	48.13	68		P		P	00 24 53.0	+8.5
KBZ	Khabaz	48.16	66		P		P	00 24 45.9	+1.3
KBZ					pmax		pmax			
	comp=Z,9.0nm,0.9s									
KBZ					MLR		MLR			
	comp=Z,328nm,19.7s									
KBZ	Khabaz	48.16	66		P		P	00 24 45.9	+1.3
KBZ	Khabaz	48.16	66		P		P	00 24 45.9	+1.3
	comp=Z,328nm,19.7s									
KBZ	Khabaz	48.16	66		P		P	00 24 45.9	+1.3
	comp=Z,9.4nm,0.9s,baz=298,slow=8.2,SNR=21									
KBZ					LR		LR	00 45 41.8		
	comp=Z,328nm,19.6s,baz=128,slow=37									
B27A	Peters Farms,	48.24	301		⇑P		P	00 24 44.9	-0.3
	baz=48									
ELZG	Elazig	48.26	74		*i* P		P	00 24 46.6	+0.9
ELZG	Elazig	48.26	74		*i* P		P	00 24 46.6	+0.9
PTK	Pertek	48.33	74		*e*P		P	00 24 47.3	+1.0
D28A	Regan	48.38	299		⇓P		P	00 24 46.1	-0.3
	baz=48									
A26A	Wade Farm, Ken	48.47	302		⇑P		P	00 24 46.8	-0.2
	baz=48,SNR=8.9									
G30A	Faulkton	48.48	296		⇑P		P	00 24 47.1	0.0
	baz=48									
F29A	Eureka	48.56	297		⇑P		P	00 24 47.7	-0.1
	baz=48									
BRSD	Miller	48.69	295		*e*P		P	00 24 48.3	-0.5
BRSD	Miller	48.69	295		⇓P		P	00 24 48.6	-0.2
	baz=48									
BRSD	Miller	48.69	295		*e*P		P	00 24 48.3	-0.5
DBAD	Bademkaya	48.74	70		*i* P		P	00 24 49.7	+0.4
DBAD	Bademkaya	48.74	70		*i* P		P	00 24 49.7	+0.4
E28A	Huff	48.74	298		⇓P		P	00 24 49.3	+0.1
	baz=48,SNR=5.5									
ARTV	Artvin	48.80	70		*i* P		P	00 24 51.3	+1.4
ARTV	Artvin	48.80	70		*i* P		P	00 24 51.3	+1.4
B26A	Jensen Ranch,	48.83	301		⇑P		P	00 24 49.7	-0.1
	baz=49									
DAGI	Agillar	48.85	70		*i* P		P	00 24 51.0	+0.9
MMAI	Mount Meron Ar	48.86	83		P		P	00 24 50.5	+0.3
MMAI	Mount Meron Ar	48.86	83		P		P	00 24 50.5	+0.3
MMAI	Mount Meron Ar	48.86	83		P		P	00 24 50.5	+0.3
	comp=Z,15nm,1.0s,baz=305,slow=7.8,SNR=8.1									
MMAI					LR		LR	00 47 30.0		
	comp=Z,106nm,19.8s,baz=310,slow=39									
SOKR	Solikamsk	48.87	42		*e*P		P	00 24 50.5	+0.7
SOKR					pmax		pmax			
	comp=Z,10.0nm,0.9s									
SOKR	Solikamsk	48.87	42		*e*P		P	00 24 50.5	+0.7
	comp=Z,10.0nm,0.9s									
G29A	Hoven	48.93	296		⇑P		P	00 24 50.0	-0.6
	baz=49									
D27A	Center	49.00	299		⇑P		P	00 24 51.2	+0.1
	baz=49									
C26A	Wahner Farm, P	49.00	301		⇓P		P	00 24 51.0	-0.1
	baz=49									
ONI	Oni	49.07	67		P		P	00 24 52.9	+1.1
A25A	Svangstu Ranch	49.09	302		⇓P		P	00 24 51.9	+0.2
	baz=49,SNR=11									
YKA	Yellowknife Ar	49.09	322		P		P	00 24 51.0	-0.5
YKA					PcP		PcP	00 26 14.2	-0.7
YKA	Yellowknife Ar	49.09	322		P		P	00 24 51.0	-0.5
	comp=Z,26nm,0.9s									
YKA	Yellowknife Ar	49.09	322		P		P	00 24 51.0	-0.5
	comp=Z,26nm,0.9s,baz=66,slow=7.4,SNR=52									
YKA					PcP		PcP	00 26 14.1	-0.7
	comp=Z,4.5nm,0.9s,baz=72,slow=4.1,SNR=5.2									
EZM	Erzurum	49.09	71		*e*P		P	00 24 53.8	+1.6
BNGB	Bing¶ll	49.12	73		*e*P		P	00 24 53.6	+1.3
F28A	McLaughlin	49.16	298		⇑P		P	00 24 52.2	-0.1
	baz=49									
EPOS	Posof	49.16	69		*i* P		P	00 24 48.1	-4.5
I30A	Oscoma	49.25	295		⇓P		P	00 24 52.7	-0.3
	baz=49									
ZEI	Tsey	49.26	67		*e*P		P	00 24 53.9	+0.5
ZEI					pmax		pmax			
	comp=Z,50nm,1.1s									
ZEI	Tsey	49.26	67		*e*P		P	00 24 53.9	+0.5
	comp=Z,50nm,1.1s									
E27A	Carson	49.34	299		⇑P		P	00 24 53.6	-0.2
	baz=49,SNR=9.3									
H29A	Onida	49.39	296		⇑P		P	00 24 54.0	-0.1
	baz=49									
UALR	University of	49.42	281		*e*P		P	00 24 54.2	-0.2
	comp=Z,38nm,1.4s									
UALR	University of	49.42	281		*e*P		P	00 24 54.2	-0.2
	comp=Z,38nm,1.4s									
B25A	Knox Farm, Ray	49.42	301		⇑P		P	00 24 54.5	+0.2
	baz=49									
ROOS	tl_alroos	49.49	80		*i* P		P	00 24 55.6	+0.6
D26A	Manning	49.58	300		⇓P		P	00 24 55.5	-0.1
	baz=49									
J30A	Dallas	49.58	294		⇑P		P	00 24 55.0	-0.6
	baz=49,SNR=19									
G28A	Parade	49.60	297		⇑P		P	00 24 56.0	+0.2
	baz=49,SNR=6.3									
A24A	Westby	49.61	303		⇓P		P	00 24 55.7	-0.1
	baz=49									
AKH	Akhalkalaki	49.70	69		P		P	00 24 57.9	+1.1
BGNE	Belgrade	49.70	291		*e*P		P	00 24 55.4	-1.1
BGNE	Belgrade	49.70	291		⇑P		P	00 24 55.9	-0.6
	baz=50									
BGNE	Belgrade	49.70	291		*e*P		P	00 24 55.4	-1.1
I29A	Vivian Onida	49.74	295		⇓P		P	00 24 56.6	-0.2
	baz=50,SNR=8.9									
C25A	Freed Ranch, W	49.74	301		⇑P		P	00 24 56.6	-0.2
	baz=50									
L31A	Butterfield Fa	49.75	293		⇓P		P	00 24 56.4	-0.5
	baz=50									
EATA	Eleskirt	49.86	71		*i* P		P	00 24 59.5	+1.4
EATA	Eleskirt	49.86	71		*i* P		P	00 24 59.5	+1.4
H28A	Mission Ridge	49.86	296		⇓P		P	00 24 57.9	+0.1
	baz=50									
E26A	Carlson Angus	49.87	299		⇓P		P	00 24 57.4	-0.4
	baz=50									
F27A	Lemmon	49.89	298		⇑P		P	00 24 58.3	+0.3
	baz=50,SNR=12									
EKAR	Karacoban	49.90	72		*i* P		P	00 25 00.2	+1.9
EKAR	Karacoban	49.90	72		*i* P		P	00 25 00.2	+1.9
KSU1	Kansas State U	49.91	288		*e*P		P	00 24 57.7	-0.4
	comp=Z,91nm,1.0s									
KSU1	Kansas State U	49.91	288		*e*P		P	00 24 57.7	-0.4
	comp=Z,91nm,1.0s									
DGMT	Dagmar	49.94	302		*e*P		P	00 24 58.7	+0.5
	comp=Z,48nm,1.3s									
DGMT	Dagmar	49.94	302		⇓P		P	00 24 57.8	-0.5
	baz=50									
DGMT	Dagmar	49.94	302		*e*P		P	00 24 58.7	+0.5
	comp=Z,48nm,1.3s									
SALA	Sala	49.95	82		*i* P		P	00 24 58.3	-0.4
SALA	Sala	49.95	82		*i* P		P	00 24 58.3	-0.4
	SNR=23									
K30A	Baset	49.99	293		⇓P		P	00 24 58.4	-0.3
	baz=50,SNR=10.0									
D25A	Fairfield	50.05	300		⇓P		P	00 24 59.6	+0.4
	baz=50									
J29A	Okreek	50.07	295		⇑P		P	00 24 59.0	-0.3
	baz=50,SNR=7.5									
G27A	Dupree	50.08	298		⇑P		P	00 24 59.2	-0.2
	baz=50,SNR=14									
A23A	Redstone	50.10	303		⇑P		P	00 24 59.6	+0.1
	baz=50									
KBSD	Kabsdagh	50.11	75		*i* P		P	00 24 57.4	-2.4
KBSD	Kabsdagh	50.11	75		*i* P		P	00 24 57.3	-2.4
	SNR=23									
N32A	Stulken Farm,	50.13	291		⇓P		P	00 24 58.9	-0.9
	baz=50									
EAK	Akyaka	50.15	69		*i* P		P	00 25 00.9	+0.8
EAK	Akyaka	50.15	69		*i* P		P	00 25 00.9	+0.8
ZALF	Zalf	50.24	81		*i* P		P	00 25 01.5	+0.8
ZALF	Zalf	50.24	81		*i* P		P	00 25 01.5	+0.8
	SNR=23									
M31A	Lambtecht Ranc	50.27	292		⇑P		P	00 25 00.4	-0.5
	baz=50									
F26A	Lodgepole	50.30	298		⇓P		P	00 25 00.8	-0.2
	baz=50									
I28A	Midland	50.30	296		⇓P		P	00 25 00.9	-0.2
	baz=50									
TBLG	Delisi	50.33	68		P		P	00 25 02.2	+0.9
AGRB	Hanur-Agry	50.34	71		*e*P		P	00 25 02.8	+1.2
ASF	Jabal al Asfar	50.38	83		P		P	00 25 02.3	+0.5
ASF	Jabal al Asfar	50.38	83		P		P	00 25 02.3	+0.5
	comp=Z,12nm,1.0s,baz=223,slow=2.4,SNR=12									
ASF					LR		LR	00 48 32.0		
	comp=Z,67nm,18.2s,baz=265,slow=39									
O32A	Brockman Farm,	50.38	290		⇓P		P	00 25 00.7	-1.0
	baz=50									
K29A	Lazy Trails An	50.39	294		⇓P		P	00 25 01.4	-0.3
	baz=50									
B23A	Brockton	50.41	302		⇓P		P	00 25 02.6	+0.8
	baz=50,SNR=21									
E25A	Miller Ranch,	50.42	300		⇑P		P	00 25 01.7	-0.2
	baz=50,SNR=5.4									
L30A	Spencer Herefo	50.43	293		⇓P		P	00 25 01.1	-0.9
	baz=50									
P33A	Williams Farm,	50.44	289		⇓P		P	00 25 01.7	-0.4
	baz=50,SNR=10									
N31A	Bailey Ranch,	50.52	291		⇑P		P	00 25 01.8	-1.0
	baz=50									
C24A	Savage	50.52	301		⇑P		P	00 25 03.1	+0.4
	baz=50									
EIL	Elat	50.53	86		P		P	00 25 02.8	-0.1
EIL	Elat	50.53	86		P		P	00 25 02.8	-0.1
EIL	Elat	50.53	86		P		P	00 25 02.8	-0.1
	comp=Z,13nm,0.9s,baz=324,slow=7.1,SNR=13									
EIL					LR		LR	00 48 48.2		
	comp=Z,83nm,18.1s,baz=275,slow=39									
G26A	Maurine	50.53	298		⇑P		P	00 25 01.6	-1.2
	baz=50									
H27A	Howes	50.54	297		⇑P		P	00 25 02.5	-0.4
	baz=50									
J28A	Allard Ranch,	50.63	295		⇓P		P	00 25 03.6	0.0
	baz=50,SNR=14									
A22A	Carney Farms,	50.69	303		⇑P		P	00 25 03.9	0.0
	baz=50,SNR=13									
F25A	Bowman	50.74	299		⇓P		P	00 25 03.5	-0.8
	baz=50									
M30A	Dale-Ortello V	50.74	292		⇑P		P	00 25 03.4	-1.1
	baz=51									
I27A	Quinn	50.81	296		⇓P		P	00 25 04.4	-0.5
	baz=51,SNR=12									
MZRK	Al-Mazaregh	50.83	76		*i* P		P	00 25 04.2	-0.9
MZRK	Al-Mazaregh	50.83	76		*i* P		P	00 25 04.2	-0.9
	SNR=23									
C23A	Lambert	50.84	302		⇑P		P	00 25 05.4	+0.3
	baz=51									
L29A	Maesberg Ranch	50.85	293		⇑P		P	00 25 04.8	-0.5
	baz=51									
DGRG	David-gareji	50.89	68		P		P	00 25 07.2	+1.7
E24A	Baker	50.93	300		⇑P		P	00 25 05.9	0.0
	baz=51									
P32A	Huiting Farm,	50.93	290		⇑P		P	00 25 04.8	-1.1
	baz=51,SNR=6.4									
H26A	Fairpoint	50.98	297		⇓P		P	00 25 05.4	-0.8
	baz=51									
B22A	Reddig Ranch S	51.07	303		⇓P		P	00 25 07.0	+0.1
	baz=51,SNR=11									
K28A	Ten Mile Ranch	51.08	294		⇓P		P	00 25 06.4	-0.6
	baz=51									
G25A	Newell	51.08	298		⇓P		P	00 25 06.1	-0.9
	baz=51									
ARU	Arti	51.10	45		*c i*P		P	00 25 06.6	-0.2
ARU					*c*			00 27 02.6		
ARU					S		S	00 32 26.7	+3.4
ARU					SS		SS	00 35 59.0	+1.1
ARU					pmax		pmax			
	comp=Z,26nm,1.0s									
ARU	Arti	51.10	45		P		P	00 25 06.0	-0.8
	comp=Z,143nm,0.9s,SNR=10									
ARU	Arti	51.10	45		*i* P		P	00 25 06.6	-0.2
	comp=Z,26nm,1.0s									
ARU					S		S	00 32 26.7	+3.4
TUL1	Tulsa	51.11	284		*e*P		P	00 25 06.3	-0.9
TUL1	Tulsa	51.11	284		⇑P		P	00 25 06.1	-1.1
	baz=51,SNR=19									
TUL1	Tulsa	51.11	284		*e*P		P	00 25 06.3	-0.9
O31A	Woolen Ranch,	51.12	291		⇑P		P	00 25 06.4	-0.9
	baz=51									
D23A	Lindsay	51.16	301		⇑P		P	00 25 07.9	+0.4
	baz=51									
GNI	Garni	51.17	69		*e*P		P	00 25 08.5	+0.7
GNI					*e*PcP		PcP	00 26 22.8	-0.3
GNI					LR		LR			
	comp=Z,302nm,19.0s									
GNI	Garni	51.17	69		*i* P		P	00 25 07.8	0.0
	comp=Z,23nm,1.2s									
GNI	Garni	51.17	69		P		P	00 25 08.3	+0.5
	comp=Z,12nm,0.9s,baz=358,slow=7.3,SNR=13									
J27A	Elkhorn Farm,	51.20	295		⇑P		P	00 25 07.9	0.0
	baz=51									
A21A	Bergtoll Ranch	51.27	304		⇓P		P	00 25 07.9	-0.4
	baz=51,SNR=9.0									
N30A	Hueftle Ranch,	51.28	292		⇓P		P	00 25 07.6	-0.9
	baz=51									
C22A	Vida	51.28	302		⇓P		P	00 25 07.7	-0.7
	baz=51,SNR=5.4									
I26A	New Underwood	51.33	297		⇓P		P	00 25 08.0	-0.8
	baz=51									
F24A	Ekalaka	51.37	299		⇓P		P	00 25 08.9	-0.2
	baz=51									
H25A	Fruitdale	51.48	298		⇓P		P	00 25 09.2	-0.8
	baz=51									
P31A	Stockton	51.49	290		⇓P		P	00 25 09.1	-1.0
	baz=51,SNR=5.4									
L28A	Connealy Angus	51.54	294		⇓P		P	00 25 09.7	-0.8
	baz=51									
O30A	MW Ranch, Wils	51.58	291		⇑P		P	00 25 09.6	-1.1
	baz=51,SNR=16									
B21A	Ellsworth Farm	51.60	303		⇓P		P	00 25 10.8	0.0
	baz=51,SNR=7.1									
N29A	Votaw Ranch, W	51.60	292		⇑P		P	00 25 09.6	-1.3
	baz=51									
G24A	Alzada	51.62	299		⇑P		P	00 25 10.2	-0.9
	baz=51,SNR=7.0									
K27A	Flueck

baz=52,SNR=7.0
L26A Underwood Farm 52.51 294 ⇓P P 00 25 16.9 -0.8
baz=52
C20A Veseth Ranch, 52.53 303 ⇑P P 00 25 17.2 -0.5
baz=52,SNR=17
SDV Santo Domingo 52.54 239 eP P 00 25 20.2 +1.9
comp=Z,20nm,0.9s
SDV Santo Domingo 52.54 239 eP P 00 25 20.2 +1.9
comp=Z,20nm,0.9s
IMRD Marand 52.57 70 eP P 00 25 18.0 -0.3
IMRD Marand 52.57 70 eP P 00 25 18.0 -0.3
E21A Keefer Ranch, 52.59 301 ⇑P P 00 25 18.2 0.0
baz=52
S31A Mullinville 52.61 288 ⇑P P 00 25 17.5 -0.9
baz=52,SNR=5.7
H23A Clabaugh Cattl 52.61 298 ⇓P P 00 25 17.6 -0.9
baz=52
B19A Brinkman Farms 52.70 304 ⇓P P 00 25 18.7 -0.3
baz=52,SNR=22
K25A Mack Ranch, Ha 52.70 296 ⇑P P 00 25 19.1 -0.1
baz=52
EDM Edmonton 52.71 311 eP P 00 25 18.5 -0.4
EDM Edmonton 52.71 311 eP P 00 25 18.5 -0.4
EDM Edmonton 52.71 311 eP P 00 25 18.5 -0.4
O28A Krutsinger Ran 52.71 292 ⇓P P 00 25 18.2 -1.0
baz=52
R30A Dighton 52.76 289 ⇑P P 00 25 18.6 -1.0
baz=53,SNR=15
G22A Birney 52.81 299 ⇑P P 00 25 19.5 -0.4
baz=53
J24A Dixon Ranch, L 52.81 297 ⇓P P 00 25 19.1 -0.9
baz=53
N27A Anderson Farm, 52.83 293 ⇑P P 00 25 19.2 -0.9
baz=53,SNR=8.6
M26A McRoberts Ranc 52.86 294 ⇑P P 00 25 20.3 -0.1
baz=53,SNR=9.0
Q29A Oakley 52.88 290 ⇑P P 00 25 19.7 -0.8
baz=53,SNR=14
D20A Manuel Ranch, 52.93 302 ⇑P P 00 25 20.8 +0.1
baz=53,SNR=12
I23A Meade Ranch, G 52.97 298 ⇑P P 00 25 20.8 -0.3
baz=53
F21A Absaloka Mine, 52.99 300 ⇑P P 00 25 20.9 -0.3
baz=53
P28A Saint Francis 53.00 291 ⇑P P 00 25 20.4 -1.0
baz=53
L25A Engebretsen Ra 53.00 295 ⇓P P 00 25 21.2 -0.2
baz=53
T31A Randall Ranch, 53.03 288 ⇓P P 00 25 20.8 -0.7
baz=53,SNR=15
C19A Slack Wire Ran 53.13 303 ⇓P P 00 25 22.0 -0.2
baz=53,SNR=31
O27A Beecher Island 53.13 292 ⇑P P 00 25 21.6 -0.7
baz=53
H22A Clearmont 53.17 299 ⇓P P 00 25 22.1 -0.5
baz=53,SNR=5.4
INK Inuvik 53.22 334 eP P 00 25 21.0 -1.4
INK Inuvik 53.22 334 eP P 00 25 21.0 -1.4
INK Inuvik 53.22 334 P P 00 25 20.0 -2.4
comp=Z,12nm,0.9s,baz=58,slow=7.8,SNR=14
K24A Anderson Ranch 53.23 296 ⇑P P 00 25 22.4 -0.6
baz=53
E20A Meyer Farm, Mu 53.23 302 ⇑P P 00 25 22.8 -0.1
baz=53,SNR=17
S30A Montezuma 53.24 289 ⇓P P 00 25 22.3 -0.8
baz=53
R29A Marienthal 53.24 290 ⇓P P 00 25 22.0 -1.1
baz=53
N26A Koester Ranch, 53.25 293 ⇓P P 00 25 22.5 -0.8
baz=53
J23A Dilts Ranch, B 53.32 297 ⇑P P 00 25 23.5 -0.3
baz=53
D19A Cripps Ranch, 53.33 303 ⇑P P 00 25 23.2 -0.4
baz=53,SNR=16
Q28A Sharon Springs 53.34 291 ⇓P P 00 25 23.0 -0.8
baz=53
G21A Lodge Grass 53.36 300 ⇑P P 00 25 23.5 -0.4
baz=53,SNR=9.6
EGMT Eagleton 53.38 304 eP P 00 25 23.9 -0.1
EGMT Eagleton 53.38 304 ⇓P P 00 25 23.6 -0.4
baz=53,SNR=21
EGMT Eagleton 53.38 304 eP P 00 25 23.9 -0.1
M25A Palm-Egli Farm 53.45 294 ⇑P P 00 25 23.9 -0.9
baz=53
P27A Ficken Ranch, 53.54 292 ⇑P P 00 25 24.4 -1.0
baz=53
U31A Nine Bar Ranch 53.55 287 ⇑P P 00 25 24.8 -0.7
baz=53
H21A Big Horn, Sher 53.57 299 ⇓P P 00 25 24.9 -0.7
baz=53,SNR=5.2
F20A Billings 53.61 301 ⇑P P 00 25 25.6 -0.2
baz=53,SNR=15
T30A Plains 53.61 288 ⇓P P 00 25 24.9 -0.9
baz=53
I22A 9 Mile Ranch, 53.63 298 ⇑P P 00 25 25.7 -0.3
baz=53,SNR=22
O26A Horse Wrangler 53.63 293 ⇑P P 00 25 25.7 -0.4
baz=53,SNR=10
E19A Rath Farm, Rou 53.64 302 ⇑P P 00 25 25.4 -0.5
baz=53,SNR=14
IHRS Heris 53.67 70 eP P 00 25 25.9 -0.5
IHRS Heris 53.67 70 eP P 00 25 25.9 -0.5
L24A Wheatland 53.67 295 ⇑P P 00 25 25.8 -0.5
baz=54
S29A Ulysses 53.68 289 ⇑P P 00 25 25.9 -0.5
baz=54
K23A Bowen Ranch, D 53.71 297 ⇓P P 00 25 26.4 -0.3
baz=54,SNR=10
R28A Tribune 53.72 290 ⇓P P 00 25 26.0 -0.7
baz=54
WMOK Wichita Mounta 53.78 285 eP P 00 25 26.1 -1.0
WMOK pmax pmax
comp=Z,36nm,1.1s
WMOK Wichita Mounta 53.78 285 eP P 00 25 26.1 -1.0
comp=Z,36nm,1.1s
WMOK Wichita Mounta 53.78 285 eP P 00 25 26.1 -1.0
comp=Z,36nm,1.1s
N25A Grover 53.81 294 ⇑P P 00 25 27.3 -0.1
baz=54
KSCO Kaye Shedlock' 53.88 291 ⇓P P 00 25 27.0 -0.9
baz=54
J22A Midwest 53.88 298 ⇓P P 00 25 26.6 -1.3
baz=54,SNR=15
V31A Spring Creek L 53.89 286 ⇓P P 00 25 27.6 -0.3
baz=54,SNR=15
IBST Bostanabad 53.92 71 eP P 00 25 27.2 -1.1
IBST Bostanabad 53.92 71 eP P 00 25 27.2 -1.1
M24A Cheyenne 53.92 295 ⇑P P 00 25 28.5 +0.3
baz=54,SNR=10
G20A Bridger 53.96 300 ⇑P P 00 25 27.7 -0.7
baz=54,SNR=17
U30A WK&E Inc. Balk 53.99 287 ⇓P P 00 25 28.2 -0.5
baz=54
P26A Davis Ranch, A 54.03 292 ⇓P P 00 25 28.1 -0.9
baz=54
F19A Roth Farm, Mol 54.05 301 ⇑P P 00 25 28.5 -0.6
baz=54,SNR=15
T29A Hugoton 54.06 288 ⇓P P 00 25 28.5 -0.6
baz=54
L23A Garrett 54.11 296 ⇑P P 00 25 28.8 -0.8
baz=54,SNR=8.4
I21A Big Trails, Te 54.16 298 ⇓P P 00 25 28.9 -1.1
baz=54,SNR=23
S28A Manter 54.21 289 ⇑P P 00 25 29.6 -0.6
baz=54
O25A Wiggins 54.22 293 ⇓P P 00 25 29.3 -1.0
baz=54
H20A Greybull 54.23 299 ⇑P P 00 25 29.8 -0.5
baz=54,SNR=26
W31A Holland Ranch, 54.30 286 ⇓P P 00 25 30.3 -0.6
baz=54,SNR=14
N24A Carr 54.31 294 ⇑P P 00 25 31.3 +0.3
baz=54,SNR=5.4
K22A Casper 54.33 297 ⇓P P 00 25 30.5 -0.7
baz=54,SNR=18
ISRB Sarab 54.35 70 eP P 00 25 30.6 -0.8
ISRB Sarab 54.35 70 eP P 00 25 30.6 -0.8
R27A Eads 54.40 290 ⇓P P 00 25 31.3 -0.3
baz=54,SNR=14
PHWY Pilot Hill 54.41 295 eP P 00 25 32.1 +0.2
PHWY Pilot Hill 54.41 295 eP P 00 25 32.1 +0.2
U29A Oasis Ranch, S 54.45 288 ⇑P P 00 25 31.1 -0.8
baz=54
V30A Spur Ranch, Mi 54.46 287 ⇑P P 00 25 31.6 -0.4
baz=54
Q26A Hugo 54.50 291 ⇓P P 00 25 32.3 -0.2
baz=54,SNR=7.8

J21A Lysite 54.51 298 ⇓P P 00 25 31.8 -0.7
baz=54,SNR=7.1
WHTX Lake Whitney 54.51 281 ⇑P P 00 25 32.1 -0.3
baz=54,SNR=26
P25A Willow Gulch B 54.59 292 ⇑P P 00 25 32.5 -0.6
baz=54
I20A Worland 54.60 299 ⇑P P 00 25 32.7 -0.3
baz=54,SNR=16
L22A Ellis Ranch, M 54.61 296 ⇑P P 00 25 33.3 0.0
baz=54,SNR=16
T28A Walsh 54.62 289 ⇑P P 00 25 32.8 -0.4
baz=54,SNR=14
HKT Hockley 54.64 278 eP P 00 25 33.6 +0.4
HKT Hockley 54.64 278 eP P 00 25 33.6 +0.4
HKT Hockley 54.64 278 eP P 00 25 33.6 +0.4
X31A McDonald Ranch 54.65 285 ⇓P P 00 25 33.3 -0.1
baz=54
Y32A R-V Farms, Ver 54.66 284 ⇑P P 00 25 32.9 -0.5
baz=54,SNR=7.5
H19A Powell 54.72 300 ⇓P P 00 25 34.0 0.0
baz=54,SNR=8.8
W30A Crocket Farms 54.72 286 ⇓P P 00 25 33.9 0.0
baz=55
K21A Alcova 54.78 297 ⇓P P 00 25 34.0 -0.5
baz=55,SNR=23
S27A Las Animas 54.80 290 ⇓P P 00 25 33.8 -0.8
baz=55
R26A Arlington 54.81 291 ⇑P P 00 25 34.4 -0.2
baz=55
O24A Longmont 54.82 294 ⇑P P 00 25 34.3 -0.5
baz=55
J20A Shoshoni 54.90 298 ⇓P P 00 25 35.1 -0.2
baz=55,SNR=25
N23A Red Feather La 54.94 295 ⇓P P 00 25 36.0 +0.2
baz=55,SNR=46
V29A Stinnett 54.95 287 ⇓P P 00 25 35.6 0.0
baz=55
Q25A Bedland, Calha 54.98 292 ⇑P P 00 25 35.6 -0.4
baz=55
T27A Campo 55.05 289 ⇑P P 00 25 36.1 -0.3
baz=55,SNR=6.8
P24A Kohler Place, 55.06 293 ⇑P P 00 25 36.4 -0.1
baz=55
M22A Cedar Creek Ra 55.06 296 ⇑P P 00 25 36.3 -0.2
baz=55
I19A Meeteetse 55.07 299 ⇑P P 00 25 36.0 -0.5
baz=55,SNR=14
Z32A Haskell 55.09 284 ⇓P P 00 25 35.9 -0.8
baz=55,SNR=26
U28A Mallet 55.12 288 ⇓P P 00 25 36.6 -0.3
baz=55
H18A Shoshone NF, C 55.12 300 ⇓P P 00 25 36.1 -0.8
baz=55,SNR=18
WALA Waterton Lakes 55.18 307 eP P 00 25 36.4 -0.7
comp=Z,2.8nm,1.0s
WALA eP PcP PcP 00 25 36.6 -1.5
WALA Waterton Lakes 55.18 307 eP P 00 25 36.4 -0.7
comp=Z,2.8nm,1.0s
S26A Kim 55.21 290 ⇑P P 00 25 37.4 -0.2
baz=55,SNR=7.0
H10N2 ASCENSION HYDR 55.21 164 T T 01 24 49.4
baz=350,slow=0.7,SNR=52
H10N3 ASCENSION HYDR 55.22 164 T T 01 24 49.4
baz=350,slow=0.7,SNR=70
L21A Rawlins 55.23 297 ⇑P P 00 25 37.5 -0.2
baz=55,SNR=27
Y31A Rekieta Farm, 55.23 285 ⇓P P 00 25 37.4 -0.2
baz=55,SNR=27
H10N1 ASCENSION HYDR 55.23 164 T T 01 24 50.7
baz=350,slow=0.7,SNR=68
O23A Lake Granby, G 55.30 294 ⇑P P 00 25 38.8 +0.4
baz=55,SNR=6.6
N22A Wattenberg Ran 55.31 295 ⇑P P 00 25 38.6 +0.2
baz=55,SNR=10
IDHR Dehrash 55.32 74 eP P 00 25 37.6 -0.8
IDHR Dehrash 55.32 74 eP P 00 25 37.6 -0.8
ISCO Idaho Springs 55.34 294 eP P 00 25 39.4 +0.7
ISCO Idaho Springs 55.34 294 eP P 00 25 39.4 +0.7
ISCO Idaho Springs 55.34 294 ⇑P P 00 25 38.3 -0.4
baz=55,SNR=19
ISCO Idaho Springs 55.34 294 eP P 00 25 39.4 +0.7
X30A Coker Ranch, T 55.35 286 ⇓P P 00 25 38.4 -0.1
baz=55,SNR=12
M21A Separation Pea 55.42 296 ⇓P P 00 25 39.1 -0.1
baz=55,SNR=45
R25A Fountain Ranch 55.44 291 ⇓P P 00 25 39.2 0.0
baz=55,SNR=5.5
K20A Yellowstone Ra 55.44 298 ⇑P P 00 25 38.4 -0.8
baz=55,SNR=21
AB31 Akbulak array 55.45 53 i P P 00 25 39.2 +0.3
AB31 pmax pmax
comp=Z,27nm,1.1s
AB31 Akbulak array 55.45 53 i P P 00 25 39.2 +0.3
comp=Z,27nm,1.1s
ABKAR Akbulak array 55.45 53 eP P 00 25 39.1 +0.2
comp=Z,19nm,0.9s
ABKAR Akbulak array 55.45 53 eP P 00 25 39.1 +0.2
comp=Z,19nm,0.9s
W29A Amraillo 55.47 287 ⇑P P 00 25 39.8 +0.4
baz=55,SNR=34
V28A Channing 55.48 288 ⇓P P 00 25 39.4 -0.1
baz=55
U27A Thompson Grove 55.48 289 ⇓P P 00 25 38.3 -1.3
baz=55,SNR=17
Q24A Divide 55.52 292 ⇓P P 00 25 39.7 -0.4
baz=55
Z31A Sharp Cattle R 55.53 284 ⇓P P 00 25 39.1 -0.7
baz=55,SNR=22
J19A Crowheart 55.53 299 ⇑P P 00 25 39.3 -0.6
baz=55,SNR=17
ABTX Abilene, Hawle 55.61 283 eP P 00 25 39.2 -1.2
ABTX Abilene, Hawle 55.61 283 ⇑P P 00 25 39.4 -1.0
baz=56,SNR=12
ABTX Abilene, Hawle 55.61 283 eP P 00 25 39.2 -1.2
K19A Abilene Red Bu 55.65 298 ⇑P P 00 25 39.3 -1.5
baz=55,SNR=15
IGHG Ghaleghazi 55.66 74 eP P 00 25 40.0 -0.9
IGHG Ghaleghazi 55.66 74 eP P 00 25 40.0 -0.9
Y30A Stafford Cattl 55.70 285 ⇑P P 00 25 40.6 -0.5
baz=56,SNR=13
IVIS Veis 55.73 74 eP P 00 25 40.2 -1.1
IVIS Veis 55.73 74 eP P 00 25 40.2 -1.1
O22A Kremmling 55.73 294 ⇑P P 00 25 41.4 0.0
baz=56,SNR=6.0
P23A Jefferson 55.73 293 ⇓P P 00 25 42.1 +0.6
baz=56,SNR=20
W28A Vega 55.76 287 ⇑P P 00 25 41.1 -0.4
baz=56
L20A Wamsutter 55.80 297 ⇑P P 00 25 41.9 0.0
baz=56,SNR=25
S25A Robets Cordova 55.81 291 ⇓P P 00 25 42.0 +0.1
baz=56
H17A Grant Village 55.82 301 ⇑P P 00 25 41.8 -0.2
baz=56
V27A Dan Oppiter Fa 55.88 288 ⇓P P 00 25 42.2 -0.1
baz=56
YBMT Yellow Bay 55.89 306 eP P 00 25 41.7 -0.5
comp=Z,19nm,1.1s
YBMT Yellow Bay 55.89 306 eP P 00 25 41.7 -0.5
comp=Z,19nm,1.1s
X29A Tulia 55.90 286 ⇑P P 00 25 42.5 -0.1
baz=56,SNR=7.8
R24A Sanders Place, 55.92 292 ⇓P P 00 25 43.1 +0.4
baz=56,SNR=8.2
SLMT Seeley Lake 55.94 305 eP P 00 25 42.2 -0.5
SLMT Seeley Lake 55.94 305 eP P 00 25 42.2 -0.5
YFT Old Faithful 55.94 301 eP P 00 25 43.8 +0.9
comp=Z,44nm,1.2s
YFT Old Faithful 55.94 301 eP P 00 25 43.8 +0.9
comp=Z,44nm,1.2s
CHMT Chamberlain Mo 55.98 304 eP P 00 25 42.5 -0.6
CHMT Chamberlain Mo 55.98 304 eP P 00 25 42.5 -0.6
Q23A Hartsel 56.00 293 ⇓P P 00 25 43.4 0.0
baz=56,SNR=19
M20A Sweetwater, Wa 56.00 297 ⇑P P 00 25 43.3 0.0
baz=56,SNR=14
BLMT Blacktail Moun 56.00 306 eP P 00 25 42.8 -0.4
BLMT Blacktail Moun 56.00 306 eP P 00 25 42.8 -0.4
232A Coleman 56.06 282 ⇑P P 00 25 42.7 -0.9
baz=56,SNR=52
FLWY Flagg Ranch 56.07 300 eP P 00 25 43.4 -0.4
comp=Z,10.0nm,0.9s
FLWY Flagg Ranch 56.07 300 eP P 00 25 43.4 -0.4
comp=Z,10.0nm,0.9s
SWMT Swartz Lake 56.07 305 eP P 00 25 42.7 -0.9
SWMT Swartz Lake 56.07 305 eP P 00 25 42.7 -0.9
131A Roby 56.08 284 ⇑P P 00 25 43.0 -0.8

baz=56,SNR=5.7
I17A Pilgrim Ck. 56.09 300 ⇑P P 00 25 43.8 -0.1
baz=56
JTMT Jette 56.10 306 eP P 00 25 42.9 -0.9
JTMT Jette 56.10 306 eP P 00 25 42.9 -0.9
T25A Trinidad 56.10 290 ⇑P P 00 25 44.5 +0.4
baz=56,SNR=12
U26A Atchley Ranch, 56.10 289 ⇑P P 00 25 43.8 -0.3
baz=56,SNR=7.9
BW06 Boulder Array 56.12 298 eP P 00 25 43.1 -1.1
comp=Z,14nm,1.1s
BW06 Boulder Array 56.12 298 eP P 00 25 43.1 -1.1
comp=Z,14nm,1.1s
PDAR Pinedale Array 56.12 298 P P 00 25 42.9 -1.2
PDAR Pinedale Array 56.12 298 P P 00 25 42.9 -1.2
PDAR Pinedale Array 56.12 298 P P 00 25 42.9 -1.2
comp=Z,13nm,1.0s,baz=63,slow=7.0,SNR=68
PDAR LR LR 00 47 58.5
comp=Z,504nm,20.3s,baz=62,slow=34
LRM Limekiln Ridge 56.13 303 eP P 00 25 43.9 -0.3
LRM Limekiln Ridge 56.13 303 eP P 00 25 43.9 -0.3
P22A Eagle 56.19 294 ⇓P P 00 25 44.3 -0.4
baz=56
X28A Dimmitt 56.19 286 ⇓P P 00 25 44.5 -0.1
baz=56
Z30A Sanderson Ranc 56.21 285 ⇓P P 00 25 43.9 -0.8
baz=56,SNR=14
Y29A Porterfield Fa 56.23 285 ⇓P P 00 25 44.2 -0.7
baz=56,SNR=9.2
H10S1 ASCENSION HYDR 56.27 165 T T 01 26 10.9
baz=350,slow=0.7,SNR=203
LOHW Long Hollow 56.27 300 eP P 00 25 45.0 -0.2
LOHW Long Hollow 56.27 300 eP P 00 25 45.0 -0.2
H10S3 ASCENSION HYDR 56.28 165 T T 01 26 18.9
baz=350,slow=0.7,SNR=242
O21A Pagoda 56.28 295 ⇑P P 00 25 45.0 -0.4
baz=56
MOOW Moose Ponds 56.28 300 eP P 00 25 45.4 0.0
MOOW Moose Ponds 56.28 300 eP P 00 25 45.3 0.0
H10S2 ASCENSION HYDR 56.29 165 T T 01 26 16.1
baz=350,slow=0.7,SNR=262
IMW Indian Meadow 56.31 300 eP P 00 25 45.5 -0.1
IMW Indian Meadow 56.31 300 eP P 00 25 45.5 -0.1
BSMT Bassoo Peak 56.33 306 eP P 00 25 45.3 -0.2
BSMT Bassoo Peak 56.33 306 eP P 00 25 45.3 -0.2
S24A Houchin Ranch, 56.33 291 ⇑P P 00 25 45.8 +0.1
baz=56
IKOM Komasi 56.37 74 eP P 00 25 44.6 -1.4
IKOM Komasi 56.37 74 eP P 00 25 44.6 -1.4
R23A Moffat 56.40 292 ⇓P P 00 25 46.5 +0.2
baz=56,SNR=8.3
MSO Missoula 56.42 305 eP P 00 25 45.8 -0.3
MSO Missoula 56.42 305 ⇓P P 00 25 45.5 -0.6
baz=56,SNR=26
MSO Missoula 56.42 305 eP P 00 25 45.8 -0.3
N20A Spence Gulch, 56.42 296 ⇓P P 00 25 46.6 +0.3
baz=56,SNR=54
332A Millersview 56.43 282 ⇓P P 00 25 45.4 -0.8
baz=56,SNR=50
W27A Bowe Ranch, En 56.44 287 ⇑P P 00 25 46.1 -0.2
baz=56,SNR=27
SNOW Snow King Moun 56.45 300 eP P 00 25 46.5 0.0
SNOW Snow King Moun 56.45 300 eP P 00 25 46.5 0.0
SDCO Great Sand Dun 56.45 291 eP P 00 25 46.5 -0.1
comp=Z,8.3nm,1.0s
SDCO Great Sand Dun 56.45 291 eP P 00 25 46.5 -0.1
comp=Z,8.3nm,1.0s
DLMT Dillon 56.47 303 eP P 00 25 47.0 +0.5
DLMT Dillon 56.47 303 eP P 00 25 47.0 +0.5
231A Bronte 56.48 283 ⇓P P 00 25 45.6 -1.0
baz=56,SNR=7.7
V26A Tequesquite Ra 56.48 289 ⇑P P 00 25 45.8 -0.9
baz=56,SNR=9.0
130A Snyder 56.52 284 ⇑P P 00 25 46.5 -0.4
baz=56,SNR=11
U25A Circle Dot Ran 56.53 289 ⇓P P 00 25 47.7 +0.6
baz=56,SNR=41
TPAW Teton Pass 56.55 300 eP P 00 25 46.4 -0.9
comp=Z,8.0nm,0.8s
TPAW Teton Pass 56.55 300 eP P 00 25 46.4 -0.9
comp=Z,8.0nm,0.8s
SMCO Snowmass 56.56 294 eP P 00 25 47.6 0.0
SMCO Snowmass 56.56 294 eP P 00 25 47.6 0.0
REDW Red Top Meadow 56.56 300 eP P 00 25 46.6 -0.7
comp=Z,40nm,1.1s
REDW Red Top Meadow 56.56 300 eP P 00 25 46.6 -0.7
comp=Z,40nm,1.1s
Y28A McKinney Farm, 56.59 286 ⇑P P 00 25 46.9 -0.5
baz=56
M19A Rock Springs 56.59 297 ⇑P P 00 25 46.6 -0.9
baz=56
Z29A Hungry Hill Ra 56.61 285 ⇑P P 00 25 46.9 -0.7
baz=56,SNR=36
P21A Newcastle 56.66 294 ⇓P P 00 25 48.5 +0.4
baz=56,SNR=25
Q22A Crested Butte, 56.70 293 ⇓P P 00 25 48.5 0.0
baz=56,SNR=12
X27A F and S Farms, 56.71 287 ⇑P P 00 25 48.2 -0.1
baz=56
432A Menard 56.77 281 ⇑P P 00 25 47.8 -1.0
baz=57,SNR=14
T24B San Luis 56.78 291 ⇑P P 00 25 49.8 +0.8
baz=57,SNR=7.7
S23A Nye Farm, Mont 56.80 292 ⇓P P 00 25 49.2 +0.1
baz=57
O20A White River Ci 56.81 295 ⇑P P 00 25 49.0 0.0
baz=57
IGZV Ghazvin 56.85 70 eP P 00 25 49.7 +0.3
IGZV Ghazvin 56.85 70 eP P 00 25 49.7 +0.3
RRI2 Red Ridge 56.85 300 eP P 00 25 49.4 0.0
RRI2 Red Ridge 56.85 300 eP P 00 25 49.4 0.0
W26A Owens Ranch, T 56.89 288 ⇑P P 00 25 49.4 -0.1
baz=57
L18A Fontenelle, Gr 56.89 298 ⇑P P 00 25 48.8 -0.9
baz=57
MSTX Muleshoe 56.90 286 eP P 00 25 49.5 -0.2
MSTX Muleshoe 56.90 286 ⇑P P 00 25 49.5 -0.2
baz=57,SNR=59
MSTX Muleshoe 56.90 286 eP P 00 25 49.5 -0.2
331A San Angelo 56.94 282 ⇓P P 00 25 49.4 -0.5
baz=57,SNR=13
R22A Saguache, Gunn 56.98 293 ⇑P P 00 25 50.3 -0.1
baz=57
V25A Rancho No Teng 57.00 289 ⇑P P 00 25 50.3 -0.1
baz=57
JCT Junction City 57.02 281 eP P 00 25 49.8 -0.7
JCT Junction City 57.02 281 eP P 00 25 49.8 -0.7
JCT Junction City 57.02 281 P P 00 25 49.5 -0.9
baz=57,SNR=24
JCT Junction City 57.02 281 eP P 00 25 49.8 -0.7
230A Sterling City 57.05 283 ⇑P P 00 25 50.1 -0.5
baz=57,SNR=19
Z28A Tucker Farm, M 57.05 285 ⇓P P 00 25 50.2 -0.5
baz=57,SNR=6.2
U24A Moreno Valley 57.09 290 ⇓P P 00 25 51.7 +0.5
baz=57
129A Stewart Farms, 57.10 284 ⇓P P 00 25 50.2 -0.8
baz=57,SNR=19
Q21A Lamborn Mesa, 57.14 294 ⇑P P 00 25 51.6 +0.1
baz=57,SNR=9.8
Y27A Causey 57.21 286 ⇑P P 00 25 51.4 -0.5
baz=57,SNR=6.6
T23A Casisias Ranch, 57.22 291 ⇑P P 00 25 51.7 -0.4
baz=57
X26A CR and CF Fran 57.24 287 ⇑P P 00 25 51.4 -0.6
baz=57,SNR=7.8
IRAZ Razeghan 57.24 71 eP P 00 25 51.7 -0.5
IRAZ Razeghan 57.24 71 eP P 00 25 51.7 -0.5
O19A Miners Draw (B 57.27 296 ⇓P P 00 25 52.1 -0.1
baz=57,SNR=23
W25A X Bar L Ranch, 57.27 288 ⇓P P 00 25 51.9 -0.4
baz=57,SNR=7.1
P20A De Beque 57.27 295 ⇓P P 00 25 52.1 -0.3
baz=57
S22A 4UR Ranch, Cre 57.31 292 ⇑P P 00 25 52.6 -0.1
baz=57
532A Rocksprings 57.31 281 ⇓P P 00 25 52.0 -0.6
baz=57,SNR=32
330A Mertzon 57.38 283 ⇓P P 00 25 52.4 -0.6
baz=57,SNR=11
NEW Newport 57.39 308 eP P 00 25 52.3 -0.5
NEW Newport 57.39 308 ⇓P P 00 25 51.9 -1.0
baz=57
NEW Newport 57.39 308 eP P 00 25 52.3 -0.5
R21A Cimarron 57.40 293 ⇓P P 00 25 53.4 +0.1
baz=57,SNR=5.8

431A Sonora 57.44 282 ⇑P P 00 25 53.4 -0.1
baz=57,SNR=12
229A Bryant Ranch, 57.47 284 ⇑P P 00 25 53.3 -0.3
baz=57
V24A Rampart Ranch, 57.49 289 ⇑P P 00 25 54.6 +0.6
baz=57,SNR=8.2
128A Castleberry Fa 57.52 285 ⇑P P 00 25 53.7 -0.4
baz=57,SNR=28
Q20A Ridgley Place, 57.53 294 ⇑P P 00 25 54.3 +0.1
baz=57,SNR=14
M17A Scullys Gap (B 57.54 298 ⇑P P 00 25 53.5 -0.7
baz=57,SNR=6.1
P19A Cripple Cowboy 57.56 295 ⇓P P 00 25 54.0 -0.4
baz=57,SNR=6.3
Z27A Tatum 57.59 286 ⇓P P 00 25 54.0 -0.6
baz=57,SNR=14
632A Uvalde 57.61 280 ⇓P P 00 25 54.3 -0.4
baz=58,SNR=34
Y26A Elida 57.62 287 ⇓P P 00 25 54.0 -0.9
baz=58
DLBC Dease Lake 57.71 323 eP P 00 25 55.0 0.0
DLBC Dease Lake 57.71 323 eP P 00 25 55.0 0.0
U23A El Rito 57.73 290 ⇓P P 00 25 57.0 +1.3
baz=58,SNR=6.3
T22A Edith 57.79 291 ⇓P P 00 25 56.4 +0.4
baz=58,SNR=22
430A Baggett Ranch, 57.80 282 ⇑P P 00 25 55.5 -0.5
baz=58,SNR=28
X25A Clemmons Ranch 57.81 288 ⇓P P 00 25 55.9 -0.3
baz=58
329A Wagon Wheel Ra 57.88 283 ⇑P P 00 25 56.2 -0.3
baz=58,SNR=16
W24A Lazy 6 Ranch, 57.89 289 ⇓P P 00 25 57.5 +0.7
baz=58,SNR=20
228A UT Block 9, Go 57.90 284 ⇓P P 00 25 56.0 -0.7
baz=58
IR3 Iran Long-Peri 57.91 71 eP P 00 25 55.9 -0.9
IR3 Iran Long-Peri 57.91 71 eP P 00 25 55.9 -0.9
ROSC El Rosal 57.94 239 P P 00 25 57.9 +0.4
ROSC El Rosal 57.94 239 P P 00 25 57.9 +0.4
ROSC El Rosal 57.94 239 P P 00 25 57.9 +0.4
comp=Z,12nm,0.9s,baz=89,slow=23,SNR=5.1
ROSC LR LR 00 47 02.3
comp=Z,240nm,21.6s,baz=15,slow=32
S21A Coal Bank Pass 57.97 293 ⇑P P 00 25 57.6 +0.1
baz=58,SNR=34
PV15 Paradox Valley 58.01 294 eP P 00 26 00.5 +2.9
R20A Redvale 58.03 293 ⇓P P 00 25 57.7 0.0
baz=58
127A Arkansas Junct 58.07 285 ⇑P P 00 25 57.5 -0.4
baz=58
V23A Ortiz Mt. (NFS 58.08 290 ⇑P P 00 25 58.9 +0.8
baz=58
Z26A Caprock 58.12 286 ⇑P P 00 25 58.0 -0.3
baz=58,SNR=7.6
U22A Llaves 58.13 291 ⇓P P 00 25 58.8 +0.3
baz=58
PV01 Paradox Valley 58.19 293 eP P 00 25 58.1 -0.7
comp=Z,553nm,0.8s
PV01 Paradox Valley 58.19 293 eP P 00 25 58.1 -0.7
comp=Z,553nm,0.8s
Y25A Mesa, Roswell 58.20 287 ⇑P P 00 25 59.0 +0.1
baz=58,SNR=11
T21A Navajo Lake 58.20 292 ⇓P P 00 25 59.2 +0.3
baz=58,SNR=10
631A Perdido Creek 58.21 281 ⇑P P 00 25 58.1 -0.8
baz=58,SNR=12
732A Laxson Ranch, 58.23 280 ⇑P P 00 25 58.5 -0.4
baz=58,SNR=7.6
S20A Disappointment 58.23 293 ⇑P P 00 25 59.4 +0.2
baz=58
530A J-C Ranch, Com 58.27 282 ⇓P P 00 25 58.6 -0.7
baz=58,SNR=48
C09A Chrisman Ranch 58.29 308 eP P 00 25 58.4 -0.7
C09A Chrisman Ranch 58.29 308 eP P 00 25 58.4 -0.7
X24A Lazy VL Ranch, 58.30 288 ⇑P P 00 25 59.5 -0.1
baz=58
429A Davenport Ranc 58.35 283 ⇑P P 00 25 59.2 -0.6
baz=58,SNR=12
W23A Werner Place, 58.41 289 ⇑P P 00 26 00.7 +0.3
baz=58
227A Bennet, Jal 58.43 285 ⇓P P 00 26 00.7 +0.3
baz=58
V22A San Miguel Ran 58.45 290 ⇑P P 00 26 01.5 +0.8
baz=58,SNR=7.7
328A Wristen Ranch, 58.50 284 ⇑P P 00 25 60.0 -0.9
baz=58,SNR=10
IDMV Damavand 58.51 70 eP P 00 26 00.8 -0.4
IDMV Damavand 58.51 70 eP P 00 26 00.8 -0.4
DAU Daniels Canyon 58.52 297 eP P 00 26 01.3 +0.1
DAU Daniels Canyon 58.52 297 eP P 00 26 01.3 +0.1
DAU Daniels Canyon 58.52 297 eP P 00 26 01.3 +0.1
126A Clayton Basin, 58.53 286 ⇑P P 00 26 00.4 -0.8
baz=58
B08A Colville Reser 58.54 309 P P 00 25 59.9 -1.0
B08A Colville Reser 58.54 309 P P 00 25 59.9 -1.0
HLID Hailey 58.57 302 eP P 00 26 01.7 +0.4
HLID Hailey 58.57 302 ⇑P P 00 26 01.4 +0.1
baz=58,SNR=28
HLID Hailey 58.57 302 eP P 00 26 01.7 +0.4
Z25A Roswell 58.60 287 ⇓P P 00 26 02.0 +0.3
baz=58,SNR=20
U21A Nageezi 58.62 291 ⇑P P 00 26 02.0 +0.1
baz=58,SNR=8.3
BRVK Borovoye 58.64 44 *c iP* P 00 26 01.9 +0.5
BRVK pmax pmax
comp=Z,18nm,0.8s
BRVK Borovoye 58.64 44 P P 00 26 02.2 +0.8
SNR=13
BRVK Borovoye 58.64 44 P P 00 26 02.3 +0.8
comp=Z,123nm,1.0s,SNR=14
BRVK Borovoye 58.64 44 eP P 00 26 01.4 0.0
comp=Z,27nm,1.0s
BRVK LR LR
comp=Z,318nm,19.0s
BRVK Borovoye 58.64 44 eP P 00 26 01.4 0.0
comp=Z,27nm,1.0s
HVU Hansel Valley 58.64 299 eP P 00 26 01.0 -0.8
HVU pmax pmax
comp=Z,104nm,2.1s
HVU Hansel Valley 58.64 299 eP P 00 26 01.0 -0.8
comp=Z,104nm,2.1s
HVU Hansel Valley 58.64 299 eP P 00 26 01.0 -0.8
comp=Z,104nm,2.1s
IVRN Varamin 58.66 71 eP P 00 26 02.0 0.0
IVRN Varamin 58.66 71 eP P 00 26 02.0 0.0
Y24A Capitan 58.69 288 ⇓P P 00 26 02.6 +0.3
baz=58,SNR=18
MVCO Mesa Verde 58.69 293 eP P 00 26 03.6 +1.2
MVCO Mesa Verde 58.69 293 ⇓P P 00 26 03.0 +0.6
baz=58,SNR=6.7
MVCO Mesa Verde 58.69 293 eP P 00 26 03.6 +1.2
BVA0 Borovoye Array 58.71 44 *i* P P 00 26 02.1 +0.2
BVA0 pmax pmax
comp=Z,22nm,1.2s
BVA0 Borovoye Array 58.71 44 *i* P P 00 26 02.1 +0.2
comp=Z,22nm,1.2s
IALA Alasht 58.71 69 eP P 00 26 03.0 +0.4
IALA Alasht 58.71 69 eP P 00 26 03.0 +0.4
SPUT South Promonto 58.72 299 eP P 00 26 02.5 +0.1
comp=Z,29nm,1.3s
SPUT South Promonto 58.72 299 eP P 00 26 02.5 +0.1
comp=Z,28nm,1.3s
COLD Coldfoot 58.73 338 eP P 00 26 01.9 0.0
comp=Z,14nm,1.1s
COLD Coldfoot 58.73 338 eP P 00 26 01.9 0.0
comp=Z,14nm,1.1s
ANMO Albuquerque 58.74 289 eP P 00 26 02.9 +0.2
comp=Z,8.9nm,0.9s
ANMO Albuquerque 58.74 289 eP P 00 26 02.9 +0.2
comp=Z,8.9nm,0.9s
X23A Hourglass Bar 58.78 289 ⇑P P 00 26 03.7 +0.7
baz=59,SNR=12
428A Kincaid Ranch, 58.82 283 ⇑P P 00 26 02.8 -0.3
baz=59,SNR=28
529A Stev Forest Ra 58.88 282 ⇑P P 00 26 02.9 -0.6
baz=59,SNR=30
W22A Albuquerque 58.93 290 ⇑P P 00 26 03.5 -0.5
baz=59
125A Gardner Draw, 58.95 286 ⇑P P 00 26 04.0 -0.1
baz=59,SNR=22
327A Balmorhea Ranc 58.96 284 ⇓P P 00 26 04.1 -0.1
baz=59
226B Tecolote Peak, 58.98 285 ⇓P P 00 26 04.2 0.0
baz=59,SNR=38
V21A Milan 58.98 291 ⇓P P 00 26 04.3 -0.1
baz=59

Z24A Sheeppen Canyo 59.00 287 ⇑P P 00 26 04.8 +0.3
baz=59,SNR=11
GDL2 Guadalupe Moun 59.03 286 eP P 00 26 05.5 +0.8
GDL2 Guadalupe Moun 59.03 286 eP P 00 26 05.5 +0.8
Y23A Lovelace Mesa, 59.09 288 ⇓P P 00 26 05.3 +0.2
baz=59,SNR=12
IGLO Ghaloghah 59.11 68 eP P 00 26 06.2 +0.9
TMUT Trail Mountain 59.15 296 eP P 00 26 05.8 +0.2
comp=Z,27nm,0.8s
TMUT Trail Mountain 59.15 296 eP P 00 26 05.8 +0.2
comp=Z,27nm,0.8s
HYT Haines Junctio 59.16 328 eP P 00 26 06.1 +1.0
HYT Haines Junctio 59.16 328 eP P 00 26 06.1 +1.0
VOSK Vostochnaya 59.17 44 P P 00 26 04.9 -0.3
VOSK pmax pmax
comp=Z,15nm,1.0s
VOSK Vostochnaya 59.17 44 P P 00 26 04.9 -0.3
comp=Z,15nm,1.0s
ISHM Shahmirzad 59.19 69 eP P 00 26 06.0 +0.1
ISHM Shahmirzad 59.19 69 eP P 00 26 06.0 +0.1
U20A Newcomb 59.21 292 ⇑P P 00 26 06.3 +0.5
baz=59,SNR=11
427A Hayter Ranch, 59.23 284 ⇑P P 00 26 05.5 -0.5
baz=59,SNR=28
ILAS Lasjerd 59.23 70 eP P 00 26 06.9 +0.8
ILAS Lasjerd 59.23 70 eP P 00 26 06.9 +0.8
LPM Los Pinos Moun 59.24 289 eP P 00 26 07.3 +1.2
LPM Los Pinos Moun 59.24 289 eP P 00 26 07.3 +1.2
528A Cox Ranch, San 59.24 283 ⇑P P 00 26 05.8 -0.3
baz=59,SNR=40
BGU Big Grassy Mou 59.30 299 eP P 00 26 05.8 -0.6
comp=Z,20nm,1.3s
BGU Big Grassy Mou 59.30 299 eP P 00 26 05.8 -0.6
comp=Z,20nm,1.3s
326A Caldwell Ranch 59.32 284 ⇑P P 00 26 06.9 +0.3
baz=59,SNR=21
BNM Barren Site 59.33 289 eP P 00 26 07.9 +1.0
comp=Z,25nm,1.2s
BNM Barren Site 59.33 289 eP P 00 26 07.9 +1.0
comp=Z,25nm,1.2s
Q16A Castle Valley 59.36 296 eP P 00 26 06.4 -0.5
Q16A Castle Valley 59.36 296 ⇓P P 00 26 06.9 0.0
baz=59,SNR=6.7
Q16A Castle Valley 59.36 296 eP P 00 26 06.4 -0.5
X22A Bernardo 59.37 289 ⇓P P 00 26 06.9 -0.1
baz=59
ISFB Sefidab 59.39 71 eP P 00 26 06.6 -0.4
ISFB Sefidab 59.39 71 eP P 00 26 06.6 -0.4
225A Deer Hill, Car 59.39 286 ⇑P P 00 26 07.2 0.0
baz=59,SNR=7.8
W21A San Fidel 59.41 290 ⇑P P 00 26 07.4 +0.1
baz=59
124A Stringfield Ra 59.45 287 ⇓P P 00 26 08.0 +0.3
baz=59,SNR=31
BMO Blue Mountains 59.48 304 eP P 00 26 06.2 -1.4
comp=Z,14nm,1.0s
BMO Blue Mountains 59.48 304 eP P 00 26 06.2 -1.4
comp=Z,14nm,1.0s
MFID Camas Ranch 59.48 302 ⇑P P 00 26 07.5 -0.1
baz=59
V20A Brimhall 59.52 291 ⇓P P 00 26 08.2 +0.1
baz=59
ETW Entiat 59.52 308 P P 00 26 06.3 -1.6
ETW Entiat 59.52 308 P P 00 26 06.3 -1.6
Y22D IRIS PASSCAL I 59.57 289 ⇓P P 00 26 08.6 +0.2
baz=59
IKLH Kolahrood 59.59 72 eP P 00 26 07.3 -1.3
IKLH Kolahrood 59.59 72 eP P 00 26 07.3 -1.3
ILAR Eielson Array 59.59 334 P P 00 26 07.5 -0.3
ILAR Eielson Array 59.59 334 P P 00 26 07.6 -0.3
comp=Z,3.0nm,1.0s
ILAR Eielson Array 59.59 334 P P 00 26 07.5 -0.3
comp=Z,3.3nm,1.0s,baz=41,slow=4.8,SNR=25
ILAR LR LR 00 50 38.0
comp=Z,330nm,19.1s,baz=321,slow=35
DUG Dugway 59.60 298 eP P 00 26 08.5 0.0
DUG pmax pmax
comp=Z,26nm,0.9s
DUG Dugway 59.60 298 eP P 00 26 08.5 0.0
comp=Z,26nm,0.9s
DUG Dugway 59.60 298 ⇑P P 00 26 08.5 0.0
baz=59,SNR=31
DUG Dugway 59.60 298 eP P 00 26 08.5 0.0
comp=Z,26nm,0.9s
Z23A Rita Site, Whi 59.62 288 ⇑P P 00 26 09.3 +0.6
baz=59,SNR=8.9
Y22A Socorro 59.68 289 ⇑P P 00 26 09.8 +0.6
baz=60,SNR=14
628A Black Gap, Mar 59.73 282 ⇑P P 00 26 09.3 -0.1
baz=60,SNR=16
426A McDonald Obser 59.76 284 ⇑P P 00 26 09.8 0.0
baz=60,SNR=50
IANJ Anjilo 59.79 69 eP P 00 26 09.9 -0.1
IANJ Anjilo 59.79 69 eP P 00 26 09.9 -0.1
527A Woodward Ranch 59.81 283 ⇓P P 00 26 10.1 0.0
baz=60,SNR=63
HAWA Hanford 59.81 307 eP P 00 26 08.1 -1.6
comp=Z,26nm,1.1s
HAWA Hanford 59.81 307 eP P 00 26 08.1 -1.6
comp=Z,26nm,1.1s
224A Cornudas Mount 59.88 286 ⇑P P 00 26 10.3 -0.2
baz=60,SNR=20
X21A Alamocita Cree 59.91 290 ⇑P P 00 26 12.0 +1.2
baz=60,SNR=21
TBM Table Mountain 59.93 308 P P 00 26 09.7 -0.9
TBM Table Mountain 59.93 308 P P 00 26 09.7 -0.9
325A Bean Ranch, Si 59.95 285 ⇓P P 00 26 10.7 -0.3
baz=60,SNR=9.4
W20A Ramah 59.95 291 ⇑P P 00 26 11.3 +0.2
baz=60
MNTX Cornudas Mount 60.02 286 eP P 00 26 11.0 -0.4
comp=Z,12nm,1.4s
MNTX Cornudas Mount 60.02 286 eP P 00 26 11.0 -0.4
comp=Z,12nm,1.4s
123A Bell Site, Whi 60.02 287 ⇓P P 00 26 11.8 +0.3
baz=60
627A Terlingua Ranc 60.09 282 ⇓P P 00 26 12.2 +0.2
baz=60,SNR=96
TWW Teanaway 60.10 308 P P 00 26 11.2 -0.5
TWW Teanaway 60.10 308 P P 00 26 11.2 -0.5
Z22A Elephant Butte 60.10 288 ⇓P P 00 26 12.3 +0.2
baz=60,SNR=14
Y21A Point of Rocks 60.10 289 ⇓P P 00 26 13.1 +1.0
baz=60,SNR=8.2
526A Mary Lane Ranc 60.18 283 ⇑P P 00 26 13.0 +0.4
baz=60,SNR=32
324A Moseley Ranch, 60.25 286 ⇓P P 00 26 12.6 -0.4
baz=60,SNR=12
MVU Marysvale 60.26 296 eP P 00 26 13.3 +0.2
comp=Z,20nm,0.9s
MVU Marysvale 60.26 296 eP P 00 26 13.3 +0.2
comp=Z,20nm,0.9s
X20A Quemado 60.31 290 ⇓P P 00 26 14.2 +0.6
baz=60
425A Indio Mountain 60.33 285 ⇑P P 00 26 13.1 -0.5
baz=60,SNR=27
IZEF Zefreh 60.34 72 eP P 00 26 12.6 -1.2
IZEF Zefreh 60.34 72 eP P 00 26 12.6 -1.2
TXAR Lajitas Array 60.35 283 P P 00 26 13.8 0.0
TXAR Lajitas Array 60.35 283 P P 00 26 13.8 0.0
comp=Z,972nm,18.4s
TXAR Lajitas Array 60.35 283 P P 00 26 13.8 0.0
comp=Z,12nm,0.8s,baz=68,slow=5.9,SNR=104
TXAR LR LR 00 52 20.8
comp=Z,972nm,18.4s,baz=0.0,slow=36
122A Conniff Cattle 60.47 288 ⇑P P 00 26 15.6 +1.0
baz=60
IMA2 Indian Mountai 60.52 338 eP P 00 26 14.1 -0.3
IMA2 Indian Mountai 60.52 338 eP P 00 26 14.1 -0.3
223A Chaparral, Ant 60.52 287 ⇓P P 00 26 14.9 -0.1
baz=60
626A Big Bend Ranch 60.53 283 ⇓P P 00 26 15.2 +0.2
baz=60,SNR=45
Z21A St. Cloud Mine 60.53 289 ⇑P P 00 26 16.0 +0.9
baz=60,SNR=5.8
IM04 Indian Mountai 60.62 338 eP P 00 26 14.5 -0.4
IM04 Indian Mountai 60.62 338 eP P 00 26 14.5 -0.4
Y20A Horse Springs, 60.62 289 ⇓P P 00 26 16.3 +0.6
baz=60,SNR=9.2
WPW White Pass 60.73 308 P P 00 26 15.2 -0.9
WPW White Pass 60.73 308 P P 00 26 15.2 -0.9
ELK Elko 60.74 300 eP P 00 26 16.5 0.0
comp=Z,23nm,1.4s
ELK Elko 60.74 300 eP P 00 26 16.5 0.0
comp=Z,23nm,1.4s
W18A Petrified Fore 60.76 291 eP P 00 26 16.8 +0.2

W18A Petrified Fore 60.76 291 ⇓P P 00 26 16.7 +0.1
baz=61
W18A Petrified Fore 60.76 291 eP P 00 26 16.8 +0.2
LON Longmire 60.84 308 eP P 00 26 15.3 -1.5
LON pmax pmax
comp=Z,17nm,1.2s
LON Longmire 60.84 308 eP P 00 26 15.3 -1.5
comp=Z,17nm,1.2s
LON Longmire 60.84 308 eP P 00 26 15.3 -1.5
comp=Z,17nm,1.2s
TIXI Tiksi 61.02 8 ⇑*iP* P 00 26 18.8 +1.3
TIXI pmax pmax
comp=Z,33nm,1.2s
TIXI Tiksi 61.02 8 *i* P P 00 26 18.8 +1.3
comp=Z,33nm,1.2s
121A Cookes Peak, D 61.09 288 ⇑P P 00 26 19.6 +0.7
baz=61,SNR=16
Z20A Nine Sixteen R 61.26 289 ⇓P P 00 26 20.8 +0.8
baz=61,SNR=8.9
X18A Snowflake 61.26 291 ⇓P P 00 26 20.0 0.0
baz=61
BPAW Bear Paw Mtn. 61.29 335 eP P 00 26 19.3 -0.2
comp=Z,11nm,1.0s
BPAW Bear Paw Mtn. 61.29 335 eP P 00 26 19.3 -0.2
comp=Z,11nm,1.0s
221A Mesquite Ranch 61.42 287 ⇓P P 00 26 21.5 +0.5
baz=61
NLWA Neilton Lookou 61.55 310 eP P 00 26 21.8 +0.2
NLWA Neilton Lookou 61.55 310 eP P 00 26 21.8 +0.2
CCUT Cedar City 61.56 296 eP P 00 26 21.4 -0.6
comp=Z,27nm,1.0s
CCUT Cedar City 61.56 296 eP P 00 26 21.4 -0.6
comp=Z,27nm,1.0s
WUAZ Wupatki 61.56 293 eP P 00 26 22.2 +0.3
comp=Z,28nm,1.2s
WUAZ Wupatki 61.56 293 ⇑P P 00 26 22.3 +0.3
baz=61,SNR=8.6
WUAZ Wupatki 61.56 293 eP P 00 26 22.2 +0.3
comp=Z,28nm,1.2s
TRF Thorofare Moun 61.57 335 eP P 00 26 20.9 -0.7
comp=Z,13nm,0.9s
TRF Thorofare Moun 61.57 335 eP P 00 26 20.9 -0.7
comp=Z,13nm,0.9s
U15A North Rim 61.58 294 ⇓P P 00 26 22.2 -0.1
baz=61,SNR=16
BMRM Bremner River 61.59 330 eP P 00 26 21.3 -0.3
comp=Z,13nm,0.9s
BMRM Bremner River 61.59 330 eP P 00 26 21.3 -0.3
comp=Z,13nm,0.9s
LVP Lakeview Peak 61.59 308 P P 00 26 20.7 -1.2
LVP Lakeview Peak 61.59 308 P P 00 26 20.7 -1.2
IEMG Emamgholi 61.61 65 eP P 00 26 22.8 +0.4
IEMG Emamgholi 61.61 65 eP P 00 26 22.8 +0.4
120A U Bar Ranch, L 61.64 288 ⇑P P 00 26 23.4 +0.9
baz=62,SNR=11
RAYN Ar Rayn 61.70 85 P P 00 26 22.4 -0.5
comp=Z,93nm,0.9s,SNR=12
WVOR Wild Horse Val 61.72 303 eP P 00 26 23.0 +0.1
WVOR pmax pmax
comp=Z,38nm,1.0s
WVOR Wild Horse Val 61.72 303 eP P 00 26 23.0 +0.1
comp=Z,38nm,1.0s
WVOR Wild Horse Val 61.72 303 eP P 00 26 23.0 +0.1
comp=Z,38nm,1.0s
ISAD Sadrabad 61.85 72 eP P 00 26 23.1 -1.0
ISAD Sadrabad 61.85 72 eP P 00 26 23.1 -1.0
IKAZ Kazeroun 61.98 75 eP P 00 26 25.0 0.0
IKAZ Kazeroun 61.98 75 eP P 00 26 25.0 0.0
220A Playas Peak, P 61.98 288 ⇑P P 00 26 25.4 +0.6
baz=62,SNR=15
ICHK Chekchek 62.12 72 eP P 00 26 24.8 -1.0
ICHK Chekchek 62.12 72 eP P 00 26 24.8 -1.0
BMN Battle Mountai 62.13 300 eP P 00 26 25.6 -0.1
BMN pmax pmax
comp=Z,19nm,1.0s
BMN Battle Mountai 62.13 300 eP P 00 26 25.6 -0.1
comp=Z,19nm,1.0s
BMN Battle Mountai 62.13 300 eP P 00 26 25.6 -0.1
comp=Z,19nm,1.0s
IAKL Akhelmad 62.18 65 eP P 00 26 25.4 -0.9
X16A Lo Mia Camp, P 62.29 292 ⇓P P 00 26 27.9 +1.0
baz=62,SNR=10
320A Kipp Ranch, An 62.34 287 ⇓P P 00 26 28.0 +0.8
baz=62,SNR=9.5
R11A Troy Canyon, C 62.44 298 eP P 00 26 27.2 -0.6
R11A Troy Canyon, C 62.44 298 ⇓P P 00 26 27.5 -0.3
baz=62,SNR=15
R11A Troy Canyon, C 62.44 298 eP P 00 26 27.2 -0.6
IPAR Pars 62.74 74 eP P 00 26 30.8 +0.7
IPAR Pars 62.74 74 eP P 00 26 30.8 +0.7
IMEH Mehriz 62.79 72 eP P 00 26 29.4 -1.0
IMEH Mehriz 62.79 72 eP P 00 26 29.4 -1.0
319A Douglas 62.81 288 ⇓P P 00 26 31.3 +0.9
baz=63,SNR=7.1
MOD Modoc 63.02 303 eP P 00 26 31.3 -0.3
comp=Z,120nm,1.0s
MOD Modoc 63.02 303 eP P 00 26 31.3 -0.3
comp=Z,120nm,1.0s
ISRV Sarvestan 63.08 75 eP P 00 26 31.4 -1.0
ISRV Sarvestan 63.08 75 eP P 00 26 31.4 -1.0
TUC Tucson 63.20 290 eP P 00 26 31.8 -1.1
TUC pmax pmax
comp=Z,15nm,1.2s
TUC Tucson 63.20 290 eP P 00 26 31.8 -1.1
comp=Z,15nm,1.2s
TUC Tucson 63.20 290 eP P 00 26 31.8 -1.1
comp=Z,15nm,1.2s
IBAF Bafgh 63.29 71 eP P 00 26 33.3 -0.3
IBAF Bafgh 63.29 71 eP P 00 26 33.3 -0.3
NVS Novosibirsk 63.35 37 *i* P P 00 26 33.8 +0.4
NVS pmax pmax
comp=Z,44nm,1.9s
NVS Novosibirsk 63.35 37 *i* P P 00 26 33.8 +0.4
comp=Z,44nm,1.9s
W13A Hualapai Mount 63.42 294 ⇑P P 00 26 34.1 -0.3
baz=63
Y14A Wickenburg 63.60 292 ⇓P P 00 26 35.9 +0.4
baz=63,SNR=7.0
SAML Samuel 63.75 220 eP P 00 26 35.9 -0.6
comp=Z,7.7nm,1.1s
SAML Samuel 63.75 220 eP P 00 26 35.9 -0.6
comp=Z,7.7nm,1.1s
PAHR Pah Rah Range 63.87 301 eP P 00 26 37.0 -0.3
comp=Z,40nm,1.3s
PAHR Pah Rah Range 63.87 301 eP P 00 26 37.0 -0.3
comp=Z,40nm,1.3s
Z14A Wintersburg 63.93 292 ⇑P P 00 26 37.9 +0.4
baz=64
NVAR Mina Array Bea 64.04 299 P P 00 26 38.0 -0.5
NVAR Mina Array Bea 64.04 299 P P 00 26 38.0 -0.5
NVAR Mina Array Bea 64.04 299 P P 00 26 38.0 -0.5
comp=Z,2.8nm,0.8s,baz=46,slow=5.3,SNR=22
NVAR LR LR 00 53 12.4
comp=Z,392nm,19.8s,baz=289,slow=35
OTAV Otavalo 64.08 240 eP P 00 26 39.3 +0.1
comp=Z,13nm,1.0s
OTAV Otavalo 64.08 240 eP P 00 26 39.3 +0.1
comp=Z,13nm,1.0s
HUMO Hull Mountain 64.09 305 eP P 00 26 36.8 -1.7
comp=Z,7.8nm,0.9s
HUMO Hull Mountain 64.09 305 eP P 00 26 36.8 -1.7
comp=Z,7.8nm,0.9s
PDMCI Parker Dam,Lak 64.09 293 ⇑P P 00 26 39.1 +0.5
baz=64,SNR=7.3
KURK Kurchatov 64.11 43 *c iP* P 00 26 38.4 0.0
KURK pmax pmax
comp=Z,12nm,1.2s
KURK Kurchatov 64.11 43 P P 00 26 39.1 +0.7
SNR=6.9
KURK Kurchatov 64.11 43 P P 00 26 38.8 +0.3
comp=Z,103nm,0.9s,SNR=9.9
KURK Kurchatov 64.11 43 eP P 00 26 38.5 0.0
comp=Z,7.7nm,0.9s
KURK LR LR
comp=Z,77nm,19.0s
KURK Kurchatov 64.11 43 eP P 00 26 38.5 0.0
comp=Z,7.7nm,0.9s
FURC Furnace Creek, 64.41 297 ⇑P P 00 26 40.8 +0.2
baz=64,SNR=8.1
SHOC Shoshone 64.41 296 ⇓P P 00 26 40.5 -0.3
baz=64
TUQ Turquoise Moun 64.49 295 ⇑P P 00 26 41.8 +0.4
baz=64
YBH Yreka Blue Hor 64.51 304 eP P 00 26 40.3 -1.1
comp=Z,8.7nm,1.0s
YBH Yreka Blue Hor 64.51 304 eP P 00 26 40.3 -1.1
comp=Z,8.7nm,1.0s

ITEG **Tejag** 64.52 68 *e*P P 00 26 42.0 +0.3
ITEG **Tejag** 64.52 68 *e*P P 00 26 42.0 +0.3
BDFB **Brasilia** 64.53 202 P P 00 26 43.4 +1.7
BDFB **Brasilia** 64.53 202 P P 00 26 43.4 +1.7
comp=Z,8.0nm,1.0s
BDFB **Brasilia** 64.53 202 P P 00 26 43.4 +1.7
comp=Z,8.0nm,1.0s,baz=22,slow=8.3,SNR=7.6
ZALV **Zalesovo Beam** 64.64 37 P P 00 26 40.4 -1.5
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV MLR MLR
comp=Z,183nm,18.6s
ZALV **Zalesovo Beam** 64.64 37 P P 00 26 40.4 -1.5
ZALV **Zalesovo Beam** 64.64 37 P P 00 26 40.3 -1.5
ZALV **Zalesovo Beam** 64.64 37 P P 00 26 40.4 -1.5
comp=Z,1.6nm,0.5s,baz=293,slow=7.7,SNR=8.6
ZALV LR LR 00 56 13.6
comp=Z,183nm,18.6s,baz=340,slow=37
Y12C **Blythe** 64.69 293 ⇑P P 00 26 42.9 +0.4
baz=64,SNR=5.2
214A **Organ Pipe Nat** 64.74 290 ⇑P P 00 26 43.5 +0.5
baz=65,SNR=6.1
GMRC **Granite Mounta** 64.74 295 ⇑P P 00 26 42.9 -0.1
baz=64,SNR=7.3
IRM **Iron Mountain** 64.82 294 ⇓P P 00 26 43.9 +0.4
baz=65,SNR=5.5
113A **Mohawk Valley,** 64.83 292 ⇑P P 00 26 44.3 +0.8
baz=65,SNR=6.1
MLAC **Mammoth Lakes** 64.87 299 ⇓P P 00 26 44.5 +0.5
baz=65
TIN **Tinemaha** 64.87 298 ⇑P P 00 26 44.1 +0.2
baz=65
IKOO **Kooshah** 64.99 69 *e*P P 00 26 44.3 -0.6
IKOO **Kooshah** 64.99 69 *e*P P 00 26 44.3 -0.6
KK31 **Karatay Array** 65.00 53 *i* P P 00 26 44.6 +0.1
KK31 pmax pmax
comp=Z,13nm,0.9s
KK31 **Karatay Array** 65.00 53 *i* P P 00 26 44.6 +0.1
comp=Z,13nm,0.9s
KKAR **Karatay Array** 65.00 53 *e*P P 00 26 44.6 +0.1
KKAR pmax pmax
comp=Z,12nm,0.8s
KKAR **Karatay Array** 65.00 53 *e*P P 00 26 44.6 +0.1
comp=Z,12nm,0.8s
KKAR **Karatay Array** 65.00 53 *e*P P 00 26 44.6 +0.1
comp=Z,12nm,0.8s
MPMC **Manual Prospec** 65.06 297 ⇓P P 00 26 45.6 +0.4
baz=65,SNR=23
GSC **Goldstone** 65.13 296 *e*P P 00 26 45.7 +0.2
GSC pmax pmax
comp=Z,26nm,1.3s
GSC **Goldstone** 65.13 296 *e*P P 00 26 45.7 +0.2
comp=Z,26nm,1.3s
GSC **Goldstone** 65.13 296 ⇓P P 00 26 46.0 +0.5
baz=65,SNR=10.0
GSC **Goldstone** 65.13 296 *e*P P 00 26 45.7 +0.2
comp=Z,26nm,1.3s
HEC **Hector,Ludlow** 65.13 295 ⇓P P 00 26 46.0 +0.5
baz=65,SNR=10
GLA **Glamis** 65.33 293 *e*P P 00 26 46.7 -0.1
GLA pmax pmax
comp=Z,20nm,1.1s
GLA **Glamis** 65.33 293 *e*P P 00 26 46.7 -0.1
comp=Z,20nm,1.1s
GLA **Glamis** 65.33 293 ⇓P P 00 26 47.0 +0.2
baz=65,SNR=5.7
GLA **Glamis** 65.33 293 *e*P P 00 26 46.7 -0.1
comp=Z,20nm,1.1s
BC3 **Big Chuckawall** 65.34 293 ⇓P P 00 26 47.1 +0.2
baz=65,SNR=6.6
IDAH **Dahanechah** 65.34 68 *e*P P 00 26 47.4 +0.3
IDAH **Dahanechah** 65.34 68 *e*P P 00 26 47.4 +0.3
BELC **Belle Mtn. Jos** 65.46 294 ⇓P P 00 26 48.1 +0.4
baz=65,SNR=5.4
RRX **Edison Barstow** 65.52 295 ⇓P P 00 26 48.1 +0.1
baz=65
CMB **Columbia Colle** 65.55 300 *e*P P 00 26 47.5 -0.6
CMB pmax pmax
comp=Z,21nm,1.2s
CMB **Columbia Colle** 65.55 300 *e*P P 00 26 47.5 -0.6
comp=Z,21nm,1.2s
CMB **Columbia Colle** 65.55 300 *e*P P 00 26 47.5 -0.6
comp=Z,21nm,1.2s
LRMC **Laurel Mountai** 65.56 296 ⇓P P 00 26 48.6 +0.2
baz=65,SNR=5.9
BBRC **Big Bear Solar** 65.87 295 ⇓P P 00 26 50.3 -0.2
baz=66
ISA **Isabella** 65.93 297 *e*P P 00 26 50.8 +0.2
ISA pmax pmax
comp=Z,45nm,1.6s
ISA **Isabella** 65.93 297 *e*P P 00 26 50.8 +0.2
comp=Z,45nm,1.6s
ISA **Isabella** 65.93 297 ⇓P P 00 26 51.3 +0.7
baz=66
ISA **Isabella** 65.93 297 *e*P P 00 26 50.8 +0.2
comp=Z,45nm,1.6s
RCTC **Rector, Farmer** 65.97 298 ⇑P P 00 26 51.2 +0.4
baz=66
PFO **Pinyon Flat Ob** 66.00 294 ⇓P P 00 26 51.2 -0.1
baz=66
SWSC **Sam W. Stewart** 66.02 293 ⇓P P 00 26 51.3 +0.1
baz=66
EDW2 **Edwards Air Fo** 66.14 296 ⇓P P 00 26 52.6 +0.6
baz=66
VES **Vestal, Richgr** 66.19 297 ⇑P P 00 26 52.6 +0.4
baz=66
BFSC **Mount Baldy Ra** 66.35 295 ⇑P P 00 26 53.6 +0.1
baz=66
DVTC **Desert V Tower** 66.40 293 ⇑P P 00 26 53.7 0.0
baz=66
MONP **Monument Peak** 66.45 293 ⇓P P 00 26 53.9 -0.3
baz=66
MURC **Murrieta** 66.48 294 ⇓P P 00 26 54.1 -0.1
baz=66
OSI **Osito Adit** 66.77 296 ⇑P P 00 26 55.7 -0.3
baz=66
109C **Camp Elliot, M** 66.89 294 ⇓P P 00 26 57.8 +1.1
baz=67
EKS2 **Erkin-Say** 67.09 52 *e*P P 00 26 58.1 +0.1
EKS2 pmax pmax
comp=Z,35nm,0.9s
EKS2 MLR MLR
comp=Z,331nm,20.0s
EKS2 **Erkin-Say** 67.09 52 P P 00 26 59.3 +1.3
SNR=49
EKS2 **Erkin-Say** 67.09 52 *e*P P 00 26 58.1 +0.1
comp=Z,35nm,0.9s
EKS2 LR LR
comp=Z,331nm,20.0s
EKS2 **Erkin-Say** 67.09 52 *e*P P 00 26 58.1 +0.1
comp=Z,35nm,0.9s
PKM **Peak Mountain** 67.26 297 ⇑P P 00 26 59.7 +0.4
baz=67
CHMS **Chumysh** 67.39 51 P P 00 27 00.9 +1.1
SNR=8.1
AML **Almayashu** 67.40 52 P P 00 27 01.5 +1.1
SNR=32
AML **Almayashu** 67.40 52 P P 00 27 00.9 +0.5
SNR=32
BANOM **Banah** 67.47 76 P P 00 27 00.8 +0.3
SNR=6.9
BANOM **Banah** 67.47 76 P P 00 27 00.9 +0.3
SNR=6.9
AAK **Ala-Archa** 67.50 51 *i* P P 00 26 59.3 -1.4
AAK **Ala-Archa** 67.50 51 P P 00 27 02.1 +1.4
SNR=8.4
AAK **Ala-Archa** 67.50 51 P P 00 27 02.9 +2.2
SNR=13
AAK **Ala-Archa** 67.50 51 P P 00 27 01.0 +0.3
comp=Z,74nm,0.9s,SNR=8.1
AAK **Ala-Archa** 67.50 51 *e*P P 00 27 00.4 -0.2
comp=Z,12nm,0.9s
AAK LR LR
comp=Z,328nm,19.0s
AAK **Ala-Archa** 67.50 51 *e*P P 00 27 00.4 -0.2
comp=Z,12nm,0.9s
NAZ **Nazwa, Dubai** 67.67 77 P P 00 27 00.6 -1.2
FAQ **Al Faqa, Dubai** 67.78 77 P P 00 27 01.2 -1.3
TKM2 **Tokmak 2** 67.89 51 *i* P P 00 27 04.6 +1.4
TKM2 **Tokmak 2** 67.89 51 P P 00 27 04.6 +1.4
SNR=13
TKM2 **Tokmak 2** 67.89 51 *e*P P 00 27 03.0 -0.2
comp=Z,20nm,1.0s
TKM2 LR LR
comp=Z,302nm,20.0s
TKM2 **Tokmak 2** 67.89 51 *e*P P 00 27 03.0 -0.2
comp=Z,20nm,1.0s

UOSS **Wadi Hilu** 68.06 77 P P 00 27 03.5 -0.8
comp=Z,444nm,0.9s,SNR=21
ATD **Arta Tunnel** 68.08 96 LR LR 00 54 02.9
comp=Z,74nm,20.2s,baz=185,slow=34
HATD **Hatta, Dubai** 68.09 77 P P 00 27 03.7 -0.8
ASHO **Ashiyiah** 68.14 77 P P 00 27 04.2 -0.6
SNR=7.5
ASHO **Ashiyiah** 68.14 77 P P 00 27 04.2 -0.6
SNR=7.5
KZA **Kyzart** 68.28 51 P P 00 27 07.8 +1.8
SNR=17
MK31 **Makanchi Array** 68.58 44 *i* P P 00 27 07.5 +0.3
MK31 pmax pmax
comp=Z,15nm,0.8s
MK31 **Makanchi Array** 68.58 44 *i* P P 00 27 07.5 +0.3
comp=Z,15nm,0.8s
MKAR **Makanchi Array** 68.58 44 P P 00 27 07.2 -0.1
MKAR pmax pmax
comp=Z,16nm,0.9s
MKAR MLR MLR
comp=Z,225nm,18.1s
MKAR **Makanchi Array** 68.58 44 P P 00 27 07.2 -0.1
MKAR **Makanchi Array** 68.58 44 P P 00 27 07.2 -0.1
comp=Z,225nm,18.1s
MKAR **Makanchi Array** 68.58 44 P P 00 27 07.2 -0.1
comp=Z,16nm,0.9s,baz=323,slow=5.0,SNR=81
MKAR LR LR 00 58 40.3
comp=Z,225nm,18.1s,baz=313,slow=37
ULHL **Ulahol** 68.70 51 P P 00 27 05.3 -3.0
SNR=6.8
SIV **San Ignacio** 69.18 215 P P 00 27 12.6 +1.5
SIV **San Ignacio** 69.18 215 P P 00 27 12.6 +1.5
SIV **San Ignacio** 69.18 215 P P 00 27 12.6 +1.5
comp=Z,3.4nm,1.0s,baz=348,slow=19,SNR=3.2
ARQ **Araqi** 69.36 78 P P 00 27 11.7 -0.7
SNR=11
ARQ **Araqi** 69.36 78 P P 00 27 11.7 -0.7
SNR=11
YAK **Yakutsk** 70.33 11 *e*P P 00 27 15.9 -1.8
YAK pmax pmax
comp=Z,31nm,1.0s
YAK pmax pmax
comp=N,8.0nm,1.5s
YAK pmax pmax
comp=E,11nm,1.4s
YAK **Yakutsk** 70.33 11 *e*P P 00 27 15.9 -1.8
comp=E,8.0nm,1.5s
HVS **Khovu-Aksy** 70.36 35 *d i*P P 00 27 18.7 +0.5
HVS pmax pmax
comp=Z,51nm,1.2s
HVS **Khovu-Aksy** 70.36 35 *i* P P 00 27 18.7 +0.5
comp=Z,51nm,1.2s
KSH **Kashi** 70.45 53 P P 00 27 21.1 +2.1
KSH sP **sP** 00 27 29.8 +2.7
KSH PcP **PcP** 00 27 43.9 +3.5
KSH PP **PP** 00 29 58.6 +4.0
KSH S **S** 00 36 29.6 -1.5
KSH sS **sS** 00 36 39.9 -0.9
KSH ScS **SKSac** 00 37 18.4 -1.6
KSH AMB AMB
comp=Z,46nm,0.9s
KSH AMB AMB
comp=Z,100nm,3.1s
KSH LR LR
comp=Z,140nm,5.2s
KSH LR LR
comp=Z,120nm,5.0s
KSH LR LR
comp=Z,160nm,5.8s
SMDO **Samad** 70.57 77 P P 00 27 19.1 -0.9
SNR=7.0
SMDO **Samad** 70.57 77 P P 00 27 19.1 -0.9
SNR=7.0
SEY **Seymchan** 70.99 0 *e*P P 00 27 21.8 +0.1
SEY **Seymchan** 70.99 0 *e*P P 00 27 21.8 +0.1
LPAZ **La Paz** 72.45 221 P P 00 27 32.2 +0.5
LPAZ **La Paz** 72.45 221 P P 00 27 32.2 +0.5
comp=Z,6.0nm,1.0s
LPAZ **La Paz** 72.45 221 P P 00 27 32.2 +0.5
comp=Z,6.1nm,1.0s,baz=1.3,slow=17,SNR=6.9
LPAZ LR LR 00 55 23.3
comp=Z,174nm,21.3s,baz=207,slow=33
MOY **Mondy** 72.67 31 *e*P P 00 27 40.9 +8.7
WMQ **Urumqi** 73.35 43 P P 00 27 37.5 +1.2
WMQ pP **pP** 00 27 42.2 0.0
WMQ sP **sP** 00 27 44.5 +0.1
WMQ PcP **PcP** 00 27 54.3 +1.7
WMQ PP **PP** 00 30 22.9 +3.7
WMQ S **S** 00 37 04.4 +0.2
WMQ sS **sS** 00 37 12.6 -1.4
WMQ SKS **SKSac** 00 37 38.3 -3.3
WMQ ScS **SKKSac** 00 37 42.1 +0.3
WMQ SS **SS** 00 41 48.7 +3.4
WMQ AMB AMB
comp=Z,10.0nm,1.0s
WMQ AMB AMB
comp=Z,200nm,5.6s
WMQ LR LR
comp=Z,340nm,11.8s
WMQ LR LR
comp=Z,280nm,9.6s
WMQ LR LR
comp=Z,140nm,24.4s
KMBO **Kilima Mbogo** 73.58 110 *e*P P 00 27 37.8 -0.3
comp=Z,11nm,1.1s
KMBO LR LR
comp=Z,315nm,20.0s
KMBO **Kilima Mbogo** 73.58 110 *e*P P 00 27 37.8 -0.3
comp=Z,11nm,1.1s
KMBO **Kilima Mbogo** 73.58 110 P P 00 27 39.5 +1.4
comp=Z,9.1nm,1.0s,baz=339,slow=5.6,SNR=23
ZAK **Zakamensk** 74.54 30 *e*P P 00 27 43.7 +0.5
ZAK **Zakamensk** 74.54 30 *e*P P 00 27 43.7 +0.5
TSUM **Tsumeb** 76.89 137 *e*P P 00 27 56.9 0.0
comp=Z,6.9nm,1.1s
TSUM LR LR
comp=Z,330nm,19.0s
TSUM **Tsumeb** 76.89 137 *e*P P 00 27 56.9 0.0
comp=Z,6.9nm,1.1s
TSUM **Tsumeb** 76.89 137 P P 00 27 57.1 +0.2
comp=Z,4.1nm,0.9s,baz=9.2,slow=6.0,SNR=5.9
CPUP **Villa Florida** 77.35 207 P P 00 28 01.1 +1.9
CPUP **Villa Florida** 77.35 207 P P 00 28 01.0 +1.9
CPUP **Villa Florida** 77.35 207 P P 00 28 01.1 +1.9
comp=Z,0.8nm,0.4s,baz=18,slow=6.6,SNR=3.2
CPUP LR LR 00 56 58.0
comp=Z,90nm,18.1s,baz=214,slow=32
SONM **Songino Array** 77.79 30 P P 00 28 02.5 +0.8
SONM **Songino Array** 77.79 30 P P 00 28 02.5 +0.8
comp=Z,100nm,18.4s
SONM **Songino Array** 77.79 30 P P 00 28 02.5 +0.8
comp=Z,4.7nm,0.9s,baz=324,slow=6.6,SNR=10
SONM LR LR 01 02 12.5
comp=Z,100nm,18.4s,baz=247,slow=36
ULN **Ulaanbaatar** 77.99 29 P P 00 28 04.6 +1.7
comp=Z,14nm,1.1s
ULN **Ulaanbaatar** 77.99 29 *e*P P 00 28 02.9 0.0
comp=Z,13nm,1.0s
ULN LR LR
comp=Z,217nm,19.0s
ULN **Ulaanbaatar** 77.99 29 *e*P P 00 28 02.9 0.0
comp=Z,217nm,19.0s
LVC **Limon Verde** 78.34 219 *e*P P 00 28 05.2 +0.1
comp=Z,13nm,1.3s
LVC **Limon Verde** 78.34 219 *e*P P 00 28 05.2 +0.1
comp=Z,13nm,1.3s
NDI **New Delhi** 78.92 60 *e*P P 00 28 06.0 -2.1
LSZ **Lusaka** 79.11 126 P P 00 28 10.6 +1.3
SNR=5.2
LSZ **Lusaka** 79.11 126 *e*P P 00 28 09.5 +0.2
comp=Z,11nm,1.0s
LSZ LR LR
comp=Z,258nm,20.0s
LSZ **Lusaka** 79.11 126 *e*P P 00 28 09.5 +0.2
comp=Z,11nm,1.0s
LSZ **Lusaka** 79.11 126 P P 00 28 09.6 +0.2
comp=Z,9.4nm,0.9s,baz=21,slow=9.7,SNR=26
PETK **Petropavlovsk-** 80.75 357 P P 00 28 17.2 -0.4
PETK pmax pmax
comp=Z,3.0nm,0.8s
PETK **Petropavlovsk-** 80.75 357 P P 00 28 17.2 -0.4
PETK **Petropavlovsk-** 80.75 357 P P 00 28 17.2 -0.4
comp=Z,3.0nm,0.8s
PETK **Petropavlovsk-** 80.75 357 P P 00 28 17.2 -0.4
comp=Z,2.9nm,0.8s,baz=72,slow=4.8,SNR=3.7
GTA **Gaotai** 82.35 39 P P 00 28 27.7 +1.2

GTA pP **pP** 00 28 32.8 +0.3
GTA sP **sP** 00 28 34.9 +0.2
GTA S **S** 00 38 43.8 +2.2
GTA sS **sS** 00 38 52.4 +0.9
GTA AMB AMB
comp=Z,5.0nm,1.5s
GTA AMB AMB
comp=Z,140nm,4.3s
GTA LR LR
comp=Z,120nm,18.1s
GTA LR LR
comp=Z,180nm,16.9s
GTA LR LR
comp=Z,220nm,19.7s
KLR **Kul'dur** 83.00 14 *e*P P 00 28 25.8 -3.7
LCO **Las Campanas** 84.72 217 *e*P P 00 28 39.1 +0.4
comp=Z,38nm,1.3s
LCO **Las Campanas** 84.72 217 *e*P P 00 28 39.1 +0.4
comp=Z,38nm,1.3s
BTO **Baotou** 85.36 31 *e*P P 00 28 40.9 -0.9
HHC **Hu-ho-hao-te** 85.69 30 *e*P P 00 28 40.0 -3.5
HHC pP **PcP** 00 28 45.9 -0.5
HHC sP sP 00 28 49.0 -2.7
HHC PP **PP** 00 32 00.1 -1.6
HHC S **SKSac** 00 39 09.4 +1.3
HHC SS **SS** 00 44 47.2 -2.7
HHC AMB AMB
comp=Z,22nm,1.0s
HHC AMB AMB
comp=Z,350nm,4.3s
HHC LR LR
comp=Z,580nm,16.7s
HHC LR LR
comp=Z,510nm,15.5s
HHC LR LR
comp=Z,270nm,16.7s
LBTB **Lobatse** 85.72 133 P P 00 28 43.5 -0.1
LBTB **Lobatse** 85.72 133 P P 00 28 43.5 -0.1
comp=Z,5.0nm,1.0s
LBTB **Lobatse** 85.72 133 P P 00 28 43.5 -0.1
comp=Z,5.3nm,1.0s,baz=343,slow=7.9,SNR=5.9
LSA **Lhasa** 86.04 50 P P 00 28 45.4 -0.5
LSA **Lhasa** 86.04 50 PFAKE 00 29 00.0 +14
LSA LR LR
comp=Z,186nm,19.0s
LZH **Lanzhou** 86.87 38 *e*P P 00 28 52.4 +3.0
LZH pP **pP** 00 28 56.7 +1.2
LZH sP **sP** 00 28 59.0 +1.4
LZH PP **PP** 00 32 16.5 +5.1
LZH *e*S **S** 00 39 26.4 -0.4
LZH sS **ScS** 00 39 34.0 -0.6
LZH SS **SS** 00 45 09.1 +1.5
LZH AMB AMB
comp=Z,21nm,1.3s
LZH AMB AMB
comp=Z,190nm,4.3s
CN2 **Changchun** 86.98 19 *e*P P 00 28 48.0 -1.6
CN2 *e*S **S** 00 39 22.2 -5.0
CN2 AMB AMB
comp=Z,10.0nm,0.6s
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,300nm,18.0s
CN2 LR LR
comp=Z,400nm,18.0s
CN2 LR LR
comp=Z,400nm,19.0s
MDJ **Mudanjiang** 87.08 16 P P 00 28 48.4 -1.7
MDJ AMB AMB
comp=Z,4.0nm,1.0s
MDJ AMB AMB
comp=Z,24nm,5.2s
USRK **Ussuriysk Arra** 87.92 15 P P 00 28 53.9 -0.2
comp=Z,2.2nm,0.8s,baz=345,slow=6.4,SNR=5.2
BJI **Beijing** 87.95 27 P P 00 28 53.0 -1.3
BJI AMB AMB
comp=Z,8.0nm,0.8s
BOSA **Boshof** 88.54 136 *e*P P 00 28 57.0 -0.3
comp=Z,9.5nm,1.0s
BOSA **Boshof** 88.54 136 P P 00 28 57.3 +0.1
comp=Z,369nm,18.9s
BOSA **Boshof** 88.54 136 P P 00 28 57.3 +0.1
comp=Z,6.9nm,1.0s,baz=335,slow=5.5,SNR=6.5
BOSA LR LR 01 06 47.4
comp=Z,369nm,18.9s,baz=328,slow=34
SUR **Sutherland** 89.67 141 P P 00 29 03.8 +1.2
SUR **Sutherland** 89.67 141 P P 00 29 03.8 +1.2
SUR **Sutherland** 89.67 141 P P 00 29 03.8 +1.2
comp=Z,11nm,0.9s,baz=331,slow=1.5,SNR=4.8
CD2 **Chengdu** 91.24 40 P P 00 29 09.1 -0.9
CD2 AMB AMB
comp=Z,10.0nm,0.5s
KSRS **Korea Array** 93.59 20 P P 00 29 18.7 -2.0
comp=Z,1.0nm,0.7s
KSRS **Korea Array** 93.59 20 P P 00 29 18.6 -2.0
comp=Z,1.2nm,0.7s,baz=335,slow=5.7,SNR=5.2
KSAR **Wonju Array Be** 93.59 20 P P 00 29 18.6 -2.0
KSAR **Wonju Array Be** 93.59 20 P P 00 29 18.6 -2.0
PLCA **Paso Flores** 94.95 211 LR LR 01 10 42.6
comp=Z,158nm,20.9s,baz=315,slow=34
KMI **Kunming** 95.67 44 P P 00 29 32.0 +1.3
KMI AMB AMB
comp=Z,9.0nm,0.9s
WHN **Wuhan** 95.91 33 P P 00 29 28.9 -2.5
NJ2 **Nanjing** 96.12 28 *e*P P 00 29 32.5 +0.2
NJ2 AMB AMB
comp=Z,10.0nm,0.6s
GYA **Guiyang** 96.35 40 *e*P P 00 29 32.8 -0.9
GYA PP **PP** 00 33 28.0 +1.6
GYA SKS **SKSac** 00 40 08.2 -1.5
GYA S **S** 00 40 48.9 -4.2
GYA SS **SS** 00 47 23.6 -0.7
GYA AMB AMB
comp=Z,20nm,1.0s
GYA AMB AMB
comp=Z,130nm,5.4s
GYA LR LR
comp=Z,620nm,20.3s
GYA LR LR
comp=Z,520nm,21.4s
GYA LR LR
comp=Z,660nm,20.5s
CHTO **Chiang Mai** 98.98 51 PFAKE 00 30 00.0 +15
CHTO LR LR
comp=Z,107nm,20.0s
PPT2 **Papeete2** 124.68 281 *e*LR LR 01 14 04.4
comp=Z,168nm,23.5s
TBI **Tubuai** 128.52 276 *e*LR LR 01 15 53.8
comp=Z,140nm,26.5s
QSPA **South Pole Qui** 136.31 180 PKP **PKPdf** 00 35 25.2 +0.3
QSPA *e*PKPdf **PKPdf** 00 35 25.7 +0.8
QSPA **South Pole Qui** 136.31 180 *e*PKIKP **PKPdf** 00 35 25.7 +0.8
QSPA **South Pole Qui** 136.31 180 PKP **PKPdf** 00 35 25.2 +0.3
comp=Z,2.1nm,0.8s,baz=255,slow=1.4,SNR=7.7
SBA **Scott Base** 147.98 186 *e*PKP2 **PKPab** 00 35 50.2 -1.0
SBA **Scott Base** 147.98 186 *e*PKP **PKPab** 00 35 50.2 -1.0
VNDA **Vanda** 148.59 184 PKPbc **PKPbc** 00 35 50.6 +0.6
VNDA **Vanda** 148.59 184 PKPbc **PKPbc** 00 35 50.6 +0.6
VNDA **Vanda** 148.59 184 PKPbc **PKPbc** 00 35 50.6 +0.6
comp=Z,5.4nm,0.9s,baz=253,slow=4.0,SNR=25
WRAB **Tennant Creek** 149.60 36 *e*PKPdf **PKPdf** 00 35 49.4 -0.2
WRAB *e*PKPbc **PKPbc** 00 35 53.8 -0.4
WRAB *e*PKPab **PKPab** 00 35 59.3 0.0
WRAB **Tennant Creek** 149.60 36 *e*PKIKP **PKPdf** 00 35 49.4 -0.2
WRA **Warramunga Arr** 149.61 36 PKPbc **PKPbc** 00 35 53.7 -0.5
WRA **Warramunga Arr** 149.61 36 PKPbc **PKPbc** 00 35 53.7 -0.5
WRA **Warramunga Arr** 149.61 36 PKPbc **PKPbc** 00 35 53.7 -0.5
comp=Z,4.7nm,0.8s,baz=333,slow=2.9,SNR=15
NWAO **Narrogin (SRO)** 149.85 76 PKPbc **PKPbc** 00 35 54.6 +0.2
NWAO **Narrogin (SRO)** 149.85 76 PKPbc **PKPbc** 00 35 54.6 +0.2
NWAO **Narrogin (SRO)** 149.85 76 PKPbc **PKPbc** 00 35 54.6 +0.2
comp=Z,10nm,0.9s,baz=329,slow=4.5,SNR=4.7
CASY **Casey** 150.22 147 *e*PKPbc **PKPbc** 00 35 54.6 +0.4
CASY **Casey** 150.22 147 *e*PKPbc **PKPbc** 00 35 54.6 +0.4
AS31 **Alice Springs** 152.72 40 *e*PKPbc **PKPbc** 00 36 00.6 -0.9
AS31 *e*PKPab **PKPab** 00 36 11.2 -1.0
AS31 **Alice Springs** 152.72 40 *e*PKPbc **PKPbc** 00 36 00.6 -0.9
ASAR **Alice Springs** 152.72 40 PKP **PKPdf** 00 35 53.5 -0.8
ASAR PKPbc **PKPbc** 00 36 00.8 -0.6
ASAR **Alice Springs** 152.72 40 PKIKP **PKPdf** 00 35 53.5 -0.8
ASAR **Alice Springs** 152.72 40 PKP **PKPdf** 00 35 53.5 -0.8
comp=Z,1.3nm,0.6s,baz=354,slow=1.3,SNR=4.6
ASAR PKPbc **PKPbc** 00 36 00.8 -0.6
comp=Z,4.7nm,1.0s,baz=344,slow=1.9,SNR=19

CTA	**Charters Tower**	**153.21**	**13**	PKPbc	**PKPbc**	**00 36 01.5**	**-1.0**
CTA	**Charters Tower**	**153.21**	**13**	PKPbc	**PKPbc**	**00 36 01.5**	**-1.0**
CTA	**Charters Tower**	**153.21**	**13**	PKPbc	**PKPbc**	**00 36 01.5**	**-1.0**
	comp=Z,4.3nm,0.7s,baz=254,slow=19,SNR=3.5						
DZM	**Mont Dzumac**	**153.25**	**331**	*e*LR	LR	01 27 14.8	
	comp=Z,235nm,28.2s						

IDC 06 00:27:25.4±4.6, 46°32N×27°78W, h0km, mb3.5/3, mb1 3.4/4, mb1mx3.2/32, mbtmp3.4/4, ML4.4/1, Error ellipse: s-maj=113.3km s-min=40.3km az=74.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**18.60**	**102**	P	P	00 31 44.2	0.0
	0.3nm,0.3s,baz=294,slow=12,SNR=4.2						
TORD	**Torodi Ar. Bea**	**41.35**	**133**	P	P	00 35 12.9	-0.1
	0.3nm,0.7s,baz=340,slow=8.1,SNR=4.4						
H10S1	**ASCENSION HYDR**	**56.25**	**164**	T	T	01 37 37.3	
	baz=350,slow=0.7,SNR=16						
H10S3	**ASCENSION HYDR**	**56.26**	**164**	T	T	01 37 42.6	
	baz=350,slow=0.7,SNR=18						
H10S2	**ASCENSION HYDR**	**56.27**	**164**	T	T	01 37 38.7	
	baz=350,slow=0.7,SNR=19						
KURBB	**Kurchatov Arra**	**64.42**	**43**	P	P	00 38 03.0	-0.1
	0.3nm,0.6s,baz=311,slow=7.3,SNR=3.5						
MKAR	**Makanchi Array**	**68.88**	**44**	P	P	00 38 31.7	0.0
	0.4nm,0.7s,baz=320,slow=5.8,SNR=3.6						

*IDC **06** 00:34:49.2±6.3, 36°.35N×71°.63E, h104km±60km, mb3.4/4, mb1 3.4/7, mb1mx3.1/28, mbtmp3.4/7, Error ellipse: s-maj=72.0km s-min=41.6km az=119.0*
*NNC **06** 00:34:54.4±11.0, 36°.85N×71°.00E, h198km±154km, mb2.5, mpv3.6, Error ellipse: s-maj=131.0km s-min=65.0km az=33.0*

ISC 06 00:34:52.2±1.8, 36°.7N±0°.1×71°.3E±0°.2, h114km, n10, σ1§11/12, mb3.7/4, 2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.47**	**355**	P	**Pn**	**00 36 25.0**	**+0.1**
	1.4nm,0.3s,baz=178,slow=13,SNR=88						
KK31				S	**Sn**	**00 37 37.5**	**+0.2**
	1.1nm,0.3s,baz=178,slow=22,SNR=7.6						
AAK	**Ala-Archa**	**6.48**	**22**	P	**Pn**	**00 36 25.2**	**0.0**
	2.4nm,0.3s,baz=168,slow=6.7,SNR=18						
AAK				S	**Sn**	**00 37 38.2**	**+0.5**
	0.5nm,0.3s,baz=344,slow=12,SNR=7.9						
TKM2	**Tokmak 2**	**7.10**	**27**	⇓P	**Pn**	**00 36 33.7**	**+0.1**
	3.0nm,0.5s						
KURBB	**Kurchatov Arra**	**14.92**	**18**	P	**P**	**00 38 18.9**	**-0.9**
	0.1nm,0.3s,baz=209,slow=11,SNR=7.4						
AB31	**Akbulak array**	**15.05**	**330**	P	**Pn**	**00 38 17.1**	**-1.7**
	0.1nm,0.2s,baz=98,slow=64,SNR=12						
AB31				⇓S	Sn	00 40 55.2	-10
	1.0nm,0.8s,baz=154,slow=23,SNR=3.9						
ZALV	**Zalesovo Beam**	**19.70**	**24**	P	**P**	**00 39 11.9**	**-0.3**
	0.7nm,0.3s,baz=206,slow=10.0,SNR=12						
FINES	**FINESS Array B**	**37.48**	**326**	P	**P**	**00 41 55.8**	**+1.4**
	4.5nm,1.0s,baz=123,slow=9.4,SNR=5.5						
HFS	**Hagfors**	**43.08**	**322**	P	**P**	**00 42 42.1**	**+1.6**
	1.0nm,0.6s,baz=104,slow=11,SNR=6.0						
NOA	**NORSAR Array B**	**44.39**	**323**	P	**P**	**00 42 52.5**	**+1.4**
	0.7nm,0.6s,baz=84,slow=8.0,SNR=4.4						
TORD	**Torodi Ar. Bea**	**65.93**	**269**	P	**P**	**00 45 25.7**	**-0.6**
	0.2nm,0.7s,baz=52,slow=7.7,SNR=2.8						

GUC 06 00:50:03.0±0.5, 23°.91S×70°.57W, h25km±7km, MD3.8, ML3.0, 2C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANCH	**Antofagasta**	**0.27**	**34**	⇑*i*P	Pb	00 50 08.9	-0.6
ANCH				*i* S	Sb	00 50 13.7	-0.4
ANCH				AML	AML	00 50 14.1	
	comp=E,8μm,0.1s						
PB10	**Plate Boundary**	**0.39**	**3**	⇓*i*P	Pb	00 50 10.8	-0.7
PB10				*i* S	Sb	00 50 16.9	-0.4
PB10				AML	AML	00 50 18.2	
	comp=N,4μm,0.4s						
CEN1	**Los Morros**	**0.62**	**34**	⇓*i*P	Pb	00 50 10.9	-4.5
CEN1				*i* S	Sb	00 50 16.9	-7.0
CEN1				AML	AML	00 50 20.7	
	comp=E,361nm,0.3s						
PB04	**Plate Boundary**	**1.92**	**32**	⇑*i*P	Pn	00 50 27.1	-7.0
PB04				*i* S	Sn	00 50 48.0	-9.4
PB04				AML	AML	00 50 49.9	
	comp=E,419nm,0.3s						
PB07	**Plate Boundary**	**2.26**	**16**	*e*P	Pn	00 50 36.1	-3.0

IDC 06 01:13:21.7±1.4, 5°.12S×151°.60E, h0km, mb4.0/6, mb1 4.3/7, mb1mx4.0/20, mbtmp4.0/7, ML2.8/1, MS3.4/5, Ms1 3.4/5, ms1mx3.2/33, Error ellipse: s-maj=66.9km s-min=20.0km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.13**	**226**	Pn	Pn	01 14 55.0	+1.3
	1.4nm,0.3s,baz=33,slow=8.8,SNR=11						
PMG				Sn	Sn	01 16 05.6	+1.1
	1.1nm,0.3s,baz=31,slow=5.9,SNR=1.7						
PMG				LR	LR	01 16 58.5	
	comp=Z,96nm,21.2s,baz=233,slow=35						
WRA	**Warramunga Arr**	**22.35**	**227**	P	P	01 18 20.9	-0.6
	4.5nm,0.9s,baz=53,slow=10,SNR=11						
ASAR	**Alice Springs**	**25.12**	**221**	P	P	01 18 48.7	+0.1
	9.1nm,0.7s,baz=55,slow=9.2,SNR=94						
STKA	**Stephens Creek**	**28.23**	**198**	LR	LR	01 30 25.3	
	comp=Z,107nm,20.6s,baz=201,slow=36						
MJAR	**Matsushiro Arr**	**43.29**	**344**	LR	LR	01 36 22.9	
	comp=Z,93nm,18.9s,baz=210,slow=32						
PETK	**Petropavlovsk-**	**58.23**	**4**	LR	LR	01 44 06.9	
	comp=Z,29nm,21.1s,baz=349,slow=32						
ZALV	**Zalesovo Beam**	**80.75**	**327**	P	P	01 25 38.0	+1.0
	0.4nm,0.5s,baz=115,slow=6.5,SNR=4.3						
ZALV				LR	LR	02 01 27.4	
	comp=Z,36nm,21.2s,baz=70,slow=36						
ILAR	**Eielson Array**	**82.90**	**22**	P	P	01 25 48.0	-0.1
	0.7nm,0.5s,baz=246,slow=6.3,SNR=13						
KURBB	**Kurchatov Arra**	**83.31**	**322**	P	P	01 25 49.7	-0.7
	0.4nm,0.7s,baz=112,slow=4.4,SNR=3.9						
NVAR	**Mina Array Bea**	**93.22**	**52**	P	P	01 26 39.2	+0.5
	0.2nm,0.3s,baz=255,slow=3.5,SNR=2.9						
KEST	**Kesra**	**133.82**	**316**	PKP	PKPdf	01 32 39.4	-2.0
	0.8nm,0.8s,baz=94,slow=9.8,SNR=3.9						
TORD	**Torodi Ar. Bea**	**149.27**	**287**	PKPbc	PKPbc	01 33 13.1	-0.4
	2.8nm,0.9s,baz=96,slow=2.3,SNR=14						

*IDC **06** 01:14:26.3±2.2, 7°.00S×129°.66E, h0km, mb3.5/1, mb1 3.8/4, mb1mx3.5/20, mbtmp3.6/4, ML3.7/3, Error ellipse: s-maj=87.6km s-min=28.1km az=77.0*
*AUST **06** 01:14:31.9, 6°.98S×129°.54E, h100km*
*ISCJB **06** 01:14:34.1±1.8, 7°.5S±0°.1×129°.7E±0°.2, h50km, mb3.7/1, Error ellipse: s-maj=25.2km s-min=10.5km az=27.6*

ISC 06 01:14:37.4±1.8, 7°.6S±0°.1×129°.9E±0°.1, h50km, n10, σ1§55/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLE	**Tual**	**3.44**	**56**	P	**Pn**	**01 15 27.3**	**-1.3**
	baz=3.5,SNR=8.0						
FAKI	**Fak Fak**	**5.21**	**27**	P	Pn	01 15 47.0	-5.8
	baz=4.9,SNR=8.7						
KDU	**Kakadu**	**5.67**	**153**	P	Pn	01 16 03.8	+4.6
	baz=6.4,SNR=23						
KNRA	**Kununurra**	**8.11**	**188**	P	Pn	01 16 36.7	+4.0
	baz=8.7,SNR=7.2						
FITZ	**Fitzroy Crossi**	**11.23**	**201**	P	**Pn**	**01 17 16.9**	**+1.5**
	baz=12,SNR=9.7						
FITZ	**Fitzroy Crossi**	**11.23**	**201**	Pn	**Pn**	**01 17 16.4**	**+1.0**
	0.4nm,0.3s,baz=23,slow=12,SNR=16						
FITZ				Sn	**Sn**	**01 19 17.6**	**-2.0**
	1.4nm,0.3s,baz=45,slow=4.3,SNR=10						
WRA	**Warramunga Arr**	**13.02**	**161**	Pn	**Pn**	**01 17 40.9**	**+1.1**
	0.5nm,0.3s,baz=341,slow=13,SNR=4.2						
WRA				Sn	**Sn**	**01 20 02.0**	**-1.3**
	0.6nm,0.3s,baz=337,slow=26,SNR=4.0						
COEN	**Coen**	**14.51**	**117**	P	**Pn**	**01 18 01.2**	**+1.2**
	baz=15,SNR=4.1						
ASAR	**Alice Springs**	**16.45**	**167**	P	**Pn**	**01 18 25.2**	**+0.3**
	0.2nm,0.3s,baz=345,slow=12,SNR=9.2						
ASAR				S	**Sn**	**01 21 25.6**	**-1.1**
	0.1nm,0.3s,baz=350,slow=24,SNR=3.2						
MKAR	**Makanchi Array**	**68.65**	**327**	P	P	01 25 27.6	-7.9
	0.3nm,0.4s,baz=126,slow=8.6,SNR=7.1						

GUC 06 01:37:12.7±0.7, 21°.99S×68°.82W, h116km±6km, ML3.5, 3C-5D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**Plate Boundary**	**0.43**	**296**	⇓*i*P	Pn	01 37 30.5	+0.4
PB09				*i* S	Sn	01 37 43.8	+0.7
PB09				AML	AML	01 37 45.1	
	comp=N,5μm,0.3s						
PB04	**Plate Boundary**	**0.68**	**246**	⇑*i*P	Pn	01 37 38.2	+6.7
PB04				*i* S	Sn	01 37 57.3	+12
PB04				AML	AML	01 37 58.9	
	comp=N,944nm,0.2s						
MACH	**Maria Elena**	**0.89**	**256**	⇑*i*P	Pn	01 37 34.3	+0.7
MACH				*i* S	Sn	01 37 50.8	+1.3
PB07	**Plate Boundary**	**1.02**	**284**	⇓*i*P	Pn	01 37 35.5	+0.6
PB07				*i* S	Sn	01 37 52.4	+0.8
PB07				AML	AML	01 37 53.0	
	comp=N,2μm,0.3s						
CEN1	**Los Morros**	**1.89**	**222**	⇑*i*P	Pn	01 37 48.6	+3.8
CEN1				*i* S	Sn	01 38 15.4	+6.2
CEN1				AML	AML	01 38 16.9	
	comp=E,99nm,0.6s						
HMBC	**Humberstone**	**1.97**	**329**	⇓*i*P	Pn	01 37 44.8	-1.0
HMBC				*i* S	Sn	01 38 11.1	+0.1
HMBC				AML	AML	01 38 17.3	
	comp=N,266nm,0.5s						
ANCH	**Antofagasta**	**2.23**	**221**	*e*P	Pn	01 37 49.5	+0.5
ANCH				*i* S	Sn	01 38 17.9	+1.2
ANCH				AML	AML	01 38 19.1	
	comp=N,311nm,0.1s						
PSGC	**Pisagua**	**2.67**	**333**	⇓*i*P	Pn	01 37 52.7	-2.0
PSGC				*i* S	Sn	01 38 25.4	-1.7
PSGC				AML	AML	01 38 30.3	
	comp=N,82nm,0.3s						
MNMC	**Minimini**	**2.93**	**346**	⇓*i*P	Pn	01 37 57.2	-1.2
MNMC				*e*S	Sn	01 38 32.7	-0.9
MNMC				AML	AML	01 38 35.2	
	comp=N,364nm,0.5s						

IDC 06 01:45:01.6±6.6, 15°.49S×173°.01W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/21, mbtmp3.6/3, Error ellipse: s-maj=290.0km s-min=20.8km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.98**	**37**	Pn	Pn	01 45 34.9	-1.6
	5.6nm,0.3s,baz=215,slow=12,SNR=6.0						
AFI				Sn	Sn	01 46 01.0	-1.0
	25nm,0.3s,baz=240,slow=23,SNR=8.3						
WRA	**Warramunga Arr**	**50.19**	**257**	P	P	01 53 59.4	-0.3
	0.4nm,0.6s,baz=91,slow=7.3,SNR=2.7						
ASAR	**Alice Springs**	**50.44**	**252**	P	P	01 54 00.7	-0.9
	0.8nm,0.6s,baz=91,slow=7.9,SNR=9.2						
ILAR	**Eielson Array**	**82.47**	**11**	P	P	01 57 27.2	+1.6
	0.4nm,0.7s,baz=210,slow=4.9,SNR=2.8						

*ISCJB **06** 01:59:37.3±0.3, 4°.57S±0°.04×104°.95W±0°.04, h10km, mb5.1/160, MS5.3/196, Error ellipse: s-maj=6.2km s-min=4.7km az=142.3*
*IDC **06** 01:59:37.6±0.5, 4°.48S×104°.95W, h0km, mb4.7/29, mb1 4.8/29, mb1mx4.8/32, mbtmp4.7/29, MS5.3/26, Ms1 5.3/26, ms1mx5.3/31, Error ellipse: s-maj=18.0km s-min=10.2km az=63.0*
*MOS **06** 01:59:38.3±1.0, 4°.42S×104°.78W, h10km, mb5.4/44, MS5.3/19, Error ellipse: s-maj=14.1km s-min=5.5km az=95.0*
*NEIC **06** 01:59:39.3±0.2, 4°.53S×104°.91W, h10km, mb5.3/135, MS5.3/152, MW5.6, Error ellipse: s-maj=5.4km s-min=3.6km az=59.0, Moment Tensor Solution. s53 Moment tensor: Scale 10^{17}Nm; M_{rr}0.73; $M_{\theta\theta}$-0.14; $M_{\phi\phi}$-0.58; $M_{r\theta}$-0.53; $M_{\theta\phi}$3.34; $M_{r\phi}$0.69; Best double couple: M_o3.50000×10^{17} NP1:ϕ_s182.00000°, δ84.00000°, λ-171.00000°. NP2:ϕ_s91.00000°, δ81.00000°, λ-6.00000°. Principal axes: T 2.9900, Plg2.0000°, Azm316.0000°; N 0.8900, Plg79.0000°, Azm213.0000°; P -3.8700, Plg10.0000°, Azm47.0000°;*
*GCMT **06** 01:59:42.9±0.1, 4°.53S×104°.99W, h20km, MW5.7, Moment Tensor Solution. s98,c190; s69,c82; Moment tensor: Scale 10^{17}Nm; M_{rr}-0.34±.04; $M_{\theta\theta}$1.61±.04; $M_{\phi\phi}$-1.28±.05; $M_{r\theta}$0.40±.09; $M_{\theta\phi}$4.31±.04; $M_{r\phi}$0.03±.10; Best double couple: M_o4.60000×10^{17} NP1:ϕ_s99.00000°, δ89.00000°, λ5.00000°. NP2:ϕ_s9.00000°, δ85.00000°, λ179.00000°. Principal axes: T 4.7300, Plg4.0000°, Azm324.0000°; N -0.3500, Plg85.0000°, Azm107.0000°; P -4.3900, Plg3.0000°, Azm234.0000°; Data Used: II IU CN IC G. Surface waves: sta=123, comp=255, per= 50.*

ISC 06 01:59:41.7±1.7, 4°.55S±0°.06×104°.96W±0°.07, h26km±10km, n914, σ0§99/836, mb5.2/160, MS5.3/196, 224C-216D, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAYG	**Puerto Ayora**	**15.15**	**76**	*e*Pn	**Pn**	**02 03 13.7**	**-0.4**
	428nm,1.7s						
PNIG	**Pinotepa**	**21.88**	**18**	P	**P**	**02 04 33.4**	**+0.7**
HUIG	**Huatulco**	**22.00**	**23**	P	**P**	**02 04 34.3**	**+0.1**
VHO	**Vista Hermosa**	**22.97**	**21**	P	**P**	**02 04 45.2**	**+0.6**
PCIG		**23.24**	**30**	P	**P**	**02 04 47.0**	**-0.1**
TPIG	**Tehuac#an**	**24.02**	**18**	P	**P**	**02 04 53.6**	**-1.2**
APG	**El Apazote**	**24.16**	**36**	P	**P**	**02 04 53.9**	**-2.3**
APG	**El Apazote**	**24.16**	**36**	P	**P**	**02 04 53.9**	**-2.3**
	34nm,0.9s,baz=198,slow=5.6,SNR=11						
TGIG		**24.20**	**29**	P	**P**	**02 04 56.5**	**+0.1**
CCIG	**Comitan**	**24.27**	**31**	P	**P**	**02 04 57.5**	**+0.3**
JTS	**JuntasAbangare**	**24.78**	**53**	*e*P	**P**	**02 05 02.2**	**+0.5**
	631nm,1.3s						
JTS	**JuntasAbangare**	**24.78**	**53**	P	**P**	**02 05 02.9**	**+1.2**
	290nm,1.3s,SNR=6.3						
JTS	**JuntasAbangare**	**24.78**	**53**	P	**P**	**02 05 01.9**	**+0.2**
	20nm,1.0s,baz=337,slow=22,SNR=8.5						
JTS				LR	LR	02 12 09.7	
	comp=Z,20μm,20.2s,baz=277,slow=30						
TGUH	**Tegucigalpa,Un**	**25.48**	**43**	*e*P	**P**	**02 05 08.1**	**+0.1**
	170nm,1.2s						
TGUH				LR	LR		
	comp=Z,7μm,21.0s						
ATAH	**Atahualpa**	**26.54**	**97**	P	**P**	**02 05 17.6**	**-0.5**
ATAH	**Atahualpa**	**26.54**	**97**	P	**P**	**02 05 17.6**	**-0.5**
	comp=Z,12nm,0.9s,baz=293,slow=9.3,SNR=12						
ATAH				LR	LR	02 13 22.7	
	comp=Z,6μm,18.5s,baz=92,slow=31						
OTAV	**Otavalo**	**26.90**	**81**	*e*P	**P**	**02 05 21.9**	**+0.4**
	comp=Z,110nm,1.5s						
OTAV				LR	LR		
	comp=Z,5μm,20.0s						
BCIP	**Isla Barro Col**	**28.50**	**61**	*e*P	**P**	**02 05 33.4**	**-1.8**
	comp=Z,102nm,1.6s						
BCIP				LR	LR		
	comp=Z,18μm,20.0s						
LPIG	**La Paz**	**28.95**	**350**	LR	LR	02 14 12.3	
	comp=Z,9μm,20.4s,baz=170,slow=30						
TEIG	**Tepich**	**29.57**	**33**	P	**P**	**02 05 44.7**	**+0.1**
TEIG	**Tepich**	**29.57**	**33**	P	**P**	**02 05 44.7**	**+0.1**
	comp=Z,7.8nm,1.0s,baz=49,slow=20,SNR=1.9						
TEIG				LR	LR	02 15 48.6	
	comp=Z,9μm,20.8s,baz=230,slow=33						
ROSC	**El Rosal**	**31.98**	**73**	P	**P**	**02 06 07.8**	**+1.3**
ROSC	**El Rosal**	**31.98**	**73**	P	**P**	**02 06 07.8**	**+1.3**
	comp=Z,5.5nm,0.5s,baz=79,slow=18,SNR=8.4						
ROSC				LR	LR	02 16 37.3	
	comp=Z,4μm,18.9s,baz=103,slow=32						
KVTX	**Kingsville**	**32.63**	**12**	PFAKE		02 06 20.0	+8.6
KVTX				LR	LR		
	comp=Z,3μm,19.0s						
732A	**Laxson Ranch,**	**33.43**	**8**	⇑P	**P**	**02 06 18.5**	**0.0**
	baz=34,SNR=5.9						
TXAR	**Lajitas Array**	**33.71**	**2**	P	**P**	**02 06 21.1**	**0.0**
TXAR				PcP	**PcP**	**02 09 01.2**	**+0.7**
TXAR	**Lajitas Array**	**33.71**	**2**	P	**P**	**02 06 21.1**	**0.0**
	comp=Z,2.1nm,0.8s,baz=192,slow=10,SNR=25						
TXAR				PcP	**PcP**	**02 09 01.2**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=185,slow=5.7,SNR=4.7						
TXAR				LR	LR	02 17 42.4	
	comp=Z,5μm,21.2s,baz=240,slow=32						
627A	**Terlingua Ranc**	**33.84**	**2**	⇓P	**P**	**02 06 22.4**	**+0.2**
	baz=34,SNR=14						
628A	**Black Gap, Mar**	**33.90**	**3**	⇑P	**P**	**02 06 23.4**	**+0.8**
	baz=34						
626A	**Big Bend Ranch**	**33.92**	**1**	⇓P	**P**	**02 06 23.4**	**+0.6**
	baz=34,SNR=16						
631A	**Perdido Creek**	**34.03**	**7**	⇑P	**P**	**02 06 24.0**	**+0.4**
	baz=34,SNR=12						
632A	**Uvalde**	**34.22**	**8**	⇑P	**P**	**02 06 25.9**	**+0.5**
	baz=34						
RKT	**Rikitea**	**34.37**	**235**	*e*S	**S**	**02 11 53.2**	**+0.1**
	comp=Z,1μm,27.8s						
RKT				*e*LQ	LQ	02 14 05.8	
	comp=Z,2μm,32.0s						
RKT				*e*LR	LR	02 15 32.7	
	comp=Z,14μm,27.2s,baz=55						
RKT	**Rikitea**	**34.37**	**235**	*e*T	T	02 42 22.8	
	comp=Z,5.5nm,0.3s						
526A	**Mary Lane Ranc**	**34.42**	**1**	⇑P	**P**	**02 06 27.6**	**+0.4**
	baz=35,SNR=22						
527A	**Woodward Ranch**	**34.52**	**2**	⇓P	**P**	**02 06 28.7**	**+0.6**
	baz=35,SNR=28						
528A	**Cox Ranch, San**	**34.58**	**3**	⇓P	**P**	**02 06 29.0**	**+0.4**
	baz=35						
529A	**Stev Forest Ra**	**34.58**	**4**	⇑P	**P**	**02 06 29.0**	**+0.5**
	baz=35,SNR=21						
530A	**J-C Ranch, Com**	**34.67**	**6**	⇑P	**P**	**02 06 30.0**	**+0.7**
	baz=35,SNR=34						
532A	**Rocksprings**	**34.82**	**8**	⇓P	**P**	**02 06 30.6**	**+0.1**
	baz=35						
426A	**McDonald Obser**	**35.03**	**1**	⇑P	**P**	**02 06 33.0**	**+0.4**
	baz=35,SNR=25						
429A	**Davenport Ranc**	**35.10**	**5**	⇓P	**P**	**02 06 33.3**	**+0.3**
	baz=35						
425A	**Indio Mountain**	**35.13**	**360**	⇓P	**P**	**02 06 33.5**	**+0.1**
	baz=35,SNR=20						
428A	**Kincaid Ranch,**	**35.14**	**3**	⇑P	**P**	**02 06 34.2**	**+0.8**
	baz=35,SNR=8.3						
JCT	**Junction City**	**35.18**	**8**	*e*P	**P**	**02 06 34.3**	**+0.6**
JCT				pmax	pmax		
	comp=Z,45nm,1.3s						
JCT				MLR	MLR		
	comp=Z,3μm,19.0s						
JCT	**Junction City**	**35.18**	**8**	*e*P	**P**	**02 06 34.2**	**+0.6**
	comp=Z,45nm,1.3s						
JCT				LR	LR		
	comp=Z,3μm,19.0s						
JCT	**Junction City**	**35.18**	**8**	⇓P	**P**	**02 06 34.1**	**+0.4**
	baz=35,SNR=13						
427A	**Hayter Ranch,**	**35.23**	**2**	⇑P	**P**	**02 06 34.7**	**+0.6**
	baz=35,SNR=19						
431A	**Sonora**	**35.28**	**6**	⇓P	**P**	**02 06 35.3**	**+0.8**
	baz=36,SNR=16						
430A	**Baggett Ranch,**	**35.31**	**6**	⇓P	**P**	**02 06 35.4**	**+0.5**
	baz=36,SNR=6.3						
HKT	**Hockley**	**35.40**	**14**	*e*P	**P**	**02 06 36.0**	**+0.6**
HKT				pmax	pmax		
	comp=Z,137nm,2.0s						
HKT	**Hockley**	**35.40**	**14**	*e*P	**P**	**02 06 36.0**	**+0.6**
	comp=Z,137nm,2.0s						
432A	**Menard**	**35.57**	**8**	⇑P	**P**	**02 06 37.2**	**+0.2**
	baz=36,SNR=11						
326A	**Caldwell Ranch**	**35.68**	**1**	⇑P	**P**	**02 06 38.4**	**+0.4**
	baz=36,SNR=7.4						
325A	**Bean Ranch, Si**	**35.72**	**360**	⇓P	**P**	**02 06 38.1**	**-0.3**
	baz=36,SNR=20						
327A	**Balmorhea Ranc**	**35.74**	**2**	⇑P	**P**	**02 06 38.8**	**+0.2**
	baz=36						
328A	**Wristen Ranch,**	**35.79**	**3**	⇑P	**P**	**02 06 38.9**	**0.0**
	baz=36,SNR=9.3						
324A	**Moseley Ranch,**	**35.79**	**359**	⇓P	**P**	**02 06 38.8**	**-0.3**
	baz=36,SNR=18						
320A	**Kipp Ranch, An**	**35.85**	**355**	⇓P	**P**	**02 06 39.5**	**0.0**
	baz=36,SNR=7.0						
331A	**San Angelo**	**35.92**	**7**	⇓P	**P**	**02 06 40.3**	**+0.3**
	baz=36,SNR=12						
330A	**Mertzon**	**35.94**	**6**	⇑P	**P**	**02 06 40.2**	**0.0**
	baz=36,SNR=13						
329A	**Wagon Wheel Ra**	**35.95**	**4**	⇑P	**P**	**02 06 40.2**	**-0.1**
	baz=36						
319A	**Douglas**	**35.96**	**354**	⇑P	**P**	**02 06 40.4**	**0.0**
	baz=36,SNR=6.2						
MNTX	**Cornudas Mount**	**36.05**	**359**	*e*P	**P**	**02 06 40.8**	**-0.3**
	comp=Z,32nm,1.3s						
MNTX				LR	LR		
	comp=Z,3μm,19.0s						
332A	**Millersview**	**36.07**	**8**	⇓P	**P**	**02 06 41.9**	**+0.6**
	baz=36,SNR=24						
223A	**Chaparral, Ant**	**36.38**	**358**	⇑P	**P**	**02 06 43.5**	**-0.6**
	baz=37						
227A	**Bennet, Jal**	**36.39**	**2**	⇓P	**P**	**02 06 43.9**	**-0.2**
	baz=37						
220A	**Playas Peak, P**	**36.41**	**355**	⇓P	**P**	**02 06 44.8**	**+0.5**
	baz=37,SNR=26						
230A	**Sterling City**	**36.42**	**6**	⇑P	**P**	**02 06 45.2**	**+0.9**
	baz=37,SNR=6.8						
224A	**Cornudas Mount**	**36.42**	**359**	⇑P	**P**	**02 06 44.2**	**-0.3**
	baz=37,SNR=27						
226B	**Tecolote Peak,**	**36.43**	**1**	⇓P	**P**	**02 06 44.4**	**-0.1**
	baz=37,SNR=40						
229A	**Bryant Ranch,**	**36.44**	**5**	⇑P	**P**	**02 06 44.8**	**+0.4**
	baz=37						
221A	**Mesquite Ranch**	**36.45**	**356**	⇓P	**P**	**02 06 45.2**	**+0.5**
	baz=37						
225A	**Deer Hill, Car**	**36.45**	**0**	⇓P	**P**	**02 06 44.6**	**-0.2**
	baz=37						
222A	**Williams Famil**	**36.51**	**357**	⇓P	**P**	**02 06 45.5**	**+0.4**
	baz=37,SNR=22						
228A	**UT Block 9, Go**	**36.53**	**3**	⇑P	**P**	**02 06 45.4**	**+0.1**
	baz=37						
231A	**Bronte**	**36.55**	**7**	⇓P	**P**	**02 06 45.1**	**-0.3**
	baz=37,SNR=22						
**232A

Z20A	**Nine Sixteen R**	**37.61**	**355**	⇑P		**P**	**02 06 54.8**	**+0.2**
	baz=38,SNR=25								
H03N1	**Juan Fernandez**	**37.62**	**143**	T		T	02 46 50.2		
	baz=315,slow=0.7,SNR=536								
H03N3	**Juan Fernandez**	**37.62**	**143**	T		T	02 46 47.3		
	baz=315,slow=0.7,SNR=556								
Z25A	**Roswell**	**37.62**	**0**	⇓P		**P**	**02 06 54.2**	**-0.4**
	baz=38,SNR=23								
Z23A	**Rita Site, Whi**	**37.62**	**358**	⇑P		**P**	**02 06 54.2**	**-0.4**
	baz=38,SNR=12								
Z26A	**Caprock**	**37.62**	**1**	⇑P		**P**	**02 06 54.2**	**-0.4**
	baz=38,SNR=8.7								
Z22A	**Elephant Butte**	**37.65**	**357**	⇓P		**P**	**02 06 55.0**	**+0.1**
	baz=38,SNR=26								
Z24A	**Sheeppen Canyo**	**37.67**	**359**	⇓P		**P**	**02 06 54.6**	**-0.5**
	baz=38								
Z27A	**Tatum**	**37.69**	**2**	⇑P		**P**	**02 06 55.2**	**0.0**
	baz=38,SNR=44								
Z28A	**Tucker Farm, M**	**37.71**	**4**	⇓P		**P**	**02 06 55.2**	**-0.1**
	baz=38,SNR=15								
Z29A	**Hungry Hill Ra**	**37.73**	**4**	⇑P		**P**	**02 06 55.3**	**-0.2**
	baz=38,SNR=13								
Z21A	**St. Cloud Mine**	**37.74**	**356**	⇑P		**P**	**02 06 56.1**	**+0.4**
	baz=38,SNR=21								
Z30A	**Sanderson Ranc**	**37.80**	**5**	⇑P		**P**	**02 06 55.9**	**-0.1**
	baz=38,SNR=28								
Z31A	**Sharp Cattle R**	**37.94**	**7**	⇑P		**P**	**02 06 57.2**	**0.0**
	baz=38,SNR=13								
LPAZ	**La Paz**	**37.97**	**111**	*e*P		**P**	**02 06 58.7**	**+0.3**
	comp=Z,22nm,1.4s								
LPAZ				*e*PcP		**PcP**	**02 09 14.7**	**+0.6**
LPAZ	**La Paz**	**37.97**	**111**	P		**P**	**02 06 59.0**	**+0.6**
	comp=Z,6.9nm,1.1s,baz=266,slow=6.5,SNR=7.5								
LPAZ				PcP		**PcP**	**02 09 15.8**	**+1.8**
	comp=Z,2.2nm,1.0s,baz=335,slow=3.7,SNR=2.5								
LPAZ				LR		LR	02 20 21.6		
	comp=Z,3μm,19.2s,baz=14,slow=33								
Z32A	**Haskell**	**38.00**	**7**	⇑P		**P**	**02 06 58.1**	**+0.4**
	baz=38,SNR=15								
113A	**Mohawk Valley,**	**38.04**	**348**	⇓P		**P**	**02 06 58.0**	**0.0**
	baz=38,SNR=9.3								
GTBY	**Guantanamo Bay**	**38.11**	**49**	PFAKE			02 07 10.0	+11
GTBY				LR		LR			
	comp=Z,5μm,19.0s								
Y27A	**Causey**	**38.26**	**2**	⇓P		**P**	**02 06 59.8**	**-0.2**
	baz=38,SNR=17								
Y25A	**Mesa, Roswell**	**38.26**	**0**	⇓P		**P**	**02 06 59.9**	**-0.2**
	baz=38,SNR=25								
Y24A	**Capitan**	**38.27**	**359**	⇓P		**P**	**02 07 00.6**	**+0.5**
	baz=38,SNR=18								
Y26A	**Elida**	**38.28**	**2**	⇑P		**P**	**02 07 00.4**	**+0.2**
	baz=38								
Y23A	**Lovelace Mesa,**	**38.29**	**359**	⇑P		**P**	**02 07 01.0**	**+0.7**
	baz=38,SNR=12								
Y22A	**Socorro**	**38.32**	**357**	⇓P		**P**	**02 07 00.9**	**+0.3**
	baz=38,SNR=31								
Y29A	**Porterfield Fa**	**38.33**	**4**	⇓P		**P**	**02 07 00.9**	**+0.4**
	baz=38,SNR=9.8								
Y28A	**McKinney Farm,**	**38.33**	**4**	⇓P		**P**	**02 07 00.8**	**+0.2**
	baz=38,SNR=20								
MSTX	**Muleshoe**	**38.37**	**3**	*e*P		**P**	**02 07 01.1**	**+0.2**
MSTX	**Muleshoe**	**38.37**	**3**	⇓P		**P**	**02 07 01.1**	**+0.2**
	baz=39,SNR=16								
Y20A	**Horse Springs,**	**38.38**	**355**	⇑P		**P**	**02 07 01.5**	**+0.3**
	baz=39,SNR=18								
Y30A	**Stafford Cattl**	**38.41**	**5**	⇓P		**P**	**02 07 01.2**	**0.0**
	baz=39								
Y21A	**Point of Rocks**	**38.43**	**356**	⇑P		**P**	**02 07 02.3**	**+0.7**
	baz=39,SNR=12								
Z14A	**Wintersburg**	**38.46**	**349**	⇑P		**P**	**02 07 01.8**	**+0.3**
	baz=39,SNR=7.8								
Y22D	**IRIS PASSCAL I**	**38.46**	**357**	⇑P		**P**	**02 07 01.4**	**-0.2**
	baz=39								
DVTC	**Desert V Tower**	**38.49**	**345**	⇑P		**P**	**02 07 01.9**	**0.0**
	baz=39								
BNM	**Barren Site**	**38.52**	**358**	*e*P		**P**	**02 07 02.3**	**0.0**
	comp=Z,41nm,1.3s								
GLA	**Glamis**	**38.55**	**347**	*e*P		**P**	**02 07 02.0**	**-0.3**
GLA				pmax		pmax			
	comp=Z,51nm,1.3s								
GLA	**Glamis**	**38.55**	**347**	*e*P		**P**	**02 07 02.0**	**-0.3**
	comp=Z,51nm,1.3s								
GLA	**Glamis**	**38.55**	**347**	⇑P		**P**	**02 07 02.7**	**+0.4**
	baz=39,SNR=10								
Y31A	**Rekieta Farm,**	**38.56**	**6**	⇑P		**P**	**02 07 03.7**	**+1.3**
	baz=39,SNR=9.5								
BAR	**Barrett**	**38.66**	**344**	*e*P		**P**	**02 07 03.9**	**+0.6**
	comp=Z,28nm,1.2s								
SWSC	**Sam W. Stewart**	**38.68**	**345**	⇑P		**P**	**02 07 03.5**	**+0.2**
	baz=39,SNR=12								
LPM	**Los Pinos Moun**	**38.68**	**358**	*e*P		**P**	**02 07 04.6**	**+1.0**
	comp=Z,15nm,1.1s								
Y32A	**R-V Farms, Ver**	**38.70**	**7**	⇑P		**P**	**02 07 04.1**	**+0.6**
	baz=39,SNR=10								
MONP	**Monument Peak**	**38.79**	**345**	⇑P		**P**	**02 07 04.1**	**-0.5**
	baz=39,SNR=9.6								
LAZ	**Ladron**	**38.80**	**357**	*e*P		**P**	**02 07 05.0**	**+0.5**
	comp=Z,42nm,1.3s								
X25A	**Clemmons Ranch**	**38.87**	**0**	⇓P		**P**	**02 07 04.7**	**-0.4**
	baz=39								
X21A	**Alamocita Cree**	**38.88**	**356**	⇓P		**P**	**02 07 05.8**	**+0.5**
	baz=39,SNR=28								
X22A	**Bernardo**	**38.89**	**357**	⇓P		**P**	**02 07 04.9**	**-0.4**
	baz=39								
X26A	**CR and CF Fran**	**38.90**	**2**	⇓P		**P**	**02 07 04.7**	**-0.7**
	baz=39								
X29A	**Tulia**	**38.91**	**4**	⇑P		**P**	**02 07 05.2**	**-0.2**
	baz=39								
X24A	**Lazy VL Ranch,**	**38.91**	**359**	⇑P		**P**	**02 07 05.2**	**-0.3**
	baz=39								
X23A	**Hourglass Bar**	**38.94**	**358**	⇑P		**P**	**02 07 06.5**	**+0.7**
	baz=39,SNR=28								
X28A	**Dimmitt**	**38.94**	**4**	⇓P		**P**	**02 07 05.6**	**-0.1**
	baz=39								
X30A	**Coker Ranch, T**	**38.98**	**5**	⇓P		**P**	**02 07 06.0**	**+0.1**
	baz=39								
109C	**Camp Elliot, M**	**38.98**	**344**	⇑P		**P**	**02 07 05.3**	**-0.5**
	baz=39								
X20A	**Quemado**	**39.02**	**355**	⇑P		**P**	**02 07 07.1**	**+0.6**
	baz=39,SNR=8.7								
X27A	**F and S Farms,**	**39.02**	**2**	⇓P		**P**	**02 07 06.3**	**-0.1**
	baz=39								
Y14A	**Wickenburg**	**39.03**	**349**	⇑P		**P**	**02 07 06.7**	**+0.4**
	baz=39,SNR=19								
VBMS	**Vicksburg**	**39.06**	**20**	PFAKE			02 07 20.0	+13
VBMS				LR		LR			
	comp=Z,1μm,20.0s								
X18A	**Snowflake**	**39.15**	**353**	⇓P		**P**	**02 07 07.8**	**+0.2**
	baz=39								
Y12C	**Blythe**	**39.15**	**347**	⇑P		**P**	**02 07 07.7**	**+0.4**
	baz=39,SNR=7.0								
LVC	**Limon Verde**	**39.20**	**121**	*e*P		**P**	**02 07 09.2**	**+1.0**
LVC				LR		LR			
	comp=Z,4μm,20.0s								
X16A	**Lo Mia Camp, P**	**39.24**	**352**	⇓P		**P**	**02 07 08.3**	**0.0**
	baz=39,SNR=21								
X31A	**McDonald Ranch**	**39.25**	**6**	⇓P		**P**	**02 07 08.8**	**+0.7**
	baz=39								
BC3	**Big Chuckawall**	**39.27**	**346**	⇓P		**P**	**02 07 08.6**	**+0.2**
	baz=40,SNR=13								
BRAL	**Brewton**	**39.27**	**25**	PFAKE			02 07 20.0	+12
BRAL				LR		LR			
	comp=Z,1μm,20.0s								
ANMO	**Albuquerque**	**39.31**	**358**	*e*P		**P**	**02 07 08.9**	**+0.1**
	comp=Z,23nm,1.1s								
ANMO				LR		LR			
	comp=Z,2μm,20.0s								
ANMO	**Albuquerque**	**39.31**	**358**	P		**P**	**02 07 09.1**	**+0.2**
	comp=Z,7.3nm,1.0s,baz=166,slow=10,SNR=17								
W27A	**Bowe Ranch, En**	**39.44**	**2**	⇑P		**P**	**02 07 09.7**	**-0.1**
	baz=40								
W26A	**Owens Ranch, T**	**39.44**	**2**	⇓P		**P**	**02 07 09.7**	**-0.2**
	baz=40								
W22A	**Albuquerque**	**39.45**	**358**	⇑P		**P**	**02 07 09.8**	**-0.2**
	baz=40								
PFO	**Pinyon Flat Ob**	**39.48**	**345**	*e*P		**P**	**02 07 10.4**	**+0.2**
	comp=Z,32nm,1.1s								
PFO	**Pinyon Flat Ob**	**39.48**	**345**	⇑P		**P**	**02 07 10.2**	**0.0**
	baz=40,SNR=8.1								
PFO	**Pinyon Flat Ob**	**39.48**	**345**	P		**P**	**02 07 09.8**	**-0.4**
	comp=Z,10nm,0.9s,baz=157,slow=4.5,SNR=9.9								
PFO				LR		LR	02 19 50.7		
	comp=Z,8μm,18.8s,baz=163,slow=31								
SCI	**San Clemente I**	**39.49**	**342**	⇓P		**P**	**02 07 09.8**	**-0.4**
	baz=40								
WMOK	**Wichita Mounta**	**39.51**	**8**	*e*P		**P**	**02 07 10.4**	**+0.1**
WMOK				pmax		pmax			
	comp=Z,38nm,1.6s								
WMOK				MLR		MLR			
	comp=Z,1μm,22.0s								
WMOK	**Wichita Mounta**	**39.51**	**8**	*e*P		**P**	**02 07 10.4**	**+0.1**
	comp=Z,38nm,1.6s								
WMOK				LR		LR			
	comp=Z,1μm,22.0s								
W23A	**Werner Place,**	**39.51**	**358**	⇓P		**P**	**02 07 10.6**	**0.0**
	baz=40								
W21A	**San Fidel**	**39.53**	**357**	⇓P		**P**	**02 07 10.9**	**+0.1**
	baz=40,SNR=16								
W24A	**Lazy 6 Ranch,**	**39.55**	**359**	⇑P		**P**	**02 07 10.6**	**-0.3**
	baz=40,SNR=21								
W25A	**X Bar L Ranch,**	**39.56**	**1**	⇑P		**P**	**02 07 10.8**	**-0.1**
	baz=40,SNR=7.0								
W29A	**Amraillo**	**39.58**	**4**	⇑P		**P**	**02 07 10.9**	**-0.1**
	baz=40,SNR=9.2								
PDMCI	**Parker Dam,Lak**	**39.60**	**348**	⇓P		**P**	**02 07 11.0**	**-0.1**
	baz=40,SNR=21								
W20A	**Ramah**	**39.60**	**355**	⇓P		**P**	**02 07 11.6**	**+0.2**
	baz=40,SNR=14								
MURC	**Murrieta**	**39.67**	**344**	⇑P		**P**	**02 07 10.9**	**-0.8**
	baz=40								
W28A	**Vega**	**39.68**	**4**	⇓P		**P**	**02 07 11.8**	**0.0**
	baz=40								
IRM	**Iron Mountain**	**39.69**	**347**	⇓P		**P**	**02 07 11.8**	**0.0**
	baz=40								
W18A	**Petrified Fore**	**39.71**	**354**	*e*P		**P**	**02 07 13.3**	**+1.1**
W18A	**Petrified Fore**	**39.71**	**354**	⇑P		**P**	**02 07 12.8**	**+0.6**
	baz=40								
W30A	**Crocket Farms**	**39.73**	**6**	⇓P		**P**	**02 07 12.8**	**+0.6**
	baz=40								
BELC	**Belle Mtn. Jos**	**39.74**	**346**	⇑P		**P**	**02 07 12.8**	**+0.5**
	baz=40,SNR=21								
W31A	**Holland Ranch,**	**39.80**	**6**	⇑P		**P**	**02 07 13.0**	**+0.3**
	baz=40,SNR=11								
CIS	**Catalina Islan**	**39.84**	**342**	⇓P		**P**	**02 07 12.9**	**-0.2**
	baz=40								
V24A	**Rampart Ranch,**	**40.06**	**360**	⇓P		**P**	**02 07 15.1**	**-0.1**
	baz=40,SNR=11								
V23A	**Ortiz Mt. (NFS**	**40.10**	**358**	⇓P		**P**	**02 07 15.5**	**0.0**
	baz=40								
V27A	**Dan Oppiter Fa**	**40.14**	**3**	⇑P		**P**	**02 07 15.8**	**+0.1**
	baz=40								
V26A	**Tequesquite Ra**	**40.15**	**1**	⇑P		**P**	**02 07 15.7**	**0.0**
	baz=40,SNR=8.7								
V28A	**Channing**	**40.17**	**3**	⇓P		**P**	**02 07 15.5**	**-0.4**
	baz=40								
V25A	**Rancho No Teng**	**40.17**	**0**	⇑P		**P**	**02 07 16.2**	**+0.1**
	baz=40,SNR=16								
V21A	**Milan**	**40.22**	**357**	⇓P		**P**	**02 07 17.1**	**+0.6**
	baz=40,SNR=12								
BBRC	**Big Bear Solar**	**40.22**	**345**	⇓P		**P**	**02 07 16.2**	**-0.3**
	baz=40								
V20A	**Brimhall**	**40.27**	**356**	⇓P		**P**	**02 07 17.3**	**+0.5**
	baz=40,SNR=11								
V22A	**San Miguel Ran**	**40.29**	**358**	⇑P		**P**	**02 07 17.7**	**+0.6**
	baz=40,SNR=21								
V30A	**Spur Ranch, Mi**	**40.30**	**5**	⇓P		**P**	**02 07 17.2**	**+0.3**
	baz=40								
WUAZ	**Wupatki**	**40.31**	**352**	*e*P		**P**	**02 07 17.9**	**+0.7**
	comp=Z,30nm,1.0s								
WUAZ				*e*PcP		PcP	02 09 27.2	+6.7
WUAZ				LR		LR			
	comp=Z,4μm,19.0s								
WUAZ	**Wupatki**	**40.31**	**352**	⇑P		**P**	**02 07 17.8**	**+0.7**
	baz=40,SNR=22								
W13A	**Hualapai Mount**	**40.32**	**349**	⇓P		**P**	**02 07 17.8**	**+0.5**
	baz=40,SNR=13								
V29A	**Stinnett**	**40.34**	**4**	⇑P		**P**	**02 07 17.4**	**+0.2**
	baz=40								
V31A	**Spring Creek L**	**40.40**	**6**	⇑P		**P**	**02 07 18.3**	**+0.6**
	baz=41,SNR=9.0								
GMRC	**Granite Mounta**	**40.40**	**346**	⇑P		**P**	**02 07 17.8**	**-0.1**
	baz=41,SNR=23								
BFSC	**Mount Baldy Ra**	**40.40**	**344**	⇓P		**P**	**02 07 17.6**	**-0.2**
	baz=41,SNR=12								
MWC	**Mount Wilson**	**40.50**	**343**	*e*P		**P**	**02 07 19.5**	**+0.8**
MWC				pmax		pmax			
	comp=Z,63nm,1.4s								
MWC	**Mount Wilson**	**40.50**	**343**	*e*P		**P**	**02 07 19.5**	**+0.8**
	comp=Z,64nm,1.4s								
LDFC	**Landfair**	**40.56**	**347**	*e*P		**P**	**02 07 20.4**	**+1.3**
	comp=Z,111nm,1.2s								
LCO	**Las Campanas**	**40.56**	**131**	*e*P		**P**	**02 07 20.6**	**+1.1**
	comp=Z,194nm,1.8s								
LCO				LR		LR			
	comp=Z,11μm,21.0s								
SDDR	**Presa de Saban**	**40.57**	**54**	PFAKE			02 07 30.0	+11
SDDR				LR		LR			
	comp=Z,2μm,20.0s								
DECC	**Green Verdugo**	**40.60**	**343**	⇑P		**P**	**02 07 19.4**	**0.0**
	baz=41								
HEC	**Hector,Ludlow**	**40.61**	**346**	⇓P		**P**	**02 07 19.8**	**+0.3**
	baz=41,SNR=31								
U23A	**El Rito**	**40.68**	**358**	⇓P		**P**	**02 07 20.4**	**+0.1**
	baz=41,SNR=13								
BLG	**Laguna Peak**	**40.69**	**342**	⇑P		**P**	**02 07 20.2**	**+0.1**
	baz=41								
U25A	**Circle Dot Ran**	**40.74**	**1**	⇑P		**P**	**02 07 20.9**	**+0.2**
	baz=41,SNR=34								
U26A	**Atchley Ranch,**	**40.74**	**1**	⇓P		**P**	**02 07 20.6**	**-0.1**
	baz=41,SNR=7.2								
U22A	**Llaves**	**40.75**	**358**	⇓P		**P**	**02 07 21.3**	**+0.5**
	baz=41,SNR=39								
U28A	**Mallet**	**40.79**	**3**	⇓P		**P**	**02 07 21.2**	**+0.1**
	baz=41								
U27A	**Thompson Grove**	**40.80**	**3**	⇑P		**P**	**02 07 21.5**	**+0.3**
	baz=41,SNR=7.1								
RRX	**Edison Barstow**	**40.83**	**345**	⇑P		**P**	**02 07 21.1**	**-0.1**
	baz=41								
U21A	**Nageezi**	**40.84**	**357**	⇓P		**P**	**02 07 21.9**	**+0.3**
	baz=41,SNR=34								
U20A	**Newcomb**	**40.85**	**356**	⇑P		**P**	**02 07 21.8**	**+0.3**
	baz=41								
U29A	**Oasis Ranch, S**	**40.93**	**5**	⇑P		**P**	**02 07 22.8**	**+0.7**
	baz=41								
U31A	**Nine Bar Ranch**	**40.98**	**6**	⇑P		**P**	**02 07 22.8**	**+0.2**
	baz=41								
OSI	**Osito Adit**	**41.06**	**343**	⇑P		**P**	**02 07 23.3**	**+0.1**
	baz=41								
U30A	**WK&E Inc. Balk**	**41.06**	**5**	⇑P		**P**	**02 07 23.4**	**+0.2**
	baz=41								
LRAL	**Lakeview Retre**	**41.07**	**23**	*e*P		**P**	**02 07 22.3**	**-1.0**
	comp=Z,20nm,1.2s								
LRAL				LR		LR			
	comp=Z,1μm,20.0s								
TUQ	**Turquoise Moun**	**41.09**	**346**	⇑P		**P**	**02 07 23.8**	**+0.2**
	baz=41,SNR=14								
EDW2	**Edwards Air Fo**	**41.09**	**344**	⇑P		**P**	**02 07 23.6**	**+0.1**
	baz=41,SNR=16								
TUL1	**Tulsa**	**41.15**	**11**	*e*P		**P**	**02 07 23.6**	**-0.3**
TUL1	**Tulsa**	**41.15**	**11**	⇓P		**P**	**02 07 24.2**	**+0.3**
	baz=41								
GSC	**Goldstone**	**41.17**	**345**	*e*P		**P**	**02 07 24.9**	**+0.7**
GSC				pmax		pmax			
	comp=Z,36nm,1.2s								
GSC	**Goldstone**	**41.17**	**345**	*e*P		**P**	**02 07 24.9**	**+0.7**
	comp=Z,36nm,1.2s								
GSC	**Goldstone**	**41.17**	**345**	⇓P		**P**	**02 07 24.7**	**+0.5**
	baz=41,SNR=17								
TIGA	**Tifton**	**41.18**	**28**	⇓P		**P**	**02 07 24.4**	**+0.2**
	baz=41								
SBC	**Santa Barbara**	**41.20**	**341**	⇑P		**P**	**02 07 23.9**	**-0.4**
	baz=41								
U15A	**North Rim**	**41.34**	**351**	⇓P		**P**	**02 07 26.1**	**+0.4**
	baz=42,SNR=19								
T23A	**Casias Ranch,**	**41.38**	**359**	⇓P		**P**	**02 07 26.7**	**+0.6**
	baz=42,SNR=8.6								
T22A	**Edith**	**41.39**	**358**	⇑P		**P**	**02 07 25.9**	**-0.1**
	baz=42,SNR=36								
T21A	**Navajo Lake**	**41.40**	**357**	⇓P		**P**	**02 07 25.7**	**-0.4**
	baz=42,SNR=12								
T24B	**San Luis**	**41.40**	**359**	⇑P		**P**	**02 07 26.7**	**+0.5**
	baz=42								
T27A	**Campo**	**41.45**	**3**	⇓P		**P**	**02 07 27.0**	**+0.6**
	baz=42,SNR=10								
T25A	**Trinidad**	**41.48**	**1**	⇑P		**P**	**02 07 27.2**	**+0.4**
	baz=42,SNR=13								
OXF	**Oxford**	**41.52**	**20**	*e*P		**P**	**02 07 24.3**	**-2.6**
OXF				pmax		pmax			
	comp=Z,41nm,1.1s								
OXF				MLR		MLR			
	comp=Z,1μm,22.0s								
OXF	**Oxford**	**41.52**	**20**	*e*P		**P**	**02 07 24.3**	**-2.6**
	comp=Z,41nm,1.1s								
OXF				LR		LR			
	comp=Z,1μm,22.0s								
T28A	**Walsh**	**41.54**	**3**	⇑P		**P**	**02 07 27.2**	**0.0**
	baz=42								
ARVC	**Arvin**	**41.57**	**343**	⇑P		**P**	**02 07 27.1**	**-0.2**
	baz=42								
LRMC	**Laurel Mountai**	**41.57**	**344**	⇓P		**P**	**02 07 27.3**	**-0.2**
	baz=42,SNR=17								
T30A	**Plains**	**41.59**	**5**	⇓P		**P**	**02 07 28.1**	**+0.6**
	baz=42								
SHOC	**Shoshone**	**41.61**	**346**	⇓P		**P**	**02 07 28.4**	**+0.7**
	baz=42,SNR=11								
T29A	**Hugoton**	**41.63**	**4**	⇑P		**P**	**02 07 28.5**	**+0.7**
	baz=42,SNR=7.3								
PKM	**Peak Mountain**	**41.66**	**342**	⇑P		**P**	**02 07 28.0**	**-0.2**
	baz=42								
MVCO	**Mesa Verde**	**41.67**	**356**	*e*P		**P**	**02 07 28.6**	**+0.2**
	comp=Z,64nm,1.2s								
MVCO				LR		LR			
	comp=Z,3μm,20.0s								
MVCO	**Mesa Verde**	**41.67**	**356**	⇓P		**P**	**02 07 28.8**	**+0.3**
	baz=42,SNR=20								
SAML	**Samuel**	**41.69**	**98**	*e*P		**P**	**02 07 27.7**	**-1.0**
	comp=Z,117nm,1.4s								
SAML				*e*			02 09 10.3		
SAML				LR		LR			
	comp=Z,2μm,21.0s								
T31A	**Randall Ranch,**	**41.72**	**6**	⇑P		**P**	**02 07 28.7**	**+0.1**
	baz=42								
SHPR	**Sheep Range**	**41.94**	**348**	*e*P		**P**	**02 07 31.0**	**+0.5**
	comp=Z,67nm,1.4s								
ISA	**Isabella**	**41.96**	**343**	*e*P		**P**	**02 07 31.3**	**+0.7**
ISA				pmax		pmax			
	comp=Z,21nm,1.1s								
ISA	**Isabella**	**41.96**	**343**	*e*P		**P**	**02 07 31.3**	**+0.7**
	comp=Z,21nm,1.1s								
ISA	**Isabella**	**41.96**	**343**	⇑P		**P**	**02 07 30.8**	**+0.2**
	baz=42,SNR=13								
S24A	**Houchin Ranch,**	**41.97**	**360**	⇑P		**P**	**02 07 31.3**	**+0.3**
	baz=42,SNR=14								
S26A	**Kim**	**41.98**	**2**	⇑P		**P**	**02 07 31.3**	**+0.6**
	baz=42,SNR=14								
S25A	**Robets Cordova**	**41.99**	**1**	⇑P		**P**	**02 07 31.1**	**+0.1**
	baz=42								
S28A	**Manter**	**42.02**	**4**	⇑P		**P**	**02 07 31.0**	**-0.1**
	baz=42								
S23A	**Nye Farm, Mont**	**42.05**	**359**	⇓P		**P**	**02 07 31.6**	**+0.1**
	baz=42								
GRTK	**Grand Turk**	**42.06**	**51**	PFAKE			02 07 40.0	+8.5
GRTK				LR		LR			
	comp=Z,6μm,20.0s								
S27A	**Las Animas**	**42.06**	**2**	⇓P		**P**	**02 07 31.8**	**+0.3**
	baz=42								
MPMC	**Manual Prospec**	**42.07**	**345**	⇓P		**P**	**02 07 32.0**	**+0.3**
	baz=42,SNR=22								
S21A	**Coal Bank Pass**	**42.08**	**357**	⇓P		**P**	**02 07 31.7**	**-0.1**
	baz=42,SNR=15								
SDCO	**Great Sand Dun**	**42.08**	**359**	*e*P		**P**	**02 07 32.1**	**+0.3**
	comp=Z,36nm,1.4s								
SDCO				LR		LR			
	comp=Z,2μm,19.0s								
SMMC	**Simmler**	**42.09**	**342**	⇓P		**P**	**02 07 31.8**	**+0.2**
	baz=42								
S29A	**Ulysses**	**42.10**	**5**	⇑P		**P**	**02 07 31.8**	**0.0**
	baz=42								
S22A	**4UR Ranch, Cre**	**42.11**	**358**	⇑P		**P**	**02 07 32.6**	**+0.5**
	baz=42,SNR=33								
S30A	**Montezuma**	**42.18**	**5**	⇑P		**P**	**02 07 32.5**	**+0.2**
	baz=42								
S31A	**Mullinville**	**42.26**	**6**	⇑P		**P**	**02 07 33.2**	**+0.2**
	baz=42								
S20A	**Disappointment**	**42.28**	**356**	⇓P		**P**	**02 07 33.2**	**-0.2**
	baz=42								
FURC	**Furnace Creek,**	**42.30**	**346**	⇑P		**P**	**02 07 33.7**	**+0.5**
	baz=42,SNR=16								
VES	**Vestal, Richgr**	**42.31**	**343**	⇑P		**P**	**02 07 33.0**	**-0.3**
	baz=42								
R25A	**Fountain Ranch**	**42.48**	**1**	⇑P		**P**	**02 07 35.2**	**+0.3**
	baz=43								
R23A	**Moffat**	**42.53**	**359**	⇑P		**P**	**02 07 35.5**	**+0.1**
	baz=43,SNR=30								
R24A	**Sanders Place,**	**42.56**	**360**	⇑P		**P**	**02 07 35.9**	**+0.3**
	baz=43								
CWC	**Cottonwood Cre**	**42.58**	**344**	⇑P		**P**	**02 07 35.4**	**-0.4**
	baz=43								
R22A	**Saguache, Gunn**	**42.59**	**358**	⇓P		**P**	**02 07 36.0**	**0.0**
	baz=43,SNR=18								
PV01	**Paradox Valley**	**42.60**	**356**	*e*P		**P**	**02 07 36.4**	**+0.4**
	comp=Z,3μm,1.2s								
CCUT	**Cedar City**	**42.61**	**350**	*e*P		**P**	**02 07 36.9**	**+0.9**
	comp=Z

baz=44,SNR=47
P24A Kohler Place, 43.84 0 ⇓P P 02 07 46.3 +0.3
baz=44
P25A Willow Gulch B 43.85 1 ⇓P P 02 07 46.1 +0.1
baz=44,SNR=14
SAO San Andreas Ge 43.89 341 eP P 02 07 46.3 +0.2
SAO pmax pmax
comp=Z,24nm,1.0s
SAO San Andreas Ge 43.89 341 eP P 02 07 46.3 +0.2
comp=Z,24nm,1.0s
MLAC Mammoth Lakes 43.91 344 ⇑P P 02 07 45.8 -0.7
baz=44
TPH Tonopah 43.91 346 PFAKE 02 08 00.0 +13
TPH LR LR
comp=Z,742nm,22.0s
P21A Newcastle 43.91 357 ⇓P P 02 07 46.4 -0.2
baz=44,SNR=36
P26A Davis Ranch, A 43.91 2 ⇓P P 02 07 46.9 +0.4
baz=44
P27A Ficken Ranch, 43.94 3 ⇓P P 02 07 46.8 +0.2
baz=44
P20A De Beque 43.94 356 ⇓P P 02 07 46.6 -0.1
baz=44,SNR=17
P22A Eagle 43.96 358 ⇑P P 02 07 46.5 -0.4
baz=44,SNR=13
P28A Saint Francis 44.00 4 ⇑P P 02 07 47.0 -0.1
baz=44,SNR=12
TMUT Trail Mountain 44.01 353 eP P 02 07 48.0 +0.6
comp=Z,30nm,1.2s
P29A Atwood 44.09 4 ⇓P P 02 07 47.4 -0.4
baz=44
P30A Selden 44.09 5 ⇑P P 02 07 47.5 -0.2
baz=44
KSU1 Kansas State U 44.11 9 PFAKE 02 08 00.0 +12
KSU1 LR LR
comp=Z,2µm,20.0s
P19A Cripple Cowboy 44.12 356 ⇑P P 02 07 48.1 -0.1
baz=44,SNR=24
ISCO Idaho Springs 44.13 359 eP P 02 07 48.7 +0.3
ISCO pmax pmax
comp=Z,23nm,1.1s
ISCO MLR MLR
comp=Z,3µm,21.0s
ISCO Idaho Springs 44.13 359 eP P 02 07 48.7 +0.3
comp=Z,22nm,1.1s
ISCO LR LR
comp=Z,3µm,21.0s
ISCO Idaho Springs 44.13 359 ⇓P P 02 07 48.6 +0.1
baz=44,SNR=21
P31A Stockton 44.15 6 ⇓P P 02 07 48.7 +0.4
baz=44,SNR=15
P33A Williams Farm, 44.28 8 ⇓P P 02 07 49.7 +0.5
baz=44
P32A Huiting Farm, 44.34 7 ⇓P P 02 07 50.1 +0.3
baz=44,SNR=8.4
SJG San Juan 44.40 58 eP P 02 07 47.8 -2.6
SJG comp=Z,25nm,1.3s LR LR
comp=Z,3µm,21.0s
O25A Wiggins 44.45 1 ⇑P P 02 07 50.6 -0.1
baz=45
O24A Longmont 44.45 360 ⇑P P 02 07 50.9 +0.1
baz=45
NV11 Mina Array Sit 44.48 345 eP P 02 07 51.7 +0.6
NV11 ePcP PcP 02 09 30.1 -4.2
O22A Kremmling 44.51 358 ⇓P P 02 07 51.6 +0.1
baz=45,SNR=26
NVAR Mina Array Bea 44.52 345 P P 02 07 52.0 +0.6
NVAR PcP PP 02 09 35.9 +0.2
NVAR Mina Array Bea 44.52 345 P P 02 07 52.0 +0.6
comp=Z,6.0nm,1.0s,baz=173,slow=9.3,SNR=27
NVAR PcP PP 02 09 35.9 +0.2
comp=Z,2.2nm,1.1s,baz=174,slow=4.5,SNR=2.7
NVAR LR LR 02 22 38.5
comp=Z,5µm,18.6s,baz=356,slow=31
SIUC Southern Illin 44.52 18 eP P 02 07 51.2 +0.1
comp=Z,46nm,1.1s
O23A Lake Granby, G 44.55 359 ⇓P P 02 07 51.9 +0.1
baz=45,SNR=23
SIV San Ignacio 44.55 108 P P 02 07 50.1 -1.7
SIV San Ignacio 44.55 108 P P 02 07 50.1 -1.7
comp=Z,4.5nm,1.0s,baz=283,slow=11,SNR=8.1
O28A Krutsinger Ran 44.55 3 ⇓P P 02 07 51.7 +0.2
baz=45
O20A White River Ci 44.57 356 eP P 02 07 52.2 +0.5
O20A White River Ci 44.57 356 ⇓P P 02 07 52.0 +0.2
baz=45,SNR=34
O27A Beecher Island 44.58 3 ⇑P P 02 07 52.2 +0.4
baz=45,SNR=12
O26A Horse Wrangler 44.60 2 ⇑P P 02 07 52.2 +0.3
baz=45,SNR=7.1
O21A Pagoda 44.60 357 ⇑P P 02 07 52.3 +0.2
baz=45
O29A 4D Ranch, Culb 44.62 5 ⇑P P 02 07 52.5 +0.5
baz=45
TKL Tuckaleechee C 44.66 25 eP P 02 07 52.1 -0.2
TKL Tuckaleechee C 44.66 25 P P 02 07 51.3 -1.1
comp=Z,10nm,1.0s,baz=202,slow=12,SNR=7.0
TKL LR LR 02 26 47.8
comp=Z,1µm,18.3s,baz=215,slow=37
CMB Columbia Colle 44.73 343 eP P 02 07 53.2 +0.3
CMB pmax pmax
comp=Z,29nm,1.2s
CMB Columbia Colle 44.73 343 eP P 02 07 53.1 +0.3
comp=Z,29nm,1.2s
O30A MW Ranch, Wils 44.73 5 ⇑P P 02 07 53.6 +0.7
baz=45
NLU North Lily Min 44.77 352 eP P 02 07 54.0 +0.6
comp=Z,31nm,1.3s
MPU Maple Canyon 44.77 353 eP P 02 07 54.2 +0.8
comp=Z,77nm,1.2s
O31A Woolen Ranch, 44.78 6 ⇑P P 02 07 53.4 +0.2
baz=45
O19A Miners Draw (B 44.79 355 ⇓P P 02 07 53.8 +0.3
baz=45
WAKR Walker 44.89 344 eP P 02 07 55.4 +1.0
comp=Z,69nm,1.5s
MTP Monte Pirata 44.90 59 eP P 02 07 54.6 +0.2
comp=Z,53nm,1.3s
O32A Brockman Farm, 45.01 7 ⇑P P 02 07 55.5 +0.4
baz=45
DUG Dugway 45.11 351 eP P 02 07 56.5 +0.5
DUG pmax pmax
comp=Z,33nm,1.1s
DUG MLR MLR
comp=Z,3µm,20.0s
DUG Dugway 45.11 351 eP P 02 07 56.5 +0.5
comp=Z,33nm,1.1s
DUG LR LR
comp=Z,3µm,20.0s
DUG Dugway 45.11 351 ⇓P P 02 07 56.1 +0.1
baz=45,SNR=21
DAU Daniels Canyon 45.11 353 eP P 02 07 56.9 +0.6
DAU pmax pmax
comp=Z,58nm,1.1s
DAU Daniels Canyon 45.11 353 eP P 02 07 56.9 +0.6
comp=Z,58nm,1.1s
N28A Pribbeno Ranch 45.12 4 ⇓P P 02 07 56.4 +0.3
baz=45
N25A Grover 45.15 1 ⇑P P 02 07 56.3 0.0
baz=45
N22A Wattenberg Ran 45.15 358 ⇑P P 02 07 56.5 0.0
baz=45,SNR=12
N24A Carr 45.16 0 ⇓P P 02 07 56.6 +0.2
baz=45,SNR=6.5
N26A Koester Ranch, 45.18 2 ⇑P P 02 07 56.8 +0.3
baz=45,SNR=8.2
N27A Anderson Farm, 45.19 3 ⇑P P 02 07 56.8 +0.2
baz=45,SNR=8.6
N23A Red Feather La 45.23 359 ⇓P P 02 07 57.3 +0.2
baz=45,SNR=17
USIN University of 45.24 19 eP P 02 07 56.7 -0.2
comp=Z,72nm,1.1s
N20A Spence Gulch, 45.26 356 ⇓P P 02 07 57.6 +0.3
baz=46,SNR=43
N29A Votaw Ranch, W 45.32 5 ⇓P P 02 07 58.2 +0.6
baz=46
JLU Jordanelle 45.32 353 eP P 02 07 58.4 +0.6
comp=Z,26nm,1.1s
N30A Hueftle Ranch, 45.34 5 ⇑P P 02 07 58.0 +0.3
baz=46
OGNE Ogallala 45.35 3 eP P 02 07 59.1 +1.3
comp=Z,220nm,1.7s
OGNE LR LR
comp=Z,5µm,19.0s
OGNE Ogallala 45.35 3 ⇑P P 02 07 58.2 +0.3
baz=46
N31A Bailey Ranch, 45.48 6 ⇓P P 02 07 59.5 +0.7
baz=46
N32A Stulken Farm, 45.50 7 ⇑P P 02 07 59.8 +0.8
baz=46
TZTN Tazewell 45.52 24 eP P 02 07 58.8 -0.3
comp=Z,52nm,1.2s
TZTN ePcP PcP 02 09 34.8 -2.9
PPT Papeete 45.53 250 LR LR 02 21 57.1
comp=Z,3µm,18.0s,baz=84,slow=29
PPT2 Papeete2 45.54 250 eS S 02 14 40.1 -0.5
comp=Z,2µm,25.2s
PPT2 eLQ LQ 02 18 42.8
comp=Z,5µm,27.5s
PPT2 eLR LR 02 20 43.1
comp=Z,10µm,26.2s,baz=74
PHWY Pilot Hill 45.63 359 eP P 02 08 00.3 0.0
comp=Z,60nm,1.4s
M22A Cedar Creek Ra 45.76 358 ⇓P P 02 08 01.6 +0.4
baz=46
M24A Cheyenne 45.80 0 ⇑P P 02 08 01.5 0.0
baz=46,SNR=8.1
OLIL Olney 45.81 18 eP P 02 08 01.1 -0.2
comp=Z,94nm,1.2s
M26A McRoberts Ranc 45.82 2 ⇑P P 02 08 01.8 +0.1
baz=46
M28A Bar X Bar Ranc 45.84 4 ⇓P P 02 08 02.0 +0.3
baz=46
BGU Big Grassy Mou 45.85 351 eP P 02 08 02.0 +0.1
BGU comp=Z,27nm,1.2s ePcP PcP 02 09 39.1 +0.1
M20A Sweetwater, Wa 45.91 357 ⇑P P 02 08 02.2 -0.2
baz=46,SNR=5.5
M27A Reverse DX Ran 45.91 3 ⇓P P 02 08 03.0 +0.7
baz=46
WCI Wyandotte Cave 45.95 21 eP P 02 08 02.0 -0.6
WCI e 02 09 41.4
WCI pmax pmax
comp=Z,67nm,1.4s
WCI Wyandotte Cave 45.95 21 eP P 02 08 02.0 -0.6
comp=Z,67nm,1.4s
WCI e 02 09 41.4
M21A Separation Pea 45.99 357 ⇓P P 02 08 02.7 -0.3
baz=46,SNR=20
M19A Rock Springs 45.99 356 ⇑P P 02 08 02.7 -0.4
baz=46
M31A Lambtecht Ranc 46.00 6 ⇑P P 02 08 02.9 0.0
baz=46
PAHR Pah Rah Range 46.00 344 eP P 02 08 04.2 +1.1
comp=Z,54nm,1.2s
ELK Elko 46.05 349 eP P 02 08 03.1 -0.4
comp=Z,58nm,1.9s
ELK e 02 09 37.9
RWWY Rawlins 46.06 358 eP P 02 08 08.3 +4.6
comp=Z,87nm,1.4s
M17A Scullys Gap (B 46.10 354 ⇑P P 02 08 03.6 -0.3
baz=46,SNR=7.8
M30A Dale-Ortello V 46.10 5 ⇓P P 02 08 04.1 +0.4
baz=46
GRGR Grenville 46.13 68 PFAKE 02 08 20.0 +16
GRGR LR LR
comp=Z,2µm,22.0s
BMN Battle Mountai 46.16 347 eP P 02 08 04.4 +0.1
BMN pmax pmax
comp=Z,28nm,1.3s
BMN MLR MLR
comp=Z,6µm,20.0s
BMN Battle Mountai 46.16 347 eP P 02 08 04.4 +0.1
comp=Z,28nm,1.3s
BMN LR LR
comp=Z,6µm,20.0s
BGNE Belgrade 46.16 7 eP P 02 08 04.2 +0.1
BGNE Belgrade 46.16 7 ⇓P P 02 08 04.6 +0.4
baz=46
L21A Rawlins 46.34 358 ⇓P P 02 08 05.4 -0.4
baz=47,SNR=27
L24A Wheatland 46.37 0 ⇑P P 02 08 06.1 +0.2
baz=47
L22A Ellis Ranch, M 46.38 358 ⇓P P 02 08 06.0 0.0
baz=47,SNR=12
L26A Underwood Farm 46.40 2 ⇑P P 02 08 06.2 +0.1
baz=47
BEKR Beckworth 46.42 344 eP P 02 08 07.2 +0.8
comp=Z,16nm,1.4s
BEKR ePcP PcP 02 09 41.4 +0.4
L20A Wamsutter 46.44 357 ⇓P P 02 08 06.3 -0.2
baz=47,SNR=11
L28A Winnealy Angus 46.44 4 ⇑P P 02 08 07.0 +0.6
baz=47
L23A Garrett 46.45 359 ⇑P P 02 08 06.1 -0.5
baz=47,SNR=19
L27A T5 Ranch, Ells 46.47 3 ⇓P P 02 08 06.9 +0.2
baz=47
L18A Fontenelle, Gr 46.48 355 ⇓P P 02 08 06.4 -0.5
baz=47,SNR=14
L25A Engebretsen Ra 46.49 1 ⇑P P 02 08 07.2 +0.4
baz=47
L30A Spencer Herefo 46.52 5 ⇑P P 02 08 07.6 +0.6
baz=47
L29A Maesberg Ranch 46.57 5 ⇑P P 02 08 07.9 +0.5
baz=47
HVU Hansel Valley 46.66 352 eP P 02 08 08.2 0.0
HVU pmax pmax
comp=Z,40nm,1.2s
HVU Hansel Valley 46.66 352 eP P 02 08 08.2 0.0
comp=Z,40nm,1.2s
BLO Bloomington 46.72 20 eP P 02 08 07.8 -0.7
BLO pmax pmax
comp=Z,15nm,0.7s
BLO Bloomington 46.72 20 eP P 02 08 07.8 -0.7
comp=Z,15nm,0.7s
TBI Tubuai 46.81 242 eS S 02 14 59.5 +1.0
comp=Z,2µm,27.2s
TBI eLQ LQ 02 19 16.0
comp=Z,2µm,35.8s
TBI eLR LR 02 21 18.3
comp=Z,8µm,27.5s,baz=71
TBI Tubuai 46.81 242 eT T 02 58 11.2
comp=Z,7.8nm,0.3s
L31A Butterfield Fa 46.84 6 ⇑P P 02 08 10.0 +0.5
baz=47
K25A Mack Ranch, Ha 46.95 1 ⇓P P 02 08 10.2 -0.3
baz=47,SNR=5.5
K22A Casper 47.00 358 ⇑P P 02 08 10.4 -0.5
baz=47,SNR=19
K21A Alva 47.01 358 ⇓P P 02 08 10.4 -0.6
baz=47,SNR=22
CNNC Cliffs of the 47.05 31 PFAKE 02 08 20.0 +8.9
CNNC LR LR
comp=Z,5µm,22.0s
K24A Anderson Ranch 47.05 0 ⇓P P 02 08 11.1 -0.2
baz=47,SNR=9.1
K26A Motz Farm, Whi 47.05 2 ⇑P P 02 08 10.9 -0.3
baz=47,SNR=5.8
K20A Yellowstone Ra 47.09 357 ⇓P P 02 08 11.0 -0.5
baz=47,SNR=22
K23A Bowen Ranch, D 47.09 359 ⇓P P 02 08 11.0 -0.6
baz=47,SNR=16
K27A Flueckinger Fa 47.09 3 ⇑P P 02 08 11.5 -0.1
baz=47,SNR=7.7
K28A Ten Mile Ranch 47.15 4 ⇑P P 02 08 12.3 +0.3
baz=47
K30A Basset 47.25 5 ⇑P P 02 08 12.9 +0.3
baz=48
K29A Lazy Trails An 47.27 5 ⇑P P 02 08 13.5 +0.6
baz=48
BW06 Boulder Array 47.28 355 eP P 02 08 12.3 -0.8
comp=Z,57nm,1.5s
BW06 LR LR
comp=Z,4µm,21.0s
PDAR Pinedale Array 47.28 355 P P 02 08 11.9 -1.2
PDAR Pinedale Array 47.28 355 P P 02 08 11.9 -1.2
comp=Z,8.1nm,1.0s,baz=168,slow=7.2,SNR=48
PDAR LR LR 02 25 46.3
comp=Z,4µm,18.4s,baz=185,slow=33
K19A Absolon Red Bu 47.28 356 ⇓P P 02 08 12.3 -0.8
baz=48,SNR=30
AHID Auburn Hatcher 47.42 354 PFAKE 02 08 30.0 +16
AHID LR LR
comp=Z,5µm,19.0s
BLA Blacksburg 47.42 27 eP P 02 08 13.7 -0.4
BLA pmax pmax
comp=Z,94nm,1.7s
BLA MLR MLR
comp=Z,2µm,20.0s
BLA Blacksburg 47.42 27 eP P 02 08 13.7 -0.4
comp=Z,94nm,1.7s
BLA LR LR
comp=Z,2µm,20.0s
PLCA Paso Flores 47.45 144 eP P 02 08 13.8 -0.6
comp=Z,26nm,1.3s
PLCA Paso Flores 47.45 144 P P 02 08 14.5 +0.1
comp=Z,17nm,1.1s,baz=303,slow=9.6,SNR=8.9
PLCA LR LR 02 23 27.5
comp=Z,8µm,18.8s,baz=319,slow=30
SCIA State Center 47.46 12 eP P 02 08 15.2 +1.0
comp=Z,177nm,1.9s
SCIA LR LR
comp=Z,1µm,21.0s
LBCM Butte Creek Ri 47.60 343 P P 02 08 16.0 +0.4
SFIN Scholer Farm 47.62 18 eP P 02 08 14.6 -1.0
SFIN Scholer Farm 47.62 18 ⇓P P 02 08 16.1 +0.6
baz=48
VWCC Virginia Weste 47.65 27 eP P 02 08 15.3 -0.5
J27A Elkhorn Farm, 47.65 3 ⇑P P 02 08 15.9 0.0
baz=48,SNR=16
J24A Dixon Ranch, L 47.66 0 ⇓P P 02 08 16.2 +0.2
baz=48
J26A Sides Ranch, S 47.67 2 ⇑P P 02 08 15.8 -0.2
baz=48,SNR=36
WDC Whiskeytown Da 47.72 342 eP P 02 08 15.8 -0.5
WDC e 02 09 46.1
WDC pmax pmax
comp=Z,37nm,1.4s
WDC Whiskeytown Da 47.72 342 eP P 02 08 15.8 -0.5
comp=Z,37nm,1.4s
WDC ePcP PcP 02 09 46.1 +0.8
J21A Lysite 47.73 358 ⇓P P 02 08 15.9 -0.7
baz=48,SNR=6.8
J25A Sunshine Ranch 47.73 1 ⇑P P 02 08 16.3 -0.1
baz=48,SNR=13
J23A Dilts Ranch, B 47.73 359 ⇓P P 02 08 16.8 +0.3
baz=48
J19A Crowheart 47.73 356 ⇑P P 02 08 15.9 -0.7
baz=48,SNR=10
J22A Midwest 47.76 358 ⇑P P 02 08 16.4 -0.4
baz=48,SNR=52
J20A Shoshoni 47.76 357 ⇑P P 02 08 16.8 0.0
baz=48,SNR=28
J28A Allard Ranch, 47.87 4 ⇓P P 02 08 17.2 -0.3
baz=48,SNR=20
J30A Dallas 47.91 5 ⇓P P 02 08 17.3 -0.5
baz=48,SNR=16
J29A Okreek 47.91 5 ⇓P P 02 08 17.5 -0.4
baz=48,SNR=14
ANWB Willy Bob 47.98 61 PFAKE 02 08 30.0 +11
ANWB LR LR
comp=Z,2µm,22.0s
REDW Red Top Meadow 47.99 354 eP P 02 08 18.0 -0.6
comp=Z,41nm,1.2s
RRI2 Red Ridge 48.02 354 eP P 02 08 18.4 -0.5
comp=Z,33nm,0.9s
SNOW Snow King Moun 48.08 354 eP P 02 08 18.8 -0.6
comp=Z,24nm,1.0s
TPAW Teton Pass 48.12 354 eP P 02 08 19.1 -0.6
comp=Z,28nm,1.0s
I21A Big Trails, Te 48.18 358 ⇑P P 02 08 19.3 -0.8
baz=48,SNR=22
I24A Kuemmerle Ranc 48.19 0 ⇓P P 02 08 20.1 +0.1
baz=48
LOHW Long Hollow 48.21 354 eP P 02 08 19.7 -0.7
comp=Z,32nm,1.2s
I22A 9 Mile Ranch, 48.24 359 ⇓P P 02 08 20.2 -0.2
baz=48,SNR=16
I23A Meade Ranch, G 48.29 360 ⇓P P 02 08 20.6 -0.2
baz=48
MOD Modoc 48.30 345 eP P 02 08 21.2 +0.2
comp=Z,268nm,1.4s
I25A Rochford 48.36 1 ⇓P P 02 08 21.2 -0.2
baz=49,SNR=27
MOOW Moose Ponds 48.36 354 eP P 02 08 20.6 -0.8
comp=Z,33nm,1.2s
I20A Worland 48.36 357 ⇓P P 02 08 20.6 -0.7
baz=49,SNR=17
KHMM Horse Mountain 48.37 341 eP P 02 08 23.1 +1.6
comp=Z,70nm,1.3s
BBGH Gun Hill 48.38 68 PFAKE 02 08 30.0 +8.1
BBGH LR LR
comp=Z,2µm,20.0s
WVOR Wild Horse Val 48.39 346 eP P 02 08 21.7 +0.1
WVOR pmax pmax
comp=Z,49nm,1.6s
WVOR MLR MLR
comp=Z,4µm,21.0s
WVOR Wild Horse Val 48.39 346 eP P 02 08 21.7 +0.1
comp=Z,49nm,1.6s
WVOR LR LR
comp=Z,4µm,21.0s
I26A New Underwood 48.39 2 ⇓P P 02 08 22.1 +0.5
baz=49
I28A Midland 48.45 4 ⇑P P 02 08 22.5 +0.6
baz=49
RSSD Black Hills 48.45 1 eP P 02 08 22.0 -0.2
RSSD e 02 09 47.5
RSSD pmax pmax
comp=Z,310nm,1.2s
RSSD Black Hills 48.45 1 eP P 02 08 22.0 -0.2
comp=Z,310nm,1.2s
RSSD ePcP PcP 02 09 47.5 -0.7
I27A Quinn 48.47 3 ⇓P P 02 08 22.2 +0.1
baz=49,SNR=16
I30A Oacoma 48.50 5 ⇑P P 02 08 22.4 +0.1
baz=49
I19A Meeteetse 48.50 356 ⇑P P 02 08 22.2 -0.4
baz=49,SNR=14
I17A Pilgrim Ck. 48.51 355 ⇓P P 02 08 22.1 -0.6
baz=49,SNR=20
IMW Indian Meadow 48.52 354 eP P 02 08 22.4 -0.5
comp=Z,43nm,1.1s
I29A Vivian Onida 48.53 4 ⇓P P 02 08 22.5 0.0
baz=49,SNR=12
ECSD EROS Data Cent 48.65 8 eP P 02 08 22.4 -1.0
comp=Z,43nm,1.4s
ECSD ePcP PcP 02 09 47.7 -1.0
ECSD LR LR
comp=Z,3µm,21.0s
HLID Hailey 48.65 351 eP P 02 08 23.8 +0.1
comp=Z,30nm,1.1s
HLID LR LR
comp=Z,4µm,19.0s
HLID Hailey 48.65 351 ⇑P P 02 08 23.6 0.0
baz=49,SNR=35
FLWY Flagg Ranch 48.68 354 eP P 02 08 23.9 -0.1
comp=Z,116nm,1.2s
MFID Camas Ranch 48.74 349 ⇓P P 02 08 24.0 -0.3
baz=49,SNR=24
YBH Yreka Blue Hor 48.82 342 eP P 02 08 25.0 +0.1
comp=Z,19nm,1.0s
YBH Yreka Blue Hor 48.82 342 P P 02 08 24.6 -0.3
comp=Z,15nm,0.9s,baz=104,slow=6.6,SNR=9.6
H20A Greybull 48.89 357 ⇑P P 02 08 24.6 -0.9
baz=49,SNR=41
H23A Ababaugh Cattl 48.89 360 ⇓P P 02 08 25.1 -0.3
baz=49
ACSO Alum Creek Sta 48.92 22 eP P 02 08 24.0 -1.6
comp=Z,34nm,1.4s
ACSO LR LR
comp=Z,1µm,19.0s
H22A Clearmont 48.94 359 ⇓P P 02 08 25.2 -0.6
baz=49
H25A Fruitdale 48.96 1 ⇓P P 02 08 25.7 -0.2
baz=49,SNR=16
H17A Grant Village 48.98 355 eP P 02 08 28.2 +1.9
H17A Grant Village 48.98 355 ⇓P P 02 08 26.2 -0.1
baz=49
H26A Fairpoint 48.98 2 ⇑P P 02 08 25.6 -0.5
baz=49,SNR=22
H21A Big Horn, Sher 48.99 358 ⇓P P 02 08 25.7 -0.5
baz=49
JSRW J. Sargeant Re 48.99 29 eP P 02 08 25.8 -0.4
KRMB Red Mountain 49.01 341 eP P 02 08 26.1 -0.3
comp=Z,47nm,1.3s
H27A Howes 49.03 3 ⇑P P 02 08 26.2 -0.2
baz=49,SNR=22
YFT Old Faithful 49.06 354 eP P 02 08 27.6 +0.7
comp=Z,42nm,1.2s
BRSD Miller 49.07 6 ⇑P P 02 08 26.5 -0.1
baz=49
H24A Dirks Ranch, A 49.07 0 ⇑P P 02 08 25.8 -1.0
baz=49,SNR=28
JFWS Jewell Farm 49.09 14 eP P 02 08 26.1 -0.7
JFWS pmax pmax
comp=Z,18nm,0.8s
JFWS MLR MLR
comp=Z,851nm,19.0s
JFWS Jewell Farm 49.09 14 eP P 02 08 26.1 -0.7
comp=Z,18nm,0.8s
JFWS LR LR

comp=Z,851nm,19.0s
H28A Mission Ridge 49.13 4 ⇑P P 02 08 26.7 -0.4
baz=49
H19A Powell 49.13 356 ⇓P P 02 08 26.5 -0.8
baz=49,SNR=17
LKWY Lake 49.13 355 *e*P P 02 08 28.1 +0.6
LKWY pmax pmax
LKWY MLR MLR
comp=Z,4µm,20.0s
LKWY Lake 49.13 355 *e*P P 02 08 28.1 +0.6
comp=Z,73nm,1.4s
LKWY LR LR
comp=Z,4µm,20.0s
H29A Onida 49.14 4 ⇓P P 02 08 26.8 -0.4
baz=49
H18A Shoshone NF, C 49.18 356 ⇑P P 02 08 26.9 -0.9
baz=49,SNR=28
YMR Madison River 49.29 354 *e*P P 02 08 28.6 0.0
comp=Z,86nm,1.3s
YNR Norris Junctio 49.31 355 *e*P P 02 08 28.3 -0.5
comp=Z,37nm,1.3s
QLMT Earthquake Lak 49.50 354 *e*P P 02 08 30.3 +0.1
comp=Z,6.0nm,1.1s
G23A Biddle 49.53 360 ⇓P P 02 08 28.9 -1.4
baz=50,SNR=8.8
G28A Parade 49.53 4 ⇑P P 02 08 29.8 -0.4
baz=50
G25A Newell 49.54 1 ⇑P P 02 08 29.5 -0.9
baz=50,SNR=6.0
G22A Birney 49.56 359 ⇑P P 02 08 29.1 -1.4
baz=50,SNR=6.7
G21A Lodge Grass 49.59 358 ⇓P P 02 08 29.8 -1.0
baz=50,SNR=10.0
RLMT Red Lodge 49.60 356 PFAKE 02 08 40.0 +9.0
RLMT LR LR
comp=Z,2µm,21.0s
G20A Bridger 49.63 357 ⇓P P 02 08 30.0 -1.2
baz=50,SNR=12
CBN Corbin 49.64 29 PFAKE 02 08 40.0 +8.9
CBN LR LR
comp=Z,5µm,20.0s
G24A Alzada 49.66 0 ⇓P P 02 08 30.6 -0.7
baz=50,SNR=17
MCMT McKenzie Canyo 49.66 353 *e*P P 02 08 31.8 +0.3
comp=Z,22nm,1.1s
G26A Maurine 49.66 2 ⇑P P 02 08 30.9 -0.3
baz=50,SNR=6.6
HUMO Hull Mountain 49.70 343 *e*P P 02 08 32.1 +0.5
comp=Z,33nm,1.4s
MCWV Mont Chateau 49.70 25 *e*P P 02 08 28.8 -2.8
comp=Z,149nm,1.5s
MCWV LR LR
comp=Z,2µm,19.0s
G29A Hoven 49.72 5 ⇑P P 02 08 31.0 -0.6
baz=50,SNR=5.3
G30A Faulkton 49.73 5 ⇑P P 02 08 31.2 -0.5
baz=50
G27A Dupree 49.78 3 ⇑P P 02 08 31.4 -0.7
baz=50,SNR=12
F23A Volborg 50.05 360 ⇓P P 02 08 33.4 -0.8
baz=50
DLMT Dillon 50.16 353 *e*P P 02 08 34.8 -0.3
comp=Z,32nm,1.3s
F24A Ekalaka 50.17 0 ⇓P P 02 08 34.5 -0.7
baz=50,SNR=18
F21A Absaloka Mine, 50.19 358 ⇑P P 02 08 34.6 -0.7
baz=50
F20A Billings 50.21 357 ⇑P P 02 08 34.8 -0.6
baz=50,SNR=12
F26A Lodgepole 50.22 2 ⇑P P 02 08 35.1 -0.4
baz=50,SNR=13
F27A Lemmon 50.27 3 ⇓P P 02 08 35.1 -0.7
baz=50,SNR=5.8
F25A Bowman 50.27 1 ⇓P P 02 08 35.2 -0.6
baz=50,SNR=10
GCMT Greycliff 50.29 356 *e*P P 02 08 35.3 -0.8
comp=Z,33nm,1.3s
F19A Roth Farm, Mol 50.30 356 ⇓P P 02 08 35.3 -0.9
baz=50,SNR=26
F28A McLaughlin 50.31 4 ⇑P P 02 08 35.2 -0.9
baz=50,SNR=9.1
F29A Eureka 50.37 5 ⇑P P 02 08 35.6 -0.9
baz=51,SNR=8.2
CPUP Villa Florida 50.38 121 *e*P P 02 08 37.4 +0.4
comp=Z,65nm,1.0s
CPUP Villa Florida 50.38 121 P P 02 08 37.3 +0.4
comp=Z,9.7nm,0.8s,baz=272,slow=8.6,SNR=16
CPUP LR LR 02 26 42.2
comp=Z,3µm,18.8s,baz=272,slow=32
BMO Blue Mountains 50.41 349 *e*P P 02 08 36.2 -0.8
comp=Z,6.5nm,1.1s
BMO *e*PcP PcP 02 09 55.5 +0.3
BMO LR LR
comp=Z,7µm,19.0s
F30A Leola 50.44 5 ⇓P P 02 08 36.9 -0.2
baz=51
HSO Harness Mounta 50.58 343 P P 02 08 39.5 +1.2
HSO Harness Mounta 50.58 343 P P 02 08 39.5 +1.2
LRM Limekiln Ridge 50.59 353 *e*P P 02 08 37.5 -1.0
comp=Z,123nm,1.1s
SPMN St. Paul 50.73 11 *e*P P 02 08 38.9 -0.3
SPMN St. Paul 50.73 11 ⇓P P 02 08 39.3 0.0
baz=51
E22A Miles City 50.77 359 ⇓P P 02 08 38.6 -1.0
baz=51,SNR=7.8
VIPM Ingram Point 50.82 346 P P 02 08 40.6 +0.4
VIPM Ingram Point 50.82 346 P P 02 08 40.5 +0.4
E27A Carson 50.84 3 ⇓P P 02 08 39.5 -0.7
baz=51,SNR=12
E25A Miller Ranch, 50.84 1 ⇑P P 02 08 39.8 -0.4
baz=51
E26A Carlson Angus 50.84 2 ⇑P P 02 08 39.6 -0.6
baz=51
SDMD Soldier's Deli 50.85 28 *e*P P 02 08 40.0 -0.2
comp=Z,20nm,0.8s
E24A Baker 50.89 1 ⇑P P 02 08 39.9 -0.6
baz=51
E19A Rath Farm, Rou 50.90 357 ⇑P P 02 08 39.6 -1.0
baz=51,SNR=18
E21A Keefer Ranch, 50.90 358 ⇓P P 02 08 39.9 -0.7
baz=51,SNR=8.0
E20A Meyer Farm, Mu 50.91 357 ⇑P P 02 08 40.1 -0.6
baz=51,SNR=20
LAO LASA Array 51.03 359 *e*P P 02 08 41.5 -0.1
comp=Z,79nm,1.4s
LAO LR LR
comp=Z,3µm,19.0s
E28A Huff 51.04 4 ⇑P P 02 08 40.9 -0.7
baz=51,SNR=8.5
E30A Jud 51.11 5 ⇓P P 02 08 41.7 -0.4
baz=51
E29A Napoleon 51.11 5 ⇑P P 02 08 41.5 -0.7
baz=51
SSPA Standing Stone 51.36 26 *e*P P 02 08 43.2 -0.9
comp=Z,94nm,1.7s
TRQA Tornquist 51.38 136 PFAKE 02 09 00.0 +16
TRQA LR LR
comp=Z,6µm,19.0s
D26A Manning 51.40 2 ⇓P P 02 08 43.8 -0.6
baz=52,SNR=5.7
D21A La Casta Ranch 51.42 358 ⇑P P 02 08 44.2 -0.3
baz=52,SNR=19
D22A Cohagen 51.49 359 ⇓P P 02 08 44.8 -0.2
baz=52,SNR=75
D20A Manuel Ranch, 51.49 357 ⇓P P 02 08 44.3 -0.7
baz=52,SNR=23
D25A Fairfield 51.50 1 ⇓P P 02 08 44.4 -0.6
baz=52,SNR=7.1
D23A Lindsay 51.50 360 ⇓P P 02 08 44.8 -0.3
baz=52,SNR=17
D27A Center 51.52 3 ⇓P P 02 08 44.7 -0.6
baz=52
D29A Pettibone, Tap 51.60 5 ⇑P P 02 08 45.3 -0.6
baz=52
D19A Cripps Ranch, 51.61 357 ⇑P P 02 08 45.0 -0.9
baz=52,SNR=23
COR Corvallis 51.61 343 *e*P P 02 08 46.0 +0.1
COR Corvallis 51.61 343 *e*P P 02 08 46.0 +0.1
comp=Z,711nm,1.4s
D28A Regan 51.66 4 ⇓P P 02 08 45.7 -0.6
baz=52,SNR=7.7
ERPA Erie 51.70 24 PFAKE 02 09 00.0 +13
ERPA LR LR
comp=Z,2µm,19.0s
D30A Buchanan 51.73 5 ⇑P P 02 08 45.9 -0.8
baz=52,SNR=16
CHMT Chamberlain Mo 51.76 353 *e*P P 02 08 46.8 -0.5
comp=Z,7.1nm,1.1s
MSO Missoula 51.77 352 ⇓P P 02 08 46.4 -0.8
baz=52
C24A Savage 51.86 0 ⇑P P 02 08 47.1 -0.6
baz=52,SNR=19
C25A Freed Ranch, W 52.06 1 ⇓P P 02 08 49.1 -0.1
baz=52
C22A Vida 52.08 359 ⇑P P 02 08 49.0 -0.4
baz=52,SNR=82
C20A Veseth Ranch, 52.11 357 ⇓P P 02 08 49.0 -0.6
baz=52,SNR=22
SLMT Seeley Lake 52.12 353 *e*P P 02 08 48.7 -1.1
comp=Z,44nm,1.3s
C23A Lambert 52.13 360 ⇑P P 02 08 49.2 -0.5
baz=52,SNR=35
C19A Slack Wire Ran 52.19 357 ⇑P P 02 08 49.7 -0.5
baz=52,SNR=14
C21A Desert Coulee 52.19 358 ⇓P P 02 08 49.5 -0.7
baz=52,SNR=16
C28A Hausauer Farms 52.20 4 ⇓P P 02 08 49.7 -0.6
baz=52
C26A Wahner Farm, P 52.21 2 ⇑P P 02 08 50.0 -0.4
baz=52
C30A Mose, Pekin 52.34 6 ⇓P P 02 08 50.2 -1.0
baz=52,SNR=6.6
HAWA Hanford 52.34 347 *e*P P 02 08 51.5 +0.2
comp=Z,53nm,1.5s
HAWA LR LR
comp=Z,3µm,21.0s
MDND Maddock 52.39 5 *e*P P 02 08 51.0 -0.6
MDND Maddock 52.39 5 ⇓P P 02 08 50.8 -0.8
baz=53,SNR=7.2
SWMT Swartz Lake 52.45 352 *e*P P 02 08 51.3 -0.9
comp=Z,24nm,1.4s
EGMT Eagleton 52.52 356 PFAKE 02 09 00.0 +7.3
EGMT LR LR
comp=Z,2µm,20.0s
EGMT Eagleton 52.52 356 ⇑P P 02 08 51.8 -0.9
baz=53,SNR=8.2
B25A Knox Farm, Ray 52.62 2 ⇓P P 02 08 53.3 -0.1
baz=53
B22A Reddig Ranch S 52.63 359 ⇑P P 02 08 53.1 -0.4
baz=53,SNR=26
JTMT Jette 52.72 352 *e*P P 02 08 53.1 -1.2
comp=Z,23nm,1.4s
B26A Jensen Ranch, 52.76 2 ⇑P P 02 08 54.4 0.0
baz=53
B21A Ellsworth Farm 52.79 358 ⇓P P 02 08 54.0 -0.6
baz=53,SNR=9.6
B23A Brockton 52.79 360 ⇑P P 02 08 54.1 -0.5
baz=53,SNR=9.5
YBMT Yellow Bay 52.79 352 *e*P P 02 08 54.1 -0.7
comp=Z,11nm,0.9s
DGMT Dagmar 52.80 1 *e*P P 02 08 54.5 -0.2
comp=Z,135nm,1.3s
DGMT LR LR
comp=Z,3µm,21.0s
DGMT Dagmar 52.80 1 ⇓P P 02 08 54.2 -0.5
baz=53,SNR=18
B27A Peters Farms, 52.83 3 ⇑P P 02 08 54.4 -0.5
baz=53,SNR=5.6
B20A Solberg Farm, 52.83 357 ⇑P P 02 08 54.3 -0.7
baz=53,SNR=6.6
XMAS Kiritimati 52.86 276 PFAKE 02 09 10.0 +14
XMAS LR LR
comp=Z,3µm,20.0s
BSMT Bassoo Peak 52.89 352 *e*P P 02 08 54.8 -0.8
comp=Z,16nm,1.0s
BSMT *e*PP PP 02 10 55.8 +0.4
B19A Brinkman Farms 52.90 357 ⇓P P 02 08 55.0 -0.5
baz=53,SNR=10
B28A Dugan Ranch, T 52.93 4 ⇑P P 02 08 54.9 -0.7
baz=53,SNR=18
BLMT Blacktail Moun 52.99 352 *e*P P 02 08 56.1 -0.2
comp=Z,28nm,1.0s
BLMT *e*PcP PcP 02 10 09.3 +4.5
BBSR BB Station 53.00 43 PFAKE 02 09 10.0 +14
BBSR LR LR
comp=Z,2µm,22.0s
B29A Wagenman Farm, 53.02 5 ⇓P P 02 08 55.9 -0.4
baz=53
B30A Myrvik Farm, E 53.10 6 ⇑P P 02 08 56.4 -0.4
baz=53,SNR=9.2
OD2 Odessa Site #2 53.12 348 P P 02 08 56.9 -0.2
LON Longmire 53.21 346 *e*P P 02 08 57.2 -0.6
LON pmax pmax
comp=Z,26nm,1.2s
LON Longmire 53.21 346 *e*P P 02 08 57.2 -0.6
comp=Z,26nm,1.2s
AGMN Agassiz Nation 53.23 8 *e*P P 02 08 57.5 -0.3
comp=Z,44nm,1.1s
AGMN LR LR
comp=Z,5µm,20.0s
A24A Westby 53.26 1 ⇓P P 02 08 57.7 -0.4
baz=54,SNR=19
A20A Cobblestone Ra 53.27 358 ⇑P P 02 08 57.5 -0.7
baz=54,SNR=18
A26A Wade Farm, Ken 53.28 2 ⇓P P 02 08 57.8 -0.5
baz=54,SNR=13
A23A Redstone 53.29 0 ⇑P P 02 08 57.7 -0.5
baz=54
A25A Svangstu Ranch 53.29 2 ⇓P P 02 08 57.8 -0.5
baz=54,SNR=8.1
A22A Carney Farms 53.33 359 ⇑P P 02 08 58.1 -0.5
baz=54,SNR=34
A21A Bergtoll Ranch 53.35 358 ⇑P P 02 08 58.0 -0.7
baz=54,SNR=12
A19A Klindworth Far 53.36 357 ⇑P P 02 08 57.8 -1.0
baz=54,SNR=7.9
A27A Ledoux Ranch, 53.38 3 ⇓P P 02 08 58.5 -0.5
baz=54
A28A Ng Farm, Bot 53.39 4 ⇓P P 02 08 58.1 -1.0
baz=54,SNR=9.5
BINY Binghamton 53.46 27 *e*P P 02 08 58.8 -0.9
comp=Z,98nm,1.5s
BINY LR LR
comp=Z,3µm,20.0s
A29A Manning Farm, 53.48 5 ⇓P P 02 08 58.6 -1.1
baz=54,SNR=15
EYMN Ely 53.59 11 *e*P P 02 08 59.7 -0.9
comp=Z,65nm,1.3s
EYMN LR LR
comp=Z,2µm,19.0s
NEW Newport 53.66 350 *e*P P 02 09 00.2 -0.9
comp=Z,27nm,1.0s
NEW LR LR
comp=Z,6µm,19.0s
NEW Newport 53.66 350 ⇑P P 02 08 60.0 -1.1
baz=54,SNR=34
NEW Newport 53.66 350 P P 02 09 00.3 -0.9
comp=Z,13nm,0.9s,baz=157,slow=8.6,SNR=24
ETW Entiat 53.67 347 P P 02 09 01.3 0.0
WALA Waterton Lakes 53.95 353 *e*P P 02 09 02.8 -0.5
comp=Z,1.0nm,1.1s
SADO Sadowa 54.27 22 P P 02 09 04.3 -1.2
SADO Sadowa 54.27 22 P P 02 09 04.3 -1.2
comp=Z,16nm,0.9s,baz=240,slow=7.7,SNR=5.7
SADO LR LR 02 32 48.3
comp=Z,3µm,18.1s,baz=221,slow=37
NLWA Neilton Lookou 54.34 344 *e*P P 02 09 05.9 -0.1
comp=Z,54nm,1.5s
NLWA LR LR
comp=Z,3µm,20.0s
TRY Troy 54.94 28 P P 02 09 06.2 -4.2
comp=Z,235nm,1.6s
ULM Lac du Bonnet 55.14 7 P P 02 09 10.6 -1.2
ULM Lac du Bonnet 55.14 7 P P 02 09 10.6 -1.2
comp=Z,26nm,1.1s,baz=185,slow=8.6,SNR=15
ULM LR LR 02 31 23.7
comp=Z,5µm,19.4s,baz=70,slow=35
POHA Pohakuloa 55.27 298 PFAKE 02 09 30.0 +16
POHA LR LR
comp=Z,4µm,19.0s
PGC Sidney 55.39 345 *e*P P 02 09 13.1 -0.4
comp=Z,3.1nm,1.5s
NCB Newcomb 55.65 27 PFAKE 02 09 30.0 +14
NCB LR LR
comp=Z,3µm,19.0s
LONY Lake Ozonia 56.01 26 PFAKE 02 09 30.0 +12
LONY LR LR
comp=Z,3µm,20.0s
FRNY Flat Rock 56.61 26 *e*P P 02 09 21.5 -0.9
comp=Z,88nm,1.6s
LBNH Lisbon 56.91 28 PFAKE 02 09 40.0 +15
LBNH LR LR
comp=Z,3µm,20.0s
BDFB Brasilia 56.97 106 P P 02 09 24.9 -0.7
BDFB Brasilia 56.97 106 P P 02 09 24.9 -0.7
comp=Z,6.4nm,1.0s,baz=281,slow=13,SNR=6.8
BDFB LR LR 02 31 57.3
comp=Z,4µm,18.5s,baz=266,slow=34
EDM Edmonton 57.99 354 *e*P P 02 09 31.3 -0.7
EDM Edmonton 57.99 354 *e*P P 02 09 31.2 -0.7
KIP Kipapa 58.02 299 PFAKE 02 09 50.0 +17
KIP LR LR
comp=Z,3µm,21.0s
SPB Sao Paulo 58.51 115 PFAKE 02 09 50.0 +14
SPB LR LR
comp=Z,3µm,20.0s
PKME Peaks-Kenny Pk 58.92 29 PFAKE 02 09 50.0 +11
PKME LR LR
comp=Z,3µm,21.0s
FFC Flin Flon 59.11 2 *i*P P 02 09 41.0 +1.3
FFC Flin Flon 59.11 2 *e*P P 02 09 40.0 +0.2
comp=Z,29nm,0.9s
FFC LR LR
comp=Z,3µm,20.0s
BBB Bella Bella 59.85 344 P P 02 09 45.4 +0.6
BBB Bella Bella 59.85 344 P P 02 09 45.4 +0.6
comp=Z,28nm,1.3s,baz=186,slow=4.7,SNR=4.0
EFI East Falkland 60.93 149 PFAKE 02 10 00.0 +7.7
EFI LR LR
comp=Z,5µm,19.0s
WRAK Wrangell Islan 64.76 344 PFAKE 02 10 30.0 +12
WRAK LR LR
comp=Z,2µm,20.0s
DLBC Dease Lake 65.92 346 *e*P P 02 10 24.6 -0.7
DLBC Dease Lake 65.92 346 P P 02 10 24.8 -0.5
comp=Z,9.9nm,1.0s,baz=157,slow=8.7,SNR=7.5
AFI Afiamalu 66.43 257 LR LR 02 31 24.4
comp=Z,1µm,21.1s,baz=91,slow=29
PMSA Palmer Station 66.79 162 *e*P P 02 10 32.2 +1.5
comp=Z,34nm,1.1s
PMSA LR LR
comp=Z,5µm,19.0s
PMSA Palmer Station 66.79 162 P P 02 10 32.5 +1.8
comp=Z,31nm,1.1s,baz=313,slow=16,SNR=2.6
SCHQ Schefferville 67.08 23 LR LR 02 39 01.2
comp=Z,3µm,19.7s,baz=19,slow=35
YKA Yellowknife Ar 67.26 355 P P 02 10 32.6 -1.0
YKA Yellowknife Ar 67.26 355 P P 02 10 32.6 -1.0
comp=Z,8.4nm,1.0s,baz=164,slow=6.2,SNR=21
YKW3 Yellowknife Ar 67.33 355 *e*P P 02 10 33.4 -0.7
comp=Z,1.5nm,1.7s
RCBR Riachuelo 68.75 94 PFAKE 02 11 00.0 +16
RCBR LR LR
comp=Z,3µm,20.0s
HYT Haines Junctio 69.94 344 *e*P P 02 10 51.0 +0.4
BMRM Bremner River 72.20 341 *e*P P 02 11 03.8 -0.4
comp=Z,53nm,1.0s
OHAK Old Harbor 72.88 335 *e*P P 02 11 07.7 -0.4
comp=Z,63nm,1.2s
RAO Raoul Island 72.93 241 PFAKE 02 11 20.0 +11
RAO LR LR
comp=Z,2µm,19.0s
KDAK Kodiak Island 72.94 336 P P 02 11 10.7 +2.2
KDAK LR LR
comp=Z,5µm,19.0s
KDAK Kodiak Island 72.94 336 P P 02 11 10.7 +2.2
comp=Z,12nm,1.0s,baz=150,slow=6.6,SNR=3.0
DAWY Dawson 73.09 345 *e*P P 02 11 09.0 -0.4
FRB Frobisher Bay 73.37 16 LR LR 02 44 15.8
comp=Z,1µm,18.4s,baz=212,slow=36
EGAK Eagle 74.13 345 *e*P P 02 11 14.5 -0.9
comp=Z,48nm,1.4s
EGAK LR LR
comp=Z,2µm,19.0s
PMR Palmer 74.17 340 *e*P P 02 11 15.5 -0.2
PMR pmax pmax
comp=Z,51nm,1.2s
PMR Palmer 74.17 340 *e*P P 02 11 15.5 -0.2
comp=Z,51nm,1.2s
CHGN Chignik 74.61 332 *e*P P 02 11 17.3 -1.1
INK Inuvik 75.38 349 *e*P P 02 11 22.0 -0.6
comp=Z,43nm,1.3s
INK Inuvik 75.38 349 P P 02 11 22.2 -0.3
comp=Z,6.7nm,0.9s,baz=139,slow=6.5,SNR=8.3
MCK McKinley 75.60 341 *e*P P 02 11 23.2 -0.8
MCK pmax pmax
comp=Z,56nm,1.3s
MCK McKinley 75.60 341 *e*P P 02 11 23.2 -0.8
comp=Z,56nm,1.3s
ILAR Eielson Array 75.72 343 P P 02 11 23.6 -1.0
ILAR Eielson Array 75.72 343 P P 02 11 23.6 -1.0
comp=Z,5.6nm,0.9s,baz=156,slow=5.3,SNR=29
ILAR LR LR 02 42 00.7
comp=Z,1µm,19.4s,baz=143,slow=34
TRF Thorofare Moun 75.84 341 *e*P P 02 11 24.4 -1.2
comp=Z,28nm,1.1s
COLA College 76.08 343 PFAKE 02 11 40.0 +13
COLA LR LR
comp=Z,1µm,20.0s
PPLA Purkeypile 76.11 340 *e*P P 02 11 26.4 -0.7
comp=Z,59nm,1.2s
MSVF Nonsavu 76.25 253 PFAKE 02 11 40.0 +11
MSVF LR LR
comp=Z,1µm,21.0s
BPAW Bear Paw Mtn. 76.52 341 *e*P P 02 11 27.4 -1.8
comp=Z,12nm,1.1s
MIDW Midway 76.78 300 PFAKE 02 11 40.0 +8.6
MIDW LR LR
comp=Z,1µm,19.0s
URZ Urewera 77.72 232 LR LR 02 37 41.7
comp=Z,2µm,21.4s,baz=280,slow=29
COLD Coldfoot 78.42 344 *e*P P 02 11 40.3 +0.5
comp=Z,42nm,1.1s
IM04 Indian Mountai 78.65 342 *e*P P 02 11 40.1 -1.0
IMA2 Indian Mountai 78.68 342 *e*P P 02 11 40.2 -1.2
SNZO South Karori 79.76 229 PFAKE 02 12 00.0 +12
SNZO LR LR
comp=Z,3µm,21.0s
SFJD Kangerlussuaq 81.02 19 LR LR 02 47 41.7
comp=Z,2µm,19.0s,baz=236,slow=36
TARA Tarawa 82.26 272 PFAKE 02 12 10.0 +8.5
TARA LR LR
comp=Z,1µm,19.0s
ADK Adak 82.42 324 PFAKE 02 12 10.0 +8.4
ADK LR LR
comp=Z,3µm,21.0s
RPZ Rata Peaks 82.54 227 LR LR 02 43 46.6
comp=Z,3µm,18.1s,baz=57,slow=32
SBA Scott Base 85.22 192 *e*P P 02 12 17.2 +1.7
SBA pmax pmax
comp=Z,68nm,1.8s
SBA MLR MLR
comp=Z,609nm,19.0s
SBA Scott Base 85.22 192 *e*P P 02 12 17.2 +1.7
comp=Z,68nm,1.8s
SBA LR LR
comp=Z,609nm,19.0s
QSPA South Pole Qui 85.51 180 *e*P P 02 12 17.9 +0.6
comp=Z,40nm,1.2s
QSPA LR LR
comp=Z,2µm,20.0s
QSPA South Pole Qui 85.51 180 P P 02 12 18.2 +0.9
comp=Z,11nm,0.9s,baz=116,slow=2.2,SNR=28
VNDA Vanda 86.28 193 *e*P P 02 12 22.7 +2.0
comp=Z,22nm,1.4s
VNDA Vanda 86.28 193 P P 02 12 22.1 +1.4
comp=Z,10nm,1.2s,baz=121,slow=2.5,SNR=11
DZM Mont Dzumac 87.02 248 *e*S S 02 22 58.6 -4.8
comp=Z,274nm,25.8s
DZM *e*SS SS 02 28 44.3 -2.5
comp=Z,288nm,29.6s
DZM *e*LQ LQ 02 36 11.0
comp=Z,2µm,34.4s
DZM *e*LR LR 02 40 07.9
comp=Z,2µm,23.3s
SUMG Summit 87.44 16 *i*P P 02 12 29.3 +2.4
SUMG pmax pmax
comp=Z,7.0nm,1.0s
SUMG Summit 87.44 16 *i*P P 02 12 29.3 +2.4
comp=Z,6.6nm,1.0s
TRIS Tristan da Cun 89.39 127 PFAKE 02 12 50.0 +14
TRIS LR LR
comp=Z,2µm,19.0s
SNAA Sanae 89.51 162 *e*P P 02 12 35.6 -0.7
comp=Z,12nm,1.5s
H11N3 WAKE ISLAND Hy 89.76 290 T T 03 52 05.8
baz=99,slow=0.7,SNR=403
H11N2 WAKE ISLAND Hy 89.78 290 T T 03 51 57.3
baz=99,slow=0.7,SNR=446
H11N1 WAKE ISLAND Hy 89.78 290 T T 03 51 52.2
baz=99,slow=0.7,SNR=279
H11S2 WAKE ISLAND Hy 89.85 288 T T 03 52 02.4

baz=96,slow=0.6,SNR=606
H11S1 WAKE ISLAND Hy 89.86 288 T T 03 52 00.5
baz=96,slow=0.6,SNR=429
H11S3 WAKE ISLAND Hy 89.87 288 T T 03 52 03.7
baz=96,slow=0.6,SNR=413
WAKE Wake Island 89.97 289 PFAKE 02 12 50.0 +11
WAKE LR LR
comp=Z,2μm,19.0s
BORG Borgarnes 91.36 25 PFAKE 02 13 00.0 +15
BORG LR LR
comp=Z,956nm,22.0s
MAIT Maitri 94.24 163 *e*P P 02 12 54.8 -3.3
MAIT *e* 02 14 47.7
HNR Honiara 94.28 260 LR LR 02 49 12.3
comp=Z,925nm,18.4s,baz=246,slow=32
JMIC Jan Mayen 96.38 19 LR LR 02 54 53.9
comp=Z,1μm,21.0s,baz=257,slow=34
SHEL Horse Pasture 97.58 107 PFAKE 02 13 30.0 +15
SHEL LR LR
comp=Z,2μm,20.0s
MTE Manteigas 98.57 50 PFAKE 02 13 30.0 +11
MTE LR LR
comp=Z,1μm,22.0s
RTC Rabat Centre 99.24 56 PFAKE 02 13 30.0 +8.4
RTC LR LR
comp=Z,1μm,21.0s
KBS Kingsbay 99.47 10 PFAKE 02 13 30.0 +8.4
KBS LR LR
comp=Z,2μm,19.0s
TAU Tasmania Unive 99.76 225 PFAKE 02 13 40.0 +16
TAU LR LR
comp=Z,1μm,22.0s
CAN Canberra 100.37 233 PFAKE 02 13 40.0 +13
CAN LR LR
comp=Z,2μm,20.0s
ESK Eskdalemuir 100.41 35 PFAKE 02 13 40.0 +14
ESK LR LR
comp=Z,1μm,22.0s
PAB San Pablo 101.06 51 PFAKE 02 13 40.0 +10
PAB LR LR
comp=Z,2μm,21.0s
CASY Casey 104.85 194 PFAKE 02 14 00.0 +14
CASY LR LR
comp=Z,663nm,21.0s
CTAO Charters Tower 105.96 248 PFAKE 02 18 20.0
CTAO LR LR
comp=Z,762nm,19.0s
KONO Kongsberg 106.15 29 PFAKE 02 18 20.0
KONO LR LR
comp=Z,752nm,19.0s
PMG Port Moresby 106.82 259 PFAKE 02 18 20.0
PMG LR LR
comp=Z,1μm,21.0s
SSB Saint Sauveur 106.90 44 PFAKE 02 18 20.0
SSB LR LR
comp=Z,732nm,19.0s
WLF Walferdange 107.05 39 PFAKE 02 18 20.0
WLF LR LR
comp=Z,801nm,20.0s
TORD Torodi Ar. Bea 107.22 78 PKiKP **PKiKP** **02 18 10.1 +3.4**
TORD Torodi Ar. Bea 107.22 78 PKiKP **PKiKP** **02 18 10.1 +3.4**
comp=Z,0.7nm,0.9s,baz=269,slow=3.3,SNR=3.6
KEV Kevo 107.81 16 PFAKE 02 18 20.0
KEV LR LR
comp=Z,1μm,20.0s
ECH Echery 108.03 41 PFAKE 02 18 20.0
ECH LR LR
comp=Z,686nm,19.0s
BNI Bardonecchia 108.43 44 PFAKE 02 18 20.0
BNI LR LR
comp=Z,1μm,22.0s
BFO Black Forest 108.76 40 PFAKE 02 18 20.0
BFO LR LR
comp=Z,806nm,22.0s
ERM Erimo 109.24 313 PFAKE 02 18 20.0
ERM LR LR
comp=Z,2μm,19.0s
TUE Stuetta 109.91 42 PFAKE 02 18 20.0
TUE LR LR
comp=Z,743nm,20.0s
TAM Tamanrasset 110.62 67 PFAKE 02 18 20.0
TAM LR LR
comp=Z,598nm,19.0s
CLL Collm 110.77 36 *e*PS PS 02 28 18.0 -2.5
CLL L L 03 01 00.0
comp=Z,400nm,21.0s
APA Apatity 111.02 16 *i*PKIKP PKiKP 02 18 21.0 +8.7
APA *i* SS SS 02 34 27.0 +7.1
APA MLR MLR
comp=Z,2μm,20.0s
VLC Villacollemand 111.21 44 PFAKE 02 18 30.0
VLC LR LR
comp=Z,499nm,20.0s
VSL Villasalto 111.58 49 PFAKE 02 18 30.0
VSL LR LR
comp=Z,922nm,22.0s
KHC Kasperske Hory 111.85 38 *e*PS PS 02 28 31.3 +0.7
KHC *e*PKKP **PKKPdf** **02 29 27.3 -0.7**
KHC *e*SS SS 02 34 39.3 +6.9
KHC AMS AMS 02 58 30.0
comp=Z,700nm,25.3s
PVCC Panska Ves 111.97 37 AMS AMS 02 59 20.0
comp=Z,600nm,23.1s
PRU Pruhonice 112.15 37 *e*PS PS 02 28 25.0 -8.2
PRU *e*PKKP **PKKPdf** **02 29 30.0 +2.6**
PRU *e*SS SS 02 34 44.6 +8.5
PRU AMS AMS 03 06 00.0
comp=Z,500nm,16.2s
TREC Trest 112.97 38 *e*PS PS 02 28 36.5 -4.4
TREC *ex* x 02 29 50.8
TREC *ex* x 02 35 19.5
TREC AMS AMS 03 05 30.0
comp=Z,700nm,17.4s
DPC Dobruska-Polom 113.08 37 *e*PS PS 02 28 40.6 -1.3
DPC *ex* x 02 29 51.0
DPC AMS AMS 03 01 40.0
MAJO Matsushiro 114.15 308 PFAKE 02 18 30.0 +11
MAJO LR LR
comp=Z,3μm,21.0s
OKC Ostrava-Krasne 114.36 37 *e*PS PS 02 28 59.8 +6.2
OKC AMS AMS 03 08 40.0
comp=Z,400nm,17.9s
AS31 Alice Springs 116.18 241 *e*PKPdf **PKPdf** **02 18 27.4 +3.8**
ASAR Alice Springs 116.18 241 PKKPbc PKKPbc 02 28 54.9 +1.4
ASAR Alice Springs 116.18 241 PKKPbc PKKPbc 02 28 54.9 +1.4
comp=Z,0.5nm,0.9s,baz=258,slow=2.7,SNR=3.3
PSZ Piszkesteto 116.20 38 PFAKE 02 18 30.0 +7.1
PSZ LR LR
comp=Z,437nm,21.0s
CUC Castrocucco 116.25 47 PFAKE 02 18 40.0 +17
CUC LR LR
comp=Z,616nm,20.0s
STHS Stebnicka Huta 116.37 36 *e*P **Pdif** **02 14 37.4 -0.1**
STHS Stebnicka Huta 116.37 36 PDIF **Pdif** **02 14 37.4 -0.1**
CEL Celeste 116.81 49 PFAKE 02 18 40.0 +16
CEL LR LR
comp=Z,458nm,20.0s
SUR Sutherland 116.81 130 PFAKE 02 18 40.0 +15
SUR LR LR
comp=Z,2μm,20.0s
WRAB Tennant Creek 116.88 245 PFAKE 02 18 40.0 +15
WRAB LR LR
comp=Z,1μm,20.0s
KWP Kalwaria Pacla 117.12 35 PFAKE 02 18 40.0 +15
KWP LR LR
comp=Z,550nm,19.0s
MDJ Mudanjiang 117.91 319 PFAKE 02 18 40.0 +14
MDJ LR LR
comp=Z,1μm,20.0s
MSKU Masuku 118.31 94 PFAKE 02 18 40.0 +12
MSKU LR LR
comp=Z,2.0nm,22.0s
TIR Tirane 118.71 45 PFAKE 02 18 40.0 +12
TIR LR LR
comp=Z,499nm,19.0s
TSUM Tsumeb 118.75 115 PFAKE 02 18 40.0 +11
TSUM LR LR
comp=Z,1μm,19.0s
KIEV Kiev 120.17 32 PFAKE 02 18 40.0 +10
KIEV LR LR
comp=Z,473nm,19.0s
AKASG Malin Array Be 120.17 32 PKIKP **PKPdf** **02 18 30.8 +0.4**
AKASG Malin Array Be 120.17 32 PKP **PKPdf** **02 18 30.8 +0.4**
AKASG Malin Array Be 120.17 32 PKP **PKPdf** **02 18 30.8 +0.4**
comp=Z,0.2nm,0.3s,baz=275,slow=2.6,SNR=3.2

HIA Hailar 121.58 327 PFAKE 02 18 40.0 +6.8
HIA LR LR
comp=Z,2μm,21.0s
KSRS Korea Array 121.77 312 PKP **PKPdf** **02 18 33.5 -0.4**
comp=Z,0.8nm,0.7s,baz=325,slow=1.5,SNR=4.6
KSAR Wonju Array Be 121.80 312 PKP **PKPdf** **02 18 33.5 -0.5**
INCN Inchon 122.72 312 PFAKE 02 18 50.0 +14
INCN LR LR
comp=Z,2μm,22.0s
SANT Santorini 124.62 48 PFAKE 02 18 50.0 +11
SANT LR LR
comp=Z,417nm,19.0s
VSR Storozhevoye 124.70 27 *e*PKIKP **PKPdf** **02 18 37.9 -1.1**
VSR pmax pmax
comp=Z,5.0nm,0.3s
VSR pmax pmax
comp=N,10.0nm,0.6s
VSR pmax pmax
comp=E,6.0nm,0.6s
VORD Divnogorie 124.93 27 *e*PKIKP **PKPdf** **02 18 37.0 -2.5**
VORD pmax pmax
comp=Z,2.0nm,0.9s
VORD pmax pmax
comp=E,3.0nm,0.5s
FITZ Fitzroy Crossi 125.28 244 PKP **PKPdf** **02 18 40.3 -0.8**
FITZ Fitzroy Crossi 125.28 244 PKP **PKPdf** **02 18 40.3 -0.8**
comp=E,2.2nm,0.8s,baz=270,slow=1.0,SNR=4.1
NWAO Narrogin (SRO) 125.35 224 PFAKE 02 18 50.0 +9.1
NWAO LR LR
comp=Z,1μm,20.0s
ARU Arti 126.62 11 *i* PKIKP PKPdf 02 18 48.3 +5.7
ARU SS SS 02 37 37.6 -3.7
ISP Isparta 127.66 45 PFAKE 02 19 00.0 +15
ISP LR LR
comp=Z,375nm,20.0s
ANTO Ankara 128.19 41 PFAKE 02 19 00.0 +14
ANTO LR LR
comp=Z,373nm,22.0s
ZAK Zakamensk 128.52 337 *e*PKIKP **PKPdf** **02 18 47.7 +1.2**
ZAK pmax pmax
comp=Z,4.0nm,1.6s
BR131 Keskin Array S 128.81 41 *e*PKPdf **PKPdf** **02 18 48.5 +1.0**
BRTR Keskin Array B 128.81 41 PKP **PKPdf** **02 18 46.7 -0.8**
BRTR Keskin Array B 128.81 41 PKP **PKPdf** **02 18 46.7 -0.8**
comp=Z,2.9nm,1.0s,baz=73,slow=0.5,SNR=7.7
BJI Beijing 128.82 320 PKP **PKPdf** **02 18 43.5 -3.8**
BJI PPMZ
comp=Z,340nm,5.9s
BJI LR LR
comp=Z,570nm,20.0s
BJI LR LR
comp=Z,1μm,23.7s
BJI LR LR
comp=Z,1μm,27.4s
BJT Baijiatuan 128.84 320 PFAKE 02 19 00.0 +13
BJT LR LR
comp=Z,1μm,20.0s
ULN Ulaanbaatar 128.86 333 PFAKE 02 19 00.0 +13
ULN LR LR
comp=Z,1μm,21.0s
SONM Songino Array 129.18 333 PKP **PKPdf** **02 18 47.8 -0.1**
SONM Songino Array 129.18 333 PKP **PKPdf** **02 18 47.8 -0.1**
comp=Z,0.9nm,0.5s,baz=15,slow=1.7,SNR=4.5
SSE Sheshan 129.27 307 *e*PKP **PKPdf** **02 18 45.1 -3.3**
SSE PP **PP** **02 20 57.5 +0.5**
SSE PPMZ
comp=Z,330nm,8.8s
SSE LR LR
comp=Z,520nm,22.3s
SSE LR LR
comp=Z,1μm,22.3s
SSE LR LR
comp=Z,2μm,25.9s
MBWA Marble Bar 129.29 238 PFAKE 02 19 00.0 +11
MBWA LR LR
comp=Z,1μm,20.0s
NVS Novosibirsk 129.42 354 *e*PKIKP **PKPdf** **02 18 47.2 -0.7**
NVS *e* 02 20 54.4
NVS pmax pmax
comp=Z,29nm,2.6s
LSZ Lusaka 129.59 114 PFAKE 02 19 00.0 +10
LSZ LR LR
comp=Z,1μm,21.0s
ZAA0 Zalesovo Array 130.11 352 *e*PKPdf **PKPdf** **02 18 49.6 +0.3**
ZALV Zalesovo Beam 130.11 352 PKIKP **PKPdf** **02 18 49.3 0.0**
ZALV 02 20 59.4
ZALV Zalesovo Beam 130.11 352 PKP **PKPdf** **02 18 49.3 0.0**
ZALV PP **PP** **02 20 59.4 -1.6**
ZALV Zalesovo Beam 130.11 352 PKP **PKPdf** **02 18 49.3 0.0**
comp=Z,1.0nm,0.6s,baz=27,slow=4.0,SNR=6.3
ZALV PP **PP** **02 20 59.4 -1.6**
comp=Z,0.6nm,0.3s,baz=353,slow=6.1,SNR=4.2
CSS Prodhromos 131.00 46 PFAKE 02 19 00.0 +8.4
CSS LR LR
comp=Z,314nm,19.0s
HVS Khovu-Aksy 131.01 345 *i* PKIKP **PKPdf** **02 18 51.9 +0.7**
HHC Hu-ho-hao-te 131.23 323 *e*PKP **PKPdf** **02 18 48.3 -3.7**
HHC PP **PP** **02 21 08.9 -0.4**
HHC PKS **PKSdf** **02 22 23.7 -4.8**
HHC PPMZ
comp=Z,330nm,7.6s
HHC LR LR
comp=Z,780nm,19.2s
HHC LR LR
comp=Z,820nm,18.3s
HHC LR LR
comp=Z,1μm,19.1s
BRVK Borovoye 131.49 4 *i* PKIKP **PKPdf** **02 18 52.7 +0.8**
BRVK Borovoye 131.49 4 *e*PKPdf **PKPdf** **02 18 52.8 +0.8**
BRVK *e*PP **PP** **02 21 07.0 -2.9**
BRVK LR LR
comp=Z,1μm,20.0s
BVAR Borovoye Array 131.53 4 PKIKP **PKPdf** **02 18 52.5 +0.5**
BVAR 02 21 10.2
BVAR Borovoye Array 131.53 4 PKP **PKPdf** **02 18 52.5 +0.5**
BVAR PP **PP** **02 21 10.2 0.0**
BVAR Borovoye Array 131.53 4 PKP **PKPdf** **02 18 52.5 +0.5**
comp=Z,1.2nm,0.8s,baz=302,slow=1.4,SNR=9.0
BVAR PP **PP** **02 21 10.2 0.0**
comp=Z,0.5nm,0.6s,baz=349,slow=2.9,SNR=2.9
KBZ Khabaz 131.77 31 PKIKP **PKPdf** **02 18 53.6 +0.9**
KBZ Khabaz 131.77 31 PKP **PKPdf** **02 18 53.6 +0.9**
KBZ Khabaz 131.77 31 PKP **PKPdf** **02 18 53.6 +0.9**
comp=Z,3.4nm,1.1s,baz=257,slow=3.6,SNR=3.4
ABKAR Akbulak array 133.64 14 *e*PKPdf **PKPdf** **02 18 56.8 +0.7**
ABKAR *e*PP **PP** **02 21 26.1 +2.3**
KURK Kurchatov 133.89 357 PKIKP **PKPdf** **02 18 56.1 -0.4**
KURK *e* 02 18 57.1
KURK 02 21 24.8
KURK MLR MLR
comp=Z,865nm,20.0s
KURK Kurchatov 133.89 357 PKP **PKPdf** **02 18 56.1 -0.4**
KURK *e*PKPdf **PKiKP** **02 18 57.1 -0.8**
KURK *e*PP **PP** **02 21 23.7 -1.6**
KURK PP PP 02 21 24.8 -0.5
KURK LR LR
comp=Z,865nm,20.0s
KURBB Kurchatov Arra 133.99 357 PKP **PKPdf** **02 18 56.1 -0.6**
comp=Z,0.4nm,0.3s,baz=352,slow=2.6,SNR=4.1
KURBB PP **PP** **02 21 24.8 -1.2**
comp=Z,0.4nm,0.3s,baz=3.7,slow=6.2,SNR=5.7
KAPI Kappang 134.35 259 PFAKE 02 19 10.0 +12
KAPI LR LR
comp=Z,462nm,20.0s
MAK Makhachkala 134.62 28 PKIKP PKPdf 02 18 51.1 -7.0
MAK *e* 02 21 27.6
MAK *e*PPP PPP 02 24 32.4
MAK *e*SS SS 02 39 14.9 -5.1
MAK MLR MLR
comp=Z,804nm,25.0s
GNI Garni 135.26 33 PFAKE 02 19 10.0 +10
GNI LR LR
comp=Z,334nm,20.0s
MBAR Mbarara 135.44 95 PFAKE 02 19 10.0 +9.3
MBAR LR LR
comp=Z,681nm,22.0s
XAN Xi'an 136.99 317 PKP **PKPdf** **02 19 04.3 +1.4**
XAN PPMZ
comp=Z,130nm,8.4s
XAN LR LR
comp=Z,640nm,20.4s
XAN LR LR
comp=Z,340nm,20.4s
XAN LR LR
comp=Z,310nm,21.4s

MK31 Makanchi Array 137.45 353 *e*PKIKP **PKPdf** **02 19 03.5 +0.1**
MK31 *e* 02 21 47.6
MK31 Makanchi Array 137.45 353 *e*PKPdf **PKPdf** **02 19 03.5 +0.1**
MK31 *e*PP **PP** **02 21 47.6 -0.2**
MKAR Makanchi Array 137.45 353 PKPpre PKPpre 02 18 58.6
MKAR PP **PP** **02 21 45.0 -2.8**
MKAR Makanchi Array 137.45 353 PKhKP PKPpre 02 18 58.6
comp=Z,0.4nm,0.7s,baz=23,slow=2.2,SNR=4.4
MKAR PP **PP** **02 21 45.0 -2.8**
comp=Z,1.5nm,0.9s,baz=14,slow=5.4,SNR=4.2
GTA Gaotai 138.68 331 *e*PKPbc PKPdf 02 19 12.1 +6.1
GTA PP PP 02 22 04.4 +8.3
GTA PKS **PKSdf** **02 22 46.6 +4.4**
GTA SKS **SKSdf** **02 26 21.2 +6.0**
GTA SKKS **SKKSac** **02 28 55.1 +5.3**
GTA Gaotai 138.68 331 SS SS 02 40 15.1 +6.2
GTA PPMZ
comp=Z,230nm,9.0s
GTA LR LR
comp=N,810nm,19.5s
GTA LR LR
comp=E,940nm,21.4s
GTA LR LR
comp=Z,1μm,21.4s
LZH Lanzhou 138.92 324 *e*PKP **PKPdf** **02 19 07.2 +0.6**
LZH PP PP 02 22 04.1 +6.2
LZH SKS **SKSdf** **02 26 15.5 -0.3**
LZH SKKS **SKKSac** **02 28 49.0 -2.4**
LZH SS **SS** **02 40 19.1 +6.8**
LZH PPMZ
comp=Z,130nm,4.3s
LZH LR LR
comp=Z,670nm,13.6s
LZH LR LR
comp=Z,1μm,15.6s
LZH LR LR
comp=Z,1μm,16.9s
KKM Kota Kinabalu 138.99 274 PFAKE 02 19 20.0 +13
KKM LR LR
comp=Z,664nm,21.0s
WMQ Urumqi 139.32 346 PKP **PKPdf** **02 19 06.6 -0.3**
WMQ PP PP 02 22 05.0 +5.4
WMQ PKS **PKSdf** **02 22 41.2 -1.8**
WMQ SKS **SKSdf** **02 26 11.5 -4.4**
WMQ SKKS **SKKSac** **02 28 50.9 -2.2**
WMQ SS **SS** **02 40 17.4 +1.9**
WMQ LR LR
comp=Z,900nm,19.2s
WMQ LR LR
comp=Z,660nm,24.6s
WMQ LR LR
comp=Z,1μm,20.0s
TKM2 Tokmak 2 141.79 359 PFAKE 02 19 20.0 +8.4
TKM2 LR LR
comp=Z,1μm,20.0s
KMBO Kilima Mbogo 141.82 98 PFAKE 02 19 20.0 +7.5
KMBO LR LR
comp=Z,2μm,22.0s
FRU Bishkek 141.88 1 *e*PKIKP **PKPdf** **02 19 11.0 -0.5**
EKS2 Erkin-Say 142.03 2 *e*PKIKP **PKPdf** **02 19 08.8 -3.2**
EKS2 *e* 02 22 19.2
EKS2 MLR MLR
comp=Z,1μm,19.0s
EKS2 Erkin-Say 142.03 2 *e*PKPdf **PKPdf** **02 19 08.8 -3.2**
EKS2 *e*PP **PP** **02 22 19.2 +3.2**
EKS2 LR LR
comp=Z,1μm,19.0s
AAK Ala-Archa 142.07 1 *i* PKIKP **PKPdf** **02 19 10.4 -1.7**
AAK *i* 02 19 14.0
AAK Ala-Archa 142.07 1 PKPpre PKPpre 02 19 07.5
AAK *e*PKPdf **PKPdf** **02 19 13.3 +1.2**
AAK *e*PP PP 02 22 22.8 +6.4
AAK LR LR
comp=Z,909nm,19.0s
AAK Ala-Archa 142.07 1 PKhKP PKPpre 02 19 07.5
comp=Z,0.7nm,0.3s,baz=292,slow=5.4,SNR=2.9
CD2 Chengdu 142.35 317 PKP **PKPdf** **02 19 11.8 -1.0**
CD2 PP **PP** **02 22 22.1 +3.1**
CD2 PKS **PKSdf** **02 22 46.1 -2.6**
CD2 SKS **SKSdf** **02 26 19.0 -2.3**
CD2 SKKS **SKKSac** **02 29 10.9 -0.5**
CD2 SS **SS** **02 40 54.2 +1.6**
CD2 PPMZ
comp=Z,790nm,6.5s
CD2 LR LR
comp=Z,2μm,19.0s
CD2 LR LR
comp=Z,2μm,22.6s
GYA Guiyang 142.74 309 PKP **PKPdf** **02 19 13.2 -0.5**
GYA PP **PP** **02 22 25.0 +3.1**
GYA PKS **PKSdf** **02 22 47.5 -2.2**
GYA SKKS 02 29 14.0
GYA PPMZ
comp=Z,160nm,7.8s
GYA LR LR
comp=Z,360nm,24.0s
GYA LR LR
comp=Z,220nm,25.4s
GYA LR LR
comp=Z,310nm,23.8s
QIZ Qiongzhong 143.13 296 PKP **PKPdf** **02 19 13.8 -0.6**
QIZ PP **PP** **02 22 23.1 -1.5**
QIZ SS SS 02 41 04.0 +0.9
QIZ PPMZ
comp=Z,360nm,4.9s
QIZ LR LR
comp=Z,980nm,25.9s
QIZ Qiongzhong 143.13 296 PFAKE 02 19 30.0 +16
QIZ LR LR
comp=Z,779nm,20.0s
ABPO Ambohimpanom 143.96 131 PFAKE 02 19 30.0 +14
ABPO LR LR
comp=Z,806nm,20.0s
KSM Kuching 144.66 266 *e*PKPdf PKPbc 02 19 15.9 -0.1
KSM LR LR
comp=Z,717nm,21.0s
KSH Kashi 145.18 359 PKPbc **PKPdf** **02 19 18.8 +1.2**
KSH PP PP 02 22 42.1 +7.1
KSH PPMZ
comp=Z,160nm,4.6s
KSH LR LR
comp=Z,810nm,15.2s
KSH LR LR
comp=Z,750nm,15.5s
KSH LR LR
comp=Z,940nm,19.7s
KMI Kunming 146.45 310 PKPbc **PKPdf** **02 19 19.9 -0.4**
KMI pPKP **PKPab** **02 19 23.2 +0.7**
KBL Kabul 149.64 10 *e*PKP2 **PKPbc** **02 19 30.4 +0.5**
KBL Kabul 149.64 10 *e*PKPbc **PKPbc** **02 19 30.4 +0.5**
LSA Lhasa 150.71 330 *e*PKIKP **PKPbc** **02 19 34.0 +1.1**
LSA *e* 02 19 39.3
LSA MLR MLR
comp=Z,1μm,20.0s
LSA Lhasa 150.71 330 *e*PKPbc **PKPbc** **02 19 34.0 +1.1**
LSA *e*PKPab **PKPab** **02 19 39.3 -0.4**
LSA LR LR
comp=Z,1μm,20.0s
COCO West Island 152.69 232 PFAKE 02 19 40.0 +2.8
COCO LR LR
comp=Z,1μm,21.0s
CHTO Chiang Mai 152.69 303 *e*PKIKP **PKPdf** **02 19 31.0 +0.9**
CHTO *e* 02 19 35.8
CHTO MLR MLR
comp=Z,774nm,21.0s
CHTO Chiang Mai 152.69 303 *e*PKPdf **PKPdf** **02 19 31.0 +0.9**
CHTO *e*PKPbc **PKPbc** **02 19 35.8 -1.4**
CHTO LR LR
comp=Z,774nm,21.0s
CMAR Chiang Mai Arr 152.86 303 PKP **PKPdf** **02 19 29.1 -1.2**
CMAR PKPbc **PKPbc** **02 19 35.5 -2.0**
CMAR Chiang Mai Arr 152.86 303 PKP **PKPdf** **02 19 29.1 -1.2**
comp=Z,0.7nm,0.3s,baz=229,slow=0.9,SNR=5.2
CMAR PKPbc **PKPbc** **02 19 35.5 -2.0**
comp=Z,5.1nm,0.7s,baz=7.1,slow=2.2,SNR=18
IPM Ipoh 154.10 271 P **PKPbc** **02 19 40.7 +0.3**
IPM Ipoh 154.10 271 *e*PKPbc **PKPbc** **02 19 40.8 +0.4**
KULM Kulim 154.48 273 P **PKPbc** **02 19 40.9 -0.2**
KULM Kulim 154.48 273 *e*PKPbc **PKPbc** **02 19 41.0 -0.2**
KULM LR LR
comp=Z,664nm,21.0s
MSEY Mahe Island 158.41 115 PFAKE 02 19 50.0 +12
MSEY LR LR
comp=Z,860nm,21.0s

DGAR	**Diego Garcia**	**167.84**	**168**	PFAKE			02 20 00.0	+13
DGAR				LR	LR			
	comp=Z,1μm,19.0s							

NIED ***06*** *02:02:00.24˙00N×122˚60E,h32km,Mw4.0 Best double couple: M₀1.27000×10¹⁵ NP1:φs62.00000°,δ83.00000°, λ84.00000°. NP2:φs283.00000°,δ10.00000°,λ131.00000°.*
TAP ***06*** *02:02:41.6,23˙97N×122˚65E,h41km±1km,ML4.2,C*
JMA ***06*** *02:02:41.0±0.2,24˙04N×122˚62E,h33km,M3.8*
IDC ***06*** *02:02:45.9±5.7,24˚16N×122˚72E,h78km±53km,mb3.5/12, mb1 3.7/13,mb1mx3.5/28,mbtmp3.6/13,ML3.1/1,Error ellipse: s-maj=35.7km s-min=17.0km az=67.0*

ISC 06 02:02:40.5±1.0,23˙91N±0˙03×122˚67E±0˙02,h31km±8km, n72,σ1s16/123,mb3.8/12,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.63**	**30**	P	**Pb**	**02 02 52.1**	**-1.0**
YOJ				S	**Sb**	**02 02 59.9**	**-1.8**
HWA	**Hwalien**	**0.97**	**274**	*e*P	**Pn**	**02 02 58.4**	**+0.4**
	baz=260						
ENA	**Nanau**	**0.99**	**301**	*e*P	**Pb**	**02 02 59.0**	**0.0**
	baz=299						
ENA				*e*S	**Sb**	**02 03 11.5**	**-0.3**
	baz=299						
TWD	**Chiawan**	**0.99**	**280**	P	**Pn**	**02 02 58.2**	**0.0**
	baz=277						
TWD				*e*S	**Sn**	**02 03 11.1**	**-0.1**
	baz=277						
TWC	**Suao**	**1.02**	**313**	*i* P	**Pb**	**02 02 59.0**	**-0.6**
	baz=311						
TWC				*i* S	**Sb**	**02 03 12.0**	**-0.6**
	baz=311						
HATJ	**Hateruma jima**	**1.05**	**82**	P	**Pb**	**02 03 00.1**	**0.0**
HATJ				*e*S	**Sb**	**02 03 13.9**	**+0.4**
IRIF	**Iriomote-Funau**	**1.06**	**66**	P	**Pb**	**02 02 59.7**	**-0.5**
IRIF				*e*S	**Sb**	**02 03 14.4**	**+0.7**
ESL	**Shilin**	**1.14**	**265**	*e*P	**Pn**	**02 03 00.3**	**+0.1**
	baz=255						
ESL				S	**Sn**	**02 03 14.7**	**0.0**
	baz=255						
ILA	**Ilan**	**1.20**	**316**	*e*P	**Pb**	**02 03 02.4**	**-0.1**
	baz=315						
ILA				*e*S	**Sb**	**02 03 19.6**	**+1.9**
	baz=315						
ENTT	**Nioudou**	**1.24**	**306**	P	**Pb**	**02 03 02.8**	**-0.5**
	baz=293						
ENTT				*e*S	**Sb**	**02 03 20.1**	**+1.1**
	baz=293						
TWB1	**Santiao Chiao**	**1.25**	**331**	*i* P	**Pn**	**02 03 02.2**	**+0.3**
	baz=331						
TWB1				*e*S	**Sn**	**02 03 17.7**	**+0.1**
	baz=331						
JKRS	**Kuro-shima**	**1.27**	**75**	P	**Pb**	**02 03 03.4**	**-0.3**
JKRS				*e*S	**Sb**	**02 03 20.4**	**+0.7**
NNS	**Nan Shan**	**1.29**	**294**	P	**Pn**	**02 03 03.3**	**+0.8**
	baz=292						
NNS				*e*S	**Sb**	**02 03 21.2**	**+0.6**
	baz=292						
EHY	**Hungye**	**1.30**	**252**	*e*P	**Pn**	**02 03 03.3**	**+0.9**
	baz=249						
EHY				*e*S	**Sn**	**02 03 19.8**	**+1.0**
	baz=249						
WHF	**Hehuan Shan**	**1.30**	**281**	*i* P	**Pn**	**02 03 03.6**	**+0.7**
	baz=278						
WHF				S	**Sn**	**02 03 19.9**	**+0.4**
	baz=278						
TWF1	**Yuli**	**1.38**	**246**	P	**Pn**	**02 03 04.6**	**+1.1**
	baz=235						
TWF1				S	**Sn**	**02 03 21.8**	**+1.1**
	baz=235						
TWT	**Tachien**	**1.41**	**284**	P	**Pb**	**02 03 05.4**	**-0.8**
	baz=273						
TWT				*e*S	**Sb**	**02 03 23.3**	**-0.5**
	baz=273						
NWF	**Wu-fen Shan**	**1.41**	**325**	*e*P	**Pn**	**02 03 04.7**	**+0.7**
	baz=325						
NWF				*e*S	**Sb**	**02 03 23.1**	**-0.7**
	baz=325						
NSK	**Sanguang**	**1.42**	**303**	⫿ *i*P	**Pn**	**02 03 05.1**	**+0.9**
	baz=302						
NSK				*e*S	**Sb**	**02 03 24.8**	**+0.7**
	baz=302						
JIJ	**Ishigaki jima**	**1.42**	**71**	P	**Pn**	**02 03 04.8**	**+0.7**
JIJ				*e*S	**Sn**	**02 03 22.4**	**+0.7**
CHKT	**Chengkung**	**1.45**	**236**	*e*P	**Pn**	**02 03 05.1**	**+0.6**
	baz=224						
CHKT				*e*S	**Sn**	**02 03 21.9**	**-0.4**
	baz=224						
TWA	**Mucha**	**1.45**	**317**	*e*P	**Pb**	**02 03 05.9**	**-1.0**
	baz=317						
TWA				*e*S	**Sb**	**02 03 26.3**	**+1.3**
	baz=317						
TAP1	**Taipei**	**1.53**	**317**	*e*P	**Pb**	**02 03 09.3**	**+1.1**
	baz=330						
TAP	**Taipei**	**1.54**	**317**	*e*P	**Pb**	**02 03 08.5**	**+0.1**
	baz=330						
TAP				*e*S	**Sb**	**02 03 28.3**	**+0.7**
	baz=330						
SMLT	**Sun Moon Lake**	**1.62**	**269**	P	**Pb**	**02 03 08.5**	**-1.3**
	baz=267						
SMLT				*e*S	**Sn**	**02 03 27.6**	**+0.8**
	baz=267						
YUS	**Yu-Shan**	**1.63**	**255**	P	**Pn**	**02 03 08.8**	**+1.3**
	baz=253						
YUS				S	**Sn**	**02 03 28.6**	**+1.0**
	baz=253						
TWS1	**Kuangyinshan**	**1.64**	**316**	*e*P	**Pb**	**02 03 09.1**	**-1.0**
	baz=329						
TYC	**Yuchr**	**1.66**	**270**	P	**Pb**	**02 03 08.9**	**-1.4**
	baz=268						
TYC				*e*S	**Sn**	**02 03 28.5**	**+0.8**
	baz=268						
TWY	**Chenhua**	**1.67**	**325**	*e*P	**Pb**	**02 03 09.4**	**-1.1**
	baz=324						
ELDTW	**Lidau**	**1.68**	**245**	*e*P	**Pn**	**02 03 08.7**	**+0.9**
	baz=242						
ELDTW				*e*S	**Sn**	**02 03 28.9**	**+0.6**
	baz=242						
NSTT	**Nanjuang**	**1.68**	**296**	P	**Pb**	**02 03 09.9**	**-0.9**
	baz=294						
NSTT				*e*S	**Sb**	**02 03 31.8**	**+0.2**
	baz=294						
NCU	**National Centr**	**1.71**	**308**	*e*P	**Pb**	**02 03 10.5**	**-0.8**
	baz=308						
NCU				*e*S	**Sb**	**02 03 33.3**	**+0.9**
	baz=308						
ALS	**Alishan**	**1.75**	**257**	*e*P	**Pb**	**02 03 10.9**	**-1.3**
	baz=255						
ALS				*e*S	**Sn**	**02 03 31.3**	**+0.8**
	baz=255						
HSN	**Hsinchu**	**1.79**	**300**	*e*P	**Pb**	**02 03 11.9**	**-0.6**
	baz=301						
HSN				*e*S	**Sb**	**02 03 33.9**	**-0.6**
	baz=301						
TWQ1	**Liyutan**	**1.79**	**284**	*e*P	**Pb**	**02 03 11.4**	**-1.1**
	baz=283						
TWQ1				*e*S	**Sn**	**02 03 32.4**	**+1.5**
	baz=283						
NSY	**Sanyi**	**1.81**	**286**	*e*P	**Pb**	**02 03 11.8**	**-1.2**
	baz=285						
NSY				*e*S	**Sb**	**02 03 35.1**	**-0.3**
	baz=285						
TTN	**Taitung**	**1.81**	**231**	*e*P	**Pn**	**02 03 10.8**	**+1.2**
	baz=220						
TTN				*e*S	**Sb**	**02 03 34.0**	**-1.3**
	baz=220						
WNT	**Mingjian**	**1.82**	**269**	*e*P	**Pb**	**02 03 11.9**	**-1.2**
	baz=267						
TWG	**Pinlang**	**1.83**	**234**	*e*P	**Pn**	**02 03 10.6**	**+0.9**
	baz=224						
TWG				*e*S	**Sn**	**02 03 32.9**	**+1.1**
	baz=224						
TCU	**Taichung**	**1.84**	**278**	*e*P	**Pb**	**02 03 12.6**	**-0.8**
	baz=276						
TCU				*e*S	**Sb**	**02 03 36.2**	**+0.2**
	baz=276						
CHN5	**Tsauling**	**1.85**	**261**	*i* P	**Pb**	**02 03 12.8**	**-0.9**
	baz=250						
CHN5				*e*S	**Sb**	**02 03 35.2**	**-1.3**
	baz=250						
WGK	**Gukeng**	**1.94**	**264**	*e*P	**Pb**	**02 03 14.6**	**-0.6**
	baz=262						
WGK				*e*S	**Sb**	**02 03 38.8**	**-0.2**
	baz=262						
JTJ	**Tarama**	**1.99**	**68**	P	**Pb**	**02 03 14.3**	**-1.7**
JTJ				*e*S	**Sn**	**02 03 37.0**	**+1.1**
WTP	**Ta-pu**	**2.00**	**251**	*e*P	**Pb**	**02 03 15.0**	**-1.1**
	baz=242						
WTP				*e*S	**Sb**	**02 03 39.8**	**-0.9**
	baz=242						
SGST	**Jiashian**	**2.09**	**247**	*e*P	**Pb**	**02 03 16.6**	**-1.1**
	baz=237						
SGST				*e*S	**Sb**	**02 03 42.4**	**-0.8**
	baz=237						
CHN1	**Nanshi**	**2.09**	**250**	*e*P	**Pb**	**02 03 16.4**	**-1.3**
	baz=240						
CHN1				*e*S	**Sb**	**02 03 42.5**	**-0.9**
	baz=240						
CHY	**Chiayi**	**2.10**	**259**	*e*P	**Pb**	**02 03 16.5**	**-1.3**
	baz=257						
CHY				*e*S	**Sb**	**02 03 42.5**	**-1.0**
	baz=257						
WTCT	**Ta-ch'eng**	**2.19**	**269**	*e*P	**Pb**	**02 03 17.7**	**-1.7**
	baz=280						
WTCT				*e*S	**Sn**	**02 03 43.0**	**+2.4**
	baz=280						
EAST	**Anshuo**	**2.26**	**228**	*e*P	**Pn**	**02 03 16.4**	**+0.6**
	baz=233						
EAST				*e*S	**Sn**	**02 03 44.5**	**+1.8**
	baz=233						
CHN3	**Shinhua**	**2.27**	**249**	*e*P	**Pb**	**02 03 20.2**	**-0.6**
	baz=258						
CHN3				*e*S	**Sb**	**02 03 48.4**	**-0.1**
	baz=258						
SGLT	**Jiouru**	**2.33**	**240**	*e*P	**Pb**	**02 03 21.5**	**-0.2**
	baz=237						
SGLT				*e*S	**Sb**	**02 03 51.1**	**+1.1**
	baz=237						
TWM1	**Shoushan**	**2.33**	**243**	*e*P	**Pb**	**02 03 21.2**	**-0.7**
	baz=240						
TWM1				*e*S	**Sb**	**02 03 51.4**	**+1.2**
	baz=240						
JMJ	**Miyako jima 2**	**2.56**	**69**	*e*S	**Sn**	**02 03 51.6**	**+1.8**
HEN	**Hengchun**	**2.60**	**224**	*e*P	**Pb**	**02 03 23.8**	**-2.6**
	baz=221						
HEN				*e*S	**Sn**	**02 03 53.5**	**+2.6**
	baz=221						
TWK1	**Hengchun**	**2.61**	**222**	*e*P	Pn	02 03 23.8	+3.4
	baz=226						
TWK1				*e*S	**Sn**	**02 03 53.2**	**+2.1**
	baz=226						
PNG	**Penghu**	**2.87**	**264**	*e*P	**Pn**	**02 03 26.0**	**+1.9**
	baz=276						
KNM	**Kinmen**	**3.90**	**278**	*e*P	**Pn**	**02 03 40.9**	**+2.7**
	baz=278						
KNM				*e*S	**Sn**	**02 04 25.3**	**+2.3**
	baz=278						
JKE	**Kume jima 2**	**4.44**	**56**	P	**Pn**	**02 03 46.2**	**+0.6**
JKE				*e*S	**Sn**	**02 04 35.2**	**-1.1**
KSRS	**Korea Array**	**14.23**	**17**	P	**Pn**	**02 06 02.1**	**+2.4**
	0.1nm,0.3s,baz=196,slow=12,SNR=5.4						
USRK	**Ussuriysk Arra**	**21.63**	**18**	P	**P**	**02 07 26.1**	**-1.9**
	2.6nm,0.7s,baz=199,slow=11,SNR=7.4						
SONM	**Songino Array**	**27.16**	**336**	P	**P**	**02 08 20.0**	**-1.1**
	1.1nm,0.5s,baz=140,slow=9.2,SNR=2.6						
MKAR	**Makanchi Array**	**39.48**	**316**	P	**P**	**02 10 07.9**	**-0.1**
	1.4nm,0.8s,baz=101,slow=10,SNR=11						
ZALV	**Zalesovo Beam**	**41.21**	**327**	P	**P**	**02 10 20.6**	**-1.6**
	0.7nm,0.3s,baz=111,slow=8.1,SNR=3.6						
KURBB	**Kurchatov Arra**	**43.19**	**320**	P	**P**	**02 10 37.9**	**-0.4**
	0.4nm,0.3s,baz=114,slow=7.0,SNR=4.3						
WRA	**Warramunga Arr**	**45.05**	**164**	P	**P**	**02 10 55.2**	**+1.6**
	1.2nm,0.7s,baz=347,slow=8.5,SNR=4.5						
ASAR	**Alice Springs**	**48.54**	**166**	P	**P**	**02 11 23.2**	**+2.4**
	0.4nm,0.5s,baz=350,slow=12,SNR=7.0						
BVAR	**Borovoye Array**	**48.74**	**321**	P	**P**	**02 11 20.5**	**-1.6**
	0.7nm,0.6s,baz=97,slow=10,SNR=3.5						
BVAR				PcP	**PcP**	**02 12 46.2**	**-0.6**
	0.8nm,0.5s,baz=92,slow=5.0,SNR=5.7						
FINES	**FINESS Array B**	**72.36**	**330**	P	**P**	**02 14 01.7**	**-1.4**
	1.6nm,0.7s,baz=98,slow=5.8,SNR=4.9						
BRTR	**Keskin Array B**	**74.42**	**307**	P	**P**	**02 14 16.2**	**+0.4**
	0.7nm,0.7s,baz=83,slow=4.4,SNR=4.2						
NB2	**NORSAR Subarra**	**79.09**	**333**	P	**P**	**02 14 40.7**	**-1.0**
	comp=Z,1.4nm,0.8s,baz=52,slow=5.9						
NOA	**NORSAR Array B**	**79.09**	**333**	P	**P**	**02 14 39.3**	**-2.4**
	comp=Z,1.2nm,0.7s,baz=54,slow=1.8,SNR=4.8						
YKA	**Yellowknife Ar**	**82.69**	**23**	P	**P**	**02 15 00.1**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=309,slow=5.0,SNR=4.9						

IDC 06 02:03:05.5±16.0,1˙88S×99˚28E,h0km,mb3.5/2, mb1 3.8/2,mb1mx3.3/24,mbtmp3.5/2,MS4.2/1,Ms1 4.2/1, ms1mx3.1/36,Error ellipse: s-maj=795.6km s-min=33.7km az=51.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W3	**Cape Leeuwin H**	**35.63**	**159**	T	T	02 48 00.9	
	baz=335,slow=0.7,SNR=6.0						
H01W2	**Cape Leeuwin H**	**35.64**	**159**	T	T	02 48 01.1	
	baz=335,slow=0.7,SNR=6.0						
H01W1	**Cape Leeuwin H**	**35.65**	**159**	T	T	02 48 02.0	
	baz=335,slow=0.7,SNR=5.5						
WRA	**Warramunga Arr**	**38.67**	**120**	P	P	02 10 30.5	-0.9
	0.8nm,0.8s,baz=298,slow=9.2,SNR=4.5						
MKAR	**Makanchi Array**	**50.73**	**345**	P	P	02 12 06.2	-0.9
	0.4nm,0.6s,baz=159,slow=8.6,SNR=3.3						
USRK	**Ussuriysk Arra**	**54.40**	**29**	LR	LR	02 36 17.2	
	comp=Z,238nm,19.6s,baz=120,slow=37						
TXAR	**Lajitas Array**	**145.04**	**36**	PKPbc	PKPdf	02 22 46.0	+0.2
	0.3nm,0.5s,baz=299,slow=0.6,SNR=8.1						

GUC 06 02:11:33.3±0.5,31˙40S×69˚66W,h157km±8km,MD3.5, ML3.3,2C-1D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**1.17**	**281**	⫿ *i*P	Pn	02 12 00.6	+0.3
CMCH				*i* S	Sn	02 12 21.5	+0.4
CMCH				AML	AML	02 12 22.4	
	comp=N,2μm,0.5s						
JACH	**Jahuel**	**1.50**	**212**	*e*P	Pn	02 12 04.0	+0.4
JACH				*i* S	Sn	02 12 27.5	+0.5
TLL	**Tololo Astrono**	**1.57**	**321**	⫿ *i*P	Pn	02 12 05.4	+0.8
TLL				*i* S	Sn	02 12 29.1	+0.5
TLL				AML	AML	02 12 33.6	
	comp=N,206nm,0.4s						
CHNG	**Los Chungos**	**1.64**	**252**	⫿ *i*P	Pn	02 12 05.1	+0.2
CHNG				*i* S	Sn	02 12 29.3	+0.1
CHNG				AML	AML	02 12 32.4	
	comp=E,134nm,0.2s						
CLCH	**Cerro Calan**	**2.13**	**200**	*e*P	Pn	02 12 10.5	+0.1
CLCH				*i* S	Sn	02 12 39.5	+0.4
CLCH				AML	AML	02 12 40.8	
	comp=E,217nm,0.3s						
PCH	**Pirque**	**2.33**	**198**	*e*P	Pn	02 12 13.4	+0.6
PCH				*e*S	Sn	02 12 43.5	+0.1
LMEL	**Las Melosas**	**2.48**	**191**	*e*P	Pn	02 12 15.6	+0.8
LMEL				*i* S	Sn	02 12 47.6	+0.6
LMEL				AML	AML	02 12 52.8	
	comp=N,112nm,0.2s						

IDC ***06*** *02:11:51.4±1.6,20˚80S×169˚16E,h0km,mb4.0/11, mb1 4.2/12,mb1mx4.1/20,mbtmp4.1/12,ML3.9/1,MS4.1/1, Ms1 4.1/1,ms1mx3.2/25,Error ellipse: s-maj=56.8km s-min=19.8km az=145.0*
ISCJB ***06*** *02:11:54.4±1.4,20.7S±0˙2×169˚0E±0˙2,h25km,mb4.0/11, MS4.0/1,Error ellipse: s-maj=42.7km s-min=9.8km az=140.7*

ISC 06 02:11:55.2±1.4,20˙9S±0˙3×169˚1E±0˙2,h25km,n20, σ0s77/18,mb4.1/11,2C,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.77**	**244**	Pn	**Pn**	**02 12 37.8**	**-0.4**
	21nm,0.3s,baz=61,slow=18,SNR=100						
DZM				Sn	**Sn**	**02 13 10.4**	**-0.5**
	40nm,0.3s,baz=296,slow=24,SNR=6.0						
DZM				LR	LR	02 13 27.6	
	comp=Z,690nm,19.4s,baz=240,slow=34						
HNR	**Honiara**	**14.40**	**321**	LR	LR	02 19 14.9	
	comp=Z,80nm,20.7s,baz=104,slow=31						
CTA	**Charters Tower**	**21.44**	**268**	P	**P**	**02 16 42.0**	**+0.3**
	2.9nm,0.7s,baz=65,slow=9.0,SNR=3.8						
STKA	**Stephens Creek**	**26.92**	**240**	P	**P**	**02 17 36.3**	**+1.7**
	1.5nm,0.6s,baz=72,slow=8.5,SNR=3.7						
WRA	**Warramunga Arr**	**32.58**	**265**	P	**P**	**02 18 24.0**	**-0.9**
	0.6nm,0.6s,baz=91,slow=8.5,SNR=6.2						
ASAR	**Alice Springs**	**32.67**	**258**	P	**P**	**02 18 25.1**	**-0.5**
	1.9nm,0.8s,baz=85,slow=7.6,SNR=8.4						
ASAR				LR	LR	02 29 41.6	
	comp=Z,276nm,18.5s,baz=114,slow=33						
FITZ	**Fitzroy Crossi**	**41.00**	**266**	P	**P**	**02 19 37.3**	**+0.7**
	4.5nm,0.7s,baz=142,slow=12,SNR=6.4						
MJAR	**Matsushiro Arr**	**64.13**	**333**	P	**P**	**02 22 27.0**	**-0.5**
	0.7nm,0.3s,baz=166,slow=6.3,SNR=3.6						
USRK	**Ussuriysk Arra**	**73.12**	**333**	P	**P**	**02 23 23.9**	**+0.5**
	4.6nm,1.0s,baz=147,slow=8.1,SNR=5.5						
CMAR	**Chiang Mai Arr**	**79.07**	**295**	P	**P**	**02 23 57.7**	**-0.2**
	1.3nm,0.3s,baz=122,slow=1.2,SNR=3.0						
SONM	**Songino Array**	**88.45**	**323**	P	**P**	**02 24 45.8**	**+0.4**
	0.7nm,0.7s,baz=108,slow=3.2,SNR=2.3						
NVAR	**Mina Array Bea**	**89.95**	**49**	P	**P**	**02 24 52.0**	**-0.7**
	0.6nm,0.8s,baz=221,slow=8.0,SNR=4.3						
ILAR	**Eielson Array**	**91.80**	**17**	P	**P**	**02 25 01.2**	**+0.8**
	0.4nm,0.8s,baz=229,slow=5.5,SNR=3.6						
BRG	**Berggiesshubel**	**144.27**	**333**	*e*P	PKPbc	02 31 27.4	+0.3
	14nm,1.6s						
BRG				*e*		02 34 40.0	
BRG							
	comp=N,263nm,20.5s						
BRG							
	comp=E,385nm,22.5s						
BRG							
	comp=Z,654nm,21.3s						
CLL	**Collm**	**144.33**	**334**	*e*(P)	PKPdf	02 31 39.0	+10
	comp=Z,3.0nm,0.9s						
EKA	**Eskdalemuir Ar**	**145.09**	**352**	PKPbc	**PKPbc**	**02 31 28.4**	**-1.2**
	comp=Z,4.4nm,0.7s,baz=5.9,slow=2.3,SNR=11						
CONA	**Conrad Observa**	**145.46**	**328**	⫿ *i*PKiKP	**PKPab**	**02 31 31.8**	**+0.4**
	comp=Z,4.1nm,0.8s						
GERES	**GERESS Array B**	**145.86**	**331**	PKPbc	**PKPdf**	**02 31 32.0**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=29,slow=3.0,SNR=14						
FETA	**Feichten**	**148.55**	**331**	⫿ *i*PKiKP	**PKPbc**	**02 31 39.7**	**-0.4**
	comp=Z,3.5nm,0.9s						
DAVOX	**Davos/Dischmat**	**149.12**	**332**	PKPbc	**PKPbc**	**02 31 41.0**	**-0.6**
	comp=Z,2.0nm,0.6s,baz=186,slow=10,SNR=4.2						

IDC 06 02:14:54.0±4.4,14˙96S×173˚11W,h0km,mb3.6/2, mb1 3.8/2,mb1mx3.5/21,mbtmp3.6/2,Error ellipse: s-maj=269.2km s-min=24.8km az=149.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.66**	**51**	Pn	Pn	02 15 24.4	-0.1
	3.9nm,0.3s,baz=193,slow=12,SNR=4.8						
AFI				Sn	Sn	02 15 43.4	-3.3
	10.0nm,0.3s,baz=70,slow=19,SNR=7.6						
WRA	**Warramunga Arr**	**50.22**	**256**	P	P	02 23 52.7	+0.5
	0.5nm,0.7s,baz=90,slow=6.8,SNR=3.4						
ASAR	**Alice Springs**	**50.51**	**252**	P	P	02 23 53.7	-0.7
	0.6nm,0.6s,baz=87,slow=8.6,SNR=7.6						
BRTR	**Keskin Array B**	**145.99**	**322**	PKPbc	PKPdf	02 34 35.4	-0.1
	0.2nm,0.8s,baz=79,slow=0.7,SNR=2.2						

IDC ***06*** *02:18:16.2±1.1,2˚09N×96˚00E,h0km,mb3.9/11, mb1 4.0/13,mb1mx3.8/29,mbtmp3.9/13,ML4.1/2,Error ellipse: s-maj=39.6km s-min=17.2km az=48.0*
ISCJB ***06*** *02:18:18.7±0.6,2˚12N±0˙06×96˚00E±0˙05,h27km, mb3.9/11,Error ellipse: s-maj=8.6km s-min=7.4km az=18.3*
DJA ***06*** *02:18:20.7±1.5,2˚N±4˚×9˚6E±1˚1,h10km,M4.1/3, MLv4.1/3*

ISC 06 02:18:20.5±0.8,2˚15N±0˙07×96˚13E±0˙08,h27km,n26, σ0s74/19,mb3.9/11,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.33**	**38**	P	**Pb**	**02 18 27.7**	**-0.4**
SNSI				S	**Sb**	**02 18 32.7**	**-0.5**
GSI	**Gunungsitoli**	**1.67**	**120**	P	**Pb**	**02 18 49.5**	**-1.2**
GSI				S	**Sn**	**02 19 09.7**	**+1.1**
KCSI	**Kotacane, Aceh**	**2.13**	**50**	P	**Pn**	**02 18 55.0**	**+0.6**
KCSI				S	**Sb**	**02 19 23.8**	**-0.8**
PSI	**Prapat**	**2.87**	**77**	Pn	**Pn**	**02 19 05.7**	**+1.1**
	3.7nm,0.3s,baz=292,slow=5.8,SNR=13						
CMAR	**Chiang Mai Arr**	**16.44**	**9**	Pn	**Pn**	**02 22 10.4**	**+0.9**
	0.9nm,0.3s,baz=192,slow=12,SNR=3.9						
H08S2	**Diego Garcia H**	**25.51**	**247**	T	T	02 50 20.1	
	baz=67,slow=0.7,SNR=2124						
H08S3	**Diego Garcia H**	**25.51**	**247**	T	T	02 50 19.3	
	baz=67,slow=0.7,SNR=1496						
H08S1	**Diego Garcia H**	**25.52**	**247**	T	T	02 50 21.5	
	baz=67,slow=0.7,SNR=1389						
H08N1	**Diego Carcia H**	**26.45**	**251**	T	T	02 52 25.2	
	baz=96,SNR=13						
H08N2	**Diego Garcia H**	**26.46**	**251**	T	T	02 52 26.1	
	baz=96,SNR=13						
H08N3	**Diego Garcia H**	**26.48**	**251**	T	T	02 52 23.7	
	baz=96,SNR=9.5						
FITZ	**Fitzroy Crossi**	**35.35**	**126**	P	**P**	**02 25 14.1**	**+0.1**
	1.7nm,1.0s,baz=336,slow=12,SNR=3.0						
H01W3	**Cape Leeuwin H**	**40.53**	**157**	T	T	03 09 04.2	
	baz=333,slow=0.7,SNR=295						
H01W2	**Cape Leeuwin H**	**40.54**	**157**	T	T	03 09 04.2	
	baz=333,slow=0.7,SNR=274						
H01W1	**Cape Leeuwin H**	**40.54**	**157**	T	T	03 09 04.2	
	baz=333,slow=0.7,SNR=266						
WRA	**Warramunga Arr**	**43.44**	**122**	P	**P**	**02 26 21.4**	**-0.1**
	1.1nm,0.8s,baz=298,slow=9.2,SNR=2.8						
ASAR	**Alice Springs**	**44.82**	**127**	P	**P**	**02 26 33.0**	**+0.5**
	0.4nm,0.5s,baz=297,slow=8.2,SNR=6.5						
MKAR	**Makanchi Array**	**46.07**	**347**	P	**P**	**02 26 42.3**	**+0.2**
	1.8nm,0.4s,baz=160,slow=8.7,SNR=25						
SONM	**Songino Array**	**46.37**	**10**	P	**P**	**02 26 43.5**	**-1.1**
	1.2nm,0.4s,baz=186,slow=10.0,SNR=4.2						
KURBB	**Kurchatov Arra**	**50.55**	**346**	P	**P**	**02 27 16.7**	**+0.2**
	0.5nm,0.4s,baz=163,slow=6.8,SNR=8.6						
ZALV	**Zalesovo Beam**	**52.46**	**352**	P	**P**	**02 27 31.0**	**+0.2**
	2.4nm,0.5s,baz=176,slow=7.3,SNR=11						
BRTR	**Keskin Array B**	**67.68**	**312**	P	**P**	**02 29 15.2**	**-0.5**
	0.3nm,0.7s,baz=128,slow=4.8,SNR=3.2						
FINES	**FINESS Array B**	**78.67**	**333**	P	**P**	**02 30 19.5**	**-0.5**
	4.1nm,1.1s,baz=102,slow=13,SNR=3.7						
ARCES	**ARCESS Array B**	**81.29**	**340**	P	**P**	**02 30 34.0**	**0.0**
	2.8nm,0.9s,baz=57,slow=4.5,SNR=4.9						

0.5nm,0.4s,baz=97,slow=8.4,SNR=4.6
VNDA Vanda 55.14 183 LR LR 03 11 03.1
comp=Z,298nm,18.2s,baz=93,slow=31
NVAR Mina Array Bea 88.74 47 LR LR 03 28 07.0
comp=Z,185nm,18.4s,baz=230,slow=31
ILAR Eielson Array 92.60 16 P P 02 56 04.6 +0.3
0.5nm,0.9s,baz=234,slow=5.4,SNR=2.7
GERES GERESS Array B 149.00 333 PKPbc PKPbc 03 02 41.0 -0.4
0.3nm,0.6s,baz=250,slow=2.9,SNR=3.0

IDC 06 02:44:46.0±1.4, 46°43N×27°34W, h0km, mb3.4/5, mb1 3.5/6, mb1mx3.4/33, mbtmp3.3/6, ML4.5/1, Error ellipse: s-maj=41.5km s-min=28.5km az=10.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**18.33**	**103**	P	P	02 49 03.2	+1.4
	0.3nm,0.3s,baz=300,slow=13,SNR=4.7						
AKASG	**Malin Array Be**	**36.90**	**62**	P	P	02 51 55.6	-0.4
	0.2nm,0.3s,baz=289,slow=8.7,SNR=4.9						
TORD	**Torodi Ar. Bea**	**41.21**	**134**	P	P	02 52 31.8	-0.6
	0.5nm,0.6s,baz=333,slow=8.0,SNR=7.0						
BRTR	**Keskin Array B**	**44.07**	**76**	P	P	02 52 55.9	+0.2
	0.4nm,0.8s,baz=305,slow=8.5,SNR=2.6						
H10N2	**ASCENSION HYDR**	**55.22**	**164**	T	T	03 53 36.1	
	baz=350,slow=0.7,SNR=7.4						
H10N3	**ASCENSION HYDR**	**55.23**	**164**	T	T	03 53 37.8	
	baz=350,slow=0.7,SNR=6.1						
H10N1	**ASCENSION HYDR**	**55.24**	**164**	T	T	03 53 36.1	
	baz=350,slow=0.7,SNR=8.3						
H10S1	**ASCENSION HYDR**	**56.28**	**165**	T	T	03 54 53.6	
	baz=351,slow=0.7,SNR=16						
H10S3	**ASCENSION HYDR**	**56.28**	**165**	T	T	03 54 56.9	
	baz=351,slow=0.7,SNR=16						
H10S2	**ASCENSION HYDR**	**56.29**	**165**	T	T	03 54 52.7	
	baz=351,slow=0.7,SNR=17						
TXAR	**Lajitas Array**	**60.34**	**282**	P	P	02 54 57.1	+0.3
	0.2nm,0.6s,baz=67,slow=6.9,SNR=3.4						
MKAR	**Makanchi Array**	**68.59**	**44**	P	P	02 55 50.2	-0.2
	0.3nm,0.6s,baz=319,slow=6.8,SNR=4.0						

*CSEM **06** 03:02:41.0, 39.80N×15.88E, h41km, MD2.1/14, After ROM*

ROM 06 03:02:41.0±0.1, 39.80N×15.88E, h41km±2km, Md2.1/14, Ml1.7/11, Error ellipse: s-maj=3.2km s-min=1.8km az=29.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMN	**Mormanno**	**0.12**	**44**	Pg	Pn	03 02 48.1	+0.3
MMN				Sg	Sn	03 02 53.3	+0.7
	73nm,0.1s						
MMN	**Mormanno**	**0.12**	**44**	Pg	Pn	03 02 48.1	+0.3
MMN				Sg	Sn	03 02 53.3	+0.7
	73nm,0.1s						
CUC	**Castrocucco**	**0.20**	**345**	Pg	Pn	03 02 48.6	+0.1
CUC				Sg	Sn	03 02 54.0	+0.3
	96nm,0.1s						
CUC	**Castrocucco**	**0.20**	**345**	Pg	Pn	03 02 48.6	+0.1
CUC				Sg	Sn	03 02 54.0	+0.3
	96nm,0.1s						
SALB	**San Lorenzo Be**	**0.36**	**78**	Pg	Pn	03 02 50.2	-0.1
SALB				Sg	Sn	03 02 57.6	+0.9
	45nm,0.2s						
SALB	**San Lorenzo Be**	**0.36**	**78**	Pg	Pn	03 02 50.2	-0.1
SALB				Sg	Sn	03 02 57.6	+0.9
	45nm,0.2s						
SIRI	**Monte Sirino -**	**0.38**	**358**	Pg	Pn	03 02 50.2	-0.2
	43nm,0.2s						
SIRI	**Monte Sirino -**	**0.38**	**358**	Pg	Pn	03 02 50.2	-0.2
	43nm,0.2s						
TDS	**Terranova Siba**	**0.38**	**112**	Pg	Pn	03 02 50.4	+0.1
	5.0nm,0.2s						
TDS	**Terranova Siba**	**0.38**	**112**	Pg	Pn	03 02 50.4	+0.1
	5.0nm,0.2s						
MGR	**Morigerati**	**0.42**	**323**	Pg	Pn	03 02 51.3	+0.5
MGR				Sg	Sn	03 02 58.4	+0.8
	60nm,0.2s						
MGR	**Morigerati**	**0.42**	**323**	Pg	Pn	03 02 51.3	+0.5
MGR				Sg	Sn	03 02 58.4	+0.8
	60nm,0.2s						
SCHR	**S. Chirico Rap**	**0.42**	**21**	Pg	Pn	03 02 51.0	+0.1
SCHR				Sg	Sn	03 02 58.6	+0.7
	22nm,0.3s						
SCHR	**S. Chirico Rap**	**0.42**	**21**	Pg	Pn	03 02 51.0	+0.1
SCHR				Sg	Sn	03 02 58.6	+0.7
	22nm,0.3s						
MTSN	**Montesano sull**	**0.47**	**348**	Pg	Pn	03 02 51.5	-0.1
	20nm,0.3s						
MTSN	**Montesano sull**	**0.47**	**348**	Pg	Pn	03 02 51.5	-0.1
	20nm,0.3s						
BULG	**Bulgheria - Ca**	**0.47**	**306**	Pg	Pn	03 02 52.1	+0.5
BULG				Sg	Sn	03 03 00.8	+1.8
	70nm,0.3s						
BULG	**Bulgheria - Ca**	**0.47**	**306**	Pg	Pn	03 02 52.1	+0.5
BULG				Sg	Sn	03 03 00.8	+1.8
	70nm,0.3s						
ORI	**Oriolo Calabro**	**0.51**	**59**	Pg	Pn	03 02 52.6	+0.7
	51nm,0.3s						
ORI	**Oriolo Calabro**	**0.51**	**59**	Pg	Pn	03 02 52.6	+0.7
	51nm,0.3s						
MCEL	**Monticello**	**0.53**	**353**	Pg	Pn	03 02 52.7	+0.4
	9.0nm,0.3s						
MCEL	**Monticello**	**0.53**	**353**	Pg	Pn	03 02 52.7	+0.4
	9.0nm,0.3s						
CMPR	**Campora**	**0.68**	**319**	Pg	Pn	03 02 54.3	0.0
CMPR				Sg	Sn	03 03 04.6	+0.8
CMPR	**Campora**	**0.68**	**319**	Pg	Pn	03 02 54.3	0.0
CMPR				Sg	Sn	03 03 04.6	+0.8
CRAC	**Craco**	**0.70**	**37**	Pg	Pn	03 02 55.7	+1.1
	29nm,0.4s						
CRAC	**Craco**	**0.70**	**37**	Pg	Pn	03 02 55.7	+1.1
	29nm,0.4s						
CDRU	**Civita di Ruta**	**0.82**	**327**	Pg	Pn	03 02 56.3	+0.1
CDRU	**Civita di Ruta**	**0.82**	**327**	Pg	Pn	03 02 56.3	+0.1

*ISK **06** 03:20:40.6, 39.17N×40.17E, h3km, ML3.5*
*DDA **06** 03:20:41.0, 39.18N×40.13E, h14km, MD3.3*
*CSEM **06** 03:20:41.6±0.1, 39.18N×40.16E, h2km, ML3.5, Error ellipse: s-maj=4.2km s-min=3.3km az=4.0*

ISC 06 03:20:40.9±1.1, 39.16N±0.02×40.16E±0.02, h5km±10km, n71, σ1°24/89, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.39**	**138**	*e*Pg	**Pb**	**03 20 49.3**	**-1.1**
BINT				*e*Sg	**Sb**	**03 20 55.7**	**-1.0**
BNGB	**Bing¯¶l**	**0.44**	**113**	*e*PG	**Pg**	**03 20 49.3**	**-0.2**
BNGB				*e*SG	**Sg**	**03 20 55.7**	**+0.5**
ERZN	**Erzincan**	**0.54**	**322**	*e*PG	**Pb**	**03 20 51.8**	**-1.2**
ERZN				*e*SG	**Sb**	**03 21 00.3**	**-0.8**
PTK	**Pertek**	**0.65**	**246**	*e*PG	**Pg**	**03 20 53.7**	**+0.2**
PTK				*e*SG	**Sb**	**03 21 03.8**	**-0.6**
PTK	**Pertek**	**0.65**	**246**	*e*Pg	**Pg**	**03 20 53.7**	**+0.2**
PTK				*e*Sg	**Sb**	**03 21 03.8**	**-0.6**
BNGL	**BINGOL**	**0.80**	**105**	*i* P	**Pb**	**03 20 56.2**	**-1.3**
BNGL				*i* S	**Sb**	**03 21 08.6**	**-0.1**
EZC	**Erzincan**	**0.85**	**314**	*e*PG	**Pb**	**03 20 57.7**	**-0.6**
EZC	**Erzincan**	**0.85**	**314**	*e*Pg	**Pb**	**03 20 57.7**	**-0.6**
KOPT	**Kop Dagi**	**0.89**	**17**	*i* P	**Pb**	**03 20 58.4**	**-0.7**
KOPT				*i* S	**Sn**	**03 21 12.5**	**-1.3**
KOPT	**Kop Dagi**	**0.89**	**17**	*i* P	**Pb**	**03 20 58.4**	**-0.7**
KOPT				*i* S	**Sn**	**03 21 12.5**	**-1.3**
VRTB	**Varto-Mus**	**1.01**	**90**	*e*PG	**Pb**	**03 21 00.2**	**-0.8**
VRTB	**Varto-Mus**	**1.01**	**90**	*e*Pg	**Pb**	**03 21 00.2**	**-0.8**
ELZG	**Elazig**	**1.13**	**234**	*i* P	**Pg**	**03 21 02.3**	**-0.3**
ELZG				*i* S	**Sg**	**03 21 17.6**	**+0.3**
ELZG	**Elazig**	**1.13**	**234**	*i* P	**Pg**	**03 21 02.3**	**-0.3**
ELZG				*i* S	**Sg**	**03 21 17.6**	**+0.3**
EZM	**Erzurum**	**1.19**	**51**	*e*PN	**Pb**	**03 21 03.6**	**-0.6**
ERZM	**Erzurum**	**1.19**	**51**	*i* P	**Pb**	**03 21 03.6**	**-0.6**
ERZM	**Erzurum**	**1.19**	**51**	*i* P	**Pb**	**03 21 03.6**	**-0.6**
KELT	**Kelkit**	**1.20**	**325**	*i* P	**Pb**	**03 21 03.8**	**-0.5**
KELT				*i* S	**Sb**	**03 21 19.9**	**-0.4**
KELT	**Kelkit**	**1.20**	**325**	*i* P	**Pb**	**03 21 03.8**	**-0.5**
KELT				*i* S	**Sb**	**03 21 19.9**	**-0.4**
DIYA	**Diyarbakir**	**1.24**	**181**	*i* P	**Pn**	**03 21 05.4**	**+0.5**
DIYA				*i* S	**Sn**	**03 21 23.3**	**+1.2**
ILIC	**ilic-Erzincan**	**1.26**	**284**	*e*PN	**Pn**	**03 21 05.4**	**0.0**
ILIC	**ilic-Erzincan**	**1.26**	**284**	*e*Pn	**Pn**	**03 21 05.4**	**0.0**
DIY	**Diyarbakir**	**1.27**	**177**	*e*PN	**Pn**	**03 21 06.2**	**+0.9**
DIY	**Diyarbakir**	**1.27**	**177**	*e*Pn	**Pn**	**03 21 06.2**	**+0.9**
KEMA	**Kemaliye**	**1.29**	**275**	*i* P	**Pg**	**03 21 05.1**	**-0.7**
KEMA				*i* S	**Sb**	**03 21 22.7**	**-0.1**
KEMA	**Kemaliye**	**1.29**	**275**	*i* P	**Pg**	**03 21 05.1**	**-0.7**
KEMA				*i* S	**Sb**	**03 21 22.7**	**-0.1**
GUMT	**Gumushane**	**1.39**	**338**	*e*PN	**Pg**	**03 21 07.5**	**-0.2**
GUMT	**Gumushane**	**1.39**	**338**	*e*Pn	**Pg**	**03 21 07.5**	**-0.2**
EKAR	**Karacoban**	**1.49**	**86**	*i* P	**Pg**	**03 21 09.4**	**0.0**
EKAR	**Karacoban**	**1.49**	**86**	*i* P	**Pg**	**03 21 09.4**	**0.0**
BEST	**Besiri**	**1.54**	**145**	*i* P	**Pg**	**03 21 10.1**	**-0.4**
BEST				*i* S	**Sg**	**03 21 31.7**	**+1.2**
MALT	**Malatya**	**1.60**	**238**	*e*PN	**Pg**	**03 21 11.2**	**-0.3**
MALT	**Malatya**	**1.60**	**238**	*e*Pn	**Pg**	**03 21 11.2**	**-0.3**
MAZI	**Mazidag**	**1.72**	**172**	*e*PN	**Pb**	**03 21 12.6**	**-0.4**
MAZI	**Mazidag**	**1.72**	**172**	*e*Pn	**Pb**	**03 21 12.6**	**-0.4**
SUSE	**Susehri**	**1.83**	**305**	*i* P	**Pb**	**03 21 15.0**	**0.0**
SUSE				*i* S	**Sg**	**03 21 40.9**	**+1.1**
SUSE	**Susehri**	**1.83**	**305**	*i* P	**Pb**	**03 21 15.0**	**0.0**
SUSE				*i* S	**Sg**	**03 21 40.9**	**+1.1**
MARD	**Mardin**	**1.91**	**165**	*i* P	**Pb**	**03 21 14.9**	**-1.4**
MARD				*i* S	**Sb**	**03 21 40.5**	**-0.1**
EATA	**Eleskirt**	**1.94**	**68**	*i* P	**Pg**	**03 21 17.3**	**-0.8**
ESPY	**Espiye-Giresun**	**2.06**	**328**	*e*PN	**Pb**	**03 21 17.8**	**-1.1**
ESPY	**Espiye-Giresun**	**2.06**	**328**	*e*Pn	**Pb**	**03 21 17.8**	**-1.1**
DARE	**Darende-Malaty**	**2.17**	**255**	*e*PN	**Pb**	**03 21 19.5**	**-1.2**
DARE	**Darende-Malaty**	**2.17**	**255**	*e*Pn	**Pb**	**03 21 19.5**	**-1.2**
AGRB	**Hanur-Agry**	**2.24**	**79**	*e*PN	**Pb**	**03 21 19.6**	**-2.3**
AGRB	**Hanur-Agry**	**2.24**	**79**	*e*Pn	**Pb**	**03 21 19.6**	**-2.3**
SCER	**sogukcermik**	**2.44**	**288**	*i* P	**Pg**	**03 21 26.4**	**-1.3**
SCER				*i* S	**Sg**	**03 22 00.3**	**+0.9**
SCER	**sogukcermik**	**2.44**	**288**	*i* P	**Pg**	**03 21 26.4**	**-1.3**
SIRT	**Sirnak**	**2.45**	**132**	*e*PN	**Pb**	**03 21 23.0**	**-2.4**
SIRT	**Sirnak**	**2.45**	**132**	*e*Pn	**Pb**	**03 21 23.0**	**-2.4**
RSDY	**Resadiye-TOKAT**	**2.50**	**300**	*e*PN	**Pb**	**03 21 24.1**	**-2.3**
RSDY	**Resadiye-TOKAT**	**2.50**	**300**	*e*Pn	**Pb**	**03 21 24.1**	**-2.3**
BCA	**Borcka**	**2.54**	**26**	*e*PN	**Pn**	**03 21 24.1**	**+1.3**
BCA	**Borcka**	**2.54**	**26**	*e*Pn	**Pn**	**03 21 24.1**	**+1.3**
SVSK	**Karacayir**	**2.55**	**288**	*e*PN	**Pn**	**03 21 24.4**	**+1.5**
SVSK	**Karacayir**	**2.55**	**288**	*e*Pn	**Pn**	**03 21 24.4**	**+1.5**
CLDR	**Caldiran**	**2.92**	**89**	*e*PN	**Pn**	**03 21 30.1**	**+1.8**
CLDR	**Caldiran**	**2.92**	**89**	*e*Pn	**Pn**	**03 21 30.1**	**+1.8**
KMRS	**Kahramanmaras**	**3.05**	**238**	*e*PN	**Pn**	**03 21 31.5**	**+1.7**
KMRS	**Kahramanmaras**	**3.05**	**238**	*e*Pn	**Pn**	**03 21 31.5**	**+1.7**
CUKT	**Cukurca**	**3.33**	**124**	*e*PN	**Pn**	**03 21 35.7**	**+2.0**
CUKT	**Cukurca**	**3.33**	**124**	*e*Pn	**Pn**	**03 21 35.7**	**+2.0**
BNN	**Bunyan**	**3.37**	**266**	*e*PN	**Pn**	**03 21 35.7**	**+1.4**
BNN	**Bunyan**	**3.37**	**266**	*e*Pn	**Pn**	**03 21 35.7**	**+1.4**
GNI	**Garni**	**3.67**	**73**	*e*PN	**Pn**	**03 21 40.8**	**+2.3**
GNI	**Garni**	**3.67**	**73**	*e*Pn	**Pn**	**03 21 40.8**	**+2.3**
YOZ	**Yozgat**	**3.78**	**279**	*e*PN	**Pn**	**03 21 42.0**	**+2.2**
YOZ	**Yozgat**	**3.78**	**279**	*e*Pn	**Pn**	**03 21 42.1**	**+2.2**
CORM	**Corum**	**4.38**	**285**	*e*PN	**Pn**	**03 21 50.5**	**+2.3**
CORM	**Corum**	**4.38**	**285**	*e*Pn	**Pn**	**03 21 50.5**	**+2.3**
AFSR	**Af¨ar-Bala (A**	**5.50**	**275**	*e*PN	Pn	03 22 07.1	+3.5
AFSR	**Af¨ar-Bala (A**	**5.50**	**275**	*e*Pn	Pn	03 22 07.1	+3.5

MAN 06 03:22:05, 13°23N×125°12E, h61km, mb3.9, ML2.7, MS2.4, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.84**	**212**	*e*P	Pn	03 22 22.4	+1.3
CNP				*e*S	Sn	03 22 29.8	-3.1
PVCP	**Virac**	**1.00**	**291**	⇑*e*P	Pn	03 22 24.8	+1.7
PVCP				*e*S	Sn	03 22 39.3	+2.7
BESP	**Borongan**	**1.65**	**169**	*e*P	Pn	03 22 32.9	+1.1

IDC 06 03:25:07.7±6.8, 28°09N×54°00E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.3/28, mbtmp3.6/4, Error ellipse: s-maj=136.9km s-min=48.8km az=115.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**20.45**	**310**	P	P	03 29 47.2	+0.2
	0.3nm,0.4s,baz=122,slow=13,SNR=2.8						
FINES	**FINESS Array B**	**38.20**	**339**	P	P	03 32 29.3	+0.5
	1.2nm,0.7s,baz=144,slow=9.8,SNR=3.6						
HFS	**Hagfors**	**42.03**	**331**	P	P	03 32 59.8	-0.8
	1.8nm,0.8s,baz=139,slow=9.2,SNR=6.7						
TORD	**Torodi Ar. Bea**	**50.79**	**264**	P	P	03 34 10.1	0.0
	0.4nm,0.7s,baz=59,slow=7.9,SNR=4.5						

IDC 06 03:49:01.7±2.1, 14°92S×172°40W, h0km, mb3.7/4, mb1 4.1/4, mb1mx3.8/21, mbtmp3.7/4, Error ellipse: s-maj=99.4km s-min=17.4km az=136.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.17**	**31**	Pn	Pb	03 49 24.8	-0.1
	24nm,0.3s,baz=134,slow=2.1,SNR=18						
AFI				Sn	Sn	03 49 43.2	+1.1
	120nm,0.3s,baz=279,slow=23,SNR=17						
WRA	**Warramunga Arr**	**50.90**	**256**	P	P	03 58 04.8	-0.3
	0.5nm,0.7s,baz=94,slow=7.2,SNR=4.8						
ASAR	**Alice Springs**	**51.18**	**252**	P	P	03 58 06.8	-0.4
	2.4nm,0.8s,baz=87,slow=8.0,SNR=2.9						
NVAR	**Mina Array Bea**	**73.33**	**42**	P	P	04 00 35.8	+0.2
	0.3nm,0.6s,baz=225,slow=8.7,SNR=2.2						
ILAR	**Eielson Array**	**81.79**	**11**	P	P	04 01 22.9	+0.8
	0.4nm,0.7s,baz=221,slow=6.7,SNR=5.7						
GERES	**GERESS Array B**	**145.80**	**353**	PKPbc	PKPdf	04 08 39.8	-2.7
	0.4nm,0.7s,baz=92,slow=2.9,SNR=2.3						
BRTR	**Keskin Array B**	**146.38**	**322**	PKPbc	PKPab	04 08 46.1	+0.2
	0.6nm,0.7s,baz=93,slow=2.9,SNR=3.6						

*ISCJB **06** 04:03:16.2±1.0, 43°23N±0°08×27°48E±0°10, h10km±8km, Error ellipse: s-maj=16.0km s-min=6.9km az=138.2*
*CSEM **06** 04:03:16.0, 43°26N×27°44E, h13km, MD3.6, After SOF*
*SOF **06** 04:03:16.0, 43°26N×27°44E, h13km, MD3.6*

ISC 06 04:03:15.8±1.1, 43°24N±0°06×27°47E±0°05, h16km±8km, n20, σ0°53/20, 2C-2D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRD	**Provadia**	**0.06**	**230**	P	**Pg**	**04 03 18.9**	**0.0**
PRD	**Provadia**	**0.06**	**230**	P	**Pg**	**04 03 18.9**	**0.0**
PSN	**Preselentsi**	**0.69**	**50**	P	**Pg**	**04 03 28.6**	**-0.7**
PSN	**Preselentsi**	**0.69**	**50**	P	**Pg**	**04 03 28.6**	**-0.7**
MSAB	**Monastry St. A**	**0.89**	**17**	⇑*i* P	**Pb**	**04 03 32.8**	**-0.1**
MSAB	**Monastry St. A**	**0.89**	**17**	S	**Sg**	**04 03 49.7**	**-0.3**
MANR	**Mangalia**	**1.00**	**54**	S	**Sn**	**04 03 49.7**	**+0.7**
JMB	**Yambol**	**1.01**	**220**	P	**Pb**	**04 03 34.8**	**-0.1**
JMB	**Yambol**	**1.01**	**220**	P	**Pb**	**04 03 34.8**	**-0.1**
SZH	**Strazhica**	**1.12**	**272**	P	**Pb**	**04 03 35.9**	**-0.9**
SZH	**Strazhica**	**1.12**	**272**	P	**Pb**	**04 03 35.9**	**-0.9**
EFOR	**EFORIE**	**1.19**	**45**	S	**Sb**	**04 03 52.7**	**-0.5**
TIRR	**Tirgusor**	**1.40**	**29**	⇓*i* P	**Pb**	**04 03 41.6**	**0.0**
TIRR	**Tirgusor**	**1.40**	**29**	S	**Sb**	**04 03 59.9**	**+0.7**
TLB	**Topalu**	**1.41**	**17**	⇑*i* P	**Pb**	**04 03 41.6**	**-0.1**
TLB	**Topalu**	**1.41**	**17**	S	**Sb**	**04 04 00.2**	**+0.7**
PVL	**Pavlikeni**	**1.56**	**270**	P	**Pg**	**04 03 45.9**	**+0.1**
PVL	**Pavlikeni**	**1.56**	**270**	P	**Pg**	**04 03 45.9**	**+0.1**
CFR	**Carcaliu**	**2.00**	**14**	⇓*i* P	**Pb**	**04 03 51.8**	**0.0**
CFR	**Carcaliu**	**2.00**	**14**	S	**Sb**	**04 04 16.5**	**+0.1**

IDC 06 04:04:07.1±32.0, 20°32S×65°90E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/25, mbtmp3.6/3, MS3.8/2, Ms1 3.8/2, ms1mx3.2/32, Error ellipse: s-maj=1058.0km s-min=43.5km az=57.0, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**14.12**	**28**	T	T	04 21 28.8	
	baz=205,slow=0.7,SNR=63						
H08S2	**Diego Garcia H**	**14.13**	**28**	T	T	04 21 20.7	
	baz=205,slow=0.7,SNR=39						
H08S3	**Diego Garcia H**	**14.14**	**28**	T	T	04 21 30.3	
	baz=205,slow=0.7,SNR=52						
H08N3	**Diego Garcia H**	**14.74**	**20**	T	T	04 22 13.7	
	baz=197,slow=0.7,SNR=13						
H08N1	**Diego Garcia H**	**14.76**	**20**	T	T	04 22 19.1	
	baz=197,slow=0.7,SNR=13						
H08N2	**Diego Garcia H**	**14.77**	**20**	T	T	04 22 17.9	
	baz=197,slow=0.7,SNR=11						
BOSA	**Boshof**	**37.76**	**249**	LR	LR	04 24 29.8	
	comp=Z,132nm,19.4s,baz=151,slow=32						
CMAR	**Chiang Mai Arr**	**50.35**	**42**	LR	LR	04 30 20.3	
	comp=Z,94nm,20.1s,baz=325,slow=31						
ASAR	**Alice Springs**	**62.61**	**107**	P	P	04 14 33.5	-0.2
	0.9nm,0.8s,baz=264,slow=6.2,SNR=8.9						
WRA	**Warramunga Arr**	**63.80**	**103**	P	P	04 14 41.8	+0.1
	0.7nm,0.9s,baz=260,slow=5.9,SNR=2.9						
MKAR	**Makanchi Array**	**68.42**	**12**	P	P	04 15 10.7	0.0
	0.3nm,0.8s,baz=182,slow=7.2,SNR=3.6						

IDC 06 04:13:25.7±2.9, 6.02S×147.97E, h0km, mb4.4/3, mb1 4.4/5, mb1mx3.9/19, mbtmp4.3/5, ML3.7/2, Error ellipse: s-maj=62.2km s-min=34.8km az=89.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.46**	**193**	Pn	Pn	04 14 21.9	+1.0
	9.6nm,0.3s,baz=8.0,slow=7.4,SNR=12						
PMG				Sn	Sn	04 15 02.0	-0.7
	5.7nm,0.3s,baz=333,slow=13,SNR=3.7						
WRA	**Warramunga Arr**	**19.16**	**222**	P	P	04 17 50.2	-0.8
	0.7nm,0.3s,baz=48,slow=11,SNR=15						
ASAR	**Alice Springs**	**22.16**	**216**	P	P	04 18 23.2	-0.3
	4.3nm,0.6s,baz=52,slow=9.0,SNR=84						
FITZ	**Fitzroy Crossi**	**24.89**	**239**	P	P	04 18 50.5	0.0
	14nm,0.7s,baz=68,slow=7.9,SNR=34						
STKA	**Stephens Creek**	**26.41**	**192**	P	P	04 19 04.5	+0.4
	4.5nm,0.6s,baz=14,slow=9.9,SNR=12						
TORD	**Torodi Ar. Bea**	**146.03**	**285**	PKPbc	PKPdf	04 33 07.8	-0.1
	0.3nm,0.7s,baz=83,slow=4.0,SNR=3.8						

*IDC **06** 04:30:12.1±0.7, 2°33N×129°25E, h0km, mb4.2/12, mb1 4.4/13, mb1mx4.2/23, mbtmp4.3/13, ML4.1/1, MS3.7/8, Ms1 3.8/8, ms1mx3.4/29, Error ellipse: s-maj=35.8km s-min=13.5km az=83.0*
*ISCJB **06** 04:30:17.0±0.3, 2°17N±0°03×129°03E±0°04, h40km, mb4.7/42, MS3.9/9, Error ellipse: s-maj=6.3km s-min=4.5km az=163.9*
*AUST **06** 04:30:18.0±1.5, 2°16N×129°19E, h47km±14km, Error ellipse: s-maj=22.6km s-min=11.1km az=53.0*
*DJA **06** 04:30:19.3±0.7, 2°N±7°×12°9E±°, h62km±21km, M4.9/11, mB5.2/10, mb5.2/11, MLv5.1/9, Mw(mB)4.6/10*
*NEIC **06** 04:30:20.9±1.9, 2.08N×128.56E, h58km±17km, mb4.7/19, Error ellipse: s-maj=20.6km s-min=7.5km az=70.0*
*BJI **06** 04:30:29.1, 2.98N×128.24E, h72km, mB5.1/18, mb4.7/29, Ms4.9/14, Ms7 4.5/13*

ISC 06 04:30:18.7±0.4, 2°21N±0°06×129°08E±0°07, h40km, n143, σ1°83/118, mb4.7/42, MS4.0/10, 5C-8D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.23**	**230**	P	**Pn**	**04 30 52.3**	**-0.9**
TNTI	**Ternate**	**2.23**	**230**	*e*Pn	**Pn**	**04 30 51.9**	**-1.3**
LBMI	**Labuha**	**3.24**	**209**	P	Pn	04 31 10.9	+3.8
SWI	**Sorong**	**3.75**	**145**	P	**Pn**	**04 31 12.3**	**-1.8**
SWI	**Sorong**	**3.75**	**145**	⇑P	**Pn**	**04 31 12.2**	**-1.9**
	baz=3.7,SNR=11						
SGSI	**Sangihe**	**3.84**	**292**	P	**Pn**	**04 31 15.2**	**-0.1**
KMSI	**Cibinong**	**5.35**	**252**	P	**Pn**	**04 31 36.7**	**+0.6**
	1µm,0.9s,13µm5.0nm						
NLAI	**Namlea**	**5.77**	**200**	P	Pn	04 31 46.5	+4.7
	88nm,0.7s,2µm0.3nm						
AAI	**Ambon**	**5.93**	**189**	P	**Pn**	**04 31 46.4**	**+2.4**
	74nm,0.6s,2µm0.3nm						
FAKI	**Fak Fak**	**6.00**	**148**	⇓P	**Pn**	**04 31 42.9**	**-2.1**
	baz=5.9,SNR=7.0						
MRSI	**Marisa**	**7.34**	**257**	P	**Pn**	**04 32 03.3**	**-0.2**
	122nm,1.2s,3µm0.5nm						
BAKI	**Biak**	**7.79**	**116**	P	**Pn**	**04 32 12.6**	**+2.9**
	203nm,0.7s,2µm0.6nm						
APSI	**Ampana**	**8.05**	**247**	P	**Pn**	**04 32 13.3**	**+0.1**
	169nm,0.9s,2µm						
TTSI	**Tana Toraja**	**10.63**	**241**	P	**Pn**	**04 32 46.7**	**-1.9**
	111nm,0.8s,1µm						
MYLDM	**Lahad Datu**	**10.96**	**286**	P	Pn	04 32 58.5	+5.4
MYLDM	**Lahad Datu**	**10.96**	**286**	P	Pn	04 33 05.1	+12
BNSI	**Bone**	**11.12**	**234**	P	**Pn**	**04 32 54.5**	**-0.7**
	94nm,0.7s						
SPSI	**Sidrap Palu**	**11.15**	**237**

EIDS	**Eidsvold**	**34.73 144**	*e*P		P		04 37 12.4	+7.2
	7.4nm,0.7s							
EIDS	**Eidsvold**	**34.73 144**	⇑P		**P**		**04 37 02.5**	**-2.7**
	baz=35							
KSAR	**Wonju Array Be**	**35.08 358**	P		**P**		**04 37 09.0**	**+1.0**
KSRS	**Korea Array**	**35.09 358**	P		**P**		**04 37 09.0**	**+0.9**
	2.2nm,0.6s,baz=174,slow=9.7,SNR=10							
KSRS				LR	LR		04 50 23.0	
	comp=Z,100nm,18.5s,baz=87,slow=35							
MJAR	**Matsushiro Arr**	**35.19 13**	P		**P**		**04 37 06.0**	**-3.0**
MJAR	**Matsushiro Arr**	**35.19 13**	P		**P**		**04 37 06.0**	**-3.0**
	1.0nm,0.4s,baz=185,slow=9.8,SNR=6.6							
MJAR				LR	LR		04 50 28.3	
	comp=Z,141nm,18.5s,baz=200,slow=35							
MAJO	**Matsushiro**	**35.19 13**	*e*P		P		04 37 12.5	+3.5
	9.3nm,0.7s							
KLBR	**Kellerberrin**	**35.30 197**	⇓P		**P**		**04 37 08.5**	**-1.5**
	baz=36,SNR=6.1							
STKA	**Stephens Creek**	**35.92 162**	*e*P		**P**		**04 37 16.9**	**+1.5**
	6.4nm,1.4s							
STKA	**Stephens Creek**	**35.92 162**	P		**P**		**04 37 14.9**	**-0.5**
	3.6nm,0.7s,baz=337,slow=10,SNR=12							
NWAO	**Narrogin (SRO)**	**36.70 197**	P		**P**		**04 37 23.9**	**+1.9**
NWAO	**Narrogin (SRO)**	**36.70 197**	P		**P**		**04 37 23.9**	**+1.9**
	15nm,0.8s,baz=16,slow=6.4,SNR=6.6							
XAN	**Xi'an**	**36.84 331**	P		**P**		**04 37 22.8**	**-0.5**
XAN				AMB	AMB			
	comp=Z,3.0nm,0.8s							
XAN				AMB	AMB			
	comp=Z,66nm,5.4s							
CD2	**Chengdu**	**37.26 323**	P		**P**		**04 37 27.0**	**+0.2**
CD2			pP		pP		04 37 44.6	+6.6
CD2			S		**S**		**04 43 06.9**	**-4.7**
CD2			AMB		AMB			
	comp=Z,20nm,0.5s							
CD2			AMB		AMB			
	comp=Z,570nm,6.1s							
CD2			LR		LR			
	comp=N,990nm,8.3s							
CD2			LR		LR			
	comp=Z,720nm,8.9s							
ARMA	**Armidale**	**38.93 148**	⇑P		**P**		**04 37 39.8**	**-1.2**
	baz=39							
BJI	**Beijing**	**39.44 344**	P		P		04 37 52.0	+7.1
BJI			AMB		AMB			
	comp=Z,29nm,0.9s							
H11S3	**WAKE ISLAND Hy**	**40.24 64**	T		T		05 21 30.0	
	baz=248,SNR=35							
H11S2	**WAKE ISLAND Hy**	**40.25 64**	T		T		05 21 24.1	
	baz=248,slow=0.7,SNR=22							
H11S1	**WAKE ISLAND Hy**	**40.25 64**	T		T		05 20 55.7	
	baz=248,slow=0.7,SNR=26							
H11N1	**WAKE ISLAND Hy**	**40.83 62**	T		T		05 21 59.3	
	baz=252,slow=0.7,SNR=18							
H11N2	**WAKE ISLAND Hy**	**40.84 62**	T		T		05 22 10.9	
	baz=252,slow=0.7,SNR=5.7							
H11N3	**WAKE ISLAND Hy**	**40.85 62**	T		T		05 22 12.1	
	baz=252,slow=0.7,SNR=26							
LZH	**Lanzhou**	**41.01 328**	*e*P		**P**		**04 37 59.0**	**+0.7**
LZH			pP		pP		04 38 19.1	+10
LZH			sP		sP		04 38 26.6	+12
LZH			*e*S		**S**		**04 44 02.7**	**-5.3**
LZH			sS		sS		04 44 33.5	+6.7
LZH			AMB		AMB			
	comp=Z,36nm,1.4s							
LZH			AMB		AMB			
	comp=Z,220nm,4.1s							
CN2	**Changchun**	**41.54 356**	*e*P		**P**		**04 38 04.0**	**+1.7**
HHC	**Hu-ho-hao-te**	**41.59 340**	*e*P		**P**		**04 38 05.4**	**+2.5**
HHC			pP		pP		04 38 24.1	+10
HHC			sP		sP		04 38 32.9	+14
HHC			PP		**PnPn**		**04 39 45.3**	**+0.7**
HHC			AMB		AMB			
	comp=Z,32nm,0.8s							
HHC			AMB		AMB			
	comp=Z,420nm,4.9s							
HHC			LR		LR			
	comp=Z,490nm,16.7s							
HHC			LR		LR			
	comp=Z,410nm,16.7s							
HHC			LR		LR			
	comp=Z,290nm,14.3s							
MDJ	**Mudanjiang**	**42.23 1**	P		**P**		**04 38 10.8**	**+2.9**
MDJ			pP		pP		04 38 28.1	+8.9
MDJ			PcS		**PcS**		**04 43 54.6**	**+1.5**
MDJ			AMB		AMB			
	comp=Z,4.0nm,0.9s							
MDJ			AMB		AMB			
	comp=Z,66nm,4.0s							
SHL	**Shillong**	**42.66 306**	*e*P		**P**		**04 38 12.0**	**0.0**
GTA	**Gaotai**	**45.61 328**	P		P		04 38 42.7	+7.4
GTA			pP		pP		04 38 55.2	+8.5
GTA			sP		sP		04 39 00.4	+9.0
GTA			S		S		04 45 24.0	+8.7
GTA			sS		sS		04 45 44.9	+11
GTA			SS		**ScS**		**04 48 31.9**	**+3.3**
GTA			AMB		AMB			
	comp=Z,9.0nm,0.9s							
GTA			AMB		AMB			
	comp=Z,120nm,5.5s							
GTA			LR		LR			
	comp=N,250nm,17.1s							
GTA			LR		LR			
	comp=E,150nm,17.8s							
GTA			LR		LR			
	comp=Z,310nm,16.9s							
TAPN	**Taplejung**	**46.80 306**	*e*P		**P**		**04 38 44.4**	**-0.7**
	comp=Z,9.5nm,0.6s							
ODAN	**Odare**	**46.86 305**	*e*P		**P**		**04 38 42.9**	**-2.6**
JIRN	**Jiri**	**48.16 306**	*e*P		**P**		**04 38 55.1**	**-0.6**
	comp=Z,21nm,0.6s							
GUN	**Gumba**	**48.51 306**	*e*P		**P**		**04 38 58.1**	**-0.3**
	comp=Z,32nm,0.6s							
PKI	**Pulchoki**	**48.76 305**	*e*P		**P**		**04 38 59.5**	**-0.8**
	comp=Z,15nm,0.8s							
KKN	**Kakani**	**48.95 306**	*e*P		**P**		**04 39 00.6**	**-1.0**
DMN	**Daman**	**49.02 305**	*e*P		**P**		**04 39 01.7**	**-0.5**
	comp=Z,20nm,0.8s							
ULN	**Ulaanbaatar**	**49.30 341**	*e*P		**P**		**04 39 04.5**	**+0.6**
	comp=Z,13nm,0.8s							
SONM	**Songino Array**	**49.50 340**	P		**P**		**04 39 04.1**	**-1.3**
SONM	**Songino Array**	**49.50 340**	P		**P**		**04 39 04.1**	**-1.3**
	comp=Z,2.8nm,0.7s,baz=142,slow=7.8,SNR=5.5							
WMQ	**Urumqi**	**55.31 324**	P		**P**		**04 39 48.9**	**+0.4**
WMQ			pP		pP		04 40 08.0	+7.9
WMQ			PcP		**PcP**		**04 40 49.5**	**+0.7**
WMQ			PP		**PP**		**04 41 54.4**	**+1.9**
WMQ			S		S		04 47 23.3	-6.6
WMQ			sS		sS		04 47 56.4	+7.2
WMQ			ScS		ScS		04 49 27.3	-7.4
WMQ			AMB		AMB			
	comp=Z,13nm,0.6s							
WMQ			AMB		AMB			
	comp=Z,160nm,4.8s							
WMQ			LR		LR			
	comp=Z,220nm,6.8s							
WMQ			LR		LR			
	comp=Z,190nm,7.0s							
MK31	**Makanchi Array**	**60.14 325**	*e*P		**P**		**04 40 21.8**	**-0.5**
MKAR	**Makanchi Array**	**60.14 325**	*e*P		**P**		**04 40 21.9**	**-0.5**
MKAR	**Makanchi Array**	**60.14 325**	⇑P		**P**		**04 40 22.1**	**-0.2**
	baz=60							
MKAR	**Makanchi Array**	**60.14 325**	P		**P**		**04 40 21.8**	**-0.5**
	comp=Z,4.8nm,0.7s,baz=120,slow=8.2,SNR=49							
MKAR				LR	LR		05 08 57.9	
	comp=Z,63nm,18.5s,baz=358,slow=39							
AFI	**Afiamalu**	**60.75 107**	LR		LR		05 05 34.9	
	comp=Z,80nm,18.9s,baz=50,slow=35							
KSH	**Kashi**	**60.77 315**	*e*P		**P**		**04 40 27.9**	**+1.0**
KSH			pP		pP		04 40 47.7	+9.0
KSH			PcP		**PcP**		**04 41 11.3**	**+0.8**
KSH			PP		**PP**		**04 42 45.1**	**+4.0**
KSH			S		**S**		**04 48 37.4**	**-4.1**
KSH			sS		sS		04 49 10.3	+9.3
KSH			ScS		SKKSac		04 50 08.6	-6.3
KSH			AMB		AMB			
	comp=Z,8.0nm,1.2s							
KSH			AMB		AMB			
	comp=Z,140nm,5.8s							
KSH			LR		LR			
	comp=Z,160nm,10.0s							
KSH			LR		LR			
	comp=Z,180nm,6.1s							
KSH			LR		LR			
	comp=Z,110nm,6.9s							
TKM2	**Tokmak 2**	**62.43 318**	*e*P		**P**		**04 40 37.4**	**-0.7**
	comp=Z,3.1nm,0.6s							
ZALV	**Zalesovo Beam**	**63.00 332**	P		**P**		**04 40 40.6**	**-0.8**
ZALV	**Zalesovo Beam**	**63.00 332**	P		**P**		**04 40 40.6**	**-0.8**
	comp=Z,1.0nm,0.3s,baz=100,slow=7.5,SNR=3.5							
EKS2	**Erkin-Say**	**63.55 317**	*e*P		**P**		**04 40 45.2**	**-0.3**
	comp=Z,4.8nm,0.8s							
KURK	**Kurchatov**	**64.28 327**	*e*P		**P**		**04 40 49.1**	**-0.8**
	comp=Z,8.2nm,0.7s							
KKAR	**Karatay Array**	**65.94 317**	*e*P		**P**		**04 41 00.1**	**-0.8**
VOSK	**Vostochnaya**	**69.42 327**	*e*P		**P**		**04 41 21.6**	**-1.0**
	comp=Z,6.8nm,0.8s							
BRVK	**Borovoye**	**69.94 327**	*e*P		**P**		**04 41 25.4**	**-0.4**
	comp=Z,9.7nm,0.7s							
IDAH	**Dahanechah**	**71.37 304**	*e*P		**P**		**04 41 34.2**	**-1.1**
IMYA	**Miami**	**71.82 308**	*e*P		P		04 41 41.3	+3.5
ITEG	**Tejag**	**72.32 304**	*e*P		P		04 41 36.9	-4.0
IKRD	**Kardeh**	**73.16 308**	*e*P		P		04 41 40.4	-5.5
ISFR	**Sfrayin**	**73.61 308**	*e*P		**P**		**04 41 49.1**	**+0.5**
ABKAR	**Akbulak array**	**74.80 321**	*e*P		**P**		**04 41 53.9**	**-1.0**
	comp=Z,1.6nm,0.7s							
ABKAR	**Akbulak array**	**74.80 321**	⇓P		**P**		**04 41 54.1**	**-0.8**
	baz=75							
VNDA	**Vanda**	**81.64 173**	*e*P		**P**		**04 42 31.6**	**-0.6**
	comp=Z,5.9nm,0.8s							
VNDA	**Vanda**	**81.64 173**	P		**P**		**04 42 32.1**	**0.0**
	comp=Z,2.2nm,0.7s,baz=323,slow=6.0,SNR=17							
VNDA				LR	LR		05 20 06.3	
	comp=Z,86nm,18.4s,baz=47,slow=37							
IM04	**Indian Mountai**	**82.76 24**	*e*P		**P**		**04 42 40.5**	**+2.2**
IMA2	**Indian Mountai**	**82.81 24**	*e*P		**P**		**04 42 40.5**	**+1.9**
TRF	**Thorofare Moun**	**83.84 26**	*e*P		P		04 42 51.8	+7.7
	comp=Z,20nm,1.3s							
PMR	**Palmer**	**84.15 28**	*e*P		P		04 42 53.9	+8.5
	comp=Z,18nm,1.2s							
COLD	**Coldfoot**	**84.37 23**	*e*P		**P**		**04 42 49.6**	**+3.1**
	comp=Z,9.4nm,0.9s							
ILAR	**Eielson Array**	**85.46 25**	P		**P**		**04 42 52.3**	**+0.3**
ILAR	**Eielson Array**	**85.46 25**	P		**P**		**04 42 52.3**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=252,slow=5.8,SNR=6.8							
DIV	**Divide**	**85.72 29**	*e*P		P		04 43 03.4	+10
	comp=Z,39nm,1.1s							
ARCES	**ARCESS Array B**	**92.67 340**	P		**P**		**04 43 24.8**	**-1.3**
ARCES	**ARCESS Array B**	**92.67 340**	P		**P**		**04 43 24.8**	**-1.3**
	comp=Z,2.6nm,0.8s,baz=75,slow=5.3,SNR=6.1							
FINES	**FINESS Array B**	**94.27 332**	LR		LR		05 34 09.6	
	comp=Z,53nm,18.8s,baz=156,slow=41							
STHS	**Stebnicka Huta**	**99.84 321**	PDIF		**Pdif**		**04 43 59.4**	**+0.3**
TXAR	**Lajitas Array**	**120.63 54**	PKP		**PKPdf**		**04 49 05.1**	**-2.0**
TXAR	**Lajitas Array**	**120.63 54**	PKP		**PKPdf**		**04 49 05.1**	**-2.0**
	comp=Z,0.2nm,0.8s,baz=203,slow=36,SNR=2.6							
TORD	**Torodi Ar. Bea**	**125.62 288**	PKP		**PKPdf**		**04 49 16.0**	**-0.9**
TORD	**Torodi Ar. Bea**	**125.62 288**	PKP		**PKPdf**		**04 49 16.0**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=82,slow=1.1,SNR=5.8							

*IDC **06** 04:57:17.3±0.7,2°.19N×129°.10E,h0km,mb4.1/12, mb1 4.3/13,mb1mx4.1/25,mbtmp4.1/13,ML3.9/1,Error ellipse: s-maj=36.4km s-min=14.0km az=76.0*
*ISCJB **06** 04:57:21.3±0.4,2°.13N±0°.05×129°.03E±0°.05,h40km, mb4.2/15,Error ellipse: s-maj=7.8km s-min=5.8km az=143.7*
*DJA **06** 04:57:21.0±0.6,2°.N±8″×12°.9E±″,h10km,M4.8/5,mb4.8/5, mB5.1/2,MLv4.7/5,Mw(mB)4.5/2*
*NEIC **06** 04:57:25.6±2.3,2°.09N×128°.86E,h63km±22km,mb4.2/8, Error ellipse: s-maj=18.9km s-min=6.5km az=64.0*

ISC 06 04:57:23.1±0.5,2°.14N±0°.07×129°.04E±0°.08,h40km,n51, σ0°.84/46,mb4.2/15,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.16**	**231**	P		**Pn**	**04 57 56.2**	**-0.4**
SWI	**Sorong**	**3.71**	**143**	P		**Pn**	**04 58 16.9**	**-1.1**
SWI				S		**Sn**	**04 58 58.8**	**-1.7**
SGSI	**Sangihe**	**3.83**	**294**	P		**Pn**	**04 58 19.8**	**+0.1**
KMSI	**Cibinong**	**5.29**	**253**	P		**Pn**	**04 58 41.5**	**+1.7**
	428nm,1.2s,1.6nm							
MRSI	**Marisa**	**7.29**	**257**	P		**Pn**	**04 59 08.5**	**+1.3**
	45nm,1.3s,1μm0.2nm							
BAKI	**Biak**	**7.80**	**115**	P		**Pn**	**04 59 16.2**	**+2.0**
	90nm,0.7s,1μm							
TTSI	**Tana Toraja**	**10.56**	**241**	P		**Pn**	**04 59 52.4**	**+0.4**
	37nm,1.2s							
SPSI	**Sidrap Palu**	**11.07**	**237**	P		**Pn**	**04 59 59.6**	**+0.5**
KAPI	**Kappang**	**11.69**	**233**	Pn		**Pn**	**05 00 07.8**	**+0.3**
KAPI	**Kappang**	**11.69**	**233**	Pn		**Pn**	**05 00 07.8**	**+0.3**
	0.8nm,0.3s,baz=54,slow=14,SNR=3.0							
KSM	**Kuching**	**18.74**	**268**	*e*Pn		P	**05 01 37.2**	**-1.6**
	12nm,0.9s							
FITZ	**Fitzroy Crossi**	**20.39**	**189**	*e*P		**P**	**05 01 56.7**	**0.0**
	1.4nm,0.5s							
FITZ	**Fitzroy Crossi**	**20.39**	**189**	P		**P**	**05 01 56.8**	**+0.1**
	1.7nm,0.5s,baz=20,slow=7.0,SNR=12							
WRAB	**Tennant Creek**	**22.54**	**167**	*e*P		**P**	**05 02 20.2**	**+0.3**
	7.4nm,0.6s							
WRA	**Warramunga Arr**	**22.55**	**167**	P		**P**	**05 02 19.4**	**-0.6**
WRA	**Warramunga Arr**	**22.55**	**167**	P		**P**	**05 02 19.4**	**-0.6**
	7.5nm,0.8s,baz=345,slow=10,SNR=16							
AS31	**Alice Springs**	**26.08**	**170**	*e*P		**P**	**05 02 54.2**	**+1.0**
ASAR	**Alice Springs**	**26.08**	**170**	P		**P**	**05 02 53.0**	**-0.2**
ASAR	**Alice Springs**	**26.08**	**170**	P		**P**	**05 02 53.0**	**-0.2**
	0.7nm,0.5s,baz=360,slow=6.7,SNR=8.7							
ENH	**Enshi**	**33.57**	**328**	*e*P		**P**	**05 04 00.1**	**+0.6**
CMAR	**Chiang Mai Arr**	**33.67**	**301**	P		**P**	**05 04 01.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**33.67**	**301**	P		**P**	**05 04 01.0**	**+0.5**
	1.0nm,0.3s,baz=106,slow=6.0,SNR=4.9							
KSAR	**Wonju Array Be**	**35.15**	**358**	P		**P**	**05 04 13.6**	**+0.5**
KSRS	**Korea Array**	**35.16**	**358**	P		**P**	**05 04 13.6**	**+0.4**
	0.9nm,0.4s,baz=176,slow=9.6,SNR=7.0							
STKA	**Stephens Creek**	**35.86**	**162**	*e*P		**P**	**05 04 20.2**	**+0.9**
	1.7nm,0.9s							
STKA	**Stephens Creek**	**35.86**	**162**	P		**P**	**05 04 19.8**	**+0.5**
	4.9nm,0.9s,baz=344,slow=7.3,SNR=5.0							
H11S3	**WAKE ISLAND Hy**	**40.31**	**64**	T		T	05 48 24.3	
	baz=252,SNR=4.5							
H11S2	**WAKE ISLAND Hy**	**40.32**	**64**	T		T	05 48 27.7	
	baz=252,SNR=2.8							
H11S1	**WAKE ISLAND Hy**	**40.32**	**64**	T		T	05 47 57.1	
	baz=252							
H11N1	**WAKE ISLAND Hy**	**40.90**	**62**	T		T	05 48 59.3	
	baz=257,slow=0.7,SNR=4.7							
H11N2	**WAKE ISLAND Hy**	**40.91**	**62**	T		T	05 49 02.1	
	baz=257							
H11N3	**WAKE ISLAND Hy**	**40.92**	**62**	T		T	05 49 06.7	
	baz=257,slow=0.7,SNR=4.1							
ULN	**Ulaanbaatar**	**49.36**	**341**	*e*P		**P**	**05 06 08.9**	**+0.2**
	2.6nm,0.7s							
SONM	**Songino Array**	**49.55**	**340**	P		**P**	**05 06 10.2**	**0.0**
SONM	**Songino Array**	**49.55**	**340**	P		**P**	**05 06 10.2**	**0.0**
	2.2nm,0.7s,baz=158,slow=11,SNR=4.3							
MK31	**Makanchi Array**	**60.18**	**325**	*e*P		**P**	**05 07 26.8**	**-0.3**
MKAR	**Makanchi Array**	**60.18**	**325**	P		**P**	**05 07 26.7**	**-0.3**
MKAR	**Makanchi Array**	**60.18**	**325**	P		**P**	**05 07 26.7**	**-0.3**
	3.4nm,0.6s,baz=120,slow=8.2,SNR=40							
KURK	**Kurchatov**	**64.32**	**327**	*e*P		**P**	**05 07 53.5**	**-1.1**
	2.2nm,0.6s							
BVAR	**Borovoye Array**	**69.91**	**327**	P		**P**	**05 08 29.5**	**-0.5**
BVAR	**Borovoye Array**	**69.91**	**327**	P		**P**	**05 08 29.5**	**-0.5**
	1.6nm,0.7s,baz=126,slow=7.7,SNR=6.8							
ABKAR	**Akbulak array**	**74.84**	**321**	*e*P		**P**	**05 08 58.8**	**-0.8**
	0.8nm,0.6s							
VNDA	**Vanda**	**81.57**	**173**	*e*P		**P**	**05 09 36.5**	**+0.3**
	3.6nm,0.9s							
VNDA	**Vanda**	**81.57**	**173**	P		**P**	**05 09 36.8**	**+0.5**
	1.9nm,0.7s,baz=327,slow=6.0,SNR=12							
IMA2	**Indian Mountai**	**82.90**	**24**	*e*P		**P**	**05 09 44.5**	**+0.9**
ILAR	**Eielson Array**	**85.54**	**25**	P		**P**	**05 09 57.1**	**+0.2**
ILAR	**Eielson Array**	**85.54**	**25**	P		**P**	**05 09 57.1**	**+0.2**
	0.4nm,0.8s,baz=249,slow=5.6,SNR=4.9							
ARCES	**ARCESS Array B**	**92.73**	**340**	P		**P**	**05 10 29.2**	**-1.6**
ARCES	**ARCESS Array B**	**92.73**	**340**	P		**P**	**05 10 29.2**	**-1.6**
	2.8nm,0.8s,baz=54,slow=4.6,SNR=4.0							
TORD	**Torodi Ar. Bea**	**125.61**	**288**	PKP		**PKPdf**	**05 16 20.7**	**-0.6**
TORD	**Torodi Ar. Bea**	**125.61**	**288**	PKP		**PKPdf**	**05 16 20.7**	**-0.6**
	0.3nm,0.7s,baz=50,slow=1.7,SNR=2.8							

JMA 06 04:59:03.4±0.1,28°.71N×129°.58E,h6km,M3.5,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JAM	**Amami Oshima**	**0.30**	**176**	P		Pg	04 59 09.2	0.0
JAM				*e*S		Sg	04 59 13.0	-0.2
JZK	**Kikaishima**	**0.52**	**139**	P		Pg	04 59 13.6	+0.1
JZK				*e*S		Sg	04 59 20.9	+0.5
JAMN	**Amaminishikomi**	**0.59**	**218**	P		Pg	04 59 15.0	+0.3
JAMN				*e*S		Sg	04 59 23.0	+0.7
JTK	**Tokunoshima**	**1.07**	**211**	P		Pg	04 59 22.4	-1.7
JTK				*e*S		Sg	04 59 36.7	-1.3
JIH	**Iheya**	**2.20**	**221**	*e*S		Sn	05 00 04.4	-3.5
JOW	**Kunigami**	**2.20**	**212**	P		Pn	04 59 41.4	+0.9

IDC 06 06:05:21.5±1.1,16°.52S×172°.96W,h0km,mb3.9/5, mb1 4.1/6,mb1mx3.8/22,mbtmp3.8/6,ML1.4/1,MS3.3/2, Ms1 3.3/2,ms1mx3.0/30,Error ellipse: s-maj=45.0km s-min=23.9km az=137.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.84**	**24**	P		Pn	06 06 06.8	-1.4
	3.7nm,0.3s,baz=250,slow=11,SNR=3.0							
AFI				Sn		Sn	06 06 38.7	-4.5
	15nm,0.3s,baz=194,slow=22,SNR=7.3							
AFI				LR		LR	06 07 09.2	
	comp=Z,182nm,20.1s,baz=282,slow=38							
PPT2	**Papeete2**	**22.38**	**96**	*e*LR		LR	06 15 06.7	
	96nm,25.8s							
TBI	**Tubuai**	**23.10**	**111**	*e*LR		LR	06 15 24.7	
	119nm,30.0s							
STKA	**Stephens Creek**	**43.85**	**241**	P		P	06 13 30.2	+0.4
	1.9nm,0.9s,baz=95,slow=11,SNR=2.9							
WRA	**Warramunga Arr**	**50.01**	**258**	P		P	06 14 18.1	0.0
	1.4nm,0.8s,baz=94,slow=7.6,SNR=6.2							
ASAR	**Alice Springs**	**50.17**	**253**	P		P	06 14 18.5	-0.8
	2.8nm,0.7s,baz=86,slow=8.4,SNR=35							
VNDA	**Vanda**	**62.31**	**186**	P		P	06 15 44.8	-0.4
	1.1nm,1.0s,baz=0.0,slow=5.1,SNR=4.8							
FX1	**Attu Island--F**	**70.15**	**351**	LR		LR	06 43 47.2	
	comp=Z,64nm,19.3s,baz=237,slow=33							
TXAR	**Lajitas Array**	**80.89**	**56**	P		P	06 17 38.3	+0.3
	0.6nm,1.1s,baz=215,slow=4.4,SNR=4.4							
BRTR	**Keskin Array B**	**147.28**	**320**	PKPbc		PKPbc	06 25 07.5	0.0
	0.6nm,0.6s,baz=342,slow=1.8,SNR=2.9							

IDC 06 06:10:05.7±2.7,24°.32S×179°.96E,h478km±29km,mb3.3/9, mb1 3.6/10,mb1mx3.4/18,mbtmp3.3/10,Error ellipse: s-maj=22.3km s-min=17.7km az=156.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.63**	**277**	P		P	06 12 54.8	+3.5
	1.0nm,0.3s,baz=90,slow=17,SNR=11							
URZ	**Urewera**	**14.11**	**189**	P		P	06 13 05.4	-1.3
	0.8nm,0.3s,baz=16,slow=7.4,SNR=3.7							
STKA	**Stephens Creek**	**34.54**	**249**	P		P	06 16 13.8	+0.6
	3.3nm,0.5s,baz=95,slow=9.2,SNR=17							
ASAR	**Alice Springs**	**41.93**	**261**	P		P	06 17 13.6	-0.2
	2.2nm,0.6s,baz=93,slow=6.8,SNR=24							
WRA	**Warramunga Arr**	**42.34**	**267**	P		P	06 17 16.5	-0.5
	6.0nm,0.5s,baz=99,slow=8.4,SNR=75							
WRA				ScP		ScP	06 22 04.0	-0.6
	2.9nm,0.9s,baz=103,slow=4.0,SNR=8.4							
VNDA	**Vanda**	**53.96**	**185**	P		P	06 18 43.0	-0.1
	0.4nm,0.6s,baz=14,slow=6.5,SNR=2.8							
MAW	**Mawson**	**77.35**	**200**	P		P	06 21 09.8	-0.1
	1.2nm,0.6s,baz=145,slow=7.8,SNR=6.7							
NVAR	**Mina Array Bea**	**85.08**	**44**	P		P	06 21 51.0	+0.4
	0.7nm,0.8s,baz=230,slow=8.7,SNR=5.4							
TXAR	**Lajitas Array**	**90.68**	**58**	P		P	06 22 17.8	+0.8
	1.5nm,0.8s,baz=212,slow=6.3,SNR=22							
ILAR	**Eielson Array**	**92.44**	**14**	P		P	06 22 22.5	-1.6
	0.2nm,0.7s,baz=210,slow=6.9,SNR=2.9							
PDAR	**Pinedale Array**	**93.01**	**44**	P		P	06 22 27.4	-0.2
	0.4nm,0.8s,baz=208,slow=2.5,SNR=3.9							
TORD	**Torodi Ar. Bea**	**168.77**	**189**	PKPab		PKPab	06 30 30.5	-0.8
	0.4nm,0.7s,baz=178,slow=4.6,SNR=3.5							

*CSEM **06** 06:14:49.0±0.2,38°.70N×39°.12E,h27km±2km,MD2.4, Error ellipse: s-maj=11.0km s-min=4.6km az=144.0*

ISK 06 06:14:48.3,38°.67N×39°.17E,h31km,MD2.4,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PTK	**Pertek**	**0.28**	**39**	*e*PG		Pb	06 14 56.0	+0.1
PTK				*e*SG		Sn	06 15 01.8	-0.3
PTK	**Pertek**	**0.28**	**39**	*e*Pg		Pb	06 14 56.0	+0.1
PTK				*e*Sg		Sn	06 15 01.8	-0.3
MALT	**Malatya**	**0.68**	**239**	*e*PG		Pn	06 15 02.1	+0.2
MALT				*e*SG		Sn	06 15 11.7	+0.1
MALT	**Malatya**	**0.68**	**239**	*e*Pg		Pn	06 15 02.1	+0.1
MALT				*e*Sg		Sn	06 15 11.7	+0.1
ILIC	**ilic-Erzincan**	**0.91**	**329**	*e*PG		Pn	06 15 05.3	+0.1
ILIC	**ilic-Erzincan**	**0.91**	**329**	*e*Pg		Pn	06 15 05.3	+0.2

*DDA **06** 06:15:22.1,41°.45N×44°.39E,h8km,MD2.8*
*ISCJB **06** 06:15:24.8±0.7,41°.41N±0°.04×43°.98E±0°.03,h2km±7km, Error ellipse: s-maj=7.1km s-min=4.0km az=169.7*

TEPV				*e*S	Sn	06 19 45.0	-5.8
BAUV	**El Baul**	**5.55**	**67**	*e*P	Pn	06 18 55.9	-2.5
BAUV				*e*S	Sn	06 19 54.6	-7.2
MONV	**Montecano**	**6.05**	**32**	*e*P	Pn	06 19 03.0	-2.0
BIRV	**Birongo**	**7.78**	**61**	*e*P	Pn	06 19 25.5	-2.4

WEL 06 06:32:32.3±0.4, 36.83S×177.43E, h169km±3km, ML3.6/4, Error ellipse: s-maj=5.2km s-min=5.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.01**	**136**	PN	Pn	06 32 59.2	+0.2
MXZ				SN	Sn	06 33 19.5	0.0
MXZ				AML	AML	06 33 24.7	
PUZ	**Puketiti**	**1.40**	**152**	PN	Pn	06 33 02.2	-0.2
PUZ				SN	Sn	06 33 24.8	-0.9
PUZ				AML	AML	06 33 38.5	
URZ	**Urewera**	**1.45**	**190**	PN	Pn	06 33 03.0	+0.2
URZ				SN	Sn	06 33 26.8	+0.4
URZ				AML	AML	06 33 32.6	
MWZ	**Matawai**	**1.50**	**177**	PN	Pn	06 33 03.2	-0.2
MWZ				SN	Sn	06 33 27.3	-0.2
MWZ				AML	AML	06 33 33.9	
MWZ				AML	AML	06 33 33.9	
CNGZ	**Carnagh Statio**	**1.76**	**160**	PN	Pn	06 33 06.6	+0.6
KNZ	**Kokohu**	**2.19**	**175**	PN	Pn	06 33 10.6	-0.1
NMHZ	**Naumai**	**2.31**	**192**	PN	Pn	06 33 12.9	+0.7
MHGZ	**Mahia Peninsul**	**2.35**	**171**	PN	Pn	06 33 12.7	+0.1
BKZ	**Black Stump Fm**	**2.44**	**197**	PN	Pn	06 33 13.4	-0.4
BHHZ	**Black Hill Sta**	**2.86**	**202**	PN	Pn	06 33 16.5	-2.3
MOVZ	**Moawhango**	**2.89**	**207**	PN	Pn	06 33 18.8	-0.3
PNHZ	**Pukenui**	**3.22**	**197**	PN	Pn	06 33 22.1	-1.1
PXZ	**Pawanui**	**3.23**	**188**	PN	Pn	06 33 22.0	-1.1
TSZ	**Takapari Road**	**3.42**	**199**	PN	Pn	06 33 24.4	-1.3
DVHZ	**Dannevirke**	**3.60**	**196**	PN	Pn	06 33 26.5	-1.4
POWZ	**Post Office Ro**	**3.78**	**200**	PN	Pn	06 33 28.1	-2.2
PRWZ	**Pori Road**	**3.89**	**197**	PN	Pn	06 33 29.6	-2.0
BFZ	**Birch Farm**	**3.95**	**193**	PN	Pn	06 33 30.6	-1.8
MRZ	**Mangatainoka R**	**4.09**	**200**	PN	Pn	06 33 32.2	-2.0
MRZ				SN	Sn	06 34 19.2	-3.3
OGWZ	**Otaki Gorge**	**4.35**	**203**	PN	Pn	06 33 35.3	-2.2
KIW	**Kapiti Island**	**4.48**	**205**	PN	Pn	06 33 36.8	-2.4
CAW	**Cannon Point**	**4.65**	**203**	PN	Pn	06 33 38.5	-2.9
NNZ	**Nelson**	**5.39**	**214**	PN	Pn	06 33 48.6	-2.5
THZ	**Tophouse**	**6.04**	**214**	PN	Pn	06 33 57.2	-2.6

MAN 06 06:56:08, 14.00N×120.44E, h70km, mb4.0, ML2.8, MS2.4, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.49**	**78**	*i*P	Pn	06 56 22.8	+2.0
TGY				*i*S	Sn	06 56 35.3	+5.1
PGP	**Puerto Galera**	**0.70**	**135**	*i*P	Pn	06 56 29.9	+6.9
LQP	**Lukban**	**1.07**	**84**	*e*P	Pn	06 56 31.6	+3.9
BOAC	**Boac**	**1.47**	**111**	*e*P	Pn	06 56 34.7	+2.1
BOAC				*e*S	Sn	06 56 52.5	+1.5
SJMP	**San Jose**	**1.67**	**157**	*e*P	Pn	06 56 37.6	+2.4
GQP	**Guinayangan**	**1.95**	**93**	*e*P	Pn	06 56 40.4	+1.4
BUSP	**Coron**	**2.00**	**187**	*e*P	Pn	06 56 40.7	+1.0
OTRP	**Odiongan**	**2.24**	**136**	*e*P	Pn	06 56 46.0	+3.0

MAN 06 07:00:19, 13.29N×120.60E, h34km, mb4.0, ML2.8, MS2.5, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.56**	**322**	*e*P	Pb	07 00 32.1	+1.6
LUBP				*e*S	Sn	07 00 41.0	+2.4
SJMP	**San Jose**	**0.97**	**148**	*e*P	Pb	07 00 37.1	-0.3
BUSP	**Coron**	**1.34**	**197**	*e*P	Pn	07 00 42.4	+1.1

*IDC **06** 07:17:51.7±1.8, 49.35N×156.72E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/25, mbtmp3.3/4, ML3.0/1, Error ellipse: s-maj=85.5km s-min=30.3km az=115.0*
*KRSC **06** 07:17:55.4±5.7, 50.20N×154.98E, h75km±75km, ML4.2*
*MOS **06** 07:17:55.0±1.3, 49.83N×155.60E, h49km, mb4.2/1, Error ellipse: s-maj=99.9km s-min=13.8km az=70.3*
*ISCJB **06** 07:17:59.6±1.2, 50.3N±0.1×155.3E±0.3, h91km±9km, mb3.2/3, Error ellipse: s-maj=35.0km s-min=11.8km az=31.4*

ISC 06 07:17:59.0±1.9, 50.2N±0.1×155.2E±0.2, h71km±13km, n30, σ1§23/29, mb3.2/3, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.75**	**51**	*i*P	Pn	07 18 09.1	-5.3
SKR				*i*S	**Sn**	**07 18 23.0**	**-2.9**
SKR	comp=N,80nm,0.5s			pmax	pmax		
SKR	comp=E,80nm,0.5s			pmax	pmax		
SKR	comp=Z,150nm,0.5s			pmax	pmax		
SKR	comp=N,690nm,0.5s			smax	smax		
SKR	comp=E,650nm,0.5s			smax	smax		
SKR	**Severo-Kuril's**	**0.75**	**51**	*e*P	**Pn**	**07 18 15.2**	**+0.8**
SKR				*i*S	**Sn**	**07 18 27.9**	**+2.0**
PAU	**Pauzhetka**	**1.61**	**39**	PN	**Pn**	**07 18 23.8**	**-1.6**
PAU				S	**Sn**	**07 18 46.6**	**+1.2**
PAU	**Pauzhetka**	**1.61**	**39**	*e*P	**Pn**	**07 18 23.8**	**-1.6**
PAU				*i*S	**Sn**	**07 18 46.6**	**+1.2**
ASAK	**Asacha**	**2.75**	**37**	*e*P	**Pn**	**07 18 40.9**	**+0.1**
ASAK				*i*S	**Sn**	**07 19 12.4**	**-0.6**
MTVR	**Mutnovka**	**2.94**	**38**	*e*P	**Pn**	**07 18 43.4**	**0.0**
MTVR				*i*S	**Sn**	**07 19 16.7**	**-0.9**
APC	**Apacha**	**2.97**	**24**	*e*P	**Pn**	**07 18 43.3**	**-0.4**
APC				*i*S	**Sn**	**07 19 17.4**	**-0.8**
RUS	**Russkaya**	**3.04**	**42**	PN	**Pn**	**07 18 45.2**	**+0.6**
RUS				S	**Sn**	**07 19 19.4**	**-0.4**
RUS	**Russkaya**	**3.04**	**42**	*e*P	**Pn**	**07 18 45.2**	**+0.6**
RUS				*i*S	**Sn**	**07 19 19.4**	**-0.4**
PETK	**Petropavlovsk-**	**3.28**	**27**	PN	Pn	07 18 52.3	+4.3
PETK	comp=Z,1.0nm,0.3s			pmax	pmax		
PETK	**Petropavlovsk-** comp=Z,1.2nm,0.3s,baz=183,slow=14,SNR=9.7	**3.28**	**27**	Pn	Pn	07 18 52.3	+4.3
PETK	comp=Z,0.5nm,0.3s,baz=186,slow=26,SNR=2.4			Sn	Sn	07 19 47.6	+22
AVH	**Avacha**	**3.76**	**34**	*e*P	**Pn**	**07 18 56.5**	**+2.0**
AVH				*i*S	**Sn**	**07 19 37.1**	**-0.4**
KRER	**Koryakskii**	**3.79**	**34**	*e*P	**Pn**	**07 18 56.9**	**+1.8**
KRX	**Arik**	**3.80**	**33**	*e*P	**Pn**	**07 18 56.3**	**+1.1**
SDLR	**Sedlovina**	**3.82**	**35**	*e*P	**Pn**	**07 18 57.1**	**+1.7**
GNL	**Ganaly**	**3.87**	**25**	*e*P	**Pn**	**07 18 57.2**	**+1.1**
MKZ	**Mys Kozlova**	**5.90**	**40**	PN	**Pn**	**07 19 23.9**	**+0.3**
MKZ	**Mys Kozlova**	**5.90**	**40**	*e*P	**Pn**	**07 19 23.9**	**+0.3**
MKZ				*i*S	**Sn**	**07 20 28.7**	**-1.1**
H11N2	**WAKE ISLAND Hy** baz=349,slow=0.7,SNR=13	**31.81**	**159**	T	T	07 56 58.7	
H11N1	**WAKE ISLAND Hy** baz=349,slow=0.7,SNR=9.9	**31.83**	**159**	T	T	07 56 59.8	
H11N3	**WAKE ISLAND Hy** baz=349,slow=0.7,SNR=14	**31.83**	**159**	T	T	07 56 60.0	
H11S1	**WAKE ISLAND Hy** baz=349,slow=0.7,SNR=58	**32.95**	**160**	T	T	07 58 24.1	
H11S3	**WAKE ISLAND Hy** baz=349,slow=0.7,SNR=68	**32.96**	**160**	T	T	07 58 25.2	
H11S2	**WAKE ISLAND Hy** baz=349,slow=0.7,SNR=58	**32.97**	**160**	T	T	07 58 25.5	
ILAR	**Eielson Array** comp=Z,0.2nm,0.5s,baz=250,slow=6.8,SNR=4.5	**33.00**	**42**	P	**P**	**07 24 26.8**	**+0.1**
TXAR	**Lajitas Array** comp=Z,0.4nm,0.7s,baz=308,slow=3.0,SNR=6.2	**74.62**	**63**	P	**P**	**07 29 30.7**	**+0.2**
ASAR	**Alice Springs** comp=Z,0.2nm,0.6s,baz=19,slow=5.9,SNR=3.4	**75.94**	**200**	P	**P**	**07 29 37.5**	**-0.4**
H03N2	**Juan Fernandez** baz=310,slow=0.7,SNR=4.3	**137.31**	**88**	T	T	10 09 20.0	
H03N1	**Juan Fernandez** baz=310,slow=0.7,SNR=4.4	**137.33**	**88**	T	T	10 09 21.0	
H03N3	**Juan Fernandez** baz=310,slow=0.7,SNR=6.3	**137.33**	**88**	T	T	10 09 21.8	

*DDA **06** 07:18:29.4, 37.19N×28.08E, h9km, MD2.8*

*CSEM **06** 07:18:29.2±0.3, 37.20N×28.15E, h2km, MD2.5, Error ellipse: s-maj=8.6km s-min=4.4km az=23.0*

ISK 06 07:18:27.7, 37.24N×28.17E, h3km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.14**	**139**	*e*PG	Pg	07 18 31.3	+0.8
YER				*e*SG	Sg	07 18 33.7	+1.2
YER	**Yerkesik**	**0.14**	**139**	*e*Pg	Pg	07 18 31.3	+0.8
YER				*e*Sg	Sg	07 18 33.7	+1.3
AYDN	**Tasoluk**	**0.48**	**331**	*i*P	Pb	07 18 39.0	+0.1
AYDN				*i*S	Sb	07 18 46.4	0.0
AYDN	**Tasoluk**	**0.48**	**331**	*i*S	Pb	07 18 39.0	+0.1
AYDN				*i*S	Sb	07 18 46.4	0.0
TURN	**Turunc**	**0.51**	**136**	*i*P	Pg	07 18 37.6	+0.3
TURN				*i*S	Sg	07 18 43.6	-0.4
TURN	**Turunc**	**0.51**	**136**	*i*P	Pg	07 18 37.6	+0.2
TURN				*i*S	Sg	07 18 43.6	-0.3
DALY	**Dalyan (Mu¨la**	**0.57**	**137**	*e*PG	Pb	07 18 39.6	-0.7
DALY				*e*SG	Sb	07 18 48.3	-0.6
DALY	**Dalyan (Mu¨la**	**0.57**	**137**	*e*Pg	Pb	07 18 39.6	-0.8
DALY				*e*Sg	Sb	07 18 48.3	-0.6
BDRM	**Kayabasi**	**0.60**	**253**	*i*P	Pg	07 18 39.4	+0.1
BDRM				*i*S	Sb	07 18 50.0	+0.1
BDRM	**Kayabasi**	**0.60**	**253**	*i*P	Pg	07 18 39.4	0.0
BDRM				*i*S	Sb	07 18 50.0	+0.1
DAT	**Datca**	**0.70**	**223**	*e*PG	Pb	07 18 42.2	-0.4
DAT	**Datca**	**0.70**	**223**	*e*Pg	Pb	07 18 42.2	-0.4
BODT	**Bodrum**	**0.71**	**256**	*e*PG	Pg	07 18 41.9	+0.6
BODT				*e*SG	Sb	07 18 52.6	-0.3
BODT	**Bodrum**	**0.71**	**256**	*e*Pg	Pg	07 18 41.9	+0.6
BODT				*e*Sg	Sb	07 18 52.6	-0.3
AKAS	**Kas**	**1.53**	**131**	*e*P	Pg	07 18 58.9	+1.6
AKAS				*e*S	Sg	07 19 23.8	+6.5
AKAS	**Kas**	**1.53**	**131**	*e*P	Pg	07 18 58.9	+1.7

KRSC 06 07:25:40.2±2.9, 55.05N×159.27E, h21km±21km, ML3.7, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**0.55**	**65**	P	Pn	07 25 52.6	-0.4
TUMR				*i*S	Sn	07 26 02.1	+0.4
KMNR	**Kamenistaya**	**0.90**	**38**	P	Pn	07 25 58.8	+1.1
KMNR				*i*S	Sn	07 26 12.8	+2.6
KII	**Karymskiy**	**1.02**	**174**	P	Pb	07 25 59.3	0.0
KII				*i*S	Sn	07 26 13.7	+0.6
KPT	**Kopyto**	**1.07**	**30**	P	Pb	07 26 01.3	+1.2
KPT				*i*S	Sn	07 26 16.9	+2.6
KOZ	**Kozyrevsk**	**1.07**	**18**	P	Pb	07 26 01.2	+1.2
KOZ				*i*S	Sn	07 26 16.9	+2.7
KIRR	**Kirishev**	**1.09**	**34**	P	Pb	07 26 01.7	+1.1
KIRR				*i*S	Sn	07 26 17.5	+2.4
BZMR	**Bezymyannaya**	**1.13**	**38**	P	Pb	07 26 03.0	+1.8
BZWR	**Bezymyannyi-We**	**1.15**	**37**	P	Pb	07 26 03.1	+1.5
BZGR	**Bezymyannyi-Gr**	**1.21**	**42**	P	Pb	07 26 03.2	+0.7
SRDR	**Sredinnyy**	**1.29**	**11**	P	Pb	07 26 04.1	+0.2
SRDR				*i*S	Sb	07 26 21.5	+1.3
KRSR	**Krestovskiy**	**1.38**	**32**	P	Pb	07 26 06.1	+0.7
KRSR				*i*S	Sb	07 26 25.1	+2.4
KLY	**Klyuchi**	**1.49**	**31**	P	Pb	07 26 08.9	+1.8
KLY				*i*S	Sb	07 26 30.2	+4.7
MKZ	**Mys Kozlova**	**1.51**	**108**	P	Pb	07 26 07.0	-0.4
MKZ				*i*S	Sb	07 26 27.1	+1.1
GNL	**Ganaly**	**1.56**	**210**	P	Pb	07 26 08.9	+0.3
GNL				*i*S	Sb	07 26 29.9	+1.9
KRX	**Arik**	**1.73**	**192**	P	Pb	07 26 11.3	-0.2
KRX				*i*S	Sb	07 26 33.9	+1.0
KRER	**Koryakskii**	**1.78**	**190**	P	Pb	07 26 12.2	-0.1
KRER				*i*S	Sb	07 26 35.7	+1.4
SDLR	**Sedlovina**	**1.79**	**187**	P	Pb	07 26 12.1	-0.3
SDLR				*i*S	Sb	07 26 35.4	+0.9
KOK	**Koryaka**	**1.80**	**192**	P	Pb	07 26 12.6	0.0
KOK				*i*S	Sb	07 26 36.4	+1.6
SMAR	**Somma**	**1.81**	**189**	P	Pb	07 26 12.8	-0.1
SMAR				*i*S	Sb	07 26 36.7	+1.4
AVH	**Avacha**	**1.82**	**190**	P	Pb	07 26 13.0	+0.2
AVH				*i*S	Sb	07 26 36.6	+1.4
UGLR	**Uglovaya**	**1.86**	**188**	P	Pb	07 26 13.3	-0.4
UGLR				*i*S	Sb	07 26 38.0	+1.4
BDR	**Baidarnaya**	**1.87**	**35**	P	Pb	07 26 13.2	-0.6
BDR				*i*S	Sb	07 26 36.8	-0.1
NLC	**Nalytchevo**	**1.88**	**179**	P	Pb	07 26 13.0	-0.8
NLC				*i*S	Sb	07 26 36.9	+0.1
SRKR	**Sorokina**	**1.93**	**33**	P	Pb	07 26 13.5	-1.3
SRKR				*i*S	Sb	07 26 38.4	-0.1
SMKR	**Semkarok**	**1.97**	**38**	P	Pb	07 26 15.8	+0.3
KBTR	**Krutoberegovo**	**2.32**	**59**	P	Pb	07 26 21.0	-0.3
APC	**Apacha**	**2.47**	**211**	P	Pb	07 26 22.0	-1.8
APC				*i*S	Sb	07 26 53.2	-0.5
MTVR	**Mutnovka**	**2.65**	**195**	P	Pb	07 26 24.8	-2.3
RUS	**Russkaya**	**2.66**	**190**	P	Pn	07 26 23.8	+2.0
RUS				*i*S	Sn	07 26 55.9	+2.6
ASAK	**Asacha**	**2.79**	**198**	P	Pb	07 26 26.9	-2.6

*DDA **06** 07:34:19.9, 36.22N×31.38E, h12km, MD3.3*
*ISCJB **06** 07:34:20.7±1.0, 36.07N±0.05×31.37E±0.03, h23km±10km, Error ellipse: s-maj=8.1km s-min=3.8km az=9.9*
*CSEM **06** 07:34:20.3±0.1, 35.98N×31.36E, h20km, MD3.3, Error ellipse: s-maj=4.6km s-min=3.7km az=20.0*
*ISK **06** 07:34:21.1, 36.08N×31.36E, h30km, MD3.3*
*NIC **06** 07:34:33.9±0.1, 36.18N×31.57E, h14km, ML3.2, MW3.2*

ISC 06 07:34:19.7±1.2, 36.03N±0.03×31.39E±0.02, h20km±5km, n73, σ1§09/88, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**0.78**	**74**	*i*P	**Pg**	**07 34 35.2**	**+0.2**
GAZI				*i*S	**Sg**	**07 34 45.1**	**-0.3**
GAZI	**Gazipasa**	**0.78**	**74**	*i*P	**Pg**	**07 34 35.2**	**+0.2**
GAZI				*i*S	**Sg**	**07 34 45.1**	**-0.3**
AKMC	**Akamas**	**1.26**	**142**	P	**Sn**	**07 34 56.6**	**-2.0**
KORT	**Korkueli**	**1.28**	**320**	*i*P	**Pn**	**07 34 41.9**	**-0.7**
KORT				*i*S	**Sg**	**07 35 03.9**	**+2.6**
KORT	**Korkueli**	**1.28**	**320**	*i*P	**Pn**	**07 34 41.9**	**-0.7**
HDMB	**Hadim**	**1.28**	**43**	*e*PN	**Pg**	**07 34 44.0**	**-0.6**
HDMB	**Hadim**	**1.28**	**43**	*e*Pn	**Pg**	**07 34 44.0**	**-0.6**
ALFC	**Alevga** 14nm,0.1s	**1.32**	**131**	P	Pg	07 34 56.8	+12
ALFC				S	Sg	07 35 14.5	+12
ERMK	**Ermenek**	**1.37**	**63**	*i*P	**Pb**	**07 34 44.6**	**-0.2**
ERMK				*i*S	**Sb**	**07 35 02.3**	**+0.2**
ERMK	**Ermenek**	**1.37**	**63**	*i*P	**Pb**	**07 34 44.6**	**-0.2**
ERMK				*i*S	**Sb**	**07 35 02.3**	**+0.2**
PPCY	**Paphos**	**1.38**	**145**	P	Pg	07 34 58.6	+12
ELL	**Elmali**	**1.39**	**301**	*e*PN	**Pb**	**07 34 44.2**	**-0.8**
ELL	**Elmali**	**1.39**	**301**	*e*Pn	**Pb**	**07 34 44.3**	**-0.8**
AKAS	**Kas**	**1.46**	**279**	*i*P	**Pb**	**07 34 46.7**	**+0.5**
AKAS				*i*S	**Sb**	**07 35 05.0**	**+0.6**
AKAS	**Kas**	**1.46**	**279**	*i*P	**Pb**	**07 34 46.7**	**+0.5**
AKAS				*i*S	**Sb**	**07 35 05.0**	**+0.6**
SUTC	**Sutluce-Ispart**	**1.48**	**348**	*e*PN	**Pb**	**07 34 46.5**	**-0.1**
SUTC	**Sutluce-Ispart**	**1.48**	**348**	*e*Pn	**Pb**	**07 34 46.5**	**-0.1**
LEF	**Lefka**	**1.52**	**126**	*e*PN	**Pb**	**07 34 47.4**	**+0.1**
LEF	**Lefka**	**1.52**	**126**	*e*Pn	**Pb**	**07 34 47.4**	**+0.1**
SZAC	**Souni-Zanaja**	**1.76**	**136**	P	Pg	07 35 04.0	+10
SZAC				S	Sg	07 35 27.3	+11
IKL	**Isikli**	**1.87**	**83**	*e*PN	**Pn**	**07 34 51.7**	**+1.1**
IKL				*e*SN	**Sn**	**07 35 14.6**	**+1.0**
IKL	**Isikli**	**1.87**	**83**	*e*Pn	**Pn**	**07 34 51.7**	**+1.1**
IKL				*e*Sn	**Sn**	**07 35 14.6**	**+1.0**
GOLH	**Golhisar**	**1.90**	**310**	*i*P	**Pb**	**07 34 54.3**	**+0.5**
GOLH				*i*S	**Sg**	**07 35 19.7**	**-1.3**
GOLH	**Golhisar**	**1.90**	**310**	*i*P	**Pb**	**07 34 54.3**	**+0.5**
LFK	**Lefkose**	**1.90**	**113**	*e*PN	**Pn**	**07 34 52.5**	**+1.5**
LFK	**Lefkose**	**1.90**	**113**	*e*Pn	**Pn**	**07 34 52.5**	**+1.5**
CSS	**Prodhromos**	**1.91**	**123**	P	Pg	07 35 05.7	+9.3
CSS				S	Sg	07 35 29.8	+8.6
CSS	**Prodhromos**	**1.91**	**123**	*e*PN	**Pb**	**07 34 53.4**	**-0.5**
CSS	**Prodhromos**	**1.91**	**123**	*e*Pn	**Pb**	**07 34 53.4**	**-0.5**
ISP	**Isparta**	**1.92**	**339**	*e*PN	**Pn**	**07 34 51.9**	**+0.5**
ISP	**Isparta**	**1.92**	**339**	*e*Pn	**Pn**	**07 34 51.9**	**+0.5**
FETY	**Fethiye**	**1.96**	**289**	*e*PN	**Pn**	**07 34 52.6**	**+0.7**
FETY	**Fethiye**	**1.96**	**289**	*e*Pn	**Pn**	**07 34 52.5**	**+0.7**
KONT	**Konya--Tatoy**	**2.06**	**22**	*e*PN	**Pn**	**07 34 53.7**	**+0.4**
KONT	**Konya--Tatoy**	**2.06**	**22**	*e*Pn	**Pn**	**07 34 53.7**	**+0.4**
KIZK	**Mersin**	**2.27**	**78**	*i*P	**Pb**	**07 34 58.9**	**-1.1**
KIZK				*i*S	**Sn**	**07 35 24.0**	**+0.5**
EREN	**Erenkoy**	**2.32**	**102**	*e*PN	**Pn**	**07 34 58.5**	**+1.8**
EREN	**Erenkoy**	**2.32**	**102**	*e*Pn	**Pn**	**07 34 58.5**	**+1.8**
DALY	**Dalyan (Mu¨la**	**2.34**	**290**	*e*PN	**Pn**	**07 34 58.0**	**+1.0**
DALY	**Dalyan (Mu¨la**	**2.34**	**290**	*e*Pn	**Pn**	**07 34 58.0**	**+1.0**
DNZL	**Cakiroluk**	**2.50**	**312**	*i*P	**Pb**	**07 35 01.5**	**-2.6**
DNZL				*i*S	**Sb**	**07 35 34.7**	**+0.2**
DNZL	**Cakiroluk**	**2.50**	**312**	*i*P	**Pb**	**07 35 01.5**	**-2.6**
BOLV	**Bolvadin**	**2.71**	**353**	*i*P	**Pn**	**07 35 03.8**	**+1.6**
BOLV				*i*S	**Sn**	**07 35 35.8**	**+1.3**
BOLV	**Bolvadin**	**2.71**	**353**	*i*P	**Pn**	**07 35 03.8**	**+1.6**
BOLV				*i*S	**Sn**	**07 35 35.8**	**+1.3**
KHL	**Karahalli**	**2.73**	**328**	*e*PN	**Pn**	**07 35 03.0**	**+0.5**
KHL	**Karahalli**	**2.73**	**328**	*e*Pn	**Pn**	**07 35 03.0**	**+0.5**
YER	**Yerkesik**	**2.73**	**295**	*e*PN	**Pn**	**07 35 03.4**	**+0.9**
YER	**Yerkesik**	**2.73**	**295**	*e*Pn	**Pn**	**07 35 03.4**	**+0.9**
KHAL	**Karahalli**	**2.78**	**328**	*i*P	**Pn**	**07 35 04.5**	**+1.3**
KHAL				*i*S	**Sn**	**07 35 36.6**	**+0.3**
KHAL	**Karahalli**	**2.78**	**328**	*i*P	**Pn**	**07 35 04.5**	**+1.3**
KHAL				*i*S	**Sn**	**07 35 36.6**	**+0.3**
GULE	**Gulek**	**3.00**	**64**	*i*P	**Pb**	**07 35 10.7**	**-1.8**
GULE				*i*S	**Sb**	**07 35 47.6**	**-1.2**
DAT	**Datca**	**3.15**	**284**	*e*PN	**Pn**	**07 35 09.7**	**+1.4**
DAT	**Datca**	**3.15**	**284**	*e*Pn	**Pn**	**07 35 09.7**	**+1.4**
KARA	**Karaisali**	**3.19**	**66**	*e*PN	**Pn**	**07 35 10.3**	**+1.5**
KARA	**Karaisali**	**3.19**	**66**	*e*Pn	**Pn**	**07 35 10.3**	**+1.5**
AYDN	**Tasoluk**	**3.25**	**301**	*i*P	**Pn**	**07 35 10.8**	**+1.2**
AYDN				*i*S	**Sn**	**07 35 46.7**	**-1.1**
AYDN	**Tasoluk**	**3.25**	**301**	*i*P	**Pn**	**07 35 10.8**	**+1.2**
AYDN				*i*S	**Sn**	**07 35 46.7**	**-1.1**
KULA	**Kula-Manisa**	**3.30**	**320**	*e*PN	**Pn**	**07 35 11.3**	**+1.0**
KULA	**Kula-Manisa**	**3.30**	**320**	*e*Pn	**Pn**	**07 35 11.3**	**+1.0**
SVRH	**Sivrihisar-ESK**	**3.41**	**2**	*e*PN	**Pn**	**07 35 12.7**	**+0.8**
SVRH	**Sivrihisar-ESK**	**3.41**	**2**	*e*Pn	**Pn**	**07 35 12.7**	**+0.8**
BODT	**Bodrum**	**3.44**	**289**	*e*PN	**Pn**	**07 35 13.6**	**+1.4**
BODT	**Bodrum**	**3.44**	**289**	*e*Pn	**Pn**	**07 35 13.6**	**+1.4**
TVSB	**Tavsanli**	**3.74**	**336**	*e*PN	**Pn**	**07 35 17.3**	**+0.9**
TVSB	**Tavsanli**	**3.74**	**336**	*e*Pn	**Pn**	**07 35 17.3**	**+0.9**
AMAG	**Maghara**	**5.58**	**164**	P	Pn	07 35 40.7	-1.0
HMAT	**Matruh**	**6.09**	**217**	P	**Pn**	**07 35 47.6**	**-1.0**
KOT	**Kottamia**	**6.10**	**176**	P	**Pn**	**07 35 48.4**	**-0.3**
GLL	**Jalalah**	**6.44**	**178**	P	**Pn**	**07 35 52.8**	**-0.6**
SLUM		**6.85**	**230**	P	**Pn**	**07 35 57.6**	**-1.4**
SWA2		**8.41**	**218**	P	**Pn**	**07 36 19.4**	**-1.1**
HFRF	**Wahat Farafira**	**9.23**	**197**	P	**Pn**	**07 36 30.8**	**-0.9**

IDC 06 07:35:44.2±8.4, 19.24S×177.17W, h413km±89km, mb2.8/4, mb1 3.2/5, mb1mx3.0/19, mbtmp2.9/5, Error ellipse: s-maj=127.2km s-min=35.5km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 0.6nm,0.3s,baz=106,slow=20,SNR=7.6	**15.60**	**257**	P	P	07 39 03.1	+0.2
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=96,slow=7.4,SNR=8.7	**45.56**	**261**	P	P	07 43 25.2	-0.4
ASAR	**Alice Springs** 0.7nm,0.5s,baz=94,slow=8.6,SNR=8.0	**45.58**	**255**	P	P	07 43 25.7	0.0
TXAR	**Lajitas Array** 0.4nm,0.7s,baz=219,slow=8.5,SNR=6.0	**85.72**	**57**	P	P	07 47 38.5	-0.1
ILAR	**Eielson Array** 0.3nm,1.0s,baz=229,slow=6.8,SNR=2.9	**86.92**	**12**	P	P	07 47 43.3	0.0

IDC 06 07:52:16.5±1.1, 16.61S×172.46W, h0km, mb4.0/6, mb1 4.3/6, mb1mx4.0/22, mbtmp4.0/6, MS3.6/1, Ms1 3.6/1, ms1mx2.8/36, Error ellipse: s-maj=59.2km s-min=22.0km az=145.0, Sanoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 22nm,0.3s,baz=340,slow=21,SNR=4.4	**2.76**	**14**	Sn	Sn	07 53 32.4	-3.9
DZM	**Mont Dzumac** 7.6nm,1.0s,baz=141,slow=16,SNR=2.8	**20.63**	**251**	P	Pn	07 57 01.9	+1.8
URZ	**Urewera** 17nm,1.1s,baz=24,slow=12,SNR=2.6	**23.44**	**201**	P	P	07 57 27.4	0.0
**HNR

GUR S **Sb** 07 52 47.5 +1.3

IDC ***06*** *07:56:25.5±1.4,34°.19N×71°.39E,h0km,mb3.7/4, mb1 3.7/7,mb1mx3.5/29,mbtmp3.6/7,ML3.4/3,Error ellipse: s-maj=41.2km s-min=27.0km az=119.0*
ISCJB ***06*** *07:56:29.3±0.7,34°.39N±0°.05×71°.33E±0°.09,h33km, mb3.7/5,Error ellipse: s-maj=12.2km s-min=4.6km az=145.5*
NDI ***06*** *07:56:29.9±2.3,34°.13N×70°.90E,h10km,ML4.2*
NNC ***06*** *07:56:46.3±2.8,35°.83N×71°.35E,h0km,mb4.0,mpv3.5, Error ellipse: s-maj=33.3km s-min=17.4km az=58.0*

ISC 06 07:56:32.2±0.9,34°.52N±0°.07×71°.3E±0°.1,h35km,n37, σ2s30/29,mb3.9/5,4C-4D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**0.88**	**142**	⇓P	Pn	07 56 51.8	+3.6
CEP				S	**Sn**	**07 57 05.0**	**+5.2**
THW	**Thamme Wali**	**1.77**	**167**	P	Pn	07 57 04.6	+4.3
CHCP	**Chirah Chowk**	**1.87**	**117**	⇓P	Pn	07 57 05.5	+3.7
SARP	**Sargodha**	**2.85**	**155**	P	Pn	07 57 18.8	+3.7
JMU	**Jammu**	**3.53**	**120**	*eP*	**Pn**	**07 57 26.5**	**+2.0**
JMU				*e*4	Sg	07 58 16.5	
THN	**Thein Dam**	**4.27**	**118**	*eP*	**Pn**	**07 57 35.0**	**+0.4**
THN				*e*4	Sg	07 58 49.0	
DHRM	**DHARAMSHALA**	**4.79**	**117**	*eP*	**Pn**	**07 57 44.7**	**+2.7**
DHRM				*eS*	**Sn**	**07 58 37.0**	**+0.7**
DHRM	comp=E,602nm,0.4s			AML	AML	07 58 39.9	
DHRM	comp=N,482nm,0.1s			AML	AML	07 58 41.0	
BHK	**Bhakra**	**5.33**	**124**	*e*4	Pg	07 58 11.0	
BHK				*eS*	**Sn**	**07 58 50.2**	**+0.8**
SMLA	**Simla**	**6.01**	**123**	*i P*	**Pn**	**07 58 00.1**	**+1.5**
SMLA				*i S*	**Sn**	**07 59 05.2**	**-1.1**
SMLA	comp=E,361nm,0.6s			AML	AML	07 59 07.2	
SMLA	comp=N,340nm,0.2s			AML	AML	07 59 08.0	
DDI	**Dehra Dun**	**7.11**	**124**	*eS*	**Sn**	**07 59 31.0**	**-2.3**
NDI	**New Delhi**	**7.72**	**137**	*eP*	**Pn**	**07 58 21.0**	**-1.1**
NDI				*eS*	Sn	07 59 40.0	-8.4
AAK	**Ala-Archa**	**8.49**	**16**	Pn	Pn	07 58 36.5	+3.8
AAK	comp=N,0.9nm,0.3s,baz=123,slow=5.4,SNR=5.2			Sn	**Sn**	**08 00 08.9**	**+1.5**
KK31	**Karatay Array**	**8.59**	**356**	Pn	**Pn**	**07 58 37.0**	**+3.0**
KK31	comp=N,2.3nm,0.5s,baz=185,slow=13,SNR=22			⇑Sn	**Sn**	**08 00 04.4**	**-5.3**
KK31	comp=N,7.5nm,0.8s			⇑Lg	Lg	08 00 31.7	
TKM2	**Tokmak 2**	**9.05**	**21**	⇓Pn	**Pn**	**07 58 40.7**	**+0.2**
TKM2	comp=N,0.4nm,0.3s			⇓Lg	Lg	08 00 50.9	
DANN	**Dangsing**	**12.32**	**117**	*eP*	**Pn**	**07 59 23.4**	**-1.9**
BHPL	**Bhopal**	**12.46**	**153**	*eS*	Sn	08 01 31.2	-14
KOLN	**Koldanda**	**12.53**	**119**	*eP*	**Pn**	**07 59 26.3**	**-1.8**
GKN	**Gorkha**	**13.15**	**116**	*eP*	**Pn**	**07 59 34.2**	**-2.4**
DMN	**Daman**	**13.72**	**116**	*eP*	Pn	07 59 41.5	-2.9
KKN	**Kakani**	**13.75**	**115**	*eP*	Pn	07 59 41.8	-3.0
PKI	**Pulchoki**	**13.96**	**116**	*eP*	Pn	07 59 44.6	-3.2
GUN	**Gumba**	**14.13**	**114**	*eP*	Pn	07 59 46.5	-3.7
JIRN	**Jiri**	**14.50**	**114**	*eP*	Pn	07 59 51.8	-3.4
MK31	**Makanchi Array**	**14.83**	**31**	Pn	**P**	**08 00 04.1**	**-0.5**
MKAR	**Makanchi Array**	**14.83**	**31**	Pn	**Pn**	**07 59 59.7**	**+0.5**
RAMN	**Ramite**	**15.19**	**116**	*eP*	Pn	07 59 59.9	-4.4
TAPN	**Taplejung**	**15.81**	**112**	*eP*	**Pn**	**08 00 08.5**	**-4.0**
ODAN	**Odare**	**15.83**	**114**	*eP*	Pn	08 00 08.2	-4.4
AB31	**Akbulak array**	**16.93**	**334**	⇑Pn	**P**	**08 00 27.4**	**-0.5**
KURBB	**Kurchatov Arra**	**16.95**	**16**	⇑Pn	**P**	**08 00 30.0**	**+2.0**
KURBB	**Kurchatov Arra**	**16.95**	**16**	Pn	**P**	**08 00 28.1**	**+0.1**
BVAR	**Borovoye Array**	**18.51**	**358**	P	**Pn**	**08 00 48.3**	**+2.7**
ZALV	**Zalesovo Beam**	**21.65**	**22**	P	**P**	**08 01 20.8**	**+1.5**
NB2	**NORSAR Subarra**	**46.10**	**324**	P	**P**	**08 04 52.3**	**-0.3**
TORD	**Torodi Ar. Bea**	**65.90**	**270**	P	**P**	**08 07 14.5**	**-0.3**
WRA	**Warramunga Arr**	**80.77**	**122**	P	**P**	**08 08 40.0**	**-2.2**
YKA	**Yellowknife Ar**	**83.21**	**3**	P	**P**	**08 08 53.7**	**-0.7**

comp=Z,0.6nm,0.6s,baz=353,slow=5.2,SNR=5.7

IDC 06 07:58:38.0±49.0,17°.32S×174°.33W,h0km,mb4.1/3, mb1 4.3/3,mb1mx3.8/19,mbtmp4.1/3,MS3.4/1,Ms1 3.4/1, ms1mx2.7/34,Error ellipse: s-maj=931.8km s-min=184.0km az=80.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga** comp=Z,142nm,18.0s,baz=315,slow=31	**14.28**	**108**	LR	LR	08 05 56.1	
STKA	**Stephens Creek** 1.8nm,0.9s,baz=63,slow=11,SNR=1.9	**42.32**	**242**	P	P	08 06 34.0	+0.2
WRA	**Warramunga Arr** 1.2nm,0.5s,baz=96,slow=6.8,SNR=23	**48.56**	**258**	P	P	08 07 23.4	-0.1
ASAR	**Alice Springs** 3.8nm,0.7s,baz=88,slow=8.8,SNR=40	**48.69**	**253**	P	P	08 07 24.1	-0.4

IDC 06 08:01:11.3±6.6,16°.26S×172°.96W,h0km,mb3.7/3, mb1 3.9/4,mb1mx3.7/22,mbtmp3.7/4,ML1.6/1,Error ellipse: s-maj=281.6km s-min=27.0km az=136.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 6.3nm,0.3s,baz=232,slow=19,SNR=3.6	**2.60**	**26**	Pn	Pn	08 01 53.7	-1.1
AFI	24nm,0.3s,baz=54,slow=22,SNR=6.0			Sn	Sn	08 02 20.2	-7.0
WRA	**Warramunga Arr** 0.4nm,0.9s,baz=96,slow=6.7,SNR=2.6	**50.06**	**257**	P	P	08 10 08.2	-0.1
ASAR	**Alice Springs** 1.6nm,0.8s,baz=87,slow=7.8,SNR=9.4	**50.25**	**253**	P	P	08 10 09.9	+0.2
ILAR	**Eielson Array** 0.4nm,0.6s,baz=230,slow=6.4,SNR=11	**83.20**	**11**	P	P	08 13 40.5	+1.4
BRTR	**Keskin Array B** 0.8nm,0.7s,baz=29,slow=3.3,SNR=2.8	**147.09**	**321**	PKPbc	PKPdf	08 20 54.0	-0.6

ISCJB ***06*** *08:10:09.3±0.3,13°.88N±0°.04×90°.42W±0°.03,h119km±2km, mb4.2/24,Error ellipse: s-maj=7.5km s-min=3.1km az=39.4*
NEIC ***06*** *08:10:10.2±0.6,13°.86N×90°.50W,h113km±6km,mb4.5/16, MD4.6(MEX),Error ellipse: s-maj=10.3km s-min=6.2km az=213.0*
CASC ***06*** *08:10:10.9±2.2,13°.68N×90°.39W,h93km±15km,MD3.7, ML4.2,mb4.5(NEIC)*
BJI ***06*** *08:10:10.0,13°.90N×90°.50W,h108km*
IDC ***06*** *08:10:11.7±0.9,14°.38N×89°.68W,h118km±8km,mb3.6/10, mb1 3.8/11,mb1mx3.6/24,mbtmp3.6/11,MS3.0/1, Ms1 3.0/1,ms1mx2.3/38,Error ellipse: s-maj=44.8km s-min=12.5km az=58.0*
MEX ***06*** *08:10:12.1±0.3,13°.97N×90°.69W,h190km±25km,MD4.6*

ISC 06 08:10:09.6±0.7,13°.85N±0°.05×90°.44W±0°.04,h110km±6km, n248,σ1s09/271,mb4.3/24,61C-89D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.57**	**344**	*eP*	**Pn**	**08 10 28.2**	**+1.1**
FUG	**Fuego 3**	**0.71**	**327**	⇓*eP*	**Pn**	**08 10 29.0**	**+0.8**
GCG	**Guatemala City**	**0.74**	**353**	⇓*eP*	**Pn**	**08 10 29.9**	**+1.4**
NBG	**Las Nubes**	**0.74**	**7**	⇓*eP*	**Pn**	**08 10 30.2**	**+1.6**
RTR	**El Retiro**	**0.78**	**86**	*eP*	**Pn**	**08 10 28.9**	**+0.1**
SBLS	**San Blas**	**0.80**	**90**	*eP*	**Pn**	**08 10 29.0**	**0.0**
SBLS				*eS*	**Sn**	**08 10 42.8**	**-0.8**
SNJE	**San Jose**	**0.81**	**88**	*eP*	**Pn**	**08 10 29.0**	**-0.1**
BOQS	**Boqueron**	**1.14**	**95**	*eP*	**Pn**	**08 10 32.2**	**-0.2**
BOQS				*eS*	**Sn**	**08 10 48.1**	**-1.5**
APG	**El Apazote** 246nm,0.3s,baz=151,slow=7.2,SNR=3036	**1.15**	**359**	P	**Pn**	**08 10 33.3**	**+0.7**
APG	38nm,0.3s,baz=151,slow=19,SNR=6.4			S	**Sn**	**08 10 50.7**	**+0.7**
SNET	**Serv Nac Est T**	**1.19**	**97**	*eP*	**Pn**	**08 10 32.8**	**-0.1**
SNET	comp=Z,5μm,0.3s			AML	AML	08 10 57.7	
JAT	**Jato**	**1.25**	**292**	⇓*eP*	**Pn**	**08 10 35.3**	**+1.8**
LFU	**La Fuente**	**1.29**	**94**	*eP*	**Pn**	**08 10 34.3**	**+0.2**
LFRS	**El Faro**	**1.36**	**99**	*eP*	**Pn**	**08 10 34.8**	**-0.1**
LBRS	**Las Brisas**	**1.36**	**94**	*eP*	**Pn**	**08 10 35.1**	**+0.3**
MRL	**Marmol**	**1.42**	**31**	*eP*	**Pn**	**08 10 37.6**	**+2.0**
MRL				*eS*	**Sn**	**08 10 57.8**	**+2.6**
SNVI	**San Vicente**	**1.58**	**98**	*eP*	**Pn**	**08 10 37.9**	**+0.4**
SNVI				*eS*	**Sn**	**08 10 58.4**	**-0.2**
VSM	**San Miguel**	**2.15**	**101**	*eP*	**Pn**	**08 10 45.4**	**+0.7**
CNCH	**Conchagua**	**2.60**	**102**	*eP*	**Pn**	**08 10 50.8**	**+0.3**
CCIG	**Comitan**	**2.92**	**326**	*i P*	**Pn**	**08 10 56.6**	**+1.9**
CCIG	**Comitan**	**2.92**	**326**	*i P*	**Pn**	**08 10 56.6**	**+1.9**
TGUH	**Tegucigalpa,Un**	**3.08**	**86**	*e*Pn	**Pn**	**08 10 57.2**	**+0.6**
TGUH				*e*Sn	Sn	08 11 25.9	-7.1
PCIG		**3.26**	**305**	*eP*	**Pn**	**08 10 59.8**	**+0.8**
PCIG				*i* S	**Sn**	**08 11 37.1**	**-0.1**
PCIG		**3.26**	**305**	*eP*	**Pn**	**08 10 59.8**	**+0.8**
PCIG				*i* S	**Sn**	**08 11 37.1**	**-0.1**
TGIG		**3.90**	**319**	*eP*	**Pn**	**08 11 08.2**	**+0.6**
TGIG		**3.90**	**319**	*eP*	**Pn**	**08 11 08.2**	**+0.6**
SCIG	**Sabancuy**	**5.14**	**352**	*i P*	**Pn**	**08 11 25.3**	**+1.0**
SCIG	**Sabancuy**	**5.14**	**352**	*i P*	**Pn**	**08 11 25.3**	**+1.0**
NY14	**Universidad de**	**5.75**	**123**	*i P*	**Pn**	**08 11 34.8**	**+2.1**
LAPC	**Finca la Perla**	**5.77**	**121**	*i P*	**Pn**	**08 11 33.6**	**+0.7**
LAPC				*i* S	**Sn**	**08 12 35.7**	**-2.2**
BUEV	**Buena Vista**	**5.78**	**121**	*i P*	**Pn**	**08 11 34.1**	**+1.0**
HUIG	**Huatulco**	**5.80**	**290**	*i P*	**Pn**	**08 11 32.3**	**-1.0**
HUIG	**Huatulco**	**5.80**	**290**	*i P*	**Pn**	**08 11 32.3**	**-1.0**
AMAS	**Alto Masis**	**6.22**	**121**	*i* S	**Sn**	**08 12 46.8**	**-2.1**
JTS	**JuntasAbangare**	**6.43**	**123**	*e*Pn	**Pn**	**08 11 42.9**	**+1.1**
JTS				*e*Sn	**Sn**	**08 12 49.5**	**-4.3**
JTS	**JuntasAbangare** comp=Z,23nm,0.3s,baz=312,slow=21,SNR=120	**6.43**	**123**	P	**Pn**	**08 11 43.1**	**+1.3**
JTS	comp=Z,10nm,0.3s,baz=263,slow=21,SNR=3.7			S	**Sn**	**08 12 52.1**	**-1.7**
CAO	**Cobano**	**6.66**	**128**	*i P*	**Pn**	**08 11 46.7**	**+1.9**
CAO				*eS*	**Sn**	**08 12 55.4**	**-4.0**
TEIG	**Tepich**	**6.67**	**18**	*eP*	**Pn**	**08 11 46.1**	**+1.1**
TEIG	**Tepich**	**6.67**	**18**	*e*Pn	**Pn**	**08 11 45.5**	**+0.4**
TEIG	**Tepich** comp=Z,17nm,0.3s,baz=204,slow=2.1,SNR=122	**6.67**	**18**	P	**Pn**	**08 11 45.8**	**+0.7**
TEIG	baz=15,slow=19,SNR=2.9			S	**Sn**	**08 12 57.5**	**-2.2**
VHO	**Vista Hermosa**	**6.86**	**299**	*eP*	**Pn**	**08 11 47.0**	**-0.8**
VHO	**Vista Hermosa**	**6.86**	**299**	*eP*	**Pn**	**08 11 47.0**	**-0.8**
PNIG	**Pinotepa**	**7.84**	**290**	*eP*	**Pn**	**08 12 01.0**	**+0.1**
PNIG	**Pinotepa**	**7.84**	**290**	*eP*	**Pn**	**08 12 01.0**	**+0.1**
TPIG	**Tehuac#an**	**8.05**	**305**	*i P*	**Pn**	**08 12 02.4**	**-1.6**
TPIG				*i* S	**Sn**	**08 13 29.5**	**-4.0**
TPIG	**Tehuac#an**	**8.05**	**305**	*i P*	**Pn**	**08 12 02.4**	**-1.6**
TPIG				*i* S	**Sn**	**08 13 29.5**	**-4.0**
CNI	**Changuinola**	**8.92**	**119**	*eP*	**Pn**	**08 12 18.1**	**+2.5**
CNI				*eS*	**Sn**	**08 13 56.7**	**+2.3**
CTCR	**Cotoan**	**9.00**	**122**	*eP*	**Pn**	**08 12 18.2**	**+1.4**
CTCR				*eS*	**Sn**	**08 13 56.7**	**+0.2**
BRU2	**Volcan**	**9.11**	**123**	*i P*	**Pn**	**08 12 20.0**	**+1.7**
BRU2				*eS*	**Sn**	**08 14 00.3**	**+1.1**
BCIP	**Isla Barro Col**	**11.38**	**113**	*eP*	**Pn**	**08 12 49.1**	**+0.2**
BCIP	**Isla Barro Col**	**11.38**	**113**	*e*Pn	**Pn**	**08 12 49.4**	**+0.4**
732A	**Laxson Ranch,** baz=17	**17.25**	**331**	⇑P	**Pn**	**08 14 03.7**	**0.0**
632A	**Uvalde** baz=18	**17.82**	**332**	⇓P	**Pn**	**08 14 10.8**	**+0.1**
OTAV	**Otavalo** comp=Z,5.9nm,1.3s	**17.99**	**138**	*eP*	**Pn**	**08 14 14.9**	**+1.6**
631A	**Perdido Creek** baz=18	**18.11**	**330**	⇑P	**Pn**	**08 14 13.7**	**-0.4**
VBMS	**Vicksburg** comp=Z,36nm,0.6s	**18.29**	**360**	*eP*	**Pn**	**08 14 17.5**	**+1.3**
532A	**Rocksprings** baz=18	**18.41**	**333**	⇓P	**P**	**08 14 16.4**	**+0.1**
TIGA	**Tifton**	**18.61**	**19**	*eP*	**P**	**08 14 18.6**	**+0.2**
TIGA	**Tifton** baz=19	**18.61**	**19**	⇓P	**Pn**	**08 14 20.1**	**+0.2**
JCT	**Junction City** baz=19	**18.67**	**334**	⇓P	**P**	**08 14 19.9**	**+0.8**
432A	**Menard** baz=19	**19.01**	**335**	⇓P	**P**	**08 14 23.8**	**+0.9**
530A	**J-C Ranch, Com** baz=19	**19.09**	**330**	⇑P	**P**	**08 14 24.1**	**+0.4**
WHTX	**Lake Whitney**	**19.17**	**342**	*eP*	**P**	**08 14 25.1**	**+0.5**
WHTX	**Lake Whitney** baz=19,SNR=11	**19.17**	**342**	⇑P	**P**	**08 14 25.3**	**+0.8**
431A	**Sonora** baz=19	**19.20**	**332**	⇓P	**P**	**08 14 25.2**	**+0.3**
LRAL	**Lakeview Retre** comp=Z,20nm,0.6s	**19.36**	**9**	*eP*	**Pn**	**08 14 28.5**	**-0.3**
628A	**Black Gap, Mar** baz=19	**19.36**	**325**	⇓P	**P**	**08 14 26.9**	**+0.2**
332A	**Millersview** baz=20,SNR=5.8	**19.43**	**335**	⇓P	**P**	**08 14 28.1**	**+0.6**
529A	**Stev Forest Ra** baz=20	**19.51**	**328**	⇑P	**P**	**08 14 29.3**	**+0.9**
430A	**Baggett Ranch,** baz=20	**19.57**	**331**	⇓P	**P**	**08 14 29.8**	**+0.8**
627A	**Terlingua Ranc** baz=20	**19.62**	**324**	⇑P	**P**	**08 14 30.0**	**+0.5**
331A	**San Angelo** baz=20,SNR=8.1	**19.65**	**334**	⇓P	**P**	**08 14 30.6**	**+0.8**
TXAR	**Lajitas Array** comp=Z,0.4nm,0.3s,baz=149,slow=11,SNR=35	**19.69**	**324**	P	**Pn**	**08 14 33.4**	**+0.6**
TXAR	comp=Z,0.1nm,0.3s,baz=134,slow=2.6,SNR=3.6			PcP	**PcP**	**08 18 46.0**	**+1.0**
429A	**Davenport Ranc** baz=20	**19.75**	**330**	⇓P	**P**	**08 14 31.9**	**+1.0**
232A	**Coleman** baz=20,SNR=11	**19.84**	**336**	⇓P	**P**	**08 14 32.9**	**+1.0**
330A	**Mertzon** baz=20	**20.07**	**332**	⇓P	**P**	**08 14 35.3**	**+1.0**
626A	**Big Bend Ranch** baz=20	**20.12**	**323**	⇓P	**P**	**08 14 35.8**	**+0.8**
231A	**Bronte** baz=20,SNR=8.0	**20.15**	**335**	⇑P	**P**	**08 14 35.8**	**+0.6**
428A	**Kincaid Ranch,** baz=20	**20.23**	**328**	⇓P	**P**	**08 14 37.2**	**+1.0**
527A	**Woodward Ranch** baz=20	**20.27**	**325**	⇑P	**P**	**08 14 36.9**	**+0.2**
526A	**Mary Lane Ranc** baz=20	**20.48**	**324**	⇓P	**P**	**08 14 39.0**	**+0.2**
ABTX	**Abilene, Hawle** baz=20	**20.50**	**337**	⇓P	**P**	**08 14 39.3**	**+0.4**
329A	**Wagon Wheel Ra** baz=20	**20.51**	**331**	⇑P	**P**	**08 14 39.5**	**+0.4**
OXF	**Oxford** comp=Z,30nm,0.9s	**20.60**	**2**	*eP*	**P**	**08 14 39.5**	**-0.4**
427A	**Hayter Ranch,** baz=21	**20.70**	**327**	⇓P	**P**	**08 14 41.5**	**+0.2**
328A	**Wristen Ranch,** baz=21	**20.82**	**329**	⇑P	**P**	**08 14 42.1**	**-0.4**
426A	**McDonald Obser** baz=21	**20.90**	**325**	⇑P	**P**	**08 14 43.1**	**-0.4**
130A	**Snyder** baz=21	**20.99**	**335**	⇓P	**P**	**08 14 44.6**	**+0.3**
Z32A	**Haskell** baz=21,SNR=11	**21.05**	**339**	⇓P	**P**	**08 14 45.3**	**+0.4**
Z31A	**Sharp Cattle R** baz=21	**21.30**	**337**	⇑P	**P**	**08 14 47.1**	**-0.5**
LPIG	**La Paz** comp=Z,38nm,18.3s,baz=198,slow=42	**21.35**	**301**	LR	LR	08 25 28.2	
326A	**Caldwell Ranch** baz=21	**21.38**	**327**	⇑P	**P**	**08 14 47.7**	**-0.8**
129A	**Stewart Farms,** baz=21	**21.41**	**333**	⇑P	**P**	**08 14 49.0**	**+0.2**
425A	**Indio Mountain** baz=22	**21.53**	**324**	⇓P	**P**	**08 14 50.6**	**+0.5**
Z30A	**Sanderson Ranc** baz=22	**21.66**	**335**	⇓P	**P**	**08 14 51.6**	**+0.1**
SWET	**Sewanee** comp=Z,23nm,0.7s	**21.66**	**10**	*eP*	**P**	**08 14 52.1**	**+0.7**
Y32A	**R-V Farms, Ver** baz=22	**21.67**	**339**	⇑P	**P**	**08 14 51.7**	**+0.2**
128A	**Castleberry Fa** baz=22	**21.68**	**332**	⇑P	**P**	**08 14 52.0**	**+0.3**
Z29A	**Hungry Hill Ra** baz=22	**21.88**	**334**	⇓P	**P**	**08 14 53.8**	**0.0**
Y31A	**Rekieta Farm,** baz=22,SNR=8.0	**21.92**	**338**	⇑P	**P**	**08 14 55.0**	**+0.9**
325A	**Bean Ranch, Si** baz=22	**21.96**	**325**	⇓P	**P**	**08 14 54.8**	**+0.1**
226B	**Tecolote Peak,** baz=22	**22.07**	**328**	⇑P	**P**	**08 14 56.5**	**+0.7**
Y30A	**Stafford Cattl** baz=22	**22.09**	**336**	⇑P	**P**	**08 14 56.6**	**+0.7**
WMOK	**Wichita Mounta** comp=Z,2.0nm,0.4s	**22.13**	**342**	*eP*	**P**	**08 14 54.9**	**-1.3**
127A	**Arkansas Junct** baz=22	**22.14**	**330**	⇓P	**P**	**08 14 57.5**	**+0.9**
CPCT	**Cooper Cave**	**22.16**	**13**	*eP*	**P**	**08 14 57.4**	**+0.8**
324A	**Moseley Ranch,** baz=22,SNR=5.9	**22.30**	**324**	⇓P	**P**	**08 14 59.3**	**+1.0**
WVT	**Waverly** comp=Z,6.3nm,0.8s	**22.31**	**6**	*eP*	**P**	**08 14 57.5**	**-0.7**
X31A	**McDonald Ranch** baz=22	**22.42**	**339**	⇓P	**P**	**08 14 59.9**	**+0.6**
225A	**Deer Hill, Car** baz=22	**22.44**	**326**	⇓P	**P**	**08 15 00.6**	**+0.9**
TUL1	**Tulsa**	**22.49**	**349**	*eP*	**P**	**08 14 58.6**	**-1.4**
TUL1	**Tulsa** baz=23,SNR=5.7	**22.49**	**349**	⇓P	**P**	**08 14 58.6**	**-1.4**
TKL	**Tuckaleechee C**	**22.53**	**14**	*eP*	**P**	**08 15 00.7**	**+0.3**
TKL	**Tuckaleechee C** comp=Z,12nm,0.6s,baz=189,slow=11,SNR=29	**22.53**	**14**	P	**P**	**08 15 00.8**	**+0.3**
X30A	**Coker Ranch, T** baz=23,SNR=14	**22.58**	**337**	⇓P	**P**	**08 15 01.6**	**+0.7**
Z27A	**Tatum** baz=23	**22.60**	**331**	⇑P	**P**	**08 15 00.7**	**-0.5**
125A	**Gardner Draw,** baz=23	**22.78**	**328**	⇑P	**P**	**08 15 02.8**	**-0.3**
224A	**Cornudas Mount** baz=23	**22.80**	**325**	⇓P	**P**	**08 15 03.2**	**-0.1**
X29A	**Tulia** baz=23,SNR=7.1	**22.90**	**336**	⇑P	**P**	**08 15 03.6**	**-0.6**
W31A	**Holland Ranch,** baz=23	**22.91**	**340**	⇑P	**P**	**08 15 03.6**	**-0.6**
Z26A	**Capr ck** baz=23	**22.93**	**330**	⇑P	**P**	**08 15 04.4**	**-0.1**
MSTX	**Muleshoe** baz=23	**22.95**	**333**	⇓P	**P**	**08 15 04.1**	**-0.6**
Y27A	**Causey** baz=23	**23.05**	**332**	⇓P	**P**	**08 15 05.1**	**-0.5**
X28A	**Dimmitt** baz=23	**23.17**	**335**	⇓P	**P**	**08 15 06.2**	**-0.5**
124A	**Stringfield Ra** baz=23	**23.24**	**326**	⇓P	**P**	**08 15 07.2**	**-0.3**
Z25A	**Roswell** baz=23	**23.30**	**329**	⇑P	**P**	**08 15 07.8**	**-0.3**
TZTN	**Tazewell** comp=Z,18nm,0.6s	**23.43**	**14**	*eP*	**P**	**08 15 09.1**	**+0.1**
SIUC	**Southern Illin** comp=Z,13nm,0.6s	**23.80**	**2**	*eP*	**P**	**08 15 12.6**	**+0.3**
ATAH	**Atahualpa** comp=Z,7.8nm,0.9s,baz=321,slow=9.0,SNR=4.0	**24.03**	**149**	P	**P**	**08 15 18.4**	**+3.3**
320A	**Kipp Ranch, An** baz=24	**24.06**	**319**	⇓P	**P**	**08 15 14.5**	**-0.4**
USIN	**University of** comp=Z,23nm,0.7s	**24.15**	**5**	*eP*	**P**	**08 15 16.4**	**+1.0**
V28A	**Channing** baz=24	**24.25**	**336**	⇓P	**P**	**08 15 16.4**	**-0.1**
121A	**Cookes Peak, D** baz=24,SNR=6.4	**24.43**	**322**	⇓P	**P**	**08 15 18.8**	**+0.5**
220A	**Playas Peak, P** baz=24	**24.44**	**320**	⇓P	**P**	**08 15 19.1**	**+0.7**
Y23A	**Lovelace Mesa,** baz=24	**24.51**	**327**	⇑P	**P**	**08 15 18.4**	**-0.5**
WCI	**Wyandotte Cave** comp=Z,30nm,0.6s	**24.56**	**8**	*eP*	**P**	**08 15 19.1**	**-0.1**
U28A	**Mallet** baz=25	**24.80**	**337**	⇓P	**P**	**08 15 21.9**	**+0.4**
OLIL	**Olney** comp=Z,25nm,0.7s	**24.88**	**4**	*eP*	**P**	**08 15 22.0**	**0.0**
V26A	**Tequesquite Ra** baz=25	**24.93**	**334**	⇓P	**P**	**08 15 23.3**	**+0.5**
120A	**U Bar Ranch, L** baz=25	**24.95**	**321**	⇓P	**P**	**08 15 23.1**	**+0.1**
U27A	**Thompson Grove** baz=25	**25.07**	**336**	⇓P	**P**	**08 15 24.4**	**+0.3**
U26A	**Atchley Ranch,** baz=26	**25.42**	**334**	⇓P	**P**	**08 15 27.3**	**0.0**
ANMO	**Albuquerque** comp=Z,0.3nm,0.4s,baz=150,slow=14,SNR=2.8	**25.50**	**328**	P	**P**	**08 15 29.9**	**+1.9**
R31A	**Burdett** baz=26	**25.64**	**343**	⇓P	**P**	**08 15 29.8**	**+0.7**
Y20A	**Horse Springs,** baz=26	**25.76**	**324**	⇓P	**P**	**08 15 30.1**	**-0.4**
X21A	**Alamocita Cree** baz=26	**25.83**	**326**	⇓P	**P**	**08 15 31.1**	**+0.1**
R30A	**Dighton** baz=26	**25.86**	**342**	⇓P	**P**	**08 15 31.1**	**+0.1**
Q31A	**Ellis** baz=26	**26.28**	**344**	⇓P	**P**	**08 15 35.3**	**+0.5**
X20A	**Quemado** baz=26	**26.29**	**325**	⇓P	**P**	**08 15 35.5**	**+0.3**
U23A	**El Rito** baz=26	**26.47**	**331**	⇓P	**P**	**08 15 37.1**	**+0.3**
ACSO	**Alum Creek Sta** comp=Z,4.9nm,0.5s	**27.09**	**13**	*eP*	**P**	**08 15 41.4**	**-0.6**
S22A	**4UR Ranch, Cre** baz=28	**27.91**	**331**	⇓P	**P**	**08 15 50.0**	**+0.3**
X16A	**Lo Mia Camp, P** baz=28	**27.94**	**321**	⇓P	**P**	**08 15 49.5**	**-0.4**
Q24A	**Divide** baz=28	**28.19**	**335**	⇑P	**P**	**08 15 52.6**	**+0.3**
MVCO	**Mesa Verde** baz=28	**28.30**	**329**	⇓P	**P**	**08 15 52.9**	**-0.3**
Y12C	**Blythe** baz=30	**29.50**	**316**	⇓P	**P**	**08 16 03.7**	**+0.2**
U15A	**North Rim** baz=30	**29.81**	**323**	⇓P	**P**	**08 16 07.4**	**+0.8**
BC3	**Big Chuckawall** baz=30	**30.07**	**315**	⇑P	**P**	**08 16 09.3**	**+0.6**
GMRC	**Granite Mounta** baz=31	**30.87**	**317**	⇓P	**P**	**08 16 15.6**	**-0.1**
I30A	**Oacoma** baz=31	**30.94**	**347**	⇑P	**P**	**08 16 16.7**	**+0.6**
I29A	**Vivian Onida** baz=31	**31.24**	**346**	⇓P	**P**	**08 16 18.7**	**0.0**
SPMN	**St. Paul**	**31.34**	**357**	*eP*	**P**	**08 16 18.2**	**-1.4**
TUQ	**Turquoise Moun** baz=31	**31.43**	**318**	⇓P	**P**	**08 16 21.8**	**+1.2**
L21A	**Rawlins** baz=32	**31.63**	**336**	⇑P	**P**	**08 16 23.1**	**+0.6**
G30A	**Faulkton** baz=32	**32.05**	**348**	⇑P	**P**	**08 16 25.0**	**-0.8**
G29A	**Hoven** baz=32	**32.27**	**347**	⇑P	**P**	**08 16 27.3**	**-0.4**
LRMC	**Laurel Mountai** baz=33	**32.63**	**316**	⇑P	**P**	**08 16 32.0**	**+0.8**
MPMC	**Manual Prospec** baz=33	**32.83**	**317**	⇑P	**P**	**08 16 33.7**	**+0.8**
I22A	**9 Mile Ranch,** baz=33	**

E27A	**Carson**	**33.80**	**346**	⇑P		**P**	**08 16 40.7**	**-0.4**
	baz=34							
D30A	**Buchanan**	**33.88**	**350**	⇑P		**P**	**08 16 41.2**	**-0.5**
	baz=34							
F24A	**Ekalaka**	**34.02**	**342**	⇓P		**P**	**08 16 43.4**	**+0.3**
	baz=34							
G22A	**Birney**	**34.04**	**340**	⇓P		**P**	**08 16 43.2**	**-0.1**
	baz=34							
E26A	**Carlson Angus**	**34.06**	**345**	⇓P		**P**	**08 16 43.1**	**-0.3**
	baz=34							
REDW	**Red Top Meadow**	**34.25**	**333**	*e*P		**P**	**08 16 46.1**	**+0.9**
	comp=Z,2.9nm,0.8s							
SNOW	**Snow King Moun**	**34.28**	**333**	*e*P		**P**	**08 16 46.5**	**+0.9**
	comp=Z,4.7nm,1.0s							
D28A	**Regan**	**34.31**	**348**	⇑P		**P**	**08 16 45.7**	**+0.2**
	baz=34							
E25A	**Miller Ranch,**	**34.33**	**344**	⇓P		**P**	**08 16 46.0**	**+0.3**
	baz=34							
C30A	**Mose, Pekin**	**34.41**	**350**	⇑P		**P**	**08 16 46.2**	**-0.2**
	baz=34							
D27A	**Center**	**34.43**	**347**	⇓P		**P**	**08 16 46.4**	**-0.1**
	baz=34							
D26A	**Manning**	**34.57**	**345**	⇑P		**P**	**08 16 47.8**	**0.0**
	baz=35							
E24A	**Baker**	**34.63**	**343**	⇓P		**P**	**08 16 48.2**	**-0.1**
	baz=35							
AGMN	**Agassiz Nation**	**34.64**	**354**	*e*P		**P**	**08 16 47.1**	**-1.2**
	comp=Z,12nm,0.6s							
G20A	**Bridger**	**34.72**	**338**	⇓P		**P**	**08 16 49.2**	**+0.1**
	baz=35							
MDND	**Maddock**	**34.75**	**349**	*e*P		**P**	**08 16 49.0**	**-0.2**
MDND	**Maddock**	**34.75**	**349**	⇑P		**P**	**08 16 48.8**	**-0.4**
	baz=35,SNR=5.6							
NVAR	**Mina Array Bea**	**34.75**	**320**	P		**P**	**08 16 52.4**	**+2.8**
	comp=Z,4.3nm,0.7s,baz=135,slow=7.8,SNR=44							
NVAR				PcP		**PcP**	**08 19 22.6**	**+1.6**
	comp=Z,1.6nm,0.6s,baz=136,slow=4.0,SNR=12							
C28A	**Hausauer Farms**	**34.77**	**348**	⇑P		**P**	**08 16 48.9**	**-0.5**
	baz=35							
H18A	**Shoshone NF, C**	**34.82**	**336**	⇑P		**P**	**08 16 50.1**	**0.0**
	baz=35							
B30A	**Myrvik Farm, E**	**35.12**	**351**	⇑P		**P**	**08 16 51.7**	**-0.7**
	baz=35							
C26A	**Wahner Farm, P**	**35.24**	**346**	⇓P		**P**	**08 16 53.3**	**-0.1**
	baz=35							
B29A	**Wagenman Farm,**	**35.30**	**350**	⇓P		**P**	**08 16 53.8**	**-0.2**
	baz=35							
C25A	**Freed Ranch, W**	**35.41**	**345**	⇓P		**P**	**08 16 54.7**	**-0.2**
	baz=36							
D23A	**Lindsay**	**35.45**	**343**	⇑P		**P**	**08 16 55.2**	**-0.1**
	baz=36							
B28A	**Dugan Ranch, T**	**35.47**	**349**	⇓P		**P**	**08 16 55.1**	**-0.3**
	baz=36							
F19A	**Roth Farm, Mol**	**35.53**	**338**	⇓P		**P**	**08 16 55.9**	**-0.2**
	baz=36							
C24A	**Savage**	**35.55**	**344**	⇑P		**P**	**08 16 56.2**	**+0.1**
	baz=36							
D22A	**Cohagen**	**35.72**	**342**	⇓P		**P**	**08 16 57.8**	**+0.2**
	baz=36							
A29A	**Manning Farm,**	**35.72**	**350**	⇑P		**P**	**08 16 56.9**	**-0.6**
	baz=36,SNR=6.1							
E20A	**Meyer Farm, Mu**	**35.79**	**339**	⇑P		**P**	**08 16 58.0**	**-0.3**
	baz=36							
A28A	**Rude Farm, Bot**	**35.89**	**349**	⇓P		**P**	**08 16 58.5**	**-0.6**
	baz=36							
D21A	**La Casta Ranch**	**35.90**	**341**	⇓P		**P**	**08 16 59.6**	**+0.4**
	baz=36							
B25A	**Knox Farm, Ray**	**35.91**	**345**	⇑P		**P**	**08 16 59.5**	**+0.2**
	baz=36							
C23A	**Lambert**	**36.01**	**343**	⇑P		**P**	**08 17 00.4**	**+0.3**
	baz=36							
C22A	**Vida**	**36.16**	**342**	⇓P		**P**	**08 17 01.9**	**+0.6**
	baz=36							
D20A	**Manuel Ranch,**	**36.30**	**339**	⇑P		**P**	**08 17 02.8**	**+0.2**
	baz=36							
DGMT	**Dagmar**	**36.35**	**345**	⇑P		**P**	**08 17 03.1**	**+0.2**
	baz=36							
B23A	**Brockton**	**36.56**	**344**	⇑P		**P**	**08 17 05.0**	**+0.3**
	baz=37							
ULM	**Lac du Bonnet**	**36.57**	**354**	P		**P**	**08 17 03.0**	**-1.8**
	comp=Z,5.7nm,0.5s,baz=176,slow=8.1,SNR=11							
C20A	**Veseth Ranch,**	**36.80**	**340**	⇑P		**P**	**08 17 07.2**	**+0.4**
	baz=37							
A23A	**Redstone**	**36.98**	**344**	⇑P		**P**	**08 17 08.5**	**+0.2**
	baz=37							
LPAZ	**La Paz**	**37.18**	**143**	P		**P**	**08 17 12.2**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=305,slow=4.2,SNR=4.5							
LPAZ				PcP		**PcP**	**08 19 30.1**	**+1.1**
	comp=Z,0.6nm,0.4s,baz=356,slow=6.8,SNR=4.6							
A22A	**Carney Farms,**	**37.30**	**343**	⇑P		**P**	**08 17 11.5**	**+0.6**
	baz=37							
B20A	**Solberg Farm,**	**37.44**	**341**	⇓P		**P**	**08 17 12.6**	**+0.4**
	baz=38							
EGMT	**Eagleton**	**37.66**	**339**	⇑P		**P**	**08 17 14.7**	**+0.6**
	baz=38							
B19A	**Brinkman Farms**	**37.76**	**340**	⇓P		**P**	**08 17 15.4**	**+0.6**
	baz=38							
YBH	**Yreka Blue Hor**	**39.43**	**321**	P		**P**	**08 17 29.4**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=191,slow=5.2,SNR=3.5							
SIV	**San Ignacio**	**41.49**	**135**	P		**P**	**08 17 47.3**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=329,slow=5.9,SNR=3.2							
SIV				PcP		**PcP**	**08 19 43.0**	**+1.0**
	comp=Z,0.9nm,0.4s,baz=269,slow=3.7,SNR=4.2							
EDM	**Edmonton**	**43.28**	**340**	*e*P		**P**	**08 17 59.2**	**-1.0**
SCHQ	**Schefferville**	**44.86**	**19**	P		**P**	**08 18 11.1**	**-1.6**
	comp=Z,7.9nm,0.6s,baz=216,slow=6.3,SNR=14							
YKA	**Yellowknife Ar**	**51.53**	**346**	P		**P**	**08 19 03.0**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=152,slow=7.6,SNR=14							
ILAR	**Eielson Array**	**63.58**	**336**	P		**P**	**08 20 27.3**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=138,slow=4.7,SNR=9.6							
ILAR				PcP		**PcP**	**08 21 03.5**	**-0.4**
	comp=Z,0.2nm,0.7s,baz=116,slow=2.1,SNR=3.0							
TORD	**Torodi Ar. Bea**	**88.94**	**77**	P		P	08 22 48.1	-4.4
	comp=Z,0.2nm,0.3s,baz=285,slow=4.0,SNR=3.7							
STHS	**Stebnicka Huta**	**93.11**	**37**	*e*P		**P**	**08 23 09.0**	**-2.3**
BOSA	**Boshof**	**118.92**	**115**	PKP		**PKPdf**	**08 28 45.6**	**-0.4**
	comp=Z,2.9nm,1.0s,baz=222,slow=2.1,SNR=4.4							
MKAR	**Makanchi Array**	**119.29**	**6**	PKP		**PKPdf**	**08 28 45.3**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=297,slow=4.2,SNR=3.0							
HHC	**Hu-ho-hao-te**	**121.89**	**340**	*e*PKP		**PKPdf**	**08 28 51.4**	**0.0**
HHC				PP		**PP**	**08 30 27.9**	**+2.8**
HHC				PKS		**PKSdf**	**08 32 26.6**	**-1.6**
HHC				SKKS			08 37 15.6	
HHC				SS		**SS**	**08 46 58.4**	**+5.0**
HHC				LR	LR			
	comp=Z,380nm,19.3s							
HHC				LR	LR			
	comp=Z,270nm,18.8s							
HHC				LR	LR			
	comp=Z,170nm,19.0s							
WMQ	**Urumqi**	**122.59**	**2**	*e*PKP		**PKPdf**	**08 28 51.4**	**-1.3**
MAW	**Mawson**	**123.52**	**168**	PKP		**PKPdf**	**08 28 53.3**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=180,slow=3.0,SNR=3.3							
LZH	**Lanzhou**	**128.53**	**345**	*e*PKP		**PKPdf**	**08 29 01.2**	**-3.2**
CD2	**Chengdu**	**133.45**	**343**	PKP		**PKPdf**	**08 29 13.7**	**0.0**
WRA	**Warramunga Arr**	**136.82**	**256**	PKhKP		PKPpre	08 29 09.9	
	comp=Z,0.4nm,0.9s,baz=90,slow=2.7,SNR=2.3							
WRA				PKP		**PKiKP**	**08 29 21.7**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=90,slow=2.6,SNR=9.0							
ASAR	**Alice Springs**	**137.04**	**250**	PKhKP		PKPpre	08 29 11.3	
	comp=Z,0.2nm,0.5s,baz=90,slow=3.8,SNR=2.9							
ASAR				PKP		**PKPdf**	**08 29 20.9**	**+0.5**
	comp=Z,0.6nm,0.9s,baz=98,slow=2.2,SNR=5.3							
KMI	**Kunming**	**139.19**	**342**	PKP		**PKPdf**	**08 29 22.2**	**-2.5**
FITZ	**Fitzroy Crossi**	**145.09**	**258**	*e*PKPdf		**PKPdf**	**08 29 35.9**	**+0.9**
CMAR	**Chiang Mai Arr**	**146.59**	**344**	PKPbc		**PKPbc**	**08 29 39.0**	**-0.2**
	comp=Z,4.1nm,0.5s,baz=342,slow=3.3,SNR=13							

*IDC **06** 08:31:39.7±0.5,54.˚58S×118.˚97W,h0km,mb4.5/13, mb1 4.7/13,mb1mx4.5/18,mbtmp4.5/13,MS4.5/23, Ms1 4.5/23,ms1mx4.5/27,Error ellipse: s-maj=22.7km s-min=16.0km az=144.0*

*ISCJB **06** 08:31:40.5±0.3,54.˚59S±0.˚07×119.˚1W±0.˚2,h10km, mb4.5/29,MS4.5/23,Error ellipse: s-maj=13.4km s-min=9.8km az=27.0*

*NEIC **06** 08:31:41.6±0.3,54.˚56S×119.˚03W,h10km,mb4.7/18, Error ellipse: s-maj=14.0km s-min=9.8km az=129.0*

*GCMT **06** 08:31:46.5±0.2,54.75S×118.˚92W,h14km±1km,MW5.1, Moment Tensor Solution. s53,c75; s99,c157; Moment tensor: Scale 10^{16}Nm; M_{rr}-0.49±.15; $M_{\theta\theta}$3.45±.17; $M_{\phi\phi}$-2.96±.15; $M_{r\theta}$0.51±.29; $M_{r\phi}$5.27±.13; $M_{\theta\phi}$1.16±.32; Best double couple: $M_0$6.30000×10^{16} NP1:ϕ_s16.00000°, δ90.00000°,λ169.00000°. NP2:ϕ_s106.00000°,δ79.00000°, λ0.00000°. Principal axes: T 6.5600, Plg8.0000°, Azm330.0000°; N -0.5300, Plg79.0000°, Azm195.0000°; P -6.0300, Plg8.0000°, Azm61.0000°; Data Used: IU II G CN IC. Surface waves from 100 sta.*

ISC 06 08:31:41.4±0.4,54.˚48S±0.˚10×119.˚01W±0.˚10,h10km, n100,σ1s22/71,mb4.7/28,MS4.5/23,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**28.68**	**133**	P		**P**	**08 37 39.8**	**+1.8**
PMSA	**Palmer Station**	**28.68**	**133**	P		**P**	**08 37 39.8**	**+1.8**
	7.5nm,1.1s,baz=263,slow=16,SNR=2.4							
PMSA				LR		LR	08 46 00.5	
	comp=Z,2μm,19.0s,baz=255,slow=30							
USHA	**Ushuaia**	**28.75**	**112**	LR		LR	08 46 01.6	
	comp=Z,624nm,20.2s,baz=223,slow=30							
RKT	**Rikitea**	**33.53**	**333**	*e*LR		LR	08 47 20.3	
	3μm,27.8s,baz=165							
RKT	**Rikitea**	**33.53**	**333**	*e*T		T	09 13 44.9	
	5.3nm,0.3s							
SBA	**Scott Base**	**34.18**	**201**	*e*P		**P**	**08 38 28.5**	**+2.2**
	12nm,1.3s							
PLCA	**Paso Flores**	**34.72**	**87**	LR		LR	08 49 19.3	
	comp=Z,556nm,19.3s,baz=138,slow=30							
H03N3	**Juan Fernandez**	**35.03**	**70**	T		T	09 15 33.5	
	baz=220,slow=0.7,SNR=340							
H03N2	**Juan Fernandez**	**35.04**	**70**	T		T	09 15 32.5	
	baz=220,slow=0.7,SNR=1033							
H03N1	**Juan Fernandez**	**35.05**	**70**	T		T	09 15 34.8	
	baz=220,slow=0.7,SNR=400							
VNDA	**Vanda**	**35.26**	**202**	*e*P		**P**	**08 38 37.1**	**+1.5**
	3.8nm,0.8s							
VNDA	**Vanda**	**35.26**	**202**	P		**P**	**08 38 37.7**	**+2.1**
	3.1nm,0.7s,baz=99,slow=7.6,SNR=22							
VNDA				LR		LR	08 49 58.2	
	comp=Z,346nm,19.1s,baz=95,slow=31							
QSPA	**South Pole Qui**	**35.71**	**180**	*e*P		**P**	**08 38 39.9**	**+0.1**
	9.1nm,0.9s							
QSPA	**South Pole Qui**	**35.71**	**180**	P		**P**	**08 38 40.3**	**+0.5**
	10.0nm,1.0s,baz=100,slow=4.6,SNR=17							
QSPA				LR		LR	08 52 06.2	
	comp=Z,910nm,18.1s,baz=285,slow=34							
TBI	**Tubuai**	**38.52**	**312**	*e*LR		LR	08 49 44.7	
	2μm,26.8s,baz=158							
TBI	**Tubuai**	**38.52**	**312**	*e*T		T	09 19 57.6	
	19nm,0.3s							
CFAA	**Coronel Fontan**	**42.41**	**79**	P		**P**	**08 39 33.7**	**-2.3**
CFAA	**Coronel Fontan**	**42.41**	**79**	P		**P**	**08 39 33.7**	**-2.3**
	0.2nm,0.9s,baz=231,slow=7.8,SNR=3.5							
PPT2	**Papeete2**	**43.68**	**315**	*e*S		**S**	**08 46 14.7**	**-1.6**
	189nm,26.8s							
PPT2				*e*LQ		LQ	08 49 47.0	
	2μm,28.8s							
PPT2				*e*LR		LR	08 52 08.0	
	3μm,26.0s,baz=156							
PPT	**Papeete**	**43.70**	**315**	LR		LR	08 53 00.7	
	comp=Z,1μm,19.4s,baz=140,slow=29							
VAH	**Vaihoa**	**45.04**	**319**	*e*T		T	09 28 06.7	
	57nm,0.4s							
RAR	**Rarotonga**	**45.21**	**301**	LR		LR	08 53 08.3	
	comp=Z,422nm,20.6s,baz=135,slow=28							
RPZ	**Rata Peaks**	**45.22**	**254**	LR		LR	08 54 34.7	
	comp=Z,1μm,18.7s,baz=148,slow=30							
URZ	**Urewera**	**45.33**	**264**	LR		LR	08 54 27.4	
	comp=Z,452nm,19.0s,baz=148,slow=30							
PMOR	**Pomariorio Ree**	**45.36**	**319**	*e*T		T	09 28 30.4	
	19nm,0.3s							
SNAA	**Sanae**	**46.45**	**157**	*e*P		**P**	**08 40 05.8**	**-2.1**
	10nm,1.4s							
SNAA	**Sanae**	**46.45**	**157**	P		**P**	**08 40 05.7**	**-2.3**
	0.4nm,0.8s,baz=318,slow=4.7,SNR=4.5							
RAO	**Raoul Island**	**48.84**	**276**	LR		LR	08 55 20.4	
	comp=Z,467nm,18.6s,baz=77,slow=29							
LVC	**Limon Verde**	**48.98**	**70**	*e*P		**P**	**08 40 29.4**	**+1.1**
	7.3nm,0.7s							
CPUP	**Villa Florida**	**52.65**	**84**	LR		LR	09 00 24.3	
	comp=Z,936nm,18.3s,baz=210,slow=33							
LPAZ	**La Paz**	**54.55**	**66**	*e*P		**P**	**08 41 10.3**	**-0.1**
	19nm,1.3s							
LPAZ	**La Paz**	**54.55**	**66**	P		**P**	**08 41 10.3**	**-0.1**
	8.7nm,1.1s,baz=202,slow=6.2,SNR=16							
LPAZ				LR		LR	08 58 54.7	
	comp=Z,364nm,18.9s,baz=195,slow=30							
MAW	**Mawson**	**58.22**	**181**	P		**P**	**08 41 34.6**	**-0.6**
MAW	**Mawson**	**58.22**	**181**	P		**P**	**08 41 34.6**	**-0.6**
	4.2nm,0.9s,baz=184,slow=9.2,SNR=6.3							
MAW				LR		LR	09 07 09.5	
	comp=Z,187nm,18.9s,baz=69,slow=37							
SAML	**Samuel**	**63.30**	**66**	*e*P		**P**	**08 42 08.9**	**-1.6**
	11nm,1.3s							
DZM	**Mont Dzumac**	**63.41**	**269**	P		**P**	**08 42 12.2**	**+1.0**
DZM	**Mont Dzumac**	**63.41**	**269**	P		**P**	**08 42 12.2**	**+1.0**
	11nm,1.1s,baz=45,slow=11,SNR=3.1							
OTAV	**Otavalo**	**63.90**	**46**	*e*P		**P**	**08 42 16.8**	**+1.9**
	20nm,1.4s							
BDFB	**Brasilia**	**66.38**	**84**	LR		LR	09 08 57.6	
	comp=Z,383nm,19.0s,baz=42,slow=34							
STKA	**Stephens Creek**	**69.77**	**243**	*e*P		**P**	**08 42 51.1**	**-0.6**
	3.1nm,1.4s							
STKA	**Stephens Creek**	**69.77**	**243**	P		**P**	**08 42 51.2**	**-0.4**
	6.9nm,1.2s,baz=138,slow=5.7,SNR=4.7							
STKA				LR		LR	09 07 50.9	
	comp=Z,585nm,18.5s,baz=205,slow=31							
ROSC	**El Rosal**	**69.81**	**48**	P		**P**	**08 42 54.0**	**+1.6**
ROSC	**El Rosal**	**69.81**	**48**	P		**P**	**08 42 54.0**	**+1.6**
	2.8nm,0.5s,baz=252,slow=12,SNR=4.5							
ROSC				LR		LR	09 08 20.7	
	comp=Z,242nm,19.1s,baz=6.3,slow=32							
H01W1	**Cape Leeuwin H**	**79.93**	**222**	T		T	10 12 40.5	
	baz=151,slow=0.7,SNR=375							
H01W2	**Cape Leeuwin H**	**79.93**	**222**	T		T	10 12 40.2	
	baz=151,slow=0.7,SNR=418							
H01W3	**Cape Leeuwin H**	**79.94**	**222**	T		T	10 12 41.7	
	baz=151,slow=0.7,SNR=382							
AS31	**Alice Springs**	**80.39**	**243**	*e*P		**P**	**08 43 52.1**	**-1.0**
ASAR	**Alice Springs**	**80.39**	**243**	P		**P**	**08 43 52.2**	**-0.8**
ASAR	**Alice Springs**	**80.39**	**243**	P		**P**	**08 43 52.2**	**-0.8**
	3.1nm,1.0s,baz=152,slow=5.5,SNR=13							
ASAR				LR		LR	09 14 35.1	
	comp=Z,405nm,19.8s,baz=81,slow=32							
NWAO	**Narrogin (SRO)**	**80.41**	**225**	LR		LR	09 11 43.5	
	comp=Z,144nm,18.5s,baz=249,slow=30							
WRA	**Warramunga Arr**	**83.22**	**245**	P		**P**	**08 44 07.2**	**-0.9**
WRA	**Warramunga Arr**	**83.22**	**245**	P		**P**	**08 44 07.2**	**-0.9**
	9.2nm,1.0s,baz=145,slow=4.8,SNR=28							
WRA				LR		LR	09 17 22.2	
	comp=Z,222nm,18.8s,baz=140,slow=33							
WRAB	**Tennant Creek**	**83.22**	**245**	*e*P		**P**	**08 44 07.0**	**-1.1**
	11nm,0.8s							
TXAR	**Lajitas Array**	**84.52**	**13**	P		**P**	**08 44 14.3**	**0.0**
TXAR	**Lajitas Array**	**84.52**	**13**	P		**P**	**08 44 14.3**	**0.0**
	1.2nm,0.9s,baz=190,slow=7.9,SNR=8.7							
TXAR				LR		LR	09 15 12.2	
	comp=Z,56nm,19.8s,baz=185,slow=31							
PMG	**Port Moresby**	**84.64**	**261**	P		**P**	**08 44 16.1**	**+0.8**
PMG	**Port Moresby**	**84.64**	**261**	P		**P**	**08 44 16.1**	**+0.8**
	15nm,0.9s,baz=225,slow=13,SNR=2.7							
JCT	**Junction City**	**86.22**	**17**	*e*P		**P**	**08 44 23.7**	**+1.0**
	8.6nm,0.9s							
TUC	**Tucson**	**86.73**	**7**	*e*P		**P**	**08 44 26.4**	**+1.2**
	5.2nm,1.0s							
LAZ	**Ladron**	**89.11**	**10**	*e*P		**P**	**08 44 38.8**	**+2.1**
	5.5nm,1.6s							
FITZ	**Fitzroy Crossi**	**89.25**	**239**	*e*P		**P**	**08 44 36.0**	**-1.7**
	2.9nm,0.6s							
FITZ	**Fitzroy Crossi**	**89.25**	**239**	P		**P**	**08 44 37.2**	**-0.5**
	3.9nm,1.0s,baz=137,slow=12,SNR=3.4							
ANMO	**Albuquerque**	**89.72**	**10**	*e*P		**P**	**08 44 40.4**	**+0.9**
	3.5nm,1.0s							
SHPR	**Sheep Range**	**90.68**	**3**	*e*P		**P**	**08 44 46.0**	**+2.0**
	3.7nm,1.1s							
BOSA	**Boshof**	**91.69**	**149**	LR		LR	09 25 17.9	
	comp=Z,375nm,18.3s,baz=166,slow=35							
MVCO	**Mesa Verde**	**91.77**	**8**	*e*P		**P**	**08 44 50.1**	**+1.0**
	9.5nm,1.3s							
NVAR	**Mina Array Bea**	**92.54**	**1**	P		**P**	**08 44 53.2**	**+0.6**
NVAR	**Mina Array Bea**	**92.54**	**1**	P		**P**	**08 44 53.2**	**+0.6**
	1.2nm,0.9s,baz=203,slow=6.1,SNR=6.7							
NVAR				LR		LR	09 17 54.2	
	comp=Z,287nm,18.0s,baz=141,slow=30							
PV01	**Paradox Valley**	**92.68**	**8**	*e*P		**P**	**08 44 53.9**	**+0.6**
MVU	**Marysvale**	**92.80**	**5**	*e*P		**P**	**08 44 54.4**	**+0.6**
	3.2nm,1.1s							
Q16A	**Castle Valley**	**93.27**	**6**	*e*P		**P**	**08 44 57.3**	**+1.4**
H11N3	**WAKE ISLAND Hy**	**96.98**	**294**	T		T	10 33 25.6	
	baz=146,slow=0.7,SNR=27							
H11N1	**WAKE ISLAND Hy**	**96.99**	**294**	T		T	10 33 25.4	
	baz=146,slow=0.7,SNR=28							
H11N2	**WAKE ISLAND Hy**	**97.00**	**294**	T		T	10 33 25.6	
	baz=146,slow=0.7,SNR=20							
PDAR	**Pinedale Array**	**97.21**	**7**	P		Pdif	08 45 14.9	+1.0
PDAR	**Pinedale Array**	**97.21**	**7**	P		Pdif	08 45 14.9	+1.0
	0.6nm,1.0s,baz=172,slow=1.8,SNR=3.1							
PDAR				LR		LR	09 21 10.7	
	comp=Z,176nm,20.6s,baz=209,slow=30							
H02S1	**DAWSON INLET T**	**107.90**	**352**	T		T	10 46 35.8	
ILAR	**Eielson Array**	**120.84**	**347**	PKP		**PKPdf**	**08 50 31.9**	**-0.4**
ILAR	**Eielson Array**	**120.84**	**347**	PKP		**PKPdf**	**08 50 31.9**	**-0.4**
	0.4nm,1.0s,baz=175,slow=3.3,SNR=3.0							
CMAR	**Chiang Mai Arr**	**133.81**	**234**	PKP		**PKPdf**	**08 51 00.2**	**+1.7**
CMAR	**Chiang Mai Arr**	**133.81**	**234**	PKP		**PKPdf**	**08 51 00.2**	**+1.7**
	0.6nm,0.4s,baz=228,slow=3.5,SNR=4.0							
EKA	**Eskdalemuir Ar**	**144.28**	**62**	PKP		**PKPab**	**08 51 14.4**	**+0.1**
EKA	**Eskdalemuir Ar**	**144.28**	**62**	PKP		**PKPab**	**08 51 14.4**	**+0.1**
	2.5nm,0.9s,baz=264,slow=2.5,SNR=3.6							
DAVOX	**Davos/Dischmat**	**147.32**	**82**	PKPbc		**PKPbc**	**08 51 25.3**	**+0.7**
DAVOX	**Davos/Dischmat**	**147.32**	**82**	PKPbc		**PKPbc**	**08 51 25.3**	**+0.7**
	1.6nm,0.6s,baz=281,slow=5.2,SNR=3.0							
GERES	**GERESS Array B**	**150.59**	**81**	PKPbc		**PKPbc**	**08 51 31.6**	**-1.0**
GERES	**GERESS Array B**	**150.59**	**81**	PKPbc		**PKPbc**	**08 51 31.6**	**-1.0**
	1.9nm,0.7s,baz=202,slow=1.4,SNR=8.4							
ULN	**Ulaanbaatar**	**150.81**	**276**	*e*PKPbc		**PKPbc**	**08 51 32.7**	**-0.6**
SONM	**Songino Array**	**151.18**	**276**	PKPbc		**PKPbc**	**08 51 33.4**	**-0.7**
SONM	**Songino Array**	**151.18**	**276**	PKPbc		**PKPbc**	**08 51 33.4**	**-0.7**
	1.0nm,0.5s,baz=129,slow=4.6,SNR=2.6							
BRTR	**Keskin Array B**	**156.44**	**118**	PKPab		**PKPab**	**08 52 04.2**	**-0.5**
BRTR	**Keskin Array B**	**156.44**	**118**	PKPab		**PKPab**	**08 52 04.2**	**-0.5**
	2.5nm,1.0s,baz=156,slow=6.4,SNR=4.1							
MKAR	**Makanchi Array**	**164.49**	**249**	PKPab		**PKPab**	**08 52 38.4**	**-1.0**
MKAR	**Makanchi Array**	**164.49**	**249**	PKPab		**PKPab**	**08 52 38.4**	**-1.0**
	2.3nm,1.1s,baz=134,slow=5.2,SNR=7.1							
AAK	**Ala-Archa**	**165.18**	**222**	PKPab		**PKPab**	**08 52 42.1**	**-0.5**
AAK	**Ala-Archa**	**165.18**	**222**	PKPab		**PKPab**	**08 52 42.1**	**-0.5**
	0.7nm,0.3s,baz=270,slow=10,SNR=2.0							
KURK	**Kurchatov**	**168.64**	**258**	PKPab		**PKPab**	**08 52 57.0**	**-0.6**
KURBB	**Kurchatov Arra**	**168.65**	**257**	PKPab		**PKPab**	**08 52 57.0**	**-0.6**
	0.3nm,0.3s,baz=124,slow=2.9,SNR=4.2							
BVAR	**Borovoye Array**	**174.24**	**259**	PKPab		**PKPab**	**08 53 21.0**	**-1.4**
BVAR	**Borovoye Array**	**174.24**	**259**	PKPab		**PKPab**	**08 53 21.0**	**-1.4**
	0.4nm,0.4s,baz=123,slow=7.1,SNR=4.1							

IDC 06 08:39:26.2±28.0,18.˚67S×177.˚77W,h520km±353km, mb2.8/6,mb1 3.1/6,mb1mx2.9/19,mbtmp2.8/6,Error ellipse: s-maj=139.3km s-min=64.0km az=176.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.80**	**242**	P		P	08 46 06.2	+0.1
	0.9nm,0.5s,baz=100,slow=6.5,SNR=4.5							
WRA	**Warramunga Arr**	**45.09**	**260**	P		P	08 46 55.7	-0.3
	0.6nm,0.3s,baz=98,slow=7.5,SNR=27							
ASAR	**Alice Springs**	**45.17**	**255**	P		P	08 46 56.3	-0.3
	1.5nm,0.7s,baz=87,slow=8.5,SNR=26							
FITZ	**Fitzroy Crossi**	**53.50**	**261**	P		P	08 47 58.2	+0.1
	0.7nm,0.4s,baz=102,slow=8

CTAO pmax pmax
comp=Z,51nm,1.0s
CTAO Charters Tower 21.07 268 *e*P **P** **09 38 18.5 +0.1**
comp=Z,51nm,1.0s
CNB Canberra Magne 22.21 226 P **P** **09 38 33.2 +2.7**
baz=22,SNR=9.8
YNG Young 22.32 229 P **P** **09 38 34.4 +2.7**
baz=22,SNR=11
QLP Quilpie 23.09 251 P **P** **09 38 39.8 0.0**
baz=23,SNR=22
CMSA Cobar Meteorol 23.14 238 P **P** **09 38 40.7 +0.4**
baz=23,SNR=45
PMG Port Moresby 23.75 296 LR LR 09 46 29.5
comp=Z,120nm,20.9s,baz=267,slow=33
KNTN Kanton 26.27 49 *e*P **P** **09 39 06.7 -2.4**
comp=Z,40nm,0.7s
STKA Stephens Creek 26.55 240 P **P** **09 39 12.3 +0.7**
STKA Stephens Creek 26.55 240 P **P** **09 39 12.3 +0.7**
baz=26,SNR=18
STKA Stephens Creek 26.55 240 P **P** **09 39 12.3 +0.7**
comp=Z,7.7nm,0.6s,baz=78,slow=10,SNR=31
STKA LR LR 09 49 01.0
comp=Z,297nm,19.9s,baz=28,slow=35
BBOO Buckleboo 31.31 241 P **P** **09 39 54.0 +0.1**
baz=31,SNR=7.0
WRAB Tennant Creek 32.20 266 *e*P **P** **09 40 00.1 -1.8**
WRAB pmax pmax
comp=Z,7.0nm,1.0s
WRAB Tennant Creek 32.20 266 *e*P **P** **09 40 00.1 -1.8**
comp=Z,6.5nm,1.0s
WRA Warramunga Arr 32.21 266 P **P** **09 39 60.0 -2.0**
WRA pP **pP** **09 40 10.8 -2.5**
WRA Warramunga Arr 32.21 266 P **P** **09 39 60.0 -2.0**
comp=Z,3.6nm,0.9s,baz=89,slow=8.6,SNR=22
WRA pP **pP** **09 40 10.8 -2.5**
comp=Z,4.3nm,1.0s,baz=83,slow=6.8,SNR=15
WRA LR LR 09 52 20.0
comp=Z,188nm,21.8s,baz=85,slow=35
AS31 Alice Springs 32.28 259 *e*P **P** **09 40 01.5 -1.2**
ASAR Alice Springs 32.28 259 P **P** **09 40 01.8 -0.8**
ASAR pP **pP** **09 40 12.3 -1.8**
ASAR Alice Springs 32.28 259 P **P** **09 40 01.8 -0.8**
comp=Z,20nm,0.8s,baz=84,slow=9.2,SNR=209
ASAR pP **pP** **09 40 12.3 -1.8**
comp=Z,35nm,0.9s,baz=90,slow=8.2,SNR=23
ASAR LR LR 09 52 27.4
comp=Z,180nm,21.9s,baz=99,slow=35
KNRA Kununurra 38.24 271 P **P** **09 40 52.3 -1.5**
baz=38,SNR=5.5
PPT2 Papeete2 39.42 92 *e*LR LR 09 51 46.0
comp=Z,240nm,26.5s
FITZ Fitzroy Crossi 40.63 266 *e*P **P** **09 41 13.6 -0.2**
FITZ pP **pP** **09 41 24.2 -1.1**
FITZ *ep*P **pP** **09 41 24.3 -1.1**
FITZ Fitzroy Crossi 40.63 266 P **P** **09 41 13.3 -0.5**
baz=40,SNR=11
FITZ Fitzroy Crossi 40.63 266 P **P** **09 41 13.3 -0.5**
comp=Z,7.3nm,0.6s,baz=110,slow=9.2,SNR=36
FITZ pP **pP** **09 41 24.2 -1.1**
comp=Z,22nm,0.7s,baz=117,slow=8.1,SNR=17
FITZ LR LR 09 58 04.2
comp=Z,121nm,19.9s,baz=92,slow=36
MBWA Marble Bar 45.58 261 *e*P **P** **09 41 53.5 -0.2**
comp=Z,37nm,1.0s
MBWA *ep*P **pP** **09 42 05.0 -0.6**
MEEK Meekatharra 45.97 253 P **P** **09 41 56.3 -0.6**
baz=46,SNR=14
KLBR Kellerberrin 46.56 246 P P 09 42 12.1 +11
baz=46,SNR=5.3
RKT Rikitea 51.95 103 *e*LR LR 09 57 33.6
comp=Z,290nm,35.2s
VNDA Vanda 56.68 182 P **P** **09 43 17.1 +0.9**
VNDA Vanda 56.68 182 P **P** **09 43 17.1 +0.9**
comp=Z,1.9nm,0.8s,baz=4.4,slow=6.5,SNR=8.1
VNDA LR LR 10 03 57.0
comp=Z,54nm,18.6s,baz=342,slow=32
SBA Scott Base 56.93 180 *e*P **P** **09 43 19.8 +1.8**
SBA *e**PP **pP** **09 43 32.3 +2.2**
SBA pmax pmax
comp=Z,10.0nm,0.9s
SBA Scott Base 56.93 180 *e*P **P** **09 43 19.8 +1.8**
comp=Z,10nm,0.9s
SBA *ep*P **pP** **09 43 32.3 +2.2**
ERM Erimo 67.00 340 *i* P **P** **09 44 22.9 -3.1**
ERM pmax pmax
comp=Z,23nm,1.5s
YUK Yuzh-Kuril'sk 68.01 342 *c i* P **sP** **09 44 49.9 +0.4**
YUK *e*S S 09 54 06.8 +38
ASAJ Asahikawa 69.06 340 P **P** **09 44 39.4 +0.4**
ASAJ Asahikawa 69.06 340 P **P** **09 44 39.4 +0.4**
comp=Z,8.9nm,0.9s,baz=201,slow=8.4,SNR=4.5
QSPA South Pole Qui 69.08 180 *e*P **P** **09 44 39.6 +0.5**
comp=Z,11nm,1.0s
KSRS Korea Array 69.68 326 P **P** **09 44 43.3 +0.4**
comp=Z,0.4nm,0.5s,baz=156,slow=5.6,SNR=2.9
KSRS pP **pP** **09 44 55.5 +0.2**
comp=Z,1.3nm,0.8s,baz=147,slow=6.6,SNR=3.2
KSAR Wonju Array Be 69.69 326 P **P** **09 44 43.3 +0.3**
KSAR pP **pP** **09 44 55.5 +0.1**
NJ2 Nanjing 71.13 317 *e*P **P** **09 44 53.5 +1.6**
NJ2 AMB AMB
comp=Z,20nm,0.5s
YSS Yuzh-Sakhalins 71.57 342‖ *e*P **P** **09 44 55.0 +0.8**
USRK Ussuriysk Arra 73.06 333 P **P** **09 45 03.8 +0.6**
comp=Z,11nm,0.8s,baz=147,slow=5.0,SNR=25
USRK pP **pP** **09 45 15.9 +0.2**
comp=Z,11nm,0.8s,baz=150,slow=4.4,SNR=12
FX1 Attu Island--F 73.65 3 P **P** **09 45 06.3 -0.1**
FX1 Attu Island--F 73.65 3 P **P** **09 45 06.3 -0.1**
baz=248,slow=6.0
PETK Petropavlovsk- 74.40 353 P **P** **09 45 10.8 0.0**
PETK Petropavlovsk- 74.40 353 P **P** **09 45 10.8 0.0**
PETK Petropavlovsk- 74.40 353 P **P** **09 45 10.8 0.0**
comp=Z,8.5nm,0.9s,baz=135,slow=7.9,SNR=14
MDJ Mudanjiang 74.43 332 P **P** **09 45 11.6 +0.4**
MDJ pP **pP** **09 45 23.7 +0.1**
MDJ sP **sP** **09 45 28.5 +0.1**
MDJ PP **PP** **09 47 57.5 -0.7**
MDJ S **S** **09 54 43.7 +0.9**
MDJ sS **sS** **09 55 04.1 +0.6**
MDJ AMB AMB
comp=Z,14nm,1.0s
MDJ AMB AMB
comp=Z,96nm,8.2s
MDJ LR LR
comp=Z,48nm,20.9s
MDJ LR LR
comp=Z,65nm,21.6s
MDJ LR LR
comp=Z,70nm,20.5s
CN2 Changchun 75.70 329 *e*P **P** **09 45 18.8 +0.3**
CN2 *es*P **sP** **09 45 35.0 -0.8**
CN2 *e*S **S** **09 54 56.1 -0.8**
CN2 AMB AMB
comp=Z,10.0nm,0.6s
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,600nm,16.0s
CN2 LR LR
comp=Z,800nm,16.0s
CN2 LR LR
comp=Z,1μm,18.0s
GYA Guiyang 76.43 305 P **P** **09 45 24.8 +1.5**
GYA pP **pP** **09 45 37.2 +1.4**
GYA sP **sP** **09 45 42.7 +2.2**
GYA PP **PP** **09 48 18.0 +2.3**
GYA S **S** **09 55 05.4 -0.6**
GYA sS **sS** **09 55 26.3 -0.5**
GYA SS **SS** **10 00 02.3 +0.7**
GYA AMB AMB
comp=Z,20nm,1.0s
GYA AMB AMB
comp=Z,120nm,5.2s
GYA LR LR
comp=Z,570nm,18.0s
GYA LR LR
comp=Z,480nm,19.2s
GYA LR LR
comp=Z,560nm,18.8s
MAW Mawson 76.65 202 P **P** **09 45 24.6 +0.9**
MAW Mawson 76.65 202 P **P** **09 45 24.6 +0.9**
comp=Z,2.7nm,0.8s,baz=96,slow=9.2,SNR=6.3
AKUT Akutan 77.96 15 *e*P **P** **09 45 30.6 -0.3**
BJI Beijing 77.99 321 P **P** **09 45 31.6 +0.1**
BJI AMB AMB
comp=Z,7.0nm,0.8s
KMI Kunming 78.79 302 P **P** **09 45 36.8 +0.2**
KMI pP **pP** **09 45 48.8 -0.4**
KMI AMB AMB
comp=Z,10.0nm,1.9s
CHTO Chiang Mai 78.95 295 *e*P **P** **09 45 38.1 +0.8**
CHTO *e**PP **pP** **09 45 50.3 +0.4**
CHTO pmax pmax
comp=Z,9.0nm,0.6s
CHTO Chiang Mai 78.95 295 *e*P **P** **09 45 38.1 +0.8**
comp=Z,8.9nm,0.6s
CHTO *ep*P **pP** **09 45 50.2 +0.4**
CD2 Chengdu 80.92 308 P **P** **09 45 48.6 +0.8**
CD2 AMB AMB
comp=Z,10.0nm,0.5s
HHC Hu-ho-hao-te 81.23 320 *e*P **P** **09 45 50.0 +0.7**
HHC pP **pP** **09 46 03.4 +1.5**
HHC sP **sP** **09 46 08.4 +1.8**
HHC PP **PP** **09 48 58.0 +2.5**
HHC S **S** **09 55 56.0 -0.7**
HHC SS **SS** **10 01 15.9 +2.6**
HHC AMB AMB
comp=Z,49nm,0.7s
HHC AMB AMB
comp=Z,570nm,6.5s
HHC LR LR
comp=Z,250nm,14.3s
HHC LR LR
comp=Z,250nm,14.3s
HHC LR LR
comp=Z,270nm,16.7s
SYO Syowa Base 83.14 196‖ *e*P **P** **09 45 57.4 -1.3**
LZH Lanzhou 83.54 312 *e*P P 09 45 58.1 -3.4
LZH pP **PcP** **09 46 09.8 +4.1**
LZH sP sP 09 46 14.7 -4.2
LZH PP **PP** **09 49 12.4 -2.2**
LZH *e*S S 09 56 14.1 -6.5
LZH AMB AMB
comp=Z,20nm,1.0s
LZH AMB AMB
comp=Z,96nm,4.0s
OHAK Old Harbor 84.15 20 *e*P **P** **09 46 03.6 -0.2**
comp=Z,30nm,0.8s
OHAK *ep*P **pP** **09 46 15.6 -0.9**
SEY Seymchan 84.62 353 *i* P **P** **09 46 05.7 -0.5**
SNAA Sanae 87.41 183 *e*P **P** **09 46 19.8 -0.3**
SNAA Sanae 87.41 183 *e*P **P** **09 46 20.0 -0.1**
comp=Z,7.4nm,0.9s
SNAA *ep*P **pP** **09 46 32.4 -0.5**
PKM Peak Mountain 87.61 51 P **P** **09 46 22.2 +0.4**
baz=88
SMMC Simmler 87.67 51 P **P** **09 46 22.6 +0.7**
baz=88
PTRM Twissleman Ran 87.68 50 *e*P **P** **09 46 22.6 +0.6**
SCI San Clemente I 87.68 53 P **P** **09 46 22.6 +0.6**
baz=88
ULN Ulaanbaatar 87.97 324 *e*P **P** **09 46 23.5 +0.3**
comp=Z,9.1nm,0.9s
ULN *ep*P **pP** **09 46 35.9 0.0**
GTA Gaotai 87.98 314 *e*P **P** **09 46 24.1 +0.7**
GTA pP **pP** **09 46 36.4 +0.3**
GTA sP **sP** **09 46 42.6 +1.8**
GTA S **S** **09 57 02.4 -1.5**
GTA sS **sS** **09 57 24.2 -1.0**
GTA SS **SS** **10 02 54.6 +1.7**
GTA AMB AMB
comp=Z,4.0nm,1.1s
GTA AMB AMB
comp=Z,60nm,6.4s
GTA LR LR
comp=Z,200nm,17.6s
GTA LR LR
comp=Z,190nm,18.3s
GTA LR LR
comp=Z,220nm,17.1s
VNA2 Neumayer--Watz 88.30 181 *e*P **P** **09 46 24.6 +0.3**
SONM Songino Array 88.32 323 P **P** **09 46 25.2 +0.4**
SONM pP **pP** **09 46 37.1 -0.5**
SONM Songino Array 88.32 323 P **P** **09 46 25.2 +0.4**
comp=Z,4.7nm,0.8s,baz=143,slow=5.6,SNR=19
SONM pP **pP** **09 46 37.1 -0.5**
comp=Z,4.7nm,0.8s,baz=139,slow=5.4,SNR=10
WDC Whiskeytown Da 88.42 45 *e*P **P** **09 46 25.5 +0.2**
WDC *e**PP **pP** **09 46 37.6 -0.4**
WDC pmax pmax
comp=Z,15nm,1.3s
WDC Whiskeytown Da 88.42 45 *e*P **P** **09 46 25.5 +0.2**
comp=Z,15nm,1.3s
WDC *ep*P **pP** **09 46 37.5 -0.4**
ARVC Arvin 88.44 51 P **P** **09 46 25.8 +0.3**
baz=89
OHCM Honcut 88.53 47 *e*P **P** **09 46 25.9 +0.1**
CMB Columbia Colle 88.66 48 *e*P **P** **09 46 26.3 -0.3**
CMB *e**PP **pP** **09 46 39.3 0.0**
CMB pmax pmax
comp=Z,10.0nm,0.8s
CMB Columbia Colle 88.66 48 *e*P **P** **09 46 26.3 -0.3**
comp=Z,10nm,0.8s
CMB *ep*P **pP** **09 46 39.3 0.0**
YBH Yreka Blue Hor 88.87 44 *e*P **P** **09 46 28.1 +0.5**
comp=Z,15nm,1.0s
YBH *ep*P **pP** **09 46 40.8 +0.5**
BFSC Mount Baldy Ra 88.90 53 P **P** **09 46 27.9 0.0**
baz=89
ISA Isabella 88.94 51 *e*P **P** **09 46 28.4 +0.4**
ISA *e**PP **pP** **09 46 40.8 +0.1**
ISA pmax pmax
comp=Z,10.0nm,0.8s
ISA Isabella 88.94 51 *e*P **P** **09 46 28.4 +0.4**
comp=Z,10nm,0.8s
ISA *ep*P **pP** **09 46 40.8 +0.1**
ISA Isabella 88.94 51 P **P** **09 46 28.3 +0.4**
baz=89
EDW2 Edwards Air Fo 88.94 52 P **P** **09 46 28.3 +0.3**
baz=89
MURC Murrieta 88.97 53 P **P** **09 46 28.4 +0.3**
baz=89
HUMO Hull Mountain 89.15 43 *e*P **P** **09 46 29.5 +0.8**
comp=Z,14nm,0.8s
HUMO *ep*P **pP** **09 46 42.0 +0.6**
MONP Monument Peak 89.25 54 P **P** **09 46 29.7 +0.1**
baz=89
LBCM Butte Creek Ri 89.33 45 P **P** **09 46 29.9 +0.1**
DVTC Desert V Tower 89.39 55 P **P** **09 46 30.4 +0.2**
baz=90
LRMC Laurel Mountai 89.43 52 P **P** **09 46 30.6 +0.2**
baz=90
BBRC Big Bear Solar 89.46 53 P **P** **09 46 30.7 0.0**
baz=90
PFO Pinyon Flat Ob 89.53 54 P **P** **09 46 31.0 +0.1**
baz=90
CAST Castle Rocks 89.54 17 *e*P **P** **09 46 27.6 -2.5**
comp=Z,5.1nm,0.7s
MTUM Tungsten Hills 89.64 50 *e*P **P** **09 46 31.8 +0.5**
MTUM *ep*P **pP** **09 46 44.4 +0.3**
SWSC Sam W. Stewart 89.74 54 P **P** **09 46 31.8 +0.2**
baz=90
MPMC Manual Prospec 89.83 51 P **P** **09 46 32.3 +0.1**
baz=90
GSC Goldstone 90.00 52 *e*P **P** **09 46 32.7 -0.2**
GSC pmax pmax
comp=Z,5.0nm,0.8s
GSC Goldstone 90.00 52 *e*P **P** **09 46 32.7 -0.2**
comp=Z,4.7nm,0.8s
GSC Goldstone 90.00 52 P **P** **09 46 32.9 0.0**
baz=90
BELC Belle Mtn. Jos 90.04 53 P **P** **09 46 33.0 -0.3**
baz=90
PAHR Pah Rah Range 90.13 47 *e*P **P** **09 46 33.8 +0.2**
comp=Z,12nm,1.0s
PAHR *ep*P **pP** **09 46 46.2 -0.1**
HEC Hector,Ludlow 90.15 53 P **P** **09 46 33.8 +0.1**
baz=90
NVAR Mina Array Bea 90.30 49 P **P** **09 46 34.6 +0.1**
NVAR Mina Array Bea 90.30 49 P **P** **09 46 34.6 +0.1**
comp=Z,7.8nm,0.7s,baz=227,slow=8.4,SNR=71
BC3 Big Chuckawall 90.30 54 P **P** **09 46 34.8 +0.3**
baz=90
NV11 Mina Array Sit 90.41 49 *e*P **P** **09 46 34.8 -0.1**
NV11 *ep*P **pP** **09 46 47.5 -0.1**
F03A Seaside 90.43 40 *e*P **P** **09 46 35.4 +0.8**
comp=Z,35nm,1.0s
FURC Furnace Creek, 90.47 51 P **P** **09 46 35.4 +0.5**
baz=91
GLA Glamis 90.53 55 *e*P **P** **09 46 35.9 +0.5**
GLA *e**PP **pP** **09 46 48.6 +0.5**
GLA pmax pmax
comp=Z,15nm,0.8s
GLA Glamis 90.53 55 *e*P **P** **09 46 35.9 +0.5**
comp=Z,16nm,0.8s
GLA *ep*P **pP** **09 46 48.6 +0.5**
GLA Glamis 90.53 55 P **P** **09 46 35.7 +0.3**
baz=91
MOD Modoc 90.53 45 *e*P **P** **09 46 35.5 +0.1**
comp=Z,48nm,0.8s
MOD *ep*P **pP** **09 46 48.5 +0.3**
K05A Summer Lake 90.53 44 *e*P **P** **09 46 35.5 +0.1**
comp=Z,13nm,0.8s
GMRC Granite Mounta 90.62 53 P **P** **09 46 35.7 -0.2**
baz=91
SHOC Shoshone 90.64 52 P **P** **09 46 35.9 0.0**
baz=91
H04A Detroit Lake 90.65 42 *e*P **P** **09 46 35.3 -0.4**
comp=Z,17nm,0.8s
TUQ Turquoise Moun 90.71 52 P **P** **09 46 36.4 +0.1**
baz=91
E03A Lebam 90.74 40 *e*P **P** **09 46 36.1 +0.2**
comp=Z,39nm,0.8s
IRM Iron Mountain 90.75 54 P **P** **09 46 36.8 +0.4**
baz=91
BKCOR Black Crater 90.77 42 P **P** **09 46 36.6 +0.3**
BMW Boistfort Moun 90.90 40 P **P** **09 46 37.2 +0.3**
BMW Boistfort Moun 90.90 40 P **P** **09 46 37.2 +0.3**
OOW Octopus West 90.97 38 P **P** **09 46 38.1 +1.0**
NLWA Neilton Lookou 90.98 39 *e*P **P** **09 46 37.4 +0.3**
comp=Z,17nm,0.9s
NLWA *ep*P **pP** **09 46 50.3 +0.4**
Y12C Blythe 91.05 54 P **P** **09 46 38.1 +0.4**
baz=91
PINOR Pine Mountain 91.06 43 *e*P **P** **09 46 38.4 +0.8**
comp=Z,18nm,0.8s
PAX Paxson 91.09 19 *e*P P 09 46 30.4 -6.9
PAX pmax pmax
comp=Z,7.0nm,0.8s
PAX Paxson 91.09 19 *e*P P 09 46 30.4 -6.9
comp=Z,7.1nm,0.8s
LVP Lakeview Peak 91.19 41 P **P** **09 46 38.3 +0.1**
113A Mohawk Valley, 91.22 55 P **P** **09 46 38.7 +0.1**
baz=91
ERK Elk Rock 91.35 40 P **P** **09 46 39.4 +0.3**
VFP Flag Point 91.41 41 P **P** **09 46 39.2 -0.2**
ZAK Zakamensk 91.43 324 *e*P **P** **09 46 37.9 -1.3**
ZAK pmax pmax
comp=Z,6.0nm,1.2s
VIPM Ingram Point 91.55 42 P **P** **09 46 40.1 0.0**
VIPM Ingram Point 91.55 42 P **P** **09 46 40.1 0.0**
PDMCI Parker Dam,Lak 91.56 54 P **P** **09 46 40.5 +0.4**
baz=92
GULW Guler Mountain 91.62 41 P **P** **09 46 40.4 +0.1**
214A Organ Pipe Nat 91.63 56 P **P** **09 46 40.9 +0.4**
baz=92
SHPR Sheep Range 91.72 51 *e*P **P** **09 46 41.2 +0.2**
SHPR *ep*P **pP** **09 46 53.9 +0.1**
PGC Sidney 91.86 38 *e*P **P** **09 46 41.2 +0.1**
comp=Z,0.9nm,1.0s
PGC *ep*P **pP** **09 46 53.8 -0.1**
WVOR Wild Horse Val 91.88 45 *e*P **P** **09 46 41.4 -0.2**
WVOR *e**PP **pP** **09 46 54.6 +0.3**
WVOR pmax pmax
comp=Z,14nm,1.2s
WVOR Wild Horse Val 91.88 45 *e*P **P** **09 46 41.4 -0.2**
comp=Z,14nm,1.2s
WVOR *ep*P **pP** **09 46 54.6 +0.3**
LON Longmire 91.89 40 *e*P **P** **09 46 41.0 -0.4**
LON *e**PP **pP** **09 46 55.3 +1.1**
LON pmax pmax
comp=Z,6.0nm,1.2s
LON Longmire 91.89 40 *e*P **P** **09 46 41.0 -0.4**
comp=Z,5.9nm,1.2s
LON *ep*P **pP** **09 46 55.2 +1.1**
ILAR Eielson Array 92.03 17 P **P** **09 46 39.3 -2.2**
ILAR Eielson Array 92.03 17 P **P** **09 46 39.3 -2.2**
comp=Z,2.2nm,0.7s,baz=235,slow=5.0,SNR=27
I07A Izee 92.06 43 *e*P **P** **09 46 42.3 -0.1**
comp=Z,6.4nm,0.8s
W13A Hualapai Mount 92.08 53 P **P** **09 46 42.9 +0.1**
baz=92
Z14A Wintersburg 92.09 55 P **P** **09 46 42.9 +0.3**
baz=92
R11A Troy Canyon, C 92.19 50 P **P** **09 46 42.9 -0.2**
baz=92
Y14A Wickenburg 92.28 55 P **P** **09 46 43.6 0.0**
baz=92
J08A Circle Bar Ran 92.40 44 *e*P **P** **09 46 44.0 +0.1**
comp=Z,9.5nm,0.7s
LTY Liberty 92.82 40 *e*P **P** **09 46 45.3 -0.4**
comp=Z,6.2nm,1.0s
G08A Pilot Rock 92.96 42 *e*P **P** **09 46 46.4 -0.1**
comp=Z,6.2nm,0.8s
COLD Coldfoot 93.07 15 *e*P **P** **09 46 46.5 +0.2**
comp=Z,4.5nm,0.9s
COLD *ep*P **pP** **09 46 58.7 -0.4**
HAWA Hanford 93.11 41 *e*P **P** **09 46 47.0 0.0**
comp=Z,6.5nm,1.2s
HAWA *ep*P **pP** **09 46 59.1 -0.7**
TUC Tucson 93.35 57 *e*P **P** **09 46 49.0 +0.4**
TUC *e**PP **pP** **09 47 01.6 +0.3**
TUC pmax pmax
comp=Z,4.0nm,1.0s
TUC Tucson 93.35 57 *e*P **P** **09 46 49.0 +0.4**
comp=Z,3.9nm,1.0s
TUC *ep*P **pP** **09 47 01.6 +0.3**
ELK Elko 93.44 48 *e*P **P** **09 46 49.4 +0.4**
comp=Z,3.1nm,1.0s
CCUT Cedar City 93.46 51 *e*P **P** **09 46 50.1 +1.0**
comp=Z,33nm,2.2s
X16A Lo Mia Camp, P 93.66 55 P **P** **09 46 50.2 +0.2**
baz=94
EGAK Eagle 93.72 19 *e*P **P** **09 46 48.6 -0.7**
comp=Z,150nm,2.9s
EGAK *ep*P **pP** **09 47 01.4 -0.7**
B08A Colville Reser 94.12 39 *e*P **P** **09 46 50.8 -0.9**
comp=Z,4.9nm,1.1s
WUAZ Wupatki 94.13 54 P **P** **09 46 52.4 +0.2**
baz=94
319A Douglas 94.18 58 P **P** **09 46 52.7 +0.3**
baz=94
F10A Beach Ranch, E 94.35 42 *e*P **P** **09 46 52.0 -0.8**
comp=Z,5.8nm,1.1s
HLID Hailey 95.16 45 *e*P **P** **09 46 56.6 -0.1**
comp=Z,36nm,2.9s
TIXI Tiksi 96.34 348 *e*P **P** **09 47 02.6 +1.4**
TIXI pmax pmax
comp=Z,6.0nm,1.1s
HVS Khovu-Aksy 97.14 322‖ *i* P Pdif 09 47 05.6 +0.1
HVS *e**PP pP 09 47 17.5 -0.7
TXAR Lajitas Array 98.01 62 P Pdif 09 47 10.5 +0.6
TXAR Lajitas Array 98.01 62 P Pdif 09 47 10.5 +0.6
comp=Z,0.2nm,0.6s,baz=215,slow=5.0,SNR=4.3
WMQ Urumqi 98.06 314 *e*P **P** **09 47 09.2 -0.5**
PDAR Pinedale Array 98.14 47 P Pdif 09 47 10.7 +0.3
PDAR Pinedale Array 98.14 47 P Pdif 09 47 10.7 +0.3
comp=Z,0.5nm,0.7s,baz=188,slow=2.2,SNR=4.7
YKA Yellowknife Ar 102.42 28 P **Pdif** **09 47 29.1 +0.6**
YKA Yellowknife Ar 102.42 28 P **Pdif** **09 47 29.1 +0.6**
comp=Z,1.4nm,0.6s,baz=252,slow=4.5,SNR=7.6
MKAR Makanchi Array 102.64 315 P **Pdif** **09 47 29.9 -0.1**
MKAR Makanchi Array 102.64 315 P **Pdif** **09 47 29.9 -0.1**
MKAR pP 09 47 42.2
MKAR Makanchi Array 102.64 315 P **Pdif** **09 47 29.9 -0.1**
comp=Z,0.6nm,0.7s,baz=110,slow=5.4,SNR=5.6
MKAR pP 09 47 42.2
comp=Z,0.5nm,0.7s,baz=104,slow=5.1,SNR=3.5
ZALV Zalesovo Beam 103.21 323 P **Pdif** **09 47 31.7 -0.6**
ZALV Zalesovo Beam 103.21 323 Pdif **Pdif** **09 47 31.7 -0.6**
ZALV Zalesovo Beam 103.21 323 Pdiff **Pdif** **09 47 31.7 -0.6**
comp=Z,0.6nm,0.5s,baz=354,slow=4.5,SNR=2.4
CPUP Villa Florida 115.14 134 PKP **PKPdf** **09 52 16.3 +1.4**
CPUP Villa Florida 115.14 134 PKP **PKPdf** **09 52 16.3 +1.4**
comp=Z,0.9nm,0.3s,baz=78,slow=3.3,SNR=4.6
ARCES ARCESS Array B 126.62 345 PKP **PKPdf** **09 52 35.3 -0.3**
ARCES ARCESS Array B 126.62 345 PKP **PKPdf** **09 52 35.3 -0.3**
comp=Z,3.6nm,0.9s,baz=46,slow=2.6,SNR=4.2
AKASG Malin Array Be 136.61 323 PKIKP **PKPdf** **09 52 54.1 -0.9**
AKASG 09 53 07.3
AKASG Malin Array Be 136.61 323 PKP **PKPdf** **09 52 54.1 -0.9**
AKASG pPKP **pPKPdf** **09 53 07.3 -0.9**
AKASG Malin Array Be 136.61 323 PKP **PKPdf** **09 52 54.1 -0.9**
comp=Z,0.4nm,0.4s,baz=61,slow=1.9,SNR=5.9
AKASG pPKP **pPKPdf** **09 53 07.3 -0.9**
comp=Z,2.8nm,0.8s,baz=65,slow=1.9,SNR=2.4

BRTR	**Keskin Array B**	**137.48**	**306**	PKP	**PKPdf**	**09 52 57.0**	**-0.2**	
BRTR	**Keskin Array B**	**137.48**	**306**	PKP	**PKPdf**	**09 52 56.9**	**-0.2**	
	comp=Z,1.4nm,0.7s,baz=143,slow=1.1,SNR=5.3							
KOLS	**Kolonicke sedl**	**141.38**	**324**	*e*PKIKP	**PKPdf**	**09 53 03.5**	**-0.3**	
KOLS	**Kolonicke sedl**	**141.38**	**324**	*e*PKP	**PKPdf**	**09 53 03.5**	**-0.3**	
STHS	**Stebnicka Huta**	**141.65**	**326**	*e*PKIKP	**PKPdf**	**09 53 03.6**	**-0.7**	
STHS	**Stebnicka Huta**	**141.65**	**326**	*e*PKP	**PKPdf**	**09 53 03.6**	**-0.7**	
DPC	**Dobruska-Polom**	**143.51**	**330**	*e*PKIKP	PKPbc	09 53 05.0	0.0	
DPC				*e*		09 53 09.7		
DPC				*e*		09 53 17.0		
DPC	**Dobruska-Polom**	**143.51**	**330**	*e*PKP	PKPbc	09 53 05.0	0.0	
DPC				*ex*	x	09 53 09.7		
DPC				epPKP	pPKPdf	09 53 17.0	-3.8	
BRG	**Berggiesshubel**	**144.20**	**333**	*e*PKP	PKPbc	09 53 07.2	+0.2	
	comp=Z,9.8nm,0.8s							
BRG				*e*		09 53 19.5		
	comp=Z,9.8nm,0.9s							
BRG	**Berggiesshubel**	**144.20**	**333**	*e*PKIKP	PKPbc	09 53 07.2	+0.3	
BRG				*e*		09 53 19.5		
BRG				pmax	pmax			
	comp=Z,10.0nm,0.9s							
BRG	**Berggiesshubel**	**144.20**	**333**	*e*PKPbc	PKPbc	09 53 06.9	0.0	
BRG				epPKPbc	PKiKP	09 53 20.0	+7.7	
CLL	**Collm**	**144.28**	**334**	⇑*i*PKIKP	PKPbc	09 53 07.2	+0.1	
CLL				*i*		09 53 19.9		
CLL				pmax	pmax			
	comp=Z,42nm,0.8s							
CLL	**Collm**	**144.28**	**334**	⇑*i*PKPdf	PKPbc	09 53 07.2	+0.1	
	comp=Z,13nm,0.8s							
CLL				*i* pPKPdf	pPKPdf	09 53 19.9	-2.1	
	comp=Z,9.0nm,0.8s							
FBE	**Freiberg**	**144.42**	**333**	*e*PKPbc	PKPbc	09 53 08.0	+0.4	
FBE				epPKPbc	PKiKP	09 53 21.0	+8.3	
ZST	**Bratislava**	**144.56**	**327**	*e*PKIKP	PKPbc	09 53 08.8	+0.6	
ZST	**Bratislava**	**144.56**	**327**	*e*PKP	PKPbc	09 53 08.8	+0.6	
PRU	**Pruhonice**	**144.58**	**331**	*e*PKIKP	PKPbc	09 53 08.4	+0.2	
PRU				*e*		09 53 20.6		
PRU	**Pruhonice**	**144.58**	**331**	*e*PKP	PKPbc	09 53 08.4	+0.2	
PRU				epPKP	pPKPdf	09 53 20.6	-2.0	
NEUB	**Neuenburg**	**144.85**	**335**	*e*PKPbc	PKPbc	09 53 09.4	+0.4	
NEUB				epPKPbc	PKiKP	09 53 22.4	+8.8	
CLZ	**Clausthal**	**144.89**	**337**	*e*PKIKP	PKPbc	09 53 09.4	+0.2	
CLZ	**Clausthal**	**144.89**	**337**	*e*PKPbc	PKPbc	09 53 09.4	+0.2	
EKA	**Eskdalemuir Ar**	**145.16**	**352**	PKPbc	**PKPbc**	**09 53 08.8**	**-1.0**	
EKA	**Eskdalemuir Ar**	**145.16**	**352**	PKPbc	**PKPbc**	**09 53 08.8**	**-1.0**	
	baz=358,slow=1.9							
TANN	**Tannenbergstha**	**145.18**	**333**	*e*PKPbc	**PKPab**	**09 53 10.3**	**+0.1**	
TANN				epPKPbc	pPKPbc	09 53 23.5	+0.2	
WERD	**Werda**	**145.22**	**333**	*e*PKPbc	**PKPdf**	**09 53 10.6**	**+0.1**	
WERD				epPKPbc	pPKPbc	09 53 23.6	+0.2	
PLN	**Plauen**	**145.25**	**334**	*e*PKPbc	**PKPdf**	**09 53 10.7**	**+0.1**	
PLN				epPKPbc	pPKPbc	09 53 23.8	+0.3	
GUNZ	**Gunzen**	**145.27**	**333**	*e*PKPbc	**PKPdf**	**09 53 10.8**	**+0.1**	
GUNZ				epPKPbc	pPKPbc	09 53 24.0	+0.4	
WERN	**Wernitzgruen**	**145.31**	**333**	*e*PKPbc	**PKPdf**	**09 53 11.0**	**+0.3**	
WERN				epPKPbc	pPKPbc	09 53 24.1	+0.4	
MOX	**Moxa**	**145.35**	**334**	*e*PKIKP	**PKPbc**	**09 53 10.7**	**+0.1**	
MOX				*e*		09 53 23.9		
MOX	**Moxa**	**145.35**	**334**	*e*PKPbc	**PKPbc**	**09 53 10.7**	**+0.1**	
MOX				epPKPbc	pPKPbc	09 53 23.9	+0.1	
CONA	**Conrad Observa**	**145.36**	**327**	⇓*i*PKPdf	**PKPab**	**09 53 11.6**	**+0.5**	
	comp=Z,23nm,0.9s,SNR=13							
IBBN	**Ibbenburen**	**145.43**	**339**	*e*PKPbc	**PKPdf**	**09 53 10.9**	**+0.1**	
KHC	**Kasperske Hory**	**145.63**	**331**	*e*PKP2	**PKPdf**	**09 53 11.3**	**0.0**	
KHC	**Kasperske Hory**	**145.63**	**331**	*e*PKP	**PKPdf**	**09 53 11.3**	**0.0**	
KHC				*ex*	x	09 53 17.9		
KHC				epPKP	**pPKPdf**	**09 53 24.5**	**0.0**	
KHC	**Kasperske Hory**	**145.63**	**331**	*e*PKPdf	**PKPdf**	**09 53 11.3**	**0.0**	
KHC				epPKPdf	**pPKPdf**	**09 53 24.9**	**+0.4**	
MANZ	**Manzenberg**	**145.65**	**333**	epPKPbc	PKPbc	09 53 25.1	+0.4	
ROTZ	**Rotzenmuhle**	**145.77**	**333**	*e*PKPbc	**PKPab**	**09 53 12.6**	**+0.2**	
ROTZ				epPKPbc	pPKPbc	09 53 25.7	+0.7	
GEC2	**GERESS Array S**	**145.78**	**330**	*e*PKP2	**PKPbc**	**09 53 12.3**	**+0.1**	
GEC2	**GERESS Array S**	**145.78**	**330**	*e*PKPbc	**PKPbc**	**09 53 12.3**	**+0.1**	
GEC2				epPKPbc	pPKPbc	09 53 25.4	+0.2	
GERES	**GERESS Array B**	**145.78**	**330**	PKPbc	**PKPbc**	**09 53 12.3**	**+0.1**	
GERES				pPKPbc	pPKPbc	09 53 25.0	-0.2	
GERES	**GERESS Array B**	**145.78**	**330**	PKPbc	**PKPbc**	**09 53 12.3**	**+0.1**	
	comp=Z,15nm,0.8s,baz=33,slow=3.2,SNR=72							
GERES				pPKPbc	pPKPbc	09 53 25.0	-0.2	
	comp=Z,15nm,0.8s,baz=35,slow=3.3,SNR=17							
WET	**Wettzell**	**145.94**	**331**	*e*PKP2	**PKPab**	**09 53 12.9**	**-0.2**	
WET	**Wettzell**	**145.94**	**331**	*e*PKPbc	**PKPab**	**09 53 12.9**	**-0.2**	
WET				epPKPbc	pPKPbc	09 53 26.0	+0.4	
ARSA	**Arzberg**	**145.98**	**327**	⇑*i*PKPab	**PKPab**	**09 53 13.6**	**+0.3**	
	comp=Z,15nm,1.4s							
MOA	**Molln**	**146.21**	**329**	⇓*i*PKPab	**PKPbc**	**09 53 13.6**	**+0.2**	
	comp=Z,14nm,1.1s							
PERS	**Pernice**	**146.60**	**326**	*i* PKPdf	**PKPbc**	**09 53 14.2**	**-0.4**	
PERS				*i*		09 53 26.9		
SOKA	**Soboth**	**146.61**	**326**	⇓*i*PKPab	**PKPbc**	**09 53 14.5**	**-0.2**	
	comp=Z,13nm,1.2s							
TNS	**Taunus Mts**	**146.92**	**337**	*e*PKP2	**PKPbc**	**09 53 15.6**	**+0.2**	
TNS	**Taunus Mts**	**146.92**	**337**	*e*PKPbc	**PKPbc**	**09 53 15.6**	**+0.2**	
TNS				epPKPbc	pPKPbc	09 53 28.8	+0.3	
KBA	**Koelnbreinsper**	**147.19**	**328**	⇑*i*PKPbc	**PKPbc**	**09 53 15.6**	**-0.9**	
	comp=Z,8.2nm,0.9s							
BOJS	**Bojanci**	**147.26**	**325**	*i* PKPdf	**PKPbc**	**09 53 16.7**	**+0.3**	
BOJS				*i*		09 53 29.6		
VISS	**Visnje**	**147.29**	**325**	*i* PKPdf	**PKPbc**	**09 53 16.3**	**-0.2**	
VISS				*i*		09 53 29.3		
MEM	**Membach**	**147.45**	**339**	PKP	**PKPbc**	**09 53 16.9**	**+0.1**	
JAVS	**Javornik**	**147.64**	**326**	*i* PKPdf	**PKPbc**	**09 53 17.4**	**-0.2**	
JAVS				*i*		09 53 29.6		
ABTA	**Abfaltersbach**	**147.83**	**329**	⇓*i*PKPbc	**PKPbc**	**09 53 17.4**	**-0.7**	
	comp=Z,14nm,0.9s,SNR=5.4							
BCLA	**Clavier**	**147.84**	**340**	PKPbc	**PKPbc**	**09 53 17.2**	**-0.7**	
RETA	**Reutte**	**148.12**	**331**	⇓*i*PKPbc	**PKPbc**	**09 53 18.6**	**-0.2**	
	comp=Z,6.2nm,1.0s							
WLF	**Walferdange**	**148.21**	**338**	PKP	**PKPbc**	**09 53 19.9**	**+1.0**	
WLF	**Walferdange**	**148.21**	**338**	*e*PKPbc	**PKPbc**	**09 53 19.6**	**+0.7**	
DOU	**Dourbes**	**148.35**	**340**	PKPbc	**PKPbc**	**09 53 18.8**	**-0.5**	
FETA	**Feichten**	**148.48**	**331**	⇓*i*PKiKP	**PKPbc**	**09 53 19.9**	**0.0**	
	comp=Z,16nm,0.9s,SNR=8.4							
BFO	**Black Forest**	**148.50**	**335**	*e*PKIKP	**PKPdf**	**09 53 16.0**	**-0.1**	
BFO				*e*		09 53 19.3		
BFO				*e*		09 53 23.0		
BFO	**Black Forest**	**148.50**	**335**	*e*PKP2	**PKPbc**	**09 53 19.6**	**-0.1**	
BFO	**Black Forest**	**148.50**	**335**	*e*PKPdf	**PKPdf**	**09 53 16.0**	**-0.1**	
BFO				*e*PKPbc	**PKPbc**	**09 53 19.2**	**-0.5**	
BFO				*e*PKPab	**PKPab**	**09 53 23.0**	**-0.2**	
DAVA	**Damuels**	**148.66**	**332**	⇑*i*PKPbc	**PKPbc**	**09 53 19.9**	**-0.4**	
	comp=Z,13nm,1.0s							
DAVOX	**Davos/Dischmat**	**149.04**	**331**	PKPbc	**PKPbc**	**09 53 21.8**	**+0.4**	
DAVOX	**Davos/Dischmat**	**149.04**	**331**	PKPbc	**PKPbc**	**09 53 21.8**	**+0.4**	
	baz=45,slow=4.3							
TUE	**Stuetta**	**149.52**	**331**	*e*PKPdf	**PKPdf**	**09 53 18.6**	**+0.5**	
TUE				*e*PKPbc	**PKPbc**	**09 53 22.6**	**0.0**	
TUE				*e*PKPab	**PKPab**	**09 53 26.7**	**-0.9**	
CUC	**Castrocucco**	**150.12**	**315**	*e*PKPdf	**PKPdf**	**09 53 17.8**	**-1.2**	
CUC				*e*PKPbc	**PKPbc**	**09 53 23.1**	**-1.0**	
CUC				*e*PKPab	**PKPab**	**09 53 29.8**	**-0.3**	
CEL	**Celeste**	**150.93**	**312**	*e*PKPbc	**PKPbc**	**09 53 25.6**	**-0.4**	
DBIC	**Dimbokro**	**164.48**	**204**	pPKPab	pPKPab	09 54 45.0	0.0	
DBIC	**Dimbokro**	**164.48**	**204**	pPKPab	pPKPab	09 54 45.0	0.0	
	comp=Z,7.8nm,1.0s,baz=262,slow=2.2,SNR=5.2							
TORD	**Torodi Ar. Bea**	**165.37**	**240**	PKP	**PKPdf**	**09 53 38.1**	**-0.2**	
TORD				pPKP	**pPKPdf**	**09 53 50.9**	**-0.7**	
TORD				pPKPab	**PKPab**	**09 54 37.0**	**+0.7**	
TORD				pPKPab	**pPKPab**	**09 54 47.5**	**-1.6**	
TORD	**Torodi Ar. Bea**	**165.37**	**240**	PKP	**PKPdf**	**09 53 38.1**	**-0.2**	
	comp=Z,1.4nm,0.8s,baz=88,slow=0.9,SNR=7.9							
TORD				pPKP	**pPKPdf**	**09 53 50.9**	**-0.7**	
	comp=Z,1.3nm,0.8s,baz=292,slow=1.8,SNR=7.0							
TORD				PKPab	**PKPab**	**09 54 37.0**	**+0.7**	
	comp=Z,0.5nm,0.9s,baz=113,slow=3.3,SNR=2.1							
TORD				pPKPab	**pPKPab**	**09 54 47.5**	**-1.6**	
	comp=Z,1.3nm,0.9s,baz=119,slow=3.3,SNR=4.3							

*AUST **06** 09:37:55.7±2.1, 16°.74S×171°.59W, h13km, Error ellipse: s-maj=1.4km s-min=1.0km az=251.0*
*IDC **06** 09:37:57.1±0.5, 16°.87S×172°.28W, h0km, mb4.3/16, mb1 4.5/16, mb1mx4.4/24, mbtmp4.3/16, MS4.0/12, Ms1 4.0/12, ms1mx3.7/30, Error ellipse: s-maj=20.7km s-min=14.1km az=144.0*
*ISCJB **06** 09:37:57.5±0.2, 16°.82S±0°.06×172°.36W±0°.05, h10km, mb4.7/43, MS4.2/13, Error ellipse: s-maj=10.3km s-min=4.4km az=150.3*
*BJI **06** 09:37:58.9, 16°.30S×172°.70W, h5km, mB5.2/6, mb5.0/15, Ms5.3/5, Ms7 4.9/5*
*NEIC **06** 09:37:59.1±0.2, 16°.84S×172°.37W, h10km, mb4.7/27, Error ellipse: s-maj=12.2km s-min=4.9km az=145.0*
*SZGRF **06** 09:38:05.7, 16°.79S×171°.90W, h30km, Samoa Islands region*

ISC 06 09:37:59.8±0.6, 16°.81S±0°.07×172°.24W±0°.07, h18km±3km, n328, σ1°12/328, mb4.8/44, MS4.1/13, 92C-89D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.91**	**9**	*e*Pn	Pn	09 38 40.8	-4.6
AFI				*e*Sn	**Sn**	**09 39 19.6**	**-0.5**
AFI	**Afiamalu**	**2.91**	**9**	Pn	Pn	09 38 40.1	-5.3
	28nm,0.3s,baz=81,slow=18,SNR=18						
AFI				Sn	Sn	09 39 13.3	-6.8
	74nm,0.3s,baz=180,slow=20,SNR=5.5						
NIUE	**Niue**	**3.15**	**136**	P	Pn	09 38 41.6	-7.1
	baz=2.8,SNR=37						
MSVF	**Nonsavu**	**9.32**	**263**	*e*Pn	Pn	09 40 18.8	+5.2
MSVF				*e*Sn	**Sn**	**09 42 02.1**	**+4.0**
RAR	**Rarotonga**	**12.58**	**112**	Pn	Pn	09 40 49.7	-8.3
RAR	**Rarotonga**	**12.58**	**112**	Pn	Pn	09 40 49.7	-8.3
	3.1nm,0.3s,baz=37,slow=0.0,SNR=4.9						
RAR				LR	LR	09 45 08.7	
	comp=Z,453nm,18.8s,baz=225,slow=34						
DZM	**Mont Dzumac**	**20.77**	**252**	*e*P	**P**	**09 42 37.4**	**-2.7**
	56nm,1.3s						
DZM				*e*LR	LR	09 47 29.3	
	1μm,27.1s						
DZM	**Mont Dzumac**	**20.77**	**252**	*e*P	**P**	**09 42 38.2**	**-1.9**
	16nm,0.8s						
DZM	**Mont Dzumac**	**20.77**	**252**	P	**P**	**09 42 38.2**	**-1.9**
	14nm,0.8s,baz=68,slow=16,SNR=7.3						
DZM				LR	LR	09 48 20.8	
	comp=Z,90nm,20.6s,baz=64,slow=30						
PPT2	**Papeete2**	**21.66**	**95**	*e*LR	LR	09 47 43.4	
	800nm,25.2s,baz=253						
PPT	**Papeete**	**21.66**	**95**	LR	LR	09 48 11.1	
	comp=Z,448nm,19.6s,baz=296,slow=28						
TBI	**Tubuai**	**22.35**	**111**	*e*S	**S**	**09 46 58.0**	**-4.1**
	459nm,25.8s						
TBI				*e*LR	LR	09 47 52.7	
	921nm,28.0s,baz=294						
URZ	**Urewera**	**23.33**	**202**	*e*P	**P**	**09 43 07.3**	**+0.2**
	12nm,0.5s						
URZ	**Urewera**	**23.33**	**202**	P	**P**	**09 43 07.3**	**+0.2**
	9.9nm,0.5s,baz=57,slow=3.7,SNR=9.4						
HNR	**Honiara**	**28.04**	**282**	LR	LR	09 54 01.6	
	comp=Z,496nm,18.2s,baz=90,slow=34						
RKT	**Rikitea**	**35.52**	**106**	*e*LR	LR	09 53 53.5	
	576nm,29.8s						
ARMA	**Armidale**	**35.61**	**241**	P	**P**	**09 44 56.7**	**-0.1**
	baz=36,SNR=7.8						
RMQ	**Roma**	**37.39**	**248**	P	**P**	**09 45 13.3**	**+1.4**
	baz=38,SNR=6.1						
CTA	**Charters Tower**	**39.44**	**259**	P	**P**	**09 45 26.9**	**-2.4**
CTA	**Charters Tower**	**39.44**	**259**	P	**P**	**09 45 26.9**	**-2.4**
	6.7nm,0.7s,baz=83,slow=11,SNR=9.1						
CTA				LR	LR	09 58 56.8	
	comp=Z,215nm,19.2s,baz=30,slow=32						
CTAO	**Charters Tower**	**39.44**	**259**	*e*P	**P**	**09 45 28.2**	**-1.1**
	8.8nm,0.9s						
PMG	**Port Moresby**	**40.16**	**275**	*e*P	**P**	**09 45 35.2**	**-0.2**
	15nm,0.9s						
PMG	**Port Moresby**	**40.16**	**275**	P	**P**	**09 45 35.5**	**+0.2**
	15nm,0.8s,baz=207,slow=9.9,SNR=3.7						
H11S2	**WAKE ISLAND Hy**	**40.74**	**329**	T	T	10 29 29.1	
	baz=151,slow=0.7,SNR=1.1						
H11S3	**WAKE ISLAND Hy**	**40.75**	**328**	T	T	10 29 36.6	
	baz=151,slow=0.7,SNR=0.8						
H11S1	**WAKE ISLAND Hy**	**40.75**	**329**	T	T	10 29 37.0	
	baz=151,slow=0.7,SNR=2.4						
CMSA	**Cobar Meteorol**	**40.83**	**241**	P	**P**	**09 45 40.1**	**-0.6**
	baz=41,SNR=19						
QLP	**Quilpie**	**41.43**	**249**	P	**P**	**09 45 44.8**	**-0.9**
	baz=42,SNR=6.1						
STKA	**Stephens Creek**	**44.33**	**241**	*e*P	**P**	**09 46 09.0**	**-0.2**
	2.8nm,1.0s						
STKA	**Stephens Creek**	**44.33**	**241**	P	**P**	**09 46 08.9**	**-0.2**
	baz=45,SNR=12						
STKA	**Stephens Creek**	**44.33**	**241**	P	**P**	**09 46 08.1**	**-1.0**
	8.8nm,0.8s,baz=98,slow=11,SNR=16						
STKA				LR	LR	10 01 57.6	
	comp=Z,101nm,19.6s,baz=28,slow=33						
BBOO	**Buckleboo**	**49.09**	**241**	*e*P	**P**	**09 46 46.2**	**-0.2**
	468nm,1.1s						
BBOO	**Buckleboo**	**49.09**	**241**	P	**P**	**09 46 46.1**	**-0.3**
	baz=50,SNR=17						
WRAB	**Tennant Creek**	**50.62**	**258**	*e*P	**P**	**09 46 57.1**	**-1.1**
	14nm,1.1s						
WRA	**Warramunga Arr**	**50.62**	**258**	P	**P**	**09 46 56.9**	**-1.5**
WRA	**Warramunga Arr**	**50.62**	**258**	P	**P**	**09 46 56.9**	**-1.5**
	5.3nm,0.5s,baz=95,slow=6.8,SNR=89						
WRA				LR	LR	10 06 54.8	
	comp=Z,207nm,18.4s,baz=95,slow=34						
AS31	**Alice Springs**	**50.75**	**253**	*e*P	**P**	**09 46 58.4**	**-0.9**
ASAR	**Alice Springs**	**50.75**	**253**	P	**P**	**09 46 58.8**	**-0.5**
ASAR	**Alice Springs**	**50.75**	**253**	P	**P**	**09 46 58.8**	**-0.5**
	44nm,0.7s,baz=87,slow=8.6,SNR=468						
FORT	**Forrest**	**55.79**	**244**	P	**P**	**09 47 35.9**	**-0.4**
	baz=56,SNR=8.1						
FITZ	**Fitzroy Crossi**	**59.02**	**259**	*e*P	**P**	**09 47 59.5**	**+0.3**
	1.5nm,0.6s						
FITZ	**Fitzroy Crossi**	**59.02**	**259**	P	**P**	**09 47 59.5**	**+0.3**
	baz=60,SNR=3.7						
FITZ	**Fitzroy Crossi**	**59.02**	**259**	P	**P**	**09 47 59.5**	**+0.3**
	2.8nm,0.9s,baz=106,slow=4.8,SNR=5.4						
VNDA	**Vanda**	**62.10**	**186**	*e*P	**P**	**09 48 19.9**	**+0.7**
	0.8nm,0.6s						
VNDA	**Vanda**	**62.10**	**186**	P	**P**	**09 48 19.5**	**+0.2**
	0.8nm,0.7s,baz=2.7,slow=5.2,SNR=7.7						
MBWA	**Marble Bar**	**64.05**	**254**	*e*P	**P**	**09 48 33.6**	**+0.5**
	39nm,1.4s						
MEEK	**Meekatharra**	**64.32**	**248**	P	**P**	**09 48 35.3**	**+0.4**
	baz=65,SNR=5.1						
KLBR	**Kellerberrin**	**64.58**	**243**	P	**P**	**09 48 37.6**	**+1.1**
	baz=55,SNR=8.7						
BLDU	**Ballidu**	**65.56**	**244**	P	**P**	**09 48 43.5**	**+0.7**
	baz=66,SNR=5.3						
MORW	**Morawa**	**66.31**	**245**	P	**P**	**09 48 49.9**	**+2.2**
	baz=67,SNR=3.4						
ARVC	**Arvin**	**72.34**	**44**	⇑P	**P**	**09 49 26.0**	**+1.2**
	baz=73						
VES	**Vestal, Richgr**	**72.59**	**43**	⇓P	**P**	**09 49 27.1**	**+0.8**
	baz=73						
BFSC	**Mount Baldy Ra**	**72.60**	**45**	⇓P	**P**	**09 49 27.1**	**+0.6**
	baz=73						
MONP	**Monument Peak**	**72.69**	**47**	⇑P	**P**	**09 49 27.9**	**+0.7**
	baz=73						
EDW2	**Edwards Air Fo**	**72.75**	**44**	⇑P	**P**	**09 49 27.9**	**+0.6**
	baz=73,SNR=6.5						
DVTC	**Desert V Tower**	**72.79**	**47**	⇓P	**P**	**09 49 28.9**	**+1.3**
	baz=73						
ISA	**Isabella**	**72.89**	**43**	*e*P	**P**	**09 49 30.0**	**+1.9**
	17nm,1.6s						
ISA	**Isabella**	**72.89**	**43**	⇓P	**P**	**09 49 29.2**	**+1.1**
	baz=73						
PFO	**Pinyon Flat Ob**	**73.07**	**46**	*e*P	**P**	**09 49 30.0**	**+0.7**
	10.0nm,1.2s						
PFO				*e*pP	pP	09 49 40.4	+5.3
PFO	**Pinyon Flat Ob**	**73.07**	**46**	⇑P	**P**	**09 49 30.5**	**+1.2**
	baz=73						
SWSC	**Sam W. Stewart**	**73.16**	**47**	⇑P	**P**	**09 49 31.6**	**+1.9**
	baz=73						
QSPA	**South Pole Qui**	**73.25**	**180**	*e*P	**P**	**09 49 29.7**	**-0.2**
	2.2nm,0.6s						
QSPA	**South Pole Qui**	**73.25**	**180**	P	**P**	**09 49 29.4**	**-0.5**
	1.9nm,0.5s,baz=356,slow=0.6,SNR=20						
LRMC	**Laurel Mountai**	**73.30**	**44**	⇓P	**P**	**09 49 31.3**	**+0.7**
	baz=74						
BELC	**Belle Mtn. Jos**	**73.61**	**46**	⇑P	**P**	**09 49 33.4**	**+0.9**
	baz=74						
MPMC	**Manual Prospec**	**73.77**	**44**	⇑P	**P**	**09 49 34.0**	**+0.6**
	baz=74,SNR=9.1						
GSC	**Goldstone**	**73.79**	**45**	⇑P	**P**	**09 49 34.2**	**+0.7**
	baz=74						
BC3	**Big Chuckawall**	**73.79**	**47**	⇑P	**P**	**09 49 34.5**	**+1.0**
	baz=74						
MTUM	**Tungsten Hills**	**73.83**	**42**	*e*P	**P**	**09 49 35.0**	**+1.3**
HEC	**Hector,Ludlow**	**73.84**	**45**	⇓P	**P**	**09 49 34.4**	**+0.6**
	baz=74						
GLA	**Glamis**	**73.90**	**47**	*e*P	**P**	**09 49 35.3**	**+1.2**
	13nm,1.2s						
GLA	**Glamis**	**73.90**	**47**	⇑P	**P**	**09 49 35.2**	**+1.1**
	baz=74						
GMRC	**Granite Mounta**	**74.27**	**46**	⇑P	**P**	**09 49 37.2**	**+0.8**
	baz=75						
IRM	**Iron Mountain**	**74.28**	**46**	⇓P	**P**	**09 49 37.0**	**+0.7**
	baz=75,SNR=6.4						
FURC	**Furnace Creek,**	**74.42**	**44**	⇓P	**P**	**09 49 37.9**	**+1.0**
	baz=75						
TUQ	**Turquoise Moun**	**74.46**	**45**	⇑P	**P**	**09 49 38.4**	**+0.9**
	baz=75						
SHOC	**Shoshone**	**74.48**	**44**	⇓P	**P**	**09 49 38.2**	**+0.8**
	baz=75						
HUMO	**Hull Mountain**	**74.48**	**36**	*e*P	**P**	**09 49 38.3**	**+1.0**
	35nm,1.8s						
Y12C	**Blythe**	**74.49**	**47**	⇓P	**P**	**09 49 38.4**	**+0.9**
	baz=75						
113A	**Mohawk Valley,**	**74.50**	**48**	⇓P	**P**	**09 49 38.3**	**+0.8**
	baz=75,SNR=5.5						
NVAR	**Mina Array Bea**	**74.63**	**41**	P	**P**	**09 49 39.1**	**+0.6**
NVAR	**Mina Array Bea**	**74.63**	**41**	P	**P**	**09 49 39.1**	**+0.6**
	2.2nm,0.7s,baz=229,slow=9.2,SNR=17						
NV11	**Mina Array Sit**	**74.73**	**41**	*e*P	**P**	**09 49 39.7**	**+0.7**
214A	**Organ Pipe Nat**	**74.76**	**49**	⇓P	**P**	**09 49 40.3**	**+1.1**
	baz=75						
PDMCI	**Parker Dam,Lak**	**75.06**	**47**	⇑P	**P**	**09 49 41.9**	**+1.1**
	baz=75						
Z14A	**Wintersburg**	**75.40**	**48**	⇓P	**P**	**09 49 43.9**	**+1.1**
	baz=76						
MOD	**Modoc**	**75.54**	**37**	*e*P	**P**	**09 49 44.2**	**+0.6**
	26nm,1.1s						
SHPR	**Sheep Range**	**75.57**	**44**	*e*P	**P**	**09 49 44.5**	**+0.6**
Y14A	**Wickenburg**	**75.66**	**48**	⇑P	**P**	**09 49 45.4**	**+1.1**
	baz=76						
W13A	**Hualapai Mount**	**75.66**	**46**	⇑P	**P**	**09 49 45.3**	**+0.8**
	baz=76						
R11A	**Troy Canyon, C**	**76.32**	**43**	*e*P	**P**	**09 49 48.8**	**+0.6**
R11A	**Troy Canyon, C**	**76.32**	**43**	⇓P	**P**	**09 49 49.1**	**+0.9**
	baz=77						
TUC	**Tucson**	**76.42**	**50**	*e*P	**P**	**09 49 49.7**	**+1.0**
	27nm,1.8s						
WVOR	**Wild Horse Val**	**76.84**	**38**	*e*P	**P**	**09 49 51.7**	**+0.7**
	6.0nm,1.3s						
WVOR				*e*PcP	**PcP**	**09 50 02.0**	**-0.1**
X16A	**Lo Mia Camp, P**	**77.02**	**48**	⇓P	**P**	**09 49 53.2**	**+1.0**
	baz=77,SNR=7.7						
319A	**Douglas**	**77.08**	**51**	⇓P	**P**	**09 49 53.6**	**+1.1**
	baz=77						
CCUT	**Cedar City**	**77.34**	**44**	*e*P	**P**	**09 49 55.4**	**+1.4**
	14nm,1.6s						
U15A	**North Rim**	**77.47**	**46**	⇑P	**P**	**09 49 55.9**	**+1.1**
	baz=78						
WUAZ	**Wupatki**	**77.63**	**47**	⇑P	**P**	**09 49 56.7**	**+1.1**
	baz=78						
220A	**Playas Peak, P**	**77.90**	**51**	⇑P	**P**	**09 49 58.2**	**+1.1**
	baz=78,SNR=6.2						
KSRS	**Korea Array**	**77.94**	**315**	P	**P**	**09 49 58.9**	**+1.9**
	0.4nm,0.3s,baz=116,slow=5.5,SNR=3.0						
KSAR	**Wonju Array Be**	**77.96**	**315**	P	**P**	**09 49 58.9**	**+1.8**
120A	**U Bar Ranch, L**	**78.12**	**51**	⇓P	**P**	**09 49 59.8**	**+1.4**
	baz=78						
X18A	**

	baz=82							
NEW	**Newport**	81.24	34	⇑P	P	09 50 15.7	+0.8	
	baz=82							
226B	**Tecolote Peak,**	81.27	53	⇓P	P	09 50 16.4	+1.0	
	baz=82							
427A	**Hayter Ranch,**	81.33	54	⇑P	P	09 50 16.6	+0.9	
	baz=82,SNR=12							
P19A	**Cripple Cowboy**	81.36	44	⇓P	P	09 50 16.6	+0.7	
	baz=82							
Z25A	**Roswell**	81.38	52	⇑P	P	09 50 17.2	+1.2	
	baz=82							
Q20A	**Ridgley Place,**	81.48	45	⇓P	P	09 50 17.3	+0.8	
	baz=82							
T22A	**Edith**	81.51	47	⇑P	P	09 50 17.7	+1.0	
	baz=82							
126A	**Clayton Basin,**	81.63	52	⇓P	P	09 50 17.8	+0.5	
	baz=82							
Y25A	**Mesa, Roswell**	81.69	51	⇑P	P	09 50 18.3	+0.7	
	baz=82							
U23A	**El Rito**	81.69	48	⇑P	P	09 50 18.3	+0.7	
	baz=82							
R21A	**Cimarron**	81.70	46	⇑P	P	09 50 18.4	+0.6	
	baz=82							
W24A	**Lazy 6 Ranch,**	81.74	50	⇓P	P	09 50 18.5	+0.6	
	baz=82							
RRI2	**Red Ridge**	81.77	40	*e*P	P	09 50 20.9	+2.9	
	28nm,2.1s							
428A	**Kincaid Ranch,**	81.83	55	⇑P	P	09 50 19.6	+1.1	
	baz=82							
NJ2	**Nanjing**	81.90	307	*e*P	P	09 50 18.2	-0.4	
NJ2				AMB	AMB			
	comp=Z,20nm,0.7s							
S22A	**4UR Ranch, Cre**	81.91	47	⇑P	P	09 50 19.8	+0.9	
	baz=82							
Z26A	**Caprock**	81.93	52	⇓P	P	09 50 19.5	+0.6	
	baz=82,SNR=9.0							
529A	**Stev Forest Ra**	81.95	55	⇑P	P	09 50 19.9	+0.9	
	baz=82							
328A	**Wristen Ranch,**	82.01	54	⇑P	P	09 50 20.1	+0.8	
	baz=82							
O20A	**White River Ci**	82.10	44	⇓P	P	09 50 20.7	+1.0	
	baz=82							
T23A	**Casias Ranch,**	82.13	48	⇑P	P	09 50 20.9	+0.8	
	baz=82							
MSO	**Missoula**	82.14	36	⇑P	P	09 50 20.5	+0.8	
	baz=82							
127A	**Arkansas Junct**	82.14	53	⇓P	P	09 50 21.1	+1.1	
	baz=82							
M19A	**Rock Springs**	82.18	43	⇓P	P	09 50 21.0	+0.8	
	baz=82							
R22A	**Saguache, Gunn**	82.19	46	⇑P	P	09 50 21.1	+0.8	
	baz=82							
IMW	**Indian Meadow**	82.30	40	*e*P	P	09 50 21.7	+0.9	
LOHW	**Long Hollow**	82.36	40	*e*P	P	09 50 22.5	+1.4	
	60nm,3.0s							
Q22A	**Crested Butte,**	82.38	46	⇑P	P	09 50 22.3	+0.9	
	baz=83							
429A	**Davenport Ranc**	82.41	55	⇓P	P	09 50 21.8	+0.4	
	baz=83,SNR=9.2							
N20A	**Spence Gulch,**	82.43	43	⇓P	P	09 50 22.4	+0.9	
	baz=83							
W25A	**X Bar L Ranch,**	82.44	50	⇑P	P	09 50 22.4	+0.9	
	baz=83							
SMCO	**Snowmass**	82.49	45	*e*P	P	09 50 23.3	+1.3	
Z27A	**Tatum**	82.53	52	⇓P	P	09 50 22.1	+0.1	
	baz=83							
PDAR	**Pinedale Array**	82.57	41	P	P	09 50 21.6	-0.5	
PDAR	**Pinedale Array**	82.57	41	P	P	09 50 21.6	-0.5	
	0.6nm,0.6s,baz=215,slow=3.1,SNR=4.8							
PDAR				LR	LR	10 21 03.1		
	comp=Z,67nm,18.6s,baz=344,slow=31							
V25A	**Rancho No Teng**	82.60	49	⇓P	P	09 50 22.5	+0.1	
	baz=83							
T24B	**San Luis**	82.61	48	⇓P	P	09 50 22.6	0.0	
	baz=83							
530A	**J-C Ranch, Com**	82.65	56	⇑P	P	09 50 23.7	+1.1	
	baz=83							
329A	**Wagon Wheel Ra**	82.70	54	⇑P	P	09 50 23.9	+1.0	
	baz=83							
128A	**Castleberry Fa**	82.79	53	⇑P	P	09 50 24.5	+1.1	
	baz=83							
M20A	**Sweetwater, Wa**	82.81	43	⇑P	P	09 50 24.1	+0.7	
	baz=83							
Y27A	**Causey**	82.81	52	⇑P	P	09 50 24.7	+1.2	
	baz=83							
R23A	**Moffat**	82.81	47	⇓P	P	09 50 24.2	+0.5	
	baz=83							
P22A	**Eagle**	82.83	45	⇑P	P	09 50 24.6	+1.0	
	baz=83							
CN2	**Changchun**	82.87	320	*e*P	P	09 50 23.3	-0.1	
W26A	**Owens Ranch, T**	82.89	50	⇓P	P	09 50 25.3	+1.4	
	baz=83							
631A	**Perdido Creek**	82.96	57	⇑P	P	09 50 24.6	+0.4	
	baz=83							
S24A	**Houchin Ranch,**	82.99	47	⇑P	P	09 50 25.8	+1.3	
	baz=83							
430A	**Baggett Ranch,**	82.99	55	⇑P	P	09 50 25.2	+0.8	
	baz=83							
U25A	**Circle Dot Ran**	83.00	49	⇓P	P	09 50 25.6	+1.0	
	baz=83							
Q23A	**Hartsel**	83.14	46	⇓P	P	09 50 26.0	+0.6	
	baz=83							
J19A	**Crowheart**	83.14	41	⇓P	P	09 50 25.8	+0.7	
	baz=83							
MSTX	**Muleshoe**	83.14	52	⇑P	P	09 50 26.1	+0.9	
	baz=83							
Z28A	**Tucker Farm, M**	83.14	52	⇓P	P	09 50 26.0	+0.8	
	baz=83							
732A	**Laxson Ranch,**	83.18	57	⇑P	P	09 50 26.4	+1.0	
	baz=83							
V26A	**Tequesquite Ra**	83.19	50	⇑P	P	09 50 26.2	+0.8	
	baz=84							
X27A	**F and S Farms,**	83.19	51	⇓P	P	09 50 26.5	+1.0	
	baz=84							
O22A	**Kremmling**	83.25	45	⇓P	P	09 50 26.7	+0.9	
	baz=84							
129A	**Stewart Farms,**	83.27	53	⇑P	P	09 50 26.6	+0.7	
	baz=84							
HRY	**Holter Researc**	83.28	37	*e*P	P	09 50 26.1	+0.5	
	5.3nm,0.5s							
K20A	**Yellowstone Ra**	83.29	42	⇓P	P	09 50 26.1	+0.2	
	baz=84							
330A	**Mertzon**	83.29	55	⇑P	P	09 50 26.6	+0.7	
	baz=84							
R24A	**Sanders Place,**	83.33	47	⇓P	P	09 50 26.7	+0.5	
	baz=84							
431A	**Sonora**	83.44	55	⇓P	P	09 50 27.2	+0.4	
	baz=84							
U26A	**Atchley Ranch,**	83.48	49	⇓P	P	09 50 26.8	-0.2	
	baz=84							
Y28A	**McKinney Farm,**	83.51	52	⇓P	P	09 50 27.3	+0.2	
	baz=84							
S25A	**Robets Cordova**	83.55	48	⇓P	P	09 50 27.8	+0.5	
	baz=84							
I19A	**Meeteetse**	83.57	40	⇑P	P	09 50 26.7	-0.6	
	baz=84							
ILAR	**Eielson Array**	83.61	11	P	P	09 50 26.4	-0.3	
ILAR	**Eielson Array**	83.61	11	P	P	09 50 26.4	-0.3	
	1.0nm,0.7s,baz=227,slow=6.1,SNR=9.0							
N22A	**Wattenberg Ran**	83.61	44	⇑P	P	09 50 28.3	+0.6	
	baz=84							
632A	**Uvalde**	83.63	57	⇓P	P	09 50 28.8	+1.1	
	baz=84							
Q24A	**Divide**	83.64	46	⇓P	P	09 50 28.5	+0.6	
	baz=84							
Z29A	**Hungry Hill Ra**	83.65	53	⇓P	P	09 50 28.8	+1.0	
	baz=84							
ISCO	**Idaho Springs**	83.71	45	⇑P	P	09 50 28.7	+0.5	
	baz=84							
532A	**Rocksprings**	83.78	56	⇑P	P	09 50 29.3	+0.8	
	baz=84							
J20A	**Shoshoni**	83.80	41	⇓P	P	09 50 28.9	+0.5	
	baz=84							
331A	**San Angelo**	83.84	55	⇓P	P	09 50 29.2	+0.4	
	baz=84							
H19A	**Powell**	83.90	40	⇑P	P	09 50 29.6	+0.8	
	baz=84							
Y29A	**Porterfield Fa**	83.93	52	⇓P	P	09 50 29.7	+0.5	
	baz=84							
130A	**Snyder**	83.94	54	⇓P	P	09 50 30.2	+0.9	
	baz=84							
K21A	**Alcova**	83.97	42	⇓P	P	09 50 30.0	+0.6	
	baz=84							
N23A	**Red Feather La**	84.00	44	⇓P	P	09 50 30.5	+0.9	
	baz=84							
I20A	**Worland**	84.07	41	⇓P	P	09 50 30.9	+1.2	
	baz=84							
Z30A	**Sanderson Ranc**	84.10	53	⇑P	P	09 50 30.6	+0.5	
	baz=84							
X29A	**Tulia**	84.15	52	⇑P	P	09 50 30.8	+0.4	
	baz=84							
432A	**Menard**	84.16	55	⇑P	P	09 50 30.6	+0.2	
	baz=84							
231A	**Bronte**	84.18	54	⇓P	P	09 50 30.5	0.0	
	baz=84							
J21A	**Lysite**	84.20	42	⇓P	P	09 50 30.8	+0.3	
	baz=84							
L22A	**Ellis Ranch, M**	84.22	43	⇓P	P	09 50 31.0	+0.3	
	baz=84							
S26A	**Kim**	84.22	48	⇑P	P	09 50 30.6	0.0	
	baz=84							
O24A	**Longmont**	84.23	45	⇓P	P	09 50 30.2	-0.5	
	baz=84							
332A	**Millersview**	84.41	55	⇑P	P	09 50 32.3	+0.7	
	baz=85							
H20A	**Greybull**	84.42	40	⇑P	P	09 50 31.9	+0.4	
	baz=85							
131A	**Roby**	84.42	54	⇓P	P	09 50 32.4	+0.8	
	baz=85							
K22A	**Casper**	84.45	43	⇑P	P	09 50 32.1	+0.4	
	baz=85							
T27A	**Campo**	84.51	49	⇓P	P	09 50 33.1	+1.0	
	baz=85							
I21A	**Big Trails, Te**	84.53	41	⇑P	P	09 50 32.6	+0.5	
	baz=85							
F19A	**Roth Farm, Mol**	84.53	39	⇓P	P	09 50 32.5	+0.5	
	baz=85							
R26A	**Arlington**	84.53	47	⇑P	P	09 50 33.2	+1.0	
	baz=85							
G20A	**Bridger**	84.65	40	⇑P	P	09 50 33.3	+0.6	
	baz=85							
232A	**Coleman**	84.68	55	⇑P	P	09 50 33.2	+0.1	
	baz=85							
WHN	**Wuhan**	84.80	304	*e*P	P	09 50 33.0	-0.6	
Z31A	**Sharp Cattle R**	84.87	53	⇑P	P	09 50 34.6	+0.6	
	baz=85							
T28A	**Walsh**	84.97	49	⇑P	P	09 50 34.6	+0.1	
	baz=85							
ABTX	**Abilene, Hawle**	84.97	54	⇓P	P	09 50 34.7	+0.3	
	baz=85							
R27A	**Eads**	84.98	48	⇓P	P	09 50 34.4	-0.1	
	baz=85							
E20A	**Meyer Farm, Mu**	85.35	39	⇓P	P	09 50 36.9	+0.8	
	baz=86							
Z32A	**Haskell**	85.37	53	⇓P	P	09 50 37.2	+0.8	
	baz=86							
C19A	**Slack Wire Ran**	85.43	37	⇓P	P	09 50 37.0	+0.5	
	baz=86							
Y32A	**R-V Farms, Ver**	85.68	53	⇓P	P	09 50 38.6	+0.6	
	baz=86							
R28A	**Tribune**	85.71	48	⇓P	P	09 50 38.5	+0.4	
	baz=86							
MAW	**Mawson**	86.82	198	P	P	09 50 43.3	+0.3	
MAW	**Mawson**	86.82	198	P	P	09 50 43.3	+0.3	
	1.6nm,0.9s,baz=117,slow=4.5,SNR=4.3							
BJI	**Beijing**	87.24	313	P	P	09 50 44.8	-0.6	
BJI				AMB	AMB			
	comp=Z,8.0nm,0.7s							
PLCA	**Paso Flores**	87.75	132	*e*P	P	09 50 48.6	+0.5	
	1.2nm,0.6s							
PLCA	**Paso Flores**	87.75	132	P	P	09 50 47.9	-0.3	
	1.3nm,0.7s,baz=127,slow=1.6,SNR=5.4							
PLCA				LR	LR	10 20 44.8		
	comp=Z,122nm,20.3s,baz=136,slow=29							
GYA	**Guiyang**	89.68	298	*e*P	P	09 50 57.0	-0.5	
GYA				PP	PP	09 54 29.4	-0.4	
GYA				SKS	SKSac	10 01 25.0	-2.7	
GYA				S	SKKSac	10 01 44.2	+3.8	
GYA				SS	SS	10 07 42.6	-3.2	
GYA				AMB	AMB			
	comp=Z,10.0nm,1.0s							
GYA				AMB	AMB			
	comp=Z,90nm,5.9s							
GYA				LR	LR			
	comp=N,450nm,18.4s							
GYA				LR	LR			
	comp=E,360nm,19.0s							
GYA				LR	LR			
	comp=Z,470nm,18.7s							
HHC	**Hu-ho-hao-te**	90.79	313	*e*P	P	09 51 00.2	-2.1	
HHC				pP	pP	09 51 06.7	-1.5	
HHC				sP	sP	09 51 09.9	-0.4	
HHC				PP	PP	09 54 38.3	0.0	
HHC				S	S	10 01 53.7	-4.6	
HHC				sS	sS	10 02 06.9	-1.1	
HHC				AMB	AMB			
	comp=Z,44nm,1.0s							
HHC				AMB	AMB			
	comp=Z,420nm,7.1s							
HHC				LR	LR			
	comp=N,390nm,19.0s							
HHC				LR	LR			
	comp=E,760nm,15.5s							
HHC				LR	LR			
	comp=Z,380nm,16.7s							
KMI	**Kunming**	92.64	295	P	P	09 51 16.2	+4.8	
KMI				AMB	AMB			
	comp=Z,8.0nm,2.0s							
CD2	**Chengdu**	93.49	301	P	P	09 51 15.3	+0.3	
CD2				AMB	AMB			
	comp=Z,10.0nm,0.5s							
ULM	**Lac du Bonnet**	94.32	39	LR	LR	10 27 59.7		
	comp=Z,126nm,18.2s,baz=268,slow=32							
LZH	**Lanzhou**	94.95	306	*e*P	P	09 51 23.5	+1.8	
LZH				pP	pP	09 51 27.4	-0.2	
LZH				sP	sP	09 51 31.1	+1.5	
LZH				AMB	AMB			
	comp=Z,10.0nm,1.0s							
ROSC	**El Rosal**	98.94	88	LR	LR	10 25 22.6		
	comp=Z,65nm,21.8s,baz=172,slow=29							
CLL	**Collm**	145.32	354	*e*PKPdf	PKPdf	09 57 37.0	+0.4	
	comp=Z,6.0nm,0.8s							
NEUB	**Neuenburg**	145.53	356	*e*PKPbc	PKPab	09 57 38.9	+1.7	
BRG	**Berggiesshubel**	145.65	353	*e*PKPbc	PKPab	09 57 39.3	+1.6	
FBE	**Freiberg**	145.67	354	*e*PKPbc	PKPab	09 57 40.0	+2.2	
STHS	**Stebnicka Huta**	145.68	344	*e*PKP	PKPbc	09 57 37.7	+0.1	
UPC	**Upice**	145.73	351	*e*PKP	PKPab	09 57 39.8	+1.8	
UPC				*ex*	x	09 57 49.8		
DPC	**Dobruska-Polom**	145.83	350	*e*PKP	PKPab	09 57 39.2	+0.7	
DPC				*ex*	x	09 57 48.9		
KOLS	**Kolonicke sedl**	145.84	343	*e*PKP	PKPab	09 57 40.8	+2.3	
KMBO	**Kilima Mbogo**	145.89	241	PKPbc	PKPab	09 57 40.0	-0.1	
KMBO	**Kilima Mbogo**	145.89	241	PKPbc	PKPab	09 57 40.0	-0.1	
	comp=Z,2.1nm,1.0s,baz=190,slow=7.8,SNR=11							
OKC	**Ostrava-Krasne**	146.00	348	*e*PKP	PKPab	09 57 40.7	+1.7	
UBBA	**Unterbreizbach**	146.02	357	*e*PKPbc	PKPab	09 57 40.5	+1.6	
MOX	**Moxa**	146.10	356	*e*PKPbc	PKPab	09 57 41.2	+1.8	
MOX				*ep*PKPbc	pPKPbc	09 57 50.3	+5.5	
PLN	**Plauen**	146.22	355	*e*PKPbc	PKPab	09 57 41.6	+1.7	
MEM	**Membach**	146.25	2	PKP	PKPab	09 57 40.2	+0.2	
TANN	**Tannenbergstha**	146.26	355	*e*PKPbc	PKPab	09 57 42.0	+1.9	
TANN				*ep*PKPbc	pPKPbc	09 57 51.0	+5.7	
GUNZ	**Gunzen**	146.32	355	*e*PKPbc	PKPab	09 57 42.1	+1.8	
WERN	**Wernitzgruen**	146.39	355	*e*PKPbc	PKPab	09 57 42.6	+2.0	
BCLA	**Clavier**	146.41	3	PKP	PKPab	09 57 42.1	+1.5	
PRU	**Pruhonice**	146.45	352	*e*PKP	PKPab	09 57 41.9	+1.2	
PRU				*ex*	x	09 57 48.9		
TNS	**Taunus Mts**	146.66	359	*e*PKPbc	PKPab	09 57 43.0	+1.4	
DOU	**Dourbes**	146.69	4	PKP	PKPab	09 57 41.7	0.0	
MANZ	**Manzenberg**	146.72	355	*e*PKPbc	PKPab	09 57 43.0	+1.2	
VRAC	**Vranov**	146.79	349	PKPbc	PKPab	09 57 41.9	-0.3	
VRAC	**Vranov**	146.79	349	PKPbc	PKPab	09 57 41.9	-0.3	
	comp=Z,3.1nm,0.7s,baz=45,slow=16,SNR=5.2							
ROTZ	**Rotzenmuhle**	146.93	355	*e*PKPbc	PKPab	09 57 43.9	+1.3	
TREC	**Trest**	146.99	351	*e*PKP	PKPab	09 57 43.9	+1.0	
GRF	**Grafenberg Arr**	147.08	356	*e*PKPbc	PKPab	09 57 44.6	+1.4	
KHC	**Kasperske Hory**	147.41	353	*e*PKP	PKPab	09 57 45.8	+1.2	
KHC				*ex*	x	09 57 54.5		
GEC2	**GERESS Array S**	147.68	353	*e*PKPbc	PKPab	09 57 45.7	0.0	
GERES	**GERESS Array B**	147.68	353	PKPbc	PKPbc	09 57 42.9	-0.6	
GERES	**GERESS Array B**	147.68	353	PKPbc	PKPbc	09 57 42.9	-0.6	
	comp=Z,0.7nm,0.5s,baz=19,slow=6.2,SNR=6.4							
BRTR	**Keskin Array B**	147.94	321	PKPbc	PKPbc	09 57 45.5	+0.8	
BRTR	**Keskin Array B**	147.94	321	PKPbc	PKPbc	09 57 45.5	+0.8	
	comp=Z,2.7nm,0.8s,baz=90,slow=1.6,SNR=10							
CONA	**Conrad Observa**	148.25	350	⇑*i*pPKPbc	PKPab	09 57 47.8	-0.3	
	comp=Z,12nm,1.1s							
BFO	**Black Forest**	148.56	359	*e*PKPbc	PKPab	09 57 48.1	-1.1	
RJOB	**Jochberg**	148.88	353	*e*PKPbc	PKPab	09 57 49.1	-1.4	
FETA	**Feichten**	149.77	356	⇑*i*PKiKP	PKiKP	09 57 50.1	+0.1	
	comp=Z,14nm,1.4s							
DAVOX	**Davos/Dischmat**	150.06	357	PKPbc	PKPbc	09 57 50.7	+0.9	
DAVOX	**Davos/Dischmat**	150.06	357	PKPbc	PKPbc	09 57 50.7	+0.9	
	comp=Z,3.0nm,0.5s,baz=45,slow=1.4,SNR=4.3							
TUE	**Stuetta**	150.39	358	*e*PKPbc	PKPbc	09 57 53.4	+2.8	
SSB	**Saint Sauveur**	151.48	5	*e*PKPbc	PKPbc	09 57 54.1	+1.1	
IDI	**Anoyia**	156.07	324	PKP	PKPdf	09 57 55.0	+1.3	
IDI	**Anoyia**	156.07	324	PKP	PKPdf	09 57 55.0	+1.3	
	comp=Z,9.8nm,0.9s,baz=34,slow=3.6,SNR=2.8							
TORD	**Torodi Ar. Bea**	173.10	121	PKP	PKPdf	09 58 08.2	-0.9	
TORD				PKPab	PKPab	09 59 35.4	-1.0	
TORD	**Torodi Ar. Bea**	173.10	121	PKP	PKPdf	09 58 08.2	-0.9	
	comp=Z,0.8nm,0.9s,baz=243,slow=1.0,SNR=3.4							
TORD				PKPab	PKPab	09 59 35.4	-1.0	
	comp=Z,1.5nm,0.6s,baz=266,slow=4.2,SNR=14							

*IDC **06** 09:45:07.7±2.3,36°.94N×143°.23E,h0km,mb3.5/5, mb1 3.5/6,mb1mx3.4/25,mbtmp3.5/6,ML3.5/1,MS3.0/1, Ms1 3.0/1,ms1mx2.7/26,Error ellipse: s-maj=78.5km s-min=22.3km az=72.0*

*ISCJB **06** 09:45:10.0±0.8,36°.96N±0°.04×142°.98E±0°.06,h25km, mb3.4/5,Error ellipse: s-maj=7.0km s-min=5.3km az=11.2*

*JMA **06** 09:45:10.4±0.2,36°.96N×143°.00E,h42km,M3.3*

ISC 06 09:45:12.4±1.3,37°.00N±0°.05×142°.92E±0°.10,h25km,n20, σ1§15/31,mb3.4/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	1.67	283	P	Pn	09 45 39.1	-1.1
JFK				eS	Sn	09 46 00.3	-0.5
ONAJ	**Iwakimizuishiy**	1.70	274	P	Pn	09 45 39.7	-0.8
ONAJ				S	Sn	09 46 01.3	-0.2
JMM	**Marumori**	1.90	298	P	Pn	09 45 42.3	-1.0
JMM				eS	Sn	09 46 05.5	-0.9
JIO	**Ouri**	1.91	320	P	Pn	09 45 42.5	-0.9
JIO				S	Sn	09 46 06.4	-0.3
JFT	**Otama**	2.12	285	P	Pn	09 45 46.2	-0.1
JFT				eS	Sn	09 46 12.7	+0.8
JMK	**Ichinoseki**	2.37	326	P	Pn	09 45 48.9	-0.8
JOM	**Ohasama**	2.78	333	P	Pn	09 45 55.3	-0.1
JOM				eS	Sn	09 46 28.1	-0.1
JYK	**Kaneyama**	2.79	314	P	Pn	09 45 55.5	+0.1
BSO1	**Boso 1**	2.82	215	P	Pn	09 45 54.6	-0.8
BSO1				eS	Sn	09 46 28.3	0.0
JAG	**Ashikaga**	2.84	259	P	Pn	09 45 55.8	-0.4
JAG				eS	Sn	09 46 28.9	-0.7
JRY	**Ryogami san**	3.38	254	P	Pn	09 46 03.0	-0.6
JRY				eS	Sn	09 46 40.8	-2.2
JOD2	**Odawara 2**	3.55	242	P	Pn	09 46 05.3	-0.7
JOD2				eS	Sn	09 46 45.4	-1.7
MAT	**Matsushiro**	3.81	265	P	Pn	09 46 10.4	+0.9
MAT				S	Sn	09 46 56.6	+3.1
ASAJ	**Asahikawa**	7.12	358	Pn	Pn	09 46 54.1	-0.8
	0.8nm,0.3s,baz=344,slow=33,SNR=6.8						
ASAJ				Sn	Sn	09 48 13.1	-1.8
	0.3nm,0.3s,baz=342,slow=20,SNR=2.5						
USRK	**Ussuriysk Arra**	10.98	314	LR	LR	09 51 25.1	
	comp=Z,88nm,21.6s,baz=47,slow=34						
SONM	**Songino Array**	28.80	304	P	P	09 51 10.6	+2.1
	0.7nm,0.6s,baz=106,slow=11,SNR=3.7						
MKAR	**Makanchi Array**	45.16	302	P	P	09 53 27.0	0.0
	0.3nm,0.6s,baz=91,slow=11,SNR=2.6						
KURBB	**Kurchatov Arra**	46.97	308	P	P	09 53 41.9	+0.8
	0.7nm,0.5s,baz=82,slow=7.8,SNR=8.2						
WRA	**Warramunga Arr**	57.21	190	P	P	09 54 56.6	-0.9
	0.2nm,0.7s,baz=8.2,slow=7.0,SNR=3.4						
ASAR	**Alice Springs**	60.93	189	P	P	09 55 22.4	-1.0
	0.1nm,0.4s,baz=3.5,slow=6.2,SNR=4.5						

IDC 06 09:53:21.2±1.0,16°.85S×172°.26W,h0km,mb4.1/5, mb1 4.4/5,mb1mx4.0/19,mbtmp4.1/5,MS3.6/1,Ms1 3.6/1, ms1mx2.9/32,Error ellipse: s-maj=65.9km s-min=21.1km az=153.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	2.96	9	Sn	Sn	09 54 36.3	-10
	18nm,0.3s,baz=160,slow=22,SNR=3.9						
HNR	**Honiara**	28.02	282	LR	LR	10 08 25.7	
	comp=Z,122nm,20.9s,baz=152,slow=32						
STKA	**Stephens Creek**	44.28	241	P	P	10 01 33.7	+0.8
	2.4nm,0.9s,baz=91,slow=18,SNR=4.0						
WRA	**Warramunga Arr**	50.59	258	P	P	10 02 21.6	-0.6
	1.0nm,0.6s,baz=96,slow=7.2,SNR=21						
ASAR	**Alice Springs**	50.72	253	P	P	10 02 22.8	-0.4
	9.4nm,0.7s,baz=88,slow=8.6,SNR=150						
NVAR	**Mina Array Bea**	74.68	41	P	P	10 05 03.2	+0.1
	1.0nm,0.8s,baz=225,slow=10,SNR=7.8						
TXAR	**Lajitas Array**	80.52	56	P	P	10 05 35.6	-0.1
	0.9nm,1.1s,baz=212,slow=4.4,SNR=5.7						
BRTR	**Keskin Array B**	147.97	321	PKPbc	PKPbc	10 13 08.4	-0.6
	0.4nm,0.3s,baz=132,slow=2.1,SNR=2.4						
ESDC	**Sonseca Array**	155.08	22	PKPab	PKPab	10 13 40.8	-0.2
	0.1nm,0.3s,baz=299,slow=18,SNR=4.9						
TORD	**Torodi Ar. Bea**	173.10	121	PKPab	PKPab	10 15 00.0	-0.6
	2.1nm,1.3s,baz=249,slow=5.9,SNR=4.3						

CSEM 06 10:01:29.5±0.5,48°.92N×20°.80E,h1km,ML1.9/2,3C, Error ellipse: s-maj=17.8km s-min=8.5km az=138.0, Suspected Mining explosion.,Czech and Slovak Republics

| Code

CLL				*e*			10 26 24.0		
BRTR	**Keskin Array B**	**147.72**	**319**	PKPbc	PKPbc		10 26 19.6	**+0.7**	
	comp=Z,1.0nm,0.7s,baz=134,slow=3.6,SNR=5.3								

*IDC **06** 10:16:14.3±0.8, 15°.61S×173°.33W, h0km, mb4.0/10, mb1 4.3/10, mb1mx4.1/22, mbtmp4.0/10, MS3.9/14, Ms1 3.9/14, ms1mx3.8/27, Error ellipse: s-maj=46.6km s-min=17.0km az=150.0*

ISC 06 10:16:21.1±0.7, 15°.6S±0°.2×173°.4W±0°.1, h42km, n35, σ1§66/16, mb4.0/10, MS4.0/13, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.31**	**44**	Pn	Pn	10 16 45.5	-11
	617nm,0.3s,baz=56,slow=1.2,SNR=517						
AFI				Sn	Sn	10 17 02.4	-22
	741nm,0.3s,baz=257,slow=23,SNR=19						
RAR	**Rarotonga**	**14.11**	**115**	LR	LR	10 22 59.3	
	comp=Z,547nm,22.0s,baz=315,slow=29						
DZM	**Mont Dzumac**	**20.10**	**248**	*e*LR	LR	10 25 56.7	
	345nm,24.4s						
DZM	**Mont Dzumac**	**20.10**	**248**	P	**P**	**10 20 50.4**	**-1.1**
	4.0nm,0.8s,baz=118,slow=18,SNR=2.0						
PPT	**Papeete**	**22.94**	**98**	LR	LR	10 28 05.5	
	comp=Z,116nm,19.9s,baz=150,slow=31						
PPT2	**Papeete2**	**22.94**	**98**	*e*LQ	LQ	10 25 32.2	
	583nm,24.5s						
PPT2				*e*LR	LR	10 26 36.6	
	481nm,25.2s						
TBI	**Tubuai**	**23.85**	**113**	*e*S	**S**	**10 25 44.6**	**+0.7**
	325nm,31.8s						
TBI				*e*LR	LR	10 26 38.0	
	601nm,28.0s						
HNR	**Honiara**	**26.69**	**280**	LR	LR	10 29 25.2	
	comp=Z,55nm,18.6s,baz=93,slow=30						
RPZ	**Rata Peaks**	**31.00**	**202**	P	P	10 22 28.3	-6.2
	9.5nm,0.6s,baz=355,slow=12,SNR=5.7						
RPZ				LR	LR	10 33 06.5	
	comp=Z,354nm,18.4s,baz=10,slow=33						
RKT	**Rikitea**	**36.96**	**108**	*e*LR	LR	10 32 43.3	
	264nm,26.8s						
CTA	**Charters Tower**	**38.58**	**257**	P	**P**	**10 23 40.2**	**0.0**
	2.0nm,0.6s,baz=117,slow=6.8,SNR=3.6						
PMG	**Port Moresby**	**38.92**	**274**	LR	LR	10 37 01.8	
	comp=Z,108nm,18.0s,baz=63,slow=32						
H11S2	**WAKE ISLAND Hy**	**39.12**	**329**	T	T	11 04 08.3	
	baz=150,slow=0.7,SNR=9.8						
H11S3	**WAKE ISLAND Hy**	**39.13**	**329**	T	T	11 04 26.8	
	baz=150,slow=0.7,SNR=13						
H11S1	**WAKE ISLAND Hy**	**39.13**	**329**	T	T	11 04 30.5	
	baz=150,slow=0.7,SNR=14						
H11N3	**WAKE ISLAND Hy**	**40.07**	**330**	T	T	11 06 34.8	
	baz=148,slow=0.7,SNR=6.8						
H11N1	**WAKE ISLAND Hy**	**40.07**	**330**	T	T	11 06 41.5	
	baz=148,slow=0.7,SNR=7.2						
H11N2	**WAKE ISLAND Hy**	**40.08**	**330**	T	T	11 06 41.2	
	baz=148,slow=0.7,SNR=7.0						
STKA	**Stephens Creek**	**43.92**	**240**	P	**P**	**10 24 21.7**	**-2.3**
	1.4nm,0.6s,baz=80,slow=5.2,SNR=4.0						
STKA				LR	LR	10 42 16.8	
	comp=Z,181nm,18.6s,baz=32,slow=36						
WRA	**Warramunga Arr**	**49.78**	**257**	P	**P**	**10 25 10.6**	**+0.6**
	0.8nm,0.4s,baz=96,slow=7.7,SNR=25						
ASAR	**Alice Springs**	**50.03**	**252**	P	**P**	**10 25 11.2**	**-0.7**
	2.6nm,0.6s,baz=89,slow=8.4,SNR=46						
ASAR				PcP	**PcP**	**10 26 34.7**	**+3.3**
	1.4nm,0.7s,baz=95,slow=5.0,SNR=4.7						
VNDA	**Vanda**	**63.18**	**186**	LR	LR	10 48 19.2	
	comp=Z,78nm,19.2s,baz=1.2,slow=30						
NVAR	**Mina Array Bea**	**74.49**	**42**	P	**P**	**10 27 54.9**	**-0.7**
	0.8nm,0.7s,baz=227,slow=11,SNR=6.1						
NVAR				LR	LR	10 53 51.6	
	comp=Z,118nm,18.8s,baz=288,slow=30						
USRK	**Ussuriysk Arra**	**77.52**	**323**	LR	LR	10 59 22.5	
	comp=Z,169nm,18.1s,baz=58,slow=33						
TXAR	**Lajitas Array**	**80.74**	**56**	P	**P**	**10 28 30.1**	**-0.4**
	1.1nm,1.1s,baz=212,slow=4.4,SNR=6.3						
TXAR				LR	LR	10 56 23.7	
	comp=Z,42nm,19.3s,baz=5.0,slow=30						
PDAR	**Pinedale Array**	**82.42**	**42**	P	**P**	**10 28 38.6**	**-0.7**
	0.4nm,0.7s,baz=197,slow=1.5,SNR=4.1						
PDAR				LR	LR	10 59 03.0	
	comp=Z,87nm,18.2s,baz=151,slow=31						
ILAR	**Eielson Array**	**82.64**	**11**	P	**P**	**10 28 39.0**	**-0.6**
	0.7nm,0.7s,baz=224,slow=6.1,SNR=6.8						
ILAR				LR	LR	11 04 10.7	
	comp=Z,63nm,18.3s,baz=238,slow=35						
MAW	**Mawson**	**87.60**	**199**	P	**P**	**10 29 06.0**	**+1.5**
	3.6nm,0.9s,baz=116,slow=3.0,SNR=6.4						
PLCA	**Paso Flores**	**89.40**	**132**	LR	LR	11 00 17.1	
	comp=Z,136nm,19.5s,baz=136,slow=30						
LPAZ	**La Paz**	**99.77**	**110**	LR	LR	11 04 13.5	
	comp=Z,74nm,20.9s,baz=78,slow=29						
CLL	**Collm**	**144.00**	**353**	*i* PKP	PKPdf	10 36 01.6	+10
CLL				*i*		10 36 11.0	
	comp=Z,22nm,1.6s						
KMBO	**Kilima Mbogo**	**145.43**	**244**	PKPbc	**PKPab**	**10 35 58.2**	**+2.1**
	comp=Z,1.7nm,0.7s,baz=100,slow=6.1,SNR=4.8						
BRTR	**Keskin Array B**	**146.29**	**321**	PKPbc	**PKPab**	**10 35 59.6**	**+1.1**
	comp=Z,2.1nm,0.9s,baz=130,slow=3.0,SNR=7.1						
GERES	**GERESS Array B**	**146.33**	**352**	PKPbc	**PKPab**	**10 35 59.4**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=48,slow=4.4,SNR=4.1						
TORD	**Torodi Ar. Bea**	**174.68**	**117**	PKPab	**PKPab**	**10 37 58.7**	**-2.5**
	comp=Z,0.9nm,1.0s,baz=262,slow=3.9,SNR=3.4						

*CSEM **06** 10:27:42.3±0.7, 36°.60N×19°.88E, h10km, MD3.4, Error ellipse: s-maj=14.2km s-min=6.2km az=30.0*
*ATH **06** 10:27:42.8, 36°.47N×20°.06E, h21km±2km, MD3.4/22*
*TIR **06** 10:27:42.4, 37°.19N×19°.39E, h7km*
*PDG **06** 10:27:45.0±0.2, 36°.92N×19°.87E, h14km±2km, ML4.0/8, Error ellipse: s-maj=2.5km s-min=0.9km az=90.0*
*THE **06** 10:27:46.4, 36°.60N×20°.05E, h31km±26km, ML3.3/3, Error ellipse: s-maj=26.4km s-min=1.1km az=0.0*

ISC 06 10:27:38.8±2.1, 36°.53N±0°.07×19°.72E±0°.06, h12km±10km, n86, σ1§70/121, 8C-4D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFD	**Strofades**	**1.26**	**55**	*e*PN	**Pg**	**10 28 03.1**	**0.0**
SFD				*e*SN	**Sg**	**10 28 19.4**	**-0.2**
SFD	**Strofades**	**1.26**	**55**	*e*Pb	**Pg**	**10 28 03.1**	**0.0**
SFD				*e*Sn	**Sg**	**10 28 19.4**	**-0.2**
PYL	**PYLOS**	**1.66**	**77**	P	**Pb**	**10 28 09.1**	**-0.3**
PYL				S	**Sn**	**10 28 26.9**	**-2.2**
PYL	**PYLOS**	**1.66**	**77**	*e*PN	**Pb**	**10 28 09.1**	**-0.3**
PYL				*e*SN	**Sn**	**10 28 28.8**	**-0.3**
PYL	**PYLOS**	**1.66**	**77**	P	**Pb**	**10 28 09.1**	**-0.3**
PYL				S	**Sn**	**10 28 26.9**	**-2.2**
PYL				*e*Sn	**Sn**	**10 28 28.8**	**-0.3**
VLS	**Valsamata**	**1.78**	**23**	P	**Pg**	**10 28 12.5**	**-0.6**
VLS	**Valsamata**	**1.78**	**23**	*e*PB	**Pg**	**10 28 12.4**	**-0.6**
VLS	**Valsamata**	**1.78**	**23**	*e*Pb	**Pg**	**10 28 12.4**	**-0.6**
KFL	**Anninata**	**1.79**	**28**	P	**Pb**	**10 28 12.4**	**+0.8**
KFL				S	**Sn**	**10 28 31.7**	**-0.5**
KFL	**Anninata**	**1.79**	**28**	P	**Pb**	**10 28 12.4**	**+0.8**
KFL				S	**Sn**	**10 28 31.7**	**-0.5**
AMT	**Artemida-Makis**	**1.88**	**57**	P	**Pn**	**10 28 12.1**	**+1.3**
AMT				S	**Sn**	**10 28 32.4**	**-2.0**
AMT	**Artemida-Makis**	**1.88**	**57**	*e*PN	**Pb**	**10 28 13.8**	**+0.7**
AMT	**Artemida-Makis**	**1.88**	**57**	P	**Pn**	**10 28 12.1**	**+1.3**
AMT	**Artemida-Makis**	**1.88**	**57**	*e*Pn	**Pb**	**10 28 13.8**	**+0.7**
AMT				S	**Sn**	**10 28 32.4**	**-2.0**
ITM	**Ithomi**	**1.88**	**69**	P	**Pb**	**10 28 12.4**	**-0.8**
ITM				S	**Sn**	**10 28 32.6**	**-1.9**
ITM	**Ithomi**	**1.88**	**69**	*e*PN	**Pb**	**10 28 12.3**	**-0.9**
ITM				*e*SN	**Sn**	**10 28 34.2**	**-0.3**
ITM	**Ithomi**	**1.88**	**69**	P	**Pb**	**10 28 12.4**	**-0.8**
ITM				S	**Sn**	**10 28 32.6**	**-1.9**
ITM				*e*Sn	**Sn**	**10 28 34.2**	**-0.3**
RLS	**Riolos of Patr**	**2.06**	**42**	P	**Pb**	**10 28 15.6**	**-0.6**
RLS	**Riolos of Patr**	**2.06**	**42**	*e*PB	**Pb**	**10 28 16.2**	**0.0**
RLS				*e*SN	**Sb**	**10 28 41.2**	**-0.6**
RLS	**Riolos of Patr**	**2.06**	**42**	P	**Pb**	**10 28 15.6**	**-0.6**
RLS	**Riolos of Patr**	**2.06**	**42**	*e*Pb	**Pb**	**10 28 16.2**	**0.0**
RLS				*e*Sn	**Sb**	**10 28 41.2**	**-0.6**
AXS	**Araxos**	**2.12**	**38**	P	**Pb**	**10 28 17.2**	**0.0**
AXS	**Araxos**	**2.12**	**38**	P	**Pb**	**10 28 17.2**	**0.0**
VLX	**Vlachokerasia**	**2.29**	**68**	*e*PN	**Pb**	**10 28 19.3**	**-0.8**
VLX	**Vlachokerasia**	**2.29**	**68**	*e*Pn	**Pb**	**10 28 19.3**	**-0.8**
KLV	**Kalavryta, Ach**	**2.46**	**51**	P	**Pb**	**10 28 21.5**	**-1.4**
KLV	**Kalavryta, Ach**	**2.46**	**51**	*e*PB	**Pb**	**10 28 21.5**	**-1.4**
KLV				*e*SN	**Sn**	**10 28 49.7**	**+1.0**
KLV	**Kalavryta, Ach**	**2.46**	**51**	P	**Pb**	**10 28 21.5**	**-1.4**
KLV				*e*Sn	**Sn**	**10 28 49.7**	**+1.0**
LAKA	**Lakka**	**2.48**	**46**	*e*PB	**Pb**	**10 28 22.9**	**-0.4**
LAKA	**Lakka**	**2.48**	**46**	*e*Pb	**Pb**	**10 28 22.9**	**-0.4**
GUR	**Goura**	**2.52**	**55**	*e*PB	**Pb**	**10 28 23.0**	**-1.0**
GUR	**Goura**	**2.52**	**55**	*e*Pb	**Pb**	**10 28 23.0**	**-1.0**
EFP	**Efpalio**	**2.57**	**42**	P	**Pb**	**10 28 24.4**	**-0.4**
EFP	**Efpalio**	**2.57**	**42**	*e*PB	**Pb**	**10 28 24.4**	**-0.4**
EFP	**Efpalio**	**2.57**	**42**	P	**Pb**	**10 28 24.4**	**-0.4**
VLI	**Veliai**	**2.59**	**85**	P	**Pn**	**10 28 22.5**	**+1.9**
VLI	**Veliai**	**2.59**	**85**	*e*PN	**Pn**	**10 28 22.4**	**+1.9**
VLI				*e*SN	**Sn**	**10 28 51.8**	**-0.2**
VLI	**Veliai**	**2.59**	**85**	*e*Pn	**Pn**	**10 28 22.4**	**+1.9**
VLI				*e*Sn	**Sn**	**10 28 51.8**	**-0.2**
KALE	**Kalithea**	**2.67**	**45**	P	**Pb**	**10 28 26.0**	**-0.6**
KALE	**Kalithea**	**2.67**	**45**	*e*PB	**Pb**	**10 28 26.1**	**-0.6**
KALE	**Kalithea**	**2.67**	**45**	P	**Pb**	**10 28 26.0**	**-0.6**
KYTH	**Kithira**	**2.69**	**94**	P	**Pn**	**10 28 23.6**	**+1.7**
KYTH	**Kithira**	**2.69**	**94**	*e*PN	**Pn**	**10 28 23.6**	**+1.7**
KYTH	**Kithira**	**2.69**	**94**	P	**Pn**	**10 28 23.6**	**+1.7**
EVR	**Evrytania**	**2.90**	**34**	*e*PN	**Pb**	**10 28 29.2**	**-1.3**
EVR	**Evrytania**	**2.90**	**34**	*e*Pn	**Pb**	**10 28 29.2**	**-1.3**
ANKY	**Antikythira Is**	**2.97**	**102**	P	**Pn**	**10 28 27.6**	**+1.8**
ANKY				S	**Sn**	**10 28 59.9**	**-1.4**
ANKY	**Antikythira Is**	**2.97**	**102**	*e*PN	**Pn**	**10 28 27.4**	**+1.6**
ANKY				*e*SN	**Sn**	**10 28 59.9**	**-1.4**
ANKY	**Antikythira Is**	**2.97**	**102**	*e*Pn	**Pn**	**10 28 27.4**	**+1.6**
ANKY				S	**Sn**	**10 28 59.9**	**-1.4**
DID	**Didima**	**2.98**	**70**	*e*PN	**Pn**	**10 28 27.5**	**+1.6**
DID				*e*SN	**Sn**	**10 29 01.2**	**-0.3**
DID	**Didima**	**2.98**	**70**	*e*Pn	**Pn**	**10 28 27.5**	**+1.6**
DID				*e*Sn	**Sn**	**10 29 01.2**	**-0.3**
AGG	**Agios Georgios**	**3.23**	**39**	*e*PN	**Pb**	**10 28 33.7**	**-2.5**
AGG	**Agios Georgios**	**3.23**	**39**	*e*Pn	**Pb**	**10 28 33.7**	**-2.5**
NAIG	**Nisos Aigina**	**3.25**	**67**	*e*PN	**Pn**	**10 28 31.5**	**+1.9**
NAIG	**Nisos Aigina**	**3.25**	**67**	*e*Pn	**Pn**	**10 28 31.5**	**+1.9**
LKR	**Lokris**	**3.35**	**50**	*e*PN	**Pn**	**10 28 34.2**	**+3.2**
LKR				*e*SN	**Sn**	**10 29 11.7**	**+0.9**
LKR	**Lokris**	**3.35**	**50**	*e*Pn	**Pn**	**10 28 34.2**	**+3.2**
LKR				*e*Sn	**Sn**	**10 29 11.7**	**+0.9**
THL	**Klokotos Trika**	**3.53**	**30**	*e*PN	Pb	10 28 38.0	-3.2
THL	**Klokotos Trika**	**3.53**	**30**	*e*Pn	Pb	10 28 38.0	-3.2
AOS	**Alonnisos**	**4.22**	**50**	*e*PN	**Pn**	**10 28 45.5**	**+2.6**
AOS	**Alonnisos**	**4.22**	**50**	*e*Pn	**Pn**	**10 28 45.5**	**+2.6**
PHP	**Peshkopia**	**5.18**	**6**	*e*PN	**Pn**	**10 28 59.0**	**+2.9**
PHP	**Peshkopia**	**5.18**	**6**	*e*Pn	**Pn**	**10 28 59.0**	**+2.9**
ULC	**Ulcinj**	**5.44**	**356**	⇑*i*PN	**Pn**	**10 29 01.7**	**+2.0**
ULC				*e*Sn	**Sn**	**10 30 00.5**	**-1.7**
ULC	**Ulcinj**	**5.44**	**356**	⇑*i*Pn	**Pn**	**10 29 01.7**	**+2.0**
PUK	**Puka**	**5.50**	**1**	*e*PN	**Pn**	**10 29 03.0**	**+2.3**
PUK				*e*SN	**Sn**	**10 30 05.9**	**+2.0**
PUK	**Puka**	**5.50**	**1**	*e*Pn	**Pn**	**10 29 03.0**	**+2.3**
PUK				*e*Sn	**Sn**	**10 30 05.9**	**+2.0**
BUM	**Brajici-Budva**	**5.80**	**354**	⇑*i*PN	**Pn**	**10 29 07.4**	**+2.7**
BUM				*e*Sn	**Sn**	**10 30 08.9**	**-2.2**
BUM	**Brajici-Budva**	**5.80**	**354**	⇑*i*Pn	**Pn**	**10 29 07.4**	**+2.7**
PDG	**Podgorica**	**5.90**	**357**	⇑*i*PN	**Pn**	**10 29 08.8**	**+2.8**
TTG	**Podgorica**	**5.90**	**357**	⇑*i*Pn	**Pn**	**10 29 08.8**	**+2.8**
TTG				*e*Sn	**Sn**	**10 30 11.7**	**-1.8**
HCY	**Herceg Novi**	**5.98**	**351**	*e*Pn	**Pn**	**10 29 09.3**	**+2.1**
HCY				*e*Sn	**Sn**	**10 30 14.1**	**-1.5**
HCY	**Herceg Novi**	**5.98**	**351**	*e*Pn	**Pn**	**10 29 09.3**	**+2.1**
PVY	**Plav**	**6.06**	**2**	⇑*i*Pn	**Pn**	**10 29 10.0**	**+1.7**
PVY				*e*Sn	**Sn**	**10 30 14.9**	**-2.7**
PVY	**Plav**	**6.06**	**2**	⇑*i*Pn	**Pn**	**10 29 10.0**	**+1.7**
NKY	**Niksic**	**6.30**	**355**	⇓*i*PN	**Pn**	**10 29 13.9**	**+2.3**
NKY				*e*Sn	**Sn**	**10 30 20.9**	**-2.6**
NKY	**Niksic**	**6.30**	**355**	⇓*i*Pn	**Pn**	**10 29 13.9**	**+2.3**
BEY	**Berane**	**6.33**	**1**	⇓*i*PN	**Pn**	**10 29 13.8**	**+1.8**
IVA	**Berane**	**6.33**	**1**	⇓*i*Pn	**Pn**	**10 29 13.8**	**+1.8**
IVA				*e*Sn	**Sn**	**10 30 21.4**	**-2.9**
UPM	**Unac-Piva**	**6.69**	**355**	*e*Pn	**Pn**	**10 29 19.7**	**+2.6**
UPM				*e*Sn	**Sn**	**10 30 30.3**	**-3.0**
UPM	**Unac-Piva**	**6.69**	**355**	*e*Pn	**Pn**	**10 29 19.7**	**+2.6**
IVAS	**Ivanjica**	**7.04**	**3**	*e*Pn	**Pn**	**10 29 24.0**	**+2.2**
BBLS	**Lazići**	**7.33**	**358**	*e*Pn	**Pn**	**10 29 27.4**	**+1.7**
GRUS	**Gruza**	**7.39**	**6**	*e*Pn	**Pn**	**10 29 29.5**	**+3.1**
DIVS	**Divibare**	**7.56**	**1**	*e*Pn	**Pn**	**10 29 31.0**	**+2.1**
NVLJ	**Novalja**	**8.83**	**337**	Sn	**Sn**	**10 31 23.5**	**-2.0**

IDC 06 10:42:22.9±6.2, 15°.73S×172°.97W, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.7/21, mbtmp3.7/4, ML1.8/1, Error ellipse: s-maj=256.8km s-min=21.0km az=136.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.15**	**33**	Pn	Pn	10 42 59.5	-0.6
	17nm,0.3s,baz=102,slow=16,SNR=15						
AFI				Sn	Sn	10 43 27.0	-0.6
	93nm,0.3s,baz=339,slow=19,SNR=5.1						
WRA	**Warramunga Arr**	**50.17**	**257**	P	P	10 51 20.9	+0.1
	0.5nm,0.7s,baz=96,slow=7.6,SNR=7.7						
ASAR	**Alice Springs**	**50.40**	**252**	P	P	10 51 21.9	-0.6
	1.8nm,0.6s,baz=88,slow=8.5,SNR=49						
ILAR	**Eielson Array**	**82.69**	**11**	P	P	10 54 48.8	+0.7
	0.3nm,0.7s,baz=216,slow=4.5,SNR=3.0						

IDC 06 10:52:03.2±2.0, 14°.84S×172°.24W, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.7/20, mbtmp3.6/4, MS3.9/1, Ms1 3.9/1, ms1mx3.1/21, Error ellipse: s-maj=82.2km s-min=17.2km az=133.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.03**	**26**	Pn	Pb	10 52 24.2	+0.1
	77nm,0.3s,baz=0.7,slow=2.1,SNR=43						
AFI				Sn	Sn	10 52 40.3	+0.1
	241nm,0.3s,baz=252,slow=20,SNR=26						
H11S2	**WAKE ISLAND Hy**	**39.08**	**327**	T	T	11 41 42.6	
	baz=150,slow=0.7,SNR=4.3						
H11S3	**WAKE ISLAND Hy**	**39.09**	**327**	T	T	11 41 43.6	
	baz=150,slow=0.7,SNR=3.2						
H11S1	**WAKE ISLAND Hy**	**39.10**	**327**	T	T	11 42 06.0	
	baz=150						
H11N3	**WAKE ISLAND Hy**	**40.00**	**329**	T	T	11 42 52.7	
	baz=148,slow=0.7,SNR=3.2						
H11N1	**WAKE ISLAND Hy**	**40.01**	**329**	T	T	11 42 49.8	
	baz=148,slow=0.7,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**40.02**	**329**	T	T	11 42 49.9	
	baz=148,slow=0.7,SNR=3.8						
WRA	**Warramunga Arr**	**51.06**	**256**	P	P	11 01 07.7	-0.1
	0.3nm,0.7s,baz=96,slow=6.2,SNR=6.8						
ASAR	**Alice Springs**	**51.35**	**251**	P	P	11 01 09.2	-0.8
	1.4nm,0.5s,baz=89,slow=7.6,SNR=56						
FITZ	**Fitzroy Crossi**	**59.42**	**258**	LR	LR	11 23 20.6	
	comp=Z,104nm,21.6s,baz=28,slow=32						
PDAR	**Pinedale Array**	**81.11**	**41**	P	P	11 04 20.8	0.0
	0.3nm,0.7s,baz=258,slow=3.6,SNR=2.4						
ILAR	**Eielson Array**	**81.69**	**11**	P	P	11 04 24.4	+1.4
	0.4nm,0.9s,baz=232,slow=5.6,SNR=3.0						

IDC 06 10:59:40.5±3.0, 14°.83S×173°.91W, h0km, mb3.8/4, mb1 4.2/4, mb1mx3.8/17, mbtmp3.8/4, Error ellipse: s-maj=282.3km s-min=28.6km az=151.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.25**	**66**	Pn	Pn	11 00 12.8	-6.3
	8.5nm,0.3s,baz=217,slow=18,SNR=4.4						
AFI				Sn	Sn	11 00 35.8	-12
	44nm,0.3s,baz=60,slow=23,SNR=10						
ASAR	**Alice Springs**	**49.83**	**251**	P	P	11 08 35.5	-0.1
	3.4nm,0.7s,baz=85,slow=8.0,SNR=65						
NVAR	**Mina Array Bea**	**74.23**	**42**	P	P	11 11 19.5	-0.2
	0.7nm,0.8s,baz=228,slow=9.4,SNR=5.7						
TXAR	**Lajitas Array**	**80.70**	**56**	P	P	11 11 56.1	+0.1
	0.3nm,0.8s,baz=214,slow=6.4,SNR=3.4						
PDAR	**Pinedale Array**	**82.17**	**42**	P	P	11 12 04.0	+0.4
	0.6nm,0.9s,baz=192,slow=1.4,SNR=4.2						

*ATH **06** 11:03:54.1, 36°.44N×19°.82E, h46km, MD3.5/17*
*CSEM **06** 11:03:55.6±0.6, 36°.43N×19°.82E, h40km, ML3.5/3, Error ellipse: s-maj=11.2km s-min=6.4km az=47.0*
*THE **06** 11:03:55.5, 36°.46N×19°.83E, h35km±36km, ML3.5/3, Error ellipse: s-maj=36.3km s-min=1.8km az=43.0*

ISC 06 11:03:53.4±3.6, 36°.46N±0°.09×19°.84E±0°.09, h15km±16km, n47, σ0§79/69, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFD	**Strofades**	**1.23**	**50**	P	**Pn**	**11 04 15.9**	**-0.3**
SFD				S	**Sb**	**11 04 32.1**	**-0.1**
SFD	**Strofades**	**1.23**	**50**	*e*P	**Pn**	**11 04 15.8**	**-0.4**
SFD				*e*S	**Sg**	**11 04 32.8**	**-0.5**
SFD	**Strofades**	**1.23**	**50**	P	**Pn**	**11 04 15.9**	**-0.3**
SFD				S	**Sb**	**11 04 32.1**	**-0.1**
PYL	**PYLOS**	**1.59**	**74**	P	**Pn**	**11 04 20.7**	**-0.4**
PYL				S	**Sn**	**11 04 41.5**	**0.0**
PYL	**PYLOS**	**1.59**	**74**	*e*P	**Pn**	**11 04 20.8**	**-0.4**
PYL	**PYLOS**	**1.59**	**74**	*e*P	**Pn**	**11 04 20.8**	**-0.4**
PYL				S	**Sn**	**11 04 41.5**	**0.0**
KFL	**Anninata**	**1.81**	**24**	P	**Pn**	**11 04 24.2**	**0.0**
KFL				S	**Sn**	**11 04 47.4**	**+0.4**
KFL	**Anninata**	**1.81**	**24**	P	**Pn**	**11 04 24.2**	**0.0**
KFL				S	**Sn**	**11 04 47.4**	**+0.4**
VLS	**Valsamata**	**1.82**	**19**	P	**Pn**	**11 04 24.2**	**0.0**
VLS				S	**Sn**	**11 04 45.9**	**-1.2**
VLS	**Valsamata**	**1.82**	**19**	*e*P	**Pn**	**11 04 24.4**	**+0.2**
VLS				*e*S	**Sn**	**11 04 46.8**	**-0.3**
VLS	**Valsamata**	**1.82**	**19**	*e*P	**Pn**	**11 04 24.4**	**+0.2**
VLS				S	**Sn**	**11 04 45.9**	**-1.2**
ITM	**Ithomi**	**1.83**	**66**	P	**Pn**	**11 04 24.1**	**-0.3**
ITM				S	**Sn**	**11 04 46.6**	**-0.7**
ITM	**Ithomi**	**1.83**	**66**	*e*P	**Pn**	**11 04 24.0**	**-0.3**
ITM				*e*S	**Sn**	**11 04 46.8**	**-0.5**
ITM	**Ithomi**	**1.83**	**66**	P	**Pn**	**11 04 24.1**	**-0.3**
ITM				*e*S	**Sn**	**11 04 46.8**	**-0.5**
AMT	**Artemida-Makis**	**1.84**	**54**	P	**Pn**	**11 04 25.5**	**+0.9**
AMT				S	**Sn**	**11 04 47.4**	**-0.3**
AMT	**Artemida-Makis**	**1.84**	**54**	*e*P	**Pn**	**11 04 24.6**	**0.0**
AMT				*e*S	**Sn**	**11 04 46.5**	**-1.2**
AMT	**Artemida-Makis**	**1.84**	**54**	*e*P	**Pn**	**11 04 24.6**	**0.0**
AMT				S	**Sn**	**11 04 47.4**	**-0.3**
RLS	**Riolos of Patr**	**2.06**	**39**	*e*P	**Pn**	**11 04 28.3**	**+0.8**
RLS				*e*S	**Sn**	**11 04 53.2**	**+0.2**
RLS	**Riolos of Patr**	**2.06**	**39**	*e*P	**Pn**	**11 04 28.3**	**+0.8**
RLS				*e*S	**Sn**	**11 04 53.2**	**+0.2**
KLV	**Kalavryta, Ach**	**2.43**	**49**	*e*P	**Pn**	**11 04 33.4**	**+0.7**
KLV	**Kalavryta, Ach**	**2.43**	**49**	*e*P	**Pn**	**11 04 33.4**	**+0.7**
LAKA	**Lakka**	**2.46**	**43**	*e*P	**Pn**	**11 04 34.6**	**+1.4**
LAKA	**Lakka**	**2.46**	**43**	*e*P	**Pn**	**11 04 34.6**	**+1.4**
VLI	**Veliai**	**2.51**	**83**	P	**Pn**	**11 04 34.4**	**+0.7**
VLI				S	**Sn**	**11 05 04.0**	**-0.1**
VLI	**Veliai**	**2.51**	**83**	*e*P	**Pn**	**11 04 34.4**	**+0.7**
VLI	**Veliai**	**2.51**	**83**	P	**Pn**	**11 04 34.4**	**+0.7**
VLI				S	**Sn**	**11 05 04.0**	**-0.1**
EFP	**Efpalio**	**2.56**	**39**	*e*P	**Pn**	**11 04 35.8**	**+1.3**
EFP	**Efpalio**	**2.56**	**39**	*e*P	**Pn**	**11 04 35.8**	**+1.3**
KYTH	**Kithira**	**2.59**	**93**	P	**Pn**	**11 04 35.4**	**+0.6**
KYTH	**Kithira**	**2.59**	**93**	*e*P	**Pn**	**11 04 35.5**	**+0.6**
KYTH	**Kithira**

comp=Z,221nm,1.3s
RAMN Ramite 33.78 29 *e*P **P 11 11 41.9 +2.0**
comp=Z,58nm,0.9s
KKN Kakani 33.87 27 *e*P **P 11 11 42.2 +1.5**
comp=Z,91nm,1.1s
ODAN Odare 34.10 30 *e*P **P 11 11 44.7 +2.0**
comp=Z,168nm,1.2s
JIRN Jiri 34.17 28 *e*P **P 11 11 45.0 +1.5**
GUN Gumba 34.24 27 *e*P **P 11 11 45.9 +1.8**
comp=Z,156nm,1.1s
RAYN Ar Rayn 34.29 320 P **P 11 11 43.0 -1.2**
comp=Z,71nm,1.1s,SNR=5.4
RAYN Ar Rayn 34.29 320 *e*P **P 11 11 43.7 -0.5**
comp=Z,16nm,1.1s
TAPN Taplejung 34.66 30 *e*P **P 11 11 49.6 +1.9**
comp=Z,114nm,1.2s
IDAH Dahanechah 35.89 347 *e*P **P 11 11 58.9 +0.8**
IBAF Bafgh 36.01 341 *e*P **P 11 11 58.6 -0.4**
CHTO Chiang Mai 36.31 53 *e*P **P 11 12 02.5 +0.8**
CHTO pmax pmax
comp=Z,122nm,1.1s
CHTO Chiang Mai 36.31 53 P **P 11 12 02.9 +1.2**
SNR=9.3
CHTO Chiang Mai 36.31 53 P **P 11 12 02.3 +0.7**
comp=Z,123nm,1.2s
CHTO Chiang Mai 36.31 53 *e*P **P 11 12 02.5 +0.8**
comp=Z,122nm,1.1s
CHTO Chiang Mai 36.31 53 P **P 11 12 02.5 +0.8**
comp=Z,130nm,1.1s
CMAI Chiengmai2 36.99 52 P **P 11 12 09.2 +1.6**
comp=Z,22nm,1.2s
PAYA Payao 37.34 53 P **P 11 12 13.0 +2.6**
comp=Z,7.2nm,1.1s,comp=Z,432nm
LSA Lhasa 38.34 32 P **P 11 12 21.2 +2.0**
LSA sP **sP 11 12 30.0 +3.3**
LSA LR LR
comp=Z,1μm,18.9s
LSA Lhasa 38.34 32 *e*P **P 11 12 21.6 +2.3**
LSA pmax pmax
comp=Z,86nm,1.5s
LSA Lhasa 38.34 32 *e*P **P 11 12 21.6 +2.3**
comp=Z,86nm,1.5s
IZEF Zefreh 38.35 337 *e*P **P 11 12 17.4 -1.6**
IMOG Moghan 39.24 348 *e*P **P 11 12 27.7 +1.1**
IMYA Miami 39.32 349 *e*P **P 11 12 24.2 -2.8**
ISRO Mashad 39.41 348 *e*P **P 11 12 27.8 +0.1**
SKNT Sakolnakorn 39.63 60 P **P 11 12 30.9 +1.2**
comp=Z,23nm,1.3s
IKRD Kardeh 40.07 347 *e*P P 11 12 28.5 -4.8
IANJ Anjilo 40.10 341 *e*P **P 11 12 33.9 +0.3**
IVRN Varamin 40.44 338 *e*P **P 11 12 35.8 -0.5**
ISHM Shahmirzad 40.62 340 *e*P **P 11 12 37.5 -0.5**
LSZ Lusaka 42.08 250 *e*P **P 11 12 50.1 0.0**
LSZ Lusaka 42.08 250 P **P 11 12 49.4 -0.7**
comp=Z,4.2nm,0.6s,baz=67,slow=9.8,SNR=11
LSZ LR LR 11 27 59.7
comp=Z,2μm,18.5s,baz=135,slow=33
KSH Kashi 42.15 8 P **P 11 12 47.7 -2.6**
KSH pP **pP 11 12 53.0 -2.7**
KSH PP **PP 11 14 30.9 +2.8**
KSH PcP **PcP 11 14 45.3 +0.7**
KSH S **S 11 19 03.6 -6.0**
KSH sS sS 11 19 13.0 -5.4
KSH SS SS 11 22 06.1 -12
KSH AMB AMB
comp=Z,26nm,1.0s
KSH LR LR
comp=Z,950nm,14.1s
KSH LR LR
comp=Z,640nm,11.4s
KSH LR LR
comp=Z,2μm,17.7s
KMI Kunming 42.72 48 P **P 11 12 56.4 +1.1**
KMI pP **pP 11 13 00.0 -0.7**
KMI sP **sP 11 13 01.9 -0.9**
KMI PP **PP 11 14 38.7 +4.2**
KMI S **S 11 19 18.5 -0.1**
KMI sS **sS 11 19 26.7 -0.7**
KMI SS **SS 11 22 26.0 -3.5**
KMI AMB AMB
comp=Z,7.0nm,1.1s
KMI AMB AMB
comp=Z,230nm,7.3s
KMI LR LR
comp=Z,810nm,16.1s
KMI LR LR
comp=Z,620nm,15.5s
KMI LR LR
comp=Z,620nm,18.9s
KZA Kyzart 44.57 7 P **P 11 13 10.6 +0.4**
SNR=26
ULHL Ulahol 44.87 8 P **P 11 13 12.4 +0.1**
SNR=10
EKS2 Erkin-Say 45.00 5 *e*P **P 11 13 13.4 +0.2**
EKS2 pmax pmax
comp=Z,53nm,1.1s
EKS2 Erkin-Say 45.00 5 P **P 11 13 13.6 +0.4**
SNR=16
EKS2 Erkin-Say 45.00 5 *e*P **P 11 13 13.4 +0.2**
comp=Z,53nm,1.1s
AAK Ala-Archa 45.04 6*c i*P **P 11 13 14.1 +0.5**
AAK pmax pmax
comp=Z,69nm,1.7s
AAK Ala-Archa 45.04 6 P **P 11 13 14.2 +0.6**
SNR=26
AAK Ala-Archa 45.04 6 P **P 11 13 14.0 +0.5**
SNR=9.4
AAK Ala-Archa 45.04 6 P **P 11 13 14.6 +1.0**
comp=Z,124nm,1.2s,SNR=6.4
AAK Ala-Archa 45.04 6 *e*P **P 11 13 13.8 +0.1**
comp=Z,42nm,1.3s
AAK Ala-Archa 45.04 6 P **P 11 13 13.9 +0.3**
comp=Z,8.0nm,1.0s,baz=194,slow=9.2,SNR=20
KBK Karagaybulak 45.11 6 P **P 11 13 15.0 +0.8**
SNR=10.0
KK31 Karatay Array 45.24 2 *i*P **P 11 13 14.5 -0.5**
KK31 pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 45.24 2 *e*P **P 11 13 14.5 -0.5**
KKAR Karatay Array 45.24 2 *e*P **P 11 13 14.4 -0.5**
FRU Bishkek 45.25 6 *e*P **P 11 13 15.0 -0.1**
FRU *e*S **S 11 19 55.0 +0.4**
FRU pmax pmax
comp=Z,130nm,2.0s
TKM2 Tokmak 2 45.45 7 *e*P **P 11 13 16.2 -0.7**
TKM2 pmax pmax
comp=Z,55nm,1.0s
TKM2 Tokmak 2 45.45 7 P **P 11 13 17.1 +0.2**
SNR=22
TKM2 Tokmak 2 45.45 7 *e*P **P 11 13 16.2 -0.7**
comp=Z,55nm,1.0s
QIZ Qiongzhong 45.55 60 P **P 11 13 18.7 +0.8**
QIZ S **S 11 20 00.4 +0.7**
QIZ AMB AMB
comp=Z,7.0nm,1.1s
QIZ LR LR
comp=Z,720nm,16.7s
QIZ LR LR
comp=Z,430nm,21.1s
QIZ LR LR
comp=Z,1μm,17.2s
USP Ospenovka 45.67 6 P **P 11 13 18.4 0.0**
SNR=5.8
GYA Guiyang 46.40 49 P **P 11 13 26.8 +2.2**
GYA PP **PP 11 15 15.2 +1.4**
GYA ScP **ScP 11 18 53.8 +1.4**
GYA S **S 11 20 13.4 +1.5**
GYA SS **SS 11 23 31.3 -6.6**
GYA AMB AMB
comp=Z,20nm,0.8s
GYA AMB AMB
comp=Z,120nm,4.9s
GYA LR LR
comp=Z,590nm,17.8s
GYA LR LR
comp=Z,520nm,18.0s
GYA LR LR
comp=Z,570nm,17.6s
CD2 Chengdu 46.88 42 P **P 11 13 31.0 +2.8**
CD2 pP **pP 11 13 35.5 +1.9**
CD2 sP **sP 11 13 38.0 +2.3**
CD2 PP **PP 11 15 21.2 +2.6**
CD2 S **S 11 20 21.6 +3.1**
CD2 sS **sS 11 20 28.6 +1.2**
CD2 SS **SS 11 23 41.1 -4.3**
CD2 AMB AMB
comp=Z,20nm,0.7s
CD2 AMB AMB
comp=Z,510nm,7.8s
CD2 LR LR
comp=Z,1μm,8.9s
CD2 LR LR
comp=Z,1μm,9.5s
LBTB Lobatse 47.36 238 P **P 11 13 32.2 +0.1**
LBTB Lobatse 47.36 238 P **P 11 13 32.2 +0.1**
comp=Z,8.8nm,1.2s,baz=89,slow=4.4,SNR=4.9
LBTB LR LR 11 31 42.6
comp=Z,959nm,18.8s,baz=77,slow=34
GNI Garni 47.67 335 P **P 11 13 36.1 +1.8**
SNR=10
GNI Garni 47.67 335 *e*P **P 11 13 35.7 +1.3**
comp=Z,116nm,1.6s
WMQ Urumqi 48.96 18 P **P 11 13 46.0 +1.9**
WMQ pP **pP 11 13 50.5 +1.0**
WMQ sP **sP 11 13 53.0 +1.4**
WMQ PcP **PcP 11 15 06.5 -1.6**
WMQ PP **PP 11 15 41.7 +4.0**
WMQ PcS **PcS 11 19 05.5 +1.1**
WMQ S **S 11 20 48.3 +0.7**
WMQ sS **sS 11 20 55.7 -0.8**
WMQ ScS **ScS 11 23 35.0 -0.8**
WMQ AMB AMB
comp=Z,24nm,1.6s
WMQ AMB AMB
comp=Z,250nm,3.2s
WMQ LR LR
comp=Z,1μm,15.8s
WMQ LR LR
comp=Z,910nm,15.0s
WMQ LR LR
comp=Z,980nm,18.2s
MAK Makhachkala 49.01 339 *e*P **P 11 13 43.3 -1.0**
MAK *e* 11 15 38.9
MAK *e*PPP PPP 11 16 32.4
MAK S **S 11 20 49.8 +1.7**
MAK pmax pmax
comp=Z,43nm,0.4s
MAK MLR MLR
comp=Z,799nm,22.0s
BOSA Boshof 49.03 233 P **P 11 13 45.1 +0.1**
BOSA Boshof 49.03 233 P **P 11 13 45.1 +0.1**
comp=Z,4.1nm,0.9s,baz=75,slow=14,SNR=4.5
MALT Malatya 49.23 328 ⇑P **P 11 13 46.4 +0.1**
MALT Malatya 49.23 328 ⇑*i*P **P 11 13 46.4 +0.1**
ZEI Tsey 50.23 336 *e*P **P 11 13 54.2 +0.3**
ZEI pmax pmax
comp=Z,20nm,1.9s
LZH Lanzhou 50.26 37 *e*P P 11 13 59.0 +4.7
LZH pP pP 11 14 02.9 +3.2
LZH sP sP 11 14 05.0 +3.1
LZH PP **PP 11 15 54.6 +4.8**
LZH *e*S **S 11 21 06.4 +0.1**
LZH sS sS 11 21 14.4 -0.9
LZH AMB AMB
comp=Z,19nm,1.2s
LZH AMB AMB
comp=Z,130nm,4.6s
LZH LR LR
comp=Z,1μm,12.9s
LZH LR LR
comp=Z,2μm,16.3s
LZH LR LR
comp=Z,2μm,16.6s
MK31 Makanchi Array 50.33 12 P **P 11 13 52.5 -1.9**
MKAR Makanchi Array 50.33 12 P **P 11 13 53.2 -1.2**
MKAR Makanchi Array 50.33 12 P **P 11 13 53.2 -1.2**
MKAR Makanchi Array 50.33 12 P **P 11 13 53.2 -1.2**
comp=Z,3.6nm,0.8s,baz=189,slow=6.8,SNR=21
GTA Gaotai 50.34 31 P **P 11 13 55.4 +0.6**
GTA pP **pP 11 14 00.0 -0.3**
GTA sP **sP 11 14 02.4 0.0**
GTA PcP **PcP 11 15 12.1 -1.3**
GTA S **S 11 21 07.6 +0.4**
GTA sS **sS 11 21 15.9 -0.3**
GTA SS **SS 11 24 39.9 -1.3**
GTA AMB AMB
comp=Z,7.0nm,1.2s
GTA AMB AMB
comp=Z,230nm,7.1s
GTA LR LR
comp=Z,630nm,19.6s
GTA LR LR
comp=Z,640nm,21.8s
GTA LR LR
comp=Z,440nm,20.4s
ENH Enshi 50.54 47 *e*P **P 11 13 57.0 +0.7**
comp=Z,6.9nm,0.7s
KAPI Kappang 50.88 95 LR LR 11 32 33.0
comp=Z,776nm,20.8s,baz=273,slow=33
KBZ Khabaz 51.41 336 P **P 11 14 01.3 -1.2**
KBZ Khabaz 51.41 336 P **P 11 14 01.3 -1.2**
KBZ Khabaz 51.41 336 P **P 11 14 01.3 -1.2**
comp=Z,9.6nm,1.0s,baz=152,slow=7.4,SNR=13
KIV Kislovodsk 51.69 336 ⇓*i*P **P 11 14 05.6 +0.8**
KIV *e* 11 16 02.7
KIV *e*S **S 11 21 23.4 -2.2**
KIV *e*SS **SS 11 24 55.3 -7.0**
KIV pmax pmax
comp=Z,37nm,2.5s
KIV MLR MLR
comp=Z,700nm,20.0s
AB31 Akbulak array 51.95 353 P **P 11 14 05.3 -1.2**
AB31 pmax pmax
comp=Z,34nm,1.1s
ABKAR Akbulak array 51.95 353 *e*P **P 11 14 05.5 -1.0**
comp=Z,5.8nm,0.8s
XAN Xi'an 52.24 43 P **P 11 14 08.5 -0.5**
XAN pP **pP 11 14 14.1 -0.4**
XAN sP **sP 11 14 16.8 +0.2**
XAN AMB AMB
comp=Z,6.0nm,1.1s
GOF Gofitskoye 52.46 337 *e*P **P 11 14 11.2 +0.8**
GOF pmax pmax
comp=Z,40nm,1.4s
BRTR Keskin Array B 52.83 326 P **P 11 14 12.4 -1.0**
BRTR Keskin Array B 52.83 326 P **P 11 14 12.4 -1.0**
comp=Z,4.4nm,1.0s,baz=150,slow=10.0,SNR=16
H01W3 Cape Leeuwin H 53.08 133 T T 12 11 45.1
baz=299,slow=0.7,SNR=11
H01W2 Cape Leeuwin H 53.09 133 T T 12 11 34.1
baz=299,slow=0.7,SNR=11
H01W1 Cape Leeuwin H 53.10 133 T T 12 11 33.9
baz=299,slow=0.7,SNR=13
KURK Kurchatov 53.49 8*c i*P **P 11 14 16.8 -1.1**
KURK pmax pmax
comp=Z,15nm,1.0s
KURK Kurchatov 53.49 8 P **P 11 14 17.3 -0.6**
SNR=20
KURK Kurchatov 53.49 8 P **P 11 14 16.1 -1.8**
comp=Z,250nm,1.1s,SNR=19
KURK Kurchatov 53.49 8 *e*P **P 11 14 16.8 -1.1**
WHN Wuhan 54.29 49 P **P 11 14 21.8 -2.3**
NWAO Narrogin (SRO) 54.57 129 LR LR 11 32 27.5
comp=Z,616nm,18.4s,baz=187,slow=30
ANN Anapa 54.62 333 *e*P P 11 14 32.8 +6.6
ANN *e*S S 11 22 17.7 +12
ANN *e*SS **SS 11 25 54.1 +5.7**
ANN pmax pmax
comp=Z,31nm,0.8s
ANN MLR MLR
comp=Z,552nm,16.0s
VOSK Vostochnaya 54.87 2 P **P 11 14 26.3 -1.7**
VOSK pmax pmax
comp=Z,11nm,1.2s
BRVK Borovoye 55.19 1 *e*P **P 11 14 31.6 +1.4**
BRVK pmax pmax
comp=Z,13nm,1.1s
BRVK Borovoye 55.19 1 *e*P **P 11 14 31.6 +1.4**
comp=Z,13nm,1.1s
SIM Simferopol' 56.30 331 P **P 11 14 37.7 -0.6**
SIM *e*S **S 11 22 28.0 +0.3**
SIM pmax pmax
comp=Z,40nm,8.2s
HVS Khovu-Aksy 57.32 18 ⇑*i*P **P 11 14 45.5 -0.1**
HVS pmax pmax
comp=Z,33nm,1.1s
ZALV Zalesovo Beam 57.63 11 P **P 11 14 46.1 -1.5**
ZALV Zalesovo Beam 57.63 11 P **P 11 14 46.1 -1.5**
ZALV Zalesovo Beam 57.63 11 P **P 11 14 46.1 -1.5**
comp=Z,8.3nm,0.9s,baz=218,slow=7.0,SNR=17
FITZ Fitzroy Crossi 57.81 110 P **P 11 14 49.2 -0.3**
FITZ Fitzroy Crossi 57.81 110 P **P 11 14 49.2 -0.3**
comp=Z,3.6nm,0.9s,baz=287,slow=10,SNR=3.2
HHC Hu-ho-hao-te 57.96 37 *e*P **P 11 14 50.6 +0.3**
HHC pP **pP 11 14 56.5 +0.7**
HHC sP **sP 11 14 59.2 +1.3**
HHC PP **PP 11 17 02.5 +3.6**
HHC S **S 11 22 50.5 +0.5**
HHC sS **sS 11 22 57.7 -1.4**
HHC ScS **ScS 11 24 38.1 -1.4**
HHC SS **SS 11 26 42.6 +1.2**
HHC AMB AMB
comp=Z,42nm,0.8s
HHC AMB AMB
comp=Z,600nm,5.4s
HHC LR LR
comp=Z,1μm,12.8s
HHC LR LR
comp=Z,560nm,14.3s
HHC LR LR
comp=Z,800nm,15.3s
NVS Novosibirsk 58.20 10 *e*P **P 11 14 49.3 -2.2**
NVS pmax pmax
comp=Z,46nm,1.5s
NVS pmax pmax
comp=N,56nm,2.0s
NVS pmax pmax
comp=E,11nm,1.6s
NJ2 Nanjing 58.41 50 *e*P **P 11 14 53.7 +0.2**
NJ2 AMB AMB
comp=E,20nm,0.9s
VORD Divnogorie 58.77 339 *e*P **P 11 14 52.9 -2.7**
VORD pmax pmax
comp=Z,10.0nm,1.3s
VORD pmax pmax
comp=E,10.0nm,0.7s
TIRR Tirgusor 58.89 327 *e*P **P 11 14 56.3 -0.3**
TIRR pmax pmax
comp=Z,17nm,1.1s
TIRR Tirgusor 58.89 327 *e*P **P 11 14 56.2 -0.3**
comp=Z,17nm,1.1s
VSR Storozhevoye 59.02 339 *e*P **P 11 14 59.4 +2.1**
VSR pmax pmax
comp=Z,30nm,1.6s
VSR pmax pmax
comp=N,20nm,1.0s
VSR pmax pmax
comp=E,30nm,1.2s
ARU Arti 59.15 353*d i*P **P 11 14 57.1 -1.1**
ARU 11 17 03.6
ARU S **S 11 23 05.2 +0.4**
ARU SS **SS 11 26 53.9 -5.4**
ARU pmax pmax
comp=Z,36nm,2.5s
SVE Sverdlovsk 59.33 355 *e*P **P 11 14 58.1 -1.3**
SVE *e*S **S 11 23 07.5 +0.4**
SVE pmax pmax
comp=Z,30nm,1.5s
SVE MLR MLR
comp=Z,760nm,18.0s
SONM Songino Array 59.74 28 P **P 11 15 02.4 -0.2**
SONM Songino Array 59.74 28 P **P 11 15 02.4 -0.2**
comp=Z,13nm,0.9s,baz=222,slow=6.9,SNR=38
ULN Ulaanbaatar 60.08 29 P P 11 15 11.7 +6.8
SNR=7.8
ULN Ulaanbaatar 60.08 29 P **P 11 15 05.1 +0.2**
comp=Z,14nm,2.0s
ULN Ulaanbaatar 60.08 29 *e*P **P 11 15 05.1 +0.2**
comp=Z,66nm,1.9s
ZAK Zakamensk 60.23 25 *e*P **P 11 15 05.2 -0.6**
ZAK pmax pmax
comp=Z,7.0nm,1.1s
MOY Mondy 60.31 22 *e*P **P 11 15 07.5 +1.1**
KIS Kishinev 60.37 330 *e*P **P 11 15 04.0 -2.7**
KIS LRM MLR 00 42 30.0
comp=Z,400nm,17.0s
KIS Kishinev 60.37 330 *e*P **P 11 15 04.0 -2.7**
KIS MLR MLR
comp=Z,400nm,17.0s
BJI Beijing 60.40 40 P **P 11 15 08.5 +1.4**
BJI AMB AMB
comp=Z,20nm,1.0s
BJI LR LR
comp=Z,430nm,14.1s
BJI LR LR
comp=Z,530nm,16.6s
BJI LR LR
comp=Z,200nm,29.9s
VTS Vitosha 60.73 323 ⇑P **P 11 15 10.5 +1.0**
VTS Vitosha 60.73 323 ⇑*i*P **P 11 15 10.5 +1.0**
MLR Muntele Rosu 60.90 327 ⇑*i*P **P 11 15 12.1 +1.5**
TLY Talaya 61.36 24 *e*P P 11 15 16.8 +3.3
TLY *e*S S 11 23 50.2 +17
TLY *e*SS **SS 11 27 27.6 -6.7**
TLY *e*SSS SSS 11 30 17.9
TLY pmax pmax
comp=Z,22nm,1.5s
TLY MLR MLR
comp=Z,561nm,20.0s
IRK Irkutsk 62.04 24 ⇑*i*P **P 11 15 16.1 -1.9**
IRK pmax pmax
comp=Z,71nm,1.6s
SOKR Solikamsk 62.46 353 *e*P **P 11 15 17.7 -2.9**
SOKR pmax pmax
comp=Z,10.0nm,1.2s
BURAR Bucovina Array 62.62 328 ⇑P **P 11 15 23.9 +1.8**
BURAR Bucovina Array 62.62 328 ⇑*i*P **P 11 15 23.9 +1.8**
BUR08 Bucovina Ar. S 62.65 328 *e*P **P 11 15 23.9 +1.5**
AKASG Malin Array Be 62.71 333 P **P 11 15 20.6 -1.9**
AKASG Malin Array Be 62.71 333 P **P 11 15 20.6 -1.9**
AKASG Malin Array Be 62.71 333 P **P 11 15 20.6 -1.9**
comp=Z,3.1nm,0.8s,baz=127,slow=5.8,SNR=13
OBN Obninsk 63.09 340 ⇑*i*P **P 11 15 26.0 +1.1**
OBN *e* 11 16 02.0
OBN *e*S S 11 24 04.2 +9.2
OBN *e*SS **SS 11 27 59.5 -1.6**
OBN pmax pmax
comp=Z,13nm,0.5s
MOS Moscow 63.25 341 *e*P **P 11 15 23.9 -2.0**
UZH Uzhgorod 64.80 328 *e*P P 11 15 32.7 -3.6
UZH *e* 11 15 35.5
UZH *e* 11 15 39.3
KOLS Kolonicke sedl 64.99 328 *e*P **P 11 15 38.1 +0.5**
KOLS pmax pmax
comp=Z,24nm,1.6s
KOLS Kolonicke sedl 64.99 328 *e*P **P 11 15 38.1 +0.5**
KWP Kalwaria Pacla 65.18 329 *e*P **P 11 15 38.6 -0.2**
KWP pmax pmax
comp=Z,23nm,1.1s
KWP Kalwaria Pacla 65.18 329 *e*P **P 11 15 38.6 -0.2**
comp=Z,23nm,1.1s
MAW Mawson 65.29 183 *e*P **P 11 15 40.0 +0.8**
MAW Mawson 65.29 183 P **P 11 15 39.8 +0.7**
comp=Z,5.4nm,0.9s,baz=8.2,slow=8.0,SNR=5.0
WRA Warramunga Arr 66.21 111 P **P 11 15 46.3 +0.2**
WRA Warramunga Arr 66.21 111 P **P 11 15 46.3 +0.2**
comp=Z,5.9nm,0.9s,baz=288,slow=6.0,SNR=18
WRAB Tennant Creek 66.22 111 *e*P **P 11 15 46.7 +0.5**
WRAB pmax pmax
comp=Z,6.0nm,0.7s
WRAB Tennant Creek 66.22 111 *e*P **P 11 15 46.6 +0.5**
comp=Z,6.2nm,0.7s
ASAR Alice Springs 66.29 115 P **P 11 15 46.5 -0.1**
ASAR Alice Springs 66.29 115 P **P 11 15 46.5 -0.1**
comp=Z,5.9nm,0.9s,baz=279,slow=5.6,SNR=30
AS31 Alice Springs 66.29 115 *e*P **P 11 15 46.9 +0.3**
TAM Tamanrasset 66.50 296 *e*P **P 11 15 49.2 +1.2**
TAM pmax pmax
comp=Z,3.0nm,0.9s
TAM Tamanrasset 66.50 296 *e*P **P 11 15 49.2 +1.2**
comp=Z,3.2nm,0.9s
NACGM Naroch 66.69 335 *e* P 11 15 44.0 -4.4
KLMR Klimovskoe 66.96 345 *e*P **P 11 15 47.3 -2.6**
KLMR pmax pmax
comp=Z,65nm,1.4s
BOJS Bojanci 67.13 322 *i*P **P 11 15 49.3 -2.1**
KSAR Wonju Array Be 67.38 48 P **P 11 15 52.8 -0.4**
KSRS Korea Array 67.41 48 P **P 11 15 52.8 -0.6**
comp=Z,3.5nm,1.0s,baz=254,slow=6.9,SNR=9.4
VISS Visnje 67.53 322 *i*P **P 11 15 54.2 +0.3**
OKC Ostrava-Krasne 67.71 327 *e*P **P 11 15 57.1 +2.1**
OKC MLR MLR
comp=Z,400nm,22.2s
OKC Ostrava-Krasne 67.71 327 *e*P **P 11 15 57.1 +2.1**
OKC AMS AMS 11 45 50.0

comp=Z,400nm,22.2s
PERS Pernice 67.77 323 *i* P P 11 15 48.5 -7.0
ARSA Arzberg 67.83 324⇓*i* P **P** **11 15 56.2 +0.4**
comp=Z,8.8nm,1.1s
CONA Conrad Observa 67.98 325⇑*i* P **P** **11 15 56.3 -0.5**
comp=Z,15nm,1.2s
MORC Moravsky Berou 68.01 327 *e*P **P** **11 15 55.8 -1.1**
MORC pmax pmax
comp=Z,13nm,1.3s
MORC Moravsky Berou 68.01 327⇓*i* P P 11 16 04.0 +7.1
MORC Moravsky Berou 68.01 327 *e*P **P** **11 15 55.8 -1.1**
comp=Z,13nm,1.3s
JAVS Javornik 68.05 322 *i* P **P** **11 15 54.7 -2.7**
CN2 Changchun 68.26 41 ⇓P **P** **11 15 59.1 +0.5**
CN2 *e*sP **sP** **11 16 06.0 -0.3**
CN2 *e*S **S** **11 24 58.0 -0.7**
CN2 AMB AMB
comp=Z,10.0nm,0.7s
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,500nm,19.0s
VRAC Vranov 68.28 326 LR LR 11 47 04.2
comp=Z,356nm,20.2s,baz=124,slow=37
TORD Torodi Ar. Bea 68.34 285 P **P** **11 16 00.2 +0.6**
TORD Torodi Ar. Bea 68.34 285 P **P** **11 16 00.2 +0.6**
comp=Z,4.4nm,1.1s,baz=93,slow=7.1,SNR=18
TREC Trest 68.89 326 AMS AMS 11 49 30.0
comp=Z,400nm,18.2s
DPC Dobruska-Polom 68.98 327 *e*P **P** **11 16 01.2 -1.8**
DPC *e* 11 16 05.5
DPC *e* 11 16 22.3
DPC Dobruska-Polom 68.98 327 *e*P **P** **11 16 01.2 -1.8**
DPC *e*pP **pP** **11 16 05.5 -3.1**
DPC *ex* x 11 16 22.3
DPC AMS AMS 11 50 10.0
UPC Upice 69.23 327 *e*P **P** **11 16 04.0 -0.5**
UPC Upice 69.23 327 *e*P **P** **11 16 04.0 -0.5**
ABTA Abfaltersbach 69.40 322⇑*i* P **P** **11 16 05.5 -0.2**
comp=Z,15nm,1.3s
SYO Syowa Base 69.41 191⇑*e*pP pP 11 16 15.5 +4.7
PRU Pruhonice 69.77 326 AMS AMS 11 47 40.0
comp=Z,400nm,20.5s
KHC Kasperske Hory 69.89 325 *e*P **P** **11 16 09.6 +0.9**
KHC *e* 11 16 14.6
KHC *e* 11 16 27.1
KHC MLR MLR
comp=Z,400nm,24.5s
KHC Kasperske Hory 69.89 325 *e*P **P** **11 16 09.6 +0.9**
KHC *e*pP **pP** **11 16 14.6 +0.3**
KHC *e*PCP **PcP** **11 16 27.1 -3.9**
KHC AMS AMS 11 49 10.0
comp=Z,400nm,24.5s
PVCC Panska Ves 70.03 327 AMS AMS 11 49 20.0
comp=Z,600nm,24.5s
TMCR Tamitsa 70.13 346 *e*P P 11 16 15.6 +5.9
TMCR pmax pmax
comp=Z,16nm,0.4s
BRG Berggiesshubel 70.55 327 *e*P **P** **11 16 14.7 +2.1**
comp=Z,14nm,1.5s
BRG Berggiesshubel 70.55 327 *e*P **P** **11 16 14.7 +2.1**
BRG pmax pmax
comp=Z,14nm,1.5s
BRG Berggiesshubel 70.55 327 SS SS 11 30 01.0 +4.0
TUE Stuetta 71.24 321 *e*P **P** **11 16 17.2 +0.1**
comp=Z,30nm,1.5s
DAVA Damuels 71.25 322⇑*i* P **P** **11 16 15.7 -1.5**
comp=Z,18nm,0.8s
CLL Collm 71.28 327⇓*i* P **P** **11 16 16.9 -0.1**
CLL *e*S **S** **11 25 33.0 -0.8**
CLL pmax pmax
comp=Z,6.0nm,2.3s
CLL Collm 71.28 327⇓*i* P **P** **11 16 16.9 -0.1**
comp=Z,82nm,2.3s
CLL *e*S **S** **11 25 33.0 -0.8**
CLL *e*SS **SS** **11 30 13.0 +4.8**
MDJ Mudanjiang 71.31 41 P **P** **11 16 18.4 +1.1**
MDJ pP **pP** **11 16 21.5 -1.5**
MDJ sP **sP** **11 16 22.9 -2.2**
MDJ ScS **ScS** **11 26 23.1 +1.7**
MDJ AMB AMB
comp=Z,17nm,1.0s
MDJ AMB AMB
comp=Z,39nm,3.5s
MDJ LR LR
comp=Z,160nm,15.8s
MDJ LR LR
comp=Z,240nm,21.8s
MDJ LR LR
comp=Z,270nm,21.8s
MDJ Mudanjiang 71.31 41 *e*P **P** **11 16 19.3 +1.9**
comp=Z,12nm,0.9s
LPG La Plagne 72.51 319 *e*P P 11 16 20.2 -4.7
LPG La Plagne 72.51 319 *e*P P 11 16 20.2 -4.7
LPG La Plagne 72.51 319 *e*P P 11 16 20.2 -4.7
LPL La Plagne 72.53 319 *e*P P 11 16 20.4 -4.6
LPL La Plagne 72.53 319 *e*P P 11 16 20.4 -4.6
LPL La Plagne 72.53 319 *e*P **P** 11 16 20.4 -4.6
USRK Ussuriysk Arra 72.75 42 P **P** **11 16 24.2 -1.7**
comp=Z,3.5nm,0.9s,baz=256,slow=7.7,SNR=5.7
CDF Champ du Feu 73.32 322 *e*P P 11 16 25.2 -4.2
CDF Champ du Feu 73.32 322 *e*P P 11 16 25.2 -4.2
CDF Champ du Feu 73.32 322 *e*P P 11 16 25.2 -4.2
DBIC Dimbokro 74.09 278 P **P** **11 16 33.7 -0.8**
DBIC Dimbokro 74.09 278 P **P** **11 16 33.7 -0.8**
comp=Z,10.0nm,0.9s,baz=90,slow=8.3,SNR=4.0
STKA Stephens Creek 74.16 122 P **P** **11 16 35.8 +1.2**
STKA Stephens Creek 74.16 122 P **P** **11 16 35.8 +1.2**
comp=Z,3.9nm,0.8s,baz=291,slow=6.7,SNR=10
LIC Lamto 74.23 277 *e*P **P** **11 16 32.9 -2.4**
comp=Z,11nm,0.7s
LIC Lamto 74.23 277 *e*P **P** **11 16 32.9 -2.4**
comp=Z,11nm,0.7s
KLR Kul'dur 74.47 37 *e*P P 11 16 31.9 -4.1
SSF Saint Saulge 75.18 320 *e*P P 11 16 36.2 -3.9
comp=Z,35nm,1.3s
SSF Saint Saulge 75.18 320 *e*P P 11 16 36.2 -3.9
SSF pmax pmax
comp=Z,35nm,1.3s
SSF Saint Saulge 75.18 320 *e*P P 11 16 36.2 -3.9
comp=Z,35nm,1.3s
NOA NORSAR Array B 76.98 335 P **P** **11 16 49.7 -0.5**
NOA NORSAR Array B 76.98 335 P **P** **11 16 49.7 -0.5**
comp=Z,2.4nm,1.0s,baz=115,slow=6.4,SNR=3.1
CTA Charters Tower 77.39 110 P **P** **11 16 52.7 -0.6**
CTA Charters Tower 77.39 110 P **P** **11 16 52.7 -0.6**
comp=Z,3.7nm,0.7s,baz=262,slow=5.1,SNR=4.7
PMG Port Moresby 78.11 99 P **P** **11 16 56.7 -0.7**
PMG Port Moresby 78.11 99 P **P** **11 16 56.7 -0.7**
comp=Z,16nm,1.0s,baz=262,slow=7.1,SNR=3.8
ESDC Sonseca Array 78.31 311 P **P** **11 16 57.6 -0.5**
ESDC Sonseca Array 78.31 311 P **P** **11 16 57.6 -0.5**
comp=Z,1.8nm,0.7s,baz=88,slow=5.0,SNR=11
YSS Yuzh-Sakhalins 80.78 42 *i* P **P** **11 17 12.0 +0.8**
YSS pmax pmax
comp=Z,20nm,1.0s
YSS pmax pmax
comp=Z,50nm,1.2s
YSS MLR MLR
comp=Z,300nm,17.0s
SNAA Sanae 82.09 198 *e*P **P** **11 17 18.6 +0.7**
comp=Z,11nm,1.3s
YUK Yuzh-Kuril'sk 82.31 45 *i* P P 11 17 16.0 -3.4
YUK *i* PPP PPP 11 22 21.2
YUK *i* S **S** **11 27 29.1 -5.4**
YUK *i* SS **SS** **11 32 53.9 -1.2**
YUK *i* SSS SSS 11 36 22.3
YUK pmax pmax
comp=E,50nm,1.6s
YUK pmax pmax
comp=N,164nm,1.6s
YUK MLR MLR
comp=E,261nm,18.0s
YUK MLR MLR
comp=Z,261nm,18.0s
YUK MLR MLR
comp=N,227nm,19.0s
TIXI Tiksi 83.11 16⇑*e*P **P** **11 17 23.6 +0.6**
TIXI pmax pmax
comp=Z,14nm,1.4s
VNDA Vanda 88.41 167 P **P** **11 17 50.1 +0.9**
comp=Z,0.9nm,0.9s,baz=286,slow=13,SNR=4.2
SBA Scott Base 89.42 168 *e*P **P** **11 17 55.5 +1.5**
SBA pmax pmax
comp=Z,9.0nm,1.5s
SBA Scott Base 89.42 168 *e*P **P** **11 17 55.5 +1.5**
comp=Z,9.1nm,1.5s
DZM Mont Dzumac 96.19 112 *e*SS SS 11 36 21.3 +3.4
comp=Z,269nm,32.5s
DZM Mont Dzumac 96.19 112 *e*LR LR 11 49 28.4
comp=Z,591nm,27.7s
SAML Samuel 130.88 256 *e*PKPdf **PKPdf** **11 24 11.3 +1.1**
PPT2 Papeete2 137.29 119 *e*LR LR 12 08 37.1
comp=Z,322nm,23.2s
PDAR Pinedale Array 139.71 358 PKP **PKPdf** **11 24 27.1 +0.8**
PDAR Pinedale Array 139.71 358 PKP **PKPdf** **11 24 27.1 +0.8**
comp=Z,0.7nm,0.9s,baz=343,slow=1.9,SNR=4.3
SMCO Snowmass 143.12 355 *e*PKPdf PKPbc 11 24 30.9 +1.5
NVAR Mina Array Bea 143.47 9 PKP **PKPdf** **11 24 31.8 -1.2**
NVAR Mina Array Bea 143.47 9 PKP **PKPdf** **11 24 31.8 -1.2**
comp=Z,1.1nm,0.9s,baz=358,slow=1.6,SNR=7.6
MVU Marysvale 143.98 1 *e*PKPdf **PKPdf** **11 24 34.9 +0.9**
PV01 Paradox Valley 144.28 356 *e*PKPdf **PKPdf** **11 24 34.2 -0.4**
SDCO Great Sand Dun 144.36 352 *e*PKPdf PKPbc 11 24 33.8 +0.8
CCUT Cedar City 144.88 3 *e*PKPdf **PKPdf** **11 24 35.4 -0.2**
MVCO Mesa Verde 145.19 356 *e*PKPbc **PKPdf** **11 24 37.4 +1.2**
WMOK Wichita Mounta 145.75 342 *e*PKIKP **PKPbc** **11 24 37.1 -0.1**
WMOK Wichita Mounta 145.75 342 *e*PKPdf **PKPbc** **11 24 37.1 -0.1**
SHPR Sheep Range 145.78 6 *e*PKPdf **PKPab** **11 24 38.9 +1.0**
ISA Isabella 146.14 11 *e*PKP2 **PKPab** **11 24 38.8 -0.3**
ISA Isabella 146.14 11 *e*PKPdf **PKPab** **11 24 38.8 -0.3**
GSC Goldstone 146.77 8 *e*PKP2 **PKPab** **11 24 41.4 -0.1**
GSC Goldstone 146.77 8 *e*PKPbc **PKPab** **11 24 41.4 -0.1**
WUAZ Wupatki 146.97 0 *e*PKPab **PKPab** **11 24 42.9 +0.5**
OTAV Otavalo 147.23 267 *e*PKPbc **PKPab** **11 24 44.1 -0.3**
ANMO Albuquerque 147.25 353 *e*PKPdf **PKPab** **11 24 42.1 +0.3**
MSTX Muleshoe 147.55 347 *e*PKPdf **PKPdf** **11 24 39.7 -0.3**
MSTX *e*PKPbc **PKPbc** **11 24 42.6 0.0**
MSTX *e*PKPab **PKPab** **11 24 44.4 -0.2**
LAZ Ladron 147.86 354 *e*PKPdf **PKPdf** **11 24 41.7 +1.1**
LAZ *e*PKPbc **PKPbc** **11 24 43.8 +0.2**
LAZ *e*PKPab **PKiKP** **11 24 45.7 +0.1**
LPM Los Pinos Moun 147.89 353 *e*PKPdf **PKPdf** **11 24 40.3 -0.4**
LPM *e*PKPbc **PKPbc** **11 24 44.3 +0.7**
LPM *e*PKPab **PKPab** **11 24 46.1 +0.1**
ABTX Abilene, Hawle 147.97 341 *e*PKPbc **PKPbc** **11 24 43.4 -0.3**
BNM Barren Site 148.05 353 *e*PKPbc **PKPbc** **11 24 45.3 +1.2**
PFO Pinyon Flat Ob 148.48 8 *e*PKPdf **PKPdf** **11 24 41.4 -0.2**
PFO *e*PKPbc **PKPbc** **11 24 45.5 +0.4**
PFO *e*PKPab **PKPab** **11 24 48.1 -0.3**
GLA Glamis 149.24 6 *e*PKIKP **PKPdf** **11 24 42.8 0.0**
GLA *e* 11 24 45.9
GLA Glamis 149.24 6 *e*PKPdf **PKPdf** **11 24 42.8 0.0**
GLA *e*PKPbc **PKPbc** **11 24 45.9 -1.1**
GLA *e*PKPab **PKPab** **11 24 52.3 +1.0**
JCT Junction City 150.00 340 *e*PKHKP PKPpre 11 24 45.6
JCT *e* 11 24 48.7
JCT Junction City 150.00 340 *e*PKPdf **PKPdf** **11 24 45.6 +1.6**
JCT *e*PKPbc **PKPbc** **11 24 48.7 -0.2**
JCT *e*PKPab **PKPab** **11 24 54.7 +0.2**
TUC Tucson 150.17 359 *e*PKIKP **PKPdf** **11 24 44.6 +0.3**
TUC *e* 11 24 50.2
TUC Tucson 150.17 359 *e*PKPdf **PKPdf** **11 24 44.6 +0.3**
TUC *e*PKPbc **PKiKP** **11 24 50.2 0.0**
TUC *e*PKPab **PKPab** **11 24 55.1 -0.1**
MNTX Cornudas Mount 150.27 350 *e*PKPdf **PKPdf** **11 24 44.7 +0.3**
MNTX *e*PKPbc **PKPbc** **11 24 49.9 +0.4**
MNTX *e*PKPab **PKPab** **11 24 56.0 +0.4**
TXAR Lajitas Array 152.20 346 PKP **PKPdf** **11 24 48.3 +0.8**
TXAR PKPbc **PKiKP** **11 24 54.6 +0.1**
TXAR Lajitas Array 152.20 346 PKP **PKPdf** **11 24 48.3 +0.8**
comp=Z,5.6nm,0.9s,baz=119,slow=1.6,SNR=7.2
TXAR PKPbc **PKiKP** **11 24 54.6 +0.1**
comp=Z,5.6nm,0.9s,baz=90,slow=0.9,SNR=42

VIE 06 11:07:55.2±0.2, 46.92N×10.93E, h0km, mb0.9/3, ML1.6/5, 1C-2D, Error ellipse: s-maj=1.4km s-min=1.1km az=2.0
8 km SW of Sden Suspected Mining explosion., Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FETA	**Feichten** 14nm,0.0s	**0.17**	**307**⇑	*i*Pg	Pg	11 07 58.6	-0.3
FETA	8.0nm,0.1s			⇓*i*Sg	Sg	11 08 01.5	+0.2
SQTA	**Sankt Quirin**	**0.36**	**32**⇓	*i*Pg	Pg	11 08 02.3	-0.1

*BJI **06** 11:13:26.4, 2.89S×68.34E, h5km, mB5.4/33, mb4.9/43, Ms5.2/34, Ms7 4.9/34*
*ISCJB **06** 11:13:30.6±1.1, 2.32S±0.03×68.67E±0.03, h1km±7km, mb5.0/120, MS4.8/44, Error ellipse: s-maj=5.8km s-min=5.1km az=43.8*
*IDC **06** 11:13:32.5±0.4, 2.27S×68.77E, h0km, mb4.5/32, mb1 4.5/32, mb1mx4.5/35, mbtmp4.5/32, MS4.7/28, Ms1 4.7/28, ms1mx4.5/41, Error ellipse: s-maj=12.6km s-min=11.3km az=18.0*
*MOS **06** 11:13:33.0±1.4, 2.09S×68.72E, h10km, mb5.3/46, MS4.7/7, Error ellipse: s-maj=8.3km s-min=5.2km az=103.9*
*NEIC **06** 11:13:34.1±0.2, 2.26S×68.70E, h10km, mb5.2/29, Error ellipse: s-maj=6.6km s-min=6.0km az=27.0*
*GCMT **06** 11:13:35.4±0.2, 2.38S×68.69E, h12km, MW5.3, Moment Tensor Solution. s52,c71; s99,c209; Moment tensor: Scale 10^16 Nm; Mrr=0.15±.19; Mθθ=9.28±.16; Mϕϕ=-9.13±.17; Mrθ=0.65±.49; Mθϕ=3.14±.16; Mϕr=-1.41±.49; Best double couple: Mo=9.80000×10^16 NP1:φ=305.00000°, δ=86.00000°, λ=-8.00000°. NP2:φ=36.00000°, δ=82.00000°, λ=-175.00000°. Principal axes: T 9.8200, Plg2.0000°, Azm351.0000°; N 0.0600, Plg81.0000°, Azm96.0000°; P -9.8800, Plg9.0000°, Azm260.0000°; Data Used: II IU CN IC G. Surface waves from 110 sta.*
*DJA **06** 11:13:37.7±0.3, 2.2S±5.5×6.9E±.7, h21km, M5.5/12, mB6.1/1, mb5.2/12, MLv5.7/2, Mw(mB)5.8/1*
ISC 06 11:13:35.0±0.4, 2.27S±0.04×68.72E±0.05, h16km±1km, h15km:pP-P, n536, σ1s20/578, mb5.0/120, MS4.8/46, 102C-113D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**4.62**	**151**	Pn	**Pn**	**11 14 42.8**	**-1.3**
H08N2	baz=330,slow=0.7,SNR=417			T	T	11 19 21.3	
H08N3	**Diego Garcia H**	**4.64**	**151**	Pn	**Pn**	**11 14 42.9**	**-1.3**
H08N3	baz=330,slow=0.7,SNR=450			T	T	11 19 23.9	
H08N1	**Diego Garcia H**	**4.64**	**151**	Pn	**Pn**	**11 14 42.8**	**-1.5**
H08N1	baz=330,slow=0.7,SNR=470			T	T	11 19 30.5	
KAAM	**Kaadhehdhoo**	**5.08**	**57**	P	**Pn**	**11 14 48.4**	**-2.2**
DGAR	**Diego Garcia**	**6.32**	**144**	*i* P	Pn	11 15 12.3	+4.7
DGAR	**Diego Garcia** 561nm,0.8s	**6.32**	**144**	*e*Pn	**Pn**	**11 15 06.6**	**-1.0**
DGAR				*e*Sn	**Sn**	**11 16 16.1**	**-3.4**
H08S3	**Diego Garcia H**	**6.51**	**145**	Pn	**Pn**	**11 15 09.0**	**-1.0**
H08S3	baz=17,SNR=32			T	T	11 21 53.2	
H08S1	**Diego Garcia H**	**6.52**	**145**	Pn	**Pn**	**11 15 09.3**	**-0.8**
H08S1	baz=17,SNR=36			T	T	11 21 51.8	
H08S2	**Diego Garcia H**	**6.53**	**145**	Pn	**Pn**	**11 15 09.5**	**-0.8**
H08S2	baz=17,SNR=26			T	T	11 22 03.3	
PALK	**Pallekele** 317nm,0.5s,SNR=5.9	**15.26**	**51**	Pn	**Pn**	**11 17 08.3**	**-1.8**
PALK	**Pallekele**	**15.26**	**51**	P	**P**	**11 17 15.1**	**+0.2**
PALK	**Pallekele** 110nm,1.5s	**15.26**	**51**	*e*Pn	**Pn**	**11 17 08.7**	**-1.4**
PALK				*e*Sn	Sn	11 19 50.8	-8.2
MRIV	**Mauritius Mete**	**21.00**	**211**	*e*P	**P**	**11 18 17.5**	**-0.5**
HYB	**Hyderabad**	**21.84**	**26**	*i* P	**P**	**11 18 26.0**	**-1.1**
AKL	**Akola**	**24.24**	**19**	*e*P	**P**	**11 18 53.0**	**+1.5**
AKL	comp=Z,77nm,1.0s			AMB	AMB	11 18 59.1	
ABTO	**Aybut** SNR=7.0	**24.73**	**323**	P	**P**	**11 18 58.0**	**+1.9**
NGP	**Nagpur**	**25.38**	**23**	*e*P	**P**	**11 19 01.9**	**+0.1**
NGP				*ex*	x	11 19 09.2	
NGP	comp=Z,116nm,1.4s			*e*4	x	11 22 27.5	
OPO	**Ambohidratompo**	**26.60**	**231**	P	**P**	**11 19 14.1**	**+1.0**
OPO	**Ambohidratompo** comp=Z,8.1nm,1.1s,baz=58,slow=8.5,SNR=6.0	**26.60**	**231**	P	**P**	**11 19 14.1**	**+1.0**
OPO				LR	LR	11 27 08.2	
HOQ	**Hoqain** SNR=5.4	**28.00**	**337**	P	**P**	**11 19 27.1**	**+1.6**
JASL	**Jaisalmer**	**29.10**	**4**	*e*P	P	11 19 41.0	+5.8
JASL	comp=Z,199nm,0.1s			AMB	AMB	11 19 44.0	
ATD	**Arta Tunnel** comp=Z,1μm,21.3s,baz=111,slow=31	**29.15**	**299**	LR	LR	11 28 33.9	
ASHO	**Ashiyiah** SNR=5.3	**29.48**	**336**	P	**P**	**11 19 39.5**	**+0.8**
PSI	**Prapat** comp=Z,4μm,20.6s,baz=287,slow=33	**30.61**	**81**	LR	LR	11 30 07.3	
KUDL	**Kundal**	**31.15**	**13**	*e*P	**P**	**11 19 53.2**	**0.0**
KUDL	comp=Z,15nm,0.7s			AMB	AMB	11 20 00.2	
SONA	**Sohna**	**31.39**	**14**	*e*P	**P**	**11 19 54.9**	**-0.5**
SONA	comp=Z,17nm,0.8s			AMB	AMB	11 20 01.8	
KMBO	**Kilima Mbogo** SNR=5.6	**31.47**	**272**	P	**P**	**11 19 57.5**	**+0.8**
KMBO	**Kilima Mbogo**	**31.47**	**272**	*e*P	**P**	**11 19 57.2**	**+0.6**
KMBO	**Kilima Mbogo** comp=Z,4.3nm,0.8s,baz=70,slow=12,SNR=9.9	**31.47**	**272**	P	**P**	**11 19 57.3**	**+0.6**
KMBO	comp=Z,1μm,20.9s,baz=275,slow=32			LR	LR	11 30 04.9	
AYAN	**Aya Nagar**	**31.63**	**14**	*e*P	**P**	**11 19 56.8**	**-0.7**
AYAN	comp=Z,12nm,0.6s			AMB	AMB	11 20 03.6	
BHGR	**Bahadurgarh**	**31.78**	**14**	*e*P	**P**	**11 19 58.7**	**-0.1**
KULM	**Kulim** comp=Z,53nm,1.4s	**32.77**	**77**	*e*P	**P**	**11 20 08.4**	**+0.6**
KKR	**Kurukshetra**	**32.97**	**13**	*e*P	**P**	**11 20 07.4**	**-1.9**
KOLN	**Koldanda**	**33.12**	**25**	*e*P	**P**	**11 20 12.7**	**+1.8**
DMN	**Daman** comp=Z,199nm,1.0s	**33.64**	**27**	*e*P	**P**	**11 20 16.8**	**+1.3**
DANN	**Dangsing** comp=Z,156nm,1.1s	**33.70**	**24**	*e*P	**P**	**11 20 16.6**	**+0.6**
PKI	**Pulchoki** comp=Z,108nm,1.2s	**33.74**	**27**	*e*P	**P**	**11 20 17.3**	**+0.8**
GKN	**Gorkha** comp=Z,235nm,1.0s	**33.77**	**26**	*e*P	**P**	**11 20 17.9**	**+1.4**
RAMN	**Ramite** comp=Z,193nm,1.1s	**33.79**	**30**	*e*P	**P**	**11 20 18.4**	**+1.6**
KKN	**Kakani** comp=Z,139nm,1.0s	**33.87**	**27**	*e*P	**P**	**11 20 18.5**	**+1.0**
ODAN	**Odare** comp=Z,197nm,1.1s	**34.11**	**31**	*e*P	**P**	**11 20 20.3**	**+0.8**
RAYN	**Ar Rayn** comp=Z,16nm,1.2s	**34.18**	**320**	*e*P	**P**	**11 20 20.2**	**+0.2**
JIRN	**Jiri** comp=Z,99nm,1.0s	**34.18**	**28**	*e*P	**P**	**11 20 21.4**	**+1.1**
GUN	**Gumba** comp=Z,298nm,0.9s	**34.25**	**28**	*e*P	**P**	**11 20 21.5**	**+0.6**
TAPN	**Taplejung** comp=Z,155nm,1.0s	**34.67**	**31**	*e*P	**P**	**11 20 25.3**	**+0.8**
LHSI	**Lahat**	**34.79**	**93**	P	**P**	**11 20 26.7**	**+1.4**
ISRV	**Sarvestan**	**34.84**	**336**	*e*P	**P**	**11 20 25.3**	**-0.7**
ISRV	**Sarvestan**	**34.84**	**336**	*e*P	P	11 20 32.2	+6.2
MDSI	**Maura Dua**	**35.46**	**95**	P	**P**	**11 20 31.2**	**0.0**
SHL	**Shillong**	**35.62**	**38**	*e*P	**P**	**11 20 33.5**	**+0.9**
IKAZ	**Kazeroun**	**35.73**	**334**	*e*P	**P**	**11 20 33.2**	**-0.4**
IDAH	**Dahanechah**	**35.81**	**347**	*e*P	**P**	**11 20 33.9**	**-0.3**
IBAF	**Bafgh**	**35.92**	**341**	*e*P	**P**	**11 20 35.7**	**+0.7**
IBAF	**Bafgh**	**35.92**	**341**	*e*P	**P**	**11 20 35.5**	**+0.5**
CM31	**Chiang Mai Arr** comp=Z,16nm,1.0s	**36.18**	**54**	*e*P	**P**	**11 20 38.4**	**+1.1**
CMAR	**Chiang Mai Arr**	**36.18**	**54**	P	**P**	**11 20 37.9**	**+0.6**
CMAR	**Chiang Mai Arr** comp=Z,7.2nm,0.9s,baz=238,slow=11	**36.18**	**54**	P	**P**	**11 20 37.9**	**+0.6**
CHTO	**Chiang Mai**	**36.37**	**54**	*e*P	**P**	**11 20 39.2**	**+0.3**
CHTO	comp=Z,47nm,0.8s			pmax	pmax		
CHTO	**Chiang Mai** SNR=13	**36.37**	**54**	P	**P**	**11 20 39.6**	**+0.7**
CHTO	**Chiang Mai** comp=Z,123nm,1.1s	**36.37**	**54**	P	**P**	**11 20 39.2**	**+0.3**
CHTO	**Chiang Mai** comp=Z,47nm,0.8s	**36.37**	**54**	*e*P	**P**	**11 20 39.1**	**+0.3**
CHTO	**Chiang Mai** comp=Z,123nm,1.1s	**36.37**	**54**	P	**P**	**11 20 39.2**	**+0.3**
CHBT	**CHBT**	**36.55**	**65**	P	**P**	**11 20 40.8**	**+0.3**
CHBT	**CHBT** comp=Z,27nm,1.4s	**36.55**	**65**	P	**P**	**11 20 42.7**	**+2.2**
ISAD	**Sadrabad**	**36.87**	**338**	*e*P	**P**	**11 20 42.3**	**-1.0**
ISAD	**Sadrabad**	**36.87**	**338**	*e*P	**P**	**11 20 41.8**	**-1.5**
CMAI	**Chiengmai2** comp=Z,21nm,1.2s	**37.05**	**52**	P	**P**	**11 20 45.9**	**+1.1**
PAYA	**Payao** comp=Z,7.9nm,1.0s,comp=Z,249nm	**37.40**	**54**	P	**P**	**11 20 49.1**	**+1.4**
IZEF	**Zefreh**	**38.26**	**337**	*e*P	**P**	**11 20 54.0**	**-1.0**
IZEF	**Zefreh**	**38.26**	**337**	*e*P	**P**	**11 20 53.8**	**-1.2**
LSA	**Lhasa**	**38.35**	**32**	*e*P	**P**	**11 20 58.7**	**+2.6**
LSA	comp=Z,57nm,1.3s			pmax	pmax		
LSA	**Lhasa** comp=Z,57nm,1.3s	**38.35**	**32**	*e*P	**P**	**11 20 58.7**	**+2.6**
IKLH	**Kolahrood**	**38.92**	**337**	*e*P	**P**	**11 21 01.3**	**+0.7**
IKLH	**Kolahrood**	**38.92**	**337**	*e*P	**P**	**11 21 01.8**	**+1.2**
NONG	**Nongkai** comp=Z,59nm,1.2s,comp=Z,2μm	**39.47**	**58**	P	**P**	**11 21 05.1**	**0.0**
SKNT	**Sakolnakorn** comp=Z,24nm,1.9s	**39.70**	**60**	P	**P**	**11 21 07.6**	**+0.6**
IAKL	**Akhelmad**	**39.77**	**347**	*e*P	**P**	**11 21 06.8**	**-0.9**
IAKL	**Akhelmad**	**39.77**	**347**	*e*P	**P**	**11 21 07.8**	**+0.1**
IANJ	**Anjilo**	**40.02**	**341**	*e*P	**P**	**11 21 09.7**	**0.0**
IANJ	**Anjilo**	**40.02**	**341**	*e*P	**P**	**11 21 10.0**	**+0.3**
ISFR	**Sfrayin**	**40.38**	**347**	*e*P	**P**	**11 21 13.3**	**+0.6**
ISFR	**Sfrayin**	**40.38**	**347**	*e*P	**P**	**11 21 13.1**	**+0.4**
IEMG	**Emamgholi**	**40.58**	**348**	*e*P	**P**	**11 21 13.0**	**-1.3**
LSZ	**Lusaka**	**41.99**	**250**	P	**P**	**11 21 25.5**	**-0.6**
LSZ	**Lusaka** comp=Z,5.8nm,0.7s,baz=59,slow=9.9,SNR=13	**41.99**	**250**	P	**P**	**11 21 25.5**	**-0.6**
KSH	**Kashi**	**42.12**	**8**	P	**P**	**11 21 23.8**	**-2.9**
KSH				sP	**sP**	**11 21 29.2**	**-4.3**
KSH				PP	**PP**	**11 23 05.0**	**+0.6**
KSH				PcP	**PcP**	**11 23 19.5**	**-1.8**
KSH				S	**S**	**11 27 43.9**	**-2.1**
KSH				sS	**sS**	**11 27 51.6**	**-2.4**
KSH				SS	SS	11 30 45.6	-8.3
KSH	comp=Z,40nm,1.0s			AMB	AMB		
KSH	comp=Z,170nm,3.4s			AMB	AMB		
KSH	comp=Z,1μm,14.8s			LR	LR		
KSH	comp=Z,830nm,12.6s			LR	LR		
KSH	comp=Z,2μm,18.2s			LR	LR		
KMI	**Kunming**	**42.77**	**48**	P	**P**	**11 21 33.4**	**+1.0**
KMI				pP	**pP**	**11 21 36.4**	**-0.9**
KMI				sP	**sP**	**11 21 38.1**	**-1.1**
KMI				PP	**PP**	**11 23 15.8**	**+4.0**
KMI				S	**S**	**11 27 58.5**	**+2.3**
KMI				SS	**SS**	**11 31 03.9**	**-3.4**
KMI	comp=Z,9.0nm,1.6s			AMB	AMB		
KMI	comp=Z,280nm,5.0s			AMB	AMB		
KMI	comp=Z,1μm,15.1s			LR	LR		
KMI	comp=Z,580nm,17.0s			LR	LR		
AML	**Almayashu** SNR=6.6	**44.43**	**5**	P	**P**	**11 21 46.1**	**+0.4**
KZA	**Kyzart** SNR=46	**44.54**	**7**	P	**P**	**11 21 46.9**	**+0.2**
ULHL	**Ulahol** SNR=7.7	**44.83**	**8**	P	**P**	**11 21 49.6**	**+0.9**
EKS2	**Erkin-Say**	**44.96**	**5**	*e*P	**P**	**11 21 50.0**	**+0.4**
EKS2	comp=Z,41nm,1.1s			pmax	pmax		
EKS2	**Erkin-Say** SNR=26	**44.96**	**5**	P	**P**	**11 21 50.9**	**+1.2**
EKS2	**Erkin-Say** comp=Z,41nm,1.1s	**44.96**	**5**	*e*P	**P**	**11 21 50.0**	**+0.4**
AAK	**Ala-Archa**	**45.00**	**6**	*c* *i*P	**P**	**11 21 50.5**	**+0.5**

AAK pmax pmax
comp=Z,97nm,1.7s
AAK Ala-Archa 45.00 6 P **P** **11 21 51.3 +1.3**
SNR=18
AAK Ala-Archa 45.00 6 P **P** **11 21 51.1 +1.0**
SNR=12
AAK Ala-Archa 45.00 6 P **P** **11 21 50.9 +0.9**
comp=Z,154nm,1.5s,SNR=7.7
AAK Ala-Archa 45.00 6 *e*P **P** **11 21 50.9 +0.9**
comp=Z,44nm,1.2s
AAK Ala-Archa 45.00 6 P **P** **11 21 51.0 +1.0**
comp=Z,7.5nm,1.0s,baz=183,slow=8.9,SNR=20
AAK LR LR 11 39 53.4
comp=Z,765nm,21.5s,baz=180,slow=35
KBK Karagaybulak 45.07 6 P **P** **11 21 51.5 +0.9**
SNR=11
KK31 Karatay Array 45.20 2 *i* P **P** **11 21 50.9 -0.5**
KK31 pmax pmax
comp=Z,4.0nm,0.7s
KKAR Karatay Array 45.20 2 *e*P **P** **11 21 52.3 +0.9**
KKAR pmax pmax
comp=Z,1.0nm,0.5s
KKAR Karatay Array 45.20 2 *e*P **P** **11 21 52.3 +0.9**
comp=Z,0.6nm,0.5s
FRU Bishkek 45.21 6⇓ *i* P **P** **11 21 52.0 +0.5**
FRU *e* 11 23 36.0
FRU *e*S **S** **11 28 30.0 -1.0**
FRU pmax pmax
comp=Z,120nm,1.5s
EIL Elat 45.29 317 LR LR 11 38 00.7
comp=Z,1μm,20.1s,baz=301,slow=32
TKM2 Tokmak 2 45.41 7 P **P** **11 21 52.4 -0.9**
TKM2 pmax pmax
comp=Z,82nm,1.1s
TKM2 Tokmak 2 45.41 7 P **P** **11 21 53.3 0.0**
SNR=26
QIZ Qiongzhong 45.63 61 P **P** **11 21 55.6 +0.4**
USP Ospenovka 45.63 6 P **P** **11 21 54.7 -0.1**
SNR=6.4
ASF Jabal al Asfar 45.64 321 LR LR 11 39 22.6
comp=Z,558nm,19.5s,baz=87,slow=34
GYA Guiyang 46.45 50⇓ *i* P **P** **11 22 03.5 +1.8**
GYA PP **PP** **11 23 52.8 +1.8**
GYA ScP **ScP** **11 27 31.0 +1.5**
GYA S S 11 28 55.7 +6.2
GYA SS **SS** **11 32 10.5 -5.1**
GYA AMB AMB
comp=Z,20nm,0.8s
GYA AMB AMB
comp=Z,140nm,5.2s
GYA LR LR
comp=Z,740nm,17.7s
GYA LR LR
comp=Z,650nm,18.2s
GYA LR LR
comp=Z,760nm,17.9s
CD2 Chengdu 46.92 43 P **P** **11 22 07.4 +2.2**
CD2 pP **pP** **11 22 11.9 +1.8**
CD2 sP **sP** **11 22 14.4 +2.4**
CD2 PcP **PcP** **11 23 40.0 +2.2**
CD2 PP **PP** **11 23 57.7 +2.0**
CD2 S **S** **11 28 58.4 +2.5**
CD2 sS **sS** **11 29 05.4 +1.4**
CD2 SS **SS** **11 32 18.0 -4.9**
CD2 AMB AMB
comp=Z,30nm,0.5s
CD2 AMB AMB
comp=Z,860nm,7.1s
CD2 LR LR
comp=Z,1μm,13.7s
CD2 LR LR
comp=Z,1μm,9.5s
MMAI Mount Meron Ar 47.14 321 LR LR 11 39 33.8
comp=Z,754nm,18.5s,baz=115,slow=33
LBTB Lobatse 47.29 238 *e*P P 11 22 11.8 +3.5
LBTB Lobatse 47.29 238 P **P** **11 22 07.0 -1.3**
comp=Z,4.6nm,0.9s,baz=76,slow=10,SNR=3.0
GNI Garni 47.58 335 P **P** **11 22 10.5 +0.1**
GNI Garni 47.58 335 P **P** **11 22 10.5 +0.1**
comp=Z,3.0nm,0.4s,baz=185,slow=21,SNR=4.3
GNI LR LR 11 41 47.8
comp=Z,2μm,21.4s,baz=136,slow=36
WMQ Urumqi 48.94 18 P P 11 22 24.6 +3.9
WMQ pP pP 11 22 29.1 +3.5
WMQ sP sP 11 22 31.6 +4.1
WMQ PcP **PcP** **11 23 45.1 +0.3**
WMQ PP PP 11 24 20.3 +6.0
WMQ S **S** **11 29 26.9 +2.6**
WMQ sS sS 11 29 34.3 +1.9
WMQ ScS **ScS** **11 32 13.6 +0.9**
WMQ AMB AMB
comp=Z,26nm,0.8s
WMQ AMB AMB
comp=Z,250nm,3.2s
WMQ LR LR
comp=Z,2μm,20.2s
WMQ LR LR
comp=Z,1μm,16.0s
WMQ LR LR
comp=Z,1μm,19.6s
BOSA Boshof 48.97 233 P **P** **11 22 21.2 0.0**
BOSA Boshof 48.97 233 P **P** **11 22 21.2 0.0**
comp=Z,8.2nm,0.9s,baz=58,slow=9.2,SNR=9.1
BOSA LR LR 11 40 27.0
comp=Z,776nm,18.6s,baz=71,slow=33
MALT Malatya 49.13 328⇓ P **P** **11 22 23.1 +0.9**
MALT Malatya 49.13 328⇓ *i* P **P** **11 22 23.1 +0.9**
ZEI Tsey 50.13 336 *e*P **P** **11 22 28.9 -1.1**
ZEI pmax pmax
comp=Z,23nm,2.1s
LZH Lanzhou 50.29 37 *e*P **P** **11 22 32.9 +1.7**
LZH pP **pP** **11 22 36.8 +0.6**
LZH sP **sP** **11 22 39.1 +1.0**
LZH PcP PcP 11 23 42.7 -7.3
LZH PP **PP** **11 24 27.0 +0.2**
LZH *e*S **S** **11 29 40.0 -3.6**
LZH AMB AMB
comp=Z,26nm,1.1s
LZH AMB AMB
comp=Z,280nm,4.6s
LZH LR LR
comp=Z,2μm,14.2s
LZH LR LR
comp=Z,2μm,15.4s
LZH LR LR
comp=Z,2μm,17.3s
MK31 Makanchi Array 50.30 12 *i* P **P** **11 22 29.5 -1.4**
MK31 pmax pmax
comp=Z,5.0nm,0.7s
MKAR Makanchi Array 50.30 12 P **P** **11 22 29.7 -1.3**
MKAR Makanchi Array 50.30 12 P **P** **11 22 29.6 -1.3**
MKAR Makanchi Array 50.30 12 P **P** **11 22 29.6 -1.3**
comp=Z,3.0nm,0.8s,baz=196,slow=7.7,SNR=22
MKAR LR LR 11 44 28.9
comp=Z,592nm,22.0s,baz=26,slow=37
GTA Gaotai 50.36 31 P **P** **11 22 32.2 +0.6**
GTA pP **pP** **11 22 36.8 +0.2**
GTA sP **sP** **11 22 39.2 +0.7**
GTA PP **PP** **11 24 29.6 +2.3**
GTA S **S** **11 29 45.1 +0.8**
GTA SS **SS** **11 33 16.5 -1.9**
GTA AMB AMB
comp=Z,11nm,1.5s
GTA AMB AMB
comp=Z,170nm,4.0s
GTA LR LR
comp=Z,510nm,14.7s
GTA LR LR
comp=Z,590nm,17.1s
GTA LR LR
comp=Z,520nm,17.6s
ENH Enshi 50.58 47 *e*P **P** **11 22 33.1 -0.3**
comp=Z,33nm,1.4s
KBZ Khabaz 51.32 336 P **P** **11 22 38.7 0.0**
KBZ Khabaz 51.32 336 P **P** **11 22 38.6 0.0**
KBZ Khabaz 51.32 336 P **P** **11 22 38.6 0.0**
comp=Z,14nm,1.0s,baz=163,slow=4.4,SNR=12
KBZ LR LR 11 44 53.8
comp=Z,838nm,20.6s,baz=343,slow=37
KIV Kislovodsk 51.60 336 *d i* P **P** **11 22 41.5 +0.7**
KIV *e* 11 23 58.2
KIV *e*S **S** **11 30 01.2 -0.1**
KIV *e*SS **SS** **11 33 31.5 -6.3**
KIV pmax pmax
comp=Z,27nm,2.2s
KIV MLR MLR
comp=Z,900nm,19.0s
AB31 Akbulak array 51.88 353 *i* P **P** **11 22 41.5 -1.2**
AB31 pmax pmax
comp=Z,12nm,0.8s
ABKAR Akbulak array 51.88 353 *e*P **P** **11 22 42.0 -0.8**
comp=Z,4.1nm,0.7s
XAN Xi'an 52.28 43 P **P** **11 22 44.7 -1.4**
XAN pP **pP** **11 22 51.0 0.0**
XAN sP **sP** **11 22 54.4 +1.5**
XAN AMB AMB
comp=Z,6.0nm,1.1s
XAN LR LR
comp=Z,460nm,18.4s
XAN LR LR
comp=Z,210nm,11.2s
BRTR Keskin Array B 52.73 326 P **P** **11 22 49.0 -0.5**
BRTR Keskin Array B 52.73 326 P **P** **11 22 49.0 -0.5**
comp=Z,5.3nm,1.0s,baz=139,slow=8.1,SNR=14
BRTR LR LR 11 45 11.3
comp=Z,1μm,19.8s,baz=121,slow=36
BR131 Keskin Array S 52.73 326 *e*P **P** **11 22 49.3 -0.1**
comp=Z,2.8nm,0.7s
TSUM Tsumeb 52.74 248 *e*P **P** **11 22 47.8 -2.0**
comp=Z,20nm,1.4s
H01W3 Cape Leeuwin H 53.20 133 T T 12 20 22.6
baz=299,slow=0.7,SNR=6.8
H01W2 Cape Leeuwin H 53.20 133 T T 12 20 30.4
baz=299,slow=0.7,SNR=7.0
H01W1 Cape Leeuwin H 53.22 133 T T 12 20 24.4
baz=299,slow=0.7,SNR=8.5
KURBB Kurchatov Arra 53.36 8 P **P** **11 22 52.7 -0.9**
comp=Z,14nm,1.0s,baz=201,slow=7.8,SNR=38
KURK Kurchatov 53.46 8*c i*P **P** **11 22 53.5 -0.9**
KURK pmax pmax
comp=Z,23nm,1.4s
KURK Kurchatov 53.46 8 P **P** **11 22 53.6 -0.7**
SNR=20
KURK Kurchatov 53.46 8 P **P** **11 22 53.1 -1.3**
comp=Z,218nm,1.0s,SNR=20
KURK Kurchatov 53.46 8 *e*P **P** **11 22 53.6 -0.7**
WHN Wuhan 54.34 49 *e*P **P** **11 23 00.8 -0.4**
NWAO Narrogin (SRO) 54.69 129 P **P** **11 23 04.5 +0.7**
NWAO Narrogin (SRO) 54.69 129 P **P** **11 23 04.5 +0.7**
comp=Z,6.1nm,0.8s,baz=320,slow=3.2,SNR=3.5
VOSK Vostochnaya 54.83 2 P **P** **11 23 03.0 -1.4**
VOSK pmax pmax
comp=Z,15nm,1.4s
BVA0 Borovoye Array 55.11 1 *i* P **P** **11 23 04.5 -1.9**
BVA0 pmax pmax
comp=Z,22nm,1.4s
BVAR Borovoye Array 55.11 1 LR LR 11 48 02.1
comp=Z,620nm,18.4s,baz=190,slow=38
BRVK Borovoye 55.15 1*c i*P **P** **11 23 05.8 -0.8**
BRVK pmax pmax
comp=Z,11nm,1.2s
BRVK Borovoye 55.15 1 *e*P **P** **11 23 06.1 -0.5**
comp=Z,46nm,1.7s
HVS Khovu-Aksy 57.31 18 *e*P **P** **11 23 22.6 +0.3**
ZALV Zalesovo Beam 57.61 11 P **P** **11 23 23.1 -1.1**
ZALV Zalesovo Beam 57.61 11 P **P** **11 23 23.1 -1.1**
ZALV Zalesovo Beam 57.61 11 P **P** **11 23 23.1 -1.1**
comp=Z,8.6nm,0.9s,baz=214,slow=6.4,SNR=25
ZALV LR LR 11 47 45.2
comp=Z,737nm,20.9s,baz=250,slow=36
FITZ Fitzroy Crossi 57.93 110 P **P** **11 23 26.8 -0.3**
FITZ Fitzroy Crossi 57.93 110 P **P** **11 23 26.8 -0.3**
comp=Z,2.9nm,0.8s,baz=224,slow=5.1,SNR=3.8
HHC Hu-ho-hao-te 57.99 37 *e*P **P** **11 23 27.1 -0.1**
HHC pP **pP** **11 23 31.9 -0.3**
HHC sP **sP** **11 23 35.9 +1.8**
HHC PP **PP** **11 25 38.8 +2.9**
HHC S **S** **11 31 26.3 -1.0**
HHC AMB AMB
comp=Z,29nm,1.1s
HHC AMB AMB
comp=Z,810nm,5.1s
HHC LR LR
comp=Z,1μm,17.8s
HHC LR LR
comp=Z,760nm,16.7s
HHC LR LR
comp=Z,930nm,17.8s
NVS Novosibirsk 58.17 10⇑ *i*P **P** **11 23 25.5 -2.6**
NVS *i* 11 31 25.6
NVS pmax pmax
comp=N,29nm,1.3s
NVS pmax pmax
comp=Z,42nm,1.3s
NVS pmax pmax
comp=E,13nm,1.5s
NJ2 Nanjing 58.46 50 *e*P P 11 23 21.6 -9.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s
VORD Divnogorie 58.68 339 *e*P **P** **11 23 30.0 -1.7**
VORD pmax pmax
comp=Z,20nm,1.5s
VORD pmax pmax
comp=E,10.0nm,0.8s
TIRR Tirgusor 58.79 327 *e*P **P** **11 23 31.3 -1.3**
TIRR pmax pmax
comp=Z,14nm,1.0s
TIRR Tirgusor 58.79 327 *e*P **P** **11 23 31.3 -1.3**
comp=Z,14nm,1.0s
VSR Storozhevoye 58.93 339 *e*P **P** **11 23 32.5 -1.0**
VSR pmax pmax
comp=Z,20nm,1.5s
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,9.0nm,0.5s
ARU Arti 59.09 353 *d i*P **P** **11 23 33.8 -0.7**
ARU *i* 11 25 43.1
ARU S **S** **11 31 42.4 +1.5**
ARU SS **SS** **11 35 28.8 -6.4**
ARU pmax pmax
comp=Z,23nm,1.7s
SVE Sverdlovsk 59.27 355⇑ *e*P **P** **11 23 35.1 -0.6**
SVE *e*S **S** **11 31 42.0 -1.2**
SVE pmax pmax
comp=Z,30nm,1.4s
SVE MLR MLR
comp=Z,724nm,18.0s
SONM Songino Array 59.75 28 P **P** **11 23 39.7 +0.3**
SONM Songino Array 59.75 28 P **P** **11 23 39.7 +0.3**
comp=Z,21nm,1.0s,baz=220,slow=7.2,SNR=60
ULN Ulaanbaatar 60.09 29 P **P** **11 23 43.5 +1.7**
SNR=11
ULN Ulaanbaatar 60.09 29 P **P** **11 23 42.5 +0.7**
comp=Z,17nm,1.8s
ULN Ulaanbaatar 60.09 29 *e*P **P** **11 23 43.0 +1.2**
comp=Z,47nm,1.5s
ZAK Zakamensk 60.23 25 *e*P **P** **11 23 42.6 0.0**
ZAK pmax pmax
comp=Z,10.0nm,1.4s
MOY Mondy 60.31 23 *e*P **P** **11 23 44.5 +1.4**
MOY pmax pmax
comp=Z,39nm,1.8s
BJI Beijing 60.43 41 P **P** **11 23 43.4 -0.6**
BJI AMB AMB
comp=Z,14nm,0.6s
VTS Vitosha 60.62 323⇓ P P 11 23 49.1 +3.6
VTS Vitosha 60.62 323⇓ *i*P P 11 23 49.1 +3.6
MLR Muntele Rosu 60.80 327⇑ *i*P **P** **11 23 46.9 +0.3**
TLY Talaya 61.36 24 *e*P **P** **11 23 51.5 +1.3**
TLY pmax pmax
comp=Z,35nm,1.1s
TLY MLR MLR
comp=Z,703nm,18.0s
IRK Irkutsk 62.04 24 *e*P P 11 23 44.4 -10
IRK pmax pmax
comp=Z,34nm,1.1s
SOKR Solikamsk 62.40 353 *e*P **P** **11 23 57.3 +0.4**
SOKR pmax pmax
comp=Z,10.0nm,1.2s
SOKR MLR MLR
comp=Z,330nm,17.0s
BURAR Bucovina Array 62.52 328⇓ P **P** **11 24 01.3 +3.1**
BURAR Bucovina Array 62.52 328⇓ *i*P **P** **11 24 01.3 +3.1**
BUR08 Bucovina Ar. S 62.55 328 *e*P **P** **11 23 58.6 +0.2**
AKASG Malin Array Be 62.62 333 P **P** **11 23 57.2 -1.4**
AKASG Malin Array Be 62.62 333 P **P** **11 23 57.1 -1.4**
AKASG Malin Array Be 62.62 333 P **P** **11 23 57.1 -1.4**
comp=Z,5.0nm,1.0s,baz=130,slow=5.5,SNR=9.6
OBN Obninsk 63.01 340 *e*P **P** **11 24 00.8 -0.3**
OBN *e* 11 24 39.7
OBN *e*SS SS 11 36 37.0 +0.3
OBN pmax pmax
comp=Z,8.0nm,1.2s
OBN MLR MLR
comp=Z,600nm,20.0s
MOS Moscow 63.16 341 *e*P P 11 24 13.7 +12
UZH Uzhgorod 64.69 328 *e*P **P** **11 24 09.5 -2.8**
UZH *e* 11 24 12.9
UZH *e* 11 24 17.9
KOLS Kolonicke sedl 64.89 328 *e*P **P** **11 24 13.7 +0.1**
KOLS pmax pmax
comp=Z,37nm,2.2s
KOLS Kolonicke sedl 64.89 328 *e*P **P** **11 24 13.7 +0.1**
KOLS *e* 11 24 24.4
KWP Kalwaria Pacla 65.08 329 *e*P **P** **11 24 13.9 -1.0**
KWP pmax pmax
comp=Z,22nm,1.0s
KWP Kalwaria Pacla 65.08 329 *e*P **P** **11 24 13.9 -1.0**
comp=Z,22nm,1.0s
MAW Mawson 65.34 182 LR LR 11 45 49.7
comp=Z,1μm,20.6s,baz=344,slow=30
STHS Stebnicka Huta 65.72 328 *e*P **P** **11 24 19.4 +0.4**
STHS *e* 11 24 27.5
STHS pmax pmax
comp=Z,6.0nm,1.4s
STHS Stebnicka Huta 65.72 328 *e*P **P** **11 24 19.4 +0.4**
STHS *e*pP **pP** **11 24 27.5 +3.4**
WRA Warramunga Arr 66.33 111 P **P** **11 24 22.8 -0.8**
WRA Warramunga Arr 66.33 111 P **P** **11 24 22.8 -0.8**
comp=Z,6.9nm,1.0s,baz=284,slow=6.0,SNR=21
WRA LR LR 11 49 27.7
comp=Z,518nm,20.6s,baz=295,slow=32
WRAB Tennant Creek 66.34 111 *e*P **P** **11 24 23.4 -0.2**
WRAB pmax pmax
comp=Z,11nm,0.8s
WRAB Tennant Creek 66.34 111 *e*P **P** **11 24 23.4 -0.2**
comp=Z,11nm,0.8s
ASAR Alice Springs 66.41 115 P **P** **11 24 23.1 -0.9**
ASAR Alice Springs 66.41 115 P **P** **11 24 23.1 -0.9**
comp=Z,4.0nm,0.9s,baz=284,slow=5.7,SNR=29
ASAR LR LR 11 48 34.3
comp=Z,630nm,21.2s,baz=278,slow=32
AS31 Alice Springs 66.41 115 *e*P **P** **11 24 23.9 -0.2**
NACGM Naroch 66.60 335 *e* **P** **11 24 23.0 -1.5**
KLMR Klimovskoe 66.88 345 *e*P **P** **11 24 23.9 -2.3**
KLMR pmax pmax
comp=Z,44nm,1.3s
ZST Bratislava 67.30 325 *e*P pP 11 24 37.6 +3.4
ZST Bratislava 67.30 325 *e*pP pP 11 24 37.6 +3.4
KSAR Wonju Array Be 67.43 48 P **P** **11 24 28.4 -1.7**
KSRS Korea Array 67.46 48 P **P** **11 24 28.4 -1.9**
comp=Z,5.1nm,1.1s,baz=263,slow=7.0,SNR=8.4
KSRS LR LR 11 55 26.0
comp=Z,624nm,18.2s,baz=247,slow=37
OKC Ostrava-Krasne 67.61 327 *e*P **P** **11 24 33.5 +2.4**
OKC Ostrava-Krasne 67.61 327 *e*P **P** **11 24 33.5 +2.4**
CONA Conrad Observa 67.88 325⇑ *i*P **P** **11 24 32.1 -0.8**
comp=Z,11nm,1.2s
MORC Moravsky Berou 67.91 327⇓ P **P** **11 24 32.8 -0.2**
MORC Moravsky Berou 67.91 327 *e*P **P** **11 24 32.5 -0.5**
comp=Z,14nm,1.2s
TORD Torodi Ar. Bea 68.22 285 P **P** **11 24 36.1 +0.5**
TORD Torodi Ar. Bea 68.22 285 P **P** **11 24 36.1 +0.5**
comp=Z,5.5nm,1.1s,baz=106,slow=5.4,SNR=9.9
TORD LR LR 11 53 48.4
comp=Z,717nm,18.6s,baz=85,slow=35
CN2 Changchun 68.30 41 *e*P **P** **11 24 37.0 +1.5**
CN2 *es*P **sP** **11 24 44.0 +1.5**
CN2 *e*S **S** **11 33 36.5 +0.5**
CN2 AMB AMB
comp=Z,10.0nm,0.7s
CN2 AMB AMB
comp=Z,300nm,6.0s
CN2 LR LR
comp=Z,700nm,18.0s
CN2 LR LR
comp=Z,500nm,18.0s
CN2 LR LR
comp=Z,800nm,19.0s
DPC Dobruska-Polom 68.88 327 *e*P **P** **11 24 40.4 +1.3**
DPC *e* 11 24 45.7
DPC Dobruska-Polom 68.88 327 *e*P **P** **11 24 40.4 +1.3**
DPC *e*pP **pP** **11 24 45.7 +1.5**
VSU Vasula 69.09 338 *i* P **P** **11 24 38.8 -1.3**
UPC Upice 69.13 327 *e*P **P** **11 24 39.9 -0.7**
UPC *e* 11 24 47.2
UPC Upice 69.13 327 *e*P **P** **11 24 39.9 -0.7**
UPC *e*pP **pP** **11 24 47.2 +1.5**
SYO Syowa Base 69.44 191⇑ *e*X **P** **11 24 40.6 -1.5**
GERES GERESS Array B 69.58 325 P **P** **11 24 43.0 -0.5**
GERES GERESS Array B 69.58 325 P **P** **11 24 43.0 -0.5**
comp=Z,0.4nm,0.4s,baz=111,slow=13,SNR=4.0
GERES LR LR 11 54 01.1
comp=Z,294nm,21.9s,baz=127,slow=35
PGF Pioggiola 69.77 317 *e*P **P** **11 24 43.8 -1.1**
comp=Z,43nm,1.4s
PGF Pioggiola 69.77 317 *e*P **P** **11 24 43.8 -1.1**
PGF pmax pmax
comp=Z,43nm,1.4s
PGF Pioggiola 69.77 317 *e*P **P** **11 24 43.8 -1.1**
comp=Z,43nm,1.4s
KHC Kasperske Hory 69.79 325 *e*P **P** **11 24 44.5 -0.3**
KHC *e* 11 24 52.8
KHC Kasperske Hory 69.79 325 *e*P **P** **11 24 44.5 -0.3**
KHC *ex* x 11 24 52.8
TMCR Tamitsa 70.05 346 *e*P **P** **11 24 47.9 +1.9**
TMCR *e* 11 27 23.6
TMCR pmax pmax
comp=Z,36nm,0.4s
BRG Berggiesshubel 70.45 327 *e*P pP 11 25 00.8 +7.0
comp=Z,5.9nm,1.0s
BRG
comp=N,458nm,22.7s
BRG
comp=E,460nm,23.4s
BRG
comp=Z,485nm,32.8s
BRG Berggiesshubel 70.45 327 *e*P pP 11 25 00.8 +7.0
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG MLR MLR
comp=N,458nm,22.7s
BRG MLR MLR
comp=E,460nm,23.4s
FETA Feichten 70.51 322⇓ *i*P **P** **11 24 48.8 -0.6**
comp=E,15nm,1.3s
DAVA Damuels 71.15 322⇑ *i*P **P** **11 24 52.9 -0.4**
comp=E,23nm,1.1s
CLL Collm 71.18 327 *i* P **P** **11 24 55.8 +2.7**
CLL pmax pmax
comp=Z,82nm,1.3s
CLL Collm 71.18 327 *i* P **P** **11 24 55.8 +2.7**
comp=Z,14nm,1.3s
CLL *i* 11 25 02.1
CLL *e*S **S** **11 34 13.0 +3.5**
CLL L L 11 52 00.0
comp=Z,400nm,20.9s
MDJ Mudanjiang 71.35 41 P **P** **11 24 55.6 +1.3**
MDJ pP **pP** **11 24 58.8 -0.6**
MDJ sP **sP** **11 25 00.1 -1.2**
MDJ S **S** **11 34 14.7 +2.9**
MDJ sS **sS** **11 34 20.3 +0.1**
MDJ ScS **ScS** **11 35 00.4 +1.8**
MDJ AMB AMB
comp=Z,16nm,1.0s
MDJ AMB AMB
comp=Z,82nm,4.7s
MDJ LR LR
comp=Z,170nm,18.7s
MDJ LR LR
comp=Z,240nm,21.3s
MDJ LR LR
comp=Z,270nm,21.3s
MDJ Mudanjiang 71.35 41 *e*P **P** **11 24 53.2 -1.1**
comp=Z,29nm,1.0s
FINES FINESS Array B 71.42 340 P **P** **11 24 56.4 +2.1**
FINES FINESS Array B 71.42 340 P **P** **11 24 56.4 +2.1**
comp=Z,3.5nm,0.9s,baz=155,slow=20,SNR=3.8
FINES LR LR 11 57 51.0
comp=Z,693nm,20.9s,baz=298,slow=37
MBDF Montbardon 72.10 319 *e*P **P** **11 24 58.0 -1.0**
MBDF Montbardon 72.10 319 *e*P **P** **11 24 58.0 -1.0**
MBDF Montbardon 72.10 319 *e*P **P** **11 24 58.0 -1.0**
LPG La Plagne 72.41 319 *e*P **P** **11 24 59.9 -1.1**
LPG La Plagne 72.41 319 *e*P **P** **11 24 59.9 -1.1**

LPG La Plagne 72.41 319 eP P 11 24 59.9 -1.1
LPL La Plagne 72.42 319 eP P 11 24 59.8 -1.2
comp=Z,36nm,1.2s
LPL La Plagne 72.42 319 eP P 11 24 59.8 -1.2
LPL pmax pmax
comp=Z,36nm,1.2s
LPL La Plagne 72.42 319 eP P 11 24 59.8 -1.2
comp=Z,36nm,1.2s
USRK Ussuriysk Arra 72.79 42 P P 11 25 02.2 -0.7
comp=Z,1.9nm,0.8s,baz=270,slow=3.8,SNR=7.5
CDF Champ du Feu 73.21 322 eP P 11 25 03.6 -1.9
comp=Z,46nm,1.4s
CDF Champ du Feu 73.21 322 eP P 11 25 03.6 -1.9
CDF pmax pmax
comp=Z,46nm,1.4s
CDF Champ du Feu 73.21 322 eP P 11 25 03.6 -1.9
comp=Z,46nm,1.4s
CABF La Chapelle 73.25 320 eP P 11 25 04.4 -1.4
comp=Z,78nm,1.6s
CABF La Chapelle 73.25 320 eP P 11 25 04.4 -1.4
CABF pmax pmax
comp=Z,78nm,1.6s
CABF La Chapelle 73.25 320 eP P 11 25 04.4 -1.4
comp=Z,78nm,1.6s
KIC Kosan Boka 73.84 277 eP P 11 25 08.9 -0.9
comp=Z,153nm,1.5s
DBIC Dimbokro 73.97 278 P P 11 25 11.3 +0.8
DBIC Dimbokro 73.97 278 P P 11 25 11.3 +0.8
comp=Z,8.6nm,1.0s,baz=105,slow=6.6,SNR=6.2
DBIC LR LR 11 57 05.8
comp=Z,468nm,19.6s,baz=65,slow=35
LIC Lamto 74.11 277 eP P 11 25 11.2 -0.1
comp=Z,18nm,0.7s
LIC eR
comp=Z,479nm,22.8s
LIC Lamto 74.11 277 eP P 11 25 11.1 -0.2
comp=Z,28nm,0.7s
LIC Lamto 74.11 277 eP P 11 25 11.2 -0.1
comp=Z,18nm,0.7s
TIC Toumodi 74.13 278 eP P 11 25 09.4 -2.1
comp=Z,81nm,1.2s
CLNS Chul'man 74.17 28 eP P 11 25 11.5 +0.6
CLNS pmax pmax
comp=Z,12nm,0.9s
CLNS pmax pmax
comp=E,5.0nm,0.8s
CLNS pmax pmax
comp=N,4.0nm,0.9s
STKA Stephens Creek 74.28 122 P P 11 25 12.5 +0.5
STKA Stephens Creek 74.28 122 P P 11 25 12.5 +0.5
comp=N,2.7nm,0.8s,baz=275,slow=7.6,SNR=6.2
STKA LR LR 11 57 51.5
comp=N,646nm,18.2s,baz=17,slow=36
KLR Kul'dur 74.49 37 eP P 11 25 09.8 -3.1
KLR pmax pmax
comp=Z,45nm,1.6s
MAT Matsushiro 75.01 51 P P 11 25 14.4 -1.8
SSF Saint Saulge 75.07 320 eP P 11 25 14.7 -1.6
comp=Z,20nm,1.0s
SSF Saint Saulge 75.07 320 eP P 11 25 14.7 -1.6
SSF pmax pmax
comp=Z,20nm,1.0s
SSF Saint Saulge 75.07 320 eP P 11 25 14.7 -1.6
comp=Z,20nm,1.0s
RJF Les Rejaudoux 75.80 318 eP P 11 25 19.7 -0.8
comp=Z,56nm,1.6s
RJF eR
comp=Z,307nm,21.2s
RJF Les Rejaudoux 75.80 318 eP P 11 25 19.7 -0.8
RJF pmax pmax
comp=Z,56nm,1.6s
RJF Les Rejaudoux 75.80 318 eP P 11 25 19.7 -0.8
comp=Z,56nm,1.6s
NB2 NORSAR Subarra 76.89 335 P P 11 25 30.9 +4.5
comp=Z,13nm,1.4s,baz=122,slow=5.1
NOA NORSAR Array B 76.89 335 P P 11 25 28.0 +1.6
NOA NORSAR Array B 76.89 335 P P 11 25 28.0 +1.6
comp=Z,1.8nm,0.9s,baz=104,slow=5.6,SNR=2.8
NOA LR LR 12 00 28.6
comp=Z,408nm,20.6s,baz=115,slow=37
SJPF Ste Jean 77.05 315 eP P 11 25 27.4 -0.2
comp=Z,34nm,1.2s
SJPF Ste Jean 77.05 315 eP P 11 25 27.4 -0.2
SJPF pmax pmax
comp=Z,34nm,1.2s
SJPF Ste Jean 77.05 315 eP P 11 25 27.4 -0.2
comp=Z,34nm,1.2s
ARCES ARCESS Array B 77.33 346 P P 11 25 29.8 +1.1
ARCES ARCESS Array B 77.33 346 P P 11 25 29.8 +1.1
comp=Z,4.0nm,0.8s,baz=134,slow=5.2,SNR=6.3
ARCES LR LR 12 01 58.3
comp=Z,541nm,18.6s,baz=134,slow=38
MAIT Maitri 77.44 197 eP P 11 25 27.2 -2.0
MAIT e 11 25 42.1
CTA Charters Tower 77.52 110 P P 11 25 30.6 -0.2
CTA Charters Tower 77.52 110 P P 11 25 30.6 -0.2
comp=Z,4.8nm,0.9s,baz=262,slow=8.3,SNR=4.0
ESDC Sonseca Array 78.20 311 P P 11 25 35.5 +1.2
ESDC Sonseca Array 78.20 311 P P 11 25 35.5 +1.2
comp=Z,0.4nm,0.2s,baz=92,slow=4.7,SNR=12
PMG Port Moresby 78.23 99 P P 11 25 35.0 +0.2
PMG Port Moresby 78.23 99 P P 11 25 35.0 +0.2
comp=Z,15nm,0.9s,baz=266,slow=13,SNR=2.9
ERM Erimo 80.01 47 *d i* **P P 11 25 45.7 +1.8**
ERM pmax pmax
comp=Z,21nm,1.5s
YSS Yuzh-Sakhalins 80.82 42 ⇑ *i* **P P 11 25 49.2 +1.0**
YSS pmax pmax
comp=Z,40nm,1.1s
YSS MLR MLR
comp=Z,300nm,17.0s
EVO Evora 81.06 309 eP P 11 25 50.0 +0.3
comp=Z,69nm,1.4s
EVO eR
comp=Z,290nm,20.0s
EVOP Sao Brissos 81.14 309 eP P 11 25 50.0 -0.1
EVOP pmax pmax
comp=Z,69nm,1.4s
EVOP Sao Brissos 81.14 309 eP P 11 25 50.0 -0.1
comp=Z,69nm,1.4s
SNAA Sanae 82.11 198 eP P 11 26 00.4 +5.7
TIXI Tiksi 83.10 16 *c* **eP P 11 25 59.9 +0.2**
TIXI pmax pmax
comp=Z,24nm,1.3s
VNA2 Neumayer--Watz 83.34 199 eP P 11 26 05.9 +4.9
VNA1 Neumayer--Stat 83.56 199 eP P 11 26 09.5 +7.4
KBS Kingsbay 86.15 351 eP P 11 26 14.9 -0.1
KBS pmax pmax
comp=Z,39nm,1.2s
VNDA Vanda 88.48 167 P P 11 26 26.3 0.0
VNDA Vanda 88.48 167 P P 11 26 26.3 0.0
comp=Z,1.1nm,0.8s,baz=267,slow=6.3,SNR=6.1
VNDA LR LR 12 01 15.1
comp=Z,388nm,19.2s,baz=267,slow=32
SEY Seymchan 89.11 27 eP P 11 26 29.7 +0.2
SBA Scott Base 89.49 168 eP P 11 26 32.3 +1.3
SBA pmax pmax
comp=Z,27nm,1.6s
SBA Scott Base 89.49 168 eP P 11 26 32.3 +1.3
comp=Z,27nm,1.6s
HNR Honiara 90.84 99 LR LR 12 02 55.2
comp=Z,266nm,21.6s,baz=246,slow=33
C23A Lambert 134.34 354 ⇓PKiKP **PKiKP 11 32 54.2 +0.2**
baz=134
EGMT Eagleton 134.41 359 ⇑PKiKP **PKiKP 11 32 54.3 +0.1**
baz=134
C22A Vida 134.46 355 ⇑PKiKP **PKiKP 11 32 54.3 0.0**
baz=134
D25A Fairfield 134.76 352 ⇓PKiKP **PKiKP 11 32 55.6 +0.7**
baz=135
D23A Lindsay 134.97 354 ⇓PKiKP **PKiKP 11 32 56.1 +0.8**
baz=135
MSO Missoula 135.56 3 ⇓PKiKP **PKiKP 11 32 56.8 +0.2**
baz=135
F28A McLaughlin 135.64 350 ⇑PKiKP **PKiKP 11 32 57.0 +0.3**
baz=136
E19A Rath Farm, Rou 135.93 358 ⇓PKiKP **PKiKP 11 32 57.9 +0.5**
baz=136
G28A Parade 136.41 349 ⇑PKiKP **PKiKP 11 32 58.5 +0.2**
baz=136
G26A Maurine 136.48 351 ⇓PKiKP **PKiKP 11 32 59.0 +0.6**
baz=136
F19A Roth Farm, Mol 136.55 358 ⇓PKiKP **PKiKP 11 32 59.0 +0.4**
baz=136
F20A Billings 136.56 357 ⇓PKiKP **PKiKP 11 32 59.4 +0.8**
baz=136
H28A Mission Ridge 136.81 349 ⇑PKiKP **PKiKP 11 32 59.6 +0.5**
baz=137
DLMT Dillon 137.07 1 *e*PKPdf **PKPdf 11 33 01.0 +3.1**
I25A Rochford 137.89 352 ⇓PKiKP **PKiKP 11 33 01.8 +0.3**
baz=138
I23A Meade Ranch, G 138.17 354 ⇑PKiKP **PKiKP 11 33 02.1 +0.1**
baz=138
HUMO Hull Mountain 138.50 13 *e*PKPdf **PKPdf 11 33 02.2 +1.8**
J22A Midwest 138.81 355 ⇓PKiKP **PKiKP 11 33 03.5 +0.1**
baz=139
MFID Camas Ranch 138.83 5 ⇓PKiKP **PKiKP 11 33 03.8 +0.4**
baz=139
J21A Lysite 138.96 356 ⇑PKiKP **PKiKP 11 33 03.9 +0.2**
baz=139
PDAR Pinedale Array 139.65 358 PKP **PKPdf 11 33 04.6 +1.7**
PDAR Pinedale Array 139.65 358 PKP **PKPdf 11 33 04.6 +1.7**
comp=Z,1.2nm,0.8s,baz=66,slow=3.6,SNR=8.9
L21A Rawlins 140.33 355 ⇑PKiKP **PKiKP 11 33 05.5 -1.1**
baz=140
L20A Wamsutter 140.35 357 ⇓PKiKP **PKiKP 11 33 06.0 -0.6**
baz=140
L18A Fontenelle, Gr 140.51 359 ⇑PKiKP **PKiKP 11 33 07.1 +0.1**
baz=140
N27A Anderson Farm, 140.83 349 ⇑PKiKP **PKiKP 11 33 07.8 +0.2**
baz=141
N20A Spence Gulch, 141.52 356 ⇓PKiKP **PKiKP 11 33 08.2 -0.9**
baz=141
O22A Kremmling 142.04 354 ⇓PKiKP **PKiKP 11 33 10.3 0.0**
baz=142
O20A White River Ci 142.21 356 ⇓PKiKP **PKiKP 11 33 10.1 -0.4**
baz=142
DUG Dugway 142.23 2 ⇑PKiKP **PKiKP 11 33 10.2 -0.2**
baz=142
P25A Willow Gulch B 142.37 351 ⇑PKiKP **PKiKP 11 33 10.9 +0.1**
baz=142
Q28A Sharon Springs 142.38 348 ⇓PKiKP **PKiKP 11 33 11.0 +0.3**
baz=142
P22A Eagle 142.62 354 ⇑PKiKP **PKiKP 11 33 11.1 -0.3**
baz=142
P23A Jefferson 142.74 353 ⇓PKiKP **PKiKP 11 33 11.3 -0.5**
baz=143
P19A Cripple Cowboy 142.75 357 ⇓PKiKP **PKiKP 11 33 11.3 -0.4**
baz=143
P21A Newcastle 142.76 355 ⇑PKiKP **PKiKP 11 33 11.3 -0.4**
baz=143
R30A Dighton 142.77 346 ⇑PKiKP **PKiKP 11 33 11.5 0.0**
baz=143
Q26A Hugo 142.84 350 ⇑PKiKP **PKiKP 11 33 11.3 -0.4**
baz=143
SMCO Snowmass 143.06 354 *e*PKPdf **PKPdf 11 33 11.4 +2.1**
R27A Eads 143.32 349 ⇑PKiKP **PKiKP 11 33 12.8 +0.1**
baz=143
Q22A Crested Butte, 143.36 354 ⇓PKiKP **PKiKP 11 33 12.9 -0.2**
baz=143
R26A Arlington 143.43 350 ⇑PKiKP **PKiKP 11 33 12.7 -0.2**
baz=143
NVAR Mina Array Bea 143.44 9 PKP **PKPdf 11 33 10.8 +1.0**
NVAR Mina Array Bea 143.44 9 PKP **PKPdf 11 33 10.8 +1.0**
comp=Z,1.5nm,0.9s,baz=345,slow=2.5,SNR=6.5
TUL1 Tulsa 143.58 339 ⇓PKiKP **PKiKP 11 33 13.2 0.0**
baz=143
R24A Sanders Place, 143.77 352 ⇑PKiKP **PKiKP 11 33 13.7 -0.1**
baz=144
S28A Manter 143.81 347 ⇓PKiKP **PKiKP 11 33 13.5 -0.2**
baz=144
R11A Troy Canyon, C 143.88 6 ⇓PKiKP **PKiKP 11 33 13.9 -0.1**
baz=144
MIAR Mount Ida 143.90 335 *e*PKiKP **PKPdf 11 33 12.0 +1.6**
MIAR Mount Ida 143.90 335 *e*PKPdf **PKPdf 11 33 12.0 +1.6**
R23A Moffat 143.91 353 ⇓PKiKP **PKiKP 11 33 14.3 +0.2**
baz=144
R21A Cimarron 143.91 355 ⇑PKiKP **PKiKP 11 33 14.3 +0.2**
baz=144
MVU Marysvale 143.93 1 *e*PKPdf **PKPdf 11 33 10.4 -0.3**
R22A Saguache, Gunn 143.97 354 ⇓PKPdf PKPbc 11 33 09.6 +1.0
baz=144
S26A Kim 144.10 349 ⇑PKPdf **PKPdf 11 33 10.4 -0.4**
baz=144
R20A Redvale 144.16 356 ⇑PKPdf **PKPdf 11 33 10.4 -0.6**
baz=144
PV01 Paradox Valley 144.22 356 *e*PKPdf **PKPdf 11 33 10.4 -0.8**
S25A Robets Cordova 144.22 351 ⇓PKPdf **PKPdf 11 33 10.5 -0.6**
baz=144
S24A Houchin Ranch, 144.36 352 ⇑PKPdf **PKPdf 11 33 10.9 -0.6**
baz=144
S22A 4UR Ranch, Cre 144.46 354 ⇓PKPdf **PKPdf 11 33 11.0 -0.6**
baz=144
S20A Disappointment 144.51 356 ⇓PKPdf **PKPdf 11 33 11.1 -0.6**
baz=144
S21A Coal Bank Pass 144.63 355 ⇑PKPdf **PKPdf 11 33 11.6 -0.4**
baz=144
T25A Trinidad 144.73 350 ⇑PKPdf **PKPab 11 33 10.4 -0.4**
baz=145
T24B San Luis 144.96 352 ⇑PKPdf **PKPab 11 33 11.5 -0.2**
baz=145
U28A Mallet 145.04 347 ⇓PKPdf **PKPbc 11 33 11.6 -0.2**
baz=145
T23A Casias Ranch, 145.07 353 ⇑PKPdf **PKPbc 11 33 11.6 -0.4**
baz=145
U27A Thompson Grove 145.13 348 ⇓PKPdf **PKPab 11 33 12.1 0.0**
baz=145
MVCO Mesa Verde 145.14 356 ⇑PKPdf **PKPbc 11 33 11.8 -0.4**
baz=145
T21A Navajo Lake 145.28 355 ⇑PKPdf **PKPbc 11 33 12.4 -0.2**
baz=145
U26A Atchley Ranch, 145.34 349 ⇑PKPdf **PKPbc 11 33 12.7 -0.2**
baz=145
RCTC Rector, Farmer 145.34 11 ⇓PKPdf **PKPab 11 33 12.6 0.0**
baz=145
U25A Circle Dot Ran 145.45 350 ⇓PKPdf **PKPbc 11 33 13.1 -0.1**
baz=145
FURC Furnace Creek, 145.58 8 ⇓PKPdf **PKPdf 11 33 13.0 -0.1**
baz=145
W31A Holland Ranch, 145.60 343 ⇑PKPdf **PKPbc 11 33 13.4 -0.1**
baz=145
V28A Channing 145.65 347 ⇑PKPdf **PKPbc 11 33 13.7 -0.1**
baz=146
WMOK Wichita Mounta 145.66 342 *e*PKiKP **PKPdf 11 33 13.3 -0.2**
WMOK Wichita Mounta 145.66 342 *e*PKPdf **PKPdf 11 33 13.3 -0.2**
SHPR Sheep Range 145.75 6 *e*PKPdf **PKPab 11 33 14.9 +0.5**
V27A Dan Oppiter Fa 145.77 348 ⇑PKPdf **PKPbc 11 33 14.2 0.0**
baz=146
U23A El Rito 145.79 353 ⇓PKPdf **PKPab 11 33 14.5 -0.1**
baz=146
U22A Llaves 145.82 354 ⇓PKiKP **PKPab 11 33 15.6 +0.8**
baz=146
VES Vestal, Richgr 145.82 11 ⇑PKiKP **PKPab 11 33 15.2 +0.7**
baz=146
U21A Nageezi 145.85 355 ⇑PKPdf **PKPbc 11 33 14.5 0.0**
baz=146
MPMC Manual Prospec 145.89 9 ⇓PKPdf **PKPab 11 33 15.0 0.0**
baz=146
V26A Tequesquite Ra 145.93 349 ⇑PKPdf **PKPdf 11 33 14.2 +0.1**
baz=146
U15A North Rim 146.00 1 ⇑PKPdf **PKPbc 11 33 14.8 -0.3**
baz=146
V25A Rancho No Teng 146.03 350 ⇑PKPdf **PKPbc 11 33 14.7 -0.3**
baz=146
ISA Isabella 146.11 11 ⇓PKPdf **PKPbc 11 33 14.8 -0.3**
baz=146
X31A McDonald Ranch 146.13 343 ⇓PKPdf **PKPbc 11 33 14.8 -0.4**
baz=146
SHOC Shoshone 146.22 7 ⇓PKPdf **PKPdf 11 33 14.8 +0.4**
baz=146
V24A Rampart Ranch, 146.25 351 ⇓PKPdf **PKPdf 11 33 14.7 0.0**
baz=146
V22A San Miguel Ran 146.28 354 ⇓PKiKP **PKPab 11 33 17.4 +0.8**
baz=146
V23A Ortiz Mt. (NFS 146.36 353 ⇓PKiKP **PKPab 11 33 17.9 +1.1**
baz=146
LRMC Laurel Mountai 146.43 9 ⇓PKiKP **PKPab 11 33 17.9 +0.9**
baz=146
V21A Milan 146.46 355 ⇓PKiKP **PKiKP 11 33 18.3 -1.1**
baz=146
W27A Bowe Ranch, En 146.49 348 ⇓PKiKP **PKPab 11 33 17.7 +0.5**
baz=146
V20A Brimhall 146.54 356 ⇑PKiKP **PKPab 11 33 17.7 +0.2**
baz=146
X30A Coker Ranch, T 146.55 344 ⇑PKiKP **PKPab 11 33 17.8 +0.5**
baz=146
ARVC Arvin 146.56 11 ⇑PKiKP **PKPab 11 33 18.0 +0.6**
baz=146
W26A Owens Ranch, T 146.61 349 ⇓PKiKP **PKPab 11 33 17.7 0.0**
baz=146
W25A X Bar L Ranch, 146.61 350 ⇓PKiKP **PKPab 11 33 17.8 +0.1**
baz=146
GSC Goldstone 146.74 8 *e*PKP2 **PKPab 11 33 17.7 -0.4**
GSC Goldstone 146.74 8 *e*PKPbc **PKPab 11 33 17.7 -0.4**
GSC Goldstone 146.74 8 ⇑PKiKP **PKPab 11 33 18.0 -0.1**
baz=147
W24A Lazy 6 Ranch, 146.78 351 ⇓PKiKP **PKPab 11 33 18.1 -0.3**
baz=147
X28A Dimmitt 146.82 346 ⇑PKiKP **PKPab 11 33 18.3 -0.2**
baz=147
WUAZ Wupatki 146.92 0 *e*PKPbc **PKPbc 11 33 17.9 +0.3**
WUAZ Wupatki 146.92 0 ⇑PKiKP **PKPab 11 33 19.2 +0.2**
baz=147
W23A Werner Place, 146.93 352 ⇓PKiKP **PKPab 11 33 18.8 -0.2**
baz=147
EDW2 Edwards Air Fo 146.96 10 ⇓PKPdf **PKPdf 11 33 14.5 -1.2**
baz=147
X26A CR and CF Fran 147.14 349 ⇓PKiKP **PKPab 11 33 19.2 -0.6**
baz=147
W21A San Fidel 147.15 355 ⇓PKiKP **PKPab 11 33 19.2 -0.7**
baz=147
ANMO Albuquerque 147.18 353 *e*PKPbc **PKPbc 11 33 18.9 +0.4**
Z32A Haskell 147.21 342 ⇓PKiKP **PKPbc 11 33 19.1 +0.8**
baz=147
W20A Ramah 147.21 356 ⇑PKiKP **PKPbc 11 33 19.3 +0.7**
baz=147
W13A Hualapai Mount 147.25 4 ⇓PKiKP **PKPab 11 33 19.5 -0.8**
baz=147
HEC Hector,Ludlow 147.27 8 ⇓PKiKP **PKPab 11 33 19.5 -0.7**
baz=147
Y29A Porterfield Fa 147.31 345 ⇑PKiKP **PKPbc 11 33 19.1 +0.4**
baz=147
X25A Clemmons Ranch 147.32 350 ⇑PKiKP **PKPab 11 33 19.6 -0.9**
baz=147
Z31A Sharp Cattle R 147.40 343 ⇑PKiKP **PKPbc 11 33 19.0 +0.1**
baz=147
GMRC Granite Mounta 147.40 7 ⇓PKiKP **PKPab 11 33 19.8 -0.9**
baz=147
Y28A McKinney Farm, 147.41 346 ⇓PKiKP **PKPbc 11 33 19.3 +0.3**
baz=147
MSTX Muleshoe 147.48 347 *e*PKPdf **PKPdf 11 33 16.0 -0.7**
MSTX *e*PKPbc **PKPbc 11 33 19.9 +0.7**
MSTX *e*PKPab **PKiKP 11 33 22.0 +0.6**
MSTX Muleshoe 147.48 347 ⇑PKiKP **PKPbc 11 33 19.5 +0.3**
baz=147
X23A Hourglass Bar 147.51 352 ⇓PKiKP **PKPbc 11 33 19.8 +0.4**
baz=147
MWC Mount Wilson 147.59 11 *e*PKIKP **PKPdf 11 33 17.0 +0.1**
MWC *e* 11 33 21.5
MWC Mount Wilson 147.59 11 *e*PKPdf **PKPdf 11 33 17.0 +0.1**
MWC *e*PKPab **PKPab 11 33 21.5 -0.1**
BFSC Mount Baldy Ra 147.64 10 ⇑PKiKP **PKPbc 11 33 19.7 +0.1**
baz=148
Y27A Causey 147.65 347 ⇓PKiKP **PKPbc 11 33 19.8 +0.1**
baz=148
Z30A Sanderson Ranc 147.71 344 ⇓PKiKP **PKPbc 11 33 20.3 +0.5**
baz=148
BBRC Big Bear Solar 147.74 9 ⇑PKiKP **PKPbc 11 33 20.8 +0.8**
baz=148
X20A Quemado 147.79 356 ⇑PKiKP **PKPbc 11 33 20.9 +0.7**
baz=148
LAZ Ladron 147.80 354 *e*PKPdf **PKPdf 11 33 17.7 +0.3**
LAZ *e*PKPbc **PKPbc 11 33 19.9 -0.3**
LAZ *e*PKPab **PKPab 11 33 23.7 +1.2**
X21A Alamocita Cree 147.82 355 ⇓PKiKP **PKiKP 11 33 21.3 -1.0**
baz=148
X18A Snowflake 147.88 358 ⇑PKiKP **PKPbc 11 33 21.1 +0.8**
baz=148
ABTX Abilene, Hawle 147.89 341 *e*PKPbc **PKPbc 11 33 21.3 +1.1**
ABTX *e*PKPab **PKPab 11 33 22.8 +0.1**
ABTX Abilene, Hawle 147.89 341 ⇑PKiKP **PKiKP 11 33 21.2 -1.0**
baz=148
Z29A Hungry Hill Ra 147.89 345 ⇓PKiKP **PKPbc 11 33 21.1 +0.8**
baz=148
Y25A Mesa, Roswell 147.91 350 ⇑PKiKP **PKPbc 11 33 20.7 +0.3**
baz=148
X16A Lo Mia Camp, P 148.02 0 ⇓PKiKP **PKPbc 11 33 21.4 +0.6**
baz=148
PDMCI Parker Dam,Lak 148.02 4 ⇓PKiKP **PKiKP 11 33 21.5 -0.8**
baz=148
Z28A Tucker Farm, M 148.04 346 ⇓PKiKP **PKPbc 11 33 21.2 +0.5**
baz=148
Y24A Capitan 148.04 351 ⇓PKiKP **PKPbc 11 33 20.8 0.0**
baz=148
IRM Iron Mountain 148.07 6 ⇓PKiKP **PKiKP 11 33 21.6 -0.9**
baz=148
131A Roby 148.07 342 ⇑PKiKP **PKPbc 11 33 21.5 +0.8**
baz=148
Y23A Lovelace Mesa, 148.13 352 ⇓PKiKP **PKPbc 11 33 21.5 +0.5**
baz=148
BELC Belle Mtn. Jos 148.13 7 ⇑PKiKP **PKPbc 11 33 21.0 +0.1**
baz=148
Z27A Tatum 148.21 347 ⇓PKiKP **PKPbc 11 33 21.3 +0.2**
baz=148
Y22A Socorro 148.24 353 ⇑PKiKP **PKPbc 11 33 22.0 +0.7**
baz=148
Y21A Point of Rocks 148.25 354 ⇑PKiKP **PKiKP 11 33 22.2 -0.9**
baz=148
130A Snyder 148.31 343 ⇑PKiKP **PKiKP 11 33 22.4 -0.7**
baz=148
MURC Murrieta 148.34 9 ⇓PKiKP **PKiKP 11 33 22.4 -0.7**
baz=148
Y20A Horse Springs, 148.41 355 ⇓PKiKP **PKiKP 11 33 22.9 -0.6**
baz=148
Z26A Caprock 148.41 348 ⇓PKiKP **PKiKP 11 33 22.5 -0.8**
baz=148
PFO Pinyon Flat Ob 148.45 8 *e*PKPab **PKPab 11 33 23.8 -1.1**
PFO Pinyon Flat Ob 148.45 8 ⇑PKiKP **PKiKP 11 33 22.8 -0.6**
baz=148
Y14A Wickenburg 148.46 3 ⇑PKiKP **PKiKP 11 33 22.8 -0.5**
baz=148
129A Stewart Farms, 148.53 345 ⇑PKiKP **PKiKP 11 33 23.0 -0.6**
baz=148
BC3 Big Chuckawall 148.53 7 ⇓PKiKP **PKiKP 11 33 22.9 -0.6**
baz=148
Z25A Roswell 148.55 349 ⇑PKiKP **PKPbc 11 33 22.6 +0.6**
baz=148
232A Coleman 148.57 341 ⇓PKiKP **PKiKP 11 33 23.0 -0.6**
baz=148
Z24A Sheeppen Canyo 148.61 350 ⇑PKiKP **PKPbc 11 33 22.9 +0.6**
baz=148
128A Castleberry Fa 148.70 346 ⇓PKiKP **PKPbc 11 33 22.7 +0.3**
baz=148
231A Bronte 148.74 342 ⇓PKiKP **PKPbc 11 33 22.9 +0.5**
baz=149
Z23A Rita Site, Whi 148.81 352 ⇑PKiKP **PKPbc 11 33 23.1 +0.4**
baz=149
HKT Hockley 148.81 333 *e*PKIKP **PKPdf 11 33 18.9 +0.2**
HKT *e* 11 33 23.4
HKT *e* 11 33 26.5
HKT Hockley 148.81 333 *e*PKPdf **PKPdf 11 33 18.9 +0.2**
HKT *e*PKPbc **PKiKP 11 33 23.4 -0.6**
HKT *e*PKPab **PKPab 11 33 26.5 +0.2**
Z22A Elephant Butte 148.91 353 ⇓PKiKP **PKPbc 11 33 23.6 +0.5**
baz=149
Z21A St. Cloud Mine 148.94 354 ⇑PKiKP **PKPbc 11 33 23.7 +0.5**
baz=149
230A Sterling City 149.02 343 ⇑PKiKP **PKPbc 11 33 23.6 +0.4**
baz=149
126A Clayton Basin, 149.02 348 ⇑PKiKP **PKPbc 11 33 23.9 +0.6**
baz=149
Z14A Wintersburg 149.03 3 ⇓PKiKP **PKiKP 11 33 23.9 -0.6**
baz=149
332A Millersview 149.06 341 ⇓PKiKP **PKPbc 11 33 23.7 +0.4**
baz=149
125A Gardner Draw, 149.14 349 ⇑PKiKP **PKiKP 11 33 24.2 -0.7**
baz=149
229A Bryant Ranch, 149.14 344 ⇓PKiKP **PKiKP 11 33 24.4 -0.4**
baz=149
GLA Glamis 149.20 6 *e*PKIKP **PKPdf 11 33 19.3 -0.1**
GLA *e* 11 33 23.0
GLA Glamis 149.20 6 *e*PKPdf **PKPdf 11 33 19.3 -0.1**
GLA *e*PKPbc **PKPbc 11 33 23.0 -0.6**
GLA *e*PKPab **PKPab 11 33 28.6 +0.7**
GLA Glamis 149.20 6 ⇓PKiKP **PKiKP 11 33 24.6 -0.2**
baz=149
228A UT Block 9, Go 149.21 346 ⇑PKiKP **PKiKP 11 33 24.4 -0.5**
baz=149
Z20A Nine Sixteen R 149.22 356 ⇑PKiKP **PKiKP 11 33 24.8 -0.3**
baz=149
124A Stringfield Ra 149.24 350 ⇓PKiKP **PKPbc 11 33 24.3 +0.4**
baz=149
331A San Angelo 149.35 342 ⇓PKiKP **PKPbc 11 33 24.4 +0.4**
baz=149
227A Bennet, Jal 149.47 347 ⇑PKiKP **PKPbc 11 33 24.8 +0.5**
baz=149
330A Mertzon 149.49 343 ⇓PKiKP **PKPbc 11 33 24.6 +0.2**
baz=149
432A Menard 149.54 340 ⇑PKiKP **PKPbc 11 33 24.7 +0.2**
baz=149
113A Mohawk Valley, 149.57 4 ⇓PKiKP **PKiKP 11 33 25.2 -0.3**
baz=149

226B	**Tecolote Peak,** baz=149	**149.60**	**348**	⇑PKiKP	**PKPbc**	**11**	**33**	**24.8 +0.1**
329A	**Wagon Wheel Ra** baz=150	**149.64**	**344**	⇓PKiKP	**PKPbc**	**11**	**33**	**24.6 -0.2**
225A	**Deer Hill, Car** baz=150	**149.70**	**349**	⇑PKiKP	**PKPbc**	**11**	**33**	**24.5 -0.6**
121A	**Cookes Peak, D** baz=150	**149.72**	**354**	⇓PKiKP	**PKPbc**	**11**	**33**	**25.0 -0.1**
120A	**U Bar Ranch, L** baz=150	**149.78**	**356**	⇑PKiKP	**PKPbc**	**11**	**33**	**25.3 +0.1**
224A	**Cornudas Mount** baz=150	**149.86**	**350**	⇑PKiKP	**PKPbc**	**11**	**33**	**25.4 0.0**
JCT	**Junction City**	**149.91**	**340**	*e*PKPdf	**PKPdf**	**11**	**33**	**20.6 0.0**
JCT				*e*PKPbc	**PKPbc**	**11**	**33**	**25.3 -0.2**
JCT				*e*PKPab	**PKPab**	**11**	**33**	**31.1 +0.3**
JCT	**Junction City** baz=150	**149.91**	**340**	⇓PKiKP	**PKPbc**	**11**	**33**	**25.2 -0.2**
328A	**Wristen Ranch,** baz=150	**149.96**	**345**	⇓PKiKP	**PKPbc**	**11**	**33**	**25.4 -0.2**
431A	**Sonora** baz=150	**149.99**	**341**	⇓PKiKP	**PKPbc**	**11**	**33**	**25.8 +0.1**
430A	**Baggett Ranch,** baz=150	**150.09**	**342**	⇓PKiKP	**PKPbc**	**11**	**33**	**26.2 +0.3**
TUC	**Tucson**	**150.12**	**359**	*e*PKPdf	**PKPdf**	**11**	**33**	**22.3 +1.4**
TUC				*e*PKPbc	**PKiKP**	**11**	**33**	**26.7 -0.1**
TUC				*e*PKPab	**PKPab**	**11**	**33**	**31.8 +0.1**
MNTX	**Cornudas Mount**	**150.21**	**350**	*e*PKPdf	**PKPdf**	**11**	**33**	**21.6 +0.6**
MNTX				*e*PKPbc	**PKPbc**	**11**	**33**	**26.4 +0.3**
MNTX				*e*PKPab	**PKPab**	**11**	**33**	**32.2 +0.2**
532A	**Rocksprings** baz=150	**150.27**	**340**	⇓PKiKP	**PKiKP**	**11**	**33**	**27.1 -0.1**
326A	**Caldwell Ranch** baz=150	**150.30**	**347**	⇑PKiKP	**PKiKP**	**11**	**33**	**26.9 -0.4**
220A	**Playas Peak, P** baz=150	**150.41**	**355**	⇑PKiKP	**PKPbc**	**11**	**33**	**26.8 0.0**
429A	**Davenport Ranc** baz=150	**150.43**	**343**	⇑PKiKP	**PKPbc**	**11**	**33**	**26.7 0.0**
214A	**Organ Pipe Nat** baz=150	**150.44**	**3**	⇓PKiKP	**PKPbc**	**11**	**33**	**26.8 +0.2**
325A	**Bean Ranch, Si** baz=150	**150.45**	**349**	⇓PKiKP	**PKPbc**	**11**	**33**	**26.9 0.0**
324A	**Moseley Ranch,** baz=150	**150.47**	**350**	⇓PKiKP	**PKPbc**	**11**	**33**	**26.7 -0.3**
428A	**Kincaid Ranch,** baz=150	**150.55**	**345**	⇑PKiKP	**PKPbc**	**11**	**33**	**26.8 -0.3**
427A	**Hayter Ranch,** baz=150	**150.62**	**346**	⇓PKiKP	**PKPbc**	**11**	**33**	**26.5 -0.7**
530A	**J-C Ranch, Com** baz=151	**150.71**	**342**	⇑PKiKP	**PKPbc**	**11**	**33**	**26.3 -1.1**
632A	**Uvalde** baz=151	**150.79**	**339**	⇑PKiKP	**PKPbc**	**11**	**33**	**26.3 -1.3**
426A	**McDonald Obser** baz=151	**150.93**	**347**	⇑PKiKP	**PKPbc**	**11**	**33**	**26.3 -1.9**
319A	**Douglas** baz=151	**150.99**	**356**	⇓PKiKP	**PKPbc**	**11**	**33**	**26.6 -1.5**
529A	**Stev Forest Ra** baz=151	**151.00**	**344**	⇑PKiKP	**PKPbc**	**11**	**33**	**27.0 -1.1**
425A	**Indio Mountain** baz=151	**151.02**	**349**	⇑PKiKP	**PKPbc**	**11**	**33**	**27.0 -1.2**
528A	**Cox Ranch, San** baz=151	**151.12**	**345**	⇓PKiKP	**PKPbc**	**11**	**33**	**27.2 -1.3**
631A	**Perdido Creek** baz=151	**151.15**	**340**	⇓PKiKP	**PKPbc**	**11**	**33**	**27.4 -1.0**
527A	**Woodward Ranch** baz=151	**151.34**	**346**	⇑PKiKP	**PKPbc**	**11**	**33**	**27.8 -1.2**
526A	**Mary Lane Ranc** baz=151	**151.53**	**347**	⇓PKiKP	**PKPbc**	**11**	**33**	**28.0 -1.4**
732A	**Laxson Ranch,** baz=151	**151.57**	**339**	⇑PKiKP	**PKPbc**	**11**	**33**	**28.1 -1.2**
628A	**Black Gap, Mar** baz=152	**151.78**	**344**	⇑PKiKP	**PKPbc**	**11**	**33**	**27.7 -2.2**
627A	**Terlingua Ranc** baz=152	**151.95**	**345**	⇓PKiKP	**PKPbc**	**11**	**33**	**27.8 -2.6**
626A	**Big Bend Ranch** baz=152	**152.03**	**347**	⇓PKiKP	**PKPbc**	**11**	**33**	**29.0 -1.5**
TXAR	**Lajitas Array**	**152.13**	**346**	PKPbc	**PKPbc**	**11**	**33**	**31.1 +0.3**
TXAR	**Lajitas Array** comp=Z,3.7nm,0.9s,baz=89,slow=1.6,SNR=22	**152.13**	**346**	PKPbc	**PKPbc**	**11**	**33**	**31.1 +0.3**

KRSC 06 11:31:05.2±7.3, 53°89N×163°20E, h14km±15km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
MKZ	**Mys Kozlova**	**1.09**	**308**	P	Pg	11	31 27.0	+0.8
MKZ				*i* S	Sn	11	31 41.6	+0.7
KMNR	**Kamenistaya**	**2.54**	**319**	P	Pb	11	31 48.9	-1.7
KRER	**Koryakskii**	**2.72**	**259**	P	Pn	11	31 50.5	+1.8
AVH	**Avacha**	**2.73**	**259**	P	Pn	11	31 51.2	+2.5
KRX	**Arik**	**2.76**	**261**	P	Pn	11	31 51.2	+2.0

*IDC **06** 11:59:14.2±2.1,26°51N×142°66E,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.5/23,mbtmp3.8/3,Error ellipse: s-maj=85.1km s-min=15.4km az=69.0*
*ISCJB **06** 11:59:16.5±1.0,26°49N±0°08×142°8E±0°1,h31km, mb3.8/3,Error ellipse: s-maj=15.7km s-min=8.3km az=142.3*
*JMA **06** 11:59:18.6±0.3,26°49N×142°50E,h51km,M3.1*
ISC 06 11:59:18.7±1.3, 26°50N±0°09×142°6E±0°1, h31km, n13, σ0s91/10, mb4.0/3, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
JHHJ	**Haha-jima-NKT**	**0.40**	**289**	P	**Pn**	**11**	**59 28.0**	**-0.3**
JHHJ				*e*S	**Sn**	**11**	**59 34.7**	**-0.2**
CBIJ	**Chichi jima**	**0.70**	**328**	P	**Pn**	**11**	**59 31.7**	**-0.8**
CBIJ				*e*S	**Sn**	**11**	**59 42.6**	**+0.3**
JCJ	**Chichijima** 223nm,0.3s,baz=106,slow=18,SNR=19	**0.70**	**328**	Pn	**Pn**	**11**	**59 31.8**	**-0.6**
JCJ	231nm,0.3s,baz=270,slow=20,SNR=24			Sn	**Sn**	**11**	**59 44.1**	**+1.9**
JHO	**Hitachi**	**10.23**	**351**	P	**Pn**	**12**	**01 42.7**	**-0.6**
H11N2	**WAKE ISLAND Hy** baz=294,slow=0.7,SNR=7.4	**23.31**	**102**	T	T	12	28 55.3	
H11N1	**WAKE ISLAND Hy** baz=294,slow=0.7,SNR=6.0	**23.32**	**102**	T	T	12	28 55.6	
H11N3	**WAKE ISLAND Hy** baz=294,slow=0.7,SNR=6.6	**23.33**	**102**	T	T	12	28 56.7	
H11S3	**WAKE ISLAND Hy** baz=297,slow=0.7,SNR=11	**23.61**	**105**	T	T	12	28 58.7	
H11S1	**WAKE ISLAND Hy** baz=297,slow=0.7,SNR=8.3	**23.61**	**105**	T	T	12	28 57.9	
H11S2	**WAKE ISLAND Hy** baz=297,slow=0.7,SNR=8.3	**23.62**	**105**	T	T	12	29 00.1	
WRA	**Warramunga Ar** 1.5nm,0.5s,baz=11,slow=8.6,SNR=27	**46.86**	**191**	P	**P**	**12**	**07 46.6**	**+0.6**
ASAR	**Alice Springs** 0.2nm,0.4s,baz=19,slow=9.2,SNR=6.0	**50.58**	**190**	P	**P**	**12**	**08 14.3**	**-0.2**
FINES	**FINESS Array B** 0.7nm,0.4s,baz=90,slow=6.9,SNR=3.9	**78.64**	**334**	P	**P**	**12**	**11 17.8**	**+0.5**

*ISCJB **06** 12:28:15.8±0.3,17°80S±0°09×178°66W±0°07,h547km, mb4.4/32,Error ellipse: s-maj=13.1km s-min=5.8km az=150.6*
*IDC **06** 12:28:17.4±1.5,17°87S×178°56W,h557km±17km, mb3.6/12,mb1 3.9/14,mb1mx3.7/22,mbtmp4.6/14,Error ellipse: s-maj=17.4km s-min=11.5km az=148.0*
*AUST **06** 12:28:18.3±0.0,17°84S×178°34W,h585km,Error ellipse: s-maj=1.6km s-min=1.3km az=332.0*
*NEIC **06** 12:28:20.9±0.8,17°48S×178°89W,h588km±8km,mb4.3/18, Error ellipse: s-maj=34.9km s-min=7.3km az=149.0*
*BJI **06** 12:28:20.9,17°40S×178°90W,h587km,mB5.4/2,mb4.6/5*
ISC 06 12:28:16.4±0.5, 17°66S±0°09×178°63W±0°08, h547km, n73, σ1s19/78, mb4.3/32, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
MSVF	**Nonsavu**	**3.17**	**268**	*e*P	P	12	29 38.7	+6.4
AFI	**Afiamalu**	**7.58**	**61**	*e*P	**P**	**12**	**30 10.5**	**+0.5**
AFI	**Afiamalu** 7.7nm,0.3s,baz=15,slow=2.4,SNR=5.4	**7.58**	**61**	P	**P**	**12**	**30 10.6**	**+0.6**
NIUE	**Niue** baz=8.1,SNR=4.0	**8.38**	**101**	P	**P**	**12**	**30 18.7**	**+0.8**
DZM	**Mont Dzumac** 12nm,0.5s	**14.71**	**250**	*e*P	**P**	**12**	**31 25.8**	**+2.7**
DZM	**Mont Dzumac** 2.9nm,0.3s,baz=73,slow=14,SNR=28	**14.71**	**250**	P	**P**	**12**	**31 23.7**	**+0.6**
URZ	**Urewera** 5.3nm,0.7s,baz=310,slow=7.9,SNR=2.8	**20.86**	**189**	P	**P**	**12**	**32 18.9**	**-1.3**
EIDS	**Eidsvold** 13nm,0.7s	**29.16**	**249**	*e*P	**P**	**12**	**33 33.9**	**+0.1**
EIDS	**Eidsvold** baz=29,SNR=7.5	**29.16**	**249**	P	**P**	**12**	**33 33.8**	**+0.1**
ARMA	**Armidale** 12nm,0.6s	**29.89**	**239**	*e*P	**P**	**12**	**33 41.3**	**+1.1**
ARMA	**Armidale** baz=30,SNR=15	**29.89**	**239**	P	**P**	**12**	**33 41.0**	**+0.9**
MGCD	**Mangrove Creek** baz=31,SNR=5.5	**31.27**	**234**	P	**P**	**12**	**33 53.0**	**+1.1**
RMQ	**Roma** baz=32,SNR=11	**31.40**	**248**	P	**P**	**12**	**33 54.2**	**+1.1**
CTA	**Charters Tower** 13nm,0.6s,baz=94,slow=10,SNR=23	**33.28**	**260**	P	**P**	**12**	**34 09.9**	**+0.8**
CTAO	**Charters Tower** 17nm,0.8s	**33.28**	**260**	*e*P	**P**	**12**	**34 10.0**	**+0.8**
CNB	**Canberra Magne** baz=34,SNR=34	**33.41**	**232**	P	**P**	**12**	**34 10.5**	**+0.4**
PMG	**Port Moresby** 27nm,0.8s,baz=82,slow=7.6,SNR=5.4	**34.21**	**279**	P	**P**	**12**	**34 17.7**	**+0.7**
CMSA	**Cobar Meteorol** baz=35,SNR=11	**35.09**	**240**	P	**P**	**12**	**34 24.5**	**+0.4**
QLP	**Quilpie** baz=36,SNR=16	**35.43**	**249**	P	**P**	**12**	**34 27.3**	**+0.3**
COEN	**Coen** 109nm,0.8s	**36.89**	**270**	*e*P	**P**	**12**	**34 41.0**	**+1.7**
COEN	**Coen** baz=37,SNR=25	**36.89**	**270**	P	**P**	**12**	**34 41.0**	**+1.7**
TOO	**Toolangi** baz=37,SNR=13	**37.16**	**230**	P	**P**	**12**	**34 41.5**	**+0.3**
STKA	**Stephens Creek** 6.7nm,0.8s	**38.57**	**241**	*e*P	**P**	**12**	**34 53.3**	**+0.7**
STKA	**Stephens Creek** baz=39,SNR=62	**38.57**	**241**	P	**P**	**12**	**34 53.4**	**+0.7**
STKA	**Stephens Creek** 15nm,0.5s,baz=92,slow=9.8,SNR=91	**38.57**	**241**	P	**P**	**12**	**34 53.4**	**+0.7**
JAY	**Jayapura** baz=43,SNR=5.8	**42.63**	**286**	P	**P**	**12**	**35 27.6**	**+2.2**
BBOO	**Buckleboo** baz=44,SNR=59	**43.34**	**241**	P	**P**	**12**	**35 30.6**	**0.0**
WRAB	**Tennant Creek** 12nm,0.5s	**44.46**	**259**	*e*P	**P**	**12**	**35 39.2**	**-0.3**
WRA	**Warramunga Arr** 12nm,0.5s,baz=92,slow=8.3,SNR=351	**44.47**	**259**	P	**P**	**12**	**35 39.1**	**-0.5**
WRA	1.3nm,0.3s,baz=92,slow=3.3,SNR=4.6			PcP	**PcP**	**12**	**37 10.4**	**-0.8**
AS31	**Alice Springs**	**44.66**	**254**	*e*P	**P**	**12**	**35 41.2**	**+0.3**
ASAR	**Alice Springs** 103nm,0.6s,baz=88,slow=8.4,SNR=1335	**44.66**	**254**	P	**P**	**12**	**35 41.2**	**+0.3**
ASAR	2.7nm,0.5s,baz=87,slow=4.3,SNR=4.8			PcP	**PcP**	**12**	**37 11.1**	**-0.7**
ASAR	0.3nm,0.5s,baz=90,slow=4.2,SNR=3.6			ScP	**ScP**	**12**	**40 10.2**	**-1.9**
KDU	**Kakadu** baz=48,SNR=18	**47.35**	**269**	P	**P**	**12**	**36 01.8**	**+0.4**
FORT	**Forrest** baz=50,SNR=11	**49.92**	**244**	P	**P**	**12**	**36 19.7**	**-0.6**
KNRA	**Kununurra** baz=50,SNR=74	**50.30**	**264**	P	**P**	**12**	**36 23.4**	**+0.1**
FAKI	**Fak Fak** baz=51,SNR=3.9	**50.32**	**281**	P	**P**	**12**	**36 24.5**	**+1.0**
FITZ	**Fitzroy Crossi** 29nm,1.7s	**52.86**	**260**	*e*P	**P**	**12**	**36 42.1**	**+0.4**
FITZ	**Fitzroy Crossi** baz=53,SNR=13	**52.86**	**260**	P	**P**	**12**	**36 42.1**	**+0.4**
MBWA	**Mole Bar** 11nm,0.7s	**57.93**	**256**	*e*P	**P**	**12**	**37 16.5**	**-0.5**
MEEK	**Meekatharra** baz=58,SNR=4.8	**58.32**	**249**	P	**P**	**12**	**37 18.7**	**-0.9**
KLBR	**Kellerberrin** baz=59,SNR=11	**58.75**	**243**	P	**P**	**12**	**37 21.4**	**-0.9**
BLDU	**Ballidu** baz=60,SNR=11	**59.70**	**244**	P	**P**	**12**	**37 27.7**	**-1.0**
MORW	**Morawa** baz=60,SNR=6.0	**60.39**	**246**	P	**P**	**12**	**37 32.5**	**-0.8**
VNDA	**Vanda** 0.6nm,0.5s,baz=347,slow=7.4,SNR=9.7	**60.67**	**185**	P	**P**	**12**	**37 33.2**	**-1.1**
GIRL	**Giralia** baz=63,SNR=4.0	**62.76**	**253**	P	**P**	**12**	**37 49.7**	**+0.9**
UGM	**Wanagama** baz=70,SNR=6.9	**69.44**	**268**	P	**P**	**12**	**38 30.7**	**+0.1**
ATKA	**Atka Island** 44µm,0.9s	**69.67**	**3**	*e*P	**P**	**12**	**38 29.7**	**-1.3**
PMBI	**Palembang** baz=77,SNR=4.6	**76.35**	**271**	P	P	12	39 26.7	+17
ISA	**Isabella**	**77.80**	**46**	*e*P	**P**	**12**	**39 19.1**	**+1.4**
CMB	**Columbia Colle** 29nm,2.2s	**77.80**	**43**	*e*P	**P**	**12**	**39 18.6**	**+1.0**
NVAR	**Mina Array Bea** 2.0nm,0.7s,baz=227,slow=8.4,SNR=21	**79.39**	**44**	P	**P**	**12**	**39 27.2**	**+1.0**
CN2	**Changchun** comp=Z,300nm,4.0s	**79.70**	**322**	⇓P	**P**	**12**	**39 27.5**	**+0.1**
CN2				*e*sP	sP	12	42 29.0	+9.0
CN2				*e*S	**S**	**12**	**48 40.9**	**-4.3**
CN2				AMB	AMB			
MOD	**Modoc** 14nm,0.6s	**80.03**	**40**	*e*P	**P**	**12**	**39 30.5**	**+1.0**
WVOR	**Wild Horse Val** 4.0nm,1.0s	**81.35**	**40**	*e*P	**P**	**12**	**39 37.2**	**+0.9**
I07A	**Izee** 3.5nm,0.8s	**81.74**	**39**	*e*P	**P**	**12**	**39 39.5**	**+1.3**
J08A	**Circle Bar Ran** 3.2nm,0.7s	**81.96**	**40**	*e*P	**P**	**12**	**39 40.6**	**+1.3**
G08A	**Pilot Rock** 2.2nm,0.8s	**82.74**	**38**	*e*P	**P**	**12**	**39 44.4**	**+1.2**
TRF	**Thorofare Moun**	**83.81**	**12**	*e*P	**P**	**12**	**39 48.2**	**0.0**
MAW	**Mawson** 1.9nm,0.5s,baz=124,slow=4.5,SNR=10	**84.02**	**200**	P	**P**	**12**	**39 47.4**	**-1.7**
F10A	**Beach Ranch, E** 4.4nm,1.0s	**84.13**	**38**	*e*P	**P**	**12**	**39 50.7**	**+0.6**
HLID	**Hailey** 30nm,2.8s	**84.58**	**41**	*e*P	**P**	**12**	**39 53.9**	**+1.4**
GYA	**Guiyang** comp=Z,10.0nm,1.0s	**84.73**	**300**	*e*P	**P**	**12**	**39 53.8**	**+0.3**
GYA				AMB	AMB			
ILAR	**Eielson Array** 0.9nm,0.4s,baz=224,slow=5.1,SNR=45	**85.69**	**13**	P	**P**	**12**	**39 57.1**	**0.0**
TXAR	**Lajitas Array** 1.8nm,0.7s,baz=222,slow=5.2,SNR=22	**86.04**	**58**	P	**P**	**12**	**40 01.2**	**+1.5**
MCMT	**McKenzie Canyo** 0.7nm,0.7s	**86.19**	**41**	*e*P	**P**	**12**	**40 01.5**	**+1.2**
IMW	**Indian Meadow** 3.3nm,0.8s	**86.94**	**42**	*e*P	**P**	**12**	**40 05.2**	**+1.3**
HHC	**Hu-ho-hao-te**	**86.95**	**315**	*e*P	**P**	**12**	**40 02.7**	**-1.0**
HHC				pP	pP	12	42 08.6	+5.5
HHC				sP	sP	12	43 08.6	+10
HHC				PP	**PP**	**12**	**43 38.5**	**+1.2**
HHC				S	**SKKSac**	**12**	**49 47.6**	**-2.2**
HHC				sS	sS	12	53 39.2	+10
HHC				SS	**SS**	**12**	**55 54.0**	**-2.5**
HHC	comp=Z,45nm,0.9s			AMB	AMB			
HHC	comp=Z,850nm,5.6s			AMB	AMB			
PDAR	**Pinedale Array** 1.6nm,0.6s,baz=220,slow=3.8,SNR=17	**87.32**	**44**	P	**P**	**12**	**40 06.0**	**+0.5**
CMAR	**Chiang Mai Arr** 1.4nm,1.0s,baz=82,slow=2.0,SNR=7.7	**88.60**	**290**	P	**P**	**12**	**40 13.3**	**+1.5**
CD2	**Chengdu**	**88.76**	**303**	P	**P**	**12**	**40 12.3**	**-0.1**
CD2	comp=Z,10.0nm,0.5s			AMB	AMB			
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=35,slow=1.6,SNR=5.1	**108.81**	**314**	PKiKP	**PKiKP**	**12**	**45 42.0**	**-1.6**
BRTR	**Keskin Array B** 0.8nm,0.4s,baz=149,slow=2.9,SNR=6.4	**144.46**	**315**	PKP	**PKPdf**	**12**	**46 51.0**	**0.0**
GERES	**GERESS Array B** 0.7nm,0.4s,baz=60,slow=5.8,SNR=2.8	**147.32**	**345**	PKPbc	**PKPbc**	**12**	**46 59.1**	**+0.3**
TORD	**Torodi Ar. Bea** 0.5nm,0.8s,baz=159,slow=3.8,SNR=2.8	**175.50**	**184**	PKPab	**PKPab**	**12**	**49 03.5**	**-2.1**

*JMA **06** 12:49:49.1±0.1,25°19N×122°53E,h8km,M2.8*
*TAP **06** 12:49:50.1,24°05N×122°27E,h19km,ML3.0,C*
ISC 06 12:49:49.9±1.2, 24°04N±0°03×122°28E±0°02, h18km±5km, n31, σ0s53/59, 1C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
ENA	**Nanau** baz=319	**0.62**	**309**	*e*P	**Pb**	**12**	**50 01.8**	**-0.5**
ENA	baz=319			*e*S	**Sg**	**12**	**50 11.3**	**+0.7**
TWD	**Chiawan** baz=273	**0.62**	**274**	*e*P	**Pb**	**12**	**50 01.7**	**-0.5**
TWD	baz=273			*e*S	**Sg**	**12**	**50 11.4**	**+0.8**
TWC	**Suao** baz=325	**0.69**	**326**	*i* P	**Pb**	**12**	**50 02.9**	**-0.5**
TWC				*e*S	**Sg**	**12**	**50 12.7**	**0.0**
YOJ	**Yonaguni jima**	**0.79**	**58**	P	**Pb**	**12**	**50 05.1**	**0.0**
YOJ				*e*S	**Sg**	**12**	**50 16.4**	**+0.5**
ESL	**Shilin** baz=241	**0.80**	**254**	P	**Pb**	**12**	**50 05.3**	**-0.1**
ESL	baz=241			*e*S	**Sg**	**12**	**50 16.4**	**+0.1**
ENTT	**Nioudou** baz=321	**0.88**	**313**	P	**Pg**	**12**	**50 06.9**	**-0.2**
ENTT	baz=321			S	**Sn**	**12**	**50 19.6**	**-0.3**
NNS	**Nan Shan** baz=295	**0.92**	**296**	P	**Pg**	**12**	**50 07.7**	**-0.1**
NNS	baz=295			*e*S	**Sg**	**12**	**50 20.3**	**+0.4**
WHF	**Hehuan Shan** baz=261	**0.93**	**277**	*e*P	**Pb**	**12**	**50 07.7**	**-0.1**
WHF	baz=261			S	**Sb**	**12**	**50 20.7**	**+0.7**
TWB1	**Santiao Chiao** baz=344	**1.00**	**345**	*e*P	**Pg**	**12**	**50 09.1**	**-0.2**
TWB1	baz=344			*e*S	**Sn**	**12**	**50 22.4**	**-0.3**
EHY	**Hungye** baz=238	**1.02**	**239**	*e*P	**Pb**	**12**	**50 09.3**	**+0.2**
EHY	baz=238			*e*S	**Sb**	**12**	**50 22.8**	**+0.6**
TWT	**Tachien** baz=268	**1.03**	**282**	*e*P	**Pg**	**12**	**50 09.9**	**0.0**
TWT	baz=268			*e*S	**Sg**	**12**	**50 24.6**	**+1.1**
NSK	**Sanguang** baz=307	**1.05**	**307**	⇑*i*P	**Pn**	**12**	**50 09.8**	**-0.1**
NSK	baz=307			*e*S	**Sg**	**12**	**50 24.6**	**+0.4**
NWF	**Wu-fen Shan** baz=335	**1.12**	**336**	*e*P	**Pn**	**12**	**50 10.7**	**-0.1**
NWF	baz=335			*i* S	**Sg**	**12**	**50 26.4**	**0.0**
TWF1	**Yuli** baz=219	**1.13**	**233**	*e*P	**Pn**	**12**	**50 10.6**	**-0.2**
TWF1	baz=219			*e*S	**Sn**	**12**	**50 25.9**	**0.0**
TWA	**Mucha** baz=335	**1.13**	**326**	⇓*e*P	**Pg**	**12**	**50 11.4**	**-0.4**
TWA	baz=335			*e*S	**Sg**	**12**	**50 26.5**	**-0.2**
SMLT	**Sun Moon Lake** baz=250	**1.27**	**263**	*e*P	**Pn**	**12**	**50 13.0**	**+0.1**
SMLT	baz=250			*e*S	**Sg**	**12**	**50 30.7**	**-0.4**
NSTT	**Nanjuang** baz=297	**1.31**	**297**	*e*P	**Pb**	**12**	**50 14.1**	**+0.1**
NSTT	baz=297			*e*S	**Sb**	**12**	**50 31.0**	**+0.6**
TYC	**Yuchr** baz=264	**1.31**	**264**	*e*P	**Pb**	**12**	**50 14.3**	**+0.4**
TYC	baz=264			*e*S	**Sg**	**12**	**50 32.5**	**+0.3**
TWS1	**Kuangyinshan** baz=322	**1.32**	**324**	*e*P	**Pb**	**12**	**50 13.8**	**-0.3**
YUS	**Yu-Shan** baz=246	**1.33**	**246**	*e*P	**Pn**	**12**	**50 14.2**	**+0.2**
YUS	baz=246			*e*S	**Sn**	**12**	**50 30.5**	**-1.0**
IRIF	**Iriomote-Funau**	**1.36**	**77**	P	**Pb**	**12**	**50 14.6**	**-0.2**
IRIF				*e*S	**Sb**	**12**	**50 32.6**	**+0.7**
TWQ1	**Liyutan** baz=282	**1.41**	**283**	*e*P	**Pb**	**12**	**50 16.3**	**+0.6**
TWQ1	baz=282			*e*S	**Sb**	**12**	**50 33.6**	**+0.3**
ELDTW	**Lidau** baz=220	**1.43**	**234**	*e*P	**Pn**	**12**	**50 14.5**	**-0.6**
ELDTW	baz=220			*e*S	**Sn**	**12**	**50 31.6**	**-1.9**
ALS	**Alishan** baz=249	**1.45**	**249**	*e*P	**Pn**	**12**	**50 15.9**	**+0.5**
ALS	baz=249			*e*S	**Sn**	**12**	**50 34.2**	**0.0**
CHN5	**Tsauling** baz=241	**1.53**	**254**	*e*P	**Pb**	**12**	**50 17.3**	**-0.5**
CHN5	baz=241			*e*S	**Sb**	**12**	**50 37.6**	**+0.7**
JKRS	**Kuro-shima**	**1.59**	**82**	*e*S	**Sb**	**12**	**50 39.4**	**+0.8**
TWG	**Pinlang** baz=223	**1.64**	**223**	*e*P	**Pn**	**12**	**50 18.0**	**+0.1**
WTP	**Ta-pu** baz=243	**1.72**	**243**	*e*P	**Pb**	**12**	**50 20.6**	**-0.3**
WTP	baz=243			*e*S	**Sb**	**12**	**50 42.3**	**+0.1**
JIJ	**Ishigaki jima**	**1.73**	**79**	P	**Pn**	**12**	**50 18.9**	**-0.2**
JIJ				*e*S	**Sn**	**12**	**50 40.6**	**-0.2**
CHN1	**Nanshi** baz=243	**1.82**	**242**	*e*P	**Pb**	**12**	**50 22.2**	**-0.4**
CHN1	baz=243			*e*S	**Sb**	**12**	**50 45.5**	**+0.4**
SGST	**Jiashian** baz=239	**1.82**	**239**	*e*P	**Pn**	**12**	**50 21.4**	**+1.0**
SGST	baz=239			*e*S	**Sb**	**12**	**50 45.0**	**-0.2**

IDC 06 12:53:56.4±3.6, 15°34S×173°03W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/20, mbtmp3.8/3, Error ellipse: s-maj=188.2km s-min=23.9km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
AFI	**Afiamalu** 53nm,0.3s,baz=173,slow=1.8,SNR=50	**1.87**	**41**	Pn	Pn	12	54 28.3	-1.5
AFI	130nm,0.3s,baz=221,slow=20,SNR=21			Sn	Sn	12	54 46.6	-7.6
H11S2	**WAKE ISLAND Hy** baz=152,slow=0.7,SNR=20	**39.09**	**329**	T	T	13	42 11.2	
H11S3	**WAKE ISLAND Hy** baz=152,slow=0.7,SNR=17	**39.10**	**329**	T	T	13	42 12.0	
H11S1	**WAKE ISLAND Hy** baz=152,slow=0.7,SNR=12	**39.11**	**329**	T	T	13	42 12.2	
H11N3	**WAKE ISLAND Hy** baz=144,slow=0.7,SNR=6.2	**40.03**	**330**	T	T	13	43 56.3	
H11N1	**WAKE ISLAND Hy** baz=144,SNR=8.9	**40.04**	**330**	T	T	13	43 21.6	
H11N2	**WAKE ISLAND Hy** baz=144,slow=0.7,SNR=6.5	**40.05**	**330**	T	T	13	43 58.5	
STKA	**Stephens Creek** 2.0nm,0.9s,baz=76,slow=12,SNR=2.4	**44.37**	**240**	P	P	13	02 08.6	-0.3
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=91,slow=6.9,SNR=14	**50.20**	**257**	P	P	13	02 54.0	-0.5
ASAR	**Alice Springs** 1.2nm,0.5s,baz=88,slow=7.9,SNR=23	**50.47**	**252**	P	P	13	02 55.8	-0.7
BRTR	**Keskin Array B** 1.5nm,0.9s,baz=90,slow=2.5,SNR=5.6	**146.33**	**321**	PKPbc	PKPab	13	13 41.3	+0.8

IDC 06 13:08:46.7±2.4, 15°94S×173°26W, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/21, mbtmp3.7/6, ML1.1/1, Error ellipse: s-maj=128.6km s-min=20.4km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
AFI	**Afiamalu** 2.4nm,0.3s,baz=321,slow=6.5,SNR=3.8	**2.47**	**36**	Pn	Pn	13	09 26.5	-2.0
AFI	15nm,0.3s,baz=37,slow=20,SNR=5.4			Sn	Sn	13	09 50.4	-9.1
STKA	**Stephens Creek** 1.0nm,0.6s,baz=104,slow=8.3,SNR=2.1	**43.89**	**240**	P	P	13	16 54.9	-0.4
WRA	**Warramunga Arr** 0.2nm,0.7s,baz=100,slow=6.7,SNR=4.0	**49

*TEH **06** 14:43:02.7, 36°.85N×55°.41E, h6km, ML4.0*
*NNC **06** 14:43:11.2±3.0, 37°.56N×56°.57E, h0km, mb3.7, Error ellipse: s-maj=34.3km s-min=15.0km az=50.0*

ISC 06 14:43:02.4±1.0, 36°.86N±0°.03×55°.45E±0°.03, h15km±7km, n108, σ1§65/107, mb3.6/9, 7C-3D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMND	**Minoodasht**	**0.40**	**355**	*e*Sg	**Sg**	**14 43 16.0**	**+0.1**
IMND				⇓*e*Pg	**Pg**	**14 43 09.4**	**-1.1**
IMND	**Minoodasht**	**0.40**	**355**	⇓*e*Pg	**Pg**	**14 43 09.4**	**-1.1**
IMND				*e*Sg	**Sg**	**14 43 16.0**	**+0.1**
MRVT	**Maraveh tapeh**	**0.94**	**32**	*e*Pg	**Pg**	**14 43 18.4**	**-2.3**
MRVT				AML	AML	14 43 46.7	
	comp=N,853nm,0.5s						
MRVT	**Maraveh tapeh**	**0.94**	**32**	*e*Pg	**Pg**	**14 43 18.4**	**-2.3**
SHRO	**Shahrood**	**0.98**	**153**	*e*Pg	**Pg**	**14 43 18.9**	**-2.5**
SHRO	**Shahrood**	**0.98**	**153**	*e*Pg	**Pg**	**14 43 18.9**	**-2.5**
IGLO	**Ghaloghah**	**1.35**	**255**	*e*Pn	**Pn**	**14 43 24.0**	**-2.9**
IGLO				*e*		14 43 58.3	
	comp=Z,34μm,0.3s						
BJRD	**Bojnurd**	**1.77**	**61**	*e*Pg	**Pb**	**14 43 34.8**	**+0.2**
BJRD				*e*Sg	**Sb**	**14 43 58.9**	**+2.3**
BJRD				AML	AML	14 44 07.2	
	comp=E,368nm,0.6s						
BJRD	**Bojnurd**	**1.77**	**61**	*e*Pg	**Pb**	**14 43 34.8**	**+0.2**
BJRD				*e*Sg	**Sb**	**14 43 58.9**	**+2.3**
IANJ	**Anjilo**	**1.87**	**222**	*e*Pn	**Pn**	**14 43 33.7**	**-0.3**
IANJ				*e*	**Sg**	**14 44 04.1**	**+1.5**
	comp=Z,17μm,0.1s						
IANJ	**Anjilo**	**1.87**	**222**	*e*Pn	**Pn**	**14 43 33.7**	**-0.3**
ISHV	**Shirvan**	**1.92**	**69**	*e*Pn	**Pn**	**14 43 36.8**	**+2.1**
ISHV				*e*	**Sg**	**14 44 08.3**	**+4.1**
	comp=Z,20μm,0.5s						
ISHV	**Shirvan**	**1.92**	**69**	*e*Pn	**Pn**	**14 43 36.8**	**+2.1**
ISHM	**Shahmirzad**	**2.04**	**239**	*e*Pn	**Pn**	**14 43 36.5**	**+0.1**
ISHM				*e*	**Sg**	**14 44 12.3**	**+4.3**
	comp=Z,20μm,0.2s						
ISHM	**Shahmirzad**	**2.04**	**239**	*e*Pn	**Pn**	**14 43 36.5**	**+0.1**
ISFR	**Sfrayin**	**2.05**	**84**	*e*Pn	**Pn**	**14 43 37.8**	**+1.2**
ISFR				*e*		14 44 21.6	
	comp=Z,8μm,0.2s						
ISFR	**Sfrayin**	**2.05**	**84**	*e*Pn	**Pn**	**14 43 37.8**	**+1.2**
IALA	**Alasht**	**2.27**	**251**	*e*	**Sg**	**14 44 19.5**	**+4.1**
	comp=Z,22μm,0.2s						
IKRD	**Kardeh**	**2.46**	**91**	*e*Pn	Pg	14 43 55.0	+5.4
IKRD				*e*		14 45 02.0	
	comp=Z,3μm,0.6s						
IKRD	**Kardeh**	**2.46**	**91**	*e*Pn	Pg	14 43 55.0	+5.4
IFIR	**Firoozkooh**	**2.50**	**242**	*e*Pn	**Pn**	**14 43 43.4**	**+0.7**
IFIR				*e*	**Pg**	**14 43 50.2**	**-0.2**
	comp=Z,9μm,0.2s						
IFIR	**Firoozkooh**	**2.50**	**242**	*e*Pn	**Pn**	**14 43 43.4**	**+0.7**
ILAS	**Lasjerd**	**2.50**	**235**	*e*Pn	**Pn**	**14 43 43.4**	**+0.6**
ILAS				*e*	**Sg**	**14 44 23.5**	**+0.6**
	comp=Z,9μm,0.3s						
ILAS	**Lasjerd**	**2.50**	**235**	*e*Pn	**Pn**	**14 43 43.4**	**+0.6**
IPRN	**Peran**	**2.58**	**257**	*e*Pn	**Pn**	**14 43 44.1**	**+0.3**
IPRN				*e*	**Sg**	**14 44 27.1**	**+1.6**
	comp=Z,21μm,0.3s						
IEMG	**Emamgholi**	**2.62**	**77**	*e*Pn	**Pn**	**14 43 45.3**	**+0.9**
IEMG				*e*		14 44 41.7	
	comp=Z,5μm,0.4s						
IEMG	**Emamgholi**	**2.62**	**77**	*e*Pn	**Pn**	**14 43 45.3**	**+0.9**
IAKL	**Akhelmad**	**2.67**	**95**	*e*Pn	**Pn**	**14 43 46.2**	**+1.1**
IAKL				*e*		14 44 40.9	
	comp=Z,2μm,0.4s						
IDMV	**Damavand**	**3.05**	**246**	*e*Pn	**Pn**	**14 43 50.8**	**+0.5**
IDMV				*e*		14 43 56.0	
	comp=Z,3μm,0.1s						
IDMV	**Damavand**	**3.05**	**246**	*e*Pn	**Pn**	**14 43 50.8**	**+0.5**
DAMV	**Damavand**	**3.07**	**247**	*e*Pn	**Pn**	**14 43 52.9**	**+2.3**
DAMV				AML	AML	14 44 43.3	
	comp=E,298nm,0.5s						
DAMV	**Damavand**	**3.07**	**247**	*e*Pn	**Pn**	**14 43 52.9**	**+2.3**
IMOG	**Moghan**	**3.22**	**102**	*e*Pn	**Pn**	**14 43 54.0**	**+1.3**
IMOG				*e*		14 44 20.6	
	comp=Z,1μm,0.3s						
IMOG	**Moghan**	**3.22**	**102**	*e*Pn	**Pn**	**14 43 54.0**	**+1.3**
ISRO	**Mashad**	**3.28**	**99**	*e*Pn	**Pn**	**14 43 55.0**	**+1.7**
ISRO	**Mashad**	**3.28**	**99**	*e*Pn	**Pn**	**14 43 55.0**	**+1.7**
IVRN	**Varamin**	**3.55**	**239**	*e*Pn	**Pn**	**14 43 57.5**	**+0.5**
IVRN				*e*		14 44 18.0	
	comp=Z,2μm,0.2s						
IVRN	**Varamin**	**3.55**	**239**	*e*Pn	**Pn**	**14 43 57.5**	**+0.5**
CHTH	**Charan**	**3.62**	**256**	*e*Pn	**Pn**	**14 44 01.1**	**+3.0**
CHTH	**Charan**	**3.62**	**256**	*e*Pn	**Pn**	**14 44 01.1**	**+3.0**
ISFB	**Sefidab**	**3.62**	**227**	*e*Pn	**Pn**	**14 43 58.1**	**+0.1**
ISFB				*e*		14 44 57.8	
	comp=Z,2μm,0.3s						
ISFB	**Sefidab**	**3.62**	**227**	*e*Pn	**Pn**	**14 43 58.1**	**+0.1**
IMYA	**Miami**	**3.78**	**97**	*e*Pn	**Pn**	**14 44 01.9**	**+1.7**
IMYA				*e*		14 44 17.4	
	comp=Z,2μm,0.5s						
IMYA	**Miami**	**3.78**	**97**	*e*Pn	**Pn**	**14 44 01.9**	**+1.7**
THKV	**Tehran--Karaj**	**3.81**	**257**	*e*Pn	**Pn**	**14 44 03.3**	**+2.6**
THKV				AML	AML	14 45 13.1	
	comp=E,234nm,0.1s						
THKV	**Tehran--Karaj**	**3.81**	**257**	*e*Pn	**Pn**	**14 44 03.3**	**+2.6**
IR3	**Iran Long-Peri**	**3.84**	**250**	*e*Pn	**Pn**	**14 44 01.9**	**+0.9**
IR3	**Iran Long-Peri**	**3.84**	**250**	*e*Pn	**Pn**	**14 44 01.9**	**+0.9**
IMHD	**Mahdasht**	**4.04**	**255**	*e*		14 44 20.7	
	comp=Z,1μm,0.3s						
IMHD				*e*Pn	**Pn**	**14 44 05.1**	**+1.3**
GHVR	**GHOM**	**4.14**	**236**	*e*Pn	**Pn**	**14 44 07.5**	**+2.4**
GHVR				AML	AML	14 45 22.3	
	comp=E,167nm,1.0s						
GHVR				AML	AML	14 45 30.8	
	comp=N,153nm,0.7s						
GHVR	**GHOM**	**4.14**	**236**	*e*Pn	**Pn**	**14 44 07.5**	**+2.4**
IGZV	**Ghazvin**	**4.24**	**265**	*e*		14 44 20.1	
	comp=Z,1μm,0.2s						
IGZV				*e*Pn	**Pn**	**14 44 07.2**	**+0.6**
ICHK	**Chekchek**	**4.69**	**191**	*e*Pn	**Pn**	**14 44 12.8**	**0.0**
ICHK	**Chekchek**	**4.69**	**191**	*e*Pn	**Pn**	**14 44 12.8**	**0.0**
IRAZ	**Razeghan**	**4.70**	**254**	*e*Pn	**Pn**	**14 44 13.4**	**+0.4**
IRAZ				*e*		14 45 47.1	
	comp=Z,878nm,0.2s						
IRAZ	**Razeghan**	**4.70**	**254**	*e*Pn	**Pn**	**14 44 13.4**	**+0.4**
IZEF	**Zefreh**	**4.72**	**214**	*e*Pn	**Pn**	**14 44 13.7**	**+0.5**
IZEF				*e*		14 45 38.5	
	comp=Z,878nm,0.2s						
IZEF	**Zefreh**	**4.72**	**214**	*e*Pn	**Pn**	**14 44 13.7**	**+0.5**
IKLH	**Kolahrood**	**4.75**	**223**	*e*Pn	**Pn**	**14 44 13.9**	**+0.2**
IKLH				*e*		14 45 44.6	
	comp=Z,1μm,0.4s						
IKLH	**Kolahrood**	**4.75**	**223**	*e*Pn	**Pn**	**14 44 13.9**	**+0.2**
ITEG	**Tejag**	**4.80**	**145**	*e*Pn	**Pn**	**14 44 15.4**	**+1.1**
ITEG				*e*		14 44 16.6	
	comp=Z,4μm,0.1s						
ITEG	**Tejag**	**4.80**	**145**	*e*Pn	**Pn**	**14 44 15.4**	**+1.1**
ASAO	**Ashtian**	**4.98**	**244**	*e*Pn	**Pn**	**14 44 19.2**	**+2.3**
ASAO	**Ashtian**	**4.98**	**244**	*e*Pn	**Pn**	**14 44 19.2**	**+2.3**
ISAD	**Sadrabad**	**5.15**	**197**	*e*Pn	**Pn**	**14 44 19.6**	**+0.4**
ISAD				*e*		14 45 53.3	
	comp=Z,2μm,0.2s						
ISAD	**Sadrabad**	**5.15**	**197**	*e*Pn	**Pn**	**14 44 19.6**	**+0.4**
IBAF	**Bafgh**	**5.26**	**179**	*e*Pn	**Pn**	**14 44 20.9**	**+0.3**
IBAF				*e*		14 46 07.1	
	comp=Z,811nm,0.4s						
IBAF	**Bafgh**	**5.26**	**179**	*e*Pn	**Pn**	**14 44 20.9**	**+0.3**
IGAR	**Gharneh**	**5.26**	**213**	*e*Pn	**Pn**	**14 44 21.6**	**+0.9**
IGAR				*e*		14 44 25.3	
	comp=Z,662nm,0.1s						
IKOO	**Kooshah**	**5.31**	**146**	*e*Pn	**Pn**	**14 44 22.1**	**+0.7**
IKOO				*e*		14 44 24.2	
	comp=Z,480nm,0.1s						
IKOO	**Kooshah**	**5.31**	**146**	*e*Pn	**Pn**	**14 44 22.1**	**+0.7**
IDAH	**Dahanechah**	**5.49**	**137**	*e*Pn	**Pn**	**14 44 24.9**	**+1.1**
IDAH				*e*		14 44 52.1	
	comp=Z,351nm,0.3s						
IDAH	**Dahanechah**	**5.49**	**137**	*e*Pn	**Pn**	**14 44 24.9**	**+1.1**
IMEH	**Mehriz**	**5.50**	**188**	*e*Pn	**Pn**	**14 44 24.5**	**+0.5**
IMEH				*e*		14 46 02.3	
	comp=Z,812nm,0.3s						
IMEH	**Mehriz**	**5.50**	**188**	*e*Pn	**Pn**	**14 44 24.5**	**+0.5**
LKRN	**Lenkeran, Azer**	**5.60**	**291**	Pn	Pn	14 44 22.2	-2.9
ALIB	**Äli-Bayra**	**5.93**	**303**	Pn	**Pn**	**14 44 29.8**	**+0.2**
ALIB				S	**Sn**	**14 45 39.5**	**+2.3**
GLBA	**Clilabad**	**6.06**	**295**	Pn	Pn	14 44 27.3	-4.0
PQL	**Pirkuli**	**6.63**	**308**	Pn	**Pn**	**14 44 39.7**	**+0.2**
PQL				S	**Sn**	**14 45 51.4**	**-3.5**
QUBA	**Quba, Azerbaij**	**7.03**	**312**	Pn	**Pn**	**14 44 47.8**	**+3.1**
QUBA				S	**Sn**	**14 46 00.6**	**-3.7**
SEKA	**Sheki**	**7.75**	**307**	Pn	Pn	14 44 49.5	-5.2
GANJ	**Ganja**	**8.07**	**301**	Pn	Pn	14 44 51.8	-7.3
DGRG	**Davíd-gareji**	**9.07**	**303**	P	**Pn**	**14 45 10.5**	**-2.2**
DGRG				S	Sn	14 46 47.9	-6.7
KBZ	**Khabaz**	**11.78**	**309**	Pn	Pn	14 45 45.8	-4.0
	comp=Z,0.5nm,0.3s,baz=183,slow=1.6,SNR=3.9						
AB31	**Akbulak array**	**12.81**	**13**	⇑Pn	Pn	14 46 01.4	-2.4
	comp=Z,0.5nm,0.4s,baz=194,slow=13,SNR=4.9						
AB31				⇑Sn	Sn	14 48 17.7	-8.4
	comp=Z,1.0nm,0.5s,baz=195,slow=24,SNR=7.0						
AB31	**Akbulak array**	**12.81**	**13**	Pn	Pn	14 46 01.4	-2.4
	comp=Z,0.5nm,0.4s,SNR=4.9						
AB31				Sn	Sn	14 48 17.7	-8.4
	comp=Z,1.0nm,0.5s,SNR=7.0						
KK31	**Karatay Array**	**13.12**	**57**	⇑Pn	Pn	14 46 05.8	-2.3
	comp=Z,0.8nm,0.6s,baz=245,slow=9.2,SNR=8.3						
KK31	**Karatay Array**	**13.12**	**57**	Pn	Pn	14 46 05.8	-2.3
	comp=Z,0.8nm,0.6s,SNR=8.3						
AAK	**Ala-Archa**	**15.73**	**63**	Pn	**Pn**	**14 46 42.3**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=230,slow=11,SNR=5.7						
AAK				LR	LR	14 52 38.4	
	comp=Z,40nm,19.7s,baz=77,slow=36						
ASF	**Jabal al Asfar**	**15.99**	**258**	LR	LR	14 54 11.8	
	comp=Z,31nm,18.0s,baz=241,slow=43						
EIL	**Elat**	**18.57**	**253**	LR	LR	14 55 56.9	
	comp=Z,78nm,18.4s,baz=74,slow=42						
BRVK	**Borovoye**	**19.23**	**28**	⇑P	**P**	**14 47 26.0**	**+0.2**
	comp=Z,6.8nm,1.0s						
BRVK	**Borovoye**	**19.23**	**28**	P	**P**	**14 47 26.0**	**+0.2**
	comp=Z,6.8nm,1.0s						
VOSK	**Vostochnaya**	**19.24**	**30**	⇑P	**P**	**14 47 25.5**	**-0.5**
	comp=Z,2.5nm,0.8s						
BVA0	**Borovoye Array**	**19.25**	**28**	⇑P	**P**	**14 47 25.9**	**-0.1**
	comp=Z,6.3nm,0.9s,baz=205,slow=8.1,SNR=29						
BVA0	**Borovoye Array**	**19.25**	**28**	P	**P**	**14 47 25.9**	**-0.1**
	comp=Z,6.3nm,0.9s,SNR=29						
BVAR	**Borovoye Array**	**19.25**	**28**	P	**P**	**14 47 25.7**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=210,slow=8.6,SNR=21						
KURBB	**Kurchatov Arra**	**21.50**	**43**	P	**P**	**14 47 51.4**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=249,slow=12,SNR=7.2						
KUR15	**Kurchatov Arra**	**21.51**	**43**	⇑P	**P**	**14 47 49.4**	**-1.1**
	comp=Z,1.4nm,1.6s						
KUR15	**Kurchatov Arra**	**21.51**	**43**	P	**P**	**14 47 49.4**	**-1.1**
	comp=Z,1.4nm,1.6s						
MK31	**Makanchi Array**	**22.23**	**55**	⇓P	**P**	**14 47 56.6**	**-1.8**
	comp=Z,4.1nm,1.0s,baz=246,slow=12,SNR=11						
MK31	**Makanchi Array**	**22.23**	**55**	P	**P**	**14 47 56.6**	**-1.8**
	comp=Z,4.1nm,1.0s,SNR=11						
MKAR	**Makanchi Array**	**22.23**	**55**	P	**P**	**14 47 59.7**	**+1.3**
	comp=Z,3.2nm,1.0s,baz=249,slow=14,SNR=10						
AKASG	**Malin Array Be**	**23.29**	**315**	P	**P**	**14 48 07.2**	**-2.3**
	comp=Z,1.3nm,0.6s,baz=122,slow=9.2,SNR=5.8						
ZALV	**Zalesovo Beam**	**26.50**	**41**	P	**P**	**14 48 41.2**	**+2.3**
	comp=Z,0.5nm,0.5s,baz=271,slow=7.0,SNR=3.7						
ZALV				LR	LR	14 58 51.8	
	comp=Z,28nm,18.2s,baz=159,slow=36						
CMAR	**Chiang Mai Arr**	**42.25**	**104**	P	**P**	**14 50 55.8**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=307,slow=7.7,SNR=3.7						
TORD	**Torodi Ar. Bea**	**53.35**	**258**	P	P	14 52 18.9	-2.5
	comp=Z,1.7nm,1.1s,baz=62,slow=8.4,SNR=6.1						
KSRS	**Korea Array**	**56.36**	**66**	P	**P**	**14 52 43.3**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=279,slow=6.9,SNR=3.1						

WEL 06 14:43:36.4±0.5, 38°.11S×176°.21E, h156km±3km, ML3.7/11, 2C, Error ellipse: s-maj=3.3km s-min=3.0km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRRZ	**Plateau Road**	**0.41**	**159**	PN	Pn	14 43 58.4	+0.4
URZ	**Urewera**	**0.73**	**102**	PN	Pn	14 43 59.3	-0.3
URZ				SN	Sn	14 44 17.1	-0.2
URZ				AML	AML	14 44 18.1	
RAHZ	**Arahi**	**1.06**	**140**	PN	Pn	14 44 02.1	+0.4
MWZ	**Matawai**	**1.06**	**102**	PN	Pn	14 44 02.1	-0.2
MWZ				SN	Sn	14 44 21.6	-0.5
MWZ				AML	AML	14 44 22.9	
MWZ				AML	AML	14 44 22.9	
MWZ				AML	AML	14 44 23.0	
BKZ	**Black Stump Fm**	**1.08**	**168**	⇑PN	Pn	14 44 02.2	-0.2
BKZ				SN	Sn	14 44 21.6	-0.8
BKZ				AML	AML	14 44 23.3	
NMHZ	**Naumai**	**1.09**	**155**	PN	Pn	14 44 03.2	+0.7
OTVZ	**Oturere**	**1.13**	**202**	PN	Pn	14 44 03.3	+0.3
WPVZ	**Whakapapa**	**1.21**	**205**	PN	Pn	14 44 03.7	0.0
WHVZ	**Whangaehu Hut**	**1.27**	**202**	PN	Pn	14 44 04.3	0.0
WNVZ	**Wahianoa**	**1.30**	**201**	⇑PN	Pn	14 44 04.5	-0.1
MOVZ	**Moawhango**	**1.34**	**195**	PN	Pn	14 44 04.3	-0.5
PKVZ	**Pokaka**	**1.36**	**210**	PN	Pn	14 44 04.8	-0.2
BHHZ	**Black Hill Sta**	**1.38**	**185**	PN	Pn	14 44 04.8	-0.4
MCHZ	**McNeill Hill**	**1.38**	**164**	PN	Pn	14 44 05.6	+0.4
MCHZ				SN	Sn	14 44 28.2	+0.8
MTVZ	**Mangateitei**	**1.40**	**204**	PN	Pn	14 44 05.2	-0.2
KNZ	**Kokohu**	**1.46**	**129**	PN	Pn	14 44 05.7	-0.2
VRZ	**Vera Road**	**1.52**	**228**	PN	Pn	14 44 07.0	+0.5
CNGZ	**Carnagh Statio**	**1.62**	**104**	PN	Pn	14 44 07.8	+0.3
MXZ	**Matakaoa Point**	**1.75**	**72**	PN	Pn	14 44 09.0	0.0
KAHZ	**Kahuranaki**	**1.76**	**163**	PN	Pn	14 44 08.9	-0.2
PNHZ	**Pukenui**	**1.80**	**180**	PN	Pn	14 44 08.6	-1.0
WAZ	**Wanganui**	**1.90**	**210**	PN	Pn	14 44 10.1	-0.5
TSZ	**Takapari Road**	**1.95**	**186**	PN	Pn	14 44 10.3	-1.1
WPHZ	**Waipukurau**	**1.96**	**175**	PN	Pn	14 44 10.9	-0.4
PXZ	**Pawanui**	**1.98**	**165**	PN	Pn	14 44 10.9	-0.7
PXZ				AML	AML	14 44 40.4	
PXZ				AML	AML	14 44 54.5	
DVHZ	**Dannevirke**	**2.19**	**181**	PN	Pn	14 44 12.5	-1.5
POWZ	**Post Office Ro**	**2.30**	**188**	PN	Pn	14 44 13.8	-1.5
PRWZ	**Pori Road**	**2.45**	**184**	PN	Pn	14 44 14.7	-2.4
BFZ	**Birch Farm**	**2.57**	**179**	PN	Pn	14 44 16.7	-1.9
MRZ	**Mangatainoka R**	**2.59**	**191**	PN	Pn	14 44 16.8	-2.1
MRZ				AML	AML	14 44 50.4	
MRZ				AML	AML	14 44 50.5	
TIWZ	**Tintock**	**2.67**	**185**	PN	Pn	14 44 17.8	-2.1
OGWZ	**Otaki Gorge**	**2.82**	**196**	PN	Pn	14 44 19.5	-2.1
HOWZ	**Holdsworth Sta**	**2.83**	**191**	PN	Pn	14 44 19.4	-2.5
KIW	**Kapiti Island**	**2.92**	**200**	PN	Pn	14 44 20.4	-2.6
KIW				AML	AML	14 44 57.0	
TMWZ	**Te Maipa**	**3.00**	**185**	PN	Pn	14 44 21.3	-2.7
MTW	**Mount Morrison**	**3.09**	**190**	PN	Pn	14 44 22.1	-2.9
MTW				AML	AML	14 44 58.9	
MTW				AML	AML	14 45 00.7	
CAW	**Cannon Point**	**3.12**	**196**	PN	Pn	14 44 22.7	-2.7
CAW				AML	AML	14 45 00.7	
CAW				AML	AML	14 45 01.8	
TRWZ	**Traveller**	**3.31**	**187**	PN	Pn	14 44 24.8	-3.0
TRWZ				AML	AML	14 44 50.3	
PAWZ	**Paruwai Farm**	**3.32**	**190**	PN	Pn	14 44 24.7	-3.3
PAWZ				AML	AML	14 45 14.1	
WEL	**Wellington**	**3.36**	**199**	PN	Pn	14 44 25.4	-3.0
MSWZ	**Moikau Station**	**3.38**	**192**	PN	Pn	14 44 25.6	-3.2
MSWZ				AML	AML	14 44 55.2	
MSWZ				AML	AML	14 45 04.4	
TCW	**Tory Channel**	**3.44**	**205**	PN	Pn	14 44 26.5	-2.9
TUWZ	**Tuamarina**	**3.75**	**207**	PN	Pn	14 44 30.0	-3.4
NNZ	**Nelson**	**3.79**	**214**	PN	Pn	14 44 30.7	-3.3
QRZ	**Quartz Range**	**3.93**	**225**	PN	Pn	14 44 31.9	-4.0
THZ	**Tophouse**	**4.44**	**214**	PN	Pn	14 44 38.7	-3.9
KHZ	**Kahutara**	**4.76**	**205**	PN	Pn	14 44 42.7	-3.9
LTZ	**Lake Taylor**	**5.55**	**212**	PN	Pn	14 44 52.4	-4.7
OXZ	**Oxford**	**6.09**	**210**	PN	Pn	14 44 59.0	-5.3

*SZGRF **06** 14:43:22.9, 20°.65S×178°.01W, h33km, Fiji Islands region*
*BJI **06** 14:43:22.4, 20°.70S×178°.60W, h10km, mB5.5/7, mb5.0/7*
*ISCJB **06** 14:44:23.5±0.3, 20°.78S±0°.05×178°.63W±0°.07, h579km, mb4.4/23, Error ellipse: s-maj=8.7km s-min=6.5km az=26.9*
*AUST **06** 14:44:24.3±0.0, 20°.80S×178°.28W, h593km, Error ellipse: s-maj=1.5km s-min=1.1km az=271.0*
*IDC **06** 14:44:27.9±1.0, 20°.80S×178°.77W, h613km±11km, mb3.9/23, mb1 4.0/24, mb1mx3.9/27, mbtmp4.8/24, Error ellipse: s-maj=10.4km s-min=8.8km az=144.0*

ISC 06 14:44:24.4±0.4, 20°.89S±0°.07×178°.59W±0°.07, h579km, n122, σ1§07/138, mb4.4/23, 10C-11D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.35**	**176**	P	P	14 46 31.4	+5.2
	163nm,0.3s,baz=0.8,slow=22,SNR=4.8						
RAO				S	**S**	**14 48 04.8**	**-1.5**
	157nm,0.3s,baz=237,slow=22,SNR=4.0						
AFI	**Afiamalu**	**9.51**	**44**	P	**P**	**14 46 36.1**	**-1.9**
	10.0nm,0.3s,baz=346,slow=7.7,SNR=8.3						
AFI				S	S	14 48 20.8	-6.8
	0.9nm,0.3s,baz=198,slow=19,SNR=2.3						
DZM	**Mont Dzumac**	**13.98**	**262**	P	**P**	**14 47 24.4**	**+0.9**
	3.1nm,0.3s,baz=54,slow=18,SNR=26						
URZ	**Urewera**	**17.71**	**191**	P	**P**	**14 47 58.0**	**0.0**
	6.1nm,0.3s,baz=360,slow=4.7,SNR=22						
URZ				S	**S**	**14 50 47.0**	**-4.9**
	1.8nm,0.3s,baz=350,slow=22,SNR=7.5						
HNR	**Honiara**	**23.60**	**296**	P	**P**	**14 48 51.1**	**-0.3**
	39nm,0.6s,baz=225,slow=1.4,SNR=5.5						
RPZ	**Rata Peaks**	**24.35**	**198**	P	**P**	**14 48 58.4**	**+0.8**
	9.1nm,0.5s,baz=55,slow=6.1,SNR=16						
EIDS	**Eidsvold**	**28.21**	**255**	P	**P**	**14 49 32.8**	**+1.0**
	baz=28,SNR=6.4						
CTA	**Charters Tower**	**32.90**	**265**	P	**P**	**14 50 12.8**	**+0.7**
	15nm,0.4s,baz=91,slow=11,SNR=58						
CMSA	**Cobar Meteorol**	**33.62**	**244**	P	**P**	**14 50 19.0**	**+1.1**
	baz=34,SNR=9.2						
QLP	**Quilpie**	**34.41**	**253**	P	**P**	**14 50 25.5**	**+0.8**
	baz=35,SNR=6.5						
PMG	**Port Moresby**	**34.89**	**284**	P	**P**	**14 50 28.9**	**+0.1**
	64nm,0.8s,baz=88,slow=4.6,SNR=17						
TOO	**Toolangi**	**35.22**	**234**	P	**P**	**14 50 32.8**	**+1.5**
	baz=36,SNR=7.5						
COEN	**Coen**	**37.05**	**274**	P	**P**	**14 50 47.2**	**+0.6**
	baz=37,SNR=10.0						
STKA	**Stephens Creek**	**37.12**	**244**	P	**P**	**14 50 48.2**	**+1.3**
	baz=37,SNR=11						
STKA	**Stephens Creek**	**37.12**	**244**	P	**P**	**14 50 48.2**	**+1.3**
	2.1nm,0.4s,baz=75,slow=10.0,SNR=15						
STKA				ScP	**ScP**	**14 55 44.0**	**-0.1**
	3.2nm,0.9s,baz=27,slow=2.3,SNR=4.0						
MMPI	**Merauke**	**41.43**	**281**	P	P	14 51 27.2	+5.5
	baz=42,SNR=3.2						
BBOO	**Buckleboo**	**41.88**	**244**	P	**P**	**14 51 25.6**	**+0.6**
	baz=42,SNR=22						
JAY	**Jayapura**	**43.64**	**289**	P	**P**	**14 51 39.0**	**-0.1**
	baz=44,SNR=29						
ASAR	**Alice Springs**	**43.89**	**257**	P	**P**	**14 51 41.2**	**+0.3**
	19nm,0.5s,baz=92,slow=7.8,SNR=510						
ASAR				ScP	**ScP**	**14 56 11.4**	**+0.3**
	1.5nm,0.6s,baz=113,slow=4.4,SNR=6.2						
ASAR				S	**S**	**14 57 27.9**	**-3.2**
	10nm,0.7s,baz=94,slow=16,SNR=43						
WRA	**Warramunga Arr**	**44.00**	**263**	P	**P**	**14 51 41.2**	**-0.5**
	15nm,0.4s,baz=98,slow=7.8,SNR=457						
WRA				S	**S**	**14 57 30.0**	**-2.7**
	2.4nm,0.8s,baz=95,slow=13,SNR=9.6						
KDU	**Kakadu**	**47.40**	**272**	P	**P**	**14 52 07.1**	**-0.5**
	baz=48,SNR=9.3						
KNRA	**Kununurra**	**50.08**	**267**	P	**P**	**14 52 27.2**	**-0.2**
	baz=50,SNR=20						
FITZ	**Fitzroy Crossi**	**52.43**	**263**	P	**P**	**14 52 44.4**	**+0.2**
	baz=53,SNR=13						
FITZ	**Fitzroy Crossi**	**52.43**	**263**	P	**P**	**14 52 44.4**	**+0.2**
	6.5nm,0.5s,baz=134,slow=3.9,SNR=62						
SWI	**Sorong**	**52.81**	**286**	P	**P**	**14 52 47.0**	**-0.1**
	baz=53,SNR=8.7				

BRTR				SKPbc	**SKPbc**	**15 05 44.0**	**-1.8**
	comp=Z,0.6nm,0.8s,baz=159,slow=4.5,SNR=3.5							
BURAR	**Bucovina Array**	**147.12**	**330**	⇓*i*P	**PKPbc**	**15 03 03.9**	**+0.8**
MMAI	**Mount Meron Ar**	**147.52**	**299**	PKPbc	**PKPbc**	**15 03 04.9**	**+0.3**
	comp=Z,8.4nm,0.5s,baz=64,slow=5.7,SNR=12							
TIRR	**Tirgusor**	**147.56**	**323**	⇓*i*P	**PKPbc**	**15 03 04.0**	**-0.2**
TLB	**Topalu**	**147.69**	**323**	⇓*i*P	**PKPbc**	**15 03 03.9**	**-0.6**
MANR	**Mangalia**	**147.85**	**322**	⇓*i*P	**PKPbc**	**15 03 04.1**	**-0.8**
DOPR	**Dopca**	**148.20**	**327**	⇑*i*P	**PKPbc**	**15 03 05.7**	**-0.1**
OKC	**Ostrava-Krasne**	**148.20**	**339**	⇑*e*PKP	**PKPbc**	**15 03 04.5**	**-1.1**
OKC				*e*PKPAB	**PKPab**	**15 03 10.6**	**-0.2**
UPC	**Upice**	**148.27**	**342**	⇑*e*PKP	**PKPbc**	**15 03 05.8**	**0.0**
UPC				*e*PKPAB	**PKPab**	**15 03 10.9**	**-0.2**
CLL	**Collm**	**148.31**	**346**	*e*PKPbc	**PKPbc**	**15 03 05.4**	**-0.4**
CLL	**Collm**	**148.31**	**346**	⇓*i*PKPbc	**PKPbc**	**15 03 05.4**	**-0.4**
	comp=Z,17nm,0.9s							
CLL				*i* PKPab	**PKPab**	**15 03 10.3**	**-0.9**
	comp=Z,13nm,0.8s							
CLZ	**Clausthal**	**148.32**	**349**	*e*PKPbc	**PKPbc**	**15 03 05.7**	**-0.2**
DPC	**Dobruska-Polom**	**148.32**	**342**	⇑*e*PKP	**PKPbc**	**15 03 06.0**	**0.0**
DPC				*e*PKPAB	**PKPab**	**15 03 11.5**	**+0.1**
MORC	**Moravsky Berou**	**148.45**	**340**	⇓*i*P	**PKPab**	**15 03 11.9**	**-0.1**
BRG	**Berggiesshubel**	**148.49**	**345**	*i* PKP	**PKPbc**	**15 03 06.1**	**-0.3**
	comp=Z,12nm,1.1s							
BRG				*i*		15 03 11.5		
	comp=Z,9.1nm,0.8s							
BRG				*e*pPKP	pPKPdf	15 05 28.2	+11	
	comp=Z,6.9nm,1.3s							
BRG	**Berggiesshubel**	**148.49**	**345**	*e*PKPbc	**PKPbc**	**15 03 06.0**	**-0.3**
EIL	**Elat**	**148.52**	**293**	PKPbc	**PKPbc**	**15 03 06.1**	**-1.0**
	comp=Z,4.5nm,0.6s,baz=104,slow=2.4,SNR=3.7							
FBE	**Freiberg**	**148.59**	**345**	*e*PKPbc	**PKPbc**	**15 03 06.6**	**+0.1**
PVCC	**Panska Ves**	**148.65**	**344**	⇑*e*PKP	**PKPbc**	**15 03 06.8**	**+0.1**
PRU	**Pruhonice**	**149.15**	**343**	⇑*e*PKP	**PKPbc**	**15 03 07.6**	**-0.3**
PRU				*e*PKPAB	**PKPab**	**15 03 14.2**	**-0.5**
VRAC	**Vranov**	**149.16**	**340**	PKPbc	**PKPbc**	**15 03 07.9**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=128,slow=12,SNR=3.4							
MOX	**Moxa**	**149.23**	**347**	*e*PKPbc	**PKPbc**	**15 03 07.7**	**-0.5**
TANN	**Tannenbergstha**	**149.26**	**346**	*e*PKPbc	**PKPbc**	**15 03 08.0**	**-0.3**
PLN	**Plauen**	**149.26**	**347**	*e*PKPbc	**PKPbc**	**15 03 07.9**	**-0.3**
WERD	**Werda**	**149.27**	**346**	*e*PKPbc	**PKPbc**	**15 03 08.0**	**-0.3**
GUNZ	**Gunzen**	**149.34**	**346**	*e*PKPbc	**PKPbc**	**15 03 08.3**	**-0.2**
TREC	**Trest**	**149.51**	**342**	⇑*e*PKP	**PKPbc**	**15 03 08.4**	**-0.5**
TREC				*e*PKPAB	**PKPab**	**15 03 14.8**	**-1.5**
MANZ	**Manzenberg**	**149.74**	**346**	*e*PKPbc	**PKPbc**	**15 03 09.1**	**-0.3**
SIRR	**Siria**	**149.75**	**332**	⇓*i*P	**PKPbc**	**15 03 09.1**	**-0.4**
ROTZ	**Rotzenmuhle**	**149.93**	**346**	*e*PKPbc	**PKPbc**	**15 03 09.5**	**-0.3**
KHC	**Kasperske Hory**	**150.18**	**344**	⇑*e*PKP	**PKPbc**	**15 03 10.2**	**-0.3**
KHC				*e*PKPAB	**PKPab**	**15 03 19.0**	**-0.2**
KHC				*e*pPKP	pPKPdf	15 05 30.8	+11
BZS	**Buzias**	**150.27**	**331**	⇓*i*P	**PKPbc**	**15 03 09.9**	**-0.8**
GEC2	**GERESS Array S**	**150.41**	**343**	*e*PKPbc	**PKPbc**	**15 03 10.6**	**-0.5**
GERES	**GERESS Array B**	**150.41**	**343**	PKPbc	**PKPbc**	**15 03 10.7**	**-0.4**
	comp=Z,2.2nm,0.6s,baz=29,slow=3.0,SNR=19							
CONA	**Conrad Observa**	**150.60**	**340**	⇓*i*PKPbc	**PKPbc**	**15 03 11.3**	**-0.3**
	comp=Z,5.0nm,0.6s							
VTS	**Vitosha**	**151.66**	**325**	⇓*i*P	**PKPbc**	**15 03 13.4**	**-0.8**
ABTA	**Abfaltersbach**	**152.66**	**343**	⇑*i*PKPbc	**PKPbc**	**15 03 15.0**	**-1.2**
	comp=Z,5.3nm,0.6s							
DAVOX	**Davos/Dischmat**	**153.26**	**347**	PKPbc	**PKPbc**	**15 03 16.4**	**-1.2**
	comp=Z,3.5nm,0.6s,baz=311,slow=3.6,SNR=5.3							
DAVOX				PKPab	**PKPab**	**15 03 31.7**	**-0.7**
	comp=Z,6.4nm,0.8s,baz=37,slow=1.1,SNR=5.4							
ESDC	**Sonseca Array**	**160.71**	**13**	PKPab	**PKPab**	**15 04 03.9**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=353,slow=3.2,SNR=9.2							
KEST	**Kesra**	**163.65**	**336**	PKPab	**PKPab**	**15 04 16.8**	**-1.0**
	comp=Z,1.2nm,0.9s,baz=67,slow=7.7,SNR=3.7							
DBIC	**Dimbokro**	**164.62**	**156**	PKPab	**PKPab**	**15 04 23.3**	**+0.9**
	comp=Z,2.5nm,0.6s,baz=183,slow=4.7,SNR=3.9							
TORD	**Torodi Ar. Bea**	**172.30**	**182**	PKP	**PKPdf**	**15 03 27.2**	**-1.0**
	comp=Z,0.6nm,0.9s,baz=222,slow=1.9,SNR=3.4							
TORD				PKPab	**PKPab**	**15 04 56.4**	**0.0**
	comp=Z,2.0nm,0.8s,baz=175,slow=3.9,SNR=12							
TORD				PP	**PP**	**15 08 47.0**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=187,slow=4.8,SNR=3.5							

NIED ***06*** *14:45:00, 43.˚40N×147.˚00E, h59km, Mw3.6 Best double couple: M₀3.15000×10¹⁴ NP1:φ₆345.00000°, δ80.00000°, λ27.00000°. NP2:φ₆250.00000°, δ64.00000°, λ169.00000°.*

JMA 06 14:45:52.6±0.3, 43.˚39N×146.˚97E, h39km±3km, M3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.90**	**269**	P	Pn	14 46 09.0	+0.3
NEM2				*e*S	Sn	14 46 21.2	+0.8
JRA	**Rausu**	**1.45**	**293**	P	Pn	14 46 17.1	+0.9
JNK	**Nakash**	**1.65**	**278**	P	Pn	14 46 19.6	+0.6
JNK				*e*S	Sn	14 46 39.7	+0.7
JAK	**Akkeshi**	**1.71**	**257**	P	Pn	14 46 20.5	+0.7
JTKR	**Abashiri--Toko**	**2.30**	**286**	P	Pn	14 46 29.8	+1.9
JAR	**Ashorobuto**	**2.34**	**269**	P	Pn	14 46 30.1	+1.6
JAR				*e*S	Sn	14 46 58.0	+2.1
JOB	**Onbets**	**2.35**	**259**	P	Pn	14 46 30.2	+1.6
JMP	**Maruseppu**	**2.69**	**284**	P	Pn	14 46 35.3	+1.9
JCH	**Churui**	**2.76**	**255**	P	Pn	14 46 35.6	+1.4
JFR	**Furan**	**3.20**	**267**	P	Pn	14 46 43.0	+2.6

MOS ***06*** *15:04:33.7±0.9, 50.˚01N×156.˚94E, h5km, mb4.0/1, Error ellipse: s-maj=83.3km s-min=26.4km az=88.0*

KRSC 06 15:04:33.7±5.7, 50.˚01N×156.˚94E, h5km±5km, ML4.0, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.86**	**322**	⇓*i*PN	Pg	15 04 44.5	-5.6
SKR				pmax	pmax		
	comp=N,1μm,0.3s						
SKR				pmax	pmax		
	comp=E,470nm,0.3s						
SKR				pmax	pmax		
	comp=Z,2μm,0.3s						
SKR	**Severo-Kuril's**	**0.86**	**322**	*e*P	Pb	15 04 50.7	-0.3
SKR				*e*S	Sb	15 05 02.0	-0.8
PAU	**Pauzhetka**	**1.46**	**357**	PN	Pn	15 05 00.9	+0.2
PAU				S	Sn	15 05 19.7	-0.5
PAU	**Pauzhetka**	**1.46**	**357**	*e*P	Pn	15 05 00.9	+0.2
PAU				*e*S	Sn	15 05 19.7	-0.5
ASK	**Asacha**	**2.45**	**14**	*e*P	Pb	15 05 16.5	-1.9
ASAK				*e*S	Sb	15 05 47.9	-1.1
MTVR	**Mutnovka**	**2.60**	**17**	*e*P	Pn	15 05 17.1	+0.6
MTVR				*e*S	Sn	15 05 48.4	-0.2
RUS	**Russkaya**	**2.62**	**22**	PN	Pn	15 05 17.8	+1.2
RUS				S	Sn	15 05 49.1	+0.3
RUS	**Russkaya**	**2.62**	**22**	*e*P	Pn	15 05 17.8	+1.2
RUS				*e*S	Sn	15 05 49.1	+0.3
GRL	**Gorelyy**	**2.64**	**15**	*e*P	Pn	15 05 18.5	+1.4
GRL				*e*S	Sn	15 05 50.8	+1.1
PET	**Petropavlovsk**	**3.20**	**19**	*e*PN	Pn	15 05 27.0	+2.4
PET				*e*S	Sn	15 06 04.3	+1.2
PET				smax	smax		
	comp=E,47nm,0.6s						
PET				smax	smax		
	comp=N,41nm,0.5s						
PET	**Petropavlovsk**	**3.20**	**19**	*e*P	Pn	15 05 26.4	+1.8
PET				*e*S	Sn	15 06 03.9	+0.8
UGLR	**Uglovaya**	**3.41**	**19**	*e*P	Pn	15 05 29.9	+2.2
UGLR				*e*S	Sn	15 06 10.6	+2.0
KRER	**Koryakskii**	**3.49**	**18**	*e*P	Pn	15 05 31.7	+2.9
KRER				*e*S	Sn	15 06 13.6	+3.0
KRX	**Arik**	**3.52**	**17**	*e*P	Pn	15 05 31.6	+2.4
KRX				*e*S	Sn	15 06 13.7	+2.4
GNL	**Ganaly**	**3.74**	**9**	*e*P	Pn	15 05 35.0	+2.8
MKZ	**Mys Kozlova**	**5.42**	**31**	PN	Pn	15 05 55.6	+0.6
MKZ	**Mys Kozlova**	**5.42**	**31**	*e*P	Pn	15 05 55.6	+0.6

IDC 06 15:07:47.9±11.0, 10.˚96N×92.˚01E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/26, mbtmp3.6/4, MS3.6/2, Ms1 3.6/2, ms1mx3.0/35, Error ellipse: s-maj=600.6km s-min=26.5km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S3	**Diego Garcia H**	**26.80**	**227**	T	T	15 41 09.4	
	baz=46,slow=0.7,SNR=52						
H08S2	**Diego Garcia H**	**26.81**	**227**	T	T	15 41 18.3	
	baz=46,slow=0.7,SNR=76						
H08S1	**Diego Garcia H**	**26.82**	**227**	T	T	15 41 19.3	
	baz=46,slow=0.7,SNR=43						
MKAR	**Makanchi Array**	**36.66**	**349**	P	P	15 14 56.2	-0.1
	0.4nm,0.6s,baz=162,slow=9.5,SNR=5.8						
ZALV	**Zalesovo Beam**	**43.26**	**354**	LR	LR	15 37 49.4	
	comp=Z,48nm,19.2s,baz=68,slow=42						
FITZ	**Fitzroy Crossi**	**44.00**	**131**	P	P	15 15 57.2	-0.3
	1.3nm,0.7s,baz=300,slow=8.1,SNR=4.9						
WRA	**Warramunga Arr**	**51.76**	**126**	P	P	15 16 57.6	-0.1
	0.2nm,0.3s,baz=302,slow=7.3,SNR=11						
ASAR	**Alice Springs**	**53.50**	**130**	P	P	15 17 10.7	+0.1
	0.3nm,0.7s,baz=305,slow=7.3,SNR=6.9						
ARCES	**ARCESS Array B**	**71.67**	**340**	LR	LR	15 52 41.9	
	comp=Z,53nm,20.0s,baz=159,slow=38						

IDC 06 15:08:51.1±3.3, 16.˚31S×172.˚18W, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.7/21, mbtmp3.9/4, ML1.4/1, Error ellipse: s-maj=131.5km s-min=26.3km az=127.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.42**	**9**	Pn	Pn	15 09 31.9	-0.1
	4.9nm,0.3s,baz=122,slow=16,SNR=4.4						
AFI				Sn	Sn	15 09 56.7	-5.7
	70nm,0.3s,baz=342,slow=20,SNR=22						
STKA	**Stephens Creek**	**44.61**	**241**	P	P	15 17 04.6	-0.9
	2.7nm,0.9s,baz=83,slow=8.1,SNR=2.9						
ASAR	**Alice Springs**	**50.95**	**253**	P	P	15 17 54.9	0.0
	2.8nm,0.8s,baz=88,slow=8.5,SNR=36						
ILAR	**Eielson Array**	**83.11**	**11**	P	P	15 21 17.7	-0.7
	0.4nm,0.7s,baz=223,slow=5.7,SNR=8.0						
BRTR	**Keskin Array B**	**147.59**	**321**	PKPbc	PKPbc	15 28 38.5	+0.6
	0.4nm,0.5s,baz=96,slow=4.3,SNR=3.2						

BJI ***06*** *15:23:30.2, 5.˚25S×145.˚88E, h82km, mB5.3/27, mb4.8/44, Ms5.1/16, Ms7 4.7/14*

AUST ***06*** *15:23:30.7±0.9, 5.˚03S×145.˚66E, h72km±12km, Error ellipse: s-maj=11.5km s-min=8.5km az=70.0*

IDC ***06*** *15:23:31.6±2.4, 5.˚19S×145.˚43E, h58km±23km, mb4.7/21, mb1 4.8/24, mb1mx4.8/27, mbtmp4.7/24, ML4.8/3, MS4.0/13, Ms1 4.0/13, ms1mx3.8/23, Error ellipse: s-maj=14.8km s-min=10.6km az=64.0*

MOS ***06*** *15:23:31.9±1.0, 5.˚21S×145.˚29E, h75km, mb5.0/14, Error ellipse: s-maj=11.4km s-min=7.1km az=102.8*

ISCJB ***06*** *15:23:32.7±0.9, 5.˚25S±0.˚03×145.˚51E±0.˚04, h86km±8km, mb4.9/74, Error ellipse: s-maj=6.6km s-min=4.7km az=148.7*

NEIC ***06*** *15:23:34.0±0.2, 5.˚23S×145.˚40E, mb4.9/27, Error ellipse: s-maj=7.5km s-min=5.0km az=88.0*

NEIC Felt at Goroka.

GCMT ***06*** *15:23:36.8±0.2, 5.˚28S×145.˚37E, h72km±3km, MW5.0, Moment Tensor Solution. s40,c56; s83,c126; Moment tensor: Scale 10¹⁶Nm; Mrr0.29±.17; Mθθ-1.35±.14; Mφφ 1.07±.16; Mrθ-3.99±.08; Mθφ-0.63±.11; Mφr1.59±.10; Best double couple: M₀4.50000×10¹⁶ NP1:φ₆293.00000°, δ87.00000°, λ107.00000°. NP2:φ₆31.00000°, δ17.00000°, λ9.00000°. Principal axes: T 4.3600, Plg45.0000°, Azm219.0000°; N 0.3100, Plg17.0000°, Azm112.0000°; P -4.6600, Plg40.0000°, Azm7.0000°; Data Used: II IU IC G CN.*

DJA ***06*** *15:23:37.5±0.7, 5.˚3S×144.˚4E±.˚, h95km±8km, M5.0/20, mB5.4/13, mb5.2/20, MLv5.2/1, Mw(mB)4.8/13*

BKK ***06*** *15:23:37.0±0.8, 5.˚5S×144.˚5E±.˚, h99km±9km, M5.3/28, mB5.5/7, mb5.3/28, MLv5.7/2, Mw(mB)4.9/7*

ISC 06 15:23:34.6±0.3, 5.˚27S±0.˚04×145.˚44E±0.˚05, h86km±2km, h86km:pP-P, n251, σ1⁰31/276, mb4.9/74, 14C-15D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**3.73**	**31**	⇑P	Pn	15 24 20.4	-10
	baz=3.4						
PMG	**Port Moresby**	**4.45**	**158**	P	**Pn**	**15 24 38.8**	**-1.0**
PMG	**Port Moresby**	**4.45**	**158**	*e*Pn	**Pn**	**15 24 39.0**	**-0.8**
PMG				S	**Sn**	**15 25 28.7**	**-1.7**
PMG				*e*S	**Sn**	**15 25 28.9**	**-1.5**
PMG	**Port Moresby**	**4.45**	**158**	P	**Pn**	**15 24 39.1**	**-0.6**
	166nm,0.3s,baz=351,slow=6.4,SNR=260						
PMG				S	**Sn**	**15 25 28.7**	**-1.7**
	453nm,0.3s,baz=134,slow=21,SNR=18						
JAY	**Jayapura**	**5.46**	**300**	P	**Pn**	**15 24 54.9**	**+1.4**
	234nm,1.0s,6μm1.8nm						
COEN	**Coen**	**8.92**	**194**	*e*P	**Pn**	**15 25 41.9**	**+1.1**
	2μm,0.8s						
COEN				*e*S	**Sn**	**15 27 16.9**	**-2.6**
SRPI	**Serui, Papua**	**9.78**	**290**	P	**Pn**	**15 25 53.4**	**+0.9**
	137nm,0.6s						
FAKI	**Fak Fak**	**13.36**	**280**	P	**Pn**	**15 26 42.4**	**+1.6**
	41nm,1.1s						
FAKI	**Fak Fak**	**13.36**	**280**	⇓P	**Pn**	**15 26 40.2**	**-0.7**
	baz=14,SNR=12						
CTA	**Charters Tower**	**14.76**	**177**	P	**Pn**	**15 26 59.1**	**+0.2**
CTA	**Charters Tower**	**14.76**	**177**	⇓P	**P**	**15 27 02.0**	**-0.7**
	baz=15						
CTA	**Charters Tower**	**14.76**	**177**	P	**Pn**	**15 26 59.1**	**+0.2**
	2.1nm,0.3s,baz=358,slow=14,SNR=34						
KDU	**Kakadu**	**14.77**	**239**	P	**Pn**	**15 26 58.6**	**-0.6**
	baz=15,SNR=121						
SWI	**Sorong**	**14.82**	**287**	P	Pn	15 26 55.8	-3.9
SWI	**Sorong**	**14.82**	**287**	⇓P	**Pn**	**15 26 59.5**	**-0.2**
	baz=15,SNR=15						
HNR	**Honiara**	**14.97**	**107**	P	**P**	**15 27 05.2**	**+0.1**
HNR	**Honiara**	**14.97**	**107**	P	**P**	**15 27 05.2**	**+0.1**
	12nm,0.3s,baz=280,slow=1.8,SNR=8.0						
AAI	**Ambon**	**17.26**	**274**	P	**P**	**15 27 31.9**	**+1.3**
	157nm,0.7s,2μm						
AAI	**Ambon**	**17.26**	**274**	⇓P	**Pn**	**15 27 30.5**	**+0.2**
	baz=18,SNR=12						
WRAB	**Tennant Creek**	**18.14**	**216**	*e*P	**P**	**15 27 38.4**	**-1.8**
WRAB				pmax	pmax		
	comp=Z,94nm,0.9s						
WRAB	**Tennant Creek**	**18.14**	**216**	*e*P	**P**	**15 27 38.4**	**-1.8**
	comp=Z,94nm,0.9s						
WRA	**Warramunga Arr**	**18.15**	**216**	P	**P**	**15 27 39.4**	**-0.9**
WRA	**Warramunga Arr**	**18.15**	**216**	P	**P**	**15 27 39.4**	**-0.9**
	comp=Z,6.0nm,0.3s,baz=29,slow=9.9,SNR=186						
NLAI	**Namlea**	**18.40**	**276**	P	**Pn**	**15 27 44.8**	**+0.7**
	comp=Z,123nm,0.6s,comp=Z,2μm						
LBMI	**Labuha**	**18.49**	**284**	P	**Pn**	**15 27 45.5**	**+0.3**
	comp=Z,136nm,1.0s,comp=Z,1μm						
TNTI	**Ternate**	**19.02**	**288**	P	**Pn**	**15 27 52.6**	**+1.1**
	comp=Z,114nm,1.4s						
EIDS	**Eidsvold**	**20.71**	**165**	*e*P	**P**	**15 28 08.3**	**+0.2**
	comp=Z,33nm,0.7s						
QLP	**Quilpie**	**21.23**	**183**	P	**P**	**15 28 14.1**	**+0.5**
	baz=22,SNR=20						
AS06	**Alice Springs**	**21.36**	**210**	⇑P	**P**	**15 28 14.8**	**-0.3**
	baz=22						
AS05	**Alice Springs**	**21.37**	**210**	⇓P	**P**	**15 28 14.8**	**-0.4**
	baz=22						
AS14	**Alice Springs**	**21.39**	**210**	⇑P	**P**	**15 28 15.1**	**-0.3**
	baz=22						
AS31	**Alice Springs**	**21.41**	**210**	*e*P	**P**	**15 28 14.7**	**-0.9**
ASAR	**Alice Springs**	**21.41**	**210**	P	**P**	**15 28 14.8**	**-0.9**
ASAR	**Alice Springs**	**21.41**	**210**	P	**P**	**15 28 14.8**	**-0.9**
	comp=Z,34nm,0.6s,baz=41,slow=7.6,SNR=189						
SOEI	**Soe**	**21.45**	**257**	P	**P**	**15 28 17.1**	**+0.8**
	comp=Z,256nm,1.0s,comp=Z,2μm						
SOEI	**Soe**	**21.45**	**257**	P	**P**	**15 28 16.9**	**+0.6**
	baz=22,SNR=19						
BATI	**Baumata**	**22.12**	**256**	P	**P**	**15 28 24.1**	**+0.8**
	comp=Z,228nm,0.9s,comp=Z,2μm						
BATI	**Baumata**	**22.12**	**256**	P	**P**	**15 28 23.0**	**-0.3**
BATI	**Baumata**	**22.12**	**256**	P	**P**	**15 28 23.0**	**-0.3**
	comp=Z,272nm,0.7s,baz=136,slow=1.1,SNR=43						
KMSI	**Cibinong**	**22.20**	**285**	P	**P**	**15 28 24.7**	**+0.5**
	comp=Z,410nm,0.6s,comp=Z,5μm						
BBSI	**Bau Bau**	**22.77**	**268**	P	**P**	**15 28 33.1**	**+3.0**
LUWI	**Luwuk**	**23.01**	**280**	P	**P**	**15 28 33.2**	**+0.6**
	comp=Z,212nm,1.4s,comp=Z,2μm						
FITZ	**Fitzroy Crossi**	**23.17**	**235**	*e*P	**P**	**15 28 32.3**	**-1.8**
	comp=Z,224nm,0.8s						
FITZ	**Fitzroy Crossi**	**23.17**	**235**	P	**P**	**15 28 32.2**	**-1.8**
	baz=24,SNR=376						
FITZ	**Fitzroy Crossi**	**23.17**	**235**	P	**P**	**15 28 32.9**	**-1.2**
	comp=Z,194nm,0.6s,baz=52,slow=9.2,SNR=272						
FITZ				LR	LR	15 38 11.8	
	comp=Z,446nm,21.5s,baz=55,slow=38						
MMRI	**Maumere**	**23.27**	**260**	P	**P**	**15 28 34.7**	**-0.3**
	comp=Z,118nm,0.7s,comp=Z,1μm						
KKSI	**Kolaka, Sulawe**	**23.73**	**272**	P	**P**	**15 28 40.3**	**+1.1**
APSI	**Ampana**	**24.14**	**280**	P	**P**	**15 28 46.9**	**+4.1**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**24.15**	**283**	P	**P**	**15 28 42.2**	**-0.7**
BKSI	**Bulukumba**	**25.21**	**269**	P	**P**	**15 28 54.1**	**+1.5**
BNSI	**Bone**	**25.26**	**271**	P	**P**	**15 28 55.7**	**+2.7**
WSI	**Waingapu**	**25.30**	**259**	P	**P**	**15 28 53.7**	**+0.3**
KAPI	**Kappang**	**25.59**	**269**	P	**P**	**15 28 55.4**	**-0.6**
KAPI	**Kappang**	**25.59**	**269**	P	**P**	**15 28 55.4**	**-0.6**
	comp=Z,18nm,0.6s,baz=118,slow=4.0,SNR=7.9						
SPSI	**Sidrap Palu**	**25.62**	**272**	P	P	15 29 01.7	+5.4
TTSI	**Tana Toraja**	**25.65**	**274**	P	P	15 29 03.3	+6.8
ARMA	**Armidale**	**25.69**	**168**	*e*P	**P**	**15 28 57.1**	**+0.2**
	comp=Z,98nm,1.0s						
CMSA	**Cobar Meteorol**	**26.14**	**180**	P	**P**	**15 29 01.2**	**+0.4**
	baz=26,SNR=53						
DZM	**Mont Dzumac**	**26.31**	**131**	*e*P	**P**	**15 29 03.7**	**+1.1**
	comp=Z,81nm,1.1s						
DZM				*e*LR	LR	15 35 52.3	
	comp=Z,674nm,31.0s						
DZM	**Mont Dzumac**	**26.31**	**131**	*e*P	**P**	**15 29 02.4**	**-0.2**
	comp=Z,34nm,0.9s						
DZM	**Mont Dzumac**	**26.31**	**131**	P	**P**	**15 29 02.5**	**0.0**
	comp=Z,32nm,0.9s,baz=113,slow=12,SNR=13						
DZM				LR	LR	15 38 27.0	
	comp=Z,185nm,18.8s,baz=24,slow=34						
STKA	**Stephens Creek**	**26.72**	**187**	*e*P	**P**	**15 29 05.7**	**-0.3**
	comp=Z,9.2nm,0.8s						
STKA	**Stephens Creek**	**26.72**	**187**	P	**P**	**15 29 06.1**	**+0.1**
	baz=27,SNR=66						
STKA	**Stephens Creek**	**26.72**	**187**	P	**P**	**15 29 06.2**	**+0.3**
	comp=Z,36nm,0.7s,baz=355,slow=8.2,SNR=88						
STKA				LR	LR	15 40 29.7	
	comp=Z,340nm,19.4s,baz=27,slow=38						
MGCD	**Mangrove Creek**	**28.30**	**170**	⇓P	**P**	**15 29 21.2**	**+1.1**
	baz=29,SNR=7.1						
HTT	**Hallett**	**28.67**	**191**	⇑P	**P**	**15 29 23.7**	**+0.2**
	baz=29						
BBOO	**Buckleboo**	**28.77**	**197**	*e*P	**P**	**15 29 23.4**	**-0.9**
	comp=Z,357nm,0.8s						
MYLDM	**Lahad Datu**	**28.83**	**291**	P	**P**	**15 29 25.7**	**+0.6**
MYLDM	**Lahad Datu**	**28.83**	**291**	P	**P**	**15 29 27.5**	**+2.4**
YNG	**Young**	**29.02**	**175**	⇑P	**P**	**15 29 27.6**	**+1.1**
	baz=29,SNR=6.5						
TSM	**Tawau**	**29.12**	**289**	P	**P**	**15 29 27.7**	**0.0**
FORT	**Forrest**	**30.19**	**211**	⇑P	**P**	**15 29 37.0**	**+0.1**
	baz=31,SNR=14						
SDKM	**Sandakan**	**30.21**	**291**	P	**P**	**15 29 37.5**	**+0.2**
ARPS	**Mount Arapiles**	**31.53**	**186**	⇓P	**P**	**15 29 49.6**	**+1.0**
	baz=32						
H11S3	**WAKE ISLAND Hy**	**31.57**	**41**	T	T	16 03 17.1	
	SNR=27						
H11S2	**WAKE ISLAND Hy**	**31.57**	**41**	T	T	16 03 18.1	
	SNR=12						
H11S1	**WAKE ISLAND Hy**	**31.58**	**41**	T	T	16 03 25.1	
	SNR=19						
MILA	**Mila**	**31.82**	**174**	P	**P**	**15 29 52.7**	**+1.5**
	baz=32,SNR=12						
JCJ	**Chichijima**	**32.32**	**355**	LR	LR	15 40 41.6	
	comp=Z,443nm,20.0s,baz=106,slow=32						
H11N1	**WAKE ISLAND Hy**	**32.58**	**40**	T	T	16 04 30.5	
	baz=222						
H11N3	**WAKE ISLAND Hy**	**32.60**	**40**	T	T	16 04 34.9	
	baz=222,slow=0.7,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**32.60**	**40**	T	T	16 04 42.9	
	baz=222,slow=0.7,SNR=9.8						
BTM	**Bintulu**	**33.40**	**284**	P	**P**	**15 30 06.6**	**+1.3**
SBUM	**Sibu**	**34.06**	**282**	P	**P**	**15 30 12.3**	**+1.3**
MSVF	**Nonsavu**	**34.20**	**114**	*e*P	**P**	**15 30 13.7**	**+1.4**
MSVF				pmax	pmax		
	comp=Z,37nm,1.0s						
MSVF	**Nonsavu**	**34.20**	**114**	*e

ENH Enshi 49.33 318 *e*P P 15 32 17.0 +1.6
comp=Z,4.8nm,0.9s
NANT Nan 50.14 300 P P 15 32 23.1 +1.4
comp=Z,44nm,0.8s
USRK Ussuriysk Arra 50.71 348 P P 15 32 24.9 -0.6
comp=Z,6.7nm,0.6s,baz=168,slow=6.0,SNR=16
USRK LR LR 15 53 15.2
comp=Z,70nm,20.5s,baz=324,slow=35
PAYA Payao 51.09 300 P P 15 32 30.2 +1.4
comp=Z,8.0nm,0.7s,comp=Z,162nm
KMI Kunming 51.32 308 P P 15 32 32.3 +1.6
KMI pP **pP** 15 32 52.9 +1.1
KMI sP **sP** 15 33 02.5 +1.0
KMI PP **PP** 15 34 31.1 +2.5
KMI S **S** 15 39 43.9 0.0
KMI ScS **ScS** 15 42 11.9 -1.7
KMI SS **SS** 15 43 18.1 -2.7
KMI AMB AMB
comp=Z,8.0nm,0.5s
CMAR Chiang Mai Arr 51.54 298 P P 15 32 32.6 +0.5
CMAR Chiang Mai Arr 51.54 298 P P 15 32 32.6 +0.5
comp=Z,5.9nm,0.6s,baz=123,slow=5.6,SNR=29
MDJ Mudanjiang 51.66 346 P P 15 32 33.3 +0.7
MDJ pP **pP** 15 32 53.0 -0.7
MDJ sP **sP** 15 33 02.4 -1.0
MDJ ScP **ScP** 15 37 34.6 +0.3
MDJ PcS **PcS** 15 37 43.5 +0.5
MDJ S **S** 15 39 49.6 +2.2
MDJ AMB AMB
comp=Z,5.0nm,0.7s
MDJ AMB AMB
comp=Z,54nm,3.6s
MDJ LR LR
comp=Z,170nm,30.7s
MDJ LR LR
comp=Z,89nm,27.4s
CHTO Chiang Mai 51.67 299 P P 15 32 34.1 +0.9
CHTO Chiang Mai 51.67 299 P P 15 32 34.1 +0.9
comp=Z,32nm,1.4s
CMAI Chiengmai2 52.03 300 P P 15 32 38.7 +2.7
comp=Z,130nm,0.8s
YSS Yuzh-Sakhalins 52.05 358⇓ *e*P P 15 32 35.4 0.0
YSS *e* 15 32 54.5
XAN Xi'an 52.14 321 P P 15 32 37.0 +0.6
XAN pP **pP** 15 32 57.9 +0.3
XAN sP **sP** 15 33 08.4 +1.2
XAN AMB AMB
comp=Z,5.0nm,1.0s
XAN AMB AMB
comp=Z,48nm,6.0s
BJI Beijing 52.52 332 P P 15 32 37.7 -1.3
BJI AMB AMB
comp=Z,13nm,1.2s
CD2 Chengdu 53.66 315 P P 15 32 48.8 +1.1
CD2 pP **pP** 15 33 09.3 +0.4
CD2 sP **sP** 15 33 18.9 +0.4
CD2 PP **PP** 15 34 52.3 +2.9
CD2 S **S** 15 40 14.9 -0.3
CD2 sS **sS** 15 40 50.5 -1.0
CD2 SS **SS** 15 43 56.0 -1.2
CD2 AMB AMB
comp=Z,40nm,0.5s
CD2 AMB AMB
comp=Z,570nm,5.9s
CD2 LR LR
comp=Z,1μm,6.8s
CD2 LR LR
comp=Z,880nm,7.0s
HHC Hu-ho-hao-te 55.40 329 *e*P P 15 33 00.6 +0.4
HHC pP **pP** 15 33 22.3 +0.7
HHC sP **sP** 15 33 31.0 -0.2
HHC PP **PP** 15 35 09.1 +4.1
HHC S **S** 15 40 41.3 +2.8
HHC sS **sS** 15 41 14.5 -0.5
HHC SS **SS** 15 44 28.0 +3.5
HHC AMB AMB
comp=Z,51nm,0.9s
HHC AMB AMB
comp=Z,260nm,6.4s
HHC LR LR
comp=Z,290nm,16.7s
HHC LR LR
comp=Z,610nm,15.1s
HHC LR LR
comp=Z,300nm,17.8s
KLR Kul'dur 55.57 349 *e*P P 15 32 56.0 -5.1
KLR *e* 15 33 18.0
KLR pmax pmax
comp=E,28nm,1.6s
KLR pmax pmax
comp=Z,90nm,1.6s
LZH Lanzhou 56.65 320 *e*P P 15 33 11.3 +2.0
LZH pP **pP** 15 33 32.8 +2.1
LZH sP **sP** 15 33 41.5 +1.2
LZH PcP **PcP** 15 34 01.7 -3.0
LZH PP **PP** 15 35 18.5 +2.3
LZH *e*S **S** 15 40 51.1 -4.2
LZH sS **sS** 15 41 29.0 -2.9
LZH SS **SS** 15 44 46.6 +2.2
LZH AMB AMB
comp=Z,27nm,1.0s
LZH AMB AMB
comp=Z,140nm,4.2s
PETK Petropavlovsk- 59.07 9 P P 15 33 25.8 +0.1
PETK Petropavlovsk- 59.07 9 P P 15 33 25.8 +0.1
PETK Petropavlovsk- 59.07 9 P P 15 33 25.8 +0.1
comp=Z,15nm,0.7s,baz=172,slow=7.9,SNR=52
PETK LR LR 15 53 37.9
comp=Z,95nm,21.2s,baz=174,slow=31
PET Petropavlovsk 59.14 9⇑ *e*P P 15 33 26.8 +0.7
SHL Shillong 60.32 303 *e*P P 15 33 36.0 +1.0
GTA Gaotai 61.19 321 P P 15 33 40.6 0.0
GTA pP **pP** 15 34 03.3 +1.0
GTA sP **sP** 15 34 15.6 +3.8
GTA AMB AMB
comp=Z,6.0nm,1.6s
FX1 Attu Island--F 62.50 19 *e*P P 15 33 49.5 +0.5
LSA Lhasa 62.56 307 P P 15 33 44.9 -5.5
LSA Lhasa 62.56 307 *e*P P 15 33 52.0 +1.6
LSA pmax pmax
comp=Z,9.0nm,0.9s
LSA Lhasa 62.56 307 *e*P P 15 33 52.0 +1.6
comp=Z,9.2nm,0.9s
ULN Ulaanbaatar 62.73 332 P P 15 33 51.7 +0.9
SONM Songino Array 63.02 332 P P 15 33 52.6 0.0
SONM ⇑ *e* 16 02 59.2
SONM Songino Array 63.02 332 P P 15 33 52.6 0.0
comp=Z,1.7nm,0.7s,baz=152,slow=6.5,SNR=10
SONM PKP2bc 16 02 59.2
comp=Z,2.5nm,1.1s,baz=309,slow=4.6,SNR=9.3
PPT2 Papeete2 64.59 107 *e*LR LR 15 54 11.5
comp=Z,103nm,25.5s
CASY Casey 65.56 195 *e*P P 15 34 09.0 +0.2
comp=Z,44nm,1.3s
MOY Mondy 68.19 332 *e*P P 15 34 25.6 -0.3
YAK Yakutsk 68.19 352⇑ *i*P P 15 34 24.6 -0.9
SEY Seymchan 68.21 3⇑ *i*P P 15 34 24.9 -0.7
WMQ Urumqi 71.23 320 P P 15 34 44.4 -0.3
WMQ pP **PcP** 15 35 04.4 +0.3
WMQ sP **sP** 15 35 12.9 -3.4
WMQ PP **PP** 15 37 25.3 +1.5
WMQ S **S** 15 43 54.2 -1.1
WMQ SKS **SKSac** 15 44 35.9 -4.1
WMQ SS **SS** 15 48 31.3 +0.2
WMQ AMB AMB
comp=Z,11nm,1.0s
WMQ AMB AMB
comp=Z,220nm,4.2s
WMQ LR LR
comp=Z,140nm,5.2s
WMQ LR LR
comp=Z,170nm,4.8s
HVS Khovu-Aksy 71.47 329⇑ *i*P P 15 34 46.3 +0.3
HVS pmax pmax
comp=Z,137nm,1.5s
VNDA Vanda 72.73 176 *e*P P 15 34 53.3 +0.3
comp=Z,16nm,0.9s
VNDA Vanda 72.73 176 P P 15 34 53.8 +0.8
comp=Z,12nm,0.9s,baz=328,slow=6.6,SNR=61
VNDA LR LR 16 02 31.7
comp=Z,116nm,21.4s,baz=345,slow=32
SBA Scott Base 73.41 175 *e*P P 15 34 58.6 +1.7
SBA pmax pmax
comp=Z,19nm,1.4s
SBA Scott Base 73.41 175 *e*P P 15 34 58.6 +1.7
comp=Z,19nm,1.4s
MK31 Makanchi Array 75.95 321 *e*P P 15 35 11.4 -0.8
MK31 Makanchi Array 75.95 321 *e*P P 15 35 11.4 -0.8
MKAR Makanchi Array 75.95 321 P P 15 35 11.5 -0.7
MKAR Makanchi Array 75.95 321 P P 15 35 11.5 -0.7
MKAR Makanchi Array 75.95 321 P P 15 35 11.5 -0.7
comp=Z,1.3nm,0.5s,baz=96,slow=8.5,SNR=18
ZAAO Zalesovo Array 77.57 328 *e*P P 15 35 19.6 -1.6
ZALV Zalesovo Beam 77.57 328 P P 15 35 19.9 -1.2
ZALV Zalesovo Beam 77.57 328 P P 15 35 19.9 -1.2
ZALV Zalesovo Beam 77.57 328 P P 15 35 19.9 -1.2
comp=Z,3.7nm,0.7s,baz=123,slow=5.3,SNR=12
ZALV LR LR 16 07 50.2
comp=Z,149nm,19.4s,baz=250,slow=34
NVS Novosibirsk 78.80 329 *e*P P 15 35 25.7 -2.2
NVS pmax pmax
comp=Z,9.0nm,1.4s
TKM2 Tokmak 2 79.03 315 *e*P P 15 35 29.0 -0.8
TKM2 pmax pmax
comp=Z,4.0nm,0.6s
TKM2 Tokmak 2 79.03 315 *e*P P 15 35 29.0 -0.8
comp=Z,4.2nm,0.6s
FRU Bishkek 79.69 315 *e*P pP 15 35 50.0 -5.8
FRU pmax pmax
comp=Z,100nm,3.2s
KURK Kurchatov 79.70 324⇓ *i*P P 15 35 32.6 -0.3
KURK pmax pmax
comp=Z,5.0nm,1.2s
KURK Kurchatov 79.70 324 *e*P P 15 35 31.8 -1.1
comp=Z,9.9nm,1.1s
AAK Ala-Archa 79.72 315⇓ *i*P P 15 35 33.1 -0.3
AAK pmax pmax
comp=Z,22nm,1.7s
AAK Ala-Archa 79.72 315 *e*P P 15 35 32.9 -0.6
comp=Z,13nm,1.4s
EKS2 Erkin-Say 80.24 315 *e*P P 15 35 36.9 +0.7
EKS2 pmax pmax
comp=Z,8.0nm,1.0s
EKS2 Erkin-Say 80.24 315 *e*P P 15 35 36.9 +0.7
comp=Z,8.3nm,1.0s
MAW Mawson 82.32 203 P P 15 35 46.9 +0.4
MAW Mawson 82.32 203 P P 15 35 47.0 +0.4
baz=83,SNR=5.5
MAW Mawson 82.32 203 P P 15 35 46.9 +0.4
comp=Z,12nm,0.6s,baz=94,slow=6.1,SNR=40
MAW LR LR 16 09 02.2
comp=Z,90nm,20.4s,baz=77,slow=33
KK31 Karatay Array 82.67 315 *i* P P 15 35 48.0 -0.9
KK31 pmax pmax
comp=Z,1.0nm,0.5s
KKAR Karatay Array 82.67 315 *e*P P 15 35 48.7 -0.1
KKAR pmax pmax
comp=Z,1.0nm,0.5s
KKAR Karatay Array 82.67 315 *e*P P 15 35 48.7 -0.1
comp=Z,1.1nm,0.5s
IM04 Indian Mountai 83.35 21 *e*P P 15 35 51.3 -0.5
IMA2 Indian Mountai 83.43 21 *e*P P 15 35 52.6 +0.2
TRF Thorofare Moun 83.52 24 *e*P P 15 35 51.3 -1.7
comp=Z,4.9nm,0.8s
MCK McKinley 84.19 24 *e*P P 15 35 54.7 -1.5
MCK pmax pmax
comp=Z,27nm,1.0s
MCK McKinley 84.19 24 *e*P P 15 35 54.7 -1.5
comp=Z,27nm,1.0s
DIV Divide 84.54 27 *e*P P 15 35 58.1 0.0
comp=Z,9.7nm,0.8s
QSPA South Pole Qui 84.70 180 LR LR 16 11 46.4
comp=Z,101nm,21.1s,baz=160,slow=34
COLA College 85.08 23 P P 15 35 58.7 -1.9
COLA *e*PP **pP** 15 36 21.4 -2.1
COLA pmax pmax
comp=Z,45nm,0.9s
COLA College 85.08 23 P P 15 35 58.6 -1.9
comp=Z,45nm,0.9s
COLA *ep*P **pP** 15 36 21.4 -2.1
COLD Coldfoot 85.19 21 *e*P P 15 36 01.3 +0.1
comp=Z,9.0nm,1.1s
COLD *ep*P **pP** 15 36 22.9 -1.1
BVA0 Borovoye Array 85.27 324 *i* P P 15 36 00.1 -1.7
BVA0 pmax pmax
comp=Z,9.0nm,1.0s
BRVK Borovoye 85.34 324⇓ *e*P P 15 36 02.1 0.0
BRVK pmax pmax
comp=Z,6.0nm,1.2s
PAX Paxson 85.34 25 *e*P P 15 36 01.8 -0.3
PAX pmax pmax
comp=Z,80nm,2.2s
PAX Paxson 85.34 25 *e*P P 15 36 01.8 -0.3
comp=Z,80nm,2.2s
ILAR Eielson Array 85.42 23 P P 15 36 00.2 -2.1
ILAR Eielson Array 85.42 23 P P 15 36 00.2 -2.1
comp=Z,10nm,0.8s,baz=251,slow=4.7,SNR=90
ILAR LR LR 16 07 25.9
comp=Z,79nm,20.9s,baz=316,slow=31
MENT Mentasta 86.08 26 *e*P P 15 36 05.2 -0.4
EGAK Eagle 87.74 24 *e*P P 15 36 12.9 -0.7
comp=Z,13nm,1.2s
DAWY Dawson 88.27 25 *e*P P 15 36 16.1 -0.2
SYO Syowa Base 90.74 200⇓ *e*P P 15 36 26.5 -1.1
SYO Syowa Base 90.74 200⇑ *ep*P pP 15 36 48.6 -2.1
AB31 Akbulak array 91.01 319 *i* P P 15 36 27.2 -2.1
AB31 pmax pmax
comp=Z,1.0nm,0.5s
ABKAR Akbulak array 91.01 319 *e*P P 15 36 27.6 -1.7
comp=Z,1.4nm,0.6s
NVAR Mina Array Bea 98.14 52 LR LR 16 13 00.6
comp=Z,102nm,21.5s,baz=98,slow=30
ARCES ARCESS Array B 105.08 342 PKKPbc PKKPbc 15 53 12.0 -4.6
ARCES ARCESS Array B 105.08 342 PKKPbc PKKPbc 15 53 12.0 -4.6
comp=Z,1.0nm,0.5s,baz=316,slow=2.5,SNR=7.9
TXAR Lajitas Array 110.77 61 PKKPab PKKPab 15 53 08.1 +0.8
TXAR Lajitas Array 110.77 61 PKKPab PKKPab 15 53 08.1 +0.8
comp=Z,0.6nm,0.7s,baz=108,slow=6.0,SNR=6.3
GERES GERESS Array B 120.42 325 PKP **PKPdf** 15 42 16.4 0.0
GERES GERESS Array B 120.42 325 PKP **PKPdf** 15 42 16.4 0.0
comp=Z,0.5nm,0.7s,baz=323,slow=3.3,SNR=3.8
PLCA Paso Flores 123.58 148 PKP **PKPdf** 15 42 22.9 +0.2
PLCA Paso Flores 123.58 148 PKP **PKPdf** 15 42 22.9 +0.2
comp=Z,3.2nm,0.6s,baz=352,slow=2.9,SNR=10
LPAZ La Paz 140.48 123 PKPpre PKPpre 15 42 51.6
LPAZ La Paz 140.48 123 PKhKP PKPpre 15 42 51.6
comp=Z,1.6nm,0.7s,baz=124,slow=4.7,SNR=3.7
CPUP Villa Florida 141.61 146 PKPpre PKPpre 15 42 49.8
CPUP Villa Florida 141.61 146 PKhKP PKPpre 15 42 49.8
comp=Z,2.0nm,0.5s,baz=173,slow=0.8,SNR=5.8
TOA0 Torodi Ar. Sit 143.40 285 *e*PKPpre PKPpre 15 42 56.8
TORD Torodi Ar. Bea 143.40 285 PKPpre PKPpre 15 42 57.1
TORD Torodi Ar. Bea 143.40 285 PKhKP PKPpre 15 42 57.1
comp=Z,4.6nm,0.6s,baz=81,slow=3.6,SNR=30
SAML Samuel 148.16 116 *e*PKPdf **PKPdf** 15 43 08.2 -0.1
SAML *e*PKPbc **PKPbc** 15 43 11.6 -0.1
KIC Kosan Boka 150.31 274 *e*PKIKP **PKPbc** 15 43 17.3 +0.2
comp=Z,109nm,1.1s
DBIC Dimbokro 150.43 274 *e*PKPbc **PKPbc** 15 43 17.5 +0.2
DBIC Dimbokro 150.43 274 PKPbc **PKPbc** 15 43 17.6 +0.3
comp=Z,27nm,0.7s,baz=74,slow=2.8,SNR=32
TIC Toumodi 150.59 274 *e*PKIKP **PKPbc** 15 43 17.7 -0.1
comp=Z,112nm,1.1s
LIC Lamto 150.60 273 *e*PKIKP **PKPbc** 15 43 17.8 0.0
comp=Z,123nm,0.6s
BDFB Brasilia 155.32 148 PKPbc PKPdf 15 43 28.7 +9.4
BDFB Brasilia 155.32 148 PKPbc PKPdf 15 43 28.7 +9.4
comp=Z,3.2nm,0.4s,baz=201,slow=3.5,SNR=6.3

*ISCJB **06** 15:28:45.6±0.5, 6°.39S×0°.05×128°.16E±0°.07, h353km, mb3.8/10, Error ellipse: s-maj=9.3km s-min=6.4km az=15.3*
*AUST **06** 15:28:45.5±0.0, 6°.36S×128°.06E, h336km, Error ellipse: s-maj=1.0km s-min=0.9km az=314.0*
*IDC **06** 15:28:46.8±1.6, 6°.45S×128°.13E, h349km±18km, mb3.6/10, mb1 3.7/13, mb1mx3.6/22, mbtmp4.4/13, Error ellipse: s-maj=20.4km s-min=8.8km az=78.0*

ISC 06 15:28:46.9±0.6, 6°.43S±0°.06×128°.12E±0°.09, h353km, n28, σ1§22/30, mb3.8/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLE	**Tual**	**4.66**	**81**	P	**Pn**	**15 30 02.7**	**-0.3**
	baz=4.7,SNR=31						
FAKI	**Fak Fak**	**5.39**	**50**	P	**Pn**	**15 30 08.9**	**-2.2**
	baz=5.4,SNR=44						
BATI	**Baumata**	**5.79**	**229**	P	**Pn**	**15 30 16.2**	**+0.6**
	311nm,0.3s,baz=110,slow=2.1,SNR=129						
BATI				S	**S**	**15 31 25.6**	**-1.8**
	57nm,0.3s,baz=179,slow=3.5,SNR=19						
SWI	**Sorong**	**6.35**	**30**	P	**Pn**	**15 30 19.6**	**-2.4**
	baz=6.4,SNR=8.0						
KDU	**Kakadu**	**7.55**	**146**	P	**Pn**	**15 30 35.7**	**-0.2**
	baz=7.7,SNR=10.0						
LUWI	**Luwuk**	**7.56**	**315**	P	Pn	15 30 30.5	-5.6
	baz=7.5,SNR=3.7						
FITZ	**Fitzroy Crossi**	**11.85**	**192**	P	**Pn**	**15 31 28.5**	**+1.6**
	baz=12,SNR=3.8						
FITZ	**Fitzroy Crossi**	**11.85**	**192**	P	**P**	**15 31 26.8**	**-0.1**
	3.3nm,0.3s,baz=32,slow=10,SNR=15						
JAY	**Jayapura**	**13.13**	**73**	P	**Pn**	**15 31 43.3**	**+1.2**
	baz=13,SNR=3.2						
WRA	**Warramunga Arr**	**14.73**	**156**	P	**P**	**15 31 57.8**	**-0.7**
	7.0nm,0.3s,baz=340,slow=11,SNR=28						
WRA				S	**S**	**15 34 34.3**	**-3.1**
	2.4nm,0.3s,baz=340,slow=22,SNR=5.7						
PALU	**Palau**	**15.08**	**25**	P	**P**	**15 32 02.3**	**-0.1**
	baz=15,SNR=4.2						
COEN	**Coen**	**16.59**	**118**	P	**P**	**15 32 19.2**	**+0.4**
	baz=17,SNR=30						
ASAR	**Alice Springs**	**18.02**	**163**	P	**P**	**15 32 34.9**	**+0.8**
	2.2nm,0.3s,baz=341,slow=11,SNR=15						
ASAR				S	**S**	**15 35 42.7**	**+0.4**
	2.7nm,0.3s,baz=345,slow=23,SNR=17						
CTA	**Charters Tower**	**22.23**	**129**	P	**P**	**15 33 16.5**	**+1.3**
	6.3nm,0.6s,baz=0.0,slow=6.1,SNR=2.7						
STKA	**Stephens Creek**	**28.27**	**155**	P	**P**	**15 34 09.4**	**+0.3**
	3.5nm,0.5s,baz=321,slow=11,SNR=5.3						
CMSA	**Cobar Meteorol**	**29.90**	**149**	P	**P**	**15 34 24.1**	**+0.7**
	baz=30,SNR=10						
YNG	**Young**	**33.47**	**149**	P	**P**	**15 34 55.8**	**+1.4**
	baz=34,SNR=8.8						
KSRS	**Korea Array**	**43.66**	**360**	P	**P**	**15 36 18.1**	**+0.2**
	2.6nm,0.5s,baz=180,slow=9.6,SNR=12						
USRK	**Ussuriysk Arra**	**50.52**	**4**	P	**P**	**15 37 10.4**	**+0.1**
	2.3nm,0.6s,baz=168,slow=9.8,SNR=4.0						
ASAJ	**Asahikawa**	**51.98**	**13**	P	**P**	**15 37 21.0**	**-0.2**
	7.1nm,1.2s,baz=306,slow=14,SNR=5.0						
RPZ	**Rata Peaks**	**52.83**	**142**	P	**P**	**15 37 25.4**	**-2.0**
	5.2nm,0.4s,baz=336,slow=15,SNR=8.7						
PETK	**Petropavlovsk-**	**64.38**	**19**	P	**P**	**15 38 46.4**	**+0.3**
	2.5nm,0.6s,baz=180,slow=5.3,SNR=9.2						
MKAR	**Makanchi Array**	**66.74**	**328**	P	**P**	**15 39 01.8**	**+0.6**
	0.5nm,0.5s,baz=118,slow=9.1,SNR=4.6						
VNDA	**Vanda**	**73.24**	**173**	P	**P**	**15 39 40.0**	**+0.1**
	1.8nm,0.9s,baz=293,slow=4.7,SNR=3.6						
MAW	**Mawson**	**74.80**	**201**	P	**P**	**15 39 49.9**	**+1.0**
	0.9nm,0.5s,baz=66,slow=8.3,SNR=4.9						
TORD	**Torodi Ar. Bea**	**126.87**	**282**	PKP	**PKPdf**	**15 47 09.5**	**-0.7**
	0.6nm,0.7s,baz=59,slow=1.5,SNR=3.5						
CPUP	**Villa Florida**	**147.01**	**171**	PKPbc	**PKPbc**	**15 47 49.5**	**+0.2**
	1.2nm,0.4s,baz=212,slow=2.6,SNR=4.2						
LPAZ	**La Paz**	**152.28**	**145**	PKPbc	**PKPbc**	**15 48 03.8**	**+0.7**
	1.1nm,0.4s,baz=27,slow=5.0,SNR=6.5						

IDC 06 15:42:21.9±2.5, 5°.73S×130°.94E, h0km, mb3.2/1, mb1 3.3/4, mb1mx3.2/18, mbtmp3.1/4, ML3.1/3, MS3.6/1, Ms1 3.6/1, ms1mx2.5/11, Error ellipse: s-maj=114.9km s-min=28.1km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.34**	**202**	Pn	Pn	15 45 32.1	-0.6
	0.1nm,0.3s,baz=16,slow=10,SNR=12						
FITZ				Sn	Sn	15 47 44.6	-17
	0.1nm,0.3s,baz=187,slow=16,SNR=3.9						
WRA	**Warramunga Arr**	**14.51**	**167**	Pn	Pn	15 45 48.8	+0.1
	0.1nm,0.3s,baz=350,slow=14,SNR=13						
WRA				Sn	Sn	15 48 17.8	-13
	0.1nm,0.3s,baz=346,slow=24,SNR=5.2						
ASAR	**Alice Springs**	**18.06**	**171**	P	P	15 46 34.9	-0.2
	0.0nm,0.3s,baz=348,slow=13,SNR=3.7						
NWAO	**Narrogin (SRO)**	**29.92**	**204**	LR	LR	16 00 24.9	
	comp=Z,92nm,18.3s,baz=276,slow=36						
MKAR	**Makanchi Array**	**67.69**	**326**	P	P	15 53 21.1	0.0
	0.1nm,0.3s,baz=110,slow=8.8,SNR=3.7						

*CSEM **06** 15:50:51.3, 38°.80N×29°.33W, h15km, ML3.7, After PDA*

PDA 06 15:50:51.3±0.9, 38°.80N×29°.33W, h15km±5km, MD3.7, ML3.7, Error ellipse: s-maj=6.3km s-min=5.1km az=40.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**0.52**	**109**	*e*P	Pg	15 50 59.7	-1.9
PCED				*e*S	Sg	15 51 06.1	-2.4
PCED				A	A	15 51 06.7	
	2μm,0.5s						
PCED	**Cedros**	**0.52**	**109**	*e*P	Pg	15 50 59.7	-1.9
PCED				*e*S	Sg	15 51 06.1	-2.4
CALA	**Caldeira**	**0.53**	**114**	*e*P	Pg	15 51 00.3	-1.7
CALA				*e*S	Sg	15 51 06.2	-3.0
CALA	**Caldeira**	**0.53**	**114**	*e*P	Pg	15 51 00.3	-1.7
CALA				*e*S	Sg	15 51 06.2	-3.0
HOR	**Horta**	**0.61**	**116**	*e*P	Pg	15 51 00.7	-2.6
HOR				*e*S	Sg	15 51 08.3	-3.0
HOR	**Horta**	**0.61**	**116**	*e*P	Pg	15 51 00.7	-2.6
HOR				*e*S	Sg	15 51 08.3	-3.0
PCAN	**Candelaria**	**0.74**	**117**	*e*P	Pg	15 51 02.5	-3.2
PCAN				*e*S	Sg	15 51 11.3	-4.2
PCAN				A	A	15 51 15.2	
	2μm,0.4s						
PCAN	**Candelaria**	**0.74**	**117**	*e*P	Pg	15 51 02.5	-3.2
PCAN				*e*S	Sg	15 51 11.3	-4.2
PICO	**Pico**	**0.77**	**113**	*e*P	Pg	15 51 03.6	-2.7
PICO				*e*S	Sg	15 51 12.1	-4.4
PICO	**Pico**	**0.77**	**113**	*e*P	Pg	15 51 03.6	-2.7
PICO				*e*S	Sg	15 51 12.1	-4.4
PPNO	**Prainha do Nor**	**0.89**	**111**	*e*P	Pb	15 51 05.3	-3.3
PPNO				*e*S	Sb	15 51 15.5	-4.9
PPNO				A	A	15 51 20.3	
	1μm,0.2s						
PPNO	**Prainha do Nor**	**0.89**	**111**	*e*P	Pb	15 51 05.3	-3.3
PPNO				*e*S	Sb	15 51 15.5	-4.9
PMAN	**Manadas**	**0.98**	**99**	*e*P	Pb	15 51 06.2	-3.8
PMAN				*e*S	Sb	15 51 17.6	-5.2
PMAN				A	A	15 51 20.5	
	510nm,0.5s						
PMAN	**Manadas**	**0.98**	**99**	*e*P	Pb	15 51 06.2	-3.8
PMAN				*e*S	Sb	15 51 17.6	-5.2
PID	**Ribeirinha**	**1.01**	**110**	*e*P	Pb	15 51 06.8	-3.7
PID	**Ribeirinha**	**1.01**	**110**	*e*P	Pb	15 51 06.8	-3.7
PGRA	**Graciosa**	**1.07**	**77**	*e*S	Sb	15 51 19.1	-6.3
PGRA				A	A	15 51 30.8	
	282nm,0.4s						
PGRA	**Graciosa**	**1.07**	**77**	*e*S	Sb	15 51 19.1	-6.3
TOPO	**Topo**	**1.12**	**100**	*e*P	Pb	15 51 08.4	-4.0
TOPO				*e*S	Sb	15 51 20.8	-6.1
TOPO	**Topo**	**1.12**	**100**	*e*P	Pb	15 51 08.4	-4.0
TOPO				*e*S	Sb	15 51 20.8	-6.1
ADH	**Angra Heroismo**	**1.64**	**94**	*e*S	Sn	15 51 33.7	-6.7
ADH				A	A	15 51 36.8	
	190nm,0.3s						
ADH	**Angra Heroismo**	**1.64**	**94**	*e*S	Sn	15 51 33.7	-6.7
PSET	**Sete Cidades**	**3.00**	**108**	*e*P	Pn	15 51 34.3	-4.0
PSET	**Sete Cidades**	**3.00**	**108**	*e*P	Pn	15 51 34.3	-4.0
CMLA	**Cha da Macela**	**3.16**	**108**	*e*P	Pn	15 51 36.4	-4.2
CMLA	**Cha da Macela**	**3.16**	**108**	*e*P	Pn	15 51 36.4	-4.2
BART	**Pico Bartolome**	**3.43**	**106**	*e*P	Pn	15 51 40.4	-3.9
BART	**Pico Bartolome**	**3.43**	**106**	*e*P	Pn	15 51 40.4	-3.9
PSMA	**Santa Maria**	**3.78**	**117**	*e*P	Pn	15 51 44.7	-4.3
PSMN	**Pico do Norte,**	**3.82**	**117**	*e*P	Pn	15 51 45.4	-4.1
PSMN	**Pico do Norte,**	**3.82**	**117**	*e*P	Pn	15 51 45.4	-4.1

IDC 06 15:54:09.5±2.4, 1°.11S×128°.03E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.3/20, mbtmp3.2/3, ML3.7/1, Error ellipse: s-maj=200.7km s-min=25.9km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.71**	**162**	P	P	15 58 40.5	-0.2
	0.3nm,0.3s,baz=341,slow=12,SNR=6.2						
ASAR	**Alice Springs**	**23.14**	**166**	P	P	15 59 17.7	+0.1
	0.3nm,0.6s,baz=342,slow=10,SNR=6.0						
MKAR	**Makanchi Array**	**62.26**	**326**	P	P	16 04 33.3	0.0
	0.3nm,0.8s,baz=141,slow=5.5,SNR=2.3						

IDC 06 16:02:50.3±0.9, 3°.69N×126°.62E, h0km, mb3.6/6,

mb1 3.8/6, mb1mx3.6/23, mbtmp3.7/6, Error ellipse: s-maj=57.1km s-min=18.4km az=78.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.67**	**183**	P	P	16 07 43.7	+1.0
	1.2nm,0.7s,baz=349,slow=16,SNR=5.9						
WRA	**Warramunga Arr**	**24.68**	**162**	P	P	16 08 12.6	-0.5
	1.0nm,0.5s,baz=343,slow=10.0,SNR=24						
ASAR	**Alice Springs**	**28.10**	**166**	P	P	16 08 43.7	-0.3
	0.1nm,0.4s,baz=340,slow=8.2,SNR=8.3						
ASAR				PcP	PcP	16 11 58.5	-0.2
	0.1nm,0.4s,baz=346,slow=2.1,SNR=5.6						
SONM	**Songino Array**	**47.30**	**342**	P	P	16 11 25.5	-0.3
	0.2nm,0.4s,baz=152,slow=8.3,SNR=3.0						
PETK	**Petropavlovsk-**	**55.51**	**22**	P	P	16 12 27.6	+0.5
	3.0nm,0.9s,baz=162,slow=2.4,SNR=5.6						
MKAR	**Makanchi Array**	**57.53**	**325**	P	P	16 12 41.2	-0.4
	0.8nm,0.6s,baz=118,slow=7.7,SNR=9.3						

IDC 06 16:06:20.2±1.2, 12.26S×166.10E, h0km, mb4.0/7, mb1 4.0/7, mb1mx3.8/19, mbtmp3.9/7, MS3.4/1, Ms1 3.3/1, ms1mx2.7/27, Error ellipse: s-maj=44.1km s-min=29.3km az=117.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.82**	**225**	LR	LR	16 24 05.0	
	comp=Z,73nm,20.4s,baz=205,slow=36						
WRA	**Warramunga Arr**	**31.41**	**252**	P	P	16 12 44.0	+0.6
	0.5nm,0.9s,baz=82,slow=8.8,SNR=2.9						
ASAR	**Alice Springs**	**32.58**	**245**	P	P	16 12 53.0	-0.7
	0.6nm,0.8s,baz=67,slow=9.9,SNR=7.5						
ASAR				PcP	PcP	16 15 40.4	+0.1
	0.4nm,0.8s,baz=79,slow=2.9,SNR=4.0						
QSPA	**South Pole Qui**	**77.75**	**180**	P	P	16 18 19.1	0.0
	2.8nm,1.0s,baz=18,slow=5.3,SNR=5.2						
SONM	**Songino Array**	**79.85**	**324**	P	P	16 18 31.1	+0.3
	0.5nm,0.6s,baz=123,slow=5.5,SNR=5.7						
ILAR	**Eielson Array**	**84.55**	**18**	P	P	16 18 54.9	0.0
	0.4nm,0.8s,baz=224,slow=6.3,SNR=3.1						
MKAR	**Makanchi Array**	**94.64**	**317**	P	P	16 19 43.5	+0.2
	1.4nm,0.7s,baz=99,slow=6.4,SNR=13						
ZALV	**Zalesovo Beam**	**94.74**	**324**	P	P	16 19 42.2	-1.2
	1.1nm,0.8s,baz=86,slow=4.6,SNR=4.8						

IDC 06 16:18:04.6±3.0, 32.32S×178.92W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/18, mbtmp3.6/3, ML3.8/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/16, Error ellipse: s-maj=67.1km s-min=45.2km az=114.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.18**	**16**	LR	LR	16 19 40.3	
	comp=Z,666nm,21.3s,baz=231,slow=30						
URZ	**Urewera**	**6.75**	**208**	Pn	Pn	16 19 44.1	-0.9
	2.0nm,0.3s,baz=66,slow=4.4,SNR=12						
URZ				Sn	Sn	16 20 52.9	-10
	2.5nm,0.3s,baz=63,slow=14,SNR=4.2						
ASAR	**Alice Springs**	**42.26**	**269**	P	P	16 25 59.5	-0.4
	0.1nm,0.3s,baz=112,slow=8.0,SNR=7.9						
WRA	**Warramunga Arr**	**43.42**	**275**	P	P	16 26 09.7	+0.3
	0.4nm,0.3s,baz=114,slow=8.2,SNR=21						
H03N3	**Juan Fernandez**	**80.26**	**123**	T	T	17 58 52.9	
	baz=238,slow=0.7,SNR=18						
H03N2	**Juan Fernandez**	**80.27**	**123**	T	T	17 58 51.3	
	baz=238,slow=0.7,SNR=7.6						
H03N1	**Juan Fernandez**	**80.28**	**123**	T	T	17 58 55.1	
	baz=238,slow=0.7,SNR=11						
FINES	**FINESS Array B**	**146.66**	**338**	PKPbc	PKPdf	16 37 46.6	+0.8
	4.4nm,1.0s,baz=29,slow=4.4,SNR=5.4						

MAN 06 16:21:01, 17.43N×122.56E, h31km, mb4.3, ML3.2, MS3.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.39**	**199**	*e*P	Pn	16 21 11.4	+0.9
PALP				*e*S	Sn	16 21 19.6	+2.7
CAUP	**Cauayan**	**0.86**	**235**	*e*P	Pb	16 21 18.9	+1.5
APYP	**Conner**	**1.33**	**289**	*e*P	Pn	16 21 24.2	+0.8
ABRA	**Dolores**	**1.78**	**277**	*e*P	Pb	16 21 31.4	-1.6

IDC 06 16:25:43.1±2.6, 7.82S×119.76E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.4/21, mbtmp3.6/3, ML3.9/1, Error ellipse: s-maj=283.6km s-min=26.0km az=53.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.57**	**132**	P	P	16 30 01.9	0.0
	0.4nm,0.3s,baz=305,slow=12,SNR=20						
WRA				S	Sn	16 33 24.0	-6.3
	0.1nm,0.3s,baz=310,slow=25,SNR=3.3						
ASAR	**Alice Springs**	**20.79**	**141**	P	P	16 30 26.1	-0.1
	1.4nm,0.7s,baz=322,slow=12,SNR=28						
MKAR	**Makanchi Array**	**63.76**	**332**	P	P	16 36 16.9	-0.1
	0.3nm,0.6s,baz=138,slow=7.1,SNR=2.8						

*ISCJB **06** 16:35:33.0±0.3, 1.73N±0.04×124.55E±0.06, h235km, mb4.0/19, Error ellipse: s-maj=8.1km s-min=5.3km az=164.7*
*IDC **06** 16:35:33.0±2.2, 1.69N×124.43E, h215km±21km, mb3.8/18, mb1 3.8/19, mb1mx3.8/24, mbtmp4.3/19, Error ellipse: s-maj=20.8km s-min=8.4km az=77.0*
*DJA **06** 16:35:34.0±0.9, 2°N±6'×12'5E±', h210km±12km, M4.6/5, mb4.4/2, mB4.9/2, MLv4.7/5, Mw(mB)4.2/2*
*AUST **06** 16:35:40.7, 1.50N×125.00E, h300km*

ISC 06 16:35:34.7±0.4, 1.70N±0.06×124.63E±0.08, h235km, n50, σ1°39/59, mb4.0/18, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.29**	**210**	P	Pn	16 36 06.5	-3.6
SGSI	**Sangihe**	**2.17**	**24**	P	**Pn**	**16 36 15.5**	**-2.1**
TNTI	**Ternate**	**2.89**	**109**	P	**Pn**	**16 36 23.0**	**-2.1**
MRSI	**Marisa**	**2.95**	**246**	P	**Pn**	**16 36 23.1**	**-2.7**
LBMI	**Labuha**	**3.69**	**129**	P	**Pn**	**16 36 32.0**	**-2.3**
LBMI				S	S	16 37 16.6	-4.7
TOLI	**Toli-Toli**	**3.88**	**261**	P	**Pn**	**16 36 33.4**	**-3.1**
PCI	**Palu**	**5.45**	**242**	P	Pn	16 36 50.7	-5.0
	144nm,0.9s,4µm1.2nm						
AAI	**Ambon**	**6.43**	**146**	P	**Pn**	**16 37 09.2**	**+1.1**
	baz=6.1,SNR=5.2						
SWI	**Sorong**	**7.10**	**111**	P	**Pn**	**16 37 15.9**	**-0.7**
SWI	**Sorong**	**7.10**	**111**	P	**Pn**	**16 37 16.0**	**-0.7**
	baz=6.7,SNR=7.3						
TLE	**Tual**	**10.90**	**132**	P	**Pn**	**16 38 05.2**	**+0.3**
	baz=10,SNR=4.0						
SOEI	**Soe**	**11.39**	**182**	P	**P**	**16 38 17.2**	**+1.6**
	baz=11,SNR=5.0						
BATI	**Baumata**	**11.87**	**185**	P	**Pn**	**16 38 18.5**	**+1.3**
	7.9nm,0.3s,baz=41,slow=1.8,SNR=20						
BATI				S	S	16 40 39.6	+11
	1.9nm,0.3s,baz=305,slow=21,SNR=4.6						
KDU	**Kakadu**	**16.28**	**152**	P	**P**	**16 39 09.7**	**+0.1**
	baz=16,SNR=19						
JAY	**Jayapura**	**16.61**	**105**	P	**Pn**	**16 39 15.2**	**+0.3**
	baz=16,SNR=12						
KNRA	**Kununurra**	**17.75**	**167**	P	**P**	**16 39 26.2**	**+0.6**
	baz=18,SNR=28						
FITZ	**Fitzroy Crossi**	**19.70**	**177**	P	**P**	**16 39 45.8**	**-0.9**
	baz=20,SNR=15						
FITZ	**Fitzroy Crossi**	**19.70**	**177**	P	**P**	**16 39 45.6**	**-1.1**
	1.3nm,0.3s,baz=15,slow=9.6,SNR=21						
FITZ				S	**S**	**16 43 13.0**	**-3.1**
	0.1nm,0.3s,baz=11,slow=19,SNR=3.3						
WRA	**Warramunga Arr**	**23.53**	**157**	P	**P**	**16 40 24.3**	**+0.3**
	7.5nm,0.6s,baz=338,slow=10.0,SNR=127						
WRA				PcP	**PcP**	**16 44 03.0**	**+0.3**
	0.6nm,0.4s,baz=330,slow=2.6,SNR=4.2						
WRA				S	**S**	**16 44 19.6**	**-0.8**
	3.0nm,0.7s,baz=335,slow=16,SNR=8.0						
ASAR	**Alice Springs**	**26.78**	**161**	P	**P**	**16 40 53.9**	**+0.6**
	1.9nm,0.6s,baz=334,slow=7.6,SNR=62						
ASAR				PcP	**PcP**	**16 44 11.2**	**+1.2**
	2.4nm,0.5s,baz=344,slow=2.1,SNR=16						
ASAR				S	**S**	**16 45 10.4**	**-1.4**
	1.1nm,0.8s,baz=338,slow=13,SNR=7.1						
ASAR				ScP	**ScP**	**16 47 30.2**	**+2.4**
	0.6nm,0.9s,baz=339,slow=2.8,SNR=3.4						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEEK	**Meekatharra**	**28.77**	**191**	P	**P**	**16 41 10.6**	**-0.3**
	baz=29,SNR=17						
CMAR	**Chiang Mai Arr**	**30.20**	**305**	P	**P**	**16 41 24.1**	**+0.5**
	1.1nm,0.9s,baz=128,slow=7.9,SNR=7.8						
CMAR				PcP	**PcP**	**16 44 20.1**	**+1.5**
	0.4nm,0.4s,baz=144,slow=2.3,SNR=6.4						
MORW	**Morawa**	**31.68**	**194**	P	**P**	**16 41 36.8**	**+0.3**
	baz=32,SNR=4.2						
FORT	**Forrest**	**32.47**	**174**	P	**P**	**16 41 43.8**	**+0.5**
	baz=32,SNR=11						
BLDU	**Ballidu**	**33.01**	**193**	P	**P**	**16 41 47.6**	**-0.4**
	baz=33,SNR=14						
KLBR	**Kellerberrin**	**33.75**	**191**	P	**P**	**16 41 54.5**	**+0.1**
	baz=34,SNR=8.6						
KSRS	**Korea Array**	**35.71**	**4**	P	**P**	**16 42 11.8**	**+0.8**
	0.8nm,0.4s,baz=174,slow=9.2,SNR=4.4						
BBOO	**Buckleboo**	**35.99**	**164**	P	**P**	**16 42 14.0**	**+0.6**
	baz=36,SNR=6.3						
RKGY	**Rocky Gully**	**36.83**	**191**	P	**P**	**16 42 21.8**	**+1.3**
	baz=37,SNR=8.9						
MAT	**Matsushiro**	**36.87**	**18**	P	**P**	**16 42 20.9**	**0.0**
STKA	**Stephens Creek**	**37.07**	**156**	P	**P**	**16 42 24.0**	**+1.4**
	baz=37,SNR=6.3						
STKA	**Stephens Creek**	**37.07**	**156**	P	**P**	**16 42 23.3**	**+0.7**
	2.7nm,0.5s,baz=66,slow=4.7,SNR=2.8						
STKA				PcP	**PcP**	**16 44 39.0**	**+1.0**
	1.5nm,0.5s,baz=0.0,slow=6.1,SNR=3.1						
USRK	**Ussuriysk Arra**	**42.82**	**8**	P	**P**	**16 43 10.8**	**+1.2**
	2.4nm,0.5s,baz=198,slow=8.0,SNR=8.9						
ASAJ	**Asahikawa**	**45.15**	**18**	P	**P**	**16 43 29.4**	**+1.3**
	3.8nm,0.6s,baz=171,slow=19,SNR=5.8						
SONM	**Songino Array**	**48.59**	**344**	P	**P**	**16 43 53.7**	**-1.0**
	1.1nm,0.5s,baz=146,slow=8.2,SNR=10						
SONM				PcP	**PcP**	**16 45 15.9**	**-0.6**
	1.4nm,1.0s,baz=134,slow=4.2,SNR=6.0						
MKAR	**Makanchi Array**	**58.06**	**327**	P	**P**	**16 45 03.1**	**-0.3**
	2.2nm,0.4s,baz=123,slow=8.1,SNR=47						
MKAR				PcP	**PcP**	**16 45 52.2**	**-0.3**
	2.1nm,0.6s,baz=126,slow=3.9,SNR=11						
PETK	**Petropavlovsk-**	**58.09**	**23**	P	**P**	**16 45 04.5**	**+1.1**
	6.0nm,1.0s,baz=182,slow=5.2,SNR=5.9						
ZALV	**Zalesovo Beam**	**61.47**	**334**	P	**P**	**16 45 25.2**	**-1.2**
	1.6nm,0.4s,baz=132,slow=6.4,SNR=10.0						
BVAR	**Borovoye Array**	**67.89**	**328**	P	**P**	**16 46 06.9**	**-1.0**
	baz=130,slow=4.5						
MAW	**Mawson**	**81.14**	**200**	P	**P**	**16 47 24.2**	**+0.6**
	1.2nm,0.7s,baz=70,slow=5.1,SNR=6.5						
VNDA	**Vanda**	**81.70**	**172**	P	**P**	**16 47 27.2**	**+0.7**
	1.0nm,0.6s,baz=317,slow=4.8,SNR=7.3						
KMBO	**Kilima Mbogo**	**87.41**	**269**	P	**P**	**16 47 55.7**	**-0.9**
	1.2nm,0.7s,baz=80,slow=9.7,SNR=4.6						
ILAR	**Eielson Array**	**87.82**	**25**	P	**P**	**16 47 56.8**	**-0.4**
	0.4nm,0.5s,baz=246,slow=4.9,SNR=5.0						
ARCES	**ARCESS Array B**	**91.61**	**340**	P	**P**	**16 48 13.7**	**-1.1**
	2.1nm,0.6s,baz=81,slow=6.7,SNR=10						
SPITS	**Spitsbergen Ar**	**92.05**	**349**	P	**P**	**16 48 16.3**	**-0.3**
	19nm,1.1s,baz=93,slow=6.7,SNR=7.0						
FINES	**FINESS Array B**	**92.61**	**332**	P	**P**	**16 48 18.2**	**-1.2**
	1.3nm,0.7s,baz=83,slow=6.5,SNR=4.5						
BOSA	**Boshof**	**99.05**	**241**	P	**Pdif**	**16 48 50.2**	**+0.7**
	2.6nm,1.0s,baz=117,slow=11,SNR=2.6						
TORD	**Torodi Ar. Bea**	**121.52**	**286**	PKP	**PKPdf**	**16 54 01.0**	**-0.3**
	1.0nm,0.7s,baz=62,slow=1.1,SNR=6.7						
SCHQ	**Scherfville**	**122.87**	**8**	PKP	**PKPdf**	**16 54 03.0**	**+0.1**
	2.4nm,0.4s,baz=25,slow=14,SNR=5.9						
TXAR	**Lajitas Array**	**124.49**	**52**	PKP	**PKPdf**	**16 54 08.8**	**+2.0**
	0.1nm,0.4s,baz=175,slow=0.3,SNR=4.6						

IDC 06 16:37:27.5±6.0, 14.71S×172.53W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.5/20, mbtmp3.7/2, Error ellipse: s-maj=314.4km s-min=17.6km az=142.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.08**	**43**	Pn	Pn	16 37 50.1	0.0
	64nm,0.3s,baz=225,slow=5.7,SNR=50						
AFI				Sn	Sn	16 38 05.6	-0.2
	460nm,0.3s,baz=270,slow=20,SNR=33						
H11S2	**WAKE ISLAND Hy**	**38.82**	**328**	T	T	17 25 37.3	
	baz=149,slow=0.7,SNR=13						
H11S3	**WAKE ISLAND Hy**	**38.83**	**328**	T	T	17 25 38.1	
	baz=149,slow=0.7,SNR=7.5						
H11S1	**WAKE ISLAND Hy**	**38.84**	**328**	T	T	17 25 38.3	
	baz=149,slow=0.7,SNR=7.3						
H11N3	**WAKE ISLAND Hy**	**39.74**	**329**	T	T	17 26 43.8	
	baz=148,slow=0.7,SNR=4.9						
H11N1	**WAKE ISLAND Hy**	**39.75**	**329**	T	T	17 26 43.7	
	baz=148,slow=0.7,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	**39.76**	**329**	T	T	17 26 45.2	
	baz=148,slow=0.7,SNR=2.8						
WRA	**Warramunga Arr**	**50.82**	**256**	P	P	16 46 29.7	-0.6
	0.6nm,0.9s,baz=85,slow=5.9,SNR=3.2						
ASAR	**Alice Springs**	**51.12**	**251**	P	P	16 46 32.1	-0.5
	0.8nm,0.5s,baz=85,slow=7.9,SNR=10						
GERES	**GERESS Array B**	**145.57**	**353**	PKPbc	PKPdf	16 57 07.0	-1.0
	0.4nm,0.8s,baz=5.2,slow=1.1,SNR=5.0						
BRTR	**Keskin Array B**	**146.14**	**322**	PKPbc	PKPab	16 57 10.9	+0.1
	0.7nm,0.9s,baz=48,slow=2.1,SNR=3.4						

IDC 06 16:39:58.1±8.7, 14.93S×172.57W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/20, mbtmp3.5/2, Error ellipse: s-maj=412.8km s-min=23.2km az=140.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.27**	**37**	Pn	Pg	16 40 22.3	-0.3
	80nm,0.3s,baz=212,slow=13,SNR=5.9						
AFI				Sn	Sg	16 40 37.7	-1.5
	89nm,0.3s,baz=33,slow=17,SNR=7.8						
WRA	**Warramunga Arr**	**50.73**	**256**	P	P	16 48 60.0	-0.2
	0.3nm,0.8s,baz=96,slow=8.4,SNR=2.9						
ASAR	**Alice Springs**	**51.02**	**252**	P	P	16 49 01.4	-0.8
	0.6nm,0.5s,baz=88,slow=7.7,SNR=13						
BRTR	**Keskin Array B**	**146.28**	**322**	PKPbc	PKPab	16 59 42.0	0.0
	0.4nm,0.4s,baz=71,slow=2.9,SNR=2.7						

*AUST **06** 16:51:09.8, 21.20S×170.66W, h35km*
*IDC **06** 16:52:57.5±2.8, 23.99S×179.78W, h483km±26km, mb3.3/5, mb1 3.5/6, mb1mx3.2/18, mbtmp3.4/6, Error ellipse: s-maj=31.5km s-min=26.8km az=2.0*
*ISCJB **06** 16:52:59.7±1.2, 24.0S±0.1×179.9W±0.2, h518km, mb3.9/5, Error ellipse: s-maj=22.0km s-min=13.6km az=167.3*

ISC 06 16:53:00.6±1.2, 24.2S±0.1×179.8W±0.2, h518km, n13, σ1°51/15, mb3.7/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.25**	**190**	P	**P**	**16 56 01.0**	**-1.5**
	1.7nm,0.3s,baz=38,slow=9.0,SNR=9.8						
URZ				S	**S**	**16 58 33.2**	**+0.7**
	0.3nm,0.3s,baz=332,slow=15,SNR=5.4						
RPZ	**Rata Peaks**	**20.86**	**199**	P	**P**	**16 57 06.9**	**+1.0**
	8.2nm,0.9s,baz=32,slow=17,SNR=3.3						
EIDS	**Eidsvold**	**26.48**	**261**	P	**P**	**16 57 57.1**	**+0.8**
	baz=35,SNR=4.0						
CMSA	**Cobar Meteorol**	**31.31**	**249**	P	**P**	**16 58 39.0**	**+0.8**
	baz=40,SNR=8.8						
STKA	**Stephens Creek**	**34.82**	**249**	P	**P**	**16 59 07.5**	**-0.3**
	0.7nm,0.3s,baz=72,slow=7.3,SNR=5.9						
ASAR	**Alice Springs**	**42.21**	**261**	P	**P**	**17 00 08.1**	**0.0**
	1.6nm,0.5s,baz=98,slow=7.0,SNR=80						
ASAR				ScP	**ScP**	**17 04 54.4**	**+2.9**
	0.6nm,1.1s,baz=113,slow=4.3,SNR=3.3						
WRA	**Warramunga Arr**	**42.61**	**266**	P	**P**	**17 00 09.9**	**-1.4**
	4.7nm,0.5s,baz=102,slow=8.7,SNR=128						
WRA				ScP	**ScP**	**17 04 56.1**	**+2.9**
	0.3nm,0.6s,baz=94,slow=3.8,SNR=4.0						
KDU	**Kakadu**	**46.54**	**275**	P	**P**	**17 00 40.8**	**-0.8**
	baz=55,SNR=6.6						
KNRA	**Kununurra**	**48.91**	**270**	P	**P**	**17 00 59.2**	**-0.2**
	baz=57,SNR=14						
FITZ	**Fitzroy Crossi**	**51.03**	**266**	P	**P**	**17 01 14.8**	**-0.1**
	baz=60,SNR=5.0						
TXAR	**Lajitas Array**	**90.41**	**58**	P	**P**	**17 05 07.3**	**+0.3**
	0.3nm,0.7s,baz=212,slow=4.4,SNR=4.0						
HFS	**Hagfors**	**142.90**	**349**	PKhKP	PKPpre	17 11 30.4	
	4.6nm,1.0s,baz=58,slow=3.6,SNR=4.4						
BRTR	**Keskin Array B**	**147.95**	**307**	PKPbc	**PKPbc**	**17 11 46.0**	**-1.8**
	0.3nm,0.6s,baz=66,slow=0.7,SNR=3.5						

*IDC **06** 17:05:54.2±0.6, 6.00S×151.40E, h0km, mb4.2/14, mb1 4.4/16, mb1mx4.3/21, mbtmp4.2/16, ML4.0/2, MS3.6/3, Ms1 3.6/3, ms1mx3.1/29, Error ellipse: s-maj=19.8km s-min=16.9km az=100.0*
*ISCJB **06** 17:05:58.4±0.4, 6.12S±0.06×151.38E±0.06, h41km, mb4.2/18, MS3.7/2, Error ellipse: s-maj=9.6km s-min=6.9km az=40.5*
*NEIC **06** 17:06:00.8±1.2, 6.09S×151.41E, h48km±10km, mb4.6/6, Error ellipse: s-maj=9.8km s-min=7.5km az=165.0*
*AUST **06** 17:06:00.1, 6.15S×151.63E, h60km*

ISC 06 17:06:00.1±0.5, 6.05S±0.07×151.39E±0.07, h41km, n66, σ0°80/62, mb4.2/18, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.00**	**23**	P	**Pn**	**17 06 31.4**	**0.0**
	baz=2.0,SNR=15						
PMG	**Port Moresby**	**5.36**	**231**	Pn	**Pn**	**17 07 19.2**	**+1.6**
PMG				*e*Sn	**Sn**	**17 08 15.9**	**-2.3**
PMG				Sn	Sn	17 08 16.8	-1.4
PMG	**Port Moresby**	**5.36**	**231**	Pn	**Pn**	**17 07 19.2**	**+1.6**
	4.8nm,0.3s,baz=48,slow=8.8,SNR=17						
PMG				Sn	**Sn**	**17 08 16.8**	**-1.4**
	8.9nm,0.3s,baz=348,slow=19,SNR=8.0						
MANU	**Manus Island**	**5.65**	**315**	P	Pn	17 07 28.0	+6.4
	baz=5.9,SNR=6.3						
HNR	**Honiara**	**9.12**	**112**	Pn	**Pn**	**17 08 09.2**	**+0.1**
HNR	**Honiara**	**9.12**	**112**	Pn	**Pn**	**17 08 09.2**	**+0.1**
	7.2nm,0.3s,baz=237,slow=7.9,SNR=5.7						
HNR				LR	LR	17 10 53.3	
	comp=Z,145nm,18.4s,baz=238,slow=33						
CTA	**Charters Tower**	**14.83**	**199**	Pn	**Pn**	**17 09 27.4**	**+0.4**
CTA	**Charters Tower**	**14.83**	**199**	Pn	**Pn**	**17 09 27.4**	**+0.4**
	0.1nm,0.3s,baz=22,slow=18,SNR=2.4						
CTAO	**Charters Tower**	**14.83**	**199**	Pn	Pn	17 09 22.9	-4.2
	17nm,1.3s						
EIDS	**Eidsvold**	**19.22**	**181**	*e*P	**P**	**17 10 20.0**	**-0.8**
	8.7nm,0.6s						
EIDS	**Eidsvold**	**19.22**	**181**	P	**P**	**17 10 20.2**	**-0.6**
	baz=19,SNR=8.8						
KDU	**Kakadu**	**19.79**	**249**	P	**Pn**	**17 10 28.4**	**-0.5**
	baz=20,SNR=10						
RMQ	**Roma**	**20.48**	**187**	P	**P**	**17 10 34.8**	**+0.2**
	baz=20,SNR=35						
QLP	**Quilpie**	**21.54**	**198**	P	**P**	**17 10 45.7**	**-0.2**
	baz=22,SNR=7.7						
WRAB	**Tennant Creek**	**21.56**	**229**	*e*P	**P**	**17 10 45.6**	**-0.7**
	17nm,0.8s						
DZM	**Mont Dzumac**	**21.57**	**139**	P	**P**	**17 10 45.9**	**-0.5**
DZM	**Mont Dzumac**	**21.57**	**139**	P	**P**	**17 10 45.9**	**-0.5**
	7.1nm,0.8s,baz=256,slow=18,SNR=5.8						
WRA	**Warramunga Arr**	**21.58**	**229**	P	**P**	**17 10 45.7**	**-0.7**
WRA	**Warramunga Arr**	**21.58**	**229**	P	**P**	**17 10 45.7**	**-0.7**
	7.5nm,0.8s,baz=55,slow=10,SNR=84						
KNRA	**Kununurra**	**24.17**	**245**	P	**P**	**17 11 12.5**	**-0.3**
	baz=24,SNR=18						
ASAR	**Alice Springs**	**24.29**	**222**	P	**P**	**17 11 13.3**	**-0.5**
ASAR	**Alice Springs**	**24.29**	**222**	P	**P**	**17 11 13.3**	**-0.5**
	14nm,0.6s,baz=56,slow=8.9,SNR=282						
CMSA	**Cobar Meteorol**	**25.92**	**191**	P	**P**	**17 11 27.3**	**-1.1**
	baz=26,SNR=15						
SOEI	**Soe**	**27.11**	**260**	P	P	17 11 47.6	+7.9
	baz=27,SNR=3.9						
STKA	**Stephens Creek**	**27.29**	**198**	P	**P**	**17 11 41.9**	**+1.0**
STKA	**Stephens Creek**	**27.29**	**198**	P	**P**	**17 11 40.4**	**-0.5**
	baz=27,SNR=7.5						
STKA	**Stephens Creek**	**27.29**	**198**	P	**P**	**17 11 41.9**	**+1.0**
	2.7nm,0.4s,baz=9.7,slow=9.1,SNR=10						
BATI	**Baumata**	**27.75**	**260**	P	**P**	**17 11 44.8**	**-0.4**
BATI	**Baumata**	**27.75**	**260**	P	**P**	**17 11 44.8**	**-0.4**
	9.6nm,0.6s,baz=117,slow=18,SNR=3.2						
FITZ	**Fitzroy Crossi**	**27.84**	**242**	P	**P**	**17 11 45.8**	**-0.2**
	13nm,1.1s						
FITZ	**Fitzroy Crossi**	**27.84**	**242**	P	**P**	**17 11 45.7**	**-0.2**
	baz=28,SNR=22						
FITZ	**Fitzroy Crossi**	**27.84**	**242**	P	**P**	**17 11 45.8**	**-0.2**
	4.6nm,0.6s,baz=56,slow=8.5,SNR=27						
FITZ				LR	LR	17 24 33.3	
	comp=Z,73nm,18.9s,baz=74,slow=40						
MBWA	**Marble Bar**	**34.14**	**241**	P	**P**	**17 12 40.8**	**-0.7**
	6.4nm,0.6s						
MEEK	**Meekatharra**	**37.34**	**233**	P	**P**	**17 13 08.7**	**-0.2**
	baz=38,SNR=5.2						
RPZ	**Rata Peaks**	**41.31**	**158**	LR	LR	17 28 23.0	
	comp=Z,211nm,18.2s,baz=0.5,slow=33						
CISI	**Cisompet, Garu**	**43.29**	**265**	P	**P**	**17 13 58.2**	**-0.1**
	baz=44,SNR=3.7						
CMAR	**Chiang Mai Arr**	**57.16**	**296**	P	**P**	**17 15 44.5**	**+1.2**
CMAR	**Chiang Mai Arr**	**57.16**	**296**	P	**P**	**17 15 44.5**	**+1.2**
	0.3nm,0.5s,baz=119,slow=5.2,SNR=3.7			

MTP	**Monte Pirata**	**1.01**	**200**	⇑	*e*P	**Pn**	17 16 10.4	**+0.5**
MTP	**Monte Pirata**	**1.01**	**200**		*e*S	**Sb**	17 16 22.9	**-0.1**
MTP	**Monte Pirata**	**1.01**	**200**	⇑	*e*P	**Pn**	17 16 10.4	**+0.5**
MTP					*e*S	**Sb**	17 16 22.9	**-0.1**
MTP	**Monte Pirata**	**1.01**	**200**	⇑	*e*P	**Pn**	17 16 10.4	**+0.5**
MTP					*e*S	**Sb**	17 16 22.9	**-0.1**
HUMP	**Col San Antoni**	**1.10**	**215**		*e*S	**Sb**	17 16 24.1	**-1.4**
HUMP	**Col San Antoni**	**1.10**	**215**		*e*S	**Sb**	17 16 24.1	**-1.4**
CPD	**Cerro la Pandu**	**1.22**	**214**		*e*S	**Sn**	17 16 28.0	**-0.5**
CPD	**Cerro la Pandu**	**1.22**	**214**		*e*S	**Sn**	17 16 28.0	**-0.5**
OBIP	**Obispado Ponce**	**1.67**	**233**		*e*S	**Sn**	17 16 39.9	**+0.1**
OBIP	**Obispado Ponce**	**1.67**	**233**		*e*S	**Sn**	17 16 39.9	**+0.1**

IDC 06 17:19:53.4±2.6, 14°26S×167°33E, h0km, mb4.0/6, mb1 4.2/7, mb1mx3.9/19, mbtmp4.0/7, ML4.0/1, MS3.3/2, Ms1 3.3/2, ms1mx2.9/37, Error ellipse: s-maj=65.9km s-min=29.3km az=102.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.81**	**186**	Pn	Pn	17 21 47.9	-0.7
	2.0nm,0.3s,baz=81,slow=22,SNR=14						
DZM				Sn	Sn	17 23 13.6	-4.3
	baz=323,slow=20,SNR=2.0						
HNR	**Honiara**	**8.67**	**303**	LR	LR	17 24 45.0	
	comp=Z,85nm,18.9s,baz=171,slow=34						
AFI	**Afiamalu**	**20.27**	**92**	LR	LR	17 30 40.3	
	comp=Z,199nm,18.4s,baz=267,slow=32						
STKA	**Stephens Creek**	**29.34**	**229**	P	P	17 25 59.0	+0.9
	4.7nm,0.6s,baz=32,slow=6.0,SNR=15						
WRA	**Warramunga Arr**	**32.00**	**255**	P	P	17 26 21.1	-0.6
	1.3nm,0.8s,baz=85,slow=9.6,SNR=8.3						
ASAR	**Alice Springs**	**32.89**	**248**	P	P	17 26 28.8	-0.8
	0.9nm,0.6s,baz=73,slow=9.6,SNR=20						
CMAR	**Chiang Mai Arr**	**74.81**	**294**	P	P	17 31 37.3	+1.1
	0.4nm,0.6s,baz=129,slow=5.0,SNR=6.8						
SONM	**Songino Array**	**82.15**	**324**	P	P	17 32 15.6	-0.7
	0.5nm,1.0s,baz=111,slow=3.6,SNR=4.0						
MKAR	**Makanchi Array**	**96.90**	**316**	P	P	17 33 26.3	-0.4
	0.4nm,0.9s,baz=85,slow=4.8,SNR=2.4						

*IDC **06** 17:22:49.5±0.7, 18°.88N×107°.57W, h0km, mb4.5/21, mb1 4.7/26, mb1mx4.6/33, mbtmp4.6/26, ML4.4/4, MS4.9/30, Ms1 4.9/30, ms1mx4.8/34, Error ellipse: s-maj=21.9km s-min=10.4km az=54.0*

*MEX **06** 17:22:50.3±0.3, 18°.69N×107°.68W, h33km±9km, MD5.2*

*NEIC **06** 17:22:50.9±0.3, 18°.80N×107°.53W, h10km, mb5.2/125, MS4.9/119, MW5.4, MD5.4(MEX), Error ellipse: s-maj=6.1km s-min=3.3km az=219.0, Moment Tensor Solution. s18 Moment tensor: Scale 10^17^Nm; Mrr=0.12; Mθθ=0.33; Mϕϕ=0.22; Mrθ=0.12; Mrϕ=-1.37; Mθϕ=-0.27; Best double couple: M0=1.40000×10^17^ NP1:ϕ8=95.00000°, δ=79.00000°, λ=173.00000°. NP2:ϕ8=186.00000°, δ=83.00000°, λ=11.00000°. Principal axes: T 1.4000, Plg12.0000°, Azm51.0000°; N 0.0600, Plg77.0000°, Azm217.0000°; P -1.4600, Plg2.0000°, Azm320.0000°;*

NEIC Felt at Jalisco.

*ISCJB **06** 17:22:53.6±0.7, 18°.81N±0°.03×107°.42W±0°.02, h47km±4km, mb5.0/123, MS4.9/160 Error ellipse: s-maj=5.9km s-min=2.7km az=28.5*

*MOS **06** 17:22:53.2±1.1, 18°.92N×107°.46W, h33km, mb5.4/32, MS4.7/15, Error ellipse: s-maj=9.5km s-min=4.6km az=95.9*

*GCMT **06** 17:22:54.3±0.1, 18°.98N×107°.62W, h16km, MW5.5, Moment Tensor Solution. s89,c158; s29,c31; Moment tensor: Scale 10^17^Nm; Mrr=0.36±.02; Mθθ=0.73±.02; Mϕϕ=0.37±.03; Mrθ=-0.40±.06; Mθϕ=-1.86±.02; Mrϕ=0.08±.07; Best double couple: M0=2.00000×10^17^ NP1:ϕ8=278.00000°, δ=86.00000°, λ=167.00000°. NP2:ϕ8=8.00000°, δ=77.00000°, λ=4.00000°. Principal axes: T 1.8200, Plg12.0000°, Azm232.0000°; N 0.3200, Plg77.0000°, Azm81.0000°; P -2.1500, Plg6.0000°, Azm324.0000°; Data Used: II IU CN IC G. Surface waves: sta=110, comp=222, per= 50.*

*BJI **06** 17:22:56.4, 18°.77N×108°.16W, h52km, mB5.6/11, mb5.6/4, Ms5.5/11, Ms7 5.3/14*

ISC 06 17:22:54.9±0.9, 18°.78N±0°.06×107°.51W±0°.05, h52km±6km, n870, σ1ϕ05/679, mb5.1/124, MS4.9/161, 239C-215D, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E1	**SOCORRO T-PHAS**	**3.23**	**271**	Pn	Pn	17 23 34.5	-8.7
H06E1				Sn	**Sn**	**17 24 14.8**	**-5.7**
	SNR=118						
H06E1				T	T	17 26 44.1	
	SNR=240						
H06S1	**SOCORRO T**	**3.27**	**270**	Pn	Pn	17 23 35.4	-8.1
H06S1				Sn	**Sn**	**17 24 17.4**	**-3.8**
H06S1				T	T	17 26 44.0	
	SNR=505						
H06S		**3.27**	**270**	*e*P	Pn	17 23 35.2	-8.4
H06S				*i* S	Sn	17 24 10.6	-11
H06N1	**SOCORRO T-PHAS**	**3.29**	**272**	Pn	Pn	17 23 37.9	-6.0
H06N1				Sn	**Sn**	**17 24 19.1**	**-2.7**
H06N1				T	T	17 26 45.5	
	SNR=306						
ANIG	**Ahuacatlan**	**3.61**	**51**	*e*P	**Pn**	**17 23 45.9**	**-2.6**
ANIG				*i* S	**Sn**	**17 24 28.1**	**-1.8**
ANIG	**Ahuacatlan**	**3.61**	**51**	*e*P	**Pn**	**17 23 45.9**	**-2.6**
ANIG				*i* S	**Sn**	**17 24 28.1**	**-1.8**
MMIG	**Aquila**	**3.98**	**96**	*e*P	Pn	17 23 49.6	-3.8
MMIG				*i* S	**Sn**	**17 24 36.4**	**-2.5**
MMIG	**Aquila**	**3.98**	**96**	*e*P	Pn	17 23 49.6	-3.8
MMIG				*i* S	**Sn**	**17 24 36.4**	**-2.5**
SFJM	**Santa Fe**	**4.54**	**67**	*e*P	Pn	17 24 03.4	+2.1
SFJM	**Santa Fe**	**4.54**	**67**	*e*P	Pn	17 24 03.4	+2.1
LPIG	**La Paz**	**5.90**	**334**	Pn	**Pn**	**17 24 17.9**	**-1.9**
LPIG				Sn	**Sn**	**17 25 27.3**	**+1.2**
LPIG	**La Paz**	**5.90**	**334**	Pn	**Pn**	**17 24 17.9**	**-1.9**
	6.6nm,0.3s,baz=163,slow=2.9,SNR=7.5						
LPIG				Sn	**Sn**	**17 25 27.3**	**+1.2**
	5.0nm,0.3s,baz=72,slow=6.4,SNR=1.5						
MOIG	**Morelia**	**6.04**	**80**	*i* P	**Pn**	**17 24 19.7**	**-2.2**
MOIG				*i* S	**Sn**	**17 25 28.8**	**-1.0**
MOIG	**Morelia**	**6.04**	**80**	*i* P	**Pn**	**17 24 19.7**	**-2.2**
MOIG				*i* S	**Sn**	**17 25 28.8**	**-1.0**
ZAIG	**Zacatecas**	**6.09**	**49**	*e*P	**Pn**	**17 24 20.3**	**-2.3**
ZAIG				*i* S	**Sn**	**17 25 30.7**	**-0.5**
ZAIG	**Zacatecas**	**6.09**	**49**	*e*P	**Pn**	**17 24 20.3**	**-2.3**
ZAIG				*i* S	**Sn**	**17 25 30.7**	**-0.5**
IGIG	**Irapuato, Guan**	**6.14**	**70**	*i* P	Pn	17 24 20.0	-3.3
IGIG				*i* S	**Sn**	**17 25 31.9**	**-0.5**
ARIG	**Puente Sto Nin**	**6.81**	**93**	*e*P	**Pn**	**17 24 30.4**	**-1.9**
ARIG				*i* S	**Sn**	**17 25 47.4**	**-1.2**
ACX	**Acapulco**	**7.53**	**103**	*i* P	Pn	17 24 47.8	+5.6
ACX	**Acapulco**	**7.53**	**103**	*i* P	Pn	17 24 47.8	+5.6
MEIG	**Mezcala**	**7.54**	**95**	*i* P	**Pn**	**17 24 40.3**	**-2.1**
MEIG				*i* S	**Sn**	**17 26 06.0**	**-0.6**
MEIG	**Mezcala**	**7.54**	**95**	*i* P	**Pn**	**17 24 40.3**	**-2.1**
MEIG				*i* S	**Sn**	**17 26 06.0**	**-0.6**
PLIG	**Platanillo**	**7.61**	**92**	*i* P	**Pn**	**17 24 40.9**	**-2.4**
PLIG				*i* S	**Sn**	**17 26 07.9**	**-0.2**
PLIG	**Platanillo**	**7.61**	**92**	*i* P	**Pn**	**17 24 40.9**	**-2.4**
PLIG				*i* S	**Sn**	**17 26 07.9**	**-0.2**
YAIG	**Yautepec**	**8.00**	**88**	*e*P	**Pn**	**17 24 46.8**	**-1.9**
YAIG				*e*S	**Sn**	**17 26 16.4**	**-1.5**
YAIG	**Yautepec**	**8.00**	**88**	*e*P	**Pn**	**17 24 46.8**	**-1.9**
YAIG				*e*S	**Sn**	**17 26 16.4**	**-1.5**
TXAR	**Lajitas Array**	**11.08**	**18**	Pn	**Pn**	**17 25 29.6**	**-1.1**
TXAR	**Lajitas Array**	**11.08**	**18**	Pn	**Pn**	**17 25 29.6**	**-1.1**
	0.8nm,0.3s,baz=196,slow=12,SNR=99						
626A	**Big Bend Ranch**	**11.16**	**15**	⇓P	Pn	17 25 32.9	+1.1
	baz=11,SNR=96						
627A	**Terlingua Ranc**	**11.27**	**19**	⇓P	**Pn**	**17 25 33.3**	**-0.1**
	baz=11,SNR=97						
HUIG	**Huatulco**	**11.29**	**104**	*i* P	Pn	17 25 34.9	+1.3
HUIG				*e*S	Sn	17 27 44.8	+6.3
HUIG	**Huatulco**	**11.29**	**104**	*i* P	Pn	17 25 34.9	+1.3
HUIG				*e*S	Sn	17 27 44.8	+6.3
628A	**Black Gap, Mar**	**11.46**	**21**	⇓P	**Pn**	**17 25 35.7**	**-0.2**
	baz=12,SNR=36						
628A				⇓S	**Sn**	**17 27 39.9**	**-2.7**
	baz=12						
526A	**Mary Lane Ranc**	**11.65**	**15**	⇓P	**Pn**	**17 25 39.0**	**+0.3**
	baz=12,SNR=148						
527A	**Woodward Ranch**	**11.86**	**17**	⇓P	**Pn**	**17 25 41.5**	**0.0**
	baz=12,SNR=148						
732A	**Laxson Ranch,**	**12.07**	**33**	⇑P	Pn	17 25 45.5	+1.3
	baz=12,SNR=31						
528A	**Cox Ranch, San**	**12.12**	**20**	⇑P	**Pn**	**17 25 44.8**	**-0.1**
	baz=12,SNR=14						
425A	**Indio Mountain**	**12.17**	**10**	⇓P	**Pn**	**17 25 45.9**	**+0.2**
	baz=12,SNR=139						
426A	**McDonald Obser**	**12.25**	**14**	P	**Pn**	**17 25 46.6**	**-0.2**
	baz=12,SNR=80						
529A	**Stev Forest Ra**	**12.28**	**22**	⇑P	**Pn**	**17 25 47.3**	**+0.2**
	baz=12,SNR=30						
631A	**Perdido Creek**	**12.33**	**30**	⇓P	**Pn**	**17 25 48.6**	**+0.8**
	baz=12,SNR=127						
KVTX	**Kingsville**	**12.42**	**44**	*e*Pn	Pn	17 25 50.9	+2.0
	1μm,1.9s						
427A	**Hayter Ranch,**	**12.58**	**16**	⇑P	**Pn**	**17 25 51.5**	**+0.3**
	baz=13,SNR=40						
530A	**J-C Ranch, Com**	**12.63**	**25**	⇑P	Pn	17 25 53.2	+1.3
	baz=13,SNR=59						
319A	**Douglas**	**12.64**	**353**	⇑P	Pn	17 25 53.2	+1.1
	baz=13,SNR=22						
428A	**Kincaid Ranch,**	**12.67**	**19**	⇓P	Pn	17 25 53.4	+0.9
	baz=13,SNR=23						
324A	**Moseley Ranch,**	**12.74**	**8**	P	Pn	17 25 54.1	+0.6
	baz=13,SNR=42						
325A	**Bean Ranch, Si**	**12.75**	**10**	⇑P	Pn	17 25 53.9	+0.4
	baz=13,SNR=37						
632A	**Uvalde**	**12.79**	**32**	⇓P	Pn	17 25 55.4	+1.4
	baz=13,SNR=179						
429A	**Davenport Ranc**	**12.85**	**22**	⇑P	Pn	17 25 56.0	+1.1
	baz=13,SNR=25						
326A	**Caldwell Ranch**	**12.88**	**14**	⇓P	Pn	17 25 55.9	+0.5
	baz=13,SNR=40						
MNTX	**Cornudas Mount**	**13.01**	**8**	*e*Pn	**Pn**	**17 25 56.8**	**-0.2**
	61nm,1.2s						
327A	**Balmorhea Ranc**	**13.05**	**15**	⇑P	Pn	17 25 58.3	+0.6
	baz=13						
220A	**Playas Peak, P**	**13.10**	**356**	⇓P	Pn	17 25 59.7	+1.3
	baz=13,SNR=57						
221A	**Mesquite Ranch**	**13.18**	**359**	⇓P	**Pn**	**17 26 01.3**	**+1.9**
	baz=13,SNR=26						
223A	**Chaparral, Ant**	**13.21**	**4**	⇑P	Pn	17 26 01.2	+1.4
	baz=13						
430A	**Baggett Ranch,**	**13.24**	**24**	⇑P	Pn	17 26 01.9	+1.7
	baz=13,SNR=61						
532A	**Rocksprings**	**13.24**	**30**	⇓P	Pn	17 26 01.8	+1.5
	baz=13,SNR=193						
328A	**Wristen Ranch,**	**13.25**	**18**	⇑P	**Pn**	**17 26 00.3**	**0.0**
	baz=13,SNR=19						
222A	**Williams Famil**	**13.27**	**2**	⇓P	**Pn**	**17 26 02.3**	**+1.6**
	baz=13,SNR=26						
224A	**Cornudas Mount**	**13.36**	**7**	P	Pn	17 26 02.5	+0.6
	baz=13,SNR=67						
431A	**Sonora**	**13.40**	**27**	⇓P	Pn	17 26 04.1	+1.6
	baz=13,SNR=72						
225A	**Deer Hill, Car**	**13.49**	**10**	⇑P	Pn	17 26 04.3	+0.5
	baz=14,SNR=16						
226B	**Tecolote Peak,**	**13.58**	**12**	⇑P	Pn	17 26 05.7	+0.8
	baz=14,SNR=54						
JCT	**Junction City**	**13.59**	**30**	⇑ *e*P	**Pn**	**17 26 05.8**	**+0.8**
JCT				pmax	pmax		
	comp=Z,1μm,1.8s						
JCT	**Junction City**	**13.59**	**30**	⇑ *e*Pn	**Pn**	**17 26 05.8**	**+0.8**
	comp=Z,1μm,1.8s						
JCT	**Junction City**	**13.59**	**30**	⇓P	Pn	17 26 06.0	+1.0
	baz=14,SNR=85						
329A	**Wagon Wheel Ra**	**13.60**	**20**	⇑P	**Pn**	**17 26 05.8**	**+0.6**
	baz=14						
GDL2	**Guadalupe Moun**	**13.66**	**11**	*e*Pn	Pn	17 26 06.8	+0.8
	comp=Z,69nm,1.4s						
121A	**Cookes Peak, D**	**13.70**	**359**	⇓P	**Pn**	**17 26 08.2**	**+1.6**
	baz=14,SNR=28						
227A	**Bennet, Jal**	**13.71**	**15**	⇑P	**Pn**	**17 26 07.1**	**+0.4**
	baz=14						
120A	**U Bar Ranch, L**	**13.75**	**356**	⇑P	**Pn**	**17 26 08.0**	**+0.8**
	baz=14,SNR=29						
TUC	**Tucson**	**13.79**	**348**	*e*P	Pn	17 26 07.4	-0.4
TUC				pmax	pmax		
	comp=Z,272nm,1.8s						
TUC	**Tucson**	**13.79**	**348**	*e*Pn	Pn	17 26 07.4	-0.4
	comp=Z,272nm,1.8s						
330A	**Mertzon**	**13.81**	**23**	⇓P	Pn	17 26 08.8	+0.7
	baz=14,SNR=24						
123A	**Bell Site, Whi**	**13.84**	**4**	⇓P	**Pn**	**17 26 09.5**	**+1.1**
	baz=14,SNR=8.1						
432A	**Menard**	**13.93**	**29**	⇓P	**Pn**	**17 26 10.3**	**+0.7**
	baz=14,SNR=69						
214A	**Organ Pipe Nat**	**13.96**	**341**	⇑P	Pn	17 26 09.4	-0.6
	baz=14,SNR=24						
124A	**Stringfield Ra**	**13.98**	**7**	P	**Pn**	**17 26 11.6**	**+1.1**
	baz=14,SNR=69						
228A	**UT Block 9, Go**	**14.00**	**18**	P	**Pn**	**17 26 10.9**	**+0.3**
	baz=14,SNR=14						
331A	**San Angelo**	**14.02**	**26**	⇓P	Pn	17 26 11.8	+1.0
	baz=14,SNR=27						
125A	**Gardner Draw,**	**14.06**	**10**	⇑P	Pn	17 26 12.0	+0.6
	baz=14,SNR=30						
229A	**Bryant Ranch,**	**14.10**	**20**	⇓P	**Pn**	**17 26 12.2**	**+0.3**
	baz=14						
126A	**Clayton Basin,**	**14.16**	**12**	⇓P	Pn	17 26 13.3	+0.6
	baz=14,SNR=10						
230A	**Sterling City**	**14.27**	**23**	⇓P	**Pn**	**17 26 14.9**	**+0.7**
	baz=14						
Z20A	**Nine Sixteen R**	**14.31**	**356**	⇑P	**Pn**	**17 26 16.0**	**+1.2**
	baz=14,SNR=29						
127A	**Arkansas Junct**	**14.33**	**14**	⇑P	**Pn**	**17 26 15.0**	**-0.1**
	baz=14,SNR=6.9						
332A	**Millersview**	**14.38**	**28**	P	**Pn**	**17 26 16.4**	**+0.8**
	baz=14,SNR=39						
Z22A	**Elephant Butte**	**14.43**	**2**	⇑P	**Pn**	**17 26 17.7**	**+1.4**
	baz=14,SNR=71						
Z23A	**Rita Site, Whi**	**14.47**	**4**	⇓P	**Pn**	**17 26 18.0**	**+1.1**
	baz=14,SNR=15						
Z21A	**St. Cloud Mine**	**14.47**	**359**	⇑P	**Pn**	**17 26 17.6**	**+0.7**
	baz=14,SNR=12						
128A	**Castleberry Fa**	**14.51**	**17**	P	**Pn**	**17 26 17.3**	**0.0**
	baz=14,SNR=28						
231A	**Bronte**	**14.62**	**25**	⇑P	**Pn**	**17 26 18.8**	**+0.1**
	baz=15,SNR=13						
Z24A	**Sheeppen Canyo**	**14.62**	**7**	⇓P	**Pn**	**17 26 19.1**	**+0.3**
	baz=15,SNR=38						
Z25A	**Roswell**	**14.66**	**9**	⇑P	**Pn**	**17 26 19.5**	**+0.2**
	baz=15,SNR=19						
129A	**Stewart Farms,**	**14.70**	**19**	⇑P	**Pn**	**17 26 19.8**	**0.0**
	baz=15,SNR=12						
Z26A	**Caprock**	**14.78**	**12**	P	**Pn**	**17 26 20.8**	**0.0**
	baz=15,SNR=20						
232A	**Coleman**	**14.85**	**27**	⇓P	**Pn**	**17 26 21.5**	**-0.3**
	baz=15,SNR=36						
130A	**Snyder**	**14.96**	**22**	P	**Pn**	**17 26 23.6**	**+0.3**
	baz=15,SNR=9.2						
Z27A	**Tatum**	**14.98**	**14**	P	**Pn**	**17 26 23.2**	**-0.3**
	baz=15,SNR=84						
113A	**Mohawk Valley,**	**15.02**	**339**	⇑P	**Pn**	**17 26 24.2**	**+0.3**
	baz=15,SNR=14						
Y20A	**Horse Springs,**	**15.09**	**357**	⇓P	**Pn**	**17 26 25.7**	**+0.7**
	baz=15,SNR=22						
Y22A	**Socorro**	**15.10**	**2**	P	**Pn**	**17 26 26.4**	**+1.2**
	baz=15,SNR=27						
Y23A	**Lovelace Mesa,**	**15.15**	**5**	⇑P	**Pn**	**17 26 27.0**	**+1.2**
	baz=15,SNR=21						
Z28A	**Tucker Farm, M**	**15.16**	**17**	⇑P	**Pn**	**17 26 25.4**	**-0.5**
	baz=15,SNR=25						
Y21A	**Point of Rocks**	**15.17**	**359**	⇓P	**Pn**	**17 26 27.1**	**+1.0**
	baz=15,SNR=27						
Y24A	**Capitan**	**15.20**	**7**	⇑P	**Pn**	**17 26 27.1**	**+0.7**
	baz=15,SNR=29						
Y22D	**IRIS PASSCAL I**	**15.24**	**2**	⇑P	**Pn**	**17 26 28.4**	**+1.4**
	baz=15						
131A	**Roby**	**15.24**	**23**	⇓P	**Pn**	**17 26 26.7**	**-0.2**
	baz=15,SNR=56						
Y25A	**Mesa, Roswell**	**15.29**	**9**	⇑P	**Pn**	**17 26 28.1**	**+0.6**
	baz=15,SNR=48						
Z14A	**Wintersburg**	**15.32**	**343**	⇑P	**Pn**	**17 26 28.1**	**+0.3**
	baz=15						
BNM	**Barren Site**	**15.33**	**3**	⇑ *e*Pn	**Pn**	**17 26 28.0**	**-0.1**
	comp=Z,104nm,1.2s						
Z29A	**Hungry Hill Ra**	**15.33**	**19**	P	**Pn**	**17 26 27.4**	**-0.6**
	baz=15,SNR=18						
HKT	**Hockley**	**15.38**	**41**	⇑ *e*P	**Pn**	**17 26 26.7**	**-1.8**
HKT				pmax	pmax		
	comp=Z,1μm,1.8s						
HKT	**Hockley**	**15.38**	**41**	⇑ *e*Pn	**Pn**	**17 26 26.7**	**-1.8**
	comp=Z,1μm,1.8s						
Y26A	**Elida**	**15.44**	**12**	⇓P	**Pn**	**17 26 29.1**	**-0.3**
	baz=16,SNR=24						
LPM	**Los Pinos Moun**	**15.49**	**3**	*e*Pn	**Pn**	**17 26 30.8**	**+0.6**
	comp=Z,36nm,1.0s						
ABTX	**Abilene, Hawle**	**15.49**	**26**	⇑ *e*Pn	**Pn**	**17 26 28.6**	**-1.5**
	baz=16,SNR=13						
Y27A	**Causey**	**15.54**	**14**	⇓P	**Pn**	**17 26 30.5**	**-0.3**
	baz=16,SNR=85						
Z30A	**Sanderson Ranc**	**15.54**	**20**	P	**Pn**	**17 26 30.1**	**-0.6**
	baz=16,SNR=40						
LAZ	**Ladron**	**15.56**	**1**	*e*Pn	**Pn**	**17 26 32.2**	**+1.1**
	comp=Z,36nm,1.2s						
X21A	**Alamocita Cree**	**15.61**	**359**	⇑P	**Pn**	**17 26 32.8**	**+1.1**
	baz=16,SNR=58						
GLA	**Glamis**	**15.65**	**337**	⇓ *e*P	**Pn**	**17 26 32.1**	**-0.1**
GLA				pmax	pmax		
	comp=Z,461nm,1.5s						
GLA	**Glamis**	**15.65**	**337**	⇓ *e*Pn	**Pn**	**17 26 32.1**	**-0.1**
	comp=Z,461nm,1.5s						
GLA	**Glamis**	**15.65**	**337**	⇓P	**Pn**	**17 26 32.2**	**+0.1**
	baz=16,SNR=57						
X22A	**Bernardo**	**15.67**	**2**	⇑P	**Pn**	**17 26 32.8**	**+0.3**
	baz=16						
MSTX	**Muleshoe**	**15.71**	**15**	⇑ *i*Pn	**Pn**	**17 26 32.0**	**-0.9**
MSTX	**Muleshoe**	**15.71**	**15**	⇑P	**Pn**	**17 26 32.4**	**-0.5**
	baz=16,SNR=110						
X20A	**Quemado**	**15.72**	**357**	⇑P	**Pn**	**17 26 33.2**	**0.0**
	baz=16,SNR=16						
X23A	**Hourglass Bar**	**15.78**	**4**	⇓P	**Pn**	**17 26 34.2**	**+0.2**
	baz=16,SNR=23						
Y28A	**McKinney Farm,**	**15.78**	**16**	⇑P	**Pn**	**17 26 33.2**	**-0.7**
	baz=16,SNR=57						
DVTC	**Desert V Tower**	**15.83**	**332**	⇓P	**Pn**	**17 26 34.9**	**+0.5**
	baz=16,SNR=19						
X24A	**Lazy VL Ranch,**	**15.83**	**6**	⇑P	**Pn**	**17 26 34.8**	**+0.2**
	baz=16						
X18A	**Snowflake**	**15.84**	**353**	⇑P	**Pn**	**17 26 35.3**	**+0.7**
	baz=16,SNR=21						
Y14A	**Wickenburg**	**15.87**	**343**	P	**Pn**	**17 26 35.5**	**+0.6**
	baz=16,SNR=30						
X25A	**Clemens Ranch**	**15.89**	**9**	⇓P	**Pn**	**17 26 35.2**	**0.0**
	baz=16,SNR=6.5						
Y29A	**Porterfield Fa**	**15.90**	**18**	⇓P	**Pn**	**17 26 34.7**	**-0.6**
	baz=16,SNR=15						
Z31A	**Sharp Cattle R**	**15.91**	**23**	⇓P	**Pn**	**17 26 34.5**	**-0.9**
	baz=16,SNR=48						
SWSC	**Sam W. Stewart**	**15.94**	**334**	⇑P	**Pn**	**17 26 35.8**	**0.0**
	baz=16,SNR=47						
X16A	**Lo Mia Camp, P**	**15.96**	**348**	⇑P	**Pn**	**17 26 36.0**	**-0.2**
	baz=16,SNR=25						
WHTX	**Lake Whitney**	**15.97**	**33**	⇑ *i*Pn	**Pn**	**17 26 35.4**	**-0.8**
WHTX	**Lake Whitney**	**15.97**	**33**	⇓P	**Pn**	**17 26 35.7**	**-0.5**
	baz=16,SNR=37						
X26A	**CR and CF Fran**	**16.05**	**11**	⇓P	**Pn**	**17 26 37.2**	**-0.1**
	baz=16,SNR=42						
BAR	**Barrett**	**16.10**	**331**	⇓ *e*Pn	**Pn**	**17 26 37.1**	**-0.8**
	comp=Z,428nm,1.6s						
ANMO	**Albuquerque**	**16.13**	**3**	Pn	**Pn**	**17 26 39.0**	**+0.6**
ANMO	**Albuquerque**	**16.13**	**3**	Pn	**Pn**	**17 26 39.0**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=181,slow=6.3,SNR=14						
ANMO				LR	LR	17 33 28.3	
	comp=Z,716nm,21.7s,baz=191,slow=40						
Y30A	**Stafford Cattl**	**16.15**	**20**	⇑P	**Pn**	**17 26 37.8**	**-0.7**
	baz=16,SNR=12						
Z32A	**Haskell**	**16.16**	**25**	⇑P	**Pn**	**17 26 37.6**	**-0.9**
	baz=16,SNR=68						
MONP	**Monument Peak**	**16.17**	**332**	⇓P	**Pn**	**17 26 38.8**	**0.0**
	baz=16,SNR=48						
Y12C	**Blythe**	**16.17**	**339**	⇑P	**Pn**	**17 26 39.5**	**+0.8**
	baz=16,SNR=20						
W22A	**Albuquerque**	**16.24**	**2**	⇓P	**Pn**	**17 26 39.3**	**-0.4**
	baz=16						
W21A	**San Fidel**	**16.27**	**360**	⇓P	**Pn**	**17 26 39.5**	**-0.7**
	baz=16						
X27A	**F and S Farms,**	**16.29**	**13**	⇑P	**Pn**	**17 26 39.2**	**-1.0**
	baz=16,SNR=6.2						
W20A	**Ramah**	**16.31**	**357**	⇓P	**Pn**	**17 26 40.1**	**-0.5**
	baz=16,SNR=29						
W23A	**Werner Place,**	**16.36**	**4**	⇑P	**Pn**	**17 26 41.7**	**+0.4**
	baz=16,SNR=24						
X28A	**Dimmitt**	**16.37**	**16**	⇓P	**Pn**	**17 26 40.8**	**-0.5**
	baz=16,SNR=5.5						
W18A	**Petrified Fore**	**16.39**	**354**	⇓ *i*Pn	**Pn**	**17 26 42.3**	**+0.6**
W18A	**Petrified Fore**	**16.39**	**354**	⇑P	**Pn**	**17 26 42.4**	**+0.7**
	baz=16,SNR=6.3						
BC3	**Big Chuckawall**	**16.43**	**336**	P	**P

U20A **Newcomb** 17.55 357 ⇑P Pn 17 26 56.8 +0.7
baz=18
BBRC **Big Bear Solar** 17.55 333 ⇓P P 17 26 57.4 +0.7
baz=18
LDFC **Landfair** 17.58 339 ⇓*i*Pn P 17 26 58.5 +1.7
comp=Z,412nm,1.4s
U21A **Nageezi** 17.58 360 ⇑P Pn 17 26 56.7 +0.2
baz=18,SNR=29
W31A **Holland Ranch,** 17.67 21 ⇓P Pn 17 26 56.9 -0.4
baz=18,SNR=12
U24A **Moreno Valley** 17.67 6 ⇓P Pn 17 26 57.9 +0.3
baz=18
WMOK **Wichita Mounta** 17.69 24⇑*i*P Pn 17 26 55.9 -1.7
WMOK pmax pmax
comp=Z,101nm,1.3s
WMOK **Wichita Mounta** 17.69 24⇑*i*Pn Pn 17 26 55.9 -1.7
comp=Z,100nm,1.3s
FMP **Fort Macarthur** 17.72 329 ⇑P P 17 26 58.6 +0.4
baz=18
U25A **Circle Dot Ran** 17.77 8 ⇑P Pn 17 26 59.2 +0.5
baz=18,SNR=42
HEC **Hector,Ludlow** 17.80 336 ⇑P P 17 26 59.9 +0.7
baz=18,SNR=23
V29A **Stinnett** 17.83 16 ⇑P Pn 17 26 59.5 +0.1
baz=18
BFSC **Mount Baldy Ra** 17.86 332 ⇓P P 17 27 00.5 +0.7
baz=18,SNR=22
U26A **Atchley Ranch,** 17.86 10 ⇑P Pn 17 26 59.3 -0.5
baz=18,SNR=15
V30A **Spur Ranch, Mi** 17.96 18 ⇓P Pn 17 27 00.5 -0.5
baz=18
MWC **Mount Wilson** 18.03 331 ⇓*i*P P 17 27 02.3 +0.5
MWC pmax pmax
comp=Z,1µm,2.2s
MWC **Mount Wilson** 18.03 331 ⇓*i*Pn P 17 27 02.3 +0.5
comp=Z,1µm,2.2s
U27A **Thompson Grove** 18.05 12 ⇑P P 17 27 02.3 +0.2
baz=18,SNR=25
U15A **North Rim** 18.08 347 ⇓P Pn 17 27 03.8 +1.2
baz=18,SNR=26
RRX **Edison Barstow** 18.12 334 ⇓P Pn 17 27 03.9 +1.1
baz=18
U28A **Mallet** 18.14 14 ⇓P P 17 27 03.3 +0.3
baz=18
T21A **Navajo Lake** 18.14 360 ⇑P Pn 17 27 04.9 +1.6
baz=18,SNR=7.2
T22A **Edith** 18.17 2 ⇑P Pn 17 27 05.7 +1.9
baz=18,SNR=35
DECC **Green Verdugo** 18.18 330 ⇑P Pn 17 27 04.5 +1.0
baz=18
TUQ **Turquoise Moun** 18.19 337 ⇑P Pn 17 27 05.1 +1.3
baz=18
TEIG **Tepich** 18.19 82 *e*Pn Pn 17 27 03.9 +0.2
comp=Z,448nm,1.8s
TEIG **Tepich** 18.19 82 P Pn 17 27 04.4 +0.6
comp=Z,1.6nm,0.3s,baz=274,slow=13,SNR=8.3
T23A **Casias Ranch,** 18.23 4 ⇑P Pn 17 27 05.0 +0.5
baz=18
V31A **Spring Creek L** 18.24 20 P P 17 27 04.6 +0.6
baz=18,SNR=19
T24B **San Luis** 18.31 5 ⇓P Pn 17 27 05.8 +0.4
baz=18,SNR=19
MVCO **Mesa Verde** 18.38 357⇓*e*Pn Pn 17 27 06.7 +0.5
comp=Z,108nm,1.3s
MVCO **Mesa Verde** 18.38 357 ⇑P Pn 17 27 06.9 +0.6
baz=18,SNR=13
GSC **Goldstone** 18.40 335⇑*e*P Pn 17 27 06.8 +0.4
GSC pmax pmax
comp=Z,704nm,2.1s
GSC **Goldstone** 18.40 335⇑*e*Pn Pn 17 27 06.8 +0.4
comp=Z,704nm,2.1s
GSC **Goldstone** 18.40 335 ⇑P Pn 17 27 07.3 +1.0
baz=18
BLG **Laguna Peak** 18.42 328 ⇑P Pn 17 27 06.8 +0.3
baz=18
U29A **Oasis Ranch, S** 18.44 16 ⇓P P 17 27 06.5 +0.2
baz=18
T25A **Trinidad** 18.49 8 ⇓P P 17 27 07.3 +0.4
baz=18,SNR=16
EDW2 **Edwards Air Fo** 18.54 332 ⇓P P 17 27 08.0 +0.6
baz=19,SNR=7.0
OSI **Osito Adit** 18.66 330⇓*e*Pn Pn 17 27 09.4 0.0
comp=Z,194nm,1.4s
OSI **Osito Adit** 18.66 330 ⇑P Pn 17 27 09.6 +0.1
baz=19
U30A **WK&E Inc. Balk** 18.69 17 ⇓P P 17 27 09.6 +0.7
baz=19
T27A **Campo** 18.69 12 ⇑P P 17 27 10.0 +1.0
baz=19,SNR=73
SHOC **Shoshone** 18.73 337 ⇑P Pn 17 27 11.0 +0.7
baz=19
U31A **Nine Bar Ranch** 18.78 20 ⇑P P 17 27 09.4 -0.5
baz=19
S21A **Coal Bank Pass** 18.82 359 ⇑P Pn 17 27 11.7 +0.2
baz=19,SNR=62
T28A **Walsh** 18.88 13 ⇓P P 17 27 11.4 +0.4
baz=19,SNR=11
S24A **Houchin Ranch,** 18.90 6 ⇓P Pn 17 27 12.7 +0.1
baz=19,SNR=16
SHPR **Sheep Range** 18.90 341 *e*P P 17 27 11.8 +0.5
comp=Z,147nm,1.5s
S23A **Nye Farm, Mont** 18.90 4 ⇓P Pn 17 27 12.7 +0.2
baz=19
S22A **4UR Ranch, Cre** 18.91 2 P Pn 17 27 13.5 +0.9
baz=19,SNR=31
LRMC **Laurel Mountai** 18.92 334 ⇑P P 17 27 11.9 +0.4
baz=19,SNR=21
SDCO **Great Sand Dun** 18.98 5 *e*P P 17 27 13.3 +0.9
comp=Z,47nm,1.1s
S20A **Disappointment** 19.00 358 ⇑P Pn 17 27 14.1 +0.5
baz=19,SNR=47
S25A **Robets Cordova** 19.00 8 ⇑P P 17 27 13.4 +0.9
baz=19,SNR=16
SBC **Santa Barbara** 19.01 328 ⇓P P 17 27 12.6 +0.2
baz=19
S26A **Kim** 19.10 10 ⇓P P 17 27 13.5 -0.1
baz=19,SNR=38
T29A **Hugoton** 19.10 15 ⇑P P 17 27 13.5 0.0
baz=19
ARVC **Arvin** 19.13 331 ⇑P Pn 17 27 14.7 -0.3
baz=19
T30A **Plains** 19.21 17 ⇓P P 17 27 14.4 -0.3
baz=19,SNR=5.2
S27A **Las Animas** 19.26 11 ⇑P P 17 27 15.2 -0.1
baz=19,SNR=24
PV01 **Paradox Valley** 19.31 357 *e*P P 17 27 14.4 -1.5
comp=Z,3µm,1.2s
MPMC **Manual Prospec** 19.34 335 ⇓P P 17 27 17.2 +1.0
baz=19,SNR=24
R20A **Redvale** 19.35 358 ⇓P Pn 17 27 18.0 +0.2
baz=19,SNR=21
S28A **Manter** 19.38 14 ⇓P P 17 27 16.5 0.0
baz=19,SNR=9.9
CCUT **Cedar City** 19.39 346 *e*P Pn 17 27 18.1 -0.3
comp=Z,152nm,1.7s
R22A **Saguache, Gunn** 19.39 2 ⇑P P 17 27 18.1 +1.2
baz=19,SNR=42
R23A **Moffat** 19.40 4 ⇑P P 17 27 17.2 +0.2
baz=20
ISA **Isabella** 19.41 332 ⇑P P 17 27 17.7 +0.8
baz=19,SNR=11
PKM **Peak Mountain** 19.42 328 ⇑P P 17 27 17.7 +0.6
baz=19,SNR=37
FURC **Furnace Creek,** 19.45 337 ⇑P P 17 27 18.0 +0.8
baz=20
R24A **Sanders Place,** 19.50 6 ⇑P P 17 27 19.2 +1.3
baz=20,SNR=10
R25A **Fountain Ranch** 19.50 8 ⇓P Pn 17 27 19.7 +0.2
baz=20,SNR=55
T31A **Randall Ranch,** 19.50 19 P P 17 27 18.5 +0.7
baz=20,SNR=10
R21A **Cimarron** 19.52 360 ⇑P P 17 27 18.7 +0.5
baz=20,SNR=19
S29A **Ulysses** 19.59 15 ⇑P P 17 27 18.5 -0.3
baz=20,SNR=9.1
ARUT **Antelope Range** 19.64 346 *e*P Pn 17 27 21.1 -0.1
ARUT pmax pmax
comp=Z,2µm,1.4s
ARUT **Antelope Range** 19.64 346 *e*P Pn 17 27 21.1 -0.1
comp=Z,2µm,1.4s
R26A **Arlington** 19.77 9 ⇓P P 17 27 21.7 +0.8
baz=20,SNR=70
S30A **Montezuma** 19.78 17 ⇓P P 17 27 20.8 0.0
baz=20,SNR=10
VES **Vestal, Richgr** 19.84 331 ⇓P P 17 27 22.3 +0.9
baz=20,SNR=27
SMMC **Simmler** 19.84 329 ⇓P P 17 27 22.4 +0.9
baz=20

R27A **Eads** 19.87 11 ⇑P P 17 27 22.7 +0.8
baz=20,SNR=52
CWC **Cottonwood Cre** 19.91 334 ⇑P Pn 17 27 23.8 -0.5
baz=20
TUL1 **Tulsa** 19.96 29⇑*i*P P 17 27 22.5 -0.3
TUL1 **Tulsa** 19.96 29 P P 17 27 22.9 +0.2
baz=20,SNR=11
TGUH **Tegucigalpa,Un** 19.97 101⇑*e*P Pn 17 27 26.5 +1.4
comp=Z,704nm,1.6s
Q21A **Lamborn Mesa,** 19.98 360 ⇑P P 17 27 24.6 +1.4
baz=20,SNR=18
Q22A **Crested Butte,** 20.02 1 ⇓P P 17 27 24.6 +0.9
baz=20
S31A **Mullinville** 20.04 19 ⇑P P 17 27 23.8 +0.1
baz=20,SNR=8.7
MVU **Marysvale** 20.08 349 *e*P Pn 17 27 26.6 +0.1
comp=Z,64nm,1.4s
Q23A **Hartsel** 20.11 4 ⇑P P 17 27 25.4 +0.7
baz=20,SNR=15
Q20A **Ridgley Place,** 20.11 358 ⇓P P 17 27 26.1 +1.5
baz=20,SNR=15
R28A **Tribune** 20.12 13 P P 17 27 25.0 +0.5
baz=20,SNR=31
Q24A **Divide** 20.22 5 ⇑P P 17 27 26.5 +0.6
baz=20,SNR=10
Q25A **Bedland, Calha** 20.26 7 ⇓P P 17 27 26.5 +0.3
baz=20,SNR=16
RCTC **Rector, Farmer** 20.29 332 ⇓P P 17 27 27.1 +0.8
baz=20
VBMS **Vicksburg** 20.32 46⇑*i*P P 17 27 27.6 +1.0
comp=Z,1µm,1.9s
VBMS LR LR
comp=Z,3µm,21.0s
Q16A **Castle Valley** 20.32 352⇑*i*P Pn 17 27 28.8 -0.5
Q16A **Castle Valley** 20.32 352 ⇓P P 17 27 27.1 +0.3
baz=20,SNR=14
SMCO **Snowmass** 20.33 1⇓*e*P P 17 27 28.8 +1.6
comp=Z,47nm,1.1s
R29A **Marienthal** 20.35 15 ⇑P P 17 27 27.0 0.0
baz=20,SNR=13
Q26A **Hugo** 20.37 9 ⇓P P 17 27 28.0 +0.7
baz=20,SNR=14
SRU **San Rafael** 20.43 353⇑*i*P P 17 27 29.6 +1.6
SRU pmax pmax
comp=Z,53nm,1.2s
SRU **San Rafael** 20.43 353⇑*i*P P 17 27 29.6 +1.6
comp=Z,52nm,1.2s
R30A **Dighton** 20.43 16 ⇓P P 17 27 27.8 -0.1
baz=20,SNR=16
TIN **Tinemaha** 20.49 335 ⇓P P 17 27 29.9 +1.2
baz=20
P23A **Jefferson** 20.57 4 ⇓P P 17 27 30.6 +0.8
baz=21,SNR=28
KSCO **Kaye Shedlock'** 20.60 11⇑*e*P P 17 27 30.4 +0.6
KSCO **Kaye Shedlock'** 20.60 11 ⇑P P 17 27 30.6 +0.8
baz=21,SNR=23
R31A **Burdett** 20.65 18 ⇑P P 17 27 31.0 +0.7
baz=21,SNR=8.3
P20A **De Beque** 20.66 358 ⇓P P 17 27 31.5 +0.9
baz=21
P21A **Newcastle** 20.67 0 ⇑P P 17 27 31.4 +0.7
baz=21,SNR=37
TMUT **Trail Mountain** 20.70 352 *e*P P 17 27 32.4 +1.3
comp=Z,327nm,1.9s
R11A **Troy Canyon, C** 20.73 342⇓*i*P P 17 27 32.2 +0.9
R11A **Troy Canyon, C** 20.73 342 P P 17 27 32.4 +1.1
baz=21,SNR=45
P22A **Eagle** 20.75 2 ⇓P P 17 27 32.1 +0.5
baz=21,SNR=11
P24A **Kohler Place,** 20.79 6 ⇑P P 17 27 32.8 +0.9
baz=21
Q28A **Sharon Springs** 20.80 13 ⇓P P 17 27 32.2 +0.2
baz=21,SNR=19
P19A **Cripple Cowboy** 20.82 357 ⇓P P 17 27 32.9 +0.6
baz=21,SNR=18
Q29A **Oakley** 20.83 14 ⇑P P 17 27 32.1 -0.1
baz=21,SNR=26
P25A **Willow Gulch B** 20.86 7 ⇓P P 17 27 33.2 +0.5
baz=21,SNR=7.9
ISCO **Idaho Springs** 21.01 4⇑*i*P P 17 27 35.3 +0.8
ISCO pmax pmax
comp=Z,50nm,1.1s
ISCO MLR MLR
comp=Z,8µm,21.0s
ISCO **Idaho Springs** 21.01 4⇑*i*P P 17 27 35.3 +0.8
comp=Z,50nm,1.1s
ISCO LR LR
comp=Z,8µm,21.0s
ISCO **Idaho Springs** 21.01 4 ⇓P P 17 27 35.6 +1.1
baz=21,SNR=22
P26A **Davis Ranch, A** 21.02 9 ⇓P P 17 27 34.7 +0.3
baz=21
Q30A **Quinter** 21.10 16 ⇓P P 17 27 35.3 +0.2
baz=21,SNR=12
P27A **Ficken Ranch,** 21.14 11 ⇑P P 17 27 35.4 -0.2
baz=21
MLAC **Mammoth Lakes** 21.23 335 ⇑P P 17 27 37.9 +1.1
baz=21
O20A **White River Ci** 21.29 358⇓*e*P P 17 27 39.0 +1.6
O20A **White River Ci** 21.29 358 ⇓P P 17 27 38.9 +1.6
baz=21,SNR=19
P28A **Saint Francis** 21.31 12 ⇑P P 17 27 37.9 +0.5
baz=21,SNR=16
O22A **Kremmling** 21.33 2 ⇑P P 17 27 38.5 +0.7
baz=21,SNR=48
Q31A **Ellis** 21.35 18 ⇑P P 17 27 37.6 -0.2
baz=21,SNR=15
O21A **Pagoda** 21.36 0 ⇑P P 17 27 38.9 +0.8
baz=21,SNR=8.4
O24A **Longmont** 21.37 5 ⇑P P 17 27 38.4 +0.3
baz=21
MPU **Maple Canyon** 21.46 351 *e*P P 17 27 40.5 +1.4
comp=Z,83nm,1.3s
O25A **Wiggins** 21.46 7 ⇑P P 17 27 39.5 +0.4
baz=22
NLU **North Lily Min** 21.47 350 *e*P P 17 27 40.5 +1.2
comp=Z,49nm,1.1s
P29A **Atwood** 21.52 14 ⇓P P 17 27 39.3 -0.3
baz=22,SNR=14
P30A **Selden** 21.63 15 ⇑P P 17 27 40.4 -0.3
baz=22,SNR=17
O26A **Horse Wrangler** 21.69 9 ⇓P P 17 27 41.9 +0.4
baz=22,SNR=11
SAO **San Andreas Ge** 21.70 328⇑*e*P P 17 27 41.6 0.0
SAO pmax pmax
comp=Z,311nm,1.8s
SAO **San Andreas Ge** 21.70 328⇑*e*P P 17 27 41.6 0.0
comp=Z,311nm,1.8s
NVAR **Mina Array Bea** 21.72 337 P P 17 27 42.3 +0.3
NVAR **Mina Array Bea** 21.72 337 P P 17 27 42.3 +0.3
comp=Z,4.1nm,0.8s,baz=153,slow=10.0,SNR=19
NVAR LR LR 17 35 34.9
comp=Z,4µm,18.1s,baz=217,slow=36
O27A **Beecher Island** 21.77 10 ⇑P P 17 27 42.5 +0.1
baz=22
DAU **Daniels Canyon** 21.80 352 *e*P P 17 27 43.8 +0.9
DAU pmax pmax
comp=Z,243nm,1.5s
DAU **Daniels Canyon** 21.80 352 *e*P P 17 27 43.8 +0.9
comp=Z,243nm,1.5s
DUG **Dugway** 21.83 349⇓*i*P P 17 27 43.7 +0.7
DUG pmax pmax
comp=Z,139nm,1.4s
DUG MLR MLR
comp=Z,4µm,21.0s
DUG **Dugway** 21.83 349⇓*i*P P 17 27 43.7 +0.7
comp=Z,139nm,1.4s
DUG LR LR
comp=Z,4µm,21.0s
DUG **Dugway** 21.83 349 ⇓P P 17 27 43.9 +0.9
baz=22,SNR=28
P31A **Stockton** 21.84 17 ⇓P P 17 27 42.5 -0.5
baz=22
O28A **Krutsinger Ran** 21.84 12 ⇑P P 17 27 43.4 +0.4
baz=22,SNR=14
N22A **Wattenberg Ran** 21.97 2 ⇑P P 17 27 45.5 +0.8
baz=22,SNR=14
N20A **Spence Gulch,** 21.99 358 ⇓P P 17 27 45.9 +1.1
baz=22,SNR=40
JLU **Jordanelle** 22.01 352 *e*P P 17 27 46.4 +1.4
comp=Z,200nm,1.6s
O29A **4D Ranch, Culb** 22.05 14 ⇑P P 17 27 45.2 -0.1
baz=22
N23A **Red Feather La** 22.08 3 ⇓P P 17 27 46.2 +0.3
baz=22,SNR=20
N24A **Carr** 22.09 5 ⇓P P 17 27 46.5 +0.6
baz=22,SNR=6.7
CTU **Camp Tracy** 22.14 351 P P 17 27 47.3 +0.9

comp=Z,55nm,0.9s
BRAL **Brewton** 22.15 53 *e*P P 17 27 48.8 +2.4
BRAL LR LR
comp=Z,2µm,21.0s
P32A **Huiting Farm,** 22.15 18 ⇓P P 17 27 45.9 -0.5
baz=22,SNR=12
N25A **Grover** 22.16 7 ⇑P P 17 27 46.4 -0.1
baz=22
CMB **Columbia Colle** 22.23 332 *e*P P 17 27 46.2 -1.1
CMB pmax pmax
comp=Z,229nm,1.6s
CMB **Columbia Colle** 22.23 332 *e*P P 17 27 46.2 -1.1
comp=Z,229nm,1.6s
P33A **Williams Farm,** 22.27 20 ⇓P P 17 27 47.3 -0.3
baz=22
O30A **MW Ranch, Wils** 22.27 15 ⇑P P 17 27 47.3 -0.4
baz=22
N26A **Koester Ranch,** 22.28 9 ⇑P P 17 27 48.0 +0.1
baz=22,SNR=11
KSU1 **Kansas State U** 22.35 23⇑*i*P P 17 27 48.5 0.0
comp=Z,321nm,1.2s
N27A **Anderson Farm,** 22.36 10 ⇑P P 17 27 48.7 -0.1
baz=22,SNR=8.7
N28A **Pribbeno Ranch** 22.43 12 ⇑P P 17 27 49.4 0.0
baz=22
OXF **Oxford** 22.46 42 P P 17 27 51.0 +1.3
OXF pmax pmax
comp=Z,79nm,1.0s
OXF MLR MLR
comp=Z,2µm,19.0s
OXF **Oxford** 22.46 42 P P 17 27 51.0 +1.3
comp=Z,79nm,1.0s
OXF LR LR
comp=Z,2µm,19.0s
PHWY **Pilot Hill** 22.52 4 *e*P P 17 27 51.6 +1.0
comp=Z,42nm,1.1s
M22A **Cedar Creek Ra** 22.56 2 ⇑P P 17 27 50.3 -0.8
baz=23
BGU **Big Grassy Mou** 22.57 349 *e*P P 17 27 52.2 +1.1
comp=Z,84nm,1.5s
OGNE **Ogallala** 22.59 11 *e*P P 17 27 51.5 +0.5
comp=Z,143nm,1.2s
OGNE LR LR
comp=Z,711nm,19.0s
OGNE **Ogallala** 22.59 11 ⇑P P 17 27 50.6 -0.5
baz=23
M20A **Sweetwater, Wa** 22.64 359 ⇓P P 17 27 52.1 +0.2
baz=23,SNR=6.6
M19A **Rock Springs** 22.70 357 ⇓P P 17 27 52.1 -0.2
baz=23
M24A **Cheyenne** 22.73 5 ⇑P P 17 27 52.6 -0.1
baz=23,SNR=12
N29A **Votaw Ranch, W** 22.75 14 ⇓P P 17 27 52.5 -0.2
baz=23
M21A **Separation Pea** 22.75 0 ⇑P P 17 27 52.4 -0.6
baz=23
M25A **Palm-Egli Farm** 22.77 7 ⇓P P 17 27 53.4 +0.3
baz=23,SNR=8.6
M17A **Scullys Gap (B** 22.78 354 ⇓P P 17 27 53.1 -0.2
baz=23
RWWY **Rawlins** 22.84 1 *e*P P 17 27 51.4 -2.5
comp=Z,23nm,0.6s
O32A **Brockman Farm,** 22.84 18 ⇓P P 17 27 53.2 -0.5
baz=23
ELK **Elko** 22.88 345 *e*P P 17 27 54.9 +0.6
comp=Z,23nm,1.1s
M26A **McRoberts Ranc** 22.92 8 ⇓P P 17 27 54.4 -0.2
baz=23
GNAR **Gosnell** 23.05 39 *e*P P 17 27 56.3 +0.5
comp=Z,1µm,1.0s
M27A **Reverse DX Ran** 23.09 10 ⇑P P 17 27 56.2 -0.1
baz=23
L21A **Rawlins** 23.11 0 ⇑P P 17 27 56.7 +0.1
baz=23,SNR=7.5
BMN **Battle Mountai** 23.14 341⇓*e*P P 17 27 57.3 +0.5
BMN pmax pmax
comp=Z,306nm,1.9s
BMN MLR MLR
comp=Z,2µm,21.0s
BMN **Battle Mountai** 23.14 341⇓*e*P P 17 27 57.3 +0.5
comp=Z,306nm,1.9s
BMN LR LR
comp=Z,2µm,21.0s
M28A **Bar X Bar Ranc** 23.15 12 ⇓P P 17 27 56.2 -0.7
baz=23
L20A **Wamsutter** 23.16 358 ⇑P P 17 27 56.8 -0.3
baz=23
N31A **Bailey Ranch,** 23.16 17 ⇓P P 17 27 56.4 -0.5
baz=23
L18A **Fontenelle, Gr** 23.17 355 ⇑P P 17 27 57.3 +0.1
baz=23,SNR=8.3
L22A **Ellis Ranch, M** 23.20 2 ⇓P P 17 27 57.5 0.0
baz=23
LRAL **Lakeview Retre** 23.22 48⇑*i*P P 17 27 57.8 +0.2
comp=Z,156nm,1.4s
LRAL LR LR
comp=Z,1µm,22.0s
PAHR **Pah Rah Range** 23.24 336⇓*i*P P 17 27 58.8 +0.9
comp=Z,564nm,2.0s
L24A **Wheatland** 23.29 5 ⇓P P 17 27 57.9 -0.3
baz=23
N32A **Stulken Farm,** 23.30 18 ⇑P P 17 27 57.9 -0.3
baz=23
L23A **Garrett** 23.31 3 ⇓P P 17 27 58.5 -0.1
baz=23,SNR=7.0
M29A **Burnside Ranch** 23.33 13 ⇑P P 17 27 58.2 -0.4
baz=23
HVU **Hansel Valley** 23.36 350 *e*P P 17 28 00.6 +1.6
HVU pmax pmax
comp=Z,146nm,1.7s
HVU **Hansel Valley** 23.36 350 *e*P P 17 28 00.6 +1.6
comp=Z,146nm,1.7s
JTS **JuntasAbangare** 23.39 108 *e*P P 17 28 02.1 +2.8
comp=Z,824nm,1.6s
JTS LR LR
comp=Z,3µm,21.0s
JTS **JuntasAbangare** 23.39 108 P P 17 27 56.8 -2.5
comp=Z,173nm,1.9s,SNR=11
JTS **JuntasAbangare** 23.39 108 P P 17 28 02.2 +2.8
comp=Z,1.5nm,0.4s,baz=323,slow=11,SNR=9.2
HALT **Halls** 23.42 40 *e*P P 17 28 00.1 +0.7
MCCM **Marconi Confer** 23.49 328 *e*P P 17 28 00.7 +0.6
comp=Z,349nm,2.0s
L25A **Engebretsen Ra** 23.50 7 ⇑P P 17 27 59.8 -0.4
baz=24
M30A **Dale-Ortello V** 23.60 14 ⇑P P 17 28 00.7 -0.5
baz=24
M31A **Lambtecht Ranc** 23.65 16 ⇓P P 17 28 01.5 0.0
baz=24
L27A **T5 Ranch, Ells** 23.65 10 ⇑P P 17 28 01.7 +0.1
baz=24
PARMO **Parma** 23.69 38 *e*P P 17 28 02.4 +0.5
GLAT **Glass** 23.69 39 *e*P P 17 28 03.3 +1.3
L28A **Connealy Angus** 23.71 11 ⇓P P 17 28 01.9 -0.3
baz=24
BEKR **Beckworth** 23.76 335⇓*i*P P 17 28 03.6 +0.8
comp=Z,104nm,1.8s
K21A **Alcova** 23.78 0 ⇓P P 17 28 03.5 +0.5
baz=24,SNR=15
K22A **Casper** 23.81 2 ⇑P P 17 28 03.6 +0.4
baz=24,SNR=7.4
K20A **Yellowstone Ra** 23.81 358 P P 17 28 03.7 +0.5
baz=24,SNR=12
BGNE **Belgrade** 23.93 18 ⇓P P 17 28 03.8 -0.3
baz=24
K23A **Bowen Ranch, D** 23.95 3 ⇑P P 17 28 04.7 +0.2
baz=24
K25A **Mack Ranch, Ha** 23.96 7 ⇓P P 17 28 04.7 +0.2
baz=24
L29A **Maesberg Ranch** 23.97 13 ⇑P P 17 28 04.3 -0.2
baz=24
BW06 **Boulder Array** 23.98 356 *e*P P 17 28 05.1 +0.4
comp=Z,20nm,1.3s
BW06 LR LR
comp=Z,4µm,20.0s
PDAR **Pinedale Array** 23.98 356 P P 17 28 05.1 +0.3
PDAR PcP PcP 17 31 46.7 +0.8
PDAR **Pinedale Array** 23.98 356 P P 17 28 05.1 +0.3
comp=Z,3.5nm,0.9s,baz=166,slow=8.8,SNR=17
PDAR PcP PcP 17 31 46.7 +0.8
comp=Z,1.2nm,1.0s,baz=197,slow=1.9,SNR=2.5
PDAR LR LR 17 37 04.3
comp=Z,4µm,18.0s,baz=191,slow=36
K24A **Anderson Ranch** 23.98 5 ⇑P P 17 28 04.5 -0.2
baz=24
K19A **Absolon Red Bu** 24.00 358 ⇑P P 17 28 05.5 +0.6
baz=24,SNR=6.8
L30A **Spencer Herefo** 24.03 14 ⇓P P 17 28 05.3 +0.2

baz=24
AHID **Auburn Hatcher** **24.10 354** PFAKE 17 28 20.0 +14
AHID LR LR
comp=Z,4µm,19.0s
K26A **Motz Farm, Whi** **24.13 8** ⇓P **P** **17 28 06.2 +0.2**
baz=24
K27A **Flueckinger Fa** **24.27 9** ⇑P **P** **17 28 08.0 +0.8**
baz=24,SNR=9.0
J19A **Crowheart** **24.45 357** ⇑P **P** **17 28 09.6 +0.6**
baz=24,SNR=26
L31A **Butterfield Fa** **24.46 16** ⇑P **P** **17 28 08.9 0.0**
baz=24
WVT **Waverly** **24.49 41** *e*P **P**
WVT pmax pmax **17 28 09.3 +0.1**
comp=Z,38nm,1.1s
WVT **Waverly** **24.49 41** *e*P **P** **17 28 09.3 +0.1**
comp=Z,38nm,1.1s
J21A **Lysite** **24.49 0** ⇑P **P** **17 28 09.7 +0.3**
baz=25
J20A **Shoshoni** **24.50 359** ⇑P **P** **17 28 10.6 +1.1**
baz=25,SNR=5.5
J22A **Midwest** **24.57 2** P **P** **17 28 10.3 +0.2**
baz=25,SNR=8.4
J24A **Dixon Ranch, L** **24.59 5** ⇓P **P** **17 28 10.8 +0.5**
baz=25
J23A **Dilts Ranch, B** **24.61 3** ⇓P **P** **17 28 10.5 +0.1**
baz=25
REDW **Red Top Meadow** **24.67 354** *e*P **P** **17 28 12.3 +1.2**
comp=Z,122nm,1.4s
K29A **Lazy Trails An** **24.67 13** ⇓P **P** **17 28 11.3 +0.3**
baz=25
RRI2 **Red Ridge** **24.70 353** *e*P **P** **17 28 12.5 +1.1**
comp=Z,195nm,1.5s
SIUC **Southern Illin** **24.73 37** *e*P **P** **17 28 11.9 +0.6**
comp=Z,18nm,0.8s
J25A **Sunshine Ranch** **24.73 6** ⇑P **P** **17 28 11.5 0.0**
baz=25
J26A **Sides Ranch, S** **24.74 8** ⇓P **P** **17 28 11.9 +0.3**
baz=25
K30A **Basset** **24.74 14** ⇓P **P** **17 28 12.3 +0.7**
baz=25,SNR=11
SNOW **Snow King Moun** **24.76 354** *e*P **P** **17 28 13.2 +1.3**
comp=Z,197nm,1.6s
TPAW **Teton Pass** **24.81 354** *e*P **P** **17 28 13.4 +1.0**
comp=Z,174nm,1.5s
J27A **Elkhorn Farm,** **24.84 10** ⇑P **P** **17 28 12.8 +0.4**
baz=25
SLM **Saint Louis** **24.84 34** *e*P **P**
SLM pmax pmax **17 28 14.2 +1.8**
comp=Z,130nm,1.3s
SLM **Saint Louis** **24.84 34** *e*P **P** **17 28 14.2 +1.8**
comp=Z,130nm,1.3s
LOHW **Long Hollow** **24.89 355** ⇓*i*P **P** **17 28 15.0 +1.9**
comp=Z,93nm,1.1s
I21A **Big Trails, Te** **24.96 0** ⇑P **P** **17 28 14.7 +1.1**
baz=25,SNR=12
TIGA **Tifton** **25.00 55** *e*P **P** **17 28 14.9 +1.1**
TIGA **Tifton** **25.00 55** ⇑P **P** **17 28 13.8 -0.1**
baz=25,SNR=9.3
KCPM **Cahto Peak** **25.04 330** *e*P **P** **17 28 15.3 +1.0**
comp=Z,70nm,1.6s
MOOW **Moose Ponds** **25.04 354** *e*P **P** **17 28 13.6 -0.9**
comp=Z,84nm,1.6s
I22A **9 Mile Ranch,** **25.05 2** P **P** **17 28 15.7 +1.3**
baz=25,SNR=18
KIPM **Iron Peak** **25.09 330** *e*P **P** **17 28 16.3 +1.6**
comp=Z,235nm,1.8s
I20A **Worland** **25.10 359** ⇓P **P** **17 28 15.6 +0.8**
baz=25,SNR=20
I24A **Kuemmerle Ranc** **25.12 5** ⇓P **P** **17 28 15.5 +0.4**
baz=25
J28A **Allard Ranch,** **25.13 11** ⇑P **P** **17 28 15.9 +0.8**
baz=25,SNR=10
I23A **Meade Ranch, G** **25.16 3** ⇑P **P** **17 28 15.9 +0.4**
baz=25
SWET **Sewanee** **25.17 45** *e*P **P** **17 28 15.9 +0.5**
comp=Z,88nm,1.5s
I17A **Pilgrim Ck.** **25.20 355** ⇑P **P** **17 28 16.5 +0.6**
baz=25
IMW **Indian Meadow** **25.21 354** *e*P **P** **17 28 16.9 +0.9**
comp=Z,23nm,1.0s
I19A **Meeteetse** **25.21 357** ⇓P **P** **17 28 17.2 +1.2**
baz=25,SNR=13
WDC **Whiskeytown Da** **25.27 332** *e*P **P**
WDC pmax pmax **17 28 15.4 -0.9**
comp=Z,47nm,1.5s
WDC **Whiskeytown Da** **25.27 332** *e*P **P** **17 28 15.4 -0.9**
comp=Z,47nm,1.5s
J29A **Okreek** **25.29 12** ⇓P **P** **17 28 17.1 +0.7**
baz=25,SNR=20
I25A **Rochford** **25.36 6** ⇓P **P** **17 28 17.9 +0.6**
baz=25,SNR=8.9
FLWY **Flagg Ranch** **25.37 355** *e*P **P** **17 28 18.9 +1.5**
comp=Z,104nm,1.5s
HLID **Hailey** **25.38 348** *e*P **P** **17 28 18.6 +1.1**
comp=Z,64nm,1.4s
HLID LR LR
comp=Z,3µm,21.0s
HLID **Hailey** **25.38 348** ⇓P **P** **17 28 18.5 +1.1**
baz=25,SNR=12
J30A **Dallas** **25.39 14** ⇑P **P** **17 28 18.1 +0.8**
baz=25,SNR=9.1
WVOR **Wild Horse Val** **25.40 341** ⇓*e*P **P**
WVOR pmax pmax **17 28 18.3 +0.7**
comp=Z,105nm,1.3s
WVOR MLR MLR
comp=Z,3µm,21.0s
WVOR **Wild Horse Val** **25.40 341** ⇓*e*P **P** **17 28 18.3 +0.7**
comp=Z,105nm,1.3s
WVOR LR LR
comp=Z,3µm,21.0s
RSSD **Black Hills** **25.43 6** *e*P **P**
RSSD pmax pmax **17 28 18.7 +0.7**
comp=Z,56nm,0.8s
RSSD **Black Hills** **25.43 6** *e*P **P** **17 28 18.7 +0.7**
comp=Z,56nm,0.8s
I26A **New Underwood** **25.48 8** ⇓P **P** **17 28 18.5 +0.3**
baz=26
MOD **Modoc** **25.50 337** *e*P **P** **17 28 19.3 +0.8**
comp=Z,647nm,1.6s
MFID **Camas Ranch** **25.54 346** ⇓P **P** **17 28 19.6 +0.8**
baz=26,SNR=17
I27A **Quinn** **25.63 9** ⇑P **P** **17 28 19.6 +0.1**
baz=26
H20A **Greybull** **25.64 359** ⇓P **P** **17 28 20.2 +0.5**
baz=26,SNR=12
H17A **Grant Village** **25.67 355** *e*P **P** **17 28 20.4 +0.2**
H17A **Grant Village** **25.67 355** ⇓P **P** **17 28 20.4 +0.2**
baz=26
PAYG **Puerto Ayora** **25.69 137** PFAKE 17 28 30.0 +10
PAYG LR LR
comp=Z,5µm,22.0s
I28A **Midland** **25.70 11** ⇑P **P** **17 28 20.1 -0.2**
baz=26
YFT **Old Faithful** **25.75 355** P **P** **17 28 21.4 +0.5**
comp=Z,26nm,1.2s
H22A **Clearmont** **25.76 2** ⇓P **P** **17 28 21.8 +1.0**
baz=26,SNR=5.1
H23A **Clabaugh Cattl** **25.77 3** ⇑P **P** **17 28 21.2 +0.4**
baz=26
H21A **Big Horn, Sher** **25.78 1** ⇓P **P** **17 28 22.1 +1.1**
baz=26,SNR=5.8
USIN **University of** **25.79 38** *e*P **P** **17 28 21.7 +0.6**
comp=Z,49nm,0.8s
H19A **Powell** **25.84 358** ⇓P **P** **17 28 21.9 +0.3**
baz=26
H18A **Shoshone NF, C** **25.89 356** ⇑P **P** **17 28 22.4 +0.3**
baz=26
I29A **Vivian Onida** **25.89 12** ⇑P **P** **17 28 22.2 +0.3**
baz=26
I30A **Oacoma** **25.96 13** ⇑P **P** **17 28 23.3 +0.7**
baz=26
H25A **Fruitdale** **25.97 6** ⇑P **P** **17 28 22.8 +0.1**
baz=26
YMR **Madison River** **25.98 354** *e*P **P** **17 28 24.8 +1.9**
comp=Z,116nm,1.7s
YNR **Norris Junctio** **26.00 355** P P 17 28 26.1 +2.9
comp=Z,5.9nm,0.4s
H24A **Dirks Ranch, A** **26.01 5** P **P** **17 28 23.4 +0.3**
baz=26,SNR=8.3
KHMM **Horse Mountain** **26.05 331** *e*P **P** **17 28 24.7 +1.1**
comp=Z,105nm,1.5s
H26A **Fairpoint** **26.07 8** ⇑P **P** **17 28 23.3 -0.3**
baz=26
OLIL **Olney** **26.07 36** *e*P **P** **17 28 23.1 -0.4**
comp=Z,60nm,1.0s
SCIA **State Center** **26.07 25** PFAKE 17 28 40.0 +16
SCIA LR LR
comp=Z,966nm,19.0s
H27A **Howes** **26.18 9** ⇓P **P** **17 28 24.1 -0.4**
baz=26
QLMT **Earthquake Lak** **26.18 354** *e*P **P** **17 28 23.9 -0.8**
comp=Z,4.0nm,1.3s
J08A **Circle Bar Ran** **26.19 342** P **P** **17 28 25.7 +1.0**
CPCT **Cooper Cave** **26.25 46** *e*P **P** **17 28 25.4 +0.1**
YBH **Yreka Blue Hor** **26.30 334** P **P** **17 28 25.9 +0.3**
YBH **Yreka Blue Hor** **26.30 334** P **P** **17 28 26.0 +0.3**
comp=Z,1.5nm,0.5s,baz=185,slow=9.6,SNR=3.7
YBH LR LR 17 38 15.8
comp=Z,4µm,20.5s,baz=148,slow=35
RLMT **Red Lodge** **26.31 357** *e*P P 17 28 28.6 +2.7
comp=Z,30nm,1.4s
RLMT LR LR
comp=Z,3µm,22.0s
MCMT **McKenzie Canyo** **26.35 351** *e*P **P** **17 28 27.7 +1.4**
comp=Z,18nm,1.3s
G21A **Lodge Grass** **26.37 0** ⇑P **P** **17 28 26.5 +0.2**
baz=26
G20A **Bridger** **26.37 359** ⇓P **P** **17 28 26.4 0.0**
baz=26
G22A **Birney** **26.38 2** ⇓P **P** **17 28 26.2 -0.2**
baz=26
H28A **Mission Ridge** **26.38 10** ⇑P **P** **17 28 26.0 -0.4**
baz=26
G23A **Biddle** **26.41 3** ⇑P **P** **17 28 26.2 -0.5**
baz=26,SNR=6.0
ECSD **EROS Data Cent** **26.52 18** *e*P **P** **17 28 25.5 -2.1**
comp=Z,20nm,1.1s
ECSD LR LR
comp=Z,492nm,19.0s
G25A **Newell** **26.56 6** ⇑P **P** **17 28 28.1 +0.1**
baz=27
BRSD **Miller** **26.57 14** P **P** **17 28 28.0 -0.1**
BRSD **Miller** **26.57 14** ⇑P **P** **17 28 27.8 -0.3**
G24A **Alzada** **26.60 5** ⇑P **P** **17 28 28.6 +0.2**
baz=27,SNR=6.2
G26A **Maurine** **26.75 8** ⇓P **P** **17 28 30.1 +0.4**
baz=27,SNR=14
HDIL **Hopedale** **26.76 32** *e*P **P** **17 28 29.5 -0.2**
comp=Z,133nm,1.2s
HDIL LR LR
comp=Z,3µm,19.0s
WCI **Wyandotte Cave** **26.78 39** *e*P **P**
WCI pmax pmax **17 28 30.4 +0.4**
comp=Z,48nm,1.3s
WCI **Wyandotte Cave** **26.78 39** *e*P **P** **17 28 30.4 +0.4**
comp=Z,48nm,1.3s
G28A **Parade** **26.79 10** ⇑P **P** **17 28 30.1 +0.1**
baz=27
G27A **Dupree** **26.80 7** ⇑P **P** **17 28 31.6 +1.5**
baz=27,SNR=11
DLMT **Dillon** **26.84 352** *e*P **P** **17 28 32.3 +1.6**
comp=Z,28nm,1.2s
TKL **Tuckaleechee C** **26.88 46** P **P** **17 28 31.6 +0.7**
TKL **Tuckaleechee C** **26.88 46** P **P** **17 28 31.6 +0.7**
comp=Z,16nm,1.1s,baz=217,slow=13,SNR=7.9
TKL LR LR 17 40 37.9
comp=Z,2µm,18.1s,baz=242,slow=40
F23A **Volborg** **26.92 3** ⇑P **P** **17 28 30.7 -0.6**
baz=27
F20A **Billings** **26.95 359** ⇑P **P** **17 28 32.4 +0.8**
baz=27,SNR=6.9
F21A **Absaloka Mine,** **26.97 1** ⇑P **P** **17 28 31.4 -0.3**
baz=27
F19A **Roth Farm, Mol** **27.02 358** ⇑P **P** **17 28 32.3 +0.1**
baz=27
F24A **Ekalaka** **27.11 5** ⇑P **P** **17 28 33.1 +0.1**
baz=27,SNR=7.1
G30A **Faulkton** **27.18 13** ⇓P **P** **17 28 32.7 -0.9**
baz=27
BMO **Blue Mountains** **27.25 345** *e*P **P** **17 28 34.4 +0.2**
comp=Z,21nm,1.3s
BMO LR LR
comp=Z,2µm,20.0s
LRM **Limekiln Ridge** **27.28 352** *e*P **P** **17 28 36.3 +1.7**
comp=Z,229nm,1.3s
F25A **Bowman** **27.28 6** ⇑P **P** **17 28 34.1 -0.3**
baz=27
F26A **Lodgepole** **27.29 7** ⇑P **P** **17 28 33.8 -0.7**
baz=27
F27A **Lemmon** **27.40 8** ⇓P **P** **17 28 35.3 -0.2**
baz=28
TZTN **Tazewell** **27.51 45** *e*P **P** **17 28 36.8 +0.2**
comp=Z,46nm,1.0s
F28A **McLaughlin** **27.56 10** ⇑P **P** **17 28 37.0 0.0**
baz=28
E22A **Miles City** **27.61 2** ⇑P **P** **17 28 37.4 0.0**
baz=28,SNR=6.4
E19A **Rath Farm, Rou** **27.63 358** ⇑P **P** **17 28 37.7 +0.2**
baz=28
E20A **Meyer Farm, Mu** **27.65 359** ⇑P **P** **17 28 38.2 +0.4**
baz=28,SNR=5.4
E21A **Keefer Ranch,** **27.69 1** ⇓P **P** **17 28 38.1 0.0**
baz=28
F29A **Eureka** **27.72 12** ⇓P **P** **17 28 38.3 -0.1**
baz=28
SFIN **Scholer Farm** **27.77 35** *e*P **P** **17 28 39.0 +0.2**
SFIN **Scholer Farm** **27.77 35** ⇑P **P** **17 28 38.8 -0.1**
baz=28
E24A **Baker** **27.83 5** ⇑P **P** **17 28 39.3 0.0**
baz=28
E25A **Miller Ranch,** **27.85 6** ⇓P **P** **17 28 39.6 +0.1**
baz=28
LAO **LASA Array** **27.85 2** *e*P **P**
LAO LR LR **17 28 40.5 +0.9**
comp=Z,5µm,19.0s
VIPM **Ingram Point** **27.90 340** P **P** **17 28 40.8 +0.6**
VIPM **Ingram Point** **27.90 340** P **P** **17 28 40.8 +0.6**
KEBM **Edson Butte** **27.92 333** *e*P **P** **17 28 40.6 +0.4**
comp=Z,180nm,1.5s
E26A **Carlson Angus** **27.93 7** ⇑P **P** **17 28 40.3 +0.1**
baz=28
E27A **Carson** **28.01 9** ⇓P **P** **17 28 41.1 +0.2**
baz=28
IRO **Indian Ridge** **28.03 337** P P 17 28 42.4 +1.1
HRY **Holter Researc** **28.08 354** *e*P P 17 28 43.9 +2.2
comp=Z,45nm,1.4s
JFWS **Jewell Farm** **28.14 28** *e*P **P** **17 28 41.3 -0.8**
JFWS pmax pmax
comp=Z,47nm,1.0s
JFWS MLR MLR
comp=Z,2µm,21.0s
JFWS **Jewell Farm** **28.14 28** *e*P **P** **17 28 41.3 -0.8**
comp=Z,47nm,1.0s
JFWS LR LR
comp=Z,2µm,21.0s
D21A **La Casta Ranch** **28.21 1** ⇓P **P** **17 28 43.0 +0.2**
baz=28
D20A **Manuel Ranch,** **28.24 359** ⇑P **P** **17 28 43.1 +0.1**
baz=28,SNR=10.0
E28A **Huff** **28.28 10** ⇓P **P** **17 28 43.2 -0.1**
baz=28,SNR=5.8
D22A **Cohagen** **28.32 2** ⇑P **P** **17 28 44.1 +0.5**
baz=28,SNR=8.7
D19A **Cripps Ranch,** **28.33 358** ⇓P **P** **17 28 44.3 +0.5**
baz=28,SNR=13
D23A **Lindsay** **28.38 3** ⇑P **P** **17 28 44.5 +0.3**
baz=28
CHMT **Chamberlain Mo** **28.45 352** *e*P P 17 28 46.0 +0.8
comp=Z,28nm,1.5s
E29A **Napoleon** **28.46 11** ⇑P **P** **17 28 45.1 +0.2**
baz=28
BCIP **Isla Barro Col** **28.46 106** PFAKE 17 29 00.0 +15
BCIP LR LR
comp=Z,2µm,19.0s
MSO **Missoula** **28.47 351** P **P** **17 28 45.7 +0.5**
baz=28
D25A **Fairfield** **28.50 6** ⇓P **P** **17 28 45.2 -0.2**
baz=29
RNO **Roman Nose** **28.53 335** P P 17 28 47.4 +1.8
E30A **Jud** **28.54 12** ⇓P **P** **17 28 46.0 +0.3**
baz=29
D27A **Center** **28.68 9** ⇓P **P** **17 28 47.5 +0.6**
baz=29
SLMT **Seeley Lake** **28.81 352** *e*P **P** **17 28 48.8 +0.6**
comp=Z,58nm,1.5s
C20A **Veseth Ranch,** **28.86 359** ⇑P **P** **17 28 49.3 +0.8**
baz=29,SNR=18
VFP **Flag Point** **28.90 339** P P 17 28 50.5 +1.4
D28A **Regan** **28.91 10** P **P** **17 28 49.1 +0.2**
baz=29,SNR=6.9
C19A **Slack Wire Ran** **28.91 358** ⇓P **P** **17 28 48.9 0.0**
baz=29
COR **Corvallis** **28.92 336** *e*P P 17 28 50.4 +1.4
COR **Corvallis** **28.92 336** *e*P P 17 28 50.4 +1.4
comp=Z,2µm,1.8s
C22A **Vida** **28.92 2** ⇓P **P** **17 28 49.5 +0.4**
baz=29
D29A **Pettibone, Tap** **28.95 11** ⇓P **P** **17 28 49.2 -0.1**
baz=29
C21A **Desert Coulee** **28.97 1** ⇓P **P** **17 28 49.9 +0.4**
baz=29,SNR=6.2
C23A **Lambert** **29.01 3** ⇑P **P** **17 28 50.1 +0.3**
baz=29
C25A **Freed Ranch, W** **29.07 6** ⇑P **P** **17 28 50.3 0.0**
baz=29
SPMN **St. Paul** **29.07 22** *e*P **P** **17 28 49.5 -0.8**
SPMN **St. Paul** **29.07 22** ⇓P **P** **17 28 49.8 -0.5**
baz=29
SWMT **Swartz Lake** **29.14 351** *e*P **P** **17 28 50.5 -0.6**
comp=Z,16nm,1.2s
D30A **Buchanan** **29.15 12** ⇓P **P** **17 28 50.8 -0.3**
baz=29
EGMT **Eagleton** **29.23 357** PFAKE 17 29 00.0 +8.2
EGMT LR LR
comp=Z,529nm,22.0s
EGMT **Eagleton** **29.23 357** ⇑P **P** **17 28 51.9 +0.1**
baz=29
HAWA **Hanford** **29.27 343** PFAKE 17 29 10.0 +18
HAWA LR LR
comp=Z,4µm,19.0s
C26A **Wahner Farm, P** **29.31 7** ⇓P **P** **17 28 52.6 +0.1**
baz=29
C28A **Hausauer Farms** **29.44 10** ⇓P **P** **17 28 53.9 +0.2**
baz=30
TRW **Toppenish Ridg** **29.47 341** P P 17 28 55.9 +1.9
B22A **Reddig Ranch S** **29.47 2** ⇑P **P** **17 28 54.4 +0.4**
baz=30
B21A **Ellsworth Farm** **29.58 1** ⇑P **P** **17 28 55.7 +0.9**
baz=30
B20A **Solberg Farm,** **29.59 359** ⇑P **P** **17 28 55.8 +0.9**
baz=30
B19A **Brinkman Farms** **29.62 358** ⇑P **P** **17 28 55.8 +0.5**
baz=30
B25A **Knox Farm, Ray** **29.63 6** ⇓P **P** **17 28 56.1 +0.8**
baz=30
B23A **Brockton** **29.68 3** ⇓P **P** **17 28 56.1 +0.3**
baz=30,SNR=5.6
MDND **Maddock** **29.70 11** P **P** **17 28 55.4 -0.6**
MDND **Maddock** **29.70 11** ⇓P **P** **17 28 56.3 +0.4**
baz=30
DGMT **Dagmar** **29.74 4** *e*P **P** **17 28 56.6 +0.3**
comp=Z,17nm,0.5s
DGMT LR LR
comp=Z,6µm,19.0s
DGMT **Dagmar** **29.74 4** ⇓P **P** **17 28 56.7 +0.4**
baz=30
C30A **Mose, Pekin** **29.78 12** ⇑P **P** **17 28 56.7 +0.1**
baz=30
B26A **Jensen Ranch,** **29.83 7** ⇓P **P** **17 28 57.4 +0.3**
baz=30
B27A **Peters Farms,** **29.98 8** ⇑P **P** **17 28 58.7 +0.3**
baz=30
BLA **Blacksburg** **29.99 47** *e*P **P**
BLA pmax pmax **17 28 59.3 +0.6**
comp=Z,32nm,1.1s
BLA MLR MLR
comp=Z,2µm,21.0s
BLA **Blacksburg** **29.99 47** *e*P **P** **17 28 59.3 +0.6**
comp=Z,32nm,1.1s
BLA LR LR
comp=Z,2µm,21.0s
A20A **Cobblestone Ra** **30.03 359** ⇑P **P** **17 28 59.6 +0.7**
baz=30
ACSO **Alum Creek Sta** **30.03 39** PFAKE 17 29 10.0 +11
ACSO LR LR
comp=Z,1µm,19.0s
A19A **Klindworth Far** **30.09 358** ⇓P **P** **17 28 59.9 +0.5**
baz=30
A21A **Bergtoll Ranch** **30.14 1** ⇑P **P** **17 29 00.6 +0.7**
baz=30
B28A **Dugan Ranch, T** **30.16 9** P **P** **17 29 00.5 +0.5**
baz=30,SNR=8.1
A22A **Carney Farms,** **30.17 2** ⇓P **P** **17 29 00.5 +0.5**
baz=30,SNR=8.6
A23A **Redstone** **30.18 3** ⇓P **P** **17 29 00.5 +0.3**
baz=30
A24A **Westby** **30.20 5** ⇓P **P** **17 29 00.4 +0.1**
baz=30
LON **Longmire** **30.27 340** *e*P P 17 29 01.6 +0.6
LON pmax pmax
comp=Z,21nm,1.1s
LON **Longmire** **30.27 340** *e*P P 17 29 01.6 +0.6
comp=Z,21nm,1.1s
A25A **Svangstu Ranch** **30.30 6** ⇓P **P** **17 29 01.2 +0.1**
baz=30
B29A **Wagenman Farm,** **30.34 11** ⇓P **P** **17 29 01.2 -0.4**
baz=30
A26A **Wade Farm, Ken** **30.37 7** ⇓P **P** **17 29 01.6 -0.2**
baz=30
NEW **Newport** **30.43 347** *e*P **P** **17 29 02.8 +0.4**
comp=Z,51nm,1.7s
NEW LR LR
comp=Z,2µm,19.0s
NEW **Newport** **30.43 347** ⇑P **P** **17 29 02.8 +0.4**
baz=30
B30A **Myrvik Farm, E** **30.52 12** ⇓P **P** **17 29 03.0 -0.1**
baz=31
A27A **Ledoux Ranch,** **30.52 8** ⇑P **P** **17 29 02.8 -0.3**
baz=31
ETW **Entiat** **30.60 343** P P 17 29 05.4 +1.4
A28A **Rude Farm, Bot** **30.62 9** ⇓P **P** **17 29 03.4 -0.6**
baz=31,SNR=7.5
A29A **Manning Farm,** **30.81 11** ⇑P **P** **17 29 04.9 -0.7**
baz=31
CNNC **Cliffs of the** **30.91 52** PFAKE 17 29 20.0 +13
CNNC LR LR
comp=Z,2µm,22.0s
AGMN **Agassiz Nation** **30.93 15** PFAKE 17 29 20.0 +13
AGMN LR LR
comp=Z,4µm,21.0s
A30A **Hoffart Farm,** **31.00 12** ⇑P **P** **17 29 06.7 -0.6**
baz=31
NLWA **Neilton Lookou** **31.52 339** *e*P **P** **17 29 12.1 +0.1**
comp=Z,38nm,1.5s
NLWA LR LR
comp=Z,3µm,22.0s
MCWV **Mont Chateau** **31.66 43** PFAKE 17 29 30.0 +17
MCWV LR LR
comp=Z,697nm,21.0s
EYMN **Ely** **31.88 21** *e*P P 17 29 11.4 -3.8
comp=Z,29nm,1.2s
EYMN LR LR
comp=Z,4µm,19.0s
PGC **Sidney** **32.47 340** P P **17 29 19.5 -0.8**
CBN **Corbin** **32.59 47** *e*P **P** **17 29 22.9 +1.5**
comp=Z,63nm,0.9s
CBN LR LR
comp=Z,1µm,21.0s
ULM **Lac du Bonnet** **32.75 14** *e*P **P** **17 29 21.5 -1.2**
comp=Z,46nm,1.4s
ULM **Lac du Bonnet** **32.75 14** P P **17 29 22.1 -0.6**
comp=Z,29nm,1.1s,baz=204,slow=10.0,SNR=13
ULM LR LR 17 44 19.0
comp=Z,605nm,19.8s,baz=18,slow=40
ERPA **Erie** **32.97 39** PFAKE 17 29 40.0 +15
ERPA LR LR
comp=Z,1µm,19.0s
SSPA **Standing Stone** **33.45 43** *e*P **P** **17 29 28.2 -0.7**
comp=Z,35nm,1.3s
OTAV **Otavalo** **33.96 120** *e*P P 17 29 38.2 +4.0
comp=Z,67nm,1.2s
OTAV LR LR
comp=Z,846nm,22.0s
GRTK **Grand Turk** **34.21 79** PFAKE 17 29 50.0 +14
GRTK LR LR
comp=Z,2µm,19.0s
SDDR **Presa de Saban** **34.24 84** *e*P P 17 29 37.8 +1.7
comp=Z,81nm,1.5s
SDDR LR LR
comp=Z,1µm,19.0s
EDM **Edmonton** **34.67 354** *e*P P 17 29 40.3 +0.9
EDM **Edmonton** **34.67 354** *e*P P 17 29 40.3 +0.9
ROSC **El Rosal** **35.21 109** P P 17 29 48.9 +4.0
ROSC **El Rosal** **35.21 109** P P 17 29 48.9 +4.0
comp=Z,4.0nm,0.4s,baz=279,slow=14,SNR=7.2
ROSC LR LR 17 46 01.6
comp=Z,668nm,18.1s,baz=2.5,slow=39
BINY **Binghamton** **35.49 42** *e*P **P** **17 29 45.5 -1.1**
comp=Z,92nm,1.8s
BINY LR LR
comp=Z,2µm,22.0s

FFC Flin Flon 36.13 5 eP P 17 29 51.2 -0.7
FFC pmax pmax
comp=Z,48nm,1.2s
FFC MLR MLR
comp=Z,1µm,21.0s
FFC Flin Flon 36.13 5 eP P 17 29 51.2 -0.7
comp=Z,48nm,1.2s
FFC LR LR
comp=Z,1µm,21.0s
SDV Santo Domingo 37.06 100 eP P 17 30 03.1 +2.6
comp=Z,47nm,1.0s
NCB Newcomb 37.51 41 PFAKE 17 30 20.0 +16
NCB LR LR
comp=Z,2µm,20.0s
LONY Lake Ozonia 37.64 39 PFAKE 17 30 20.0 +15
LONY LR LR
comp=Z,928nm,19.0s
ATAH Atahualpa 38.57 129 P P 17 30 15.9 +2.5
ATAH Atahualpa 38.57 129 P P 17 30 15.9 +2.5
comp=Z,9.0nm,0.9s,baz=345,slow=7.0,SNR=11
CELP Cerrillos 38.78 84 eP P 17 30 15.7 +0.9
LBNH Lisbon 39.08 42 PFAKE 17 30 30.0 +13
LBNH LR LR
comp=Z,2µm,20.0s
SJG San Juan 39.18 84 eP P 17 30 19.1 +1.0
comp=Z,27nm,0.3s
SJG LR LR
comp=Z,701nm,20.0s
SJG San Juan 39.18 84 P P **17 30 19.7 +1.6**
comp=Z,32nm,0.8s,baz=297,slow=21,SNR=9.3
CBYP Canovanas 39.43 84 eP P 17 30 20.4 +0.1
comp=Z,59nm,1.2s
MTP Monte Pirata 39.74 84 eP P 17 30 24.0 +1.2
comp=Z,129nm,1.1s
STVI Saint Thomas 40.27 84 eP P 17 30 29.3 +2.1
comp=Z,36nm,0.9s
BBSR BB Station 40.66 62 eP P 17 30 32.8 +2.6
comp=Z,163nm,1.5s
BBSR LR LR
comp=Z,886nm,21.0s
PKME Peaks-Kenny Pk 41.22 42 PFAKE 17 30 50.0 +15
PKME LR LR
comp=Z,2µm,20.0s
WRAK Wrangell Islan 41.94 340 PFAKE 17 30 50.0 +10
WRAK LR LR
comp=Z,1µm,19.0s
DLBC Dease Lake 42.90 343 eP P 17 30 50.5 +2.2
ANWB Willy Bob 43.35 84 P P 17 30 52.3 -0.1
ANWB LR LR
comp=Z,464nm,19.0s
YKA Yellowknife Ar 43.95 355 P P 17 30 57.3 +0.8
YKA Yellowknife Ar 43.95 355 P P 17 30 57.3 +0.8
comp=Z,2.2nm,0.9s,baz=166,slow=8.1,SNR=3.7
GRGR Grenville 44.59 92 PFAKE 17 31 20.0 +18
GRGR LR LR
comp=Z,705nm,21.0s
BBGH Gun Hill 46.34 90 PFAKE 17 31 30.0 +14
BBGH LR LR
comp=Z,2µm,22.0s
KIP Kipapa 47.34 282 eP P 17 31 27.0 +3.1
KIP pmax pmax
comp=Z,71nm,1.2s
SCHQ Schefferville 47.41 31 eP P 17 31 23.1 -0.9
comp=Z,29nm,1.3s
SCHQ Schefferville 47.41 31 P P **17 31 23.2 -0.9**
comp=Z,9.5nm,0.9s,baz=254,slow=10,SNR=5.1
SCHQ LR LR 17 50 26.1
comp=Z,986nm,18.0s,baz=249,slow=35
RKT Rikitea 49.53 214 eLR LR 17 45 43.3
comp=Z,2µm,28.5s,baz=31
DAWY Dawson 50.12 342 eP P 17 31 44.3 -0.4
MENT Mentasta 50.64 340 eP P 17 31 50.2 +1.5
KDAK Kodiak Island 51.05 331 P P 17 31 53.1 +1.4
KDAK Kodiak Island 51.05 331 P P 17 31 53.1 +1.4
comp=Z,9.7nm,0.9s,baz=134,slow=8.9,SNR=8.5
KDAK LR LR 17 50 22.5
comp=Z,1µm,21.4s,baz=129,slow=32
OHAK Old Harbor 51.10 330 eP P 17 31 49.1 -3.0
comp=Z,176nm,2.0s
EGAK Eagle 51.17 342 eP P 17 31 53.5 +1.0
comp=Z,15nm,1.0s
EGAK LR LR
comp=Z,1µm,21.0s
PAX Paxson 51.25 339 eP P 17 31 54.4 +1.1
PAX pmax pmax
comp=Z,9.0nm,0.8s
PAX Paxson 51.25 339 eP P 17 31 54.4 +1.1
comp=Z,9.1nm,0.8s
SAML Samuel 51.67 118 eP P 17 31 57.3 +0.3
comp=Z,71nm,1.3s
SAML LR LR
comp=Z,999nm,20.0s
PMR Palmer 51.70 336 eP P 17 31 57.8 +1.3
PMR pmax pmax
comp=Z,41nm,1.4s
PMR Palmer 51.70 336 eP P 17 31 57.8 +1.3
comp=Z,41nm,1.4s
PMOR Pomariorio Ree 52.04 233 eT T 18 27 32.8
comp=Z,5.4nm,0.4s
LPAZ La Paz 52.11 129 eP P 17 32 02.9 +2.0
comp=Z,17nm,0.9s
LPAZ La Paz 52.11 129 P P 17 32 03.3 +2.4
comp=Z,13nm,0.7s,baz=338,slow=7.9,SNR=27
LPAZ LR LR 17 51 10.4
comp=Z,2µm,21.3s,baz=311,slow=33
INK Inuvik 52.15 348 eP P 17 32 00.4 +0.7
comp=Z,26nm,1.1s
ILAR Eielson Array 52.92 340 P P 17 32 06.0 +0.5
ILAR Eielson Array 52.92 340 P P 17 32 06.0 +0.5
comp=Z,3.1nm,0.9s,baz=148,slow=5.6,SNR=29
ILAR LR LR 17 53 04.2
comp=Z,1µm,21.5s,baz=141,slow=34
MCK McKinley 52.94 338 eP P 17 32 05.6 -0.1
MCK pmax pmax
comp=Z,32nm,1.2s
MCK McKinley 52.94 338 eP P 17 32 05.6 -0.1
comp=Z,32nm,1.2s
TRF Thorofare Moun 53.25 338 eP P 17 32 08.6 +0.4
comp=Z,170nm,1.8s
COLA College 53.30 340 PFAKE 17 32 20.0 +12
COLA LR LR
comp=Z,861nm,22.0s
PPLA Purkeypile 53.63 336 eP P 17 32 11.9 +1.0
comp=Z,201nm,1.8s
BPAW Bear Paw Mtn. 53.88 338 eP P 17 32 12.9 +0.3
comp=Z,51nm,1.8s
PPT Papeete 54.90 231 LR LR 17 49 29.1
comp=Z,1µm,18.6s,baz=344,slow=29
PPT2 Papeete2 54.92 231 eS S 17 40 03.8 +4.8
comp=Z,733nm,27.2s
COLD Coldfoot 55.54 341 eP P 17 32 25.7 +1.2
comp=Z,39nm,1.5s
LVC Limon Verde 55.82 136 eP P 17 32 30.6 +3.2
LVC LR LR
comp=Z,2µm,21.0s
IM04 Indian Mountai 55.94 339 eP P 17 32 27.4 -0.1
IMA2 Indian Mountai 55.96 339 eP P 17 32 26.0 -1.7
SIV San Ignacio 57.29 124 P P 17 32 39.6 +1.8
SIV San Ignacio 57.29 124 P P 17 32 39.6 +1.8
comp=Z,12nm,1.0s,baz=313,slow=7.4,SNR=21
TBI Tubuai 58.57 226 eS S 17 40 49.8 +2.9
comp=Z,976nm,26.5s
TBI eLR LR 17 49 42.0
comp=Z,3µm,28.0s,baz=42
TBI Tubuai 58.57 226 eT T 18 35 47.9
comp=Z,8.9nm,0.2s
H03N2 Juan Fernandez 58.66 152 T T 18 36 32.6
baz=329,slow=0.7,SNR=557
H03N1 Juan Fernandez 58.67 152 T T 18 36 30.8
baz=329,slow=0.7,SNR=698
H03N3 Juan Fernandez 58.67 152 T T 18 36 34.5
baz=329,slow=0.7,SNR=801
LCO Las Campanas 59.34 142 eP P 17 32 54.5 +2.4
LCO LR LR
comp=Z,3µm,19.0s
SFJD Kangerlussuaq 60.16 22 PFAKE 17 33 10.0 +13
SFJD LR LR
comp=Z,2µm,19.0s
ADK Adak 62.62 319 PFAKE 17 33 30.0 +16
ADK LR LR
comp=Z,2µm,20.0s
RAR Rarotonga 64.79 235 LR LR 17 54 18.6
comp=Z,2µm,18.2s,baz=315,slow=29
SUMG Summit 65.97 18 eP P 17 33 35.6 -0.3
SUMG pmax pmax
comp=Z,35nm,1.2s
SUMG Summit 65.97 18 *i* P P **17 33 36.5 +0.6**
comp=Z,8.8nm,1.2s
SUMG *e* 17 33 47.5
SUMG Summit 65.97 18 eP P 17 33 35.6 -0.3
comp=Z,35nm,1.2s
CPUP Villa Florida 66.22 131 eP P 17 33 38.8 +1.2
comp=Z,78nm,1.2s
CPUP Villa Florida 66.22 131 P P 17 33 39.7 +2.1
comp=Z,6.0nm,0.9s,baz=313,slow=7.4,SNR=8.0
CPUP LR LR 18 00 22.5
comp=Z,1µm,21.8s,baz=309,slow=34
BDFB Brasilia 67.82 116 P P 17 33 50.6 +2.5
BDFB Brasilia 67.82 116 P P 17 33 50.6 +2.5
comp=Z,11nm,1.0s,baz=302,slow=8.0,SNR=9.1
BDFB LR LR 18 02 54.6
comp=Z,704nm,19.2s,baz=96,slow=35
PLCA Paso Flores 68.45 151 P P 17 33 54.2 +2.7
PLCA Paso Flores 68.45 151 P P 17 33 54.2 +2.7
comp=Z,7.3nm,1.2s,baz=349,slow=8.2,SNR=4.3
PLCA LR LR 17 57 47.8
comp=Z,2µm,18.6s,baz=317,slow=31
TRQA Tornquist 70.88 143 PFAKE 17 34 20.0 +13
TRQA LR LR
comp=Z,3µm,19.0s
AFI Afiamalu 71.16 248 LR LR 17 56 55.5
comp=Z,607nm,20.1s,baz=77,slow=29
SPB Sao Paulo 72.17 123 PFAKE 17 34 30.0 +15
SPB LR LR
comp=Z,695nm,20.0s
RCBR Riachuelo 74.63 102 eP P 17 34 32.8 +3.5
comp=Z,287nm,1.5s
RCBR LR LR
comp=Z,407nm,19.0s
KBS Kingsbay 77.06 10 PFAKE 17 35 00.0 +18
KBS LR LR
comp=Z,895nm,19.0s
SEY Seymchan 77.97 333 P P 17 34 49.2 +1.9
PETK Petropavlovsk- 78.02 322 P P 17 34 49.4 +1.6
PETK Petropavlovsk- 78.02 322 P P 17 34 49.4 +1.6
PETK Petropavlovsk- 78.02 322 P P 17 34 49.4 +1.6
comp=Z,3.7nm,0.7s,baz=71,slow=5.0,SNR=4.8
PETK LR LR 18 02 00.1
comp=Z,544nm,21.9s,baz=265,slow=30
H11N3 WAKE ISLAND Hy 79.86 287 T T 19 03 10.8
baz=69,slow=0.7,SNR=26
H11N2 WAKE ISLAND Hy 79.86 287 T T 19 03 10.2
baz=69,slow=0.7,SNR=17
H11N1 WAKE ISLAND Hy 79.88 287 T T 19 03 14.5
baz=69,slow=0.7,SNR=20
H11S1 WAKE ISLAND Hy 80.39 286 T T 19 03 52.3
baz=54,slow=0.7,SNR=10
H11S2 WAKE ISLAND Hy 80.39 286 T T 19 03 52.9
baz=54,slow=0.7,SNR=6.7
H11S3 WAKE ISLAND Hy 80.40 286 T T 19 03 55.8
baz=54,slow=0.7,SNR=6.8
MSVF Nonsavu 81.64 248 PFAKE 17 35 20.0 +12
MSVF LR LR
comp=Z,928nm,19.0s
TIXI Tiksi 82.11 345⇓ *e*P P 17 35 11.1 +1.6
TIXI pmax pmax
comp=Z,13nm,1.4s
ESK Eskdalemuir 82.60 34 PFAKE 17 35 30.0 +18
ESK LR LR
comp=Z,506nm,20.0s
RAO Raoul Island 82.99 236 LR LR 18 02 47.6
comp=Z,717nm,20.4s,baz=128,slow=29
MTE Manteigas 85.33 49 PFAKE 17 35 40.0 +13
MTE LR LR
comp=Z,469nm,19.0s
ARCES ARCESS Array B 85.86 15 P P 17 35 30.0 +1.3
ARCES ARCESS Array B 85.86 15 P P 17 35 30.0 +1.3
comp=Z,5.3nm,1.0s,baz=322,slow=5.7,SNR=3.6
ARCES LR LR 18 13 08.8
comp=Z,838nm,21.4s,baz=316,slow=35
KEV Kevo 86.06 14 PFAKE 17 35 40.0 +10
KEV LR LR
comp=Z,961nm,21.0s
YAK Yakutsk 87.70 337 eP P 17 35 33.5 -4.2
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=N,2.0nm,0.8s
PAB San Pablo 87.93 49 PFAKE 17 35 50.0 +11
PAB LR LR
comp=Z,725nm,20.0s
RTC Rabat Centre 88.14 55 PFAKE 17 35 50.0 +10
RTC LR LR
comp=Z,357nm,21.0s
ESDC Sonseca Array 88.16 49 P **P 17 35 41.3 +0.8**
ESDC Sonseca Array 88.16 49 P **P 17 35 41.3 +0.8**
comp=Z,0.2nm,0.2s,baz=297,slow=5.6,SNR=2.7
ESDC LR LR 18 13 49.9
comp=Z,335nm,21.5s,baz=305,slow=35
YUK Yuzh-Kuril'sk 88.50 316 *i* P **P 17 35 42.3 +0.4**
YUK *i* 17 39 11.3
YUK *i* S S 17 46 11.5 -13
YUK *i* 17 46 25.9
YUK *i* SSS SSS 17 55 45.0
YUK pmax pmax
comp=N,103nm,1.5s
YUK pmax pmax
comp=Z,129nm,1.5s
YSS Yuzh-Sakhalins 89.20 320 eP P 17 35 41.0 -4.2
YSS MLR MLR
comp=Z,300nm,16.0s
APA Apatity 89.24 14⇓ *i*P P 17 35 55.2 +10
APA *e* 17 46 07.0
APA pmax pmax
comp=Z,9.0nm,0.6s
URZ Urewera 90.52 230 LR LR 18 07 55.2
comp=Z,958nm,18.1s,baz=28,slow=30
ERM Erimo 91.17 315 PFAKE 17 36 10.0 +16
ERM LR LR
comp=Z,610nm,21.0s
SSB Saint Sauveur 91.41 41 PFAKE 17 36 10.0 +14
SSB LR LR
comp=Z,588nm,19.0s
ECH Echery 91.52 37 PFAKE 17 36 10.0 +14
ECH LR LR
comp=Z,804nm,21.0s
BFO Black Forest 92.14 37 PFAKE 17 36 10.0 +11
BFO LR LR
comp=Z,521nm,20.0s
BNI Bardonecchia 92.83 40 PFAKE 17 36 20.0 +18
BNI LR LR
comp=Z,752nm,21.0s
CLL Collm 93.03 33 *e*PP PP 17 39 48.0 +2.3
CLL *e*PS **PS 17 48 31.0 +7.5**
CLL *e*SS SS 17 53 30.0 +11
DZM Mont Dzumac 93.38 248 *e*LQ LQ 18 02 01.6
comp=Z,578nm,36.2s
DZM *e*LR LR 18 06 09.2
comp=Z,2µm,27.0s
DZM Mont Dzumac 93.38 248 LR LR 18 08 19.1
comp=Z,772nm,20.3s,baz=38,slow=29
TUE Stuetta 93.70 38 PFAKE 17 36 20.0 +14
TUE LR LR
comp=Z,1µm,22.0s
FETA Feichten 94.20 37⇑ *i*P P 17 36 05.4 -3.2
comp=Z,10nm,1.3s
PVCC Panska Ves 94.29 33 AMS AMS 18 14 00.0
comp=Z,800nm,22.5s
KHC Kasperske Hory 94.59 34 *e*PS PS 17 48 45.3 +4.4
KHC *e*SS SS 17 53 49.4 +7.5
KHC AMS AMS 18 15 30.0
comp=Z,800nm,22.1s
PRU Pruhonice 94.60 33 *e*PS PS 17 48 48.1 +7.3
PRU AMS AMS 18 14 30.0
comp=Z,800nm,23.0s
GERES GERESS Array B 94.82 35 LR LR 18 18 11.1
comp=Z,519nm,18.5s,baz=314,slow=35
DPC Dobruska-Polom 95.29 32 AMS AMS 18 19 00.0
HNR Honiara 95.37 262 LR LR 18 09 10.4
comp=Z,496nm,21.2s,baz=61,slow=29
TREC Trest 95.50 33 *e*SS SS 17 53 54.8 +0.1
TREC AMS AMS 18 15 10.0
comp=Z,800nm,22.0s
VLC Villacollemand 95.56 40 PFAKE 17 36 30.0 +15
VLC LR LR
comp=Z,366nm,21.0s
KLMR Klimovskoe 96.32 16 *e*P **P 17 36 18.1 +0.4**
KLMR *e* 17 40 09.8
KLMR pmax pmax
comp=Z,23nm,1.6s
KLMR MLR MLR
comp=Z,608nm,17.0s
OKC Ostrava-Krasne 96.53 32 AMS AMS 18 18 30.0
comp=Z,500nm,16.5s
USRK Ussuriysk Arra 97.10 321 LR LR 18 14 43.5
comp=Z,306nm,18.2s,baz=136,slow=32
MAJO Matsushiro 97.13 312 PFAKE 17 36 30.0 +8.0
MAJO LR LR
comp=Z,1µm,20.0s
VSL Villasalto 97.40 44 PFAKE 17 36 40.0 +17
VSL LR LR
comp=Z,307nm,20.0s
MDJ Mudanjiang 98.25 323 PFAKE 17 36 40.0 +13
MDJ LR LR
comp=Z,511nm,22.0s
PSZ Piszkesteto 98.65 33 PFAKE 17 36 40.0 +11
PSZ LR LR
comp=Z,710nm,20.0s
KWP Kalwaria Pacla 98.90 30 PFAKE 17 36 40.0 +10
KWP LR LR
comp=Z,559nm,21.0s
KEST Kesra 99.33 47 LR LR 18 19 17.1
comp=Z,130nm,21.7s,baz=296,slow=34
UZH Uzhgorod 99.38 31 *e*P **Pdif 17 36 35.3 +3.6**
UZH *e* 17 36 42.7
UZH *e* 17 36 49.0
DBIC Dimbokro 99.74 80 LR LR 18 20 17.2
comp=Z,350nm,25.5s,baz=271,slow=35
HIA Hailar 100.34 331 PFAKE 17 36 50.0 +14
HIA LR LR
comp=Z,467nm,19.0s
KIEV Kiev 101.05 26 PFAKE 17 36 50.0 +11
KIEV LR LR
comp=Z,597nm,19.0s
AKASG Malin Array Be 101.06 26 P **Pdif 17 36 41.0 +1.9**
AKASG 17 40 51.7
AKASG Malin Array Be 101.06 26 P **Pdif 17 36 41.0 +1.9**
AKASG PP PP 17 40 51.7 +4.5
AKASG Malin Array Be 101.06 26 P **Pdif 17 36 41.0 +1.9**
comp=Z,0.3nm,0.2s,baz=322,slow=3.5,SNR=4.4
AKASG PP PP 17 40 51.7 +4.5
comp=Z,0.3nm,0.4s,baz=307,slow=7.4,SNR=4.2
CN2 Changchun 101.10 324 eP Pdif 17 36 42.5 +3.0
CN2 *e*SP 17 37 03.0
CN2 *e*S SKKSac 17 48 12.9 +22
CN2 AMB AMB
comp=Z,10.0nm,0.8s
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,1µm,20.0s
CN2 LR LR
comp=Z,1µm,20.0s
CN2 LR LR
comp=Z,2µm,22.0s
CUC Castrocucco 101.25 41 PFAKE 17 36 50.0 +10
CUC LR LR
comp=Z,316nm,20.0s
CEL Celeste 102.31 42 PFAKE 17 37 00.0 +15
CEL LR LR
comp=Z,269nm,20.0s
TAM Tamanrasset 102.64 61 PFAKE 17 37 00.0 +13
TAM LR LR
comp=Z,252nm,21.0s
TIR Tirane 102.85 38 PFAKE 17 37 00.0 +13
TIR LR LR
comp=Z,504nm,19.0s
TORD Torodi Ar. Bea 103.37 71 Pdif **Pdif 17 36 53.5 +3.3**
TORD PP **PP 17 41 05.4 -0.7**
TORD Torodi Ar. Bea 103.37 71 Pdiff **Pdif 17 36 53.5 +3.3**
comp=Z,0.3nm,0.9s,baz=222,slow=1.9,SNR=3.2
TORD PP **PP 17 41 05.4 -0.7**
comp=Z,4.2nm,1.2s,baz=285,slow=7.9,SNR=11
INCN Inchon 104.33 318 PFAKE 17 37 10.0 +16
INCN LR LR
comp=Z,551nm,19.0s
ULN Ulaanbaatar 106.78 336 PFAKE 17 41 30.0
ULN LR LR
comp=Z,430nm,21.0s
PMG Port Moresby 107.41 266 PFAKE 17 41 30.0
PMG LR LR
comp=Z,531nm,20.0s
BRVK Borovoye 108.44 1 PFAKE 17 41 30.0
BRVK LR LR
comp=Z,782nm,21.0s
QSPA South Pole Qui 108.68 180 PFAKE 17 41 30.0
QSPA LR LR
comp=Z,209nm,20.0s
BJT Baijiatuau 108.74 326 PFAKE 17 41 30.0
BJT LR LR
comp=Z,692nm,21.0s
SANT Santorini 109.41 39 PFAKE 17 41 30.0
SANT LR LR
comp=Z,263nm,21.0s
HHC Hu-ho-hao-te 110.45 329 *e*PKP PKiKP 17 41 25.0 +3.1
HHC sPKP 17 41 39.3
HHC PP PP 17 42 01.0 +4.1
HHC PKS **PKSdf 17 45 00.5 +1.9**
HHC SKS **SKSdf 17 48 32.0 +2.1**
HHC SKKS **SKKSac 17 48 53.0 -3.6**
HHC Hu-ho-hao-te 110.45 329 SS SS 17 57 23.4 +2.6
HHC PPMZ
comp=Z,470nm,6.2s
HHC LR LR
comp=N,900nm,19.9s
HHC LR LR
comp=E,760nm,18.8s
HHC LR LR
comp=Z,1µm,18.4s
KURK Kurchatov 110.60 356 PFAKE 17 41 40.0
KURK LR LR
comp=Z,281nm,19.0s
ANTO Ankara 110.90 32 PFAKE 17 41 40.0
ANTO LR LR
comp=Z,266nm,21.0s
CTAO Charters Tower 110.99 255 PFAKE 17 41 40.0
CTAO LR LR
comp=Z,331nm,20.0s
ISP Isparta 111.25 35 PFAKE 17 41 40.0
ISP LR LR
comp=Z,434nm,21.0s
CAN Canberra 111.40 239 PFAKE 17 41 40.0
CAN LR LR
comp=Z,371nm,20.0s
MKAR Makanchi Array 114.14 353 PKKPbc PKKPbc 17 52 10.9 +0.2
MKAR Makanchi Array 114.14 353 PKKPbc PKKPbc 17 52 10.9 +0.2
comp=Z,0.7nm,0.9s,baz=212,slow=4.3,SNR=3.8
CSS Prodhromos 114.89 35 PFAKE 17 41 40.0 +10
CSS LR LR
comp=Z,320nm,20.0s
GNI Garni 115.92 23 PFAKE 17 41 50.0 +18
GNI LR LR
comp=Z,281nm,20.0s
WMQ Urumqi 116.17 348 *e*PKP **PKPdf 17 41 33.9 +1.2**
WMQ PP PP 17 42 42.9 +5.9
WMQ PKS **PKSdf 17 45 09.3 -0.1**
WMQ SKS **SKSdf 17 48 41.1 +0.4**
WMQ SKKS **SKKSac 17 49 32.3 -2.8**
WMQ SS **SS 17 58 39.3 +3.9**
WMQ LR LR
comp=Z,440nm,25.4s
WMQ LR LR
comp=Z,250nm,26.8s
WMQ LR LR
comp=Z,490nm,22.6s
GTA Gaotai 116.73 337 PKP **PKPdf 17 41 30.2 -3.8**
GTA PP **PP 17 42 43.3 +2.1**
GTA SKS **SKSdf 17 48 37.7 -4.4**
GTA SKKSac 17 49 32.5 -6.7
GTA SS **SS 17 58 44.8 +1.5**
GTA PPMZ
comp=Z,96nm,7.4s
GTA LR LR
comp=Z,420nm,19.0s
GTA LR LR
comp=Z,370nm,19.2s
GTA LR LR
comp=Z,650nm,19.7s
LZH Lanzhou 117.89 332 *e*PKP PKPdf 17 41 43.5 +7.2
LZH sPKP 17 42 02.8
LZH PP PP 17 43 04.4 +15
LZH PKS PKSdf 17 45 19.5 +6.3
LZH SKKS 17 49 50.5
LZH Lanzhou 117.89 332 SS SS 17 59 05.0 +6.2
LZH PPMZ
comp=Z,140nm,4.4s
LZH LR LR
comp=N,170nm,10.9s

LZH LR LR
comp=E,1µm,18.9s
LZH LR LR
comp=Z,2µm,19.0s
TKM2 Tokmak 2 118.54 357 PFAKE 17 41 50.0 +13
TKM2 LR LR
comp=Z,563nm,21.0s
EKS2 Erkin-Say 118.86 359 PFAKE 17 41 50.0 +12
EKS2 LR LR
comp=Z,789nm,19.0s
AAK Ala-Archa 118.87 358 PFAKE 17 41 50.0 +12
AAK LR LR
comp=Z,671nm,20.0s
MSKU Masuku 119.91 81 PFAKE 17 41 50.0 +9.4
MSKU LR LR
comp=Z,2.0nm,21.0s
KSH Kashi 121.92 357 *e*PKP PKPdf 17 41 49.4 +5.4
WRAB Tennant Creek 121.93 258 *e*PKIKP **PKPdf 17 41 45.1 +0.8**
WRAB MLR MLR
comp=Z,347nm,22.0s
WRAB Tennant Creek 121.93 258 *e*PKPdf **PKPdf 17 41 45.0 +0.8**
WRAB LR LR
comp=Z,347nm,22.0s
WRA Warramunga Arr 121.94 258 PKP **PKPdf 17 41 45.9 +1.7**
WRA Warramunga Arr 121.94 258 PKP **PKPdf 17 41 45.9 +1.7**
comp=Z,3.7nm,0.6s,baz=77,slow=2.1,SNR=42
CD2 Chengdu 122.17 328 PKP **PKPdf 17 41 45.4 +0.8**
CD2 sPKP 17 42 06.9
CD2 PP PP 17 43 23.6 +4.7
CD2 PKS **PKSdf 17 45 20.8 -0.6**
CD2 SKS **SKSdf 17 48 50.4 -2.2**
CD2 SKKS **SKKSac 17 50 09.5 -5.6**
CD2 SS **SS 17 59 53.7 -0.1**
CD2 PPMZ
comp=Z,360nm,5.6s
CD2 LR LR
comp=Z,880nm,8.9s
ASAR Alice Springs 122.91 254 PKP **PKPdf 17 41 47.5 +1.4**
ASAR Alice Springs 122.91 254 PKP **PKPdf 17 41 47.5 +1.4**
comp=Z,2.8nm,0.8s,baz=81,slow=2.5,SNR=30
GYA Guiyang 124.11 323 *e*Pdif **Pdif 17 38 23.2 +0.8**
GYA sPKP 17 42 11.0
GYA PP PP 17 43 37.6 +5.3
GYA PKS **PKSdf 17 45 24.3 -1.1**
GYA SKKS 17 50 23.2
GYA SS **SS 18 00 19.0 0.0**
GYA PPMZ
comp=Z,140nm,7.8s
GYA LR LR
comp=Z,280nm,24.2s
GYA LR LR
comp=Z,170nm,25.0s
GYA LR LR
comp=Z,240nm,23.7s
CASY Casey 126.47 198 PFAKE 17 42 10.0 +18
CASY LR LR
comp=Z,476nm,21.0s
KMI Kunming 127.36 325 PKP **PKPdf 17 41 56.6 +1.7**
KMI PP PP 17 43 58.5 +4.6
KMI SS SS 18 00 59.6 -0.1
KMI PPMZ
comp=Z,180nm,6.7s
KMI LR LR
comp=Z,440nm,19.3s
KMI LR LR
comp=Z,510nm,19.8s
KMI LR LR
comp=Z,420nm,16.8s
QIZ Qiongzhong 127.50 314 PKP **PKPdf 17 41 55.7 +0.7**
QIZ sPKP 17 42 18.1
QIZ PP **PP 17 43 55.7 +0.7**
QIZ SS SS 18 01 02.4 +0.6
QIZ PPMZ
comp=Z,310nm,6.8s
QIZ LR LR
comp=Z,720nm,26.2s
QIZ Qiongzhong 127.50 314 PFAKE 17 42 10.0 +15
QIZ LR LR
comp=Z,474nm,19.0s
TSUM Tsumeb 128.27 100 PFAKE 17 42 10.0 +13
TSUM LR LR
comp=Z,449nm,21.0s
LSA Lhasa 128.55 339 PFAKE 17 42 10.0 +13
LSA LR LR
comp=Z,398nm,22.0s
KKM Kota Kinabalu 130.35 296 PFAKE 17 42 10.0 +9.3
KKM LR LR
comp=Z,597nm,20.0s
SUR Sutherland 131.88 117 PFAKE 17 42 20.0 +17
SUR LR LR
comp=Z,732nm,21.0s
KAPI Kappang 131.94 280 PFAKE 17 42 20.0 +16
KAPI LR LR
comp=Z,206nm,20.0s
CHTO Chiang Mai 134.50 324 *e*PKIKP PKPdf 17 42 11.3 +3.0
CHTO MLR MLR
comp=Z,254nm,20.0s
CHTO Chiang Mai 134.50 324 *e*PKPdf PKPdf 17 42 11.2 +3.0
CHTO LR LR
comp=Z,254nm,20.0s
CMAR Chiang Mai Arr 134.78 323 PKP PKPdf 17 42 11.5 +2.7
CMAR Chiang Mai Arr 134.78 323 PKP PKPdf 17 42 11.5 +2.7
comp=Z,0.5nm,0.6s,baz=340,slow=1.5,SNR=4.1
MBAR Mbarara 135.24 71 PFAKE 17 42 20.0 +10
MBAR LR LR
comp=Z,1µm,22.0s
MBWA Marble Bar 135.66 259 PFAKE 17 42 20.0 +10
MBWA LR LR
comp=Z,173nm,19.0s
BOSA Boshof 135.89 112 PKPpre PKPpre 17 42 06.0
BOSA Boshof 135.89 112 PKhKP PKPpre 17 42 06.0
comp=Z,2.5nm,0.8s,baz=162,slow=2.3,SNR=3.1
LSZ Lusaka 137.58 92 PFAKE 17 42 30.0 +16
LSZ LR LR
comp=Z,298nm,19.0s
KSM Kuching 137.73 294 PFAKE 17 42 30.0 +16
KSM LR LR
comp=Z,216nm,19.0s
KMBO Kilima Mbogo 141.25 67 PFAKE 17 42 30.0 +8.9
KMBO LR LR
comp=Z,617nm,20.0s
COCO West Island 155.66 282 PFAKE 17 43 00.0 -10
COCO LR LR
comp=Z,417nm,19.0s
ABPO Ambohimpanom 156.10 95 PFAKE 17 43 00.0 -12
ABPO LR LR
comp=Z,512nm,19.0s
MSEY Mahe Island 158.26 52 PFAKE 17 43 00.0 +13
MSEY LR LR
comp=Z,497nm,19.0s

*IDC **06** 17:28:42.7±1.1, 16°.25S×172°.92W, h0km, mb3.9/7, mb1 4.2/7, mb1mx3.9/21, mbtmp3.9/7, Error ellipse: s-maj=55.6km s-min=21.1km az=136.0*
*ISCJB **06** 17:28:43.0±0.6, 15°.88S±0°.08×172°.83W±0°.09, h26km, mb4.1/11, Error ellipse: s-maj=15.2km s-min=7.8km az=37.1*
*NEIC **06** 17:28:44.1±0.6, 16°.15S×172°.91W, h10km, mb4.7/5, Error ellipse: s-maj=18.9km s-min=12.9km az=168.0*

ISC 06 17:28:45.6±0.6, 15°.90S±0°.09×172°.8W±0°.1, h26km, n32, σ2s03/28, mb4.2/11, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.22**	**27**		*e*Pn		**Pn**	**17 29 18.9**	**-2.0**
AFI						Sn	**Sn**	**17 29 44.9**	**-2.6**
AFI	**Afiamalu**	**2.22**	**27**		Pn		**Pn**	**17 29 19.3**	**-1.5**
	42nm,0.3s,baz=176,slow=2.9,SNR=25								
AFI						Sn	**Sn**	**17 29 44.9**	**-2.6**
	73nm,0.3s,baz=142,slow=16,SNR=5.4								
RAR	**Rarotonga**	**13.44**	**115**		P		**Pn**	**17 31 53.8**	**-1.0**
DZM	**Mont Dzumac**	**20.55**	**249**		P		**P**	**17 33 22.9**	**+0.5**
	64nm,1.0s								
URZ	**Urewera**	**23.98**	**200**		P		**P**	**17 33 55.8**	**-2.3**
URZ	**Urewera**	**23.98**	**200**		P		**P**	**17 33 55.8**	**-2.3**
	3.4nm,0.5s,baz=81,slow=18,SNR=4.7								
H11S2	**WAKE ISLAND Hy 39.68**	**329**			T		T	18 18 28.8	
	baz=147,slow=0.7,SNR=3.3								
H11S3	**WAKE ISLAND Hy 39.70**	**329**			T		T	18 18 29.3	
	baz=147,slow=0.7,SNR=6.7								
H11S1	**WAKE ISLAND Hy 39.70**	**329**			T		T	18 18 27.3	
	baz=147								
H11N3	**WAKE ISLAND Hy 40.63**	**330**			T		T	18 19 34.1	
	baz=153								
H11N1	**WAKE ISLAND Hy 40.63**	**330**			T		T	18 19 34.6	
	baz=153,slow=0.7,SNR=2.3								
H11N2	**WAKE ISLAND Hy 40.65**	**330**			T		T	18 19 35.4	
	baz=153,slow=0.7,SNR=2.8								
STKA	**Stephens Creek**	**44.28**	**241**		P		**P**	**17 36 51.5**	**-1.9**
	0.9nm,1.0s								
STKA	**Stephens Creek**	**44.28**	**241**		P		**P**	**17 36 51.9**	**-1.5**
	1.9nm,0.9s,baz=234,slow=19,SNR=5.0								
WRAB	**Tennant Creek**	**50.27**	**257**		P		**P**	**17 37 38.9**	**-1.4**
	4.9nm,1.0s								
WRA	**Warramunga Arr**	**50.28**	**257**		P		**P**	**17 37 39.3**	**-1.1**
WRA	**Warramunga Arr**	**50.28**	**257**		P		**P**	**17 37 39.3**	**-1.1**
	0.7nm,0.7s,baz=92,slow=7.3,SNR=2.7								
ASAR	**Alice Springs**	**50.50**	**252**		P		**P**	**17 37 40.7**	**-1.2**
ASAR	**Alice Springs**	**50.50**	**252**		P		**P**	**17 37 40.7**	**-1.2**
	1.6nm,0.6s,baz=87,slow=8.4,SNR=19								
SBA	**Scott Base**	**62.80**	**185**		P		**P**	**17 39 09.8**	**+1.4**
	6.6nm,1.2s								
MBWA	**Marble Bar**	**63.77**	**254**		P		**P**	**17 39 14.9**	**-0.9**
	17nm,1.2s								
QSPA	**South Pole Qui**	**74.14**	**180**		*e*P		**P**	**17 40 19.7**	**0.0**
	4.9nm,1.2s								
NVAR	**Mina Array Bea**	**74.32**	**42**		P		**P**	**17 40 24.1**	**+2.9**
NVAR	**Mina Array Bea**	**74.32**	**42**		P		**P**	**17 40 24.1**	**+2.9**
	0.8nm,0.7s,baz=229,slow=10,SNR=5.2								
PDAR	**Pinedale Array**	**82.26**	**42**		P		**P**	**17 41 07.0**	**+2.0**
PDAR	**Pinedale Array**	**82.26**	**42**		P		**P**	**17 41 07.0**	**+2.0**
	0.7nm,0.8s,baz=225,slow=1.9,SNR=4.5								
ILAR	**Eielson Array**	**82.83**	**11**		P		**P**	**17 41 09.5**	**+2.3**
ILAR	**Eielson Array**	**82.83**	**11**		P		**P**	**17 41 09.5**	**+2.3**
	0.3nm,0.7s,baz=215,slow=5.0,SNR=3.5								
GERES	**GERESS Array B**	**146.72**	**352**		PKPbc		**PKPab**	**17 48 29.3**	**+2.9**
GERES	**GERESS Array B**	**146.72**	**352**		PKPbc		**PKPab**	**17 48 29.3**	**+2.9**
	0.1nm,0.2s,baz=57,slow=3.6,SNR=3.1								
BRTR	**Keskin Array B**	**146.90**	**321**		PKPbc		**PKPab**	**17 48 29.1**	**+1.5**
BRTR	**Keskin Array B**	**146.90**	**321**		PKPbc		**PKPab**	**17 48 29.1**	**+1.5**
	1.5nm,0.9s,baz=90,slow=1.2,SNR=7.3								

*ISCJB **06** 17:30:49.3±0.6, 4°.60S±0°.09×153°.70E±0°.10, h100km, mb3.8/10, Error ellipse: s-maj=16.3km s-min=9.1km az=39.7*
*IDC **06** 17:30:52.6±1.2, 4°.87S×153°.89E, h124km±6km, mb3.6/10, mb1 3.8/11, mb1mx3.7/19, mbtmp3.7/11, Error ellipse: s-maj=39.3km s-min=13.7km az=122.0*
*AUST **06** 17:30:54.3±0.0, 4°.33S×153°.59E, h169km, Error ellipse: s-maj=2.8km s-min=1.3km az=354.0*

ISC 06 17:30:51.8±0.8, 4°.73S±0°.10×153°.8E±0°.1, h100km, n21, σ2s10/24, mb3.6/10, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.69**	**288**		P		**Pn**	**17 31 21.2**	**+0.8**
	baz=1.4,SNR=13								
PMG	**Port Moresby**	**8.04**	**234**		P		**Pn**	**17 32 47.3**	**+1.4**
	19nm,0.3s,baz=66,slow=5.2,SNR=49								
PMG						S	**Sn**	**17 34 15.6**	**+0.5**
	4.1nm,0.3s,baz=41,slow=20,SNR=3.9								
RMQ	**Roma**	**22.16**	**192**		P		**P**	**17 35 39.4**	**-0.2**
	baz=23,SNR=4.9								
KDU	**Kakadu**	**22.47**	**248**		P		**P**	**17 35 41.5**	**-1.5**
	baz=22,SNR=4.3								
QLP	**Quilpie**	**23.57**	**202**		P		**P**	**17 35 52.4**	**-1.0**
	baz=24,SNR=9.2								
WRA	**Warramunga Arr**	**24.22**	**230**		P		**P**	**17 35 58.3**	**-1.1**
	7.7nm,0.7s,baz=53,slow=9.7,SNR=49								
WRA						pP	**pP**	**17 36 24.6**	**+3.5**
	2.7nm,0.7s,baz=53,slow=9.6,SNR=4.5								
ASAR	**Alice Springs**	**26.86**	**224**		P		**P**	**17 36 21.6**	**-1.7**
	1.8nm,0.8s,baz=59,slow=9.2,SNR=20								
KNRA	**Kununurra**	**26.87**	**244**		P		**P**	**17 36 22.1**	**-1.3**
	baz=27,SNR=3.6								
FITZ	**Fitzroy Crossi**	**30.55**	**242**		P		**P**	**17 36 54.4**	**-1.6**
	baz=31,SNR=10								
FITZ	**Fitzroy Crossi**	**30.55**	**242**		P		**P**	**17 36 54.3**	**-1.8**
	4.0nm,0.6s,baz=73,slow=6.2,SNR=21								
FITZ						pP	**pP**	**17 37 22.3**	**+3.9**
	4.1nm,1.0s,baz=72,slow=5.0,SNR=3.6								
NIUE	**Niue**	**38.16**	**115**		P		**P**	**17 38 03.1**	**+1.3**
	baz=38,SNR=4.4								
MEEK	**Meekatharra**	**40.02**	**233**		P		**P**	**17 38 15.5**	**-1.6**
	baz=40,SNR=3.9								
PETK	**Petropavlovsk-**	**57.72**	**3**		P		**P**	**17 40 31.9**	**0.0**
	1.6nm,0.7s,baz=184,slow=10.0,SNR=3.8								
CMAR	**Chiang Mai Arr**	**58.73**	**295**		P		**P**	**17 40 39.3**	**-0.3**
	0.3nm,0.6s,baz=118,slow=5.4,SNR=4.4								
SONM	**Songino Array**	**66.78**	**327**		P		**P**	**17 41 32.4**	**-0.3**
	0.4nm,0.7s,baz=145,slow=4.3,SNR=3.3								
LSA	**Lhasa**	**69.00**	**304**		P		P	17 41 43.7	-3.7
MKAR	**Makanchi Array**	**80.91**	**319**		P		**P**	**17 42 54.2**	**-0.9**
	0.6nm,0.8s,baz=112,slow=6.5,SNR=3.2								
MKAR						pP	**pP**	**17 43 25.6**	**+4.6**
	1.2nm,0.9s,baz=109,slow=5.5,SNR=4.0								
ZALV	**Zalesovo Beam**	**81.63**	**326**		P		**P**	**17 42 56.8**	**-1.9**
	0.6nm,0.7s,baz=92,slow=4.8,SNR=2.9								
ILAR	**Eielson Array**	**81.73**	**22**		P		P	17 42 55.7	-3.3
	0.2nm,0.5s,baz=204,slow=6.5,SNR=2.6								
MAW	**Mawson**	**86.01**	**203**		P		**P**	**17 43 19.1**	**-1.6**
	3.4nm,0.8s,baz=96,slow=9.2,SNR=4.4								
TORD	**Torodi Ar. Bea**	**151.20**	**289**		PKPbc		**PKPbc**	**17 50 32.8**	**-1.8**
	0.5nm,0.6s,baz=67,slow=1.7,SNR=4.2								
TORD						pPKPbc	**pPKPbc**	**17 51 05.4**	**+3.4**
	2.0nm,0.8s,baz=57,slow=2.3,SNR=8.5								

IDC 06 17:52:01.3±0.9, 14°.13S×172°.80W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/20, mbtmp3.9/4, MS4.5/1, Ms1 4.5/1, ms1mx3.4/23, Error ellipse: s-maj=67.6km s-min=14.8km az=162.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.02**	**78**		Pn		Pn	17 52 23.1	+0.1
	130nm,0.3s,baz=225,slow=7.1,SNR=29								
AFI						Sn	Sn	17 52 39.0	+0.9
	366nm,0.3s,baz=284,slow=17,SNR=27								
RPZ	**Rata Peaks**	**32.57**	**202**		LR		LR	18 11 25.1	
	comp=Z,688nm,18.5s,baz=46,slow=36								
H11S2	**WAKE ISLAND Hy 38.20**	**327**			T		T	18 40 10.4	
	baz=149,slow=0.7,SNR=12								
H11S3	**WAKE ISLAND Hy 38.21**	**327**			T		T	18 40 10.8	
	baz=149,slow=0.7,SNR=3.9								
H11S1	**WAKE ISLAND Hy 38.21**	**328**			T		T	18 40 12.5	
	baz=149,slow=0.7,SNR=12								
H11N3	**WAKE ISLAND Hy 39.12**	**329**			T		T	18 41 18.7	
	baz=149,slow=0.7,SNR=9.2								
H11N1	**WAKE ISLAND Hy 39.12**	**329**			T		T	18 41 19.5	
	baz=149,slow=0.7,SNR=8.1								
H11N2	**WAKE ISLAND Hy 39.13**	**329**			T		T	18 41 20.1	
	baz=149,slow=0.7,SNR=9.2								
STKA	**Stephens Creek**	**45.18**	**239**		P		P	18 00 20.6	+0.4
	2.2nm,1.0s,baz=72,slow=13,SNR=2.3								
WRA	**Warramunga Arr**	**50.71**	**256**		P		P	18 01 02.8	-0.4
	1.0nm,1.1s,baz=90,slow=6.7,SNR=6.6								
ASAR	**Alice Springs**	**51.06**	**251**		P		P	18 01 05.1	-0.8
	2.5nm,0.6s,baz=89,slow=7.8,SNR=76								
NVAR	**Mina Array Bea**	**73.00**	**42**		P		P	18 03 32.8	-0.6
	0.4nm,0.7s,baz=234,slow=8.6,SNR=2.6								
BRTR	**Keskin Array B**	**145.52**	**323**		PKPbc		PKPab	18 11 42.5	+0.2
	0.3nm,0.7s,baz=10,slow=3.2,SNR=2.3								

IDC 06 18:01:27.8±10.0, 15°.63S×172°.92W, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/21, mbtmp3.4/4, ML1.8/1, Error ellipse: s-maj=458.6km s-min=25.8km az=138.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.03**	**33**		Pn		Pn	18 02 02.9	-0.6
	19nm,0.3s,baz=228,slow=12,SNR=19								
AFI						Sn	Sn	18 02 21.9	-7.8
	96nm,0.3s,baz=236,slow=18,SNR=25								
H11S2	**WAKE ISLAND Hy 39.40**	**329**			T		T	18 50 34.7	
	baz=149,slow=0.7,SNR=5.1								
H11S3	**WAKE ISLAND Hy 39.41**	**329**			T		T	18 50 32.9	
	baz=149,slow=0.7,SNR=6.4								
H11S1	**WAKE ISLAND Hy 39.42**	**329**			T		T	18 50 36.0	
	baz=149,SNR=6.1								
H11N3	**WAKE ISLAND Hy 40.34**	**330**			T		T	18 51 44.0	
	baz=152,slow=0.7,SNR=3.6								
H11N1	**WAKE ISLAND Hy 40.35**	**330**			T		T	18 51 43.4	
	baz=152,slow=0.7,SNR=4.7								
H11N2	**WAKE ISLAND Hy 40.36**	**330**			T		T	18 51 44.0	
	baz=152								
WRA	**Warramunga Arr**	**50.25**	**257**		P		P	18 10 25.2	-1.1
	0.4nm,1.0s,baz=95,slow=6.7,SNR=3.0								
ASAR	**Alice Springs**	**50.48**	**252**		P		P	18 10 28.4	+0.3
	0.4nm,0.7s,baz=90,slow=7.4,SNR=7.5								
ILAR	**Eielson Array**	**82.58**	**11**		P		P	18 13 53.0	+0.6
	0.3nm,0.7s,baz=217,slow=6.8,SNR=3.2								

IDC 06 18:04:59.8±5.2, 15°.21S×173°.75W, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.6/3, Error ellipse: s-maj=398.6km s-min=34.8km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.31**	**56**		Pn		Pn	18 05 32.5	-6.7
	5.5nm,0.3s,baz=229,slow=9.3,SNR=2.4								
AFI						Sn	Sn	18 05 55.8	-13
	19nm,0.3s,baz=270,slow=16,SNR=5.2								
H11S2	**WAKE ISLAND Hy 38.63**	**329**			T		T	18 54 07.4	
	baz=152,slow=0.7,SNR=22								
H11S3	**WAKE ISLAND Hy 38.64**	**329**			T		T	18 54 07.0	
	baz=152,slow=0.7,SNR=16								
H11S1	**WAKE ISLAND Hy 38.65**	**329**			T		T	18 54 04.1	
	baz=152,slow=0.7,SNR=16								
H11N3	**WAKE ISLAND Hy 39.38**	**331**			T		T	18 55 19.1	
	baz=152,slow=0.7,SNR=6.1								
H11N1	**WAKE ISLAND Hy 39.59**	**331**			T		T	18 55 16.1	
	baz=152,slow=0.7,SNR=5.9								
H11N2	**WAKE ISLAND Hy 39.60**	**331**			T		T	18 55 15.6	
	baz=152,slow=0.7,SNR=0.5								
WRA	**Warramunga Arr**	**49.56**	**257**		P		P	18 13 52.8	-0.2
	0.3nm,0.7s,baz=93,slow=7.2,SNR=3.2								
ASAR	**Alice Springs**	**49.85**	**252**		P		P	18 13 55.2	0.0
	1.5nm,0.6s,baz=86,slow=8.0,SNR=5.7								
NVAR	**Mina Array Bea**	**74.42**	**42**		P		P	18 16 40.2	0.0
	0.1nm,0.3s,baz=218,slow=5.7,SNR=2.1								

*IDC **06** 18:06:33.2±1.4, 36°.32N×118°.09W, h0km, mb1 3.8/4, mb1mx3.5/29, mbtmp3.3/4, ML3.5/4, Error ellipse: s-maj=29.6km s-min=7.4km az=73.0*
*NEIC **06** 18:06:34.7, 36°.41N×117°.84W, h2km, ML4.0(PAS), After PAS.*
NEIC Felt at Inyokern, Lancaster, Lone Pine and Squaw Valley.
*BJI **06** 18:06:35.0, 35°.60N×118°.67W, h33km, mb4.4/1*

ISC 06 18:06:33.2±0.9, 36°.45N±0°.02×117°.79W±0°.03, h12km±8km, n53, σ1s82/59, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ISA	**Isabella**	**0.96**	**215**		*e*Pg		**Pg**	**18 06 51.7**	**0.0**
ISA						*e*Sg	**Sg**	**18 07 03.4**	**-0.9**
GSC	**Goldstone**	**1.40**	**145**		*e*Pn		**Pn**	**18 06 59.8**	**+1.2**
GSC						*e*Sn	**Sg**	**18 07 19.6**	**+1.4**
NVAR	**Mina Array Bea**	**2.02**	**348**		Pn		**Pn**	**18 07 10.0**	**+2.8**
NVAR						Pg	**Pg**	**18 07 12.7**	**+0.9**
NVAR						Lg	Lg	18 07 40.1	
NVAR	**Mina Array Bea**	**2.02**	**348**		Pn		**Pn**	**18 07 10.0**	**+2.8**
	96nm,0.3s,baz=176,slow=16,SNR=436								
NVAR						Pg	**Pg**	**18 07 12.7**	**+0.9**
	104nm,0.3s,baz=174,slow=19,SNR=737								
NVAR						Lg	Lg	18 07 40.1	
	65nm,0.3s,baz=205,slow=17,SNR=7.4								
SHPR	**Sheep Range**	**2.12**	**88**		*e*Pn		**Pn**	**18 07 11.5**	**+2.8**
MWC	**Mount Wilson**	**2.23**	**186**		*e*Pn		**Pn**	**18 07 11.9**	**+1.7**
MWC						*e*Pg	**Pg**	**18 07 15.4**	**-0.6**
MWC						*e*Sn	**Sb**	**18 07 40.2**	**-1.1**
MWC						*e*Sg	**Sg**	**18 07 45.0**	**0.0**
LDFC	**Landfair**	**2.58**	**121**		*e*Pn		**Pn**	**18 07 16.0**	**+1.2**
R11A	**Troy Canyon, C**	**2.58**	**42**		*e*Pn		**Pn**	**18 07 17.8**	**+2.8**
R11A						*e*Sg	**Sg**	**18 07 57.7**	**+1.6**
CMB	**Columbia Colle**	**2.60**	**308**		Pn		**Pn**	**18 07 15.6**	**+0.4**
CMB						*e*Sg	**Sb**	**18 07 53.4**	**+1.6**
SAO	**San Andreas Ge**	**2.96**	**277**		*e*Pn		**Pn**	**18 07 21.5**	**+1.5**
PFO	**Pinyon Flat Ob**	**3.04**	**158**		*e*Pn		**Pn**	**18 07 22.4**	**+1.2**
PFO						Pn	**Pn**	**18 07 22.7**	**+1.4**
PFO						Pg	**Pg**	**18 07 30.8**	**-0.7**
PFO						*e*Pg	Pg	18 07 30.9	-0.8
PFO						Lg	Lg	18 08 09.8	
PFO	**Pinyon Flat Ob**	**3.04**	**158**		Pn		**Pn**	**18 07 22.7**	**+1.4**
	5.1nm,0.3s,baz=347,slow=10,SNR=39								
PFO						Pg	**Pg**	**18 07 30.8**	**-0.7**
	23nm,0.3s,baz=336,slow=14,SNR=65								
PFO						Lg	Lg	18 08 09.8	
	20nm,0.3s,baz=14,slow=12,SNR=8.6								
PAHR	**Pah Rah Range**	**3.48**	**339**		*e*Pn		**Pn**	**18 07 30.4**	**+3.1**
PAHR						*e*Pg	Pb	18 07 38.8	+3.9
CCUT	**Cedar City**	**3.71**	**72**		*e*Pn		**Pn**	**18 07 33.3**	**+2.7**
CCUT						*e*Pg	**Pg**	**18 07 44.7**	**+0.4**
ARUT	**Antelope Range**	**3.72**	**68**		*e*Pn		**Pn**	**18 07 32.6**	**+2.0**
SAC	**San Andreas**	**3.87**	**288**		*e*Pn		**Pn**	**18 07 34.3**	**+1.9**
BAR	**Barrett**	**3.88**	**166**		*e*Pn		**Pn**	**18 07 34.7**	**+2.1**
BAR						*e*Pb	**Pb**	**18 07 43.9**	**+2.4**
BEKR	**Beckworth**	**3.96**	**330**		*e*Pn		**Pn**	**18 07 33.5**	**-0.5**
BEKR						*e*Pg	**Pg**	**18 07 47.7**	**-1.4**
BEKR						*e*Sg	**Sg**	**18 08 39.2**	**-1.3**
BMN	**Battle Mountai**	**4.00**	**6**		*e*Pn		**Pn**	**18 07 36.4**	**+2.0**
GLA	**Glamis**	**4.18**	**143**		*e*Pn		**Pn**	**18 07 37.5**	**+0.7**
GLA						*e*Pg	**Pg**	**18 07 51.8**	**-1.4**
MCCM	**Marconi Confer**	**4.39**	**294**		*e*Pn		**Pn**	**18 07 38.8**	**-0.8**
ELK	**Elko**	**4.73**	**24**		*e*Pn		Pn	18 07 48.2	+3.7
ELK						*e*Pg	**Pg**	**18 08 03.7**	**-0.1**
ELK						*e*Sg	**Sg**	**18 09 04.2**	**-0.8**
MVU	**Marysvale**	**4.89**	**64**		*e*Pn		**Pn**	**18 07 47.7**	**+1.0**
WUAZ	**Wupatki**	**5.29**	**98**		*e*Pn		Pn	18 07 57.7	+5.5
	46nm,0.8s								
DUG	**Dugway**	**5.41**	**45**		*e*Pg		**Pg**	**18 08 15.9**	**-0.9**
	30nm,0.8s								
NLU	**North Lily Min**	**5.70**	**50**		*e*Pg		**Pg**	**18 08 21.2**	**-1.1**
	17nm,0.8s								
MOD	**Modoc**	**5.78**	**341**		Pn		Pn	18 08 05.0	+6.1
	46nm,0.6s								
Q16A	**Castle Valley**	**5.80**	**63**		*e*Pg		**Pg**	**18 08 23.1**	**-1.1**
BGU	**Big Grassy Mou**	**5.81**	**38**		*e*Pg		**Pg**	**18 08 24.2**	**-0.3**
	22nm,0.9s								
BGU						*e*Sg	**Sg**	**18 09 37.3**	**-2.5**
TMUT	**Trail Mountain**	**5.93**	**59**		*e*Pg		**Pg**	**18 08 26.9**	**+0.2**
	23nm,0.7s								
WVOR	**Wild Horse Val**	**6.01**	**354**		Pn		Pn	18 08 10.4	+8.4
	6.6nm,0.7s								
WVOR						*e*Pg	**Pg**	**18 08 26.7**	**-1.5**
MPU	**Maple Canyon**	**6.01**	**52**		*e*Pg		Pg	18 08 26.5	-1.8
	20nm,0.8s								
SRU	**San Rafael**	**6.34**	**63**		Pn		**Pn**	**18 08 08.8**	**+2.3**
	24nm,0.9s								
JLU	**Jordanelle**	**6.47**	**48**		Pn		**Pn**	**18 08 10.1**	**+1.7**
	4.6nm,0.7s								
DAU	**Daniels Canyon**	**6.48**	**50**

HHC				S	**S**	**18 30 28.1**	**-4.4**
WMQ	**Urumqi**	**96.81**	**342**	*eP*	P	18 20 07.9	+3.9
CD2	**Chengdu**	**102.49**	**324**	P	**Pdif**	**18 20 32.2**	**+2.6**

WEL 06 18:26:25.2±0.3,**36.77S**×**177.69E**,**h312**km±3km,**ML3.5**/6,
Error ellipse: s-maj=12.8km s-min=10.0km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.56**	**197**	PN	Pn	18 27 10.2	+0.4
URZ				SN	S	18 27 44.5	-0.9
BKZ	**Black Stump Fm**	**2.58**	**201**	PN	Pn	18 27 18.3	+0.5
BKZ				SN	S	18 28 00.0	+0.1
WNVZ	**Wahianoa**	**3.04**	**212**	PN	Pn	18 27 22.4	+0.1
WNVZ				SN	S	18 28 07.2	-0.8
PNHZ	**Pukenui**	**3.35**	**200**	PN	Pn	18 27 25.8	+0.6
MRZ	**Mangatainoka R**	**4.22**	**202**	PN	Pn	18 27 34.2	-0.2
CAW	**Cannon Point**	**4.79**	**204**	AML	AML	18 28 42.7	
TUWZ	**Tuamarina**	**5.49**	**211**	PN	Pn	18 27 48.4	-0.3
QRZ	**Quartz Range**	**5.71**	**223**	PN	Pn	18 27 50.1	-1.3
KHZ	**Kahutara**	**6.49**	**208**	PN	Pn	18 28 00.6	+0.2

*IDC **06** 18:31:51.8±0.7,4°.03S×34°.89E,h0km,mb4.0/17,*
mb1 4.2/20,mb1mx4.1/30,mbtmp4.1/20,ML3.5/2,Error ellipse: s-maj=19.9km s-min=13.6km az=118.0
*PRE **06** 18:31:52.7±3.8,4°.02S×34°.79E,h10km,mb4.2*
*NEIC **06** 18:31:52.9±0.4,4°.04S×34°.87E,h10km,mb4.6/12,Error ellipse: s-maj=11.5km s-min=7.8km az=114.0*
NEIC Felt at Haidom.
*ISCJB **06** 18:31:53.4±0.3,3°.93S±0°.04×34°.78E±0°.04,h22km,*
mb4.1/27,Error ellipse: s-maj=6.3km s-min=5.1km az=138.4
*BUL **06** 18:31:55.6±13.0,4°.13S×35°.17E,h0km±119km*

ISC 06 18:31:54.6±0.4,**4°.03S**±0°.04×**34°.81E**±0°.04,**h22km**,**n69**,
σ1**58**/**77**,**mb4.3**/**27**,**Tanzania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAUS	**Longido**	**2.28**	**56**	*i* P	**Pn**	**18 32 32.6**	**+1.5**
MAUS				*i* S	**Sn**	**18 32 56.3**	**-2.4**
DODT	**Dodoma, Tanzan**	**2.34**	**156**	*i* P	**Pn**	**18 32 31.7**	**-0.3**
DODT				*i* S	**Sb**	**18 33 06.2**	**+1.4**
KMBO	**Kilima Mbogo**	**3.78**	**40**	*eP*	**Pn**	**18 32 49.9**	**-1.9**
KMBO				*eS*	**Sn**	**18 33 36.6**	**+0.8**
KMBO	**Kilima Mbogo**	**3.78**	**40**	*ePn*	**Pn**	**18 32 48.8**	**-3.0**
KMBO				Pg	**Pb**	**18 32 58.6**	**-2.2**
KMBO				Sn	**Sn**	**18 33 34.2**	**-1.6**
KMBO				Lg	Lg	18 33 46.4	
KMBO	**Kilima Mbogo**	**3.78**	**40**	Pn	**Pn**	**18 32 49.6**	**-2.2**
	8.7nm,0.3s,baz=214,slow=18,SNR=76						
KMBO				Pg	**Pb**	**18 32 58.6**	**-2.2**
	33nm,0.3s,baz=221,slow=19,SNR=36						
KMBO				Sn	**Sn**	**18 33 34.2**	**-1.6**
	64nm,0.3s,baz=265,slow=23,SNR=3.3						
KMBO				Lg	Lg	18 33 46.4	
	131nm,0.3s,baz=217,slow=23,SNR=9.6						
KMBO	**Kilima Mbogo**	**3.78**	**40**	*i* P	**Pn**	**18 32 49.9**	**-1.9**
KMBO				*i* S	**Sn**	**18 33 33.5**	**-2.3**
KIG	**Kigali**	**5.16**	**293**	*eP*	**Pn**	**18 33 10.3**	**-0.5**
KIG				*eS*	**Sn**	**18 34 09.6**	**-0.3**
MBAR	**Mbarara**	**5.30**	**310**	*eP*	**Pn**	**18 33 11.3**	**-1.4**
MBAR				*eS*	**Sn**	**18 34 10.4**	**-2.8**
MBAR	**Mbarara**	**5.30**	**310**	*i* P	Pn	18 33 04.3	-8.4
MBAR				*i* S	**Sn**	**18 34 09.1**	**-4.1**
MZM	**Mzuzu**	**7.40**	**186**	*i* P	Pb	18 33 54.6	-7.7
MZM				*i* S	**Sn**	**18 34 58.9**	**-5.8**
LSZ	**Lusaka**	**12.94**	**210**	*eP*	**Pn**	**18 34 56.4**	**-1.0**
LSZ	**Lusaka**	**12.94**	**210**	Pn	**Pn**	**18 34 56.4**	**-1.0**
LSZ				Sn	Sn	18 37 13.4	-7.5
LSZ	**Lusaka**	**12.94**	**210**	Pn	**Pn**	**18 34 56.4**	**-1.0**
	3.0nm,0.3s,baz=33,slow=10,SNR=20						
LSZ				Sn	Sn	18 37 13.4	-7.5
	3.1nm,0.3s,baz=327,slow=19,SNR=5.5						
ATD	**Arta Tunnel**	**17.41**	**27**	Lg	Lg	18 40 58.5	
	1.0nm,0.3s,baz=261,slow=19,SNR=3.5						
MSNA	**Messina**	**18.79**	**194**	*eP*	**Pn**	**18 36 15.1**	**+1.9**
OPO	**Ambohidratompo**	**18.85**	**141**	P	**P**	**18 36 11.5**	**-2.1**
OPO	**Ambohidratompo**	**18.85**	**141**	P	**P**	**18 36 11.5**	**-2.1**
	0.1nm,0.3s,baz=338,slow=5.4,SNR=2.5						
SLR	**Silverton**	**22.47**	**196**	*eP*	**P**	**18 36 49.4**	**-3.3**
SLR				AMB	AMB	18 37 03.9	
	comp=Z,26nm,2.5s						
TSUM	**Tsumeb**	**22.59**	**227**	*eP*	**P**	**18 36 55.1**	**+1.1**
	comp=Z,25nm,0.9s						
TSUM				Lg	Lg	18 43 48.7	
TSUM	**Tsumeb**	**22.59**	**227**	P	**P**	**18 36 55.2**	**+1.3**
	comp=Z,4.1nm,0.9s,baz=63,slow=8.9,SNR=6.4						
TSUM				Lg	Lg	18 43 48.7	
	comp=Z,28nm,1.0s,baz=124,slow=13,SNR=4.3						
LBTB	**Lobatse**	**22.67**	**202**	*eP*	**P**	**18 36 54.4**	**-0.3**
LBTB	**Lobatse**	**22.67**	**202**	*eP*	**P**	**18 36 55.2**	**+0.4**
	comp=Z,29nm,1.2s						
LBTB				Lg	Lg	18 43 32.1	
LBTB	**Lobatse**	**22.67**	**202**	P	**P**	**18 36 55.3**	**+0.6**
	comp=Z,12nm,0.9s,baz=21,slow=13,SNR=7.7						
LBTB				Lg	Lg	18 43 32.1	
	comp=Z,23nm,0.9s,baz=293,slow=8.4,SNR=4.9						
PRYS	**Parys**	**23.86**	**197**	*eP*	**P**	**18 37 07.5**	**+0.8**
PRYS				AMB	AMB	18 37 12.9	
	comp=Z,14nm,5.0s						
SWZ	**Schweizer**	**24.74**	**201**	*eP*	**P**	**18 37 15.5**	**+0.7**
SEK	**Senekal**	**25.11**	**195**	*eP*	**P**	**18 37 19.8**	**+1.7**
SEK				AMB	AMB	18 37 25.8	
	comp=Z,18nm,2.9s						
WIN	**Windhoek**	**25.17**	**221**	*eP*	**P**	**18 37 20.0**	**+1.2**
BOSA	**Boshof**	**26.08**	**199**	*eP*	**P**	**18 37 26.9**	**-0.1**
BOSA	**Boshof**	**26.08**	**199**	*eP*	**P**	**18 37 27.7**	**+0.8**
	comp=Z,15nm,1.1s						
BOSA				Lg	Lg	18 45 25.8	
BOSA	**Boshof**	**26.08**	**199**	P	**P**	**18 37 28.2**	**+1.3**
	comp=Z,11nm,1.0s,baz=26,slow=12,SNR=7.0						
BOSA				Lg	Lg	18 45 25.8	
	comp=Z,22nm,1.0s,baz=298,slow=19,SNR=3.3						
SUR	**Sutherland**	**31.11**	**203**	Lg	Lg	18 48 13.0	
	comp=Z,20nm,0.9s,baz=315,slow=20,SNR=3.3						
TOA0	**Torodi Ar. Sit**	**37.05**	**298**	*eP*	**P**	**18 39 03.8**	**+0.5**
TORD	**Torodi Ar. Bea**	**37.05**	**298**	P	**P**	**18 39 03.9**	**+0.6**
TORD	**Torodi Ar. Bea**	**37.05**	**298**	P	**P**	**18 39 03.9**	**+0.6**
	comp=Z,2.7nm,0.9s,baz=114,slow=8.6,SNR=12						
TAM	**Tamanrasset**	**39.10**	**314**	*eP*	**P**	**18 39 21.7**	**+1.0**
	comp=Z,12nm,1.6s						
DBIC	**Dimbokro**	**41.00**	**285**	P	**P**	**18 39 36.1**	**-0.4**
	comp=Z,26nm,1.5s						
DBIC	**Dimbokro**	**41.00**	**285**	P	**P**	**18 39 37.0**	**+0.6**
	comp=Z,5.9nm,1.1s,baz=85,slow=11,SNR=2.3						
BRTR	**Keskin Array B**	**43.55**	**359**	P	**P**	**18 39 58.5**	**+1.5**
BRTR	**Keskin Array B**	**43.55**	**359**	P	**P**	**18 39 58.5**	**+1.5**
	comp=Z,0.5nm,0.7s,baz=172,slow=10,SNR=3.5						
KEST	**Kesra**	**46.19**	**331**	P	**P**	**18 40 19.4**	**+1.3**
KEST	**Kesra**	**46.19**	**331**	P	**P**	**18 40 19.4**	**+1.3**
	comp=Z,1.1nm,0.8s,baz=49,slow=12,SNR=3.1						
KBZ	**Khabaz**	**48.10**	**8**	P	**P**	**18 40 33.8**	**+1.2**
KBZ	**Khabaz**	**48.10**	**8**	P	**P**	**18 40 33.8**	**+1.2**
	comp=Z,1.2nm,0.6s,baz=258,slow=10,SNR=3.5						
PSZ	**Piszkesteto**	**53.36**	**348**	P	**P**	**18 41 13.5**	**+1.1**
	comp=Z,5.7nm,1.0s						
KWP	**Kalwaria Pacla**	**54.47**	**350**	P	**P**	**18 41 18.0**	**-2.4**
	comp=Z,13nm,1.2s						
AKASG	**Malin Array Be**	**54.73**	**356**	P	**P**	**18 41 22.4**	**+0.2**
AKASG	**Malin Array Be**	**54.73**	**356**	P	**P**	**18 41 22.4**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=182,slow=7.1,SNR=4.5						
BNI	**Bardonecchia**	**54.95**	**336**	*eP*	**P**	**18 41 23.0**	**-1.1**
	comp=Z,9.1nm,1.2s						
GERES	**GERESS Array B**	**55.78**	**343**	P	**P**	**18 41 30.2**	**+0.2**
GERES	**GERESS Array B**	**55.78**	**343**	P	**P**	**18 41 30.2**	**+0.2**
	comp=Z,1.6nm,1.0s,baz=157,slow=7.2,SNR=11						
ESDC	**Sonseca Array**	**56.23**	**324**	P	**P**	**18 41 34.6**	**+1.2**
ESDC	**Sonseca Array**	**56.23**	**324**	P	**P**	**18 41 34.6**	**+1.2**
	comp=Z,4.4nm,1.1s,baz=131,slow=7.5,SNR=9.0						
ESLA	**Sonseca Array**	**56.23**	**324**	P	**P**	**18 41 32.4**	**-0.9**
	comp=Z,6.9nm,1.4s						
KKAR	**Karatay Array**	**56.92**	**31**	*eP*	**P**	**18 41 39.1**	**+1.0**
	comp=Z,0.8nm,0.6s						
EKS2	**Erkin-Say**	**58.34**	**33**	P	**P**	**18 41 48.8**	**+0.5**
	comp=Z,2.6nm,1.2s						
TKM2	**Tokmak 2**	**59.51**	**34**	*eP*	**P**	**18 41 56.8**	**+0.3**
	comp=Z,3.4nm,1.0s						
FINES	**FINESS Array B**	**65.63**	**355**	P	**P**	**18 42 37.2**	**+0.4**
FINES	**FINESS Array B**	**65.63**	**355**	P	**P**	**18 42 37.2**	**+0.4**
	comp=Z,2.7nm,0.8s,baz=216,slow=11,SNR=3.3						
MKAR	**Makanchi Array**	**65.64**	**34**	P	**P**	**18 42 37.4**	**+0.2**
MKAR	**Makanchi Array**	**65.64**	**34**	P	**P**	**18 42 37.4**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=234,slow=6.7,SNR=6.7						
KURK	**Kurchatov**	**66.19**	**29**	P	**P**	**18 42 41.3**	**+0.7**
CMAR	**Chiang Mai Arr**	**66.98**	**68**	P	**P**	**18 42 47.0**	**+0.7**
CMAR	**Chiang Mai Arr**	**66.98**	**68**	P	**P**	**18 42 47.0**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=264,slow=7.0,SNR=7.5						
ZALV	**Zalesovo Beam**	**71.18**	**29**	P	**P**	**18 43 11.6**	**0.0**
ZALV	**Zalesovo Beam**	**71.18**	**29**	P	**P**	**18 43 11.6**	**0.0**
	comp=Z,0.8nm,0.8s,baz=224,slow=8.3,SNR=4.2						
ARCES	**ARCESS Array B**	**73.69**	**357**	P	**P**	**18 43 26.9**	**+0.6**
ARCES	**ARCESS Array B**	**73.69**	**357**	P	**P**	**18 43 26.9**	**+0.6**
	comp=Z,2.8nm,0.8s,baz=198,slow=2.3,SNR=5.9						
SONM	**Songino Array**	**80.75**	**40**	P	**P**	**18 44 08.2**	**+1.6**
SONM	**Songino Array**	**80.75**	**40**	P	**P**	**18 44 08.2**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=242,slow=5.8,SNR=5.5						

*IDC **06** 18:32:51.8±1.2,3°.87S×34°.85E,h0km,mb3.7/8,*
mb1 3.9/10,mb1mx3.8/28,mbtmp3.8/10,ML4.4/2,MS4.0/3,
Ms1 3.9/3,ms1mx3.4/39,Error ellipse: s-maj=32.9km s-min=26.0km az=43.0
*ISCJB **06** 18:32:52.3±0.6,3°.89S±0°.08×34°.94E±0°.09,h22km,*
mb3.9/11,MS4.0/3,Error ellipse: s-maj=15.1km s-min=8.5km az=32.1
*NEIC **06** 18:32:52.8±0.6,3°.88S×34°.92E,h10km,mb4.4/3,Error ellipse: s-maj=18.7km s-min=12.3km az=112.0*
NEIC Felt at Haidom.

ISC 06 18:32:54.7±0.6,**3°.92S**±0°.09×**34°.9E**±0°.1,**h22km**,**n29**,
σ1**05**/**25**,**mb3.9**/**11**,**MS4.2**/**3**,**Lake Victoria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**3.63**	**40**	Pn	Pn	18 33 45.4	-4.5
KMBO				*eSn*	**Sn**	**18 34 29.1**	**-3.0**
KMBO				Lg	Lg	18 34 46.9	
KMBO	**Kilima Mbogo**	**3.63**	**40**	Lg	Lg	18 34 46.9	
	80nm,0.3s,baz=306,slow=19,SNR=3.6						
LSZ	**Lusaka**	**13.08**	**210**	Pn	**Pn**	**18 35 58.6**	**-0.9**
LSZ	**Lusaka**	**13.08**	**210**	Pn	**Pn**	**18 35 58.6**	**-0.9**
	1.6nm,0.3s,baz=38,slow=15,SNR=3.3						
OPO	**Ambohidratompo**	**18.88**	**141**	P	**Pn**	**18 37 15.1**	**+0.6**
OPO	**Ambohidratompo**	**18.88**	**141**	P	**Pn**	**18 37 15.1**	**+0.6**
	0.3nm,0.3s,baz=278,slow=13,SNR=3.7						
BOSA	**Boshof**	**26.22**	**199**	*eP*	**P**	**18 38 26.8**	**-1.5**
	12nm,1.2s						
TORD	**Torodi Ar. Bea**	**37.08**	**298**	P	**P**	**18 40 03.3**	**-0.4**
TORD	**Torodi Ar. Bea**	**37.08**	**298**	P	**P**	**18 40 03.3**	**-0.4**
	1.0nm,0.9s,baz=109,slow=8.4,SNR=2.2						
DBIC	**Dimbokro**	**41.06**	**285**	LR	LR	18 56 41.5	
	comp=Z,112nm,19.7s,baz=81,slow=35						
AKASG	**Malin Array Be**	**54.62**	**356**	P	**P**	**18 42 21.4**	**-0.1**
AKASG	**Malin Array Be**	**54.62**	**356**	P	**P**	**18 42 21.4**	**-0.1**
	0.2nm,0.4s,baz=176,slow=5.9,SNR=3.4						
GERES	**GERESS Array B**	**55.70**	**343**	P	**P**	**18 42 29.2**	**-0.3**
GERES	**GERESS Array B**	**55.70**	**343**	P	**P**	**18 42 29.2**	**-0.3**
	0.8nm,0.8s,baz=159,slow=5.9,SNR=4.9						
ESDC	**Sonseca Array**	**56.19**	**324**	P	**P**	**18 42 33.8**	**+0.6**
ESDC	**Sonseca Array**	**56.19**	**324**	P	**P**	**18 42 33.8**	**+0.6**
	1.4nm,0.9s,baz=130,slow=6.7,SNR=4.1						
EKS2	**Erkin-Say**	**58.19**	**33**	P	**P**	**18 42 47.1**	**-0.2**
TKM2	**Tokmak 2**	**59.36**	**34**	P	**P**	**18 42 55.5**	**-0.1**
	3.1nm,1.0s						
MKAR	**Makanchi Array**	**65.49**	**34**	P	**P**	**18 43 36.2**	**-0.1**
MKAR	**Makanchi Array**	**65.49**	**34**	P	**P**	**18 43 36.2**	**-0.1**
	0.6nm,0.6s,baz=230,slow=5.4,SNR=4.3						
FINES	**FINESS Array B**	**65.53**	**355**	P	**P**	**18 43 36.6**	**+0.4**
FINES	**FINESS Array B**	**65.53**	**355**	P	**P**	**18 43 36.6**	**+0.4**
	3.4nm,1.1s,baz=238,slow=4.7,SNR=2.5						
KURK	**Kurchatov**	**66.04**	**29**	P	**P**	**18 43 39.9**	**+0.2**
	2.5nm,1.1s						
CMAR	**Chiang Mai Arr**	**66.84**	**68**	P	**P**	**18 43 45.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**66.84**	**68**	P	**P**	**18 43 45.8**	**+0.3**
	0.4nm,0.8s,baz=262,slow=7.7,SNR=3.1						
SONM	**Songino Array**	**80.60**	**40**	P	**P**	**18 45 07.9**	**+2.1**
SONM	**Songino Array**	**80.60**	**40**	P	**P**	**18 45 07.9**	**+2.1**
	0.4nm,0.7s,baz=263,slow=5.0,SNR=2.5						
FITZ	**Fitzroy Crossi**	**89.50**	**108**	LR	LR	19 21 09.8	
	comp=Z,90nm,20.3s,baz=358,slow=32						
SFJD	**Kangerlussuaq**	**91.82**	**337**	LR	LR	19 31 16.0	
	comp=Z,76nm,18.2s,baz=260,slow=38						

*PRE **06** 18:35:08.3±1.8,5°.13S×34°.82E,h10km,ML5.8*
*IDC **06** 18:35:27.3±0.6,3°.94S×34°.80E,h0km,mb4.2/18,*
mb1 4.3/20,mb1mx4.2/30,mbtmp4.2/20,ML4.0/2,MS3.8/5,
Ms1 3.7/5,ms1mx3.4/38,Error ellipse: s-maj=18.9km s-min=13.5km az=110.0
*ISCJB **06** 18:35:28.6±0.3,3°.91S±0°.04×34°.73E±0°.04,h22km,*
mb4.4/35,MS3.8/3,Error ellipse: s-maj=6.3km s-min=5.7km az=171.6
*NEIC **06** 18:35:28.1±0.4,4°.02S×34°.71E,h10km,mb4.5/21,Error ellipse: s-maj=12.2km s-min=8.6km az=98.0*
NEIC Felt at Haidom.

ISC 06 18:35:30.5±0.4,**3°.96S**±0°.04×**34°.77E**±0°.05,**h22km**,**n78**,
σ1**11**/**73**,**mb4.4**/**35**,**MS3.7**/**3**,**Lake Victoria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAUS	**Longido**	**2.27**	**58**	*i* P	**Pb**	**18 36 09.6**	**-1.4**
MAUS				*i* S	**Sn**	**18 36 34.6**	**+0.2**
DODT	**Dodoma, Tanzan**	**2.42**	**156**	*i* S	**Sn**	**18 36 38.2**	**+0.2**
DODT	**Dodoma, Tanzan**	**2.42**	**156**	*i* S	**Sb**	**18 36 41.4**	**-1.6**
KMBO	**Kilima Mbogo**	**3.75**	**41**	*eP*	Pn	18 36 20.3	-7.0
KMBO				*eS*	**Sn**	**18 37 11.7**	**+0.7**
KMBO	**Kilima Mbogo**	**3.75**	**41**	Pg	**Pb**	**18 36 36.4**	**+0.2**
KMBO				*eSn*	Sn	18 37 03.4	-7.6
KMBO				Sn	Sb	18 37 08.7	-13
KMBO				Lg	Lg	18 37 19.6	
KMBO	**Kilima Mbogo**	**3.75**	**41**	Pn	Pn	18 36 22.7	-4.6
	32nm,0.3s,baz=218,slow=19,SNR=2.6						
KMBO				Pg	**Pb**	**18 36 36.4**	**+0.2**
	58nm,0.3s,baz=218,slow=19,SNR=8.3						
KMBO				Sn	**Sn**	**18 37 08.7**	**-2.2**
	140nm,0.3s,baz=311,slow=19,SNR=4.9						
KMBO				Lg	Lg	18 37 19.6	
	187nm,0.3s,baz=270,slow=20,SNR=5.0						
KIG	**Kigali**	**5.10**	**293**	*eP*	Pn	18 36 34.8	-11
KIG				*eS*	Sn	18 37 37.1	-7.2
KIG				AML	AML	18 38 12.9	
	comp=Z,4μm,0.6s						
MBAR	**Mbarara**	**5.23**	**310**	*eP*	Pn	18 36 37.5	-10
MBAR				*eS*	**Sn**	**18 37 46.0**	**-1.4**
MZM	**Mzuzu**	**7.46**	**186**	*i* S	Sb	18 39 16.2	+8.2
MZM	**Mzuzu**	**7.46**	**186**	*i* S	Sb	18 39 17.6	+10
LSZ	**Lusaka**	**12.98**	**210**	Pn	**Pn**	**18 38 33.0**	**-0.9**
LSZ				Sn	Sn	18 41 13.5	+16
LSZ				Lg	Lg	18 42 10.4	
LSZ	**Lusaka**	**12.98**	**210**	Pn	**Pn**	**18 38 33.0**	**-0.9**
	comp=Z,6.4nm,0.3s,baz=17,slow=14,SNR=4.7						
LSZ				Sn	Sn	18 41 13.5	+16
	comp=Z,3.0nm,0.3s,baz=314,slow=18,SNR=3.6						
LSZ				Lg	Lg	18 42 10.4	
	comp=Z,9.7nm,0.3s,baz=303,slow=21,SNR=9.8						
LSZ				LR	LR	18 43 30.0	
	comp=Z,207nm,19.8s,baz=208,slow=37						
ATD	**Arta Tunnel**	**17.36**	**27**	P	**Pn**	**18 39 30.3**	**-1.3**
ATD				Lg	Lg	18 44 32.4	
ATD	**Arta Tunnel**	**17.36**	**27**	P	**Pn**	**18 39 30.3**	**-1.3**
	comp=Z,0.8nm,0.3s,baz=221,slow=20,SNR=3.0						
ATD				Lg	Lg	18 44 32.4	
	comp=Z,1.2nm,0.3s,baz=202,slow=19,SNR=4.0						
ATD				LR	LR	18 46 24.4	
	comp=Z,236nm,21.4s,baz=341,slow=38						
OPO	**Ambohidratompo**	**18.93**	**141**	P	**P**	**18 39 49.7**	**-0.6**
OPO	**Ambohidratompo**	**18.93**	**141**	P	**P**	**18 39 49.7**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=294,slow=11,SNR=4.2						
ABPO	**Ambohimpanom**	**19.29**	**142**	P	**Pn**	**18 39 55.1**	**-0.2**
	comp=Z,24nm,1.4s						
MSEY	**Mahe Island**	**20.66**	**93**	P	P	18 40 00.7	-8.5
TSUM	**Tsumeb**	**22.61**	**227**	P	P	18 40 23.4	-6.7
TSUM				Lg	Lg	18 47 28.4	
TSUM	**Tsumeb**	**22.61**	**227**	P	**P**	**18 40 30.4**	**+0.2**
	comp=Z,5.1nm,0.8s,baz=39,slow=13,SNR=3.3						
TSUM				Lg	Lg	18 47 28.4	
	comp=Z,27nm,1.0s,baz=27,slow=2.3,SNR=2.8						
LBTB	**Lobatse**	**22.72**	**202**	*eP*	P	18 40 23.8	-7.4
	comp=Z,14nm,0.8s						
LBTB				Lg	Lg	18 47 15.8	
LBTB	**Lobatse**	**22.72**	**202**	P	**P**	**18 40 32.7**	**+1.5**
	comp=Z,14nm,0.9s,baz=16,slow=13,SNR=4.1						
LBTB				Lg	Lg	18 47 15.8	
	comp=Z,26nm,1.0s,baz=104,slow=16,SNR=3.6						
LBTB				LR	LR	18 49 53.8	
	comp=Z,166nm,20.2s,baz=227,slow=38						
BOSA	**Boshof**	**26.14**	**199**	*eP*	**P**	**18 40 59.8**	**-3.6**
	comp=Z,21nm,1.2s						
BOSA				Lg	Lg	18 49 09.8	
BOSA	**Boshof**	**26.14**	**199**	P	**P**	**18 41 03.0**	**-0.4**
	comp=Z,6.8nm,1.0s,baz=14,slow=12,SNR=2.2						
BOSA				Lg	Lg	18 49 09.8	
	comp=Z,16nm,0.8s,baz=111,slow=18,SNR=3.8						
BOSA				LR	LR	18 51 15.4	
	comp=Z,204nm,18.2s,baz=24,slow=36						
TOA0	**Torodi Ar. Sit**	**36.98**	**298**	*eP*	**P**	**18 42 38.1**	**-0.6**
TORD	**Torodi Ar. Bea**	**36.98**	**298**	P	**P**	**18 42 39.0**	**+0.3**
TORD	**Torodi Ar. Bea**	**36.98**	**298**	P	**P**	**18 42 39.0**	**+0.3**
	comp=Z,2.0nm,0.6s,baz=104,slow=6.2,SNR=8.8						
CSS	**Prodhromos**	**38.74**	**358**	P	**P**	**18 42 55.1**	**+1.9**
	comp=Z,27nm,1.3s						
TAM	**Tamanrasset**	**39.02**	**314**	P	**P**	**18 42 57.7**	**+1.7**
	comp=Z,4.4nm,1.1s						
GVD	**Gavdhos**	**39.88**	**346**	P	**P**	**18 43 01.1**	**-1.6**
	comp=Z,109nm,1.0s						
DBIC	**Dimbokro**	**40.94**	**285**	*eP*	**P**	**18 43 08.8**	**-3.0**
	comp=Z,16nm,1.2s						
DBIC	**Dimbokro**	**40.94**	**285**	P	**P**	**18 43 12.0**	**+0.1**
	comp=Z,2.6nm,0.6s,baz=82,slow=7.2,SNR=5.2						
BRTR	**Keskin Array B**	**43.48**	**359**	P	**P**	**18 43 34.0**	**+1.6**
BRTR				PcP	**PcP**	**18 45 21.1**	**+0.8**
BRTR	**Keskin Array B**	**43.48**	**359**	P	**P**	**18 43 34.0**	**+1.6**
	comp=Z,1.9nm,1.0s,baz=178,slow=9.3,SNR=4.5						
BRTR				PcP	**PcP**	**18 45 21.1**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=182,slow=3.7,SNR=4.0						
BR131	**Keskin Array S**	**43.48**	**359**	*eP*	**P**	**18 43 33.5**	**+1.2**
	comp=Z,1.8nm,0.8s						
KBZ	**Khabaz**	**48.03**	**8**	P	**P**	**18 44 09.3**	**+1.3**
KBZ	**Khabaz**	**48.03**	**8**	P	**P**	**18 44 09.3**	**+1.3**
	comp=Z,2.6nm,1.0s,baz=202,slow=11,SNR=4.4						
PSZ	**Piszkesteto**	**53.28**	**348**	P	**P**	**18 44 47.5**	**-0.2**
	comp=Z,11nm,1.3s						
AKASG	**Malin Array Be**	**54.65**	**356**	P	**P**	**18 44 56.8**	**-0.8**
AKASG	**Malin Array Be**	**54.65**	**356**	P	**P**	**18 44 56.8**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=182,slow=6.1,SNR=6.9						
BNI	**Bardonecchia**	**54.87**	**336**	P	**P**	18 45 03.9	+4.5
	comp=Z,7.3nm,1.2s						
MORC	**Moravsky Berou**	**55.56**	**347**	P	**P**	**18 45 02.9**	**-1.3**
	comp=Z,5.4nm,1.1s						
GERES	**GERESS Array B**	**55.70**	**343**	P	**P**	**18 45 05.5**	**+0.2**
GERES	**GERESS Array B**	**55.70**	**343**	P	**P**	**18 45 05.5**	**+0.2**
	comp=Z,3.1nm,0.9s,baz=146,slow=7.4,SNR=10						
KHC	**Kasperske Hory**	**55.99**	**343**	*eP*	**P**	**18 45 05.8**	**-1.5**
	comp=Z,11nm,1.3s						
ESDC	**Sonseca Array**	**56.15**	**324**	P	**P**	**18 45 09.7**	**+1.0**
ESDC	**Sonseca Array**	**56.15**	**324**	P	**P**	**18 45 09.7**	**+1.0**
	comp=Z,3.0nm,0.8s,baz=133,slow=6.7,SNR=11						
ESLA	**Sonseca Array**	**56.15**	**324**	P	**P**	**18 45 08.4**	**-0.3**
	comp=Z,1.4nm,0.9s						
KKAR	**Karatay Array**	**56.88**	**31**	*eP*	**P**	**18 45 14.1**	**+0.3**
	comp=Z,0.9nm,0.6s						
AAK	**Ala-Archa**	**58.67**	**34**	P	**P**	**18 45 27.0**	**+0.4**
	comp=Z,3.0nm,0.8s						
TKM2	**Tokmak 2**	**59.47**	**34**	*eP*	**P**	**18 45 31.9**	**-0.2**
	comp=Z,6.4nm,1.1s		

NEM2	**Nemuro 2**	**1.75 236**	P	Pn	18 47 01.5	+0.5
NEM2			*e*S	Sn	18 47 22.5	+0.4
JRA	**Rausu**	**1.93 259**	P	Pn	18 47 04.0	+0.6
JRA			*e*S	Sn	18 47 26.7	+0.2
JNK	**Nakash**	**2.31 252**	P	Pn	18 47 09.5	+0.8
JNK			*e*S	Sn	18 47 36.4	+0.5
JAK	**Akkeshi**	**2.59 240**	P	Pn	18 47 12.8	+0.4
JAK			*e*S	Sn	18 47 42.3	-0.4
JTKR	**Abashiri--Toko**	**2.78 264**	P	Pn	18 47 15.6	+0.5
JAR	**Ashorobuto**	**3.06 251**	P	Pn	18 47 20.2	+1.3
JAR			*e*S	Sn	18 47 56.2	+1.9
JMP	**Maruseppu**	**3.17 265**	P	Pn	18 47 20.9	+0.5
JOB	**Onbets**	**3.18 244**	P	Pn	18 47 21.8	+1.3
JOB			*e*S	Sn	18 47 57.6	+0.4
JCH	**Churui**	**3.63 243**	P	Pn	18 47 27.8	+1.2
JCH			*e*S	Sn	18 48 08.0	-0.2
JKK2	**Kamakawa 2**	**3.63 264**	P	Pn	18 47 27.7	+1.0
JSE	**Soyaes**	**3.73 281**	P	Pn	18 47 28.2	+0.2
JFR	**Furan**	**3.91 254**	P	Pn	18 47 32.5	+1.9
JNBK	**Urakawa-nobuka**	**4.19 242**	P	Pn	18 47 34.5	+0.2
JKB	**Kayabe**	**5.49 246**	P	Pn	18 47 52.2	+0.1
JKB			*e*S	Sn	18 48 49.7	-4.2

*IDC **06** 19:16:23.9±1.1,46°.45N×27°.39W,h0km,mb3.6/5, mb1 3.8/6,mb1mx3.5/32,mbtmp3.6/6,ML4.8/1,MS3.2/2, Ms1 3.2/2,ms1mx2.7/36,Error ellipse: s-maj=45.3km s-min=25.4km az=19.0*

*ISCJB **06** 19:16:24.2±0.9,46°.3N±0°.2×27°.4W±0°.2,h16km,mb3.5/5, MS3.2/1,Error ellipse: s-maj=35.9km s-min=13.1km az=21.8*

ISC 06 19:16:26.1±1.0,**46°.4N**±0°.3×**27°.3W**±0°.1,**h16**km,**n14, σ1§83/10,mb3.5/5,Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POLO	**Lamas de Olo**	**14.92**	**103**	*e*P	**Pn**	**19 19 57.2**	**+0.8**
PBRG	**Braganca**	**15.46**	**100**	*e*P	**Pn**	**19 19 59.4**	**-4.0**
PMTG	**Montargil**	**15.79**	**111**	*e*P	**Pn**	**19 20 05.8**	**-1.9**
	30nm,1.6s						
ESDC	**Sonseca Array**	**18.30**	**103**	P	**P**	**19 20 40.9**	**+1.6**
	0.7nm,0.3s,baz=295,slow=13,SNR=7.1						
ESDC				LR	LR	19 27 00.5	
	comp=Z,54nm,18.3s,baz=320,slow=35						
GERES	**GERESS Array B**	**27.51**	**70**	LR	LR	19 32 31.7	
	comp=Z,54nm,18.4s,baz=2.2,slow=35						
TORD	**Torodi Ar. Bea**	**41.17**	**134**	P	**P**	**19 24 10.1**	**+0.3**
	0.8nm,0.8s,baz=330,slow=9.2,SNR=4.0						
PDAR	**Pinedale Array**	**56.15**	**299**	P	**P**	**19 26 04.6**	**-0.5**
	0.4nm,0.8s,baz=64,slow=4.1,SNR=3.1						
H10S1	**ASCENSION HYDR**	**56.24**	**165**	T	T	20 26 31.6	
	baz=350,slow=0.7,SNR=16						
H10S3	**ASCENSION HYDR**	**56.25**	**165**	T	T	20 26 31.4	
	baz=350,slow=0.7,SNR=16						
H10S2	**ASCENSION HYDR**	**56.26**	**165**	T	T	20 26 33.0	
	baz=350,slow=0.7,SNR=18						
TXAR	**Lajitas Array**	**60.38**	**283**	P	**P**	**19 26 34.6**	**0.0**
	0.1nm,0.3s,baz=81,slow=7.7,SNR=3.9						
MKAR	**Makanchi Array**	**68.59**	**44**	P	**P**	**19 27 27.9**	**0.0**
	0.9nm,0.8s,baz=335,slow=5.4,SNR=3.7						
SONM	**Songino Array**	**77.80**	**30**	P	**P**	**19 28 23.0**	**+0.5**
	0.5nm,0.9s,baz=330,slow=10,SNR=3.4						
WRA	**Warramunga Arr**	**149.62**	**36**	PKPbc	**PKPbc**	**19 36 15.1**	**+0.1**
	0.9nm,0.8s,baz=338,slow=3.1,SNR=4.6						

*ISCJB **06** 19:38:08.5±0.3,41°.76N±0°.02×13°.65E±0°.02,h13km±2km, Error ellipse: s-maj=3.7km s-min=2.6km az=30.5*

*ROM **06** 19:38:09.1±0.1,41°.74N×13°.69E,h11km,Ml3.1/29,Error ellipse: s-maj=1.4km s-min=0.9km az=39.0*

*CSEM **06** 19:38:09.0±0.1,41°.72N×13°.66E,h2km,ML3.7/7,Error ellipse: s-maj=3.4km s-min=2.1km az=34.0*

*LDG **06** 19:38:09.8±0.2,41°.66N×13°.69E,h10km,Ml2.8/3,Error ellipse: s-maj=6.9km s-min=3.3km az=28.0*

*PRU **06** 19:38:11.4,41°.76N×14°.01E,h0km*

ISC 06 19:38:09.4±0.8,**41°.72N**±0°.02×**13°.65E**±0°.02,**h12**km±4km, **n110,σ1§21/148,7C-6D,Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POFI	**Posta Fibreno**	**0.05**	**89**	⇓*i*Pg	**Pg**	**19 38 11.6**	**-0.2**
POFI				Sg	**Sg**	**19 38 13.0**	**-0.5**
	5μm,0.3s						
POFI	**Posta Fibreno**	**0.05**	**89**	⇓*i*Pg	**Pg**	**19 38 11.6**	**-0.2**
POFI				Sg	**Sg**	**19 38 13.0**	**-0.5**
	5μm,0.3s						
SDI	**San Donato**	**0.12**	**94**	⇓*i*Pg	**Pg**	**19 38 12.1**	**-0.4**
SDI	**San Donato**	**0.12**	**94**	⇓*i*Pg	**Pg**	**19 38 12.1**	**-0.4**
VVLD	**Villa Vallelon**	**0.15**	**352**	Pg	**Pg**	**19 38 13.1**	**0.0**
VVLD				Sg	**Sg**	**19 38 15.9**	**+0.2**
	8μm,0.3s						
VVLD	**Villa Vallelon**	**0.15**	**352**	Pg	**Pg**	**19 38 13.1**	**0.0**
VVLD				Sg	**Sg**	**19 38 15.9**	**+0.2**
	8μm,0.3s						
CERA	**Filignano**	**0.30**	**113**	Pg	**Pg**	**19 38 15.1**	**-0.4**
CERA				Sg	**Sg**	**19 38 19.7**	**0.0**
	6μm,0.5s						
CERA	**Filignano**	**0.30**	**113**	Pg	**Pg**	**19 38 15.1**	**-0.4**
CERA				Sg	**Sg**	**19 38 19.7**	**0.0**
	6μm,0.5s						
GIUL	**Giuliano Di Ro**	**0.34**	**242**	Pg	**Pb**	**19 38 17.0**	**-0.3**
GIUL				Sg	**Sb**	**19 38 23.2**	**+0.6**
	2μm,0.4s						
GIUL	**Giuliano Di Ro**	**0.34**	**242**	Pg	**Pb**	**19 38 17.0**	**-0.3**
INTR	**Introdacqua**	**0.35**	**33**	⇑*i*Pg	**Pg**	**19 38 15.8**	**-0.7**
INTR				Sg	**Sg**	**19 38 21.0**	**-0.2**
	5μm,0.5s						
INTR	**Introdacqua**	**0.35**	**33**	⇑*i*Pg	**Pg**	**19 38 15.8**	**-0.7**
INTR				Sg	**Sg**	**19 38 21.0**	**-0.2**
	5μm,0.5s						
PTQR	**Pietraquaria**	**0.36**	**329**	Pg	**Pg**	**19 38 16.8**	**+0.2**
PTQR				Sg	**Sg**	**19 38 21.5**	**+0.1**
PTQR	**Pietraquaria**	**0.36**	**329**	Pg	**Pg**	**19 38 16.8**	**+0.2**
PTQR				Sg	**Sg**	**19 38 21.5**	**+0.1**
RNI2	**Rionero Sannit**	**0.38**	**92**	Pg	**Pg**	**19 38 16.7**	**-0.2**
RNI2				Sg	**Sg**	**19 38 22.5**	**+0.5**
	4μm,0.4s						
RNI2	**Rionero Sannit**	**0.38**	**92**	Pg	**Pg**	**19 38 16.7**	**-0.2**
RNI2				Sg	**Sg**	**19 38 22.5**	**+0.5**
	4μm,0.4s						
MIDA	**Miranda**	**0.46**	**99**	Pg	**Pg**	**19 38 17.7**	**-0.7**
MIDA				Sg	**Sg**	**19 38 24.4**	**-0.2**
	1μm,0.5s						
MIDA	**Miranda**	**0.46**	**99**	Pg	**Pg**	**19 38 17.7**	**-0.7**
MIDA				Sg	**Sg**	**19 38 24.4**	**-0.2**
	1μm,0.5s						
VAGA	**Valle Agricola**	**0.53**	**124**	Pg	**Pg**	**19 38 19.2**	**-0.6**
	910nm,0.3s						
VAGA	**Valle Agricola**	**0.53**	**124**	Pg	**Pg**	**19 38 19.2**	**-0.6**
	910nm,0.3s						
CERT	**Cerreto**	**0.55**	**295**	Pg	**Pg**	**19 38 20.2**	**+0.1**
CERT				Sg	**Sb**	**19 38 28.8**	**-0.1**
	1μm,0.4s						
CERT	**Cerreto**	**0.55**	**295**	Pg	**Pg**	**19 38 20.2**	**+0.1**
CERT				Sg	**Sb**	**19 38 28.8**	**-0.1**
	1μm,0.4s						
FAGN	**Fagnano**	**0.55**	**355**	Pg	**Pg**	**19 38 19.5**	**-0.7**
	4μm,0.4s						
FAGN	**Fagnano**	**0.55**	**355**	Pg	**Pg**	**19 38 19.5**	**-0.7**
	4μm,0.4s						
MSC	**Monte Massico**	**0.58**	**155**	Pg	**Pg**	**19 38 20.5**	**-0.1**
MSC	**Monte Massico**	**0.58**	**155**	Pg	**Pg**	**19 38 20.5**	**-0.1**
MODR	**Mondragone**	**0.60**	**163**	Pg	**Pg**	**19 38 20.5**	**-0.5**
MODR	**Mondragone**	**0.60**	**163**	Pg	**Pg**	**19 38 20.5**	**-0.5**
SGG	**Gregorio Mates**	**0.64**	**121**	Pg	**Pg**	**19 38 21.5**	**-0.3**
	664nm,0.6s						
SGG	**Gregorio Mates**	**0.64**	**121**	Pg	**Pg**	**19 38 21.5**	**-0.3**
	664nm,0.6s						
TRIV	**Trivento**	**0.68**	**85**	Pg	**Pg**	**19 38 21.4**	**-1.1**
	609nm,0.6s						
TRIV	**Trivento**	**0.68**	**85**	Pg	**Pg**	**19 38 21.4**	**-1.1**
	609nm,0.6s						
FIAM	**Fiamignano**	**0.68**	**324**	Pg	**Pg**	**19 38 22.2**	**-0.4**
	731nm,0.5s						
FIAM	**Fiamignano**	**0.68**	**324**	Pg	**Pg**	**19 38 22.2**	**-0.4**
	731nm,0.5s						
VCEL	**Villa Celiera**	**0.69**	**12**	Pg	**Pg**	**19 38 22.0**	**-0.8**
VCEL				Sg	**Sg**	**19 38 32.7**	**+0.7**
VCEL	**Villa Celiera**	**0.69**	**12**	Pg	**Pg**	**19 38 22.0**	**-0.8**
VCEL				Sg	**Sg**	**19 38 32.7**	**+0.7**
RDP	**Rocca di Papa**	**0.70**	**274**	Pg	**Pg**	**19 38 23.1**	**+0.2**
	2μm,0.5s						
RDP	**Rocca di Papa**	**0.70**	**274**	Pg	**Pg**	**19 38 23.1**	**+0.2**
	2μm,0.5s						
RMP	**Rome, Mte Porz**	**0.71**	**278**	Pg	**Pg**	**19 38 23.2**	**0.0**
	1μm,0.4s						
RMP	**Rome, Mte Porz**	**0.71**	**278**	Pg	**Pg**	**19 38 23.2**	**0.0**
	1μm,0.4s						
BSSO	**Busso**	**0.73**	**103**	Pg	**Pg**	**19 38 22.7**	**-0.8**
	564nm,0.8s						
BSSO	**Busso**	**0.73**	**103**	Pg	**Pg**	**19 38 22.7**	**-0.8**
	564nm,0.8s						
CAFR	**Castel Frentan**	**0.73**	**45**	Pg	**Pg**	**19 38 22.3**	**-1.2**
CAFR				Sg	**Sg**	**19 38 33.7**	**+0.6**
CAFR	**Castel Frentan**	**0.73**	**45**	Pg	**Pg**	**19 38 22.3**	**-1.2**
CAFR				Sg	**Sg**	**19 38 33.7**	**+0.6**
MTCE	**Montecelio**	**0.74**	**295**	Pg	**Pg**	**19 38 23.2**	**-0.6**
	539nm,0.5s						
MTCE	**Montecelio**	**0.74**	**295**	Pg	**Pg**	**19 38 23.2**	**-0.6**
	539nm,0.5s						
PTRJ	**Pietraroja**	**0.75**	**118**	Pg	**Pg**	**19 38 23.1**	**-0.8**
	2μm,0.8s						
PTRJ	**Pietraroja**	**0.75**	**118**	Pg	**Pg**	**19 38 23.1**	**-0.8**
	2μm,0.8s						
FRES	**Fresagrandinar**	**0.80**	**71**	Pg	**Pg**	**19 38 23.3**	**-1.6**
	966nm,0.7s						
FRES	**Fresagrandinar**	**0.80**	**71**	Pg	**Pg**	**19 38 23.3**	**-1.6**
	966nm,0.7s						
CAMP	**Campotosto**	**0.84**	**348**	Pg	**Pg**	**19 38 24.4**	**-1.2**
	138nm,0.5s						
CAMP	**Campotosto**	**0.84**	**348**	Pg	**Pg**	**19 38 24.4**	**-1.2**
	138nm,0.5s						
TERO	**Teramo**	**0.91**	**358**	Pg	**Pg**	**19 38 25.1**	**-1.8**
	604nm,0.6s						
TERO	**Teramo**	**0.91**	**358**	Pg	**Pg**	**19 38 25.1**	**-1.8**
	604nm,0.6s						
CIGN	**Sant'Elia a Pi**	**0.94**	**93**	Pg	**Pg**	**19 38 25.9**	**-1.6**
	278nm,0.8s						
CIGN	**Sant'Elia a Pi**	**0.94**	**93**	Pg	**Pg**	**19 38 25.9**	**-1.6**
	278nm,0.8s						
MELA	**Melanico ??? S**	**1.11**	**90**	Pg	**Pb**	**19 38 28.0**	**-2.4**
	332nm,0.5s						
MELA	**Melanico ??? S**	**1.11**	**90**	Pg	**Pb**	**19 38 28.0**	**-2.4**
	332nm,0.5s						
MRB1	**Monte Rocchett**	**1.16**	**120**	Pg	**Pb**	**19 38 31.3**	**0.0**
	435nm,0.7s						
MRB1	**Monte Rocchett**	**1.16**	**120**	Pg	**Pb**	**19 38 31.3**	**0.0**
	435nm,0.7s						
NRCA	**Norcia**	**1.19**	**341**	Pg	**Pn**	**19 38 30.8**	**-1.0**
NRCA	**Norcia**	**1.19**	**341**	Pg	**Pn**	**19 38 30.8**	**-1.0**
OFFI	**Offida**	**1.22**	**1**	Pg	**Pn**	**19 38 31.8**	**-0.4**
	1μm,0.6s						
OFFI	**Offida**	**1.22**	**1**	Pg	**Pn**	**19 38 31.8**	**-0.4**
	1μm,0.6s						
FDMO	**Fiordimonte**	**1.38**	**343**	Pg	**Pn**	**19 38 34.1**	**-0.4**
	269nm,0.5s						
FDMO	**Fiordimonte**	**1.38**	**343**	Pg	**Pn**	**19 38 34.1**	**-0.4**
	269nm,0.5s						
SGTA	**Sant Agata di**	**1.42**	**114**	Pg	**Pb**	**19 38 35.6**	**-0.1**
	116nm,0.5s						
SGTA	**Sant Agata di**	**1.42**	**114**	Pg	**Pb**	**19 38 35.6**	**-0.1**
	116nm,0.5s						
SNAL	**S. Angelo Dei**	**1.42**	**123**	Pg	**Pn**	**19 38 35.0**	**0.0**
	339nm,1.1s						
SNAL	**S. Angelo Dei**	**1.42**	**123**	Pg	**Pn**	**19 38 35.0**	**0.0**
	339nm,1.1s						
MCRV	**Calabrutti - M**	**1.48**	**129**	Pg	**Pn**	**19 38 35.6**	**-0.3**
	85nm,0.5s						
MCRV	**Calabrutti - M**	**1.48**	**129**	Pg	**Pn**	**19 38 35.6**	**-0.3**
	85nm,0.5s						
MS1	**Monte Sant'Ang**	**1.72**	**90**	*e*Pn	**Pb**	**19 38 40.5**	**-0.4**
BAI	**Bari**	**2.50**	**103**	*e*Pn	**Pn**	**19 38 50.9**	**+1.0**
BAI				*e*Sn	**Sn**	**19 39 22.1**	**+1.8**
NVLJ	**Novalja**	**2.98**	**17**	*e*Pn	**Pn**	**19 38 56.5**	**+0.1**
NVLJ				Sn	**Sn**	**19 39 33.9**	**+1.7**
NVLJ	**Novalja**	**2.98**	**17**	*e*Pn	**Pn**	**19 38 56.5**	**+0.1**
NVLJ				Sn	**Sn**	**19 39 33.8**	**+1.7**
PE1	**Pezze di Greco**	**2.99**	**107**	*e*Pn	**Pn**	**19 38 57.6**	**+1.1**
UDBI	**Udbina**	**3.21**	**28**	*i* Pn	**Pn**	**19 39 00.1**	**+0.4**
UDBI				Sn	**Sn**	**19 39 40.1**	**+2.2**
UDBI	**Udbina**	**3.21**	**28**	*i* Pn	**Pn**	**19 39 00.0**	**+0.4**
UDBI				Sn	**Sn**	**19 39 40.0**	**+2.2**
STON	**Ston**	**3.22**	**68**	*e*Pn	**Pn**	**19 39 00.2**	**+0.5**
STON				Sn	**Sn**	**19 39 36.4**	**-1.6**
STON	**Ston**	**3.22**	**68**	*e*Pn	**Pn**	**19 39 00.2**	**+0.5**
STON				Sn	**Sn**	**19 39 36.3**	**-1.6**
PGF	**Pioggiola**	**3.56**	**285**	*e*Pn	**Pn**	**19 39 05.1**	**+0.6**
PGF				*e*Sn	**Sn**	**19 39 43.7**	**-2.8**
	5.3nm,0.3s						
PGF	**Pioggiola**	**3.56**	**285**	*e*Pn	**Pn**	**19 39 05.1**	**+0.6**
PGF				*e*Sn	**Sn**	**19 39 43.7**	**-2.8**
	2.7nm,0.3s						
BBLS	**Lazići**	**4.75**	**61**	*e*Pn	**Pn**	**19 39 22.4**	**+1.6**
OBKA	**Obir**	**4.83**	**7**	⇑*i*Pn	**Pn**	**19 39 23.1**	**+1.1**
OBKA				⇑*i*Sn	**Sn**	**19 40 21.8**	**+3.8**
OBKA	**Obir**	**4.83**	**7**	Pn	**Pn**	**19 39 23.1**	**+1.1**
OBKA				Sn	**Sn**	**19 40 21.8**	**+3.8**
SBF	**Sospel**	**5.05**	**297**	*e*Pn	**Pn**	**19 39 24.9**	**-0.1**
SBF	**Sospel**	**5.05**	**297**	*e*Pn	**Pn**	**19 39 24.9**	**-0.1**
ABTA	**Abfaltersbach**	**5.09**	**351**	⇓*i*Pn	**Pn**	**19 39 26.0**	**+0.4**
ABTA				⇑*i*Sn	**Sn**	**19 40 24.8**	**+0.4**
ABTA	**Abfaltersbach**	**5.09**	**351**	Pn	**Pn**	**19 39 26.0**	**+0.4**
ABTA				Sn	**Sn**	**19 40 24.8**	**+0.4**
IVAS	**Ivanjica**	**5.14**	**67**	*e*Pn	**Pn**	**19 39 27.8**	**+1.6**
DIVS	**Divibare**	**5.23**	**61**	*e*Pn	**Pn**	**19 39 28.9**	**+1.5**
FRF	**La Foret Royal**	**5.48**	**292**	*e*Pn	**Pn**	**19 39 31.4**	**+0.6**
FRF				*e*Sn	**Sn**	**19 40 30.4**	**-3.4**
	0.9nm,0.3s						
FRF	**La Foret Royal**	**5.48**	**292**	*e*Pn	**Pn**	**19 39 31.4**	**+0.6**
LMR	**La Mourre**	**5.52**	**289**	*e*Pn	**Pn**	**19 39 31.6**	**+0.3**
LMR	**La Mourre**	**5.52**	**289**	*e*Pn	**Pn**	**19 39 31.6**	**+0.3**
TRUS	**Trudelj**	**5.55**	**61**	*e*Pn	**Pn**	**19 39 32.9**	**+1.1**
SELS	**Selova**	**5.72**	**72**	*e*Pn	**Pn**	**19 39 37.1**	**+2.9**
MBDF	**Montbardon**	**5.86**	**303**	*e*Pn	**Pn**	**19 39 37.4**	**+1.3**
MBDF	**Montbardon**	**5.86**	**303**	*e*Pn	**Pn**	**19 39 37.4**	**+1.3**
MOA	**Molln**	**6.15**	**4**	⇑*i*Pn	**Pn**	**19 39 41.4**	**+1.4**
MOA				⇓*i*Sn	**Sn**	**19 40 51.6**	**+1.4**
MOA	**Molln**	**6.15**	**4**	Pn	**Pn**	**19 39 41.4**	**+1.4**
MOA				Sn	**Sn**	**19 40 51.6**	**+1.4**
CONA	**Conrad Observa**	**6.41**	**13**	⇑*i*Pn	**Pn**	**19 39 44.2**	**+0.6**
CONA	**Conrad Observa**	**6.41**	**13**	Pn	**Pn**	**19 39 44.2**	**+0.6**
ORIF	**Oris-en-Rattie**	**6.51**	**302**	*e*P	Pn	19 39 49.1	+4.1
ZAPS	**Zavoj**	**6.82**	**74**	*e*Pn	**Pn**	**19 39 51.6**	**+2.4**
KHC	**Kasperske Hory**	**7.42**	**360**	*e*PN	**Pn**	**19 39 59.1**	**+1.7**
KHC				*e*SN	**Sn**	**19 41 20.4**	**-1.0**
KHC	**Kasperske Hory**	**7.42**	**360**	Pn	**Pn**	**19 39 59.1**	**+1.7**
CDF	**Champ du Feu**	**8.07**	**328**	*e*Pn	**Pn**	**19 40 05.7**	**-0.7**
CDF				*e*Sn	**Sn**	**19 41 32.6**	**-5.0**
	0.7nm,0.2s						
CDF	**Champ du Feu**	**8.07**	**328**	*e*Pn	**Pn**	**19 40 05.7**	**-0.7**

*CSEM **06** 19:38:56.8,41°.74N×13°.71E,h11km,MD1.6/4,After ROM*

ROM 06 19:38:56.8±0.1,**41.74N**×**13.71E,h11**km,**Md1.6/4,MI1.7/3, Error ellipse: s-maj=1.1km s-min=1.0km az=62.0, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POFI	**Posta Fibreno**	**0.02**	**173**	Pg	Pg	19 38 59.2	+0.4
POFI				Sg	Sg	19 39 00.6	+0.4
	349nm,0.2s						
POFI	**Posta Fibreno**	**0.02**	**173**	Pg	Pg	19 38 59.2	+0.4
POFI				Sg	Sg	19 39 00.6	+0.4
	349nm,0.2s						
SDI	**San Donato**	**0.08**	**113**	Pg	Pg	19 38 59.8	+0.5
SDI				Sg	Sg	19 39 01.6	+0.4
SDI	**San Donato**	**0.08**	**113**	Pg	Pg	19 38 59.8	+0.5
SDI				Sg	Sg	19 39 01.6	+0.4
VVLD	**Villa Vallelon**	**0.14**	**334**	Pg	Pg	19 39 00.8	+0.5
VVLD				Sg	Sg	19 39 03.3	+0.6
	233nm,0.1s						
VVLD	**Villa Vallelon**	**0.14**	**334**	Pg	Pg	19 39 00.8	+0.5
VVLD				Sg	Sg	19 39 03.3	+0.6
	233nm,0.1s						
CERA	**Filignano**	**0.27**	**122**	Pg	Pg	19 39 02.9	+0.4
CERA	**Filignano**	**0.27**	**122**	Pg	Pg	19 39 02.9	+0.4
INTR	**Introdacqua**	**0.31**	**28**	Pg	Pg	19 39 03.4	+0.2
INTR				Sg	Sb	19 39 08.9	-0.8
	94nm,0.2s						
INTR	**Introdacqua**	**0.31**	**28**	Pg	Pg	19 39 03.4	+0.2
INTR				Sg	Sb	19 39 08.9	-0.8
	94nm,0.2s						
GIUL	**Giuliano Di Ro**	**0.39**	**242**	Pg	Pg	19 39 04.7	+0.2
GIUL				Sg	Sb	19 39 10.9	-0.9
	42nm,0.3s						
GIUL	**Giuliano Di Ro**	**0.39**	**242**	Pg	Pg	19 39 04.7	+0.2
GIUL				Sg	Sb	19 39 10.9	-0.9
	42nm,0.3s						

*AUST **06** 20:01:39.0,13°.81S×171°.07W,h35km*
*BJI **06** 20:01:52.4,15°.95S×174°.19W,h9km,mB5.2/6,mb4.8/16, Ms5.2/3,Ms7 4.7/3*
*IDC **06** 20:01:53.6±0.6,15°.32S×173°.41W,h0km,mb4.3/17, mb1 4.5/17,mb1mx4.4/23,mbtmp4.3/17,MS4.0/15, Ms1 3.9/15,ms1mx3.8/38,Error ellipse: s-maj=25.8km s-min=14.3km az=132.0*
*NEIC **06** 20:01:54.6±0.3,15°.28S×173°.49W,h10km,mb4.5/24, Error ellipse: s-maj=14.3km s-min=6.5km az=140.0*

ISC 06 20:02:00.3±2.3,**15°.31S**±0°.10×**173°.5W**±0°.1,**h48**km±20km, **n322,σ0§70/304,mb4.5/48,MS4.1/14,105C-98D,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.17**	**50**	*e*Pn	Pn	20 02 25.0	-9.0
AFI				Sn	Sn	20 02 45.2	-15
AFI	**Afiamalu**	**2.17**	**50**	Pn	Pn	20 02 25.7	-8.2
	122nm,0.3s,baz=162,slow=9.6,SNR=13						
AFI				Sn	Sn	20 02 45.2	-15
	1μm,0.3s,baz=287,slow=20,SNR=30						
AFI				LR	LR	20 03 16.3	
	comp=Z,1μm,21.5s,baz=201,slow=39						
NIUE	**Niue**	**5.06**	**138**	P	Pn	20 03 00.2	-13
	baz=5.4,SNR=9.0						
RAR	**Rarotonga**	**14.29**	**116**	Pn	Pn	20 05 09.3	-11
RAR	**Rarotonga**	**14.29**	**116**	LR	LR	20 09 28.2	
	comp=Z,478nm,19.8s,baz=135,slow=32						
DZM	**Mont Dzumac**	**20.15**	**247**	*e*LR	LR	20 11 39.0	
	827nm,24.7s						
DZM	**Mont Dzumac**	**20.15**	**247**	P	Pn	20 06 31.8	-1.2
DZM	**Mont Dzumac**	**20.15**	**247**	P	Pn	20 06 31.8	-1.2
	8.0nm,0.8s,baz=79,slow=18,SNR=3.5						
PPT	**Papeete**	**23.05**	**99**	LR	LR	20 13 26.7	
	comp=Z,339nm,18.0s,baz=172,slow=30						
PPT2	**Papeete2**	**23.05**	**99**	*e*LR	LR	20 12 24.0	
	643nm,24.8s						
TBI	**Tubuai**	**24.02**	**113**	*e*LR	LR	20 12 44.0	
	792nm,26.5s,baz=286						
URZ	**Urewera**	**24.32**	**198**	P	**P**	**20 07 14.9**	**+1.5**
URZ	**Urewera**	**24.32**	**198**	P	**P**	**20 07 15.0**	**+1.5**
	7.3nm,0.6s,baz=0.0,slow=7.1,SNR=3.5						
HNR	**Honiara**	**26.58**	**280**	LR	LR	20 17 00.7	
	comp=Z,387nm,18.0s,baz=103,slow=34						
RPZ	**Rata Peaks**	**31.23**	**202**	P	**P**	**20 08 13.5**	**-1.7**
RPZ	**Rata Peaks**	**31.23**	**202**	P	**P**	**20 08 13.5**	**-1.7**
	6.2nm,0.7s,baz=72,slow=3.2,SNR=3.1						
EIDS	**Eidsvold**	**34.60**	**247**	*e*P	P	20 08 40.3	-4.6
	5.0nm,0.9s						
CTA	**Charters Tower**	**38.58**	**257**	P	**P**	**20 09 17.7**	**-1.1**
CTA	**Charters Tower**	**38.58**	**257**	P	**P**	**20 09 17.7**	**-1.1**
	2.1nm,0.5s,baz=82,slow=14,SNR=4.1						
CTAO	**Charters Tower**	**38.58**	**257**	*e*P	**P**	**20 09 16.2**	**-2.6**
	14nm,1.2s						
H11S2	**WAKE ISLAND Hy**	**38.84**	**329**	T	T	20 50 53.9	
	baz=152,slow=0.7,SNR=18						
H11S3	**WAKE ISLAND Hy**	**38.85**	**329**	T	T	20 51 00.3	
	baz=152,slow=0.7,SNR=22						
H11S1	**WAKE ISLAND Hy**	**38.86**	**329**	T	T	20 50 51.9	
	baz=152,slow=0.7,SNR=18						
H11N3	**WAKE ISLAND Hy**	**39.79**	**330**	T	T	20 52 11.8	
	baz=152,slow=0.7,SNR=27						
H11N1	**WAKE ISLAND Hy**	**39.79**	**330**	T	T	20 51 55.5	
	baz=152,slow=0.7,SNR=15						
H11N2	**WAKE ISLAND Hy**	**39.80**	**330**	T	T	20 52 02.6	
	baz=152,slow=0.7,SNR=32						
COEN	**Coen**	**41.90**	**266**	P	**P**	**20 09 48.8**	**+2.4**
	baz=44,SNR=6.8						
STKA	**Stephens Creek**	**44.01**	**240**	*e*P	**P**	**20 10 02.7**	**-0.5**
	2.0nm,1.0s						
STKA	**Stephens Creek**	**44.01**	**240**	P	**P**	**20 10 03.4**	**+0.2**
	baz=47,SNR=7.3						
STKA	**Stephens Creek**	**44.01**	**240**	P	**P**	**20 10 02.9**	**-0.4**
	10nm,0.9s,baz=67,slow=6.8

WVOR **Wild Horse Val** 76.42 39 *e*P P 20 13 43.9 -1.0
6.3nm,1.1s
X16A **Lo Mia Camp, P** 76.92 49 ⇑P P 20 13 48.5 +0.5
baz=77
USRK **Ussuriysk Arra** 77.26 323 P P 20 13 51.3 +1.9
2.7nm,0.8s,baz=122,slow=5.2,SNR=7.4
U15A **North Rim** 77.30 46 ⇑P P 20 13 50.6 +0.4
baz=77
WUAZ **Wupatki** 77.50 48 ⇑P P 20 13 51.6 +0.3
baz=78
220A **Playas Peak, P** 77.92 52 ⇑P P 20 13 53.6 0.0
baz=78,SNR=6.0
X18A **Snowflake** 78.06 49 ⇓P P 20 13 54.4 0.0
baz=78
120A **U Bar Ranch, L** 78.12 51 ⇑P P 20 13 54.8 0.0
baz=78
Z20A **Nine Sixteen R** 78.41 51 ⇑P P 20 13 56.3 -0.1
baz=78,SNR=6.7
BMO **Blue Mountains** 78.61 37 *e*P P 20 13 56.2 -0.9
4.5nm,1.0s
MFID **Camas Ranch** 78.67 39 ⇓P P 20 13 57.0 -0.4
baz=79,SNR=5.1
121A **Cookes Peak, D** 78.76 52 ⇑P P 20 13 58.2 -0.1
baz=79
DUG **Dugway** 78.86 43 *e*P P 20 13 58.0 -0.6
2.2nm,0.8s
DUG **Dugway** 78.86 43 ⇓P P 20 13 58.8 +0.3
baz=79
MDJ **Mudanjiang** 78.90 322 P P 20 13 56.9 -1.6
MDJ AMB AMB
comp=Z,3.0nm,1.2s
MDJ AMB AMB
comp=Z,200nm,6.4s
Y20A **Horse Springs,** 78.93 50 ⇑P P 20 13 59.6 +0.3
baz=79,SNR=5.8
X20A **Quemado** 79.13 50 ⇑P P 20 14 00.5 +0.2
baz=79
Z21A **St. Cloud Mine** 79.19 51 ⇓P P 20 14 01.0 +0.3
baz=79
Q16A **Castle Valley** 79.31 45 ⇑P P 20 14 01.4 +0.2
baz=79
W20A **Ramah** 79.39 49 ⇓P P 20 14 02.0 +0.2
baz=80,SNR=6.7
Y21A **Point of Rocks** 79.50 50 ⇑P P 20 14 02.6 +0.2
baz=80
X21A **Alamocita Cree** 79.61 50 ⇓P P 20 14 03.1 +0.1
baz=80
HLID **Hailey** 79.61 39 *e*P P 20 14 03.0 +0.3
4.2nm,0.4s
HLID **Hailey** 79.61 39 ⇓P P 20 14 03.0 +0.3
baz=80
Z22A **Elephant Butte** 79.70 51 ⇑P P 20 14 03.1 -0.2
baz=80,SNR=5.6
V20A **Brimhall** 79.72 48 ⇑P P 20 14 03.5 0.0
baz=80
SRU **San Rafael** 79.84 45 *e*P P 20 14 04.0 -0.1
3.7nm,1.0s
U20A **Newcomb** 79.95 48 ⇓P P 20 14 05.1 +0.4
baz=80
Y22A **Socorro** 79.99 51 ⇓P P 20 14 05.2 +0.3
baz=80
NJ2 **Nanjing** 80.04 307 *e*P P 20 14 04.8 -0.2
NJ2 AMB AMB
comp=Z,10.0nm,0.8s
324A **Moseley Ranch,** 80.06 54 ⇑P P 20 14 05.0 -0.4
baz=80
425A **Indio Mountain** 80.17 54 ⇓P P 20 14 05.7 -0.2
baz=80
Z23A **Rita Site, Whi** 80.25 52 ⇓P P 20 14 06.1 -0.2
baz=80
224A **Cornudas Mount** 80.29 53 ⇑P P 20 14 06.5 -0.1
baz=80
V21A **Milan** 80.33 49 ⇓P P 20 14 06.7 -0.1
baz=80
BNM **Barren Site** 80.34 51 *e*P P 20 14 06.5 -0.4
3.7nm,1.1s
MVCO **Mesa Verde** 80.35 47 ⇓P P 20 14 06.8 -0.1
baz=80
626A **Big Bend Ranch** 80.35 56 ⇓P P 20 14 06.9 0.0
baz=80
325A **Bean Ranch, Si** 80.43 54 ⇑P P 20 14 06.5 -0.9
baz=80,SNR=5.7
PV10 **Paradox Valley** 80.51 46 *e*P P 20 14 06.7 -1.0
162nm,0.9s
TRF **Thorofare Moun** 80.55 10 *e*P P 20 14 06.4 -0.9
8.7nm,1.1s
526A **Mary Lane Ranc** 80.59 55 ⇓P P 20 14 07.8 -0.4
baz=81
U21A **Nageezi** 80.59 48 ⇓P P 20 14 08.2 0.0
baz=81,SNR=16
124A **Stringfield Ra** 80.61 52 ⇑P P 20 14 08.6 +0.2
baz=81
TXAR **Lajitas Array** 80.64 56 P P 20 14 08.2 -0.2
TXAR **Lajitas Array** 80.64 56 P P 20 14 08.2 -0.2
2.6nm,1.0s,baz=226,slow=4.9,SNR=11
TXAR LR LR 20 42 14.7
comp=Z,83nm,18.1s,baz=0.0,slow=30
Y23A **Lovelace Mesa,** 80.67 51 ⇓P P 20 14 08.3 -0.3
baz=81
NEW **Newport** 80.68 34 ⇓P P 20 14 08.0 -0.2
baz=81
PV01 **Paradox Valley** 80.72 46 *e*P P 20 14 08.4 -0.5
202nm,0.4s
S20A **Disappointment** 80.73 47 ⇓P P 20 14 08.9 0.0
baz=81,SNR=6.5
ANMO **Albuquerque** 80.81 50 *e*P P 20 14 08.9 -0.4
4.7nm,1.0s
225A **Deer Hill, Car** 80.85 53 ⇓P P 20 14 09.7 +0.1
baz=81
426A **McDonald Obser** 80.88 55 ⇑P P 20 14 09.5 -0.4
baz=81,SNR=8.3
R20A **Redvale** 80.88 46 ⇓P P 20 14 09.2 -0.5
baz=81
V22A **San Miguel Ran** 80.90 49 ⇓P P 20 14 09.7 -0.2
baz=81
627A **Terlingua Ranc** 80.91 56 ⇓P P 20 14 09.5 -0.4
baz=81,SNR=6.6
T21A **Navajo Lake** 80.93 48 ⇑P P 20 14 10.1 +0.1
baz=81
Z24A **Sheeppen Canyo** 80.94 52 ⇓P P 20 14 09.8 -0.3
baz=81
CN2 **Changchun** 80.96 320 *e*P P 20 14 08.5 -1.2
527A **Woodward Ranch** 81.00 55 ⇓P P 20 14 10.3 -0.1
baz=81
MCK **McKinley** 81.05 11 *e*P P 20 14 08.6 -1.2
6.1nm,0.9s
S21A **Coal Bank Pass** 81.05 47 ⇓P P 20 14 10.9 +0.1
baz=81,SNR=13
W23A **Werner Place,** 81.13 50 ⇓P P 20 14 11.1 0.0
baz=81
Y24A **Capitan** 81.14 51 ⇑P P 20 14 10.7 -0.4
baz=81,SNR=6.6
P19A **Cripple Cowboy** 81.14 45 ⇑P P 20 14 11.1 0.0
baz=81
326A **Caldwell Ranch** 81.18 54 ⇓P P 20 14 11.2 0.0
baz=81
125A **Gardner Draw,** 81.20 53 ⇑P P 20 14 11.1 -0.3
baz=81
MCMT **McKenzie Canyo** 81.24 39 *e*P P 20 14 11.0 -0.5
4.8nm,1.1s
Q20A **Ridgley Place,** 81.29 46 ⇑P P 20 14 11.9 0.0
baz=81
628A **Black Gap, Mar** 81.32 56 ⇓P P 20 14 11.9 -0.1
baz=81
226B **Tecolote Peak,** 81.34 53 ⇓P P 20 14 11.3 -0.9
baz=82,SNR=7.3
V23A **Ortiz Mt. (NFS** 81.36 49 ⇓P P 20 14 12.9 +0.6
baz=82
X24A **Lazy VL Ranch,** 81.41 51 ⇓P P 20 14 12.2 -0.3
baz=82
Z25A **Roswell** 81.41 52 ⇑P P 20 14 12.2 -0.3
baz=82
427A **Hayter Ranch,** 81.45 55 ⇓P P 20 14 12.8 0.0
baz=82
P20A **De Beque** 81.48 45 ⇓P P 20 14 12.8 0.0
baz=82
R21A **Cimarron** 81.55 47 ⇓P P 20 14 13.7 +0.4
baz=82
MSO **Missoula** 81.66 37 ⇑P P 20 14 13.7 +0.2
baz=82
528A **Cox Ranch, San** 81.66 56 ⇑P P 20 14 13.6 -0.3
baz=82,SNR=5.0
126A **Clayton Basin,** 81.68 53 ⇓P P 20 14 14.1 +0.2
baz=82
Y25A **Mesa, Roswell** 81.70 52 ⇑P P 20 14 13.3 -0.7
baz=82,SNR=5.9
W24A **Lazy 6 Ranch,** 81.70 50 ⇓P P 20 14 13.8 -0.3
baz=82

TPAW **Teton Pass** 81.73 41 *e*P P 20 14 13.4 -0.8
7.2nm,1.0s
Q21A **Lamborn Mesa,** 81.74 46 ⇑P P 20 14 14.4 +0.2
baz=82
S22A **4UR Ranch, Cre** 81.77 47 ⇓P P 20 14 14.4 -0.1
baz=82,SNR=6.5
428A **Kincaid Ranch,** 81.97 55 ⇑P P 20 14 15.4 -0.1
baz=82
X25A **Clemmons Ranch** 81.97 51 ⇓P P 20 14 15.0 -0.5
baz=82,SNR=5.4
Z26A **Caprock** 81.97 52 ⇑P P 20 14 15.3 -0.1
baz=82
V24A **Rampart Ranch,** 82.02 50 ⇑P P 20 14 15.8 0.0
baz=82
R22A **Saguache, Gunn** 82.04 47 ⇑P P 20 14 16.2 +0.3
baz=82
L19A **Farson** 82.06 43 ⇓P P 20 14 16.1 +0.2
baz=82
529A **Stev Forest Ra** 82.10 56 ⇑P P 20 14 16.0 -0.1
baz=82
CHMT **Chamberlain Mo** 82.11 37 *e*P P 20 14 14.8 -1.1
4.2nm,1.0s
328A **Wristen Ranch,** 82.12 55 ⇑P P 20 14 15.9 -0.4
baz=82
P21A **Newcastle** 82.14 46 ⇑P P 20 14 16.1 -0.2
baz=82
I17A **Pilgrim Ck.** 82.18 40 ⇓P P 20 14 16.7 +0.3
baz=82
N20A **Spence Gulch,** 82.19 44 ⇑P P 20 14 16.7 +0.1
baz=82
127A **Arkansas Junct** 82.21 53 ⇑P P 20 14 16.6 -0.1
baz=82
Q22A **Crested Butte,** 82.22 46 ⇑P P 20 14 17.3 +0.5
baz=82
PDAR **Pinedale Array** 82.26 42 P P 20 14 16.6 -0.3
PDAR **Pinedale Array** 82.26 42 P P 20 14 16.6 -0.3
3.6nm,1.1s,baz=219,slow=3.8,SNR=18
PDAR LR LR 20 46 37.4
comp=Z,77nm,18.5s,baz=253,slow=33
COLA **College** 82.29 11 *e*P P 20 14 15.7 -0.5
28nm,0.9s
SMCO **Snowmass** 82.31 46 *e*P P 20 14 16.9 -0.5
4.9nm,0.9s
Y26A **Elida** 82.35 52 ⇓P P 20 14 17.4 -0.1
baz=82
ILAR **Eielson Array** 82.37 11 P P 20 14 16.2 -0.4
ILAR **Eielson Array** 82.37 11 P P 20 14 16.2 -0.4
1.3nm,0.9s,baz=229,slow=6.4,SNR=7.9
ILAR LR LR 20 48 30.3
comp=Z,40nm,19.1s,baz=273,slow=34
W25A **X Bar L Ranch,** 82.41 50 ⇑P P 20 14 17.5 -0.2
baz=82
O21A **Pagoda** 82.44 45 ⇑P P 20 14 17.9 -0.1
baz=83
T24B **San Luis** 82.51 48 ⇓P P 20 14 18.5 +0.1
baz=83
M20A **Sweetwater, Wa** 82.55 44 ⇑P P 20 14 18.5 +0.1
baz=83
V25A **Rancho No Teng** 82.55 50 ⇑P P 20 14 18.0 -0.5
baz=83,SNR=7.6
429A **Davenport Ranc** 82.55 56 ⇓P P 20 14 17.9 -0.6
baz=83,SNR=7.0
Z27A **Tatum** 82.57 53 ⇓P P 20 14 18.6 0.0
baz=83
X26A **CR and CF Fran** 82.62 51 ⇓P P 20 14 19.0 +0.1
baz=83
P22A **Eagle** 82.65 46 ⇑P P 20 14 18.9 -0.1
baz=83
R23A **Moffat** 82.68 47 ⇓P P 20 14 19.2 0.0
baz=83
L20A **Wamsutter** 82.69 43 ⇓P P 20 14 18.4 -0.8
baz=83,SNR=8.0
SDCO **Great Sand Dun** 82.72 48 *e*P P 20 14 19.3 -0.2
1.7nm,0.7s
K19A **Absolon Red Bu** 82.74 42 ⇑P P 20 14 19.5 +0.1
baz=83
QIZ **Qiongzhong** 82.79 292 P P 20 14 13.0 -6.9
QIZ S **S 20 24 33.1 -1.7**
329A **Wagon Wheel Ra** 82.82 55 ⇑P P 20 14 19.6 -0.2
baz=83
530A **J-C Ranch, Com** 82.82 56 ⇓P P 20 14 19.8 -0.1
baz=83
J19A **Crowheart** 82.82 42 ⇓P P 20 14 19.4 -0.4
baz=83,SNR=5.0
128A **Castleberry Fa** 82.86 54 ⇓P P 20 14 20.1 0.0
baz=83
S24A **Houchin Ranch,** 82.88 48 ⇑P P 20 14 19.9 -0.4
baz=83,SNR=5.3
U25A **Circle Dot Ran** 82.94 49 ⇓P P 20 14 20.0 -0.6
baz=83,SNR=8.1
Q23A **Hartsel** 82.99 47 ⇑P P 20 14 20.3 -0.6
baz=83
K20A **Yellowstone Ra** 82.99 42 ⇑P P 20 14 20.3 -0.4
baz=83
O22A **Kremmling** 83.05 45 ⇓P P 20 14 20.6 -0.5
baz=83,SNR=8.2
430A **Baggett Ranch,** 83.14 56 ⇑P P 20 14 20.7 -0.9
baz=83
M21A **Separation Pea** 83.15 44 ⇓P P 20 14 21.1 -0.5
baz=83
V26A **Tequesquite Ra** 83.15 50 ⇑P P 20 14 21.1 -0.4
baz=83
631A **Perdido Creek** 83.16 57 ⇑P P 20 14 21.3 -0.3
baz=83
MSTX **Muleshoe** 83.17 52 ⇓P P 20 14 21.4 -0.3
baz=83
P23A **Jefferson** 83.19 46 ⇑P P 20 14 21.5 -0.4
baz=83
R24A **Sanders Place,** 83.21 48 ⇑P P 20 14 21.9 0.0
baz=83
I19A **Meeteetse** 83.23 41 ⇓P P 20 14 22.2 +0.3
baz=83
T25A **Trinidad** 83.25 49 ⇑P P 20 14 21.7 -0.4
baz=83
L21A **Rawlins** 83.31 43 ⇑P P 20 14 22.0 -0.4
baz=83
W27A **Bowe Ranch, En** 83.39 51 ⇓P P 20 14 21.7 -1.1
baz=84,SNR=5.2
N22A **Wattenberg Ran** 83.40 45 ⇑P P 20 14 22.2 -0.7
baz=84,SNR=5.5
U26A **Atchley Ranch,** 83.42 50 ⇓P P 20 14 22.4 -0.6
baz=84,SNR=5.6
S25A **Robets Cordova** 83.45 48 ⇓P P 20 14 22.5 -0.6
baz=84,SNR=6.7
531A **Rocksprings** 83.46 56 P P 20 14 22.7 -0.5
baz=84
J20A **Shoshoni** 83.49 42 ⇑P P 20 14 22.7 -0.4
baz=84,SNR=7.8
Q24A **Divide** 83.49 47 ⇓P P 20 14 23.3 -0.2
baz=84
ISCO **Idaho Springs** 83.53 46 ⇑P P 20 14 23.2 -0.4
baz=84
H19A **Powell** 83.54 40 ⇓P P 20 14 23.5 +0.1
baz=84
K21A **Alcova** 83.69 43 ⇓P P 20 14 24.0 -0.3
baz=84
Z29A **Hungry Hill Ra** 83.71 53 ⇓P P 20 14 24.5 +0.1
baz=84
I20A **Worland** 83.74 41 ⇑P P 20 14 24.2 -0.1
baz=84,SNR=11
R25A **Fountain Ranch** 83.76 48 ⇓P P 20 14 24.2 -0.5
baz=84
J21A **Lysite** 83.89 42 ⇑P P 20 14 24.8 -0.5
baz=84,SNR=7.2
532A **Rocksprings** 83.96 57 ⇓P P 20 14 25.5 -0.2
baz=84
331A **San Angelo** 83.98 55 ⇓P P 20 14 25.1 -0.7
baz=84
S26A **Kim** 84.13 49 ⇑P P 20 14 26.4 -0.1
baz=84
F19A **Roth Farm, Mol** 84.14 39 ⇓P P 20 14 26.3 0.0
baz=84
Z30A **Sanderson Ranc** 84.17 53 ⇑P P 20 14 26.0 -0.7
baz=84
K22A **Casper** 84.18 43 ⇓P P 20 14 25.9 -0.8
baz=84
I21A **Big Trails, Te** 84.21 42 ⇑P P 20 14 25.7 -1.1
baz=84,SNR=10
G20A **Bridger** 84.28 40 ⇓P P 20 14 26.4 -0.7
baz=84
G20A P PKiKP 20 19 31.3 -10
baz=84,SNR=26
231A **Bronte** 84.30 55 ⇑P P 20 14 26.6 -0.8
baz=84
432A **Menard** 84.32 56 ⇑P P 20 14 27.1 -0.5
baz=84
R26A **Arlington** 84.42 48 ⇓P P 20 14 26.7 -1.3
baz=84,SNR=6.6

T27A **Campo** 84.45 49 ⇑P P 20 14 27.8 -0.3
baz=85
W29A **Amraillo** 84.48 51 ⇑P P 20 14 28.2 -0.2
baz=85
N24A **Carr** 84.48 45 ⇑P P 20 14 28.1 -0.2
baz=85
L23A **Garrett** 84.49 44 ⇓P P 20 14 28.1 -0.3
baz=85
131A **Roby** 84.52 54 ⇑P P 20 14 27.5 -1.0
baz=85
E19A **Rath Farm, Rou** 84.52 39 ⇓P P 20 14 27.9 -0.4
baz=85
332A **Millersview** 84.55 56 ⇑P P 20 14 28.3 -0.4
baz=85
S27A **Las Animas** 84.57 49 ⇑P P 20 14 28.3 -0.5
baz=85
F20A **Billings** 84.60 40 ⇑P P 20 14 28.4 -0.3
baz=85
Q26A **Hugo** 84.63 47 ⇑P P 20 14 28.8 -0.2
baz=85
H21A **Big Horn, Sher** 84.74 41 ⇓P P 20 14 29.5 0.0
baz=85
H21A ⇑S PKiKP 20 19 29.9 -12
baz=85
I22A **9 Mile Ranch,** 84.77 42 ⇓P P 20 14 29.6 0.0
baz=85
M24A **Cheyenne** 84.79 45 ⇓P P 20 14 29.4 -0.5
baz=85
D19A **Cripps Ranch,** 84.81 38 ⇑P P 20 14 29.5 -0.2
baz=85
X30A **Coker Ranch, T** 84.81 52 ⇓P P 20 14 29.3 -0.6
baz=85
232A **Coleman** 84.81 55 ⇓P P 20 14 29.2 -0.8
baz=85
K23A **Bowen Ranch, D** 84.82 43 ⇑P P 20 14 29.5 -0.4
baz=85
Z31A **Sharp Cattle R** 84.95 54 ⇓P P 20 14 30.1 -0.5
baz=85
C19A **Slack Wire Ran** 84.98 38 ⇑P P 20 14 30.5 0.0
baz=85
ABTX **Abilene, Hawle** 85.08 54 *e*P P 20 14 29.7 -1.7
ABTX **Abilene, Hawle** 85.08 54 ⇓P P 20 14 30.9 -0.4
baz=85
Y31A **Rekieta Farm,** 85.09 53 ⇑P P 20 14 30.7 -0.6
baz=85
H22A **Clearmont** 85.17 41 ⇑P PKiKP 20 19 26.4 -16
baz=85,SNR=9.8
D20A **Manuel Ranch,** 85.22 39 ⇑P P 20 14 31.6 -0.1
baz=85
BJI **Beijing** 85.34 314 P P 20 14 28.7 -3.7
BJI AMB AMB
comp=Z,8.0nm,1.0s
Z32A **Haskell** 85.46 54 ⇑P P 20 14 32.9 -0.3
baz=86
G22A **Birney** 85.49 41 ⇑S PKiKP 20 19 29.7 -14
baz=86
C20A **Veseth Ranch,** 85.59 38 ⇓P P 20 14 33.6 0.0
baz=86
R28A **Tribune** 85.62 48 ⇑P P 20 14 33.9 0.0
baz=86
A19A **Klindworth Far** 85.74 37 ⇓P P 20 14 34.2 -0.1
baz=86
Y32A **R-V Farms, Ver** 85.74 53 ⇑P P 20 14 34.0 -0.6
baz=86
W31A **Holland Ranch,** 85.79 52 ⇑P P 20 14 34.0 -0.9
baz=86
V31A **Spring Creek L** 86.09 51 ⇑P P 20 14 36.9 +0.6
baz=86
H26A **Fairpoint** 87.48 42 ⇑P P 20 14 43.1 +0.2
baz=88
MAW **Mawson** 87.85 199 P P 20 14 45.0 +0.8
MAW **Mawson** 87.85 199 P P 20 14 45.0 +0.8
2.4nm,0.9s,baz=74,slow=6.7,SNR=4.3
MAW LR LR 20 50 11.5
comp=Z,110nm,21.8s,baz=284,slow=33
GYA **Guiyang** 87.92 298 *e*P P 20 14 44.0 -1.5
GYA AMB AMB
comp=Z,10.0nm,1.0s
HHC **Hu-ho-hao-te** 88.90 313 *e*P P 20 14 46.9 -2.8
HHC pP **PcP 20 14 51.8 +0.6**
HHC sP sP 20 14 55.0 -14
HHC PP **PP 20 18 19.5 -0.4**
HHC S **S 20 25 33.5 -0.6**
HHC sS **ScS 20 25 41.0 +1.8**
HHC SS **SS 20 31 28.2 +0.3**
HHC AMB AMB
comp=Z,25nm,0.9s
HHC LR LR
comp=N,410nm,17.9s
HHC LR LR
comp=E,310nm,17.8s
HHC LR LR
comp=Z,330nm,17.2s
KMI **Kunming** 90.91 296 P P 20 15 02.3 +2.7
KMI AMB AMB
comp=Z,5.0nm,1.3s
CD2 **Chengdu** 91.69 301 P P 20 15 01.4 -1.5
CD2 AMB AMB
comp=Z,6.0nm,0.5s
CMAR **Chiang Mai Arr** 92.50 288 P P 20 15 07.5 +0.7
CMAR **Chiang Mai Arr** 92.50 288 P P 20 15 07.5 +0.7
0.4nm,0.7s,baz=108,slow=2.9,SNR=3.7
SYO **Syowa Base** 92.67 191⇑ *e*P P 20 15 04.8 -1.8
SNAA **Sanae** 93.00 177 *e*P P 20 15 08.2 -0.1
5.1nm,1.3s
ATAH **Atahualpa** 93.02 98 LR LR 20 46 47.9
comp=Z,158nm,21.4s,baz=197,slow=29
LZH **Lanzhou** 93.10 306 *e*P P 20 15 05.9 -3.6
LZH pP **PcP 20 15 09.3 -0.8**
LZH sP sP 20 15 11.7 -17
LZH AMB AMB
comp=Z,10.0nm,1.3s
ULM **Lac du Bonnet** 93.92 39 LR LR 20 54 41.3
comp=Z,90nm,18.3s,baz=312,slow=34
CFAA **Coronel Fontan** 94.58 124 LR LR 20 47 48.8
comp=Z,19nm,20.4s,baz=76,slow=29
SONM **Songino Array** 94.72 318 P P 20 15 17.0 +0.4
SONM **Songino Array** 94.72 318 P P 20 15 17.0 +0.4
0.1nm,0.3s,baz=120,slow=5.2,SNR=2.2
ZALV **Zalesovo Beam** 109.10 322 PKiKP **PKiKP 20 20 23.9 -0.6**
ZALV **Zalesovo Beam** 109.10 322 PKiKP **PKiKP 20 20 23.9 -0.6**
0.4nm,0.3s,baz=119,slow=5.1,SNR=2.7
MKAR **Makanchi Array** 110.70 315 PKiKP **PKiKP 20 20 27.4 -0.4**
MKAR **Makanchi Array** 110.70 315 PKiKP **PKiKP 20 20 27.4 -0.4**
0.5nm,0.8s,baz=201,slow=1.4,SNR=3.0
ARCES **ARCESS Array B** 124.51 352 PKP **PKPdf 20 20 54.2 +0.6**
ARCES **ARCESS Array B** 124.51 352 PKP **PKPdf 20 20 54.2 +0.6**
5.8nm,1.0s,baz=5.2,slow=4.0,SNR=4.0
AKASG **Malin Array Be** 140.22 337 PKP **PKPdf 20 21 23.9 +0.3**
AKASG **Malin Array Be** 140.22 337 PKP **PKPdf 20 21 24.0 +0.3**
0.3nm,0.3s,baz=27,slow=2.2,SNR=4.7
DPC **Dobruska-Polom** 144.16 349 *e*PKP **PKPdf 20 21 30.1 -0.7**
DPC *ep*PKP **PKiKP 20 21 34.4 +0.1**
DPC *es*PKP 20 21 37.1
BURAR **Bucovina Array** 144.25 338⇑ *i*P **PKPdf 20 21 30.8 -0.3**
OKC **Ostrava-Krasne** 144.28 347 *e*PKP **PKPdf 20 21 30.4 -0.5**
KRLC **Kraliky** 144.33 349 *e*PKP PKPbc 20 21 29.7 +0.2
TESR **Tescani** 144.63 336⇑ *i*P **PKPdf 20 21 31.6 -0.1**
PRU **Pruhonice** 144.80 351 *e*PKP **PKPdf 20 21 31.8 0.0**
CFR **Carcaliu** 145.08 333⇓ *i*P **PKPdf 20 21 33.3 +0.9**
VRI **Vrincioaia** 145.12 335⇓ *i*P **PKPdf 20 21 33.2 +0.6**
PLOR **Plostina** 145.17 335⇓ *i*P **PKPdf 20 21 33.7 +1.0**
TREC **Trest** 145.32 350 *e*PKP **PKPdf 20 21 33.8 +1.0**
TREC *ex* x 20 21 42.1
KMBO **Kilima Mbogo** 145.49 244 *e*PKPdf **PKPab 20 21 35.8 +1.0**
KMBO PKPbc **PKPab 20 21 36.0 +1.2**
KMBO **Kilima Mbogo** 145.49 244 PKPbc **PKPab 20 21 36.0 +1.2**
2.9nm,0.7s,baz=57,slow=4.8,SNR=8.7
TIRR **Tirgusor** 145.51 332⇓ *i*P **PKPab 20 21 34.9 +1.3**
HARR **Harsova** 145.55 333⇑ *i*P **PKPab 20 21 35.4 +1.7**
DOPR **Dopca** 145.57 336⇓ *i*P **PKPab 20 21 36.1 +2.3**
TLB **Topalu** 145.58 332⇓ *i*P **PKPab 20 21 35.0 +1.2**
MLR **Muntele Rosu** 145.75 335⇑ *i*P **PKPab 20 21 35.6 +1.0**
KHC **Kasperske Hory** 145.78 352 *e*PKP **PKPab 20 21 34.7 +0.2**
KHC *ex* x 20 21 43.0
KHC *ex* x 20 21 46.6
KHC **Kasperske Hory** 145.78 352 *e*PKPdf **PKPab 20 21 34.8 +0.2**
ISR **Istrita** 145.81 334⇑ *i*P **PKPab 20 21 36.3 +1.5**
DRGR 145.82 340⇑ *i*P **PKPab 20 21 35.5 +0.7**
BRTR **Keskin Array B** 146.03 321 PKPbc **PKPab 20 21 36.4 +0.5**
BRTR **Keskin Array B** 146.03 321 PKPbc **PKPab 20 21 36.4 +0.5**
5.5nm,0.9s,baz=113,slow=1.6,SNR=22
GERES **GERESS Array B** 146.04 351 PKPbc **PKPbc 20 21 35.0 0.0**
GERES **GERESS Array B** 146.04 351 PKPbc **PKPbc 20 21 35.0 0.0**
0.9nm,0.6s,baz=31,slow=3.6,SNR=12

VOIR		**146.15**	**336**	⇓ *iP*	**PKPab**	**20 21 37.3**	**+1.2**
CONA	**Conrad Observa**	**146.56**	**349**	⇑ *iP*KPdf	**PKPab**	**20 21 37.9**	**+0.3**
	5.8nm,0.9s						
MOA	**Molln**	**146.92**	**350**	⇓ *i*sPKPdf	**PKPab**	**20 21 38.7**	**-0.2**
	11nm,1.9s						
BZS	**Buzias**	**147.22**	**340**	⇑ *i*P	**PKPbc**	**20 21 37.3**	**-1.1**

IDC 06 20:07:60.0±2.7, 15°71'S×173°15'W, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.8/21, mbtmp3.8/6, ML1.6/1, Error ellipse: s-maj=145.2km s-min=21.0km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.23**	**37**	Pn	Pn	20 08 36.8	-1.5
	11nm,0.3s,baz=201,slow=17,SNR=5.0						
AFI				Sn	Sn	20 08 59.0	-7.6
	38nm,0.3s,baz=191,slow=21,SNR=6.1						
STKA	**Stephens Creek**	**44.09**	**240**	P	P	20 16 09.5	-0.7
	1.0nm,0.5s,baz=69,slow=13,SNR=4.7						
WRA	**Warramunga Arr**	**50.01**	**257**	P	P	20 16 56.4	-0.2
	0.3nm,0.4s,baz=97,slow=6.6,SNR=3.8						
ASAR	**Alice Springs**	**50.24**	**252**	P	P	20 16 57.9	-0.5
	1.0nm,0.4s,baz=88,slow=8.0,SNR=17						
NVAR	**Mina Array Bea**	**74.40**	**42**	P	P	20 19 40.5	+0.3
	0.5nm,0.6s,baz=220,slow=8.3,SNR=3.9						
ILAR	**Eielson Array**	**82.70**	**11**	P	P	20 20 24.9	-0.2
	0.4nm,0.6s,baz=216,slow=4.5,SNR=5.0						
BRTR	**Keskin Array B**	**146.55**	**321**	PKPbc	PKPab	20 27 44.8	-0.1
	1.1nm,0.8s,baz=52,slow=4.1,SNR=5.9						

IDC 06 20:22:05.0±1.8, 15°45S×173°67W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.8/18, mbtmp3.8/5, MS3.4/1, Ms1 3.4/1, ms1mx2.9/36, Error ellipse: s-maj=108.8km s-min=25.8km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.39**	**50**	Sn	Sn	20 22 59.6	-16
	53nm,0.3s,baz=176,slow=23,SNR=5.8						
PPT	**Papeete**	**23.19**	**99**	LR	LR	20 33 48.2	
	comp=Z,92nm,21.1s,baz=315,slow=30						
H11S2	**WAKE ISLAND Hy**	**38.88**	**329**	T	T	21 10 22.1	
	baz=152,SNR=7.1						
H11S3	**WAKE ISLAND Hy**	**38.89**	**329**	T	T	21 10 28.7	
	baz=152						
H11S1	**WAKE ISLAND Hy**	**38.89**	**329**	T	T	21 10 22.0	
	baz=152						
H11N3	**WAKE ISLAND Hy**	**39.83**	**331**	T	T	21 11 31.3	
	baz=152,slow=0.7,SNR=5.7						
H11N1	**WAKE ISLAND Hy**	**39.83**	**331**	T	T	21 11 34.3	
	baz=152,slow=0.7,SNR=5.7						
H11N2	**WAKE ISLAND Hy**	**39.85**	**331**	T	T	21 11 34.4	
	baz=152,slow=0.7,SNR=6.1						
STKA	**Stephens Creek**	**43.79**	**240**	P	P	20 30 11.8	-1.0
	0.6nm,0.4s,baz=68,slow=11,SNR=2.7						
WRA	**Warramunga Arr**	**49.58**	**257**	P	P	20 30 58.5	+0.1
	0.9nm,0.9s,baz=90,slow=7.3,SNR=3.5						
ASAR	**Alice Springs**	**49.85**	**252**	P	P	20 31 00.5	+0.1
	1.7nm,0.7s,baz=86,slow=8.2,SNR=12						
TXAR	**Lajitas Array**	**80.86**	**56**	P	P	20 34 21.8	+0.3
	0.5nm,0.8s,baz=220,slow=6.8,SNR=5.1						
ILAR	**Eielson Array**	**82.55**	**11**	P	P	20 34 27.7	-1.7
	0.8nm,1.0s,baz=189,slow=4.6,SNR=3.3						
BRTR	**Keskin Array B**	**146.03**	**321**	PKPbc	PKPab	20 41 48.9	+0.9
	0.9nm,0.8s,baz=4.4,slow=1.9,SNR=3.0						

*IDC **06** 20:35:08.9±1.6, 14°85S×174°00W, h0km, mb4.1/7, mb1 4.4/7, mb1mx4.1/19, mbtmp4.1/7, MS3.6/4, Ms1 3.6/4, ms1mx3.2/38, Error ellipse: s-maj=96.1km s-min=21.0km az=152.0*

*NEIC **06** 20:35:09.5±0.5, 15°16S×173°75W, h10km, mb4.4/6, Error ellipse: s-maj=17.7km s-min=12.0km az=162.0*

*ISCJB **06** 20:35:16.9±0.6, 14°9S±0°2×174°1W±0°2, h73km, mb4.0/12, Error ellipse: s-maj=33.0km s-min=12.9km az=146.6*

ISC 06 20:35:18.3±0.8, 14°9S±0°2×174°1W±0°2, h73km, n46, σ0s55/29, mb4.1/12, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.41**	**67**	*e*Pn	Pn	20 35 37.5	-18
AFI				Sn	Sn	20 36 00.4	-24
AFI	**Afiamalu**	**2.41**	**67**	Pn	Pn	20 35 40.8	-15
	68nm,0.3s,baz=270,slow=20,SNR=9.5						
AFI				Sn	Sn	20 36 00.4	-24
	155nm,0.3s,baz=49,slow=20,SNR=11						
RAR	**Rarotonga**	**14.97**	**117**	Pn	Pn	20 38 34.0	-12
RAR	**Rarotonga**	**14.97**	**117**	LR	LR	20 42 31.5	
	comp=Z,342nm,20.6s,baz=315,slow=30						
DZM	**Mont Dzumac**	**19.82**	**246**	*e*LR	LR	20 44 48.3	
	375nm,25.9s						
DZM	**Mont Dzumac**	**19.82**	**246**	LR	LR	20 45 51.1	
	comp=Z,255nm,19.9s,baz=41,slow=32						
PPT	**Papeete**	**23.65**	**100**	LR	LR	20 47 48.9	
	comp=Z,41nm,19.4s,baz=166,slow=32						
PPT2	**Papeete2**	**23.65**	**100**	*e*LR	LR	20 45 47.8	
	466nm,27.2s						
TBI	**Tubuai**	**24.69**	**114**	*e*LR	LR	20 46 21.0	
	483nm,27.2s						
HNR	**Honiara**	**25.97**	**279**	LR	LR	20 49 06.8	
	comp=Z,158nm,20.1s,baz=166,slow=32						
RKT	**Rikitea**	**37.76**	**109**	*e*LR	LR	20 52 21.3	
	303nm,28.2s						
H11S2	**WAKE ISLAND Hy**	**38.19**	**330**	T	T	21 23 17.9	
	baz=152,slow=0.7,SNR=34						
H11S3	**WAKE ISLAND Hy**	**38.20**	**330**	T	T	21 23 23.4	
	baz=152,slow=0.7,SNR=36						
H11S1	**WAKE ISLAND Hy**	**38.21**	**330**	T	T	21 23 20.4	
	baz=152,slow=0.7,SNR=34						
H11N3	**WAKE ISLAND Hy**	**39.15**	**331**	T	T	21 24 44.4	
	baz=152,slow=0.7,SNR=38						
H11N1	**WAKE ISLAND Hy**	**39.15**	**331**	T	T	21 24 44.8	
	baz=152,slow=0.7,SNR=47						
H11N2	**WAKE ISLAND Hy**	**39.16**	**331**	T	T	21 24 45.8	
	baz=152,slow=0.7,SNR=45						
WRAB	**Tennant Creek**	**49.34**	**256**	*e*P	**P**	**20 44 02.2**	**+1.5**
	14nm,1.6s						
WRA	**Warramunga Arr**	**49.35**	**256**	P	**P**	**20 44 00.7**	**-0.1**
WRA	**Warramunga Arr**	**49.35**	**256**	P	**P**	**20 44 00.7**	**-0.1**
	0.7nm,0.6s,baz=90,slow=6.9,SNR=12						
AS31	**Alice Springs**	**49.67**	**251**	*e*P	**P**	**20 44 02.2**	**-1.0**
ASAR	**Alice Springs**	**49.68**	**251**	P	**P**	**20 44 03.2**	**0.0**
ASAR	**Alice Springs**	**49.68**	**251**	P	**P**	**20 44 03.2**	**0.0**
	3.8nm,0.6s,baz=87,slow=7.9,SNR=30						
NVAR	**Mina Array Bea**	**74.36**	**42**	P	**P**	**20 46 49.1**	**+0.4**
NVAR	**Mina Array Bea**	**74.36**	**42**	P	**P**	**20 46 49.1**	**+0.4**
	0.9nm,0.7s,baz=229,slow=9.1,SNR=6.4						
QSPA	**South Pole Qui**	**75.17**	**180**	P	**P**	**20 46 52.7**	**0.0**
	3.1nm,1.2s						
MCK	**McKinley**	**80.73**	**11**	*e*P	**P**	**20 47 23.2**	**-0.1**
	8.5nm,1.3s						
PV01	**Paradox Valley**	**80.82**	**47**	*e*P	**P**	**20 47 23.7**	**-1.0**
TXAR	**Lajitas Array**	**80.85**	**56**	P	**P**	**20 47 25.2**	**+0.4**
TXAR	**Lajitas Array**	**80.85**	**56**	P	**P**	**20 47 25.2**	**+0.4**
	1.2nm,0.9s,baz=233,slow=4.4,SNR=8.4						
ANMO	**Albuquerque**	**80.95**	**50**	P	**P**	**20 47 25.3**	**0.0**
	1.4nm,0.6s						
ANMO	**Albuquerque**	**80.95**	**50**	P	**P**	**20 47 25.6**	**+0.2**
	0.7nm,0.3s,baz=292,slow=5.4,SNR=3.5						
COLA	**College**	**81.97**	**11**	P	**P**	**20 47 30.4**	**+0.7**
ILAR	**Eielson Array**	**82.06**	**11**	P	**P**	**20 47 30.6**	**+0.4**
ILAR	**Eielson Array**	**82.06**	**11**	P	**P**	**20 47 30.6**	**+0.4**
	3.3nm,1.2s,baz=210,slow=5.9,SNR=11						
PDAR	**Pinedale Array**	**82.30**	**42**	P	**P**	**20 47 31.7**	**-0.6**
PDAR	**Pinedale Array**	**82.30**	**42**	P	**P**	**20 47 31.7**	**-0.6**
	1.0nm,0.9s,baz=218,slow=4.2,SNR=7.2						
SDCO	**Great Sand Dun**	**82.83**	**48**	*e*P	**P**	**20 47 35.6**	**+0.4**
	2.6nm,1.2s						
COLD	**Coldfoot**	**83.73**	**9**	*e*P	**P**	**20 47 38.6**	**-0.2**
	5.1nm,1.3s						
ABTX	**Abilene, Hawle**	**85.27**	**55**	*e*P	**P**	**20 47 46.9**	**-0.6**
BRTR	**Keskin Array B**	**145.35**	**321**	PKPbc	**PKPab**	**20 54 48.5**	**0.0**
BRTR	**Keskin Array B**	**145.35**	**321**	PKPbc	**PKPab**	**20 54 48.5**	**0.0**
	3.1nm,0.9s,baz=108,slow=3.2,SNR=12						
GERES	**GERESS Array B**	**145.53**	**351**	PKPbc	**PKPab**	**20 54 48.6**	**-0.1**
GERES	**GERESS Array B**	**145.53**	**351**	PKPbc	**PKPab**	**20 54 48.7**	**-0.1**
	1.1nm,1.0s,baz=318,slow=1.8,SNR=5.1						
ESDC	**Sonseca Array**	**153.81**	**18**	PKPab	**PKPab**	**20 55 21.9**	**-0.7**
ESDC	**Sonseca Array**	**153.81**	**18**	PKPab	**PKPab**	**20 55 21.9**	**-0.7**
	0.8nm,0.9s,baz=255,slow=4.9,SNR=4.4						

IDC 06 20:38:53.4±14.0, 14°36N×145°94E, h78km±135km, mb3.6/7, mb1 3.8/7, mb1mx3.6/22, mbtmp3.6/7, Error ellipse: s-maj=36.8km s-min=26.0km az=89.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**20.31**	**76**	T	T	21 04 52.8	
	baz=264,slow=0.7,SNR=9.2						
H11S1	**WAKE ISLAND Hy**	**20.33**	**75**	T	T	21 04 51.6	
	baz=264,slow=0.7,SNR=7.0						
H11S2	**WAKE ISLAND Hy**	**20.33**	**76**	T	T	21 04 48.9	
	baz=264,slow=0.7,SNR=6.1						
WRA	**Warramunga Arr**	**35.95**	**199**	P	P	20 45 46.3	-0.3
	1.0nm,1.0s,baz=20,slow=9.2,SNR=4.0						
WRA				pP	pP	20 46 03.5	-1.8
	0.7nm,0.5s,baz=22,slow=9.7,SNR=3.9						
WRA				PcP	PcP	20 48 12.3	+0.2
	0.6nm,1.0s,baz=13,slow=2.8,SNR=3.0						
ASAR	**Alice Springs**	**39.59**	**197**	pP	pP	20 46 36.1	-0.1
	0.3nm,0.6s,baz=16,slow=14,SNR=2.7						
CMAR	**Chiang Mai Arr**	**45.18**	**282**	P	P	20 47 02.8	-0.1
	0.7nm,0.5s,baz=82,slow=6.3,SNR=9.2						
SONM	**Songino Array**	**46.72**	**324**	P	P	20 47 14.8	+0.1
	0.2nm,0.5s,baz=133,slow=6.1,SNR=3.5						
ZALV	**Zalesovo Beam**	**61.61**	**324**	P	P	20 49 02.4	-0.3
	1.3nm,0.4s,baz=101,slow=7.5,SNR=4.9						
MKAR	**Makanchi Array**	**61.67**	**316**	P	P	20 49 03.4	+0.1
	1.0nm,0.3s,baz=92,slow=8.5,SNR=38						
ILAR	**Eielson Array**	**67.43**	**25**	P	P	20 49 40.5	+0.1
	1.1nm,0.5s,baz=251,slow=5.8,SNR=15						
ILAR				pP	pP	20 50 00.6	-0.2
	0.4nm,0.8s,baz=254,slow=6.5,SNR=1.9						
FINES	**FINESS Array B**	**90.90**	**335**	P	P	20 51 47.3	-0.9
	4.4nm,1.1s,baz=76,slow=5.9,SNR=4.3						

*ISCJB **06** 20:47:20.6±0.3, 16°00S±0°07×173°47W±0°07, h10km, mb4.7/51, MS4.5/12, Error ellipse: s-maj=11.7km s-min=6.6km az=139.3*

*IDC **06** 20:47:20.7±0.5, 15°99S×173°40W, h0km, mb4.4/20, mb1 4.6/21, mb1mx4.5/27, mbtmp4.4/21, ML3.6/1, MS4.3/12, Ms1 4.2/12, ms1mx3.9/44, Error ellipse: s-maj=20.4km s-min=12.6km az=129.0*

*BJI **06** 20:47:20.7, 15°90S×173°60W, h10km, mB5.4/10, mb4.9/19, Ms5.1/3, Ms7 4.7/4*

*NEIC **06** 20:47:21.9±0.2, 15°98S×173°49W, h10km, mb4.7/27, Error ellipse: s-maj=12.0km s-min=5.9km az=136.0*

*AUST **06** 20:47:22.5±3.0, 16°02S×172°70W, h25km, Error ellipse: s-maj=1.5km s-min=1.4km az=307.0*

ISC 06 20:47:22.1±0.8, 16°00S±0°08×173°41W±0°09, h11km±4km, h12km:pP-P, n166, σ1s13/159, mb4.7/51, MS4.3/12, 16C-5D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.61**	**38**	*e*Pn	Pn	20 47 57.9	-6.4
AFI				Sn	Sn	20 48 23.2	-13
AFI	**Afiamalu**	**2.61**	**38**	Pn	Pn	20 47 58.0	-6.3
	78nm,0.3s,baz=241,slow=19,SNR=13						
AFI				Sn	Sn	20 48 23.2	-13
	82nm,0.3s,baz=131,slow=22,SNR=6.0						
NIUE	**Niue**	**4.52**	**133**	P	Pn	20 48 24.2	-6.4
	baz=4.0,SNR=79						
RAO	**Raoul Island**	**13.83**	**197**	LR	LR	20 54 57.2	
	comp=Z,301nm,18.8s,baz=52,slow=33						
RAR	**Rarotonga**	**13.93**	**114**	*e*Pn	Pn	20 50 32.0	-7.6
DZM	**Mont Dzumac**	**19.97**	**249**	*e*P	Pn	20 52 01.2	+4.8
	142nm,1.4s						
DZM				*e*LR	LR	20 56 47.8	
	1µm,24.4s						
DZM	**Mont Dzumac**	**19.97**	**249**	P	**P**	**20 51 54.8**	**+0.1**
DZM	**Mont Dzumac**	**19.97**	**249**	P	**P**	**20 51 54.8**	**+0.1**
	0.2nm,0.3s,baz=86,slow=13,SNR=2.3						
DZM				LR	LR	20 57 60.0	
	comp=Z,732nm,18.9s,baz=214,slow=32						
PPT2	**Papeete2**	**22.87**	**97**	*e*LR	LR	20 57 43.9	
	936nm,25.2s,baz=260						
TBI	**Tubuai**	**23.69**	**112**	*e*LR	LR	20 58 13.8	
	1µm,25.8s,baz=290						
URZ	**Urewera**	**23.70**	**199**	*e*P	**P**	**20 52 31.5**	**-2.5**
	74nm,1.4s						
URZ	**Urewera**	**23.70**	**199**	P	**P**	**20 52 33.5**	**-0.5**
	17nm,0.8s,baz=346,slow=5.1,SNR=6.6						
RPZ	**Rata Peaks**	**30.63**	**202**	P	**P**	**20 53 36.7**	**+0.3**
RPZ	**Rata Peaks**	**30.63**	**202**	P	**P**	**20 53 36.7**	**+0.3**
	4.9nm,0.6s,baz=56,slow=15,SNR=2.7						
EIDS	**Eidsvold**	**34.41**	**248**	*e*P	**P**	**20 54 08.1**	**-1.7**
	13nm,1.1s						
ARMA	**Armidale**	**35.03**	**240**	P	**P**	**20 54 15.4**	**+0.2**
	baz=36,SNR=4.1						
RMQ	**Roma**	**36.65**	**247**	P	P	20 54 35.2	+6.2
	baz=37,SNR=4.6						
RKT	**Rikitea**	**36.83**	**107**	*e*LR	LR	21 04 14.4	
	640nm,27.0s,baz=297						
PMG	**Port Moresby**	**38.97**	**275**	*e*P	**P**	**20 54 47.0**	**-1.7**
	22nm,0.9s						
PMG	**Port Moresby**	**38.97**	**275**	P	**P**	**20 54 50.1**	**+1.3**
	10nm,0.7s,baz=101,slow=18,SNR=2.5						
H11S2	**WAKE ISLAND Hy**	**39.47**	**329**	T	T	21 37 03.2	
	baz=152,slow=0.7,SNR=12						
H11S3	**WAKE ISLAND Hy**	**39.48**	**329**	T	T	21 36 56.1	
	baz=152,slow=0.7,SNR=13						
H11S1	**WAKE ISLAND Hy**	**39.48**	**329**	T	T	21 36 58.5	
	baz=152,slow=0.7,SNR=16						
CMSA	**Cobar Meteorol**	**40.24**	**240**	P	**P**	**20 54 58.8**	**-0.4**
	baz=41,SNR=7.2						
H11N3	**WAKE ISLAND Hy**	**40.42**	**331**	T	T	21 38 06.8	
	baz=150						
H11N1	**WAKE ISLAND Hy**	**40.43**	**331**	T	T	21 38 09.2	
	baz=150						
H11N2	**WAKE ISLAND Hy**	**40.44**	**331**	T	T	21 38 10.4	
	baz=150						
QLP	**Quilpie**	**40.68**	**248**	P	**P**	**20 55 02.5**	**-0.3**
	baz=41,SNR=5.3						
COEN	**Coen**	**41.93**	**267**	P	**P**	**20 55 14.8**	**+1.6**
	baz=43,SNR=4.9						
STKA	**Stephens Creek**	**43.73**	**240**	*e*P	**P**	**20 55 27.0**	**-0.7**
	2.7nm,0.9s						
STKA	**Stephens Creek**	**43.73**	**240**	P	**P**	**20 55 27.3**	**-0.4**
	baz=44,SNR=13						
STKA	**Stephens Creek**	**43.73**	**240**	P	**P**	**20 55 27.3**	**-0.4**
	7.4nm,0.7s,baz=91,slow=8.6,SNR=18						
WRAB	**Tennant Creek**	**49.69**	**257**	*e*P	**P**	**20 56 13.8**	**-0.7**
	20nm,1.1s						
WRA	**Warramunga Arr**	**49.70**	**257**	P	**P**	**20 56 13.9**	**-0.7**
WRA				PcP	**PcP**	**20 57 36.5**	**+0.6**
WRA	**Warramunga Arr**	**49.70**	**257**	P	**P**	**20 56 14.0**	**-0.7**
	6.3nm,1.0s,baz=93,slow=7.6,SNR=28						
WRA				PcP	**PcP**	**20 57 36.5**	**+0.6**
	1.1nm,0.8s,baz=90,slow=3.4,SNR=2.7						
AS31	**Alice Springs**	**49.92**	**252**	*e*P	**P**	**20 56 15.7**	**-0.6**
ASAR	**Alice Springs**	**49.92**	**252**	P	**P**	**20 56 15.5**	**-0.8**
ASAR				PcP	**PcP**	**20 57 37.5**	**+0.8**
ASAR	**Alice Springs**	**49.92**	**252**	P	**P**	**20 56 15.5**	**-0.8**
	9.2nm,0.7s,baz=86,slow=8.2,SNR=60						
ASAR				PcP	**PcP**	**20 57 37.5**	**+0.8**
	0.7nm,0.5s,baz=101,slow=4.7,SNR=2.0						
KDU	**Kakadu**	**52.41**	**266**	P	P	20 56 41.6	+6.5
	baz=53,SNR=3.7						
KNRA	**Kununurra**	**55.47**	**262**	P	**P**	**20 56 57.7**	**+0.3**
	baz=56,SNR=9.6						
FITZ	**Fitzroy Crossi**	**58.08**	**258**	P	P	20 57 20.4	+4.5
	baz=59,SNR=6.7						
FITZ	**Fitzroy Crossi**	**58.08**	**258**	LR	LR	21 20 48.3	
	comp=Z,268nm,19.6s,baz=100,slow=35						
SOEI	**Soe**	**60.89**	**268**	P	**P**	**20 57 37.8**	**+2.2**
	baz=62,SNR=5.1						
SBA	**Scott Base**	**62.66**	**185**	*e*P	**P**	**20 57 48.1**	**+1.8**
	9.8nm,1.0s						
VNDA	**Vanda**	**62.78**	**186**	*e*P	**P**	**20 57 48.4**	**+1.2**
	4.1nm,0.9s						
VNDA	**Vanda**	**62.78**	**186**	P	**P**	**20 57 48.7**	**+1.5**
	1.9nm,0.9s,baz=15,slow=6.8,SNR=12						
MBWA	**Marble Bar**	**63.19**	**254**	*e*P	**P**	**20 57 49.9**	**-0.9**
	11nm,0.8s						
CASY	**Casey**	**69.86**	**205**	*e*P	**P**	**20 58 32.5**	**-0.1**
	42nm,1.5s						
ISA	**Isabella**	**73.09**	**44**	*e*P	**P**	**20 58 53.8**	**+1.1**
	7.4nm,1.2s						
PETK	**Petropavlovsk-**	**73.19**	**342**	P	**P**	**20 58 53.7**	**+0.9**
PETK	**Petropavlovsk-**	**73.19**	**342**	P	**P**	**20 58 53.7**	**+0.9**
	6.4nm,1.0s,baz=89,slow=7.4,SNR=3.6						
CMB	**Columbia Colle**	**73.22**	**41**	P	**P**	**20 58 53.7**	**+0.3**
LPIG	**La Paz**	**73.36**	**58**	LR	LR	21 22 44.4	
	comp=Z,156nm,20.4s,baz=217,slow=29						

QSPA	**South Pole Qui**	**74.05**	**180**	*e*P	**P**	**20 58 58.7**	**+0.7**
	21nm,0.9s						
QSPA	**South Pole Qui**	**74.05**	**180**	P	**P**	**20 58 58.9**	**+0.9**
	13nm,1.0s,baz=61,slow=5.1,SNR=15						
YBH	**Yreka Blue Hor**	**74.08**	**37**	P	**P**	**20 58 59.4**	**+0.9**
YBH	**Yreka Blue Hor**	**74.08**	**37**	P	**P**	**20 58 59.4**	**+0.9**
	4.9nm,0.8s,baz=227,slow=6.0,SNR=9.8						
YBH				LR	LR	21 25 20.4	
	comp=Z,122nm,18.5s,baz=219,slow=31						
HUMO	**Hull Mountain**	**74.49**	**36**	*e*P	**P**	**20 59 01.0**	**+0.2**
	2.9nm,0.8s						
NVAR	**Mina Array Bea**	**74.78**	**42**	P	**P**	**20 59 03.0**	**+0.3**
NVAR	**Mina Array Bea**	**74.78**	**42**	P	**P**	**20 59 03.0**	**+0.3**
	3.3nm,0.7s,baz=240,slow=7.2,SNR=25						
MOD	**Modoc**	**75.60**	**38**	*e*P	**P**	**20 59 07.6**	**+0.3**
	26nm,0.8s						
SHPR	**Sheep Range**	**75.79**	**45**	*e*P	**P**	**20 59 08.8**	**+0.3**
	5.6nm,1.1s						
WVOR	**Wild Horse Val**	**76.91**	**38**	*e*P	**P**	**20 59 14.9**	**+0.1**
	3.1nm,0.3s						
USRK	**Ussuriysk Arra**	**77.85**	**323**	P	**P**	**20 59 20.3**	**+0.5**
	0.3nm,0.3s,baz=101,slow=4.6,SNR=3.7						
BMO	**Blue Mountains**	**79.11**	**37**	*e*P	**P**	**20 59 26.5**	**-0.3**
	3.6nm,0.9s						
DUG	**Dugway**	**79.30**	**43**	*e*P	**P**	**20 59 28.3**	**+0.2**
	4.4nm,1.1s						
MDJ	**Mudanjiang**	**79.49**	**322**	P	**P**	**20 59 29.3**	**+0.5**
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.6s						
MDJ				AMB	AMB		
	comp=Z,190nm,5.0s						
HLID	**Hailey**	**80.09**	**39**	*e*P	**P**	**20 59 32.7**	**+0.3**
	9.5nm,1.4s						
NJ2	**Nanjing**	**80.51**	**307**	*e*P	**P**	**20 59 34.2**	**-0.4**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
PV10	**Paradox Valley**	**80.93**	**46**	*e*P	**P**	**20 59 37.0**	**0.0**
	50nm,0.5s						
TXAR	**Lajitas Array**	**80.95**	**56**	P	**P**	**20 59 37.4**	**+0.2**
TXAR	**Lajitas Array**	**80.95**	**56**	P	**P**	**20 59 37.4**	**+0.2**
	0.7nm,0.8s,baz=210,slow=7.1,SNR=7.6						
TXAR				LR	LR	21 28 47.0	
	comp=Z,120nm,19.6s,baz=210,slow=31						
PV01	**Paradox Valley**	**81.14**	**46**	*e*P	**P**	**20 59 38.1**	**-0.1**
	214nm,0.3s						
ANMO	**Albuquerque**	**81.19**	**50**	*e*P	**P**	**20 59 38.8**	**+0.3**
	3.5nm,1.1s						
ANMO	**Albuquerque**	**81.19**	**50**	P	**P**	**20 59 38.8**	**+0.3**
	1.1nm,0.6s,baz=244,slow=7.3,SNR=3.8						
ANMO				LR	LR	21 29 46.2	
	comp=Z,117nm,18.1s,baz=308,slow=31						
CN2	**Changchun**	**81.53**	**320**	*e*P	**P**	**20 59 40.2**	**+0.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
MCK	**McKinley**	**81.71**	**11**	*e*P	**P**	**20 59 39.7**	**-0.6**
	14nm,1.1s						
DLBC	**Dease Lake**	**82.26**	**21**	P	**P**	**20 59 43.4**	**0.0**
DLBC	**Dease Lake**	**82.26**	**21**	P	**P**	**20 59 43.4**	**0.0**
	2.0nm,0.9s,baz=247,slow=7.7,SNR=3.7						
BW06	**Boulder Array**	**82.72**	**42**	*e*P	**P**	**20 59 45.4**	**-1.0**
	1.8nm,0.9s						
PDAR	**Pinedale Array**	**82.72**	**42**	P	**P**	**20 59 46.1**	**-0.2**
PDAR	**Pinedale Array**	**82.72**	**42**	P	**P**	**20 59 46.1**	**-0.2**
	2.7nm,0.8s,baz=194,slow=3.3,SNR=15						
PDAR				LR	LR	21 30 48.3	
	comp=Z,156nm,18.2s,baz=254,slow=32						
SMCO	**Snowmass**	**82.73**	**46**	*e*P	**P**	**20 59 46.7**	**-0.1**
	4.2nm,0.8s						
ILAR	**Eielson Array**	**83.03**	**11**	P	**P**	**20 59 46.6**	**-0.5**
ILAR	**Eielson Array**	**83.03**	**11**	P	**P**	**20 59 46.6**	**-0.5**
	1.0nm,0.6s,baz=232,slow=6.1,SNR=18						
QIZ	**Qiongzhong**	**83.12**	**292**	P	**P**	**20 59 45.6**	**-3.0**
QIZ				S	**S**	**21 10 04.4**	**-4.5**
SDCO	**Great Sand Dun**	**83.12**	**48**	*e*P	**P**	**20 59 48.4**	**-0.2**
	2.6nm,1.0s						
EGAK	**Eagle**	**84.20**	**13**	*e*P	**P**	**20 59 53.5**	**+0.3**
	5.0nm,1.0s						
BJI	**Beijing**	**85.87**	**314**	P	**P**	**21 00 03.9**	**+1.8**
BJI				AMB	AMB		
	comp=Z,12nm,1.1s						
MAW	**Mawson**	**87.23**	**199**	*e*P	**P**	**21 00 08.8**	**+0.5**
	3.8nm,1.4s						
MAW	**Mawson**	**87.23**	**199**	P	**P**	**21 00 08.8**	**+0.5**
	2.5nm,0.7s,baz=142,slow=5.8,SNR=5.9						
APG	**El Apazote**	**87.50**	**74**	LR	LR	21 29

STHS				*e*		21 07 05.4	
KOLS	**Kolonicke sedl**	**144.74**	**342**	*e*PKP	**PKPdf**	**21 06 58.7**	**-0.4**
KOLS				*e*		21 07 05.7	
UPC	**Upice**	**144.75**	**350**	*e*PKP	**PKPdf**	**21 06 59.3**	**+0.2**
UPC				*ex*	x	21 07 06.8	
DPC	**Dobruska-Polom**	**144.84**	**349**	*e*PKP	**PKPdf**	**21 06 59.0**	**-0.3**
DPC				*ep*PKP	**pPKPdf**	**21 07 01.8**	**-1.1**
DPC				*ex*	x	21 07 06.2	
BURAR	**Bucovina Array**	**144.91**	**338**	⇓*i*P	**PKPdf**	**21 06 59.9**	**+0.3**
PVCC	**Panska Ves**	**144.96**	**351**	*e*PKP	**PKPdf**	**21 07 00.9**	**+1.5**
OKC	**Ostrava-Krasne**	**144.97**	**347**	*e*PKP	**PKPab**	**21 06 57.5**	**-1.2**
OKC				*ex*	x	21 06 59.4	
OKC				*ex*	x	21 07 04.5	
KRLC	**Kraliky**	**145.02**	**349**	*e*PKP	**PKPdf**	**21 06 59.7**	**+0.1**
KRLC				*ep*PKP	**pPKPdf**	**21 07 01.9**	**-1.4**
KRLC				*ex*	x	21 07 05.9	
MORC	**Moravsky Berou**	**145.15**	**348**	⇓*i*P	**PKPbc**	**21 06 59.1**	**-0.3**
MORC	**Moravsky Berou**	**145.15**	**348**	*e*PKPdf	**PKPbc**	**21 06 58.1**	**-1.2**
KMBO	**Kilima Mbogo**	**145.26**	**243**	PKPbc	**PKPdf**	**21 07 01.9**	**+0.5**
KMBO				*e*PKPdf	**PKPab**	**21 07 02.0**	**+0.9**
KMBO	**Kilima Mbogo**	**145.26**	**243**	PKPbc	**PKPdf**	**21 07 01.9**	**+0.5**
	comp=Z,5.2nm,1.0s,baz=72,slow=4.6,SNR=14						
TESR	**Tescani**	**145.28**	**335**	⇓*i*P	**PKPdf**	**21 07 00.6**	**+0.4**
TRPA	**Tarpa**	**145.37**	**341**	⇑*i*P	**PKPdf**	**21 07 01.4**	**+1.2**
TLCR		**145.41**	**332**	⇑*i*P	**PKPab**	**21 07 02.1**	**+1.7**
PRU	**Pruhonice**	**145.49**	**351**	*e*PKP	**PKPbc**	**21 07 00.1**	**-0.3**
PRU				*ep*PKP	**pPKPdf**	**21 07 03.4**	**-0.6**
PRU				*ex*	x	21 07 06.6	
CFR	**Carcaliu**	**145.72**	**333**	⇑*i*P	**PKPab**	**21 07 02.5**	**+0.9**
VRI	**Vrincioaia**	**145.78**	**335**	⇓*i*P	**PKPbc**	**21 07 01.4**	**-0.1**
PLOR	**Plostina**	**145.82**	**335**	⇑*i*P	PKPab	21 07 07.7	**+5.7**
TREC	**Trest**	**146.00**	**350**	*e*PKP	**PKPab**	**21 07 02.3**	**-0.3**
TREC				*ep*PKP	**pPKPdf**	**21 07 04.9**	**-0.1**
TREC				*ex*	x	21 07 09.5	
TIRR	**Tirgusor**	**146.15**	**331**	⇑*i*P	PKPab	21 07 09.8	**+6.6**
HARR	**Harsova**	**146.19**	**332**	⇑*i*P	**PKPab**	**21 07 04.6**	**+1.2**
TLB	**Topalu**	**146.22**	**332**	⇓*i*P	**PKPab**	**21 07 04.2**	**+0.7**
MLR	**Muntele Rosu**	**146.40**	**335**	⇑*i*P	**PKPbc**	**21 07 03.4**	**-0.1**
ISR	**Istrita**	**146.46**	**334**	⇑*i*P	**PKPab**	**21 07 04.9**	**+0.4**
KHC	**Kasperske Hory**	**146.46**	**352**	*e*PKP	**PKPbc**	**21 07 03.8**	**+0.3**
KHC				*ex*	x	21 07 11.3	
KHC	**Kasperske Hory**	**146.46**	**352**	*e*PKPbc	**PKPbc**	**21 07 03.5**	**0.0**
BRTR	**Keskin Array B**	**146.61**	**320**	PKPbc	**PKPbc**	**21 07 04.5**	**+0.2**
BRTR	**Keskin Array B**	**146.61**	**320**	PKPbc	**PKPbc**	**21 07 04.5**	**+0.2**
	comp=Z,5.1nm,0.7s,baz=98,slow=2.5,SNR=33						
GERES	**GERESS Array B**	**146.73**	**351**	PKPbc	**PKPbc**	**21 07 04.4**	**+0.1**
GERES	**GERESS Array B**	**146.73**	**351**	PKPbc	**PKPbc**	**21 07 04.4**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=5.7,slow=3.0,SNR=6.4						
VOIR		**146.80**	**336**	⇑*i*P	**PKPab**	**21 07 06.1**	**+0.3**
SULR		**146.93**	**334**	⇑*i*P	**PKPdf**	**21 07 00.3**	**-2.7**
ANTO	**Ankara**	**147.03**	**321**	*e*PKPbc	**PKPbc**	**21 07 05.9**	**+0.5**
CONA	**Conrad Observa**	**147.25**	**348**	⇑*i*sPKPdf	**PKPab**	**21 07 06.9**	**-0.6**
	comp=Z,16nm,1.2s						
BFO	**Black Forest**	**147.72**	**358**	*e*PKPdf	**PKPdf**	**21 07 02.3**	**-1.9**
KBA	**Koelnbreinsper**	**148.50**	**351**	⇑*i*sPKPdf	**PKPbc**	**21 07 09.2**	**-0.1**
	comp=Z,7.1nm,0.9s						
SOKA	**Soboth**	**148.61**	**349**	⇑*i*PKPbc	**PKPbc**	**21 07 08.5**	**-1.0**
	comp=Z,12nm,1.2s						
FETA	**Feichten**	**148.88**	**355**	⇑*i*PKiKP	**PKiKP**	**21 07 11.0**	**-0.6**
	comp=Z,15nm,1.4s						
ABTA	**Abfaltersbach**	**148.94**	**352**	⇑*i*sPKPdf	**PKPbc**	**21 07 10.1**	**-0.3**
	comp=Z,13nm,0.9s						
CSS	**Prodhromos**	**149.50**	**313**	*e*PKPbc	**PKPbc**	**21 07 10.2**	**-1.9**
TUE	**Stuetta**	**149.53**	**356**	*e*PKPbc	**PKPbc**	**21 07 10.1**	**-1.9**
TORD	**Torodi Ar. Bea**	**174.48**	**120**	PKP	**PKPdf**	**21 07 31.9**	**-1.1**
TORD				PKPab	**PKPab**	**21 09 04.5**	**-1.4**
TORD	**Torodi Ar. Bea**	**174.48**	**120**	PKP	**PKPdf**	**21 07 31.9**	**-1.1**
	comp=Z,0.8nm,1.0s,baz=258,slow=1.3,SNR=4.2						
TORD				PKPab	**PKPab**	**21 09 04.5**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=240,slow=4.8,SNR=3.1						

IDC 06 20:52:37.0±1.9, 15°24S×173°72W, h0km, mb3.8/6, mb1 4.2/6, mb1mx3.9/18, mbtmp3.8/6, MS4.3/2, Ms1 4.3/2, ms1mx3.4/40, Error ellipse: s-maj=115.9km s-min=22.1km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.30**	**55**	Pn	Pn	20 53 08.8	-7.6
	24nm,0.3s,baz=343,slow=19,SNR=4.8						
AFI				Sn	Sn	20 53 30.2	-15
	82nm,0.3s,baz=189,slow=19,SNR=9.6						
H11S2	**WAKE ISLAND Hy**	**38.67**	**329**	T	T	21 40 50.8	
	baz=152,slow=0.7,SNR=38						
H11S3	**WAKE ISLAND Hy**	**38.68**	**329**	T	T	21 40 47.6	
	baz=152,slow=0.7,SNR=38						
H11S1	**WAKE ISLAND Hy**	**38.69**	**329**	T	T	21 40 47.9	
	baz=152,slow=0.7,SNR=32						
H11N3	**WAKE ISLAND Hy**	**39.62**	**331**	T	T	21 42 13.3	
	baz=152,slow=0.7,SNR=45						
H11N1	**WAKE ISLAND Hy**	**39.62**	**331**	T	T	21 41 59.8	
	baz=152,slow=0.7,SNR=48						
H11N2	**WAKE ISLAND Hy**	**39.64**	**331**	T	T	21 42 14.7	
	baz=152,slow=0.7,SNR=46						
WRA	**Warramunga Arr**	**49.58**	**257**	P	P	21 01 30.0	-0.3
	0.4nm,0.7s,baz=90,slow=7.0,SNR=12						
ASAR	**Alice Springs**	**49.86**	**252**	P	P	21 01 32.2	-0.3
	2.3nm,0.6s,baz=85,slow=8.1,SNR=31						
JCJ	**Chichijima**	**60.02**	**314**	LR	LR	21 28 02.7	
	comp=Z,236nm,19.0s,baz=142,slow=35						
NVAR	**Mina Array Bea**	**74.42**	**42**	P	P	21 04 17.5	+0.1
	0.4nm,0.7s,baz=234,slow=7.6,SNR=3.6						
TXAR	**Lajitas Array**	**80.78**	**56**	P	P	21 04 53.0	0.0
	0.7nm,0.8s,baz=210,slow=7.2,SNR=5.9						
ILAR	**Eielson Array**	**82.35**	**11**	P	P	21 04 59.5	-0.8
	0.5nm,1.0s,baz=221,slow=6.9,SNR=4.6						
PDAR	**Pinedale Array**	**82.36**	**42**	P	P	21 05 00.9	-0.3
	0.6nm,0.7s,baz=256,slow=6.0,SNR=5.0						
ATAH	**Atahualpa**	**93.25**	**98**	LR	LR	21 39 54.0	
	comp=Z,122nm,20.2s,baz=195,slow=30						
BRTR	**Keskin Array B**	**145.84**	**321**	PKPbc	PKPbc	21 12 18.8	0.0
	0.6nm,0.7s,baz=35,slow=4.5,SNR=3.9						
GERES	**GERESS Array B**	**145.94**	**351**	PKPbc	PKPbc	21 12 18.7	0.0
	0.4nm,0.6s,baz=307,slow=3.6,SNR=3.0						

*BJI **06** 20:55:15.9, 14°.90S×173°.90W, h10km, mb4.9/3*
*IDC **06** 20:55:17.0±0.7, 15°.01S×173°.87W, h0km, mb4.4/10, mb1 4.7/10, mb1mx4.4/19, mbtmp4.4/10, MS4.2/2, Ms1 4.2/2, ms1mx3.5/30, Error ellipse: s-maj=38.0km s-min=16.3km az=138.0*
*NEIC **06** 20:55:18.5±0.2, 14°.95S×173°.93W, h10km, mb4.6/13, Error ellipse: s-maj=10.9km s-min=4.9km az=138.0*
*ISCJB **06** 20:55:25.2±0.3, 15°.05S±0°.1×173°.98W±0°.08, h73km, mb4.5/27, Error ellipse: s-maj=16.9km s-min=7.4km az=146.1*

ISC 06 20:55:26.8±0.5, 15°.1S±0°.1×173°.8W±0°.1, h73km, n263, σ0s62/258, mb4.5/27, 103C-99D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.26**	**59**	*e*Pn	Pn	20 55 48.0	-14
AFI				Sn	Sn	20 56 09.8	-19
AFI	**Afiamalu**	**2.26**	**59**	Pn	Pn	20 55 49.3	-13
	71nm,0.3s,baz=260,slow=21,SNR=5.3						
AFI				Sn	Sn	20 56 09.8	-19
	159nm,0.3s,baz=185,slow=23,SNR=8.1						
MSVF	**Nonsavu**	**8.28**	**250**	*e*Pn	**Pn**	**20 57 26.0**	**+1.8**
	63nm,1.4s						
H11S2	**WAKE ISLAND Hy**	**38.50**	**329**	T	T	21 43 29.1	
	baz=152,slow=0.7,SNR=48						
H11S3	**WAKE ISLAND Hy**	**38.51**	**329**	T	T	21 43 29.7	
	baz=152,slow=0.7,SNR=55						
H11S1	**WAKE ISLAND Hy**	**38.52**	**329**	T	T	21 43 29.9	
	baz=152,slow=0.7,SNR=54						
H11N3	**WAKE ISLAND Hy**	**39.45**	**331**	T	T	21 44 53.4	
	baz=152,slow=0.7,SNR=141						
H11N1	**WAKE ISLAND Hy**	**39.45**	**331**	T	T	21 44 53.7	
	baz=152,slow=0.7,SNR=135						
H11N2	**WAKE ISLAND Hy**	**39.47**	**331**	T	T	21 44 44.1	
	baz=152,slow=0.7,SNR=178						
STKA	**Stephens Creek**	**43.88**	**240**	P	**P**	**21 03 25.4**	**-0.9**
STKA	**Stephens Creek**	**43.88**	**240**	P	**P**	**21 03 25.4**	**-0.9**
	1.8nm,0.9s,baz=96,slow=9.2,SNR=2.5						
WRAB	**Tennant Creek**	**49.55**	**257**	*e*P	**P**	**21 04 09.4**	**-1.4**
	3.5nm,0.6s						
WRA	**Warramunga Arr**	**49.56**	**257**	P	**P**	**21 04 09.3**	**-1.5**
WRA	**Warramunga Arr**	**49.56**	**257**	P	**P**	**21 04 09.3**	**-1.5**
	2.0nm,0.5s,baz=90,slow=7.2,SNR=28						
AS31	**Alice Springs**	**49.87**	**252**	*e*P	**P**	**21 04 11.3**	**-1.8**
ASAR	**Alice Springs**	**49.87**	**252**	P	**P**	**21 04 11.6**	**-1.6**
ASAR	**Alice Springs**	**49.87**	**252**	P	**P**	**21 04 11.6**	**-1.6**
	10nm,0.6s,baz=86,slow=8.1,SNR=47						
SBA	**Scott Base**	**63.55**	**185**	*e*P	**P**	**21 05 49.9**	**+0.8**
	5.5nm,0.9s						
VNDA	**Vanda**	**63.66**	**186**	P	**P**	**21 05 50.1**	**+0.2**
VNDA	**Vanda**	**63.66**	**186**	P	**P**	**21 05 50.1**	**+0.2**
	2.2nm,0.8s,baz=360,slow=6.9,SNR=5.7						
JNU	**Nakatsue**		**71.31**	**313**	LR	LR	21 35 16.1
	comp=Z,206nm,18.6s,baz=316,slow=34						
MONP	**Monument Peak**	**72.62**	**48**	⇑P	**P**	**21 06 47.2**	**+0.3**
	baz=73						
ISA	**Isabella**	**72.67**	**45**	*e*P	**P**	**21 06 46.7**	**-0.3**
	6.1nm,1.2s						
ISA	**Isabella**	**72.67**	**45**	⇑P	**P**	**21 06 47.6**	**+0.6**
	baz=73						
MPMC	**Manual Prospec**	**73.56**	**45**	⇓P	**P**	**21 06 52.9**	**+0.5**
	baz=74						
YBH	**Yreka Blue Hor**	**73.56**	**37**	P	**P**	**21 06 52.5**	**+0.4**
YBH	**Yreka Blue Hor**	**73.56**	**37**	P	**P**	**21 06 52.5**	**+0.4**
	2.9nm,0.9s,baz=184,slow=6.0,SNR=6.2						
GMRC	**Granite Mounta**	**74.14**	**47**	⇑P	**P**	**21 06 56.0**	**+0.3**
	baz=74						
IRM	**Iron Mountain**	**74.18**	**47**	⇓P	**P**	**21 06 56.6**	**+0.8**
	baz=74						
SHOC	**Shoshone**	**74.30**	**45**	⇑P	**P**	**21 06 57.0**	**+0.5**
	baz=74						
NVAR	**Mina Array Bea**	**74.33**	**42**	P	**P**	**21 06 57.0**	**+0.1**
NVAR	**Mina Array Bea**	**74.33**	**42**	P	**P**	**21 06 57.0**	**+0.1**
	3.6nm,0.8s,baz=230,slow=8.2,SNR=20						
113A	**Mohawk Valley,**	**74.48**	**49**	⇓P	**P**	**21 06 57.8**	**+0.2**
	baz=75						
KDAK	**Kodiak Island**	**74.68**	**12**	LR	LR	21 33 11.1	
	comp=Z,98nm,20.6s,baz=12,slow=30						
214A	**Organ Pipe Nat**	**74.79**	**50**	⇑P	**P**	**21 06 59.6**	**+0.2**
	baz=75						
QSPA	**South Pole Qui**	**74.97**	**180**	*e*P	**P**	**21 07 00.3**	**+0.3**
	4.5nm,1.1s						
PDMCI	**Park Dam,Lak**	**74.97**	**48**	⇓P	**P**	**21 07 00.7**	**+0.3**
	baz=75						
MOD	**Modoc**	**75.09**	**38**	*e*P	**P**	**21 07 00.4**	**-0.7**
	15nm,0.9s						
Z14A	**Wintersburg**	**75.37**	**49**	⇑P	**P**	**21 07 03.8**	**+1.1**
	baz=76						
W13A	**Hualapai Mount**	**75.56**	**47**	⇓P	**P**	**21 07 04.5**	**+0.5**
	baz=76						
Y14A	**Wickenburg**	**75.61**	**49**	⇓P	**P**	**21 07 04.8**	**+0.6**
	baz=76						
R11A	**Troy Canyon, C**	**76.07**	**44**	⇓P	**P**	**21 07 07.2**	**+0.3**
	baz=76						
TUC	**Tucson**	**76.47**	**51**	*e*P	**P**	**21 07 09.1**	**0.0**
	5.7nm,1.3s						
X16A	**Lo Mia Camp, P**	**76.97**	**49**	⇓P	**P**	**21 07 12.7**	**+0.7**
	baz=77						
319A	**Douglas**	**77.18**	**52**	⇓P	**P**	**21 07 14.0**	**+0.8**
	baz=77						
U15A	**North Rim**	**77.34**	**47**	⇓P	**P**	**21 07 14.9**	**+0.7**
	baz=78						
WUAZ	**Wupatki**	**77.55**	**48**	⇓P	**P**	**21 07 16.2**	**+1.0**
	baz=78						
220A	**Playas Peak, P**	**77.99**	**52**	⇓P	**P**	**21 07 18.8**	**+1.1**
	baz=78						
X18A	**Snowflake**	**78.11**	**49**	⇑P	**P**	**21 07 19.2**	**+0.8**
	baz=78						
120A	**U Bar Ranch, L**	**78.19**	**52**	⇑P	**P**	**21 07 20.0**	**+1.1**
	baz=78						
Z20A	**Nine Sixteen R**	**78.48**	**51**	⇓P	**P**	**21 07 21.4**	**+1.0**
	baz=79						
W18A	**Petrified Fore**	**78.54**	**49**	⇓P	**P**	**21 07 21.8**	**+1.1**
	baz=79						
MDJ	**Mudanjiang**	**78.55**	**323**	P	**P**	**21 07 19.1**	**-1.2**
MDJ					AMB	AMB	
	comp=Z,3.0nm,0.4s						
221A	**Mesquite Ranch**	**78.61**	**52**	⇓P	**P**	**21 07 22.1**	**+1.0**
	baz=79						
MFID	**Camas Ranch**	**78.66**	**39**	⇑P	**P**	**21 07 21.2**	**+0.1**
	baz=79						
121A	**Cookes Peak, D**	**78.83**	**52**	⇓P	**P**	**21 07 22.9**	**+0.5**
	baz=79						
DUG	**Dugway**	**78.87**	**43**	*e*P	**P**	**21 07 22.3**	**-0.1**
	8.7nm,1.1s						
DUG	**Dugway**	**78.87**	**43**	⇑P	**P**	**21 07 22.9**	**+0.5**
	baz=79						
Y20A	**Horse Springs,**	**78.99**	**50**	⇑P	**P**	**21 07 24.2**	**+0.9**
	baz=79						
X20A	**Quemado**	**79.19**	**50**	⇑P	**P**	**21 07 24.9**	**+0.5**
	baz=79						
Z21A	**St. Cloud Mine**	**79.26**	**51**	⇑P	**P**	**21 07 25.6**	**+0.8**
	baz=79						
W20A	**Ramah**	**79.45**	**49**	⇑P	**P**	**21 07 26.3**	**+0.5**
	baz=80						
Y21A	**Point of Rocks**	**79.56**	**51**	⇓P	**P**	**21 07 26.9**	**+0.5**
	baz=80						
HLID	**Hailey**	**79.61**	**39**	*e*P	**P**	**21 07 26.9**	**+0.5**
	10nm,1.0s						
HLID	**Hailey**	**79.61**	**39**	⇓P	**P**	**21 07 26.5**	**+0.1**
	baz=80,SNR=15						
X21A	**Alamocita Cree**	**79.67**	**50**	⇑P	**P**	**21 07 27.8**	**+0.8**
	baz=80						
Z22A	**Elephant Butte**	**79.77**	**52**	⇑P	**P**	**21 07 27.8**	**+0.4**
	baz=80,SNR=7.2						
Y22A	**Socorro**	**80.06**	**51**	⇓P	**P**	**21 07 29.8**	**+0.7**
	baz=80						
LAZ	**Ladron**	**80.13**	**50**	*e*P	**P**	**21 07 30.2**	**+0.8**
	2.7nm,1.3s						
324A	**Moseley Ranch,**	**80.14**	**54**	⇓P	**P**	**21 07 30.0**	**+0.6**
	baz=80						
425A	**Indio Mountain**	**80.26**	**54**	⇑P	**P**	**21 07 30.1**	**0.0**
	baz=80,SNR=12						
X22A	**Bernardo**	**80.27**	**50**	⇓P	**P**	**21 07 30.8**	**+0.6**
	baz=80						
Z23A	**Rita Site, Whi**	**80.32**	**52**	⇓P	**P**	**21 07 31.1**	**+0.7**
	baz=80						
MNTX	**Cornudas Mount**	**80.33**	**54**	*e*P	**P**	**21 07 30.1**	**-0.2**
	8.3nm,1.2s						
224A	**Cornudas Mount**	**80.37**	**53**	⇓P	**P**	**21 07 30.9**	**+0.2**
	baz=80,SNR=9.5						
V21A	**Milan**	**80.38**	**49**	⇓P	**P**	**21 07 30.9**	**+0.2**
	baz=81,SNR=6.1						
MVCO	**Mesa Verde**	**80.39**	**47**	⇓P	**P**	**21 07 31.3**	**+0.5**
	baz=81						
626A	**Big Bend Ranch**	**80.45**	**56**	⇓P	**P**	**21 07 31.4**	**+0.3**
	baz=81,SNR=8.7						
325A	**Bean Ranch, Si**	**80.51**	**54**	⇑P	**P**	**21 07 31.4**	**-0.1**
	baz=81,SNR=17						
PV10	**Paradox Valley**	**80.55**	**46**	*e*P	**P**	**21 07 31.6**	**-0.1**
	155nm,0.9s						
W22A	**Albuquerque**	**80.62**	**50**	⇑P	**P**	**21 07 33.1**	**+1.0**
	baz=81						
U21A	**Nageezi**	**80.64**	**48**	⇓P	**P**	**21 07 32.4**	**+0.3**
	baz=81,SNR=16						
NEW	**Newport**	**80.64**	**34**	⇓P	**P**	**21 07 32.4**	**+0.8**
	baz=81						
526A	**Mary Lane Ranc**	**80.68**	**55**	⇑P	**P**	**21 07 32.5**	**+0.1**
	baz=81,SNR=7.4						
124A	**Stringfield Ra**	**80.68**	**53**	⇓P	**P**	**21 07 32.7**	**+0.2**
	baz=81,SNR=5.1						
TXAR	**Lajitas Array**	**80.73**	**56**	P	**P**	**21 07 32.8**	**+0.2**
TXAR	**Lajitas Array**	**80.73**	**56**	P	**P**	**21 07 32.8**	**+0.2**
	4.3nm,1.0s,baz=233,slow=5.6,SNR=25						
Y23A	**Lolace Mesa,**	**80.74**	**51**	⇑P	**P**	**21 07 33.0**	**+0.4**
	baz=81						
PV01	**Paradox Valley**	**80.76**	**46**	*e*P	**P**	**21 07 32.9**	**+0.2**
	595nm,0.9s						
S20A	**Disappointment**	**80.77**	**47**	⇑P	**P**	**21 07 33.0**	**+0.1**
	baz=81,SNR=8.3						
MCK	**McKinley**	**80.87**	**11**	*e*P	**P**	**21 07 31.6**	**-0.9**
	13nm,0.9s						
ANMO	**Albuquerque**	**80.87**	**50**	*e*P	**P**	**21 07 33.5**	**+0.2**
	6.3nm,1.1s						
M17A	**Scullys Gap (B**	**80.92**	**43**	⇑P	**P**	**21 07 33.4**	**-0.1**
	baz=81						
225A	**Deer Hill, Car**	**80.93**	**53**	⇑P	**P**	**21 07 33.9**	**+0.1**
	baz=81,SNR=8.2						
V22A	**San Miguel Ran**	**80.96**	**49**	⇑P	**P**	**21 07 34.3**	**+0.4**
	baz=81						
426A	**McDonald Obser**	**80.97**	**55**	⇑P	**P**	**21 07 34.1**	**+0.1**
	baz=81,SNR=19						
T21A	**Navajo Lake**	**80.98**	**48**	⇑P	**P**	**21 07 34.5**	**+0.5**
	baz=81						
627A	**Terlingua Ranc**	**81.00**	**56**	⇓P	**P**	**21 07 34.5**	**+0.4**
	baz=81						
Z24A	**Sheeppen Canyo**	**81.01**	**52**	⇑P	**P**	**21 07 34.5**	**+0.3**
	baz=81						
527A	**Woodward Ranch**	**81.09**	**56**	⇑P	**P**	**21 07 34.7**	**+0.1**
	baz=81,SNR=10.0						
S21A	**Coal Bank Pass**	**81.10**	**47**	⇓P	**P**	**21 07 35.2**	**+0.5**
	baz=81,SNR=10						
P19A	**Cripple Cowboy**	**81.17**	**45**	⇑P	**P**	**21 07 35.0**	**+0.1**
	baz=81						
U22A	**Llaves**	**81.20**	**49**	⇓P	**P**	**21 07 35.3**	**+0.2**
	baz=81						
Y24A	**Capitan**	**81.20**	**51**	⇓P	**P**	**21 07 35.3**	**+0.1**
	baz=81,SNR=8.0						
326A	**Caldwell Ranch**	**81.27**	**54**	⇑P	**P**	**21 07 35.4**	**0.0**
	baz=81						
125A	**Gardner Draw,**	**81.28**	**53**	⇓P	**P**	**21 07 36.1**	**+0.6**
	baz=81						
Q20A	**Ridgley Place,**	**81.33**	**46**	⇓P	**P**	**21 07 36.3**	**+0.6**
	baz=82						
O19A	**Miners Draw (B**	**81.39**	**44**	⇑P	**P**	**21 07 36.4**	**+0.4**
	baz=82						
V23A	**Ortiz Mt. (NFS**	**81.42**	**50**	⇓P	**P**	**21 07 37.1**	**+0.8**
	baz=82						
628A	**Black Gap, Mar**	**81.42**	**56**	⇓P	**P**	**21 07 36.5**	**+0.2**
	baz=82,SNR=6.9						
226B	**Tecolote Peak,**	**81.42**	**54**	⇑P	**P**	**21 07 36.4**	**+0.1**
	baz=82,SNR=12						
T22A	**Edith**	**81.44**	**48**	⇓P	**P**	**21 07 36.8**	**+0.4**
	baz=82						
Z25A	**Roswell**	**81.48**	**52**	⇓P	**P**	**21 07 37.2**	**+0.6**
	baz=82						
427A	**Hayter Ranch,**	**81.54**	**55**	⇑P	**P**	**21 07 37.3**	**+0.4**
	baz=82,SNR=9.0						
R21A	**Cimarron**	**81.58**	**47**	⇓P	**P**	**21 07 37.5**	**+0.4**
	baz=82,SNR=5.8						
MSO	**Missoula**	**81.64**	**37**	⇓P	**P**	**21 07 37.3**	**+0.2**
	baz=82						
528A	**Cox Ranch, San**	**81.76**	**56**	⇓P	**P**	**21 07 38.3**	**+0.3**
	baz=82,SNR=14						
126A	**Clayton Basin,**	**81.76**	**53**	⇑P	**P**	**21 07 38.6**	**+0.6**
	baz=82						
W24A	**Lazy 6 Ranch,**	**81.76**	**50**	⇓P	**P**	**21 07 38.2**	**+0.1**
	baz=82,SNR=7.2						
Y25A	**Mesa, Roswell**	**81.77**	**52**	⇓P	**P**	**21 07 38.0**	**-0.1**
	baz=82,SNR=7.2						
Q21A	**Lamborn Mesa,**	**81.78**	**46**	⇑P	**P**	**21 07 38.8**	**+0.7**
	baz=82						
S22A	**4UR Ranch, Cre**	**81.82**	**47**	⇓P	**P**	**21 07 38.8**	**+0.3**
	baz=82,SNR=17						
M19A	**Rock Springs**	**81.93**	**43**	⇓P	**P**	**21 07 39.1**	**+0.3**
	baz=82						
X25A	**Clemmons Ranch**	**82.04**	**51**	⇓P	**P**	**21 07 40.1**	**+0.6**
	baz=82						
Z26A	**Caprock**	**82.05**	**53**	⇓P	**P**	**21 07 39.5**	**0.0**
	baz=82,SNR=5.9						
428A	**Kincaid Ranch,**	**82.06**	**55**	⇑P	**P**	**21 07 39.8**	**+0.2**
	baz=82,SNR=5.6						
227A	**Bennet, Jal**	**82.08**	**54**	⇓P	**P**	**21 07 40.3**	**+0.7**
	baz=82						
L19A	**Farson**	**82.08**	**43**	P	**P**	**21 07 39.9**	**+0.3**
	baz=82						
V24A	**Rampart Ranch,**	**82.08**	**50**	⇑P	**P**	**21 07 40.6**	**+0.8**
	baz=82						
R22A	**Saguache, Gunn**	**82.08**	**47**	⇓P	**P**	**21 07 40.3**	**+0.4**
	baz=82,SNR=7.9						
COLA	**College**	**82.11**	**11**	*e*P	**P**	**21 07 38.5**	**-0.4**
	60nm,0.9s						
P21A	**Newcastle**	**82.17**	**46**	⇑P	**P**	**21 07 40.6**	**+0.4**
	baz=82						
ILAR	**Eielson Array**	**82.20**	**11**	P	**P**	**21 07 39.0**	**-0.4**
ILAR	**Eielson Array**	**82.20**	**11**	P	**P**	**21 07 39.0**	**-0.4**
	2.3nm,0.9s,baz=217,slow=6.1,SNR=14						
529A	**Stev Forest Ra**	**82.20**	**56**	⇑P	**P**	**21 07 40.3**	**0.0**
	baz=82,SNR=10						
328A	**Wristen Ranch,**	**82.21**	**55**	⇓P	**P**	**21 07 40.7**	**+0.3**
	baz=82						
N20A	**Spence Gulch,**	**82.21**	**44**	⇓P	**P**	**21 07 40.4**	**0.0**
	baz=82,SNR=6.1						
Q22A	**Crested Butte,**	**82.25**	**46**	⇑P	**P**	**21 07 40.4**	**-0.3**
	baz=82,SNR=5.8						
PDAR	**Pinedale Array**	**82.27**	**42**	P	**P**

	baz=84,SNR=8.1								
H19A	**Powell**	**83.54**	**41**	⇓P		**P**		**21 07 47.8**	**+0.8**
	baz=84								
ISCO	**Idaho Springs**	**83.57**	**46**	⇑P		**P**		**21 07 47.7**	**+0.2**
	baz=84								
M22A	**Cedar Creek Ra**	**83.59**	**44**	⇑P		**P**		**21 07 48.0**	**+0.4**
	baz=84								
Y28A	**McKinney Farm,**	**83.62**	**53**	⇓P		**P**		**21 07 47.9**	**+0.2**
	baz=84								
K21A	**Alcova**	**83.71**	**43**	⇓P		**P**		**21 07 47.8**	**-0.2**
	baz=84,SNR=5.8								
230A	**Sterling City**	**83.74**	**55**	⇑P		**P**		**21 07 48.9**	**+0.7**
	baz=84								
I20A	**Worland**	**83.74**	**41**	⇓P		**P**		**21 07 48.0**	**-0.1**
	baz=84,SNR=9.6								
Z29A	**Hungry Hill Ra**	**83.79**	**53**	⇓P		**P**		**21 07 48.8**	**+0.3**
	baz=84								
R25A	**Fountain Ranch**	**83.81**	**48**	⇑P		**P**		**21 07 48.8**	**+0.3**
	baz=84								
N23A	**Red Feather La**	**83.81**	**45**	⇑P		**P**		**21 07 49.0**	**+0.3**
	baz=84								
J21A	**Lysite**	**83.91**	**42**	⇓P		**P**		**21 07 48.8**	**-0.2**
	baz=84,SNR=16								
632A	**Uvalde**	**83.94**	**57**	⇑P		**P**		**21 07 49.7**	**+0.4**
	baz=84								
L22A	**Ellis Ranch, M**	**83.98**	**44**	⇑P		**P**		**21 07 49.7**	**+0.3**
	baz=84								
532A	**Rocksprings**	**84.06**	**57**	⇑P		**P**		**21 07 50.3**	**+0.4**
	baz=84								
H20A	**Greybull**	**84.08**	**41**	⇑P		**P**		**21 07 49.9**	**+0.2**
	baz=84								
130A	**Snyder**	**84.12**	**54**	⇑P		**P**		**21 07 50.5**	**+0.3**
	baz=84								
F19A	**Roth Farm, Mol**	**84.13**	**39**	⇓P		**P**		**21 07 49.8**	**-0.2**
	baz=84,SNR=5.7								
Q25A	**Bedland, Calha**	**84.15**	**47**	⇓P		**P**		**21 07 50.4**	**0.0**
	baz=84								
U27A	**Thompson Grove**	**84.17**	**50**	⇓P		**P**		**21 07 50.6**	**+0.2**
	baz=84								
S26A	**Kim**	**84.18**	**49**	⇓P		**P**		**21 07 50.0**	**-0.5**
	baz=84,SNR=5.6								
K22A	**Casper**	**84.20**	**43**	⇑P		**P**		**21 07 50.9**	**+0.4**
	baz=84								
I21A	**Big Trails, Te**	**84.22**	**42**	⇑P		**P**		**21 07 50.1**	**-0.4**
	baz=84,SNR=10								
Z30A	**Sanderson Ranc**	**84.25**	**53**	⇓P		**P**		**21 07 50.4**	**-0.4**
	baz=84,SNR=6.1								
231A	**Bronte**	**84.39**	**55**	⇑P		**P**		**21 07 51.2**	**-0.3**
	baz=85								
432A	**Menard**	**84.42**	**56**	⇓P		**P**		**21 07 51.8**	**+0.1**
	baz=85								
P25A	**Willow Gulch B**	**84.46**	**47**	⇓P		**P**		**21 07 51.9**	**+0.1**
	baz=85,SNR=7.5								
R26A	**Arlington**	**84.47**	**48**	⇑P		**P**		**21 07 51.4**	**-0.5**
	baz=85,SNR=10.0								
T27A	**Campo**	**84.50**	**49**	⇓P		**P**		**21 07 52.6**	**+0.5**
	baz=85								
L23A	**Garrett**	**84.51**	**44**	⇓P		**P**		**21 07 52.5**	**+0.4**
	baz=85								
N24A	**Carr**	**84.51**	**45**	⇑P		**P**		**21 07 52.9**	**+0.8**
	baz=85								
E19A	**Rath Farm, Rou**	**84.52**	**39**	⇑P		**P**		**21 07 52.5**	**+0.6**
	baz=85								
W29A	**Amarillo**	**84.55**	**52**	⇓P		**P**		**21 07 52.7**	**+0.3**
	baz=85								
J22A	**Midwest**	**84.57**	**42**	⇑P		**P**		**21 07 52.9**	**+0.6**
	baz=85								
F20A	**Billings**	**84.59**	**40**	⇑P		**P**		**21 07 52.9**	**+0.6**
	baz=85								
131A	**Roby**	**84.60**	**54**	⇓P		**P**		**21 07 52.7**	**+0.1**
	baz=85								
332A	**Millersview**	**84.64**	**56**	⇓P		**P**		**21 07 53.3**	**+0.5**
	baz=85								
Y30A	**Stafford Cattl**	**84.65**	**53**	⇑P		**P**		**21 07 53.2**	**+0.4**
	baz=85								
Q26A	**Hugo**	**84.67**	**48**	⇑P		**P**		**21 07 53.3**	**+0.4**
	baz=85								
H21A	**Big Horn, Sher**	**84.75**	**41**	⇓P		**P**		**21 07 53.4**	**+0.3**
	baz=85								
I22A	**9 Mile Ranch,**	**84.78**	**42**	⇑P		**P**		**21 07 53.1**	**-0.2**
	baz=85,SNR=5.0								
D19A	**Cripps Ranch,**	**84.79**	**38**	⇑P		**P**		**21 07 53.6**	**+0.4**
	baz=85								
M24A	**Cheyenne**	**84.82**	**45**	⇑P		**P**		**21 07 53.9**	**+0.2**
	baz=85								
K23A	**Bowen Ranch, D**	**84.84**	**43**	⇑P		**P**		**21 07 53.9**	**+0.2**
	baz=85								
232A	**Coleman**	**84.90**	**55**	⇓P		**P**		**21 07 54.6**	**+0.5**
	baz=85								
R27A	**Eads**	**84.93**	**48**	⇓P		**P**		**21 07 54.5**	**+0.3**
	baz=85								
C19A	**Slack Wire Ran**	**84.97**	**38**	⇓P		**P**		**21 07 54.0**	**-0.1**
	baz=85,SNR=5.4								
T28A	**Walsh**	**84.97**	**50**	⇑P		**P**		**21 07 54.5**	**+0.1**
	baz=85								
Z31A	**Sharp Cattle R**	**85.03**	**54**	⇓P		**P**		**21 07 55.0**	**+0.3**
	baz=85								
P26A	**Davis Ranch, A**	**85.06**	**47**	⇑P		**P**		**21 07 55.5**	**+0.6**
	baz=85								
ABTX	**Abilene, Hawle**	**85.17**	**55**	*e*P		**P**		**21 07 55.3**	**-0.1**
ABTX	**Abilene, Hawle**	**85.17**	**55**	⇑P		**P**		**21 07 56.3**	**+0.8**
	baz=85								
H22A	**Clearmont**	**85.17**	**41**	⇓P		**P**		**21 07 55.7**	**+0.4**
	baz=85								
Y31A	**Rekieta Farm,**	**85.17**	**53**	⇑P		**P**		**21 07 56.1**	**+0.7**
	baz=85								
D20A	**Manuel Ranch,**	**85.21**	**39**	⇑P		**P**		**21 07 55.8**	**+0.5**
	baz=85								
Z32A	**Haskell**	**85.55**	**54**	⇓P		**P**		**21 07 58.0**	**+0.7**
	baz=86								
C20A	**Veseth Ranch,**	**85.58**	**38**	⇓P		**P**		**21 07 57.9**	**+0.8**
	baz=86								
R28A	**Tribune**	**85.67**	**49**	⇓P		**P**		**21 07 58.0**	**+0.1**
	baz=86								
Y32A	**R-V Farms, Ver**	**85.82**	**53**	⇓P		**P**		**21 07 59.1**	**+0.5**
	baz=86								
W31A	**Holland Ranch,**	**85.87**	**52**	⇑P		**P**		**21 07 59.4**	**+0.5**
	baz=86								
F23A	**Volborg**	**86.27**	**41**	⇓P		**P**		**21 08 01.2**	**+0.6**
	baz=86								
H24A	**Dirks Ranch, A**	**86.40**	**42**	⇑P		**P**		**21 08 01.7**	**+0.4**
	baz=87								
C23A	**Lambert**	**87.32**	**39**	⇑P		**P**		**21 08 06.0**	**+0.4**
	baz=88								
B23A	**Brockton**	**87.72**	**38**	⇓P		**P**		**21 08 08.0**	**+0.4**
	baz=88								
MAW	**Mawson**	**87.98**	**199**	P		**P**		**21 08 08.6**	**+0.1**
MAW	**Mawson**	**87.98**	**199**	P		**P**		**21 08 08.6**	**+0.1**
	5.2nm,0.9s,baz=143,slow=5.1,SNR=10								
HHC	**Hu-ho-hao-te**	**88.54**	**313**	*e*P		**P**		**21 08 09.2**	**-2.5**
HHC				pP		**PcP**		**21 08 14.1**	**+0.8**
HHC				sP		sP		21 08 16.3	-23
HHC				PP		**PP**		**21 11 39.5**	**-1.5**
HHC				S		**S**		**21 18 53.0**	**+0.9**
HHC				sS		**ScS**		**21 19 00.7**	**+3.1**
HHC				SS		**SS**		**21 24 46.1**	**+1.4**
LZH	**Lanzhou**	**92.74**	**307**	*e*P		**P**		**21 08 31.3**	**-0.1**
LZH				pP		**PcP**		**21 08 34.5**	**+2.4**
LZH				sP		sP		21 08 36.7	-23
LZH				AMB		AMB			
	comp=Z,12nm,1.1s								
DPC	**Dobruska-Polom**	**143.87**	**349**	*e*PKP		PKPbc		21 14 52.0	+0.4
DPC				*ex*		x		21 15 03.4	
KHC	**Kasperske Hory**	**145.50**	**351**	*e*PKP		**PKPab**		**21 14 57.1**	**+0.1**
KHC				*ex*		x		21 15 05.4	
BRTR	**Keskin Array B**	**145.68**	**321**	PKPbc		**PKPbc**		**21 14 57.8**	**0.0**
BRTR	**Keskin Array B**	**145.68**	**321**	PKPbc		**PKPbc**		**21 14 57.7**	**0.0**
	1.9nm,0.8s,baz=28,slow=1.7,SNR=8.5								
GERES	**GERESS Array B**	**145.76**	**351**	PKPbc		**PKPdf**		**21 14 57.2**	**+0.1**
GERES	**GERESS Array B**	**145.76**	**351**	PKPbc		**PKPdf**		**21 14 57.2**	**+0.1**
	1.1nm,0.7s,baz=45,slow=4.0,SNR=9.2								
ESDC	**Sonseca Array**	**153.92**	**18**	PKPab		**PKPab**		**21 15 31.2**	**-0.3**
ESDC	**Sonseca Array**	**153.92**	**18**	PKPab		**PKPab**		**21 15 31.2**	**-0.3**
	0.4nm,0.7s,baz=304,slow=2.2,SNR=4.2								

IDC 06 20:55:45.1±1.0, 16°15S×173°30W, h0km, mb4.1/8, mb1 4.4/8, mb1mx4.1/21, mbtmp4.1/8, MS4.0/2, Ms1 4.0/2, ms1mx3.4/35, Error ellipse: s-maj=49.2km s-min=20.5km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.67**	**34**	Sn	Sn	20 56 51.1	-12
	32nm,0.3s,baz=221,slow=19,SNR=2.4						
DZM	**Mont Dzumac**	**20.02**	**250**	*e*LR	LR	21 04 56.9	
	524nm,24.9s						
DZM	**Mont Dzumac**	**20.02**	**250**	LR	LR	21 06 22.4	
	comp=Z,343nm,20.4s,baz=47,slow=32						
PPT2	**Papeete2**	**22.74**	**97**	*e*LR	LR	21 05 53.9	
	659nm,25.8s						
TBI	**Tubuai**	**23.53**	**112**	*e*LR	LR	21 06 28.7	
	771nm,28.0s						
URZ	**Urewera**	**23.59**	**199**	P	P	21 00 57.9	+0.3
	5.3nm,0.5s,baz=49,slow=2.0,SNR=4.0						
RKT	**Rikitea**	**36.68**	**107**	*e*LR	LR	21 12 30.1	
	284nm,25.8s						
STKA	**Stephens Creek**	**43.75**	**241**	P	P	21 03 51.6	-1.0
	4.0nm,0.8s,baz=63,slow=8.7,SNR=7.3						
WRA	**Warramunga Arr**	**49.77**	**257**	P	P	21 04 39.4	-0.6
	1.5nm,0.8s,baz=96,slow=6.3,SNR=6.7						
WRA				PcP	PcP	21 05 59.8	-1.2
	1.0nm,1.0s,baz=90,slow=3.3,SNR=3.0						
ASAR	**Alice Springs**	**49.98**	**252**	P	P	21 04 40.6	-0.8
	2.8nm,0.5s,baz=86,slow=8.0,SNR=6.7						
PFO	**Pinyon Flat Ob**	**73.36**	**47**	LR	LR	21 35 10.3	
	comp=Z,91nm,18.5s,baz=218,slow=32						
NVAR	**Mina Array Bea**	**74.82**	**42**	P	P	21 07 26.8	-0.9
	1.3nm,0.8s,baz=228,slow=9.0,SNR=2.8						
PDAR	**Pinedale Array**	**82.75**	**42**	P	P	21 08 11.0	-0.4
	0.6nm,0.6s,baz=224,slow=5.0,SNR=2.3						
ILAR	**Eielson Array**	**83.16**	**11**	P	P	21 08 12.1	-0.5
	0.4nm,0.6s,baz=232,slow=4.4,SNR=3.4						
CMAR	**Chiang Mai Arr**	**92.94**	**288**	P	P	21 09 02.2	+1.3
	1.1nm,0.9s,baz=90,slow=2.7,SNR=8.0						
FINES	**FINESS Array B**	**132.69**	**347**	PKP	PKPdf	21 15 02.7	+1.1
	1.9nm,0.9s,baz=48,slow=4.1,SNR=3.0						
KMBO	**Kilima Mbogo**	**145.29**	**243**	PKPbc	PKPdf	21 15 26.5	+0.2
	1.3nm,0.7s,baz=76,slow=4.2,SNR=3.9						
BRTR	**Keskin Array B**	**146.79**	**320**	PKPbc	PKPbc	21 15 29.8	0.0
	2.1nm,0.7s,baz=117,slow=3.7,SNR=4.8						
GERES	**GERESS Array B**	**146.89**	**352**	PKPbc	PKPbc	21 15 28.9	-0.7
	0.7nm,0.7s,baz=357,slow=2.0,SNR=4.1						

MEX 06 20:58:17.5±0.8, 17°70N×94°96W, h154km±15km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VHO	**Vista Hermosa**	**1.80**	**250**	*e*P	Pn	20 58 49.8	-1.1
VHO				*i* S	Sn	20 59 14.8	-1.7
TGIG		**1.98**	**117**	*i* P	Pn	20 58 51.0	-1.8
TGIG				*i* S	Sn	20 59 18.0	-1.9
HUIG	**Huatulco**	**2.21**	**210**	*e*P	Pn	20 58 53.7	-1.8
HUIG				*i* S	Sn	20 59 22.8	-1.8
TPIG	**Tehuac#an**	**2.39**	**288**	*e*P	Pn	20 58 57.0	-0.8
TPIG				*i* S	Sn	20 59 25.9	-2.9
PCIG		**2.59**	**140**	*e*P	Pn	20 58 58.9	-1.1
PCIG				*i* S	Sn	20 59 30.4	-2.4
PNIG	**Pinotepa**	**3.29**	**247**	*e*P	Pn	20 59 05.8	-3.0
PNIG				*i* S	Sn	20 59 46.8	-1.8

IDC 06 21:03:56.0±4.2, 28°46S×177°63W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/16, mbtmp3.4/2, Error ellipse: s-maj=81.7km s-min=23.0km az=84.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.83**	**198**	Pn	Pn	21 04 15.1	+0.1
	155nm,0.3s,baz=92,slow=21,SNR=7.6						
RAO				Sn	Sn	21 04 28.5	+0.6
	354nm,0.3s,baz=188,slow=23,SNR=7.9						
ASAR	**Alice Springs**	**43.57**	**265**	P	P	21 12 01.7	-0.3
	0.3nm,0.6s,baz=105,slow=7.0,SNR=3.1						
WRA	**Warramunga Arr**	**44.38**	**270**	P	P	21 12 08.5	0.0
	0.3nm,0.3s,baz=110,slow=7.9,SNR=14						
FINES	**FINESS Array B**	**143.43**	**341**	PKP	PKPdf	21 23 31.0	-0.8
	2.2nm,1.0s,baz=43,slow=2.7,SNR=5.3						

IDC 06 21:05:11.6±2.9, 15°19S×173°67W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.8/18, mbtmp3.8/5, Error ellipse: s-maj=167.7km s-min=25.8km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.23**	**55**	Pn	Pn	21 05 43.7	-6.2
	27nm,0.3s,baz=284,slow=17,SNR=19						
AFI				Sn	Sn	21 06 04.2	-14
	64nm,0.3s,baz=171,slow=19,SNR=7.9						
H11S2	**WAKE ISLAND Hy**	**38.66**	**329**	T	T	21 53 24.3	
	baz=152,slow=0.7,SNR=30						
H11S3	**WAKE ISLAND Hy**	**38.67**	**329**	T	T	21 53 28.8	
	baz=152,slow=0.7,SNR=27						
H11S1	**WAKE ISLAND Hy**	**38.67**	**329**	T	T	21 53 25.9	
	baz=152,slow=0.7,SNR=24						
H11N3	**WAKE ISLAND Hy**	**39.60**	**331**	T	T	21 54 47.4	
	baz=152,slow=0.7,SNR=21						
H11N1	**WAKE ISLAND Hy**	**39.61**	**331**	T	T	21 54 35.5	
	baz=152,slow=0.7,SNR=27						
H11N2	**WAKE ISLAND Hy**	**39.62**	**331**	T	T	21 54 46.3	
	baz=152,slow=0.7,SNR=21						
WRA	**Warramunga Arr**	**49.64**	**257**	P	P	21 14 05.4	0.0
	0.4nm,0.4s,baz=89,slow=7.0,SNR=5.0						
ASAR	**Alice Springs**	**49.93**	**252**	P	P	21 14 07.1	-0.5
	1.5nm,0.5s,baz=88,slow=7.9,SNR=20						
NVAR	**Mina Array Bea**	**74.35**	**42**	P	P	21 16 51.6	+0.1
	0.5nm,0.7s,baz=229,slow=8.2,SNR=2.9						
PDAR	**Pinedale Array**	**82.28**	**42**	P	P	21 17 35.4	0.0
	0.6nm,0.9s,baz=216,slow=4.5,SNR=4.2						
ILAR	**Eielson Array**	**82.29**	**11**	P	P	21 17 33.8	-0.8
	0.7nm,1.0s,baz=210,slow=5.2,SNR=4.3						
BRTR	**Keskin Array B**	**145.84**	**321**	PKPbc	PKPab	21 24 53.8	0.0
	1.4nm,0.9s,baz=90,slow=2.5,SNR=6.9						

KRSC 06 21:12:08.5±3.5, 55°03N×162°36E, h22km±21km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.60**	**218**	*i* P	Pb	21 12 20.9	+0.6
MKZ				*i* S	Sb	21 12 28.8	+0.5
KBTR	**Krutoberegovo**	**1.21**	**12**	*e*P	Pb	21 12 31.8	+1.1
KBTR				*i* S	Sb	21 12 47.7	+1.8
TUMR	**Tumrok**	**1.30**	**282**	*i* P	Pb	21 12 32.0	-0.3
TUMR				*i* S	Sn	21 12 48.3	+0.1
BZGR	**Bezymyannyi-Gr**	**1.31**	**315**	*e*P	Pn	21 12 31.7	0.0
BZGR				*i* S	Sn	21 12 48.1	-0.6
ZLN	**Zelenaya**	**1.33**	**319**	*i* P	Pn	21 12 32.3	+0.5
ZLN				*i* S	Sn	21 12 48.6	-0.3
BZMR	**Bezymyannaya**	**1.40**	**311**	*e*P	Pn	21 12 32.2	-0.7
BZMR				*i* S	Sn	21 12 49.5	-1.3
KMNR	**Kamenistaya**	**1.41**	**302**	*e*P	Pn	21 12 33.4	+0.4
KMNR				*i* S	Sn	21 12 50.5	-0.6
BZWR	**Bezymyannyi-We**	**1.42**	**312**	*e*P	Pn	21 12 32.0	-1.1
LGNR	**Loginova**	**1.42**	**319**	*e*P	Pn	21 12 33.6	+0.2
LGNR				*i* S	Sb	21 12 53.0	+0.4
CIRR	**Tsirk**	**1.42**	**321**	*e*P	Pn	21 12 33.5	+0.3
KIRR	**Kirishev**	**1.48**	**310**	*e*P	Pb	21 12 34.7	-0.7
KIRR				*i* S	Sb	21 12 53.8	-0.1
KPT	**Kopyto**	**1.54**	**309**	*e*P	Pn	21 12 35.3	+0.6
KPT				*i* S	Sb	21 12 55.2	-0.3
KRSR	**Krestovskiy**	**1.57**	**320**	*e*P	Pn	21 12 35.0	-0.1
KRSR				*i* S	Sn	21 12 55.1	+0.3
KLY	**Klyuchi**	**1.61**	**324**	*e*P	Pn	21 12 34.9	-0.6
KLY				*i* S	Sn	21 12 54.7	-0.9
SMKR	**Semkarok**	**1.64**	**342**	*e*P	Pn	21 12 36.9	+0.9
SMKR				*i* S	Sb	21 12 57.7	-0.6
KOZ	**Kozyrevsk**	**1.75**	**307**	*e*P	Pn	21 12 38.0	+0.5
KOZ				*i* S	Sn	21 12 59.2	+0.1
SRKR	**Sorokina**	**1.76**	**338**	*e*P	Pb	21 12 39.0	-1.2
SRKR				*i* S	Sn	21 13 00.4	+0.8
SRDR	**Sredinnyy**	**1.98**	**312**	*e*P	Pn	21 12 41.0	+0.3
SRDR				*i* S	Sn	21 13 06.0	+1.1
BKI	**Bering**	**2.08**	**84**	*e*P	Pn	21 12 40.9	-1.1
BKI				*i* S	Sn	21 13 07.4	+0.2
ESO	**Esso**	**2.27**	**295**	*e*P	Pn	21 12 45.6	+0.9
ESO				*i* S	Sn	21 13 11.2	-0.8
NLC	**Nalytchevo**	**2.57**	**225**	*e*P	Pn	21 12 49.0	+0.2
NLC				*i* S	Sn	21 13 19.0	-0.3
SDLR	**Sedlovina**	**2.69**	**231**	*e*P	Pn	21 12 51.7	+1.1
SDLR				*i* S	Sn	21 13 23.1	+0.4
KRER	**Koryakskii**	**2.74**	**232**	*e*P	Pn	21 12 53.1	+1.7
KRER				*i* S	Sn	21 13 25.5	+1.6
SMAR	**Somma**	**2.74**	**231**	*e*P	Pn	21 12 51.6	+0.2
SMAR				*i* S	Sn	21 13 23.3	-0.7
KRX	**Arik**	**2.75**	**234**	*e*P	Pn	21 12 52.9	+1.5
KRX				*i* S	Sn	21 13 25.0	+0.9
UGLR	**Uglovaya**	**2.77**	**230**	*i* P	Pn	21 12 53.3	+1.7
UGLR				*i* S	Sn	21 13 24.2	-0.3
AVH	**Avacha**	**2.77**	**232**	*e*P	Pn	21 12 53.2	+1.6
AVH				*i* S	Sn	21 13 26.4	+2.0
KOK	**Koryaka**	**2.80**	**233**	*e*P	Pn	21 12 53.6	+1.6
KOK				*i* S	Sn	21 13 25.7	+0.5
GNL	**Ganaly**	**2.91**	**244**	*e*P	Pn	21 12 54.2	+0.6
GNL				*i* S	Sn	21 13 28.0	0.0
PET	**Petropavlovsk**	**2.97**	**229**	*e*P	Pn	21 12 55.8	+1.6
PET				*i* S	Sn	21 13 30.0	+0.9
RUS	**Russkaya**	**3.46**	**223**	*e*P	Pn	21 13 01.9	+0.9
RUS				*i* S	Sn	21 13 42.1	+0.8
GRL	**Gorelyy**	**3.55**	**227**	*e*P	Pn	21 13 03.5	+1.0
GRL				*i* S	Sn	21 13 43.5	-0.4
MTVR	**Mutnovka**	**3.56**	**226**	*e*P	Pn	21 13 04.3	+1.8
MTVR				*i* S	Sn	21 13 43.6	-0.4
APC	**Apacha**	**3.73**	**238**	*e*P	Pn	21 13 06.4	+1.8
APC				*i* S	Sn	21 13 47.9	+0.1
ASAK	**Asacha**	**3.75**	**227**	*e*P	Pn	21 13 06.0	+0.9
ASAK				*i* S	Sn	21 13 50.1	+1.5

IDC 06 21:14:00.0±3.3, 15°75S×173°46W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/19, mbtmp3.6/3, Error ellipse: s-maj=185.5km s-min=33.6km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.44**	**42**	Pn	Pn	21 14 34.7	-6.6
	26nm,0.3s,baz=212,slow=18,SNR=9.1						
AFI				Sn	Sn	21 14 53.3	-19
	36nm,0.3s,baz=348,slow=18,SNR=6.2						
H11S2	**WAKE ISLAND Hy**	**39.23**	**329**	T	T	22 02 13.0	
	baz=152,slow=0.7,SNR=17						
H11S3	**WAKE ISLAND Hy**	**39.24**	**329**	T	T	22 02 15.5	
	baz=152,slow=0.7,SNR=17						
H11S1	**WAKE ISLAND Hy**	**39.25**	**329**	T	T	22 02 16.6	
	baz=152,slow=0.7,SNR=16						
H11N3	**WAKE ISLAND Hy**	**40.18**	**331**	T	T	22 03 24.4	
	baz=152,slow=0.7,SNR=14						
H11N1	**WAKE ISLAND Hy**	**40.19**	**331**	T	T	22 03 25.1	
	baz=152,slow=0.7,SNR=19						
H11N2	**WAKE ISLAND Hy**	**40.20**	**331**	T	T	22 03 25.7	
	baz=152,slow=0.7,SNR=14						
ASAR	**Alice Springs**	**49.95**	**252**	P	P	21 22 55.9	-0.3
	0.7nm,0.6s,baz=87,slow=7.9,SNR=6.0						
NVAR	**Mina Array Bea**	**74.62**	**42**	P	P	21 25 41.6	0.0
	0.2nm,0.5s,baz=232,slow=6.7,SNR=3.1						
ILAR	**Eielson Array**	**82.79**	**11**	P	P	21 26 25.4	-0.2
	0.4nm,0.9s,baz=202,slow=6.8,SNR=4.2						
BRTR	**Keskin Array B**	**146.39**	**321**	PKPbc	PKPbc	21 33 43.0	-0.5
	0.6nm,0.8s,baz=70,slow=2.0,SNR=3.3						

IDC 06 21:16:00.6±1.8, 15°16S×166°74E, h0km, mb4.2/6, mb1 4.4/7, mb1mx4.1/20, mbtmp4.2/7, ML4.2/1, MS3.7/2, Ms1 3.7/2, ms1mx3.1/28, Error ellipse: s-maj=45.5km s-min=27.3km az=122.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.88**	**182**	Pn	Pn	21 17 42.9	-0.1
	4.0nm,0.3s,baz=14,slow=17,SNR=26						
DZM				Sn	Sn	21 18 52.9	-9.2
	2.5nm,0.3s,baz=125,slow=19,SNR=4.3						
CTA	**Charters Tower**	**20.12**	**253**	P	Pn	21 20 42.2	+4.0
	1.8nm,0.5s,baz=90,slow=10,SNR=3.4						
STKA	**Stephens Creek**	**28.33**	**230**	P	P	21 21 55.0	-1.3
	2.1nm,0.6s,baz=63,slow=9.0,SNR=6.5						
WRA	**Warramunga Arr**	**31.23**	**257**	P	P	21 22 22.4	+0.3
	1.2nm,0.5s,baz=86,slow=9.2,SNR=20						
ASAR	**Alice Springs**	**32.04**	**250**	P	P	21 22 29.4	0.0
	2.9nm,0.4s,baz=79,slow=8.9,SNR=56						
RAR	**Rarotonga**	**32.34**	**106**	LR	LR	21 33 43.0	
	comp=Z,112nm,18.9s,baz=315,slow=33						
FITZ	**Fitzroy Crossi**	**39.44**	**260**	P	P	21 23 33.8	+1.0
	5.6nm,0.5s,baz=84,slow=7.8,SNR=32						
NWAO	**Narrogin (SRO)**	**48.09**	**239**	LR	LR	21 44 38.4	
	comp=Z,71nm,18.6s,baz=326,slow=36						
SONM	**Songino Array**	**82.54**	**324**	P	P	21 28 23.7	-1.8
	0.4nm,0.5s,baz=134,slow=6.2,SNR=4.7						
ILAR	**Eielson Array**	**87.09**	**18**	P	P	21 28 49.0

1.2nm,0.7s,baz=94,slow=8.5,SNR=5.8
WRA LR LR 22 57 49.1
comp=Z,84nm,18.6s,baz=170,slow=32
ASAR Alice Springs 50.72 253 P **P** **22 40 14.1 -2.5**
ASAR Alice Springs 50.72 253 P **P** **22 40 14.1 -2.5**
5.6nm,0.9s,baz=88,slow=7.8,SNR=22
FITZ Fitzroy Crossi 58.93 258 LR LR 23 01 27.0
comp=Z,60nm,21.3s,baz=261,slow=31
SBA Scott Base 62.44 185 *e*P P 22 41 43.0 +4.0
VNDA Vanda 62.58 186 P **P** **22 41 41.8 +1.8**
VNDA Vanda 62.58 186 P **P** **22 41 41.8 +1.8**
1.2nm,0.9s,baz=26,slow=7.1,SNR=5.5
NVAR Mina Array Bea 74.38 41 P **P** **22 42 54.9 +0.4**
NVAR Mina Array Bea 74.38 41 P **P** **22 42 54.9 +0.4**
1.9nm,0.7s,baz=225,slow=9.3,SNR=11
SHPR Sheep Range 75.34 44 *e*P **P** **22 43 00.2 +0.1**
3.3nm,1.2s
SHPR *e*PcP **PcP** **22 43 14.3 +1.0**
K05A Summer Lake 75.43 37 *e*P **P** **22 43 01.2 +0.7**
16nm,1.4s
KDAK Kodiak Island 75.62 11 P **P** **22 43 00.4 -0.6**
KDAK Kodiak Island 75.62 11 P **P** **22 43 00.4 -0.6**
7.6nm,0.8s,baz=297,slow=2.3,SNR=3.2
TUC Tucson 76.25 50 *e*P **P** **22 43 06.0 +0.7**
4.1nm,0.9s
G08A Pilot Rock 78.12 35 *e*P **P** **22 43 15.8 +0.2**
5.7nm,1.3s
HLID Hailey 79.74 39 *e*P **P** **22 43 25.1 +0.6**
3.7nm,1.0s
B08A Colville Reser 79.82 33 *e*P **P** **22 43 24.3 -0.4**
3.3nm,0.8s
DIV Divide 80.06 13 *e*P **P** **22 43 25.4 -0.3**
10nm,0.8s
BMRM Bremner River 80.17 13 *e*P **P** **22 43 25.5 -0.8**
MDJ Mudanjiang 80.30 322 P **P** **22 43 28.6 +1.3**
MDJ AMB AMB
comp=Z,5.0nm,0.6s
MDJ AMB AMB
comp=Z,190nm,3.8s
TXAR Lajitas Array 80.35 56 P **P** **22 43 27.2 -0.8**
TXAR Lajitas Array 80.35 56 P **P** **22 43 27.2 -0.8**
1.5nm,1.1s,baz=237,slow=6.3,SNR=7.2
ANMO Albuquerque 80.67 50 *e*P **P** **22 43 30.1 +0.2**
2.5nm,1.0s
GDL2 Guadalupe Moun 81.02 53 *e*P **P** **22 43 31.4 -0.3**
CAST Castle Rocks 81.03 9 *e*P **P** **22 43 29.3 -1.5**
13nm,0.7s
TRF Thorofare Moun 81.34 10 *e*P **P** **22 43 31.5 -1.2**
9.8nm,0.8s
NJ2 Nanjing 81.44 307 *e*P **P** **22 43 36.1 +2.4**
NJ2 AMB AMB
comp=Z,10.0nm,0.7s
TPAW Teton Pass 81.82 40 *e*P **P** **22 43 36.2 +0.5**
6.0nm,1.2s
IMW Indian Meadow 82.04 40 *e*P **P** **22 43 37.4 +0.5**
7.6nm,1.5s
PDAR Pinedale Array 82.32 41 P **P** **22 43 37.6 -0.8**
PDAR Pinedale Array 82.32 41 P **P** **22 43 37.6 -0.8**
1.5nm,0.9s,baz=233,slow=3.3,SNR=10
CN2 Changchun 82.36 320 *e*P **P** **22 43 40.1 +1.8**
CN2 AMB AMB
comp=Z,10.0nm,0.8s
COLA College 83.07 10 *e*P **P** **22 43 41.1 -0.4**
24nm,0.6s
ILAR Eielson Array 83.15 11 P **P** **22 43 40.7 -1.2**
ILAR Eielson Array 83.15 11 P **P** **22 43 40.7 -1.2**
3.0nm,0.7s,baz=223,slow=6.1,SNR=39
RWWY Rawlins 83.31 43 *e*P **P** **22 43 45.6 +2.0**
12nm,0.9s
BJI Beijing 86.75 313 P **P** **22 44 01.0 +0.5**
BJI AMB AMB
comp=Z,11nm,0.8s
MAW Mawson 87.24 198 P **P** **22 44 03.6 +1.2**
MAW Mawson 87.24 198 P **P** **22 44 03.6 +1.2**
2.2nm,0.7s,baz=133,slow=7.1,SNR=5.4
GYA Guiyang 89.28 298 *e*P P 22 44 16.4 +3.3
GYA PP **PP** **22 47 48.0 +3.9**
GYA SKS **SKSac** **22 54 42.3 +0.2**
GYA S **S** **22 55 03.6 +1.9**
GYA SS **SS** **23 01 00.2 +3.4**
GYA AMB AMB
comp=Z,10.0nm,1.0s
GYA AMB AMB
comp=Z,90nm,5.4s
GYA LR LR
comp=N,440nm,18.4s
GYA LR LR
comp=E,350nm,19.0s
GYA LR LR
comp=Z,460nm,18.5s
HHC Hu-ho-hao-te 90.31 313 *e*P **P** **22 44 18.2 +0.6**
HHC sP **sP** **22 44 27.5 -0.8**
HHC PP **PP** **22 47 53.1 +1.1**
HHC S **S** **22 55 10.7 0.0**
HHC sS **sS** **22 55 19.5 -4.3**
HHC SS **SS** **23 01 14.2 +3.0**
HHC AMB AMB
comp=Z,38nm,0.9s
HHC LR LR
comp=N,260nm,15.5s
HHC LR LR
comp=E,350nm,15.5s
KMI Kunming 92.24 295 P P 22 44 30.8 +3.7
KMI AMB AMB
comp=Z,7.0nm,2.0s
CD2 Chengdu 93.06 301 P P 22 44 33.7 +3.2
CD2 AMB AMB
comp=Z,10.0nm,0.5s
CMAR Chiang Mai Arr 93.77 288 P **P** **22 44 34.7 +0.7**
CMAR Chiang Mai Arr 93.77 288 P **P** **22 44 34.7 +0.7**
2.1nm,0.9s,baz=104,slow=3.6,SNR=10
LZH Lanzhou 94.50 306 *e*P P 22 44 42.1 +5.0
LZH pP pP 22 44 46.8 +1.8
LZH sP sP 22 44 49.7 +1.9
LZH AMB AMB
comp=Z,15nm,1.0s
SONM Songino Array 96.12 318 P **P** **22 44 41.7 -2.5**
SONM Songino Array 96.12 318 P **P** **22 44 41.7 -2.5**
0.5nm,1.1s,baz=68,slow=3.9,SNR=3.0
KWP Kalwaria Pacla 144.55 343↑ *i*P **PKPab** **22 50 50.9 -0.3**
STHS Stebnicka Huta 145.14 344 *e*PKP **PKPbc** **22 50 53.2 -0.2**
MALT Malatya 145.15 315↓ *i*P **PKPdf** **22 50 54.6 +0.3**
UPC Upice 145.20 351 *e*PKP **PKPbc** **22 50 52.4 -1.1**
KOLS Kolonicke sedl 145.30 343 *e*PKP **PKPbc** **22 50 53.2 -0.7**
DPC Dobruska-Polom 145.30 350 *e*PKP **PKPbc** **22 50 53.5 -0.4**
DPC *ex* x 22 51 03.8
OKC Ostrava-Krasne 145.46 348 *e*PKP **PKPbc** **22 50 53.9 -0.4**
BURAR Bucovina Array 145.54 339↓ *i*P **PKPab** **22 50 54.9 -0.1**
MEM Membach 145.75 2 PKP **PKPbc** **22 50 55.2 0.0**
PRU Pruhonice 145.92 352 *e*PKP **PKPbc** **22 50 55.4 -0.4**
PRU *ex* x 22 51 05.6
TESR Tescani 145.94 336↑ *i*P **PKPdf** **22 50 55.3 0.0**
TLCR 146.11 333↑ *i*P **PKPbc** **22 50 56.4 -0.1**
TREC Trest 146.46 351 *e*PKP **PKPbc** **22 50 57.6 +0.1**
KHC Kasperske Hory 146.89 353 *e*PKP **PKPbc** **22 50 58.5 -0.2**
KHC *ex* x 22 51 12.9
KHC *ex* x 22 51 25.5
GERES GERESS Array B 147.15 353 PKPbc **PKPbc** **22 50 58.8 -0.8**
GERES GERESS Array B 147.15 353 PKPbc **PKPbc** **22 50 58.8 -0.8**
1.8nm,0.8s,baz=20,slow=3.2,SNR=11
BRTR Keskin Array B 147.43 321 PKPbc **PKPbc** **22 50 59.6 -1.1**
BRTR Keskin Array B 147.43 321 PKPbc **PKPbc** **22 50 59.6 -1.1**
3.3nm,0.8s,baz=114,slow=2.0,SNR=12
CONA Conrad Observa 147.72 350↓ *i*pPKPdf **PKPbc** **22 51 01.1 -0.1**
6.4nm,0.9s
ABTA Abfaltersbach 149.36 353↑ *i*PKPbc **PKPbc** **22 51 04.1 -1.3**
5.4nm,0.9s
MMAI Mount Meron Ar 149.85 309 PKPbc **PKPbc** **22 51 07.4 +0.3**
MMAI Mount Meron Ar 149.85 309 PKPbc **PKPbc** **22 51 07.4 +0.3**
2.6nm,0.8s,baz=129,slow=4.1,SNR=3.3
ESDC Sonseca Array 154.63 21 PKPab **PKPab** **22 51 31.6 -0.6**
ESDC Sonseca Array 154.63 21 PKPab **PKPab** **22 51 31.6 -0.6**
0.1nm,0.3s,baz=329,slow=3.1,SNR=4.9
TORD Torodi Ar. Bea 173.52 118 PKPab **PKPab** **22 52 55.4 -0.3**
TORD Torodi Ar. Bea 173.52 118 PKPab **PKPab** **22 52 55.4 -0.3**
0.8nm,0.9s,baz=259,slow=4.4,SNR=3.5

IDC 06 22:58:40.1±1.3, 2°21N×129°05E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.7/22, mbtmp3.7/8, MS3.0/1, Ms1 3.0/1, ms1mx2.6/30, Error ellipse: s-maj=111.6km s-min=16.5km az=73.0, Halmahera

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

FITZ Fitzroy Crossi 20.46 189 P P 23 03 19.5 0.0
0.6nm,0.5s,baz=6.3,slow=9.2,SNR=3.7
PMG Port Moresby 21.42 123 LR LR 23 12 47.8
comp=Z,35nm,19.1s,baz=301,slow=40
WRA Warramunga Arr 22.62 167 P P 23 03 42.6 -0.2
0.7nm,0.3s,baz=345,slow=11,SNR=4.0
ASAR Alice Springs 26.16 170 P P 23 04 16.3 0.0
0.6nm,0.6s,baz=355,slow=9.2,SNR=5.6
STKA Stephens Creek 35.94 162 P P 23 05 42.4 -0.1
1.3nm,0.6s,baz=325,slow=9.8,SNR=3.1
SONM Songino Array 49.48 340 P P 23 07 32.9 +0.5
1.0nm,0.8s,baz=151,slow=8.6,SNR=9.2
MKAR Makanchi Array 60.12 325 P P 23 08 49.8 +0.4
0.9nm,0.7s,baz=126,slow=7.9,SNR=11
ZALV Zalesovo Beam 62.99 332 P P 23 09 07.5 -1.1
0.3nm,0.3s,baz=133,slow=10.0,SNR=3.0
VNDA Vanda 81.65 173 P P 23 10 59.9 +0.2
1.0nm,0.8s,baz=318,slow=4.7,SNR=5.6
TORD Torodi Ar. Bea 125.58 288 PKP PKPdf 23 17 44.3 -0.2
0.5nm,0.8s,baz=90,slow=1.4,SNR=3.1

IDC 06 23:01:38.1±9.4, 14°32S×167°34E, h119km±60km, mb3.6/5, mb1 3.8/6, mb1mx3.5/20, mbtmp3.7/6, Error ellipse: s-maj=82.4km s-min=29.9km az=37.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.76**	**186**	P	P	Pn	23 03 29.1	+0.6
	5.5nm,0.3s,baz=12,slow=19,SNR=29							
DZM				S	S	Sn	23 04 53.7	-1.2
	0.9nm,0.3s,baz=290,slow=21,SNR=3.7							
CTA	**Charters Tower**	**20.94**	**251**	P	P		23 06 12.8	+1.2
	2.9nm,0.5s,baz=77,slow=13,SNR=4.6							
STKA	**Stephens Creek**	**29.32**	**229**	P	P		23 07 30.6	+1.1
	1.5nm,0.3s,baz=59,slow=10,SNR=8.8							
WRA	**Warramunga Arr**	**32.00**	**255**	P	P		23 07 52.5	-0.9
	0.7nm,0.6s,baz=85,slow=9.3,SNR=4.1							
ASAR	**Alice Springs**	**32.89**	**249**	P	P		23 08 00.2	-0.9
	1.0nm,0.4s,baz=76,slow=9.3,SNR=13							
ASAR				pP	pP		23 08 33.4	+6.1
	0.7nm,0.6s,baz=74,slow=9.2,SNR=2.6							
VNDA	**Vanda**	**63.27**	**181**	P	P		23 11 53.5	-0.1
	1.0nm,0.7s,baz=1.4,slow=7.4,SNR=6.1							

IDC 06 23:09:42.9±2.7, 15°75S×173°25W, h0km, mb3.6/5, mb1 4.0/5, mb1mx3.8/20, mbtmp3.6/5, MS3.2/1, Ms1 3.2/1, ms1mx2.8/20, Error ellipse: s-maj=216.3km s-min=24.9km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.32**	**38**	Pn	Pn	Pn	23 10 13.6	-8.9
	26nm,0.3s,baz=118,slow=2.0,SNR=8.4							
AFI				Sn	Sn	Sn	23 10 33.2	-19
	25nm,0.3s,baz=43,slow=21,SNR=4.1							
AFI				LR	LR		23 10 54.2	
	comp=Z,448nm,18.8s,baz=266,slow=31							
H11S2	**WAKE ISLAND Hy**	**39.34**	**329**	T	T		23 58 10.6	
	baz=151							
H11S3	**WAKE ISLAND Hy**	**39.35**	**329**	T	T		23 58 15.8	
	baz=151							
H11S1	**WAKE ISLAND Hy**	**39.36**	**329**	T	T		23 58 15.6	
	baz=151							
H11N3	**WAKE ISLAND Hy**	**40.29**	**330**	T	T		23 59 28.0	
	baz=145							
H11N1	**WAKE ISLAND Hy**	**40.29**	**330**	T	T		23 59 17.6	
	baz=145,slow=0.7,SNR=4.3							
H11N2	**WAKE ISLAND Hy**	**40.30**	**330**	T	T		23 59 23.2	
	baz=145,slow=0.7							
WRA	**Warramunga Arr**	**49.90**	**257**	P	P		23 18 38.8	0.0
	0.4nm,0.7s,baz=90,slow=8.4,SNR=3.8							
ASAR	**Alice Springs**	**50.14**	**252**	P	P		23 18 40.0	-0.6
	0.9nm,0.7s,baz=86,slow=8.2,SNR=9.7							
NVAR	**Mina Array Bea**	**74.49**	**42**	P	P		23 21 23.0	-0.7
	0.2nm,0.4s,baz=242,slow=4.9,SNR=3.1							
TXAR	**Lajitas Array**	**80.69**	**56**	P	P		23 21 59.3	+0.9
	0.7nm,1.0s,baz=207,slow=5.8,SNR=3.6							
PDAR	**Pinedale Array**	**82.43**	**42**	P	P		23 22 06.8	-0.7
	0.3nm,0.6s,baz=238,slow=6.9,SNR=2.8							
BRTR	**Keskin Array B**	**146.52**	**321**	PKPbc	PKPbc		23 29 27.0	+0.2
	0.3nm,0.5s,baz=46,slow=4.3,SNR=3.2							

*ISCJB **06** 23:17:10.4±0.8, 22°26S±0.0°, 68°.4W±0°.1, h149km±10km, mb3.2/2, Error ellipse: s-maj=20.6km s-min=8.8km az=8.3*
*GUC **06** 23:17:10.7±0.8, 22°.23S×68°.54W, h155km±7km, ML3.8*
*IDC **06** 23:17:25.6±22.0, 21°.08S×67°.67W, h223km±139km, mb3.0/2, mb1 3.2/4, mb1mx3.0/17, mbtmp3.0/4, Error ellipse: s-maj=329.8km s-min=21.0km az=19.0*

ISC 06 23:17:11.3±1.1, 22°.25S±0.0°.7×68°.5W±0°.2, h152km±14km, n14, σ0°.74/17, 5C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.83**	**303**↑	*i*P	**Pn**		**23 17 35.1**	**0.0**
PB09				*i* S	**Sn**		**23 17 53.4**	**+0.2**
PB09				AML	AML		23 17 54.8	
	comp=N,4μm,0.4s							
PB04	**Plate Boundary**	**0.92**	**269**↓	*i*P	Pn		23 17 41.9	+6.4
PB04				*i* S	Sn		23 18 05.1	+11
PB04				AML	AML		23 18 09.0	
	comp=E,719nm,0.2s							
MACH	**Maria Elena**	**1.17**	**272**	*e*P	**Pn**		**23 17 38.3**	**+0.2**
MACH				*i* S	**Sn**		**23 17 58.9**	**+0.4**
PB01	**Plate Boundary**	**1.52**	**322**↑	*i*P	**Pn**		**23 17 41.3**	**0.0**
PB01				*i* S	**Sn**		**23 18 04.5**	**+0.3**
PB01				AML	AML		23 18 06.6	
	comp=E,900nm,0.7s							
CEN1	**Los Morros**	**1.94**	**234**↓	*i*P	Pn		23 17 49.0	+3.1
CEN1				*i* S	Sn		23 18 17.6	+4.9
CEN1				AML	AML		23 18 19.4	
	comp=N,263nm,0.7s							
ANCH	**Antofagasta**	**2.27**	**231**↑	*i*P	**Pn**		**23 17 50.0**	**+0.3**
ANCH				*i* S	**Sn**		**23 18 18.7**	**-0.6**
ANCH				AML	AML		23 18 19.9	
	comp=E,522nm,0.1s							
PB10	**Plate Boundary**	**2.28**	**236**↑	*i*P	**Pn**		**23 17 49.8**	**0.0**
PB10				AML	AML		23 18 20.4	
	comp=N,854nm,0.5s							
HMBC	**Humberstone**	**2.35**	**326**↑	*i*P	**Pn**		**23 17 50.6**	**-0.3**
HMBC				*i* S	**Sn**		**23 18 21.7**	**+0.3**
HMBC				AML	AML		23 18 22.8	
	comp=E,446nm,0.5s							
PSGC	**Pisagua**	**3.05**	**330**↓	*i*P	**Pn**		**23 17 58.5**	**-1.0**
PSGC				*e*S	**Sn**		**23 18 36.4**	**-0.3**
PSGC				AML	AML		23 18 39.9	
	comp=E,105nm,0.2s							
LPAZ	**La Paz**	**5.94**	**3**	P	**Pn**		**23 18 38.8**	**+0.9**
	comp=E,1.1nm,0.3s,baz=184,slow=5.8,SNR=28							
BDFB	**Brasilia**	**20.44**	**75**	P	**P**		**23 21 35.4**	**-1.8**
	comp=E,0.3nm,0.3s,baz=259,slow=16,SNR=2.9							
TXAR	**Lajitas Array**	**61.46**	**325**	P	P		23 27 15.4	+3.4
	comp=E,0.2nm,0.7s,baz=159,slow=11,SNR=2.6							
TORD	**Torodi Ar. Bea**	**77.25**	**70**	P	**P**		**23 28 49.5**	**+0.4**
	comp=E,0.5nm,0.5s,baz=252,slow=5.3,SNR=19							
MKAR	**Makanchi Array**	**146.01**	**37**	PKP	**PKPab**		**23 36 35.1**	**+1.1**
	comp=E,1.0nm,1.0s,baz=334,slow=2.2,SNR=3.9							

*IDC **06** 23:17:58.9±1.5, 2°.16N×128°.94E, h0km, mb3.4/6, mb1 3.6/6, mb1mx3.5/21, mbtmp3.5/6, Error ellipse: s-maj=102.5km s-min=20.6km az=73.0*

ISC 06 23:18:00.2±1.1, 2°2N±0°.3×129°1E±0°.6, h10km, n8, σ0°51/6, mb3.4/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**5.97**	**148**	P	**P**	**Pb**	**23 19 44.4**	**-0.1**
	baz=2.5,SNR=3.1							
KNRA	**Kununurra**	**17.74**	**181**	P	P		23 22 12.2	+3.9
	baz=13,SNR=3.7							
FITZ	**Fitzroy Crossi**	**20.43**	**189**	P	Pn		23 22 37.8	-2.1
	0.7nm,0.5s,baz=14,slow=14,SNR=2.4							
WRA	**Warramunga Arr**	**22.57**	**167**	P	**P**		**23 23 00.4**	**-0.6**
	0.4nm,0.3s,baz=346,slow=10,SNR=2.9							
ASAR	**Alice Springs**	**26.11**	**170**	P	**P**		**23 23 35.1**	**+0.6**
	0.3nm,0.5s,baz=349,slow=8.0,SNR=3.2							
STKA	**Stephens Creek**	**35.89**	**162**	P	**P**		**23 25 00.8**	**+0.2**
	1.3nm,0.6s,baz=331,slow=10,SNR=2.6							
SONM	**Songino Array**	**49.53**	**340**	P	**P**		**23 26 51.4**	**+0.1**
	0.2nm,0.5s,baz=146,slow=8.3,SNR=3.7							
MKAR	**Makanchi Array**	**60.17**	**325**	P	**P**		**23 28 08.1**	**-0.2**
	0.4nm,0.6s,baz=116,slow=8.1,SNR=5.0							

*IDC **06** 23:18:30.7±0.9, 2°.16N×129°.04E, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.9/23, mbtmp3.9/10, ML4.0/1, Error ellipse: s-maj=46.5km s-min=16.5km az=77.0*

ISC 06 23:18:32.4±1.5, 2°.0N±0°.4×12°9E±°, h10km, n11, σ0°56/8, mb3.9/8, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**11.35**	**232**	Pn	Pn		23 21 20.9	+6.1
	1.0nm,0.3s,baz=66,slow=12,SNR=2.7							
FITZ	**Fitzroy Crossi**	**20.23**	**188**	P	Pn		23 23 09.8	-0.1
	2.0nm,0.6s,baz=22,slow=4.3,SNR=7.1							
WRA	**Warramunga Arr**	**22.53**	**166**	P	**P**		**23 23 32.7**	**0.0**
	1.6nm,0.6s,baz=344,slow=10,SNR=3.5							
ASAR	**Alice Springs**	**26.05**	**169**	P	**P**		**23 24 05.8**	**-0.4**
	0.8nm,0.7s,baz=354,slow=8.3,SNR=4.1							
STKA	**Stephens Creek**	**35.88**	**161**	P	**P**		**23 25 33.1**	**+0.3**
	2.6nm,0.6s,baz=352,slow=9.3,SNR=5.2							
SONM	**Songino Array**	**49.53**	**340**	P	**P**		**23 27 23.8**	**+0.3**
	1.2nm,0.8s,baz=150,slow=8.1,SNR=8.8							
MKAR	**Makanchi Array**	**60.06**	**325**	P	**P**		**23 28 40.2**	**+0.5**
	1.2nm,0.7s,baz=114,slow=8.3,SNR=8.6							
ZALV	**Zalesovo Beam**	**62.98**	**333**	P	**P**		**23 28 58.7**	**-0.6**
	0.3nm,0.3s,baz=128,slow=6.4,SNR=3.5							
VNDA	**Vanda**	**81.51**	**173**	P	**P**		**23 30 49.8**	**+0.1**
	0.6nm,0.6s,baz=293,slow=7.7,SNR=3.6							
ILAR	**Eielson Array**	**85.78**	**25**	P	P		23 31 11.6	-0.2
	0.4nm,0.9s,baz=242,slow=5.8,SNR=3.1							
TORD	**Torodi Ar. Bea**	**125.30**	**288**	PKP	**PKPdf**		**23 37 33.8**	**-0.8**
	0.4nm,0.8s,baz=124,slow=1.0,SNR=3.0							

IDC 06 23:56:09.7±3.0, 15°.73S×173°.64W, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.8/20, mbtmp3.6/5, ML1.4/1, Error ellipse: s-maj=168.2km s-min=28.5km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.55**	**45**	Pn	Pn		23 56 51.0	-1.5
	4.5nm,0.3s,baz=299,slow=19,SNR=3.2							
AFI				Sn	Sn		23 57 19.2	-5.2
	21nm,0.3s,baz=92,slow=21,SNR=11							
H11S2	**WAKE ISLAND Hy**	**39.12**	**330**	T	T		00 45 41.3	
	baz=155,slow=0.7,SNR=4.2							
H11S3	**WAKE ISLAND Hy**	**39.13**	**330**	T	T		00 45 42.5	
	baz=155,slow=0.7,SNR=3.5							
H11S1	**WAKE ISLAND Hy**	**39.14**	**330**	T	T		00 45 41.8	
	baz=155							
H11N3	**WAKE ISLAND Hy**	**40.08**	**331**	T	T		00 46 59.7	
	baz=156							
H11N1	**WAKE ISLAND Hy**	**40.08**	**331**	T	T		00 46 55.9	
	baz=156,slow=0.7,SNR=4.3							
H11N2	**WAKE ISLAND Hy**	**40.09**	**331**	T	T		00 47 00.2	
	baz=156,slow=0.7,SNR=4.7							
ASAR	**Alice Springs**	**49.79**	**252**	P	P		00 05 03.6	-1.1
	0.8nm,0.7s,baz=87,slow=8.3,SNR=4.2							
NVAR	**Mina Array Bea**	**74.72**	**42**	P	P		00 07 52.4	+0.6
	0.2nm,0.4s,baz=234,slow=7.7,SNR=3.3							
PDAR	**Pinedale Array**	**82.66**	**42**	P	P		00 08 35.4	-0.2
	0.6nm,0.8s,baz=238,slow=5.1,SNR=4.1							
ILAR	**Eielson Array**	**82.81**	**11**	P	P		00 08 35.1	-0.3
	0.3nm,0.5s,baz=226,slow=6.8,SNR=5.5							
BRTR	**Keskin Array B**	**146.26**	**320**	PKPbc	PKPbc		00 15 52.9	+0.1
	0.8nm,0.8s,baz=98,slow=1.5,SNR=5.2							
GERES	**GERESS Array B**	**146.43**	**351**	PKPbc	PKPbc		00 15 52.7	-0.2
	0.4nm,0.7s,baz=38,slow=5.0,SNR=3.5							

*AUST **07** 00:07:28.9±0.1, 4°.73S×152°.58E, h0km, Error ellipse: s-maj=2.8km s-min=1.3km az=248.0*
*ISCJB **07** 00:07:47.9±0.4, 6°.00S±0°.05×151°.39E±0°.07, h41km, mb4.5/19, MS3.5/3, Error ellipse: s-maj=10.4km s-min=6.6km az=30.4*
*IDC **07** 00:07:47.9±0.6, 5°.94S×151°.32E, h26km±4km, mb4.2/12, mb1 4.4/14, mb1mx4.3/20, mbtmp4.3/14, ML4.2/2, MS3.5/4, Ms1 3.4/4, ms1mx3.2/29, Error ellipse: s-maj=21.9km s-min=13.2km az=122.0*
*NEIC **07** 00:07:48.8±3.3, 5°.96S×151°.35E, h34km±23km, mb4.8/10, Error ellipse: s-maj=11.3km s-min=8.6km az=146.0*

ISC 07 00:07:49.4±0.4, 5°.95S±0°.07×151°.38E±0°.08, h41km, n66, σ1°32/75, mb4.6/19, MS3.4/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.41**	**230**	*e*Pn	**Pn**		**00 09 06.5**	**-1.1**
	130nm,0.9s							
PMG				*e*Sn	**Sn**		**00 10 06.3**	**-2.3**
PMG	**Port Moresby**	**5.41**	**230**	Pn	**Pn**		**00 09 10.1**	**+2.5**
	10nm,0.3s,baz=58,slow=9.7,SNR=22							
PMG				Sn	**Sn**		**00 10 09.3**	**+0.7**
	15nm,0.3s,baz=145,slow=19,SNR=13							
HNR	**Honiara**	**9.17**	**113**	Pn	**Pn**		**00 09 58.8**	**-0.4**
HNR	**Honiara**	**9.17**	**113**	Pn	**Pn**		**00 09 58.8**	**-0.4**
	20nm,0.3s,baz=227,slow=6.7,SNR=5.3							
HNR				LR	LR		00 13 10.9	
	comp=Z,121nm,19.7s,baz=148,slow=35							
CTA	**Charters Tower**	**14.91**	**199**	Pn	**Pn**		**00 11 17.2**	**-0.3**
CTA	**Charters Tower**	**14.91**	**199**	Pn	**Pn**		**00 11 17.2**	**-0.3**
	0.2nm,0.3s,baz=29,slow=16,SNR=2.8							
EIDS	**Eidsvold**	**19.31**	**181**	*e*P	**P**		**00 12 09.7**	**-1.4**
	15nm,0.9s							
EIDS	**Eidsvold**	**19.31**	**181**	P	**P**		**00 12 10.4**	**-0.7**
	baz=21,SNR=7.4							
KDU	**Kakadu**	**19.81**	**249**	P	**Pn**		**00 12 18.3**	**-0.1**
	baz=21,SNR=6.4							
RMQ	**Roma**	**20.58**	**187**	P	**P**		**00 12 25.1**	**+0.2**
	baz=22,SNR=13							
WRAB	**Tennant Creek**	**21.61**	**228**	*e*P	**P**		**00 12 35.8**	**-0.3**
	32nm,1.0s							
QLP	**Quilpie**	**21.62**	**198**	P	**P**		**00 12 36.0**	**-0.1**
	baz=23,SNR=14							
WRA	**Warramunga Arr**	**21.63**	**228**	P	**P**		**00 12 36.4**	**+0.1**
WRA				S	**S**		**00 16 33.1**	**-0.7**
WRA	**Warramunga Arr**	**21.63**	**228**	P	**P**		**00 12 36.4**	**+0.1**
	9.1nm,0.9s,baz=52,slow=10,SNR=15							
WRA				S	**S**		**00 16 33.1**	**-0.7**
	1.9nm,1.1s,baz=16,slow=6.8,SNR=3.4							
KNRA	**Kununurra**	**24.20**	**245**	P	P		00 13 08.5	+6.2
	baz=26,SNR=4.1							
AS31	**Alice Springs**	**24.35**	**222**	*e*P	**P**		**00 13 04.0**	**+0.3**
ASAR	**Alice Springs**	**24.35**	**222**	P	**P**		**00 13 03.8**	**+0.1**
ASAR	**Alice Springs**	**24.35**	**222**	P	**P**		**00 13 03.8**	**+0.1**
	17nm,0.8s,baz=55,slow=9.1,SNR=56							
CMSA	**Cobar Meteorol**	**26.01**	**191**	P	**P**		**00 13 18.9**	**+0.3**
	baz=28,SNR=7.2							
STKA	**Stephens Creek**	**27.37**	**198**	*e*P	**P**		**00 13 29.8**	**-1.1**
	9.7nm,0.6s							
STKA	**Stephens Creek**	**27.37**	**198**	P	**P**		**00 13 32.6**	**+1.8**
	baz=29,SNR=7.3							
STKA	**Stephens Creek**	**27.37**	**198**	P	**P**		**00 13 30.3**	**-0.6**
	11nm,0.9s,baz=5.8,slow=9.3,SNR=11							
STKA				LR	LR		00 24 24.0	
	comp=Z,105nm,18.4s,baz=26,slow=36							
BATI	**Baumata**	**27.76**	**259**	P	**P**		**00

ZALV	Zalesovo Beam	81.32	327	P		P		00 20 00.6	-0.8
ZALV	Zalesovo Beam	81.32	327	P		P		00 20 00.6	-0.8
	1.0nm,0.7s,baz=116,slow=5.1,SNR=5.4								
IMA2	Indian Mountai	82.00	20	eP		P		00 20 05.5	+0.6
MCK	McKinley	82.46	23	eP		P		00 20 07.6	+0.4
	15nm,0.9s								
COLA	College	83.44	22	eP		P		00 20 11.8	-0.4
	30nm,0.8s								
ILAR	Eielson Array	83.75	22	P		P		00 20 13.6	-0.2
ILAR				pP		pP		00 20 22.5	-3.8
ILAR	Eielson Array	83.75	22	P		P		00 20 13.6	-0.2
	5.4nm,0.7s,baz=249,slow=5.3,SNR=43								
ILAR				pP		pP		00 20 22.5	-3.8
	4.2nm,0.9s,baz=258,slow=5.1,SNR=10								
KURK	Kurchatov	83.80	322	eP		P		00 20 14.2	-0.2
	1.7nm,1.0s								
MAW	Mawson	83.97	203	P		P		00 20 16.4	+1.4
MAW	Mawson	83.97	203	P		P		00 20 16.4	+1.4
	1.7nm,0.8s,baz=27,slow=9.0,SNR=3.1								
QSPA	South Pole Qui	84.02	180	eP		P		00 20 15.3	-0.2
	12nm,1.3s								
AAK	Ala-Archa	84.43	314	eP		P		00 20 18.1	+0.1
EGAK	Eagle	85.97	23	eP		P		00 20 25.9	+0.9
	9.4nm,0.9s								
HYT	Haines Junctio	86.10	28	eP		P		00 20 27.4	+1.5
KKAR	Karatay Array	87.39	314	eP		P		00 20 33.0	+0.6
NVAR	Mina Array Bea	93.90	52	P		P		00 21 05.7	+2.5
NVAR				pP		pP		00 21 14.1	-1.7
NVAR	Mina Array Bea	93.90	52	P		P		00 21 05.7	+2.5
	0.7nm,0.7s,baz=255,slow=6.6,SNR=4.5								
NVAR				pP		pP		00 21 14.1	-1.7
	1.9nm,1.0s,baz=254,slow=6.4,SNR=5.3								
GERES	GERESS Array B	124.27	327	PKP		PKPdf		00 26 42.3	-1.7
GERES				pPKP		pPKPdf		00 26 53.8	-3.2
GERES	GERESS Array B	124.27	327	PKP		PKPdf		00 26 42.3	-1.7
	0.8nm,0.7s,baz=56,slow=0.5,SNR=6.6								
GERES				pPKP		pPKPdf		00 26 53.8	-3.2
	1.0nm,0.7s,baz=58,slow=3.3,SNR=4.9								
CPUP	Villa Florida	137.52	140	PKP		PKPdf		00 27 11.7	+2.1
CPUP	Villa Florida	137.52	140	PKP		PKPdf		00 27 11.7	+2.1
	1.1nm,0.6s,baz=338,slow=4.0,SNR=3.6								
TAM	Tamanrasset	143.07	300	ePKPdf		PKPbc		00 27 17.5	+0.6
TORD	Torodi Ar. Bea	149.28	286	PKPbc		PKPbc		00 27 35.3	+0.5
TORD	Torodi Ar. Bea	149.28	286	PKPbc		PKPbc		00 27 35.3	+0.5
	9.0nm,0.7s,baz=71,slow=2.6,SNR=55								
BDFB	Brasilia	151.21	138	PKPbc		PKPbc		00 27 39.9	+0.3
BDFB				pPKPbc		PKPab		00 27 48.0	+0.7
BDFB	Brasilia	151.21	138	PKPbc		PKPbc		00 27 39.9	+0.3
	6.1nm,0.9s,baz=148,slow=2.7,SNR=8.3								
BDFB				pPKPbc		PKPab		00 27 48.0	+0.7
	8.3nm,0.8s,baz=188,slow=2.5,SNR=7.3								

*IDC **07** 00:21:16.8±3.8, 39°.36N×15°.67E, h217km±42km, mb3.1/4, mb1 mx 3.1/6, mb1mx2.9/29, mbtmp2.9/6, Error ellipse: s-maj=33.9km s-min=21.5km az=113.0*
*CSEM **07** 00:21:17.3, 39°.28N×15°.76E, h240km, After ROM*
*ROM **07** 00:21:17.3±0.2, 39°.28N×15°.76E, h240km±2km, Ml2.8/38, Error ellipse: s-maj=4.7km s-min=1.8km az=99.0*
*ISCJB **07** 00:21:18.4±0.5, 39°.31N±0°.03×15°.69E±0°.06, h232km±3km, mb3.4/4, Error ellipse: s-maj=7.6km s-min=4.5km az=16.8*

ISC 07 00:21:18.1±0.8, **39°.29N**±0°.04×**15°.69E**±0°.05, **h232**km±6km, **n97**, σ0**s94**/142, **mb3.4**/4, **8C-4D**, **Southern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TDS	Terranova Siba	0.62	54	Pg		Pn		00 21 50.3	+1.0
	20nm,0.4s								
TDS	Terranova Siba	0.62	54	Pg		Pn		00 21 50.3	+1.0
	20nm,0.4s								
JOPP	Joppolo	0.70	167	↓iPg		Pn		00 21 50.2	+0.4
JOPP				Sg		S		00 22 14.0	-0.5
	89nm,0.2s								
JOPP	Joppolo	0.70	167	↓iPg		Pn		00 21 50.2	+0.4
JOPP				Sg		S		00 22 14.0	-0.5
	89nm,0.2s								
CUC	Castrocucco	0.70	8	Pg		Pn		00 21 50.3	+0.6
CUC				Sg		S		00 22 14.6	0.0
	46nm,0.9s								
CUC	Castrocucco	0.70	8	Pg		Pn		00 21 50.3	+0.6
CUC				Sg		S		00 22 14.6	0.0
	46nm,0.9s								
GRI	Girifalco	0.74	129	Pg		Pn		00 21 51.1	+1.2
GRI				Sg		S		00 22 15.4	+0.6
	89nm,0.5s								
GRI	Girifalco	0.74	129	Pg		Pn		00 21 51.1	+1.2
GRI				Sg		S		00 22 15.4	+0.6
	89nm,0.5s								
SALB	San Lorenzo Be	0.77	41	Pg		Pn		00 21 51.2	+1.1
SALB				Sg		S		00 22 15.7	+0.4
	76nm,0.6s								
SALB	San Lorenzo Be	0.77	41	Pg		Pn		00 21 51.2	+1.1
SALB				Sg		S		00 22 15.7	+0.4
	76nm,0.6s								
SERS	Sersale	0.82	108	Pg		Pn		00 21 51.4	+1.0
SERS				Sg		S		00 22 15.8	+0.2
	39nm,0.6s								
SERS	Sersale	0.82	108	Pg		Pn		00 21 51.4	+1.0
SERS				Sg		S		00 22 15.8	+0.2
	39nm,0.6s								
MGR	Morigerati	0.85	353	Pg		Pn		00 21 51.2	+0.9
MGR				Sg		S		00 22 16.1	+0.4
	33nm,0.8s								
MGR	Morigerati	0.85	353	Pg		Pn		00 21 51.2	+0.9
MGR				Sg		S		00 22 16.1	+0.4
	33nm,0.8s								
SIRI	Monte Sirino -	0.90	9	Pg		Pn		00 21 51.5	+0.8
SIRI				Sg		S		00 22 16.6	+0.2
	60nm,0.3s								
SIRI	Monte Sirino -	0.90	9	Pg		Pn		00 21 51.5	+0.8
SIRI				Sg		S		00 22 16.6	+0.2
	60nm,0.3s								
SCHR	S. Chirico Rap	0.95	18	Pg		Pn		00 21 52.5	+1.5
SCHR				Sg		S		00 22 16.6	-0.3
	23nm,0.6s								
SCHR	S. Chirico Rap	0.95	18	Pg		Pn		00 21 52.5	+1.5
SCHR				Sg		S		00 22 16.6	-0.3
	23nm,0.6s								
ORI	Oriolo Calabro	0.97	37	Pg		Pn		00 21 52.3	+1.3
ORI				Sg		S		00 22 16.7	-0.1
	127nm,0.4s								
ORI	Oriolo Calabro	0.97	37	Pg		Pn		00 21 52.3	+1.3
ORI				Sg		S		00 22 16.7	-0.1
	127nm,0.4s								
MTSN	Montesano sull	0.97	3	Pg		Pn		00 21 51.9	+0.8
	40nm,0.4s								
MTSN	Montesano sull	0.97	3	Pg		Pn		00 21 51.9	+0.8
	40nm,0.4s								
LLI	Lipari	1.02	214	Pg		Pn		00 21 52.8	+1.4
	190nm,0.5s								
LLI	Lipari	1.02	214	Pg		Pn		00 21 52.8	+1.4
	190nm,0.5s								
PLAC	Placanica	1.03	145	Pg		Pn		00 21 52.2	+0.7
PLAC				Sg		S		00 22 17.1	-0.4
	46nm,0.4s								
PLAC	Placanica	1.03	145	Pg		Pn		00 21 52.2	+0.7
PLAC				Sg		S		00 22 17.1	-0.4
	46nm,0.4s								
MCEL	Monticello	1.03	5	Pg		Pn		00 21 53.0	+1.5
MCEL	Monticello	1.03	5	Pg		Pn		00 21 53.0	+1.5
MSRU	Castanea	1.04	188	Pg		Pn		00 21 51.6	+0.1
MSRU				Sg		S		00 22 17.4	-0.2
	71nm,0.3s								
MSRU	Castanea	1.04	188	Pg		Pn		00 21 51.6	+0.1
MSRU				Sg		S		00 22 17.4	-0.2
	71nm,0.3s								
CEL	Celeste	1.04	171	Pg		Pn		00 21 51.7	+0.1
CEL				Sg		S		00 22 18.5	+0.7
	56nm,0.5s								
CEL	Celeste	1.04	171	Pg		Pn		00 21 51.7	+0.1
CEL				Sg		S		00 22 18.5	+0.7
	56nm,0.5s								
CMPR	Campora	1.06	344	Pg		Pn		00 21 52.6	+1.0
CMPR				Sg		S		00 22 18.8	+0.8
	16nm,0.9s								
CMPR	Campora	1.06	344	Pg		Pn		00 21 52.6	+1.0
CMPR				Sg		S		00 22 18.8	+0.8
	16nm,0.9s								
VPL	Vulcano Piano	1.07	211	Pg		Pn		00 21 52.8	+1.1
	84nm,0.5s								
VPL	Vulcano Piano	1.07	211	Pg		Pn		00 21 52.8	+1.1
	84nm,0.5s								
CRAC	Craco	1.22	28	↑iPg		Pn		00 21 53.6	+1.1
CRAC				Sg		S		00 22 19.5	-0.1
	135nm,0.9s								
CRAC	Craco	1.22	28	↑iPg		Pn		00 21 53.6	+1.1
CRAC				Sg		S		00 22 19.5	-0.1
	135nm,0.9s								
CDRU	Civita di Ruta	1.23	346	Pg		Pn		00 21 53.6	+0.8
	7.0nm,0.3s								
CDRU	Civita di Ruta	1.23	346	Pg		Pn		00 21 53.6	+0.8
	7.0nm,0.3s								
SOI	Samo	1.25	167	↓iPg		Pn		00 21 53.6	+0.7
SOI				Sg		S		00 22 19.2	-0.9
	32nm,0.8s								
SOI	Samo	1.25	167	↓iPg		Pn		00 21 53.6	+0.7
SOI				Sg		S		00 22 19.2	-0.9
	32nm,0.8s								
PTRP	Pietrapertosa	1.26	13	Pg		Pn		00 21 54.1	+1.1
	284nm,4.1s								
PTRP	Pietrapertosa	1.26	13	Pg		Pn		00 21 54.1	+1.1
	284nm,4.1s								
IACL	Alicudi	1.29	234	Pg		Pn		00 21 53.9	+0.8
	27nm,0.2s								
IACL	Alicudi	1.29	234	Pg		Pn		00 21 53.9	+0.8
	27nm,0.2s								
MTTG	Motta San Giov	1.29	180	Pg		Pn		00 21 54.1	+0.9
MTTG				Sg		S		00 22 20.6	0.0
	58nm,0.7s								
MTTG	Motta San Giov	1.29	180	Pg		Pn		00 21 54.1	+0.9
MTTG				Sg		S		00 22 20.6	0.0
	58nm,0.7s								
PZUN	Potenza	1.35	4	Pg		Pn		00 21 54.7	+1.2
	29nm,1.0s								
PZUN	Potenza	1.35	4	Pg		Pn		00 21 54.7	+1.2
	29nm,1.0s								
MPAZ	Palizzi	1.36	169	Pg		Pn		00 21 54.4	+0.7
MPAZ				Sg		S		00 22 20.8	-0.8
	53nm,0.3s								
MPAZ	Palizzi	1.36	169	Pg		Pn		00 21 54.4	+0.7
MPAZ				Sg		S		00 22 20.8	-0.8
	53nm,0.3s								
MMME	Mongiuffi-Meli	1.40	194	Pg		Pn		00 21 55.2	+1.1
MMME				Sg		S		00 22 21.7	-0.5
	35nm,0.6s								
MMME	Mongiuffi-Meli	1.40	194	Pg		Pn		00 21 55.2	+1.1
MMME				Sg		S		00 22 21.7	-0.5
	35nm,0.6s								
MIGL	Miglionico	1.43	24	↑iPg		Pn		00 21 54.3	+0.2
MIGL				Sg		S		00 22 22.6	+0.1
	120nm,1.2s								
MIGL	Miglionico	1.43	24	↑iPg		Pn		00 21 54.3	+0.2
MIGL				Sg		S		00 22 22.6	+0.1
	120nm,1.2s								
MRLC	Muro Lucano	1.47	354	Pg		Pn		00 21 55.6	+1.2
	31nm,1.6s								
MRLC	Muro Lucano	1.47	354	Pg		Pn		00 21 55.6	+1.2
	31nm,1.6s								
ACER	Acerenza	1.50	7	Pg		Pn		00 21 55.0	+0.3
	22nm,0.7s								
ACER	Acerenza	1.50	7	Pg		Pn		00 21 55.0	+0.3
	22nm,0.7s								
MCRV	Calabrutti - M	1.54	345	Pg		Pn		00 21 56.2	+1.1
	15nm,0.5s								
MCRV	Calabrutti - M	1.54	345	Pg		Pn		00 21 56.2	+1.1
	15nm,0.5s								
MATE	Matera	1.56	30	Pg		Pn		00 21 55.2	+0.1
MATE				Sg		S		00 22 23.8	-0.4
	31nm,0.7s								
MATE	Matera	1.56	30	Pg		Pn		00 21 55.2	+0.1
MATE				Sg		S		00 22 23.8	-0.4
	31nm,0.7s								
AMUR	Altamura	1.76	23	↑iPg		Pn		00 21 57.0	+0.2
	16nm,0.2s								
AMUR	Altamura	1.76	23	↑iPg		Pn		00 21 57.0	+0.2
	16nm,0.2s								
MRVN	Minervino Murg	1.81	12	Pg		Pn		00 21 57.4	+0.1
MRVN				Sg		S		00 22 29.0	+0.9
	11nm,0.6s								
MRVN	Minervino Murg	1.81	12	Pg		Pn		00 21 57.4	+0.1
MRVN				Sg		S		00 22 29.0	+0.9
	11nm,0.6s								
NOCI	Noci	1.83	35	↑iPg		Pn		00 21 57.4	-0.1
NOCI				Sg		S		00 22 27.8	-0.6
	24nm,0.5s								
NOCI	Noci	1.83	35	↑iPg		Pn		00 21 57.4	-0.1
NOCI				Sg		S		00 22 27.8	-0.6
	24nm,0.5s								
GIB	Gibilmanna	1.84	225	Pg		Pn		00 21 58.6	+0.8
	37nm,0.7s								
GIB	Gibilmanna	1.84	225	Pg		Pn		00 21 58.6	+0.8
	37nm,0.7s								
ECNV	Catenanuova	1.86	205	Pg		Pn		00 21 59.7	+1.8
	111nm,1.2s								
ECNV	Catenanuova	1.86	205	Pg		Pn		00 21 59.7	+1.8
	111nm,1.2s								
CSLB	Castelbuono	1.86	224	Pg		Pn		00 21 58.5	+0.6
	12nm,0.5s								
CSLB	Castelbuono	1.86	224	Pg		Pn		00 21 58.5	+0.6
	12nm,0.5s								
MESG	Mesagne	2.11	51	Pg		Pn		00 22 00.3	+0.3
MESG				Sg		S		00 22 31.7	-1.2
	33nm,0.6s								
MESG	Mesagne	2.11	51	Pg		Pn		00 22 00.3	+0.3
MESG				Sg		S		00 22 31.7	-1.2
	33nm,0.6s								
ALJA	Alia	2.16	225	Pg		Pn		00 22 02.4	+1.6
	37nm,1.4s								
ALJA	Alia	2.16	225	Pg		Pn		00 22 02.4	+1.6
	37nm,1.4s								
HVZN	Vizzini	2.25	200	Pg		Pn		00 22 02.5	+0.9
	54nm,0.5s								
HVZN	Vizzini	2.25	200	Pg		Pn		00 22 02.5	+0.9
	54nm,0.5s								
KEK	Kerkira	3.21	81	eP		Pn		00 22 13.0	+1.2
JAN	Janina	4.01	83	eP		Pn		00 22 23.5	+2.3
FNA	Florina	4.61	69	eP		Pn		00 22 30.0	+1.5
EVR	Evrytania	4.78	93	eP		Pn		00 22 33.5	+2.9
KALE	Kalithea	5.12	98	eP		Pn		00 22 38.5	+3.7
AGG	Agios Georgios	5.17	91	eP		Pn		00 22 38.0	+2.6
LIT	Litokhoron	5.31	79	eP		Pn		00 22 38.5	+1.4
GRG	Griva	5.41	70	eP		Pn		00 22 39.5	+1.1
SOH	Sokhos	6.08	73	eP		Pn		00 22 48.0	+1.2
GERES	GERESS Array B	9.65	352	P		Pn		00 23 31.1	-1.3
	0.1nm,0.3s,baz=170,slow=14,SNR=7.6								
BRTR	Keskin Array B	13.87	83	P		Pn		00 24 23.6	-1.7
	0.1nm,0.3s,baz=278,slow=14,SNR=2.9								
FINES	FINESS Array B	23.09	13	P		P		00 26 02.2	-0.8
	3.2nm,0.9s,baz=189,slow=9.5,SNR=6.4								
TORD	Torodi Ar. Bea	28.83	209	P		P		00 26 55.4	+0.4
	0.1nm,0.4s,baz=18,slow=9.5,SNR=3.4								
ARCES	ARCESS Array B	30.75	7	P		P		00 27 10.3	-1.0
	1.6nm,0.9s,baz=185,slow=8.8,SNR=3.9								
MKAR	Makanchi Array	47.93	58	P		P		00 29 33.4	+0.3
	0.4nm,0.4s,baz=285,slow=6.4,SNR=7.4								

*BJI **07** 00:29:50.3, 73°.40N×134°.20E, h5km, mB4.9/6, mb4.5/12, Ms4.8/3, Ms7 4.6/3*
*ISCJB **07** 00:29:52.9±0.3, 73°.35N±0°.05×134°.4E±0°.1, h10km, mb4.3/41, MS3.9/23, Error ellipse: s-maj=7.4km s-min=5.0km az=142.8*
*IDC **07** 00:29:52.5±0.6, 73°.35N×134°.53E, h0km, mb3.9/15, mb1 4.2/15, mb1mx4.0/30, mbtmp3.9/15, MS3.8/20, Ms1 3.8/20, ms1mx3.7/37, Error ellipse: s-maj=19.2km s-min=14.7km az=162.0*
*MOS **07** 00:29:53.2±1.3, 73°.31N×134°.25E, h13km, mb4.8/9, Error ellipse: s-maj=29.4km s-min=8.5km az=84.6*
*NEIC **07** 00:30:01.9±2.8, 73°.26N×134°.63E, h71km±27km, mb4.5/14, Error ellipse: s-maj=11.6km s-min=4.8km az=162.0*

ISC 07 00:29:54.8±0.4, **73°.37N**±0°.06×**134°.28E**±0°.07, **h10**km, **n102**, σ1**s33**/86, **mb4.4**/41, **MS3.8**/23, **1C-3D**, **Laptev Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TIXI	Tiksi	2.38	226	↓iP		Pn		00 30 33.1	-0.7
YAK	Yakutsk	11.52	191	eP		Pn		00 32 38.9	-0.1
YAK				eS		Sn		00 34 50.1	+2.6
YAK					pmax	pmax			
	comp=N,11nm,1.2s								
YAK					pmax	pmax			
	comp=Z,12nm,0.9s								
YAK					pmax	pmax			
	comp=Z,25nm,1.4s								
YAK					smax	smax			
	comp=N,26nm,1.0s								
YAK					MLR	MLR			
	comp=E,87nm,8.0s								
YAK					MLR	MLR			
	comp=N,620nm,11.0s								
YAK					MLR	MLR			
	comp=Z,588nm,10.0s								
SEY	Seymchan	12.37	138	eP		Pn		00 32 52.9	+2.2
CLNS	Chul'man	17.02	198	eP		Pn		00 33 48.9	-3.8
CLNS					pmax	pmax			
	comp=Z,21nm,1.1s								
CLNS					pmax	pmax			
	comp=E,12nm,0.8s								
CLNS					pmax	pmax			
	comp=N,15nm,0.8s								
CLNS					MLR	MLR			
	comp=Z,587nm,12.0s								
CLNS					MLR	MLR			
	comp=E,860nm,13.0s								
CLNS					MLR	MLR			
	comp=N,705nm,14.0s								
PETK	Petropavlovsk-	22.58	141	eP		P		00 34 55.4	+0.5
PETK					pmax	pmax			
	comp=Z,19nm,1.1s								
PETK	Petropavlovsk-	22.58	141	P		P		00 34 55.0	+0.1
PETK	Petropavlovsk-	22.58	141	P		P		00 34 55.0	+0.1
	comp=Z,17nm,1.1s,baz=39,slow=9.6,SNR=8.0								
PETK					LR	LR		00 43 52.6	
	comp=Z,235nm,18.8s,baz=141,slow=37								
KLR	Kul'dur	24.25	184	eP		P		00 35 08.4	-3.1
KLR					pmax	pmax			
	comp=E,28nm,1.6s								
KLR					pmax	pmax			
	comp=Z,74nm,1.6s								
KLR					MLR	MLR			
	comp=E,500nm,11.0s								
KLR					MLR	MLR			
	comp=Z,3μm,11.0s								
IMA2	Indian Mountai	24.41	70	eP		P		00 35 11.3	-1.8
IM04	Indian Mountai	24.46	70	eP		P		00 35 12.4	-1.0
COLD	Coldfoot	24.48	65	eP		P		00 35 13.6	0.0
	comp=Z,15nm,1.2s								
COLD					epP	pP		00 35 21.5	+5.0
TLY	Talaya	25.36	228	eP		P		00 35 31.3	+10
TLY					pmax	pmax			
	comp=Z,17nm,1.6s								
MOY	Mondy	25.95	231	eP		P		00 35 35.2	+8.1
MOY					pmax	pmax			
	comp=Z,31nm,1.8s								
FX1	Attu Island--F	26.16	120	LR		LR		00 45 50.9	
	comp=Z,122nm,18.7s,baz=346,slow=37								
ZAK	Zakamensk	26.66	227	eP		P		00 35 43.4	+10
ZAK					pmax	pmax			
	comp=Z,6.0nm,1.4s								
YSS	Yuzh-Sakhalins	26.77	167	eP		P		00 35 34.0	-0.4
YSS					pmax	pmax			
	comp=Z,50nm,1.2s								
COLA	College	26.90	67	eP		P		00 35 34.3	-1.1
ILAR	Eielson Array	27.24	67	P		P		00 35 37.6	-0.8
ILAR	Eielson Array	27.24	67	P		P		00 35 37.6	-0.8
	comp=Z,1.9nm,0.9s,baz=318,slow=8.8,SNR=12								
ILAR					LR	LR		00 49 24.4	
	comp=Z,225nm,19.3s,baz=331,slow=43								
MCK	McKinley	27.51	70	eP		P		00 35 42.4	+1.4
MCK					pmax	pmax			
	comp=Z,59nm,1.8s								
MCK	McKinley	27.51	70	eP		P		00 35 42.4	+1.4
	comp=Z,59nm,1.8s								
NVS	Novosibirsk	27.64	256	eP		P		00 35 40.2	-1.9
NVS					pmax	pmax			
	comp=Z,6.0nm,0.5s								
NVS					pmax	pmax			
	comp=N,2.0nm,0.4s								
NVS					pmax	pmax			
	comp=E,1.0nm,0.4s								
ZAA0	Zalesovo Array	27.99	253	eP		P		00 35 45.9	+0.7
ZALV	Zalesovo Beam	27.99	253	P		P		00 35 45.8	+0.6
ZALV					pmax	pmax			
	comp=Z,1.0nm,0.6s								
ZALV					MLR	MLR			
	comp=Z,230nm,18.7s								
ZALV	Zalesovo Beam	27.99	253	P		P		00 35 45.8	+0.6
ZALV	Zalesovo Beam	27.99	253	P		P		00 35 45.8	+0.6
	comp=Z,1.0nm,0.6s,baz=22,slow=8.2,SNR=5.7								
ZALV					LR	LR		00 47 42.1	
	comp=Z,230nm,18.7s,baz=66,slow=38								
HVS	Khovu-Aksy	28.18	240	P		P		00 35 47.1	0.0
HVS					pmax	pmax			
	comp=Z,43nm,2.4s								
SONM	Songino Array	28.46	221	P		P		00 35 49.6	-0.1
SONM	Songino Array	28.46	221	P		P		00 35 49.6	-0.1
	comp=Z,0.7nm,0.6s,baz=11,slow=9.9,SNR=7.8								
SONM					LR	LR		00 48 30.2	
	comp=Z,133nm,18.7s,baz=11,slow=39								
RES	Resolute Bay	29.17	24	LR		LR		00 49 30.6	
	comp=Z,145nm,18.3s,baz=83,slow=40								
ASAJ	Asahikawa	29.59	168	LR		LR		00 49 01.2	
	comp=Z,402nm,19.0s,baz=338,slow=39								
ARCES	ARCESS Array B	30.25	319	LR		LR		00 50 30.8	
	comp=Z,78nm,19.6s,baz=205,slow=41								
BMRM	Bremner River	30.94	70	eP		P		00 36 14.1	+2.6
	comp=Z,35nm,1.6s								
CHGN	Chignik	31.02	86	eP		P		00 36 10.3	-1.7
ERM	Erimo	31.72	167	P		P		00 36 18.9	+0.6
ERM					pmax	pmax			
	comp=Z,25nm,2.1s								
KURK	Kurchatov	32.60	257	eP		P		00 36 26.5	+0.5
KURK					pmax	pmax			
	comp=Z,3.0nm,1.6s								
KURK	Kurchatov	32.60	257	eP		P		00 36 26.4	+0.5
	comp=Z,3.4nm,1.0s								
MK31	Makanchi Array	35.15	250	eP		P		00 36 47.3	-0.9
MK31	Makanchi Array	35.15	250	eP		P		00 36 47.3	-0.9
MKAR	Makanchi Array	35.15	250	eP		P		00 36 48.3	+0.1
MKAR	Makanchi Array	35.15	250	eP		P		00 36 48.3	+0.1
MKAR	Makanchi Array	35.15	250	P		P		00 36 47.8	-0.4
	comp=Z,0.5nm,0.3s,baz=32,slow=6.6,SNR=14								
KSRS	Korea Array	36.13	189	LR		LR		00 52 57.8	
	comp=Z,269nm,20.1s,baz=187,slow=38								
DLBC

KBZ	Khabaz	49.11	287		LR	LR	01 03 23.1		
	comp=Z,102nm,20.3s,baz=122,slow=41								
ANN	Anapa	49.61	292	*e*P	P	P	00 38 39.7	-6.0	
ANN				pmax	pmax				
	comp=Z,74nm,1.7s								
SCHQ	Schefferville	51.27	15		LR	LR	01 02 04.9		
	comp=Z,151nm,18.6s,baz=181,slow=38								
GERES	GERESS Array B	51.53	313		P	P	00 38 58.4	-1.9	
GERES	GERESS Array B	51.53	313		P	P	00 38 58.4	-1.9	
	comp=Z,0.5nm,0.8s,baz=6.6,slow=18,SNR=3.1								
GERES					LR	LR	01 04 56.2		
	comp=Z,115nm,18.1s,baz=356,slow=41								
ULM	Lac du Bonnet	51.99	39		LR	LR	01 02 57.7		
	comp=Z,125nm,18.6s,baz=252,slow=38								
MCMT	McKenzie Canyo	53.62	55	*e*P		P	00 39 15.5	-0.5	
	comp=Z,3.8nm,1.4s								
YBH	Yreka Blue Hor	54.09	64		LR	LR	01 05 55.0		
	comp=Z,62nm,18.2s,baz=87,slow=40								
MOOW	Moose Ponds	55.13	53	*e*P		P	00 39 27.1	+0.1	
	comp=Z,4.5nm,1.1s								
TPAW	Teton Pass	55.33	53	*e*P		P	00 39 29.4	+1.0	
	comp=Z,11nm,1.6s								
BRTR	Keskin Array B	55.35	293		LR	LR	01 08 54.5		
	comp=Z,50nm,19.6s,baz=104,slow=42								
RRI2	Red Ridge	55.37	54	*e*P		P	00 39 31.0	+2.1	
	comp=Z,9.0nm,1.4s								
PDAR	Pinedale Array	56.33	53	P		P	00 39 34.4	-1.2	
PDAR	Pinedale Array	56.33	53	P		P	00 39 34.4	-1.2	
	comp=Z,0.8nm,0.9s,baz=0.0,slow=3.0,SNR=6.0								
DUG	Dugway	58.01	56	*e*P		P	00 39 47.3	-0.2	
DUG				pmax	pmax				
	comp=Z,18nm,1.7s								
DUG	Dugway	58.01	56	*e*P		P	00 39 47.2	-0.2	
	comp=Z,18nm,1.7s								
DUG				*e*pP		pP	00 40 07.9	+17	
NVAR	Mina Array Bea	58.33	62	P		P	00 39 49.3	-0.5	
NVAR	Mina Array Bea	58.33	62	P		P	00 39 49.3	-0.5	
	comp=Z,1.3nm,1.0s,baz=325,slow=4.7,SNR=5.1								
CMAR	Chiang Mai Arr	58.38	220	P		P	00 39 48.8	-1.3	
CMAR	Chiang Mai Arr	58.38	220	P		P	00 39 48.7	-1.3	
	comp=Z,1.0nm,0.3s,baz=7.8,slow=7.3,SNR=3.0								
PHWY	Pilot Hill	58.65	50	*e*P		P	00 39 55.4	+3.4	
	comp=Z,6.2nm,0.6s								
R11A	Troy Canyon, C	59.09	59	*e*P		P	00 39 54.7	-0.3	
SRU	San Rafael	59.58	55	*e*P		P	00 39 58.2	-0.3	
SRU				pmax	pmax				
	comp=Z,4.0nm,1.0s								
SRU	San Rafael	59.58	55	*e*P		P	00 39 58.2	-0.3	
	comp=Z,4.2nm,1.0s								
Q16A	Castle Valley	59.62	55	*e*P		P	00 39 57.7	-1.0	
PV01	Paradox Valley	60.97	53	*e*P		P	00 40 06.7	-1.3	
	comp=Z,445nm,1.0s								
ESDC	Sonseca Array	63.70	325	P		P	00 40 26.5	+0.5	
ESDC	Sonseca Array	63.70	325	P		P	00 40 26.5	+0.5	
	comp=Z,0.1nm,0.3s,baz=347,slow=5.3,SNR=4.2								
RAYN	Ar Rayn	67.31	276	*e*P		P	00 40 51.1	+1.5	
	comp=Z,6.5nm,1.3s								
TXAR	Lajitas Array	70.53	52	P		P	00 41 08.1	-1.5	
TXAR	Lajitas Array	70.53	52	P		P	00 41 08.1	-1.5	
	comp=Z,1.5nm,1.0s,baz=352,slow=5.6,SNR=9.0								
TORD	Torodi Ar. Bea	88.48	314	P		P	00 42 46.2	-1.0	
TORD	Torodi Ar. Bea	88.48	314	P		P	00 42 46.2	-1.0	
	comp=Z,1.4nm,0.7s,baz=357,slow=4.0,SNR=8.0								
WRA	Warramunga Arr	93.08	180	P		P	00 43 06.7	-1.6	
WRA	Warramunga Arr	93.08	180	P		P	00 43 06.7	-1.6	
	comp=Z,1.7nm,0.8s,baz=339,slow=3.1,SNR=3.7								
PLCA	Paso Flores	145.19	34	PKPbc		PKPbc	00 49 29.1	-2.0	
PLCA	Paso Flores	145.19	34	PKPbc		PKPbc	00 49 29.1	-2.0	
	comp=Z,4.8nm,1.0s,baz=350,slow=7.1,SNR=4.8								
VNDA	Vanda	151.54	168	PKPbc		PKPbc	00 49 45.3	-1.5	
VNDA	Vanda	151.54	168	PKPbc		PKPbc	00 49 45.3	-1.5	
	comp=Z,2.3nm,1.1s,baz=331,slow=5.3,SNR=6.3								

*IDC **07** 00:33:43.4±0.6, 15°.38S×173°.34W, h0km, mb4.5/14, mb1 4.7/14, mb1mx4.5/25, mbtmp4.5/14, MS4.3/25, Ms1 4.3/25, ms1mx4.2/32, Error ellipse: s-maj=27.6km s-min=14.0km az=128.0*

*NEIC **07** 00:33:44.7±0.3, 15°.52S×173°.07W, h10km, mb4.7/28, Error ellipse: s-maj=13.1km s-min=7.2km az=138.0*

*SZGRF **07** 00:33:45.5, 16°.81S×173°.10W, h33km, mb4.6, Tonga Islands*

*AUST **07** 00:33:46.4±0.0, 15°.33S×172°.62W, h52km, Error ellipse: s-maj=1.3km s-min=1.1km az=266.0*

*ISCJB **07** 00:33:47.8±0.2, 15°.42S±0°.08×173°.44W±0°.07, h42km, mb4.6/40, MS4.3/23, Error ellipse: s-maj=14.1km s-min=4.7km az=144.1*

*GCMT **07** 00:33:51.5±0.4, 15°.30S×172°.78W, h39km±1km, MW5.0, Moment Tensor Solution. s31,c37; s57,c82; Moment tensor: Scale 10^{16}Nm; M_{rr}1.94±.24; $M_{\theta\theta}$1.40±.20; $M_{\phi\phi}$-3.34±.16; $M_{r\theta}$-0.46±.18; $M_{\theta\phi}$-1.95±.16; $M_{\phi\phi}$2.38±.18; Best double couple: $M_0$4.10000×10^{16} NP1:ϕ_s349.00000°, δ72.00000°, λ52.00000°. NP2:ϕ_p237.00000°, δ42.00000°, λ152.00000°. Principal axes: T 3.5600, Plg48.0000°, Azm218.0000°; N 1.1600, Plg36.0000°, Azm3.0000°; P -4.7200, Plg18.0000°, Azm106.0000°; Data Used: II IU IC G CN.*

ISC 07 00:33:49.3±0.4, 15°.4S±0°.1×173°.4W±0°.1, h42km, n373, σ0.6 s74/344, mb4.6/40, MS4.3/23, 113C-117D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time h m s	Res ISC
AFI	Afiamalu	2.12	47	*e*Pn	Pn	00 34 13.7	-8.7
AFI				eS	Sn	00 34 33.5	-14
AFI	Afiamalu	2.12	47	Pn	Pn	00 34 14.1	-8.3
	220nm,0.3s,baz=173,slow=0.6,SNR=81						
AFI				Sn	Sn	00 34 33.5	-14
	954nm,0.3s,baz=238,slow=23,SNR=13						
AFI				LR	LR	00 34 49.1	
	comp=Z,3μm,18.5s,baz=178,slow=31						
NIUE	Niue	4.93	139	P	Pn	00 34 53.5	-7.5
	baz=4.5,SNR=47						
MSVF	Nonsavu	8.56	253	*e*Pn	Pn	00 35 55.1	+4.3
	119nm,1.1s						
RAR	Rarotonga	14.15	116	Pn	Pn	00 36 58.6	-8.6
RAR	Rarotonga	14.15	116	Pn	Pn	00 36 58.6	-8.6
	5.0nm,0.3s,baz=47,slow=0.0,SNR=5.5						
RAR				LR	LR	00 41 05.3	
	comp=Z,1μm,21.5s,baz=135,slow=31						
DZM	Mont Dzumac	20.24	248	*e*P	Pn	00 38 25.2	+1.8
	131nm,1.4s						
DZM				*e*LQ	LQ	00 42 23.0	
	1μm,27.0s						
DZM				*e*LR	LR	00 43 14.4	
	3μm,25.6s						
DZM	Mont Dzumac	20.24	248	*e*P	Pn	00 38 24.2	+0.8
DZM	Mont Dzumac	20.24	248	P	Pn	00 38 21.7	-1.7
	20nm,0.9s,baz=105,slow=19,SNR=8.8						
PPT	Papeete	22.91	99	LR	LR	00 45 24.7	
	comp=Z,631nm,19.4s,baz=194,slow=31						
PPT2	Papeete2	22.91	99	*e*S	S	00 42 56.9	-0.2
	562nm,24.8s						
PPT2				*e*LR	LR	00 44 13.4	
	2μm,24.8s						
TBI	Tubuai	23.88	113	*e*LR	LR	00 44 32.4	
	2μm,27.2s,baz=289						
URZ	Urewera	24.29	198	P	P	00 39 02.5	-0.3
URZ	Urewera	24.29	198	P	P	00 39 02.5	-0.3
	5.1nm,0.4s,baz=306,slow=4.8,SNR=5.9						
HNR	Honiara	26.71	280	LR	LR	00 48 35.6	
	comp=Z,665nm,20.3s,baz=124,slow=33						
KHZ	Kahutara	29.21	200	P	P	00 39 47.6	+0.7
RPZ	Rata Peaks	31.21	202	P	P	00 40 02.7	-2.0
RPZ	Rata Peaks	31.21	202	P	P	00 40 02.7	-2.0
	4.4nm,0.5s,baz=23,slow=7.7,SNR=3.0						
RPZ					LR	LR	00 49 23.6	
	comp=Z,122nm,20.8s,baz=204,slow=30						
ARMA	Armidale	35.38	239	P	P	00 40 41.1	-0.2
	baz=36,SNR=5.4						
RKT	Rikitea	36.97	108	*e*LR	LR	00 50 47.3	
	966nm,25.8s,baz=278						
CTA	Charters Tower	38.68	257	LR	LR	00 54 42.7	
	comp=Z,442nm,19.6s,baz=32,slow=32						
H11S2	WAKE ISLAND Hy	38.96	329	T	T	01 22 31.1	
	baz=152,slow=0.7,SNR=50						
PMG	Port Moresby	38.97	274	LR	LR	00 55 12.7	
	comp=Z,276nm,19.1s,baz=206,slow=33						
H11S3	WAKE ISLAND Hy	38.98	329	T	T	01 22 32.0	
	baz=152,slow=0.7,SNR=22						
H11S1	WAKE ISLAND Hy	38.98	329	T	T	01 22 32.2	
	baz=152,slow=0.7,SNR=62						
H11N3	WAKE ISLAND Hy	39.91	330	T	T	01 23 44.2	
	baz=152,slow=0.7,SNR=19						
H11N1	WAKE ISLAND Hy	39.91	330	T	T	01 23 45.2	
	baz=152,slow=0.7,SNR=33						
H11N2	WAKE ISLAND Hy	39.93	330	T	T	01 23 45.3	
	baz=152,slow=0.7,SNR=38						
CMSA	Cobar Meteorol	40.59	239	P	P	00 41 24.2	-0.9
	baz=41,SNR=16						
QLP	Quilpie	40.96	247	P	P	00 41 27.9	-0.3
	baz=42,SNR=6.3						
COEN	Coen	42.02	266	P	P	00 41 38.2	+1.2
	baz=43,SNR=15						
STKA	Stephens Creek	44.08	240	P	P	00 41 53.0	-0.6
STKA				PcP	PcP	00 43 40.2	+1.9
STKA	Stephens Creek	44.08	240	P	P	00 41 52.9	-0.6
	baz=45,SNR=12						
STKA	Stephens Creek	44.08	240	P	P	00 41 53.0	-0.6
	8.2nm,0.7s,baz=92,slow=10.0,SNR=17						
STKA				PcP	PcP	00 43 40.2	+1.9
	1.7nm,0.6s,baz=163,slow=1.3,SNR=3.0						
STKA				LR	LR	00 58 06.3	
	comp=Z,308nm,21.7s,baz=36,slow=33						
BBOO	Buckleboo	48.85	240	P	P	00 42 29.9	-1.0
	baz=50,SNR=18						
WRAB	Tennant Creek	49.87	257	*e*P	P	00 42 37.0	-1.9
	11nm,0.6s						
WRA	Warramunga Arr	49.88	257	P	P	00 42 37.9	-1.1
WRA				PcP	PcP	00 43 59.4	+0.3
WRA	Warramunga Arr	49.88	257	P	P	00 42 37.9	-1.1
	8.5nm,0.5s,baz=90,slow=6.8,SNR=65						
WRA				PcP	PcP	00 43 59.4	+0.3
	2.6nm,0.7s,baz=90,slow=3.5,SNR=5.5						
WRA				LR	LR	01 02 24.2	
	comp=Z,530nm,20.3s,baz=100,slow=34						
AS31	Alice Springs	50.15	252	*e*P	P	00 42 39.9	-1.2
ASAR	Alice Springs	50.15	252	P	P	00 42 40.1	-0.9
ASAR	Alice Springs	50.15	252	P	P	00 42 40.1	-0.9
	13nm,0.4s,baz=86,slow=8.2,SNR=109						
ASAR				LR	LR	01 02 23.0	
	comp=Z,1μm,20.7s,baz=94,slow=34						
KDU	Kakadu	52.51	266	P	P	00 42 59.1	+0.4
	baz=53,SNR=6.1						
FORT	Forrest	55.45	243	P	P	00 43 19.6	-0.4
	baz=56,SNR=6.8						
KNRA	Kununurra	55.60	261	P	P	00 43 22.7	+1.4
	baz=56,SNR=3.5						
FITZ	Fitzroy Crossi	58.25	258	P	P	00 43 41.0	+0.9
	baz=59,SNR=5.7						
FITZ	Fitzroy Crossi	58.25	258	LR	LR	01 06 58.9	
	comp=Z,519nm,20.9s,baz=97,slow=34						
JCJ	Chichijima	60.36	314	LR	LR	01 10 44.1	
	comp=Z,228nm,18.0s,baz=141,slow=37						
VNDA	Vanda	63.40	186	P	P	00 44 15.4	+1.3
VNDA	Vanda	63.40	186	P	P	00 44 15.4	+1.3
	2.5nm,0.9s,baz=6.4,slow=6.2,SNR=11						
VNDA				LR	LR	01 06 28.2	
	comp=Z,84nm,19.1s,baz=18,slow=31						
MEEK	Meekatharra	63.85	248	P	P	00 44 17.2	-0.9
	baz=64,SNR=9.0						
KLBR	Kellerberrin	64.28	242	P	P	00 44 20.4	-0.3
	baz=65,SNR=7.4						
BLDU	Ballidu	65.23	243	P	P	00 44 26.5	-0.5
	baz=66,SNR=6.7						
ASAJ	Asahikawa	71.54	328	LR	LR	01 10 49.1	
	comp=Z,122nm,19.7s,baz=199,slow=31						
EDW2	Edwards Air Fo	72.51	45	⇓P	P	00 45 13.0	+1.0
	baz=72						
PETK	Petropavlovsk-	72.62	342	P	P	00 45 13.8	+1.6
PETK	Petropavlovsk-	72.62	342	P	P	00 45 13.8	+1.6
	3.2nm,0.8s,baz=151,slow=9.1,SNR=2.7						
LRMC	Laurel Mountai	73.04	45	⇓P	P	00 45 16.2	+0.9
	baz=73						
BELC	Belle Mtn. Jos	73.41	47	⇓P	P	00 45 17.7	+0.2
	baz=73						
MPMC	Manual Prospec	73.50	44	⇓P	P	00 45 18.6	+0.5
	baz=74						
GSC	Goldstone	73.55	45	⇑P	P	00 45 18.5	+0.2
	baz=74						
BC3	Big Chuckawall	73.62	47	⇓P	P	00 45 18.7	0.0
	baz=74						
HEC	Hector,Ludlow	73.62	46	⇓P	P	00 45 18.7	0.0
	baz=74						
GLA	Glamis	73.75	48	⇑P	P	00 45 19.9	+0.4
	baz=74						
GMRC	Granite Mounta	74.06	46	⇓P	P	00 45 21.3	-0.1
	baz=74						
IRM	Iron Mountain	74.10	47	⇑P	P	00 45 21.7	+0.2
	baz=74						
FURC	Furnace Creek,	74.15	44	⇓P	P	00 45 22.3	+0.7
	baz=74						
TUQ	Turquoise Moun	74.23	46	⇑P	P	00 45 22.6	+0.3
	baz=74						
NVAR	Mina Array Bea	74.29	42	P	P	00 45 22.8	+0.1
NVAR	Mina Array Bea	74.29	42	P	P	00 45 22.8	+0.1
	1.6nm,0.7s,baz=225,slow=8.7,SNR=9.1						
Y12C	Blythe	74.33	48	⇑P	P	00 45 22.8	+0.1
	baz=74						
113A	Mohawk Valley,	74.38	49	⇓P	P	00 45 22.7	-0.3
	baz=74						
LDFC	Landfair	74.61	46	*e*P	P	00 45 24.6	+0.2
	4.3nm,0.7s						
QSPA	South Pole Qui	74.66	180	*e*P	P	00 45 24.6	+0.3
	19nm,1.2s						
214A	Organ Pipe Nat	74.67	50	⇑P	P	00 45 24.4	-0.4
	baz=75						
PDMCI	Parker Dam,Lak	74.89	47	⇓P	P	00 45 26.0	0.0
	baz=75						
KDAK	Kodiak Island	74.90	11	P	P	00 45 26.2	+0.8
KDAK	Kodiak Island	74.90	11	P	P	00 45 26.2	+0.8
	5.5nm,0.7s,baz=180,slow=1.0,SNR=3.8						
MOD	Modoc	75.08	38	*e*P	P	00 45 26.9	-0.2
	20nm,1.1s						
MOD				*e*PcP	PcP	00 45 39.9	-0.7
Z14A	Wintersburg	75.27	49	⇑P	P	00 45 28.5	+0.3
	baz=75						
SHPR	Sheep Range	75.32	45	*e*P	P	00 45 28.4	-0.3
	6.2nm,1.2s						
W13A	Hualapai Mount	75.47	47	⇓P	P	00 45 30.1	+0.5
	baz=75						
Y14A	Wickenburg	75.51	48	⇑P	P	00 45 29.9	+0.2
	baz=75						
R11A	Troy Canyon, C	76.02	43	*e*P	P	00 45 31.8	-0.8
R11A				*e*PcP	pP	00 45 44.6	-0.5
R11A	Troy Canyon, C	76.02	43	⇑P	P	00 45 32.9	+0.3
	baz=76						
KSRS	Korea Array	76.17	316	LR	LR	01 11 36.4	
	comp=Z,133nm,21.3s,baz=272,slow=30						
TUC	Tucson	76.35	51	*e*P	P	00 45 34.7	+0.2
	3.4nm,0.9s						
TUC				*e*PcP	pP	00 45 45.1	-1.9
X16A	Lo Mia Camp, P	76.88	49	⇑P	P	00 45 38.1	+0.5
	baz=77						
319A	Douglas	77.05	52	⇑P	P	00 45 39.3	+0.8
	baz=77						
U15A	North Rim	77.26	46	⇓P	P	00 45 40.4	+0.6
	baz=77						
USRK	Ussuriysk Arra	77.39	323	LR	LR	01 14 21.7	
	comp=Z,210nm,19.5s,baz=68,slow=32						
WUAZ	Wupatki	77.46	48	⇓P	P	00 45 41.3	+0.5
	baz=77						
320A	Kipp Ranch, An	77.61	52	⇓P	P	00 45 42.6	+0.9
	baz=78						
BBB	Bella Bella	77.85	27	LR	LR	01 13 39.8	
	comp=Z,181nm,18.3s,baz=171,slow=31						
220A	Playas Peak, P	77.86	52	⇑P	P	00 45 43.2	+0.1
	baz=78,SNR=6.6						
X18A	Snowflake	78.01	49	⇑P	P	00 45 44.3	+0.4
	baz=78						
120A	U Bar Ranch, L	78.07	51	⇑P	P	00 45 45.1	+0.8
	baz=78						
MVU	Marysvale	78.36	45	*e*P	P	00 45 45.8	0.0
	3.1nm,0.6s						
Z20A	Nine Sixteen R	78.36	51	⇑P	P	00 45 46.2	+0.4
	baz=78,SNR=5.5						
BMO	Blue Mountains	78.59	37	*e*P	P	00 45 46.1	-0.6
	13nm,1.5s						
MFID	Camas Ranch	78.65	39	⇓P	P	00 45 47.6	+0.4
	baz=79						
121A	Cookes Peak, D	78.71	52	⇓P	P	00 45 48.3	+0.6
	baz=79						
DUG	Dugway	78.82	43	⇓P	P	00 45 48.3	+0.1
	baz=79,SNR=5.1						
Y20A	Horse Springs,	78.88	50	⇓P	P	00 45 49.4	+0.6
	baz=79,SNR=9.1						
X20A	Quemado	79.08	50	⇓P	P	00 45 50.3	+0.4
	baz=79,SNR=5.1						
Z21A	St. Cloud Mine	79.14	51	⇑P	P	00 45 51.2	+1.0
	baz=79,SNR=9.2						
W20A	Ramah	79.34	49	⇓P	P	00 45 52.1	+0.8
	baz=79,SNR=10.0						
Y21A	Point of Rocks	79.45	50	⇑P	P	00 45 52.7	+0.8
	baz=79						
BMRM	Bremner River	79.49	14	*e*P	P	00 45 52.1	+0.9
	9.5nm,1.0s						
X21A	Alamocita Cree	79.56	50	⇓P	P	00 45 52.7	+0.2
	baz=80						
HLID	Hailey	79.59	39	*e*P	P	00 45 52.6	+0.3
	10nm,1.2s						
HLID	Hailey	79.59	39	⇑P	P	00 45 52.6	+0.3
	baz=80,SNR=13						
Z22A	Elephant Butte	79.65	51	⇓P	P	00 45 53.3	+0.5
	baz=80						
V20A	Brimhall	79.68	48	⇓P	P	00 45 53.7	+0.6
	baz=80						
Y22A	Socorro	79.94	51	⇑P	P	00 45 54.9	+0.4
	baz=80						
324A	Moseley Ranch,	80.00	54	⇓P	P	00 45 54.5	-0.3
	baz=80						
425A	Indio Mountain	80.12	54	⇑P	P	00 45 55.7	+0.3
	baz=80,SNR=7.4						
Z23A	Rita Site, Whi	80.20	52	⇑P	P	00 45 56.1	+0.3
	baz=80						
224A	Cornudas Mount	80.24	53	⇑P	P	00 45 56.7	+0.6
	baz=80						
V21A	Milan	80.28	49	⇓P	P	00 45 56.7	+0.3
	baz=80,SNR=7.2						
626A	Big Bend Ranch	80.29	56	⇓P	P	00 45 56.3	0.0
	baz=80,SNR=6.0						
MVCO	Mesa Verde	80.31	47	⇓P	P	00 45 57.0	+0.5
	baz=80						
325A	Bean Ranch, Si	80.37	54	⇓P	P	00 45 56.9	0.0
	baz=80,SNR=8.1						
W22A	Albuquerque	80.52	50	⇓P	P	00 45 58.5	+0.9
	baz=80						
526A	Mary Lane Ranc	80.53	55	⇓P	P	00 45 58.3	+0.6
	baz=80,SNR=6.6						
U21A	Nageezi	80.55	48	⇑P	P	00 45 58.1	+0.3
	baz=80,SNR=19						
124A	Stringfield Ra	80.55	52	⇑P	P	00 45 58.4	+0.5
	baz=80						
TXAR	Lajitas Array	80.57	56	P	P	00 45 57.7	-0.2
TXAR	Lajitas Array	80.57	56	P	P	00 45 57.7	-0.2
	4.2nm,1.0s,baz=232,slow=6.1,SNR=23						
TRF	Thorofare Moun	80.60	10	*e*P	P	00 45 57.3	0.0
	7.4nm,1.0s						
Y23A	Lovelace Mesa,	80.62	51	⇓P	P	00 45 58.1	-0.1
	baz=80						
NEW	Newport	80.67	34	⇑P	P	00 45 58.0	+0.1
	baz=81						
S20A	Disappointment	80.69	47	⇑P	P	00 45 58.8	+0.3
	baz=81,SNR=5.3						
ANMO	Albuquerque	80.76	50	*e*P	P	00 45 59.0	+0.1
	4.9nm,1.0s						
225A	Deer Hill, Car	80.79	53	⇓P	P	00 45 59.4	+0.3
	baz=81						
426A	McDonald Obser	80.82	55	⇓P	P	00 45 59.4	+0.1
	baz=81,SNR=10						
627A	Terlingua Ranc	80.84	56	⇓P	P	00 45 59.4	+0.1
	baz=81,SNR=13						
R20A	Redvale	80.84	46	⇑P	P	00 45 59.2	-0.1
	baz=81						
V22A	San Miguel Ran	80.86	49	⇑P	P	00 45 59.5	+0.1
	baz=81						
M17A	Scullys Gap (B	80.88	43	⇑P	P	00 45 59.9	+0.6
	baz=81						
Z24A	Sheeppen Canyo	80.89	52	⇓P	P	00 45 59.5	-0.1
	baz=81						
T21A	Navajo Lake	80.89	48	⇑P	P	00 45 59.9	+0.3
	baz=81						
527A	Woodward Ranch	80.94	55	⇓P	P	00 45 59.9	0.0
	baz=81,SNR=7.4						
S21A	Coal Bank Pass	81.01	47	⇓P	P	00 46 00.9	+0.6
	baz=81,SNR=12						
W23A	Werner Place,	81.08	50	⇓P	P	00 46 00.9	+0.3
	baz=81						
Y24A	Capitan	81.08	51	⇓P	P	00 46 00.9	+0.3
	baz=81,SNR=11						
MCK	McKinley	81.10	11	*e*P	P	00 45 59.6	-0.2
	11nm,0.9s						
125A	Gardner Draw,	81.15	53	⇑P	P	00 46 01.1	+0.2
	baz=81						
628A	Black Gap, Mar	81.26	56	⇑P	P	00 46 01.4	-0.1
	baz=81,SNR=5.7						
Q20A	Ridgley Place,	81.26	46	⇓P	P	00 46 01.9	+0.5
	baz=81						
226B	Tecolote Peak,	81.29	53	⇓P	P	00 46 01.4	-0.2
	baz=81,SNR=8.8						
V23A	Ortiz Mt. (NFS	81.31	49	⇓P	P	00 46 02.5	+0.6
	baz=81,SNR=5.3						
O19A	Miners Draw (B	81.33	44	⇑P	P	00 46 02.7	+0.9
	baz=81						
T22A	Edith	81.35	48	⇓P	P	00 46 02.7	+0.6
	baz=81						
X24A	Lazy VL Ranch,	81.36	51	⇓P	P	00 46 02.5	+0.4
	baz=81						
Z25A	Roswell	81.36	52	⇓P	P	00 46 03.0	+0.9
	baz=81						
427A	Hayter Ranch,	81.39	55	⇑P	P	00 46 02.6	+0.4
	baz=81,SNR=5.7						
RRI2	Red Ridge	81.40	41	*e*P	P	00 46 01.5	-0.6
	10.0nm,1.1s						
L18A	Fontenelle, Gr	81.51	42	⇓P	P	00 46 03.2	+0.5
	baz=82						
528A	Cox Ranch, San	81.60	56	⇑P	P	00 46 03.4	0.0
	baz=82,SNR=6.2						
126A	Clayton Basin,	81.63	53	⇓P	P	00 46 03.4	0.0
	baz=82						
Y25A	Mesa, Roswell	81.64	52	⇑P	P	00 46 03.4	-0.1
	baz=82,SNR=5.7						
MSO	Missoula	81.64	37	⇑P	P	00 46 02.6	-0.6
	baz=82,SNR=5.1						
W24A	Lazy 6 Ranch,	81.65	50	⇑P	P	00 46 03.5	-0.2
	baz=82,SNR=5.7						
DLBC	Dease Lake	81.67	21	LR	LR	01 14 47.7	

	baz=82						
H17A	**Grant Village**	**82.39**	**40**	⇓P	**P**	**00 46 07.6**	**+0.2**
	baz=82						
ILAR	**Eielson Array**	**82.42**	**11**	P	**P**	**00 46 06.0**	**-0.7**
ILAR	**Eielson Array**	**82.42**	**11**	P	**P**	**00 46 06.0**	**-0.7**
	1.4nm,0.8s,baz=214,slow=5.5,SNR=9.7						
ILAR				LR	LR	01 15 08.8	
	comp=Z,85nm,21.0s,baz=173,slow=30						
T24B	**San Luis**	**82.47**	**48**	⇑P	**P**	**00 46 08.0**	**0.0**
	baz=82						
429A	**Davenport Ranc**	**82.49**	**56**	⇓P	**P**	**00 46 07.9**	**0.0**
	baz=82						
V25A	**Rancho No Teng**	**82.50**	**50**	⇑P	**P**	**00 46 08.2**	**+0.1**
	baz=82,SNR=11						
M20A	**Sweetwater, Wa**	**82.52**	**43**	⇑P	**P**	**00 46 08.4**	**+0.4**
	baz=82						
Z27A	**Tatum**	**82.52**	**53**	⇓P	**P**	**00 46 08.4**	**+0.3**
	baz=82						
228A	**UT Block 9, Go**	**82.53**	**54**	⇑P	**P**	**00 46 08.4**	**+0.3**
	baz=82						
X26A	**CR and CF Fran**	**82.57**	**51**	⇑P	**P**	**00 46 08.6**	**+0.2**
	baz=82						
P22A	**Eagle**	**82.61**	**46**	⇓P	**P**	**00 46 08.7**	**+0.1**
	baz=82						
R23A	**Moffat**	**82.64**	**47**	⇓P	**P**	**00 46 09.1**	**+0.2**
	baz=83						
L20A	**Wamsutter**	**82.66**	**43**	⇓P	**P**	**00 46 09.1**	**+0.4**
	baz=83,SNR=8.9						
SDCO	**Great Sand Dun**	**82.68**	**48**	*e*P	**P**	**00 46 08.9**	**-0.1**
	4.2nm,1.0s						
K19A	**Absolon Red Bu**	**82.72**	**42**	⇑P	**P**	**00 46 08.8**	**-0.2**
	baz=83						
530A	**J-C Ranch, Com**	**82.75**	**56**	⇓P	**P**	**00 46 09.5**	**+0.2**
	baz=83						
329A	**Wagon Wheel Ra**	**82.76**	**55**	⇑P	**P**	**00 46 09.4**	**+0.1**
	baz=83						
J19A	**Crowheart**	**82.79**	**42**	⇑P	**P**	**00 46 09.6**	**+0.3**
	baz=83						
128A	**Castleberry Fa**	**82.81**	**53**	⇓P	**P**	**00 46 10.1**	**+0.5**
	baz=83						
W26A	**Owens Ranch, T**	**82.82**	**51**	⇓P	**P**	**00 46 10.1**	**+0.4**
	baz=83						
S24A	**Houchin Ranch,**	**82.84**	**48**	⇑P	**P**	**00 46 10.3**	**+0.4**
	baz=83,SNR=7.1						
U25A	**Circle Dot Ran**	**82.89**	**49**	⇑P	**P**	**00 46 10.4**	**+0.3**
	baz=83,SNR=12						
K20A	**Yellowstone Ra**	**82.96**	**42**	⇓P	**P**	**00 46 10.3**	**0.0**
	baz=83						
O22A	**Kremmling**	**83.01**	**45**	⇑P	**P**	**00 46 10.9**	**+0.2**
	baz=83,SNR=9.2						
229A	**Bryant Ranch,**	**83.08**	**54**	⇓P	**P**	**00 46 11.1**	**+0.1**
	baz=83						
430A	**Baggett Ranch,**	**83.08**	**56**	⇓P	**P**	**00 46 10.7**	**-0.3**
	baz=83						
631A	**Perdido Creek**	**83.09**	**57**	⇓P	**P**	**00 46 10.8**	**-0.2**
	baz=83						
V26A	**Tequesquite Ra**	**83.10**	**50**	⇓P	**P**	**00 46 10.5**	**-0.6**
	baz=83						
M21A	**Separation Pea**	**83.12**	**44**	⇑P	**P**	**00 46 11.1**	**-0.1**
	baz=83,SNR=6.5						
MSTX	**Muleshoe**	**83.12**	**52**	⇓P	**P**	**00 46 10.8**	**-0.4**
	baz=83						
Z28A	**Tucker Farm, M**	**83.14**	**53**	⇓P	**P**	**00 46 11.4**	**0.0**
	baz=83						
P23A	**Jefferson**	**83.15**	**46**	⇓P	**P**	**00 46 12.0**	**+0.5**
	baz=83						
R24A	**Sanders Place,**	**83.17**	**47**	⇑P	**P**	**00 46 11.8**	**+0.3**
	baz=83,SNR=8.0						
T25A	**Trinidad**	**83.20**	**49**	⇑P	**P**	**00 46 11.8**	**+0.1**
	baz=83						
I19A	**Meeteetse**	**83.20**	**41**	⇑P	**P**	**00 46 11.7**	**+0.2**
	baz=83						
L21A	**Rawlins**	**83.28**	**43**	⇑P	**P**	**00 46 11.3**	**-0.7**
	baz=83						
129A	**Stewart Farms,**	**83.29**	**54**	⇓P	**P**	**00 46 11.7**	**-0.3**
	baz=83						
W27A	**Bowe Ranch, En**	**83.34**	**51**	⇑P	**P**	**00 46 11.9**	**-0.4**
	baz=83,SNR=6.9						
N22A	**Wattenberg Ran**	**83.36**	**45**	⇑P	**P**	**00 46 12.7**	**+0.2**
	baz=83,SNR=7.4						
330A	**Mertzon**	**83.36**	**55**	⇑P	**P**	**00 46 12.3**	**-0.1**
	baz=83						
U26A	**Atchley Ranch,**	**83.38**	**50**	⇑P	**P**	**00 46 12.7**	**+0.1**
	baz=83,SNR=9.5						
S25A	**Robets Cordova**	**83.40**	**48**	⇓P	**P**	**00 46 12.6**	**-0.1**
	baz=83,SNR=9.9						
Q24A	**Divide**	**83.45**	**47**	⇓P	**P**	**00 46 13.0**	**-0.1**
	baz=83,SNR=13						
J20A	**Shoshoni**	**83.46**	**42**	⇓P	**P**	**00 46 12.8**	**0.0**
	baz=83,SNR=10.0						
O23A	**Lake Granby, G**	**83.46**	**45**	⇑P	**P**	**00 46 13.2**	**+0.2**
	baz=83						
ISCO	**Idaho Springs**	**83.49**	**46**	*e*P	**P**	**00 46 12.8**	**-0.4**
	10nm,1.4s						
ISCO	**Idaho Springs**	**83.49**	**46**	⇓P	**P**	**00 46 13.0**	**-0.3**
	baz=83						
H19A	**Powell**	**83.51**	**40**	⇑P	**P**	**00 46 13.5**	**+0.5**
	baz=84,SNR=9.1						
M22A	**Cedar Creek Ra**	**83.54**	**44**	⇑P	**P**	**00 46 14.6**	**+1.2**
	baz=84						
Z29A	**Hungry Hill Ra**	**83.66**	**53**	⇓P	**P**	**00 46 14.7**	**+0.8**
	baz=84						
K21A	**Alcova**	**83.66**	**43**	⇑P	**P**	**00 46 13.4**	**-0.5**
	baz=84,SNR=6.8						
I20A	**Worland**	**83.71**	**41**	⇑P	**P**	**00 46 14.1**	**+0.1**
	baz=84,SNR=5.8						
R25A	**Fountain Ranch**	**83.72**	**48**	⇓P	**P**	**00 46 14.9**	**+0.7**
	baz=84						
N23A	**Red Feather La**	**83.75**	**45**	⇑P	**P**	**00 46 15.1**	**+0.6**
	baz=84						
632A	**Uvalde**	**83.77**	**57**	⇑P	**P**	**00 46 14.6**	**+0.1**
	baz=84						
X28A	**Dimmitt**	**83.78**	**52**	⇑P	**P**	**00 46 14.7**	**+0.1**
	baz=84						
T26A	**Comanche Natio**	**83.81**	**49**	⇓P	**P**	**00 46 14.8**	**0.0**
	baz=84						
J21A	**Lysite**	**83.86**	**42**	⇑P	**P**	**00 46 14.9**	**-0.1**
	baz=84,SNR=9.2						
532A	**Rocksprings**	**83.90**	**57**	⇓P	**P**	**00 46 15.5**	**+0.3**
	baz=84						
331A	**San Angelo**	**83.92**	**55**	⇑P	**P**	**00 46 15.3**	**0.0**
	baz=84						
L22A	**Ellis Ranch, M**	**83.93**	**44**	⇓P	**P**	**00 46 15.8**	**+0.5**
	baz=84						
130A	**Snyder**	**83.98**	**54**	⇓P	**P**	**00 46 15.6**	**0.0**
	baz=84						
O24A	**Longmont**	**84.01**	**46**	⇓P	**P**	**00 46 16.0**	**+0.3**
	baz=84						
H20A	**Greybull**	**84.05**	**41**	⇓P	**P**	**00 46 15.2**	**-0.5**
	baz=84,SNR=5.9						
U27A	**Thompson Grove**	**84.06**	**50**	⇑P	**P**	**00 46 15.3**	**-0.7**
	baz=84						
Q25A	**Bedland, Calha**	**84.07**	**47**	⇓P	**P**	**00 46 15.7**	**-0.4**
	baz=84,SNR=5.5						
S26A	**Kim**	**84.08**	**49**	⇑P	**P**	**00 46 15.6**	**-0.5**
	baz=84,SNR=5.2						
JCT	**Junction City**	**84.11**	**56**	⇑P	**P**	**00 46 16.5**	**+0.2**
	baz=84						
F19A	**Roth Farm, Mol**	**84.11**	**39**	⇑P	**P**	**00 46 16.1**	**+0.1**
	baz=84,SNR=10						
Z30A	**Sanderson Ranc**	**84.11**	**53**	⇓P	**P**	**00 46 15.7**	**-0.6**
	baz=84						
X29A	**Tulia**	**84.12**	**52**	⇓P	**P**	**00 46 16.3**	**-0.1**
	baz=84						
K22A	**Casper**	**84.15**	**43**	⇑P	**P**	**00 46 16.5**	**+0.1**
	baz=84						
I21A	**Big Trails, Te**	**84.18**	**42**	⇓P	**P**	**00 46 15.8**	**-0.6**
	baz=84,SNR=12						
231A	**Bronte**	**84.24**	**55**	⇑P	**P**	**00 46 16.5**	**-0.4**
	baz=84						
432A	**Menard**	**84.26**	**56**	⇓P	**P**	**00 46 17.5**	**+0.4**
	baz=84						
P25A	**Willow Gulch B**	**84.38**	**47**	⇓P	**P**	**00 46 18.0**	**+0.4**
	baz=84						
R26A	**Arlington**	**84.38**	**48**	⇑P	**P**	**00 46 17.3**	**-0.3**
	baz=84,SNR=9.6						
T27A	**Campo**	**84.40**	**49**	⇑P	**P**	**00 46 18.2**	**+0.4**
	baz=84						
W29A	**Amraillo**	**84.43**	**51**	⇑P	**P**	**00 46 17.4**	**-0.5**
	baz=84,SNR=5.3						
N24A	**Carr**	**84.44**	**45**	⇓P	**P**	**00 46 18.3**	**+0.4**
	baz=84						
L23A	**Garrett**	**84.45**	**44**	⇓P	**P**	**00 46 17.8**	**-0.2**
	baz=84,SNR=6.5						
332A	**Millersview**	**84.49**	**56**	⇓P	**P**	**00 46 18.4**	**+0.2**
	baz=84						
E19A	**Rath Farm, Rou**	**84.50**	**39**	⇓P	**P**	**00 46 18.2**	**+0.3**
	baz=84,SNR=7.6						
Y30A	**Stafford Cattl**	**84.52**	**53**	⇑P	**P**	**00 46 18.4**	**+0.1**
	baz=84						
J22A	**Midwest**	**84.52**	**42**	⇑P	**P**	**00 46 18.3**	**+0.1**
	baz=84						
F20A	**Billings**	**84.58**	**40**	⇑P	**P**	**00 46 18.8**	**+0.4**
	baz=85						
Q26A	**Hugo**	**84.59**	**47**	⇑P	**P**	**00 46 18.7**	**0.0**
	baz=84						
EGMT	**Eagleton**	**84.69**	**37**	*e*P	**P**	**00 46 18.4**	**-0.5**
	12nm,1.1s						
EGMT	**Eagleton**	**84.69**	**37**	⇓P	**P**	**00 46 19.4**	**+0.5**
	baz=85						
H21A	**Big Horn, Sher**	**84.72**	**41**	⇑P	**P**	**00 46 19.1**	**0.0**
	baz=85,SNR=5.2						
I22A	**9 Mile Ranch,**	**84.74**	**42**	⇑P	**P**	**00 46 19.2**	**-0.1**
	baz=85,SNR=5.3						
232A	**Coleman**	**84.75**	**55**	⇓P	**P**	**00 46 19.3**	**-0.2**
	baz=85						
X30A	**Coker Ranch, T**	**84.75**	**52**	⇑P	**P**	**00 46 19.4**	**-0.1**
	baz=85						
D19A	**Cripps Ranch,**	**84.79**	**38**	⇑P	**P**	**00 46 19.7**	**+0.3**
	baz=85,SNR=8.0						
R27A	**Eads**	**84.84**	**48**	⇑P	**P**	**00 46 19.3**	**-0.5**
	baz=85						
T28A	**Walsh**	**84.87**	**49**	⇓P	**P**	**00 46 19.5**	**-0.5**
	baz=85						
G21A	**Lodge Grass**	**84.89**	**40**	⇑P	**P**	**00 46 20.1**	**+0.2**
	baz=85						
Z31A	**Sharp Cattle R**	**84.89**	**54**	⇑P	**P**	**00 46 19.7**	**-0.4**
	baz=85						
E20A	**Meyer Farm, Mu**	**84.92**	**39**	⇑P	**P**	**00 46 20.1**	**+0.1**
	baz=85						
C19A	**Slack Wire Ran**	**84.97**	**38**	⇓P	**P**	**00 46 20.9**	**+0.7**
	baz=85						
ABTX	**Abilene, Hawle**	**85.02**	**54**	*e*P	**P**	**00 46 20.3**	**-0.5**
ABTX	**Abilene, Hawle**	**85.02**	**54**	⇓P	**P**	**00 46 20.6**	**-0.2**
	baz=85						
Y31A	**Rekieta Farm,**	**85.04**	**53**	⇑P	**P**	**00 46 20.8**	**-0.1**
	baz=85						
D20A	**Manuel Ranch,**	**85.20**	**39**	⇓P	**P**	**00 46 21.9**	**+0.5**
	baz=85,SNR=7.9						
B19A	**Brinkman Farms**	**85.38**	**37**	⇓P	**P**	**00 46 23.2**	**+0.9**
	baz=85						
Z32A	**Haskell**	**85.40**	**54**	⇑P	**P**	**00 46 22.8**	**+0.1**
	baz=85						
G22A	**Birney**	**85.46**	**41**	⇓P	**P**	**00 46 23.1**	**+0.3**
	baz=85						
T29A	**Hugoton**	**85.48**	**50**	⇓P	**P**	**00 46 22.9**	**-0.2**
	baz=85						
C20A	**Veseth Ranch,**	**85.57**	**38**	⇑P	**P**	**00 46 24.1**	**+0.9**
	baz=86						
R28A	**Tribune**	**85.57**	**48**	⇑P	**P**	**00 46 23.3**	**-0.2**
	baz=86,SNR=5.5						
E21A	**Keefer Ranch,**	**85.58**	**39**	⇓P	**P**	**00 46 23.7**	**+0.4**
	baz=86						
Y32A	**R-V Farms, Ver**	**85.69**	**53**	⇑P	**P**	**00 46 24.0**	**-0.1**
	baz=86						
A19A	**Klindworth Far**	**85.72**	**37**	⇓P	**P**	**00 46 23.7**	**-0.3**
	baz=86						
W31A	**Holland Ranch,**	**85.74**	**52**	⇑P	**P**	**00 46 24.2**	**-0.1**
	baz=86						
G23A	**Biddle**	**86.02**	**41**	⇑P	**P**	**00 46 25.9**	**+0.3**
	baz=86						
A20A	**Cobblestone Ra**	**86.17**	**37**	⇓P	**P**	**00 46 26.9**	**+0.7**
	baz=86						
F23A	**Volborg**	**86.24**	**41**	⇑P	**P**	**00 46 27.1**	**+0.5**
	baz=86						
H24A	**Dirks Ranch, A**	**86.36**	**42**	⇑P	**P**	**00 46 27.1**	**-0.2**
	baz=86						
B21A	**Ellsworth Farm**	**86.49**	**38**	⇑P	**P**	**00 46 28.2**	**+0.4**
	baz=86						
WHTX	**Lake Whitney**	**86.53**	**56**	⇑P	**P**	**00 46 28.9**	**+0.7**
	baz=86						
I25A	**Rochford**	**86.58**	**43**	⇑P	**P**	**00 46 28.7**	**+0.3**
	baz=86						
T31A	**Randall Ranch,**	**86.66**	**50**	⇑P	**P**	**00 46 29.0**	**+0.2**
	baz=86						
B22A	**Reddig Ranch S**	**87.04**	**38**	⇑P	**P**	**00 46 30.8**	**+0.3**
	baz=87						
MAW	**Mawson**	**87.82**	**199**	*e*P	**P**	**00 46 34.1**	**+0.2**
	2.3nm,1.3s						
MAW	**Mawson**	**87.82**	**199**	P	**P**	**00 46 35.2**	**+1.4**
	baz=88,SNR=5.1						
MAW	**Mawson**	**87.82**	**199**	P	**P**	**00 46 34.5**	**+0.6**
	3.0nm,0.7s,baz=123,slow=6.6,SNR=7.7						
MAW				LR	LR	01 26 28.8	
	comp=Z,177nm,19.3s,baz=267,slow=36						
PLCA	**Paso Flores**	**89.50**	**132**	LR	LR	01 17 31.3	
	comp=Z,204nm,19.5s,baz=315,slow=29						
ULM	**Lac du Bonnet**	**93.90**	**39**	LR	LR	01 23 37.2	
	comp=Z,264nm,19.9s,baz=254,slow=32						
SONM	**Songino Array**	**94.85**	**318**	LR	LR	01 23 10.6	
	comp=Z,121nm,21.6s,baz=170,slow=31						
ROSC	**El Rosal**	**99.97**	**88**	LR	LR	01 22 55.5	
	comp=Z,96nm,20.8s,baz=20,slow=30						
MKAR	**Makanchi Array**	**110.84**	**315**	PKiKP	**PKiKP**	**00 52 17.6**	**-0.3**
MKAR	**Makanchi Array**	**110.84**	**315**	PKiKP	**PKiKP**	**00 52 17.6**	**-0.3**
	0.3nm,0.6s,baz=206,slow=2.1,SNR=3.6						
KWP	**Kalwaria Pacla**	**143.41**	**342**	⇓*i*P	PKPdf	00 53 29.1	+10
MALT	**Malatya**	**143.87**	**315**	⇓*i*P	**PKPdf**	**00 53 20.3**	**-0.3**
STHS	**Stebnicka Huta**	**144.02**	**344**	*e*PKP	**PKPdf**	**00 53 19.2**	**-1.2**
KOLS	**Kolonicke sedl**	**144.17**	**342**	*e*PKP	**PKPdf**	**00 53 20.7**	**+0.1**
DPC	**Dobruska-Polom**	**144.25**	**349**	*e*PKP	**PKPdf**	**00 53 20.6**	**-0.2**
DPC				*ex*	x	00 53 31.2	
BURAR	**Bucovina Array**	**144.36**	**338**	⇓*i*P	**PKPdf**	**00 53 20.7**	**-0.4**
MOX	**Moxa**	**144.60**	**355**	*e*L	L	02 02 48.4	
	comp=Z,107nm,20.3s						
PRU	**Pruhonice**	**144.89**	**351**	*e*PKP	**PKPdf**	**00 53 22.9**	**+1.1**
PRU				*ex*	x	00 53 33.2	
CFR	**Carcaliu**	**145.20**	**333**	⇑*i*P	**PKPdf**	**00 53 24.1**	**+1.6**
VRI	**Vrincioaia**	**145.24**	**335**	⇑*i*P	**PKPdf**	**00 53 23.3**	**+0.7**
ROTZ	**Rotzenmuhle**	**145.41**	**354**	*e*PKPbc	**PKPab**	**00 53 23.8**	**+0.9**
KMBO	**Kilima Mbogo**	**145.57**	**244**	PKPbc	**PKPab**	**00 53 26.0**	**+1.1**
KMBO				*e*PKPdf	**PKiKP**	**00 53 26.5**	**-2.0**
KMBO	**Kilima Mbogo**	**145.57**	**244**	PKPbc	**PKPab**	**00 53 26.0**	**+1.1**
	comp=Z,7.7nm,0.6s,baz=152,slow=6.5,SNR=8.9						
GRF	**Grafenberg Arr**	**145.58**	**355**	*e*PKPbc	**PKPab**	**00 53 24.1**	**+0.6**
GRF				*e*L	L	02 04 20.7	
	comp=Z,114nm,18.3s						
TIRR	**Tirgusor**	**145.63**	**332**	⇓*i*P	**PKPab**	**00 53 24.0**	**+0.1**
TLB	**Topalu**	**145.70**	**332**	⇑*i*P	**PKPab**	**00 53 24.3**	**+0.2**
WLF	**Walferdange**	**145.81**	**1**	*e*PKPbc	**PKPab**	**00 53 25.0**	**+0.7**
KHC	**Kasperske Hory**	**145.86**	**352**	*e*PKP	**PKPab**	**00 53 24.6**	**-0.1**
KHC				*ex*	x	00 53 36.3	
KHC	**Kasperske Hory**	**145.86**	**352**	*e*PKPdf	**PKPab**	**00 53 24.4**	**-0.2**
MLR	**Muntele Rosu**	**145.86**	**336**	⇓*i*P	**PKPab**	**00 53 25.0**	**+0.1**
ISR	**Istrita**	**145.92**	**335**	⇓*i*P	**PKPab**	**00 53 25.6**	**+0.6**
DRGR		**145.93**	**340**	⇑*i*P	**PKPab**	**00 53 25.4**	**+0.4**
GEC2	**GERESS Array S**	**146.13**	**352**	*e*PKPbc	**PKPab**	**00 53 25.6**	**-0.1**
GERES	**GERESS Array B**	**146.13**	**352**	PKPbc	**PKPab**	**00 53 25.0**	**-0.8**
GERES	**GERESS Array B**	**146.13**	**352**	PKPbc	**PKPab**	**00 53 25.0**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=54,slow=2.3,SNR=6.0						
BR131	**Keskin Array S**	**146.16**	**321**	*e*PKPdf	**PKPab**	**00 53 26.0**	**-0.2**
BRTR	**Keskin Array B**	**146.16**	**321**	PKPbc	**PKPab**	**00 53 25.9**	**-0.4**
BRTR	**Keskin Array B**	**146.16**	**321**	PKPbc	**PKPab**	**00 53 25.8**	**-0.4**
	comp=Z,4.3nm,0.7s,baz=133,slow=1.8,SNR=22						
VOIR		**146.26**	**336**	⇑*i*P	**PKPab**	**00 53 27.1**	**+0.8**
ARR	**Arges**	**146.48**	**337**	⇓*i*P	**PKPab**	**00 53 27.8**	**+0.6**
CSNA	**Conrad Observa**	**146.66**	**349**	⇑*i*PKPdf	**PKPbc**	**00 53 25.0**	**-1.7**
	comp=Z,13nm,2.0s						
FUR	**Furstenfeldbru**	**147.08**	**354**	*e*PKPbc	**PKPab**	**00 53 28.6**	**-0.8**
SOKA	**Soboth**	**148.02**	**349**	⇑*p*PKPbc	**PKPab**	**00 53 33.2**	**0.0**
	comp=Z,7.4nm,0.9s						
NVR	**Nevrokopi**	**150.13**	**333**	*e*PN	**PKPab**	**00 53 43.0**	**+1.1**
GRG	**Griva**	**151.07**	**335**	*e*PN	**PKPdf**	**00 53 30.5**	**-1.8**
PAIG	**Paliouri**	**151.37**	**332**	*e*PN	**PKPbc**	**00 53 40.0**	**+1.2**
LIT	**Litokhoron**	**151.75**	**334**	*e*PN	**PKPbc**	**00 53 35.5**	**-4.2**
KZN	**Kozani**	**151.88**	**335**	*e*PN	PKPdf	00 53 25.5	-8.1
THL	**Klokotos Trika**	**152.40**	**334**	*e*PN	**PKPdf**	**00 53 33.5**	**-0.8**
AGG	**Agios Georgios**	**152.71**	**333**	*e*PN	**PKPbc**	**00 53 39.5**	**-2.4**
EVR	**Evrytania**	**153.02**	**333**	*e*PN	**PKPdf**	**00 53 35.5**	**+0.1**
KALE	**Kalithea**	**153.31**	**332**	*e*PN	**PKPbc**	**00 53 42.5**	**-0.8**
EFP	**Efpalio**	**153.38**	**332**	*e*PN	**PKPbc**	**00 53 39.5**	**-3.9**
DID	**Didima**	**153.50**	**329**	*e*PN	**PKPab**	**00 53 54.0**	**-2.1**
LAKA	**Lakka**	**153.51**	**332**	*e*PN	**PKPbc**	**00 53 41.5**	**-2.2**
GUR	**Goura**	**153.59**	**331**	*e*PN	**PKPbc**	**00 53 47.0**	**+3.0**
KLV	**Kalavryta, Ach**	**153.59**	**332**	*e*PN	**PKPbc**	**00 53 44.5**	**+0.6**
RLS	**Riolos of Patr**	**153.88**	**333**	*e*PN	**PKPdf**	**00 53 36.0**	**-0.5**
AMT	**Artemida-Makis**	**154.21**	**322**	*e*PB	PKPab	00 53 53.5	-5.5
VLI	**Veliai**	**154.27**	**329**	*e*PB	PKPab	00 53 52.0	-7.3
PYL	**PYLOS**	**154.71**	**331**	*e*PN	**PKPbc**	**00 53 47.5**	**+1.2**

MEX 07 00:45:40.8±0.8, 16°.57N×100°.50W, h5km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.53**	**25**	*e*P	Pg	00 45 49.6	-1.3
CAIG				*i* S	Sg	00 45 58.0	+0.2
ZIIG	**Zihuatanejo**	**1.39**	**318**	*i* P	Pn	00 46 03.9	-2.9
ZIIG				*i* S	Sb	00 46 20.1	-5.1
MEIG	**Mezcala**	**1.59**	**32**	*e*P	Pn	00 46 05.7	-4.0
MEIG				*i* S	Sn	00 46 26.5	-4.3
ARIG	**Puente Sto Nin**	**1.71**	**5**	*e*P	Pn	00 46 08.6	-2.7
ARIG				*i* S	Sn	00 46 29.0	-4.6
PLIG	**Platanillo**	**2.05**	**28**	*i* P	Pn	00 46 12.8	-3.3
PLIG				*i* S	Sn	00 46 38.2	-3.9
PNIG	**Pinotepa**	**2.28**	**94**	*i* P	Pn	00 46 15.4	-3.8
PNIG				*e*S	Sn	00 46 43.5	-4.2
YAIG	**Yautepec**	**2.66**	**31**	*i* P	Pn	00 46 21.8	-2.7
YAIG				*i* S	Sn	00 46 53.6	-3.7
PPM	**Popocatepetl**	**3.06**	**35**	*e*P	Pn	00 46 27.1	-3.4
PPM				*i* S	Sn	00 47 03.5	-4.4
MOIG	**Morelia**	**3.16**	**348**	*i* P	Pn	00 46 29.8	-1.7

MEX 07 00:48:22.0±1.0, 16°.56N×100°.47W, h18km±76km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.52**	**21**	*e*P	Pg	00 48 30.1	-2.5
CAIG				*i* S	Sg	00 48 37.7	-2.0
ACX	**Acapulco**	**0.66**	**62**	*i* P	Pg	00 48 35.2	+0.1
ACX				*i* S	Sg	00 48 44.4	+0.4
ARIG	**Puente Sto Nin**	**1.72**	**4**	*e*P	Pn	00 48 48.3	-2.8
ARIG				*i* S	Sn	00 49 07.6	-5.0
PLIG	**Platanillo**	**2.04**	**27**	*e*P	Pn	00 48 53.6	-2.1
PLIG				*i* S	Sn	00 49 17.1	-3.7
PNIG	**Pinotepa**	**2.25**	**94**	*i* P	Pn	00 48 56.1	-2.3
PNIG				*i* S	Sn	00 49 21.2	-4.6
YAIG	**Yautepec**	**2.65**	**30**	*i* P	Pn	00 49 01.3	-2.9
YAIG				*i* S	Sn	00 49 32.4	-3.6
PPM	**Popocatepetl**	**3.05**	**35**	*i* P	Pn	00 49 07.7	-2.4
PPM				*i* S	Sn	00 49 43.2	-3.4

IDC 07 00:48:24.1±0.9, 2°.11N×128°.76E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.7/23, mbtmp3.7/9, Error ellipse: s-maj=67.9km s-min=16.7km az=74.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.32**	**189**	P	P	00 53 02.4	+0.4
	1.1nm,0.6s,baz=349,slow=10,SNR=4.6						
WRA	**Warramunga Arr**	**22.59**	**166**	P	P	00 53 26.4	-0.1
	1.5nm,0.9s,baz=346,slow=10,SNR=3.8						
ASAR	**Alice Springs**	**26.11**	**169**	P	P	00 53 59.4	-0.6
	0.3nm,0.5s,baz=347,slow=8.0,SNR=4.5						
STKA	**Stephens Creek**	**35.93**	**161**	P	P	00 55 26.6	+0.2
	2.0nm,0.8s,baz=327,slow=4.4,SNR=3.8						
H11S3	**WAKE ISLAND Hy**	**40.57**	**64**	T	T	01 39 01.7	
	baz=252						
H11S2	**WAKE ISLAND Hy**	**40.58**	**64**	T	T	01 39 02.9	
	baz=252						
H11S1	**WAKE ISLAND Hy**	**40.59**	**64**	T	T	01 38 59.7	
	baz=252,SNR=6.3						
SONM	**Songino Array**	**49.48**	**340**	P	P	00 57 16.8	+0.3
	0.3nm,0.5s,baz=152,slow=7.9,SNR=3.6						
MKAR	**Makanchi Array**	**60.03**	**325**	P	P	00 58 32.7	-0.2
	1.1nm,0.7s,baz=117,slow=7.6,SNR=8.4						
KURBB	**Kurchatov Arra**	**64.19**	**327**	P	P	00 59 00.7	+0.1
	0.9nm,0.6s,baz=129,slow=6.1,SNR=11						
VNDA	**Vanda**	**81.58**	**173**	P	P	01 00 43.8	+0.5
	1.4nm,1.1s,baz=303,slow=6.9,SNR=3.9						
ILAR	**Eielson Array**	**85.68**	**25**	P	P	01 01 04.6	-0.1
	0.3nm,0.6s,baz=253,slow=6.3,SNR=3.0						
TORD	**Torodi Ar. Bea**	**125.34**	**288**	PKP	PKPdf	01 07 27.3	-0.9
	0

SIRT					*e*Sn	**Sb**	**01 23 53.0**	**+1.4**
EKAR	**Karacoban**	**1.79**	**292**		*e*P	**Pb**	**01 23 30.2**	**+0.9**
EKAR	**Karacoban**	**1.79**	**292**		*e*P	**Pb**	**01 23 30.2**	**+0.9**
SIRN	**S¯–rnak**	**1.81**	**232**		*e*P	**Pn**	**01 23 28.7**	**+1.2**
SIRN					*e*S	**Sb**	**01 23 52.6**	**+0.4**
SIRN	**S¯–rnak**	**1.81**	**232**		*e*P	**Pn**	**01 23 28.7**	**+1.2**
SIRN					*e*S	**Sb**	**01 23 52.6**	**+0.4**
GRS	**Goris**	**1.87**	**61**	⇑	*i*P	**Pg**	**01 23 32.0**	**-0.2**
GRS				⇓	*i*S	**Sg**	**01 23 56.0**	**-0.5**
GRS	**Goris**	**1.87**	**61**	⇑	P	**Pg**	**01 23 32.0**	**-0.2**
GRS					S	**Sg**	**01 23 56.0**	**-0.5**
VADZ	**Vardenis**	**1.96**	**37**		*e*P	**Pn**	**01 23 30.0**	**+0.3**
VADZ					*e*S	**Sg**	**01 23 58.0**	**-1.2**
VADZ	**Vardenis**	**1.96**	**37**		P	**Pn**	**01 23 30.0**	**+0.3**
VADZ					S	**Sg**	**01 23 58.0**	**-1.2**
KARS	**Kars**	**2.19**	**337**		*e*PN	**Pb**	**01 23 34.5**	**-1.6**
KARS	**Kars**	**2.19**	**337**		*e*Pn	**Pb**	**01 23 34.5**	**-1.6**
VRTB	**Varto-Mus**	**2.22**	**285**		*e*PN	**Pb**	**01 23 35.1**	**-1.4**
VRTB	**Varto-Mus**	**2.22**	**285**		*e*Pn	**Pb**	**01 23 35.1**	**-1.4**
MSL	**Mosul**	**2.38**	**202**		*e*PN	Pn	01 23 32.0	-3.3
	baz=19							
MSL					*i* Sn	**Sn**	**01 23 59.2**	**-5.3**
BEST	**Besiri**	**2.43**	**254**		*e*P	**Pn**	**01 23 38.1**	**+2.1**
ERZM	**Erzurum**	**2.56**	**301**		*e*P	**Pg**	**01 23 44.3**	**-1.0**
ERZM					*e*S	**Sg**	**01 24 16.9**	**-1.6**
EZM	**Erzurum**	**2.56**	**301**		*e*PN	**Pb**	**01 23 40.5**	**-1.9**
BNGB	**Bing¶ll**	**2.79**	**279**		*e*PN	**Pn**	**01 23 42.5**	**+1.5**
AKH	**Akhalkalaki**	**2.84**	**349**		P	**Pg**	**01 23 49.2**	**-1.6**
AKH					S	**Sg**	**01 24 27.5**	**-0.2**
BINT	**Bingol**	**2.92**	**276**		*e*Pn	**Pn**	**01 23 42.6**	**-0.3**
DGRG	**David-gareji**	**2.97**	**17**		P	**Pg**	**01 23 54.2**	**+1.1**
DGRG					S	**Sg**	**01 24 34.8**	**+3.1**
TBLG	**Delisi**	**3.14**	**7**		P	**Pg**	**01 23 57.5**	**+1.1**
TBLG					S	Sg	01 24 42.6	+5.5
MAZI	**Mazidag**	**3.19**	**250**		*e*PN	**Pn**	**01 23 47.9**	**+1.3**
MAZI	**Mazidag**	**3.19**	**250**		*e*Pn	**Pn**	**01 23 47.9**	**+1.3**
PTK	**Pertek**	**3.78**	**276**		*e*PN	**Pn**	**01 23 57.5**	**+2.7**
PTK	**Pertek**	**3.78**	**276**		*e*Pn	**Pn**	**01 23 57.5**	**+2.7**
ILIC	**ilic-Erzincan**	**4.47**	**283**		*e*PN	**Pn**	**01 24 06.6**	**+2.4**
ILIC	**ilic-Erzincan**	**4.47**	**283**		*e*Pn	**Pn**	**01 24 06.6**	**+2.4**
MALT	**Malatya**	**4.55**	**268**		*e*PN	**Pn**	**01 24 08.2**	**+3.0**
MALT	**Malatya**	**4.55**	**268**		*e*Pn	**Pn**	**01 24 08.3**	**+3.0**

*SZGRF **07** 01:40:39.2, 5.˚24S×36.˚05E, h33km, mb4.7, Tanzania*
*BJI **07** 01:40:45.8, 4.˚00S×34.˚80E, h5km, mB5.3/2, mb4.8/6*
*PRE **07** 01:40:46.7±4.2, 4.˚00S×34.˚89E, h10km, mb4.5*
*MOS **07** 01:40:46.9±1.0, 3.˚90S×34.˚80E, h10km, mb4.9/25, Error ellipse: s-maj=11.2km s-min=6.8km az=83.6*
*IDC **07** 01:40:47.1±0.5, 3.˚93S×34.˚72E, h0km, mb4.3/15, mb1 4.4/18, mb1mx4.3/30, mbtmp4.3/18, ML4.1/3, MS3.9/5, Ms1 3.9/5, ms1mx3.3/28, Error ellipse: s-maj=13.8km s-min=10.2km az=91.0*
*NEIC **07** 01:40:48.6±0.2, 3.˚97S×34.˚77E, h10km, mb4.7/22, Error ellipse: s-maj=7.5km s-min=4.8km az=105.0*
NEIC Felt at Haidom.
*ISCJB **07** 01:40:48.7±0.2, 3.˚90S±0.˚03×34.˚79E±0.˚03, h22km, mb4.6/52, MS3.9/3, Error ellipse: s-maj=4.7km s-min=3.9km az=0.4*

ISC 07 01:40:50.4±0.3, 3.˚98S±0.˚04×34.˚81E±0.˚04, h22km, n169, σ1§54/189, mb4.7/52, MS3.8/3, 10C-5D, Lake Victoria region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MAUS	**Longido**	**2.25**	**57**	*i*	P	**Pn**	**01 41 26.0**	**-0.5**
MAUS				*i*	S	**Sn**	**01 41 50.4**	**-3.3**
DODT	**Dodoma, Tanzan**	**2.39**	**157**	*i*	P	**Pb**	**01 41 30.6**	**-2.2**
DODT				*i*	S	**Sn**	**01 41 57.9**	**+0.8**
KMBO	**Kilima Mbogo**	**3.74**	**41**	*e*	P	**Pn**	**01 41 44.6**	**-2.4**
KMBO				*e*	S	**Sn**	**01 42 27.4**	**-3.1**
KMBO	**Kilima Mbogo**	**3.74**	**41**		Pn	**Pn**	**01 41 44.6**	**-2.4**
KMBO					Sn	**Sn**	**01 42 27.2**	**-3.3**
KMBO					Lg	Lg	01 42 41.5	
KMBO	**Kilima Mbogo**	**3.74**	**41**		Pn	**Pn**	**01 41 44.6**	**-2.4**
	12nm,0.3s,baz=214,slow=16,SNR=156							
KMBO					Sn	**Sn**	**01 42 27.2**	**-3.3**
	152nm,0.3s,baz=29,slow=21,SNR=8.2							
KMBO					Lg	Lg	01 42 41.5	
	284nm,0.3s,baz=257,slow=24,SNR=4.5							
KIG	**Kigali**	**5.14**	**293**	*e*	P	**Pn**	**01 42 05.8**	**-0.5**
KIG				*e*	S	**Sn**	**01 43 04.5**	**-0.6**
MBAR	**Mbarara**	**5.27**	**309**	*e*	P	**Pn**	**01 42 06.6**	**-1.5**
MBAR				*e*	S	**Sn**	**01 43 05.8**	**-2.4**
MBAR	**Mbarara**	**5.27**	**309**	*e*	P	**Pn**	**01 42 06.6**	**-1.5**
MBAR				*e*	S	**Sn**	**01 43 05.8**	**-2.4**
MZM	**Mzuzu**	**7.45**	**186**	*i*	P	Pn	01 42 40.9	+3.1
MZM				*i*	S	Sb	01 44 38.0	+11
LSZ	**Lusaka**	**12.98**	**210**	⇑	*i*P	**Pn**	**01 43 51.9**	**-1.9**
LSZ	**Lusaka**	**12.98**	**210**		Pn	**Pn**	**01 43 51.4**	**-2.4**
LSZ					Sn	Sn	01 46 10.3	-7.4
LSZ					Lg	Lg	01 47 30.1	
LSZ	**Lusaka**	**12.98**	**210**		Pn	**Pn**	**01 43 51.4**	**-2.4**
	1.0nm,0.3s,baz=26,slow=10,SNR=30							
LSZ					Sn	Sn	01 46 10.3	-7.4
	1.9nm,0.3s,baz=305,slow=20,SNR=1.9							
LSZ					Lg	Lg	01 47 30.1	
	6.8nm,0.3s,baz=293,slow=24,SNR=8.4							
LSZ					LR	LR	01 49 12.9	
	comp=Z,269nm,19.8s,baz=210,slow=39							
ATD	**Arta Tunnel**	**17.36**	**27**		Pn	**P**	**01 44 53.5**	**+0.9**
ATD					Lg	Lg	01 49 50.0	
ATD	**Arta Tunnel**	**17.36**	**27**		Pn	**P**	**01 44 53.5**	**+0.9**
	2.4nm,0.3s,baz=250,slow=22,SNR=7.1							
ATD					Lg	Lg	01 49 50.0	
	0.6nm,0.3s,baz=246,slow=21,SNR=3.8							
MSNA	**Messina**	**18.84**	**194**	*e*	P	**P**	**01 45 06.0**	**-3.0**
MSNA	**Messina**	**18.84**	**194**	*e*	P	**P**	**01 45 06.0**	**-3.0**
MSNA				*e*	S	**Sn**	**01 48 35.6**	**-4.3**
OPO	**Ambohidratompo**	**18.89**	**141**		P	**Pn**	**01 45 11.1**	**+0.7**
OPO					S	**S**	**01 48 46.7**	**+3.3**
OPO	**Ambohidratompo**	**18.89**	**141**		P	**Pn**	**01 45 11.1**	**+0.7**
	0.2nm,0.3s,baz=306,slow=12,SNR=4.1							
OPO					S	**S**	**01 48 46.7**	**+3.3**
	0.6nm,0.3s,baz=34,slow=15,SNR=3.3							
OPO					LR	LR	01 51 51.6	
	comp=Z,339nm,20.6s,baz=353,slow=35							
ABPO	**Ambohimpanom**	**19.25**	**142**	*e*	P	**Pn**	**01 45 14.3**	**-0.4**
ABPO					pmax	pmax		
	comp=Z,50nm,1.5s							
ABPO	**Ambohimpanom**	**19.25**	**142**	*e*	P	**Pn**	**01 45 14.3**	**-0.4**
	comp=Z,50nm,1.5s							
SLR	**Silverton**	**22.52**	**196**	*e*	P	P	01 45 43.5	-5.4
SLR					AMB	AMB	01 45 45.3	
	comp=Z,42nm,4.6s							
SLR	**Silverton**	**22.52**	**196**	*e*	P	**P**	**01 45 45.3**	**-3.7**
SLR	**Silverton**	**22.52**	**196**	*e*	P	**P**	**01 45 45.3**	**-3.7**
TSUM	**Tsumeb**	**22.63**	**227**	*e*	P	**P**	**01 45 49.4**	**-0.7**
TSUM	**Tsumeb**	**22.63**	**227**	*e*	P	**P**	**01 45 49.6**	**-0.6**
	comp=Z,21nm,0.9s							
TSUM					S	**S**	**01 49 59.3**	**+2.2**
TSUM					Lg	Lg	01 52 44.6	
TSUM	**Tsumeb**	**22.63**	**227**		P	**P**	**01 45 50.0**	**-0.1**
	comp=Z,6.5nm,0.9s,baz=46,slow=7.4,SNR=8.3							
TSUM					S	**S**	**01 49 59.3**	**+2.2**
	comp=Z,3.0nm,0.8s,baz=62,slow=6.5,SNR=1.3							
TSUM					Lg	Lg	01 52 44.6	
	comp=Z,15nm,0.9s,baz=110,slow=19,SNR=2.0							
LBTB	**Lobatse**	**22.72**	**202**	⇓	*i*P	**P**	**01 45 50.1**	**-0.9**
LBTB	**Lobatse**	**22.72**	**202**	*e*	P	**P**	**01 45 50.0**	**-0.9**
	comp=Z,28nm,1.0s							
LBTB					Lg	Lg	01 52 25.7	
LBTB	**Lobatse**	**22.72**	**202**		P	**P**	**01 45 49.5**	**-1.4**
	comp=Z,13nm,0.9s,baz=39,slow=9.9,SNR=14							
LBTB					Lg	Lg	01 52 25.7	
	comp=Z,31nm,1.1s,baz=301,slow=8.2,SNR=4.1							
LBTB					LR	LR	01 54 36.4	
	comp=Z,374nm,20.2s,baz=40,slow=36							
PRYS	**Parys**	**23.91**	**197**	*e*	P	**P**	**01 46 03.0**	**+0.1**
PRYS					AMB	AMB	01 46 03.6	
	comp=Z,22nm,1.5s							
PRYS	**Parys**	**23.91**	**197**	*e*	P	**P**	**01 46 03.0**	**+0.1**
SWZ	**Schweizer**	**24.79**	**200**	*e*	P	**P**	**01 46 10.5**	**-0.5**
SWZ					AMB	AMB	01 46 15.2	
	comp=Z,43nm,3.2s							
SWZ	**Schweizer**	**24.79**	**200**	*e*	P	**P**	**01 46 15.2**	**+4.2**
SEK	**Senekal**	**25.16**	**195**	*e*	P	**P**	**01 46 14.5**	**+0.1**
SEK					AMB	AMB	01 46 16.3	
	comp=Z,34nm,1.2s							
SEK	**Senekal**	**25.16**	**195**	*e*	P	**P**	**01 46 14.5**	**+0.1**
WIN	**Windhoek**	**25.21**	**221**	*e*	P	**P**	**01 46 15.6**	**+0.6**
WIN					AMB	AMB	01 46 18.5	
	comp=Z,11nm,1.9s							
WIN	**Windhoek**	**25.21**	**221**	*e*	P	**P**	**01 46 15.6**	**+0.6**
BOSA	**Boshof**	**26.13**	**199**	*e*	P	**P**	**01 46 19.8**	**-3.4**
BOSA	**Boshof**	**26.13**	**199**		P	**P**	**01 46 22.6**	**-0.5**
BOSA					Lg	Lg	01 54 17.1	
BOSA	**Boshof**	**26.13**	**199**		P	**P**	**01 46 22.6**	**-0.5**
	comp=Z,19nm,1.1s,baz=26,slow=10,SNR=9.5							
BOSA					Lg	Lg	01 54 17.1	
	comp=Z,20nm,0.9s,baz=272,slow=22,SNR=3.1							
UPI	**Upington**	**27.47**	**207**	*e*	P	**P**	**01 46 36.5**	**+1.4**
UPI					AMB	AMB	01 46 44.4	
	comp=Z,59nm,3.5s							
UPI	**Upington**	**27.47**	**207**	*e*	P	**P**	**01 46 36.5**	**+1.4**
HVD	**Gariep Dam**	**27.91**	**197**	*e*	P	**P**	**01 46 34.8**	**-4.3**
HVD	**Gariep Dam**	**27.91**	**197**	*e*	P	**P**	**01 46 34.8**	**-4.3**
HVD	**Gariep Dam**	**27.91**	**197**	*e*	P	**P**	**01 46 34.8**	**-4.3**
SUR	**Sutherland**	**31.15**	**203**		Lg	Lg	01 56 53.7	
	comp=Z,24nm,1.1s,baz=304,slow=10,SNR=3.4							
SUR					LR	LR	01 58 38.0	
	comp=Z,183nm,19.0s,baz=56,slow=34							
TORD	**Torodi Ar. Bea**	**37.02**	**298**		P	**P**	**01 47 58.5**	**-0.4**
TORD					PcP	**PcP**	**01 50 18.6**	**-1.1**
TORD	**Torodi Ar. Bea**	**37.02**	**298**		P	**P**	**01 47 58.5**	**-0.4**
	comp=Z,4.3nm,1.0s,baz=109,slow=9.0,SNR=18							
TORD					PcP	**PcP**	**01 50 18.6**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=116,slow=5.3,SNR=3.0							
CSS	**Prodhromos**	**38.76**	**358**	*e*	P	**P**	**01 48 13.3**	**0.0**
	comp=Z,13nm,1.0s							
TAM	**Tamanrasset**	**39.06**	**314**	*e*	P	**P**	**01 48 16.2**	**0.0**
TAM					pmax	pmax		
	comp=Z,37nm,2.5s							
TAM	**Tamanrasset**	**39.06**	**314**	*e*	P	**P**	**01 48 16.2**	**0.0**
	comp=Z,36nm,2.5s							
DBIC	**Dimbokro**	**40.99**	**285**	*e*	P	**P**	**01 48 32.3**	**+0.2**
	comp=Z,17nm,1.2s							
DBIC	**Dimbokro**	**40.99**	**285**		P	**P**	**01 48 32.7**	**+0.6**
	comp=Z,9.6nm,1.1s,baz=98,slow=9.2,SNR=4.1							
BR131	**Keskin Array S**	**43.50**	**359**	*e*	P	**P**	**01 48 52.2**	**-0.1**
BRTR	**Keskin Array B**	**43.50**	**359**		P	**P**	**01 48 52.9**	**+0.5**
BRTR					PcP	**PcP**	**01 50 40.2**	**+0.1**
BRTR	**Keskin Array B**	**43.50**	**359**		P	**P**	**01 48 52.9**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=172,slow=10.0,SNR=7.8							
BRTR					PcP	**PcP**	**01 50 40.2**	**+0.1**
	comp=Z,2.4nm,1.0s,baz=151,slow=2.8,SNR=5.9							
KEST	**Kesra**	**46.15**	**331**	*e*	P	**P**	**01 49 14.2**	**+0.7**
PALK	**Pallekele**	**47.14**	**76**	*e*	P	**P**	**01 49 22.4**	**+0.8**
	comp=Z,23nm,1.1s							
KBZ	**Khabaz**	**48.04**	**8**		P	**P**	**01 49 28.6**	**+0.6**
KBZ							01 50 56.0	
KBZ	**Khabaz**	**48.04**	**8**		P	**P**	**01 49 28.6**	**+0.6**
KBZ					PcP	**PcP**	**01 50 56.0**	**+0.3**
KBZ	**Khabaz**	**48.04**	**8**		P	**P**	**01 49 28.6**	**+0.6**
	comp=Z,0.8nm,0.4s,baz=193,slow=3.9,SNR=4.7							
KBZ					PcP	**PcP**	**01 50 56.0**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=237,slow=2.9,SNR=3.6							
KIV	**Kislovodsk**	**48.24**	**8**	⇓	*e*P	**P**	**01 49 31.7**	**+2.1**
KIV					pmax	pmax		
	comp=Z,7.0nm,1.0s							
GCIS	**Gornji Cirnik**	**52.48**	**343**	*i*	P	**P**	**01 50 02.6**	**+1.0**
GOLS	**Golise**	**52.61**	**343**	*i*	P	**P**	**01 50 03.8**	**+1.2**
VOJS	**Vojsko**	**53.15**	**342**	*e*	P	**P**	**01 50 07.0**	**+0.4**
PSZ	**Piszkesteto**	**53.31**	**348**	*e*	P	**P**	**01 50 07.6**	**-0.2**
PSZ					pmax	pmax		
	comp=Z,9.0nm,1.2s							
PSZ	**Piszkesteto**	**53.31**	**348**	*e*	P	**P**	**01 50 07.6**	**-0.2**
	comp=Z,9.3nm,1.2s							
PERS	**Pernice**	**53.32**	**343**	*e*	P	**P**	**01 50 08.7**	**+0.8**
SOKA	**Soboth**	**53.39**	**343**	⇑	*i*P	**P**	**01 50 09.1**	**+0.8**
	comp=Z,12nm,1.2s							
UZH	**Uzhgorod**	**53.52**	**350**	*e*	P	**P**	**01 50 07.7**	**-1.5**
ARSA	**Arzberg**	**53.77**	**344**	⇑	*i*P	**P**	**01 50 12.3**	**+1.2**
	comp=Z,8.2nm,1.1s							
KOLS	**Kolonicke sedl**	**53.81**	**350**	*e*	P	**P**	**01 50 11.1**	**-0.3**
KOLS	**Kolonicke sedl**	**53.81**	**350**	*e*	P	**P**	**01 50 11.1**	**-0.3**
KBA	**Koelnbreinsper**	**54.25**	**342**	⇑	*i*P	**P**	**01 50 15.4**	**+0.6**
	comp=Z,8.4nm,1.4s							
CONA	**Conrad Observa**	**54.30**	**344**	⇑	*i*P	**P**	**01 50 15.7**	**+0.7**
	comp=Z,11nm,1.1s							
KIEV	**Kiev**	**54.67**	**356**	*e*	P	**P**	**01 50 17.2**	**-0.3**
KIEV					pmax	pmax		
	comp=Z,4.0nm,0.8s							
KIEV	**Kiev**	**54.67**	**356**	*e*	P	**P**	**01 50 17.2**	**-0.3**
	comp=Z,3.6nm,0.8s							
MOA	**Molln**	**54.67**	**343**	⇑	*i*P	**P**	**01 50 18.0**	**+0.4**
	comp=Z,11nm,1.2s							
AKASG	**Malin Array Be**	**54.67**	**356**		P	**P**	**01 50 16.6**	**-1.0**
AKASG	**Malin Array Be**	**54.67**	**356**		P	**P**	**01 50 16.6**	**-1.0**
AKASG	**Malin Array Be**	**54.67**	**356**		P	**P**	**01 50 16.6**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=179,slow=6.3,SNR=11							
BNI	**Bardonecchia**	**54.90**	**336**	*e*	P	**P**	**01 50 19.3**	**-0.2**
BNI					pmax	pmax		
	comp=Z,8.0nm,1.1s							
BNI	**Bardonecchia**	**54.90**	**336**	*e*	P	**P**	**01 50 19.3**	**-0.2**
	comp=Z,8.2nm,1.1s							
FETA	**Feichten**	**55.05**	**340**	⇑	*i*P	**P**	**01 50 21.0**	**+0.4**
	comp=Z,6.8nm,1.1s							
OKC	**Ostrava-Krasne**	**55.51**	**347**	*e*	P	**P**	**01 50 23.4**	**-0.2**
DAVA	**Damuels**	**55.57**	**340**	⇑	*i*P	**P**	**01 50 24.1**	**-0.2**
	comp=Z,12nm,1.1s							
MORC	**Moravsky Berou**	**55.59**	**347**	*e*	P	**P**	**01 50 23.6**	**-0.7**
MORC					pmax	pmax		
	comp=Z,28nm,2.0s							
MORC	**Moravsky Berou**	**55.59**	**347**	*e*	P	**P**	**01 50 23.6**	**-0.7**
	comp=Z,28nm,2.0s							
TREC	**Trest**	**55.65**	**345**	*e*	P	**P**	**01 50 24.3**	**-0.4**
GEC2	**GERESS Array S**	**55.73**	**343**	*e*	P	**P**	**01 50 25.7**	**+0.3**
GEC2					pmax	pmax		
	comp=Z,13nm,1.2s							
GEC2	**GERESS Array S**	**55.73**	**343**	*e*	P	**P**	**01 50 25.7**	**+0.3**
	comp=Z,13nm,1.2s							
GERES	**GERESS Array B**	**55.73**	**343**		P	**P**	**01 50 24.8**	**-0.6**
GERES	**GERESS Array B**	**55.73**	**343**		P	**P**	**01 50 24.8**	**-0.6**
	comp=Z,5.1nm,1.0s,baz=153,slow=6.7,SNR=24							
KHC	**Kasperske Hory**	**56.02**	**343**	*e*	P	**P**	**01 50 26.5**	**-0.9**
KHC					pmax	pmax		
	comp=Z,8.0nm,1.0s							
KHC	**Kasperske Hory**	**56.02**	**343**	*e*	P	**P**	**01 50 26.6**	**-0.9**
KHC				*e*	pP	**pP**	**01 50 31.3**	**-3.1**
KHC	**Kasperske Hory**	**56.02**	**343**	*e*	P	**P**	**01 50 26.5**	**-0.9**
	comp=Z,8.1nm,1.0s							
ESDC	**Sonseca Array**	**56.19**	**324**		P	**P**	**01 50 29.1**	**+0.2**
ESDC	**Sonseca Array**	**56.19**	**324**		P	**P**	**01 50 29.1**	**+0.2**
	comp=Z,3.6nm,0.9s,baz=134,slow=7.4,SNR=17							
DPC	**Dobruska-Polom**	**56.41**	**346**	*e*	P	**P**	**01 50 29.8**	**-0.4**
DPC				*e*	pP	**pP**	**01 50 34.6**	**-2.5**
KK31	**Karatay Array**	**56.88**	**31**	*i*	P	**P**	**01 50 33.7**	**+0.1**
KK31					pmax	pmax		
	comp=Z,10.0nm,1.2s							
KKAR	**Karatay Array**	**56.88**	**31**	*e*	P	**P**	**01 50 33.5**	**-0.1**
KKAR					pmax	pmax		
	comp=Z,10.0nm,1.1s							
KKAR	**Karatay Array**	**56.88**	**31**	*e*	P	**P**	**01 50 33.5**	**-0.1**
	comp=Z,9.9nm,1.1s							
GRF	**Grafenberg Arr**	**57.22**	**342**	*e*	P	**P**	**01 50 36.0**	**+0.1**
GRF					pmax	pmax		
	comp=Z,8.0nm,1.1s							
GRF	**Grafenberg Arr**	**57.22**	**342**	*e*	P	**P**	**01 50 36.0**	**+0.1**
	comp=Z,8.0nm,1.1s							
ABKAR	**Akbulak array**	**57.34**	**19**	*e*	P	**P**	**01 50 36.6**	**-0.1**
EKS2	**Erkin-Say**	**58.29**	**33**	*e*	P	**P**	**01 50 43.5**	**-0.2**
EKS2					pmax	pmax		
	comp=Z,10.0nm,1.7s							
EKS2	**Erkin-Say**	**58.29**	**33**	*e*	P	**P**	**01 50 43.5**	**-0.2**
	comp=Z,9.8nm,1.7s							
AAK	**Ala-Archa**	**58.66**	**33**	*d*	iP	**P**	**01 50 46.7**	**+0.3**
AAK					pmax	pmax		
	comp=Z,21nm,1.6s							
AAK	**Ala-Archa**	**58.66**	**33**	*e*	P	**P**	**01 50 46.3**	**-0.1**
	comp=Z,11nm,1.4s							
OBN	**Obninsk**	**58.90**	**1**	⇓	*e*P	**P**	**01 50 49.4**	**+1.9**
OBN					*e*S	**S**	**01 58 57.2**	**+5.1**
OBN					pmax	pmax		
	comp=Z,7.0nm,1.2s							
WLF	**Walferdange**	**58.90**	**339**	*e*	P	**P**	**01 50 47.3**	**-0.4**
WLF	**Walferdange**	**58.90**	**339**	*e*	P	**P**	**01 50 47.3**	**-0.4**
TKM2	**Tokmak 2**	**59.46**	**34**		P	**P**	**01 50 51.7**	**-0.2**
TKM2					pmax	pmax		
	comp=Z,13nm,1.2s							
TKM2	**Tokmak 2**	**59.46**	**34**	*e*	P	**P**	**01 50 51.6**	**-0.4**
	comp=Z,14nm,1.2s							
ARU	**Arti**	**63.26**	**15**	*c*	*i*P	**P**	**01 51 17.3**	**+0.2**
ARU							01 53 33.1	
ARU					S	**S**	**01 59 51.7**	**+4.1**
ARU					SS	**SS**	**02 03 52.7**	**-1.6**
ARU					pmax	pmax		
	comp=Z,5.0nm,1.0s							
BRVK	**Borovoye**	**64.19**	**23**	⇑	*e*P	**P**	**01 51 24.7**	**+1.4**
BRVK					pmax	pmax		
	comp=Z,4.0nm,1.2s							
KLMR	**Klimovskoe**	**64.75**	**3**	*e*	P	P	01 51 22.2	-4.5
KLMR					pmax	pmax		
	comp=Z,40nm,1.7s							
MK31	**Makanchi Array**	**65.59**	**34**	*i*	P	**P**	**01 51 32.1**	**-0.6**
MK31					pmax	pmax		
	comp=Z,5.0nm,0.7s							
MK31	**Makanchi Array**	**65.59**	**34**	*e*	P	**P**	**01 51 32.0**	**-0.6**
MKAR	**Makanchi Array**	**65.59**	**34**		P	**P**	**01 51 32.3**	**-0.4**
MKAR	**Makanchi Array**	**65.59**	**34**		P	**P**	**01 51 32.2**	**-0.4**
MKAR	**Makanchi Array**	**65.59**	**34**		P	**P**	**01 51 32.3**	**-0.4**
	comp=Z,4.1nm,0.8s,baz=233,slow=5.7,SNR=14							
KURK	**Kurchatov**	**66.14**	**29**	*d*	iP	**P**	**01 51 36.4**	**+0.4**
KURK					pmax	pmax		
	comp=Z,8.0nm,1.4s							
KURK	**Kurchatov**	**66.14**	**29**	*e*	P	**P**	**01 51 36.0**	**0.0**
	comp=Z,7.6nm,1.3s							
MAW	**Mawson**	**66.36**	**169**		P	**P**	**01 51 38.2**	**+1.1**
MAW	**Mawson**	**66.36**	**169**		P	**P**	**01 51 38.2**	**+1.1**
	comp=Z,2.4nm,0.9s,baz=321,slow=9.8,SNR=4.1							
IPM	**Ipoh**	**66.69**	**83**	*e*	P	**P**	**01 51 40.5**	**+0.2**
CHTO	**Chiang Mai**	**67.03**	**68**	*e*	P	**P**	**01 51 42.5**	**+0.1**
CHTO					pmax	pmax		
	comp=Z,11nm,0.6s							
CHTO	**Chiang Mai**	**67.03**	**68**	*e*	P	**P**	**01 51 42.5**	**+0.1**
	comp=Z,11nm,0.6s							
NOA	**NORSAR Array B**	**67.37**	**348**		P	**P**	**01 51 43.6**	**-0.1**
NOA	**NORSAR Array B**	**67.37**	**348**		P	**P**	**01 51 43.6**	**-0.1**
	comp=Z,3.9nm,1.0s,baz=157,slow=5.7,SNR=3.9							
NVS	**Novosibirsk**	**70.93**	**27**	*i*	P	**P**	**01 52 06.3**	**+0.5**
ZAA0	**Zalesovo Array**	**71.13**	**29**	*e*	P	**P**	**01 52 06.3**	**-0.8**
ZALV	**Zalesovo Beam**	**71.13**	**29**		P	**P**	**01 52 06.3**	**-0.8**
ZALV	**Zalesovo Beam**	**71.13**	**29**		P	**P**	**01 52 06.2**	**-0.8**
ZALV	**Zalesovo Beam**	**71.13**	**29**		P	**P**	**01 52 06.2**	**-0.8**
	comp=Z,2.5nm,0.8s,baz=249,slow=6.2,SNR=12							
SNAA	**Sanae**	**71.62**	**192**	*e*	P	**P**	**01 52 10.1**	**+0.2**
	comp=Z,5.6nm,1.2s							
VNA2	**Neumayer--Watz**	**72.06**	**193**	*e*	P	**P**	**01 52 14.8**	**+2.4**
VNA1	**Neumayer--Stat**	**72.07**	**194**	*e*	P	P	01 52 15.3	+2.9
GTA	**Gaotai**	**73.56**	**47**	*e*	P	**P**	**01 52 23.1**	**+1.0**
GTA					pP	**pP**	**01 52 28.4**	**-0.9**
GTA					sP	**sP**	**01 52 31.3**	**-0.6**
GTA					AMB	AMB		
	comp=Z,9.0nm,0.9s							
SONM	**Songino Array**	**80.71**	**40**		P	**P**	**01 53 03.4**	**+1.3**
SONM	**Songino Array**	**80.71**	**40**		P	**P**	**01 53 03.4**	**+1.3**
	comp=Z,2.3nm,0.9s,baz=250,slow=5.2,SNR=15							
ULN	**Ulaanbaatar**	**81.14**

Error ellipse: s-maj=8.6km s-min=4.0km az=141.0
*ISCJB **07** 02:09:01.1±0.2, 16°21S±0.07×173°69W±0.05, h33km, mb4.8/68, MS4.3/10, Error ellipse: s-maj=10.7km s-min=6.0km az=153.4*
*MOS **07** 02:09:04.6±1.1, 15°32S×173°56W, h33km, mb5.0/17, Error ellipse: s-maj=20.1km s-min=11.2km az=48.2*
*SZGRF **07** 02:09:05.5, 15°85S×172°78W, h33km, Samoa Islands region*
ISC 07 02:09:06.5±0.3, 16°38S±0.09×173°54W±0.07, h66km, n508, σ0°79/516, mb4.8/68, 118C-136D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**2.98**	**35**	*e*Pn		Pn	02 09 26.3	-25
AFI	**Afiamalu**	**2.98**	**35**	LR		LR	02 10 40.9	
	comp=Z,2μm,19.2s,baz=166,slow=36							
MSVF	**Nonsavu**	**8.16**	**259**	*e*P		Pn	02 11 08.4	+6.0
MSVF	**Nonsavu**	**8.16**	**259**	*e*Pn		Pn	02 11 08.4	+6.0
RAR	**Rarotonga**	**13.89**	**112**	*e*Pn		Pn	02 12 12.1	-8.2
DZM	**Mont Dzumac**	**19.73**	**250**	*e*P		P	02 13 25.1	-5.9
	115nm,1.6s							
DZM				*e*LR		LR	02 17 56.9	
	1μm,25.5s							
PPT	**Papeete**	**22.94**	**96**	LR		LR	02 21 13.1	
	comp=Z,140nm,21.0s,baz=213,slow=32							
PPT2	**Papeete2**	**22.94**	**96**	*e*S		**S**	**02 18 14.1**	**+3.3**
	478nm,24.5s							
PPT2				*e*LR		LR	02 19 18.0	
	382nm,26.2s							
URZ	**Urewera**	**23.30**	**199**	P		**P**	**02 14 08.6**	**-0.1**
URZ	**Urewera**	**23.30**	**199**	P		**P**	**02 14 08.6**	**-0.1**
	24nm,0.9s,baz=177,slow=1.4,SNR=6.5							
TBI	**Tubuai**	**23.66**	**111**	*e*S		**S**	**02 18 21.9**	**-0.2**
	402nm,27.2s							
TBI				*e*LR		LR	02 19 45.4	
	324nm,27.2s							
PMG	**Port Moresby**	**38.88**	**275**	*e*P		**P**	**02 16 23.4**	**-2.4**
	27nm,1.2s							
H11S2	**WAKE ISLAND Hy**	**39.73**	**330**	T		T	02 59 03.1	
	baz=152,slow=0.7,SNR=4.3							
H11S3	**WAKE ISLAND Hy**	**39.75**	**330**	T		T	02 58 37.3	
	baz=152,slow=0.7,SNR=3.5							
H11S1	**WAKE ISLAND Hy**	**39.75**	**330**	T		T	02 58 56.2	
	baz=152,slow=0.7,SNR=3.0							
H11N3	**WAKE ISLAND Hy**	**40.70**	**331**	T		T	03 00 06.1	
	baz=152,slow=0.7,SNR=5.5							
H11N1	**WAKE ISLAND Hy**	**40.70**	**331**	T		T	03 00 02.6	
	baz=152,slow=0.7,SNR=6.1							
H11N2	**WAKE ISLAND Hy**	**40.71**	**331**	T		T	03 00 04.7	
	baz=152,slow=0.7,SNR=6.2							
COEN	**Coen**	**41.80**	**267**	*e*P		**P**	**02 16 48.2**	**-1.7**
STKA	**Stephens Creek**	**43.44**	**241**	*e*P		**P**	**02 17 01.6**	**-1.5**
	2.1nm,1.1s							
STKA	**Stephens Creek**	**43.44**	**241**	P		**P**	**02 17 01.7**	**-1.5**
	3.5nm,0.8s,baz=104,slow=12,SNR=4.2							
WRAB	**Tennant Creek**	**49.49**	**258**	*e*P		**P**	**02 17 49.5**	**-1.2**
WRAB				pmax		pmax		
	comp=Z,10.0nm,1.4s							
WRAB	**Tennant Creek**	**49.49**	**258**	*e*P		**P**	**02 17 49.5**	**-1.2**
	comp=Z,10nm,1.4s							
WRA	**Warramunga Arr**	**49.50**	**258**	P		**P**	**02 17 49.4**	**-1.4**
WRA				PcP		**PcP**	**02 19 11.8**	**-0.2**
WRA	**Warramunga Arr**	**49.50**	**258**	P		**P**	**02 17 49.4**	**-1.4**
	comp=Z,2.6nm,1.0s,baz=92,slow=7.7,SNR=6.3							
WRA				PcP		**PcP**	**02 19 11.8**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=101,slow=3.0,SNR=5.7							
AS31	**Alice Springs**	**49.69**	**253**	*e*P		**P**	**02 17 50.5**	**-1.7**
ASAR	**Alice Springs**	**49.69**	**253**	P		**P**	**02 17 50.5**	**-1.8**
ASAR	**Alice Springs**	**49.69**	**253**	P		**P**	**02 17 50.5**	**-1.8**
	comp=Z,5.8nm,0.7s,baz=88,slow=8.3,SNR=45							
SBA	**Scott Base**	**62.27**	**185**	*e*P		**P**	**02 19 23.4**	**+2.3**
SBA	**Scott Base**	**62.27**	**185**	*e*P		**P**	**02 19 23.4**	**+2.3**
VNDA	**Vanda**	**62.40**	**186**	*e*P		**P**	**02 19 23.5**	**+1.5**
	comp=Z,18nm,1.6s							
VNDA	**Vanda**	**62.40**	**186**	P		**P**	**02 19 23.1**	**+1.2**
	comp=Z,2.6nm,0.9s,baz=14,slow=6.3,SNR=9.0							
VNDA				LR		LR	02 39 38.1	
	comp=Z,76nm,20.7s,baz=349,slow=29							
MAJO	**Matsushiro**	**69.60**	**320**	*e*P		**P**	**02 20 06.9**	**-1.9**
MAJO				pmax		pmax		
	comp=Z,5.0nm,0.5s							
MAJO	**Matsushiro**	**69.60**	**320**	*e*P		**P**	**02 20 06.9**	**-1.9**
	comp=Z,4.9nm,0.5s							
PKM	**Peak Mountain**	**72.10**	**44**	⇓P		**P**	**02 20 23.8**	**-0.4**
	baz=72							
SAO	**San Andreas Ge**	**72.14**	**42**	*e*P		**P**	**02 20 24.8**	**+0.6**
SAO				pmax		pmax		
	comp=Z,17nm,1.0s							
SAO	**San Andreas Ge**	**72.14**	**42**	*e*P		**P**	**02 20 24.8**	**+0.6**
	comp=Z,16nm,1.0s							
CIS	**Catalina Islan**	**72.21**	**46**	⇑P		**P**	**02 20 24.7**	**0.0**
	baz=72							
SMMC	**Simmler**	**72.22**	**44**	⇓P		**P**	**02 20 25.1**	**+0.3**
	baz=72							
MWC	**Mount Wilson**	**72.91**	**46**	*e*P		**P**	**02 20 28.8**	**-0.2**
MWC				pmax		pmax		
	comp=Z,15nm,1.0s							
MWC	**Mount Wilson**	**72.91**	**46**	*e*P		**P**	**02 20 28.8**	**-0.2**
	comp=Z,14nm,1.0s							
VES	**Vestal, Richgr**	**73.14**	**44**	⇓P		**P**	**02 20 30.5**	**+0.4**
	baz=73							
BFSC	**Mount Baldy Ra**	**73.19**	**46**	⇓P		**P**	**02 20 30.4**	**-0.2**
	baz=73							
MONP	**Monument Peak**	**73.32**	**48**	⇑P		**P**	**02 20 30.8**	**-0.7**
	baz=73							
EDW2	**Edwards Air Fo**	**73.32**	**45**	⇓P		**P**	**02 20 30.5**	**-0.9**
	baz=73,SNR=11							
ISA	**Isabella**	**73.44**	**44**	*e*P		**P**	**02 20 30.6**	**-1.4**
ISA				pmax		pmax		
	comp=Z,14nm,1.2s							
ISA	**Isabella**	**73.44**	**44**	*e*P		**P**	**02 20 30.6**	**-1.4**
	comp=Z,14nm,1.2s							
ISA	**Isabella**	**73.44**	**44**	⇓P		**P**	**02 20 31.5**	**-0.5**
	baz=74,SNR=8.7							
CMB	**Columbia Colle**	**73.58**	**41**	*e*P		**P**	**02 20 32.3**	**-0.4**
CMB				pmax		pmax		
	comp=Z,9.0nm,1.1s							
CMB	**Columbia Colle**	**73.58**	**41**	*e*P		**P**	**02 20 32.3**	**-0.4**
	comp=Z,8.6nm,1.1s							
QSPA	**South Pole Qui**	**73.67**	**180**	*e*P		**P**	**02 20 33.6**	**+0.6**
	comp=Z,8.0nm,0.9s							
PFO	**Pinyon Flat Ob**	**73.68**	**47**	*e*P		**P**	**02 20 32.9**	**-0.6**
	comp=Z,7.4nm,1.1s							
PFO	**Pinyon Flat Ob**	**73.68**	**47**	⇑P		**P**	**02 20 32.9**	**-0.6**
	baz=74							
PFO	**Pinyon Flat Ob**	**73.68**	**47**	P		**P**	**02 20 32.8**	**-0.8**
	comp=Z,3.6nm,1.0s,baz=283,slow=5.0,SNR=5.2							
OHCM	**Honcut**	**73.69**	**40**	*e*P		**P**	**02 20 33.5**	**+0.3**
SWSC	**Sam W. Stewart**	**73.79**	**48**	⇓P		**P**	**02 20 33.8**	**-0.2**
	baz=74							
LRMC	**Laurel Mountai**	**73.86**	**45**	⇓P		**P**	**02 20 33.8**	**-0.8**
	baz=74,SNR=6.3							
CWC	**Cottonwood Cre**	**74.14**	**44**	⇑P		**P**	**02 20 36.0**	**-0.2**
	baz=74							
BELC	**Belle Mtn. Jos**	**74.21**	**47**	⇑P		**P**	**02 20 36.1**	**-0.6**
	baz=74,SNR=5.5							
YSS	**Yuzh-Sakhalins**	**74.27**	**331**	*e*P		**P**	**02 20 34.0**	**-2.4**
YSS				*e*			02 30 08.0	
MPMC	**Manual Prospec**	**74.32**	**44**	⇑P		**P**	**02 20 36.8**	**-0.5**
	baz=74,SNR=17							
MTUM	**Tungsten Hills**	**74.35**	**43**	*e*P		**P**	**02 20 37.5**	**+0.1**
GSC	**Goldstone**	**74.36**	**45**	*e*P		**P**	**02 20 37.0**	**-0.5**
GSC	**Goldstone**	**74.36**	**45**	*e*P		**P**	**02 20 37.0**	**-0.5**
GSC	**Goldstone**	**74.36**	**45**	⇑P		**P**	**02 20 36.9**	**-0.5**
	baz=74,SNR=8.1							
BC3	**Big Chuckawall**	**74.41**	**47**	⇓P		**P**	**02 20 37.6**	**-0.2**
	baz=74							
HEC	**Hector,Ludlow**	**74.43**	**46**	⇑P		**P**	**02 20 37.2**	**-0.6**
	baz=74,SNR=9.8							
YBH	**Yreka Blue Hor**	**74.45**	**37**	*e*P		**P**	**02 20 36.8**	**-1.0**
	comp=Z,19nm,1.2s							
GLA	**Glamis**	**74.54**	**48**	⇑P		**P**	**02 20 38.2**	**-0.2**
	baz=75							
BEKR	**Beckworth**	**74.70**	**40**	*e*P		**P**	**02 20 38.9**	**-0.5**
	comp=Z,5.3nm,1.4s							
GMRC	**Granite Mounta**	**74.87**	**46**	⇓P		**P**	**02 20 40.2**	**-0.2**
	baz=75							
HUMO	**Hull Mountain**	**74.87**	**36**	*e*P		**P**	**02 20 39.8**	**-0.3**
	comp=Z,42nm,1.8s							
IRM	**Iron Mountain**	**74.89**	**47**	⇓P		**P**	**02 20 40.0**	**-0.4**
	baz=75,SNR=8.7							
FURC	**Furnace Creek,**	**74.97**	**44**	⇑P		**P**	**02 20 40.4**	**-0.3**
	baz=75							
TUQ	**Turquoise Moun**	**75.04**	**46**	⇓P		**P**	**02 20 40.8**	**-0.6**
	baz=75,SNR=5.4							
Y12C	**Blythe**	**75.12**	**48**	⇓P		**P**	**02 20 41.4**	**-0.3**
	baz=75							
NVAR	**Mina Array Bea**	**75.14**	**42**	P		**P**	**02 20 41.2**	**-0.8**
NVAR	**Mina Array Bea**	**75.14**	**42**	P		**P**	**02 20 41.2**	**-0.8**
	comp=Z,6.1nm,1.0s,baz=227,slow=9.3,SNR=33							
NVAR				LR		LR	02 46 26.7	
	comp=Z,186nm,19.6s,baz=214,slow=30							
PAHR	**Pah Rah Range**	**75.20**	**40**	*e*P		**P**	**02 20 41.6**	**-0.7**
	comp=Z,15nm,1.3s							
NV11	**Mina Array Sit**	**75.23**	**42**	*e*P		**P**	**02 20 41.6**	**-0.8**
LDFC	**Landfair**	**75.41**	**46**	*e*P		**P**	**02 20 43.6**	**+0.1**
	comp=Z,47nm,1.3s							
214A	**Organ Pipe Nat**	**75.44**	**50**	⇑P		**P**	**02 20 43.4**	**-0.2**
	baz=76							
PDMCI	**Parker Dam,Lak**	**75.68**	**47**	⇓P		**P**	**02 20 44.9**	**0.0**
	baz=76							
MOD	**Modoc**	**75.97**	**38**	*e*P		**P**	**02 20 46.4**	**-0.2**
	comp=Z,66nm,1.2s							
Z14A	**Wintersburg**	**76.05**	**49**	⇓P		**P**	**02 20 46.9**	**-0.2**
	baz=76							
K05A	**Summer Lake**	**76.13**	**37**	*e*P		**P**	**02 20 47.8**	**+0.3**
SHPR	**Sheep Range**	**76.14**	**45**	*e*P		**P**	**02 20 47.3**	**-0.4**
W13A	**Hualapai Mount**	**76.27**	**47**	⇓P		**P**	**02 20 48.1**	**-0.4**
	baz=76							
Y14A	**Wickenburg**	**76.30**	**48**	⇑P		**P**	**02 20 48.2**	**-0.4**
	baz=76							
H04A	**Detroit Lake**	**76.63**	**35**	*e*P		**P**	**02 20 50.2**	**+0.1**
	comp=Z,20nm,1.2s							
R11A	**Troy Canyon, C**	**76.86**	**43**	*e*P		**P**	**02 20 51.4**	**-0.4**
R11A	**Troy Canyon, C**	**76.86**	**43**	⇑P		**P**	**02 20 51.3**	**-0.4**
	baz=77,SNR=11							
TUC	**Tucson**	**77.11**	**51**	*e*P		**P**	**02 20 52.8**	**-0.4**
TUC				pmax		pmax		
	comp=Z,11nm,1.3s							
TUC	**Tucson**	**77.11**	**51**	*e*P		**P**	**02 20 52.8**	**-0.4**
	comp=Z,11nm,1.3s							
WVOR	**Wild Horse Val**	**77.28**	**38**	*e*P		**P**	**02 20 53.3**	**-0.6**
WVOR				pmax		pmax		
	comp=Z,17nm,1.3s							
WVOR	**Wild Horse Val**	**77.28**	**38**	*e*P		**P**	**02 20 53.3**	**-0.6**
	comp=Z,17nm,1.3s							
X16A	**Lo Mia Camp, P**	**77.66**	**48**	⇑P		**P**	**02 20 56.1**	**-0.3**
	baz=78,SNR=11							
I07A	**Izee**	**77.76**	**37**	*e*P		**P**	**02 20 56.6**	**0.0**
319A	**Douglas**	**77.79**	**52**	⇓P		**P**	**02 20 56.7**	**-0.4**
	baz=78,SNR=5.9							
G06A	**Carlson Farm,**	**77.83**	**35**	*e*P		**P**	**02 20 56.0**	**-0.8**
CCUT	**Cedar City**	**77.91**	**45**	*e*P		**P**	**02 20 58.0**	**+0.3**
	comp=Z,12nm,1.1s							
J08A	**Circle Bar Ran**	**77.92**	**38**	*e*P		**P**	**02 20 57.4**	**-0.1**
ARUT	**Antelope Range**	**77.98**	**45**	*e*P		**P**	**02 20 57.7**	**-0.4**
ARUT	**Antelope Range**	**77.98**	**45**	*e*P		**P**	**02 20 57.6**	**-0.4**
	comp=Z,276nm,1.3s							
U15A	**North Rim**	**78.07**	**46**	⇓P		**P**	**02 20 58.7**	**0.0**
	baz=78,SNR=13							
LON	**Longmire**	**78.15**	**33**	*e*P		**P**	**02 20 57.2**	**-1.4**
LON				pmax		pmax		
	comp=Z,9.0nm,1.4s							
LON	**Longmire**	**78.15**	**33**	*e*P		**P**	**02 20 57.1**	**-1.4**
	comp=Z,9.0nm,1.4s							
WUAZ	**Wupatki**	**78.25**	**47**	⇑P		**P**	**02 20 59.7**	**+0.2**
	baz=78							
D05A	**Enumclaw**	**78.33**	**33**	*e*P		**P**	**02 21 00.5**	**+1.0**
320A	**Kipp Ranch, An**	**78.34**	**52**	⇑P		**P**	**02 21 00.3**	**+0.1**
	baz=78							
ELK	**Elko**	**78.40**	**41**	*e*P		**P**	**02 21 00.0**	**-0.3**
220A	**Playas Peak, P**	**78.61**	**52**	⇑P		**P**	**02 21 01.7**	**+0.1**
	baz=79,SNR=12							
G08A	**Pilot Rock**	**78.80**	**36**	*e*P		**P**	**02 21 01.6**	**-0.7**
120A	**U Bar Ranch, L**	**78.82**	**51**	⇓P		**P**	**02 21 02.7**	**0.0**
	baz=79							
Z20A	**Nine Sixteen R**	**79.11**	**51**	⇑P		**P**	**02 21 04.5**	**+0.1**
	baz=79,SNR=7.4							
HAWA	**Hanford**	**79.15**	**35**	*e*P		**P**	**02 21 03.9**	**-0.2**
221A	**Mesquite Ranch**	**79.22**	**52**	⇓P		**P**	**02 21 05.2**	**+0.3**
	baz=79							
121A	**Cookes Peak, D**	**79.45**	**52**	⇓P		**P**	**02 21 06.2**	**0.0**
	baz=80							
BMO	**Blue Mountains**	**79.48**	**37**	*e*P		**P**	**02 21 04.5**	**-1.5**
	comp=Z,17nm,1.4s							
MFID	**Camas Ranch**	**79.53**	**39**	⇓P		**P**	**02 21 06.1**	**-0.2**
	baz=80							
Y20A	**Horse Springs,**	**79.64**	**50**	⇓P		**P**	**02 21 07.7**	**+0.4**
	baz=80,SNR=11							
DUG	**Dugway**	**79.66**	**43**	*e*P		**P**	**02 21 06.9**	**-0.3**
DUG				pmax		pmax		
	comp=Z,8.0nm,1.1s							
DUG	**Dugway**	**79.66**	**43**	*e*P		**P**	**02 21 06.9**	**-0.3**
	comp=Z,8.1nm,1.1s							
DUG	**Dugway**	**79.66**	**43**	⇑P		**P**	**02 21 07.1**	**0.0**
	baz=80,SNR=8.9							
MDJ	**Mudanjiang**	**79.72**	**323**	P		**P**	**02 21 06.8**	**-0.3**
MDJ				AMB		AMB		
	comp=Z,4.0nm,0.8s							
MDJ				AMB		AMB		
	comp=Z,130nm,6.5s							
X20A	**Quemado**	**79.85**	**49**	⇑P		**P**	**02 21 08.6**	**+0.2**
	baz=80,SNR=5.6							
Z21A	**St. Cloud Mine**	**79.89**	**51**	⇓P		**P**	**02 21 09.2**	**+0.5**
	baz=80,SNR=13							
E09A	**Wood Farm, Sta**	**79.99**	**35**	*e*P		**P**	**02 21 08.6**	**+0.1**
Q16A	**Castle Valley**	**80.09**	**45**	*e*P		**P**	**02 21 09.6**	**0.0**
Q16A	**Castle Valley**	**80.09**	**45**	⇑P		**P**	**02 21 09.9**	**+0.3**
	baz=80							
W20A	**Ramah**	**80.12**	**49**	⇓P		**P**	**02 21 10.3**	**+0.4**
	baz=80,SNR=12							
Y21A	**Point of Rocks**	**80.21**	**50**	⇓P		**P**	**02 21 10.6**	**+0.3**
	baz=80,SNR=5.9							
TMUT	**Trail Mountain**	**80.26**	**44**	*e*P		**P**	**02 21 10.8**	**+0.2**
	comp=Z,12nm,1.0s							
X21A	**Alamocita Cree**	**80.33**	**50**	⇑P		**P**	**02 21 10.8**	**-0.2**
	baz=80,SNR=5.3							
DIV	**Divide**	**80.37**	**13**	*e*P		**P**	**02 21 09.2**	**-1.2**
	comp=Z,21nm,1.2s							
Z22A	**Elephant Butte**	**80.39**	**51**	⇑P		**P**	**02 21 11.0**	**-0.3**
	baz=80,SNR=6.8							
B08A	**Colville Reser**	**80.46**	**33**	*e*P		**P**	**02 21 10.1**	**-1.0**
HLID	**Hailey**	**80.46**	**39**	*e*P		**P**	**02 21 11.1**	**-0.4**
	comp=Z,13nm,1.2s							
HLID	**Hailey**	**80.46**	**39**	⇓P		**P**	**02 21 11.2**	**-0.3**
	baz=81							
BMRM	**Bremner River**	**80.49**	**14**	*e*P		**P**	**02 21 09.8**	**-1.2**
	comp=Z,14nm,1.1s							
NJ2	**Nanjing**	**80.65**	**307**	*e*P		**P**	**02 21 12.1**	**-0.3**
NJ2				AMB		AMB		
	comp=Z,17nm,0.7s							
U20A	**Newcomb**	**80.69**	**48**	⇑P		**P**	**02 21 13.0**	**+0.1**
	baz=81							
324A	**Moseley Ranch,**	**80.72**	**53**	⇓P		**P**	**02 21 12.5**	**-0.5**
	baz=81,SNR=7.7							
JLU	**Jordanelle**	**80.76**	**43**	*e*P		**P**	**02 21 12.3**	**-0.9**
	comp=Z,5.5nm,1.2s							
LAZ	**Ladron**	**80.78**	**50**	*e*P		**P**	**02 21 11.8**	**-1.6**
DAU	**Daniels Canyon**	**80.79**	**43**	*e*P		**P**	**02 21 13.4**	**0.0**
DAU	**Daniels Canyon**	**80.79**	**43**	*e*P		**P**	**02 21 13.4**	**0.0**
425A	**Indio Mountain**	**80.83**	**54**	⇓P		**P**	**02 21 13.2**	**-0.4**
	baz=81,SNR=6.1							
X22A	**Bernardo**	**80.92**	**50**	⇓P		**P**	**02 21 14.3**	**+0.2**
	baz=81							
Z23A	**Rita Site, Whi**	**80.95**	**52**	⇓P		**P**	**02 21 14.5**	**+0.3**
	baz=81							
224A	**Cornudas Mount**	**80.97**	**53**	⇑P		**P**	**02 21 14.1**	**-0.3**
	baz=81,SNR=7.0							
626A	**Big Bend Ranch**	**80.98**	**56**	⇓P		**P**	**02 21 14.4**	**0.0**
	baz=81							
BNM	**Barren Site**	**81.05**	**51**	*e*P		**P**	**02 21 14.3**	**-0.5**
V21A	**Milan**	**81.06**	**49**	⇓P		**P**	**02 21 14.8**	**-0.1**
	baz=81							
325A	**Bean Ranch, Si**	**81.09**	**54**	⇑P		**P**	**02 21 14.5**	**-0.6**
	baz=81,SNR=6.4							
MVCO	**Mesa Verde**	**81.10**	**47**	⇓P		**P**	**02 21 15.0**	**-0.1**
	baz=81							
LPM	**Los Pinos Moun**	**81.11**	**50**	*e*P		**P**	**02 21 15.2**	**+0.1**
526A	**Mary Lane Ranc**	**81.23**	**55**	⇑P		**P**	**02 21 15.3**	**-0.4**
	baz=81,SNR=6.5							
TXAR	**Lajitas Array**	**81.26**	**56**	P		**P**	**02 21 15.8**	**-0.1**
TXAR	**Lajitas Array**	**81.26**	**56**	P		**P**	**02 21 15.8**	**-0.1**
	comp=Z,4.2nm,1.1s,baz=205,slow=5.5,SNR=13							
TXAR				LR		LR	02 50 15.5	
	comp=Z,89nm,18.2s,baz=0.0,slow=30							
124A	**Stringfield Ra**	**81.29**	**52**	⇓P		**P**	**02 21 15.9**	**-0.3**
	baz=81							
U21A	**Nageezi**	**81.33**	**48**	⇓P		**P**	**02 21 16.4**	**+0.1**
	baz=81,SNR=14							
Y23A	**Lovelace Mesa,**	**81.37**	**51**	⇓P		**P**	**02 21 16.3**	**-0.2**
	baz=82							
PV01	**Paradox Valley**	**81.49**	**46**	*e*P		**P**	**02 21 16.2**	**-0.9**
	comp=Z,1μm,1.3s							
S20A	**Disappointment**	**81.49**	**47**	⇑P		**P**	**02 21 17.2**	**0.0**
	baz=82,SNR=7.6							
225A	**Deer Hill, Car**	**81.52**	**53**	⇓P		**P**	**02 21 17.2**	**-0.1**
	baz=82							
426A	**McDonald Obser**	**81.53**	**55**	⇓P		**P**	**02 21 17.1**	**-0.4**
	baz=82,SNR=10							
ANMO	**Albuquerque**	**81.53**	**50**	*e*P		**P**	**02 21 16.7**	**-0.7**
	comp=Z,31nm,1.9s							
627A	**Terlingua Ranc**	**81.53**	**56**	⇓P		**P**	**02 21 17.0**	**-0.4**
	baz=82,SNR=7.2							
X23A	**Hourglass Bar**	**81.56**	**50**	⇑P		**P**	**02 21 17.5**	**-0.1**
	baz=82							
NEW	**Newport**	**81.58**	**34**	⇑P		**P**	**02 21 16.6**	**-0.5**
	baz=82							
Z24A	**Sheeppen Canyo**	**81.63**	**52**	⇑P		**P**	**02 21 17.7**	**-0.2**
	baz=82							
V22A	**San Miguel Ran**	**81.63**	**49**	⇓P		**P**	**02 21 17.5**	**-0.5**
	baz=82							
527A	**Woodward Ranch**	**81.64**	**55**	⇓P		**P**	**02 21 17.5**	**-0.4**
	baz=82,SNR=5.3							
R20A	**Redvale**	**81.65**	**46**	⇑P		**P**	**02 21 17.6**	**-0.3**
	baz=82,SNR=5.6							
T21A	**Navajo Lake**	**81.68**	**48**	⇓P		**P**	**02 21 17.8**	**-0.3**
	baz=82							
CN2	**Changchun**	**81.75**	**320**	*e*P		**P**	**02 21 17.6**	**-0.4**
CN2				*es*P		sP	02 21 24.5	-19
CN2				AMB		AMB		
	comp=Z,10.0nm,0.8s							
S21A	**Coal Bank Pass**	**81.81**	**47**	⇓P		**P**	**02 21 18.9**	**0.0**
	baz=82,SNR=18							
Y24A	**Capitan**	**81.83**	**51**	⇓P		**P**	**02 21 18.9**	**-0.1**
	baz=82							
326A	**Caldwell Ranch**	**81.83**	**54**	⇑P		**P**	**02 21 18.8**	**-0.1**
	baz=82							
W23A	**Werner Place,**	**81.85**	**50**	⇑P		**P**	**02 21 19.0**	**-0.1**
	baz=82							
125A	**Gardner Draw,**	**81.88**	**53**	⇑P		**P**	**02 21 19.1**	**0.0**
	baz=82							
U22A	**Llaves**	**81.88**	**48**	⇓P		**P**	**02 21 19.1**	**-0.1**
	baz=82							
GDL2	**Guadalupe Moun**	**81.91**	**53**	*e*P		**P**	**02 21 19.2**	**-0.1**
	comp=Z,4.8nm,0.9s							
P19A	**Cripple Cowboy**	**81.92**	**45**	⇓P		**P**	**02 21 19.3**	**0.0**
	baz=82							
628A	**Black Gap, Mar**	**81.94**	**56**	⇑P		**P**	**02 21 19.6**	**+0.2**
	baz=82							
226B	**Tecolote Peak,**	**82.01**	**53**	⇑P		**P**	**02 21 19.5**	**-0.3**
	baz=82,SNR=9.1							
Q20A	**Ridgley Place,**	**82.07**	**46**	⇑P		**P**	**02 21 20.1**	**0.0**
	baz=82,SNR=12							
V23A	**Ortiz Mt. (NFS**	**82.08**	**49**	⇑P		**P**	**02 21 20.7**	**+0.4**
	baz=82,SNR=5.7							
427A	**Hayter Ranch,**	**82.09**	**55**	⇑P		**P**	**02 21 20.1**	**-0.1**
	baz=82,SNR=7.0							
MCMT	**McKenzie Canyo**	**82.09**	**39**	*e*P		**P**	**02 21 19.5**	**-0.6**
	comp=Z,5.7nm,1.3s							
Z25A	**Roswell**	**82.10**	**52**	⇓P		**P**	**02 21 20.3**	**0.0**
	baz=82							
MCK	**McKinley**	**82.10**	**11**	*e*P		**P**	**02 21 18.1**	**-1.3**
MCK				pmax		pmax		
	comp=Z,4.0nm,0.4s							
MCK	**McKinley**	**82.10**	**11**	*e*P		**P**	**02 21 18.1**	**-1.3**
	comp=Z,4.1nm,0.4s							
T22A	**Edith**	**82.14**	**48**	⇓P		**P**	**02 21 20.3**	**-0.2**
	baz=82							
O19A	**Miners Draw (B**	**82.15**	**44**	⇓P		**P**	**02 21 20.4**	**-0.1**
	baz=82							
RRI2	**Red Ridge**	**82.25**	**41**	*e*P		**P**	**02 21 20.8**	**-0.3**
	comp=Z,18nm,1.4s							
P20A	**De Beque**	**82.26**	**45**	⇓P		**P**	**02 21 21.0**	**-0.1**
	baz=82,SNR=13							
528A	**Cox Ranch, San**	**82.30**	**56**	⇓P		**P**	**02 21 21.2**	**-0.2**
	baz=82,SNR=5.9							
R21A	**Cimarron**	**82.31**	**46**	⇑P		**P**	**02 21 21.6

H17A	Grant Village	83.25	40	⇑P		P	02 21 26.9	+0.7	
	baz=83								
V25A	Rancho No Teng	83.27	50	⇓P		P	02 21 26.2	-0.2	
	baz=83,SNR=11								
X26A	CR and CF Fran	83.32	51	⇓P		P	02 21 26.1	-0.5	
	baz=83								
M20A	Sweetwater, Wa	83.35	43	⇓P		P	02 21 26.7	0.0	
	baz=84								
P22A	Eagle	83.42	46	⇑P		P	02 21 27.0	-0.2	
	baz=84,SNR=6.9								
ILAR	Eielson Array	83.42	11	P		P	02 21 24.9	-1.3	
ILAR	Eielson Array	83.42	11	P		P	02 21 24.9	-1.3	
	comp=Z,1.1nm,0.5s,baz=233,slow=6.3,SNR=21								
ILAR				LR		LR	02 58 19.6		
	comp=Z,74nm,18.0s,baz=236,slow=36								
R23A	Moffat	83.43	47	⇓P		P	02 21 27.0	-0.3	
	baz=84,SNR=6.5								
530A	J-C Ranch, Com	83.44	56	⇑P		P	02 21 27.1	-0.1	
	baz=84								
329A	Wagon Wheel Ra	83.46	55	⇓P		P	02 21 27.0	-0.3	
	baz=84								
SDCO	Great Sand Dun	83.46	48	*e*P		P	02 21 26.5	-1.0	
	comp=Z,16nm,1.6s								
L20A	Wamsutter	83.49	43	⇓P		P	02 21 27.1	-0.4	
	baz=84,SNR=11								
Y27A	Causey	83.53	52	⇑P		P	02 21 27.3	-0.4	
	baz=84								
128A	Castleberry Fa	83.53	53	⇓P		P	02 21 27.6	-0.1	
	baz=84								
K19A	Absolon Red Bu	83.56	42	⇓P		P	02 21 27.3	-0.4	
	baz=84								
W26A	Owens Ranch, T	83.58	51	⇑P		P	02 21 27.9	0.0	
	baz=84								
S24A	Houchin Ranch,	83.62	48	⇓P		P	02 21 28.3	0.0	
	baz=84,SNR=7.1								
J19A	Crowheart	83.64	42	⇓P		P	02 21 28.1	-0.1	
	baz=84								
U25A	Circle Dot Ran	83.66	49	⇑P		P	02 21 27.9	-0.6	
	baz=84,SNR=8.5								
430A	Baggett Ranch,	83.77	56	⇓P		P	02 21 28.6	-0.3	
	baz=84								
K20A	Yellowstone Ra	83.81	42	⇑P		P	02 21 27.9	-1.1	
	baz=84,SNR=7.6								
O22A	Kremmling	83.83	45	⇑P		P	02 21 28.9	-0.4	
	baz=84,SNR=12								
MSTX	Muleshoe	83.86	52	*e*P		P	02 21 28.7	-0.7	
MSTX	Muleshoe	83.86	52	⇓P		P	02 21 28.9	-0.5	
	baz=84,SNR=7.0								
V26A	Tequesquite Ra	83.86	50	⇑P		P	02 21 29.0	-0.4	
	baz=84								
Z28A	Tucker Farm, M	83.87	53	⇓P		P	02 21 29.3	-0.1	
	baz=84								
X27A	F and S Farms,	83.89	51	⇑P		P	02 21 28.9	-0.6	
	baz=84,SNR=5.3								
M21A	Separation Pea	83.95	44	⇑P		P	02 21 29.1	-0.7	
	baz=84,SNR=11								
P23A	Jefferson	83.95	46	⇑P		P	02 21 30.3	+0.3	
	baz=84								
R24A	Sanders Place,	83.96	47	⇓P		P	02 21 30.1	+0.2	
	baz=84								
H18A	Shoshone NF, C	83.96	40	⇑P		P	02 21 30.4	+0.6	
	baz=84								
T25A	Trinidad	83.98	49	⇓P		P	02 21 29.8	-0.2	
	baz=84								
129A	Stewart Farms,	84.01	54	⇑P		P	02 21 30.0	-0.1	
	baz=84								
I19A	Meeteetse	84.06	41	⇑P		P	02 21 29.8	-0.5	
	baz=84								
W27A	Bowe Ranch, En	84.09	51	⇑P		P	02 21 29.5	-1.0	
	baz=84,SNR=7.7								
L21A	Rawlins	84.11	43	⇑P		P	02 21 29.8	-0.7	
	baz=84,SNR=8.1								
U26A	Atchley Ranch,	84.14	50	⇑P		P	02 21 30.3	-0.6	
	baz=84,SNR=6.1								
N22A	Wattenberg Ran	84.18	45	⇑P		P	02 21 30.6	-0.5	
	baz=84,SNR=6.1								
S25A	Robets Cordova	84.19	48	⇓P		P	02 21 30.6	-0.4	
	baz=84,SNR=8.4								
Q24A	Divide	84.25	47	⇑P		P	02 21 31.3	-0.2	
	baz=84,SNR=8.8								
O23A	Lake Granby, G	84.28	45	⇓P		P	02 21 31.4	-0.1	
	baz=84								
ISCO	Idaho Springs	84.30	46	⇓P		P	02 21 31.3	-0.4	
	baz=84								
J20A	Shoshoni	84.31	42	⇓P		P	02 21 31.2	-0.3	
	baz=84,SNR=7.5								
M22A	Cedar Creek Ra	84.36	44	⇑P		P	02 21 32.1	+0.2	
	baz=84								
H19A	Powell	84.38	40	⇓P		P	02 21 31.8	0.0	
	baz=84,SNR=8.0								
632A	Uvalde	84.44	57	⇓P		P	02 21 32.1	-0.2	
	baz=85								
K21A	Alcova	84.50	43	⇓P		P	02 21 32.0	-0.5	
	baz=85,SNR=8.5								
I20A	Worland	84.56	41	⇑P		P	02 21 32.3	-0.4	
	baz=85,SNR=9.3								
N23A	Red Feather La	84.57	45	⇓P		P	02 21 32.9	-0.1	
	baz=85								
532A	Rocksprings	84.58	57	⇓P		P	02 21 32.5	-0.5	
	baz=85								
J21A	Lysite	84.71	42	⇑P		P	02 21 33.3	-0.2	
	baz=85,SNR=16								
L22A	Ellis Ranch, M	84.76	44	⇓P		P	02 21 34.2	+0.4	
	baz=85								
O24A	Longmont	84.82	46	⇑P		P	02 21 35.0	+0.9	
	baz=85								
U27A	Thompson Grove	84.83	50	⇑P		P	02 21 33.3	-1.0	
	baz=85								
Z30A	Sanderson Ranc	84.84	53	⇓P		P	02 21 33.2	-1.1	
	baz=85								
Q25A	Bedland, Calha	84.86	47	⇓P		P	02 21 34.4	-0.1	
	baz=85								
S26A	Kim	84.86	49	⇑P		P	02 21 33.5	-0.8	
	baz=85								
X29A	Tulia	84.86	52	⇑P		P	02 21 33.8	-0.6	
	baz=85								
H20A	Greybull	84.90	41	⇓P		P	02 21 33.9	-0.5	
	baz=85								
231A	Bronte	84.94	55	⇓P		P	02 21 34.0	-0.8	
	baz=85								
F19A	Roth Farm, Mol	84.98	39	⇑P		P	02 21 34.4	-0.3	
	baz=85,SNR=7.9								
K22A	Casper	84.98	43	⇑P		P	02 21 34.2	-0.7	
	baz=85								
I21A	Big Trails, Te	85.03	42	⇑P		P	02 21 34.3	-0.8	
	baz=85,SNR=11								
R26A	Arlington	85.17	48	⇑P		P	02 21 35.7	-0.2	
	baz=85								
T27A	Campo	85.17	49	⇓P		P	02 21 35.4	-0.5	
	baz=85								
131A	Roby	85.17	54	⇑P		P	02 21 35.6	-0.3	
	baz=85								
W29A	Amraillo	85.17	51	⇑P		P	02 21 35.6	-0.3	
	baz=85								
P25A	Willow Gulch B	85.18	47	⇓P		P	02 21 36.2	+0.2	
	baz=85								
332A	Millersview	85.19	56	⇓P		P	02 21 35.9	-0.1	
	baz=85								
L23A	Garrett	85.28	44	⇓P		P	02 21 35.8	-0.7	
	baz=85								
J22A	Midwest	85.37	42	⇓P		P	02 21 36.4	-0.4	
	baz=86								
E19A	Rath Farm, Rou	85.38	39	⇑P		P	02 21 36.4	-0.3	
	baz=86,SNR=5.5								
Q26A	Hugo	85.38	47	⇑P		P	02 21 36.8	-0.1	
	baz=86								
232A	Coleman	85.45	55	⇓P		P	02 21 37.1	-0.2	
	baz=86								
H21A	Big Horn, Sher	85.57	41	⇓P		P	02 21 37.5	-0.2	
	baz=86								
M24A	Cheyenne	85.58	45	⇑P		P	02 21 37.3	-0.6	
	baz=86								
I22A	9 Mile Ranch,	85.58	42	⇓P		P	02 21 37.3	-0.5	
	baz=86								
Z31A	Sharp Cattle R	85.61	54	⇑P		P	02 21 37.5	-0.5	
	baz=86								
K23A	Bowen Ranch, D	85.62	43	⇓P		P	02 21 37.5	-0.6	
	baz=86								
R27A	Eads	85.62	48	⇓P		P	02 21 37.8	-0.3	
	baz=86								
T28A	Walsh	85.64	49	⇑P		P	02 21 37.9	-0.3	
	baz=86								
D19A	Cripps Ranch,	85.67	38	⇑P		P	02 21 38.1	0.0	
	baz=86								
ABTX	Abilene, Hawle	85.73	54	*e*P		P	02 21 37.7	-1.0	
ABTX	Abilene, Hawle	85.73	54	⇓P		P	02 21 38.0	-0.7	
	baz=86,SNR=6.8								
Y31A	Rekieta Farm,	85.77	53	⇓P		P	02 21 38.1	-0.8	
	baz=86								
E20A	Meyer Farm, Mu	85.79	39	⇓P		P	02 21 39.0	+0.2	
	baz=86								
C19A	Slack Wire Ran	85.85	38	⇓P		P	02 21 39.0	0.0	
	baz=86,SNR=6.4								
BJI	Beijing	86.04	314	P		P	02 21 38.2	-1.8	
BJI				AMB		AMB			
	comp=Z,8.0nm,0.9s								
D20A	Manuel Ranch,	86.08	39	⇓P		P	02 21 40.2	+0.1	
	baz=86								
Z32A	Haskell	86.12	54	⇓P		P	02 21 40.2	-0.4	
	baz=86,SNR=11								
V30A	Spur Ranch, Mi	86.15	51	⇓P		P	02 21 40.7	-0.1	
	baz=86								
B19A	Brinkman Farms	86.27	37	⇓P		P	02 21 41.3	+0.3	
	baz=86								
R28A	Tribune	86.35	48	⇑P		P	02 21 41.5	-0.2	
	baz=86								
Y32A	R-V Farms, Ver	86.41	53	⇓P		P	02 21 42.0	0.0	
	baz=86								
C20A	Veseth Ranch,	86.45	38	⇓P		P	02 21 41.9	0.0	
	baz=86,SNR=5.8								
W31A	Holland Ranch,	86.48	52	⇑P		P	02 21 42.2	-0.2	
	baz=87								
A19A	Klindworth Far	86.62	37	⇑P		P	02 21 42.5	-0.2	
	baz=87								
D21A	La Casta Ranch	86.75	39	⇑P		P	02 21 43.3	-0.1	
	baz=87								
V31A	Spring Creek L	86.78	51	⇓P		P	02 21 44.3	+0.5	
	baz=87								
MAW	Mawson	86.83	199	P		P	02 21 43.7	+0.3	
MAW	Mawson	86.83	199	P		P	02 21 43.7	+0.3	
	comp=Z,1.7nm,0.7s,baz=342,slow=2.6,SNR=4.4								
A20A	Cobblestone Ra	87.06	37	⇑P		P	02 21 44.5	-0.4	
	baz=87								
K26A	Motz Farm, Whi	87.22	44	⇑P		P	02 21 45.7	-0.1	
	baz=87								
B21A	Ellsworth Farm	87.38	38	⇓P		P	02 21 46.5	+0.2	
	baz=88								
I25A	Rochford	87.42	43	⇓P		P	02 21 46.4	-0.5	
	baz=88								
A21A	Bergtoll Ranch	87.70	37	⇑P		P	02 21 47.8	-0.1	
	baz=88								
B22A	Reddig Ranch S	87.92	38	⇓P		P	02 21 49.2	+0.2	
	baz=88								
C23A	Lambert	88.18	39	⇑P		P	02 21 51.1	+0.9	
	baz=88								
GYA	Guiyang	88.39	298	*e*P		P	02 21 51.2	-0.6	
GYA				PP		PP	02 25 20.6	+0.1	
GYA				SKS		SKSac	02 32 18.0	+2.5	
GYA				SS		SS	02 38 27.6	+3.6	
GYA				AMB		AMB			
	comp=Z,10.0nm,1.0s								
GYA				AMB		AMB			
	comp=Z,90nm,5.1s								
GYA				LR		LR			
	comp=Z,460nm,18.9s								
GYA				LR		LR			
	comp=Z,370nm,19.2s								
GYA				LR		LR			
	comp=Z,460nm,18.8s								
B23A	Brockton	88.59	38	⇑P		P	02 21 52.3	+0.1	
	baz=89								
PLCA	Paso Flores	88.95	132	P		P	02 21 55.3	+1.1	
PLCA	Paso Flores	88.95	132	P		P	02 21 55.3	+1.1	
	comp=Z,2.7nm,1.0s,baz=225,slow=4.3,SNR=3.3								
DGMT	Dagmar	89.07	39	⇓P		P	02 21 54.3	-0.1	
	baz=89								
D26A	Manning	89.52	40	⇓P		P	02 21 57.1	+0.6	
	baz=90								
HHC	Hu-ho-hao-te	89.59	313	*e*P		P	02 21 54.8	-2.3	
HHC				pP		PcP	02 22 00.8	+2.4	
HHC				sP		sP	02 22 03.0	-20	
HHC				PP		PP	02 25 30.9	+1.1	
HHC				SKS		SKSac	02 32 24.6	+2.6	
HHC				S		S	02 32 44.6	+1.5	
HHC				sS		ScS	02 32 53.3	+5.9	
HHC				SS		SS	02 38 44.5	+3.6	
HHC				AMB		AMB			
	comp=Z,36nm,1.0s								
HHC				AMB		AMB			
	comp=Z,510nm,6.7s								
HHC				LR		LR			
	comp=Z,330nm,17.2s								
HHC				LR		LR			
	comp=Z,410nm,17.7s								
HHC				LR		LR			
	comp=Z,240nm,17.8s								
E27A	Carson	89.82	41	⇑P		P	02 21 57.7	-0.3	
	baz=90								
KMI	Kunming	91.33	296	P		P	02 22 06.1	+0.4	
KMI				AMB		AMB			
	comp=Z,8.0nm,0.9s								
CD2	Chengdu	92.21	301	P		P	02 22 09.8	+0.4	
CD2				AMB		AMB			
	comp=Z,20nm,0.5s								
A29A	Manning Farm,	92.25	39	⇓P		P	02 22 08.9	-0.3	
	baz=92								
ATAH	Atahualpa	92.91	98	LR		LR	02 55 23.1		
	comp=Z,87nm,20.2s,baz=191,slow=30								
ULM	Lac du Bonnet	94.77	39	LR		LR	02 58 49.7		
	comp=Z,161nm,18.9s,baz=245,slow=32								
MK31	Makanchi Array	111.42	314	*e*PKIKP		PKiKP	02 27 32.4	-0.8	
MK31	Makanchi Array	111.42	314	*e*PKP		PKiKP	02 27 32.4	-0.8	
MKAR	Makanchi Array	111.42	314	PKIKP		PKiKP	02 27 32.5	-0.7	
MKAR	Makanchi Array	111.42	314	PKiKP		PKiKP	02 27 32.5	-0.7	
MKAR	Makanchi Array	111.42	314	PKiKP		PKiKP	02 27 32.5	-0.7	
	comp=Z,0.3nm,0.7s,baz=105,slow=2.9,SNR=1.6								
KURK	Kurchatov	113.78	319	*e*PKIKP		PKiKP	02 27 38.0	+0.5	
KURK	Kurchatov	113.78	319	*e*PKP		PKiKP	02 27 38.0	+0.5	
KSH	Kashi	115.95	306	PKP		PKPdf	02 27 42.9	+0.7	
KSH				PP		PP	02 28 55.5	+8.3	
KBS	Kingsbay	117.37	359	*e*PKIKP		PKPdf	02 27 44.3	+0.6	
KBS	Kingsbay	117.37	359	*e*PKPdf		PKPdf	02 27 44.3	+0.6	
EKS2	Erkin-Say	117.54	310	*e*PKIKP		PKPdf	02 27 45.8	+0.6	
EKS2	Erkin-Say	117.54	310	*e*PKPdf		PKPdf	02 27 45.8	+0.6	
ARU	Arti	124.10	328	PKIKP		PKPdf	02 27 54.3	-2.9	
ARCES	ARCESS Array B	125.55	352	PKP		PKPdf	02 27 58.9	-0.7	
ARCES	ARCESS Array B	125.55	352	PKP		PKPdf	02 27 58.9	-0.7	
	comp=Z,3.6nm,0.8s,baz=0.0,slow=0.4,SNR=11								
FINES	FINESS Array B	132.86	347	PKP		PKPdf	02 28 14.3	+0.6	
FINES	FINESS Array B	132.86	347	PKP		PKPdf	02 28 14.3	+0.6	
	comp=Z,2.2nm,0.7s,baz=346,slow=2.4,SNR=10								
OBN	Obninsk	134.95	336	*e*PKIKP		PKPdf	02 28 19.7	+1.9	
OBN				pmax		pmax			
	comp=Z,5.0nm,1.1s								
KIV	Kislovodsk	138.86	320	*e*PKIKP		PKPdf	02 28 24.5	-1.1	
KIV				pmax		pmax			
	comp=Z,4.0nm,1.2s								
KWP	Kalwaria Pacla	144.31	342	*e*PKIKP		PKPab	02 28 33.2	+0.1	
KWP	Kalwaria Pacla	144.31	342	*e*PKPdf		PKPab	02 28 33.2	+0.1	
MALT	Malatya	144.46	314	⇓PKIKP		PKPdf	02 28 36.4	+0.6	
MALT	Malatya	144.46	314	⇓*i*P		PKPdf	02 28 36.4	+0.6	
KSP	Ksiaz	144.72	349	*e*PKIKP		PKPdf	02 28 35.3	-0.4	
CLL	Collm	144.76	353	*i*PKIKP		PKPab	02 28 34.0	-0.7	
CLL				pmax		pmax			
	comp=Z,3.0nm,1.2s								
STHS	Stebnicka Huta	144.92	343	*e*PKIKP		PKPdf	02 28 36.5	+0.4	
STHS	Stebnicka Huta	144.92	343	*e*PKP		PKPdf	02 28 36.5	+0.4	
KMBO	Kilima Mbogo	144.99	243	*e*PKPdf		PKPdf	02 28 38.5	+0.9	
KMBO	Kilima Mbogo	144.99	243	PKPbc		PKPdf	02 28 38.3	+0.7	
	comp=Z,12nm,1.0s,baz=58,slow=3.1,SNR=22								
BUG	Bochum--Univer	145.01	359	*e*PKPbc		PKPbc	02 28 35.5	0.0	
KOLS	Kolonicke sedl	145.06	342	*e*PKIKP		PKPab	02 28 36.0	+0.1	
KOLS	Kolonicke sedl	145.06	342	*e*PKP		PKPab	02 28 36.0	+0.1	
UPC	Upice	145.10	349	*e*PKIKP		PKPdf	02 28 36.3	0.0	
UPC				*e*			02 28 41.2		
UPC	Upice	145.10	349	*e*PKP		PKPdf	02 28 36.3	0.0	
UPC				*ep*PKP		PKiKP	02 28 41.2	+1.0	
DPC	Dobruska-Polom	145.19	349	*e*PKIKP		PKPdf	02 28 36.7	+0.1	
DPC				*e*			02 28 41.4		
DPC	Dobruska-Polom	145.19	349	*e*PKP		PKPdf	02 28 36.7	+0.1	
DPC				*ep*PKP		PKiKP	02 28 41.4	+0.9	
BUR08	Bucovina Ar. S	145.20	338	*e*PKPdf		PKPdf	02 28 36.8	+0.1	
BURAR	Bucovina Array	145.22	338	⇑PKIKP		PKPbc	02 28 36.4	-0.1	
BURAR	Bucovina Array	145.22	338	⇑*i*P		PKPbc	02 28 36.4	-0.1	
OKC	Ostrava-Krasne	145.31	347	*e*PKIKP		PKPbc	02 28 36.7	+0.1	
OKC				*e*			02 28 41.8		
OKC	Ostrava-Krasne	145.31	347	*e*PKP		PKPbc	02 28 36.7	+0.1	
OKC				*ep*PKP		PKiKP	02 28 41.8	+1.2	
PVCC	Panska Ves	145.31	351	*e*PKIKP		PKPab	02 28 37.2	+0.5	
PVCC	Panska Ves	145.31	351	*e*PKP		PKPab	02 28 37.2	+0.5	
UZH	Uzhgorod	145.32	341	*e*PKHKP		PKPpre	02 28 32.1		
UZH				*i*			02 28 37.3		
UZH				*i*			02 28 45.9		
MORC	Moravsky Berou	145.50	347	⇓PKIKP		PKPab	02 28 37.7	+0.2	
MORC	Moravsky Berou	145.50	347	⇓*i*P		PKPab	02 28 37.7	+0.2	
MORC	Moravsky Berou	145.50	347	*e*PKPbc		PKPdf	02 28 36.9	-0.2	
MOX	Moxa	145.57	354	*e*PKIKP		PKPab	02 28 37.7	0.0	
MOX	Moxa	145.57	354	*e*PKPbc		PKPab	02 28 37.7	0.0	
BEBN	Eben Emael	145.66	1	PKP		PKPab	02 28 38.0	+0.1	
TRPA	Tarpa	145.69	341	⇑*i*P		PKPbc	02 28 37.8	0.0	
TANN	Tannenbergstha	145.71	353	*e*PKPbc		PKPab	02 28 38.3	0.0	
PRU	Pruhonice	145.84	351	*e*PKIKP		PKPbc	02 28 38.3	+0.1	
PRU	Pruhonice	145.84	351	*e*PKP		PKPbc	02 28 38.3	+0.1	
MEM	Membach	145.85	1	PKP		PKPab	02 28 38.8	+0.1	
SNF	Seneffe	145.91	2	PKP		PKPab	02 28 38.7	-0.2	
CFR	Carcaliu	146.00	332	⇓PKIKP		PKPbc	02 28 38.8	-0.1	
CFR	Carcaliu	146.00	332	⇓*i*P		PKPbc	02 28 38.8	-0.1	
BCLA	Clavier	146.03	1	PKP		PKPbc	02 28 38.9	+0.1	
VRI	Vrincioaia	146.07	334	⇑PKIKP		PKPab	02 28 39.6	-0.2	
VRI	Vrincioaia	146.07	334	⇑*i*P		PKPab	02 28 39.6	-0.2	
VRAC	Vranov	146.13	348	⇑*i*P		PKPbc	02 28 39.6	+0.4	
TNS	Taunus Mts	146.20	358	*e*PKIKP		PKPab	02 28 40.1	-0.1	
TNS	Taunus Mts	146.20	358	*e*PKPbc		PKPab	02 28 40.1	-0.1	
DOU	Dourbes	146.33	2	PKP		PKPab	02 28 40.5	-0.1	
TREC	Trest	146.36	349	*e*PKIKP		PKPab	02 28 40.4	-0.3	
TREC	Trest	146.36	349	*e*PKP		PKPab	02 28 40.4	-0.3	
ROTZ	Rotzenmuhle	146.37	353	*e*PKPbc		PKPab	02 28 40.9	+0.1	
TIRR	Tirgusor	146.43	331	*e*PKIKP		PKPbc	02 28 40.7	+0.5	
TIRR	Tirgusor	146.43	331	*e*PKPbc		PKPbc	02 28 40.7	+0.5	
GRF	Grafenberg Arr	146.55	354	*e*PKP2		PKPab	02 28 41.4	-0.1	
GRF	Grafenberg Arr	146.55	354	*e*PKPbc		PKPab	02 28 41.4	-0.1	
GRFO	Grafenberg	146.55	354	*e*PKP2		PKPab	02 28 41.2	-0.3	
GRFO	Grafenberg	146.55	354	*e*PKPbc		PKPab	02 28 41.2	-0.3	
PSZ	Piszkesteto	146.66	343	*e*PKIKP		PKPdf	02 28 39.5	+0.3	
PSZ	Piszkesteto	146.66	343	*e*PKPbc		PKPdf	02 28 39.5	+0.3	
MLR	Muntele Rosu	146.69	335	⇑*i*P		PKPbc	02 28 41.3	+0.2	
SMOL	Smolenice	146.71	347	*e*PKP2		PKPab	02 28 42.6	+0.5	
SMOL	Smolenice	146.71	347	*e*PKP		PKPab	02 28 42.6	+0.5	
WLF	Walferdange	146.80	0	PKP		PKPbc	02 28 41.1	0.0	
WLF	Walferdange	146.80	0	*e*PKPbc		PKPab	02 28 42.3	-0.1	
DRGR		146.81	339	⇓PKP2		PKPbc	02 28 41.3	0.0	
DRGR		146.81	339	⇓*i*P		PKPbc	02 28 41.3	0.0	
KHC	Kasperske Hory	146.82	351	*e*PKP2		PKPbc	02 28 41.0	-0.2	
KHC	Kasperske Hory	146.82	351	*e*PKP		PKPbc	02 28 41.0	-0.2	
KHC				*ep*PKP		PKiKP	02 28 46.6	+2.7	
KHC	Kasperske Hory	146.82	351	*e*PKPbc		PKPbc	02 28 41.0	-0.2	
BRTR	Keskin Array B	146.82	320	PKPbc		PKPbc	02 28 42.0	+0.3	
BRTR	Keskin Array B	146.82	320	PKPbc		PKPbc	02 28 42.0	+0.3	
	comp=Z,5.5nm,1.1s,baz=100,slow=1.4,SNR=15								
GEC2	GERESS Array S	147.08	351	*e*PKP2		PKPbc	02 28 42.6	+0.5	
GEC2	GERESS Array S	147.08	351	*e*PKPbc		PKPbc	02 28 42.6	+0.5	
GERES	GERESS Array B	147.08	351	PKPbc		PKPbc	02 28 42.1	+0.1	
GERES	GERESS Array B	147.08	351	PKPbc		PKPbc	02 28 42.1	+0.1	
	comp=Z,7.1nm,1.0s,baz=42,slow=2.2,SNR=24								
ZST	Bratislava	147.09	347	*e*PKP2		PKPab	02 28 43.5	-0.1	
ZST	Bratislava	147.09	347	*e*PKP		PKPab	02 28 43.5	-0.1	
VOIR		147.10	336	⇑PKP2		PKPbc	02 28 42.9	+0.7	
VOIR		147.10	336	⇑*i*P		PKPbc	02 28 42.9	+0.7	
ANTO	Ankara	147.25	321	*e*PKIKP		PKPdf	02 28 40.3	-0.2	
ANTO				*e*			02 28 42.9		
ANTO	Ankara	147.25	321	*e*PKPdf		PKPdf	02 28 40.2	-0.2	
ANTO				*e*PKPbc		PKPbc	02 28 42.9	0.0	
ARR	Arges	147.32	336	⇑*i*P		PKPab	02 28 44.3	-0.4	
LANF	Langenberg	147.47	358	PKP		PKPbc	02 28 43.5	+0.5	
CONA	Conrad Observa	147.60	348	⇓*i*PKPab		PKPbc	02 28 44.1	+0.6	
	comp=Z,39nm,1.6s,SNR=16								
STU	Stuttgart	147.62	357	*e*PKPbc		PKPbc	02 28 44.2	+0.8	
STU	Stuttgart	147.62	357	*e*PKPdf		PKPdf	02 28 38.7	-1.9	
STU				*e*PKPbc		PKPbc	02 28 43.9	+0.5	
MOA	Molln	147.96	350	⇑*is*PKPdf		PKPbc	02 28 44.6	+0.2	
	comp=Z,14nm,1.3s			

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.10**	**256**	LR	LR	02 19 55.8	
	comp=Z,780nm,20.8s,baz=22,slow=32						
RPZ	**Rata Peaks**	**26.84**	**200**	LR	LR	02 25 52.3	
	comp=Z,413nm,18.9s,baz=264,slow=32						
WRA	**Warramunga Arr**	**46.05**	**260**	P	P	02 19 50.4	+0.1
	0.9nm,0.3s,baz=95,slow=7.8,SNR=8.1						
ASAR	**Alice Springs**	**46.09**	**255**	P	P	02 19 50.2	-0.4
	2.1nm,0.7s,baz=95,slow=8.4,SNR=4.3						
PLCA	**Paso Flores**	**89.52**	**133**	LR	LR	02 58 27.0	
	comp=Z,97nm,18.7s,baz=316,slow=32						
BRTR	**Keskin Array B**	**146.58**	**315**	PKPbc	PKPdf	02 31 07.3	+0.5
	0.5nm,0.7s,baz=71,slow=3.0,SNR=3.0						
GERES	**GERESS Array B**	**148.91**	**347**	PKPbc	PKPbc	02 31 13.7	-0.6
	0.8nm,0.6s,baz=38,slow=5.0,SNR=5.0						

CSEM ***07*** *02:29:11.0, 37.91N×15.42E, h8km, MD1.9/4, After ROM*

ROM 07 02:29:11.0±0.4, 37.91N×15.42E, h8km±1km, Md1.9/4, Ml1.0/2, 2C, Error ellipse: s-maj=3.7km s-min=2.3km az=35.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTTG	**Motta San Giov**	**0.24**	**66**	Pg	Pg	02 29 16.7	+0.9
MTTG				Sg	Sg	02 29 20.7	+1.6
MTTG	**Motta San Giov**	**0.24**	**66**	Pg	Pg	02 29 16.7	+0.9
MTTG				Sg	Sg	02 29 20.7	+1.6
MSRU	**Castanea**	**0.36**	**11**	↑*i* Pg	Pb	02 29 19.3	-0.5
MSRU				*i* Sg	Sb	02 29 24.8	-0.9
MSRU	**Castanea**	**0.36**	**11**	↑*i* Pg	Pb	02 29 19.3	-0.5
MSRU				Sg	Sb	02 29 24.8	-0.9
MPAZ	**Palizzi**	**0.47**	**84**	Pg	Pb	02 29 21.1	-0.5
MPAZ				Sg	Sb	02 29 28.1	-0.6
	15nm,0.7s						
MPAZ	**Palizzi**	**0.47**	**84**	Pg	Pb	02 29 21.1	-0.5
MPAZ				Sg	Sb	02 29 28.1	-0.6
	15nm,0.7s						
CEL	**Celeste**	**0.52**	**47**	Pg	Pg	02 29 21.7	+0.6
CEL				Sg	Sb	02 29 30.1	0.0
CEL	**Celeste**	**0.52**	**47**	Pg	Pg	02 29 21.7	+0.6
CEL				Sg	Sb	02 29 30.1	0.0
SOI	**Samo**	**0.53**	**72**	Pg	Pg	02 29 21.7	+0.4
SOI				Sg	Sb	02 29 29.6	-0.9
	171nm,3.9s						
SOI	**Samo**	**0.53**	**72**	Pg	Pg	02 29 21.7	+0.4
SOI				Sg	Sb	02 29 29.6	-0.9
	171nm,3.9s						

IDC ***07*** *02:35:50.9±3.0, 34.90S×72.57W, h0km, mb3.9/3, mb1 3.8/7, mb1mx3.7/19, mbtmp3.6/7, ML3.9/3, MS3.4/2, Ms1 3.4/2, ms1mx2.8/28, Error ellipse: s-maj=80.5km s-min=25.7km az=96.0*

ISCJB ***07*** *02:35:51.1±1.6, 34.88S±0.03×72.82W±0.06, h12km±12km, mb3.8/3, MS4.0/1, Error ellipse: s-maj=8.9km s-min=4.5km az=9.0*

GUC ***07*** *02:35:53.0±0.6, 34.88S×72.72W, h13km±4km, ML4.0*

ISC 07 02:35:52.5±1.8, 34.89S±0.04×72.76W±0.08, h16km±10km, n29, σ1s05/31, mb3.7/3, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTCH	**Constitucion**	**0.52**	**147**	↓*i* P	**Pg**	**02 36 03.1**	**+0.2**
CTCH				*i* S	**Sg**	**02 36 10.5**	**+0.6**
CTCH				AML	AML	02 36 15.0	
	comp=E,52μm,0.6s						
TALC	**Talca**	**1.05**	**119**	↑*i* P	**Pb**	**02 36 11.4**	**-0.8**
TALC				*i* S	**Sb**	**02 36 25.3**	**-0.5**
TALC				AML	AML	02 36 30.0	
	comp=E,10μm,0.4s						
COCH	**Cobquecura**	**1.24**	**181**	↑*i* P	**Pn**	**02 36 14.6**	**-0.4**
COCH				*i* S	**Sb**	**02 36 28.9**	**-2.2**
COCH				AML	AML	02 36 35.2	
	comp=E,1μm,0.2s						
NICH	**Los Niches**	**1.26**	**95**	*e*P	**Pn**	**02 36 14.6**	**-0.8**
NICH				*i* S	**Sb**	**02 36 31.1**	**-0.8**
NICH				AML	AML	02 36 36.4	
	comp=E,14μm,0.8s						
LNCH	**Linares**	**1.34**	**136**	↑*i* P	**Pn**	**02 36 16.3**	**-0.2**
LNCH				*i* S	**Sb**	**02 36 34.0**	**-0.2**
LNCH				AML	AML	02 36 35.2	
	comp=N,10μm,0.4s						
LNV	**Longovilo**	**1.45**	**50**	↑*i* P	**Pn**	**02 36 17.3**	**-0.8**
LNV				*i* S	**Sn**	**02 36 36.1**	**-0.7**
CCHI	**Chillan**	**1.79**	**162**	↓*i* P	**Pn**	**02 36 23.6**	**+0.9**
CCHI				*i* S	**Sn**	**02 36 47.0**	**+1.8**
CCHI				AML	AML	02 36 51.7	
	comp=E,2μm,0.7s						
TACH	**Talagante**	**1.95**	**51**	*e*P	**Pn**	**02 36 25.0**	**+0.1**
CHCH	**Chadas Angostu**	**1.99**	**62**	*e*P	**Pn**	**02 36 26.1**	**+0.7**
CHCH				*e*S	**Sn**	**02 36 51.3**	**+1.3**
RCDM	**Rinconada Maip**	**2.14**	**50**	*e*P	**Pn**	**02 36 28.3**	**+0.8**
RCDM				AML	AML	02 37 06.2	
	comp=E,893nm,0.4s						
ANTU	**Antumapu**	**2.20**	**54**	*e*P	**Pn**	**02 36 29.8**	**+1.4**
ANTU				AML	AML	02 37 07.1	
	comp=N,2μm,0.3s						
PCH	**Pirque**	**2.25**	**56**	*e*P	**Pn**	**02 36 29.5**	**+0.4**
PCH				*e*S	**Sn**	**02 36 57.8**	**+1.3**
SAN	**Santiago**	**2.25**	**51**	*e*P	**Pn**	**02 36 30.4**	**+1.3**
SAN				AML	AML	02 37 06.7	
	comp=N,1μm,1.5s						
LMEL	**Las Melosas**	**2.36**	**64**	AML	AML	02 37 10.1	
	comp=N,1μm,0.2s						
CLCH	**Cerro Calan**	**2.37**	**52**	*e*P	**Pn**	**02 36 32.1**	**+1.4**
CLCH				*e*S	**Sb**	**02 37 02.2**	**-1.7**
CLCH				AML	AML	02 37 14.8	
	comp=N,1μm,0.5s						
CFAA	**Coronel Fontan**	**5.01**	**50**	Pn	**Pn**	**02 37 06.6**	**-0.4**
	baz=223,slow=14						
CFAA				Lg	Lg	02 38 17.4	
	comp=N,0.5nm,0.3s,baz=232,slow=16,SNR=4.3						
H03N1	**Juan Fernandez**	**5.30**	**284**	T	T	02 42 47.9	
	baz=104,slow=0.7,SNR=76						
H03N3	**Juan Fernandez**	**5.31**	**284**	T	T	02 42 52.5	
	baz=104,slow=0.7,SNR=45						
H03N2	**Juan Fernandez**	**5.32**	**284**	T	T	02 42 48.4	
	baz=104,slow=0.7,SNR=48						
PLCA	**Paso Flores**	**6.09**	**164**	Pn	**Pn**	**02 37 23.0**	**+1.2**
	comp=N,0.9nm,0.3s,baz=345,slow=12,SNR=20						
PLCA				LR	LR	02 39 41.5	
	comp=N,112nm,18.1s,baz=178,slow=38						
CPUP	**Villa Florida**	**15.77**	**61**	Pn	**Pn**	**02 39 33.8**	**-0.1**
	comp=N,0.2nm,0.3s,baz=227,slow=18,SNR=2.2						
LPAZ	**La Paz**	**18.98**	**14**	P	**Pn**	**02 40 15.8**	**+1.1**
	comp=N,0.1nm,0.3s,baz=201,slow=10,SNR=4.4						
SIV	**San Ignacio**	**21.54**	**32**	P	**P**	**02 40 40.2**	**-0.9**
	comp=N,2.5nm,0.7s,baz=204,slow=10.0,SNR=6.7						
PFO	**Pinyon Flat Ob**	**79.50**	**324**	LR	LR	03 17 38.0	
	comp=N,63nm,18.7s,baz=112,slow=32						
BOSA	**Boshof**	**80.18**	**118**	P	**P**	**02 48 02.4**	**0.0**
	comp=N,2.1nm,0.8s,baz=280,slow=7.0,SNR=2.9						
TORD	**Torodi Ar. Bea**	**85.07**	**70**	P	**P**	**02 48 27.6**	**-0.1**
	comp=N,0.2nm,0.7s,baz=234,slow=5.0,SNR=4.8						
H11N3	**WAKE ISLAND Hy**	**125.60**	**270**	T	T	05 13 15.6	
	baz=109						
H11N1	**WAKE ISLAND Hy**	**125.61**	**270**	T	T	05 13 20.1	
	baz=109,slow=0.7,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**125.61**	**270**	T	T	05 13 19.9	
	baz=109,slow=0.7,SNR=2.7						

IDC 07 02:36:30.6±2.0, 14.94S×173.92W, h0km, mb3.8/4, mb1 4.2/4, mb1mx3.8/18, mbtmp3.8/4, Error ellipse: s-maj=112.6km s-min=29.9km az=150.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.31**	**64**	Pn	Pn	02 37 00.2	-10
	21nm,0.3s,baz=296,slow=3.9,SNR=8.2						
AFI				Sn	Sn	02 37 22.6	-17
	72nm,0.3s,baz=183,slow=23,SNR=8.6						
H11S2	**WAKE ISLAND Hy**	**38.31**	**329**	T	T	03 24 40.8	
	baz=152,slow=0.7,SNR=16						
H11S3	**WAKE ISLAND Hy**	**38.33**	**329**	T	T	03 24 42.9	
	baz=152,slow=0.7,SNR=17						
H11S1	**WAKE ISLAND Hy**	**38.33**	**329**	T	T	03 24 42.7	
	baz=152,slow=0.7,SNR=20						
H11N3	**WAKE ISLAND Hy**	**39.27**	**331**	T	T	03 26 02.0	
	baz=152,slow=0.7,SNR=7.1						
H11N1	**WAKE ISLAND Hy**	**39.27**	**331**	T	T	03 26 02.3	
	baz=152,slow=0.7,SNR=8.3						
H11N2	**WAKE ISLAND Hy**	**39.28**	**331**	T	T	03 26 03.8	
	baz=152,slow=0.7,SNR=8.7						
ASAR	**Alice Springs**	**49.78**	**252**	P	P	02 45 25.1	-0.4
	1.6nm,0.8s,baz=83,slow=8.2,SNR=16						
TXAR	**Lajitas Array**	**80.78**	**56**	P	P	02 48 46.9	+0.3
	0.9nm,1.0s,baz=216,slow=4.5,SNR=5.2						
ILAR	**Eielson Array**	**82.09**	**11**	P	P	02 48 52.3	-0.3
	0.6nm,0.9s,baz=190,slow=8.2,SNR=3.5						
PDAR	**Pinedale Array**	**82.26**	**42**	P	P	02 48 53.8	-0.5
	0.3nm,0.5s,baz=235,slow=5.2,SNR=3.6						
BRTR	**Keskin Array B**	**145.49**	**321**	PKPbc	PKPdf	02 56 11.3	+0.1
	0.6nm,0.8s,baz=82,slow=3.1,SNR=3.0						

AUST 07 02:44:39.9±24.0, 0.59N×118.87E, h7km, Error ellipse: s-maj=1.9km s-min=1.1km az=358.0, Borneo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**13.67**	**234**	P	Pn	02 47 56.3	+1.9
	baz=14,SNR=5.9						
PMBI	**Palembang**	**14.52**	**256**	P	Pn	02 48 02.9	-3.0
	baz=14,SNR=3.6						
PALU	**Palau**	**16.95**	**66**	P	Pn	02 48 37.5	-0.2
	baz=17,SNR=7.2						
PPI	**Padang Panjang**	**18.50**	**267**	P	Pn	02 48 58.0	+1.0
	baz=18,SNR=5.9						
KDU	**Kakadu**	**18.87**	**135**	P	Pn	02 49 01.3	-0.1
	baz=19,SNR=3.6						
MANU	**Manus Island**	**28.61**	**95**	P	P	02 50 51.1	+14
	baz=29,SNR=4.6						

GUC 07 02:57:32.6±0.8, 22.23S×68.80W, h97km±7km, ML2.8, 3C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.60**	**316**	↓*i* P	Pn	02 57 49.7	+0.6
PB09				*i* S	Sn	02 58 02.3	+0.8
PB09				AML	AML	02 58 03.3	
	comp=E,728nm,0.5s						
PB04	**Plate Boundary**	**0.64**	**267**	↑*i* P	Pn	02 57 56.5	+7.3
PB04				*i* S	Sn	02 58 14.7	+13
PB04				AML	AML	02 58 15.9	
	comp=N,166nm,0.1s						
MACH	**Maria Elena**	**0.89**	**272**	↓*i* P	Pn	02 57 52.6	+0.6
MACH				*i* S	Sn	02 58 07.4	+0.8
PB07	**Plate Boundary**	**1.13**	**296**	↓*i* P	Pn	02 57 55.0	+0.4
PB07				*i* S	Sn	02 58 12.0	+0.9
PB07				AML	AML	02 58 12.9	
	comp=E,311nm,0.4s						
PB01	**Plate Boundary**	**1.35**	**331**	↑*i* P	Pn	02 57 57.2	+0.2
PB01				*i* S	Sn	02 58 16.4	+1.1
PB01				AML	AML	02 58 17.1	
	comp=E,143nm,0.3s						
CEN1	**Los Morros**	**1.73**	**228**	*e*P	Pn	02 58 05.7	+3.9
CEN1				*i* S	Sn	02 58 30.3	+6.2
CEN1				AML	AML	02 58 35.7	
	comp=N,35nm,0.2s						
HMBC	**Humberstone**	**2.19**	**332**	↑*i* P	Pn	02 58 07.5	-0.3
HMBC				*i* S	Sn	02 58 35.5	+0.8
HMBC				AML	AML	02 58 41.3	
	comp=E,101nm,0.4s						

IDC ***07*** *02:57:50.4±1.8, 23.47S×67.55W, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.8/16, mbtmp3.9/3, ML4.4/2, Error ellipse: s-maj=50.8km s-min=38.9km az=19.0*

ISCJB ***07*** *02:58:20.5±1.0, 21.43S±0.06×67.9W±0.2, h240km±16km, mb3.4/2, Error ellipse: s-maj=32.0km s-min=8.6km az=6.6*

GUC ***07*** *02:58:20.2±0.7, 21.40S×67.91W, h235km±7km, ML4.0*

ISC 07 02:58:21.1±2.0, 21.40S±0.07×67.7W±0.2, h221km±18km, n17, σ0s94/21, 5C-4D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**1.49**	**254**	↓*i* P	**Pn**	**02 58 56.7**	**-0.1**
PB09				*i* S	**S**	**02 59 24.8**	**+0.2**
PB09				AML	AML	02 59 28.4	
	comp=N,477nm,0.3s						
PB01	**Plate Boundary**	**1.71**	**282**	↑*i* P	**Pn**	**02 58 58.5**	**-0.2**
PB01				*i* S	**S**	**02 59 27.9**	**+0.2**
PB01				AML	AML	02 59 28.7	
	comp=N,367nm,0.4s						
PB04	**Plate Boundary**	**1.87**	**242**	↑*i* P	Pn	02 59 06.2	+6.2
PB04				*i* S	S	02 59 40.6	+10
PB04				AML	AML	02 59 43.9	
	comp=E,187nm,0.2s						
PB07	**Plate Boundary**	**2.06**	**261**	↑*i* P	**Pn**	**02 59 02.2**	**+0.2**
PB07				*i* S	**S**	**02 59 33.6**	**-0.2**
PB07				AML	AML	02 59 34.4	
	comp=E,428nm,0.3s						
MACH	**Maria Elena**	**2.07**	**247**	↓*i* P	**Pn**	**02 59 02.3**	**+0.1**
MACH				*i* S	**S**	**02 59 33.9**	**-0.2**
HMBC	**Humberstone**	**2.33**	**298**	↓*i* P	**Pn**	**02 59 04.7**	**-0.1**
HMBC				*e*S	**S**	**02 59 38.7**	**0.0**
HMBC				AML	AML	02 59 40.5	
	comp=N,556nm,0.4s						
MNMC	**Minimini**	**2.87**	**321**	↑*i* P	**Pn**	**02 59 11.2**	**+0.4**
MNMC				*e*S	**S**	**02 59 50.2**	**+0.7**
MNMC				AML	AML	02 59 51.4	
	comp=E,373nm,0.5s						
PSGC	**Pisagua**	**2.89**	**308**	*e*P	**Pn**	**02 59 11.1**	**+0.2**
PSGC				*i* S	**S**	**02 59 49.4**	**-0.2**
PSGC				AML	AML	02 59 51.7	
	comp=N,179nm,0.9s						
CEN1	**Los Morros**	**3.05**	**229**	↓*i* P	**Pn**	**02 59 15.1**	**+2.6**
CEN1				AML	AML	02 59 57.9	
	comp=N,70nm,0.2s						
PB10	**Plate Boundary**	**3.38**	**231**	*e*P	**Pn**	**02 59 16.2**	**0.0**
PB10				*i* S	**S**	**02 59 57.3**	**-2.1**
PB10				AML	AML	02 59 59.2	
	comp=E,279nm,0.3s						
ANCH	**Antofagasta**	**3.38**	**227**	↑*i* P	**Pn**	**02 59 16.9**	**+0.6**
ANCH				*i* S	**S**	**02 59 57.9**	**-1.6**
ANCH				AML	AML	02 59 59.6	
	comp=E,372nm,0.1s						
LPAZ	**La Paz**	**5.10**	**355**	Pn	**Pn**	**02 59 37.5**	**-0.5**
	comp=E,2.2nm,0.3s,baz=172,slow=6.8,SNR=78						
SIV	**San Ignacio**	**8.27**	**51**	Pn	Pn	03 00 10.0	-8.0
	comp=E,2.9nm,0.3s,baz=241,slow=12,SNR=40						
NVAR	**Mina Array Bea**	**76.11**	**321**	P	P	03 09 49.8	+4.9
	comp=E,0.3nm,0.8s,baz=132,slow=8.7,SNR=2.7						
TORD	**Torodi Ar. Bea**	**76.26**	**70**	P	P	03 09 44.7	-1.2
	comp=E,1.3nm,0.5s,baz=259,slow=5.5,SNR=22						
ZALV	**Zalesovo Beam**	**141.38**	**26**	PKP	**PKPdf**	**03 17 25.4**	**+0.2**
	comp=E,0.7nm,0.4s,baz=333,slow=1.6,SNR=3.2						
MKAR	**Makanchi Array**	**144.88**	**37**	PKPbc	PKPbc	03 17 33.2	+1.8
	comp=E,0.8nm,0.6s,baz=311,slow=4.3,SNR=7.1						

IDC ***07*** *03:11:28.1±4.2, 29.13N×116.45W, h0km, mb1 3.7/4, mb1mx3.5/27, mbtmp3.2/4, ML3.8/2, Error ellipse: s-maj=57.1km s-min=16.7km az=50.0*

ECX ***07*** *03:11:31.6±0.5, 29.76N×116.24W, h5km, MD3.3, ML3.5*

ISC 07 03:11:32.2±2.2, 29.8N±0.1×116.25W±0.09, h10km, n19, σ1s47/20, 3C-5D, Off west coast of Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**1.38**	**29**	↑*e* P	**Pn**	**03 11 56.4**	**-1.5**
SPX				*e*S	**Sn**	**03 12 16.4**	**0.0**
SPX				↓*e*		03 12 28.4	
	comp=E,726nm,0.9s						
ZAX	**El Zacaton**	**1.67**	**359**	*e*P	**Pn**	**03 12 01.8**	**+0.1**
ZAX				*e*S	**Sb**	**03 12 25.2**	**+1.0**
ECNX	**Esteban Cantu**	**1.84**	**351**	↑*e* P	**Pn**	**03 12 04.7**	**+0.7**
ECNX				*e*S	**Sb**	**03 12 29.4**	**+0.2**
ECNX				↓*e*		03 12 32.6	
	comp=N,419nm,0.8s						
ECBX	**El Chinero**	**1.93**	**32**	↓*e* P	**Pn**	**03 12 05.3**	**+0.2**
ECBX				*e*S	**Sb**	**03 12 31.5**	**0.0**
PBX	**Punta Banda**	**1.94**	**348**	*e*P	**Pn**	**03 12 05.7**	**+0.4**
PBX				*e*S	**Sb**	**03 12 32.4**	**+0.4**
PBX				↑*e*		03 12 49.0	
	comp=E,320nm,1.0s						
RDX	**Rancho Dawling**	**2.10**	**7**	*e*P	**Pb**	**03 12 09.3**	**-1.2**
RDX				*e*S	**Sb**	**03 12 37.7**	**+1.0**
RDX				↓*e*		03 12 47.9	
	comp=N,244nm,0.6s						
EMX	**El Mayor**	**2.31**	**22**	↓*e* P	**Pb**	**03 12 13.9**	**-0.1**
EMX				*e*S	**Sb**	**03 12 44.5**	**+2.0**
CBX	**Cerro Bola**	**2.49**	**352**	*e*P	**Pn**	**03 12 13.9**	**+0.9**
RMX	**La Rumorosa**	**2.76**	**3**	*e*P	**Pb**	**03 12 22.1**	**+0.4**
PFO	**Pinyon Flat Ob**	**3.76**	**357**	Pn	**Pb**	**03 12 36.7**	**-2.1**
	comp=N,0.2nm,0.3s,baz=180,slow=9.1,SNR=2.5						
PFO				Pg	**Pg**	**03 12 42.5**	**-1.9**
	comp=N,0.4nm,0.3s,baz=179,slow=14,SNR=7.5						
PFO				Sn	**Sb**	**03 13 28.5**	**+3.9**
	comp=N,0.5nm,0.3s,baz=166,slow=22,SNR=1.4						
NVAR	**Mina Array Bea**	**8.74**	**349**	Pn	Pn	03 13 46.5	+7.6
	baz=176,slow=14,SNR=3.2						
NVAR				Lg	Lg	03 16 26.2	
	comp=N,0.2nm,0.3s,baz=169,slow=34,SNR=5.3						
TXAR	**Lajitas Array**	**10.96**	**90**	Pn	**Pn**	**03 14 10.5**	**+1.2**
	comp=N,0.1nm,0.3s,baz=268,slow=12,SNR=5.6						
PDAR	**Pinedale Array**	**13.97**	**21**	Pn	P	03 15 04.2	+5.5
	comp=N,0.1nm,0.3s,baz=239,slow=16,SNR=5.2						
H11N3	**WAKE ISLAND Hy**	**69.37**	**281**	T	T	04 38 52.9	
	baz=68,slow=0.7,SNR=0.5						
H11N2	**WAKE ISLAND Hy**	**69.38**	**281**	T	T	04 38 53.8	
	baz=68,slow=0.7,SNR=86						
H11N1	**WAKE ISLAND Hy**	**69.39**	**281**	T	T	04 38 54.8	
	baz=68,slow=0.7,SNR=86						
H11S1	**WAKE ISLAND Hy**	**70.07**	**280**	T	T	04 39 51.3	
	baz=67						
H11S2	**WAKE ISLAND Hy**	**70.07**	**280**	T	T	04 39 50.5	
	baz=67						
H11S3	**WAKE ISLAND Hy**	**70.08**	**280**	T	T	04 39 55.7	
	baz=67						

IDC ***07*** *03:19:00.4±0.6, 0.75S×100.09E, h75km±4km, mb4.0/15, mb1 4.1/16, mb1mx3.9/26, mbtmp4.0/16, Error ellipse: s-maj=21.9km s-min=11.3km az=63.0*

ISCJB ***07*** *03:19:01.2±0.4, 0.75S±0.04×99.98E±0.06, h100km, mb4.3/16, Error ellipse: s-maj=9.3km s-min=4.1km az=147.1*

NEIC ***07*** *03:19:01.7±1.2, 0.75S×100.12E, h90km±10km, mb4.6/1, Error ellipse: s-maj=16.8km s-min=8.7km az=61.0*

NEIC Felt [III] at Padang and [II] at Padangpanjang.

DJA ***07*** *03:19:02.1±0.6, 1°S±4'×10°E±', h50km±7km, M4.7/5, mb5.0/3, mB4.9/2, MLv4.5/5, Mw(mB)4.2/2*

ISC 07 03:19:01.6±0.5, 0.72S±0.06×99.98E±0.09, h100km, n74, σ2s39/88, mb4.4/16, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**0.49**	**58**	P	**Pn**	**03 19 16.4**	**-1.0**
PPI				S	**Sn**	**03 19 27.4**	**-1.7**
PDSI	**Padang**	**0.52**	**112**	P	**Pn**	**03 19 16.3**	**-1.3**
PDSI				S	**Sn**	**03 19 26.9**	**-2.7**
RGRI	**Rengat**	**2.38**	**81**	P	Pn	03 19 41.0	+1.8
MASI	**Maura Aman, Be**	**3.30**	**137**	P	**Pn**	**03 19 52.3**	**+0.8**
PSI	**Prapat**	**3.65**	**343**	P	**Pn**	**03 19 55.1**	**-1.2**
PSI	**Prapat**	**3.65**	**343**	P	**Pn**	**03 19 55.1**	**-1.2**
	17nm,0.3s,baz=271,slow=0.6,SNR=37						
KSI	**Kapahiang**	**3.92**	**138**	P	**Pn**	**03 20 00.5**	**+0.7**
KSI				S	**Sn**	**03 20 45.9**	**+1.1**
FRIM	**Kepong**	**4.26**	**23**	P	**Pn**	**03 20 06.0**	**+1.7**
KGM	**Kluang**	**4.30**	**51**	P	Pn	03 20 07.3	+2.3
MYKOM	**Kota Tinggi**	**4.60**	**57**	P	Pn	03 20 11.2	+2.2
MYKOM	**Kota Tinggi**	**4.60**	**57**	P	Pn	03 20 11.2	+2.2
MNAI	**Manna**	**4.69**	**141**	P	**Pn**	**03 20 10.2**	**0.0**
MNAI				S	**Sn**	**03 21 02.1**	**-1.3**
LHSI	**Lahat**	**4.70**	**131**	P	Pn	03 20 11.6	+1.3
KCSI	**Kotacane, Aceh**	**4.75**	**332**	P	**Pn**	**03 20 09.9**	**-1.2**
TPRI	**Tanjung Pinang**	**4.83**	**70**	P	Pn	03 20 18.6	+6.5
IPM	**Ipoh**	**5.27**	**11**	P	Pn	03 20 21.5	+3.4
IPM	**Ipoh**	**5.27**	**11**	P	Pn	03 20 20.7	+2.7
	59nm,1.2s,1μm0.4nm						
IPM	**Ipoh**	**5.27**	**11**	*e*Pn	**Pn**	**03 20 20.1**	**+2.0**
	59nm,0.4s						
MDSI	**Maura Dua**	**5.62**	**132**	P	Pn	03 20 24.0	+1.1
LWLI	**Liwa**	**5.90**	**136**	P	Pn	03 20 28.2	+1.4
	192nm,0.5s						
KULM	**Kulim**	**6.00**	**6**	P	**Pn**	**03 20 29.5**	**+1.4**
KULM	**Kulim**	**6.00**	**6**	P	**Pn**	**03 20 29.3**	**+1.3**
KULM	**Kulim**	**6.00**	**6**	*e*Pn	**Pn**	**03 20 28.6**	**+0.5**
	41nm,0.6s						
KTGM	**Kuala Trenggan**	**6.78**	**28**	P	Pn	03 20 41.0	+2.4
H08S2	**Diego Garcia H**	**28.25**	**255**	T	T	03 53 03.6	
	baz=77,slow=0.7,SNR=14						
H08S3	**Diego Garcia H**	**28.25**	**255**	T	T	03 53 03.1	
	baz=77,slow=0.7,SNR=22						
H08S1	**Diego Carcia H**	**28.27**	**255**	T	T	03 53 07.0	
	baz=77,slow=0.7,SNR=17						
ODAN	**Odare**	**29.98**	**337**	*e*P	**P**	**03 25 03.2**	**+2.1**
	21nm,0.5s						
TAPN	**Taplejung**	**30.30**	**338**	*e*P	**P**	**03 25 06.6**	**+2.7**
	18nm,0.5s						
JIRN	**Jiri**	**31.17**	**336**	*e*P	**P**	**03 25 14.2**	**+2.5**
	33nm,0.5s						
LSA	**Lhasa**	**31.40**	**345**	*e*P	**P**	**03 25 16.0**	**+2.2**
	6.3nm,0.5s						
GUN	**Gumba**	**31.52**	**336**	*e*P	**P**	**03 25 17.1**	**+2.3**
	73nm,0.5s						
KKN	**Kakani**	**31.66**	**335**	*e*P	**P**	**03 25 17.9**	**+2.0**
	28nm,0.5s						
GKN	**Gorkha**	**32.13**	**334**	*e*P	**P**	**03 25 22.1**	**+2.2**
	21nm,0.4s						
KOLN	**Koldanda**	**32.40**	**332**	*e*P	**P**	**03 25 24.6**	**+2.3**
	31nm,0.6s						
WRA	**Warramunga Arr**	**38.67**	**122**	P	**P**	**03 26 15.0**	**-0.9**
WRA				PcP	**PcP**	**03 28 28.1**	**+1.9**
WRA	**Warramunga Arr**	**38.67**	**122**	P	**P**	**03 26 15.0**	**-0.9**
	1.1nm,0.4s,baz=300,slow=9.0,SNR=4.9						
WRA			

BRTR	**Keskin Array B**	**72.45**	**312**	P		**P**	**03 30 18.6**	**+1.0**
	0.7nm,0.7s,baz=126,slow=5.1,SNR=3.2							
BRTR				pP		**pP**	**03 30 39.6**	**-3.5**
	0.5nm,0.6s,baz=136,slow=9.6,SNR=3.1							
BOSA	**Boshof**	**76.26**	**241**	P		**P**	**03 30 42.6**	**+2.6**
BOSA	**Boshof**	**76.26**	**241**	P		**P**	**03 30 42.6**	**+2.6**
	2.4nm,0.5s,baz=214,slow=4.8,SNR=5.7							
FINES	**FINESS Array B**	**82.97**	**332**	P		**P**	**03 31 16.9**	**+1.5**
FINES				pP		**pP**	**03 31 37.4**	**-4.1**
FINES	**FINESS Array B**	**82.97**	**332**	P		**P**	**03 31 16.9**	**+1.5**
	5.6nm,0.9s,baz=98,slow=7.8,SNR=5.5							
FINES				pP		**pP**	**03 31 37.4**	**-4.1**
	8.9nm,1.1s,baz=116,slow=8.7,SNR=2.2							
VNDA	**Vanda**	**83.42**	**169**	P		P	03 31 20.5	+3.1
VNDA				pP		pP	03 31 42.8	-0.8
VNDA	**Vanda**	**83.42**	**169**	P		P	03 31 20.5	+3.1
	1.2nm,0.6s,baz=314,slow=5.9,SNR=20							
VNDA				pP		pP	03 31 42.8	-0.8
	0.6nm,0.7s,baz=302,slow=6.4,SNR=1.6							
ARCES	**ARCESS Array B**	**85.27**	**340**	P		**P**	**03 31 29.0**	**+2.1**
ARCES				pP		**pP**	**03 31 49.6**	**-3.5**
ARCES	**ARCESS Array B**	**85.27**	**340**	P		**P**	**03 31 29.0**	**+2.1**
	0.7nm,0.4s,baz=89,slow=6.7,SNR=6.3							
ARCES				pP		**pP**	**03 31 49.6**	**-3.5**
	4.0nm,0.9s,baz=94,slow=5.4,SNR=2.3							
TXAR	**Lajitas Array**	**143.69**	**36**	PKP		**PKPdf**	**03 38 26.2**	**+0.4**
TXAR				pPKP		**pPKPdf**	**03 38 47.1**	**-6.2**
TXAR	**Lajitas Array**	**143.69**	**36**	PKP		**PKPdf**	**03 38 26.2**	**+0.4**
	0.4nm,0.5s,baz=126,slow=1.2,SNR=4.0							
TXAR				pPKP		**pPKPdf**	**03 38 47.2**	**-6.2**
	0.9nm,0.7s,baz=266,slow=1.2,SNR=5.2							
BDFB	**Brasilia**	**144.45**	**241**	PKP		**PKPdf**	**03 38 29.1**	**+1.6**
BDFB	**Brasilia**	**144.45**	**241**	PKP		**PKPdf**	**03 38 29.1**	**+1.6**
	1.8nm,0.4s,baz=138,slow=4.9,SNR=5.1							
TKL	**Tuckaleechee C**	**145.06**	**5**	PKPbc		**PKPdf**	**03 38 28.8**	**+0.9**
TKL				pPKPbc		pPKPbc	03 38 49.8	-5.0
TKL	**Tuckaleechee C**	**145.06**	**5**	PKPbc		**PKPdf**	**03 38 28.8**	**+0.9**
	1.7nm,0.5s,baz=133,slow=7.2,SNR=6.4							
TKL				pPKPbc		pPKPbc	03 38 49.8	-5.0
	2.4nm,0.7s,baz=186,slow=4.2,SNR=2.8							
CPUP	**Villa Florida**	**145.33**	**217**	PKPbc		**PKPab**	**03 38 29.6**	**+0.8**
CPUP	**Villa Florida**	**145.33**	**217**	PKPbc		**PKPab**	**03 38 29.6**	**+0.8**
	2.3nm,0.8s,baz=37,slow=5.9,SNR=5.0							

*IDC **07** 03:22:52.2±6.3, 38.68N×72.87E, h57km±56km, mb3.7/3, mb1 3.7/5, mb1mx3.3/29, mbtmp3.6/5, ML3.5/2, Error ellipse: s-maj=45.5km s-min=32.8km az=175.0*
*ISCJB **07** 03:22:53.7±0.5, 38.83N±0.04×73.03E±0.10, h100km, mb3.8/3, Error ellipse: s-maj=11.2km s-min=5.1km az=10.9*
*NNC **07** 03:22:54.2±12.0, 39.11N×72.97E, h16km±112km, mb3.7, mpv3.3, Error ellipse: s-maj=135.7km s-min=58.9km az=177.0*

ISC 07 03:22:55.4±0.9, 38.84N±0.07×73.02E±0.10, h100km, n23, σ1°23/25, mb3.6/3, 5C-3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**3.33**	**9**	P	**Pn**	**03 23 46.0**	**+0.1**
	SNR=22						
UCH	**Uchtor**	**3.57**	**18**	P	**Sn**	**03 24 29.9**	**-0.9**
	SNR=5.4						
KZA	**Kyzart**	**3.66**	**27**	P	**Pn**	**03 23 49.4**	**-1.0**
	SNR=21						
EKS2	**Erkin-Say**	**3.86**	**8**	P	**Pn**	**03 23 51.0**	**-1.9**
	SNR=5.9						
AAK	**Ala-Archa**	**3.95**	**16**	P	**Pn**	**03 23 54.8**	**+0.7**
	SNR=12						
AAK	**Ala-Archa**	**3.95**	**16**	P	**Pn**	**03 23 54.8**	**+0.7**
	4.0nm,0.3s,baz=170,slow=8.6,SNR=17						
AAK				S	**Sn**	**03 24 40.6**	**+1.0**
	3.9nm,0.3s,baz=308,slow=22,SNR=2.9						
ULHL	**Ulahol**	**4.20**	**35**	P	**Pn**	**03 23 56.4**	**-1.1**
	SNR=12						
TKM2	**Tokmak 2**	**4.52**	**25**	⇑Pn	**Pn**	**03 24 01.7**	**-0.2**
	2.8nm,0.4s						
TKM2				⇓Sn	**Sn**	**03 24 53.4**	**+0.1**
	14nm,0.7s						
TKM2				⇑Lg	Lg	03 25 10.7	
	19nm,0.9s						
TKM2	**Tokmak 2**	**4.52**	**25**	P	**Pn**	**03 24 01.5**	**-0.4**
	SNR=11						
KK31	**Karatay Array**	**4.66**	**337**	⇑Pn	**Pn**	**03 24 04.3**	**+0.8**
	1.4nm,0.2s,baz=148,slow=11,SNR=72						
KK31				⇑Sn	**Sn**	**03 24 55.7**	**-0.8**
	14nm,0.5s,baz=143,slow=20,SNR=14						
CEP	**Cherat**	**5.08**	**190**	⇓P	**Pn**	**03 24 09.6**	**+0.2**
CHCP	**Chirah Chowk**	**5.17**	**178**	P	**Pn**	**03 24 10.6**	**+0.1**
THW	**Thamme Wali**	**6.12**	**190**	⇑P	**Pn**	**03 24 22.5**	**-0.9**
THN	**Thein Dam**	**6.76**	**160**	*e*P	Pn	03 24 27.5	-4.5
THN				*e*S	Sn	03 25 38.5	-9.0
SARP	**Sargodha**	**6.91**	**182**	P	**Pn**	**03 24 33.1**	**-0.9**
MK31	**Makanchi Array**	**10.46**	**38**	⇓Pn	**Pn**	**03 25 20.9**	**-1.4**
	1.1nm,0.7s,baz=216,slow=15,SNR=9.9						
MKAR	**Makanchi Array**	**10.46**	**38**	P	**Pn**	**03 25 20.8**	**-1.6**
	0.3nm,0.3s,baz=209,slow=15,SNR=11						
AB31	**Akbulak array**	**14.01**	**322**	Pn	**Pn**	**03 26 07.3**	**-1.9**
	0.4nm,0.3s,baz=129,slow=14,SNR=20						
BVAR	**Borovoye Array**	**14.30**	**354**	P	**P**	**03 26 17.5**	**+0.3**
	0.8nm,0.3s,baz=165,slow=12,SNR=6.4						
ZALV	**Zalesovo Beam**	**17.13**	**24**	P	**Pn**	**03 26 46.7**	**-1.6**
	0.6nm,0.3s,baz=207,slow=13,SNR=7.0						
SONM	**Songino Array**	**25.72**	**59**	P	**P**	**03 28 19.3**	**+2.8**
	0.8nm,0.7s,baz=271,slow=12,SNR=4.5						
FINES	**FINESS Array B**	**36.49**	**324**	P	**P**	**03 29 52.2**	**+1.6**
	7.5nm,1.1s,baz=99,slow=8.6,SNR=2.5						
TORD	**Torodi Ar. Bea**	**67.37**	**269**	P	**P**	**03 33 40.6**	**+0.5**
	0.5nm,0.6s,baz=55,slow=5.4,SNR=8.6						

*PRE **07** 03:24:34.8±0.6, 3.94S×34.78E, h10km, ML4.8*

ISC 07 03:24:35.7±2.8, 3.38S±0.3×34.76E±0.06, h10km, n4, σ1°01/8, Lake Victoria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAUS	**Longido**	**2.21**	**61**	*i* P	**Pb**	**03 25 15.8**	**-0.2**
MAUS				*i* S	**Sn**	**03 25 39.3**	**-1.0**
KMBO	**Kilima Mbogo**	**3.66**	**43**	*e*P	**Pn**	**03 25 32.9**	**+0.3**
KMBO				*e*S	**Sn**	**03 26 16.4**	**+0.4**
KIG	**Kigali**	**5.04**	**291**	*e*P	**Pn**	**03 25 52.3**	**+0.6**
KIG				*e*S	**Sn**	**03 26 48.9**	**-1.2**
KIG				AML	AML	03 27 28.8	
	comp=Z,580nm,0.5s						
MBAR	**Mbarara**	**5.14**	**308**	*e*P	**Pn**	**03 25 54.0**	**+1.1**
MBAR				*e*S	**Sn**	**03 26 51.5**	**-1.0**

*AUST **07** 03:30:23.6±2.8, 8.27S×107.27E, h31km, Error ellipse: s-maj=1.7km s-min=0.8km az=306.0*
*DJA **07** 03:30:27.3±1.2, 8°S±.7°×107.7E±.°, h15km, M3.5/4, MLv3.5/4*

ISC 07 03:30:22.1±1.1, 8.16S±0.06×107.25E±0.10, h62km, n13, σ1°84/11, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.82**	**43**	P	**Pn**	**03 30 37.2**	**-0.9**
	baz=0.9,SNR=43						
SKJI	**Sukabumi**	**1.34**	**329**	P	**Sn**	**03 30 57.4**	**-4.3**
LEM	**Lembang**	**1.38**	**15**	P	**Pn**	**03 30 46.8**	**+1.4**
LEM				S	**Sn**	**03 31 02.9**	**+0.1**
LEM	**Lembang**	**1.38**	**15**	P	**Pn**	**03 30 46.5**	**+1.1**
	baz=1.5,SNR=20						
DBJI	**Dramaga**	**1.68**	**343**	P	**Pn**	**03 30 51.0**	**+1.8**
DBJI				S	**Sn**	**03 31 10.1**	**+0.3**
KPJI	**Karang Pucung**	**1.86**	**64**	P	Pn	03 31 00.3	+8.6
XMI	**Christmas Isla**	**2.75**	**214**	P	**Pn**	**03 31 04.7**	**+0.9**
	baz=2.7,SNR=7.2						
XMIS	**Christmas Isla**	**2.79**	**214**	P	**Pn**	**03 31 05.0**	**+0.6**
	baz=2.7,SNR=16						
LUWI	**Luwuk**	**17.00**	**66**	P	P	03 34 25.4	+8.4
	baz=17,SNR=4.5						
KDU	**Kakadu**	**25.20**	**102**	P	**P**	**03 35 42.6**	**+0.4**
	baz=25,SNR=3.7						
KLBR	**Kellerberrin**	**25.28**	**159**	P	P	03 35 50.5	+7.7
	baz=25,SNR=5.4						
RKGY	**Rocky Gully**	**27.80**	**163**	P	**P**	**03 36 05.0**	**-0.4**
	baz=28,SNR=5.4						
KAAM	**Kaadhehdhoo**	**35.21**	**283**	P	P	03 37 17.0	+6.2
	baz=35,SNR=3.6						

IDC 07 03:42:47.1±4.2, 19.69N×122.17E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.6/25, mbtmp3.9/4, Error ellipse: s-maj=363.1km s-min=21.1km az=62.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.15**	**162**	P	P	03 50 32.5	-0.8
	0.8nm,0.4s,baz=344,slow=9.1,SNR=7.1						
H11S3	**WAKE ISLAND Hy 42.00**	**84**		T	T	04 35 21.6	
	baz=281,slow=0.7,SNR=254						
H11S1	**WAKE ISLAND Hy 42.01**	**84**		T	T	04 35 22.6	
	baz=281,slow=0.7,SNR=380						
H11N1	**WAKE ISLAND Hy 42.01**	**82**		T	T	04 35 22.1	
	baz=283,slow=0.7,SNR=201						
H11N2	**WAKE ISLAND Hy 42.02**	**82**		T	T	04 35 21.9	
	baz=283,slow=0.7,SNR=161						
H11S2	**WAKE ISLAND Hy 42.02**	**84**		T	T	04 35 22.6	
	baz=281,slow=0.7,SNR=223						
H11N3	**WAKE ISLAND Hy 42.03**	**82**		T	T	04 35 23.3	
	baz=283,slow=0.7,SNR=172						
MKAR	**Makanchi Array**	**42.26**	**319**	P	P	03 50 41.4	-0.7
	0.7nm,0.6s,baz=116,slow=8.8,SNR=7.8						
ASAR	**Alice Springs**	**44.59**	**165**	P	P	03 51 01.6	+0.5
	0.8nm,0.6s,baz=350,slow=7.9,SNR=14						
KURBB	**Kurchatov Arra**	**46.17**	**322**	P	P	03 51 13.9	+0.4
	0.6nm,0.4s,baz=119,slow=7.8,SNR=3.4						

JMA 07 03:55:53.1±0.2, 36.98N×138.48E, h10km±1km, M0.5, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JJN	**Nakama**	**0.28**	**296**	P	Pg	03 55 58.9	+0.1
JJN				*e*S	Sg	03 56 03.0	+0.4

JMA 07 03:55:58.2, 36.95N×138.43E, h10km±1km, M1.2, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JJN	**Nakama**	**0.26**	**306**	P	Pg	03 56 03.4	-0.2
JJN				S	Sg	03 56 07.5	+0.3
MAT	**Matsushiro**	**0.44**	**204**	P	Pg	03 56 06.5	-0.5
MAT				S	Sg	03 56 12.9	0.0
MAT	**Matsushiro**	**0.44**	**204**	P	Pg	03 56 06.7	-0.3
MAT				S	Sg	03 56 12.9	0.0
JNG	**Nsakai**	**0.60**	**206**	P	Pg	03 56 09.6	-0.5

IDC 07 03:59:25.6±3.9, 7.12S×155.01E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/17, mbtmp3.5/4, Error ellipse: s-maj=128.8km s-min=34.0km az=114.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.76**	**236**	P	P	04 04 39.8	-0.2
	1.6nm,0.8s,baz=59,slow=9.3,SNR=4.6						
ASAR	**Alice Springs**	**26.10**	**229**	P	P	04 05 01.4	-0.1
	0.6nm,0.9s,baz=60,slow=8.7,SNR=4.4						
SONM	**Songino Array**	**69.44**	**327**	P	P	04 10 35.6	-0.3
	0.3nm,0.6s,baz=139,slow=7.3,SNR=3.0						
MKAR	**Makanchi Array**	**83.50**	**319**	P	P	04 11 56.3	+0.8
	0.3nm,0.7s,baz=92,slow=5.6,SNR=3.3						
TORD	**Torodi Ar. Bea**	**153.07**	**285**	PKPbc	PKPbc	04 19 26.0	-0.3
	0.9nm,0.9s,baz=57,slow=2.5,SNR=4.4						

*IDC **07** 04:01:08.2±0.8, 6.96S×154.83E, h0km, mb4.2/12, mb1 4.3/12, mb1mx4.2/20, mbtmp4.1/12, MS3.5/5, Ms1 3.6/5, ms1mx3.2/34, Error ellipse: s-maj=33.3km s-min=18.2km az=126.0*
*ISCJB **07** 04:01:12.9±0.7, 7.1S±0.1×154.90E±0.10, h41km, mb4.1/12, MS3.5/4, Error ellipse: s-maj=21.0km s-min=9.1km az=147.3*

ISC 07 04:01:14.4±0.7, 7.10S±0.2×155.10E±0.1, h41km, n24, σ1°38/27, mb4.2/11, MS3.5/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.08**	**252**	Pn	**Pn**	**04 03 10.9**	**+1.7**
	2.0nm,0.3s,baz=72,slow=7.4,SNR=4.7						
PMG				Sn	**Sn**	**04 04 38.9**	**-0.5**
	3.1nm,0.3s,baz=259,slow=17,SNR=4.9						
PMG				LR	LR	04 05 30.5	
	comp=Z,145nm,18.4s,baz=98,slow=33						
CTA	**Charters Tower**	**15.51**	**212**	Pn	**P**	**04 04 54.2**	**0.0**
	0.2nm,0.3s,baz=34,slow=15,SNR=8.6						
WRA	**Warramunga Arr**	**23.78**	**235**	P	**P**	**04 06 21.3**	**-2.2**
	6.8nm,0.9s,baz=59,slow=9.9,SNR=15						
WRA				LR	LR	04 14 42.3	
	comp=Z,62nm,21.9s,baz=75,slow=34						
ASAR	**Alice Springs**	**26.14**	**228**	P	**P**	**04 06 42.9**	**-2.0**
	1.5nm,0.7s,baz=60,slow=8.5,SNR=13						
ASAR				ScP	**ScP**	**04 13 53.0**	**+4.6**
	1.0nm,0.9s,baz=76,slow=3.2,SNR=6.7						
STKA	**Stephens Creek**	**27.72**	**205**	P	**P**	**04 06 59.6**	**+0.6**
	3.1nm,0.7s,baz=31,slow=11,SNR=4.9						
STKA				LR	LR	04 18 33.4	
	comp=Z,135nm,19.0s,baz=25,slow=38						
FITZ	**Fitzroy Crossi**	**30.62**	**246**	P	**P**	**04 07 23.5**	**-1.4**
	2.6nm,1.0s,baz=93,slow=12,SNR=6.9						
FITZ				LR	LR	04 20 43.9	
	comp=Z,117nm,19.2s,baz=82,slow=38						
SONM	**Songino Array**	**69.31**	**327**	P	**P**	**04 12 17.9**	**+0.2**
	2.1nm,0.7s,baz=135,slow=5.2,SNR=12						
TAPN	**Tapejung**	**73.37**	**301**	*e*P	**P**	**04 12 43.0**	**+0.1**
ODAN	**Odare**	**73.50**	**301**	*e*P	**P**	**04 12 44.5**	**+0.9**
	30nm,0.6s						
JIRN	**Jiri**	**74.75**	**301**	*e*P	**P**	**04 12 51.9**	**+0.9**
GUN	**Gumba**	**75.08**	**301**	*e*P	**P**	**04 12 53.8**	**+0.9**
	20nm,0.7s						
PKI	**Pulchoki**	**75.39**	**301**	*e*P	**P**	**04 12 55.1**	**+0.4**
DMN	**Daman**	**75.66**	**301**	*e*P	**P**	**04 12 57.1**	**+1.0**
	23nm,0.8s						
GKN	**Gorkha**	**76.16**	**301**	*e*P	**P**	**04 12 59.5**	**+0.6**
MKAR	**Makanchi Array**	**83.38**	**319**	P	**P**	**04 13 37.8**	**+0.4**
	1.5nm,0.6s,baz=102,slow=5.0,SNR=13						
ILAR	**Eielson Array**	**83.39**	**22**	P	**P**	**04 13 36.5**	**-0.6**
	0.6nm,0.5s,baz=246,slow=5.5,SNR=8.4						
ILAR				LR	LR	04 47 44.1	
	comp=Z,67nm,18.1s,baz=106,slow=34						
ZALV	**Zalesovo Beam**	**84.16**	**326**	P	**P**	**04 13 40.1**	**-1.0**
	0.8nm,0.3s,baz=128,slow=5.9,SNR=2.9						
KURBB	**Kurchatov Arra**	**86.84**	**322**	P	**P**	**04 13 53.0**	**-1.6**
	0.3nm,0.6s,baz=99,slow=4.9,SNR=4.0						
DLBC	**Dease Lake**	**89.16**	**31**	P	**P**	**04 14 00.7**	**-0.2**
	1.8nm,0.8s,baz=188,slow=14,SNR=3.6						
NVAR	**Mina Array Bea**	**91.75**	**52**	P	**P**	**04 14 18.9**	**+0.6**
	1.0nm,0.8s,baz=265,slow=4.5,SNR=7.3						
PDAR	**Pinedale Array**	**98.73**	**48**	P	Pdif	04 14 50.7	+0.6
	0.5nm,0.9s,baz=234,slow=7.1,SNR=3.9						
GERES	**GERESS Array B**	**127.03**	**329**	PKP	**PKPdf**	**04 20 14.2**	**-0.1**
	0.5nm,0.5s,baz=48,slow=2.0,SNR=5.6						
BDFB	**Brasilia**	**148.01**	**135**	PKPbc	**PKPbc**	**04 20 56.4**	**-0.3**
	3.1nm,0.8s,baz=264,slow=6.5,SNR=5.6						
TORD	**Torodi Ar. Bea**	**152.99**	**285**	PKP	**PKPdf**	**04 21 01.8**	**+0.6**
	0.5nm,0.9s,baz=35,slow=1.1,SNR=2.5						
TORD				PKPbc	**PKPbc**	**04 21 07.6**	**-0.8**
	2.8nm,0.7s,baz=49,slow=1.6,SNR=15						
TORD				PKPab	**PKPab**	**04 21 18.9**	**-0.9**
	1.2nm,0.6s,baz=91,slow=2.6,SNR=6.4						

IDC 07 04:05:16.3±2.5, 0.23S×132.64E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.4/22, mbtmp3.5/4, ML3.4/1, MS2.9/1, Ms1 2.9/1, ms1mx2.7/23, Error ellipse: s-maj=107.7km s-min=24.7km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**18.36**	**321**	LR	LR	04 17 09.6	
	comp=Z,43nm,21.0s,baz=1.0,slow=39						
FITZ	**Fitzroy Crossi**	**19.05**	**201**	P	Pn	04 09 40.7	-0.2
	0.1nm,0.3s,baz=17,slow=16,SNR=3.9						
WRA	**Warramunga Arr**	**19.66**	**175**	P	P	04 09 46.8	-0.2
	0.2nm,0.3s,baz=354,slow=12,SNR=4.7						
ASAR	**Alice Springs**	**23.33**	**177**	P	P	04 10 26.0	-0.3
	1.2nm,0.6s,baz=357,slow=8.6,SNR=11						
MKAR	**Makanchi Array**	**64.18**	**324**	P	P	04 15 52.9	0.0
	0.2nm,0.6s,baz=98,slow=10,SNR=2.7						

CASC 07 04:13:18.8±1.7, 8.27N×82.85W, h20km±6km, MD3.6, 1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.50**	**320**	*e*P	Pb	04 13 27.9	-1.2
ACR				*e*S	Sg	04 13 35.3	-0.7
BRU2	**Volcan**	**0.55**	**16**	⇓*i*P	Pb	04 13 29.7	-0.2
BRU2				*e*S	Sg	04 13 38.2	+0.6
TBS2		**0.56**	**20**	*e*P	Pb	04 13 29.2	-0.9
TBS2				*e*S	Sg	04 13 38.5	+0.5
BRU	**Baru**	**0.61**	**28**	*e*P	Pb	04 13 31.4	+0.1
BRU				*e*S	Sg	04 13 40.1	0.0
CTCR	**Cotoan**	**0.63**	**8**	*e*P	Pb	04 13 31.2	-0.3
CTCR				*e*S	Sb	04 13 40.0	-0.1
CNI	**Changuinola**	**1.19**	**16**	*e*P	Pn	04 13 40.4	0.0
CNI				*e*S	Sg	04 13 57.1	-0.4
BUS	**Buena Vista**	**1.57**	**325**	*e*P	Pn	04 13 45.8	-0.4
BUS				*e*S	Sn	04 14 06.9	+0.6
QCR	**Quepos**	**1.74**	**312**	*e*P	Pn	04 13 47.7	-0.2
QCR				*e*S	Sn	04 14 10.6	+1.0
SJS	**Escuela Geolog**	**2.05**	**324**	*e*P	Pn	04 13 51.6	-0.8
SJS				*e*S	Sn	04 14 18.6	+1.1
CGA2	**Cerro Gallo 2**	**2.36**	**318**	*e*P	Pb	04 13 59.2	-1.7
CGA2				*e*S	Sn	04 14 26.9	+1.5

IDC 07 04:29:22.3±5.7, 21.25S×178.53W, h449km±61km, mb3.2/7, mb1 3.4/8, mb1mx3.3/18, mbtmp3.2/8, Error ellipse: s-maj=31.7km s-min=26.1km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.99**	**264**	P	P	04 32 24.0	+1.0
	0.5nm,0.3s,baz=99,slow=19,SNR=4.2						
STKA	**Stephens Creek**	**37.02**	**245**	P	P	04 35 51.7	-0.7
	5.3nm,0.8s,baz=83,slow=8.3,SNR=7.3						
ASAR	**Alice Springs**	**43.87**	**258**	P	P	04 36 47.5	-0.3
	1.9nm,0.6s,baz=97,slow=8.0,SNR=22						
WRA	**Warramunga Arr**	**44.01**	**263**	P	P	04 36 48.6	-0.2
	0.7nm,0.4s,baz=95,slow=8.2,SNR=6.5						
VNDA	**Vanda**	**57.12**	**185**	P	P	04 38 24.4	+0.2
	0.2nm,0.4s,baz=101,slow=5.2,SNR=5.4						
NVAR	**Mina Array Bea**	**81.91**	**44**	P	P	04 40 53.7	-0.4
	0.7nm,0.6s,baz=223,slow=8.1,SNR=6.6						
ILAR	**Eielson Array**	**89.15**	**13**	P	P	04 41 28.5	+0.2
	0.6nm,0.8s,baz=225,slow=6.2,SNR=5.0						
PDAR	**Pinedale Array**	**89.85**	**43**	P	P	04 41 32.2	-0.2
	0.5nm,0.6s,baz=198,slow=5.7,SNR=5.1						
ARCES	**ARCESS Array B**	**129.56**	**349**	PKP	PKPdf	04 47 38.2	-0.3
	4.7nm,1.0s,baz=316,slow=2.5,SNR=3.6						
AKASG	**Malin Array Be**	**143.42**	**330**	PKP	PKPab	04 48 02.5	+0.1
	0.6nm,0.4s,baz=42,slow=4.6,SNR=6.2						
BRTR	**Keskin Array B**	**146.97**	**311**	PKPbc	PKPbc	04 48 14.2	+0.2
	0.2nm,0.4s,baz=82,slow=3.1,SNR=2.6						
TORD	**Torodi Ar. Bea**	**171.94**	**182**	PKPab	PKPab	04 49 59.7	-5.1
	0.7nm,0.9s,baz=175,slow=3.3,SNR=3.4						

IDC 07 04:44:06.8±4.0, 2.50S×140.60E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, ML3.8/1, Error ellipse: s-maj=122.2km s-min=31.4km az=92.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.38**	**199**	P	P	04 48 23.8	+0.3
	0.3nm,0.3s,baz=20,slow=12,SNR=5.3						
FITZ	**Fitzroy Crossi**	**21.34**	**222**	P	P	04 48 54.3	-1.4
	2.3nm,1.0s,baz=37,slow=16,SNR=4.0						
ASAR	**Alice Springs**	**22.02**	**197**	P	P	04 49 03.8	+0.8
	1.1nm,0.5s,baz=29,slow=10,SNR=14						
MKAR	**Makanchi Array**	**70.78**	**322**	P	P	04 55 25.3	0.0
	0.3nm,0.6s,baz=122,slow=11,SNR=3.0						

*NNC **07** 04:47:55.0±6.8, 40.21N×78.16E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=70.7km s-min=33.1km az=174.0*

ISC 07 04:47:46.0±4.0, 39.4N±0.3×77.2E±0.1, h25km, n15, σ2°34/12, 7C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**2.97**	**347**	P	**Pn**	**04 48 31.0**	**-0.8**
	SNR=41						
KZA	**Kyzart**	**3.08**	**332**	P	**Pn**	**04 48 32.2**	**-1.3**
	SNR=93						
UCH	**Uchtor**	**3.50**	**326**	P	**Sb**	**04 49 27.4**	**-2.5**
	SNR=11						
KBK	**Karagaybulak**	**3.70**	**334**	P	Pn	04 48 45.3	+3.6
	SNR=14						
TKM2	**Tokmak 2**	**3.75**	**342**	⇑Pn	**Pn**	**04 48 40.6**	**-1.9**
	11nm,0.4s						
TKM2				⇑Lg	Lg	04 49 32.3	
	48nm,0.7s						
TKM2	**Tokmak 2**	**3.75**	**342**	P	**Pn**	**04 48 40.8**	**-1.7**
	SNR=7.1						
AML	**Almayashu**	**3.82**	**318**	P	**Pn**	**04 48 42.3**	**-1.4**
	SNR=9.7						
AAK	**Ala-Archa**	**3.85**	**329**	P	Pn	04 48 48.1	+4.3

MNMC				AML	AML	04 58 24.1
	comp=N,467nm,0.1s					
PB10	**Plate Boundary**	**2.65**	**217**	⇑*i*P	Pn	04 57 51.2 +0.7
PB10				AML	AML	04 58 29.5
	comp=E,331nm,0.3s					
ANCH	**Antofagasta**	**2.71**	**213**	*e*P	Pn	04 57 52.3 +1.0

ROM 07 05:06:20.4±0.2, 41.75N×13.71E, h9km±2km, Md1.3/3, Error ellipse: s-maj=2.4km s-min=0.9km az=39.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POFI	**Posta Fibreno**	**0.03**	**180**	Pg	Pg	05 06 22.4	+0.3
POFI				Sg	Sg	05 06 23.6	+0.2
SDI	**San Donato**	**0.08**	**117**	Pg	Pg	05 06 23.1	+0.4
SDI				Sg	Sg	05 06 24.8	+0.5
	200nm,0.2s						
VVLD	**Villa Vallelon**	**0.14**	**332**	Pg	Pg	05 06 23.9	+0.2
VVLD				Sg	Sg	05 06 26.7	+0.8

*CSEM **07** 05:06:59.2, 41.74N×13.70E, h10km, MD2.1/12, After ROM*

ROM 07 05:06:59.2±0.1, 41.74N×13.70E, h10km, Md2.1/12, Ml1.7/6, Error ellipse: s-maj=1.3km s-min=0.8km az=35.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POFI	**Posta Fibreno**	**0.02**	**157**	Pg	Pg	05 07 01.7	+0.5
POFI				Sg	Sg	05 07 02.9	+0.4
POFI	**Posta Fibreno**	**0.02**	**157**	Pg	Pg	05 07 01.7	+0.5
POFI				Sg	Sg	05 07 02.9	+0.4
SDI	**San Donato**	**0.09**	**108**	Pg	Pg	05 07 02.3	+0.6
SDI				Sg	Sg	05 07 04.0	+0.4
SDI	**San Donato**	**0.09**	**108**	Pg	Pg	05 07 02.3	+0.6
SDI				Sg	Sg	05 07 04.0	+0.4
VVLD	**Villa Vallelon**	**0.15**	**336**	Pg	Pg	05 07 03.2	+0.5
VVLD				Sg	Sg	05 07 05.9	+0.7
VVLD	**Villa Vallelon**	**0.15**	**336**	Pg	Pg	05 07 03.2	+0.5
VVLD				Sg	Sg	05 07 05.9	+0.7
CERA	**Filignano**	**0.27**	**120**	Pg	Pg	05 07 05.3	+0.4
CERA				Sg	Sg	05 07 09.6	+0.9
	88nm,0.2s						
CERA	**Filignano**	**0.27**	**120**	Pg	Pg	05 07 05.3	+0.4
CERA				Sg	Sg	05 07 09.6	+0.9
	88nm,0.2s						
INTR	**Introdacqua**	**0.32**	**29**	Pg	Pg	05 07 06.0	+0.3
INTR				Sg	Sg	05 07 11.0	+1.0
INTR	**Introdacqua**	**0.32**	**29**	Pg	Pg	05 07 06.0	+0.3
INTR				Sg	Sg	05 07 11.0	+1.0
RNI2	**Rionero Sannit**	**0.34**	**95**	Pg	Pb	05 07 06.9	-0.6
RNI2				Sg	Sb	05 07 12.8	-0.2
	90nm,0.2s						
RNI2	**Rionero Sannit**	**0.34**	**95**	Pg	Pb	05 07 06.9	-0.6
RNI2				Sg	Sb	05 07 12.8	-0.2
	90nm,0.2s						
PTQR	**Pietraquaria**	**0.36**	**322**	Pg	Pg	05 07 07.0	+0.4
PTQR				Sg	Sb	05 07 12.8	-1.0
PTQR	**Pietraquaria**	**0.36**	**322**	Pg	Pg	05 07 07.0	+0.4
PTQR				Sg	Sb	05 07 12.8	-1.0
GIUL	**Giuliano Di Ro**	**0.38**	**242**	Pg	Pg	05 07 07.2	+0.4
GIUL				Sg	Sb	05 07 13.4	-0.6
	46nm,0.3s						
GIUL	**Giuliano Di Ro**	**0.38**	**242**	Pg	Pg	05 07 07.2	+0.4
GIUL				Sg	Sb	05 07 13.4	-0.6
	46nm,0.3s						
MIDA	**Miranda**	**0.42**	**102**	Pg	Pg	05 07 07.8	+0.1
MIDA				Sg	Sg	05 07 14.3	+0.9
	30nm,0.3s						
MIDA	**Miranda**	**0.42**	**102**	Pg	Pg	05 07 07.8	+0.1
MIDA				Sg	Sg	05 07 14.3	+0.9
	30nm,0.3s						
VAGA	**Valle Agricola**	**0.51**	**128**	Pg	Pg	05 07 09.7	+0.4
VAGA	**Valle Agricola**	**0.51**	**128**	Pg	Pg	05 07 09.7	+0.4
FAGN	**Fagnano**	**0.54**	**351**	Pg	Pg	05 07 09.5	-0.3
FAGN				Sg	Sb	05 07 18.5	-0.2
	71nm,0.3s						
FAGN	**Fagnano**	**0.54**	**351**	Pg	Pg	05 07 09.5	-0.3
FAGN				Sg	Sb	05 07 18.5	-0.2
	71nm,0.3s						
CERT	**Cerreto**	**0.58**	**292**	Pg	Pg	05 07 10.2	-0.4
CERT				Sg	Sg	05 07 19.0	+0.7
	36nm,0.2s						
CERT	**Cerreto**	**0.58**	**292**	Pg	Pg	05 07 10.2	-0.4
CERT				Sg	Sg	05 07 19.0	+0.7
	36nm,0.2s						
VCEL	**Villa Celiera**	**0.67**	**9**	Pg	Pg	05 07 12.1	-0.2
VCEL				Sg	Sg	05 07 21.8	+0.6
VCEL	**Villa Celiera**	**0.67**	**9**	Pg	Pg	05 07 12.1	-0.2
VCEL				Sg	Sg	05 07 21.8	+0.6

*CSEM **07** 05:07:28.7±0.1, 43.11N×12.70E, h12km, ML3.0/10, Error ellipse: s-maj=1.8km s-min=1.5km az=47.0*

ROM 07 05:07:28.4±0.1, 43.12N×12.71E, h8km, Md2.7/22, Ml2.4/12, 2C, Error ellipse: s-maj=0.9km s-min=0.6km az=38.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CESI	**CESI - Serrava**	**0.18**	**128**	Pg	Pg	05 07 33.0	+0.7
CESI				Sg	Sg	05 07 36.3	+1.4
	304nm,0.1s						
CESI	**CESI - Serrava**	**0.18**	**128**	Pg	Pg	05 07 33.0	+0.7
CESI				Sg	Sg	05 07 36.3	+1.4
	304nm,0.1s						
MURB	**Monte Urbino**	**0.20**	**317**	Pg	Pg	05 07 33.2	+0.6
MURB				Sg	Sg	05 07 36.7	+1.3
	4μm,0.2s						
MURB	**Monte Urbino**	**0.20**	**317**	Pg	Pg	05 07 33.2	+0.6
MURB				Sg	Sg	05 07 36.7	+1.3
	4μm,0.2s						
SNTG	**Esanatoglia**	**0.22**	**51**	⇑*i*Pg	Pg	05 07 33.5	+0.6
SNTG				Sg	Sg	05 07 37.2	+1.3
SNTG	**Esanatoglia**	**0.22**	**51**	⇑*i*Pg	Pg	05 07 33.5	+0.6
SNTG				Sg	Sg	05 07 37.2	+1.3
FDMO	**Fiordimonte**	**0.29**	**106**	Pg	Pg	05 07 34.8	+0.6
FDMO				Sg	Sb	05 07 39.6	-1.3
FDMO	**Fiordimonte**	**0.29**	**106**	Pg	Pg	05 07 34.8	+0.6
FDMO				Sg	Sb	05 07 39.6	-1.3
NRCA	**Norcia**	**0.41**	**134**	Pg	Pg	05 07 36.9	+0.3
NRCA				Sg	Sb	05 07 43.7	-0.9
	48nm,0.2s						
NRCA	**Norcia**	**0.41**	**134**	Pg	Pg	05 07 36.9	+0.3
NRCA				Sg	Sb	05 07 43.7	-0.9
	48nm,0.2s						
ARVD	**Arcevia**	**0.41**	**24**	Pg	Pg	05 07 36.8	+0.2
ARVD				Sg	Sg	05 07 43.3	+1.2
	253nm,0.2s						
ARVD	**Arcevia**	**0.41**	**24**	Pg	Pg	05 07 36.8	+0.2
ARVD				Sg	Sg	05 07 43.3	+1.2
	253nm,0.2s						
PIEI	**Pieia**	**0.44**	**343**	Pg	Pg	05 07 37.2	+0.2
PIEI				Sg	Sb	05 07 44.3	-0.9
	319nm,0.3s						
PIEI	**Pieia**	**0.44**	**343**	Pg	Pg	05 07 37.2	+0.2
PIEI				Sg	Sb	05 07 44.3	-0.9
	319nm,0.3s						
CING	**Cingoli**	**0.44**	**54**	Pg	Pg	05 07 37.4	+0.4
CING				Sg	Sb	05 07 44.4	-0.9
CING	**Cingoli**	**0.44**	**54**	Pg	Pg	05 07 37.4	+0.4
CING				Sg	Sb	05 07 44.4	-0.9
MGAB	**Montegabbione**	**0.48**	**245**	Pg	Pg	05 07 38.3	+0.4
MGAB				Sg	Sb	05 07 45.6	-0.9
MGAB	**Montegabbione**	**0.48**	**245**	Pg	Pg	05 07 38.3	+0.4
MGAB				Sg	Sb	05 07 45.6	-0.9
BADI	**Badiali**	**0.52**	**319**	Pg	Pg	05 07 39.0	+0.5
BADI				Sg	Sb	05 07 47.2	-0.3
	205nm,0.8s						
BADI	**Badiali**	**0.52**	**319**	Pg	Pg	05 07 39.0	+0.5
BADI				Sg	Sb	05 07 47.2	-0.3
	205nm,0.8s						
CESX	**Cesi**	**0.52**	**191**	Pg	Pg	05 07 38.6	+0.1
CESX				Sg	Sb	05 07 46.8	-0.6
CESX	**Cesi**	**0.52**	**191**	Pg	Pg	05 07 38.6	+0.1
CESX				Sg	Sb	05 07 46.8	-0.6
LNSS	**Leonessa**	**0.57**	**155**	Pg	Pg	05 07 39.7	+0.1
LNSS				Sg	Sb	05 07 48.7	-0.5
LNSS	**Leonessa**	**0.57**	**155**	Pg	Pg	05 07 39.7	+0.1
LNSS				Sg	Sb	05 07 48.7	-0.5
FSSB	**Fossombrone**	**0.57**	**5**	Pg	Pg	05 07 39.7	+0.1
FSSB				Sg	Sb	05 07 48.9	-0.3
	570nm,0.3s						
FSSB	**Fossombrone**	**0.57**	**5**	Pg	Pg	05 07 39.7	+0.1
FSSB				Sg	Sb	05 07 48.9	-0.3
	570nm,0.3s						
CAFI	**Castiglion Fio**	**0.58**	**291**	Pg	Pg	05 07 40.2	+0.5
CAFI				Sg	Sb	05 07 48.8	-0.6
	141nm,0.5s						
CAFI	**Castiglion Fio**	**0.58**	**291**	Pg	Pg	05 07 40.2	+0.5
CAFI				Sg	Sb	05 07 48.8	-0.6
	141nm,0.5s						
PARC	**Parchiule**	**0.63**	**327**	Pg	Pg	05 07 41.1	+0.4
PARC				Sg	Sb	05 07 50.7	-0.1
	119nm,0.4s						
PARC	**Parchiule**	**0.63**	**327**	Pg	Pg	05 07 41.1	+0.4
PARC				Sg	Sb	05 07 50.7	-0.1
	119nm,0.4s						
SACS	**San Casciano d**	**0.65**	**246**	Pg	Pg	05 07 41.2	+0.2
OFFI	**Offida**	**0.74**	**104**	Pg	Pb	05 07 44.1	+0.5
OFFI	**Offida**	**0.74**	**104**	Pg	Pb	05 07 44.1	+0.5
CRE	**Caprese Michel**	**0.75**	**312**	Pg	Pg	05 07 43.1	+0.1
	33nm,0.3s						
CRE	**Caprese Michel**	**0.75**	**312**	Pg	Pg	05 07 43.1	+0.1
	33nm,0.3s						
AOI	**Ancona**	**0.78**	**56**	Pg	Pg	05 07 43.8	+0.3
AOI				Sg	Sb	05 07 55.1	0.0
AOI	**Ancona**	**0.78**	**56**	Pg	Pg	05 07 43.8	+0.3
AOI				Sg	Sb	05 07 55.1	0.0
TERO	**Teramo**	**0.82**	**127**	Pg	Pg	05 07 44.0	-0.3
TERO				Sg	Sb	05 07 56.7	+0.3
	97nm,0.4s						
TERO	**Teramo**	**0.82**	**127**	Pg	Pg	05 07 44.0	-0.3
TERO				Sg	Sb	05 07 56.7	+0.3
	97nm,0.4s						
PESA	**Pesaro**	**0.83**	**7**	Pg	Pg	05 07 44.7	+0.3
PESA	**Pesaro**	**0.83**	**7**	Pg	Pg	05 07 44.7	+0.3
RSM	**Repubblica di**	**0.83**	**347**	Pg	Pg	05 07 44.3	-0.2
	70nm,0.7s						
RSM	**Repubblica di**	**0.83**	**347**	Pg	Pg	05 07 44.3	-0.2
	70nm,0.7s						
LATE	**Laterza**	**0.83**	**233**	Pg	Pb	05 07 45.0	-0.2
LATE	**Laterza**	**0.83**	**233**	Pg	Pb	05 07 45.0	-0.2
GUMA	**Gualdo di Mace**	**0.90**	**93**	Pg	Pg	05 07 38.1	-7.7
GUMA				Sg	Sg	05 07 45.7	-12
FIAM	**Fiamignano**	**0.90**	**160**	Pg	Pg	05 07 45.0	-0.9
FIAM	**Fiamignano**	**0.90**	**160**	Pg	Pg	05 07 45.0	-0.9
ARCI	**Arcidosso**	**0.94**	**254**	Pg	Pg	05 07 46.7	0.0
ARCI	**Arcidosso**	**0.94**	**254**	Pg	Pg	05 07 46.7	0.0
ASQU	**Asqua**	**0.95**	**316**	Pg	Pg	05 07 46.9	+0.1
ASQU	**Asqua**	**0.95**	**316**	Pg	Pg	05 07 46.9	+0.1
SFI	**Santa Sofia**	**1.00**	**322**	Pg	Pb	05 07 48.0	-0.1
SFI	**Santa Sofia**	**1.00**	**322**	Pg	Pb	05 07 48.0	-0.1
NVLJ	**Novalja**	**2.13**	**47**	*e*Pn	Pn	05 08 04.6	+0.3
NVLJ				Sn	Sn	05 08 31.7	+0.9
NVLJ	**Novalja**	**2.13**	**47**	*e*Pn	Pn	05 08 04.5	+0.3
NVLJ				Sn	Sn	05 08 31.6	+0.8

IDC 07 05:07:33.5±2.1, 17.58S×171.93W, h0km, mb4.1/4, mb1 4.5/4, mb1mx4.0/19, mbtmp4.1/4, MS3.4/1, Ms1 3.4/1, ms1mx3.0/43, Error ellipse: s-maj=125.8km s-min=29.4km az=151.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**28.49**	**283**	LR	LR	05 23 29.1	
	comp=Z,70nm,18.9s,baz=239,slow=34						
ASAR	**Alice Springs**	**50.81**	**254**	P	P	05 16 35.8	-0.4
	9.0nm,0.7s,baz=87,slow=8.6,SNR=10						
NVAR	**Mina Array Bea**	**75.02**	**41**	P	P	05 19 16.7	-0.6
	1.2nm,0.9s,baz=233,slow=8.9,SNR=8.0						
TXAR	**Lajitas Array**	**80.67**	**55**	P	P	05 19 49.1	+0.3
	1.6nm,1.1s,baz=224,slow=3.8,SNR=5.7						
ILAR	**Eielson Array**	**84.31**	**11**	P	P	05 20 07.1	+0.2
	0.6nm,0.9s,baz=209,slow=7.2,SNR=3.7						
BRTR	**Keskin Array B**	**148.73**	**320**	PKPbc	PKPbc	05 27 23.4	+0.1
	0.7nm,0.7s,baz=54,slow=2.7,SNR=3.3						

*IDC **07** 05:08:47.5±0.6, 12.28S×166.56E, h44km±4km, mb4.2/15, mb1 4.4/15, mb1mx4.3/19, mbtmp4.5/15, ML5.8/1, MS4.3/16, Ms1 4.3/16, ms1mx4.1/38, Error ellipse: s-maj=17.9km s-min=13.0km az=130.0*

*GCMT **07** 05:08:51.3±0.2, 12.26S×166.17E, h46km±1km, MW5.1, Moment Tensor Solution. s63,c78; s48,c65; Moment tensor: Scale 10^{16}Nm; M_{rr}5.75±.22; $M_{\theta\theta}$0.30±.20; $M_{\phi\phi}$-6.05±.17; $M_{r\theta}$-0.70±.18; $M_{\theta\phi}$1.10±.15; $M_{\phi r}$1.88±.17; Best double couple: $M_0$6.30000×10^{16} NP1:ϕ_s347.00000°, δ54.00000°, λ85.00000°. NP2:ϕ_s174.00000°, δ36.00000°, λ96.00000°. Principal axes: T 6.0900, Plg80.0000°, Azm238.0000°; N 0.4600, Plg4.0000°, Azm349.0000°; P -6.5500, Plg9.0000°, Azm80.0000°; Data Used: ll IU G CN IC.*

*NEIC **07** 05:08:54.6±0.5, 13.08S×165.74E, h35km, mb4.9/29 Error ellipse: s-maj=13.1km s-min=9.5km az=171.0*

*BJI **07** 05:08:55.2, 12.92S×166.39E, h31km, mB5.2/21, mb5.1/28, Ms5.5/12, Ms7 5.1/14*

*ISCJB **07** 05:08:56.8±1.7, 12.80S±0.05×165.51E±0.06, h56km±14km, mb4.9/53, MS4.4/20, Error ellipse: s-maj=10.1km s-min=8.8km az=5.3*

*DJA **07** 05:09:12.8±0.8, 13°S±7°×166°E±1°, h264km, M4.5/17, mB5.0/5, mb4.7/17, Mw(mB)4.3/5*

*AUST **07** 05:09:51.4±3.8, 14.42S×163.80E, h450km±25km, Error ellipse: s-maj=48.1km s-min=13.3km az=57.0*

ISC 07 05:08:47.3±0.4, 12.20S±0.05×166.56E±0.06, h43km±2km, h43km:pP-P, n162, σ1§35/138, mb4.9/54, MS4.3/22, 17C-6D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.05**	**292**	P	**Pn**	**05 10 30.2**	**+2.2**
HNR				S	**Sn**	**05 11 44.7**	**-2.3**
HNR	**Honiara**	**7.05**	**292**	P	**Pn**	**05 10 30.2**	**+2.2**
	178nm,0.3s,baz=138,slow=3.9,SNR=24						
HNR				S	**Sn**	**05 11 44.7**	**-2.3**
	69nm,0.3s,baz=180,slow=17,SNR=2.5						
DZM	**Mont Dzumac**	**9.82**	**181**	*e*Pn	**Pn**	**05 11 08.4**	**+2.3**
	47nm,0.3s						
DZM				eLR	LR	05 12 52.1	
	4μm,25.4s						
DZM	**Mont Dzumac**	**9.82**	**181**	*e*Pn	**Pn**	**05 11 03.2**	**-2.9**
	54nm,0.6s						
DZM				S	**Sn**	**05 12 55.7**	**+0.6**
DZM	**Mont Dzumac**	**9.82**	**181**	P	**Pn**	**05 11 08.0**	**+1.8**
	5.4nm,0.3s,baz=9.1,slow=19,SNR=48						
DZM				S	**Sn**	**05 12 55.7**	**+0.6**
	4.8nm,0.3s,baz=108,slow=20,SNR=2.7						
MSVF	**Nonsavu**	**12.39**	**118**	*e*Pn	**P**	**05 11 51.6**	**-0.8**
PMG	**Port Moresby**	**19.25**	**276**	P	Pn	05 13 15.6	+6.0
	82nm,1.0s,1μm						
PMG	**Port Moresby**	**19.25**	**276**	*e*Pn	**Pn**	**05 13 10.0**	**+0.4**
	62nm,0.9s						
PMG	**Port Moresby**	**19.25**	**276**	P	**Pn**	**05 13 10.9**	**+1.3**
	1.2nm,0.3s,baz=141,slow=6.1,SNR=4.3						
EIDS	**Eidsvold**	**19.63**	**226**	Pn	**P**	**05 13 10.8**	**-1.6**
	68nm,0.8s						
EIDS	**Eidsvold**	**19.63**	**226**	⇑P	**Pn**	**05 13 15.0**	**+1.0**
	baz=16,SNR=12						
CTA	**Charters Tower**	**21.01**	**245**	P	**P**	**05 13 27.7**	**+0.3**
CTA	**Charters Tower**	**21.01**	**245**	P	**P**	**05 13 27.7**	**+0.3**
	9.7nm,0.9s,baz=65,slow=14,SNR=7.7						
CTA				LR	LR	05 20 40.5	
	comp=Z,826nm,19.6s,baz=137,slow=34						
CTAO	**Charters Tower**	**21.01**	**245**	*e*Pn	**P**	**05 13 26.2**	**-1.2**
	28nm,1.0s						
AFI	**Afiamalu**	**21.18**	**97**	P	P	05 13 45.2	+16
	113nm,1.1s						
AFI	**Afiamalu**	**21.18**	**97**	LR	LR	05 20 28.2	
	comp=Z,375nm,21.1s,baz=268,slow=33						
RMQ	**Roma**	**21.96**	**227**	P	**P**	**05 13 39.9**	**+2.3**
	baz=18,SNR=29						
RAO	**Raoul Island**	**22.29**	**142**	LR	LR	05 21 14.7	
	comp=Z,392nm,19.3s,baz=184,slow=34						
ARMA	**Armidale**	**22.80**	**215**	*e*P	**P**	**05 13 43.1**	**-3.6**
	56nm,1.0s						
ARMA	**Armidale**	**22.80**	**215**	⇑P	**P**	**05 13 48.1**	**+1.5**
	baz=20,SNR=14						
COEN	**Coen**	**22.84**	**263**	*e*P	**P**	**05 13 47.3**	**+0.2**
	2μm,2.2s						
MGCD	**Mangrove Creek**	**25.25**	**212**	⇑P	**P**	**05 14 11.6**	**+2.2**
	baz=22,SNR=4.4						
QLP	**Quilpie**	**25.40**	**232**	⇑P	**P**	**05 14 10.5**	**-0.3**
	baz=22,SNR=7.1						
RIV	**Riverview**	**25.71**	**211**	⇑P	**P**	**05 14 15.6**	**+2.0**
	baz=22						
CMSA	**Cobar Meteorol**	**27.21**	**222**	⇑P	**P**	**05 14 27.7**	**+0.5**
	baz=24,SNR=11						
YNG	**Young**	**27.52**	**214**	⇓P	**P**	**05 14 31.4**	**+1.4**
	baz=24						
URZ	**Urewera**	**27.61**	**162**	LR	LR	05 23 29.8	
	comp=Z,799nm,20.4s,baz=304,slow=32						
CNB	**Canberra Magne**	**27.79**	**211**	⇓P	**P**	**05 14 34.0**	**+1.6**
	baz=25,SNR=5.1						
STKA	**Stephens Creek**	**30.18**	**226**	*e*P	**P**	**05 14 53.7**	**0.0**
	4.8nm,0.8s						
STKA	**Stephens Creek**	**30.18**	**226**	P	**P**	**05 14 54.7**	**+1.1**
	baz=27,SNR=14						
STKA	**Stephens Creek**	**30.18**	**226**	P	**P**	**05 14 53.6**	**0.0**
	18nm,0.9s,baz=32,slow=7.3,SNR=23						
STKA				LR	LR	05 26 10.6	
	comp=Z,982nm,21.2s,baz=44,slow=35						
TOO	**Toolangi**	**31.53**	**213**	P	**P**	**05 15 06.9**	**+1.5**
	baz=28,SNR=6.4						
RPZ	**Rata Peaks**	**31.65**	**174**	P	**P**	**05 15 05.7**	**-0.7**
RPZ	**Rata Peaks**	**31.65**	**174**	P	**P**	**05 15 05.7**	**-0.7**
	3.6nm,0.5s,baz=304,slow=3.6,SNR=3.9						
RPZ				LR	LR	05 26 13.0	
	comp=Z,669nm,21.6s,baz=347,slow=33						
WRAB	**Tennant Creek**	**31.85**	**252**	*e*P	**P**	**05 15 06.1**	**-2.4**
	12nm,1.1s						
WRA	**Warramunga Arr**	**31.86**	**252**	P	**P**	**05 15 07.8**	**-0.8**
WRA				pPcP		05 18 12.8	
WRA	**Warramunga Arr**	**31.86**	**252**	P	**P**	**05 15 07.8**	**-0.8**
	11nm,1.1s,baz=80,slow=9.4,SNR=24						
WRA				pPcP		05 18 12.8	
	2.7nm,1.1s,baz=80,slow=2.7,SNR=5.5						
WRA				LR	LR	05 26 51.6	
	comp=Z,332nm,20.1s,baz=95,slow=34						
HTT	**Hallett**	**32.92**	**226**	⇑P	**P**	**05 15 18.7**	**+1.0**
	baz=30						
AS17	**Alice Springs**	**32.93**	**245**	⇑P	**P**	**05 15 17.4**	**-0.6**
	baz=30						
AS06	**Alice Springs**	**32.95**	**245**	⇑P	**P**	**05 15 17.5**	**-0.6**
	baz=30						
AS19	**Alice Springs**	**32.97**	**245**	⇓P	**P**	**05 15 17.9**	**-0.4**
	baz=30						
AS16	**Alice Springs**	**32.98**	**245**	⇑P	**P**	**05 15 18.0**	**-0.5**
	baz=30						
AS31	**Alice Springs**	**33.01**	**245**	*e*P	**P**	**05 15 17.9**	**-0.8**
ASAR	**Alice Springs**	**33.01**	**245**	P	**P**	**05 15 17.9**	**-0.7**
ASAR				pP	**pP**	**05 15 30.1**	**-0.3**
ASAR				pScP		05 18 14.6	
ASAR	**Alice Springs**	**33.01**	**245**	P	**P**	**05 15 17.9**	**-0.7**
	6.1nm,0.9s,baz=76,slow=9.2,SNR=37						
ASAR				pP	**pP**	**05 15 30.1**	**-0.3**
	16nm,0.8s,baz=74,slow=9.5,SNR=32						
ASAR				pScP		05 18 14.6	
	1.8nm,0.8s,baz=79,slow=2.3,SNR=4.1						
ASAR				LR	LR	05 27 47.0	
	comp=Z,474nm,21.8s,baz=72,slow=35						
RAR	**Rarotonga**	**33.41**	**110**	LR	LR	05 26 17.4	
	comp=Z,497nm,21.8s,baz=315,slow=32						
BBOO	**Buckleboo**	**34.65**	**229**	*e*P	**P**	**05 15 32.2**	**-0.6**
	404nm,0.9s						
BBOO				*e*pP	**pP**	**05 15 45.0**	**+0.5**
BBOO	**Buckleboo**	**34.65**	**229**	P	**P**	**05 15 33.3**	**+0.5**
	baz=31,SNR=13						
SWI	**Sorong**	**36.77**	**285**	P	**P**	**05 15 51.4**	**+0.2**
	47nm,1.0s						
FITZ	**Fitzroy Crossi**	**39.87**	**256**	P	**P**	**05 16 16.9**	**-0.2**
FITZ				pP	**pP**	**05 16 29.2**	**+0.2**
FITZ	**Fitzroy Crossi**	**39.87**	**256**	⇑P	**P**	**05 16 17.5**	**+0.3**
	baz=37						
FITZ	**Fitzroy Crossi**	**39.87**	**256**	P	**P**	**05 16 16.9**	**-0.2**
	31nm,1.2s,baz=88,slow=9.6,SNR=14						
FITZ				pP	**pP**	**05 16 29.2**	**+0.2**
	12nm,0.9s,baz=122,slow=5.5,SNR=5.9						
PPT	**Papeete**	**42.66**	**103**	LR	LR	05 30 41.3	
	comp=Z,273nm,18.6s,baz=87,slow=31						
PPT2	**Papeete2**	**42.66**	**103**	*e*S	S	05 23 21.1	+20
	139nm,27.0s						
PPT2				eLQ	LQ	05 26 59.9	
	556nm,30.2s						
PPT2				eLR	LR	05 28 47.3	
	2μm,29.2s,baz=275						
TBI	**Tubuai**	**43.17**	**111**	*e*LQ	LQ	05 27 07.3	
	505nm,33.2s						
TBI				eLR	LR	05 28 58.8	
	975nm,29.8s,baz=286						
MBWA	**Marble Bar**	**45.59**	**252**	*e*P	**P**	**05 17 03.8**	**+0.2**
	50nm,1.2s						
KAPI	**Kappang**	**46.77**	**275**	*e*P	**P**	**05 17 13.2**	**+0.2**
	31nm,1.2s						
MEEK	**Meekatharra**	**47.17**	**245**	P	**P**	**05 17 16.7**	**+0.7**
	baz=44,SNR=17						
KLBR	**Kellerberrin**	**48.78**	**239**	⇑P	**P**	**05 17 28.2**	**-0.1**
	baz=45,SNR=8.0						
BLDU	**Ballidu**	**49.47**	**240**	⇑P	**P**	**05 17 34.1**	**+0.5**
	baz=46,SNR=6.4						
NWAO	**Narrogin (SRO)**	**49.49**	**237**	*e*P	**P**	**05 17 33.3**	**-0.5**
	34nm,0.8s						
NWAO	**Narrogin (SRO)**	**49.49**	**237**	LR	LR	05 38 40.9	
	comp=Z,702nm,21.0s,baz=152,slow=36						
MORW	**Morawa**	**49.78**	**242**	⇓P	**P**	**05 17 36.0**	**0.0**
	baz=46,SNR=11						
RKGY	**Rocky Gully**	**50.09**	**235**	⇑P	**P**	**05 17 39.4**	**+1.1**
	baz=47,SNR=4.7						
MJAR	**Matsushiro Arr**	**55.35**	**332**	pP	pP	05 18 29.0	-0.4
MJAR	**Matsushiro Arr**	**55.35**	**332**	pP	pP	05 18 29.0	-0.4
	0.9nm,0.3s,baz=177,slow=8.6,SNR=2.1						
RKT	**Rikitea**	**56.45**	**110**	*e*S	S	05 26 32.3	+19
	190nm,31.8s						
RKT				eLR	LR	05 35 03.5

GYA				LR	LR			
	comp=Z,520nm,18.7s							
BJI	**Beijing**	**69.87**	**321**	P	P	05 20 07.8	+14	
BJI				S	S	05 29 13.5	+13	
BJI				AMB	AMB			
	comp=Z,14nm,1.1s							
XAN	**Xi'an**	**71.48**	**312**	P	**P**	**05 20 05.2**	**+1.4**	
XAN				pP	**pP**	**05 20 16.8**	**+0.3**	
XAN				sP	**sP**	**05 20 22.5**	**+1.1**	
XAN				AMB	AMB			
	comp=Z,4.0nm,1.0s							
KMI	**Kunming**	**72.40**	**301**	P	**P**	**05 20 11.4**	**+1.7**	
KMI				pP	**pP**	**05 20 23.2**	**+0.8**	
KMI				sP	**sP**	**05 20 27.7**	**+0.4**	
KMI				PP	PP	05 23 03.4	+12	
KMI				S	**SKiKP**	**05 29 45.4**	**+3.4**	
KMI	**Kunming**	**72.40**	**301**	SS	SS	05 34 29.1	+19	
KMI				AMB	AMB			
	comp=Z,33nm,1.2s							
KMI				AMB	AMB			
	comp=Z,93nm,4.6s							
KMI				LR	LR			
	comp=Z,230nm,23.8s							
HHC	**Hu-ho-hao-te**	**73.22**	**320**	*e*P	P	05 20 28.6	+14	
HHC				pP	PcP	05 20 39.0	+8.5	
HHC				sP	sP	05 20 43.1	+11	
HHC				PP	PP	05 23 15.8	+18	
HHC				S	SKiKP	05 29 57.8	+15	
HHC				sS	**SKSac**	**05 30 16.5**	**-0.3**	
HHC				AMB	AMB			
	comp=Z,39nm,1.1s							
HHC				AMB	AMB			
	comp=Z,730nm,7.7s							
HHC				LR	LR			
	comp=Z,320nm,15.5s							
HHC				LR	LR			
	comp=Z,1μm,16.4s							
HHC				LR	LR			
	comp=Z,950nm,16.1s							
CHTO	**Chiang Mai**	**73.42**	**294**	P	**P**	**05 20 15.6**	**0.0**	
	comp=Z,78nm,1.3s							
CHTO	**Chiang Mai**	**73.42**	**294**	P	P	05 20 20.7	+5.1	
	comp=Z,148nm,1.5s							
CD2	**Chengdu**	**73.93**	**307**	⇑*i*P	P	05 20 32.3	+14	
CD2				pP	PcP	05 20 43.1	+9.4	
CD2				sP	sP	05 20 47.3	+11	
CD2				PP	PP	05 23 20.8	+17	
CD2				S	S	05 30 03.3	+16	
CD2				sS	**SKSac**	**05 30 21.3**	**-1.2**	
CD2				SS	SS	05 34 52.2	+19	
CD2				AMB	AMB			
	comp=Z,50nm,0.9s							
CD2				AMB	AMB			
	comp=Z,360nm,6.9s							
CD2				LR	LR			
	comp=Z,940nm,8.3s							
CD2				LR	LR			
	comp=Z,1μm,8.3s							
LZH	**Lanzhou**	**76.11**	**312**	*e*P	P	05 20 45.8	+15	
LZH				pP	pP	05 20 56.3	+12	
LZH				sP	sP	05 21 01.0	+12	
LZH				*e*PP	PP	05 23 39.0	+16	
LZH				AMB	AMB			
	comp=Z,33nm,1.5s							
LZH				AMB	AMB			
	comp=Z,200nm,7.8s							
LZH				LR	LR			
	comp=Z,1μm,16.0s							
LZH				LR	LR			
	comp=Z,1μm,17.0s							
LZH				LR	LR			
	comp=Z,1μm,18.9s							
QSPA	**South Pole Qui**	**77.82**	**180**	LR	LR	05 53 18.4		
	comp=Z,136nm,18.2s,baz=208,slow=34							
ULN	**Ulaanbaatar**	**79.69**	**324**	P	**P**	**05 20 51.1**	**+0.4**	
ULN	**Ulaanbaatar**	**79.69**	**324**	P	P	05 20 58.9	+8.2	
	comp=Z,10nm,1.0s							
GTA	**Gaotai**	**80.42**	**314**	⇑P	**P**	**05 20 56.1**	**+1.3**	
GTA				pP	**pP**	**05 21 05.0**	**-2.7**	
GTA				sP	**sP**	**05 21 08.9**	**-3.7**	
GTA				S	**S**	**05 30 53.8**	**-4.3**	
GTA	**Gaotai**	**80.42**	**314**	sS	S	05 31 10.3	+12	
GTA	**Gaotai**	**80.42**	**314**	SS	SS	05 36 03.4	-7.6	
GTA				AMB	AMB			
	comp=Z,9.0nm,1.0s							
GTA				AMB	AMB			
	comp=Z,91nm,6.9s							
GTA				LR	LR			
	comp=N,730nm,17.1s							
GTA				LR	LR			
	comp=E,380nm,19.0s							
GTA				LR	LR			
	comp=Z,300nm,19.5s							
SHL	**Shillong**	**81.76**	**298**	*ex*	**P**	**05 21 02.5**	**+0.2**	
LSA	**Lhasa**	**83.64**	**302**	P	**P**	**05 21 13.2**	**+0.9**	
MAW	**Mawson**	**83.96**	**202**	P	**P**	**05 21 12.0**	**-0.6**	
MAW	**Mawson**	**83.96**	**202**	P	**P**	**05 21 12.0**	**-0.6**	
	comp=Z,7.7nm,0.8s,baz=77,slow=4.9,SNR=10							
MAW				LR	LR	05 58 21.1		
	comp=Z,170nm,18.2s,baz=271,slow=35							
HUMO	**Hull Mountain**	**84.29**	**44**	*e*P	P	05 21 30.7	+16	
ILAR	**Eielson Array**	**84.35**	**18**	P	**P**	**05 21 13.9**	**-0.6**	
	comp=Z,1.8nm,0.7s,baz=235,slow=4.9,SNR=20							
CMB	**Columbia Colle**	**84.48**	**49**	*e*P	P	05 21 30.6	+15	
	comp=Z,6.6nm,1.3s							
BEKR	**Beckworth**	**85.13**	**48**	*e*P	P	05 21 33.0	+14	
	comp=Z,6.1nm,1.4s							
MTUM	**Tungsten Hills**	**85.62**	**50**	*e*P	P	05 21 39.3	+18	
PAHR	**Pah Rah Range**	**85.78**	**48**	*e*P	P	05 21 36.2	+14	
	comp=Z,8.9nm,1.1s							
TAPN	**Taplejung**	**85.85**	**299**	*e*P	**P**	**05 21 23.8**	**+0.5**	
MOD	**Modoc**	**85.87**	**46**	*e*P	P	05 21 38.9	+16	
ODAN	**Odare**	**86.00**	**298**	*e*P	**P**	**05 21 24.6**	**+0.7**	
NVAR	**Mina Array Bea**	**86.16**	**50**	pP	pP	05 21 38.7	+1.2	
NVAR	**Mina Array Bea**	**86.16**	**50**	P	**P**	**05 21 25.0**	**+0.5**	
	comp=Z,0.8nm,0.9s,baz=251,slow=5.6,SNR=2.6							
NVAR				pP	**pP**	**05 21 38.7**	**+1.2**	
	comp=Z,1.2nm,0.7s,baz=231,slow=8.5,SNR=7.3							
RAMN	**Ramite**	**86.70**	**298**	*e*P	**P**	**05 21 27.6**	**+0.2**	
I07A	**Izee**	**87.17**	**44**	*e*P	P	05 21 47.1	+18	
	comp=Z,11nm,1.5s							
WVOR	**Wild Horse Val**	**87.22**	**46**	*e*P	P	05 21 43.1	+14	
	comp=Z,8.5nm,1.4s							
JIRN	**Jiri**	**87.24**	**299**	*e*P	**P**	**05 21 30.6**	**+0.4**	
GUN	**Gumba**	**87.57**	**299**	*e*P	**P**	**05 21 32.0**	**+0.3**	
	comp=Z,51nm,0.9s							
J08A	**Circle Bar Ran**	**87.63**	**45**	*e*P	P	05 21 49.4	+18	
	comp=Z,6.8nm,1.0s							
PKI	**Pulchoki**	**87.88**	**299**	*e*P	**P**	**05 21 33.0**	**-0.2**	
	comp=Z,81nm,1.1s							
G08A	**Pilot Rock**	**87.94**	**43**	*e*P	P	05 21 48.4	+16	
	comp=Z,6.6nm,1.3s							
KKN	**Kakani**	**88.05**	**299**	*e*P	**P**	**05 21 33.9**	**0.0**	
	comp=Z,38nm,0.8s							
DMN	**Daman**	**88.15**	**299**	*e*P	**P**	**05 21 34.7**	**+0.3**	
	comp=Z,100nm,0.9s							
GKN	**Gorkha**	**88.66**	**299**	*e*P	**P**	**05 21 36.2**	**-0.5**	
	comp=Z,64nm,0.9s							
E09A	**Wood Farm, Sta**	**88.88**	**42**	*e*P	P	05 21 55.8	+19	
	comp=Z,17nm,1.6s							
ELK	**Elko**	**89.12**	**48**	*e*P	P	05 21 56.1	+17	
	comp=Z,11nm,1.8s							
F10A	**Beach Ranch, E**	**89.31**	**43**	*e*P	P	05 21 57.2	+18	
	comp=Z,16nm,1.6s							
CCUT	**Cedar City**	**89.63**	**52**	*e*P	P	05 21 58.3	+17	
	comp=Z,8.2nm,1.4s							
WMQ	**Urumqi**	**90.47**	**315**	P	P	05 21 58.1	+13	
WMQ				pP	pP	05 22 08.7	+11	
WMQ				sP	sP	05 22 12.6	+10	
WMQ				PP	PP	05 25 37.0	+17	
WMQ				SKS	**SKKSac**	**05 32 25.6**	**-1.3**	
WMQ				S	ScS	05 32 50.3	+10	
WMQ				sS	sS	05 33 08.2	+10	
WMQ				AMB	AMB			
	comp=Z,10.0nm,0.6s							
WMQ				AMB	AMB			
	comp=Z,250nm,5.8s							
WMQ				LR	LR			
	comp=Z,430nm,6.6s							
WMQ				LR	LR			
	comp=Z,510nm,10.8s							
HLID	**Hailey**	**90.51**	**46**	*e*P	P	05 22 01.4	+16	
	comp=Z,3.8nm,1.1s							
DUG	**Dugway**	**90.75**	**49**	*e*P	P	05 21 59.8	+14	
	comp=Z,4.9nm,1.2s							

MVU	**Marysvale**	**90.76**	**51**	*e*P	P	05 22 00.6	+14	
SYO	**Syowa Base**	**90.92**	**197**	‖*e*X	**P**	**05 21 44.2**	**-2.0**	
SYO	**Syowa Base**	**90.92**	**197**	‖*e*X	**P**	**05 21 45.9**	**-0.3**	
PDAR	**Pinedale Array**	**93.75**	**47**	pP	pP	05 22 14.2	+1.0	
PDAR	**Pinedale Array**	**93.75**	**47**	P	**P**	**05 21 60.0**	**-0.1**	
	comp=Z,0.2nm,0.5s,baz=241,slow=1.9,SNR=2.1							
PDAR				pP	**pP**	**05 22 14.2**	**+1.0**	
	comp=Z,0.5nm,0.9s,baz=224,slow=2.5,SNR=3.4							
MKAR	**Makanchi Array**	**94.90**	**317**	P	**P**	**05 22 05.0**	**0.0**	
MKAR	**Makanchi Array**	**94.90**	**317**	P	**P**	**05 22 05.0**	**0.0**	
	comp=Z,3.9nm,0.7s,baz=94,slow=6.7,SNR=35							
ZALV	**Zalesovo Beam**	**94.95**	**324**	P	**P**	**05 22 04.7**	**-0.3**	
	comp=Z,0.6nm,0.3s,baz=186,slow=3.0,SNR=3.5							
MAIT	**Maitri**	**95.45**	**188**	*e*P	P	05 22 03.8	-3.3	
SNAA	**Sanae**	**96.02**	**183**	*e*P	**P**	**05 22 08.1**	**-1.7**	
SNAA	**Sanae**	**96.02**	**183**	*e*P	**P**	**05 22 08.5**	**-1.3**	
	comp=Z,13nm,1.6s							
SNAA	**Sanae**	**96.02**	**183**	LR	LR	06 03 54.8		
	comp=Z,66nm,18.8s,baz=13,slow=34							
VNA2	**Neumayer--Watz**	**96.97**	**182**	*e*P	**P**	**05 22 13.0**	**-1.0**	
ARCES	**ARCESS Array B**	**117.64**	**346**	pPKP	pPKPdf	05 27 40.7	-0.9	
ARCES	**ARCESS Array B**	**117.64**	**346**	PKP	**PKPdf**	**05 27 27.1**	**-1.1**	
	comp=Z,0.8nm,0.3s,baz=72,slow=2.9,SNR=9.5							
ARCES				pPKP	**pPKPdf**	**05 27 40.7**	**-0.9**	
	comp=Z,2.9nm,0.7s,baz=58,slow=1.9,SNR=2.1							
LPAZ	**La Paz**	**118.96**	**116**	PKP	**PKPdf**	**05 27 32.9**	**-0.1**	
	comp=Z,0.7nm,0.8s,baz=108,slow=6.8,SNR=3.7							
FINES	**FINESS Array B**	**123.13**	**339**	PKP	**PKPdf**	**05 27 38.0**	**-0.9**	
	comp=Z,4.9nm,0.9s,baz=64,slow=3.2,SNR=3.2							
AKASG	**Malin Array Be**	**128.25**	**327**	pPKP	pPKPdf	05 28 03.9	+1.4	
AKASG	**Malin Array Be**	**128.25**	**327**	pPKP	pPKPdf	05 28 03.9	+1.4	
	comp=Z,0.2nm,0.2s,baz=55,slow=2.3,SNR=1.9							
BRTR	**Keskin Array B**	**130.32**	**312**	PP	PP	05 30 20.6	+13	
BRTR	**Keskin Array B**	**130.32**	**312**	PP	PP	05 30 20.6	+13	
	comp=Z,0.7nm,0.8s,baz=81,slow=8.9,SNR=3.7							
BDFB	**Brasilia**	**136.00**	**128**	PKP	**PKPdf**	**05 28 05.4**	**+0.5**	
BDFB	**Brasilia**	**136.00**	**128**	PKP	**PKPdf**	**05 28 05.4**	**+0.5**	
	comp=Z,0.4nm,0.4s,baz=228,slow=14,SNR=3.3							
GERES	**GERESS Array B**	**137.08**	**334**	pPKP	pPKPdf	05 28 20.3	+0.9	
GERES	**GERESS Array B**	**137.08**	**334**	pPKP	pPKPdf	05 28 20.3	+0.9	
	comp=Z,0.6nm,0.7s,baz=298,slow=2.9,SNR=2.1							
KEST	**Kesra**	**148.81**	**323**	PKPbc	**PKPbc**	**05 28 31.1**	**+0.3**	
KEST				pPKPbc	**pPKPbc**	**05 28 43.9**	**-0.3**	
KEST	**Kesra**	**148.81**	**323**	PKPbc	**PKPbc**	**05 28 31.1**	**+0.3**	
	comp=Z,2.1nm,0.8s,baz=323,slow=0.9,SNR=8.9							
KEST				pPKPbc	**pPKPbc**	**05 28 43.9**	**-0.3**	
	comp=Z,5.2nm,1.0s,baz=228,slow=7.6,SNR=6.8							
ESDC	**Sonseca Array**	**151.37**	**345**	PKPbc	**PKPbc**	**05 28 37.2**	**+0.4**	
	comp=Z,0.3nm,0.3s,baz=103,slow=1.7,SNR=3.5							
ESDC				PKPab	**PKPab**	**05 28 46.3**	**+1.4**	
	comp=Z,0.8nm,0.6s,baz=24,slow=2.8,SNR=3.3							
TORD	**Torodi Ar. Bea**	**165.20**	**275**	PKP	**PKPdf**	**05 28 47.5**	**-0.5**	
TORD				pPKP	**pPKPdf**	**05 29 01.0**	**-0.6**	
TORD				PKPab	**PKPab**	**05 29 45.1**	**-0.3**	
TORD				pPKPab	**pPKPab**	**05 29 58.2**	**-0.3**	
TORD	**Torodi Ar. Bea**	**165.20**	**275**	PKP	**PKPdf**	**05 28 47.4**	**-0.5**	
	comp=Z,0.2nm,0.5s,baz=128,slow=0.8,SNR=2.4							
TORD				pPKP	**pPKPdf**	**05 29 01.0**	**-0.6**	
	comp=Z,1.8nm,1.1s,baz=1.4,slow=2.2,SNR=5.0							
TORD				PKPab	**PKPab**	**05 29 45.1**	**-0.3**	
	comp=Z,2.9nm,1.0s,baz=83,slow=6.0,SNR=7.4							
TORD				pPKPab	**pPKPab**	**05 29 58.2**	**-0.3**	
	comp=Z,6.7nm,0.9s,baz=87,slow=3.7,SNR=11							
DBIC	**Dimbokro**	**169.91**	**238**	pPKPab	pPKPab	05 30 18.9	-0.3	
DBIC	**Dimbokro**	**169.91**	**238**	pPKPab	pPKPab	05 30 18.9	-0.3	
	comp=Z,9.0nm,1.0s,baz=149,slow=3.8,SNR=5.4							

*IDC **07** 05:16:54.3±7.9, 2.°54N×95.°53E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/24, mbtmp3.9/4, Error ellipse: s-maj=376.3km s-min=23.4km az=57.0*
*ISCJB **07** 05:16:56.5±1.1, 2.°6N±0.°1×95.°58E±0.°09, h25km, mb4.0/4, Error ellipse: s-maj=17.5km s-min=8.8km az=34.9*
*DJA **07** 05:17:03.2±1.8, 3.°N±7.°×9.°6E±1.°4, h30km±4km, M4.1/3, mb4.5/2, MLv3.9/3*

ISC 07 05:16:57.9±1.5, 2.°5N±0.°1×95.°6E±0.°1, h25km, n15, σ1§10/11, mb4.0/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.70**	**93**	P	**Pn**	**05 17 12.8**	**+0.6**
SNSI				S	**Sb**	**05 17 20.6**	**-0.1**
GSI	**Gunungsitoli**	**2.25**	**120**	P	**Pb**	**05 17 36.0**	**-1.9**
GSI				S	**Sn**	**05 18 01.1**	**+0.5**
KCSI	**Kotacane, Aceh**	**2.39**	**63**	P	**Pn**	**05 17 36.1**	**+0.6**
KULM	**Kulim**	**5.75**	**60**	P	**Pn**	**05 18 21.9**	**+0.2**
IPM	**Ipoh**	**5.75**	**69**	P	**Pn**	**05 18 22.3**	**+0.6**
	27nm,0.7s,0.2nm						
H08S2	**Diego Garcia H**	**25.16**	**246**	T	T	05 48 33.2	
	baz=66,slow=0.7,SNR=382						
H08S3	**Diego Garcia H**	**25.17**	**246**	T	T	05 48 33.3	
	baz=66,slow=0.7,SNR=343						
H08S1	**Diego Garcia H**	**25.18**	**246**	T	T	05 48 34.5	
	baz=66,slow=0.7,SNR=438						
H01W3	**Cape Leeuwin H**	**41.00**	**157**	T	T	06 08 21.3	
	baz=332,slow=0.7,SNR=88						
H01W2	**Cape Leeuwin H**	**41.01**	**157**	T	T	06 08 22.2	
	baz=332,slow=0.7,SNR=103						
H01W1	**Cape Leeuwin H**	**41.01**	**157**	T	T	06 08 22.5	
	baz=332,slow=0.7,SNR=72						
WRA	**Warramunga Arr**	**44.02**	**122**	P	**P**	**05 25 04.6**	**+0.7**
	0.5nm,0.3s,baz=300,slow=8.6,SNR=5.7						
ASAR	**Alice Springs**	**45.40**	**127**	P	**P**	**05 25 16.5**	**+1.7**
	0.7nm,1.0s,baz=294,slow=7.7,SNR=4.7						
MKAR	**Makanchi Array**	**45.67**	**347**	P	**P**	**05 25 15.4**	**-1.2**
	2.0nm,0.5s,baz=156,slow=9.0,SNR=21						
ZALV	**Zalesovo Beam**	**52.10**	**352**	P	**P**	**05 26 05.8**	**+0.1**
	2.2nm,0.5s,baz=184,slow=7.0,SNR=9.4						

KRSC 07 05:28:13.9±4.7, 52.°04N×159.°43E, h21km±20km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**0.69**	**305**	P	Pn	05 28 28.0	-0.4
RUS				*i* S	Sn	05 28 37.4	-1.0
MTVR	**Mutnovka**	**0.89**	**301**	P	Pn	05 28 31.3	0.0
MTVR				*i* S	Sn	05 28 43.3	-0.4
ASAK	**Asacha**	**1.00**	**291**	P	Pn	05 28 33.4	+0.6
ASAK				*i* S	Sn	05 28 46.8	+0.4
SDLR	**Sedlovina**	**1.28**	**345**	P	Pn	05 28 37.0	+0.2
SMAR	**Somma**	**1.28**	**343**	P	Pb	05 28 38.0	+0.4
AVH	**Avacha**	**1.30**	**341**	P	Pb	05 28 38.8	+1.1
KRER	**Koryakskii**	**1.33**	**342**	P	Pb	05 28 39.1	+0.7
KOK	**Koryaka**	**1.34**	**339**	P	Pb	05 28 39.1	+0.6
KRX	**Arik**	**1.40**	**341**	P	Pn	05 28 38.5	+0.1
GNL	**Ganaly**	**1.89**	**332**	P	Pn	05 28 46.1	+1.1

*MOS **07** 05:38:35.4±0.9, 52.°19N×178.°04E, h133km, mb5.5/120, Error ellipse: s-maj=8.5km s-min=6.8km az=150.2*
*ISCJB **07** 05:38:36.3±0.3, 52.°09N±0.°03×178.°14E±0.°02, h145km±2km, mb5.3/343, Error ellipse: s-maj=4.2km s-min=1.9km az=0.2*
*NEIC **07** 05:38:37.3±0.2, 52.°16N×178.°05E, h138km±1km, mb5.6/220, MW5.6(USGS), Error ellipse: s-maj=3.0km s-min=1.8km az=171.0*
NEIC Felt on Shemya.
*IDC **07** 05:38:37.1±0.4, 52.°12N×178.°04E, h135km±2km, mb5.0/42, mb1 5.1/45, mb1mx5.1/47, mbtmp5.4/45, MS4.5/22, Ms1 4.5/22, ms1mx4.2/53, Error ellipse: s-maj=8.6km s-min=5.9km az=157.0*
*BJI **07** 05:38:37.9, 52.°49N×177.°49E, h140km, mB5.5/34, mb5.3/58*
*GCMT **07** 05:38:39.4±0.1, 52.°04N×178.°04E, h131km, MW5.7, Moment Tensor Solution. s104,c185; s42,c45; Moment tensor: Scale 10^17^Nm; Mrr-0.44±.05; Mθθ-2.71±.06; Mφφ3.15±.06; Mrθ1.95±.04; Mθφ-1.00±.06; Mφr-2.43±.04; Best double couple: M0 4.30000×10^17^ NP1:φ310.00000°, δ88.00000°, λ-135.00000°. NP2:φ218.00000°, δ45.00000°, λ-3.00000°. Principal axes: T 4.8100, Plg29.0000°, Azm74.0000°; N -0.9600, Plg45.0000°, Azm312.0000°; P -3.8500, Plg32.0000°, Azm184.0000°; Data Used: II IU CN G IC. Surface waves: sta=118, comp=260, per= 50.*
*SZGRF **07** 05:38:44.4, 52.°73N×176.°04E, h155km, mb5.8, Rat Islands, Aleutian Islands, United States*
*DJA **07** 05:38:47.0±3.4, 52.°N±8.°×17.°8E±1.°2, h225km±33km, M5.1/18, mB5.6/10, mb5.1/18, Mw(mB)5.1/10*

*BGS **07** 05:39:13.7±2.1, 51.°92N×179.°95W, h140km, mb5.3*
ISC 07 05:38:37.5±0.2, 52.°09N±0.°03×178.°00E±0.°02, h140km±1km, h139km; pP-P, n1502, σ1§25/1999, mb5.5/345, 380C-330D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSNW	**Little Sitkin**	**0.34**	**109**	P	**Pn**	**05 38 55.9**	**-1.0**
LSSA	**Little Sitkin**	**0.34**	**113**	P	**Pn**	**05 38 56.0**	**-0.9**
LSSE	**Little Sitkin**	**0.38**	**113**	P	**Pn**	**05 38 56.1**	**-1.0**
CETU	**Semis' Tuman**	**0.93**	**97**	P	**Pn**	**05 39 00.0**	**-0.6**
CEAP	**Semis' Anvil P**	**0.98**	**94**	P	**Pn**	**05 39 00.5**	**-0.5**
CESW	**Semis' Southwe**	**0.98**	**100**	P	**Pn**	**05 39 00.1**	**-1.0**
CERAA	**Semis' Rag'd T**	**1.06**	**99**	P	**Pn**	**05 39 00.9**	**-0.8**
AMKA	**Amchitka**	**1.07**	**131**	*e*Pn	**Pn**	**05 39 00.6**	**-1.3**
AMKA				*e*Sn	**Sn**	**05 39 17.8**	**-2.6**
AMKA				S	**Sn**	**05 39 18.3**	**-2.2**
SMY	**Shemya**	**2.48**	**287**	P	**Pn**	**05 39 16.2**	**-1.5**
SMY				S	**Sn**	**05 39 46.8**	**-1.8**
SMY	**Shemya**	**2.48**	**287**	P	**Pn**	**05 39 16.1**	**-1.5**
SMY				S	**Sn**	**05 39 46.8**	**-1.8**
FX1	**Attu Island--F**	**3.06**	**287**	*e*Pn	**Pn**	**05 39 23.2**	**-2.0**
FX1				S	**Sn**	**05 39 59.0**	**-3.0**
FX1				S	**Sn**	**05 39 59.8**	**-2.2**
FX1	**Attu Island--F**	**3.06**	**287**	P	**Pn**	**05 39 23.1**	**-2.0**
	941nm,0.3s,baz=146,slow=5.5,SNR=2188						
FX1				S	**Sn**	**05 39 59.0**	**-3.0**
	3μm,0.3s,baz=106,slow=23,SNR=32						
ADK	**Adak**	**3.29**	**91**	*e*P	**Pn**	**05 39 26.5**	**-1.6**
ADK				S	**Sn**	**05 40 07.0**	**-0.3**
ADK	**Adak**	**3.29**	**91**	*e*Pn	**Pn**	**05 39 26.4**	**-1.6**
ADK				*e*Sn	**Sn**	**05 40 05.0**	**-2.3**
ADK				S	**Sn**	**05 40 07.0**	**-0.3**
NIKH	**Nikolski High**	**8.07**	**78**	P	**Pn**	**05 40 30.8**	**-0.8**
OKSO	**Okmok South**	**8.50**	**76**	P	**Pn**	**05 40 36.8**	**-0.7**
SPIA	**Saint Paul Isl**	**8.51**	**49**	P	**Pn**	**05 40 38.2**	**+0.7**
OKTU	**Okmok Mt. Tuli**	**8.57**	**76**	P	**Pn**	**05 40 38.4**	**0.0**
OKFG	**Magazine Ridge**	**8.65**	**76**	P	**Pn**	**05 40 38.9**	**-0.5**
MCIR	**Makushin Cirqu**	**9.30**	**72**	P	**Pn**	**05 40 48.3**	**+0.2**
MTBL	**Makushin Table**	**9.43**	**72**	P	**Pn**	**05 40 48.8**	**-1.1**
UNV	**Unalaska Valle**	**9.52**	**73**	*e*Pn	**Pn**	**05 40 50.7**	**-0.3**
AKRB	**Akutan Reef Bi**	**9.80**	**72**	P	**Pn**	**05 40 55.0**	**+0.3**
ZRO	**Akutan Zero**	**9.85**	**72**	P	**Pn**	**05 40 55.8**	**+0.3**
AKUT	**Akutan**	**9.97**	**72**	*e*Pn	**Pn**	**05 40 58.6**	**+1.6**
FALS	**False Pass**	**11.41**	**69**	*e*Pn	**Pn**	**05 41 17.1**	**+0.9**
PET	**Petropavlovsk**	**11.81**	**282**	*α i*P	**Pn**	**05 41 21.1**	**-0.3**
PET				*e*S	**Sn**	**05 43 30.2**	**-1.4**
PET				pmax	pmax		
	comp=Z,3μm,3.3s						
PET				pmax	pmax		
	comp=Z,2μm,5.2s						
PET				pmax	pmax		
	comp=Z,257nm,1.7s						
PET				MLR	MLR		
	comp=Z,1μm,16.0s						
PET				MLR	MLR		
	comp=Z,1μm,14.0s						
PEA0B	**Petropavlovsk-**	**12.38**	**283**	*e*Pn	**Pn**	**05 41 29.1**	**+0.3**
PETK	**Petropavlovsk-**	**12.38**	**283**	P	**Pn**	**05 41 29.2**	**+0.3**
PETK				S	**Sn**	**05 43 40.4**	**-5.0**
PETK				pmax	pmax		
	comp=Z,11nm,0.3s						
PETK				smax	smax		
	comp=N,20nm,0.3s						
PETK				MLR	MLR		
	comp=Z,582nm,19.7s						
PETK	**Petropavlovsk-**	**12.38**	**283**	P	**Pn**	**05 41 29.1**	**+0.3**
PETK				S	**Sn**	**05 43 40.4**	**-5.0**
PETK				ScP	**ScP**	**05 50 16.8**	**-0.2**
PETK	**Petropavlovsk-**	**12.38**	**283**	P	**Pn**	**05 41 29.1**	**+0.3**
	comp=Z,11nm,0.3s,baz=88,slow=19,SNR=105						
PETK				S	**Sn**	**05 43 40.4**	**-5.0**
	comp=Z,20nm,0.3s,baz=95,slow=20,SNR=7.5						
PETK				LR	LR	05 45 58.5	
	comp=Z,582nm,19.6s,baz=303,slow=36						
PETK				ScP	**ScP**	**05 50 16.8**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=110,slow=1.6,SNR=8.7						
SDPT	**Sand Point**	**13.15**	**67**	*e*Pn	**Pn**	**05 41 37.2**	**-1.4**
SKR	**Severo-Kuril's**	**13.73**	**273**	*e*P	**Pn**	**05 41 44.4**	**-1.7**
SKR				pmax	pmax		
	comp=Z,260nm,0.7s						
SKR				pmax	pmax		
	comp=Z,2μm,2.0s						
SKR				MLR	MLR		
	comp=Z,2μm,14.0s						
CHGN	**Chignik**	**14.41**	**64**	*e*Pn	**Pn**	**05 41 53.6**	**-1.0**
TNA	**Tin City**	**15.29**	**23**	*e*Pn	**P**	**05 42 06.7**	**-0.6**
	comp=Z,514nm,1.2s						
SVW2	**Sparrevohn**	**17.00**	**48**	*e*Pn	**Pn**	**05 42 27.4**	**+0.8**
	comp=Z,452nm,1.0s						
OHAK	**Old Harbor**	**17.31**	**61**	*e*P	**P**	**05 42 27.2**	**-2.4**
	comp=Z,526nm,1.0s						
SEY	**Seymchan**	**17.39**	**319**	‖*i*P	**Pn**	**05 42 31.2**	**0.0**
KDAK	**Kodiak Island**	**17.75**	**60**	*e*P	**P**	**05 42 32.3**	**-2.0**
	comp=Z,670nm,0.8s						

BMRM Bremner River 22.17 52 *e*P P 05 43 21.0 -0.8
comp=Z,2µm,1.9s
YUK Yuzh-Kuril'sk 22.79 262 *d* iP P 05 43 20.2 -7.7
YUK *i* *SP sP 05 44 05.7 -5.7
YUK *i* S **S** **05 47 20.9 -5.2**
YUK pmax pmax
comp=Z,2µm,1.6s
YUK pmax pmax
comp=Z,1µm,1.4s
YUK pmax pmax
comp=E,710nm,1.4s
YUK pmax pmax
comp=N,155nm,0.7s
YUK MLR MLR
comp=Z,698nm,14.0s
MENT Mentasta 22.88 47 *e*P **P** **05 43 28.5 -0.1**
YSS Yuzh-Sakhalins 23.29 271 ᴋ *i*P **P** **05 43 33.7 +1.2**
YSS *e**PP **pP** **05 43 58.0 -1.5**
YSS *e**SP **sP** **05 44 13.0 -3.8**
YSS *i* S **S** **05 47 36.0 +1.9**
YSS *e* 05 48 20.0
YSS pmax pmax
comp=Z,360nm,1.2s
YSS pmax pmax
comp=Z,1µm,2.0s
YSS MLR MLR
comp=Z,1µm,13.0s
YSS MLR MLR
comp=N,700nm,12.0s
YSS MLR MLR
comp=E,1µm,12.0s
MIDW Midway 24.09 170 *e*P **P** **05 43 41.0 +1.1**
comp=E,366nm,1.3s
EGAK Eagle 24.35 43 *e*P **P** **05 43 42.0 0.0**
comp=E,2µm,0.8s
ASAJ Asahikawa 24.75 265 *e*P **P** **05 43 46.5 +0.7**
comp=E,347nm,1.7s
ASAJ ScP **ScP** **05 50 45.9 +1.8**
ASAJ Asahikawa 24.75 265 P **P** **05 43 46.5 +0.7**
comp=E,118nm,1.0s,baz=61,slow=6.0,SNR=30
ASAJ ScP **ScP** **05 50 45.9 +1.8**
comp=E,13nm,0.8s,baz=273,slow=10,SNR=4.8
DAWY Dawson 24.98 45 *e*P **P** **05 43 48.3 +0.6**
ERM Erimo 25.56 261 *c* *i*P **P** **05 43 54.1 +1.0**
ERM pmax pmax
comp=Z,178nm,1.2s
ERM Erimo 25.56 261 *e*P **P** **05 43 53.0 -0.1**
comp=Z,280nm,1.4s
ERM Erimo 25.56 261 P **P** **05 43 54.3 +1.2**
comp=Z,716nm,1.0s,SNR=5.1
HYT Haines Junctio 25.62 53 *e*P **P** **05 43 53.6 -0.1**
HYT *e*ScP **ScP** **05 50 47.2 +0.7**
SKAG Skagway 26.77 56 *e*P **P** **05 44 03.5 -0.3**
SKAG *e*ScP **ScP** **05 50 50.6 +0.9**
SIT Sitka 27.08 61 *e*P **P** **05 44 06.7 +0.2**
SIT pmax pmax
comp=Z,228nm,1.1s
SIT Sitka 27.08 61 *e*P **P** **05 44 06.7 +0.2**
comp=Z,228nm,1.1s
YAK Yakutsk 27.45 310 *e*P **P** **05 44 07.7 -2.1**
YAK *e**PP **pP** **05 44 37.6 -1.8**
YAK *e* 05 44 53.1
YAK *e* 05 47 24.4
YAK *e*S **S** **05 48 36.6 -3.1**
YAK *e**SS **sS** **05 49 28.9 -2.9**
YAK *i* 05 54 43.3
YAK pmax pmax
comp=Z,30nm,1.0s
YAK pmax pmax
comp=E,22nm,1.6s
YAK smax smax
comp=N,207nm,2.7s
YAK smax smax
comp=E,162nm,2.3s
INK Inuvik 28.05 36 P **P** **05 44 15.5 +0.5**
INK ScP **ScP** **05 50 53.0 -0.4**
INK Inuvik 28.05 36 P **P** **05 44 15.5 +0.5**
comp=E,160nm,0.7s,baz=252,slow=8.3,SNR=197
INK ScP **ScP** **05 50 53.0 -0.4**
comp=E,32nm,1.0s,baz=297,slow=2.8,SNR=10
CRAG Craig 28.60 64 *e*P **P** **05 44 20.4 +0.3**
comp=E,198nm,1.3s
WRAK Wrangell Islan 28.81 62 *e*P **P** **05 44 22.6 +0.6**
comp=E,104nm,0.8s
TIXI Tiksi 29.04 330 ⇓ *i*P **P** **05 44 24.2 +0.4**
TIXI pmax pmax
comp=Z,13nm,0.9s
KLR Kuʟ'dur 29.08 283 ⇑ *i*P P 05 44 21.2 -3.2
KLR *e* 05 44 52.0
KLR *e*S **S** **05 49 10.0 +4.5**
KLR pmax pmax
comp=E,80nm,1.4s
KLR pmax pmax
comp=Z,180nm,1.4s
KLR MLR MLR
comp=E,900nm,12.0s
KLR MLR MLR
comp=Z,3µm,12.0s
DLBC Dease Lake 29.63 57 P **P** **05 44 30.5 +1.2**
DLBC ScP **ScP** **05 50 57.9 -0.9**
DLBC Dease Lake 29.63 57 P **P** **05 44 30.5 +1.2**
comp=Z,76nm,0.8s,baz=282,slow=8.9,SNR=148
DLBC ScP **ScP** **05 50 57.9 -0.9**
comp=Z,6.1nm,1.0s,baz=347,slow=0.7,SNR=4.4
USRK Ussuriysk Arra 31.25 274 P **P** **05 44 43.4 -0.2**
comp=Z,23nm,0.7s,baz=55,slow=7.8,SNR=34
USRK pP **pP** **05 45 11.7 -1.7**
comp=Z,22nm,1.1s,baz=67,slow=6.4,SNR=3.6
USRK PcP **PcP** **05 47 35.2 +0.8**
comp=Z,12nm,0.6s,baz=51,slow=1.8,SNR=18
USRK ScP **ScP** **05 51 04.8 +0.7**
comp=Z,11nm,0.9s,baz=64,slow=4.4,SNR=18
MJAR Matsushiro Arr 31.97 257 P **P** **05 44 50.0 0.0**
MJAR PcP **PcP** **05 47 37.1 +0.5**
MJAR ScP **ScP** **05 51 07.4 +0.6**
MJAR Matsushiro Arr 31.97 257 P **P** **05 44 50.0 0.0**
comp=Z,16nm,0.8s,baz=39,slow=6.0,SNR=41
MJAR PcP **PcP** **05 47 37.1 +0.5**
comp=Z,4.1nm,0.5s,baz=133,slow=1.2,SNR=8.5
MJAR ScP **ScP** **05 51 07.4 +0.6**
comp=Z,1.0nm,0.3s,baz=300,slow=0.5,SNR=8.5
MAJO Matsushiro 31.97 257 *e*P **P** **05 44 50.7 +0.7**
MAJO pmax pmax
comp=Z,251nm,1.4s
MAJO Matsushiro 31.97 257 *e*P **P** **05 44 50.7 +0.7**
comp=Z,251nm,1.4s
MAT Matsushiro 31.97 257 P **P** **05 44 51.0 +1.0**
MAT S **S** **05 49 53.8 +2.8**
MDJ Mudanjiang 32.50 276 P **P** **05 44 54.1 -0.5**
MDJ pP **pP** **05 45 23.9 -0.6**
MDJ sP **sP** **05 45 40.7 +0.1**
MDJ PP **PP** **05 46 10.4 -0.2**
MDJ PcP **PcP** **05 47 39.2 +1.3**
MDJ S **S** **05 49 59.5 +0.4**
MDJ AMB AMB
comp=Z,22nm,0.8s
MDJ AMB AMB
comp=Z,350nm,6.3s
MDJ LR LR
comp=Z,820nm,23.4s
MDJ LR LR
comp=Z,530nm,22.2s
MDJ LR LR
comp=Z,950nm,19.9s
H11N2 WAKE ISLAND Hy 33.44 199 T T 06 20 41.6
baz=15
H11N3 WAKE ISLAND Hy 33.45 199 T T 06 20 42.8
baz=15
H11N1 WAKE ISLAND Hy 33.46 199 T T 06 20 42.9
baz=15
WAKE Wake Island 33.92 199 *e*P **P** **05 45 08.5 +1.4**
comp=Z,1µm,1.7s
H11S1 WAKE ISLAND Hy 34.67 199 T T 06 22 18.7
baz=12,slow=0.7,SNR=90
H11S3 WAKE ISLAND Hy 34.68 199 T T 06 22 16.2
baz=12,slow=0.7,SNR=76
H11S2 WAKE ISLAND Hy 34.68 199 T T 06 22 14.4
baz=12,slow=0.7,SNR=38
CN2 Changchun 35.47 278 ⇓P **P** **05 45 19.7 -0.5**
CN2 *e*pP **pP** **05 45 50.4 -0.1**
CN2 *e*PcP **PcP** **05 47 44.0 -2.4**
CN2 *e*S **S** **05 50 43.2 -1.6**
CN2 AMB AMB
comp=Z,30nm,1.0s
KIP Kipapa 35.80 140 *e*P **P** **05 45 25.7 +2.5**
KIP Kipapa 35.80 140 *e*P **P** **05 45 25.7 +2.5**
comp=Z,1µm,2.3s
YKA Yellowknife Ar 36.19 47 P **P** **05 45 26.6 +0.5**
YKA ScP **ScP** **05 51 19.8 -1.5**
YKA Yellowknife Ar 36.19 47 P **P** **05 45 26.6 +0.5**
comp=Z,300nm,0.8s,baz=284,slow=8.4,SNR=226
YKA ScP **ScP** **05 51 19.7 -1.5**
comp=Z,8.9nm,0.8s,baz=287,slow=3.5,SNR=7.2
CBIJ Chichi jima 36.62 241 P **P** **05 45 31.2 +1.0**
JCJ Chichijima 36.62 241 P **P** **05 45 31.2 +1.0**
comp=Z,57nm,0.5s,baz=336,slow=20,SNR=3.6
PGC Sidney 36.63 71 *e*P **P** **05 45 29.6 -0.4**
comp=Z,3.4nm,0.9s
NLWA Neilton Lookou 36.99 74 *e*P **P** **05 45 33.5 +0.4**
comp=Z,169nm,0.9s
VDB Vedder Mountai 37.24 70 P **P** **05 45 34.4 -0.7**
A05A Maple Falls 37.26 70 *e*P **P** **05 45 34.9 -0.4**
comp=Z,162nm,1.0s
E03A Lebam 37.59 75 *e*P **P** **05 45 38.3 +0.1**
comp=Z,243nm,0.9s
E03A *e*ScP **ScP** **05 51 26.7 -0.1**
KSRS Korea Array 37.66 267 P **P** **05 45 40.3 +1.5**
comp=Z,31nm,1.0s,baz=61,slow=8.1,SNR=36
KSRS pP **pP** **05 46 09.8 +0.4**
comp=Z,12nm,1.0s,baz=49,slow=8.8,SNR=2.9
KSRS PcP **PcP** **05 47 54.1 +1.0**
comp=Z,6.2nm,0.7s,baz=68,slow=3.2,SNR=7.7
KSRS ScP **ScP** **05 51 28.2 +1.0**
comp=Z,2.3nm,0.7s,baz=72,slow=4.1,SNR=5.4
KSAR Wonju Array Be 37.69 267 P **P** **05 45 40.3 +1.2**
KSAR pP **pP** **05 46 09.8 +0.2**
KSAR PcP **PcP** **05 47 54.1 +0.9**
KSAR ScP **ScP** **05 51 28.2 +0.9**
BMW Boistfort Moun 37.83 74 P **P** **05 45 40.3 +0.1**
BMW Boistfort Moun 37.83 74 P **P** **05 45 40.3 +0.1**
F03A Seaside 37.91 75 *e*P **P** **05 45 41.1 +0.3**
comp=Z,176nm,0.9s
D05A Enumclaw 38.20 73 *e*P **P** **05 45 43.7 +0.4**
comp=Z,252nm,1.0s
D05A *e*ScP **ScP** **05 51 29.4 +0.2**
POHA Pohakuloa 38.31 137 *e*P **P** **05 45 46.1 +1.4**
comp=Z,81nm,0.8s
INCN Inchon 38.44 268 *e*P **P** **05 45 47.0 +1.7**
INCN *e*pP **pP** **05 46 16.2 +0.2**
CIT Chita 38.45 296 *e*P **P** **05 45 45.3 0.0**
CIT *e* 05 46 13.6
TDL Tradedollar La 38.49 74 P **P** **05 45 45.8 -0.1**
LVP Lakeview Peak 38.53 75 P **P** **05 45 46.0 -0.2**
LON Longmire 38.53 73 *e*P **P** **05 45 45.5 -0.6**
LON *e* 05 51 30.0
LON pmax pmax
comp=Z,44nm,0.9s
LON Longmire 38.53 73 *e*P **P** **05 45 45.5 -0.6**
comp=Z,44nm,0.9s
LON *e*ScP **ScP** **05 51 30.0 -0.4**
JNU Nakatsue 38.71 260 *e*P **P** **05 45 48.1 +0.4**
comp=Z,86nm,1.3s
JNU PcP **PcP** **05 47 56.4 -0.2**
JNU Nakatsue 38.71 260 P **P** **05 45 48.7 +1.0**
comp=Z,80nm,1.1s,baz=40,slow=7.3,SNR=10
JNU PcP **PcP** **05 47 56.4 -0.2**
comp=Z,15nm,0.8s,baz=326,slow=7.3,SNR=3.1
JNU LR LR 06 02 38.9
comp=Z,285nm,18.3s,baz=40,slow=37
WPW White Pass 38.71 73 P **P** **05 45 47.3 -0.4**
COR Corvallis 38.78 77 *e*P **P** **05 45 48.8 +0.7**
COR *e* 05 51 31.5
COR Corvallis 38.78 77 *e*P **P** **05 45 48.8 +0.7**
comp=Z,948nm,0.8s
COR *e*ScP **ScP** **05 51 31.4 +0.1**
LTY Liberty 38.94 72 *e*P **P** **05 45 48.8 -0.7**
comp=Z,86nm,1.0s
LTY *e*ScP **ScP** **05 51 30.9 -1.2**
KEBM Edson Butte 39.10 80 *e*P **P** **05 45 51.2 +0.4**
comp=Z,99nm,0.9s
KEBM *e*ScP **ScP** **05 51 33.5 +0.8**
B08A Colville Reser 39.17 70 P **P** **05 45 50.7 -0.6**
EBG Ellensburg 39.18 72 P **P** **05 45 51.3 -0.2**
VLL Laurance Lake 39.28 75 P **P** **05 45 52.3 -0.1**
H04A Detroit Lake 39.39 76 *e*P **P** **05 45 53.0 -0.3**
comp=Z,191nm,0.9s
H04A *e*ScP **ScP** **05 51 33.3 -0.5**
SAW Saint Andrews 39.46 71 P **P** **05 45 52.9 -0.9**
VFP Flag Point 39.48 75 P **P** **05 45 54.0 -0.2**
TRW Toppenish Ridg 39.52 73 P **P** **05 45 54.0 -0.3**
KBO Bosley Butte 39.54 81 *e*P **P** **05 45 54.9 +0.4**
comp=Z,322nm,1.5s
FRIS Frissel Point 39.70 77 P **P** **05 45 56.1 +0.1**
RES Resolute Bay 39.92 24 P **P** **05 45 57.2 +0.1**
RES Resolute Bay 39.92 24 P **P** **05 45 57.2 +0.1**
comp=Z,101nm,0.9s,baz=265,slow=9.8,SNR=37
OD2 Odessa Site #2 40.02 71 P **P** **05 45 57.4 -1.0**
G06A Carlson Farm, 40.02 75 *e*P **P** **05 45 57.9 -0.6**
comp=Z,60nm,1.1s
G06A *e*ScP **ScP** **05 51 36.2 -0.1**
HAWA Hanford 40.06 72 *e*P **P** **05 45 58.2 -0.5**
comp=Z,232nm,0.9s
HAWA *e*ScP **ScP** **05 51 36.8 +0.4**
C09A Chrisman Ranch 40.06 70 *e*P **P** **05 45 57.9 -0.9**
comp=Z,144nm,0.9s
C09A *e*ScP **ScP** **05 51 35.9 -0.4**
HUMO Hull Mountain 40.08 79 *e*P **P** **05 45 59.5 +0.5**
comp=Z,258nm,1.8s
HUMO *e*ScP **ScP** **05 51 36.5 -0.1**
KRMB Red Mountain 40.13 82 *e*P **P** **05 46 00.4 +1.0**
comp=Z,415nm,1.7s
EDM Edmonton 40.20 60 *e*P **P** **05 45 59.3 -0.5**
EDM Edmonton 40.20 60 *e*P **P** **05 45 59.3 -0.5**
VIPM Ingram Point 40.43 76 P **P** **05 46 01.6 -0.3**
VIPM Ingram Point 40.43 76 P **P** **05 46 01.6 -0.3**
NEW Newport 40.49 69 *e*P **P** **05 46 01.4 -0.9**
comp=Z,182nm,0.9s
NEW ScP **ScP** **05 51 37.5 -0.6**
NEW *e*ScP **ScP** **05 51 37.8 -0.3**
NEW Newport 40.49 69 ⇓P **P** **05 46 01.2 -1.1**
baz=40,SNR=196
NEW ⇓ScP **ScP** **05 51 37.4 -0.6**
baz=40
NEW Newport 40.49 69 P **P** **05 46 01.4 -0.9**
comp=Z,145nm,0.8s,baz=300,slow=7.0,SNR=316
NEW ScP **ScP** **05 51 37.5 -0.6**
comp=Z,9.8nm,1.0s,baz=340,slow=2.7,SNR=6.0
KHMM Horse Mountain 40.62 82 *e*P **P** **05 46 04.8 +1.2**
comp=Z,150nm,0.9s
PINOR Pine Mountain 40.66 77 *e*P **P** **05 46 03.8 +0.1**
comp=Z,66nm,0.9s
YBH Yreka Blue Hor 40.74 80 *e*P **P** **05 46 05.1 +0.6**
comp=Z,149nm,1.2s
YBH ScP **ScP** **05 51 38.9 -0.3**
YBH Yreka Blue Hor 40.74 80 P **P** **05 46 05.3 +0.9**
comp=Z,71nm,0.8s,baz=326,slow=4.1,SNR=50
YBH ScP **ScP** **05 51 38.9 -0.3**
comp=Z,8.7nm,0.9s,baz=35,slow=2.8,SNR=5.7
E09A Wood Farm, Sta 40.81 72 *e*P **P** **05 46 03.9 -1.0**
comp=Z,202nm,1.1s
E09A *e*ScP **ScP** **05 51 39.6 +0.3**
G08A Pilot Rock 40.99 74 *e*P **P** **05 46 05.5 -1.0**
comp=Z,65nm,1.0s
K05A Summer Lake 41.26 78 *e*P **P** **05 46 09.5 +0.6**
comp=Z,116nm,0.8s
K05A *e*ScP **ScP** **05 51 41.4 0.0**
I07A Izee 41.33 75 *e*P **P** **05 46 09.1 -0.2**
comp=Z,146nm,0.9s
I07A *e*ScP **ScP** **05 51 41.3 -0.2**
KIPM Iron Peak 41.41 83 *e*P **P** **05 46 10.8 +0.8**
comp=Z,398nm,1.7s
KCPM Cahto Peak 41.42 84 *e*P **P** **05 46 10.7 +0.6**
comp=Z,101nm,1.1s
WDC Whiskeytown Da 41.52 82 *e*P **P** **05 46 11.0 +0.3**
WDC pmax pmax
comp=Z,239nm,1.4s
WDC Whiskeytown Da 41.52 82 *e*P **P** **05 46 11.0 +0.3**
comp=Z,239nm,1.4s
F10A Beach Ranch, E 41.64 72 *e*P **P** **05 46 10.7 -1.0**
comp=Z,69nm,1.0s
WALA Waterton Lakes 41.91 66 *e*P **P** **05 46 13.0 -0.9**
comp=Z,11nm,1.1s
BSMT Bassoo Peak 42.05 68 *e*P **P** **05 46 14.3 -0.8**
BSMT *e*ScP **ScP** **05 51 44.5 0.0**
MOD Modoc 42.10 79 *e*P **P** **05 46 15.7 +0.1**
comp=Z,359nm,0.8s
MOD *e*ScP **ScP** **05 51 44.4 -0.3**
HOPS Hopland 42.16 84 *e*P **P** **05 46 16.3 +0.4**
comp=Z,265nm,1.0s
BLMT Blacktail Moun 42.20 68 *e*P **P** **05 46 15.6 -0.8**
BMO Blue Mountains 42.21 73 *e*P **P** **05 46 15.4 -0.9**
comp=Z,103nm,1.0s
ALE Alert 42.27 10 P **P** **05 46 16.3 0.0**
comp=Z,474nm,0.9s,SNR=16
J08A Circle Bar Ran 42.35 76 *e*P **P** **05 46 16.8 -0.9**
comp=Z,85nm,1.0s
J08A *e*ScP **ScP** **05 51 45.5 -0.2**
JTMT Jette 42.39 68 *e*P **P** **05 46 16.9 -0.9**
JTMT *e*ScP **ScP** **05 51 44.8 -0.9**
YBMT Yellow Bay 42.48 68 *e*P **P** **05 46 17.5 -1.1**
comp=Z,123nm,1.3s
SWMT Swartz Lake 42.68 68 *e*P **P** **05 46 18.9 -1.2**
WVOR Wild Horse Val 42.79 77 *e*P **P** **05 46 20.9 -0.3**
WVOR pmax pmax
comp=Z,102nm,0.9s
WVOR Wild Horse Val 42.79 77 *e*P **P** **05 46 20.9 -0.3**
comp=Z,102nm,0.9s
MCCM Marconi Confer 42.80 85 *e*P **P** **05 46 20.9 -0.2**
comp=Z,91nm,0.8s
OHCM Honcut 42.92 82 *e*P **P** **05 46 21.8 -0.2**
OHCM *e*ScP **ScP** **05 51 47.2 -0.6**
MSO Missoula 43.08 69 *e*P **P** **05 46 22.2 -1.2**
comp=Z,166nm,1.1s
MSO *e*ScP **ScP** **05 51 47.5 -1.0**
MSO Missoula 43.08 69 ⇑P **P** **05 46 22.2 -1.2**
baz=43,SNR=140
MSO ⇓ScP **ScP** **05 51 47.1 -1.4**
baz=43
SLMT Seeley Lake 43.11 68 *e*P **P** **05 46 22.3 -1.4**
SLMT *e*ScP **ScP** **05 51 48.6 -0.1**
BEKR Beckworth 43.28 81 *e*P **P** **05 46 24.9 -0.3**
comp=Z,78nm,1.3s
BJI Beijing 43.29 279 P **P** **05 46 25.7 +0.7**
BJI pP **pP** **05 46 55.6 -0.6**
BJI sP **sP** **05 47 11.7 -0.2**
BJI S **S** **05 52 45.2 +3.6**
BJI sS **sS** **05 53 34.8 -0.9**
BJI AMB AMB
comp=Z,58nm,1.2s
IRK Irkutsk 43.38 301 *e*P **P** **05 46 23.6 -2.0**
IRK pmax pmax
comp=Z,66nm,1.6s
CHMT Chamberlain Mo 43.43 68 *e*P **P** **05 46 24.6 -1.7**
SAC San Andreas 43.44 85 *e*P **P** **05 46 26.3 +0.1**
SAC pmax pmax
comp=Z,174nm,1.1s
SAC San Andreas 43.44 85 *e*P **P** **05 46 26.3 +0.1**
comp=Z,174nm,1.1s
MFID Camas Ranch 43.90 74 ⇑P **P** **05 46 29.1 -0.9**
baz=44,SNR=86
MFID ⇓ScP **ScP** **05 51 51.7 -0.3**
baz=44
PAHR Pah Rah Range 43.97 81 *e*P **P** **05 46 30.8 +0.1**
comp=Z,590nm,1.8s
PAHR *e*ScP **ScP** **05 51 52.0 -0.3**
TLY Talaya 44.00 300 *e*P **P** **05 46 30.8 +0.2**
TLY pmax pmax
comp=Z,12nm,0.6s
TLY Talaya 44.00 300 P **P** **05 46 30.9 +0.3**
comp=Z,147nm,0.6s,SNR=6.7
ULN Ulaanbaatar 44.16 294 P **P** **05 46 32.8 +0.8**
SNR=10
ULN Ulaanbaatar 44.16 294 P **P** **05 46 31.7 -0.4**
comp=Z,24nm,1.3s
ULN Ulaanbaatar 44.16 294 *e*P **P** **05 46 32.6 +0.5**
comp=Z,47nm,1.3s
ULN *e*ScP **ScP** **05 51 53.7 +0.7**
CMB Columbia Colle 44.40 83 *e*P **P** **05 46 34.1 +0.1**
CMB pmax pmax
comp=Z,145nm,1.3s
CMB Columbia Colle 44.40 83 *e*P **P** **05 46 34.1 +0.1**
comp=Z,145nm,1.3s
CMB *e*ScP **ScP** **05 51 53.4 -0.6**
LRM Limekiln Ridge 44.50 69 *e*P **P** **05 46 33.4 -1.5**
LRM *e*ScP **ScP** **05 51 55.1 +0.6**
SONM Songino Array 44.55 294 P **P** **05 46 35.7 +0.6**
SONM PcP **PcP** **05 48 16.2 +0.5**
SONM ScP **ScP** **05 51 55.2 +0.7**
SONM Songino Array 44.55 294 P **P** **05 46 35.7 +0.6**
comp=Z,14nm,0.6s,baz=62,slow=7.7,SNR=69
SONM PcP **PcP** **05 48 16.2 +0.5**
comp=Z,6.6nm,0.5s,baz=63,slow=2.3,SNR=8.0
SONM ScP **ScP** **05 51 55.2 +0.7**
comp=Z,7.6nm,0.9s,baz=73,slow=3.0,SNR=11
SONM LR LR 06 05 21.0
comp=Z,495nm,18.2s,baz=60,slow=36
SAO San Andreas Ge 44.56 85 *e*P **P** **05 46 35.2 0.0**
SAO pmax pmax
comp=Z,828nm,2.6s
SAO San Andreas Ge 44.56 85 *e*P **P** **05 46 35.2 0.0**
comp=Z,828nm,2.6s
HLID Hailey 44.65 73 ⇓P **P** **05 46 35.1 -0.9**
baz=44,SNR=216
HLID ⇑ScP **ScP** **05 51 55.1 0.0**
baz=44
DLMT Dillon 44.67 70 *e*P **P** **05 46 34.6 -1.6**
comp=Z,56nm,1.2s
DLMT *e*ScP **ScP** **05 51 54.7 -0.4**
EGMT Eagleton 44.80 65 *e*P **P** **05 46 36.2 -0.8**
comp=Z,128nm,0.9s
EGMT Eagleton 44.80 65 ⇑P **P** **05 46 35.7 -1.4**
baz=45,SNR=5.8
MCMT McKenzie Canyo 44.83 71 *e*P **P** **05 46 36.0 -1.6**
comp=Z,43nm,1.0s
BMN Battle Mountai 44.84 78 *e*P **P** **05 46 37.4 -0.2**
BMN pmax pmax
comp=Z,77nm,0.8s
BMN Battle Mountai 44.84 78 *e*P **P** **05 46 37.4 -0.2**
comp=Z,77nm,0.8s
BMN *e*ScP **ScP** **05 51 55.9 +0.1**
A19A Klindworth Far 44.87 64 ⇑P **P** **05 46 36.2 -1.4**
baz=45,SNR=20
ZAK Zakamensk 44.88 299 *e*P **P** **05 46 37.4 -0.3**
ZAK pmax pmax
comp=Z,16nm,1.3s
B19A Brinkman Farms 45.01 64 ⇑P **P** **05 46 37.5 -1.2**
baz=45,SNR=14
B19A ScP **ScP** **05 51 54.8 -1.5**
baz=45
FFC Flin Flon 45.33 53 *e*P **P** **05 46 40.3 -0.8**
FFC pmax pmax
comp=Z,101nm,0.7s
FFC Flin Flon 45.33 53 *e*P **P** **05 46 40.2 -0.8**
comp=Z,101nm,0.7s
FFC *e*ScP **ScP** **05 51 55.8 -1.6**
A20A Cobblestone Ra 45.34 63 ⇓P **P** **05 46 40.2 -1.1**
baz=45,SNR=8.8
C19A Slack Wire Ran 45.36 65 ⇑P **P** **05 46 40.7 -0.7**
baz=45,SNR=59
NVAR Mina Array Bea 45.42 81 P **P** **05 46 42.3 0.0**
NVAR pP **pP** **05 47 12.7 -1.0**
NVAR ScP **ScP** **05 51 58.0 -0.5**
NVAR Mina Array Bea 45.42 81 P **P** **05 46 42.3 0.0**
comp=Z,53nm,0.7s,baz=294,slow=7.5,SNR=396
NVAR pP **pP** **05 47 12.7 -1.0**
comp=Z,35nm,0.8s,baz=300,slow=7.2,SNR=5.6
NVAR ScP **ScP** **05 51 58.0 -0.5**
comp=Z,12nm,1.0s,baz=296,slow=4.3,SNR=13
NVAR LR LR 06 03 38.0
comp=Z,475nm,21.6s,baz=172,slow=33
NV11 Mina Array Sit 45.51 81 *e*P **P** **05 46 42.8 -0.1**
B20A Solberg Farm, 45.53 64 ⇑P **P** **05 46 41.3 -1.5**
baz=45,SNR=7.7
HHC Hu-ho-hao-te 45.59 283 *e*P **P** **05 46 43.5 +0.1**
HHC pP **pP** **05 47 16.2 +1.3**
HHC sP **sP** **05 47 32.3 +1.8**
HHC PP **PP** **05 48 33.9 +1.3**
HHC S **S** **05 53 15.0 0.0**
HHC sS **sS** **05 54 10.8 +1.2**
HHC AMB AMB
comp=Z,170nm,1.2s
HHC AMB AMB
comp=Z,820nm,6.3s
HHC LR LR
comp=Z,2µm,14.4s
HHC LR LR
comp=Z,2µm,13.4s
HHC LR LR
comp=Z,2µm,13.1s
MLAC Mammoth Lakes 45.60 83 ⇑P **P** **05 46 44.4 +0.7**
baz=45,SNR=26
QLMT Earthquake Lak 45.66 70 *e*P **P** **05 46 42.9 -1.1**
QLMT *e*ScP **ScP** **05 52 00.5 +1.2**
D19A Cripps Ranch, 45.77 66 ⇑P **P** **05 46 43.4 -1.4**
baz=46,SNR=52
A21A Bergtoll Ranch 45.83 63 ⇑P **P** **05 46 43.9 -1.3**
baz=46,SNR=13

ELK	Elko	45.84	77	eP		P	05 46 45.4	-0.2
	comp=Z,56nm,0.9s							
MTUM	Tungsten Hills	45.95	83	eP		P	05 46 46.7	+0.4
MTUM				eScP		ScP	05 52 00.7	+0.1
C20A	Veseth Ranch,	45.95	65	⇓P		P	05 46 44.9	-1.2
	baz=46,SNR=6.7							
C20A				ScP		ScP	05 51 58.8	-1.4
	baz=46							
YMR	Madison River	46.02	70	eP		P	05 46 45.8	-1.1
	comp=Z,225nm,1.2s							
PTRM	Twissleman Ran	46.03	86	eP		P	05 46 47.5	+0.6
PTRM				eScP		ScP	05 52 00.8	0.0
SSE	Sheshan	46.04	266	P		P	05 46 48.1	+1.2
SSE				pP		pP	05 47 19.9	+1.5
SSE				S		S	05 53 21.4	-0.1
SSE				sS		sS	05 54 15.5	-0.6
SSE				AMB		AMB		
	comp=Z,100nm,0.9s							
SSE				AMB		AMB		
	comp=Z,550nm,7.4s							
SSE				LR		LR		
	comp=Z,510nm,23.8s							
SSE				LR		LR		
	comp=Z,140nm,23.8s							
SSE				LR		LR		
	comp=Z,310nm,20.3s							
B21A	Ellsworth Farm	46.10	63	⇓P		P	05 46 45.8	-1.3
	baz=46,SNR=28							
GCMT	Greycliff	46.11	68	eP		P	05 46 46.5	-1.0
	comp=Z,90nm,1.4s							
YNR	Norris Junctio	46.16	69	eP		P	05 46 47.5	-0.5
	comp=Z,170nm,1.2s							
RCTC	Rector, Farmer	46.20	84	⇑P		P	05 46 47.6	-0.5
	baz=46,SNR=29							
RCTC				ScP		ScP	05 52 00.9	-0.4
	baz=46							
YFT	Old Faithful	46.22	70	eP		P	05 46 48.3	-0.2
	comp=Z,94nm,0.8s							
E19A	Rath Farm, Rou	46.23	66	⇓P		P	05 46 47.1	-1.2
	baz=46,SNR=43							
D20A	Manuel Ranch,	46.23	65	⇓P		P	05 46 47.2	-1.1
	baz=46,SNR=24							
TIN	Tinemaha	46.34	83	⇑P		P	05 46 49.9	+0.5
	baz=46,SNR=18							
A22A	Carney Farms,	46.38	62	⇓P		P	05 46 48.0	-1.4
	baz=46,SNR=22							
A22A				ScP		ScP	05 51 59.9	-2.1
	baz=46							
SMMC	Simmler	46.39	86	⇓P		P	05 46 50.1	+0.4
	baz=46,SNR=18							
SMMC				⇑ScP		ScP	05 52 01.6	-0.7
	baz=46							
C21A	Desert Coulee	46.39	64	⇓P		P	05 46 48.4	-1.1
	baz=46,SNR=20							
H17A	Grant Village	46.41	70	eP		P	05 46 50.3	+0.4
H17A	Grant Village	46.41	70	⇓P		P	05 46 50.3	+0.4
	baz=46,SNR=57							
LKWY	Lake	46.41	69	eP		P	05 46 49.4	-0.5
LKWY				pmax		pmax		
	comp=Z,53nm,0.8s							
LKWY	Lake	46.41	69	eP		P	05 46 49.4	-0.5
	comp=Z,53nm,0.8s							
F19A	Roth Farm, Mol	46.49	67	⇓P		P	05 46 49.2	-1.2
	baz=46,SNR=33							
IMW	Indian Meadow	46.49	71	eP		P	05 46 49.8	-0.8
	comp=Z,79nm,1.1s							
FLWY	Flagg Ranch	46.52	70	eP		P	05 46 50.3	-0.4
	comp=Z,107nm,0.9s							
E20A	Meyer Farm, Mu	46.57	66	⇑P		P	05 46 49.8	-1.2
	baz=46,SNR=21							
RRI2	Red Ridge	46.59	71	eP		P	05 46 50.8	-0.6
	comp=Z,69nm,1.0s							
VES	Vestal, Richgr	46.61	85	⇓P		P	05 46 51.0	-0.3
	baz=46,SNR=42							
BTO	Baotou	46.66	284	eP		P	05 46 52.0	+0.2
BTO				AMB		AMB		
	comp=Z,38nm,1.5s							
HVU	Hansel Valley	46.68	74	eP		P	05 46 51.5	-0.5
HVU				pmax		pmax		
	comp=Z,75nm,0.9s							
HVU	Hansel Valley	46.68	74	eP		P	05 46 51.5	-0.5
	comp=Z,75nm,0.9s							
HVU				eScP		ScP	05 52 04.0	+0.4
I17A	Pilgrim Ck.	46.69	70	⇑P		P	05 46 51.6	-0.5
	baz=46,SNR=19							
MOOW	Moose Ponds	46.69	71	eP		P	05 46 51.1	-1.0
	comp=Z,55nm,1.4s							
TPAW	Teton Pass	46.72	71	eP		P	05 46 51.7	-0.8
	comp=Z,94nm,1.5s							
B22A	Reddig Ranch S	46.73	63	⇑P		P	05 46 50.9	-1.3
	baz=46,SNR=7.7							
RLMT	Red Lodge	46.73	68	eP		P	05 46 51.7	-0.8
	comp=Z,136nm,1.2s							
H18A	Shoshone NF, C	46.77	69	⇑P		P	05 46 51.5	-1.2
	baz=46,SNR=34							
PKM	Peak Mountain	46.77	86	⇓P		P	05 46 53.3	+0.5
	baz=47,SNR=39							
PKM				⇓ScP		ScP	05 52 03.2	-0.8
	baz=47,SNR=5.3							
NJ2	Nanjing	46.82	269	eP		P	05 46 52.6	-0.3
NJ2				AMB		AMB		
	comp=Z,55nm,1.5s							
CWC	Cottonwood Cre	46.83	83	⇓P		P	05 46 53.1	-0.2
	baz=47,SNR=43							
CWC				ScP		ScP	05 52 03.6	-0.6
	baz=47							
LOHW	Long Hollow	46.85	71	eP		P	05 46 52.5	-0.9
	comp=Z,97nm,1.6s							
SNOW	Snow King Moun	46.85	71	eP		P	05 46 52.9	-0.6
	comp=Z,34nm,1.0s							
SNOW				eScP		ScP	05 52 06.2	+1.8
REDW	Red Top Meadow	46.86	71	eP		P	05 46 52.7	-0.8
	comp=Z,116nm,1.5s							
D21A	La Casta Ranch	46.88	65	⇓P		P	05 46 52.4	-1.0
	baz=47,SNR=13							
FCC	Fort Churchill	46.90	46	eP		P	05 46 53.0	-0.2
FCC	Fort Churchill	46.90	46	eP		P	05 46 53.0	-0.2
	comp=Z,7,1nm,1.1s							
A23A	Redstone	46.97	62	⇓P		P	05 46 52.8	-1.1
	baz=47,SNR=16							
F20A	Billings	46.97	67	⇓P		P	05 46 53.0	-1.1
	baz=47,SNR=19							
BGU	Big Grassy Mou	47.05	75	eP		P	05 46 54.4	-0.5
	comp=Z,92nm,1.5s							
BGU				eScP		ScP	05 52 05.4	+0.3
AHID	Auburn Hatcher	47.07	72	eP		P	05 46 54.1	-0.9
	comp=Z,76nm,1.1s							
ISA	Isabella	47.10	84	eP		P	05 46 54.6	-0.6
ISA				pmax		pmax		
	comp=Z,48nm,1.0s							
ISA	Isabella	47.10	84	eP		P	05 46 54.6	-0.6
	comp=Z,48nm,1.0s							
ISA				eScP		ScP	05 52 04.3	-0.9
ISA	Isabella	47.10	84	⇑P		P	05 46 54.6	-0.6
	baz=47,SNR=53							
ISA				⇑ScP		ScP	05 52 03.8	-1.4
	baz=47							
C22A	Vida	47.11	63	⇑P		P	05 46 53.7	-1.4
	baz=47,SNR=17							
R11A	Troy Canyon, C	47.13	79	eP		P	05 46 54.9	-0.7
R11A	Troy Canyon, C	47.13	79	⇓P		P	05 46 54.8	-0.7
	baz=47,SNR=170							
R11A				⇓ScP		ScP	05 52 04.9	-0.6
	baz=47							
SBC	Santa Barbara	47.14	86	⇓P		P	05 46 56.0	+0.6
	baz=47,SNR=6.3							
E21A	Keefer Ranch,	47.14	65	⇓P		P	05 46 54.6	-0.8
	baz=47,SNR=10							
H19A	Powell	47.16	69	⇑P		P	05 46 55.0	-0.6
	baz=47,SNR=38							
SPUT	South Promonto	47.16	74	eP		P	05 46 55.1	-0.7
	comp=Z,88nm,1.2s							
B23A	Brockton	47.19	62	⇑P		P	05 46 54.5	-1.1
	baz=47,SNR=37							
ARVC	Arvin	47.23	85	⇑P		P	05 46 55.5	-0.6
	baz=47,SNR=11							
G20A	Bridger	47.27	67	⇓P		P	05 46 55.2	-1.4
	baz=47,SNR=99							
D22A	Cohagen	47.29	64	⇓P		P	05 46 55.9	-0.6
	baz=47,SNR=61							
D22A				⇑ScP		ScP	05 52 04.6	-1.3
	baz=47							
MPMC	Manual Prospec	47.44	83	⇓P		P	05 46 58.1	0.0
	baz=47,SNR=83							
MPMC				⇓ScP		ScP	05 52 06.0	-0.9
	baz=47,SNR=8.9							
A24A	Westby	47.46	61	⇓P		P	05 46 56.6	-1.1
	baz=47,SNR=74							
C23A	Lambert	47.46	63	⇓P		P	05 46 57.1	-0.7
	baz=47,SNR=60							
C23A				⇓ScP		ScP	05 52 05.6	-0.9
	baz=47							
I19A	Meeteetse	47.53	69	⇓P		P	05 46 57.6	-1.0
	baz=47,SNR=33							
I19A				⇑ScP		ScP	05 52 06.8	-0.3
	baz=47							
LAO	LASA Array	47.53	65	eP		P	05 46 57.6	-0.8
	comp=Z,582nm,1.9s							
F21A	Absaloka Mine,	47.54	66	⇓P		P	05 46 57.5	-1.0
	baz=47,SNR=8.1							
FURC	Furnace Creek,	47.56	82	⇑P		P	05 46 58.8	+0.2
	baz=47,SNR=108							
FURC				⇓ScP		ScP	05 52 06.2	-0.9
	baz=47,SNR=7.7							
DGMT	Dagmar	47.62	62	eP		P	05 46 57.8	-1.2
	comp=Z,147nm,1.0s							
DGMT	Dagmar	47.62	62	⇓P		P	05 46 57.7	-1.3
	baz=47,SNR=28							
DUG	Dugway	47.64	76	eP		P	05 46 58.9	-0.5
DUG				pmax		pmax		
	comp=Z,134nm,0.9s							
DUG	Dugway	47.64	76	eP		P	05 46 58.9	-0.5
	comp=Z,134nm,0.9s							
DUG				eScP		ScP	05 52 07.9	+0.4
DUG	Dugway	47.64	76	⇓P		P	05 46 59.1	-0.3
	baz=47,SNR=209							
DUG				⇑ScP		ScP	05 52 07.4	-0.1
	baz=47							
LRMC	Laurel Mountai	47.70	84	⇓P		P	05 46 59.4	-0.6
	baz=48,SNR=8.7							
BLG	Laguna Peak	47.76	86	⇑P		P	05 46 59.9	-0.4
	baz=48,SNR=12							
D23A	Lindsay	47.82	64	⇓P		P	05 46 60.0	-0.6
	baz=48,SNR=16							
D23A				⇑ScP		ScP	05 52 06.9	-1.1
	baz=48							
E22A	Miles City	47.84	65	⇓P		P	05 46 59.8	-1.0
	baz=48,SNR=55							
H20A	Greybull	47.84	68	⇑P		P	05 46 59.1	-1.7
	baz=48,SNR=17							
H20A				⇑ScP		ScP	05 52 07.0	-1.3
	baz=48							
G21A	Lodge Grass	47.84	67	⇓P		P	05 46 59.4	-1.5
	baz=48,SNR=8.9							
EDW2	Edwards Air Fo	47.91	85	⇑P		P	05 47 01.3	-0.1
	baz=48,SNR=40							
EDW2				⇓ScP		ScP	05 52 07.5	-1.1
	baz=48,SNR=5.8							
A25A	Svangstu Ranch	47.93	61	⇓P		P	05 47 00.4	-1.0
	baz=48,SNR=44							
CTU	Camp Tracy	47.96	74	eP		P	05 47 01.6	-0.4
	comp=Z,98nm,1.3s							
J19A	Crowheart	47.96	70	⇑P		P	05 47 01.1	-0.9
	baz=48,SNR=28							
J19A				⇑ScP		ScP	05 52 08.3	-0.7
	baz=48							
BW06	Boulder Array	47.97	71	eP		P	05 47 00.9	-1.1
	comp=Z,76nm,0.8s							
PDAR	Pinedale Array	47.97	71	P		P	05 47 00.9	-1.1
PDAR				pP		pP	05 47 32.4	-1.4
PDAR				PcP		PcP	05 48 28.1	+0.1
PDAR				ScP		ScP	05 52 07.3	-1.8
PDAR	Pinedale Array	47.97	71	P		P	05 47 00.9	-1.1
	comp=Z,52nm,0.7s,baz=302,slow=4.0,SNR=456							
PDAR				pP		pP	05 47 32.4	-1.4
	comp=Z,12nm,0.8s,baz=303,slow=5.4,SNR=2.3							
PDAR				PcP		PcP	05 48 28.1	+0.1
	comp=Z,6.8nm,0.7s,baz=309,slow=2.3,SNR=1.8							
PDAR				ScP		ScP	05 52 07.3	-1.8
	comp=Z,3.3nm,0.9s,baz=321,slow=3.8,SNR=3.9							
PDAR				LR		LR	06 07 28.1	
	comp=Z,502nm,18.1s,baz=343,slow=36							
C24A	Savage	48.04	63	⇑P		P	05 47 01.4	-0.9
	baz=48,SNR=32							
F22A	Rosebud	48.05	66	⇑P		P	05 47 01.1	-1.3
	baz=48,SNR=42							
I20A	Worland	48.08	69	⇑P		P	05 47 01.9	-0.8
	baz=48,SNR=50							
M17A	Scullys Gap (B	48.12	73	⇓P		P	05 47 01.9	-1.3
	baz=48,SNR=26							
M17A				⇓ScP		ScP	05 52 08.4	-1.2
	baz=48							
DECC	Green Verdugo	48.12	86	⇑P		P	05 47 03.0	-0.1
	baz=48,SNR=11							
L18A	Fontenelle, Gr	48.21	72	⇓P		P	05 47 02.7	-1.2
	baz=48,SNR=66							
L18A				ScP		ScP	05 52 08.7	-1.4
	baz=48							
NLU	North Lily Min	48.23	75	eP		P	05 47 03.6	-0.5
	comp=Z,41nm,0.8s							
SHOC	Shoshone	48.29	82	⇑P		P	05 47 04.2	-0.1
	baz=48,SNR=87							
SHOC				⇑ScP		ScP	05 52 09.4	-0.8
	baz=48,SNR=9.3							
B25A	Knox Farm, Ray	48.29	61	⇑P		P	05 47 03.2	-1.0
	baz=48,SNR=8.2							
B25A				ScP		ScP	05 52 08.9	-1.1
	baz=48							
H21A	Big Horn, Sher	48.30	67	⇓P		P	05 47 03.0	-1.4
	baz=48,SNR=38							
H21A				ScP		ScP	05 52 08.8	-1.5
	baz=48							
MWC	Mount Wilson	48.31	85	eP		P	05 47 04.7	0.0
MWC				pmax		pmax		
	comp=Z,283nm,1.2s							
MWC	Mount Wilson	48.31	85	eP		P	05 47 04.7	0.0
	comp=Z,283nm,1.2s							
D24A	Glendive	48.34	63	⇓P		P	05 47 04.1	-0.5
	baz=48,SNR=38							
K19A	Absolon Red Bu	48.35	70	⇓P		P	05 47 03.2	-1.7
	baz=48,SNR=84							
K19A				ScP		ScP	05 52 09.1	-1.5
	baz=48							
GSC	Goldstone	48.36	83	eP		P	05 47 05.0	0.0
GSC				pmax		pmax		
	comp=Z,201nm,1.0s							
GSC	Goldstone	48.36	83	eP		P	05 47 05.0	0.0
	comp=Z,201nm,1.0s							
GSC				eScP		ScP	05 52 10.1	-0.5
GSC	Goldstone	48.36	83	⇓P		P	05 47 04.8	-0.2
	baz=48,SNR=168							
GSC				⇓ScP		ScP	05 52 09.8	-0.8
	baz=48,SNR=10							
G22A	Birney	48.37	66	⇓P		P	05 47 03.5	-1.4
	baz=48,SNR=32							
G22A				ScP		ScP	05 52 09.0	-1.5
	baz=48							
KULLO	Kullorsuaq	48.39	17	⇑i	P	P	05 47 04.4	-0.1
KULLO				pmax		pmax		
	comp=Z,46nm,1.0s							
DAU	Daniels Canyon	48.43	74	eP		P	05 47 05.4	-0.3
DAU	Daniels Canyon	48.43	74	eP		P	05 47 05.4	-0.3
MPU	Maple Canyon	48.45	75	eP		P	05 47 05.3	-0.4
	comp=Z,118nm,1.5s							
J20A	Shoshoni	48.47	69	⇑P		P	05 47 04.9	-0.8
	baz=48,SNR=34							
L19A	Farson	48.50	72	ScP		ScP	05 52 10.4	-0.9
	baz=48							
FMP	Fort Macarthur	48.50	86	⇑P		P	05 47 05.7	-0.2
	baz=48							
RRX	Edison Barstow	48.52	84	⇓P		P	05 47 06.0	0.0
	baz=48,SNR=6.0							
BFSC	Mount Baldy Ra	48.54	85	⇓P		P	05 47 06.2	-0.2
	baz=48,SNR=62							
BFSC				⇓ScP		ScP	05 52 10.7	-0.7
	baz=48							
F23A	Volborg	48.56	65	⇓P		P	05 47 05.1	-1.2
	baz=48,SNR=76							
F23A				ScP		ScP	05 52 09.4	-1.9
	baz=48							
C25A	Freed Ranch, W	48.57	62	⇓P		P	05 47 05.3	-1.0
	baz=48,SNR=13							
SHPR	Sheep Range	48.58	81	eP		P	05 47 06.2	-0.5
SHPR				eScP		ScP	05 52 11.8	+0.1
CIS	Catalina Islan	48.64	87	⇓P		P	05 47 06.5	-0.5
	baz=48,SNR=14							
I21A	Big Trails, Te	48.65	68	⇑P		P	05 47 05.6	-1.5
	baz=48,SNR=57							
I21A				⇑ScP		ScP	05 52 10.4	-1.4
	baz=48,SNR=8.3							
E24A	Baker	48.68	64	⇑P		P	05 47 06.3	-0.9
	baz=48,SNR=22							
H22A	Clearmont	48.71	67	⇓P		P	05 47 06.2	-1.4
	baz=48							
B26A	Jensen Ranch,	48.73	61	⇓P		P	05 47 06.5	-1.0
	baz=48,SNR=9.8							
K20A	Yellowstone Ra	48.75	70	⇓P		P	05 47 06.0	-2.0
	baz=48,SNR=44							
K20A				⇓ScP		ScP	05 52 10.3	-1.9
	baz=48,SNR=5.4							
ARUT	Antelope Range	48.79	79	eP		P	05 47 07.7	-0.6
ARUT				pmax		pmax		
	comp=Z,838nm,1.2s							
ARUT	Antelope Range	48.79	79	eP		P	05 47 07.7	-0.6
	comp=Z,838nm,1.2s							
TUQ	Turquoise Moun	48.81	83	⇑P		P	05 47 08.2	-0.3
	baz=49,SNR=55							
TUQ				⇑ScP		ScP	05 52 12.1	-0.5
	baz=49,SNR=9.3							
SCI	San Clemente I	48.84	87	⇑P		P	05 47 08.5	0.0
	baz=49,SNR=12							
J21A	Lysite	48.84	69	⇓P		P	05 47 07.3	-1.4
	baz=49,SNR=40							
J21A				⇓ScP		ScP	05 52 11.4	-1.3
	baz=49,SNR=10							
D25A	Fairfield	48.87	63	⇑P		P	05 47 07.6	-1.0
	baz=49,SNR=12							
G23A	Biddle	48.89	66	⇓P		P	05 47 07.4	-1.5
	baz=49,SNR=28							
A27A	Ledoux Ranch,	48.92	60	⇑P		P	05 47 08.1	-0.9
	baz=49,SNR=48							
A27A				ScP		ScP	05 52 12.0	-0.7
	baz=49							
HEC	Hector,Ludlow	48.96	84	⇓P		P	05 47 09.4	-0.2
	baz=49,SNR=29							
HEC				⇓ScP		ScP	05 52 12.4	-0.7
	baz=49,SNR=13							
BBRC	Big Bear Solar	48.98	85	⇑P		P	05 47 09.6	-0.3
	baz=49,SNR=65							
BBRC				⇓ScP		ScP	05 52 12.5	-1.0
	baz=49							
KBS	Kingsbay	48.98	356	d	i P	P	05 47 09.9	+0.9
KBS				pmax		pmax		
	comp=Z,48nm,0.7s							
KBS	Kingsbay	48.98	356	eP		P	05 47 09.7	+0.7
	comp=Z,196nm,1.2s							
KBS				epP		pP	05 47 45.0	+4.2
M19A	Rock Springs	48.99	72	⇓P		P	05 47 08.2	-1.6
	baz=49,SNR=19							
CCUT	Cedar City	48.99	79	eP		P	05 47 09.7	-0.2
	comp=Z,42nm,1.1s							
F24A	Ekalaka	49.03	65	⇑P		P	05 47 08.7	-1.3
	baz=49,SNR=24							
I22A	9 Mile Ranch,	49.06	68	⇑P		P	05 47 09.3	-1.0
	baz=49,SNR=49							
I22A				⇑ScP		ScP	05 52 11.7	-1.8
	baz=49,SNR=5.6							
MVU	Marysvale	49.07	77	eP		P	05 47 10.4	-0.1
	comp=Z,45nm,0.9s							
C26A	Wahner Farm, P	49.13	61	⇓P		P	05 47 09.8	-0.8
	baz=49,SNR=12							
C26A				ScP		ScP	05 52 13.0	-0.7
	baz=49							
L20A	Wamsutter	49.15	71	⇑P		P	05 47 09.6	-1.5
	baz=49,SNR=16							
TMUT	Trail Mountain	49.16	76	eP		P	05 47 11.0	-0.3
	comp=Z,117nm,0.9s							
E25A	Miller Ranch,	49.21	63	⇓P		P	05 47 10.5	-0.8
	baz=49,SNR=32							
B27A	Peters Farms,	49.24	60	⇑P		P	05 47 10.4	-1.0
	baz=49,SNR=49							
B27A				ScP		ScP	05 52 12.6	-1.4
	baz=49							
MURC	Murrieta	49.25	85	⇑P		P	05 47 11.6	-0.1
	baz=49,SNR=43							
MURC				⇑ScP		ScP	05 52 13.9	-0.4
	baz=49							
H23A	Clabaugh Cattl	49.27	67	⇓P		P	05 47 09.2	-2.6
	baz=49							
G24A	Alzada	49.36	65	⇓P		P	05 47 10.8	-1.6
	baz=49,SNR=23							
J22A	Midwest	49.36	68	⇑P		P	05 47 11.4	-1.1
	baz=49,SNR=131							
J22A				⇓ScP		ScP	05 52 12.8	-2.0
	baz=49,SNR=11							
K21A	Alcova	49.40	70	⇑P		P	05 47 11.0	-1.9
	baz=49,SNR=41							
K21A				⇓ScP		ScP	05 52 13.9	-1.1
	baz=49							
GMRC	Granite Mounta	49.41	83	⇑P		P	05 47 12.7	-0.3
	baz=49,SNR=108							
GMRC				⇑ScP		ScP	05 52 14.1	-1.1
	baz=49,SNR=11							
D26A	Manning	49.42	62	⇑P		P	05 47 11.6	-1.2
	baz=49							
Q16A	Castle Valley	49.43	76	eP		P	05 47 12.9	-0.3
Q16A	Castle Valley	49.43	76	⇓P		P	05 47 12.8	-0.3
	baz=49,SNR=36							
Q16A				⇓ScP		ScP	05 52 15.1	-0.1
	baz=49							
A28A	Rude Farm, Bot	49.47	59	⇓P		P	05 47 12.3	-0.8
	baz=49,SNR=41							
HVS	Khovu-Aksy	49.48	304	⇓i	P	P	05 47 13.7	+0.4
HVS				pmax		pmax		
	comp=Z,346nm,1.8s							
SPITS	Spitsbergen Ar	49.52	355	P		P	05 47 12.5	-0.6
SPITS	Spitsbergen Ar	49.52	355	P		P	05 47 12.5	-0.6
	comp=Z,46nm,0.5s,baz=64,slow=5.7,SNR=14							
C27A	Sayler Ranch,	49.52	61	⇓P		P	05 47 12.8	-0.8
	baz=49,SNR=7.4							
F25A	Bowman	49.53	64	⇓P		P	05 47 12.9	-0.7
	baz=49,SNR=14							
F25A				⇓ScP		ScP	05 52 14.5	-0.9
	baz=49							
LDFC	Landfair	49.55	82	eP		P	05 47 13.5	-0.5
	comp=Z,751nm,2.0s							
M20A	Sweetwater, Wa	49.56	71	⇓P		P	05 47 13.3	-0.9
	baz=49,SNR=19							
M20A				⇓ScP		ScP	05 52 15.7	-0.1
	baz=49							
I23A	Meade Ranch, G	49.60	67	⇑P		P	05 47 12.9	-1.5
	baz=49							
H24A	Dirks Ranch, A	49.63	66	⇑P		P	05 47 12.6	-2.0
	baz=49,SNR=36							
SRU	San Rafael	49.69	75	eP		P	05 47 14.7	-0.5
SRU				pmax		pmax		
	comp=Z,127nm,1.0s							
SRU	San Rafael	49.69	75	eP		P	05 47 14.7	-0.5
	comp=Z,127nm,1.0s							
B28A	Dugan Ranch, T	49.69	60	⇓P		P	05 47 14.0	-0.8
	baz=49,SNR=11							
B28A				ScP		ScP	05 52 15.3	-0.7
	baz=49							
PFO	Pinyon Flat Ob	49.70	85	eP		P	05 47 14.3	-0.9
	comp=Z,43nm,1.0s							
PFO				eScP		ScP	05 52 15.6	-0.8
PFO	Pinyon Flat Ob	49.70	85	⇑P		P	05 47 14.7	-0.6
	baz=50,SNR=27							
PFO				⇓ScP		ScP	05 52 15.7	-0.7
	baz=50,SNR=8.7							
BELC	Belle Mtn. Jos	49.72	84	⇓P		P	05 47 14.6	-0.8
	baz=50,SNR=56							
BELC				⇑ScP		ScP	05 52 15.0	-1.5
	baz=50,SNR=6.6							
L21A	Rawlins	49.74	70	⇑P		P	05 47 14.2	-1

baz=50,SNR=99
A29A ⇑ScP **ScP** 05 52 16.3 -1.0
baz=50
RWWY Rawlins 50.01 71 *e*P **P** 05 47 18.4 +0.7
comp=Z,204nm,1.6s
F26A Lodgepole 50.01 64 ⇑P **P** 05 47 16.2 -1.1
baz=50,SNR=31
F26A ScP **ScP** 05 52 16.1 -1.4
baz=50
C28A Hausauer Farms 50.12 61 ⇓P **P** 05 47 17.3 -0.8
baz=50,SNR=7.9
IRM Iron Mountain 50.13 83 ⇑P **P** 05 47 17.9 -0.4
baz=50,SNR=100
IRM ⇑ScP **ScP** 05 52 17.0 -1.1
baz=50,SNR=11
I24A Kuemmerle Ranc 50.14 67 ⇓P **P** 05 47 16.7 -1.7
baz=50
I24A ⇑ScP **ScP** 05 52 16.8 -1.3
baz=50
BAR Barrett 50.20 86 *e*P **P** 05 47 18.7 -0.2
comp=Z,121nm,1.0s
MONP Monument Peak 50.21 86 ⇑P **P** 05 47 18.9 -0.3
baz=50,SNR=51
MONP ⇑ScP **ScP** 05 52 17.9 -0.8
baz=50,SNR=7.5
B29A Wagenman Farm, 50.22 59 ⇑P **P** 05 47 17.5 -1.3
baz=50,SNR=27
L22A Ellis Ranch, M 50.24 70 ⇓P **P** 05 47 18.7 -0.6
baz=50,SNR=17
H25A Fruitdale 50.25 65 ⇓P **P** 05 47 17.7 -1.5
baz=50,SNR=23
H25A ⇓ScP **ScP** 05 52 16.9 -1.6
baz=50,SNR=5.6
K23A Bowen Ranch, D 50.26 69 ⇓P **P** 05 47 17.7 -1.6
baz=50,SNR=14
K23A ScP **ScP** 05 52 17.2 -1.5
baz=50
E27A Carson 50.27 62 ⇓P **P** 05 47 18.1 -1.1
baz=50,SNR=29
E27A ScP **ScP** 05 52 18.0 -0.6
baz=50
P19A Cripple Cowboy 50.27 74 ⇑P **P** 05 47 18.7 -0.9
baz=50,SNR=86
P19A ⇓ScP **ScP** 05 52 18.1 -0.8
baz=50
W13A Hualapai Mount 50.28 82 ⇑P **P** 05 47 19.2 -0.5
baz=50,SNR=32
W13A ⇑ScP **ScP** 05 52 18.8 -0.2
baz=50
BC3 Big Chuckawall 50.29 84 ⇑P **P** 05 47 18.7 -0.9
baz=50,SNR=44
BC3 ⇓ScP **ScP** 05 52 18.0 -0.9
baz=50,SNR=11
RSSD Black Hills 50.31 66 *e*P **P** 05 47 17.9 -1.9
RSSD pmax pmax
comp=Z,134nm,1.0s
RSSD Black Hills 50.31 66 *e*P **P** 05 47 17.9 -1.9
comp=Z,134nm,1.0s
D28A Regan 50.34 61 ⇑P **P** 05 47 19.0 -0.8
baz=50,SNR=6.2
F27A Lemmon 50.36 63 ⇓P **P** 05 47 18.8 -1.1
baz=50,SNR=48
F27A ⇑ScP **ScP** 05 52 18.4 -0.6
baz=50
U15A North Rim 50.37 79 ⇑P **P** 05 47 20.2 -0.2
baz=50,SNR=145
U15A ⇑ScP **ScP** 05 52 19.2 -0.2
baz=50,SNR=10
O20A White River Ci 50.39 73 *e*P **P** 05 47 19.1 -1.3
O20A White River Ci 50.39 73 ⇓P **P** 05 47 19.3 -1.2
baz=50,SNR=47
O20A ⇓ScP **ScP** 05 52 18.3 -1.1
baz=50
G26A Maurine 50.39 64 ⇓P **P** 05 47 19.0 -1.2
baz=50,SNR=61
G26A ⇓ScP **ScP** 05 52 18.1 -1.0
baz=50
J24A Dixon Ranch, L 50.45 67 ⇑P **P** 05 47 19.0 -1.7
baz=50,SNR=12
J24A ⇑ScP **ScP** 05 52 17.3 -2.1
baz=50
MDND Maddock 50.46 60 *e*P **P** 05 47 20.4 -0.3
comp=Z,502nm,0.9s
MDND Maddock 50.46 60 ⇓P **P** 05 47 20.0 -0.6
baz=50,SNR=19
A30A Hoffart Farm, 50.48 58 ⇓P **P** 05 47 19.9 -0.9
baz=50,SNR=49
A30A ScP **ScP** 05 52 18.2 -1.2
baz=50
I25A Rochford 50.55 66 ⇓P **P** 05 47 19.7 -1.8
baz=50,SNR=14
I25A ⇑ScP **ScP** 05 52 18.5 -1.5
baz=50
M22A Cedar Creek Ra 50.55 71 ⇓P **P** 05 47 20.0 -1.7
baz=50,SNR=14
SWSC Sam W. Stewart 50.56 85 ⇓P **P** 05 47 20.9 -0.6
baz=50,SNR=16
SWSC ScP **ScP** 05 52 18.9 -1.0
baz=50
DVTC Desert V Tower 50.57 86 ⇓P **P** 05 47 21.5 -0.2
baz=50,SNR=8.8
L23A Garrett 50.62 69 ⇓P **P** 05 47 20.7 -1.4
baz=50,SNR=60
L23A ⇑ScP **ScP** 05 52 18.5 -1.8
baz=50,SNR=10.0
WHN Wuhan 50.64 271 ⇑*i*P **P** 05 47 22.5 +0.4
E28A Huff 50.65 62 ⇑P **P** 05 47 21.2 -0.9
baz=50,SNR=21
PDMCI Parker Dam,Lak 50.66 83 ⇑P **P** 05 47 21.4 -0.8
baz=50,SNR=30
PDMCI ⇑ScP **ScP** 05 52 18.8 -1.5
baz=50,SNR=5.2
P20A De Beque 50.71 74 ⇓P **P** 05 47 21.6 -1.2
baz=50,SNR=57
G27A Dupree 50.71 64 ⇑P **P** 05 47 21.2 -1.3
baz=50,SNR=64
G27A ScP **ScP** 05 52 18.5 -1.9
baz=50
H26A Fairpoint 50.71 65 ⇓P **P** 05 47 21.0 -1.6
baz=50,SNR=9.8
H26A ScP **ScP** 05 52 18.5 -2.0
baz=50
TARA Tarawa 50.73 187 *e*P **P** 05 47 23.9 +1.0
comp=Z,843nm,1.4s
K24A Anderson Ranch 50.74 68 ⇑P **P** 05 47 21.1 -1.9
baz=50
B30A Myrvik Farm, E 50.77 59 ⇓P **P** 05 47 22.0 -0.9
baz=50,SNR=155
NACB Ninganchiao 50.78 259 *e*P **P** 05 47 22.6 -0.7
comp=Z,236nm,1.6s
O21A Pagoda 50.79 72 ⇑P **P** 05 47 22.3 -1.2
baz=51,SNR=18
Y12C Blythe 50.79 83 ⇑P **P** 05 47 22.7 -0.5
baz=51,SNR=43
Y12C ⇓ScP **ScP** 05 52 20.2 -0.7
baz=51,SNR=9.4
J25A Sunshine Ranch 50.90 67 ⇑P **P** 05 47 22.0 -2.1
baz=51,SNR=11
J25A ScP **ScP** 05 52 20.4 -1.0
baz=51
PV09 Paradox Valley 50.91 75 *e*P **P** 05 47 23.7 -0.8
ULM Lac du Bonnet 50.94 56 *e*P **P** 05 47 23.4 -0.8
comp=Z,129nm,0.9s
ULM Lac du Bonnet 50.94 56 P **P** 05 47 23.4 -0.8
comp=Z,112nm,0.8s,baz=308,slow=7.8,SNR=109
ULM LR LR 06 10 21.7
comp=Z,924nm,18.9s,baz=111,slow=37
D29A Pettibone, Tap 50.95 61 ⇓P **P** 05 47 23.3 -1.0
baz=51
N22A Wattenberg Ran 51.01 71 ⇓P **P** 05 47 24.4 -0.8
baz=51,SNR=22
N22A ⇓ScP **ScP** 05 52 22.3 +0.1
baz=51
I26A New Underwood 51.03 66 ⇓P **P** 05 47 23.8 -1.2
baz=51,SNR=17
I26A ScP **ScP** 05 52 21.3 -0.6
baz=51
F28A McLaughlin 51.04 63 ⇓P **P** 05 47 23.7 -1.4
baz=51,SNR=24
GLA Glamis 51.08 84 *e*P **P** 05 47 25.3 -0.2
GLA pmax pmax
comp=Z,133nm,1.0s
GLA Glamis 51.08 84 *e*P **P** 05 47 25.3 -0.2
comp=Z,133nm,1.0s
GLA Glamis 51.08 84 ⇑P **P** 05 47 25.2 -0.3
baz=51,SNR=52
GLA ⇓ScP **ScP** 05 52 21.6 -0.6
baz=51,SNR=5.6
H27A Howes 51.09 65 ⇑P **P** 05 47 24.0 -1.4
baz=51,SNR=14
H27A ⇓ScP **ScP** 05 52 21.3 -0.8
baz=51
L24A Wheatland 51.10 69 ⇑P **P** 05 47 24.6 -1.1
baz=51,SNR=10
Q20A Ridgley Place, 51.12 74 ⇓P **P** 05 47 24.3 -1.6
baz=51,SNR=50
Q20A ⇓ScP **ScP** 05 52 21.2 -1.3
baz=51,SNR=6.2
C30A Mose, Pekin 51.15 60 ⇑P **P** 05 47 24.7 -1.0
baz=51,SNR=24
PV05 Paradox Valley 51.21 75 *e*P **P** 05 47 25.9 -0.8
E29A Napoleon 51.23 61 ⇑P **P** 05 47 24.9 -1.5
baz=51,SNR=5.0
P21A Newcastle 51.25 73 ⇓P **P** 05 47 26.0 -0.9
baz=51,SNR=54
P21A ⇑ScP **ScP** 05 52 22.2 -0.9
baz=51
N23A Red Feather La 51.25 71 ⇓P **P** 05 47 26.0 -0.9
baz=51,SNR=25
N23A ⇓ScP **ScP** 05 52 23.3 +0.2
baz=51
PHWY Pilot Hill 51.27 70 *e*P **P** 05 47 25.8 -1.4
comp=Z,121nm,2.0s
J26A Sides Ranch, S 51.36 67 ⇑P **P** 05 47 25.7 -1.8
baz=51,SNR=7.5
J26A ⇓ScP **ScP** 05 52 22.0 -1.4
baz=51,SNR=5.2
D30A Buchanan 51.37 60 ⇓P **P** 05 47 26.3 -1.1
baz=51,SNR=89
D30A ⇑ScP **ScP** 05 52 22.8 -0.4
baz=51
O22A Kremmling 51.37 72 ⇓P **P** 05 47 26.6 -1.3
baz=51,SNR=40
PV15 Paradox Valley 51.41 75 *e*P **P** 05 47 27.0 -1.1
SSLB Suanglung 51.46 259 *e*P **P** 05 47 28.6 +0.2
comp=Z,203nm,1.4s
G28A Parade 51.46 63 ⇑P **P** 05 47 27.1 -1.1
baz=51,SNR=23
I27A Quinn 51.46 65 ⇓P **P** 05 47 27.1 -1.1
baz=51,SNR=42
I27A ⇑ScP **ScP** 05 52 21.9 -1.8
baz=51
PV01 Paradox Valley 51.49 75 *e*P **P** 05 47 27.4 -1.3
comp=Z,7µm,1.0s
WUAZ Wupatki 51.53 79 *e*P **P** 05 47 28.8 -0.2
comp=Z,98nm,1.1s
WUAZ Wupatki 51.53 79 ⇓P **P** 05 47 28.7 -0.2
baz=51,SNR=68
WUAZ ⇑ScP **ScP** 05 52 24.0 -0.3
baz=51,SNR=5.4
M24A Cheyenne 51.53 69 ⇑P **P** 05 47 28.3 -0.6
baz=51,SNR=10
M24A ⇓ScP **ScP** 05 52 22.6 -1.7
baz=51
YULB Yu-li 51.55 259 *e*P **P** 05 47 28.3 -0.7
comp=Z,271nm,1.5s
R20A Redvale 51.57 75 ⇓P **P** 05 47 28.3 -1.0
baz=51,SNR=34
R20A ⇓ScP **ScP** 05 52 23.9 -0.6
baz=51,SNR=7.5
XAN Xi'an 51.58 278 P **P** 05 47 29.1 -0.1
XAN pP **pP** 05 47 58.8 -2.6
XAN sP **sP** 05 48 13.5 -3.3
XAN S **S** 05 54 33.2 -5.9
XAN sS **sS** 05 55 34.6 -0.1
XAN SS SS 05 58 09.1 -7.5
XAN AMB AMB
comp=Z,11nm,1.3s
XAN AMB AMB
comp=Z,63nm,6.6s
XAN LR LR
comp=Z,530nm,23.5s
XAN LR LR
comp=Z,200nm,20.5s
F29A Eureka 51.58 62 ⇓P **P** 05 47 27.7 -1.4
baz=51,SNR=23
F29A ScP **ScP** 05 52 22.2 -1.9
baz=51
L25A Engebretsen Ra 51.59 68 ⇓P **P** 05 47 28.4 -0.8
baz=51
Y14A Wickenburg 51.60 82 ⇓P **P** 05 47 29.1 -0.3
baz=51,SNR=7.3
Y14A ScP **ScP** 05 52 24.0 -0.5
baz=51
P22A Eagle 51.61 72 ⇓P **P** 05 47 28.4 -1.2
baz=51,SNR=30
P22A ⇓ScP **ScP** 05 52 24.2 -0.5
baz=51
Q21A Lamborn Mesa, 51.62 74 ⇑P **P** 05 47 28.6 -1.0
baz=51,SNR=35
Q21A ScP **ScP** 05 52 23.8 -0.9
baz=51
H28A Mission Ridge 51.65 64 ⇑P **P** 05 47 28.8 -0.8
baz=51,SNR=37
E30A Jud 51.66 61 ⇑P **P** 05 47 28.2 -1.4
baz=51,SNR=24
K26A Motz Farm, Whi 51.69 67 ⇓P **P** 05 47 28.4 -1.6
baz=51,SNR=8.4
K26A ⇓ScP **ScP** 05 52 23.1 -1.7
baz=51
O23A Lake Granby, G 51.70 71 ⇑P **P** 05 47 29.9 -0.4
baz=52,SNR=61
O23A ⇓ScP **ScP** 05 52 24.3 -0.9
baz=52
SMCO Snowmass 51.76 73 *e*P **P** 05 47 29.6 -1.2
comp=Z,131nm,1.9s
S20A Disappointment 51.81 75 ⇑P **P** 05 47 30.1 -1.0
baz=52,SNR=83
S20A ⇓ScP **ScP** 05 52 24.1 -1.5
baz=52,SNR=5.2
N24A Carr 51.91 70 ⇓P **P** 05 47 31.3 -0.5
baz=52,SNR=18
N24A ⇓ScP **ScP** 05 52 24.8 -1.1
baz=52
113A Mohawk Valley, 51.93 84 ⇓P **P** 05 47 31.1 -0.6
baz=52,SNR=34
113A ⇓ScP **ScP** 05 52 25.0 -0.8
baz=52,SNR=8.1
G29A Hoven 51.93 63 ⇓P **P** 05 47 30.3 -1.3
baz=52
G29A ScP **ScP** 05 52 24.1 -1.6
baz=52
R21A Cimarron 51.94 74 ⇓P **P** 05 47 31.3 -0.8
baz=52,SNR=67
R21A ScP **ScP** 05 52 25.9 -0.3
baz=52
I28A Midland 52.00 65 ⇓P **P** 05 47 31.0 -1.2
baz=52,SNR=60
M25A Palm-Egli Farm 52.00 69 ⇓P **P** 05 47 31.8 -0.6
baz=52,SNR=7.9
Q22A Crested Butte, 52.00 73 ⇑P **P** 05 47 31.7 -0.9
baz=52,SNR=34
Q22A ⇓ScP **ScP** 05 52 25.2 -1.3
baz=52,SNR=5.4
J27A Elkhorn Farm, 52.00 66 ⇑P **P** 05 47 31.2 -1.1
baz=52,SNR=17
J27A ScP **ScP** 05 52 25.1 -1.0
baz=52
TPUB Ta-pu 52.02 259 *e*P **P** 05 47 32.4 -0.2
comp=Z,308nm,1.5s
F30A Leola 52.02 62 ⇑P **P** 05 47 30.8 -1.5
baz=52
Z14A Wintersburg 52.02 83 ⇑P **P** 05 47 32.1 -0.3
baz=52,SNR=9.4
Z14A ⇓ScP **ScP** 05 52 25.0 -1.2
baz=52
ZAA0 Zalesovo Array 52.09 312 *e*P **P** 05 47 31.6 -1.0
ZALV Zalesovo Beam 52.09 312 P **P** 05 47 31.9 -0.7
ZALV 05 48 43.2
ZALV pmax pmax
comp=Z,5.0nm,0.5s
ZALV Zalesovo Beam 52.09 312 P **P** 05 47 31.9 -0.7
ZALV PcP **PcP** 05 48 43.2 +0.6
ZALV ScP **ScP** 05 52 26.5 +0.4
ZALV Zalesovo Beam 52.09 312 P **P** 05 47 31.9 -0.7
comp=Z,4.9nm,0.5s,baz=44,slow=7.0,SNR=18
ZALV PcP **PcP** 05 48 43.2 +0.6
comp=Z,6.9nm,0.7s,baz=30,slow=4.2,SNR=6.0
ZALV ScP **ScP** 05 52 26.5 +0.4
comp=Z,8.5nm,0.9s,baz=35,slow=5.4,SNR=5.3
H29A Onida 52.13 64 ⇓P **P** 05 47 32.1 -1.1
baz=52
MVCO Mesa Verde 52.14 76 *e*P **P** 05 47 32.8 -0.8
comp=Z,159nm,1.4s
MVCO Mesa Verde 52.14 76 ⇓P **P** 05 47 32.6 -1.0
baz=52,SNR=47
MVCO ⇑ScP **ScP** 05 52 25.9 -1.1
baz=52
ISCO Idaho Springs 52.15 71 *e*P **P** 05 47 33.0 -0.7
ISCO pmax pmax
comp=Z,58nm,1.1s
ISCO Idaho Springs 52.15 71 *e*P **P** 05 47 33.0 -0.7
comp=Z,58nm,1.1s
ISCO Idaho Springs 52.15 71 ⇓P **P** 05 47 33.2 -0.5
baz=52,SNR=49
L26A Underwood Farm 52.17 68 ⇑P **P** 05 47 32.5 -1.1
baz=52
L26A ScP **ScP** 05 52 25.9 -1.0
baz=52
K27A Flueckinger Fa 52.22 67 ⇑P **P** 05 47 32.5 -1.5
baz=52,SNR=12
K27A ScP **ScP** 05 52 25.3 -1.8
baz=52
X16A Lo Mia Camp, P 52.23 80 ⇑P **P** 05 47 34.2 0.0
baz=52,SNR=82
X16A ⇑ScP **ScP** 05 52 26.6 -0.8
baz=52,SNR=7.5
NVS Novosibirsk 52.25 313 *e*P **P** 05 47 32.0 -1.8
NVS *e**PP pP 05 48 00.0 -6.0
NVS *i* S **S** 05 54 46.2 -1.3
NVS *e* 05 57 08.0
NVS pmax pmax
comp=Z,16nm,0.8s
NVS pmax pmax
comp=N,6.0nm,0.7s
NVS pmax pmax
comp=E,7.0nm,0.6s
NVS smax smax
comp=N,24nm,1.5s
NVS smax smax
comp=E,7.0nm,1.8s
O24A Longmont 52.26 71 ⇑P **P** 05 47 34.1 -0.2
baz=52,SNR=14
S21A Coal Bank Pass 52.26 75 ⇓P **P** 05 47 34.2 -0.3
baz=52,SNR=83
S21A ⇓ScP **ScP** 05 52 26.6 -1.1
baz=52,SNR=5.8
P23A Jefferson 52.30 72 ⇓P **P** 05 47 34.7 -0.1
baz=52,SNR=33
J28A Allard Ranch, 52.33 65 ⇓P **P** 05 47 34.1 -0.6
baz=52
J28A ⇓ScP **ScP** 05 52 26.3 -1.2
baz=52
N25A Grover 52.38 70 ⇓P **P** 05 47 35.0 -0.2
baz=52
G30A Faulkton 52.40 62 ⇓P **P** 05 47 33.8 -1.3
baz=52,SNR=28
G30A ScP **ScP** 05 52 26.7 -1.0
baz=52
I29A Vivian Onida 52.47 64 ⇑P **P** 05 47 34.4 -1.2
baz=52,SNR=12
I29A ⇑ScP **ScP** 05 52 26.6 -1.5
baz=52
M26A McRoberts Ranc 52.50 68 ⇑P **P** 05 47 35.6 -0.4
baz=52
R22A Saguache, Gunn 52.50 74 ⇑P **P** 05 47 36.4 +0.1
baz=52,SNR=71
R22A ⇑ScP **ScP** 05 52 28.8 +0.1
baz=52
L27A T5 Ranch, Ells 52.58 67 ⇑P **P** 05 47 35.8 -0.7
baz=52
Q23A Hartsel 52.60 72 ⇑P **P** 05 47 37.0 -0.1
baz=52
U20A Newcomb 52.68 77 ⇑P **P** 05 47 37.0 -0.5
baz=52
U20A ⇑ScP **ScP** 05 52 29.4 +0.1
baz=52
P24A Kohler Place, 52.75 71 ⇑P **P** 05 47 38.0 +0.1
baz=52,SNR=8.0
S22A 4UR Ranch, Cre 52.78 74 ⇓P **P** 05 47 38.2 -0.1
baz=53,SNR=98
S22A ⇑ScP **ScP** 05 52 29.8 -0.1
baz=53
W18A Petrified Fore 52.79 79 *e*P **P** 05 47 38.3 0.0
W18A *e*pP **pP** 05 48 10.3 -0.3
W18A Petrified Fore 52.79 79 ⇓P **P** 05 47 38.0 -0.3
baz=53,SNR=28
O25A Wiggins 52.82 70 ⇑P **P** 05 47 38.1 -0.3
baz=53
J29A Okreek 52.85 65 ⇑P **P** 05 47 37.6 -0.8
baz=53,SNR=85
J29A ⇓ScP **ScP** 05 52 28.9 -0.8
baz=53
T21A Navajo Lake 52.86 75 ⇓P **P** 05 47 38.4 -0.5
baz=53,SNR=27
T21A ⇓ScP **ScP** 05 52 29.7 -0.4
baz=53
N26A Koester Ranch, 52.87 69 ⇑P **P** 05 47 38.4 -0.3
baz=53,SNR=7.1
N26A ⇑ScP **ScP** 05 52 28.5 -1.5
baz=53
M27A Reverse DX Ran 52.90 68 ⇑P **P** 05 47 38.0 -0.9
baz=53,SNR=6.2
BRSD Miller 52.94 63 *e*P **P** 05 47 37.7 -1.3
BRSD Miller 52.94 63 ⇑P **P** 05 47 37.9 -1.2
baz=53,SNR=13
Q24A Divide 52.97 72 ⇑P **P** 05 47 39.1 -0.6
baz=53,SNR=17
I30A Oacoma 53.02 64 ⇓P **P** 05 47 38.5 -1.2
baz=53,SNR=5.6
I30A ScP **ScP** 05 52 28.8 -1.7
baz=53
X18A Snowflake 53.06 79 ⇓P **P** 05 47 40.1 -0.2
baz=53,SNR=73
X18A ⇑ScP **ScP** 05 52 30.5 -0.4
baz=53
214A Organ Pipe Nat 53.07 84 ⇓P **P** 05 47 39.8 -0.4
baz=53,SNR=35
214A ⇓ScP **ScP** 05 52 29.9 -1.0
baz=53
SUMG Summit 53.07 13 ⇑*i*P **P** 05 47 40.1 0.0
SUMG *i* *PP **pP** 05 48 09.8 -2.6
SUMG pmax pmax
comp=Z,44nm,0.9s
SUMG Summit 53.07 13 ⇑*i*P **P** 05 47 40.1 0.0
comp=Z,44nm,0.9s
SUMG *i* pP **pP** 05 48 09.8 -2.6
SUMG Summit 53.07 13 *e*P **P** 05 47 38.6 -1.5
comp=Z,60nm,0.9s
R23A Moffat 53.08 73 ⇓P **P** 05 47 40.0 -0.5
baz=53,SNR=33
R23A ⇓ScP **ScP** 05 52 30.8 -0.3
baz=53
V20A Brimhall 53.10 77 ⇑P **P** 05 47 39.9 -0.6
baz=53,SNR=30
V20A ⇑ScP **ScP** 05 52 31.0 -0.2
baz=53
U21A Nageezi 53.16 76 ⇑P **P** 05 47 40.6 -0.5
baz=53,SNR=111
U21A ⇓ScP **ScP** 05 52 30.9 -0.6
baz=53
P25A Willow Gulch B 53.18 71 ⇑P **P** 05 47 41.0 -0.1
baz=53,SNR=52
O26A Horse Wrangler 53.20 70 ⇓P **P** 05 47 40.6 -0.5
baz=53
T22A Edith 53.22 75 ⇑P **P** 05 47 41.4 -0.1
baz=53,SNR=76
T22A ⇑ScP **ScP** 05 52 31.0 -0.7
baz=53,SNR=5.4
K29A Lazy Trails An 53.27 65 ScP **ScP** 05 52 29.8 -1.8
baz=53
N27A Anderson Farm, 53.28 69 ⇓P **P** 05 47 41.2 -0.5
baz=53,SNR=13
N27A ScP **ScP** 05 52 30.4 -1.4
baz=53
LZH Lanzhou 53.28 284 ⇓P **P** 05 47 42.9 +1.1
LZH pP **pP** 05 48 16.5 +2.3
LZH sP **sP** 05 48 31.4 +1.8
LZH PP **PP** 05 49 46.5 +3.4
LZH S **S** 05 55 02.0 -0.4
LZH sS **sS** 05 55 58.0 -0.3
LZH SS **SKiKP** 05 58 40.7 -2.6
LZH AMB AMB
comp=Z,180nm,1.4s
LZH AMB AMB
comp=Z,470nm,6.2s
LZH LR LR
comp=Z,1µm,14.5s
LZH LR LR
comp=Z,1µm,15.0s
LZH LR LR
comp=Z,1µm,18.2s
S23A Nye Farm, Mont 53.30 74 ⇓P **P** 05 47 42.1 +0.1

baz=53,SNR=5.5
J30A **Dallas** 53.36 64 ⇑P P 05 47 40.9 -1.3
baz=53,SNR=33
J30A ⇓ScP ScP 05 52 30.5 -1.5
baz=53
GTA **Gaotai** 53.45 289 ⇓P P 05 47 43.8 +0.8
GTA pP pP 05 48 14.8 -0.6
GTA sP sP 05 48 31.7 +0.9
GTA ScP ScP 05 52 33.8 +1.2
GTA S S 05 55 06.4 +1.8
GTA sS sS 05 56 03.4 +2.8
GTA ScS ScS 05 57 16.8 -1.5
GTA AMB AMB
comp=Z,57nm,1.5s
GTA AMB AMB
comp=Z,570nm,7.1s
GTA LR LR
comp=Z,850nm,15.2s
GTA LR LR
comp=Z,940nm,17.1s
GTA LR LR
comp=Z,750nm,14.3s
R24A **Sanders Place,** 53.48 73 ⇑P P 05 47 42.9 -0.4
baz=53,SNR=27
R24A ⇑ScP ScP 05 52 31.8 -0.9
baz=53
OGNE **Ogallala** 53.48 68 *e*P P 05 47 42.3 -0.8
comp=Z,380nm,1.7s
OGNE **Ogallala** 53.48 68 ⇑P P 05 47 42.4 -0.8
baz=53,SNR=8.6
OGNE ScP ScP 05 52 31.3 -1.3
baz=53
Q25A **Bedland, Calha** 53.53 71 ⇑P P 05 47 43.2 -0.5
baz=53,SNR=24
W20A **Ramah** 53.53 78 ⇑P P 05 47 43.3 -0.5
baz=53,SNR=33
W20A ⇑ScP ScP 05 52 32.4 -0.7
baz=53
M28A **Bar X Bar Ranc** 53.56 67 ⇑P P 05 47 43.2 -0.5
baz=53,SNR=7.7
M28A ⇑ScP ScP 05 52 31.0 -2.0
baz=53
SDCO **Great Sand Dun** 53.57 73 *e*P P 05 47 43.5 -0.6
comp=Z,141nm,1.4s
V21A **Milan** 53.59 77 ⇓P P 05 47 43.6 -0.5
baz=53,SNR=12
V21A ⇑ScP ScP 05 52 32.5 -0.8
baz=53
P26A **Davis Ranch, A** 53.63 70 ⇑P P 05 47 44.2 -0.2
baz=53,SNR=24
P26A ScP ScP 05 52 32.5 -0.9
baz=53
L29A **Maesberg Ranch** 53.63 66 ⇓P P 05 47 43.3 -0.9
baz=53,SNR=9.3
U22A **Llaves** 53.68 76 ⇓P P 05 47 44.3 -0.5
baz=54,SNR=26
U22A ⇑ScP ScP 05 52 32.7 -1.0
baz=54
O27A **Beecher Island** 53.72 69 ⇑P P 05 47 44.3 -0.6
baz=54,SNR=22
O27A ScP ScP 05 52 32.7 -1.0
baz=54
K30A **Basset** 53.72 65 ⇑P P 05 47 43.9 -0.9
baz=54
T23A **Casias Ranch,** 53.72 74 ⇓P P 05 47 44.8 -0.4
baz=54,SNR=40
T23A ⇓ScP ScP 05 52 32.4 -1.5
baz=54
ILULI **Ilulissat** 53.78 20 *i* P P 05 47 44.2 -0.6
ILULI pmax pmax
comp=Z,45nm,1.0s
S24A **Houchin Ranch,** 53.81 73 ⇑P P 05 47 45.6 -0.2
baz=54,SNR=44
S24A ⇑ScP ScP 05 52 32.8 -1.6
baz=54
M29A **Burnside Ranch** 53.92 67 ⇑P P 05 47 45.5 -0.8
baz=54,SNR=12
X20A **Quemado** 53.93 78 ⇑P P 05 47 46.8 +0.1
baz=54,SNR=84
X20A ⇓ScP ScP 05 52 34.6 -0.2
baz=54,SNR=8.6
N28A **Pribbeno Ranch** 53.93 68 ⇑P P 05 47 45.6 -0.8
baz=54,SNR=13
N28A ⇑ScP ScP 05 52 32.6 -2.0
baz=54
XMAS **Kiritimati** 53.93 149 *e*P P 05 47 46.5 +0.1
comp=Z,55nm,0.9s
Q26A **Hugo** 53.95 71 ⇑P P 05 47 46.4 -0.3
baz=54
V22A **San Miguel Ran** 53.95 76 ⇓P P 05 47 46.2 -0.7
baz=54,SNR=33
V22A ⇓ScP ScP 05 52 34.0 -1.0
baz=54
R25A **Fountain Ranch** 54.02 72 ⇑P P 05 47 46.7 -0.5
baz=54,SNR=23
W21A **San Fidel** 54.05 77 ⇓P P 05 47 46.9 -0.6
baz=54,SNR=17
W21A ⇓ScP ScP 05 52 35.4 0.0
baz=54
TUC **Tucson** 54.07 82 *e*P P 05 47 47.2 -0.3
TUC *e**PP pP 05 48 19.1 -0.8
TUC pmax pmax
comp=Z,178nm,1.7s
TUC **Tucson** 54.07 82 *e*P P 05 47 47.1 -0.3
comp=Z,178nm,1.7s
TUC *e*pP pP 05 48 19.1 -0.8
P27A **Ficken Ranch,** 54.08 70 ⇑P P 05 47 46.9 -0.6
baz=54,SNR=16
P27A ⇓ScP ScP 05 52 34.1 -1.2
baz=54
T24B **San Luis** 54.09 74 ⇑P P 05 47 47.9 0.0
baz=54,SNR=38
T24B ⇑ScP ScP 05 52 35.5 -0.2
baz=54
U23A **El Rito** 54.10 75 ⇑P P 05 47 47.7 -0.2
baz=54,SNR=123
U23A ⇑ScP ScP 05 52 35.0 -0.6
baz=54,SNR=8.7
L30A **Spencer Herefo** 54.13 66 ⇓P P 05 47 46.8 -1.0
baz=54,SNR=7.8
O28A **Krutsinger Ran** 54.16 69 ⇓P P 05 47 47.3 -0.9
baz=54,SNR=37
O28A ⇑ScP ScP 05 52 34.0 -1.6
baz=54
S25A **Robets Cordova** 54.25 73 ⇓P P 05 47 48.2 -0.7
baz=54,SNR=45
M30A **Dale-Ortello V** 54.32 66 ⇓P P 05 47 48.2 -1.0
baz=54
N29A **Votaw Ranch, W** 54.36 67 ⇑P P 05 47 48.5 -1.0
baz=54,SNR=6.1
R26A **Arlington** 54.41 72 ⇑P P 05 47 49.4 -0.6
baz=54,SNR=58
R26A ⇓ScP ScP 05 52 36.5 -0.2
baz=54
KSCO **Kaye Shedlock'** 54.41 70 *e*P P 05 47 49.6 -0.4
KSCO **Kaye Shedlock'** 54.41 70 ⇑P P 05 47 49.6 -0.4
baz=54,SNR=24
X21A **Alamocita Cree** 54.42 78 ⇑P P 05 47 50.5 +0.2
baz=54,SNR=161
X21A ⇓ScP ScP 05 52 36.8 -0.2
baz=54
Y20A **Horse Springs,** 54.43 79 ⇓P P 05 47 50.5 +0.1
baz=54,SNR=55
Y20A ⇓ScP ScP 05 52 36.8 -0.3
baz=54
L31A **Butterfield Fa** 54.48 65 ⇑P P 05 47 49.8 -0.5
baz=54
L31A ScP ScP 05 52 36.0 -0.9
baz=54
V23A **Ortiz Mt. (NFS** 54.50 76 ⇑P P 05 47 51.0 +0.2
baz=54,SNR=63
V23A ⇑ScP ScP 05 52 37.1 -0.3
baz=54
P28A **Saint Francis** 54.54 69 ScP ScP 05 52 35.6 -1.7
baz=54
W22A **Albuquerque** 54.55 77 ⇑P P 05 47 50.9 -0.2
baz=54,SNR=9.5
U24A **Moreno Valley** 54.59 74 ⇑P P 05 47 51.5 -0.1
baz=54,SNR=8.2
T25A **Trinidad** 54.62 73 ⇑P P 05 47 51.1 -0.5
baz=54,SNR=77
T25A ⇑ScP ScP 05 52 36.7 -1.1
baz=54
EYMN **Ely** 54.63 56 *e*P P 05 47 50.6 -0.7
comp=Z,238nm,0.9s
N30A **Hueftle Ranch,** 54.68 67 ⇓P P 05 47 51.2 -0.6
baz=54
ECSD **EROS Data Cent** 54.69 62 *e*P P 05 47 50.0 -1.7
comp=Z,84nm,1.1s
O29A **4D Ranch, Culb** 54.73 68 ⇑P P 05 47 51.7 -0.5
baz=54,SNR=19
Y21A **Point of Rocks** 54.79 78 ⇑P P 05 47 53.0 +0.1
baz=55,SNR=26
R27A **Eads** 54.79 71 ⇓P P 05 47 52.2 -0.6
baz=55,SNR=63
R27A ⇓ScP ScP 05 52 36.7 -1.7
baz=55
Q28A **Sharon Springs** 54.84 70 ⇓P P 05 47 52.4 -0.6
baz=55,SNR=20
LAZ **Ladron** 54.84 77 *e*P P 05 47 53.3 0.0
comp=Z,41nm,1.2s
S26A **Kim** 54.84 72 ⇑P P 05 47 52.1 -1.1
baz=55,SNR=52
Z20A **Nine Sixteen R** 54.85 80 ⇓P P 05 47 53.0 -0.2
baz=55,SNR=48
Z20A ⇑ScP ScP 05 52 38.6 -0.2
baz=55
X22A **Bernardo** 54.85 77 ⇓P P 05 47 53.9 +0.7
baz=55,SNR=25
ANMO **Albuquerque** 54.88 77 *e*P P 05 47 52.9 -0.6
comp=Z,47nm,1.3s
W23A **Werner Place,** 54.92 76 ⇑P P 05 47 53.5 -0.3
baz=55,SNR=37
W23A ⇓ScP ScP 05 52 39.2 0.0
baz=55
M31A **Lambtecht Ranc** 54.95 66 ⇓P P 05 47 52.5 -1.3
baz=55
V24A **Rampart Ranch,** 55.06 75 ⇑P P 05 47 54.7 -0.1
baz=55,SNR=57
V24A ⇑ScP ScP 05 52 38.9 -0.9
baz=55,SNR=6.9
T26A **Comanche Natio** 55.07 73 ⇑P P 05 47 54.0 -0.9
baz=55,SNR=18
LENM **Lemitar** 55.10 78 *e*P P 05 47 55.5 +0.4
O30A **MW Ranch, Wils** 55.11 68 ⇓P P 05 47 54.1 -0.8
baz=55,SNR=34
U25A **Circle Dot Ran** 55.12 74 ⇓P P 05 47 54.5 -0.7
baz=55,SNR=66
S27A **Las Animas** 55.14 72 ⇑P P 05 47 54.4 -0.8
baz=55
Y22D **IRIS PASSCAL I** 55.20 78 ⇓P P 05 47 55.7 0.0
baz=55
LPM **Los Pinos Moun** 55.21 77 *e*P P 05 47 55.8 0.0
120A **U Bar Ranch, L** 55.21 80 ⇓P P 05 47 55.8 -0.1
baz=55,SNR=58
120A ScP ScP 05 52 40.6 +0.2
baz=55
Y22A **Socorro** 55.27 78 ⇓P P 05 47 56.5 +0.2
baz=55,SNR=48
Z21A **St. Cloud Mine** 55.27 79 ⇓P P 05 47 56.5 +0.2
baz=55,SNR=19
Z21A ⇓ScP ScP 05 52 39.9 -0.8
baz=55
X23A **Hourglass Bar** 55.29 77 ⇑P P 05 47 56.2 -0.2
baz=55
N31A **Bailey Ranch,** 55.31 66 ⇑P P 05 47 55.3 -1.0
baz=55,SNR=6.1
BNM **Barren Site** 55.32 77 *e*P P 05 47 56.4 -0.3
comp=Z,78nm,1.4s
W24A **Lazy 6 Ranch,** 55.33 76 ⇑P P 05 47 56.7 0.0
baz=55,SNR=59
W24A ⇑ScP ScP 05 52 40.1 -0.9
baz=55,SNR=5.7
R28A **Tribune** 55.33 70 ⇑P P 05 47 55.8 -0.8
baz=55,SNR=20
R28A ⇑ScP ScP 05 52 38.7 -2.1
baz=55
KNTN **Kanton** 55.35 167 *e*P P 05 47 58.9 +2.2
comp=Z,289nm,1.4s
BGNE **Belgrade** 55.37 65 *e*P P 05 47 56.0 -0.7
BGNE **Belgrade** 55.37 65 ⇓P P 05 47 55.7 -1.0
baz=55,SNR=13
V25A **Rancho No Teng** 55.37 74 ⇓P P 05 47 56.8 -0.2
baz=55,SNR=51
V25A ⇓ScP ScP 05 52 40.4 -0.8
baz=55
P30A **Selden** 55.43 68 ⇑P P 05 47 56.6 -0.6
baz=55,SNR=42
P30A ⇓ScP ScP 05 52 38.7 -2.4
baz=55
Q29A **Oakley** 55.45 69 ⇓P P 05 47 56.7 -0.7
baz=55,SNR=24
U26A **Atchley Ranch,** 55.51 73 ⇓P P 05 47 57.4 -0.6
baz=55,SNR=36
U26A ⇑ScP ScP 05 52 40.7 -1.1
baz=55
O31A **Woolen Ranch,** 55.55 67 ⇑P P 05 47 57.2 -0.8
baz=55
O31A ⇓ScP ScP 05 52 40.1 -1.5
baz=55
319A **Douglas** 55.63 82 ⇓P P 05 47 59.0 +0.2
baz=55,SNR=35
319A ⇓ScP ScP 05 52 41.6 -0.7
baz=55
T27A **Campo** 55.66 72 ⇑P P 05 47 58.1 -0.9
baz=55,SNR=15
R29A **Marienthal** 55.67 70 ⇑P P 05 47 58.3 -0.7
baz=55,SNR=13
R29A ⇑ScP ScP 05 52 40.3 -1.9
baz=55
SFJD **Kangerlussuaq** 55.72 21 *i* P P 05 47 58.1 -0.6
comp=Z,19nm,1.0s
SFJD *i* 05 48 34.8
SFJD **Kangerlussuaq** 55.72 21 *e*P P 05 47 58.2 -0.6
comp=Z,70nm,1.3s
N32A **Stulken Farm,** 55.72 66 ⇑P P 05 47 58.0 -1.2
baz=56
220A **Playas Peak, P** 55.73 81 ⇓P P 05 47 59.4 -0.1
baz=56,SNR=100
220A ⇑ScP ScP 05 52 42.1 -0.5
baz=56
Z22A **Elephant Butte** 55.74 78 ⇓P P 05 47 59.5 -0.1
baz=56,SNR=53
Z22A ⇓ScP ScP 05 52 42.5 -0.2
baz=56
121A **Cookes Peak, D** 55.74 80 ⇓P P 05 47 59.7 0.0
baz=56,SNR=16
121A ⇓ScP ScP 05 52 41.9 -0.8
baz=56
SPMN **St. Paul** 55.75 59 *e*P P 05 47 58.6 -0.7
SPMN **St. Paul** 55.75 59 ⇓P P 05 47 58.6 -0.7
baz=56,SNR=30
X24A **Lazy VL Ranch,** 55.76 76 ⇑P P 05 47 59.8 0.0
baz=56
S28A **Manter** 55.79 71 ⇑P P 05 47 59.6 -0.3
baz=56,SNR=71
S28A ⇓ScP ScP 05 52 41.8 -1.0
baz=56
Y23A **Lovelace Mesa,** 55.82 77 ⇓P P 05 48 00.1 -0.1
baz=56,SNR=79
Y23A ⇓ScP ScP 05 52 42.6 -0.5
baz=56
Q30A **Quinter** 55.82 69 ⇑P P 05 47 59.6 -0.4
baz=56,SNR=29
Q30A ⇑ScP ScP 05 52 41.5 -1.4
baz=56
W25A **X Bar L Ranch,** 55.89 75 ⇑P P 05 48 00.2 -0.5
baz=56,SNR=50
W25A ⇓ScP ScP 05 52 42.5 -0.8
baz=56
V26A **Tequesquite Ra** 55.90 74 ⇑P P 05 48 00.1 -0.6
baz=56,SNR=41
V26A ⇑ScP ScP 05 52 42.2 -1.2
baz=56
P31A **Stockton** 55.94 68 ⇑P P 05 48 00.1 -0.7
baz=56,SNR=39
P31A ⇑ScP ScP 05 52 41.6 -1.8
baz=56
T28A **Walsh** 55.98 72 ⇓P P 05 48 00.4 -0.8
baz=56,SNR=40
U27A **Thompson Grove** 56.04 73 ⇑P P 05 48 00.9 -0.8
baz=56,SNR=58
U27A ⇑ScP ScP 05 52 43.0 -1.0
baz=56
O32A **Brockman Farm,** 56.07 66 ⇓P P 05 48 00.3 -1.5
baz=56,SNR=12
122A **Conniff Cattle** 56.10 79 ⇑P P 05 48 02.7 +0.6
baz=56,SNR=31
221A **Mesquite Ranch** 56.11 80 ⇓P P 05 48 02.2 0.0
baz=56,SNR=20
320A **Kipp Ranch, An** 56.12 81 ⇓P P 05 48 02.5 +0.1
baz=56,SNR=69
Z23A **Rita Site, Whi** 56.17 78 ⇓P P 05 48 02.6 -0.1
baz=56,SNR=27
Y24A **Capitan** 56.19 77 ⇓P P 05 48 02.8 -0.1
baz=56,SNR=120
S29A **Ulysses** 56.22 71 ⇑P P 05 48 02.3 -0.6
baz=56,SNR=9.6
S29A ScP ScP 05 52 44.0 -0.7
baz=56
X25A **Clemmons Ranch** 56.24 76 ⇓P P 05 48 02.7 -0.4
baz=56,SNR=26
X25A ⇑ScP ScP 05 52 44.6 -0.3
baz=56
R30A **Dighton** 56.26 69 ⇑P P 05 48 02.7 -0.4
baz=56,SNR=56
R30A ⇑ScP ScP 05 52 43.5 -1.3
baz=56
Q31A **Ellis** 56.28 68 ⇑P P 05 48 02.6 -0.7
baz=56
P32A **Huiting Farm,** 56.31 67 ⇑P P 05 48 02.0 -1.4
baz=56,SNR=21
P32A ⇑ScP ScP 05 52 43.0 -1.9
baz=56
W26A **Owens Ranch, T** 56.39 75 ⇑P P 05 48 03.7 -0.5
baz=56,SNR=11
U28A **Mallet** 56.42 72 ⇓P P 05 48 03.4 -1.0
baz=56,SNR=48
T29A **Hugoton** 56.44 71 ⇑P P 05 48 03.5 -0.9
baz=56,SNR=14
222A **Williams Famil** 56.45 79 ⇓P P 05 48 04.5 -0.2
baz=56,SNR=6.5
222A ScP ScP 05 52 45.1 -0.8
baz=56
V27A **Dan Oppiter Fa** 56.48 73 ⇓P P 05 48 03.7 -1.1
baz=56,SNR=7.7
S30A **Montezuma** 56.59 70 ⇑P P 05 48 04.7 -0.8
baz=56,SNR=20
S30A ⇓ScP ScP 05 52 44.5 -1.8
baz=56
123A **Bell Site, Whi** 56.59 78 ⇑P P 05 48 05.7 +0.1
baz=56
Y25A **Mesa, Roswell** 56.64 76 ⇑P P 05 48 05.6 -0.4
baz=56,SNR=74
Y25A ⇓ScP ScP 05 52 46.6 -0.1
baz=56
KEV **Kevo** 56.64 348 *e*P P 05 48 05.0 -0.2
KEV pmax pmax
comp=Z,13nm,0.6s
KEV **Kevo** 56.64 348 *e*p P 05 48 05.0 -0.2
comp=Z,13nm,0.6s
Z24A **Sheeppen Canyo** 56.65 77 ⇓P P 05 48 05.7 -0.4
baz=56,SNR=33
Z24A ⇓ScP ScP 05 52 46.3 -0.5
baz=56
R31A **Burdett** 56.69 69 ⇑P P 05 48 05.1 -1.0
baz=56
R31A ⇑ScP ScP 05 52 44.9 -1.8
baz=56
X26A **CR and CF Fran** 56.74 75 ⇑P P 05 48 06.1 -0.6
baz=56,SNR=16
X26A ⇓ScP ScP 05 52 47.1 0.0
baz=56
W27A **Bowe Ranch, En** 56.83 74 ⇑P P 05 48 06.3 -0.9
baz=57,SNR=12
W27A ⇓ScP ScP 05 52 47.1 -0.3
baz=57
V28A **Channing** 56.85 73 ⇑P P 05 48 06.4 -1.0
baz=57,SNR=20
CD2 **Chengdu** 56.89 279 ⇓*i*P P 05 48 07.6 -0.1
CD2 pP pP 05 48 40.7 +0.3
CD2 sP sP 05 48 56.6 +0.9
CD2 PP PP 05 50 17.1 +1.8
CD2 S S 05 55 47.6 -2.8
CD2 sS sS 05 56 45.4 -1.5
CD2 SS SS 05 59 38.7 -1.6
CD2 AMB AMB
comp=Z,70nm,1.1s
CD2 AMB AMB
comp=Z,510nm,5.5s
223A **Chaparral, Ant** 56.93 79 ⇑P P 05 48 08.1 +0.1
baz=57,SNR=6.4
U29A **Oasis Ranch, S** 56.93 72 ⇑P P 05 48 07.1 -0.8
baz=57,SNR=9.6
T30A **Plains** 56.95 71 ⇓P P 05 48 06.9 -1.1
baz=57
P33A **Williams Farm,** 56.96 67 ⇑P P 05 48 06.8 -1.2
baz=57,SNR=32
P33A ⇑ScP ScP 05 52 45.2 -2.6
baz=57
124A **Stringfield Ra** 57.03 78 ⇑P P 05 48 08.4 -0.4
baz=57,SNR=22
124A ⇑ScP ScP 05 52 47.9 -0.7
baz=57
ARCES **ARCESS Array B** 57.03 349 P P 05 48 07.7 -0.3
ARCES **ARCESS Array B** 57.03 349 P P 05 48 07.7 -0.3
comp=Z,34nm,0.8s,baz=27,slow=8.2,SNR=80
ARCES LR LR 06 13 58.2
comp=Z,307nm,19.3s,baz=21,slow=37
ARE0 **ARCESS Array S** 57.03 349 *e*P P 05 48 07.4 -0.6
ARE0 **ARCESS Array S** 57.03 349 *e*P P 05 48 07.5 -0.6
Z25A **Roswell** 57.07 77 ⇑P P 05 48 08.7 -0.3
baz=57,SNR=44
Z25A ⇓ScP ScP 05 52 48.0 -0.6
baz=57
KURK **Kurchatov** 57.08 312 *d*iP P 05 48 08.5 -0.1
KURK pmax pmax
comp=Z,23nm,1.0s
KURK **Kurchatov** 57.08 312 P P 05 48 08.6 -0.1
SNR=17
KURK **Kurchatov** 57.08 312 *e*P P 05 48 08.4 -0.2
comp=Z,124nm,1.7s
KURK pP pP 05 48 42.0 +0.6
KURK ScP ScP 05 52 48.0 0.0
KURK S S 05 55 50.0 -2.2
X27A **F and S Farms,** 57.09 75 ⇓P P 05 48 08.3 -0.8
baz=57,SNR=8.4
Y26A **Elida** 57.16 76 ⇑P P 05 48 09.0 -0.7
baz=57,SNR=6.6
S31A **Mullinville** 57.17 70 ⇓P P 05 48 08.3 -1.2
baz=57,SNR=9.1
S31A ⇑ScP ScP 05 52 47.6 -1.2
baz=57
V29A **Stinnett** 57.18 72 ⇓P P 05 48 08.5 -1.2
baz=57
KURBB **Kurchatov Arra** 57.18 312 P P 05 48 09.3 -0.1
comp=Z,22nm,0.5s,baz=42,slow=6.7,SNR=289
KURBB pP pP 05 48 42.0 -0.2
comp=Z,11nm,0.8s,baz=51,slow=6.8,SNR=3.3
KURBB ScP ScP 05 52 48.0 -0.5
comp=Z,5.9nm,0.9s,baz=45,slow=4.4,SNR=6.1
KURBB S S 05 55 50.0 -3.6
comp=Z,3.5nm,1.1s,baz=42,slow=12,SNR=4.6
W28A **Vega** 57.20 73 ⇑P P 05 48 09.2 -0.7
baz=57,SNR=6.9
U30A **WK&E Inc. Balk** 57.24 71 ⇑P P 05 48 09.0 -1.1
baz=57,SNR=15
LVZ **Lovozero** 57.24 344 *d*iP P 05 48 09.2 -0.3
LVZ pmax pmax
comp=Z,73nm,1.0s
LVZ **Lovozero** 57.24 344 P P 05 48 09.3 -0.3
comp=Z,687nm,0.6s,SNR=9.6
WMQ **Urumqi** 57.28 301 P P 05 48 10.9 +0.7
WMQ pP pP 05 48 44.0 +1.0
WMQ sP sP 05 48 59.7 +1.4
WMQ PcP PcP 05 49 03.6 +0.7
WMQ PP PP 05 50 21.2 +2.7
WMQ PcS PcS 05 53 03.2 -0.8
WMQ S S 05 55 53.5 -1.7
WMQ sS sS 05 56 51.2 -0.6
WMQ ScS ScS 05 57 42.4 -3.1
WMQ SS SS 05 59 46.1 +0.2
WMQ AMB AMB
comp=Z,45nm,0.6s
WMQ AMB AMB
comp=Z,480nm,5.0s
WMQ LR LR
comp=Z,2μm,22.4s
WMQ LR LR
comp=Z,800nm,21.6s
WMQ LR LR
comp=Z,400nm,20.0s
T31A **Randall Ranch,** 57.42 70 ⇓P P 05 48 10.2 -1.1
baz=57,SNR=34
224A **Cornudas Mount** 57.43 78 ⇑P P 05 48 11.4 -0.2
baz=57,SNR=57
224A ⇓ScP ScP 05 52 49.2 -1.0
baz=57
Z26A **Caprock** 57.52 76 ⇓P P 05 48 11.6 -0.6
baz=57,SNR=14
Z26A ScP ScP 05 52 50.2 -0.3
baz=57
125A **Gardner Draw,** 57.54 77 ⇓P P 05 48 12.0 -0.3

baz=57,SNR=42
125A ⇓ScP **ScP** **05 52 49.3 -1.4**
baz=57
Y27A **Causey** **57.58 75** ⇓P **P** **05 48 12.2 -0.4**
baz=57,SNR=44
W29A **Amraillo** **57.62 73** ⇑P **P** **05 48 12.0 -0.8**
baz=57
TRO **Tromso** **57.63 351** *e*P **P** **05 48 13.2 +1.0**
TRO *ep*P **pP** **05 48 49.3 +4.3**
X28A **Dimmitt** **57.72 74** ⇑P **P** **05 48 12.7 -0.8**
baz=58,SNR=11
V30A **Spur Ranch, Mi** **57.75 72** ⇑P **P** **05 48 12.3 -1.3**
baz=58
APA **Apatity** **57.75 345** ⇓*i*P **P** **05 48 13.8 +0.8**
APA *i* *PP **pP** **05 48 49.0 +3.1**
APA *i* S S 05 55 54.0 -6.5
APA pmax pmax
comp=Z,97nm,1.4s
APA MLR MLR
comp=Z,800nm,17.0s
MSTX **Muleshoe** **57.76 75** *e*P **P** **05 48 12.8 -1.0**
MSTX **Muleshoe** **57.76 75** ⇑P **P** **05 48 13.0 -0.8**
baz=58,SNR=31
SCIA **State Center** **57.76 62** *e*P **P** **05 48 13.1 -0.5**
comp=Z,309nm,1.0s
MNTX **Cornudas Mount** **57.78 79** *e*P **P** **05 48 13.6 -0.3**
comp=Z,58nm,1.0s
KSU1 **Kansas State U** **57.80 66** *e*P **P** **05 48 12.5 -1.4**
comp=Z,125nm,1.1s
U31A **Nine Bar Ranch** **57.82 71** ⇓P **P** **05 48 13.3 -0.8**
baz=58,SNR=12
225A **Deer Hill, Car** **57.83 78** ⇑P **P** **05 48 14.1 -0.2**
baz=58,SNR=7.7
324A **Moseley Ranch,** **57.90 79** ⇓P **P** **05 48 14.4 -0.4**
baz=58,SNR=27
324A ScP **ScP** **05 52 51.0 -1.3**
baz=58
126A **Clayton Basin,** **57.93 77** ⇑P **P** **05 48 14.2 -0.8**
baz=58,SNR=12
Z27A **Tatum** **57.95 76** ⇓P **P** **05 48 14.4 -0.7**
baz=58,SNR=22
Z27A ScP **ScP** **05 52 51.3 -1.2**
baz=58
MK31 **Makanchi Array** **58.02 306** *i* P **P** **05 48 14.4 -0.9**
MK31 pmax pmax
comp=Z,22nm,0.6s
MK31 **Makanchi Array** **58.02 306** *e*P **P** **05 48 14.6 -0.7**
MKAR **Makanchi Array** **58.02 306** P **P** **05 48 14.7 -0.7**
MKAR S **S** **05 56 09.4 +4.7**
MKAR pmax pmax
comp=Z,11nm,0.5s
MKAR smax smax
comp=N,1.0nm,0.9s
MKAR MLR MLR
comp=Z,243nm,18.5s
MKAR **Makanchi Array** **58.02 306** *e*P **P** **05 48 14.7 -0.7**
MKAR ScP **ScP** **05 52 52.8 +0.3**
MKAR S **S** **05 56 09.4 +4.7**
MKAR **Makanchi Array** **58.02 306** P **P** **05 48 14.7 -0.7**
comp=Z,11nm,0.5s,baz=47,slow=6.2,SNR=138
MKAR ScP **ScP** **05 52 52.8 +0.3**
comp=Z,3.0nm,1.0s,baz=45,slow=5.1,SNR=4.3
MKAR S **S** **05 56 09.4 +4.7**
comp=Z,1.2nm,0.9s,baz=49,slow=18,SNR=4.5
MKAR LR LR 06 15 25.8
comp=Z,243nm,18.5s,baz=223,slow=38
GDL2 **Guadalupe Moun** **58.04 77** P **P** **05 48 15.3 -0.5**
X29A **Tulia** **58.06 74** ⇓P **P** **05 48 14.9 -1.0**
baz=58
Y28A **McKinney Farm,** **58.11 75** ⇑P **P** **05 48 15.2 -1.0**
baz=58,SNR=24
Y28A ScP **ScP** **05 52 52.7 -0.4**
baz=58
W30A **Crocket Farms** **58.21 72** ⇑P **P** **05 48 16.4 -0.5**
baz=58,SNR=5.1
V31A **Spring Creek L** **58.23 71** ⇑P **P** **05 48 16.5 -0.5**
baz=58,SNR=13
226B **Tecolote Peak,** **58.24 77** ⇑P **P** **05 48 16.7 -0.5**
baz=58,SNR=43
325A **Bean Ranch, Si** **58.26 79** ⇓P **P** **05 48 16.9 -0.5**
baz=58,SNR=41
GYA **Guiyang** **58.28 273** ⇑*i*P **P** **05 48 17.4 -0.1**
GYA pP **pP** **05 48 52.6 +2.2**
GYA sP **sP** **05 49 08.7 +3.0**
GYA PP **PP** **05 50 31.2 +3.4**
GYA ScP **ScP** **05 52 53.9 -0.1**
GYA PcS **PcS** **05 53 08.0 -1.1**
GYA S **S** **05 56 07.8 -1.0**
GYA sS **sS** **05 57 06.4 +0.8**
GYA ScS **ScS** **05 57 51.0 -2.5**
GYA AMB AMB
comp=Z,30nm,1.0s
GYA AMB AMB
comp=Z,150nm,5.0s
GYA LR LR
comp=Z,3μm,18.7s
GYA LR LR
comp=Z,2μm,19.5s
GYA LR LR
comp=Z,3μm,18.8s
127A **Arkansas Junct** **58.31 76** ⇓P **P** **05 48 16.5 -1.2**
baz=58,SNR=9.4
Z28A **Tucker Farm, M** **58.46 75** ⇑P **P** **05 48 17.7 -1.0**
baz=58,SNR=21
Y29A **Porterfield Fa** **58.49 74** ⇑P **P** **05 48 18.5 -0.4**
baz=58,SNR=47
X30A **Coker Ranch, T** **58.55 73** ⇓P **P** **05 48 18.5 -0.7**
baz=58,SNR=30
W31A **Holland Ranch,** **58.58 72** ⇓P **P** **05 48 18.8 -0.6**
baz=58,SNR=10
425A **Indio Mountain** **58.66 79** ⇑P **P** **05 48 20.0 -0.1**
baz=58,SNR=62
425A ⇓ScP **ScP** **05 52 54.2 -1.5**
baz=58
JFWS **Jewell Farm** **58.67 59** *e*P **P** **05 48 18.4 -1.4**
JFWS pmax pmax
comp=Z,163nm,1.0s
JFWS **Jewell Farm** **58.67 59** *e*P **P** **05 48 18.4 -1.4**
comp=Z,163nm,1.0s
227A **Bennet, Jal** **58.82 77** ⇓P **P** **05 48 20.1 -1.0**
baz=59,SNR=9.4
128A **Castleberry Fa** **58.87 76** ⇑P **P** **05 48 20.8 -0.7**
baz=59,SNR=38
Z29A **Hungry Hill Ra** **58.89 75** ⇓P **P** **05 48 21.1 -0.5**
baz=59,SNR=39
Z29A ⇑ScP **ScP** **05 52 56.5 0.0**
baz=59
326A **Caldwell Ranch** **58.89 78** ⇓P **P** **05 48 21.2 -0.5**
baz=59,SNR=53
326A ⇑ScP **ScP** **05 52 56.2 -0.4**
baz=59
Y30A **Stafford Cattl** **58.94 74** ⇓P **P** **05 48 21.3 -0.6**
baz=59,SNR=32
X31A **McDonald Ranch** **58.95 72** ⇑P **P** **05 48 21.1 -0.8**
baz=59,SNR=28
X31A ⇓ScP **ScP** **05 52 55.8 -0.9**
baz=59
SOKR **Solikamsk** **59.01 330** *e*P **P** **05 48 23.9 +2.0**
SOKR *PP **pP** **05 48 57.7 +2.9**
SOKR 05 50 32.5
SOKR S **S** **05 56 21.2 +4.3**
SOKR pmax pmax
comp=Z,50nm,1.1s
SOKR MLR MLR
comp=Z,380nm,21.0s
VOSK **Vostochnaya** **59.02 317** P **P** **05 48 21.4 -0.7**
VOSK pmax pmax
comp=Z,105nm,2.1s
VOSK **Vostochnaya** **59.02 317** *e*P **P** **05 48 21.9 -0.3**
BVAR **Borovoye Array** **59.05 318** P **P** **05 48 21.7 -0.6**
BVAR S **S** **05 56 21.5 +3.8**
BVAR pmax pmax
comp=Z,31nm,0.5s
BVAR smax smax
comp=N,8.0nm,1.1s
BVAR **Borovoye Array** **59.05 318** P **P** **05 48 21.7 -0.6**
BVAR ScP **ScP** **05 52 55.8 -1.0**
BVAR S **S** **05 56 21.5 +3.8**
BVAR **Borovoye Array** **59.05 318** P **P** **05 48 21.7 -0.6**
comp=N,30nm,0.5s,baz=56,slow=7.4,SNR=89
BVAR ScP **ScP** **05 52 55.8 -1.0**
comp=N,7.5nm,0.9s,baz=69,slow=4.9,SNR=5.0
BVAR S **S** **05 56 21.5 +3.8**
comp=N,8.0nm,1.1s,baz=37,slow=9.8,SNR=7.7
BRVK **Borovoye** **59.06 318** *d* *i*P **P** **05 48 23.0 +0.6**
BRVK pmax pmax
comp=Z,30nm,0.6s
BRVK **Borovoye** **59.06 318** *e*P **P** **05 48 23.5 +1.0**
SNR=12
BRVK **Borovoye** **59.06 318** *e*P **P** **05 48 22.7 +0.3**
comp=Z,356nm,2.0s
327A **Balmorhea Ranc** **59.15 78** ⇑P **P** **05 48 23.0 -0.5**
baz=59
228A **UT Block 9, Go** **59.16 76** ⇑P **P** **05 48 22.6 -0.9**
baz=59,SNR=14
Z30A **Sanderson Ranc** **59.21 74** ⇓P **P** **05 48 22.9 -0.9**
baz=59,SNR=34
129A **Stewart Farms,** **59.23 75** ⇑P **P** **05 48 22.7 -1.3**
baz=59,SNR=18
Y31A **Rekieta Farm,** **59.25 73** ⇑P **P** **05 48 22.8 -1.2**
baz=59,SNR=12
426A **McDonald Obser** **59.32 78** ⇓P **P** **05 48 23.9 -0.9**
baz=59,SNR=44
LOF **Lofoten** **59.54 353** *e*P **P** **05 48 25.9 +0.5**
328A **Wristen Ranch,** **59.55 77** ⇑P **P** **05 48 25.3 -0.8**
baz=59,SNR=42
427A **Hayter Ranch,** **59.57 78** ⇑P **P** **05 48 25.6 -0.7**
baz=59,SNR=26
WMOK **Wichita Mounta** **59.58 72** *e*P **P** **05 48 25.6 -0.7**
WMOK pmax pmax
comp=Z,90nm,1.3s
WMOK **Wichita Mounta** **59.58 72** *e*P **P** **05 48 25.6 -0.7**
comp=Z,90nm,1.3s
STEI **Steiger,** **59.61 353** *e*P **P** **05 48 26.7 +0.8**
Y32A **R-V Farms, Ver** **59.71 73** ⇓P **P** **05 48 26.3 -0.8**
baz=60,SNR=64
526A **Mary Lane Ranc** **59.72 79** ⇓P **P** **05 48 27.2 -0.2**
baz=60,SNR=59
526A ⇑ScP **ScP** **05 52 59.0 -1.4**
baz=60
229A **Bryant Ranch,** **59.74 76** ⇓P **P** **05 48 26.4 -1.0**
baz=60,SNR=7.3
Z31A **Sharp Cattle R** **59.77 74** ⇑P **P** **05 48 27.0 -0.7**
baz=60,SNR=46
130A **Snyder** **59.80 75** ⇓P **P** **05 48 27.0 -0.8**
baz=60,SNR=29
SVE **Sverdlovsk** **59.91 326** *e*P **P** **05 48 30.1 +2.0**
SVE *eS* **S** **05 56 30.1 +1.5**
SVE pmax pmax
comp=Z,44nm,0.9s
527A **Woodward Ranch** **59.95 79** ⇑P **P** **05 48 28.1 -0.9**
baz=60,SNR=30
329A **Wagon Wheel Ra** **59.98 76** ⇓P **P** **05 48 28.5 -0.6**
baz=60,SNR=25
TMCR **Tamitsa** **59.98 341** *e*P **P** **05 48 27.9 -0.5**
TMCR pmax pmax
comp=Z,86nm,0.4s
626A **Big Bend Ranch** **60.05 79** ⇑P **P** **05 48 29.3 -0.4**
baz=60,SNR=54
131A **Roby** **60.08 74** ⇓P **P** **05 48 29.2 -0.5**
baz=60,SNR=17
428A **Kincaid Ranch,** **60.09 77** ⇑P **P** **05 48 29.7 -0.2**
baz=60,SNR=53
428A ⇑ScP **ScP** **05 52 59.8 -2.1**
baz=60
Z32A **Haskell** **60.18 73** ⇓P **P** **05 48 29.7 -0.7**
baz=60,SNR=62
Z32A ⇑ScP **ScP** **05 53 00.0 -2.2**
baz=60
230A **Sterling City** **60.21 75** ⇑P **P** **05 48 29.9 -0.8**
baz=60,SNR=69
LPIG **La Paz** **60.22 88** LR LR 06 10 43.3
comp=Z,153nm,18.4s,baz=105,slow=32
528A **Cox Ranch, San** **60.43 78** ⇓P **P** **05 48 32.0 -0.2**
baz=60,SNR=7.9
TUL1 **Tulsa** **60.49 69** *e*P **P** **05 48 31.3 -1.1**
TUL1 **Tulsa** **60.49 69** ⇓P **P** **05 48 31.3 -1.1**
baz=60,SNR=20
TXAR **Lajitas Array** **60.49 79** P **P** **05 48 32.3 -0.4**
TXAR pP **pP** **05 49 04.2 -1.6**
TXAR ScP **ScP** **05 53 03.2 -0.5**
TXAR **Lajitas Array** **60.49 79** P **P** **05 48 32.3 -0.4**
comp=Z,28nm,0.8s,baz=297,slow=4.8,SNR=192
TXAR pP **pP** **05 49 04.2 -1.6**
comp=Z,10.0nm,0.8s,baz=298,slow=2.7,SNR=2.6
TXAR ScP **ScP** **05 53 03.2 -0.5**
comp=Z,3.1nm,0.9s,baz=284,slow=3.6,SNR=4.1
330A **Mertzon** **60.52 76** ⇓P **P** **05 48 31.4 -1.4**
baz=60,SNR=24
ABTX **Abilene, Hawle** **60.56 74** *e*P **P** **05 48 32.4 -0.6**
ABTX **Abilene, Hawle** **60.56 74** ⇑P **P** **05 48 32.5 -0.5**
baz=60,SNR=56
ABTX ⇑ScP **ScP** **05 53 03.4 -0.5**
baz=60
627A **Terlingua Ranc** **60.58 79** ⇑P **P** **05 48 32.9 -0.3**
baz=60,SNR=56
627A ScP **ScP** **05 53 02.9 -1.2**
baz=60
429A **Davenport Ranc** **60.64 77** ⇑P **P** **05 48 32.5 -1.1**
baz=60,SNR=28
231A **Bronte** **60.65 75** ⇑P **P** **05 48 32.4 -1.2**
baz=60,SNR=20
SCHQ **Schefferville** **60.66 37** *e*P **P** **05 48 32.9 -0.4**
comp=Z,208nm,1.2s
SCHQ *ep*P **pP** **05 49 05.1 -1.3**
SCHQ **Schefferville** **60.66 37** P **P** **05 48 32.9 -0.4**
comp=Z,103nm,0.9s,baz=341,slow=6.8,SNR=65
SCHQ LR LR 06 17 08.1
comp=Z,712nm,18.0s,baz=109,slow=38
529A **Stev Forest Ra** **60.80 78** ⇑P **P** **05 48 33.9 -0.8**
baz=61,SNR=32
628A **Black Gap, Mar** **60.86 79** ⇑P **P** **05 48 34.6 -0.5**
baz=61,SNR=52
430A **Baggett Ranch,** **60.92 76** ⇓P **P** **05 48 34.5 -1.0**
baz=61,SNR=53
ARU **Arti** **60.93 326** *c* *i*P **P** **05 48 36.5 +1.5**
ARU *PP **pP** **05 49 11.6 +3.4**
ARU *e* 05 49 18.9
ARU 05 50 51.2
ARU S **S** **05 56 45.6 +3.9**
ARU 05 58 09.5
ARU SS **SS** **06 00 48.1 +5.7**
ARU SSS SSS 06 03 18.2
ARU pmax pmax
comp=Z,65nm,0.6s
ARU **Arti** **60.93 326** P **P** **05 48 36.6 +1.5**
comp=Z,753nm,0.6s,SNR=11
HPIG **61.01 83** P **P** **05 48 35.7 -0.6**
331A **San Angelo** **61.03 75** ⇓P **P** **05 48 34.9 -1.3**
baz=61,SNR=32
331A ⇑ScP **ScP** **05 53 04.7 -1.3**
baz=61
232A **Coleman** **61.08 74** ⇓P **P** **05 48 35.6 -1.0**
baz=61,SNR=53
232A ⇓ScP **ScP** **05 53 05.9 -0.4**
baz=61
530A **J-C Ranch, Com** **61.32 77** ⇑P **P** **05 48 37.4 -0.8**
baz=61,SNR=97
STOK **Stokkvaagen** **61.36 353** *e*P **P** **05 48 39.1 +1.3**
STOK *ep*P **pP** **05 49 14.5 +3.6**
431A **Sonora** **61.37 76** ⇑P **P** **05 48 37.5 -1.1**
baz=61,SNR=45
332A **Millersview** **61.39 75** ⇓P **P** **05 48 37.8 -0.8**
baz=61,SNR=72
332A ScP **ScP** **05 53 06.3 -1.3**
baz=61
KMI **Kunming** **61.67 275** P **P** **05 48 41.0 +0.2**
KMI pP **pP** **05 49 12.9 -1.1**
KMI PcP **PcP** **05 49 21.4 +0.5**
KMI sP **sP** **05 49 27.2 -2.0**
KMI PP **PP** **05 51 01.7 +3.8**
KMI S **S** **05 56 51.8 -0.5**
KMI sS **sS** **05 57 46.4 -3.3**
KMI SS **SS** **06 00 54.8 -1.0**
KMI AMB AMB
comp=Z,26nm,1.4s
KMI AMB AMB
comp=Z,220nm,3.9s
KMI LR LR
comp=Z,520nm,15.6s
KMI LR LR
comp=Z,460nm,19.8s
KMI LR LR
comp=Z,520nm,24.8s
SLM **Saint Louis** **61.68 63** *e*P **P** **05 48 39.1 -1.3**
SLM pmax pmax
comp=Z,390nm,2.3s
SLM **Saint Louis** **61.68 63** *e*P **P** **05 48 39.1 -1.3**
comp=Z,390nm,2.3s
432A **Menard** **61.72 75** ⇑P **P** **05 48 39.8 -1.1**
baz=62,SNR=31
432A ⇑ScP **ScP** **05 53 07.4 -1.7**
baz=62
QIZ **Qiongzhong** **61.82 265** P **P** **05 48 41.9 +0.3**
QIZ pP **pP** **05 49 15.2 +0.4**
QIZ sP **sP** **05 49 29.2 -0.8**
QIZ S **S** **05 56 53.7 -0.2**
QIZ ScS **SKKSac** **05 58 19.4 -0.4**
QIZ AMB AMB
comp=Z,59nm,1.6s
QIZ LR LR
comp=Z,550nm,5.0s
DAV **Davao City (W)** **61.98 243** P **P** **05 48 44.1 +1.4**
SNR=5.1
JCT **Junction City** **62.00 76** *e*P **P** **05 48 41.7 -1.0**
JCT pmax pmax
comp=Z,100nm,1.2s
JCT **Junction City** **62.00 76** *e*P **P** **05 48 41.7 -1.0**
comp=Z,100nm,1.2s
JCT **Junction City** **62.00 76** ⇑P **P** **05 48 41.4 -1.3**
baz=62,SNR=35
JCT ⇓ScP **ScP** **05 53 09.8 -0.5**
baz=62
SFIN **Scholer Farm** **62.13 59** *e*P **P** **05 48 42.6 -0.8**
SFIN **Scholer Farm** **62.13 59** ⇑P **P** **05 48 42.2 -1.1**
baz=62,SNR=14
532A **Rocksprings** **62.19 76** ⇑P **P** **05 48 42.3 -1.7**
baz=62,SNR=35
532A ⇓ScP **ScP** **05 53 08.9 -2.3**
baz=62
631A **Perdido Creek** **62.30 77** ⇑P **P** **05 48 43.1 -1.6**
baz=62,SNR=37
WHTX **Lake Whitney** **62.31 73** *e*P **P** **05 48 44.0 -0.7**
WHTX **Lake Whitney** **62.31 73** ⇑P **P** **05 48 44.2 -0.5**
baz=62,SNR=18
JOF **Joensuu** **62.38 344** *e*P **P** **05 48 43.7 -0.9**
JOF pmax pmax
comp=Z,50nm,0.5s
JOF **Joensuu** **62.38 344** *ep* **P** **05 48 43.7 -0.9**
comp=Z,50nm,0.5s
BORG **Borgarnes** **62.55 9** LR LR 06 15 22.7
comp=Z,408nm,18.6s,baz=305,slow=35
KLMR **Klimovskoe** **62.61 339** *c* *i*P **P** **05 48 46.0 -0.2**
KLMR *e* 05 49 20.0
KLMR pmax pmax
comp=Z,107nm,1.2s
632A **Uvalde** **62.71 76** ⇑P **P** **05 48 46.4 -1.0**
baz=62,SNR=22
632A ⇑ScP **ScP** **05 53 12.0 -1.4**
baz=62
OLIL **Olney** **62.77 61** *e*P **P** **05 48 46.7 -1.0**
comp=Z,114nm,0.9s
SIUC **Southern Illin** **62.90 63** *e*P **P** **05 48 47.1 -1.4**
comp=Z,101nm,1.4s
732A **Laxson Ranch,** **63.16 77** ⇑P **P** **05 48 49.7 -0.7**
baz=63,SNR=66
HNR **Honiara** **63.21 200** LR LR 06 12 28.2
comp=Z,318nm,18.4s,baz=14,slow=32
MAIG **Mazatlaan** **63.29 86** P **P** **05 48 50.1 -1.1**
PARMO **Parma** **63.36 64** *e*P **P** **05 48 50.7 -0.8**
GNAR **Gosnell** **63.72 65** *e*P **P** **05 48 53.4 -0.5**
comp=Z,2μm,1.5s
GLAT **Glass** **63.90 64** *e*P **P** **05 48 54.8 -0.4**
KAF **Kangasniemi** **63.96 346** *e*P **P** **05 48 53.8 -1.2**
KAF pmax pmax
comp=Z,26nm,0.6s
KAF **Kangasniemi** **63.96 346** *ep* **P** **05 48 53.8 -1.2**
comp=Z,26nm,0.6s
WCI **Wyandotte Cave** **64.11 61** *e*P **P** **05 48 55.2 -1.3**
WCI pmax pmax
comp=Z,102nm,1.3s
WCI **Wyandotte Cave** **64.11 61** *e*P **P** **05 48 55.2 -1.3**
comp=Z,102nm,1.3s
NATX **Nacogdoches** **64.11 71** *e*P **P** **05 48 56.1 -0.4**
comp=Z,328nm,1.8s
TKM2 **Tokmak 2** **64.11 307** *i*P **P** **05 48 57.1 +0.4**
TKM2 **Tokmak 2** **64.11 307** P **P** **05 48 57.1 +0.4**
SNR=19
TKM2 **Tokmak 2** **64.11 307** *e*P **P** **05 48 57.0 +0.4**
HALT **Halls** **64.14 64** *e*P **P** **05 48 55.8 -0.9**
ULHL **Ulahol** **64.30 306** *i*P **P** **05 48 58.5 +0.6**
ULHL **Ulahol** **64.30 306** P **P** **05 48 58.5 +0.6**
SNR=20
ACSO **Alum Creek Sta** **64.39 57** *e*P **P** **05 48 57.4 -0.9**
comp=Z,152nm,1.3s
USP **Ospenovka** **64.39 308** *i*P **P** **05 48 59.0 +0.7**
USP **Ospenovka** **64.39 308** P **P** **05 48 59.0 +0.7**
SNR=24
ERPA **Erie** **64.52 54** *e*P **P** **05 48 58.4 -0.7**
comp=Z,280nm,1.3s
FINES **FINESS Array B** **64.63 346** P **P** **05 48 58.7 -0.7**
FINES ⇑*e* 06 17 45.1
FINES **FINESS Array B** **64.63 346** P **P** **05 48 58.7 -0.7**
comp=Z,18nm,0.6s,baz=21,slow=6.5,SNR=37
FINES PKP2bc 06 17 45.1
comp=Z,3.9nm,0.9s,baz=162,slow=1.2,SNR=3.7
FINES LR LR 06 21 43.8
comp=Z,602nm,18.1s,baz=177,slow=40
KBK **Karagaybulak** **64.63 307** *i*P **P** **05 49 00.8 +0.8**
KBK **Karagaybulak** **64.63 307** P **P** **05 49 00.8 +0.8**
SNR=10.0
FRU **Bishkek** **64.66 308** *i*P **P** **05 49 00.0 0.0**
FRU *i* 05 49 32.0
FRU *i* 05 49 50.0
FRU *e* 05 57 27.0
FRU pmax pmax
comp=Z,90nm,2.0s
HKT **Hockley** **64.74 73** *e*P **P** **05 49 00.5 -0.1**
HKT pmax pmax
comp=Z,231nm,1.9s
HKT **Hockley** **64.74 73** *e*P **P** **05 49 00.5 -0.1**
comp=Z,230nm,1.9s
ALLY **Alegheny Colle** **64.79 54** *e*P **P** **05 49 00.3 -0.5**
comp=Z,322nm,1.2s
WVT **Waverly** **64.81 63** *e*P **P** **05 48 59.8 -1.2**
WVT pmax pmax
comp=Z,97nm,1.3s
WVT **Waverly** **64.81 63** *e*P **P** **05 48 59.8 -1.2**
comp=Z,97nm,1.3s
AAK **Ala-Archa** **64.87 308** *e*P **P** **05 49 01.7 +0.1**
AAK pmax pmax
comp=Z,38nm,1.2s
AAK **Ala-Archa** **64.87 308** P **P** **05 49 02.4 +0.9**
SNR=10
AAK **Ala-Archa** **64.87 308** P **P** **05 49 02.2 +0.7**
SNR=25
AAK **Ala-Archa** **64.87 308** *e*P **P** **05 49 01.7 +0.1**
comp=Z,38nm,1.2s
AAK **Ala-Archa** **64.87 308** P **P** **05 49 02.0 +0.4**
comp=Z,16nm,0.5s,baz=114,slow=4.9,SNR=48
KZA **Kyzart** **64.91 307** *i*P **P** **05 49 02.9 +0.8**
KZA **Kyzart** **64.91 307** P **P** **05 49 02.9 +0.8**
SNR=18
OXF **Oxford** **65.12 65** *e*P **P** **05 49 01.8 -1.2**
OXF pmax pmax
comp=Z,295nm,1.3s
OXF **Oxford** **65.12 65** *e*P **P** **05 49 01.8 -1.2**
comp=Z,295nm,1.3s
EKS2 **Erkin-Say** **65.20 308** *e*P **P** **05 49 04.3 +0.7**
EKS2 pmax pmax
comp=Z,23nm,0.9s
EKS2 **Erkin-Say** **65.20 308** P **P** **05 49 04.5 +0.9**
SNR=29
EKS2 **Erkin-Say** **65.20 308** *e*P **P** **05 49 04.3 +0.7**
comp=Z,23nm,0.9s
LONY **Lake Ozonia** **65.23 49** *e*P **P** **05 49 01.7 -1.9**
comp=Z,141nm,1.7s
LSA **Lhasa** **65.33 287** P **P** **05 49 06.5 +1.4**
FRNY **Flat Rock** **65.53 48** *e*P **P** **05 49 03.0 -2.5**
comp=Z,56nm,1.4s
AML **Almayashu** **65.64 308** *i*P **P** **05 49 07.6 +0.8**
AML **Almayashu** **65.64 308** P **P** **05 49 07.6 +0.8**
SNR=23
NCB **Newcomb** **65.89 49** *e*P **P** **05 49 06.6 -1.3**
comp=Z,302nm,1.9s
ZAIG **Zacatecas** **65.97 83** P **P** **05 49 09.1 +0.1**
ANIG **Ahuacatlan** **66.05 86** P **P** **05 49 09.7 +0.3**
AB31 **Akbulak array** **66.15 321** P **P** **05 49 09.4 0.0**
AB31 pmax pmax
comp=Z,160nm,1.5s
ABKAR **Akbulak array** **66.15 321** *e*P **P** **05 49 09.9 +0.5**
VBMS **Vicksburg** **66.17 68** *e*P **P** **05 49 08.8 -1.1**
comp=Z,23nm,0.5s
LNIG **Linares** **66.28 80** P **P** **05 49 09.0 -1.6**
MDV **Middlebury** **66.36 48** *e*P **P** **05 49 09.0 -1.8**
BINY **Binghamton** **66.41 51** *e*P **P** **05 49 10.3 -1.0**
comp=Z,278nm,1.4s
KK31 **Karatay Array** **66.42 310** *i*P **P** **05 49 10.7 -0.6**
KK31 pmax pmax

comp=Z,14nm,0.5s
KKAR Karatay Array 66.42 310 *e*P **P** **05 49 11.5 +0.2**
KKAR Karatay Array 66.42 310 *e*P **P** **05 49 11.5 +0.2**
MCWV Mont Chateau 66.43 55 *e*P **P** **05 49 10.4 -0.9**
comp=Z,143nm,1.5s
KSH Kashi 66.47 304 ⇓P P 05 49 16.1 +4.3
KSH pP pP 05 49 48.3 +2.8
KSH sP sP 05 50 04.3 +3.7
KSH PP PP 05 51 46.8 +7.4
KSH S **S** **05 57 52.9 +1.9**
KSH sS **SKSac** **06 58 53.1 -1.8**
KSH SS **SS** **06 02 16.4 +6.9**
KSH AMB AMB
comp=Z,28nm,0.6s
KSH LR LR
comp=Z,250nm,9.8s
KSH LR LR
comp=Z,400nm,9.6s
KSH LR LR
comp=Z,310nm,8.4s
SWET Sewanee 66.53 63 *e*P **P** **05 49 10.7 -1.4**
comp=Z,205nm,1.7s
PQI Presque Isle 66.55 43 *e*P **P** **05 49 10.3 -1.7**
comp=Z,44nm,0.8s
SSPA Standing Stone 66.67 53 *e*P **P** **05 49 11.9 -1.0**
comp=Z,382nm,1.7s
NB2 NORSAR Subarra 66.73 353 P **P** **05 49 12.5 -0.4**
comp=Z,21nm,0.8s,baz=9.3,slow=6.5
NB2 NORSAR Subarra 66.73 353 P **P** **05 49 12.5 -0.4**
baz=9.3,slow=6.5
NOA NORSAR Array B 66.73 353 P **P** **05 49 12.6 -0.4**
NOA pP **pP** **05 49 44.8 -1.9**
NOA NORSAR Array B 66.73 353 P **P** **05 49 12.6 -0.4**
comp=Z,11nm,0.7s,baz=10,slow=6.4,SNR=28
NOA pP **pP** **05 49 44.8 -1.9**
comp=Z,29nm,0.9s,baz=8.9,slow=6.4,SNR=6.5
NOA LR LR 06 22 43.0
comp=Z,201nm,18.2s,baz=25,slow=40
PMG Port Moresby 66.73 213 P **P** **05 49 13.3 -0.2**
comp=Z,70nm,1.5s,comp=Z,2μm
PMG Port Moresby 66.73 213 *e*P **P** **05 49 14.1 +0.6**
comp=Z,96nm,1.2s
PMG Port Moresby 66.73 213 P **P** **05 49 13.0 -0.4**
comp=Z,48nm,1.0s,baz=32,slow=5.6,SNR=9.7
PMG LR LR 06 16 58.6
comp=Z,561nm,18.0s,baz=224,slow=34
LBNH Lisbon 66.74 47 *e*P **P** **05 49 11.8 -1.5**
LBNH pmax pmax
comp=Z,96nm,1.4s
LBNH Lisbon 66.74 47 *e*P **P** **05 49 11.8 -1.5**
comp=Z,96nm,1.4s
TZTN Tazewell 66.83 60 *e*P **P** **05 49 13.3 -0.7**
comp=Z,170nm,1.4s
HYA Hoyanger 66.91 356 *e*P **P** **05 49 16.6 +2.6**
HYA *e*pP **pP** **05 49 50.2 +2.4**
HNH Hanover 66.99 48 *e*P **P** **05 49 14.2 -0.6**
NC602 NORSAR Array S 67.01 353 *e*P **P** **05 49 14.5 -0.2**
TRY Troy 67.11 49 *e*P **P** **05 49 14.4 -1.2**
PKME Peaks-Kenny Pk 67.11 45 *e*P **P** **05 49 14.7 -0.9**
comp=Z,144nm,1.5s
CPCT Cooper Cave 67.12 61 *e*P **P** **05 49 14.7 -1.2**
TKL Tuckaleechee C 67.37 61 *e*P **P** **05 49 16.2 -1.2**
SFJM Santa Fe 67.38 85 P **P** **05 49 20.6 +2.7**
FFD Franklin Falls 67.46 48 *e*P **P** **05 49 16.7 -1.2**
comp=Z,218nm,1.4s
WVL Waterville 67.50 46 *e*P **P** **05 49 16.5 -1.6**
comp=Z,26nm,0.8s
MYLDM Lahad Datu 67.51 248 P **P** **05 49 20.4 +1.9**
MYLDM Lahad Datu 67.51 248 P **P** **05 49 19.2 +0.7**
comp=Z,115nm,1.6s
LRAL Lakeview Retre 67.56 65 *e*P **P** **05 49 16.4 -2.2**
comp=Z,20nm,0.8s
MOS Moscow 67.66 337 *e*P **P** **05 49 17.9 -0.9**
MOS *e* 05 49 52.4
MOS *e*S **S** **05 58 01.7 -2.6**
MOS pmax pmax
comp=Z,96nm,1.0s
MOS MLR MLR
comp=Z,1μm,20.0s
SDKM Sandakan 67.89 250 P **P** **05 49 22.0 +1.1**
MVL Millersville 67.92 53 *e*P **P** **05 49 20.0 -0.7**
comp=Z,220nm,1.6s
SHL Shillong 67.94 284⇑*i*P **P** **05 49 21.0 -0.4**
SHL *ex* x 05 49 53.0
SHL *e*S **S** **05 58 09.0 -0.1**
BLA Blacksburg 67.98 58 *e*P **P** **05 49 20.3 -0.9**
BLA pmax pmax
comp=Z,141nm,1.3s
BLA Blacksburg 67.98 58 *e*P **P** **05 49 20.3 -0.9**
comp=Z,141nm,1.3s
QUA2 Belchertown 68.07 49 *e*P **P** **05 49 20.1 -1.6**
comp=Z,180nm,1.4s
SDMD Soldier's Deli 68.13 54 *e*P **P** **05 49 21.1 -1.0**
comp=Z,63nm,0.8s
VWCC Virginia Weste 68.18 57 *e*P **P** **05 49 21.2 -1.3**
HRV Adam Dziewonsk 68.26 48 *e*P **P** **05 49 20.9 -1.9**
HRV pmax pmax
comp=Z,93nm,1.4s
HRV Adam Dziewonsk 68.26 48 *e*P **P** **05 49 20.9 -1.9**
comp=Z,93nm,1.4s
PAL Palisades 68.33 51 *e*P **P** **05 49 22.4 -0.9**
PAL Palisades 68.33 51 *e*P **P** **05 49 22.4 -0.9**
comp=Z,916nm,1.4s
EMMW East Machias 68.35 44 *e*P **P** **05 49 22.2 -1.1**
comp=Z,49nm,0.6s
WES Weston 68.46 48 *e*P **P** **05 49 22.5 -1.6**
WES pmax pmax
comp=Z,72nm,0.8s
WES Weston 68.46 48 *e*P **P** **05 49 22.5 -1.6**
comp=Z,72nm,0.8s
CPNY Central Park 68.47 51 *e*P **P** **05 49 23.4 -0.7**
comp=Z,87nm,0.9s
OBN Obninsk 68.48 337*d i*P **P** **05 49 24.3 +0.4**
OBN *e**PP **pP** **05 49 59.1 +1.3**
OBN *e* 05 50 09.1
OBN *e*SS SS 06 02 36.5 -2.8
OBN pmax pmax
comp=Z,120nm,1.7s
TSM Tawau 68.59 248 P **P** **05 49 25.9 +0.7**
CHTO Chiang Mai 68.70 273 *e*P **P** **05 49 25.7 -0.2**
CHTO pmax pmax
comp=Z,388nm,1.6s
CHTO Chiang Mai 68.70 273 P **P** **05 49 26.4 +0.4**
SNR=14
CHTO Chiang Mai 68.70 273 P **P** **05 49 25.7 -0.2**
comp=Z,196nm,1.6s,comp=Z,3μm
CHTO Chiang Mai 68.70 273 *e*P **P** **05 49 25.6 -0.2**
comp=Z,388nm,1.6s
CBN Corbin 68.78 55 *e*P **P** **05 49 25.3 -0.9**
comp=Z,52nm,0.8s
JSRW J. Sargeant Re 68.92 56 *e*P **P** **05 49 26.0 -1.0**
CMAR Chiang Mai Arr 68.97 273 P **P** **05 49 27.6 0.0**
CMAR pP **pP** **05 49 60.0 -1.6**
CMAR ⇑*e* 06 17 34.0
CMAR Chiang Mai Arr 68.97 273 P **P** **05 49 27.6 0.0**
comp=Z,12nm,0.6s,baz=23,slow=7.1,SNR=67
CMAR pP **pP** **05 49 60.0 -1.6**
comp=Z,6.6nm,0.7s,baz=15,slow=8.0,SNR=3.3
CMAR PKP2bc 06 17 34.0
comp=Z,1.6nm,0.3s,baz=242,slow=3.1,SNR=5.2
CMAR LR LR 06 22 41.5
comp=Z,166nm,18.9s,baz=40,slow=38
TAPN Taplejung 69.09 288 *e*P **P** **05 49 29.4 +0.8**
MOIG Morelia 69.13 85 P **P** **05 49 28.1 -0.7**
GOGA Godfrey 69.22 62 *e*P **P** **05 49 27.4 -1.6**
GOGA pmax pmax
comp=Z,127nm,1.7s
GOGA Godfrey 69.22 62 *e*P **P** **05 49 27.4 -1.6**
comp=Z,127nm,1.7s
MSVF Nonsavu 69.52 180 *e*P **P** **05 49 32.4 +1.6**
MSVF pmax pmax
comp=Z,143nm,1.4s
MSVF Nonsavu 69.52 180 *e*P **P** **05 49 32.4 +1.6**
comp=Z,143nm,1.4s
ODAN Odare 69.65 288 *e*P **P** **05 49 32.7 +0.7**
GUN Gumba 69.74 289 *e*P **P** **05 49 33.5 +0.8**
comp=Z,156nm,0.5s
JIRN Jiri 69.75 289 *e*P **P** **05 49 33.7 +0.9**
comp=Z,169nm,0.7s
RAMN Ramite 70.05 288 *e*P **P** **05 49 35.1 +0.7**
KKN Kakani 70.18 290 *e*P **P** **05 49 36.0 +0.8**
comp=Z,74nm,0.6s
PKI Pulchoki 70.27 290 *e*P **P** **05 49 36.4 +0.5**
comp=Z,112nm,0.6s
MVH1 Achvaich 70.34 1 *e*P pP 05 50 12.2 +2.9
GKN Gorkha 70.39 290 *e*P **P** **05 49 37.0 +0.6**
comp=Z,97nm,0.7s
DMN Daman 70.42 290 *e*P **P** **05 49 37.5 +0.8**
comp=Z,82nm,0.9s
DANN Dangsing 70.64 291 *e*P **P** **05 49 38.2 +0.1**
comp=Z,239nm,0.9s
TIGA Tifton 70.65 64 *e*P **P** **05 49 36.5 -1.2**
TIGA Tifton 70.65 64 ⇓P **P** **05 49 36.3 -1.4**
baz=70
VRHR Novokhopersk 70.79 333 *e*P **P** **05 49 37.6 -0.6**
VRHR pmax pmax
comp=Z,60nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,20nm,0.6s
MDO Dochfour 70.82 1 *e*P pP 05 50 14.5 +2.1
KPL Plockton 70.90 2 *e*P pP 05 50 15.0 +2.3
MICGM Minsk 70.91 342 *e* P **05 49 37.0 -1.8**
MNK Minsk 70.92 342 *e*P **P** **05 49 37.0 -1.9**
MNK *e* 05 50 26.0
PLIG Platanillo 71.14 84 P **P** **05 49 39.2 -1.7**
PPM Popocatepetl 71.16 83 P **P** **05 49 40.6 -1.0**
PPM Popocatepetl 71.16 83 P **P** **05 49 40.6 -1.0**
KOLN Koldanda 71.17 291 *e*P **P** **05 49 41.2 0.0**
comp=E,53nm,0.7s
VSR Storozhevoye 71.36 334 *e*P **P** **05 49 41.8 +0.2**
VSR pmax pmax
comp=Z,80nm,1.7s
VSR pmax pmax
comp=N,20nm,1.1s
VSR pmax pmax
comp=E,40nm,1.9s
DRUM Mains of Drumt 71.36 0 *e*P pP 05 50 16.9 +1.2
VORD Divnogorie 71.55 334 *e*P **P** **05 49 42.7 -0.1**
VORD pmax pmax
comp=Z,30nm,0.7s
VORD pmax pmax
comp=E,10.0nm,1.0s
EAB Aberfoyle 72.08 1⇑*e*P pP 05 50 22.8 +2.8
BTM Bintulu 72.25 252 P **P** **05 49 47.9 +0.4**
COEN Coen 72.35 216 *e*P **P** **05 49 48.2 +0.3**
comp=E,162nm,0.7s
TPIG Tehuac#an 72.43 83 P **P** **05 49 47.9 -0.8**
EBL Broad Law 72.50 1⇑*e*P pP 05 50 25.7 +3.1
PMOR Pomariorio Ree 73.06 145 *e*P **P** **05 49 53.3 +1.2**
comp=E,185nm,1.3s
PMOR Pomariorio Ree 73.06 145 *e*T T 07 09 01.8
comp=E,49nm,0.2s
ECK Cauldkaine Hil 73.10 1 *e*P pP 05 50 29.0 +2.8
SBUM Sibu 73.36 252 P **P** **05 49 55.3 +1.3**
SBUM Sibu 73.36 252 P **P** **05 49 54.1 +0.1**
comp=E,61nm,1.9s,comp=E,1μm
SBUM Sibu 73.36 252 *e*P **P** **05 49 54.8 +0.8**
SBUM *e*pP **pP** **05 50 28.0 -0.3**
VAH Vaihoa 73.37 145 *e*P **P** **05 49 55.1 +1.2**
comp=E,210nm,1.2s
PNIG Pinotepa 73.50 84 P **P** **05 49 54.5 -0.4**
KESW Keswick, Cumbr 73.69 1 *e*P pP 05 50 32.7 +3.1
KBL Kabul 73.82 306 *e*P **P** **05 49 56.3 -0.4**
KBL Kabul 73.82 306 *e*P **P** **05 49 56.3 -0.4**
VHO Vista Hermosa 73.84 83 P **P** **05 49 57.8 +0.7**
BSEG Bad Segeberg 73.85 352 *e*P **P** **05 49 56.9 +0.6**
BSEG pmax pmax
comp=Z,186nm,1.3s
BSEG Bad Segeberg 73.85 352 *e*P **P** **05 49 56.9 +0.6**
comp=Z,186nm,1.3s
BSEG *e*pP **pP** **05 50 35.0 +4.4**
GMM Mts of Mourne 74.00 2⇑*e*P pP 05 50 34.1 +2.6
AKASG Malin Array Be 74.23 340 P **P** **05 49 58.3 -0.3**
AKASG *e*PP **pP** **05 50 31.8 -1.1**
AKASG pmax pmax
comp=Z,36nm,0.6s
AKASG Malin Array Be 74.23 340 P **P** **05 49 58.2 -0.3**
AKASG pP **pP** **05 50 31.8 -1.1**
AKASG Malin Array Be 74.23 340 P **P** **05 49 58.2 -0.3**
comp=Z,35nm,0.6s,baz=22,slow=6.4,SNR=88
AKASG pP **pP** **05 50 31.8 -1.1**
comp=Z,11nm,0.5s,baz=20,slow=5.7,SNR=2.8
AKASG LR LR 06 28 38.2
comp=Z,432nm,18.1s,baz=25,slow=40
KIEV Kiev 74.24 340 *e*P **P** **05 49 58.4 -0.2**
KIEV pmax pmax
comp=Z,47nm,0.9s
KIEV Kiev 74.24 340 *e*P **P** **05 49 58.4 -0.2**
comp=Z,47nm,0.9s
DZM Mont Dzumac 74.53 191 *e*P **P** **05 50 01.5 +0.9**
comp=Z,218nm,1.4s
DZM *e*S **S** **05 59 21.0 -3.3**
comp=Z,1μm,26.1s
DZM Mont Dzumac 74.53 191 *e*LR LR 06 12 57.6
comp=Z,2μm,33.5s
DZM Mont Dzumac 74.53 191 *e*P **P** **05 50 02.1 +1.5**
comp=Z,121nm,1.4s
DZM Mont Dzumac 74.53 191 P **P** **05 50 01.0 +0.4**
comp=Z,56nm,1.1s,baz=62,slow=9.1,SNR=11
WME Myndd Eilian 74.87 1 *e*P pP 05 50 38.8 +2.2
PPT2 Papeete2 74.90 148 *e*S **S** **05 59 26.6 -2.0**
comp=Z,787nm,25.8s
PPT2 Papeete2 74.90 148 *e*LQ LQ 06 10 11.8
comp=Z,460nm,24.8s
PPT2 *e*LR LR 06 12 52.7
comp=Z,381nm,28.8s
PPT2 Papeete2 74.90 148 *e*T T 07 11 14.3
comp=Z,8.3nm,0.3s
TIAR Tiarei 74.95 148 *e*T T 07 11 27.4
comp=Z,15nm,0.3s
PAE Paea 74.97 148 *e*T T 07 11 18.9
comp=Z,2.4nm,0.3s
KBI1 Birley Grange 75.03 360⇑*e*P pP 05 50 40.5 +3.0
KAPI Kappang 75.22 241 *e*P **P** **05 50 04.3 -0.4**
comp=Z,104nm,1.4s
KAPI Kappang 75.22 241 P **P** **05 50 04.3 -0.4**
comp=Z,21nm,0.6s,baz=45,slow=3.8,SNR=6.8
HUIG Huatulco 75.22 83 P **P** **05 50 02.4 -2.4**
KSM Kuching 75.27 253 P **P** **05 50 05.8 +0.7**
KSM Kuching 75.27 253 P **P** **05 50 04.1 -1.0**
comp=Z,60nm,1.7s,comp=Z,999nm
KSM Kuching 75.27 253 *e*P **P** **05 50 05.5 +0.5**
comp=Z,198nm,1.8s
NRDL Niedersach Rie 75.30 352 *e*P **P** **05 50 04.7 +0.1**
comp=Z,95nm,1.2s
NRDL *e*pP **pP** **05 50 43.0 +4.0**
FOEL Foel Wylfa 75.39 1 *e*P **pP** **05 50 41.6 +1.9**
FOEL AMB AMB 05 50 43.6
comp=Z,117nm,1.1s
IBBN Ibbenburen 75.66 354 *e*pP pP 05 50 45.6 +4.4
GOF Gofitskoye 75.75 329 *e*P **P** **05 50 08.8 +1.4**
GOF *i* 05 50 44.9
GOF *e*S **S** **05 59 40.1 +2.6**
GOF pmax pmax
comp=Z,90nm,0.8s
HLM1 Long Mynd 75.77 1 *e*P **pP** **05 50 43.7 +1.9**
HLM1 AMB AMB 05 50 51.1
comp=Z,106nm,4.2s
CLZ Clausthal 75.92 352 *e*P **P** **05 50 09.1 +0.8**
CLZ *e**PP **pP** **05 50 47.0 +4.2**
CLZ pmax pmax
comp=Z,176nm,1.3s
CLZ Clausthal 75.92 352 *e*P **P** **05 50 09.1 +0.8**
comp=Z,176nm,1.3s
CLZ *e*pP **pP** **05 50 47.0 +4.2**
WTSB Winterswijk 76.06 354 *e*P pP 05 50 44.5 +1.0
comp=Z,123nm,1.0s
LVV L'vov 76.09 343 *e*P **P** **05 50 09.1 -0.2**
MAK Makhachkala 76.10 325 *e*P **P** **05 50 09.0 -0.4**
MAK *e**PP **pP** **05 50 43.2 -0.7**
MAK *e**SP **sP** **05 50 57.8 -1.0**
MAK *e* 05 53 05.9
MAK *e*PPP PPP 05 54 52.2
MAK *e*S **S** **05 59 41.4 +0.1**
MAK *e**SS **sS** **06 00 41.5 +0.7**
MAK *e*SSS SSS 06 08 02.4
MAK pmax pmax
comp=Z,247nm,1.4s
CLL Collm 76.20 350 *e*P **P** **05 50 10.0 +0.2**
CLL *i **PP **pP** **05 50 45.4 +1.1**
CLL *e*S **S** **05 59 40.0 -2.2**
CLL Collm 76.20 350 *e*pP pP 05 50 47.7 +3.4
CLL Collm 76.20 350 *e*P **P** **05 50 10.0 +0.2**
CLL *i* pP **pP** **05 50 45.4 +1.1**
comp=Z,50nm,1.3s
CLL *e*PP **PP** **05 53 02.0 +0.1**
CLL *e*(pPP) 05 53 26.0
CLL *e*PPP PPP 05 54 51.0
CLL *e*S **S** **05 59 40.0 -2.2**
CLL *e*SP **SPn** **06 00 22.0 +3.8**
CLL *e*PS **PnS** **06 00 36.0 -2.2**
KSP Ksiaz 76.28 348 *e*P **P** **05 50 08.8 -1.5**
KSP *e**PP **pP** **05 50 43.8 -1.0**
KSP Ksiaz 76.28 348 *e*P pP 05 50 45.4 +0.6
MCH1 Michaelchurch 76.29 1 *e*P **pP** **05 50 42.6 -2.2**
MCH1 AMB AMB 05 50 49.1
comp=Z,126nm,2.7s
IEMG Emamgholi 76.39 314 *e*P **P** **05 50 12.1 +0.6**
OJC Ojcow 76.41 346 *e*P **P** **05 50 11.0 0.0**
OJC *e**PP **pP** **05 50 46.5 +0.9**
OJC pmax pmax
comp=Z,34nm,1.1s
OJC Ojcow 76.41 346 *e*P **P** **05 50 11.0 0.0**
comp=Z,34nm,1.1s
OJC *e*pP **pP** **05 50 46.5 +0.9**
OJC Ojcow 76.41 346 *e*P pP 05 50 46.4 +0.9
KWP Kalwaria Pacla 76.51 344 ⇓P **P** **05 50 13.0 +1.4**
KWP Kalwaria Pacla 76.51 344⇓*i*P **P** **05 50 13.0 +1.4**
KWP Kalwaria Pacla 76.51 344 *e*P **P** **05 50 12.1 +0.5**
KTGM Kuala Trenggan 76.53 261 P **P** **05 50 13.2 +1.0**
BRG Berggiesshubel 76.53 350 *e*P **P** **05 50 10.9 -0.8**
comp=Z,22nm,1.8s
BRG *e* 05 50 47.2
comp=Z,35nm,1.3s
BRG pP pP 05 51 00.0 +14
BRG S **S** **05 59 45.0 -0.8**
BRG
comp=N,288nm,16.3s
BRG
comp=E,302nm,22.7s
BRG
comp=Z,565nm,21.2s
BRG Berggiesshubel 76.53 350 *e*P **P** **05 50 10.9 -0.8**
BRG *e* 05 50 47.2
BRG *e**PP pP 05 51 00.0 +14
BRG S **S** **05 59 45.0 -0.8**
BRG pmax pmax
comp=Z,22nm,1.8s
BRG MLR MLR
comp=N,288nm,16.3s
BRG MLR MLR
comp=E,302nm,22.7s
BRG MLR MLR
comp=Z,565nm,21.2s
BRG Berggiesshubel 76.53 350 *e*pP pP 05 50 49.6 +3.4
BUG Bochum--Univer 76.55 354 *e*pP pP 05 50 50.2 +3.9
UPC Upice 76.65 348 *e*pP pP 05 50 47.4 +0.5
DPC Dobruska-Polom 76.76 348 *e*P **P** **05 50 13.4 +0.3**
DPC *e**PP **pP** **05 50 48.5 +0.9**
DPC Dobruska-Polom 76.76 348 *e*P **P** **05 50 13.4 +0.3**
DPC *e*pP **pP** **05 50 48.5 +0.9**
DPC AMS AMS 06 24 50.0
DPC Dobruska-Polom 76.76 348 *e*P **P** **05 50 13.5 +0.4**
DPC *e*pP **pP** **05 50 48.7 +1.0**
KIV Kislovodsk 76.85 329*d i*P **P** **05 50 14.8 +1.0**
KIV *e* 05 50 24.1
KIV *e**PP **pP** **05 50 46.9 -1.4**
KIV pmax pmax
comp=Z,26nm,0.8s
STHS Stebnicka Huta 76.96 345 *e*P **P** **05 50 14.9 +0.7**
STHS pmax pmax
comp=Z,26nm,1.6s
STHS Stebnicka Huta 76.96 345 *e*P **P** **05 50 14.9 +0.7**
STHS *e*pP **pP** **05 50 50.0 +1.3**
UBBA Unterbreizbach 76.97 352 *e*pP pP 05 50 52.6 +4.0
IKRD Kardeh 76.98 314 *e*P **P** **05 50 13.2 -1.6**
KBZ Khabaz 76.99 328 P **P** **05 50 15.6 +1.2**
KBZ pmax pmax
comp=Z,14nm,0.7s
KBZ Khabaz 76.99 328 P **P** **05 50 15.6 +1.2**
KBZ Khabaz 76.99 328 P **P** **05 50 15.6 +1.2**
comp=Z,14nm,0.7s,baz=93,slow=3.5,SNR=29
MOX Moxa 77.00 351 *e*P **P** **05 50 14.7 +0.3**
MOX *e**PP **pP** **05 50 52.7 +3.8**
MOX pmax pmax
comp=Z,80nm,1.5s
MOX Moxa 77.00 351 *e*P **P** **05 50 14.7 +0.3**
comp=Z,80nm,1.5s
MOX *e*pP **pP** **05 50 52.7 +3.8**
OKC Ostrava-Krasne 77.02 347 *e*P **P** **05 50 14.8 +0.3**
OKC *e**PP **pP** **05 50 49.6 +0.6**
OKC *e*S **S** **05 59 46.1 -5.0**
OKC MLR MLR
comp=Z,300nm,16.7s
OKC Ostrava-Krasne 77.02 347 *e*P **P** **05 50 14.8 +0.3**
OKC *e*pP **pP** **05 50 49.6 +0.6**
OKC *e*S **S** **05 59 46.1 -5.0**
OKC AMS AMS 06 24 40.0
comp=Z,300nm,16.7s
CTA Charters Tower 77.03 210 P **P** **05 50 15.0 +0.2**
CTA Charters Tower 77.03 210 P **P** **05 50 15.0 +0.2**
comp=Z,30nm,0.8s,baz=17,slow=7.4,SNR=34
CTA LR LR 06 22 58.3
comp=Z,316nm,18.7s,baz=355,slow=34
CTAO Charters Tower 77.03 210 *e*P **P** **05 50 15.1 +0.4**
CTAO Charters Tower 77.03 210 *e*P **P** **05 50 15.1 +0.4**
NIE Niedzica 77.11 345 *e*P pP 05 50 50.7 +1.1
TANN Tannenbergstha 77.14 351 *e*P **P** **05 50 15.4 +0.2**
comp=Z,65nm,1.5s
TANN *e*pP **pP** **05 50 53.6 +3.8**
MORC Moravsky Berou 77.17 347 *e*P **P** **05 50 14.8 -0.6**
MORC *e**PP **pP** **05 50 50.1 +0.2**
MORC Moravsky Berou 77.17 347⇑*i*P **P** **05 50 17.3 +1.9**
MORC Moravsky Berou 77.17 347 *e*P **P** **05 50 14.8 -0.6**
MORC *e*pP **pP** **05 50 50.1 +0.2**
CCIG Comitan 77.25 80 P **P** **05 50 14.1 -2.4**
PRA Prague 77.27 349 P **P** **05 50 16.0 +0.2**
PRA pP **pP** **05 50 52.0 +1.6**
BEBN Eben Emael 77.29 355 AP pP 05 50 53.9 +3.4
comp=Z,36nm,1.5s
HGN Heimansgroeve 77.31 355 *e*P pP 05 50 48.2 -2.4
comp=Z,160nm,1.1s
PRU Pruhonice 77.34 349 *e*P **P** **05 50 15.5 -0.7**
PRU *e**PP **pP** **05 50 51.8 +1.0**
PRU *e*S **S** **05 59 52.2 -2.3**
PRU MLR MLR
comp=Z,500nm,21.7s
PRU Pruhonice 77.34 349 *e*P **P** **05 50 15.5 -0.7**
PRU *e*pP **pP** **05 50 51.8 +1.0**
PRU *e*S **S** **05 59 52.2 -2.3**
PRU AMS AMS 06 25 50.0
comp=Z,500nm,21.7s
MEM Membach 77.46 355 E **pP** **05 50 49.9 -1.6**
MEM AP pP 05 50 54.9 +3.4
comp=Z,98nm,1.3s
ZEI Tsey 77.50 327 *e*P **P** **05 50 16.6 -0.9**
ZEI pmax pmax
comp=Z,48nm,0.6s
UZH Uzhgorod 77.54 344 *e*P **P** **05 50 15.1 -2.3**
UZH *i* 05 50 24.0
BATI Baumata 77.55 235 P **P** **05 50 17.7 -0.2**
BATI Baumata 77.55 235 P **P** **05 50 17.7 -0.2**
comp=Z,111nm,0.8s,baz=353,slow=2.7,SNR=8.5
GUDG Gudauri 77.59 327 P **P** **05 50 19.4 +1.4**
SNF Seneffe 77.64 356 AP pP 05 50 56.0 +3.4
ANN Anapa 77.68 332 *e*P **P** **05 50 17.9 -0.3**
ANN *e**PP **pP** **05 50 50.7 -2.1**
ANN *e*S **S** **05 59 56.5 -1.9**
ANN pmax pmax
comp=Z,27nm,0.7s
BCLA Clavier 77.68 355 AP pP 05 50 56.0 +3.2
comp=Z,48nm,1.3s
TNS Taunus Mts 77.68 353 *e*P **P** **05 50 19.1 +0.9**
TNS *e**PP **pP** **05 50 56.8 +3.9**
TNS pmax pmax
comp=Z,82nm,1.2s
TNS Taunus Mts 77.68 353 *e*P **P** **05 50 19.1 +0.9**
comp=Z,82nm,1.2s
TNS *e*pP **pP** **05 50 56.8 +3.9**
VRAC Vranov 77.75 348⇑*i*P **P** **05 50 18.8 +0.2**
ROTZ Rotzenmuhle 77.81 351 *e*P **P** **05 50 19.6 +0.7**
comp=Z,60nm,1.5s
ROTZ *e*pP **pP** **05 50 57.6 +4.1**
KIS Kishinev 77.82 339 *e*P **P** **05 50 19.0 0.0**
KIS *e*pP **pP** **05 50 53.0 -0.6**
KIS *e*S **S** **06 00 02.0 +2.2**
KIS *e*SS sS 06 01 36.0 +36
KIS LRM MLR 06 28 50.0
comp=Z,500nm,19.0s
KIS Kishinev 77.82 339 *e*P **P** **05 50 19.0 0.0**
KIS *e**PP **pP** **05 50 53.0 -0.6**
KIS *e* 05 55 02.0

KIS eS S 06 00 02.0 +2.2
KIS e 06 00 36.0
KIS e 06 00 52.0
KIS e 06 08 26.0
KIS MLR MLR
comp=Z,500nm,19.0s
KIS MLR MLR
comp=Z,600nm,20.0s
ONI Oni 77.82 327 P **P 05 50 21.3 +2.1**
DYA Yadsworthy 77.84 1 eP **pP 05 50 55.1 +1.5**
DYA AMB AMB 05 50 57.2
comp=Z,242nm,1.5s
TREC Trest 77.91 348 eP **P 05 50 19.5 +0.1**
TREC e*PP **pP 05 50 54.2 +0.1**
TREC Trest 77.91 348 eP **P 05 50 19.5 +0.1**
TREC epP **pP 05 50 54.2 +0.1**
GRF Grafenberg Arr 77.98 351 eP **P 05 50 20.5 +0.7**
GRF e*PP **pP 05 50 58.7 +4.2**
GRF pmax pmax
comp=Z,100nm,1.3s
GRF Grafenberg Arr 77.98 351 eP **P 05 50 20.5 +0.7**
comp=Z,100nm,1.3s
GRF epP **pP 05 50 58.7 +4.2**
BURAR Bucovina Array 77.98 342 ⇑P **P 05 50 20.4 +0.4**
BURAR Bucovina Array 77.98 342 ⇑/P **P 05 50 20.4 +0.4**
TRPA Tarpa 77.98 343 ⇑/P **P 05 50 20.6 +0.8**
TRPA Tarpa 77.98 343 e pP 05 50 53.6 -0.9
GIVF Givet 78.03 356 eP **P 05 50 19.2 -0.8**
GIVF epP **pP 05 50 52.8 -1.9**
GIVF Givet 78.03 356 eP **P 05 50 19.2 -0.8**
GIVF e*PP **pP 05 50 52.8 -1.9**
GIVF Givet 78.03 356 eP **P 05 50 19.2 -0.8**
GIVF epP **pP 05 50 52.8 -1.9**
DOU Dourbes 78.04 356 E 05 50 52.9
DOU AP pP 05 50 58.0 +3.2
comp=Z,60nm,1.4s
KULM Kulim 78.08 263 P **P 05 50 21.5 +0.6**
KULM Kulim 78.08 263 P **P 05 50 20.1 -0.7**
comp=Z,29nm,1.9s
KULM Kulim 78.08 263 epP pP 05 50 54.4 -1.1
BAIF Baives 78.10 356 eP **P 05 50 19.9 -0.5**
BAIF Baives 78.10 356 eP **P 05 50 19.9 -0.5**
BAIF Baives 78.10 356 eP **P 05 50 19.9 -0.5**
SOC Sochi 78.12 330 eP P 05 50 15.2 -5.5
SOC e 05 53 20.3
SOC ePPP PPP 05 55 12.8
SOC eS **S 05 59 57.9 -5.2**
SOC MLR MLR
comp=Z,473nm,22.0s
TBLG Delisi 78.15 326 P **P 05 50 22.7 +1.8**
CHVG Ch'k'valeri 78.16 328 P **P 05 50 22.7 +1.8**
DGRG David-gareji 78.18 326 P **P 05 50 22.7 +1.6**
KHC Kasperske Hory 78.29 350 eP **P 05 50 21.6 0.0**
KHC e*PP **pP 05 50 55.9 -0.4**
KHC pmax pmax
comp=Z,31nm,1.1s
KHC Kasperske Hory 78.29 350 eP **P 05 50 22.0 +0.4**
KHC epP **pP 05 50 56.5 +0.2**
KHC ex x 05 51 21.5
KHC eS **S 05 59 59.4 -5.5**
KHC AMS AMS 06 28 00.0
comp=Z,400nm,17.7s
KHC Kasperske Hory 78.29 350 eP **P 05 50 21.6 0.0**
comp=Z,31nm,1.1s
KHC epP **pP 05 50 55.9 -0.4**
WET Wettzell 78.36 350 epP pP 05 51 00.6 +4.0
WLF Walferdange 78.39 355 AP pP 05 51 01.1 +4.3
comp=Z,62nm,1.4s
WLF Walferdange 78.39 355 epP pP 05 51 01.2 +4.5
LEOM Leova 78.44 339 ⇓P **P 05 50 22.8 +0.4**
LEOM Leova 78.44 339 ⇓/P **P 05 50 22.8 +0.4**
SIM Simferopol' 78.46 335 eP P 05 50 25.8 +3.3
SIM eS S 06 00 14.5 +7.8
SIM pmax pmax
comp=Z,9.0nm,0.6s
IPM Ipoh 78.48 262 P **P 05 50 22.5 -0.5**
IPM Ipoh 78.48 262 P **P 05 50 21.1 -2.0**
comp=Z,32nm,1.8s,comp=Z,600nm
IPM Ipoh 78.48 262 eP **P 05 50 22.6 -0.5**
GEC2 GERESS Array S 78.56 349 epP pP 05 51 01.3 +3.5
GEC2 GERESS Array S 78.56 349 epP **pP 05 50 59.6 +1.7**
GEC2 epP pP 05 50 59.8 +1.9
GERES GERESS Array B 78.56 349 P **P 05 50 23.0 -0.1**
GERES GERESS Array B 78.56 349 P **P 05 50 23.0 -0.1**
comp=Z,1.2nm,0.6s,baz=46,slow=9.5,SNR=7.1
GERES LR LR 06 28 53.0
comp=Z,324nm,19.5s,baz=14,slow=38
PSZ Piszkesteto 78.63 345 eP **P 05 50 24.8 +1.2**
PSZ e*PP **pP 05 50 59.2 +1.0**
PSZ pmax pmax
comp=Z,81nm,1.5s
PSZ Piszkesteto 78.63 345 ⇑/P **P 05 50 24.7 +1.2**
PSZ Piszkesteto 78.63 345 eP **P 05 50 24.8 +1.2**
comp=Z,81nm,1.5s
PSZ epP **pP 05 50 59.2 +1.0**
PSZ Piszkesteto 78.63 345 e pP 05 50 57.4 -0.8
ARCR ARCALIA 78.66 342 ⇓/P **P 05 50 25.1 +1.5**
TESR Tescani 78.75 340 ⇑/P **P 05 50 24.8 +0.7**
ZST Bratislava 78.77 347 eP **P 05 50 25.0 +0.8**
ZST e 05 50 58.5
ZST Bratislava 78.77 347 eP **P 05 50 25.0 +0.8**
ZST epP **pP 05 50 58.5 -0.4**
AKH Akhalkalaki 78.86 327 P **P 05 50 26.9 +1.9**
MYKOM Kota Tinggi 78.88 258 P **P 05 50 26.2 +0.9**
MYKOM Kota Tinggi 78.88 258 P **P 05 50 24.8 -0.4**
comp=Z,27nm,1.6s
LANF Langenberg 78.97 353 eP pP 05 50 58.0 -2.0
KGM Kluang 79.02 259 P **P 05 50 26.7 +0.7**
STU Stuttgart 79.07 352 epP pP 05 51 04.4 +3.9
FRIM Kepong 79.09 261 P **P 05 50 26.4 0.0**
BUD Budapest 79.19 346 e pP 05 51 03.2 +2.0
CONA Conrad Observa 79.20 348 ⇑/P **P 05 50 27.1 +0.5**
comp=Z,22nm,1.8s,SNR=5.6
SOP Sopron 79.35 347 e pP 05 51 03.8 +1.7
PETR Petresti 79.38 340 ⇑/P **P 05 50 29.8 +2.3**
PLOR Plostina 79.38 340 ⇑P **P 05 50 28.3 +0.7**
PLOR Plostina 79.38 340 ⇑/P **P 05 50 28.3 +0.7**
IMON Monand 79.44 311 eP **P 05 50 30.2 +1.8**
FUR Furstenfeldbru 79.48 351 epP pP 05 51 06.9 +4.0
PAGF Fort de Pagny 79.52 355 eP **P 05 50 28.0 -0.3**
comp=Z,4.0nm,0.6s
PAGF epP **pP 05 51 01.5 -1.5**
PAGF Fort de Pagny 79.52 355 eP **P 05 50 28.0 -0.3**
comp=Z,4.0nm,0.6s
PAGF epP **pP 05 51 01.5 -1.5**
FLN La Foliniere 79.52 359 eP **P 05 50 27.2 -1.0**
FLN epP **pP 05 51 00.7 -2.3**
FLN eR
comp=Z,221nm,22.5s
FLN La Foliniere 79.52 359 eP **P 05 50 27.2 -1.0**
FLN e*PP **pP 05 51 00.7 -2.3**
FLN La Foliniere 79.52 359 eP **P 05 50 27.2 -1.0**
FLN epP **pP 05 51 00.7 -2.3**
DOPR Dopca 79.53 341 ⇑/P **P 05 50 29.7 +1.3**
TLCR 79.54 338 ⇓P **P 05 50 29.5 +1.1**
TLCR 79.54 338 ⇓/P **P 05 50 29.5 +1.1**
GNI Garni 79.56 325 eP **P 05 50 30.6 +1.7**
comp=Z,16nm,0.5s
GNI Garni 79.56 325 P **P 05 50 30.8 +2.0**
comp=Z,8.1nm,0.5s,baz=0.0,slow=20,SNR=5.0
PKST T''s 79.56 346 e pP 05 51 04.5 +1.3
CDF Champ du Feu 79.57 354 eP **P 05 50 27.8 -0.8**
CDF Champ du Feu 79.57 354 eP **P 05 50 27.8 -0.8**
CDF Champ du Feu 79.57 354 eP **P 05 50 27.8 -0.8**
BFO Black Forest 79.58 353 epP pP 05 51 07.1 +3.8
PKS7 Kunszentmiklos 79.59 345 e pP 05 51 04.8 +1.4
MEZF Maizieres J'vi 79.61 355 eP **P 05 50 28.3 -0.4**
MEZF epP **pP 05 51 01.9 -1.6**
MEZF Maizieres J'vi 79.61 355 eP **P 05 50 28.3 -0.4**
MEZF epP **pP 05 51 01.9 -1.6**
PKSN Nyarlorinc 79.63 345 e pP 05 51 04.8 +1.2
BBSR BB Station 79.64 50 P **P 05 50 28.2 -1.0**
LDF La Druitiere 79.69 359 eP **P 05 50 28.0 -1.1**
LDF La Druitiere 79.69 359 eP **P 05 50 28.0 -1.1**
LDF La Druitiere 79.69 359 eP **P 05 50 28.0 -1.1**
CFR Carcaliu 79.70 339 ⇑P **P 05 50 29.6 +0.4**
CFR Carcaliu 79.70 339 ⇑/P **P 05 50 29.6 +0.4**
IDAH Dahanechah 79.73 311 eP **P 05 50 30.0 0.0**
GRER 79.76 340 ⇑/P **P 05 50 31.9 +2.3**
ECH Echery 79.77 354 eP pP 05 51 04.6 +0.2
THEF They Montfort 79.83 355 eP pP 05 51 02.6 -2.1
MLR Muntele Rosu 79.87 340 ⇑/P **P 05 50 32.0 +1.6**

GRR Gorron 79.90 359 eP **P 05 50 29.4 -0.9**
GRR Gorron 79.90 359 eP **P 05 50 29.4 -0.9**
GRR Gorron 79.90 359 eP **P 05 50 29.4 -0.9**
SFTF Sexfontaines 79.91 355 eP **P 05 50 29.7 -0.7**
comp=Z,14nm,0.5s
SFTF epP **pP 05 51 03.3 -1.8**
SFTF Sexfontaines 79.91 355 eP **P 05 50 29.7 -0.7**
comp=Z,14nm,0.5s
SFTF epP **pP 05 51 03.3 -1.8**
ARSA Arzberg 79.91 348 ⇑/P **P 05 50 31.0 +0.5**
comp=Z,8.9nm,1.1s,SNR=5.4
SIRR Siria 79.94 344 ⇓/P **P 05 50 31.6 +1.0**
ROSF Rostrenen 79.95 1 eP **P 05 50 29.8 -0.8**
ROSF epP **pP 05 51 03.3 -2.0**
ROSF Rostrenen 79.95 1 eP **P 05 50 29.8 -0.8**
ROSF e*PP **pP 05 51 03.3 -2.0**
ROSF Rostrenen 79.95 1 eP **P 05 50 29.8 -0.8**
ROSF epP **pP 05 51 03.3 -2.0**
BST Brest 79.98 1 eP pP 05 51 03.5 -2.0
HAU Haudompre 80.03 354 eP **P 05 50 30.2 -0.9**
HAU eR
comp=Z,264nm,21.5s
HAU Haudompre 80.03 354 eP **P 05 50 30.2 -0.9**
HAU Haudompre 80.03 354 eP **P 05 50 30.2 -0.9**
SGMF Saint Gilles 80.04 0 eP **P 05 50 30.3 -0.7**
SGMF epP **pP 05 51 03.8 -2.0**
SGMF Saint Gilles 80.04 0 eP **P 05 50 30.3 -0.7**
SGMF e*PP **pP 05 51 03.8 -2.0**
SGMF Saint Gilles 80.04 0 eP **P 05 50 30.3 -0.7**
SGMF epP **pP 05 51 03.8 -2.0**
FELD Feldberg im Sc 80.05 353 eP pP 05 51 04.3 -1.8
ISHM Shahmirzad 80.05 317 eP **P 05 50 33.3 +1.6**
IANJ Anjilo 80.08 317 eP **P 05 50 32.7 +0.9**
ISR Istrita 80.10 340 ⇑P **P 05 50 33.4 +1.9**
ISR Istrita 80.10 340 ⇑/P **P 05 50 33.4 +1.9**
VOIR 80.10 341 ⇓P **P 05 50 32.4 +0.8**
VOIR 80.10 341 ⇓/P **P 05 50 32.4 +0.8**
PKS2 Kecel 80.13 345 e pP 05 51 08.9 +2.6
MOF Molkenrain 80.14 354 eP pP 05 51 05.7 -0.8
PKS9 Tamasi 80.18 346 e pP 05 51 03.3 -3.3
HINF Hinteralfeld 80.19 354 eP **P 05 50 31.0 -0.9**
HINF Hinteralfeld 80.19 354 eP **P 05 50 31.0 -0.9**
HINF Hinteralfeld 80.19 354 eP **P 05 50 31.0 -0.9**
HARR Harsova 80.21 339 ⇑P **P 05 50 32.5 +0.5**
HARR Harsova 80.21 339 ⇑/P **P 05 50 32.5 +0.5**
ARR Arges 80.25 341 ⇑/P **P 05 50 33.7 +1.4**
SECR 80.28 340 ⇓/P **P 05 50 33.4 +1.0**
TLB Topalu 80.28 339 ⇑P **P 05 50 33.3 +0.9**
TLB Topalu 80.28 339 ⇑/P **P 05 50 33.3 +0.9**
MTUR Matau 80.30 341 ⇑P **P 05 50 34.8 +2.2**
MTUR Matau 80.30 341 ⇑/P **P 05 50 34.8 +2.2**
TIRR Tirgusor 80.32 338 eP **P 05 50 33.4 +0.8**
TIRR e*PP **pP 05 51 08.1 +0.7**
TIRR pmax pmax
comp=Z,42nm,1.0s
TIRR Tirgusor 80.32 338 ⇑/P **P 05 50 33.6 +1.0**
TIRR Tirgusor 80.32 338 eP **P 05 50 33.4 +0.8**
comp=Z,42nm,1.0s
TIRR epP **pP 05 51 08.1 +0.7**
TBI Tubuai 80.33 150 eS **S 06 00 24.7 -1.9**
comp=Z,717nm,28.5s
TBI Tubuai 80.33 150 eLQ LQ 06 11 36.6
comp=Z,785nm,26.0s
TBI eLR LR 06 14 56.0
comp=Z,301nm,39.2s
KBA Koelnbreinsper 80.34 349 ⇑/P **P 05 50 33.6 +0.7**
comp=Z,21nm,0.9s,SNR=7.7
LOT Lotru 80.34 342 ⇑/P **P 05 50 35.4 +2.5**
QUIF Quistinic 80.37 1 eP **P 05 50 32.0 -0.8**
QUIF Quistinic 80.37 1 eP **P 05 50 32.0 -0.8**
QUIF Quistinic 80.37 1 eP **P 05 50 32.0 -0.8**
DAVA Damuels 80.48 352 ⇑/P **P 05 50 31.2 -2.5**
comp=Z,10.0nm,1.5s,SNR=8.4
BEHE Becsehely 80.51 347 e pP 05 51 11.0 +2.6
SOKA Soboth 80.53 348 ⇑/P **P 05 50 34.3 +0.5**
comp=Z,24nm,1.3s,SNR=7.6
PERS Pernice 80.57 348 eP **P 05 50 34.0 +0.1**
PERS epP **pP 05 51 06.7 -2.1**
PERS e 05 51 12.5
BZS Buzias 80.58 343 ⇑P **P 05 50 34.3 +0.3**
BZS Buzias 80.58 343 ⇑/P **P 05 50 34.3 +0.3**
SULR 80.58 340 ⇑/P P 05 50 28.2 -5.8
EIDS Eidsvold 80.65 205 eP **P 05 50 35.4 +1.0**
comp=Z,104nm,1.5s
EIDS epP **pP 05 51 10.9 +1.6**
LOMF Lomont 80.66 354 eP pP 05 51 06.4 -2.9
FETA Feichten 80.67 351 ⇑/P **P 05 50 34.8 +0.2**
comp=Z,10nm,1.4s,SNR=9.0
MYKA Terra Mystica 80.75 349 ⇑/P **P 05 50 35.9 +1.0**
comp=Z,9.1nm,1.1s,SNR=5.4
ABTA Abfaltersbach 80.76 350 ⇑/P **P 05 50 35.0 -0.1**
comp=Z,8.5nm,1.1s,SNR=11
OBKA Obir 80.76 349 ⇑/P **P 05 50 35.2 +0.1**
comp=Z,12nm,0.6s,SNR=5.5
MSAB Monastry St. A 80.80 339 ⇑/P **P 05 50 36.5 +1.3**
LOR Lormes 80.90 356 eP **P 05 50 35.0 -0.7**
LOR epP **pP 05 51 08.6 -1.9**
LOR eR
comp=Z,420nm,21.8s
LOR Lormes 80.90 356 eP **P 05 50 35.0 -0.7**
LOR epP **pP 05 51 08.6 -1.9**
HYF Humbligny 80.95 357 eP **P 05 50 35.6 -0.3**
HYF Humbligny 80.95 357 eP **P 05 50 35.6 -0.3**
PSI Prapat 81.08 263 P **P 05 50 36.6 -0.7**
PSI Prapat 81.08 263 P **P 05 50 36.6 -0.7**
comp=Z,34nm,1.0s,baz=357,slow=3.1,SNR=20
FUORN Ofenpass-Fuorn 81.11 351 eP **P 05 50 37.9 +0.7**
comp=Z,132nm,1.5s
FUORN epP **pP 05 51 13.8 +1.7**
GOLS Golise 81.11 348 eP **P 05 50 36.2 -0.7**
SSF Saint Saulge 81.12 356 eP **P 05 50 36.3 -0.5**
SSF Saint Saulge 81.12 356 eP **P 05 50 36.3 -0.5**
SSF Saint Saulge 81.12 356 eP **P 05 50 36.3 -0.5**
WRAB Tennant Creek 81.18 221 eP **P 05 50 37.4 0.0**
WRAB Tennant Creek 81.18 221 eP **P 05 50 37.4 0.0**
WRA Warramunga Arr 81.19 221 P **P 05 50 37.2 -0.2**
WRA pP **pP 05 51 11.0 -1.3**
WRA PP PP 05 53 38.4 -6.7
WRA PKKPbc **PKKPbc 06 09 11.0 0.0**
WRA Warramunga Arr 81.19 221 P **P 05 50 37.2 -0.2**
comp=Z,40nm,0.8s,baz=31,slow=5.7,SNR=67
WRA pP **pP 05 51 11.0 -1.3**
comp=Z,14nm,0.9s,baz=34,slow=5.6,SNR=3.7
WRA PP PP 05 53 38.4 -6.7
comp=Z,18nm,1.4s,baz=27,slow=8.9,SNR=5.2
WRA PKKPbc **PKKPbc 06 09 11.0 0.0**
comp=Z,0.7nm,0.6s,baz=231,slow=2.1,SNR=4.5
WRA LR LR 06 20 19.6
comp=Z,302nm,21.3s,baz=50,slow=31
TUE Stuetta 81.34 352 eP **P 05 50 39.9 +1.6**
comp=Z,258nm,1.9s
TUE epP **pP 05 51 13.6 +0.4**
AVF Avril sur Loir 81.40 356 eP **P 05 50 37.7 -0.6**
AVF Avril sur Loir 81.40 356 eP **P 05 50 37.7 -0.6**
AVF Avril sur Loir 81.40 356 eP **P 05 50 37.7 -0.6**
CABF La Chapelle 81.44 354 eP **P 05 50 38.3 -0.3**
CABF epP **pP 05 51 11.9 -1.6**
CABF La Chapelle 81.44 354 eP **P 05 50 38.3 -0.3**
CABF e*PP **pP 05 51 11.9 -1.6**
CABF La Chapelle 81.44 354 eP **P 05 50 38.3 -0.3**
CABF epP **pP 05 51 11.9 -1.6**
SMF Signal de Mont 81.52 356 eP **P 05 50 38.3 -0.7**
SMF epP **pP 05 51 11.9 -2.0**
SMF Signal de Mont 81.52 356 eP **P 05 50 38.3 -0.7**
SMF e*PP **pP 05 51 11.9 -2.0**
SMF Signal de Mont 81.52 356 eP **P 05 50 38.3 -0.7**
SMF epP **pP 05 51 11.9 -2.0**
SENIN Lac Senin/Sane 81.61 354 epP pP 05 51 18.5 +3.9
LCHF La Chataignera 81.62 359 eP pP 05 51 13.2 -1.2
BOJS Bojanci 81.66 348 eP **P 05 50 38.7 -1.0**
BOJS i pP **pP 05 51 12.3 -2.3**
BOJS e 05 51 17.7
MFF Saint Martin d 81.68 359 eP **P 05 50 39.3 -0.5**
MFF epP **pP 05 51 12.8 -1.9**
MFF Saint Martin d 81.68 359 eP **P 05 50 39.3 -0.5**
MFF e*PP **pP 05 51 12.8 -1.9**
MFF Saint Martin d 81.68 359 eP **P 05 50 39.3 -0.5**
MFF epP **pP 05 51 12.8 -1.9**
PRD Provadia 81.74 339 eP **P 05 50 40.0 -0.1**
TGUH Tegucigalpa,Un 81.92 78 eP **P 05 50 42.7 +1.3**
comp=Z,220nm,1.5s
TGUH epP **pP 05 51 16.9 +0.5**

TCF Toulx Ste Croi 81.94 357 eP **P 05 50 40.5 -0.7**
TCF Toulx Ste Croi 81.94 357 eP **P 05 50 40.5 -0.7**
TCF Toulx Ste Croi 81.94 357 eP **P 05 50 40.5 -0.7**
SZH Strazhica 82.00 340 eP pP 05 51 20.4 +3.9
HYB Hyderabad 82.10 288 i P **P 05 50 41.5 -1.0**
comp=Z,50nm,0.8s
AGO Saint Agoulin 82.14 356 eP pP 05 51 15.1 -2.1
PLDF La Plantade 82.20 356 eP pP 05 51 15.7 -1.9
RSL Roselend 82.32 354 eP pP 05 51 17.9 -0.4
DIVS Divibare 82.33 344 P pP 05 51 15.6 -2.7
MPEP Malo Peshtene 82.36 341 eP **P 05 50 42.5 -0.9**
PYM Petit Puy Mans 82.45 356 eP pP 05 51 16.9 -2.0
LPL La Plagne 82.49 354 eP **P 05 50 44.7 +0.4**
LPL La Plagne 82.49 354 eP **P 05 50 44.7 +0.4**
LPL La Plagne 82.49 354 eP **P 05 50 44.7 +0.4**
LPG La Plagne 82.50 354 eP **P 05 50 45.0 +0.5**
LPG epP **pP 05 51 18.4 -1.1**
LPG La Plagne 82.50 354 eP **P 05 50 45.0 +0.5**
LPG e*PP **pP 05 51 18.4 -1.1**
LPG La Plagne 82.50 354 eP **P 05 50 45.0 +0.5**
LPG epP **pP 05 51 18.4 -1.1**
ICHK Chekchek 82.62 315 eP **P 05 50 45.4 +0.2**
IBAF Bafgh 82.66 313 eP **P 05 50 43.7 -1.6**
FRNF Fournols 82.83 357 eP pP 05 51 20.5 -0.3
SSB Saint Sauveur 82.85 355 eP pP 05 51 20.4 -0.6
IKLH Kolahrood 82.91 317 eP **P 05 50 47.6 +0.9**
RJF Les Rejaudoux 82.94 358 eP **P 05 50 45.7 -0.7**
RJF eR
comp=Z,305nm,18.8s
RJF Les Rejaudoux 82.94 358 eP **P 05 50 45.7 -0.7**
RJF Les Rejaudoux 82.94 358 eP **P 05 50 45.7 -0.7**
BNI Bardonecchia 82.95 354 eP **P 05 50 47.3 +0.7**
BNI e*PP **pP 05 51 21.0 -0.6**
BNI pmax pmax
comp=Z,107nm,1.1s
BNI Bardonecchia 82.95 354 eP **P 05 50 47.3 +0.7**
comp=Z,107nm,1.1s
BNI epP **pP 05 51 21.0 -0.6**
IZEF Zefreh 82.96 316 eP **P 05 50 47.2 +0.2**
LBL Lubilhac 82.96 356 eP pP 05 51 19.7 -1.9
PGB Panagyurishte 83.05 341 eP pP 05 51 25.0 +2.9
ORIF Oris-en-Rattie 83.14 354 eP **P 05 50 47.8 +0.3**
ORIF epP **pP 05 51 21.3 -1.2**
ORIF eR
comp=Z,192nm,21.2s
ORIF Oris-en-Rattie 83.14 354 eP **P 05 50 47.8 +0.3**
ORIF e*PP **pP 05 51 21.3 -1.2**
ORIF Oris-en-Rattie 83.14 354 eP **P 05 50 47.8 +0.3**
ORIF epP **pP 05 51 21.3 -1.2**
OG22 Abries 83.16 354 eP pP 05 51 22.3 -0.5
PLE Pljevlja 83.18 344 ⇑/P pP 05 51 21.2 -1.6
VTS Vitosha 83.20 342 P pP 05 51 20.9 -2.1
VTS Vitosha 83.20 342 eP pP 05 51 18.3 -4.7
VIVF Saint-Julien-l 83.27 355 eP **P 05 50 48.1 0.0**
VIVF epP **pP 05 51 21.5 -1.6**
VIVF Saint-Julien-l 83.27 355 eP **P 05 50 48.1 0.0**
VIVF e*PP **pP 05 51 21.5 -1.6**
VIVF Saint-Julien-l 83.27 355 eP **P 05 50 48.1 0.0**
VIVF epP **pP 05 51 21.5 -1.6**
MBDF Montbardon 83.27 354 eP **P 05 50 48.4 +0.1**
comp=Z,17nm,0.9s
MBDF Montbardon 83.27 354 eP **P 05 50 48.4 +0.1**
MBDF pmax pmax
comp=Z,17nm,0.9s
MBDF Montbardon 83.27 354 eP **P 05 50 48.4 +0.1**
comp=Z,17nm,0.9s
CAF Calviac 83.31 357 eP **P 05 50 48.2 -0.1**
CAF epP **pP 05 51 21.7 -1.6**
CAF Calviac 83.31 357 eP **P 05 50 48.2 -0.1**
CAF e*PP **pP 05 51 21.7 -1.6**
CAF Calviac 83.31 357 eP **P 05 50 48.2 -0.1**
CAF epP **pP 05 51 21.7 -1.6**
MALT Malatya 83.32 329 ⇑P **P 05 50 50.2 +1.6**
MALT Malatya 83.32 329 ⇑/P **P 05 50 50.2 +1.6**
LFF La Frestale 83.33 358 eP **P 05 50 48.0 -0.3**
LFF La Frestale 83.33 358 eP **P 05 50 48.0 -0.3**
LFF La Frestale 83.33 358 eP **P 05 50 48.0 -0.3**
PLD Plovdiv 83.37 340 P pP 05 51 23.4 -0.3
FITZ Fitzroy Crossi 83.37 229 eP **P 05 50 49.4 +0.6**
FITZ pP **pP 05 51 23.0 -0.9**
FITZ Fitzroy Crossi 83.37 229 P **P 05 50 49.3 +0.6**
comp=Z,45nm,0.8s,baz=31,slow=4.2,SNR=26
FITZ pP **pP 05 51 23.0 -0.9**
comp=Z,45nm,1.1s,baz=15,slow=6.5,SNR=6.7
UPM Unac-Piva 83.38 345 eP pP 05 51 22.5 -1.4
BR131 Keskin Array S 83.44 333 eP **P 05 50 49.7 +0.4**
comp=Z,3.9nm,0.6s
BRTR Keskin Array B 83.44 333 P **P 05 50 49.6 +0.4**
BRTR pP **pP 05 51 23.7 -0.6**
BRTR Keskin Array B 83.44 333 P **P 05 50 49.6 +0.4**
comp=Z,6.0nm,0.8s,baz=40,slow=2.5,SNR=21
BRTR pP **pP 05 51 23.7 -0.6**
comp=Z,2.4nm,0.7s,baz=67,slow=4.2,SNR=2.5
IVA Berane 83.54 344 eP pP 05 51 23.6 -1.0
OG25 Le Caire 83.67 354 eP pP 05 51 24.2 -1.1
BRY Bratogost 83.73 345 ⇑/P pP 05 51 24.9 -0.8
NKY Niksic 83.75 345 ⇑/P pP 05 51 24.6 -1.1
PVY Plav 83.80 344 ⇑/P pP 05 51 24.2 -1.8
TOUF Mont Tournerai 83.95 353 eP pP 05 51 26.2 -0.7
POO Poona 83.95 292 eP **P 05 50 51.0 -1.0**
AUTN L'Aution 83.95 353 eP pP 05 51 24.6 -2.3
SAOF Saorge 83.95 353 eP pP 05 51 25.7 -1.0
LUCF Luceram 84.06 353 eP pP 05 51 25.5 -1.8
MVIF Mont Vial 84.07 353 eP pP 05 51 24.8 -2.7
PDG Podgorica 84.08 344 P pP 05 51 28.2 +0.9
TTG Podgorica 84.08 344 ⇑/P pP 05 51 25.8 -1.5
SBF Sospel 84.08 353 eP **P 05 50 51.7 -0.6**
comp=Z,36nm,0.9s
SBF epP **pP 05 51 25.3 -2.1**
SBF Sospel 84.08 353 eP **P 05 50 51.7 -0.6**
SBF e*PP **pP 05 51 25.3 -2.1**
SBF pmax pmax
comp=Z,36nm,0.9s
SBF Sospel 84.08 353 eP **P 05 50 51.7 -0.6**
comp=Z,36nm,0.9s
SBF epP **pP 05 51 25.3 -2.1**
SMRF Simiane la Rot 84.09 355 eP **P 05 50 53.0 +0.7**
SMRF epP **pP 05 51 26.5 -0.9**
SMRF Simiane la Rot 84.09 355 eP **P 05 50 53.0 +0.7**
SMRF epP **pP 05 51 26.5 -0.9**
RDO Rodhopi 84.11 339 P pP 05 51 24.5 -3.0
SKO Skopje 84.14 343 P pP 05 51 28.3 +0.7
HCY Herceg Novi 84.18 345 ⇑/P pP 05 51 27.3 -0.6
REVF Revere 84.21 353 eP pP 05 51 26.4 -1.6
CALN Calern 84.23 354 eP pP 05 51 27.1 -1.2
BUM Brajici-Budva 84.26 345 ⇑/P pP 05 51 27.3 -1.1
NVR Nevrokopi 84.27 341 P pP 05 51 27.4 -1.0
FRF La Foret Royal 84.44 354 eP **P 05 50 53.7 -0.3**
comp=Z,9.5nm,0.7s
FRF La Foret Royal 84.44 354 eP **P 05 50 53.7 -0.3**
FRF pmax pmax
comp=Z,10.0nm,0.7s
FRF La Foret Royal 84.44 354 eP **P 05 50 53.7 -0.3**
comp=Z,9.5nm,0.7s
ULC Ulcinj 84.53 344 eP pP 05 51 27.9 -1.8
PHP Peshkopia 84.60 343 P pP 05 51 33.7 +3.6
KNT Kendrikon 84.64 341 P pP 05 51 29.2 -1.0
LMR La Mourre 84.67 354 eP **P 05 50 55.0 -0.2**
LMR La Mourre 84.67 354 eP **P 05 50 55.0 -0.2**
LMR La Mourre 84.67 354 eP **P 05 50 55.0 -0.2**
AS31 Alice Springs 84.71 220 eP **P 05 50 55.9 +0.4**
ASAR Alice Springs 84.71 220 P **P 05 50 56.0 +0.5**
ASAR eP **pP 05 51 29.4 -1.2**
ASAR Alice Springs 84.71 220 P **P 05 50 56.0 +0.5**
comp=Z,17nm,0.7s,baz=30,slow=4.4,SNR=88
ASAR pP **pP 05 51 29.4 -1.2**
comp=Z,11nm,1.1s,baz=38,slow=3.9,SNR=2.9
ASAR LR LR 06 24 24.9
comp=Z,210nm,19.3s,baz=26,slow=32
MTLF Montolieu 84.88 357 eP **P 05 50 56.3 0.0**
comp=Z,4.8nm,0.6s
MTLF epP **pP 05 51 29.9 -1.5**
MTLF Montolieu 84.88 357 eP **P 05 50 56.3 0.0**
MTLF e*PP **pP 05 51 29.9 -1.5**
MTLF pmax pmax
comp=Z,5.0nm,0.6s
MTLF Montolieu 84.88 357 eP **P 05 50 56.3 0.0**
comp=Z,4.8nm,0.6s
MTLF epP **pP 05 51 29.9 -1.5**
GRG Griva 84.94 342 P pP 05 51 28.8 -3.0
SJPF Ste Jean 85.18 359 eP **P 05 50 58.2 +0.5**
comp=Z,7.1nm,0.7s

SJPF	**Ste Jean**	**85.18**	**359**	*eP*	**P**	**05 50 58.2**	**+0.5**
SJPF				pmax	pmax		
	comp=Z,7.0nm,0.7s						
SJPF	**Ste Jean**	**85.18**	**359**	*eP*	**P**	**05 50 58.2**	**+0.5**
	comp=Z,7.1nm,0.7s						
EPF	**Esparros**	**85.24**	**358**	*eP*	**P**	**05 50 57.3**	**-0.8**
	comp=Z,4.8nm,0.4s						
EPF	**Esparros**	**85.24**	**358**	*eP*	**P**	**05 50 57.3**	**-0.8**
EPF				pmax	pmax		
	comp=Z,5.0nm,0.4s						
EPF	**Esparros**	**85.24**	**358**	*eP*	**P**	**05 50 57.3**	**-0.8**
	comp=Z,4.8nm,0.4s						
LARF	**Larrau**	**85.25**	**359**	*eP*	pP	05 51 31.7	-1.6
PGF	**Pioggiola**	**85.26**	**352**	*eP*	**P**	**05 50 58.1**	**-0.2**
	comp=Z,30nm,0.9s						
PGF				*ep*P	**pP**	**05 51 31.6**	**-1.9**
PGF	**Pioggiola**	**85.26**	**352**	*eP*	**P**	**05 50 58.1**	**-0.2**
PGF				*e**PP	**pP**	**05 51 31.6**	**-1.9**
PGF				pmax	pmax		
	comp=Z,30nm,0.9s						
PGF	**Pioggiola**	**85.26**	**352**	*eP*	**P**	**05 50 58.1**	**-0.2**
	comp=Z,30nm,0.9s						
PGF				*ep*P	**pP**	**05 51 31.6**	**-1.9**
LRDF	**Laroque-de-Fa**	**85.28**	**357**	*eP*	pP	05 51 31.6	-1.8
MLS	**Moulis**	**85.30**	**358**	*eP*	pP	05 51 32.4	-1.1
ARMA	**Armidale**	**85.35**	**203**	*eP*	**P**	**05 50 59.6**	**+1.0**
ARMA				*ep*P	**pP**	**05 51 36.6**	**+2.8**
ETSF	**Etsaut**	**85.39**	**359**	*eP*	**P**	**05 50 59.0**	**+0.1**
	comp=Z,13nm,0.9s						
ETSF				*ep*P	**pP**	**05 51 32.5**	**-1.6**
	comp=Z,166nm,1.0s						
ETSF	**Etsaut**	**85.39**	**359**	*eP*	**P**	**05 50 59.0**	**+0.1**
ETSF				*e**PP	**pP**	**05 51 32.5**	**-1.6**
ETSF				pmax	pmax		
	comp=Z,13nm,0.9s						
ETSF	**Etsaut**	**85.39**	**359**	*eP*	**P**	**05 50 59.0**	**+0.1**
	comp=Z,13nm,0.9s						
ETSF				*ep*P	**pP**	**05 51 32.5**	**-1.6**
VIEF	**Viey**	**85.39**	**359**	*eP*	pP	05 51 32.0	-2.1
RKT	**Rikitea**	**85.41**	**137**	*e*LR	LR	06 17 48.6	
	comp=Z,361nm,33.0s						
CARF	**Carcanieres**	**85.51**	**357**	*eP*	pP	05 51 32.4	-2.3
SJAF	**Saint Jean de**	**85.71**	**356**	*eP*	pP	05 51 32.9	-2.7
VALF	**Valcebollere**	**85.83**	**357**	*eP*	pP	05 51 33.8	-2.6
KULA	**Kula-Manisa**	**85.89**	**336**	P	pP	05 51 36.6	-0.1
XOR	**Xorichti**	**86.31**	**341**	P	pP	05 51 33.4	-5.3
PBRG	**Braganca**	**86.40**	**4**	*eP*	**P**	**05 51 03.5**	**-0.3**
	comp=Z,21nm,1.6s						
PBRG				*ep*P	**pP**	**05 51 42.2**	**+3.1**
PBRG				*e*S	S	06 01 34.5	+6.8
POLO	**Lamas de Olo**	**86.78**	**4**	*eP*	**P**	**05 51 04.9**	**-0.9**
	comp=Z,11nm,1.6s						
POLO				*ep*P	**pP**	**05 51 42.3**	**+1.2**
CUC	**Castrocucco**	**87.00**	**346**	*ep*P	pP	05 51 46.4	+4.3
OUZ	**Omahuta**	**87.02**	**184**	*eP*	**P**	**05 51 08.9**	**+2.4**
	comp=Z,117nm,1.5s						
MVO	**Moncorvo**	**87.03**	**4**	*eP*	**P**	**05 51 05.5**	**-1.4**
	comp=Z,28nm,1.8s						
MVO				*ep*P	**pP**	**05 51 45.6**	**+3.4**
MVO				*e*S	**S**	**06 01 35.9**	**+2.1**
PVIS	**Viseu**	**87.43**	**4**	*eP*	**P**	**05 51 08.1**	**-0.8**
	comp=Z,37nm,1.6s						
PVIS				*ep*P	**pP**	**05 51 47.6**	**+3.4**
MIB	**Mutribah**	**87.73**	**319**	*eP*	**P**	**05 51 09.1**	**-1.3**
MIB				AMb	AMB	05 51 13.1	
	comp=Z,1.2nm,0.9s						
MTE	**Manteigas**	**87.77**	**4**	*eP*	P	05 51 06.8	-3.7
	comp=Z,58nm,1.8s						
MTE				*ep*P	pP	05 51 49.0	+3.1
MTE				*e*S	**S**	**06 01 41.3**	**+0.4**
PCAS	**Casmilo, Conde**	**88.06**	**5**	*eP*	**P**	**05 51 11.2**	**-0.6**
PCAS				*ep*P	**pP**	**05 51 50.5**	**+3.3**
PCAS				*e*S	**S**	**06 01 43.4**	**-0.2**
RST	**Umm Al-Ruwaisa**	**88.13**	**319**	*eP*	**P**	**05 51 11.3**	**-1.0**
RST				AMb	AMB	05 51 16.2	
	comp=Z,257nm,0.9s						
NAY	**Al-Naaiem**	**88.25**	**319**	*eP*	**P**	**05 51 11.9**	**-1.0**
NAY				AMb	AMB	05 51 15.5	
	comp=Z,25nm,1.2s						
PCBR	**Castelo Branco**	**88.33**	**4**	*eP*	**P**	**05 51 12.4**	**-0.6**
PCBR				*ep*P	**pP**	**05 51 51.5**	**+3.1**
ESDC	**Sonseca Array**	**88.60**	**2**	P	**P**	**05 51 13.5**	**-0.9**
ESDC	**Sonseca Array**	**88.60**	**2**	P	**P**	**05 51 13.5**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=355,slow=3.9,SNR=5.0						
PMRV	**Marv??o**	**88.74**	**4**	*eP*	**P**	**05 51 14.4**	**-0.6**
PMRV				*ep*P	**pP**	**05 51 54.0**	**+3.5**
MBWA	**Marble Bar**	**88.82**	**233**	P	**P**	**05 51 15.4**	**0.0**
	SNR=5.7						
MBWA	**Marble Bar**	**88.82**	**233**	*eP*	**P**	**05 51 14.8**	**-0.6**
	comp=Z,216nm,1.8s						
PMTG	**Montargil**	**89.06**	**5**	*eP*	**P**	**05 51 15.4**	**-1.1**
PMTG				*ep*P	**pP**	**05 51 54.3**	**+2.4**
PESTR	**Estremoz**	**89.29**	**4**	*eP*	**P**	**05 51 17.4**	**-0.2**
PESTR				*ep*P	**pP**	**05 51 55.9**	**+2.8**
PESTR				*e*S	**S**	**06 01 53.0**	**-2.2**
STKA	**Stephens Creek**	**89.49**	**210**	*eP*	**P**	**05 51 18.7**	**+0.5**
	comp=Z,69nm,1.5s						
STKA	**Stephens Creek**	**89.49**	**210**	P	**P**	**05 51 19.2**	**+0.9**
	comp=Z,57nm,0.8s,baz=352,slow=5.8,SNR=63						
STKA				LR	LR	06 29 27.3	
	comp=Z,455nm,18.6s,baz=140,slow=34						
PNCL	**Nicolau / Gran**	**90.00**	**5**	*e*S	**S**	**06 02 06.2**	**+4.6**
PBAR	**Barrancos**	**90.01**	**4**	*eP*	**P**	**05 51 20.1**	**-0.8**
	comp=Z,17nm,1.5s						
PBAR				*ep*P	**pP**	**05 51 59.5**	**+3.1**
LRS	**Lares**	**90.21**	**59**	*eP*	**P**	**05 51 22.0**	**-0.2**
PCVE	**Castro Verde**	**90.50**	**5**	*ep*P	pP	05 51 59.4	+0.7
PCVE	**Castro Verde**	**90.50**	**5**	*e*S	**S**	**06 02 10.8**	**+4.5**
PVAQ	**Vaqueiros**	**90.74**	**5**	*e*S	**S**	**06 02 12.0**	**+3.5**
PFVI	**Vila Bisbo**	**90.95**	**5**	*e*S	**S**	**06 02 10.8**	**+0.4**
MTP	**Monte Pirata**	**91.06**	**58**	*eP*	**P**	**05 51 25.1**	**-1.0**
	comp=Z,37nm,0.9s						
KEST	**Kesra**	**91.99**	**351**	P	**P**	**05 51 29.9**	**-0.4**
KEST				PP	**PP**	**05 55 10.2**	**-0.3**
KEST	**Kesra**	**91.99**	**351**	P	**P**	**05 51 29.9**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=320,slow=3.5,SNR=4.0						
KEST				PP	**PP**	**05 55 10.2**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=176,slow=1.5,SNR=5.2						
RAYN	**Ar Rayn**	**94.03**	**317**	*eP*	**P**	**05 51 39.6**	**-0.3**
	comp=Z,84nm,2.2s						
TORD	**Torodi Ar. Bea**	**114.96**	**356**	PKP	PKPdf	05 57 00.9	-0.9
TORD				PP	**PP**	**05 58 00.9**	**-0.8**
TORD				SKP		06 00 21.9	
TORD				PKKPbc	**PKKPbc**	**06 07 37.0**	**+0.8**
TORD	**Torodi Ar. Bea**	**114.96**	**356**	PKP	PKPdf	05 57 00.9	-0.9
	comp=Z,3.6nm,0.6s,baz=352,slow=2.3,SNR=52						
TORD				PP	**PP**	**05 58 00.9**	**-0.8**
	comp=Z,2.3nm,0.8s,baz=359,slow=6.4,SNR=8.0						
TORD				SKP		06 00 21.9	
	comp=Z,0.7nm,0.7s,baz=340,slow=1.4,SNR=4.2						
TORD				PKKPbc	**PKKPbc**	**06 07 37.0**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=191,slow=2.0,SNR=13						
LPAZ	**La Paz**	**117.33**	**81**	PKP	**PKPdf**	**05 57 08.3**	**+1.3**
LPAZ				SKP		06 00 30.1	
LPAZ	**La Paz**	**117.33**	**81**	PKP	**PKPdf**	**05 57 08.3**	**+1.3**
	comp=Z,1.3nm,0.7s,baz=16,slow=5.1,SNR=7.7						
LPAZ				SKP		06 00 30.1	
	comp=Z,2.0nm,1.0s,baz=330,slow=4.6,SNR=4.0						
KMBO	**Kilima Mbogo**	**119.55**	**313**	PKP	**PKPdf**	**05 57 11.8**	**+0.8**
KMBO	**Kilima Mbogo**	**119.55**	**313**	PKP	**PKPdf**	**05 57 11.8**	**+0.8**
	comp=Z,3.6nm,0.9s,baz=20,slow=5.2,SNR=7.8						
DBIC	**Dimbokro**	**121.42**	**3**	PKP	**PKPdf**	**05 57 13.5**	**-0.8**
DBIC				PKKPbc	**PKKPbc**	**06 07 13.8**	**+0.7**
DBIC	**Dimbokro**	**121.42**	**3**	PKP	**PKPdf**	**05 57 13.5**	**-0.8**
	comp=Z,6.8nm,0.5s,baz=346,slow=3.3,SNR=24						
DBIC				PKKPbc	**PKKPbc**	**06 07 13.8**	**+0.7**
	comp=Z,8.7nm,1.1s,baz=41,slow=4.6,SNR=4.1						
LIC	**Lamto**	**121.86**	**4**	⇑*i*PKIKP	**PKPdf**	**05 57 14.8**	**-0.4**
	comp=Z,16nm,0.6s						
LIC				*e*R			
	comp=Z,327nm,22.2s						
LIC	**Lamto**	**121.86**	**4**	⇑*i*PKPdf	**PKPdf**	**05 57 14.8**	**-0.4**
H03N2	**Juan Fernandez**	**123.25**	**103**	T	T	08 12 35.0	
	baz=313,slow=0.6						
H03N1	**Juan Fernandez**	**123.26**	**103**	T	T	08 12 33.0	
	baz=313,slow=0.6						
H03N3	**Juan Fernandez**	**123.26**	**103**	T	T	08 12 33.9	
	baz=313,slow=0.6						
BDFB	**Brasilia**	**128.59**	**62**	PKP	**PKPdf**	**05 57 27.5**	**-0.5**
BDFB				SKPbc	SKiKP	06 00 33.7	-18
BDFB	**Brasilia**	**128.59**	**62**	PKP	**PKPdf**	**05 57 27.5**	**-0.5**
	comp=Z,3.6nm,0.6s,baz=216,slow=5.7,SNR=9.3						
BDFB				SKPbc	SKiKP	06 00 33.7	-18
	comp=Z,3.3nm,0.7s,baz=329,slow=4.7,SNR=4.9						
OPO	**Ambohidratompo**	**129.17**	**292**	SKPbc	SKPbc	06 00 37.7	+0.2
	comp=Z,2.6nm,0.8s,baz=83,slow=8.6,SNR=3.5						
VNDA	**Vanda**	**129.73**	**185**	PKP	**PKPdf**	**05 57 28.8**	**+0.6**
VNDA				SKPbc	SKPbc	06 00 38.6	+1.3
VNDA	**Vanda**	**129.73**	**185**	PKP	**PKPdf**	**05 57 28.8**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=326,slow=2.3,SNR=9.9						
VNDA				SKPbc	SKPbc	06 00 38.6	+1.3
	comp=Z,10nm,0.9s,baz=338,slow=4.1,SNR=21						
CPUP	**Villa Florida**	**131.47**	**80**	*e*PKPdf	**PKPdf**	**05 57 32.1**	**-0.9**
CPUP				PKP	**PKPdf**	**05 57 32.6**	**-0.4**
CPUP				SKPbc	**SKPbc**	**06 00 44.0**	**-1.1**
CPUP	**Villa Florida**	**131.47**	**80**	PKP	**PKPdf**	**05 57 32.6**	**-0.4**
	comp=Z,2.0nm,0.6s,baz=332,slow=2.7,SNR=8.8						
CPUP				SKPbc	**SKPbc**	**06 00 44.0**	**-1.1**
	comp=Z,22nm,0.7s,baz=300,slow=3.7,SNR=42						
PLCA	**Paso Flores**	**133.08**	**104**	PKPpre	PKPpre	05 57 27.4	
PLCA				*e*PKPdf	**PKPdf**	**05 57 35.9**	**+0.1**
PLCA				PKP	**PKPdf**	**05 57 36.0**	**+0.3**
PLCA				SKPbc	**SKPbc**	**06 00 50.1**	**-0.4**
PLCA	**Paso Flores**	**133.08**	**104**	PKhKP	PKPpre	05 57 27.4	
	comp=Z,1.7nm,0.8s,baz=325,slow=5.2,SNR=4.1						
PLCA				PKP	**PKPdf**	**05 57 36.0**	**+0.3**
	comp=Z,11nm,0.8s,baz=288,slow=1.9,SNR=15						
PLCA				SKPbc	**SKPbc**	**06 00 50.1**	**-0.4**
	comp=Z,20nm,0.9s,baz=298,slow=2.9,SNR=20						
TRQA	**Tornquist**	**136.62**	**96**	*e*PKPdf	**PKPdf**	**05 57 42.5**	**+0.1**
QSPA	**South Pole Qui**	**141.84**	**180**	PKPpre	PKPpre	05 57 45.7	
QSPA				SKPbc	**SKPbc**	**06 01 14.8**	**-0.2**
QSPA	**South Pole Qui**	**141.84**	**180**	PKhKP	PKPpre	05 57 45.7	
	comp=Z,15nm,0.6s,baz=329,slow=0.4,SNR=78						
QSPA				SKPbc	**SKPbc**	**06 01 14.8**	**-0.2**
	comp=Z,18nm,1.0s,baz=355,slow=3.1,SNR=9.3						
TSUM	**Tsumeb**	**143.77**	**328**	*e*PKPdf	PKPab	05 57 53.2	-0.1
LBTB	**Lobatse**	**145.80**	**312**	*e*PKPdf	**PKPbc**	**05 58 00.0**	**-0.1**
LBTB				PKPbc	**PKPab**	**05 58 00.4**	**-0.3**
LBTB				SKPbc	**SKPbc**	**06 01 25.6**	**-0.4**
LBTB	**Lobatse**	**145.80**	**312**	PKPbc	**PKPab**	**05 58 00.4**	**-0.3**
	comp=Z,30nm,0.6s,baz=48,slow=1.9,SNR=56						
LBTB				SKPbc	**SKPbc**	**06 01 25.6**	**-0.4**
	comp=Z,8.5nm,0.8s,baz=2.7,slow=4.1,SNR=4.2						
MAW	**Mawson**	**145.82**	**218**	PKPbc	**PKPbc**	**05 57 58.5**	**-0.2**
MAW				pPKPbc	pPKPbc	05 58 34.3	-1.0
MAW				SKPbc	**SKiKP**	**06 01 25.2**	**+0.4**
MAW	**Mawson**	**145.82**	**218**	PKPbc	**PKPbc**	**05 57 58.5**	**-0.2**
	comp=Z,34nm,0.7s,baz=62,slow=3.4,SNR=72						
MAW				pPKPbc	pPKPbc	05 58 34.3	-1.0
	comp=Z,14nm,0.9s,baz=59,slow=6.6,SNR=2.4						
MAW				SKPbc	**SKiKP**	**06 01 25.2**	**+0.4**
	comp=Z,5.1nm,0.8s,baz=87,slow=2.9,SNR=5.0						
EFI	**East Falkland**	**146.12**	**112**	*e*PKP2	**PKPbc**	**05 57 59.7**	**-0.4**
EFI	**East Falkland**	**146.12**	**112**	*e*PKPdf	**PKPbc**	**05 57 59.7**	**-0.4**
PMSA	**Palmer Station**	**146.61**	**137**	PKPbc	**PKPbc**	**05 58 01.3**	**+0.3**
PMSA	**Palmer Station**	**146.61**	**137**	PKPbc	**PKPbc**	**05 58 01.3**	**+0.3**
	comp=Z,24nm,0.7s,baz=26,slow=2.1,SNR=11						
BOSA	**Boshof**	**149.00**	**309**	PKPbc	**PKPbc**	**05 58 08.8**	**+0.1**
BOSA	**Boshof**	**149.00**	**309**	PKPbc	**PKPbc**	**05 58 08.8**	**+0.1**
	comp=Z,22nm,0.6s,baz=36,slow=2.1,SNR=65						
SYO	**Syowa Base**	**154.20**	**213**	⇑*e*P	**PKPbc**	**05 58 17.6**	**-1.6**
SYO	**Syowa Base**	**154.20**	**213**	⇑*e*P	**PKPbc**	**05 58 21.2**	**+2.0**
SYO	**Syowa Base**	**154.20**	**213**	⇑*e*P	**PKPab**	**05 58 32.4**	**-1.4**
SNAA	**Sanae**	**160.34**	**179**	*e*P	**PKPab**	**05 58 59.8**	**-0.6**
SNAA	**Sanae**	**160.34**	**179**	PKP	**PKPdf**	**05 58 17.5**	**-1.2**
SNAA				PKPab	**PKPab**	**05 58 59.4**	**-0.9**
SNAA				PP	**PP**	**06 02 41.5**	**-2.0**
SNAA	**Sanae**	**160.34**	**179**	PKP	**PKPdf**	**05 58 17.5**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=193,slow=2.1,SNR=7.8						
SNAA				PKPab	**PKPab**	**05 58 59.4**	**-0.9**
	comp=Z,4.3nm,0.9s,baz=195,slow=4.3,SNR=16						
SNAA				PP	**PP**	**06 02 41.5**	**-2.0**
	comp=Z,0.7nm,0.9s,baz=260,slow=9.1,SNR=3.6						
VNA2	**Neumayer--Watz**	**160.93**	**175**	*eP*	**PKPab**	**05 59 03.4**	**+0.5**
VNA1	**Neumayer--Stat**	**161.15**	**174**	*eP*	**PKPab**	**05 59 04.3**	**+0.5**

IDC 07 05:45:27.1±1.8, 19.89S×133.97E, h0km, mb1 3.6/3, mb1mx3.4/16, mbtmp3.5/3, ML3.4/3, Error ellipse: s-maj=10.7km s-min=4.2km az=99.0, Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**0.35**	**98**	Pg	Pg	05 45 34.2	+0.4
	16nm,0.3s,baz=270,slow=10,SNR=132						
WRA				Lg	Lg	05 45 38.0	
	44nm,0.3s,baz=278,slow=30,SNR=115						
ASAR	**Alice Springs**	**3.75**	**181**	Pn	Pn	05 46 26.9	+0.5
	2.2nm,0.3s,baz=358,slow=17,SNR=52						
ASAR				Sn	Sn	05 47 06.2	-5.2
	1.2nm,0.3s,baz=5.5,slow=30,SNR=6.2						
ASAR				Lg	Lg	05 47 22.4	
	5.7nm,0.3s,baz=1.3,slow=31,SNR=8.0						
FITZ	**Fitzroy Crossi**	**8.08**	**281**	Pn	Pn	05 47 25.3	-0.6
	0.3nm,0.3s,baz=98,slow=12,SNR=32						
FITZ				Sn	Sn	05 48 50.2	-7.9
	0.8nm,0.3s,baz=330,slow=18,SNR=8.6						
FITZ				Lg	Lg	05 49 41.9	
	0.8nm,0.3s,baz=222,slow=7.0,SNR=7.9						
STKA	**Stephens Creek**	**13.76**	**152**	Pn	Pn	05 48 42.1	-1.4
	0.2nm,0.3s,baz=326,slow=15,SNR=2.2						

IDC 07 05:46:24.1±1.6, 10.76S×113.31E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.9/23, mbtmp3.9/8, ML4.3/1, Error ellipse: s-maj=52.5km s-min=20.7km az=46.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**8.56**	**49**	Pn	Pn	05 48 29.6	+0.2
	3.5nm,0.3s,baz=191,slow=10,SNR=7.1						
WRA	**Warramunga Arr**	**22.21**	**117**	P	P	05 51 22.7	+0.3
	1.7nm,0.5s,baz=290,slow=12,SNR=2.9						
WRA				S	S	05 55 17.7	-10
	0.4nm,0.3s,baz=284,slow=24,SNR=1.8						
ASAR	**Alice Springs**	**23.44**	**126**	P	P	05 51 35.0	-0.3
	2.0nm,0.5s,baz=302,slow=9.8,SNR=6.3						
H08S2	**Diego Garcia H**	**40.39**	**271**	T	T	06 37 31.3	
	baz=96,slow=0.7,SNR=11						
H08S3	**Diego Garcia H**	**40.40**	**271**	T	T	06 37 32.0	
	baz=96,slow=0.7,SNR=7.7						
H08S1	**Diego Garcia H**	**40.41**	**271**	T	T	06 37 27.0	
	baz=96,slow=0.7,SNR=8.5						
USRK	**Ussuriysk Arra**	**57.27**	**16**	P	P	05 56 13.1	-0.3
	2.7nm,0.6s,baz=191,slow=4.5,SNR=6.3						
SONM	**Songino Array**	**58.66**	**355**	P	P	05 56 23.4	+0.1
	0.5nm,0.6s,baz=161,slow=6.1,SNR=3.4						
MKAR	**Makanchi Array**	**63.65**	**327**	P	P	05 56 57.3	+0.2
	0.4nm,0.5s,baz=147,slow=6.8,SNR=4.1						
KURBB	**Kurchatov Arra**	**68.22**	**337**	P	P	05 57 26.7	+0.3
	0.6nm,0.7s,baz=154,slow=5.7,SNR=3.5						
ZALV	**Zalesovo Beam**	**68.85**	**342**	P	P	05 57 29.7	-0.5
	0.7nm,0.6s,baz=191,slow=4.4,SNR=2.5						

IDC 07 05:59:18.2±1.4, 2.14N×128.88E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/22, mbtmp3.6/7, Error ellipse: s-maj=108.8km s-min=19.0km az=73.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.36**	**189**	P	Pn	06 03 57.6	-0.8
	1.5nm,0.7s,baz=15,slow=15,SNR=4.2						
WRA	**Warramunga Arr**	**22.59**	**167**	P	P	06 04 19.8	-0.7
	0.6nm,0.4s,baz=341,slow=11,SNR=2.8						
ASAR	**Alice Springs**	**26.11**	**169**	P	P	06 04 53.5	-0.5
	0.7nm,0.8s,baz=353,slow=8.0,SNR=4.4						
STKA	**Stephens Creek**	**35.92**	**161**	P	P	06 06 21.4	+1.0
	0.9nm,0.4s,baz=318,slow=14,SNR=3.8						
SONM	**Songino Array**	**49.50**	**340**	P	P	06 08 11.5	+0.9
	0.3nm,0.5s,baz=157,slow=7.9,SNR=3.9						
MKAR	**Makanchi Array**	**60.08**	**325**	P	P	06 09 26.6	-0.7
	0.7nm,0.6s,baz=117,slow=7.9,SNR=8.3						
VNDA	**Vanda**	**81.59**	**173**	P	P	06 11 37.0	-0.5
	0.5nm,0.7s,baz=314,slow=7.9,SNR=2.4						

*ISCJB **07** 06:00:23.9±1.3, 8.84N±0.06×126.28E±0.09, h23km±9km, Error ellipse: s-maj=16.5km s-min=6.6km az=147.4*
*MAN **07** 07:00:25, 8.86N×126.15E, h22km, mb4.4, ML3.3, MS3.2*
MAN INTENSITY I - TANDAG SURIGAO DEL SUR.

ISC 07 06:00:22.9±1.9, 8.86N±0.07×126.32E±0.10, h16km±12km, n8, σ1s24/13, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.67**	**177**	⇑*i*P	**Pg**	**06 00 35.6**	**-0.5**
BIPH				*i* S	**Sg**	**06 00 44.4**	**-0.6**
BUTP	**Butuan**	**0.70**	**279**	*e*P	**Pg**	**06 00 37.0**	**+0.3**
BUTP				*e*S	**Sb**	**06 00 46.8**	**+0.6**
SCPH	**Surigao**	**1.23**	**318**	*e*P	**Pn**	**06 00 46.0**	**+0.4**
SCPH				*e*S	**Sb**	**06 01 00.8**	**-0.8**
BUKP	**Musuan**	**1.58**	**232**	*e*P	**Pn**	**06 00 51.3**	**+0.9**
CGP	**Cagayan de Oro**	**1.66**	**256**	⇑*i*P	**Pn**	**06 00 51.2**	**-0.2**
CGP				*i* S	**Sn**	**06 01 10.7**	**-1.7**
MATI	**Mati**	**1.90**	**182**	*e*P	**Pn**	**06 00 56.2**	**+1.4**
TBP	**Tagbilaran**	**2.56**	**289**	*e*P	**Pn**	**06 01 05.3**	**+1.4**
TBP				*e*S	**Sn**	**06 01 33.7**	**-1.1**
PAGZ	**Pagadian**	**3.08**	**251**	*e*P	**Pn**	**06 01 12.6**	**+1.7**

IDC 07 06:08:21.7±7.6, 2.45N×93.81W, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.7/21, mbtmp3.5/4, MS4.1/2, Ms1 4.1/2, ms1mx3.3/22, Error ellipse: s-maj=282.5km s-min=142.6km az=74.0, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H06E1	**SOCORRO T-PHAS**	**33.33**	**315**	T	T	06 36 18.9	
TXAR	**Lajitas Array**	**28.33**	**342**	P	P	06 14 16.9	-0.6
	0.4nm,0.7s,baz=175,slow=11,SNR=4.1						
H03N2	**Juan Fernandez**	**38.36**	**160**	T	T	06 57 27.4	
	baz=334,slow=0.7,SNR=22						
H03N1	**Juan Fernandez**	**38.37**	**160**	T	T	06 57 21.1	
	baz=334,slow=0.7,SNR=20						
H03N3	**Juan Fernandez**	**38.38**	**160**	T	T	06 57 28.7	
	baz=334,slow=0.7,SNR=30						
NVAR	**Mina Array Bea**	**42.24**	**331**	P	P	06 16 17.2	+0.1
	0.5nm,0.7s,baz=150,slow=7.3,SNR=3.6						
PDAR	**Pinedale Array**	**42.53**	**343**	P	P	06 16 19.8	+0.3
	0.3nm,0.3s,baz=149,slow=7.4,SNR=4.5						
PDAR				LR	LR	06 33 30.9	
	comp=Z,144nm,19.6s,baz=330,slow=36						
ILAR	**Eielson Array**	**72.80**	**339**	P	P	06 19 51.7	-0.1
	0.4nm,0.9s,baz=144,slow=5.4,SNR=3.6						
TORD	**Torodi Ar. Bea**	**94.80**	**77**	LR	LR	07 01 29.5	
	comp=Z,150nm,20.1s,baz=300,slow=34						
H11S2	**WAKE ISLAND Hy**	**98.22**	**289**	T	T	08 09 41.1	
	baz=87,slow=0.7,SNR=11						
H11S1	**WAKE ISLAND Hy**	**98.22**	**289**	T	T	08 09 42.3	
	baz=87,slow=0.7,SNR=8.9						
H11S3	**WAKE ISLAND Hy**	**98.23**	**289**	T	T	08 09 45.3	
	baz=87,slow=0.7,SNR=7.1						

IDC 07 06:16:21.0±18.0, 5.99N×124.68E, h429km±251km, mb2.9/7, mb1 3.0/7, mb1mx2.9/25, mbtmp2.9/7, Error ellipse: s-maj=42.1km s-min=35.1km az=37.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**23.96**	**178**	P	P	06 20 59.6	+0.1
	1.0nm,0.5s,baz=7.6,slow=12,SNR=6.9						
WRA	**Warramunga Arr**	**27.47**	**160**	P	P	06 21 30.1	-0.6
	0.9nm,1.0s,baz=331,slow=10,SNR=3.5						
ASAR	**Alice Springs**	**30.82**	**163**	P	P	06 22 00.6	+0.5
	0.3nm,0.3s,baz=340,slow=7.8,SNR=5.7						
SONM	**Songino Array**	**44.53**	**342**	P	P	06 23 52.7	-0.1
	0.7nm,0.6s,baz=154,slow=7.5,SNR=5.3						
PETK	**Petropavlovsk-**	**54.16**	**24**	P	P	06 25 04.3	0.0
	2.5nm,0.8s,baz=215,slow=5.5,SNR=3.3

OPO Sn Sn 06 27 33.8 -13
comp=Z,0.2nm,0.3s,baz=60,slow=20,SNR=2.5
MSNA Messina 16.40 199 *e*S Sn 06 27 36.5 -19
MSNA AML AML 06 30 00.4
comp=Z,10nm,0.6s
LBTB Lobatse 20.56 207 P **P** **06 25 40.3 -1.4**
comp=Z,2.7nm,0.6s,baz=35,slow=13,SNR=4.4
TSUM Tsumeb 21.59 234 S Sn 06 30 02.3 +1.2
comp=Z,0.5nm,0.4s,baz=230,slow=7.9,SNR=2.0
TSUM Lg Lg 06 32 15.3
comp=Z,2.6nm,0.9s,baz=319,slow=20,SNR=2.1
BOSA Boshof 23.85 204 P **P** **06 26 15.3 -1.1**
comp=Z,3.0nm,0.9s,baz=35,slow=13,SNR=6.6
BOSA Lg Lg 06 33 15.4
comp=Z,4.3nm,0.9s,baz=320,slow=16,SNR=3.6
ASF Jabal al Asfar 38.82 1 LR LR 06 44 01.0
comp=Z,111nm,19.3s,baz=113,slow=35
TORD Torodi Ar. Bea 39.32 300 P **P** **06 28 33.8 +1.4**
comp=Z,0.8nm,0.9s,baz=114,slow=8.9,SNR=4.1
CMAR Chiang Mai Arr 67.09 67 P **P** **06 31 56.5 -0.5**
comp=Z,1.0nm,0.3s,baz=253,slow=6.1,SNR=4.4
MKAR Makanchi Array 67.42 33 P **P** **06 31 59.2 +0.8**
comp=Z,0.7nm,0.9s,baz=224,slow=6.8,SNR=4.5

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*HLW **07** 06:35:49.9, 35˚.42N×23˚.40E, h33km±27km, Md3.5, Ml3.6*
*BJI **07** 06:35:50.4, 34˚.70N×23˚.50E, h5km, mb4.5/3*
*IDC **07** 06:35:51.6±0.7, 34˚.89N×23˚.58E, h0km, mb4.1/18, mb1 4.1/23, mb1mx4.0/36, mbtmp4.0/23, ML4.0/5, MS3.5/5, Ms1 3.5/5, ms1mx3.1/49, Error ellipse: s-maj=16.6km s-min=12.4km az=172.0*
*ISCJB **07** 06:35:52.8±0.6, 34˚.73N±0˚.02×23˚.53E±0˚.02, h12km±4km, mb4.1/31, MS3.5/4, Error ellipse: s-maj=4.0km s-min=2.9km az=20.7*
*CSEM **07** 06:35:53.3±0.2, 34˚.75N×23˚.51E, h2km, mb4.4/5, Ms3.1, Error ellipse: s-maj=5.3km s-min=3.1km az=35.0*
*MOS **07** 06:35:54.3±1.7, 34˚.60N×23˚.63E, h33km, mb4.4/21, Error ellipse: s-maj=9.1km s-min=4.7km az=86.2*
*ATH **07** 06:35:54.5, 34˚.96N×23˚.57E, h10km±1km, MD3.7/18, ML3.7*
*THE **07** 06:35:56.1, 34˚.92N×23˚.63E, h0km±3km, ML3.9/4, Error ellipse: s-maj=4.6km s-min=1.2km az=219.0*
ISC 07 06:35:53.1±1.0, 34˚.83N±0˚.03×23˚.55E±0˚.03, h5km±6km, n325, σ1§63/342, mb4.2/31, MS3.5/4, 16C-4D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.45**	**89**	P	**Pb**	**06 36 03.3**	**-0.2**
GVD				S	**Sb**	**06 36 10.3**	**-0.1**
GVD	**Gavdhos**	**0.45**	**89**	P	**Pb**	**06 36 03.3**	**-0.2**
GVD				S	**Sb**	**06 36 10.3**	**-0.1**
GVD	**Gavdhos**	**0.45**	**89**	*e*PG	**Pb**	**06 36 03.2**	**-0.2**
GVD				*e*SG	**Sb**	**06 36 13.1**	**+2.7**
GVD	**Gavdhos**	**0.45**	**89**	*e*PB	**Pb**	**06 36 03.2**	**-0.2**
GVD				*e*SB	**Sb**	**06 36 09.5**	**-0.9**
GVD	**Gavdhos**	**0.45**	**89**	P	**Pb**	**06 36 03.3**	**-0.2**
GVD				*e*Sb	**Sb**	**06 36 09.5**	**-0.9**
GVD				S	**Sb**	**06 36 10.3**	**-0.1**
GVD				*e*Sg	Sg	06 36 13.1	+5.6
KARN	**Karanos**	**0.65**	**28**	*e*PG	**Pb**	**06 36 06.4**	**-0.5**
KARN				*e*SG	**Sb**	**06 36 15.7**	**-0.6**
KARN	**Karanos**	**0.65**	**28**	*e*PB	**Pg**	**06 36 05.1**	**-0.4**
KARN				*e*SB	**Sg**	**06 36 12.3**	**-1.7**
KARN	**Karanos**	**0.65**	**28**	*e*Pb	**Pg**	**06 36 05.1**	**-0.4**
KARN	**Karanos**	**0.65**	**28**	*e*Pg	**Pb**	**06 36 06.4**	**-0.5**
KARN				*e*Sg	**Sb**	**06 36 15.7**	**-0.6**
VAM	**Vamos**	**0.79**	**43**	P	**Pg**	**06 36 07.5**	**-0.7**
VAM				S	**Sg**	**06 36 19.4**	**+1.0**
VAM	**Vamos**	**0.79**	**43**	P	**Pg**	**06 36 07.7**	**-0.4**
VAM				S	**Sg**	**06 36 19.4**	**+1.0**
VAM	**Vamos**	**0.79**	**43**	*e*PB	**Pg**	**06 36 07.8**	**-0.4**
VAM				*e*SB	**Sg**	**06 36 17.2**	**-1.2**
VAM	**Vamos**	**0.79**	**43**	*e*Pb	**Pg**	**06 36 07.8**	**-0.4**
VAM				*e*Sb	**Sg**	**06 36 17.2**	**-1.2**
ANKY	**Antikythira Is**	**1.05**	**349**	*e*PB	**Pg**	**06 36 12.1**	**-1.2**
ANKY				*e*SB	**Sg**	**06 36 24.9**	**-2.1**
ANKY	**Antikythira Is**	**1.05**	**349**	*e*Pb	**Pg**	**06 36 12.1**	**-1.2**
ANKY				*e*Sb	**Sg**	**06 36 24.9**	**-2.1**
SIVA	**Sivas**	**1.06**	**79**	*e*PN	**Pn**	**06 36 14.4**	**-0.1**
SIVA	**Sivas**	**1.06**	**79**	*e*PG	**Pb**	**06 36 13.5**	**-0.3**
SIVA	**Sivas**	**1.06**	**79**	*e*Pg	**Pb**	**06 36 13.5**	**-0.3**
SIVA	**Sivas**	**1.06**	**79**	*e*Pn	**Pn**	**06 36 14.4**	**-0.1**
IDI	**Anoyia**	**1.19**	**67**	P	**Pg**	**06 36 15.2**	**-0.8**
IDI				S	**Sn**	**06 36 33.3**	**+0.1**
IDI	**Anoyia**	**1.19**	**67**	P	**Pg**	**06 36 15.2**	**-0.8**
IDI				S	**Sn**	**06 36 33.1**	**-0.1**
IDI	**Anoyia**	**1.19**	**67**	*e*PN	**Pn**	**06 36 16.9**	**+0.3**
IDI	**Anoyia**	**1.19**	**67**	*e*PG	**Pg**	**06 36 15.6**	**-0.4**
IDI	**Anoyia**	**1.19**	**67**	*e*Pn	**Pn**	**06 36 15.6**	**-0.4**
IDI				S	**Sn**	**06 36 33.1**	**-0.1**
IDI	**Anoyia**	**1.19**	**67**	Pn	**Pg**	**06 36 15.3**	**-0.8**
	18nm,0.3s,baz=258,slow=16,SNR=44						
IDI				Sn	**Sn**	**06 36 33.3**	**+0.1**
	214nm,0.3s,baz=349,slow=18,SNR=20						
KYTH	**Kithira**	**1.51**	**344**	*e*PB	**Pn**	**06 36 20.5**	**-0.3**
KYTH	**Kithira**	**1.51**	**344**	*e*Pb	**Pn**	**06 36 20.5**	**-0.3**
LAST	**Lasithi**	**1.62**	**78**	*e*PG	**Pb**	**06 36 23.8**	**+0.3**
LAST	**Lasithi**	**1.62**	**78**	*e*Pg	**Pb**	**06 36 23.8**	**+0.3**
NPS	**Neapolis**	**1.75**	**75**	P	**Pg**	**06 36 27.2**	**+0.6**
NPS	**Neapolis**	**1.75**	**75**	*e*PG	**Pg**	**06 36 26.4**	**-0.2**
NPS	**Neapolis**	**1.75**	**75**	*e*Pg	**Pg**	**06 36 26.4**	**-0.2**
NPS	**Neapolis**	**1.75**	**75**	P	**Pb**	**06 36 27.2**	**+0.6**
VLI	**Veliai**	**1.95**	**345**	P	**Pb**	**06 36 28.4**	**-0.7**
VLI	**Veliai**	**1.95**	**345**	P	**Pb**	**06 36 28.4**	**-0.7**
VLI	**Veliai**	**1.95**	**345**	*e*PN	**Pn**	**06 36 28.0**	**+1.2**
VLI	**Veliai**	**1.95**	**345**	*e*Pn	**Pn**	**06 36 28.0**	**+1.2**
VLI	**Veliai**	**1.95**	**345**	P	**Pb**	**06 36 28.4**	**-0.7**
SANT	**Santorini**	**2.19**	**45**	P	**Pn**	**06 36 31.3**	**+1.1**
SANT				S	**Sn**	**06 36 58.7**	**+1.0**
SANT	**Santorini**	**2.19**	**45**	*e*PN	**Pn**	**06 36 30.6**	**+0.4**
SANT	**Santorini**	**2.19**	**45**	*e*Pn	**Pn**	**06 36 30.6**	**+0.4**
ZKR	**Zakros**	**2.21**	**82**	*e*PN	**Pb**	**06 36 32.6**	**-0.9**
ZKR	**Zakros**	**2.21**	**82**	*e*PN	**Pb**	**06 36 32.8**	**-0.8**
ZKR	**Zakros**	**2.21**	**82**	*e*Pn	**Pb**	**06 36 32.8**	**-0.8**
PYL	**PYLOS**	**2.53**	**325**	*e*PB	**Pn**	**06 36 36.0**	**+1.2**
PYL	**PYLOS**	**2.53**	**325**	*e*Pb	**Pn**	**06 36 36.0**	**+1.2**
DIDY	**Didyma**	**2.66**	**354**	P	**Pn**	**06 36 38.4**	**+1.7**
DIDY	**Didyma**	**2.66**	**354**	P	**Pn**	**06 36 38.4**	**+1.7**
DIDY	**Didyma**	**2.66**	**354**	P	**Pn**	**06 36 38.4**	**+1.7**
DID	**Didima**	**2.68**	**355**	*e*PN	**Pn**	**06 36 38.8**	**+1.8**
DID	**Didima**	**2.68**	**355**	*e*Pn	**Pn**	**06 36 38.8**	**+1.8**
ITM	**Ithomi**	**2.69**	**331**	*e*PN	**Pn**	**06 36 38.6**	**+1.6**
ITM	**Ithomi**	**2.69**	**331**	*e*Pn	**Pn**	**06 36 38.6**	**+1.6**
VLX	**Vlachokerasia**	**2.71**	**340**	*e*PN	**Pn**	**06 36 39.6**	**+2.2**
VLX	**Vlachokerasia**	**2.71**	**340**	*e*Pn	**Pn**	**06 36 39.6**	**+2.2**
APE	**Apeiranthos**	**2.75**	**35**	P	**Pn**	**06 36 39.2**	**+1.2**
APE				S	**Sn**	**06 37 12.4**	**+0.7**
APE	**Apeiranthos**	**2.75**	**35**	P	**Pn**	**06 36 39.2**	**+1.2**
APE				S	**Sn**	**06 37 12.4**	**+0.7**
APE	**Apeiranthos**	**2.75**	**35**	⇑P	**Pn**	**06 36 39.9**	**+1.9**
APE				S	**Sg**	**06 37 20.3**	**-1.3**
APE	**Apeiranthos**	**2.75**	**35**	*e*PN	**Pn**	**06 36 39.3**	**+1.2**
APE	**Apeiranthos**	**2.75**	**35**	*e*PN	**Pn**	**06 36 39.6**	**+1.6**
APE	**Apeiranthos**	**2.75**	**35**	⇑*i*P	**Pn**	**06 36 39.9**	**+1.9**
APE				S	**Sg**	**06 37 20.3**	**-1.3**
APE	**Apeiranthos**	**2.75**	**35**	P	**Pn**	**06 36 39.2**	**+1.2**
APE	**Apeiranthos**	**2.75**	**35**	*e*Pn	**Pn**	**06 36 39.6**	**+1.6**
APE				S	**Sn**	**06 37 12.4**	**+0.7**
NAIG	**Nisos Aigina**	**2.92**	**359**	*e*PN	**Pn**	**06 36 41.9**	**+1.7**
NAIG	**Nisos Aigina**	**2.92**	**359**	*e*Pn	**Pn**	**06 36 41.9**	**+1.7**
KARP	**Karpathos**	**3.05**	**75**	P	**Pn**	**06 36 44.3**	**+2.3**
KARP				S	**Sn**	**06 37 20.9**	**+2.0**
KARP	**Karpathos**	**3.05**	**75**	P	**Pn**	**06 36 44.5**	**+2.5**
KARP	**Karpathos**	**3.05**	**75**	*e*PN	**Pn**	**06 36 44.1**	**+2.1**
KARP	**Karpathos**	**3.05**	**75**	*e*Pn	**Pn**	**06 36 44.1**	**+2.1**
KARP	**Karpathos**	**3.05**	**75**	P	**Pn**	**06 36 44.5**	**+2.5**
AMT	**Artemida-Makis**	**3.08**	**332**	*e*PB	**Pn**	**06 36 45.0**	**+2.6**
AMT	**Artemida-Makis**	**3.08**	**332**	*e*Pb	**Pn**	**06 36 45.0**	**+2.6**
ATH	**Athens Observa**	**3.14**	**2**	*e*PB	**Pn**	**06 36 44.9**	**+1.7**
ATH	**Athens Observa**	**3.14**	**2**	*e*Pb	**Pn**	**06 36 44.9**	**+1.7**
LTK	**Loutraki**	**3.22**	**352**	*e*PB	**Pn**	**06 36 46.8**	**+2.4**
LTK	**Loutraki**	**3.22**	**352**	*e*Pb	**Pn**	**06 36 46.8**	**+2.4**
PTL	**Penteli**	**3.22**	**4**	*e*PB	**Pn**	**06 36 46.3**	**+1.9**
PTL	**Penteli**	**3.22**	**4**	*e*Pb	**Pn**	**06 36 46.3**	**+1.9**
GUR	**Goura**	**3.25**	**343**	*e*PN	**Pn**	**06 36 46.6**	**+1.8**
GUR	**Goura**	**3.25**	**343**	*e*Pn	**Pn**	**06 36 46.6**	**+1.8**
KLV	**Kalavryta, Ach**	**3.40**	**341**	*e*PN	**Pn**	**06 36 48.2**	**+1.3**
KLV	**Kalavryta, Ach**	**3.40**	**341**	*e*Pn	**Pn**	**06 36 48.2**	**+1.3**
NIS1	**Nisyros Isl.**	**3.44**	**58**	P	**Pn**	**06 36 49.6**	**+2.2**
NIS1	**Nisyros Isl.**	**3.44**	**58**	*e*PN	**Pn**	**06 36 48.7**	**+1.3**
NIS1	**Nisyros Isl.**	**3.44**	**58**	*e*Pn	**Pn**	**06 36 48.7**	**+1.3**
NIS1	**Nisyros Isl.**	**3.44**	**58**	P	**Pn**	**06 36 49.6**	**+2.2**
SLUM		**3.61**	**157**	S	**Sn**	**06 37 34.3**	**+1.6**
	baz=158						
SLUM				AMP		06 37 00.0	
	comp=E,100μm,0.7s,logA/T=5.1,baz=158						
SLUM		**3.61**	**157**	P	**Pn**	**06 36 50.6**	**+0.9**
SLUM				S	**Sn**	**06 37 34.3**	**+1.6**
LAKA	**Lakka**	**3.63**	**340**	P	**Pn**	**06 36 52.0**	**+2.0**
LAKA	**Lakka**	**3.63**	**340**	P	**Pn**	**06 36 52.0**	**+2.0**
LAKA	**Lakka**	**3.63**	**340**	*e*PN	**Pn**	**06 36 51.5**	**+1.5**
LAKA	**Lakka**	**3.63**	**340**	*e*Pn	**Pn**	**06 36 51.5**	**+1.5**
LAKA	**Lakka**	**3.63**	**340**	P	**Pn**	**06 36 52.0**	**+2.0**
RLS	**Riolos of Patr**	**3.63**	**333**	P	**Pn**	**06 36 52.7**	**+2.7**
RLS	**Riolos of Patr**	**3.63**	**333**	P	**Pn**	**06 36 52.7**	**+2.7**
RLS	**Riolos of Patr**	**3.63**	**333**	*e*PN	**Pn**	**06 36 51.6**	**+1.6**
RLS	**Riolos of Patr**	**3.63**	**333**	*e*Pn	**Pn**	**06 36 51.6**	**+1.6**
RLS	**Riolos of Patr**	**3.63**	**333**	P	**Pn**	**06 36 52.7**	**+2.7**
KALE	**Kalithea**	**3.73**	**343**	P	**Pn**	**06 36 53.1**	**+1.7**
KALE	**Kalithea**	**3.73**	**343**	P	**Pn**	**06 36 53.1**	**+1.7**
KALE	**Kalithea**	**3.73**	**343**	*e*PN	**Pn**	**06 36 52.7**	**+1.3**
KALE	**Kalithea**	**3.73**	**343**	*e*Pn	**Pn**	**06 36 52.7**	**+1.3**
KALE	**Kalithea**	**3.73**	**343**	P	**Pn**	**06 36 53.1**	**+1.7**
DAT	**Datca**	**3.79**	**59**	*e*PN	**Pn**	**06 36 54.0**	**+1.8**
DAT	**Datca**	**3.79**	**59**	*e*Pn	**Pn**	**06 36 54.0**	**+1.8**
EFP	**Efpalio**	**3.82**	**340**	*e*PN	**Pn**	**06 36 55.2**	**+2.6**
EFP	**Efpalio**	**3.82**	**340**	*e*Pn	**Pn**	**06 36 55.2**	**+2.6**
LKR	**Lokris**	**3.84**	**354**	P	**Pn**	**06 36 54.1**	**+1.3**
LKR	**Lokris**	**3.84**	**354**	P	**Pn**	**06 36 54.1**	**+1.3**
LKR	**Lokris**	**3.84**	**354**	*e*PN	**Pn**	**06 36 54.4**	**+1.6**
LKR	**Lokris**	**3.84**	**354**	P	**Pn**	**06 36 54.1**	**+1.3**
LKR	**Lokris**	**3.84**	**354**	*e*Pn	**Pn**	**06 36 54.4**	**+1.6**
BDRM	**Kayabasi**	**3.87**	**54**	*i* P	Pn	06 36 56.3	+3.0
BDRM	**Kayabasi**	**3.87**	**54**	*i* P	Pn	06 36 56.3	+3.0
ARG	**Arkhangelos**	**3.98**	**68**	P	**Pn**	**06 36 57.3**	**+2.5**
ARG	**Arkhangelos**	**3.98**	**68**	P	**Pn**	**06 36 57.3**	**+2.5**
ARG	**Arkhangelos**	**3.98**	**68**	*e*PN	**Pn**	**06 36 56.8**	**+2.0**
ARG	**Arkhangelos**	**3.98**	**68**	*e*Pn	**Pn**	**06 36 56.8**	**+2.0**
ARG	**Arkhangelos**	**3.98**	**68**	P	**Pn**	**06 36 57.3**	**+2.5**
AXAR	**Agios Charalam**	**3.99**	**350**	P	**Pn**	**06 36 57.2**	**+2.2**
AXAR	**Agios Charalam**	**3.99**	**350**	P	**Pn**	**06 36 57.2**	**+2.2**
AXAR	**Agios Charalam**	**3.99**	**350**	P	**Pn**	**06 36 57.2**	**+2.2**
CHOS	**Chios island**	**4.08**	**29**	P	**Pn**	**06 36 58.3**	**+2.0**
CHOS				S	**Sn**	**06 36 46.9**	**+2.4**
CHOS	**Chios island**	**4.08**	**29**	P	**Pn**	**06 36 58.3**	**+2.0**
CHOS				S	**Sn**	**06 37 46.9**	**+2.4**
CHOS	**Chios island**	**4.08**	**29**	*e*PN	**Pn**	**06 36 57.9**	**+1.6**
CHOS	**Chios island**	**4.08**	**29**	*e*Pn	**Pn**	**06 36 57.9**	**+1.6**
CHOS	**Chios island**	**4.08**	**29**	P	**Pn**	**06 36 58.3**	**+2.0**
CHOS				S	**Sn**	**06 37 46.9**	**+2.4**
VLS	**Valsamata**	**4.10**	**325**	*e*PN	**Pn**	**06 36 58.6**	**+2.1**
VLS	**Valsamata**	**4.10**	**325**	*e*Pn	**Pn**	**06 36 58.6**	**+2.1**
AGG	**Agios Georgios**	**4.30**	**347**	P	**Pn**	**06 37 01.2**	**+2.0**
AGG	**Agios Georgios**	**4.30**	**347**	P	**Pn**	**06 37 01.2**	**+2.0**
AGG	**Agios Georgios**	**4.30**	**347**	*e*PN	**Pn**	**06 37 00.7**	**+1.5**
AGG	**Agios Georgios**	**4.30**	**347**	*e*Pn	**Pn**	**06 37 00.7**	**+1.5**
AGG	**Agios Georgios**	**4.30**	**347**	P	**Pn**	**06 37 01.2**	**+2.0**
EVR	**Evrytania**	**4.31**	**342**	*e*PN	**Pn**	**06 37 01.1**	**+1.7**
EVR	**Evrytania**	**4.31**	**342**	*e*Pn	**Pn**	**06 37 01.1**	**+1.7**
MAKR	**Makrakomi, Fth**	**4.33**	**345**	P	**Pn**	**06 37 02.0**	**+2.4**
MAKR	**Makrakomi, Fth**	**4.33**	**345**	P	**Pn**	**06 37 02.0**	**+2.4**
MAKR	**Makrakomi, Fth**	**4.33**	**345**	P	**Pn**	**06 37 02.0**	**+2.4**
AOS	**Alonnisos**	**4.34**	**3**	*e*PN	**Pn**	**06 37 00.7**	**+0.9**
AOS	**Alonnisos**	**4.34**	**3**	*e*PN	**Pn**	**06 37 01.0**	**+1.3**
AOS	**Alonnisos**	**4.34**	**3**	*e*Pn	**Pn**	**06 37 01.0**	**+1.3**
YER	**Yerkesik**	**4.48**	**58**	*e*PN	**Pn**	**06 37 04.4**	**+2.7**
YER	**Yerkesik**	**4.48**	**58**	*e*Pn	**Pn**	**06 37 04.4**	**+2.7**
AYDN	**Tasoluk**	**4.50**	**50**	*i* P	**Pn**	**06 37 04.9**	**+2.9**
AYDN	**Tasoluk**	**4.50**	**50**	*i* P	**Pn**	**06 37 04.9**	**+2.9**
TURN	**Turunc**	**4.58**	**62**	*i* P	**Pn**	**06 37 01.2**	**-1.9**
TURN	**Turunc**	**4.58**	**62**	*i* P	**Pn**	**06 37 01.2**	**-1.9**
DALY	**Dalyan (Mu˘la**	**4.60**	**63**	*e*PN	**Pn**	**06 37 06.0**	**+2.7**
DALY	**Dalyan (Mu˘la**	**4.60**	**63**	*e*Pn	**Pn**	**06 37 06.0**	**+2.7**
AYDB	**Zeytinkoy-Aydi**	**4.69**	**47**	*e*PN	**Pn**	**06 37 05.6**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**4.69**	**47**	*e*Pn	**Pn**	**06 37 05.6**	**+1.0**
HMAT	**Matruh**	**4.77**	**140**	P	**Pn**	**06 37 05.9**	**+0.2**
	baz=143						
HMAT	**Matruh**	**4.77**	**140**	P	**Pn**	**06 37 05.9**	**+0.2**
FETY	**Fethiye**	**4.85**	**67**	*e*PN	**Pn**	**06 37 09.1**	**+2.3**
FETY	**Fethiye**	**4.85**	**67**	*e*Pn	**Pn**	**06 37 09.1**	**+2.3**
AKAS	**Kas**	**5.14**	**72**	*i* P	**Pn**	**06 37 12.1**	**+1.3**
AKAS	**Kas**	**5.14**	**72**	*i* P	**Pn**	**06 37 12.1**	**+1.3**
DNZL	**Cakiroluk**	**5.28**	**56**	*i* P	Pn	06 37 16.0	+3.1
DNZL	**Cakiroluk**	**5.28**	**56**	*i* P	Pn	06 37 16.0	+3.1
GOLH	**Golhisar**	**5.43**	**62**	*i* P	**Pn**	**06 37 17.2**	**+2.3**
GOLH	**Golhisar**	**5.43**	**62**	*i* P	**Pn**	**06 37 17.2**	**+2.3**
OUR	**Ouranopolis**	**5.51**	**3**	*e*PN	**Pn**	**06 37 16.0**	**+0.3**
ELL	**Elmali**	**5.51**	**68**	*e*PN	Pn	06 37 19.1	+3.2
KULA	**Kula-Manisa**	**5.51**	**47**	*e*PN	**Pn**	**06 37 18.4**	**+2.4**
SWA2		**5.80**	**163**	P	**Pn**	**06 37 20.5**	**+0.7**
	baz=163						
SWA2				S	**Sn**	**06 38 25.5**	**-1.3**
	baz=163						
SWA2		**5.80**	**163**	P	**Pn**	**06 37 20.5**	**+0.7**
SWA2				S	**Sn**	**06 38 25.5**	**-1.3**
KHL	**Karahalli**	**5.94**	**52**	*e*PN	**Pn**	**06 37 24.6**	**+2.8**
KHAL	**Karahalli**	**5.95**	**52**	*i* P	**Pn**	**06 37 24.6**	**+2.7**
KHAL	**Karahalli**	**5.95**	**52**	*i* P	**Pn**	**06 37 24.6**	**+2.7**
DURS	**Dursunbey**	**6.17**	**38**	*i* P	**Pn**	**06 37 27.8**	**+2.8**
DURS	**Dursunbey**	**6.17**	**38**	*i* P	**Pn**	**06 37 27.8**	**+2.8**
GDZ	**Gediz**	**6.38**	**46**	*i* P	**Pn**	**06 37 30.6**	**+2.8**
GDZ	**Gediz**	**6.38**	**46**	*i* P	**Pn**	**06 37 30.6**	**+2.8**
BIA	**Bitola**	**6.42**	**345**	*e*PN	**Pn**	**06 37 29.4**	**+1.0**
VAY	**Valandovo**	**6.53**	**354**	*e*Pn	Pn	06 37 35.4	+5.7
SUTC	**Sutluce-Ispart**	**6.58**	**64**	*e*PN	**Pn**	**06 37 33.5**	**+2.8**
TVSB	**Tavsanli**	**6.60**	**44**	*e*PN	**Pn**	**06 37 32.7**	**+1.8**
MMB	**Musomiste**	**6.75**	**1**	*e*P	**Pn**	**06 37 32.7**	**-0.2**
RZN	**Rozhen**	**6.91**	**7**	*e*P	**Pn**	**06 37 36.5**	**+1.3**
GAZI	**Gazipasa**	**7.29**	**76**	*i* P	**Pn**	**06 37 39.6**	**-0.6**
GAZI	**Gazipasa**	**7.29**	**76**	*i* P	**Pn**	**06 37 39.6**	**-0.6**
HDMB	**Hadim**	**7.56**	**71**	*e*PN	Pn	06 37 47.4	+3.2
VTS	**Vitosha**	**7.75**	**358**	⇑P	Pn	06 37 52.4	+5.6
VTS	**Vitosha**	**7.75**	**358**	⇑*i*P	Pn	06 37 52.4	+5.6
VTS	**Vitosha**	**7.75**	**358**	*e*P	**Pn**	**06 37 45.0**	**-1.8**
AWBH		**7.94**	**143**	P	**Pn**	**06 37 49.1**	**-0.1**
	baz=145						
AWBH		**7.94**	**143**	P	**Pn**	**06 37 49.1**	**-0.1**
GLL	**Jalalah**	**8.67**	**125**	P	**Pn**	**06 37 58.6**	**-0.7**
	baz=127						
GLL	**Jalalah**	**8.67**	**125**	P	**Pn**	**06 37 58.6**	**-0.7**
HFRF	**Wahat Farafira**	**8.68**	**151**	P	**Pn**	**06 37 59.9**	**+0.6**
	baz=151						
HFRF	**Wahat Farafira**	**8.68**	**151**	P	**Pn**	**06 37 59.9**	**+0.6**
AMAG	**Maghara**	**9.15**	**114**	P	**Pn**	**06 38 03.6**	**-2.2**
	baz=117						
RSH		**9.38**	**111**	P	**Pn**	**06 38 07.1**	**-1.9**
	baz=114						
BRTR	**Keskin Array B**	**9.41**	**56**	P	**Pn**	**06 38 10.8**	**+1.3**
	comp=E,173nm,19.6s						
BRTR	**Keskin Array B**	**9.41**	**56**	Pn	**Pn**	**06 38 10.8**	**+1.3**
	comp=E,0.3nm,0.3s,baz=240,slow=16,SNR=16						
BRTR				LR	LR	06 41 51.8	
	comp=E,173nm,19.6s,baz=70,slow=38						
GULE	**Gulek**	**9.42**	**72**	*i* P	**Pn**	**06 38 12.6**	**+3.0**
GULE	**Gulek**	**9.42**	**72**	*i* P	**Pn**	**06 38 12.6**	**+3.0**
MMAI	**Mount Meron Ar**	**10.02**	**97**	Pn	**Pn**	**06 38 15.5**	**-2.3**
	comp=E,2.5nm,0.3s,baz=289,slow=13,SNR=4.6						
MMAI				Sn	**Sn**	**06 40 12.7**	**+2.1**
	comp=E,4.5nm,0.3s,baz=287,slow=33,SNR=4.3						
HNKL	**Nakhl**	**10.08**	**116**	P	**Pn**	**06 38 16.5**	**-2.1**
	baz=118						
VOIR		**10.66**	**6**	⇑P	Pn	06 38 30.1	+3.6
VOIR		**10.66**	**6**	⇑*i*P	Pn	06 38 30.1	+3.6
VOIR		**10.66**	**6**	P	Pn	06 38 30.1	+3.6
MLR	**Muntele Rosu**	**10.80**	**9**	⇑*i*P	Pn	06 38 33.5	+5.0
BZS	**Buzias**	**10.87**	**353**	⇑P	Pn	06 38 33.6	+4.3
BZS	**Buzias**	**10.87**	**353**	⇑*i*P	Pn	06 38 33.6	+4.3
EIL	**Elat**	**10.94**	**115**	Pn	**Pn**	**06 38 29.8**	**-0.5**
	comp=E,1.4nm,0.3s,baz=327,slow=12,SNR=5.9						
EIL				Sn	**Sn**	**06 40 30.4**	**-2.7**
	comp=E,0.7nm,0.3s,baz=290,slow=15,SNR=3.6						
PLOR	**Plostina**	**11.26**	**11**	⇑P	Pn	06 38 39.5	+4.8
PLOR	**Plostina**	**11.26**	**11**	⇑*i*P	Pn	06 38 39.5	+4.8
ASF	**Jabal al Asfar**	**11.46**	**100**	Pn	**Pn**	**06 38 35.4**	**-2.0**
	comp=E,0.4nm,0.3s,baz=138,slow=2.5,SNR=4.8						
ASF				Sn	**Sn**	**06 40 42.3**	**-3.6**
	comp=E,0.2nm,0.3s,baz=25,slow=14,SNR=2.3						
KEST	**Kesra**	**11.64**	**279**	Pn	**Pn**	**06 38 41.8**	**+1.8**
	comp=E,0.0nm,0.3s,baz=97,slow=17,SNR=2.6						
KEST				LR	LR	06 44 30.4	
	comp=E,73nm,19.4s,baz=324,slow=44						
NVLJ	**Novalja**	**11.79**	**328**	*e*Pn	Pn	06 38 38.8	-3.0
STHS	**Stebnicka Huta**	**14.68**	**354**	*e*P	**P**	**06 39 27.6**	**-0.1**
STHS	**Stebnicka Huta**	**14.68**	**354**	*e*PN	**P**	**06 39 27.6**	**-0.1**
STHS	**Stebnicka Huta**	**14.68**	**354**	*e*P	**P**	**06 39 27.6**	**-0.1**
MOA	**Molln**	**14.74**	**335**	⇓*i*P	**P**	**06 39 29.4**	**+1.0**
	comp=E,5.7nm,0.5s						
MOA	**Molln**	**14.74**	**335**	P	**P**	**06 39 29.4**	**+1.0**
	comp=E,5.7nm,0.5s						
VRAC	**Vranov**	**15.35**	**343**	⇑*i*P	**P**	**06 39 35.1**	**-0.1**
VRAC	**Vranov**	**15.35**	**343**	⇑*i*P	**P**	**06 39 35.1**	**-0.1**
VRAC	**Vranov**	**15.35**	**343**	Pn	**Pn**	**06 39 32.4**	**+2.1**
	comp=E,0.5nm,0.3s,baz=164,slow=12,SNR=2.8						
FETA	**Feichten**	**15.53**	**325**	⇑*i*P	**P**	**06 39 38.7**	**+1.3**
	comp=E,11nm,0.8s						
FETA	**Feichten**	**15.53**	**325**	P	**P**	**06 39 38.7**	**+1.3**
	comp=E,11nm,0.8s						
TREC	**Trest**	**15.63**	**340**	*e*P	**P**	**06 39 39.6**	**+1.3**
TREC	**Trest**	**15.63**	**340**	*e*P	**P**	**06 39 39.6**	**+1.3**
TREC	**Trest**	**15.63**	**340**	*e*P	**P**	**06 39 39.6**	**+1.3**
DAVOX	**Davos/Dischmat**	**15.77**	**323**	Pn

BRVK Borovoye 37.48 46 eP P 06 43 07.1 -0.3
BRVK pmax pmax
comp=Z,4.0nm,1.2s
BVAR Borovoye Array 37.53 46 P P 06 43 06.4 -1.5
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BVAR Borovoye Array 37.53 46 P P 06 43 06.4 -1.5
comp=Z,0.6nm,0.6s,baz=318,slow=4.1,SNR=4.0
VOSK Vostochnaya 37.84 47 P P 06 43 08.7 -1.8
VOSK pmax pmax
comp=Z,5.0nm,1.1s
DBIC Dimbokro 38.34 230 P P 06 43 14.6 -0.5
comp=Z,1.9nm,0.7s,baz=16,slow=18,SNR=3.2
LIC Lamto 38.79 229 eP P 06 43 21.5 +2.6
AAK Ala-Archa 39.99 63 dP P 06 43 29.6 +0.7
AAK pmax pmax
comp=Z,22nm,1.2s
KURBB Kurchatov Arra 42.36 51 P P 06 43 46.8 -1.2
comp=Z,2.9nm,0.6s,baz=278,slow=8.3,SNR=20
KURK Kurchatov 42.41 51 deP P 06 43 47.3 -1.2
KURK pmax pmax
comp=Z,2.0nm,0.8s
SPITS Spitsbergen Ar 43.56 358 P P 06 43 56.7 -0.8
comp=Z,5.9nm,0.8s,baz=163,slow=10,SNR=4.1
MK31 Makanchi Array 45.06 56 iP P 06 44 09.1 -0.8
MK31 pmax pmax
comp=Z,2.0nm,0.4s
MKAR Makanchi Array 45.06 56 P P 06 44 09.3 -0.6
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 45.06 56 P P 06 44 09.3 -0.6
comp=Z,3.3nm,0.7s,baz=268,slow=5.9,SNR=25
NVS Novosibirsk 45.26 45 eP P 06 44 08.9 -2.4
ZALV Zalesovo Beam 46.19 46 P P 06 44 16.6 -2.0
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 46.19 46 P P 06 44 16.6 -2.0
comp=Z,1.4nm,0.4s,baz=251,slow=9.2,SNR=4.3
ZAK Zakamensk 57.95 48 eP P 06 45 45.6 -0.9
ZAK pmax pmax
comp=Z,2.0nm,1.1s
SONM Songino Array 60.72 50 P P 06 46 05.2 -0.5
comp=Z,1.8nm,0.8s,baz=286,slow=8.4,SNR=12
SCHQ Schefferville 62.58 319 P P 06 46 17.6 -0.3
comp=Z,2.5nm,0.6s,baz=64,slow=11,SNR=5.0
USRK Ussuriysk Arra 78.00 44 P P 06 47 51.1 -1.4
comp=Z,2.5nm,0.8s,baz=276,slow=8.6,SNR=4.7
KSRS Korea Array 79.53 52 P P 06 48 00.0 -1.0
comp=Z,0.8nm,0.4s,baz=317,slow=5.2,SNR=3.3
ILAR Eielson Array 80.44 356 P P 06 48 04.3 -1.2
comp=Z,0.2nm,0.7s,baz=343,slow=2.8,SNR=2.4
WRA Warramunga Arr 117.87 96 PKP PKPdf 06 54 40.1 -1.1
comp=Z,0.5nm,0.3s,baz=309,slow=2.5,SNR=2.9
ASAR Alice Springs 119.30 100 PKP PKPdf 06 54 43.3 -0.5
comp=Z,0.6nm,0.6s,baz=314,slow=1.4,SNR=9.6

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*PRE **07** 06:41:12.8±2.8, 4.02S×34.85E, h10km, ML5.5*
*ISCJB **07** 06:41:13.0±2.4, 3.94S±0.04×34.81E±0.04, h15km±18km, mb4.1/14, Error ellipse: s-maj=6.9km s-min=5.8km az=152.5*
*IDC **07** 06:41:13.0±0.7, 4.03S×34.81E, h0km, mb4.1/13, mb1 4.2/16, mb1mx4.1/31, mbtmp4.1/16, ML4.2/3, Error ellipse: s-maj=23.3km s-min=13.9km az=111.0*
*NEIC **07** 06:41:14.4±0.4, 4.04S×34.84E, h10km, mb4.4/2, Error ellipse: s-maj=14.2km s-min=7.7km az=112.0*
*BUL **07** 06:41:17.8±4.3, 4.23S×35.32E, h0km±38km, MD4.0*
ISC 07 06:41:14.8±2.4, 4.02S±0.04×34.85E±0.04, h13km±15km, n48, σ1s71/64, mb4.2/14, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MAUS	**Longido**	**2.24**	**55**	*i* P		**Pb**	**06 41 55.2**	**-0.1**
MAUS				*i* S		**Sn**	**06 42 16.8**	**-2.7**
DODT	**Dodoma, Tanzan**	**2.33**	**157**	*i* P		**Pb**	**06 41 56.8**	**0.0**
DODT				*i* S		**Sn**	**06 42 23.5**	**+1.9**
KMBO	**Kilima Mbogo**	**3.75**	**40**	*e*P		**Pn**	**06 42 11.3**	**-1.3**
KMBO				*e*S		**Sn**	**06 42 54.5**	**-2.2**
KMBO	**Kilima Mbogo**	**3.75**	**40**	*e*Pn		**Pn**	**06 42 11.5**	**-1.1**
KMBO				Pg		**Pb**	**06 42 22.8**	**+1.8**
KMBO				Sn		**Sn**	**06 42 53.9**	**-2.9**
KMBO				*e*Sn		**Sn**	**06 42 54.5**	**-2.2**
KMBO				Lg		Lg	06 43 06.9	
KMBO	**Kilima Mbogo**	**3.75**	**40**	Pn		**Pn**	**06 42 11.4**	**-1.2**
	22nm,0.3s,baz=212,slow=16,SNR=136							
KMBO				Pg		**Pb**	**06 42 22.8**	**+1.8**
	41nm,0.3s,baz=217,slow=18,SNR=73							
KMBO				Sn		**Sn**	**06 42 53.9**	**-2.9**
	92nm,0.3s,baz=251,slow=23,SNR=9.0							
KMBO				Lg		Lg	06 43 06.9	
	121nm,0.3s,baz=71,slow=24,SNR=4.0							
KMBO	**Kilima Mbogo**	**3.75**	**40**	*i* P		**Pn**	**06 42 11.7**	**-0.9**
KMBO				*i* S		**Sn**	**06 42 55.6**	**-1.1**
KIG	**Kigali**	**5.20**	**293**	*e*P		**Pn**	**06 42 31.8**	**-0.8**
KIG				*e*S		**Sn**	**06 43 29.5**	**-3.1**
KIG				AML		AML	06 44 01.5	
	comp=Z,3μm,0.5s							
MBAR	**Mbarara**	**5.33**	**309**	*e*P		**Pn**	**06 42 32.6**	**-1.8**
MBAR				*e*S		**Sn**	**06 43 32.2**	**-3.7**
MBAR	**Mbarara**	**5.33**	**309**	*i* P		**Pn**	**06 42 33.1**	**-1.3**
MBAR				*i* S		**Sn**	**06 43 34.1**	**-1.8**
MZM	**Mzuzu**	**7.41**	**186**	*i* P		**Pn**	**06 43 05.2**	**+2.5**
MZM				*i* S		**Sn**	**06 44 24.3**	**-2.4**
LSZ	**Lusaka**	**12.96**	**210**	*e*P		**Pn**	**06 44 17.6**	**-1.3**
LSZ	**Lusaka**	**12.96**	**210**	Pn		**Pn**	**06 44 17.7**	**-1.3**
LSZ				Sn		Sn	06 46 35.5	-7.9
LSZ				Lg		Lg	06 47 56.2	
LSZ	**Lusaka**	**12.96**	**210**	Pn		**Pn**	**06 44 17.7**	**-1.3**
	comp=Z,1.1nm,0.3s,baz=39,slow=11,SNR=6.9							
LSZ				Sn		Sn	06 46 35.5	-7.9
	comp=Z,2.0nm,0.3s,baz=158,slow=20,SNR=3.8							
LSZ				Lg		Lg	06 47 56.2	
	comp=Z,5.0nm,0.3s,baz=118,slow=17,SNR=16							
ATD	**Arta Tunnel**	**17.38**	**27**	Lg		Lg	06 50 19.5	
	comp=Z,2.8nm,0.3s,baz=53,slow=20,SNR=3.0							
MSNA	**Messina**	**18.80**	**194**	*e*P		**Pn**	**06 45 35.3**	**+0.5**
MSNA				AML		AML	06 51 23.3	
	comp=Z,19nm,0.7s							
OPO	**Ambohidratompo**	**18.83**	**141**	P		**Pn**	**06 45 35.2**	**-0.1**
OPO				S		**Sn**	**06 49 02.2**	**-3.8**
OPO	**Ambohidratompo**	**18.83**	**141**	P		**Pn**	**06 45 35.2**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=285,slow=17,SNR=2.6							
OPO				S		**Sn**	**06 49 02.2**	**-3.8**
	comp=Z,0.1nm,0.3s,baz=142,slow=19,SNR=2.5							
TSUM	**Tsumeb**	**22.62**	**227**	*e*P		**P**	**06 46 15.8**	**0.0**
	comp=Z,12nm,0.9s							
TSUM				S		**S**	**06 50 26.9**	**+3.2**
TSUM				Lg		Lg	06 53 07.5	
TSUM	**Tsumeb**	**22.62**	**227**	P		**P**	**06 46 16.4**	**+0.6**
	comp=Z,2.3nm,0.8s,baz=47,slow=9.4,SNR=4.0							
TSUM				S		**S**	**06 50 26.9**	**+3.2**
	comp=Z,2.0nm,0.7s,baz=78,slow=19,SNR=2.1							
TSUM				Lg		Lg	06 53 07.5	
	comp=Z,4.5nm,0.8s,baz=127,slow=20,SNR=2.5							
LBTB	**Lobatse**	**22.69**	**202**	P		**P**	**06 46 16.4**	**0.0**
LBTB				Lg		Lg	06 53 04.3	
LBTB	**Lobatse**	**22.69**	**202**	P		**P**	**06 46 16.4**	**0.0**
	comp=Z,6.9nm,0.8s,baz=27,slow=9.6,SNR=6.1							
LBTB				Lg		Lg	06 53 04.3	
	comp=Z,16nm,1.0s,baz=293,slow=18,SNR=3.1							
BOSA	**Boshof**	**26.10**	**199**	P		**P**	**06 46 49.1**	**+0.4**
BOSA				Lg		Lg	06 54 47.9	
BOSA	**Boshof**	**26.10**	**199**	P		**P**	**06 46 49.1**	**+0.4**
	comp=Z,5.6nm,1.0s,baz=0.3,slow=12,SNR=4.5							
BOSA				Lg		Lg	06 54 47.9	
	comp=Z,14nm,1.1s,baz=276,slow=17,SNR=2.6							
TORD	**Torodi Ar. Bea**	**37.08**	**298**	P		**P**	**06 48 24.7**	**-0.5**
TORD	**Torodi Ar. Bea**	**37.08**	**298**	P		**P**	**06 48 24.7**	**-0.5**
	comp=Z,2.1nm,1.0s,baz=107,slow=7.9,SNR=7.3							
BRTR	**Keskin Array B**	**43.55**	**359**	PcP		**PcP**	**06 51 06.5**	**+0.2**
	comp=Z,1.0nm,0.9s,baz=168,slow=2.3,SNR=3.9							
AKASG	**Malin Array Be**	**54.73**	**356**	P		**P**	**06 50 43.9**	**+0.1**
AKASG	**Malin Array Be**	**54.73**	**356**	P		**P**	**06 50 43.9**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=176,slow=6.2,SNR=4.0							
GERES	**GERESS Array B**	**55.79**	**343**	P		**P**	**06 50 52.0**	**+0.3**
GERES	**GERESS Array B**	**55.79**	**343**	P		**P**	**06 50 52.0**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=161,slow=5.7,SNR=9.3							
ESDC	**Sonseca Array**	**56.25**	**324**	P		**P**	**06 50 55.0**	**-0.1**
ESDC	**Sonseca Array**	**56.25**	**324**	P		**P**	**06 50 55.0**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=129,slow=12,SNR=4.6							
KKAR	**Karatay Array**	**56.90**	**31**	*e*P		**P**	**06 50 59.3**	**-0.3**
	comp=Z,3.8nm,1.1s							
MK31	**Makanchi Array**	**65.61**	**34**	*e*P		**P**	**06 51 58.8**	**+0.2**
MKAR	**Makanchi Array**	**65.61**	**34**	P		**P**	**06 51 59.0**	**+0.4**
MKAR	**Makanchi Array**	**65.61**	**34**	P		**P**	**06 51 59.0**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=231,slow=6.3,SNR=22							
FINES	**FINESS Array B**	**65.63**	**355**	P		**P**	**06 51 58.8**	**+0.4**
FINES	**FINESS Array B**	**65.63**	**355**	P		**P**	**06 51 58.8**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=174,slow=2.8,SNR=3.1							
KURBB	**Kurchatov Arra**	**66.06**	**29**	P		**P**	**06 52 01.8**	**+0.5**
	comp=Z,1.1nm,0.2s,baz=225,slow=7.7,SNR=7.0							
KURK	**Kurchatov**	**66.16**	**29**	P		**P**	**06 52 01.9**	**-0.2**
ARCES	**ARCESS Array B**	**73.68**	**357**	P		**P**	**06 52 47.7**	**-0.2**
ARCES	**ARCESS Array B**	**73.68**	**357**	P		**P**	**06 52 47.7**	**-0.2**
	comp=Z,2.9nm,0.8s,baz=175,slow=6.1,SNR=6.3							
SONM	**Songino Array**	**80.72**	**40**	P		**P**	**06 53 30.1**	**+2.0**
SONM	**Songino Array**	**80.72**	**40**	P		**P**	**06 53 30.1**	**+2.0**
	comp=Z,0.6nm,0.5s,baz=222,slow=5.3,SNR=5.2							
VNDA	**Vanda**	**93.59**	**170**	P		**P**	**06 54 28.6**	**-1.7**
VNDA	**Vanda**	**93.59**	**170**	P		**P**	**06 54 28.6**	**-1.7**
	comp=Z,0.4nm,0.5s,baz=264,slow=9.2,SNR=6.7							
NVAR	**Mina Array Bea**	**137.92**	**328**	PKP		**PKPdf**	**07 00 42.2**	**+2.2**
NVAR	**Mina Array Bea**	**137.92**	**328**	PKP		**PKPdf**	**07 00 42.2**	**+2.2**
	comp=Z,0.5nm,0.8s,baz=224,slow=1.3,SNR=4.8							

IDC 07 06:47:21.2±2.1, 3.58N×95.46E, h0km, mb3.7/7, mb1 3.7/8, mb1mx3.6/29, mbtmp3.7/8, ML3.4/1, Error ellipse: s-maj=79.4km s-min=18.1km az=53.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PSI	**Prapat**	**3.54**	**102**	Pn		Pn	06 48 19.4	+1.8
	3.4nm,0.3s,baz=312,slow=7.3,SNR=8.6							
H08S2	**Diego Garcia H**	**25.48**	**244**	T		T	07 19 53.8	
	baz=65,slow=0.7							
H08S3	**Diego Garcia H**	**25.48**	**244**	T		T	07 19 31.0	
	baz=65							
H08S1	**Diego Garcia H**	**25.50**	**244**	T		T	07 19 48.3	
	baz=65,slow=0.7							
MKAR	**Makanchi Array**	**44.54**	**347**	P		P	06 55 34.5	-0.2
	0.6nm,0.4s,baz=157,slow=8.5,SNR=12							
WRA	**Warramunga Arr**	**44.77**	**123**	P		P	06 55 36.9	-0.1
	0.6nm,0.3s,baz=303,slow=8.9,SNR=2.6							
SONM	**Songino Array**	**45.09**	**10**	P		P	06 55 38.2	-1.0
	0.7nm,0.4s,baz=187,slow=9.1,SNR=6.0							
ASAR	**Alice Springs**	**46.21**	**128**	P		P	06 55 47.7	-0.6
	0.2nm,0.5s,baz=296,slow=7.1,SNR=3.1							
KURBB	**Kurchatov Arra**	**49.01**	**346**	P		P	06 56 09.7	+0.1
	0.4nm,0.4s,baz=158,slow=7.3,SNR=4.4							
ZALV	**Zalesovo Beam**	**50.96**	**352**	P		P	06 56 24.4	0.0
	1.5nm,0.4s,baz=175,slow=7.5,SNR=5.5							
BVAR	**Borovoye Array**	**53.45**	**341**	P		P	06 56 43.4	+0.4
	0.5nm,0.4s,baz=133,slow=8.1,SNR=3.3							

IDC 07 06:52:39.0±1.4, 19.15N×145.85E, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.6/25, mbtmp3.6/5, Error ellipse: s-maj=134.0km s-min=22.3km az=118.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.45**	**197**	P		P	07 00 19.5	0.0
	0.4nm,0.6s,baz=21,slow=8.9,SNR=5.7							
FITZ	**Fitzroy Crossi**	**42.00**	**209**	P		P	07 00 32.0	-0.2
	0.5nm,0.3s,baz=39,slow=9.6,SNR=9.9							
ASAR	**Alice Springs**	**44.12**	**196**	P		P	07 00 49.0	-0.4
	0.1nm,0.4s,baz=14,slow=6.6,SNR=4.1							
ILAR	**Eielson Array**	**63.18**	**26**	P		P	07 03 08.3	-0.4
	1.2nm,1.1s,baz=263,slow=7.2,SNR=4.2							
NVAR	**Mina Array Bea**	**82.75**	**52**	P		P	07 05 05.8	+0.4
	1.1nm,0.7s,baz=264,slow=5.3,SNR=8.8							

IDC 07 06:53:21.0±3.8, 4.02S×34.83E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.3/27, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=88.3km s-min=27.9km az=160.0, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**3.76**	**40**	Pn		Pn	06 54 19.8	-0.8
	4.5nm,0.3s,baz=224,slow=18,SNR=10							
KMBO				Pg		Pb	06 54 30.3	+1.7
	11nm,0.3s,baz=219,slow=19,SNR=43							
LSZ	**Lusaka**	**12.96**	**210**	Lg		Lg	07 00 06.0	
	3.6nm,0.3s,baz=124,slow=19,SNR=12							
TORD	**Torodi Ar. Bea**	**37.05**	**298**	P		P	07 00 33.1	0.0
	0.2nm,0.5s,baz=106,slow=7.7,SNR=4.1							
MKAR	**Makanchi Array**	**65.62**	**34**	P		P	07 04 06.9	0.0
	0.4nm,0.7s,baz=226,slow=6.5,SNR=3.9							

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*IDC **07** 06:54:01.5±0.7, 4.00S×34.83E, h0km, mb4.2/14, mb1 4.3/17, mb1mx4.1/32, mbtmp4.2/17, ML4.4/3, MS2.9/1, Ms1 2.9/1, ms1mx1.8/37, Error ellipse: s-maj=22.3km s-min=15.2km az=111.0*
*ISCJB **07** 06:54:02.6±0.5, 4.02S±0.07×34.89E±0.07, h22km, mb4.2/16, Error ellipse: s-maj=12.8km s-min=6.7km az=39.5*
*NEIC **07** 06:54:02.8±0.4, 4.01S×34.87E, h10km, mb4.3/2, Error ellipse: s-maj=12.5km s-min=7.3km az=109.0*
ISC 07 06:54:04.8±0.5, 4.03S±0.08×34.92E±0.09, h22km, n39, σ1s01/43, mb4.2/16, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MAUS	**Longido**	**2.19**	**54**	*i* P		Pn	06 54 31.1	-8.9
MAUS				*i* S		**Sn**	**06 55 05.3**	**-1.2**
KMBO	**Kilima Mbogo**	**3.70**	**39**	Pn		**Pn**	**06 54 59.4**	**-1.6**
KMBO				Pg		**Pb**	**06 55 10.8**	**+1.1**
KMBO				Sn		**Sn**	**06 55 43.6**	**-0.5**
KMBO				Lg		Lg	06 55 58.5	
KMBO	**Kilima Mbogo**	**3.70**	**39**	Pn		**Pn**	**06 54 59.4**	**-1.6**
	25nm,0.3s,baz=232,slow=23,SNR=8.9							
KMBO				Pg		**Pb**	**06 55 10.8**	**+1.1**
	60nm,0.3s,baz=218,slow=19,SNR=18							
KMBO				Sn		**Sn**	**06 55 43.6**	**-0.5**
	113nm,0.3s,baz=62,slow=24,SNR=7.3							
KMBO				Lg		Lg	06 55 58.5	
	292nm,0.3s,baz=279,slow=23,SNR=9.1							
KMBO				LR		LR	06 56 11.3	
	comp=Z,154nm,19.7s,baz=94,slow=35							
LSZ	**Lusaka**	**13.00**	**210**	Pn		**Pn**	**06 57 06.8**	**-1.6**
LSZ				Sn		Sn	06 59 22.3	-10
LSZ				Lg		Lg	07 00 45.9	
LSZ	**Lusaka**	**13.00**	**210**	Pn		**Pn**	**06 57 06.8**	**-1.6**
	2.0nm,0.3s,baz=36,slow=11,SNR=5.9							
LSZ				Sn		Sn	06 59 22.3	-10
	1.0nm,0.3s,baz=314,slow=18,SNR=2.3							
LSZ				Lg		Lg	07 00 45.9	
	7.1nm,0.3s,baz=111,slow=18,SNR=13							
ATD	**Arta Tunnel**	**17.35**	**27**	Lg		Lg	07 03 09.7	
	1.8nm,0.3s,baz=143,slow=20,SNR=2.5							
OPO	**Ambohidratompo**	**18.78**	**141**	P		**Pn**	**06 58 23.1**	**-0.4**
OPO	**Ambohidratompo**	**18.78**	**141**	P		**Pn**	**06 58 23.1**	**-0.4**
	0.2nm,0.3s,baz=302,slow=10,SNR=4.2							
TSUM	**Tsumeb**	**22.68**	**227**	P		**P**	**06 59 08.4**	**+3.3**
	12nm,0.7s							
TSUM				S		Sn	07 03 25.0	-2.0
TSUM				Lg		Lg	07 05 56.7	
TSUM	**Tsumeb**	**22.68**	**227**	S		Sn	07 03 25.0	-2.0
	3.7nm,0.8s,baz=313,slow=19,SNR=2.3							
TSUM				Lg		Lg	07 05 56.7	
	6.9nm,0.9s,baz=322,slow=19,SNR=2.6							
LBTB	**Lobatse**	**22.71**	**202**	P		**P**	**06 59 04.9**	**-0.5**
LBTB				Lg		Lg	07 05 49.2	
LBTB	**Lobatse**	**22.71**	**202**	P		**P**	**06 59 04.9**	**-0.5**
	13nm,0.8s,baz=38,slow=14,SNR=5.4							
LBTB				Lg		Lg	07 05 49.2	
	13nm,0.9s,baz=301,slow=12,SNR=2.4							
BOSA	**Boshof**	**26.12**	**200**	P		**P**	**06 59 37.8**	**+0.2**
BOSA				Lg		Lg	07 07 31.1	
BOSA	**Boshof**	**26.12**	**200**	P		**P**	**06 59 37.8**	**+0.2**
	6.4nm,1.0s,baz=7.6,slow=13,SNR=3.5							
BOSA				Lg		Lg	07 07 31.1	
	9.1nm,1.0s,baz=106,slow=20,SNR=3.0							
TORD	**Torodi Ar. Bea**	**37.15**	**298**	P		**P**	**07 01 13.7**	**-0.6**
TORD	**Torodi Ar. Bea**	**37.15**	**298**	P		**P**	**07 01 13.7**	**-0.6**
	1.3nm,0.6s,baz=107,slow=7.8,SNR=4.4							
BRTR	**Keskin Array B**	**43.55**	**359**	P		**P**	**07 02 07.8**	**+0.6**
BRTR				PcP		**PcP**	**07 03 54.8**	**0.0**
BRTR	**Keskin Array B**	**43.55**	**359**	P		**P**	**07 02 07.8**	**+0.6**
	0.4nm,0.3s,baz=177,slow=5.8,SNR=3.0							
BRTR				PcP		**PcP**	**07 03 54.8**	**0.0**
	1.4nm,1.0s,baz=132,slow=4.1,SNR=3.5							
GERES	**GERESS Array B**	**55.81**	**343**	P		**P**	**07 03 39.9**	**-0.5**
GERES	**GERESS Array B**	**55.81**	**343**	P		**P**	**07 03 39.9**	**-0.5**
	1.9nm,0.9s,baz=142,slow=6.8,SNR=8.9							
ESDC	**Sonseca Array**	**56.29**	**324**	P		**P**	**07 03 44.2**	**+0.2**
ESDC	**Sonseca Array**	**56.29**	**324**	P		**P**	**07 03 44.2**	**+0.2**
	1.0nm,0.6s,baz=127,slow=5.7,SNR=6.0							
KKAR	**Karatay Array**	**56.86**	**31**	*e*P		**P**	**07 03 47.7**	**-0.3**
	0.6nm,0.4s							
MKAR	**Makanchi Array**	**65.57**	**34**	P		**P**	**07 04 47.1**	**+0.2**
MKAR	**Makanchi Array**	**65.57**	**34**	P		**P**	**07 04 47.1**	**+0.2**
	2.0nm,0.6s,baz=231,slow=6.2,SNR=20							
FINES	**FINESS Array B**	**65.64**	**355**	P		**P**	**07 04 46.5**	**-0.5**
FINES	**FINESS Array B**	**65.64**	**355**	P		**P**	**07 04 46.5**	**-0.5**
	4.7nm,1.0s,baz=198,slow=8.4,SNR=4.4							
KURBB	**Kurchatov Arra**	**66.03**	**29**	P		**P**	**07 04 49.8**	**+0.1**
	1.9nm,0.9s,baz=233,slow=6.9,SNR=9.2							
HFS	**Hagfors**	**66.11**	**349**	P		**P**	**07 04 49.6**	**-0.4**
HFS	**Hagfors**	**66.11**	**349**	P		**P**	**07 04 49.7**	**-0.4**
	3.6nm,0.7s,baz=134,slow=6.2,SNR=3.3							
KURK	**Kurchatov**	**66.13**	**29**	P		**P**	**07 04 49.8**	**-0.6**
CMAR	**Chiang Mai Air**	**66.87**	**68**	P		**P**	**07 04 57.2**	**+1.4**
CMAR	**Chiang Mai Air**	**66.87**	**68**	P		**P**	**07 04 57.2**	**+1.4**
	1.4nm,0.4s,baz=256,slow=6.4,SNR=4.8							
ZALV	**Zalesovo Beam**	**71.12**	**29**	P		**P**	**07 05 20.9**	**-0.5**
ZALV	**Zalesovo Beam**	**71.12**	**29**	P		**P**	**07 05 20.9**	**-0.5**
	1.0nm,0.3s,baz=242,slow=3.1,SNR=3.2							
ARCES	**ARCESS Array B**	**73.69**	**357**	P		**P**	**07 05 35.9**	**-0.6**
ARCES	**ARCESS Array B**	**73.69**	**357**	P		**P**	**07 05 35.9**	**-0.6**
	1.6nm,0.6s,baz=160,slow=4.6,SNR=8.1							
SONM	**Songino Array**	**80.67**	**40**	P		**P**	**07 06 18.1**	**+1.8**
SONM	**Songino Array**	**80.67**	**40**	P		**P**	**07 06 18.1**	**+1.8**
	0.9nm,0.8s,baz=247,slow=6.6,SNR=5.4							

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*ISCJB **07** 07:00:07.5±0.9, 13.71N±0.06×91.39W±0.06, h72km±8km, mb3.9/9, Error ellipse: s-maj=12.3km s-min=6.5km az=138.8*
*CASC **07** 07:00:08.2±1.7, 13.69N×91.28W, h17km±9km, MD3.4, ML4.0*
*IDC **07** 07:00:13.2±1.8, 14.07N×90.91W, h96km±14km, mb3.6/8, mb1 3.9/11, mb1mx3.7/26, mbtmp3.7/11, MS2.9/2, Ms1 2.9/2, ms1mx2.7/28, Error ellipse: s-maj=27.0km s-min=15.6km az=62.0*
ISC 07 07:00:10.0±1.0, 13.80N±0.07×91.30W±0.07, h74km±8km, n35, σ1s31/45, mb4.1/9, 1C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAT	**Jato**	**0.61**	**327**	*e*P		**Pn**	**07 00 22.6**	**-1.7**
FUG	**Fuego 3**	**0.78**	**35**	*e*P		**Pn**	**07 00 24.4**	**-1.9**
PCG	**Pacaya**	**0.89**	**49**	*e*P		**Pn**	**07 00 26.5**	**-1.2**
PCG				*e*S		**Sn**	**07 00 41.2**	**+0.4**
GCG	**Guatemala City**	**1.08**	**44**	*e*P		**Pn**	**07 00 28.4**	**-1.5**
GCG				*e*S		**Sn**	**07 00 43.9**	**-0.8**
NBG	**Las Nubes**	**1.21**	**50**	*e*P		**Pn**	**07 00 31.8**	**+0.2**
NBG				*e*S		**Sn**	**07 00 48.2**	**+0.4**
APG	**El Apazote**	**1.44**	**34**	P		**Pn**	**07 00 33.6**	**-1.0**
	131nm,0.3s,baz=209,slow=2.8,SNR=876							
APG				S		**Sn**	**07 00 53.2**	**+0.1**
	73nm,0.3s,baz=57,slow=23,SNR=6.1							
RBDL	**Robledal**	**1.60**	**79**	*i* P		**Pn**	**07 00 35.8**	**-0.7**
RTR	**El Retiro**	**1.61**	**87**	*e*P		**Pn**	**07 00 36.1**	**-0.7**
SBLS	**San Blas**	**1.63**	**89**	*e*P		**Pn**	**07 00 35.8**	**-1.2**
SNJE	**San Jose**	**1.65**	**88**	*i* P		**Pn**	**07 00 36.2**	**-1.0**
BOQS	**Boqueron**	**1.96**	**92**	*i* P		**Pn**	**07 00 40.7**	**-0.8**
MRL	**Marmol**	**2.00**	**51**	*e*P		**Pn**	**07 00 42.5**	**+0.6**
MRL				*e*S		**Sn**	**07 01 08.2**	**+1.9**
SNET	**Serv Nac Est T**	**2.01**	**93**	*e*P		**Pn**	**07 00 41.0**	**-1.0**
SNET				*e*S		**Sn**	**07 01 06.7**	**+0.2**
SNET				AML		AML	07 01 12.6	
	comp=Z,2μm,0.2s							
LFU	**La Fuente**	**2.12**	**91**	*e*P		**Pn**	**07 00 42.9**	**-0.6**
LFRS	**El Faro**	**2.18**	**94**	*e*P		**Pn**	**07 00 43.5**	**-0.8**
LBRS	**Las Brisas**	**2.19**	**91**	*e*P		**Pn**	**07 00 43.8**	**-0.7**
SNVI	**San Vicente**	**2.40**	**94**	*e*P		**Pn**	**07 00 46.9**	**-0.4**
SNVI				*e*S		**Sn**	**07 01 17.6**	**+1.8**
VSM	**San Miguel**	**2.97**	**97**	*e*P		**Pn**	**07 00 54.7**	**-0.4**
CNCH	**Conchagua**	**3.41**	**98**	*e*P		**Pn**	**07

PPT	**Papeete**	**23.01**	**99**	LR	LR	07 36 37.1		
	comp=Z,156nm,20.2s,baz=163,slow=31							
PPT2	**Papeete2**	**23.01**	**99**	*e*LR	LR	07 35 25.9		
	192nm,25.0s							
TBI	**Tubuai**	**23.99**	**113**	*e*LR	LR	07 35 44.8		
	228nm,25.5s,baz=296							
URZ	**Urewera**	**24.35**	**198**	P	**P**	**07 30 10.9**	**+0.5**	
URZ	**Urewera**	**24.35**	**198**	P	**P**	**07 30 10.9**	**+0.5**	
	6.3nm,0.8s,baz=7.1,slow=8.1,SNR=2.3							
H11S2	**WAKE ISLAND Hy**	**38.84**	**329**	T	T	08 13 50.7		
	baz=152,slow=0.7,SNR=20							
H11S3	**WAKE ISLAND Hy**	**38.86**	**329**	T	T	08 13 56.2		
	baz=152,slow=0.7,SNR=21							
H11S1	**WAKE ISLAND Hy**	**38.86**	**329**	T	T	08 13 41.0		
	baz=152,slow=0.7,SNR=24							
H11N3	**WAKE ISLAND Hy**	**39.79**	**330**	T	T	08 14 54.4		
	baz=153,slow=0.6							
H11N1	**WAKE ISLAND Hy**	**39.80**	**330**	T	T	08 14 56.9		
	baz=153,slow=0.6							
H11N2	**WAKE ISLAND Hy**	**39.81**	**330**	T	T	08 15 03.8		
	baz=153,slow=0.6							
STKA	**Stephens Creek**	**44.05**	**240**	P	**P**	**07 33 00.1**	**-0.4**	
STKA	**Stephens Creek**	**44.05**	**240**	P	**P**	**07 33 00.1**	**-0.4**	
	5.1nm,0.9s,baz=73,slow=9.4,SNR=6.5							
WRAB	**Tennant Creek**	**49.81**	**257**	*e*P	**P**	**07 33 44.8**	**-0.9**	
	1.8nm,0.6s							
WRA	**Warramunga Arr**	**49.82**	**257**	P	**P**	**07 33 45.1**	**-0.7**	
WRA				PcP	**PcP**	**07 35 06.2**	**-0.1**	
WRA	**Warramunga Arr**	**49.82**	**257**	P	**P**	**07 33 45.1**	**-0.7**	
	1.7nm,0.5s,baz=91,slow=6.9,SNR=19							
WRA				PcP	**PcP**	**07 35 06.2**	**-0.1**	
	0.4nm,0.6s,baz=90,slow=3.2,SNR=4.8							
AS31	**Alice Springs**	**50.09**	**252**	*e*P	**P**	**07 33 47.2**	**-0.6**	
ASAR	**Alice Springs**	**50.09**	**252**	P	**P**	**07 33 47.2**	**-0.6**	
ASAR	**Alice Springs**	**50.09**	**252**	P	**P**	**07 33 47.2**	**-0.6**	
	6.1nm,0.6s,baz=88,slow=8.6,SNR=58							
BATI	**Baumata**	**61.37**	**267**	LR	LR	07 59 41.4		
	comp=Z,176nm,18.1s,baz=144,slow=34							
VNDA	**Vanda**	**63.48**	**186**	P	**P**	**07 35 22.4**	**+0.5**	
VNDA	**Vanda**	**63.48**	**186**	P	**P**	**07 35 22.4**	**+0.5**	
	1.1nm,1.0s,baz=336,slow=4.1,SNR=4.0							
PETK	**Petropavlovsk-**	**72.51**	**342**	P	**P**	**07 36 20.9**	**+1.9**	
PETK	**Petropavlovsk-**	**72.51**	**342**	P	**P**	**07 36 20.9**	**+1.9**	
	2.9nm,0.7s,baz=123,slow=10,SNR=3.3							
NVAR	**Mina Array Bea**	**74.28**	**42**	P	**P**	**07 36 30.3**	**+0.3**	
NVAR	**Mina Array Bea**	**74.28**	**42**	P	**P**	**07 36 30.3**	**+0.3**	
	0.5nm,0.8s,baz=250,slow=11,SNR=3.8							
NVAR				LR	LR	08 05 25.4		
	comp=Z,47nm,18.2s,baz=261,slow=33							
TXAR	**Lajitas Array**	**80.59**	**56**	P	**P**	**07 37 04.3**	**-1.0**	
TXAR	**Lajitas Array**	**80.59**	**56**	P	**P**	**07 37 04.3**	**-1.0**	
	0.6nm,0.9s,baz=263,slow=4.9,SNR=3.6							
PDAR	**Pinedale Array**	**82.22**	**42**	P	**P**	**07 37 12.9**	**-0.9**	
PDAR	**Pinedale Array**	**82.22**	**42**	P	**P**	**07 37 12.9**	**-0.9**	
	0.9nm,0.8s,baz=225,slow=1.9,SNR=7.0							
PDAR				LR	LR	08 08 48.1		
	comp=Z,51nm,18.3s,baz=181,slow=32							
ILAR	**Eielson Array**	**82.35**	**11**	P	**P**	**07 37 13.7**	**0.0**	
ILAR	**Eielson Array**	**82.35**	**11**	P	**P**	**07 37 13.7**	**0.0**	
	0.4nm,0.7s,baz=232,slow=5.8,SNR=4.5							
MAW	**Mawson**	**87.88**	**199**	P	**P**	**07 37 42.1**	**+0.6**	
MAW	**Mawson**	**87.88**	**199**	P	**P**	**07 37 42.1**	**+0.6**	
	1.8nm,0.8s,baz=123,slow=12,SNR=4.7							
ULM	**Lac du Bonnet**	**93.88**	**39**	LR	LR	08 14 51.2		
	comp=Z,53nm,19.7s,baz=15,slow=32							
GERES	**GERESS Array B**	**146.03**	**352**	PKPbc	**PKPab**	**07 44 32.1**	**-0.6**	
GERES	**GERESS Array B**	**146.03**	**352**	PKPbc	**PKPab**	**07 44 32.1**	**-0.6**	
	0.2nm,0.3s,baz=72,slow=4.3,SNR=5.8							
BRTR	**Keskin Array B**	**146.04**	**321**	PKPbc	**PKPab**	**07 44 33.1**	**-0.1**	
BRTR	**Keskin Array B**	**146.04**	**321**	PKPbc	**PKPab**	**07 44 33.1**	**-0.1**	
	1.8nm,0.7s,baz=152,slow=2.8,SNR=6.9							

IDC 07 07:26:20.4±1.7, 4°84S×153°87E, h125km±7km, mb3.6/6, mb1 3.8/7, mb1mx3.6/21, mbtmp3.7/7, MS2.6/1, Ms1 2.6/1, ms1mx2.4/20, Error ellipse: s-maj=54.1km s-min=16.3km az=119.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.06**	**235**	P	Pn	07 28 15.4	+0.8
	22nm,0.3s,baz=28,slow=11,SNR=29						
PMG				S	Sn	07 29 45.8	+1.6
	5.2nm,0.3s,baz=77,slow=18,SNR=3.9						
PMG				LR	LR	07 30 32.2	
	comp=Z,42nm,20.7s,baz=146,slow=31						
WRA	**Warramunga Arr**	**24.23**	**230**	P	P	07 31 25.9	+0.1
	5.0nm,0.7s,baz=53,slow=9.8,SNR=27						
WRA				pP	pP	07 31 52.7	+0.9
	2.4nm,0.8s,baz=56,slow=12,SNR=4.8						
ASAR	**Alice Springs**	**26.85**	**224**	P	P	07 31 49.4	-0.1
	1.3nm,0.8s,baz=55,slow=9.1,SNR=13						
ASAR				pP	pP	07 32 16.8	+0.5
	1.0nm,0.8s,baz=54,slow=9.0,SNR=3.3						
FITZ	**Fitzroy Crossi**	**30.58**	**242**	P	P	07 32 21.8	-0.8
	2.3nm,0.6s,baz=70,slow=7.7,SNR=10						
SONM	**Songino Array**	**66.93**	**327**	P	P	07 37 00.3	+0.8
	0.3nm,0.5s,baz=145,slow=6.0,SNR=2.5						
MKAR	**Makanchi Array**	**81.06**	**319**	P	P	07 38 21.9	+0.3
	0.2nm,0.5s,baz=123,slow=5.3,SNR=3.8						
MKAR				pP	pP	07 38 53.5	+0.2
	0.5nm,0.8s,baz=126,slow=2.0,SNR=3.7						
BVAR	**Borovoye Array**	**89.91**	**323**	P	P	07 39 04.6	-0.7
	0.6nm,0.6s,baz=83,slow=4.8,SNR=4.1						
TORD	**Torodi Ar. Bea**	**151.33**	**289**	PKPbc	PKPbc	07 45 60.0	-0.5
	0.4nm,0.7s,baz=85,slow=1.4,SNR=3.1						
TORD				pPKPbc	pPKPbc	07 46 32.9	-1.0
	1.1nm,0.8s,baz=59,slow=2.5,SNR=5.4						

*IDC **07** 08:28:54.4±6.5, 35°.80N×70°.90E, h50km±57km, mb3.4/6, mb1 3.5/9, mb1mx3.3/29, mbtmp3.6/9, ML4.1/3, Error ellipse: s-maj=44.3km s-min=24.3km az=10.0*

*ISCJB **07** 08:28:58.1±0.7, 36°.10N±0°.04×71°.07E±0°.09, h102km, mb3.5/5, Error ellipse: s-maj=10.4km s-min=4.4km az=158.6*

*NNC **07** 08:29:06.4±6.6, 36°.76N×70°.57E, h150km±120km, mb3.4, mpv4.1, Error ellipse: s-maj=60.2km s-min=37.7km az=28.0*

ISC 07 08:28:59.8±0.8, 36°.10N±0°.07×71°.04E±0°.09, h102km, n23, σ1§23/30, mb3.6/5, 3C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.33**	**132**	*e*P	**Pn**	**08 30 16.0**	**-0.9**
THN				*ex*	**Sn**	**08 31 16.0**	**-0.9**
DHRM	**DHARAMSHALA**	**5.81**	**130**	*e*P	**Pn**	**08 30 22.3**	**-1.4**
DHRM				*e*S	**Sn**	**08 31 28.3**	**-0.7**
DHRM				AML	AML	08 31 32.9	
	comp=E,332nm,0.3s						
DHRM				AML	AML	08 31 33.4	
	comp=N,286nm,0.2s						
AML	**Almayashu**	**6.37**	**18**	P	**Pn**	**08 30 30.9**	**-0.4**
	SNR=24						
SDNR	**Sundarnagar**	**6.74**	**131**	*e*P	**Pn**	**08 30 37.0**	**+0.9**
SDNR				*e*S	**Sn**	**08 31 50.0**	**-1.4**
KZA	**Kyzart**	**6.81**	**27**	P	**Pn**	**08 30 37.0**	**-0.3**
	SNR=7.6						
EKS2	**Erkin-Say**	**6.89**	**17**	P	**Pn**	**08 30 37.9**	**-0.2**
	SNR=20						
KK31	**Karatay Array**	**7.01**	**357**	⇓P	**Pn**	**08 30 38.1**	**-1.6**
	comp=N,8.3nm,0.4s,baz=186,slow=13,SNR=225						
KK31				⇓S	Sn	08 31 49.5	-8.3
	comp=N,6.1nm,0.5s,baz=188,slow=22,SNR=8.2						
AAK	**Ala-Archa**	**7.05**	**21**	P	**Pn**	**08 30 40.5**	**0.0**
	SNR=20						
AAK	**Ala-Archa**	**7.05**	**21**	P	**Pn**	**08 30 40.7**	**+0.3**
	comp=N,5.2nm,0.3s,baz=179,slow=6.0,SNR=46						
AAK				S	**Sn**	**08 31 58.4**	**-0.7**
	comp=N,0.7nm,0.3s,baz=319,slow=22,SNR=4.3						
SMLA	**Simla**	**7.12**	**132**	*i*P	**Pn**	**08 30 40.2**	**-1.0**
SMLA				*i*S	**Sn**	**08 32 00.2**	**-0.4**
SMLA				*i*S	**Sn**	**08 32 01.2**	**+0.6**
SMLA				AML	AML	08 32 04.4	
	comp=N,63nm,0.2s						
SMLA				AML	AML	08 32 04.8	
	comp=E,81nm,0.3s						
CHMS	**Chumysh**	**7.46**	**21**	P	**Pn**	**08 30 46.0**	**+0.1**
	SNR=6.3						
TKM2	**Tokmak 2**	**7.67**	**26**	⇑P	**Pn**	**08 30 48.8**	**0.0**
	comp=E,5.3nm,0.5s						
TKM2				⇑S	**Sn**	**08 32 12.4**	**-1.7**
	comp=E,9.8nm,1.4s						
TKM2	**Tokmak 2**	**7.67**	**26**	P	**Pn**	**08 30 49.0**	**+0.1**
	SNR=6.0						
MKAR	**Makanchi Array**	**13.60**	**35**	P	**Pn**	**08 32 08.9**	**+0.6**
	comp=E,0.0nm,0.3s,baz=209,slow=11,SNR=2.4						
AB31	**Akbulak array**	**15.45**	**332**	⇓P	**Pn**	**08 32 28.6**	**-3.3**
	comp=E,1.8nm,0.4s,baz=150,slow=13,SNR=52						
AB31				⇑S	Sn	08 35 07.5	-15
	comp=E,1.2nm,0.6s,baz=154,slow=23,SNR=5.3						
KURBB	**Kurchatov Array**	**15.49**	**18**	P	**P**	**08 32 34.0**	**-0.6**
	comp=E,0.2nm,0.3s,baz=208,slow=11,SNR=5.4						
BVAR	**Borovoye Array**	**16.93**	**359**	P	**Pn**	**08 32 49.4**	**-0.8**
	comp=E,0.4nm,0.3s,baz=158,slow=11,SNR=4.1						
ZALV	**Zalesovo Beam**	**20.27**	**24**	P	**P**	**08 33 27.1**	**+0.2**
	comp=E,2.5nm,0.6s,baz=232,slow=11,SNR=6.6						
SONM	**Songino Array**	**28.54**	**55**	P	**P**	**08 34 48.1**	**+2.4**
	comp=E,0.2nm,0.4s,baz=246,slow=11,SNR=2.7						
AKASG	**Malin Array Be**	**33.22**	**309**	P	**P**	**08 35 28.2**	**+1.4**
	comp=E,0.3nm,0.3s,baz=82,slow=7.5,SNR=3.5						
ARCES	**ARCESS Array B**	**41.53**	**338**	P	**P**	**08 36 38.8**	**+2.2**
	comp=E,2.9nm,0.8s,baz=106,slow=8.9,SNR=7.0						
TORD	**Torodi Ar. Bea**	**65.74**	**269**	P	**P**	**08 39 32.8**	**-1.2**
	comp=E,0.4nm,0.5s,baz=45,slow=6.9,SNR=5.6						
WRA	**Warramunga Arr**	**81.75**	**122**	P	**P**	**08 41 07.8**	**+0.5**
	comp=E,0.2nm,0.6s,baz=317,slow=5.6,SNR=4.5						

*IDC **07** 08:59:03.4±0.6, 16°.82S×172°.30W, h0km, mb4.2/11, mb1 4.5/11, mb1mx4.3/21, mbtmp4.3/11, MS4.1/21, Ms1 4.1/21, ms1mx4.0/27, Error ellipse: s-maj=27.8km s-min=15.6km az=133.0*

*NEIC **07** 08:59:05.2±0.2, 16°.85S×172°.37W, h10km, mb5.0/32, Error ellipse: s-maj=13.3km s-min=5.2km az=145.0*

*AUST **07** 08:59:05.8, 16°.87S×171°.76W, h35km*

*ISCJB **07** 08:59:06.1±0.2, 16°.8S±0°.1×172°.45W±0°.07, h24km, mb4.8/33, MS4.2/20, Error ellipse: s-maj=17.0km s-min=4.6km az=148.3*

*BJI **07** 08:59:06.8, 16°.32S×173°.17W, h5km, mB5.6/11, mb5.2/18, Ms5.3/7, Ms7 5.0/10*

*MOS **07** 08:59:08.7±2.0, 16°.79S×172°.48W, h33km, mb5.1/11, Error ellipse: s-maj=19.9km s-min=11.3km az=146.2*

*GCMT **07** 08:59:10.0±0.3, 16°.93S×171°.71W, h18km±1km, MW5.0, Moment Tensor Solution. s25,c28; s73,c93; Moment tensor: Scale 10^{16}Nm; M_{rr}-3.62±.22; $M_{\theta\theta}$0.22±.15; $M_{\phi\phi}$3.40±.17; $M_{r\theta}$0.09±.37; $M_{\theta\phi}$0.24±.11; $M_{\phi r}$-2.28±.36; Best double couple: $M_0$4.20000×10^{16} NP1:ϕ_s1.00000°, δ61.00000°, λ-93.00000°. NP2:ϕ_s187.00000°, δ29.00000°, λ-84.00000°. Principal axes: T 4.0900, Plg16.0000°, Azm93.0000°; N 0.2100, Plg3.0000°, Azm2.0000°; P -4.3000, Plg73.0000°, Azm263.0000°; Data Used: II IU CN G IC.*

*SZGRF **07** 08:59:14.9, 15°.87S×173°.01W, h33km, Tonga Islands*

ISC 07 08:59:07.5±0.5, 16°.60S±0°.09×172°.39W±0°.09, h24km, n171, σ1§18/157, mb4.9/34, MS4.2/20, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.74**	**12**	*e*Pn	Pn	08 59 47.1	-2.9
AFI				Sn	**Sn**	**09 00 19.1**	**-3.3**
AFI	**Afiamalu**	**2.74**	**12**	Pn	Pn	08 59 46.7	-3.3
	30nm,0.3s,baz=94,slow=19,SNR=17						
AFI				Sn	**Sn**	**09 00 19.1**	**-3.3**
	59nm,0.3s,baz=107,slow=9.7,SNR=6.5						
AFI				LR	LR	09 00 40.4	
	comp=Z,761nm,19.0s,baz=46,slow=33						
NIUE	**Niue**	**3.40**	**137**	P	Pn	08 59 47.8	-11
	baz=2.8,SNR=31						
MSVF	**Nonsavu**	**9.21**	**262**	*e*P	**Pn**	**09 01 20.7**	**+1.7**
MSVF	**Nonsavu**	**9.21**	**262**	Pn	Pn	09 01 25.9	+6.9
	404nm,1.1s,SNR=9.0						
MSVF	**Nonsavu**	**9.21**	**262**	*e*Pn	**Pn**	**09 01 20.7**	**+1.7**
RAR	**Rarotonga**	**12.79**	**113**	Pn	Pn	09 01 57.0	-11
	4.3nm,0.3s,baz=238,slow=0.0,SNR=7.2						
DZM	**Mont Dzumac**	**20.70**	**251**	P	**P**	**09 03 45.5**	**-0.7**
	11nm,0.9s,baz=81,slow=19,SNR=4.6						
PPT	**Papeete**	**21.82**	**96**	LR	LR	09 10 02.3	
	comp=Z,484nm,18.3s,baz=344,slow=30						
URZ	**Urewera**	**23.47**	**201**	P	**P**	**09 04 13.5**	**-1.8**
	9.0nm,0.5s,baz=32,slow=15,SNR=11						
HNR	**Honiara**	**27.86**	**281**	LR	LR	09 14 21.5	
	comp=Z,2μm,21.8s,baz=99,slow=33						
RPZ	**Rata Peaks**	**30.47**	**204**	P	**P**	**09 05 20.1**	**+1.7**
	8.9nm,1.0s,baz=20,slow=11,SNR=4.5						
EIDS	**Eivold**	**35.12**	**249**	P	**P**	**09 05 58.6**	**-0.7**
	baz=36,SNR=3.4						
ARMA	**Armidale**	**35.59**	**241**	P	**P**	**09 06 02.5**	**-0.8**
	baz=36,SNR=7.0						
RMQ	**Roma**	**37.33**	**248**	P	**P**	**09 06 19.1**	**+0.9**
	baz=38,SNR=4.5						
CMSA	**Cobar Meteorol**	**40.81**	**241**	P	**P**	**09 06 46.0**	**-1.2**
	baz=41,SNR=12						
QLP	**Quilpie**	**41.37**	**249**	P	**P**	**09 06 50.3**	**-1.6**
	baz=42,SNR=7.1						
H11N3	**WAKE ISLAND Hy**	**41.43**	**330**	T	T	09 51 57.5	
	baz=153						
H11N1	**WAKE ISLAND Hy**	**41.44**	**330**	T	T	09 52 02.7	
	baz=153						
H11N2	**WAKE ISLAND Hy**	**41.45**	**330**	T	T	09 52 03.6	
	baz=153						
TOO	**Toolangi**	**42.48**	**232**	P	**P**	**09 07 00.3**	**-0.6**
	baz=43,SNR=5.3						
COEN	**Coen**	**42.89**	**267**	P	**P**	**09 07 05.3**	**+0.9**
	baz=43,SNR=5.8						
STKA	**Stephens Creek**	**44.30**	**241**	P	**P**	**09 07 15.2**	**-0.5**
	baz=45,SNR=5.8						
STKA	**Stephens Creek**	**44.30**	**241**	P	**P**	**09 07 14.8**	**-0.9**
	10.0nm,0.8s,baz=100,slow=12,SNR=13						
STKA				LR	LR	09 22 28.7	
	comp=Z,314nm,21.0s,baz=282,slow=32						
BBOO	**Buckleboo**	**49.07**	**241**	P	**P**	**09 07 52.2**	**-0.8**
	baz=49,SNR=24						
WRA	**Warramunga Arr**	**50.53**	**258**	P	**P**	**09 08 03.1**	**-1.2**
	7.4nm,0.6s,baz=95,slow=7.0,SNR=189						
WRA				LR	LR	09 27 38.4	
	comp=Z,372nm,21.2s,baz=100,slow=34						
ASAR	**Alice Springs**	**50.68**	**253**	P	**P**	**09 08 04.5**	**-0.9**
	49nm,0.6s,baz=87,slow=8.8,SNR=390						
ASAR				S	**S**	**09 15 16.2**	**-3.3**
	0.3nm,0.4s,baz=81,slow=14,SNR=5.4						
ASAR				LR	LR	09 28 07.8	
	comp=Z,164nm,19.4s,baz=102,slow=34						
KDU	**Kakadu**	**53.36**	**266**	P	**P**	**09 08 25.4**	**0.0**
	baz=54,SNR=5.3						
FORT	**Forrest**	**55.76**	**244**	P	**P**	**09 08 42.0**	**-0.6**
	baz=56,SNR=12						
KNRA	**Kununurra**	**56.36**	**262**	P	**P**	**09 08 47.0**	**-0.2**
	baz=57,SNR=5.8						
FITZ	**Fitzroy Crossi**	**58.92**	**259**	P	**P**	**09 09 05.6**	**+0.4**
	baz=59,SNR=7.4						
SOEI	**Soe**	**61.85**	**268**	P	**P**	**09 09 28.1**	**+2.7**
	baz=62,SNR=5.9						
VNDA	**Vanda**	**62.29**	**186**	P	**P**	**09 09 26.0**	**-1.2**
	1.6nm,0.8s,baz=354,slow=7.5,SNR=7.1						
VNDA				LR	LR	09 32 25.0	
	comp=Z,72nm,21.4s,baz=76,slow=32						
MEEK	**Meekatharra**	**64.27**	**248**	P	**P**	**09 09 40.9**	**-0.3**
	baz=65,SNR=6.6						
KLBR	**Kellerberrin**	**64.55**	**243**	P	**P**	**09 09 43.2**	**+0.3**
	baz=65,SNR=16						
BLDU	**Ballidu**	**65.53**	**244**	P	**P**	**09 09 49.4**	**+0.1**
	baz=66,SNR=7.9						
MORW	**Morawa**	**66.26**	**245**	P	**P**	**09 09 54.6**	**+0.5**
	baz=67,SNR=4.4						
ATKA	**Atka Island**	**68.53**	**359**	*e*P	P	09 10 14.6	+6.9
	27μm,1.3s						
MJAR	**Matsushiro Arr**	**70.48**	**320**	LR	LR	09 35 46.1	
	comp=Z,92nm,21.4s,baz=160,slow=31						
MONP	**Monument Peak**	**72.66**	**47**	P	**P**	**09 10 34.3**	**+0.7**
	baz=73						
EDW2	**Edwards Air Fo**	**72.70**	**44**	P	**P**	**09 10 34.7**	**+1.0**
	baz=73						
ISA	**Isabella**	**72.83**	**44**	P	**P**	**09 10 36.0**	**+1.5**
	baz=73						
ASAJ	**Asahikawa**	**73.07**	**328**	LR	LR	09 39 46.8	
	comp=Z,54nm,18.3s,baz=2.3,slow=33						
SWSC	**Sam W. Stewart**	**73.12**	**47**	P	**P**	**09 10 37.7**	**+1.6**
	baz=73						
BELC	**Belle Mtn. Jos**	**73.56**	**46**	P	**P**	**09 10 39.8**	**+0.9**
	baz=74						
MPMC	**Manual Prospec**	**73.71**	**44**	P	**P**	**09 10 41.0**	**+1.2**
	baz=74						
GSC	**Goldstone**	**73.74**	**45**	P	**P**	**09 10 40.9**	**+1.0**
	baz=74						
BC3	**Big Chuckawall**	**73.75**	**47**	P	**P**	**09 10 40.9**	**+0.9**
	baz=74						
HEC	**Hector,Ludlow**	**73.80**	**45**	P	**P**	**09 10 41.0**	**+0.8**
	baz=74						
PETK	**Petropavlovsk-**	**74.06**	**342**	P	**P**	**09 10 42.5**	**+1.3**
	3.9nm,0.8s,baz=140,slow=7.2,SNR=3.6						
PETK				LR	LR	09 44 25.6	
	comp=Z,33nm,18.4s,baz=66,slow=37						
GMRC	**Granite Mounta**	**74.23**	**46**	P	**P**	**09 10 43.5**	**+0.7**
	baz=75						
IRM	**Iron Mountain**	**74.24**	**46**	P	**P**	**09 10 43.5**	**+0.8**
	baz=75						
FURC	**Furnace Creek,**	**74.37**	**44**	P	**P**	**09 10 44.5**	**+1.2**
	baz=75						
SHOC	**Shoshone**	**74.43**	**44**	P	**P**	**09 10 45.0**	**+1.2**
	baz=75						
113A	**Mohawk Valley,**	**74.47**	**48**	P	**P**	**09 10 45.7**	**+1.6**
	baz=75						
NVAR	**Mina Array Bea**	**74.57**	**41**	P	**P**	**09 10 45.5**	**+0.8**
NVAR	**Mina Array Bea**	**74.57**	**41**	P	**P**	**09 10 45.5**	**+0.8**
	1.2nm,0.7s,baz=228,slow=8.7,SNR=13						
NVAR				LR	LR	09 37 39.9	
	comp=Z,143nm,19.5s,baz=177,slow=31						
NV11	**Mina Array Sit**	**74.67**	**41**	*e*P	**P**	**09 10 46.2**	**+0.9**
Z14A	**Wintersburg**	**75.37**	**48**	P	**P**	**09 10 50.8**	**+1.6**
	baz=76						
MOD	**Modoc**	**75.46**	**37**	*e*P	**P**	**09 10 50.2**	**+0.4**
	35nm,1.3s						
SHPR	**Sheep Range**	**75.52**	**44**	*e*P	**P**	**09 10 50.8**	**+0.5**
W13A	**Hualapai Mount**	**75.62**	**46**	P	**P**	**09 10 51.9**	**+0.9**
	baz=76						
Y14A	**Wickenburg**	**75.62**	**48**	P	**P**	**09 10 51.8**	**+1.1**
	baz=76						
KDAK	**Kodiak Island**	**75.90**	**11**	LR	LR	09 35 52.9	
	comp=Z,120nm,21.7s,baz=128,slow=29						
R11A	**Troy Canyon, C**	**76.27**	**43**	*e*P	**P**	**09 10 56.1**	**+1.6**
	27nm,2.1s						
R11A				*e*pP	**PcP**	**09 11 08.5**	**+2.1**
R11A	**Troy Canyon, C**	**76.27**	**43**	P	**P**	**09 10 56.1**	**+1.6**
	baz=77						
WVOR	**Wild Horse Val**	**76.77**	**38**	*e*P	**P**	**09 10 58.7**	**+1.5**
WVOR				pmax	pmax		
	comp=Z,26nm,2.0s						
WVOR	**Wild Horse Val**	**76.77**	**38**	*e*P	**P**	**09 10 58.7**	**+1.5**
	comp=Z,26nm,2.0s						
X16A	**Lo Mia Camp, P**	**76.98**	**48**	P	**P**	**09 10 59.8**	**+1.1**
	baz=77						
319A	**Douglas**	**77.06**	**52**	P	**P**	**09 10 60.0**	**+0.9**
	baz=77						
CCUT	**Cedar City**	**77.29**	**44**	*e*P	**P**	**09 11 02.4**	**+2.0**
	comp=Z,23nm,1.8s						
ARUT	**Antelope Range**	**77.37**	**44**	*e*P	**P**	**09 11 01.7**	**+1.0**
ARUT	**Antelope Range**	**77.37**	**44**	*e*P	**P**	**09 11 01.7**	**+1.0**
	comp=Z,251nm,1.6s						
G06A	**Carlson Farm,**	**77.38**	**35**	*e*P	**P**	**09 11 03.3**	**+2.9**
	comp=Z,134nm,2.7s						
U15A	**North Rim**	**77.42**	**46**	P	**P**	**09 11 02.1**	**+0.9**
	baz=78						
WUAZ	**Wupatki**	**77.59**	**47**	P	**P**	**09 11 03.3**	**+1.3**
	baz=78						
320A	**Kipp Ranch, An**	**77.61**	**52**	P	**P**	**09 11 03.1**	**+0.9**
	baz=78						
KSRS	**Korea Array**	**77.69**	**315**	LR	LR	09 40 36.5	
	comp=Z,64nm,20.9s,baz=145,slow=32						
220A	**Playas Peak, P**	**77.88**	**51**	P	**P**	**09 11 04.9**	**+1.3**
	baz=78						
120A	**U Bar Ranch, L**	**78.10**	**51**	P	**P**	**09 11 06.1**	**+1.2**
	baz=78						
X18A	**Snowflake**	**78.10**	**48**	P	**P**	**09 11 06.2**	**+1.3**
	baz=78						
G08A	**Pilot Rock**	**78.33**	**35**	*e*P	**P**	**09 11 06.5**	**+0.7**
	comp=Z,36nm,2.3s						
G08A				*e*pP	PcP	09 11 21.0	+5.9
Z20A	**Nine Sixteen R**	**78.40**	**50**	P	**P**	**09 11 07.8**	**+1.2**
	baz=79						
MVU	**Marysvale**	**78.57**	**44**	*e*P	**P**	**09 11 09.5**	**+2.0**
	comp=Z,32nm,2.2s						
121A	**Cookes Peak, D**	**78.73**	**51**	P	**P**	**09 11 09.4**	**+1.0**
	baz=79						
Y20A	**Horse Springs,**	**78.94**	**50**	P	**P**	**09 11 10.7**	**+1.1**
	baz=79						
MFID	**Camas Ranch**	**79.01**	**38**	P	**P**	**09 11 11.3**	**+1.7**
	baz=79						
X20A	**Quemado**	**79.16**	**49**	P	**P**	**09 11 11.7**	**+1.0**
	baz=80						
Z21A	**St. Cloud Mine**	**79.17**	**50**	P	**P**	**09 11 11.8**	**+0.9**
	baz=80						
BGU	**Big Grassy Mou**	**79.33**	**42**	*e*P	**P**	**09 11 13.4**	**+1.9**
	comp=Z,37nm,2.4s						
W20A	**Ramah**	**79.43**	**48**	P	**P**	**09 11 13.2**	**+0.9**
	baz=80						
X21A	**Alamocita Cree**	**79.63**	**49**	P	**P**	**09 11 14.9**	**+1.5**
	baz=80						
Z22A	**Elephant Butte**	**79.67**	**51**	P	**P**	**09 11 14.6**	**+1.1**
	baz=80						
HLID	**Hailey**	**79.94**	**39**	*e*P	**P**	**09 11 15.3**	**+0.6**
	comp=Z,21nm,1.9s						
HLID	**Hailey**	**79.94**	**39**	P	**P**	**09 11 15.9**	**+1.1**
	baz=80						
324A	**Moseley Ranch,**	**79.97**	**53**	P	**P**	**09 11 15.6**	**+0.4**
	baz=80						
Y22A	**Socorro**	**79.99**	**50**	P	**P**	**09 11 15.8**	**

baz=82
Z26A Caprock 81.92 52 P **P** 09 11 25.9 +0.4
baz=82
328A Wristen Ranch, 82.00 54 P **P** 09 11 26.4 +0.5
baz=82
TPAW Teton Pass 82.01 40 *e*P **P** 09 11 27.5 +1.6
comp=Z,86nm,3.0s
SNOW Snow King Moun 82.12 40 *e*P **P** 09 11 26.6 +0.2
comp=Z,45nm,2.3s
LOHW Long Hollow 82.29 40 *e*P **P** 09 11 27.4 +0.1
comp=Z,8.2nm,1.6s
Q22A Crested Butte, 82.34 46 P **P** 09 11 28.6 +0.8
baz=83
429A Davenport Ranc 82.41 55 P **P** 09 11 28.1 +0.1
baz=83
SMCO Snowmass 82.44 45 *e*P **P** 09 11 29.3 +0.9
comp=Z,108nm,2.8s
PDAR Pinedale Array 82.51 41 P **P** 09 11 27.9 -0.6
PDAR Pinedale Array 82.51 41 P **P** 09 11 27.9 -0.6
comp=Z,0.4nm,0.6s,baz=240,slow=3.7,SNR=4.2
PDAR LR LR 09 43 00.5
comp=Z,96nm,18.1s,baz=256,slow=32
V25A Rancho No Teng 82.57 49 P **P** 09 11 30.3 +1.4
baz=83
YMR Madison River 82.62 39 *e*P **P** 09 11 30.1 +1.0
comp=Z,26nm,1.8s
329A Wagon Wheel Ra 82.69 54 P **P** 09 11 30.5 +1.0
baz=83
Y27A Causey 82.79 52 P **P** 09 11 30.5 +0.5
baz=83
631A Perdido Creek 82.97 57 P **P** 09 11 31.5 +0.6
baz=83
U25A Circle Dot Ran 82.97 49 P **P** 09 11 31.8 +0.8
baz=83
V26A Tequesquite Ra 83.16 50 P **P** 09 11 32.9 +0.9
baz=84
ILAR Eielson Array 83.43 11 P **P** 09 11 32.6 +0.1
comp=Z,1.4nm,0.8s,baz=218,slow=5.9,SNR=13
ILAR LR LR 09 40 33.1
comp=Z,60nm,20.8s,baz=161,slow=30
U26A Atchley Ranch, 83.45 49 P **P** 09 11 34.0 +0.5
baz=84
632A Uvalde 83.64 57 P **P** 09 11 35.1 +0.8
baz=84
J21A Lysite 84.14 42 P **P** 09 11 37.5 +0.7
baz=84
231A Bronte 84.17 54 P **P** 09 11 37.3 +0.2
baz=84
QIZ Qiongzhong 84.25 292 P **P** 09 11 36.6 -1.1
QIZ S **S** 09 22 02.3 +0.1
QIZ AMB AMB
comp=Z,16nm,2.6s
QIZ LR LR
comp=Z,510nm,5.6s
MAW Mawson 86.97 198 P **P** 09 11 48.6 -1.8
comp=Z,2.3nm,0.8s,baz=104,slow=7.6,SNR=4.1
PLCA Paso Flores 87.99 132 LR LR 09 42 32.6
comp=Z,236nm,19.3s,baz=316,slow=30
ULM Lac du Bonnet 94.25 39 LR LR 09 48 08.4
comp=Z,160nm,19.5s,baz=321,slow=31
SONM Songino Array 96.38 318 LR LR 09 49 39.7
comp=Z,118nm,19.9s,baz=318,slow=31
LPAZ La Paz 98.49 110 LR LR 09 50 05.0
comp=Z,76nm,18.9s,baz=213,slow=31
ROSC El Rosal 99.08 88 LR LR 09 50 54.3
comp=Z,54nm,18.6s,baz=194,slow=31
MKAR Makanchi Array 112.36 314 PKiKP **PKiKP** 09 17 41.6 +0.1
comp=Z,0.2nm,0.5s,baz=48,slow=4.3,SNR=3.4
CLL Collm 145.10 354 *e*PKPdf **PKPab** 09 18 43.0 +0.7
comp=Z,8.0nm,0.8s
BRG Berggiesshubel 145.43 353 *e*PKP **PKPab** 09 18 44.3 +0.7
comp=Z,4.1nm,0.7s
STHS Stebnicka Huta 145.44 344 *e*PKP **PKPab** 09 18 44.4 +0.7
KOLS Kolonicke sedl 145.60 343 *e*PKP **PKPab** 09 18 45.3 +1.0
KMBO Kilima Mbogo 145.86 242 PKPbc **PKPab** 09 18 47.3 +0.7
comp=Z,4.3nm,0.9s,baz=74,slow=6.0,SNR=9.2
VRAC Vranov 146.57 349 PKPbc **PKPab** 09 18 48.2 +0.3
comp=Z,3.1nm,0.4s,baz=282,slow=6.2,SNR=4.8
GERES GERESS Array B 147.46 353 PKPbc **PKPbc** 09 18 49.6 +0.1
comp=Z,0.6nm,0.2s,baz=64,slow=3.1,SNR=7.2
BRTR Keskin Array B 147.70 321 PKPbc **PKPbc** 09 18 51.4 +0.8
comp=Z,3.4nm,0.8s,baz=120,slow=2.0,SNR=14
DAVOX Davos/Dischmat 149.84 357 PKPbc **PKPbc** 09 18 56.4 +0.5
comp=Z,4.4nm,0.6s,baz=345,slow=7.2,SNR=5.9
TORD Torodi Ar. Bea 173.33 120 PKP **PKPdf** 09 19 13.7 -2.1
comp=Z,0.4nm,0.8s,baz=335,slow=2.1,SNR=3.3
TORD PKPab **PKPab** 09 20 41.4 -2.6
comp=Z,1.1nm,0.7s,baz=266,slow=3.7,SNR=6.2

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*ISCJB **07** 08:59:44.8±0.6, 64°.80N±0°.03×30°.6E±0°.1, h0km, Error ellipse: s-maj=7.0km s-min=3.9km az=177.2*
*NAO **07** 08:59:46.2±1.8, 64°.86N×31°.16E, ML2.0*
*HEL **07** 08:59:46.7±0.1, 64°.84N×30°.62E, h0km, ML1.8, ML1.4(UPP), Explosion*
*CSEM **07** 08:59:46.3±0.3, 64°.85N×30°.60E, h2km, ML1.8, Error ellipse: s-maj=8.7km s-min=4.9km az=98.0, Mining explosion.*
*BER **07** 08:59:47.2±3.0, 64°.84N×30°.76E, h0km, ML2.0(NAO), Suspected explosion*
*UPP **07** 08:59:49.0, 64°.71N×30°.06E, h0km, ML1.4, Suspected Mining explosion.*

ISC 07 08:59:45.2±1.0, 64°.82N±0°.03×30°.51E±0°.05, h0km, n50, σ1s65/70, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.24**	**348**	*e*P	**Pg**	**09 00 08.6**	**-0.4**
KU6				*e*SB	**Sb**	**09 00 26.2**	**+0.2**
KU6	**Riekki**	**1.24**	**348**	P	**Pg**	**09 00 08.6**	**-0.4**
KU6				Sb	**Sb**	**09 00 26.2**	**+0.2**
MSF	**Maaselka**	**1.26**	**331**	*e*P	**Pg**	**09 00 09.5**	**+0.2**
MSF				*e*SN	**Sn**	**09 00 28.4**	**+0.7**
MSF	**Maaselka**	**1.26**	**331**	P	**Pg**	**09 00 09.5**	**+0.2**
MSF				Sn	**Sn**	**09 00 28.4**	**+0.7**
JOF	**Joensuu**	**1.94**	**169**	*e*P	**Pn**	**09 00 18.9**	**-0.5**
JOF				*e*SG	**Sb**	**09 00 46.7**	**+0.7**
JOF				MSG		09 00 46.7	
	comp=Z,6.1nm,0.2s						
JOF	**Joensuu**	**1.94**	**169**	P	**Pn**	**09 00 18.8**	**-0.5**
OUL	**Oulu**	**1.98**	**280**	*e*P	**Pn**	**09 00 22.0**	**+2.1**
OUL				*e*SG	**Sb**	**09 00 48.9**	**+1.6**
OUL				MSG		09 00 48.9	
	comp=Z,3.4nm,0.4s						
OUL	**Oulu**	**1.98**	**280**	P	**Pn**	**09 00 22.0**	**+2.1**
OUL				Sg	**Sb**	**09 00 48.9**	**+1.6**
	comp=Z,3.4nm,0.4s						
RNF	**Rovaniemi**	**2.59**	**316**	*e*PB	**Pb**	**09 00 31.6**	**-0.8**
	baz=128						
RNF				MSG	**Sb**	**09 01 05.8**	**+1.1**
	comp=Z,3.0nm,0.4s						
RNF				*e*SB	**Sb**	**09 01 05.8**	**+1.1**
RNF	**Rovaniemi**	**2.59**	**316**	Pb	**Pb**	**09 00 31.6**	**-0.8**
SUF	**Sumiainen**	**2.86**	**225**	*e*P	**Pn**	**09 00 34.1**	**+2.1**
SUF				MSG	**Sb**	**09 01 13.6**	**+1.0**
	comp=Z,2.5nm,0.4s						
SUF				*e*SB	**Sb**	**09 01 13.6**	**+1.0**
SUF	**Sumiainen**	**2.86**	**225**	P	**Pn**	**09 00 34.1**	**+2.1**
VRF	**Varrio**	**2.97**	**353**	*e*P	**Pn**	**09 00 34.7**	**+1.1**
	baz=165						
VRF				*e*SG	**Sb**	**09 01 17.2**	**+1.6**
VRF				MSG		09 01 17.2	
	comp=Z,1.8nm,0.4s						
VRF	**Varrio**	**2.97**	**353**	P	**Pn**	**09 00 34.6**	**+1.1**
APA0	**Apatity Array**	**2.98**	**19**	Pn	**Pn**	**09 00 34.3**	**+0.7**
	baz=189,slow=14						
APA0				Lg	Lg	09 01 16.9	
	baz=193,slow=37						
APA0	**Apatity Array**	**2.98**	**19**	Pn	**Pn**	**09 00 34.3**	**+0.7**
	baz=189,slow=14						
APA0				Lg	Lg	09 01 16.9	
	baz=193,slow=37						
APA0	**Apatity Array**	**2.98**	**19**	Pn	**Pn**	**09 00 34.3**	**+0.7**
	baz=189,slow=13,SNR=50						
APA0				Lg	Lg	09 01 16.9	
	baz=193,slow=34,SNR=4.5						
SGF	**Sodankyl**	**3.10**	**330**	*e*P	**Pn**	**09 00 37.5**	**+2.2**
SGF	**Sodankyl**	**3.10**	**330**	P	**Pn**	**09 00 37.4**	**+2.2**
KAF	**Kangasniemi**	**3.31**	**217**	*e*P	**Pn**	**09 00 41.0**	**+2.9**
KAF	**Kangasniemi**	**3.31**	**217**	P	**Pn**	**09 00 41.0**	**+2.9**
ERTU	**Ertsjaerv**	**3.86**	**301**	*e*P	**Pn**	**09 00 47.7**	**+1.9**
ERTU				*e*S	**Sn**	**09 01 28.4**	**-3.3**
ERTU	**Ertsjaerv**	**3.86**	**301**	P	**Pn**	**09 00 47.6**	**+1.9**
ERTU				S	**Sn**	**09 01 28.4**	**-3.3**
VAF	**Ylistaro**	**3.89**	**246**	*e*P	**Pn**	**09 00 48.7**	**+2.5**
VAF				*e*SG	**Sg**	**09 01 48.3**	**-1.8**
VAF				MSG		09 01 48.3	
	comp=Z,2.5nm,0.4s						
VAF	**Ylistaro**	**3.89**	**246**	P	**Pn**	**09 00 48.6**	**+2.5**
BURU	**Burvik**	**3.93**	**271**	*e*P	**Pn**	**09 00 47.0**	**+0.3**
BURU	**Burvik**	**3.93**	**271**	P	**Pn**	**09 00 47.0**	**+0.3**
HARU	**Harads**	**4.20**	**293**	*e*P	**Pn**	**09 00 52.3**	**+2.0**
HARU	**Harads**	**4.20**	**293**	P	**Pn**	**09 00 52.3**	**+2.0**
UMAU	**Umeaa**	**4.38**	**262**	*e*P	**Pn**	**09 00 52.8**	**0.0**
UMAU	**Umeaa**	**4.38**	**262**	P	**Pn**	**09 00 52.8**	**0.0**
LILU	**Lilltraesk**	**4.54**	**281**	*e*P	**Pn**	**09 00 57.5**	**+2.4**
LILU	**Lilltraesk**	**4.54**	**281**	P	**Pn**	**09 00 57.5**	**+2.4**
SVAU	**Svanoeiden**	**4.71**	**271**	*e*P	**Pn**	**09 00 58.3**	**+0.9**
SVAU	**Svanoeiden**	**4.71**	**271**	P	**Pn**	**09 00 58.3**	**+0.9**
LANU	**Lannavaara**	**4.71**	**317**	*e*P	**Pn**	**09 00 59.1**	**+1.6**
LANU	**Lannavaara**	**4.71**	**317**	P	**Pn**	**09 00 59.1**	**+1.6**
ARA0	**ARCESS Array S**	**5.12**	**340**	Pn	**Pn**	**09 01 03.5**	**+0.4**
	baz=154,slow=14						
ARA0				Sn	**Sn**	**09 02 02.3**	**-0.5**
	baz=158,slow=28						
ARA0				Lg	Lg	09 02 23.4	
	baz=147,slow=37						
ARA0	**ARCESS Array S**	**5.12**	**340**	Pn	**Pn**	**09 01 03.5**	**+0.4**
	baz=154,slow=14						
ARA0				Sn	**Sn**	**09 02 02.3**	**-0.5**
	baz=158,slow=28						
ARA0				Lg	Lg	09 02 23.4	
	baz=147,slow=33,SNR=50						
KUA	**Kurravaara**	**5.16**	**312**	*e*P	**Pn**	**09 01 06.0**	**+2.4**
KUA	**Kurravaara**	**5.16**	**312**	P	**Pn**	**09 01 06.0**	**+2.4**
SALU	**Saltoluokta**	**5.52**	**303**	*e*P	**Pn**	**09 01 10.1**	**+1.6**
SALU	**Saltoluokta**	**5.52**	**303**	P	**Pn**	**09 01 10.1**	**+1.6**
HFS	**Hagfors**	**9.08**	**247**	Pn	**Pn**	**09 01 58.3**	**+1.0**
	baz=62,slow=14						
HFS				Sn	**Sn**	**09 03 37.3**	**-2.7**
	baz=55,slow=28						
HFS	**Hagfors**	**9.08**	**247**	Pn	**Pn**	**09 01 58.3**	**+1.0**
	baz=62,slow=14						
HFS				Sn	**Sn**	**09 03 37.3**	**-2.7**
	baz=55,slow=28						
HFS	**Hagfors**	**9.08**	**247**	Pn	**Pn**	**09 01 58.3**	**+1.0**
	baz=62,slow=13,SNR=50						
NB2	**NORSAR Subarra**	**9.56**	**256**	Pn	**Pn**	**09 02 05.9**	**+2.0**
	baz=63,slow=14						
NB2	**NORSAR Subarra**	**9.56**	**256**	Pn	**Pn**	**09 02 05.9**	**+2.0**
	baz=63,slow=14						
NB2	**NORSAR Subarra**	**9.56**	**256**	Pn	**Pn**	**09 02 05.9**	**+2.0**
	baz=63,slow=14,SNR=50						

IDC 07 09:09:00.4±1.3, 1°.95N×128°.39E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.6/21, mbtmp3.6/6, Error ellipse: s-maj=121.7km s-min=18.2km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.52**	**165**	P	P	09 14 01.8	-0.2
	1.0nm,0.7s,baz=345,slow=10,SNR=5.3						
ASAR	**Alice Springs**	**26.02**	**168**	P	P	09 14 35.8	+0.4
	0.3nm,0.8s,baz=349,slow=7.5,SNR=3.9						
STKA	**Stephens Creek**	**35.90**	**161**	P	P	09 16 01.7	-0.7
	2.0nm,0.8s,baz=326,slow=11,SNR=2.9						
H11N1	**WAKE ISLAND Hy**	**41.56**	**62**	T	T	10 00 52.6	
	baz=252						
H11N2	**WAKE ISLAND Hy**	**41.58**	**62**	T	T	10 00 57.3	
	baz=252						
H11N3	**WAKE ISLAND Hy**	**41.58**	**62**	T	T	10 00 48.3	
	baz=252						
SONM	**Songino Array**	**49.52**	**341**	P	P	09 17 53.3	+0.3
	0.6nm,0.6s,baz=145,slow=8.2,SNR=2.5						
MKAR	**Makanchi Array**	**59.96**	**325**	P	P	09 19 08.7	0.0
	0.5nm,0.6s,baz=118,slow=7.3,SNR=6.0						
KURBB	**Kurchatov Arra**	**64.13**	**327**	P	P	09 19 36.3	-0.3
	0.8nm,0.8s,baz=126,slow=6.1,SNR=6.4						

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*ISCJB **07** 09:32:23.2±0.4, 51°.51N±0°.02×6°.44E±0°.03, h0km, Error ellipse: s-maj=3.3km s-min=2.2km az=146.6*
*CSEM **07** 09:32:24.9±0.2, 51°.50N×6°.54E, h1km, ML3.9/12, Error ellipse: s-maj=4.4km s-min=3.3km az=149.0*
*PRU **07** 09:32:24.8, 51°.42N×6°.55E, h0km, Moers*
*BUG **07** 09:32:25.2, 51°.45N×6°.55E, h1km, ML3.0*
*LDG **07** 09:32:26.2±0.1, 51°.49N×6°.59E, h1km, Md3.4/2, Ml3.6/20, Error ellipse: s-maj=2.7km s-min=1.9km az=142.0, Suspected Mining induced.*
*BGR **07** 09:32:26.9±0.2, 51°.48N×6°.62E, h1km, ML3.1/8, Error ellipse: s-maj=4.4km s-min=3.3km az=142.0*
*BNS **07** 09:32:26.3±0.8, 51°.50N×6°.56E, h1km, ML2.9*
*STR **07** 09:32:29.6±0.3, 51°.33N×7°.25E, h10km, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 07 09:32:24.3±0.7, 51°.47N±0°.02×6°.51E±0°.02, h0km, n142, σ1s32/229, 3C-3D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRHE	**Rheinberg**	**0.06**	**40**	Pg	**Pg**	**09 32 26.4**	**+1.0**
BRHE				Sg	**Sg**	**09 32 27.4**	**+1.2**
BRHE	**Rheinberg**	**0.06**	**40**	Pg	**Pg**	**09 32 26.4**	**+1.0**
BRHE				Sg	**Sg**	**09 32 27.4**	**+1.2**
LAUG	**Laupendahl**	**0.30**	**114**	*e*Pg	**Pg**	**09 32 31.4**	**+1.4**
LAUG	**Laupendahl**	**0.30**	**114**	Pg	**Pg**	**09 32 31.4**	**+1.4**
RODG	**Roetgen-Dahlhe**	**0.39**	**213**	*e*Pg	**Pb**	**09 32 34.8**	**+0.7**
RODG	**Roetgen-Dahlhe**	**0.39**	**213**	Pg	**Pb**	**09 32 34.8**	**+0.7**
RWB	**Wassenberg**	**0.43**	**211**	*e*Pg	**Pb**	**09 32 35.6**	**+0.8**
RWB				*e*Sg	**Sb**	**09 32 42.5**	**+0.6**
	1µm,0.2s						
RWB	**Wassenberg**	**0.43**	**211**	Pg	**Pb**	**09 32 35.6**	**+0.8**
RWB				Sg	**Sb**	**09 32 42.5**	**+0.6**
	1µm,0.2s						
OPLO	**Oploo**	**0.45**	**285**	*e*Pg	**Pb**	**09 32 36.2**	**+1.0**
	SNR=2.9						
OPLO				*e*Sg	**Sb**	**09 32 43.7**	**+1.3**
OPLO	**Oploo**	**0.45**	**285**	Pg	**Pb**	**09 32 36.2**	**+1.0**
	SNR=2.9						
OPLO				Sg	**Sb**	**09 32 43.7**	**+1.3**
BUG	**Bochum--Univer**	**0.47**	**94**	*e*Pg	**Pg**	**09 32 34.5**	**+1.1**
BUG				Sg	**Sg**	**09 32 41.3**	**+1.7**
WTSB	**Winterswijk**	**0.53**	**20**	*e*Pg	**Pb**	**09 32 36.0**	**-0.5**
	SNR=7.7						
WTSB	**Winterswijk**	**0.53**	**20**	*e*Pg	**Pb**	**09 32 35.9**	**-0.6**
	baz=180						
WTSB	**Winterswijk**	**0.53**	**20**	Pg	**Pb**	**09 32 36.0**	**-0.5**
	SNR=7.7						
ENTS	**Ennepetalsperr**	**0.61**	**112**	*e*Pg	**Pg**	**09 32 37.2**	**+1.2**
ENTS				*e*Sg	**Sg**	**09 32 45.0**	**+1.1**
ENTS	**Ennepetalsperr**	**0.61**	**112**	Pg	**Pg**	**09 32 37.2**	**+1.2**
ENTS				Sg	**Sg**	**09 32 45.0**	**+1.1**
BNS	**Bensberg**	**0.66**	**140**	*e*Pg	**Pb**	**09 32 39.1**	**+0.4**
BNS	**Bensberg**	**0.66**	**140**	Pg	**Pb**	**09 32 39.1**	**+0.4**
HOBG	**Hohbusch**	**0.71**	**133**	*e*Pg	**Pb**	**09 32 39.8**	**+0.2**
HOBG	**Hohbusch**	**0.71**	**133**	Pg	**Pb**	**09 32 39.8**	**+0.2**
GSH	**Grosshau**	**0.74**	**186**	*e*Pg	**Pb**	**09 32 40.8**	**+0.7**
GSH				*e*Sg	**Sb**	**09 32 51.6**	**+0.8**
	335nm,0.2s						
GSH	**Grosshau**	**0.74**	**186**	Pg	**Pb**	**09 32 40.8**	**+0.7**
GSH				Sg	**Sb**	**09 32 51.6**	**+0.8**
	335nm,0.2s						
HGN	**Heimansgroeve**	**0.80**	**207**	*e*Pg	**Pb**	**09 32 42.0**	**+1.0**
	SNR=295						
HGN				*e*Sg	**Sb**	**09 32 53.6**	**+1.2**
HGN	**Heimansgroeve**	**0.80**	**207**	*e*Pn	**Pb**	**09 32 41.9**	**+0.8**
	31nm,0.3s						
HGN				*e*Pg	**Pb**	**09 32 42.0**	**+1.0**
	540nm,0.2s,baz=40						
HGN				*e*Sg	**Sb**	**09 32 53.2**	**+0.9**
HGN				*e*Sn	**Sb**	**09 32 53.3**	**+0.9**
HGN	**Heimansgroeve**	**0.80**	**207**	Pg	**Pb**	**09 32 42.0**	**+1.0**
	SNR=295						
HGN				*e*Sn	**Sb**	**09 32 53.3**	**+0.9**
WBS	**Wahnbachtalspe**	**0.82**	**144**	*e*Pg	**Pb**	**09 32 41.7**	**+0.2**
WBS				*e*Sg	**Sb**	**09 32 52.8**	**-0.4**
	439nm,0.2s						
WBS	**Wahnbachtalspe**	**0.82**	**144**	Pg	**Pb**	**09 32 41.7**	**+0.2**
WBS				Sg	**Sb**	**09 32 52.8**	**-0.4**
	439nm,0.2s						
DREG	**Dreilaegerbach**	**0.83**	**192**	*e*Pg	**Pb**	**09 32 42.4**	**+0.8**
DREG				*e*Sg	**Sb**	**09 32 54.9**	**+1.6**
	324nm,0.3s						
DREG	**Dreilaegerbach**	**0.83**	**192**	Pg	**Pb**	**09 32 42.4**	**+0.8**
DREG				Sg	**Sb**	**09 32 54.9**	**+1.6**
	324nm,0.3s						
KLL	**Kalltalsperre**	**0.84**	**189**	*e*Pg	**Pb**	**09 32 42.5**	**+0.8**
KLL				*e*Sg	**Sb**	**09 32 54.9**	**+1.4**
KLL	**Kalltalsperre**	**0.84**	**189**	Pg	**Pb**	**09 32 42.5**	**+0.8**
KLL				Sg	**Sb**	**09 32 54.9**	**+1.4**
STB	**Steinbach**	**0.90**	**167**	*e*Pg	**Pn**	**09 32 44.1**	**-0.2**
STB				*e*Sg	**Sb**	**09 32 56.8**	**+1.4**
	451nm,0.3s						
STB	**Steinbach**	**0.90**	**167**	Pg	**Pn**	**09 32 44.1**	**-0.2**
STB				Sg	**Sb**	**09 32 56.8**	**+1.4**
	451nm,0.3s						
MEM	**Membach**	**0.92**	**200**	*e*Pg	**Pn**	**09 32 44.1**	**-0.4**
	SNR=68						
MEM				*e*Sg	**Sb**	**09 32 57.3**	**+1.4**
MEM	**Membach**	**0.92**	**200**	Pg	**Pn**	**09 32 44.1**	**-0.4**
	SNR=68						
MEM				Sg	**Sb**	**09 32 57.3**	**+1.4**
SORT	**Sorpetalsperre**	**0.92**	**97**	*e*Pg	**Pg**	**09 32 42.6**	**+0.6**
SORT				*e*Sg	**Sg**	**09 32 54.6**	**+0.6**
SORT	**Sorpetalsperre**	**0.92**	**97**	Pg	**Pg**	**09 32 42.6**	**+0.6**
SORT				Sg	**Sg**	**09 32 54.6**	**+0.6**
TDN	**Todenfeld**	**0.94**	**163**	*e*Pg	**Pn**	**09 32 44.5**	**-0.3**
TDN				*e*Sg	**Sb**	**09 32 57.3**	**+0.8**
	154nm,0.2s						
TDN	**Todenfeld**	**0.94**	**163**	Pg	**Pn**	**09 32 44.5**	**-0.3**
TDN				Sg	**Sb**	**09 32 57.3**	**+0.8**
	154nm,0.2s						
OLFT	**Oleftalsperre**	**0.98**	**183**	*e*Pg	**Pn**	**09 32 45.2**	**-0.2**
OLFT				*e*Sg	**Sb**	**09 32 59.0**	**+1.3**
OLFT	**Oleftalsperre**	**0.98**	**183**	Pg	**Pn**	**09 32 45.2**	**-0.2**
OLFT				Sg	**Sb**	**09 32 59.0**	**+1.3**
IBBN	**Ibbenburen**	**1.14**	**42**	*e*Pg	**Pb**	**09 32 47.2**	**+0.3**
	SNR=2.8						
IBBN				*e*Sg	**Sb**	**09 33 01.9**	**-0.3**
IBBN	**Ibbenburen**	**1.14**	**42**	Pg	**Pb**	**09 32 47.2**	**+0.3**
	SNR=2.8						
IBBN				Sg	**Sb**	**09 33 01.9**	**-0.3**
HILG	**Hillesheim**	**1.19**	**175**	*e*Pg	**Pn**	**09 32 49.2**	**+1.0**
HILG	**Hillesheim**	**1.19**	**175**	Pg	**Pn**	**09 32 49.2**	**+1.0**
BHE	**Schloss Buerre**	**1.20**	**159**	*e*Pg	**Pn**	**09 32 49.2**	**+0.9**
BHE				*e*Sg	**Sb**	**09 33 05.0**	**+1.1**
	127nm,0.3s						
BHE	**Schloss Buerre**	**1.20**	**159**	Pg	**Pn**	**09 32 49.2**	**+0.9**
BHE				Sg	**Sb**	**09 33 05.0**	**+1.1**
	127nm,0.3s						
LOH	**Wallersheim-Lo**	**1.29**	**179**	*e*Pg	**Pn**	**09 32 50.8**	**+1.1**
LOH				*e*Sg	**Sn**	**09 33 08.3**	**+0.7**
	230nm,0.2s						
LOH	**Wallersheim-Lo**	**1.29**	**179**	Pg	**Pn**	**09 32 50.8**	**+1.1**
LOH				Sg	**Sn**	**09 33 08.3**	**+0.7**
	230nm,0.2s						
KOE	**Koeppel**	**1.30**	**143**	*e*Pg	**Pb**	**09 32 50.0**	**+0.3**
KOE	**Koeppel**	**1.30**	**143**	Pg	**Pb**	**09 32 50.0**	**+0.3**
ABH	**Alteburg**	**1.72**	**157**	Pn	**Pn**	**09 32 54.4**	**-1.2**
ABH	**Alteburg**	**1.72**	**157**	Pg	**Pb**	**09 32 57.0**	**+0.1**
ABH				Sg	**Sn**	**09 33 18.0**	**-0.3**
GIVF	**Givet**	**1.74**	**219**	*e*Pn	**Pn**	**09 32 56.3**	**+0.5**
	SNR=1.0						
GIVF	**Givet**	**1.74**	**219**	*e*Pg	**Pg**	**09 32 59.4**	**+1.7**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**09 33 18.1**	**-0.6**
	254nm,0.3s,SNR=1.0						
GIVF	**Givet**	**1.74**	**219**	*e*Pn	**Pn**	**09 32 56.3**	**+0.5**
	SNR=1.0						
GIVF	**Givet**	**1.74**	**219**	*e*Pg	**Pg**	**09 32 59.4**	**+1.7**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**09 33 18.1**	**-0.6**
	127nm,0.3s,SNR=1.0						
TNS	**Taunus Mts**	**1.75**	**135**	*e*Pn	**Pn**	**09 32 56.6**	**+0.6**
	SNR=10.0						
TNS				*e*Sg	**Sg**	**09 33 22.9**	**+2.3**
TNS	**Taunus Mts**	**1.75**	**135**	Pn	**Pn**	**09 32 56.6**	**+0.6**
	SNR=10.0						
TNS				Sg	**Sg**	**09 33 22.9**	**+2.3**
RUP	**Ruppelstein**	**1.81**	**169**	Pn	**Pn**	**09 32 57.2**	**+0.4**
RUP				Sg	**Sg**	**09 32 22.6**	**+0.3**
WLF	**Walferdange**	**1.82**	**187**	*e*Pn	**Pg**	**09 33 00.6**	**+1.3**
	SNR=5.6						
WLF				*e*Sg	**Sg**	**09 33 23.9**	**+1.0**
WLF	**Walferdange**	**1.82**	**187**	Pn	**Pg**	**09 33 00.6**	**+1.3**
	SNR=5.6						
WLF				Sg	**Sg**	**09 33 23.9**	**+1.0**
BAIF	**Baives**	**2.04**	**227**	*e*Pn	**Pn**	**09 33 00.4**	**+0.6**
	SNR=1.0						
BAIF				*e*Sg	**Sg**	**09 33 31.1**	**+1.4**
	88nm,0.3s						
BAIF	**Baives**	**2.04**	**227**	*e*Pn	**Pn**	**09 33 00.4**	**+0.6**
	SNR=1.0						
BAIF				*e*Sg	**Sg**	**09 33 31.1**	**+1.4**
	44nm,0.3s						
GTTG	**Gvttingen**	**2.16**	**87**	*e*Pg	**Pb**	**09 33 05.2**	**+0.9**
	SNR=2.9						
GTTG				*e*Sg	**Sb**	**09 33 32.9**	**+1.3**
GTTG	**Gvttingen**	**2.16**	**87**	Pg	**Pb**	**09 33 05.2**	**+0.9**
	SNR=2.9						
GTTG				Sg	**Sb**	**09 33 32.9**	**+1.3**
UBBA	**Unterbreizbach**	**2.29**	**105**	*e*Pn	**Pn**	**09 33 04.4**	**+1.1**
	SNR=1.8						
UBBA				*e*Sg	**Sg**	**09 33 37.6**	**-0.3**
UBBA	**Unterbreizbach**	**2.29**	**105**	Pn	**Pn**	**09 33 04.4**	**+1.1**
	SNR=1.8						
UBBA				Sg	**Sg**	**09 33 37.6**	**-0.3**
TOD	**Tromm**	**2.37**	**141**	Pn	Pn	09 33 01.3	-3.2
KTD	**Kalmit**	**2.38**	**154**	Pn	**Pn**	**09 33 02.9**	**-1.7**
CLZ	**Clausthal**	**2.43**	**80**	*e*Pg	**Pb**	**09 33 10.3**	**+1.3**
	SNR=6.3						
CLZ	**Clausthal**	**2.43**	**80**	Pg	**Pb**	**09 33 10.3**	**+1.3**
	SNR=6.3						
LANF	**Langenberg**	**2.63**	**161**	Pn	**Pn**	**09 33 07.2**	**-0.8**
LANF	**Langenberg**	**2.63**	**161**	Pg	**Pg**	**09 33 14.5**	**-0.2**
LANF	**Langenberg**	**2.63**	**161**	Pn	**Pn**	**09 33 07.2**	**-0.8**
LANF	**Langenberg**	**2.63**	**161**	Pg	**Pg**	**09 33 14.5**	**-0.2**
PAGF	**Fort de Pagny**	**2.96**	**190**	*e*Pn	**Pn**	**09 33 13.5**	**+0.9**
PAGF	**Fort de Pagny**	**2

MOF	**Molkenrain**	**3.65**	**173**	Pn		**Pn**	09 33 22.1	**0.0**
MOF	**Molkenrain**	**3.65**	**173**	Pg		**Pg**	09 33 36.1	**+1.9**
HINF	**Hinteralfeld**	**3.67**	**176**	*e*Pn		**Pn**	09 33 22.8	**+0.5**
HINF				*e*Sg		**Sg**	09 34 20.9	**-1.1**
	17nm,0.3s							
HINF	**Hinteralfeld**	**3.67**	**176**	*e*Pn		**Pn**	09 33 22.8	**+0.5**
HINF				*e*Sg		**Sg**	09 34 20.9	**-1.1**
	8.4nm,0.3s							
CLL	**Collm**	**4.07**	**90**	*e*Pg		**Pg**	09 33 41.0	**-1.3**
CLL				*e*Sg		**Sg**	09 34 34.0	**-1.0**
	comp=Z,19nm,0.9s							
LOR	**Lormes**	**4.55**	**203**	*e*Pn		**Pn**	09 33 34.9	**+0.5**
	baz=35							
LOR				*e*Sg		**Sg**	09 34 48.7	**-1.7**
	comp=Z,42nm,0.4s,SNR=1.0							
LOR	**Lormes**	**4.55**	**203**	*e*Pn		**Pn**	09 33 34.9	**+0.5**
	baz=35							
LOR				*e*Sg		**Sg**	09 34 48.7	**-1.7**
	comp=Z,21nm,0.4s,SNR=1.0							
BRG	**Berggiesshubel**	**4.71**	**94**	PN		**Pb**	09 33 45.2	**-2.6**
BRG				PG		**Pg**	09 33 57.6	**+3.0**
BRG				SG		**Sg**	09 34 55.6	**-0.1**
	comp=Z,14nm,0.9s							
DAVA	**Damuels**	**4.73**	**151**	⇑*i*Pn		**Pn**	09 33 36.1	**-0.9**
DAVA				⇑*i*Sn		**Sn**	09 34 36.6	**+3.9**
DAVA	**Damuels**	**4.73**	**151**	Pn		**Pn**	09 33 36.1	**-0.9**
SSF	**Saint Saulge**	**4.83**	**205**	*e*Pn		**Pn**	09 33 38.3	**0.0**
	SNR=1.0							
SSF				*e*Sn		**Sn**	09 34 31.0	**-3.9**
	SNR=1.0							
SSF				*e*Sg		**Sg**	09 34 58.5	**-1.0**
	comp=Z,41nm,0.4s,SNR=1.0							
SSF	**Saint Saulge**	**4.83**	**205**	*e*Pn		**Pn**	09 33 38.3	**0.0**
	SNR=1.0							
SSF				*e*Sn		**Sn**	09 34 31.0	**-3.9**
	SNR=1.0							
SSF				*e*Sg		**Sg**	09 34 58.5	**-1.0**
	comp=Z,20nm,0.4s,SNR=1.0							
CABF	**La Chapelle**	**4.87**	**183**	*e*Pn		**Pn**	09 33 38.8	**-0.1**
	SNR=1.0							
CABF				*e*Sg		**Sg**	09 35 00.1	**-0.7**
	comp=Z,34nm,0.7s							
CABF	**La Chapelle**	**4.87**	**183**	*e*Pn		**Pn**	09 33 38.8	**-0.1**
	SNR=1.0							
CABF				*e*Sg		**Sg**	09 35 00.1	**-0.7**
	comp=Z,17nm,0.7s							
KHC	**Kasperske Hory**	**5.10**	**115**	*e*PN		**Pn**	09 33 41.3	**-0.7**
KHC				*ex*		x	09 33 50.3	
KHC				*e*PG		Pg	09 34 05.4	+3.4
KHC				*e*SN		**Sn**	09 34 43.0	**+1.4**
KHC				*e*SG		**Sg**	09 35 05.4	**-2.6**
	comp=Z,11nm,0.7s							
KHC	**Kasperske Hory**	**5.10**	**115**	Pn		**Pn**	09 33 41.3	**-0.7**
AVF	**Avril sur Loir**	**5.12**	**205**	*e*Pn		**Pn**	09 33 42.3	**0.0**
	SNR=1.0							
AVF				*e*Sg		**Sg**	09 35 06.6	**-2.2**
	comp=Z,18nm,0.5s,SNR=1.0							
AVF	**Avril sur Loir**	**5.12**	**205**	*e*Pn		**Pn**	09 33 42.3	**0.0**
	SNR=1.0							
SMF	**Signal de Mont**	**5.14**	**201**	*e*Pn		**Pn**	09 33 42.8	**+0.3**
	SNR=1.0							
SMF				*e*Sg		**Sg**	09 35 08.3	**-1.1**
	comp=Z,28nm,0.3s							
SMF	**Signal de Mont**	**5.14**	**201**	*e*Pn		**Pn**	09 33 42.8	**+0.3**
	SNR=1.0							
SMF				*e*Sg		**Sg**	09 35 08.3	**-1.1**
	comp=Z,14nm,0.3s							
LDF	**La Druitiere**	**5.16**	**239**	*e*Pn		**Pn**	09 33 43.0	**+0.3**
LDF				*e*Sg		**Sg**	09 35 08.1	**-1.7**
	comp=Z,14nm,0.4s,SNR=1.0							
LDF	**La Druitiere**	**5.16**	**239**	*e*Pn		**Pn**	09 33 43.0	**+0.3**
LDF				*e*Sg		**Sg**	09 35 08.1	**-1.7**
	comp=Z,7.2nm,0.4s,SNR=1.0							
FETA	**Feichten**	**5.24**	**147**	⇓*i*Pn		**Pn**	09 33 43.4	**-0.6**
FETA	**Feichten**	**5.24**	**147**	Pn		**Pn**	09 33 43.4	**-0.6**
FLN	**La Foliniere**	**5.25**	**242**	*e*Pn		**Pn**	09 33 45.0	**+1.0**
	baz=62,SNR=1.0							
FLN				*e*Sn		**Sn**	09 34 40.5	**-4.8**
	comp=Z,11nm,0.2s,SNR=1.0							
FLN	**La Foliniere**	**5.25**	**242**	*e*Pn		**Pn**	09 33 45.0	**+1.0**
	baz=62,SNR=1.0							
FLN				*e*Sn		**Sn**	09 34 40.5	**-4.8**
	comp=Z,5.3nm,0.2s,SNR=1.0							
PRU	**Pruhonice**	**5.31**	**103**	*e*SG		**Sg**	09 35 12.3	**-2.6**
	comp=Z,5.9nm,0.6s							
PRU	**Pruhonice**	**5.31**	**103**	Sg		**Sg**	09 35 12.3	**-2.6**
	comp=Z,5.9nm,0.6s							
GRR	**Gorron**	**5.67**	**240**	*e*Pn		**Pn**	09 33 50.9	**+1.1**
	SNR=1.0							
GRR				*e*Sn		**Sn**	09 34 50.6	**-5.0**
	comp=Z,28nm,0.3s,SNR=1.0							
GRR	**Gorron**	**5.67**	**240**	*e*Pn		**Pn**	09 33 50.9	**+1.1**
	SNR=1.0							
TCF	**Toulx Ste Croi**	**5.91**	**210**	*e*Pn		**Pn**	09 33 53.4	**+0.2**
	SNR=1.0							
TCF	**Toulx Ste Croi**	**5.91**	**210**	*e*Pn		**Pn**	09 33 53.4	**+0.2**
	SNR=1.0							
MOA	**Molln**	**6.20**	**123**	⇓*i*Pn		**Pn**	09 33 58.5	**+1.4**
MOA				⇑*i*Sn		Sn	09 35 16.5	+7.8
MOA	**Molln**	**6.20**	**123**	Pn		**Pn**	09 33 58.5	**+1.4**
DPC	**Dobruska-Polom**	**6.31**	**96**	*e*SG		**Sg**	09 35 44.3	**-2.5**
MFF	**Saint Martin d**	**6.55**	**224**	*e*Pn		**Pn**	09 34 01.9	**+0.1**
	SNR=1.0							
MFF				*e*Sn		**Sn**	09 35 12.6	**-4.6**
	comp=Z,7.9nm,0.4s,SNR=1.0							
MFF	**Saint Martin d**	**6.55**	**224**	*e*Pn		**Pn**	09 34 01.9	**+0.1**
	SNR=1.0							
SGMF	**Saint Gilles**	**6.69**	**245**	*e*Pn		**Pn**	09 34 03.7	**0.0**
	SNR=1.0							
SGMF	**Saint Gilles**	**6.69**	**245**	*e*Pn		**Pn**	09 34 03.7	**0.0**
	SNR=1.0							
RJF	**Les Rejaudoux**	**7.01**	**210**	*e*Pn		**Pn**	09 34 07.9	**-0.3**
	SNR=1.0							
RJF	**Les Rejaudoux**	**7.01**	**210**	*e*Pn		**Pn**	09 34 07.9	**-0.3**
	SNR=1.0							
CAF	**Calviac**	**7.19**	**206**	*e*Pn		**Pn**	09 34 10.9	**+0.2**
CAF				*e*Sn		Sn	09 35 26.7	-6.4
	comp=Z,1.3nm,0.1s,SNR=1.0							
CAF	**Calviac**	**7.19**	**206**	*e*Pn		**Pn**	09 34 10.9	**+0.2**
QUIF	**Quistinic**	**7.21**	**244**	*e*Pn		**Pn**	09 34 10.8	**-0.2**
	SNR=1.0							
QUIF	**Quistinic**	**7.21**	**244**	*e*Pn		**Pn**	09 34 10.8	**-0.2**
	SNR=1.0							
LASF	**Ste Croix**	**7.61**	**195**	*e*Pn		**Pn**	09 34 15.5	**-1.0**
	SNR=1.0							
LASF				*e*Sg		Sg	09 36 22.9	-5.8
	comp=Z,7.4nm,0.6s,SNR=1.0							
LASF	**Ste Croix**	**7.61**	**195**	*e*Pn		**Pn**	09 34 15.5	**-1.0**
	SNR=1.0							

*IDC **07** 09:34:43.3±0.6, 10°74S×161°90E, h59km±4km, mb3.9/14, mb1 4.1/16, mb1mx4.1/22, mbtmp4.0/16, MS3.7/13, Ms1 3.7/13, ms1mx3.6/29, Error ellipse: s-maj=17.2km s-min=12.0km az=89.0*

*ISCJB **07** 09:34:44.2±1.3, 10°79S±0°06×161°86E±0°08, h81km±11km, mb4.2/20, Error ellipse: s-maj=13.6km s-min=8.4km az=158.8*

*NEIC **07** 09:34:44.1±0.7, 10°71S×161°92E, h67km±6km, mb4.8/8, Error ellipse: s-maj=9.5km s-min=8.1km az=93.0*

ISC 07 09:34:43.4±0.5, 10°72S±0°06×162°01E±0°08, h60km±4km, h60km:pP-P, n70, σ1s17/68, mb4.2/20, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.40**	**302**	P	**Pn**	**09 35 20.9**	**+0.6**
HNR				S	**Sn**	**09 35 49.1**	**+0.6**
HNR	**Honiara**	**2.40**	**302**	P	**Pn**	**09 35 20.9**	**+0.6**
	668nm,0.3s,baz=160,slow=4.5,SNR=109						
HNR				S	**Sn**	**09 35 49.1**	**+0.6**
	413nm,0.3s,baz=122,slow=19,SNR=4.4						
DZM	**Mont Dzumac**	**12.06**	**160**	*e*Pn	**Pn**	**09 37 34.8**	**+2.2**
	21nm,0.2s						
DZM				*e*LR	LR	09 40 10.6	
	326nm,25.7s						
DZM	**Mont Dzumac**	**12.06**	**160**	*e*Pn	**Pn**	**09 37 34.5**	**+1.9**
DZM				*e*S	**Sn**	**09 39 46.3**	**+0.7**
DZM	**Mont Dzumac**	**12.06**	**160**	P	**Pn**	**09 37 34.1**	**+1.5**
	4.5nm,0.3s,baz=357,slow=12,SNR=316						
DZM				S	**Sn**	**09 39 42.8**	**-2.9**
	0.8nm,0.3s,baz=315,slow=19,SNR=5.1						
PMG	**Port Moresby**	**14.68**	**274**	LR	LR	09 41 42.8	
	comp=Z,189nm,20.8s,baz=288,slow=29						
CTA	**Charters Tower**	**17.80**	**237**	P	**P**	**09 38 49.0**	**+1.8**
	0.5nm,0.3s,baz=63,slow=14,SNR=9.1						
CTAO	**Charters Tower**	**17.80**	**237**	*e*Pn	**Pn**	**09 38 46.8**	**-0.3**
	13nm,0.9s						
EIDS	**Eidsvold**	**17.88**	**214**	P	Pn	09 38 53.0	+5.0
	baz=25,SNR=3.7						
COEN	**Coen**	**18.67**	**258**	*e*Pn	**Pn**	**09 38 57.6**	**-0.2**
	362nm,1.2s						
COEN	**Coen**	**18.67**	**258**	P	**Pn**	**09 39 02.0**	**+4.2**
	baz=26,SNR=5.4						
RMQ	**Roma**	**20.06**	**217**	P	Pn	09 39 17.6	+3.5
	baz=27,SNR=8.6						
AFI	**Afiamalu**	**25.80**	**100**	LR	LR	09 48 38.9	
	comp=Z,143nm,20.5s,baz=266,slow=32						
WRAB	**Tennant Creek**	**28.16**	**248**	*e*P	**P**	**09 40 29.5**	**-0.9**
	40nm,1.7s						
WRA	**Warramunga Arr**	**28.18**	**248**	P	**P**	**09 40 29.1**	**-1.4**
WRA	**Warramunga Arr**	**28.18**	**248**	P	**P**	**09 40 29.1**	**-1.4**
	2.9nm,0.6s,baz=76,slow=9.3,SNR=54						
WRA				LR	LR	09 50 56.3	
	comp=Z,210nm,19.3s,baz=75,slow=35						
STKA	**Stephens Creek**	**28.27**	**219**	*e*P	**P**	**09 40 31.3**	**+0.2**
STKA	**Stephens Creek**	**28.27**	**219**	P	**P**	**09 40 31.5**	**+0.4**
	2.1nm,0.8s,baz=338,slow=4.4,SNR=5.1						
STKA				LR	LR	09 51 04.0	
	comp=Z,212nm,19.4s,baz=28,slow=35						
H11S2	**WAKE ISLAND Hy**	**29.39**		9 T	T	10 11 40.9	
	baz=190,slow=0.7,SNR=505						
H11S3	**WAKE ISLAND Hy**	**29.39**		9 T	T	10 11 41.3	
	baz=190,slow=0.7,SNR=443						
H11S1	**WAKE ISLAND Hy**	**29.41**		9 T	T	10 11 42.5	
	baz=190,slow=0.7,SNR=452						
GUMO	**Guam**	**29.54**	**324**	P	**P**	**09 40 41.2**	**-1.3**
	229nm,1.3s						
AS31	**Alice Springs**	**29.70**	**241**	*e*P	**P**	**09 40 42.0**	**-2.0**
ASAR	**Alice Springs**	**29.70**	**241**	P	**P**	**09 40 41.9**	**-2.1**
ASAR				pP	**pP**	**09 40 57.8**	**-1.0**
ASAR	**Alice Springs**	**29.70**	**241**	P	**P**	**09 40 41.9**	**-2.1**
	0.9nm,0.4s,baz=63,slow=10.0,SNR=24						
ASAR				pP	**pP**	**09 40 57.8**	**-1.0**
	2.9nm,0.9s,baz=70,slow=9.4,SNR=8.5						
ASAR				LR	LR	09 52 18.8	
	comp=Z,191nm,18.3s,baz=78,slow=36						
URZ	**Urewera**	**30.58**	**156**	P	**P**	**09 40 52.3**	**+0.8**
URZ	**Urewera**	**30.58**	**156**	P	**P**	**09 40 52.3**	**+0.8**
	7.9nm,1.0s,baz=302,slow=19,SNR=4.3						
URZ				LR	LR	09 51 53.9	
	comp=Z,78nm,18.0s,baz=347,slow=34						
H11N1	**WAKE ISLAND Hy**	**30.62**		9 T	T	10 13 14.3	
	baz=190,slow=0.7,SNR=114						
H11N3	**WAKE ISLAND Hy**	**30.63**		9 T	T	10 13 13.9	
	baz=190,slow=0.7,SNR=343						
H11N2	**WAKE ISLAND Hy**	**30.64**		9 T	T	10 13 14.8	
	baz=190,slow=0.7,SNR=207						
BBOO	**Buckleboo**	**32.45**	**223**	P	**P**	**09 41 07.8**	**-0.2**
	baz=40,SNR=12						
KNRA	**Kununurra**	**32.71**	**258**	P	**P**	**09 41 09.4**	**-1.1**
	baz=40,SNR=7.4						
RPZ	**Rata Peaks**	**33.80**	**168**	P	**P**	**09 41 20.1**	**+0.4**
RPZ	**Rata Peaks**	**33.80**	**168**	P	**P**	**09 41 20.1**	**+0.4**
	12nm,0.8s,baz=2.3,slow=4.3,SNR=7.4						
MBWA	**Marble Bar**	**41.84**	**250**	*e*P	**P**	**09 42 26.8**	**-1.0**
	6.6nm,0.9s						
MEEK	**Meekatharra**	**43.81**	**243**	P	**P**	**09 42 43.5**	**-0.2**
	baz=51,SNR=6.9						
PPT	**Papeete**	**47.34**	**104**	LR	LR	09 58 08.2	
	comp=Z,86nm,21.6s,baz=321,slow=30						
PPT2	**Papeete2**	**47.34**	**104**	*e*LR	LR	09 57 06.2	
	141nm,31.8s						
TBI	**Tubuai**	**47.86**	**112**	*e*LR	LR	09 57 38.5	
	86nm,31.8s						
MJAR	**Matsushiro Arr**	**52.08**	**336**	P	**P**	**09 43 48.4**	**+1.0**
MJAR	**Matsushiro Arr**	**52.08**	**336**	P	**P**	**09 43 48.4**	**+1.0**
	0.7nm,0.5s,baz=170,slow=9.6,SNR=3.0						
KSRS	**Korea Array**	**57.60**	**328**	LR	LR	10 04 35.3	
	comp=Z,103nm,19.8s,baz=354,slow=31						
USRK	**Ussuriysk Arra**	**61.08**	**336**	P	**P**	**09 44 51.2**	**+0.2**
	0.7nm,0.6s,baz=169,slow=8.2,SNR=3.7						
USRK				pP	**pP**	**09 45 06.5**	**-0.7**
	7.2nm,0.9s,baz=150,slow=7.0,SNR=9.0						
VNDA	**Vanda**	**66.79**	**180**	*e*P	**P**	**09 45 27.9**	**-0.2**
VNDA				pP	**pP**	**09 45 44.6**	**+0.1**
VNDA	**Vanda**	**66.79**	**180**	P	**P**	**09 45 27.9**	**-0.2**
	2.2nm,0.7s,baz=332,slow=7.5,SNR=17						
VNDA				pP	**pP**	**09 45 44.6**	**+0.1**
	2.3nm,1.1s,baz=11,slow=3.7,SNR=3.6						
VNDA				LR	LR	10 10 40.3	
	comp=Z,53nm,20.8s,baz=44,slow=32						
SONM	**Songino Array**	**76.27**	**325**	P	**P**	**09 46 25.8**	**0.0**
SONM				pP	**pP**	**09 46 41.7**	**-0.7**
SONM	**Songino Array**	**76.27**	**325**	P	**P**	**09 46 25.8**	**0.0**
	1.5nm,0.9s,baz=148,slow=5.6,SNR=2.7						
SONM				pP	**pP**	**09 46 41.7**	**-0.7**
	2.6nm,0.7s,baz=148,slow=6.3,SNR=10						
SONM				LR	LR	10 16 01.1	
	comp=Z,58nm,21.9s,baz=330,slow=32						
KDAK	**Kodiak Island**	**77.67**	**23**	P	**P**	**09 46 34.0**	**+0.8**
KDAK	**Kodiak Island**	**77.67**	**23**	P	**P**	**09 46 34.0**	**+0.8**
	16nm,1.1s,baz=191,slow=5.2,SNR=3.8						
QSPA	**South Pole Qui**	**79.28**	**180**	*e*P	**P**	**09 46 42.0**	**-0.2**
	0.9nm,0.5s						
MAW	**Mawson**	**83.63**	**202**	P	**P**	**09 47 04.8**	**-0.2**
MAW	**Mawson**	**83.63**	**202**	P	**P**	**09 47 04.8**	**-0.2**
	2.2nm,0.7s,baz=87,slow=7.9,SNR=4.6						
COLA	**College**	**84.16**	**19**	*e*P	**P**	**09 47 07.4**	**-0.3**
	17nm,0.9s						
ILAR	**Eielson Array**	**84.41**	**20**	P	**P**	**09 47 08.6**	**-0.3**
ILAR				pP	**pP**	**09 47 25.2**	**-0.6**
ILAR	**Eielson Array**	**84.41**	**20**	P	**P**	**09 47 08.6**	**-0.3**
	0.8nm,0.6s,baz=244,slow=5.0,SNR=14						
ILAR				pP	**pP**	**09 47 25.2**	**-0.6**
	1.6nm,0.7s,baz=247,slow=4.8,SNR=8.6						
ILAR				LR	LR	10 24 37.5	
	comp=Z,32nm,19.2s,baz=345,slow=35						
EGAK	**Eagle**	**86.37**	**21**	*e*P	**P**	**09 47 19.7**	**+1.0**
	13nm,1.1s						
EGAK				*e*		09 47 36.7	
NVAR	**Mina Array Bea**	**88.64**	**51**	P	**P**	**09 47 31.3**	**+0.7**
NVAR				pP	**pP**	**09 47 48.1**	**+0.5**
NVAR	**Mina Array Bea**	**88.64**	**51**	P	**P**	**09 47 31.3**	**+0.7**
	1.0nm,0.6s,baz=235,slow=7.2,SNR=11						
NVAR				pP	**pP**	**09 47 48.1**	**+0.5**
	0.8nm,0.7s,baz=230,slow=7.4,SNR=4.7						
MKAR	**Makanchi Array**	**90.79**	**317**	P	**P**	**09 47 40.6**	**+0.5**
MKAR	**Makanchi Array**	**90.79**	**317**	P	**P**	**09 47 40.6**	**+0.5**
	0.2nm,0.4s,baz=126,slow=4.1,SNR=3.2						
MKAR				LR	LR	10 28 14.7	
	comp=Z,36nm,18.2s,baz=250,slow=35						
ZALV	**Zalesovo Beam**	**91.16**	**325**	pP	pP	09 47 58.8	+0.1
ZALV	**Zalesovo Beam**	**91.16**	**325**	pP	pP	09 47 58.8	+0.1
	1.0nm,0.4s,baz=141,slow=5.0,SNR=3.1						
TXAR	**Lajitas Array**	**98.91**	**62**	LR	LR	10 25 16.6	
	comp=Z,39nm,19.2s,baz=0.0,slow=31						
ARCES	**ARCESS Array B**	**115.07**	**344**	PKP	**PKPdf**	**09 53 15.8**	**-1.4**
ARCES	**ARCESS Array B**	**115.07**	**344**	PKP	**PKPdf**	**09 53 15.8**	**-1.4**
	3.6nm,1.0s,baz=95,slow=1.0,SNR=2.9						
CPUP	**Villa Florida**	**126.92**	**135**	PKP	**PKPdf**	**09 53 40.5**	**-0.8**
CPUP	**Villa Florida**	**126.92**	**135**	PKP	**PKPdf**	**09 53 40.5**	**-0.8**
	0.3nm,0.3s,baz=263,slow=18,SNR=3.4						
TORD	**Torodi Ar. Bea**	**160.59**	**279**	PKP	**PKPdf**	**09 54 36.2**	**-1.3**
TORD	**Torodi Ar. Bea**	**160.59**	**279**	PKP	**PKPdf**	**09 54 36.2**	**-1.3**
	0.4nm,0.8s,baz=90,slow=1.6,SNR=3.1						

*IDC **07** 09:58:07.6±0.8, 31°73S×71°91W, h0km, mb4.1/5, mb1 4.1/9, mb1mx4.0/19, mbtmp3.9/9, ML4.0/4, Error ellipse: s-maj=24.1km s-min=22.7km az=147.0*

*ISCJB **07** 09:58:09.1±0.9, 31°69S±0°03×72°05W±0°04, h19km±7km, mb4.0/5, Error ellipse: s-maj=6.2km s-min=4.9km az=166.9*

*GUC **07** 09:58:11.0±0.4, 31°71S×71°90W, h27km±1km, MD4.2, ML4.1*

ISC 07 09:58:09.4±2.0, 31°69S±0°05×71°99W±0°05, h12km±12km, n38, σ0s80/42, mb4.2/5, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.46**	**115**	⇓*i*P	**Pb**	**09 58 19.3**	**-0.1**
CHNG				*i*S	**Sg**	**09 58 25.1**	**+0.5**
CHNG				AML	AML	09 58 26.2	
	comp=E,21μm,0.5s						
CMCH	**Combarbala**	**0.99**	**59**	⇑*i*P	**Pb**	**09 58 28.2**	**-0.4**
CMCH				*i*S	**Sb**	**09 58 40.8**	**-0.7**
IHA	**Instituto Hidr**	**1.36**	**168**	*e*P	**Pn**	**09 58 33.8**	**-0.4**
JACH	**Jahuel**	**1.54**	**130**	⇑*i*P	**Pn**	**09 58 36.6**	**-0.3**
JACH				*i*S	**Sn**	**09 58 55.9**	**-0.9**
TLL	**Tololo Astrono**	**1.83**	**34**	*e*P	**Pn**	**09 58 42.0**	**+1.2**
TLL				*i*S	**Sb**	**09 59 05.7**	**-0.2**
TLL				AML	AML	09 59 15.3	
	comp=E,3μm,0.6s						
STL	**Santa Lucia**	**2.08**	**147**	*i*P	**Pn**	**09 58 44.5**	**+0.4**
STL				*i*S	**Sn**	**09 59 10.3**	**+0.3**
CLCH	**Cerro Calan**	**2.10**	**145**	⇑*i*P	**Pn**	**09 58 44.7**	**+0.3**
CLCH				*i*S	**Sn**	**09 59 10.9**	**+0.5**
CLCH				AML	AML	09 59 23.4	
	comp=N,3μm,0.7s						
ANTU	**Antumapu**	**2.20**	**149**	AML	AML	09 59 25.6	
	comp=E,2μm,0.4s						
PCH	**Pirque**	**2.29**	**148**	*i*P	**Pn**	**09 58 47.6**	**+0.5**
PCH				*i*S	**Sn**	**09 59 15.6**	**+0.3**
SJCH	**San Jose de Ma**	**2.38**	**145**	*i*P	**Pn**	**09 58 47.7**	**-0.7**
SJCH				*i*S	**Sn**	**09 59 16.5**	**-1.1**
SJCH				AML	AML	09 59 28.2	
	comp=E,1μm,0.6s						
CHCH	**Chadas Angostu**	**2.50**	**154**	⇓*i*P	**Pn**	**09 58 50.7**	**+0.7**
LMEL	**Las Melosas**	**2.63**	**146**	⇑*i*P	**Pn**	**09 58 52.4**	**+0.7**
LMEL				*i*S	**Sn**	**09 59 23.9**	**+0.3**
LMEL				AML	AML	09 59 37.0	
	comp=E,1μm,0.5s						
CACH	**El Canelo**	**2.69**	**155**	⇓*i*P	**Pn**	**09 58 54.0**	**+1.4**
CFAA	**Coronel Fontan**	**3.20**	**89**	Pn	Pn	09 59 02.1	+2.6
	comp=E,1.5nm,0.3s,baz=268,slow=9.5,SNR=68						
CFAA				Pg	**Pb**	**09 59 06.7**	**+0.4**
	comp=E,7.9nm,0.3s,baz=264,slow=10,SNR=91						
CFAA				Lg	Lg	09 59 44.8	
	comp=E,12nm,0.3s,baz=19,slow=12,SNR=10						
H03N1	**Juan Fernandez**	**6.10**	**252**	Pn	**Pn**	**09 59 39.5**	**+0.4**
	baz=173,slow=0.7,SNR=20						
H03N1				T	T	10 06 23.1	
	baz=77,slow=0.7,SNR=4749						
H03N3	**Juan Fernandez**	**6.11**	**251**	Pn	**Pn**	**09 59 39.5**	**+0.2**
H03N3				T	T	10 06 25.0	
	baz=77,slow=0.7,SNR=2996						
H03N2	**Juan Fernandez**	**6.12**	**252**	Pn	**Pn**	**09 59 39.5**	**+0.2**
	baz=16,slow=0.7,SNR=16						
H03N2				T	T	10 06 25.3	
	baz=77,slow=0.7,SNR=4489						
PLCA	**Paso Flores**	**9.10**	**173**	Pn	**Pn**	**10 00 21.2**	**+0.7**
	comp=E,0.3nm,0.3s,baz=338,slow=5.8,SNR=5.1						
CPUP	**Villa Florida**	**13.89**	**71**	Pn	**Pn**	**10 01 25.1**	**-1.0**
	comp=E,0.4nm,0.3s,baz=215,slow=14,SNR=3.0						
CPUP				Sn	**Sn**	**10 04 01.9**	**+1.7**
	comp=E,0.4nm,0.3s,baz=243,slow=18,SNR=2.3						
LPAZ	**La Paz**	**15.73**	**14**	Pn	**Pn**	**10 01 52.3**	**+0.8**
	comp=E,0.2nm,0.3s,baz=187,slow=8.3,SNR=10.0						
SIV	**San Ignacio**	**18.52**	**35**	Pn	**P**	**10 02 24.7**	**-1.1**
	comp=E,0.2nm,0.3s,baz=242,slow=9.9,SNR=4.7						
BDFB	**Brasilia**	**27.06**	**59**	P	**P**	**10 03 50.6**	**-1.4**
	comp=E,5.0nm,0.9s,baz=166,slow=18,SNR=4.9						
TXAR	**Lajitas Array**	**67.75**	**330**	P	**P**	**10 09 07.9**	**+1.0**
	comp=E,0.7nm,0.8s,baz=161,slow=8.9,SNR=4.7						
MAW	**Mawson**	**75.38**	**164**	P	**P**	**10 09 52.4**	**0.0**
	comp=E,1.7nm,0.8s,baz=290,slow=4.6,SNR=4.2						
NVAR	**Mina Array Bea**	**82.02**	**325**	P	**P**	**10 10 31.0**	**+1.5**
	comp=E,1.0nm,0.7s,baz=153,slow=6.6,SNR=8.6						
TORD	**Torodi Ar. Bea**	**83.39**	**70**	P	**P**	**10 10 36.3**	**-0.6**
	comp=E,2.0nm,0.8s,baz=262,slow=4.9,SNR=11						
ASAR	**Alice Springs**	**119.64**	**207**	PKP	**PKPdf**	**10 16 58.8**	**-1.0**
	comp=E,0.2nm,0.5s,baz=103,slow=1.2,SNR=3.5						
WRA	**Warramunga Arr**	**122.79**	**210**	PKP	**PKPdf**	**10 17 05.1**	**-0.8**
	comp=E,0.4nm,0.4s,baz=159,slow=1.5,SNR=16						
H11S2	**WAKE ISLAND Hy**	**125.81**	**271**	T	T	12 36 04.0	
	baz=120,slow=0.7,SNR=38						
H11S1	**WAKE ISLAND Hy**	**125.83**	**271**	T	T	12 36 03.8	
	baz=120,slow=0.7,SNR=37						
H11S3	**WAKE ISLAND Hy**	**125.83**	**271**	T	T	12 36 04.2	
	baz=120,slow=0.7,SNR=42						

SANT				S		**Sn**	12 54 17.4	+0.2	
SANT	**Santorini**	**1.11**	**323**	*e*PN		**Pg**	12 54 03.8	+1.2	
SANT	**Santorini**	**1.11**	**323**	*e*PN		**Pb**	12 54 01.6	-0.4	
SANT				*e*SN		**Sb**	12 54 16.2	-0.1	
SANT	**Santorini**	**1.11**	**323**	P		**Pb**	12 54 01.7	-0.3	
SANT				*e*Sn		**Sb**	12 54 16.2	-0.1	
SANT				S		**Sn**	12 54 17.4	+0.2	
THR1	**Thera Island**	**1.11**	**323**	P		**Pb**	12 54 01.8	-0.2	
THR1				S		**Sg**	12 54 17.5	+0.5	
THR1	**Thera Island**	**1.11**	**323**	P		**Pb**	12 54 01.8	-0.2	
THR1				S		**Sg**	12 54 17.5	+0.5	
THR6	**Thira Island,**	**1.12**	**321**	P		**Pn**	12 54 01.9	-0.5	
THR6	**Thira Island,**	**1.12**	**321**	P		**Pn**	12 54 01.9	-0.5	
IDI	**Anoyia**	**1.15**	**261**	P		**Pn**	12 54 02.3	-0.5	
IDI	**Anoyia**	**1.15**	**261**	*e*PN		**Pb**	12 54 02.2	+0.5	
IDI	**Anoyia**	**1.15**	**261**	*e*PN		**Pn**	12 54 02.9	+0.1	
IDI				*e*SN		**Sn**	12 54 18.7	+0.4	
IDI	**Anoyia**	**1.15**	**261**	P		**Pn**	12 54 02.3	-0.5	
IDI	**Anoyia**	**1.15**	**261**	*e*Pn		**Pn**	12 54 02.9	+0.1	
IDI				*e*Sn		**Sn**	12 54 18.7	+0.4	
IDI	**Anoyia**	**1.15**	**261**	Pn		**Pb**	12 54 03.3	+0.5	
	57nm,0.3s,baz=61,slow=15,SNR=101								
IDI				S		**Sn**	12 54 18.5	+0.2	
	138nm,0.3s,baz=4.9,slow=16,SNR=20								
THR3	**Thira Island,**	**1.17**	**323**	P		**Pn**	12 54 02.7	-0.2	
THR3	**Thira island,**	**1.17**	**323**	P		**Pn**	12 54 02.7	-0.2	
THR2	**Thira island,**	**1.18**	**325**	P		**Pn**	12 54 02.6	-0.5	
THR2	**Thira island,**	**1.18**	**325**	P		**Pn**	12 54 02.6	-0.5	
SIVA	**Sivas**	**1.29**	**249**	P		**Pg**	12 54 06.2	+0.2	
SIVA	**Sivas**	**1.29**	**249**	*e*PN		**Pg**	12 54 06.1	+0.1	
SIVA	**Sivas**	**1.29**	**249**	*e*Pn		**Pg**	12 54 06.1	+0.1	
NIS1	**Nisyros Isl.**	**1.33**	**33**	P		**Pn**	12 54 04.3	-0.9	
NIS1				S		**Sn**	12 54 22.2	-0.5	
NIS1	**Nisyros Isl.**	**1.33**	**33**	*e*PN		**Pb**	12 54 06.0	+0.1	
NIS1	**Nisyros Isl.**	**1.33**	**33**	*e*PN		**Pn**	12 54 05.5	+0.3	
NIS1	**Nisyros Isl.**	**1.33**	**33**	P		**Pn**	12 54 04.3	-0.9	
NIS1	**Nisyros Isl.**	**1.33**	**33**	*e*Pn		**Pb**	12 54 06.0	+0.1	
NIS1				S		**Sn**	12 54 22.2	-0.5	
DAT	**Datca**	**1.63**	**40**	*e*PN		**Pn**	12 54 09.4	0.0	
DAT	**Datca**	**1.63**	**40**	*e*Pn		**Pn**	12 54 09.4	0.0	
ARG	**Arkhangelos**	**1.67**	**64**	*e*PN		**Pn**	12 54 09.8	0.0	
ARG	**Arkhangelos**	**1.67**	**64**	*e*Pn		**Pn**	12 54 09.8	0.0	
APE	**Apeiranthos**	**1.69**	**339**	P		**Pn**	12 54 09.8	-0.4	
APE				S		**Sn**	12 54 30.9	-0.7	
APE	**Apeiranthos**	**1.69**	**339**	*e*PN		**Pb**	12 54 11.5	-0.5	
APE	**Apeiranthos**	**1.69**	**339**	*e*PB		**Pn**	12 54 09.8	-0.4	
APE	**Apeiranthos**	**1.69**	**339**	*e*Pn		**Pn**	12 54 09.8	-0.4	
APE	**Apeiranthos**	**1.69**	**339**	*e*Pn		**Pb**	12 54 11.5	-0.5	
APE				S		**Sn**	12 54 30.9	-0.7	
VAM	**Vamos**	**1.70**	**268**	P		**Pn**	12 54 09.7	-0.5	
VAM				S		**Sn**	12 54 29.8	-1.9	
VAM	**Vamos**	**1.70**	**268**	*e*PN		**Pb**	12 54 11.5	-0.6	
VAM	**Vamos**	**1.70**	**268**	P		**Pn**	12 54 09.7	-0.5	
VAM	**Vamos**	**1.70**	**268**	*e*Pn		**Pb**	12 54 11.5	-0.6	
VAM				S		**Sn**	12 54 29.8	-1.9	
BODT	**Bodrum**	**1.78**	**28**	*e*PN		**Pn**	12 54 12.1	+0.7	
BODT	**Bodrum**	**1.78**	**28**	*e*Pn		**Pn**	12 54 12.1	+0.7	
GVD	**Gavdhos**	**1.91**	**251**	*e*PN		**Pn**	12 54 13.9	+0.8	
GVD	**Gavdhos**	**1.91**	**251**	*e*PN		**Pn**	12 54 14.4	+1.3	
GVD	**Gavdhos**	**1.91**	**251**	*e*Pn		**Pn**	12 54 13.9	+0.8	
KARN	**Karanos**	**1.93**	**268**	*e*PN		**Pn**	12 54 14.6	+1.2	
KARN	**Karanos**	**1.93**	**268**	*e*PB		**Pn**	12 54 14.0	+0.6	
KARN	**Karanos**	**1.93**	**268**	*e*Pb		**Pn**	12 54 14.0	+0.6	
KARN	**Karanos**	**1.93**	**268**	*e*Pn		**Pn**	12 54 14.6	+1.2	
SMG	**Samos**	**2.27**	**11**	*e*PN		**Pn**	12 54 17.6	-0.5	
SMG	**Samos**	**2.27**	**11**	*e*Pn		**Pn**	12 54 17.6	-0.5	
YER	**Yerkesik**	**2.31**	**44**	*e*PN		**Pn**	12 54 19.9	+1.2	
YER	**Yerkesik**	**2.31**	**44**	*e*Pn		**Pn**	12 54 19.9	+1.2	
TURN	**Turunc**	**2.34**	**53**	*i* P		**Pn**	12 54 16.6	-2.4	
TURN				*i* S		**Sn**	12 54 41.9	-5.5	
TURN	**Turunc**	**2.34**	**53**	*i* P		**Pn**	12 54 16.6	-2.4	
DALY	**Dalyan (Mu¨la**	**2.34**	**55**	*e*PN		**Pn**	12 54 19.1	+0.1	
DALY	**Dalyan (Mu¨la**	**2.34**	**55**	*e*Pn		**Pn**	12 54 19.1	+0.1	
ANKY	**Antikythira Is**	**2.45**	**280**	*e*PN		**Pn**	12 54 21.7	+1.1	
ANKY	**Antikythira Is**	**2.45**	**280**	*e*Pn		**Pn**	12 54 21.7	+1.1	
FETY	**Fethiye**	**2.55**	**62**	*e*PN		**Pn**	12 54 21.4	-0.5	
FETY	**Fethiye**	**2.55**	**62**	*e*Pn		**Pn**	12 54 21.4	-0.5	
KYTH	**Kithira**	**2.75**	**288**	P		**Pn**	12 54 24.2	-0.5	
KYTH	**Kithira**	**2.75**	**288**	P		**Pn**	12 54 24.2	-0.5	
AYDB	**Zeytinkoy-Aydi**	**2.78**	**27**	*e*PN		**Pn**	12 54 25.7	+0.5	
AYDB	**Zeytinkoy-Aydi**	**2.78**	**27**	*e*Pn		**Pn**	12 54 25.7	+0.5	
AKAS	**Kas**	**2.80**	**74**	*i* P		**Pn**	12 54 27.4	+1.8	
AKAS	**Kas**	**2.80**	**74**	*i* P		**Pn**	12 54 27.4	+1.8	
CHOS	**Chios island**	**2.90**	**357**	*e*PN		**Pn**	12 54 28.9	+2.0	
CHOS	**Chios island**	**2.90**	**357**	*e*Pn		**Pn**	12 54 28.9	+2.0	
VLI	**Veliai**	**2.97**	**295**	P		**Pn**	12 54 27.7	-0.1	
VLI				S		**Sn**	12 55 03.0	-0.1	
VLI	**Veliai**	**2.97**	**295**	P		**Pn**	12 54 27.7	-0.1	
VLI				S		**Sn**	12 55 03.0	-0.1	
GOLH	**Golhisar**	**3.17**	**56**	*i* P		**Pn**	12 54 32.5	+1.9	
GOLH				*i* S		**Sn**	12 55 11.7	+3.4	
GOLH	**Golhisar**	**3.17**	**56**	*i* P		**Pn**	12 54 32.5	+1.9	
GOLH				*i* S		**Sn**	12 55 11.7	+3.4	
MANT	**Manisa**	**3.51**	**31**	*i* P		**Pn**	12 54 37.5	+2.1	
MANT				*i* S		**Sn**	12 55 18.8	+2.0	
MANT	**Manisa**	**3.51**	**31**	*i* P		**Pn**	12 54 37.5	+2.1	
MANT				*i* S		**Sn**	12 55 18.8	+2.0	
KULA	**Kula-Manisa**	**3.58**	**32**	*e*PN		**Pn**	12 54 37.0	+0.9	
KULA	**Kula-Manisa**	**3.58**	**32**	*e*Pn		**Pn**	12 54 37.0	+0.9	
KHL	**Karahalli**	**3.85**	**42**	*e*PN		**Pn**	12 54 40.6	+0.8	
KHL	**Karahalli**	**3.85**	**42**	*e*Pn		**Pn**	12 54 40.6	+0.8	
KHAL	**Karahalli**	**3.86**	**41**	*i* P		**Pn**	12 54 42.3	+2.2	
KHAL				*i* S		**Sn**	12 55 26.0	+0.7	
KHAL	**Karahalli**	**3.86**	**41**	*i* P		**Pn**	12 54 42.3	+2.2	
KHAL				*i* S		**Sn**	12 55 26.0	+0.7	
SUTC	**Sutluce-Ispart**	**4.29**	**61**	*e*PN		**Pn**	12 54 47.1	+1.0	
SUTC	**Sutluce-Ispart**	**4.29**	**61**	*e*Pn		**Pn**	12 54 47.1	+1.0	
TVSB	**Tavsanli**	**4.70**	**32**	*e*PN		**Pn**	12 54 52.5	+0.9	
TVSB	**Tavsanli**	**4.70**	**32**	*e*Pn		**Pn**	12 54 52.5	+0.9	
HDMB	**Hadim**	**5.23**	**72**	*e*PN		**Pn**	12 54 59.9	+0.9	
HDMB	**Hadim**	**5.23**	**72**	*e*Pn		**Pn**	12 54 59.9	+0.9	
MMAI	**Mount Meron Ar**	**7.95**	**105**	Pn		**Pn**	12 55 35.4	-0.8	
	1.9nm,0.3s,baz=276,slow=14,SNR=3.0								
MMAI				S		**Sn**	12 57 03.0	-2.9	
	2.3nm,0.3s,baz=295,slow=27,SNR=2.3								
EIL	**Elat**	**9.33**	**126**	Pn		**Pn**	12 55 52.2	-2.9	
	0.7nm,0.3s,baz=131,slow=20,SNR=1.5								
EIL				S		Sn	12 57 32.4	-7.5	
	0.6nm,0.3s,baz=30,slow=20,SNR=2.1								
AKASG	**Malin Array Be**	**15.36**	**7**	Pn		**P**	12 57 21.9	0.0	
	0.9nm,0.3s,baz=195,slow=9.7,SNR=3.3								
TORD	**Torodi Ar. Bea**	**31.40**	**231**	P		**P**	13 00 02.5	+0.8	
	0.4nm,0.8s,baz=40,slow=9.6,SNR=3.8								
MKAR	**Makanchi Array**	**42.83**	**57**	P		**P**	13 01 38.9	+0.4	
	0.3nm,0.4s,baz=266,slow=8.2,SNR=7.5								

IDC ***07*** *12:58:25.2±1.1,14˚.02N×121˚.18E,h0km,mb3.6/7, mb1 3.8/7,mb1mx3.6/26,mbtmp3.7/7,Error ellipse: s-maj=55.9km s-min=18.7km az=63.0*

MAN ***07*** *12:58:41,13˚.75N×120˚.56E,h89km,mb4.3,ML3.1,MS3.0*

ISC 07 12:58:39.5±1.1,13˚.4N±0˚.1×121˚.0E±0˚.2,h152km,n11, σ2≤09/9,mb3.4/7,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.96**	**171**	*e*P		**Pn**	**12 59 07.0**	**+2.7**
SJMP				*e*S		**Sn**	**12 59 19.4**	**-3.7**
OTRP	**Odiongan**	**1.48**	**135**	*e*P		Pn	12 59 13.7	+4.7
BUSP	**Coron**	**1.59**	**208**	*e*P		**Pn**	**12 59 11.2**	**+0.9**
ENPP	**El Nido**	**2.66**	**214**	*e*P		**Pn**	**12 59 24.6**	**+1.9**
CMAR	**Chiang Mai Arr**	**21.75**	**286**	P		**P**	**13 03 19.0**	**-0.2**
	1.1nm,0.8s,baz=87,slow=7.5							
WRA	**Warramunga Arr**	**35.67**	**158**	P		P	13 05 28.3	+4.9
	0.1nm,0.5s,baz=334,slow=9.5,SNR=5.4							
SONM	**Songino Array**	**36.40**	**343**	P		**P**	**13 05 28.7**	**-0.7**
	0.8nm,0.7s,baz=156,slow=9.7,SNR=5.1							
ASAR	**Alice Springs**	**38.97**	**161**	P		P	13 05 58.6	+7.5
	0.2nm,0.3s,baz=341,slow=8.7,SNR=3.3							
MKAR	**Makanchi Array**	**46.41**	**324**	P		**P**	**13 06 51.2**	**+0.4**
	0.6nm,0.5s,baz=138,slow=8.6,SNR=7.5							
KURBB	**Kurchatov Arra**	**50.56**	**326**	P		**P**	**13 07 22.1**	**-0.4**
	0.6nm,0.4s,baz=127,slow=7.8,SNR=9.1							
ARCES	**ARCESS Array B**	**79.44**	**339**	P		**P**	**13 10 28.7**	**+0.1**
	2.7nm,0.9s,baz=74,slow=8.9,SNR=4.2							

IDC ***07*** *13:02:07.5±0.5,0˚.59S×132˚.38E,h0km,mb4.5/16, mb1 4.7/17,mb1mx4.6/25,mbtmp4.5/17,ML4.9/1,MS4.4/18, Ms1 4.4/18,ms1mx4.0/34,Error ellipse: s-maj=27.7km s-min=11.7km az=70.0*

BKK ***07*** *13:02:08.7±0.5,0˚.5S×13˚.3E±˚,h10km,M5.5/17,mB5.5/5, mb4.9/17,MLv6.0/1,Mw(mB)5.0/5*

ISCJB ***07*** *13:02:10.1±0.2,0˚.34S±0˚.02×132˚.94E±0˚.03,h32km, mb4.7/60,MS4.4/22,Error ellipse: s-maj=4.1km s-min=3.2km az=149.2*

MOS ***07*** *13:02:10.2±1.1,0˚.52S×132˚.57E,h33km,mb5.1/18,Error ellipse: s-maj=16.6km s-min=7.1km az=113.9*

AUST ***07*** *13:02:10.6±1.0,0˚.35S×133˚.07E,h39km±13km,Error ellipse: s-maj=11.0km s-min=8.7km az=174.0*

BJI ***07*** *13:02:11.7,0˚.50S×132˚.90E,h51km,mB5.3/26,mb4.7/43, Ms4.9/23,Ms7 4.6/23*

GCMT ***07*** *13:02:11.3±0.2,0˚.35S×133˚.02E,h15km,MW5.2,Moment Tensor Solution. s62,c81; s86,c138; Moment tensor: Scale 10¹⁶Nm; Mrr5.97±.22; Mθθ-4.22±.15; Mϕϕ-1.75±.16; Mrθ-3.32±.31; Mθϕ2.63±.10; Mϕr4.49±.38; Best double couple: Mo8.10000×10¹⁶ NP1:φs316.00000°,δ67.00000°, λ101.00000°. NP2:φs110.00000°,δ25.00000°,λ66.00000°. Principal axes: T 8.3500, Plg66.0000°, Azm246.0000°; N -0.4400, Plg10.0000°, Azm132.0000°; P -7.9200, Plg21.0000°, Azm38.0000°; Data Used: II IU G CN IC.*

DJA ***07*** *13:02:12.9±2.0,0˚.5S×13˚.3E±˚,h36km±24km,M5.4/11, mb5.5/11,mB5.7/11,MLv5.5/11,Mw(mB)5.3/11,Mwp5.5/1*

NEIC ***07*** *13:02:13.0±1.7,0˚.45S×132˚.80E,h43km±16km,mb4.8/20, Error ellipse: s-maj=13.6km s-min=6.6km az=47.0*

ISC 07 13:02:12.8±0.3,0˚.38S±0˚.03×132˚.92E±0˚.04,h32km,n205, σ2≤05/229,mb4.9/60,MS4.4/25,10C-5D,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.73**	**254**	P		**Pn**	**13 02 40.8**	**+0.2**
SWI				S		**Sb**	**13 03 05.6**	**+0.3**
SWI	**Sorong**	**1.73**	**254**	⇓P		**Pn**	**13 02 38.8**	**-1.9**
	baz=1.9,SNR=733							
FAKI	**Fak Fak**	**2.62**	**195**	P		**Pn**	**13 02 53.2**	**+0.4**
FAKI				S		**Sb**	**13 03 27.5**	**-3.2**
BAKI	**Biak**	**3.29**	**104**	P		**Pn**	**13 02 59.9**	**-2.1**
BAKI				S		**Sn**	**13 03 37.5**	**-2.6**
KMPI	**Kaimana, Papua**	**3.36**	**167**	P		**Pn**	**13 03 03.1**	**+0.1**
SRPI	**Serui, Papua**	**3.63**	**114**	P		**Pn**	**13 03 06.3**	**-0.5**
SRPI				S		**Sn**	**13 03 48.8**	**+0.1**
BNDI	**Bandanaira**	**5.10**	**216**	P		**Pn**	**13 03 27.8**	**+0.7**
	2μm,1.1s,33μm18μm12nm							
BNDI				S		**Sn**	**13 04 29.7**	**+4.8**
	2μm,1.1s,33μm18μm12nm							
TLE	**Tual**	**5.23**	**182**	P		**Pn**	**13 03 30.0**	**+1.2**
	1μm,1.4s,27μm11nm							
TLE				S		**Sn**	**13 04 29.4**	**+1.3**
	1μm,1.4s,27μm11nm							
TLE	**Tual**	**5.23**	**182**	⇓P		**Pn**	**13 03 28.7**	**-0.1**
	baz=5.3,SNR=94							
LBMI	**Labuha**	**5.43**	**267**	P		**Pn**	**13 03 31.0**	**-0.5**
	289nm,0.9s,6μm1.8nm							
LBMI				S		**Sn**	**13 04 29.0**	**-4.0**
	289nm,0.9s,6μm1.8nm							
TNTI	**Ternate**	**5.67**	**282**	P		**Pn**	**13 03 35.0**	**+0.1**
	130nm,1.1s,3μm0.7nm							
TNTI				S		Sn	13 04 28.7	-10
	130nm,1.1s,3μm0.7nm							
AAI	**Ambon**	**5.76**	**235**	P		**Pn**	**13 03 36.9**	**+0.9**
	835nm,0.8s,11μm3.7nm							
AAI				S		**Sn**	**13 04 43.7**	**+2.6**
	835nm,0.8s,11μm3.7nm							
AAI	**Ambon**	**5.76**	**235**	⇓P		**Pn**	**13 03 37.3**	**+1.2**
	baz=5.9,SNR=23							
NLAI	**Namlea**	**6.48**	**244**	P		**Pn**	**13 03 45.7**	**-0.2**
	181nm,0.9s,3μm1.0nm							
SAUI	**Saumlaki**	**7.73**	**192**	S		**Sn**	**13 05 31.5**	**+1.9**
PALU	**Palau**	**7.82**	**11**	⇑P		**Pn**	**13 04 01.7**	**-2.7**
	baz=7.8,SNR=4.0							
LUWI	**Luwuk**	**10.17**	**266**	P		**Pn**	**13 04 36.7**	**0.0**
	179nm,1.0s,2μm							
APSI	**Ampana**	**11.29**	**267**	P		**Pn**	**13 04 51.6**	**-0.3**
KDU	**Kakadu**	**12.24**	**182**	⇑P		**Pn**	**13 05 02.4**	**-2.6**
	baz=12							
SOEI	**Soe**	**12.69**	**222**	P		**Pn**	**13 05 13.1**	**+1.9**
	246nm,1.6s,4μm							
BATI	**Baumata**	**13.42**	**223**	P		**Pn**	**13 05 22.4**	**+1.2**
	187nm,1.5s,2μm							
BATI	**Baumata**	**13.42**	**223**	Pn		**Pn**	**13 05 21.3**	**+0.1**
BATI				Sn		**Sn**	**13 07 54.8**	**+5.3**
BATI	**Baumata**	**13.42**	**223**	Pn		**Pn**	**13 05 21.3**	**+0.1**
	18nm,0.3s,baz=66,slow=0.5,SNR=39							
BATI				Sn		**Sn**	**13 07 54.8**	**+5.3**
	1.7nm,0.3s,baz=342,slow=20,SNR=2.1							
BATI				LR		LR	13 10 45.6	
	comp=Z,2μm,19.1s,baz=60,slow=40							
BKSI	**Bulukumba**	**13.69**	**249**	P		Pn	13 05 28.9	+4.1
KAPI	**Kappang**	**13.94**	**250**	Pn		Pn	13 05 24.4	-3.8
KAPI	**Kappang**	**13.94**	**250**	Pn		Pn	13 05 24.4	-3.8
	1.1nm,0.3s,baz=122,slow=13,SNR=2.0							
KAPI				LR		LR	13 11 00.9	
	comp=Z,852nm,20.1s,baz=210,slow=40							
MYLDM	**Lahad Datu**	**15.43**	**291**	P		**Pn**	**13 05 47.5**	**-0.7**
TSM	**Tawau**	**15.74**	**287**	P		**Pn**	**13 05 50.6**	**-1.7**
PMG	**Port Moresby**	**16.77**	**123**	*e*P		**Pn**	**13 06 05.3**	**-0.1**
	80nm,0.9s							
PMG	**Port Moresby**	**16.77**	**123**	P		**Pn**	**13 06 05.3**	**-0.1**
	0.4nm,0.3s,baz=297,slow=8.7,SNR=4.1							
SDKM	**Sandakan**	**16.80**	**291**	P		**Pn**	**13 06 03.9**	**-2.0**
COEN	**Coen**	**16.88**	**143**	*e*P		**Pn**	**13 06 06.0**	**-0.9**
	331nm,1.1s							
COEN	**Coen**	**16.88**	**143**	⇑P		**Pn**	**13 06 05.4**	**-1.5**
	baz=17,SNR=5.9							
KDM	**Kudat**	**17.61**	**295**	P		**Pn**	**13 06 15.1**	**-0.8**
KKM	**Kota Kinabalu**	**17.86**	**291**	P		**Pn**	**13 06 18.1**	**-0.9**
WRAB	**Tennant Creek**	**19.49**	**176**	*e*P		**P**	**13 06 35.9**	**-1.4**
WRAB				pmax		pmax		
	comp=Z,82nm,0.9s							
WRAB	**Tennant Creek**	**19.49**	**176**	*e*P		**P**	**13 06 35.9**	**-1.4**
	comp=Z,82nm,0.9s							
WRA	**Warramunga Arr**	**19.50**	**176**	P		**P**	**13 06 35.3**	**-2.1**
WRA				S		S	13 10 05.2	-11
WRA	**Warramunga Arr**	**19.50**	**176**	P		**P**	**13 06 35.3**	**-2.1**
	comp=Z,3.4nm,0.3s,baz=352,slow=12,SNR=82							
WRA				S		S	13 10 05.2	-11
	comp=Z,1.4nm,0.3s,baz=358,slow=22,SNR=7.2							
BTM	**Bintulu**	**20.15**	**280**	P		Pn	13 06 46.3	-0.2
SBUM	**Sibu**	**20.89**	**278**	P		**P**	**13 06 53.6**	**+1.1**
KSM	**Kuching**	**22.69**	**275**	P		**P**	**13 07 10.3**	**-1.6**
KSM	**Kuching**	**22.69**	**275**	*e*P		**P**	**13 07 11.9**	**0.0**
	comp=Z,33nm,1.1s							
AS31	**Alice Springs**	**23.17**	**178**	*e*P		**P**	**13 07 14.7**	**-2.1**
ASAR	**Alice Springs**	**23.17**	**178**	P		**P**	**13 07 14.8**	**-2.1**
ASAR				S		**S**	**13 11 31.1**	**+4.6**
ASAR	**Alice Springs**	**23.17**	**178**	P		**P**	**13 07 14.8**	**-2.1**
	comp=Z,105nm,1.1s,baz=358,slow=9.4,SNR=122							
ASAR				S		**S**	**13 11 31.1**	**+4.6**
	comp=Z,26nm,1.0s,baz=360,slow=19,SNR=8.0							
ASAR				LR		LR	13 16 46.5	
	comp=Z,575nm,21.9s,baz=347,slow=38							
CTA	**Charters Tower**	**23.54**	**147**	P		**P**	**13 07 20.2**	**-0.2**
CTA	**Charters Tower**	**23.54**	**147**	P		**P**	**13 07 20.2**	**-0.2**
	comp=Z,41nm,1.1s,baz=327,slow=13,SNR=22							
CTAO	**Charters Tower**	**23.54**	**147**	*e*P		**P**	**13 07 19.9**	**-0.6**
CTAO				pmax		pmax		
	comp=Z,42nm,0.9s							
CTAO	**Charters Tower**	**23.54**	**147**	*e*P		**P**	**13 07 19.9**	**-0.6**
	comp=Z,42nm,0.9s							
MBWA	**Marble Bar**	**24.34**	**211**	P		**P**	**13 07 28.9**	**+1.0**
	SNR=10							
MBWA	**Marble Bar**	**24.34**	**211**	*e*P		**P**	**13 07 26.6**	**-1.3**
	comp=Z,108nm,1.3s							
JCJ	**Chichijima**	**28.73**	**17**	LR		LR	13 16 50.3	
	comp=Z,613nm,19.6s,baz=86,slow=30							
MYKOM	**Kota Tinggi**	**29.15**	**274**	P		**P**	**13 08 08.9**	**-2.4**
QIZ	**Qiongzhong**	**29.75**	**312**	P		**P**	**13 08 16.3**	**-0.3**
QIZ				S		**S**	**13 13 10.3**	**-0.7**
QIZ				LR		LR		
	comp=Z,460nm,5.3s							
QIZ				LR		LR		
	comp=Z,420nm,7.7s							
EIDS	**Eidsvold**	**30.42**	**146**	*e*P		**P**	**13 08 19.7**	**-2.7**
FRIM	**Kepong**	**31.49**	**277**	P		P	13 08 28.7	-3.3
STKA	**Stephens Creek**	**32.39**	**166**	*e*P		**P**	**13 08 37.3**	**-2.3**
	comp=Z,15nm,1.1s							
STKA	**Stephens Creek**	**32.39**	**166**	⇓P		**P**	**13 08 37.7**	**-2.0**
	baz=32							
STKA	**Stephens Creek**	**32.39**	**166**	P		**P**	**13 08 37.0**	**-2.7**
	comp=Z,40nm,0.8s,baz=340,slow=8.2,SNR=59							
STKA				LR		LR	13 23 13.2	
	comp=Z,2μm,18.6s,baz=339,slow=39							

PANO	**Nakornpanom**	**32.88**	**303**	P		**P**	**13 08 43.3**	**-0.8**	
	comp=Z,15nm,0.7s								
CHBT	**CHBT**	**33.03**	**294**	P		**P**	**13 08 44.9**	**-0.6**	
	comp=Z,37nm,1.0s								
JNU	**Nakatsue**	**33.38**	**357**	LR		LR	13 21 18.9		
	comp=Z,756nm,18.8s,baz=338,slow=34								
BLDU	**Ballidu**	**33.79**	**206**	⇑P		**P**	**13 08 50.7**	**-1.2**	
	baz=34								
PSI	**Prapat**	**34.13**	**276**	P		P	13 08 50.2	-5.1	
PSI	**Prapat**	**34.13**	**276**	P		P	13 08 50.2	-5.1	
	comp=Z,12nm,0.8s,baz=140,slow=4.5,SNR=6.1								
NONG	**Nongkai**	**34.54**	**304**	P		**P**	**13 08 57.2**	**-1.4**	
	comp=Z,23nm,1.0s								
CHAI	**Chaiyaphum**	**34.56**	**299**	P		**P**	**13 08 57.5**	**-1.3**	
	comp=Z,4.3nm,0.8s								
ARMA	**Armidale**	**34.77**	**151**	*e*P		**P**	**13 08 59.4**	**-1.2**	
	comp=Z,19nm,0.8s								
NJ2	**Nanjing**	**34.89**	**339**	*e*P		**P**	**13 09 02.0**	**+0.6**	
NJ2				AMB		AMB			
	comp=Z,22nm,0.9s								
LOEI	**Loei**	**35.88**	**301**	P		P	13 09 06.1	-4.0	
	comp=Z,21nm,1.0s								
GYA	**Guiyang**	**36.77**	**319**	P		**P**	**13 09 18.8**	**+1.0**	
GYA				pP		pP	13 09 33.0	+5.8	
GYA				sP		sP	13 09 40.2	+9.1	
GYA				PP		**PnPn**	**13 10 45.8**	**+3.8**	
GYA				PcP		**PcP**	**13 11 40.4**	**+0.6**	
GYA				S		**S**	**13 15 01.2**	**+1.2**	
GYA				ScP		**ScP**	**13 15 20.4**	**-4.1**	
GYA				ScS		**ScS**	**13 19 27.0**	**-4.6**	
GYA				AMB		AMB			
	comp=Z,10.0nm,0.8s								
GYA				AMB		AMB			
	comp=Z,90nm,4.8s								
NANT	**Nan**	**36.94**	**303**	P		**P**	**13 09 18.8**	**-0.4**	
	comp=Z,24nm,1.0s								
MJAR	**Matsushiro Arr**	**37.06**	**7**	LR		LR	13 21 13.2		
	comp=Z,996nm,20.6s,baz=195,slow=31								
PAYA	**Payao**	**37.89**	**303**	P		**P**	**13 09 26.6**	**-0.7**	
KSRS	**Korea Array**	**37.92**	**354**	LR		LR	13 23 09.9		
	comp=Z,566nm,20.1s,baz=165,slow=33								
H11S3	**WAKE ISLAND Hy**	**38.11**	**59**	T		T	13 52 06.2		
	baz=254,slow=0.7,SNR=4.3								
H11S2	**WAKE ISLAND Hy**	**38.12**	**59**	T		T	13 52 07.8

HHC LR LR
comp=Z,380nm,15.4s
HHC LR LR
comp=Z,1μm,14.1s
HHC LR LR
comp=Z,790nm,13.5s
YUK Yuzh-Kuril'sk 45.70 13 *e*P P 13 10 26.3 -4.4
YUK *e*S S 13 17 03.8 -7.9
SHL Shillong 47.28 306 *e*P **P** **13 10 42.5 -1.2**
YSS Yuzh-Sakhalins 47.92 9 *e*P **P** **13 10 49.0 +1.0**
LSA Lhasa 49.78 311 P **P** **13 11 02.8 -0.5**
LSA AMB AMB
comp=Z,20nm,1.6s
GTA Gaotai 49.85 326 *e*P **P** **13 11 02.1 -1.1**
GTA pP **pP** **13 11 14.6 +1.8**
GTA sP **sP** **13 11 19.6 +3.0**
GTA S **S** **13 18 08.9 -2.2**
GTA sS **sS** **13 18 29.3 +2.3**
GTA SS **SS** **13 21 38.2 -6.1**
GTA AMB AMB
comp=Z,5.0nm,1.6s
GTA AMB AMB
comp=Z,260nm,7.4s
GTA LR LR
comp=Z,190nm,16.4s
GTA LR LR
comp=Z,240nm,17.6s
GTA LR LR
comp=Z,230nm,15.7s
TAPN Taplejung 51.42 306 *e*P **P** **13 11 13.7 -1.7**
comp=Z,40nm,1.0s
ODAN Odare 51.48 305 *e*P **P** **13 11 14.2 -1.6**
comp=Z,56nm,0.9s
RAMN Ramite 52.16 305 *e*P **P** **13 11 19.6 -1.3**
comp=Z,122nm,1.2s
JIRN Jiri 52.78 306 *e*P **P** **13 11 24.1 -1.5**
comp=Z,35nm,0.9s
ULN Ulaanbaatar 53.05 338 P P 13 11 30.7 +3.6
SNR=10
ULN Ulaanbaatar 53.05 338 *e*P **P** **13 11 26.4 -0.7**
comp=Z,24nm,1.5s
GUN Gumba 53.13 306 *e*P **P** **13 11 26.6 -1.6**
comp=Z,36nm,0.7s
SONM Songino Array 53.27 338 P **P** **13 11 28.1 -0.6**
SONM Songino Array 53.27 338 P **P** **13 11 28.1 -0.6**
comp=Z,2.3nm,1.1s,baz=152,slow=6.4,SNR=10
SONM LR LR 13 34 10.0
comp=Z,177nm,19.2s,baz=146,slow=36
PKI Pulchoki 53.38 305 *e*P **P** **13 11 28.1 -1.9**
comp=Z,28nm,1.0s
KKN Kakani 53.57 306 *e*P **P** **13 11 29.5 -1.8**
comp=Z,32nm,0.9s
DMN Daman 53.64 305 *e*P **P** **13 11 30.1 -1.7**
comp=Z,36nm,0.9s
GKN Gorkha 54.17 306 *e*P **P** **13 11 33.9 -1.7**
comp=Z,28nm,0.9s
RPZ Rata Peaks 54.91 147 P **P** **13 11 42.2 +1.7**
RPZ Rata Peaks 54.91 147 P **P** **13 11 42.2 +1.7**
comp=Z,23nm,1.1s,baz=349,slow=2.0,SNR=4.2
KOLN Koldanda 54.93 305 *e*P **P** **13 11 39.6 -1.6**
comp=Z,63nm,0.8s
DANN Dangsing 55.02 306 *e*P **P** **13 11 40.3 -1.6**
comp=Z,82nm,0.8s
PYUN Piuthan 55.56 305 *e*P **P** **13 11 44.4 -1.3**
comp=Z,154nm,0.5s
ZAK Zakamensk 56.54 338 *e*P **P** **13 11 51.5 -0.7**
ZAK pmax pmax
comp=Z,5.0nm,1.8s
PETK Petropavlovsk- 57.17 17 P P 13 12 00.4 +3.9
PETK Petropavlovsk- 57.17 17 P P 13 12 00.3 +3.9
PETK Petropavlovsk- 57.17 17 P P 13 12 00.3 +3.9
comp=Z,10.0nm,1.0s,baz=201,slow=6.3,SNR=4.8
PETK LR LR 13 31 51.3
comp=Z,284nm,20.5s,baz=194,slow=31
PET Petropavlovsk 57.39 18 *e*P **P** **13 12 00.4 +2.5**
PET *e*S **S** **13 19 56.3 +3.8**
PET *e*SS **SS** **13 23 42.9 +0.4**
PET pmax pmax
comp=Z,100nm,12.0s
IRK Irkutsk 57.69 340 *e*P **P** **13 11 59.0 -1.2**
IRK pmax pmax
comp=Z,27nm,1.3s
MOY Mondy 58.44 337 *e*P **P** **13 12 05.5 0.0**
MOY pmax pmax
comp=Z,48nm,2.2s
WMQ Urumqi 59.65 323 P **P** **13 12 13.8 -0.3**
WMQ pP **pP** **13 12 26.5 +2.6**
WMQ sP **sP** **13 12 31.8 +4.1**
WMQ PP **PP** **13 14 27.7 +1.7**
WMQ S **S** **13 20 19.9 -2.6**
WMQ sS **sS** **13 20 41.0 +2.3**
WMQ ScS **ScS** **13 21 56.4 -5.8**
WMQ AMB AMB
comp=Z,23nm,0.9s
WMQ AMB AMB
comp=Z,200nm,3.7s
WMQ LR LR
comp=Z,310nm,5.2s
WMQ LR LR
comp=Z,330nm,6.8s
WMQ LR LR
comp=Z,130nm,23.0s
HVS Khovu-Aksy 61.12 333*c i*P **P** **13 12 23.1 -0.9**
HVS pmax pmax
comp=Z,83nm,1.9s
YAK Yakutsk 62.29 358 *e*P **P** **13 12 31.8 +0.3**
YAK pmax pmax
comp=Z,12nm,0.7s
MK31 Makanchi Array 64.47 324 *e*P **P** **13 12 45.2 -1.1**
MK31 Makanchi Array 64.47 324 *e*P **P** **13 12 45.2 -1.1**
MKAR Makanchi Array 64.47 324 P **P** **13 12 45.3 -1.0**
MKAR Makanchi Array 64.47 324 P **P** **13 12 45.3 -1.0**
MKAR Makanchi Array 64.47 324 P **P** **13 12 45.3 -1.0**
comp=Z,4.8nm,0.9s,baz=113,slow=8.3,SNR=22
SEY Seymchan 64.82 10⇑ *e*P **P** **13 12 49.1 +0.9**
KSH Kashi 65.31 314 P **P** **13 12 51.8 -0.3**
KSH pP pP 13 13 07.5 +5.5
KSH sP sP 13 13 13.9 +8.2
KSH PcP **PcP** **13 13 28.0 +3.8**
KSH PP PP 13 15 22.4 +6.4
KSH S **S** **13 21 35.7 +1.7**
KSH sS sS 13 21 58.4 +8.0
KSH AMB AMB
comp=Z,10.0nm,1.1s
KSH AMB AMB
comp=Z,200nm,5.8s
KSH LR LR
comp=Z,220nm,10.4s
KSH LR LR
comp=Z,200nm,5.2s
KSH LR LR
comp=Z,220nm,5.5s
TKM2 Tokmak 2 66.91 318 *e*P **P** **13 13 03.0 +0.6**
TKM2 Tokmak 2 66.91 318 *e*P **P** **13 13 01.5 -0.9**
comp=Z,9.9nm,1.2s
ZAA0 Zalesovo Array 67.08 331 *e*P **P** **13 13 00.9 -2.0**
ZALV Zalesovo Beam 67.08 331 P **P** **13 13 01.0 -1.9**
ZALV Zalesovo Beam 67.08 331 P **P** **13 13 01.0 -1.9**
ZALV Zalesovo Beam 67.08 331 P **P** **13 13 01.0 -1.9**
comp=Z,1.1nm,0.4s,baz=59,slow=5.7,SNR=4.3
AAK Ala-Archa 67.54 317*c i*P **P** **13 13 05.7 -0.6**
AAK pmax pmax
comp=Z,32nm,2.5s
AAK Ala-Archa 67.54 317 P **P** **13 13 06.6 +0.2**
SNR=6.9
AAK Ala-Archa 67.54 317 *e*P **P** **13 13 05.9 -0.4**
comp=Z,7.5nm,1.2s
AAK Ala-Archa 67.54 317 P **P** **13 13 05.7 -0.6**
comp=Z,0.5nm,0.3s,baz=190,slow=10,SNR=5.9
EKS2 Erkin-Say 68.04 317 *e*P **P** **13 13 08.8 -0.7**
EKS2 pmax pmax
comp=Z,7.0nm,1.0s
EKS2 Erkin-Say 68.04 317 *e*P **P** **13 13 08.8 -0.7**
comp=Z,7.3nm,1.0s
NVS Novosibirsk 68.35 332 *e*P **P** **13 13 07.9 -3.0**
NVS pmax pmax
comp=N,20nm,1.9s
NVS pmax pmax
comp=Z,27nm,1.9s
NVS pmax pmax
comp=E,19nm,2.0s
KURK Kurchatov 68.54 326*c i*P **P** **13 13 10.7 -1.4**
KURK pmax pmax
comp=Z,9.0nm,1.2s
KURK Kurchatov 68.54 326 P **P** **13 13 11.6 -0.6**
SNR=12
KURK Kurchatov 68.54 326 *e*P **P** **13 13 10.8 -1.4**
comp=Z,5.9nm,0.9s
KURBB Kurchatov Arra 68.54 326 P **P** **13 13 11.0 -1.2**
comp=Z,4.3nm,0.9s,baz=124,slow=5.8,SNR=11
KKAR Karatay Array 70.44 316 *e*P **P** **13 13 22.4 -1.8**
KKAR pmax pmax
comp=Z,5.0nm,0.9s
KKAR Karatay Array 70.44 316 *e*P **P** **13 13 22.4 -1.8**
comp=Z,4.9nm,0.9s
BVAR Borovoye Array 74.13 326 P **P** **13 13 44.3 -1.7**
BVAR Borovoye Array 74.13 326 P **P** **13 13 44.3 -1.7**
BVAR Borovoye Array 74.13 326 P **P** **13 13 44.3 -1.7**
comp=Z,2.6nm,0.7s,baz=115,slow=6.7,SNR=8.5
BVAR LR LR 13 50 49.4
comp=Z,115nm,18.6s,baz=347,slow=40
BRVK Borovoye 74.20 326*c i*P **P** **13 13 45.1 -1.3**
BRVK pmax pmax
comp=Z,13nm,1.2s
BRVK Borovoye 74.20 326 P **P** **13 13 45.7 -0.7**
SNR=6.9
BRVK Borovoye 74.20 326 *e*P **P** **13 13 45.1 -1.3**
comp=Z,21nm,1.1s
IDAH Dahanechah 75.99 304 *e*P **P** **13 13 56.2 -1.2**
IMYA Miami 76.43 307 *e*P **P** **13 13 59.1 -0.7**
IMOG Moghan 77.00 307 *e*P **P** **13 14 01.6 -1.5**
IPAY Payeh 77.33 307 *e*P **P** **13 14 03.9 -1.0**
IAKL Akhelmad 77.54 308 *e*P **P** **13 14 05.5 -0.7**
IKRD Kardeh 77.77 308 *e*P P 13 14 02.5 -4.9
IEMG Emamgholi 77.77 308 *e*P **P** **13 14 06.6 -0.8**
PPT Papeete 77.97 108 LR LR 13 43 53.0
comp=Z,215nm,19.5s,baz=166,slow=32
ISFR Sfrayin 78.22 308 *e*P **P** **13 14 09.4 -0.5**
VNDA Vanda 78.65 174 *e*P **P** **13 14 09.9 -1.3**
comp=Z,7.4nm,1.1s
VNDA Vanda 78.65 174 P **P** **13 14 10.2 -1.0**
comp=Z,5.8nm,1.1s,baz=326,slow=5.8,SNR=13
VNDA LR LR 13 50 42.6
comp=Z,441nm,18.2s,baz=353,slow=37
ABKAR Akbulak array 79.23 320 *e*P **P** **13 14 13.1 -1.8**
comp=Z,4.7nm,0.8s
SVE Sverdlovsk 80.69 328⇑ *e*P **P** **13 14 21.6 -0.9**
SVE pmax pmax
comp=Z,32nm,1.5s
IKIA Kiasar 81.54 307 *e*P **P** **13 14 25.2 -2.7**
ARU Arti 81.70 327*d i*P **P** **13 14 25.5 -2.4**
ARU 13 17 32.1
ARU S **S** **13 24 36.0 -2.4**
ARU pmax pmax
comp=Z,12nm,1.2s
KDAK Kodiak Island 82.08 31 P P 13 14 35.6 +5.7
KDAK Kodiak Island 82.08 31 P P 13 14 35.6 +5.7
comp=Z,14nm,0.9s,baz=347,slow=2.9,SNR=3.8
MAW Mawson 82.14 201 P **P** **13 14 29.2 -0.8**
MAW Mawson 82.14 201 P **P** **13 14 29.2 -0.8**
comp=Z,3.8nm,0.9s,baz=48,slow=6.9,SNR=6.1
MAW LR LR 13 46 53.7
comp=Z,194nm,21.6s,baz=91,slow=33
ISFB Sefidab 82.51 305 *e*P P 13 14 29.0 -3.8
MCK McKinley 85.09 26 *e*P **P** **13 14 44.9 -0.4**
MCK pmax pmax
comp=Z,47nm,1.4s
MCK McKinley 85.09 26 *e*P **P** **13 14 44.9 -0.4**
comp=Z,47nm,1.4s
ILAR Eielson Array 86.15 25 P **P** **13 14 51.4 +0.9**
ILAR Eielson Array 86.15 25 P **P** **13 14 51.4 +0.9**
comp=Z,1.6nm,1.0s,baz=256,slow=5.7,SNR=8.1
ILAR LR LR 13 53 41.9
comp=Z,105nm,19.8s,baz=144,slow=36
MENT Mentasta 87.30 27 *e*P **P** **13 14 57.0 +0.8**
KIV Kislovodsk 90.43 314 *e*P **P** **13 15 10.0 -1.5**
KIV *e* 13 18 46.3
KIV *e*SS SS 13 32 03.3 -1.9
KIV pmax pmax
comp=Z,6.0nm,1.2s
OBN Obninsk 93.95 325 *e*P **P** **13 15 25.9 -1.4**
OBN *e* 13 19 12.3
OBN *e*SS SS 13 32 52.3 -2.6
OBN pmax pmax
comp=Z,5.0nm,0.9s
ARCES ARCESS Array B 96.39 340 LR LR 14 05 31.1
comp=Z,187nm,18.3s,baz=244,slow=40
EIL Elat 97.12 300 LR LR 14 06 04.3
comp=Z,51nm,18.3s,baz=92,slow=40
AKASG Malin Array Be 98.95 321 P P 13 15 46.9 -3.2
AKASG Malin Array Be 98.95 321 P P 13 15 46.9 -3.2
AKASG Malin Array Be 98.95 321 P P 13 15 46.9 -3.2
comp=Z,0.2nm,0.3s,baz=68,slow=4.3,SNR=4.2
KOLS Kolonicke sedl 103.74 321 *i*P **Pdif** **13 16 17.7 +6.2**
KOLS Kolonicke sedl 103.74 321 PDIF **Pdif** **13 16 17.7 +6.2**
TORD Torodi Ar. Bea 130.05 287 PKP **PKPdf** **13 21 18.5 -2.0**
TORD Torodi Ar. Bea 130.05 287 PKP **PKPdf** **13 21 18.5 -2.0**
comp=Z,0.9nm,0.9s,baz=29,slow=1.6,SNR=4.1
PLCA Paso Flores 133.85 155 PKP **PKPdf** **13 21 26.0 -1.1**
PLCA Paso Flores 133.85 155 PKP **PKPdf** **13 21 26.0 -1.1**
comp=Z,1.5nm,0.9s,baz=213,slow=4.2,SNR=3.4
OTAV Otavalo 148.63 90 *e*PKPab **PKPbc** **13 22 00.0 +1.6**
CPUP Villa Florida 151.67 160 *e*PKPbc **PKPbc** **13 22 03.5 -1.2**
CPUP PKPab **PKPab** **13 22 13.5 +0.2**
CPUP Villa Florida 151.67 160 PKPbc **PKPbc** **13 22 03.8 -1.0**
comp=Z,2.6nm,0.6s,baz=335,slow=2.5,SNR=7.2
CPUP PKPab **PKPab** **13 22 13.5 +0.2**
comp=Z,2.9nm,0.6s,baz=119,slow=4.0,SNR=7.9
ROSC El Rosal 152.42 80 PKPbc **PKPbc** **13 22 09.6 +2.2**
ROSC El Rosal 152.42 80 PKPbc **PKPbc** **13 22 09.6 +2.2**
comp=Z,11nm,0.5s,baz=87,slow=20,SNR=3.7
LPAZ La Paz 153.44 130 *e*PKPbc **PKPbc** **13 22 08.3 -1.4**
LPAZ PKPab **PKPab** **13 22 23.0 +1.1**
LPAZ La Paz 153.44 130 PKPbc **PKPbc** **13 22 08.4 -1.4**
comp=Z,2.6nm,1.1s,baz=345,slow=9.5,SNR=4.8
LPAZ PKPab **PKPab** **13 22 23.0 +1.1**
comp=Z,4.8nm,1.0s,baz=234,slow=2.9,SNR=8.6

*IDC **07** 13:10:03.6±0.7, 15°.29S×176°.09W, h0km, mb4.2/10, mb1 4.5/10, mb1mx4.3/19, mbtmp4.2/10, MS4.2/16, Ms1 4.2/16, ms1mx4.1/25, Error ellipse: s-maj=30.9km s-min=19.2km az=131.0*
*ISCJB **07** 13:10:04.6±0.3, 15°.3S±0°.1×176°.14W±0°.10, h10km, mb4.5/30, MS4.3/13, Error ellipse: s-maj=20.7km s-min=8.8km az=145.1*
*NEIC **07** 13:10:05.8±0.3, 15°.22S×176°.16W, h10km, mb4.7/21, Error ellipse: s-maj=18.9km s-min=8.6km az=142.0*
*GCMT **07** 13:10:10.2±0.3, 15°.23S×175°.78W, h20km±1km, MW5.0, Moment Tensor Solution. s30,c34; s78,c112; Moment tensor: Scale 10^16^Nm; Mrr-0.89±.15; Mθθ1.33±.17; Mϕϕ-0.45±.13; Mrθ0.61±.28; Mθϕ3.68±.12; Mϕr0.48±.23; Best double couple: M0 3.80000×10^16^ NP1:ϕ=97.00000°, δ84.00000°, λ6.00000°. NP2:ϕ=6.00000°, δ84.00000°, λ174.00000°. Principal axes: T 4.3400, Plg8.0000°, Azm322.0000°; N -1.0000, Plg82.0000°, Azm141.0000°; P -3.3400, Plg0.0000°, Azm232.0000°; Data Used: II IU CN G IC.*
ISC 07 13:10:05.4±0.6, **15°.2S**±0°.2×**176°.1W**±0°.2, **h10**km, **n187,** σ0=**80**/168, **mb4.7**/30, **MS4.4**/13, **60C-54D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.40**	**73**			Pn	Pn	13 11 03.9	-8.5
AFI						Sn	Sn	13 11 50.7	-13
AFI	**Afiamalu**	**4.40**	**73**			Pn	Pn	13 11 03.9	-8.5
	23nm,0.3s,baz=35,slow=6.3,SNR=17								
AFI						Sn	Sn	13 11 50.7	-13
	7.6nm,0.3s,baz=74,slow=20,SNR=2.7								
AFI						LR	LR	13 12 39.2	
	comp=Z,2μm,20.5s,baz=259,slow=35								
MSVF	**Nonsavu**		**6.12**	**245**	P	Pn		13 11 40.8	+4.6
RAO	**Raoul Island**		**14.04**	**187**	LR	LR		13 17 16.6	
	comp=Z,507nm,19.4s,baz=323,slow=31								
RAR	**Rarotonga**		**16.61**	**113**	LR	LR		13 18 41.9	
	comp=Z,801nm,18.5s,baz=135,slow=31								
DZM	**Mont Dzumac**		**17.86**	**245**	*e*LR	LR		13 18 40.1	
	2μm,25.8s								
DZM	**Mont Dzumac**		**17.86**	**245**	P	**P**		**13 14 16.8**	**+1.8**
DZM	**Mont Dzumac**		**17.86**	**245**	P	**P**		**13 14 16.8**	**+1.8**
	0.2nm,0.3s,baz=137,slow=18,SNR=2.4								
URZ	**Urewera**		**23.70**	**193**	LR	LR		13 22 38.3	
	comp=Z,685nm,19.9s,baz=23,slow=32								
HNR	**Honiara**		**24.08**	**281**	LR	LR		13 23 21.5	
	comp=Z,1μm,20.0s,baz=301,slow=33								
PPT	**Papeete**		**25.55**	**99**	LR	LR		13 22 27.9	
	comp=Z,172nm,21.3s,baz=273,slow=29								

PPT2 Papeete2 25.55 99 *e*LQ LQ 13 20 34.1
2μm,25.5s
PPT2 *e*LR LR 13 21 45.6
295nm,26.8s
TBI Tubuai 26.38 112 *e*LQ LQ 13 20 56.7
2μm,28.5s
TBI *e*LR LR 13 22 11.4
825nm,27.5s
H11N3 WAKE ISLAND Hy 38.55 334 T T 13 58 36.0
baz=155,slow=0.7,SNR=43
H11N1 WAKE ISLAND Hy 38.55 334 T T 13 58 34.2
baz=155,slow=0.7,SNR=155
H11N2 WAKE ISLAND Hy 38.56 334 T T 13 58 37.7
baz=155,slow=0.7,SNR=56
RKT Rikitea 39.53 108 *e*LR LR 13 28 15.1
284nm,27.0s
STKA Stephens Creek 41.86 239 LR LR 13 34 25.2
comp=Z,309nm,19.1s,baz=30,slow=35
WRA Warramunga Arr 47.33 257 P **P** **13 18 40.0 +0.1**
WRA Warramunga Arr 47.33 257 P **P** **13 18 40.0 +0.1**
2.4nm,0.8s,baz=89,slow=6.5,SNR=6.0
WRA LR LR 13 36 08.1
comp=Z,364nm,19.9s,baz=40,slow=33
ASAR Alice Springs 47.67 252 P **P** **13 18 42.5 -0.1**
ASAR Alice Springs 47.67 252 P **P** **13 18 42.5 -0.1**
5.7nm,0.9s,baz=84,slow=8.2,SNR=17
ASAR LR LR 13 36 19.0
comp=Z,527nm,22.0s,baz=87,slow=33
SBA Scott Base 63.21 184 *e*P **P** **13 20 34.7 +1.2**
8.9nm,0.8s
VNDA Vanda 63.28 185 *e*P **P** **13 20 33.7 -0.2**
6.8nm,1.0s
VNDA Vanda 63.28 185 P **P** **13 20 33.8 -0.2**
5.3nm,0.9s,baz=10,slow=7.0,SNR=14
PETK Petropavlovsk- 71.71 344 P **P** **13 21 27.2 -0.2**
PETK Petropavlovsk- 71.71 344 P **P** **13 21 27.2 -0.2**
6.0nm,0.9s,baz=165,slow=6.0,SNR=4.3
PETK LR LR 13 47 30.7
comp=Z,118nm,20.3s,baz=347,slow=31
KSRS Korea Array 74.23 317 LR LR 13 53 03.6
comp=Z,124nm,19.3s,baz=280,slow=35
EDW2 Edwards Air Fo 74.31 46 ⇑P **P** **13 21 45.3 +1.9**
baz=74
ISA Isabella 74.39 46 ⇑P **P** **13 21 45.2 +1.4**
baz=75
MONP Monument Peak 74.42 49 ⇑P **P** **13 21 45.5 +1.3**
baz=75
MPMC Manual Prospec 75.28 46 ⇑P **P** **13 21 50.2 +1.0**
baz=76
GSC Goldstone 75.36 47 ⇑P **P** **13 21 50.9 +1.4**
baz=76
USRK Ussuriysk Arra 75.71 324 LR LR 13 48 42.7
comp=Z,378nm,20.2s,baz=114,slow=31
GMRC Granite Mounta 75.91 48 ⇑P **P** **13 21 53.1 +0.4**
baz=76
IRM Iron Mountain 75.97 48 ⇑P **P** **13 21 53.7 +0.8**
baz=76
NVAR Mina Array Bea 75.98 43 P **P** **13 21 53.3 +0.1**
NVAR Mina Array Bea 75.98 43 P **P** **13 21 53.3 +0.1**
3.5nm,0.9s,baz=223,slow=9.4,SNR=14
NV11 Mina Array Sit 76.08 43 *e*P **P** **13 21 56.1 +2.5**
Y12C Blythe 76.22 49 ⇑P **P** **13 21 54.8 +0.5**
baz=76
113A Mohawk Valley, 76.31 50 ⇓P **P** **13 21 56.7 +1.9**
baz=76
MOD Modoc 76.64 39 *e*P **P** **13 21 56.8 0.0**
26nm,1.2s
214A Organ Pipe Nat 76.64 51 ⇑P **P** **13 21 57.8 +1.0**
baz=77
PDMCI Parker Dam,Lak 76.76 49 ⇑P **P** **13 21 58.3 +0.9**
baz=77
Z14A Wintersburg 77.19 50 ⇓P **P** **13 22 00.7 +0.8**
baz=77
W13A Hualapai Mount 77.33 48 ⇑P **P** **13 22 01.3 +0.4**
baz=78
Y14A Wickenburg 77.42 49 ⇑P **P** **13 22 02.3 +1.1**
baz=78
R11A Troy Canyon, C 77.76 44 ⇓P **P** **13 22 03.6 +0.5**
baz=78
WVOR Wild Horse Val 77.96 40 P **P** **13 22 05.7 +1.6**
6.7nm,1.1s
TUC Tucson 78.33 52 *e*P **P** **13 22 07.1 +0.8**
19nm,1.5s
X16A Lo Mia Camp, P 78.79 50 ⇑P **P** **13 22 09.4 +0.5**
baz=79
319A Douglas 79.08 53 ⇑P **P** **13 22 11.7 +1.2**
baz=79
U15A North Rim 79.11 47 ⇓P **P** **13 22 11.5 +0.7**
baz=79
WUAZ Wupatki 79.34 49 ⇓P **P** **13 22 12.9 +1.0**
baz=80
320A Kipp Ranch, An 79.64 54 ⇓P **P** **13 22 14.5 +0.9**
baz=80
220A Playas Peak, P 79.88 53 ⇑P **P** **13 22 15.8 +0.9**
baz=80
X18A Snowflake 79.94 50 ⇑P **P** **13 22 16.1 +0.9**
baz=80
120A U Bar Ranch, L 80.07 52 ⇓P **P** **13 22 16.7 +0.7**
baz=80
Z20A Nine Sixteen R 80.34 52 ⇓P **P** **13 22 18.2 +0.8**
baz=80
DUG Dugway 80.54 44 ⇓P **P** **13 22 19.2 +0.9**
baz=81
121A Cookes Peak, D 80.72 53 ⇑P **P** **13 22 20.2 +0.8**
baz=81
Y20A Horse Springs, 80.84 51 ⇑P **P** **13 22 20.5 +0.3**
baz=81
X20A Quemado 81.02 51 ⇓P **P** **13 22 21.3 +0.2**
baz=81
Z21A St. Cloud Mine 81.13 52 ⇑P **P** **13 22 22.4 +0.7**
baz=81
HLID Hailey 81.18 40 *e*P **P** **13 22 22.0 +0.3**
4.2nm,1.0s
HLID Hailey 81.18 40 ⇑P **P** **13 22 23.1 +1.5**
baz=81,SNR=5.4
W20A Ramah 81.27 50 ⇑P **P** **13 22 23.2 +0.8**
baz=81
Y21A Point of Rocks 81.42 51 ⇑P **P** **13 22 23.9 +0.6**
baz=82
X21A Alamocita Cree 81.52 51 ⇓P **P** **13 22 24.4 +0.6**
baz=82
Z22A Elephant Butte 81.64 52 ⇑P **P** **13 22 24.6 +0.2**
baz=82
Y22A Socorro 81.92 52 ⇓P **P** **13 22 26.4 +0.5**
baz=82
LAZ Ladron 81.98 51 P **P** **13 22 27.1 +0.9**
3.5nm,1.3s
324A Moseley Ranch, 82.06 55 ⇓P **P** **13 22 27.0 +0.4**
baz=82
V21A Milan 82.20 50 ⇓P **P** **13 22 27.6 +0.4**
baz=82
425A Indio Mountain 82.20 55 ⇑P **P** **13 22 27.5 +0.2**
baz=82
Z23A Rita Site, Whi 82.21 53 ⇓P **P** **13 22 27.6 +0.3**
baz=82
BNM Barren Site 82.27 52 *e*P **P** **13 22 27.8 +0.1**
4.0nm,1.0s
224A Cornudas Mount 82.28 54 ⇑P **P** **13 22 28.5 +0.8**
baz=82
LPM Los Pinos Moun 82.33 51 *e*P **P** **13 22 29.1 +1.1**
9.1nm,1.3s
626A Big Bend Ranch 82.42 57 ⇑P **P** **13 22 29.8 +1.4**
baz=83,SNR=6.2
325A Bean Ranch, Si 82.44 55 ⇑P **P** **13 22 30.1 +1.5**
baz=83,SNR=5.2
U21A Nageezi 82.45 49 ⇑P **P** **13 22 29.1 +0.6**
baz=83
PV01 Paradox Valley 82.52 47 P **P** **13 22 30.7 +1.7**
S20A Disappointment 82.54 48 ⇑P **P** **13 22 29.7 +0.7**
baz=83
124A Stringfield Ra 82.58 53 ⇑P **P** **13 22 29.8 +0.4**
baz=83
526A Mary Lane Ranc 82.64 56 ⇓P **P** **13 22 30.9 +1.3**
baz=83,SNR=5.4
TXAR Lajitas Array 82.71 57 P **P** **13 22 30.5 +0.6**
TXAR Lajitas Array 82.71 57 P **P** **13 22 30.5 +0.6**
3.5nm,1.0s,baz=229,slow=5.8,SNR=16
TXAR LR LR 13 52 16.3
comp=Z,152nm,18.7s,baz=170,slow=31
COLA College 82.72 12 *e*P **P** **13 22 28.3 -0.6**
32nm,1.0s
ANMO Albuquerque 82.72 51 P **P** **13 22 29.0 -1.0**
8.9nm,1.3s
X23A Hourglass Bar 82.77 51 ⇓P **P** **13 22 30.7 +0.4**
baz=83
V22A San Miguel Ran 82.78 50 ⇑P **P** **13 22 30.4 0.0**
baz=83
MCMT McKenzie Canyo 82.79 40 *e*P **P** **13 22 30.7 +0.5**

2.0nm,1.0s
ILAR Eielson Array 82.82 12 P P 13 22 28.9 -0.6
ILAR Eielson Array 82.82 12 P P 13 22 28.9 -0.6
1.1nm,0.9s,baz=226,slow=7.2,SNR=5.3
225A Deer Hill, Car 82.84 54 ⇑P P 13 22 30.6 -0.1
baz=83
S21A Coal Bank Pass 82.87 48 ⇑P P 13 22 30.9 0.0
baz=83,SNR=7.7
RRI2 Red Ridge 83.04 42 P P 13 22 32.0 +0.4
5.9nm,0.9s
527A Woodward Ranch 83.06 56 ⇑P P 13 22 32.6 +0.8
baz=83
Q20A Ridgley Place, 83.07 47 ⇓P P 13 22 32.4 +0.7
baz=83
Y24A Capitan 83.08 52 ⇓P P 13 22 32.4 +0.5
baz=83
O19A Miners Draw (B 83.09 45 ⇓P P 13 22 32.3 +0.6
baz=83
125A Gardner Draw, 83.19 54 ⇓P P 13 22 33.1 +0.7
baz=83
326A Caldwell Ranch 83.20 55 ⇑P P 13 22 33.4 +1.0
baz=83
DLMT Dillon 83.21 39 eP P 13 22 33.3 +1.1
9.7nm,1.2s
GDL2 Guadalupe Moun 83.24 54 eP P 13 22 33.3 +0.7
1.4nm,0.4s
T22A Edith 83.24 49 ⇑P P 13 22 33.7 +1.0
baz=83
V23A Ortiz Mt. (NFS 83.25 50 ⇓P P 13 22 33.6 +0.9
baz=83
TPAW Teton Pass 83.34 42 eP P 13 22 33.7 +0.6
6.6nm,1.2s
REDW Red Top Meadow 83.34 42 eP P 13 22 33.6 +0.5
8.1nm,1.2s
226B Tecolote Peak, 83.35 54 ⇑P P 13 22 33.3 +0.2
baz=84,SNR=8.9
R21A Cimarron 83.35 47 ⇓P P 13 22 34.1 +0.8
baz=84
Z25A Roswell 83.38 53 ⇑P P 13 22 34.2 +0.8
baz=84
628A Black Gap, Mar 83.40 57 ⇑P P 13 22 34.4 +1.0
baz=84
427A Hayter Ranch, 83.49 56 ⇑P P 13 22 34.9 +1.0
baz=84,SNR=5.4
IMW Indian Meadow 83.54 41 eP P 13 22 34.6 +0.5
7.0nm,1.1s
S22A 4UR Ranch, Cre 83.60 48 ⇑P P 13 22 35.7 +1.1
baz=84,SNR=6.6
M19A Rock Springs 83.61 44 ⇓P P 13 22 34.8 +0.3
baz=84
W24A Lazy 6 Ranch, 83.61 51 ⇓P P 13 22 35.0 +0.3
baz=84
O20A White River Ci 83.62 46 ⇓P P 13 22 35.2 +0.6
baz=84
Y25A Mesa, Roswell 83.65 52 ⇓P P 13 22 35.1 +0.4
baz=84
R22A Saguache, Gunn 83.86 48 ⇓P P 13 22 36.4 +0.4
baz=84
BW06 Boulder Array 83.91 43 P P 13 22 35.8 -0.2
4.8nm,1.0s
PDAR Pinedale Array 83.91 43 P P 13 22 35.7 -0.3
PDAR Pinedale Array 83.91 43 P P 13 22 35.7 -0.3
3.1nm,0.9s,baz=224,slow=3.8,SNR=15
P21A Newcastle 83.91 46 ⇑P P 13 22 36.5 +0.4
baz=84
N20A Spence Gulch, 83.92 45 ⇓P P 13 22 37.0 +0.9
baz=84
V24A Rampart Ranch, 83.92 51 ⇑P P 13 22 36.6 +0.4
baz=84
Z26A Caprock 83.95 53 ⇓P P 13 22 38.1 +1.8
baz=84,SNR=5.7
H17A Grant Village 84.01 41 ⇓P P 13 22 37.1 +0.7
baz=84
Q22A Crested Butte, 84.01 47 ⇑P P 13 22 37.5 +0.8
baz=84
428A Kincaid Ranch, 84.02 56 ⇑P P 13 22 37.4 +0.8
baz=84
SMCO Snowmass 84.10 47 eP P 13 22 38.4 +1.1
10nm,1.2s
328A Wristen Ranch, 84.16 55 ⇓P P 13 22 37.8 +0.5
baz=84
529A Stev Forest Ra 84.17 57 ⇓P P 13 22 38.2 +0.8
baz=84
M20A Sweetwater, Wa 84.25 44 ⇓P P 13 22 38.3 +0.5
baz=84
Y26A Elida 84.31 53 ⇓P P 13 22 38.9 +0.8
baz=84
W25A X Bar L Ranch, 84.33 51 ⇓P P 13 22 38.4 +0.2
baz=84
T24B San Luis 84.37 49 ⇓P P 13 22 38.9 +0.3
baz=84
L20A Wamsutter 84.38 44 ⇑P P 13 22 39.2 +0.8
baz=84,SNR=5.4
K19A Absolon Red Bu 84.40 43 ⇑P P 13 22 38.8 +0.3
baz=85
P22A Eagle 84.42 47 ⇓P P 13 22 38.9 +0.2
baz=85
V25A Rancho No Teng 84.45 51 ⇑P P 13 22 39.0 +0.1
baz=85
J19A Crowheart 84.47 43 ⇑P P 13 22 38.9 +0.2
baz=85
SDCO Great Sand Dun 84.56 49 eP P 13 22 40.3 +0.8
3.8nm,1.3s
X26A CR and CF Fran 84.56 52 ⇓P P 13 22 39.6 +0.2
baz=85
429A Davenport Ranc 84.61 56 ⇑P P 13 22 39.8 +0.1
baz=85,SNR=8.0
K20A Yellowstone Ra 84.66 43 ⇓P P 13 22 39.9 +0.2
baz=85
H18A Shoshone NF, C 84.71 41 ⇑P P 13 22 40.0 0.0
baz=85
S24A Houchin Ranch, 84.73 49 ⇓P P 13 22 40.7 +0.4
baz=85
Y27A Causey 84.81 53 ⇓P P 13 22 41.4 +0.8
baz=85
O22A Kremmling 84.81 46 ⇓P P 13 22 41.0 +0.2
baz=85
U25A Circle Dot Ran 84.83 50 ⇓P P 13 22 41.0 +0.2
baz=85
I19A Meeteetse 84.85 42 ⇓P P 13 22 41.1 +0.4
baz=85
M21A Separation Pea 84.86 45 ⇑P P 13 22 41.1 +0.2
baz=85
128A Castleberry Fa 84.87 54 ⇓P P 13 22 41.2 +0.3
baz=85
530A J-C Ranch, Com 84.89 57 ⇓P P 13 22 41.4 +0.3
baz=85
P23A Jefferson 84.98 47 ⇑P P 13 22 41.6 0.0
baz=85
R24A Sanders Place, 85.04 48 ⇓P P 13 22 41.6 -0.2
baz=85
J20A Shoshoni 85.14 43 ⇑P P 13 22 42.1 0.0
baz=85
N22A Wattenberg Ran 85.14 46 ⇓P P 13 22 41.9 -0.4
baz=85
631A Perdido Creek 85.25 58 ⇓P P 13 22 43.4 +0.6
baz=85
S25A Robets Cordova 85.30 49 ⇑P P 13 22 43.6 +0.5
baz=86
Q24A Divide 85.31 48 ⇑P P 13 22 43.3 +0.1
baz=86
I20A Worland 85.37 42 ⇓P P 13 22 43.1 -0.1
baz=86
K21A Alcova 85.38 44 ⇑P P 13 22 43.4 0.0
baz=86
J21A Lysite 85.56 43 ⇑P P 13 22 44.4 +0.2
baz=86
F19A Roth Farm, Mol 85.70 40 ⇓P P 13 22 45.3 +0.5
baz=86
I21A Big Trails, Te 85.86 43 ⇑P P 13 22 45.1 -0.5
baz=86
632A Uvalde 85.93 58 ⇓P P 13 22 46.2 0.0
baz=86
332A Millersview 86.61 56 ⇓P P 13 22 50.0 +0.5
baz=87
D20A Manuel Ranch, 86.76 39 ⇑P P 13 22 49.4 -0.5
baz=87
MAW Mawson 87.09 199 P P 13 22 49.4 -1.7
MAW Mawson 87.09 199 P P 13 22 49.4 -1.7
1.6nm,0.9s,baz=79,slow=16,SNR=2.7
PLCA Paso Flores 91.55 133 LR LR 13 54 48.1
comp=Z,166nm,20.3s,baz=137,slow=29
SONM Songino Array 92.99 319 P P 13 23 19.7 +0.4
SONM Songino Array 92.99 319 P P 13 23 19.7 +0.4
0.2nm,0.5s,baz=127,slow=3.8,SNR=2.4
SONM LR LR 13 59 57.6
comp=Z,121nm,18.9s,baz=138,slow=32
ULM Lac du Bonnet 95.46 39 LR LR 14 01 53.8
comp=Z,232nm,20.3s,baz=298,slow=33
AKSG Malin Array Be 139.15 335 PKP PKPdf 13 29 32.3 -0.2
AKSG Malin Array Be 139.15 335 PKP PKPdf 13 29 32.3 -0.2
0.2nm,0.3s,baz=44,slow=1.2,SNR=2.4
BRTR Keskin Array B 144.35 319 PKP PKPdf 13 29 41.4 -1.1
BRTR Keskin Array B 144.35 319 PKP PKPdf 13 29 41.4 -1.1
5.2nm,0.9s,baz=115,slow=1.8,SNR=23
KHC Kasperske Hory 145.28 349 ePKP PKPab 13 29 42.9 -0.5
KHC epPKP PKiKP 13 29 48.3 +0.8
GERES GERESS Array B 145.53 349 PKPbc PKPbc 13 29 43.6 -0.5
GERES GERESS Array B 145.53 349 PKPbc PKPbc 13 29 43.6 -0.5
0.6nm,0.4s,baz=327,slow=1.6,SNR=4.9
MMAI Mount Meron Ar 146.41 307 PKPbc PKPbc 13 29 46.2 -1.2
MMAI Mount Meron Ar 146.41 307 PKPbc PKPbc 13 29 46.2 -1.2
0.5nm,0.3s,baz=344,slow=5.7,SNR=3.8

MAN 07 13:23:08,13°47'N×120°31'E,h40km,mb4.1,ML2.9,MS2.6, 1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGP	Puerto Galera	0.62	87	⇓iP	Pn	13 23 21.7	+1.2
SJMP	San Jose	1.27	142	eP	Pn	13 23 30.2	+1.0
SJMP				eS	Sn	13 23 46.2	+1.1
BUSP	Coron	1.46	184	eP	Pn	13 23 32.6	+0.7
BUSP				eS	Sn	13 23 51.0	+1.2

MAN 07 13:31:24,13°52N×120°36E,h68km,mb4.3,ML3.1,MS2.9, 1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGP	Puerto Galera	0.58	92	⇓iP	Pn	13 31 40.4	+3.0
SJMP	San Jose	1.29	145	eP	Pn	13 31 49.0	+2.9
SJMP				eS	Sn	13 32 05.0	+2.3
BOAC	Boac	1.45	92	eP	Pn	13 31 48.0	-0.1
BUSP	Coron	1.52	186	eP	Pn	13 31 50.7	+1.6

*ISK **07** 13:37:30.8,39°.10N×29°.05E,h8km,MD2.6*
*CSEM **07** 13:37:31.3±0.1,39°.12N×29°.04E,h2km,MD2.8,Error ellipse: s-maj=2.4km s-min=2.0km az=134.0*
*DDA **07** 13:37:31.2,39°.10N×29°.03E,h7km,MD2.8*
ISC 07 13:37:31.4±1.0,39°.10N±0°.02×29°.04E±0°.02,h7km±9km, n54,σ0s29/80,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	Demirci	0.26	257	iP	Pg	13 37 36.4	-0.1
DEMI				iS	Sg	13 37 40.2	+0.3
DEMI	Demirci	0.26	257	iP	Pg	13 37 36.4	-0.1
DEMI				iS	Sg	13 37 40.2	+0.3
GDZ	Gediz	0.35	92	iP	Pg	13 37 38.2	-0.1
GDZ				iS	Sg	13 37 43.4	+0.5
GDZ	Gediz	0.35	92	iP	Pg	13 37 38.2	-0.1
GDZ				iS	Sg	13 37 43.4	+0.5
TVSB	Tavsanli	0.48	44	ePG	Pg	13 37 40.4	-0.4
TVSB				eSG	Sg	13 37 47.3	+0.3
TVSB	Tavsanli	0.48	44	ePg	Pg	13 37 40.4	-0.4
TVSB				eSg	Sg	13 37 47.3	+0.3
DST	Dursunbey	0.60	327	ePG	Pg	13 37 43.0	+0.1
DST	Dursunbey	0.60	327	ePg	Pg	13 37 43.0	+0.1
KULA	Kula-Manisa	0.66	207	ePG	Pg	13 37 44.0	-0.1
KULA	Kula-Manisa	0.66	207	ePg	Pg	13 37 44.0	-0.1
DURS	Dursunbey	0.66	319	iP	Pg	13 37 44.0	-0.2
DURS				iS	Sg	13 37 52.9	+0.1
DURS	Dursunbey	0.66	319	iP	Pg	13 37 44.0	-0.2
DURS				iS	Sg	13 37 52.9	+0.1
MANT	Manisa	0.71	212	iP	Pg	13 37 45.1	-0.1
MANT				iS	Sg	13 37 54.0	-0.5
MANT	Manisa	0.71	212	iP	Pg	13 37 45.1	-0.1
MANT				iS	Sg	13 37 54.0	-0.5
KHAL	Karahalli	0.81	154	iP	Pb	13 37 48.0	+0.1
KHAL				iS	Sg	13 37 58.3	+0.6
KHAL	Karahalli	0.81	154	iP	Pb	13 37 48.0	+0.1
KHAL				iS	Sg	13 37 58.3	+0.6
KHL	Karahalli	0.87	154	ePG	Pg	13 37 47.8	-0.3
KHL	Karahalli	0.87	154	ePg	Pg	13 37 47.8	-0.3
AKHS	Akhisar	0.98	257	iP	Pg	13 37 50.3	+0.1
AKHS				iS	Sb	13 38 03.8	0.0
AKHS	Akhisar	0.98	257	iP	Pg	13 37 50.3	+0.1
AKHS				iS	Sb	13 38 03.8	0.0
AKS	Akhisar	0.98	257	ePG	Pg	13 37 50.4	+0.2
AKS				eSG	Sb	13 38 04.0	+0.2
AKS	Akhisar	0.98	257	ePg	Pg	13 37 50.4	+0.2
AKS				eSg	Sb	13 38 04.0	+0.2
ULDT	Uludag	1.04	4	iP	Pg	13 37 51.2	-0.3
ULDT				iS	Sg	13 38 04.8	-0.2
ULDT	Uludag	1.04	4	iP	Pg	13 37 51.2	-0.3
ULDT				iS	Sg	13 38 04.8	-0.2
BALB	Balikesir	1.04	301	ePG	Pg	13 37 51.5	+0.1
BALB	Balikesir	1.04	301	ePg	Pg	13 37 51.5	+0.1
CAVI	Cavuskoy	1.26	29	ePN	Pn	13 37 55.0	-0.5
CAVI	Cavuskoy	1.26	29	ePn	Pn	13 37 55.0	-0.5
BALY	Balya	1.27	301	iP	Pg	13 37 56.2	+0.4
BALY				iS	Sb	13 38 12.2	+0.1
BALY	Balya	1.27	301	iP	Pg	13 37 56.2	+0.4
BALY				iS	Sb	13 38 12.2	+0.1
KCTX	Karacabey (Bur	1.27	336	ePN	Pn	13 37 55.4	-0.2
KCTX	Karacabey (Bur	1.27	336	ePn	Pn	13 37 55.4	-0.2
GEMT	Gemlik	1.34	5	ePN	Pn	13 37 56.2	-0.2
GEMT	Gemlik	1.34	5	ePn	Pn	13 37 56.2	-0.2
BORA	Eskisehir	1.34	54	iP	Pn	13 37 56.3	-0.3
BORA				iS	Sn	13 38 15.0	+0.2
BORA	Eskisehir	1.34	54	iP	Pn	13 37 56.3	-0.3
BORA				iS	Sn	13 38 15.0	+0.2
GONE	Gonen-Balikesi	1.41	313	ePN	Pb	13 37 57.7	-0.2
GONE	Gonen-Balikesi	1.41	313	ePn	Pb	13 37 57.7	-0.2
ADVT	Abdulvahap	1.44	22	ePN	Pn	13 37 57.7	-0.1
ADVT	Abdulvahap	1.44	22	ePn	Pn	13 37 57.7	-0.1
AYDB	Zeytinkoy-Aydi	1.46	218	ePN	Pn	13 37 58.1	-0.2
AYDB	Zeytinkoy-Aydi	1.46	218	ePn	Pn	13 37 58.1	-0.2
ARMT	Armutlu	1.47	355	ePN	Pn	13 37 58.5	+0.2
ARMT	Armutlu	1.47	355	ePn	Pn	13 37 58.5	+0.2
SEYT	Eskypehyr	1.47	73	iP	Pg	13 37 59.6	0.0
SEYT				iS	Sg	13 38 18.9	+0.2
SEYT	Eskypehyr	1.47	73	iP	Pg	13 37 59.6	0.0
SEYT				iS	Sg	13 38 18.9	+0.2
GPA	Golpazari	1.54	39	ePN	Pn	13 37 58.9	-0.4
GPA	Golpazari	1.54	39	ePn	Pn	13 37 58.9	-0.4
AYDN	Tasoluk	1.70	213	iP	Pg	13 38 03.7	-0.4
AYDN				iS	Sg	13 38 26.2	+0.1
AYDN	Tasoluk	1.70	213	iP	Pg	13 38 03.7	-0.4
AYDN				iS	Sg	13 38 26.2	+0.1
GULT	Gulveren	1.75	40	ePN	Pn	13 38 02.0	-0.2
GULT	Gulveren	1.75	40	ePn	Pn	13 38 02.0	-0.2
HRT	Hereke	1.79	16	ePN	Pn	13 38 03.2	+0.5
HRT	Hereke	1.79	16	ePn	Pn	13 38 03.2	+0.5

IDC 07 13:43:42.7±27.0,21°.96S×173°.61W,h0km,mb3.9/4, mb1 4.1/4,mb1mx3.7/21,mbtmp3.9/4,Error ellipse: s-maj=500.9km s-min=159.0km az=75.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	37.44	265	P	P	13 50 58.9	+0.9
	3.6nm,0.3s,baz=98,slow=10,SNR=14						
STKA	Stephens Creek	40.90	246	P	P	13 51 25.6	-1.1
	1.2nm,0.9s,baz=100,slow=11,SNR=1.1						
ASAR	Alice Springs	48.18	257	P	P	13 52 24.6	-0.6
	0.5nm,0.7s,baz=95,slow=9.9,SNR=9.1						
WRA	Warramunga Arr	48.46	262	P	P	13 52 27.2	-0.1
	0.7nm,0.4s,baz=96,slow=8.2,SNR=27						

*ISCJB **07** 13:55:34.2±0.9,3°.88S±0°.07×34°.63E±0°.05,h10km,Error ellipse: s-maj=10.3km s-min=6.5km az=2.4*
*PRE **07** 13:55:36.3±1.9,3°.79S×34°.74E,h10km,ML4.7*
*BUL **07** 13:55:41.1±9.7,4°.21S×35°.24E,h0km±103km,MD3.6*
ISC 07 13:55:35.4±1.1,4°.00S±0°.06×34°.70E±0°.05,h10km,n8, σ2s49/13,Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAUS	Longido	2.35	58	iP	Pn	13 56 14.5	+0.2
MAUS				iS	Sn	13 56 42.1	-1.3
DODT	Dodoma, Tanzan	2.41	154	iP	Pn	13 56 15.0	-0.1
DODT				iS	Sb	13 56 50.6	+1.8
KMBO	Kilima Mbogo	3.83	42	eP	Pn	13 56 32.5	-2.1
KMBO				eS	Sn	13 57 16.3	-3.5
KMBO	Kilima Mbogo	3.83	42	iP	Pn	13 56 36.5	+1.9
KMBO				iS	Sn	13 57 20.4	+0.6
KIG	Kigali	5.06	293	eP	Pn	13 56 53.3	+1.8
KIG				eS	Sn	13 57 47.5	-2.6
KIG				AML	AML	13 58 26.8	
	comp=Z,530nm,0.6s						
MBAR	Mbarara	5.21	310	eP	Pn	13 56 52.4	-1.2
MBAR				eS	Sn	13 57 51.1	-2.7
MBAR	Mbarara	5.21	310	iP	Pn	13 56 51.4	-2.1
MBAR				iS	Sn	13 57 58.3	+4.5
LSZ	Lusaka	12.91	209	eP	Pn	13 58 45.1	+5.9
LSZ				eS	Sn	14 01 01.9	-1.2

IDC 07 14:06:17.2±5.8,15°.38S×173°.36W,h0km,mb3.7/2, mb1 3.8/3,mb1mx3.5/21,mbtmp3.6/3,ML1.3/1,MS3.1/1, Ms1 3.1/1,ms1mx2.8/27,Error ellipse: s-maj=317.9km s-min=28.5km az=145.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	2.12	46	Pn	Pn	14 06 51.9	-2.1
	5.0nm,0.3s,baz=190,slow=6.1,SNR=2.7						
AFI				Sn	Sn	14 07 10.7	-10
	20nm,0.3s,baz=11,slow=23,SNR=13						
AFI				LR	LR	14 07 21.1	
	comp=Z,449nm,18.7s,baz=279,slow=30						
H11S2	WAKE ISLAND Hy 38.97	329		T	T	14 54 31.1	
	baz=152,slow=0.7,SNR=20						
H11S3	WAKE ISLAND Hy 38.98	329		T	T	14 54 33.1	
	baz=152,slow=0.7,SNR=24						
H11S1	WAKE ISLAND Hy 38.99	329		T	T	14 54 31.0	
	baz=152,slow=0.7,SNR=27						
H11N3	WAKE ISLAND Hy 39.91	330		T	T	14 55 52.5	
	baz=152,slow=0.7,SNR=9.9						
H11N1	WAKE ISLAND Hy 39.92	330		T	T	14 55 45.3	
	baz=152,slow=0.7,SNR=14						
H11N2	WAKE ISLAND Hy 39.93	330		T	T	14 55 52.3	
	baz=152,slow=0.7,SNR=7.9						
WRA	Warramunga Arr	49.89	257	P	P	14 15 12.0	-0.8
	0.6nm,0.9s,baz=92,slow=7.3,SNR=5.2						
ASAR	Alice Springs	50.16	252	P	P	14 15 14.2	-0.7
	1.0nm,0.7s,baz=86,slow=8.2,SNR=13						
BRTR	Keskin Array B	146.17	321	PKPbc	PKPab	14 26 01.1	+0.5
	0.7nm,0.8s,baz=111,slow=2.0,SNR=3.3						

*HLW **07** 14:08:08.7,34°.38N×25°.56E,h26km±17km,Md3.6,Ml3.5*
*IDC **07** 14:08:09.2±1.3,33°.98N×25°.65E,h0km,mb4.0/5, mb1 4.0/10,mb1mx3.8/28,mbtmp3.9/10,ML4.0/5,MS3.3/1, Ms1 3.3/1,ms1mx2.4/38,Error ellipse: s-maj=23.5km s-min=21.3km az=34.0*
*CSEM **07** 14:08:12.6±0.3,33°.92N×25°.80E,h20km,MD3.5,Error ellipse: s-maj=11.3km s-min=6.9km az=66.0*
*ATH **07** 14:08:14.5,34°.16N×25°.66E,h21km±2km,MD3.5/6*
ISC 07 14:08:12.8±1.5,33°.98N±0°.04×25°.80E±0°.04,h29km±13km, n49,σ1s65/57,mb4.0/5,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	Zakros	1.19	17	ePN	Pb	14 08 34.8	+0.1
ZKR				eSN	Sn	14 08 49.5	+0.9
ZKR	Zakros	1.19	17	ePn	Pb	14 08 34.8	+0.1
ZKR				eSn	Sn	14 08 49.5	+0.9
LAST	Lasithi	1.21	347	ePN	Pn	14 08 33.5	-0.4
LAST	Lasithi	1.21	347	ePn	Pn	14 08 33.5	-0.4
NPS	Neapolis	1.29	353	ePN	Pb	14 08 35.2	-1.3
NPS	Neapolis	1.29	353	ePn	Pb	14 08 35.2	-1.3
SIVA	Sivas	1.32	322	ePN	Pn	14 08 35.6	+0.3
SIVA	Sivas	1.32	322	ePn	Pn	14 08 35.6	+0.3
IDI	Anoyia	1.51	330	ePN	Pb	14 08 39.4	-0.8
IDI	Anoyia	1.51	330	ePn	Pb	14 08 39.4	-0.8
IDI	Anoyia	1.51	330	Pn	Pn	14 08 38.4	+0.4
	8.5nm,0.3s,baz=157,slow=16,SNR=28						
IDI				Sn	Sb	14 09 00.4	+1.4
	15nm,0.3s,baz=220,slow=22,SNR=6.8						
KARP	Karpathos	1.93	35	ePN	Pb	14 08 47.2	-0.1
VAM	Vamos	1.94	318	ePN	Pb	14 08 46.1	-1.5
VAM	Vamos	1.94	318	ePn	Pb	14 08 46.1	-1.5
KARN	Karanos	2.11	313	ePN	Pn	14 08 47.6	+1.5
KARN	Karanos	2.11	313	ePn	Pn	14 08 47.6	+1.5
TURN	Turunc	3.69	38	iP	Pn	14 09 07.9	+0.1
TURN				iS	Sn	14 09 46.5	-3.8
TURN	Turunc	3.69	38	iP	Pn	14 09 07.9	+0.1
TURN				iS	Sn	14 09 46.5	-3.8
AKAS	Kas	3.85	53	iP	Pb	14 09 15.5	-4.5
AKAS				iS	Sn	14 09 48.8	-5.6
AYDN	Tasoluk	4.05	24	iP	Pn	14 09 15.1	+2.3
AYDN	Tasoluk	4.05	24	iP	Pn	14 09 15.1	+2.3
GOLH	Golhisar	4.47	42	iP	Pn	14 09 21.8	+3.2
GOLH				iS	Sn	14 10 02.1	-10
GOLH	Golhisar	4.47	42	iP	Pn	14 09 21.8	+3.2
DNZL	Cakiroluk	4.55	34	iP	Pn	14 09 23.4	+3.6
DNZL				iS	Sn	14 10 02.9	-8.9
DNZL	Cakiroluk	4.55	34	iP	Pn	14 09 23.4	+3.6
SWA2		4.73	184	S	Sn	14 10 14.7	-1.2
	baz=181						
SWA2				AMP		14 10 00.0	
	comp=E,60μm,0.5s,logA/T=5.1,baz=181						
SWA2		4.73	184	P	Pn	14 09 22.5	+0.4
SWA2				S	Sn	14 10 14.7	-1.2
GAZI	Gazipasa	5.80	65	iP	Pn	14 09 37.1	+0.3
GAZI				iS	Sn	14 10 40.3	-2.0
GAZI	Gazipasa	5.80	65	iP	Pn	14 09 37.1	+0.3
GAZI				iS	Sn	14 10 40.3	-2.0
BALY	Balya	5.94	14	iP	Pn	14 09 41.3	+2.6
BALY				iS	Sn	14 10 17.0	-29
BALY	Balya	5.94	14	iP	Pn	14 09 41.3	+2.6
AWBH		6.23	154	P	Pn	14 09 43.7	+0.9
	baz=153						
AWBH		6.23	154	P	Pn	14 09 43.7	+0.9
GLL	Jalalah	6.67	129	P	Pn	14 09 49.3	+0.4
	baz=130						
GLL				S	Sn	14 11 01.9	-2.0
	baz=130						
GLL	Jalalah	6.67	129	P	Pn	14 09 49.3	+0.4
GLL				S	Sn	14 11 01.9	-2.0
AMAG	Maghara	7.09	116	P	Pn	14 09 54.2	-0.5
	baz=117						
AMAG	Maghara	7.09	116	P	Pn	14 09 54.2	-0.5
HNKL	Nakhl	8.03	118	P	Pn	14 10 07.4	-0.2
	baz=119						
HNKL	Nakhl	8.03	118	P	Pn	14 10 07.4	-0.2
MMAI	Mount Meron Ar	8.08	94	Pn	Pn	14 10 08.1	-0.1
	comp=E,2.8nm,0.3s,baz=272,slow=12,SNR=5.2						
MMAI				Sn	Sn	14 11 37.6	-0.9
	comp=E,3.2nm,0.3s,baz=275,slow=29,SNR=4.6						
BRTR	Keskin Array B	8.51	45	Pn	Pn	14 10 17.1	+2.9
	comp=E,0.2nm,0.3s,baz=230,slow=13,SNR=7.8						
BRTR				Sn	Sn	14 11 49.8	+0.7
	comp=E,0.1nm,0.3s,baz=214,slow=28,SNR=3.7						
EIL	Elat	8.89	116	Pn	Pn	14 10 20.9	+1.7
	comp=E,1.2nm,0.3s,baz=346,slow=12,SNR=10						
EIL				Sn	Sn	14 11 55.9	-2.5
	comp=E,0.6nm,0.3s,baz=72,slow=19,SNR=3.0						
AKASG	Malin Array Be	16.90	8	Pn	Pn	14 12 07.5	+0.4
	comp=E,1.3nm,0.3s,baz=199,slow=10,SNR=9.0						
GERES	GERESS Array B	17.38	332	P	Pn	14 12 11.7	-1.4
	comp=E,0.3nm,0.3s,baz=151,slow=12,SNR=12						
FINES	FINESS Array B	27.49	0	P	P	14 13 55.4	-0.8
	comp=E,4.8nm,0.9s,baz=157,slow=12,SNR=5.7						
TORD	Torodi Ar. Bea	30.16	232	P	P	14 14 20.6	+0.2
	comp=E,0.8nm,0.6s,baz=33,slow=7.7,SNR=6.4						
ARCES	ARCESS Array B	35.61	360	P	P	14 15 06.5	-0.9
	comp=E,1.6nm,0.9s,baz=154,slow=8.7,SNR=4.4						
MKAR	Makanchi Array	43.99	56	P	P	14 16 19.6	+2.1
	comp=E,1.6nm,0.9s,baz=272,slow=6.9,SNR=7.1						
MKAR				LR	LR	14 34 53.8	
	comp=E,35nm,20.0s,baz=235,slow=36						
ZALV	Zalesovo Beam	45.45	45	P	P	14 16 30.4	+1.5
	comp=E,1.1nm,0.4s,baz=269,slow=9.1,SNR=5.0						

*IDC **07** 14:14:37.5±2.4,4°.07S×101°.99E,h0km,mb3.9/6, mb1 4.0/6,mb1mx3.7/22,mbtmp3.9/6,Error ellipse: s-maj=115.7km s-min=18.4km az=56.0*
*DJA **07** 14:14:54.0±0.4,4°.5S±6°×10°.2E±°,h80km±6km,M4.2/8, mb4.8/1,MLv4.0/8*
ISC 07 14:14:41.3±0.9,4°.29S±0°.08×101°.71E±0°.07,h30km,n19, σ1s81/19,mb4.0/6,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.09**	**54**	P	Pb	14 15 08.2	+6.6
KSI				S	**Sb**	**14 15 16.4**	**+0.9**
MNAI	**Manna**	**1.25**	**93**	P	Pb	14 15 11.4	+7.2
MNAI				S	**Sb**	**14 15 25.5**	**+5.6**
LHSI	**Lahat**	**1.87**	**76**	P	**Pb**	**14 15 15.0**	**+0.2**
LHSI				S	**Sn**	**14 15 31.3**	**-2.5**
LWLI	**Liwa**	**2.45**	**107**	P	**Pb**	**14 15 26.2**	**+1.4**
MDSI	**Maura Dua**	**2.47**	**95**	P	**Pb**	**14 15 23.9**	**-1.1**
MDSI				S	**Sn**	**14 15 47.7**	**-1.0**
KASI	**Kota Agung**	**3.04**	**114**	P	**Pb**	**14 15 34.4**	**-0.2**
KLI	**Kotabumi**	**3.19**	**100**	P	**Pb**	**14 15 36.2**	**-1.1**
PPI	**Padang Panjang**	**4.03**	**341**	P	**Pb**	**14 15 52.9**	**+1.3**
GSI	**Gunungsitoli**	**6.93**	**323**	P	Pb	14 16 32.1	-8.8
H08S2	**Diego Garcia H** baz=84	**29.24**	**262**	T	T	14 50 58.0	
H08S3	**Diego Carcia H** baz=84,slow=0.7	**29.26**	**262**	T	T	14 50 59.1	
H08S1	**Diego Carcia H** baz=84,slow=0.7	**29.26**	**262**	T	T	14 51 04.2	
WRA	**Warramunga Arr** 0.6nm,0.4s,baz=302,slow=8.9,SNR=31	**35.38**	**119**	P	**P**	**14 21 33.5**	**-1.2**
ASAR	**Alice Springs** 0.5nm,0.5s,baz=298,slow=7.7,SNR=13	**36.54**	**125**	P	**P**	**14 21 44.6**	**+0.1**
ASAR				PcP	**PcP**	**14 24 08.1**	**+0.2**
STKA	**Stephens Creek** 1.9nm,1.0s,baz=315,slow=7.1,SNR=2.9	**46.36**	**131**	P	**P**	**14 23 06.3**	**+1.3**
SONM	**Songino Array** 1.6nm,0.7s,baz=180,slow=8.6,SNR=12	**52.07**	**4**	P	**P**	**14 23 47.9**	**-0.6**
SONM				PcP	**PcP**	**14 24 59.3**	**-1.0**
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=178,slow=3.5,SNR=3.7	**53.69**	**344**	P	**P**	**14 24 00.7**	**+0.4**
ZALV	**Zalesovo Beam** 0.9nm,0.6s,baz=142,slow=7.8,SNR=11	**59.73**	**349**	P	**P**	**14 24 42.4**	**-0.7**
TXAR	**Lajitas Array** 1.1nm,0.4s,baz=170,slow=5.1,SNR=6.5	**145.38**	**41**	PKPbc	**PKPbc**	**14 34 15.9**	**-1.2**
	0.4nm,0.4s,baz=251,slow=1.4,SNR=6.9						

IDC 07 14:33:46.7±2.8, 10°.38S×162°.29E, h60km±22km, mb3.9/10, mb1 4.0/13, mb1mx3.8/23, mbtmp3.9/13, ML4.3/3, MS3.7/3, Ms1 3.7/3, ms1mx3.2/28, Error ellipse: s-maj=23.4km s-min=14.2km az=71.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara** 267nm,0.3s,baz=144,slow=4.6,SNR=145	**2.49**	**292**	P	Pn	14 34 24.4	-0.5
HNR				S	Sn	14 34 54.9	+0.8
DZM	**Mont Dzumac** 570nm,0.3s,baz=86,slow=17,SNR=15	**12.29**	**162**	P	Pn	14 36 39.0	-0.1
DZM				S	Sn	14 38 54.1	-0.5
DZM	0.2nm,0.3s,baz=132,slow=18,SNR=3.3			LR	LR	14 40 44.0	
CTA	**Charters Tower** 0.4nm,0.3s,baz=71,slow=9.7,SNR=5.9	**18.22**	**236**	P	Pn	14 37 56.7	+1.2
RAO	**Raoul Island** comp=Z,329nm,18.6s,baz=160,slow=33	**26.37**	**138**	LR	LR	14 48 15.3	
WRA	**Warramunga Arr** 1.7nm,0.8s,baz=77,slow=9.6,SNR=13	**28.56**	**247**	P	P	14 39 36.3	-0.9
STKA	**Stephens Creek** 2.7nm,1.2s,baz=62,slow=14,SNR=2.3	**28.70**	**219**	P	P	14 39 40.2	+1.9
H11S2	**WAKE ISLAND Hy** baz=190,slow=0.7,SNR=50	**29.02**	**9**	T	T	15 10 33.7	
H11S3	**WAKE ISLAND Hy** baz=190,slow=0.7,SNR=346	**29.02**	**9**	T	T	15 10 22.9	
H11S1	**WAKE ISLAND Hy** baz=190,slow=0.7,SNR=234	**29.03**	**9**	T	T	15 10 24.0	
ASAR	**Alice Springs** 0.5nm,0.6s,baz=64,slow=9.8,SNR=10	**30.11**	**240**	P	P	14 39 49.4	-1.5
H11N1	**WAKE ISLAND Hy** baz=190,slow=0.7,SNR=21	**30.25**	**9**	T	T	15 12 09.6	
H11N3	**WAKE ISLAND Hy** baz=190,slow=0.7,SNR=26	**30.25**	**9**	T	T	15 12 06.5	
H11N2	**WAKE ISLAND Hy** baz=190,slow=0.7,SNR=24	**30.26**	**9**	T	T	15 12 01.5	
MJAR	**Matsushiro Arr** 1.4nm,0.5s,baz=176,slow=9.1,SNR=4.2	**31.88**	**335**	P	P	14 42 48.0	-1.2
ASAJ	**Asahikawa** 11nm,0.8s,baz=236,slow=13,SNR=10	**57.11**	**343**	P	P	14 43 27.6	+0.6
USRK	**Ussuriysk Arra** 6.5nm,0.8s,baz=143,slow=6.5,SNR=12	**60.88**	**335**	P	P	14 43 53.1	0.0
SONM	**Songino Array** 4.1nm,0.7s,baz=141,slow=5.9,SNR=24	**76.15**	**325**	P	P	14 45 28.9	+0.4
ILAR	**Eielson Array** 0.6nm,0.9s,baz=263,slow=4.8,SNR=4.3	**84.00**	**20**	P	P	14 46 09.9	-0.3
MKAR	**Makanchi Array** 2.3nm,0.8s,baz=100,slow=6.1,SNR=17	**90.17**		P	P	14 46 43.0	-0.1
ZALV	**Zalesovo Beam** 0.6nm,0.6s,baz=123,slow=5.3,SNR=3.5	**91.04**	**325**	P	P	14 46 43.8	-0.5
ZALV				LR	LR	15 26 40.0	
KEST	**Kesra** comp=Z,35nm,18.2s,baz=69,slow=35 1.4nm,0.9s,baz=337,slow=7.7,SNR=4.0	**144.78**	**320**	PKP	PKPbc	14 53 16.9	+0.4

*CSEM **07** 14:37:12.9, 35°.41N×26°.33E, h36km, MD3.0, After ATH*
ATH 07 14:37:12.9, 35°.41N×26°.33E, h36km±1km, MD3.0/6, 2D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.31**	**197**	⇓*i*PB	Pn	14 37 21.0	-0.1
ZKR				*e*SB	Sn	14 37 27.7	-0.1
ZKR	**Zakros**	**0.31**	**197**	⇓*i*Pb	Pn	14 37 21.0	-0.1
ZKR				*e*Sb	Sn	14 37 27.7	-0.1
NPS	**Neapolis**	**0.60**	**256**	*e*PN	Pn	14 37 25.5	+0.4
NPS				*e*SN	Sn	14 37 34.0	+0.3
NPS	**Neapolis**	**0.60**	**256**	*e*Pn	Pn	14 37 25.5	+0.4
NPS				*e*Sn	Sn	14 37 34.0	+0.3
KARP	**Karpathos**	**0.69**	**78**	*e*PN	Pn	14 37 26.9	+0.6
KARP				*e*SN	Sn	14 37 37.4	+1.6
KARP	**Karpathos**	**0.69**	**78**	*e*Pn	Pn	14 37 26.9	+0.6
KARP				*e*Sn	Sn	14 37 37.4	+1.6
LAST	**Lasithi**	**0.74**	**251**	*e*PN	Pn	14 37 27.9	+1.0
LAST				*e*SN	Sn	14 37 38.4	+1.4
LAST	**Lasithi**	**0.74**	**251**	*e*Pn	Pn	14 37 27.9	+1.0
LAST				*e*Sn	Sn	14 37 38.4	+1.4
IDI	**Anoyia**	**1.18**	**265**	*e*PN	Pn	14 37 34.8	+1.8
IDI				*e*SN	Sn	14 37 50.6	+2.7
IDI	**Anoyia**	**1.18**	**265**	*e*Pn	Pn	14 37 34.8	+1.8
IDI				*e*Sn	Sn	14 37 50.6	+2.7
SANT	**Santorini**	**1.19**	**324**	*e*PN	Pn	14 37 35.0	+1.9
SANT	**Santorini**	**1.19**	**324**	*e*Pn	Pn	14 37 35.0	+1.9
ARG	**Arkhangelos**	**1.67**	**61**	*e*PN	Pn	14 37 41.6	+2.0
ARG	**Arkhangelos**	**1.67**	**61**	*e*Pn	Pn	14 37 41.6	+2.0
VAM	**Vamos**	**1.74**	**271**	*e*PN	Pn	14 37 42.8	+2.2
VAM	**Vamos**	**1.74**	**271**	*e*Pn	Pn	14 37 42.8	+2.2
KARN	**Karanos**	**1.97**	**270**	*e*PN	Pn	14 37 45.9	+2.1
KARN	**Karanos**	**1.97**	**270**	*e*Pn	Pn	14 37 45.9	+2.1

IDC 07 14:57:11.9±1.0, 2°.12N×128°.95E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.7/20, mbtmp3.7/7, MS3.4/1, Ms1 3.4/1, ms1mx2.7/33, Error ellipse: s-maj=95.7km s-min=16.6km az=73.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 1.4nm,0.7s,baz=345,slow=10,SNR=11	**22.55**	**167**	P	P	15 02 13.8	0.0
ASAR	**Alice Springs** 0.6nm,0.8s,baz=351,slow=8.5,SNR=5.3	**26.08**	**170**	P	P	15 02 47.3	-0.2
KSRS	**Korea Array** 0.7nm,0.6s,baz=177,slow=10,SNR=3.5	**35.18**	**359**	P	P	15 04 07.8	+0.2
KSRS				LR	LR	15 18 15.9	
STKA	**Stephens Creek** 2.6nm,0.8s,baz=344,slow=11,SNR=5.2	**35.88**	**161**	P	P	15 04 13.7	0.0
SONM	**Songino Array** 0.8nm,0.7s,baz=162,slow=11,SNR=4.9	**49.54**	**340**	P	P	15 06 02.9	-1.7
MKAR	**Makanchi Array** 0.8nm,0.6s,baz=118,slow=8.8,SNR=11	**60.14**	**325**	P	P	15 07 21.4	0.0
ZALV	**Zalesovo Beam** 0.5nm,0.5s,baz=114,slow=6.5,SNR=2.6	**63.03**	**332**	P	P	15 07 41.5	+0.8

*ISCJB **07** 15:08:53.3±0.4, 39°.09N±0°.03×27°.55E±0°.04, h0km, Error ellipse: s-maj=5.1km s-min=3.3km az=139.9*
*CSEM **07** 15:08:53.9±0.1, 39°.08N×27°.55E, h12km, MD2.7, Error ellipse: s-maj=2.6km s-min=1.9km az=56.0*
*DDA **07** 15:08:53.7, 39°.10N×27°.61E, h7km, MD2.7*
*ISK **07** 15:08:53.4, 39°.08N×27°.50E, h12km, MD2.7*
ISC 07 15:08:53.3±0.8, 39°.08N±0°.02×27°.54E±0°.03, h0km, n36, σ0s.86/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.30**	**134**	*e*PG	**Pg**	**15 09 00.1**	**+1.1**
AKS	**Akhisar**	**0.30**	**134**	*e*Pg	**Pg**	**15 09 00.1**	**+1.1**
AKHS	**Akhisar**	**0.30**	**133**	*i* P	**Pg**	**15 09 00.2**	**+1.2**
AKHS				*i* S	**Sb**	**15 09 05.3**	**-1.7**
AKHS	**Akhisar**	**0.30**	**133**	*i* P	**Pg**	**15 09 00.2**	**+1.2**
AKHS				*i* S	**Sb**	**15 09 05.3**	**-1.7**
BALB	**Balikesir**	**0.62**	**25**	*e*PG	**Pg**	**15 09 06.2**	**+1.2**
BALB	**Balikesir**	**0.62**	**25**	*e*Pg	**Pg**	**15 09 06.3**	**+1.2**
BALY	**Balya**	**0.66**	**6**	*i* P	**Pg**	**15 09 06.2**	**+0.3**
BALY				*i* S	**Sg**	**15 09 16.0**	**+1.5**
BALY	**Balya**	**0.66**	**6**	*i* P	**Pg**	**15 09 06.2**	**+0.3**
BALY				*i* S	**Sg**	**15 09 16.0**	**+1.5**
AYVA	**Ayvalik**	**0.69**	**289**	*i* P	**Pg**	**15 09 08.0**	**+1.4**
AYVA				*i* S	**Sb**	**15 09 18.6**	**+0.2**
AYVA	**Ayvalik**	**0.69**	**289**	*i* P	**Pg**	**15 09 08.0**	**+1.4**
AYVA				*i* S	**Sb**	**15 09 18.6**	**+0.2**
IZM	**Izmir**	**0.72**	**197**	*e*PG	**Pg**	**15 09 07.5**	**+0.4**
IZM	**Izmir**	**0.72**	**197**	*e*Pg	**Pg**	**15 09 07.5**	**+0.4**
DURS	**Dursunbey**	**0.89**	**54**	*i* P	Pg	15 08 58.1	-12
DURS	**Dursunbey**	**0.89**	**54**	*i* P	Pg	15 08 58.1	-12
DEMI	**Demirci**	**0.92**	**92**	*i* P	**Pg**	**15 09 11.5**	**+0.6**
DEMI				*i* S	**Sg**	**15 09 23.2**	**+0.4**
DEMI	**Demirci**	**0.92**	**92**	*i* P	**Pg**	**15 09 11.5**	**+0.6**
DEMI				*i* S	**Sg**	**15 09 23.2**	**+0.4**
MANT	**Manisa**	**0.99**	**126**	*i* P	**Pg**	**15 09 12.3**	**0.0**
MANT				*i* S	**Sg**	**15 09 26.1**	**+0.9**
MANT	**Manisa**	**0.99**	**126**	*i* P	**Pg**	**15 09 12.3**	**0.0**
MANT				*i* S	**Sg**	**15 09 26.1**	**+0.9**
KULA	**Kula-Manisa**	**1.05**	**123**	*e*PG	**Pb**	**15 09 14.2**	**-0.2**
KULA	**Kula-Manisa**	**1.05**	**123**	*e*Pg	**Pb**	**15 09 14.2**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.17**	**166**	*e*PN	**Pg**	**15 09 16.1**	**+0.4**
AYDB				*e*SN	**Sb**	**15 09 32.7**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.17**	**166**	*e*Pn	**Pg**	**15 09 16.1**	**+0.4**
AYDB				*e*Sn	**Sb**	**15 09 32.7**	**+0.5**
KRBG	**Karabiga-Canak**	**1.32**	**352**	*e*PN	**Pg**	**15 09 18.3**	**-0.3**
KRBG	**Karabiga-Canak**	**1.32**	**352**	*e*Pn	**Pg**	**15 09 18.3**	**-0.3**
KCTX	**Karacabey (Bur**	**1.34**	**28**	*e*PN	**Pg**	**15 09 18.6**	**-0.4**
KCTX	**Karacabey (Bur**	**1.34**	**28**	*e*Pn	**Pg**	**15 09 18.6**	**-0.4**
CHOS	**Chios island**	**1.35**	**239**	*e*PN	**Pg**	**15 09 18.7**	**-0.5**
CHOS	**Chios island**	**1.35**	**239**	*e*Pn	**Pg**	**15 09 18.7**	**-0.5**
LPK	**Lapseki**	**1.42**	**335**	*e*PN	**Pn**	**15 09 19.4**	**-1.0**
LPK	**Lapseki**	**1.42**	**335**	*e*Pn	**Pn**	**15 09 19.4**	**-1.0**
TVSB	**Tavsanli**	**1.54**	**76**	*e*PN	**Pn**	**15 09 21.8**	**-0.3**
TVSB	**Tavsanli**	**1.54**	**76**	*e*Pn	**Pn**	**15 09 21.8**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.62**	**350**	*e*PN	**Pn**	**15 09 22.4**	**-0.8**
RKY	**Sarkoy-Tekirda**	**1.62**	**350**	*e*Pn	**Pn**	**15 09 22.4**	**-0.8**
ALN	**Alexandroupoli**	**2.14**	**328**	*e*PN	**Pn**	**15 09 29.6**	**-0.7**
ALN	**Alexandroupoli**	**2.14**	**328**	*e*Pn	**Pn**	**15 09 29.6**	**-0.7**

IDC 07 15:08:59.0±5.5, 16°.21S×173°.24W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/22, mbtmp4.0/4, ML2.0/1, MS3.3/1, Ms1 3.3/1, ms1mx2.8/25, Error ellipse: s-maj=225.8km s-min=29.0km az=135.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 15nm,0.3s,baz=16,slow=4.7,SNR=12	**2.69**	**32**	P	Pn	15 09 43.7	+0.1
AFI	comp=Z,491nm,18.8s,baz=295,slow=26			LR	LR	15 10 07.7	
AFI	35nm,0.3s,baz=9.4,slow=20,SNR=6.1			Sn	Sn	15 10 11.9	-5.1
STKA	**Stephens Creek** 2.6nm,0.9s,baz=63,slow=11,SNR=2.9	**43.77**	**241**	P	P	15 17 06.4	-0.1
WRA	**Warramunga Arr** 0.6nm,0.6s,baz=93,slow=6.7,SNR=11	**49.81**	**257**	P	P	15 17 53.8	-0.3
ASAR	**Alice Springs** 2.8nm,0.6s,baz=89,slow=8.2,SNR=63	**50.01**	**253**	P	P	15 17 55.5	0.0

*ISCJB **07** 15:47:08.2±0.4, 41°.74N±0°.03×13°.69E±0°.03, h14km±3km, Error ellipse: s-maj=4.6km s-min=3.3km az=21.4*
*ROM **07** 15:47:08.3±0.1, 41°.74N×13°.70E, h11km, Ml2.9/14, Error ellipse: s-maj=1.1km s-min=0.8km az=32.0*
*LDG **07** 15:47:08.7±0.3, 41°.73N×13°.64E, h2km, Ml2.7/2, Error ellipse: s-maj=9.8km s-min=5.5km az=20.0*
*CSEM **07** 15:47:08.6±0.1, 41°.74N×13°.69E, h10km, ML3.2/10, Error ellipse: s-maj=3.7km s-min=2.7km az=28.0*
ISC 07 15:47:08.2±0.8, 41°.72N±0°.02×13°.65E±0°.02, h12km±4km, n52, σ1s.20/79, 4C-2D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POFI	**Posta Fibreno**	**0.04**	**89**	⇓*i*Pg	**Pg**	**15 47 10.7**	**0.0**
POFI				Sg	**Sg**	**15 47 12.1**	**-0.3**
POFI	**Posta Fibreno** 6µm,0.3s	**0.04**	**89**	⇓*i*Pg	**Pg**	**15 47 10.7**	**0.0**
POFI				Sg	**Sg**	**15 47 12.1**	**-0.3**
SDI	**San Donato**	**0.12**	**94**	⇑*i*Pg	**Pg**	**15 47 11.3**	**-0.1**
SDI	**San Donato**	**0.12**	**94**	⇑*i*Pg	**Pg**	**15 47 11.3**	**-0.1**
VVLD	**Villa Vallelon**	**0.16**	**351**	Pg	**Pg**	**15 47 12.2**	**+0.2**
VVLD				Sg	**Sg**	**15 47 15.0**	**+0.3**
VVLD	**Villa Vallelon** 4µm,0.5s	**0.16**	**351**	Pg	**Pg**	**15 47 12.2**	**+0.2**
VVLD				Sg	**Sg**	**15 47 15.0**	**+0.3**
GUAR	**Guarcino**	**0.27**	**287**	Pg	**Pg**	**15 47 14.7**	**+0.9**
GUAR				Sg	**Sb**	**15 47 19.2**	**-0.3**
GUAR	**Guarcino**	**0.27**	**287**	Pg	**Pg**	**15 47 14.7**	**+0.9**
GUAR				Sg	**Sb**	**15 47 19.2**	**-0.3**
CERA	**Filignano**	**0.30**	**113**	Pg	**Pg**	**15 47 14.3**	**-0.1**
CERA				Sg	**Sg**	**15 47 18.5**	**0.0**
CERA	**Filignano** 1µm,0.6s	**0.30**	**113**	Pg	**Pg**	**15 47 14.3**	**-0.1**
CERA				Sg	**Sg**	**15 47 18.5**	**0.0**
GIUL	**Giuliano Di Ro**	**0.34**	**242**	Pg	**Pb**	**15 47 16.1**	**-0.1**
GIUL				Sg	**Sb**	**15 47 22.4**	**+0.8**
GIUL	**Giuliano Di Ro** 593nm,0.5s	**0.34**	**242**	Pg	**Pb**	**15 47 16.1**	**-0.1**
GIUL				Sg	**Sb**	**15 47 22.4**	**+0.8**
INTR	**Introdacqua**	**0.35**	**32**	⇑*i*Pg	**Pg**	**15 47 15.0**	**-0.3**
INTR				Sg	**Sg**	**15 47 20.1**	**0.0**
INTR	**Introdacqua** 2µm,0.5s	**0.35**	**32**	⇑*i*Pg	**Pg**	**15 47 15.0**	**-0.3**
INTR				Sg	**Sg**	**15 47 20.1**	**0.0**
PTQR	**Pietraquaria**	**0.36**	**328**	Pg	**Pg**	**15 47 15.9**	**+0.4**
PTQR				Sg	**Sb**	**15 47 21.7**	**-0.5**
PTQR	**Pietraquaria** 132nm,0.2s	**0.36**	**328**	Pg	**Pg**	**15 47 15.9**	**+0.4**
PTQR				Sg	**Sb**	**15 47 21.7**	**-0.5**
RNI2	**Rionero Sannit** 1µm,0.3s	**0.37**	**92**	Pg	**Pg**	**15 47 15.9**	**+0.1**
RNI2	**Rionero Sannit** 1µm,0.3s	**0.37**	**92**	Pg	**Pg**	**15 47 15.9**	**+0.1**
MIDA	**Miranda** 464nm,0.5s	**0.46**	**99**	Pg	**Pg**	**15 47 16.8**	**-0.5**
MIDA				Sg	**Sg**	**15 47 23.4**	**+0.1**
MIDA	**Miranda** 464nm,0.5s	**0.46**	**99**	Pg	**Pg**	**15 47 16.8**	**-0.5**
MIDA				Sg	**Sg**	**15 47 23.4**	**+0.1**
LPEL	**Lama dei Pelig** 700nm,0.2s	**0.52**	**50**	Pg	**Pg**	**15 47 17.4**	**-1.0**
LPEL				Sg	**Sg**	**15 47 25.0**	**-0.2**
LPEL	**Lama dei Pelig** 700nm,0.2s	**0.52**	**50**	Pg	**Pg**	**15 47 17.4**	**-1.0**
LPEL				Sg	**Sg**	**15 47 25.0**	**-0.2**
VAGA	**Valle Agricola** 243nm,0.3s	**0.53**	**124**	Pg	**Pg**	**15 47 18.9**	**+0.3**
VAGA	**Valle Agricola** 243nm,0.3s	**0.53**	**124**	Pg	**Pg**	**15 47 18.9**	**+0.3**
FAGN	**Fagnano**	**0.55**	**355**	Pg	**Pg**	**15 47 18.8**	**-0.3**
FAGN				Sg	**Sb**	**15 47 27.6**	**-0.2**
FAGN	**Fagnano** 2µm,0.4s	**0.55**	**355**	Pg	**Pg**	**15 47 18.8**	**-0.3**
FAGN				Sg	**Sb**	**15 47 27.6**	**-0.2**
CERT	**Cerreto**	**0.55**	**295**	Pg	**Pg**	**15 47 19.2**	**+0.1**
CERT	979nm,0.4s			Sg	**Sb**	**15 47 27.7**	**-0.1**
CERT	**Cerreto** 979nm,0.4s	**0.55**	**295**	Pg	**Pg**	**15 47 19.2**	**+0.1**
CERT				Sg	**Sb**	**15 47 27.7**	**-0.1**
MSC	**Monte Massico**	**0.58**	**155**	Pg	**Pg**	**15 47 19.8**	**+0.3**
MSC	**Monte Massico**	**0.58**	**155**	Pg	**Pg**	**15 47 19.8**	**+0.3**
SGG	**Gregorio Mates** 451nm,0.6s	**0.64**	**121**	Pg	**Pg**	**15 47 20.8**	**+0.2**
SGG	**Gregorio Mates** 451nm,0.6s	**0.64**	**121**	Pg	**Pg**	**15 47 20.8**	**+0.2**
TRIV	**Trivento** 371nm,0.7s	**0.67**	**85**	Pg	**Pg**	**15 47 21.0**	**-0.3**
TRIV	**Trivento** 371nm,0.7s	**0.67**	**85**	Pg	**Pg**	**15 47 21.0**	**-0.3**
VCEL	**Villa Celiera** 2µm,0.3s	**0.69**	**12**	Pg	**Pg**	**15 47 21.2**	**-0.5**
VCEL	**Villa Celiera** 2µm,0.3s	**0.69**	**12**	Pg	**Pg**	**15 47 21.2**	**-0.5**
TERO	**Teramo** 504nm,0.5s	**0.91**	**358**	Pg	**Pg**	**15 47 24.5**	**-1.3**
TERO	**Teramo** 504nm,0.5s	**0.91**	**358**	Pg	**Pg**	**15 47 24.5**	**-1.3**
NVLJ	**Novalja**	**2.98**	**17**	*e*Pn	**Pn**	**15 47 57.0**	**+1.7**
NVLJ				Sn	**Sg**	**15 48 47.9**	**+3.9**
NVLJ	**Novalja**	**2.98**	**17**	*e*Pn	**Pn**	**15 47 57.0**	**+1.7**
NVLJ	**Novalja**	**2.98**	**17**	Sn	**Sg**	**15 48 47.8**	**+3.9**
UDBI	**Udbina**	**3.21**	**28**	*e*Pn	**Pn**	**15 48 00.7**	**+2.2**
UDBI				Sn	**Sg**	**15 48 54.2**	**+2.9**
UDBI	**Udbina**	**3.21**	**28**	*e*Pn	**Pn**	**15 48 00.7**	**+2.2**
UDBI	**Udbina**	**3.21**	**28**	Sn	**Sg**	**15 48 54.1**	**+2.9**
STON	**Ston**	**3.22**	**68**	*e*Pn	**Pn**	**15 47 59.2**	**+0.7**
STON	**Ston**	**3.22**	**68**	*e*Pn	**Pn**	**15 47 59.2**	**+0.7**
PGF	**Pioggiola** 5.7nm,0.4s	**3.56**	**285**	*e*P	**Pn**	**15 48 04.9**	**+1.6**
PGF				*e*Sn	**Sn**	**15 48 42.7**	**-2.7**
PGF	**Pioggiola** 2.8nm,0.4s	**3.56**	**285**	*e*P	**Pn**	**15 48 04.9**	**+1.6**
PGF				*e*Sn	**Sn**	**15 48 42.7**	**-2.7**
FRF	**La Foret Royal** 0.9nm,0.3s	**5.49**	**292**	*e*Pn	**Pn**	**15 48 29.4**	**-0.3**
FRF				*e*Sn	**Sn**	**15 49 29.6**	**-3.1**
FRF	**La Foret Royal**	**5.49**	**292**	*e*Pn	**Pn**	**15 48 29.4**	**-0.3**
CDF	**Champ du Feu**	**8.07**	**328**	*e*Pn	**Pn**	**15 49 04.2**	**-1.1**
CDF	**Champ du Feu**	**8.07**	**328**	*e*Pn	**Pn**	**15 49 04.2**	**-1.1**

*CSEM **07** 15:47:25.2±0.2, 41°.73N×13°.70E, h5km, ML3.2/11, Error ellipse: s-maj=3.5km s-min=2.4km az=20.0*
ROM 07 15:47:24.3±0.1, 41°.73N×13°.70E, h10km±1km, MI3.0/10, 2D, Error ellipse: s-maj=1.9km s-min=1.3km az=22.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POFI	**Posta Fibreno**	**0.01**	**135**	⇓*i*Pg	Pg	15 47 26.7	+0.5
POFI				Sg	Sg	15 47 28.1	+0.7
POFI	**Posta Fibreno** 6µm,0.3s	**0.01**	**135**	⇓*i*Pg	Pg	15 47 26.7	+0.5
POFI				Sg	Sg	15 47 28.1	+0.7
SDI	**San Donato**	**0.09**	**102**	Pg	Pg	15 47 26.5	-0.3
SDI	**San Donato**	**0.09**	**102**	Pg	Pg	15 47 26.5	-0.3
VVLD	**Villa Vallelon** 4µm,0.5s	**0.15**	**338**	Pg	Pg	15 47 28.2	+0.3
VVLD				Sg	Sg	15 47 31.0	+0.6
VVLD	**Villa Vallelon** 4µm,0.5s	**0.15**	**338**	Pg	Pg	15 47 28.2	+0.3
VVLD				Sg	Sg	15 47 31.0	+0.6
CERA	**Filignano** 1µm,0.6s	**0.27**	**118**	Pg	Pg	15 47 30.3	+0.4
CERA				Sg	Sg	15 47 34.8	+1.1
CERA	**Filignano** 1µm,0.6s	**0.27**	**118**	Pg	Pg	15 47 30.3	+0.4
CERA				Sg	Sg	15 47 34.8	+1.1
GUAR	**Guarcino**	**0.30**	**283**	Pg	Pb	15 47 31.2	-0.7
GUAR				Sg	Sg	15 47 35.4	+0.9
GUAR	**Guarcino**	**0.30**	**283**	Pg	Pb	15 47 31.2	-0.7
GUAR				Sg	Sg	15 47 35.4	+0.9
INTR	**Introdacqua** 2µm,0.5s	**0.32**	**28**	Pg	Pg	15 47 31.0	+0.1
INTR				Sg	Sg	15 47 36.1	+0.8
INTR	**Introdacqua** 2µm,0.5s	**0.32**	**28**	Pg	Pg	15 47 31.0	+0.1
INTR				Sg	Sg	15 47 36.1	+0.8
RNI2	**Rionero Sannit** 1µm,0.3s	**0.34**	**94**	Pg	Pb	15 47 32.3	-0.3
RNI2				Sg	Sb	15 47 38.4	+0.2
RNI2	**Rionero Sannit** 1µm,0.3s	**0.34**	**94**	Pg	Pb	15 47 32.3	-0.3
RNI2				Sg	Sb	15 47 38.4	+0.2
PTQR	**Pietraquaria** 132nm,0.2s	**0.37**	**323**	Pg	Pg	15 47 32.1	+0.3
PTQR				Sg	Sb	15 47 38.3	-0.8
PTQR	**Pietraquaria** 132nm,0.2s	**0.37**	**323**	Pg	Pg	15 47 32.1	+0.3
PTQR				Sg	Sb	15 47 38.3	-0.8
GIUL	**Giuliano Di Ro** 593nm,0.5s	**0.37**	**243**	Pg	Pg	15 47 32.2	+0.4
GIUL				Sg	Sb	15 47 38.5	-0.5
GIUL	**Giuliano Di Ro** 593nm,0.5s	**0.37**	**243**	Pg	Pg	15 47 32.2	+0.4
GIUL				Sg	Sb	15 47 38.5	-0.5
MIDA	**Miranda** 464nm,0.5s	**0.42**	**101**	Pg	Pg	15 47 33.1	+0.3
MIDA				Sg	Sg	15 47 39.5	+1.0
MIDA	**Miranda** 464nm,0.5s	**0.42**	**101**	Pg	Pg	15 47 33.1	+0.3
MIDA				Sg	Sg	15 47 39.5	+1.0
LPEL	**Lama dei Pelig** 700nm,0.2s	**0.48**	**48**	Pg	Pg	15 47 33.6	-0.2
LPEL				Sg	S

ISCJB ***07*** *15:48:29.8±0.2,8˙.26S±0˙.03×127˙.90E±0˙.03,h10km, mb5.0/70,MS4.4/22,Error ellipse: s-maj=4.8km s-min=3.8km az=44.6*

IDC ***07*** *15:48:30.4±0.4,8˙.23S×127˙.77E, h0km,mb4.8/21, mb1 4.8/22,mb1mx4.7/28,mbtmp4.8/22,ML3.9/1,MS4.4/17, Ms1 4.4/17,ms1mx4.1/35,Error ellipse: s-maj=17.2km s-min=10.9km az=60.0*

BJI ***07*** *15:48:31.2,8˙.30S×127˙.60E,h14km,mB5.3/30,mb4.8/40, Ms5.0/20,Ms7 4.7/23*

AUST ***07*** *15:48:32.4±0.2,8˙.57S×127˙.68E, h0km,Error ellipse: s-maj=4.2km s-min=3.5km az=57.0*

MOS ***07*** *15:48:34.4±1.5,8˙.15S×127˙.74E,h33km,mb5.2/19,Error ellipse: s-maj=13.4km s-min=7.3km az=119.4*

DJA ***07*** *15:48:36.3±2.2,9˙S±3˙×12˙8E±˙, h19km±26km,M5.2/29, mB5.6/24,mb5.4/29,MLv5.3/13,Mw(mB)5.1/24,Mwp5.9/1*

NEIC ***07*** *15:48:36.1±0.2,8˙.23S×127˙.72E,h35km,mb5.0/23,Error ellipse: s-maj=8.7km s-min=6.1km az=221.0*

GCMT ***07*** *15:48:38.0±0.2,8˙.55S×127˙.80E,h20km,MW5.1,Moment Tensor Solution. s52,c69; s64,c104; Moment tensor: Scale 10^16Nm; Mrr3.92±.18; Mθθ-4.03±.13; Mφφ0.11±.13; Mrθ2.90±.24; Mθφ-1.27±.09; Mφr-0.65±.28; Best double couple: Ms5.10000×10^16 NP1:φ=91.00000°,δ63.00000°, λ106.00000°. NP2:φ=237.00000°,δ31.00000°,λ61.00000°. Principal axes: T 5.0700, Plg68.0000°, Azm32.0000°; N 0.1000, Plg15.0000°, Azm263.0000°; P -5.1700, Plg17.0000°, Azm169.0000°; Data Used: II IU G CN IC.*

BKK ***07*** *15:48:41.3±0.6,8˙S±4˙×12˙8E±˙,h79km±6km,M5.2/31, mB5.5/11,mb5.1/31,MLv5.5/2,Mw(mB)5.0/11*

ISC 07 15:48:33.3±0.3,8˙31S±0˙.04×127˙.89E±0˙.04,h17km±1km, n422,σ1ŝ47/435,mb5.0/70,MS4.4/23,13C-3D,Timor region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.39**	**85**	P		**Pb**		**15 49 30.5**	**-2.5**
SAUI				S		**Sn**		**15 50 03.7**	**-1.7**
SOEI	**Soe**	**3.85**	**248**	P		**Pn**		**15 49 33.1**	**+1.1**
BNDI	**Bandanaira**	**4.26**	**28**	P		Pb		15 49 43.2	-4.6
BATI	**Baumata**	**4.58**	**245**	P		**Pn**		**15 49 43.1**	**+1.3**
BATI				S		**Sn**		**15 50 35.6**	**+0.9**
BATI	**Baumata**	**4.58**	**245**	Pn		**Pn**		**15 49 43.1**	**+1.3**
BATI				Sn		**Sn**		**15 50 35.9**	**+1.2**
BATI	**Baumata**	**4.58**	**245**	Pn		**Pn**		**15 49 43.1**	**+1.3**
BATI	25nm,0.3s,baz=91,slow=2.8,SNR=24			Sn		**Sn**		**15 50 35.9**	**+1.2**
AAI	92nm,0.3s,baz=66,slow=20,SNR=3.1 **Ambon** 370nm,0.8s,4μm1.3nm	**4.60**	**4**	P		Pn		15 49 46.4	+4.3
AAI				S		**Sn**		**15 50 41.0**	**+5.8**
AAI	370nm,0.8s,4μm1.3nm **Ambon** baz=4.9,SNR=16	**4.60**	**4**	P		Pn		15 49 47.7	+5.5
NLAI	**Namlea** 371nm,0.7s,4μm1.4nm	**5.10**	**351**	P		Pn		15 49 55.5	+6.6
TLE	**Tual** 341nm,0.8s,6μm2.1nm	**5.50**	**61**	P		Pn		15 50 01.2	+6.7
TLE	**Tual** baz=5.8,SNR=18	**5.50**	**61**	P		Pn		15 49 59.8	+5.3
MMRI	**Maumere** 775nm,1.0s,6μm2.1nm	**5.60**	**266**	P		**Pn**		**15 49 58.4**	**+2.5**
BBSI	**Bau Bau** 817nm,1.1s,7μm2.7nm	**5.98**	**298**	P		Pn		15 50 06.2	+5.1
KDU	**Kakadu** baz=6.3,SNR=127	**6.27**	**134**	P		**Pn**		**15 50 05.4**	**+0.4**
FAKI	**Fak Fak** 293nm,0.9s,3μm1.0nm	**6.89**	**39**	P		Pn		15 50 19.6	+6.0
KNRA	**Kununurra** baz=7.2,SNR=668	**7.37**	**173**	P		**Pn**		**15 50 18.3**	**-2.0**
KKSI	**Kolaka, Sulawe** 193nm,1.0s,2μm0.6nm	**7.44**	**303**	P		Pn		15 50 25.3	+4.2
WSI	**Waingapu** 525nm,0.9s,11μm6.6nm	**7.62**	**259**	P		Pn		15 50 27.3	+3.7
LBMI	**Labuha** 311nm,1.3s,4μm	**7.63**	**357**	P		Pn		15 50 32.8	+9.0
SWI	**Sorong** 189nm,0.9s,2μm	**8.12**	**25**	P		Pn		15 50 38.3	+7.8
BKSI	**Bulukumba** 125nm,0.7s,1μm	**8.26**	**291**	P		Pn		15 50 37.5	+5.1
BNSI	**Bone** 230nm,1.2s,3μm	**8.65**	**296**	P		Pn		15 50 43.4	+5.6
KAPI	**Kappang** 403nm,0.6s,SNR=5.0	**8.72**	**292**	Pn		Pn		15 50 43.3	+4.6
KAPI	**Kappang**	**8.72**	**292**	Pn		**Pn**		**15 50 41.2**	**+2.5**
KAPI				Sn		**Sn**		**15 52 20.7**	**+4.0**
KAPI	**Kappang** 2.3nm,0.3s,baz=122,slow=14,SNR=10	**8.72**	**292**	Pn		**Pn**		**15 50 41.2**	**+2.5**
KAPI	0.7nm,0.3s,baz=72,slow=20,SNR=1.6			Sn		**Sn**		**15 52 20.7**	**+4.0**
LUWI	**Luwuk** 287nm,0.9s,3μm	**8.84**	**325**	P		Pn		15 50 48.0	+7.7
TNTI	**Ternate** 199nm,1.3s,3μm	**9.03**	**357**	P		Pn		15 50 51.7	+8.6
SPSI	**Sidrap Palu** 125nm,1.1s,2μm	**9.15**	**298**	P		Pn		15 50 51.0	+6.3
TTSI	**Tana Toraja** 114nm,1.3s,1μm	**9.58**	**303**	P		Pn		15 50 57.6	+7.1
KMSI	**Cibinong** 635nm,1.3s,7μm	**9.64**	**336**	P		Pn		15 51 00.0	+8.6
SRPI	**Serui, Papua** 168nm,1.1s	**10.49**	**53**	P		Pn		15 51 13.7	+11
MRSI	**Marisa** 92nm,1.0s,1μm	**10.55**	**326**	P		Pn		15 51 11.3	+7.5
BAKI	**Biak** 359nm,1.1s,3μm	**10.82**	**50**	P		Pn		15 51 13.0	+5.5
SGSI	**Sangihe** 656nm,0.9s,7μm	**12.14**	**349**	P		P		15 51 33.2	-5.1
WRAB	**Tennant Creek**	**13.14**	**152**	*e*P		Pn		15 51 34.6	-4.8
WRAB	comp=Z,144nm,0.6s			pmax		pmax			
WRAB	**Tennant Creek** comp=Z,2μm,0.6s	**13.14**	**152**	Pn		Pn		15 51 35.9	-3.4
WRAB	**Tennant Creek** comp=Z,144nm,0.6s	**13.14**	**152**	*e*P		Pn		15 51 34.6	-4.8
WRAB				*e*S		Sn		15 53 48.4	-17
WRA	**Warramunga Arr**	**13.14**	**152**	Pn		Pn		15 51 35.0	-4.4
WRA				Sn		Sn		15 53 53.9	-11
WRA	**Warramunga Arr** comp=Z,9.3nm,0.3s,baz=338,slow=12,SNR=772	**13.14**	**152**	Pn		Pn		15 51 35.0	-4.4
WRA	comp=Z,17nm,0.3s,baz=336,slow=23,SNR=10			Sn		Sn		15 53 53.9	-11
WRA				LR		LR		15 57 24.5	
JAY	comp=Z,2μm,18.0s,baz=330,slow=40 **Jayapura**	**13.99**	**66**	P		P		15 52 06.4	+7.5
BLJI	**Banyuglugur**	**14.16**	**271**	P		P		15 52 06.2	+5.4
MTKI	**Muara Teweh, K** comp=Z,91nm,1.1s,comp=Z,4μm	**14.87**	**299**	P		**P**		**15 52 10.4**	**+1.8**
MBWA	**Marble Bar** comp=Z,25nm,0.5s	**15.01**	**211**	*e*P		Pn		15 51 58.9	-5.8
KRKI	**Karangkates**	**15.28**	**269**	P		P		15 52 17.9	+4.8
DAV	**Davao City (W)**	**15.45**	**351**	P		**P**		**15 52 19.2**	**+4.1**
PWJI	**Pagerwojo** comp=Z,76nm,0.9s	**15.92**	**270**	P		**Pn**		**15 52 15.7**	**-1.1**
SJI	**Sawahan** comp=Z,83nm,0.8s	**15.97**	**271**	P		**Pn**		**15 52 19.2**	**+1.7**
COEN	**Coen** comp=Z,334nm,0.7s	**16.01**	**112**	*e*P		**Pn**		**15 52 16.1**	**-1.8**
AS31	**Alice Springs**	**16.32**	**160**	*e*P		Pn		15 52 16.4	-5.5
ASAR	**Alice Springs**	**16.32**	**160**	Pn		Pn		15 52 16.9	-5.1
ASAR				Sn		Sn		15 55 09.4	-13
ASAR	**Alice Springs** comp=Z,4.9nm,0.3s,baz=343,slow=14,SNR=330	**16.32**	**160**	Pn		Pn		15 52 16.9	-5.1
ASAR	comp=Z,1.6nm,0.3s,baz=321,slow=16,SNR=5.2			Sn		Sn		15 55 09.4	-13
ASAR				LR		LR		15 59 12.6	
MYLDM	comp=Z,2μm,18.6s,baz=331,slow=39 **Lahad Datu**	**16.34**	**325**	P		**P**		**15 52 29.7**	**+4.7**
MYLDM	**Lahad Datu**	**16.34**	**325**	P		P		15 52 30.4	+5.4
PBKI	**Pangkalan Bun**	**17.07**	**288**	P		**P**		**15 52 35.5**	**+2.4**
SDKM	**Sandakan**	**17.48**	**322**	P		**P**		**15 52 41.4**	**+3.7**
KKM	**Kota Kinabalu**	**18.41**	**320**	P		**Pn**		**15 52 51.2**	**+3.2**
KKM	**Kota Kinabalu**	**18.41**	**320**	P		Pn		15 52 55.5	+7.5
KKM	**Kota Kinabalu** comp=Z,171nm,1.0s	**18.41**	**320**	*e*P		**Pn**		**15 52 50.5**	**+2.5**
KKM	**Kota Kinabalu** baz=19,SNR=9.5	**18.41**	**320**	⇑P		**Pn**		**15 52 50.8**	**+2.8**
BTM	**Bintulu**	**18.67**	**307**	P		**Pn**		**15 52 53.6**	**+2.5**
KDM	**Kudat**	**18.71**	**324**	P		**Pn**		**15 52 55.8**	**+4.2**
SBUM	**Sibu**	**18.93**	**304**	P		**Pn**		**15 52 56.2**	**+1.9**
SBUM	**Sibu**	**18.93**	**304**	P		**Pn**		**15 52 56.4**	**+2.1**
PMG	**Port Moresby**	**19.07**	**95**	*e*P		**Pn**		**15 52 60.0**	**+3.9**
PMG	**Port Moresby**	**19.07**	**95**	P		**Pn**		**15 52 57.7**	**+1.7**
	comp=Z,1.1nm,0.3s,baz=281,slow=8.7,SNR=9.0								
KSM	**Kuching**	**20.04**	**298**	P		**P**		**15 53 06.6**	**+0.9**
KSM	**Kuching**	**20.04**	**298**	P		Pn		15 53 06.8	-0.8
KSM	**Kuching**	**20.04**	**298**	P		Pn		15 53 06.8	-0.7
KSM	**Kuching** comp=Z,151nm,0.9s	**20.04**	**298**	*e*P		**P**		**15 53 06.2**	**+0.5**
KSM	**Kuching** baz=20,SNR=68	**20.04**	**298**	⇓P		Pn		15 53 06.8	-0.8
MEEK	**Meekatharra** baz=20,SNR=22	**20.24**	**205**	P		**P**		**15 53 07.2**	**-0.7**
MANU	**Manus Island** baz=21,SNR=9.7	**20.36**	**73**	P		Pn		15 53 13.6	+2.2
CTA	**Charters Tower**	**21.28**	**125**	P		**P**		**15 53 20.1**	**+0.9**
CTA				S		**S**		**15 57 18.4**	**+3.1**
CTA	**Charters Tower** comp=Z,35nm,0.9s,baz=299,slow=12,SNR=16	**21.28**	**125**	P		**P**		**15 53 20.1**	**+0.9**
CTA	comp=Z,5.2nm,0.7s,baz=13,slow=18,SNR=3.7			S		**S**		**15 57 18.4**	**+3.1**
CTAO	**Charters Tower**	**21.28**	**125**	*e*P		**P**		**15 53 20.8**	**+1.6**
CTAO	comp=Z,62nm,0.9s			pmax		pmax			
CTAO	**Charters Tower** comp=Z,62nm,0.9s	**21.28**	**125**	*e*P		**P**		**15 53 20.8**	**+1.6**
XMI	**Christmas Isla** baz=22,SNR=5.5	**22.00**	**263**	⇑P		**P**		**15 53 25.4**	**-1.6**
XMIS	**Christmas Isla** comp=Z,781nm,1.0s	**22.04**	**263**	*e*P		**P**		**15 53 25.3**	**-2.1**
XMIS	**Christmas Isla** baz=22,SNR=4.3	**22.04**	**263**	⇑P		**P**		**15 53 25.4**	**-2.0**
FORT	**Forrest** comp=Z,152nm,0.8s	**22.36**	**180**	*e*P		**P**		**15 53 30.9**	**+0.4**
FORT	**Forrest** baz=22,SNR=30	**22.36**	**180**	P		**P**		**15 53 31.2**	**+0.7**
MORW	**Morawa** baz=23,SNR=32	**23.47**	**207**	⇑P		**P**		**15 53 40.1**	**-2.0**
QLP	**Quilpie** baz=24,SNR=61	**23.90**	**142**	P		**P**		**15 53 47.7**	**+1.4**
BLDU	**Ballidu** baz=24,SNR=18	**24.53**	**204**	P		**P**		**15 53 51.5**	**-0.7**
KLBR	**Kellerberrin** baz=25,SNR=18	**25.02**	**201**	P		**P**		**15 53 56.1**	**-0.4**
BBOO	**Buckleboo** comp=Z,1μm,1.0s	**25.53**	**164**	*e*P		**P**		**15 54 01.3**	**+0.1**
BBOO	**Buckleboo** baz=25,SNR=17	**25.53**	**164**	P		**P**		**15 54 02.6**	**+1.4**
MYKOM	**Kota Tinggi**	**25.98**	**292**	P		**P**		**15 54 04.0**	**-1.5**
NWAO	**Narrogin (SRO)**	**26.41**	**200**	*e*P		**P**		**15 54 08.0**	**-1.1**
NWAO	**Narrogin (SRO)** comp=Z,5nm,0.6s,baz=42,slow=8.4,SNR=20	**26.41**	**200**	P		**P**		**15 54 07.5**	**-1.6**
KGM	**Kluang**	**26.56**	**292**	P		**P**		**15 54 09.8**	**-0.9**
STKA	**Stephens Creek** comp=Z,16nm,1.0s	**26.70**	**153**	*e*P		**P**		**15 54 11.7**	**0.0**
STKA				S		S		15 58 55.9	+9.4
STKA	**Stephens Creek** baz=27,SNR=36	**26.70**	**153**	P		**P**		**15 54 12.1**	**+0.4**
STKA	**Stephens Creek** comp=Z,20nm,0.6s,baz=323,slow=8.1,SNR=23	**26.70**	**153**	P		**P**		**15 54 11.9**	**+0.2**
STKA	comp=Z,26nm,1.3s,baz=350,slow=14,SNR=3.9			S		S		15 58 55.9	+9.4
STKA	comp=Z,1μm,18.8s,baz=318,slow=39			LR		LR		16 05 51.7	
RMQ	**Roma** baz=27,SNR=11	**26.82**	**135**	P		**P**		**15 54 14.2**	**+1.3**
RKGY	**Rocky Gully** baz=28,SNR=5.1	**28.03**	**199**	P		**P**		**15 54 24.4**	**+0.7**
CMSA	**Cobar Meteorol** baz=28,SNR=68	**28.45**	**147**	P		**P**		**15 54 28.4**	**+1.0**
IPM	**Ipoh** comp=Z,12nm,0.8s	**29.65**	**294**	*e*P		**P**		**15 54 36.0**	**-2.3**
KULM	**Kulim** comp=Z,18nm,1.0s	**30.34**	**296**	*e*P		**P**		**15 54 43.3**	**-1.1**
PSI	**Prapat**	**30.92**	**290**	P		**P**		**15 54 47.9**	**-1.8**
PSI	**Prapat** comp=Z,5.0nm,0.3s,baz=249,slow=10,SNR=12	**30.92**	**290**	P		**P**		**15 54 47.9**	**-1.8**
HNR	**Honiara**	**31.69**	**94**	P		**P**		**15 54 56.3**	**0.0**
HNR	**Honiara** comp=Z,20nm,0.5s,baz=186,slow=16,SNR=4.0	**31.69**	**94**	P		**P**		**15 54 56.3**	**0.0**
YNG	**Young** baz=32,SNR=10	**32.02**	**147**	P		**P**		**15 55 00.9**	**+1.9**
UBPT	**Khong Chiam** comp=Z,50nm,1.1s	**32.29**	**316**	P		**P**		**15 55 01.8**	**+0.2**
QIZ	**Qiongzhong**	**32.47**	**327**	P		**P**		**15 55 03.3**	**+0.2**
QIZ				S		**S**		**16 00 18.3**	**+0.9**
QIZ	comp=Z,550nm,14.3s			LR		LR			
QIZ	comp=Z,540nm,14.7s			LR		LR			
CHBT	**CHBT** comp=Z,35nm,1.2s	**32.90**	**309**	P		**P**		**15 55 06.5**	**-0.4**
PANO	**Nakornpanom** comp=Z,30nm,1.2s	**34.19**	**318**	P		**P**		**15 55 18.0**	**-0.2**
SKNT	**Sakolnakorn** comp=Z,38nm,1.0s,comp=Z,2μm	**34.49**	**317**	P		**P**		**15 55 20.2**	**-0.6**
LOEI	**Loei** comp=Z,58nm,0.7s,comp=Z,3μm	**36.74**	**314**	P		P		15 55 36.8	-3.3
CM31	**Chiang Mai Arr** comp=Z,8.7nm,0.6s	**39.03**	**313**	*e*P		**P**		**15 55 58.1**	**-1.3**
CMAR	**Chiang Mai Arr**	**39.03**	**313**	P		**P**		**15 55 58.8**	**-0.6**
CMAR	**Chiang Mai Arr** comp=Z,12nm,0.7s,baz=142,slow=7.0,SNR=80	**39.03**	**313**	P		**P**		**15 55 58.8**	**-0.6**
CHTO	**Chiang Mai** comp=Z,82nm,0.8s	**39.26**	**314**	*e*P		**P**		**15 56 00.3**	**-1.0**
CHTO				pmax		pmax			
CHTO	**Chiang Mai** comp=Z,82nm,0.8s	**39.26**	**314**	*e*P		**P**		**15 56 00.3**	**-1.0**
CHTO	**Chiang Mai** comp=Z,126nm,1.1s	**39.26**	**314**	P		**P**		**15 56 00.7**	**-0.6**
DZM	**Mont Dzumac** comp=Z,322nm,27.5s	**39.51**	**115**	*e*S		**S**		**16 02 04.8**	**-0.8**
DZM	comp=Z,889nm,23.2s			*e*LR		LR		16 07 11.6	
DZM	**Mont Dzumac**	**39.51**	**115**	P		**P**		**15 56 03.2**	**-0.4**
DZM	**Mont Dzumac** comp=Z,6.2nm,1.0s,baz=76,slow=17,SNR=3.9	**39.51**	**115**	P		**P**		**15 56 03.2**	**-0.4**
CMAI	**Chiengmai2** comp=Z,149nm,0.7s	**39.92**	**315**	P		**P**		**15 56 06.8**	**-0.2**
GYA	**Guiyang**	**40.24**	**330**	⇑P		P		15 56 13.4	+3.9
GYA				PP		**PnPn**		**15 57 47.3**	**+1.4**
GYA				PcP		**PcP**		**15 58 14.8**	**+1.4**
GYA				ScP		**ScP**		**16 02 01.7**	**-0.4**
GYA				S		**S**		**16 02 17.0**	**+0.8**
GYA				SS		**SS**		**16 05 08.9**	**-6.0**
GYA	comp=Z,20nm,0.8s			AMB		AMB			
GYA	comp=Z,120nm,5.0s			AMB		AMB			
GYA	comp=Z,580nm,17.0s			LR		LR			
GYA	comp=Z,520nm,18.2s			LR		LR			
GYA	comp=Z,610nm,17.4s			LR		LR			
KMI	**Kunming**	**41.28**	**324**	P		**P**		**15 56 18.7**	**+0.4**
KMI				pP		**pP**		**15 56 24.1**	**+0.6**
KMI				sP		**sP**		**15 56 25.9**	**+0.3**
KMI				PP		**PnPn**		**15 57 58.5**	**+0.1**
KMI				S		**S**		**16 02 31.3**	**-0.8**
KMI				sS		**sS**		**16 02 42.6**	**+1.9**
KMI	comp=Z,13nm,1.2s			AMB		AMB			
KMI	comp=Z,230nm,4.3s			AMB		AMB			
KMI	comp=Z,400nm,16.3s			LR		LR			
JNU	**Nakatsue** comp=Z,414nm,18.6s,baz=326,slow=35	**41.30**	**4**	LR		LR		16 12 23.4	
CD2	**Chengdu**	**45.34**	**330**	P		**P**		**15 56 52.9**	**+2.1**
CD2				pP		**pP**		**15 56 57.4**	**+1.3**
CD2				sP		**sP**		**15 56 59.9**	**+1.8**
CD2				PP		**PP**		**15 58 39.8**	**+2.7**
CD2				S		**S**		**16 03 32.9**	**+1.8**
CD2				sS		**sS**		**16 03 40.4**	**+0.7**
CD2				SS		**ScS**		**16 06 47.5**	**+0.2**
CD2	comp=Z,20nm,0.6s			AMB		AMB			
CD2	comp=Z,380nm,6.9s			AMB		AMB			
CD2	comp=Z,570nm,7.7s			LR		LR			
KSAR	**Wonju Array Be**	**45.51**	**360**	P		**P**		**15 56 50.1**	**-1.8**
KSAR				PcP		**PcP**		**15 58 29.1**	**-1.6**
KSRS	**Korea Array** comp=Z,5.1nm,0.9s,baz=179,slow=9.0,SNR=7.0	**45.52**	**0**	P		**P**		**15 56 50.1**	**-1.9**
KSRS				PcP		**PcP**		**15 58 29.1**	**-1.6**
KSRS	comp=Z,4.7nm,1.0s,baz=183,slow=3.9,SNR=4.9			LR		LR		16 17 24.4	
	comp=Z,233nm,20.0s,baz=163,slow=38								
MJAR	**Matsushiro Arr**	**45.65**	**12**	P		**P**		**15 56 52.1**	**-1.0**
MJAR	**Matsushiro Arr** comp=Z,7.1nm,0.9s,baz=199,slow=12,SNR=9.3	**45.65**	**12**	P		**P**		**15 56 52.1**	**-1.0**
MAT	**Matsushiro**	**45.65**	**12**	P		**P**		**15 56 53.3**	**+0.2**
XAN	**Xi'an**	**45.80**	**338**	P		**P**		**15 56 52.9**	**-1.4**
XAN				pP		**pP**		**15 56 57.6**	**-2.0**
XAN				PcP		**PcP**		**15 58 31.4**	**-0.4**
XAN				SS		SS		16 06 49.7	-13
XAN	comp=Z,4.0nm,0.9s			AMB		AMB			
XAN	comp=Z,57nm,5.2s			AMB		AMB			
XAN	comp=Z,260nm,14.3s			LR		LR			
BJI	**Beijing**	**49.31**	**348**	P		**P**		**15 57 22.9**	**+1.4**
BJI	comp=Z,10.0nm,0.7s			AMB		AMB			
LZH	**Lanzhou**	**49.62**	**334**	*e*P		**P**		**15 57 24.1**	**0.0**
LZH				pP		**pP**		**15 57 28.6**	**-0.8**
LZH				sP		**sP**		**15 57 31.2**	**-0.3**
LZH				PP		**PP**		**15 59 19.3**	**+0.6**
LZH				*e*S		**S**		**16 04 31.2**	**-0.8**
LZH				sS		**sS**		**16 04 41.8**	**+1.0**
LZH				*e*SS		**SS**		**16 07 59.4**	**-5.2**
LZH	comp=Z,35nm,1.3s			AMB		AMB			
LZH	comp=Z,150nm,5.2s			AMB		AMB			
LZH	comp=Z,470nm,14.5s			LR		LR			
LZH	comp=Z,460nm,14.0s			LR		LR			
LZH	comp=Z,690nm,17.6s			LR		LR			
HHC	**Hu-ho-hao-te**	**51.17**	**344**	*e*P		**P**		**15 57 35.5**	**-0.2**
HHC				pP		**pP**		**15 57 39.1**	**-2.0**
HHC				sP		**sP**		**15 57 42.6**	**-0.5**
HHC				PP		**PP**		**15 59 32.9**	**+0.1**
HHC				S		**S**		**16 04 52.8**	**-0.6**
HHC				sS		**sS**		**16 05 01.0**	**-1.2**
HHC				SS		**SS**		**16 08 25.7**	**-3.4**
HHC	comp=Z,30nm,0.9s			AMB		AMB			
HHC	comp=Z,540nm,4.3s			AMB		AMB			
HHC	comp=Z,500nm,16.7s			LR		LR			
HHC	comp=Z,610nm,16.7s			LR		LR			
HHC	comp=Z,400nm,14.3s			LR		LR			
RPZ	**Rata Peaks**	**51.52**	**141**	*e*P		**P**		**15 57 39.8**	**+1.6**
RPZ	**Rata Peaks** comp=Z,10nm,0.5s,baz=256,slow=1.8,SNR=15	**51.52**	**141**	P		**P**		**15 57 38.8**	**+0.5**
LSA	**Lhasa**	**51.74**	**318**	P		**P**		**15 57 38.4**	**-2.2**
USRK	**Ussuriysk Arra** comp=Z,6.4nm,0.8s,baz=191,slow=7.4,SNR=11	**52.39**	**4**	P		**P**		**15 57 45.2**	**+0.6**
ODAN	**Odare** comp=Z,16nm,0.5s	**52.57**	**313**	*e*P		**P**		**15 57 45.0**	**-1.6**
TAPN	**Taplejung** comp=Z,70nm,1.0s	**52.63**	**314**	*e*P		**P**		**15 57 45.6**	**-1.5**
MDJ	**Mudanjiang**	**52.70**	**2**	P		**P**		**15 57 49.3**	**+2.4**
MDJ	comp=Z,6.0nm,0.9s			AMB		AMB			
MDJ	comp=Z,220nm,7.0s			AMB		AMB			
RAMN	**Ramite** comp=Z,96nm,0.8s	**53.20**	**313**	*e*P		**P**		**15 57 50.1**	**-1.1**
ASAJ	**Asahikawa** comp=Z,187nm,18.5s,baz=350,slow=35	**53.85**	**13**	LR		LR		16 19 34.4	
JIRN	**Jiri** comp=Z,43nm,0.8s	**53.90**	**313**	*e*P		**P**		**15 57 54.9**	**-1.7**
GTA	**Gaotai**	**54.15**	**333**	⇑P		**P**		**15 57 57.3**	**-0.5**
GTA				pP		**pP**		**15 58 01.8**	**-1.4**
GTA				sP		**sP**		**15 58 04.4**	**-0.8**
GTA				S		**S**		**16 05 34.0**	**-0.1**
GTA				sS		**sS**		**16 05 41.3**	**-1.7**
GTA				SS		**SS**		**16 09 15.8**	**-0.4**
GTA	comp=Z,18nm,0.9s			AMB		AMB			
GTA	comp=Z,160nm,4.3s			AMB		AMB			
GTA	comp=Z,220nm,19.0s			LR		LR			
GTA	comp=Z,310nm,19.5s			LR		LR			
GTA	comp=Z,270nm,20.4s			LR		LR			
GUN	**Gumba** comp=Z,84nm,0.9s	**54.27**	**313**	*e*P		**P**		**15 57 57.7**	**-1.5**
PKI	**Pulchoki** comp=Z,14nm,0.5s	**54.42**	**313**	*e*P		**P**		**15 57 58.3**	**-2.0**
KKN	**Kakani** comp=Z,36nm,1.0s	**54.64**	**313**	*e*P		**P**		**15 58 00.0**	**-1.7**
DMN	**Daman** comp=Z,67nm,1.1s	**54.66**	**312**	*e*P		**P**		**15 58 00.3**	**-1.7**
GKN	**Gorkha** comp=Z,45nm,0.7s	**55.23**	**312**	*e*P		**P**		**15 58 04.2**	**-1.7**
KOLN	**Koldanda** comp=Z,52nm,0.8s	**55.86**	**312**	*e*P		**P**		**15 58 09.0**	**-1.5**
DANN	**Dangsing** comp=Z,51nm,0.8s	**56.06**	**312**	*e*P		**P**		**15 58 10.4**	**-1.7**
YSS	**Yuzh-Sakhalins**	**56.59**	**12**	*e*P		**P**		**15 58 14.0**	**-1.1**
YSS				*e*S		**S**		**16 06 03.0**	**-3.2**
YSS	comp=Z,300nm,18.0s			MLR		MLR			
KLR	**Kul'dur**	**57.39**	**3**	*e*P		P		15 58 16.8	-3.9
ULN	**Ulaanbaatar** comp=Z,19nm,1.1s	**58.89**	**344**	*e*P		**P**		**15 58 30.2**	**-1.3**
SONM	**Songino Array**	**59.05**	**343**	P		**P**		**15 58 31.9**	**-0.6**
SONM				PcP		**PcP**		**15 59 20.7**	**-0.6**
SONM	**Songino Array** comp=Z,7.3nm,0.8s,baz=161,slow=5.3,SNR=30	**59.05**	**343**	P		**P**		**15 58 31.9**	**-0.6**
SONM	comp=Z,7.9nm,0.9s,baz=159,slow=4.1,SNR=6.3			PcP		**PcP**		**15 59 20.7**	**-0.6**
SONM	comp=Z,239nm,18.1s,baz=171,slow=36			LR		LR		16 23 56.2	
ZAK	**Zakamensk**	**62.24**	**342**	*e*P		**P**		**15 58 55.0**	**+0.8**
ZAK				*e*				15 59 31.2	
ZAK	comp=Z,3.0nm,1.3s			pmax		pmax			
ZAK	comp=Z,7.0nm,1.1s			pmax		pmax			
WMQ	**Urumqi**	**63.38**	**328**	*e*P		**P**		**15 59 02.9**	**+1.0**
WMQ				pP		**pP**		**15 59 07.5**	**+0.2**
WMQ				sP		**sP**		**15 59 09.9**	**+0.5**
WMQ				PcP		**PcP**		**15 59 40.1**	**+1.3**
WMQ				PP		PP		**16 01 23.5**	**+2.0**
WMQ				S		**S**		**16 07 32.3**	**-1.6**
WMQ				sS		**sS**		**16 07 40.1**	**-2.7**
WMQ				ScS		**SKSac**		**16 08 51.6**	**-2.9**
WMQ	comp=Z,10.0nm,0.8s			AMB		AMB			
WMQ	comp=Z,140nm,5.2s			AMB		AMB			
IRK	**Irkutsk**	**63.62**	**344**	*e*P		**P**		**15 59 03.6**	**+0.4**
IRK	comp=Z,26nm,

KSH LR LR
comp=Z,150nm,5.2s
MK31 Makanchi Array 68.19 328 *e*P **P** 15 59 31.7 -1.2
MK31 pmax pmax
comp=Z,7.0nm,0.7s
MK31 Makanchi Array 68.19 328 *e*P **P** 15 59 31.5 -1.4
MKAR Makanchi Array 68.19 328 P **P** 15 59 31.9 -1.0
MKAR Makanchi Array 68.19 328 P **P** 15 59 31.9 -1.0
MKAR Makanchi Array 68.19 328 P **P** 15 59 31.9 -1.0
comp=Z,4.5nm,0.7s,baz=132,slow=8.3,SNR=35
MKAR LR LR 16 30 00.7
comp=Z,159nm,18.9s,baz=273,slow=37
KZA Kyzart 69.44 321 P **P** 15 59 41.1 -0.1
SNR=8.1
TKM2 Tokmak 2 69.68 322 *i* P **P** 15 59 41.8 -0.6
TKM2 Tokmak 2 69.68 322 P **P** 15 59 41.9 -0.6
SNR=6.7
TKM2 Tokmak 2 69.68 322 *e*P **P** 15 59 41.4 -1.1
comp=Z,41nm,1.8s
KBL Kabul 70.02 311 *e*P **P** 15 59 43.3 -1.4
KBL pmax pmax
comp=Z,8.0nm,0.7s
KBL Kabul 70.02 311 *e*P **P** 15 59 43.3 -1.4
comp=Z,8.1nm,0.7s
YAK Yakutsk 70.14 1 *e*P **P** 15 59 43.5 -1.0
YAK pmax pmax
comp=Z,16nm,1.0s
AAK Ala-Archa 70.21 321*c i*P **P** 15 59 44.6 -1.0
AAK Ala-Archa 70.21 321 P **P** 15 59 45.4 -0.2
SNR=8.5
AAK Ala-Archa 70.21 321 P **P** 15 59 45.2 -0.4
comp=Z,63nm,1.0s,SNR=6.9
AAK Ala-Archa 70.21 321 *e*P **P** 15 59 44.8 -0.8
comp=Z,12nm,1.0s
AAK Ala-Archa 70.21 321 P **P** 15 59 45.3 -0.2
comp=Z,6.8nm,0.9s
AML Almayashu 70.44 320 P **P** 15 59 47.0 -0.3
SNR=8.4
USP Ospenovka 70.54 322 P **P** 15 59 47.0 -0.5
SNR=10
EKS2 Erkin-Say 70.67 321 *e*P **P** 15 59 47.8 -0.6
EKS2 pmax pmax
comp=Z,16nm,1.3s
EKS2 Erkin-Say 70.67 321 P **P** 15 59 48.3 -0.1
SNR=11
EKS2 Erkin-Say 70.67 321 *e*P **P** 15 59 47.8 -0.6
comp=Z,16nm,1.3s
VNDA Vanda 71.42 173 *e*P **P** 15 59 52.5 +0.3
comp=Z,9.1nm,1.3s
VNDA Vanda 71.42 173 P **P** 15 59 52.5 +0.3
comp=Z,1.3nm,0.5s,baz=344,slow=5.9,SNR=11
VNDA LR LR 16 30 42.9
comp=Z,596nm,18.2s,baz=338,slow=35
ZAA0 Zalesovo Array 71.85 335 *e*P **P** 15 59 53.6 -1.5
ZALV Zalesovo Beam 71.85 335 P **P** 15 59 53.2 -1.9
ZALV Zalesovo Beam 71.85 335 P **P** 15 59 53.2 -1.9
ZALV Zalesovo Beam 71.85 335 P **P** 15 59 53.2 -1.9
comp=Z,30nm,0.9s,baz=129,slow=4.4,SNR=32
ZALV LR LR 16 33 39.9
comp=Z,127nm,18.8s,baz=249,slow=38
KURBB Kurchatov Arra 72.55 330 P **P** 15 59 58.0 -1.3
comp=Z,14nm,0.9s,baz=130,slow=4.8,SNR=60
KURK Kurchatov 72.56 330*c i*P **P** 15 59 57.7 -1.7
KURK pmax pmax
comp=Z,22nm,1.2s
KURK Kurchatov 72.56 330 P **P** 15 59 58.1 -1.3
comp=Z,178nm,1.1s,SNR=15
KURK Kurchatov 72.56 330 *e*P **P** 15 59 57.9 -1.6
comp=Z,29nm,1.3s
KKAR Karatay Array 72.96 320 *e*P **P** 16 00 00.3 -1.8
KKAR pmax pmax
comp=Z,12nm,1.3s
KKAR Karatay Array 72.96 320 *e*P **P** 16 00 00.2 -1.8
comp=Z,12nm,1.3s
MAW Mawson 72.98 201 *e*P **P** 16 00 01.8 +0.2
comp=Z,2.8nm,1.0s
MAW Mawson 72.98 201 LR LR 16 31 23.9
comp=Z,308nm,18.8s,baz=57,slow=35
NVS Novosibirsk 73.13 335⇑*i*P P 15 59 59.5 -3.2
NVS *e* 16 09 23.6
NVS pmax pmax
comp=Z,37nm,1.2s
SEY Seymchan 73.48 11⇑*i*P **P** 16 00 05.0 +0.4
IDAH Dahanechah 76.41 306 *e*P **P** 16 00 20.7 -1.9
IMON Monand 76.72 307 *e*P **P** 16 00 23.5 -0.8
ITEG Tejag 77.36 306 *e*P **P** 16 00 27.2 -0.6
IMYA Miami 77.44 310 *e*P **P** 16 00 27.1 -1.1
VOSK Vostochnaya 77.60 329 P **P** 16 00 26.7 -1.8
VOSK pmax pmax
comp=Z,17nm,1.1s
ISRO Mashad 77.91 310 *e*P **P** 16 00 28.9 -1.8
IMOG Moghan 77.94 310 *e*P **P** 16 00 30.2 -1.0
BVA0 Borovoye Array 78.06 329 P **P** 16 00 29.3 -1.8
BVA0 pmax pmax
comp=Z,36nm,1.4s
BVAR Borovoye Array 78.06 329 P **P** 16 00 28.5 -2.5
BVAR Borovoye Array 78.06 329 P **P** 16 00 28.5 -2.5
BVAR Borovoye Array 78.06 329 P **P** 16 00 28.5 -2.5
comp=Z,6.6nm,0.8s,baz=119,slow=12,SNR=41
BRVK Borovoye 78.14 329*c i*P **P** 16 00 29.9 -1.6
BRVK pmax pmax
comp=Z,35nm,1.2s
BRVK Borovoye 78.14 329 P **P** 16 00 30.5 -1.0
comp=Z,115nm,1.4s,SNR=9.7
BRVK Borovoye 78.14 329 *e*P **P** 16 00 30.4 -1.1
comp=Z,38nm,1.3s
IPAY Payeh 78.32 310 *e*P **P** 16 00 31.7 -1.5
IAKL Akhelmad 78.55 310 *e*P **P** 16 00 33.0 -1.5
ABPO Ambohimpanom 78.55 252 *e*P **P** 16 00 34.9 +0.1
ABPO pmax pmax
comp=Z,48nm,1.4s
ABPO Ambohimpanom 78.55 252 *e*P **P** 16 00 34.9 +0.1
comp=Z,48nm,1.4s
OPO Ambohidratompo 78.63 253 P **P** 16 00 35.6 +0.5
OPO Ambohidratompo 78.63 253 P **P** 16 00 35.6 +0.5
comp=Z,28nm,0.9s,baz=94,slow=4.0,SNR=21
IKRD Kardeh 78.79 310 *e*P P 16 00 30.9 -4.9
TBI Tubuai 80.04 112 *e*LR LR 16 25 40.9
comp=Z,191nm,27.2s
PPT2 Papeete2 80.46 106 *e*LR LR 16 25 46.2
comp=Z,154nm,23.5s
ISRV Sarvestan 80.98 301 *e*P P 16 00 42.5 -5.4
ISAD Sadrabad 81.16 304 *e*P P 16 00 45.2 -3.6
SYO Syowa Base 81.69 201⇑*e*P **P** 16 00 49.7 -0.7
IKAZ Kazeroun 82.15 302 *e*P **P** 16 00 52.2 -1.9
AB31 Akbulak array 82.24 322 P **P** 16 00 51.5 -2.2
AB31 pmax pmax
comp=Z,2.0nm,0.5s
ABKAR Akbulak array 82.24 322 *e*P **P** 16 00 51.2 -2.5
comp=Z,10.0nm,1.1s
SVE Sverdlovsk 84.81 329⇑*i*P **P** 16 01 05.7 -1.0
SVE pmax pmax
comp=Z,36nm,1.5s
ARU Arti 85.71 329*d i*P **P** 16 01 10.2 -1.0
ARU 16 04 26.7
ARU S **SKSac** 16 11 32.5 -3.4
ARU SS **SS** 16 17 14.7 -5.1
ARU pmax pmax
comp=Z,38nm,1.7s
NAY Al-Naaiem 85.94 300 *e*P **P** 16 01 10.5 -2.5
NAY AMb AMB 16 01 13.4
comp=Z,12nm,1.2s
RST Umm Al-Ruwaisa 86.20 300 *e*P **P** 16 01 11.6 -2.6
RST AMb AMB 16 01 13.0
comp=Z,115nm,0.9s
ATD Arta Tunnel 86.83 282 LR LR 16 36 50.2
comp=Z,96nm,20.2s,baz=50,slow=33
MAIT Maitri 90.52 197 *e*P **P** 16 01 33.1 -0.9
SNAA Sanae 93.91 194 *e*P **P** 16 01 50.4 +0.6
comp=Z,3.7nm,0.7s
ILAR Eielson Array 95.42 25 P **P** 16 01 54.7 -1.9
ILAR PKKPbc **PKKPbc** 16 18 49.7 -2.0
ILAR Eielson Array 95.42 25 P **P** 16 01 54.7 -1.9
comp=Z,1.1nm,0.9s,baz=259,slow=5.6,SNR=5.5
ILAR PKKPbc **PKKPbc** 16 18 49.7 -2.0
comp=Z,0.5nm,0.8s,baz=113,slow=2.1,SNR=5.1
BOSA Boshof 97.00 240 LR LR 16 40 42.9
comp=Z,178nm,19.1s,baz=140,slow=32
OBN Obninsk 97.50 325 *e*P **P** 16 02 04.1 -2.2
OBN pmax pmax
comp=Z,5.0nm,0.8s
LBTB Lobatse 97.51 243 LR LR 16 41 04.1
comp=Z,212nm,21.0s,baz=100,slow=32
BRTR Keskin Array B 98.51 309 LR LR 16 51 01.4
comp=Z,78nm,21.8s,baz=0.6,slow=38
SUR Sutherland 99.75 235 LR LR 16 40 21.1
comp=Z,240nm,20.2s,baz=78,slow=31
ARCES ARCESS Array B 102.06 339 Pdif **Pdif** 16 02 23.7 -2.7
ARCES ARCESS Array B 102.06 339 Pdiff **Pdif** 16 02 23.7 -2.7
comp=Z,5.8nm,0.8s,baz=83,slow=5.0,SNR=6.8
KOLS Kolonicke sedl 106.47 319 *i* P **Pdif** 16 02 49.0 +2.5
KOLS Kolonicke sedl 106.47 319 PDIF **Pdif** 16 02 49.0 +2.5
CLL Collm 111.91 322 *e*PP PP 16 07 45.0 -5.6
CLL *e*SP SP 16 17 18.0 -3.0
CLL *e* 16 29 36.0
GERES GERESS Array B 112.06 319 PKiKP **PKiKP** 16 07 07.8 -0.2
GERES GERESS Array B 112.06 319 PKiKP **PKiKP** 16 07 07.8 -0.2
comp=Z,0.5nm,0.7s,baz=85,slow=1.5,SNR=5.0
HINF Hinteralfeld 116.74 320 *e*PKIKP **PKPdf** 16 07 16.5 -0.5
comp=Z,9.8nm,0.8s
HINF Hinteralfeld 116.74 320 *e*PKIKP **PKPdf** 16 07 16.5 -0.5
HINF Hinteralfeld 116.74 320 *e*PKPdf **PKPdf** 16 07 16.5 -0.5
EGMT Eagleton 117.51 40 *e*PKPdf **PKPdf** 16 07 18.6 +0.1
LPL La Plagne 117.52 317 *e*PKIKP **PKPdf** 16 07 18.2 -0.6
comp=Z,3.4nm,0.6s
LPL La Plagne 117.52 317 *e*PKIKP **PKPdf** 16 07 18.2 -0.6
LPL La Plagne 117.52 317 *e*PKPdf **PKPdf** 16 07 18.2 -0.6
DUG Dugway 117.60 49 *e*PKIKP **PKPdf** 16 07 19.9 +0.9
DUG Dugway 117.60 49 *e*PKPdf **PKPdf** 16 07 19.9 +0.9
CABF La Chapelle 117.61 319 *e*PKIKP **PKPdf** 16 07 18.9 +0.1
CABF La Chapelle 117.61 319 *e*PKIKP **PKPdf** 16 07 18.9 +0.1
CABF La Chapelle 117.61 319 *e*PKPdf **PKPdf** 16 07 18.9 +0.1
IMW Indian Meadow 118.00 44 *e*PKPdf **PKPdf** 16 07 21.2 +1.3
C19A Slack Wire Ran 118.06 40 P **PKPdf** 16 07 19.3 -0.3
baz=118
TPAW Teton Pass 118.11 45 *e*PKPdf **PKPdf** 16 07 21.7 +1.6
MOOW Moose Ponds 118.18 45 *e*PKPdf **PKPdf** 16 07 21.2 +1.0
REDW Red Top Meadow 118.21 45 *e*PKPdf **PKPdf** 16 07 21.4 +1.1
SNOW Snow King Moun 118.25 45 *e*PKPdf **PKPdf** 16 07 22.0 +1.7
LOHW Long Hollow 118.32 45 *e*PKPdf **PKPdf** 16 07 21.5 +1.1
DAU Daniels Canyon 118.70 48 *e*PKIKP **PKPdf** 16 07 22.6 +1.3
DAU Daniels Canyon 118.70 48 *e*PKPdf **PKPdf** 16 07 22.6 +1.3
F19A Roth Farm, Mol 118.76 42 P **PKPdf** 16 07 21.1 0.0
baz=119
LOR Lormes 118.83 320 *e*PKIKP **PKPdf** 16 07 20.0 -1.0
LOR Lormes 118.83 320 *e*PKPdf **PKPdf** 16 07 20.0 -1.0
M17A Scullys Gap (B 118.86 47 P **PKPdf** 16 07 21.8 +0.3
baz=119
A21A Bergtoll Ranch 118.92 38 P **PKPdf** 16 07 21.5 +0.3
baz=119
B21A Ellsworth Farm 119.08 39 P **PKPdf** 16 07 21.9 +0.5
baz=119
SSF Saint Saulge 119.13 320 *e*PKIKP **PKPdf** 16 07 21.4 -0.1
comp=Z,5.0nm,0.7s
SSF Saint Saulge 119.13 320 *e*PKIKP **PKPdf** 16 07 21.4 -0.1
SSF Saint Saulge 119.13 320 *e*PKPdf **PKPdf** 16 07 21.4 -0.1
L18A Fontenelle, Gr 119.19 46 P **PKPdf** 16 07 21.9 -0.2
baz=119
BW06 Boulder Array 119.29 45 *e*PKPdf **PKPdf** 16 07 22.4 +0.1
PDAR Pinedale Array 119.29 45 PKP **PKPdf** 16 07 22.8 +0.5
PDAR Pinedale Array 119.29 45 PKP **PKPdf** 16 07 22.8 +0.5
comp=Z,2.7nm,0.8s,baz=226,slow=0.9,SNR=20
G20A Bridger 119.45 42 P **PKPdf** 16 07 22.7 +0.3
baz=120
J19A Crowheart 119.50 45 P **PKPdf** 16 07 22.6 0.0
baz=120
D21A La Casta Ranch 119.60 40 P **PKPdf** 16 07 22.3 -0.3
baz=120
L19A Farson 119.63 46 P **PKPdf** 16 07 23.4 +0.4
baz=120
K19A Absolon Red Bu 119.78 45 P **PKPdf** 16 07 23.3 +0.1
baz=120
H20A Greybull 119.83 43 P **PKPdf** 16 07 24.0 +0.9
baz=120
I20A Worland 119.92 44 P **PKPdf** 16 07 23.9 +0.6
baz=120
C22A Vida 120.04 39 P **PKPdf** 16 07 23.9 +0.6
baz=120
D22A Cohagen 120.09 40 P **PKPdf** 16 07 24.8 +1.3
baz=120
G21A Lodge Grass 120.12 42 P **PKPdf** 16 07 24.6 +0.9
baz=120
J20A Shoshoni 120.14 44 P **PKPdf** 16 07 24.6 +0.8
baz=120
K20A Yellowstone Ra 120.18 45 P **PKPdf** 16 07 24.2 +0.3
baz=120
B23A Brockton 120.31 38 P **PKPdf** 16 07 24.1 +0.3
baz=120
L20A Wamsutter 120.38 46 P **PKPdf** 16 07 24.8 +0.4
baz=120
H21A Big Horn, Sher 120.43 43 P **PKPdf** 16 07 24.9 +0.6
baz=120
C23A Lambert 120.46 39 P **PKPdf** 16 07 25.3 +1.2
baz=120
I21A Big Trails, Te 120.54 44 P **PKPdf** 16 07 24.9 +0.3
baz=121
J21A Lysite 120.59 44 P **PKPdf** 16 07 25.0 +0.3
baz=121
P19A Cripple Cowboy 120.59 49 P **PKPdf** 16 07 25.1 +0.2
baz=121
M20A Sweetwater, Wa 120.64 46 P **PKPdf** 16 07 25.9 +1.0
baz=121
D23A Lindsay 120.69 39 P **PKPdf** 16 07 25.6 +1.0
baz=121
A24A Westby 120.71 37 P **PKPdf** 16 07 25.3 +0.8
baz=121
G22A Birney 120.72 42 P **PKPdf** 16 07 25.3 +0.4
baz=121
N20A Spence Gulch, 120.78 47 P **PKPdf** 16 07 25.7 +0.5
baz=121
H22A Clearmont 120.91 43 P **PKPdf** 16 07 25.8 +0.6
baz=121
FLN La Foliniere 120.94 323 *e*PKIKP **PKPdf** 16 07 24.0 -0.9
FLN La Foliniere 120.94 323 *e*PKIKP **PKPdf** 16 07 24.0 -0.9
FLN La Foliniere 120.94 323 *e*PKPdf **PKPdf** 16 07 24.0 -0.9
K21A Alcova 120.95 45 P **PKPdf** 16 07 26.0 +0.6
baz=121
O20A White River Ci 121.00 48 *e*PKPdf **PKPdf** 16 07 26.6 +1.0
O20A White River Ci 121.00 48 P **PKPdf** 16 07 26.6 +1.0
baz=121
I22A 9 Mile Ranch, 121.06 43 P **PKPdf** 16 07 25.9 +0.4
baz=121
P20A De Beque 121.07 49 P **PKPdf** 16 07 26.3 +0.5
baz=121
L21A Rawlins 121.08 46 P **PKPdf** 16 07 25.8 +0.1
baz=121
F23A Volborg 121.12 41 P **PKPdf** 16 07 25.6 0.0
baz=121
M21A Separation Pea 121.20 46 P **PKPdf** 16 07 25.7 -0.3
baz=121
J22A Midwest 121.23 44 P **PKPdf** 16 07 25.9 0.0
baz=121
Q20A Ridgley Place, 121.29 49 P **PKPdf** 16 07 27.0 +0.8
baz=121
PV01 Paradox Valley 121.30 50 *e*PKPdf **PKPdf** 16 07 27.5 +1.2
K22A Casper 121.45 45 P **PKPdf** 16 07 26.8 +0.4
baz=122
M22A Cedar Creek Ra 121.81 46 P **PKPdf** 16 07 28.1 +0.9
baz=122
H24A Dirks Ranch, A 122.05 42 P **PKPdf** 16 07 27.3 0.0
baz=122
N22A Wattenberg Ran 122.10 47 P **PKPdf** 16 07 28.5 +0.7
baz=122
P22A Eagle 122.25 48 P **PKPdf** 16 07 29.1 +1.0
baz=122
N23A Red Feather La 122.44 46 P **PKPdf** 16 07 29.3 +0.9
baz=122
RSSD Black Hills 122.62 42 *e*PKIKP **PKPdf** 16 07 28.2 -0.5
RSSD Black Hills 122.62 42 *e*PKPdf **PKPdf** 16 07 28.2 -0.5
R22A Saguache, Gunn 122.65 50 P **PKPdf** 16 07 30.2 +1.2
baz=123
S22A 4UR Ranch, Cre 122.73 50 P **PKPdf** 16 07 29.8 +0.6
baz=123
I25A Rochford 122.87 42 P **PKPdf** 16 07 29.0 0.0
baz=123
J25A Sunshine Ranch 123.06 43 P **PKPdf** 16 07 28.8 -0.5
baz=123
H26A Fairpoint 123.27 41 P **PKPdf** 16 07 29.9 +0.3
baz=123
R23A Moffat 123.36 50 P **PKPdf** 16 07 31.4 +1.1
baz=123
G27A Dupree 123.50 40 P **PKPdf** 16 07 30.2 +0.2
baz=124
A29A Manning Farm, 123.51 35 P **PKPdf** 16 07 30.0 +0.1
baz=124
SDCO Great Sand Dun 123.74 50 *e*PKPdf **PKPdf** 16 07 29.7 -1.4
ANMO Albuquerque 123.76 53 *e*PKPdf **PKPdf** 16 07 33.0 +1.9
I27A Quinn 123.96 42 P **PKPdf** 16 07 31.1 +0.1
baz=124
S24A Houchin Ranch, 123.99 50 P **PKPdf** 16 07 31.5 0.0
baz=124
Q25A Bedland, Calha 124.31 48 P **PKPdf** 16 07 33.0 +1.0
baz=124
V24A Rampart Ranch, 124.49 52 P **PKPdf** 16 07 34.2 +1.7
baz=125
R25A Fountain Ranch 124.53 49 P **PKPdf** 16 07 33.5 +1.1
baz=125
I28A Midland 124.57 41 P **PKPdf** 16 07 32.6 +0.4
baz=125
S25A Robets Cordova 124.57 50 P **PKPdf** 16 07 32.8 +0.3
baz=125
ULM Lac du Bonnet 124.67 33 PKP **PKPdf** 16 07 31.8 -0.3
ULM Lac du Bonnet 124.67 33 PKP **PKPdf** 16 07 31.8 -0.3
comp=Z,9.4nm,0.9s,baz=358,slow=4.7,SNR=6.3
T25A Trinidad 124.75 50 P **PKPdf** 16 07 33.0 +0.1
baz=125
P26A Davis Ranch, A 124.76 47 P **PKPdf** 16 07 33.0 +0.2
baz=125
J28A Allard Ranch, 124.76 42 P **PKPdf** 16 07 32.9 +0.4
baz=125
V25A Rancho No Teng 124.97 52 P **PKPdf** 16 07 34.3 +1.0
baz=125
R26A Arlington 125.11 49 P **PKPdf** 16 07 34.4 +0.9
baz=125
O27A Beecher Island 125.16 46 P **PKPdf** 16 07 33.6 +0.1
baz=125
W25A X Bar L Ranch, 125.27 53 P **PKPdf** 16 07 34.7 +0.9
baz=125
S26A Kim 125.31 49 P **PKPdf** 16 07 34.6 +0.8
baz=125
T26A Comanche Natio 125.36 50 P **PKPdf** 16 07 34.0 -0.1
baz=125
G30A Faulkton 125.37 39 P **PKPdf** 16 07 33.8 +0.2
baz=125
J29A Okreek 125.37 42 P **PKPdf** 16 07 33.9 +0.2
baz=125
Y25A Mesa, Roswell 125.44 54 P **PKPdf** 16 07 35.5 +1.3
baz=126
R27A Eads 125.59 48 P **PKPdf** 16 07 35.3 +0.9
baz=126
K30A Basset 126.16 42 P **PKPdf** 16 07 36.0 +0.8
baz=126
R28A Tribune 126.30 48 P **PKPdf** 16 07 36.8 +1.1
baz=126
W27A Bowe Ranch, En 126.41 52 P **PKPdf** 16 07 36.6 +0.6
baz=126
T28A Walsh 126.49 50 P **PKPdf** 16 07 37.0 +0.9
baz=126
Y27A Causey 126.67 54 P **PKPdf** 16 07 36.8 +0.2
baz=127
TORD Torodi Ar. Bea 126.99 280 PKP **PKPdf** 16 07 36.9 -0.7
TORD Torodi Ar. Bea 126.99 280 PKP **PKPdf** 16 07 36.9 -0.7
comp=Z,6.3nm,1.0s,baz=63,slow=2.0,SNR=23
P31A Stockton 127.62 46 P **PKPdf** 16 07 39.7 +1.6
baz=128
BGNE Belgrade 127.69 43 P **PKPdf** 16 07 38.8 +0.6
baz=128
Z29A Hungry Hill Ra 128.01 54 P **PKPdf** 16 07 40.0 +0.8
baz=128
X30A Coker Ranch, T 128.31 52 P **PKPdf** 16 07 40.5 +0.9
baz=128
PLCA Paso Flores 128.33 162 PKP **PKPdf** 16 07 40.9 +1.3
PLCA Paso Flores 128.33 162 PKP **PKPdf** 16 07 40.9 +1.3
comp=Z,5.5nm,1.2s,baz=213,slow=2.3,SNR=3.3
529A Stev Forest Ra 128.43 58 P **PKPdf** 16 07 40.8 +0.8
baz=128
Z30A Sanderson Ranc 128.47 54 P **PKPdf** 16 07 40.8 +0.9
baz=128
Y30A Stafford Cattl 128.47 53 P **PKPdf** 16 07 41.4 +1.5
baz=128
W31A Holland Ranch, 128.79 51 P **PKPdf** 16 07 42.0 +1.5
baz=129
230A Sterling City 128.89 56 P **PKPdf** 16 07 42.2 +1.4
baz=129
Y31A Rekieta Farm, 128.95 53 P **PKPdf** 16 07 42.0 +1.2
baz=129
X31A McDonald Ranch 128.95 52 P **PKPdf** 16 07 42.0 +1.2
baz=129
430A Baggett Ranch, 129.09 57 P **PKPdf** 16 07 42.6 +1.4
baz=129
530A J-C Ranch, Com 129.17 58 P **PKPdf** 16 07 42.6 +1.3
baz=129
231A Bronte 129.52 55 P **PKPdf** 16 07 42.8 +0.8
baz=130
331A San Angelo 129.61 56 P **PKPdf** 16 07 43.4 +1.3
baz=130
431A Sonora 129.63 57 P **PKPdf** 16 07 43.6 +1.4
baz=130
Z32A Haskell 129.78 53 P **PKPdf** 16 07 43.7 +1.3
baz=130
ABTX Abilene, Hawle 129.86 54 P **PKPdf** 16 07 43.9 +1.3
baz=130
631A Perdido Creek 129.99 58 P **PKPdf** 16 07 44.0 +1.1
baz=130
332A Millersview 130.15 56 P **PKPdf** 16 07 44.9 +1.7
baz=130
JCT Junction City 130.36 57 *e*PKIKP **PKPdf** 16 07 45.0 +1.4
JCT Junction City 130.36 57 *e*PKPdf **PKPdf** 16 07 45.0 +1.4
JCT Junction City 130.36 57 P **PKPdf** 16 07 45.0 +1.4
baz=130
532A Rocksprings 130.37 57 P **PKPdf** 16 07 45.5 +1.8
baz=130
632A Uvalde 130.63 58 P **PKPdf** 16 07 46.0 +1.9
baz=131
SCHQ Schefferville 132.13 11 PKP **PKPdf** 16 07 47.7 +1.5
SCHQ SKPbc **SKPbc** 16 11 11.5 -0.4
SCHQ Schefferville 132.13 11 PKP **PKPdf** 16 07 47.7 +1.5
comp=Z,5.3nm,1.0s,baz=270,slow=1.0,SNR=3.3
SCHQ SKPbc **SKPbc** 16 11 11.5 -0.4
comp=Z,10nm,0.8s,baz=5.4,slow=3.1,SNR=6.8
DBIC Dimbokro 133.14 271 PKP **PKPdf** 16 07 49.5 +0.3
DBIC SKPbc **SKPbc** 16 11 16.1 -0.6
DBIC Dimbokro 133.14 271 PKP **PKPdf** 16 07 49.5 +0.3
comp=Z,5.9nm,0.9s,baz=109,slow=2.5,SNR=5.4
DBIC SKPbc **SKPbc** 16 11 16.1 -0.6
comp=Z,6.5nm,1.0s,baz=36,slow=9.1,SNR=4.8
LRAL Lakeview Retre 139.45 48 *e*PKPdf **PKPdf** 16 08 01.5 +1.1
TKL Tuckaleechee C 140.29 42 PKP **PKPdf** 16 08 02.4 +0.5
TKL Tuckaleechee C 140.29 42 PKP **PKPdf** 16 08 02.4 +0.5
comp=Z,12nm,0.8s,baz=220,slow=1.8,SNR=9.9
APG El Apazote 141.90 76 PKP **PKPdf** 16 08 06.5 +0.9
APG El Apazote 141.90 76 PKP **PKPdf** 16 08 06.5 +0.9
comp=Z,7.5nm,0.9s,baz=22,slow=5.2,SNR=5.0
TEIG Tepich 143.09 67 PKP **PKPdf** 16 08 06.2 -1.1
TEIG Tepich 143.09 67 PKP **PKPdf** 16 08 06.2 -1.1
comp=Z,13nm,0.9s,baz=336,slow=14,SNR=4.3
TGUH Tegucigalpa,Un 145.06 77 *e*PKP **PKPdf** 16 08 11.7 +0.8
LVC Limon Verde 145.14 152 *e*PKP **PKPdf** 16 08 12.2 +1.0
CPUP Villa Florida 145.20 172 *e*PKP **PKPdf** 16 08 11.0 +0.1
CPUP Villa Florida 145.20 172 PKPbc **PKPdf** 16 08 11.1 +0.3
comp=Z,4.3nm,0.6s,baz=158,slow=1.8,SNR=5.4
JTS JuntasAbangare 147.54 84 *e*PKPbc **PKPab** 16 08 18.8 -1.0
ATAH Atahualpa 149.64 120 PKPbc **PKPbc** 16 08 24.7 +1.0
ATAH Atahualpa 149.64 120 PKPbc **PKPbc** 16 08 24.7 +1.0
baz=60,slow=20
LPAZ La Paz 150.87 147 *e*PKPdf **PKPdf** 16 08 22.6 +1.4
LPAZ *e*PKPbc **PKPbc** 16 08 27.8 +1.0
LPAZ La Paz 150.87 147 PKPbc **PKPbc** 16 08 27.8 +1.0
comp=Z,15nm,1.0s,baz=252,slow=2.6,SNR=11
OTAV Otavalo 152.56 106 *e*PKPab **PKPab** 16 08 43.7 +2.7
SDDR Presa de Saban 158.58 58 *e*PKPab **PKPab** 16 09 07.6 +1.5

IDC 07 15:59:37.8±2.0, 8.77S×127.58E, h0km, mb3.6/1, mb1 4.2/3, mb1mx3.7/18, mbtmp4.0/3, Error ellipse: s-maj=256.5km s-min=31.5km az=62.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**12.88**	**150**	Pn	Pn	16 02 41.8	-0.6
	2.3nm,0.3s,baz=329,slow=13,SNR=25						
WRA				Sn	Sn	16 05 01.0	-5.7
	0.5nm,0.3s,baz=320,slow=26,SNR=4.3						
ASAR	**Alice Springs**	**16.00**	**159**	Pn	Pn	16 03 25.0	+0.6
	0.8nm,0.3s,baz=334,slow=12,SNR=14						
ASAR				Sn	Sn	16 06 18.1	-4.6
	0.3nm,0.3s,baz=326,slow=22,SNR=4.2						
MKAR	**Makanchi Array**	**68.43**	**328**	P	P	16 10 41.6	0.0
	0.6nm,0.9s,baz=124,slow=6.1,SNR=3.1						

ECX ***07*** *16:04:53.1±0.3, 30.42N×113.85W, h6km, MD4.4, ML4.6*
IDC ***07*** *16:04:56.0±1.6, 30.13N×113.89W, h0km, mb3.8/2, mb1 3.9/7, mb1mx3.7/28, mbtmp3.5/7, ML3.1/4, MS3.7/9, Ms1 3.7/9, ms1mx3.3/45, Error ellipse: s-maj=28.9km s-min=11.5km az=32.0*
ISC 07 16:04:56.8±2.4, 30.5N±0.1×114.09W±0.07, h13km±14km, n23, σ1°24/22, MS3.7/4, 3C-3D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBX	**El Chinero**	**1.29**	**321**	*eP*	**Pn**	**16 05 18.4**	**-2.2**
ECBX				*eS*	**Sb**	**16 05 38.3**	**+0.8**
SPX	**San Pedro Mart**	**1.31**	**296**	⇓*eP*	**Pn**	**16 05 19.6**	**-1.6**
SPX				*eS*	**Sg**	**16 05 40.3**	**+1.2**
SPX				⇑*e*		16 05 44.4	
	comp=N,4μm,1.2s						
EMX	**El Mayor**	**1.80**	**327**	*eP*	**Pg**	**16 05 31.1**	**-0.2**
EMX				*eS*	**Sg**	**16 05 57.0**	**+2.3**
EMX				⇑*e*		16 06 17.9	
	comp=N,4μm,1.0s						
ZAX	**El Zacaton**	**2.14**	**299**	⇓*eP*	**Pn**	**16 05 32.0**	**-0.3**
ZAX				*eS*	**Sg**	**16 06 06.3**	**+0.7**
RDX	**Rancho Dawling**	**2.15**	**313**	*eP*	**Pn**	**16 05 32.4**	**-0.1**
RDX				*eS*	**Sg**	**16 06 07.8**	**+2.0**
RDX				⇑*e*		16 06 18.5	
	comp=N,3μm,1.0s						
ECNX	**Esteban Cantu**	**2.45**	**299**	*eP*	**Pn**	**16 05 36.5**	**-0.1**
ECNX				*eS*	**Sg**	**16 06 14.9**	**-0.8**
PBX	**Punta Banda**	**2.59**	**300**	*eP*	**Pn**	**16 05 38.4**	**0.0**
RMX	**La Rumorosa**	**2.72**	**322**	*eP*	**Pg**	**16 05 48.7**	**-0.2**
CBX	**Cerro Bola**	**2.86**	**310**	*eP*	**Pn**	**16 05 42.3**	**0.0**
CBX				⇓*e*		16 06 41.6	
	comp=N,3μm,1.0s						
PFO	**Pinyon Flat Ob**	**3.71**	**328**	Pn	**Pb**	**16 06 00.1**	**-2.3**
	comp=N,0.4nm,0.3s,baz=139,slow=11,SNR=8.7						
PFO				Pg	**Pg**	**16 06 08.0**	**+0.1**
	comp=N,1.2nm,0.3s,baz=134,slow=13,SNR=9.2						
PFO				Lg	Lg	16 07 01.2	
	comp=N,3.2nm,0.3s,baz=76,slow=17,SNR=7.2						
PFO				LR	LR	16 07 28.5	
	comp=N,1μm,19.8s,baz=359,slow=37						
ANMO	**Albuquerque**	**7.82**	**53**	Pn	**Pn**	**16 06 50.2**	**-0.3**
	comp=N,0.4nm,0.3s,baz=240,slow=18,SNR=5.0						
ANMO				Sn	**Sn**	**16 08 18.6**	**-0.6**
	comp=N,0.2nm,0.3s,baz=290,slow=15,SNR=3.1						
ANMO				Lg	Lg	16 09 07.5	
	comp=N,0.4nm,0.3s,baz=205,slow=12,SNR=3.0						
NVAR	**Mina Array Bea**	**8.66**	**337**	Pn	Pn	16 07 08.7	+6.6
	comp=N,0.1nm,0.3s,baz=158,slow=16,SNR=8.2						
NVAR				LR	LR	16 10 45.9	
	comp=N,387nm,19.1s,baz=336,slow=39						
TXAR	**Lajitas Array**	**9.12**	**95**	Pn	**Pn**	**16 07 08.5**	**+0.3**
	comp=N,0.1nm,0.3s,baz=270,slow=14,SNR=8.4						
TXAR				Lg	Lg	16 09 49.4	
	comp=N,0.5nm,0.3s,baz=290,slow=9.5,SNR=4.9						
TXAR				LR	LR	16 10 51.9	
	comp=N,553nm,21.3s,baz=305,slow=40						
PDAR	**Pinedale Array**	**12.79**	**15**	Pn	Pn	16 08 06.5	+7.8
	baz=183,slow=9.9,SNR=3.3						
YBH	**Yreka Blue Hor**	**13.21**	**331**	LR	LR	16 12 59.6	
	comp=N,218nm,21.4s,baz=245,slow=36						
NEW	**Newport**	**17.92**	**353**	LR	LR	16 16 30.8	
	comp=N,221nm,18.6s,baz=188,slow=38						
BBB	**Bella Bella**	**24.03**	**339**	LR	LR	16 20 22.9	
	comp=N,161nm,18.2s,baz=258,slow=38						
TKL	**Tuckaleechee C**	**25.87**	**70**	LR	LR	16 20 46.1	
	comp=N,129nm,21.7s,baz=252,slow=37						
ILAR	**Eielson Array**	**39.92**	**339**	P	P	16 12 34.2	+3.9
	comp=N,1.8nm,0.9s,baz=154,slow=7.5,SNR=17						
SIV	**San Ignacio**	**68.82**	**125**	LR	LR	16 46 29.4	
	comp=N,68nm,19.1s,slow=36						
GERES	**GERESS Array B**	**88.32**	**31**	P	**P**	**16 17 49.1**	**+0.8**
	comp=N,0.1nm,0.3s,baz=335,slow=4.3,SNR=4.5						
KEST	**Kesra**	**95.37**	**43**	LR	LR	17 04 03.0	
	comp=N,50nm,18.0s,baz=246,slow=37						
CMAR	**Chiang Mai Arr**	**121.88**	**322**	PKP	**PKPdf**	**16 23 52.9**	**+1.3**
	comp=N,0.5nm,0.8s,baz=332,slow=3.1,SNR=5.0						

IDC 07 16:12:59.2±3.9, 16°08N×119°97E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/25, mbtmp3.5/3, Error ellipse: s-maj=440.8km s-min=26.1km az=61.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.48**	**158**	P	P	16 20 21.7	-1.5
	0.2nm,0.3s,baz=337,slow=9.3,SNR=4.5						
ASAR	**Alice Springs**	**41.79**	**161**	P	P	16 20 51.8	+1.1
	0.3nm,0.5s,baz=335,slow=7.5,SNR=7.8						
MKAR	**Makanchi Array**	**43.71**	**323**	P	P	16 21 06.0	-0.2
	0.6nm,0.4s,baz=114,slow=7.9,SNR=7.4						

*ISCJB **07** 16:13:40.1±0.5,24°.35N±0°.02×122°.14E±0°.02, h5km±3km, Error ellipse: s-maj=3.0km s-min=2.6km az=143.5*
*TAP **07** 16:13:41.5,24°.37N×122°.01E, h21km, ML3.8, B*
*JMA **07** 16:13:42.2±0.4,24°.26N×122°.09E, h44km, M3.0*

ISC 07 16:13:40.9±1.0, 24°.34N±0°.02×122°.11E±0°.02, h11km±8km, n56, σ0°88/97, 8C-9D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.34**	**265**	P	**Pg**	**16 13 47.6**	**-0.1**
	baz=260						
EHP				*eS*	**Sg**	**16 13 52.5**	**+0.3**
	baz=260						
ENA	**Nanau**	**0.34**	**285**	⇑*iP*	**Pg**	**16 13 47.6**	**-0.2**
	baz=289						
ENA				*eS*	**Sg**	**16 13 51.8**	**-0.6**
	baz=289						
TWC	**Suao**	**0.35**	**319**	⇑*iP*	**Pg**	**16 13 48.0**	**0.0**
	baz=335						
TWC				S	**Sg**	**16 13 52.3**	**-0.5**
	baz=335						
ILA	**Ilan**	**0.53**	**322**	*i* P	**Pg**	**16 13 51.6**	**+0.2**
	baz=328						
ILA				*i* S	**Sg**	**16 13 58.2**	**-0.2**
	baz=328						
TWD	**Chiawan**	**0.53**	**241**	⇓*eP*	**Pg**	**16 13 51.5**	**+0.1**
	baz=234						
TWD				*eS*	**Sb**	**16 14 00.3**	**+0.3**
	baz=234						
ENTT	**Nioudou**	**0.57**	**301**	⇑*iP*	**Pg**	**16 13 51.8**	**-0.3**
	baz=305						
ENTT				S	**Sg**	**16 13 59.1**	**-0.6**
	baz=305						
HWA	**Hwalien**	**0.58**	**232**	*eP*	**Pb**	**16 13 54.1**	**+0.9**
	baz=221						
HWA				*eS*	**Sn**	**16 14 03.9**	**-0.9**
	baz=221						
TWB1	**Santiao Chiao**	**0.67**	**351**	⇓*iP*	**Pg**	**16 13 54.4**	**+0.4**
	baz=354						
TWB1				*eS*	**Sg**	**16 14 02.7**	**-0.2**
	baz=354						
NNS	**Nan Shan**	**0.68**	**279**	⇑*iP*	**Pg**	**16 13 53.5**	**-0.6**
	baz=282						
NNS				*eS*	**Sg**	**16 14 01.9**	**-1.1**
	baz=282						
ESF	**Shoufeng Towns**	**0.72**	**230**	*eP*	**Pg**	**16 13 55.9**	**+1.0**
	baz=222						
NSK	**Sanguang**	**0.76**	**296**	⇑*iP*	**Pg**	**16 13 55.0**	**-0.6**
	baz=300						
NSK				S	**Sg**	**16 14 03.6**	**-1.9**
	baz=300						
NWF	**Wu-fen Shan**	**0.79**	**338**	*eP*	**Pg**	**16 13 56.5**	**+0.3**
	baz=337						
NWF				*eS*	**Sg**	**16 14 06.3**	**-0.1**
	baz=337						
WHF	**Hehuan Shan**	**0.79**	**256**	⇑*iP*	**Pg**	**16 13 55.9**	**-0.5**
	baz=257						
WHF				*eS*	**Sg**	**16 14 07.0**	**+0.2**
	baz=257						
TWA	**Mucha**	**0.79**	**323**	*eP*	**Pg**	**16 13 56.1**	**-0.2**
	baz=319						
TWA				S	**Sg**	**16 14 05.6**	**-1.1**
	baz=319						
ESL	**Shilin**	**0.81**	**230**	⇓*iP*	**Pg**	**16 13 56.7**	**+0.2**
	baz=222						
ESL				*eS*	**Sb**	**16 14 08.9**	**+0.9**
	baz=222						
YOJ	**Yonaguni jima**	**0.83**	**82**	P	**Pb**	**16 13 58.1**	**+0.7**
YOJ				*eS*	**Sb**	**16 14 09.7**	**+1.0**
YOJ	**Yonaguni jima**	**0.83**	**82**	*eP*	**Pg**	**16 13 57.3**	**+0.3**
	baz=74						
YOJ				*eS*	**Sb**	**16 14 09.9**	**+1.3**
	baz=74						
TWT	**Tachien**	**0.85**	**264**	⇑*iP*	**Pg**	**16 13 57.4**	**-0.1**
	baz=265						
TWT				*eS*	**Sg**	**16 14 09.3**	**+0.7**
	baz=265						
TAP1	**Taipei**	**0.87**	**323**	*eP*	**Pg**	**16 13 58.2**	**+0.4**
	baz=328						
TAP1				*eS*	**Sg**	**16 14 08.7**	**-0.5**
	baz=328						
TAP	**Taipei**	**0.88**	**322**	*eP*	**Pg**	**16 13 58.4**	**+0.4**
	baz=328						
TAP				*eS*	**Sg**	**16 14 09.2**	**-0.3**
	baz=328						
TWS1	**Kuangyinshan**	**0.98**	**321**	*eP*	**Pb**	**16 14 00.3**	**+0.3**
	baz=338						
TWS1				*eS*	**Sb**	**16 14 13.5**	**+0.5**
	baz=338						
TWY	**Chenhua**	**1.04**	**334**	*eP*	**Pb**	**16 14 01.1**	**+0.2**
	baz=340						
TWY				*eS*	**Sb**	**16 14 13.7**	**-0.9**
	baz=340						
NCU	**National Centr**	**1.04**	**307**	*eP*	**Pn**	**16 14 01.9**	**+0.4**
	baz=317						
NCU				*eS*	**Sg**	**16 14 15.7**	**+1.0**
	baz=317						
NSTT	**Nanjuang**	**1.05**	**286**	*eP*	**Pb**	**16 14 00.7**	**-0.4**
	baz=292						
NSTT				*eS*	**Sb**	**16 14 13.2**	**-1.7**
	baz=292						
EHY	**Hungye**	**1.10**	**221**	*eP*	**Pb**	**16 14 00.4**	**-1.6**
	baz=214						
EHY				*eS*	**Sb**	**16 14 16.0**	**-0.3**
	baz=214						
HSN	**Hsinchu**	**1.13**	**294**	*eP*	**Pg**	**16 14 03.7**	**+1.0**
	baz=298						
HSN				*eS*	**Sg**	**16 14 17.9**	**+0.4**
	baz=298						
SMLT	**Sun Moon Lake**	**1.19**	**248**	⇑*iP*	**Pn**	**16 14 03.5**	**-0.2**
	baz=235						
SMLT				*eS*	**Sb**	**16 14 19.0**	**-0.2**
	baz=235						
TWQ1	**Liyutan**	**1.22**	**271**	*eP*	**Pn**	**16 14 04.4**	**+0.5**
	baz=269						
TWQ1				*eS*	**Sb**	**16 14 20.2**	**+0.4**
	baz=269						
TYC	**Yuchr**	**1.22**	**249**	⇓*iP*	**Pn**	**16 14 03.5**	**-0.5**
	baz=232						
TYC				*eS*	**Sb**	**16 14 20.1**	**+0.3**
	baz=232						
NSY	**Sanyi**	**1.23**	**274**	*eP*	**Pn**	**16 14 04.6**	**+0.5**
	baz=273						
NSY				*eS*	**Sn**	**16 14 20.9**	**+0.1**
	baz=273						
TWF1	**Yuli**	**1.23**	**217**	⇓*eP*	**Pn**	**16 14 02.5**	**-1.7**
	baz=226						
TWF1				*eS*	**Sb**	**16 14 19.3**	**-0.9**
	baz=226						
TCU	**Taichung**	**1.32**	**262**	*eP*	**Pg**	**16 14 06.7**	**+0.4**
	baz=260						
TCU				*eS*	**Sg**	**16 14 25.0**	**+1.6**
	baz=260						
YUS	**Yu-Shan**	**1.35**	**231**	⇓*iP*	**Pn**	**16 14 05.9**	**-0.3**
	baz=211						
YUS				S	**Sn**	**16 14 23.4**	**-1.1**
	baz=211						
WNT	**Mingjian**	**1.38**	**251**	*eP*	**Pn**	**16 14 06.4**	**+0.2**
	baz=248						
WNT				*eS*	**Sg**	**16 14 26.0**	**+0.7**
	baz=248						
CHKT	**Chengkung**	**1.41**	**209**	*eP*	**Pn**	**16 14 06.8**	**+0.2**
	baz=186						
ALS	**Alishan**	**1.45**	**235**	⇓*iP*	**Pn**	**16 14 07.5**	**+0.1**
	baz=216						
ALS				*eS*	**Sn**	**16 14 26.3**	**-0.2**
	baz=216						
IRIF	**Iriomote-Funau**	**1.48**	**90**	P	**Pn**	**16 14 06.9**	**-0.6**
CHN5	**Tsauling**	**1.50**	**241**	⇓*iP*	**Pn**	**16 14 08.7**	**+0.8**
	baz=221						
CHN5				*eS*	**Sb**	**16 14 29.2**	**+1.2**
	baz=221						
ELDTW	**Lidau**	**1.52**	**221**	*eP*	**Pn**	**16 14 06.7**	**-1.5**
	baz=203						
WGK	**Gukeng**	**1.56**	**246**	*eP*	**Pn**	**16 14 09.1**	**+0.5**
	baz=243						
WTCT	**Ta-ch'eng**	**1.73**	**254**	*eP*	**Pn**	**16 14 11.8**	**+0.7**
	baz=253						
JKRS	**Kuro-shima**	**1.74**	**93**	P	**Pn**	**16 14 11.3**	**+0.2**
JKRS				*eS*	**Sn**	**16 14 32.2**	**-1.1**
WTP	**Ta-pu**	**1.75**	**232**	⇓*iP*	**Pn**	**16 14 12.0**	**+0.7**
	baz=215						
WTP				*eS*	**Sb**	**16 14 36.8**	**+1.7**
	baz=215						
CHY	**Chiayi**	**1.75**	**242**	*eP*	**Pn**	**16 14 12.8**	**+1.5**
	baz=239						
TWG	**Pinlang**	**1.79**	**212**	*eP*	**Pn**	**16 14 10.6**	**-1.2**
	baz=208						
CHN1	**Nanshi**	**1.85**	**232**	*eP*	**Pn**	**16 14 13.9**	**+1.2**
	baz=228						
CHN1				*eS*	**Sb**	**16 14 38.8**	**+0.9**
	baz=228						
JIJ	**Ishigaki jima**	**1.86**	**89**	P	**Pn**	**16 14 12.7**	**0.0**
JIJ				*eS*	**Sn**	**16 14 34.1**	**-2.1**
SGST	**Jiashian**	**1.88**	**228**	*eP*	**Pn**	**16 14 13.9**	**+0.9**
	baz=224						
SGST				*eS*	**Sb**	**16 14 40.6**	**+1.9**
	baz=224						
CHN3	**Shinhua**	**2.03**	**232**	*eP*	**Pn**	**16 14 14.9**	**-0.2**
	baz=229						
ECL	**Taimali**	**2.03**	**212**	*eP*	**Pn**	**16 14 14.6**	**-0.5**
	baz=208						
TWM1	**Shoushan**	**2.16**	**226**	*eP*	**Pn**	**16 14 18.8**	**+1.9**
	baz=223						
SGLT	**Jiouru**	**2.19**	**223**	*eP*	**Pn**	**16 14 16.8**	**-0.5**
	baz=204						
EAST	**Anshuo**	**2.27**	**211**	*eP*	**Pn**	**16 14 19.3**	**+0.9**
	baz=192						
JTJ	**Tarama**	**2.38**	**82**	P	**Pn**	**16 14 20.8**	**+0.8**
JTJ				*eS*	**Sn**	**16 14 48.2**	**-1.0**
TWK1	**Hengchun**	**2.67**	**207**	*eP*	**Pn**	**16 14 22.1**	**-1.9**
	baz=190						
KNM	**Kinmen**	**3.35**	**272**	*eP*	**Pn**	**16 14 34.9**	**+1.7**
	baz=271						

*ISCJB **07** 16:16:05.7±0.9, 33°.79N±0°.06×25°.67E±0°.07, h17km, mb3.5/3, Error ellipse: s-maj=8.9km s-min=7.2km az=39.3*
*IDC **07** 16:16:05.4±1.7, 33°.90N×25°.53E, h0km, mb3.6/3, mb1 3.6/6, mb1mx3.5/27, mbtmp3.5/6, ML3.5/3, Error ellipse: s-maj=34.0km s-min=25.3km az=132.0*
*ATH **07** 16:16:05.4, 33°.85N×25°.60E, h9km±3km, MD3.7/9*
*CSEM **07** 16:16:05.4, 33°.85N×25°.60E, h9km, MD3.7, After ATH*

ISC 07 16:16:07.2±1.1, 33°.93N±0°.07×25°.58E±0°.04, h17km, n25, σ0°92/33, mb3.5/3, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.23**	**356**	*ePG*	**Pb**	**16 16 29.7**	**-0.4**
LAST				*eSB*	**Sg**	**16 16 48.2**	**+1.0**
LAST	**Lasithi**	**1.23**	**356**	*ePg*	**Pb**	**16 16 29.7**	**-0.4**
LAST				*eSb*	**Sg**	**16 16 48.2**	**+1.0**
SIVA	**Sivas**	**1.26**	**330**	*ePG*	**Pb**	**16 16 30.4**	**-0.1**
SIVA				*eSB*	**Sg**	**16 16 49.3**	**+1.3**
SIVA	**Sivas**	**1.26**	**330**	*ePg*	**Pb**	**16 16 30.4**	**-0.1**
SIVA				*eSb*	**Sg**	**16 16 49.3**	**+1.3**
ZKR	**Zakros**	**1.29**	**24**	*ePB*	**Pg**	**16 16 31.4**	**-0.8**
ZKR	**Zakros**	**1.29**	**24**	*ePb*	**Pg**	**16 16 31.4**	**-0.8**
NPS	**Neapolis**	**1.33**	**1**	*ePN*	**Pb**	**16 16 30.9**	**-0.8**
NPS				*eSB*	**Sg**	**16 16 50.3**	**0.0**
NPS	**Neapolis**	**1.33**	**1**	*ePn*	**Pb**	**16 16 30.9**	**-0.8**
NPS				*eSb*	**Sg**	**16 16 50.3**	**0.0**
IDI	**Anoyia**	**1.47**	**337**	*ePB*	**Pg**	**16 16 34.8**	**-0.8**
IDI	**Anoyia**	**1.47**	**337**	*ePb*	**Pg**	**16 16 34.8**	**-0.8**
IDI	**Anoyia**	**1.47**	**337**	Pn	**Pb**	**16 16 33.9**	**-0.2**
	4.7nm,0.3s,baz=181,slow=17,SNR=24						
GVD	**Gavdhos**	**1.53**	**307**	*ePB*	**Pg**	**16 16 35.6**	**-1.1**
GVD				*eSB*	**Sg**	**16 16 56.8**	**+0.1**
GVD	**Gavdhos**	**1.53**	**307**	*ePb*	**Pg**	**16 16 35.6**	**-1.1**
GVD				*eSb*	**Sg**	**16 16 56.8**	**+0.1**
VAM	**Vamos**	**1.86**	**323**	*ePG*	**Pb**	**16 16 41.2**	**+0.4**
VAM	**Vamos**	**1.86**	**323**	*ePg*	**Pb**	**16 16 41.2**	**+0.4**
KARN	**Karanos**	**2.01**	**317**	*ePN*	**Pb**	**16 16 42.1**	**-1.2**
KARN	**Karanos**	**2.01**	**317**	*ePn*	**Pb**	**16 16 42.1**	**-1.2**
KARP	**Karpathos**	**2.08**	**38**	*ePN*	**Pb**	**16 16 43.4**	**-1.0**
KARP	**Karpathos**	**2.08**	**38**	*ePn*	**Pb**	**16 16 43.4**	**-1.0**
BRTR	**Keskin Array B**	**8.67**	**46**	Pn	**Pn**	**16 18 13.2**	**+1.2**
	0.1nm,0.3s,baz=242,slow=12,SNR=2.8						
AKASG	**Malin Array Be**	**16.97**	**8**	P	**P**	**16 20 04.3**	**-1.2**
	0.5nm,0.3s,baz=199,slow=11,SNR=5.6						
GERES	**GERESS Array B**	**17.33**	**333**	P	**Pn**	**16 20 07.2**	**-1.1**
	0.1nm,0.3s,baz=150,slow=11,SNR=9.5						
TORD	**Torodi Ar. Bea**	**29.98**	**232**	P	**P**	**16 22 15.5**	**+0.5**
	0.6nm,0.8s,baz=37,slow=10,SNR=4.1						
BVAR	**Borovoye Array**	**36.96**	**45**	P	**P**	**16 23 17.1**	**+1.8**
	0.3nm,0.5s,baz=256,slow=8.5,SNR=3.6						
ZALV	**Zalesovo Beam**	**45.61**	**45**	P	**P**	**16 24 26.5**	**+0.2**
	0.3nm,0.4s,baz=276,slow=7.8,SNR=3.6						

IDC 07 16:32:08.8±1.8, 10°.70S×73°.70W, h130km±22km, mb3.6/4, mb1 3.9/7, mb1mx3.6/23, mbtmp4.2/7, Error ellipse: s-maj=36.0km s-min=13.3km az=45.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**5.83**	**307**	P	Pn	16 33 32.3	-1.4
	3.8nm,0.3s,baz=102,slow=11,SNR=30						
ATAH				S	Sn	16 34 41.2	+1.4
	5.8nm,0.3s,baz=121,slow=18,SNR=2.7						
LPAZ	**La Paz**	**7.76**	**136**	P	Pn	16 33 59.9	+0.1
	2.2nm,0.3s,baz=319,slow=9.8,SNR=72						
SIV	**San Ignacio**	**13.36**	**115**	P	Pn	16 35 12.9	-0.5
	1.4nm,0.3s,baz=325,slow=14,SNR=22						
SIV				S	Sn	16 37 35.7	-5.4
	0.4nm,0.3s,baz=229,slow=22,SNR=6.5						
CFAA	**Coronel Fontan**	**21.41**	**167**	P	P	16 36 46.7	+0.3
	0.2nm,0.7s,baz=340,slow=12,SNR=3.5						
CPUP	**Villa Florida**	**21.93**	**137**	P	P	16 36 51.6	-0.3
	0.7nm,0.4s,baz=314,slow=11,SNR=4.8						
TXAR	**Lajitas Array**	**49.19**	**325**	P	P	16 40 43.5	-0.5
	0.2nm,0.5s,baz=150,slow=9.3,SNR=4.6						
DBIC	**Dimbokro**	**70.66**	**79**	P	P	16 43 11.3	+0.3
	3.7nm,0.6s,baz=231,slow=8.7,SNR=6.1						
TORD	**Torodi Ar. Bea**	**78.48**	**74**	P	P	16 43 56.2	+0.1
	4.8nm,0.8s,baz=271,slow=5.5,SNR=21						
ASAR	**Alice Springs**	**136.47**	**218**	PKP	PKPdf	16 51 15.1	-1.1
	0.3nm,0.8s,baz=126,slow=1.9,SNR=7.0						
WRA	**Warramunga Arr**	**138.90**	**222**	PKP	PKPdf	16 51 20.9	+0.2
	0.2nm,0.3s,baz=126,slow=2.1,SNR=11						

*IDC **07** 16:51:51.0±1.7, 7°.39S×107°.74E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.7/23, mbtmp3.9/6, MS3.9/1, Ms1 3.9/1, ms1mx2.3/41, Error ellipse: s-maj=113.3km s-min=17.5km az=51.0*
*ISCJB **07** 16:51:55.9±0.8, 8°.28S±0°.07×107°.19E±0°.06, h46km, mb3.8/6, MS3.9/1, Error ellipse: s-maj=11.1km s-min=5.8km az=37.9*
*DJA **07** 16:51:56.5±0.7, 8°.S±3°×107°.E±°, h17km±8km, M4.5/17, mb4.8/3, MLv4.3/17*

ISC 07 16:51:57.2±1.0, 8°.19S±0°.09×107°.17E±0°.07, h46km, n26, σ1°02/24, mb3.7/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.90**	**46**	P	**Pn**	**16 52 12.2**	**-1.3**
SKJI	**Sukabumi**	**1.32**	**333**	P	**Pn**	**16 52 18.8**	**-0.5**
SKJI				S	**Sn**	**16 52 38.0**	**+2.2**
LEM	**Lembang**	**1.42**	**18**	P	**Pn**	**16 52 20.6**	**-0.2**
LEM				S	**Sn**	**16 52 39.6**	**+1.2**
CLJI	**Cilicap**	**1.89**	**76**	P	**Pn**	**16 52 28.6**	**+1.6**
KPJI	**Karang Pucung**	**1.94**	**64**	P	**Pn**	**16 52 27.7**	**0.0**
TGJI	**Tegal**	**2.34**	**56**	P	**Pn**	**16 52 33.3**	**+0.1**
BJII	**Banjamegara**	**2.66**	**72**	P	**Pn**	**16 52 36.8**	**-0.8**
UGM	**Wanagama**	**3.33**	**86**	P	**Pn**	**16 52 46.8**	**-0.1**
WOJI	**Wonogiri, Jawa**	**3.73**	**85**	P	**Pn**	**16 52 52.5**	**+0.1**
KASI	**Kota Agung**	**3.75**	**315**	P	**Pn**	**16 52 53.7**	**+1.1**
PCJI	**Pacitan**	**3.97**	**90**	P	**Pn**	**16 52 55.8**	**+0.2**
KLJI	**Kotabumi**	**4.02**	**325**	P	**Pn**	**16 53 00.0**	**+3.6**
PWJI	**Pagerwojo**	**4.59**	**88**	P	**Pn**	**16 53 04.5**	**+0.3**
MDSI	**Maura Dua**	**4.73**	**321**	P	**Pn**	**16 53 07.4**	**+1.3**
GRJI	**Gresik**	**5.41**	**77**	P	**Pn**	**16 53 15.8**	**+0.3**
	68nm,1.0s,0.3nm						
SRBI	**Singaraja**	**7.96**	**90**	P	**Pn**	**16 53 51.0**	**+0.5**
WRA	**Warramunga Arr**	**28.77**	**117**	P	**P**	**16 57 49.9**	**-1.1**
	1.1nm,0.6s,baz=292,slow=10,SNR=30						
WRA				PcP	**PcP**	**17 00 59.5**	**-0.8**
	0.4nm,0.5s,baz=305,slow=2.2,SNR=4.6						
ASAR	**Alice Springs**	**29.88**	**124**	P	**P**	**16 58 00.6**	**-0.1**
	1.0nm,0.7s,baz=300,slow=9.0,SNR=14						
ASAR				PcP	**PcP**	**17 01 03.0**	**-0.2**
	0.2nm,0.4s,baz=313,slow=2.5,SNR=4.6						
H08S2	**Diego Garcia H**	**34.34**	**268**	T	T	17 35 33.8	
	baz=92,slow=0.7,SNR=5.3						
H08S3	**Diego Garcia H**	**34.36**	**268**	T	T	17 35 33.0	
	baz=92,slow=0.7,SNR=16						
H08S1	**Diego Garcia H**	**34.36**	**268**	T	T	17 35 32.2	
	baz=92,slow=0.7,SNR=8.8						
STKA	**Stephens Creek**	**39.73**	**131**	P	**P**	**16 59 26.8**	**+1.2**
	12nm,0.6s,baz=310,slow=7.4,SNR=37						
MKAR	**Makanchi Array**	**59.05**	**340**	P	P	17 01 48.5	-4.1
	0.1nm,0.3s,baz=149,slow=8.7,SNR=6.5						
MKAR				LR	LR	17 30 50.4	
	comp=Z,85nm,18.6s,baz=270,slow=40						
KURBB	**Kurchatov Arra**	**63.62**	**340**	P	**P**	**17 02 21.6**	**-1.8**
	0.2nm,0.4s,baz=159,slow=6.2,SNR=3.5						
BVAR	**Borovoye Array**	**68.52**	**337**	P	P	17 02 51.5	-3.3
	0.4nm,0.4s,baz=134,slow=8.2,SNR=3.9						
TXAR	**Lajitas Array**	**144.21**	**50**	PKP	**PKPab**	**17 11 27.0**	**+0.3**
	0.2nm,0.5s,baz=319,slow=2.6,SNR=3.0						

IDC 07 17:03:40.6±5.6, 26°.36S×142°.53E, h0km, mb1 3.4/3, mb1mx3.3/13, mbtmp3.2/3, ML3.2/3, Error ellipse: s-maj=77.3km s-min=22.0km az=71.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**5.55**	**188**	Pn	Pn	17 05 04.2	-0.4
	0.3nm,0.3s,baz=2.3,slow=13,SNR=7.6						
STKA				Sn	Sn	17 05 59.9	-9.3
	0.8nm,0.3s,baz=110,slow=16,SNR=6.0						
STKA		

RAO	**Raoul Island**	**1.56**	**4**	Pn	Pn	17 18 05.8		-0.5
	316nm,0.3s,baz=72,slow=22,SNR=11							
RAO				Sn	Sn	17 18 22.3		-5.0
	299nm,0.3s,baz=50,slow=23,SNR=7.9							
URZ	**Urewera**	**8.43**	**207**	Pn	Pn	17 19 38.6		-2.1
	1.0nm,0.3s,baz=177,slow=18,SNR=2.9							
URZ				Sn	Sn	17 21 12.5		-4.1
	2.6nm,0.3s,baz=70,slow=23,SNR=12							
STKA	**Stephens Creek**	**34.35**	**258**	P	P	17 24 27.0		+1.1
	5.0nm,0.7s,baz=114,slow=10,SNR=13							
ASAR	**Alice Springs**	**43.05**	**267**	P	P	17 25 38.5		-0.6
	2.5nm,0.7s,baz=108,slow=7.7,SNR=21							
WRA	**Warramunga Arr**	**44.07**	**273**	P	P	17 25 46.6		-0.8
	1.9nm,0.4s,baz=111,slow=8.2,SNR=16							
QSPA	**South Pole Qui**	**59.30**	**180**	P	P	17 27 41.8		+1.2
	1.7nm,0.7s,baz=12,slow=3.7,SNR=8.2							
SNAA	**Sanae**	**77.74**	**178**	P	P	17 29 34.8		-0.9
	0.3nm,0.8s,baz=197,slow=11,SNR=3.3							
H03N3	**Juan Fernandez**	**80.46**	**123**	T	T	18 59 05.2		
	baz=240,slow=0.7,SNR=11							
H03N2	**Juan Fernandez**	**80.47**	**123**	T	T	18 59 03.6		
	baz=240,slow=0.7,SNR=5.4							
H03N1	**Juan Fernandez**	**80.48**	**123**	T	T	18 59 09.8		
	baz=240,slow=0.7,SNR=8.4							
BVAR	**Borovoye Array**	**126.67**	**316**	PKP	PKPdf	17 36 43.9		+1.7
	0.7nm,0.8s,baz=99,slow=4.7,SNR=3.5							
FINES	**FINESS Array B**	**145.52**	**340**	PKPbc	PKPdf	17 37 13.8		-2.8
	5.9nm,0.8s,baz=61,slow=3.9,SNR=12							
AKASG	**Malin Array Be**	**151.60**	**322**	PKPbc	PKPbc	17 37 34.9		+1.8
	1.2nm,0.5s,baz=49,slow=2.6,SNR=6.7							
BRTR	**Keskin Array B**	**152.76**	**298**	PKPbc	PKPbc	17 37 36.0		-0.4
	0.8nm,0.8s,baz=11,slow=2.5,SNR=4.0							
TORD	**Torodi Ar. Bea**	**162.41**	**179**	PKPab	PKPab	17 38 27.8		-1.2
	0.6nm,0.8s,baz=195,slow=3.4,SNR=2.8							

IDC 07 17:19:32.7±1.4, 15°40S×173°52W, h0km, mb4.4/4, mb1 4.5/4, mb1mx3.9/20, mbtmp4.4/4, MS3.2/5, Ms1 3.2/5, ms1mx3.1/34, Error ellipse: s-maj=42.0km s-min=37.7km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.24**	**49**	Pn	Pn	17 20 04.3	-6.9
	115nm,0.3s,baz=50,slow=2.1,SNR=137						
AFI				Sn	Sn	17 20 23.7	-16
	279nm,0.3s,baz=80,slow=20,SNR=9.2						
AFI				LR	LR	17 20 52.9	
	comp=Z,367nm,18.1s,baz=264,slow=36						
DZM	**Mont Dzumac**	**20.10**	**248**	*e*LR	LR	17 29 07.6	
	169nm,25.6s						
DZM	**Mont Dzumac**	**20.10**	**248**	LR	LR	17 29 13.9	
	comp=Z,56nm,19.4s,baz=43,slow=29						
PPT	**Papeete**	**23.05**	**99**	LR	LR	17 31 24.8	
	comp=Z,16nm,18.2s,baz=7.8,slow=31						
PPT2	**Papeete2**	**23.05**	**99**	*e*LR	LR	17 29 56.2	
	92nm,23.8s						
TBI	**Tubuai**	**24.01**	**113**	*e*LR	LR	17 30 38.4	
	113nm,24.2s						
HNR	**Honiara**	**26.57**	**280**	LR	LR	17 33 03.9	
	comp=Z,67nm,18.7s,baz=225,slow=30						
H11S2	**WAKE ISLAND Hy**	**38.90**	**329**	T	T	18 08 52.7	
	baz=152,slow=0.7,SNR=21						
H11S3	**WAKE ISLAND Hy**	**38.91**	**329**	T	T	18 08 30.5	
	baz=152,slow=0.7,SNR=26						
H11S1	**WAKE ISLAND Hy**	**38.92**	**329**	T	T	18 08 30.1	
	baz=152,slow=0.7,SNR=27						
H11N3	**WAKE ISLAND Hy**	**39.85**	**330**	T	T	18 09 47.1	
	baz=152,slow=0.7,SNR=20						
H11N1	**WAKE ISLAND Hy**	**39.86**	**330**	T	T	18 09 44.1	
	baz=152,slow=0.7,SNR=25						
H11N2	**WAKE ISLAND Hy**	**39.87**	**330**	T	T	18 09 52.2	
	baz=152,slow=0.7,SNR=22						
STKA	**Stephens Creek**	**43.94**	**240**	P	P	17 27 41.8	+0.1
	1.5nm,0.4s,baz=80,slow=12,SNR=8.4						
WRA	**Warramunga Arr**	**49.74**	**257**	P	P	17 28 27.3	+0.1
	1.9nm,0.5s,baz=91,slow=6.7,SNR=40						
WRA				PcP	PcP	17 29 48.2	-0.2
	0.7nm,0.6s,baz=92,slow=3.5,SNR=4.7						
ASAR	**Alice Springs**	**50.01**	**252**	P	P	17 28 29.0	-0.3
	6.4nm,0.6s,baz=88,slow=8.0,SNR=110						
QSPA	**South Pole Qui**	**74.65**	**180**	P	P	17 31 14.0	+0.2
	2.5nm,0.7s,baz=15,slow=6.0,SNR=16						
NEW	**Newport**	**80.77**	**34**	LR	LR	18 00 03.2	
	comp=Z,57nm,18.7s,baz=304,slow=30						
KMBO	**Kilima Mbogo**	**145.44**	**244**	PKPbc	PKPbc	17 39 11.9	-2.2
	0.5nm,0.3s,baz=90,slow=2.0,SNR=4.1						
BRTR	**Keskin Array B**	**146.08**	**321**	PKPbc	PKPdf	17 39 13.8	-0.5
	0.6nm,0.5s,baz=128,slow=1.6,SNR=5.3						
GERES	**GERESS Array B**	**146.12**	**351**	PKPbc	PKPbc	17 39 14.8	-0.1
	0.1nm,0.3s,baz=87,slow=2.1,SNR=2.8						

JMA 07 17:24:50.6±0.2, 36°14N×138°49E, h164km±2km, M2.2, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRY	**Ryogami san**	**0.35**	**110**	P	Pn	17 25 13.3	+0.3
JRY				S	Sn	17 25 30.3	+0.2
MAT	**Matsushiro**	**0.46**	**330**	P	Pn	17 25 13.4	0.0
MAT				S	Sn	17 25 31.0	0.0
MAT	**Matsushiro**	**0.46**	**330**	P	Pn	17 25 13.4	0.0
MAT				*e*S	Sn	17 25 30.9	-0.1
JYN	**Shimob**	**0.64**	**176**	P	Pn	17 25 14.0	-0.4
JYN				*e*S	Sn	17 25 33.2	+0.6
JAG	**Ashikaga**	**0.83**	**70**	*e*S	Sn	17 25 33.8	-0.7

*NNC **07** 17:25:40.7±3.9, 39°92N×77°03E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=36.6km s-min=27.1km az=146.0*
*IDC **07** 17:25:42.6±2.3, 40°11N×77°09E, h0km, mb3.7/4, mb1 3.8/9, mb1mx3.6/31, mbtmp3.7/9, ML3.6/5, MS3.3/1, Ms1 3.4/1, ms1mx2.6/40, Error ellipse: s-maj=35.4km s-min=20.6km az=157.0*
*BJI **07** 17:25:45.6, 40°30N×77°09E, h5km, ML3.5/8*
ISC 07 17:25:44.8±1.4, 40°3N±0°1×76°89E±0°09, h10km, n31, σ1s30/28, mb3.7/5, 7C-10D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.02**	**224**	Pg	Pn	17 26 15.1	+10
KSH				Sg	Sn	17 26 38.1	+18
KSH				SMN			
	820nm,0.5s						
KSH				SME			
	2μm,0.8s						
ULHL	**Ulahol**	**2.05**	**346**	P	**Pb**	**17 26 21.7**	**-0.6**
	SNR=32						
KZA	**Kyzart**	**2.21**	**326**	P	**Pb**	**17 26 25.2**	**+0.1**
	SNR=907						
UCH	**Uchtor**	**2.67**	**319**	P	**Pb**	**17 26 32.5**	**-0.4**
	SNR=16						
KBK	**Karagaybulak**	**2.81**	**329**	P	**Pb**	**17 26 34.3**	**-1.0**
	SNR=193						
TKM2	**Tokmak 2**	**2.84**	**340**	⇑Pn	**Pb**	**17 26 34.2**	**-1.5**
	30nm,0.3s						
TKM2				⇓Lg	Lg	17 27 13.1	
	153nm,0.6s						
TKM2	**Tokmak 2**	**2.84**	**340**	P	**Pb**	**17 26 33.9**	**-1.8**
	SNR=129						
KNDC	**Almaty**	**2.97**	**1**	⇓Pn	**Pb**	**17 26 36.6**	**-1.2**
KNDC				⇓Sn	**Sb**	**17 27 16.6**	**+2.4**
AAK	**Ala-Archa**	**2.99**	**324**	P	**Pb**	**17 26 36.9**	**-1.4**
	SNR=61						
AAK	**Ala-Archa**	**2.99**	**324**	Pn	**Pb**	**17 26 36.4**	**-1.8**
	8.8nm,0.3s,baz=116,slow=7.6,SNR=51						
AAK				Lg	Lg	17 27 18.4	
	18nm,0.3s,baz=336,slow=20,SNR=16						
AML	**Almayashu**	**3.06**	**309**	P	**Pb**	**17 26 38.2**	**-1.4**
	SNR=67						
CHMS	**Chumysh**	**3.18**	**330**	P	**Pb**	**17 26 39.1**	**-2.3**
	SNR=78						
EKS2	**Erkin-Say**	**3.36**	**317**	P	**Pb**	**17 26 42.3**	**-2.2**
	SNR=66						
USP	**Ospenovka**	**3.51**	**330**	P	Pn	17 26 43.0	+3.6
	SNR=16						
KK31	**Karatay Array**	**5.56**	**303**	⇑Pn	Pn	17 27 10.9	+3.2
	0.7nm,0.3s,baz=118,slow=11,SNR=22						
KK31				Pg	Pg	17 27 28.5	-2.8
	12nm,0.8s,baz=126,slow=16,SNR=20						
KK31				⇑Lg	Lg	17 28 38.7	
	38nm,1.1s,baz=121,slow=28,SNR=7.4						
MK31	**Makanchi Array**	**7.63**	**29**	⇑Pn	**Pn**	**17 27 37.0**	**+1.1**
	0.6nm,0.5s,baz=198,slow=12,SNR=19						
MK31				⇓Lg	Lg	17 29 47.0	
	20nm,1.4s,baz=213,slow=27,SNR=4.6						
MKAR	**Makanchi Array**	**7.63**	**29**	Pn	**Pn**	**17 27 36.5**	**+0.6**
	0.3nm,0.3s,baz=203,slow=15,SNR=17						
MKAR				Lg	Lg	17 29 40.9	
	0.4nm,0.3s,baz=211,slow=22,SNR=3.9						
KURBB	**Kurchatov Arra**	**10.44**	**6**	Pn	**Pn**	**17 28 14.6**	**+0.2**
	0.2nm,0.3s,baz=194,slow=12,SNR=9.4						
KURBB				Lg	Lg	17 31 08.6	
	0.2nm,0.3s,baz=192,slow=29,SNR=9.2						
KURK	**Kurchatov**	**10.54**	**6**	⇑Pn	**Pn**	**17 28 15.0**	**-0.8**
	4.3nm,1.7s						
KURK				⇓Lg	Lg	17 31 09.1	
	19nm,1.1s						
VOSK	**Vostochnaya**	**13.12**	**344**	⇓Pn	**Pn**	**17 28 50.9**	**-0.1**
	7.1nm,1.4s						
VOSK				⇓Lg	Lg	17 32 35.5	
	26nm,1.3s						
BVA0	**Borovoye Array**	**13.53**	**343**	⇓Pn	**Pn**	**17 28 56.2**	**-0.5**
	5.5nm,0.8s,baz=147,slow=13,SNR=3.8						
BVA0				⇑Lg	Lg	17 32 46.5	
	34nm,1.8s,baz=148,slow=23,SNR=16						
BVAR	**Borovoye Array**	**13.53**	**343**	Pn	**Pn**	**17 28 55.7**	**-0.9**
	0.2nm,0.3s,baz=152,slow=13,SNR=25						
BVAR				Lg	Lg	17 32 46.8	
	0.2nm,0.3s,baz=135,slow=29,SNR=13						
BRVK	**Borovoye**	**13.58**	**343**	⇑Pn	**Pn**	**17 28 57.4**	**0.0**
	7.7nm,0.7s						
BRVK				⇓Lg	Lg	17 32 46.4	
	35nm,1.4s						
ZALV	**Zalesovo Beam**	**14.71**	**19**	Pn	**Pn**	**17 29 11.4**	**-1.4**
	0.4nm,0.3s,baz=212,slow=13,SNR=8.6						
AB31	**Akbulak array**	**15.01**	**312**	⇓Pn	**Pn**	**17 29 16.2**	**-0.6**
	0.2nm,0.3s,baz=112,slow=11,SNR=9.0						
SONM	**Songino Array**	**22.43**	**60**	P	**P**	**17 30 42.6**	**-1.1**
	0.7nm,0.7s,baz=269,slow=7.7,SNR=6.5						
HHC	**Hu-ho-hao-te**	**26.25**	**77**	*e*P	**P**	**17 31 20.3**	**+0.1**
HHC				AMB	AMB		
	comp=Z,27nm,0.9s						
HHC				AMB	AMB		
	comp=Z,400nm,5.6s						
BRTR	**Keskin Array B**	**32.90**	**283**	P	**P**	**17 32 21.2**	**+1.9**
	comp=Z,0.7nm,0.7s,baz=76,slow=6.1,SNR=3.4						
FINES	**FINESS Array B**	**37.18**	**322**	P	**P**	**17 32 55.2**	**-0.4**
	comp=Z,4.5nm,1.0s,baz=145,slow=7.0,SNR=3.6						
NOA	**NORSAR Array B**	**44.30**	**321**	LR	LR	17 53 01.2	
	comp=Z,33nm,20.7s,baz=230,slow=37						
GERES	**GERESS Array B**	**44.67**	**303**	P	**P**	**17 33 57.9**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=74,slow=7.5,SNR=3.0						

MEX 07 17:26:06.7±0.5, 15°38N×94°82W, h16km±10km, MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.30**	**288**	*e*P	Pn	17 26 26.8	-3.5
HUIG				*i* S	Sb	17 26 41.4	-6.0
PCIG		**1.57**	**78**	*e*P	Pn	17 26 30.0	-4.0
PCIG				*i* S	Sn	17 26 48.6	-5.4
TGIG		**2.14**	**49**	*e*P	Pn	17 26 39.1	-2.8
TGIG				*e*S	Sn	17 27 02.8	-5.4
VHO	**Vista Hermosa**	**2.50**	**313**	*i* P	Pn	17 26 44.4	-2.6
VHO				*i* S	Sn	17 27 12.6	-4.7
CCIG	**Comitan**	**2.73**	**70**	*i* P	Pn	17 26 47.5	-2.6
CCIG				*i* S	Sn	17 27 19.0	-4.1
PNIG	**Pinotepa**	**3.34**	**288**	*i* P	Pn	17 26 55.9	-2.4
PNIG				*i* S	Sn	17 27 33.2	-4.6
PPM	**Popocatepetl**	**5.17**	**316**	*e*P	Pn	17 27 22.4	-1.7
PPM				*i* S	Sn	17 28 20.7	-3.2
YAIG	**Yautepec**	**5.34**	**311**	*i* P	Pn	17 27 24.3	-1.7
YAIG				*i* S	Sn	17 28 23.3	-4.1
PLIG	**Platanillo**	**5.40**	**304**	*i* P	Pn	17 27 23.8	-3.0
PLIG				*i* S	Sn	17 28 25.3	-3.4
ARIG	**Puente Sto Nin**	**6.03**	**299**	*i* P	Pn	17 27 33.7	-1.7
ARIG				*i* S	Sn	17 28 40.3	-3.9

IDC 07 17:35:17.9±58.0, 20°36S×178°23W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/17, mbtmp3.9/3, Error ellipse: s-maj=1063.0km s-min=160.4km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.66**	**244**	P	P	17 42 33.5	-1.5
	1.0nm,0.4s,baz=86,slow=6.7,SNR=4.8						
ASAR	**Alice Springs**	**44.34**	**257**	P	P	17 43 30.2	-0.1
	1.7nm,0.7s,baz=85,slow=8.5,SNR=18						
WRA	**Warramunga Arr**	**44.41**	**262**	P	P	17 43 31.5	+0.7
	0.5nm,0.3s,baz=94,slow=8.1,SNR=33						

IDC 07 17:41:11.8±2.7, 27°77N×141°80E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/23, mbtmp3.6/5, Error ellipse: s-maj=123.2km s-min=24.9km az=77.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.98**	**189**	P	P	17 49 52.7	+0.1
	0.1nm,0.3s,baz=5.4,slow=7.6,SNR=4.6						
MKAR	**Makanchi Array**	**49.78**	**309**	P	P	17 50 07.0	+0.7
	0.2nm,0.4s,baz=93,slow=8.6,SNR=4.9						
ASAR	**Alice Springs**	**51.70**	**189**	P	P	17 50 20.4	-0.5
	0.2nm,0.7s,baz=357,slow=5.6,SNR=5.1						
BVAR	**Borovoye Array**	**57.32**	**317**	P	P	17 51 01.3	-0.2
	0.5nm,0.5s,baz=90,slow=7.3,SNR=4.2						
FINES	**FINESS Array B**	**77.19**	**334**	P	P	17 53 07.0	-0.3
	5.0nm,1.0s,baz=94,slow=6.3,SNR=8.0						

IDC 07 17:46:25.7±3.5, 5°79S×150°87E, h0km, mb3.1/2, mb1 3.4/2, mb1mx3.2/16, mbtmp3.2/2, Error ellipse: s-maj=144.9km s-min=46.6km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.36**	**227**	P	P	17 51 14.7	-0.1
	0.2nm,0.4s,baz=52,slow=10,SNR=4.4						
ASAR	**Alice Springs**	**24.13**	**221**	P	P	17 51 43.5	-0.1
	0.5nm,0.6s,baz=57,slow=8.9,SNR=11						
TORD	**Torodi Ar. Bea**	**148.75**	**286**	PKPbc	PKPbc	18 06 15.7	-0.5
	0.6nm,1.1s,baz=90,slow=2.2,SNR=3.0						

IDC 07 17:53:48.9±7.7, 16°68S×173°19W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/20, mbtmp3.8/2, MS3.6/1, Ms1 3.6/1, ms1mx3.0/23, Error ellipse: s-maj=358.7km s-min=63.8km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.76**	**258**	P	P	18 02 43.2	-0.5
	0.6nm,0.7s,baz=95,slow=7.1,SNR=3.4						
ASAR	**Alice Springs**	**49.92**	**253**	P	P	18 02 45.0	+0.2
	1.4nm,0.6s,baz=90,slow=7.5,SNR=48						
FITZ	**Fitzroy Crossi**	**58.15**	**259**	LR	LR	18 25 23.3	
	comp=Z,61nm,21.6s,baz=314,slow=33						
BRTR	**Keskin Array B**	**147.27**	**320**	PKPbc	PKPbc	18 13 34.1	-0.8
	0.7nm,0.6s,baz=72,slow=4.0,SNR=4.4						

PGC 07 17:56:26.7±0.1, 61°79N×126°22W, h1km, ML3.5/4, 7D, 232km Ene of Watson Lk., Yt Northwest Territories, Canada, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNBB	**Fort Nelson**	**3.32**	**150**	⇑Pn	Pn	17 57 18.9	-0.8
DLBC	**Dease Lake**	**3.87**	**211**	⇓Pn	Pn	17 57 26.7	-0.6
DLBC				⇓Sg	Sg	17 58 27.5	-3.5
WHY	**Whitehorse**	**4.34**	**259**	⇓Pn	Pn	17 57 32.5	-1.4
WHY				⇑Sg	Sb	17 58 40.0	+3.3
GALN	**Gameti Lake**	**4.69**	**56**	⇓Pn	Pn	17 57 36.8	-1.7
GALN				⇓Sn	Sn	17 58 30.0	-3.5
YKW3	**Yellowknife Ar**	**5.49**	**77**	⇑Pn	Pn	17 57 48.4	-1.1
HYT	**Haines Junctio**	**5.53**	**265**	⇓Pn	Pn	17 57 49.0	-1.2
HYT				⇑Sg	Sg	17 59 18.0	-6.3
DAWY	**Dawson**	**6.43**	**297**	⇓Pn	Pn	17 58 01.0	-1.5
DAWY				⇑Sn	Sn	17 59 12.7	-3.8

KRSC 07 18:05:53.8±3.4, 55°61N×162°68E, h5km±5km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.60**	**7**	*e*P	Pb	18 06 07.3	+0.4
KBTR				*i* S	Sb	18 06 15.9	+0.2
ZLN	**Zelenaya**	**1.14**	**292**	*e*P	Pn	18 06 17.0	+0.5
ZLN				*i* S	Sn	18 06 32.2	-0.3
BZGR	**Bezymyannyi-Gr**	**1.17**	**287**	*e*P	Pn	18 06 17.6	+0.6
BZGR				*i* S	Sn	18 06 33.8	+0.4
SMKR	**Semkarok**	**1.19**	**326**	*e*P	Pb	18 06 17.0	+0.1
SMKR				*i* S	Sn	18 06 33.9	+0.1
MKZ	**Mys Kozlova**	**1.19**	**208**	*e*P	Pg	18 06 16.6	0.0
MKZ				*i* S	Sn	18 06 34.3	+0.8
LGNR	**Loginova**	**1.22**	**294**	*e*P	Pn	18 06 18.4	+0.5
LGNR				*i* S	Sn	18 06 36.3	+1.3
BDR	**Baidarnaya**	**1.27**	**320**	*e*P	Pn	18 06 18.5	+0.2
BDR				*i* S	Sn	18 06 36.5	+0.8
BZMR	**Bezymyannaya**	**1.28**	**286**	*e*P	Pb	18 06 19.0	+0.4
BZMR				*i* S	Sn	18 06 36.8	+0.6
BZWR	**Bezymyannyi-We**	**1.28**	**287**	*e*P	Pb	18 06 19.3	+0.6
BZWR				*i* S	Sn	18 06 38.1	+1.7
KRSR	**Krestovskiy**	**1.34**	**298**	*e*P	Pn	18 06 19.0	-0.3
KRSR				*i* S	Sb	18 06 35.6	-1.4
KLY	**Klyuchi**	**1.34**	**303**	*e*P	Pn	18 06 17.5	-1.6
KLY				*i* S	Sb	18 06 33.8	-3.0
SRKR	**Sorokina**	**1.35**	**322**	*e*P	Pg	18 06 19.9	+0.2
SRKR				*i* S	Sn	18 06 39.6	+1.9
KIRR	**Kirishev**	**1.36**	**286**	*e*P	Pg	18 06 20.6	+0.4
KIRR				*i* S	Sn	18 06 40.4	+2.1
KMNR	**Kamenistaya**	**1.39**	**277**	*e*P	Pg	18 06 21.0	+0.4
KMNR				*i* S	Sn	18 06 39.7	+0.8
KPT	**Kopyto**	**1.43**	**285**	*e*P	Pg	18 06 21.6	+0.2
KPT				*i* S	Sg	18 06 41.3	+1.2
TUMR	**Tumrok**	**1.48**	**258**	*e*P	Pg	18 06 22.3	-0.1
TUMR				*i* S	Sg	18 06 41.7	0.0
KOZ	**Kozyrevsk**	**1.65**	**287**	*e*P	Pb	18 06 24.7	+0.1
KOZ				*i* S	Sg	18 06 46.7	-0.1
SRDR	**Sredinnyy**	**1.81**	**294**	*e*P	Pb	18 06 26.7	-0.8
SRDR				*i* S	Sb	18 06 49.9	-0.6
BKI	**Bering**	**1.92**	**101**	*e*P	Pb	18 06 29.5	+0.2
BKI				*i* S	Sg	18 06 54.7	-0.7
ESO	**Esso**	**2.27**	**280**	*e*P	Pb	18 06 33.9	-1.4
NLC	**Nalytchevo**	**3.13**	**220**	*e*P	Pn	18 06 44.5	+0.8
NLC				*i* S	Sn	18 07 21.6	+0.3
SDLR	**Sedlovina**	**3.22**	**225**	*e*P	Pn	18 06 46.8	+1.6
SDLR				*i* S	Sn	18 07 25.9	+1.9
KRER	**Koryakskii**	**3.26**	**226**	*e*P	Pn	18 06 47.9	+2.1
KRX	**Arik**	**3.26**	**228**	*e*P	Pn	18 06 47.7	+2.0
SMAR	**Somma**	**3.27**	**226**	*e*P	Pn	18 06 47.5	+1.6
SMAR				*i* S	Sn	18 07 26.6	+1.3
AVH	**Avacha**	**3.29**	**226**	*e*P	Pn	18 06 47.9	+1.9
AVH				*i* S	Sn	18 07 26.8	+1.2
UGLR	**Uglovaya**	**3.30**	**225**	*e*P	Pn	18 06 48.5	+2.3
UGLR				*i* S	Sn	18 07 28.3	+2.5
KOK	**Koryaka**	**3.31**	**227**	*e*P	Pn	18 06 49.0	+2.6
GNL	**Ganaly**	**3.35**	**237**	*e*P	Pn	18 06 49.1	+2.1
PET	**Petropavlovsk**	**3.50**	**224**	*e*P	Pn	18 06 49.4	+0.6
PET				*i* S	Sn	18 07 30.1	-0.5
RUS	**Russkaya**	**4.02**	**219**	*e*P	Pn	18 06 57.6	+1.6
RUS				*i* S	Sn	18 07 44.7	+1.3
MTVR	**Mutnovka**	**4.10**	**222**	*e*P	Pn	18 06 59.8	+2.5
APC	**Apacha**	**4.21**	**233**	*e*P	Pn	18 07 03.3	+4.8
ASAK	**Asacha**	**4.29**	**223**	*e*P	Pn	18 06 59.7	-0.1

IDC 07 18:06:24.5±1.5, 28°81S×176°53W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/18, mbtmp4.1/4, MS3.3/3, Ms1 3.3/3, ms1mx3.1/21, Error ellipse: s-maj=57.5km s-min=25.2km az=160.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.29**	**250**	Pn	Pn	18 06 51.4	+1.5
	242nm,0.3s,baz=90,slow=22,SNR=6.6						
RAO				Sn	Sn	18 07 08.9	+1.0
	659nm,0.3s,baz=90,slow=20,SNR=14						
DZM	**Mont Dzumac**	**16.77**	**290**	LR	LR	18 15 29.7	
	comp=Z,94nm,19.6s,baz=49,slow=32						
RAR	**Rarotonga**	**16.96**	**67**	LR	LR	18 15 31.1	
	comp=Z,97nm,21.9s,baz=0.2,slow=32						
HNR	**Honiara**	**29.31**	**306**	LR	LR	18 22 56.0	
	comp=Z,52nm,18.4s,baz=161,slow=34						
CTA	**Charters Tower**	**34.86**	**276**	P	P	18 13 18.4	+0.7
	0.9nm,0.4s,baz=117,slow=4.5,SNR=3.9						
STKA	**Stephens Creek**	**36.11**	**254**	P	P	18 13 28.6	+0.3
	1.7nm,0.8s,baz=66,slow=10.0,SNR=3.6						
ASAR	**Alice Springs**	**44.50**	**265**	P	P	18 14 36.5	-1.5
	1.7nm,0.6s,baz=101,slow=6.4,SNR=48						
WRA	**Warramunga Arr**	**45.35**	**270**	P	P	18 14 43.7	-1.1
	1.4nm,0.6s,baz=110,slow=7.4,SNR=13						
FINES	**FINESS Array B**	**144.07**	**342**	PKP	PKPdf	18 26 01.2	-0.3
	4.0nm,1.1s,baz=20,slow=4.4,SNR=3.2						
AKASG	**Malin Array Be**	**150.76**	**326**	PKPbc	PKPbc	18 26 19.1	+0.6
	0.3nm,0.4s,baz=46,slow=3.0,SNR=4.5						
BRTR	**Keskin Array B**	**152.91**	**302**	PKPab	PKPab	18 26 34.8	-0.4
	0.7nm,0.7s,baz=41,slow=1.3,SNR=4.2						
TORD	**Torodi Ar. Bea**	**164.33**	**174**	PKPab	PKPab	18 27 23.

0.2nm,0.3s,baz=89,slow=11,SNR=4.3
TORD Torodi Ar. Bea 64.86 267 P **P** **18 39 30.7 -1.0**
0.2nm,0.5s,baz=51,slow=5.5,SNR=6.3

WEL 07 19:08:26.2±0.9, 46°09S×166°24E, h27km±2km, ML3.7/10, 2C, Error ellipse: s-maj=11.0km s-min=2.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.31**	**105**	⇑P*	Pb	19 08 33.2	-0.4
PYZ				S*	Sb	19 08 38.3	-0.3
DCZ	**Deep Cove**	**0.88**	**47**	PN	Pn	19 08 41.9	-1.0
DCZ				AML	AML	19 08 53.8	
DCZ				AML	AML	19 08 53.9	
DCZ				AML	AML	19 08 54.1	
DCZ				AML	AML	19 08 54.1	
WHZ	**Wether Hill Ro**	**1.20**	**81**	⇑PN	Pn	19 08 47.4	+0.1
WHZ				AML	AML	19 09 03.6	
WHZ				AML	AML	19 09 03.8	
APZ	**The Paps**	**1.42**	**122**	PN	Pn	19 08 49.3	-1.0
MLZ	**Mavora Lakes**	**1.54**	**62**	PN	Pn	19 08 52.7	+0.7
MLZ				SN	Sb	19 09 14.2	+0.9
MLZ				AML	AML	19 09 21.8	
MSZ	**Milford Sound**	**1.85**	**41**	PN	Pb	19 08 57.7	-1.6
MSZ				AML	AML	19 09 20.2	
MSZ				AML	AML	19 09 21.2	
MSZ				AML	AML	19 09 40.5	
SYZ	**Scrubby Hill**	**2.06**	**104**	PN	Pn	19 08 59.1	+0.1
EAZ	**Earnscleugh**	**2.31**	**69**	PN	Pn	19 09 04.8	+2.2
EAZ				AML	AML	19 09 41.9	
EAZ				AML	AML	19 09 44.0	
WKZ	**Wanaka**	**2.32**	**58**	PN	Pb	19 09 05.8	-1.6
WKZ				AML	AML	19 09 40.3	
WKZ				AML	AML	19 09 49.3	
TUZ	**Tuapeka**	**2.37**	**88**	PN	Pn	19 09 04.3	+1.1
TUZ				AML	AML	19 09 38.6	
TUZ				AML	AML	19 09 42.0	
JCZ	**Jackson Bay**	**2.69**	**42**	ePN	Pn	19 09 09.1	+1.3
JCZ				AML	AML	19 09 59.3	
JCZ				AML	AML	19 10 00.5	
LBZ	**Lake Benmore**	**3.26**	**60**	PN	Pn	19 09 17.0	+1.4
ODZ	**Otahua Downs**	**3.26**	**73**	PN	Pn	19 09 15.8	+0.2
FOZ	**Fox Glacier**	**3.52**	**45**	PN	Pn	19 09 22.9	+3.8
WVZ	**Waitaha Valley**	**4.40**	**48**	PN	Pn	19 09 34.4	+3.2
OXZ	**Oxford**	**4.97**	**58**	PN	Pn	19 09 40.5	+1.4
LTZ	**Lake Taylor**	**5.43**	**55**	PN	Pn	19 09 49.8	+4.3

*ISCJB **07** 19:11:38.9±0.4, 54°.36N±0°.02×110°.63E±0°.04, h10km, Error ellipse: s-maj=4.2km s-min=2.4km az=41.4*
*BYKL **07** 19:11:43.2±0.2, 54°.43N×110°.59E*
*MOS **07** 19:11:43.4±2.8, 54°.40N×110°.57E, h10km, mb4.4/1, Error ellipse: s-maj=28.6km s-min=12.7km az=88.4*

ISC 07 19:11:42.9±0.7, 54°41N±0°.02×110°63E±0°.03, h10km, n29, σ1§99/52, 2C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YLYR	**Ulyunkhan**	**0.56**	**33**	⇓*i*Pg	**Pg**	**19 11 53.2**	**-0.6**
YLYR				*i* Sg	**Sg**	**19 12 01.2**	**0.0**
YLYR				*e*Sb	**Sb**	**19 12 03.4**	**+0.5**
YLYR				*e*		19 12 08.0	
				Pmax			
	33nm,0.1s						
YLYR				Smax			
	468nm,0.1s						
SYVR	**Suvo**	**0.84**	**207**	*e*PG	**Pn**	**19 11 59.9**	**-0.9**
SYVR				*e*		19 12 11.5	
SYVR				pmax	pmax		
	comp=Z,62nm,0.2s						
SYVR				smax	smax		
	comp=N,755nm,0.2s						
SYVR	**Suvo**	**0.84**	**207**	*e*Pg	**Pb**	**19 11 59.4**	**-0.2**
SYVR				*e*Pb	**Pn**	**19 12 01.6**	**+0.8**
SYVR				*i* Sg	**Sb**	**19 12 11.4**	**+0.5**
SYVR				*e*		19 12 16.1	
SYVR				max			
	comp=N,63nm,0.3s						
SYVR				Smax			
	comp=N,741nm,0.2s						
NIZ	**Nizh Angarsk**	**1.50**	**336**	*e*PG	**Pb**	**19 12 10.3**	**-0.6**
NIZ				*e*		19 12 30.4	
NIZ				pmax	pmax		
	comp=Z,302nm,0.3s						
NIZ				smax	smax		
	comp=N,865nm,0.4s						
NIZ	**Nizh Angarsk**	**1.50**	**336**	⇑*i*Pg	**Pb**	**19 12 10.4**	**-0.5**
NIZ				*e*		19 12 12.5	
NIZ				*e*Sg	**Sg**	**19 12 30.7**	**-0.6**
NIZ				*e*Sb	**Sb**	**19 12 32.7**	**+2.6**
NIZ				Pmax			
	comp=N,315nm,0.3s						
NIZ				max			
	comp=N,856nm,0.5s						
KMO	**Kumora**	**1.52**	**12**	*e*PG	**Pb**	**19 12 10.4**	**-0.7**
KMO				*e*		19 12 30.1	
KMO				pmax	pmax		
	comp=Z,116nm,0.4s						
KMO				smax	smax		
	comp=E,2μm,0.8s						
KMO	**Kumora**	**1.52**	**12**	*e*Pg	**Pb**	**19 12 10.4**	**-0.7**
KMO				*e*		19 12 17.8	
KMO				*e*Sg	**Sg**	**19 12 30.9**	**-0.7**
KMO				Pmax			
	comp=E,142nm,0.3s						
KMO				Smax			
	comp=E,2μm,1.3s						
MXMB	**Maximikha**	**1.60**	**225**	*e*Pg	**Pn**	**19 12 11.3**	**0.0**
MXMB				*e*		19 12 16.1	
MXMB				*i* Sg	**Sg**	**19 12 33.2**	**-1.2**
MXMB				*e*		19 12 40.5	
MXMB				Pmax			
	comp=E,67nm,0.9s						
MXMB				max			
	comp=E,651nm,0.6s						
YOA	**Uoyan**	**1.84**	**19**	Pg	**Pn**	**19 12 14.8**	**+0.3**
YOA				*e*		19 12 18.6	
YOA				*e*Sg	**Sb**	**19 12 38.7**	**-0.9**
YOA				*e*		19 12 42.3	
YOA				max			
	comp=E,2μm,0.8s						
OGRR	**Ongureny**	**1.95**	**248**	*e*PN	**Pg**	**19 12 18.9**	**-1.3**
OGRR				*e*		19 12 43.0	
OGRR				pmax	pmax		
	comp=Z,49nm,0.4s						
OGRR				smax	smax		
	comp=N,331nm,0.9s						
OGRR	**Ongureny**	**1.95**	**248**	*e*Pg	**Pb**	**19 12 18.2**	**-0.3**
OGRR				*e*Sg	**Sg**	**19 12 44.6**	**-0.9**
OGRR				Pmax			
	comp=N,63nm,0.7s						
OGRR				Smax			
	comp=N,250nm,0.3s						
UKT	**Uakit**	**2.04**	**57**	⇑*i*Pg	**Pb**	**19 12 19.7**	**-0.3**
UKT				*e*		19 12 23.9	
UKT				*i* Sg	**Sg**	**19 12 47.1**	**-1.3**
UKT				Pmax			
	comp=N,34nm,0.5s						
UKT				Smax			
	comp=N,221nm,0.3s						
SVKR	**Severomuysk**	**2.40**	**43**	*e*Pn	**Pn**	**19 12 20.7**	**-1.5**
SVKR				Pg	**Pb**	**19 12 26.1**	**0.0**
SVKR				*e*Sg	**Sg**	**19 12 58.3**	**-1.5**
SVKR				Pmax			
	comp=N,72nm,0.3s						
SVKR				Smax			
	comp=N,797nm,0.6s						
ZRHB	**Zarechye**	**2.79**	**230**	*e*Pg	**Pb**	**19 12 32.4**	**-0.4**
ZRHB				*e*Sg	**Sg**	**19 13 10.4**	**-2.0**
ZRHB				Smax			
	comp=N,456nm,1.4s						
CIT	**Chita**	**2.97**	**143**	*e*PN	**Pb**	**19 12 36.9**	**+1.1**
CIT				*e*		19 13 17.4	
CIT				pmax	pmax		
	comp=Z,65nm,0.3s						
CIT				smax	smax		
	comp=E,552nm,0.2s						
CIT	**Chita**	**2.97**	**143**	*e*Pn	**Pn**	**19 12 30.6**	**+0.5**
CIT				Pg	**Pb**	**19 12 37.2**	**+1.4**
CIT				*e*Sg	**Sg**	**19 13 16.0**	**-2.1**
CIT				Pmax			
	comp=E,66nm,0.3s						
CIT				Smax			
	comp=E,555nm,0.2s						
TRG	**Tyrgan**	**3.04**	**239**	*e*Pn	**Pn**	**19 12 31.0**	**-0.1**
TRG				*e*Pg	**Pb**	**19 12 37.4**	**+0.3**
TRG				*e*		19 12 41.6	
TRG				*e*		19 13 09.2	
TRG				*e*Sg	**Sg**	**19 13 17.0**	**-3.5**
TRG				*e*		19 13 21.9	
TRG				Pmax			
	comp=E,24nm,0.4s						
TRG				max			
	comp=E,136nm,0.4s						
UUDB	**Ulan-Yde**	**3.11**	**216**	*e*Pg	**Pb**	**19 12 39.4**	**+1.1**
UUDB				*e*		19 12 46.7	
UUDB				*e*Sg	**Sg**	**19 13 21.0**	**-1.7**
UUDB				max			
	comp=E,39nm,0.6s						
UUDB				Smax			
	comp=E,245nm,1.9s						
BOD	**Bodaibo**	**3.90**	**28**	Pg	**Pb**	**19 12 52.3**	**+0.6**
BOD				*e*Sg	**Sb**	**19 13 42.0**	**+3.0**
BOD				Pmax			
	comp=E,11nm,0.4s						
BOD				Smax			
	comp=E,60nm,1.3s						
LSTR	**Listvyanka**	**4.32**	**236**	Pg	**Pb**	**19 13 00.1**	**+1.2**
LSTR				*e*		19 13 05.0	
LSTR				*e*		19 13 20.8	
LSTR				*e*		19 13 36.1	
LSTR				*e*Sg	**Sg**	**19 13 57.3**	**-4.2**
LSTR				Smax			
	comp=E,46nm,0.9s						
IRK	**Irkutsk**	**4.39**	**243**	*e*	**Sn**	**19 13 44.3**	**+3.7**
IRK				*e*Sg	**Sb**	**19 13 57.2**	**+4.3**
IRK				Smax			
	comp=E,175nm,0.5s						
KPC	**Khapcheranga**	**4.83**	**166**	*e*PN	**Pn**	**19 12 57.4**	**+1.7**
KPC				*e*		19 13 11.5	
KPC				*e*		19 14 13.0	
KPC				pmax	pmax		
	comp=Z,13nm,0.3s						
KPC				smax	smax		
	comp=E,132nm,0.8s						
KPC	**Khapcheranga**	**4.83**	**166**	*e*Pn	**Pn**	**19 12 56.4**	**+0.7**
KPC				*e*Pg	Pb	19 13 10.6	+2.9
KPC				*e*		19 13 14.9	
KPC				*e*		19 13 35.8	
KPC				*e*Sg	**Sg**	**19 14 14.0**	**-4.0**
KPC				max			
	comp=E,10.0nm,0.7s						
KPC				Smax			
	comp=E,133nm,0.7s						
CRS	**Chara**	**4.99**	**57**	*e*Pg	**Pb**	**19 13 11.6**	**+1.3**
CRS				*e*		19 14 04.8	
CRS				*i* Sg	**Sg**	**19 14 17.9**	**-5.1**
TLY	**Talaya**	**5.02**	**240**	*e*	Pb	19 13 13.9	+3.1
TLY				*e*		19 13 22.4	
TLY				*e*Sg	**Sg**	**19 14 18.2**	**-5.8**
TLY				max			
	comp=E,6.0nm,0.4s						
TLY				Smax			
	comp=E,43nm,0.4s						
TUP	**Tupik**	**5.45**	**86**	*e*PN	**Pn**	**19 13 04.2**	**+0.1**
TUP				*e*		19 13 20.9	
TUP				*e*S	**Sn**	**19 14 06.6**	**-0.1**
TUP				*e*		19 14 32.6	
TUP				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TUP				smax	smax		
	comp=N,189nm,1.0s						
ARS	**Arshan**	**5.53**	**247**	*e*	Pn	19 13 09.2	+3.9
ARS				*e*Pg	**Pb**	**19 13 20.1**	**+0.6**
ARS				*e*		19 13 55.8	
ARS				*e*Sg	Sg	19 14 32.7	-7.6
ARS				Pmax			
	comp=N,20nm,0.7s						
ARS				Smax			
	comp=N,236nm,0.8s						
ZAK	**Zakamensk**	**6.04**	**231**	*e*Pg	Pb	19 13 31.4	+3.2
ZAK				*e*Sg	Sg	19 14 49.7	-7.0
ZAK				*e*		19 14 56.0	
ZAK				max			
	comp=N,20nm,2.7s						
MOY	**Mondy**	**6.43**	**249**	*e*	Pb	19 13 29.9	-4.9
MOY				*e*		19 13 34.3	
MOY				*e*		19 14 24.0	
MOY				*e*		19 14 33.0	
MOY				*e*Sg	Sg	19 15 00.3	-8.8
MOY				max			
	comp=N,3.0nm,0.4s						
MOY				Smax			
	comp=N,70nm,1.6s						

*ISCJB **07** 19:13:17.8±0.6, 49°.08N±0°.05×156°.0E±0°.1, h34km, mb3.7/5, MS3.7/1, Error ellipse: s-maj=12.3km s-min=4.6km az=29.9*
*KRSC **07** 19:13:17.4±7.2, 49°.07N×156°.27E, h66km±65km, ML4.5*
*MOS **07** 19:13:18.2±1.9, 49°.24N×155°.74E, h48km, mb4.0/1, Error ellipse: s-maj=28.7km s-min=8.1km az=65.6*
*IDC **07** 19:13:21.4±3.3, 49°.22N×155°.69E, h53km±30km, mb3.4/5, mb1 3.9/8, mb1mx3.5/28, mbtmp3.7/8, ML4.1/3, MS3.7/1, Ms1 3.7/1, ms1mx2.7/34, Error ellipse: s-maj=65.5km s-min=18.6km az=152.0*

ISC 07 19:13:19.7±1.0, 49°04N±0°.08×156°16E±0°.09, h34km, n51, σ1§53/54, mb3.7/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.65**	**359**	*e*PN	Pn	19 13 38.5	-7.7
SKR				*i* S	Sn	19 13 57.5	-8.7
SKR				pmax	pmax		
	comp=E,150nm,0.4s						
SKR				pmax	pmax		
	comp=Z,410nm,0.4s						
SKR				pmax	pmax		
	comp=N,280nm,0.3s						
SKR				smax	smax		
	comp=N,2μm,0.2s						
SKR				smax	smax		
	comp=E,1μm,0.3s						
SKR	**Severo-Kuril's**	**1.65**	**359**	*i* P	**Pn**	**19 13 44.5**	**-1.7**
SKR				*i* S	**Sn**	**19 14 04.4**	**-1.8**
PAU	**Pauzhetka**	**2.47**	**9**	PN	**Pn**	**19 13 56.8**	**-0.7**
PAU				S	**Sn**	**19 14 25.4**	**-1.0**
PAU	**Pauzhetka**	**2.47**	**9**	*i* P	**Pn**	**19 13 56.8**	**-0.7**
PAU				*i* S	**Sn**	**19 14 25.4**	**-1.0**
MIPR	**Malaya Ipel'ka**	**3.27**	**6**	*e*P	**Pn**	**19 14 08.2**	**-0.3**
ASAK	**Asacha**	**3.53**	**18**	*e*P	**Pn**	**19 14 12.7**	**+0.6**
ASAK				*i* S	**Sn**	**19 14 51.9**	**-0.8**
MTVR	**Mutnovka**	**3.68**	**20**	*e*P	**Pn**	**19 14 14.9**	**+0.6**
MTVR				*i* S	**Sn**	**19 14 54.2**	**-2.3**
RUS	**Russkaya**	**3.71**	**23**	PN	**Pn**	**19 14 14.1**	**-0.5**
RUS				S	**Sn**	**19 14 56.0**	**-1.1**
RUS	**Russkaya**	**3.71**	**23**	*e*P	**Pn**	**19 14 14.1**	**-0.5**
RUS				*i* S	**Sn**	**19 14 56.0**	**-1.1**
GRL	**Gorelyy**	**3.72**	**18**	*e*P	**Pn**	**19 14 16.1**	**+1.3**
GRL				*i* S	**Sn**	**19 14 57.1**	**-0.4**
APC	**Apacha**	**3.94**	**9**	*e*P	**Pn**	**19 14 18.2**	**+0.5**
APC				*i* S	**Sn**	**19 15 02.7**	**-0.1**
PETK	**Petropavlovsk-**	**4.19**	**13**	PN	**Pn**	**19 14 22.2**	**+1.0**
PETK				pmax	pmax		
	comp=Z,7.0nm,0.3s						
PETK	**Petropavlovsk-**	**4.19**	**13**	P	**Pn**	**19 14 22.2**	**+1.0**
	comp=Z,6.5nm,0.3s,baz=177,slow=13,SNR=74						
PET	**Petropavlovsk**	**4.29**	**21**	*e*PN	**Pn**	**19 14 24.2**	**+1.7**
PET				*e*S	**Sn**	**19 15 16.1**	**+4.8**
PET				pmax	pmax		
	comp=Z,50nm,0.6s						
PET				smax	smax		
	comp=E,196nm,0.6s						
PET	**Petropavlovsk**	**4.29**	**21**	*e*P	**Pn**	**19 14 23.5**	**+1.0**
PET				*i* S	**Sn**	**19 15 10.8**	**-0.5**
UGLR	**Uglovaya**	**4.50**	**21**	*e*P	**Pn**	**19 14 26.7**	**+1.2**
AVH	**Avacha**	**4.53**	**20**	*e*P	**Pn**	**19 14 27.6**	**+1.7**
KOK	**Koryaka**	**4.54**	**19**	*i* P	**Pn**	**19 14 28.0**	**+2.0**
SMAR	**Somma**	**4.54**	**20**	*e*P	**Pn**	**19 14 28.0**	**+1.8**
KRER	**Koryakskii**	**4.57**	**20**	*i* P	**Pn**	**19 14 28.2**	**+1.6**
SDLR	**Sedlovina**	**4.58**	**21**	*e*P	**Pn**	**19 14 27.4**	**+0.8**
SDLR				*i* S	**Sn**	**19 15 18.5**	**-0.1**
KRX	**Arik**	**4.60**	**19**	*e*P	**Pn**	**19 14 29.0**	**+2.1**
GNL	**Ganaly**	**4.80**	**13**	*e*P	**Pn**	**19 14 30.7**	**+1.1**
MKZ	**Mys Kozlova**	**6.51**	**30**	PN	**Pn**	**19 14 52.2**	**-0.8**
MKZ	**Mys Kozlova**	**6.51**	**30**	*e*P	**Pn**	**19 14 52.2**	**-0.8**
MKZ				*i* S	**Sn**	**19 16 06.2**	**+0.2**
TUMR	**Tumrok**	**6.72**	**20**	*e*P	**Pn**	**19 14 55.6**	**-0.3**
KUR	**Kuril'sk**	**6.82**	**239**	PN	**Pn**	**19 14 56.0**	**-1.2**
KMNR	**Kamenistaya**	**7.17**	**19**	*e*P	**Pn**	**19 15 01.6**	**-0.6**
SRKR	**Sorokina**	**8.21**	**20**	*e*P	**Pn**	**19 15 14.8**	**-1.5**
KBTR	**Krutoberegovo**	**8.24**	**27**	PN	**Pn**	**19 15 16.5**	**-0.2**
KBTR	**Krutoberegovo**	**8.24**	**27**	*e*P	**Pn**	**19 15 16.5**	**-0.2**
BKI	**Bering**	**8.63**	**41**	PN	**Pn**	**19 15 21.8**	**-0.2**
BKI	**Bering**	**8.63**	**41**	*e*P	**Pn**	**19 15 21.8**	**-0.2**
BKI				*i* S	**Sn**	**19 16 54.4**	**-3.6**
YUK	**Yuzh-Kuril'sk**	**8.68**	**239**	*e*PN	**Pn**	**19 15 21.6**	**-1.2**
ASAJ	**Asahikawa**	**10.55**	**247**	P	**Pn**	**19 15 47.8**	**-0.7**
	comp=E,1.7nm,0.3s,baz=83,slow=17,SNR=29						
FX1	**Attu Island--F**	**11.39**	**64**	P	**Pn**	**19 16 02.2**	**+2.4**
	comp=E,5.0nm,0.3s,baz=336,slow=21,SNR=9.8						
FX1				S	**Sn**	**19 18 01.3**	**-4.3**
	comp=E,6.8nm,0.3s,baz=7.4,slow=21,SNR=9.8						
H11N2	**WAKE ISLAND Hy**	**30.48**	**160**	T	T	19 52 19.9	
	baz=348,slow=0.7,SNR=14						
H11N1	**WAKE ISLAND Hy**	**30.50**	**160**	T	T	19 52 10.9	
	baz=348,slow=0.7,SNR=26						
H11N3	**WAKE ISLAND Hy**	**30.50**	**160**	T	T	19 52 19.8	
	baz=348,slow=0.7,SNR=21						
H11S1	**WAKE ISLAND Hy**	**31.62**	**161**	T	T	19 53 29.7	
	baz=351,SNR=459						
H11S3	**WAKE ISLAND Hy**	**31.63**	**161**	T	T	19 53 43.0	
	baz=351,SNR=528						
H11S2	**WAKE ISLAND Hy**	**31.64**	**161**	T	T	19 53 31.2	
	baz=351,SNR=233						
ILAR	**Eielson Array**	**33.48**	**41**	P	**P**	**19 19 55.1**	**-0.1**
	comp=E,0.4nm,0.5s,baz=263,slow=9.3,SNR=5.6						
MKAR	**Makanchi Array**	**47.73**	**297**	LR	LR	19 43 39.2	
	comp=E,83nm,18.6s,baz=358,slow=38						
CMAR	**Chiang Mai Arr**	**54.89**	**257**	P	P	19 22 44.1	-2.9
	comp=E,0.4nm,0.6s,baz=34,slow=6.9						
NVAR	**Mina Array Bea**	**59.58**	**65**	P	**P**	**19 23 21.9**	**+1.7**
	comp=E,0.3nm,0.4s,baz=287,slow=7.4,SNR=2.6						
PDAR	**Pinedale Array**	**61.75**	**56**	P	**P**	**19 23 35.1**	**+0.3**
	comp=E,1.0nm,0.9s,baz=304,slow=2.7,SNR=6.0						
TXAR	**Lajitas Array**	**74.60**	**63**	P	**P**	**19 24 56.5**	**+1.0**
	comp=E,0.6nm,0.7s,baz=326,slow=6.5,SNR=4.6						
H03N2	**Juan Fernandez**	**136.71**	**90**	T	T	22 05 16.6	
	baz=310,slow=0.7,SNR=8.1						
H03N1	**Juan Fernandez**	**136.72**	**90**	T	T	22 04 60.0	
	baz=310,slow=0.7,SNR=9.4						
H03N3	**Juan Fernandez**	**136.72**	**90**	T	T	22 05 16.5	
	baz=310,slow=0.7,SNR=6.3						

*ISCJB **07** 19:18:54.9±0.3, 28°.76N±0°.04×139°.41E±0°.06, h448km, mb3.7/23, Error ellipse: s-maj=6.9km s-min=5.3km az=161.4*
*IDC **07** 19:18:55.9±0.6, 28°.74N×139°.54E, h457km±7km, mb3.4/20, mb1 3.6/25, mb1mx3.5/30, mbtmp3.4/25, Error ellipse: s-maj=12.8km s-min=9.6km az=72.0*
*JMA **07** 19:18:55.8±0.1, 28°.91N×140°.05E, h478km, M4.3*

ISC 07 19:18:55.3±0.5, 28°76N±0°.06×139°50E±0°.09, h448km, n50, σ1§31/63, mb3.8/23, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.90**	**124**	P	**P**	**19 20 02.6**	**+1.1**
CBIJ				*e*S	**S**	**19 20 55.7**	**+0.6**
JCJ	**Chichijima**	**2.90**	**124**	P	**P**	**19 20 03.2**	**+1.7**
	177nm,0.3s,baz=294,slow=22,SNR=9.2						
JCJ				S	**S**	**19 20 55.6**	**+0.5**
	180nm,0.3s,baz=288,slow=20,SNR=8.6						
JHHJ	**Haha-jima-NKT**	**3.18**	**131**	P	**P**	**19 20 05.5**	**+1.9**
JHHJ				*e*S	**S**	**19 21 00.3**	**+1.3**
TTO1	**TONANKAI O.B.S**	**5.38**	**335**	P	P	19 20 27.8	+5.0
BSO1	**Boso 1**	**6.01**	**12**	P	**P**	**19 20 30.7**	**+1.8**
BSO1				*e*S	**S**	**19 21 45.9**	**+0.3**
BSO3	**Boso 3**	**6.08**	**8**	P	**P**	**19 20 31.4**	**+1.4**
BSO3				*e*S	**S**	**19 21 47.9**	**+0.4**
JHU	**Hanno**	**7.07**	**359**	P	**P**	**19 20 41.0**	**+0.4**
JHU				*e*S	**S**	**19 22 05.0**	**-1.9**
JRY	**Ryogami san**	**7.25**	**356**	P	**P**	**19 20 44.0**	**+1.4**
MAT	**Matsushiro**	**7.84**	**352**	P	**P**	**19 20 50.8**	**+2.0**
MAT				*e*S	**S**	**19 22 24.5**	**+2.5**
MAT	**Matsushiro**	**7.84**	**352**	P	**P**	**19 20 51.1**	**+2.3**
MAT				*e*S	**S**	**19 22 21.1**	**-0.9**
JNU	**Nakatsue**	**8.59**	**303**	P	**P**	**19 20 59.4**	**+2.4**
	0.6nm,0.3s,baz=163,slow=6.1,SNR=4.8						
KSRS	**Korea Array**	**13.01**	**315**	P	**P**	**19 21 46.4**	**+1.5**
	0.6nm,0.3s,baz=130,slow=11,SNR=13						
ASAJ	**Asahikawa**	**15.53**	**8**	P	**P**	**19 22 13.4**	**+1.5**
	0.3nm,0.3s,baz=151,slow=10,SNR=4.6						
USRK	**Ussuriysk Arra**	**16.54**	**341**	P	**P**	**19 22 24.9**	**+2.3**
	0.9nm,0.3s,baz=174,slow=10,SNR=15						
SONM	**Songino Array**	**31.87**	**316**	P	**P**	**19 24 42.6**	**+0.6**
	4.3nm,0.5s,baz=126,slow=8.3,SNR=42						
CMAR	**Chiang Mai Arr**	**38.39**	**264**	P	**P**	**19 25 37.4**	**+0.5**
	0.6nm,0.6s,baz=71,slow=5.3						
TAPN	**Taplejung**	**45.43**	**281**	*e*P	**P**	**19 26 33.8**	**+0.7**
ODAN	**Odare**	**45.83**	**281**	*e*P	**P**	**19 26 36.8**	**+0.7**
	12nm,0.3s						
RAMN	**Ramite**	**46.49**	**281**	*e*P	**P**	**19 26 41.8**	**+0.7**
	8.2nm,0.4s						
JIRN	**Jiri**	**46.66**	**282**	*e*P	**P**	**19 26 43.6**	**+1.0**
	18nm,0.3s						
ZALV	**Zalesovo Beam**	**46.68**	**318**	P	**P**	**19 26 41.3**	**-0.6**
	1.5nm,0.4s,baz=97,slow=7.3,SNR=10						
ZALV				PcP	**PcP**	**19 28 05.9**	**-0.9**
	0.8nm,0.4s,baz=118,slow=5.4,SNR=4.0						
GUN	**Gumba**	**46.86**	**282**	*e*P	**P**	**19 26 45.0**	**+0.9**
	18nm,0.4s						
PKI	**Pulchoki**	**47.35**	**282**	*e*P	**P**	**19 26 48.1**	**+0.3**
KKN	**Kakani**	**47.41**	**282**	*e*P	**P**	**19 26 48.5**	**+0.4**
MKAR	**Makanchi Array**	**47.59**	**309**	P	**P**	**19 26 49.0**	**+0.1**
	3.3nm,0.5s,baz=88,slow=9.8,SNR=53						
MKAR				PcP	**PcP**	**19 28 09.8**	**-0.5**
	0.5nm,0.5s,baz=79,slow=8.6,SNR=4.9						
MKAR				ScP	**ScP**	**19 31 17.2**	**-3.9**
	0.3nm,0.5s,baz=74,slow=5.8,SNR=6.0						
DMN	**Daman**	**47.60**	**282**	*e*P	**P**	**19 26 50.0**	**+0.4**
	9.8nm,0.5s						
GKN	**Gorkha**	**47.91**	**283**	*e*P	**P**	**19 26 52.3**	**+0.5**
	5.5nm,0.3s						
DANN	**Dangsing**	**48.57**	**284**	*e*P	**P**	**19 26 57.9**	**+1.0**
	8.3nm,0.3s						
WRA	**Warramunga Arr**	**48.67**	**186**	P	**P**	**19 26 57.2**	**-0.1**
	6.3nm,0.5s,baz=3.5,slow=7.7,SNR=40						
WRA				ScP	**ScP**	**19 31 23.0**	**-2.9**
	0.8nm,0.8s,baz=4.5,slow=5.0,SNR=5.7						
KOLN	**Koldanda**	**48.85**	**283**	*e*P	**P**	**19 26 59.5**	**+0.6**
	5.4nm,0.3s						
ASAR	**Alice Springs**	**52.40**	**186**	P	**P**	**19 27 24.6**	**-0.1**
	1.5nm,0.6s,baz=16,slow=13,SNR=45						
ASAR				ScP	**ScP**	**19 31 40.0**	**-2.0**
	0.7nm,1.1s,baz=352,slow=5.4,SNR=3.5						
KDAK	**Kodiak Island**	**54.48**	**38**	P	**P**	**19 27 39.3**	**+0.3**
	9.1nm,0.9s,baz=198,slow=8.8,SNR=

GERES	GERESS Array B	88.85	328	P		P		19 30 59.5	-1.2
	comp=Z,0.5nm,0.6s,baz=15,slow=5.5,SNR=4.2								
EKA	Eskdalemuir Ar	90.35	340	P		P		19 31 06.8	-0.5
	comp=Z,0.4nm,0.4s,baz=44,slow=4.2,SNR=3.4								
TORD	Torodi Ar. Bea	121.70	310	PKP		PKPdf		19 36 56.8	-1.2
	comp=Z,0.3nm,0.5s,baz=67,slow=1.1,SNR=9.7								
TORD				PP		PP		19 38 37.6	+0.3
	comp=Z,0.2nm,0.6s,baz=47,slow=5.7,SNR=2.6								

*IDC **07** 19:31:14.6±5.0, 4°.44S×130°.06E, h128km±41km, mb3.4/3, mb1 3.3/6, mb1mx3.2/20, mbtmp3.2/6, Error ellipse: s-maj=59.8km s-min=12.3km az=71.0*
*AUST **07** 19:31:20.0±0.0, 5°.03S×128°.87E, h101km, Error ellipse: s-maj=2.0km s-min=1.0km az=286.0*
*DJA **07** 19:31:29.8±0.5, 5°S±5°×13°0E±°, h150km, M4.7/5, mb5.5/1, mB5.4/1, MLv4.3/5, Mw(mB)4.9/1*

ISC 07 19:31:28.2±1.0, 4°.81S±0°.08×129°.65E±0°.06, h182km, n20, σ1§74/16, mb3.6/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NLAI	Namlea	2.98	301	P	Pn	19 32 17.9	+1.2
NLAI				S	Sn	19 32 53.9	-0.6
TLE	Tual	3.19	105	P	Pn	19 32 20.0	+0.8
TLE				S	Sn	19 32 56.6	-2.4
TLE	Tual	3.19	105	P	Pn	19 32 20.0	+0.8
	baz=3.9,SNR=21						
FAKI	Fak Fak	3.20	54	P	Pn	19 32 20.5	+1.1
FAKI				S	Sn	19 32 57.1	-2.3
FAKI	Fak Fak	3.20	54	P	Pn	19 32 20.5	+1.1
	baz=4.0,SNR=11						
SWI	Sorong	4.24	22	P	Pn	19 32 32.1	-0.3
SWI				S	Sn	19 33 22.5	-0.2
SWI	Sorong	4.24	22	P	Pn	19 32 32.2	-0.1
	baz=4.8,SNR=13						
SRPI	Serui, Papua	7.20	66	P	Pn	19 33 14.1	+3.1
BAKI	Biak	7.38	61	P	Pn	19 33 40.7	+27
BATI	Baumata	8.00	228	P	Pn	19 33 15.8	-5.7
	2.7nm,0.3s,baz=90,slow=22,SNR=5.5						
BATI				S	Sn	19 34 41.8	-10
	0.4nm,0.3s,baz=307,slow=20,SNR=5.0						
KDU	Kakadu	8.31	161	P	Pn	19 33 19.5	-6.1
	baz=8.4,SNR=16						
KNRA	Kununurra	10.84	185	P	Pn	19 33 50.0	-8.6
	baz=11,SNR=7.6						
MMPI	Merauke	11.27	109	P	Pn	19 34 04.9	+0.7
	baz=12,SNR=7.9						
MTKI	Muara Teweh, K	15.22	284	P	P	19 34 57.3	+2.5
WRA	Warramunga Arr	15.72	164	P	Pn	19 34 51.2	-9.0
	0.1nm,0.3s,baz=344,slow=12,SNR=4.3						
WRA				S	S	19 37 38.7	-16
	0.3nm,0.3s,baz=340,slow=19,SNR=5.2						
ASAR	Alice Springs	19.20	168	P	P	19 35 30.9	-7.3
	0.2nm,0.3s,baz=346,slow=11,SNR=16						
ASAR				S	S	19 39 06.0	-0.1
	0.1nm,0.3s,baz=350,slow=25,SNR=4.3						
TPRI	Tanjung Pinang	25.73	282	P	P	19 36 39.5	-2.6
CMAR	Chiang Mai Arr	38.09	308	P	P	19 38 22.0	-7.6
	0.6nm,0.6s,baz=135,slow=6.9,SNR=8.7						
MKAR	Makanchi Array	66.21	326	P	P	19 41 48.6	-7.9
	0.6nm,0.5s,baz=113,slow=7.5,SNR=11						
KURBB	Kurchatov Arra	70.47	328	P	P	19 42 14.6	-8.2
	0.5nm,0.4s,baz=130,slow=5.0,SNR=6.0						

*AUST **07** 19:42:17.9±35.0, 19°.24S×175°.20W, h298km, Error ellipse: s-maj=13.6km s-min=2.0km az=241.0*
*IDC **07** 19:42:27.4±2.3, 18°.27S×176°.84W, h310km±24km, mb3.6/8, mb1 3.9/10, mb1mx3.5/22, mbtmp3.6/10, Error ellipse: s-maj=27.7km s-min=12.3km az=146.0*
*ISCJB **07** 19:42:29.1±0.8, 18°.2S±0°.2×176°.7W±0°.1, h361km, mb3.8/7, Error ellipse: s-maj=27.7km s-min=13.3km az=146.1*

ISC 07 19:42:29.0±1.1, 18°.1S±0°.2×176°.6W±0°.2, h361km, n18, σ0§63/15, mb3.8/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	6.22	48	P	Pn	19 44 02.8	0.0
	7.9nm,0.3s,baz=100,slow=4.7,SNR=5.1						
DZM	Mont Dzumac	16.44	253	P	P	19 45 58.1	-0.9
	0.5nm,0.3s,baz=82,slow=18,SNR=8.1						
URZ	Urewera	20.82	194	P	P	19 46 43.4	-0.2
	4.4nm,0.4s,baz=222,slow=19,SNR=10						
CTA	Charters Tower	35.15	261	P	P	19 48 50.9	+0.7
	4.5nm,0.6s,baz=90,slow=12,SNR=8.4						
CMSA	Cobar Meteorol	36.59	241	P	P	19 49 02.6	+0.5
	baz=37,SNR=14						
STKA	Stephens Creek	40.08	242	P	P	19 49 31.8	+0.9
	baz=41,SNR=9.3						
STKA	Stephens Creek	40.08	242	P	P	19 49 30.7	-0.2
	2.7nm,0.5s,baz=91,slow=12,SNR=11						
MMPI	Merauke	42.89	277	P	P	19 50 15.5	+22
	baz=44,SNR=4.3						
BBOO	Buckleboo	44.85	241	P	P	19 50 09.2	+0.3
	baz=45,SNR=7.7						
WRA	Warramunga Arr	46.33	259	P	P	19 50 20.2	-0.3
	1.3nm,0.4s,baz=98,slow=6.6,SNR=17						
ASAR	Alice Springs	46.43	254	P	P	19 50 21.8	+0.4
	7.8nm,0.4s,baz=90,slow=8.5,SNR=165						
ASAR				S	S	19 56 40.7	-0.8
	0.6nm,0.7s,baz=88,slow=15,SNR=6.4						
KDU	Kakadu	49.31	269	P	P	19 50 44.0	+0.8
	baz=51,SNR=4.8						
KNRA	Kununurra	52.22	264	P	P	19 51 05.2	+0.5
	baz=53,SNR=7.4						
MEEK	Meekatharra	60.01	249	P	P	19 51 59.1	-0.1
	baz=61,SNR=3.7						
NVAR	Mina Array Bea	78.36	43	P	P	19 53 55.9	+5.2
	1.2nm,0.7s,baz=224,slow=9.0,SNR=10						
TXAR	Lajitas Array	84.63	57	P	P	19 54 29.2	+5.9
	2.0nm,0.9s,baz=216,slow=6.2,SNR=13						
ILAR	Eielson Array	85.70	12	P	P	19 54 31.2	+3.7
	0.2nm,0.4s,baz=230,slow=5.5,SNR=6.9						
GERES	GERESS Array B	148.24	347	PKPbc	PKPab	20 01 36.6	-0.6
	0.8nm,0.6s,baz=29,slow=3.0,SNR=5.5						

*IDC **07** 19:51:19.6±5.9, 36°.12N×71°.10E, h112km±52km, mb3.5/7, mb1 3.5/11, mb1mx3.3/31, mbtmp3.4/11, Error ellipse: s-maj=41.4km s-min=20.4km az=33.0*
*ISCJB **07** 19:51:25.0±0.5, 36°.36N±0°.03×71°.32E±0°.08, h188km, mb3.5/6, Error ellipse: s-maj=9.1km s-min=4.2km az=167.0*
*NNC **07** 19:51:24.9±8.4, 36°.95N×70°.61E, h0km, mb4.2, mpv4.2, Error ellipse: s-maj=66.7km s-min=48.8km az=6.0*

ISC 07 19:51:25.6±0.7, 36°.40N±0°.05×71°.38E±0°.09, h188km, n36, σ1§85/38, mb3.3/6, 5C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	Cherat	2.61	170	⇑P	Pn	19 52 09.0	-1.1
CEP				S	Sn	19 52 41.0	-3.8
CHCP	Chirah Chowk	3.14	150	P	Pn	19 52 16.5	+0.1
THW	Thamme Wali	3.61	175	⇑P	Pn	19 52 21.2	-0.9
THW				S	Sn	19 53 03.0	-3.3
SARP	Sargodha	4.59	166	P	Pn	19 52 34.3	-0.2
AML	Almayashu	6.00	17	P	Pn	19 52 51.1	-1.9
	SNR=24						
KZA	Kyzart	6.42	27	P	Pn	19 52 56.9	-1.5
	SNR=10						
EKS2	Erkin-Say	6.52	16	P	Pn	19 53 00.0	+0.5
	SNR=10						
AAK	Ala-Archa	6.67	20	P	Pn	19 53 01.6	+0.1
	SNR=17						
AAK	Ala-Archa	6.67	20	P	Pn	19 53 00.4	-1.2
	3.8nm,0.3s,baz=180,slow=6.2,SNR=39						
AAK				S	Sn	19 54 12.3	-5.2
	0.8nm,0.3s,baz=208,slow=8.3,SNR=3.6						
KK31	Karatay Array	6.73	355	⇓P	Pn	19 52 59.4	-2.7
	7.2nm,0.3s,baz=175,slow=12,SNR=398						
KK31				⇑S	Sn	19 54 10.4	-8.2
	6.7nm,0.4s,baz=184,slow=23,SNR=4.2						
SDNR	Sundarnagar	6.74	135	eP	Pn	19 53 02.0	-0.4
SDNR				eS	Sn	19 54 17.0	-1.9
CHMS	Chumysh	7.08	20	P	Pn	19 53 07.1	+0.3
	SNR=8.0						
TKM2	Tokmak 2	7.28	25	⇑P	Pn	19 53 10.5	+1.0
	11nm,0.6s						
TKM2				⇓S	Sn	19 54 31.2	-0.7
	11nm,0.8s						
TKM2	Tokmak 2	7.28	25	P	Pn	19 53 10.2	+0.7
	SNR=23						

DANN	Dangsing	13.18	124	eP		Pn		19 54 26.1	+0.1
	24nm,0.3s								
MK31	Makanchi Array	13.20	35	⇓P		P		19 54 29.5	+0.5
	0.9nm,0.5s								
MKAR	Makanchi Array	13.20	35	P		Pn		19 54 26.8	+1.0
	0.3nm,0.3s,baz=212,slow=11,SNR=11								
KOLN	Koldanda	13.46	126	eP		Pn		19 54 29.3	-0.1
	15nm,0.3s								
GKN	Gorkha	13.99	123	eP		Pn		19 54 36.1	+0.1
	27nm,0.3s								
DMN	Daman	14.56	123	eP		P		19 54 44.1	-0.6
	14nm,0.3s								
KKN	Kakani	14.56	122	eP		Pn		19 54 43.6	+0.4
	17nm,0.5s								
PKI	Pulchoki	14.79	123	eP		Pn		19 54 46.6	+0.5
	14nm,0.4s								
KURBB	Kurchatov Arra	15.12	18	P		P		19 54 52.5	+2.1
	0.3nm,0.3s,baz=206,slow=11,SNR=13								
JIRN	Jiri	15.27	121	eP		P		19 54 53.0	+0.4
	58nm,0.4s								
AB31	Akbulak array	15.32	331	⇑P		Pn		19 54 51.2	-0.8
	1.1nm,0.4s,baz=154,slow=14,SNR=53								
AB31				S		S		19 57 31.2	-12
	2.5nm,0.7s,baz=151,slow=21,SNR=6.4								
RAMN	Ramite	16.00	122	eP		Pn		19 55 02.2	+1.4
	9.9nm,0.2s								
TAPN	Taplejung	16.53	118	eP		Pn		19 55 10.4	+3.3
	12nm,0.4s								
ODAN	Odare	16.61	120	eP		Pn		19 55 11.1	+3.1
	35nm,0.9s								
BVAR	Borovoye Array	16.64	358	P		Pn		19 55 09.1	+1.2
	0.4nm,0.3s,baz=163,slow=8.9,SNR=5.8								
ZALV	Zalesovo Beam	19.88	24	P		Pn		19 55 44.5	-1.7
	2.4nm,0.3s,baz=224,slow=11,SNR=24								
ARCES	ARCESS Array B	41.35	338	P		P		19 58 55.4	+2.8
	3.2nm,0.9s,baz=110,slow=9.9,SNR=3.4								
HFS	Hagfors	43.34	322	P		P		19 59 11.1	+2.5
	4.7nm,0.9s,baz=108,slow=14,SNR=4.0								
NOA	NORSAR Array B	44.65	323	P		P		19 59 21.3	+2.2
	0.8nm,0.7s,baz=96,slow=7.8,SNR=2.5								
TORD	Torodi Ar. Bea	66.02	269	P		P		20 01 52.6	+0.3
	0.3nm,0.6s,baz=50,slow=6.3,SNR=6.0								
WRA	Warramunga Arr	81.68	122	P		P		20 03 26.6	+3.6
	0.2nm,0.5s,baz=327,slow=4.7,SNR=2.8								
ASAR	Alice Springs	83.95	125	P		P		20 03 37.0	+2.4
	0.2nm,0.7s,baz=321,slow=5.4,SNR=5.5								

*CSEM **07** 19:54:22.2±0.1, 34°.06N×28°.93E, h20km, MD3.7, Error ellipse: s-maj=4.8km s-min=3.1km az=62.0*
*ATH **07** 19:54:22.7, 34°.29N×28°.80E, h19km±11km, MD3.7/10*
*HLW **07** 19:54:23.1, 34°.17N×28°.99E, h33km±26km, Md3.5, MI3.2*
*ISK **07** 19:54:23.4, 34°.25N×28°.74E, h22km, ML3.4*
*DDA **07** 19:54:24.7, 34°.53N×28°.62E, h12km, ML3.3*

ISC 07 19:54:19.9±3.0, 34°.09N±0°.04×28°.99E±0°.04, h17km±22km, n101, σ1§66/112, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	Karpathos	2.09	314	ePN	Pb	19 54 56.4	-1.0
KARP				eSN	Sn	19 55 20.4	+0.6
KARP	Karpathos	2.09	314	ePn	Pb	19 54 56.4	-1.0
KARP				eSn	Sn	19 55 20.4	+0.6
KSL	Kastellorizon	2.11	13	ePN	Pb	19 54 57.3	-0.3
AKAS	Kas	2.19	13	iP	Pb	19 54 58.5	-0.7
AKAS				iS	Sn	19 55 20.6	-1.9
AKAS	Kas	2.19	13	iP	Pb	19 54 58.5	-0.7
AKAS				iS	Sn	19 55 20.6	-1.9
ARG	Arkhangelos	2.24	342	ePN	Pb	19 54 58.1	-1.7
ARG				eSN	Sn	19 55 23.3	0.0
ARG	Arkhangelos	2.24	342	ePn	Pb	19 54 58.1	-1.7
ARG				eSn	Sn	19 55 23.3	0.0
FETY	Fethiye	2.54	2	ePN	Pn	19 55 02.4	+2.1
FETY				eSN	Sn	19 55 31.0	+0.2
FETY	Fethiye	2.54	2	ePn	Pn	19 55 02.4	+2.1
FETY				eSn	Sn	19 55 31.0	+0.2
DALY	Dalyan (Mu¨la	2.73	354	ePN	Pn	19 55 04.8	+1.9
DALY	Dalyan (Mu¨la	2.73	354	ePn	Pn	19 55 04.8	+1.9
ELL	Elmali	2.75	15	ePN	Pb	19 55 06.3	-2.4
ELL	Elmali	2.75	15	ePn	Pb	19 55 06.3	-2.4
TURN	Turunc	2.79	354	iP	Pn	19 55 05.5	+1.8
TURN				iS	Sn	19 55 36.0	-1.0
TURN	Turunc	2.79	354	iP	Pn	19 55 05.5	+1.8
TURN				iS	Sn	19 55 36.0	-1.0
DAT	Datca	2.87	337	ePN	Pn	19 55 05.9	+1.0
DAT				eSN	Sn	19 55 37.4	-1.8
DAT	Datca	2.87	337	ePn	Pn	19 55 05.9	+1.0
DAT				eSn	Sn	19 55 37.4	-1.8
NPS	Neapolis	3.02	294	ePN	Pn	19 55 09.1	+2.2
NPS				eSN	Sn	19 55 42.2	-0.5
NPS	Neapolis	3.02	294	ePn	Pn	19 55 09.1	+2.2
NPS				eSn	Sn	19 55 42.2	-0.5
LAST	Lasithi	3.09	291	ePN	Pn	19 55 09.8	+1.9
LAST	Lasithi	3.09	291	ePn	Pn	19 55 09.8	+1.9
YER	Yerkesik	3.09	349	ePN	Pn	19 55 10.0	+2.1
YER	Yerkesik	3.09	349	ePn	Pn	19 55 10.0	+2.1
GOLH	Golhisar	3.17	8	iP	Pb	19 55 13.3	-2.5
GOLH				iS	Sn	19 55 49.2	+2.7
GOLH	Golhisar	3.17	8	iP	Pb	19 55 13.3	-2.5
GOLH				iS	Sn	19 55 49.2	+2.7
BDRM	Kayabasi	3.23	337	iP	Pn	19 55 11.0	+1.3
BDRM				iS	Sn	19 55 45.1	-2.6
BDRM	Kayabasi	3.23	337	iP	Pn	19 55 11.0	+1.3
BDRM				iS	Sn	19 55 45.1	-2.6
BODT	Bodrum	3.27	336	ePN	Pn	19 55 11.4	+1.2
BODT	Bodrum	3.27	336	ePn	Pn	19 55 11.4	+1.2
HMAT	Matruh	3.39	209	P	Pn	19 55 13.3	+1.4
	baz=209						
HMAT				S	Sn	19 55 49.2	-2.6
	baz=209						
HMAT	Matruh	3.39	209	P	Pn	19 55 13.3	+1.4
HMAT				S	Sn	19 55 49.2	-2.6
GAZI	Gazipasa	3.46	51	iP	Pn	19 55 16.2	+3.3
GAZI				iS	Sn	19 55 52.4	-1.1
GAZI	Gazipasa	3.46	51	iP	Pn	19 55 16.2	+3.3
GAZI				iS	Sn	19 55 52.4	-1.1
SIVA	Sivas	3.57	286	ePN	Pn	19 55 16.4	+1.9
SIVA	Sivas	3.57	286	ePn	Pn	19 55 16.4	+1.9
IDI	Anoyia	3.59	291	ePN	Pn	19 55 16.1	+1.4
IDI	Anoyia	3.59	291	ePn	Pn	19 55 16.1	+1.4
DNZL	Cakiroluk	3.59	1	iP	Pn	19 55 18.0	+3.1
DNZL				iS	Sn	19 55 55.1	-1.8
DNZL	Cakiroluk	3.59	1	iP	Pn	19 55 18.0	+3.1
DNZL				iS	Sn	19 55 55.1	-1.8
BCK	Bucak	3.60	21	ePN	Pn	19 55 18.9	+4.0
BCK	Bucak	3.60	21	ePn	Pn	19 55 18.9	+4.0
AYDN	Tasoluk	3.67	346	iP	Pn	19 55 18.5	+2.6
AYDN				iS	Sn	19 55 57.6	-1.3
AYDN	Tasoluk	3.67	346	iP	Pn	19 55 18.5	+2.6
AYDN				iS	Sn	19 55 57.6	-1.3
SANT	Santorini	3.68	309	ePN	Pn	19 55 17.1	+1.1
SANT	Santorini	3.68	309	ePn	Pn	19 55 17.1	+1.1
SUTC	Sutluce-Ispart	3.75	25	ePN	Pn	19 55 21.5	+4.5
SUTC	Sutluce-Ispart	3.75	25	ePn	Pn	19 55 21.5	+4.5
GCAM	G?zelcaml?	3.87	339	iP	Pn	19 55 13.2	-5.3
GCAM				iS	Sn	19 56 01.3	-2.4
AYDB	Zeytinkoy-Aydi	3.95	347	ePN	Pn	19 55 21.7	+1.9
AYDB	Zeytinkoy-Aydi	3.95	347	ePn	Pn	19 55 21.7	+1.9
HDMB	Hadim	4.04	44	ePN	Pb	19 55 26.1	-4.6
HDMB	Hadim	4.04	44	ePn	Pb	19 55 26.1	-4.6
APE	Apeiranthos	4.10	317	ePN	Pn	19 55 22.5	+0.8
APE	Apeiranthos	4.10	317	ePN	Pn	19 55 22.7	+1.0
APE	Apeiranthos	4.10	317	ePn	Pn	19 55 22.7	+1.0
SLUM		4.11	232	P	Pn	19 55 23.2	+1.4
	baz=231						
SLUM		4.11	232	P	Pn	19 55 23.2	+1.4
GVD	Gavdhos	4.12	282	ePN	Pn	19 55 24.8	+2.8
GVD	Gavdhos	4.12	282	ePn	Pn	19 55 24.8	+2.8
KHAL	Karahalli	4.29	5	iP	Pn	19 55 26.6	+2.2
KHAL				iS	Sn	19 56 12.4	-1.7
KHAL	Karahalli	4.29	5	iP	Pn	19 55 26.6	+2.2
KHAL				iS	Sn	19 56 12.4	-1.7
KARN	Karanos	4.38	289	ePN	Pn	19 55 27.4	+1.8
KARN	Karanos	4.38	289	ePN	Pn	19 55 27.5	+1.9
KARN	Karanos	4.38	289	ePn	Pn	19 55 27.4	+1.8
KULA	Kula-Manisa	4.42	357	ePN	Pn	19 55 29.1	+2.9
KOT	Kottamia	4.80	149	P	Pn	19 55 32.8	+1.4
	baz=149						
KOT	Kottamia	4.80	149	P	Pn	19 55 32.8	+1.4
HHAG	Hagoal	4.90	147	P	Pn	19 55 34.6	+1.9
	baz=147						
HHAG	Hagoal	4.90	147	P	Pn	19 55 34.6	+1.9

DEMI	Demirci	4.95	357	iP		Pn		19 55 34.6	+1.2
DEMI				iS		Sn		19 56 27.4	-2.8
DEMI	Demirci	4.95	357	iP		Pn		19 55 34.6	+1.2
DEMI				iS		Sn		19 56 27.4	-2.8
AMAG	Maghara	4.95	133	P		Pn		19 55 34.6	+1.1
	baz=133								
AMAG	Maghara	4.95	133	P		Pn		19 55 34.6	+1.1
HSAF	As Saff	4.96	153	P		Pn		19 55 35.5	+1.9
	baz=153								
HSAF	As Saff	4.96	153	P		Pn		19 55 35.5	+1.9
ANKY	Antikythira Is	5.00	292	ePN		Pn		19 55 37.3	+3.3
ANKY	Antikythira Is	5.00	292	ePn		Pn		19 55 37.3	+3.3
GLL	Jalalah	5.06	152	P		Pn		19 55 36.0	+1.1
	baz=152								
GLL	Jalalah	5.06	152	P		Pn		19 55 36.0	+1.1
RSH		5.07	127	P		Pn		19 55 36.0	+1.0
	baz=127								
RSH		5.07	127	P		Pn		19 55 36.0	+1.0
SUZ		5.35	141	P		Pn		19 55 40.5	+1.7
	baz=141								
SUZ		5.35	141	P		Pn		19 55 40.6	+1.7
DURS	Dursunbey	5.51	356	iP		Pn		19 55 42.7	+1.5
DURS				iS		Sn		19 56 37.7	-7.0
DURS	Dursunbey	5.51	356	iP		Pn		19 55 42.7	+1.5
SWA2		5.70	213	P		Pn		19 55 45.3	+1.6
	baz=213								
SWA2				S		Sn		19 56 44.4	-4.3
	baz=213								
SWA2				AMP				19 57 00.0	
	comp=E,20μm,0.2s,logA/T=4.9,baz=213								
SWA2		5.70	213	P		Pn		19 55 45.3	+1.6
ZNM		5.75	144	P		Pn		19 55 46.2	+1.8
	baz=144								
ZNM		5.75	144	P		Pn		19 55 46.2	+1.8
AWBH		5.75	181	P		Pn		19 55 45.7	+1.3
	baz=181								
AWBH		5.75	181	P		Pn		19 55 45.7	+1.3
HNKL	Nakhl	5.93	133	P		Pn		19 55 48.0	+1.1
	baz=133								
HNKL				S		Sn		19 56 49.8	-4.7
	baz=133								
HNKL	Nakhl	5.93	133	P		Pn		19 55 48.0	+1.1
HFRF	Wahat Farafira	6.95	185	P		Pn		19 56 02.5	+1.8
	baz=185								
HFRF	Wahat Farafira	6.95	185	P		Pn		19 56 02.6	+1.8
TR2		6.98	143	P		Pn		19 56 02.4	+1.1
	baz=143								
TR2		6.98	143	P		Pn		19 56 02.4	+1.1
HKAT	Jabal Katrina	7.01	141	P		Pn		19 56 03.2	+1.3
	baz=141								
HKAT	Jabal Katrina	7.01	141	P		Pn		19 56 03.2	+1.3
TR1		7.41	144	P		Pn		19 56 08.4	+1.2
	baz=144								
TR1		7.41	144	P		Pn		19 56 08.4	+1.2

IDC 07 19:59:10.1±3.5, 15°.62S×173°.55W, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.8/20, mbtmp3.9/4, ML1.2/1, Error ellipse: s-maj=195.2km s-min=21.6km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	2.42	46	Pn	Pn	19 59 49.3	-1.8
	3.2nm,0.3s,baz=70,slow=15,SNR=3.3						
AFI				Sn	Sn	20 00 22.3	+0.9
	34nm,0.3s,baz=224,slow=23,SNR=9.3						
STKA	Stephens Creek	43.80	240	P	P	20 07 18.4	+0.4
	1.7nm,0.7s,baz=81,slow=11,SNR=4.3						
WRA	Warramunga Arr	49.65	257	P	P	20 08 02.5	-1.5
	0.4nm,0.5s,baz=93,slow=8.0,SNR=5.3						
ASAR	Alice Springs	49.90	252	P	P	20 08 05.3	-0.6
	2.2nm,0.5s,baz=88,slow=8.4,SNR=40						
BRTR	Keskin Array B	146.23	321	PKPbc	PKPab	20 18 54.7	+0.9
	0.9nm,0.8s,baz=133,slow=2.1,SNR=5.1						

WEL 07 19:59:59.7±0.1, 40°.41S×174°.69E, h12km, ML3.6/40, 4C-4D, Error ellipse: s-maj=1.1km s-min=0.6km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIW	Kapiti Island	0.48	160	⇑P*	Pg	20 00 08.4	-0.9
KIW				AML	AML	20 00 14.9	
KIW				AML	AML	20 00 14.9	
OGWZ	Otaki Gorge	0.55	138	⇑P*	Pg	20 00 09.8	-0.6
OGWZ				S*	Sg	20 00 17.4	-0.3
WAZ	Wanganui	0.69	19	P*	Pg	20 00 12.4	-0.8
WAZ				AML	AML	20 00 26.9	
WAZ				AML	AML	20 00 30.0	
DUWZ	D'Urville Isla	0.70	236	P*	Pg	20 00 12.2	-1.2
DUWZ				AML	AML	20 00 25.6	
DUWZ				AML	AML	20 00 25.7	
MRZ	Mangatainoka R	0.72	111	⇑P*	Pg	20 00 13.0	-0.8
MRZ				S*	Sg	20 00 22.3	-1.1
MRZ				AML	AML	20 00 22.6	
CAW	Cannon Point	0.76	158	P*	Pg	20 00 13.5	-0.9
CAW				AML	AML	20 00 26.1	
CAW				AML	AML	20 00 26.7	
HOWZ	Holdsworth Sta	0.80	128	P*	Pg	20 00 14.4	-0.7
POWZ	Post Office Ro	0.82	89	P*	Pg	20 00 14.8	-0.9
POWZ				S

TRVZ					AML	AML	20 00 43.6		
TRVZ					AML	AML	20 00 44.4		
MOVZ	**Moawhango**	**1.29**	**40**	⇓PN	Pn	Pn	20 00 21.8	-1.9	
MOVZ					AML	AML	20 00 44.1		
MOVZ					AML	AML	20 00 44.6		
NWEZ	**Newall Road**	**1.30**	**331**	PN	Pn		20 00 23.6	0.0	
DRZ	**Dome Shelter**	**1.32**	**31**	⇑PN	Pn		20 00 22.8	-1.5	
DRZ					AML	AML	20 00 44.9		
DRZ					AML	AML	20 00 52.3		
WHVZ	**Whangaehu Hut**	**1.32**	**32**	PN	Pn		20 00 22.6	-1.7	
PKE	**Pukeiti**	**1.33**	**336**	PN	Pn		20 00 24.2	+0.1	
PKE					AML	AML	20 00 44.6		
PKE					AML	AML	20 00 44.7		
FWVZ	**Far West T-bar**	**1.33**	**30**	PN	Pn		20 00 22.8	-1.6	
FWVZ					AML	AML	20 00 45.3		
FWVZ					AML	AML	20 00 45.5		
TUVZ	**Tukino**	**1.36**	**33**	PN	Pn		20 00 23.6	-1.2	
TUVZ					AML	AML	20 00 46.8		
TUVZ					AML	AML	20 00 48.3		
MHEZ	**Mangahewa**	**1.36**	**348**	PN	Pb		20 00 25.0	-0.1	
WPVZ	**Whakapapa**	**1.37**	**29**	PN	Pn		20 00 23.6	-1.2	
WPVZ					AML	AML	20 00 46.2		
WPVZ					AML	AML	20 00 46.7		
WPHZ	**Waipukurau**	**1.38**	**76**	PN	Pb		20 00 25.5	0.0	
BHHZ	**Black Hill Sta**	**1.40**	**49**	PN	Pn		20 00 23.4	-1.8	
NGZ	**Ngauruhoe**	**1.42**	**30**	PN	Pn		20 00 24.2	-1.3	
NGZ					AML	AML	20 00 53.8		
NGZ					AML	AML	20 00 57.5		
BSWZ	**Blackbirch Sta**	**1.44**	**205**	PN	Pn		20 00 25.2	-0.4	
BSWZ					AML	AML	20 00 51.4		
BSWZ					AML	AML	20 00 52.2		
OTVZ	**Oturere**	**1.45**	**31**	PN	Pn		20 00 25.1	-0.9	
OTVZ					AML	AML	20 00 49.2		
OTVZ					AML	AML	20 00 52.8		
TWVZ	**Taurewa**	**1.46**	**24**	PN	Pn		20 00 24.8	-1.2	
TWVZ					AML	AML	20 00 48.6		
TWVZ					AML	AML	20 00 50.1		
WTVZ	**West Tongariro**	**1.47**	**29**	PN	Pn		20 00 25.2	-0.9	
WTVZ					AML	AML	20 00 49.1		
WTVZ					AML	AML	20 00 49.2		
PRHZ	**Porangahau**	**1.49**	**85**	PN	Pb		20 00 27.0	-0.4	
KRVZ	**Karewarewa**	**1.50**	**30**	PN	Pn		20 00 25.8	-0.9	
KRVZ					AML	AML	20 00 48.4		
KRVZ					AML	AML	20 00 49.0		
KATZ	**Kakaramea**	**1.63**	**29**	PN	Pn		20 00 28.0	-0.4	
KATZ					AML	AML	20 00 54.0		
KATZ					AML	AML	20 00 54.5		
RITZ	**Rihia Road**	**1.69**	**33**	PN	Pn		20 00 29.3	+0.2	
RITZ					AML	AML	20 00 58.1		
RITZ					AML	AML	20 01 04.0		
QRZ	**Quartz Range**	**1.70**	**255**	PN	Pn		20 00 29.2	0.0	
PXZ	**Pawanui**	**1.71**	**78**	*e*PN	Pn		20 00 28.5	-0.7	
PXZ					AML	AML	20 01 10.7		
RATZ	**Rangitukua**	**1.75**	**29**	PN	Pn		20 00 30.3	+0.3	
RATZ					AML	AML	20 01 03.5		
RATZ					AML	AML	20 01 06.4		
KAHZ	**Kahuranaki**	**1.79**	**71**	PN	Pn		20 00 31.2	+0.7	
MCHZ	**McNeill Hill**	**1.82**	**59**	PN	Pb		20 00 32.9	-0.1	
BKZ	**Black Stump Fm**	**1.86**	**49**	PN	Pn		20 00 32.0	+0.5	
BKZ					AML	AML	20 01 02.5		
BKZ					AML	AML	20 01 04.6		
HATZ	**Hinemaiaia**	**1.86**	**36**	AML	AML		20 01 02.8		
HATZ					AML	AML	20 01 03.1		
WATZ	**Wairara**	**1.88**	**26**	PN	Pn		20 00 32.8	+1.0	
WATZ					AML	AML	20 01 04.1		
HIZ	**Hauiti**	**1.90**	**4**	PN	Pn		20 00 32.0	+0.1	
HIZ					AML	AML	20 00 58.4		
HIZ					AML	AML	20 00 58.5		
THZ	**Tophouse**	**1.91**	**224**	PN	Pn		20 00 32.1	-0.1	
THZ					AML	AML	20 01 07.0		
THZ					AML	AML	20 01 10.8		
NMHZ	**Naumai**	**2.09**	**52**	PN	Pn		20 00 36.1	+1.4	
TLZ	**Tolley Road**	**2.18**	**18**	PN	Pn		20 00 35.4	-0.4	
KHZ	**Kahutara**	**2.18**	**203**	PN	Pn		20 00 36.0	+0.2	
ALRZ	**Allen Road**	**2.25**	**35**	PN	Pb		20 00 38.6	-1.6	
DSZ	**Denniston Nort**	**2.56**	**238**	PN	Pn		20 00 42.1	+1.1	
TOZ	**Tahuroa Road**	**2.75**	**14**	PN	Pn		20 00 43.3	-0.3	
LTZ	**Lake Taylor**	**2.98**	**217**	PN	Pn		20 00 47.2	+0.3	
MKAZ	**Moumakai**	**3.31**	**7**	PN	Pn		20 00 51.6	+0.3	
OXZ	**Oxford**	**3.52**	**213**	PN	Pn		20 00 53.2	-1.1	
MQZ	**McQueen's Vall**	**3.63**	**204**	PN	Pn		20 00 53.5	-2.1	
FOZ	**Fox Glacier**	**4.88**	**228**	PN	Pn		20 01 10.4	-2.5	
ODZ	**Otahua Downs**	**5.51**	**211**	PN	Pn		20 01 19.7	-1.8	
JCZ	**Jackson Bay**	**5.72**	**228**	PN	Pn		20 01 24.3	-0.3	

IDC ***07*** *20:06:02.2±0.6, 16°.71S×173°.46W, h0km, mb4.2/12, mb1 4.4/13, mb1mx4.3/23, mbtmp4.2/13, ML4.0/1, MS3.6/6, Ms1 3.6/6, ms1mx3.4/27, Error ellipse: s-maj=25.7km s-min=16.0km az=120.0*

AUST ***07*** *20:06:03.8±0.0, 16°.69S×172°.56W, h50km, Error ellipse: s-maj=1.6km s-min=1.3km az=253.0*

NEIC ***07*** *20:06:03.4±0.5, 16°.60S×173°.44W, h10km, mb4.5/4, Error ellipse: s-maj=18.5km s-min=10.0km az=129.0*

ISCJB ***07*** *20:06:09.2±0.6, 16°.7S±0°.1×173°.6W±0°.1, h66km, mb4.2/16, Error ellipse: s-maj=17.5km s-min=11.6km az=44.5*

ISC 07 20:06:11.0±0.6, 16°.7S±0°.1×173°.5W±0°.1, h66km, n75, σ1§12/64, mb4.4/16, 3C-4D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
AFI	**Afiamalu**	**3.27**	**31**	*e*P	Pn	20 06 49.5		-11
AFI				Sn	Sn	20 07 22.8		-15
AFI	**Afiamalu**	**3.27**	**31**	Pn	Pn	20 06 49.7		-10
	24nm,0.3s,baz=43,slow=6.8,SNR=10							
AFI				Sn	Sn	20 07 22.8		-15
	144nm,0.3s,baz=218,slow=23,SNR=11							
AFI				LR	LR	20 08 07.1		
	comp=Z,517nm,19.6s,baz=211,slow=39							
NIUE	**Niue**	**4.15**	**125**	P	Pn	20 06 58.7		-13
	baz=3.5,SNR=130							
RAR	**Rarotonga**	**13.75**	**111**	Pn	Pn	20 09 10.2		-13
RAR	**Rarotonga**	**13.75**	**111**	Pn	Pn	20 09 10.2		-13
	3.3nm,0.3s,baz=270,slow=9.5,SNR=4.0							
RAR				LR	LR	20 13 07.2		
	comp=Z,279nm,20.1s,baz=272,slow=31							
DZM	**Mont Dzumac**	**19.62**	**251**	*e*LR	LR	20 15 35.8		
	650nm,24.4s							
DZM	**Mont Dzumac**	**19.62**	**251**	P	**P**	**20 10 33.2**		**-1.1**
DZM	**Mont Dzumac**	**19.62**	**251**	P	**P**	**20 10 33.2**		**-1.1**
	0.4nm,0.3s,baz=78,slow=11,SNR=3.3							
DZM				LR	LR	20 16 03.0		
	comp=Z,42nm,21.5s,baz=48,slow=30							
PPT2	**Papeete2**	**22.90**	**96**	*e*LR	LR	20 16 24.2		
	281nm,25.0s							
PPT	**Papeete**	**22.90**	**96**	LR	LR	20 17 39.3		
	comp=Z,173nm,19.1s,baz=352,slow=30							
URZ	**Urewera**	**22.97**	**199**	P	**P**	**20 11 09.1**		**-0.9**
URZ	**Urewera**	**22.97**	**199**	P	**P**	**20 11 09.1**		**-0.9**
	20nm,0.4s,baz=340,slow=3.6,SNR=28							
TBI	**Tubuai**	**23.53**	**110**	*e*LR	LR	20 16 39.0		
	316nm,26.0s							
HNR	**Honiara**	**26.81**	**282**	LR	LR	20 20 48.4		
	comp=Z,504nm,19.1s,baz=116,slow=33							
LHI	**Lord Howe Isla**	**28.92**	**234**	P	P	20 12 08.4		+4.4
	baz=30,SNR=8.4							
RPZ	**Rata Peaks**	**29.91**	**203**	P	**P**	**20 12 13.2**		**+0.5**
RPZ	**Rata Peaks**	**29.91**	**203**	P	**P**	**20 12 13.2**		**+0.5**
	7.2nm,0.7s,baz=58,slow=15,SNR=2.9							
ARMA	**Armidale**	**34.57**	**240**	P	**P**	**20 12 54.0**		**+0.3**
	baz=35,SNR=4.8							
CTAO	**Charters Tower**	**38.24**	**259**	*e*P	**P**	**20 13 24.5**		**-0.5**
	3.8nm,0.9s							
CMSA	**Cobar Meteorol**	**39.79**	**241**	P	**P**	**20 13 37.4**		**-0.4**
	baz=41,SNR=9.4							
QLP	**Quilpie**	**40.30**	**249**	P	**P**	**20 13 42.0**		**-0.2**
	baz=41,SNR=3.5							
STKA	**Stephens Creek**	**43.28**	**241**	P	**P**	**20 14 06.2**		**-0.1**
STKA	**Stephens Creek**	**43.28**	**241**	P	**P**	**20 14 06.2**		**-0.1**
	baz=44,SNR=9.8							
STKA	**Stephens Creek**	**43.28**	**241**	P	**P**	**20 14 06.2**		**-0.1**
	5.6nm,0.8s,baz=75,slow=9.1,SNR=11							
STKA				LR	LR	20 30 54.7		
	comp=Z,120nm,19.7s,baz=24,slow=34							
MMPI	**Merauke**	**45.63**	**275**	P	**P**	**20 14 23.9**		**-1.4**
	baz=47,SNR=4.8							
BBOO	**Buckleboo**	**48.05**	**241**	P	**P**	**20 14 44.2**		**+0.2**
	baz=49,SNR=7.2							
WRAB	**Tennant Creek**	**49.42**	**258**	*e*P	**P**	**20 14 53.9**		**-0.9**
	2.9nm,0.7s							
WRA	**Warramunga Arr**	**49.43**	**258**	P	**P**	**20 14 54.2**		**-0.6**

WRA	**Warramunga Arr**	**49.43**	**258**	P	**P**	**20 14 54.2**		**-0.6**
	1.6nm,0.4s,baz=95,slow=7.0,SNR=33							
AS31	**Alice Springs**	**49.59**	**253**	*e*P	**P**	**20 14 55.6**		**-0.5**
ASAR	**Alice Springs**	**49.59**	**253**	P	**P**	**20 14 55.8**		**-0.2**
ASAR	**Alice Springs**	**49.59**	**253**	P	**P**	**20 14 55.8**		**-0.2**
	16nm,0.6s,baz=87,slow=8.7,SNR=310							
KNRA	**Kununurra**	**55.26**	**262**	P	**P**	**20 15 39.2**		**+1.2**
	baz=56,SNR=4.6							
SOEI	**Soe**	**60.75**	**268**	P	**P**	**20 16 19.6**		**+2.9**
	baz=62,SNR=3.8							
VNDA	**Vanda**	**62.05**	**186**	P	**P**	**20 16 24.1**		**-0.1**
VNDA	**Vanda**	**62.05**	**186**	P	**P**	**20 16 24.1**		**-0.1**
	0.5nm,0.7s,baz=356,slow=4.9,SNR=3.0							
MBWA	**Marble Bar**	**62.88**	**254**	*e*P	**P**	**20 16 30.7**		**0.0**
	1.7nm,0.4s							
QSPA	**South Pole Qui**	**73.32**	**180**	P	**P**	**20 17 35.5**		**0.0**
QSPA	**South Pole Qui**	**73.32**	**180**	P	**P**	**20 17 35.5**		**0.0**
	1.8nm,1.0s,baz=3.0,slow=0.2,SNR=5.7							
PETK	**Petropavlovsk-**	**73.85**	**342**	P	**P**	**20 17 37.8**		**-0.7**
PETK	**Petropavlovsk-**	**73.85**	**342**	P	**P**	**20 17 37.8**		**-0.7**
	4.2nm,0.8s,baz=127,slow=13,SNR=5.9							
NVAR	**Mina Array Bea**	**75.40**	**42**	P	**P**	**20 17 48.2**		**+0.2**
NVAR	**Mina Array Bea**	**75.40**	**42**	P	**P**	**20 17 48.2**		**+0.2**
	0.6nm,0.9s,baz=228,slow=11,SNR=3.7							
MCK	**McKinley**	**82.45**	**11**	*e*P	**P**	**20 18 23.4**		**-2.5**
	7.2nm,0.8s							
PDAR	**Pinedale Array**	**83.33**	**42**	P	**P**	**20 18 30.9**		**-0.2**
PDAR	**Pinedale Array**	**83.33**	**42**	P	**P**	**20 18 30.9**		**-0.2**
	0.9nm,0.8s,baz=225,slow=1.5,SNR=4.5							
ILAR	**Eielson Array**	**83.77**	**11**	P	**P**	**20 18 32.0**		**-0.5**
ILAR	**Eielson Array**	**83.77**	**11**	P	**P**	**20 18 32.0**		**-0.5**
	0.5nm,0.6s,baz=202,slow=5.5,SNR=8.0							
MAW	**Mawson**	**86.50**	**199**	P	**P**	**20 18 46.7**		**+0.4**
MAW	**Mawson**	**86.50**	**199**	P	**P**	**20 18 46.7**		**+0.4**
	1.1nm,0.5s,baz=210,slow=3.4,SNR=4.1							
KWP	**Kalwaria Pacla**	**144.64**	**342**	⇓*i*P	**PKPdf**	**20 25 41.0**		**+0.8**
MALT	**Malatya**	**144.71**	**314**	⇑*i*P	**PKPdf**	**20 25 42.6**		**+1.8**
KMBO	**Kilima Mbogo**	**144.83**	**243**	PKP	**PKPdf**	**20 25 42.9**		**+1.0**
KMBO	**Kilima Mbogo**	**144.83**	**243**	PKP	**PKPdf**	**20 25 42.9**		**+1.0**
	0.6nm,0.3s,baz=233,slow=22,SNR=5.9							
CLL	**Collm**	**145.11**	**353**	*e*PKPdf	**PKPdf**	**20 25 43.0**		**+2.1**
UPC	**Upice**	**145.44**	**349**	*e*PKP	**PKPab**	**20 25 43.0**		**+1.2**
UPC				*ex*	x	20 25 52.8		
DPC	**Dobruska-Polom**	**145.54**	**349**	*e*PKP	**PKPab**	**20 25 43.8**		**+1.6**
DPC				*ep*PKP	**PKiKP**	**20 25 47.4**		**+1.7**
DPC				*ex*	x	20 25 52.4		
BURAR	**Bucovina Array**	**145.55**	**337**	⇓*i*P	**PKPab**	**20 25 44.6**		**+2.2**
OKC	**Ostrava-Krasne**	**145.65**	**347**	*e*PKP	**PKPab**	**20 25 45.7**		**+3.1**
OKC				*ex*	x	20 25 52.3		
PVCC	**Panska Ves**	**145.66**	**351**	*e*PKP	**PKPdf**	**20 25 40.6**		**-1.3**
KRLC	**Kraliky**	**145.71**	**348**	*e*PKP	**PKPab**	**20 25 45.8**		**+2.9**
KRLC				*ex*	x	20 25 52.2		
TLCR		**146.00**	**331**	⇓*i*P	PKPab	20 25 50.1		+6.1
PRU	**Pruhonice**	**146.19**	**351**	*e*PKP	**PKPdf**	**20 25 41.6**		**-1.2**
PRU				*ep*PKP	**PKiKP**	**20 25 46.3**		**-0.7**
PRU				*ex*	x	20 25 54.0		
VRI	**Vrincioaia**	**146.39**	**334**	⇑*i*P	PKPab	20 25 51.9		+6.4
MLR	**Muntele Rosu**	**147.01**	**334**	⇑*i*P	**PKPab**	**20 25 48.8**		**+0.6**
BR131	**Keskin Array S**	**147.10**	**320**	*e*PKPbc	**PKPab**	**20 25 48.7**		**0.0**
BRTR	**Keskin Array B**	**147.10**	**320**	PKPbc	**PKPab**	**20 25 48.6**		**0.0**
BRTR	**Keskin Array B**	**147.10**	**320**	PKPbc	**PKPab**	**20 25 48.6**		**0.0**
	2.6nm,0.9s,baz=136,slow=3.1,SNR=9.6							
KHC	**Kasperske Hory**	**147.17**	**351**	*e*PKP	**PKPab**	**20 25 48.0**		**-0.5**
KHC				*ex*	x	20 25 58.3		
KHC	**Kasperske Hory**	**147.17**	**351**	*e*PKPdf	**PKPbc**	**20 25 46.3**		**-0.5**
VOIR		**147.42**	**335**	⇓*i*P	**PKPab**	**20 25 50.1**		**+0.4**
GERES	**GERESS Array B**	**147.43**	**351**	PKPbc	**PKPab**	**20 25 49.2**		**-0.5**
GERES	**GERESS Array B**	**147.43**	**351**	PKPbc	**PKPab**	**20 25 49.2**		**-0.5**
	0.3nm,0.4s,baz=44,slow=4.1,SNR=5.1							
TORD	**Torodi Ar. Bea**	**174.17**	**127**	PKPab	**PKPab**	**20 27 44.7**		**-1.2**
TORD	**Torodi Ar. Bea**	**174.17**	**127**	PKPab	**PKPab**	**20 27 44.7**		**-1.2**
	0.4nm,1.0s,baz=258,slow=3.7,SNR=4.3							

NEIC 07 20:47:23.4, 37°.38N×121°.33W, h2km, MD2.5(NCEDC), After NCEDC., Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
SAO	**San Andreas Ge**	**0.62**	**189**	*e*Pg	Pg	20 47 36.1		+0.7
SAC	**San Andreas**	**0.89**	**283**	*e*Pg	Pg	20 47 40.2		-0.3
CMB	**Columbia Colle**	**0.99**	**49**	*e*Pg	Pg	20 47 41.3		-1.2
BEKR	**Beckworth**	**2.60**	**17**	*e*Pn	Pn	20 48 05.7		-1.0
NV11	**Mina Array Sit**	**2.72**	**66**	*e*P	Pb	20 48 12.4		-0.7
PAHR	**Pah Rah Range**	**2.78**	**33**	*e*Pg	Pb	20 48 13.4		-0.6
RWWY	**Rawlins**	**11.72**	**64**	*e*Pn	Pn	20 50 08.8		-3.1
	16nm,0.4s							
RLMT	**Red Lodge**	**11.92**	**46**	*e*Pn	Pn	20 50 13.3		-1.2
	6.8nm,0.5s							

ISCJB ***07*** *20:52:09.6±0.6, 81°.60N±0°.01×120°.35E±0°.07, h0km±3km, mb5.6/419, MS5.4/226, Error ellipse: s-maj=2.6km s-min=1.5km az=159.2*

BJI ***07*** *20:52:10.5, 81°.50N×119°.80E, h5km, mB5.8/55, mb5.3/60, Ms5.9/65, Ms7 5.6/61*

IDC ***07*** *20:52:11.1±0.3, 81°.60N×120°.33E, h0km, mb5.1/43, mb1 5.2/43, mb1mx5.2/43, mbtmp5.1/43, MS5.0/40, Ms1 5.0/40, ms1mx4.9/59, Error ellipse: s-maj=9.7km s-min=6.1km az=138.0*

MOS ***07*** *20:52:11.6±1.0, 81°.52N×119°.84E, h10km, mb5.7/120, MS5.1/63, Error ellipse: s-maj=19.4km s-min=4.4km az=93.2*

BGS ***07*** *20:52:13.2±1.6, 81°.57N×119°.53E, h10km, mb5.4*

NEIC ***07*** *20:52:13.0±0.1, 81°.57N×119°.53E, h8km, mb5.7/190, ME5.7, MS5.1/106, MW5.8, MW5.8(USGS), Error ellipse: s-maj=5.1km s-min=2.5km az=160.0 Broadband fault plane solution: P waves. NP1:φ=259.00000°, δ67.00000°, λ-27.00000°. NP2:φ=360.00000°, δ65.00000°, λ-155.00000°. Principal axes: T Plg2.0000°, Azm310.0000°; N Plg0.0000°, Azm0.0000°; P Plg90.0000°, Azm0.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

GCMT ***07*** *20:52:15.4±0.1, 81°.56N×120°.03E, h12km, MW5.8, Moment Tensor Solution. s100,c173; s56,c77; Moment tensor: Scale 10^17Nm; Mrr-5.98±.07; Mθθ 0.68±.07; Mφφ 5.30±.07; Mrθ-0.05±.20; Mrφ-3.10±.06; Mθφ-1.07±.20; Best double couple: M0 6.50000×10^17 NP1:φ=339.00000°, δ49.00000°, λ-83.00000°. NP2:φ=147.00000°, δ41.00000°, λ-99.00000°. Principal axes: T 6.9300, Plg4.0000°, Azm64.0000°; N -0.8200, Plg6.0000°, Azm154.0000°; P -6.1000, Plg83.0000°, Azm298.0000°; Data Used: II IU CN G IC. Surface waves: sta=118, comp=271, per= 50.*

NEIC ***07*** *20:52:25.2±0.0, 81°.56N×118°.86E, h10km, Moment Tensor Solution. s118 Moment tensor: Scale 10^17Nm; Mrr-6.04; Mθθ 0.92; Mφφ 5.12; Mrθ-2.93; Mθφ-2.12; Mrφ-0.47; Best double couple: M0 6.60000×10^17 NP1:φ=136.00000°, δ52.00000°, λ-117.00000°. NP2:φ=357.00000°, δ45.00000°, λ-58.00000°. Principal axes: T 6.0500, Plg3.0000°, Azm245.0000°; N 1.1700, Plg21.0000°, Azm154.0000°; P -7.2200, Plg68.0000°, Azm344.0000°;*

DJA ***07*** *20:52:33.1±5.8, 81°.N±22°×11°.8E±2°.1, h154km±44km, M5.3/14, mB5.8/12, mb5.4/14, Mw(mB)5.3/12, Mwp6.3/1*

ISC 07 20:52:13.8±0.3, 81°.59N±0°.03×120°.02E±0°.03, h15km±1km, h14km: pP-P, n1822, σ1§35/1995, mb5.6/428, MS5.2/226, 286C-406D, East of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
TIXI	**Tiksi**	**10.18**	**164**	*de*P	**Pn**	**20 54 37.9**		**-1.2**
TIXI				pmax	pmax			
	comp=Z,35nm,1.0s							
KBS	**Kingsbay**	**15.93**	**318**	*e*P	**P**	**20 56 01.4**		**+0.9**
KBS				*e*S	S	**20 59 10.2**		**+3.3**
KBS				AMS	AMS	21 03 40.4		
	comp=Z,8μm,14.1s							
KBS	**Kingsbay**	**15.93**	**318**	⇑*e*P	**Pn**	**20 55 53.1**		**-3.8**
KBS	**Kingsbay**	**15.93**	**318**	*e*Pn	**Pn**	**20 55 52.5**		**-4.5**
	comp=Z,207nm,1.0s							
ALE	**Alert**	**16.01**	**1**	Pn	**Pn**	**20 55 53.6**		**-4.4**
	comp=Z,132nm,0.4s,SNR=24							
SPITS	**Spitsbergen Ar**	**16.12**	**314**	Pn	**Pn**	**20 55 54.8**		**-4.7**
SPITS				Sn	Sn	20 58 46.9		-11
SPITS	**Spitsbergen Ar**	**16.12**	**314**	Pn	**Pn**	**20 55 54.8**		**-4.7**
	baz=40,slow=12,SNR=29							
SPITS				Sn	Sn	20 58 46.9		-11
	baz=75,slow=34,SNR=2.4							

HOPEN	**Hopen**	**16.58**	**305**	*e*P	**Pn**	**20 56 02.9**		**-2.3**
HOPEN				AMS	AMS	21 03 44.4		
	comp=Z,10μm,14.2s							
BJO	**Bjornoya**	**19.05**	**306**	*e*P	**Pn**	**20 56 39.7**		**+4.0**
BJO				AMS	AMS	21 05 19.2		
	comp=Z,8μm,13.4s							
YAK	**Yakutsk**	**19.82**	**167**	*d*i*P*	**P**	**20 56 42.6**		**-0.8**
YAK				*e*S	**S**	**21 00 21.1**		**-4.7**
YAK				pmax	pmax			
	comp=Z,382nm,1.2s							
YAK				pmax	pmax			
	comp=N,221nm,1.1s							
YAK				pmax	pmax			
	comp=E,73nm,1.1s							
YAK				smax	smax			
	comp=E,4μm,8.3s							
YAK				smax	smax			
	comp=N,3μm,8.9s							
YAK				MLR	MLR			
	comp=Z,9μm,15.0s							
YAK				MLR	MLR			
	comp=N,7μm,16.0s							
YAK				MLR	MLR			
	comp=E,4μm,14.0s							
DAG	**Danmarks Havn**	**20.44**	**334**	⇓*i*P	**P**	**20 56 49.2**		**-0.8**
DAG				pmax	pmax			
	comp=Z,54nm,0.7s							
DAG	**Danmarks Havn**	**20.44**	**334**	⇓*i*P	**P**	**20 56 49.2**		**-0.8**
	comp=Z,79nm,0.7s							
SEY	**Seymchan**	**20.54**	**136**	⇓*e*P	**P**	**20 56 51.3**		**+0.2**
KEV	**Kevo**	**22.40**	**294**	*e*P	**P**	**20 57 10.5**		**-0.6**
KEV				pmax	pmax			
	comp=Z,186nm,0.9s							
KEV				MLR	MLR			
	comp=Z,4μm,19.0s							
KEV	**Kevo**	**22.40**	**294**	*ep*	**P**	**20 57 09.3**		**-1.8**
	comp=Z,94nm,0.8s							
KEV	**Kevo**	**22.40**	**294**	*e*P	**P**	**20 57 10.5**		**-0.6**
	comp=Z,186nm,0.9s							
KEV				LR	LR			
	comp=Z,4μm,19.0s							
ARCES	**ARCESS Array B**	**22.81**	**295**	P	**P**	**20 57 14.8**		**-0.6**
ARCES				S	**S**	**21 01 22.4**		**-1.2**
ARCES	**ARCESS Array B**	**22.81**	**295**	P	**P**	**20 57 14.8**		**-0.6**
	comp=Z,116nm,0.9s,baz=27,slow=9.1,SNR=97							
ARCES				S	**S**	**21 01 22.4**		**-1.2**
	comp=Z,8.7nm,0.8s,baz=40,slow=21,SNR=3.4							
ARCES				LR	LR	21 07 00.4		
	comp=Z,3μm,18.1s,baz=28,slow=39							
RES	**Resolute Bay**	**22.86**	**23**	P	**P**	**20 57 14.5**		**-1.5**
RES				S	**S**	**21 01 23.7**		**-0.8**
RES	**Resolute Bay**	**22.86**	**23**	P	**P**	**20 57 14.5**		**-1.5**
	comp=Z,20nm,1.0s,baz=3.6,slow=9.5,SNR=3.6							
RES				S	**S**	**21 01 23.7**		**-0.8**
	comp=Z,11nm,1.1s,baz=352,slow=19,SNR=1.9							
RES				LR	LR	21 05 55.8		
	comp=Z,3μm,18.1s,baz=331,slow=36							
LVZ	**Lovozero**	**23.07**	**286**	*de*P	**P**	**20 57 17.3**		**-0.9**
LVZ				pmax	pmax			
	comp=Z,365nm,1.2s							
LVZ	**Lovozero**	**23.07**	**286**	P	**P**	**20 57 17.4**		**-0.8**
	comp=Z,2μm,0.9s,SNR=19							
APA	**Apatity**	**23.55**	**287**	⇑*i*P	**P**	**20 57 24.6**		**+1.6**
APA				*i* S	**S**	**21 01 34.0**		**-2.1**
TRO	**Tromso**	**23.57**	**301**	*e*P	**P**	**20 57 23.3**		**+0.1**
TRO				*e*S	**S**	**21 01 38.2**		**+1.9**
KULLO	**Kullorsuaq**	**23.98**	**358**	⇓*i*P	**P**	**20 57 25.8**		**-1.3**
KULLO				pmax	pmax			
	comp=Z,100nm,0.9s							
COLD	**Coldfoot**	**24.32**	**71**	*e*P	**P**	**20 57 30.4**		**+0.1**
	comp=Z,265nm,1.0s							
CLNS	**Chul'man**	**24.91**	**174**	*e*P	**P**	**20 57 35.1**		**-0.6**
CLNS				*e*		20 58 08.3		
CLNS				*e*		21 01 07.4		
CLNS				*e*S	**S**	**21 01 58.0**		**-0.1**
CLNS				*e*SS	SnSn	21 03 00.0		+14
CLNS				pmax	pmax			
	comp=Z,107nm,1.2s							
CLNS				pmax	pmax			
	comp=E,50nm,1.1s							
CLNS				pmax	pmax			
	comp=N,111nm,1.4s							
CLNS				pmax	pmax			
	comp=Z,48nm,1.2s							
CLNS				pmax	pmax			
	comp=E,41nm,1.2s							
CLNS

PPLA **Purkeypile** 28.13 76 *e*P P 20 58 06.2 +1.3
comp=Z,94nm,1.0s
JOF **Joensuu** 28.25 285 *e*P P 20 58 03.9 -1.7
JOF pmax pmax
comp=Z,34nm,0.8s
JOF **Joensuu** 28.25 285 *e*p P 20 58 03.9 -1.7
comp=Z,34nm,0.8s
NVS **Novosibirsk** 28.95 226 ⇓ *i*P P 20 58 11.0 -0.9
NVS *e*S S 21 02 58.4 -3.3
NVS pmax pmax
comp=Z,210nm,1.9s
NVS pmax pmax
comp=N,207nm,2.3s
NVS pmax pmax
comp=E,87nm,2.2s
NVS smax smax
comp=N,310nm,3.5s
PAX **Paxson** 29.01 70 *e*P P 20 58 13.5 +1.0
PAX pmax pmax
comp=Z,141nm,1.1s
PAX **Paxson** 29.01 70 *e*P P 20 58 13.5 +1.0
comp=Z,141nm,1.1s
KLMR **Klimovskoe** 29.03 276 *e*P P 20 58 11.8 -0.8
KLMR S S 21 02 57.4 -5.5
KLMR pmax pmax
comp=Z,378nm,1.5s
KLMR MLR MLR
comp=Z,6μm,14.0s
ILULI **Ilulissat** 29.31 354 *e*P P 20 58 13.0 -2.0
ILULI pmax pmax
comp=Z,30nm,0.8s
SVW2 **Sparrevohn** 29.36 80 *e*P P 20 58 16.7 +1.1
comp=Z,112nm,1.3s
ZALV **Zalesovo Beam** 29.66 224 P P 20 58 18.3 0.0
ZALV 21 01 22.2
ZALV S S 21 03 15.8 +2.8
ZALV smax smax
comp=N,2.0nm,1.0s
ZALV MLR MLR
comp=Z,5μm,21.0s
ZALV **Zalesovo Beam** 29.66 224 P P 20 58 18.3 0.0
ZALV PcP PcP 21 01 22.2 +0.2
ZALV S S 21 03 15.8 +2.8
ZALV PKiKP PKiKP 21 08 52.0 -2.2
ZALV **Zalesovo Beam** 29.66 224 P P 20 58 18.3 0.0
comp=Z,6.3nm,0.8s,baz=2.8,slow=9.1,SNR=35
ZALV PcP PcP 21 01 22.2 +0.2
comp=Z,18nm,1.0s,baz=17,slow=1.5,SNR=5.3
ZALV S S 21 03 15.8 +2.8
comp=Z,2.4nm,1.0s,baz=45,slow=55,SNR=1.9
ZALV PKiKP PKiKP 21 08 52.0 -2.2
comp=Z,2.9nm,0.9s,baz=135,slow=0.6,SNR=6.1
ZALV LR LR 21 10 53.7
comp=Z,5μm,21.0s,baz=359,slow=38
KAF **Kangasniemi** 29.72 289 *e*P P 20 58 17.3 -1.4
KAF pmax pmax
comp=Z,10.0nm,0.8s
KAF **Kangasniemi** 29.72 289 *e*p P 20 58 17.3 -1.4
comp=Z,10nm,0.8s
CIT **Chita** 29.76 188 *e*P P 20 58 18.4 -0.9
SPU **Mount Spurr** 29.79 77 *e*P P 20 58 19.9 +0.4
PMR **Palmer** 29.82 74 *e*P P 20 58 22.8 +3.2
PMR pmax pmax
comp=Z,308nm,2.2s
PMR **Palmer** 29.82 74 *e*P P 20 58 22.8 +3.2
comp=Z,308nm,2.2s
SVE **Sverdlovsk** 29.84 252 ⇓ *e*P P 20 58 21.2 +1.4
SVE *e*S S 21 03 15.6 0.0
SVE pmax pmax
comp=Z,188nm,1.2s
IRK **Irkutsk** 29.87 200 *e*P P 20 58 19.2 -0.9
IRK pmax pmax
comp=Z,194nm,2.5s
RSO **Redoubt South** 30.38 78 *e*P P 20 58 26.5 +1.6
FINES **FINESS Array B** 30.39 289 P P 20 58 24.6 -0.1
FINES PcP PcP 21 01 23.4 -0.4
FINES **FINESS Array B** 30.39 289 P P 20 58 24.6 -0.1
comp=Z,28nm,1.0s,baz=26,slow=7.1,SNR=25
FINES PcP PcP 21 01 23.4 -0.4
comp=Z,28nm,1.1s,baz=33,slow=7.3,SNR=4.6
FINES LR LR 21 12 30.5
comp=Z,4μm,18.4s,baz=90,slow=40
TLY **Talaya** 30.46 200 *d* *i*P P 20 58 24.9 -0.5
TLY *e*S S 21 03 28.5 +3.0
TLY *e*SS SS 21 05 25.7 -9.3
TLY pmax pmax
comp=Z,46nm,1.1s
TLY MLR MLR
comp=Z,6μm,15.0s
ARU **Arti** 30.51 254 *d* *i*P P 20 58 26.5 +0.7
ARU 20 59 24.9
ARU PPP PPP 20 59 33.7
ARU 21 01 21.4
ARU S S 21 03 29.6 +3.4
ARU 21 05 07.0
ARU SSS SSS 21 05 26.6
ARU pmax pmax
comp=Z,61nm,1.7s
ARU MLR MLR
comp=Z,6μm,16.0s
ARU **Arti** 30.51 254 P P 20 58 26.9 +1.1
comp=Z,322nm,0.9s,SNR=9.6
MOY **Mondy** 30.62 203 *e*P P 20 58 27.7 +0.8
MOY pmax pmax
comp=Z,126nm,2.9s
DIV **Divide** 30.73 71 *e*P P 20 58 29.0 +1.2
comp=Z,82nm,1.0s
TBLU **Trondheim** 30.74 304 *e*P P 20 58 26.3 -1.4
TBLU AMS AMS 21 16 31.2
comp=Z,6μm,14.0s
PETK **Petropavlovsk-** 30.75 134 P P 20 58 28.2 +0.3
PETK 21 01 24.6
PETK pmax pmax
comp=Z,11nm,0.9s
PETK MLR MLR
comp=Z,1μm,18.0s
PETK **Petropavlovsk-** 30.75 134 P P 20 58 28.2 +0.3
PETK PcP PcP 21 01 24.6 -0.2
PETK **Petropavlovsk-** 30.75 134 P P 20 58 28.2 +0.3
comp=Z,10nm,0.9s,baz=43,slow=5.0,SNR=8.5
PETK PcP PcP 21 01 24.6 -0.2
comp=Z,8.2nm,0.9s,baz=55,slow=4.0,SNR=4.0
PETK LR LR 21 12 31.5
comp=Z,1μm,18.0s,baz=354,slow=40
BMRM **Bremner River** 31.05 70 *e*P P 20 58 31.6 +1.1
comp=Z,85nm,1.0s
PUL **Pulkovo** 31.41 284 *ce*P P 20 58 34.0 +0.4
PUL pmax pmax
comp=Z,286nm,1.2s
SFJD **Kangerlussuaq** 31.53 353 *i* P P 20 58 34.4 -0.2
comp=Z,35nm,1.1s
SFJD **Kangerlussuaq** 31.53 353 PFAKE 20 58 50.0 +15
SFJD LR LR
comp=Z,2μm,19.0s
HVS **Khovu-Aksy** 31.65 212 *c* *i*P P 20 58 36.6 +0.6
HVS pmax pmax
comp=Z,191nm,2.5s
MOL **Molde** 31.73 306 *e*P P 20 58 35.8 -0.6
ZAK **Zakamensk** 31.77 201 *e*P P 20 58 37.1 0.0
ZAK pmax pmax
comp=Z,17nm,1.3s
HYT **Haines Junctio** 32.15 64 *e*P P 20 58 42.4 +2.1
BRVK **Borovoye** 32.21 240 *de*P P 20 58 41.6 +0.8
BRVK pmax pmax
comp=Z,65nm,1.2s
BRVK **Borovoye** 32.21 240 P P 20 58 42.8 +2.1
SNR=58
BRVK **Borovoye** 32.21 240 P P 20 58 42.5 +1.7
comp=Z,608nm,0.9s,SNR=26
BRVK **Borovoye** 32.21 240 *e*P P 20 58 42.3 +1.5
BRVK LR LR
comp=Z,4μm,21.0s
BVAR **Borovoye Array** 32.23 240 P P 20 58 40.6 -0.4
BVAR 21 01 28.6
BVAR S S 21 03 54.2 +1.0
BVAR pmax pmax
comp=Z,31nm,1.0s
BVAR smax smax
comp=N,2.0nm,0.9s
BVAR MLR MLR
comp=Z,3μm,21.7s
BVAR **Borovoye Array** 32.23 240 P P 20 58 40.6 -0.4
BVAR PcP PcP 21 01 28.6 -0.2
BVAR S S 21 03 54.2 +1.0
BVAR **Borovoye Array** 32.23 240 P P 20 58 40.6 -0.4
comp=Z,31nm,1.0s,baz=19,slow=6.4,SNR=66
BVAR PcP PcP 21 01 28.6 -0.2
comp=Z,20nm,0.9s,baz=16,slow=2.2,SNR=5.2
BVAR S S 21 03 54.2 +1.0
comp=Z,1.9nm,0.9s,baz=342,slow=23,SNR=2.6
BVAR LR LR 21 13 18.0
comp=Z,3μm,21.7s,baz=18,slow=39
VOSK **Vostochnaya** 32.45 239 *e*P P 20 58 43.9 +1.0
VOSK pmax pmax
comp=Z,100nm,1.1s
VOSK **Vostochnaya** 32.45 239 *e*P P 20 58 43.9 +1.0
comp=Z,100nm,1.1s
KLR **Kul'dur** 32.70 166 *e*P P 20 58 41.8 -3.3
KLR *e* 20 58 50.2
KLR *e*S S 21 03 54.5 -6.0
KLR pmax pmax
comp=Z,85nm,1.6s
NB2 **NORSAR Subarra** 32.76 302 P P 20 58 45.3 -0.3
comp=Z,145nm,1.4s,baz=14,slow=9.3
NB2 **NORSAR Subarra** 32.76 302 P P 20 58 45.3 -0.3
baz=14,slow=9.3
NOA **NORSAR Array B** 32.76 302 P P 20 58 45.5 0.0
NOA PcP PcP 21 01 28.5 -1.7
NOA **NORSAR Array B** 32.76 302 P P 20 58 45.5 0.0
comp=Z,23nm,0.8s,baz=14,slow=8.8,SNR=29
NOA PcP PcP 21 01 28.5 -1.7
comp=Z,6.6nm,1.1s,baz=15,slow=3.7,SNR=3.7
NOA LR LR 21 13 37.2
comp=Z,2μm,19.5s,baz=15,slow=39
FX1 **Attu Island--F** 32.83 117 LR LR 21 12 36.5
comp=Z,4μm,19.1s,baz=3.1,slow=37
SKR **Severo-Kuril's** 32.98 136 P P 20 58 42.0 -5.5
SKR *e* 20 59 58.0
SKR *e*S S 21 04 10.0 +5.3
SKR *e*SSS SSS 21 06 32.0
SKR pmax pmax
comp=Z,2μm,4.0s
SKR smax smax
comp=N,3μm,14.0s
SKR smax smax
comp=E,2μm,14.0s
SKR MLR MLR
comp=N,11μm,16.0s
SKR MLR MLR
comp=E,3μm,16.0s
SKR MLR MLR
comp=E,8μm,16.0s
KDAK **Kodiak Island** 32.99 79 P P 20 58 46.8 -0.6
KDAK **Kodiak Island** 32.99 79 P P 20 58 46.8 -0.6
comp=Z,6.4nm,0.6s,baz=339,slow=4.7,SNR=5.7
KDAK LR LR 21 13 38.7
comp=Z,5μm,19.9s,baz=355,slow=39
YKW3 **Yellowknife Ar** 33.17 44 *e*P P 20 58 49.2 +0.2
comp=Z,1.8nm,1.3s
VSU **Vasula** 33.17 286 *ce*P P 20 58 49.2 +0.1
VSU pmax pmax
comp=Z,252nm,1.2s
YKA **Yellowknife Ar** 33.23 44 P P 20 58 49.4 -0.2
YKA PcP PcP 21 01 31.0 -0.4
YKA **Yellowknife Ar** 33.23 44 P P 20 58 49.4 -0.2
comp=Z,21nm,0.9s,baz=346,slow=8.7,SNR=7.0
YKA PcP PcP 21 01 31.0 -0.4
comp=Z,4.7nm,0.8s,baz=354,slow=3.2,SNR=3.7
HYA **Hoyanger** 33.25 306 *e*P P 20 58 50.5 +0.7
OHAK **Old Harbor** 33.43 80 *e*P P 20 58 51.6 +0.3
comp=Z,92nm,0.8s
KURK **Kurchatov** 33.52 230 *ce*P P 20 58 52.7 +0.6
KURK pmax pmax
comp=Z,28nm,1.5s
KURK **Kurchatov** 33.52 230 P P 20 58 53.1 +1.0
SNR=24
KURK **Kurchatov** 33.52 230 P P 20 58 52.8 +0.6
comp=Z,156nm,1.2s,SNR=14
KURK **Kurchatov** 33.52 230 *e*P P 20 58 52.1 0.0
comp=Z,107nm,1.9s
KURK PcP PcP 21 01 32.2 -0.2
KURK PKiKP PKiKP 21 08 55.2 -1.7
KURK LR LR
comp=Z,935nm,19.0s
KURBB **Kurchatov Arra** 33.62 230 P P 20 58 52.8 -0.2
comp=Z,6.1nm,0.9s,baz=19,slow=7.8,SNR=46
KURBB PcP PcP 21 01 32.2 -0.5
comp=Z,25nm,0.9s,baz=352,slow=2.5,SNR=13
KURBB PKiKP PKiKP 21 08 55.2 -1.8
comp=Z,1.3nm,1.0s,baz=296,slow=0.3,SNR=4.3
SKAG **Skagway** 33.76 63 *e*P P 20 58 55.3 +1.1
comp=Z,41nm,1.0s
ULN **Ulaanbaatar** 34.12 196 P P 20 58 58.8 +1.2
SNR=26
ULN **Ulaanbaatar** 34.12 196 P P 20 58 58.2 +0.6
comp=Z,56nm,1.5s,comp=Z,964nm
ULN **Ulaanbaatar** 34.12 196 *e*P P 20 58 57.6 -0.1
comp=Z,83nm,1.3s
BER **Bergen** 34.12 306 *e*P P 20 58 57.6 +0.4
BER *e*S S 21 04 24.8 +2.7
BER AMS AMS 21 19 33.6
comp=Z,3μm,12.9s
SONM **Songino Array** 34.17 196 P P 20 58 59.2 +1.1
SONM PcP PcP 21 01 35.0 +0.5
SONM **Songino Array** 34.17 196 P P 20 58 59.2 +1.1
comp=Z,30nm,1.0s,baz=4.3,slow=9.7,SNR=107
SONM PcP PcP 21 01 35.0 +0.5
comp=Z,20nm,1.0s,baz=339,slow=1.5,SNR=8.1
SONM LR LR 21 15 18.4
comp=Z,2μm,19.3s,baz=360,slow=41
MOS **Moscow** 34.23 275 *e*P P 20 58 57.2 -1.1
MOS *i* 20 59 04.6
MOS *e* 21 00 07.3
MOS *e*S S 21 04 14.1 -10
MOS pmax pmax
comp=Z,85nm,1.5s
MOS MLR MLR
comp=N,4μm,12.0s
MOS MLR MLR
comp=Z,5μm,13.0s
KONO **Kongsberg** 34.31 302 *e*P P 20 58 56.2 -2.8
KONO *e*S S 21 04 26.4 +1.2
KONO **Kongsberg** 34.31 302 PFAKE 20 59 10.0 +11
KONO LR LR
comp=Z,3μm,19.0s
BLS5 **Blasjo** 34.92 305 *e*P P 20 59 04.4 +0.1
OBN **Obninsk** 34.99 276 *c* *i*P P 20 59 05.4 +0.5
OBN *e* 21 01 36.5
OBN pmax pmax
comp=Z,111nm,1.2s
OBN MLR MLR
comp=Z,4μm,14.0s
OBN **Obninsk** 34.99 276 P P 20 59 05.9 +1.0
comp=Z,358nm,1.0s,SNR=6.6
ADK **Adak** 35.19 106 *e*P P 20 59 08.9 +2.2
ADK pmax pmax
comp=Z,123nm,1.3s
ADK MLR MLR
comp=Z,2μm,19.0s
ADK **Adak** 35.19 106 *e*P P 20 59 08.8 +2.2
comp=Z,123nm,1.3s
ADK LR LR
comp=Z,2μm,19.0s
DLBC **Dease Lake** 35.43 59 S S 21 04 45.5 +2.8
comp=Z,0.9nm,0.3s,baz=330,slow=20,SNR=2.6
DLBC LR LR 21 15 09.8
comp=Z,1μm,18.5s,baz=343,slow=39
YSS **Yuzh-Sakhalins** 35.55 153 *c* *i*P P 20 59 10.0 +0.3
YSS *e*SP sP 20 59 14.0 -2.2
YSS *e* 21 00 24.0
YSS *e*PPP PPP 21 00 47.0
YSS *e*S S 21 04 44.0 -0.4
YSS *e* 21 04 53.0
YSS *e*SSS SSS 21 07 27.0
YSS pmax pmax
comp=Z,220nm,1.1s
YSS MLR MLR
comp=Z,4μm,15.0s
YSS MLR MLR
comp=N,4μm,16.0s
YSS MLR MLR
comp=E,3μm,16.0s
ISAL **Salakas** 36.06 286 *e*P P 20 59 14.9 +0.9
ISAL AMB AMB 20 59 26.5
comp=Z,47nm,1.4s
SIT **Sitka** 36.09 64 *e*P P 20 59 16.5 +2.2
SIT pmax pmax
comp=Z,144nm,1.0s
SIT **Sitka** 36.09 64 *e*P P 20 59 16.5 +2.2
comp=Z,144nm,1.0s
IIGN **Ignalina** 36.26 286 *e*P P 20 59 15.9 +0.1
IIGN AMB AMB 20 59 27.5
comp=Z,32nm,1.1s
NACGM **Naroch** 36.62 285 *e*P P 20 59 16.0 -2.8
MICGM **Minsk** 36.85 284 ⇑ *e*P P 20 59 20.0 -0.8
MNK **Minsk** 36.86 284 ⇑ *e*P P 20 59 20.0 -0.9
MNK *e* 21 00 46.0
MNK *e*S S 21 05 02.0 -2.3
MNK *e*SS SnSn 21 07 36.0 +0.1
MNK *e*SSS SSS 21 08 08.0
MNK pmax pmax
comp=Z,350nm,1.0s
MNK pmax pmax
comp=N,280nm,1.0s
MNK MLR MLR
comp=N,8μm,14.0s
MNK MLR MLR
comp=Z,9μm,15.0s
MNK MLR MLR
comp=E,8μm,13.0s
MKAR **Makanchi Array** 36.99 224 P P 20 59 22.1 -0.1
MKAR 21 01 42.0
MKAR S S 21 05 07.0 +0.3
MKAR pmax pmax
comp=Z,23nm,1.0s
MKAR smax smax
comp=N,1.0nm,0.7s
MKAR MLR MLR
comp=Z,3μm,19.9s
MKAR **Makanchi Array** 36.99 224 *e*P P 20 59 22.1 -0.1
MKAR PcP PcP 21 01 42.0 -0.7
MKAR S S 21 05 07.0 +0.3
MKAR **Makanchi Array** 36.99 224 P P 20 59 22.1 -0.1
comp=Z,23nm,1.0s,baz=4.6,slow=6.1,SNR=71
MKAR PcP PcP 21 01 42.0 -0.7
comp=Z,21nm,0.9s,baz=56,slow=3.1,SNR=3.8
MKAR S S 21 05 07.0 +0.3
comp=Z,0.6nm,0.7s,baz=15,slow=6.0,SNR=1.9
MKAR LR LR 21 15 16.1
comp=Z,3μm,19.9s,baz=3.0,slow=37
MDJ **Mudanjiang** 37.24 169 P P 20 59 24.7 +0.4
MDJ PP PP 21 00 49.1 +0.1
MDJ PcP PcP 21 01 43.7 +0.2
MDJ S S 21 05 14.2 +3.8
MDJ PcS PcS 21 05 34.9 +3.2
MDJ AMB AMB
comp=Z,65nm,1.2s
MDJ AMB AMB
comp=Z,870nm,6.3s
MDJ LR LR
comp=Z,1μm,24.2s
MDJ LR LR
comp=Z,7μm,21.0s
MDJ LR LR
comp=Z,5μm,16.1s
NRS **Narsarsuaq** 37.26 348 ⇓ *i*P P 20 59 22.7 -1.5
NRS pmax pmax
comp=Z,52nm,0.9s
ABKAR **Akbulak array** 37.31 250 *e*P P 20 59 25.0 +0.2
MUD **Monsted U'grnd** 37.48 302 *i* P P 20 59 25.5 -0.6
MUD pmax pmax
comp=Z,60nm,1.0s
MUD **Monsted U'grnd** 37.48 302 *i* P P 20 59 25.5 -0.6
comp=Z,60nm,0.9s
MUD *i* 20 59 38.0
USRK **Ussuriysk Arra** 37.74 166 P P 20 59 28.1 -0.3
comp=Z,15nm,1.0s,baz=349,slow=6.5,SNR=27
USRK PP PP 21 00 54.6 +0.2
comp=Z,6.1nm,1.0s,baz=2.1,slow=7.9,SNR=4.0
USRK PcP PcP 21 01 44.9 -0.1
comp=Z,7.6nm,0.9s,baz=327,slow=1.1,SNR=5.4
USRK LR LR 21 16 54.7
comp=Z,3μm,18.7s,baz=202,slow=39
COP **Copenhagen** 37.82 298 *e*P P 20 59 29.7 +0.8
COP pmax pmax
comp=Z,22nm,0.9s
COP **Copenhagen** 37.82 298 *i* P P 20 59 29.7 +0.8
comp=Z,22nm,0.8s
MCD **Coleburn Disti** 37.83 313 *e*P P 20 59 29.1 0.0
VOR **Voronezh** 37.89 272 *e*P P 20 59 30.0 +0.3
VOR pmax pmax
comp=Z,270nm,2.0s
CN2 **Changchun** 37.97 174 ⇓ *i*P P 20 59 29.8 -0.6
CN2 *e*sP sP 20 59 35.6 -1.2
CN2 *e*S S 21 05 19.8 -1.5
CN2 AMB AMB
comp=Z,40nm,1.2s
CN2 AMB AMB
comp=Z,700nm,5.0s
CN2 LR LR
comp=Z,5μm,15.0s
CN2 LR LR
comp=Z,7μm,15.0s
CN2 LR LR
comp=Z,9μm,15.0s
SUW **Suwalki** 37.99 288 *e*P P 20 59 30.5 0.0
SUW pmax pmax
comp=Z,164nm,1.3s
SUW **Suwalki** 37.99 288 *e*P P 20 59 30.5 0.0
comp=Z,164nm,1.3s
SUW **Suwalki** 37.99 288 *e*P P 20 59 30.5 0.0
SUW LMZ LR 21 12 03.0
BSD **Bornholm Skovb** 38.05 296 *e*P P 20 59 32.9 +2.0
BSD *i* 20 59 41.8
BSD pmax pmax
comp=Z,18nm,1.0s
BSD **Bornholm Skovb** 38.05 296 *i* P P 20 59 32.9 +2.0
comp=Z,18nm,1.0s
BSD *i* 20 59 41.8
MME1 **Meikle Cairn** 38.06 312 *e*P P 20 59 30.8 -0.3
MDO **Dochfour** 38.09 314 *e*P P 20 59 31.0 -0.3
VRHR **Novokhopersk** 38.16 269 *e*P P 20 59 30.4 -1.5
VRHR *e*S S 21 05 21.1 -3.0
VRHR pmax pmax
comp=Z,40nm,1.0s
VRHR pmax pmax
comp=N,50nm,1.2s
VRHR pmax pmax
comp=E,20nm,0.5s
VRHR smax smax
comp=E,260nm,8.5s
VRHR smax smax
comp=Z,750nm,6.7s
VRHR smax smax
comp=N,100nm,6.5s
VRHR MLR MLR
comp=E,4μm,13.0s
VRHR MLR MLR
comp=Z,4μm,13.0s
VRHR MLR MLR
comp=N,1μm,14.0s
LLD **Lille Linde** 38.19 298 *e*P P 20 59 41.8 +10
LLD pmax pmax
comp=Z,63nm,0.9s
LLD **Lille Linde** 38.19 298 *i* P P 20 59 41.8 +10
comp=Z,63nm,0.9s
ASAJ **Asahikawa** 38.36 154 *e*P P 20 59 31.9 -1.8
comp=Z,42nm,1.4s
ASAJ *e*pP pP 20 59 43.6 +5.2
ASAJ PcP PcP 21 01 46.6 -0.3
ASAJ **Asahikawa** 38.36 154 P P 20 59 32.1 -1.6
comp=Z,32nm,1.1s,baz=330,slow=10.0,SNR=11
ASAJ PcP PcP 21 01 46.6 -0.3
comp=Z,23nm,1.0s,baz=289,slow=11,SNR=4.6
VSR **Storozhevoye** 38.40 271 *e*P P 20 59 33.9 0.0
VSR *e*S S 21 05 24.9 -2.9
VSR pmax pmax
comp=N,190nm,1.0s
VSR pmax pmax
comp=Z,90nm,1.0s
VSR pmax pmax
comp=E,30nm,0.8s
VSR smax smax
comp=N,1μm,4.8s
VSR smax smax
comp=Z,630nm,6.9s
VSR smax smax
comp=E,740nm,4.7s
VSR MLR MLR
comp=E,4μm,12.0s
VSR MLR MLR
comp=Z,3μm,12.0s
VSR MLR MLR
comp=N,4μm,13.0s
DRUM **Mains of Drumt** 38.41 312 *e*P P 20 59 34.2 +0.3
DRUM AMB AMB 20 59 36.5
comp=Z,95nm,1.7s

VORD Divnogorie 38.62 271 *e*P **P** **20 59 35.5 -0.3**
VORD *e*S **S** **21 05 30.7 -0.4**
VORD pmax pmax
comp=Z,50nm,0.8s
VORD pmax pmax
comp=E,50nm,0.7s
VORD smax smax
comp=E,930nm,8.8s
VORD smax smax
comp=Z,690nm,6.3s
VORD MLR MLR
comp=Z,5μm,15.0s
VORD MLR MLR
comp=E,2μm,14.0s
YUK Yuzh-Kuril'sk 38.67 150 *i* P P 20 59 32.5 -3.8
YUK *i* S **S** **21 05 29.0 -3.0**
YUK *e* 21 09 50.6
YUK pmax pmax
comp=Z,1μm,4.1s
YUK pmax pmax
comp=N,14nm,1.6s
YUK pmax pmax
comp=E,66nm,1.6s
YUK pmax pmax
comp=Z,206nm,1.6s
YUK MLR MLR
comp=N,136nm,19.0s
YUK MLR MLR
comp=E,822nm,19.0s
YUK MLR MLR
comp=Z,4μm,19.0s
VLA Vladivostok 38.81 166⇑ *i*P **P** **20 59 36.5 -1.0**
VLA *e* 21 01 05.3
VLA S **S** **21 05 34.0 -0.1**
VLA pmax pmax
comp=Z,89nm,1.5s
EAB Aberfoyle 39.32 313 *e*P **P** **20 59 41.2 -0.4**
ESY Stoneypath 39.40 312 *e*P **P** **20 59 42.0 -0.2**
WMQ Urumqi 39.42 218 P **P** **20 59 43.4 +0.8**
WMQ pP **pP** **20 59 47.9 +0.6**
WMQ sP **sP** **20 59 50.4 +1.3**
WMQ PP **PnPn** **21 01 17.6 +1.9**
WMQ PcP **PcP** **21 01 52.1 +1.8**
WMQ PcS **PcS** **21 05 40.7 +0.5**
WMQ S **S** **21 05 44.3 +0.9**
WMQ sS **sS** **21 05 51.7 +0.7**
WMQ SS **SS** **21 08 30.6 -6.5**
WMQ ScS **ScS** **21 09 49.5 -0.3**
WMQ AMB AMB
comp=Z,71nm,1.2s
WMQ AMB AMB
comp=Z,2μm,5.2s
WMQ LR LR
comp=Z,9μm,13.8s
WMQ LR LR
comp=Z,14μm,18.2s
WMQ LR LR
comp=Z,8μm,24.6s
GKP Gorka Klasztor 39.54 293 *e*P **P** **20 59 43.8 +0.4**
GKP LMZ LR 21 17 21.2
EBL Broad Law 39.59 312 *e*P **P** **20 59 43.3 -0.5**
PGBU Glenifferbraes 39.71 313 *e*P **P** **20 59 45.1 +0.3**
PGBU AMB AMB 20 59 45.8
comp=Z,184nm,1.2s
BSEG Bad Segeberg 39.80 300 *e*P **P** **20 59 46.4 +0.8**
BSEG pmax pmax
comp=Z,74nm,1.1s
BSEG Bad Segeberg 39.80 300 *e*P **P** **20 59 46.4 +0.8**
comp=Z,74nm,1.1s
ESK Eskdalemuir 40.05 312 *e*P **P** **20 59 47.9 +0.1**
ESK Eskdalemuir 40.05 312 *i* P **P** **20 59 48.7 +1.0**
ESK Eskdalemuir 40.05 312 P **P** **20 59 48.8 +1.0**
comp=Z,326nm,0.8s,SNR=6.4
ESK Eskdalemuir 40.05 312 *e*P **P** **20 59 48.5 +0.8**
comp=Z,45nm,0.8s
ESK LR LR
comp=Z,1μm,22.0s
ECK Cauldkaine Hil 40.18 312 *e*P **P** **20 59 48.7 0.0**
AKASG Malin Array Be 40.36 281 P **P** **20 59 49.9 -0.3**
AKASG 21 01 21.4 -1.5
AKASG 21 01 52.5
AKASG pmax pmax
comp=Z,31nm,0.8s
AKASG pmax pmax
comp=Z,26nm,0.9s
AKASG Malin Array Be 40.36 281 P **P** **20 59 49.9 -0.3**
AKASG PP **PP** **21 01 21.4 -1.5**
AKASG PcP **PcP** **21 01 52.5 -0.6**
AKASG Malin Array Be 40.36 281 P **P** **20 59 49.9 -0.3**
comp=Z,32nm,0.8s,baz=13,slow=8.5,SNR=77
AKASG PP **PP** **21 01 21.4 -1.5**
comp=Z,26nm,0.9s,baz=12,slow=12,SNR=5.1
AKASG PcP **PcP** **21 01 52.5 -0.6**
comp=Z,19nm,0.9s,baz=8.9,slow=3.3,SNR=8.7
KIEV Kiev 40.37 281 *e*P **P** **20 59 49.7 -0.6**
KIEV pmax pmax
comp=Z,73nm,1.2s
KIEV MLR MLR
comp=Z,2μm,21.0s
KIEV Kiev 40.37 281 *e*P **P** **20 59 49.6 -0.6**
comp=Z,73nm,1.2s
KIEV LR LR
comp=Z,2μm,21.0s
BEL Belsk 40.45 289 *e*P **P** **20 59 52.0 +1.0**
BEL LMZ LR 21 17 42.4
ERM Erimo 40.49 153 *de*P **P** **20 59 50.3 -1.1**
ERM pmax pmax
comp=Z,52nm,1.0s
ERM Erimo 40.49 153 PFAKE 21 00 00.0 +8.6
ERM LR LR
comp=Z,1μm,19.0s
GCD Castle Douglas 40.58 313 *e*P **P** **20 59 51.6 -0.5**
GAL1 Galloway 40.66 313 *e*P **P** **20 59 52.5 -0.2**
GAL1 AMB AMB 20 59 54.7
comp=Z,85nm,2.7s
KESW Keswick, Cumbr 40.76 312 *e*P **P** **20 59 52.9 -0.7**
RUE Ruedersdorf 40.77 296 *e*P **P** **20 59 54.3 +0.7**
comp=Z,61nm,1.2s
HHC Hu-ho-hao-te 40.98 190 *e*P **P** **20 59 56.6 +1.0**
HHC pP **pP** **21 00 00.0 -0.3**
HHC sP **sP** **21 00 03.0 +0.9**
HHC PP **PnPn** **21 01 32.9 -1.3**
HHC PcP **PcP** **21 01 57.4 +1.9**
HHC S **S** **21 06 10.0 +3.2**
HHC sS **sS** **21 06 14.0 -0.5**
HHC SS **SS** **21 09 02.4 -5.9**
HHC AMB AMB
comp=Z,71nm,1.0s
HHC AMB AMB
comp=Z,2μm,4.5s
HHC LR LR
comp=Z,6μm,10.2s
HHC LR LR
comp=Z,8μm,13.6s
HHC LR LR
comp=Z,12μm,11.9s
AAA Alma-Ata 41.05 229 *i* P P 21 00 01.0 +4.9
AAA *e*S **S** **21 06 11.8 +4.0**
AAA pmax pmax
comp=Z,2μm,2.6s
AAA smax smax
comp=N,4μm,9.6s
AAA MLR MLR
comp=Z,4μm,8.0s
HPK Haverah Park 41.22 310 *e*P **P** **20 59 57.5 +0.2**
HPK AMB AMB 20 59 59.1
comp=Z,154nm,1.6s
NRDL Niedersach Rie 41.24 299 *e*P **P** **20 59 58.4 +1.0**
comp=Z,69nm,1.1s
BTO Baotou 41.26 192 *e*P **P** **20 59 56.2 -1.8**
USP Ospenovka 41.33 232 *i* P **P** **20 59 59.7 +1.2**
USP Ospenovka 41.33 232 P **P** **20 59 59.7 +1.2**
SNR=38
GMM Mts of Mourne 41.41 314 *e*P **P** **20 59 58.3 -0.6**
TKM2 Tokmak 2 41.55 231 *e*P **P** **21 00 01.7 +1.3**
TKM2 pmax pmax
comp=Z,95nm,1.1s
TKM2 MLR MLR
comp=Z,3μm,19.0s
TKM2 Tokmak 2 41.55 231 P **P** **21 00 01.7 +1.3**
SNR=32
TKM2 Tokmak 2 41.55 231 *e*P **P** **21 00 01.7 +1.3**
comp=Z,95nm,1.1s
TKM2 LR LR
comp=Z,3μm,19.0s
CHMS Chumysh 41.57 232 *i* P **P** **21 00 01.4 +1.0**
CHMS Chumysh 41.57 232 P **P** **21 00 01.4 +1.0**
SNR=21
BJI Beijing 41.70 184 P **P** **21 00 02.2 +0.8**
BJI PP **PP** **21 01 38.0 +0.4**
BJI S **S** **21 06 20.3 +3.0**
BJI AMB AMB
comp=Z,130nm,1.2s
BJI AMB AMB
comp=Z,1μm,5.6s
BJI LR LR
comp=Z,8μm,14.3s
BJI LR LR
comp=Z,5μm,12.3s
BJI LR LR
comp=Z,3μm,15.3s
IBBN Ibbenburen 41.72 301 *e*P **P** **21 00 02.0 +0.6**
comp=Z,79nm,1.3s
BBB Bella Bella 41.79 59 LR LR 21 19 03.7
comp=Z,1μm,18.7s,baz=345,slow=39
CLZ Clausthal 41.84 299 *e*P **P** **21 00 03.7 +1.2**
CLZ pmax pmax
comp=Z,109nm,1.2s
CLZ Clausthal 41.84 299 *e*P **P** **21 00 03.7 +1.2**
comp=Z,109nm,1.2s
KBK Karagaybulak 41.88 231 *i* P **P** **21 00 04.5 +1.3**
KBK Karagaybulak 41.88 231 P **P** **21 00 04.5 +1.3**
SNR=32
KBI1 Birley Grange 41.90 310 *e*P **P** **21 00 01.9 -1.0**
AAK Ala-Archa 41.96 232 *d i*P **P** **21 00 05.0 +1.3**
AAK pmax pmax
comp=Z,216nm,2.1s
AAK Ala-Archa 41.96 232 P **P** **21 00 05.4 +1.7**
SNR=33
AAK Ala-Archa 41.96 232 P **P** **21 00 05.2 +1.4**
SNR=33
AAK Ala-Archa 41.96 232 P **P** **21 00 05.2 +1.4**
comp=Z,218nm,1.0s,SNR=19
AAK Ala-Archa 41.96 232 *e*P **P** **21 00 05.0 +1.3**
comp=Z,69nm,1.1s
AAK PP **PP** **21 01 39.4 -1.2**
AAK LR LR
comp=Z,455nm,19.0s
AAK Ala-Archa 41.96 232 P **P** **21 00 04.0 +0.3**
comp=Z,27nm,0.9s,baz=18,slow=3.4,SNR=62
AAK PP **PP** **21 01 39.4 -1.2**
comp=Z,39nm,1.1s,baz=26,slow=6.2,SNR=5.5
LVV L'vov 41.96 286 *e*P **P** **21 00 03.7 +0.2**
LVV *e* 21 01 45.1
LVV *e*S **S** **21 06 26.1 +5.1**
LVV MLR MLR
comp=N,2μm,15.0s
LVV MLR MLR
comp=E,5μm,15.0s
LVV MLR MLR
comp=Z,3μm,15.0s
KKAR Karatay Array 41.97 236 *e*P **P** **21 00 04.5 +0.8**
KKAR Karatay Array 41.97 236 *e*P **P** **21 00 04.5 +0.8**
EKS2 Erkin-Say 42.02 233 *e*P **P** **21 00 05.2 +1.0**
EKS2 pmax pmax
comp=Z,47nm,1.0s
EKS2 MLR MLR
comp=Z,4μm,19.0s
EKS2 Erkin-Say 42.02 233 P **P** **21 00 05.2 +1.0**
SNR=29
EKS2 Erkin-Say 42.02 233 *e*P **P** **21 00 05.2 +1.0**
comp=Z,47nm,1.0s
EKS2 LR LR
comp=Z,4μm,19.0s
CLL Collm 42.02 296⇓ *i*P **P** **21 00 03.9 0.0**
CLL *i* 21 01 58.7
CLL *e*S **S** **21 06 25.0 +3.2**
CLL pmax pmax
comp=Z,8.0nm,1.0s
CLL MLR MLR
comp=Z,1μm,20.2s
CLL Collm 42.02 296 *e*P **P** **21 00 03.9 0.0**
comp=Z,48nm,1.0s
CLL Collm 42.02 296⇓ *i*P **P** **21 00 03.9 0.0**
comp=Z,48nm,1.0s
CLL *i* 21 00 14.4
comp=Z,81nm,1.1s
CLL *e*PP **PP** **21 01 44.0 +3.1**
CLL *i* PcP **PcP** **21 01 58.7 +0.2**
CLL *e*S **S** **21 06 25.0 +3.2**
CLL *e*SS **SS** **21 09 31.0 +2.6**
CLL L L 21 16 00.0
comp=Z,1μm,20.2s
KSP Ksiaz 42.03 293⇓ *e*P **P** **21 00 04.2 +0.1**
KSP *e**PP **pP** **21 00 12.0 +3.3**
KSP *e* 21 01 42.0
KSP *e*S **S** **21 06 19.5 -2.6**
KSP *e*SS **SS** **21 09 24.0 -4.8**
KSP MLR MLR
comp=Z,12μm,14.2s
KSP Ksiaz 42.03 293 *e*P **P** **21 00 04.2 +0.1**
KSP *e*S **S** **21 06 23.4 +1.3**
KSP LMZ LR 21 19 09.1
WME Myndd Eilian 42.06 312 *e*P **P** **21 00 03.3 -0.9**
FFC Flin Flon 42.08 35 *e*P P 21 00 07.6 +3.2
FFC pmax pmax
comp=Z,98nm,1.0s
FFC MLR MLR
comp=Z,1μm,21.0s
FFC Flin Flon 42.08 35 *e*P P 21 00 07.6 +3.2
comp=Z,98nm,1.0s
FFC LR LR
comp=Z,1μm,21.0s
WPM1 Penmaenmawr 42.16 312 *e*P **P** **21 00 04.3 -0.7**
OJC Ojcow 42.16 290⇓ *i*P **P** **21 00 05.4 +0.3**
OJC *i* *SP **sP** **21 00 09.3 -2.3**
OJC *i* S **S** **21 06 27.8 +3.8**
OJC MLR MLR
comp=Z,13μm,15.0s
OJC Ojcow 42.16 290 *e*P **P** **21 00 05.5 +0.4**
comp=Z,95nm,1.1s
OJC Ojcow 42.16 290 *i* P **P** **21 00 05.4 +0.3**
OJC *i* sP **sP** **21 00 09.3 -2.3**
OJC *i* S **S** **21 06 27.8 +3.8**
OJC L L 21 19 40.0
comp=Z,13μm,15.0s
WTSB Winterswijk 42.17 302 *e*P **P** **21 00 05.7 +0.6**
comp=Z,285nm,1.9s
WTSB *e*X 21 00 16.1
WLF1 Llynfaes 42.18 312 *e*P **P** **21 00 04.8 -0.4**
WLF1 AMB AMB 21 00 05.5
comp=Z,75nm,1.3s
YRC Rhoscolyn 42.24 313 *e*P **P** **21 00 04.9 -0.7**
BRG Berggiesshubel 42.32 295⇑ *i*P **P** **21 00 06.5 +0.1**
comp=Z,37nm,1.2s
BRG PP **PP** **21 01 44.9 +0.7**
comp=Z,40nm,1.6s
BRG S **S** **21 06 31.0 +4.7**
BRG SS **SS** **21 09 32.0 -2.4**
comp=N,3μm,13.3s
BRG
comp=E,5μm,13.5s
BRG
comp=Z,3μm,16.0s
BRG Berggiesshubel 42.32 295⇑ *i*P **P** **21 00 06.5 +0.1**
BRG 21 01 44.9
BRG S **S** **21 06 31.0 +4.7**
BRG SS **SS** **21 09 32.0 -2.4**
BRG pmax pmax
comp=Z,37nm,1.2s
BRG pmax pmax
comp=Z,40nm,1.6s
BRG MLR MLR
comp=N,3μm,13.3s
BRG MLR MLR
comp=E,5μm,13.5s
BRG MLR MLR
comp=Z,3μm,16.0s
BRG Berggiesshubel 42.32 295 *e*P **P** **21 00 06.6 +0.2**
comp=Z,37nm,1.2s
KWP Kalwaria Pacla 42.33 287⇑ *i*P **P** **21 00 08.1 +1.6**
KWP Kalwaria Pacla 42.33 287⇑ *i*P **P** **21 00 08.1 +1.6**
KWP Kalwaria Pacla 42.33 287 PFAKE 21 00 20.0 +13
KWP LR LR
comp=Z,4μm,20.0s
KWP Kalwaria Pacla 42.33 287 *e*P **P** **21 00 07.5 +1.0**
KWP *e*S **S** **21 06 31.2 +4.7**
KWP LMZ LR 21 14 42.5
FBE Freiberg 42.35 296 *e*P **P** **21 00 07.3 +0.7**
comp=Z,96nm,1.0s
UCH Uchtor 42.36 232 *i* P **P** **21 00 08.9 +1.5**
UCH Uchtor 42.36 232 P **P** **21 00 08.9 +1.5**
SNR=5.8
UPC Upice 42.40 293 *e*P **P** **21 00 07.3 +0.2**
UPC *e* 21 00 16.4
UPC Upice 42.40 293⇓ *e*P **P** **21 00 07.3 +0.2**
UPC *ex* x 21 00 16.4
KZA Kyzart 42.42 231 *i* P **P** **21 00 09.3 +1.5**
KZA Kyzart 42.42 231 P **P** **21 00 09.2 +1.5**
SNR=24
FOEL Foel Wylfa 42.44 311 *e*P **P** **21 00 07.0 -0.3**
FOEL AMB AMB 21 00 10.7
comp=Z,58nm,2.0s
EDM Edmonton 42.48 46 *e*P **P** **21 00 09.1 +1.3**
EDM Edmonton 42.48 46 *e*P **P** **21 00 09.1 +1.3**
DPC Dobruska-Polom 42.51 293⇓ *i*P **P** **21 00 08.4 +0.4**
DPC *e* 21 01 55.4
DPC *e*S **S** **21 06 33.7 +4.5**
DPC *e*SS **SS** **21 09 32.5 -5.8**
DPC Dobruska-Polom 42.51 293⇓ *i*P **P** **21 00 08.4 +0.4**
DPC *ex* x 21 00 19.1
DPC *ex* x 21 00 25.5
DPC *e*PP **PcP** **21 01 55.4 -4.9**
DPC *e*S **S** **21 06 33.7 +4.5**
DPC *e*SS **SS** **21 09 32.5 -5.8**
DPC AMS AMS 21 23 20.0
DPC Dobruska-Polom 42.51 293 *e*P **P** **21 00 08.6 +0.5**
comp=Z,303nm,1.1s
RAC Raciborz 42.52 291 *e*P **P** **21 00 08.7 +0.7**
RAC *e*S **S** **21 06 30.9 +1.7**
RAC MLR MLR
comp=E,12μm,18.6s
RAC MLR MLR
comp=Z,9μm,17.4s
RAC MLR MLR
comp=N,9μm,16.4s
AML Almayashu 42.55 233 *i* P **P** **21 00 10.8 +2.0**
AML Almayashu 42.55 233 P **P** **21 00 10.8 +2.0**
SNR=39
PVCC Panska Ves 42.58 295 *e*P **P** **21 00 08.7 +0.2**
PVCC *e* 21 01 50.6
PVCC *e*S **S** **21 06 34.2 +4.2**
PVCC *e*SS **SS** **21 09 38.1 -1.3**
PVCC MLR MLR
comp=Z,4μm,12.6s
PVCC Panska Ves 42.58 295⇓ *e*P **P** **21 00 08.7 +0.2**
PVCC *ex* x 21 00 19.6
PVCC *e*PP **PP** **21 01 50.6 +3.7**
PVCC *e*S **S** **21 06 34.2 +4.2**
PVCC *e*SS **SS** **21 09 38.1 -1.3**
PVCC AMS AMS 21 24 40.0
comp=Z,4μm,12.6s
BUG Bochum--Univer 42.63 302 *e*P **P** **21 00 09.6 +0.7**
comp=Z,160nm,1.4s
KRLC Kraliky 42.72 292 *e*P **P** **21 00 10.0 +0.3**
KRLC Kraliky 42.72 292⇓ *e*P **P** **21 00 10.0 +0.3**
KRLC *ex* x 21 00 20.2
STHS Stebnicka Huta 42.75 288 *e*P **P** **21 00 11.5 +1.6**
STHS pmax pmax
comp=Z,70nm,0.9s
STHS Stebnicka Huta 42.75 288 *e*P **P** **21 00 11.5 +1.6**
STHS *e* 21 00 22.0
OKC Ostrava-Krasne 42.77 291 *e*P **P** **21 00 10.3 +0.3**
OKC *e* 21 01 52.8
OKC *e*S **S** **21 06 34.1 +1.3**
OKC MLR MLR
comp=Z,7μm,14.5s
OKC Ostrava-Krasne 42.77 291⇓ *e*P **P** **21 00 10.3 +0.3**
OKC *ex* x 21 00 20.8
OKC *ex* x 21 00 28.2
OKC *e*PP **PP** **21 01 52.8 +3.9**
OKC *e*S **S** **21 06 34.1 +1.3**
OKC AMS AMS 21 20 50.0
comp=Z,7μm,14.5s
HLM1 Long Mynd 42.77 311 *e*P **P** **21 00 09.7 -0.4**
HLM1 AMB AMB 21 00 11.7
comp=Z,66nm,1.3s
MOX Moxa 42.85 297 *e*P **P** **21 00 11.4 +0.7**
MOX pmax pmax
comp=Z,70nm,1.1s
MOX MLR MLR
comp=Z,3μm,19.2s
MOX Moxa 42.85 297 *e*P **P** **21 00 11.4 +0.7**
comp=Z,70nm,1.1s
MOX *e*L L 21 19 04.3
comp=Z,3μm,19.2s
NIE Niedzica 42.88 289⇓ *i*P **P** **21 00 11.8 +0.8**
NIE *i* *SP **sP** **21 00 15.7 -1.8**
NIE *e* 21 01 51.7
NIE *e* 21 02 00.9
NIE *e*S **S** **21 06 39.1 +4.5**
NIE MLR MLR
comp=Z,7μm,14.6s
NIE Niedzica 42.88 289 *i* P **P** **21 00 11.8 +0.8**
NIE *i* sP **sP** **21 00 15.7 -1.8**
NIE *e*PP **PP** **21 01 51.7 +1.5**
NIE *e*PcP **PcP** **21 02 00.9 -0.6**
NIE *e*S **S** **21 06 39.1 +4.5**
NIE L L 21 20 06.0
comp=Z,7μm,14.6s
UBBA Unterbreizbach 42.89 299 *e*P **P** **21 00 11.4 +0.5**
comp=Z,42nm,1.2s
GTA Gaotai 42.90 203⇓ P **P** **21 00 12.2 +0.8**
GTA pP **pP** **21 00 16.7 +0.6**
GTA sP **sP** **21 00 19.2 +1.3**
GTA PP **PP** **21 01 54.7 +3.9**
GTA PcP **PcP** **21 02 03.3 +1.4**
GTA S **S** **21 06 36.2 +0.9**
GTA sS **sS** **21 06 42.8 -0.2**
GTA SS **SS** **21 09 40.5 -5.9**
GTA AMB AMB
comp=Z,27nm,2.0s
GTA AMB AMB
comp=Z,1μm,7.4s
GTA LR LR
comp=Z,4μm,12.8s
GTA LR LR
comp=Z,8μm,15.2s
GTA LR LR
comp=Z,4μm,16.6s
MORC Moravsky Berou 42.91 292 P **P** **21 00 12.2 +1.0**
MORC Moravsky Berou 42.91 292⇑ *i*P **P** **21 00 12.2 +1.0**
MORC Moravsky Berou 42.91 292 *e*P **P** **21 00 10.8 -0.4**
comp=Z,92nm,1.2s
PRA Prague 43.04 295⇓ P **P** **21 00 13.0 +0.8**
PRA PP **PP** **21 01 56.0 +4.1**
PRA S **S** **21 06 40.0 +3.1**
PRA AMS AMS 21 25 00.0
KOLS Kolonicke sedl 43.08 287 *e*P **P** **21 00 13.1 +0.5**
KOLS *e* 21 01 52.6
KOLS *e*S **S** **21 06 41.1 +3.6**
KOLS *e*SS **SS** **21 09 51.1 +1.8**
KOLS pmax pmax
comp=Z,29nm,1.1s
KOLS MLR MLR
comp=Z,2μm,20.7s
KOLS Kolonicke sedl 43.08 287 *e*P **P** **21 00 13.1 +0.5**
KOLS *e* 21 00 23.1
KOLS *e*PP **PP** **21 01 52.6 +0.3**
KOLS *e*S **S** **21 06 41.1 +3.6**
KOLS *e*SS **SS** **21 09 51.1 +1.8**
PRU Pruhonice 43.11 294⇓ *i*P **P** **21 00 13.3 +0.5**
PRU *e* 21 01 55.7
PRU *e*S **S** **21 06 39.8 +1.9**
PRU *e*SS **SS** **21 09 46.5 -3.3**
PRU MLR MLR
comp=Z,4μm,13.7s
PRU Pruhonice 43.11 294⇓ *i*P **P** **21 00 13.3 +0.5**
PRU *ex* x 21 00 24.1
PRU *ex* x 21 00 27.9
PRU *e*PP **PP** **21 01 55.7 +3.1**
PRU *e*S **S** **21 06 39.8 +1.9**
PRU *e*SS **SS** **21 09 46.5 -3.3**
PRU AMS AMS 21 24 30.0
comp=Z,4μm,13.7s
SSW Stow on the Wo 43.20 310 *e*P **P** **21 00 13.7 +0.2**
MCH1 Michaelchurch 43.30 311 *e*P **P** **21 00 14.2 -0.1**
SKP1 Kophill 43.32 309 *e*P **P** **21 00 14.0 -0.5**
UZH Uzhgorod 43.37 287⇑ *i*P **P** **21 00 14.1 -0.8**
UZH *i* 21 00 18.1
UZH *i* 21 01 57.1
UZH *i* 21 02 03.5

UZH *i* S **S** **21 06 38.0 -3.7**
UZH MLR MLR
comp=N,3µm,16.0s
UZH MLR MLR
comp=E,5µm,16.0s
UZH MLR MLR
comp=Z,2µm,16.0s
MANZ Manzenberg 43.43 297 *e*P **P** **21 00 16.2 +0.7**
comp=Z,40nm,1.2s
BEBN Eben Emael 43.46 303 P **P** **21 00 16.1 +0.5**
HGN Heimansgroeve 43.46 303 *e*P **P** **21 00 15.7 +0.1**
comp=Z,82nm,1.2s
HGN *e*X 21 00 26.7
HGN *e*PP **PcP** **21 02 00.4 -2.9**
HGN *e*S **S** **21 06 43.3 +0.3**
HGN *e*SS SS 21 09 38.8 -18
VRAC Vranov 43.50 292⇑*i*P **P** **21 00 17.4 +1.4**
MEM Membach 43.60 302 P **P** **21 00 17.6 +0.9**
comp=Z,33nm,1.9s
MEM Membach 43.60 302 *e*P **P** **21 00 17.7 +0.9**
MEM pmax pmax
comp=Z,76nm,1.4s
MEM Membach 43.60 302 *e*P **P** **21 00 17.7 +0.9**
comp=Z,76nm,1.4s
UCC Uccle 43.62 304 P **P** **21 00 17.4 +0.6**
ROTZ Rotzenmuhle 43.63 297 *e*P **P** **21 00 18.2 +1.1**
comp=Z,63nm,1.2s
TREC Trest 43.66 293⇓*i*P **P** **21 00 17.8 +0.5**
TREC *e* 21 02 05.1
TREC *e*S **S** **21 06 49.8 +3.8**
TREC MLR MLR
comp=Z,6µm,14.0s
TREC Trest 43.66 293⇓*i*P **P** **21 00 17.8 +0.5**
TREC *ex* x 21 00 28.6
TREC *e*PP **PcP** **21 02 05.1 +1.0**
TREC *e*S **S** **21 06 49.8 +3.8**
TREC AMS AMS 21 23 50.0
comp=Z,6µm,14.0s
ELSH Elham, Standar 43.66 307 *e*P **P** **21 00 17.6 +0.4**
ELSH AMB AMB 21 00 18.7
comp=Z,220nm,0.9s
TNS Taunus Mts 43.68 300 *e*P **P** **21 00 18.2 +0.8**
TNS pmax pmax
comp=Z,46nm,1.1s
TNS Taunus Mts 43.68 300 *e*P **P** **21 00 18.2 +0.8**
comp=Z,46nm,1.1s
SCHQ Schefferville 43.77 6 P **P** **21 00 17.1 -0.9**
SCHQ PcP **PcP** **21 02 03.9 -0.5**
SCHQ Schefferville 43.77 6 P **P** **21 00 17.1 -0.9**
comp=Z,7.6nm,0.8s,baz=13,slow=9.2,SNR=8.7
SCHQ PcP **PcP** **21 02 03.9 -0.5**
comp=Z,16nm,0.9s,baz=0.0,slow=3.0,SNR=4.4
SCHQ LR LR 21 17 48.6
comp=Z,2µm,18.1s,baz=348,slow=35
BATH Bath 43.77 310 *e*P **P** **21 00 18.2 +0.1**
BATH AMB AMB 21 00 19.2
comp=Z,118nm,1.7s
TRPA Tarpa 43.82 286⇑*i*P **P** **21 00 19.8 +1.3**
TRPA Tarpa 43.82 286⇓*e*P **P** **21 00 19.3 +0.8**
GRF Grafenberg Arr 43.84 297 *e*P **P** **21 00 19.8 +1.1**
GRF *e* 21 02 05.6
GRF pmax pmax
comp=Z,90nm,1.3s
GRF MLR MLR
comp=Z,2µm,19.4s
GRF Grafenberg Arr 43.84 297 *e*P **P** **21 00 19.8 +1.1**
comp=Z,90nm,1.3s
GRF *e*PcP **PcP** **21 02 05.6 +0.9**
GRF *e*L L 21 19 43.3
comp=Z,2µm,19.4s
GRFO Grafenberg 43.84 297 *e*P **P** **21 00 19.9 +1.2**
GRFO pmax pmax
comp=Z,94nm,1.2s
GRFO Grafenberg 43.84 297 *e*P **P** **21 00 19.9 +1.2**
comp=Z,94nm,1.2s
GOF Gofitskoye 43.84 266⇓*i*P **P** **21 00 19.7 +1.0**
GOF *e*S **PcP** **21 02 02.7 -2.1**
GOF pmax pmax
comp=Z,180nm,1.2s
BCLA Clavier 43.88 303 P **P** **21 00 20.1 +1.1**
SNF Seneffe 43.91 304 P **P** **21 00 20.1 +0.9**
BURAR Bucovina Array 43.95 284⇑⇑*i*P **P** **21 00 20.5 +0.8**
BURAR Bucovina Array 43.95 284⇑*i*P **P** **21 00 20.5 +0.8**
IAS Iasi 44.02 281 ⇓⇓P **P** **21 00 20.7 +0.6**
IAS Iasi 44.02 281⇓*i*P **P** **21 00 20.7 +0.6**
KIS Kishinev 44.03 280⇓⇓*i*P **P** **21 00 19.5 -0.7**
comp=Z,200nm,2.0s
KIS Kishinev 44.03 280 *e*PcP PcP 21 01 59.0 -6.4
KIS Kishinev 44.03 280 *e*PP PP 21 02 10.0 +7.5
KIS Kishinev 44.03 280 *i*P **P** **21 00 19.5 -0.7**
KIS *e* 21 10 20.0
KIS MLR MLR
comp=Z,7µm,14.0s
KIS MLR MLR
comp=E,6µm,14.0s
KIS MLR MLR
comp=Z,7µm,14.0s
KIS MLR MLR
comp=N,7µm,13.0s
PRAR RASCA 44.05 283⇑*i*P **P** **21 00 21.3 +0.9**
KHC Kasperske Hory 44.08 295⇓*i*P **P** **21 00 21.4 +0.7**
KHC *e* 21 02 07.1
KHC *e*S **S** **21 06 56.9 +4.8**
KHC *e*SS **SS** **21 10 04.6 -4.3**
KHC MLR MLR
comp=Z,4µm,14.5s
KHC Kasperske Hory 44.08 295⇓*i*P **P** **21 00 21.4 +0.7**
KHC *ex* x 21 00 32.3
KHC *e*PP **PcP** **21 02 07.1 +1.5**
KHC *e*S **S** **21 06 56.9 +4.8**
KHC *e*SS **SS** **21 10 04.6 -4.3**
KHC AMS AMS 21 23 40.0
comp=Z,4µm,14.5s
KHC Kasperske Hory 44.08 295 *e*P **P** **21 00 20.8 +0.2**
comp=Z,39nm,1.0s
TIY Taiyuan 44.09 189 P **P** **21 00 22.0 +1.1**
TIY AMB AMB
comp=Z,29nm,0.8s
TIY AMB AMB
comp=Z,830nm,8.4s
TIY LR LR
comp=Z,3µm,12.5s
TIY LR LR
comp=Z,3µm,9.0s
TIY LR LR
comp=Z,4µm,14.4s
VAL Valentia 44.12 317 *e*P **P** **21 00 20.8 -0.1**
VAL Valentia 44.12 317⇓⇓*i*S S 21 07 00.4 +7.8
BMR Baia Mare 44.13 285 P **P** **21 00 22.4 +1.3**
BMR Baia Mare 44.13 285⇑*i*P **P** **21 00 22.4 +1.3**
WET Wettzell 44.16 296 *e*P **P** **21 00 22.4 +1.1**
WET pmax pmax
comp=Z,48nm,1.2s
WET Wettzell 44.16 296 *e*P **P** **21 00 22.4 +1.1**
comp=Z,48nm,1.2s
SMOL Smolenice 44.16 291 *e*P **P** **21 00 22.9 +1.6**
SMOL Smolenice 44.16 291 *e*P **P** **21 00 22.9 +1.6**
SMOL *e* 21 00 33.6
GIVF Givet 44.25 303⇓⇓*i*P **P** **21 00 21.9 0.0**
comp=Z,178nm,1.4s
GIVF Givet 44.25 303⇓⇓*i*P **P** **21 00 21.9 0.0**
GIVF Givet 44.25 303⇓⇓*i*P **P** **21 00 21.9 0.0**
DOU Dourbes 44.28 304 P **P** **21 00 23.1 +0.9**
comp=Z,21nm,1.6s
INCN Inchon 44.30 172 PFAKE 21 00 30.0 +7.5
INCN LR LR
comp=Z,2µm,22.0s
GEC2 GERESS Array S 44.34 295 *e*P **P** **21 00 23.7 +0.9**
GEC2 pmax pmax
comp=Z,59nm,1.2s
GEC2 GERESS Array S 44.34 295 *e*P **P** **21 00 23.7 +0.9**
comp=Z,59nm,1.2s
GEC2 GERESS Array S 44.34 295 *e*P **P** **21 00 23.5 +0.6**
GERES GERESS Array B 44.34 295 P **P** **21 00 24.1 +1.2**
GERES PcP **PP** **21 02 05.9 0.0**
GERES GERESS Array B 44.34 295 P **P** **21 00 24.1 +1.2**
comp=Z,19nm,0.9s,baz=19,slow=8.5,SNR=87
GERES PcP **PcP** **21 02 05.9 0.0**
comp=Z,3.9nm,0.9s,baz=32,slow=5.8,SNR=3.7
GERES LR LR 21 21 29.2
comp=Z,2µm,18.6s,baz=196,slow=40
KSRS Korea Array 44.35 171 P **P** **21 00 22.4 -0.5**
comp=Z,6.5nm,1.1s,baz=354,slow=6.3,SNR=7.7
KSRS LR LR 21 19 45.8
comp=Z,1µm,19.0s,baz=181,slow=37

KSAR Wonju Array Be 44.36 171 P **P** **21 00 22.4 -0.6**
BAIF Baives 44.37 304⇓⇓*i*P **P** **21 00 23.0 +0.1**
comp=Z,142nm,1.0s
BAIF Baives 44.37 304⇓⇓*i*P **P** **21 00 23.0 +0.1**
BAIF Baives 44.37 304⇓⇓*i*P **P** **21 00 23.0 +0.1**
PSZ Piszkesteto 44.40 289 *e*P **P** **21 00 24.4 +1.2**
PSZ pmax pmax
comp=Z,152nm,1.2s
PSZ MLR MLR
comp=Z,6µm,19.0s
PSZ Piszkesteto 44.40 289⇑⇑*i*P **P** **21 00 24.5 +1.2**
PSZ Piszkesteto 44.40 289 *e*P **P** **21 00 24.4 +1.2**
comp=Z,152nm,1.2s
PSZ LR LR
comp=Z,6µm,19.0s
PSZ Piszkesteto 44.40 289⇓⇓*e* **P** **21 00 24.5 +1.2**
WLF Walferdange 44.51 302 P **P** **21 00 25.1 +1.0**
comp=Z,54nm,1.4s
WLF Walferdange 44.51 302 *e*P **P** **21 00 25.1 +1.0**
comp=Z,50nm,1.1s
WLF Walferdange 44.51 302 PFAKE 21 00 40.0 +16
WLF LR LR
comp=Z,1µm,19.0s
ZST Bratislava 44.52 292 *e*P **P** **21 00 24.5 +0.4**
ZST *e* 21 02 07.0
ZST *e*S **S** **21 07 04.1 +5.7**
ZST *e*SS **ScS** **21 10 20.2 -0.5**
ZST Bratislava 44.52 292 *e*P **P** **21 00 24.5 +0.4**
ZST *e*PP **PcP** **21 02 07.0 0.0**
ZST *e*S **S** **21 07 04.1 +5.7**
ZST *e*SS **ScS** **21 10 20.2 -0.5**
ARCR ARCALIA 44.59 284⇓⇓*i*P **P** **21 00 26.5 +1.8**
LEOM Leova 44.63 280 ⇓⇓P **P** **21 00 26.1 +1.1**
LEOM Leova 44.63 280⇓⇓*i*P **P** **21 00 26.1 +1.1**
KSH Kashi 44.87 230 P **P** **21 00 32.2 +5.0**
KSH pP pP 21 00 35.5 +3.6
KSH sP sP 21 00 39.2 +5.5
KSH PP PP 21 02 19.0 +7.3
KSH S **S** **21 07 06.1 +2.1**
KSH sS sS 21 07 15.7 +4.0
KSH SS **ScS** **21 10 22.0 -1.5**
KSH AMB AMB
comp=Z,32nm,1.1s
KSH AMB AMB
comp=Z,1µm,8.1s
KSH LR LR
comp=Z,1µm,7.3s
KSH LR LR
comp=Z,1µm,8.6s
KSH LR LR
comp=Z,1µm,11.0s
ANN Anapa 44.92 271 *e*P **P** **21 00 27.2 -0.1**
ANN *e**PP **pP** **21 00 30.7 -1.3**
ANN *e* 21 02 11.6
ANN *e*S **S** **21 07 04.9 +0.6**
ANN *e*SS **ScS** **21 10 24.0 +0.7**
ANN pmax pmax
comp=Z,92nm,1.0s
ANN MLR MLR
comp=N,2µm,16.0s
ANN MLR MLR
comp=E,2µm,16.0s
ANN MLR MLR
comp=Z,5µm,16.0s
DYA Yadsworthy 44.94 311 *e*P **P** **21 00 26.5 -1.0**
DYA AMB AMB 21 00 27.1
comp=Z,92nm,3.2s
CONA Conrad Observa 44.95 293 *i*pP **P** **21 00 28.6 +0.9**
comp=Z,93nm,1.1s,SNR=21
BUD Budapest 44.95 290⇓⇓*e* sP 21 00 39.4 +5.3
KIV Kislovodsk 44.97 266*d*⇓*i*P **P** **21 00 28.8 +0.9**
KIV *e* 21 02 09.9
KIV pmax pmax
comp=Z,172nm,1.2s
KIV MLR MLR
comp=Z,4µm,14.0s
KIV Kislovodsk 44.97 266 P **P** **21 00 29.5 +1.6**
comp=Z,782nm,0.9s,SNR=18
LANF Langenberg 44.98 300 *e*P **P** **21 00 27.9 +0.1**
STU Stuttgart 45.00 299 *e*P **P** **21 00 29.2 +1.2**
STU pmax pmax
comp=Z,136nm,1.2s
STU Stuttgart 45.00 299 *e*P **P** **21 00 28.8 +0.8**
comp=Z,79nm,1.0s
STU Stuttgart 45.00 299 *e*P **P** **21 00 29.2 +1.2**
comp=Z,136nm,1.2s
SOP Sopron 45.09 292⇓⇓*e* **P** **21 00 29.8 +1.1**
DRGR 45.11 286⇑⇑P **P** **21 00 30.2 +1.3**
DRGR 45.11 286⇑*i*P **P** **21 00 30.2 +1.3**
GHRR 45.15 281⇓*i*P **P** **21 00 30.9 +1.7**
KBZ Khabaz 45.16 265 P **P** **21 00 31.0 +1.7**
KBZ pmax pmax
comp=Z,36nm,0.9s
KBZ MLR MLR
comp=Z,3µm,18.9s
KBZ Khabaz 45.16 265 P **P** **21 00 31.0 +1.7**
KBZ Khabaz 45.16 265 P **P** **21 00 31.0 +1.7**
comp=Z,36nm,0.9s,baz=13,slow=6.7,SNR=60
KBZ LR LR 21 22 02.5
comp=Z,3µm,18.9s,baz=124,slow=40
MOA Molln 45.24 294 *i*pP **P** **21 00 30.5 +0.5**
comp=Z,84nm,1.2s,SNR=17
MAK Makhachkala 45.24 260 *e*P P 21 00 26.5 -3.4
MAK *e* 21 02 14.9
MAK *e*PPP PPP 21 02 54.7
MAK *e*S **S** **21 07 04.7 -4.3**
MAK *e*SS **ScS** **21 10 26.5 +1.1**
MAK pmax pmax
comp=Z,281nm,1.6s
SIM Simferopol' 45.26 274*d*⇓*i*P **P** **21 00 33.2 +3.1**
SIM *i*S S 21 07 18.8 +10
SIM pmax pmax
comp=Z,1µm,8.8s
PKST T's 45.31 290⇑*e* **P** **21 00 31.9 +1.5**
FUR Furstenfeldbru 45.33 297 *e*P **P** **21 00 31.6 +1.0**
FUR pmax pmax
comp=Z,63nm,1.2s
FUR Furstenfeldbru 45.33 297 *e*P **P** **21 00 31.6 +1.0**
comp=Z,63nm,1.2s
PKS7 Kunszentmiklos 45.36 289⇑*e* **P** **21 00 32.7 +1.9**
PKSN Nyarlorinc 45.41 289⇑*e* **P** **21 00 32.7 +1.5**
VRI Vrincioaia 45.44 282⇑⇑P **P** **21 00 32.4 +0.9**
VRI Vrincioaia 45.44 282⇑*i*P **P** **21 00 32.4 +0.9**
PLOR Plostina 45.47 282 ⇓⇓P **P** **21 00 32.3 +0.5**
PLOR Plostina 45.47 282⇓*i*P **P** **21 00 32.3 +0.5**
PETR Petresti 45.51 281⇑*i*P **P** **21 00 33.8 +1.8**
TIA Tai'an 45.51 183 ⇓⇓P **P** **21 00 31.5 -0.7**
TIA S S **21 07 15.5 +2.4**
TIA AMB AMB
comp=Z,70nm,1.3s
TIA AMB AMB
comp=Z,750nm,5.1s
TIA LR LR
comp=Z,10µm,14.9s
TIA LR LR
comp=Z,5µm,13.7s
TIA LR LR
comp=Z,12µm,12.7s
DOPR Dopca 45.53 283⇑*i*P **P** **21 00 34.5 +2.2**
RJOB Jochberg 45.55 295 *e*P **P** **21 00 33.4 +1.0**
comp=Z,40nm,1.2s
BFO Black Forest 45.55 300 *e*P **P** **21 00 33.1 +0.7**
BFO pmax pmax
comp=Z,58nm,1.3s
BFO Black Forest 45.55 300 *e*P **P** **21 00 33.1 +0.7**
comp=Z,58nm,1.3s
BFO Black Forest 45.55 300 P **P** **21 00 33.6 +1.2**
comp=Z,164nm,1.1s,SNR=9.8
BFO Black Forest 45.55 300 *e*P **P** **21 00 33.0 +0.6**
comp=Z,50nm,1.1s
BFO LR LR
comp=Z,2µm,20.0s
WLS Welschbruch 45.59 301 *e*P **P** **21 00 33.3 +0.6**
CDF Champ du Feu 45.60 301⇓⇓*i*P **P** **21 00 33.0 +0.1**
comp=Z,129nm,0.9s
CDF Champ du Feu 45.60 301⇓⇓*i*P **P** **21 00 33.0 +0.1**
CDF Champ du Feu 45.60 301⇓⇓*i*P **P** **21 00 33.0 +0.1**
MAJO Matsushiro 45.65 159 PFAKE 21 00 50.0 +17
MAJO LR LR
comp=Z,2µm,19.0s
PAGF Fort de Pagny 45.66 302⇓⇓*i*P **P** **21 00 33.6 +0.4**
comp=Z,39nm,0.8s
PAGF Fort de Pagny 45.66 302⇓⇓*i*P **P** **21 00 33.6 +0.4**
ARSA Arzberg 45.66 293⇓⇓*i*pP **P** **21 00 34.5 +1.2**
comp=Z,37nm,1.6s,SNR=10

A05A Maple Falls 45.66 54 *e*P **P** **21 00 34.5 +1.4**
comp=Z,115nm,1.0s
SIRR Siria 45.77 287⇑⇑*i*P **P** **21 00 35.7 +1.6**
SOC Sochi 45.77 268*d*⇓*i*P **P** **21 00 34.3 +0.2**
SOC *e* 21 02 11.0
SOC *e* 21 02 18.8
SOC *i*S **S** **21 07 18.8 +2.1**
SOC *e**SS **sS** **21 07 24.4 0.0**
SOC *i*SS **SS** **21 10 34.9 -5.6**
SOC pmax pmax
comp=Z,38nm,0.9s
MEZF Maizieres J'vi 45.79 303⇓⇓*i*P **P** **21 00 34.5 +0.3**
comp=Z,175nm,1.3s
MEZF Maizieres J'vi 45.79 303⇓⇓*i*P **P** **21 00 34.5 +0.3**
TLCR 45.80 280 ⇓⇓P **P** **21 00 35.5 +1.2**
TLCR 45.80 280⇓⇓*i*P **P** **21 00 35.5 +1.2**
ECH Echery 45.81 301 *e*P **P** **21 00 33.8 -0.6**
ECH Echery 45.81 301 PFAKE 21 00 50.0 +16
ECH LR LR
comp=Z,2µm,20.0s
PGC Sidney 45.84 56 *e*P **P** **21 00 36.8 +2.2**
comp=Z,10nm,0.9s
PKS2 Kecel 45.89 289⇑*e* **P** **21 00 37.0 +2.0**
CFR Carcaliu 45.91 280 P **P** **21 00 36.0 +0.8**
CFR Carcaliu 45.91 280⇑*i*P **P** **21 00 36.0 +0.8**
MLR Muntele Rosu 45.92 282⇑*i*P **P** **21 00 36.6 +1.1**
PKS9 Tamasi 45.93 290⇑*e* **P** **21 00 35.2 -0.1**
ZEI Tsey 45.94 264 *e*P **P** **21 00 34.0 -1.7**
ZEI pmax pmax
comp=Z,97nm,1.4s
THEF They Montfort 45.95 302 *e*P **P** **21 00 35.5 0.0**
LZH Lanzhou 46.00 198 ⇓⇓P **P** **21 00 37.2 +1.0**
LZH pP **pP** **21 00 40.5 -0.4**
LZH sP **sP** **21 00 42.0 -0.8**
LZH PcP **PcP** **21 02 13.7 +1.1**
LZH PP **PP** **21 02 25.0 +1.1**
LZH PcS **PcS** **21 06 08.1 +1.0**
LZH S **S** **21 07 21.0 +0.5**
LZH sS **sS** **21 07 27.5 -0.7**
LZH ScS **ScS** **21 10 30.0 -1.0**
LZH SS SS 21 10 36.3 -8.6
LZH AMB AMB
comp=Z,150nm,1.3s
LZH AMB AMB
comp=Z,1µm,8.0s
LZH LR LR
comp=Z,7µm,13.0s
LZH LR LR
comp=Z,4µm,13.2s
LZH LR LR
comp=Z,9µm,17.0s
FELD Feldberg im Sc 46.04 300 *e*P **P** **21 00 36.1 -0.3**
RETA Reutte 46.06 297 *i*pP **P** **21 00 37.2 +0.8**
comp=Z,45nm,1.2s,SNR=9.6
SFTF Sexfontaines 46.09 303⇓⇓*i*P **P** **21 00 36.5 -0.1**
comp=Z,259nm,1.4s
SFTF Sexfontaines 46.09 303⇓⇓*i*P **P** **21 00 36.5 -0.1**
VOIR 46.10 283⇑⇑P **P** **21 00 38.3 +1.5**
VOIR 46.10 283⇑⇑*i*P **P** **21 00 38.3 +1.5**
HAU Haudompre 46.12 301⇓⇓*i*P **P** **21 00 36.9 0.0**
comp=Z,86nm,0.9s
HAU *e*R
comp=Z,2µm,18.2s
HAU Haudompre 46.12 301⇓⇓*i*P **P** **21 00 36.9 0.0**
HAU Haudompre 46.12 301⇓⇓*i*P **P** **21 00 36.9 0.0**
KBA Koelnbreinsper 46.12 295 *i*sP sP 21 00 38.6 -5.0
comp=Z,158nm,1.1s,SNR=35
MOF Molkenrain 46.17 301 *e*P **P** **21 00 36.2 -1.2**
ONI Oni 46.20 264 P **P** **21 00 39.3 +1.8**
ISR Istrita 46.20 282⇑⇑P **P** **21 00 39.1 +1.5**
ISR Istrita 46.20 282⇑⇑*i*P **P** **21 00 39.1 +1.5**
FLN La Foliniere 46.20 308⇓⇓*i*P **P** **21 00 36.6 -0.8**
comp=Z,82nm,0.8s
FLN *e*R
comp=Z,2µm,17.0s
FLN La Foliniere 46.20 308⇓⇓*i*P **P** **21 00 36.6 -0.8**
FLN La Foliniere 46.20 308⇓⇓*i*P **P** **21 00 36.6 -0.8**
ARR Arges 46.23 284⇑⇑*i*P **P** **21 00 39.3 +1.5**
HINF Hinteralfeld 46.24 301⇓⇓*i*P **P** **21 00 37.6 -0.2**
comp=Z,92nm,1.2s
HINF Hinteralfeld 46.24 301⇓⇓*i*P **P** **21 00 37.6 -0.2**
HINF Hinteralfeld 46.24 301⇓⇓*i*P **P** **21 00 37.6 -0.2**
BEHE Becsehely 46.25 291⇓⇓*e*P **P** **21 00 39.5 +1.6**
CHVG Ch'k'valeri 46.27 266 P **P** **21 00 40.1 +2.0**
SOKA Soboth 46.29 293 *i*pP **P** **21 00 39.2 +0.9**
comp=Z,52nm,1.4s,SNR=14
MTUR Matau 46.31 283 ⇓⇓P **P** **21 00 41.4 +3.0**
MTUR Matau 46.31 283⇓⇓*i*P **P** **21 00 41.4 +3.0**
PERS Pernice 46.32 293 *i*P **P** **21 00 39.4 +1.0**
PERS *e*PcP **PcP** **21 02 12.7 -0.7**
PERS *e*PP **PP** **21 02 30.0 +3.1**
PERS *e*S **S** **21 07 29.7 +5.1**
PERS *e*SS SS 21 10 41.4 -8.1
LDF La Druitiere 46.33 307⇓⇓*i*P **P** **21 00 37.6 -0.8**
comp=Z,155nm,1.4s
LDF La Druitiere 46.33 307⇓⇓*i*P **P** **21 00 37.6 -0.8**
LDF La Druitiere 46.33 307⇓⇓*i*P **P** **21 00 37.6 -0.8**
SECR 46.35 282⇑⇑*i*P **P** **21 00 39.6 +0.9**
DAVA Damuels 46.37 298 *i*pP **P** **21 00 40.0 +1.0**
comp=Z,81nm,1.2s,SNR=14
BZS Buzias 46.41 287 P **P** **21 00 39.8 +0.6**
BZS Buzias 46.41 287⇑⇑*i*P **P** **21 00 39.8 +0.6**
HARR Harsova 46.42 280 ⇓⇓P **P** **21 00 40.5 +1.3**
HARR Harsova 46.42 280⇓⇓*i*P **P** **21 00 40.5 +1.3**
TLB Topalu 46.50 280⇑⇑P **P** **21 00 40.7 +0.9**
TLB Topalu 46.50 280⇑⇑*i*P **P** **21 00 40.7 +0.9**
OBKA Obir 46.52 293 *i*pP **P** **21 00 41.2 +1.1**
comp=Z,85nm,1.0s,SNR=19
MYKA Terra Mystica 46.52 294 *i*pP **P** **21 00 41.2 +1.1**
comp=Z,31nm,1.0s,SNR=10
FETA Feichten 46.52 297 *i*pP **P** **21 00 41.2 +1.0**
comp=Z,43nm,1.2s,SNR=10
WALA Waterton Lakes 46.53 47 *e*P **P** **21 00 40.4 +0.1**
comp=Z,4.8nm,1.0s
ABTA Abfaltersbach 46.56 295 *i*pP **P** **21 00 41.3 +1.0**
comp=Z,71nm,1.2s,SNR=23
TIRR Tirgusor 46.58 280⇑⇑P **P** **21 00 41.5 +1.1**
TIRR Tirgusor 46.58 280⇑⇑*i*P **P** **21 00 41.5 +1.1**
TIRR Tirgusor 46.58 280 *e*P **P** **21 00 41.3 +0.9**
comp=Z,157nm,1.7s
GRR Gorron 46.61 308⇓⇓*i*P **P** **21 00 39.8 -0.9**
comp=Z,46nm,0.8s
GRR Gorron 46.61 308⇓⇓*i*P **P** **21 00 39.8 -0.9**
GRR Gorron 46.61 308⇓⇓*i*P **P** **21 00 39.8 -0.9**
B08A Colville Reser 46.62 52 *e*P **P** **21 00 41.6 +0.8**
comp=Z,143nm,1.0s
LOMF Lomont 46.70 301 *e*P **P** **21 00 40.6 -0.9**
TBLG Delisi 46.85 263 P **P** **21 00 43.9 +1.3**
DAVOX Davos/Dischmat 46.87 298 P **P** **21 00 43.9 +0.9**
DAVOX Davos/Dischmat 46.87 298 P **P** **21 00 43.9 +0.9**
comp=Z,38nm,0.8s,baz=353,slow=7.4,SNR=41
CADS Cadrg 46.90 294 *i*P **P** **21 00 43.3 +0.3**
CADS *e*PP **PP** **21 02 34.7 +1.7**
SGMF Saint Gilles 46.94 310⇓⇓*i*P **P** **21 00 42.9 -0.3**
comp=Z,173nm,1.1s
SGMF Saint Gilles 46.94 310⇓⇓*i*P **P** **21 00 42.9 -0.3**
SGMF Saint Gilles 46.94 310⇓⇓*i*P **P** **21 00 42.9 -0.3**
NEW Newport 46.96 50 *e*P **P** **21 00 45.2 +1.7**
comp=Z,141nm,0.9s
NEW S **S** **21 07 34.9 +1.1**
NEW Newport 46.96 50⇑⇑P **P** **21 00 44.0 +0.5**
baz=47,SNR=27
NEW Newport 46.96 50 P **P** **21 00 45.7 +2.2**
comp=Z,72nm,0.9s,baz=349,slow=6.0,SNR=21
NEW S **S** **21 07 34.9 +1.1**
comp=Z,1.6nm,0.4s,baz=17,slow=17,SNR=2.2
NEW LR LR 21 22 08.4
comp=Z,2µm,18.4s,baz=353,slow=38
LJU Ljubljana 46.98 293 *i*P **P** **21 00 44.5 +0.9**
LJU *e* 21 00 54.3
LJU *i*PcP **PcP** **21 02 14.9 -0.8**
FUORN Ofenpass-Fuorn 46.98 297 *e*P **P** **21 00 45.3 +1.4**
comp=Z,137nm,1.2s
MSAB Monastry St. A 47.02 280⇑⇑*i*P **P** **21 00 45.0 +1.1**
ULM Lac du Bonnet 47.02 31 *e*P **P** **21 00 44.8 +0.9**
comp=Z,628nm,3.0s
ULM PcP **PcP** **21 02 15.0 -0.7**
ULM Lac du Bonnet 47.02 31 P **P** **21 00 42.6 -1.2**
comp=Z,25nm,0.9s,baz=338,slow=7.5,SNR=7.5
ULM PcP **PcP** **21 02 15.0 -0.7**
comp=Z,18nm,0.9s,baz=315,slow=4.3,SNR=3.9
ULM LR LR 21 21 09.8
comp=Z,2µm,18.5s,baz=1.3,slow=37
NLWA Neilton Lookou 47.02 57 *e*P **P** **21 00 45.9 +1.9**

comp=Z,78nm,1.0s
NLWA LR LR
comp=Z,2µm,22.0s
DGRG David-gareji 47.03 262 P P 21 00 45.9 +1.8
LOR Lormes 47.15 304 ⇓iP P 21 00 44.4 -0.6
comp=Z,241nm,1.4s
LOR eR
comp=Z,2µm,19.0s
LOR Lormes 47.15 304 ⇓iP P 21 00 44.4 -0.6
WTV Waterville 47.19 53 P P 21 00 46.8 +1.5
A19A Klindworth Far 47.20 43 ⇓P P 21 00 45.5 +0.1
baz=47,SNR=30
TUE Stuetta 47.24 298 eP P 21 00 47.2 +1.3
comp=Z,219nm,1.3s
TUE LR LR
comp=Z,1µm,20.0s
C09A Chrisman Ranch 47.29 51 eP P 21 00 49.4 +3.4
comp=Z,55nm,1.1s
HYF Humbligny 47.30 305 ⇓iP P 21 00 45.9 -0.2
HYF Humbligny 47.30 305 ⇓iP P 21 00 45.9 -0.2
A21A Bergtoll Ranch 47.31 41 ⇓P P 21 00 46.0 -0.3
baz=47
A20A Cobblestone Ra 47.33 42 ⇓P P 21 00 46.2 -0.1
baz=47
QUIF Quistinic 47.34 310 ⇓iP P 21 00 46.1 -0.3
comp=Z,162nm,0.9s
QUIF Quistinic 47.34 310 ⇓iP P 21 00 46.1 -0.3
QUIF Quistinic 47.34 310 ⇓iP P 21 00 46.1 -0.3
AKH Akhalkalaki 47.35 264 P P 21 00 48.1 +1.4
PSN Preselentsi 47.37 280 P P 21 00 47.1 +0.5
SSF Saint Saulge 47.40 304 ⇓iP P 21 00 46.4 -0.5
comp=Z,81nm,0.8s
SSF Saint Saulge 47.40 304 ⇓iP P 21 00 46.4 -0.5
SSF Saint Saulge 47.40 304 ⇓iP P 21 00 46.4 -0.5
BOJS Bojanci 47.41 293 *i* P P 21 00 47.5 +0.5
BOJS *eS* **S** 21 07 41.9 +1.9
BOJS *eSS* **SS** 21 11 02.9 -4.1
A22A Carney Farms, 47.41 40 ⇑P P 21 00 47.1 +0.1
baz=47,SNR=9.6
A22A ⇑S **S 21 07 40.6 +0.5**
baz=47
D05A Enumclaw 47.45 55 P P 21 00 50.0 +2.7
KNDS Knezji Dol 47.50 293 *i* P P 21 00 48.0 +0.2
KNDS *ePcP* **PcP 21 02 16.9 -0.7**
KNDS *e* 21 07 46.4
BLMT Blacktail Moun 47.52 48 eP P 21 00 51.3 +3.3
CABF La Chapelle 47.52 301 ⇓iP P 21 00 47.9 0.0
comp=Z,75nm,0.8s
CABF La Chapelle 47.52 301 ⇓iP P 21 00 47.9 0.0
CABF La Chapelle 47.52 301 ⇓iP P 21 00 47.9 0.0
A23A Redstone 47.54 39 ⇓P P 21 00 48.0 0.0
baz=47
LTY Liberty 47.54 54 eP P 21 00 48.4 +0.3
comp=Z,134nm,0.9s
BCA Borcka 47.59 266 eP P 21 00 49.2 +0.8
SENIN Lac Senin/Sane 47.61 300 eP P 21 00 49.5 +0.7
comp=Z,61nm,1.1s
BSMT Bassoo Peak 47.63 48 eP P 21 00 50.8 +1.9
TBM Table Mountain 47.64 54 P P 21 00 49.2 +0.4
B19A Brinkman Farms 47.65 43 ⇓P P 21 00 48.2 -0.6
baz=48
A24A Westby 47.66 38 ⇓P P 21 00 49.0 +0.1
baz=48,SNR=7.5
AVF Avril sur Loir 47.69 304 ⇓iP P 21 00 48.6 -0.5
comp=Z,204nm,1.5s
AVF Avril sur Loir 47.69 304 ⇓iP P 21 00 48.6 -0.5
AVF Avril sur Loir 47.69 304 ⇓iP P 21 00 48.6 -0.5
YBMT Yellow Bay 47.70 47 eP P 21 00 51.1 +1.7
comp=Z,108nm,1.1s
A25A Svangstu Ranch 47.72 38 ⇓P P 21 00 48.8 -0.6
baz=48
B20A Solberg Farm, 47.75 42 ⇑P P 21 00 49.3 -0.4
baz=48,SNR=11
SMF Signal de Mont 47.77 303 ⇓iP P 21 00 49.1 -0.6
comp=Z,200nm,1.5s
SMF Signal de Mont 47.77 303 ⇓iP P 21 00 49.1 -0.6
SMF Signal de Mont 47.77 303 ⇓iP P 21 00 49.1 -0.6
JTMT Jette 47.79 48 eP P 21 00 51.5 +1.5
ZIMR 47.80 282 P P 21 00 50.2 +0.2
ZIMR 47.80 282 ⇑iP P 21 00 50.2 +0.2
XAN Xi'an 47.85 192 P P 21 00 50.2 -0.3
XAN pP **pP 21 00 59.5 +4.3**
XAN sP sP 21 01 04.1 +7.0
XAN S **S 21 07 41.2 -5.4**
XAN ScS **ScS 21 10 41.3 -1.6**
XAN AMB AMB
comp=Z,13nm,1.2s
XAN AMB AMB
comp=Z,180nm,6.4s
XAN LR LR
comp=Z,4µm,16.4s
XAN LR LR
comp=Z,1µm,14.3s
XAN LR LR
comp=Z,3µm,15.3s
A26A Wade Farm, Ken 47.86 37 ⇑P P 21 00 49.9 -0.5
baz=48
B21A Ellsworth Farm 47.86 41 ⇓P P 21 00 49.6 -0.9
baz=48
A27A Ledoux Ranch, 47.87 36 ⇓P P 21 00 50.0 -0.5
baz=48
LON Longmire 47.91 55 eP P 21 00 51.9 +1.0
LON pmax pmax
comp=Z,115nm,1.0s
LON Longmire 47.91 55 eP P 21 00 51.9 +1.0
comp=Z,115nm,1.0s
PRD Provadia 47.95 280 P P 21 00 51.6 +0.4
EGMT Eagleton 47.99 44 eP P 21 00 52.4 +0.9
comp=Z,166nm,1.3s
EGMT LR LR
comp=Z,2µm,20.0s
EGMT Eagleton 47.99 44 ⇓P P 21 00 51.1 -0.4
baz=48,SNR=11
A28A Rude Farm, Bot 48.00 35 ⇓P P 21 00 50.3 -1.2
baz=48
BMW Boistfort Moun 48.01 56 P P 21 00 53.8 +2.1
BMW Boistfort Moun 48.01 56 P P 21 00 53.8 +2.1
B23A Brockton 48.02 39 ⇑P P 21 00 51.1 -0.6
baz=48,SNR=14
SWMT Swartz Lake 48.05 48 eP P 21 00 52.9 +0.8
A29A Manning Farm, 48.07 34 ⇑P P 21 00 51.1 -1.0
baz=48,SNR=5.9
B22A Reddig Ranch S 48.09 40 ⇑P P 21 00 52.1 -0.1
baz=48
DGMT Dagmar 48.09 39 *eP* P 21 00 55.8 +3.6
comp=Z,179nm,0.9s
DGMT LR LR
comp=Z,2µm,19.0s
DGMT Dagmar 48.09 39 ⇓P P 21 00 52.1 -0.1
baz=48,SNR=8.2
SZH Strazhica 48.10 282 P P 21 00 51.5 -0.8
A30A Hoffart Farm, 48.13 33 ⇑P P 21 00 51.8 -0.7
baz=48
DIVS Divibare 48.13 288 P P 21 00 49.3 -3.4
KARS Kars 48.17 264 eP P 21 00 55.2 +2.1
BZK Bozkurt 48.20 274 eP P 21 00 54.1 +1.0
PVL Pavlikeni 48.24 282 P P 21 00 53.3 0.0
MFF Saint Martin d 48.29 307 ⇓iP P 21 00 53.5 -0.3
comp=Z,152nm,1.3s
MFF Saint Martin d 48.29 307 ⇓iP P 21 00 53.5 -0.3
MFF Saint Martin d 48.29 307 ⇓iP P 21 00 53.5 -0.3
LCHF La Chataignera 48.29 308 eP P 21 00 54.4 +0.6
UDBI Udbina 48.30 292 P P 21 00 52.5 -1.4
TCF Toulx Ste Croi 48.32 305 ⇓iP P 21 00 53.6 -0.4
comp=Z,215nm,1.4s
TCF Toulx Ste Croi 48.32 305 ⇓iP P 21 00 53.6 -0.4
TCF Toulx Ste Croi 48.32 305 ⇓iP P 21 00 53.6 -0.4
DIKM Dikmen 48.32 272 eP P 21 00 54.7 +0.6
MPEP Malo Peshtene 48.33 284 P P 21 00 53.7 -0.4
C19A Slack Wire Ran 48.35 43 ⇓P P 21 00 53.8 -0.5
baz=48,SNR=57
B26A Jensen Ranch, 48.36 37 ⇑P P 21 00 54.3 0.0
baz=48,SNR=7.4
RSL Roselend 48.36 301 eP P 21 00 54.7 +0.2
SLMT Seeley Lake 48.37 47 eP P 21 00 55.5 +0.9
B25A Knox Farm, Ray 48.38 38 ⇑P P 21 00 54.7 +0.3
baz=48,SNR=7.0
NVLJ Novalja 48.38 293 P P 21 00 54.1 -0.3
FL2 Flat Top 2 48.39 55 P P 21 00 54.9 +0.2
GNI Garni 48.40 262 P P 21 00 57.2 +2.4
SNR=14
GNI Garni 48.40 262 eP P 21 00 56.5 +1.6
GNI Garni 48.40 262 LR LR 21 24 12.6
comp=Z,2µm,20.1s,baz=11,slow=40
B27A Peters Farms, 48.41 36 ⇓P P 21 00 54.3 -0.5
baz=48
AGO Saint Agoulin 48.44 304 *eP* **P 21 00 54.7 -0.2**
B28A Dugan Ranch, T 48.45 35 ⇑P P 21 00 54.3 -0.7
baz=48
C21A Desert Coulee 48.45 41 ⇑P P 21 00 54.3 -0.7
baz=48
PLDF La Plantade 48.46 303 *eP* **P 21 00 55.0 -0.2**
C20A Veseth Ranch, 48.47 42 ⇑P P 21 00 54.7 -0.5
baz=48,SNR=12
B29A Wagenman Farm, 48.52 34 ⇓P P 21 00 54.4 -1.1
baz=48
LPL La Plagne 48.52 300 ⇓iP P 21 00 56.2 +0.4
comp=Z,86nm,1.0s
LPL La Plagne 48.52 300 ⇓iP P 21 00 56.2 +0.4
LPL La Plagne 48.52 300 ⇓iP P 21 00 56.2 +0.4
HAWA Hanford 48.53 53 *eP* P 21 00 58.9 +3.3
comp=Z,101nm,1.0s
HAWA LR LR
comp=Z,1µm,22.0s
ESPY Espiye-Giresun 48.53 269 eP P 21 00 55.8 +0.1
LPG La Plagne 48.53 300 ⇓iP P 21 00 56.5 +0.5
comp=Z,133nm,1.2s
LPG La Plagne 48.53 300 ⇓iP P 21 00 56.5 +0.5
LPG La Plagne 48.53 300 ⇓iP P 21 00 56.5 +0.5
E09A Wood Farm, Sta 48.57 51 eP P 21 00 56.6 +0.7
comp=Z,55nm,1.0s
B30A Myrvik Farm, E 48.61 33 ⇑P P 21 00 55.2 -1.1
baz=48
C22A Vida 48.65 40 ⇑P P 21 00 55.7 -0.9
baz=48
C23A Lambert 48.66 40 ⇓P P 21 00 56.9 +0.3
baz=48,SNR=38
CHMT Chamberlain Mo 48.72 47 eP P 21 00 57.9 +0.5
MSO Missoula 48.73 48 eP P 21 00 57.6 +0.4
comp=Z,65nm,0.9s
MSO Missoula 48.73 48 ⇓P P 21 00 57.4 +0.1
baz=49,SNR=39
PYM Petit Puy Mans 48.75 304 eP P 21 00 57.0 -0.4
JNU Nakatsue 48.75 168 P P 21 00 58.5 +1.0
JNU Nakatsue 48.75 168 P P 21 00 58.5 +1.0
comp=Z,35nm,1.1s,baz=328,slow=8.5,SNR=5.5
JNU LR LR 21 21 53.4
comp=Z,1µm,19.0s,baz=9.0,slow=37
KVT Kavak 48.77 271 eP P 21 00 59.6 +2.1
JMB Yambol 48.79 281 P P 21 00 49.4 -8.2
JMB Yambol 48.79 281 P P 21 00 49.4 -8.2
VERF Verneugheol 48.82 304 eP P 21 00 58.1 +0.2
GUMT Gumushane 48.87 268 eP P 21 01 00.2 +1.8
COLF Collangettes 48.90 303 eP P 21 00 58.1 -0.4
GDM Grand'Maison 48.90 301 eP P 21 00 59.5 +0.8
C26A Wahner Farm, P 48.91 37 ⇓P P 21 00 58.6 0.0
baz=49
C25A Freed Ranch, W 48.92 38 ⇑P P 21 00 58.3 -0.4
baz=49
D19A Cripps Ranch, 48.93 43 ⇑P P 21 00 58.6 -0.2
baz=49,SNR=55
AGMN Agassiz Nation 48.96 31 eP P 21 00 59.4 +0.5
comp=Z,71nm,1.3s
AGMN LR LR
comp=Z,1µm,19.0s
PLE Pljevlja 48.97 288 ⇓iP P 21 00 59.0 -0.2
BNI Bardonecchia 48.98 300 eP P 21 01 00.8 +1.5
BNI pmax pmax
comp=Z,77nm,1.3s
BNI MLR MLR
comp=Z,3µm,20.0s
BNI Bardonecchia 48.98 300 eP P 21 01 00.8 +1.5
comp=Z,77nm,1.3s
BNI LR LR
comp=Z,3µm,20.0s
C24A Savage 49.00 39 ⇑P P 21 00 59.4 +0.1
baz=49
SSB Saint Sauveur 49.03 302 eP P 21 00 58.5 -1.0
SSB Saint Sauveur 49.03 302 PFAKE 21 01 10.0 +10
SSB LR LR
comp=Z,987nm,19.0s
D20A Manuel Ranch, 49.08 42 ⇑P P 21 01 00.1 +0.2
baz=49,SNR=23
C27A Sayler Ranch, 49.08 36 ⇑P P 21 00 59.7 -0.1
baz=49
MDND Maddock 49.11 35 ⇑P P 21 00 59.5 -0.6
baz=49
EZM Erzurum 49.13 266 eP P 21 01 02.8 +2.2
VTS Vitosha 49.15 284 P P 21 01 01.2 +0.6
VTS Vitosha 49.15 284 P P 21 01 01.2 +0.6
VTS Vitosha 49.15 284 ⇓iP P 21 01 00.6 0.0
VTS Vitosha 49.15 284 P P 21 00 58.8 -1.8
VTS Vitosha 49.15 284 P P 21 01 01.2 +0.6
UPM Unac-Piva 49.16 288 ⇓iP P 21 01 00.0 -0.7
FRNF Fournols 49.16 304 eP P 21 01 01.8 +1.3
C28A Hausauer Farms 49.17 35 ⇑P P 21 01 00.8 +0.3
baz=49
OG22 Abries 49.17 300 eP P 21 01 01.1 +0.3
D22A Cohagen 49.21 41 ⇓P P 21 01 01.1 +0.3
baz=49,SNR=33
F10A Beach Ranch, E 49.21 51 eP P 21 01 01.9 +1.0
comp=Z,93nm,0.9s
KDZE Karadeniz Ereo 49.21 276 eP P 21 01 01.3 +0.4
D21A La Casta Ranch 49.21 41 ⇑P P 21 01 00.3 -0.6
baz=49,SNR=24
ORIF Oris-en-Rattie 49.21 301 ⇓iP P 21 01 01.2 +0.2
comp=Z,56nm,0.8s
ORIF eR
comp=Z,4µm,19.0s
ORIF Oris-en-Rattie 49.21 301 ⇓iP P 21 01 01.2 +0.2
ORIF Oris-en-Rattie 49.21 301 ⇓iP P 21 01 01.2 +0.2
AGRB Hanur-Agry 49.22 264 eP P 21 01 02.4 +1.2
LBL Lubilhac 49.23 304 eP P 21 01 01.4 +0.3
RSDY Resadiye-TOKAT 49.25 270 eP P 21 01 03.5 +2.3
D23A Lindsay 49.28 40 ⇓P P 21 01 01.5 +0.1
baz=49,SNR=10
MBDF Montbardon 49.29 300 ⇓iP P 21 01 02.2 +0.6
comp=Z,129nm,1.0s
MBDF Montbardon 49.29 300 ⇓iP P 21 01 02.2 +0.6
MBDF Montbardon 49.29 300 ⇓iP P 21 01 02.2 +0.6
C30A Mose, Pekin 49.34 34 ⇑P P 21 01 00.8 -1.1
baz=49
IVA Berane 49.35 287 eP P 21 01 02.0 0.0
RJF Les Rejaudoux 49.37 305 ⇓iP P 21 01 01.8 -0.3
comp=Z,156nm,1.2s
RJF eR
comp=Z,2µm,18.0s
RJF Les Rejaudoux 49.37 305 ⇓iP P 21 01 01.8 -0.3
RJF Les Rejaudoux 49.37 305 ⇓iP P 21 01 01.8 -0.3
VLC Villacollemand 49.38 297 eP P 21 01 03.5 +1.3
comp=Z,90nm,1.2s
VLC LR LR
comp=Z,1µm,20.0s
PLD Plovdiv 49.42 283 P P 21 00 58.2 -4.2
PLD Plovdiv 49.42 283 eP P 21 01 02.4 0.0
VIVF Saint-Julien-I 49.43 302 ⇓iP P 21 01 02.4 -0.1
comp=Z,58nm,0.8s
VIVF Saint-Julien-I 49.43 302 ⇓iP P 21 01 02.4 -0.1
VIVF Saint-Julien-I 49.43 302 ⇓iP P 21 01 02.4 -0.1
D25A Fairfield 49.48 38 ⇑P P 21 01 03.4 +0.5
baz=49,SNR=9.0
CLDR Caldiran 49.51 263 eP P 21 01 05.5 +2.1
BRY Bratogost 49.51 289 ⇓iP P 21 01 02.9 -0.4
SURF Saint Ours 49.53 300 eP P 21 01 04.3 +0.8
NKY Niksic 49.53 288 ⇓iP P 21 01 03.1 -0.4
G06A Carlson Farm, 49.54 54 eP P 21 01 04.6 +1.2
comp=Z,218nm,1.2s
EZC Erzincan 49.58 268 eP P 21 01 06.3 +2.4
CANT Cankiri 49.59 274 eP P 21 01 06.2 +2.4
VTHM Trough 49.60 54 P P 21 01 05.1 +1.2
PVY Plav 49.61 287 ⇓iP P 21 01 03.4 -0.7
EYMN Ely 49.63 27 PFAKE 21 01 20.0 +16
EYMN LR LR
comp=Z,1µm,22.0s
E19A Rath Farm, Rou 49.63 43 ⇓P P 21 01 04.3 +0.1
baz=50,SNR=58
NJ2 Nanjing 49.65 181 *eP* **P 21 01 03.3 -1.0**
NJ2 pP **pP 21 01 08.9 -0.1**
NJ2 PP **PP 21 02 59.4 +0.9**
NJ2 S **S 21 08 13.9 +2.0**
NJ2 sS **sS 21 08 20.0 +0.3**
NJ2 AMB AMB
comp=Z,46nm,1.0s
NJ2 AMB AMB
comp=Z,720nm,5.3s
NJ2 LR LR
comp=Z,5µm,13.4s
NJ2 LR LR
comp=Z,3µm,13.4s
NJ2 LR LR
comp=Z,5µm,13.4s
STON Ston 49.66 290 P P 21 01 03.3 -0.9
E20A Meyer Farm, Mu 49.66 42 ⇓P P 21 01 04.3 0.0
baz=50,SNR=9.3
LAO LASA Array 49.66 41 *eP* **P 21 01 06.6 +2.2**
comp=Z,173nm,0.9s
LAO LR LR
comp=Z,2µm,19.0s
IMRD Marand 49.67 261 *eP* **P 21 01 04.7 +0.1**
D26A Manning 49.67 37 ⇑P P 21 01 04.8 +0.4
baz=50,SNR=7.4
D28A Regan 49.68 36 ⇓P P 21 01 04.3 -0.1
baz=50
D27A Center 49.68 36 ⇓P P 21 01 04.3 -0.1
baz=50
CAF Calviac 49.68 305 ⇓iP P 21 01 04.5 0.0
comp=Z,98nm,1.1s
CAF Calviac 49.68 305 ⇓iP P 21 01 04.5 0.0
CAF Calviac 49.68 305 ⇓iP P 21 01 04.5 0.0
G08A Pilot Rock 49.68 53 eP P 21 01 05.6 +1.0
E21A Keefer Ranch, 49.73 42 ⇑P P 21 01 04.5 -0.4
baz=50
OG25 Le Caire 49.73 301 eP P 21 01 04.4 -0.5
BGKT Bogazkoy 49.73 279 eP P 21 01 05.7 +0.9
IKRD Kardeh 49.76 248 eP P 21 01 05.9 +0.5
SVSK Karacayir 49.77 270 eP P 21 01 06.8 +1.7
ISK Istanbul-Kandi 49.80 278 P P 21 01 05.4 0.0
ISK Istanbul-Kandi 49.80 278 P P 21 01 05.4 0.0
ISK Istanbul-Kandi 49.80 278 eP P 21 01 05.2 -0.2
ISK Istanbul-Kandi 49.80 278 P P 21 01 05.4 0.0
BCI Bajram Curri 49.82 287 *i* PN **P 21 01 05.9 +0.4**
LFF La Frestale 49.83 306 ⇓iP P 21 01 05.5 0.0
comp=Z,38nm,0.9s
LFF La Frestale 49.83 306 ⇓iP P 21 01 05.5 0.0
LFF La Frestale 49.83 306 ⇓iP P 21 01 05.5 0.0
COR Corvallis 49.86 57 P P 21 01 07.4 +1.7
COR Corvallis 49.86 57 P P 21 01 07.4 +1.7
comp=Z,1µm,1.2s
CORM Corum 49.86 273 eP P 21 01 07.6 +1.6
IHRS Heris 49.86 260 eP P 21 01 07.2 +1.0
TTG Podgorica 49.87 288 ⇓iP P 21 01 05.7 -0.2
LRM Limekiln Ridge 49.89 46 eP P 21 01 07.1 +0.8
D29A Pettibone, Tap 49.89 35 ⇓P P 21 01 04.9 -1.1
baz=50
IAKL Akhelmad 49.90 247 eP P 21 01 08.2 +1.7
H04A Detroit Lake 49.90 56 eP P 21 01 06.2 0.0
comp=Z,42nm,0.9s
D30A Buchanan 49.91 34 ⇑P P 21 01 04.9 -1.3
baz=50
SAOF Saorge 49.92 299 eP P 21 01 04.8 -1.5
AUTN L'Aution 49.92 299 eP P 21 01 07.0 +0.4
TOUF Mont Tournerai 49.93 300 eP P 21 01 05.4 -1.2
CRLT Corlu 49.94 280 eP P 21 01 06.8 +0.4
E22A Miles City 49.94 41 ⇓P P 21 01 06.9 +0.5
baz=50,SNR=7.3
HRT Hereke 49.95 278 eP P 21 01 05.7 -0.9
HCY Herceg Novi 49.96 289 ⇓iP P 21 01 05.7 -0.9
E24A Baker 49.97 39 ⇑P P 21 01 07.3 +0.6
baz=50,SNR=7.3
IMYA Miami 49.97 246 eP P 21 01 08.1 +1.1
ILIC ilic-Erzincan 49.99 268 eP P 21 01 08.8 +1.8
LUCF Luceram 50.04 300 eP P 21 01 07.1 -0.2
BUM Brajici-Budva 50.05 288 ⇓iP P 21 01 06.9 -0.4
SBF Sospel 50.05 299 ⇓iP P 21 01 06.6 -0.8
comp=Z,156nm,1.1s
SBF Sospel 50.05 299 ⇓iP P 21 01 06.6 -0.8
SBF Sospel 50.05 299 ⇓iP P 21 01 06.6 -0.8
MVIF Mont Vial 50.06 300 eP P 21 01 07.1 -0.4
MDUB Mudurnu 50.08 276 eP P 21 01 09.6 +2.0
ISRO Mashad 50.09 246 eP P 21 01 09.1 +1.3
E25A Miller Ranch, 50.11 38 ⇑P P 21 01 07.4 -0.4
baz=50
DRME Dracevica, Mon 50.12 288 ⇓iP P 21 01 07.7 -0.1
BNGB Bing˜ǁ 50.13 266 eP P 21 01 06.2 -1.8
PUK Puka 50.16 287 *i* PN **P 21 01 08.3 +0.1**
SMRF Simiane la Rot 50.18 301 ⇓iP P 21 01 08.6 +0.3
comp=Z,106nm,1.3s
SMRF Simiane la Rot 50.18 301 ⇓iP P 21 01 08.6 +0.3
REVF Revere 50.18 299 eP P 21 01 07.4 -0.9
GULT Gulveren 50.21 277 eP P 21 01 08.4 -0.2
F19A Roth Farm, Mol 50.22 43 ⇓P P 21 01 08.6 -0.1
baz=50,SNR=50
E26A Carlson Angus 50.23 37 ⇑P P 21 01 08.3 -0.4
baz=50,SNR=13
CALN Calern 50.23 300 eP P 21 01 07.2 -1.6
ISRB Sarab 50.26 259 eP P 21 01 09.8 +0.7
VIPM Ingram Point 50.26 54 P P 21 01 10.2 +1.2
VIPM Ingram Point 50.26 54 P P 21 01 10.2 +1.2
NVR Nevrokopi 50.28 283 P P 21 01 07.4 -1.6
NVR Nevrokopi 50.28 283 P P 21 01 07.4 -1.6
E28A Huff 50.28 36 ⇓P P 21 01 08.8 -0.2
baz=50,SNR=8.2
LASF Ste Croix 50.30 303 ⇓iP P 21 01 09.8 +0.7
comp=Z,150nm,0.9s
LASF Ste Croix 50.30 303 ⇓iP P 21 01 09.8 +0.7
IMOG Moghan 50.30 247 eP P 21 01 10.6 +1.0
BMO Blue Mountains 50.31 51 eP P 21 01 10.1 +0.7
comp=Z,149nm,0.9s
BMO LR LR
comp=Z,2µm,20.0s
ARMT Armutlu 50.32 278 eP P 21 01 09.0 -0.4
ADVT Abdulvahap 50.33 277 eP P 21 01 09.6 +0.2
DLMT Dillon 50.33 47 eP P 21 01 12.5 +2.9
ULC Ulcinj 50.33 288 eP P 21 01 08.4 -1.0
E27A Carson 50.35 37 ⇑P P 21 01 09.2 -0.4
baz=50
F20A Billings 50.35 43 ⇑P P 21 01 08.7 -0.9
baz=50
E29A Napoleon 50.38 35 ⇓P P 21 01 08.6 -1.1
baz=50
GEMT Gemlik 50.40 278 eP P 21 01 09.6 -0.4
ALN Alexandroupoli 50.41 281 P P 21 01 09.7 -0.3
ALN Alexandroupoli 50.41 281 P P 21 01 09.7 -0.3
ALN Alexandroupoli 50.41 281 eP P 21 01 10.5 +0.5
ALN Alexandroupoli 50.41 281 eP P 21 01 10.5 +0.5
ALN Alexandroupoli 50.41 281 P P 21 01 09.7 -0.3
PTK Pertek 50.42 268 eP P 21 01 12.3 +2.0
ANTO Ankara 50.43 274 ⇓P P 21 01 11.8 +1.6
ANTO Ankara 50.43 274 P P 21 01 11.9 +1.6
SNR=32
ANTO Ankara 50.43 274 eP P 21 01 12.1 +1.8
ANTO Ankara 50.43 274 ⇓iP P 21 01 11.8 +1.6
ANTO Ankara 50.43 274 eP P 21 01 11.9 +1.6
comp=Z,124nm,1.2s
ANTO LR LR
comp=Z,1µm,19.0s
F21A Absaloka Mine, 50.43 42 ⇑P P 21 01 10.2 0.0
baz=50,SNR=8.2
PHP Peshkopia 50.44 287 *i* PN **P 21 01 09.6 -0.7**
PHP Peshkopia 50.44 287 P P 21 01 09.2 -1.1
PHP Peshkopia 50.44 287 P P 21 01 09.2 -1.1
PHP Peshkopia 50.44 287 P P 21 01 09.2 -1.1
BRTR Keskin Array B 50.45 273 P P 21 01 11.6 +1.1
BRTR PcP **PcP 21 02 27.7 -0.8**
BRTR PP **PP 21 03 08.7 +2.9**
BRTR PKKP **PKKPdf 21 23 28.6 -2.7**
BRTR Keskin Array B 50.45 273 P P 21 01 11.6 +1.1
comp=Z,33nm,0.8s,baz=14,slow=4.5,SNR=136
BRTR PcP **PcP 21 02 27.7 -0.8**
comp=Z,15nm,0.9s,baz=10,slow=1.8,SNR=5.2
BRTR PP **PP 21 03 08.7 +2.9**
comp=Z,14nm,0.9s,baz=12,slow=6.4,SNR=5.7
BRTR PKKP **PKKPdf 21 23 28.6 -2.7**
comp=Z,0.9nm,0.8s,baz=101,slow=11,SNR=4.6
BRTR LR LR 21 25 28.8
comp=Z,2µm,21.8s,baz=8.8,slow=40
FRF La Foret Royal 50.45 300 ⇓iP P 21 01 09.9 -0.4
comp=Z,127nm,1.0s
FRF La Foret Royal 50.45 300 ⇓iP P 21 01 09.9 -0.4
FRF La Foret Royal 50.45 300 ⇓iP P 21 01 09.9 -0.4
VAY Valandovo 50.49 285 P P 21 01 08.6 -2.0
VAY Valandovo 50.49 285 P P 21 01 08.6 -2.0
VAY Valandovo 50.49 285 P P 21 01 08.6 -2.0
E30A Jud 50.50 34 ⇓P P 21 01 09.7 -1.0
baz=50
KAVA Kavala 50.53 283 P P 21 01 10.9 0.0
KAVA Kavala 50.53 283 P P 21 01 10.9 0.0
CAVI Cavuskoy 50.54 277 eP P 21 01 11.2 +0.2
KBL Kabul 50.59 236 eP P 21 01 11.7 -0.1
KBL pmax pmax
comp=Z,147nm,1.0s
KBL Kabul 50.59 236 eP P 21 01 11.7 -0.1
comp=Z,148nm,1.0s
KNT Kendrikon 50.60 284 P P 21 01 10.6 -0.8

KNT Kendrikon 50.60 284 P P 21 01 10.6 -0.8
KNT Kendrikon 50.60 284 P P 21 01 10.6 -0.8
SSE Sheshan 50.61 179 eP P 21 01 10.9 -0.7
SSE sP sP 21 01 15.3 -2.8
SSE S S 21 08 25.0 -0.2
SSE AMB AMB
comp=Z,53nm,0.7s
SSE AMB AMB
comp=Z,1µm,6.2s
SSE LR LR
comp=Z,420nm,15.5s
SSE LR LR
comp=Z,3µm,15.4s
SSE LR LR
comp=Z,3µm,15.5s
F24A Ekalaka 50.67 39 ⇑P P 21 01 11.8 -0.2
baz=50,SNR=15
F25A Bowman 50.68 38 ⇓P P 21 01 12.5 +0.5
baz=50,SNR=9.6
KCTX Karacabey (Bur 50.69 279 eP P 21 01 12.3 +0.2
LMR La Mourre 50.69 300 ⇓iP P 21 01 11.7 -0.4
comp=Z,84nm,1.3s
LMR La Mourre 50.69 300 ⇓iP P 21 01 11.7 -0.4
LMR La Mourre 50.69 300 ⇓iP P 21 01 11.7 -0.4
F23A Volborg 50.70 40 ⇓P P 21 01 12.3 +0.1
baz=50,SNR=9.0
KRBG Karabiga-Canak 50.72 280 eP P 21 01 11.2 -1.1
AFSR Af˙ar-Bala (A 50.80 274 eP P 21 01 14.9 +1.8
I07A Izee 50.81 53 eP P 21 01 14.5 +1.3
F26A Lodgepole 50.82 38 ⇓P P 21 01 13.0 -0.1
baz=51,SNR=21
MCMT McKenzie Canyo 50.83 47 eP P 21 01 14.0 +0.6
comp=Z,28nm,1.0s
TIR Tirane 50.85 287 iPN P 21 01 13.1 -0.2
TIR Tirane 50.85 287 P P 21 01 12.7 -0.6
TIR Tirane 50.85 287 eP P 21 01 13.4 +0.1
TIR pmax pmax
comp=Z,455nm,2.4s
TIR MLR MLR
comp=Z,4µm,19.0s
TIR Tirane 50.85 287 eP P 21 01 13.4 +0.1
comp=Z,455nm,2.4s
TIR LR LR
comp=Z,4µm,19.0s
F27A Lemmon 50.86 37 ⇑P P 21 01 13.8 +0.4
baz=51,SNR=8.6
SOH Sokhos 50.87 284 P P 21 01 13.3 -0.2
SOH Sokhos 50.87 284 P P 21 01 13.3 -0.2
SOH Sokhos 50.87 284 P P 21 01 13.3 -0.2
GRG Griva 50.87 285 P P 21 01 12.8 -0.7
GRG Griva 50.87 285 P P 21 01 12.8 -0.7
GRG Griva 50.87 285 eP P 21 01 14.0 +0.5
GRG Griva 50.87 285 P P 21 01 12.8 -0.7
SMTH Samothraki Isl 50.90 281 P P 21 01 13.9 +0.2
SMTH Samothraki Isl 50.90 281 P P 21 01 13.9 +0.2
RLMT Red Lodge 50.91 44 eP P 21 01 16.2 +2.1
comp=Z,36nm,0.8s
RLMT LR LR
comp=Z,2µm,20.0s
PINOR Pine Mountain 50.91 55 eP P 21 01 15.8 +2.0
comp=Z,127nm,1.0s
G20A Bridger 50.92 43 ⇑P P 21 01 13.3 -0.7
baz=51
QLMT Earthquake Lak 50.98 46 eP P 21 01 15.6 +1.1
BNN Bunyan 50.98 271 eP P 21 01 15.6 +1.1
F28A McLaughlin 50.99 36 ⇑P P 21 01 14.3 -0.1
baz=51,SNR=6.0
GONE Gonen-Balikesi 51.00 279 eP P 21 01 15.6 +1.2
G21A Lodge Grass 51.02 42 ⇓P P 21 01 14.2 -0.4
baz=51
SVRH Sivrihisar-ESK 51.03 275 eP P 21 01 16.2 +1.4
F29A Eureka 51.09 35 ⇑P P 21 01 14.3 -0.8
baz=51
THE Thessaloniki 51.11 284 P P 21 01 14.6 -0.6
THE Thessaloniki 51.11 284 P P 21 01 14.6 -0.6
THE Thessaloniki 51.11 284 P P 21 01 14.6 -0.6
G22A Birney 51.11 41 ⇓P P 21 01 14.6 -0.8
baz=51
HORT Hortiatis 51.12 284 P P 21 01 15.0 -0.5
HORT Hortiatis 51.12 284 P P 21 01 15.0 -0.5
MALT Malatya 51.13 268 ⇑P P 21 01 17.6 +2.0
MALT Malatya 51.13 268 eP P 21 01 16.9 +1.4
MALT Malatya 51.13 268 ⇑iP P 21 01 17.6 +2.0
PGF Pioggiola 51.15 298 ⇓iP P 21 01 15.3 -0.4
comp=Z,198nm,1.6s
PGF Pioggiola 51.15 298 ⇓iP P 21 01 15.3 -0.4
PGF Pioggiola 51.15 298 ⇓iP P 21 01 15.3 -0.4
CD2 Chengdu 51.16 198 ⇓iP P 21 01 16.0 +0.2
CD2 pP pP 21 01 20.5 -0.1
CD2 sP sP 21 01 23.0 +0.6
CD2 PcP PcP 21 02 32.3 +1.2
CD2 PP PP 21 03 13.4 +1.1
CD2 S S 21 08 31.7 -1.4
CD2 sS sS 21 08 38.8 -2.1
CD2 SS SS 21 12 04.3 -3.6
CD2 AMB AMB
comp=Z,90nm,1.1s
CD2 AMB AMB
comp=Z,1µm,7.1s
CD2 LR LR
comp=Z,5µm,14.9s
CD2 LR LR
comp=Z,6µm,14.9s
G24A Alzada 51.18 39 ⇓P P 21 01 15.2 -0.7
baz=51
FNA Florina 51.19 286 P P 21 01 14.9 -1.0
FNA Florina 51.19 286 P P 21 01 14.9 -1.0
FNA Florina 51.19 286 eP P 21 01 16.0 +0.1
FNA Florina 51.19 286 P P 21 01 14.9 -1.0
WHN Wuhan 51.20 186 ⇓P P 21 01 15.5 -0.5
WHN LR LR
comp=Z,16µm,15.2s
WHN LR LR
comp=Z,8µm,14.5s
WHN LR LR
comp=Z,13µm,13.1s
G23A Biddle 51.22 40 ⇓P P 21 01 15.7 -0.4
baz=51,SNR=21
MTLF Montolieu 51.22 304 ⇓iP P 21 01 16.4 +0.3
comp=Z,44nm,1.2s
MTLF Montolieu 51.22 304 ⇓iP P 21 01 16.4 +0.3
MTLF Montolieu 51.22 304 ⇓iP P 21 01 16.4 +0.3
IALA Alasht 51.23 253 eP P 21 01 17.9 +1.3
OUR Ouranopolis 51.26 283 P P 21 01 15.6 -0.7
OUR Ouranopolis 51.26 283 P P 21 01 15.6 -0.7
OUR Ouranopolis 51.26 283 P P 21 01 15.6 -0.7
PLG Polygyros 51.30 283 P P 21 01 16.7 0.0
PLG Polygyros 51.30 283 P P 21 01 16.7 0.0
PLG Polygyros 51.30 283 eP P 21 01 18.0 +1.3
PLG Polygyros 51.30 283 P P 21 01 16.7 0.0
H18A Shoshone NF, C 51.31 44 ⇑P P 21 01 17.0 -0.1
baz=51,SNR=41
TVSB Tavsanli 51.33 277 eP P 21 01 17.8 +0.7
SIRT Sirnak 51.33 264 eP P 21 01 19.5 +2.4
LKWY Lake 51.35 45 PFAKE 21 01 30.0 +13
LKWY LR LR
comp=Z,5µm,19.0s
G27A Dupree 51.36 37 ⇑P P 21 01 16.8 -0.4
baz=51,SNR=29
BALB Balikesir 51.37 279 eP P 21 01 17.8 +0.6
G26A Maurine 51.38 38 ⇓P P 21 01 17.4 0.0
baz=51,SNR=6.9
H19A Powell 51.39 44 ⇑P P 21 01 18.0 +0.5
baz=51,SNR=5.9
G25A Newell 51.41 38 ⇑P P 21 01 17.1 -0.5
baz=51,SNR=6.3
CUKT Cukurca 51.41 263 eP P 21 01 17.9 +0.2
YFT Old Faithful 51.41 45 eP P 21 01 20.1 +2.3
comp=Z,97nm,1.0s
KEBM Edson Butte 51.42 58 eP P 21 01 21.6 +4.0
comp=Z,279nm,0.9s
ISHM Shahmirzad 51.43 253 eP P 21 01 19.7 +1.6
H17A Grant Village 51.50 45 ⇑P P 21 01 17.7 -0.7
baz=51
KIZT Kizilcal 51.53 275 eP P 21 01 20.0 +1.4
NEST Nestorio 51.60 286 P P 21 01 18.3 -0.7
KZN Kozani 51.60 285 P P 21 01 18.7 -0.3
KZN Kozani 51.60 285 P P 21 01 18.7 -0.3
KZN Kozani 51.60 285 P P 21 01 18.7 -0.3
COWI Conover 51.62 26 eP P 21 01 17.9 -1.2
comp=Z,33nm,1.0s
COWI LR LR
comp=Z,1µm,21.0s
H21A Big Horn, Sher 51.62 42 ⇓P P 21 01 19.3 +0.1
baz=51,SNR=13
J08A Circle Bar Ran 51.65 52 eP P 21 01 20.9 +1.5
comp=Z,146nm,0.9s
H20A Greybull 51.67 43 ⇑P P 21 01 19.5 0.0
baz=52,SNR=6.8
MAZI Mazidag 51.67 266 eP P 21 01 21.1 +1.5
LIT Litokhoron 51.70 284 P P 21 01 19.7 0.0
LIT Litokhoron 51.70 284 P P 21 01 19.7 0.0
LIT Litokhoron 51.70 284 eP P 21 01 20.0 +0.3
LIT Litokhoron 51.70 284 P P 21 01 19.7 0.0
PAIG Paliouri 51.70 283 P P 21 01 19.6 -0.1
PAIG Paliouri 51.70 283 P P 21 01 19.6 -0.1
PAIG Paliouri 51.70 283 eP P 21 01 20.0 +0.3
PAIG Paliouri 51.70 283 P P 21 01 19.6 -0.1
OSSF Osses 51.72 307 eP P 21 01 20.0 +0.2
H22A Clearmont 51.72 41 ⇓P P 21 01 19.9 0.0
baz=52,SNR=8.4
ORDF Ordiarp 51.73 307 eP P 21 01 19.0 -0.9
MLS Moulis 51.74 305 eP P 21 01 20.3 +0.3
H24A Dirks Ranch, A 51.74 40 ⇓P P 21 01 19.7 -0.4
baz=52,SNR=16
G28A Parade 51.75 36 ⇓P P 21 01 19.6 -0.5
baz=52,SNR=5.5
EPF Esparros 51.75 306 ⇓iP P 21 01 19.6 -0.5
comp=Z,85nm,1.0s
EPF Esparros 51.75 306 ⇓iP P 21 01 19.6 -0.5
EPF Esparros 51.75 306 ⇓iP P 21 01 19.6 -0.5
FLWY Flagg Ranch 51.79 45 eP P 21 01 22.7 +2.1
comp=Z,200nm,1.3s
G30A Faulkton 51.85 35 ⇓P P 21 01 19.6 -1.2
baz=52
H23A Clabaugh Cattl 51.85 40 ⇑P P 21 01 19.2 -1.7
baz=52
HUMO Hull Mountain 51.85 57 eP P 21 01 21.7 +0.9
comp=Z,56nm,0.9s
CARF Carcanieres 51.85 304 eP P 21 01 21.2 +0.2
SJPF Ste Jean 51.86 307 ⇓iP P 21 01 20.4 -0.5
comp=Z,60nm,1.3s
SJPF Ste Jean 51.86 307 ⇓iP P 21 01 20.4 -0.5
SJPF Ste Jean 51.86 307 ⇓iP P 21 01 20.4 -0.5
NIG Nigde 51.89 272 eP P 21 01 23.3 +1.9
MFID Camas Ranch 51.89 50 ⇑P P 21 01 21.6 +0.3
baz=52,SNR=66
ILAS Lasjerd 51.90 253 eP P 21 01 22.9 +1.4
THN Thein Dam 51.90 229 ex P 21 01 17.9 -3.3
HLID Hailey 51.91 49 eP P 21 01 23.8 +2.3
comp=Z,19nm,0.8s
HLID LR LR
comp=Z,2µm,19.0s
HLID Hailey 51.91 49 ⇑P P 21 01 21.5 0.0
baz=52
VIEF Viey 51.94 306 eP P 21 01 22.3 +0.8
IMW Indian Meadow 51.95 45 eP P 21 01 23.6 +1.7
comp=Z,86nm,1.1s
H25A Fruitdale 51.96 39 ⇑P P 21 01 21.3 -0.4
baz=52,SNR=14
SULT Sultanhani-AKS 51.96 273 eP P 21 01 23.3 +1.5
I17A Pilgrim Ck. 51.97 45 ⇑P P 21 01 21.0 -0.9
baz=52
RESF Ens 51.98 306 eP P 21 01 23.0 +1.1
K05A Summer Lake 51.98 55 eP P 21 01 24.0 +2.0
comp=Z,113nm,0.9s
ETSF Etsaut 51.99 307 ⇓iP P 21 01 22.2 +0.3
comp=Z,98nm,1.6s
ETSF Etsaut 51.99 307 ⇓iP P 21 01 22.2 +0.3
ETSF Etsaut 51.99 307 ⇓iP P 21 01 22.2 +0.3
PRK Paraskevi 51.99 280 eP P 21 01 22.5 +0.6
I19A Meeteetse 52.01 44 ⇑P P 21 01 22.0 -0.3
baz=52,SNR=36
DHRM DHARAMSHALA 52.02 228 eP P 21 01 22.5 +0.1
DHRM AMB AMB 21 01 23.6
comp=Z,86nm,0.8s
H26A Fairpoint 52.04 38 ⇓P P 21 01 22.0 -0.2
baz=52
IR3 Iran Long-Peri 52.08 255 eP P 21 01 24.3 +1.6
H27A Howes 52.08 37 ⇑P P 21 01 22.6 0.0
baz=52,SNR=7.8
MOOW Moose Ponds 52.12 45 eP P 21 01 24.4 +1.4
comp=Z,73nm,1.0s
H28A Mission Ridge 52.14 36 ⇑P P 21 01 22.2 -0.7
baz=52,SNR=5.1
KMRS Kahramanmaras 52.15 270 eP P 21 01 25.5 +2.4
VALF Valcebollere 52.17 304 eP P 21 01 23.8 +0.4
I20A Worland 52.19 43 ⇓P P 21 01 23.3 -0.2
baz=52,SNR=34
SPMN St. Paul 52.24 29 eP P 21 01 27.3 +3.6
SPMN St. Paul 52.24 29 ⇑P P 21 01 22.4 -1.3
baz=52
H29A Onida 52.26 36 ⇑P P 21 01 23.0 -0.8
baz=52,SNR=5.5
LOHW Long Hollow 52.27 45 eP P 21 01 25.6 +1.4
comp=Z,112nm,1.5s
SRN Sarande 52.27 287 iPN P 21 01 22.8 -1.2
SRN Sarande 52.27 287 P P 21 01 22.7 -1.2
SRN Sarande 52.27 287 P P 21 01 22.7 -1.2
THL Klokotos Trika 52.29 285 P P 21 01 23.4 -0.7
THL Klokotos Trika 52.29 285 eP P 21 01 24.0 -0.1
IRAZ Razeghan 52.31 256 eP P 21 01 25.6 +1.1
XOR Xorichti 52.32 283 P P 21 01 22.3 -2.1
XOR Xorichti 52.32 283 P P 21 01 22.3 -2.1
KOZT Kozan 52.33 271 eP P 21 01 27.2 +2.8
TPAW Teton Pass 52.35 46 eP P 21 01 26.4 +1.5
comp=Z,115nm,1.1s
KULA Kula-Manisa 52.37 278 P P 21 01 23.7 -1.1
KULA Kula-Manisa 52.37 278 eP P 21 01 24.4 -0.3
KULA Kula-Manisa 52.37 278 P P 21 01 23.7 -1.1
JAN Janina 52.37 286 P P 21 01 24.5 -0.2
JAN Janina 52.37 286 P P 21 01 24.5 -0.2
JAN Janina 52.37 286 P P 21 01 24.5 -0.2
NEO Neokhori 52.37 283 P P 21 01 23.9 -0.9
NEO Neokhori 52.37 283 P P 21 01 23.9 -0.9
KONT Konya--Tatoy 52.38 274 eP P 21 01 25.5 +0.7
SNOW Snow King Moun 52.40 45 eP P 21 01 26.6 +1.4
comp=Z,74nm,1.2s
I22A 9 Mile Ranch, 52.41 41 ⇓P P 21 01 25.0 -0.1
baz=52,SNR=68
I21A Big Trails, Te 52.41 42 ⇑P P 21 01 24.5 -0.6
baz=52,SNR=55
RSSD Black Hills 52.41 39 eP P 21 01 25.6 +0.3
RSSD pmax pmax
comp=Z,167nm,0.9s
RSSD Black Hills 52.41 39 eP P 21 01 25.6 +0.3
comp=Z,167nm,0.9s
I23A Meade Ranch, G 52.44 41 ⇓P P 21 01 24.5 -0.8
baz=52
RRI2 Red Ridge 52.45 46 eP P 21 01 27.0 +1.3
comp=Z,474nm,2.3s
KEK Kerkira 52.46 287 P P 21 01 24.2 -1.2
KEK Kerkira 52.46 287 eP P 21 01 25.0 -0.4
KEK Kerkira 52.46 287 P P 21 01 24.2 -1.2
REDW Red Top Meadow 52.49 46 eP P 21 01 27.0 +1.2
comp=Z,89nm,1.3s
WVOR Wild Horse Val 52.54 53 eP P 21 01 26.8 +0.7
WVOR pmax pmax
comp=Z,86nm,0.9s
WVOR Wild Horse Val 52.54 53 eP P 21 01 26.8 +0.7
comp=Z,86nm,0.9s
I25A Rochford 52.54 39 ⇑P P 21 01 26.0 -0.1
baz=52,SNR=7.7
BRSD Miller 52.54 35 eP P 21 01 24.2 -1.7
BRSD Miller 52.54 35 ⇓P P 21 01 24.6 -1.3
baz=52
IGT Igoumenitsa 52.56 286 P P 21 01 24.9 -1.2
IGT Igoumenitsa 52.56 286 P P 21 01 24.9 -1.2
IGT Igoumenitsa 52.56 286 P P 21 01 24.9 -1.2
I26A Nenderwood 52.61 38 ⇓P P 21 01 26.7 +0.1
baz=52,SNR=7.5
I24A Kuemmerle Ranc 52.62 40 ⇑P P 21 01 25.3 -1.3
baz=52
I27A Quinn 52.65 37 ⇓P P 21 01 26.4 -0.4
baz=52,SNR=7.8
KARA Karaisali 52.66 271 eP P 21 01 27.9 +1.0
YBH Yreka Blue Hor 52.74 57 eP P 21 01 30.4 +2.8
comp=Z,25nm,1.0s
YBH Yreka Blue Hor 52.74 57 LR LR 21 23 30.9
comp=Z,2µm,21.7s,baz=352,slow=36
CUC Castrocucco 52.74 291 eP P 21 01 27.1 -0.4
comp=Z,55nm,1.7s
CUC LR LR
comp=Z,3µm,20.0s
ISP Isparta 52.77 276 P P 21 01 27.4 -0.4
ISP Isparta 52.77 276 eP P 21 01 28.7 +0.9
ISP pmax pmax
comp=Z,77nm,1.0s
ISP MLR MLR
comp=Z,1µm,20.0s
ISP Isparta 52.77 276 eP P 21 01 28.1 +0.3
ISP Isparta 52.77 276 ⇓iP P 21 01 28.3 +0.5
ISP Isparta 52.77 276 eP P 21 01 28.7 +0.9
comp=Z,77nm,1.0s
ISP LR LR
comp=Z,1µm,20.0s
J19A Crowheart 52.77 44 ⇓P P 21 01 28.2 +0.4
baz=53,SNR=10
AGG Agios Georgios 52.78 284 eP P 21 01 27.5 -0.3
J20A Shoshoni 52.78 43 ⇓P P 21 01 27.9 +0.1
baz=53,SNR=72
I28A Midland 52.79 37 ⇑P P 21 01 27.3 -0.6
baz=53,SNR=27
SMIA Simia 52.80 283 P P 21 01 27.9 0.0
MAKR Makrakomi, Fth 52.82 284 P P 21 01 26.6 -1.5
MAKR Makrakomi, Fth 52.82 284 P P 21 01 26.6 -1.5
I29A Vivian Onida 52.85 36 ⇓P P 21 01 27.3 -0.9
baz=53
J21A Lysite 52.85 42 ⇑P P 21 01 28.2 -0.3
baz=53,SNR=54
MOD Modoc 52.87 54 eP P 21 01 29.8 +1.2
comp=Z,411nm,0.9s
CHOS Chios island 52.87 280 eP P 21 01 29.0 +0.5
J22A Midwest 52.88 42 ⇓P P 21 01 27.6 -1.1
baz=53,SNR=21
EVR Evrytania 52.96 285 P P 21 01 27.9 -1.3
EVR Evrytania 52.96 285 eP P 21 01 29.5 +0.3
EVR Evrytania 52.96 285 P P 21 01 27.9 -1.3
J23A Dilts Ranch, B 52.98 41 ⇑P P 21 01 28.4 -0.9
baz=53
ISFB Sefidab 53.01 254 eP P 21 01 30.5 +0.9
SMLA Simla 53.03 227 eP P 21 01 29.3 -0.3
SMLA AMB AMB 21 01 30.4
comp=Z,90nm,0.8s
AYDB Zeytinkoy-Aydi 53.03 279 eP P 21 01 30.5 +0.7
SUTC Sutluce-Ispart 53.04 275 eP P 21 01 31.1 +1.2
LKR Lokris 53.05 283 P P 21 01 28.9 -0.8
LKR Lokris 53.05 283 eP P 21 01 30.0 +0.3
LKR Lokris 53.05 283 P P 21 01 28.9 -0.8
AHID Auburn Hatcher 53.05 46 eP P 21 01 30.7 +0.8
comp=Z,56nm,1.2s
AHID LR LR
comp=Z,851nm,21.0s
BCK Bucak 53.12 276 eP P 21 01 30.5 +0.2
J24A Dixon Ranch, L 53.14 40 ⇓P P 21 01 29.6 -0.9
baz=53,SNR=18
LSA Lhasa 53.15 212 P P 21 01 31.3 +0.2
LSA PP PP 21 03 33.3 +2.6
LSA S S 21 08 59.9 -1.2
LSA sS sS 21 09 06.5 -2.4
LSA AMB AMB
comp=Z,750nm,8.4s
LSA LR LR
comp=Z,2µm,14.3s
LSA LR LR
comp=Z,5µm,21.4s
LSA LR LR
comp=Z,4µm,13.7s
J25A Sunshine Ranch 53.16 39 ⇓P P 21 01 30.4 -0.3
baz=53,SNR=60
BW06 Boulder Array 53.21 44 eP P 21 01 30.9 -0.3
comp=Z,30nm,1.0s
BW06 LR LR
comp=Z,2µm,19.0s
PDAR Pinedale Array 53.21 44 P P 21 01 31.4 +0.2
PDAR Pinedale Array 53.21 44 P P 21 01 31.4 +0.2
comp=Z,6.4nm,0.9s,baz=35,slow=4.1,SNR=18
PDAR LR LR 21 23 08.6
comp=Z,2µm,20.6s,baz=358,slow=35
J26A Sides Ranch, S 53.30 38 ⇓P P 21 01 31.7 0.0
baz=53,SNR=8.6
HDMB Hadim 53.33 274 eP P 21 01 32.6 +0.6
J28A Allard Ranch, 53.36 37 ⇑P P 21 01 31.7 -0.3
baz=53,SNR=5.2
EFP Efpalio 53.43 284 eP P 21 01 33.0 +0.5
KALE Kalithea 53.43 284 eP P 21 01 32.0 -0.6
ECSD EROS Data Cent 53.44 33 eP P 21 01 31.7 -0.9
comp=Z,229nm,2.2s
ECSD LR LR
comp=Z,844nm,20.0s
K20A Yellowstone Ra 53.44 43 ⇓P P 21 01 32.1 -0.7
baz=53,SNR=8.1
J29A Okreek 53.46 36 ⇑P P 21 01 31.7 -1.1
baz=53
J27A Elkhorn Farm, 53.46 38 ⇓P P 21 01 32.8 0.0
baz=53,SNR=6.1
KHMM Horse Mountain 53.46 58 eP P 21 01 36.0 +3.1
comp=Z,93nm,0.9s
SADO Sadowa 53.48 17 LR LR 21 24 28.1
comp=Z,3µm,18.1s,baz=12,slow=36
IDHR Dehrash 53.51 260 eP P 21 01 33.9 +0.5
PTL Penteli 53.52 283 eP P 21 01 33.5 +0.3
ITEG Tejag 53.54 247 eP P 21 01 34.9 +1.2
IDAH Dahanechah 53.55 245 eP P 21 01 35.7 +1.9
K21A Alcova 53.58 42 ⇑P P 21 01 33.1 -0.8
baz=53,SNR=18
LAKA Lakka 53.60 284 eP P 21 01 36.0 +2.2
J30A Dallas 53.61 35 ⇑P P 21 01 32.9 -0.9
baz=53
IVIS Veis 53.61 259 eP P 21 01 34.7 +0.7
K23A Bowen Ranch, D 53.62 41 ⇑P P 21 01 32.7 -1.3
baz=53,SNR=9.4
K22A Casper 53.63 42 ⇓P P 21 01 33.4 -0.8
baz=54,SNR=16
K24A Anderson Ranch 53.73 40 ⇓P P 21 01 34.0 -0.8
baz=54
DDI Dehra Dun 53.73 226 eP P 21 01 33.6 -1.3
DDI AMB AMB 21 01 36.4
comp=Z,240nm,1.7s
KLV Kalavryta, Ach 53.77 284 P P 21 01 30.4 -4.7
KLV Kalavryta, Ach 53.77 284 eP P 21 01 35.0 -0.1
YER Yerkesik 53.77 278 eP P 21 01 34.9 -0.2
PBRG Braganca 53.78 312 eP P 21 01 35.5 +0.4
comp=Z,93nm,1.9s
LBCM Butte Creek Ri 53.79 56 P P 21 01 36.3 +0.9
LONY Lake Ozonia 53.80 13 eP P 21 01 36.3 +1.1
comp=Z,27nm,0.9s
LONY LR LR
comp=Z,2µm,19.0s
GUR Goura 53.84 284 eP P 21 01 35.0 -0.7
IGHG Ghaleghazi 53.85 259 eP P 21 01 36.5 +0.6
HVU Hansel Valley 53.85 48 eP P 21 01 36.6 +0.8
HVU pmax pmax
comp=Z,91nm,1.0s
HVU Hansel Valley 53.85 48 eP P 21 01 36.5 +0.8
comp=Z,92nm,1.0s
RLS Riolos of Patr 53.85 285 P P 21 01 34.9 -0.7
RLS Riolos of Patr 53.85 285 eP P 21 01 36.0 +0.4
RLS Riolos of Patr 53.85 285 P P 21 01 34.9 -0.7
NAIG Nisos Aigina 53.85 283 eP P 21 01 32.5 -3.1
VLS Valsamata 53.86 286 P P 21 01 34.1 -1.6
VLS Valsamata 53.86 286 P P 21 01 34.1 -1.6
VLS Valsamata 53.86 286 eP P 21 01 35.5 -0.2
VLS Valsamata 53.86 286 P P 21 01 34.1 -1.6
IKL Isikli 53.86 273 eP P 21 01 35.5 -0.2
IKOM Komasi 53.86 258 eP P 21 01 36.8 +0.9
WDC Whiskeytown Da 53.90 57 eP P 21 01 35.6 -0.3
WDC pmax pmax
comp=Z,84nm,0.9s
WDC Whiskeytown Da 53.90 57 eP P 21 01 35.6 -0.3
comp=Z,84nm,0.9s
K26A Motz Farm, Whi 53.90 39 ⇓P P 21 01 35.9 -0.1
baz=54
ELL Elmali 53.91 276 eP P 21 01 37.1 +0.9
K27A Flueckinger Fa 53.98 38 ⇓P P 21 01 36.2 -0.5
baz=54,SNR=5.3
L18A Fontenelle, Gr 54.00 45 ⇓P P 21 01 36.7 -0.3
baz=54,SNR=10
PCAB Cabril 54.01 313 eP P 21 01 37.0 +0.2
comp=Z,194nm,1.7s
DALY Dalyan (Mu˙la 54.03 278 eP P 21 01 37.7 +0.8
K28A Ten Mile Ranch 54.05 37 ⇑P P 21 01 36.5 -0.6
baz=54
L20A Wamsutter 54.09 43 ⇑P P 21 01 37.5 -0.1
baz=54,SNR=17
VSL Villasalto 54.10 297 PFAKE 21 01 50.0 +13
VSL LR LR
comp=Z,2µm,19.0s
IKLH Kolahrood 54.12 254 eP P 21 01 39.0 +1.0
DID Didima 54.14 283 eP P 21 01 36.5 -1.3
IDOB Doab 54.15 258 eP P 21 01 38.6 +0.5
FETY Fethiye 54.15 277 eP P 21 01 38.2 +0.4
APE Apeiranthos 54.24 281 ⇑P P 21 01 40.6 +2.0
APE Apeiranthos 54.24 281 eP P 21 01 38.5 0.0

APE	Apeiranthos	54.24	281	⇑	*i*P		P	21 01 40.5	+2.0
K30A	Basset	54.24	35	⇑	P		P	21 01 36.9	-1.6
	baz=54								
L23A	Garrett	54.24	41	⇓	P		P	21 01 37.6	-1.1
	baz=54,SNR=25								
L22A	Ellis Ranch, M	54.26	42	⇓	P		P	21 01 38.5	-0.3
	baz=54,SNR=10								
LBNH	Lisbon	54.26	11		PFAKE			21 01 50.0	+11
LBNH					LR	LR			
	comp=Z,2µm,21.0s								
DAT	Datca	54.27	279		*e*P		P	21 01 39.3	+0.5
POLO	Lamas de Olo	54.32	313		*e*P		P	21 01 39.5	+0.4
	comp=Z,40nm,1.3s								
AMT	Artemida-Makis	54.33	284		*e*P		P	21 01 39.0	-0.2
SPUT	South Promonto	54.35	47		*e*P		P	21 01 39.8	+0.3
	comp=Z,41nm,0.9s								
L25A	Engebretsen Ra	54.37	39	⇑	P		P	21 01 39.4	-0.2
	baz=54,SNR=11								
M17A	Scullys Gap (B	54.38	46	⇓	P		P	21 01 39.6	-0.1
	baz=54,SNR=10								
IKMR	Kamar-syah	54.38	257		*e*P		P	21 01 39.2	-0.3
VLX	Vlachokerasia	54.40	284		*e*P		P	21 01 40.0	+0.3
PVRL	Vila Real	54.41	313		*e*P		P	21 01 40.3	+0.6
	comp=Z,134nm,1.4s								
IZEF	Zefreh	54.43	253		*e*P		P	21 01 41.9	+1.7
CEL	Celeste	54.44	290		*e*P		P	21 01 38.8	-1.1
	comp=Z,32nm,1.1s								
CEL					*e*pP		pP	21 01 50.1	+5.4
CEL					LR	LR			
	comp=Z,2µm,20.0s								
MVO	Moncorvo	54.44	312		*e*P		P	21 01 40.2	+0.2
	comp=Z,169nm,1.2s								
NCB	Newcomb	54.46	13		*e*P		P	21 01 41.1	+1.1
	comp=Z,54nm,1.1s								
NCB					LR	LR			
	comp=Z,2µm,19.0s								
MDV	Middlebury	54.47	12		*e*P		P	21 01 40.8	+0.8
EREN	Erenkoy	54.48	272		*e*P		P	21 01 41.0	+0.7
M19A	Rock Springs	54.50	44	⇑	P		P	21 01 40.5	-0.1
	baz=54,SNR=8.5								
RWWY	Rawlins	54.52	42		*e*P		P	21 01 46.8	+6.0
	comp=Z,160nm,1.1s								
KIPM	Iron Peak	54.54	58		*e*P		P	21 01 44.7	+3.9
	comp=Z,122nm,1.1s								
L26A	Underwood Farm	54.57	39	⇑	P		P	21 01 40.2	-0.8
	baz=54								
M21A	Separation Pea	54.58	43	⇓	P		P	21 01 40.6	-0.7
	baz=54,SNR=8.1								
L27A	T5 Ranch, Ells	54.59	38	⇓	P		P	21 01 40.7	-0.4
	baz=54								
ELK	Elko	54.60	50		*e*P		P	21 01 42.6	+1.3
	comp=Z,45nm,0.9s								
M20A	Sweetwater, Wa	54.62	43	⇑	P		P	21 01 41.4	0.0
	baz=54,SNR=10								
ITM	Ithomi	54.65	284		P		P	21 01 40.3	-1.1
ITM	Ithomi	54.65	284		*e*P		P	21 01 41.0	-0.5
ITM	Ithomi	54.65	284		P		P	21 01 40.3	-1.1
KCPM	Cahto Peak	54.65	58		*e*P		P	21 01 43.5	+1.9
	comp=Z,52nm,0.9s								
BGU	Big Grassy Mou	54.66	48		*e*P		P	21 01 42.5	+0.8
	comp=Z,296nm,2.7s								
BMN	Battle Mountai	54.68	52		*e*P		P	21 01 43.4	+1.6
BMN					pmax	pmax			
	comp=Z,68nm,0.9s								
BMN					MLR	MLR			
	comp=Z,1µm,20.0s								
BMN	Battle Mountai	54.68	52		*e*P		P	21 01 43.4	+1.6
	comp=Z,68nm,0.9s								
BMN					LR	LR			
	comp=Z,1µm,20.0s								
ARG	Arkhangelos	54.70	278		*e*P		P	21 01 42.5	+0.7
JFWS	Jewell Farm	54.72	27		*e*P		P	21 01 42.9	+1.0
JFWS					pmax	pmax			
	comp=Z,24nm,0.8s								
JFWS					MLR	MLR			
	comp=Z,1µm,21.0s								
JFWS	Jewell Farm	54.72	27		*e*P		P	21 01 42.9	+1.0
	comp=Z,24nm,0.8s								
JFWS					LR	LR			
	comp=Z,1µm,21.0s								
L28A	Connealy Angus	54.74	37	⇑	P		P	21 01 41.7	-0.5
	baz=55								
L29A	Maesberg Ranch	54.77	36	⇑	P		P	21 01 41.4	-1.0
	baz=55								
ICHK	Chekchek	54.78	251		*e*P		P	21 01 44.3	+1.6
L31A	Butterfield Fa	54.80	35	⇓	P		P	21 01 41.6	-0.9
	baz=55								
LFK	Lefkose	54.83	272		*e*P		P	21 01 43.2	+0.4
M22A	Cedar Creek Ra	54.86	42	⇑	P		P	21 01 42.8	-0.4
	baz=55,SNR=10.0								
BEKR	Beckworth	54.87	55		*e*P		P	21 01 43.4	+0.1
	comp=Z,29nm,0.8s								
SANT	Santorini	54.93	281		PFAKE			21 02 00.0	+16
SANT					LR	LR			
	comp=Z,2µm,21.0s								
PYL	PYLOS	54.95	284		*e*P		P	21 01 43.0	-0.6
VLI	Veliai	54.96	283		*e*P		P	21 01 43.0	-0.7
M24A	Cheyenne	54.97	40	⇓	P		P	21 01 43.6	-0.3
	baz=55								
PVIS	Viseu	54.98	313		*e*P		P	21 01 43.6	-0.2
	comp=Z,110nm,1.3s								
M25A	Palm-Egli Farm	55.08	40	⇑	P		P	21 01 44.5	-0.2
	baz=55								
LEF	Lefka	55.08	273		*e*P		P	21 01 45.4	+0.9
DANN	Dangsing	55.12	219		*e*P		P	21 01 45.2	-0.1
	comp=Z,80nm,0.9s								
M26A	McRoberts Ranc	55.13	39	⇑	P		P	21 01 44.6	-0.4
	baz=55								
M27A	Reverse DX Ran	55.14	38	⇑	P		P	21 01 44.9	-0.1
	baz=55								
PAHR	Pah Rah Range	55.14	54		*e*P		P	21 01 46.5	+1.3
	comp=Z,93nm,1.0s								
JLU	Jordanelle	55.16	47		*e*P		P	21 01 46.1	+0.8
	comp=Z,62nm,1.0s								
CSS	Prodhromos	55.17	273		P		P	21 01 44.4	-0.8
CSS	Prodhromos	55.17	273		*e*P		P	21 01 45.6	+0.4
CSS	Prodhromos	55.17	273		*e*P		P	21 01 44.9	-0.3
	comp=Z,204nm,1.8s								
CSS					LR	LR			
	comp=Z,1µm,20.0s								
ISAD	Sadrabad	55.21	252		*e*P		P	21 01 47.9	+2.0
MTE	Manteigas	55.25	313		*e*P		P	21 01 46.2	+0.4
	comp=Z,140nm,1.2s								
MTE	Manteigas	55.25	313		PFAKE			21 02 00.0	+14
MTE					LR	LR			
	comp=Z,1µm,19.0s								
OHCM	Honcut	55.25	56		*e*P		P	21 01 46.2	+0.4
N20A	Spence Gulch,	55.26	44	⇓	P		P	21 01 46.6	+0.5
	baz=55,SNR=76								
IBAF	Bafgh	55.26	250		*e*P		P	21 01 47.6	+1.5
M30A	Dale-Ortello V	55.35	36	⇓	P		P	21 01 46.0	-0.6
	baz=55								
GUN	Gumba	55.36	217		*e*P		P	21 01 47.2	+0.1
M28A	Bar X Bar Ranc	55.36	37	⇑	P		P	21 01 45.9	-0.7
	baz=55								
DAU	Daniels Canyon	55.36	46		*e*P		P	21 01 47.8	+0.8
DAU	Daniels Canyon	55.36	46		*e*P		P	21 01 47.8	+0.8
M29A	Burnside Ranch	55.37	37	⇑	P		P	21 01 46.0	-0.7
	baz=55								
GKN	Gorkha	55.38	218		*e*P		P	21 01 46.8	-0.2
	comp=Z,152nm,1.1s								
HOPS	Hopland	55.40	58		*e*P		P	21 01 48.6	+1.8
	comp=Z,64nm,1.1s								
DUG	Dugway	55.41	48		*e*P		P	21 01 48.1	+1.0
DUG					pmax	pmax			
	comp=Z,64nm,0.8s								
DUG					MLR	MLR			
	comp=Z,2µm,19.0s								
DUG	Dugway	55.41	48		*e*P		P	21 01 48.1	+1.0
	comp=Z,64nm,0.8s								
DUG					LR	LR			
	comp=Z,2µm,19.0s								
DUG	Dugway	55.41	48	⇓	P		P	21 01 47.6	+0.5
	baz=55,SNR=9.7								
N23A	Red Feather La	55.43	41	⇓	P		P	21 01 47.3	-0.1
	baz=55,SNR=30								
PYUN	Piuthan	55.44	220		*e*P		P	21 01 47.2	-0.3
NDI	New Delhi	55.44	226		*ex*		P	21 01 43.0	-4.3
N22A	Wattenberg Ran	55.47	42	⇑	P		P	21 01 47.4	-0.3
	baz=55,SNR=8.5								
GYA	Guiyang	55.47	195	⇓	*i*P		P	21 01 47.0	-0.6
GYA					PcP		PcP	21 02 49.8	+2.2
GYA					PP		PP	21 03 55.0	+3.7
GYA					ScP		ScP	21 06 47.5	+2.2
GYA					S		S	21 09 34.2	+2.3
GYA					SS		SS	21 13 16.5	+0.3
GYA						AMB	AMB		
	comp=Z,70nm,1.0s								
GYA						AMB	AMB		
	comp=Z,640nm,6.8s								
GYA						LR	LR		
	comp=Z,4µm,16.1s								
GYA						LR	LR		
	comp=Z,3µm,14.3s								
GYA						LR	LR		
	comp=Z,6µm,15.5s								
KARP	Karpathos	55.49	279		*e*P		P	21 01 46.0	-1.6
SCIA	State Center	55.51	30		*e*P		P	21 01 45.5	-2.2
	comp=Z,104nm,1.4s								
KKN	Kakani	55.53	218		*e*P		P	21 01 48.2	0.0
	comp=Z,142nm,1.4s								
ESDC	Sonseca Array	55.57	309		P		P	21 01 48.3	+0.1
ESDC	Sonseca Array	55.57	309		P		P	21 01 48.3	+0.1
	comp=Z,20nm,1.0s,baz=7.6,slow=7.7,SNR=76								
JIRN	Jiri	55.58	217		*e*P		P	21 01 48.9	+0.2
	comp=Z,123nm,1.0s								
IMEH	Mehriz	55.59	250		*e*P		P	21 01 49.9	+1.3
N24A	Carr	55.60	40	⇑	P		P	21 01 48.7	+0.2
	baz=55,SNR=10								
M31A	Lambtecht Ranc	55.62	35	⇑	P		P	21 01 47.3	-1.2
	baz=55								
BGNE	Belgrade	55.62	34		*e*P		P	21 01 48.2	-0.3
BGNE	Belgrade	55.62	34	⇑	P		P	21 01 47.1	-1.4
	baz=55,SNR=5.7								
N25A	Grover	55.69	40	⇑	P		P	21 01 49.0	0.0
	baz=56								
PCAS	Casmilo, Conde	55.70	313		*e*P		P	21 01 49.5	+0.5
	comp=Z,203nm,1.4s								
O19A	Miners Draw (B	55.70	44	⇑	P		P	21 01 49.2	0.0
	baz=56,SNR=16								
KOLN	Koldanda	55.71	220		*e*P		P	21 01 49.0	-0.4
	comp=Z,80nm,1.1s								
MPU	Maple Canyon	55.72	47		*e*P		P	21 01 51.0	+1.6
	comp=Z,96nm,1.1s								
DMN	Daman	55.73	218		*e*P		P	21 01 49.8	+0.2
	comp=Z,167nm,1.3s								
NLU	North Lily Min	55.73	47		*e*P		P	21 01 50.4	+0.9
	comp=Z,74nm,1.0s								
PKI	Pulchoki	55.74	218		*e*P		P	21 01 49.6	-0.2
	comp=Z,69nm,1.1s								
PAB	San Pablo	55.74	309		*e*P		P	21 01 49.7	+0.3
PAB	San Pablo	55.74	309		*e*P		P	21 01 49.7	+0.3
	comp=Z,605nm,1.2s								
OGNE	Ogallala	55.75	38		*e*P		P	21 01 49.3	-0.1
	comp=Z,156nm,1.3s								
OGNE						LR	LR		
	comp=Z,2µm,21.0s								
OGNE	Ogallala	55.75	38	⇓	P		P	21 01 49.2	-0.2
	baz=56,SNR=12								
N26A	Koester Ranch,	55.75	39	⇓	P		P	21 01 49.4	-0.1
	baz=56								
TAPN	Taplejung	55.76	215		*e*P		P	21 01 49.6	-0.3
	comp=Z,117nm,1.3s								
PCBR	Castelo Branco	55.80	312		*e*P		P	21 01 49.7	0.0
	comp=Z,205nm,1.4s								
N27A	Anderson Farm,	55.84	38	⇑	P		P	21 01 50.1	0.0
	baz=56,SNR=13								
O21A	Pagoda	55.95	43	⇓	P		P	21 01 51.0	-0.2
	baz=56,SNR=7.5								
O20A	White River Ci	55.95	44		*e*P		P	21 01 52.4	+1.3
O20A	White River Ci	55.95	44	⇓	P		P	21 01 50.6	-0.5
	baz=56								
N29A	Votaw Ranch, W	56.00	37	⇑	P		P	21 01 50.5	-0.7
	baz=56								
NPS	Neapolis	56.00	280		*e*P		P	21 01 49.0	-2.2
N28A	Pribbeno Ranch	56.05	37	⇑	P		P	21 01 50.9	-0.7
	baz=56								
ZKR	Zakros	56.06	280		*e*P		P	21 01 51.0	-0.6
N30A	Hueftle Ranch,	56.07	36	⇑	P		P	21 01 50.4	-1.3
	baz=56								
IDI	Anoyia	56.08	281		*e*P		P	21 01 49.0	-2.8
IDI	Anoyia	56.08	281		P		P	21 01 49.2	-2.6
IDI	Anoyia	56.08	281		P		P	21 01 49.2	-2.6
	comp=Z,20nm,0.9s,baz=39,slow=14,SNR=6.1								
ERPA	Erie	56.09	18		PFAKE			21 02 00.0	+8.3
ERPA					LR	LR			
	comp=Z,2µm,19.0s								
O22A	Kremmling	56.10	42	⇓	P		P	21 01 52.7	+0.5
	baz=56,SNR=87								
KARN	Karanos	56.11	282		*e*P		P	21 01 51.0	-1.0
O23A	Lake Granby, G	56.11	42	⇑	P		P	21 01 52.5	+0.2
	baz=56								
LAST	Lasithi	56.12	280		*e*P		P	21 01 50.5	-1.6
PTOM	Tomar	56.12	313		*e*P		P	21 01 51.5	-0.5
	comp=Z,125nm,1.3s								
BINY	Binghamton	56.17	14		*e*P		P	21 01 53.0	+0.6
	comp=Z,106nm,1.0s								
BINY						LR	LR		
	comp=Z,3µm,20.0s								
PMRV	Marv??o	56.20	312		*e*P		P	21 01 52.4	-0.2
	comp=Z,105nm,1.2s								
RAMN	Ramite	56.25	216		*e*P		P	21 01 53.0	-0.3
	comp=Z,199nm,1.4s								
N32A	Stulken Farm,	56.25	35	⇓	P		P	21 01 51.8	-1.1
	baz=56								
MCCM	Marconi Confer	56.26	58		*e*P		P	21 01 54.3	+1.3
	comp=Z,199nm,0.8s								
ODAN	Odare	56.27	215		*e*P		P	21 01 53.6	+0.1
	comp=Z,143nm,1.1s								
O24A	Longmont	56.28	41	⇓	P		P	21 01 53.3	0.0
	baz=56								
O26A	Horse Wrangler	56.33	39	⇑	P		P	21 01 53.3	-0.4
	baz=56								
P19A	Cripple Cowboy	56.37	44	⇑	P		P	21 01 53.7	-0.3
	baz=56,SNR=24								
O25A	Wiggins	56.38	40	⇓	P		P	21 01 53.5	-0.5
	baz=56								
O27A	Beecher Island	56.45	38	⇑	P		P	21 01 53.9	-0.6
	baz=56								
TMUT	Trail Mountain	56.47	47		*e*P		P	21 01 57.0	+2.1
	comp=Z,61nm,1.0s								
NVAR	Mina Array Bea	56.53	53		P		P	21 01 55.6	+0.4
NVAR					P'P'			21 31 51.8	
NVAR	Mina Array Bea	56.53	53		P		P	21 01 55.6	+0.4
	comp=Z,5.9nm,0.9s,baz=350,slow=4.5,SNR=22								
NVAR						LR	LR	21 27 10.8	
	comp=Z,1µm,19.0s,baz=256,slow=37								
NVAR					PKPPKP		P'P'df	21 31 51.8	-1.0
	comp=Z,1.0nm,0.9s,baz=183,slow=3.0,SNR=3.5								
NV11	Mina Array Sit	56.55	53		*e*P		P	21 01 56.1	+0.8
ISCO	Idaho Springs	56.55	41		*e*P		P	21 01 56.3	+0.9
ISCO					pmax	pmax			
	comp=Z,187nm,1.9s								
ISCO					MLR	MLR			
	comp=Z,2µm,19.0s								
ISCO	Idaho Springs	56.55	41		*e*P		P	21 01 56.3	+0.9
	comp=Z,187nm,1.9s								
ISCO					LR	LR			
	comp=Z,2µm,19.0s								
ISCO	Idaho Springs	56.55	41	⇓	P		P	21 01 55.6	+0.2
	baz=56,SNR=38								
ALLY	Allegheny Colle	56.55	18		*e*P		P	21 01 55.3	+0.2
	comp=Z,207nm,1.0s								
P20A	De Beque	56.57	44	⇓	P		P	21 01 55.0	-0.4
	baz=56,SNR=7.7								
O28A	Krutsinger Ran	56.58	38	⇓	P		P	21 01 54.8	-0.6
	baz=56								
GVD	Gavdhos	56.64	282		P		P	21 01 49.5	-6.2
GVD	Gavdhos	56.64	282		*e*P		P	21 01 55.5	-0.2
GVD	Gavdhos	56.64	282		*e*P		P	21 01 55.7	0.0
	comp=Z,372nm,1.2s								
GVD					*e*pP		pP	21 02 04.5	+4.0
P22A	Eagle	56.64	42	⇓	P		P	21 01 56.1	+0.1
	baz=56,SNR=16								
P21A	Newcastle	56.64	43	⇓	P		P	21 01 56.3	+0.3
	baz=56,SNR=7.4								
PMTG	Montargil	56.64	313		*e*P		P	21 01 55.4	-0.3
	comp=Z,139nm,1.5s								
O29A	4D Ranch, Culb	56.67	37	⇑	P		P	21 01 55.2	-0.8
	baz=56								
CMB	Columbia Colle	56.67	55		*e*P		P	21 01 56.9	+0.9
CMB					pmax	pmax			
	comp=Z,40nm,1.3s								
CMB	Columbia Colle	56.67	55		*e*P		P	21 01 56.9	+0.9
	comp=Z,40nm,1.3s								
O30A	MW Ranch, Wils	56.68	36	⇑	P		P	21 01 55.5	-0.5
	baz=56								
TATO	Taipei	56.70	178		PFAKE			21 02 10.0	+14
TATO					LR	LR			
	comp=Z,2µm,19.0s								
SRU	San Rafael	56.73	46		*e*P		P	21 01 57.1	+0.5
SRU					pmax	pmax			
	comp=Z,69nm,1.0s								
SRU	San Rafael	56.73	46		*e*P		P	21 01 57.0	+0.5
	comp=Z,69nm,1.0s								
QZH	Quanzhou	56.74	182	⇑	*i*P		P	21 01 56.6	+0.1
QZH					S		S	21 09 45.5	-2.9
QZH					LR	LR			
	comp=Z,4µm,11.6s								
QZH					LR	LR			
	comp=Z,6µm,14.5s								
QZH					LR	LR			
	comp=Z,9µm,15.0s								
MMAI	Mount Meron Ar	56.77	270		P		P	21 01 57.6	+0.8
MMAI					PcP		PcP	21 02 52.8	+0.3
MMAI	Mount Meron Ar	56.77	270		P		P	21 01 57.6	+0.8
	comp=Z,39nm,1.0s,baz=17,slow=6.1,SNR=34								
MMAI					PcP		PcP	21 02 52.8	+0.3
	comp=Z,19nm,1.0s,baz=29,slow=3.3,SNR=3.6								
MMAI					LR	LR		21 31 06.9	
	comp=Z,924nm,18.9s,baz=290,slow=41								
PESTR	Estremoz	56.77	312		*e*P		P	21 01 56.3	-0.4
	comp=Z,1µm,6.3s								
Q16A	Castle Valley	56.85	47		*e*P		P	21 01 58.5	+1.0
Q16A	Castle Valley	56.85	47	⇑	P		P	21 01 57.8	+0.3
	baz=57,SNR=26								
SAC	San Andreas	56.87	57		*e*P		P	21 02 00.2	+2.9
SAC					pmax	pmax			
	comp=Z,136nm,1.0s								
SAC	San Andreas	56.87	57		*e*P		P	21 02 00.2	+2.9
	comp=Z,136nm,1.0s								
P24A	Kohler Place,	56.90	41	⇓	P		P	21 01 58.1	+0.3
	baz=57								
R11A	Troy Canyon, C	56.93	51		*e*P		P	21 01 58.4	+0.4
R11A	Troy Canyon, C	56.93	51	⇓	P		P	21 01 58.6	+0.6
	baz=57,SNR=56								
P23A	Jefferson	56.95	42	⇓	P		P	21 01 58.6	+0.3
	baz=57,SNR=25								
KMI	Kunming	56.97	199		P		P	21 01 58.4	0.0
KMI					pP		pP	21 02 07.3	+4.1
KMI					sP		sP	21 02 11.0	+5.9
KMI					PP		PP	21 04 07.1	+2.3
KMI					S		S	21 09 50.3	-1.6
KMI					sS		sS	21 10 04.0	+4.2
KMI					SS		SS	21 13 41.0	+1.1
KMI						AMB	AMB		
	comp=Z,45nm,1.4s								
KMI						AMB	AMB		
	comp=Z,770nm,5.3s								
KMI						LR	LR		
	comp=Z,5µm,15.0s								
KMI						LR	LR		
	comp=Z,3µm,18.7s								
KMI						LR	LR		
	comp=Z,6µm,15.0s								
P25A	Willow Gulch B	56.97	40	⇑	P		P	21 01 58.4	+0.1
	baz=57,SNR=30								
P26A	Davis Ranch, A	57.00	39	⇑	P		P	21 01 58.1	-0.4
	baz=57,SNR=11								
TPH	Tonopah	57.01	52		PFAKE			21 02 10.0	+11
TPH					LR	LR			
	comp=Z,972nm,21.0s								
YHNB	Yeheng	57.01	179		PFAKE			21 02 10.0	+11
YHNB					LR	LR			
	comp=Z,3µm,19.0s								
SMCO	Snowmass	57.03	43		*e*P		P	21 01 59.4	+0.4
	comp=Z,114nm,1.1s								
PMST	Lisbon--Monsan	57.07	314		*e*P		P	21 02 00.3	+1.5
	comp=Z,155nm,1.5s								
P27A	Ficken Ranch,	57.08	39	⇓	P		P	21 01 58.2	-0.7
	baz=57								
LIS	Lisbon	57.09	314		*e*P		P	21 02 00.1	+1.2
LIS					AMb	AMB		21 02 03.2	
	comp=Z,162nm,1.8s								
LIS	Lisbon	57.09	314		*e*P		P	21 02 00.1	+1.2
	comp=Z,162nm,1.8s								
LIS	Lisbon	57.09	314		*e*P		P	21 02 00.1	+1.2
Q20A	Ridgley Place,	57.12	44	⇓	P		P	21 01 58.9	-0.4
	baz=57								
HDIL	Hopedale	57.13	26		*e*P		P	21 02 01.3	+2.2
	comp=Z,88nm,1.2s								
HDIL					LR	LR			
	comp=Z,1µm,20.0s								
P28A	Saint Francis	57.13	38	⇑	P		P	21 01 58.8	-0.6
	baz=57								
MVU	Marysvale	57.15	48		*e*P		P	21 02 00.2	+0.6
	comp=Z,58nm,0.9s								
MVU					LR	LR			
	comp=Z,1µm,19.0s								
EVO	Evora	57.15	313	⇓	*i*P		P	21 01 59.2	-0.1
	comp=Z,179nm,1.5s								
EVO					*e*R				
	comp=Z,2µm,17.8s								
EVO	Evora	57.15	313		*e*P		P	21 01 59.3	-0.1
	comp=Z,128nm,1.5s								
EVOP	Sao Brissos	57.17	313	⇓	*i*P		P	21 01 59.2	-0.2
EVOP	Sao Brissos	57.17	313	⇓	*i*P		P	21 01 59.2	-0.2
P29A	Atwood	57.18	37	⇓	P		P	21 01 58.6	-1.0
	baz=57								
CMAH	Djebel Manchou	57.18	298		P		P	21 02 00.7	+1.0
SHL	Shillong	57.19	210		*ex*		P	21 02 00.0	0.0
MLAC	Mammoth Lakes	57.26	54	⇓	P		P	21 02 01.2	+0.8
	baz=57								
P30A	Selden	57.30	36	⇓	P		P	21 01 59.4	-1.0
	baz=57,SNR=25								
Q21A	Lamborn Mesa,	57.31	43	⇓	P		P	21 02 00.5	-0.2
	baz=57								
IPAR	Pars	57.33	252		*e*P		P	21 02 03.3	+2.2
Q22A	Crested Butte,	57.35	43	⇑	P		P	21 02 01.8	+0.7
	baz=57,SNR=34								
P32A	Huiting Farm,	57.36	35	⇓	P		P	21 01 59.2	-1.6
	baz=57								
ASF	Jabal al Asfar	57.38	268		LR	LR		21 30 14.2	
	comp=Z,995nm,19.2s,baz=328,slow=40								
P31A	Stockton	57.39	36	⇑	P		P	21 01 60.0	-1.1
	baz=57								
PBAR	Barrancos	57.40	312		*e*P		P	21 02 00.6

KEST LR LR 21 28 39.8
comp=Z,525nm,18.3s,baz=162,slow=38
ACSO Alum Creek Sta 57.82 21 eP P 21 02 03.6 -0.5
comp=Z,82nm,1.1s
ACSO LR LR
comp=Z,1µm,19.0s
Q30A Quinter 57.86 36 ⇓P P 21 02 03.5 -0.9
baz=58,SNR=12
SET Setif 57.86 300 P P 21 02 05.0 +0.5
R20A Redvale 57.87 44 ⇑P P 21 02 04.8 +0.2
baz=58,SNR=29
Q29A Oakley 57.88 37 ⇓P P 21 02 03.5 -1.0
baz=58,SNR=9.1
SSLB Suanglung 57.88 179 eP P 21 02 04.5 -0.2
comp=Z,48nm,1.0s
TIN Tinemaha 57.90 53 ⇑P P 21 02 05.5 +0.7
baz=58
PV01 Paradox Valley 57.90 44 eP P 21 02 05.2 +0.2
comp=Z,9µm,0.9s
PV05 Paradox Valley 57.90 45 eP P 21 02 05.3 +0.4
Q31A Ellis 57.90 36 ⇑P P 21 02 03.5 -1.2
baz=58
CCUT Cedar City 57.96 49 eP P 21 02 06.3 +1.0
comp=Z,484nm,2.7s
R22A Saguache, Gunn 57.99 43 ⇓P P 21 02 06.6 +0.9
baz=58,SNR=34
CKHR Kef el Ahmar 58.03 300 P P 21 02 08.0 +2.3
KSU1 Kansas State U 58.04 33 eP P 21 02 04.0 -1.6
comp=Z,40nm,0.9s
KSU1 LR LR
comp=Z,1µm,19.0s
PCVE Castro Verde 58.04 313 eP P 21 02 05.3 -0.3
comp=Z,86nm,1.5s
R23A Moffat 58.12 42 ⇑P P 21 02 07.0 +0.5
baz=58,SNR=36
R24A Sanders Place, 58.15 41 ⇓P P 21 02 06.8 +0.2
baz=58,SNR=9.6
EMHD Djebel Mahouad 58.17 302 P P 21 02 07.5 +0.8
S20A Disappointment 58.22 44 ⇓P P 21 02 07.5 +0.3
baz=58,SNR=39
PVAQ Vaqueiros 58.23 312 eP P 21 02 07.4 +0.4
comp=Z,96nm,1.4s
R26A Arlington 58.24 40 ⇓P P 21 02 06.8 -0.3
baz=58,SNR=43
EBNR Beni Rached 58.26 303 P P 21 02 09.8 +2.6
R25A Fountain Ranch 58.31 40 ⇓P P 21 02 07.1 -0.6
baz=58,SNR=11
R27A Eads 58.31 39 ⇓P P 21 02 07.0 -0.7
baz=58
R29A Marienthal 58.33 37 ⇑P P 21 02 06.7 -1.0
baz=58
MIDW Midway 58.33 113 PFAKE 21 02 20.0 +12
MIDW LR LR
comp=Z,1µm,21.0s
R28A Tribune 58.35 38 ⇑P P 21 02 07.0 -0.9
baz=58,SNR=24
UMR Umm Al-Rimmam 58.38 257 eP P 21 02 07.5 -0.5
UMR AMb AMB 21 02 09.5
comp=Z,199nm,1.0s
PBDV Barranco-do-Ve 58.42 312 eP P 21 02 08.9 +0.6
comp=Z,171nm,1.3s
ECHA Ech Chlef 58.42 304 P P 21 02 10.8 +2.6
MORF Marmelete 58.43 313 eP P 21 02 09.8 +1.4
MORF eS S 21 10 13.1 +2.6
S21A Coal Bank Pass 58.45 44 ⇑P P 21 02 08.9 +0.1
baz=58,SNR=45
S22A 4UR Ranch, Cre 58.46 43 ⇓P P 21 02 09.3 +0.4
baz=58,SNR=45
PGRA Graciosa 58.47 331 eP P 21 02 17.7 +9.2
comp=Z,157nm,1.0s
RCTC Rector, Farmer 58.51 55 ⇓P P 21 02 09.3 +0.5
baz=58
CWC Cottonwood Cre 58.52 53 ⇓P P 21 02 10.2 +1.1
baz=58
RST Umm Al-Ruwaisa 58.53 258 eP P 21 02 08.6 -0.5
RST AMb AMB 21 02 10.3
comp=Z,939nm,1.0s
R30A Dighton 58.54 37 ⇑P P 21 02 07.8 -1.4
baz=58
MCWV Mont Chateau 58.55 18 eP P 21 02 09.2 +0.1
comp=Z,133nm,1.3s
MCWV LR LR
comp=Z,3µm,20.0s
S23A Nye Farm, Mont 58.58 42 ⇓P P 21 02 10.5 +0.8
baz=58
SDCO Great Sand Dun 58.59 42 eP P 21 02 09.4 -0.4
comp=Z,50nm,1.2s
SDCO LR LR
comp=Z,1µm,20.0s
R31A Burdett 58.60 36 ⇑P P 21 02 08.0 -1.6
baz=58,SNR=22
PFVI Vila Bisbo 58.62 313 eP P 21 02 09.9 +0.2
comp=Z,140nm,1.6s
FURC Furnace Creek, 58.63 52 ⇑P P 21 02 10.4 +0.7
baz=58
EANR 'Ain N'Sour 58.65 304 P P 21 02 12.2 +2.3
S24A Houchin Ranch, 58.72 41 ⇑P P 21 02 10.2 -0.5
baz=59,SNR=12
NAY Al-Naaiem 58.74 258 eP P 21 02 10.3 -0.3
NAY AMb AMB 21 02 11.8
comp=Z,83nm,0.9s
KBD Kabd 58.75 257 eP P 21 02 10.3 -0.3
KBD AMb AMB 21 02 12.1
comp=Z,87nm,1.1s
S25A Robets Cordova 58.78 41 ⇑P P 21 02 10.4 -0.6
baz=59,SNR=13
SHPR Sheep Range 58.80 51 eP P 21 02 11.7 +0.6
MVCO Mesa Verde 58.82 44 eP P 21 02 12.0 +0.6
comp=Z,90nm,1.3s
MVCO LR LR
comp=Z,1µm,20.0s
MVCO Mesa Verde 58.82 44 ⇑P P 21 02 11.7 +0.3
baz=59,SNR=17
S27A Las Animas 58.90 39 ⇓P P 21 02 11.1 -0.7
baz=59
S26A Kim 58.91 40 ⇑P P 21 02 11.0 -0.8
baz=59
MPMC Manual Prospec 58.97 53 ⇓P P 21 02 13.0 +0.7
baz=59,SNR=81
VES Vestal, Richgr 58.99 54 ⇑P P 21 02 12.4 +0.2
baz=59
RDF Al-Radifah 59.01 257 eP P 21 02 12.6 +0.1
RDF AMb AMB 21 02 14.4
comp=Z,126nm,1.0s
S28A Manter 59.09 38 ⇓P P 21 02 12.1 -0.9
baz=59,SNR=14
S29A Ulysses 59.13 37 ⇓P P 21 02 12.2 -1.1
baz=59,SNR=11
T21A Navajo Lake 59.14 43 ⇑P P 21 02 14.2 +0.7
baz=59,SNR=25
QRN Al-Qurain 59.14 257 eP P 21 02 13.2 -0.1
QRN AMb AMB 21 02 14.4
comp=Z,139nm,0.9s
S30A Montezuma 59.16 37 ⇑P P 21 02 11.8 -1.7
baz=59
ETRT Tiaret 59.17 303 P P 21 02 15.5 +1.8
T22A Edith 59.18 43 ⇓P P 21 02 14.3 +0.4
baz=59,SNR=39
U15A North Rim 59.19 48 ⇑P P 21 02 13.7 -0.3
baz=59,SNR=15
ISA Isabella 59.24 54 eP P 21 02 14.8 +0.7
ISA pmax pmax
comp=Z,25nm,0.9s
ISA Isabella 59.24 54 eP P 21 02 14.8 +0.7
comp=Z,25nm,0.9s
ISA Isabella 59.24 54 ⇑P P 21 02 13.4 -0.7
baz=59
T23A Casias Ranch, 59.24 42 ⇑P P 21 02 14.4 0.0
baz=59,SNR=9.2
SHOC Shoshone 59.27 52 ⇑P P 21 02 14.7 +0.5
baz=59
S31A Mullinville 59.27 36 ⇓P P 21 02 12.7 -1.6
baz=59
T24B San Luis 59.28 41 ⇑P P 21 02 14.4 -0.3
baz=59
T25A Trinidad 59.30 41 ⇑P P 21 02 13.5 -1.2
baz=59
T26A Comanche Natio 59.34 40 ⇑P P 21 02 14.3 -0.6
baz=59,SNR=30
SMMC Simmler 59.41 55 ⇓P P 21 02 15.3 +0.1
baz=59
BOK Bokaro 59.44 217 eP P 21 02 15.2 -0.3
PSET Sete Cidades 59.50 329 eP P 21 02 19.1 +3.3
comp=Z,72nm,0.7s
LRMC Laurel Mountai 59.52 53 ⇑P P 21 02 16.4 +0.4
baz=59,SNR=22
T28A Walsh 59.53 38 ⇓P P 21 02 15.4 -0.8
baz=59,SNR=18
T27A Campo 59.53 39 ⇑P P 21 02 15.7 -0.4
baz=59,SNR=14
T29A Hugoton 59.57 38 ⇑P P 21 02 15.2 -1.1
baz=59
U20A Newcomb 59.65 45 ⇓P P 21 02 17.0 0.0
baz=60,SNR=48
U21A Nageezi 59.68 44 ⇑P P 21 02 17.4 +0.1
baz=60,SNR=16
ARVC Arvin 59.73 54 ⇓P P 21 02 17.2 -0.2
baz=60
T30A Plains 59.74 37 ⇑P P 21 02 16.3 -1.2
baz=60
TUQ Turquoise Moun 59.76 52 ⇓P P 21 02 18.3 +0.5
baz=60,SNR=27
T31A Randall Ranch, 59.77 36 ⇓P P 21 02 16.4 -1.3
baz=60
GSC Goldstone 59.79 52 eP P 21 02 19.2 +1.3
GSC pmax pmax
comp=Z,50nm,1.0s
GSC Goldstone 59.79 52 eP P 21 02 19.2 +1.3
comp=Z,50nm,1.0s
GSC Goldstone 59.79 52 ⇓P P 21 02 18.5 +0.6
baz=60,SNR=24
U22A Llaves 59.81 43 ⇑P P 21 02 18.3 +0.1
baz=60,SNR=20
PKM Peak Mountain 59.84 55 ⇓P P 21 02 19.0 +0.6
baz=60,SNR=10
U23A El Rito 59.93 42 ⇑P P 21 02 19.0 0.0
baz=60,SNR=19
U24A Moreno Valley 59.94 41 ⇓P P 21 02 19.0 -0.1
baz=60
U25A Circle Dot Ran 60.03 41 ⇓P P 21 02 19.2 -0.5
baz=60,SNR=33
EDW2 Edwards Air Fo 60.07 54 ⇑P P 21 02 20.5 +0.7
baz=60,SNR=39
U26A Atchley Ranch, 60.10 40 ⇓P P 21 02 19.3 -0.9
baz=60,SNR=8.5
CBN Corbin 60.10 16 eP P 21 02 20.1 +0.3
comp=Z,44nm,0.6s
CBN LR LR
comp=Z,3µm,19.0s
EIL Elat 60.12 270 LR LR 21 32 43.5
comp=Z,2µm,18.7s,baz=208,slow=40
U27A Thompson Grove 60.16 39 ⇓P P 21 02 19.6 -0.9
baz=60,SNR=16
RRX Edison Barstow 60.19 53 ⇑P P 21 02 20.9 +0.3
baz=60
WUAZ Wupatki 60.19 47 eP P 21 02 21.4 +0.6
comp=Z,41nm,1.0s
WUAZ Wupatki 60.19 47 ⇓P P 21 02 21.1 +0.3
baz=60,SNR=9.6
V20A Brimhall 60.22 45 ⇓P P 21 02 20.9 -0.1
baz=60,SNR=22
OSI Osito Adit 60.25 54 ⇓P P 21 02 21.2 +0.3
baz=60
U30A WK&E Inc. Balk 60.25 37 ⇓P P 21 02 19.7 -1.3
baz=60,SNR=12
U28A Mallet 60.26 39 ⇓P P 21 02 20.4 -0.7
baz=60
PSMN Pico do Norte, 60.26 328 eP P 21 02 24.0 +3.0
comp=Z,90nm,1.1s
V22A San Miguel Ran 60.27 43 ⇓P P 21 02 21.4 +0.1
baz=60,SNR=13
U29A Oasis Ranch, S 60.27 38 ⇓P P 21 02 20.1 -1.1
baz=60
SBC Santa Barbara 60.30 55 ⇓P P 21 02 21.8 +0.6
baz=60
V21A Milan 60.30 44 ⇑P P 21 02 21.3 -0.2
baz=60,SNR=8.0
HEC Hector,Ludlow 60.32 52 ⇓P P 21 02 22.0 +0.5
baz=60,SNR=30
W13A Hualapai Mount 60.33 50 ⇑P P 21 02 21.5 -0.2
baz=60
GMRC Granite Mounta 60.44 51 ⇓P P 21 02 23.0 +0.6
baz=60,SNR=42
U31A Nine Bar Ranch 60.48 36 ⇓P P 21 02 21.9 -0.7
baz=60
V23A Ortiz Mt. (NFS 60.51 42 ⇑P P 21 02 23.1 +0.1
baz=60,SNR=16
V25A Rancho Nu Teng 60.57 41 ⇑P P 21 02 22.6 -0.7
baz=60,SNR=25
JSRW J. Sargeant Re 60.59 16 eP P 21 02 23.2 0.0
V24A Rampart Ranch, 60.62 42 ⇓P P 21 02 23.7 0.0
baz=60,SNR=18
DECC Green Verdugo 60.65 54 ⇑P P 21 02 23.6 -0.1
baz=60
V26A Tequesquite Ra 60.69 40 ⇓P P 21 02 23.1 -1.0
baz=60,SNR=14
BLG Laguna Peak 60.70 55 ⇓P P 21 02 23.6 -0.4
baz=61
MWC Mount Wilson 60.71 54 eP P 21 02 25.5 +1.1
MWC pmax pmax
comp=Z,97nm,1.1s
MWC Mount Wilson 60.71 54 eP P 21 02 25.4 +1.1
comp=Z,97nm,1.1s
BFSC Mount Baldy Ra 60.74 53 ⇓P P 21 02 25.3 +0.8
baz=61
BSC Santa Cruz Isl 60.75 55 ⇑P P 21 02 26.3 +1.9
baz=61
W18A Petrified Fore 60.76 46 eP P 21 02 25.6 +0.9
W18A Petrified Fore 60.76 46 ⇓P P 21 02 25.1 +0.4
baz=61,SNR=11
BHPL Bhopal 60.80 225 eP P 21 02 23.7 -1.1
BBRC Big Bear Solar 60.81 53 ⇑P P 21 02 24.6 -0.5
baz=61
V27A Dan Oppiter Fa 60.82 39 ⇓P P 21 02 23.3 -1.6
baz=61
V29A Stinnett 60.82 38 ⇑P P 21 02 23.4 -1.6
baz=61
V28A Channing 60.88 39 ⇑P P 21 02 24.1 -1.2
baz=61
W20A Ramah 60.88 45 ⇓P P 21 02 24.6 -1.0
baz=61,SNR=8.0
VWCC Virginia Weste 60.95 18 eP P 21 02 25.0 -0.7
BLA Blacksburg 60.96 19 eP P 21 02 25.0 -0.8
BLA pmax pmax
comp=Z,114nm,1.0s
BLA MLR MLR
comp=Z,2µm,20.0s
BLA Blacksburg 60.96 19 eP P 21 02 25.0 -0.8
comp=Z,114nm,1.0s
BLA LR LR
comp=Z,2µm,20.0s
W21A San Fidel 60.98 44 ⇓P P 21 02 26.1 -0.1
baz=61
V30A Spur Ranch, Mi 61.01 37 ⇓P P 21 02 25.1 -1.1
baz=61
V31A Spring Creek L 61.07 37 ⇓P P 21 02 26.2 -0.4
baz=61
W23A Werner Place, 61.09 42 ⇑P P 21 02 26.5 -0.5
baz=61,SNR=15
PDMCI Parker Dam,Lak 61.09 50 ⇓P P 21 02 26.9 +0.2
baz=61
W22A Albuquerque 61.10 43 ⇑P P 21 02 26.8 -0.2
baz=61
W24A Lazy 6 Ranch, 61.11 42 ⇓P P 21 02 26.2 -0.8
baz=61,SNR=18
IRM Iron Mountain 61.11 51 ⇑P P 21 02 27.2 +0.3
baz=61,SNR=16
BELC Belle Mtn. Jos 61.17 52 ⇓P P 21 02 27.7 +0.3
baz=61,SNR=13
FMP Fort Macarthur 61.19 54 ⇑P P 21 02 27.7 +0.4
baz=61
W25A X Bar L Ranch, 61.20 41 ⇓P P 21 02 26.3 -1.3
baz=61,SNR=13
ANMO Albuquerque 61.27 43 eP P 21 02 27.1 -1.1
comp=Z,61nm,1.2s
ANMO Albuquerque 61.27 43 P P 21 02 28.2 0.0
comp=Z,29nm,1.1s,baz=351,slow=6.4,SNR=40
ANMO LR LR 21 29 06.7
comp=Z,1µm,18.9s,baz=353,slow=36
X16A Lo Mia Camp, P 61.27 48 ⇑P P 21 02 28.5 +0.3
baz=61,SNR=15
TUL1 Tulsa 61.27 33 eP P 21 02 27.1 -0.8
TUL1 Tulsa 61.27 33 ⇑P P 21 02 26.1 -1.8
baz=61,SNR=8.6
X18A Snowflake 61.32 46 ⇑P P 21 02 28.6 +0.1
baz=61,SNR=22
W28A Vega 61.37 39 ⇑P P 21 02 27.2 -1.5
baz=61
W26A Owens Ranch, T 61.39 40 ⇑P P 21 02 27.6 -1.2
baz=61
MURC Murrieta 61.43 53 ⇑P P 21 02 28.8 -0.2
baz=61
X20A Quemado 61.46 45 ⇑P P 21 02 29.1 -0.3
baz=61
TZTN Tazewell 61.47 22 eP P 21 02 28.6 -0.6
comp=Z,45nm,1.1s
CIS Catalina Islan 61.48 54 ⇓P P 21 02 28.7 -0.7
baz=61
W27A Bowe Ranch, En 61.48 40 ⇑P P 21 02 28.0 -1.5
baz=61
PFO Pinyon Flat Ob 61.51 52 P P 21 02 30.5 +0.8
comp=Z,145nm,0.9s,SNR=5.9
PFO Pinyon Flat Ob 61.51 52 eP P 21 02 29.6 0.0
comp=Z,52nm,1.1s
PFO Pinyon Flat Ob 61.51 52 ⇑P P 21 02 29.7 0.0
baz=61,SNR=14
PFO Pinyon Flat Ob 61.51 52 P P 21 02 29.9 +0.2
comp=Z,22nm,1.0s,baz=22,slow=3.8,SNR=11
PFO LR LR 21 29 50.3
comp=Z,1µm,18.5s,baz=359,slow=37
RTC Rabat Centre 61.52 311 PFAKE 21 02 40.0 +10
RTC LR LR
comp=Z,1µm,19.0s
W29A Amraillo 61.56 38 ⇑P P 21 02 28.5 -1.4
baz=61
Y14A Wickenburg 61.58 49 ⇓P P 21 02 30.3 +0.3
baz=61,SNR=19
BC3 Big Chuckawall 61.58 51 ⇓P P 21 02 30.4 +0.3
baz=61,SNR=24
Y12C Blythe 61.59 51 ⇓P P 21 02 30.3 +0.2
baz=61
W30A Crocket Farms 61.59 37 ⇓P P 21 02 29.5 -0.7
baz=61
X21A Alamocita Cree 61.63 44 ⇓P P 21 02 30.4 -0.2
baz=62,SNR=13
W31A Holland Ranch, 61.65 37 ⇑P P 21 02 29.7 -0.8
baz=62,SNR=8.1
X22A Bernardo 61.65 43 ⇑P P 21 02 30.9 +0.2
baz=62
X23A Hourglass Bar 61.66 43 ⇑P P 21 02 30.5 -0.3
baz=62,SNR=16
UOSS Wadi Hilu 61.72 248 P P 21 02 30.0 -1.0
comp=Z,421nm,1.0s,SNR=21
LAZ Ladron 61.74 44 eP P 21 02 31.4 +0.1
comp=Z,19nm,1.2s
X24A Lazy VL Ranch, 61.75 42 ⇓P P 21 02 30.4 -0.9
baz=62
X25A Clemmons Ranch 61.86 41 ⇑P P 21 02 31.5 -0.6
baz=62,SNR=12
LPM Los Pinos Moun 61.88 43 eP P 21 02 32.5 +0.2
SCI San Clemente I 61.88 54 ⇑P P 21 02 32.5 +0.5
baz=62
X27A F and S Farms, 61.89 40 ⇑P P 21 02 31.0 -1.2
baz=62,SNR=9.4
X26A CR and CF Fran 61.92 40 ⇑P P 21 02 31.5 -1.0
baz=62,SNR=8.5
LENM Lemitar 61.99 43 eP P 21 02 33.3 +0.3
ASHO Ashiyiah 61.99 248 P P 21 02 33.2 +0.3
SNR=44
BNM Barren Site 62.04 43 eP P 21 02 32.9 -0.5
comp=Z,32nm,1.2s
Y21A Point of Rocks 62.08 44 ⇓P P 21 02 33.8 +0.2
baz=62,SNR=7.7
Y22D IRIS PASSCAL I 62.09 43 ⇑P P 21 02 33.4 -0.2
baz=62
Y20A Horse Springs, 62.10 45 ⇑P P 21 02 33.8 0.0
baz=62,SNR=22
X28A Dimmitt 62.10 39 ⇓P P 21 02 32.6 -1.1
baz=62
109C Camp Elliot, M 62.14 53 ⇑P P 21 02 32.9 -0.9
baz=62
Z14A Wintersburg 62.15 49 ⇓P P 21 02 33.9 +0.1
baz=62
WMOK Wichita Mounta 62.19 36 eP P 21 02 33.4 -0.7
WMOK pmax pmax
comp=Z,148nm,1.2s
WMOK Wichita Mounta 62.19 36 eP P 21 02 33.4 -0.7
comp=Z,148nm,1.2s
X31A McDonald Ranch 62.19 37 ⇓P P 21 02 33.8 -0.3
baz=62,SNR=16
Y22A Socorro 62.22 43 ⇓P P 21 02 34.4 -0.1
baz=62,SNR=17
MONP Monument Peak 62.22 52 ⇓P P 21 02 34.7 +0.1
baz=62,SNR=27
X29A Tulia 62.22 38 ⇓P P 21 02 33.6 -0.8
baz=62,SNR=8.7
SWSC Sam W. Stewart 62.24 52 ⇓P P 21 02 35.0 +0.5
baz=62,SNR=10
GLA Glamis 62.24 51 eP P 21 02 35.4 +0.9
GLA pmax pmax
comp=Z,46nm,1.0s
GLA Glamis 62.24 51 eP P 21 02 35.4 +0.9
comp=Z,46nm,1.0s
GLA Glamis 62.24 51 ⇓P P 21 02 34.6 +0.1
baz=62,SNR=9.1
X30A Coker Ranch, T 62.30 38 ⇓P P 21 02 33.6 -1.2
baz=62
Y23A Lovelace Mesa, 62.31 43 ⇑P P 21 02 34.6 -0.5
baz=62,SNR=11
CMAI Chiengmai2 62.32 202 P P 21 02 35.3 0.0
comp=Z,264nm,0.8s
TKL Tuckaleechee C 62.34 22 eP P 21 02 34.0 -1.1
TKL Tuckaleechee C 62.34 22 P P 21 02 33.8 -1.2
comp=Z,36nm,1.2s,baz=22,slow=3.6,SNR=8.1
TKL LR LR 21 27 59.7
comp=Z,1µm,18.4s,baz=359,slow=34
Y24A Capitan 62.38 42 ⇑P P 21 02 34.8 -0.8
baz=62,SNR=15
BAR Barrett 62.40 53 eP P 21 02 36.4 +0.8
comp=Z,417nm,2.7s
Y25A Mesa, Roswell 62.46 41 ⇑P P 21 02 34.9 -1.2
baz=62,SNR=9.0
DVTC Desert V Tower 62.49 52 ⇓P P 21 02 36.5 +0.3
baz=62,SNR=12
CPCT Cooper Cave 62.50 22 eP P 21 02 35.7 -0.4
CPCT epP pP 21 02 46.3 +5.3
Y26A Elida 62.54 40 ⇓P P 21 02 35.7 -1.0
baz=62,SNR=9.7
MSTX Muleshoe 62.59 39 eP P 21 02 36.2 -0.7
MSTX Muleshoe 62.59 39 ⇑P P 21 02 35.5 -1.4
baz=62,SNR=12
Y27A Causey 62.64 40 ⇓P P 21 02 36.0 -1.3
baz=62,SNR=17
113A Mohawk Valley, 62.65 50 ⇓P P 21 02 37.5 +0.4
baz=62
SWET Sewanee 62.65 24 eP P 21 02 36.0 -1.2
comp=Z,71nm,1.4s
Y28A McKinney Farm, 62.70 39 ⇓P P 21 02 36.2 -1.4
baz=62,SNR=11
QIZ Qiongzhong 62.76 191 P P 21 02 38.2 +0.2
QIZ pP pP 21 02 41.8 -1.1
QIZ S S 21 11 07.7 +1.6
QIZ sS sS 21 11 14.5 +0.5
QIZ SS SS 21 15 13.1 +2.6
QIZ AMB AMB
comp=Z,43nm,1.4s
QIZ LR LR
comp=Z,3µm,15.2s
QIZ LR LR
comp=Z,3µm,13.5s
Z21A St. Cloud Mine 62.77 44 ⇑P P 21 02 38.1 -0.2
baz=63
MIAR Mount Ida 62.80 31 PFAKE 21 02 50.0 +12
MIAR LR LR
comp=Z,2µm,20.0s
Y29A Porterfield Fa 62.80 38 ⇓P P 21 02 37.0 -1.3
baz=63
Y31A Rekieta Farm, 62.83 37 ⇑P P 21 02 37.6 -0.8
baz=63,SNR=19
PAYA Payao 62.84 201 P P 21 02 38.5 -0.1
comp=Z,12nm,1.1s
Y30A Stafford Cattl 62.86 38 ⇑P P 21 02 37.3 -1.4
baz=63
Y32A R-V Farms, Ver 62.86 36 ⇑P P 21 02 37.9 -0.7
baz=63,SNR=8.6
Z20A Nine Sixteen R 62.87 45 ⇑P P 21 02 39.0 +0.2
baz=63,SNR=18
Z22A Elephant Butte 62.89 43 ⇑P P 21 02 38.8 -0.2
baz=63,SNR=18
HOQ Hoqain 62.91 246 P P 21 02 38.5 -0.5
SNR=29
Z23A Rita Site, Whi 62.96 43 ⇑P P 21 02 39.1 -0.3
baz=63
Z24A Sheeppen Canyo 62.98 42 ⇑P P 21 02 38.9 -0.8
baz=63,SNR=16
CNNC Cliffs of the 63.04 16 PFAKE 21 02 50.0 +10
CNNC LR LR
comp=Z,3µm,19.0s
Z25A Roswell 63.09 41 ⇑P P 21 02 39.6 -0.7
baz=63,SNR=16
OXF Oxford 63.13 27 eP P 21 02 39.0 -1.3
OXF pmax pmax
comp=Z,183nm,1.0s

OXF MLR MLR
comp=Z,1µm,20.0s
OXF Oxford 63.13 27 *e*P **P 21 02 39.0 -1.3**
comp=Z,183nm,1.0s
OXF LR LR
comp=Z,1µm,20.0s
Z26A Caprock 63.17 41 ⇓P **P 21 02 39.8 -1.0**
baz=63,SNR=12
Z27A Tatum 63.20 40 ⇑P **P 21 02 39.7 -1.3**
baz=63,SNR=15
ARQ Araqi 63.26 247 P **P 21 02 41.3 0.0**
SNR=14
Z28A Tucker Farm, M 63.31 39 ⇓P **P 21 02 40.3 -1.4**
baz=63
SMDO Samad 63.32 245 P **P 21 02 42.3 +0.4**
SNR=16
AKL Akola 63.35 226 ⇑*i*P **P 21 02 41.1 -0.9**
AKL AMP 21 02 42.8
comp=Z,82nm,1.2s
AKL *i* x x 21 11 10.8
Z29A Hungry Hill Ra 63.40 39 ⇓P **P 21 02 41.3 -1.0**
baz=63,SNR=14
120A U Bar Ranch, L 63.42 45 ⇑P **P 21 02 42.7 +0.2**
baz=63,SNR=9.8
Z30A Sanderson Ranc 63.42 38 ⇑P **P 21 02 40.9 -1.5**
baz=63,SNR=29
TUC Tucson 63.43 47 *e*P **P 21 02 42.4 -0.1**
TUC pmax pmax
comp=Z,35nm,1.1s
TUC Tucson 63.43 47 *e*P **P 21 02 42.4 -0.1**
comp=Z,35nm,1.1s
CHTO Chiang Mai 63.43 202 *e*P **P 21 02 41.5 -1.0**
CHTO pmax pmax
comp=Z,105nm,1.0s
CHTO MLR MLR
comp=Z,1µm,20.0s
CHTO Chiang Mai 63.43 202 P **P 21 02 42.0 -0.6**
SNR=15
CHTO Chiang Mai 63.43 202 P **P 21 02 41.9 -0.6**
comp=Z,163nm,1.6s,comp=Z,3µm
CHTO Chiang Mai 63.43 202 *e*P **P 21 02 41.5 -1.0**
comp=Z,104nm,1.0s
CHTO LR LR
comp=Z,1µm,20.0s
CHTO Chiang Mai 63.43 202 P **P 21 02 41.4 -1.0**
comp=Z,251nm,1.2s,comp=Z,3µm
122A Conniff Cattle 63.44 44 ⇓P **P 21 02 42.3 -0.3**
baz=63
Z31A Sharp Cattle R 63.48 37 ⇓P **P 21 02 41.2 -1.6**
baz=63,SNR=17
121A Cookes Peak, D 63.52 44 ⇓P **P 21 02 43.4 +0.2**
baz=63,SNR=20
Z32A Haskell 63.55 37 ⇑P **P 21 02 42.3 -0.9**
baz=63,SNR=31
214A Organ Pipe Nat 63.56 49 ⇑P **P 21 02 43.5 +0.2**
baz=63,SNR=7.1
123A Bell Site, Whi 63.58 43 ⇓P **P 21 02 43.3 -0.1**
baz=63
124A Stringfield Ra 63.59 42 ⇑P **P 21 02 43.4 -0.3**
baz=63,SNR=26
WBK Wadi Bani Khal 63.64 244 P **P 21 02 44.5 +0.6**
SNR=17
125A Gardner Draw, 63.71 41 ⇑P **P 21 02 43.6 -0.8**
baz=64,SNR=11
BSY Bisya 63.75 246 P **P 21 02 44.4 -0.2**
SNR=20
126A Clayton Basin, 63.79 41 ⇑P **P 21 02 43.6 -1.2**
baz=64,SNR=5.9
CMAR Chiang Mai Arr 63.79 202 P **P 21 02 44.6 -0.3**
CMAR Chiang Mai Arr 63.79 202 P **P 21 02 44.6 -0.3**
comp=Z,18nm,1.0s,baz=352,slow=7.9,SNR=96
127A Arkansas Junct 63.82 40 ⇓P **P 21 02 43.7 -1.4**
baz=64
128A Castleberry Fa 63.96 39 ⇑P **P 21 02 44.9 -1.1**
baz=64,SNR=20
JMDO Jabal Madar 63.99 245 P **P 21 02 46.0 -0.1**
SNR=22
129A Stewart Farms, 64.01 39 ⇓P **P 21 02 45.3 -1.0**
baz=64,SNR=6.0
222A Williams Famil 64.02 44 ⇓P **P 21 02 46.0 -0.4**
baz=64
221A Mesquite Ranch 64.04 44 ⇑P **P 21 02 46.6 0.0**
baz=64
220A Playas Peak, P 64.07 45 ⇑P **P 21 02 46.5 -0.3**
baz=64,SNR=15
131A Roby 64.10 37 ⇓P **P 21 02 45.6 -1.2**
baz=64,SNR=9.6
130A Snyder 64.12 38 ⇑P **P 21 02 45.9 -1.1**
baz=64,SNR=7.5
223A Chaparral, Ant 64.18 43 ⇓P **P 21 02 46.2 -1.3**
baz=64
GDL2 Guadalupe Moun 64.20 41 *e*P **P 21 02 47.1 -0.5**
224A Cornudas Mount 64.20 42 ⇑P **P 21 02 47.2 -0.4**
baz=64,SNR=23
ABTX Abilene, Hawle 64.21 37 *e*P **P 21 02 46.7 -0.9**
ABTX Abilene, Hawle 64.21 37 ⇑P **P 21 02 46.6 -0.9**
baz=64,SNR=9.7
225A Deer Hill, Car 64.24 42 ⇑P **P 21 02 46.7 -1.2**
baz=64
226B Tecolote Peak, 64.34 41 ⇓P **P 21 02 47.6 -0.8**
baz=64,SNR=12
228A UT Block 9, Go 64.45 40 ⇓P **P 21 02 48.2 -1.0**
baz=64
227A Bennet, Jal 64.48 40 ⇓P **P 21 02 48.7 -0.7**
baz=64,SNR=11
319A Douglas 64.51 46 ⇑P **P 21 02 49.9 +0.3**
baz=64,SNR=27
GOGA Godfrey 64.59 22 *e*P **P 21 02 48.8 -1.1**
GOGA pmax pmax
comp=Z,44nm,1.2s
GOGA Godfrey 64.59 22 *e*P **P 21 02 48.8 -1.1**
comp=Z,44nm,1.2s
MNTX Cornudas Mount 64.59 42 *e*P **P 21 02 49.2 -0.8**
comp=Z,49nm,1.2s
MNTX LR LR
comp=Z,2µm,20.0s
LOEI Loei 64.61 200 P **P 21 02 49.1 -1.1**
comp=Z,81nm,1.8s,comp=Z,3µm
RAYN Ar Rayn 64.62 258 *e*P **P 21 02 50.9 +0.5**
comp=Z,114nm,1.1s
RAYN Ar Rayn 64.62 258 P **P 21 02 50.3 0.0**
comp=Z,316nm,1.1s,SNR=44
320A Kipp Ranch, An 64.63 45 ⇓P **P 21 02 51.1 +0.6**
baz=64,SNR=14
229A Bryant Ranch, 64.67 39 ⇑P **P 21 02 49.7 -0.9**
baz=64,SNR=9.6
LRAL Lakeview Retre 64.76 25 *e*P **P 21 02 49.0 -2.0**
comp=Z,40nm,1.2s
LRAL LR LR
comp=Z,1µm,20.0s
230A Sterling City 64.81 38 ⇓P **P 21 02 50.6 -0.9**
baz=65
231A Bronte 64.84 37 ⇑P **P 21 02 50.4 -1.3**
baz=65,SNR=17
324A Moseley Ranch, 64.84 42 ⇑P **P 21 02 51.2 -0.6**
baz=65,SNR=38
232A Coleman 64.94 37 ⇑P **P 21 02 51.1 -1.3**
baz=65,SNR=13
325A Bean Ranch, Si 64.96 42 ⇑P **P 21 02 51.7 -0.9**
baz=65,SNR=11
SKNT Sakolnakorn 65.01 197 P **P 21 02 53.1 +0.2**
comp=Z,188nm,1.0s,comp=Z,2µm
WHTX Lake Whitney 65.03 35 *e*P **P 21 02 52.1 -0.7**
WHTX Lake Whitney 65.03 35 ⇓P **P 21 02 51.5 -1.3**
baz=65,SNR=11
327A Balmorhea Ranc 65.10 40 ⇓P **P 21 02 52.4 -1.0**
baz=65
326A Caldwell Ranch 65.11 41 ⇑P **P 21 02 52.4 -1.1**
baz=65,SNR=13
329A Wagon Wheel Ra 65.13 39 ⇑P **P 21 02 52.5 -1.1**
baz=65,SNR=19
328A Wristen Ranch, 65.16 40 ⇑P **P 21 02 52.7 -1.0**
baz=65,SNR=22
330A Mertzon 65.28 38 ⇑P **P 21 02 53.3 -1.3**
baz=65,SNR=10
VBMS Vicksburg 65.34 28 *e*P **P 21 02 54.5 -0.3**
comp=Z,103nm,1.1s
VBMS LR LR
comp=Z,2µm,21.0s
332A Millersview 65.44 37 ⇓P **P 21 02 54.3 -1.2**
baz=65,SNR=18
331A San Angelo 65.45 38 ⇓P **P 21 02 54.1 -1.5**
baz=65,SNR=7.5
NATX Nacogdoches 65.49 32 *e*P **P 21 02 55.3 -0.5**
comp=Z,73nm,1.0s
NATX LR LR
comp=Z,788nm,19.0s
425A Indio Mountain 65.54 42 ⇑P **P 21 02 56.5 +0.1**
baz=65,SNR=68
427A Hayter Ranch, 65.63 40 ⇑P **P 21 02 56.3 -0.6**
baz=66,SNR=6.5
VIS Vishakhapatnam 65.68 219 *e*P **P 21 02 56.4 -0.8**
426A McDonald Obser 65.75 41 ⇑P **P 21 02 57.1 -0.7**
baz=66,SNR=48
428A Kincaid Ranch, 65.82 40 ⇑P **P 21 02 57.9 -0.2**
baz=66,SNR=35
POO Poona 65.84 229 *e*P **P 21 02 56.0 -2.3**
POO *e*P **P 21 02 57.3 -1.0**
430A Baggett Ranch, 65.89 38 ⇑P **P 21 02 57.6 -0.9**
baz=66,SNR=21
432A Menard 65.93 37 ⇓P **P 21 02 57.6 -1.1**
baz=66,SNR=11
429A Davenport Ranc 65.99 39 ⇓P **P 21 02 57.3 -1.9**
baz=66,SNR=7.8
431A Sonora 66.05 38 ⇑P **P 21 02 58.7 -0.9**
baz=66,SNR=12
CHAI Chaiyaphum 66.17 199 P **P 21 03 00.3 0.0**
comp=Z,6.5nm,1.3s,comp=Z,112nm
BBSR BB Station 66.25 4 *e*P **P 21 03 02.7 +2.1**
comp=Z,106nm,1.0s
BBSR LR LR
comp=Z,1µm,19.0s
527A Woodward Ranch 66.30 41 ⇓P **P 21 03 00.4 -0.9**
baz=66,SNR=19
JCT Junction City 66.33 37 *e*P **P 21 03 00.9 -0.4**
JCT pmax pmax
comp=Z,154nm,1.0s
JCT MLR MLR
comp=Z,3µm,19.0s
JCT Junction City 66.33 37 *e*P **P 21 03 00.9 -0.4**
comp=Z,154nm,1.0s
JCT LR LR
comp=Z,3µm,19.0s
JCT Junction City 66.33 37 ⇑P **P 21 03 00.6 -0.7**
baz=66,SNR=20
526A Mary Lane Ranc 66.34 41 ⇑P **P 21 03 00.9 -0.6**
baz=66,SNR=34
HYB Hyderabad 66.44 224 *i* P **P 21 03 00.0 -2.2**
HYB Hyderabad 66.44 224 *ex* P 21 02 56.6 -5.6
529A Stev Forest Ra 66.46 39 ⇑P **P 21 03 00.7 -1.5**
baz=66,SNR=30
530A J-C Ranch, Com 66.51 39 ⇑P **P 21 03 01.7 -0.9**
baz=66,SNR=14
TIGA Tifton 66.55 22 *e*P **P 21 03 02.1 -0.5**
TIGA Tifton 66.55 22 ⇑P **P 21 03 01.4 -1.2**
baz=66
UBPT Khong Chiam 66.63 195 P **P 21 03 03.5 +0.2**
comp=Z,106nm,1.1s,comp=Z,1µm
532A Rocksprings 66.67 37 ⇑P **P 21 03 02.5 -1.0**
baz=66,SNR=31
BRAL Brewton 66.77 25 *e*P **P 21 03 02.2 -1.8**
comp=Z,286nm,2.1s
BRAL LR LR
comp=Z,2µm,20.0s
626A Big Bend Ranch 66.84 41 ⇓P **P 21 03 04.4 -0.3**
baz=67,SNR=21
627A Terlingua Ranc 67.01 41 ⇓P **P 21 03 05.2 -0.5**
baz=67
628A Black Gap, Mar 67.03 40 ⇓P **P 21 03 04.7 -1.1**
baz=67,SNR=34
TXAR Lajitas Array 67.10 41 P **P 21 03 05.6 -0.7**
TXAR P'P' 21 31 26.4
TXAR Lajitas Array 67.10 41 P **P 21 03 05.6 -0.7**
comp=Z,53nm,1.1s,baz=3.8,slow=3.8,SNR=141
TXAR PKPPKP P'P'df 21 31 26.4 -9.3
comp=Z,0.8nm,1.0s,baz=176,slow=9.0,SNR=5.1
TXAR LR LR 21 31 30.3
comp=Z,906nm,19.8s,baz=5.0,slow=35
HKT Hockley 67.19 33 *e*P **P 21 03 06.3 -0.4**
HKT pmax pmax
comp=Z,51nm,1.5s
HKT Hockley 67.19 33 *e*P **P 21 03 06.2 -0.4**
comp=Z,51nm,1.5s
632A Uvalde 67.29 37 ⇓P **P 21 03 06.2 -1.2**
baz=67,SNR=11
631A Perdido Creek 67.31 38 ⇓P **P 21 03 06.1 -1.4**
baz=67,SNR=6.4
732A Laxson Ranch, 68.05 37 ⇓P **P 21 03 11.4 -0.7**
baz=68,SNR=7.7
GOA Goa 68.85 228 *e*P **P 21 03 15.4 -1.8**
CHBT CHBT 69.28 198 P **P 21 03 20.8 +0.9**
comp=Z,84nm,1.5s,comp=Z,2µm
RBK Rabkut 69.31 249 P **P 21 03 19.8 -0.4**
SNR=9.5
KVTX Kingsville 69.40 36 PFAKE 21 03 30.0 +9.4
KVTX LR LR
comp=Z,1µm,19.0s
DGPR DIGLIPUR 69.40 208 *e*P **P 21 03 20.9 +0.2**
DGPR AMB AMB 21 03 22.3
comp=Z,140nm,0.9s
ABTO Aybut 69.59 249 P **P 21 03 21.7 -0.2**
SNR=9.1
POHA Pohakuloa 69.77 92 *e*P **P 21 03 24.1 +0.8**
comp=Z,158nm,1.2s
POHA *e*pP pP 21 03 34.8 +6.7
PBA Port Blair 70.93 208 *e*P P 21 03 30.1 0.0
TAM Tamanrasset 71.06 297 PFAKE 21 03 40.0 +9.0
TAM LR LR
comp=Z,1µm,19.0s
LPIG La Paz 71.59 48 P **P 21 03 33.3 -0.7**
LPIG La Paz 71.59 48 P **P 21 03 33.3 -0.7**
comp=Z,16nm,0.3s,baz=98,slow=15,SNR=4.3
LPIG LR LR 21 37 03.2
comp=Z,901nm,18.0s,baz=351,slow=38
MAIG Mazatlaan 72.91 44 P **P 21 03 41.1 -0.8**
SRIT Nakonsritamara 73.54 201 P **P 21 03 46.0 +0.3**
comp=Z,124nm,1.2s
DAMY Dhamar 73.58 258 *e*P **P 21 03 47.6 +1.3**
ZAIG Zacatecas 73.71 41 P **P 21 03 45.0 -2.0**
DAV Davao City (W) 74.55 174 P **P 21 03 52.1 +0.6**
SNR=5.8
DAV Davao City (W) 74.55 174 PFAKE 21 04 00.0 +8.4
DAV LR LR
comp=Z,1µm,19.0s
KDM Kudat 74.67 183 P **P 21 03 52.5 +0.3**
SKLT Songkhla 74.90 200 P **P 21 03 54.5 +0.9**
comp=Z,94nm,1.3s,comp=Z,2µm
ANIG Ahuacatlan 75.22 43 P **P 21 03 56.3 +0.8**
KKM Kota Kinabalu 75.55 184 P **P 21 03 58.3 +0.9**
KKM Kota Kinabalu 75.55 184 *e*P **P 21 03 57.9 +0.4**
comp=Z,115nm,1.1s
KKM LR LR
comp=Z,144µm,22.0s
SDKM Sandakan 75.94 183 P **P 21 03 59.6 0.0**
SDKM Sandakan 75.94 183 P **P 21 04 00.3 +0.7**
MYLDM Lahad Datu 76.39 182 P **P 21 04 03.2 +1.1**
MYLDM Lahad Datu 76.39 182 P **P 21 04 03.5 +1.4**
comp=Z,105nm,1.5s
KTGM La Trenggan 76.61 197 P **P 21 04 04.2 +0.8**
KULM Kulim 76.76 200 P **P 21 04 04.6 +0.4**
KULM Kulim 76.76 200 P **P 21 04 04.2 0.0**
comp=Z,70nm,1.2s,comp=Z,1µm
KULM Kulim 76.76 200 *e*P **P 21 04 04.1 -0.1**
comp=Z,65nm,1.1s
KULM LR LR
comp=Z,36µm,21.0s
ATD Arta Tunnel 76.79 259 LR LR 21 41 58.8
comp=Z,1µm,20.1s,baz=349,slow=39
GRTK Grand Turk 76.94 11 PFAKE 21 04 20.0 +15
GRTK LR LR
comp=Z,1µm,19.0s
TSM Tawau 77.27 182 P **P 21 04 06.4 -0.7**
TEIG Tepich 77.40 27 *e*P **P 21 04 08.2 +0.4**
comp=Z,112nm,1.1s
TEIG *e*pP **PcP 21 04 16.6 -1.6**
TEIG Tepich 77.40 27 P **P 21 04 08.2 +0.4**
comp=Z,35nm,1.0s,baz=347,slow=9.5,SNR=8.7
TEIG LR LR 21 37 34.0
comp=Z,1µm,21.7s,baz=175,slow=35
IPM Ipoh 77.55 199 P **P 21 04 08.8 +0.1**
IPM Ipoh 77.55 199 P **P 21 04 08.2 -0.5**
comp=Z,70nm,1.2s,comp=Z,1µm
IPM Ipoh 77.55 199 *e*P **P 21 04 08.2 -0.5**
comp=Z,75nm,1.2s
MMIG Aquila 78.07 42 P **P 21 04 09.9 -1.7**
GTBY Guantanamo Bay 78.39 15 PFAKE 21 04 30.0 +17
GTBY LR LR
comp=Z,720nm,19.0s
BTM Bintulu 78.41 187 P **P 21 04 14.1 +0.6**
FRIM Kepong 78.75 199 P **P 21 04 16.0 +0.6**
SBUM Sibu 79.18 188 P **P 21 04 18.9 +1.2**
SBUM Sibu 79.18 188 P **P 21 04 18.4 +0.8**
comp=Z,51nm,1.3s,comp=Z,927nm
SBUM Sibu 79.18 188 *e*P **P 21 04 18.5 +0.8**
comp=Z,46nm,1.1s
SDDR Presa de Saban 79.45 11 *e*P **P 21 04 20.2 +1.0**
comp=Z,69nm,0.9s
KGM Kluang 79.89 197 P **P 21 04 21.9 +0.4**
FURI Furi 79.99 263 *i* P **P 21 04 23.9 +1.4**
FURI S S 21 14 32.6 +6.7
MYKOM Kota Tinggi 80.09 196 P **P 21 04 23.4 +0.8**
MYKOM Kota Tinggi 80.09 196 P **P 21 04 23.7 +1.1**
MYKOM Kota Tinggi 80.09 196 P **P 21 04 23.5 +0.9**
comp=Z,66nm,1.3s,comp=Z,1µm
KSM Kuching 80.19 190 P **P 21 04 24.0 +0.8**
KSM Kuching 80.19 190 P **P 21 04 23.5 +0.4**
comp=Z,58nm,1.2s,comp=Z,1µm
KSM Kuching 80.19 190 *e*P **P 21 04 22.4 -0.7**
comp=Z,64nm,1.2s
KSM LR LR
comp=Z,26µm,20.0s
STVI Saint Thomas 80.20 5 *e*P P 21 04 26.5 +3.3
comp=Z,52nm,1.0s
LRS Lares 80.23 7 *e*P **P 21 04 24.1 +0.7**
CBYP Canovanas 80.27 6 *e*P **P 21 04 23.1 -0.6**
comp=Z,35nm,0.9s
MTP Monte Pirata 80.45 5 *e*P **P 21 04 24.8 +0.3**
comp=Z,68nm,0.9s
MTP *e* 21 04 35.7
OBIP Obispado Ponce 80.49 6 *e*P **P 21 04 25.5 +0.8**
comp=Z,48nm,1.0s
CDVI St. Croix 80.80 5 *e*P **P 21 04 27.5 +1.1**
comp=Z,177nm,0.9s
CDVI *e*pP PcP 21 04 38.7 +5.7
TNTI Ternate 80.83 173 *e*P **P 21 04 25.2 -1.4**
comp=Z,156nm,1.2s
ANWB Willy Bob 80.91 2 PFAKE 21 04 40.0 +13
ANWB LR LR
comp=Z,581nm,20.0s
TORD Torodi Ar. Bea 81.06 300 P **P 21 04 27.4 -0.5**
TORD PKKPbc **PKKPbc 21 23 02.2 +1.9**
TORD Torodi Ar. Bea 81.06 300 P **P 21 04 27.4 -0.5**
comp=Z,136nm,0.9s,baz=358,slow=5.9,SNR=521
TORD PKKPbc **PKKPbc 21 23 02.2 +1.9**
comp=Z,0.7nm,1.0s,baz=242,slow=3.0,SNR=3.7
APG El Apazote 82.43 30 P **P 21 04 34.5 -0.9**
APG El Apazote 82.43 30 P **P 21 04 34.5 -0.9**
comp=Z,32nm,1.0s,baz=348,slow=6.6,SNR=25
TARA Tarawa 83.57 127 PFAKE 21 04 50.0 +9.1
TARA LR LR
comp=Z,13µm,20.0s
KAAM Kaadhehdhoo 83.75 227 P **P 21 04 42.0 +0.2**
BBGH Gun Hill 85.41 360 PFAKE 21 05 00.0 +10
BBGH LR LR
comp=Z,1µm,20.0s
GRGR Grenville 86.41 2 PFAKE 21 05 10.0 +15
GRGR LR LR
comp=Z,517nm,19.0s
KAPI Kappang 86.51 180 PFAKE 21 05 10.0 +14
KAPI LR LR
comp=Z,19µm,20.0s
XMAS Kiritimati 86.89 97 PFAKE 21 05 10.0 +12
XMAS LR LR
comp=Z,4µm,19.0s
JTS JuntasAbangare 87.47 25 PFAKE 21 05 10.0 +10
JTS LR LR
comp=Z,1µm,22.0s
DBIC Dimbokro 88.25 305 *e*P **P 21 05 04.5 +0.4**
comp=Z,63nm,0.9s
DBIC Dimbokro 88.25 305 P **P 21 05 03.9 -0.2**
comp=Z,44nm,0.9s,baz=343,slow=6.5,SNR=39
TIC Toumodi 88.30 306 *e*P **P 21 05 03.5 -0.9**
comp=Z,312nm,1.7s
KIC Kosan Boka 88.55 305 *e*P **P 21 05 04.9 -0.6**
comp=Z,217nm,1.1s
LIC Lamto 88.72 306 ⇓*i*P **P 21 05 06.0 -0.3**
comp=Z,163nm,1.0s
LIC *e*R
comp=Z,1µm,19.5s
LIC Lamto 88.72 306 *e*P **P 21 05 05.7 -0.6**
comp=Z,215nm,1.0s
LIC Lamto 88.72 306 ⇓*i*P **P 21 05 06.0 -0.3**
BCIP Isla Barro Col 88.87 20 PFAKE 21 05 20.0 +13
BCIP LR LR
comp=Z,818nm,21.0s
SDV Santo Domingo 89.50 11 *e*P **P 21 05 10.2 -0.1**
comp=Z,30nm,1.0s
KMBO Kilima Mbogo 90.05 263 P **P 21 05 13.7 +0.8**
SNR=5.6
KMBO Kilima Mbogo 90.05 263 *e*P **P 21 05 13.0 +0.1**
comp=Z,16nm,1.1s
KMBO LR LR
comp=Z,5µm,21.0s
KMBO Kilima Mbogo 90.05 263 P **P 21 05 12.6 -0.2**
comp=Z,7.7nm,0.9s,baz=18,slow=10,SNR=16
MMRI Maumere 90.11 178 *e*P **P 21 05 10.8 -2.0**
comp=Z,74nm,1.0s
MBAR Mbarara 90.49 269 P **P 21 05 14.2 -0.6**
comp=Z,64nm,1.1s,SNR=7.8
MSEY Mahe Island 90.97 244 PFAKE 21 05 30.0 +13
MSEY LR LR
comp=Z,7µm,21.0s
DGAR Diego Garcia 91.62 227 PFAKE 21 05 30.0 +10
DGAR LR LR
comp=Z,9µm,20.0s
ROSC El Rosal 93.38 14 *e*P **P 21 05 30.2 +1.8**
ROSC *e*pP pP 21 05 41.1 +7.6
ROSC El Rosal 93.38 14 P **P 21 05 29.5 +1.0**
comp=Z,23nm,0.9s,baz=101,slow=18,SNR=16
COCO West Island 94.31 203 PFAKE 21 05 40.0 +7.9
COCO LR LR
comp=Z,15µm,20.0s
OTAV Otavalo 97.80 19 *e*P Pdif 21 05 51.1 +2.4
comp=Z,8.7nm,1.0s
OTAV LR LR
comp=Z,3µm,19.0s
AFI Afiamalu 100.55 113 PFAKE 21 06 10.0 +10
AFI LR LR
comp=Z,101µm,21.0s
WRAB Tennant Creek 101.59 166 PFAKE 21 06 20.0 +15
WRAB LR LR
comp=Z,44µm,20.0s
WRA Warramunga Arr 101.60 166 P **Pdif 21 06 03.6 -1.2**
WRA PKKP **PKKPbc 21 22 11.5 +2.7**
WRA Warramunga Arr 101.60 166 P **Pdif 21 06 03.6 -1.2**
comp=Z,2.5nm,0.9s,baz=25,slow=5.3,SNR=15
WRA PKKP **PKKPbc 21 22 11.5 +2.7**
comp=Z,4.7nm,1.0s,baz=188,slow=2.6,SNR=13
CTAO Charters Tower 102.33 155 PFAKE 21 06 20.0 +12
CTAO LR LR
comp=Z,30µm,20.0s
MBWA Marble Bar 102.56 180 PFAKE 21 06 20.0 +11
MBWA LR LR
comp=Z,18µm,21.0s
MSVF Nonsavu 103.01 124 PFAKE 21 06 20.0 +8.8
MSVF LR LR
comp=Z,2664µm,21.0s
ASCN Ascension 103.75 313 PFAKE 21 06 30.0 +15
ASCN LR LR
comp=Z,2µm,20.0s
LSZ Lusaka 105.28 270 PFAKE 21 10 50.0
LSZ LR LR
comp=Z,2µm,21.0s
ASAR Alice Springs 105.29 167 Pdif **Pdif 21 06 19.2 -2.0**
ASAR PKiKP **PKiKP 21 10 34.2 -0.8**
ASAR PKKPbc **PKKPbc 21 21 56.9 -1.0**
ASAR PKKP **PKKPdf 21 22 09.4 +1.1**
ASAR Alice Springs 105.29 167 Pdiff **Pdif 21 06 19.2 -2.0**
comp=Z,1.0nm,0.9s,baz=355,slow=4.6,SNR=4.6
ASAR PKiKP **PKiKP 21 10 34.2 -0.8**
comp=Z,1.7nm,1.1s,baz=8.9,slow=1.5,SNR=5.4
ASAR PKKPbc **PKKPbc 21 21 56.9 -1.0**
comp=Z,1.8nm,0.8s,baz=185,slow=2.8,SNR=11
ASAR PKKP **PKKPdf 21 22 09.4 +1.1**
comp=Z,2.5nm,0.9s,baz=173,slow=2.8,SNR=9.7
ABPO Ambohimpanom 106.21 250 PFAKE 21 10 50.0
ABPO LR LR
comp=Z,6µm,21.0s
RER Riviere de l'E 107.17 242 PFAKE 21 10 50.0
RER LR LR
comp=Z,8µm,20.0s
SHEL Horse Pasture 110.68 303 PFAKE 21 11 00.0
SHEL LR LR
comp=Z,2µm,20.0s
NWAO Narrogin (SRO) 114.29 183 PFAKE 21 11 00.0 +8.4
NWAO LR LR
comp=Z,63µm,22.0s
RAO Raoul Island 114.87 122 PFAKE 21 11 10.0 +17
RAO LR LR
comp=Z,522µm,21.0s

LBTB	**Lobatse**	**115.23**	**270**	PKP	**PKPdf**	**21**	**10**	**52.0 -1.8**
LBTB	**Lobatse**	**115.23**	**270**	PKP	**PKPdf**	**21**	**10**	**52.0 -1.8**
	comp=Z,3.2nm,0.8s,baz=270,slow=20,SNR=4.0							
CAN	**Canberra**	**117.64**	**153**	PFAKE		21	11	10.0 +12
CAN				LR	LR			
	comp=Z,250μm,19.0s							
BOSA	**Boshof**	**118.82**	**270**	PKP	**PKPdf**	**21**	**10**	**59.4 -1.3**
BOSA	**Boshof**	**118.82**	**270**	PKP	**PKPdf**	**21**	**10**	**59.4 -1.3**
	comp=Z,6.1nm,0.9s,baz=34,slow=3.9,SNR=5.0							
LVC	**Limon Verde**	**120.84**	**10**	PFAKE		21	11	20.0 +15
LVC				LR	LR			
	comp=Z,5μm,20.0s							
SPB	**Sao Paulo**	**121.70**	**346**	PFAKE		21	11	20.0 +14
SPB				LR	LR			
	comp=Z,6μm,19.0s							
URZ	**Urewera**	**123.16**	**128**	*e*PKPdf	**PKPdf**	**21**	**11**	**06.6 -1.9**
SUR	**Sutherland**	**123.17**	**274**	PFAKE		21	11	20.0 +11
SUR				LR	LR			
	comp=Z,11μm,19.0s							
CPUP	**Villa Florida**	**124.64**	**357**	*e*PKPdf	**PKPdf**	**21**	**11**	**10.8 -0.9**
CPUP				PKP	**PKPdf**	**21**	**11**	**11.1 -0.6**
CPUP	**Villa Florida**	**124.64**	**357**	PKP	**PKPdf**	**21**	**11**	**11.1 -0.6**
	comp=Z,10nm,1.0s,baz=23,slow=3.3,SNR=10							
TAU	**Tasmania Unive**	**125.09**	**156**	PFAKE		21	11	20.0 +8.0
TAU				LR	LR			
	comp=Z,372μm,21.0s							
SNZO	**South Karori**	**125.89**	**131**	PFAKE		21	11	30.0 +16
SNZO				LR	LR			
	comp=Z,497μm,21.0s							
LCO	**Las Campanas**	**127.16**	**12**	*e*PKPdf	**PKPdf**	**21**	**11**	**16.3 -0.5**
LCO				LR	LR			
	comp=Z,5μm,21.0s							
CFAA	**Coronel Fontan**	**129.81**	**9**	PKP	**PKPdf**	**21**	**11**	**21.3 -0.2**
CFAA	**Coronel Fontan**	**129.81**	**9**	PKP	**PKPdf**	**21**	**11**	**21.3 -0.2**
	comp=Z,1.6nm,1.0s,baz=305,slow=3.8,SNR=12							
TRIS	**Tristan da Cun**	**132.30**	**307**	PFAKE		21	11	40.0 +14
TRIS				LR	LR			
	comp=Z,15μm,20.0s							
PAF	**Port-aux-Franc**	**133.32**	**223**	PFAKE		21	11	40.0 +13
PAF				LR	LR			
	comp=Z,50μm,22.0s							
TRQA	**Tornquist**	**136.33**	**2**	*e*PKPdf	**PKPdf**	**21**	**11**	**33.8 +0.2**
TRQA				LR	LR			
	comp=Z,7μm,20.0s							
PLCA	**Paso Flores**	**138.85**	**12**	PKPpre	PKPpre	21	11	29.7
PLCA				PKP	**PKPdf**	**21**	**11**	**38.0 -0.1**
PLCA	**Paso Flores**	**138.85**	**12**	PKhKP	PKPpre	21	11	29.7
	comp=Z,3.5nm,1.0s,baz=16,slow=6.5,SNR=3.7							
PLCA				PKP	**PKPdf**	**21**	**11**	**38.0 -0.1**
	comp=Z,16nm,1.1s,baz=259,slow=7.5,SNR=3.4							
CASY	**Casey**	**147.75**	**187**	*e*PKPdf	**PKPbc**	**21**	**11**	**55.9 +0.2**
CASY				LR	LR			
	comp=Z,126μm,20.0s							
EFI	**East Falkland**	**149.95**	**358**	PFAKE		21	12	10.0 +2.5
EFI				LR	LR			
	comp=Z,15μm,22.0s							
MAW	**Mawson**	**152.00**	**223**	PKP	**PKPdf**	**21**	**11**	**58.8 -0.7**
MAW				PKPbc	**PKPbc**	**21**	**12**	**06.0 0.0**
MAW				PKPab	**PKPab**	**21**	**12**	**14.2 -1.4**
MAW	**Mawson**	**152.00**	**223**	PKP	**PKPdf**	**21**	**11**	**58.8 -0.7**
	comp=Z,9.7nm,1.1s,baz=24,slow=2.6,SNR=9.2							
MAW				PKPbc	**PKPbc**	**21**	**12**	**06.0 0.0**
	comp=Z,50nm,0.9s,baz=353,slow=3.1,SNR=46							
MAW				PKPab	**PKPab**	**21**	**12**	**14.2 -1.4**
	comp=Z,51nm,1.0s,baz=12,slow=8.8,SNR=14							
USHA	**Ushuaia**	**153.00**	**11**	PKP	**PKPdf**	**21**	**12**	**03.1 +1.8**
USHA				PKPbc	**PKiKP**	**21**	**12**	**08.8 0.0**
USHA				PKPab	**PKPab**	**21**	**12**	**18.8 -1.4**
USHA	**Ushuaia**	**153.00**	**11**	PKP	**PKPdf**	**21**	**12**	**03.1 +1.8**
	comp=Z,7.6nm,0.9s,baz=312,slow=7.6,SNR=2.5							
USHA				PKPbc	**PKiKP**	**21**	**12**	**08.8 0.0**
	comp=Z,17nm,1.0s,baz=161,slow=20,SNR=3.9							
USHA				PKPab	**PKPab**	**21**	**12**	**18.8 -1.4**
	comp=Z,20nm,0.9s,baz=336,slow=5.6,SNR=5.5							
SYO	**Syowa Base**	**156.04**	**241**⇑	*e*P	**PKPdf**	**21**	**12**	**02.5 -2.6**
SYO	**Syowa Base**	**156.04**	**241**⇑	*e*P	**PKPdf**	**21**	**12**	**05.2 +0.1**
SYO	**Syowa Base**	**156.04**	**241**↓	*e*P	PKPdf	21	12	13.3 +8.2
VNDA	**Vanda**	**160.31**	**154**	PKP	**PKPdf**	**21**	**12**	**07.5 -2.7**
VNDA				*e*PKPdf	**PKPdf**	**21**	**12**	**07.6 -2.6**
VNDA				*e*PKPab	**PKPab**	**21**	**12**	**50.2 -1.0**
VNDA				PKPab	PKPab	21	12	50.3 -0.9
VNDA	**Vanda**	**160.31**	**154**	PKP	**PKPdf**	**21**	**12**	**07.5 -2.7**
	comp=Z,2.4nm,1.0s,baz=304,slow=4.8,SNR=6.6							
VNDA				PKPab	**PKPab**	**21**	**12**	**50.3 -0.9**
	comp=Z,7.6nm,1.1s,baz=318,slow=4.0,SNR=7.1							
SBA	**Scott Base**	**160.96**	**152**	*e*PKIKP	**PKPdf**	**21**	**12**	**08.8 -2.1**
SBA	**Scott Base**	**160.96**	**152**	*e*PKPdf	**PKPdf**	**21**	**12**	**08.8 -2.1**
SBA				*e*PKPab	**PKPab**	**21**	**12**	**54.4 +0.4**
SBA				LR	LR			
	comp=Z,174μm,21.0s							
PMSA	**Palmer Station**	**163.06**	**6**	PFAKE		21	12	20.0 +6.7
PMSA				LR	LR			
	comp=Z,57μm,20.0s							
VNA1	**Neumayer--Stat**	**164.35**	**284**	*e*P	**PKPab**	**21**	**13**	**10.0 +1.0**
VNA2	**Neumayer--Watz**	**164.48**	**283**	*e*P	**PKPab**	**21**	**13**	**10.1 +0.5**
SNAA	**Sanae**	**164.49**	**276**	*e*P	**PKPab**	**21**	**13**	**09.7 0.0**
SNAA	**Sanae**	**164.49**	**276**	PKP	**PKPdf**	**21**	**12**	**09.4 -5.1**
SNAA				*e*PKPab	**PKPab**	**21**	**13**	**09.8 0.0**
SNAA	**Sanae**	**164.49**	**276**	PKP	**PKPdf**	**21**	**12**	**09.4 -5.1**
	comp=Z,2.5nm,1.1s,baz=104,slow=1.3,SNR=13							
SNAA				PKPab	**PKPab**	**21**	**13**	**09.9 +0.2**
	comp=Z,11nm,1.0s,baz=45,slow=4.3,SNR=25							
QSPA	**South Pole Qui**	**171.46**	**180**	PKP	**PKPdf**	**21**	**12**	**14.6 -4.9**
QSPA				PKPab	**PKPab**	**21**	**13**	**39.2 -1.6**
QSPA				*e*PKPab	PKPab	21	13	39.3 -1.4
QSPA	**South Pole Qui**	**171.46**	**180**	PKP	**PKPdf**	**21**	**12**	**14.6 -4.9**
	comp=Z,7.1nm,1.0s,baz=238,slow=1.1,SNR=11							
QSPA				PKPab	**PKPab**	**21**	**13**	**39.2 -1.6**
	comp=Z,9.1nm,1.0s,baz=341,slow=2.7,SNR=7.3							

MEX 07 20:53:36.0±0.9, 17.37N×99.41W, h54km±10km, MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.58**	**340**	*e*P	Pn	20 53 47.1	-1.6
MEIG				*i* S	Sn	20 53 55.5	-2.3
ACX	**Acapulco**	**0.66**	**221**	*i* P	Pn	20 53 49.3	-0.2
ACX				*i* S	Sn	20 53 59.1	-0.2
ACP2	**Acapulco**	**0.68**	**223**	*i* P	Pn	20 53 48.4	-1.3
ACP2				*i* S	Sn	20 53 58.1	-1.4
CAIG	**El Cayaco**	**0.88**	**249**	*e*P	Pn	20 53 50.5	-1.8
CAIG				*i* S	Sn	20 54 01.9	-2.3
HMTT	**Tlapaneco**	**0.91**	**62**	*i* P	Pn	20 53 50.3	-2.5
HMTT				*e*S	Sn	20 54 02.9	-2.3
PLIG	**Platanillo**	**1.02**	**355**	*e*P	Pn	20 53 53.1	-1.1
PLIG				*i* S	Sn	20 54 05.7	-2.0
ARIG	**Puente Sto Nin**	**1.27**	**315**	*i* P	Pn	20 53 55.9	-1.6
ARIG				*i* S	Sn	20 54 11.3	-2.3
YAIG	**Yautepec**	**1.52**	**12**	*e*P	Pn	20 53 59.6	-1.4
YAIG				*i* S	Sn	20 54 18.4	-1.4
PNIG	**Pinotepa**	**1.57**	**128**	*e*P	Pn	20 54 00.8	-0.7
PNIG				*i* S	Sn	20 54 18.4	-2.4
MZVM		**1.81**	**5**	*e*P	Pn	20 54 04.5	-0.3
PPM	**Popocatepetl**	**1.84**	**24**	*e*P	Pn	20 54 04.7	-1.2
PPM				*i* S	Sn	20 54 29.0	+0.5
TOVM	**TOLUCA**	**1.92**	**352**	*e*P	Pn	20 54 05.8	-0.9
UNM	**Universidad Na**	**1.96**	**6**	*i* P	Pn	20 54 06.3	-0.9
ZIIG	**Zihuatanejo**	**1.98**	**277**	*i* P	Pn	20 54 05.1	-1.9
ZIIG				*i* S	Sn	20 54 31.8	+1.0
TPIG	**Tehuac#an**	**2.21**	**62**	*i* P	Pn	20 54 11.0	+0.6
IIO	**Organos**	**2.30**	**16**	*e*P	Pn	20 54 10.9	-1.0
VHO	**Vista Hermosa**	**2.57**	**96**	*e*P	Pn	20 54 16.4	+0.9
VHO				*i* S	Sn	20 54 45.7	-0.1
MOIG	**Morelia**	**2.85**	**324**	*e*P	Pn	20 54 18.6	-0.8
MOIG				*i* S	Sn	20 54 50.3	-2.3
DEIG	**Demacu**	**2.93**	**7**	*e*P	Pn	20 54 18.6	-1.9
HUIG	**Huatulco**	**3.54**	**116**	*i* S	Sn	20 55 05.0	-4.2
MMIG	**Aquila**	**3.86**	**284**	*e*P	Pn	20 54 31.0	-1.9
PCIG		**6.16**	**105**	*e*P	Pn	20 55 07.1	+2.7
PCIG				*i* S	Sn	20 56 12.3	-1.4

*ISCJB **07** 21:00:45.9±0.6, 47.5N±0.1×152.6E±0.1, h100km, mb3.7/10, Error ellipse: s-maj=21.1km s-min=5.6km az=139.9*
*MOS **07** 21:00:49.0±1.9, 47.86N×152.55E, h112km, mb4.0/5, Error ellipse: s-maj=27.7km s-min=14.2km az=61.3*
*IDC **07** 21:00:50.4±2.5, 47.58N×152.76E, h124km±22km, mb3.4/9, mb1 3.7/12, mb1mx3.5/27, mbtmp3.5/12, Error ellipse: s-maj=27.9km s-min=15.1km az=165.0*

ISC 07 21:00:47.7±0.8, 47.4N±0.2×152.8E±0.1, h100km, n38, σ1$57/24, mb3.7/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.95**	**33**	*e*PN	Pn	21 01 41.5	-4.5
SKR				*e*		21 02 22.5	
SKR				pmax	pmax		
	comp=Z,400nm,1.0s						
NEM2	**Nemuro 2**	**6.39**	**233**	P	Pn	21 02 17.3	-1.9
NEM2				*e*S	Sn	21 03 24.7	-6.0
PETK	**Petropavlovsk-**	**6.52**	**27**	PN	**Pn**	**21 02 22.6**	**+1.6**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**6.52**	**27**	P	**Pn**	**21 02 22.6**	**+1.6**
	comp=Z,1.4nm,0.3s,baz=185,slow=14,SNR=19						
PETK				S	Sn	21 03 45.2	+11
	baz=280,slow=19,SNR=2.1						
JNK	**Nakash**	**6.83**	**239**	P	**Pn**	**21 02 25.8**	**+0.6**
JAK	**Akkeshi**	**7.21**	**235**	P	Pn	21 02 28.7	-1.7
JAK				*e*S	Sn	21 03 45.2	-5.4
JAR	**Ashorobuto**	**7.56**	**240**	P	**Pn**	**21 02 35.6**	**+0.5**
JAR				*e*S	**Sn**	**21 03 58.4**	**-0.7**
JOB	**Onbets**	**7.76**	**238**	P	Pn	21 02 37.3	-0.5
ASAJ	**Asahikawa**	**7.84**	**249**	P	**Pn**	**21 02 41.9**	**+2.9**
ASAJ	**Asahikawa**	**7.84**	**249**	P	**Pn**	**21 02 41.9**	**+2.9**
	comp=Z,0.9nm,0.3s,baz=89,slow=11,SNR=9.2						
JKK2	**Kamakawa 2**	**7.87**	**247**	P	**Pn**	**21 02 41.4**	**+2.1**
JCH	**Churui**	**8.21**	**238**	P	Pn	21 02 42.7	-1.3
JCH				*e*S	Sn	21 04 09.0	-6.0
JEM	**Erimo**	**8.71**	**235**	P	Pn	21 02 49.7	-1.1
JNBK	**Urakawa-nobuka**	**8.77**	**238**	P	Pn	21 02 49.1	-2.5
JNB	**Noboribetsu**	**9.67**	**244**	P	**Pn**	**21 03 03.9**	**0.0**
JKB	**Kayabe**	**10.02**	**241**	P	Pn	21 03 06.8	-1.7
FX1	**Attu Island--F**	**14.15**	**60**	P	**Pn**	**21 04 04.1**	**+0.7**
	comp=Z,1.2nm,0.3s,baz=210,slow=8.1,SNR=2.7						
FX1				S	Sn	21 06 28.6	-11
	comp=Z,1.1nm,0.3s,baz=18,slow=20,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**29.91**	**153**	T	T	21 38 36.9	
	baz=343,slow=0.7,SNR=99						
H11N1	**WAKE ISLAND Hy**	**29.93**	**153**	T	T	21 38 29.9	
	baz=343,slow=0.7,SNR=89						
H11N3	**WAKE ISLAND Hy**	**29.93**	**153**	T	T	21 38 40.0	
	baz=343,slow=0.7,SNR=70						
H11S1	**WAKE ISLAND Hy**	**31.00**	**154**	T	T	21 39 51.9	
	baz=344,slow=0.7,SNR=113						
H11S3	**WAKE ISLAND Hy**	**31.01**	**154**	T	T	21 39 47.2	
	baz=344,slow=0.7,SNR=102						
H11S2	**WAKE ISLAND Hy**	**31.02**	**154**	T	T	21 39 48.1	
	baz=344,slow=0.7,SNR=102						
ILAR	**Eielson Array**	**36.18**	**39**	P	**P**	**21 07 39.4**	**-0.7**
	comp=Z,1.1nm,1.1s,baz=284,slow=4.5,SNR=3.5						
ZALV	**Zalesovo Beam**	**42.04**	**305**	PcP	**PcP**	**21 10 20.0**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=53,slow=5.6,SNR=2.5						
MKAR	**Makanchi Array**	**46.44**	**297**	PcP	**PcP**	**21 10 36.7**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=65,slow=2.0,SNR=5.0						
KURK	**Kurchatov**	**46.81**	**303**	P	**P**	**21 09 05.4**	**-1.6**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KURBB	**Kurchatov Arra**	**46.90**	**303**	P	P	21 09 05.4	-2.3
	comp=Z,0.6nm,0.9s,baz=58,slow=9.3,SNR=2.7						
CMAR	**Chiang Mai Arr**	**52.30**	**256**	P	**P**	**21 09 50.2**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=35,slow=8.1,SNR=3.2						
NVAR	**Mina Array Bea**	**62.33**	**62**	P	**P**	**21 10 59.5**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=295,slow=8.0,SNR=5.9						
FINES	**FINESS Array B**	**63.34**	**334**	P	**P**	**21 11 04.4**	**-1.3**
	comp=Z,4.1nm,0.8s,baz=64,slow=8.9,SNR=6.8						
NOA	**NORSAR Array B**	**67.53**	**341**	P	**P**	**21 11 31.9**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=30,slow=6.3,SNR=2.8						
AKASG	**Malin Array Be**	**70.87**	**326**	P	**P**	**21 11 52.4**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**70.87**	**326**	P	**P**	**21 11 52.4**	**-1.0**
	comp=Z,0.8nm,0.4s,baz=33,slow=6.2,SNR=4.5						
TXAR	**Lajitas Array**	**77.37**	**60**	P	**P**	**21 12 31.1**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=299,slow=4.2,SNR=9.1						
BRTR	**Keskin Array B**	**77.75**	**316**	P	**P**	**21 12 34.6**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=66,slow=3.6,SNR=2.7						
CFAA	**Coronel Fontan**	**145.09**	**78**	PKPbc	**PKPbc**	**21 20 11.2**	**-1.6**
	comp=Z,0.2nm,0.4s,baz=342,slow=3.2,SNR=4.2						
PLCA	**Paso Flores**	**148.49**	**94**	PKPbc	**PKPdf**	**21 20 21.1**	**+2.6**
	comp=Z,0.8nm,0.5s,baz=236,slow=3.5,SNR=2.7						

*IDC **07** 21:20:52.0±0.9, 40.84N×46.18E, h0km, mb3.7/8, mb1 3.8/10, mb1mx3.6/27, mbtmp3.6/10, ML3.1/1, Error ellipse: s-maj=13.2km s-min=10.6km az=130.0*
*MOS **07** 21:20:53.3±1.1, 40.76N×46.28E, h11km, mb4.5/5, Error ellipse: s-maj=10.2km s-min=5.2km az=95.7*
*NSSP **07** 21:20:53.5, 40.93N×46.07E, h10km, Ms3.7*
*AZER **07** 21:20:54.9±0.0, 40.85N×46.29E, h10km, Error ellipse: s-maj=2.7km s-min=0.9km az=268.0*
*ISCJB **07** 21:20:54.5±0.4, 40.93N±0.01×46.25E±0.02, h3km±3km, mb3.6/9, Error ellipse: s-maj=2.7km s-min=2.3km az=44.1*
*CSEM **07** 21:20:55.2±0.1, 40.89N×46.27E, h5km, ML3.7, Error ellipse: s-maj=3.8km s-min=3.1km az=134.0*
*NNC **07** 21:21:07.3±4.3, 42.65N×46.15E, h0km, mb3.5, Error ellipse: s-maj=136.7km s-min=33.8km az=135.0*

ISC 07 21:20:54.9±0.8, 40.91N±0.01×46.23E±0.01, h17km±6km, n137, σ1$38/204, mb3.6/9, 21C-36D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GANJ	**Ganja**	**0.27**	**165**	⇓P	**Pb**	**21 21 01.2**	**-0.2**
GANJ	SNR=3755			⇑S	**Sb**	**21 21 05.7**	**-0.1**
GANJ	**Ganja**	**0.27**	**165**	P	**Pb**	**21 21 01.2**	**-0.2**
GANJ	SNR=1000			S	**Sb**	**21 21 05.7**	**-0.1**
SEKA	**Sheki**	**0.79**	**67**	⇓P	**Pg**	**21 21 10.1**	**-0.3**
SEKA	SNR=161 **Sheki**	**0.79**	**67**	P	**Pg**	**21 21 10.1**	**-0.3**
	SNR=161						
VADZ	**Vardenis**	**0.82**	**207**	*e*P	**Pg**	**21 21 11.0**	**0.0**
VADZ				*e*S	**Sb**	**21 21 23.0**	**+1.2**
VADZ	**Vardenis**	**0.82**	**207**	P	**Pg**	**21 21 11.0**	**0.0**
VADZ				S	**Sb**	**21 21 23.0**	**+1.2**
DGRG	**David-gareji**	**0.84**	**310**	P	**Pg**	**21 21 11.7**	**+0.3**
DGRG				S	**Sn**	**21 21 25.1**	**+1.0**
BRDA	**Brd**	**0.97**	**131**	⇑P	**Pn**	**21 21 14.0**	**+0.2**
	SNR=41						
BRDA				⇑S	**Sn**	**21 21 29.8**	**+2.7**
BRDA	**Brd**	**0.97**	**131**	P	**Pn**	**21 21 14.0**	**+0.2**
	SNR=41						
STKZ		**1.17**	**160**	⇓*i*P	Pn	21 21 07.0	-10
STKZ				⇑*i*S	Sb	21 21 22.0	-10
AKT	**Akhty**	**1.27**	**63**	*i* PG	**Pn**	**21 21 18.0**	**0.0**
AKT				*i* S	**Sg**	**21 21 36.0**	**0.0**
AKT	**Akhty**	**1.27**	**63**	*i* Pg	**Pn**	**21 21 18.0**	**0.0**
AKT				*i* Sg	**Sg**	**21 21 36.0**	**0.0**
KAPZ	**Kaputan**	**1.30**	**244**	⇓*i*P	**Pg**	**21 21 19.9**	**-0.2**
KAPZ				⇓*i*S	**Sg**	**21 21 37.4**	**+0.2**
KAPZ	**Kaputan**	**1.30**	**244**	⇓P	**Pg**	**21 21 19.9**	**-0.2**
KAPZ				S	**Sg**	**21 21 37.4**	**+0.2**
GNI	**Garni**	**1.36**	**237**	*e*PN	**Pb**	**21 21 20.3**	**+0.1**
GNI				*e*SN	**Sb**	**21 21 38.0**	**+0.6**
GNI	**Garni**	**1.36**	**237**	*i* P	**Pb**	**21 21 20.2**	**+0.1**
GNI				*i* S	**Sb**	**21 21 38.2**	**+0.9**
GNI	**Garni**	**1.36**	**237**	P	**Pb**	**21 21 20.2**	**+0.1**
GNI				Sg	**Sb**	**21 21 37.9**	**+0.6**
	369nm,0.3s						
GNI				S	**Sb**	**21 21 38.2**	**+0.9**
GNI	**Garni**	**1.36**	**237**	Pn	**Pb**	**21 21 20.1**	**+0.1**
	136nm,0.3s,baz=16,slow=1.1,SNR=746						
GNI				Sn	**Sb**	**21 21 37.9**	**+0.6**
	369nm,0.3s,baz=318,slow=18,SNR=27						
STEZ	**Stepenevan**	**1.39**	**274**	⇓*i*P	**Pn**	**21 21 18.4**	**-1.3**
STEZ				⇓*i*S	**Sn**	**21 21 36.4**	**-1.3**
TBLG	**Delisi**	**1.39**	**307**	P	**Pn**	**21 21 19.3**	**-0.3**
TBLG				S	**Sn**	**21 21 38.0**	**+0.3**
GRS	**Goris**	**1.41**	**177**	⇑*i*P	**Pn**	**21 21 19.0**	**-1.0**
GRS				⇓*i*S	**Sn**	**21 21 38.0**	**-0.2**
GRS	**Goris**	**1.41**	**177**	⇑P	**Pn**	**21 21 19.0**	**-1.0**
GRS				S	**Sn**	**21 21 38.0**	**-0.2**
STE	**Stepanavan**	**1.41**	**274**	⇓P	**Pn**	**21 21 18.4**	**-1.6**
STE				S	**Sn**	**21 21 36.4**	**-1.9**
IML	**Ismayilli**	**1.49**	**94**	P	**Pn**	**21 21 21.5**	**+0.6**
	SNR=34						
IML				⇓S	**Sg**	**21 21 42.5**	**-0.4**
IML	**Ismayilli**	**1.49**	**94**	P	**Pn**	**21 21 21.5**	**+0.6**
	SNR=34						
IML				S	**Sg**	**21 21 42.5**	**-0.4**
ERE	**Yerevan**	**1.53**	**242**	*e*P	Pn	21 21 17.5	-4.1
ERE				*e*S	**Sn**	**21 21 38.0**	**-3.1**
ARRZ	**Ararat**	**1.57**	**229**	*e*P	**Pn**	**21 21 20.0**	**-2.2**
GNBR	**Gunib**	**1.58**	**20**⇑	*i*PN	**Pb**	**21 21 23.6**	**-0.1**
GNBR				*i* S	**Sg**	**21 21 45.4**	**-0.5**
GNBR	**Gunib**	**1.58**	**20**	*i* Pn	**Pb**	**21 21 23.6**	**-0.1**
GNBR				*i* Sg	**Sg**	**21 21 45.4**	**-0.5**
AMBZ	**Amberd**	**1.59**	**252**⇓	*i*P	**Pb**	**21 21 24.9**	**+0.9**
AMBZ				⇓*i*S	**Sg**	**21 21 46.2**	**0.0**
AMBZ	**Amberd**	**1.59**	**252**	⇓P	**Pb**	**21 21 24.9**	**+0.9**
AMBZ				S	**Sg**	**21 21 46.2**	**0.0**
PAAR	**P'arak'ar**	**1.60**	**242**⇓	*i*P	**Pb**	**21 21 24.8**	**+0.7**
PAAR				⇑*i*S	**Sb**	**21 21 45.3**	**+1.3**
PAAR	**P'arak'ar**	**1.60**	**242**	⇓P	**Pb**	**21 21 24.8**	**+0.7**
PAAR				S	**Sb**	**21 21 45.3**	**+1.3**
XNZR	**Khunzakh**	**1.67**	**12**	*e*PN	**Pb**	**21 21 25.1**	**-0.3**
XNZR				pmax	pmax		
	comp=Z,345nm,0.4s						
XNZR	**Khunzakh**	**1.67**	**12**	*e*Pn	**Pb**	**21 21 25.1**	**-0.3**
	comp=Z,345nm,0.4s						
ARUZ	**Aruch**	**1.74**	**250**⇓	*i*P	**Pg**	**21 21 28.9**	**+0.4**
ARUZ				⇓*i*S	**Sg**	**21 21 50.6**	**-0.6**
ARUZ	**Aruch**	**1.74**	**250**	⇓P	**Pg**	**21 21 28.9**	**+0.4**
ARUZ				S	**Sg**	**21 21 50.6**	**-0.6**
BTLR	**Botlikh**	**1.75**	**360**⇑	*i*PN	**Pb**	**21 21 27.0**	**+0.3**
BTLR				pmax	pmax		
	comp=Z,420nm,0.4s						
BTLR	**Botlikh**	**1.75**	**360**	*i* Pn	**Pb**	**21 21 27.0**	**+0.3**
	comp=Z,420nm,0.4s						
QUBA	**Quba, Azerbaij**	**1.77**	**75**⇑	Pn	**Pb**	**21 21 27.6**	**+0.6**
	SNR=18						
QUBA				⇓S	**Sb**	**21 21 49.9**	**+1.1**
QUBA	**Quba, Azerbaij**	**1.77**	**75**	Pn	**Pb**	**21 21 27.5**	**+0.6**
	SNR=18						
QUBA				S	**Sb**	**21 21 49.9**	**+1.1**
VRNZ	**Vardanashen**	**1.77**	**242**⇑	*i*P	**Pg**	**21 21 28.5**	**-0.6**
VRNZ				⇓*i*S	**Sg**	**21 21 52.6**	**+0.5**
VRNZ	**Vardanashen**	**1.77**	**242**	⇑P	**Pg**	**21 21 28.5**	**-0.6**
VRNZ				S	**Sg**	**21 21 52.6**	**+0.5**
ARKR	**Arakani**	**1.79**	**18**⇓	*i*PN	**Pb**	**21 21 27.5**	**+0.2**
ARKR				pmax	pmax		
	comp=Z,255nm,0.4s						
ARKR	**Arakani**	**1.79**	**18**	*i* Pn	**Pb**	**21 21 27.5**	**+0.2**
	comp=Z,255nm,0.4s						
PQL	**Pirkuli**	**1.80**	**93**	⇓Pn	**Pn**	**21 21 26.3**	**+1.0**
	SNR=57						
PQL				⇓S	**Sb**	**21 21 50.6**	**+0.8**
PQL	**Pirkuli**	**1.80**	**93**	Pn	**Pn**	**21 21 26.3**	**+1.0**
	SNR=57						
PQL				S	**Sb**	**21 21 50.6**	**+0.8**
NAX	**Nakhchivan**	**1.82**	**198**	⇓Pn	**Pb**	**21 21 28.1**	**+0.2**
	SNR=19						
NAX				⇑S	**Sg**	**21 21 54.5**	**+0.9**
NAX	**Nakhchivan**	**1.82**	**198**	Pn	**Pb**	**21 21 28.1**	**+0.2**
	SNR=19						
SGKR	**Sergokala**	**1.88**	**34**	*i* PN	**Pb**	**21 21 30.0**	**+1.1**
SGKR				*i* S	**Sg**	**21 21 56.0**	**+0.4**
SGKR	**Sergokala**	**1.88**	**34**	*i* Pn	**Pb**	**21 21 30.0**	**+1.1**
SGKR				*i* Sg	**Sg**	**21 21 56.0**	**+0.4**
AKSZ	**Araks**	**1.92**	**249**⇓	*i*P	**Pb**	**21 21 30.9**	**+1.2**
AKSZ				⇓*i*S	**Sg**	**21 21 56.2**	**-0.7**
AKSZ	**Araks**	**1.92**	**249**	⇓P	**Pb**	**21 21

KBZ	**Khabaz**	**3.75**	**320**	PN	**Pn**	**21 21 54.9**	**+3.0**
KBZ						21 22 02.6	
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KBZ	**Khabaz**	**3.75**	**320**	Pn	**Pn**	**21 21 54.9**	**+3.0**
	comp=Z,1.0nm,0.3s						
KBZ	**Khabaz**	**3.75**	**320**	Pb	**Pb**	**21 22 02.6**	**+2.0**
KBZ	**Khabaz**	**3.75**	**320**	Pn	**Pn**	**21 21 54.9**	**+3.0**
	comp=Z,0.5nm,0.3s,baz=171,slow=5.3,SNR=8.4						
KBZ				Pg	**Pb**	**21 22 02.6**	**+2.0**
	comp=Z,1.6nm,0.3s,baz=205,slow=4.6,SNR=26						
KBZ				Lg	Lg	21 22 49.6	
	comp=Z,3.3nm,0.3s,baz=148,slow=22,SNR=5.0						
EZM	**Erzurum**	**3.85**	**256**	*e*PN	**Pn**	**21 21 53.8**	**+0.2**
KIV	**Kislovodsk**	**4.02**	**320**	*e*PN	**Pb**	**21 22 06.6**	**+1.3**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KOPT	**Kop Dagi**	**4.46**	**260**	*i* P	**Pb**	**21 22 14.7**	**+1.7**
SIRT	**Sirnak**	**4.50**	**222**	*e*PN	**Pn**	**21 22 04.8**	**+2.4**
SIRT	**Sirnak**	**4.50**	**222**	*e*Pn	**Pn**	**21 22 04.8**	**+2.4**
GOF	**Gofitskoye**	**4.76**	**332**	*e*PG	Pg	21 22 32.2	+6.1
GOF				*e*S	Sg	21 23 22.1	-5.6
GOF				pmax	pmax		
	comp=Z,20nm,0.7s						
GOF				smax	smax		
	comp=N,70nm,1.5s						
GOF				smax	smax		
	comp=E,50nm,1.2s						
PTK	**Pertek**	**5.63**	**251**	*e*PN	**Pn**	**21 22 19.6**	**+1.6**
PTK	**Pertek**	**5.63**	**251**	*e*Pn	**Pn**	**21 22 19.6**	**+1.6**
BRTR	**Keskin Array B**	**9.69**	**267**	Pn	Pn	21 23 17.4	+3.7
	comp=E,0.1nm,0.3s,baz=75,slow=14,SNR=2.5						
AB31	**Akbulak array**	**12.78**	**45**	Pn	**Pn**	**21 23 54.0**	**-1.7**
	comp=E,0.4nm,0.4s,baz=238,slow=13,SNR=15						
AB31				⇑Sn	Sn	21 26 10.4	-7.0
	comp=E,5.5nm,0.5s,baz=241,slow=26						
AB31	**Akbulak array**	**12.78**	**45**	Pn	**Pn**	**21 23 54.0**	**-1.7**
	comp=E,0.4nm,0.4s,SNR=15						
AB31				Sn	Sn	21 26 10.4	-7.0
	comp=E,5.5nm,0.5s						
AKASG	**Malin Array Be**	**15.35**	**315**	P	**Pn**	**21 24 28.1**	**-2.5**
AKASG	**Malin Array Be**	**15.35**	**315**	Pn	**Pn**	**21 24 28.1**	**-2.5**
	baz=121,slow=12,SNR=2.3						
VOSK	**Vostochnaya**	**20.54**	**47**	⇑Pn	Pn	21 25 34.6	0.0
	comp=E,2.0nm,0.7s						
VOSK				⇓Sn	**S**	**21 29 15.1**	**-6.3**
	comp=E,0.9nm,0.8s						
AAK	**Ala-Archa**	**21.12**	**76**	P	**P**	**21 25 39.0**	**+0.1**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AAK	**Ala-Archa**	**21.12**	**76**	P	**P**	**21 25 39.0**	**+0.1**
	comp=Z,2.0nm,0.6s						
AAK	**Ala-Archa**	**21.12**	**76**	P	**P**	**21 25 39.0**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=238,slow=7.7,SNR=4.2						
FINES	**FINESS Array B**	**23.94**	**336**	P	**P**	**21 26 07.0**	**-0.8**
	comp=Z,6.9nm,1.1s,baz=140,slow=9.9,SNR=6.0						
GERES	**GERESS Array B**	**24.23**	**300**	P	**P**	**21 26 09.8**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=111,slow=10,SNR=8.1						
KURBB	**Kurchatov Arra**	**24.36**	**56**	P	**P**	**21 26 12.5**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=264,slow=9.5,SNR=11						
KURK	**Kurchatov**	**24.44**	**55**	⇓P	P	21 26 19.4	+6.8
	comp=Z,1.4nm,0.8s						
KURK	**Kurchatov**	**24.44**	**55**	P	**P**	**21 26 12.5**	**-0.1**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**26.50**	**65**	P	**P**	**21 26 31.2**	**-0.2**
MKAR	**Makanchi Array**	**26.50**	**65**	P	**P**	**21 26 31.2**	**-0.2**
MKAR	**Makanchi Array**	**26.50**	**65**	P	**P**	**21 26 31.2**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=265,slow=9.7,SNR=3.9						
HFS	**Hagfors**	**27.80**	**325**	P	**P**	**21 26 42.1**	**-0.7**
	comp=Z,5.3nm,1.0s,baz=121,slow=14,SNR=3.5						
NOA	**NORSAR Array B**	**29.31**	**325**	P	**P**	**21 26 55.2**	**-1.2**
	comp=Z,1.4nm,0.7s,baz=124,slow=8.9,SNR=3.6						
TORD	**Torodi Ar. Bea**	**47.64**	**248**	P	**P**	**21 29 29.6**	**-0.8**
	comp=Z,0.8nm,1.2s,baz=35,slow=5.2,SNR=5.2						

MEX 07 21:25:28.6±1.0, **18°21N**×**103°27W, h5**km, **MD3.9, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.10**	**320**	*e*P	Pg	21 25 29.6	-1.3
MMIG				*i* S	Sg	21 25 32.6	+0.3
ZIIG	**Zihuatanejo**	**1.82**	**109**	*e*P	Pn	21 25 57.1	-3.5
ZIIG				*i* S	Sn	21 26 19.6	-4.5
CJM	**Chamela**	**2.11**	**308**	*i* P	Pn	21 26 02.3	-2.3
CJM				*i* S	Sn	21 26 27.1	-4.2
SFJM	**Santa Fe**	**2.28**	**6**	*i* P	Pn	21 26 03.2	-4.0
SFJM				*i* S	Sn	21 26 32.4	-3.4
MOIG	**Morelia**	**2.46**	**53**	*i* P	Pn	21 26 06.0	-3.6
MOIG				*i* S	Sn	21 26 37.0	-3.3
ARIG	**Puente Sto Nin**	**2.78**	**88**	*i* P	Pn	21 26 10.8	-3.0
ARIG				*i* S	Sn	21 26 43.9	-4.1
ANIG	**Ahuacatlan**	**3.06**	**338**	*i* P	Pn	21 26 14.7	-3.2
ANIG				*i* S	Sn	21 26 51.4	-3.7
IGlG	**Irapuato, Guan**	**3.13**	**36**	*i* P	Pn	21 26 21.0	+2.1
ACX	**Acapulco**	**3.52**	**112**	*i* P	Pn	21 26 23.7	-0.3
ZAIG	**Zacatecas**	**4.59**	**8**	*e*P	Pb	21 26 46.2	-3.8

IDC 07 21:26:37.7±35.0, **2°05N**×**17°12W, h0**km, **mb3.6/2, mb1 3.9/3, mb1mx3.5/27, mbtmp3.8/3, ML3.8/1, Error ellipse: s-maj=715.9km s-min=67.4km az=10.0, Off south coast of northwest Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR 10.16**	**165**		T	T	21 37 29.9	
	baz=339,slow=0.7,SNR=27						
H10N3	**ASCENSION HYDR 10.16**	**165**		T	T	21 37 30.6	
	baz=339,slow=0.7,SNR=26						
H10N1	**ASCENSION HYDR 10.18**	**165**		T	T	21 37 30.4	
	baz=339,slow=0.7,SNR=38						
H10S1	**ASCENSION HYDR 11.19**	**167**		T	T	21 38 46.8	
	baz=342,slow=0.7,SNR=22						
H10S3	**ASCENSION HYDR 11.20**	**167**		T	T	21 38 44.8	
	baz=342,slow=0.7,SNR=28						
H10S2	**ASCENSION HYDR 11.21**	**167**		T	T	21 38 47.9	
	baz=342,slow=0.7,SNR=19						
DBIC	**Dimbokro**	**13.06**	**69**	Pn	Pn	21 29 45.5	+1.0
	0.5nm,0.3s,baz=230,slow=13,SNR=8.6						
DBIC				Sn	Sn	21 32 11.8	+1.0
	0.4nm,0.3s,baz=119,slow=12,SNR=3.4						
TORD	**Torodi Ar. Bea**	**21.64**	**58**	P	P	21 31 29.4	-0.5
	2.6nm,0.7s,baz=242,slow=9.6,SNR=13						
GERES	**GERESS Array B**	**53.59**	**25**	P	P	21 36 00.7	0.0
	0.3nm,0.6s,baz=226,slow=8.1,SNR=3.6						

*ISCJB **07** 21:32:56.0±0.8, 37°40N±0°04×143°04E±0°06, h24km, mb3.8/6, Error ellipse: s-maj=7.2km s-min=5.0km az=17.2*
*JMA **07** 21:32:56.4±0.1, 37°41N×143°09E, h45km, M3.8*
*IDC **07** 21:32:58.7±3.9, 37°55N×143°62E, h43km±37km, mb3.6/6, mb1 3.7/8, mb1mx3.5/26, mbtmp3.7/8, ML3.9/1, Error ellipse: s-maj=54.8km s-min=25.3km az=76.0*

ISC 07 21:32:58.2±1.1, **37.47N**±0°05×**142°93E**±0°08, **h24**km, **n21,** σ1§**30**/31, **mb3.8/6, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.59**	**309**	P	**Pn**	**21 33 24.9**	**+0.1**
JIO				S	**Sb**	**21 33 45.7**	**-0.9**
JFK	**Kawauchi**	**1.64**	**267**	P	**Pn**	**21 33 25.3**	**-0.3**
JFK				S	**Sb**	**21 33 46.8**	**-1.2**
ONAJ	**Iwakimizuishiy**	**1.74**	**259**	S	**Sb**	**21 33 48.9**	**-2.0**
JMM	**Marumori**	**1.74**	**284**	P	**Pn**	**21 33 26.7**	**-0.2**
JMM				S	**Sb**	**21 33 49.5**	**-1.4**
JMK	**Ichinoseki**	**2.00**	**318**	P	**Pn**	**21 33 30.3**	**-0.2**
JMK				S	**Sb**	**21 33 55.8**	**-2.6**
JFT	**Otama**	**2.07**	**272**	P	**Pn**	**21 33 32.1**	**+0.7**
JFT				*e*S	**Sb**	**21 33 58.1**	**-2.1**
JOM	**Ohasama**	**2.38**	**328**	P	**Pn**	**21 33 35.7**	**0.0**
JOM				S	**Sn**	**21 34 05.5**	**+1.4**
JYK	**Kaneyama**	**2.49**	**306**	P	**Pn**	**21 33 37.9**	**+0.7**
JAG	**Ashikaga**	**2.98**	**251**	P	**Pn**	**21 33 44.3**	**+0.4**
JAG				S	**Sn**	**21 34 19.5**	**+0.7**
JANG	**Nango**	**3.10**	**340**	S	**Sn**	**21 34 21.7**	**-0.3**
BSO1	**Boso 1**	**3.22**	**210**	P	**Pn**	**21 33 45.7**	**-1.1**
BSO1				*e*S	**Sn**	**21 34 22.8**	**-1.3**
JRY	**Ryogami san**	**3.55**	**247**	P	**Pn**	**21 33 51.9**	**+0.2**
JRY				S	**Sn**	**21 34 32.4**	**-0.5**
MAT	**Matsushiro**	**3.89**	**258**	P	**Pn**	**21 33 59.1**	**+2.6**
MAT				*e*S	**Sn**	**21 34 41.3**	**-0.2**
ASAJ	**Asahikawa**	**6.65**	**358**	P	**Pn**	**21 34 34.1**	**-0.2**
	2.4nm,0.3s,baz=231,slow=12,SNR=20						
ASAJ				S	**Sn**	**21 35 46.8**	**-2.4**
	1.1nm,0.3s,baz=221,slow=19,SNR=3.4						
USRK	**Ussuriysk Arra**	**10.67**	**312**	P	Pn	21 35 34.5	+5.1
	0.2nm,0.3s,baz=121,slow=11,SNR=6.3						
SONM	**Songino Array**	**28.56**	**303**	P	**P**	**21 38 53.8**	**+1.7**
	1.7nm,0.8s,baz=102,slow=8.4,SNR=14						
ZALV	**Zalesovo Beam**	**42.52**	**312**	P	**P**	**21 40 52.6**	**+1.2**
	0.4nm,0.3s,baz=90,slow=7.4,SNR=6.2						
MKAR	**Makanchi Array**	**44.92**	**302**	P	**P**	**21 41 12.1**	**+1.2**
	1.0nm,0.7s,baz=84,slow=9.6,SNR=8.3						
KURBB	**Kurchatov Arra**	**46.69**	**308**	P	**P**	**21 41 25.6**	**+0.8**
	1.6nm,0.5s,baz=82,slow=8.7,SNR=17						
WRA	**Warramunga Arr**	**57.67**	**190**	P	**P**	**21 42 45.5**	**-1.1**
	1.1nm,0.7s,baz=9.2,slow=7.2,SNR=6.5						
AKASG	**Malin Array Be**	**74.69**	**323**	P	**P**	**21 44 35.9**	**+0.3**
	0.4nm,0.5s,baz=38,slow=5.5,SNR=4.7						

RSPR 07 21:37:01.9, **18°41N**×**68°82W, h173**km±3km, **MD4.0/8, 6C-10D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**0.65**	**305**	⇑*i*P	Pn	21 37 26.3	-0.3
DR12				*e*S	Sn	21 37 44.8	-0.9
IMO	**Isla Mona**	**0.92**	**109**	⇑*e*P	Pn	21 37 28.8	+0.5
IDE	**Isla Desecheo**	**1.28**	**91**	⇓*e*P	Pn	21 37 32.0	+0.7
IDE	**Isla Desecheo**	**1.28**	**91**	*e*S	Sn	21 37 54.6	+0.7
AGPR	**Aguadilla, PR**	**1.63**	**88**	⇓*e*P	Pn	21 37 35.4	+0.9
AGPR	**Aguadilla, PR**	**1.63**	**88**	*e*S	Sn	21 38 01.1	+1.4
LSP	**Las Mesas**	**1.67**	**98**	⇓*e*P	Pn	21 37 35.9	+0.9
CRPR	**Cabo Rojo, PR**	**1.68**	**104**	⇓*e*P	Pn	21 37 35.0	0.0
CRPR	**Cabo Rojo, PR**	**1.68**	**104**	*e*S	Sn	21 38 01.1	+0.4
LRS	**Lares**	**1.88**	**93**	⇑*e*P	Pn	21 37 37.8	+0.5
LRS				*e*S	Sn	21 38 05.8	+1.2
GBPR	**Guanica, Bosqu**	**1.90**	**103**	⇑*e*P	Pn	21 37 38.1	+0.8
GBPR	**Guanica, Bosqu**	**1.90**	**103**	*e*S	Sn	21 38 04.7	-0.1
AOPR	**Arecibo Observ**	**1.97**	**92**	⇑*e*P	Pn	21 37 37.9	-0.2
AOPR	**Arecibo Observ**	**1.97**	**92**	*e*S	Sn	21 38 05.8	-0.4
OBIP	**Obispado Ponce**	**2.14**	**100**	⇑*e*P	Pn	21 37 40.0	0.0
OBIP	**Obispado Ponce**	**2.14**	**100**	*e*S	Sn	21 38 08.8	-0.8
CELP	**Cerrillos**	**2.16**	**99**	⇓*e*P	Pn	21 37 40.4	+0.2
CELP				*e*S	Sn	21 38 10.6	+0.7
SDDR	**Presa de Saban**	**2.40**	**284**	⇓*e*P	Pn	21 37 44.9	+1.8
SDDR	**Presa de Saban**	**2.40**	**284**	*e*S	Sn	21 38 15.6	+0.5
SJG	**San Juan**	**2.56**	**96**	⇓*e*P	Pn	21 37 45.7	+0.9
CBYP	**Canovanas**	**2.82**	**92**	⇓*e*P	Pn	21 37 47.1	-1.0
CBYP	**Canovanas**	**2.82**	**92**	*e*S	Sn	21 38 22.5	-1.5
MTP	**Monte Pirata**	**3.12**	**95**	⇓*e*P	Pn	21 37 51.9	+0.2
STVI	**Saint Thomas**	**3.67**	**90**	⇓*e*P	Pn	21 37 58.4	-0.2
GRTK	**Grand Turk**	**3.77**	**325**	⇑*e*P	Pn	21 37 59.0	-0.8

*MOS **07** 21:41:12.9±0.9, 4°06N×122°55E, h577km, mb6.5/73, Error ellipse: s-maj=8.2km s-min=4.9km az=119.5*
*BJI **07** 21:41:13.7, 4°10N×122°50E, h574km, mB6.5/51, mb6.5/70*
*NEIC **07** 21:41:13.3±0.1, 4°08N×122°37E, mb6.3/113, ME6.0, MW6.7, MW6.8, MW6.7(USGS), Error ellipse: s-maj=4.8km s-min=3.6km az=61.0, Moment Tensor Solution. s76 Moment tensor: Scale 10¹⁹Nm; Mrr=0.52; Mθθ=0.02; Mφφ=0.54; Mrθ=0.50; Mθφ=0.10; Mφr=1.41; Best double couple: M₀1.60000×10¹⁹ NP1:φ₁9.19000°, δ80.00000°, λ=87.00000°. NP2:φ₂181.00000°, δ10.00000°, λ=108.00000°. Principal axes: T 1.6000, Plg35.0000°, Azm106.0000°; N -0.0200, Plg3.0000°, Azm198.0000°; P -1.5800, Plg54.0000°, Azm292.0000°; Broadband fault plane solution: P waves. NP1:φ₁73.00000°, δ11.00000°, λ=116.00000°. NP2:φ₂20.00000°, δ80.00000°, λ=85.00000°. Principal axes: T Plg35.0000°, Azm106.0000°; N Plg0.0000°, Azm0.0000°; P Plg55.0000°, Azm296.0000°; Depth from broadband displacement seismograms. Energy computed from BB mechanism.*
*IDC **07** 21:41:14.9±0.4, 4°06N×122°57E, h588km±3km, mb5.6/40, mb1 5.6/41, mb1mx5.6/41, mbtmp6.5/41 Error ellipse: s-maj=7.0km s-min=4.1km az=66.0*
*ISCJB **07** 21:41:14.5±0.1, 4°07N±0°01×122°60E±0°02, h603km±1km, mb6.3/262, Error ellipse: s-maj=2.8km s-min=2.2km az=176.7*
*AUST **07** 21:41:14.9±0.4, 3°89N×122°54E, h588km±6km, Error ellipse: s-maj=11.8km s-min=5.1km az=34.0*
*DJA **07** 21:41:14.5±0.2, 4°N±2°×12°3E±°, h579km±2km, M6.3/96, mb6.4/96, mB6.5/96, MLv7.2/15, Mw(mB)6.2/96, Mwp6.3/37*
*BKK **07** 21:41:15.0±0.2, 4°N±3°×12°3E±°, h585km±3km, M6.5/67, mb6.5/67, mB6.6/60, MLv7.3/6, Mw(mB)6.4/60, Mwp6.6/21*
*GCMT **07** 21:41:19.7±0.1, 4.11N×122.51E, h580km±1km, MW6.8, Moment Tensor Solution. s122,c274; s50,c87; Moment tensor: Scale 10¹⁹Nm; Mrr=0.63±.01; Mθθ=0.07±.02; Mφφ=0.55±.02; Mrθ=-0.64±.02; Mθφ=0.06±.02; Mφr=1.56±.02; Best double couple: M₀1.80000×10¹⁹ NP1:φ₁21.00000°, δ81.00000°, λ=-86.00000°. NP2:φ₂179.00000°, δ10.00000°, λ=-112.00000°. Principal axes: T 1.7400, Plg35.0000°, Azm108.0000°; N 0.1000, Plg4.0000°, Azm201.0000°; P -1.8300, Plg54.0000°, Azm296.0000°; Data Used: II IU CN G IC. LP body wave period 50 sec.*
*NEIC **07** 21:41:29.4±0.0, 3.77N×122.66E, h597km, Moment Tensor Solution. s130 Moment tensor: Scale 10¹⁹Nm; Mrr=0.66; Mθθ=0.11; Mφφ=0.55; Mrθ=-0.47; Mθφ=0.16; Mφr=-1.56; Best double couple: M₀1.80000×10¹⁹ NP1:φ₁198.00000°, δ11.00000°, λ=-88.00000°. NP2:φ₂17.00000°, δ79.00000°, λ=-89.00000°. Principal axes: T 1.7200, Plg34.0000°, Azm107.0000°; N 0.0600, Plg0.0000°, Azm16.0000°; P -1.7800, Plg55.0000°, Azm286.0000°;*

ISC 07 21:41:14.6±0.2, **4°09N**±0°02×**122°54E**±0°03, **h587**km±1km, **h588**km:**pP-P, n2096,** σ1§**57**/2637, **mb6.4**/252, **291C-348D, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZMPH	**Zamboanga City**	**2.89**	**351**	⇑*i*P	**P**	**21 42 33.2**	**+1.2**
ZMPH				*i* S	**S**	**21 43 39.5**	**+4.5**
SGSI	**Sangihe**	**3.01**	**98**	P	**P**	**21 42 31.6**	**-1.1**
SGSI				S	**S**	**21 43 36.7**	**+0.4**
GSPH	**General Santos**	**3.12**	**50**	⇑*e*P	**P**	**21 42 34.7**	**+1.2**
GSPH				*e*S	S	21 43 45.7	+8.0
TOLI	**Toli-Toli**	**3.42**	**211**	P	**P**	**21 42 35.1**	**-0.2**
TOLI				S	**S**	**21 43 42.1**	**+1.2**
CTBH	**Cotabato--PC H**	**3.55**	**29**	⇑*i*P	**P**	**21 42 36.7**	**+0.7**
MRSI	**Marisa**	**3.63**	**189**	P	**P**	**21 42 36.6**	**0.0**
MRSI				S	**S**	**21 43 43.4**	**0.0**
IPIL	**Ipil**	**3.68**	**1**	⇑*e*P	**P**	**21 42 39.0**	**+2.1**
KMSI	**Cibinong**	**3.77**	**158**	P	**P**	**21 42 37.4**	**-0.2**
KMSI				S	**S**	**21 43 45.7**	**+0.6**
PAGZ	**Pagadian**	**3.83**	**13**	*e*P	**P**	**21 42 39.4**	**+1.5**
KCP	**Kidapawan**	**3.86**	**41**	⇑*i*P	**P**	**21 42 39.2**	**+1.0**
KCP				*i* S	**S**	**21 43 52.0**	**+5.8**
MYLDM	**Lahad Datu**	**4.17**	**285**	P	P	21 42 44.1	+3.9
MYLDM	**Lahad Datu**	**4.17**	**285**	P	**P**	**21 42 43.1**	**+2.8**
DAV	**Davao City (W)**	**4.24**	**45**	⇓*e*P	**P**	**21 42 40.9**	**+0.1**
DAV	**Davao City (W)**	**4.24**	**45**	⇑P	**P**	**21 43 52.1**	**+1.1**
DAV	**Davao City (W)**	**4.24**	**45**	P	**P**	**21 42 41.2**	**+0.4**
DAV	**Davao City (W)**	**4.24**	**45**	*e*P	**P**	**21 42 41.2**	**+0.4**
BUKP	**Musuan**	**4.53**	**34**	*e*P	**P**	**21 42 44.0**	**+1.0**
DCPH	**Dipolog City**	**4.54**	**10**	⇓*e*P	**P**	**21 42 45.0**	**+1.9**
DCPH				*e*S	**S**	**21 43 58.2**	**+3.0**
TSM	**Tawau**	**4.66**	**273**	P	**P**	**21 42 45.1**	**+1.1**
TSM	**Tawau**	**4.66**	**273**	P	**P**	**21 42 45.2**	**+1.3**
MATI	**Mati**	**4.67**	**52**	*e*P	**P**	**21 42 43.2**	**-0.8**
CGP	**Cagayan de Oro**	**4.84**	**26**	⇓*e*P	**P**	**21 42 46.0**	**+0.6**
CGP				*i* S	**S**	**21 44 04.4**	**+5.0**
APSI	**Ampana**	**5.04**	**190**	P	**P**	**21 42 47.2**	**+0.2**
	27µm,0.5s,350µm248µm160nm						
LUWI	**Luwuk**	**5.10**	**177**	P	P	**21 42 45.6**	**-1.9**
	59µm,1.4s,882µm473µm357nm						
LUWI				S	**S**	**21 44 01.1**	**-2.2**
	59µm,1.4s,882µm473µm357nm						
SDKM	**Sandakan**	**5.54**	**286**	P	**P**	**21 42 52.3**	**+1.1**
SDKM	**Sandakan**	**5.54**	**286**	P	**P**	**21 42 52.5**	**+1.3**
SDKM	**Sandakan**	**5.54**	**286**	S	**ScS**	**21 54 50.2**	**+0.5**
BIPH	**Bislig**	**5.57**	**43**	⇓*i*P	**P**	**21 42 50.5**	**-0.8**
BIPH				*i* S	**S**	**21 44 10.0**	**-0.4**
TBP	**Tagbilaran**	**5.72**	**13**	⇑*e*P	**P**	**21 42 54.2**	**+1.6**
TBP	**Tagbilaran**	**5.72**	**13**	*e*P	**S**	**21 44 13.0**	**+0.2**
BUTP	**Butuan**	**5.74**	**32**	*e*P	**P**	**21 42 53.3**	**+0.5**
TNTI	**Ternate**	**5.84**	**124**	P	**P**	**21 42 52.4**	**-1.3**
	93µm,0.9s,996µm769µm360nm						
TNTI				S	**S**	**21 44 13.6**	**-1.0**
	93µm,0.9s,996µm769µm360nm						
TNTI	**Ternate**	**5.84**	**124**	*e*P	**P**	**21 42 52.2**	**-1.5**
KDM	**Kudat**	**6.34**	**297**	P	**P**	**21 42 59.7**	**+1.7**
LLP	**Lapu-Lapu**	**6.35**	**13**	⇓*e*P	**P**	**21 42 58.5**	**+0.3**
LLP				*i* S	**S**	**21 44 23.1**	**+0.3**
SCPH	**Surigao**	**6.37**	**27**	*e*P	**P**	**21 42 58.3**	**0.0**
MSLP	**Maasin**	**6.43**	**21**	*e*P	**P**	**21 43 00.7**	**+1.9**
GUIM	**Jordan**	**6.50**	**0**	*e*P	**P**	**21 42 59.6**	**+0.1**
KKM	**Kota Kinabalu**	**6.59**	**287**	P	**P**	**21 43 02.1**	**+1.7**
KKM	**Kota Kinabalu**	**6.59**	**287**	P	**P**	**21 43 01.1**	**+0.7**
	62µm,1.0s,438µm752µm187nm						
KKM	**Kota Kinabalu**	**6.59**	**287**	*e*P	**P**	**21 43 01.1**	**+0.7**
KKM	**Kota Kinabalu**	**6.59**	**287**	⇓P	**P**	**21 43 01.4**	**+0.9**
	baz=6.7						
SGKI	**Sangatta, Kali**	**6.73**	**227**	P	P	21 42 57.9	-3.8
	34µm,1.4s,383µm375µm101nm						
SGKI				S	**S**	**21 44 24.9**	**-4.3**
	34µm,1.4s,383µm375µm101nm						
PPR	**Puerto Princes**	**6.80**	**326**	⇑*i*P	**P**	**21 43 04.3**	**+2.1**
LBMI	**Labuha**	**6.83**	**133**	P	**P**	**21 43 01.8**	**-0.7**
	29µm,0.8s,715µm310µm395nm						
LBMI				S	**S**	**21 44 32.2**	**+1.4**
	29µm,0.8s,715µm310µm395nm						
CUYO	**Cuyo Island**	**6.89**	**347**	*e*P	**P**	**21 43 04.7**	**+1.7**
SMKI	**Samarinda**	**6.97**	**230**	P	**P**	**21 43 07.0**	**+3.1**
	15µm,1.1s,149µm44nm						
SMKI				S	**S**	**21 44 37.4**	**+4.2**
	15µm,1.1s,149µm44nm						
OCLP	**Ormoc**	**7.22**	**16**	*e*P	**P**	**21 43 06.9**	**+0.9**
RCP	**Roxas**	**7.43**	**2**	⇑*e*P	**P**	**21 43 07.5**	**-0.6**
RCP				*e*S	**S**	**21 44 41.2**	**+0.3**
PLP	**Palo**	**7.44**	**19**	⇓*e*P	**P**	**21 43 07.9**	**-0.3**
KALP	**Kalibo**	**7.54**	**359**	⇓*e*P	**P**	**21 43 12.3**	**+3.2**
TTSI	**Tana Toraja**	**7.59**	**201**	P	**P**	**21 43 09.9**	**+0.3**
	3µm,0.8s,26µm14nm						
ENPP	**El Nido**	**7.72**	**337**	*e*P	**P**	**21 43 12.4**	**+1.7**
BKB	**Balikpapan**	**7.75**	**227**	P	**P**	**21 43 12.8**	**+1.7**
	23µm,1.0s,169µm303µm66nm						
BUSP	**Coron**	**8.20**	**344**	*e*P	**P**	**21 43 16.9**	**+1.6**
KKSI	**Kolaka, Sulawe**	**8.25**	**186**	P	**P**	**21 43 16.0**	**+0.1**
	3µm,1.2s,28µm74µm						
MJSI	**Majene**	**8.38**	**205**	P	P	**21 43 18.1**	**+0.9**
	1µm,1.5s,18µm37µm						
SJMP	**San Jose**	**8.44**	**351**	*e*P	**P**	**21 43 19.8**	**+2.1**
SPSI	**Sidrap Palu**	**8.46**	**199**	P	**P**	**21 43 17.9**	**-0.1**
	2µm,0.7s,17µm						
NLAI	**Namlea**	**8.59**	**148**	P	**P**	**21 43 20.4**	**+1.2**
	20µm,1.0s,190µm164µm						
NLAI				S	**S**	**21 45 05.9**	**+4.6**
	20µm,1.0s,190µm164µm						
CNP	**Catarman**	**8.63**	**14**	*e*P	**P**	**21 43 21.0**	**+1.5**
BNSI	**Bone**	**8.77**	**196**	P	**P**	**21 43 21.7**	**+0.7**
	2µm,0.9s,19µm						
BNSI				S	**S**	**21 45 07.3**	**+2.7**
	2µm,0.9s,19µm						
MTKI	**Muara Teweh, K**	**9.12**	**237**	P	**P**	**21 43 25.2**	**+0.7**
	6µm,0.9s,47µm127µm						
AUQP	**San Andres**	**9.18**	**1**	*e*P	**P**	**21 43 27.8**	**+2.9**
KAPI	**Kappang**	**9.46**	**197**	P	**P**	**21 43 26.2**	**-1.6**
	5µm,0.8s,SNR=35						
KAPI	**Kappang**	**9.46**	**197**	*e*P	**P**	**21 43 26.3**	**-1.6**
	626nm,0.7s						
KAPI				*e*S	**S**	**21 45 14.0**	**-3.0**
KAPI				ScS	**ScS**	**21 54 53.5**	**-1.4**
KAPI	**Kappang**	**9.46**	**197**	P	P	**21 43 26.1**	**-1.6**
	19nm,0.3s,baz=20,slow=2.9,SNR=63						
KAPI				S	**S**	**21 45 11.7**	**-5.3**
	baz=135,slow=20,SNR=1.7						
KAPI				ScS	**ScS**	**21 54 53.5**	**-1.4**
	baz=41,slow=20,SNR=8.0						
BTM	**Bintulu**	**9.48**	**265**	P	P	21 43 31.3	+3.3
PGP	**Puerto Galera**	**

BAKI **Biak** 14.54 111 P **P** 21 44 19.5 +0.6
BAKI S **S** 21 46 53.7 +3.9
DNP **Denpasar** 14.63 210 P **P** 21 44 21.8 +2.0
8µm,1.0s,66µm
DNP S **S** 21 46 55.9 +4.5
8µm,1.0s,66µm
NBBI **Negara** 14.68 213 P **P** 21 44 20.2 0.0
4µm,1.0s,34µm42µm
BYJI **Banyuwangi** 14.69 214 P **P** 21 44 23.0 +2.6
7µm,1.1s,42µm
BLJI **Banyuglugur** 14.76 217 P **P** 21 44 20.4 -0.6
585nm,0.9s,10µm27µm
SAUI **Saumlaki** 14.84 144 P **P** 21 44 20.3 -1.4
10µm,1.2s,106µm
GRJI **Gresik** 14.84 223 P **P** 21 44 24.0 +2.3
656nm,0.8s,5µm
SRPI **Serui, Papua** 14.92 113 P **P** 21 44 22.2 -0.3
9µm,0.9s,108µm171µm
GMJI **Gumukmas** 15.27 216 P **P** 21 44 27.3 +1.6
3µm,1.0s,21µm
KRKI **Karangkates** 15.79 220 P **P** 21 44 31.7 +1.1
4µm,0.8s,35µm
KRKI S **S** 21 47 17.0 +6.5
4µm,0.8s,35µm
NGJI **Ngawi** 15.86 224 P **P** 21 44 34.1 +2.7
1µm,0.9s,17µm54µm
SJI **Sawahan** 15.92 222 P **P** 21 44 33.0 +1.0
2µm,1.1s,15µm36µm
PWJI **Pagerwojo** 16.10 222 P **P** 21 44 34.3 +0.7
770nm,1.0s,10µm
TPI **Tanjungpandan** 16.35 246 P **P** 21 44 37.2 +1.3
1µm,0.8s,17µm
TPI S **S** 21 47 23.6 +3.7
1µm,0.8s,17µm
WOJI **Wonogiri, Jawa** 16.57 224 P **P** 21 44 38.6 +0.8
3µm,1.2s,32µm
PCJI **Pacitan** 16.65 223 P **P** 21 44 40.0 +1.4
2µm,1.3s,18µm
PCJI S **S** 21 47 26.7 +2.0
2µm,1.3s,18µm
UGM **Wanagama** 16.90 225 P **P** 21 44 42.3 +1.4
2µm,1.3s,25µm61µm
UGM **Wanagama** 16.90 225 *e*P **P** 21 44 41.9 +0.9
3µm,1.3s
YOGI **Yogyakarta** 17.00 226 P **P** 21 44 43.3 +1.5
3µm,1.0s,39µm
BJII **Banjamegara** 17.11 228 P **P** 21 44 45.1 +2.3
6µm,1.5s,68µm
TGJI **Tegal** 17.26 231 P **P** 21 44 46.1 +2.0
3µm,1.0s,36µm57µm
PPBI **Pangkal Pinang** 17.53 250 P **P** 21 44 47.8 +1.2
2µm,1.1s,20µm
PPBI S **S** 21 47 42.7 +3.7
2µm,1.1s,20µm
KPJI **Karang Pucung** 17.69 230 P **P** 21 44 49.2 +1.1
2µm,1.0s,24µm
CLJI **Cilicap** 17.88 229 P **P** 21 44 49.5 -0.3
1µm,1.1s,20µm
TPRI **Tanjung Pinang** 18.27 261 P P 21 45 02.6 +9.3
LEM **Lembang** 18.42 234 P **P** 21 44 56.5 +1.6
4µm,0.9s,38µm116µm
TWG **Pinlang** 18.68 356 *e*P **P** 21 44 57.0 0.0
5µm,0.9s
CISI **Cisompet, Garu** 18.70 232 P **P** 21 44 56.9 -0.4
2µm,1.1s,15µm
MYKOM **Kota Tinggi** 18.80 264 P **P** 21 45 00.1 +1.9
3µm,0.7s,30µm
CBJI **Citeko** 18.82 236 P **P** 21 45 00.5 +2.1
15µm,1.0s,116µm
DBJI **Dramaga** 18.98 236 P **P** 21 45 01.2 +1.4
4µm,1.5s,44µm
PMBI **Palembang** 19.07 249 P **P** 21 45 03.2 +2.5
5µm,0.8s,49µm
TPUB **Ta-pu** 19.19 355 *e*P **P** 21 45 02.2 +0.6
2µm,0.7s
YULB **Yu-li** 19.23 357 *e*P **P** 21 45 02.1 +0.2
1µm,0.9s
YULB S **sP** 21 47 26.4 -2.8
JAY **Jayapura** 19.30 110 P **P** 21 45 02.3 -0.5
927nm,0.9s,20µm
QIZ **Qiongzhong** 19.35 321 P **P** 21 45 04.2 +1.1
QIZ S **S** 21 48 03.0 -5.2
QIZ AMB AMB
comp=Z,14µm,12.5s
KDU **Kakadu** 19.37 149 ⇑P **P** 21 45 02.3 -1.0
baz=19
SKJI **Sukabumi** 19.39 235 P **P** 21 45 02.9 -0.6
2µm,1.0s,20µm
SSLB **Suanglung** 19.64 356 *e*P **P** 21 45 05.5 -0.2
2µm,0.9s
BLSI **Bandar Lampung** 19.66 242 P **P** 21 45 07.3 +1.3
5µm,0.9s,63µm
KLI **Kotabumi** 19.77 243 P **P** 21 45 08.0 +1.0
3µm,0.8s,25µm
NACB **Ninganchiao** 19.99 357 *e*P **P** 21 45 07.6 -1.2
291nm,0.9s
NACB *e*ScP **ScP** 21 51 39.8 +0.9
UBPT **Khong Chiam** 20.15 305 P **P** 21 45 11.2 +0.9
3µm,0.8s
MDSI **Maura Dua** 20.22 245 P **P** 21 45 11.8 +0.7
1µm,0.9s,18µm
KASI **Kota Agung** 20.39 242 P **P** 21 45 13.9 +1.3
6µm,1.0s,47µm
YHNB **Yeheng** 20.50 357⇓*e*P **P** 21 45 13.2 -0.3
792nm,0.8s
YHNB S **sP** 21 47 42.0 -1.2
YHNB *e*ScP **ScP** 21 51 41.7 +1.4
LWLI **Liwa** 20.56 244 P **P** 21 45 15.1 +0.9
5µm,0.9s,42µm
LHSI **Lahat** 20.56 248 P **P** 21 45 15.8 +1.7
3µm,0.9s,29µm
KNRA **Kununurra** 20.58 163 ⇓P **P** 21 45 13.9 -0.3
baz=20
RGRI **Rengat** 20.66 258 P **P** 21 45 16.4 +1.3
2µm,0.9s,85µm
TATO **Taipei** 20.79 357 P **P** 21 45 16.6 +0.5
SNR=5.6
TATO **Taipei** 20.79 357 *e*P **P** 21 45 15.9 -0.1
4µm,0.8s
TATO *e*ScP **ScP** 21 51 41.6 +0.7
GZH **Guangzhou** 20.88 336 P P 21 45 22.0 +5.2
GZH S S 21 48 41.3 +9.0
GZH AMB AMB
comp=Z,25µm,9.6s
QZH **Quanzhou** 21.08 350⇓*i*P **P** 21 45 16.9 -1.7
QZH sP sP 21 47 42.8 -6.8
QZH S **S** 21 48 33.2 -2.2
QZH ScP **ScP** 21 51 39.0 -2.6
QZH ScS **ScS** 21 55 22.5 -3.7
QZH AMB AMB
comp=Z,3µm,0.8s
QZH AMB AMB
comp=Z,16µm,12.0s
MNAI **Manna** 21.29 247 P **P** 21 45 21.4 +0.7
7µm,0.9s,63µm
MNAI **Manna** 21.29 247 *e*P **P** 21 45 21.3 +0.7
5µm,0.8s
KSI **Kapahiang** 21.36 249 P **P** 21 45 22.5 +1.1
7µm,1.0s,63µm
IPM **Ipoh** 21.46 272 P **P** 21 45 23.1 +0.9
2µm,0.9s,24µm85µm
IPM **Ipoh** 21.46 272⇓*i*P **P** 21 45 22.9 +0.7
IPM S **sP** 21 47 49.0 -4.8
MMPI **Merauke** 21.73 125 P **P** 21 45 24.5 -0.1
2µm,0.6s,26µm
CHBT **CHBT** 21.75 295 P **P** 21 45 26.1 +1.4
11µm,0.8s,80µm
KULM **Kulim** 21.85 274 P **P** 21 45 26.7 +1.0
2µm,0.8s,21µm
KULM **Kulim** 21.85 274 *e*P **P** 21 45 26.6 +1.0
1µm,0.8s
PANO **Nakornpanom** 21.85 308 P **P** 21 45 26.7 +1.1
5µm,0.8s,45µm
SKLT **Songkhla** 22.02 279 P **P** 21 45 28.6 +1.4
2µm,0.9s,26µm
XMIS **Christmas Isla** 22.18 229 *e*P **P** 21 45 26.8 -1.9
1µm,0.7s
SKNT **Sakolnakorn** 22.26 306 P **P** 21 45 30.1 +0.8
4µm,0.8s,32µm
FITZ **Fitzroy Crossi** 22.26 172 P **P** 21 45 28.5 -0.7
FITZ S **S** 21 48 50.5 -3.7
FITZ **Fitzroy Crossi** 22.26 172 ⇓P **P** 21 45 28.5 -0.7
baz=22
FITZ **Fitzroy Crossi** 22.26 172 P **P** 21 45 28.5 -0.7
456nm,0.5s,baz=2.8,slow=7.7,SNR=412
FITZ S **S** 21 48 50.5 -3.7
98nm,0.6s,baz=90,slow=8.1,SNR=2.9

PPI **Padang Panjang** 22.58 259 P **P** 21 45 32.9 +0.7
2µm,1.1s,24µm
PDSI **Padang** 22.61 258 P P 21 45 34.1 +1.6
2µm,0.9s,28µm513µm
SRIT **Nakonsritamara** 23.23 282 P **P** 21 45 39.2 +1.3
2µm,0.5s,30µm
JOW **Kunigami** 23.27 13 *e*P **P** 21 45 39.4 +1.3
192nm,1.0s
SURA **Suratthani** 23.30 284 P **P** 21 45 40.1 +1.5
830nm,0.8s,12µm
CHAI **Chaiyaphum** 23.36 302 P **P** 21 45 39.8 +0.7
4µm,0.7s,31µm
KRAB **Krabi** 23.56 281 P **P** 21 45 42.0 +1.1
6µm,0.5s,79µm
PSI **Prapat** 23.61 268 P **P**
PSI S **S** 21 45 42.2 +0.8
PSI ScP **ScP** 21 49 12.7 -3.1
PSI ScS **ScS** 21 51 47.9 -0.8
PSI **Prapat** 23.61 268 P **P** 21 55 33.8 -2.9
1µm,0.7s,baz=94,slow=5.0,SNR=164 21 45 42.2 +0.8
PSI S **S** 21 49 12.7 -3.1
124nm,0.7s,baz=40,slow=5.0,SNR=3.6
PSI ScP **ScP** 21 51 47.9 -0.8
163nm,0.9s,baz=165,slow=6.4,SNR=6.4
PSI ScS **ScS** 21 55 33.8 -2.9
44nm,0.8s,baz=184,slow=20,SNR=8.9
GUMO **Guam** 23.98 65 *e*P **P** 21 45 44.5 0.0
442nm,0.8s
PKDT **Phuket** 24.36 280 P **P** 21 45 49.0 +1.0
4µm,0.8s,67µm
KCSI **Kotacane, Aceh** 24.72 270 P **P** 21 45 51.0 -0.2
3µm,0.7s,31µm
LOEI **Loei** 24.75 304 P **P** 21 45 49.7 -1.7
10µm,0.8s,67µm
GSI **Gunungsitoli** 25.09 264 P **P** 21 45 54.0 -0.4
5µm,0.8s,42µm
MBWA **Marble Bar** 25.24 186 P **P** 21 45 55.4 -0.2
SNR=24
MBWA **Marble Bar** 25.24 186 *e*P **P** 21 45 54.6 -1.0
385nm,0.5s
LHMI **Lhok Sumawe** 25.53 274 P **P** 21 45 59.9 +1.6
6µm,0.7s,52µm
MANU **Manus Island** 25.55 103 ⇑P **P** 21 45 58.6 +0.1
baz=26
NANT **Nan** 25.87 306 P **P** 21 46 03.1 +1.9
29µm,0.7s,270µm
SNSI **Sinabang, Aceh** 26.22 267 P **P** 21 46 04.7 +0.3
4µm,0.7s,44µm
WRAB **Tennant Creek** 26.54 154⇑*i*P **P** 21 46 05.9 -1.2
WRAB *e*S **S** 21 50 00.5 -1.0
WRAB pmax pmax
comp=Z,4µm,0.8s
WRAB **Tennant Creek** 26.54 154 P **P** 21 46 06.0 -1.2
comp=Z,23µm,0.7s
WRAB **Tennant Creek** 26.54 154⇑*i*P **P** 21 46 05.8 -1.2
comp=Z,4µm,0.8s
WRAB *e*S **S** 21 50 00.5 -1.0
WRA **Warramunga Arr** 26.55 155 P **P** 21 46 05.9 -1.3
WRA S **S** 21 49 59.3 -2.2
WRA ScP **ScP** 21 51 56.0 -0.9
WRA **Warramunga Arr** 26.55 155 P **P** 21 46 05.9 -1.3
comp=Z,2µm,0.7s,baz=333,slow=9.4,SNR=1402
WRA S **S** 21 49 59.3 -2.2
comp=Z,475nm,0.7s,baz=335,slow=15,SNR=10
WRA ScP **ScP** 21 51 56.0 -0.9
comp=Z,202nm,0.6s,baz=337,slow=3.1,SNR=9.1
PAYA **Payao** 26.83 306 P **P** 21 46 10.7 +1.0
comp=Z,782nm,1.0s,comp=Z,6µm
SSE **Sheshan** 26.90 357⇓P **P** 21 46 11.6 +1.6
SSE sP **sP** 21 48 53.2 +1.6
SSE S **S** 21 50 07.9 +1.3
SSE AMB AMB
comp=Z,220nm,1.5s
SSE AMB AMB
comp=Z,6µm,10.4s
GYA **Guiyang** 26.94 327⇓*i*P **P** 21 46 12.8 +2.1
GYA sP **sP** 21 48 48.2 -4.0
GYA PcP **PcP** 21 49 15.0 +2.3
GYA S **S** 21 50 10.3 +2.5
GYA ScP **ScP** 21 52 00.6 +2.5
GYA PcS **PcS** 21 52 55.4 +0.2
GYA ScS **ScS** 21 55 49.9 -0.7
GYA AMB AMB
comp=Z,1µm,0.7s
GYA AMB AMB
comp=Z,10µm,14.6s
CM31 **Chiang Mai Arr** 27.14 304⇓*i*P **P** 21 46 13.9 +1.6
comp=Z,1µm,0.8s
CM31 *e*PcP **PcP** 21 49 15.9 +2.7
CM31 S **S** 21 50 13.7 +2.9
CMAR **Chiang Mai Arr** 27.14 304 P **P** 21 46 14.0 +1.7
CMAR ScP **ScP** 21 51 59.1 +0.4
CMAR PKiKP **PKiKP** 21 56 49.6 -0.2
CMAR **Chiang Mai Arr** 27.14 304 P **P** 21 46 14.0 +1.7
baz=129,slow=7.1
CMAR ScP **ScP** 21 51 59.1 +0.4
comp=Z,189nm,1.0s,baz=148,slow=1.7,SNR=21
CMAR PKiKP **PKiKP** 21 56 49.6 -0.2
comp=Z,8.6nm,0.9s,baz=11,slow=0.9,SNR=6.2
COEN **Coen** 27.21 132 *e*P **P** 21 46 11.3 -1.8
comp=Z,4µm,0.9s
COEN **Coen** 27.21 132 ⇑P **P** 21 46 11.4 -1.6
baz=27
CHTO **Chiang Mai** 27.31 304 *e*P **P** 21 46 15.4 +1.5
CHTO **Chiang Mai** 27.31 304 P **P** 21 46 15.2 +1.3
SNR=984
CHTO **Chiang Mai** 27.31 304 P **P** 21 46 15.7 +1.9
comp=Z,21µm,0.8s,comp=Z,182µmcomp=Z,231µm
CHTO **Chiang Mai** 27.31 304 *e*P **P** 21 46 15.3 +1.5
comp=Z,11µm,0.7s
CHTO **Chiang Mai** 27.31 304 P **P** 21 46 15.1 +1.3
comp=Z,21µm,0.8s,comp=Z,182µm
WHN **Wuhan** 27.43 345 P **P** 21 46 16.8 +2.1
WHN sP **sP** 21 48 52.9 -3.6
WHN S **S** 21 50 16.4 +1.5
WHN AMB AMB
comp=Z,14µm,6.6s
CMAI **Chiengmai2** 27.79 306 P **P** 21 46 19.4 +1.2
comp=Z,3µm,0.8s,comp=Z,29µm
PMG **Port Moresby** 27.96 119 P **P** 21 46 18.7 -0.9
comp=Z,3µm,0.9s,comp=Z,30µmcomp=Z,65µm
PMG **Port Moresby** 27.96 119 *e*P **P** 21 46 18.3 -1.3
comp=Z,2µm,0.8s
PMG ScP **ScP** 21 52 01.1 -0.3
PMG **Port Moresby** 27.96 119 P **P** 21 46 18.5 -1.0
comp=Z,1µm,0.8s,baz=315,slow=6.2,SNR=164
PMG ScP **ScP** 21 52 01.1 -0.3
comp=Z,815nm,1.0s,baz=342,slow=2.9,SNR=13
NJ2 **Nanjing** 28.03 353 *e*P **P** 21 46 22.1 +2.2
NJ2 sP **sP** 21 49 03.1 +1.2
NJ2 S **S** 21 50 27.3 +3.0
NJ2 ScP **ScP** 21 52 01.7 +0.5
NJ2 AMB AMB
comp=Z,1µm,1.2s
NJ2 AMB AMB
comp=Z,7µm,10.6s
KMI **Kunming** 28.28 320 P **P** 21 46 25.4 +2.9
KMI sP **sP** 21 49 02.8 -1.7
KMI PcP **PcP** 21 49 19.0 +2.8
KMI S **S** 21 50 32.8 +4.0
KMI ScP **ScP** 21 52 04.1 +1.7
KMI ScS **ScS** 21 56 00.3 +3.3
KMI AMB AMB
comp=Z,1µm,1.1s
KMI AMB AMB
comp=Z,10µm,8.7s
CMBY **CAMPBELL BAY** 28.62 277 *e*P **P** 21 46 23.2 -2.1
CBIJ **Chichi jima** 29.59 37 P **P** 21 46 33.5 -0.1
CBIJ S **S** 21 50 43.4 -5.2
CBIJ ScP **ScP** 21 52 05.7 -0.7
CBIJ ScS **ScS** 21 55 57.4 -5.3
JCJ **Chichijima** 29.59 37 P **P** 21 46 33.5 -0.1
comp=Z,1µm,0.4s,baz=219,slow=2.0,SNR=29
JCJ S **S** 21 50 43.4 -5.2
comp=Z,2µm,0.5s,baz=292,slow=23,SNR=7.3
JCJ ScP **ScP** 21 52 05.7 -0.7
comp=Z,238nm,0.4s,baz=261,slow=19,SNR=1.8
JCJ ScS **ScS** 21 55 57.4 -5.3
comp=Z,94nm,0.4s,baz=287,slow=19,SNR=6.1
AS31 **Alice Springs** 29.73 159 *e*P **P** 21 46 34.4 -0.4
AS31 *e*S **S** 21 50 47.8 -3.1
ASAR **Alice Springs** 29.73 159 P **P** 21 46 34.2 -0.5
ASAR S **S** 21 50 46.0 -4.8
ASAR ScP **ScP** 21 52 05.9 -1.0
ASAR **Alice Springs** 29.73 159 P **P** 21 46 34.2 -0.5
comp=Z,989nm,0.6s,baz=337,slow=7.1,SNR=2671

ASAR S **S** 21 50 46.0 -4.8
comp=Z,306nm,0.8s,baz=333,slow=13,SNR=8.6
ASAR ScP **ScP** 21 52 05.9 -1.0
comp=Z,255nm,0.7s,baz=336,slow=2.8,SNR=7.1
JNU **Nakatsue** 29.92 14 *e*P **P** 21 46 36.4 +0.1
comp=Z,202nm,1.0s
JNU S **S** 21 50 48.5 -5.0
JNU ScP **ScP** 21 52 08.2 +0.9
JNU **Nakatsue** 29.92 14 P **P** 21 46 36.2 0.0
comp=Z,439nm,0.8s,baz=200,slow=2.9,SNR=66
JNU S **S** 21 50 48.5 -5.0
comp=Z,55nm,1.1s,baz=336,slow=12,SNR=1.3
JNU ScP **ScP** 21 52 08.2 +0.9
comp=Z,109nm,0.8s,baz=71,slow=1.6,SNR=6.0
COCO **West Island** 30.24 237 *i* P **P** 21 46 39.7 +0.5
COCO **West Island** 30.24 237 P **P** 21 46 41.0 +1.8
SNR=8.3
COCO **West Island** 30.24 237 P P 21 46 35.1 -4.1
comp=Z,5µm,1.1s,SNR=6.5
COCO **West Island** 30.24 237 P **P** 21 46 40.1 +0.9
comp=Z,1µm,0.9s,comp=Z,12µm
COCO **West Island** 30.24 237 *e*P **P** 21 46 38.8 -0.5
comp=Z,1µm,1.0s
DGPR **DIGLIPUR** 30.60 289 *e*P **P** 21 46 40.0 -2.3
CD2 **Chengdu** 32.02 329⇓*i*P **P** 21 46 55.5 +1.2
CD2 PcP **PcP** 21 49 27.7 +1.8
CD2 sP **sP** 21 49 38.0 +0.2
CD2 S **S** 21 51 25.1 -0.6
CD2 PcS **PcS** 21 53 12.4 +0.7
CD2 SS SS 21 54 23.8 -13
CD2 AMB AMB
comp=Z,2µm,1.0s
CD2 AMB AMB
comp=Z,14µm,11.7s
TIA **Tai'an** 32.35 352 ⇓P **P** 21 46 57.6 +0.6
TIA sP **sP** 21 49 41.2 +0.5
TIA S **S** 21 51 31.1 +0.5
TIA AMB AMB
comp=Z,690nm,0.6s
XAN **Xi'an** 32.38 339 P **P** 21 46 58.2 +0.9
XAN sP **sP** 21 49 38.2 -2.8
XAN S **S** 21 51 30.7 -0.5
XAN ScP **ScP** 21 52 16.8 +1.1
XAN PcS **PcS** 21 53 16.1 +3.2
XAN AMB AMB
comp=Z,500nm,1.0s
XAN AMB AMB
comp=Z,2µm,12.2s
INCN **Inchon** 33.45 6 *e*P **P** 21 47 06.6 +0.4
comp=Z,172nm,0.8s
CTA **Charters Tower** 33.47 137 P **P** 21 47 07.1 +0.5
CTA S **S** 21 51 46.5 -1.4
CTA ScP **ScP** 21 52 19.9 +0.2
CTA **Charters Tower** 33.47 137 P **P** 21 47 07.1 +0.5
comp=Z,605nm,0.8s,baz=310,slow=10,SNR=235
CTA S **S** 21 51 46.5 -1.4
comp=Z,146nm,1.2s,baz=288,slow=20,SNR=2.7
CTA ScP **ScP** 21 52 19.9 +0.2
comp=Z,304nm,0.9s,baz=273,slow=3.6,SNR=7.7
CTAO **Charters Tower** 33.47 137 *e*P **P** 21 47 06.2 -0.4
CTAO pmax pmax
comp=Z,747nm,0.8s
CTAO **Charters Tower** 33.47 137 *e*P **P** 21 47 06.2 -0.4
comp=Z,747nm,0.8s
KSAR **Wonju Array Be** 33.56 8 P **P** 21 47 08.3 +1.3
KSAR PcP **PcP** 21 49 31.6 +1.6
KSAR S **S** 21 51 49.5 +0.8
KSAR ScP **ScP** 21 52 20.1 +0.5
KSRS **Korea Array** 33.57 8 P **P** 21 47 08.3 +1.2
comp=Z,461nm,0.7s,baz=186,slow=9.3,SNR=370
KSRS PcP **PcP** 21 49 31.6 +1.6
comp=Z,81nm,1.0s,baz=185,slow=2.6,SNR=7.0
KSRS S **S** 21 51 49.5 +0.6
comp=Z,27nm,1.0s,baz=168,slow=8.0,SNR=3.6
KSRS ScP **ScP** 21 52 20.1 +0.5
comp=Z,144nm,0.9s,baz=178,slow=3.4,SNR=14
DL2 **Dalian** 34.67 359 ⇓P **P** 21 47 17.0 +0.7
DL2 pP **pP** 21 48 56.6 +3.1
DL2 sP **sP** 21 50 03.3 +2.3
DL2 S **S** 21 52 04.8 -0.6
DL2 ScP **ScP** 21 52 24.2 +0.6
DL2 ScS **ScS** 21 56 28.6 0.0
DL2 AMB AMB
comp=Z,1µm,0.6s
DL2 AMB AMB
comp=Z,5µm,8.6s
TIY **Taiyuan** 34.72 346 *e*P **P** 21 47 18.0 +1.1
TIY pP **pP** 21 48 57.2 +3.1
TIY sP **sP** 21 50 01.7 +0.1
TIY S **S** 21 52 07.7 +1.3
TIY ScS **ScS** 21 56 30.7 +1.5
TIY AMB AMB
comp=Z,2µm,0.8s
TIY AMB AMB
comp=Z,8µm,13.3s
FORT **Forrest** 35.07 172 *e*P **P** 21 47 19.6 -0.1
comp=Z,4µm,0.6s
MAJO **Matsushiro** 35.37 22 *e*P **P** 21 47 21.8 -0.4
MAJO pmax pmax
comp=Z,382nm,1.1s
MAJO **Matsushiro** 35.37 22 *e*P **P** 21 47 21.8 -0.4
comp=Z,382nm,1.1s
LZH **Lanzhou** 36.21 334 ⇓P **P** 21 47 31.5 +2.2
LZH pP **pP** 21 49 10.6 +3.1
LZH PP **PP** 21 49 13.7 -0.7
LZH PcP **PcP** 21 49 40.0 +1.7
LZH sP **sP** 21 50 15.3 +0.6
LZH ScP **ScP** 21 52 32.5 +2.9
LZH S **S** 21 52 34.0 +5.1
LZH PcS **PcS** 21 53 27.3 +0.2
LZH sS **sS** 21 55 32.2 +2.0
LZH SS **SS** 21 55 40.1 -5.5
LZH ScS **ScS** 21 56 38.2 +0.4
LZH AMB AMB
comp=Z,3µm,1.0s
LZH AMB AMB
comp=Z,10µm,7.4s
BJI **Beijing** 36.25 352 P **P** 21 47 30.2 +0.9
BJI pP **pP** 21 49 10.8 +3.3
BJI sP **sP** 21 50 15.8 +1.0
BJI S **S** 21 52 28.0 -0.9
BJI AMB AMB
comp=Z,2µm,0.6s
BJI AMB AMB
comp=Z,8µm,5.5s
SHL **Shillong** 36.35 309 *i* P **P** 21 47 33.0 +2.4
SHL *i* S **S** 21 52 33.5 +2.2
QLP **Quilpie** 37.02 147 ⇑P **P** 21 47 36.1 +0.2
baz=37
NWAO **Narrogin (SRO)** 37.15 187 P **P** 21 47 37.8 +0.9
SNR=26
NWAO **Narrogin (SRO)** 37.15 187 *e*P **P** 21 47 36.9 0.0
comp=Z,611nm,1.0s
NWAO ScP **ScP** 21 52 32.6 -0.4
NWAO **Narrogin (SRO)** 37.15 187 P **P** 21 47 37.2 +0.4
comp=Z,412nm,0.5s,baz=14,slow=7.5,SNR=179
NWAO ScP **ScP** 21 52 32.6 -0.4
comp=Z,124nm,0.5s,baz=332,slow=2.8,SNR=6.3
SNY **Shenyang** 37.59 1 ⇓P **P** 21 47 40.4 +0.2
SNY S **S** 21 52 48.0 -0.7
SNY sS **sS** 21 55 50.8 -0.4
SNY AMB AMB
comp=Z,430nm,0.7s
SNY AMB AMB
comp=Z,5µm,6.7s
HHC **Hu-ho-hao-te** 37.91 346 ⇓P **P** 21 47 44.4 +1.4
HHC pP **pP** 21 49 24.6 +2.3
HHC PcP **PcP** 21 49 43.6 +0.2
HHC sP **sP** 21 50 30.0 +0.7
HHC S **S** 21 52 55.4 +1.7
HHC sS **sS** 21 55 58.2 +1.7
HHC SS **SS** 21 56 08.9 -5.4
HHC AMB AMB
comp=Z,1µm,0.7s
HHC AMB AMB
comp=Z,17µm,5.2s
BTO **Baotou** 38.07 344 *e*P **P** 21 47 44.3 0.0
BBOO **Buckleboo** 38.87 162 *e*P **P** 21 47 50.8 0.0
comp=Z,20µm,0.8s
LSA **Lhasa** 39.12 314 P **P** 21 47 56.0 +2.5
LSA S **S** 21 53 08.2 -4.4
LSA SS **SS** 21 56 26.8 -8.4
LSA AMB AMB
comp=Z,13µm,13.2s

SLGI Shiliguri 39.61 308 *ex* **P** **P** **21 47 58.3 +1.5**
HNR Honiara 39.63 110 P **P** **21 47 56.1 -1.0**
HNR ScP **ScP** **21 52 44.5 +1.5**
comp=Z,1μm,0.5s,baz=204,slow=2.5,SNR=64
HNR Honiara 39.63 110 P **P** **21 47 56.1 -1.0**
HNR ScP **ScP** **21 52 44.4 +1.5**
comp=Z,418nm,0.9s,baz=177,slow=4.3,SNR=6.3
CN2 Changchun 39.63 3⇓ *iP* **P** **21 47 56.3 -0.4**
CN2 *e*PP **pP** **21 49 40.5 +3.3**
CN2 PcP **PcP** **21 49 50.1 +1.4**
CN2 *e*sP **sP** **21 50 41.8 -2.1**
CN2 *e*ScP **ScP** **21 52 42.1 -0.3**
CN2 *e*S **S** **21 53 14.6 -4.0**
CN2 *e*SS **SS** **21 56 36.5 -5.6**
CN2 *e*ScS **ScS** **21 56 58.0 +0.8**
CN2 AMB AMB
comp=Z,400nm,0.8s
CN2 AMB AMB
comp=Z,5μm,10.0s
VLA Vladivostok 39.74 11⇑ *iP* **P** **21 47 58.0 +0.4**
VLA *i* S **S** **21 53 21.3 +1.1**
VLA pmax pmax
comp=Z,508nm,0.9s
STKA Stephens Creek 40.10 154 *e*P **P** **21 48 00.7 0.0**
comp=Z,254nm,0.8s
STKA ScP **ScP** **21 52 43.9 -0.6**
STKA S **S** **21 53 24.2 -1.5**
STKA Stephens Creek 40.10 154⇑ P **P** **21 48 01.0 +0.3**
baz=40
STKA Stephens Creek 40.10 154 P **P** **21 48 00.7 0.0**
comp=Z,1μm,0.7s,baz=330,slow=7.8,SNR=614
STKA ScP **ScP** **21 52 43.9 -0.6**
comp=Z,181nm,0.7s,baz=331,slow=6.9,SNR=4.3
STKA S **S** **21 53 24.2 -1.5**
comp=Z,84nm,0.7s,baz=77,slow=19,SNR=4.0
EIDS Eidsvold 40.31 138 *e*P **P** **21 48 02.0 -0.4**
comp=Z,1μm,0.9s
BOK Bokaro 40.41 302 *e*P **P** **21 48 02.3 -1.0**
TAPN Taplejung 40.48 309 *e*P **P** **21 48 05.8 +1.7**
comp=Z,4μm,0.7s
ODAN Odare 40.50 308 *e*P **P** **21 48 05.8 +1.6**
comp=Z,9μm,0.8s
VIS Vishakhapatnam 40.70 292 *e*P **P** **21 48 04.6 -1.0**
GTA Gaotai 40.75 333⇓ P **P** **21 48 08.0 +2.1**
GTA pP **PcP** **21 49 53.0 +0.3**
GTA PcP **PP** **21 49 54.7 -1.3**
GTA ScP **ScP** **21 52 47.6 +0.5**
GTA S **S** **21 53 37.3 +2.1**
GTA PcS **PcS** **21 53 41.1 -3.6**
GTA SS **SS** **21 56 59.8 -1.0**
GTA ScS **ScS** **21 57 03.5 -1.0**
GTA AMB AMB
comp=Z,2μm,1.0s
GTA AMB AMB
comp=Z,10μm,10.0s
USRK Ussuriysk Arra 40.81 10 P **P** **21 48 06.9 +0.8**
comp=Z,899nm,0.6s,baz=198,slow=7.7,SNR=506
USRK ScP **ScP** **21 52 46.8 -0.2**
comp=Z,44nm,0.6s,baz=182,slow=3.1,SNR=4.6
USRK S **S** **21 53 33.1 -2.5**
comp=Z,11nm,0.8s,baz=235,slow=4.0,SNR=2.1
MDJ Mudanjiang 40.84 8 P **P** **21 48 07.7 +1.4**
MDJ PcP **PcP** **21 49 52.9 +0.3**
MDJ PP **PP** **21 49 56.8 +0.3**
MDJ ScP **ScP** **21 52 48.5 +1.4**
MDJ S **S** **21 53 37.4 +1.4**
MDJ PcS **PcS** **21 53 47.4 +2.9**
MDJ AMB AMB
comp=Z,2μm,1.0s
MDJ AMB AMB
comp=Z,4μm,7.6s
RAMN Ramite 41.16 307 *e*P **P** **21 48 11.4 +1.9**
comp=Z,12μm,0.8s
PALK Pallekele 41.74 276 P **P** **21 48 15.2 +1.2**
SNR=106
PALK Pallekele 41.74 276 P **P** **21 48 14.6 +0.6**
comp=Z,4μm,1.5s
PALK Pallekele 41.74 276 *e*P **P** **21 48 14.9 +0.9**
comp=Z,4μm,1.7s
JIRN Jiri 41.81 308 *e*P **P** **21 48 16.1 +1.4**
comp=Z,9μm,0.7s
ERM Erimo 42.02 23*c iP* **P** **21 48 16.7 +1.1**
ERM pmax pmax
comp=Z,277nm,0.8s
ERM Erimo 42.02 23 *e*P **P** **21 48 16.9 +1.2**
comp=Z,255nm,0.8s
ERM Erimo 42.02 23 P **P** **21 48 17.1 +1.5**
comp=Z,2μm,0.8s,SNR=33
GUN Gumba 42.17 308 *e*P **P** **21 48 19.2 +1.7**
comp=Z,17μm,0.8s
PKI Pulchoki 42.39 307 *e*P **P** **21 48 20.5 +1.3**
KKN Kakani 42.59 308 *e*P **P** **21 48 22.0 +1.4**
comp=Z,5μm,0.6s
DMN Daman 42.65 307 *e*P **P** **21 48 22.5 +1.4**
comp=Z,10μm,0.9s
GKN Gorkha 43.19 307 *e*P **P** **21 48 26.5 +1.2**
comp=Z,8μm,0.8s
ASAJ Asahikawa 43.62 21 *e*P **P** **21 48 28.9 +0.9**
ASAJ S **S** **21 54 14.8 -0.9**
ASAJ Asahikawa 43.62 21 P **P** **21 48 28.9 +0.9**
comp=Z,442nm,0.6s,baz=225,slow=8.8,SNR=212
ASAJ S **S** **21 54 14.8 -0.9**
comp=Z,171nm,1.0s,baz=27,slow=23,SNR=12
KOLN Koldanda 43.92 307 *e*P **P** **21 48 32.8 +1.9**
comp=Z,28μm,0.8s
DANN Dangsing 44.04 307 *e*P **P** **21 48 33.5 +1.5**
comp=Z,29μm,0.7s
ARMA Armidale 44.17 143 *e*P **P** **21 48 34.2 +1.6**
comp=Z,2μm,0.9s
PYUN Piuthan 44.55 307 *e*P **P** **21 48 37.5 +1.7**
comp=Z,23μm,0.8s
YUK Yuzh-Kuril'sk 44.79 24 *i* P P 21 48 31.6 -5.4
YUK *i* 21 50 07.4
YUK *i* *PP pP 21 50 19.6 -1.7
YUK *i* S S 21 54 24.4 -7.9
YUK *i* 21 57 29.9
YUK pmax pmax
comp=E,93nm,1.0s
YUK pmax pmax
comp=Z,729nm,1.0s
YUK pmax pmax
comp=N,18nm,1.0s
YUK pmax pmax
comp=Z,1μm,1.0s
KWAJ Kwajalein Atol 45.01 82⇑ *e*P **P** **21 48 40.1 +0.8**
KWAJ pmax pmax
comp=Z,379nm,0.8s
KWAJ Kwajalein Atol 45.01 82⇑ *e*P **P** **21 48 40.1 +0.8**
comp=Z,379nm,0.8s
HYB Hyderabad 45.07 291⇓ *iP* **P** **21 48 40.0 +0.3**
comp=Z,1μm,1.0s
HYB *e*S **S** **21 54 38.0 +0.9**
HYB LR LR 22 01 26.0
comp=Z,16nm,20.0s
HYB Hyderabad 45.07 291 *e*P **P** **21 48 38.6 -1.1**
HYB AMB AMB 21 48 44.8
comp=Z,4μm,2.1s
JBP Jabalpur 45.26 299⇓ *iP* **P** **21 48 40.8 -0.2**
JBP *i* x x 21 48 46.9
comp=Z,4μm,1.0s
JBP *e*x x 21 57 33.3
TRD Trivandrum 45.49 278⇓ *e*x P 21 48 47.4 +4.5
TRD *e*4 x 21 54 19.4
NGP Nagpur 45.50 296 *e*P **P** **21 48 42.1 -0.8**
NGP *e*x x 21 48 45.9
comp=Z,3μm,0.8s
NGP *e*4 x 21 49 37.7
WAKE Wake Island 45.60 67 *e*P **P** **21 48 45.0 +1.3**
ULN Ulaanbaatar 45.60 345 P **P** **21 48 44.9 +1.5**
SNR=301
ULN Ulaanbaatar 45.60 345 *e*P **P** **21 48 44.4 +1.0**
comp=Z,742nm,0.8s
KLR Kul'dur 45.66 8⇑ *iP* P 21 48 40.2 -3.4
KLR *e* 21 50 06.7
KLR *i* S **S** **21 54 38.5 -5.8**
KLR pmax pmax
comp=N,130nm,1.6s
KLR pmax pmax
comp=E,130nm,1.6s
KLR pmax pmax
comp=Z,800nm,1.6s
KLR smax smax
comp=N,7μm,16.0s
KLR smax smax
comp=E,12μm,16.0s

SONM Songino Array 45.74 345 P **P** **21 48 45.5 +1.1**
SONM PcP **PcP** **21 50 09.3 -0.4**
SONM ScP **ScP** **21 53 08.0 +0.7**
comp=E,738nm,0.7s,baz=160,slow=6.6,SNR=880
SONM Songino Array 45.74 345 P **P** **21 48 45.5 +1.1**
SONM PcP **PcP** **21 50 09.3 -0.4**
comp=E,152nm,0.8s,baz=171,slow=2.8,SNR=2.7
SONM ScP **ScP** **21 53 08.0 +0.7**
comp=E,275nm,0.8s,baz=157,slow=4.9,SNR=14
YSS Yuzh-Sakhalins 46.15 19*c* *e*P **P** **21 48 47.0 -0.3**
YSS *e* 21 50 12.0
YSS *e**SP **sP** **21 51 33.0 -4.6**
YSS *i* S **S** **21 54 47.0 -4.1**
YSS *e**SS sS 21 57 51.0 -11
YSS pmax pmax
comp=Z,280nm,1.0s
YSS smax smax
comp=N,12μm,12.0s
CAN Canberra 46.41 150⇑ *iP* **P** **21 48 50.8 +1.2**
CAN *e* 21 50 13.0
CAN *e**PP **pP** **21 50 36.1 +1.1**
CAN *e*S **S** **21 54 57.4 +2.1**
CAN pmax pmax
comp=Z,2μm,0.6s
CAN Canberra 46.41 150⇑ *iP* **P** **21 48 50.8 +1.2**
comp=Z,2μm,0.6s
CAN *e*PcP **PcP** **21 50 13.0 +0.8**
CAN *e*pP **pP** **21 50 36.1 +1.1**
CAN *e*sP sP 21 51 46.8 +6.8
CAN *e*ScP **ScP** **21 53 09.7 -0.6**
CAN *e*S **S** **21 54 57.4 +2.1**
LATR Latur 47.13 291 *ex* P 21 48 49.9 -5.3
comp=Z,5μm,0.7s
AKL Akola 47.22 294 *e*P **P** **21 48 55.2 -0.7**
AKL AMP 21 49 01.3
comp=Z,8μm,0.7s
AKL *i* x x 21 55 07.9
JHNI Jhansi 47.24 301 *i* x **P** **21 48 54.0 -2.0**
JHNI *i* x x 21 50 14.0
LGTI Lohaghat 47.30 307 *ex* P 21 49 01.2 +4.9
LGTI *ex* x 21 50 18.7
PTH Pithoragarh 47.36 307 *ex* **S** **21 55 04.9 -4.0**
BHPL Bhopal 47.52 298 *e*P **P** **21 48 56.8 -1.4**
BHPL AMB AMB 21 49 03.1
comp=Z,3μm,1.0s
CIT Chita 48.36 353 *e*P **P** **21 49 05.1 +1.3**
CIT *e* 21 50 19.8
CIT *e* 21 50 48.1
CIT *e* 21 51 14.2
CIT *e*S **S** **21 55 20.9 -0.7**
CIT *e* 21 57 53.2
CIT pmax pmax
comp=Z,1μm,1.9s
ZAK Zakamensk 48.91 344 *e*P **P** **21 49 08.7 +0.7**
ZAK *e* 21 50 20.9
ZAK pmax pmax
comp=Z,264nm,1.0s
GOA Goa 49.20 287 *e*P **P** **21 49 08.8 -1.8**
GOA AMB AMB 21 49 15.5
comp=Z,2μm,0.8s
DDI Dehra Dun 49.39 307 *e*P **P** **21 49 10.9 -1.0**
DDI AMB AMB 21 49 16.2
comp=Z,10μm,2.5s
DDI *ex* x 21 55 36.5
NDI New Delhi 49.45 305 *ex* **P** **21 49 09.5 -2.8**
NDI *ex* **S** **21 55 33.0 -4.2**
LHI Lord Howe Isla 49.63 138⇓ P **P** **21 49 13.8 +0.3**
baz=50
POO Poona 49.67 291 *e*P **P** **21 49 12.2 -1.9**
POO *i* SCS **ScS** **21 58 03.5 0.0**
TLY Talaya 49.98 345*d iP* **P** **21 49 17.2 +1.4**
TLY *e* 21 51 05.7
TLY *e* 21 52 02.7
TLY *e*S **S** **21 55 46.6 +3.0**
TLY pmax pmax
comp=Z,833nm,1.0s
TLY Talaya 49.98 345 P **P** **21 49 17.0 +1.2**
comp=Z,4μm,0.8s
WMQ Urumqi 50.10 327 P **P** **21 49 18.6 +1.7**
WMQ PcP **PcP** **21 50 26.7 +1.1**
WMQ pP **pP** **21 51 09.0 +4.2**
WMQ PP **PP** **21 51 24.8 +4.4**
WMQ ScP **ScP** **21 53 25.4 -0.5**
WMQ S **S** **21 55 46.9 +1.3**
WMQ ScS **ScS** **21 58 03.5 -2.1**
WMQ SS **SS** **21 59 32.3 +2.7**
WMQ AMB AMB
comp=Z,3μm,0.8s
WMQ AMB AMB
comp=Z,13μm,4.2s
DZM Mont Dzumac 50.20 123 *e*P **P** **21 49 18.7 +0.8**
comp=Z,1μm,1.4s
DZM Mont Dzumac 50.20 123⇑ *iP* **P** **21 49 18.2 +0.3**
comp=Z,459nm,0.9s
DZM *e*pP **pP** **21 51 02.6 -3.3**
DZM *e*PP **PP** **21 51 25.0 +3.3**
DZM PP **PP** **21 51 26.3 +4.6**
DZM *e*ScP **ScP** **21 53 27.6 +0.8**
DZM ScP ScP 21 53 28.2 +1.4
DZM *e*S **S** **21 55 43.9 -3.6**
DZM S S 21 55 48.5 +1.0
DZM Mont Dzumac 50.20 123 P **P** **21 49 18.6 +0.7**
comp=Z,308nm,0.8s,baz=273,slow=6.3,SNR=118
DZM PP **PP** **21 51 26.3 +4.6**
comp=Z,124nm,1.0s,baz=257,slow=7.6,SNR=3.2
DZM ScP **ScP** **21 53 28.2 +1.4**
comp=Z,102nm,1.0s,baz=347,slow=4.9,SNR=4.2
DZM S **S** **21 55 48.5 +1.0**
comp=Z,10nm,0.9s,baz=0.0,slow=20,SNR=2.1
IRK Irkutsk 50.34 346⇓ *iP* **P** **21 49 19.3 +1.0**
IRK *e* 21 50 27.1
IRK *e*S **S** **21 55 50.1 +1.8**
IRK *e* 21 58 06.6
IRK pmax pmax
comp=Z,635nm,1.5s
TARA Tarawa 50.39 92 *e*P **P** **21 49 20.9 +1.5**
comp=Z,2μm,1.7s
SMLA Simla 50.41 308 *i* P **P** **21 49 18.0 -1.2**
SMLA AMB AMB 21 49 24.9
comp=Z,7μm,0.9s
SMLA *i* x x 21 58 06.0
BOM Bombay 50.71 291 *ex* PP 21 51 20.0 -6.1
BOM *ex* x 21 53 10.1
SDNR Sundarnagar 50.71 308 *ex* **P** **21 49 23.0 +1.6**
SDNR *ex* **S** **21 55 57.6 +3.5**
MOY Mondy 50.71 343 *i* P **P** **21 49 22.9 +1.7**
MOY pmax pmax
comp=Z,884nm,1.6s
BHK Bhakra 51.11 308 *e*P **P** **21 49 23.4 -0.9**
BHK *ex* x 21 50 25.8
DGAR Diego Garcia 51.27 257*d iP* **P** **21 49 24.7 -1.0**
DGAR Diego Garcia 51.27 257 P **P** **21 49 25.8 +0.1**
SNR=11
DGAR Diego Garcia 51.27 257 P **P** **21 49 24.8 -1.0**
comp=Z,6μm,0.6s,SNR=9.3
DGAR Diego Garcia 51.27 257 *e*P **P** **21 49 24.8 -0.9**
comp=Z,3μm,1.4s
DGAR *e*ScP **ScP** **21 53 31.9 +0.4**
DHRM DHARAMSHALA 51.52 309 *e*P **P** **21 49 28.7 +1.1**
DHRM AMB AMB 21 49 32.0
comp=Z,8μm,3.2s
TAU Tasmania Unive 51.88 157 *e*P **P** **21 49 30.4 +0.8**
TAU Tasmania Unive 51.88 157 P **P** **21 49 31.0 +1.4**
comp=Z,2μm,0.9s,SNR=18
TAU Tasmania Unive 51.88 157 *e*P **P** **21 49 30.4 +0.8**
THN Thein Dam 52.05 309 *ex* **P** **21 49 28.4 -2.6**
THN *ex* **S** **21 56 12.0 +0.1**
CLNS Chul'man 52.63 2 *e*P **P** **21 49 35.9 +1.1**
CLNS *e* 21 50 36.5
CLNS *e**PP **pP** **21 51 20.4 -4.0**
CLNS *e*S **S** **21 56 21.7 +2.8**
CLNS *e* 21 58 21.9
CLNS *e*SS **SS** **22 00 06.8 -2.1**
CLNS pmax pmax
comp=Z,978nm,1.0s
CLNS pmax pmax
comp=N,525nm,0.9s
CLNS pmax pmax
comp=E,317nm,1.1s
CLNS smax smax
comp=N,3μm,10.6s
CLNS smax smax
comp=E,5μm,13.3s

HVS Khovu-Aksy 52.73 338*d iP* **P** **21 49 36.9 +1.2**
JMU Jammu 52.79 309 *e*P **P** **21 49 35.0 -1.3**
JMU *ex* x 21 49 55.0
SKR Severo-Kuril's 54.32 26 *e*P P 21 49 42.5 -4.2
SKR *e* 21 51 32.0
SKR *i* S S 21 56 34.0 -7.1
SKR pmax pmax
comp=E,400nm,1.0s
SKR pmax pmax
comp=Z,670nm,1.0s
SKR smax smax
comp=N,24μm,8.0s
SKR smax smax
comp=E,13nm,10.0s
BHJ Bhuj 54.45 296 *e*P **P** **21 49 46.7 -1.5**
KSH Kashi 54.88 317⇓ P **P** **21 49 53.8 +2.8**
KSH PcP **PcP** **21 50 45.4 +1.4**
KSH PP PP 21 52 09.2 +6.2
KSH ScP **ScP** **21 53 47.8 +0.9**
KSH PcS **PcS** **21 54 46.4 +1.5**
KSH S S 21 56 55.4 +6.3
KSH ScS **ScS** **21 58 39.8 -0.1**
KSH SS **SS** **22 00 50.6 +5.7**
KSH AMB AMB
comp=E,1μm,1.1s
KSH AMB AMB
comp=E,6μm,2.7s
MK31 Makanchi Array 54.93 327*ce*P **P** **21 49 52.0 +0.8**
MK31 pmax pmax
comp=Z,572nm,0.3s
MK31 Makanchi Array 54.93 327⇓ *iP* **P** **21 49 52.3 +1.1**
MK31 *e*PcP **PcP** **21 50 45.0 +1.1**
MK31 *e*pP **pP** **21 51 37.3 -4.9**
MKAR Makanchi Array 54.93 327 P **P** **21 49 52.1 +0.9**
MKAR 21 50 44.7
MKAR S **S** **21 56 51.8 +2.4**
MKAR 21 58 39.0
MKAR smax smax
comp=N,17nm,0.6s
MKAR Makanchi Array 54.93 327 P **P** **21 49 52.1 +0.9**
MKAR PcP **PcP** **21 50 44.6 +0.7**
MKAR ScP **ScP** **21 53 45.8 -1.1**
MKAR S **S** **21 56 51.8 +2.4**
MKAR ScS **ScS** **21 58 39.0 -0.7**
MKAR Makanchi Array 54.93 327 P **P** **21 49 52.1 +0.9**
comp=N,1μm,0.5s,baz=123,slow=7.9,SNR=8414
MKAR PcP **PcP** **21 50 44.6 +0.7**
comp=N,744nm,0.6s,baz=128,slow=4.1,SNR=11
MKAR ScP **ScP** **21 53 45.8 -1.1**
comp=N,139nm,0.8s,baz=126,slow=5.2,SNR=4.6
MKAR S **S** **21 56 51.8 +2.4**
comp=N,17nm,0.6s,baz=128,slow=16,SNR=3.7
MKAR ScS **ScS** **21 58 39.0 -0.7**
comp=N,7.6nm,0.7s,baz=132,slow=8.6,SNR=3.7
ULHL Ulahol 56.00 320 *i* P **P** **21 50 00.5 +1.6**
ULHL Ulahol 56.00 320 P **P** **21 50 00.5 +1.6**
SNR=126
KZA Kyzart 56.56 319 *i* P **P** **21 50 04.9 +1.9**
KZA Kyzart 56.56 319 P **P** **21 50 04.9 +1.9**
SNR=1347
TKM2 Tokmak 2 56.75 320 *e*P **P** **21 50 05.2 +1.2**
TKM2 Tokmak 2 56.75 320 P **P** **21 50 05.2 +1.2**
SNR=2650
TKM2 Tokmak 2 56.75 320 *e*P **P** **21 50 05.2 +1.2**
PEA0B Petropavlovsk- 56.76 25⇓ *e*P **P** **21 50 04.8 +1.2**
PEA0B *e*pP **pP** **21 51 53.2 -2.5**
PETK Petropavlovsk- 56.76 25 P **P** **21 50 04.4 +0.8**
PETK S **S** **21 57 13.0 +0.4**
PETK pmax pmax
comp=Z,312nm,1.1s
PETK smax smax
comp=N,7.0nm,1.0s
PETK Petropavlovsk- 56.76 25 P **P** **21 50 04.3 +0.8**
PETK S **S** **21 57 13.0 +0.4**
PETK Petropavlovsk- 56.76 25 P **P** **21 50 04.3 +0.8**
comp=N,308nm,1.1s,baz=208,slow=4.1,SNR=113
PETK S **S** **21 57 13.0 +0.4**
comp=N,6.9nm,1.0s,baz=15,slow=12,SNR=2.1
KBK Karagaybulak 57.04 320 *i* P **P** **21 50 07.8 +1.9**
KBK Karagaybulak 57.04 320 P **P** **21 50 07.8 +1.9**
SNR=54
PET Petropavlovsk 57.10 25κ *iP* **P** **21 50 07.0 +1.1**
PET *e* 21 50 49.1
PET *e**PP **pP** **21 51 59.6 +1.4**
PET *e**SP **sP** **21 53 02.3 +1.2**
PET *i* S **S** **21 57 18.0 +1.1**
PET *e* 21 58 52.1
PET pmax pmax
comp=Z,2μm,8.9s
PET smax smax
comp=E,8μm,11.1s
UCH Uchtor 57.12 319 *i* P **P** **21 50 09.0 +2.2**
UCH Uchtor 57.12 319 P **P** **21 50 09.0 +2.2**
SNR=316
AAK Ala-Archa 57.32 319 *e*P **P** **21 50 09.2 +1.4**
AAK 21 50 53.5
AAK 21 53 57.7
AAK S **S** **21 57 24.5 +4.0**
AAK pmax pmax
comp=Z,1μm,0.8s
AAK Ala-Archa 57.32 319 P **P** **21 50 09.6 +1.7**
SNR=558
AAK Ala-Archa 57.32 319 P **P** **21 50 09.7 +1.8**
SNR=710
AAK Ala-Archa 57.32 319 P **P** **21 50 09.7 +1.8**
comp=Z,9μm,0.6s
AAK Ala-Archa 57.32 319 *e*P **P** **21 50 09.2 +1.4**
comp=Z,1μm,0.8s
AAK PcP **PcP** **21 50 53.5 -0.2**
AAK ScP **ScP** **21 53 57.7 0.0**
AAK S **S** **21 57 24.5 +4.0**
AAK Ala-Archa 57.32 319 P **P** **21 50 09.6 +1.8**
comp=Z,1μm,0.8s,baz=110,slow=5.0,SNR=455
AAK PcP **PcP** **21 50 53.5 -0.2**
comp=Z,433nm,0.5s,baz=97,slow=8.1,SNR=7.3
AAK ScP **ScP** **21 53 57.7 0.0**
comp=Z,183nm,1.0s,baz=146,slow=4.5,SNR=4.1
AAK S **S** **21 57 24.5 +4.0**
comp=Z,27nm,1.1s,baz=344,slow=22,SNR=11
CHMS Chumysh 57.33 320 *i* P **P** **21 50 08.9 +1.2**
CHMS Chumysh 57.33 320 P **P** **21 50 08.9 +1.2**
SNR=29
FRU Bishkek 57.34 320 *i* P **P** **21 50 10.0 +2.2**
FRU *i* 21 57 23.0
FRU pmax pmax
comp=Z,3μm,2.2s
AML Almayashu 57.61 318 *i* P **P** **21 50 12.0 +1.9**
AML Almayashu 57.61 318 P **P** **21 50 12.0 +1.9**
SNR=42
USP Ospenovka 57.62 320 *i* P **P** **21 50 11.1 +1.4**
USP Ospenovka 57.62 320 P **P** **21 50 11.1 +1.4**
SNR=56
EKS2 Erkin-Say 57.80 319 *e*P **P** **21 50 12.5 +1.4**
EKS2 pmax pmax
comp=Z,2μm,0.8s
EKS2 Erkin-Say 57.80 319 P **P** **21 50 12.9 +1.8**
SNR=72
EKS2 Erkin-Say 57.80 319 *e*P **P** **21 50 12.5 +1.4**
comp=Z,2μm,0.8s
KBL Kabul 58.01 309 *e*P **P** **21 50 11.8 -0.9**
KBL Kabul 58.01 309 *e*P **P** **21 50 11.8 -0.9**
KBL Kabul 58.01 309⇓ P **P** **21 50 13.5 +0.7**
baz=58
YAK Yakutsk 58.06 4 *i* P **P** **21 50 12.6 +0.4**
YAK *e* 21 50 57.0
YAK *e**PP **pP** **21 52 06.0 +0.9**
YAK *e* 21 52 29.8
YAK *i* S **S** **21 57 28.1 -0.6**
YAK *e* 21 58 59.0
YAK *e*SS **SS** **22 01 30.9 -2.7**
YAK pmax pmax
comp=Z,2μm,0.9s
YAK pmax pmax
comp=Z,260nm,1.5s
YAK pmax pmax
comp=N,168nm,1.2s
YAK pmax pmax
comp=E,172nm,1.5s
YAK smax smax
comp=E,7μm,3.5s
YAK smax smax
comp=N,8μm,4.3s
ZAA0 Zalesovo Array 58.43 335⇓ *iP* **P** **21 50 14.6 -0.3**
ZAA0 *e*PcP **PcP** **21 50 58.3 +0.7**

ZAA0 *e*pP **pP** 21 52 08.2 +0.2
ZAA0 *es*P sP 21 53 04.9 -5.8
ZALV Zalesovo Beam 58.43 335 P **P** 21 50 14.9 0.0
ZALV 21 50 58.3
ZALV S **S** 21 57 32.5 -1.3
ZALV pmax pmax
comp=Z,591nm,0.7s
ZALV smax smax
comp=N,79nm,1.0s
ZALV Zalesovo Beam 58.43 335 P **P** 21 50 14.9 0.0
ZALV PcP **PcP** 21 50 58.2 +0.6
ZALV S **S** 21 57 32.5 -1.3
ZALV Zalesovo Beam 58.43 335 P **P** 21 50 14.9 0.0
comp=N,392nm,0.5s,baz=122,slow=4.8,SNR=447
ZALV PcP **PcP** 21 50 58.2 +0.6
comp=N,108nm,0.5s,baz=112,slow=4.3,SNR=4.7
ZALV S **S** 21 57 32.5 -1.3
comp=N,79nm,0.9s,baz=120,slow=8.8,SNR=10
MSVF Nonsavu 58.88 113 *e*P **P** 21 50 19.9 +1.3
MSVF pmax pmax
comp=Z,280nm,0.9s
MSVF Nonsavu 58.88 113 P **P** 21 50 20.0 +1.3
comp=Z,2µm,0.9s,SNR=34
MSVF Nonsavu 58.88 113 *e*P **P** 21 50 19.9 +1.3
comp=Z,280nm,0.9s
KURBB Kurchatov Arra 59.23 329 P **P** 21 50 20.7 +0.4
comp=Z,1µm,0.6s,baz=137,slow=6.7,SNR=4339
KURBB S **S** 21 57 39.9 -4.1
comp=Z,11nm,1.1s,baz=137,slow=11,SNR=4.2
KURK Kurchatov 59.24 329*d* P **P** 21 50 21.0 +0.7
KURK pmax pmax
comp=Z,3µm,1.2s
KURK Kurchatov 59.24 329 P **P** 21 50 21.5 +1.1
SNR=1354
KURK Kurchatov 59.24 329 P **P** 21 50 21.3 +1.0
comp=Z,36µm,0.7s
KURK Kurchatov 59.24 329 *e*P **P** 21 50 20.5 +0.2
KURK S **S** 21 57 39.9 -4.2
NVS Novosibirsk 59.72 335‖ *i*P **P** 21 50 22.4 -1.0
NVS *e* 21 50 58.3
NVS *i* S **S** 21 57 44.4 -5.5
NVS pmax pmax
comp=Z,910nm,0.8s
NVS pmax pmax
comp=N,460nm,0.8s
NVS pmax pmax
comp=E,500nm,0.8s
NVS smax smax
comp=N,562nm,1.7s
NVS smax smax
comp=E,692nm,1.4s
KK31 Karatay Array 60.15 318*ce*P **P** 21 50 27.2 +0.6
KK31 pmax pmax
comp=Z,875nm,0.5s
KKAR Karatay Array 60.15 318 *e*P **P** 21 50 27.0 +0.4
KKAR Karatay Array 60.15 318 *e*P **P** 21 50 27.0 +0.4
OUZ Omahuta 61.79 134 *e*P **P** 21 50 38.8 +1.4
MIDW Midway 61.82 60 *e*P **P** 21 50 37.9 +0.2
comp=Z,357nm,1.0s
SEY Seymchan 62.69 15*d i*P **P** 21 50 43.9 +1.2
SEY *i* *PP **pP** 21 52 35.8 -2.4
FX1 Attu Island--F 63.91 31 *e*P **P** 21 50 51.7 +1.1
FX1 Attu Island--F 63.91 31 P **P** 21 50 51.8 +1.1
comp=Z,88nm,0.5s,baz=284,slow=5.1,SNR=39
WBK Wadi Bani Khal 64.06 293 P **P** 21 50 52.6 +0.3
SNR=76
VOSK Vostochnaya 64.32 328 *e*P **P** 21 50 53.0 -0.3
VOSK Vostochnaya 64.32 328 *e*P **P** 21 50 53.0 -0.3
SMY Shemya 64.32 32 *e*P **P** 21 50 56.1 +2.8
SMY Shemya 64.32 32 *e*P **P** 21 50 56.1 +2.8
RPZ Rata Peaks 64.51 143⇑ *e*P **P** 21 50 54.8 +0.1
comp=Z,2.2nm,0.2s
RPZ *e*PcP **PcP** 21 51 24.7 +2.0
RPZ *e*pP **pP** 21 52 51.8 +0.6
RPZ S **S** 21 58 49.4 +0.5
RPZ Rata Peaks 64.51 143 P **P** 21 50 54.8 +0.1
comp=Z,614nm,0.8s,baz=316,slow=2.2,SNR=84
RPZ S **S** 21 58 49.4 +0.5
comp=Z,21nm,1.0s,baz=69,slow=18,SNR=3.2
JMDO Jabal Madar 64.83 293 P **P** 21 50 57.1 0.0
SNR=121
BRVK Borovoye 64.85 328*d i*P **P** 21 50 57.0 +0.4
BRVK pmax pmax
comp=Z,3µm,1.2s
BRVK Borovoye 64.85 328 P **P** 21 50 57.5 +0.8
SNR=736
BRVK Borovoye 64.85 328 P **P** 21 50 57.6 +1.0
comp=Z,11µm,0.7s
BRVK Borovoye 64.85 328 *e*P **P** 21 50 56.8 +0.2
IDAH Dahanechah 64.91 304 *e*P **P** 21 50 58.9 +1.2
SMDO Samad 64.96 293 P **P** 21 50 57.9 -0.1
SNR=92
ODZ Otahua Downs 65.02 144 *e*P **P** 21 50 58.1 +0.3
IMON Monand 65.17 305 *e*P **P** 21 51 00.2 +0.9
KHZ Kahutara 65.34 141 *e*P **P** 21 50 59.6 -0.2
IMYA Miami 65.52 308 *e*P **P** 21 51 02.2 +0.8
SNZO South Karori 65.52 139 *e*P **P** 21 50 59.9 -1.0
IKOO Kooshah 65.56 304 *e*P **P** 21 51 02.9 +1.1
BKZ Black Stump Fm 65.69 136 *e*P **P** 21 51 02.0 -0.2
HOQ Hoqain 65.69 294 P **P** 21 51 02.6 +0.1
SNR=100
URZ Urewera 65.70 135⇑ *e*P **P** 21 51 01.1 -1.1
comp=Z,1.9nm,0.6s
URZ *e*pP **pP** 21 52 55.1 -4.1
URZ *e*PP **PP** 21 53 38.4 +1.1
URZ S **S** 21 58 59.9 -3.3
URZ Urewera 65.70 135 P **P** 21 51 01.5 -0.7
comp=Z,693nm,0.8s,baz=282,slow=3.0,SNR=55
URZ S **S** 21 58 59.9 -3.3
comp=Z,22nm,1.1s,baz=229,slow=20,SNR=4.6
BSY Bisya 65.70 293 P **P** 21 51 02.8 +0.1
SNR=106
MCQ Macquarie Isla 65.75 158 *e*P **P** 21 51 04.0 +1.9
MCQ Macquarie Isla 65.75 158 *e*P **P** 21 51 04.0 +1.9
ITEG Tejag 65.86 304 *e*P **P** 21 51 05.0 +1.4
RAO Raoul Island 65.96 124 P **P** 21 51 05.1 +1.1
RAO Raoul Island 65.96 124 P **P** 21 51 05.1 +1.1
comp=Z,240nm,0.4s,baz=345,slow=23,SNR=4.2
ISRO Mashad 66.00 308 *e*P **P** 21 51 05.0 +0.7
IMOG Moghan 66.06 308 *e*P **P** 21 51 05.4 +0.5
BFZ Birch Farm 66.23 138 *e*P **P** 21 51 05.9 +0.4
ARQ Araqi 66.39 294 P **P** 21 51 06.9 +0.1
SNR=102
IPAY Payeh 66.41 308 *e*P **P** 21 51 07.6 +0.6
AMKA Amchitka 66.56 35 *e*P **P** 21 51 07.0 -0.2
comp=Z,114nm,0.6s
IAKL Akhelmad 66.63 308 *e*P **P** 21 51 09.2 +0.8
UOSS Wadi Hilu 66.85 295 P **P** 21 51 09.4 -0.2
comp=Z,2µm,0.4s,SNR=66
IBND Bandar-abas 66.86 298 *e*P **P** 21 51 10.5 +0.9
IBND *e*P **P** 21 51 11.4 +1.8
IKRD Kardeh 66.86 308 *e*P **P** 21 51 05.8 -4.0
BANOM Banah 66.88 296 P **P** 21 51 10.4 +0.6
SNR=29
IEMG Emamgholi 66.89 309 *e*P **P** 21 51 11.1 +1.1
ASHO Ashiyiah 66.95 295 P **P** 21 51 10.5 +0.2
SNR=82
ISFR Sfrayin 67.32 308 *e*P **P** 21 51 14.0 +1.4
AFI Afiamalu 67.55 107 P **P** 21 51 15.1 +1.0
AFI Afiamalu 67.55 107 P **P** 21 51 15.1 +1.0
comp=Z,312nm,0.9s,baz=242,slow=13,SNR=14
MSEY Mahe Island 67.55 263 P **P** 21 51 15.4 +1.2
SNR=16
MSEY Mahe Island 67.55 263 P **P** 21 51 14.8 +0.6
comp=Z,2µm,1.7s,SNR=13
MSEY Mahe Island 67.55 263 *e*P **P** 21 51 14.1 -0.1
comp=Z,1µm,1.6s
MSEY *e*pP **pP** 21 53 13.9 +1.8
TIXI Tiksi 67.59 2*d i*P **P** 21 51 12.7 -0.5
TIXI pmax pmax
comp=Z,1µm,0.9s
ISHV Shirvan 67.66 309 *e*P **P** 21 51 16.2 +1.6
RBK Rabkut 68.12 287 P **P** 21 51 17.2 -0.3
SNR=63
IBAF Bafgh 68.29 302 *e*P **P** 21 51 18.9 +0.4
ABTO Aybut 68.98 287 P **P** 21 51 22.4 -0.3
SNR=95
ADK Adak 69.06 35 *e*P **P** 21 51 23.6 +1.2
ADK pmax pmax
comp=Z,347nm,0.6s
ADK Adak 69.06 35 *e*P **P** 21 51 23.6 +1.2
comp=Z,348nm,0.6s
IMEH Mehriz 69.07 302 *e*P **P** 21 51 22.9 -0.4
AB31 Akbulak array 69.25 322*ce*P **P** 21 51 24.0 +0.4
AB31 pmax pmax
comp=Z,1µm,0.7s
ABKAR Akbulak array 69.25 322‖ *i*P **P** 21 51 24.0 +0.3
comp=Z,16nm,1.2s
ICHK Chekchek 69.36 303 *e*P **P** 21 51 25.2 +0.2
IMND Minoodasht 69.39 308 *e*P **P** 21 51 26.8 +2.0
ISAD Sadrabad 69.92 302 *e*P **P** 21 51 28.3 -0.1
RER Riviere de l'E 70.03 246‖ *e*P **P** 21 51 28.7 -0.2
comp=Z,621nm,0.8s
ISRV Sarvestan 70.09 300 *e*P **P** 21 51 30.7 +1.2
IPAR Pars 70.20 300 *e*P **P** 21 51 30.6 +0.5
IANJ Anjilo 70.26 306 *e*P **P** 21 51 30.6 +0.3
IGLO Ghaloghah 70.50 307 *e*P **P** 21 51 32.0 +0.4
CASY Casey 70.73 185 *e*P **P** 21 51 31.8 -0.2
comp=Z,138nm,0.6s
CASY *e*pP **pP** 21 53 29.4 -2.1
ISHM Shahmirzad 70.82 306 *e*P **P** 21 51 34.3 +0.7
ILAS Lasjerd 71.02 306 *e*P **P** 21 51 35.0 +0.2
IZEF Zefreh 71.19 303 *e*P **P** 21 51 35.3 -0.5
IFIR Firoozkooh 71.23 306 *e*P **P** 21 51 36.4 +0.4
IKAZ Kazeroun 71.24 300 *e*P **P** 21 51 36.5 +0.3
IALA Alasht 71.25 307 *e*P **P** 21 51 36.7 +0.6
IGAR Gharneh 71.37 303 *e*P **P** 21 51 37.1 +0.3
ISFB Sefidab 71.46 305 *e*P **P** 21 51 37.7 +0.6
SVE Sverdlovsk 71.49 329 *e i*P **P** 21 51 37.0 +0.3
SVE *e* 21 53 38.0
SVE *e* 21 54 33.0
SVE *e*PPP PPP 21 56 11.8
SVE *e*S **S** **22 00 06.7** -2.4
SVE pmax pmax
comp=Z,3µm,1.1s
SVE pmax pmax
comp=Z,4µm,12.9s
SVE smax smax
comp=N,5µm,12.9s
IDMV Damavand 71.80 306 *e*P **P** 21 51 39.5 +0.2
IKLH Kolahrood 71.87 304 *e*P **P** 21 51 40.3 +0.6
IVRN Varamin 71.97 305 *e*P **P** 21 51 40.6 +0.5
ARU Arti 72.42 328*d i*P **P** 21 51 41.7 -0.4
ARU *PP **pP** 21 53 40.6 -1.8
ARU *SP **sP** 21 54 40.8 -2.2
ARU S **S** **22 00 17.8** -1.7
ARU SSS SSS 22 08 40.7
ARU pmax pmax
comp=Z,2µm,1.2s
ARU Arti 72.42 328 P **P** 21 51 41.7 -0.4
comp=Z,8µm,0.7s
IR3 Iran Long-Peri 72.60 306 *e*P **P** 21 51 44.4 +0.7
MUKL Al Mukalla 73.02 284‖ *e*P **P** 21 51 46.8 +0.4
MUKL AMb AMB 21 51 49.0
comp=Z,4µm,1.3s
IGZV Ghazvin 73.36 307 *e*P **P** 21 51 48.4 +0.2
IRAZ Razeghan 73.48 306 *e*P **P** 21 51 49.4 +0.5
SOKR Solikamsk 74.37 331*d i*P **P** 21 51 52.7 -0.3
SOKR pmax pmax
comp=Z,820nm,1.2s
IKMR Kamar-syah 74.55 304 *e*P **P** 21 51 54.2 -0.4
QRN Al-Qurain 74.56 299 *e*P **P** 21 51 54.8 -0.1
QRN AMb AMB 21 51 57.5
comp=Z,4µm,0.6s
IDOB Doab 74.74 304 *e*P **P** 21 51 54.4 -1.6
KBD Kabd 74.79 299 *e*P **P** 21 51 56.0 -0.1
KBD AMb AMB 21 51 58.5
comp=Z,1µm,0.7s
UMR Umm Al-Rimmam 74.79 299 *e*P **P** 21 51 55.8 -0.3
UMR AMb AMB 21 51 60.0
comp=Z,4µm,0.8s
RDF Al-Radifah 74.90 299 *e*P **P** 21 51 56.8 0.0
RDF AMb AMB 21 52 00.8
comp=Z,4µm,0.9s
IKFM Kafar-mosalman 74.99 303 *e*P **P** 21 51 56.6 -0.5
MIB Mutribah 75.14 300 *e*P **P** 21 51 58.1 +0.1
MIB AMb AMB 21 52 02.2
comp=Z,5µm,0.7s
NAY Al-Naaiem 75.19 299 *e*P **P** 21 51 58.0 -0.3
NAY AMb AMB 21 52 02.4
comp=Z,3µm,0.8s
IKOM Komasi 75.33 304 *e*P **P** 21 51 58.3 -0.9
RST Umm Al-Ruwaisa 75.42 299 *e*P **P** 21 51 59.1 -0.4
RST AMb AMB 21 52 03.5
comp=Z,54µm,0.8s
UNV Unalaska Valle 75.53 35 *e*P **P** 21 51 59.5 -0.2
comp=Z,174nm,0.6s
UNV *e*pP **pP** 21 54 00.6 -0.7
ISRB Sarab 75.56 308 *e*P **P** 21 52 01.2 +0.7
ILIN Lien 75.85 305 *e*P **P** 21 52 01.5 -0.7
IVIS Veis 75.91 304 *e*P **P** 21 52 01.3 -1.0
AKUT Akutan 76.02 35 *e*P **P** 21 52 02.9 +0.6
comp=Z,448nm,0.8s
IHRS Heris 76.10 308 *e*P **P** 21 52 03.8 +0.3
IGHG Ghaleghazi 76.12 304 *e*P **P** 21 52 02.6 -1.1
IBST Bostanabad 76.16 308 *e*P **P** 21 52 03.2 -0.6
MAK Makhachkala 76.28 313 *e*P **P** 21 52 04.6 +0.6
MAK *e*PP **pP** 21 54 07.2 +1.1
MAK *e*SP **sP** 21 55 06.6 +0.4
MAK *e*S **S** **22 01 02.4** +0.5
MAK *e*SS **SS** **22 06 16.2** +3.4
MAK *e*SSS SSS 22 09 43.6
MAK pmax pmax
comp=Z,15µm,8.6s
MAK pmax pmax
comp=E,2µm,1.4s
MAK pmax pmax
comp=N,690nm,0.5s
MAK pmax pmax
comp=Z,2µm,1.5s
MAK MLR MLR
comp=Z,12µm,17.0s
MAK MLR MLR
comp=N,9µm,19.0s
MAK MLR MLR
comp=E,17µm,21.0s
IDHR Dehrash 76.30 305 *e*P **P** 21 52 03.4 -1.2
BDHA Al Bayda' 76.39 283‖ *e*P **P** 21 52 06.1 +0.6
RAYN Ar Rayn 76.50 293 P **P** 21 52 05.6 -0.1
comp=E,8µm,1.1s
IFTB Fath-abad 76.58 308 *e*P **P** 21 52 06.9 +0.8
LBOS 76.70 283‖ *e*P **P** 21 52 07.8 +0.6
ITBZ Tabriz 76.79 308 *e*P **P** 21 52 07.7 +0.5
IMRD Marand 77.18 309 *e*P **P** 21 52 09.7 +0.4
OPO Ambohidratompo 77.47 250 P **P** 21 52 11.1 -0.1
OPO S **S** **22 01 15.9** +0.2
OPO Ambohidratompo 77.47 250 P **P** 21 52 11.1 -0.1
comp=E,255nm,0.8s,baz=69,slow=4.3,SNR=101
OPO S **S** **22 01 15.9** +0.2
comp=E,3.9nm,0.9s,baz=330,slow=20,SNR=3.9
ABPO Ambohimpanom 77.50 250 P **P** 21 52 11.1 -0.3
comp=E,788nm,0.6s,SNR=20
FALS False Pass 77.51 35 *e*P **P** 21 52 10.4 -0.1
comp=E,947nm,0.5s
DHBB Dhamar BB 77.52 284‖ *e*P **P** 21 52 12.3 +0.6
DHBB AMb AMB 21 52 14.0
comp=Z,2µm,0.9s
DGRG David-gareji 77.69 311 P **P** 21 52 13.5 +1.7
TRBA At Turbah 77.82 283‖ *e*P **P** 21 52 13.9 +0.6
TNA Tin City 77.91 23 *e*P **P** 21 52 14.8 +2.4
comp=Z,37nm,0.6s
UDYN Al 'Udayn 77.94 283‖ *e*P **P** 21 52 14.3 +0.5
GNI Garni 78.05 310 P **P** 21 52 15.4 +1.5
SNR=106
GNI Garni 78.05 310‖ *i*P **P** 21 52 14.7 +0.8
comp=Z,1µm,0.8s
GNI *e*pP **pP** 21 54 21.5 +4.8
GNI *e*SP **sP** 21 55 11.8 -4.8
GNI S **S** **22 01 24.6** +3.6
GNI *e*S SKSac 22 01 25.6 -7.4
GNI Garni 78.05 310 S **S** **22 01 24.6** +3.6
comp=Z,10nm,0.8s,baz=150,slow=20,SNR=2.7
TBLG Delisi 78.19 312 P **P** 21 52 15.5 +1.0
HAJJ Hajjah 78.27 285‖ *e*P **P** 21 52 16.2 +0.7
HAKT HAKKARI 78.67 307 *i* P **P** 21 52 18.4 +1.0
KIP Kipapa 78.70 69⇑ *e*P **P** 21 52 20.1 +2.6
KIP Kipapa 78.70 69 *e*P **P** 21 52 18.5 +1.0
comp=Z,70nm,0.7s
KIP *e*pP **pP** 21 54 19.2 -1.4
HON Honolulu 78.71 69 *e*P **P** 21 52 18.4 +0.8
HON Honolulu 78.71 69 *e*P **P** 21 52 18.4 +0.8
DYDN Diyadin 78.81 309 *i* P **P** 21 52 19.8 +1.8
ZEI Tsey 78.89 313 *e*P **P** 21 52 19.2 +0.8
ZEI pmax pmax
comp=Z,2µm,1.4s
AKH Akhalkalaki 79.09 311 P **P** 21 52 21.1 +1.6
ATD Arta Tunnel 79.11 281 S **S** **22 01 32.5** -0.1
comp=Z,4.6nm,0.7s,baz=256,slow=17,SNR=2.1
DIGO Kars 79.11 310 *i* P **P** 21 52 20.9 +1.2
ONI Oni 79.21 312 P **P** 21 52 21.1 +1.2
GEVA Gevas 79.22 308 *i* P **P** 21 52 21.6 +1.4
SDPT Sand Point 79.26 35 *e*P **P** 21 52 19.9 +0.1
comp=Z,377nm,0.5s
TUTA Tutak 79.48 309 *i* P **P** 21 52 23.1 +1.4
SIRT Sirnak 79.67 307 *e*P **P** 21 52 23.2 +0.7
EPOS Posof 79.67 311 *i* P **P** 21 52 17.8 -4.7
GOF Gofitskoye 79.70 315‖ *i*P **P** 21 52 22.5 +0.2
GOF *e*S **S** **22 01 39.1** +1.6
GOF pmax pmax
comp=Z,800nm,0.8s
GOF smax smax
comp=N,220nm,1.2s
GOF smax smax
comp=E,300nm,1.2s
KBZ Khabaz 79.70 314 P **P** 21 52 22.5 +0.2
KBZ S **S** **22 01 37.4** -0.1
KBZ pmax pmax
comp=Z,525nm,0.9s
KBZ smax smax
comp=N,14nm,1.0s
KBZ Khabaz 79.70 314 P **P** 21 52 22.5 +0.2
KBZ S **S** **22 01 37.4** -0.1
KBZ PKKPbc **PKKPbc** **22 11 08.1** +2.3
KBZ Khabaz 79.70 314 P **P** 21 52 22.5 +0.2
comp=N,525nm,0.9s,baz=70,slow=3.8
KBZ S **S** **22 01 37.4** -0.1
comp=N,14nm,0.9s,baz=347,slow=22,SNR=7.4
KBZ PKKPbc **PKKPbc** **22 11 08.1** +2.3
comp=N,3.8nm,0.8s,baz=327,slow=3.4,SNR=5.6
TATV Tatvan 79.85 308 *i* P **P** 21 52 25.2 +1.6
KIV Kislovodsk 79.87 314*d* P **P** 21 52 23.4 +0.1
KIV *e* 21 55 32.0
KIV *e*S **S** **22 01 40.9** +1.4
KIV pmax pmax
comp=Z,911nm,1.2s
KIV Kislovodsk 79.87 314 P **P** 21 52 23.5 +0.1
comp=Z,4µm,0.8s,SNR=64
XMAS Kiritimati 79.90 89 *e*P **P** 21 52 25.4 +1.3
comp=Z,503nm,1.3s
RAR Rarotonga 80.04 112 *e*P **P** 21 52 25.3 +0.8
comp=Z,301nm,1.4s
HOMI Horasan 80.21 310 *i* P **P** 21 52 26.8 +1.3
CHVG Ch'k'valeri 80.22 312 P **P** 21 52 25.9 +0.8
ARTV Artvin 80.25 311 *i* P **P** 21 52 26.9 +1.3
DAGI Agillar 80.26 311 *i* P **P** 21 52 26.7 +1.2
DDEM Demirkent 80.37 311 *i* P **P** 21 52 27.3 +1.2
DBAD Bademkaya 80.42 311 *i* P **P** 21 52 27.6 +1.3
DBOC Borcka 80.46 311 *i* P **P** 21 52 27.3 +0.8
BEST Besiri 80.61 308 *i* P **P** 21 52 28.7 +1.3
ERZM Erzurum 80.62 310 *i* P **P** 21 52 29.3 +1.7
EZM Erzurum 80.62 310 *e*P **P** 21 52 29.0 +1.4
BNGL BINGOL 80.75 309 *i* P **P** 21 52 29.9 +1.7
MARD Mardin 80.98 307 *i* P **P** 21 52 30.1 +0.7
BNGB Bing¶‖ 81.11 309 *e*P **P** 21 52 31.3 +1.3
VRHR Novokhopersk 81.12 321 *e*P **P** 21 52 29.1 -0.5
VRHR *e*S S 22 01 45.4 -6.3
VRHR pmax pmax
comp=Z,1µm,0.7s
VRHR pmax pmax
comp=N,800nm,1.6s
VRHR pmax pmax
comp=E,880nm,0.8s
VRHR smax smax
comp=E,2µm,1.7s
VRHR smax smax
comp=Z,1µm,6.4s
VRHR smax smax
comp=N,2µm,2.2s
MAZI Mazidag 81.25 307 *e*P **P** 21 52 31.3 +0.6
KOPT Kop Dagi 81.29 310 *i* P **P** 21 52 32.9 +1.8
DIY Diyarbakir 81.44 308 *e*P **P** 21 52 33.1 +1.5
DIYA Diyarbakir 81.52 308 *i* P **P** 21 52 32.9 +0.9
ERZN Erzincan 81.88 309 *e*P **P** 21 52 34.4 +0.5
SOC Sochi 82.00 313*d i*P **P** 21 52 33.5 -0.7
SOC *i* *PP **pP** 21 54 35.4 -3.2
SOC *i* *SP **sP** 21 55 35.3 -2.8
SOC *e* 21 55 51.0
SOC *i* S **SKSac** **22 01 58.2** -1.0
SOC *e*SS **SS** **22 07 35.5** -1.8
SOC pmax pmax
comp=Z,1µm,1.5s
SOC pmax pmax
comp=Z,1µm,0.9s
GUMT Gumushane 82.08 310 *e*P **P** 21 52 36.2 +1.3
PTK Pertek 82.12 309 *e*P **P** 21 52 36.3 +1.1
EZC Erzincan 82.16 309 *e*P **P** 21 52 36.7 +1.4
KELT Kelkit 82.25 310 *i* P **P** 21 52 37.1 +1.2
ELZG Elazig 82.43 308 *i* P **P** 21 52 38.2 +1.5
VORD Divnogorie 82.59 321 *e*P **P** 21 52 36.0 -1.0
VORD *e*S S 22 01 57.9 -8.3
VORD pmax pmax
comp=Z,2µm,0.7s
VORD pmax pmax
comp=E,1µm,0.9s
VORD smax smax
comp=E,2µm,2.7s
VORD smax smax
comp=Z,1µm,7.8s
ESPY Espiye-Giresun 82.66 311 *e*P **P** 21 52 37.7 0.0
MAW Mawson 82.67 199 P **P** 21 52 37.0 +0.1
MAW S **SKSac** **22 01 56.6** -5.8
MAW PKKPab **PKKPbc** **22 10 57.6** -2.7
MAW Mawson 82.67 199 P **P** 21 52 37.0 +0.1
comp=Z,55nm,0.7s,baz=53,slow=5.4,SNR=82
MAW S **SKSac** **22 01 56.6** -5.8
comp=Z,4.8nm,0.9s,baz=72,slow=9.6,SNR=1.7
MAW PKKPab **PKKPbc** **22 10 57.6** -2.7
comp=Z,6.6nm,0.6s,baz=223,slow=2.5,SNR=14
VSR Storozhevoye 82.68 321 *e*P **P** 21 52 37.2 -0.2
VSR *e*S **SKSac** **22 01 57.9** -5.3
VSR pmax pmax
comp=Z,1µm,0.5s
VSR pmax pmax
comp=N,400nm,1.1s
VSR pmax pmax
comp=E,1µm,0.9s
VSR smax smax
comp=N,4µm,7.4s
VSR smax smax
comp=Z,2µm,6.8s
VSR smax smax
comp=E,2µm,3.0s
VOR Voronezh 82.68 321 *e*P **P** 21 52 37.0 -0.4
VOR *e* 22 02 00.0
VOR pmax pmax
comp=Z,6µm,1.4s
ILIC ilic-Erzincan 82.77 309 *e*P **P** 21 52 39.3 +0.9
KEMA Kemaliye 82.82 309 *i* P **P** 21 52 40.3 +1.7
MALT Malatya 82.86 308⇑ P **P** 21 52 40.2 +1.4
MALT Malatya 82.86 308 *e*P **P** 21 52 39.9 +1.0
MALT Malatya 82.86 308⇑ *i*P **P** 21 52 40.2 +1.4
ATAB Bozova 82.96 307 *i* P **P** 21 52 40.5 +1.2
GRSN GIRESUNGRSN 83.01 311 *i* P **P** 21 52 39.7 +0.2
KLMR Klimovskoe 83.05 331*d* P **P** 21 52 38.6 -0.5
KLMR *e*S S 22 02 04.3 -6.1
KLMR pmax pmax
comp=Z,5µm,1.3s
SUSE Susehri 83.05 310 *i* P **P** 21 52 41.0 +1.2
GZT Gaziantep 83.55 307 *i* P **P** 21 52 43.7 +1.4
ANN Anapa 83.67 314*c i*P **P** 21 52 41.9 -0.6
ANN *e*PP **pP** 21 54 48.3 +0.7
ANN *e* 21 56 11.4
ANN *i* S **SKSac** **22 02 08.0** -1.8
ANN *e*SSS SSS 22 11 34.3
ANN pmax pmax
comp=Z,5µm,0.8s
ANN pmax pmax
comp=N,2µm,0.9s
ANN pmax pmax
comp=E,976nm,0.9s
IM04 Indian Mountai 83.71 24 *e*P **P** 21 52 43.0 +0.7
RSDY Resadiye-TOKAT 83.72 310 *e*P **P** 21 52 43.9 +1.0
MOS Moscow 83.78 325*d* P **P** 21 52 39.6 -3.2
MOS *e*PP **pP** 21 54 47.7 -0.2
MOS *e* 21 56 03.3
MOS *i* S **SKSac** **22 02 03.6** -6.4
MOS *i* 22 02 19.4
MOS pmax pmax
comp=Z,3µm,1.2s
MOS pmax pmax
comp=Z,2µm,1.1s
KDAK Kodiak Island 83.83 32 P **P** 21 52 43.4 +0.4
comp=Z,402nm,0.7s,SNR=24

KDAK **Kodiak Island** 83.83 32 S **S** 22 02 13.1 -5.1
comp=Z,51nm,0.9s,baz=181,slow=17,SNR=6.4
KDAK PKKPbc **PKKPbc** 22 10 55.6 -1.4
comp=Z,4.9nm,0.4s,baz=146,slow=22,SNR=8.2
RSO Redoubt South 83.85 30 *e*P **P** 21 52 43.7 +0.3
comp=Z,206nm,0.9s
RSO *e*pP **pP** 21 54 47.2 -1.4
RSO *e*S S 22 02 11.8 -7.0
SCER sogukcermik 83.88 309 *i* P **P** 21 52 45.2 +1.3
KUZU Kuzuini 83.94 306 *i* P **P** 21 52 45.0 +0.9
TMCR Tamitsa 83.94 334 *e*P **P** 21 52 44.2 +0.8
TMCR *e* 21 56 12.3
TMCR pmax pmax
comp=Z,2µm,1.2s
SVSK Karacayir 83.98 310 *e*P **P** 21 52 45.4 +1.3
KMRS Kahramanmaras 84.07 307 *e*P **P** 21 52 45.5 +0.8
AYKD Aykdinkavak 84.15 307 *i* P **P** 21 52 45.9 +0.8
ASF Jabal al Asfar 84.16 302 S S 22 02 14.5 -8.1
comp=Z,4.9nm,1.1s,baz=187,slow=22,SNR=8.6
ASF PKKP **PKKPdf** 22 10 46.6 +0.3
comp=Z,7.0nm,0.9s,baz=63,slow=4.0,SNR=11
ERBA Erbaa 84.16 310 *i* P **P** 21 52 46.0 +0.9
PPLA Purkeypile 84.23 27 *e*P **P** 21 52 46.2 +1.1
comp=Z,36nm,0.6s
PPLA *e*pP **pP** 21 54 48.8 -1.6
PPLA *e*S S 22 02 14.1 -8.1
TOKT Tokat 84.32 310 *e*P **P** 21 52 46.7 +0.7
VNDA Vanda 84.33 172 *e*P **P** 21 52 45.4 +0.3
comp=Z,48nm,0.8s
VNDA *e*PcP **PcP** 21 52 48.4 +1.0
VNDA *e*pP **pP** 21 54 46.8 -3.7
VNDA pP **pP** 21 54 53.6 +3.2
VNDA S **SKSac** 22 02 12.0 -0.7
VNDA *e*S **SKSac** 22 02 16.0 +3.3
VNDA PKKPbc **PKKPbc** 22 10 54.6 -2.1
VNDA Vanda 84.33 172 P **P** 21 52 45.2 +0.1
comp=Z,69nm,0.6s,baz=314,slow=6.4,SNR=53
VNDA pP **pP** 21 54 53.6 +3.2
comp=Z,34nm,0.9s,baz=307,slow=7.9,SNR=3.4
VNDA S **SKSac** 22 02 12.0 -0.7
comp=Z,2.1nm,1.0s,baz=114,slow=19,SNR=4.5
VNDA PKKPbc **PKKPbc** 22 10 54.6 -2.1
comp=Z,12nm,1.0s,baz=257,slow=1.7,SNR=12
OBN Obninsk 84.36 325*d* *i*P **P** 21 52 45.2 -0.5
OBN *i* *P **pP** 21 54 48.2 -2.8
OBN *e* 21 56 12.8
OBN *e*S **SKSac** 22 02 13.3 -0.4
OBN *e*SS **SS** 22 08 12.9 +1.8
OBN pmax pmax
comp=Z,3µm,1.2s
OBN Obninsk 84.36 325 P **P** 21 52 45.9 +0.2
comp=Z,12µm,1.1s
TOKA Tokat 84.37 310 *i* P **P** 21 52 47.0 +0.9
PINB Pinarbasi 84.45 308 *i* P **P** 21 52 47.9 +1.0
ANDN Andirin 84.51 307 *i* P **P** 21 52 47.8 +0.8
COBT Iskenderun 84.60 306 *i* P **P** 21 52 48.4 +0.8
KVT Kavak 84.69 311 *e*P **P** 21 52 48.6 +0.9
HTY Hatay 84.71 306 *e*P **P** 21 52 48.6 +0.8
YAYL Yayladag 84.73 306 *i* P **P** 21 52 48.8 +0.7
BPAW Bear Paw Mtn. 84.81 26⇓ *e*P **P** 21 52 47.9 +0.1
comp=Z,4.8nm,0.4s
BPAW *e*pP **pP** 21 54 50.7 -2.6
BPAW *e*sP **sP** 21 55 50.0 -2.5
BNN Bunyan 84.88 308 *e*P **P** 21 52 49.2 +0.4
HWQ Hawqa 84.91 304 *e*P **P** 21 52 49.7 +0.7
RCY Rachaya 85.02 303 *e*P **P** 21 52 50.4 +0.8
TRF Thorofare Moun 85.10 27 *e*P **P** 21 52 49.2 -0.1
comp=Z,2.8nm,0.4s
TRF *e*pP **pP** 21 54 53.2 -1.9
TRF *e*S **SKSac** 22 02 20.6 +2.1
BHL Bhannes 85.16 304 *e*P **P** 21 52 50.5 +0.3
COLD Coldfoot 85.19 23⇓ *e*P **P** 21 52 50.4 +0.8
comp=Z,26nm,0.9s
COLD *e*pP **pP** 21 54 53.0 -2.2
COLD *e*sP **sP** 21 55 52.2 -2.2
YOZ Yozgat 85.28 309 *e*P **P** 21 52 51.0 +0.3
DIKM Dikmen 85.28 311 *e*P **P** 21 52 50.2 -0.2
SBA Scott Base 85.28 171 *e*P **P** 21 52 51.1 +1.4
SBA *e**PP **pP** 21 54 53.9 -1.6
SBA *e*S **S** 22 02 32.2 +0.7
SBA Scott Base 85.28 171 *e*P **P** 21 52 51.1 +1.4
comp=Z,38nm,0.7s
SBA *e*pP **pP** 21 54 53.9 -1.6
SBA *e*S **S** 22 02 32.2 +0.7
KMBO Kilima Mbogo 85.38 269 P **P** 21 52 52.8 +1.0
SNR=235
KMBO Kilima Mbogo 85.38 269 P **P** 21 52 52.8 +1.0
KMBO S **SKSac** 22 02 22.4 +0.1
KMBO PKKPbc **PKKPbc** 22 10 51.9 0.0
KMBO Kilima Mbogo 85.38 269 P **P** 21 52 52.8 +1.0
comp=Z,359nm,1.0s,baz=55,slow=6.6,SNR=116
KMBO S **SKSac** 22 02 22.4 +0.1
comp=Z,0.5nm,0.2s,baz=288,slow=22,SNR=8.9
KMBO PKKPbc **PKKPbc** 22 10 51.9 0.0
comp=Z,3.5nm,0.7s,baz=59,slow=23,SNR=6.6
MMAI Mount Meron Ar 85.39 303 S **SKSac** 22 02 21.7 +0.4
comp=Z,2.4nm,0.9s,baz=248,slow=42,SNR=3.3
MMAI PKKPbc **PKKPbc** 22 10 52.9 +0.4
comp=Z,2.4nm,0.6s,baz=102,slow=2.0,SNR=6.0
LVZ Lovozero 85.44 338*ce*P **P** 21 52 50.6 -0.1
LVZ pmax pmax
comp=Z,827nm,1.2s
LVZ Lovozero 85.44 338 P **P** 21 52 50.9 +0.2
comp=Z,3µm,1.0s,SNR=25
SEW Seward 85.49 30 *e*P **P** 21 52 51.0 0.0
comp=Z,62nm,0.6s
SEW *e*pP **pP** 21 54 55.6 -1.2
KARA Karaisali 85.55 307 *e*P **P** 21 52 52.0 +0.1
PMR Palmer 85.64 29 *e*P **P** 21 52 51.8 +0.1
PMR *e*S **SKSac** 22 02 21.8 +0.4
PMR Palmer 85.64 29 *e*P **P** 21 52 51.8 +0.1
comp=Z,37nm,0.5s
PMR *e*S **SKSac** 22 02 21.8 +0.4
CTKT Corum 85.66 310 *i* P **P** 21 52 53.0 +0.5
MCK McKinley 85.71 26 *e*P **P** 21 52 51.5 -0.6
MCK *e**PP **pP** 21 54 55.5 -2.5
MCK pmax pmax
comp=Z,306nm,0.3s
MCK McKinley 85.71 26 *e*P **P** 21 52 51.5 -0.6
comp=Z,306nm,0.3s
MCK *e*pP **pP** 21 54 55.5 -2.5
GULE Gulek 85.77 307 *i* P **P** 21 52 53.8 +0.6
CORM Corum 85.79 310 *e*P **P** 21 52 52.8 -0.3
NIG Nigde 85.87 308 *e*P **P** 21 52 54.1 +0.4
EIL Elat 85.90 299 ⇓P **P** 21 52 54.1 +0.4
baz=86
EIL Elat 85.90 299 S **SKSac** 22 02 23.6 -0.9
comp=Z,2.1nm,0.4s,baz=54,slow=19,SNR=2.4
EIL PKKPbc **PKKPbc** 22 10 53.3 +2.3
comp=Z,11nm,0.6s,baz=324,slow=4.2,SNR=16
APA Apatity 85.92 337⇓ *i*P **P** 21 52 54.7 +1.8
APA *i* 21 56 30.2
APA *i* PPP PPP 21 58 20.0
APA *i* 22 02 22.0
APA *i*S **S** 22 02 37.0 -0.9
APA MLR MLR
comp=Z,86µm,26.0s
SIM Simferopol' 86.02 315*d* *i*P **P** 21 52 56.2 +2.3
SIM *e*PPP PPP 21 58 25.0
SIM *e*S **S** 22 02 39.9 +0.1
SIM pmax pmax
comp=Z,1µm,0.8s
COLA College 86.16 25 *e*P **P** 21 52 53.4 -0.7
COLA *e**PP **pP** 21 54 59.9 -0.3
COLA *e*S **SKSac** 22 02 29.4 +4.9
COLA pmax pmax
comp=Z,174nm,0.7s
COLA College 86.16 25 *e*P **P** 21 52 53.4 -0.7
comp=Z,174nm,0.7s
COLA *e*pP **pP** 21 54 59.9 -0.3
COLA *e*S **SKSac** 22 02 29.4 +4.9
BZK Bozkurt 86.20 312 *e*P **P** 21 52 55.0 +0.1
TOS Tosya 86.22 311 *e*P **P** 21 52 55.3 +0.2
EREN Erenkoy 86.32 305 *e*P **P** 21 52 55.1 -0.4
ILGA Ilgaz 86.45 311 *i* P **P** 21 52 56.3 -0.1
CANT Cankiri 86.55 310 *e*P **P** 21 52 56.1 -0.5
BR131 Keskin Array S 86.57 309 *e*P **P** 21 52 55.9 -0.9
comp=Z,97nm,0.6s
BRTR Keskin Array B 86.57 309 P **P** 21 52 55.9 -0.9
BRTR pP **pP** 21 55 08.0 +4.9
BRTR PP **PP** 21 56 31.0 +1.2
BRTR PKKPbc **PKKPbc** 22 10 52.6 +2.5
BRTR P'P' 22 18 59.2
BRTR Keskin Array B 86.57 309 P **P** 21 52 55.9 -0.9
comp=Z,233nm,0.9s,baz=124,slow=4.7,SNR=198
BRTR pP **pP** 21 55 08.0 +4.9
comp=Z,32nm,1.1s,baz=114,slow=6.5,SNR=2.6
BRTR PP **PP** 21 56 31.0 +1.2
comp=Z,87nm,0.8s,baz=107,slow=8.2,SNR=8.4
BRTR PKKPbc **PKKPbc** 22 10 52.6 +2.5
comp=Z,2.9nm,0.9s,baz=189,slow=2.6,SNR=5.1
BRTR PKPPKP **P'P'df** 22 18 59.2 +3.0
comp=Z,4.2nm,1.2s,baz=313,slow=9.3,SNR=6.1
ILAR Eielson Array 86.58 25 P **P** 21 52 54.6 -1.5
ILAR pP **pP** 21 55 02.2 -0.2
ILAR S **SKSac** 22 02 24.0 -3.1
ILAR PKKP PKKPdf 22 10 36.3 -6.4
ILAR SKKPbc **SKKPbc** 22 13 28.7 -4.5
ILAR Eielson Array 86.58 25 P **P** 21 52 54.6 -1.5
comp=Z,26nm,0.6s,baz=281,slow=3.8,SNR=198
ILAR pP **pP** 21 55 02.2 -0.2
comp=Z,11nm,0.8s,baz=240,slow=5.0,SNR=3.4
ILAR S **SKSac** 22 02 24.0 -3.1
comp=Z,4.5nm,0.9s,baz=253,slow=6.2,SNR=2.9
ILAR PKKP PKKPdf 22 10 36.3 -6.4
comp=Z,1.6nm,0.7s,baz=34,slow=2.2,SNR=4.6
ILAR SKKPbc **SKKPbc** 22 13 28.7 -4.5
comp=Z,3.3nm,0.8s,baz=134,slow=1.7,SNR=4.9
IKL Isikli 86.69 306 *e*P **P** 21 52 54.6 -2.6
SULT Sultanhani-AKS 86.73 308 *e*P **P** 21 52 57.3 -0.3
LFK Lefkose 86.85 305 *e*P **P** 21 52 58.5 +0.3
JOF Joensuu 86.95 333 *e*P **P** 21 52 56.4 -1.5
JOF pmax pmax
comp=Z,752nm,0.7s
BBAL Bala 86.97 309 *i* P **P** 21 52 58.4 -0.4
AFSR Af˙ar-Bala (A 87.02 309 *e*P **P** 21 52 58.1 -0.8
CSS Prodhromos 87.03 305 P P 21 53 13.8 +15
comp=Z,5.7nm,0.5s
CSS Prodhromos 87.03 305 P **P** 21 52 58.5 -0.5
CSS Prodhromos 87.03 305 *e*P **P** 21 52 58.6 -0.3
CSS Prodhromos 87.03 305 *e*P **P** 21 52 58.8 -0.1
comp=Z,14nm,0.8s
MAMC Mammari 87.12 305 P P 21 53 14.3 +15
ANTO Ankara 87.21 310⇓ *i*P **P** 21 52 58.6 -1.1
ANTO *e**SP sP 21 55 57.6 -7.6
ANTO *e* 21 56 33.1
ANTO *e*S **SKSac** 22 02 30.2 -1.8
ANTO pmax pmax
comp=Z,103nm,0.8s
ANTO Ankara 87.21 310 P **P** 21 52 59.5 -0.2
SNR=40
ANTO Ankara 87.21 310 *e*P **P** 21 52 57.2 -2.5
ANTO Ankara 87.21 310⇓ *i*P **P** 21 52 59.1 -0.7
ANTO Ankara 87.21 310⇓ *i*P **P** 21 52 58.6 -1.1
comp=Z,103nm,0.8s
ANTO *e*pP pP 21 54 57.9 -8.4
ANTO *e*sP sP 21 55 57.6 -7.6
ANTO *e*PP **PP** 21 56 33.1 -1.7
ANTO *e*S **SKSac** 22 02 30.2 -1.8
SAFT Safranbolu 87.22 311 *e*P **P** 21 52 58.4 -1.3
DIV Divide 87.27 29 *e*P **P** 21 52 59.6 0.0
comp=Z,57nm,0.6s
DIV *e*pP **pP** 21 55 04.9 -1.2
ERMK Ermenek 87.29 306 *i* P **P** 21 53 00.5 +0.2
PAX Paxson 87.30 27⇓ *e*P **P** 21 52 59.8 +0.1
PAX *e**PP **pP** 21 55 06.0 -0.3
PAX *e**SP **sP** 21 56 01.3 -3.9
PAX pmax pmax
comp=Z,58nm,0.9s
PAX Paxson 87.30 27⇓ *e*P **P** 21 52 59.8 +0.1
comp=Z,58nm,0.9s
PAX *e*pP **pP** 21 55 06.0 -0.3
PAX *e*sP **sP** 21 56 01.3 -3.9
LEF Lefka 87.39 305 *e*P **P** 21 53 00.2 -0.4
SZAC Souni-Zanaja 87.41 304 P P 21 53 15.7 +15
comp=Z,6.8nm,0.6s
HDMB Hadim 87.61 307 *e*P **P** 21 53 01.5 -0.4
PUL Pulkovo 87.62 330*d* *i*P **P** 21 53 00.8 -0.3
PUL pmax pmax
comp=Z,1µm,0.8s
ALFC Alevga 87.62 305 P P 21 53 16.1 +14
comp=Z,17nm,0.8s
KONT Konya--Tatoy 87.66 308 *e*P **P** 21 53 01.1 -0.7
GAZI Gazipasa 87.79 306 *i* P **P** 21 53 01.9 -0.5
HOPEN Hopen 87.81 347⇓ *i*P **P** 21 53 01.0 -0.6
HOPEN AMB AMB 21 53 05.1
comp=Z,474nm,1.3s
PPCY Paphos 87.85 305 P P 21 53 16.9 +14
BMRM Bremner River 87.85 29 *e*P **P** 21 53 02.6 +0.4
comp=Z,86nm,1.0s
BMRM *e*pP **pP** 21 55 08.3 -0.7
AKMC Akamas 87.85 305 P P 21 53 16.8 +14
KIZT Kizilcal 87.98 309 *e*P **P** 21 53 02.7 -0.7
KEV Kevo 88.11 340 *e*P **P** 21 53 01.9 -1.3
KEV pmax pmax
comp=Z,157nm,0.7s
KEV Kevo 88.11 340 *e*P **P** 21 53 01.1 -2.1
comp=Z,172nm,0.8s
KDZE Karadeniz Ereo 88.15 311 *e*P P 21 52 58.4 -5.6
SVRH Sivrihisar-ESK 88.22 309 *e*P **P** 21 53 03.5 -1.0
MDUB Mudurnu 88.40 310 *e*P **P** 21 53 04.7 -0.6
ARCES ARCESS Array B 88.66 340 P **P** 21 53 04.9 -0.9
ARCES S **SKSac** 22 02 35.7 -3.5
ARCES PKKPbc **PKKPbc** 22 10 43.0 -3.0
ARCES ARCESS Array B 88.66 340 P **P** 21 53 04.9 -0.9
comp=Z,330nm,0.8s,baz=87,slow=6.3,SNR=200
ARCES S **SKSac** 22 02 35.7 -3.5
comp=Z,14nm,0.9s,baz=84,slow=13,SNR=3.6
ARCES PKKPbc **PKKPbc** 22 10 43.0 -3.0
comp=Z,3.8nm,0.5s,baz=263,slow=3.8,SNR=9.3
SEYT Eskypehyr 88.73 309 *i* P **P** 21 53 05.9 -1.0
SUTC Sutluce-Ispart 88.76 307 *e*P **P** 21 53 05.8 -1.3
GULT Gulveren 88.92 310 *e*P **P** 21 53 06.4 -1.3
AKASG Malin Array Be 88.97 321 P **P** 21 53 06.5 -1.1
AKASG *e**PP **pP** 21 55 15.2 +0.5
AKASG 21 56 43.4
AKASG S **SKSac** 22 02 40.5 -1.2
AKASG pmax pmax
comp=Z,263nm,0.6s
AKASG pmax pmax
comp=Z,38nm,0.9s
AKASG smax smax
comp=N,16nm,1.0s
AKASG Malin Array Be 88.97 321 P **P** 21 53 06.5 -1.1
AKASG pP **pP** 21 55 15.2 +0.5
AKASG PP **PP** 21 56 43.4 -4.7
AKASG S **SKSac** 22 02 40.5 -1.2
AKASG PKKPbc **PKKPbc** 22 10 43.1 -1.5
AKASG SKKPbc **SKKPbc** 22 13 23.7 -3.5
AKASG P'P' 22 18 48.1
AKASG Malin Array Be 88.97 321 P **P** 21 53 06.5 -1.1
comp=N,263nm,0.6s,baz=68,slow=4.8,SNR=354
AKASG pP **pP** 21 55 15.2 +0.5
comp=N,8.7nm,0.6s,baz=80,slow=4.0,SNR=1.3
AKASG PP **PP** 21 56 43.4 -4.7
comp=N,38nm,0.9s,baz=74,slow=8.2,SNR=3.0
AKASG S **SKSac** 22 02 40.5 -1.2
comp=N,16nm,1.0s,baz=83,slow=6.0,SNR=5.7
AKASG PKKPbc **PKKPbc** 22 10 43.1 -1.5
comp=N,3.2nm,0.6s,baz=269,slow=3.3,SNR=12
AKASG SKKPbc **SKKPbc** 22 13 23.7 -3.5
comp=N,1.8nm,0.6s,baz=275,slow=3.2,SNR=5.4
AKASG PKPPKP **P'P'df** 22 18 48.1 -2.7
comp=N,0.2nm,0.3s,baz=241,slow=3.6,SNR=4.1
KIEV Kiev 88.98 321 *e*P **P** 21 53 06.4 -1.2
KIEV *e**PP **pP** 21 55 12.4 -2.3
KIEV *e**SP **sP** 21 56 09.9 -3.6
KIEV pmax pmax
comp=Z,387nm,0.9s
KIEV Kiev 88.98 321 *e*P **P** 21 53 06.4 -1.2
comp=Z,387nm,0.9s
KIEV *e*pP **pP** 21 55 12.3 -2.3
KIEV *e*sP **sP** 21 56 09.9 -3.6
BORA Eskisehir 89.01 310 *i* P **P** 21 53 07.1 -1.0
EGAK Eagle 89.02 25 *e*P **P** 21 53 07.6 +0.1
comp=Z,87nm,1.1s
EGAK *e*pP **pP** 21 55 12.7 -2.0
SPNC Sapanca-Adapaz 89.06 311 *e*P **P** 21 53 05.5 -2.7
BCK Bucak 89.09 307 *e*P **P** 21 53 06.8 -1.8
ISP Isparta 89.11 308 P P 21 53 06.9 -1.8
ISP Isparta 89.11 308 ⇑P **P** 21 53 07.7 -1.0
ISP Isparta 89.11 308 *e*P **P** 21 53 07.2 -1.6
ISP Isparta 89.11 308 ⇑*i*P **P** 21 53 07.7 -1.0
ISP Isparta 89.11 308 P P 21 53 06.9 -1.8
PPT Papeete 89.21 108 P P 21 53 12.8 +3.4
PPT Papeete 89.21 108 P P 21 53 12.8 +3.4
comp=Z,107nm,1.0s,baz=24,slow=3.4,SNR=7.0
PPT2 Papeete2 89.21 108 *e*P P 21 53 13.0 +3.5
comp=Z,216nm,1.3s
SPITS Spitsbergen Ar 89.31 349 PKKPbc PKKPbc 22 10 41.1 -3.6
SPITS Spitsbergen Ar 89.31 349 PKKPbc PKKPbc 22 10 41.1 -3.6
comp=Z,3.7nm,0.5s,baz=121,slow=3.2,SNR=6.6
KORT Korkueli 89.31 307 *i* P **P** 21 53 10.0 +0.3
KAF Kangasniemi 89.34 332 *e*P **P** 21 53 07.9 -1.1
KAF pmax pmax
comp=Z,801nm,0.5s
ALT Altintas 89.34 309 *i* P **P** 21 53 12.8 +3.1
TIAR Tiarei 89.42 108 *e*P P 21 53 13.9 +3.5
comp=Z,166nm,0.9s
MNK Minsk 89.44 324*d* *i*P **P** 21 53 08.0 -1.7
MNK *e**PP **pP** 21 55 16.0 -0.9
MNK *e**SP sP 21 56 10.0 -5.6
MNK *e* 22 02 40.0
MNK *e*S **S** 22 03 06.0 -4.9
MNK *e*SSS SSS 22 13 04.0
MNK pmax pmax
comp=Z,9µm,10.0s
MNK pmax pmax
comp=Z,2µm,1.0s
MNK pmax pmax
comp=N,610nm,1.0s
MNK pmax pmax
comp=E,2µm,1.0s
MNK smax smax
comp=E,10µm,8.0s
MNK smax smax
comp=N,2µm,12.0s
MNK MLR MLR
comp=Z,48µm,24.0s
MNK MLR MLR
comp=E,67µm,24.0s
MNK MLR MLR
comp=N,47µm,20.0s
CAVI Cavuskoy 89.45 310 *e*P **P** 21 53 09.4 -0.7
ADVT Abdulvahap 89.51 310 *e*P **P** 21 53 09.2 -1.2
SILT Sile 89.52 311 *e*P **P** 21 53 08.8 -1.5
HRT Hereke 89.53 311 *e*P **P** 21 53 09.1 -1.4
FINES FINESS Array B 89.53 331 P **P** 21 53 08.9 -1.0
FINES S **SKSac** 22 02 42.6 -1.9
FINES SKKPbc **SKKPbc** 22 13 23.0 -3.4
FINES FINESS Array B 89.53 331 P **P** 21 53 08.9 -1.0
comp=N,444nm,0.5s,baz=86,slow=3.9,SNR=278
FINES S **SKSac** 22 02 42.6 -1.9
comp=N,18nm,1.1s,baz=105,slow=3.2,SNR=4.2
FINES SKKPbc **SKKPbc** 22 13 23.0 -3.4
comp=N,2.4nm,0.7s,baz=235,slow=4.9,SNR=3.4
KTK1 Kautokeino 89.54 339 *e*P **P** 21 53 08.4 -1.4
KTK1 AMB AMB 21 53 12.1
comp=Z,3.4nm,0.5s
KIS Kishinev 89.58 317⇑ *i*P **P** 21 53 10.0 -0.5
comp=Z,600nm,1.6s
KIS Kishinev 89.58 317 *i* PPP PPP 21 58 40.0
KIS *i* sS sS 22 06 04.0 -56
KIS *e*SS SS 22 08 25.0 -62
KIS *e*SSS SSS 22 12 14.0
KIS Kishinev 89.58 317⇑ *i*P **P** 21 53 10.0 -0.5
KIS *i* *PP **pP** 21 55 18.0 +0.3
KIS *i* 22 02 44.0
KIS *i* S **S** 22 03 08.0 -4.5
KIS pmax pmax
comp=Z,600nm,1.6s
KIS pmax pmax
comp=Z,3µm,8.0s
KIS pmax pmax
comp=Z,4µm,16.0s
KIS Kishinev 89.58 317⇑ *i*P **P** 21 53 09.7 -0.8
VSU Vasula 89.59 328*d* *i*P **P** 21 53 09.5 -0.7
VSU pmax pmax
comp=Z,2µm,1.2s
ELL Elmali 89.69 307 *e*P **P** 21 53 10.9 -0.5
TLCR 89.76 315 ⇑P **P** 21 53 10.9 -0.4
TLCR 89.76 315 ⇑*i*P **P** 21 53 10.9 -0.4
TBI Tubuai 89.77 113 *e*P P 21 53 15.3 +3.5
comp=Z,683nm,1.3s
TVSB Tavsanli 89.81 309 *e*P **P** 21 53 08.8 -3.0
KBS Kingsbay 89.91 350 *e*P **P** 21 53 11.0 -0.4
KBS AMB AMB 21 53 14.7
comp=Z,424nm,1.6s
KBS Kingsbay 89.91 350*d* *i*P **P** 21 53 11.2 -0.2
KBS pmax pmax
comp=Z,413nm,1.2s
KBS Kingsbay 89.91 350 *e*P **P** 21 53 10.9 -0.4
comp=Z,297nm,1.0s
GEMT Gemlik 89.93 310 *e*P P 21 53 06.6 -5.6
BUY Buyukada 89.94 311 *i* P **P** 21 53 11.2 -1.1
KLYT Kilyos 89.96 311 *e*P P 21 53 05.5 -6.8
ISKT Istanbul-Kandi 89.97 311 P P **P** 21 53 10.9 -1.5
ISK Istanbul-Kandi 89.97 311 P **P** 21 53 10.9 -1.5
EFOR EFORIE 89.99 314⇑ *i*P **P** 21 53 12.3 -0.1
LEOM Leova 90.02 316 ⇓P **P** 21 53 12.0 -0.5
LEOM Leova 90.02 316⇓ *i*P **P** 21 53 12.0 -0.5
TIRR Tirgusor 90.11 314 ⇑P **P** 21 53 12.6 -0.4
TIRR Tirgusor 90.11 314⇑ *i*P **P** 21 53 12.6 -0.4
ARMT Armutlu 90.16 311 *e*P **P** 21 53 12.4 -1.0
MDNY Mudanya-Bursa 90.17 310 *e*P P 21 53 08.3 -5.1
BGKT Bogazkoy 90.17 311 *e*P P 21 53 09.9 -3.4
CFR Carcaliu 90.23 315 ⇑P **P** 21 53 13.1 -0.4
CFR Carcaliu 90.23 315 ⇑*i*P **P** 21 53 13.1 -0.4
DENT Denizli 90.30 308 *e*P **P** 21 53 13.8 -0.3
FETY Fethiye 90.36 307 *e*P **P** 21 53 14.7 +0.3
TLB Topalu 90.36 315 ⇓P **P** 21 53 13.6 -0.5
TLB Topalu 90.36 315 ⇓*i*P **P** 21 53 13.6 -0.5
CTKS Kestanelik-??a 90.37 311 *e*P **P** 21 53 12.7 -1.6
IAS Iasi 90.41 317 ⇑P **P** 21 53 13.9 -0.4
IAS Iasi 90.41 317 ⇑*i*P **P** 21 53 13.9 -0.4
HARR Harsova 90.43 315 ⇑P **P** 21 53 14.3 -0.2
HARR Harsova 90.43 315 ⇑*i*P **P** 21 53 14.3 -0.2
DST Dursunbey 90.44 310 *e*P **P** 21 53 13.2 -1.5
CTYL Yal??k??y-??at 90.50 311 *e*P **P** 21 53 14.2 -0.7
KULA Kula-Manisa 90.52 308 P P **P** 21 53 14.1 -1.0
MSAB Monastry St. A 90.57 314⇑ *i*P **P** 21 53 15.0 -0.1
KCTX Karacabey (Bur 90.58 310 *e*P **P** 21 53 12.1 -3.2
SLVT Silivri 90.59 311 *e*P **P** 21 53 14.1 -1.2
PMOR Pomariorio Ree 90.63 105 *e*P P 21 53 19.2 +3.3
comp=Z,143nm,0.9s
PMOR *e*pP pP 21 55 28.3 +4.9
comp=Z,1µm,2.0s
GHRR 90.65 316⇓ *i*P **P** 21 53 15.8 +0.4
MEH Mehetia 90.66 108 *e*P **P** 21 53 19.3 +3.2
comp=Z,139nm,1.0s
DALY Dalyan (Mu˙la 90.69 307 *e*P P 21 53 11.6 -4.2
PETR Petresti 90.81 316⇓ *i*P **P** 21 53 16.4 +0.2
VAH Vaihoa 90.90 105 *e*P **P** 21 53 20.2 +3.0
comp=Z,73nm,0.9s
VAH *e*pP **pP** 21 55 27.1 +2.4
comp=Z,1µm,2.3s
TRO Tromso 90.91 340 *e*P **P** 21 53 14.6 -1.5
TRO AMB AMB 21 53 17.0
comp=Z,327nm,1.0s
YER Yerkesik 90.95 307 *e*P **P** 21 53 14.3 -2.9
CRLT Corlu 90.96 311 *e*P **P** 21 53 15.9 -1.1
BALB Balikesir 91.01 310 *e*P P 21 53 13.8 -3.5
GRER 91.03 315⇓ *i*P **P** 21 53 18.6 +1.4
PHSR Pinarhisar 91.06 312 *e*P **P** 21 53 16.6 -0.9
GONE Gonen-Balikesi 91.11 310 *e*P **P** 21 53 15.9 -1.8
TKR Tekirdag 91.12 311 *e*P **P** 21 53 14.8 -2.9
AKS Akhisar 91.14 309 *e*P **P** 21 53 17.4 -0.5
VRI Vrincioaia 91.14 316 ⇓P **P** 21 53 17.7 -0.1
VRI Vrincioaia 91.14 316 ⇓*i*P **P** 21 53 17.7 -0.1
ARG Arkhangelos 91.17 306 P P **P** 21 53 17.2 -0.9
ARG Arkhangelos 91.17 306 P **P** 21 53 17.2 -0.9
AYDB Zeytinkoy-Aydi 91.18 308 *e*P **P** 21 53 18.0 -0.3
PLOR Plostina 91.20 316 ⇑P **P** 21 53 17.9 -0.2
SYO Syowa Base 91.25 201⇓ *i*X pP 21 55 21.9 -3.3
PRAR RASCA 91.30 317⇑ *i*P **P** 21 53 17.9 -0.5
INK Inuvik 91.35 21 P **P** 21 53 18.2 +0.1
INK S **SKSac** 22 02 53.7 -0.8
INK PKKP **PKKPdf** 22 10 34.2 -0.3
INK Inuvik 91.35 21 P **P** 21 53 18.2 +0.1
comp=Z,46nm,0.5s,baz=285,slow=3.7,SNR=75
INK S **SKSac** 22 02 53.7 -0.8
comp=Z,11nm,0.9s,baz=233,slow=33,SNR=21
INK PKKP **PKKPdf** 22 10 34.2 -0.3
comp=Z,8.8nm,0.7s,baz=142,slow=4.0,SNR=5.9
ISR Istrita 91.36 315 ⇓P **P** 21 53 19.3 +0.4
ISR Istrita 91.36 315 ⇓*i*P **P** 21 53 19.3 +0.4
KRBG Karabiga-Canak 91.37 310 *e*P **P** 21 53 16.5 -2.4
RKY Sarkoy-Tekirda 91.43 311 *e*P P 21 53 15.9 -3.3
IZM Izmir 91.62 308 *e*P **P** 21 53 19.8 -0.4
SULR 91.62 315⇑ *i*P **P** 21 53 20.2 +0.3

JMB	Yambol	91.66 313		P		P	21 53 20.0	-0.2
JMB	Yambol	91.66 313		P		P	21 53 20.0	-0.2
SECR		91.71 315	⇑	*i*P		P	21 53 21.9	+1.5
MLR	Muntele Rosu	91.73 316	⇓	*i*P		P	21 53 20.9	+0.2
BAPR	Bucharest-Chil	91.75 315	⇓	*i*P		P	21 53 18.5	-2.1
BTMR	Bucharest-Geot	91.76 315	⇑	*i*P		P	21 53 22.3	+1.7
LPK	Lapseki	91.78 310		*e*P		P	21 53 17.6	-3.2
BUC1	Bucharest	91.82 315	⇑	*i*P		P	21 53 24.8	+3.9
NIS1	Nisyros Isl.	91.89 307		P		P	21 53 19.5	-1.9
CIOR	Ciorogarla	91.92 315	⇑	*i*P		P	21 53 23.3	+2.0
BURAR	Bucovina Array	91.94 318	⇓	P		P	21 53 21.8	+0.3
BURAR	Bucovina Array	91.94 318	⇓	*i*P		P	21 53 21.8	+0.3
KARP	Karpathos	92.02 306		P		P	21 53 20.7	-1.4
SMG	Samos	92.03 308		P		P	21 53 19.9	-2.2
SZH	Strazhica	92.03 313		P		P	21 53 21.2	-0.7
DOPR	Dopca	92.05 316	⇓	*i*P		P	21 53 21.9	-0.1
SUW	Suwalki	92.21 324		*e*P		P	21 53 21.7	-0.7
ALN	Alexandroupoli	92.25 311		P		P	21 53 20.7	-2.3
ALN	Alexandroupoli	92.25 311		P		P	21 53 20.7	-2.3
PRK	Paraskevi	92.29 309		P		P	21 53 20.9	-2.2
PRK	Paraskevi	92.29 309		P		P	21 53 20.9	-2.2
VOIR		92.36 316	⇓	P		P	21 53 22.4	-1.1
VOIR		92.36 316	⇓	*i*P		P	21 53 22.4	-1.1
MTUR	Matau	92.39 315	⇑	P		P	21 53 22.5	-1.1
MTUR	Matau	92.39 315	⇑	*i*P		P	21 53 22.5	-1.1
LVV	L'vov	92.39 320	⇓	*i*P		P	21 53 23.5	+0.1
LVV				*i*			21 55 28.1	
LVV				*i*			21 57 19.9	
LVV				*e*			22 03 00.5	
LVV				*e*S		S	22 03 35.9	-1.3
ZIMR		92.39 314	⇓	P		P	21 53 23.4	-0.1
ZIMR		92.39 314	⇓	*i*P		P	21 53 23.4	-0.1
PVL	Pavlikeni	92.47 313		P		P	21 53 23.8	-0.1
GOLR		92.51 315	⇓	*i*P		P	21 53 23.7	-0.4
HUMR	Humele	92.54 315	⇑	*i*P		P	21 53 23.6	-0.6
CHOS	Chios island	92.56 309		P		P	21 53 23.6	-1.0
ARCR	ARCALIA	92.60 317	⇑	*i*P		P	21 53 25.6	+1.2
RDO	Rodhopi	92.60 311		*e*P		P	21 53 31.5	+7.0
KDZ	Kurdzhali	92.62 312		P		P	21 53 23.5	-1.2
SKAG	Skagway	92.65 30		*e*P		P	21 53 25.7	+1.4
	comp=Z,521nm,0.7s							
ARR	Arges	92.66 316	⇑	*i*P		P	21 53 24.6	-0.3
SMTH	Samothraki Isl	92.70 311		P		P	21 53 22.9	-2.1
MDB	Medias	92.72 316	⇓	P		P	21 53 25.1	+0.1
MDB	Medias	92.72 316	⇓	*i*P		P	21 53 25.1	+0.1
ZKR	Zakros	92.84 305		P		P	21 53 25.1	-0.7
LIA	Limnos Island	93.04 310		P		P	21 53 25.6	-1.0
BMR	Baia Mare	93.08 318	⇑	P		P	21 53 27.3	+0.7
BMR	Baia Mare	93.08 318	⇑	*i*P		P	21 53 27.3	+0.7
PLD	Plovdiv	93.09 312		P		P	21 53 25.3	-1.5
PLD	Plovdiv	93.09 312		P		P	21 53 25.3	-1.5
PLD	Plovdiv	93.09 312		*e*P		P	21 53 23.4	-3.3
PLD	Plovdiv	93.09 312		P		P	21 53 24.5	-2.3
PLD	Plovdiv	93.09 312		P		P	21 53 25.3	-1.5
RZN	Rozhen	93.14 312		P		P	21 53 25.9	-1.4
APE	Apeiranthos	93.14 307	⇑	P		P	21 53 25.0	-2.2
LOF	Lofoten	93.21 339		*e*P		P	21 53 25.4	-1.3
LOF				AMB		AMB	21 53 29.0	
	comp=Z,240nm,1.2s							
KWP	Kalwaria Pacla	93.26 320	⇓	P		P	21 53 28.2	+0.8
KWP	Kalwaria Pacla	93.26 320	⇓	*i*P		P	21 53 28.1	+0.7
KWP	Kalwaria Pacla	93.26 320		*e*P		P	21 53 27.9	+0.5
SANT	Santorini	93.29 307		*e*P		P	21 53 26.9	-1.0
	comp=Z,178nm,1.0s							
NPS	Neapolis	93.31 306		P		P	21 53 27.1	-0.9
NPS	Neapolis	93.31 306		P		P	21 53 27.1	-0.9
KAVA	Kavala	93.39 311		P		P	21 53 26.4	-1.8
KAVA	Kavala	93.39 311		P		P	21 53 26.4	-1.8
PGB	Panagyurishte	93.42 313		P		P	21 53 27.0	-1.3
LAST	Lasithi	93.43 305		P		P	21 53 28.0	-0.6
ALE	Alert	93.46 1		P		P	21 53 27.4	-0.3
	comp=Z,320nm,0.8s,SNR=22							
MOR8	Moi Rana	93.51 337		*e*P		P	21 53 25.8	-2.3
MOR8				AMB		AMB	21 53 29.6	
	comp=Z,308nm,1.3s							
MPEP	Malo Peshtene	93.60 314		P		P	21 53 28.4	-0.7
TRPA	Tarpa	93.64 319	⇓	*i*P		P	21 53 28.9	-0.2
KOLS	Kolonicke sedl	93.67 319		*e*P		P	21 53 29.4	+0.1
KOLS				pmax		pmax		
	comp=Z,325nm,1.0s							
KOLS	Kolonicke sedl	93.67 319		*e*P		P	21 53 29.4	+0.1
UZH	Uzhgorod	93.71 319		*i*P		P	21 53 30.0	+0.6
UZH				*e**PP		pP	21 55 38.0	+0.9
UZH				*i*			22 03 08.0	
UZH				*i*S		S	22 03 48.0	-0.7
DRGR		93.76 317	⇓	P		P	21 53 29.8	0.0
DRGR		93.76 317	⇓	*i*P		P	21 53 29.8	0.0
DEV	Deva	93.78 316	⇓	P		P	21 53 30.3	+0.5
DEV	Deva	93.78 316	⇓	*i*P		P	21 53 30.3	+0.5
NVR	Nevrokopi	93.82 312		P		P	21 53 28.0	-2.2
NVR	Nevrokopi	93.82 312		*e*P		P	21 53 28.4	-1.7
NVR	Nevrokopi	93.82 312		P		P	21 53 28.0	-2.2
FLOS	Flostrand	93.87 338		*e*P		P	21 53 28.3	-1.4
FLOS				AMB		AMB	21 53 30.5	
	comp=Z,417nm,1.3s							
OUR	Ouranopolis	93.89 311		P		P	21 53 28.4	-2.0
OUR	Ouranopolis	93.89 311		P		P	21 53 28.4	-2.0
OUR	Ouranopolis	93.89 311		*e*P		P	21 53 27.7	-2.7
OUR	Ouranopolis	93.89 311		P		P	21 53 28.4	-2.0
IDI	Anoyia	93.89 306		*e*P		P	21 53 29.8	-0.9
IDI	Anoyia	93.89 306		*e*P		P	21 53 29.6	-1.1
	comp=Z,1.1nm,0.8s							
IDI				S		SKSac	22 03 08.0	-1.9
IDI				PKKPbc		PKKPbc	22 10 33.1	+1.4
IDI				SKKPbc		SKKPbc	22 13 14.3	-0.8
IDI	Anoyia	93.89 306		S		SKSac	22 03 08.0	-1.9
	comp=Z,40nm,1.1s,baz=213,slow=23,SNR=8.7							
IDI				PKKPbc		PKKPbc	22 10 33.1	+1.4
	comp=Z,20nm,0.6s,baz=49,slow=3.4,SNR=15							
IDI				SKKPbc		SKKPbc	22 13 14.3	-0.8
	comp=Z,17nm,0.9s,baz=5.7,slow=10,SNR=3.5							
KONS	Konsvik	93.91 338		*e*P		P	21 53 28.6	-1.3
KONS				AMB		AMB	21 53 32.2	
	comp=Z,381nm,1.4s							
QSPA	South Pole Qui	93.99 180		*e*P		P	21 53 30.2	-0.3
	comp=Z,69nm,0.9s							
QSPA				*e*pP		pP	21 55 35.8	-2.4
QSPA				S		SKSac	22 03 06.5	-2.6
QSPA				PKKPbc		PKKPdf	22 10 32.0	+1.0
QSPA	South Pole Qui	93.99 180		P		P	21 53 29.6	-0.8
	comp=Z,23nm,0.6s,baz=315,slow=1.7,SNR=66							
QSPA				pP		pP	21 55 39.3	+1.1
	comp=Z,22nm,1.1s,baz=339,slow=3.0,SNR=2.1							
QSPA				S		SKSac	22 03 06.5	-2.6
	comp=Z,19nm,0.9s,baz=5.1,slow=15,SNR=16							
QSPA				PKKPbc		PKKPdf	22 10 32.0	+1.0
	comp=Z,11nm,0.5s,baz=222,slow=1.4,SNR=15							
SIVA	Sivas	93.99 305		*e*P		P	21 53 28.4	-2.6
SIVA	Sivas	93.99 305		P		P	21 53 30.9	-0.1
STOK	Stokkvaagen	94.00 338		*e*P		P	21 53 29.2	-1.1
BEL	Belsk	94.04 322		*e*P		P	21 53 31.0	+0.1
VTS	Vitosha	94.11 313		P		P	21 53 31.0	-0.6
VTS	Vitosha	94.11 313		P		P	21 53 31.0	-0.6
VTS	Vitosha	94.11 313		*e*P		P	21 53 29.9	-1.8
VTS	Vitosha	94.11 313	⇓	*i*P		P	21 53 30.8	-0.9
VTS	Vitosha	94.11 313		P		P	21 53 30.7	-0.9
VTS	Vitosha	94.11 313		P		P	21 53 31.0	-0.6
RMGR	Halanga-Turnu	94.14 315	⇓	*i*P		P	21 53 31.7	+0.2
AOS	Alonnisos	94.14 310		P		P	21 53 29.5	-2.1
AOS	Alonnisos	94.14 310		*e*P		P	21 53 29.5	-2.1
AOS	Alonnisos	94.14 310		P		P	21 53 29.5	-2.1
PAIG	Paliouri	94.18 310		P		P	21 53 29.8	-2.0
PAIG	Paliouri	94.18 310		P		P	21 53 29.8	-2.0
PAIG	Paliouri	94.18 310		*e*P		P	21 53 30.0	-1.8
PAIG	Paliouri	94.18 310		P		P	21 53 29.8	-2.0
STHS	Stebnicka Huta	94.24 320		*e*P		P	21 53 32.0	+0.1
STHS				pmax		pmax		
	comp=Z,259nm,0.6s							
STHS	Stebnicka Huta	94.24 320		*e*P		P	21 53 32.0	+0.1
SOH	Sokhos	94.28 311		P		P	21 53 30.1	-2.2
SOH	Sokhos	94.28 311		P		P	21 53 30.1	-2.2
SOH	Sokhos	94.28 311		*e*P		P	21 53 30.5	-1.8
SOH	Sokhos	94.28 311		P		P	21 53 30.1	-2.2
PLG	Polygyros	94.29 311		P		P	21 53 29.1	-3.2
PLG	Polygyros	94.29 311		P		P	21 53 29.1	-3.2
PLG	Polygyros	94.29 311		*e*P		P	21 53 30.5	-1.8
PLG	Polygyros	94.29 311		P		P	21 53 29.1	-3.2
ERET	Eretria	94.31 309		P		P	21 53 30.8	-1.7
PTL	Penteli	94.32 308		P		P	21 53 31.1	-1.4
PTL	Penteli	94.32 308		*e*P		P	21 53 31.0	-1.4
PTL	Penteli	94.32 308		P		P	21 53 31.1	-1.4
ATHU	Athens Univers	94.39 308		P		P	21 53 30.6	-2.2
ATHU	Athens Univers	94.39 308		P		P	21 53 30.6	-2.2
VAM	Vamos	94.44 306		P		P	21 53 32.7	-0.4
VAM	Vamos	94.44 306		P		P	21 53 32.7	-0.4
VAM	Vamos	94.44 306		*e*P		P	21 53 33.0	-0.1
VAM	Vamos	94.44 306		P		P	21 53 32.7	-0.4
ATH	Athens Observa	94.44 308		P		P	21 53 31.4	-1.6
ATH	Athens Observa	94.44 308		P		P	21 53 31.4	-1.6
ATH	Athens Observa	94.44 308		*e*P		P	21 53 31.5	-1.6
ATH	Athens Observa	94.44 308		P		P	21 53 31.4	-1.6
SKIA	Skiathos	94.46 310		P		P	21 53 31.3	-1.8
HORT	Hortiatis	94.51 311		P		P	21 53 31.2	-2.2
HORT	Hortiatis	94.51 311		P		P	21 53 31.2	-2.2
SIRR	Siria	94.56 317	⇑	*i*P		P	21 53 33.1	-0.1
KNT	Kendrikon	94.57 312		P		P	21 53 31.8	-1.8
KNT	Kendrikon	94.57 312		P		P	21 53 31.8	-1.8
KNT	Kendrikon	94.57 312		P		P	21 53 31.8	-1.8
GVD	Gavdhos	94.61 305		P		P	21 53 33.1	-0.7
GVD	Gavdhos	94.61 305		*e*P		P	21 53 33.5	-0.3
GVD	Gavdhos	94.61 305		*e*P		P	21 53 33.3	-0.5
	comp=Z,575nm,1.0s							
THE	Thessaloniki	94.61 311		P		P	21 53 31.2	-2.5
THE	Thessaloniki	94.61 311		P		P	21 53 31.2	-2.5
THE	Thessaloniki	94.61 311		P		P	21 53 31.2	-2.5
NEO	Neokhori	94.62 310		P		P	21 53 31.4	-2.5
NEO	Neokhori	94.62 310		*e*P		P	21 53 32.0	-1.9
NEO	Neokhori	94.62 310		P		P	21 53 31.4	-2.5
XOR	Xorichti	94.64 310		P		P	21 53 31.1	-2.8
XOR	Xorichti	94.64 310		P		P	21 53 31.1	-2.8
NAIG	Nisos Aigina	94.66 308		*e*P		P	21 53 32.0	-2.0
KARN	Karanos	94.66 306		P		P	21 53 33.6	-0.5
KARN	Karanos	94.66 306		*e*P		P	21 53 34.5	+0.4
KARN	Karanos	94.66 306		P		P	21 53 33.6	-0.5
SMIA	Simia	94.70 309		P		P	21 53 32.0	-2.2
BZS	Buzias	94.72 316	⇓	P		P	21 53 33.1	-1.0
BZS	Buzias	94.72 316	⇓	*i*P		P	21 53 33.1	-1.0
VAY	Valandovo	94.79 312		P		P	21 53 31.1	-3.4
VAY	Valandovo	94.79 312		P		P	21 53 31.1	-3.4
VAY	Valandovo	94.79 312		P		P	21 53 31.1	-3.4
VAY	Valandovo	94.79 312		*i*P		P	21 53 32.5	-2.0
NIE	Niedzica	94.84 320	⇓	*i*P		P	21 53 34.6	0.0
NIE				*e**SP		sP	21 56 40.5	-0.4
DID	Didima	94.89 308		*e*P		P	21 53 33.0	-2.1
LKR	Lokris	94.90 309		P		P	21 53 32.5	-2.6
LKR	Lokris	94.90 309		*e*P		P	21 53 33.0	-2.1
LKR	Lokris	94.90 309		P		P	21 53 32.5	-2.6
WRAK	Wrangell Islan	94.92 33		*e*P		P	21 53 35.2	+0.5
	comp=Z,63nm,0.9s							
DIDY	Didyma	94.92 308		P		P	21 53 33.0	-2.3
GRG	Griva	94.97 312		P		P	21 53 33.4	-2.0
GRG	Griva	94.97 312		P		P	21 53 33.4	-2.0
GRG	Griva	94.97 312		*e*P		P	21 53 33.5	-2.0
GRG	Griva	94.97 312		P		P	21 53 33.4	-2.0
OJC	Ojcow	94.99 321	⇓	*i*P		P	21 53 34.9	-0.3
OJC				*e*			22 03 15.3	
OJC				*e*S		S	22 04 01.4	+1.7
OJC	Ojcow	94.99 321		*i*P		P	21 53 34.9	-0.3
OJC				*e*S		S	22 04 01.4	+1.7
LTK	Loutraki	95.02 309		*e*P		P	21 53 33.0	-2.7
NSS	Namsos	95.03 336		*e*P		P	21 53 33.6	-1.5
NSS				AMB		AMB	21 53 36.1	
	comp=Z,84nm,0.8s							
LIT	Litokhoron	95.05 311		P		P	21 53 33.6	-2.2
LIT	Litokhoron	95.05 311		P		P	21 53 33.6	-2.2
LIT	Litokhoron	95.05 311		*e*P		P	21 53 34.0	-1.8
LIT	Litokhoron	95.05 311		P		P	21 53 33.6	-2.2
ANKY	Antikythira Is	95.09 306		P		P	21 53 35.3	-0.7
ANKY	Antikythira Is	95.09 306		*e*P		P	21 53 35.5	-0.5
ANKY	Antikythira Is	95.09 306		P		P	21 53 35.3	-0.7
ACOR	Acrocorinthos	95.12 308		P		P	21 53 30.0	-6.1
AXAR	Agios Charalam	95.14 309		P		P	21 53 34.1	-2.1
AXAR	Agios Charalam	95.14 309		P		P	21 53 34.1	-2.1
KYTH	Kithira	95.24 307		P		P	21 53 35.3	-1.4
KYTH	Kithira	95.24 307		*e*P		P	21 53 37.5	+0.8
KYTH	Kithira	95.24 307		P		P	21 53 35.3	-1.4
VLI	Veliai	95.25 307		*e*P		P	21 53 35.0	-1.7
LSZ	Lusaka	95.25 255		P		P	21 53 36.8	-0.5
	SNR=35							
LSZ	Lusaka	95.25 255		S		SKSac	22 03 15.8	-1.9
	comp=Z,18nm,1.0s,baz=137,slow=19,SNR=7.8							
LSZ				PKKPbc		PKKPbc	22 10 29.5	+1.9
	comp=Z,3.0nm,0.6s,baz=37,slow=8.7,SNR=6.2							
LSZ				SKKPbc		SKKPbc	22 13 12.4	+0.7
	comp=Z,3.3nm,0.9s,baz=18,slow=3.6,SNR=4.0							
AGG	Agios Georgios	95.35 310		P		P	21 53 35.1	-2.1
AGG	Agios Georgios	95.35 310		P		P	21 53 35.1	-2.1
AGG	Agios Georgios	95.35 310		*e*P		P	21 53 34.5	-2.7
AGG	Agios Georgios	95.35 310		P		P	21 53 35.1	-2.1
PSZ	Piszkesteto	95.42 319	⇓	P		P	21 53 37.0	-0.3
PSZ	Piszkesteto	95.42 319	⇓	*i*P		P	21 53 37.0	-0.3
THL	Klokotos Trika	95.50 310		P		P	21 53 34.9	-2.8
THL	Klokotos Trika	95.50 310		*e*P		P	21 53 35.0	-2.8
MAKR	Makrakomi, Fth	95.51 310		P		P	21 53 35.7	-2.2
MAKR	Makrakomi, Fth	95.51 310		P		P	21 53 35.7	-2.2
SKO	Skopje	95.51 313		P		P	21 53 35.6	-2.2
SKO	Skopje	95.51 313		P		P	21 53 35.6	-2.2
SKO	Skopje	95.51 313		P		P	21 53 35.6	-2.2
SKO	Skopje	95.51 313		*i*P		P	21 53 37.9	+0.1
GUR	Goura	95.52 309		*e*P		P	21 53 36.5	-1.6
KZN	Kozani	95.56 311		P		P	21 53 35.3	-2.8
KZN	Kozani	95.56 311		P		P	21 53 35.3	-2.8
KZN	Kozani	95.56 311		*e*P		P	21 53 37.0	-1.1
KZN	Kozani	95.56 311		P		P	21 53 35.3	-2.8
DLBC	Dease Lake	95.57 30		S		SKSac	22 03 20.0	+2.3
	comp=Z,4.9nm,1.0s,baz=10,slow=11,SNR=6.2							
DLBC				PKKPbc		PKKPdf	22 10 22.6	-4.4
	comp=Z,7.0nm,1.0s,baz=317,slow=2.1,SNR=6.3							
VLX	Vlachokerasia	95.59 308		*e*P		P	21 53 37.5	-0.9
KALE	Kalithea	95.61 309		P		P	21 53 36.4	-1.9
KALE	Kalithea	95.61 309		*e*P		P	21 53 36.5	-1.9
KALE	Kalithea	95.61 309		P		P	21 53 36.4	-1.9
KLV	Kalavryta, Ach	95.66 309		P		P	21 53 36.5	-2.1
KLV	Kalavryta, Ach	95.66 309		*e*P		P	21 53 36.5	-2.1
KLV	Kalavryta, Ach	95.66 309		P		P	21 53 36.5	-2.1
HFS	Hagfors	95.74 332		PKKPbc		PKKPbc	22 10 25.8	-2.0
HFS				SKKPbc		SKKPbc	22 13 08.2	-3.4
HFS	Hagfors	95.74 332		PKKPbc		PKKPbc	22 10 25.8	-2.0
	comp=Z,4.3nm,0.7s,baz=196,slow=4.5,SNR=7.9							
HFS				SKKPbc		SKKPbc	22 13 08.2	-3.4
	comp=Z,2.0nm,0.5s,baz=198,slow=4.7,SNR=7.5							
LAKA	Lakka	95.76 309		P		P	21 53 37.3	-1.7
LAKA	Lakka	95.76 309		*e*P		P	21 53 37.5	-1.5
LAKA	Lakka	95.76 309		P		P	21 53 37.3	-1.7
BIA	Bitola	95.77 312		*i*P		P	21 53 38.6	-0.4
FNA	Florina	95.77 312		P		P	21 53 36.5	-2.6
FNA	Florina	95.77 312		P		P	21 53 36.5	-2.6
FNA	Florina	95.77 312		P		P	21 53 36.5	-2.6
EVR	Evrytania	95.77 310		P		P	21 53 37.2	-2.0
EVR	Evrytania	95.77 310		*e*P		P	21 53 37.0	-2.2
EVR	Evrytania	95.77 310		P		P	21 53 37.2	-2.0
EFP	Efpalio	95.78 309		*e*P		P	21 53 37.5	-1.6
PSA1	Psathopyrgos	95.81 309		*e*P		P	21 53 39.0	-0.2
GKP	Gorka Klasztor	95.83 324		*e*P		P	21 53 39.6	+0.7
ITM	Ithomi	95.97 308		P		P	21 53 38.0	-2.0
ITM	Ithomi	95.97 308		*e*P		P	21 53 38.5	-1.5
ITM	Ithomi	95.97 308		P		P	21 53 38.0	-2.0
RAC	Raciborz	96.03 321		*e*P		P	21 53 40.1	+0.2
RAC				*e**PP		pP	21 55 46.3	-1.5
RAC				*e*			22 03 21.5	
NEST	Nestorio	96.08 311		P		P	21 53 38.0	-2.5
AMT	Artemida-Makis	96.09 308		*e*P		P	21 53 39.0	-1.5
OKC	Ostrava-Krasne	96.12 321	⇓	*i*P		P	21 53 40.4	+0.1
OKC				*e**PP		pP	21 55 51.7	+3.5
OKC				*e**SP		sP	21 56 46.8	+0.1
OKC				*e*			21 57 45.5	
OKC				*e*			22 03 20.0	
OKC				*e*S		ScS	22 04 09.5	+0.1
OKC	Ostrava-Krasne	96.12 321	⇓	*i*P		P	21 53 40.4	+0.1
OKC				*e*pP		pP	21 55 51.7	+3.5
OKC				*e*sP		sP	21 56 46.8	+0.1
OKC				*e*PP		PP	21 57 45.5	+2.4
OKC				*ex*		x	21 59 36.9	
OKC				*ex*		x	22 00 34.6	
OKC				*ex*		x	22 02 40.2	
OKC				*e*SKS		SKSac	22 03 20.0	-0.7
OKC				*e*S		ScS	22 04 09.5	+0.1
OKC				*e*PKKP		PKKPbc	22 10 28.0	+1.6
DIVS	Divibare	96.14 315		P		P	21 53 39.8	-0.9
RLS	Riolos of Patr	96.19 309		P		P	21 53 38.9	-2.0
RLS	Riolos of Patr	96.19 309		P		P	21 53 38.9	-2.0
TBLU	Trondheim	96.20 335		*e*P		P	21 53 38.8	-1.5
TBLU				AMB		AMB	21 53 42.8	
	comp=Z,393nm,1.0s							
PHP	Peshkopia	96.30 313		*i*PN		P	21 53 39.6	-1.8
PHP	Peshkopia	96.30 313		P		P	21 53 38.9	-2.5
PHP	Peshkopia	96.30 313		P		P	21 53 38.9	-2.5
PHP	Peshkopia	96.30 313		P		P	21 53 38.9	-2.5
DAG	Danmarks Havn	96.32 352		*i* P		P	21 53 39.9	-0.7
DAG				pmax		pmax		
	comp=Z,200nm,1.0s							
DAG				MLR		MLR		
	comp=Z,520µm,23.0s							
JAN	Janina	96.37 310		P		P	21 53 39.8	-1.9
JAN	Janina	96.37 310		P		P	21 53 39.8	-1.9
JAN	Janina	96.37 310		P		P	21 53 39.8	-1.9
BCI	Bajram Curri	96.44 313		*i* PN		P	21 53 40.7	-1.3
IVA	Berane	96.46 314		*e*P		P	21 53 41.1	-1.0
PVY	Plav	96.47 314	⇓	*i*P		P	21 53 40.3	-1.9
MORC	Moravsky Berou	96.51 321	⇓	P		P	21 53 42.3	+0.2
MORC	Moravsky Berou	96.51 321	⇓	*i*P		P	21 53 42.3	+0.2
NB2	NORSAR Subarra	96.58 333		P		P	21 53 40.6	-1.6
	comp=Z,159nm,0.8s,baz=72,slow=4.6							
NB2	NORSAR Subarra	96.58 333		P		P	21 53 40.6	-1.6
	baz=72,slow=4.6							
NOA	NORSAR Array B	96.58 333		P		P	21 53 40.6	-1.6
NOA				PKKPbc		PKKPdf	22 10 24.3	-0.8
NOA	NORSAR Array B	96.58 333		P		P	21 53 40.6	-1.6
	comp=Z,147nm,0.8s,baz=70,slow=4.6,SNR=110							
NOA				PKKPbc		PKKPdf	22 10 24.3	-0.8
	comp=Z,3.3nm,0.7s,baz=57,slow=2.5,SNR=12							
PUK	Puka	96.63 313		*i* PN		P	21 53 41.5	-1.4
BSD	Bornholm Skovb	96.64 327		*i* P		P	21 53 42.6	+0.1
BSD				pmax		pmax		
	comp=Z,390nm,1.0s							
BSD				MLR		MLR		
	comp=Z,670µm,20.0s							
BSD	Bornholm Skovb	96.64 327		*i* P		P	21 53 42.6	+0.1
	comp=Z,393nm,1.0s							
PLE	Pljevlja	96.73 314	⇓	*i*P		P	21 53 42.1	-1.3
TIR	Tirane	96.79 312		*i* PN		P	21 53 42.5	-1.0
TIR	Tirane	96.79 312		P		P	21 53 42.2	-1.3
TIR	Tirane	96.79 312		P		P	21 53 42.2	-1.3
TIR	Tirane	96.79 312		P		P	21 53 42.2	-1.3
IGT	Igoumenitsa	96.79 310		P		P	21 53 41.5	-2.1
IGT	Igoumenitsa	96.79 310		P		P	21 53 41.5	-2.1
IGT	Igoumenitsa	96.79 310		P		P	21 53 41.5	-2.1
NAO01	NORSAR Array S	96.81 333		*e*P		P	21 53 41.6	-1.5
	comp=Z,122nm,0.8s							
VLS	Valsamata	96.84 309		P		P	21 53 42.0	-1.9
VLS	Valsamata	96.84 309		P		P	21 53 42.0	-1.9
VLS	Valsamata	96.84 309		P		P	21 53 42.0	-1.9
SMOL	Smolenice	96.89 320		*e*P		P	21 53 44.1	+0.2
SMOL				*e*			21 57 52.2	
SMOL	Smolenice	96.89 320		*e*P		P	21 53 44.0	+0.2
SMOL				*e*PP		PP	21 57 52.2	+3.2
KRLC	Kraliky	96.91 321	⇓	*i*P		P	21 53 44.0	+0.1
KRLC				*e*			22 03 24.2	
KRLC	Kraliky	96.91 321	⇓	*i*PDIFF		P	21 53 44.0	+0.1
KRLC				*e*SKS		SKSac	22 03 24.2	-0.7
KRLC				*e*PKKP		PKKPdf	22 10 25.6	+1.2
S

RUE ep P **pP** **21 55 55.8 -1.3**
PVCC Panska Ves 98.16 322 eP **P** **21 53 49.7 +0.3**
PVCC e*PP **pP** **21 55 59.4 +1.8**
PVCC e*SP sP 21 56 50.6 -5.4
PVCC e 21 57 59.5
PVCC e 22 03 30.1
PVCC eS **S** **22 04 27.2 +0.7**
PVCC Panska Ves 98.16 322⇓ ePDIFF **P** **21 53 49.7 +0.3**
PVCC epP **pP** **21 55 59.4 +1.8**
PVCC esP sP 21 56 50.6 -5.4
PVCC ePP **PP** **21 57 59.5 +1.0**
PVCC ex x 21 59 47.7
PVCC ex x 22 00 47.3
PVCC ex x 22 02 47.0
PVCC eSKS **SKSac** **22 03 30.1 -0.9**
PVCC eS **S** **22 04 27.2 +0.7**
PRU Pruhonice 98.33 322⇓ iP **P** **21 53 50.2 0.0**
PRU e*PP **pP** **21 55 59.4 +1.0**
PRU e*SP sP 21 56 49.2 -7.6
PRU e 21 57 59.5
PRU e 22 03 30.8
PRU eS **ScS** **22 04 26.4 -1.4**
PRU Pruhonice 98.33 322⇓ iPDIFF **P** **21 53 50.2 0.0**
PRU epP **pP** **21 55 59.4 +1.0**
PRU esP sP 21 56 49.2 -7.6
PRU ePP **PP** **21 57 59.5 -0.3**
PRU eSKP 22 00 54.1
PRU ex x 22 02 48.2
PRU eSKS **SKSac** **22 03 30.8 -1.0**
PRU eS **ScS** **22 04 26.4 -1.4**
PRU ePKKP **PKKPdf** **22 10 22.2 +0.4**
BOSA Boshof 98.33 242 ePdif Pdif 21 53 50.6 -0.3
comp=Z,19nm,0.8s
BOSA PP **PP** **21 57 58.9 -1.9**
BOSA PKKP **PKKPdf** **22 10 21.4 -0.4**
BOSA Boshof 98.33 242 PP PP 21 57 58.9 -2.0
comp=Z,22nm,0.9s,baz=87,slow=7.1,SNR=4.2
BOSA PKKP **PKKPdf** **22 10 21.4 -0.4**
comp=Z,3.8nm,0.5s,baz=258,slow=3.2,SNR=8.9
SISC Sisak 98.34 317 P **P** **21 53 50.7 +0.3**
PRA Prague 98.37 322 ⇓PDIFF **P** **21 53 51.0 +0.6**
PRA pP **pP** **21 56 00.0 +1.4**
PRA PP **PP** **21 57 59.0 -1.1**
PRA SKS **SKiKP** **22 00 56.0 -2.7**
PRA PKKP PKKPdf 22 10 29.0 +7.3
BRG Berggiesshubel 98.44 323 i PDIF **P** **21 53 50.7 0.0**
comp=Z,241nm,1.1s
BRG i 21 53 53.9
comp=Z,372nm,0.9s
BRG pP **pP** **21 55 56.0 -2.9**
BRG PP PP 21 57 48.0 -13
BRG i 22 00 49.0
BRG SKS 22 03 28.0
BRG SDIF **S** **22 04 30.0 +1.1**
BRG SS **SS** **22 11 29.0 -1.6**
BRG
comp=N,663µm,25.4s
BRG
comp=E,308µm,21.4s
BRG
comp=Z,640µm,23.9s
BRG Berggiesshubel 98.44 323 i P **P** **21 53 50.7 0.0**
BRG *PP **pP** **21 55 56.0 -2.9**
BRG 22 03 28.0
BRG S **S** **22 04 30.0 +1.1**
BRG SS **SS** **22 11 29.0 -1.6**
BRG pmax pmax
comp=Z,241nm,1.1s
BRG MLR MLR
comp=N,663µm,25.4s
BRG MLR MLR
comp=E,308µm,21.4s
BRG MLR MLR
comp=Z,640µm,23.9s
BRG Berggiesshubel 98.44 323 ePdiff **P** **21 53 52.0 +1.3**
BRG esPdiff x 21 56 06.0
ARSA Arzberg 98.45 319⇑ iPdiff Pdif 21 53 50.8 0.0
comp=Z,151nm,1.3s,SNR=61
FBE Freiberg 98.78 323 ePdiff **P** **21 53 53.7 +1.5**
HYA Hoyanger 98.78 334 eP Pdif 21 53 51.3 -0.6
HYA AMB AMB 21 53 55.2
comp=Z,270nm,1.8s
CLL Collm 98.87 323⇑ iP **P** **21 53 53.4 +0.8**
CLL e*PP **pP** **21 56 04.0 +3.2**
CLL e 21 58 04.0
CLL e 22 03 32.0
CLL eS **ScS** **22 04 31.0 -1.3**
CLL pmax pmax
comp=Z,48nm,1.1s
CLL Collm 98.87 323 ePdiff **P** **21 53 53.5 +0.8**
CLL Collm 98.87 323⇑ iPdif **P** **21 53 53.4 +0.8**
comp=Z,196nm,1.1s
CLL i 21 54 00.6
CLL epP **pP** **21 56 04.0 +3.2**
CLL esP sP 21 56 53.0 -6.2
CLL ePP **PP** **21 58 04.0 +0.2**
comp=N,1µm,14.0s
CLL ePP **PP** **21 58 04.0 +0.2**
comp=E,2µm,18.3s
CLL ePP **PP** **21 58 04.0 +0.2**
CLL epPP 21 59 51.0
CLL esPP 22 00 53.0
CLL esPPP 22 02 54.0
CLL eSKSac **SKSac** **22 03 32.0 -2.5**
CLL eSdif **ScS** **22 04 31.0 -1.3**
comp=N,4µm,17.4s
CLL eSdif **ScS** **22 04 31.0 -1.3**
comp=E,2µm,14.7s
CLL eSdif **ScS** **22 04 31.0 -1.3**
comp=Z,2µm,10.7s
CLL eSP **SP** **22 06 09.0 +5.8**
CLL esS sS 22 08 16.0 -7.7
CLL e 22 09 57.0
CLL e(PKKPbc) 22 10 13.0
CLL ePKKPdf **PKKPdf** **22 10 20.0 -0.8**
CLL eSS SS 22 11 45.0 +8.5
CLL eSSSS 22 19 00.0
SOKA Soboth 98.93 318 i Pdiff Pdif 21 53 52.6 -0.5
comp=Z,133nm,1.2s,SNR=94
LEGS Legarje 98.94 318 i Pdiff Pdif 21 53 52.7 -0.3
LEGS epP pP 21 56 02.2 +1.0
LEGS esP sP 21 56 55.6 -4.0
LEGS ePP **PP** **21 58 03.4 -1.0**
LEGS epPP 22 00 02.2
LEGS esPP 22 00 56.9
LEGS eSKSac **SKSac** **22 03 33.7 -1.4**
UDBI Udbina 99.00 316 P Pdif 21 53 52.8 -0.5
BOJS Bojanci 99.10 317 i Pdiff **Pdif** **21 53 53.5 -0.1**
BOJS eSKSac **SKSac** **22 03 34.2 -1.6**
BOJS epS **pS** **22 07 21.6 +2.5**
BOJS esS **sS** **22 08 26.2 +0.2**
BOJS e 22 09 51.5
MOA Molln 99.11 320 i Pdiff **Pdif** **21 53 53.8 +0.1**
comp=Z,220nm,1.0s,SNR=73
ODD1 Odda 99.12 333 eP **Pdif** **21 53 53.1 -0.4**
ODD1 AMB AMB 21 53 56.6
comp=Z,150nm,1.1s
KHC Kasperske Hory 99.18 321 eP **Pdif** **21 53 53.9 -0.1**
KHC e*PP **pP** **21 56 02.4 +0.1**
KHC e*SP sP 21 56 54.0 -6.7
KHC e 21 58 07.6
KHC e 22 03 35.7
KHC eS **S** **22 04 35.3 -0.1**
KHC Kasperske Hory 99.18 321⇓ ePDIFF **Pdif** **21 53 53.9 -0.1**
KHC epP **pP** **21 56 02.4 +0.1**
KHC esP sP 21 56 54.0 -6.7
KHC ePP **PP** **21 58 07.6 +1.4**
KHC ex x 22 00 01.3
KHC eSKP 22 00 56.2
KHC ex x 22 02 55.0
KHC eSKS **SKSac** **22 03 35.7 -0.5**
KHC eS **S** **22 04 35.3 -0.1**
KHC ePKKP **PKKPbc** **22 10 17.7 -0.4**
KHC Kasperske Hory 99.18 321 ePdif **Pdif** **21 53 53.7 -0.3**
comp=Z,85nm,0.9s
GEC2 GERESS Array S 99.18 321 eP **Pdif** **21 53 55.2 +1.1**
GEC2 GERESS Array S 99.18 321 ePdiff **Pdif** **21 53 55.2 +1.1**
GERES GERESS Array B 99.18 321 P **Pdif** **21 53 53.9 -0.2**
GERES PP PP 21 57 57.5 -8.8
GERES PKKPbc **PKKPbc** **22 10 18.7 +0.5**
GERES GERESS Array B 99.18 321 P **Pdif** **21 53 53.9 -0.2**
comp=Z,86nm,0.9s,baz=74,slow=4.7,SNR=117
GERES PP PP 21 57 57.5 -8.8
comp=Z,9.3nm,0.8s,baz=91,slow=5.3,SNR=6.0
GERES PKKPbc **PKKPbc** **22 10 18.7 +0.5**
comp=Z,7.4nm,0.7s,baz=209,slow=2.1,SNR=16
MUD Monsted U'grnd 99.25 329 i P **Pdif** **21 53 53.3 -0.8**
MUD pmax pmax
comp=Z,90nm,0.9s
MUD MLR MLR
comp=Z,720µm,24.0s
MUD Monsted U'grnd 99.25 329 i P **Pdif** **21 53 53.3 -0.8**
comp=Z,90nm,0.9s
OBKA Obir 99.30 318⇑ iPdiff **Pdif** **21 53 54.5 -0.2**
comp=Z,79nm,0.8s,SNR=46
BLS5 Blasjo 99.40 332 eP **Pdif** **21 53 54.2 -0.5**
BLS5 AMB AMB 21 53 58.9
comp=Z,148nm,1.1s
LJU Ljubljana 99.44 318 ePdiff **Pdif** **21 53 55.1 -0.1**
LJU epP **pP** **21 56 03.6 +0.1**
LJU esP **sP** **21 56 59.6 -2.3**
LJU ePP **PP** **21 58 07.3 -0.9**
LJU epPP 22 00 06.6
LJU ePPP PPP 22 00 22.1
LJU esPP 22 01 01.3
LJU esPPP 22 03 01.6
LJU eSKSac **SKSac** **22 03 35.9 -1.7**
LJU eSdiff **ScS** **22 04 36.1 -1.2**
LJU epS **pS** **22 07 21.1 -1.1**
LJU esS **sS** **22 08 28.6 -0.3**
LJU e 22 09 55.0
SUE Sulen 99.45 334 eP **Pdif** **21 53 54.5 -0.4**
SUE AMB AMB 21 53 58.3
comp=Z,283nm,1.3s
RUND Rundenannen 99.47 333 eP **Pdif** **21 53 53.6 -1.5**
RUND AMB AMB 21 53 57.6
comp=Z,403nm,1.6s
SNART Snartemo 99.49 331 eP **Pdif** **21 53 55.5 +0.4**
SNART AMB AMB 21 53 59.3
comp=Z,132nm,1.3s
BER Bergen 99.50 333 eP **Pdif** **21 53 55.7 +0.7**
ASK Askoy 99.52 334 eP **Pdif** **21 53 54.5 -0.6**
ASK AMB AMB 21 53 56.0
comp=Z,250nm,1.5s
BSEG Bad Segeberg 99.55 326 eP **Pdif** **21 53 57.4 +1.9**
BSEG Bad Segeberg 99.55 326 ePdiff **Pdif** **21 53 57.4 +1.9**
BSEG esPdiff x 21 56 12.5
EGD Espegrend 99.60 333 eP **Pdif** **21 53 55.6 0.0**
EGD AMB AMB 21 53 57.9
comp=Z,198nm,1.5s
NVLJ Novalja 99.61 316 P **Pdif** **21 53 54.4 -1.6**
WET Wettzell 99.61 321 eP **Pdif** **21 53 57.3 +1.4**
WET Wettzell 99.61 321 ePdiff **Pdif** **21 53 57.3 +1.4**
WET esPdiff x 21 56 11.6
JAVS Javornik 99.79 318 i Pdiff **Pdif** **21 53 56.1 -0.8**
MANZ Manzenberg 99.83 322 ePdiff **Pdif** **21 53 58.4 +1.5**
ROTZ Rotzenmuhle 99.84 322 ePdiff **Pdif** **21 53 58.7 +1.8**
ROTZ esPdiff x 21 56 12.9
MYKA Terra Mystica 99.86 319 i Pdiff **Pdif** **21 53 56.4 -0.8**
comp=Z,33nm,0.7s,SNR=19
VOY Vojsko 99.87 318 ePdiff **Pdif** **21 53 56.7 -0.5**
VOY e 21 53 58.5
VOY e 21 54 39.3
MOX Moxa 99.92 323 eP **Pdif** **21 53 58.6 +1.4**
MOX Moxa 99.92 323 ePdiff **Pdif** **21 53 58.6 +1.4**
MOX esPdiff x 21 56 13.6
CADS Cadrg 99.92 318 i Pdiff **Pdif** **21 53 56.4 -1.0**
CADS ePP **PP** **21 58 11.5 -0.3**
KBA Koelnbreinsper 99.93 319⇑ iPdiff **Pdif** **21 53 56.8 -0.8**
comp=Z,76nm,1.1s,SNR=40
KMY Karmoy 100.05 332 eP **Pdif** **21 53 57.8 +0.3**
KMY AMB AMB 21 54 00.8
comp=Z,235nm,1.1s
RJOB Jochberg 100.09 320 ePdiff **Pdif** **21 53 58.8 +0.6**
NRDL Niedersach Rie 100.18 325 ePdiff **Pdif** **21 54 00.3 +2.1**
CLZ Clausthal 100.25 324 eP **Pdif** **21 54 00.5 +1.8**
CLZ Clausthal 100.25 324 ePdiff **Pdif** **21 54 00.5 +1.8**
GRF Grafenberg Arr 100.47 322 eP **Pdif** **21 54 01.2 +1.5**
GRF e 21 58 21.3
GRF Grafenberg Arr 100.47 322 ePdiff **Pdif** **21 54 01.2 +1.5**
GRF ePP **PKiKP** **21 58 21.3 -1.3**
GRFO Grafenberg 100.47 322 eP **Pdif** **21 53 59.8 +0.1**
GRFO e 21 58 19.1
GRFO pmax pmax
comp=Z,79nm,0.9s
GRFO Grafenberg 100.47 322 ePdif **Pdif** **21 53 59.8 +0.1**
comp=Z,79nm,0.9s
GRFO e 21 57 03.1
GRFO ePP **PP** **21 58 19.1 +3.4**
ABTA Abfaltersbach 100.57 319⇑ iPdiff **Pdif** **21 53 59.4 -0.9**
comp=Z,63nm,0.9s,SNR=35
MAIT Maitri 100.61 198 eP **Pdif** **21 53 59.2 -0.6**
MAIT e 22 16 27.0
UBBA Unterbreizbach 100.82 323 ePdiff **Pdif** **21 54 02.2 +1.1**
YKA Yellowknife Ar 100.87 23 P **Pdif** **21 54 01.9 +0.7**
YKA pP pP 21 56 13.7 +4.2
YKA PKiKP **PKiKP** **21 58 23.3 +0.4**
YKA PKKPbc **PKKPbc** **22 10 09.7 -4.1**
YKA SKKP 22 12 54.4
YKA Yellowknife Ar 100.87 23 P **Pdif** **21 54 01.8 +0.7**
comp=Z,4.0nm,0.6s,baz=305,slow=4.3,SNR=11
YKA pP pP 21 56 13.7 +4.2
comp=Z,11nm,1.0s,baz=295,slow=3.9,SNR=2.7
YKA PKiKP **PKiKP** **21 58 23.3 +0.4**
comp=Z,10nm,0.5s,baz=308,slow=1.8,SNR=17
YKA PKKPbc **PKKPbc** **22 10 09.6 -4.1**
comp=Z,5.4nm,0.5s,baz=123,slow=3.3,SNR=17
YKA SKKP 22 12 54.3
comp=Z,2.4nm,0.5s,baz=122,slow=2.9,SNR=7.0
FUR Furstenfeldbru 100.93 321 eP **Pdif** **21 54 02.7 +0.9**
FUR Furstenfeldbru 100.93 321 ePdiff **Pdif** **21 54 02.7 +0.9**
WATA Walderalm 101.00 320⇓ iPdiff **Pdif** **21 54 01.3 -1.0**
comp=Z,64nm,0.8s,SNR=59
KULLO Kullorsuaq 101.46 360 i P **Pdif** **21 54 03.7 +0.1**
KULLO pmax pmax
comp=Z,29nm,0.9s
KULLO MLR MLR
comp=Z,430µm,26.0s
RETA Reutte 101.47 320⇑ iPdiff **Pdif** **21 54 03.9 -0.4**
comp=Z,60nm,1.2s,SNR=16
IBBN Ibbenburen 101.58 325 ePdiff **Pdif** **21 54 06.3 +1.7**
FETA Feichten 101.65 320⇓ iPdiff **Pdif** **21 54 04.9 -0.3**
comp=Z,121nm,1.0s,SNR=46
SCO Scoresbysund 101.90 348 i P **Pdif** **21 54 06.9 +1.3**
SCO pmax pmax
comp=Z,33nm,0.9s
SCO MLR MLR
comp=Z,270µm,23.0s
TNS Taunus Mts 101.96 323 eP **Pdif** **21 54 07.8 +1.4**
TNS Taunus Mts 101.96 323 ePdiff **Pdif** **21 54 07.8 +1.4**
STU Stuttgart 102.03 322 ePdiff **Pdif** **21 54 07.9 +1.2**
DAVA Damuels 102.11 320⇑ iPdiff **Pdif** **21 54 07.1 -0.1**
comp=Z,77nm,1.0s,SNR=26
BUG Bochum--Univer 102.20 325 ePdiff **Pdif** **21 54 08.8 +1.5**
WTSB Winterswijk 102.26 325 eP **Pdif** **21 54 06.4 -1.2**
comp=Z,121nm,1.1s
DAVOX Davos/Dischmat 102.28 320 PKiKP **PKiKP** **21 58 26.4 +0.2**
DAVOX Davos/Dischmat 102.28 320 PKiKP **PKiKP** **21 58 26.4 +0.2**
comp=Z,20nm,0.5s,baz=27,slow=6.8,SNR=3.6
LRW Lerwick 102.46 335 eP **Pdif** **21 54 08.6 +0.3**
SUMG Summit 102.51 354 i P **Pdif** **21 54 09.1 +0.3**
SUMG pmax pmax
comp=Z,34nm,1.0s
SUMG MLR MLR
comp=Z,410µm,25.0s
BFO Black Forest 102.72 321 eP **Pdif** **21 54 10.4 +0.6**
BFO Black Forest 102.72 321 ePdiff **Pdif** **21 54 10.4 +0.6**
LANF Langenberg 102.81 322 eP **Pdif** **21 54 11.2 +1.1**
FELD Feldberg im Sc 103.09 321 eP **Pdif** **21 54 08.6 -3.0**
HGN Heimansgroeve 103.24 324 eP **Pdif** **21 54 12.3 +0.3**
comp=Z,36nm,1.1s
HGN ePP **PP** **21 58 39.0 +3.0**
MEM Membach 103.26 324 P **Pdif** **21 54 13.4 +1.3**
comp=Z,38nm,1.4s
CDF Champ du Feu 103.34 322 eP **Pdif** **21 54 13.0 +0.4**
comp=Z,134nm,1.0s
CDF Champ du Feu 103.34 322 eP **Pdif** **21 54 13.0 +0.4**
CDF pmax pmax
comp=Z,134nm,1.0s
CDF Champ du Feu 103.34 322 eP **Pdif** **21 54 13.0 +0.4**
comp=Z,134nm,1.0s
BEBN Eben Emael 103.37 324 P **Pdif** **21 54 16.4 +3.9**
comp=Z,12nm,1.3s
ECH Echery 103.49 322 eP **Pdif** **21 54 13.3 +0.1**
ECH pmax pmax
comp=Z,29nm,1.0s
ECH Echery 103.49 322 eP **Pdif** **21 54 10.6 -2.6**
ECH Echery 103.49 322 ePdif **Pdif** **21 54 13.2 +0.1**
comp=Z,29nm,1.0s
WLF Walferdange 103.55 323 P **Pdif** **21 54 15.0 +1.6**
comp=Z,66nm,1.5s
WLF Walferdange 103.55 323 ePdiff **Pdif** **21 54 15.2 +1.8**
MOF Molkenrain 103.64 321 eP **Pdif** **21 54 11.1 -2.9**
BCLA Clavier 103.75 324 P **Pdif** **21 54 15.4 +1.2**
comp=Z,32nm,1.4s
HINF Hinteralfeld 103.83 321 eP **Pdif** **21 54 14.7 -0.1**
comp=Z,116nm,1.3s
HINF Hinteralfeld 103.83 321 eP **Pdif** **21 54 14.7 -0.1**
HINF pmax pmax
comp=Z,116nm,1.3s
HINF Hinteralfeld 103.83 321 eP **Pdif** **21 54 14.7 -0.1**
comp=Z,116nm,1.3s
LOMF Lomont 104.02 321 eP **Pdif** **21 54 15.5 -0.2**
HAU Haudompre 104.07 322 eP **Pdif** **21 54 16.0 +0.2**
comp=Z,59nm,1.0s
HAU Haudompre 104.07 322 eP **Pdif** **21 54 16.0 +0.2**
HAU pmax pmax
comp=Z,59nm,1.0s
HAU Haudompre 104.07 322 eP **Pdif** **21 54 16.0 +0.2**
comp=Z,59nm,1.0s
GIVF Givet 104.16 324 eP **Pdif** **21 54 17.1 +1.0**
comp=Z,115nm,1.1s
GIVF Givet 104.16 324 eP **Pdif** **21 54 17.1 +1.0**
GIVF pmax pmax
comp=Z,115nm,1.1s
GIVF Givet 104.16 324 eP **Pdif** **21 54 17.1 +1.0**
comp=Z,115nm,1.1s
PAGF Fort de Pagny 104.24 322 eP **Pdif** **21 54 17.2 +0.7**
comp=Z,19nm,1.0s
PAGF Fort de Pagny 104.24 322 eP **Pdif** **21 54 17.2 +0.7**
comp=Z,19nm,1.0s
PGF Pioggiola 104.28 316 eP **Pdif** **21 54 17.1 +0.1**
comp=Z,74nm,0.8s
PGF Pioggiola 104.28 316 eP **Pdif** **21 54 17.1 +0.1**
PGF pmax pmax
comp=Z,74nm,0.8s
PGF Pioggiola 104.28 316 eP **Pdif** **21 54 17.1 +0.1**
comp=Z,74nm,0.8s
DOU Dourbes 104.29 324 P **Pdif** **21 54 18.0 +1.3**
comp=Z,32nm,1.5s
SNF Seneffe 104.30 325 P **Pdif** **21 54 19.2 +2.5**
SNAA Sanae 104.47 195 eP **Pdif** **21 54 18.0 +0.9**
SNAA Sanae 104.47 195 Pdif **Pdif** **21 54 16.7 -0.3**
SNAA PKKPbc **PKKPbc** **22 10 01.2 -2.4**
SNAA SKKPbc SKKPbc 22 12 46.2 -4.4
SNAA Sanae 104.47 195 Pdiff **Pdif** **21 54 16.7 -0.3**
comp=Z,1.0nm,0.6s,baz=134,slow=4.7,SNR=24
SNAA PKKPbc **PKKPbc** **22 10 01.2 -2.4**
comp=Z,2.7nm,0.5s,baz=136,slow=0.9,SNR=15
SNAA SKKPbc SKKPbc 22 12 46.2 -4.4
comp=Z,7.6nm,0.8s,baz=267,slow=6.2,SNR=14
BAIF Baives 104.53 324 eP **Pdif** **21 54 19.0 +1.2**
comp=Z,120nm,1.3s
BAIF Baives 104.53 324 eP **Pdif** **21 54 19.0 +1.2**
BAIF pmax pmax
comp=Z,120nm,1.3s
BAIF Baives 104.53 324 eP **Pdif** **21 54 19.0 +1.2**
comp=Z,120nm,1.3s
MEZF Maizieres J'vi 104.67 322 eP **Pdif** **21 54 19.2 +0.8**
comp=Z,106nm,0.9s
MEZF Maizieres J'vi 104.67 322 eP **Pdif** **21 54 19.2 +0.8**
comp=Z,106nm,0.9s
MCD Coleburn Disti 104.75 333 eP **Pdif** **21 54 19.6 +1.1**
DRUM Mains of Drumt 104.76 332 eP **Pdif** **21 54 18.4 -0.2**
LPG La Plagne 104.77 319 eP **Pdif** **21 54 19.8 +0.5**
comp=Z,100nm,1.0s
LPG La Plagne 104.77 319 eP **Pdif** **21 54 19.8 +0.5**
LPG pmax pmax
comp=Z,100nm,1.0s
LPG La Plagne 104.77 319 eP **Pdif** **21 54 19.8 +0.5**
comp=Z,100nm,1.0s
LPL La Plagne 104.77 319 eP **Pdif** **21 54 19.8 +0.6**
comp=Z,146nm,1.0s
LPL La Plagne 104.77 319 eP **Pdif** **21 54 19.8 +0.6**
LPL pmax pmax
comp=Z,146nm,1.0s
LPL La Plagne 104.77 319 eP **Pdif** **21 54 19.8 +0.6**
comp=Z,146nm,1.0s
CABF La Chapelle 104.77 320 eP **Pdif** **21 54 19.5 +0.5**
comp=Z,122nm,1.3s
CABF La Chapelle 104.77 320 eP **Pdif** **21 54 19.5 +0.5**
CABF pmax pmax
comp=Z,122nm,1.3s
CABF La Chapelle 104.77 320 eP **Pdif** **21 54 19.5 +0.5**
comp=Z,122nm,1.3s
RSL Roselend 104.78 319 eP **Pdif** **21 54 19.2 0.0**
SAOF Saorge 104.78 317 eP **Pdif** **21 54 19.5 +0.4**
SFTF Sexfontaines 104.80 322 eP **Pdif** **21 54 19.4 +0.4**
comp=Z,116nm,1.1s
SFTF Sexfontaines 104.80 322 eP **Pdif** **21 54 19.4 +0.4**
comp=Z,116nm,1.1s
AUTN L'Aution 104.86 317 eP **Pdif** **21 54 20.0 +0.3**
SBF Sospel 104.90 317 eP **Pdif** **21 54 19.5 -0.2**
comp=Z,51nm,0.7s
SBF Sospel 104.90 317 eP **Pdif** **21 54 19.5 -0.2**
SBF pmax pmax
comp=Z,51nm,0.7s
SBF Sospel 104.90 317 eP **Pdif** **21 54 19.5 -0.2**
comp=Z,51nm,0.7s
LUCF Luceram 104.95 317 eP **Pdif** **21 54 20.1 +0.2**
TOUF Mont Tournerai 104.98 318 eP **Pdif** **21 54 18.4 -1.7**
REVF Revere 104.99 317 eP **Pdif** **21 54 19.1 -0.9**
MBDF Montbardon 105.04 318 eP **Pdif** **21 54 21.2 +0.9**
comp=Z,31nm,0.8s
MBDF Montbardon 105.04 318 eP **Pdif** **21 54 21.2 +0.9**
MBDF pmax pmax
comp=Z,31nm,0.8s
MBDF Montbardon 105.04 318 eP **Pdif** **21 54 21.2 +0.9**
comp=Z,31nm,0.8s
MVIF Mont Vial 105.08 317 eP **Pdif** **21 54 19.7 -0.9**
CALN Calern 105.31 317 eP **Pdif** **21 54 22.0 +0.4**
MDO Dochfour 105.33 333 eP **Pdif** **21 54 21.0 -0.1**
ESY Stoneypath 105.36 331 eP **Pdif** **21 54 20.4 -0.8**
TSUM Tsumeb 105.45 251 ePdif **Pdif** **21 54 22.7 +0.1**
comp=Z,8.2nm,0.8s
TSUM ePKiKP **PKiKP** **21 58 32.9 +0.2**
FRF La Foret Royal 105.55 317 eP **Pdif** **21 54 22.6 +0.2**
comp=Z,88nm,1.1s
FRF La Foret Royal 105.55 317 eP **Pdif** **21 54 22.6 +0.2**
FRF pmax pmax
comp=Z,88nm,1.1s
FRF La Foret Royal 105.55 317 eP **Pdif** **21 54 22.6 +0.2**
comp=Z,88nm,1.1s
ORIF Oris-en-Rattie 105.55 319 eP **Pdif** **21 54 22.9 +0.3**
comp=Z,81nm,0.9s
ORIF Oris-en-Rattie 105.55 319 eP **Pdif** **21 54 22.9 +0.3**
ORIF pmax pmax
comp=Z,81nm,0.9s
ORIF Oris-en-Rattie 105.55 319 eP **Pdif** **21 54 22.9 +0.3**
comp=Z,81nm,0.9s
OG25 Le Caire 105.63 318 eP **Pdif** **21 54 22.0 -0.9**
EBL Broad Law 105.64 331 eP **Pdif** **21 54 22.7 +0.2**
KAC Achnashellach 105.71 334 eP **Pdif** **21 54 21.2 -1.6**
LMR La Mourre 105.72 317 eP **Pdif** **21 54 23.3 +0.1**
comp=Z,69nm,1.2s
LMR La Mourre 105.72 317 eP **Pdif** **21 54 23.3 +0.1**
LMR pmax pmax
comp=Z,69nm,1.2s
LMR La Mourre 105.72 317 eP **Pdif** **21 54 23.3 +0.1**
comp=Z,69nm,1.2s
HPK Haverah Park 105.90 329 eP **Pdif** **21 54 24.7 +0.9**
LOR Lormes 105.91 322 eP **Pdif** **21 54 24.3 +0.3**
comp=Z,93nm,1.1s
LOR Lormes 105.91 322 eP **Pdif** **21 54 24.3 +0.3**
comp=Z,93nm,1.1s
WDC Whiskeytown Da 105.92 46 ePKiKP **PKiKP** **21 58 33.2 +0.4**
EKA Eskdalemuir Ar 105.93 331 PKKPbc PKKPbc 22 09 58.2 -0.6
EKA SKKPbc SKKPbc 22 12 41.1 -4.0
EKA Eskdalemuir Ar 105.93 331 PKKPbc PKKPbc 22 09 58.2 -0.6
comp=Z,9.3nm,0.6s,baz=241,slow=2.7,SNR=22
EKA SKKPbc SKKPbc 22 12 41.1 -4.0
comp=Z,4.6nm,0.5s,baz=248,slow=2.9,SNR=16
ESK Eskdalemuir 105.96 331 eP **Pdif** **21 54 24.0 0.0**
ECK Cauldkaine Hil 106.00 331 eP **Pdif** **21 54 25.7 +1.5**
EAB Aberfoyle 106.02 332 eP **Pdif** **21 54 24.6 +0.4**
VNA2 Neumayer--Watz 106.10 195 eP **Pdif** **21 54 31.7 +7.4**
SMRF Simiane la Rot 106.11 318 eP **Pdif** **21 54 25.4 +0.4**
comp=Z,65nm,1.0s
SMRF Simiane la Rot 106.11 318 eP **Pdif** **21 54 25.4 +0.4**
comp=Z,65nm,1.0s
KEST Kesra 106.17 309 ePdif **Pdif** **21 54 25.8 +0.3**
KEST PKiKP **PKiKP** **21 58 33.7 +0.2**

KEST PP **PP** **21 58 58.1 +0.1**
KEST PKKPbc **PKKPbc** **22 09 52.3 -5.1**
KEST SKKP 22 12 44.4
KEST Kesra 106.17 309 Pdiff **Pdiff** **21 54 25.3 -0.2**
comp=Z,3.4nm,0.7s,baz=193,slow=1.0,SNR=11
KEST PKiKP **PKiKP** **21 58 33.7 +0.2**
comp=Z,16nm,1.1s,baz=180,slow=1.0,SNR=3.7
KEST PP **PP** **21 58 58.1 +0.1**
comp=Z,116nm,0.9s,baz=336,slow=0.7,SNR=14
KEST PKKPbc **PKKPbc** **22 09 52.3 -5.1**
comp=Z,1.6nm,0.8s,baz=233,slow=5.1,SNR=3.3
KEST SKKP 22 12 44.4
comp=Z,1.2nm,0.6s,baz=125,slow=7.9,SNR=4.8
SMF Signal de Mont 106.18 321 *e*P **Pdif** **21 54 25.4 +0.2**
comp=Z,35nm,0.8s
SMF Signal de Mont 106.18 321 *e*P **Pdif** **21 54 25.4 +0.2**
SMF pmax pmax
comp=Z,35nm,0.8s
SMF Signal de Mont 106.18 321 *e*P **Pdif** **21 54 25.4 +0.2**
comp=Z,35nm,0.8s
KBI1 Birley Grange 106.21 329 *e*P **Pdif** **21 54 24.5 -0.6**
SSF Saint Saulge 106.22 321 *e*P **Pdif** **21 54 25.8 +0.5**
comp=Z,40nm,0.9s
SSF Saint Saulge 106.22 321 *e*P **Pdif** **21 54 25.8 +0.5**
SSF pmax pmax
comp=Z,40nm,0.9s
SSF Saint Saulge 106.22 321 *e*P **Pdif** **21 54 25.8 +0.5**
comp=Z,40nm,0.9s
EDM Edmonton 106.25 31 *e*PKiKP **PKiKP** **21 58 33.4 +0.3**
SSB Saint Sauveur 106.29 319 *e*P **Pdif** **21 54 25.6 -0.2**
SSB pmax pmax
comp=Z,26nm,0.9s
SSB Saint Sauveur 106.29 319 *e*P **Pdif** **21 54 25.7 0.0**
SSB Saint Sauveur 106.29 319 *e*Pdif **Pdif** **21 54 25.6 -0.2**
comp=Z,26nm,0.9s
PGBU Glenifferbraes 106.30 332 *e*P **Pdif** **21 54 26.3 +0.8**
VIVF Saint-Julien-l 106.37 319 *e*P **Pdif** **21 54 26.3 +0.2**
comp=Z,82nm,0.9s
VIVF Saint-Julien-l 106.37 319 *e*P **Pdif** **21 54 26.3 +0.2**
VIVF pmax pmax
comp=Z,82nm,0.9s
VIVF Saint-Julien-l 106.37 319 *e*P **Pdif** **21 54 26.3 +0.2**
comp=Z,82nm,0.9s
AVF Avril sur Loir 106.43 321 *e*P **Pdif** **21 54 26.5 +0.3**
comp=Z,17nm,0.7s
AVF Avril sur Loir 106.43 321 *e*P **Pdif** **21 54 26.5 +0.3**
AVF pmax pmax
comp=Z,17nm,0.7s
AVF Avril sur Loir 106.43 321 *e*P **Pdif** **21 54 26.5 +0.3**
comp=Z,17nm,0.7s
NEW Newport 106.50 37 ⇑SKSac **SKSac** **22 04 09.2 -0.7**
baz=106
NEW Newport 106.50 37 SKP **SKiKP** **22 01 14.2 +0.2**
comp=Z,12nm,0.8s,baz=18,slow=1.1,SNR=3.1
PLDF La Plantade 106.60 320 *e*P **Pdif** **21 54 27.1 -0.1**
HYF Humbligny 106.66 322 *e*P **Pdif** **21 54 28.4 +1.1**
HYF Humbligny 106.66 322 *e*P **Pdif** **21 54 28.4 +1.1**
AGO Saint Agoulin 106.87 321 *e*P **Pdif** **21 54 26.5 -1.8**
GAL1 Galloway 106.93 331 *e*P **Pdif** **21 54 27.8 -0.5**
MOD Modoc 107.03 44 *e*PKiKP **PKiKP** **21 58 35.5 +0.5**
PYM Petit Puy Mans 107.08 320 *e*P **Pdif** **21 54 25.9 -3.4**
LASF Ste Croix 107.22 319 *e*P **Pdif** **21 54 30.4 +0.5**
comp=Z,41nm,0.9s
LASF Ste Croix 107.22 319 *e*P **Pdif** **21 54 30.4 +0.5**
comp=Z,41nm,0.9s
TCF Toulx Ste Croi 107.35 321 *e*P **Pdif** **21 54 31.1 +0.7**
comp=Z,30nm,0.8s
TCF Toulx Ste Croi 107.35 321 *e*P **Pdif** **21 54 31.1 +0.7**
TCF pmax pmax
comp=Z,30nm,0.8s
TCF Toulx Ste Croi 107.35 321 *e*P **Pdif** **21 54 31.1 +0.7**
comp=Z,30nm,0.8s
CMAH Djebel Manchou 107.37 310 P **PKiKP** **21 58 36.9 +1.2**
WPM1 Penmaenmawr 107.42 330 *e*P **Pdif** **21 54 33.2 +2.7**
ABSA Djebel Ababsia 107.44 310 P **PKiKP** **21 58 37.0 +1.1**
BATH Bath 107.56 327 *e*P **Pdif** **21 54 32.8 +1.6**
MCH1 Michaelchurch 107.63 328 *e*P **Pdif** **21 54 33.5 +2.1**
LDF La Druitiere 107.72 324 *e*P **Pdif** **21 54 32.8 +0.8**
comp=Z,115nm,1.3s
LDF La Druitiere 107.72 324 *e*P **Pdif** **21 54 32.8 +0.8**
LDF pmax pmax
comp=Z,115nm,1.3s
LDF La Druitiere 107.72 324 *e*P **Pdif** **21 54 32.8 +0.8**
comp=Z,115nm,1.3s
CAEH 'Ain El Ouahch 107.75 311 P **PKiKP** **21 58 38.0 +1.6**
YRC Rhoscolyn 107.76 330 *e*P **Pdif** **21 54 34.7 +2.7**
FLN La Foliniere 107.85 324 *e*P **Pdif** **21 54 33.6 +1.0**
comp=Z,22nm,0.7s
FLN La Foliniere 107.85 324 *e*P **Pdif** **21 54 33.6 +1.0**
FLN pmax pmax
comp=Z,22nm,0.7s
FLN La Foliniere 107.85 324 *e*P **Pdif** **21 54 33.6 +1.0**
comp=Z,22nm,0.7s
BMO Blue Mountains 107.86 40 *e*PKiKP **PKiKP** **21 58 36.8 +0.3**
BMO *e*PP **PP** **21 59 10.1 +0.3**
WVOR Wild Horse Val 107.97 43 *e*PKiKP **PKiKP** **21 58 37.4 +0.7**
CKFL Kef-Lekhel 107.98 310 P **PKiKP** **21 58 40.0 +3.1**
WALA Waterton Lakes 108.02 35 *e*PKiKP **PKiKP** **21 58 37.0 +0.3**
CAF Calviac 108.03 320 *e*P **Pdif** **21 54 34.3 +0.8**
comp=Z,79nm,1.5s
CAF Calviac 108.03 320 *e*P **Pdif** **21 54 34.3 +0.8**
CAF pmax pmax
comp=Z,79nm,1.5s
CAF Calviac 108.03 320 *e*P **Pdif** **21 54 34.3 +0.8**
comp=Z,79nm,1.5s
CASM Ain Smara 108.20 310 P **PKiKP** **21 58 38.0 +0.7**
RJF Les Rejaudoux 108.22 320 *e*P **Pdif** **21 54 35.3 +1.0**
comp=Z,40nm,0.9s
RJF Les Rejaudoux 108.22 320 *e*P **Pdif** **21 54 35.3 +1.0**
RJF pmax pmax
comp=Z,40nm,0.9s
RJF Les Rejaudoux 108.22 320 *e*P **Pdif** **21 54 35.3 +1.0**
comp=Z,40nm,0.9s
GRR Gorron 108.25 324 *e*P **Pdif** **21 54 35.4 +1.1**
comp=Z,110nm,1.4s
GRR Gorron 108.25 324 *e*P **Pdif** **21 54 35.4 +1.1**
GRR pmax pmax
comp=Z,110nm,1.4s
GRR Gorron 108.25 324 *e*P **Pdif** **21 54 35.4 +1.1**
comp=Z,110nm,1.4s
CTEI Djebel Teioual 108.33 310 P **PKiKP** **21 58 38.0 +0.4**
CMB Columbia Colle 108.36 48 *e*PKiKP **PKiKP** **21 58 34.9 -2.6**
DFRA Djebel Bou Aff 108.57 311 P **PKiKP** **21 58 39.6 +1.6**
MTLF Montolieu 108.60 318 *e*P **Pdif** **21 54 36.4 +0.4**
comp=Z,29nm,0.9s
MTLF Montolieu 108.60 318 *e*P **Pdif** **21 54 36.4 +0.4**
MTLF pmax pmax
comp=Z,29nm,0.9s
MTLF Montolieu 108.60 318 *e*P **Pdif** **21 54 36.4 +0.4**
comp=Z,29nm,0.9s
MFF Saint Martin d 108.67 322 *e*P **Pdif** **21 54 36.9 +0.7**
comp=Z,44nm,0.9s
MFF Saint Martin d 108.67 322 *e*P **Pdif** **21 54 36.9 +0.7**
MFF pmax pmax
comp=Z,44nm,0.9s
MFF Saint Martin d 108.67 322 *e*P **Pdif** **21 54 36.9 +0.7**
comp=Z,44nm,0.9s
LFF La Frestale 108.87 320 *e*P **Pdif** **21 54 38.2 +1.0**
LFF La Frestale 108.87 320 *e*P **Pdif** **21 54 38.2 +1.0**
LFF La Frestale 108.87 320 *e*P **Pdif** **21 54 38.2 +1.0**
SFJD Kangerlussuaq 108.91 357 *e*PKiKP **PKiKP** **21 58 37.8 +0.2**
SFJD *e*PP **PP** **21 59 13.3 -2.9**
CKHR Kef el Ahmar 109.03 310 P **PKiKP** **21 58 40.0 +1.1**
SET Setif 109.05 310 P **PKiKP** **21 58 38.0 -0.9**
MSO Missoula 109.07 37 ⇓PKiKP **PKiKP** **21 58 39.1 +0.4**
baz=109
SGMF Saint Gilles 109.31 325 *e*P **Pdif** **21 54 40.2 +1.2**
SGMF Saint Gilles 109.31 325 *e*P **Pdif** **21 54 40.2 +1.2**
SGMF Saint Gilles 109.31 325 *e*P **Pdif** **21 54 40.2 +1.2**
MFID Camas Ranch 109.44 41 ⇑PKiKP **PKiKP** **21 58 40.6 +1.1**
baz=109
ROSF Rostrenen 109.68 325 *e*P **Pdif** **21 54 41.8 +1.1**
comp=Z,52nm,1.0s
ROSF Rostrenen 109.68 325 *e*P **Pdif** **21 54 41.8 +1.1**
ROSF Rostrenen 109.68 325 *e*P **Pdif** **21 54 41.8 +1.1**
NVAR Mina Array Bea 109.75 47 Pdif **Pdif** **21 54 42.4 +0.9**
NVAR PKiKP **PKiKP** **21 58 40.0 -0.4**
NVAR SKP 22 01 21.3
NVAR PKKPbc **PKKPbc** **22 09 46.2 -0.5**
NVAR SKKPbc SKKPbc 22 12 32.6 -1.5
NVAR Mina Array Bea 109.75 47 Pdiff **Pdif** **21 54 42.4 +0.9**
comp=Z,2.7nm,0.7s,baz=287,slow=3.5,SNR=14
NVAR PKiKP **PKiKP** **21 58 40.0 -0.4**
comp=Z,6.3nm,0.7s,baz=254,slow=3.4,SNR=9.9
NVAR SKP 22 01 21.3
comp=Z,13nm,0.7s,baz=205,slow=1.9,SNR=5.8
NVAR PKKPbc **PKKPbc** **22 09 46.2 -0.5**
comp=Z,8.3nm,0.6s,baz=132,slow=4.3,SNR=18
NVAR SKKPbc SKKPbc 22 12 32.6 -1.5
comp=Z,3.8nm,0.7s,baz=123,slow=4.4,SNR=3.9
QUIF Quistinic 109.83 325 *e*P **Pdif** **21 54 42.4 +1.1**
comp=Z,88nm,1.2s
QUIF Quistinic 109.83 325 *e*P **Pdif** **21 54 42.4 +1.1**
QUIF Quistinic 109.83 325 *e*P **Pdif** **21 54 42.4 +1.1**
NV11 Mina Array Sit 109.86 47 *e*Pdif **Pdif** **21 54 43.1 +1.2**
NV11 *e*PKiKP **PKiKP** **21 58 40.0 -0.4**
PKM Peak Mountain 109.88 51 ⇑PKiKP **PKiKP** **21 58 40.8 +0.2**
baz=110
EPF Esparros 109.97 319 *e*P **Pdif** **21 54 43.3 +1.1**
EPF Esparros 109.97 319 *e*P **Pdif** **21 54 43.3 +1.1**
EPF Esparros 109.97 319 *e*P **Pdif** **21 54 43.3 +1.1**
HLID Hailey 110.29 41 ⇓PKiKP **PKiKP** **21 58 41.6 +0.4**
baz=110
ETSF Etsaut 110.62 319 *e*P **Pdif** **21 54 46.0 +0.9**
comp=Z,27nm,1.0s
ETSF Etsaut 110.62 319 *e*P **Pdif** **21 54 46.0 +0.9**
ETSF Etsaut 110.62 319 *e*P **Pdif** **21 54 46.0 +0.9**
ISA Isabella 110.64 50 ⇓PKiKP **PKiKP** **21 58 42.6 +0.7**
baz=111
FFC Flin Flon 110.79 26 *i* PKiKP **PKiKP** **21 58 44.9 +3.4**
EMHD Djebel Mahouad 110.90 311 P **PKiKP** **21 58 46.4 +3.9**
EGMT Eagleton 110.92 35 ⇑PKiKP **PKiKP** **21 58 42.6 +0.5**
baz=111
SJPF Ste Jean 110.96 319 *e*P **Pdif** **21 54 47.6 +1.1**
comp=Z,17nm,0.9s
SJPF Ste Jean 110.96 319 *e*P **Pdif** **21 54 47.6 +1.1**
SJPF Ste Jean 110.96 319 *e*P **Pdif** **21 54 47.6 +1.1**
A19A Klindworth Far 110.99 33 ⇑PKiKP **PKiKP** **21 58 43.5 +1.3**
baz=111
B19A Brinkman Farms 111.14 34 ⇓PKiKP **PKiKP** **21 58 43.4 +0.9**
baz=111
MPMC Manual Prospec 111.24 49 ⇑PKiKP **PKiKP** **21 58 43.8 +0.5**
baz=111
EDW2 Edwards Air Fo 111.30 50 ⇑PKiKP **PKiKP** **21 58 44.1 +0.9**
baz=111
LRMC Laurel Mountai 111.31 50 ⇑PKiKP **PKiKP** **21 58 44.0 +0.7**
baz=111
A20A Cobblestone Ra 111.47 33 ⇓PKiKP **PKiKP** **21 58 44.4 +1.3**
baz=111
C19A Slack Wire Ran 111.48 35 ⇓PKiKP **PKiKP** **21 58 43.9 +0.8**
baz=112
CIS Catalina Islan 111.50 52 ⇑PKiKP **PKiKP** **21 58 44.2 +0.7**
baz=112
SCI San Clemente I 111.53 52 ⇓PKiKP **PKiKP** **21 58 43.8 +0.2**
baz=112
B20A Solberg Farm, 111.66 34 ⇓PKiKP **PKiKP** **21 58 44.5 +1.0**
baz=112
R11A Troy Canyon, C 111.74 46 *e*PKiKP **PKiKP** **21 58 44.9 +0.8**
R11A Troy Canyon, C 111.74 46 ⇓PKiKP **PKiKP** **21 58 45.2 +1.1**
baz=112
BFSC Mount Baldy Ra 111.78 51 ⇓PKiKP **PKiKP** **21 58 44.8 +0.6**
baz=112
D19A Cripps Ranch, 111.88 35 ⇓PKiKP **PKiKP** **21 58 44.7 +0.7**
baz=112
EBNR Beni Rached 111.93 312 P **PKiKP** **21 58 47.7 +3.4**
A21A Bergtoli Ranch 111.95 33 ⇑PKiKP **PKiKP** **21 58 44.9 +0.9**
baz=112
GSC Goldstone 112.04 49 *e*PKiKP 21 58 45.4
GSC Goldstone 112.04 49 *e*PKiKP **PKiKP** **21 58 45.4 +0.7**
GSC Goldstone 112.04 49 ⇓PKiKP **PKiKP** **21 58 45.3 +0.7**
baz=112
C20A Veseth Ranch, 112.08 34 ⇑PKiKP **PKiKP** **21 58 45.3 +1.0**
baz=112
C20A ⇓Sdiff 22 06 21.6
baz=112
ECHA Ech Chlef 112.10 312 P **PKiKP** **21 58 48.0 +3.5**
B21A Ellsworth Farm 112.22 33 ⇓PKiKP **PKiKP** **21 58 46.2 +1.7**
baz=112
E19A Rath Farm, Rou 112.32 36 ⇓PKiKP **PKiKP** **21 58 45.8 +0.9**
baz=112
D20A Manuel Ranch, 112.35 35 ⇓PKiKP **PKiKP** **21 58 46.1 +1.2**
baz=112
MURC Murrieta 112.37 51 ⇑PKiKP **PKiKP** **21 58 46.0 +0.8**
baz=112
EANR 'Ain N'Sour 112.38 312 P **PKiKP** **21 58 46.5 +1.3**
ETRT Tiaret 112.45 311 P **PKiKP** **21 58 47.2 +1.8**
A22A Carney Farms, 112.49 32 ⇑PKiKP **PKiKP** **21 58 46.2 +1.2**
baz=112
C21A Desert Coulee 112.52 34 ⇓PKiKP **PKiKP** **21 58 46.0 +0.9**
baz=112
F19A Roth Farm, Mol 112.55 36 ⇓PKiKP **PKiKP** **21 58 46.7 +1.4**
baz=112
I17A Pilgrim Ck. 112.56 39 ⇑PKiKP **PKiKP** **21 58 46.9 +1.3**
baz=113
HEC Hector,Ludlow 112.58 50 ⇓PKiKP **PKiKP** **21 58 47.2 +1.5**
baz=113
TUQ Turquoise Moun 112.66 49 ⇑PKiKP **PKiKP** **21 58 46.4 +0.6**
baz=113
E20A Meyer Farm, Mu 112.67 35 ⇑PKiKP **PKiKP** **21 58 47.2 +1.7**
baz=113
H18A Shoshone NF, C 112.74 38 ⇑PKiKP **PKiKP** **21 58 47.7 +1.8**
baz=113
B22A Reddig Ranch S 112.85 33 ⇓PKiKP **PKiKP** **21 58 47.5 +1.8**
baz=113
DUG Dugway 112.89 43 *e*PKiKP **PKiKP** **21 58 46.8 +0.7**
DUG Dugway 112.89 43 *e*PKiKP **PKiKP** **21 58 46.8 +0.7**
DUG Dugway 112.89 43 ⇑PKiKP **PKiKP** **21 58 47.9 +1.7**
baz=113
PFO Pinyon Flat Ob 112.94 51 PKKPbc PKKPbc 22 09 34.9 -1.2
PFO Pinyon Flat Ob 112.94 51 ⇑PKiKP **PKiKP** **21 58 47.5 +1.0**
baz=113
PFO Pinyon Flat Ob 112.94 51 SKP **SKPdf** **22 01 27.1 +0.1**
comp=Z,38nm,1.0s,baz=280,slow=2.0,SNR=8.7
PFO PKKPbc **PKKPbc** **22 09 34.9 -1.2**
comp=Z,3.2nm,0.5s,baz=84,slow=0.8,SNR=5.4
TAM Tamanrasset 113.01 297 *e*P **Pdif** **21 54 57.6 +1.4**
TAM *i* 21 58 47.1
TAM Tamanrasset 113.01 297 *e*Pdif **Pdif** **21 54 57.6 +1.4**
TAM *e*PKiKP **PKiKP** **21 58 47.1 +0.3**
D21A La Casta Ranch 113.01 34 ⇓PKiKP **PKiKP** **21 58 47.3 +1.2**
baz=113
F20A Billings 113.05 36 ⇑PKiKP **PKiKP** **21 58 47.8 +1.5**
baz=113
A23A Redstone 113.06 32 ⇑PKiKP **PKiKP** **21 58 47.6 +1.6**
baz=113
GMRC Granite Mounta 113.11 50 ⇓PKiKP **PKiKP** **21 58 48.2 +1.4**
baz=113
BELC Belle Mtn. Jos 113.15 50 ⇑PKiKP **PKiKP** **21 58 48.0 +1.2**
baz=113
C22A Vida 113.24 33 ⇑PKiKP **PKiKP** **21 58 47.4 +0.9**
baz=113
MONP Monument Peak 113.24 52 ⇓PKiKP **PKiKP** **21 58 48.3 +1.2**
baz=113
E21A Keefer Ranch, 113.26 35 ⇓PKiKP **PKiKP** **21 58 47.4 +0.9**
baz=113
B23A Brockton 113.29 32 ⇓PKiKP **PKiKP** **21 58 47.4 +0.8**
baz=113
G20A Bridger 113.33 37 ⇓PKiKP **PKiKP** **21 58 47.4 +0.6**
baz=113
D22A Cohagen 113.42 34 ⇑PKiKP **PKiKP** **21 58 48.1 +1.2**
baz=113
I19A Meeteetse 113.48 38 ⇓PKiKP **PKiKP** **21 58 48.0 +0.7**
baz=114
A24A Westby 113.54 31 ⇓PKiKP **PKiKP** **21 58 47.8 +0.8**
baz=114
DVTC Desert V Tower 113.57 52 ⇓PKiKP **PKiKP** **21 58 48.3 +0.7**
baz=114
C23A Lambert 113.58 33 ⇓PKiKP **PKiKP** **21 58 48.2 +1.0**
baz=114
F21A Absaloka Mine, 113.64 36 ⇑PKiKP **PKiKP** **21 58 48.4 +1.0**
baz=114
BC3 Big Chuckawall 113.70 51 ⇑PKiKP **PKiKP** **21 58 48.4 +0.6**
baz=114
SWSC Sam W. Stewart 113.70 51 ⇑PKiKP **PKiKP** **21 58 48.5 +0.7**
baz=114
DGMT Dagmar 113.71 32 ⇓PKiKP **PKiKP** **21 58 48.4 +1.1**
baz=114
M17A Scullys Gap (B 113.72 41 ⇓PKiKP **PKiKP** **21 58 48.5 +0.6**
baz=114
IRM Iron Mountain 113.74 50 ⇓PKiKP **PKiKP** **21 58 48.5 +0.7**
baz=114
PDAR Pinedale Array 113.79 39 Pdif **Pdif** **21 55 03.0 +3.5**
PDAR PKiKP **PKiKP** **21 58 48.0 +0.1**
PDAR SKP 22 01 29.1
PDAR PKKPbc **PKKPbc** **22 09 31.1 -2.7**
PDAR PKKPab **PKKPab** **22 09 38.2 -4.2**
PDAR Pinedale Array 113.79 39 Pdiff **Pdif** **21 55 03.0 +3.5**
comp=Z,0.6nm,0.9s,baz=336,slow=2.0,SNR=3.0
PDAR PKiKP **PKiKP** **21 58 48.0 +0.1**
comp=Z,6.7nm,0.5s,baz=167,slow=2.7,SNR=32
PDAR SKP 22 01 29.1
comp=Z,12nm,0.8s,baz=128,slow=1.5,SNR=7.5
PDAR PKKPbc **PKKPbc** **22 09 31.1 -2.7**
comp=Z,2.8nm,0.6s,baz=127,slow=6.0,SNR=7.3
PDAR PKKPab **PKKPab** **22 09 38.2 -4.2**
comp=Z,13nm,0.6s,baz=118,slow=5.2,SNR=13
H20A Greybull 113.85 37 ⇑PKiKP **PKiKP** **21 58 48.6 +0.7**
baz=114
J19A Crowheart 113.85 39 ⇓PKiKP **PKiKP** **21 58 49.1 +1.1**
baz=114
L18A Fontenelle, Gr 113.91 40 ⇑PKiKP **PKiKP** **21 58 48.7 +0.5**
baz=114
G21A Lodge Grass 113.92 36 ⇑PKiKP **PKiKP** **21 58 48.7 +0.7**
baz=114
D23A Lindsay 113.94 34 ⇑PKiKP **PKiKP** **21 58 48.6 +0.7**
baz=114
E22A Miles City 113.96 35 ⇑PKiKP **PKiKP** **21 58 48.6 +0.7**
baz=114
A25A Svangstu Ranch 113.99 31 ⇓PKiKP **PKiKP** **21 58 48.7 +0.8**
baz=114
I20A Worland 114.06 38 ⇓PKiKP **PKiKP** **21 58 48.8 +0.6**
baz=114
C24A Savage 114.16 33 ⇑PKiKP **PKiKP** **21 58 49.6 +1.4**
baz=114
W13A Hualapai Mount 114.32 49 ⇑PKiKP **PKiKP** **21 58 50.9 +1.7**
baz=114
H21A Big Horn, Sher 114.35 37 ⇑PKiKP **PKiKP** **21 58 49.8 +0.9**
baz=114
Y12C Blythe 114.38 50 ⇑PKiKP **PKiKP** **21 58 50.5 +1.5**
baz=114
B25A Knox Farm, Ray 114.38 32 ⇓PKiKP **PKiKP** **21 58 49.8 +1.2**
baz=114
ESDC Sonseca Array 114.39 317 PKP PKPdf 21 58 49.2 +0.2
ESDC PP PP 21 59 49.2 -6.6
ESDC SKP 22 01 29.1
ESDC PKKPbc **PKKPbc** **22 09 29.7 -1.7**
ESDC SKKPbc SKKPbc 22 12 19.9 -0.4
ESDC Sonseca Array 114.39 317 PKP PKPdf 21 58 49.2 +0.2
comp=Z,7.5nm,0.5s,baz=18,slow=2.4,SNR=37
ESDC PP PP 21 59 49.2 -6.6
comp=Z,18nm,0.8s,baz=60,slow=7.6,SNR=6.4
ESDC SKP 22 01 29.1
comp=Z,3.6nm,0.5s,baz=27,slow=2.4,SNR=5.2
ESDC PKKPbc **PKKPbc** **22 09 29.7 -1.7**
comp=Z,2.8nm,0.8s,baz=270,slow=3.2,SNR=8.8
ESDC SKKPbc SKKPbc 22 12 19.9 -0.4
comp=Z,1.7nm,0.6s,baz=261,slow=2.6,SNR=7.8
J20A Shoshoni 114.41 38 ⇓PKiKP **PKiKP** **21 58 50.0 +1.0**
baz=114
GLA Glamis 114.42 51 *e*PKiKP PKPdf 21 58 50.0 +0.8
GLA *e* 21 59 56.3
GLA Glamis 114.42 51 *e*PKPdf PKPdf 21 58 50.0 +0.8
GLA *e*PP **PP** **21 59 56.3 -0.1**
GLA Glamis 114.42 51 ⇓PKiKP **PKiKP** **21 58 50.2 +1.0**
baz=114
PDMCI Parker Dam,Lak 114.45 49 ⇑PKiKP **PKiKP** **21 58 50.7 +1.6**
baz=114
G22A Birney 114.46 36 ⇑PKiKP **PKiKP** **21 58 49.8 +0.9**
baz=114
A26A Wade Farm, Ken 114.56 31 ⇑PKiKP **PKiKP** **21 58 49.8 +0.8**
baz=114
Q16A Castle Valley 114.60 44 *e*PKPdf PKPdf 21 58 50.1 +0.5
Q16A Castle Valley 114.60 44 ⇑PKiKP **PKiKP** **21 58 50.5 +0.9**
baz=115
K20A Yellowstone Ra 114.61 39 ⇓PKiKP **PKiKP** **21 58 50.0 +0.6**
baz=115
I21A Big Trails, Te 114.64 37 ⇓PKiKP **PKiKP** **21 58 50.0 +0.5**
baz=115
SPIG San Pedro Mart 114.66 53 P PKPdf 21 58 50.9 +0.9
C25A Freed Ranch, W 114.67 32 ⇑PKiKP **PKiKP** **21 58 50.4 +1.1**
baz=115
F23A Volborg 114.68 35 ⇑PKiKP **PKiKP** **21 58 50.1 +0.8**
baz=115
M19A Rock Springs 114.69 40 ⇓PKiKP **PKiKP** **21 58 50.7 +1.0**
baz=115
PAB San Pablo 114.71 317 *e*PKIKP PKPdf 21 58 50.2 +0.6
PAB *e* 21 59 58.0
PAB San Pablo 114.71 317 *e*PKPdf PKPdf 21 58 50.1 +0.5
PAB *e*PP **PP** **21 59 58.0 -0.2**
H22A Clearmont 114.77 36 ⇓PKiKP **PKiKP** **21 58 50.6 +0.9**
baz=115
B26A Jensen Ranch, 114.79 31 ⇓PKiKP **PKiKP** **21 58 50.3 +0.9**
baz=115
J21A Lysite 114.80 38 ⇑PKiKP **PKiKP** **21 58 50.3 +0.4**
baz=115
E24A Baker 114.80 34 ⇑PKiKP **PKiKP** **21 58 50.5 +0.9**
baz=115
A27A Ledoux Ranch, 114.93 30 ⇑PKiKP **PKiKP** **21 58 50.9 +1.2**
baz=115
U15A North Rim 114.93 47 ⇓PKiKP **PKiKP** **21 58 51.8 +1.4**
baz=115
L20A Wamsutter 114.95 40 ⇓PKiKP **PKiKP** **21 58 50.6 +0.4**
baz=115
SRU San Rafael 114.95 43 *e*PKiKP PKPdf 21 58 50.0 -0.2
SRU San Rafael 114.95 43 *e*PKPdf PKPdf 21 58 50.0 -0.2
D25A Fairfield 114.99 33 ⇑PKiKP **PKiKP** **21 58 50.7 +0.8**
baz=115
G23A Biddle 114.99 35 ⇓PKiKP **PKiKP** **21 58 50.5 +0.5**
baz=115
I22A 9 Mile Ranch, 115.09 37 ⇑PKiKP **PKiKP** **21 58 50.8 +0.5**
baz=115
F24A Ekalaka 115.15 34 ⇑PKiKP **PKiKP** **21 58 50.8 +0.5**
baz=115
PBRG Braganca 115.16 320 *e*PKP **PKPdf** **21 58 52.3 +1.9**
PBRG Braganca 115.16 320 *e*PP PP 22 00 01.0 -0.1
C26A Wahner Farm, P 115.22 32 ⇑PKiKP **PKiKP** **21 58 51.0 +0.8**
baz=115
B27A Peters Farms, 115.28 31 ⇓PKiKP **PKiKP** **21 58 50.9 +0.6**
baz=115
K21A Alcova 115.31 39 ⇓PKiKP **PKiKP** **21 58 51.4 +0.5**
baz=115
O19A Miners Draw (B 115.32 42 ⇑PKiKP **PKiKP** **21 58 51.4 +0.5**
baz=115
M20A Sweetwater, Wa 115.32 40 ⇑PKiKP **PKiKP** **21 58 51.5 +0.6**
baz=115
E25A Miller Ranch, 115.34 33 ⇑PKiKP **PKiKP** **21 58 51.3 +0.7**
baz=115
113A Mohawk Valley, 115.35 51 ⇓PKiKP **PKiKP** **21 58 51.2 +0.3**
baz=115
H23A Clabaugh Cattl 115.35 36 ⇓PKiKP **PKiKP** **21 58 51.2 +0.5**
baz=115
J22A Midwest 115.36 38 ⇓PKiKP **PKiKP** **21 58 51.1 +0.2**
baz=115
A28A Rude Farm, Bot 115.44 30 ⇓PKiKP **PKiKP** **21 58 52.0 +1.3**
baz=115
Y14A Wickenburg 115.46 49 ⇑PKiKP **PKiKP** **21 58 51.6 +0.4**
baz=116
G24A Alzada 115.48 35 ⇑PKiKP **PKiKP** **21 58 51.3 +0.4**
baz=115
D26A Manning 115.54 32 ⇓PKiKP **PKiKP** **21 58 51.3 +0.4**
baz=116
C27A Sayler Ranch, 115.59 31 ⇑PKiKP **PKiKP** **21 58 51.9 +0.9**
baz=116
N20A Spence Gulch, 115.61 41 ⇑PKiKP **PKiKP** **21 58 52.2 +0.7**
baz=116
F25A Bowman 115.66 34 ⇓PKiKP **PKiKP** **21 58 51.6 +0.4**
baz=116
I23A Meade Ranch, G 115.66 37 ⇑PKiKP **PKiKP** **21 58 51.6 +0.3**
baz=116
MVO Moncorvo 115.68 320 *e*PKP **PKPdf** **21 58 52.4 +1.0**
MVO Moncorvo 115.68 320 *e*PP PP 22 00 06.8 +2.1
B28A Dugan Ranch, T 115.70 30 ⇑PKiKP **PKiKP** **21 58 51.8 +0.7**
baz=116
H24A Dirks Ranch, A 115.74 35 ⇓PKiKP **PKiKP** **21 58 51.9 +0.5**
baz=116
Z14A Wintersburg 115.74 50 ⇑PKiKP **PKiKP** **21 58 52.8 +1.2**
baz=116
P19A Cripple Cowboy 115.74 42 ⇑PKiKP **PKiKP** **21 58 52.7 +0.9**
baz=116
K22A Casper 115.75 38 ⇓PKiKP **PKPdf** **21 58 51.4 -0.2**
baz=116
M21A Separation Pea 115.78 40 ⇓PKiKP **PKiKP** **21 58 52.3 +0.4**
baz=116
RWWY Rawlins 115.84 39 *e*PKPdf **PKPdf** **21 58 55.5 +3.6**
RWWY *e*SKPdf **SKiKP** **22 01 37.5 +4.9**
E26A Carlson Angus 115.87 33 ⇑PKiKP **PKiKP** **21 58 52.4 +0.8**
baz=116
J23A Dilts Ranch, B 115.92 37 ⇓PKiKP **PKiKP** **21 58 52.3 +0.4**
baz=116
A29A Manning Farm, 115.94 29 ⇓PKiKP **PKiKP** **21 58 51.9 +0.3**
baz=116
D27A Center 115.97 32 ⇓PKiKP **PKiKP** **21 58 52.7 +1.0**
baz=116
O20A White River Ci 115.98 41 *e*PKPdf **PKPdf** **21 58 52.6 +0.4**
O20A *e*SKPdf **SKiKP** **22 01 33.1 +0.3**
O20A White River Ci 115.98 41 ⇑PKiKP **PKiKP** **21 58 52.9 +0.7**
baz=116
WUAZ Wupatki 116.00 47 *e*PKPdf **PKPdf** **21 58 53.7 +1.3**
WUAZ *e*SKPdf **SKiKP** **22 01 33.0 +0.1**

WUAZ	Wupatki	116.00	47	⇓PKiKP	PKiKP	21 58 53.0	+0.6	
	baz=116							
PCAB	Cabril	116.02	321	*e*PKP	PKPdf	21 58 52.9	+0.9	
PCAB	Cabril	116.02	321	*e*PP	PP	22 00 09.7	+2.7	
POLO	Lamas de Olo	116.06	320	*e*PKP	PKPdf	21 58 52.9	+0.7	
POLO	Lamas de Olo	116.06	320	*e*PP	PP	22 00 08.2	+0.9	
PVRL	Vila Real	116.06	320	*e*PKP	PKPdf	21 58 53.4	+1.3	
PVRL	Vila Real	116.06	320	*e*PP	PP	22 00 10.0	+2.7	
G25A	Newell	116.12	34	⇑PKiKP	PKiKP	21 58 52.9	+0.7	
	baz=116							
F26A	Lodgepole	116.14	34	⇑PKiKP	PKiKP	21 58 52.9	+0.8	
	baz=116							
L22A	Ellis Ranch, M	116.14	39	⇓PKiKP	PKiKP	21 58 52.9	+0.5	
	baz=116							
C28A	Hausauer Farms	116.17	31	⇑PKiKP	PKiKP	21 58 53.0	+0.9	
	baz=116							
B29A	Wagenman Farm,	116.19	30	⇑PKiKP	PKiKP	21 58 52.6	+0.5	
	baz=116							
P20A	De Beque	116.20	42	⇓PKiKP	PKiKP	21 58 53.7	+1.1	
	baz=116							
I24A	Kuemmerle Ranc	116.21	36	⇓PKiKP	PKiKP	21 58 52.7	+0.3	
	baz=116							
K23A	Bowen Ranch, D	116.24	38	⇑PKiKP	PKiKP	21 58 53.0	+0.4	
	baz=116							
H25A	Fruitdale	116.36	35	⇓PKiKP	PKiKP	21 58 53.2	+0.6	
	baz=116							
E27A	Carson	116.38	33	⇑PKiKP	PKiKP	21 58 53.3	+0.7	
	baz=116							
M22A	Cedar Creek Ra	116.38	39	⇑PKiKP	PKiKP	21 58 53.0	0.0	
	baz=116							
A30A	Hoffart Farm,	116.38	29	⇑PKiKP	PKiKP	21 58 52.8	+0.3	
	baz=116							
RSSD	Black Hills	116.41	36	*e*PKiKP	PKPdf	21 58 52.2	-0.7	
RSSD	Black Hills	116.41	36	*e*PKPdf	PKPdf	21 58 52.2	-0.7	
RSSD				*e*SKPdf	SKPdf	22 01 32.2	-1.2	
MTE	Manteigas	116.41	319	*e*PKP	PKPdf	21 58 53.4	+0.6	
MTE	Manteigas	116.41	319	*e*PP	PP	22 00 11.2	+1.5	
214A	Organ Pipe Nat	116.41	51	⇑PKiKP	PKiKP	21 58 53.8	+0.7	
	baz=116							
D28A	Regan	116.42	31	⇑PKiKP	PKiKP	21 58 53.2	+0.6	
	baz=116							
X16A	Lo Mia Camp, P	116.43	48	⇑PKiKP	PKiKP	21 58 54.0	+0.8	
	baz=116							
O21A	Pagoda	116.45	41	⇓PKiKP	PKiKP	21 58 53.5	+0.4	
	baz=116							
PVIS	Viseu	116.47	320	*e*PKP	PKPdf	21 58 53.4	+0.5	
MDND	Maddock	116.48	30	*e*PKPdf	PKPdf	21 58 52.2	-0.5	
MDND				*e*SKPdf	SKiKP	22 01 33.4	0.0	
MDND	Maddock	116.48	30	⇑PKiKP	PKiKP	21 58 53.2	+0.5	
	baz=116							
F27A	Lemmon	116.48	33	⇓PKiKP	PKiKP	21 58 53.5	+0.7	
	baz=116							
J24A	Dixon Ranch, L	116.50	37	⇓PKiKP	PKiKP	21 58 53.2	+0.2	
	baz=116							
G26A	Maurine	116.52	34	⇓PKiKP	PKiKP	21 58 53.4	+0.5	
	baz=116							
Q20A	Ridgley Place,	116.54	43	⇑PKiKP	PKPdf	21 58 53.2	-0.1	
	baz=116							
L23A	Garrett	116.55	38	⇓PKiKP	PKPdf	21 58 53.1	-0.2	
	baz=116							
ULM	Lac du Bonnet	116.58	26	*e*PKPdf	PKPdf	21 58 51.9	-0.8	
ULM				PKP	PKPdf	21 58 52.2	-0.5	
ULM				*e*PP	PP	22 00 10.0	-0.3	
ULM				SKP		22 01 33.0		
ULM				PKKPbc	PKKPbc	22 09 21.8	-2.5	
ULM	Lac du Bonnet	116.58	26	PKP	PKPdf	21 58 52.2	-0.5	
	comp=Z,32nm,0.5s,baz=310,slow=1.4,SNR=46							
ULM				SKP		22 01 33.0		
	comp=Z,33nm,0.8s,baz=305,slow=2.7,SNR=6.3							
ULM				PKKPbc	PKKPbc	22 09 21.8	-2.5	
	comp=Z,11nm,0.8s,baz=114,slow=7.4,SNR=6.4							
I25A	Rochford	116.64	36	⇓PKiKP	PKPdf	21 58 53.3	-0.1	
	baz=117							
PCBR	Castelo Branco	116.66	319	*e*PKP	PKPdf	21 58 53.9	+0.7	
PCBR	Castelo Branco	116.66	319	*e*PP	PP	22 00 12.7	+1.3	
B30A	Myrvik Farm, E	116.70	29	⇓PKiKP	PKiKP	21 58 53.4	+0.3	
	baz=117							
E28A	Huff	116.75	32	⇑PKiKP	PKiKP	21 58 53.6	+0.3	
	baz=117							
K24A	Anderson Ranch	116.75	37	⇑PKiKP	PKiKP	21 58 53.7	+0.2	
	baz=117							
PV01	Paradox Valley	116.77	43	*e*PKPdf	PKPdf	21 58 53.9	0.0	
PV01				*e*PP	PP	22 00 11.8	-0.7	
PV01				*e*SKPdf	SKiKP	22 01 34.5	0.0	
N22A	Wattenberg Ran	116.79	40	⇓PKiKP	PKiKP	21 58 54.6	+0.7	
	baz=117							
PMRV	Marv??o	116.81	318	*e*PKP	PKPdf	21 58 54.1	+0.5	
PMRV	Marv??o	116.81	318	*e*PP	PP	22 00 16.3	+3.8	
P21A	Newcastle	116.82	42	⇓PKiKP	PKiKP	21 58 54.9	+1.0	
	baz=117							
H26A	Fairpoint	116.83	35	⇑PKiKP	PKiKP	21 58 53.8	+0.2	
	baz=117							
G27A	Dupree	116.84	34	⇑PKiKP	PKiKP	21 58 53.5	0.0	
	baz=117							
R20A	Redvale	116.87	43	⇓PKiKP	PKiKP	21 58 54.7	+0.7	
	baz=117							
J25A	Sunshine Ranch	116.97	36	⇓PKiKP	PKiKP	21 58 54.5	+0.6	
	baz=117							
D29A	Pettibone, Tap	117.00	31	⇑PKiKP	PKiKP	21 58 54.7	+1.0	
	baz=117							
S20A	Disappointment	117.06	44	⇑PKiKP	PKiKP	21 58 55.3	+0.9	
	baz=117							
N23A	Red Feather La	117.07	40	⇓PKiKP	PKiKP	21 58 55.5	+1.1	
	baz=117							
O22A	Kremmling	117.08	41	⇑PKiKP	PKiKP	21 58 55.1	+0.6	
	baz=117							
Q21A	Lamborn Mesa,	117.09	42	⇓PKiKP	PKiKP	21 58 55.3	+0.9	
	baz=117							
C30A	Mose, Pekin	117.14	30	⇓PKiKP	PKiKP	21 58 54.7	+0.7	
	baz=117							
I26A	New Underwood	117.14	35	⇑PKiKP	PKiKP	21 58 54.7	+0.5	
	baz=117							
F28A	McLaughlin	117.16	33	⇑PKiKP	PKiKP	21 58 54.6	+0.5	
	baz=117							
PBAR	Barrancos	117.21	317	*e*PKP	PKPdf	21 58 55.0	+0.7	
PBAR	Barrancos	117.21	317	*e*PP	PP	22 00 19.2	+4.0	
PCAS	Casmilo, Conde	117.21	319	*e*PKP	PKPdf	21 58 54.8	+0.5	
PCAS	Casmilo, Conde	117.21	319	*e*PP	PP	22 00 17.0	+1.8	
H27A	Howes	117.22	34	⇑PKiKP	PKiKP	21 58 54.7	+0.5	
	baz=117							
PESTR	Estremoz	117.23	318	*e*PKP	PKPdf	21 58 54.9	+0.5	
PESTR	Estremoz	117.23	318	*e*PP	PP	22 00 17.7	+2.3	
P22A	Eagle	117.24	41	⇓PKiKP	PKiKP	21 58 56.0	+1.3	
	baz=117							
MVCO	Mesa Verde	117.27	44	*e*PKPdf	PKPdf	21 58 55.3	+0.5	
MVCO				*e*PP	PP	22 00 14.0	-2.0	
MVCO				*e*SKPdf	SKiKP	22 01 36.2	+0.7	
MVCO	Mesa Verde	117.27	44	⇑PKiKP	PKiKP	21 58 56.1	+1.3	
	baz=117							
E29A	Napoleon	117.31	31	⇓PKiKP	PKiKP	21 58 55.9	+1.5	
	baz=117							
SMCO	Snowmass	117.31	42	*e*PKPdf	PKPdf	21 58 56.0	+0.9	
SMCO				*e*PP	PP	22 00 17.0	+0.6	
SMCO				*e*SKPdf	SKiKP	22 01 35.7	0.0	
R21A	Cimarron	117.34	43	⇓PKiKP	PKiKP	21 58 56.0	+1.0	
	baz=117							
W18A	Petrified Fore	117.38	47	*e*PKPdf	PKPdf	21 58 55.5	+0.6	
W18A				*e*PP	PP	22 00 16.8	0.0	
W18A				*ep*PKPdf	pPKPdf	22 01 09.4	-1.6	
W18A				*e*SKPdf	SKiKP	22 01 36.3	+0.6	
W18A	Petrified Fore	117.38	47	⇑PKiKP	PKPdf	21 58 55.6	+0.6	
	baz=117							
PTOM	Tomar	117.39	319	*e*PKP	PKPdf	21 58 55.9	+1.3	
PTOM	Tomar	117.39	319	*e*PP	PP	22 00 19.3	+3.0	
D30A	Buchanan	117.40	31	⇑PKiKP	PKiKP	21 58 55.1	+0.6	
	baz=117							
J26A	Sides Ranch, S	117.44	36	⇑PKiKP	PKiKP	21 58 55.1	+0.3	
	baz=117							
M24A	Cheyenne	117.46	39	⇑PKiKP	PKiKP	21 58 55.5	+0.4	
	baz=117							
O23A	Lake Granby, G	117.46	40	⇑PKiKP	PKiKP	21 58 56.7	+1.5	
	baz=117							
X18A	Snowflake	117.49	48	⇑PKiKP	PKiKP	21 58 56.3	+1.0	
	baz=118							
Q22A	Crested Butte,	117.52	42	⇑PKiKP	PKiKP	21 58 56.7	+1.3	
	baz=118							
S21A	Coal Bank Pass	117.53	44	⇑PKiKP	PKiKP	21 58 56.7	+1.3	
	baz=118							
PMTG	Montargil	117.55	318	*e*PKP	PKPdf	21 58 54.9	-0.1	
PMTG	Montargil	117.55	318	*e*PP	PP	22 00 19.9	+2.4	
I27A	Quinn	117.58	35	⇑PKiKP	PKiKP	21 58 55.1	0.0	
	baz=118							
G28A	Parade	117.59	33	⇑PKiKP	PKiKP	21 58 55.4	+0.5	
	baz=118							
L25A	Engebretsen Ra	117.59	37	⇑PKiKP	PKPdf	21 58 55.1	-0.1	
	baz=118							
U20A	Newcomb	117.66	45	⇑PKiKP	PKiKP	21 58 56.2	+0.7	
	baz=118							
F29A	Eureka	117.69	32	⇓PKiKP	PKiKP	21 58 55.4	+0.3	
	baz=118							
EVO	Evora	117.69	318	*e*PKiKP	PKPdf	21 58 55.6	+0.3	
	comp=Z,253nm,0.9s							
EVO	Evora	117.69	318	*e*PKP	PKPdf	21 58 56.4	+1.1	
EVO	Evora	117.69	318	*e*PP	PP	22 00 21.4	+2.9	
E30A	Jud	117.73	31	⇓PKiKP	PKiKP	21 58 55.5	+0.3	
	baz=118							
ALMR	Almeirim	117.74	319	*e*P	PKPdf	21 58 55.6	+0.3	
ALMR				*e*PP	PP	22 00 20.1	+1.3	
ALMR	Almeirim	117.74	319	*e*P	PKPdf	21 58 55.6	+0.3	
K26A	Motz Farm, Whi	117.75	37	⇑PKiKP	PKiKP	21 58 55.6	+0.2	
	baz=118							
EVOP	Sao Brissos	117.77	318	*e*PKiKP	PKPdf	21 58 55.6	+0.2	
EVOP	Sao Brissos	117.77	318	*e*PKPdf	PKPdf	21 58 55.6	+0.2	
N24A	Carr	117.78	39	⇑PKiKP	PKiKP	21 58 55.7	+0.1	
	baz=118							
H28A	Mission Ridge	117.78	34	⇓PKiKP	PKiKP	21 58 55.6	+0.2	
	baz=118							
TUC	Tucson	117.83	50	*e*PKiKP	PKPdf	21 58 56.2	+0.4	
TUC				*e*		22 00 20.6		
TUC	Tucson	117.83	50	*e*PKPdf	PKPdf	21 58 56.1	+0.4	
TUC				*e*PP	PP	22 00 20.6	+0.7	
TUC				*e*SKPdf	SKiKP	22 01 37.4	+0.8	
PBEJ	Beja	117.85	317	*e*PKP	PKPdf	21 58 57.0	+1.4	
PBEJ	Beja	117.85	317	*e*PP	PP	22 00 20.7	+1.1	
ISCO	Idaho Springs	117.88	40	*e*PKiKP	PKPdf	21 58 56.6	+0.6	
ISCO				*e*		22 00 19.4		
ISCO	Idaho Springs	117.88	40	*e*PKPdf	PKPdf	21 58 56.6	+0.6	
ISCO				*e*PP	PP	22 00 19.4	-0.7	
ISCO				*e*SKPdf	SKiKP	22 01 36.8	+0.1	
ISCO	Idaho Springs	117.88	40	⇑PKiKP	PKiKP	21 58 56.3	+0.2	
	baz=118							
M25A	Palm-Egli Farm	117.95	38	⇓PKiKP	PKiKP	21 58 56.4	+0.5	
	baz=118							
R22A	Saguache, Gunn	117.95	43	⇓PKiKP	PKiKP	21 58 58.0	+1.8	
	baz=118							
P23A	Jefferson	117.96	41	⇑PKiKP	PKiKP	21 58 57.7	+1.4	
	baz=118							
V20A	Brimhall	117.97	46	⇓PKiKP	PKiKP	21 58 57.3	+1.1	
	baz=118							
MDT	Midelt	117.97	311	PKP	PKPdf	21 58 56.3	+0.2	
MDT				PKKPab	PKKPab	22 09 22.9	-0.8	
MDT	Midelt	117.97	311	PKP	PKPdf	21 58 56.3	+0.2	
	comp=Z,22nm,0.8s,baz=80,slow=3.2,SNR=8.2							
MDT				PKKPab	PKKPab	22 09 22.9	-0.8	
	comp=Z,8.2nm,0.7s,baz=260,slow=1.5,SNR=15							
AGMN	Agassiz Nation	117.99	28	*e*PKPdf	PKPdf	21 58 55.2	-0.3	
T21A	Navajo Lake	118.05	44	⇑PKiKP	PKiKP	21 58 58.0	+1.6	
	baz=118							
PVAQ	Vaqueiros	118.06	316	*e*PKP	PKPdf	21 58 56.5	+0.5	
PVAQ	Vaqueiros	118.06	316	*e*PP	PP	22 00 22.1	+1.0	
J27A	Elkhorn Farm,	118.10	36	⇑PKiKP	PKiKP	21 58 57.1	+1.0	
	baz=118							
PACT	Alcochete	118.11	318	*e*PKP	PKPdf	21 58 57.9	+1.9	
I28A	Midland	118.12	34	⇑PKiKP	PKiKP	21 58 56.7	+0.7	
	baz=118							
S22A	4UR Ranch, Cre	118.15	43	⇓PKiKP	PKiKP	21 58 57.8	+1.2	
	baz=118							
PCVE	Castro Verde	118.17	317	*e*PKP	PKPdf	21 58 56.9	+0.7	
PCVE	Castro Verde	118.17	317	*e*PP	PP	22 00 22.1	+0.3	
L26A	Underwood Farm	118.20	37	⇑PKiKP	PKPdf	21 58 56.2	0.0	
	baz=118							
Q23A	Hartsel	118.21	41	⇑PKiKP	PKiKP	21 58 56.8	+0.1	
	baz=118							
U21A	Nageezi	118.24	45	⇓PKiKP	PKiKP	21 58 57.3	+0.6	
	baz=118							
PNCL	Nicolau / Gran	118.25	318	*e*PKP	PKPdf	21 58 56.8	+0.5	
PNCL	Nicolau / Gran	118.25	318	*e*PP	PP	22 00 25.7	+3.4	
H29A	Onida	118.26	33	⇓PKiKP	PKiKP	21 58 56.4	+0.1	
	baz=118							
W20A	Ramah	118.27	46	⇓PKiKP	PKiKP	21 58 57.9	+1.1	
	baz=118							
PBDV	Barranco-do-Ve	118.29	316	*e*PKP	PKPdf	21 58 58.2	+1.7	
PBDV	Barranco-do-Ve	118.29	316	*e*PP	PP	22 00 25.0	+2.3	
K27A	Flueckinger Fa	118.30	36	⇑PKiKP	PKPdf	21 58 56.4	0.0	
	baz=118							
PMAFR	Mafra	118.31	319	*e*PKP	PKPdf	21 58 56.0	-0.5	
PMAFR	Mafra	118.31	319	*e*PP	PP	22 00 22.8	+0.1	
LIS	Lisbon	118.35	318	*e*P	PKPdf	21 58 57.2	+0.7	
LIS				*e*PP	PP	22 00 24.6	+1.7	
LIS	Lisbon	118.35	318	*e*P	PKPdf	21 58 57.2	+0.7	
PMST	Lisbon--Monsan	118.36	318	*e*PKP	PKPdf	21 58 57.8	+1.3	
PMST	Lisbon--Monsan	118.36	318	*e*PP	PP	22 00 26.4	+3.4	
J28A	Allard Ranch,	118.44	35	⇑PKiKP	PKiKP	21 58 57.0	+0.2	
	baz=118							
T22A	Edith	118.47	44	⇑PKiKP	PKiKP	21 58 57.5	+0.3	
	baz=118							
P24A	Kohler Place,	118.49	40	⇑PKiKP	PKiKP	21 58 57.2	+0.1	
	baz=118							
M26A	McRoberts Ranc	118.49	38	⇑PKiKP	PKiKP	21 58 57.3	+0.4	
	baz=118							
G30A	Faulkton	118.51	32	⇓PKiKP	PKPdf	21 58 56.5	-0.2	
	baz=118							
X20A	Quemado	118.54	47	⇓PKiKP	PKiKP	21 58 58.3	+0.9	
	baz=119							
V21A	Milan	118.56	45	⇑PKiKP	PKiKP	21 58 58.3	+1.0	
	baz=119							
I29A	Vivian Onida	118.59	34	⇑PKiKP	PKiKP	21 58 57.5	+0.5	
	baz=118							
R23A	Moffat	118.59	42	⇑PKiKP	PKiKP	21 58 58.5	+1.1	
	baz=119							
L27A	T5 Ranch, Ells	118.63	37	⇓PKiKP	PKiKP	21 58 58.6	+1.4	
	baz=119							
Q24A	Divide	118.63	41	⇓PKiKP	PKiKP	21 58 58.0	+0.4	
	baz=119							
O25A	Wiggins	118.66	39	⇓PKiKP	PKiKP	21 58 58.0	+0.7	
	baz=119							
PTEO	Sao Teotonio	118.68	317	*e*PKP	PKPdf	21 58 58.5	+1.3	
PTEO	Sao Teotonio	118.68	317	*e*PP	PP	22 00 24.1	-1.1	
S23A	Nye Farm, Mont	118.73	43	⇑PKiKP	PKiKP	21 58 57.8	+0.1	
	baz=119							
MORF	Marmelete	118.75	317	*e*PKP	PKPdf	21 58 58.5	+1.1	
MORF	Marmelete	118.75	317	*e*PP	PP	22 00 27.2	+1.4	
K28A	Ten Mile Ranch	118.81	36	⇑PKiKP	PKPdf	21 58 57.4	0.0	
	baz=119							
N26A	Koester Ranch,	118.81	38	⇑PKiKP	PKiKP	21 58 57.7	+0.1	
	baz=119							
U22A	Llaves	118.83	44	⇑PKiKP	PKiKP	21 58 58.8	+0.9	
	baz=119							
TOA0	Torodi Ar. Sit	118.83	287	*e*PKPdf	PKPdf	21 58 57.6	-0.5	
TOA0				*e*PP	PP	22 00 23.6	-3.7	
TORD	Torodi Ar. Bea	118.83	287	PKPpre	PKPpre	21 58 49.9		
TORD				PKP	PKPdf	21 58 57.5	-0.6	
TORD				PP	PP	22 00 14.2	-13	
TORD				SKP		22 01 38.4		
TORD				PKKPab	PKKPbc	22 09 16.6	+1.3	
TORD				SKKPbc	SKKPbc	22 12 09.4	+3.5	
TORD	Torodi Ar. Bea	118.83	287	PKhKP	PKPpre	21 58 49.9		
	comp=Z,1.3nm,0.4s,baz=9.4,slow=0.7,SNR=11							
TORD				PKP	PKPdf	21 58 57.5	-0.6	
	comp=Z,208nm,0.6s,baz=53,slow=1.8,SNR=107							
TORD				PP	PP	22 00 14.2	-13	
	comp=Z,22nm,0.7s,baz=54,slow=5.0,SNR=3.8							
TORD				SKP		22 01 38.4		
	comp=Z,39nm,0.8s,baz=41,slow=1.2,SNR=3.7							
TORD				PKKPab	PKKPbc	22 09 16.6	+1.3	
	comp=Z,7.7nm,0.5s,baz=285,slow=2.6,SNR=12							
TORD				SKKPbc	SKKPbc	22 12 09.4	+3.5	
	comp=Z,16nm,1.0s,baz=275,slow=2.1,SNR=6.6							
W21A	San Fidel	118.89	46	⇓PKiKP	PKiKP	21 58 58.7	+0.7	
	baz=119							
M27A	Reverse DX Ran	118.92	37	⇑PKiKP	PKiKP	21 58 58.2	+0.5	
	baz=119							
Y20A	Horse Springs,	118.93	48	⇑PKiKP	PKiKP	21 58 59.2	+1.0	
	baz=119							
PFVI	Vila Bisbo	118.96	317	*e*PKP	PKPdf	21 58 58.1	+0.4	
PFVI	Vila Bisbo	118.96	317	*e*PP	PP	22 00 29.4	+2.2	
P25A	Willow Gulch B	118.97	40	⇑PKiKP	PKiKP	21 58 58.8	+0.8	
	baz=119							
J29A	Kreek	118.97	35	⇓PKiKP	PKiKP	21 58 57.8	+0.1	
	baz=119							
V22A	San Miguel Ran	119.02	45	⇓PKiKP	PKiKP	21 58 59.1	+0.8	
	baz=119							
SDCO	Great Sand Dun	119.05	42	*e*PKPdf	PKPdf	21 58 59.2	+0.9	
SDCO				*e*SKPdf	SKiKP	22 01 40.5	+1.4	
R24A	Sanders Place,	119.05	42	⇓PKiKP	PKiKP	21 58 59.1	+0.9	
	baz=119							
HSIG		119.06	54	P	PKPdf	21 58 58.4	+0.3	
T23A	Casias Ranch,	119.06	43	⇓PKiKP	PKiKP	21 58 59.2	+0.8	
	baz=119							
BRSD	Miller	119.06	33	*e*PKPdf	PKPdf	21 58 57.1	-0.7	
BRSD	Miller	119.06	33	⇓PKiKP	PKiKP	21 58 58.0	+0.2	
	baz=119							
O26A	Horse Wrangler	119.09	39	⇑PKiKP	PKiKP	21 58 58.5	+0.3	
	baz=119							
X21A	Alamocita Cree	119.11	47	⇑PKiKP	PKiKP	21 58 59.5	+1.0	
	baz=119							
Z20A	Nine Sixteen R	119.14	48	⇑PKiKP	PKiKP	21 58 59.8	+1.3	
	baz=119							
L28A	Connealy Angus	119.15	36	⇑PKiKP	PKiKP	21 58 58.6	+0.4	
	baz=119							
Q25A	Bedland, Calha	119.25	41	⇑PKiKP	PKiKP	21 58 59.0	+0.4	
	baz=119							
PMSA	Palmer Station	119.25	177	PKP	PKPdf	21 58 57.0	-0.3	
PMSA	Palmer Station	119.25	177	PKP	PKPdf	21 58 57.0	-0.3	
	comp=Z,10nm,0.5s,baz=166,slow=6.2,SNR=5.1							
N27A	Anderson Farm,	119.25	38	⇓PKiKP	PKiKP	21 58 58.5	+0.1	
	baz=119							
S24A	Houchin Ranch,	119.30	42	⇑PKiKP	PKiKP	21 58 59.7	+0.9	
	baz=119							
U23A	El Rito	119.31	44	⇓PKiKP	PKiKP	21 58 59.6	+0.8	
	baz=119							
120A	U Bar Ranch, L	119.36	49	⇓PKiKP	PKPdf	21 58 58.6	-0.2	
	baz=119							
319A	Douglas	119.39	50	⇑PKiKP	PKiKP	21 58 59.6	+0.6	
	baz=119							
Y21A	Point of Rocks	119.40	47	⇓PKiKP	PKiKP	21 59 00.3	+1.2	
	baz=119							
P26A	Davis Ranch, A	119.46	40	⇑PKiKP	PKiKP	21 58 59.2	+0.2	
	baz=119							
W22A	Albuquerque	119.47	46	⇓PKiKP	PKiKP	21 59 00.2	+1.1	
	baz=120							
OGNE	Ogallala	119.48	38	*e*PKPdf	PKPdf	21 58 59.1	+0.3	
OGNE	Ogallala	119.48	38	⇑PKiKP	PKiKP	21 58 58.8	0.0	
	baz=119							
T24B	San Luis	119.49	43	⇓PKiKP	PKiKP	21 58 59.9	+0.6	
	baz=120							
J30A	Dallas	119.49	34	⇑PKiKP	PKPdf	21 58 58.6	-0.1	
	baz=119							
M28A	Bar X Bar Ranc	119.61	37	⇑PKiKP	PKiKP	21 58 59.4	+0.3	
	baz=120							
V23A	Ortiz Mt. (NFS	119.61	45	⇓PKiKP	PKiKP	21 58 59.6	+0.2	
	baz=120							
X22A	Bernardo	119.64	46	⇓PKiKP	PKiKP	21 59 00.8	+1.3	
	baz=120							
R25A	Fountain Ranch	119.64	41	⇓PKiKP	PKiKP	21 59 00.0	+0.7	
	baz=120							
O27A	Beecher Island	119.65	39	⇓PKiKP	PKiKP	21 58 59.3	0.0	
	baz=120							
Q26A	Hugo	119.71	40	⇓PKiKP	PKiKP	21 58 59.9	+0.4	
	baz=120							
L29A	Maesberg Ranch	119.72	36	⇑PKiKP	PKiKP	21 58 59.4	+0.1	
	baz=120							
Z21A	St. Cloud Mine	119.73	48	⇓PKiKP	PKiKP	21 59 00.2	+0.5	
	baz=120							
220A	Playas Peak, P	119.73	50	⇓PKiKP	PKiKP	21 59 00.2	+0.5	
	baz=120							
S25A	Robets Cordova	119.81	42	⇑PKiKP	PKiKP	21 58 60.0	+0.2	
	baz=120							
ANMO	Albuquerque	119.82	46	*e*PKPdf	PKPdf	21 59 00.8	+1.1	
ANMO				*ep*PKPdf	pPKPdf	22 01 13.3	-2.4	
ANMO				*e*SKPdf	SKiKP	22 01 41.4	+0.8	
K30A	Basset	119.84	35	⇓PKiKP	PKPdf	21 58 59.4	0.0	
	baz=120							
U24A	Moreno Valley	119.90	44	⇓PKiKP	PKiKP	21 59 00.6	+0.6	
	baz=120							
Y22D	IRIS PASSCAL I	119.91	47	⇑PKiKP	PKiKP	21 59 00.8	+0.8	
	baz=120							
W23A	Werner Place,	119.93	45	⇑PKiKP	PKiKP	21 59 00.2	+0.1	
	baz=120							

R28A	Tribune	121.14	40	⇑PKiKP	PKiKP	21 59 02.4	+0.2
	baz=121						
V26A	Tequesquite Ra	121.25	43	⇑PKiKP	PKiKP	21 59 02.8	+0.3
	baz=121						
223A	Chaparral, Ant	121.27	49	⇓PKiKP	PKiKP	21 59 03.3	+0.6
	baz=121						
T27A	Campo	121.28	42	⇑PKiKP	PKiKP	21 59 02.6	+0.1
	baz=121						
X25A	Clemmons Ranch	121.31	45	⇓PKiKP	PKiKP	21 59 03.1	+0.4
	baz=121						
Q29A	Oakley	121.35	39	⇓PKiKP	PKiKP	21 59 02.9	+0.3
	baz=121						
Z24A	Sheeppen Canyo	121.41	47	⇑PKiKP	PKiKP	21 59 03.8	+0.8
	baz=121						
P30A	Selden	121.41	38	⇑PKiKP	PKiKP	21 59 02.8	+0.1
	baz=121						
BGNE	Belgrade	121.49	35	ePKPdf	PKPdf	21 59 02.2	-0.4
BGNE				ePP	PP	22 00 46.0	+2.1
BGNE				eSKPdf	SKPdf	22 01 43.0	0.0
BGNE	Belgrade	121.49	35	⇑PKiKP	PKPdf	21 59 02.3	-0.3
	baz=121						
S28A	Manter	121.52	41	⇓PKiKP	PKPdf	21 59 02.5	-0.3
	baz=122						
R29A	Marienthal	121.52	40	⇓PKiKP	PKiKP	21 59 03.1	+0.2
	baz=122						
U27A	Thompson Grove	121.56	42	⇑PKiKP	PKiKP	21 59 03.8	+0.7
	baz=122						
Y25A	Mesa, Roswell	121.59	46	⇑PKiKP	PKiKP	21 59 03.6	+0.4
	baz=122						
W26A	Owens Ranch, T	121.64	44	⇑PKiKP	PKiKP	21 59 03.7	+0.4
	baz=122						
T28A	Walsh	121.64	41	⇓PKiKP	PKiKP	21 59 03.3	+0.1
	baz=122						
124A	Stringfield Ra	121.65	47	⇓PKiKP	PKiKP	21 59 04.3	+0.7
	baz=122						
SPMN	St. Paul	121.66	29	ePKPdf	PKPdf	21 59 03.6	+0.9
SPMN	St. Paul	121.66	29	⇓PKiKP	PKiKP	21 59 03.0	+0.1
	baz=122						
Q30A	Quinter	121.77	38	⇓PKiKP	PKPdf	21 59 03.2	0.0
	baz=122						
N32A	Stulken Farm,	121.82	36	⇓PKiKP	PKiKP	21 59 03.3	-0.1
	baz=122						
X26A	CR and CF Fran	121.89	45	⇓PKiKP	PKiKP	21 59 04.1	+0.2
	baz=122						
Z25A	Roswell	121.90	46	⇑PKiKP	PKiKP	21 59 04.3	+0.5
	baz=122						
224A	Cornudas Mount	121.91	48	⇓PKiKP	PKiKP	21 59 04.5	+0.5
	baz=122						
V27A	Dan Oppiter Fa	121.92	43	⇓PKiKP	PKiKP	21 59 04.2	+0.4
	baz=122						
P31A	Stockton	121.95	38	⇓PKiKP	PKiKP	21 59 03.9	+0.2
	baz=122						
U28A	Mallet	121.99	42	⇓PKiKP	PKiKP	21 59 04.2	+0.3
	baz=122						
S29A	Ulysses	122.01	40	⇓PKiKP	PKiKP	21 59 04.3	+0.4
	baz=122						
W27A	Bowe Ranch, En	122.14	44	⇓PKiKP	PKiKP	21 59 04.7	+0.4
	baz=122						
R30A	Dighton	122.15	39	⇑PKiKP	PKiKP	21 59 04.5	+0.4
	baz=122						
T29A	Hugoton	122.16	41	⇑PKiKP	PKiKP	21 59 04.4	+0.2
	baz=122						
MNTX	Cornudas Mount	122.19	48	ePKPdf	PKPdf	21 59 05.0	+0.8
MNTX				epPKPdf	pPKPdf	22 01 19.9	-0.3
Y26A	Elida	122.21	45	⇓PKiKP	PKiKP	21 59 04.4	-0.1
	baz=122						
324A	Moseley Ranch,	122.24	49	⇑PKiKP	PKiKP	21 59 04.9	+0.2
	baz=122						
125A	Gardner Draw,	122.26	47	⇓PKiKP	PKiKP	21 59 04.8	+0.2
	baz=122						
Q31A	Ellis	122.26	38	⇑PKiKP	PKPdf	21 59 03.6	-0.5
	baz=122						
V28A	Channing	122.34	43	⇑PKiKP	PKPdf	21 59 04.3	-0.1
	baz=122						
X27A	F and S Farms,	122.34	44	⇓PKiKP	PKiKP	21 59 04.7	0.0
	baz=122						
P32A	Huiting Farm,	122.36	37	⇑PKiKP	PKiKP	21 59 04.4	0.0
	baz=122						
225A	Deer Hill, Car	122.41	48	⇓PKiKP	PKiKP	21 59 05.6	+0.6
	baz=122						
S30A	Montezuma	122.42	40	⇑PKiKP	PKiKP	21 59 04.8	+0.1
	baz=122						
Z26A	Caprock	122.44	46	⇓PKiKP	PKPdf	21 59 04.6	-0.1
	baz=122						
U29A	Oasis Ranch, S	122.58	41	⇑PKiKP	PKPdf	21 59 04.9	0.0
	baz=123						
R31A	Burdett	122.62	39	⇑PKiKP	PKiKP	21 59 05.1	0.0
	baz=123						
W28A	Vega	122.62	43	⇑PKiKP	PKiKP	21 59 05.2	0.0
	baz=123						
325A	Bean Ranch, Si	122.66	49	⇓PKiKP	PKPdf	21 59 05.3	0.0
	baz=123						
COWI	Conover	122.67	26	ePKPdf	PKPdf	21 59 04.9	+0.3
COWI				epPKPdf	pPKPdf	22 01 16.9	-3.8
Y27A	Causey	122.70	45	⇑PKiKP	PKPdf	21 59 05.1	-0.1
	baz=123						
T30A	Plains	122.72	40	⇓PKiKP	PKiKP	21 59 05.3	-0.1
	baz=123						
126A	Clayton Basin,	122.73	47	⇑PKiKP	PKiKP	21 59 05.7	+0.2
	baz=123						
V29A	Stinnett	122.74	42	⇓PKiKP	PKiKP	21 59 05.7	+0.3
	baz=123						
226B	Tecolote Peak,	122.91	47	⇓PKiKP	PKiKP	21 59 06.0	+0.2
	baz=123						
MSTX	Muleshoe	122.93	45	ePKPdf	PKPdf	21 59 05.4	-0.2
MSTX				ePP	PP	22 00 51.5	-2.4
MSTX				eSKPdf	SKPdf	22 01 44.7	-1.4
MSTX	Muleshoe	122.93	45	⇓PKiKP	PKiKP	21 59 06.1	+0.2
	baz=123						
425A	Indio Mountain	122.93	49	⇓PKiKP	PKiKP	21 59 06.1	+0.1
	baz=123						
U30A	WK&E Inc. Balk	122.94	41	⇑PKiKP	PKiKP	21 59 06.1	+0.3
	baz=123						
Z27A	Tatum	122.96	46	⇑PKiKP	PKiKP	21 59 06.0	0.0
	baz=123						
P33A	Williams Farm,	123.02	37	⇑PKiKP	PKiKP	21 59 05.8	0.0
	baz=123						
X28A	Dimmitt	123.03	44	⇓PKiKP	PKiKP	21 59 06.1	0.0
	baz=123						
S31A	Mullinville	123.05	39	⇓PKiKP	PKiKP	21 59 06.4	+0.4
	baz=123						
W29A	Amraillo	123.08	43	⇑PKiKP	PKPdf	21 59 06.0	+0.1
	baz=123						
127A	Arkansas Junct	123.19	46	⇑PKiKP	PKPdf	21 59 06.2	0.0
	baz=123						
T31A	Randall Ranch,	123.24	40	⇑PKiKP	PKiKP	21 59 06.6	+0.3
	baz=123						
Y28A	McKinney Farm,	123.33	45	⇑PKiKP	PKiKP	21 59 06.6	-0.1
	baz=123						
V30A	Spur Ranch, Mi	123.36	42	⇓PKiKP	PKiKP	21 59 07.1	+0.5
	baz=123						
X29A	Tulia	123.42	44	⇓PKiKP	PKiKP	21 59 07.0	+0.2
	baz=123						
326A	Caldwell Ranch	123.43	48	⇓PKiKP	PKiKP	21 59 07.0	+0.1
	baz=124						
U31A	Nine Bar Ranch	123.56	41	⇑PKiKP	PKiKP	21 59 07.4	+0.4
	baz=124						
Z28A	Tucker Farm, M	123.57	45	⇑PKiKP	PKiKP	21 59 07.1	0.0
	baz=124						
227A	Bennet, Jal	123.58	47	⇓PKiKP	PKPdf	21 59 06.9	0.0
	baz=124						
426A	McDonald Obser	123.71	49	⇓PKiKP	PKiKP	21 59 07.5	-0.1
	baz=124						
Y29A	Porterfield Fa	123.76	44	⇓PKiKP	PKiKP	21 59 07.5	0.0
	baz=124						
327A	Balmorhea Ranc	123.76	48	⇓PKiKP	PKiKP	21 59 07.4	-0.1
	baz=124						
W30A	Crocket Farms	123.77	42	⇓PKiKP	PKiKP	21 59 07.6	+0.2
	baz=124						
128A	Castleberry Fa	123.85	46	⇑PKiKP	PKiKP	21 59 07.7	0.0
	baz=124						
SCIA	State Center	123.86	32	ePKPdf	PKPdf	21 59 06.8	-0.2
KSU1	Kansas State U	123.88	36	ePKPdf	PKPdf	21 59 06.9	-0.2
V31A	Spring Creek L	123.92	41	⇓PKiKP	PKiKP	21 59 08.3	+0.6
	baz=124						
526A	Mary Lane Ranc	123.96	49	⇑PKiKP	PKiKP	21 59 08.0	0.0
	baz=124						
X30A	Coker Ranch, T	123.98	43	⇓PKiKP	PKiKP	21 59 07.8	-0.1
	baz=124						
228A	UT Block 9, Go	124.03	47	⇓PKiKP	PKiKP	21 59 07.9	-0.2
	baz=124						
Z29A	Hungry Hill Ra	124.06	45	⇓PKiKP	PKiKP	21 59 08.0	-0.2
	baz=124						
427A	Hayter Ranch,	124.09	48	⇑PKiKP	PKiKP	21 59 08.3	0.0
	baz=124						
HPIG		124.17	54	P	PKPdf	21 59 09.6	+1.3
626A	Big Bend Ranch	124.17	50	⇓PKiKP	PKiKP	21 59 08.6	+0.1
	baz=124						
W31A	Holland Ranch,	124.19	42	⇑PKiKP	PKiKP	21 59 08.3	+0.1
	baz=124						
328A	Wristen Ranch,	124.26	47	⇑PKiKP	PKPdf	21 59 08.2	0.0
	baz=124						
527A	Woodward Ranch	124.28	49	⇓PKiKP	PKPdf	21 59 08.3	-0.1
	baz=124						
129A	Stewart Farms,	124.29	46	⇓PKiKP	PKPdf	21 59 08.3	0.0
	baz=124						
Y30A	Stafford Cattl	124.29	44	⇓PKiKP	PKiKP	21 59 08.5	0.0
	baz=124						
Z30A	Sanderson Ranc	124.45	45	⇓PKiKP	PKPdf	21 59 08.4	0.0
	baz=124						
X31A	McDonald Ranch	124.49	43	⇓PKiKP	PKPdf	21 59 08.5	0.0
	baz=124						
JFWS	Jewell Farm	124.61	29	ePKIKP	PKPdf	21 59 07.7	-0.7
JFWS	Jewell Farm	124.61	29	ePKPdf	PKPdf	21 59 07.7	-0.7
JFWS				epPKPdf	pPKPdf	22 01 29.9	+5.4
TXAR	Lajitas Array	124.63	50	PKPpre	PKPpre	21 58 59.1	
TXAR				PKP	PKiKP	21 59 09.6	+0.3
TXAR				pPKP	pPKPdf	22 01 27.9	+2.8
TXAR				PKKPbc	PKKPbc	22 08 53.4	-1.0
TXAR				SKKPbc	SKKPbc	22 11 49.5	+1.7
TXAR	Lajitas Array	124.63	50	PKhKP	PKPpre	21 58 59.1	
	comp=Z,0.6nm,0.6s,baz=271,slow=0.9,SNR=4.2						
TXAR				PKP	PKiKP	21 59 09.6	+0.3
	comp=Z,16nm,0.7s,baz=250,slow=1.5,SNR=25						
TXAR				pPKP	pPKPdf	22 01 27.9	+2.8
	comp=Z,12nm,0.6s,baz=272,slow=2.3,SNR=6.0						
TXAR				PKKPbc	PKKPbc	22 08 53.4	-1.0
	comp=Z,9.6nm,0.8s,baz=131,slow=5.1,SNR=19						
TXAR				SKKPbc	SKKPbc	22 11 49.5	+1.7
	comp=Z,2.3nm,0.6s,baz=133,slow=4.5,SNR=4.7						
Y31A	Rekieta Farm,	124.68	43	⇓PKiKP	PKiKP	21 59 09.1	-0.1
	baz=125						
229A	Bryant Ranch,	124.68	46	⇑PKiKP	PKiKP	21 59 09.4	0.0
	baz=125						
428A	Kincaid Ranch,	124.68	48	⇑PKiKP	PKiKP	21 59 09.9	+0.5
	baz=125						
627A	Terlingua Ranc	124.79	50	⇑PKiKP	PKiKP	21 59 09.6	-0.1
	baz=125						
329A	Wagon Wheel Ra	124.81	47	⇓PKiKP	PKPdf	21 59 09.3	0.0
	baz=125						
130A	Snyder	124.94	45	⇑PKiKP	PKPdf	21 59 09.4	-0.1
	baz=125						
Z31A	Sharp Cattle R	125.12	44	⇓PKiKP	PKPdf	21 59 09.8	+0.1
	baz=125						
628A	Black Gap, Mar	125.15	49	⇑PKiKP	PKiKP	21 59 10.2	-0.2
	baz=125						
Y32A	R-V Farms, Ver	125.21	43	⇑PKiKP	PKPdf	21 59 09.9	0.0
	baz=125						
230A	Sterling City	125.22	46	⇓PKiKP	PKPdf	21 59 09.9	-0.1
	baz=125						
WMOK	Wichita Mounta	125.23	42	ePKIKP	PKPdf	21 59 10.1	+0.2
WMOK	Wichita Mounta	125.23	42	ePKPdf	PKPdf	21 59 10.1	+0.2
131A	Roby	125.31	45	⇑PKiKP	PKPdf	21 59 10.1	-0.1
	baz=125						
429A	Davenport Ranc	125.32	48	⇓PKiKP	PKPdf	21 59 10.0	-0.2
	baz=125						
529A	Stev Forest Ra	125.33	48	⇑PKiKP	PKPdf	21 59 10.3	0.0
	baz=125						
330A	Mertzon	125.43	46	⇓PKiKP	PKPdf	21 59 10.3	-0.1
	baz=126						
Z32A	Haskell	125.59	44	⇓PKiKP	PKPdf	21 59 10.6	0.0
	baz=126						
430A	Baggett Ranch,	125.72	47	⇓PKiKP	PKPdf	21 59 10.7	-0.2
	baz=126						
231A	Bronte	125.77	45	⇓PKiKP	PKPdf	21 59 10.8	-0.2
	baz=126						
ABTX	Abilene, Hawle	125.86	44	ePKPdf	PKPdf	21 59 11.7	+0.5
ABTX	Abilene, Hawle	125.86	44	⇑PKiKP	PKPdf	21 59 11.0	-0.2
	baz=126						
530A	J-C Ranch, Com	125.97	48	⇓PKiKP	PKPdf	21 59 11.6	+0.1
	baz=126						
331A	San Angelo	126.03	46	⇑PKiKP	PKPdf	21 59 11.3	-0.2
	baz=126						
431A	Sonora	126.23	47	⇑PKiKP	PKPdf	21 59 11.8	-0.1
	baz=126						
232A	Coleman	126.27	45	⇓PKiKP	PKPdf	21 59 11.9	-0.1
	baz=126						
KIC	Kosan Boka	126.35	281	ePKIKP	PKPdf	21 59 12.9	+0.4
	comp=Z,648nm,0.8s						
DBIC	Dimbokro	126.41	281	PKPpre	PKPpre	21 58 59.8	
DBIC				ePKPdf	PKPdf	21 59 12.3	-0.3
DBIC				PKP	PKiKP	21 59 13.2	0.0
DBIC				ePP	PP	22 01 17.7	-0.1
DBIC				PKKPbc	PKKPab	22 08 47.8	+1.0
DBIC	Dimbokro	126.41	281	PKhKP	PKPpre	21 58 59.8	
	comp=Z,3.9nm,0.4s,baz=84,slow=3.1,SNR=5.3						
DBIC				PKP	PKiKP	21 59 13.2	0.0
	comp=Z,251nm,0.8s,baz=66,slow=2.2,SNR=49						
DBIC				PKKPbc	PKKPab	22 08 47.8	+1.0
	comp=Z,6.7nm,0.6s,baz=234,slow=3.6,SNR=4.7						
TUL1	Tulsa	126.43	39	⇓PKiKP	PKPdf	21 59 11.9	-0.2
	baz=126						
332A	Millersview	126.48	46	⇑PKiKP	PKPdf	21 59 12.0	-0.3
	baz=126						
TIC	Toumodi	126.57	281	ePKIKP	PKPdf	21 59 13.2	+0.2
	comp=Z,548nm,0.8s						
LIC	Lamto	126.65	281	ePKIKP	PKPdf	21 59 12.5	-0.6
	comp=Z,344nm,0.6s						
LIC	Lamto	126.65	281	ePKIKP	PKPdf	21 59 13.4	+0.3
	comp=Z,861nm,0.9s						
LIC	Lamto	126.65	281	ePKPdf	PKPdf	21 59 12.5	-0.6
432A	Menard	126.72	46	⇓PKiKP	PKPdf	21 59 12.8	-0.1
	baz=127						
631A	Perdido Creek	126.92	48	⇑PKiKP	PKPdf	21 59 13.2	-0.1
	baz=127						
JCT	Junction City	126.93	47	⇑PKiKP	PKiKP	21 59 13.8	0.0
	baz=127						
532A	Rocksprings	127.04	47	⇓PKiKP	PKPdf	21 59 13.2	-0.3
	baz=127						
632A	Uvalde	127.46	48	⇑PKiKP	PKPdf	21 59 14.2	-0.1
	baz=128						
ANIG	Ahuacatlan	127.55	60	P	PKPdf	21 59 16.1	+1.4
CJM	Chamela	127.68	62	P	PKPdf	21 59 17.5	+2.6
732A	Laxson Ranch,	127.73	49	⇓PKiKP	PKPdf	21 59 14.7	-0.1
	baz=128						
WHTX	Lake Whitney	127.74	44	ePKPdf	PKPdf	21 59 14.5	-0.2
WHTX	Lake Whitney	127.74	44	⇓PKiKP	PKPdf	21 59 14.5	-0.2
	baz=128						
SLM	Saint Louis	127.79	32	ePKIKP	PKPdf	21 59 14.9	+0.3
SLM	Saint Louis	127.79	32	ePKPdf	PKPdf	21 59 14.9	+0.3
SFIN	Scholer Farm	128.07	29	⇑PKiKP	PKPdf	21 59 15.4	+0.3
	baz=128						
USHA	Ushuaia	128.63	172	PKP	PKPdf	21 59 17.2	+1.5
USHA				SKPbc	SKiKP	22 01 40.9	-16
USHA	Ushuaia	128.63	172	PKP	PKPdf	21 59 17.2	+1.5
	comp=Z,47nm,0.8s,baz=124,slow=2.7,SNR=24						
USHA				SKPbc	SKiKP	22 01 40.9	-16
	comp=Z,125nm,0.9s,baz=188,slow=4.9,SNR=14						
BART	Pico Bartolome	128.68	327	ePP	PP	22 01 46.2	+15
CMLA	Cha da Macela	128.88	327	ePKP	PKPdf	21 59 19.4	+2.7
CMLA	Cha da Macela	128.88	327	ePP	PP	22 01 41.8	+10
PSET	Sete Cidades	128.94	328	ePP	PKPdf	21 59 18.7	+1.8
PSET	Sete Cidades	128.94	328	ePKP	PKPdf	21 59 20.0	+3.1
ADH	Angra Heroismo	129.11	329	ePP	PP	22 01 46.6	+13
LONY	Lake Ozonia	129.14	16	ePKPdf	PKPdf	21 59 17.4	+0.3
PSMN	Pico do Norte,	129.18	326	ePKP	PKPdf	21 59 18.6	+1.3
PSMN	Pico do Norte,	129.18	326	ePP	PP	22 01 46.3	+12
PGRA	Graciosa	129.19	330	ePKP	PKPdf	21 59 19.3	+2.0
PGRA	Graciosa	129.19	330	ePP	PP	22 01 45.6	+12
PSMA	Santa Maria	129.22	326	ePP	PP	22 01 46.1	+12
PARMO	Parma	129.49	34	ePKPdf	PKPdf	21 59 17.6	-0.3
TOPO	Topo	129.50	330	ePP	PP	22 01 48.1	+12
PMAN	Manadas	129.55	330	ePP	PP	22 01 47.2	+11
MMIG	Aquila	129.62	62	P	PKPdf	21 59 22.1	+3.5
USIN	University of	129.64	31	ePKPdf	PKPdf	21 59 18.8	+0.6
PPNO	Prainha do Nor	129.76	330	ePP	PP	22 01 48.1	+10
NATX	Nacogdoches	129.77	42	ePKPdf	PKPdf	21 59 19.3	+0.8
PICO	Pico	129.82	330	ePP	PP	22 01 48.5	+10
NCB	Newcomb	129.84	16	ePKPdf	PKPdf	21 59 19.0	+0.6
GNAR	Gosnell	129.84	35	ePKPdf	PKPdf	21 59 18.9	+0.3
PCED	Cedros	129.86	331	ePP	PP	22 01 48.1	+10
CALA	Caldeira	129.90	331	ePP	PP	22 01 48.3	+10
GLAT	Glass	130.03	34	ePKPdf	PKPdf	21 59 19.8	+0.9
MDV	Middlebury	130.09	15	ePKPdf	PKPdf	21 59 19.3	+0.5
MDV				eSKP		22 01 47.1	
WCI	Wyandotte Cave	130.13	30	ePKIKP	PKPdf	21 59 19.5	+0.4
WCI	Wyandotte Cave	130.13	30	ePKPdf	PKPdf	21 59 19.5	+0.4
LBNH	Lisbon	130.17	14	ePKIKP	PKPdf	21 59 19.9	+0.9
LBNH	Lisbon	130.17	14	ePKPdf	PKPdf	21 59 19.9	+0.9
HALT	Halls	130.26	34	ePKPdf	PKPdf	21 59 20.0	+0.6
HNH	Hanover	130.59	14	ePKPdf	PKPdf	21 59 19.8	0.0
HNH				eSKP		22 01 50.3	
WVT	Waverly	130.93	33	ePKIKP	PKPdf	21 59 21.5	+0.8
WVT	Waverly	130.93	33	ePKPdf	PKPdf	21 59 21.4	+0.8
TRY	Troy	131.14	16	ePKPdf	PKPdf	21 59 21.5	+0.7
TRY				eSKP		22 01 52.4	
OXF	Oxford	131.22	36	ePKIKP	PKPdf	21 59 21.4	+0.1
OXF	Oxford	131.22	36	ePKPdf	PKPdf	21 59 21.4	+0.1
SSPA	Standing Stone	131.72	21	ePKPdf	PKPdf	21 59 22.2	+0.2
HRV	Adam Dziewonsk	131.89	14	ePKIKP	PKPdf	21 59 22.9	+0.6
HRV				e		22 01 55.0	
HRV	Adam Dziewonsk	131.89	14	ePKPdf	PKPdf	21 59 22.9	+0.6
HRV				eSKP		22 01 55.0	
QUA2	Belchertown	131.91	15	ePKPdf	PKPdf	21 59 23.3	+1.0
QUA2				eSKP		22 01 54.7	
VBMS	Vicksburg	132.15	39	ePKPdf	PKPdf	21 59 23.9	+0.8
BRYW	Bryant College	132.45	14	ePKPdf	PKPdf	21 59 24.1	+0.8
DEIG	Demacu	132.53	58	P	PKPdf	21 59 24.3	-0.1
SWET	Sewanee	132.63	32	ePKPdf	PKPdf	21 59 23.6	-0.3
SZVM	Salazar	132.66	59	P	PKPdf	21 59 20.3	-4.6
CAIG	El Cayaco	132.80	62	P	PKPdf	21 59 23.8	-0.9
PBVM	Pinon	132.86	59	P	PKPdf	21 59 28.2	+3.5
IIO	Organos	133.11	58	P	PKPdf	21 59 24.4	-1.3
SDMD	Soldier's Deli	133.17	21	ePKPdf	PKPdf	21 59 25.4	+0.6
TPIG	Tehuac#an	134.77	59	P	PKPdf	21 59 33.2	+4.6
LVIG	Laguna Verde	134.99	57	P	PKPdf	21 59 32.6	+3.9
BBTS	Babate	135.37	296	PKPpre	PKPpre	21 59 17.1	
BBTS				PKP	PKiKP	21 59 30.7	-0.5
BBTS				SKPbc	SKPbc	22 02 07.2	+0.9
BBTS	Babate	135.37	296	PKhKP	PKPpre	21 59 17.1	
	comp=Z,42nm,0.7s,baz=67,slow=1.4,SNR=7.0						
BBTS				PKP	PKiKP	21 59 30.7	-0.5
	comp=Z,371nm,1.0s,baz=133,slow=0.4,SNR=18						
BBTS				SKPbc	SKPbc	22 02 07.2	+0.9
	comp=Z,324nm,0.9s,baz=100,slow=0.7,SNR=17						
TGIG		139.12	59	P	PKPdf	21 59 37.2	+0.8
CCIG	Comitan	140.19	59	P	PKPdf	21 59 36.6	-1.9
TEIG	Tepich	141.28	50	ePKPdf	PKPdf	21 59 37.9	-2.2
PLCA	Paso Flores	141.66	164	ePKPdf	PKPdf	21 59 37.6	-2.9
PLCA				PKP	PKPdf	21 59 37.8	-2.6
PLCA				SKPbc	SKPbc	22 02 23.4	+0.3
PLCA				SKKPab	SKKPbc	22 10 43.1	-3.7
PLCA	Paso Flores	141.66	164	PKP	PKPdf	21 59 37.8	-2.6
	comp=Z,65nm,0.7s,baz=248,slow=2.4,SNR=34						
PLCA				SKPbc	SKPbc	22 02 23.4	+0.3
	comp=Z,56nm,0.5s,baz=173,slow=1.8,SNR=19						
PLCA				SKKPab	SKKPbc	22 10 43.1	-3.7
	comp=Z,0.1nm,0.3s,baz=57,slow=4.9,SNR=3.7						
APG	El Apazote	142.20	59	SKPbc	SKPbc	22 02 23.1	-2.1
APG				SKKPab	SKKPab	22 10 44.4	-0.8
APG	El Apazote	142.20	59	SKPbc	SKPbc	22 02 23.1	-2.1
	comp=Z,215nm,1.1s,baz=299,slow=0.7,SNR=14						
APG				SKKPab	SKKPab	22 10 44.4	-0.8
	comp=Z,9.0nm,0.6s,baz=117,slow=4.5,SNR=5.9						
BBSR	BB Station	143.10	10	ePKPdf	PKPdf	21 59 42.2	-0.9
TGUH	Tegucigalpa,Un	145.37	58	ePKPdf	PKPdf	21 59 47.9	+0.5
TRQA	Tornquist	145.94	174	ePKPdf	PKPdf	21 59 48.4	+0.5
JTS	JuntasAbangare	149.12	62	ePKPdf	PKPdf	21 59 54.1	+0.4
JTS				ePKPdf	PKiKP	22 00 00.6	+1.1
JTS				ePKPab	PKPab	22 00 05.8	+0.4
JTS				pPKPbc	pPKPbc	22 02 13.0	-0.4
JTS	JuntasAbangare	149.12	62	pPKPbc	pPKPbc	22 02 13.0	-0.4
	comp=Z,54nm,0.9s,baz=256,slow=8.2,SNR=3.8						
BBJ	Bamboo Saint A	150.34	41	i P	PKPbc	22 00 02.4	+0.9
MCJ	Malvern	150.40	42	i P	PKPbc	22 00 02.5	+0.9
CFAA	Coronel Fontan	150.81	161	PKP	PKPdf	21 59 56.4	+0.5
CFAA				PKPbc	PKiKP	22 00 02.4	-0.2
CFAA				pPKPbc	pPKPbc	22 02 15.8	-1.6
CFAA	Coronel Fontan	150.81	161	PKP	PKPdf	21 59 56.4	+0.5
	comp=Z,4.3nm,0.7s,baz=225,slow=2.3,SNR=41						
CFAA				PKPbc	PKiKP	22 00 02.4	-0.2
	comp=Z,31nm,0.6s,baz=202,slow=3.0,SNR=50						
CFAA				pPKPbc	pPKPbc	22 02 15.8	-1.6
	com

ROM 07 21:42:13.2±0.1, 41.74N×13.71E, h11km, Md1.8/5, Ml1.0/2, Error ellipse: s-maj=1.1km s-min=0.8km az=42.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POFI	**Posta Fibreno**	**0.02**	**168**	Pg	Pg	21 42 15.7	+0.5
POFI				Sg	Sg	21 42 17.1	+0.5
	70nm,0.3s						
POFI	**Posta Fibreno**	**0.02**	**168**	Pg	Pg	21 42 15.7	+0.5
POFI				Sg	Sg	21 42 17.1	+0.5
	70nm,0.3s						
SDI	**San Donato**	**0.08**	**110**	Pg	Pg	21 42 16.3	+0.6
SDI				Sg	Sg	21 42 17.8	+0.2
	41nm,0.2s						
SDI	**San Donato**	**0.08**	**110**	Pg	Pg	21 42 16.3	+0.6
SDI				Sg	Sg	21 42 17.8	+0.2
	41nm,0.2s						
VVLD	**Villa Vallelon**	**0.15**	**335**	Pg	Pg	21 42 17.2	+0.5
VVLD				Sg	Sg	21 42 19.8	+0.6
	27nm,0.1s						
VVLD	**Villa Vallelon**	**0.15**	**335**	Pg	Pg	21 42 17.2	+0.5
VVLD				Sg	Sg	21 42 19.8	+0.6
	27nm,0.1s						
CERA	**Filignano**	**0.27**	**121**	Pg	Pg	21 42 19.4	+0.5
CERA				Sg	Sb	21 42 23.9	-1.1
CERA	**Filignano**	**0.27**	**121**	Pg	Pg	21 42 19.4	+0.5
CERA				Sg	Sb	21 42 23.9	-1.1
INTR	**Introdacqua**	**0.31**	**28**	Pg	Pg	21 42 20.0	+0.4
INTR				Sg	Sb	21 42 25.2	-1.0
	23nm,0.5s						
INTR	**Introdacqua**	**0.31**	**28**	Pg	Pg	21 42 20.0	+0.4
INTR				Sg	Sb	21 42 25.2	-1.0
	23nm,0.5s						
GIUL	**Giuliano Di Ro**	**0.38**	**242**	Pg	Pg	21 42 21.1	+0.2
GIUL				Sg	Sb	21 42 27.1	-1.0
GIUL	**Giuliano Di Ro**	**0.38**	**242**	Pg	Pg	21 42 21.1	+0.2
GIUL				Sg	Sb	21 42 27.1	-1.0

*ISCJB **07** 21:42:59.4±0.4, 4.06N±0.08×122.5E±0.1, h604km, mb5.6/25, Error ellipse: s-maj=15.3km s-min=7.2km az=149.4*

*NEIC **07** 21:42:59.8±0.8, 4.00N×122.46E, h591km±9km, mb5.4/8, Error ellipse: s-maj=14.1km s-min=6.9km az=57.0*

*IDC **07** 21:43:00.2±1.6, 4.03N×122.48E, h590km±19km, mb5.0/20, mb1 5.0/20, mb1mx4.8/31, mbtmp5.0/20, Error ellipse: s-maj=17.7km s-min=8.4km az=60.0*

ISC 07 21:43:01.2±0.4, 4.03N±0.09×122.5E±0.1, h604km, n76, σ0s81/78, mb5.5/25, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**26.50**	**154**	*eP*	**P**	**21 47 51.5**	**-1.0**
	487nm,0.3s						
WRA	**Warramunga Arr**	**26.50**	**154**	P	**P**	**21 47 51.6**	**-0.9**
WRA	**Warramunga Arr**	**26.50**	**154**	P	**P**	**21 47 51.6**	**-0.9**
	283nm,0.4s,baz=336,slow=9.5,SNR=6.7						
CMAR	**Chiang Mai Arr**	**27.16**	**304**	PcP	**PcP**	**21 50 58.7**	**+0.5**
CMAR	**Chiang Mai Arr**	**27.16**	**304**	PcP	**PcP**	**21 50 58.7**	**+0.5**
	32nm,0.9s,baz=114,slow=2.5,SNR=4.2						
CHTO	**Chiang Mai**	**27.33**	**304**	*eP*	**P**	**21 47 57.9**	**-1.9**
	1μm,0.8s						
PMG	**Port Moresby**	**27.94**	**119**	P	**P**	**21 48 04.1**	**-1.0**
PMG	**Port Moresby**	**27.94**	**119**	P	**P**	**21 48 04.1**	**-1.0**
	243nm,0.5s,baz=321,slow=5.2,SNR=6.0						
ASAR	**Alice Springs**	**29.68**	**159**	P	**P**	**21 48 19.9**	**-0.2**
ASAR				S	**S**	**21 52 33.5**	**-1.5**
ASAR	**Alice Springs**	**29.68**	**159**	P	**P**	**21 48 19.9**	**-0.2**
	114nm,0.4s,baz=339,slow=7.1,SNR=4.3						
ASAR				S	**S**	**21 52 33.5**	**-1.5**
	138nm,0.7s,baz=331,slow=13,SNR=5.2						
CTA	**Charters Tower**	**33.43**	**137**	P	**P**	**21 48 52.6**	**+0.6**
CTA				ScP	**ScP**	**21 54 04.9**	**+1.8**
CTA	**Charters Tower**	**33.43**	**137**	P	**P**	**21 48 52.6**	**+0.6**
	205nm,0.8s,baz=318,slow=14,SNR=3.4						
CTA				ScP	**ScP**	**21 54 04.9**	**+1.8**
	71nm,1.0s,baz=306,slow=4.8,SNR=3.5						
NWAO	**Narrogin (SRO)**	**37.10**	**187**	*eP*	**P**	**21 49 21.5**	**-0.5**
	370nm,1.3s						
NWAO	**Narrogin (SRO)**	**37.10**	**187**	P	**P**	**21 49 22.0**	**0.0**
	87nm,0.6s,baz=20,slow=10,SNR=5.3						
HNR	**Honiara**	**39.62**	**110**	P	**P**	**21 49 41.8**	**-0.8**
HNR	**Honiara**	**39.62**	**110**	P	**P**	**21 49 41.8**	**-0.8**
	617nm,0.5s,baz=342,slow=3.2,SNR=3.5						
STKA	**Stephens Creek**	**40.05**	**154**	*eP*	**P**	**21 49 46.1**	**+0.3**
	74nm,0.7s						
STKA	**Stephens Creek**	**40.05**	**154**	P	**P**	**21 49 46.2**	**+0.3**
	347nm,0.7s,baz=341,slow=5.6,SNR=3.6						
USRK	**Ussuriysk Arra**	**40.87**	**10**	P	**P**	**21 49 52.0**	**-0.1**
	117nm,0.7s,baz=191,slow=6,SNR=3.4						
ASAJ	**Asahikawa**	**43.67**	**21**	*eP*	**P**	**21 50 13.6**	**-0.4**
	32nm,0.5s						
ULN	**Ulaanbaatar**	**45.66**	**345**	*eP*	**P**	**21 50 28.4**	**-0.8**
	79nm,0.6s						
SONM	**Songino Array**	**45.80**	**345**	P	**P**	**21 50 30.9**	**+0.6**
SONM				ScP	**ScP**	**21 54 51.9**	**+0.8**
SONM	**Songino Array**	**45.80**	**345**	P	**P**	**21 50 30.9**	**+0.6**
	128nm,0.8s,baz=163,slow=9.5,SNR=3.7						
SONM				ScP	**ScP**	**21 54 51.9**	**+0.8**
	18nm,0.7s,baz=161,slow=4.4,SNR=4.1						
DZM	**Mont Dzumac**	**50.17**	**123**	P	**P**	**21 51 04.2**	**+1.1**
	50nm,0.5s,baz=297,slow=9.0,SNR=10.0						
MKAR	**Makanchi Array**	**54.98**	**327**	P	**P**	**21 51 37.2**	**+0.4**
MKAR				PcP	**PcP**	**21 52 28.5**	**-0.6**
MKAR	**Makanchi Array**	**54.98**	**327**	P	**P**	**21 51 37.2**	**+0.4**
	194nm,0.4s,baz=126,slow=7.8,SNR=8.5						
MKAR				PcP	**PcP**	**21 52 28.5**	**-0.6**
	62nm,0.6s,baz=160,slow=3.7,SNR=3.4						
AAK	**Ala-Archa**	**57.36**	**319**	*eP*	**P**	**21 51 53.0**	**-0.4**
ZALV	**Zalesovo Beam**	**58.48**	**335**	P	**P**	**21 51 59.5**	**-1.0**
ZALV	**Zalesovo Beam**	**58.48**	**335**	P	**P**	**21 51 59.5**	**-1.0**
	41nm,0.4s,baz=132,slow=6.6,SNR=3.9						
KURBB	**Kurchatov Arra**	**59.27**	**329**	P	**P**	**21 52 04.5**	**-1.4**
	180nm,0.6s,baz=128,slow=5.8,SNR=4.5						
KURK	**Kurchatov**	**59.28**	**329**	*eP*	**P**	**21 52 05.8**	**-0.2**
	197nm,0.3s						
RPZ	**Rata Peaks**	**64.47**	**143**	*eP*	**P**	**21 52 39.3**	**-0.4**
	75nm,0.6s						
RPZ	**Rata Peaks**	**64.47**	**143**	P	**P**	**21 52 40.5**	**+0.9**
	76nm,0.6s,baz=0.0,slow=1.0,SNR=4.8						
URZ	**Urewera**	**65.67**	**135**	*eP*	**P**	**21 52 46.7**	**-0.6**
	83nm,0.5s						
URZ	**Urewera**	**65.67**	**135**	P	**P**	**21 52 47.1**	**-0.1**
	82nm,0.4s,baz=231,slow=3.1,SNR=6.2						
AFI	**Afiamalu**	**67.54**	**107**	*eP*	**P**	**21 52 59.9**	**+0.6**
	84nm,0.6s						
AFI	**Afiamalu**	**67.54**	**107**	P	**P**	**21 53 00.3**	**+1.0**
	111nm,0.7s,baz=225,slow=1.4,SNR=4.0						
OPO	**Ambohidratompo**	**77.45**	**250**	P	**P**	**21 53 56.2**	**-0.1**
OPO	**Ambohidratompo**	**77.45**	**250**	P	**P**	**21 53 56.2**	**-0.1**
	49nm,0.7s,baz=14,slow=4.2,SNR=2.7						
MAW	**Mawson**	**82.61**	**199**	P	**P**	**21 54 22.5**	**+0.7**
	10nm,0.4s,baz=78,slow=8.2,SNR=4.8						
KMBO	**Kilima Mbogo**	**85.37**	**269**	P	**P**	**21 54 37.5**	**+0.7**
KMBO	**Kilima Mbogo**	**85.37**	**269**	P	**P**	**21 54 37.5**	**+0.7**
	56nm,1.0s,baz=53,slow=6.6,SNR=3.9						
BRTR	**Keskin Array B**	**86.60**	**309**	P	**P**	**21 54 41.2**	**-0.8**
BRTR	**Keskin Array B**	**86.60**	**309**	P	**P**	**21 54 41.2**	**-0.8**
	15nm,0.8s,baz=143,slow=4.7,SNR=2.6						
ILAR	**Eielson Array**	**86.63**	**25**	PKKPbc	PKKPbc	22 12 34.1	-1.6
ILAR	**Eielson Array**	**86.63**	**25**	PKKPbc	PKKPbc	22 12 34.1	-1.6
	0.5nm,0.5s,baz=124,slow=1.2,SNR=4.2						
RGN	**Rugen**	**97.73**	**326**	*ep*Pdiff	**P**	**21 55 33.0**	**+0.6**
RUE	**Ruedersdorf**	**98.10**	**324**	*ep*Pdiff	**P**	**21 55 34.5**	**+0.4**
BRG	**Berggiesshubel**	**98.48**	**323**	*ep*Pdiff	**P**	**21 55 36.1**	**+0.2**
FBE	**Freiberg**	**98.82**	**323**	*ep*Pdiff	**P**	**21 55 37.9**	**+0.5**
CLL	**Collm**	**98.91**	**323**	*ep*Pdiff	**P**	**21 55 37.6**	**-0.3**
GEC2	**GERESS Array S**	**99.22**	**321**	*ep*Pdiff	**Pdif**	**21 55 39.4**	**0.0**
BSEG	**Bad Segeberg**	**99.59**	**326**	*ep*Pdiff	**Pdif**	**21 55 41.4**	**+0.7**
WET	**Wettzell**	**99.65**	**321**	*ep*Pdiff	**Pdif**	**21 55 41.3**	**+0.1**
MANZ	**Manzenberg**	**99.87**	**322**	*ep*Pdiff	**Pdif**	**21 55 42.3**	**+0.2**
ROTZ	**Rotzenmuhle**	**99.87**	**322**	*ep*Pdiff	**Pdif**	**21 55 42.7**	**+0.6**
MOX	**Moxa**	**99.95**	**323**	*ep*Pdiff	**Pdif**	**21 55 42.6**	**+0.1**
NRDL	**Niedersach Rie**	**100.22**	**325**	*ep*Pdiff	**Pdif**	**21 55 44.4**	**+0.9**
CLZ	**Clausthal**	**100.29**	**324**	*ep*Pdiff	**Pdif**	**21 55 44.6**	**+0.6**
YKA	**Yellowknife Ar**	**100.92**	**23**	PKKPbc	PKKPbc	22 11 54.6	-4.0
YKA	**Yellowknife Ar**	**100.92**	**23**	PKKPbc	PKKPbc	22 11 54.6	-4.0
	2.8nm,0.5s,baz=125,slow=3.2,SNR=4.7						
IBBN	**Ibbenburen**	**101.63**	**325**	*ep*Pdiff	**Pdif**	**21 55 50.7**	**+0.9**
PDAR	**Pinedale Array**	**113.84**	**39**	PKKPab	PKKPab	22 11 24.9	-2.4
PDAR	**Pinedale Array**	**113.84**	**39**	PKKPab	PKKPab	22 11 24.9	-2.4
	4.9nm,0.6s,baz=121,slow=6.4,SNR=3.8						
TORD	**Torodi Ar. Bea**	**118.84**	**287**	PKP	**PKPdf**	**22 00 42.4**	**-0.6**
TORD				PKKP	**PKKPdf**	**22 11 27.6**	**-0.7**
	48nm,0.7s,baz=86,slow=1.2,SNR=6.6						
TORD				PKKP	**PKKPdf**	**22 11 27.6**	**-0.7**
	4.4nm,0.9s,baz=278,slow=3.8,SNR=3.1						
TXAR	**Lajitas Array**	**124.67**	**50**	PKKPab	PKKPab	22 10 38.3	-1.2
TXAR	**Lajitas Array**	**124.67**	**50**	PKKPab	PKKPab	22 10 38.3	-1.2
	1.8nm,0.6s,baz=122,slow=3.7,SNR=3.8						
USHA	**Ushuaia**	**128.58**	**172**	PKP	**PKPdf**	**22 01 02.1**	**+1.6**
USHA	**Ushuaia**	**128.58**	**172**	PKP	**PKPdf**	**22 01 02.1**	**+1.6**
	13nm,0.6s,baz=88,slow=2.7,SNR=5.3						
BBTS	**Babate**	**135.38**	**295**	SKPbc	**SKPbc**	**22 03 50.6**	**+0.8**
BBTS	**Babate**	**135.38**	**295**	SKPbc	**SKPbc**	**22 03 50.6**	**+0.8**
	32nm,0.6s,baz=205,slow=2.3,SNR=3.6						
PLCA	**Paso Flores**	**141.61**	**164**	SKPbc	**SKiKP**	**22 04 07.5**	**-0.5**
PLCA	**Paso Flores**	**141.61**	**164**	SKPbc	**SKiKP**	**22 04 07.5**	**-0.5**
	12nm,0.5s,baz=177,slow=3.3,SNR=7.2						
CFAA	**Coronel Fontan**	**150.76**	**161**	PKPbc	**PKPbc**	**22 01 47.1**	**+0.1**
CFAA	**Coronel Fontan**	**150.76**	**161**	PKPbc	**PKPbc**	**22 01 47.1**	**+0.1**
	5.3nm,0.6s,baz=161,slow=3.6,SNR=3.1						

IDC 07 21:52:26.6±3.8, 16.85S×176.95W, h0km, mb5.0/4, mb1 5.1/4, mb1mx4.5/18, mbtmp5.0/4, MS3.9/1, Ms1 3.9/1, ms1mx3.7/34, Error ellipse: s-maj=168.7km s-min=36.2km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.79**	**60**	LR	LR	21 55 56.1	
	comp=Z,1μm,21.9s,baz=22,slow=36						
STKA	**Stephens Creek**	**40.35**	**240**	P	P	22 00 07.5	+1.2
	11nm,0.3s,baz=88,slow=11,SNR=14						
WRA	**Warramunga Arr**	**46.20**	**258**	P	P	22 00 53.5	-0.2
	3.0nm,0.3s,baz=100,slow=11,SNR=34						
ASAR	**Alice Springs**	**46.42**	**253**	P	P	22 00 55.0	-0.4
	29nm,0.5s,baz=89,slow=7.3,SNR=69						
FITZ	**Fitzroy Crossi**	**54.58**	**260**	P	P	22 01 56.1	-1.0
	9.9nm,0.8s,baz=82,slow=7.1,SNR=12						
BRTR	**Keskin Array B**	**145.00**	**317**	PKPbc	PKPab	22 12 04.8	-0.9
	0.7nm,0.4s,baz=111,slow=2.6,SNR=4.9						
MMAI	**Mount Meron Ar**	**146.71**	**305**	PKPbc	PKPdf	22 12 09.6	+0.2
	1.7nm,0.5s,baz=68,slow=8.0,SNR=5.4						
GERES	**GERESS Array B**	**146.93**	**347**	PKPbc	PKPab	22 12 12.3	-0.2
	0.5nm,0.8s,baz=58,slow=2.4,SNR=4.3						

*DJA **07** 21:59:10.3±1.2, 3.7N±15.2×12.4E±1.1, h554km±7km, M4.8/6, mb4.7/6, MLv4.9/5*

*ISCJB **07** 21:59:11.5±0.3, 3.06N±0.05×122.41E±0.09, h552km, mb4.2/17, Error ellipse: s-maj=11.6km s-min=5.4km az=162.9*

*IDC **07** 21:59:14.7±1.6, 2.95N×122.35E, h588km±22km, mb3.6/17, mb1 3.6/17, mb1mx3.5/29, mbtmp4.6/17, Error ellipse: s-maj=18.3km s-min=8.3km az=76.0*

ISC 07 21:59:12.0±0.5, 2.97N±0.07×122.4E±0.1, h552km, n44, σ1s21/48, mb4.2/17, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**2.51**	**189**	P	**P**	**22 00 25.6**	**+1.2**
MRSI				S	**S**	**22 01 23.8**	**+0.5**
KMSI	**Cibinong**	**2.88**	**146**	P	**P**	**22 00 27.0**	**+0.5**
LUWI	**Luwuk**	**4.01**	**174**	P	**P**	**22 00 35.0**	**+0.9**
LUWI				S	**S**	**22 01 40.3**	**-0.7**
TNTI	**Ternate**	**5.47**	**113**	P	**P**	**22 00 46.7**	**+0.7**
TTSI	**Tana Toraja**	**6.49**	**203**	P	**P**	**22 00 57.3**	**+2.0**
	148nm,1.0s,0.5nm						
TBP	**Tagbilaran**	**6.84**	**13**	*eP*	**P**	**22 00 59.4**	**+0.9**
KKSI	**Kolaka, Sulawe**	**7.13**	**186**	P	**P**	**22 01 04.5**	**+3.1**
	160nm,0.7s,0.6nm						
SPSI	**Sidrap Palu**	**7.36**	**201**	P	**P**	**22 01 04.8**	**+1.2**
	102nm,0.8s						
BNSI	**Bone**	**7.66**	**197**	P	P	22 01 10.7	+4.2
	127nm,1.0s						
KAPI	**Kappang**	**8.35**	**198**	P	**P**	**22 01 12.9**	**-0.4**
	3.3nm,0.3s,baz=358,slow=7.0,SNR=6.7						
BBSI	**Bau Bau**	**8.41**	**179**	P	**P**	**22 01 15.7**	**+1.8**
	127nm,1.2s						
BATI	**Baumata**	**13.16**	**174**	P	**P**	**22 02 03.3**	**+0.7**
	106nm,0.3s,baz=352,slow=1.8,SNR=60						
FITZ	**Fitzroy Crossi**	**21.19**	**171**	P	**P**	**22 03 19.2**	**+0.4**
	18nm,0.8s,baz=26,slow=5.3,SNR=30						
WRA	**Warramunga Arr**	**25.64**	**153**	P	**P**	**22 03 57.8**	**-0.6**
	20nm,0.4s,baz=336,slow=9.4,SNR=46						
WRA				S	**S**	**22 07 43.9**	**-4.4**
	3.0nm,0.8s,baz=336,slow=16,SNR=4.8						
CMAR	**Chiang Mai Arr**	**27.61**	**306**	P	**P**	**22 04 17.0**	**+1.2**
	2.0nm,0.9s,baz=134,slow=7.3						
ASAR	**Alice Springs**	**28.77**	**158**	S	**S**	**22 08 36.1**	**-1.0**
	2.9nm,0.8s,baz=344,slow=8.18,SNR=6.6						
CTA	**Charters Tower**	**32.80**	**135**	P	**P**	**22 05 01.5**	**+1.1**
	2.1nm,0.5s,baz=320,slow=8.1,SNR=3.4						
KSRS	**Korea Array**	**34.70**	**8**	P	**P**	**22 05 16.8**	**+0.8**
	2.4nm,0.7s,baz=190,slow=8.2,SNR=5.5						
NWAO	**Narrogin (SRO)**	**36.03**	**187**	P	**P**	**22 05 27.9**	**+0.7**
	21nm,0.7s,baz=5.2,slow=6.7,SNR=14						
STKA	**Stephens Creek**	**39.19**	**154**	P	**P**	**22 05 54.0**	**+1.0**
	7.6nm,0.5s,baz=324,slow=8.4,SNR=13						
TAPN	**Taejejung**	**41.03**	**310**	*eP*	**P**	**22 06 08.7**	**+0.5**
	19nm,0.4s						
ODAN	**Odare**	**41.04**	**309**	*eP*	**P**	**22 06 08.6**	**+0.4**
RAMN	**Ramite**	**41.70**	**308**	*eP*	**P**	**22 06 14.5**	**+1.1**
	33nm,0.6s						
USRK	**Ussuriysk Arra**	**41.93**	**10**	P	**P**	**22 06 14.7**	**+0.1**
	3.7nm,0.5s,baz=193,slow=6.1,SNR=11						
JIRN	**Jiri**	**42.36**	**309**	*eP*	**P**	**22 06 19.5**	**+0.8**
	22nm,0.4s						
GUN	**Gumba**	**42.72**	**309**	*eP*	**P**	**22 06 22.3**	**+0.8**
PKI	**Pulchoki**	**42.92**	**308**	*eP*	**P**	**22 06 23.5**	**+0.4**
KKN	**Kakani**	**43.13**	**309**	*eP*	**P**	**22 06 25.0**	**+0.4**
	13nm,0.4s						
DMN	**Daman**	**43.18**	**308**	*eP*	**P**	**22 06 25.6**	**+0.6**
	12nm,0.6s						
GKN	**Gorkha**	**43.73**	**309**	*eP*	**P**	**22 06 29.4**	**+0.2**
	18nm,0.6s						
KOLN	**Koldanda**	**44.44**	**308**	*eP*	**P**	**22 06 35.6**	**+0.9**
	51nm,0.7s						
DANN	**Dangsing**	**44.58**	**308**	*eP*	**P**	**22 06 36.4**	**+0.5**
	49nm,0.6s						
ASAJ	**Asahikawa**	**44.72**	**21**	P	**P**	**22 06 36.4**	**+0.1**
	3.6nm,0.6s,baz=196,slow=20,SNR=3.1						
SONM	**Songino Array**	**46.77**	**345**	P	**P**	**22 06 52.6**	**+0.6**
	4.0nm,0.6s,baz=162,slow=9.1,SNR=20						
SONM				PcP	**PcP**	**22 08 13.6**	**-0.5**
	0.4nm,0.4s,baz=177,slow=2.2,SNR=3.5						
MKAR	**Makanchi Array**	**55.77**	**328**	P	**P**	**22 07 57.4**	**+0.5**
	6.5nm,0.4s,baz=124,slow=8.2,SNR=76						
MKAR				PcP	**PcP**	**22 08 47.5**	**-0.5**
	3.0nm,0.5s,baz=161,slow=2.8,SNR=10						
AAK	**Ala-Archa**	**58.05**	**320**	P	**P**	**22 08 13.5**	**+0.7**
	2.5nm,0.5s,baz=149,slow=8.6						
ZALV	**Zalesovo Beam**	**59.36**	**335**	P	**P**	**22 08 20.6**	**-0.6**
	3.1nm,0.3s,baz=135,slow=6.5,SNR=23						
OPO	**Ambohidratompo**	**76.92**	**250**	P	**P**	**22 10 08.0**	**-0.7**
	4.2nm,0.8s,baz=72,slow=6.4,SNR=3.8						
ARCES	**ARCESS Array B**	**89.64**	**340**	P	**P**	**22 11 09.4**	**-1.4**
	5.8nm,0.9s,baz=86,slow=6.4,SNR=3.9						
AKASG	**Malin Array Be**	**89.71**	**321**	P	**P**	**22 11 09.5**	**-2.0**
	0.8nm,0.5s,baz=68,slow=4.7,SNR=2.8						
SPITS	**Spitsbergen Ar**	**90.36**	**349**	P	**P**	**22 11 13.0**	**-1.1**
	5.2nm,0.5s,baz=101,slow=8.7,SNR=14						
TORD	**Torodi Ar. Bea**	**118.97**	**287**	PKP	**PKPdf**	**22 16 58.4**	**-0.8**
	1.1nm,0.4s,baz=58,slow=1.8,SNR=37						
SCHQ	**Schefferville**	**121.89**	**6**	PKP	**PKPdf**	**22 17 03.4**	**-0.4**
	1.5nm,0.4s,baz=315,slow=5.7,SNR=4.0						
CFAA	**Coronel Fontan**	**149.82**	**162**	PKPbc	**PKPbc**	**22 17 59.4**	**-1.3**
	0.3nm,0.3s,baz=225,slow=2.9,SNR=11						

*LDG **07** 22:03:07.4±0.4, 12.60S×167.08E, h10km, Mb6.9/4, Ms7.5/3, Error ellipse: s-maj=54.3km s-min=17.0km az=87.0*

*IDC **07** 22:03:09.3±0.3, 12.99S×166.15E, h0km, mb5.8/31, mb1 5.8/32, mb1mx5.8/32, mbtmp5.7/32, ML4.8/1, MS7.1/8, Ms1 7.2/8, ms1mx6.7/43, Error ellipse: s-maj=12.0km s-min=10.1km az=77.0*

*BJI **07** 22:03:12.9, 12.68S×166.82E, h38km, mB7.3/44, mb6.4/69, Ms7.8/80, Ms7 7.7/71*

*MOS **07** 22:03:12.3±1.7, 12.96S×166.45E, h33km, mb6.6/64, MS7.8/14, Error ellipse: s-maj=6.3km s-min=6.1km az=83.5 Broadband fault plane solution: P waves. M0 2.40000×10^20 NP1:φs324.00000°, δ51.00000°, λ53.00000°. NP2:φs194.00000°, δ51.00000°, λ127.00000°. Principal axes: T Plg62.0000°, Azm169.0000°; N Plg28.0000°, Azm349.0000°; P Plg0.0000°, Azm259.0000°;*

*NEIC **07** 22:03:14.5±0.1, 13.01S×166.51E, h45km, mb6.4/138, ME6.9, MS7.3/9, MW7.6, MW7.7(USGS) Error ellipse: s-maj=6.0km s-min=4.7km az=142.0 Broadband fault plane solution: P waves. NP1:φs355.00000°, δ35.00000°, λ90.00000°. NP2:φs175.00000°, δ55.00000°, λ90.00000°. Principal axes: T Plg80.0000°, Azm85.0000°; N Plg0.0000°, Azm0.0000°; P Plg10.0000°, Azm265.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt at Lakatoro, Luganville, Port-Olry, Port-Vila and Sola. Also felt at Honiara, Solomon Islands. Tsunami information is included with the larger event at 22:18 UTC.

*ISCJB **07** 22:03:14.9±0.7, 13.08S±0.03×166.64E±0.02, h58km±5km, mb6.4/308, MS7.8/92 Error ellipse: s-maj=4.5km s-min=2.5km az=170.7*

*AUST **07** 22:03:15.6±0.4, 13.17S×166.23E, h24km, Error ellipse: s-maj=8.3km s-min=6.3km az=27.0*

*DJA **07** 22:03:20.1±0.9, 13.3S±3.1×16.6E±1.1, h50km±9km, M7.6/123, mb6.8/123, mB7.5/123, Mw(mB)7.6/123, Mwp7.3/108*

*GCMT **07** 22:03:28.9±0.2, 12.59S×166.27E, h44km, MW7.6, Moment Tensor Solution. s128,c323; s99,c274; Moment tensor: Scale 10^20Nm; Mrr3.25±.03; Mθθ-0.23±.02; Mφφ-3.02±.02; Mrθ0.01±.08; Mθφ0.76±.01; Mφr-0.51±.07; Best double couple: M0 3.30000×10^20 NP1:φs156.00000°, δ55.00000°, λ73.00000°. NP2:φs5.00000°, δ38.00000°, λ113.00000°. Principal axes: T 3.4900, Plg73.0000°, Azm19.0000°; N -0.4900, Plg14.0000°, Azm166.0000°; P -3.0000, Plg8.0000°, Azm258.0000°;*

ISC 07 22:03:14.4±0.2, 13.04S±0.02×166.50E±0.02, h34km, h34km:pP-P,n2153,σ2s20/1998, mb6.5/308, MS7.9/94, 424C-288D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.36**	**298**	Pn	**Pn**	**22 04 58.3**	**-1.3**
HNR				Sn	Sn	22 06 34.0	+12
HNR	**Honiara**	**7.36**	**298**	Pn	**Pn**	**22 04 58.3**	**-1.3**
	226nm,0.3s,baz=221,slow=3.0,SNR=103						
HNR				Sn	Sn	22 06 34.0	+12
	3μm,0.3s,baz=354,slow=16,SNR=4.5						
DZM	**Mont Dzumac**	**8.99**	**180**	*ePn*	**Pn**	**22 05 21.0**	**-0.9**
	2μm,0.3s						
DZM				*eLR*	LR	22 07 30.3	
	1634μm,26.6s						
DZM	**Mont Dzumac**	**8.99**	**180**	*ePn*	**Pn**	**22 05 23.4**	**+1.4**
	2μm,0.4s						
DZM				*eSn*	**Sn**	**22 06 57.9**	**-4.2**
DZM	**Mont Dzumac**	**8.99**	**180**	Pn	**Pn**	**22 05 21.0**	**-0.9**
	9.6nm,0.3s,baz=23,slow=20,SNR=56						
DZM				Sn	Sn	22 07 23.2	+21
	333nm,0.3s,baz=114,slow=20,SNR=3.5						
MSVF	**Nonsavu**	**12.07**	**114**	*ePn*	**Pn**	**22 06 06.1**	**+1.8**
MSVF				*e*		22 08 27.8	
MSVF				pmax	pmax		
	comp=Z,708nm,2.1s						
MSVF	**Nonsavu**	**12.07**	**114**	Pn	Pn	22 06 09.1	+4.9
	comp=Z,10μm,1.2s,SNR=30						
MSVF	**Nonsavu**	**12.07**	**114**	*ePn*	**Pn**	**22 06 06.1**	**+1.8**
	comp=Z,708nm,2.1s						
MSVF				*eSn*	Sn	22 08 27.8	+10
TARA	**Tarawa**	**15.65**	**24**	*eP*	**P**	**22 06 55.9**	**-0.4**
	comp=Z,91nm,0.6s						
EIDS	**Eidsvold**	**19.02**	**228**	*ePn*	**Pn**	**22 07 34.3**	**-0.1**
	comp=Z,3μm,1.2s						
EIDS	**Eidsvold**	**19.02**	**228**	*iP*	**Pn**	**22 07 34.8**	**+0.4**
	baz=19,SNR=94						
PMG	**Port Moresby**	**19.31**	**279**	P	**Pn**	**22 07 37.7**	**-0.3**
	comp=Z,3μm,1.3s,comp=Z,301μm						
PMG	**Port Moresby**	**19.31**	**279**	*iP*	**P**	**22 07 36.1**	**-0.7**
	comp=Z,5μm,1.4s						
PMG	**Port Moresby**	**19.31**	**279**	P	**P**	**22 07 36.9**	**+0.

comp=Z,250µm,19.0s
CAN Canberra 27.25 212 *e*P **P 22 08 55.7 +0.1**
comp=Z,457nm,0.9s
CAN *e*S **S 22 13 26.3 -6.3**
CAN LR LR
comp=Z,250µm,19.0s
JAY Jayapura 27.58 290 P **P 22 09 02.0 +3.3**
comp=Z,414nm,1.2s,comp=Z,69µm
JAY Jayapura 27.58 290 ⇓P **P 22 08 59.2 +0.5**
baz=27,SNR=7.0
MILA Mila 28.52 210 ⇑P **P 22 09 06.9 0.0**
baz=28
SNZO South Karori 29.07 167⇑ *e*P **P 22 09 11.1 -0.5**
comp=Z,224nm,0.6s
SNZO *e*S S 22 14 06.9 +6.0
STKA Stephens Creek 29.57 227 *e*P **P 22 09 15.8 -0.4**
comp=Z,0.2nm,0.6s
STKA *e*S S 22 13 59.2 -10
STKA ScP **ScP 22 16 04.9 +4.6**
STKA Stephens Creek 29.57 227 ⇓P **P 22 09 16.1 -0.1**
baz=29,SNR=44
STKA Stephens Creek 29.57 227 P **P 22 09 15.8 -0.4**
comp=Z,53nm,1.0s,baz=51,slow=8.0,SNR=20
STKA ScP **ScP 22 16 04.9 +4.6**
comp=Z,89nm,1.1s,baz=309,slow=19,SNR=3.2
KHZ Kahutara 29.91 170⇓ *e*P P 22 09 15.5 -3.5
comp=Z,41nm,0.3s
KHZ *e*S **S 22 14 14.0 -0.1**
TOO Toolangi 30.80 214 ⇑P **P 22 09 27.0 -0.1**
baz=31,SNR=18
RPZ Rata Peaks 30.82 174⇑ *e*P **P 22 09 25.3 -1.8**
comp=Z,3.6nm,0.4s
RPZ *e*S **S 22 14 30.8 +2.3**
RPZ ScP **ScP 22 16 09.1 +4.9**
RPZ Rata Peaks 30.82 174 P **P 22 09 28.0 +0.8**
comp=Z,75nm,0.9s,baz=71,slow=1.4,SNR=18
RPZ ScP **ScP 22 16 09.1 +4.9**
comp=Z,115nm,0.9s,baz=8.8,slow=8.1,SNR=2.3
H11S2 WAKE ISLAND Hy 31.33 0 T T 22 40 34.5
baz=158,slow=0.7,SNR=281
H11S3 WAKE ISLAND Hy 31.33 0 T T 22 40 25.3
SNR=86
H11S1 WAKE ISLAND Hy 31.34 0 T T 22 40 25.7
baz=173,slow=0.7,SNR=88
WRAB Tennant Creek 31.55 253 *e*P **P 22 09 31.9 -2.0**
WRAB *e* 22 10 48.1
WRAB *e*S **S 22 14 37.0 -3.4**
WRAB pmax pmax
comp=Z,328nm,0.9s
WRAB MLR MLR
comp=Z,612µm,19.0s
WRAB Tennant Creek 31.55 253 P **P 22 09 32.9 -0.9**
comp=Z,1µm,1.0s,SNR=11
WRAB Tennant Creek 31.55 253 *e*P **P 22 09 31.9 -2.0**
comp=Z,328nm,0.9s
WRAB *e*PP **PP 22 10 48.1 +2.7**
WRAB *e*S **S 22 14 37.0 -3.4**
WRAB LR LR
comp=Z,612µm,19.0s
WRA Warramunga Arr 31.56 253 P **P 22 09 31.6 -2.3**
WRA ScP **ScP 22 16 11.7 +4.6**
WRA Warramunga Arr 31.56 253 P **P 22 09 31.6 -2.3**
comp=Z,51nm,1.0s,baz=84,slow=8.5,SNR=52
WRA ScP **ScP 22 16 11.7 +4.6**
comp=Z,70nm,1.0s,baz=76,slow=3.1,SNR=4.1
SRPI Serui, Papua 31.94 288 P P 22 09 45.2 +7.8
ODZ Otahua Downs 32.10 174 *e*P **P 22 09 36.1 -2.2**
comp=Z,350nm,0.9s
ODZ *e*S **S 22 14 44.2 -4.2**
HTT Hallett 32.30 226 ⇓P **P 22 09 39.7 -0.7**
baz=32
BAKI Biak 32.32 289 P **P 22 09 43.0 +2.3**
comp=Z,1µm,1.5s,comp=Z,50µm
AS17 Alice Springs 32.54 246 ⇓P **P 22 09 42.0 -0.6**
baz=32
H11N1 WAKE ISLAND Hy 32.55 1 T T 22 41 56.1
baz=184,slow=0.7,SNR=267
H11N3 WAKE ISLAND Hy 32.55 1 T T 22 41 56.1
baz=184,slow=0.7,SNR=200
H11N2 WAKE ISLAND Hy 32.56 1 T T 22 41 59.8
baz=184,slow=0.7,SNR=154
AS31 Alice Springs 32.62 246 *e*P **P 22 09 41.5 -1.7**
ASAR Alice Springs 32.62 246 P **P 22 09 41.1 -2.2**
ASAR ScP **ScP 22 16 16.7 +6.0**
ASAR Alice Springs 32.62 246 P **P 22 09 41.1 -2.2**
comp=Z,53nm,0.8s,baz=73,slow=9.3,SNR=68
ASAR ScP **ScP 22 16 16.7 +6.0**
comp=Z,112nm,0.9s,baz=86,slow=3.1,SNR=10
ASAR LR LR 22 22 37.8
comp=Z,741µm,20.0s,baz=251,slow=36
KDU Kakadu 33.16 267 ⇑P **P 22 09 47.0 -1.0**
baz=33,SNR=9.4
RAR Rarotonga 33.18 109 *e*P **P 22 09 48.1 0.0**
comp=Z,586nm,1.0s
RAR *e*S **S 22 15 05.6 -0.2**
RAR Rarotonga 33.18 109 P **P 22 09 51.2 +3.0**
comp=Z,314nm,0.8s,baz=270,slow=7.0,SNR=23
RAR LR LR 22 20 18.6
comp=Z,164µm,19.9s,baz=180,slow=31
KMPI Kaimana, Papua 33.72 283 P P 22 10 01.4 +8.5
GUMO Guam 34.05 320⇑ *e*P **P 22 09 54.4 -1.3**
comp=Z,2µm,1.0s
GUMO *e*S **S 22 15 17.5 -1.8**
GUMO LR LR
comp=Z,1135µm,21.0s
BBOO Buckleboo 34.06 230 *e*P **P 22 09 54.6 -1.1**
comp=Z,25µm,1.0s
BBOO *e*S **S 22 15 15.9 -3.4**
BBOO Buckleboo 34.06 230 P **P 22 09 55.2 -0.5**
baz=34,SNR=54
TAU Tasmania Unive 34.08 206⇑ *e*P **P 22 09 54.2 -1.4**
TAU *e*S **S 22 15 17.3 -1.9**
TAU pmax pmax
comp=Z,3µm,1.4s
TAU MLR MLR
comp=Z,372µm,21.0s
TAU Tasmania Unive 34.08 206 P **P 22 09 55.0 -0.6**
comp=Z,2µm,0.9s,SNR=8.4
TAU Tasmania Unive 34.08 206⇑ *e*P **P 22 09 54.2 -1.4**
comp=Z,3µm,1.4s
TAU *e*S **S 22 15 17.3 -1.9**
TAU LR LR
comp=Z,372µm,21.0s
TLE Tual 34.09 279 P **P 22 09 57.0 +0.9**
comp=Z,1µm,1.8s,comp=Z,103µm
FAKI Fak Fak 35.33 284 P **P 22 10 07.5 +0.6**
comp=Z,710nm,1.9s,comp=Z,45µm
FAKI Fak Fak 35.33 284 P **P 22 10 07.2 +0.3**
baz=35,SNR=6.4
KNRA Kununurra 36.62 261 P **P 22 10 16.9 -1.0**
baz=36,SNR=35
SWI Sorong 36.95 286 P **P 22 10 21.1 +0.4**
comp=Z,2µm,1.3s,comp=Z,49µm
SWI Sorong 36.95 286 P **P 22 10 22.0 +1.3**
baz=37,SNR=6.7
BNDI Bandanaira 37.10 280 P **P 22 10 23.6 +1.6**
comp=Z,7µm,1.6s,comp=Z,114µm
BNDI Bandanaira 37.10 280 P **P 22 10 22.1 +0.1**
baz=37,SNR=7.7
PALU Palau 37.71 301 P **P 22 10 27.4 +0.2**
baz=38,SNR=16
XMAS Kiritimati 38.79 70 *e*P P 22 10 33.8 -2.5
comp=Z,966nm,1.2s
XMAS *e*PP **PnPn 22 12 07.9 +0.1**
XMAS LR LR
comp=Z,648µm,22.0s
AAI Ambon 38.97 280 P P 22 10 43.6 +5.8
comp=Z,657nm,0.8s,comp=Z,60µm
FORT Forrest 39.55 237 *e*P **P 22 10 41.0 -1.4**
comp=Z,3µm,0.8s
FORT *e*PP **PnPn 22 12 18.5 +1.8**
FORT *e*S **S 22 16 40.8 -2.2**
FORT Forrest 39.55 237 P **P 22 10 41.9 -0.6**
baz=39,SNR=20
FITZ Fitzroy Crossi 39.63 257 P **P 22 10 42.8 -0.4**
FITZ Fitzroy Crossi 39.63 257 ⇑P **P 22 10 43.0 -0.2**
baz=39,SNR=22
FITZ Fitzroy Crossi 39.63 257 P **P 22 10 42.8 -0.4**
comp=Z,36nm,0.9s,baz=88,slow=8.9,SNR=19
NLAI Namlea 40.14 281 P **P 22 10 49.0 +1.5**
comp=Z,2µm,1.5s,comp=Z,52µmcomp=Z,820µm
LBMI Labuha 40.55 285 P **P 22 10 52.9 +1.9**
comp=Z,3µm,1.3s,comp=Z,105µmcomp=Z,787µm
TNTI Ternate 41.16 286 P **P 22 10 57.1 +1.1**
comp=Z,1µm,3.4s,comp=Z,104µm
SOEI Soe 41.50 270 P **P 22 11 00.9 +2.0**
comp=Z,1µm,1.2s,comp=Z,74µm

MCQ Macquarie Isla 41.79 187 *e*P **P 22 11 00.7 +0.2**
MCQ *e*S **S 22 17 19.8 +4.2**
MCQ Macquarie Isla 41.79 187 *e*P **P 22 11 00.7 +0.2**
MCQ *e*S **S 22 17 19.8 +4.2**
MCQ Macquarie Isla 41.79 187 ⇑P **P 22 11 00.8 +0.2**
baz=42,SNR=7.7
BATI Baumata 42.02 269 P **P 22 11 04.7 +1.7**
comp=Z,1000nm,1.5s,comp=Z,47µmcomp=Z,39µm
BATI Baumata 42.02 269 P **P 22 11 02.9 -0.2**
BATI Baumata 42.02 269 P **P 22 11 02.9 -0.2**
comp=Z,154nm,0.8s,baz=92,slow=1.4,SNR=19
PPT Papeete 42.53 102 P **P 22 11 09.5 +2.3**
PPT Papeete 42.53 102 P **P 22 11 09.5 +2.3**
comp=Z,172nm,0.7s,baz=4.1,slow=4.5,SNR=12
PPT2 Papeete2 42.53 102 *e*P **P 22 11 07.2 0.0**
comp=Z,910nm,1.1s
PPT2 *e*S **S 22 17 30.2 +2.4**
comp=Z,241µm,30.2s
PPT2 *e*LQ LQ 22 21 10.2
comp=Z,791µm,31.4s
PPT2 *e*LR LR 22 23 02.3
comp=Z,2317µm,30.8s,baz=271
TIAR Tiarei 42.75 102 *e*P **P 22 11 08.8 -0.2**
comp=Z,1µm,1.3s
TBI Tubuai 42.93 110 *e*P **P 22 11 10.0 -0.3**
comp=Z,920nm,1.2s
TBI *e*S S 22 17 39.6 +6.3
comp=Z,133µm,42.0s
TBI *e*LQ LQ 22 21 19.9
comp=Z,350µm,32.2s
TBI *e*LR LR 22 23 15.0
comp=Z,782µm,37.5s,baz=292
MMRI Maumere 43.65 271 P **P 22 11 16.6 +0.3**
comp=Z,2µm,1.3s,comp=Z,63µm
MIDW Midway 43.88 21 *e*P **P**
comp=Z,200nm,0.8s
MIDW *e*PP **PcP 22 13 04.2 +0.6**
MIDW *e*S S **22 17 49.1 +2.3**
SGSI Sangihe 43.95 289 P P 22 11 23.1 +4.5
comp=Z,6µm,1.5s,comp=Z,144µmcomp=Z,734µm
BBSI Bau Bau 43.95 276 P P 22 11 21.5 +2.9
comp=Z,2µm,1.3s,comp=Z,68µmcomp=Z,731µm
MEH Mehetia 43.97 102 *e*P **P 22 11 18.5 -0.3**
comp=Z,2µm,1.3s
PMOR Pomariorio Ree 44.23 98 *e*P **P 22 11 20.8 -0.1**
comp=Z,5µm,1.3s
KMSI Cibinong 44.27 285 P P 22 11 25.2 +4.0
comp=Z,4µm,0.9s,comp=Z,93µmcomp=Z,783µm
VAH Vaihoa 44.48 99 *e*P **P 22 11 22.5 -0.3**
MATI Mati 44.64 294 *e*P P 22 11 29.2 +5.1
LUWI Luwuk 44.92 282 P P 22 11 29.5 +3.1
comp=Z,1µm,2.0s,comp=Z,62µm
BIPH Bislig 45.10 296⇑ *e*P P 22 11 31.6 +3.8
KKSI Kolaka, Sulawe 45.15 277 P P 22 11 32.6 +4.4
comp=Z,941nm,1.8s,comp=Z,55µmcomp=Z,802µm
MBWA Marble Bar 45.30 253 P **P 22 11 30.6 +1.3**
SNR=51
MBWA Marble Bar 45.30 253 *e*P **P 22 11 29.1 -0.2**
comp=Z,595nm,0.8s
MBWA *e*PP **PcP 22 13 10.3 +1.5**
MBWA *e*S **S 22 18 04.2 -3.7**
DAV Davao City (W) 45.30 294 P P 22 11 33.8 +4.5
SNR=12
DAV Davao City (W) 45.30 294 P P 22 11 41.4 +12
DAV Davao City (W) 45.30 294 *e*P **P 22 11 28.2 -1.1**
comp=Z,1µm,0.8s
DAV *e*S **S 22 18 03.8 -4.2**
WSI Waingapu 45.38 269 P P 22 11 37.0 +7.0
GSPH General Santos 45.44 292 *e*P P 22 11 40.1 +9.4
KCP Kidapawan 45.71 293 *e*P P 22 11 36.0 +3.3
APSI Ampana 46.03 282 P P **22 11 37.3 +2.1**
comp=Z,2µm,1.4s,comp=Z,62µm
BUKP Mutuan 46.11 295 *e*P **P 22 11 38.2 +2.3**
BUTP Butuan 46.11 296 *e*P P 22 11 40.0 +4.2
MRSI Marisa 46.17 283 P P 22 11 39.1 +2.8
comp=Z,432nm,1.2s,comp=Z,39µmcomp=Z,675µm
WBSI Waikabubak, Su 46.27 269 P P 22 11 51.6 +14
CBIJ Chichi jima 46.36 330 P **P 22 11 38.6 +1.2**
JCJ Chichijima 46.36 330 P **P 22 11 38.6 +1.2**
comp=Z,346nm,0.4s,baz=263,slow=22,SNR=17
BKSI Bulukumba 46.36 275 P **P 22 11 40.0 +2.2**
comp=Z,530nm,1.4s,comp=Z,49µmcomp=Z,680µm
CTBH Ctabato--PC H 46.55 293 *e*P **P 22 11 41.7 +2.4**
BNSI Bone 46.59 276 P **P 22 11 41.0 +1.4**
comp=Z,2µm,1.3s,comp=Z,57µmcomp=Z,756µm
SCPH Surigao 46.61 297 *e*P P 22 11 43.8 +4.1
CGP Cagayan de Oro 46.69 295⇓ *e*P P 22 11 45.5 +5.1
MEEK Meekatharra 46.77 246 ⇑P **P 22 11 40.9 0.0**
baz=46,SNR=374
KAPI Kappang 46.79 275 P **P 22 11 40.7 -0.5**
comp=Z,3µm,1.0s,SNR=31
KAPI Kappang 46.79 275⇑ *e*P **P 22 11 40.1 -1.0**
comp=Z,2µm,1.4s
KAPI PcP **PcP 22 13 14.4 +0.3**
KAPI PP **PP 22 13 30.9 -0.8**
KAPI *e*S **S 22 18 25.6 -3.9**
KAPI Kappang 46.79 275 P **P 22 11 41.2 +0.1**
comp=Z,170nm,1.1s,baz=92,slow=2.7,SNR=22
SPSI Sidrap Palu 47.02 277 P **P 22 11 44.7 +1.8**
comp=Z,646nm,1.3s,comp=Z,43µmcomp=Z,668µm
TTSI Tana Toraja 47.20 278 P P 22 11 47.6 +3.2
comp=Z,659nm,2.0s,comp=Z,49µmcomp=Z,720µm
MSLP Maasin 47.32 297 *e*P **P 22 11 45.8 +0.5**
PAGZ Pagadian 47.59 293 *e*P **P 22 11 49.5 +2.1**
PLP Palo 47.71 298⇓ *e*P **P 22 11 47.5 -0.7**
PCI Palu 47.76 281 P P 22 11 55.7 +6.9
MJSI Majene 47.88 277 P P 22 11 53.5 +3.8
comp=Z,1µm,1.7s,comp=Z,57µmcomp=Z,741µm
DCPH Dipolog City 47.94 294⇑ *e*P P 22 11 55.7 +5.7
OCLP Ormoc 47.97 298 *e*P **P 22 11 54.5 +4.2**
LLP Lapu-Lapu 48.18 297 *e*P **P 22 11 53.2 +1.2**
LLP *e*S **S 22 18 52.5 +3.2**
IPIL Ipil 48.30 293 *e*P **P 22 11 55.6 +2.8**
KLBR Kellerberrin 48.30 239 ⇑P **P 22 11 51.5 -1.2**
baz=48,SNR=25
SNPH Sibulan 48.38 295⇑ *i*P P 22 11 49.4 -4.1
CNP Catarman 48.64 300 *e*P **P 22 11 57.9 +2.4**
HON Honolulu 48.80 46 *e*P P 22 11 53.7 -2.8
HON *e*S **S 22 19 00.8 +3.2**
HON Honolulu 48.80 46 *e*P P 22 11 53.7 -2.8
HON *e*S **S 22 19 00.8 +3.2**
KIP Kipapa 48.85 46 *e*P **P 22 11 55.7 -1.2**
KIP pmax pmax
comp=Z,942nm,1.4s
KIP Kipapa 48.85 46 *e*P **P 22 11 55.7 -1.2**
comp=Z,942nm,1.4s
NWAO Narrogin (SRO) 49.00 238 P **P 22 11 57.1 -0.9**
SNR=48
NWAO Narrogin (SRO) 49.00 238 *e*P **P 22 11 56.5 -1.5**
comp=Z,2µm,1.1s
NWAO *e*PP **PP 22 13 56.4 +4.7**
NWAO *e*S **S 22 18 57.6 -2.8**
NWAO Narrogin (SRO) 49.00 238 P **P 22 11 56.7 -1.3**
comp=Z,217nm,0.8s,baz=87,slow=7.2,SNR=28
BLDU Ballidu 49.01 241 ⇓P **P 22 11 57.2 -1.0**
baz=49,SNR=32
MORW Morawa 49.35 243 ⇑P **P 22 12 00.4 -0.4**
baz=49,SNR=201
MTNI Mataram 49.57 270 P **P 22 12 04.5 +1.9**
comp=Z,1µm,1.1s,comp=Z,54µmcomp=Z,563µm
RKGY Rocky Gully 49.57 236 ⇓P **P 22 12 02.0 -0.4**
baz=49,SNR=15
PVCP Virac 49.61 301⇓ *e*P P 22 12 07.2 +4.3
RCP Roxas 49.82 297⇓ *e*P **P 22 12 05.3 +0.8**
SGKI Sangatta, Kali 50.01 280 P P 22 12 09.5 +3.5
comp=Z,932nm,1.3s,comp=Z,82µmcomp=Z,821µm
BKB Balikpapan 50.48 279 P P 22 12 13.3 +3.7
comp=Z,840nm,1.3s,comp=Z,92µm
DNP Denpasar 50.49 269 P P 22 12 12.7 +3.0
comp=Z,5µm,1.0s,comp=Z,106µm
SRBI Singaraja 50.59 270 P **P 22 12 12.6 +2.2**
comp=Z,2µm,1.5s,comp=Z,73µmcomp=Z,686µm
AUQP San Andres 50.72 299 *e*P P 22 12 16.4 +5.1
OTRP Odiongan 50.82 298 *e*P **P 22 12 14.3 +2.2**
MYLDM Lahad Datu 51.00 288 P P 22 12 19.0 +5.6
MYLDM Lahad Datu 51.00 288 P P 22 12 17.2 +3.8
comp=Z,2µm,1.2s,comp=Z,99µm
CUYO Cuyo Island 51.00 296 *e*P **P 22 12 16.2 +2.8**
GQP Guinayangan 51.20 300⇓ *e*P **P 22 12 14.9 0.0**
TSM Tawau 51.27 286 P P **22 12 15.7 +0.2**
BYJI Banyuwangi 51.41 270 P P **22 12 19.0 +2.5**
comp=Z,4µm,1.6s,comp=Z,107µmcomp=Z,771µm
ABJI Asem Bagus 51.60 270 P **P 22 12 20.2 +2.2**
comp=Z,3µm,1.1s,comp=Z,72µm
SJMP San Jose 51.65 298 *e*P **P 22 12 20.7 +2.4**

H01W1 Cape Leeuwin H 51.90 236 P **P 22 12 21.2 +1.5**
baz=194,slow=0.7,SNR=61
H01W3 Cape Leeuwin H 51.91 236 P **P 22 12 21.3 +1.5**
baz=194,slow=0.7,SNR=58
H01W2 Cape Leeuwin H 51.92 236 P **P 22 12 21.3 +1.5**
baz=194,slow=0.7,SNR=60
KMMI Kalianget 52.00 271 P **P 22 12 23.6 +2.7**
comp=Z,1µm,1.5s,comp=Z,57µm
LQP Lukban 52.07 300⇑ *e*P **P 22 12 23.9 +2.3**
BLJI Banyuglugur 52.23 270 P **P 22 12 23.4 +0.7**
comp=Z,2µm,1.3s,comp=Z,54µmcomp=Z,694µm
BUSP Coron 52.23 297 *e*P **P 22 12 24.4 +1.8**
GMJI Gumukmas 52.28 270 P **P 22 12 24.2 +1.1**
comp=Z,2µm,1.1s,comp=Z,53µmcomp=Z,686µm
SDKM Sandakan 52.38 288 P **P 22 12 25.6 +1.8**
TAOE Nuku Hiva Isla 52.47 91 *e*P **P 22 12 24.2 -0.4**
comp=Z,929nm,0.9s
TAOE *e*S **S 22 19 51.5 +2.3**
comp=Z,183µm,37.2s
TAOE *e*LQ LQ 22 25 18.9
comp=Z,179µm,25.3s
TAOE *e*LR LR 22 27 31.9
comp=Z,1428µm,28.3s,baz=270
MTKI Muara Teweh, K 52.49 279 P **P 22 12 26.9 +2.2**
comp=Z,733nm,1.1s,comp=Z,46µmcomp=Z,684µm
ENPP El Nido 52.56 295 *e*P **P 22 12 26.8 +1.8**
PPR Puerto Princes 52.57 293 *e*P P 22 12 28.5 +3.3
TGY Tagaytay City 52.58 299⇓ *e*P P 22 12 32.9 +7.6
BALP Baler 52.84 301 *e*P **P 22 12 29.4 +2.3**
PCPH Palayan 53.15 301⇑ *i*P P 22 12 31.3 +2.0
KDM Kudat 53.17 289 P P 22 12 33.9 +4.3
KRKI Karangkates 53.27 269 P **P 22 12 32.6 +2.2**
comp=Z,4µm,1.4s,comp=Z,97µm
KKM Kota Kinabalu 53.43 288 P **P 22 12 34.0 +2.4**
KKM Kota Kinabalu 53.43 288 P **P 22 12 33.4 +1.8**
comp=Z,3µm,1.2s,comp=Z,61µm
KKM Kota Kinabalu 53.43 288⇑ *e*P **P 22 12 31.2 -0.4**
comp=Z,3µm,1.1s
KKM *e*S **S 22 19 59.9 -2.3**
GRJI Gresik 53.47 271 P P 22 12 34.7 +2.8
comp=Z,507nm,0.9s,comp=Z,5µm
PWJI Pagerwojo 53.93 270 P **P 22 12 36.3 +1.1**
comp=Z,1µm,1.4s,comp=Z,55µmcomp=Z,675µm
SJI Sawahan 54.01 270 P **P 22 12 37.2 +1.3**
comp=Z,2µm,1.7s,comp=Z,78µmcomp=Z,690µm
JOW Kunigami 54.31 317⇑ *e*P **P 22 12 37.1 -0.6**
comp=Z,2µm,1.5s
JOW *e*PcP **PcP 22 13 42.6 +1.1**
JOW *e*S **S 22 20 15.9 +2.4**
NGJI Ngawi 54.38 270 P P 22 12 42.1 +3.6
comp=Z,2µm,1.4s,comp=Z,92µm
PCJI Pacitan 54.51 269 P **P 22 12 40.6 +1.2**
comp=Z,4µm,1.7s,comp=Z,63µmcomp=Z,702µm
WOJI Wonogiri, Jawa 54.82 270 P **P 22 12 43.2 +1.5**
comp=Z,2µm,1.4s,comp=Z,78µmcomp=Z,701µm
PBKI Pangkalan Bun 55.17 276 P **P 22 12 46.4 +2.2**
comp=Z,1µm,1.0s,comp=Z,51µmcomp=Z,821µm
UGM Wanagama 55.20 269 P **P 22 12 46.4 +1.9**
comp=Z,3µm,1.3s,comp=Z,75µm
BTM Bintulu 55.43 283 P P 22 12 48.9 +2.9
YOGI Yogyakarta 55.43 269 P **P 22 12 48.4 +2.2**
comp=Z,6µm,1.3s,comp=Z,101µmcomp=Z,814µm
SBUM Sibu 56.02 282 P **P 22 12 51.4 +1.1**
SBUM Sibu 56.02 282 P **P 22 12 50.3 0.0**
comp=Z,663nm,1.0s,comp=Z,47µm
STKI Sintang 56.06 279 P **P 22 12 52.4 +1.8**
comp=Z,1µm,1.2s,comp=Z,49µmcomp=Z,640µm
MAJO Matsushiro 56.07 333⇑ *e*P **P 22 12 50.0 -0.3**
MAJO pmax pmax
comp=Z,425nm,0.8s
MAJO Matsushiro 56.07 333⇑ *e*P **P 22 12 50.0 -0.3**
comp=Z,425nm,0.8s
MAJO *e*PcP PcP 22 13 55.7 +7.5
MAT Matsushiro 56.07 333 P **P 22 12 49.3 -1.0**
MAT S **S 22 20 42.2 +5.4**
BJII Banjamegara 56.09 270 P **P 22 12 52.5 +1.5**
comp=Z,2µm,3.6s,comp=Z,95µm
RKT Rikitea 56.22 109 *e*P **P 22 12 51.8 +0.1**
comp=Z,230nm,1.4s
RKT *e*S **S 22 20 43.4 +4.0**
comp=Z,148µm,48.8s
RKT *e*LQ LQ 22 26 56.5
comp=Z,298µm,35.8s
RKT *e*LR LR 22 29 22.9
comp=Z,482µm,31.5s,baz=278
CLJI Cilicap 56.70 269 P **P 22 12 56.3 +1.1**
comp=Z,1µm,1.1s,comp=Z,41µm
TGJI Tegal 56.75 270 P **P 22 12 56.8 +1.2**
comp=Z,2µm,1.6s,comp=Z,77µmcomp=Z,603µm
KPJI Karang Pucung 56.85 270 P **P 22 12 57.8 +1.5**
comp=Z,2µm,1.3s,comp=Z,73µmcomp=Z,724µm
TWG Pinlang 57.00 308⇑ *e*P **P 22 12 57.7 +0.6**
comp=Z,2µm,0.9s
TWG *e*S **S 22 20 46.1 -3.5**
JNU Nakatsue 57.12 324⇑ *e*P **P 22 12 57.6 -0.3**
comp=Z,527nm,0.8s
JNU *e*S **S 22 20 49.0 -1.8**
JNU Nakatsue 57.12 324 P **P 22 12 56.9 -1.0**
comp=Z,529nm,1.1s,baz=106,slow=3.3,SNR=37
NACB Ninganchiao 57.38 310⇑ *e*P **P 22 12 58.6 -1.1**
comp=Z,2µm,1.4s
NACB *e*S **S 22 20 55.9 +1.4**
KSM Kuching 57.57 280 P **P 22 13 01.8 +0.5**
KSM Kuching 57.57 280 P **P 22 13 01.0 -0.3**
comp=Z,1µm,1.1s,comp=Z,45µm
KSM Kuching 57.57 280⇑ *e*P **P 22 13 00.6 -0.8**
comp=Z,964nm,1.0s
KSM *e*PcP **PcP 22 13 53.0 -1.6**
KSM *e*PP PP 22 15 01.8 -7.5
KSM *e*S **S 22 20 53.8 -3.5**
KSM Kuching 57.57 280 P **P 22 13 01.3 -0.1**
baz=57,SNR=32
SSLB Suanglung 57.64 309⇑ *i*P **P 22 13 00.4 -1.2**
comp=Z,686nm,1.0s
SSLB *e*S **S 22 20 57.0 -1.0**
YHNB Yeheng 57.82 310⇑ *e*P **P 22 13 02.4 -0.6**
comp=Z,3µm,1.3s
YHNB *e*S **S 22 20 59.1 -1.4**
CISI Cisompet, Garu 57.90 269 P **P 22 13 03.3 -0.4**
comp=Z,3µm,1.3s,comp=Z,50µmcomp=Z,889µm
CISI Cisompet, Garu 57.90 269 P **P 22 13 02.6 -1.2**
baz=58,SNR=11
TATO Taipei 57.92 311 P P 22 13 07.7 +4.1
SNR=6.1
TATO Taipei 57.92 311 *e*P **P 22 13 02.6 -0.9**
comp=Z,8µm,1.3s
TATO *e*S **S 22 20 58.1 -3.4**
LEM Lembang 58.23 270 P **P 22 13 06.5 +0.3**
comp=Z,4µm,1.0s,comp=Z,71µm
LEM Lembang 58.23 270 P **P 22 13 06.4 +0.3**
baz=58,SNR=24
ERM Erimo 58.85 340⇓ *e*P **P 22 13 09.8 +0.1**
ERM *e*S **S 22 21 12.6 -0.4**
ERM pmax pmax
comp=Z,637nm,1.3s
ERM Erimo 58.85 340⇓ *e*P **P 22 13 09.8 +0.1**
comp=Z,637nm,1.3s
ERM *e*S **S 22 21 12.6 -0.4**
ERM Erimo 58.85 340 P **P 22 13 10.1 +0.4**
comp=Z,909nm,0.6s,SNR=8.3
TPI Tanjungpandan 59.05 275 P **P 22 13 13.4 +1.7**
comp=Z,490nm,1.2s,comp=Z,25µmcomp=Z,677µm
CBJI Citeko 59.05 270 P **P 22 13 09.3 -2.4**
comp=Z,6µm,1.1s,comp=Z,163µm
DBJI Dramaga 59.12 270 P **P 22 13 12.6 +0.4**
comp=Z,3µm,1.3s,comp=Z,55µmcomp=Z,689µm
SKJI Sukabumi 59.23 270 P **P 22 13 13.2 +0.3**
comp=Z,5µm,1.0s,comp=Z,67µmcomp=Z,559µm
XMI Christmas Isla 59.48 265 ⇓P **P 22 13 17.0 +2.3**
baz=59,SNR=7.3
XMIS Christmas Isla 59.51 265⇑ *e*P **P 22 13 14.5 -0.4**
comp=Z,24µm,1.6s
XMIS *e*PP **PP 22 15 25.4 -1.2**
XMIS *e*S **S 22 21 18.0 -4.7**
XMIS Christmas Isla 59.51 265 P **P 22 13 15.8 +0.9**
baz=59,SNR=8.2
YUK Yuzh-Kuril'sk 59.83 343*c i*P **P 22 13 14.7 -1.7**
YUK *i* 22 15 29.4
YUK *i* S **S 22 21 24.7 -0.9**
YUK *i* 22 23 02.6
YUK *i* SSS SSS 22 27 50.9
YUK pmax pmax
comp=Z,95µm,18.2s
YUK pmax pmax
comp=E,663nm,1.4s
YUK pmax pmax

comp=Z,2μm,1.4s
QZH Quanzhou 60.06 309⇑ *i*P **P** **22 13 16.1 -2.3**
QZH S **S** **22 21 27.4 -2.0**
QZH AMB AMB
comp=Z,3μm,1.2s
QZH AMB AMB
comp=Z,26μm,8.8s
QZH LR LR
comp=Z,365μm,21.0s
QZH LR LR
comp=Z,228μm,17.2s
QZH LR LR
comp=Z,436μm,19.4s
PPBI Pangkal Pinang 60.66 275 P **P** **22 13 24.9 +2.1**
comp=Z,759nm,1.3s,comp=Z,39μmcomp=Z,596μm
BLSI Bandar Lampung 60.83 271 P **P** **22 13 26.7 +2.8**
comp=Z,806nm,1.0s,comp=Z,29μmcomp=Z,554μm
ASAJ Asahikawa 60.91 340⇑ *e*P **P** **22 13 23.6 -0.2**
comp=Z,381nm,1.0s
ASAJ *e*S **S** **22 21 42.5 +3.0**
ASAJ Asahikawa 60.91 340 P **P** **22 13 23.6 -0.2**
comp=Z,152nm,0.9s,baz=209,slow=9.4,SNR=36
KLI Kotabumi 61.31 272 P **P** **22 13 27.8 +0.6**
comp=Z,902nm,1.7s,comp=Z,21μmcomp=Z,503μm
KASI Kota Agung 61.52 271 P **P** **22 13 28.5 -0.1**
comp=Z,3μm,0.9s,comp=Z,35μmcomp=Z,623μm
SSE Sheshan 61.79 316 ⇑P **P** **22 13 29.3 -0.7**
SSE pP **pP** **22 13 42.6 +2.2**
SSE S **S** **22 21 51.8 +0.6**
SSE sS **sS** **22 22 12.4 +4.2**
SSE AMB AMB
comp=Z,78nm,1.0s
SSE AMB AMB
comp=Z,8μm,7.2s
SSE LR LR
comp=Z,237μm,22.9s
SSE LR LR
comp=Z,475μm,23.0s
SSE LR LR
comp=Z,790μm,25.1s
PMBI Palembang 61.81 274 P P 22 13 34.3 +3.7
comp=Z,1μm,1.1s,comp=Z,50μmcomp=Z,949μm
KSRS Korea Array 61.93 326 P **P** **22 13 29.8 -1.0**
comp=Z,159nm,1.0s,baz=137,slow=7.0,SNR=48
KSRS PKP2ab 22 42 52.0
comp=Z,8.5nm,1.0s,baz=326,slow=4.3,SNR=5.8
KSAR Wonju Array Be 61.94 326 P **P** **22 13 29.8 -1.1**
KSAR P'P'ab **P'P'ab** **22 42 52.0 -2.5**
MDSI Maura Dua 62.05 272 P **P** **22 13 33.7 +1.5**
comp=Z,868nm,1.7s,comp=Z,36μmcomp=Z,592μm
LWLI Liwa 62.05 271 P **P** **22 13 33.4 +1.0**
comp=Z,2μm,1.0s,comp=Z,39μmcomp=Z,584μm
INCN Inchon 62.66 325 P **P** **22 13 36.7 +0.9**
SNR=30
INCN Inchon 62.66 325⇑ *e*P **P** **22 13 35.4 -0.4**
comp=Z,270nm,0.6s
INCN *e*S **S** **22 22 00.2 -1.8**
LHSI Lahat 62.83 272 P **P** **22 13 38.7 +1.3**
comp=Z,766nm,1.5s,comp=Z,35μmcomp=Z,628μm
GZH Guangzhou 63.21 304 P P 22 13 42.9 +3.2
GZH LR LR
comp=Z,338μm,21.5s
GZH LR LR
comp=Z,341μm,21.3s
GZH LR LR
comp=Z,671μm,23.0s
MNAI Manna 63.27 272 P **P** **22 13 42.7 +2.4**
comp=Z,2μm,1.4s,comp=Z,74μmcomp=Z,890μm
YSS Yuzh-Sakhalins 63.40 342*e*P **P** **22 13 40.0 -0.4**
YSS *e**PP **pP** **22 13 52.2 +1.4**
YSS *e*S **S** **22 22 08.0 -2.7**
YSS *e*PS **PnS** **22 22 24.0 -6.5**
YSS *e*PPS PPS 22 22 46.0
YSS pmax pmax
comp=Z,680nm,1.2s
YSS pmax pmax
comp=N,14μm,12.0s
YSS pmax pmax
comp=Z,26μm,12.0s
YSS MLR MLR
comp=Z,484μm,17.0s
KSI Kapahiang 63.77 272 P **P** **22 13 46.2 +2.5**
comp=Z,2μm,0.9s,comp=Z,45μm
BTDF Bukit Timah Da 63.82 278 P **P** **22 13 46.7 +2.8**
baz=64,SNR=4.3
BTDF P **P** **22 13 46.7 +2.8**
baz=64,SNR=4.3
MYKOM Kota Tinggi 63.86 279 P **P** **22 13 45.3 +1.0**
MYKOM Kota Tinggi 63.86 279 P P 22 13 48.0 +3.8
comp=Z,634nm,1.1s,comp=Z,43μmcomp=Z,954μm
NJ2 Nanjing 63.95 316 *e*P **P** **22 13 43.4 -1.0**
NJ2 pP **pP** **22 13 53.2 -1.6**
NJ2 sP **sP** **22 13 57.4 -1.3**
NJ2 S **S** **22 22 15.4 -2.8**
NJ2 sS **sS** **22 22 38.7 +3.4**
NJ2 SS **SS** **22 26 28.9 +1.4**
NJ2 AMB AMB
comp=Z,340nm,0.6s
NJ2 AMB AMB
comp=Z,12μm,11.3s
NJ2 LR LR
comp=Z,756μm,23.0s
NJ2 LR LR
comp=Z,899μm,23.0s
NJ2 LR LR
comp=Z,1182μm,23.0s
SKR Severo-Kuril's 64.09 353 *e*P P 22 13 40.0 -4.9
SKR *i* S **S** **22 22 24.0 +4.8**
SKR pmax pmax
comp=Z,220nm,1.0s
SKR pmax pmax
comp=Z,76μm,22.0s
SKR pmax pmax
comp=N,53μm,20.0s
SKR pmax pmax
comp=E,13μm,20.0s
SKR smax smax
comp=N,438μm,24.0s
SKR smax smax
comp=E,73μm,24.0s
VLA Vladivostok 64.24 332⇓ *i*P **P** **22 13 45.1 -1.0**
VLA *e* 22 14 19.5
VLA *e* 22 16 05.8
VLA *e*S **S** **22 22 19.6 -1.8**
VLA pmax pmax
comp=Z,862nm,1.4s
QIZ Qiongzhong 64.27 299 P **P** **22 13 47.2 +0.4**
QIZ S **S** **22 22 24.2 +1.5**
QIZ sS **sS** **22 22 35.9 -3.9**
QIZ ScS **SKSac** **22 23 32.5 -6.4**
QIZ LR LR
comp=Z,145μm,31.9s
QIZ LR LR
comp=Z,160μm,21.7s
KGM Kluang 64.43 279 P **P** **22 13 50.8 +2.8**
VNDA Vanda 64.53 181⇑ *e*P **P** **22 13 46.5 -1.0**
comp=Z,688nm,1.4s
VNDA Vanda 64.53 181 P **P** **22 13 46.4 -1.1**
comp=Z,40nm,1.1s,baz=0.9,slow=6.8,SNR=26
RGRI Rengat 64.79 276 P P 22 13 54.0 +3.7
comp=Z,4μm,1.3s,comp=Z,55μmcomp=Z,637μm
CASY Casey 64.81 202⇑ *e*P **P** **22 13 47.9 -1.7**
comp=Z,2μm,1.6s
CASY *e*S S 22 22 20.5 -7.3
SBA Scott Base 64.82 180⇑ *e*P **P** **22 13 49.2 -0.2**
SBA *e*S **S** **22 22 26.2 -1.5**
SBA pmax pmax
comp=Z,992nm,1.1s
SBA Scott Base 64.82 180⇑ *e*P **P** **22 13 49.2 -0.2**
comp=Z,992nm,1.1s
SBA *e*S **S** **22 22 26.2 -1.5**
USRK Ussuriysk Arra 65.05 333 P **P** **22 13 51.8 +0.5**
comp=Z,493nm,1.0s,baz=132,slow=6.1,SNR=106
USRK PKP2bc 22 42 46.4
comp=Z,7.4nm,1.0s,baz=328,slow=3.5,SNR=4.7
AMKA Amchitka 65.11 9 *e*P **P** **22 13 53.4 +1.9**
comp=Z,116nm,0.7s
KTGM Kuala Trenggan 65.52 282 P **P** **22 13 56.3 +1.2**
SMY Shemya 65.82 5 *e*P **P** **22 13 56.8 +0.7**
SMY pmax pmax
comp=Z,801nm,1.2s
SMY Shemya 65.82 5 *e*P **P** **22 13 56.8 +0.7**
comp=Z,801nm,1.2s
FX1 Attu Island--F 65.90 4 *e*P **P** **22 13 56.6 0.0**
FX1 Attu Island--F 65.90 4 P **P** **22 13 56.4 -0.2**
comp=Z,21nm,0.5s,baz=260,slow=7.3,SNR=21

PET Petropavlovsk 66.14 355*c i*P **P** **22 13 56.9 -1.2**
PET *e* 22 16 28.7
PET *e*S **S** **22 22 43.5 -0.7**
PET *e*PS **PnS** **22 23 08.4 +0.7**
PET *e*SS **SS** **22 27 05.2 +4.4**
PET pmax pmax
comp=Z,26μm,20.4s
PET pmax pmax
comp=Z,106μm,23.8s
PET pmax pmax
comp=Z,49μm,17.2s
PET pmax pmax
comp=Z,415nm,1.1s
PET smax smax
comp=E,36μm,19.3s
PET smax smax
comp=N,22μm,21.9s
WHN Wuhan 66.26 312⇑ *i*P **P** **22 13 59.0 -0.5**
WHN sP **sP** **22 14 13.3 -0.5**
WHN S **S** **22 22 46.0 -0.7**
WHN LR LR
comp=N,888μm,20.0s
WHN LR LR
comp=N,991μm,18.8s
WHN LR LR
comp=N,2334μm,27.2s
ADK Adak 66.28 11⇑ *e*P **P** **22 13 58.5 -0.6**
ADK *e*S **S** **22 22 50.3 +4.3**
ADK pmax pmax
comp=Z,2μm,1.4s
ADK Adak 66.28 11⇑ *e*P **P** **22 13 58.5 -0.6**
comp=Z,2μm,1.4s
ADK *e*S **S** **22 22 50.2 +4.3**
PEA0B Petropavlovsk- 66.31 354⇑ *e*P **P** **22 13 56.8 -2.5**
PEA0B *e*S **S** **22 22 47.5 +1.1**
PETK Petropavlovsk- 66.31 354 P **P** **22 13 58.7 -0.6**
PETK Petropavlovsk- 66.31 354 P **P** **22 13 58.7 -0.6**
PETK ⇑*e* 22 42 39.6
PETK Petropavlovsk- 66.31 354 P **P** **22 13 58.7 -0.6**
comp=Z,41nm,0.9s,baz=140,slow=7.8,SNR=24
PETK PKP2bc 22 42 39.6
comp=Z,17nm,1.0s,baz=72,slow=4.8,SNR=5.6
FRIM Kepong 66.39 279 P **P** **22 14 02.6 +1.9**
MDJ Mudanjiang 66.44 332 P **P** **22 14 01.0 +0.7**
MDJ pP **pP** **22 14 11.5 +0.7**
MDJ sP **sP** **22 14 14.1 -0.6**
MDJ PcP **PcP** **22 14 30.6 +0.8**
MDJ S **S** **22 22 51.4 +3.0**
MDJ AMB AMB
comp=Z,720nm,1.1s
MDJ AMB AMB
comp=Z,77μm,10.5s
MDJ LR LR
comp=Z,198μm,35.0s
MDJ LR LR
comp=Z,258μm,38.5s
MDJ LR LR
comp=Z,241μm,28.0s
PDSI Padang 66.47 275 P **P** **22 14 01.4 +0.2**
comp=Z,885nm,1.4s,comp=Z,66μm
DL2 Dalian 66.50 323 *i*P **P** **22 14 01.7 +0.9**
DL2 S **S** **22 22 54.9 +5.6**
DL2 AMB AMB
comp=Z,1μm,1.1s
DL2 AMB AMB
comp=Z,38μm,10.7s
DL2 LR LR
comp=Z,129μm,20.3s
DL2 LR LR
comp=Z,145μm,21.6s
UBPT Khong Chiam 66.62 293 P **P** **22 14 04.1 +2.1**
comp=Z,647nm,1.1s,comp=Z,45μm
PPI Padang Panjang 66.64 275 P **P** **22 14 04.2 +2.0**
comp=Z,1μm,1.1s,comp=Z,47μm
PPI Padang Panjang 66.64 275 P **P** **22 14 03.8 +1.6**
baz=66,SNR=10
IPM Ipoh 67.30 281 P **P** **22 14 06.9 +0.5**
IPM Ipoh 67.30 281 P **P** **22 14 08.2 +1.7**
comp=Z,2μm,1.2s,comp=Z,47μmcomp=Z,929μm
IPM Ipoh 67.30 281⇑ *e*P **P** **22 14 06.0 -0.5**
comp=Z,3μm,1.3s
IPM *e*PP **PP** **22 16 36.0 +0.9**
IPM *e*S **S** **22 22 54.6 -5.3**
SNY Shenyang 67.39 327 ⇑P P 22 14 02.2 -4.2
SNY S **S** **22 23 01.0 +1.1**
SNY SS **SS** **22 27 14.9 -5.8**
SNY AMB AMB
comp=Z,470nm,1.5s
SNY LR LR
comp=Z,395μm,21.1s
SNY LR LR
comp=Z,476μm,22.1s
SNY LR LR
comp=Z,837μm,22.5s
TIA Tai'an 67.58 318 ⇑P **P** **22 14 07.1 -0.7**
TIA AMB AMB
comp=Z,310nm,1.1s
TIA LR LR
comp=Z,122μm,20.2s
TIA LR LR
comp=Z,176μm,21.4s
TIA LR LR
comp=Z,150μm,17.8s
COCO West Island 67.78 262⇑ *e*P **P** **22 14 09.1 -0.4**
COCO *e* 22 16 38.4
COCO *e*S **S** **22 23 02.2 -3.4**
COCO pmax pmax
comp=Z,3μm,1.6s
COCO West Island 67.78 262 P P 22 14 14.4 +4.9
SNR=15
COCO West Island 67.78 262 P P 22 14 15.2 +5.7
comp=Z,5μm,1.2s,SNR=9.7
COCO West Island 67.78 262 P **P** **22 14 10.3 +0.8**
comp=Z,1μm,1.9s,comp=Z,53μmcomp=Z,569μm
COCO West Island 67.78 262⇑ *e*P **P** **22 14 09.1 -0.4**
comp=Z,3μm,1.6s
COCO *e*PP **PP** **22 16 38.4 -0.8**
COCO *e*S **S** **22 23 02.2 -3.4**
CN2 Changchun 67.82 329⇑ *i*P **P** **22 14 09.1 0.0**
CN2 *e*pP **pP** **22 14 18.8 -0.7**
CN2 *e*S **S** **22 23 07.0 +2.0**
CN2 *e*SS SS 22 27 19.2 -8.1
CN2 AMB AMB
comp=Z,1μm,1.0s
CN2 AMB AMB
comp=Z,76μm,11.0s
KULM Kulim 67.88 281 P **P** **22 14 10.6 +0.5**
KULM Kulim 67.88 281 P **P** **22 14 11.3 +1.2**
KULM Kulim 67.88 281 P **P** **22 14 12.6 +2.5**
comp=Z,944nm,1.5s,comp=Z,45μm
KULM Kulim 67.88 281⇑ *e*P **P** **22 14 09.4 -0.7**
comp=Z,2μm,1.3s
KULM *e*PP PP 22 16 34.5 -5.7
KULM *e*S **S** **22 23 02.5 -4.4**
PANO Nakornpanom 68.08 295 P **P** **22 14 11.2 0.0**
comp=Z,923nm,1.0s,comp=Z,34μm
SKLT Songkhla 68.45 283 P **P** **22 14 15.8 +2.2**
comp=Z,894nm,1.3s,comp=Z,42μm
SKNT Sakolnakorn 68.57 294 P **P** **22 14 14.0 -0.4**
comp=Z,2μm,1.0s,comp=Z,43μm
CHBT CHBT 68.59 289 P **P** **22 14 15.5 +1.0**
comp=Z,635nm,1.4s,comp=Z,39μm
PSI Prapat 68.88 278 P P 22 14 12.7 -3.8
PSI Prapat 68.88 278 P **P** **22 14 15.2 -1.3**
baz=69,SNR=12
PSI Prapat 68.88 278 P P 22 14 12.7 -3.8
comp=Z,107nm,1.0s,baz=157,slow=3.3,SNR=22
GSI Gunungsitoli 69.80 276 P **P** **22 14 23.7 +1.6**
comp=Z,2μm,1.0s,comp=Z,60μm
SRIT Nakonsritamara 69.83 284 P **P** **22 14 23.3 +1.1**
comp=Z,924nm,1.2s,comp=Z,41μm
SURA Surathani 69.97 285 P **P** **22 14 24.4 +1.3**
comp=Z,1μm,1.1s,comp=Z,42μm
CHAI Chaiyaphum 69.97 292 P **P** **22 14 22.7 -0.4**
comp=Z,215nm,0.9s,comp=Z,2μm
GYA Guiyang 70.15 305⇑ *i*P **P** **22 14 24.9 +0.8**
GYA pP **pP** **22 14 36.8 +2.2**
GYA sP **sP** **22 14 42.0 +3.5**
GYA PP **PP** **22 17 02.3 +2.5**
GYA S **S** **22 23 35.1 +1.6**
GYA SKS **SKSac** **22 24 19.8 -3.6**
GYA SS **SS** **22 28 04.6 +0.5**
GYA AMB AMB
comp=Z,510nm,1.2s
GYA LR LR
comp=Z,307μm,23.9s
GYA LR LR
comp=Z,361μm,24.9s
KCSI Kotacane, Aceh 70.17 279 P **P** **22 14 26.1 +1.7**
comp=Z,896nm,0.9s,comp=Z,34μmcomp=Z,621μm
BJI Beijing 70.49 321 P **P** **22 14 25.6 -0.1**
BJI PP **PP** **22 17 06.1 +3.8**
BJI S **S** **22 23 40.3 +3.7**
BJI SS **SS** **22 28 10.9 +2.3**
BJI AMB AMB
comp=Z,340nm,1.2s
BJI AMB AMB
comp=Z,11μm,6.6s
BJI LR LR
comp=Z,452μm,21.2s
BJI LR LR
comp=Z,240μm,22.7s
BJI LR LR
comp=Z,512μm,28.1s
UNV Unalaska Valle 70.49 17 *e*P P 22 14 22.4 -3.0
comp=Z,175nm,0.9s
PKDT Phuket 70.82 283 P P 22 14 31.7 +3.4
comp=Z,896nm,1.3s,comp=Z,40μm
AKUT Akutan 70.95 17 *e*P **P** **22 14 26.4 -1.7**
comp=Z,636nm,1.4s
LOEI Loei 71.19 294 P **P** **22 14 28.1 -2.3**
comp=Z,758nm,1.0s,comp=Z,27μm
SNSI Sinabang, Aceh 71.28 277 P P 22 14 35.9 +4.8
comp=Z,1μm,1.2s,comp=Z,56μmcomp=Z,909μm
LHMI Lhok Sumawe 71.41 280 P P 22 14 35.2 +3.3
comp=Z,1μm,1.5s,comp=Z,55μm
TIY Taiyuan 71.52 317 *e*P **P** **22 14 32.8 +0.7**
TIY S **S** **22 23 47.2 -1.7**
TIY AMB AMB
comp=Z,2μm,1.0s
TIY AMB AMB
comp=Z,14μm,4.4s
TIY LR LR
comp=Z,164μm,23.8s
TIY LR LR
comp=Z,227μm,18.5s
TIY LR LR
comp=Z,356μm,27.0s
XAN Xi'an 72.00 313 P **P** **22 14 35.0 -0.1**
XAN pP **pP** **22 14 46.4 +0.8**
XAN sP **sP** **22 14 52.0 +2.5**
XAN PP **PP** **22 17 16.7 +1.2**
XAN S **S** **22 23 57.8 +3.2**
XAN sS **sS** **22 24 12.1 +0.2**
XAN SKS **SKSac** **22 24 32.6 -4.4**
XAN AMB AMB
comp=Z,230nm,1.1s
XAN LR LR
comp=Z,139μm,27.6s
XAN LR LR
comp=Z,107μm,30.7s
XAN LR LR
comp=Z,86μm,23.6s
NANT Nan 72.14 295 P **P** **22 14 35.9 -0.3**
comp=Z,2μm,1.1s,comp=Z,14μm
FALS False Pass 72.26 18 *e*P **P** **22 14 33.9 -2.1**
comp=Z,96nm,0.3s
KMI Kunming 72.79 302 P **P** **22 14 41.0 +0.8**
KMI pP **pP** **22 14 49.1 -1.6**
KMI sP **sP** **22 14 51.6 -3.0**
KMI PP PP 22 17 29.2 +6.6
KMI S **S** **22 24 04.2 0.0**
KMI sS **sS** **22 24 22.0 +0.4**
KMI AMB AMB
comp=Z,1μm,1.1s
KMI LR LR
comp=Z,135μm,24.0s
KMI LR LR
comp=Z,130μm,20.2s
KMI LR LR
comp=Z,302μm,24.0s
PAYA Payao 73.08 295 P **P** **22 14 42.0 +0.2**
comp=Z,360nm,0.9s,comp=Z,3μm
SDPT Sand Point 73.58 19 *e*P **P** **22 14 41.4 -2.4**
comp=Z,294nm,1.0s
CM31 Chiang Mai Arr 73.59 294⇑ *e*P **P** **22 14 45.0 +0.2**
comp=Z,1μm,1.0s
CM31 PP **PP** **22 17 28.9 -0.3**
CHTO Chiang Mai 73.71 294⇑ *i*P **P** **22 14 45.4 -0.1**
CHTO *e*S **S** **22 24 14.4 0.0**
CHTO pmax pmax
comp=Z,5μm,1.3s
CHTO Chiang Mai 73.71 294 P **P** **22 14 45.9 +0.4**
SNR=413
CHTO Chiang Mai 73.71 294 P P 22 14 48.4 +2.9
comp=Z,3μm,1.5s,comp=Z,157μm
CHTO Chiang Mai 73.71 294⇑ *i*P **P** **22 14 45.4 -0.1**
comp=Z,5μm,1.3s
CHTO *e*S **S** **22 24 14.4 0.0**
CHTO Chiang Mai 73.71 294 P **P** **22 14 45.3 -0.2**
comp=Z,3μm,1.2s,comp=Z,157μm
HHC Hu-ho-hao-te 73.82 320 *e*P **P** **22 14 46.2 +0.4**
HHC pP **pP** **22 14 55.8 -0.5**
HHC sP **sP** **22 15 00.1 -0.2**
HHC PP **PP** **22 17 32.3 +1.3**
HHC S **SKiKP** **22 24 13.5 +0.8**
HHC SKS **SKSac** **22 24 45.8 -4.7**
HHC SS **SS** **22 29 00.8 +0.9**
HHC AMB AMB
comp=Z,670nm,1.2s
HHC AMB AMB
comp=Z,126μm,8.8s
HHC LR LR
comp=Z,466μm,17.5s
HHC LR LR
comp=Z,537μm,19.6s
HHC LR LR
comp=Z,709μm,16.9s
CMAI Chiengmai2 74.00 295 P **P** **22 14 47.6 +0.2**
comp=Z,796nm,1.1s,comp=Z,30μm
CD2 Chengdu 74.39 308⇑ *i*P **P** **22 14 49.3 0.0**
CD2 pP **pP** **22 15 00.1 +0.3**
CD2 sP **sP** **22 15 04.3 +0.5**
CD2 PP **PP** **22 17 37.2 +1.2**
CD2 S **S** **22 24 19.5 -2.3**
CD2 sS **sS** **22 24 37.5 -1.7**
CD2 SKS **SKSac** **22 24 49.4 -5.7**
CD2 SS **SS** **22 29 07.8 -1.1**
CD2 AMB AMB
comp=Z,450nm,1.8s
CD2 AMB AMB
comp=Z,25μm,11.6s
CD2 LR LR
comp=Z,681μm,22.1s
CD2 LR LR
comp=Z,297μm,24.5s
BTO Baotou 74.67 319 *e*P **P** **22 14 50.8 +0.1**
BTO AMB AMB
comp=Z,270nm,1.6s
CMBY CAMPBELL BAY 74.78 281 *e*P **P** **22 14 53.3 +1.5**
SEY Seymchan 76.52 353*c e*P **P** **22 14 59.6 -1.1**
LZH Lanzhou 76.64 312 ⇑P **P** **22 15 03.4 +1.2**
LZH pP **PcP** **22 15 14.0 +0.4**
LZH sP **sP** **22 15 18.3 +1.6**
LZH PP **PP** **22 17 56.5 +1.5**
LZH S **S** **22 24 46.1 -0.6**
LZH sS **sS** **22 25 03.6 -0.6**
LZH SKS **SKSac** **22 25 07.5 -4.3**
LZH SS **SS** **22 29 44.6 +1.6**
LZH AMB AMB
comp=Z,2μm,1.1s
LZH AMB AMB
comp=Z,70μm,9.6s
LZH LR LR
comp=Z,579μm,20.0s
LZH LR LR
comp=Z,473μm,19.8s
LZH LR LR
comp=Z,999μm,20.5s
QSPA South Pole Qui 76.98 180⇑ *i*P **P** **22 15 02.3 -1.3**
comp=Z,20nm,1.0s
QSPA South Pole Qui 76.98 180 P **P** **22 15 02.0 -1.6**
comp=Z,663nm,1.0s,baz=11,slow=1.8,SNR=40
PBA Port Blair 77.17 285 *e*P P 22 15 05.0 -0.4
PBA AMB AMB 22 15 27.6
comp=Z,1μm,1.5s
DGPR DIGLIPUR 77.43 287 *e*P **P** **22 15 06.6 -0.2**
DGPR AMB AMB 22 15 28.9
comp=Z,1μm,2.4s
CLNS Chul'man 77.69 338 *e*P P 22 15 02.4 -5.1

CLNS e 22 15 15.7
CLNS e 22 18 04.0
CLNS eS S 22 24 46.5 -11
CLNS e 22 25 23.7
CLNS pmax pmax
comp=Z,361nm,1.1s
CLNS pmax pmax
comp=N,257nm,1.5s
CLNS pmax pmax
comp=E,155nm,1.5s
CLNS pmax pmax
comp=E,149nm,1.4s
CLNS pmax pmax
comp=Z,205nm,1.4s
CLNS pmax pmax
comp=N,238nm,1.4s
CLNS smax smax
comp=N,8µm,13.4s
CLNS smax smax
comp=E,25µm,14.9s
CLNS MLR MLR
comp=Z,119µm,18.0s
CLNS MLR MLR
comp=E,104µm,17.0s
CLNS MLR MLR
comp=N,172µm,16.0s
KDAK Kodiak Island 78.16 21 P P 22 15 14.6 +4.7
comp=N,781nm,0.8s,SNR=8.8
KDAK Kodiak Island 78.16 21 eP **P** **22 15 09.5 -0.4**
comp=N,142nm,0.9s
KDAK eS **S** **22 25 00.9 -0.9**
CIT Chita 79.24 330 eP **P** **22 15 16.5 +0.3**
CIT e 22 15 34.1
CIT e 22 18 17.6
CIT eS **S** **22 25 14.7 +0.8**
CIT pmax pmax
comp=Z,3µm,2.4s
IMP Imphal 80.10 298 ex **P** **22 15 22.0 +0.5**
RSO Redoubt South 80.14 19 eP **P** **22 15 22.1 +1.1**
comp=Z,249nm,0.7s
YAK Yakutsk 80.20 343 i P **P** **22 15 19.6 -1.4**
YAK e*PP **pP** **22 15 30.7 -1.0**
YAK e 22 18 18.5
YAK ePPP PPP 22 20 11.4
YAK eS **S** **22 25 20.7 -2.8**
YAK eSS **SS** **22 30 33.7 -1.4**
YAK eSSS SSS 22 33 58.3
YAK pmax pmax
comp=N,231nm,1.4s
YAK pmax pmax
comp=E,216nm,1.4s
YAK pmax pmax
comp=Z,691nm,1.1s
YAK pmax pmax
comp=N,9µm,13.6s
YAK pmax pmax
comp=E,12µm,19.9s
YAK pmax pmax
comp=Z,10µm,7.8s
YAK smax smax
comp=N,23µm,21.6s
YAK smax smax
comp=E,38µm,22.5s
YAK MLR MLR
comp=Z,678µm,17.0s
YAK MLR MLR
comp=N,529µm,16.0s
YAK MLR MLR
comp=E,371µm,16.0s
ULN Ulaanbaatar 80.34 324 P **P** **22 15 22.6 +0.3**
SNR=373
ULN Ulaanbaatar 80.34 324 P **P** **22 15 24.2 +1.9**
comp=E,962nm,1.4s,comp=E,45µmcomp=E,633µm
ULN Ulaanbaatar 80.34 324⇑ iP **P** **22 15 22.6 +0.3**
comp=E,807nm,0.9s
ULN eS **S** **22 25 26.1 +0.2**
SONM Songino Array 80.70 324 P **P** **22 15 23.2 -1.1**
SONM Songino Array 80.70 324 P **P** **22 15 23.2 -1.1**
comp=E,192nm,1.1s,baz=140,slow=5.3,SNR=104
GTA Gaotai 80.96 314⇑P **P** **22 15 25.9 0.0**
GTA pP **pP** **22 15 35.8 -0.7**
GTA sP **sP** **22 15 39.9 -0.5**
GTA S **S** **22 25 31.3 -1.4**
GTA SKS **SKSac** **22 25 37.0 -5.4**
GTA sS **sS** **22 25 48.3 -2.0**
GTA SS **SS** **22 30 49.6 +1.8**
GTA AMB AMB
comp=E,400nm,1.0s
GTA AMB AMB
comp=E,28µm,10.7s
GTA LR LR
comp=E,163µm,19.0s
GTA LR LR
comp=E,173µm,21.9s
GTA LR LR
comp=E,342µm,21.9s
SEW Seward 80.97 21 eP **P** **22 15 22.7 -2.5**
comp=E,144nm,0.9s
SHL Shillong 82.11 298⇑ iP **P** **22 15 33.5 +1.2**
comp=Z,85nm,1.5s
SHL i x x 22 25 50.0
PMR Palmer 82.16 20⇑ iP **P** **22 15 28.8 -2.7**
PMR pmax pmax
comp=Z,146nm,0.8s
PMR Palmer 82.16 20⇑ iP **P** **22 15 28.8 -2.7**
comp=Z,146nm,0.8s
PPLA Purkeypile 82.18 18⇑ iP **P** **22 15 29.3 -2.5**
comp=Z,70nm,0.7s
DIV Divide 82.98 21⇑ iP P 22 15 33.0 -2.9
comp=Z,7.7nm,1.0s
MAW Mawson 83.17 202 P **P** **22 15 35.4 -1.3**
MAW Mawson 83.17 202 P **P** **22 15 35.4 -1.3**
comp=Z,52nm,1.0s,baz=102,slow=6.4,SNR=19
TRF Thorofare Moun 83.17 18⇑ iP **P** **22 15 35.1 -1.8**
comp=Z,126nm,0.8s
MCCM Marconi Confer 83.27 48 eP **P** **22 15 36.6 -1.2**
comp=Z,185nm,1.0s
BMRM Bremner River 83.29 22⇑ iP **P** **22 15 35.4 -2.0**
comp=Z,3µm,1.0s
KCPM Cahto Peak 83.36 47⇑ iP **P** **22 15 37.8 -0.6**
comp=Z,167nm,1.0s
SAC San Andreas 83.40 49 eP **P** **22 15 37.3 -1.2**
SAC pmax pmax
comp=Z,166nm,1.2s
SAC San Andreas 83.40 49 eP **P** **22 15 37.3 -1.2**
comp=Z,166nm,1.2s
BPAW Bear Paw Mtn. 83.45 17⇑ iP P 22 15 34.8 -3.4
comp=Z,76nm,0.9s
HOPS Hopland 83.45 48⇑ iP **P** **22 15 37.4 -1.3**
comp=Z,484nm,1.2s
HOPS eS **S** **22 26 03.4 +5.3**
KIPM Iron Peak 83.48 47 eP **P** **22 15 42.2 +3.1**
comp=Z,544nm,1.3s
KHMM Horse Mountain 83.72 46 eP **P** **22 15 38.9 -1.3**
comp=Z,267nm,1.0s
ZAK Zakamensk 83.75 325 eP **P** **22 15 39.6 -0.5**
ZAK e 22 26 03.1
ZAK pmax pmax
comp=Z,544nm,1.4s
MCK McKinley 83.79 18⇑ iP P 22 15 36.4 -3.5
MCK pmax pmax
comp=Z,309nm,1.1s
MCK McKinley 83.79 18⇑ iP P 22 15 36.4 -3.5
comp=Z,309nm,1.1s
SAO San Andreas Ge 83.82 50⇑ iP **P** **22 15 38.6 -2.1**
SAO pmax pmax
comp=Z,121nm,1.0s
SAO San Andreas Ge 83.82 50⇑ iP **P** **22 15 38.6 -2.1**
comp=Z,121nm,1.0s
KRMB Red Mountain 83.85 45 eP **P** **22 15 39.6 -1.3**
comp=Z,607nm,2.0s
KBO Bosley Butte 83.90 44⇑ eP **P** **22 15 39.4 -1.7**
comp=Z,257nm,1.1s
KBO ePP PP 22 19 06.1 +11
H02S1 DAWSON INLET T 83.97 32 P **P** **22 15 41.9 +0.9**
SNR=230
H02S1 T T 23 48 39.3
SNR=840
LSA Lhasa 84.03 302 P **P** **22 15 42.8 +0.3**
LSA LR LR
comp=Z,187µm,53.2s
KEBM Edson Butte 84.09 44⇑ eP **P** **22 15 40.8 -1.2**
comp=Z,259nm,1.1s
IM04 Indian Mountai 84.12 15 eP **P** **22 15 39.9 -1.6**
IRK Irkutsk 84.12 327 eP **P** **22 15 40.6 -1.3**
IRK e 22 18 56.7
IRK eS **S** **22 26 08.4 +4.2**
IRK pmax pmax
comp=Z,2µm,2.0s
TLY Talaya 84.18 326c iP **P** **22 15 41.5 -0.7**
TLY e 22 18 57.7
TLY eS **S** **22 26 06.8 +2.0**
TLY pmax pmax
comp=Z,809nm,1.1s
TLY MLR MLR
comp=Z,647µm,21.0s
TLY Talaya 84.18 326 P **P** **22 15 41.2 -1.0**
comp=Z,3µm,1.0s,SNR=87
PAF Port-aux-Franc 84.28 221 eP **P** **22 15 44.0 +1.2**
PAF eS **S** **22 26 03.8 -2.2**
PAF MLR MLR
comp=Z,236µm,19.0s
PAF Port-aux-Franc 84.28 221 eP **P** **22 15 44.0 +1.2**
comp=Z,5µm,1.5s
PAF eS **S** **22 26 03.8 -2.2**
PAF LR LR
comp=Z,236µm,19.0s
SBC Santa Barbara 84.33 53⇑P **P** **22 15 41.4 -1.9**
baz=84
PAX Paxson 84.35 20⇑ iP **P** **22 15 40.3 -2.6**
PAX pmax pmax
comp=Z,572nm,1.6s
PAX Paxson 84.35 20⇑ iP **P** **22 15 40.3 -2.6**
comp=Z,572nm,1.6s
PKM Peak Mountain 84.41 52⇑P **P** **22 15 42.3 -1.6**
baz=84,SNR=25
SMMC Simmler 84.41 52⇑P **P** **22 15 42.9 -0.9**
baz=84,SNR=11
WDC Whiskeytown Da 84.44 46⇑ iP **P** **22 15 41.9 -1.8**
WDC e 22 19 02.9
WDC eS **S** **22 26 03.3 -4.5**
WDC pmax pmax
comp=Z,241nm,1.2s
WDC Whiskeytown Da 84.44 46⇑ iP **P** **22 15 41.9 -1.8**
comp=Z,241nm,1.2s
WDC ePP **PP** **22 19 02.9 +3.5**
WDC eS **S** **22 26 03.2 -4.5**
SIT Sitka 84.66 28⇑P **P** **22 15 43.3 -1.1**
SIT e 22 19 03.6
SIT pmax pmax
comp=Z,137nm,1.1s
SIT Sitka 84.66 28⇑ iP **P** **22 15 43.3 -1.1**
comp=Z,137nm,1.1s
SIT ePP **PP** **22 19 03.6 +2.9**
BLG Laguna Peak 84.73 53⇑P **P** **22 15 43.9 -1.5**
baz=85
YBH Yreka Blue Hor 84.75 45 P **P** **22 15 47.7 +2.3**
comp=Z,9.4nm,1.0s
YBH ePP **PP** **22 19 02.1 +0.1**
YBH eS **S** **22 26 09.5 -1.7**
YBH Yreka Blue Hor 84.75 45 P **P** **22 15 47.7 +2.3**
comp=Z,78nm,0.9s,baz=202,slow=1.5,SNR=22
SCI San Clemente I 84.76 55⇑P **P** **22 15 43.6 -2.0**
baz=85
LAMM Antelope Mount 84.77 45 P **P** **22 15 47.6 +1.9**
CRAG Craig 84.83 30⇑ iP **P** **22 15 43.2 -2.1**
comp=Z,767nm,1.9s
CRAG ePP **PP** **22 19 02.7 +0.6**
RNO Roman Nose 84.91 43 P **P** **22 15 48.4 +2.3**
MENT Mentasta 84.92 21 P **P** **22 15 45.6 -0.1**
HUMO Hull Mountain 84.92 44⇑ iP **P** **22 15 44.7 -1.4**
comp=Z,279nm,1.0s
HUMO ePP PP 22 19 10.7 +7.4
COLA College 84.94 18⇑ iP **P** **22 15 42.9 -2.8**
COLA e 22 19 01.8
COLA eS **S** **22 26 12.6 +0.9**
COLA pmax pmax
comp=Z,1µm,1.0s
COLA College 84.94 18⇑ iP **P** **22 15 42.9 -2.8**
comp=Z,1µm,1.0s
COLA ePP **PP** **22 19 01.8 -1.0**
COLA eS **S** **22 26 12.6 +0.9**
CIS Catalina Islan 85.02 54⇑P **P** **22 15 45.3 -1.5**
baz=85
CMB Columbia Colle 85.06 49⇑ iP **P** **22 15 44.9 -2.1**
CMB e 22 19 08.5
CMB eS **S** **22 26 15.3 +1.0**
CMB pmax pmax
comp=Z,149nm,1.0s
CMB Columbia Colle 85.06 49⇑ iP **P** **22 15 44.9 -2.1**
comp=Z,149nm,1.0s
CMB ePP **PP** **22 19 08.5 +3.9**
CMB eS **S** **22 26 15.3 +1.0**
ILAR Eielson Array 85.16 18 P **P** **22 15 44.2 -2.5**
ILAR Eielson Array 85.16 18 P **P** **22 15 44.2 -2.5**
comp=Z,38nm,0.7s,baz=240,slow=5.2,SNR=30
OSI Osito Adit 85.16 53⇓P **P** **22 15 46.6 -1.0**
baz=85
FMP Fort Macarthur 85.20 54⇓P **P** **22 15 45.8 -1.9**
baz=85
ARVC Arvin 85.25 52⇓P P 22 15 45.0 -3.0
baz=85
VES Vestal, Richgr 85.29 52⇑P **P** **22 15 46.2 -1.9**
baz=85,SNR=6.7
RCTC Rector, Farmer 85.33 51⇓P **P** **22 15 47.4 -0.9**
baz=85
DECC Green Verdugo 85.35 53⇓P **P** **22 15 47.5 -1.0**
baz=85
SLGI Shiliguri 85.42 299 ex **P** **22 15 50.7 +1.8**
COR Corvallis 85.46 42 eP **P** **22 15 48.6 -0.2**
COR Corvallis 85.46 42 eP **P** **22 15 48.5 -0.2**
comp=Z,2µm,1.1s
MWC Mount Wilson 85.55 54 eP **P** **22 15 47.8 -1.9**
MWC pmax pmax
comp=Z,236nm,1.1s
MWC Mount Wilson 85.55 54 eP **P** **22 15 47.8 -1.9**
comp=Z,236nm,1.1s
MOY Mondy 85.63 325 eP **P** **22 15 49.1 -0.5**
MOY pmax pmax
comp=Z,2µm,3.0s
ISA Isabella 85.70 52 eP **P** **22 15 48.5 -1.8**
ISA pmax pmax
comp=Z,180nm,1.2s
ISA Isabella 85.70 52 eP **P** **22 15 48.5 -1.8**
comp=Z,180nm,1.2s
ISA Isabella 85.70 52⇑P **P** **22 15 48.7 -1.5**
baz=86,SNR=30
WRAK Wrangell Islan 85.70 29 eP **P** **22 15 47.0 -2.7**
comp=Z,186nm,1.0s
BEKR Beckworth 85.73 48⇑ iP **P** **22 15 48.2 -2.3**
comp=Z,126nm,1.0s
EDW2 Edwards Air Fo 85.82 53⇓P **P** **22 15 49.3 -1.6**
baz=86,SNR=39
BFSC Mount Baldy Ra 85.87 54⇑P **P** **22 15 49.1 -2.2**
baz=86,SNR=25
109C Camp Elliot, M 85.88 55⇑P **P** **22 15 49.6 -1.5**
baz=86
HYT Haines Junctio 85.89 24 eP **P** **22 15 50.7 0.0**
BROR Big Rock Looko 85.90 43 P **P** **22 15 53.4 +2.5**
SKAG Skagway 86.00 26⇑ iP P 22 15 47.0 -4.1
comp=Z,57nm,0.8s
SKAG ePP **PP** **22 19 14.1 +2.5**
COLD Coldfoot 86.00 16⇑ iP **P** **22 15 50.5 -0.4**
comp=Z,133nm,1.3s
COLD ePP **PP** **22 19 07.8 -3.7**
MURC Murrieta 86.03 54⇑P **P** **22 15 50.4 -1.5**
baz=86,SNR=9.6
MLAC Mammoth Lakes 86.08 50⇓P **P** **22 15 50.1 -2.2**
baz=86,SNR=8.9
FRIS Frissel Point 86.11 43 P **P** **22 15 53.9 +1.7**
BAR Barrett 86.17 55⇑ iP P 22 15 49.1 -3.4
comp=Z,308nm,1.5s
BAR ePP **PP** **22 19 17.3 +3.7**
TAPN Taplejung 86.21 299 eP **P** **22 15 52.8 -0.5**
comp=Z,3µm,1.2s
NLWA Neilton Lookou 86.21 40⇑ eP **P** **22 15 50.6 -1.9**
comp=Z,251nm,1.4s
NLWA ePP PP 22 19 07.9 -5.8
NLWA eS **S** **22 26 25.0 -0.1**
LRMC Laurel Mountai 86.24 52⇓P **P** **22 15 51.9 -1.1**
baz=86,SNR=27
BMW Boistfort Moun 86.25 41 P **P** **22 15 54.7 +1.9**
BMW Boistfort Moun 86.25 41 P **P** **22 15 54.7 +1.9**
CWC Cottonwood Cre 86.25 51⇓P **P** **22 15 50.4 -2.7**
baz=86,SNR=11
TIN Tinemaha 86.34 51⇓P **P** **22 15 51.9 -1.6**
baz=86,SNR=8.8
ODAN Odare 86.35 298 eP **P** **22 15 53.5 -0.4**
comp=Z,3µm,1.0s
PAHR Pah Rah Range 86.38 48 P **P** **22 15 53.5 -0.1**
comp=Z,367nm,1.3s
MONP Monument Peak 86.43 55⇓P **P** **22 15 52.8 -1.3**
baz=86,SNR=46
BBRC Big Bear Solar 86.46 54⇓P **P** **22 15 52.5 -1.8**
baz=86
MOD Modoc 86.49 46⇑ iP P 22 15 50.9 -3.3
comp=Z,567nm,1.0s
MOD ePP **PP** **22 19 19.8 +3.6**
MOD eS **S** **22 26 30.3 +2.0**
MPMC Manual Prospec 86.58 52⇑P P 22 15 52.0 -2.8
baz=87,SNR=32
RRX Edison Barstow 86.59 53⇓P **P** **22 15 53.1 -1.5**
baz=87
LVP Lakeview Peak 86.62 41 P **P** **22 15 57.0 +2.4**
DVTC Desert V Tower 86.62 56⇑P **P** **22 15 54.2 -0.6**
baz=87,SNR=22
PFO Pinyon Flat Ob 86.62 55 P **P** **22 15 56.8 +1.8**
comp=Z,37nm,1.0s
PFO eS **S** **22 26 29.7 -0.3**
PFO Pinyon Flat Ob 86.62 55⇓P **P** **22 15 53.2 -1.7**
baz=87,SNR=23
PFO Pinyon Flat Ob 86.62 55 P **P** **22 15 56.8 +1.8**
comp=Z,43nm,0.9s,baz=256,slow=3.6,SNR=19
MTMW Mount Mitchell 86.73 41 P **P** **22 15 57.9 +2.8**
NVAR Mina Array Bea 86.74 50 P **P** **22 15 56.4 +0.9**
NVAR Mina Array Bea 86.74 50 P **P** **22 15 56.4 +0.9**
comp=Z,40nm,0.9s,baz=234,slow=8.3,SNR=25
NVAR LR LR 22 46 42.2
comp=Z,883µm,21.5s,baz=84,slow=30
BOK Bokaro 86.81 295 eP **P** **22 15 54.9 -1.0**
BOK AMB AMB 22 16 02.8
comp=Z,510nm,1.4s
HDW Hoodsport 86.82 40 P P 22 15 58.7 +3.2
NV11 Mina Array Sit 86.85 50⇑P **P** **22 15 54.1 -1.8**
NV11 ePP **PP** **22 19 16.1 -3.1**
VLL Laurance Lake 86.86 42 P **P** **22 15 58.7 +2.9**
GSC Goldstone 86.87 53⇓ iP **P** **22 15 54.7 -1.4**
GSC Goldstone 86.87 53⇓ iP **P** **22 15 54.7 -1.4**
comp=Z,2µm,0.5s
GSC Goldstone 86.87 53⇓P **P** **22 15 53.9 -2.1**
baz=87,SNR=26
VFP Flag Point 86.95 42 P **P** **22 15 59.0 +2.7**
SWSC Sam W. Stewart 86.95 55⇓P **P** **22 15 54.8 -1.5**
baz=87,SNR=26
PGC Sidney 86.97 39⇑ iP **P** **22 15 54.8 -1.3**
comp=Z,18nm,1.3s
EGAK Eagle 86.98 20⇑ eP **P** **22 15 54.5 -1.3**
comp=Z,9µm,1.4s
EGAK ePP PP 22 19 14.4 -5.0
EGAK eS **S** **22 26 31.3 -0.5**
RAMN Ramite 87.05 298 eP **P** **22 15 56.7 -0.6**
comp=Z,3µm,1.2s
HEC Hector,Ludlow 87.10 53⇓P **P** **22 15 55.0 -2.2**
baz=87,SNR=40
BELC Belle Mtn. Jos 87.11 54⇓P **P** **22 15 56.1 -1.2**
baz=87,SNR=42
FURC Furnace Creek, 87.20 52⇑P **P** **22 15 55.5 -2.0**
baz=87
VIPM Ingram Point 87.21 43 P **P** **22 16 00.4 +2.8**
VIPM Ingram Point 87.21 43 P **P** **22 16 00.4 +2.8**
H06S1 SOCORRO T 87.23 70 T T 23 51 57.8
SNR=38
H06N1 SOCORRO T-PHAS 87.23 70 T T 23 52 00.9
SNR=7.2
LON Longmire 87.26 41 eP **P** **22 15 56.1 -1.6**
LON pmax pmax
comp=Z,126nm,1.1s
LON Longmire 87.26 41 eP **P** **22 15 56.1 -1.6**
comp=Z,126nm,1.1s
H06E1 SOCORRO T-PHAS 87.27 70 T T 23 52 17.0
SNR=10.0
BC3 Big Chuckawall 87.43 55⇓P **P** **22 15 57.1 -1.7**
baz=88,SNR=26
SHOC Shoshone 87.47 52⇑P **P** **22 15 56.3 -2.6**
baz=88,SNR=12
PALK Pallekele 87.56 278 P P 22 16 03.3 +3.5
SNR=43
PALK Pallekele 87.56 278 P P 22 16 02.9 +3.1
comp=Z,3µm,1.1s,SNR=10
PALK Pallekele 87.56 278 P P 22 16 04.5 +4.7
comp=Z,589nm,1.2s,comp=Z,32µmcomp=Z,495µm
PALK Pallekele 87.56 278 eP **P** **22 16 00.1 +0.3**
comp=Z,774nm,1.1s
PALK ePP **PP** **22 19 21.8 -3.4**
VIS Vishakhapatnam 87.56 289 eP **P** **22 15 59.3 -0.3**
VIS AMB AMB 22 16 27.6
comp=Z,567nm,2.8s
JIRN Jiri 87.59 299 eP **P** **22 15 59.6 -0.5**
comp=Z,2µm,1.1s
TUQ Turquoise Moun 87.60 53⇓P **P** **22 15 58.4 -1.2**
baz=88,SNR=37
GMRC Granite Mounta 87.61 54⇓P **P** **22 15 58.0 -1.7**
baz=88,SNR=39
JCW Jim Creek 87.73 39 P **P** **22 16 00.9 +1.1**
GLA Glamis 87.76 55 eP **P** **22 15 59.8 -0.5**
GLA pmax pmax
comp=Z,286nm,0.9s
GLA Glamis 87.76 55 eP **P** **22 15 59.8 -0.5**
comp=Z,286nm,0.9s
GLA Glamis 87.76 55⇓P **P** **22 15 59.2 -1.2**
baz=88,SNR=39
DLBC Dease Lake 87.80 28⇑ iP **P** **22 15 58.6 -1.4**
DLBC ePP **PP** **22 19 30.8 +4.6**
IRM Iron Mountain 87.83 54⇑P **P** **22 15 58.5 -2.1**
baz=88,SNR=48
WVOR Wild Horse Val 87.84 46⇑ iP P 22 15 57.8 -2.8
WVOR e 22 19 28.2
WVOR eS **S** **22 26 38.3 -3.0**
WVOR pmax pmax
comp=Z,377nm,1.4s
WVOR Wild Horse Val 87.84 46⇑ iP P 22 15 57.8 -2.8
comp=Z,377nm,1.4s
WVOR ePP **PP** **22 19 28.2 +1.2**
WVOR eS **S** **22 26 38.2 -3.0**
GUN Gumba 87.93 299 eP **P** **22 16 01.1 -0.6**
comp=Z,3µm,1.1s
TIXI Tiksi 88.17 349ce P **P** **22 15 59.8 -1.5**
TIXI pmax pmax
comp=Z,197nm,1.3s
TIXI MLR MLR
comp=Z,270µm,18.0s
BMN Battle Mountai 88.18 48 eP P 22 15 59.6 -2.8
BMN pmax pmax
comp=Z,76nm,1.5s
BMN Battle Mountai 88.18 48 eP P 22 15 59.6 -2.8
comp=Z,76nm,1.5s
TBM Table Mountain 88.19 41 P **P** **22 16 05.0 +2.9**
Y12C Blythe 88.20 55⇓P **P** **22 15 59.7 -2.6**
baz=88,SNR=38
PKI Pulchoki 88.24 299 eP **P** **22 16 02.3 -0.8**
comp=Z,2µm,0.9s
KKN Kakani 88.41 299 eP **P** **22 16 03.1 -0.7**
comp=Z,2µm,0.8s
DMN Daman 88.51 299 eP **P** **22 16 03.8 -0.5**
ETW Entiat 88.51 40 P **P** **22 16 03.8 +0.1**
SHPR Sheep Range 88.51 52 eP **P** **22 16 05.3 +1.3**
comp=Z,307nm,1.3s
SHPR ePP **PP** **22 19 35.6 +3.0**
113A Mohawk Valley, 88.53 56⇓P **P** **22 16 01.8 -2.1**
baz=89,SNR=17
HAWA Hanford 88.59 42⇑ iP **P** **22 16 02.7 -1.2**
comp=Z,221nm,1.2s
HAWA ePP **PP** **22 19 30.1 -2.7**
HAWA eS S 22 26 39.1 -8.9
PDMCI Parker Dam,Lak 88.67 54⇑P **P** **22 16 02.9 -1.6**
baz=89,SNR=63
R11A Troy Canyon, C 88.74 50⇑ iP **P** **22 16 02.8 -2.2**
R11A ePP PP 22 19 41.7 +7.3
R11A Troy Canyon, C 88.74 50⇓P **P** **22 16 04.3 -0.8**
baz=89,SNR=23
WTV Waterville 88.78 40 P **P** **22 16 06.1 +1.3**
GKN Gorkha 89.01 299 eP **P** **22 16 05.4 -1.1**
214A Organ Pipe Nat 89.08 57⇑P **P** **22 16 05.9 -0.7**
baz=89,SNR=52
W13A Hualapai Mount 89.09 54⇓P **P** **22 16 06.0 -0.9**
baz=89,SNR=46
Z14A Wintersburg 89.36 56⇓P **P** **22 16 05.7 -2.2**
baz=89,SNR=16
Y14A Wickenburg 89.47 55⇓P **P** **22 16 06.2 -2.2**
baz=90,SNR=22
BMO Blue Mountains 89.55 44⇑ iP **P** **22 16 06.5 -2.1**
BMO pmax pmax
comp=Z,230nm,1.4s
BMO Blue Mountains 89.55 44⇑ iP **P** **22 16 06.5 -2.1**
comp=Z,230nm,1.4s
BMO ePP **PP** **22 19 43.0 +2.4**
BMO eS **S** **22 26 56.7 -0.5**
HVS Khovu-Aksy 89.57 323c iP **P** **22 16 07.7 -0.8**

HVS pmax pmax
comp=Z,2µm,1.3s
HVS MLR MLR
comp=Z,512µm,18.0s
ELK Elko 89.72 48⇑*iP* P 22 16 06.8 -2.9
comp=Z,252nm,0.5s
KOLN Koldanda 89.84 298 *eP* P 22 16 09.0 -1.5
comp=Z,714nm,0.8s
DANN Dangsing 89.85 299 *eP* P 22 16 09.4 -1.2
comp=Z,2µm,0.8s
SYO Syowa Base 90.10 197⇓*eP* P 22 16 07.0 -3.6
MFID Camas Ranch 90.11 45 ⇑P P 22 16 10.1 -1.1
baz=90,SNR=34
CCUT Cedar City 90.19 52⇑*iP* P 22 16 10.8 -1.2
comp=Z,224nm,1.2s
CCUT *ePP* **PP 22 19 48.7 +2.6**
U15A North Rim 90.71 53 ⇑P P 22 16 12.9 -1.5
baz=91,SNR=53
NEW Newport 90.77 40⇑*iP* P 22 16 11.8 -2.3
comp=Z,86nm,0.9s
NEW *ePP* PP 22 19 59.1 +9.0
NEW *eS* **S 22 27 07.0 -1.2**
NEW Newport 90.77 40 ⇑P P 22 16 12.6 -1.5
baz=91,SNR=28
NEW Newport 90.77 40 P P 22 16 15.5 +1.4
comp=Z,65nm,0.9s,baz=228,slow=3.8,SNR=33
TUC Tucson 90.83 57⇑*iP* P 22 16 13.3 -1.6
TUC *eS* **S 22 27 14.7 +5.1**
TUC pmax pmax
comp=Z,117nm,0.9s
TUC Tucson 90.83 57⇑*iP* P 22 16 13.2 -1.6
comp=Z,117nm,0.9s
TUC *eS* **S 22 27 14.7 +5.1**
X16A Lo Mia Camp, P 90.85 55 ⇑P P 22 16 14.6 -0.4
baz=91,SNR=61
WMQ Urumqi 91.02 315 P P 22 16 14.9 -0.5
WMQ pP **pP 22 16 25.5 -0.7**
WMQ sP **sP 22 16 29.4 -0.6**
WMQ PP **PP 22 19 53.1 +0.8**
WMQ SKS **SKSac 22 26 42.2 -2.9**
WMQ S **S 22 27 06.6 -4.1**
WMQ sS **sS 22 27 24.2 -4.4**
WMQ SS **SS 22 33 12.9 -2.2**
WMQ AMB AMB
comp=Z,750nm,1.5s
WMQ AMB AMB
comp=Z,16µm,5.4s
WMQ LR LR
comp=Z,164µm,21.2s
WMQ LR LR
comp=Z,255µm,19.8s
WMQ LR LR
comp=Z,288µm,25.6s
HLID Hailey 91.13 46 *eP* P 22 16 15.0 -1.1
comp=Z,119nm,1.0s
HLID *eS* **S 22 27 12.1 0.0**
HLID LR LR
comp=Z,99µm,19.7s
HLID Hailey 91.13 46 ⇑P P 22 16 13.8 -2.3
baz=91,SNR=26
WUAZ Wupatki 91.19 54⇑*iP* P 22 16 16.3 -0.2
comp=Z,144nm,0.9s
WUAZ Wupatki 91.19 54 ⇓P P 22 16 15.7 -0.9
baz=91,SNR=30
DUG Dugway 91.33 49⇑*iP* P 22 16 15.4 -1.7
DUG *eS* **S 22 27 14.0 0.0**
DUG pmax pmax
comp=Z,453nm,1.7s
DUG MLR MLR
comp=Z,63µm,22.8s
DUG Dugway 91.33 49⇑*iP* P 22 16 15.3 -1.7
comp=Z,453nm,1.7s
DUG *eS* **S 22 27 14.0 0.0**
DUG LR LR
comp=Z,63µm,22.8s
DUG Dugway 91.33 49 ⇓P P 22 16 16.3 -0.8
baz=91
BGU Big Grassy Mou 91.37 48⇑*iP* P 22 16 16.0 -1.2
comp=Z,385nm,1.6s
TRD Trivandrum 91.45 278 *eP* P 22 16 18.4 +0.4
TRD AMB AMB 22 16 30.4
comp=Z,292nm,2.4s
TRD *i* x x 22 26 35.4
INK Inuvik 91.53 19 *eP* P 22 16 14.2 -2.9
comp=Z,45nm,1.1s
INK Inuvik 91.53 19 P P 22 16 19.4 +2.3
comp=Z,6.4nm,0.9s,baz=183,slow=8.6,SNR=4.3
HVU Hansel Valley 91.79 48⇑*iP* P 22 16 18.2 -1.0
HVU *e* 22 19 59.2
HVU pmax pmax
comp=Z,307nm,1.1s
HVU Hansel Valley 91.79 48⇑*iP* P 22 16 18.1 -1.0
comp=Z,307nm,1.1s
HVU *ePP* **PP 22 19 59.1 +0.6**
NLU North Lily Min 91.81 50⇑*iP* P 22 16 17.4 -2.0
comp=Z,104nm,1.1s
NLU *ePP* **PP 22 20 02.2 +3.4**
319A Douglas 91.84 58 ⇓P P 22 16 18.7 -0.9
baz=92,SNR=80
SPUT South Promonto 91.90 48⇑*iP* P 22 16 18.0 -1.7
comp=Z,346nm,1.6s
SPUT *ePP* **PP 22 19 57.3 -2.2**
HYB Hyderabad 91.91 287 *iP* P 22 16 18.5 -1.6
HYB *eSKS* **SKSac 22 26 47.5 -3.7**
HYB *eS* **S 22 27 18.0 -1.8**
HYB Hyderabad 91.91 287 *eP* P 22 16 21.2 +1.1
X18A Snowflake 92.07 55 ⇑P P 22 16 19.2 -1.5
baz=92,SNR=52
MPU Maple Canyon 92.16 50 *eP* P 22 16 19.8 -1.2
comp=Z,125nm,1.1s
Q16A Castle Valley 92.22 51⇑*iP* P 22 16 19.8 -1.5
Q16A *ePP* PP 22 19 57.1 -4.9
Q16A Castle Valley 92.22 51 ⇓P P 22 16 21.4 +0.1
baz=92
DGAR Diego Garcia 92.27 262⇓*eP* P 22 16 21.2 -0.6
NGP Nagpur 92.29 291 *eP* P 22 16 20.8 -0.9
W18A Petrified Fore 92.38 55⇑*iP* P 22 16 18.3 -3.8
W18A *ePP* PP 22 20 11.7 +8.3
W18A Petrified Fore 92.38 55 ⇓P P 22 16 20.6 -1.5
baz=92,SNR=13
MSO Missoula 92.39 43 ⇑P P 22 16 20.6 -1.2
baz=92
320A Kipp Ranch, An 92.46 59 ⇑P P 22 16 21.0 -1.5
baz=92,SNR=61
SWMT Swartz Lake 92.54 42 *eP* P 22 16 21.7 -0.8
comp=Z,37nm,1.0s
220A Playas Peak, P 92.59 58 ⇑P P 22 16 21.1 -2.0
baz=93,SNR=12
120A U Bar Ranch, L 92.66 57 ⇑P P 22 16 22.4 -1.0
baz=93,SNR=14
SRU San Rafael 92.75 51⇑*iP* P 22 16 21.0 -2.7
SRU pmax pmax
comp=Z,142nm,1.3s
SRU San Rafael 92.75 51⇑*iP* P 22 16 21.0 -2.7
comp=Z,142nm,1.3s
Z20A Nine Sixteen R 92.82 57 ⇑P P 22 16 22.2 -2.0
baz=93,SNR=18
CHMT Chamberlain Mo 92.86 43 *eP* P 22 16 24.0 -0.1
comp=Z,58nm,1.2s
LRM Limekiln Ridge 93.10 44 *eP* P 22 16 23.9 -1.3
comp=Z,657nm,1.1s
PTH Pithoragarh 93.15 299 *ex* P 22 16 17.8 -8.0
PTH *ex* x 22 19 23.3
Y20A Horse Springs, 93.18 56 ⇑P P 22 16 22.8 -3.1
baz=93,SNR=24
X20A Quemado 93.23 55 ⇑P P 22 16 24.6 -1.6
baz=93,SNR=12
221A Mesquite Ranch 93.23 58 ⇑P P 22 16 24.6 -1.5
baz=93
M17A Scullys Gap (B 93.24 48 ⇑P P 22 16 23.7 -2.3
baz=93,SNR=17
RRI2 Red Ridge 93.24 46⇑*eP* P 22 16 23.1 -2.9
comp=Z,162nm,1.2s
RRI2 *ePP* **PP 22 20 13.4 +3.4**
121A Cookes Peak, D 93.35 58 ⇓P P 22 16 22.0 -4.6
baz=93,SNR=29
W20A Ramah 93.37 55 ⇑P P 22 16 24.1 -2.6
baz=93,SNR=23
KAAM Kaadhehdhoo 93.53 270 P P 22 16 31.3 +3.7
comp=Z,476nm,1.8s,comp=Z,21µmcomp=Z,497µm
TPAW Teton Pass 93.54 46⇑*eP* P 22 16 24.6 -2.8
comp=Z,193nm,1.6s
V20A Brimhall 93.55 54 ⇑P P 22 16 27.0 -0.5
baz=94
REDW Red Top Meadow 93.58 46⇑*iP* P 22 16 25.0 -2.4
comp=Z,170nm,1.4s

PMSA Palmer Station 93.60 161 *eP* P 22 16 26.6 -0.3
comp=Z,599nm,1.5s
PMSA Palmer Station 93.60 161 P P 22 16 27.7 +0.8
comp=Z,34nm,0.9s,baz=204,slow=3.7,SNR=6.5
PMSA LR LR 22 52 58.8
comp=Z,45µm,20.2s,baz=53,slow=32
Z21A St. Cloud Mine 93.62 57 ⇑P P 22 16 24.3 -3.6
baz=94,SNR=24
U20A Newcomb 93.64 54 ⇑P P 22 16 25.9 -2.0
baz=94,SNR=8.7
IMW Indian Meadow 93.65 46⇑*eP* P 22 16 27.1 -0.8
comp=Z,72nm,1.1s
SNOW Snow King Moun 93.67 46 *eP* P 22 16 26.3 -1.7
comp=Z,81nm,1.3s
MOOW Moose Ponds 93.75 46⇑*eP* P 22 16 26.0 -2.3
comp=Z,1µm,1.3s
Y21A Point of Rocks 93.77 56 ⇑P P 22 16 25.0 -3.6
baz=94,SNR=32
X21A Alamocita Cree 93.78 56 ⇓P P 22 16 26.0 -2.6
baz=94,SNR=12
X21A ⇓S **S 22 27 40.0 +3.8**
baz=94
L18A Fontenelle, Gr 93.81 48 ⇑P P 22 16 26.1 -2.5
baz=94
LOHW Long Hollow 93.81 46⇑*eP* P 22 16 27.3 -1.2
comp=Z,86nm,1.4s
222A Williams Famil 93.82 58 ⇑P P 22 16 25.7 -3.0
baz=94,SNR=9.5
YMR Madison River 93.82 45⇑*eP* P 22 16 27.0 -1.6
comp=Z,101nm,1.1s
YMR *ePP* PP 22 20 09.3 -5.3
MVCO Mesa Verde 93.85 53 ⇑P P 22 16 28.4 -0.5
baz=94,SNR=11
I17A Pilgrim Ck. 93.91 46 ⇑P P 22 16 27.6 -1.4
baz=94
PV01 Paradox Valley 94.01 52 *eP* P 22 16 29.8 +0.2
comp=Z,199nm,1.2s
H17A Grant Village 94.02 45 ⇓P P 22 16 28.6 -0.9
baz=94,SNR=9.2
122A Conniff Cattle 94.03 58 ⇓P P 22 16 28.2 -1.5
baz=94
P19A Cripple Cowboy 94.04 50 ⇓P P 22 16 28.2 -1.5
baz=94,SNR=13
W21A San Fidel 94.05 55 ⇓P P 22 16 27.8 -2.1
baz=94
AKL Akola 94.05 290 *eP* P 22 16 30.0 +0.1
AKL *i* x x 22 27 31.4
O19A Miners Draw (B 94.09 50 ⇑P P 22 16 27.9 -1.9
baz=94
S20A Disappointment 94.10 52 ⇓P P 22 16 28.5 -1.6
baz=94,SNR=14
R20A Redvale 94.17 52 ⇑P P 22 16 28.8 -1.5
baz=94,SNR=17
Z22A Elephant Butte 94.18 57 ⇓P P 22 16 28.9 -1.5
baz=94,SNR=24
LKWY Lake 94.19 45⇑*eP* P 22 16 31.6 +1.3
LKWY *e* 22 20 19.3
LKWY *eS* **S 22 27 38.9 -0.5**
LKWY pmax pmax
comp=Z,35nm,1.0s
LKWY MLR MLR
comp=Z,179µm,20.3s
LKWY Lake 94.19 45⇑*eP* P 22 16 31.6 +1.3
comp=Z,35nm,1.0s
LKWY *ePP* **PP 22 20 19.3 +1.9**
LKWY *eS* **S 22 27 38.9 -0.5**
LKWY LR LR
comp=Z,179µm,20.3s
V21A Milan 94.21 54 ⇑P P 22 16 27.5 -3.1
baz=94
BHPL Bhopal 94.22 293 *eP* P 22 16 28.9 -1.8
BHPL AMB AMB 22 16 59.3
comp=Z,296nm,1.9s
LAZ Ladron 94.29 56 *eP* P 22 16 33.8 +2.8
comp=Z,19nm,0.9s
U21A Nageezi 94.33 54 ⇑P P 22 16 27.5 -3.6
baz=94,SNR=44
Y22A Socorro 94.33 56 ⇑P P 22 16 29.1 -2.1
baz=94,SNR=21
M19A Rock Springs 94.35 49 ⇓P P 22 16 28.6 -2.5
baz=94
BW06 Boulder Array 94.35 47⇑*iP* P 22 16 28.8 -2.3
comp=Z,165nm,1.6s
BW06 *ePP* PP 22 20 12.9 -5.8
BW06 *eS* **S 22 27 40.1 -0.7**
BW06 LR LR
comp=Z,37µm,17.6s
PDAR Pinedale Array 94.35 47 P P 22 16 32.5 +1.4
PDAR PKKPbc **PKKPbc 22 33 35.2 +2.7**
PDAR P'P' 22 41 47.1
PDAR Pinedale Array 94.35 47 P P 22 16 32.5 +1.4
comp=Z,3.0nm,0.5s,baz=200,slow=2.2,SNR=20
PDAR PKKPbc **PKKPbc 22 33 35.2 +2.7**
comp=Z,23nm,0.8s,baz=85,slow=6.6,SNR=4.5
PDAR PKPPKP **P'P'df 22 41 47.1 +5.0**
comp=Z,5.8nm,0.9s,baz=122,slow=3.4,SNR=4.8
223A Chaparral, Ant 94.35 58 ⇑P P 22 16 29.7 -1.5
baz=94
Y22D IRIS PASSCAL I 94.40 56 ⇑P P 22 16 30.4 -1.0
baz=94
Q20A Ridgley Place, 94.40 51 ⇓P P 22 16 30.4 -0.9
baz=94,SNR=15
X22A Bernardo 94.42 56 ⇓P P 22 16 30.0 -1.5
baz=94
P20A De Beque 94.45 51 ⇑P P 22 16 29.1 -2.5
baz=94,SNR=26
S21A Coal Bank Pass 94.50 53 ⇑P P 22 16 30.3 -1.7
baz=95,SNR=49
EDM Edmonton 94.52 36⇑*eP* P 22 16 28.6 -2.8
EDM *e* 22 20 20.2
EDM Edmonton 94.52 36⇑*eP* P 22 16 28.6 -2.8
EDM *ePP* **PP 22 20 20.2 +0.7**
T21A Navajo Lake 94.55 53 ⇓P P 22 16 30.0 -2.1
baz=95,SNR=10
123A Bell Site, Whi 94.62 58 ⇓P P 22 16 29.9 -2.5
baz=95
W22A Albuquerque 94.66 55 ⇓P P 22 16 30.5 -2.1
baz=95
Q20A White River Ci 94.71 50 *eP* P 22 16 31.8 -1.0
O20A White River Ci 94.71 50 ⇑P P 22 16 32.3 -0.5
baz=95,SNR=15
H18A Shoshone NF, C 94.72 45 ⇑P P 22 16 31.3 -1.5
baz=95
Z23A Rita Site, Whi 94.78 57 ⇑P P 22 16 31.6 -1.5
baz=95,SNR=11
V22A San Miguel Ran 94.81 54 ⇓P P 22 16 31.2 -2.1
baz=95
J19A Crowheart 94.83 47 ⇑P P 22 16 32.8 -0.4
baz=95
R21A Cimarron 94.84 52 ⇑P P 22 16 31.9 -1.6
baz=95,SNR=37
N20A Spence Gulch, 94.85 49 ⇓P P 22 16 31.4 -2.0
baz=95,SNR=9.0
Q21A Lamborn Mesa, 94.93 51 ⇑P P 22 16 31.2 -2.5
baz=95,SNR=14
U22A Llaves 94.95 54 ⇑P P 22 16 30.8 -3.1
baz=95,SNR=7.9
ANMO Albuquerque 94.96 55⇑*iP* P 22 16 32.1 -1.9
comp=Z,60nm,0.9s
ANMO *ePP* PP 22 20 10.5 -13
ANMO *eS* **S 22 27 45.2 -1.2**
ANMO LR LR
comp=Z,42µm,24.2s
324A Moseley Ranch, 95.02 59 ⇑P P 22 16 32.2 -2.1
baz=95,SNR=16
I19A Meeteetse 95.04 46 ⇑P P 22 16 32.2 -1.9
baz=95,SNR=6.8
T22A Edith 95.05 53 ⇓P P 22 16 31.8 -2.6
baz=95
M20A Sweetwater, Wa 95.05 49 ⇓P P 22 16 32.3 -2.0
baz=95
L20A Wamsutter 95.06 48 ⇑P P 22 16 31.8 -2.5
baz=95,SNR=5.9
Y23A Lovelace Mesa, 95.07 56 ⇓P P 22 16 31.4 -3.1
baz=95,SNR=13
X23A Hourglass Bar 95.10 56 ⇑P P 22 16 31.0 -3.7
baz=95,SNR=15
224A Cornudas Mount 95.12 58 ⇑P P 22 16 32.1 -2.6
baz=95,SNR=24
DDI Dehra Dun 95.15 300 *ex* P 22 16 35.0 +0.2
DDI *eP* **P 22 16 35.7 +0.9**
MNTX Cornudas Mount 95.16 59⇑*iP* P 22 16 34.2 -0.6
comp=Z,18nm,0.8s
MNTX *ePP* **PP 22 20 24.4 -0.6**
P21A Newcastle 95.17 51 ⇑P P 22 16 32.3 -2.6
baz=95,SNR=7.2
SNAA Sanae 95.19 183 *eP* P 22 16 32.2 -2.0

SNAA Sanae 95.19 183 P P 22 16 31.7 -2.4
SNAA Sanae 95.19 183 P P 22 16 31.7 -2.4
comp=Z,71nm,1.0s,baz=182,slow=4.7,SNR=42
SNAA LR LR 22 59 50.0
comp=Z,33µm,18.6s,baz=311,slow=36
H19A Powell 95.19 45 ⇑P P 22 16 31.4 -3.4
baz=95
K20A Yellowstone Ra 95.20 48 ⇑P P 22 16 32.9 -1.9
baz=95
W23A Werner Place, 95.25 55 ⇑P P 22 16 34.2 -1.1
baz=95,SNR=10
S22A 4UR Ranch, Cre 95.26 53 ⇓P P 22 16 34.3 -1.2
baz=95,SNR=26
425A Indio Mountain 95.30 60 ⇓P P 22 16 33.5 -2.1
baz=95
O21A Pagoda 95.30 50 ⇑P P 22 16 32.4 -3.1
baz=95
124A Stringfield Ra 95.31 58 ⇓P P 22 16 33.0 -2.7
baz=95,SNR=7.7
V23A Ortiz Mt. (NFS 95.35 55 ⇑P P 22 16 33.2 -2.6
baz=95,SNR=16
R22A Saguache, Gunn 95.42 52 ⇑P P 22 16 34.5 -1.7
baz=96,SNR=9.4
325A Bean Ranch, Si 95.43 59 ⇓P P 22 16 33.0 -3.2
baz=96,SNR=14
Q22A Crested Butte, 95.44 52 ⇓P P 22 16 35.6 -0.7
baz=96,SNR=35
EGMT Eagleton 95.44 42 ⇓P P 22 16 33.5 -2.3
baz=96
SMCO Snowmass 95.46 51⇑*iP* P 22 16 33.9 -2.6
comp=Z,47nm,0.9s
U23A El Rito 95.46 54 ⇓P P 22 16 33.7 -2.6
baz=96,SNR=10
MK31 Makanchi Array 95.47 317⇑*eP* P 22 16 35.1 -0.7
MK31 Makanchi Array 95.47 317⇑*eP* P 22 16 35.1 -0.7
MK31 *ePP* PP 22 20 16.8 -10
MKAR Makanchi Array 95.47 317 P P 22 16 34.7 -1.2
MKAR 22 20 26.5
MKAR Makanchi Array 95.47 317 P P 22 16 34.6 -1.2
MKAR PP **PP 22 20 26.5 -0.5**
MKAR Makanchi Array 95.47 317 P P 22 16 34.6 -1.2
comp=Z,186nm,1.0s,baz=97,slow=6.2,SNR=160
MKAR PP **PP 22 20 26.5 -0.5**
comp=Z,35nm,1.1s,baz=106,slow=8.9,SNR=3.7
F19A Roth Farm, Mol 95.49 44 ⇓P P 22 16 34.2 -1.8
baz=96
Z24A Sheeppen Canyo 95.51 57 ⇑P P 22 16 34.4 -2.2
baz=96,SNR=9.6
NDI New Delhi 95.53 298 *ex* P 22 16 32.0 -4.5
J20A Shoshoni 95.54 47 ⇑P P 22 16 34.5 -1.9
baz=96
Y24A Capitan 95.57 57 ⇓P P 22 16 34.2 -2.7
baz=96,SNR=29
ZAA0 Zalesovo Array 95.59 324⇑*eP* P 22 16 34.4 -1.7
ZAA0 *ePP* **PP 22 20 23.9 -3.8**
ZALV Zalesovo Beam 95.59 324 P P 22 16 34.7 -1.5
ZALV Zalesovo Beam 95.59 324 P P 22 16 34.6 -1.5
ZALV PP PP 22 20 36.4 +8.6
ZALV Zalesovo Beam 95.59 324 P P 22 16 34.6 -1.5
comp=Z,119nm,0.9s,baz=112,slow=4.6,SNR=104
ZALV PP PP 22 20 36.4 +8.6
comp=Z,19nm,0.9s,baz=107,slow=5.0,SNR=3.8
I20A Worland 95.63 46 ⇓P P 22 16 33.9 -2.9
baz=96
M21A Separation Pea 95.68 49 ⇓P P 22 16 35.1 -2.1
baz=96,SNR=7.4
X24A Lazy VL Ranch, 95.70 56 ⇑P P 22 16 34.3 -3.2
baz=96
225A Deer Hill, Car 95.71 58 ⇑P P 22 16 35.8 -1.7
baz=96
P22A Eagle 95.71 51 ⇑P P 22 16 35.3 -2.1
baz=96,SNR=15
E19A Rath Farm, Rou 95.73 44 ⇓P P 22 16 35.3 -1.8
baz=96
T23A Casias Ranch, 95.73 53 ⇑P P 22 16 34.9 -2.7
baz=96
626A Big Bend Ranch 95.77 61 ⇓P P 22 16 34.6 -3.1
baz=96,SNR=12
D19A Cripps Ranch, 95.82 43 ⇑P P 22 16 36.7 -0.8
baz=96,SNR=23
C19A Slack Wire Ran 95.84 42 ⇓P P 22 16 35.8 -1.8
baz=96
H20A Greybull 95.84 46 ⇓P P 22 16 35.8 -1.9
baz=96
G20A Bridger 95.85 45 ⇓P P 22 16 36.9 -0.9
baz=96
W24A Lazy 6 Ranch, 95.86 55 ⇓P P 22 16 32.9 -5.2
baz=96,SNR=22
S23A Nye Farm, Mont 95.90 53 ⇓P P 22 16 34.1 -4.2
baz=96
526A Mary Lane Ranc 95.91 61 ⇑P P 22 16 34.7 -3.7
baz=96
GOA Goa 95.93 284 *eP* P 22 16 38.5 0.0
GOA AMB AMB 22 16 44.7
comp=Z,165nm,3.0s
125A Gardner Draw, 95.95 58 ⇓P P 22 16 35.9 -2.6
baz=96,SNR=8.0
K21A Alcova 95.98 48 ⇑P P 22 16 36.5 -2.0
baz=96,SNR=7.4
O22A Kremmling 95.98 50 ⇓P P 22 16 36.0 -2.7
baz=96,SNR=22
J21A Lysite 95.99 47 ⇓P P 22 16 36.0 -2.5
baz=96
F20A Billings 96.02 45 ⇓P P 22 16 36.1 -2.4
baz=96
Z25A Roswell 96.03 57 ⇓P P 22 16 36.2 -2.6
baz=96
SMLA Simla 96.06 300 *i* P P 22 16 37.8 -1.0
SMLA AMB AMB 22 16 43.9
comp=Z,339nm,1.5s
SMLA *i* x x 22 27 34.5
B19A Brinkman Farms 96.07 42 ⇓P P 22 16 36.8 -1.7
baz=96
V24A Rampart Ranch, 96.07 55 ⇓P P 22 16 35.4 -3.7
baz=96,SNR=11
426A McDonald Obser 96.08 60 ⇓P P 22 16 36.0 -3.3
baz=96,SNR=11
GDL2 Guadalupe Moun 96.11 58 *eP* P 22 16 41.2 +2.0
comp=Z,11nm,0.8s
TXAR Lajitas Array 96.13 61 P P 22 16 41.1 +1.8
TXAR PKKPbc **PKKPdf 22 33 30.7 +2.4**
TXAR Lajitas Array 96.13 61 P P 22 16 41.1 +1.8
comp=Z,13nm,0.8s,baz=222,slow=5.3,SNR=24
TXAR PKKPbc **PKKPdf 22 33 30.7 +2.4**
comp=Z,9.6nm,0.8s,baz=88,slow=2.9,SNR=3.9
R23A Moffat 96.13 52 ⇓P P 22 16 36.7 -2.7
baz=96,SNR=11
VNA2 Neumayer--Watz 96.14 182 *eP* P 22 16 36.8 -1.6
Y25A Mesa, Roswell 96.18 57 ⇑P P 22 16 38.9 -0.6
baz=96,SNR=14
E20A Meyer Farm, Mu 96.18 44 ⇓P P 22 16 37.8 -1.3
baz=96
N22A Wattenberg Ran 96.19 50 ⇑P P 22 16 37.9 -1.6
baz=96,SNR=13
I21A Big Trails, Te 96.20 47 ⇑P P 22 16 36.9 -2.5
baz=96,SNR=5.8
U24A Moreno Valley 96.20 54 ⇑P P 22 16 38.0 -1.7
baz=96
M22A Cedar Creek Ra 96.20 49 ⇓P P 22 16 36.5 -3.1
baz=96,SNR=10
226B Tecolote Peak, 96.25 59 ⇓P P 22 16 35.7 -4.1
baz=96,SNR=13
T24B San Luis 96.25 54 ⇑P P 22 16 38.2 -1.7
baz=96
326A Caldwell Ranch 96.25 59 ⇑P P 22 16 37.2 -2.6
baz=96
Q23A Hartsel 96.27 52 ⇑P P 22 16 36.8 -3.3
baz=96,SNR=12
SDCO Great Sand Dun 96.29 53⇑*eP* P 22 16 38.3 -1.8
comp=Z,211nm,1.3s
SDCO *ePP* **PP 22 20 33.5 -0.5**
SDCO *eS* **S 22 27 57.6 -0.4**
A19A Klindworth Far 96.30 41 ⇓P P 22 16 37.8 -1.8
baz=96
D20A Manuel Ranch, 96.30 43 ⇓P P 22 16 37.9 -1.8
baz=96
X25A Clemmons Ranch 96.32 56 ⇓P P 22 16 38.0 -2.1
baz=96
527A Woodward Ranch 96.33 61 ⇑P P 22 16 37.1 -3.2
baz=96,SNR=11
P23A Jefferson 96.36 51 ⇓P P 22 16 38.2 -2.3
baz=96
627A Terlingua Ranc 96.39 61 ⇓P P 22 16 37.3 -3.2
baz=96,SNR=16
YKA Yellowknife Ar 96.39 27 P P 22 16 40.4 +0.8
YKA Yellowknife Ar 96.39 27 P P 22 16 40.3 +0.8
comp=Z,24nm,0.6s,baz=258,slow=4.7,SNR=21

YKW3	**Yellowknife Ar**	96.41	27	⇑	*i*P		**P**	22 16 37.0	-2.7
	comp=Z,0.6nm,0.8s								
YKW3					*e*PP		**PP**	22 20 30.5	-3.3
VNA1	**Neumayer--Stat**	96.44	182		*e*P		**P**	22 16 38.2	-1.6
L22A	**Ellis Ranch, M**	96.45	48	⇓	P		**P**	22 16 38.6	-2.1
	baz=96								
O23A	**Lake Granby, G**	96.47	50	⇓	P		P	22 16 37.6	-3.2
	baz=96,SNR=6.4								
126A	**Clayton Basin,**	96.48	58	⇓	P		**P**	22 16 38.8	-2.1
	baz=96								
S24A	**Houchin Ranch,**	96.50	53	⇓	P		P	22 16 37.3	-3.8
	baz=97,SNR=14								
K22A	**Casper**	96.51	48	⇓	P		P	22 16 37.8	-3.0
	baz=97								
C20A	**Veseth Ranch,**	96.52	43	⇓	P		P	22 16 37.3	-3.3
	baz=97								
POO	**Poona**	96.52	287	⇓	*i*P		**P**	22 16 39.0	-2.3
	comp=Z,2µm,2.0s								
POO					*e*P		**P**	22 16 40.8	-0.5
POO					*e*PCP		**PcP**	22 16 42.0	+0.6
POO					AMB		AMB	22 16 51.9	
	comp=Z,461nm,0.7s								
H21A	**Big Horn, Sher**	96.54	46	⇓	P		**P**	22 16 39.5	-1.4
	baz=97								
G21A	**Lodge Grass**	96.55	45	⇑	P		**P**	22 16 38.5	-2.4
	baz=97								
N23A	**Red Feather La**	96.58	50	⇓	P		P	22 16 38.2	-3.2
	baz=97,SNR=18								
ISCO	**Idaho Springs**	96.61	51	⇑	*e*P		**P**	22 16 40.9	-0.7
ISCO					*e*			22 20 42.1	
ISCO					*e*S		**S**	22 28 00.3	-0.5
ISCO					pmax		pmax		
	comp=Z,24nm,0.9s								
ISCO	**Idaho Springs**	96.61	51	⇑	*e*P		**P**	22 16 40.9	-0.7
	comp=Z,24nm,0.9s								
ISCO					*e*PP		PP	22 20 42.1	+5.7
ISCO					*e*S		**S**	22 28 00.3	-0.5
ISCO	**Idaho Springs**	96.61	51	⇓	P		**P**	22 16 40.3	-1.2
	baz=97,SNR=16								
V25A	**Rancho No Teng**	96.61	55	⇓	P		P	22 16 38.3	-3.2
	baz=97,SNR=15								
W25A	**X Bar L Ranch,**	96.62	56	⇑	P		**P**	22 16 40.4	-1.1
	baz=97,SNR=12								
Z26A	**Caprock**	96.63	57	⇓	P		**P**	22 16 40.0	-1.6
	baz=97,SNR=13								
427A	**Hayter Ranch,**	96.65	60	⇑	P		P	22 16 37.5	-4.2
	baz=97								
B20A	**Solberg Farm,**	96.66	42	⇑	P		P	22 16 37.9	-3.3
	baz=97								
327A	**Balmorhea Ranc**	96.67	59	⇓	P		P	22 16 38.6	-3.1
	baz=97								
J22A	**Midwest**	96.69	47	⇓	P		**P**	22 16 39.1	-2.5
	baz=97								
R24A	**Sanders Place,**	96.69	52	⇓	P		P	22 16 38.2	-3.7
	baz=97								
NVS	**Novosibirsk**	96.70	325		*i* P		P	22 16 37.9	-3.3
NVS					*e*			22 27 19.3	
NVS					pmax		pmax		
	comp=Z,1µm,2.4s								
NVS					pmax		pmax		
	comp=N,300nm,2.5s								
NVS					pmax		pmax		
	comp=E,550nm,2.2s								
F21A	**Absaloka Mine,**	96.73	45	⇓	P		P	22 16 38.8	-2.9
	baz=97								
I22A	**9 Mile Ranch,**	96.78	47	⇓	P		**P**	22 16 40.1	-2.0
	baz=97								
Q24A	**Divide**	96.80	52	⇓	P		P	22 16 39.2	-3.3
	baz=97,SNR=13								
A20A	**Cobblestone Ra**	96.82	42	⇑	P		**P**	22 16 39.6	-2.3
	baz=97								
628A	**Black Gap, Mar**	96.82	61	⇑	P		P	22 16 38.8	-3.6
	baz=97,SNR=12								
Y26A	**Elida**	96.89	57	⇑	P		**P**	22 16 41.1	-1.6
	baz=97,SNR=8.2								
U25A	**Circle Dot Ran**	96.89	54	⇑	P		**P**	22 16 41.1	-1.7
	baz=97,SNR=5.8								
E21A	**Keefer Ranch,**	96.90	44	⇓	P		**P**	22 16 41.6	-0.8
	baz=97								
227A	**Bennet, Jal**	96.96	59	⇑	P		P	22 16 39.4	-3.6
	baz=97								
L23A	**Garrett**	97.00	49	⇑	P		**P**	22 16 42.1	-1.1
	baz=97								
DHRM	**DHARAMSHALA**	97.00	301		*e*P		**P**	22 16 42.2	-1.2
DHRM					AMB		AMB	22 17 05.5	
	comp=Z,356nm,1.4s								
H22A	**Clearmont**	97.02	46	⇑	P		P	22 16 40.1	-3.0
	baz=97								
X26A	**CR and CF Fran**	97.02	56	⇓	P		**P**	22 16 41.2	-2.1
	baz=97								
T25A	**Trinidad**	97.03	54	⇑	P		**P**	22 16 42.2	-1.2
	baz=97,SNR=7.8								
127A	**Arkansas Junct**	97.03	58	⇑	P		P	22 16 38.7	-4.7
	baz=97,SNR=10.0								
D21A	**La Casta Ranch**	97.06	43	⇑	P		**P**	22 16 40.8	-2.4
	baz=97								
O24A	**Longmont**	97.08	51	⇑	P		**P**	22 16 41.9	-1.6
	baz=97								
P24A	**Kohler Place,**	97.09	51	⇓	P		**P**	22 16 42.0	-1.6
	baz=97								
S25A	**Robets Cordova**	97.11	53	⇓	P		**P**	22 16 42.1	-1.6
	baz=97,SNR=13								
C21A	**Desert Coulee**	97.14	43	⇓	P		**P**	22 16 41.1	-2.3
	baz=97								
W26A	**Owens Ranch, T**	97.15	56	⇑	P		**P**	22 16 43.8	-0.1
	baz=97,SNR=10								
K23A	**Bowen Ranch, D**	97.18	48	⇑	P		**P**	22 16 41.8	-2.0
	baz=97								
G22A	**Birney**	97.18	45	⇑	P		**P**	22 16 41.3	-2.4
	baz=97								
428A	**Kincaid Ranch,**	97.23	60	⇓	P		**P**	22 16 41.6	-2.7
	baz=97								
328A	**Wristen Ranch,**	97.25	60	⇑	P		**P**	22 16 41.7	-2.6
	baz=97								
V26A	**Tequesquite Ra**	97.27	55	⇑	P		P	22 16 40.2	-4.2
	baz=97								
Z27A	**Tatum**	97.27	58	⇑	P		P	22 16 40.8	-3.7
	baz=97								
R25A	**Fountain Ranch**	97.31	53	⇑	P		P	22 16 41.5	-3.1
	baz=97								
B21A	**Ellsworth Farm**	97.32	42	⇑	P		P	22 16 41.4	-2.8
	baz=97								
J23A	**Dilts Ranch, B**	97.35	47	⇑	P		**P**	22 16 42.1	-2.5
	baz=97								
N24A	**Carr**	97.36	50	⇓	P		**P**	22 16 42.1	-2.6
	baz=97								
U26A	**Atchley Ranch,**	97.41	54	⇓	P		P	22 16 41.4	-3.7
	baz=98								
Y27A	**Causey**	97.42	57	⇑	P		P	22 16 40.4	-4.7
	baz=98,SNR=8.8								
A21A	**Bergtoll Ranch**	97.48	42	⇓	P		**P**	22 16 43.6	-1.3
	baz=98								
Q25A	**Bedland, Calha**	97.48	52	⇑	P		P	22 16 40.2	-5.2
	baz=98,SNR=8.4								
LAO	**LASA Array**	97.51	44	⇑	*e*P		**P**	22 16 42.4	-2.7
	comp=Z,72nm,1.2s								
LAO					*e*S		**S**	22 28 06.8	-0.9
529A	**Stev Forest Ra**	97.51	61	⇑	P		P	22 16 42.4	-3.2
	baz=98								
M24A	**Cheyenne**	97.52	49	⇑	P		**P**	22 16 43.9	-1.6
	baz=98								
I23A	**Meade Ranch, G**	97.52	47	⇓	P		**P**	22 16 44.9	-0.5
	baz=98								
THN	**Thein Dam**	97.52	301		*ex*		P	22 16 40.0	-5.4
THN					*ex*		x	22 21 05.5	
228A	**UT Block 9, Go**	97.57	59	⇓	P		P	22 16 40.6	-5.2
	baz=98,SNR=10								
X27A	**F and S Farms,**	97.61	56	⇑	P		**P**	22 16 43.8	-2.2
	baz=98								
D22A	**Cohagen**	97.62	43	⇑	P		**P**	22 16 44.3	-1.3
	baz=98								
E22A	**Miles City**	97.65	44	⇑	P		**P**	22 16 44.9	-0.8
	baz=98								
P25A	**Willow Gulch B**	97.66	51	⇑	P		**P**	22 16 45.0	-1.1
	baz=98								
T26A	**Comanche Natio**	97.67	54	⇑	P		**P**	22 16 45.6	-0.7
	baz=98								
H23A	**Clabaugh Cattl**	97.68	46	⇑	P		**P**	22 16 45.6	-0.4
	baz=98								
W27A	**Bowe Ranch, En**	97.72	56	⇑	P		**P**	22 16 45.3	-1.1
	baz=98								
128A	**Castleberry Fa**	97.75	58	⇑	P		P	22 16 42.9	-3.7
	baz=98								
MSTX	**Muleshoe**	97.75	57	⇓	P		**P**	22 16 43.9	-2.7
	baz=98,SNR=15								
K24A	**Anderson Ranch**	97.76	48	⇑	P		**P**	22 16 45.4	-1.0
	baz=98								
O25A	**Wiggins**	97.80	51	⇓	P		**P**	22 16 46.7	-0.1
	baz=98								
G23A	**Biddle**	97.80	45	⇑	P		**P**	22 16 45.1	-1.4
	baz=98								
S26A	**Kim**	97.85	53	⇓	P		**P**	22 16 45.4	-1.6
	baz=98								
429A	**Davenport Ranc**	97.88	60	⇓	P		**P**	22 16 46.0	-1.1
	baz=98,SNR=17								
F23A	**Volborg**	97.89	45	⇓	P		**P**	22 16 45.5	-1.4
	baz=98								
C22A	**Vida**	97.93	43	⇓	P		**P**	22 16 45.6	-1.4
	baz=98								
Z28A	**Tucker Farm, M**	97.95	58	⇑	P		**P**	22 16 45.8	-1.7
	baz=98								
N25A	**Grover**	97.95	50	⇓	P		**P**	22 16 47.3	-0.1
	baz=98								
B22A	**Reddig Ranch S**	97.96	42	⇓	P		**P**	22 16 46.3	-0.9
	baz=98								
329A	**Wagon Wheel Ra**	97.96	60	⇑	P		**P**	22 16 46.9	-0.6
	baz=98								
J24A	**Dixon Ranch, L**	97.98	47	⇑	P		**P**	22 16 46.9	-0.5
	baz=98								
R26A	**Arlington**	97.99	53	⇑	Pdiff		**P**	22 16 47.0	-0.6
	baz=98								
V27A	**Dan Oppiter Fa**	98.02	55	⇓	Pdiff		**P**	22 16 47.2	-0.6
	baz=98								
Q26A	**Hugo**	98.05	52	⇓	Pdiff		**P**	22 16 46.7	-1.1
	baz=98								
M25A	**Palm-Egli Farm**	98.08	49	⇓	Pdiff		**P**	22 16 47.9	-0.1
	baz=98								
I24A	**Kuemmerle Ranc**	98.10	47	⇑	Pdiff		**P**	22 16 46.9	-1.0
	baz=98								
USHA	**Ushuaia**	98.11	151		LR		LR	22 53 52.0	
	comp=Z,59µm,20.7s,baz=223,slow=31								
A22A	**Carney Farms,**	98.14	42	⇓	Pdiff		**P**	22 16 47.5	-0.3
	baz=98								
U27A	**Thompson Grove**	98.15	55	⇑	Pdiff		**P**	22 16 47.7	-0.6
	baz=98								
Y28A	**McKinney Farm,**	98.17	57	⇑	Pdiff		**P**	22 16 47.3	-1.1
	baz=98								
229A	**Bryant Ranch,**	98.19	59	⇑	Pdiff		**P**	22 16 47.9	-0.6
	baz=98								
129A	**Stewart Farms,**	98.26	58	⇓	Pdiff		**P**	22 16 47.2	-1.7
	baz=98								
530A	**J-D Ranch, Com**	98.27	61	⇑	Pdiff		**P**	22 16 47.8	-1.2
	baz=98								
L25A	**Engebretsen Ra**	98.28	49	⇑	Pdiff		**P**	22 16 48.7	0.0
	baz=98								
D23A	**Lindsay**	98.28	44	⇑	Pdiff		**P**	22 16 48.7	+0.1
	baz=98								
P26A	**Davis Ranch, A**	98.29	51	⇑	Pdiff		**P**	22 16 48.3	-0.6
	baz=98								
H24A	**Dirks Ranch, A**	98.31	46	⇓	Pdiff		**P**	22 16 47.8	-1.0
	baz=98								
S27A	**Las Animas**	98.31	53	⇑	Pdiff		**P**	22 16 48.4	-0.6
	baz=98								
X28A	**Dimmitt**	98.32	57	⇑	Pdiff		**P**	22 16 48.0	-1.2
	baz=98								
T27A	**Campo**	98.34	54	⇓	Pdiff		**P**	22 16 48.6	-0.6
	baz=98								
C23A	**Lambert**	98.41	43	⇑	Pdiff		**P**	22 16 48.2	-0.9
	baz=98								
O26A	**Horse Wrangler**	98.43	51	⇓	Pdiff		**P**	22 16 48.4	-1.1
	baz=98								
W28A	**Vega**	98.44	56	⇓	Pdiff		Pdif	22 16 50.0	+0.3
	baz=98								
430A	**Baggett Ranch,**	98.47	60	⇑	Pdiff		**P**	22 16 49.2	-0.7
	baz=98								
R27A	**Eads**	98.49	53	⇑	Pdiff		**P**	22 16 49.2	-0.6
	baz=98								
G24A	**Alzada**	98.50	45	⇓	Pdiff		**P**	22 16 48.7	-1.0
	baz=99								
Z29A	**Hungry Hill Ra**	98.50	58	⇑	Pdiff		**P**	22 16 48.8	-1.2
	baz=99								
V28A	**Channing**	98.51	55	⇓	Pdiff		**P**	22 16 48.8	-1.1
	baz=99								
KSH	**Kashi**	98.57	309		P		Pdif	22 16 55.0	+4.8
KSH					pP		pP	22 17 05.4	+4.5
KSH					sP		sP	22 17 10.4	+5.6
KSH					PP		PP	22 20 56.6	+5.3
KSH					S		**S**	**22 28 14.1**	**-3.0**
KSH					sS		sS	22 28 35.7	+0.6
KSH					SS		**SS**	**22 35 08.1**	**+5.1**
KSH					AMB		AMB		
	comp=Z,90nm,1.6s								
KSH					AMB		AMB		
	comp=Z,5µm,7.3s								
KSH					LR		LR		
	comp=Z,102µm,17.7s								
KSH					LR		LR		
	comp=Z,86µm,16.3s								
KSH					LR		LR		
	comp=Z,246µm,22.3s								
F24A	**Ekalaka**	98.57	45	⇓	Pdiff		**P**	22 16 48.5	-1.5
	baz=99								
N26A	**Koester Ranch,**	98.60	50	⇑	Pdiff		**P**	22 16 49.7	-0.6
	baz=99								
J25A	**Sunshine Ranch**	98.61	48	⇓	Pdiff		**P**	22 16 49.7	-0.5
	baz=99								
U28A	**Mallet**	98.62	55	⇑	Pdiff		**P**	22 16 49.3	-1.1
	baz=99								
330A	**Mertzon**	98.63	60	⇓	Pdiff		**P**	22 16 49.3	-1.2
	baz=99								
KURK	**Kurchatov**	98.63	320	*c*	*e*P		**P**	22 16 48.7	-1.2
KURK					pmax		pmax		
	comp=Z,156nm,2.3s								
KURK	**Kurchatov**	98.63	320		Pdiff		**P**	22 16 48.7	-1.2
	SNR=72								
KURK	**Kurchatov**	98.63	320	⇑	*e*P		Pdif	22 16 50.3	+0.3
	comp=Z,8.2nm,1.7s								
KURK					*e*PP		**PP**	**22 20 49.8**	**-1.4**
KURK					PP		**PP**	**22 20 50.7**	**-0.5**
Y29A	**Porterfield Fa**	98.64	57	⇑	Pdiff		**P**	22 16 49.9	-0.6
	baz=99								
B23A	**Brockton**	98.65	42	⇑	Pdiff		**P**	22 16 49.8	-0.4
	baz=99								
KURBB	**Kurchatov Arra**	98.67	320		PP		PP	22 20 50.7	-0.9
	comp=Z,40nm,1.0s,baz=102,slow=8.5,SNR=5.2								
X29A	**Tulia**	98.71	57	⇓	Pdiff		**P**	22 16 50.2	-0.6
	baz=99								
KSCO	**Kaye Shedlock'**	98.75	52		*e*P		**P**	22 16 50.6	-0.4
KSCO	**Kaye Shedlock'**	98.75	52	⇓	Pdiff		**P**	22 16 50.8	-0.1
	baz=99								
230A	**Sterling City**	98.76	59	⇓	Pdiff		**P**	22 16 49.9	-1.2
	baz=99								
I25A	**Rochford**	98.76	47	⇓	Pdiff		**P**	22 16 49.9	-1.1
	baz=99								
M26A	**McRoberts Ranc**	98.77	50	⇑	Pdiff		**P**	22 16 49.9	-1.1
	baz=99								
E24A	**Baker**	98.78	44	⇓	Pdiff		**P**	22 16 49.9	-0.9
	baz=99								
631A	**Perdido Creek**	98.79	62	⇑	Pdiff		**P**	22 16 50.1	-1.1
	baz=99								
A23A	**Redstone**	98.81	42	⇓	Pdiff		**P**	22 16 49.5	-1.4
	baz=99								
ULHL	**Ulahol**	98.83	311		*i* P		**P**	22 16 50.9	-0.4
ULHL	**Ulahol**	98.83	311		P		**P**	22 16 51.0	-0.4
	SNR=12								
T28A	**Walsh**	98.83	54	⇓	Pdiff		**P**	22 16 50.2	-1.1
	baz=99								
C24A	**Savage**	98.87	43	⇓	Pdiff		Pdif	22 16 51.8	+0.6
	baz=99								
W29A	**Arapaillo**	98.87	56	⇑	Pdiff		**P**	22 16 50.4	-1.2
	baz=99								
P27A	**Ficken Ranch,**	98.87	51	⇓	Pdiff		**P**	22 16 50.9	-0.6
	baz=99								
L26A	**Underwood Farm**	98.91	49	⇓	Pdiff		**P**	22 16 51.5	0.0
	baz=99								
K26A	**Motz Farm, Whi**	98.94	48	⇑	Pdiff		Pdif	22 16 51.7	0.0
	baz=99								
H25A	**Fruitdale**	98.96	46	⇓	Pdiff		Pdif	22 16 51.7	0.0
	baz=99								
431A	**Sonora**	98.98	61	⇓	Pdiff		**Pdif**	22 16 51.4	-0.7
	baz=99								
Z30A	**Sanderson Ranc**	98.98	58	⇑	Pdiff		**Pdif**	22 16 50.9	-1.1
	baz=99								
130A	**Snyder**	99.00	59	⇑	Pdiff		**Pdif**	22 16 51.5	-0.6
	baz=99								
O27A	**Beecher Island**	99.05	51	⇓	Pdiff		**Pdif**	22 16 53.2	+0.9
	baz=99								
S28A	**Manter**	99.08	54	⇓	Pdiff		**Pdif**	22 16 50.8	-1.6
	baz=99								
V29A	**Stinnett**	99.09	55	⇓	Pdiff		**Pdif**	22 16 51.9	-0.6
	baz=99								
N27A	**Anderson Farm,**	99.11	50	⇓	Pdiff		**Pdif**	22 16 53.0	+0.4
	baz=99								
J26A	**Sides Ranch, S**	99.12	48	⇓	Pdiff		**Pdif**	22 16 53.0	+0.5
	baz=99								
DGMT	**Dagmar**	99.17	42	⇑	Pdiff		**Pdif**	22 16 52.1	-0.4
	baz=99								
G25A	**Newell**	99.17	46	⇑	Pdiff		**Pdif**	22 16 52.7	0.0
	baz=99								
732A	**Laxson Ranch,**	99.20	63	⇓	Pdiff		**Pdif**	22 16 52.4	-0.6
	baz=99								
331A	**San Angelo**	99.24	60	⇑	Pdiff		**Pdif**	22 16 52.6	-0.7
	baz=99								
F25A	**Bowman**	99.26	45	⇑	Pdiff		**Pdif**	22 16 52.6	-0.5
	baz=99								
R28A	**Tribune**	99.27	53	⇑	Pdiff		**Pdif**	22 16 53.7	+0.4
	baz=99								
Y30A	**Stafford Cattl**	99.27	57	⇓	Pdiff		**Pdif**	22 16 52.7	-0.6
	baz=99								
M27A	**Reverse DX Ran**	99.34	50	⇑	Pdiff		**Pdif**	22 16 52.4	-1.1
	baz=99								
Q28A	**Sharon Springs**	99.37	52	⇓	Pdiff		**Pdif**	22 16 52.1	-1.6
	baz=99								
A24A	**Westby**	99.37	42	⇓	Pdiff		**Pdif**	22 16 52.5	-0.9
	baz=99								
I26A	**New Underwood**	99.39	47	⇑	Pdiff		**Pdif**	22 16 53.1	-0.5
	baz=99								
X30A	**Coker Ranch, T**	99.39	57	⇑	Pdiff		**Pdif**	22 16 52.7	-1.1
	baz=99								
U29A	**Oasis Ranch, S**	99.39	55	⇑	Pdiff		**Pdif**	22 16 52.7	-1.1
	baz=99								
E25A	**Miller Ranch,**	99.39	44	⇓	Pdiff		**Pdif**	22 16 52.1	-1.5
	baz=100								
TKM2	**Tokmak 2**	99.40	312		*i* P		**Pdif**	22 16 52.9	-1.0
TKM2	**Tokmak 2**	99.40	312		P		**Pdif**	22 16 52.9	-1.0
	SNR=19								
TKM2	**Tokmak 2**	99.40	312		*e*P		**Pdif**	22 16 51.8	-2.1
	comp=Z,131nm,1.6s								
TKM2					*e*PP		PP	22 20 49.6	-8.0
231A	**Bronte**	99.44	59	⇑	Pdiff		**Pdif**	22 16 52.4	-1.7
	baz=100								
L27A	**T5 Ranch, Ells**	99.48	49	⇑	Pdiff		**Pdif**	22 16 52.5	-1.6
	baz=100								
T29A	**Hugoton**	99.48	54	⇓	Pdiff		**Pdif**	22 16 52.6	-1.6
	baz=100								
632A	**Uvalde**	99.49	62	⇓	Pdiff		**Pdif**	22 16 52.7	-1.7
	baz=100								
532A	**Rocksprings**	99.49	61	⇑	Pdiff		**Pdif**	22 16 52.7	-1.7
	baz=100								
131A	**Roby**	99.50	59	⇓	Pdiff		**Pdif**	22 16 52.7	-1.7
	baz=100								
P28A	**Saint Francis**	99.50	52	⇑	Pdiff		**Pdif**	22 16 52.7	-1.6
	baz=100								
OGNE	**Ogallala**	99.51	50	⇓	Pdiff		**Pdif**	22 16 54.2	-0.1
	baz=100								
KZA	**Kyzart**	99.53	311		P		**Pdif**	22 16 59.1	+4.3
	SNR=26								
H26A	**Fairpoint**	99.54	46	⇑	Pdiff		**Pdif**	22 16 53.3	-1.0
	baz=100								
D25A	**Fairfield**	99.55	44	⇓	Pdiff		**Pdif**	22 16 53.8	-0.4
	baz=100								
O28A	**Krutsinger Ran**	99.58	51	⇓	Pdiff		**Pdif**	22 16 54.0	-0.6
	baz=100								
K27A	**Flueckinger Fa**	99.63	48	⇑	Pdiff		**Pdif**	22 16 53.7	-1.1
	baz=100								
JCT	**Junction City**	99.63	61		*e*P		**Pdif**	22 16 52.8	-2.2
JCT					*e*			22 20 54.1	
JCT	**Junction City**	99.63	61		*e*Pdif		**Pdif**	22 16 52.8	-2.2
JCT					*e*PP		PP	22 20 54.1	-5.4
JCT	**Junction City**	99.63	61	⇑	Pdiff		**Pdif**	22 16 54.3	-0.7
	baz=100								
C25A	**Freed Ranch, W**	99.68	43	⇓	Pdiff		**Pdif**	22 16 54.4	-0.4
	baz=100								
S29A	**Ulysses**	99.69	54	⇑	Pdiff		**Pdif**	22 16 54.5	-0.6
	baz=100								
432A	**Menard**	99.70	61	⇑	Pdiff		**Pdif**	22 16 53.6	-1.7
	baz=100								
W30A	**Crocket Farms**	99.74	56	⇑	Pdiff		**Pdif**	22 16 54.3	-1.2
	baz=100								
V30A	**Spur Ranch, Mi**	99.74	56	⇓	Pdiff		**Pdif**	22 16 55.3	-0.1
	baz=100								
G26A	**Maurine**	99.76	46	⇓	Pdiff		**Pdif**	22 16 54.8	-0.5
	baz=100								
F26A	**Lodgepole**	99.80	45	⇑	Pdiff		**Pdif**	22 16 54.4	-1.0
	baz=100								
R29A	**Marienthal**	99.80	53	⇑	Pdiff		**Pdif**	22 16 55.0	-0.6
	baz=100								
Z31A	**Sharp Cattle R**	99.80	58	⇓	Pdiff		**Pdif**	22 16 55.1	-0.6
	baz=100								
Y31A	**Rekieta Farm,**	99.81	57	⇑	Pdiff		**Pdif**	22 16 55.6	-0.1
	baz=100								
B25A	**Knox Farm, Ray**	99.82	43	⇑	Pdiff		**Pdif**	22 16 54.5	-0.9
	baz=100								
332A	**Millersview**	99.83	60	⇓	Pdiff		**Pdif**	22 16 56.2	+0.4
	baz=100								
KBK	**Karagaybulak**	99.83	312

baz=100
U31A Nine Bar Ranch 100.51 55 ⇑Pdiff **Pdif** 22 16 59.2 +0.4
baz=101
N29A Votaw Ranch, W 100.54 50 ⇓Pdiff **Pdif** 22 16 58.3 -0.6
baz=101
M29A Burnside Ranch 100.58 50 ⇑Pdiff **Pdif** 22 16 59.5 +0.5
baz=101
I28A Midland 100.59 47 ⇑Pdiff **Pdif** 22 16 58.4 -0.5
baz=101
Q30A Quinter 100.59 52 ⇓Pdiff **Pdif** 22 16 59.5 +0.4
baz=101
E27A Carson 100.64 45 ⇑Pdiff **Pdif** 22 16 59.7 +0.6
baz=101
A26A Wade Farm, Ken 100.65 42 ⇓Pdiff **Pdif** 22 16 57.6 -1.4
baz=101
P30A Selden 100.65 52 ⇑Pdiff **Pdif** 22 16 58.8 -0.6
baz=101
AML Almayashu 100.68 311 *i* P **Pdif** 22 17 01.4 +1.6
AML Almayashu 100.68 311 P **Pdif** 22 17 01.4 +1.6
SNR=24
EKS2 Erkin-Say 100.69 311 *e*P **Pdif** 22 16 59.5 0.0
EKS2 *e* 22 21 13.7
EKS2 pmax pmax
comp=Z,1μm,0.5s
EKS2 Erkin-Say 100.69 311 P **Pdif** 22 16 59.0 -0.6
SNR=12
EKS2 Erkin-Say 100.69 311 *e*Pdif **Pdif** 22 16 59.5 0.0
comp=Z,1μm,0.5s
EKS2 *e*PP PP 22 21 13.7 +6.4
T31A Randall Ranch, 100.75 54 ⇑Pdiff **Pdif** 22 16 59.2 -0.6
baz=101
D27A Center 100.75 44 ⇓Pdiff **Pdif** 22 17 00.7 +1.1
baz=101
H28A Mission Ridge 100.78 47 ⇑Pdiff **Pdif** 22 17 00.8 +1.1
baz=101
L29A Maesberg Ranch 100.83 49 ⇑Pdiff **Pdif** 22 17 00.5 +0.5
baz=101
C27A Sayler Ranch, 100.85 43 ⇓Pdiff **Pdif** 22 16 59.0 -0.9
baz=101
O30A MW Ranch, Wils 100.89 51 ⇓Pdiff **Pdif** 22 17 00.3 0.0
baz=101
G28A Parade 100.91 46 ⇓Pdiff **Pdif** 22 17 00.4 0.0
baz=101
N30A Hueftle Ranch, 100.94 51 ⇓Pdiff **Pdif** 22 17 01.0 +0.5
baz=101
S31A Mullinville 100.98 54 ⇑Pdiff **Pdif** 22 17 00.2 -0.6
baz=101
R31A Burdett 101.03 53 ⇑Pdiff **Pdif** 22 17 00.5 -0.6
baz=101
F28A McLaughlin 101.09 45 ⇑Pdiff **Pdif** 22 17 00.1 -1.0
baz=101
B27A Peters Farms, 101.10 43 ⇑Pdiff **Pdif** 22 17 00.6 -0.4
baz=101
J29A Okreek 101.11 48 ⇓Pdiff **Pdif** 22 17 01.3 0.0
baz=101
A27A Ledoux Ranch, 101.18 42 ⇓Pdiff **Pdif** 22 16 60.0 -1.4
baz=101
M30A Dale-Ortello V 101.20 50 ⇑Pdiff **Pdif** 22 17 01.7 0.0
baz=101
I29A Vivian Onida 101.21 47 ⇓Pdiff **Pdif** 22 17 01.2 -0.5
baz=101
Q31A Ellis 101.23 52 ⇓Pdiff **Pdif** 22 17 01.9 -0.1
baz=101
BHJ Bhuj 101.24 291 *e*P **Pdif** 22 17 01.9 -0.3
BHJ AMB AMB 22 17 09.0
comp=Z,217nm,3.4s
E28A Huff 101.25 45 ⇓Pdiff **Pdif** 22 17 01.9 +0.1
baz=101
P31A Stockton 101.31 52 ⇓Pdiff **Pdif** 22 17 02.7 +0.5
baz=101
H29A Onida 101.35 47 ⇓Pdiff **Pdif** 22 17 01.8 -0.5
baz=101
FFC Flin Flon 101.39 36 *e*P **Pdif** 22 16 59.7 -2.5
FFC *e* 22 21 07.7
FFC pmax pmax
comp=Z,121nm,1.1s
FFC Flin Flon 101.39 36 *e*Pdif **Pdif** 22 16 59.7 -2.5
comp=Z,121nm,1.1s
FFC *e*PP PP 22 21 07.7 -4.3
D28A Regan 101.41 44 ⇑Pdiff **Pdif** 22 17 02.6 +0.1
baz=102
K30A Basset 101.54 49 ⇑Pdiff **Pdif** 22 17 02.7 -0.5
baz=102
C28A Hausauer Farms 101.60 43 ⇓Pdiff **Pdif** 22 17 02.9 -0.4
baz=102
B28A Dugan Ranch, T 101.70 43 ⇑Pdiff **Pdif** 22 17 03.8 +0.1
baz=102
J30A Dallas 101.71 48 ⇑Pdiff **Pdif** 22 17 03.4 -0.5
baz=102
F29A Eureka 101.76 45 ⇓Pdiff **Pdif** 22 17 03.1 -1.0
baz=102
A28A Rude Farm, Bot 101.81 42 ⇑Pdiff **Pdif** 22 17 03.8 -0.4
baz=102
M31A Lambtecht Ranc 101.85 50 ⇑Pdiff **Pdif** 22 17 04.1 -0.5
baz=102
WHTX Lake Whitney 101.85 60 ⇓Pdiff **Pdif** 22 17 04.1 -0.6
baz=102
P32A Huiting Farm, 101.92 52 ⇑Pdiff **Pdif** 22 17 03.4 -1.6
baz=102
E29A Napoleon 101.97 45 ⇓Pdiff **Pdif** 22 17 05.1 0.0
baz=102
L31A Butterfield Fa 102.05 49 ⇓Pdiff **Pdif** 22 17 05.5 0.0
baz=102
D29A Pettibone, Tap 102.06 44 ⇑Pdiff **Pdif** 22 17 04.9 -0.4
baz=102
MDND Maddock 102.14 43 ⇑Pdiff **Pdif** 22 17 05.8 +0.1
baz=102
G30A Faulkton 102.16 46 ⇑Pdiff **Pdif** 22 17 04.9 -1.0
baz=102
BRSD Miller 102.22 47 ⇓Pdiff **Pdif** 22 17 05.2 -1.0
baz=102
N32A Stulken Farm, 102.29 51 ⇓Pdiff **Pdif** 22 17 05.5 -1.1
baz=102
B29A Wagenman Farm, 102.37 43 ⇑Pdiff **Pdif** 22 17 06.3 -0.4
baz=102
E30A Jud 102.47 45 ⇓Pdiff **Pdif** 22 17 06.2 -1.0
baz=102
BGNE Belgrade 102.47 50 ⇓Pdiff **Pdif** 22 17 05.8 -1.6
baz=102
A29A Manning Farm, 102.49 42 ⇑Pdiff **Pdif** 22 17 06.3 -0.9
baz=102
P33A Williams Farm, 102.60 52 ⇑Pdiff **Pdif** 22 17 07.4 -0.6
baz=103
D30A Buchanan 102.63 44 ⇑Pdiff **Pdif** 22 17 06.9 -1.0
baz=103
C30A Mose, Pekin 102.88 44 ⇓Pdiff **Pdif** 22 17 08.0 -1.0
baz=103
B30A Myrvik Farm, E 103.04 43 ⇓Pdiff **Pdif** 22 17 08.2 -1.5
baz=103
A30A Hoffart Farm, 103.10 42 ⇓Pdiff **Pdif** 22 17 09.5 -0.4
baz=103
KKAR Karatay Array 103.13 312 *e*P **Pdif** 22 17 08.5 -1.7
KKAR *e* 22 21 25.1
KKAR pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 103.13 312 *e*Pdif **Pdif** 22 17 08.5 -1.7
comp=Z,1.9nm,0.6s
KKAR *e*PP PP 22 21 25.1 -0.4
KBL Kabul 103.35 303 *e*P **Pdif** 22 17 12.1 +0.4
KBL *e* 22 21 26.8
KBL pmax pmax
comp=Z,86nm,1.5s
KBL Kabul 103.35 303 *e*Pdif **Pdif** 22 17 12.1 +0.4
comp=Z,86nm,1.5s
KBL *e*PP PP 22 21 26.8 -0.9
TUL1 Tulsa 103.71 56 ⇓Pdiff **Pdif** 22 17 12.9 -0.1
baz=104
BVAR Borovoye Array 103.96 322 P **Pdif** 22 17 13.1 -0.6
BVAR 22 21 33.2
BVAR Borovoye Array 103.96 322 Pdif **Pdif** 22 17 13.1 -0.6
BVAR PP PP 22 21 33.2 +1.9
BVAR Borovoye Array 103.96 322 Pdiff **Pdif** 22 17 13.1 -0.6
comp=Z,18nm,0.9s,baz=97,slow=8.0,SNR=1.6
BVAR PP PP 22 21 33.2 +1.9
comp=Z,38nm,0.9s,baz=86,slow=8.2,SNR=6.3
RER Riviere de l'E 104.00 244 *e*Pdif **Pdif** 22 17 14.6 -0.1
BRVK Borovoye 104.03 322 *e*P **Pdif** 22 17 14.4 +0.5
BRVK *e* 22 21 29.6
BRVK pmax pmax
comp=Z,4μm,1.9s
BRVK Borovoye 104.03 322 *e*Pdif **Pdif** 22 17 14.4 +0.5
comp=Z,4μm,1.9s
BRVK *e*PP **PKiKP** 22 21 29.6 -1.5
AGMN Agassiz Nation 104.67 43 *e*Pdif **Pdif** 22 17 16.0 -0.9
AGMN *e*PP PKiKP 22 21 22.5 -10
RES Resolute Bay 104.76 16 PP PP 22 21 50.6 +14
RES Resolute Bay 104.76 16 PP PP 22 21 50.6 +14
comp=Z,15nm,0.8s,baz=248,slow=5.3,SNR=3.7
ULM Lac du Bonnet 104.76 41 Pdif **Pdif** 22 17 27.0 +10
ULM PKP **PP** 22 21 38.9 +1.5
ULM PKKPbc **PKKPbc** 22 33 05.0 +2.3
ULM Lac du Bonnet 104.76 41 Pdiff **Pdif** 22 17 27.0 +10
comp=Z,11nm,1.0s,baz=268,slow=3.9,SNR=6.0
ULM PKP **PP** 22 21 38.9 +1.5
comp=Z,10nm,0.7s,baz=284,slow=2.6,SNR=5.7
ULM PKKPbc **PKKPbc** 22 33 05.0 +2.3
comp=Z,6.6nm,0.6s,baz=81,slow=2.5,SNR=6.8
PLCA Paso Flores 104.90 139 Pdif **Pdif** 22 17 25.7 +7.4
PLCA PP **PP** 22 21 39.6 +1.4
PLCA PKKPbc **PKKPbc** 22 33 03.1 +1.1
PLCA Paso Flores 104.90 139 Pdiff **Pdif** 22 17 25.7 +7.4
comp=Z,2.3nm,0.7s,baz=181,slow=5.5,SNR=3.9
PLCA PP **PP** 22 21 39.6 +1.4
comp=Z,4.9nm,0.8s,baz=195,slow=7.9,SNR=4.1
PLCA PKKPbc **PKKPbc** 22 33 03.1 +1.1
comp=Z,5.8nm,0.9s,baz=86,slow=2.0,SNR=4.4
FCC Fort Churchill 105.92 32 *e*P **Pdif** 22 17 17.5 -4.7
FCC Fort Churchill 105.92 32 *e*Pdif **Pdif** 22 17 17.5 -4.7
SPMN St. Paul 106.64 46 ⇑Pdiff **Pdif** 22 17 24.5 -1.3
baz=107
TEIG Tepich 108.50 73 PKiKP **PKiKP** 22 21 41.7 +1.3
TEIG PKKPbc **PKKPbc** 22 32 47.6 -2.6
TEIG Tepich 108.50 73 PKiKP **PKiKP** 22 21 41.7 +1.3
comp=Z,7.2nm,0.9s,baz=313,slow=17,SNR=3.3
TEIG PKKPbc **PKKPbc** 22 32 47.6 -2.6
comp=Z,4.0nm,0.4s,baz=117,slow=6.8,SNR=3.5
TLL Tololo Astrono 110.11 129 *e*P **PKKPbc** 22 32 47.1 +1.4
ABKAR Akbulak array 110.57 318 *e*Pdif **Pdif** 22 17 41.9 -1.2
ARU Arti 110.68 326 P **Pdif** 22 17 47.0 +3.6
ARU SP SP 22 31 40.1 -6.2
ARU PS **PS** 22 31 50.9 -0.3
LRAL Lakeview Retre 110.74 59 *e*PKiKP **PKiKP** 22 21 45.5 +1.3
IMYA Miami 110.76 304 *e*P **Pdif** 22 17 45.4 +0.9
SFIN Scholer Farm 110.78 52 *e*PKiKP **PKiKP** 22 21 44.6 +0.5
SFIN Scholer Farm 110.78 52 ⇑Pdiff **Pdif** 22 17 44.0 -0.3
baz=111
IDAH Dahanechah 110.84 300 *e*P **Pdif** 22 17 47.9 +2.8
SOKR Solikamsk 111.11 329 *i* PKIKP **PKiKP** 22 21 46.6 +2.5
SOKR *e* 22 22 24.9
SOKR SS SS 22 37 54.4 +1.5
CFAA Coronel Fontan 111.29 132 PKiKP **PKiKP** 22 21 49.6 +4.1
CFAA PKKPbc **PKKPbc** 22 32 42.4 +0.8
CFAA Coronel Fontan 111.29 132 PKiKP **PKiKP** 22 21 49.6 +4.1
comp=Z,1.7nm,0.8s,baz=253,slow=2.3,SNR=15
CFAA PKKPbc **PKKPbc** 22 32 42.4 +0.8
comp=Z,1.0nm,0.8s,baz=14,slow=3.0,SNR=6.2
IKOO Kooshah 111.56 300 *e*P **Pdif** 22 17 57.2 +8.9
IAKL Akhelmad 111.84 304 *e*P **Pdif** 22 17 50.6 +1.1
IKRD Kardeh 112.04 305 *e*P **Pdif** 22 17 48.0 -2.3
ABPO Ambohimpanom 112.23 243 *e*PKiKP **PKiKP** 22 21 48.3 +0.6
ABPO Ambohimpanom 112.23 243 *e*PKiKP **PKiKP** 22 21 48.3 +0.6
OPO Ambohidratompo 112.44 243 Pdif **Pdif** 22 17 56.4 +4.0
OPO PKiKP **PKiKP** 22 21 50.3 +2.1
OPO Ambohidratompo 112.44 243 Pdiff **Pdif** 22 17 56.4 +4.0
comp=Z,6.9nm,0.9s,baz=205,slow=0.6,SNR=4.0
OPO PKiKP **PKiKP** 22 21 50.3 +2.1
comp=Z,29nm,0.9s,baz=43,slow=0.8,SNR=12
ATAH Atahualpa 112.50 103 PKiKP PKiKP 22 21 54.9 +6.2
ATAH PKKPbc **PKKPbc** 22 32 41.5 +3.9
ATAH Atahualpa 112.50 103 PKiKP PKiKP 22 21 54.9 +6.2
comp=Z,7.7nm,0.8s,baz=235,slow=7.6,SNR=4.2
ATAH PKKPbc **PKKPbc** 22 32 41.5 +3.9
comp=Z,12nm,0.8s,baz=103,slow=2.3,SNR=4.8
KBS Kingsbay 112.96 355 *e*PP PP 22 22 36.7 +0.7
KBS AMS AMS 23 18 47.1
comp=Z,349μm,23.4s
SPITS Spitsbergen Ar 113.18 354 PKiKP **PKiKP** 22 21 51.9 +4.2
SPITS PKKPbc **PKKPab** 22 32 40.2 -0.5
SPITS Spitsbergen Ar 113.18 354 PKiKP **PKiKP** 22 21 51.9 +4.2
comp=Z,13nm,0.7s,baz=96,slow=6.8,SNR=15
SPITS PKKPbc **PKKPab** 22 32 40.2 -0.5
comp=Z,4.4nm,0.5s,baz=165,slow=6.6,SNR=13
HOPEN Hopen 113.38 351 *e*PP PP 22 22 36.2 -2.8
HOPEN AMS AMS 23 20 14.3
comp=Z,489μm,24.9s
TKL Tuckaleechee C 113.45 57 *e*PKiKP **PKiKP** 22 21 51.8 +2.4
TKL PKKPbc **PKKPab** 22 32 40.4 -0.2
TKL Tuckaleechee C 113.45 57 PKKPbc PKKPbc 22 32 40.4 +5.9
comp=Z,19nm,1.1s,baz=199,slow=2.7,SNR=5.5
TIGA Tifton 113.58 61 ⇓Pdiff **Pdif** 22 17 56.0 -0.9
baz=114
KULLO Kullorsuaq 113.85 12 *i* PKIKP **PKiKP** 22 21 52.1 +3.1
ACSO Alum Creek Sta 113.93 52 *e*PKiKP **PKiKP** 22 21 51.7 +1.6
LVC Limon Verde 115.18 123 *e*PKPdf **PKPdf** 22 21 55.1 +1.6
ICHK Chekchek 115.44 300 *e*P **Pdif** 22 18 07.7 +2.2
BJO Bjornoya 115.87 351 *e* PP 22 23 06.9 +10
BJO *i* **PKKPdf** 22 32 48.2 -4.0
BJO AMS AMS 23 15 22.6
comp=Z,379μm,25.3s
ISAD Sadrabad 116.06 299 *e*P **Pdif** 22 18 14.0 +5.7
BLA Blacksburg 116.10 55 *e*PKIKP **PKPdf** 22 21 55.0 +0.5
BLA Blacksburg 116.10 55 *e*PKPdf **PKPdf** 22 21 55.0 +0.5
DAG Danmarks Havn 116.21 1 *i* PKIKP PKPdf 22 22 01.8 +8.3
DAG Danmarks Havn 116.21 1 *i* P PKPdf 22 22 01.8 +8.3
comp=Z,28nm,0.8s
SADO Sadowa 116.33 46 PKKPbc PKKPbc 22 32 27.6 +2.8
SADO Sadowa 116.33 46 PKKPbc PKKPbc 22 32 27.6 +2.8
comp=Z,22nm,1.1s,baz=118,slow=3.0,SNR=3.6
ISRV Sarvestan 116.56 296 *e*P Pdif 22 18 20.8 +10
IZEF Zefreh 117.19 300 *e*P Pdif 22 18 27.2 +14
ISFB Sefidab 117.21 302 *e*P **Pdif** 22 18 14.4 +1.3
APA Apatity 117.55 342 *i* PKIKP **PKPdf** 22 21 59.4 +3.1
APA *i* 22 28 58.0
APA *i* PS PKKPdf 22 32 40.0 -9.0
APA *i* SS SS 22 39 12.0 -5.1
APA MLR MLR
comp=Z,503μm,21.0s
IKAZ Kazeroun 117.66 297 *e*P **Pdif** 22 18 23.0 +7.4
SSPA Standing Stone 117.77 51 *e*PKPdf **PKPdf** 22 21 57.2 -0.3
IKLH Kolahrood 117.80 301 *e*P **Pdif** 22 18 17.6 +1.6
KEV Kevo 117.91 345 *e*PKIKP **PKPdf** 22 21 58.0 +1.1
KEV Kevo 117.91 345 *e*pkp **PKPdf** 22 21 59.9 +3.0
KEV Kevo 117.91 345 *e*p **PKKPbc** 22 32 17.9 -1.9
comp=Z,12nm,0.6s
KEV Kevo 117.91 345 *e*PKPdf **PKPdf** 22 21 58.0 +1.1
IR3 Iran Long-Peri 118.14 303 *e*P **Pdif** 22 18 17.0 -0.3
ARCES ARCESS Array B 118.44 345 PKP **PKPdf** 22 21 56.3 -1.7
ARCES PKKPbc **PKKPab** 22 32 17.7 +0.1
ARCES SKKPbc SKKPbc 22 36 09.0 +4.6
ARCES ARCESS Array B 118.44 345 PKP **PKPdf** 22 21 56.3 -1.7
comp=Z,14nm,0.8s,baz=77,slow=1.6,SNR=27
ARCES PKKPbc **PKKPab** 22 32 17.7 +0.1
comp=Z,9.6nm,0.7s,baz=219,slow=3.0,SNR=14
ARCES SKKPbc SKKPbc 22 36 09.0 +4.6
comp=Z,3.8nm,0.7s,baz=144,slow=0.8,SNR=3.7
ARE0 ARCESS Array S 118.44 345 *e*PKPdf **PKPdf** 22 21 58.6 +0.7
LPAZ La Paz 118.64 117 PKP **PKPdf** 22 22 01.4 +0.8
LPAZ *e*PKPdf **PKiKP** 22 22 01.9 +1.3
LPAZ PKKPbc **PKKPab** 22 32 19.9 -0.3
LPAZ La Paz 118.64 117 PKP **PKPdf** 22 22 01.4 +0.8
comp=Z,11nm,0.7s,baz=258,slow=2.8,SNR=9.3
LPAZ PKKPbc **PKKPab** 22 32 19.9 -0.3
comp=Z,33nm,0.8s,baz=56,slow=6.7,SNR=15
SUMG Summit 118.68 8 *e*PKIKP **PKPdf** 22 21 59.1 +0.3
SUMG Summit 118.68 8 *i* P **PKPdf** 22 22 02.7 +3.8
comp=Z,40nm,1.0s
SUMG Summit 118.68 8 *i* P **PKKPab** 22 32 16.7 -0.3
comp=Z,40nm,1.0s
SUMG Summit 118.68 8 *e*PKPdf **PKPdf** 22 21 59.1 +0.3
KLMR Klimovskoe 118.84 333 *e*PKIKP PKPdf 22 22 07.1 +8.2
KLMR 22 23 22.1
ILUL Ilulissat 119.01 14 *i* PKIKP **PKPdf** 22 22 01.4 +2.4
ROSC El Rosal 119.48 92 *e*PKPdf **PKPdf** 22 22 04.4 +2.3
ROSC PKP **PKPdf** 22 22 05.3 +3.2
ROSC El Rosal 119.48 92 PKP **PKPdf** 22 22 05.3 +3.2
comp=Z,9.7nm,0.5s,baz=81,slow=16,SNR=3.1
TRO Tromso 119.86 347 *e* **PKPdf** 22 22 01.1 +0.5
TRO *e*PP **PP** 22 23 19.8 -4.6
TRO AMS AMS 23 19 43.3
comp=Z,602μm,25.1s
MAK Makhachkala 119.93 312 *i* PKIKP **PKPdf** 22 22 00.6 -1.0
MAK *e* 22 23 23.0
MAK *e*PPP PPP 22 26 05.2
NCB Newcomb 119.94 47 *e*PKPdf **PKPdf** 22 22 03.4 +1.8
GRM Grahamstown 120.17 219 *i* P PP 22 23 44.4 +17
GRM Grahamstown 120.17 219 *i* P **SP** 22 33 14.1 +0.7
MDV Middlebury 120.67 46 *e*PKPdf **PKPdf** 22 22 03.1 +0.1
SFJD Kangerlussuaq 120.76 16 *i* P **PKPdf** 22 22 06.0 +3.6
comp=Z,30nm,0.9s
SFJD Kangerlussuaq 120.76 16 *i* P **PKKPab** 22 32 08.3 +0.8
comp=Z,15nm,0.9s
SFJD Kangerlussuaq 120.76 16 *e*PKPdf **PKPdf** 22 22 04.3 +1.9
SFJD PKKPbc **PKKPbc** 22 32 09.2 -0.1
SFJD Kangerlussuaq 120.76 16 PKP **PKPdf** 22 22 04.3 +1.9
comp=Z,22nm,0.9s,baz=259,slow=2.4,SNR=8.7
SFJD PKKPbc **PKKPbc** 22 32 09.2 -0.1
comp=Z,23nm,1.0s,baz=139,slow=7.9,SNR=5.7
GTBY Guantanamo Bay 120.79 74 *e*PKPdf **PKPdf** 22 22 04.4 +0.5
GTBY *e*PP **PP** 22 23 32.7 +0.1
IHRS Heris 121.03 307 *e*P **Pdif** 22 18 29.8 -0.4
JOF Joensuu 121.05 338 *e*PKIKP **PKPdf** 22 22 03.5 +0.4
JOF Joensuu 121.05 338 *e*pkp **PKPdf** 22 22 03.5 +0.4
JOF Joensuu 121.05 338 *e*p **PKKPbc** 22 32 06.1 -2.0
comp=Z,11nm,0.6s
UMR Umm Al-Rimmam 121.26 297 *e*P PKPdf 22 21 55.9 -8.6
UMR AMb AMB 22 22 10.2
comp=Z,196nm,1.1s
SCHQ Schefferville 121.30 33 *e*PKPdf **PKPdf** 22 22 05.1 +1.3
SCHQ PKP **PKPdf** 22 22 05.3 +1.4
SCHQ PKKPbc **PKKPbc** 22 32 08.2 +1.2
SCHQ Schefferville 121.30 33 PKP **PKPdf** 22 22 05.3 +1.4
comp=Z,5.9nm,0.5s,baz=228,slow=11,SNR=9.6
SCHQ PKKPbc **PKKPbc** 22 32 08.2 +1.2
comp=Z,20nm,0.7s,baz=82,slow=3.8,SNR=11
RDF Al-Radifah 121.43 296 *e*P PKPdf 22 21 56.5 -8.4
RDF AMb AMB 22 22 10.4
comp=Z,180nm,0.9s
NAY Al-Naaiem 121.68 296 *e*P PKPdf 22 21 56.3 -9.0
VRHR Novokhopersk 121.69 323 *i* PKIKP **PKPdf** 22 22 08.7 +4.0
VRHR *e* 22 22 14.4
VRHR *e* 22 23 37.6
VRHR *e*SS SS 22 40 29.7 +18
VRHR pmax pmax
comp=Z,3μm,7.6s
VRHR pmax pmax
comp=N,2μm,6.5s
VRHR pmax pmax
comp=E,3μm,4.9s
DGRG David-gareji 121.77 311 P PKPdf 22 22 11.1 +5.9
JMIC Jan Mayen 122.00 358 *e*PKPdf **PKPdf** 22 22 01.7 -3.1
JMIC *e*PP **PP** 22 23 35.7 -3.2
JMIC AMS AMS 23 24 23.1
comp=Z,179μm,23.4s
STEI Steigen 122.03 348 *e*P **PKPdf** 22 22 07.2 +2.3
MOS Moscow 122.06 329 *e*PKIKP **PKPdf** 22 22 03.6 -1.6
MOS *e* 22 23 38.7
MOS *i* PS **PS** 22 33 39.0 +4.6
MOS *i* PPS PPS 22 35 01.0
MOS *e*SS SS 22 40 19.7 +4.0
CPUP Villa Florida 122.14 133 *e*PKPdf **PKPdf** 22 22 06.7 +0.3
CPUP PKP **PKPdf** 22 22 06.8 +0.4
CPUP PKKPbc **PKKPbc** 22 32 02.0 -1.1
CPUP Villa Florida 122.14 133 PKP **PKPdf** 22 22 06.8 +0.4
comp=Z,20nm,1.0s,baz=246,slow=1.8,SNR=15
CPUP PKKPbc **PKKPbc** 22 32 02.0 -1.1
comp=Z,17nm,0.9s,baz=33,slow=3.1,SNR=7.9
TBLG Delisi 122.18 311 P PKPdf 22 22 13.0 +7.0
LOF Lofoten 122.21 348 AMS AMS 23 23 00.6
comp=Z,448μm,24.7s
GUDG Gudauri 122.22 312 P **PKPdf** 22 22 10.9 +4.6
SCO Scoresbysund 122.35 3 *i* PKIKP PKPdf 22 22 11.8 +6.4
SCO Scoresbysund 122.35 3 *i* P PKPdf 22 22 11.8 +6.4
comp=Z,57nm,1.1s
GNI Garni 122.49 309 PKP **PKPdf** 22 22 09.2 +2.4
GNI *e*PKPdf **PKiKP** 22 22 10.3 +3.3
GNI Garni 122.49 309 PKP **PKPdf** 22 22 09.2 +2.4
comp=Z,38nm,0.8s,baz=336,slow=14,SNR=4.5
KZR Kazreti 122.49 311 P PKPdf 22 22 14.4 +7.8
ZEI Tsey 122.56 313 *i* PKIKP **PKPdf** 22 22 08.2 +1.3
GOR Gofitskoye 122.61 315 *e*PKIKP PKPdf 22 22 14.2 +7.5
VOR Voronezh 122.88 324 PKIKP **PKPdf** 22 22 05.0 -1.9
OBN Obninsk 122.88 328 *d* iPKIKP **PKPdf** 22 22 07.1 +0.3
OBN *e* 22 22 16.7
OBN *e* 22 23 44.0
OBN *e* 22 29 00.9
ONI Oni 122.93 312 P PKPdf 22 22 14.6 +7.1
KBZ Khabaz 123.05 314 PKIKP PKPdf 22 22 12.8 +5.3
KBZ Khabaz 123.05 314 PKP PKPdf 22 22 12.8 +5.3
KBZ Khabaz 123.05 314 PKP PKPdf 22 22 12.8 +5.3
comp=Z,16nm,0.8s,baz=99,slow=3.4,SNR=9.3
PKME Peaks-Kenny Pk 123.06 44 *e*PKPdf **PKPdf** 22 22 09.8 +2.3
VSR Storozhevoye 123.09 323 *i* PKIKP **PKPdf** 22 22 11.8 +4.4
VSR *e* 22 22 17.5
VSR *e* 22 23 46.2
VSR *e*SS SS 22 40 27.8 -1.4
VSR pmax pmax
comp=Z,250nm,1.6s
VSR pmax pmax
comp=N,940nm,3.9s
VSR pmax pmax
comp=E,3μm,4.4s
VORD Divnogorie 123.11 323 *i* PKIKP **PKPdf** 22 22 11.4 +4.0
VORD *e* 22 23 47.2
VORD *e*SS SS 22 40 24.0 -5.5
VORD pmax pmax
comp=Z,2μm,3.8s
VORD pmax pmax
comp=E,2μm,4.8s
KIV Kislovodsk 123.14 314 *d* iPKIKP **PKPdf** 22 22 10.4 +2.5
KIV *e* 22 22 17.5
KIV *e* 22 23 46.6
KIV *e* 22 29 01.2
AKH Akhalkalaki 123.16 311 P PKPdf 22 22 15.3 +7.2
CLDR Calderan 123.30 308 *e*P **PKPdf** 22 22 10.0 +1.5
KAF Kangasniemi 123.36 339 *e*PKIKP **PKPdf** 22 22 11.1 +3.5
KAF Kangasniemi 123.36 339 *e*pkp **PKPdf** 22 22 11.1 +3.5
KAF Kangasniemi 123.36 339 *e*p **PKKPab** 22 32 01.0 +4.6
comp=E,6.2nm,0.6s
DIGO Kars 123.46 310 *i* P PKPdf 22 22 16.0 +7.2
KONS Konsvik 123.69 348 *e*P **PKPdf** 22 22 12.2 +4.1
EPOS Posof 123.70 311 *i* P **PKPdf** 22 22 09.2 +0.1
HAKT HAKKARI 123.75 307 *i* P **PKPdf** 22 22 12.2 +2.8
FLOS Flostrand 123.78 347 *e*P **PKPdf** 22 22 12.5 +4.3
STOK Stokkvaagen 123.86 347 *e*P PKPdf 22 22 14.0 +5.6
STOK *i* 22 24 14.2
CUKT Cukurca 123.88 306 *e*P **PKPdf** 22 22 12.3 +2.8
CHVG Ch'k'valeri 123.88 313 P PKPdf 22 22 14.8 +5.6
FINES FINESS Array B 123.88 338 PKP **PKPdf** 22 22 08.0 -0.6
FINES PKKPbc **PKKPbc** 22 32 00.7 +3.7
FINES FINESS Array B 123.88 338 PKP **PKPdf** 22 22 08.0 -0.6
comp=E,24nm,0.9s,baz=83,slow=1.0,SNR=5.2
FINES PKKPbc **PKKPbc** 22 32 00.7 +3.7
comp=E,6.1nm,0.8s,baz=282,slow=1.2,SNR=4.8
TUTA Tutak 124.09 309 *i* P **PKPdf** 22 22 13.1 +3.1
GEVA Gevas 124.12 308 *i* P **PKPdf** 22 22 13.2 +3.2
BOSA Boshof 124.16 222 *e*PKPdf **PKPdf** 22 22 09.3 -1.0
BOSA PKP **PKPdf** 22 22 09.6 -0.8
BOSA PKKPab **PKKPab** 22 31 58.9 +2.8
BOSA Boshof 124.16 222 PKP **PKPdf** 22 22 09.6 -0.8
comp=E,155nm,0.9s,baz=122,slow=2.0,SNR=25
BOSA PKKPab **PKKPab** 22 31 58.9 +2.8
comp=E,5.0nm,0.9s,baz=358,slow=9.1,SNR=6.4
SUR Sutherland 124.17 215 PKP **PKPdf** 22 22 10.1 -0.3
SUR Sutherland 124.17 215 PKP **PKPdf** 22 22 10.1 -0.3
comp=E,174nm,1.0s,baz=235,slow=2.0,SNR=25
SDDR Presa de Saban 124.33 76 *e*PKPdf **PKPdf** 22 22 10.7 -0.1
ARTV Artvin 124.36 311 *i* P **PKPdf** 22 22 13.4 +2.9
DAGI Agillar 124.40 311 *i* P **PKPdf** 22 22 15.1 +4.7
DBOC Borcka 124.52 311 *i* P **PKPdf** 22 22 10.8 +0.3
BCA Borcka 124.53 312 *e*P **PKPdf** 22 22 14.2 +3.7
DDEM Demirkent 124.56 311 *i* P **PKPdf** 22 22 10.1 -0.6
DBAD Bademkaya 124.57 311 *i* P **PKPdf** 22 22 11.1 +0.3
HOMI Horasan 124.64 310 *i* P PKPdf 22 22 18.2 +7.2
SIRT Sirnak 124.75 307 *e*P **PKPdf** 22 22 12.3 +1.1
SIV San Ignacio 124.82 120 PKP **PKPdf** 22 22 11.7 -0.1
SIV PKKPbc **PKKPab** 22 31 53.7 +0.7
SIV San Ignacio 124.82 120 PKP **PKPdf** 22 22 11.7 -0.1
comp=E,7.2nm,0.6s,baz=267,slow=3.8,SNR=10
SIV PKKPbc **PKKPab** 22 31 53.7 +0.7
comp=E,6.7nm,0.9s,baz=113,slow=6.8,SNR=5.3
ATD Arta Tunnel 125.02 275 PKP **PKPdf** 22 22 15.5 +3.2
ATD Arta Tunnel 125.02 275 PKP **PKPdf** 22 22 15.5 +3.2
comp=E,35nm,1.0s,baz=302,slow=4.7,SNR=6.9
ERZM Erzurum 125.08 310 *i* P **PKPdf** 22 22 12.6 +0.7
EZM Erzurum 125.08 310 *e*P **PKPdf** 22 22 13.4 +1.5
SOC Sochi 125.31 315 *i* PKIKP **PKPdf** 22 22 09.7 -2.2
SOC *e* 22 24 00.2
SOC *e*PPP PPP 22 26 44.0
SOC *i* PS **PS** 22 34 05.9 +2.1
SOC MLR MLR
comp=Z,171μm,20.0s
SOC MLR MLR
comp=N,107μm,20.0s

SOC MLR MLR
comp=E,126µm,20.0s
BNGL BINGOL 125.45 309 *i* P **PKPdf 22 22 17.4 +4.8**
BEST Besiri 125.58 307 *i* P PKPdf 22 22 19.4 +6.6
NSS Namsos 125.63 347 *i* PP 22 24 11.4 +8.1
KOPT Kop Dagi 125.70 310 *i* P PKPdf 22 22 20.8 +7.6
BNGB Bing¶ll 125.80 309 *e*P **PKPdf 22 22 16.5 +3.3**
SAML Samuel 126.04 111 *e*PKPdf **PKPdf 22 22 12.4 -1.8**
SAML *e*SKPdf **SKPdf 22 25 46.6 -0.6**
LBTB Lobatse 126.30 225 *e*PKPdf **PKPdf 22 22 13.1 -1.5**
MAZI Mazidag 126.31 307 *e*P **PKPdf 22 22 18.8 +4.6**
GUMT Gumushane 126.34 311 *e*P **PKPdf 22 22 17.2 +3.1**
UZZM Uzzimlu 126.37 310 *i*P PKPdf 22 22 19.6 +5.4
ERZN Erzincan 126.38 310 *e*P **PKPdf 22 22 18.8 +4.6**
DIYA Diyarbakir 126.47 308 *i* P PKPdf 22 22 19.9 +5.5
ANN Anapa 126.49 317 *i* PKIKP **PKPdf 22 22 17.1 +3.0**
ANN *i* 22 24 10.3
KELT Kelkit 126.59 311 *i* P PKPdf 22 22 20.6 +5.9
EZC Erzincan 126.62 310 *e*P **PKPdf 22 22 15.9 +1.1**
NRS Narsarsuaq 126.66 19 *i* PKIKP **PKPdf 22 22 17.6 +3.7**
ESPY Espiye-Giresun 126.77 312 *e*P **PKPdf 22 22 16.1 +1.3**
PTK Pertek 126.80 309 *e*P **PKPdf 22 22 15.9 +0.7**
MZM Mzuzu 126.95 245 *i* P **PP 22 24 18.0 +4.3**
MZM Mzuzu 126.95 245 *i* P PKKSbc 22 35 44.3 +7.1
TBLU Trondheim 127.12 347 *e* **PP 22 24 14.9 +1.7**
TBLU *i* 22 39 55.7
TBLU AMS AMS 23 24 37.6
comp=Z,607µm,26.5s
ELZG Elazig 127.20 309 *i* P PKPdf 22 22 22.1 +6.2
ILIC ilic-Erzincan 127.28 310 *e*P **PKPdf 22 22 19.2 +3.3**
SUSE Susehri 127.35 311 *i* P PKPdf 22 22 22.4 +6.2
KEMA Kemaliye 127.38 310 *i* P PKPdf 22 22 22.4 +6.2
DODT Dodoma, Tanzan 127.48 252 *i* P PP 22 24 26.5 +8.9
DODT Dodoma, Tanzan 127.48 252 *i* P PKKSdf 22 36 15.3 +9.3
MICGM Minsk 127.49 331 *e*PKP **PKPdf 22 22 20.0 +4.3**
MNK Minsk 127.51 331 *e*PKIKP **PKPdf 22 22 20.0 +4.3**
MNK *e* 22 24 16.0
MNK *e* 22 29 18.0
MNK *e* 22 34 12.0
ISAL Salakas 127.65 333 *e*P PKPdf 22 22 21.3 +5.3
ISAL AMB AMB 22 22 45.1
comp=Z,101nm,1.2s
MALT Malatya 127.67 309 ⇓PKIKP **PKPdf 22 22 14.5 -2.2**
MALT Malatya 127.67 309 *e*P **PKPdf 22 22 15.7 -1.0**
MALT Malatya 127.67 309 ⇓*i*P **PKPdf 22 22 14.5 -2.2**
IIGN Ignalina 127.74 333 *e*P **PKPdf 22 22 20.9 +4.7**
IIGN AMB AMB 22 22 44.7
comp=Z,164nm,1.3s
KMBO Kilima Mbogo 127.74 258 *e*PKPdf **PKPdf 22 22 15.5 -2.3**
KMBO PKP **PKPdf 22 22 16.4 -1.4**
KMBO Kilima Mbogo 127.74 258 PKP **PKPdf 22 22 16.4 -1.4**
comp=Z,8.4nm,0.8s,baz=49,slow=4.1,SNR=9.6
NACGM Naroch 127.76 332 *e*PKP **PKPdf 22 22 12.0 -4.2**
MAUS Longido 127.77 256 *i* P **PKKSbc 22 35 38.1 +3.6**
RSDY Resadiye-TOKAT 127.94 311 *e*P **PKPdf 22 22 14.1 -3.0**
SCER sogukcermik 128.24 311 *i* P PKPdf 22 22 25.3 +7.5
CRPR Cabo Rojo, PR 128.25 77 *e*PKPdf **PKPdf 22 22 19.5 +1.3**
ERBA Erbaa 128.28 312 *i* P PKPdf 22 22 24.8 +7.0
LSP Las Mesas 128.28 77 *e*PKPdf **PKPdf 22 22 20.7 +2.4**
MOL Molde 128.31 348 *e*P **PKPdf 22 22 22.0 +5.0**
MOL *e*PP **PP 22 24 21.1 +0.2**
MOL AMS AMS 23 26 12.9
comp=Z,408µm,23.5s
SVSK Karacayir 128.32 311 *e*P **PKPdf 22 22 19.4 +1.7**
TOKT Tokat 128.53 311 *e*P **PKPdf 22 22 22.4 +4.1**
GZT Gaziantep 128.57 308 *i* P PKPdf 22 22 25.9 +7.4
AAE Adis Abeba 128.62 271 *i* P PP 22 24 35.8 +10
AAE Adis Abeba 128.62 271 *i* P PKKSdf 22 36 16.8 +12
SIM Simferopol' 128.63 318 *d*⇑PKIKP PKPdf 22 22 24.4 +6.2
SIM *i* 22 22 31.0
KVT Kavak 128.66 313 *e*P **PKPdf 22 22 19.4 +1.0**
OBIP Obispado Ponce 128.73 77 *e*PKPdf **PKPdf 22 22 20.5 +1.4**
CELP Cerrillos 128.75 77 *e*PKPdf **PKPdf 22 22 21.4 +2.2**
NB2 NORSAR Subarra128.81 345 PKPdf **PKPdf 22 22 20.3 +2.2**
comp=Z,212nm,1.4s,baz=31,slow=1.9
NB2 NORSAR Subarra128.81 345 PKPdf **PKPdf 22 22 20.3 +2.2**
baz=31,slow=1.9
NOA NORSAR Array B128.81 345 PKPpre PKPpre 22 22 09.6
NOA PKP **PKiKP 22 22 19.0 +0.2**
NOA SKP 22 25 49.2
NOA PKKPbc PKKPdf 22 31 48.8 -39
NOA ⇑*e* 22 34 52.4
NOA NORSAR Array B128.81 345 PKhKP PKPpre 22 22 09.6
comp=Z,1.6nm,0.8s,baz=70,slow=2.6,SNR=4.5
NOA PKP **PKiKP 22 22 19.0 +0.2**
comp=Z,19nm,0.8s,baz=32,slow=2.0,SNR=14
NOA SKP 22 25 49.2
comp=Z,17nm,0.9s,baz=30,slow=3.5,SNR=4.5
NOA PKKPbc PKKPdf 22 31 48.8 -39
comp=Z,2.3nm,0.8s,baz=207,slow=4.6,SNR=4.0
NOA PKP2bc 22 34 52.4
comp=Z,2.8nm,0.9s,baz=168,slow=1.8,SNR=3.7
HFS Hagfors 128.90 343 PKPpre PKPpre 22 22 07.7
HFS PKP **PKPdf 22 22 18.3 +0.1**
HFS Hagfors 128.90 343 PKhKP PKPpre 22 22 07.7
comp=Z,3.0nm,0.6s,baz=7.1,slow=3.6,SNR=4.8
HFS PKP **PKPdf 22 22 18.3 +0.1**
comp=Z,9.0nm,0.7s,baz=57,slow=5.3,SNR=6.0
AKASG Malin Array Be 128.92 326 PKIKP PKPpre 22 22 08.2
AKASG 22 22 16.3
AKASG 22 24 24.9
AKASG Malin Array Be 128.92 326 PKPpre PKPpre 22 22 08.2
AKASG PKP **PKPdf 22 22 16.3 -2.3**
AKASG PP **PP 22 24 24.9 -0.8**
AKASG SKP 22 25 53.2
AKASG ⇑*e* 22 34 54.2
AKASG Malin Array Be 128.92 326 PKhKP PKPpre 22 22 08.2
comp=Z,2.3nm,0.6s,baz=60,slow=2.5,SNR=4.8
AKASG PKP **PKPdf 22 22 16.3 -2.3**
comp=Z,2.5nm,0.6s,baz=65,slow=2.9,SNR=6.9
AKASG PP **PP 22 24 24.9 -0.8**
comp=Z,18nm,0.9s,baz=52,slow=7.0,SNR=5.4
AKASG SKP 22 25 53.2
comp=Z,19nm,0.7s,baz=53,slow=4.3,SNR=4.5
AKASG PKP2bc 22 34 54.2
comp=Z,1.9nm,0.7s,baz=43,slow=3.3,SNR=5.6
KIEV Kiev 128.93 326 *e*PKIKP **PKPdf 22 22 19.5 +0.9**
KIEV *e* 22 24 26.0
KIEV Kiev 128.93 326 *e*PKPdf **PKPdf 22 22 19.5 +0.9**
KIEV *e*PP **PP 22 24 26.0 +0.3**
DIKM Dikmen 129.04 313 *e*P **PKPdf 22 22 18.8 -0.3**
KMRS Kahramanmaras 129.04 308 *e*P **PKPdf 22 22 18.8 -0.5**
KUZU Kuzuini 129.09 307 *i* P **PKPdf 22 22 18.2 -1.2**
SJG San Juan 129.16 77 PKP **PKPdf 22 22 19.6 -0.4**
SJG SKPbc SKPbc 22 25 42.8 +3.8
SJG San Juan 129.16 77 PKP **PKPdf 22 22 19.6 -0.4**
comp=Z,75nm,0.8s,baz=237,slow=0.7,SNR=12
SJG SKPbc SKPbc 22 25 42.8 +3.8
comp=Z,216nm,0.9s,baz=326,slow=2.1,SNR=9.2
CBYP Canovanas 129.45 77 *e*PKPdf **PKPdf 22 22 22.6 +2.1**
ANDN Andirin 129.45 308 *i* P **PKPdf 22 22 19.9 -0.2**
BNN Bunyan 129.48 310 *e*P **PKPdf 22 22 19.3 -0.9**
BZK Bozkurt 129.82 314 *e*P **PKPdf 22 22 20.0 -0.5**
KOZT Kozan 129.88 308 *e*P **PKPdf 22 22 17.6 -3.2**
OSL Oslo 129.88 344 *e*P PKPdf 22 22 25.3 +5.2
SUW Suwalki 129.96 333 *e*PKIKP **PKPdf 22 22 21.5 +1.1**
SUW Suwalki 129.96 333 *e*PKPdf **PKPdf 22 22 21.5 +1.1**
SUW Suwalki 129.96 333 *e*PKPdf **PKPdf 22 22 23.0 +2.6**
SUW *e* 22 22 44.5
SUW *e*PP **PP 22 24 34.0 +1.9**
CORM Corum 129.97 312 *e*P **PKPdf 22 22 20.0 -1.1**
YAYL Yayladag 130.03 306 *i* P PKPdf 22 22 27.9 +6.6
TOS Tosya 130.12 313 *e*P **PKPdf 22 22 22.4 +1.1**
TRIS Tristan da Cun 130.15 181 *e*PKPdf **PKPdf 22 22 23.6 +2.1**
ASF Jabal al Asfar 130.21 301 PKP **PKPdf 22 22 21.3 -0.4**
ASF PP PP 22 24 44.1 +9.0
ASF Jabal al Asfar 130.21 301 PKP **PKPdf 22 22 21.3 -0.4**
comp=Z,5.2nm,0.8s,baz=41,slow=2.1,SNR=6.6
ASF PP PP 22 24 44.1 +9.0
comp=Z,76nm,1.2s,baz=52,slow=3.7,SNR=5.8
SUE Sulen 130.24 348 *e* **PP 22 24 35.7 +2.1**
SUE *i* 22 35 18.9
SUE AMS AMS 23 37 19.4
comp=Z,308µm,24.6s
STVI Saint Thomas 130.31 77 *e*PKPdf **PKPdf 22 22 22.2 +0.1**
ILGA Ilgaz 130.34 313 *i* P PKPdf 22 22 28.0 +6.1
KONO Kongsberg 130.41 345 *e*PP PP 22 24 31.9 -2.9
KONO AMS AMS 23 34 26.7
comp=Z,617µm,21.9s
KONO Kongsberg 130.41 345 *e*PKIKP **PKPdf 22 22 22.1 +1.0**
KONO Kongsberg 130.41 345 *e*PKPdf **PKPdf 22 22 22.1 +1.0**
CDVI St. Croix 130.47 78 *e*PKPdf **PKPdf 22 22 24.0 +1.6**

KARA Karaisali 130.53 308 *e*P **PKPdf 22 22 24.1 +2.1**
CANT Cankiri 130.56 313 *e*P **PKPdf 22 22 23.6 +1.4**
HWQ Hawqa 130.57 304 *e*P **PKPdf 22 22 25.7 +3.3**
NIG Nigde 130.62 309 *e*P **PKPdf 22 22 22.4 -0.2**
ASK Askoy 130.68 348 *e*P PKPdf 22 22 27.1 +5.5
RUND Rundenannen 130.71 348 *e*P PKPdf 22 22 27.0 +5.3
GULE Gulek 130.73 308 *i* P PKPdf 22 22 15.8 -6.8
SPB Sao Paulo 130.74 137 *e*PKPdf **PKPdf 22 22 23.7 +0.8**
SPB *e*SKPdf **SKPdf 22 25 51.4 -4.4**
BER Bergen 130.74 348 *e* **PKPdf 22 22 17.3 -4.4**
BER *e*PP **PP 22 24 37.6 +0.8**
BER AMS AMS 23 31 55.7
comp=Z,367µm,24.3s
RCY Rachaya 130.83 303 *e*P **PKPdf 22 22 27.1 +4.1**
BR131 Keskin Array S 130.84 312 *e*PKPdf PKPpre 22 22 10.4
BRTR Keskin Array B 130.84 312 PKPpre PKPpre 22 22 13.6
BRTR PP PP 22 24 44.4 +5.5
BRTR SKP 22 25 55.8
BRTR Keskin Array B 130.84 312 PKhKP PKPpre 22 22 13.6
comp=Z,3.6nm,0.7s,baz=110,slow=2.6,SNR=6.3
BRTR PP PP 22 24 44.4 +5.5
comp=Z,53nm,0.9s,baz=87,slow=5.7,SNR=7.0
BRTR SKP 22 25 55.8
comp=Z,25nm,0.7s,baz=88,slow=2.8,SNR=5.4
BHL Bhannes 130.89 304 *e*P **PKPdf 22 22 26.4 +3.4**
ODD1 Odda 130.89 347 *e* PKPdf 22 22 16.4 -5.7
ODD1 *e*PP **PP 22 24 37.2 -0.7**
ODD1 AMS AMS 23 33 54.9
comp=Z,945µm,22.1s
SAFT Safranbolu 131.00 314 *e*P **PKPdf 22 22 27.7 +4.8**
KIS Kishinev 131.04 322 *i* PKP **PKPdf 22 22 25.0 +2.3**
KIS Kishinev 131.04 322 *i* PP PP 22 24 42.0 +2.4
comp=Z,44µm,21.0s
KIS Kishinev 131.04 322 *e*PKS **PKSab 22 25 51.0 +2.3**
KIS Kishinev 131.04 322 *e*PS PS 22 34 41.0 -13
KIS Kishinev 131.04 322 *i* PKIKP **PKPdf 22 22 25.0 +2.3**
KIS *e* 22 22 32.0
KIS *i* 22 24 42.0
KIS *e*PS PS 22 34 41.0 -13
KIS Kishinev 131.04 322 ⇓*i*P PKPdf 22 22 33.4 +11
BBAL Bala 131.28 312 *i* P PKPdf 22 22 14.9 -8.7
MMAI Mount Meron Ar 131.28 303 PKPpre PKPpre 22 22 18.3
MMAI PP PP 22 24 51.6 +10
MMAI SKPbc **SKiKP 22 25 54.4 -4.0**
MMAI Mount Meron Ar 131.28 303 PKhKP PKPpre 22 22 18.3
comp=Z,11nm,0.8s,baz=64,slow=1.9,SNR=6.1
MMAI PP PP 22 24 51.6 +10
comp=Z,121nm,1.2s,baz=61,slow=6.9,SNR=4.8
MMAI SKPbc **SKiKP 22 25 54.4 -4.0**
comp=Z,23nm,0.9s,baz=70,slow=7.2,SNR=2.3
AFSR Af'ar-Bala (A 131.35 311 *e*P **PKPdf 22 22 21.8 -1.9**
ANTO Ankara 131.41 312 *e*PKIKP **PKPdf 22 22 25.0 +1.3**
ANTO Ankara 131.41 312 *e*P **PKPdf 22 22 23.7 -0.1**
ANTO Ankara 131.41 312 ⇑*i*P **PKPdf 22 22 26.4 +2.7**
ANTO Ankara 131.41 312 *e*PKPdf **PKPdf 22 22 25.0 +1.3**
SULT Sultanhani-AKS 131.42 310 *e*P **PKPdf 22 22 23.0 -0.9**
LEOM Leova 131.65 322 ⇓PKIKP PKPdf 22 22 29.9 +6.1
LEOM Leova 131.65 322 ⇓*i*P PKPdf 22 22 29.9 +6.1
EREN Erenkoy 131.68 306 *e*P **PKPdf 22 22 21.8 -2.5**
IAS Iasi 131.69 323 ⇓PKIKP PKPdf 22 22 34.4 +10
IAS Iasi 131.69 323 ⇓*i*P PKPdf 22 22 34.4 +10
KMY Karmoy 131.83 347 *e*P PKPdf 22 22 30.9 +7.1
KMY AMS AMS 23 33 14.4
comp=Z,371µm,23.5s
KDZE Karadeniz Ereo 131.84 314 *e*P **PKPdf 22 22 25.9 +1.5**
TLCR 131.92 320 ⇑PKIKP **PKPdf 22 22 23.9 -0.5**
TLCR 131.92 320 ⇑*i*P **PKPdf 22 22 23.9 -0.5**
PHNC Paralimni 131.93 306 P PKPdf 22 22 47.5 +23
comp=Z,5.7nm,1.2s
LRW Lerwick 132.11 352 *e*P PKPdf 22 22 11.9 -12
LRW AMS AMS 23 26 55.7
comp=Z,335µm,25.8s
SNART Snartemo 132.16 345 *e*P **PKPdf 22 22 25.1 +0.7**
LVV L'vov 132.17 328 *e*PKIKP PKPdf 22 22 34.6 +10
LFK Lefkose 132.25 306 *e*P **PKPdf 22 22 26.5 +1.0**
EIL Elat 132.30 298 PKPpre PKPpre 22 22 19.1
EIL Elat 132.30 298 PKhKP PKPpre 22 22 19.1
comp=Z,5.7nm,0.8s,baz=282,slow=4.5,SNR=3.9
MDUB Mudurnu 132.33 313 *e*P **PKPdf 22 22 23.6 -2.0**
CFR Carcaliu 132.35 321 ⇑PKIKP **PKPdf 22 22 21.1 -4.1**
CFR Carcaliu 132.35 321 ⇑*i*P **PKPdf 22 22 21.1 -4.1**
ERMK Ermenek 132.35 308 *i* P **PKPdf 22 22 22.7 -3.1**
GHRR 132.36 322 ⇓*i*P PKPdf 22 22 16.9 -8.3
KONT Konya--Tatoy 132.36 310 *e*P PKPdf 22 22 18.8 -6.7
PRAR RASCA 132.37 324 ⇓*i*P PKPdf 22 22 30.5 +5.2
SKI Saint Kitts 132.38 78 *e* **PKPdf 22 22 27.9 +1.8**
KIZT Kizilcal 132.41 311 *e*P **PKPdf 22 22 29.4 +3.7**
SVRH Sivrihisar-ESK 132.47 312 *e*P **PKPdf 22 22 24.1 -1.7**
BEL Belsk 132.48 332 *e*PKPdf **PKPdf 22 22 29.0 +3.7**
BEL *e* 22 22 49.3
BEL *e*PP **PP 22 24 53.0 +4.5**
CSS Prodhromos 132.49 306 P PKPdf 22 22 48.1 +22
comp=Z,4.2nm,1.2s
CSS Prodhromos 132.49 306 P **PKPdf 22 22 21.3 -4.6**
CSS Prodhromos 132.49 306 *e*P **PKPdf 22 22 23.9 -2.0**
CSS Prodhromos 132.49 306 *e*PKPdf PKPdf 22 22 19.5 -6.4
TIRR Tirgusor 132.52 320 ⇓PKIKP **PKPdf 22 22 26.3 +0.7**
TIRR Tirgusor 132.52 320 ⇓*i*P **PKPdf 22 22 26.3 +0.7**
TIRR Tirgusor 132.52 320 *e*PKPdf **PKPdf 22 22 26.8 +1.3**
BSD Bornholm Skovb 132.53 338 *i* PKIKP PKPdf 22 22 31.6 +6.4
BSD Bornholm Skovb 132.53 338 *i* P PKPdf 22 22 31.6 +6.4
comp=Z,63nm,0.7s
MAMC Mammari 132.53 306 P PKPdf 22 22 48.3 +22
EFOR EFORIE 132.55 319 ⇑*i*P **PKPdf 22 22 30.1 +4.5**
HDMB Hadim 132.58 309 *e*P **PKPdf 22 22 25.3 -0.9**
PETR Petresti 132.63 322 ⇑*i*P PKPdf 22 22 31.5 +5.8
TLB Topalu 132.69 320 ⇑PKIKP PKPdf 22 22 18.5 -7.4
TLB Topalu 132.69 320 ⇑*i*P PKPdf 22 22 18.5 -7.4
MANR Mangalia 132.70 319 ⇑*i*P PKPdf 22 22 32.7 +6.8
HARR Harsova 132.71 320 ⇑PKIKP PKPdf 22 22 31.3 +5.4
HARR Harsova 132.71 320 ⇑*i*P PKPdf 22 22 31.3 +5.4
LEF Lefka 132.80 306 *e*P **PKPdf 22 22 22.4 -4.0**
BURAR Bucovina Array 132.81 325 ⇑PKIKP PKPdf 22 22 19.8 -6.4
BURAR Bucovina Array 132.81 325 ⇑*i*P PKPdf 22 22 19.8 -6.4
GULT Gulveren 132.83 314 *e*P PKPdf 22 22 21.2 -5.2
VRI Vrincioaia 132.86 322 ⇑PKIKP PKPdf 22 22 33.3 +7.1
VRI Vrincioaia 132.86 322 ⇑*i*P PKPdf 22 22 33.3 +7.1
SPNC Sapanca-Adapaz 132.87 314 *e*P **PKPdf 22 22 24.1 -2.2**
SZAC Souni-Zanaja 132.90 306 P PKPdf 22 22 48.7 +22
comp=Z,6.6nm,0.8s
PLOR Plostina 132.92 322 ⇓PKIKP **PKPdf 22 22 30.4 +4.0**
PLOR Plostina 132.92 322 ⇓*i*P **PKPdf 22 22 30.4 +4.0**
COP Copenhagen 132.93 340 *i* PKIKP PKPdf 22 22 33.5 +7.5
COP Copenhagen 132.93 340 *i* P PKPdf 22 22 33.5 +7.5
comp=Z,35nm,0.8s
ESKT Eskisehir 132.93 312 *e*P **PKPdf 22 22 30.6 +3.9**
GRER 132.96 321 ⇓*i*P **PKPdf 22 22 30.5 +4.1**
KWP Kalwaria Pacla 132.97 328 *e*PKIKP **PKPdf 22 22 27.6 +1.3**
KWP Kalwaria Pacla 132.97 328 ⇑*i*P PKPdf 22 22 31.7 +5.4
KWP Kalwaria Pacla 132.97 328 *e*PKPdf **PKPdf 22 22 27.6 +1.3**
KWP Kalwaria Pacla 132.97 328 *e*PKPdf **PKPdf 22 22 30.4 +4.1**
KWP *e* 22 22 49.7
KWP *e*PP **PP 22 24 55.9 +4.1**
ALFC Alevga 133.02 306 P PKPdf 22 22 49.2 +22
comp=Z,2.1nm,0.8s
GKP Gorka Klasztor 133.03 335 *e*PKPdf **PKPdf 22 22 30.0 +3.8**
GKP *e* 22 22 49.7
GKP *e*PP **PP 22 24 49.6 -2.2**
MSAB Monastry St. A 133.06 319 ⇓*i*P **PKPdf 22 22 24.2 -2.4**
BORA Eskisehir 133.08 313 *i* P **PKPdf 22 22 30.1 +3.2**
BOLV Bolvadin 133.15 311 *i* P PKPdf 22 22 34.4 +7.2
SILT Sile 133.15 315 *e*P **PKPdf 22 22 23.0 -3.9**
AKMC Akamas 133.27 306 P PKPdf 22 22 49.7 +22
HRT Hereke 133.27 315 *e*P **PKPdf 22 22 23.0 -4.2**
LLD Lille Linde 133.29 340 *i* PKIKP PKPdf 22 22 32.7 +6.1
LLD Lille Linde 133.29 340 *i* P PKPdf 22 22 32.7 +6.1
comp=Z,99nm,0.8s
MUD Monsted U'grnd 133.29 343 *e*PKIKP PKPdf 22 22 34.3 +7.7
MUD Monsted U'grnd 133.29 343 *i* P PKPdf 22 22 34.3 +7.7
comp=Z,41nm,1.1s
PPCY Paphos 133.29 306 P PKPdf 22 22 49.4 +22
FNG Fond-Bernard 133.34 80 *e*P **PKPdf 22 22 32.0 +4.0**
SSG Sans Toucher 133.35 80 *e*P **PKPdf 22 22 28.1 0.0**
ISR Istrita 133.36 321 ⇓PKIKP PKPdf 22 22 35.0 +7.8
ISR Istrita 133.36 321 ⇓*i*P PKPdf 22 22 35.0 +7.8
CRG Carmichael 133.36 80 *e*P **PKPdf 22 22 30.9 +2.7**
ECG Echelle 133.37 80 *e*P **PKPdf 22 22 29.4 +1.2**
ADVT Abdulvahap 133.37 314 *e*P **PKPdf 22 22 24.7 -2.6**
CAVI Cavuskoy 133.39 314 *e*P **PKPdf 22 22 27.1 -0.3**
KLYT Kilyos 133.52 315 *e*P **PKPdf 22 22 24.7 -2.8**
MLR Muntele Rosu 133.53 322 ⇓*i*P **PKPdf 22 22 26.9 -0.7**

SEG Port Louis 133.53 80 *e*P **PKPdf 22 22 24.1 -4.2**
RGN Rugen 133.54 339 *e*PP PP 22 24 57.1 +2.1
SVB Belmont 133.56 84 *e* **PKPdf 22 22 24.8 -3.6**
ARCR ARCALIA 133.59 325 ⇑*i*P PKPdf 22 22 33.3 +5.8
ISK Istanbul-Kandi 133.59 315 *e*P **PKPdf 22 22 25.9 -1.8**
DOPR Dopca 133.61 323 ⇑*i*P PKPdf 22 22 32.9 +5.3
WIN Windhoek 133.62 221 *i* P PP 22 25 04.8 +8.5
KOLS Kolonicke sedl 133.62 328 *e*PKIKP PKPdf 22 22 19.3 -8.3
KOLS *e* 22 22 33.3
KOLS *e* 22 24 57.1
KOLS Kolonicke sedl 133.62 328 *e*PKP PKPdf 22 22 19.3 -8.3
KOLS *e* 22 22 33.3
KOLS *e*PP **PP 22 24 57.1 +1.1**
SECR 133.69 321 ⇑*i*P **PKPdf 22 22 32.9 +5.1**
BMR Baia Mare 133.73 326 ⇑PKIKP **PKPdf 22 22 31.8 +4.0**
BMR Baia Mare 133.73 326 ⇑*i*P **PKPdf 22 22 31.8 +4.0**
BGKT Bogazkoy 133.74 315 *e*P **PKPdf 22 22 29.4 +1.5**
PRD Provadia 133.75 318 *e*P **PKPdf 22 22 30.8 +2.9**
SULR 133.76 321 ⇓*i*P **PKPdf 22 22 30.7 +2.8**
GEMT Gemlik 133.76 314 *e*P **PKPdf 22 22 25.3 -2.7**
ISP Isparta 133.78 310 *e*PKIKP **PKPdf 22 22 29.2 +0.9**
ISP Isparta 133.78 310 *e*P PKPdf 22 22 35.5 +7.2
ISP Isparta 133.78 310 ⇓*i*P **PKPdf 22 22 31.4 +3.1**
ISP Isparta 133.78 310 *e*PKPdf **PKPdf 22 22 29.2 +0.9**
UZH Uzhgorod 133.80 327 *e*PKIKP PKPdf 22 22 20.5 -7.4
UZH *e* 22 22 29.5
UZH *i* 22 22 32.5
UZH *i* 22 25 00.3
UZH *i* 22 27 51.5
UZH *e* 22 29 26.9
UZH MLR MLR
comp=N,98µm,21.0s
UZH MLR MLR
comp=E,116µm,21.0s
UZH MLR MLR
comp=Z,50µm,21.0s
STHS Stebnicka Huta 133.85 329 *e*PKIKP PKPdf 22 22 22.1 -5.9
STHS *e* 22 22 37.4
STHS *e* 22 25 01.2
STHS Stebnicka Huta 133.85 329 *e*PKP PKPdf 22 22 22.1 -5.9
STHS *e* 22 22 37.4
STHS *e*PP **PP 22 25 01.2 +3.8**
BCK Bucak 133.85 310 *e*P **PKPdf 22 22 23.6 -4.9**
CTKS Kestanelik-??a 133.90 316 *e*P **PKPdf 22 22 30.6 +2.4**
ULDT Uludag 133.91 314 *i* P **PKPdf 22 22 32.4 +3.8**
ARMT Armutlu 133.93 315 *e*P **PKPdf 22 22 27.7 -0.7**
TVSB Tavsanli 133.95 313 *e*P **PKPdf 22 22 24.7 -3.9**
H05N1 Guadeloupe/Mar 133.95 80 PKP **PKPdf 22 22 31.2 +2.1**
SNR=33
TRPA Tarpa 133.97 327 ⇓*i*P **PKPdf 22 22 26.0 -2.2**
MDNY Mudanya-Bursa 134.00 314 *e*P PKPdf 22 22 21.8 -6.7
OJC Ojcow 134.03 331 *e*PKIKP **PKPdf 22 22 29.8 +1.5**
OJC *e* 22 25 02.2
OJC Ojcow 134.03 331 *e*PKPdf **PKPdf 22 22 29.8 +1.5**
OJC *e*PP **PP 22 25 02.2 +3.8**
OJC L L 23 35 47.0
comp=Z,124µm,22.2s
TOSP Speyside 134.04 87 *e* PKPdf 22 22 17.6 -12
GDZ Gediz 134.08 312 *i* P PKPdf 22 22 18.1 -11
VOIR 134.09 322 ⇑PKIKP **PKPdf 22 22 33.2 +4.6**
VOIR 134.09 322 ⇑*i*P **PKPdf 22 22 33.2 +4.6**
SLVT Silivri 134.10 316 *e*P PKPdf 22 22 23.0 -5.7
KORT Korkueli 134.18 309 *i* P PKPdf 22 22 22.4 -6.8
MTUR Matau 134.20 322 ⇑PKIKP PKPdf 22 22 34.6 +5.7
MTUR Matau 134.20 322 ⇑*i*P PKPdf 22 22 34.6 +5.7
NIE Niedzica 134.31 329 *e*PKIKP **PKPdf 22 22 31.3 +2.4**
NIE *e* 22 25 04.4
NIE Niedzica 134.31 329 *e*PKPdf **PKPdf 22 22 31.3 +2.4**
NIE *e*PP **PP 22 25 04.4 +4.1**
NIE L L 23 35 54.0
comp=Z,968µm,22.8s
KHL Karahalli 134.33 311 *e*P **PKPdf 22 22 33.6 +4.3**
KHAL Karahalli 134.34 311 *i* P **PKPdf 22 22 34.4 +5.0**
ARR Arges 134.38 322 ⇓*i*P PKPdf 22 22 20.0 -9.2
PHSR Pinarhisar 134.39 316 *e*P PKPdf 22 22 21.2 -8.0
KCTX Karacabey (Bur 134.41 314 *e*P **PKPdf 22 22 25.9 -3.4**
CRLT Corlu 134.47 316 *e*P PKPdf 22 22 24.1 -5.2
DST Dursunbey 134.49 313 *e*P PKPdf 22 22 21.2 -8.4
DURS Dursunbey 134.59 313 *i* P **PKPdf 22 22 26.8 -3.0**
ELL Elmali 134.60 309 *e*P **PKPdf 22 22 30.6 +0.7**
HUMR Humele 134.61 321 ⇓*i*P **PKPdf 22 22 24.5 -5.0**
JMB Yambol 134.63 318 P **PP 22 22 31.0 +1.4**
JMB Yambol 134.63 318 PKIKP **PKPdf 22 22 31.0 +1.4**
JMB Yambol 134.63 318 *e*P PKPdf 22 22 23.2 -6.4
JMB Yambol 134.63 318 P **PKPdf 22 22 31.0 +1.4**
DEMI Demirci 134.64 313 *i* P **PKPdf 22 22 34.5 +4.6**
MVH1 Achvaich 134.65 353 *e*P PKPdf 22 22 18.5 -11
TKR Tekirdag 134.66 316 *e*P **PKPdf 22 22 25.3 -4.4**
DRGR 134.68 325 ⇓PKIKP **PKPdf 22 22 28.7 -1.0**
DRGR 134.68 325 ⇓*i*P **PKPdf 22 22 28.7 -1.0**
GOLH Golhisar 134.69 310 *i* P **PKPdf 22 22 25.7 -4.5**
ZIMR 134.82 320 ⇓PKIKP PKPdf 22 22 36.7 +6.8
ZIMR 134.82 320 ⇓*i*P PKPdf 22 22 36.7 +6.8
MCD Coleburn Disti 134.86 352 *e*P PKPdf 22 22 18.2 -11
RAC Raciborz 134.88 331 *e*PKIKP **PKPdf 22 22 29.2 -0.6**
KULA Kula-Manisa 134.89 312 P **PKPdf 22 22 26.7 -3.7**
KULA Kula-Manisa 134.89 312 *e*P **PKPdf 22 22 31.8 +1.5**
KULA Kula-Manisa 134.89 312 P **PKPdf 22 22 26.7 -3.7**
DNZL Cakiroluk 134.91 311 *i* P **PKPdf 22 22 35.0 +4.5**
GONE Gonen-Balikesi 134.97 314 *e*P **PKPdf 22 22 26.5 -3.8**
MANT Manisa 134.97 312 *i* P PKPdf 22 22 17.4 -13
BALB Balikesir 135.00 314 *e*P PKPdf 22 22 24.1 -6.2
RUE Ruedersdorf 135.00 337 *e*PKPdf PKPdf 22 22 20.9 -9.0
RUE *e*PP **PP 22 25 06.9 +2.6**
AKAS Kas 135.01 309 *i* P **PKPdf 22 22 27.8 -2.9**
RKY Sarkoy-Tekirda 135.04 315 *e*P **PKPdf 22 22 31.8 +1.3**
KSL Kastellorizon 135.05 309 *e*P PKPdf 22 22 21.5 -9.1
OKC Ostrava-Krasne 135.07 331 *e*PKIKP **PKPdf 22 22 25.2 -5.0**
OKC *e* 22 22 35.3
OKC *e* 22 35 14.3
OKC *e* 22 37 13.2
OKC MLR MLR
comp=Z,950µm,26.0s
OKC Ostrava-Krasne 135.07 331 *e*PKP **PKPdf 22 22 25.2 -5.0**
OKC *ex* x 22 22 35.3
OKC *es*PKP 22 22 49.4
OKC *ex* x 22 25 15.1
OKC *e*PKS **PKSdf 22 26 10.5 +4.1**
OKC *ex* x 22 35 14.3
OKC *ex* x 22 37 13.2
OKC AMS AMS 23 32 50.0
comp=Z,950µm,26.0s
MME1 Meikle Cairn 135.08 352 *e*P PKPdf 22 22 19.3 -11
KRBG Karabiga-Canak 135.09 315 *e*P **PKPdf 22 22 29.4 -1.1**
DEV Deva 135.10 324 ⇓PKIKP **PKPdf 22 22 34.6 +4.2**
DEV Deva 135.10 324 ⇓*i*P **PKPdf 22 22 34.6 +4.2**
MDO Dochfour 135.14 353 *e*P PKPdf 22 22 20.1 -10
KAC Achnashellach 135.19 354 *e*P PKPdf 22 22 19.9 -10
KSP Ksiaz 135.20 333 *e*PKIKP **PKPdf 22 22 32.6 +2.2**
KSP *e* 22 25 08.8
KSP MLR MLR
comp=Z,863µm,22.7s
KSP Ksiaz 135.20 333 *e*PKPdf **PKPdf 22 22 32.8 +2.4**
KSP *e* 22 22 48.1
KSP *e*PP **PP 22 25 09.7 +4.0**
FETY Fethiye 135.26 309 *e*P PKPdf 22 22 25.3 -5.7
**AKHS Akhisar 135.35 313

DPC *e*PKKS 22 35 10.0
DPC *ex* x 22 37 19.9
DPC AMS AMS 23 37 10.0
UPC Upice 135.56 333 *e*PKIKP PKPdf 22 22 24.3 -6.8
UPC *e* 22 22 35.4
UPC Upice 135.56 333 *e*PKP PKPdf 22 22 24.3 -6.8
UPC *ex* x 22 22 35.4
UPC *ep*PKP pPKPdf 22 22 45.6 +3.4
UPC *es*PKP 22 22 52.0
UPC *e*PKKS 22 35 09.9
SIRR Siria 135.57 325 ||*i*P PKPdf 22 22 24.5 -6.8
HLG Helgoland 135.62 342 *e*PP PP 22 25 10.9 +2.8
AYDB Zeytinkoy-Aydi 135.67 312 *e*P **PKPdf 22 22 36.0 +4.1**
TSUM Tsumeb 135.68 224 *e*PKPpre PKPpre 22 22 24.2
TSUM PKPpre PKPpre 22 22 25.1
TSUM *e*PKPdf **PKPdf 22 21 31.6 -0.9**
TSUM Tsumeb 135.68 224 PKhKP PKPpre 22 22 25.1
comp=Z,33nm,1.0s,baz=107,slow=1.8,SNR=14
YER Yerkesik 135.68 310 *e*P **PKPdf 22 22 28.9 -3.0**
ALN Alexandropuoli 135.72 316 P **PKPdf 22 22 30.4 -1.3**
ALN Alexandropuoli 135.72 316 PKIKP **PKPdf 22 22 30.4 -1.3**
ALN Alexandropuoli 135.72 316 *e*P **PKPdf 22 22 32.9 +1.2**
ALN Alexandropuoli 135.72 316 *e*P **PKPdf 22 22 36.0 +4.3**
ALN Alexandropuoli 135.72 316 P **PKPdf 22 22 30.4 -1.3**
AYDN Tasoluk 135.78 311 *i*P PKPdf 22 22 24.9 -7.1
RDO Rodhopi 135.94 317 *e*P **PKPdf 22 22 32.5 +0.4**
IZM Izmir 135.94 312 *e*P **PKPdf 22 22 27.7 -4.6**
BZS Buzias 135.99 324 ||||PKHKP PKPpre 22 22 22.1
BZS Buzias 135.99 324 |||*i*P PKPpre 22 22 22.1
MPEP Malo Peshtene 135.99 321 *e*P **PKPdf 22 22 34.8 +2.6**
PLD Plovdiv 136.02 318 *e*P PKPdf 22 22 27.0 -5.2
PLD Plovdiv 136.02 318 *e*P **PKPdf 22 22 33.0 +0.8**
ARG Arkhangelos 136.13 309 P PKPdf 22 22 26.7 -5.9
ARG Arkhangelos 136.13 309 PKIKP PKPdf 22 22 26.7 -5.9
ARG Arkhangelos 136.13 309 *e*P **PKPdf 22 22 36.0 +3.4**
ARG Arkhangelos 136.13 309 P PKPdf 22 22 26.7 -5.9
VRAC Vranov 136.16 332 ||*i*P PKPdf 22 22 25.9 -6.4
VRAC Vranov 136.16 332 PKP **PKPdf 22 22 30.5 -1.8**
VRAC PP **PP 22 25 16.1 +4.2**
VRAC Vranov 136.16 332 PKP **PKPdf 22 22 30.5 -1.8**
comp=Z,5.4nm,0.9s,baz=16,slow=6.0,SNR=4.3
VRAC PP **PP 22 25 16.1 +4.2**
comp=Z,63nm,1.2s,baz=46,slow=7.4,SNR=6.4
BRG Berggiesshubel 136.17 335 *e*PKP PKPpre 22 22 22.4
comp=Z,30nm,1.2s
BRG *i* 22 22 37.4
comp=Z,154nm,1.7s
BRG *i* 22 22 56.5
comp=Z,239nm,1.2s
BRG *i* PP **PP 22 25 10.2 -1.6**
comp=Z,413nm,2.0s
BRG Berggiesshubel 136.17 335 *e*PKHKP PKPpre 22 22 22.4
BRG *i* 22 25 10.2
BRG pmax pmax
comp=Z,239nm,1.2s
BRG pmax pmax
comp=Z,413nm,2.0s
BRG Berggiesshubel 136.17 335 *e*PP PP 22 25 15.0 +3.2
PVCC Panska Ves 136.17 334 *e*PKHKP PKPpre 22 22 23.0
PVCC *e* 22 25 16.2
PVCC MLR MLR
comp=Z,855µm,22.0s
PVCC Panska Ves 136.17 334 *e*PKPpre PKPpre 22 22 23.0
PVCC *ex* x 22 22 37.4
PVCC *ep*PKP pPKPdf 22 22 46.9 +3.6
PVCC *e*PP **PP 22 25 16.2 +4.4**
PVCC *e*PKS **PKSdf 22 26 06.7 -1.6**
PVCC *e*PKKS 22 35 08.4
PVCC *ex* x 22 37 30.0
PVCC AMS AMS 23 36 50.0
comp=Z,855µm,22.0s
CLL Collm 136.21 336 *e*PKIKP **PKPdf 22 22 28.0 -4.3**
CLL *e* 22 25 14.0
CLL pmax pmax
comp=Z,256nm,2.3s
CLL MLR MLR
comp=Z,620µm,20.4s
CLL Collm 136.21 336 *e*PKPdf PKPpre 22 22 22.6
CLL *e*PP **PP 22 25 15.2 +3.2**
CLL Collm 136.21 336 *e*PKPdf **PKPdf 22 22 29.0 -3.3**
comp=Z,10.0nm,0.8s
CLL *i* PKiKP **PKiKP 22 22 33.0 -1.0**
CLL *i* 22 22 37.6
CLL *es*PKiKP sPKiKP 22 22 52.0 +3.2
comp=Z,256nm,1.3s
CLL *e* 22 23 00.0
CLL *e*PP **PP 22 25 14.0 +2.0**
comp=Z,751nm,2.3s
CLL *e*PPlp 22 25 17.0
comp=Z,35µm,21.2s
CLL *ep*PP 22 25 23.0
CLL *es*PP 22 25 31.0
CLL *e*(SKPab) 22 26 09.0
comp=Z,132nm,1.2s
CLL *ep*PKSbc 22 26 19.0
CLL *e*PPP PPP 22 28 16.0
CLL *ep*PPP 22 28 23.0
CLL *e*PPS PPS 22 37 23.0
comp=Z,39µm,29.7s
CLL *ep*PPPrev 22 38 27.0
CLL *e*SKKSacre 22 38 43.0
CLL *e*SSS SSS 22 48 36.0
CLL LmV 23 39 00.0
comp=Z,620µm,20.4s
CLL Lmax 23 43 00.0
SMTH Samothraki Isl 136.26 316 P **PKPdf 22 22 31.3 -1.4**
SMTH Samothraki Isl 136.26 316 *e*P **PKPdf 22 22 30.5 -2.2**
SMTH Samothraki Isl 136.26 316 P **PKPdf 22 22 31.3 -1.4**
PRK Paraskevi 136.29 314 *e*P **PKPdf 22 22 36.0 +3.2**
SMOL Smolenice 136.33 330 *e*PKIKP **PKPdf 22 22 31.0 -1.6**
SMOL *e* 22 25 14.8
SMOL Smolenice 136.33 330 *e*PKP **PKPdf 22 22 31.0 -1.6**
SMOL *e*PP **PP 22 25 14.8 +1.9**
SMOL *e* 22 38 09.7
BDRM Kayabasi 136.33 311 *i*P **PKPdf 22 22 34.8 +1.8**
NRDL Niedersach Rie 136.33 339 *e*PKPdf PKPdf 22 22 21.3 -11
NRDL *e*PP **PP 22 25 15.8 +3.2**
DAT Datca 136.36 310 *e*P **PKPdf 22 22 30.1 -3.1**
EAB Aberfoyle 136.36 353 *e*P PKPdf 22 22 21.4 -11
ESY Stoneypath 136.39 351 *e*P PKPdf 22 22 22.1 -10
BODT Bodrum 136.43 311 *e*P **PKPdf 22 22 30.6 -2.5**
EDI Edinburgh 136.47 352 AMS AMS 23 33 49.5
comp=Z,277µm,23.6s
SMG Samos 136.53 312 P **PKPdf 22 22 35.7 +2.4**
SMG Samos 136.53 312 *e*P **PKPdf 22 22 33.5 +0.2**
SMG Samos 136.53 312 P **PKPdf 22 22 35.7 +2.4**
PRA Prague 136.57 334 PKP **PKPdf 22 22 28.0 -5.0**
PRA PP **PP 22 25 19.0 +4.7**
PRA PKS PKSdf 22 26 16.0 +7.0
PRA AMS AMS 23 33 00.0
PRU Pruhonice 136.59 334 *e*PKIKP **PKPdf 22 22 28.1 -4.9**
PRU *e* 22 22 37.5
PRU *e* 22 25 18.4
PRU MLR MLR
comp=Z,899µm,24.0s
PRU Pruhonice 136.59 334 *e*PKP **PKPdf 22 22 28.1 -4.9**
PRU *ex* x 22 22 37.5
PRU *ep*PKP **pPKPdf 22 22 47.6 +3.5**
PRU *es*PKP 22 22 53.8
PRU *e*PP **PP 22 25 18.4 +4.0**
PRU *e*PKS PKSdf 22 26 15.5 +6.4
PRU *e*PKKS 22 35 07.1
PRU *ex* x 22 37 32.6
PRU AMS AMS 23 32 30.0
comp=Z,899µm,24.0s
EBL Broad Law 136.59 351 *e*P PKPdf 22 22 21.8 -11
TREC Trest 136.68 332 *e*PKHKP PKPpre 22 22 24.4
TREC *e* 22 25 18.4
TREC MLR MLR
comp=Z,1106µm,22.0s
TREC Trest 136.68 332 *e*PKPpre PKPpre 22 22 24.4
TREC *ex* x 22 22 36.0
TREC *es*PKP 22 22 52.4
TREC *e*PP **PP 22 25 18.4 +3.3**
TREC *e*PKS PKSdf 22 26 16.7 +7.3
TREC *ex* x 22 35 09.1
TREC *ex* x 22 37 31.7
TREC AMS AMS 23 38 40.0
comp=Z,1106µm,22.0s
KAVA Kavala 136.69 317 P **PKPdf 22 22 31.0 -2.5**
KAVA Kavala 136.69 317 P **PKPdf 22 22 31.0 -2.5**
ZST Bratislava 136.70 330 *e*PKIKP **PKPdf 22 22 33.0 -0.3**
ZST *e* 22 22 48.9
ZST *e* 22 25 17.4
ZST Bratislava 136.70 330 *e*PKP **PKPdf 22 22 33.0 -0.3**
ZST *e* 22 22 48.9
ZST *e*PP **PP 22 25 17.4 +2.1**
ZST *e* 22 38 12.2
ZST *e* 22 40 52.2
NIS1 Nisyros Isl. 136.71 310 P **PKPdf 22 22 31.6 -2.1**
NIS1 Nisyros Isl. 136.71 310 *e*P **PKPdf 22 22 30.9 -2.8**
NIS1 Nisyros Isl. 136.71 310 *e*P PKPdf 22 22 46.5 +13
NIS1 Nisyros Isl. 136.71 310 P **PKPdf 22 22 31.6 -2.1**
VTS Vitosha 136.73 320 P **PKPdf 22 22 33.3 -0.4**
VTS Vitosha 136.73 320 PKIKP **PKPdf 22 22 33.3 -0.4**
VTS Vitosha 136.73 320 *e*P PKPdf 22 22 27.2 -6.6
VTS Vitosha 136.73 320 ||*i*P PKPdf 22 22 25.8 -7.9
VTS Vitosha 136.73 320 *e*P **PKPdf 22 22 37.0 +3.3**
VTS Vitosha 136.73 320 P **PKPdf 22 22 33.3 -0.4**
PGBU Glenifferbraes 136.75 353 AMS AMS 23 28 25.3
comp=Z,277µm,24.8s
LIA Limnos Island 136.76 315 *e*P **PKPdf 22 22 32.0 -1.6**
NEUB Neuenburg 136.77 337 *e*PKPdf PKPdf 22 22 22.2 -11
NEUB *e*PP **PP 22 25 18.5 +3.0**
CLZ Clausthal 136.78 338 *e*PKHKP PKPpre 22 22 22.3
CLZ *e* 22 25 19.1
CLZ Clausthal 136.78 338 *e*PKPdf PKPpre 22 22 22.3
CLZ *e*PP **PP 22 25 19.1 +3.6**
CHOS Chios island 136.81 313 *e*P **PKPdf 22 22 32.1 -1.8**
CHOS Chios island 136.81 313 *e*P **PKPdf 22 22 33.0 -0.9**
NVR Nevrokopi 136.95 318 P **PKPdf 22 22 34.3 +0.3**
NVR Nevrokopi 136.95 318 *e*P **PKPdf 22 22 32.0 -2.0**
NVR Nevrokopi 136.95 318 P **PKPdf 22 22 34.3 +0.3**
EKA Eskdalemuir Ar 137.03 351 PKPpre PKPpre 22 22 28.1
EKA SKPbc **SKPab 22 26 10.6 -0.2**
EKA Eskdalemuir Ar 137.03 351 PKhKP PKPpre 22 22 28.1
comp=Z,5.7nm,0.6s,baz=7.3,slow=2.1,SNR=10
EKA SKPbc **SKPab 22 26 10.6 -0.2**
comp=Z,57nm,0.9s,baz=1.6,slow=2.2,SNR=8.5
ESK Eskdalemuir 137.06 351 *e*P PKPpre 22 22 21.4
ESK AMS AMS 23 41 40.6
comp=Z,243µm,20.7s
ESK Eskdalemuir 137.06 351 *e*PKIKP **PKPdf 22 22 33.9 +0.2**
ESK Eskdalemuir 137.06 351 *e*PKPdf **PKPdf 22 22 33.9 +0.2**
KARP Karpathos 137.10 309 P **PKPdf 22 22 32.6 -1.9**
KARP Karpathos 137.10 309 *e*P **PKPdf 22 22 30.5 -4.0**
KARP Karpathos 137.10 309 P **PKPdf 22 22 32.6 -1.9**
ECK Cauldkaine Hil 137.18 351 *e*P PKPdf 22 22 24.7 -9.3
IBBN Ibbenburen 137.27 341 *e*PKPdf PKPpre 22 22 24.5
IBBN *e*PP **PP 22 25 21.4 +2.9**
MOX Moxa 137.28 337 *e*PKHKP PKPpre 22 22 24.9
MOX *e* 22 25 22.0
MOX Moxa 137.28 337 *e*PKPdf PKPpre 22 22 24.9
MOX *e*PP **PP 22 25 22.0 +3.3**
OUR Ouranopolis 137.37 317 P **PKPdf 22 22 36.0 +1.2**
OUR Ouranopolis 137.37 317 PKIKP **PKPdf 22 22 36.0 +1.2**
OUR Ouranopolis 137.37 317 *e*P **PKPdf 22 22 33.7 -1.0**
OUR Ouranopolis 137.37 317 P **PKPdf 22 22 36.0 +1.2**
CONA Conrad Observa 137.49 331 ||*i*PKPdf PKPdf 22 22 26.9 -8.0
comp=Z,196nm,1.3s,SNR=5.8
SOH Sokhos 137.54 318 *e*P PKPdf 22 22 28.5 -6.7
MANZ Manzenberg 137.60 336 *e*PKPdf PKPdf 22 22 25.6 -9.4
MANZ *e*PP **PP 22 25 24.2 +3.4**
KHC Kasperske Hory 137.64 334 *e*PKHKP PKPpre 22 22 25.4
KHC *e* 22 22 32.0
KHC *e* 22 22 40.2
KHC *e* 22 25 25.2
KHC MLR MLR
comp=Z,1197µm,23.3s
KHC Kasperske Hory 137.64 334 *e*PKPpre PKPpre 22 22 25.4
KHC *e*PKPdf **PKPdf 22 22 32.0 -3.1**
KHC *ex* x 22 22 40.2
KHC *es*PKP 22 22 57.4
KHC *e*PP **PP 22 25 25.2 +4.1**
KHC *e*PKS PKSdf 22 26 23.0 +12
KHC *e*PKKS 22 35 02.5
KHC AMS AMS 23 37 50.0
comp=Z,1197µm,23.3s
KHC Kasperske Hory 137.64 334 *e*PKPpre PKPpre 22 22 27.8
KHC *e*PKPdf **PKiKP 22 22 36.3 -0.7**
KNT Kendrikon 137.67 318 P **PKPdf 22 22 33.1 -2.2**
KNT Kendrikon 137.67 318 PKIKP **PKPdf 22 22 33.1 -2.2**
KNT Kendrikon 137.67 318 P **PKPdf 22 22 33.1 -2.2**
GAL1 Galloway 137.70 352 *e*P PKPdf 22 22 23.1 -12
GAL1 AMS AMS 23 41 08.3
comp=Z,242µm,21.3s
PLG Polygyros 137.70 317 P **PKPdf 22 22 31.9 -3.6**
PLG Polygyros 137.70 317 PKIKP **PKPdf 22 22 31.9 -3.6**
PLG Polygyros 137.70 317 *e*P **PKPdf 22 22 31.0 -4.5**
PLG Polygyros 137.70 317 P **PKPdf 22 22 31.9 -3.6**
ROTZ Rotzenmuhle 137.73 335 *e*PKPdf PKPdf 22 22 25.9 -9.3
ROTZ *e*PP **PP 22 25 25.3 +3.7**
APE Apeiranthos 137.74 312 ||PKIKP **PKPdf 22 22 34.2 -1.4**
APE Apeiranthos 137.74 312 *e*P PKPdf 22 22 53.1 +17
APE Apeiranthos 137.74 312 *e*P **PKPdf 22 22 33.5 -2.1**
APE Apeiranthos 137.74 312 |||*i*P **PKPdf 22 22 34.2 -1.4**
KESW Keswick, Cumbr 137.75 351 *e*P PKPdf 22 22 24.5 -11
KESW AMS AMS 23 38 11.8
comp=Z,293µm,21.6s
UBBA Unterbreizbach 137.75 338 *e*PP PP 22 25 24.5 +3.1
PAIG Paliouri 137.76 316 *e*P **PKPdf 22 22 33.5 -2.0**
VAY Valandovo 137.80 319 P **PKPdf 22 22 30.6 -4.9**
VAY Valandovo 137.80 319 PKIKP **PKPdf 22 22 30.6 -4.9**
VAY Valandovo 137.80 319 P **PKPdf 22 22 30.6 -4.9**
VAY Valandovo 137.80 319 *e*PKP **PKPdf 22 22 37.3 +1.8**
GEC2 GERESS Array S 137.81 333 *e*PKHKP PKPpre 22 22 25.7
GEC2 *e* 22 25 25.1
GEC2 GERESS Array S 137.81 333 *e*PKPdf PKPpre 22 22 25.7
GEC2 *e*PP **PP 22 25 25.1 +2.9**
GERES GERESS Array B 137.81 333 PKPpre PKPpre 22 22 26.8
GERES SKPbc **SKPab 22 26 13.5 -1.0**
GERES GERESS Array B 137.81 333 PKhKP PKPpre 22 22 26.8
comp=Z,3.6nm,0.8s,baz=80,slow=1.5,SNR=11
GERES SKPbc **SKPab 22 26 13.5 -1.0**
comp=Z,33nm,1.0s,baz=24,slow=2.2,SNR=6.9
DIVS Divibare 137.82 324 P **PKPdf 22 22 35.6 0.0**
HORT Hortiatis 137.82 317 P **PKPdf 22 22 35.3 -0.4**
HORT Hortiatis 137.82 317 P **PKPdf 22 22 35.3 -0.4**
WTSB Winterswijk 137.87 341 *e*PKPdf **PKPdf 22 22 34.7 -0.6**
comp=Z,697nm,2.3s
WTSB *e*PP **PP 22 25 24.4 +2.2**
comp=Z,1µm,2.3s
WET Wettzell 137.93 334 *e*PP PP 22 25 26.3 +3.4
ZKR Zakros 137.98 309 *e*P **PKPdf 22 22 36.0 -0.1**
AOS Alonnisos 137.99 315 *e*P PKPdf 22 22 30.8 -5.2
AOS Alonnisos 137.99 315 *e*P **PKPdf 22 22 32.0 -4.0**
SANT Santorini 138.07 311 *e*P PKPpre 22 22 22.9
SANT Santorini 138.07 311 *e*P **PKPdf 22 22 37.5 +1.2**
SANT Santorini 138.07 311 *e*PKPpre PKPpre 22 22 29.4
SANT *e*PKPdf **PKPdf 22 22 35.8 -0.5**
GRG Griva 138.09 318 P **PKPdf 22 22 35.8 -0.4**
GRG Griva 138.09 318 PKIKP **PKPdf 22 22 35.8 -0.4**
GRG Griva 138.09 318 *e*P **PKPdf 22 22 32.0 -4.2**
GRG Griva 138.09 318 P **PKPdf 22 22 35.8 -0.4**
HPK Haverah Park 138.11 350 *e*P PKPdf 22 22 23.9 -12
HPK AMS AMS 23 39 20.1
comp=Z,522µm,22.6s
SKO Skopje 138.17 320 *e*PKP **PKPdf 22 22 38.2 +2.0**
BUG Bochum--Univer 138.17 341 *e*PKPdf PKPdf 22 22 26.4 -9.5
BUG *e*PP **PP 22 25 26.7 +2.6**
GRF Grafenberg Arr 138.19 336 *e*PKHKP PKPpre 22 22 27.0
GRF *e* 22 25 27.6
GRF MLR MLR
comp=Z,294µm,21.8s
GRF Grafenberg Arr 138.19 336 *e*PKPdf PKPpre 22 22 27.0
GRF *e*PP **PP 22 25 27.6 +3.2**
GRF *e*L L 23 28 21.6
comp=Z,294µm,21.8s
GRFO Grafenberg 138.19 336 *e*PKIKP **PKPdf 22 22 34.0 -2.0**
GRFO *e* 22 25 24.7
GRFO Grafenberg 138.19 336 *e*PKPdf **PKPdf 22 22 34.0 -2.0**
GRFO *e*PP **PP 22 25 24.6 +0.3**
LMK Market Rasen 138.34 348 *e*P PKPdf 22 22 24.3 -12
LMK AMS AMS 23 39 54.7
comp=Z,460µm,22.6s
XOR Xorichti 138.37 316 P **PKPdf 22 22 33.0 -3.7**
XOR Xorichti 138.37 316 P **PKPdf 22 22 33.0 -3.7**
NEO Neokhori 138.37 316 P **PKPdf 22 22 32.6 -4.1**
NEO Neokhori 138.37 316 *e*P **PKPdf 22 22 37.5 +0.8**
NEO Neokhori 138.37 316 P **PKPdf 22 22 32.6 -4.1**
ERET Eretria 138.37 314 P PKPdf 22 22 27.8 -9.0
NPS Neapolis 138.39 309 *e*P **PKPdf 22 22 34.5 -2.3**
GMM Mts of Mourne 138.47 353 *e*P PKPdf 22 22 25.6 -11
LIT Litokhoron 138.47 317 P **PKPdf 22 22 32.0 -4.9**
LIT Litokhoron 138.47 317 PKIKP **PKPdf 22 22 32.0 -4.9**
LIT Litokhoron 138.47 317 *e*P PKPdf 22 22 31.5 -5.4
LIT Litokhoron 138.47 317 P **PKPdf 22 22 32.0 -4.9**
PTL Penteli 138.51 314 P PKPdf 22 22 25.5 -12
PTL Penteli 138.51 314 *e*P **PKPdf 22 22 38.5 +1.5**
LAST Lasithi 138.53 309 P **PKPdf 22 22 33.6 -3.6**
LAST Lasithi 138.53 309 *e*P PKPdf 22 22 31.0 -6.2
LAST Lasithi 138.53 309 P **PKPdf 22 22 33.6 -3.6**
IVA Berane 138.60 322 *e*PKP **PKPdf 22 22 35.7 -1.4**
ATHU Athens Univers 138.61 314 P **PKPdf 22 22 35.8 -1.4**
ATHU Athens Univers 138.61 314 P **PKPdf 22 22 35.8 -1.4**
PLE Pljevlja 138.63 323 *e*PKP **PKPdf 22 22 36.2 -1.0**
ATH Athens Observa 138.65 314 *e*P **PKPdf 22 22 38.5 +1.3**
PVY Plav 138.72 322 ||*i*PKP **PKPdf 22 22 36.0 -1.4**
BIA Bitola 138.76 319 *e*PKP **PKPdf 22 22 38.8 +1.3**
KBI1 Birley Grange 138.76 349 *e*P PKPdf 22 22 26.5 -10
BCI Bajram Curri 138.79 322 *i*PN PKPdf 22 22 28.5 -8.9
TNS Taunus Mts 138.80 339 *e*PP PP 22 25 31.2 +3.0
LKR Lokris 138.84 315 P **PKPdf 22 22 33.3 -4.2**
LKR Lokris 138.84 315 *e*P **PKPdf 22 22 39.0 +1.5**
LKR Lokris 138.84 315 P **PKPdf 22 22 33.3 -4.2**
FNA Florina 138.85 319 P **PKPdf 22 22 32.7 -4.9**
FNA Florina 138.85 319 PKIKP **PKPdf 22 22 32.7 -4.9**
FNA Florina 138.85 319 P **PKPdf 22 22 32.7 -4.9**
NAIG Nisos Aigina 138.91 313 *e*P **PKPdf 22 22 33.5 -4.2**
IDI Anoyia 138.92 309 P **PKPdf 22 22 34.7 -3.2**
IDI Anoyia 138.92 309 *e*P PKPpre 22 22 28.6
IDI Anoyia 138.92 309 *e*P PKPpre 22 22 35.0
IDI Anoyia 138.92 309 PKPpre PKPpre 22 22 34.5
IDI *e*PKPpre PKPpre 22 22 35.3
IDI PP PP 22 25 37.5 +7.5
IDI Anoyia 138.92 309 PKhKP PKPpre 22 22 34.5
comp=Z,10nm,0.4s,baz=44,slow=5.1,SNR=16
IDI PP PP 22 25 37.5 +7.5
comp=Z,58nm,0.9s,baz=26,slow=24,SNR=3.5
PHP Peshkopia 138.95 320 *i*PN **PKPdf 22 22 34.3 -3.4**
PHP Peshkopia 138.95 320 P **PKPdf 22 22 34.6 -3.1**
PHP Peshkopia 138.95 320 PKIKP **PKPdf 22 22 34.6 -3.1**
PHP Peshkopia 138.95 320 P **PKPdf 22 22 34.6 -3.1**
UPM Unac-Piva 138.99 323 *e*PKP **PKPdf 22 22 35.9 -2.0**
AXAR Agios Charalam 139.02 315 P PKPdf 22 22 32.6 -5.3
AXAR Agios Charalam 139.02 315 P PKPdf 22 22 32.6 -5.3
RJOB Jochberg 139.04 333 *e*PKPdf PKPdf 22 22 28.5 -9.2
RJOB *e*PP **PP 22 25 33.3 +3.5**
STNC Stoke 139.04 350 *e*P PKPdf 22 22 25.6 -12
STNC AMS AMS 23 39 58.0
comp=Z,467µm,23.4s
THL Klokotos Trika 139.06 317 P **PKPdf 22 22 34.6 -3.3**
THL Klokotos Trika 139.06 317 *e*P **PKPdf 22 22 38.0 +0.1**
WME Myndd Eilian 139.08 352 *e*P PKPdf 22 22 25.0 -12
PUK Puka 139.08 321 *i*PN **PKPdf 22 22 38.0 0.0**
SIVA Sivas 139.09 309 P **PKPdf 22 22 36.7 -1.4**
SIVA Sivas 139.09 309 *e*P PKPdf 22 22 27.9 -10
SIVA Sivas 139.09 309 *e*P PKPdf 22 22 32.5 -5.6
SIVA Sivas 139.09 309 P **PKPdf 22 22 36.7 -1.4**
AGG Agios Georgios 139.12 316 P **PKPdf 22 22 37.6 -0.5**
AGG Agios Georgios 139.12 316 PKIKP **PKPdf 22 22 37.6 -0.5**
AGG Agios Georgios 139.12 316 *e*P PKPdf 22 22 30.5 -7.6
AGG Agios Georgios 139.12 316 P **PKPdf 22 22 37.6 -0.5**
LTK Loutraki 139.15 314 *e*P PKPdf 22 22 32.5 -5.7
WPM1 Penmaenmawr 139.16 351 *e*P PKPdf 22 22 26.7 -11
NKY Niksic 139.17 323 *e*PKP **PKPdf 22 22 37.0 -1.2**
HGN Heimansgroeve 139.18 341 *e*PKPdf **PKPdf 22 22 37.4 -0.4**
comp=Z,1µm,3.6s
HGN *e*PP **PP 22 25 31.3 +1.0**
comp=Z,2µm,2.9s
WLF1 Llynfaes 139.20 352 *e*P PKPdf 22 22 26.3 -11
WLF1 AMS AMS 23 39 18.1
comp=Z,266µm,23.2s
DID Didima 139.20 313 *e*P PKPdf 22 22 30.0 -8.3
TTG Podgorica 139.24 322 ||*i*PKP **PKPdf 22 22 36.7 -1.4**
NEST Nestorio 139.25 318 P **PKPdf 22 22 37.0 -1.4**
MAKR Makrakomi, Fth 139.26 316 P **PKPdf 22 22 34.0 -4.4**
MAKR Makrakomi, Fth 139.26 316 P **PKPdf 22 22 34.0 -4.4**
YRC Rhoscolyn 139.26 352 *e*P PKPdf 22 22 27.0 -11
KBA Koelnbreinsper 139.28 332 |||*i*PKPdf PKPdf 22 22 28.5 -10
comp=Z,74nm,0.8s
ACOR Acrocorinthos 139.28 314 P PKPdf 22 22 32.1 -6.3
MEM Membach 139.29 341 PKhKP PKPpre 22 22 31.7
MEM SKPab **SKPab 22 26 23.5 +2.6**
MEM Membach 139.29 341 PKKSbc PKKSbc 22 34 56.9 +3.8
YLL Llanberis 139.31 351 *e*P PKPdf 22 22 27.4 -10
FUR Furstenfeldbru 139.37 334 *e*PKHKP PKPpre 22 22 30.0
FUR *e* 22 25 35.1
FUR Furstenfeldbru 139.37 334 *e*PKPdf PKPpre 22 22 30.0
FUR *e*PP **PP 22 25 35.1 +3.4**
BRY Bratogost 139.38 323 ||*i*PKP **PKPdf 22 22 36.0 -2.6**
VAM Vamos 139.39 310 P PKPdf 22 22 32.3 -6.4
VAM Vamos 139.39 310 PKIKP PKPdf 22 22 32.3 -6.4
VAM Vamos 139.39 310 *e*P **PKPdf 22 22 36.0 -2.7**
VAM Vamos 139.39 310 P PKPdf 22 22 32.3 -6.4
FOEL Foel Wylfa 139.40 350 *e*P PKPdf 22 22 25.9 -12
FOEL AMS AMS 23 40 26.3
comp=Z,429µm,22.0s
DRME Dracevica, Mon 139.43 322 ||*i*PKP **PKPdf 22 22 35.7 -2.8**
LJU Ljubljana 139.47 330 *e*PKPdf **PKPdf 22 22 36.9 -1.6**
LJU *e* 22 24 20.9
LJU *e*PP **PP 22 25 35.4 +2.9**
LJU *e* 22 35 49.3
LJU *e* 22 39 12.7
LJU *e* 22 41 52.3
LJU *e* 22 44 13.3
BOJS Bojanci 139.48 329 *e*PKPdf **PKPdf 22 22 37.2 -1.3**
BOJS *e*PP **PP 22 25 36.0 +3.4**
BOJS *e* 22 45.4
BOJS *e* 22 35 50.9
BOJS *e* 22 39 13.4
TIR Tirane 139.49 320 *i*PN **PKPdf 22 22 36.7 -2.0**
TIR Tirane 139.49 320 *e*PKIKP **PKPdf 22 22 36.9 -1.8**
TIR Tirane 139.49 320 *e*PKPdf **PKPdf 22 22 36.9 -1.8**
ULC Ulcinj 139.52 322 *e*PKP **PKPdf 22 22 36.4 -2.3**
EVR Evrytania 139.52 316 P **PKPdf 22 22 35.8 -3.1**
EVR Evrytania 139.52 316 *e*P **PKPdf 22 22 39.0 +0.1**
EVR Evrytania 139.52 316 P **PKPdf 22 22 35.8 -3.1**
BUM Brajici-Budva 139.53 322 ||*i*PKP **PKPdf 22 22 36.9 -1.9**
KALE Kalithea 139.55 315 P **PKPdf 22 22 35.3 -3.7**
KALE Kalithea 139.55 315 *e*P PKPdf 22 22 33.5 -5.5
KALE Kalithea 139.55 315 P **PKPdf 22 22 35.3 -3.7**
KARN Karanos 139.61 310 P **PKPdf 22 22 38.5 -0.6**
KARN Karanos 139.61 310 *e*P **PKPdf 22 22 37.5 -1.6**
KARN Karanos 139.61 310 P **PKPdf 22 22 38.5 -0.6**
UCC Uccle 139.63 343 PKhKP PKPpre 22 22 37.3
UCC Uccle 139.63 343 PKKSbc PKKSbc 22 34 56.6 +4.8
GUR Goura 139.63 314 *e*P PKPdf 22 22 32.0 -7.2
BCLA Clavier 139.68 341 PKhKP PKPpre 22 22 33.2
BCLA Clavier 139.68 341 PKKSbc PKKSbc 22 34 54.0 +2.4
HCY Herceg Novi 139.68 323 ||*i*PKP **PKPdf 22 22 36.8 -2.2**
EFP Efpalio 139.70 315 *e*P PKPdf 22 22 32.0 -7.1
GVD Gavdhos 139.70 309 P **PKPdf 22 22 36.4 -2.8**
GVD Gavdhos 139.70 309 *e*P **PKPdf 22 22 37.5 -1.7**
GVD Gavdhos 139.70 309 *e*PKPdf **PKPdf 22 22 38.0 -1.3**
HLM1 Long Mynd 139.71 350 *e*P PKPdf 22 22 25.9 -13
KLV Kalavryta, Ach 139.71 315 P **PKPdf 22 22 36.4 -2.9**
KLV Kalavryta, Ach 139.71 315 *e*P PKPdf 22 22 32.5 -6.8
KLV Kalavryta, Ach 139.71 315 P **PKPdf 22 22 36.4 -2.9**
CADS Cadrg 139.72 331 *e*PKPdf **PKPdf 22 22 37.1 -1.9**
CADS *e*PP **PP 22 25 36.4 +2.4**
STU Stuttgart 139.72 337 *e*PKIKP **PKPdf 22 22 33.8 -5.0**
STU *e* 22 22 39.8
STU Stuttgart 139.72 337 *e*PKPdf PKPdf 22 22 31.0 -7.8
STU *e*PP **PP 22 25 37.2 +3.4**
STU Stuttgart 139.72 337 *e*PKPpre PKPpre 22 22 33.8
STU *e*PKPdf **PKPdf 22 22 39.8 +1.0**
LAKA Lakka 139.74 315 P PKPdf 22 22 28.5 -11
LAKA Lakka 139.74 315 *e*P PKPdf 22 22 30.0 -9.2
PSA1 Psathopyrgos 139.76 315 *e*P **PKPdf 22 22 38.0 -1.2**
VLI Veliai 139.77 312 *e*P **PKPdf 22 22 34.5 -4.8**
JAN Janina 139.78 318 P **PKPdf 22 22 38.0 -1.3**
JAN Janina 139.78 318 PKIKP **PKPdf 22 22 38.0 -1.3**
JAN Janina 139.78 318 P **PKPdf 22 22 38.0 -1.3**
VOY Vojsko 139.78 330 *e*PKPdf PKPdf 22 22 30.7 -8.5
VOY *e* 22 22 34.4
VOY *e* 22 22 37.0
VOY *e* 22 23 03.3
VLX Vlachokerasia 139.87 314 *e*P PKPdf 22 22 31.0 -8.6
ANKY Antikythira Is 139.87 311 P **PKPdf 22 22 38.5 -1.0**
ANKY Antikythira Is 139.87 311 *e*P **PKPdf 22 22 35.0 -4.5**
ANKY Antikythira Is 139.87 311 P **PKPdf 22 22 38.5 -1.0**
KYTH Kithira 139.89 312 *e*P **PKPdf 22 22 39.0 -0.6**

ABTA	**Abfaltersbach**	**139.91 332**	*i* PKPdf	PKPdf	22 22 33.4	-6.0
	comp=Z,103nm,0.8s,SNR=14							
SNF	**Seneffe**	**139.91 342**	PKhKP	PKPpre	22 22 34.5			
SNF	**Seneffe**	**139.91 342**	PKKSbc	PKKSbc	22 34 55.3	+4.6
SSW	**Stow on the Wo**	**140.05 349**	*e*P	PKPdf	22 22 29.9	-9.4
WLF	**Walferdange**	**140.06 340**	PKhKP	PKPpre	22 22 31.3			
WLF	**Walferdange**	**140.06 340**	PKKSbc	PKKSbc	22 34 54.8	+4.7
WLF	**Walferdange**	**140.06 340**	*e*PKHKP	PKPpre	22 22 29.7			
WLF			*e*		22 22 40.3			
WLF	**Walferdange**	**140.06 340**	*e*PKPdf	PKPpre	22 22 32.5			
WLF			*e*PP	**PP**	**22 25 39.1**	**+3.3**
WLF	**Walferdange**	**140.06 340**	*e*PKPpre	PKPpre	22 22 29.7			
WLF			*e*PKPdf	**PKPdf**	**22 22 40.3**	**+0.9**
LANF	**Langenberg**	**140.07 338**	PKP	**PKPdf**	**22 22 37.4**	**-2.1**
SKP1	**Kophill**	**140.08 348**	*e*P	PKPdf	22 22 28.8	-11
GIVF	**Givet**	**140.11 342**	*e*PKP1	**PKPdf**	**22 22 37.2**	**-2.3**
	comp=Z,270nm,1.1s							
GIVF	**Givet**	**140.11 342**	*e*PKIKP	**PKPdf**	**22 22 37.2**	**-2.3**
GIVF	**Givet**	**140.11 342**	*e*PKPbc	**PKPdf**	**22 22 37.2**	**-2.3**
ELSH	**Elham, Standar**	**140.18 346**	*e*P	PKPdf	22 22 27.4	-12
ELSH			AMS	AMS	23 32 11.9			
	comp=Z,416µm,24.9s							
RLS	**Riolos of Patr**	**140.18 315**	P	**PKPdf**	**22 22 36.7**	**-3.3**
RLS	**Riolos of Patr**	**140.18 315**	P	**PKPdf**	**22 22 36.7**	**-3.3**
DOU	**Dourbes**	**140.18 342**	PKhKP	PKPpre	22 22 33.8			
DOU			SKPab	**SKPab**	**22 26 23.7**	**-1.1**
DOU	**Dourbes**	**140.18 342**	PKKSbc	PKKSbc	22 34 54.2	+4.6
IGT	**Igoumenitsa**	**140.19 318**	P	**PKPdf**	**22 22 38.0**	**-2.0**
IGT	**Igoumenitsa**	**140.19 318**	PKIKP	**PKPdf**	**22 22 38.0**	**-2.0**
IGT	**Igoumenitsa**	**140.19 318**	P	**PKPdf**	**22 22 38.0**	**-2.0**
SRN	**Sarande**	**140.22 318**	*i* PN	**PKPdf**	**22 22 39.3**	**-0.7**
SRN	**Sarande**	**140.22 318**	P	**PKPdf**	**22 22 37.4**	**-2.6**
SRN	**Sarande**	**140.22 318**	P	**PKPdf**	**22 22 37.4**	**-2.6**
MCH1	**Michaelchurch**	**140.23 350**	*e*P	PKPdf	22 22 27.9	-12
MCH1			*e*		22 25 32.9			
MCH1			AMS	AMS	23 40 57.2			
	comp=Z,363µm,22.7s							
AMT	**Artemida-Makis**	**140.26 314**	*e*P	PKPdf	22 22 32.5	-7.7
ITM	**Ithomi**	**140.28 314**	P	**PKPdf**	**22 22 35.3**	**-4.9**
ITM	**Ithomi**	**140.28 314**	*e*P	**PKPdf**	**22 22 40.0**	**-0.2**
ITM	**Ithomi**	**140.28 314**	P	**PKPdf**	**22 22 35.3**	**-4.9**
LPW	**Lampeter**	**140.29 351**	*e*P	PKPdf	22 22 28.3	-11
BAIF	**Baives**	**140.33 342**	*e*PKP1	PKPdf	22 22 33.4	-6.5
	comp=Z,172nm,1.1s							
BAIF	**Baives**	**140.33 342**	*e*PKIKP	PKPdf	22 22 33.4	-6.5
BAIF	**Baives**	**140.33 342**	*e*PKPbc	PKPdf	22 22 33.4	-6.5
BFO	**Black Forest**	**140.41 337**	*e*PP	PP	22 25 41.3	+3.2
OLDB	**Oldbury-Upon-S**	**140.47 349**	*e*P	PKPdf	22 22 28.7	-11
SWN1	**Swindon**	**140.47 349**	*e*P	PKPdf	22 22 28.2	-12
SWN1			AMS	AMS	23 30 00.4			
	comp=Z,335µm,25.3s							
FETA	**Feichten**	**140.49 334**⇑	*i* PKPdf	PKPdf	22 22 31.5	-9.0
	comp=Z,169nm,1.2s,SNR=13							
PYL	**PYLOS**	**140.54 313**	*e*P	PKPdf	22 22 35.0	-5.7
WOL	**Wolverton**	**140.55 348**	*e*P	PKPdf	22 22 28.2	-12
WOL			AMS	AMS	23 40 48.4			
	comp=Z,529µm,22.5s							
HMNX	**Herstmonceux**	**140.63 346**	*e*P	PKPdf	22 22 27.5	-13
HMNX			AMS	AMS	23 40 24.0			
	comp=Z,443µm,21.9s							
DAVA	**Damuels**	**140.64 335**⇑	*i* PKPdf	PKPdf	22 22 35.6	-5.2
	comp=Z,95nm,0.8s,SNR=12							
BATH	**Bath**	**140.64 349**	*e*P	PKPdf	22 22 27.5	-13
VLS	**Valsamata**	**140.72 316**	P	**PKPdf**	**22 22 37.4**	**-3.6**
VLS	**Valsamata**	**140.72 316**	PKIKP	**PKPdf**	**22 22 37.4**	**-3.6**
VLS	**Valsamata**	**140.72 316**	P	**PKPdf**	**22 22 37.4**	**-3.6**
CDF	**Champ du Feu**	**140.74 338**	*e*PKP1	PKPdf	22 22 32.2	-8.6
	comp=Z,165nm,1.0s							
CDF	**Champ du Feu**	**140.74 338**	*e*PKPbc	PKPdf	22 22 32.2	-8.6
FELD	**Feldberg im Sc**	**140.91 337**	PKP	**PKPdf**	**22 22 37.4**	**-3.8**
ECH	**Echery**	**140.94 338**	*e*PKHKP	PKPpre	22 22 34.3			
ECH			*e*		22 22 42.3			
ECH			*e*		22 25 41.7			
ECH	**Echery**	**140.94 338**	PKP	PKPpre	22 22 35.8			
ECH	**Echery**	**140.94 338**	*e*PKPpre	PKPpre	22 22 34.3			
ECH			*e*PKPdf	**PKPdf**	**22 22 42.3**	**+1.2**
ECH			*e*PP	**PP**	**22 25 41.7**	**+0.4**
DAVOX	**Davos/Dischmat**	**141.04 334**	PKPpre	PKPpre	22 22 33.8			
DAVOX			PP	PP	22 25 51.4	+9.2
DAVOX	**Davos/Dischmat**	**141.04 334**	PKhKP	PKPpre	22 22 33.8			
	baz=48,slow=4.4							
DAVOX			PP	PP	22 25 51.4	+9.2
	comp=Z,36nm,1.1s,baz=309,slow=16,SNR=3.1							
VAL	**Valentia**	**141.11 357**	*e*P	PKPdf	22 22 31.7	-10
VAL	**Valentia**	**141.11 357**	*e*P	**PP**	**22 25 41.4**	**-0.5**
PAGF	**Fort de Pagny**	**141.16 340**	*e*PKP1	**PKPdf**	**22 22 36.6**	**-4.9**
	comp=Z,109nm,1.2s							
PAGF	**Fort de Pagny**	**141.16 340**	*e*PKPbc	**PKPdf**	**22 22 36.6**	**-4.9**
MOF	**Molkenrain**	**141.26 338**	PKP	**PKPdf**	**22 22 40.4**	**-1.4**
THEF	**They Montfort**	**141.35 339**	PKP	**PKPdf**	**22 22 37.4**	**-4.4**
HINF	**Hinteralfeld**	**141.39 338**	*e*PKP1	PKPpre	22 22 33.7			
	comp=Z,100nm,0.8s							
HINF	**Hinteralfeld**	**141.39 338**	*e*PKHKP	PKPpre	22 22 33.7			
HINF	**Hinteralfeld**	**141.39 338**	*e*PKPbc	PKPpre	22 22 33.7			
HAU	**Haudompre**	**141.41 339**	*e*PKP1	PKPpre	22 22 33.5			
	comp=Z,442nm,1.2s							
HAU			*e*R					
	comp=Z,331µm,23.0s							
HAU	**Haudompre**	**141.41 339**	*e*PKHKP	PKPpre	22 22 33.5			
HAU	**Haudompre**	**141.41 339**	*e*PKPbc	PKPpre	22 22 33.5			
MEZF	**Maizieres J'vi**	**141.43 340**	*e*PKP1	PKPdf	22 22 32.9	-9.0
	comp=Z,1µm,1.4s							
MEZF	**Maizieres J'vi**	**141.43 340**	*e*PKPbc	PKPdf	22 22 32.9	-9.0
HTL	**Hartland**	**141.44 351**	*e*P	PKPdf	22 22 29.1	-13
HTL			*e*		22 25 40.2			
TUE	**Stuetta**	**141.51 334**	*e*PKPpre	PKPpre	22 22 35.9			
TUE			*e*PKPdf	**PKiKP**	**22 22 44.0**	**-1.2**
SFTF	**Sexfontaines**	**141.69 340**	*e*PKP1	PKPdf	22 22 35.3	-7.1
	comp=Z,905nm,1.2s							
SFTF	**Sexfontaines**	**141.69 340**	*e*PKPbc	PKPdf	22 22 35.3	-7.1
LOMF	**Lomont**	**141.79 338**	PKP	**PKPdf**	**22 22 39.1**	**-3.6**
DYA	**Yadsworthy**	**141.89 350**	*e*P	PKPdf	22 22 29.8	-13
DYA			AMS	AMS	23 41 14.7			
	comp=Z,408µm,21.8s							
CCA1	**Carnmenellis**	**142.34 351**	*e*P	PKPdf	22 22 31.2	-12
CCA1			AMS	AMS	23 42 15.2			
	comp=Z,355µm,21.0s							
CABF	**La Chapelle**	**142.69 338**	*e*PKP1	PKPdf	22 22 39.1	-5.3
	comp=Z,989nm,1.3s							
CABF	**La Chapelle**	**142.69 338**	*e*PKIKP	PKPdf	22 22 39.1	-5.3
CABF	**La Chapelle**	**142.69 338**	*e*PKPbc	PKPdf	22 22 39.1	-5.3
OG01	**Vacheresse**	**142.70 337**	PKP	**PKPdf**	**22 22 39.6**	**-4.8**
JSA	**Saint Aubin**	**142.76 348**	*e*P	PKPdf	22 22 33.6	-11
JSA			AMS	AMS	23 42 38.6			
	comp=Z,412µm,21.9s							
CUC	**Castrocucco**	**142.78 322**	*e*PKPpre	PKPpre	22 22 37.9			
CUC			*e*PKPdf	**PKPdf**	**22 22 45.8**	**+1.1**
FLN	**La Foliniere**	**142.78 346**	*e*PKP1	PKPdf	22 22 39.0	-5.3
	comp=Z,709nm,1.2s							
FLN	**La Foliniere**	**142.78 346**	*e*PKIKP	PKPdf	22 22 39.0	-5.3
FLN	**La Foliniere**	**142.78 346**	*e*PKPbc	PKPdf	22 22 39.0	-5.3
VLC	**Villacollemand**	**142.84 331**	*e*PKPpre	PKPpre	22 22 41.7			
VLC			*e*PKPdf	**PKPdf**	**22 22 46.1**	**+1.4**
LDF	**La Druitiere**	**142.85 345**	*e*PKP1	**PKPdf**	**22 22 39.7**	**-4.8**
	comp=Z,1µm,1.6s							
LDF	**La Druitiere**	**142.85 345**	*e*PKIKP	**PKPdf**	**22 22 39.7**	**-4.8**
LDF	**La Druitiere**	**142.85 345**	*e*PKPbc	**PKPdf**	**22 22 39.7**	**-4.8**
LOR	**Lormes**	**142.90 340**	*e*PKP1	PKPdf	22 22 39.5	-5.1
	comp=Z,154nm,0.7s							
LOR	**Lormes**	**142.90 340**	*e*PKPbc	PKPdf	22 22 39.5	-5.1
SSF	**Saint Saulge**	**143.20 341**	*e*PKP1	PKPab	22 22 40.7	-0.1
	comp=Z,684nm,1.1s							
SSF	**Saint Saulge**	**143.20 341**	*e*PKIKP	PKPab	22 22 40.7	-0.1
SSF	**Saint Saulge**	**143.20 341**	*e*PKPbc	PKPab	22 22 40.7	-0.1
GRR	**Gorron**	**143.22 346**	*e*PKP1	PKPab	22 22 40.4	-0.4
	comp=Z,400nm,0.8s							
GRR	**Gorron**	**143.22 346**	*e*PKIKP	PKPab	22 22 40.4	-0.4
GRR	**Gorron**	**143.22 346**	*e*PKPbc	PKPab	22 22 40.4	-0.4
HYF	**Humbligny**	**143.29 342**	*e*PKP1	PKPbc	22 22 42.3	-0.1
HYF	**Humbligny**	**143.29 342**	*e*PKPbc	PKPbc	22 22 42.3	-0.1
LPL	**La Plagne**	**143.35 336**	*e*PKP1	PKPab	22 22 41.8	0.0
	comp=Z,312nm,0.7s							
LPL	**La Plagne**	**143.35 336**	*e*PKIKP	PKPab	22 22 41.8	0.0
LPL	**La Plagne**	**143.35 336**	*e*PKPbc	PKPab	22 22 41.8	0.0
LPG	**La Plagne**	**143.36 336**	*e*PKP1	PKPab	22 22 41.9	0.0
	comp=Z,476nm,0.8s							
LPG	**La Plagne**	**143.36 336**	*e*PKIKP	PKPab	22 22 41.9	0.0
LPG	**La Plagne**	**143.36 336**	*e*PKPbc	PKPab	22 22 41.9	0.0
SMF	**Signal de Mont**	**143.45 340**	*e*PKP1	PKPab	22 22 41.3	-0.5
	comp=Z,933nm,1.3s							
SMF	**Signal de Mont**	**143.45 340**	*e*PKIKP	PKPab	22 22 41.3	-0.5
SMF	**Signal de Mont**	**143.45 340**	*e*PKPbc	PKPab	22 22 41.3	-0.5
AVF	**Avril sur Loir**	**143.49 340**	*e*PKP1	PKPab	22 22 40.9	-1.0
	comp=Z,298nm,1.0s							
AVF	**Avril sur Loir**	**143.49 340**	*e*PKIKP	PKPab	22 22 40.9	-1.0
AVF	**Avril sur Loir**	**143.49 340**	*e*PKPbc	PKPab	22 22 40.9	-1.0
SGMF	**Saint Gilles**	**143.73 348**	*e*PKP1	PKPab	22 22 42.3	-0.5
	comp=Z,541nm,0.8s							
SGMF	**Saint Gilles**	**143.73 348**	*e*PKIKP	PKPab	22 22 42.3	-0.5
SGMF	**Saint Gilles**	**143.73 348**	*e*PKPbc	PKPab	22 22 42.3	-0.5
BNI	**Bardonecchia**	**143.76 336**	*e*PKIKP	PKPab	22 22 42.5	-0.7
BNI			*e*		22 22 47.6			
BNI	**Bardonecchia**	**143.76 336**	*e*PKPpre	PKPab	22 22 42.5	-0.7
BNI			*e*PKPdf	**PKPdf**	**22 22 47.6**	**+1.2**
ROSF	**Rostrenen**	**143.79 348**	*e*PKP1	PKPab	22 22 42.4	-0.7
	comp=Z,374nm,0.9s							
ROSF	**Rostrenen**	**143.79 348**	*e*PKIKP	PKPab	22 22 42.4	-0.7
ROSF	**Rostrenen**	**143.79 348**	*e*PKPbc	PKPab	22 22 42.4	-0.7
GDM	**Grand'Maison**	**143.85 336**	PKP	PKPab	22 22 43.7	+0.1
BST	**Brest**	**143.97 349**	PKP	PKPab	22 22 43.0	-0.7
MBDF	**Montbardon**	**143.99 335**	*e*PKP1	PKPab	22 22 43.1	-1.0
	comp=Z,581nm,0.9s							
MBDF	**Montbardon**	**143.99 335**	*e*PKIKP	PKPab	22 22 43.1	-1.0
MBDF	**Montbardon**	**143.99 335**	*e*PKPbc	PKPab	22 22 43.1	-1.0
PLDF	**La Plantade**	**144.12 339**	PKP	**PKPab**	**22 22 44.3**	**-0.2**
SURF	**Saint Ours**	**144.17 335**	PKP	**PKPab**	**22 22 44.4**	**-0.5**
QUIF	**Quistinic**	**144.17 348**	*e*PKP1	**PKPab**	**22 22 43.7**	**-0.8**
	comp=Z,467nm,0.8s							
QUIF	**Quistinic**	**144.17 348**	*e*PKIKP	**PKPab**	**22 22 43.7**	**-0.8**
QUIF	**Quistinic**	**144.17 348**	*e*PKPbc	**PKPab**	**22 22 43.7**	**-0.8**
ORIF	**Oris-en-Rattie**	**144.18 336**	*e*PKP1	**PKPab**	**22 22 44.3**	**-0.5**
	comp=Z,2µm,0.8s							
ORIF	**Oris-en-Rattie**	**144.18 336**	*e*PKIKP	**PKPab**	**22 22 44.3**	**-0.5**
ORIF	**Oris-en-Rattie**	**144.18 336**	*e*PKPbc	**PKPab**	**22 22 44.3**	**-0.5**
AGO	**Saint Agoulin**	**144.21 340**	PKP	**PKPab**	**22 22 44.5**	**-0.2**
SAOF	**Saorge**	**144.25 334**	PKP	**PKPab**	**22 22 44.5**	**-0.5**
TCF	**Toulx Ste Croi**	**144.30 341**	*e*PKP1	**PKPab**	**22 22 44.2**	**-0.9**
	comp=Z,1µm,1.2s							
TCF	**Toulx Ste Croi**	**144.30 341**	*e*PKIKP	**PKPab**	**22 22 44.2**	**-0.9**
TCF	**Toulx Ste Croi**	**144.30 341**	*e*PKPbc	**PKPab**	**22 22 44.2**	**-0.9**
AUTN	**L'Aution**	**144.30 334**	PKP	**PKPab**	**22 22 44.7**	**-0.7**
TOUF	**Mont Tournerai**	**144.37 334**	PKP	**PKPab**	**22 22 45.0**	**-0.6**
SSB	**Saint Sauveur**	**144.39 338**	*e*PKIKP	**PKPab**	**22 22 43.8**	**-1.7**
SSB			*e*		22 26 05.0			
SSB	**Saint Sauveur**	**144.39 338**	*e*PKPdf	**PKPab**	**22 22 43.8**	**-1.7**
SSB			*e*PP	**PP**	**22 26 05.0**	**+2.9**
SBF	**Sospel**	**144.41 334**	*e*PKP1	**PKPab**	**22 22 43.2**	**-2.4**
	comp=Z,2µm,0.7s							
SBF	**Sospel**	**144.41 334**	*e*PKIKP	**PKPab**	**22 22 43.2**	**-2.4**
SBF	**Sospel**	**144.41 334**	*e*PKPbc	**PKPab**	**22 22 43.2**	**-2.4**
LUCF	**Luceram**	**144.42 334**	PKP	**PKPab**	**22 22 44.7**	**-1.0**
MVIF	**Mont Vial**	**144.50 334**	PKP	**PKPab**	**22 22 45.1**	**-1.0**
PYM	**Petit Puy Mans**	**144.51 340**	PKP	**PKPab**	**22 22 45.8**	**-0.2**
REVF	**Revere**	**144.53 334**	PKP	**PKPab**	**22 22 45.1**	**-1.0**
OG25	**Le Caire**	**144.56 336**	PKP	**PKPab**	**22 22 45.4**	**-0.8**
VERF	**Verneugheol**	**144.69 341**	PKP	**PKPab**	**22 22 45.9**	**-0.7**
MFF	**Saint Martin d**	**144.70 344**	*e*PKP1	**PKPab**	**22 22 44.5**	**-2.0**
	comp=Z,1µm,0.8s							
MFF	**Saint Martin d**	**144.70 344**	*e*PKIKP	**PKPab**	**22 22 44.5**	**-2.0**
MFF	**Saint Martin d**	**144.70 344**	*e*PKPbc	**PKPab**	**22 22 44.5**	**-2.0**
VIVF	**Saint-Julien-l**	**144.70 337**	*e*PKP1	**PKPab**	**22 22 45.7**	**-0.9**
	comp=Z,4µm,1.4s							
VIVF	**Saint-Julien-l**	**144.70 337**	*e*PKIKP	**PKPab**	**22 22 45.7**	**-0.9**
VIVF	**Saint-Julien-l**	**144.70 337**	*e*PKPbc	**PKPab**	**22 22 45.7**	**-0.9**
PGF	**Pioggiola**	**144.72 331**	*e*PKP1	**PKPab**	**22 22 45.0**	**-1.9**
	comp=Z,2µm,0.8s							
PGF	**Pioggiola**	**144.72 331**	*e*PKIKP	**PKPab**	**22 22 45.0**	**-1.9**
PGF	**Pioggiola**	**144.72 331**	*e*PKPbc	**PKPab**	**22 22 45.0**	**-1.9**
CALN	**Calern**	**144.73 334**	PKP	**PKPab**	**22 22 46.0**	**-0.9**
LBL	**Lubilhac**	**144.89 339**	PKP	**PKPab**	**22 22 46.8**	**-0.6**
FRNF	**Fournols**	**144.98 340**	PKP	PKPbc	22 22 47.6	-0.1
FRF	**La Foret Royal**	**144.99 334**	*e*PKP1	**PKPab**	**22 22 45.8**	**-1.9**
	comp=Z,2µm,0.7s							
FRF	**La Foret Royal**	**144.99 334**	*e*PKIKP	**PKPab**	**22 22 45.8**	**-1.9**
FRF	**La Foret Royal**	**144.99 334**	*e*PKPbc	**PKPab**	**22 22 45.8**	**-1.9**
SMRF	**Simiane la Rot**	**145.09 336**	*e*PKP1	**PKPbc**	**22 22 47.5**	**-0.5**
	comp=Z,3µm,1.2s							
SMRF	**Simiane la Rot**	**145.09 336**	*e*PKPbc	**PKPbc**	**22 22 47.5**	**-0.5**
LMR	**La Mourre**	**145.23 334**	*e*PKP1	**PKPbc**	**22 22 46.4**	**-2.0**
	comp=Z,4µm,1.1s							
LMR	**La Mourre**	**145.23 334**	*e*PKPbc	**PKPbc**	**22 22 46.4**	**-2.0**
RJF	**Les Rejaudoux**	**145.39 341**	*e*PKP1	**PKPbc**	**22 22 48.0**	**-0.9**
	comp=Z,2µm,1.2s							
RJF	**Les Rejaudoux**	**145.39 341**	*e*PKIKP	**PKPbc**	**22 22 48.0**	**-0.9**
RJF	**Les Rejaudoux**	**145.39 341**	*e*PKPbc	**PKPbc**	**22 22 48.0**	**-0.9**
CAF	**Calviac**	**145.56 340**	*e*PKP1	**PKPdf**	**22 22 48.6**	**-0.8**
	comp=Z,889nm,1.0s							
CAF	**Calviac**	**145.56 340**	*e*PKIKP	**PKPdf**	**22 22 48.6**	**-0.8**
CAF	**Calviac**	**145.56 340**	*e*PKPbc	**PKPdf**	**22 22 48.6**	**-0.8**
LASF	**Ste Croix**	**145.67 338**	*e*PKP1	**PKPdf**	**22 22 48.2**	**-1.4**
	comp=Z,5µm,1.5s							
LASF	**Ste Croix**	**145.67 338**	*e*PKPbc	**PKPdf**	**22 22 48.2**	**-1.4**
LFF	**La Frestale**	**145.96 342**	*e*PKP1	**PKPdf**	**22 22 49.6**	**-0.4**
	comp=Z,831nm,0.7s							
LFF	**La Frestale**	**145.96 342**	*e*PKP2	**PKPdf**	**22 22 49.6**	**-0.4**
LFF	**La Frestale**	**145.96 342**	*e*PKPbc	**PKPdf**	**22 22 49.6**	**-0.4**
VSL	**Villasalto**	**146.80 327**	*e*PKPdf	**PKPdf**	**22 22 51.6**	**0.0**
MTLF	**Montolieu**	**146.90 339**	*e*PKP1	**PKPdf**	**22 22 51.2**	**-0.4**
MTLF	**Montolieu**	**146.90 339**	*e*PKP2	**PKPdf**	**22 22 51.2**	**-0.4**
MTLF	**Montolieu**	**146.90 339**	*e*PKPbc	**PKPdf**	**22 22 51.2**	**-0.4**
LRDF	**Laroque-de-Fa**	**147.14 338**	PKP	**PKPdf**	**22 22 53.0**	**+0.9**
SJAF	**Saint Jean de**	**147.40 337**	PKP	**PKPdf**	**22 22 52.8**	**+0.3**
CARF	**Carcanieres**	**147.49 338**	PKP	**PKPdf**	**22 22 53.6**	**+0.8**
MLS	**Moulis**	**147.62 340**	PKP	**PKPdf**	**22 22 54.1**	**+1.2**
SALF	**Salau**	**147.77 340**	PKP	**PKPdf**	**22 22 54.2**	**+1.0**
VALF	**Valcebollere**	**147.79 338**	PKP	**PKPbc**	**22 22 55.2**	**-1.1**
EPF	**Esparros**	**147.81 341**	*e*PKP1	**PKPdf**	**22 22 53.5**	**+0.3**
EPF	**Esparros**	**147.81 341**	*e*PKP2	**PKPdf**	**22 22 53.5**	**+0.3**
EPF	**Esparros**	**147.81 341**	*e*PKPbc	**PKPdf**	**22 22 53.5**	**+0.3**
REYF	**Montagne du Re**	**148.00 342**	PKP	**PKPdf**	**22 22 52.5**	**-1.1**
RESF	**Ens**	**148.01 341**	PKP	**PKPbc**	**22 22 56.6**	**-0.2**
ORDF	**Ordiarp**	**148.03 343**	PKP	**PKPdf**	**22 22 54.2**	**+0.7**
VIEF	**Viey**	**148.04 341**	PKP	**PKPbc**	**22 22 55.5**	**-1.3**
ATE	**Arette**	**148.08 342**	PKP	**PKPbc**	**22 22 55.4**	**-1.4**
OSSF	**Osses**	**148.09 343**	PKP	**PKPdf**	**22 22 54.7**	**+1.1**
ETSF	**Etsaut**	**148.21 342**	*e*PKP1	**PKPdf**	**22 22 53.6**	**-0.3**
ETSF	**Etsaut**	**148.21 342**	*e*PKIKP	**PKPdf**	**22 22 53.6**	**-0.3**
ETSF	**Etsaut**	**148.21 342**	*e*PKPbc	**PKPdf**	**22 22 53.6**	**-0.3**
LARF	**Larrau**	**148.21 342**	PKP	**PKPbc**	**22 22 56.7**	**-0.5**
SJPF	**Ste Jean**	**148.21 343**	*e*PKP1	**PKPdf**	**22 22 53.8**	**0.0**
	comp=Z,328nm,1.0s							
SJPF	**Ste Jean**	**148.21 343**	*e*PKIKP	**PKPdf**	**22 22 53.8**	**0.0**
SJPF	**Ste Jean**	**148.21 343**	*e*PKPbc	**PKPdf**	**22 22 53.8**	**0.0**
H07N1	**FLORES T-PHASE**	**149.23 27**	PKPbc	**PKPab**	**22 23 03.1**	**-1.2**
	SNR=19							
KEST	**Kesra**	**149.43 322**	*e*PKPdf	**PKPbc**	**22 22 58.9**	**-1.7**
KEST			*e*PKPbc	**PKiKP**	**22 23 02.6**	**+0.9**
KEST			*e*PKPab	**PKPab**	**22 23 06.3**	**+0.9**
KEST	**Kesra**	**149.43 322**	PKPbc	**PKPbc**	**22 22 58.7**	**-1.9**
	comp=Z,17nm,0.7s,baz=235,slow=0.6,SNR=39							
H07S1	**FLORES T-PHASE**	**149.45 28**	PKPbc	**PKPab**	**22 23 03.4**	**-1.8**
	SNR=15							
CMAH	**Djebel Manchou**	**149.94 325**	P	**PKPab**	**22 23 04.9**	**-2.5**
CAEH	**'Ain El Ouahch**	**150.14 326**	P	**PKPbc**	**22 23 05.0**	**+2.8**
ABSA	**Djebel Ababsia**	**150.16 324**	P	**PKPab**	**22 23 05.7**	**-2.6**
SHEL	**Horse Pasture**	**150.19 195**	*e*PKIKP	**PKPbc**	**22 23 01.0**	**-1.9**
SHEL			*e*		22 23 05.2			
SHEL			*e*		22 23 10.6			
SHEL	**Horse Pasture**	**150.19 195**	*e*PKPdf	**PKPbc**	**22 23 00.9**	**-1.9**
SHEL			*e*PKPbc	**PKiKP**	**22 23 05.2**	**+1.5**
SHEL			*e*PKPab	**PKPab**	**22 23 10.6**	**+1.8**
CKFL	**Kef-Lekhel**	**150.49 326**	P	**PKPab**	**22 23 06.8**	**-2.9**
CASM	**Ain Smara**	**150.72 326**	P	**PKPbc**	**22 23 07.0**	**+3.4**
PBRG	**Braganca**	**150.74 350**	*e*PKPdf	**PKPdf**	**22 22 56.4**	**-1.6**
DFRA	**Djebel Bou Aff**	**150.84 327**	P	**PKPbc**	**22 23 06.8**	**+2.8**
RCBR	**Riachuelo**	**150.90 129**	*e*PKPdf	**PKPdf**	**22 22 57.0**	**-2.0**
RCBR			*e*PKPbc	**PKiKP**	**22 23 06.4**	**+1.1**
CTEI	**Djebel Teioual**	**150.91 325**	P	**PKPab**	**22 23 10.0**	**-1.5**
PGRA	**Graciosa**	**151.11 24**	*e*PKP	**PKPbc**	**22 23 07.4**	**+3.0**
PGRA	**Graciosa**	**151.11 24**	*e*LQ	LQ	23 07 12.5			
PGRA			*e*LR	LR	23 15 06.8			
	comp=Z,14µm,16.1s							
PCED	**Cedros**	**151.16 25**	*e*PKP	**PKPbc**	**22 23 08.4**	**+3.9**
CALA	**Caldeira**	**151.20 25**	*e*PKP	**PKPab**	**22 23 13.4**	**+0.9**
POLO	**Lamas de Olo**	**151.33 351**	*e*PKPdf	**PKPdf**	**22 22 59.0**	**0.0**
SET	**Setif**	**151.35 327**	P	**PKPab**	**22 23 12.0**	**-1.3**
PICO	**Pico**	**151.38 25**	*e*PKP	**PKPab**	**22 23 13.2**	**-0.1**
PCAN	**Candelaria**	**151.39 25**	*e*PKP	**PKPbc**	**22 23 08.8**	**+3.7**
PCAN	**Candelaria**	**151.39 25**	*e*SKKS	SKKSdf	22 38 44.4	-9.3
PMAN	**Manadas**	**151.40 24**	*e*PKP	**PKPab**	**22 23 11.4**	**-1.8**
PMAN	**Manadas**	**151.40 24**	*e*SKKS	SKKSdf	22 38 44.9	-8.7
MVO	**Moncorvo**	**151.41 350**	*e*PKPdf	**PKPdf**	**22 22 58.1**	**-0.9**
MVO	**Moncorvo**	**151.41 350**	*e*LQ	LQ	23 07 42.3			
MVO	**Moncorvo**	**151.41 350**	*e*LR	LR	23 21 26.8			
	comp=Z,595µm,20.0s							
CKHR	**Kef el Ahmar**	**151.43 326**	P	**PKPab**	**22 23 13.0**	**-0.6**
PPNO	**Prainha do Nor**	**151.47 25**	*e*PKP	**PKPab**	**22 23 10.1**	**-3.5**
ADH	**Angra Heroismo**	**151.72 23**	*e*PKP	**PKPbc**	**22 23 10.1**	**+4.3**
ADH	**Angra Heroismo**	**151.72 23**	*e*SKKS	**SKKSdf**	**22 38 46.2**	**-6.7**
ABA	**Alger-Bouzarea**	**152.07 331**	P	**PKPbc**	**22 23 11.1**	**+4.4**
ESDC	**Sonseca Array**	**152.16 344**	PKP	**PKPdf**	**22 22 59.3**	**-0.9**
ESDC			PKPbc	**PKPbc**

σ1⁉25/38, **mb5.0**/16, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.37**	**300**	Pn	Pn	22 17 26.4	-5.7
HNR	**Honiara**	**7.37**	**300**	Pn	Pn	22 17 26.4	-5.7
	140nm,0.3s,baz=148,slow=7.6,SNR=6.4						
EIDS	**Eidsvold**	**18.86**	**228**	*eP*	**P**	**22 20 03.0**	**-0.5**
	119nm,1.3s						
CTAO	**Charters Tower**	**20.50**	**248**	*eP*	**P**	**22 20 20.7**	**-0.8**
AFI	**Afiamalu**	**21.20**	**94**	*eP*	**P**	**22 20 29.5**	**+0.3**
	48nm,0.6s						
RAO	**Raoul Island**	**21.60**	**140**	*eP*	**P**	**22 20 32.0**	**-1.2**
	340nm,0.4s						
ARMA	**Armidale**	**21.93**	**216**	*eP*	**P**	**22 20 37.0**	**+0.2**
	40nm,0.9s						
WRAB	**Tennant Creek**	**31.43**	**253**	P	**P**	**22 22 04.6**	**+0.2**
WRA	**Warramunga Arr**	**31.44**	**253**	P	**P**	**22 22 05.5**	**+1.0**
WRA	**Warramunga Arr**	**31.44**	**253**	P	**P**	**22 22 05.6**	**+1.0**
	5.8nm,0.8s,baz=82,slow=8.3,SNR=2.3						
ASAR	**Alice Springs**	**32.49**	**247**	P	**P**	**22 22 14.4**	**+0.7**
ASAR	**Alice Springs**	**32.49**	**247**	P	**P**	**22 22 14.4**	**+0.7**
	7.4nm,0.6s,baz=74,slow=9.6,SNR=5.9						
TAU	**Tasmania Unive**	**33.91**	**206**	P	**P**	**22 22 25.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**39.52**	**258**	*eP*	**P**	**22 23 13.2**	**-0.7**
	494nm,2.3s						
MBWA	**Marble Bar**	**45.18**	**253**	*eP*	**P**	**22 24 00.7**	**+0.8**
	37nm,1.0s						
NWAO	**Narrogin (SRO)**	**48.86**	**238**	*eP*	**P**	**22 24 28.1**	**-0.4**
JNU	**Nakatsue**	**57.20**	**325**	P	**P**	**22 25 27.9**	**-2.0**
JNU	**Nakatsue**	**57.20**	**325**	P	**P**	**22 25 27.9**	**-2.0**
	20nm,0.9s,baz=180,slow=4.0,SNR=2.9						
ASAJ	**Asahikawa**	**61.02**	**341**	*eP*	**P**	**22 25 54.8**	**-1.3**
	26nm,1.2s						
ASAJ	**Asahikawa**	**61.02**	**341**	P	**P**	**22 25 55.0**	**-1.0**
	20nm,0.6s,baz=217,slow=9.0,SNR=11						
SBA	**Scott Base**	**64.67**	**180**	*eP*	**P**	**22 26 19.1**	**-0.7**
USRK	**Ussuriysk Arra**	**65.15**	**333**	P	**P**	**22 26 22.7**	**-0.7**
	14nm,1.1s,baz=151,slow=5.9,SNR=8.6						
PETK	**Petropavlovsk-**	**66.45**	**354**	P	**P**	**22 26 30.8**	**-0.9**
PETK	**Petropavlovsk-**	**66.45**	**354**	P	**P**	**22 26 30.8**	**-0.9**
	10nm,1.1s,baz=158,slow=9.6,SNR=3.5						
QSPA	**South Pole Qui**	**76.83**	**180**	*eP*	**P**	**22 27 34.1**	**0.0**
	44nm,1.0s						
QSPA	**South Pole Qui**	**76.83**	**180**	P	P	22 27 40.2	+6.1
	35nm,0.9s,baz=355,slow=2.8,SNR=6.2						
SONM	**Songino Array**	**80.78**	**324**	P	**P**	**22 27 57.4**	**+1.4**
SONM	**Songino Array**	**80.78**	**324**	P	**P**	**22 27 57.4**	**+1.4**
	3.5nm,0.7s,baz=139,slow=5.4,SNR=5.4						
MAW	**Mawson**	**83.00**	**202**	P	P	22 28 13.4	+6.1
MAW	**Mawson**	**83.00**	**202**	P	P	22 28 13.4	+6.1
	4.1nm,1.0s,baz=207,slow=4.5,SNR=2.0						
MKAR	**Makanchi Array**	**95.53**	**317**	P	**P**	**22 29 09.2**	**+1.7**
MKAR	**Makanchi Array**	**95.53**	**317**	P	**P**	**22 29 09.2**	**+1.7**
	5.3nm,0.8s,baz=97,slow=6.1,SNR=3.6						
ZALV	**Zalesovo Beam**	**95.67**	**324**	P	**P**	**22 29 08.6**	**+0.8**
ZALV	**Zalesovo Beam**	**95.67**	**324**	P	**P**	**22 29 08.6**	**+0.8**
	2.0nm,0.6s,baz=129,slow=5.7,SNR=1.4						
ARCES	**ARCESS Array B**	**118.56**	**345**	PKP	**PKPdf**	**22 34 31.4**	**+1.9**
ARCES	**ARCESS Array B**	**118.56**	**345**	PKP	**PKPdf**	**22 34 31.4**	**+1.9**
	3.9nm,0.6s,baz=76,slow=3.8,SNR=1.8						
FINES	**FINESS Array B**	**124.00**	**338**	PKP	**PKPdf**	**22 34 42.1**	**+2.0**
FINES	**FINESS Array B**	**124.00**	**338**	PKP	**PKPdf**	**22 34 42.1**	**+2.0**
	10.0nm,1.0s,baz=70,slow=2.2,SNR=3.8						
CLL	**Collm**	**136.32**	**326**	*e*PKPdf	**PKPdf**	**22 35 05.0**	**+1.2**
KEST	**Kesra**	**149.51**	**321**	PKPbc	**PKPab**	**22 35 35.3**	**-1.7**
KEST	**Kesra**	**149.51**	**321**	PKPbc	**PKPab**	**22 35 35.3**	**-1.7**
	8.0nm,0.8s,baz=335,slow=1.7,SNR=3.4						
ESDC	**Sonseca Array**	**152.29**	**344**	PKPbc	**PKPbc**	**22 35 39.3**	**+0.9**
ESDC	**Sonseca Array**	**152.29**	**344**	PKPbc	**PKPbc**	**22 35 39.3**	**+0.9**
	7.0nm,0.9s,baz=0.5,slow=3.6,SNR=6.4						

IDC ***07*** *22:16:04.9±0.9, 12.˚72S×166.˚53E, h0km, mb5.0/12, mb1 5.0/12, mb1mx4.8/21, mbtmp4.9/12, Error ellipse: s-maj=41.8km s-min=24.8km az=80.0*

ISCJB ***07*** *22:16:12.1±0.8, 12.˚6S±0.˚1×166.˚3E±0.˚2, h59km, mb4.9/12, Error ellipse: s-maj=30.1km s-min=17.4km az=173.1*

ISC 07 22:16:13.1±0.8**, 12.˚7S**±0.˚2×**166.˚4E**±0.˚2**, h59**km**, n19,** σ1⁉**05/19, mb5.0**/12**, 1D, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.57**	**253**	P	**P**	**22 22 29.4**	**-1.0**
	4.0nm,0.7s,baz=85,slow=9.1,SNR=1.9						
MAT	**Matsushiro**	**55.72**	**333**	P	**P**	**22 25 42.7**	**-1.1**
JNU	**Nakatsue**	**56.79**	**324**	P	**P**	**22 25 51.2**	**-0.3**
	37nm,0.9s,baz=157,slow=5.5,SNR=4.9						
ASAJ	**Asahikawa**	**60.55**	**340**	P	**P**	**22 26 18.1**	**+0.8**
	19nm,0.8s,baz=279,slow=12,SNR=4.7						
KSRS	**Korea Array**	**61.59**	**326**	P	**P**	**22 26 25.1**	**+0.5**
	3.3nm,0.8s,baz=126,slow=7.1,SNR=5.1						
USRK	**Ussuriysk Arra**	**64.70**	**333**	P	**P**	**22 26 46.2**	**+1.2**
	24nm,0.8s,baz=124,slow=6.1,SNR=12						
QSPA	**South Pole Qui**	**77.32**	**180**	P	**P**	**22 28 02.1**	**+0.8**
	23nm,0.9s,baz=295,slow=2.5,SNR=2.9						
SONM	**Songino Array**	**80.37**	**324**	P	**P**	**22 28 19.2**	**+0.9**
	2.8nm,0.4s,baz=144,slow=6.1,SNR=11						
MAW	**Mawson**	**83.45**	**202**	P	**P**	**22 28 35.1**	**+1.1**
	6.2nm,0.7s,baz=99,slow=4.1,SNR=4.1						
SYO	**Syowa Base**	**90.41**	**197**	‖*eP*	**P**	**22 29 07.4**	**-0.4**
MKAR	**Makanchi Array**	**95.16**	**317**	P	**P**	**22 29 30.8**	**+0.6**
	8.8nm,0.9s,baz=99,slow=7.5,SNR=4.0						
ZALV	**Zalesovo Beam**	**95.26**	**324**	P	**P**	**22 29 30.1**	**-0.3**
	13nm,0.9s,baz=116,slow=4.3,SNR=6.4						
TXAR	**Lajitas Array**	**96.04**	**61**	P	**P**	**22 29 33.9**	**-0.7**
	1.4nm,0.8s,baz=212,slow=3.2,SNR=2.1						
KURBB	**Kurchatov Arra**	**98.35**	**320**	P	**P**	**22 29 44.2**	**-0.2**
	1.6nm,0.7s,baz=94,slow=4.6,SNR=2.8						
ARCES	**ARCESS Array B**	**118.08**	**345**	PKP	**PKPdf**	**22 34 53.0**	**+0.1**
	4.8nm,0.6s,baz=58,slow=3.4,SNR=1.9						
FINES	**FINESS Array B**	**123.53**	**338**	PKP	**PKPdf**	**22 35 01.8**	**-1.7**
	25nm,1.0s,baz=96,slow=3.8,SNR=5.4						
AKASG	**Malin Array Be**	**128.59**	**326**	PKP	**PKPdf**	**22 35 13.3**	**-0.2**
	3.0nm,0.7s,baz=89,slow=1.1,SNR=5.1						
BRTR	**Keskin Array B**	**130.54**	**312**	PKP	**PKPdf**	**22 35 15.8**	**-1.9**
	5.1nm,0.9s,baz=147,slow=4.7,SNR=4.9						
KEST	**Kesra**	**149.11**	**322**	PKPbc	**PKPbc**	**22 35 56.9**	**+1.5**
	13nm,0.7s,baz=148,slow=1.0,SNR=9.9						

IDC ***07*** *22:18:20.1±0.4, 12.˚68S×166.˚32E, h0km, mb5.4/26, mb1 5.4/28, mb1mx5.4/32, mbtmp5.4/28, ML4.3/1, Error ellipse: s-maj=16.3km s-min=12.4km az=113.0*

BJI ***07*** *22:18:24.5, 12.˚60S×166.˚30E, h35km, mB7.3/25, mb6.4/25, Ms7.9/51, Ms7 7.8/49*

ISCJB ***07*** *22:18:25.1±1.6, 12.˚64S±0.˚03×166.˚47E±0.˚03, h39km±14km, mb6.0/187, MS8.3/1, Error ellipse: s-maj=5.8km s-min=5.1km az=164.9*

NEIC ***07*** *22:18:25.7±0.1, 12.˚62S×166.˚35E, h35km, mb5.8/62, Error ellipse: s-maj=4.8km s-min=3.6km az=133.0*

AUST ***07*** *22:18:26.1±1.3, 12.˚35S×166.˚32E, h35km, Error ellipse: s-maj=25.8km s-min=15.2km az=88.0*

ISC 07 22:18:25.7±0.3**, 12.˚61S**±0.˚04×**166.˚36E**±0.˚04**, h34**km±1km**, h34**km**:pP-P, n919,** σ1⁉**74/743, mb6.1**/188**, 49C-34D, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.05**	**296**	*e*Pn	Pn	22 20 03.6	-2.9
HNR	**Honiara**	**7.05**	**296**	Pn	**Pn**	**22 20 04.8**	**-1.8**
	300nm,0.3s,baz=164,slow=4.1,SNR=20						
DZM	**Mont Dzumac**	**9.41**	**180**	*e*Pn	**Pn**	**22 20 36.9**	**-2.1**
	795nm,0.2s						
DZM				*e*LR	LR	22 22 50.1	
	3827µm,24.7s						
TARA	**Tarawa**	**15.33**	**26**	Pn	**Pn**	**22 21 58.7**	**-0.9**
PMG	**Port Moresby**	**19.12**	**278**	P	**Pn**	**22 22 47.0**	**0.0**
	571nm,1.0s						
PMG	**Port Moresby**	**19.12**	**278**	*e*P	**P**	**22 22 45.8**	**-0.2**
	282nm,0.8s						
PMG				Pn	P	**22 22 46.0**	**0.0**
PMG	**Port Moresby**	**19.12**	**278**	Pn	**P**	**22 22 46.0**	**0.0**
	3.0nm,0.3s,baz=93,slow=8.0,SNR=28						
EIDS	**Eidsvold**	**19.20**	**226**	*e*P	**Pn**	**22 22 47.7**	**-0.3**
	567nm,1.0s						
EIDS	**Eidsvold**	**19.20**	**226**	⇑P	**Pn**	**22 22 48.5**	**+0.5**
	baz=19,SNR=54						
CTA	**Charters Tower**	**20.66**	**246**	P	**P**	**22 23 02.5**	**-0.4**
CTA	**Charters Tower**	**20.66**	**246**	P	**P**	**22 23 02.5**	**-0.4**
	181nm,1.0s,baz=68,slow=13,SNR=13						
CTAO	**Charters Tower**	**20.66**	**246**	*e*P	**P**	**22 23 01.3**	**-1.6**
CTAO				pmax	pmax		
	comp=Z,208nm,0.8s						
CTAO	**Charters Tower**	**20.66**	**246**	*e*P	**P**	**22 23 01.3**	**-1.6**
	comp=Z,208nm,0.8s						
KWAJ	**Kwajalein Atol**	**21.31**	**3**	*e*P	**P**	**22 23 11.3**	**+1.6**
KWAJ	**Kwajalein Atol**	**21.31**	**3**	*e*P	**P**	**22 23 11.3**	**+1.6**
AFI	**Afiamalu**	**21.32**	**96**	*e*P	**P**	**22 23 08.3**	**-1.6**
	comp=Z,193nm,0.9s						
RMQ	**Roma**	**21.54**	**228**	⇑P	**P**	**22 23 13.4**	**+1.2**
	baz=22,SNR=20						
ARMA	**Armidale**	**22.36**	**215**	*e*P	**P**	**22 23 20.9**	**-0.1**
	comp=Z,294nm,0.8s						
OUZ	**Omahuta**	**23.44**	**165**	*e*P	**P**	**22 23 34.5**	**+2.4**
	comp=Z,62nm,0.7s						
MGCD	**Mangrove Creek**	**24.79**	**212**	⇑P	**P**	**22 23 48.5**	**+3.9**
	baz=25,SNR=10						
QLP	**Quilpie**	**25.00**	**233**	⇓P	**P**	**22 23 47.8**	**+1.3**
	baz=25,SNR=12						
CMSA	**Cobar Meteorol**	**26.77**	**222**	⇑P	**P**	**22 24 06.1**	**+3.5**
	baz=27,SNR=7.7						
URZ	**Urewera**	**27.28**	**161**	*e*P	**P**	**22 24 06.7**	**-0.3**
URZ	**Urewera**	**27.28**	**161**	P	**P**	**22 24 08.3**	**+1.3**
	comp=Z,5.3nm,0.3s,baz=286,slow=6.7,SNR=4.3						
JAY	**Jayapura**	**27.31**	**289**	P	P	22 24 17.0	+9.4
	comp=Z,266nm,0.8s						
CNB	**Canberra Magne**	**27.34**	**211**	⇑P	**P**	**22 24 10.9**	**+3.2**
	baz=28,SNR=8.5						
CAN	**Canberra**	**27.53**	**212**	*e*P	**P**	**22 24 09.8**	**+0.4**
CAN				pmax	pmax		
	comp=Z,69nm,1.0s						
CAN	**Canberra**	**27.53**	**212**	*e*P	**P**	**22 24 09.8**	**+0.4**
	comp=Z,69nm,1.0s						
MILA	**Mila**	**28.82**	**209**	⇑P	**P**	**22 24 22.9**	**+2.0**
	baz=29,SNR=11						
SNZO	**South Karori**	**29.51**	**167**	*e*P	**P**	**22 24 26.1**	**-0.6**
STKA	**Stephens Creek**	**29.76**	**226**	*e*P	**P**	**22 24 29.8**	**+0.6**
	comp=Z,29nm,0.8s						
STKA	**Stephens Creek**	**29.76**	**226**	P	**P**	**22 24 30.5**	**+1.3**
	baz=30,SNR=28						
STKA	**Stephens Creek**	**29.76**	**226**	P	**P**	**22 24 29.1**	**-0.1**
	comp=Z,60nm,0.8s,baz=20,slow=8.2,SNR=2.0						
KHZ	**Kahutara**	**30.34**	**169**	*e*P	**P**	**22 24 33.7**	**-0.5**
	comp=Z,79nm,0.8s						
TOO	**Toolangi**	**31.08**	**213**	P	**P**	**22 24 43.7**	**+2.9**
	baz=31,SNR=8.3						
RPZ	**Rata Peaks**	**31.26**	**173**	*e*P	**P**	**22 24 42.7**	**+0.4**
	comp=Z,165nm,0.7s						
RPZ	**Rata Peaks**	**31.26**	**173**	P	**P**	**22 24 42.4**	**+0.1**
	comp=Z,96nm,0.7s,baz=79,slow=2.5,SNR=9.3						
WRA	**Warramunga Arr**	**31.55**	**252**	P	P	22 24 42.2	-3.0
WRA	**Warramunga Arr**	**31.55**	**252**	P	P	22 24 42.2	-3.0
	comp=Z,31nm,1.0s,baz=84,slow=9.0,SNR=11						
BAKI	**Biak**	**32.06**	**288**	P	P	22 24 58.4	+8.7
	comp=Z,537nm,1.3s						
HTT	**Hallett**	**32.49**	**226**	⇑P	**P**	**22 24 55.1**	**+1.7**
	baz=33						
ODZ	**Otahua Downs**	**32.53**	**174**	*e*P	**P**	**22 24 52.8**	**-0.6**
	comp=Z,60nm,0.9s						
AS17	**Alice Springs**	**32.59**	**246**	⇓P	**P**	**22 24 53.8**	**-0.5**
	baz=33						
AS08	**Alice Springs**	**32.62**	**246**	⇓P	**P**	**22 24 53.4**	**-1.2**
	baz=33						
AS31	**Alice Springs**	**32.67**	**246**	*e*P	**P**	**22 24 52.4**	**-2.6**
ASAR	**Alice Springs**	**32.67**	**246**	P	**P**	**22 24 53.0**	**-2.0**
ASAR	**Alice Springs**	**32.67**	**246**	P	**P**	**22 24 53.0**	**-2.0**
	comp=Z,86nm,0.9s,baz=75,slow=9.4,SNR=23						
RAR	**Rarotonga**	**33.45**	**109**	*e*P	**P**	**22 25 01.1**	**-0.7**
	comp=Z,35nm,0.8s						
GUMO	**Guam**	**33.64**	**320**	*e*P	**P**	**22 25 03.0**	**-0.4**
	comp=Z,303nm,1.1s						
TLE	**Tual**	**33.89**	**279**	P	P	22 25 13.6	+7.9
BBOO	**Buckleboo**	**34.23**	**229**	*e*P	**P**	**22 25 09.1**	**+0.6**
	comp=Z,2µm,0.6s						
TAU	**Tasmania Unive**	**34.40**	**205**	*e*P	**P**	**22 25 10.9**	**+1.2**
TAU				pmax	pmax		
	comp=Z,953nm,1.2s						
TAU	**Tasmania Unive**	**34.40**	**205**	*e*P	**P**	**22 25 10.9**	**+1.2**
	comp=Z,953nm,1.2s						
SAUI	**Saumlaki**	**34.78**	**274**	P	P	22 25 20.6	+7.2
	comp=Z,683nm,3.3s,comp=Z,441µm						
FAKI	**Fak Fak**	**35.10**	**283**	P	P	22 25 26.2	+10
	comp=Z,335nm,1.7s						
SWI	**Sorong**	**36.70**	**286**	P	P	22 25 34.3	+4.4
	comp=Z,575nm,0.9s						
BNDI	**Bandanaira**	**36.90**	**279**	P	P	22 25 35.8	+4.2
	comp=Z,3µm,1.2s						
AAI	**Ambon**	**38.76**	**280**	P	P	22 25 55.3	+8.0
	comp=Z,445nm,0.9s						
XMAS	**Kimati**	**38.77**	**70**	*e*P	**P**	**22 25 50.0**	**+2.6**
	comp=Z,206nm,1.6s						
FITZ	**Fitzroy Crossi**	**39.59**	**257**	P	**P**	**22 25 54.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**39.59**	**257**	⇓P	**P**	**22 25 54.7**	**+0.5**
	baz=40						
FITZ	**Fitzroy Crossi**	**39.59**	**257**	P	**P**	**22 25 54.0**	**-0.1**
	comp=Z,72nm,1.0s,baz=83,slow=8.3,SNR=14						
FORT	**Forrest**	**39.67**	**237**	*e*P	**P**	**22 25 53.6**	**-1.1**
	comp=Z,151nm,0.8s						
FORT	**Forrest**	**39.67**	**237**	⇓P	**P**	**22 25 55.4**	**+0.7**
	baz=40						
NLAI	**Namlea**	**39.93**	**280**	P	P	22 26 04.1	+7.0
	comp=Z,1µm,1.0s						
LBMI	**Labuha**	**40.32**	**284**	P	P	22 26 07.5	+7.2
	comp=Z,1µm,2.3s,comp=Z,164µm						
TNTI	**Ternate**	**40.91**	**286**	P	P	22 26 13.9	+8.7
	comp=Z,626nm,1.5s						
TNTI	**Ternate**	**40.91**	**286**	*e*P	**P**	**22 26 07.3**	**+2.0**
	comp=Z,3µm,1.4s						
SOEI	**Soe**	**41.36**	**270**	P	P	22 26 17.0	+7.9
	comp=Z,236nm,2.6s						
BATI	**Baumata**	**41.89**	**269**	P	P	22 26 20.5	+7.2
	comp=Z,223nm,1.1s						
MCQ	**Macquarie Isla**	**42.19**	**186**	*e*P	**P**	**22 26 14.8**	**-0.3**
	comp=Z,42µm,1.4s						
PPT2	**Papeete2**	**42.76**	**102**	*e*P	P	22 26 23.7	+3.4
	comp=Z,579nm,1.3s						
PPT2				*e*S	**S**	**22 32 46.6**	**+4.3**
	comp=Z,346µm,25.5s						
PPT2				*e*LQ	LQ	22 36 29.4	
	comp=Z,934µm,27.0s						
PPT2				*e*LR	LR	22 38 16.9	
	comp=Z,1095µm,25.2s,baz=274						
TIAR	**Tiarei**	**42.98**	**102**	*e*P	P	22 26 25.3	+3.2
	comp=Z,500nm,0.9s						
TBI	**Tubuai**	**43.20**	**111**	*e*P	P	22 26 27.0	+3.2
	comp=Z,776nm,1.1s						
TBI				*e*S	S	22 32 55.4	+6.8
	comp=Z,255µm,25.8s						
TBI				*e*LQ	LQ	22 36 40.6	
	comp=Z,790µm,30.0s						
TBI				*e*LR	LR	22 38 28.8	
	comp=Z,622µm,25.2s,baz=288						
MMRI	**Maumere**	**43.51**	**271**	P	P	22 26 33.1	+6.7
	comp=Z,4µm,0.8s						
SGSI	**Sangihe**	**43.68**	**289**	P	P	22 26 36.3	+8.5
	comp=Z,2µm,0.7s						
BBSI	**Bau Bau**	**43.77**	**275**	P	P	22 26 36.4	+7.9
	comp=Z,965nm,1.7s,comp=Z,107µm						
KMSI	**Cibinong**	**44.04**	**284**	P	P	22 26 37.7	+7.1
	comp=Z,1µm,1.0s,comp=Z,145µm						
MEH	**Mehetia**	**44.20**	**103**	*e*P	P	22 26 35.4	+3.5
	comp=Z,529nm,1.1s						
PMOR	**Pomariorio Ree**	**44.43**	**99**	*e*P	P	22 26 37.3	+3.6
	comp=Z,2µm,1.3s						
VAH	**Vaihoa**	**44.67**	**99**	*e*P	P	22 26 39.1	+3.4
	comp=Z,1µm,1.2s						
LUWI	**Luwuk**	**44.70**	**281**	P	P	22 26 42.7	+6.8
	comp=Z,924nm,1.3s						
KKSI	**Kolaka, Sulawe**	**44.96**	**277**	P	P	22 26 45.6	+7.6
	comp=Z,418nm,0.8s						
MBWA	**Marble Bar**	**45.29**	**253**	*e*P	**P**	**22 26 40.3**	**-0.3**
	comp=Z,135nm,1.0s						
BUTP	**Butuan**	**45.81**	**296**	*e*P	P	22 26 48.9	+4.2
APSI	**Ampana**	**45.81**	**281**	P	P	22 26 49.3	+4.5
	comp=Z,565nm,1.1s						
BUKP	**Muan**	**45.81**	**294**	*e*P	P	22 26 48.7	+3.9
CBIJ	**Chichi jima**	**45.92**	**329**	P	**P**	**22 26 45.7**	**+0.3**
JCJ	**Chichijima**	**45.92**	**329**	P	**P**	**22 26 45.7**	**+0.3**
	comp=Z,106nm,0.5s,baz=123,slow=22,SNR=6.3						
MRSI	**Marisa**	**45.94**	**283**	P	P	22 26 55.8	+10
	comp=Z,281nm,1.8s						
WBSI	**Waikabubak, Su**	**46.14**	**269**	P	P	22 26 55.1	+7.7
	comp=Z,429nm,0.9s						
BKSI	**Bulukumba**	**46.19**	**275**	P	P	22 26 56.2	+8.5
	comp=Z,192nm,1.4s						
CTBH	**Cotabato--PC H**	**46.26**	**293**	*e*P	P	22 26 51.8	+3.5
SCPH	**Surigao**	**46.30**	**297**	*e*P	P	22 26 51.9	+3.3
CGP	**Cagayan de Oro**	**46.39**	**295**	‖*e*P	P	22 26 53.9	+4.6
BNSI	**Bone**	**46.41**	**276**	P	P	22 26 57.7	+8.2
	comp=Z,783nm,1.0s						
KAPI	**Kappang**	**46.62**	**275**	*e*P	**P**	**22 26 51.8**	**+0.7**
	comp=Z,341nm,1.5s						
SPSI	**Sidrap Palu**	**46.83**	**276**	P	P	22 27 01.2	+8.4
	comp=Z,228nm,1.5s						
TTSI	**Tana Toraja**	**47.01**	**278**	P	P	22 27 03.5	+9.4
	comp=Z,174nm,1.2s						
MSLP	**Maasin**	**47.01**	**297**	*e*P	**P**	**22 26 56.5**	**+2.4**
PAGZ	**Pagadian**	**47.30**	**293**	*e*P	**P**	**22 26 59.5**	**+3.1**
DCPH	**Dipolog City**	**47.64**	**294**	‖*e*P	P	22 27 07.4	+8.3
TBP	**Tagbilaran**	**47.68**	**296**	*e*P	P	22 27 03.5	+4.2
CNP	**Catarman**	**48.31**	**300**	*e*P	P	**22 27 06.7**	**+2.5**
KIP	**Kipapa**	**48.66**	**46**	*e*P	**P**	**22 27 07.1**	**+0.3**
KIP	**Kipapa**	**48.66**	**46**	*e*P	**P**	**22 27 07.1**	**+0.3**
NWAO	**Narrogin (SRO)**	**49.11**	**237**	*e*P	**P**	**22 27 10.3**	**+0.1**
	comp=Z,44nm,0.7s						
NWAO	**Narrogin (SRO)**	**49.11**	**237**	P	**P**	**22 27 10.2**	**0.0**
	comp=Z,107nm,1.1s,baz=70,slow=4.8,SNR=10						
NWAO				SKKP	SKKPdf	22 53 26.1	+8.5
	comp=Z,2µm,1.1s,baz=272,slow=0.0,SNR=9.1						
NWAO	**Narrogin (SRO)**	**49.11**	**237**	SKKP	SKKPdf	22 53 26.1	+8.5
GUIM	**Jordan**	**49.22**	**296**	*e*P	P	22 27 04.8	-6.4
PVCP	**Virac**	**49.28**	**300**	‖*e*P	P	22 27 17.7	+6.1
MTNI	**Mataram**	**49.43**	**269**	P	P	22 27 21.2	+8.3
	comp=Z,545nm,1.3s						
RCP	**Roxas**	**49.51**	**297**	⇑*e*P	**P**	**22 27 15.9**	**+2.5**
SGKI	**Sangatta, Kali**	**49.80**	**280**	P	P	22 27 25.0	+9.3
	comp=Z,381nm,1.4s						
DNP	**Denpasar**	**50.36**	**269**	P	P	22 27 28.4	+8.4
	comp=Z,2µm,0.7s,comp=Z,123µm						
AUQP	**San Andres**	**50.40**	**299**	*e*P	P	22 27 32.6	+12
OTRP	**Odiongan**	**50.50**	**298**	*e*P	**P**	**22 27 23.8**	**+2.9**
CUYO	**Cuyo Island**	**50.70**	**295**	*e*P	P	22 27 25.7	+3.3
MYLDM	**Lahad Datu**	**50.74**	**287**	P	P	22 27 30.7	+7.9
MYLDM	**Lahad Datu**	**50.74**	**287**	P	P	22 27 33.1	+10
	comp=Z,868nm,1.6s						
GQP	**Guinayangan**	**50.87**	**300**	⇑*e*P	**P**	**22 27 26.2**	**+2.4**
TSM	**Tawau**	**51.02**	**286**	P	P	22 27 30.7	+5.8
BYJI	**Banyuwangi**	**51.27**	**270**	P	P	22 27 35.4	+8.6
	comp=Z,2µm,1.4s						
SJMP	**San Jose**	**51.33**	**297**	*e*P	P	22 27 30.6	+3.4
ABJI	**Asem Bagus**	**51.46**	**270**	P	P	22 27 36.8	+8.6
	comp=Z,950nm,1.6s,comp=Z,126µm						
KMMI	**Kalianget**	**51.85**	**271**	P	P	22 27 41.1	+10
	comp=Z,386nm,1.3s						
BLJI	**Banyuglugur**	**52.09**	**270**	P	P	22 27 41.3	+8.3
	comp=Z,332nm,0.7s						
SDKM	**Sandakan**	**52.12**	**287**	P	P	22 27 40.6	+7.4
GMJI	**Gumukmas**	**52.15**	**269**	P	P	22 27 40.5	+7.1
	comp=Z,396nm,0.9s						
ENPP	**El Nido**	**52.26**	**295**	*e*P	**P**	**22 27 36.9**	**+2.8**
PPR	**Puerto Princes**	**52.28**	**293**	*e*P	**P**	**22 27 37.3**	**+3.0**
PALP	**Palanan**	**52.47**	**303**	*e*P	**P**	**22 27 38.8**	**+3.1**
TAOE	**Nuku Hiva Isla**	**52.62**	**92**	*e*P	P	22 27 40.0	+3.0
	comp=Z,760nm,1.2s						
TAOE				*e*S	**S**	**22 35 07.7**	**+5.2**
	comp=Z,94µm,26.2s						
TAOE				*e*LR	LR	22 42 50.6	
	comp=Z,734µm,23.5s,baz=268						
BATP	**Bataraza**	**52.73**	**291**	*e*P	**P**	**22 27 39.5**	**+1.9**
PCPH	**Palayan**	**52.82**	**301**	⇑*e*P	**P**	**22 27 40.8**	**+2.5**
CAUP	**Cauayan**	**52.91**	**303**	*e*P	P	22 27 45.2	+6

KASI Kota Agung 61.38 271 P P 22 28 47.7 +8.7
comp=E,712nm,0.9s
SSE Sheshan 61.39 316 P P 22 28 43.9 +5.3
SSE AMB AMB
comp=E,109µm,12.0s
KSRS Korea Array 61.50 326 P **P** **22 28 38.4 -0.8**
comp=E,29nm,1.0s,baz=139,slow=5.7,SNR=25
KSAR Wonju Array Be 61.52 326 P **P** **22 28 38.4 -0.9**
MDSI Maura Dua 61.90 272 P P 22 28 49.8 +7.3
comp=E,270nm,1.6s
LWLI Liwa 61.91 271 P P 22 28 49.2 +6.5
comp=E,342nm,2.3s,comp=E,38µm
INCN Inchon 62.24 325 *e*P **P** **22 28 44.3 0.0**
comp=E,202nm,0.9s
LHSI Lahat 62.68 272 P P 22 28 55.7 +8.0
comp=E,280nm,1.5s
YSS Yuzh-Sakhalins 62.95 342⇑ *e*P **P** **22 28 50.0 +1.2**
YSS *e* 22 28 56.0
YSS pmax pmax
comp=Z,90nm,1.2s
MNAI Manna 63.12 271 P P 22 28 59.5 +8.9
comp=Z,768nm,1.3s,comp=Z,85µm
NJ2 Nanjing 63.55 316 *e*P **P** **22 28 53.6 +0.5**
KSI Kapahiang 63.62 272 P P 22 29 03.3 +9.3
comp=Z,590nm,1.3s
MYKOM Kota Tinggi 63.67 278 P P 22 29 02.6 +8.4
comp=Z,258nm,1.7s,comp=Z,89µm
VLA Vladivostok 63.80 332⇑ *i*P **P** **22 28 53.6 -0.9**
VLA *i* 22 29 29.4
VLA *i* 22 31 13.4
VLA pmax pmax
comp=Z,276nm,1.1s
QIZ Qiongzhong 63.95 299 P **P** **22 28 56.4 +0.4**
QIZ S **S** **22 37 30.8 +0.8**
QIZ sS **sS** **22 37 47.0 -0.3**
QIZ LR LR
comp=Z,189µm,20.6s
QIZ LR LR
comp=Z,620µm,20.1s
USRK Ussuriysk Arra 64.61 333 P **P** **22 28 59.9 +0.2**
comp=Z,228nm,1.1s,baz=128,slow=5.7,SNR=32
AMKA Amchitka 64.71 9 *e*P **P** **22 28 58.6 -1.6**
VNDA Vanda 64.95 181 *e*P **P** **22 29 01.5 -0.1**
comp=Z,87nm,1.2s
CASY Casey 65.15 202 *e*P **P** **22 29 01.7 -1.3**
comp=Z,50nm,0.8s
SBA Scott Base 65.24 180 *e*P **P** **22 29 04.0 +0.5**
SBA pmax pmax
comp=Z,93nm,0.9s
SBA Scott Base 65.24 180 *e*P **P** **22 29 04.0 +0.5**
comp=Z,93nm,0.9s
KTGM Kuala Trenggan 65.30 282 P **P** **22 29 05.2 +0.3**
SMY Shemya 65.42 5 *e*P **P** **22 29 05.4 +0.6**
SMY pmax pmax
comp=Z,149nm,0.6s
SMY Shemya 65.42 5 *e*P **P** **22 29 05.4 +0.6**
comp=Z,149nm,0.6s
FX1 Attu Island--F 65.49 5 *e*P **P** **22 29 06.9 +1.6**
FX1 Attu Island--F 65.49 5 P **P** **22 29 06.6 +1.3**
comp=Z,8.4nm,0.4s,baz=265,slow=6.3,SNR=7.3
PET Petropavlovsk 65.70 355 *e*P P 22 29 13.1 +6.5
PET pmax pmax
comp=Z,233nm,1.3s
PEA0 Petropavlovsk- 65.88 354 *e*P P 22 29 11.2 +3.4
PETK Petropavlovsk- 65.88 354 P **P** **22 29 09.0 +1.2**
PETK Petropavlovsk- 65.88 354 P **P** **22 29 09.0 +1.2**
PETK Petropavlovsk- 65.88 354 P **P** **22 29 09.0 +1.2**
comp=Z,19nm,0.8s,baz=156,slow=9.3,SNR=14
PETK PKP2bc **P'P'ab** **22 57 52.4 +3.7**
comp=Z,14nm,1.2s,baz=157,slow=8.0,SNR=5.2
PETK Petropavlovsk- 65.88 354⇑ *e* **P'P'ab** **22 57 52.4 +3.7**
WHN Wuhan 65.88 312 P P 22 29 12.2 +3.9
WHN LR LR
comp=Z,2069µm,20.8s
ADK Adak 65.89 11 *e*P **P** **22 29 08.8 +0.9**
ADK pmax pmax
comp=Z,86nm,0.9s
ADK Adak 65.89 11 *e*P **P** **22 29 08.8 +0.9**
comp=Z,86nm,0.9s
MDJ Mudanjiang 66.01 332 P **P** **22 29 08.7 -0.1**
MDJ pP **pP** **22 29 18.4 -1.0**
MDJ sP **sP** **22 29 21.8 -1.5**
MDJ PcP **PcP** **22 29 40.8 +1.5**
MDJ AMB AMB
comp=Z,72µm,11.9s
MDJ LR LR
comp=Z,603µm,34.7s
MDJ LR LR
comp=Z,504µm,34.7s
MDJ LR LR
comp=Z,1038µm,32.2s
DL2 Dalian 66.09 323⇓ P P 22 29 13.6 +4.2
DL2 S S 22 37 49.5 -6.0
DL2 AMB AMB
comp=Z,530nm,1.0s
DL2 LR LR
comp=Z,196µm,18.4s
DL2 LR LR
comp=Z,196µm,19.6s
DL2 LR LR
comp=Z,365µm,20.8s
UBPT Khong Chiam 66.33 293 P P 22 29 16.3 +4.8
comp=Z,574nm,0.8s
PPI Padang Panjang 66.47 275 P P 22 29 16.5 +4.1
comp=Z,456nm,3.1s,comp=Z,61µm
IPM Ipoh 67.09 280 P **P** **22 29 18.3 +1.8**
IPM Ipoh 67.09 280 P **P** **22 29 19.3 +2.9**
comp=Z,319nm,1.6s
IPM Ipoh 67.09 280 *e*P **P** **22 29 17.8 +1.4**
comp=Z,1µm,1.3s
CN2 Changchun 67.39 329⇑ *i*P **P** **22 29 16.8 -0.9**
CN2 *e*pP **pP** **22 29 25.9 -2.3**
CN2 *e*S **S** **22 38 09.9 -1.2**
CN2 AMB AMB
comp=Z,920nm,0.8s
KULM Kulim 67.67 281 P P 22 29 24.2 +4.2
KULM Kulim 67.67 281 P P 22 29 25.2 +5.1
comp=Z,390nm,1.6s
KULM Kulim 67.67 281 *e*P **P** **22 29 18.9 -1.2**
comp=Z,63nm,0.9s
COCO West Island 67.71 262 P P 22 29 24.0 +3.7
comp=Z,256nm,2.0s
PANO Nakornpanom 67.78 295 P P 22 29 24.2 +3.5
comp=Z,373nm,0.9s,comp=Z,32µm
SKLT Songkhla 68.22 283 P P 22 29 29.8 +6.3
comp=Z,1µm,1.3s
SKNT Sakolnakorn 68.28 294 P **P** **22 29 25.2 +1.4**
comp=Z,254nm,1.2s
CHBT CHBT 68.32 289 P P 22 29 29.6 +5.5
comp=Z,309nm,0.8s,comp=Z,53µm
SRIT Nakonsritamara 69.59 284 P P 22 29 35.9 +3.8
comp=Z,2µm,1.5s
GSI Gunungsitoli 69.62 276 P P 22 29 37.4 +5.1
comp=Z,886nm,1.7s
CHAI Chaiyaphum 69.69 292 P **P** **22 29 35.3 +2.7**
comp=Z,19nm,1.0s,comp=Z,888nm
SURA Surathani 69.73 285 P P 22 29 38.0 +5.1
comp=Z,692nm,1.1s
GYA Guiyang 69.80 304⇑ *i*P **P** **22 29 36.2 +3.0**
GYA pP **pP** **22 29 45.0 +1.2**
GYA sP **sP** **22 29 51.8 +4.0**
GYA PP **PP** **22 32 11.0 +3.0**
GYA S **S** **22 38 40.4 -0.2**
GYA sS **sS** **22 38 57.6 -0.5**
GYA SKS **SKSac** **22 39 28.0 -4.0**
GYA SS **SS** **22 43 11.4 +1.4**
GYA AMB AMB
comp=Z,280nm,0.8s
GYA LR LR
comp=Z,197µm,20.2s
GYA LR LR
comp=Z,211µm,20.9s
KRAB Krabi 69.87 284 P P 22 29 40.2 +6.4
comp=Z,57nm,1.0s,comp=Z,4µm
KCSI Kotacane, Aceh 69.98 278 P P 22 29 41.2 +6.7
comp=Z,332nm,1.6s
BJI Beijing 70.07 321 P **P** **22 29 35.9 +1.4**
BJI LR LR
comp=Z,962µm,25.1s
BJI LR LR
comp=Z,1013µm,23.0s
BJI LR LR
comp=Z,1994µm,31.6s
AKUT Akutan 70.58 17 *e*P **P** **22 29 35.7 -1.5**
comp=Z,23nm,0.5s
PKDT Phuket 70.59 283 P P 22 29 45.4 +7.2
comp=Z,418nm,1.6s
LOEI Loei 70.89 294 P **P** **22 29 39.4 -0.5**
comp=Z,158nm,0.9s
SNSI Sinabang, Aceh 71.10 277 P P 22 29 51.1 +10
comp=Z,675nm,1.1s,comp=Z,55µm
TIY Taiyuan 71.11 317 *e*P P 22 29 45.8 +4.8
TIY S **S** **22 38 54.8 -0.7**
TIY AMB AMB
comp=Z,1µm,1.6s
TIY LR LR
comp=Z,751µm,20.1s
TIY LR LR
comp=Z,371µm,20.1s
TIY LR LR
comp=Z,1329µm,23.7s
XAN Xi'an 71.62 312 P **P** **22 29 44.7 +0.6**
XAN pP **pP** **22 29 55.4 +0.7**
XAN sP **sP** **22 30 00.7 +2.1**
NANT Nan 71.84 295 P **P** **22 29 48.1 +2.4**
comp=Z,220nm,1.2s,comp=Z,11µm
KMI Kunming 72.45 302 P **P** **22 29 49.6 +0.1**
KMI pP **pP** **22 30 02.5 +2.4**
KMI sP **sP** **22 30 07.4 +3.4**
KMI S **S** **22 39 11.4 -0.3**
KMI LR LR
comp=Z,241µm,20.4s
KMI LR LR
comp=Z,232µm,21.0s
KMI LR LR
comp=Z,343µm,18.3s
PAYA Payao 72.78 295 P **P** **22 29 52.9 +1.6**
comp=Z,32nm,1.0s,comp=Z,2µm
CM01 Chiang Mai Arr 73.26 294 *e*P **P** **22 29 54.2 +0.1**
CM31 Chiang Mai Arr 73.29 294 *e*P **P** **22 29 53.3 -1.0**
comp=Z,85nm,0.8s
CHTO Chiang Mai 73.41 294 *e*P **P** **22 29 54.2 -0.8**
CHTO pmax pmax
comp=Z,421nm,1.0s
CHTO Chiang Mai 73.41 294 P **P** **22 29 56.4 +1.4**
CHTO Chiang Mai 73.41 294 *e*P **P** **22 29 54.2 -0.8**
comp=Z,421nm,1.0s
CHTO Chiang Mai 73.41 294 P **P** **22 29 56.4 +1.4**
comp=Z,7µm,0.9s
HHC Hu-ho-hao-te 73.41 320 *e*P **P** **22 29 54.9 +0.2**
HHC pP **pP** **22 30 05.2 -0.1**
HHC sP **sP** **22 30 09.5 +0.2**
HHC PP **PP** **22 32 40.1 +1.3**
HHC S **S** **22 39 20.0 -1.7**
HHC sS **sS** **22 39 37.8 -1.5**
HHC AMB AMB
comp=Z,40µm,6.2s
HHC LR LR
comp=Z,556µm,17.8s
HHC LR LR
comp=Z,306µm,16.7s
HHC LR LR
comp=Z,803µm,20.2s
CMAI Chiengmai2 73.70 295 P **P** **22 29 58.8 +1.9**
comp=Z,636nm,0.7s
CD2 Chengdu 74.03 307 P **P** **22 29 58.6 +0.1**
CD2 pP **pP** **22 30 09.4 +0.3**
CD2 sP **sP** **22 30 13.6 +0.5**
CD2 PP **PP** **22 32 45.9 +1.7**
CD2 S **S** **22 39 27.7 -1.3**
CD2 sS **sS** **22 39 45.7 -0.9**
CD2 SKS **SKSac** **22 39 58.4 -5.2**
CD2 SS **SS** **22 44 15.3 +0.7**
CD2 AMB AMB
comp=Z,20µm,11.9s
CD2 LR LR
comp=Z,387µm,17.8s
CD2 LR LR
comp=Z,699µm,20.2s
BTO Baotou 74.26 319 *e*P P 22 30 03.9 +4.2
SEY Seymchan 76.09 353⇑ *e*P **P** **22 30 09.9 +0.4**
LZH Lanzhou 76.25 312⇑ P **P** **22 30 12.1 +0.8**
LZH pP **PcP** **22 30 22.7 -0.5**
LZH sP **sP** **22 30 27.3 +1.4**
LZH PP **PP** **22 33 05.2 +2.2**
LZH S **S** **22 39 52.0 -1.8**
LZH sS **sS** **22 40 10.3 -1.1**
LZH SKS **SKSac** **22 40 15.2 -5.1**
LZH SS **SS** **22 44 50.5 +2.1**
LZH AMB AMB
comp=Z,51µm,7.8s
LZH LR LR
comp=Z,502µm,18.8s
LZH LR LR
comp=Z,499µm,18.4s
LZH LR LR
comp=Z,698µm,19.5s
OHAK Old Harbor 77.14 21 *e*P **P** **22 30 16.0 +0.5**
comp=Z,31nm,1.0s
QSPA South Pole Qui 77.40 180 *e*P **P** **22 30 16.8 -0.5**
comp=Z,106nm,0.8s
QSPA South Pole Qui 77.40 180 P **P** **22 30 16.4 -0.9**
comp=Z,77nm,0.9s,baz=354,slow=4.1,SNR=20
KDAK Kodiak Island 77.81 21 *e*P **P** **22 30 16.6 -2.7**
comp=Z,22nm,0.9s
KDAK Kodiak Island 77.81 21 P **P** **22 30 22.3 +3.0**
comp=Z,15nm,0.9s,baz=225,slow=2.9,SNR=3.4
CIT Chita 78.81 330 *e*P **P** **22 30 25.0 -0.1**
CIT pmax pmax
comp=Z,1µm,2.5s
RSO Redoubt South 79.79 19 *e*P **P** **22 30 30.4 -0.1**
ULN Ulaanbaatar 79.92 324 *e*P **P** **22 30 31.0 -0.3**
comp=Z,167nm,0.7s
SONM Songino Array 80.28 324 P **P** **22 30 32.8 -0.5**
SONM Songino Array 80.28 324 P **P** **22 30 32.8 -0.5**
comp=Z,33nm,0.9s,baz=144,slow=4.5,SNR=17
GTA Gaotai 80.57 314⇑ P **P** **22 30 35.5 +0.4**
GTA pP **pP** **22 30 45.7 -0.1**
GTA S **S** **22 40 40.8 +0.9**
GTA SKS **SKSac** **22 40 46.5 -4.5**
GTA sS **sS** **22 40 57.9 +0.2**
GTA AMB AMB
comp=Z,13µm,9.3s
GTA LR LR
comp=Z,547µm,20.4s
GTA LR LR
comp=Z,804µm,22.3s
GTA LR LR
comp=Z,1152µm,22.8s
PMR Palmer 81.81 20 *e*P **P** **22 30 40.7 -0.2**
PMR pmax pmax
comp=Z,32nm,1.5s
PMR Palmer 81.81 20 *e*P **P** **22 30 40.7 -0.2**
comp=Z,32nm,1.5s
DIV Divide 82.64 21 *e*P **P** **22 30 45.6 +0.2**
comp=Z,11nm,0.6s
TRF Thorofare Moun 82.81 18 *e*P **P** **22 30 49.3 +2.9**
comp=Z,10.0nm,0.8s
BMRM Bremner River 82.95 22 *e*P **P** **22 30 46.9 -0.1**
comp=Z,33nm,1.1s
MCCM Marconi Confer 83.09 49 *e*P **P** **22 30 47.8 -0.3**
comp=Z,273nm,0.9s
KCPM Cahto Peak 83.17 47 *e*P **P** **22 30 48.6 -0.1**
comp=Z,16nm,1.0s
HOPS Hopland 83.27 48 *e*P **P** **22 30 49.5 +0.3**
comp=Z,58nm,1.5s
KIPM Iron Peak 83.29 47 *e*P **P** **22 30 49.5 +0.1**
ZAK Zakamensk 83.32 325 *e*P **P** **22 30 48.2 -1.0**
ZAK pmax pmax
comp=Z,155nm,1.3s
ZAK pmax pmax
comp=Z,268nm,1.5s
MCK McKinley 83.43 18 *e*P **P** **22 30 49.6 +0.2**
MCK McKinley 83.43 18 *e*P **P** **22 30 49.6 +0.2**
MAW Mawson 83.50 202 *e*P **P** **22 30 49.7 0.0**
comp=Z,42nm,1.2s
MAW Mawson 83.50 202 P **P** **22 30 49.5 -0.3**
comp=Z,40nm,0.8s,baz=104,slow=5.8,SNR=25
KHMM Horse Mountain 83.52 46 *e*P **P** **22 30 50.3 -0.2**
KRMB Red Mountain 83.65 45 *e*P **P** **22 30 51.4 +0.2**
comp=Z,1µm,2.5s
SAO San Andreas Ge 83.66 50 *e*P **P** **22 30 51.1 -0.1**
SAO San Andreas Ge 83.66 50 *e*P **P** **22 30 51.1 -0.1**
IRK Irkutsk 83.69 327 *e*P **P** **22 30 50.9 -0.1**
IRK pmax pmax
comp=Z,429nm,1.4s
LSA Lhasa 83.69 302 P **P** **22 30 52.8 +0.7**
LSA LR LR
comp=Z,212µm,21.3s
LSA LR LR
comp=Z,385µm,22.8s
LSA LR LR
comp=Z,644µm,21.6s
KBO Bosley Butte 83.70 44 *e*P **P** **22 30 50.5 -0.8**
comp=Z,713nm,1.7s
TLY Talaya 83.75 326 *e*P **P** **22 30 51.1 -0.2**
TLY Talaya 83.75 326 P **P** **22 30 50.2 -1.1**
comp=Z,2µm,0.9s,SNR=11
PAX Paxson 84.00 20 *e*P **P** **22 30 51.9 -0.5**
PAX pmax pmax
comp=Z,698nm,2.0s
PAX Paxson 84.00 20 *e*P **P** **22 30 51.9 -0.5**
comp=Z,698nm,2.0s
WDC Whiskeytown Da 84.24 46 *e*P **P** **22 30 53.8 -0.2**
WDC Whiskeytown Da 84.24 46 *e*P **P** **22 30 53.8 -0.2**
PAF Port-aux-Franc 84.50 221 *e*P **P** **22 30 54.3 -0.9**
PAF Port-aux-Franc 84.50 221 *e*P **P** **22 30 54.3 -0.9**
CRAG Craig 84.53 30 *e*P **P** **22 30 55.2 +0.1**
YBH Yreka Blue Hor 84.56 45 *e*P **P** **22 30 54.9 -0.8**
comp=Z,114nm,0.9s
YBH Yreka Blue Hor 84.56 45 P **P** **22 30 56.4 +0.7**
comp=Z,4.5nm,0.9s,baz=1.1,slow=1.2,SNR=5.2
COLA College 84.58 18 *e*P **P** **22 30 54.8 -0.3**
COLA College 84.58 18 *e*P **P** **22 30 54.8 -0.3**
HUMO Hull Mountain 84.72 44 *e*P **P** **22 30 56.5 0.0**
comp=Z,63nm,0.7s
ILAR Eielson Array 84.80 18 P **P** **22 30 56.3 0.0**
ILAR Eielson Array 84.80 18 P **P** **22 30 56.3 0.0**
comp=Z,12nm,0.7s,baz=243,slow=4.7,SNR=14
CMB Columbia Colle 84.89 49 *e*P **P** **22 30 57.6 +0.2**
CMB pmax pmax
comp=Z,100nm,1.2s
CMB Columbia Colle 84.89 49 *e*P **P** **22 30 57.6 +0.2**
comp=Z,100nm,1.2s
MOY Mondy 85.20 325 *e*P **P** **22 30 58.4 -0.4**
MOY pmax pmax
comp=Z,420nm,2.3s
COR Corvallis 85.24 42 *e*P **P** **22 30 57.0 -1.9**
COR Corvallis 85.24 42 *e*P **P** **22 30 57.0 -1.9**
WRAK Wrangell Islan 85.40 29 *e*P **P** **22 31 00.1 +0.7**
comp=Z,54nm,0.6s
ISA Isabella 85.55 52 *e*P **P** **22 31 00.8 0.0**
ISA pmax pmax
comp=Z,31nm,1.0s
ISA Isabella 85.55 52 *e*P **P** **22 31 00.8 0.0**
comp=Z,31nm,1.0s
HYT Haines Junctio 85.56 24 *e*P **P** **22 31 00.5 +0.1**
TAPN Taplejung 85.89 299 *e*P **P** **22 31 02.5 -0.5**
comp=Z,921nm,1.6s
NLWA Neilton Lookou 85.98 40 *e*P **P** **22 31 02.2 -0.4**
ODAN Odare 86.03 298 *e*P **P** **22 31 03.0 -0.6**
comp=Z,636nm,1.0s
PAHR Pah Rah Range 86.20 48 *e*P **P** **22 31 03.4 -0.6**
comp=Z,313nm,1.2s
MOD Modoc 86.29 46 *e*P **P** **22 31 04.5 0.0**
comp=Z,315nm,0.6s
PFO Pinyon Flat Ob 86.49 55 *e*P **P** **22 31 07.7 +2.1**
PFO Pinyon Flat Ob 86.49 55 P **P** **22 31 05.6 0.0**
comp=Z,1.9nm,0.5s,baz=232,slow=12,SNR=1.9
NVAR Mina Array Bea 86.57 50 P **P** **22 31 06.5 +0.5**
NVAR Mina Array Bea 86.57 50 P **P** **22 31 06.5 +0.5**
comp=Z,6.1nm,0.9s,baz=245,slow=6.0,SNR=6.7
EGAK Eagle 86.63 20 *e*P **P** **22 31 05.4 0.0**
comp=Z,208nm,0.8s
NV11 Mina Array Sit 86.68 50 *e*P **P** **22 31 06.2 -0.2**
GSC Goldstone 86.73 53 *e*P **P** **22 31 06.1 -0.6**
GSC Goldstone 86.73 53 *e*P **P** **22 31 06.1 -0.6**
RAMN Ramite 86.73 298 *e*P **P** **22 31 06.4 -0.7**
comp=Z,337nm,1.2s
JIRN Jiri 87.27 299 *e*P **P** **22 31 09.1 -0.7**
comp=Z,351nm,1.0s
VIS Vishakhapatnam 87.29 289 *e*P **P** **22 31 10.9 +1.3**
PALK Pallekele 87.36 278 P P 22 31 17.3 +7.1
PALK Pallekele 87.36 278 *e*P **P** **22 31 10.2 +0.1**
GUN Gumba 87.60 299 *e*P **P** **22 31 10.7 -0.7**
comp=Z,502nm,1.2s
GLA Glamis 87.63 56 *e*P **P** **22 31 10.3 -0.7**
GLA Glamis 87.63 56 *e*P **P** **22 31 10.3 -0.7**
WVOR Wild Horse Val 87.64 46 *e*P **P** **22 31 10.9 -0.1**
WVOR Wild Horse Val 87.64 46 *e*P **P** **22 31 10.9 -0.1**
TIXI Tiksi 87.73 349 *ce*P **P** **22 31 10.3 -0.2**
TIXI pmax pmax
comp=Z,92nm,1.5s
PKI Pulchoki 87.92 299 *e*P **P** **22 31 11.8 -1.1**
comp=Z,486nm,1.2s
BMN Battle Mountai 88.00 48 *e*P **P** **22 31 13.3 +0.5**
BMN Battle Mountai 88.00 48 *e*P **P** **22 31 13.3 +0.5**
KKN Kakani 88.08 299 *e*P **P** **22 31 12.6 -0.9**
DMN Daman 88.19 299 *e*P **P** **22 31 13.3 -0.8**
comp=Z,586nm,1.0s
SHPR Sheep Range 88.36 52 *e*P **P** **22 31 15.3 +0.7**
HAWA Hanford 88.37 42 *e*P **P** **22 31 12.2 -2.0**
GKN Gorkha 88.69 299 *e*P **P** **22 31 14.9 -1.4**
comp=Z,571nm,1.0s
HVS Khovu-Aksy 89.15 323 *ce*P **P** **22 31 16.9 -0.9**
HVS pmax pmax
comp=Z,296nm,1.2s
BMO Blue Mountains 89.34 44 *e*P **P** **22 31 17.5 -1.4**
BMO Blue Mountains 89.34 44 *e*P **P** **22 31 17.5 -1.4**
KOLN Koldanda 89.52 298 *e*P **P** **22 31 18.6 -1.7**
comp=Z,156nm,0.9s
DANN Dangsing 89.53 299 *e*P **P** **22 31 19.0 -1.4**
comp=Z,358nm,0.9s
ELK Elko 89.54 48 *e*P **P** **22 31 18.8 -1.3**
CCUT Cedar City 90.03 52 *e*P **P** **22 31 22.4 -0.1**
ARUT Antelope Range 90.04 51 *e*P **P** **22 31 22.7 +0.2**
ARUT Antelope Range 90.04 51 *e*P **P** **22 31 22.7 +0.2**
SYO Syowa Base 90.47 197⇓ *i*P **P** **22 31 21.0 -2.6**
WMQ Urumqi 90.62 315 P **P** **22 31 25.4 +0.5**
WMQ pP **pP** **22 31 36.0 +0.2**
WMQ sP **sP** **22 31 39.9 +0.2**
WMQ PP **PP** **22 35 02.6 +2.2**
WMQ SKS **SKSac** **22 41 52.4 -1.7**
WMQ S **S** **22 42 15.8 -2.6**
WMQ sS **sS** **22 42 33.4 -3.0**
WMQ SS **SS** **22 48 20.6 -0.1**
WMQ AMB AMB
comp=Z,440nm,1.2s
WMQ AMB AMB
comp=Z,24µm,10.0s
WMQ LR LR
comp=Z,276µm,20.8s
WMQ LR LR
comp=Z,553µm,21.2s
WMQ LR LR
comp=Z,619µm,22.4s
HLID Hailey 90.93 46 *e*P **P** **22 31 26.6 +0.2**
comp=Z,4.1nm,0.6s
WUAZ Wupatki 91.05 54 *e*P **P** **22 31 28.2 +1.1**
DUG Dugway 91.16 49 *e*P **P** **22 31 27.5 -0.1**
DUG Dugway 91.16 49 *e*P **P** **22 31 27.5 -0.1**
MVU Marysvale 91.16 51 *e*P **P** **22 31 29.9 +2.2**
HVU Hansel Valley 91.61 48 *e*P **P** **22 31 29.7 +0.1**
HVU Hansel Valley 91.61 48 *e*P **P** **22 31 29.7 +0.1**
HYB Hyderabad 91.66 287 *i*P **P** **22 31 31.0 +0.8**
HYB *e*SKS **SKSac** **22 41 59.0 -2.0**
BSMT Bassoo Peak 91.90 41 *e*P P 22 31 36.8 +5.9
MPU Maple Canyon 91.99 50 *e*P **P** **22 31 32.7 +1.2**
CTU Camp Tracy 92.07 49 *e*P **P** **22 31 32.2 +0.3**
DAU Daniels Canyon 92.37 49 *e*P P 22 31 38.4 +5.0
DAU Daniels Canyon 92.37 49 *e*P P 22 31 38.4 +5.0
SLMT Seeley Lake 92.58 42 *e*P **P** **22 31 34.0 0.0**
SRU San Rafael 92.59 51 *e*P **P** **22 31 34.5 +0.2**
SRU San Rafael 92.59 51 *e*P **P** **22 31 34.5 +0.2**
CHMT Chamberlain Mo 92.65 43 *e*P **P** **22 31 34.5 +0.1**
DLMT Dillon 92.68 44 *e*P **P** **22 31 35.2 +0.8**
LGTI Lohaghat 92.78 299 *e*P **P** **22 31 32.9 -2.2**
LGTI *ex* x 22 35 11.2
WALA Waterton Lakes 92.80 40 *e*P **P** **22 31 37.8 +2.9**
QLMT Earthquake Lak 93.34 45 *e*P **P** **22 31 38.6 +1.0**
YMR Madison River 93.62 45 *e*P **P** **22 31 37.8 -1.2**
LATR Latur 93.72 288 *ex* P 22 31 36.5 -3.2
comp=Z,55nm,1.6s
LATR ⇑ *e*P **PcP** **22 31 39.3 -0.9**
PMSA Palmer Station 94.05 161 *e*P **P** **22 31 40.1 -0.1**
PDAR Pinedale Array 94.17 47 P P **22 31 42.8 +1.3**
PDAR Pinedale Array 94.17 47 P **P** **22 31 42.8 +1.3**
comp=Z,0.9nm,0.9s,baz=52,slow=5.8,SNR=2.3
LAZ Ladron 94.17 56 *e*P **P** **22 31 42.0 +0.3**
DDI Dehra Dun 94.82 300 *ex* P **22 31 44.0 -0.6**
ANMO Albuquerque 94.83 55 *e*P **P** **22 31 45.7 +1.0**
MAIT Maitri 95.02 188 *e*P **P** **22 31 42.2 -2.4**
MK31 Makanchi Array 95.07 317 *e*P **P** **22 31 44.2 -1.1**
MK31 Makanchi Array 95.07 317 *e*P **P** **22 31 44.2 -1.1**
MKAR Makanchi Array 95.07 317 P **P** **22 31 44.7 -0.6**

MKAR	Makanchi Array	95.07 317		P		P	22 31 44.7	-0.6	
MKAR	Makanchi Array	95.07 317	⇓	P		P	22 31 44.6	-0.6	
	baz=95								
MKAR	Makanchi Array	95.07 317		P		P	22 31 44.7	-0.6	
	comp=Z,76nm,0.9s,baz=96,slow=5.9,SNR=21								
ZAA0	Zalesovo Array	95.17 324		*e*P		P	22 31 43.5	-2.0	
ZALV	Zalesovo Beam	95.17 324		P		P	22 31 43.8	-1.7	
ZALV	Zalesovo Beam	95.17 324		P		P	22 31 43.8	-1.7	
	comp=Z,31nm,0.8s,baz=116,slow=3.6,SNR=23								
ZALV				PKKPbc		PKKPdf	22 48 42.6	+0.7	
	comp=Z,4.3nm,0.9s,baz=277,slow=4.7,SNR=4.7								
SMCO	Snowmass	95.30 51		*e*P		P	22 31 49.0	+2.0	
SNAA	Sanae	95.60 183		*e*P		P	22 31 47.1	-0.3	
SNAA	Sanae	95.60 183		P		P	22 31 46.1	-1.2	
SNAA	Sanae	95.60 183		P		P	22 31 46.1	-1.2	
	comp=Z,7.5nm,0.8s,baz=155,slow=2.0,SNR=15								
SMLA	Simla	95.73 300		*i* P		P	22 31 48.7	+0.1	
TXAR	Lajitas Array	96.04 61		P		P	22 31 49.4	-0.9	
TXAR	Lajitas Array	96.04 61		P		P	22 31 49.4	-0.9	
	comp=Z,0.3nm,0.3s,baz=270,slow=0.9,SNR=2.5								
TXAR				PKIKP		PKiKP	22 36 35.3	+6.3	
	comp=Z,22nm,1.2s,baz=224,slow=6.5,SNR=4.6								
TXAR	Lajitas Array	96.04 61		PKiKP		PKiKP	22 36 35.3	+6.3	
NVS	Novosibirsk	96.28 325		*e*P		P	22 31 48.7	-1.8	
NVS				*e*S		S	22 42 56.8	-11	
NVS				pmax		pmax			
	comp=E,245nm,1.6s								
NVS				pmax		pmax			
	comp=Z,391nm,1.6s								
NVS				smax		smax			
	comp=E,2μm,4.0s								
ISCO	Idaho Springs	96.45 51		*e*P		P	22 31 52.8	+0.6	
ISCO	Idaho Springs	96.45 51		*e*P		P	22 31 52.8	+0.6	
VNA2	Neumayer--Watz	96.55 182		*e*P		P	22 31 54.9	+3.3	
VNA1	Neumayer--Stat	96.86 182		*e*P		P	22 31 57.9	+5.0	
THN	Thein Dam	97.19 302		*e*P		Pdif	22 31 55.8	+0.5	
THN				*ex*		x	22 37 58.0		
KSH	Kashi	98.20 309		P		Pdif	22 32 02.5	+2.7	
KSH				pP		pP	22 32 11.4	+0.7	
KSH				sP		sP	22 32 16.9	+2.3	
KSH				PP		PP	22 36 06.2	+6.5	
KSH				SKS		SKSac	22 42 36.3	+0.9	
KSH				S		ScS	22 43 26.0	+0.7	
KSH				sS		sS	22 43 41.6	-1.8	
KSH				SS		SS	22 50 11.7	+2.7	
KSH				AMB		AMB			
	comp=E,61nm,1.6s								
KSH				AMB		AMB			
	comp=E,6μm,9.9s								
KSH				LR		LR			
	comp=E,246μm,21.6s								
KSH				LR		LR			
	comp=E,464μm,20.1s								
KSH				LR		LR			
	comp=E,686μm,21.9s								
KURK	Kurchatov	98.22 320	*ce*	P		P	22 31 57.8	-1.6	
KURK				pmax		pmax			
	comp=Z,67nm,2.0s								
KURK	Kurchatov	98.22 320		P		P	22 31 58.7	-0.7	
	comp=Z,297nm,1.1s,SNR=5.2								
KURK	Kurchatov	98.22 320		*e*P		P	22 31 58.0	-1.4	
KURBB	Kurchatov Arra	98.26 320		P		P	22 31 57.4	-2.2	
	comp=Z,3.4nm,0.7s,baz=100,slow=3.6,SNR=11								
BHJ	Bhuj	100.96 292		*e*P		Pdif	22 32 10.5	-1.7	
BHJ				AMB		AMB	22 33 24.4		
	comp=Z,4μm,9.6s								
BHJ				*ex*		x	22 34 39.8		
KKAR	Karatay Array	102.75 312		*e*P		Pdif	22 32 21.8	+2.0	
KKAR	Karatay Array	102.75 312		*e*Pdif		Pdif	22 32 21.8	+2.0	
BVAR	Borovoye Array	103.55 322		P		Pdif	22 32 20.4	-2.7	
BVAR	Borovoye Array	103.55 322		Pdif		Pdif	22 32 20.4	-2.7	
BVAR	Borovoye Array	103.55 322		Pdiff		Pdif	22 32 20.4	-2.7	
	comp=Z,5.6nm,0.8s,baz=102,slow=3.0,SNR=6.0								
IMON	Monand	110.69 301		*e*P		PKiKP	22 36 54.9	-0.9	
IAKL	Akhelmad	111.49 304		*e*P		PKiKP	22 36 55.3	-2.0	
IBAF	Bafgh	114.13 299		*e*P		PKPdf	22 37 02.2	-0.1	
IMEH	Mehriz	114.95 299		*e*P		PKPdf	22 37 02.0	-2.0	
ICHK	Chekchek	115.12 300		*e*P		PKPdf	22 37 05.2	+0.9	
IGLO	Ghaloghah	115.46 304		*e*P		PKPdf	22 37 06.7	+1.9	
ILAS	Lasjerd	116.23 303		*e*P		PKPdf	22 37 04.2	-2.1	
ISRV	Sarvestan	116.25 297		*e*P		PKPdf	22 37 04.6	-2.0	
IPAR	Pars	116.30 297		*e*P		PKPdf	22 37 05.8	-0.9	
ISFB	Sefidab	116.87 302		*e*P		PKPdf	22 37 07.4	0.0	
IVRN	Varamin	117.25 303		*e*P		PKPdf	22 37 06.1	-2.0	
IKAZ	Kazeroun	117.35 297		*e*P		PKPdf	22 37 08.4	-0.4	
KEV	Kevo	117.47 345		*e*PKIKP		PKPdf	22 37 10.6	+3.3	
KEV	Kevo	117.47 345		*ep*		PKPdf	22 37 10.6	+3.3	
	comp=Z,0.8nm,0.4s								
IKLH	Kolahrood	117.47 301		*e*P		PKPdf	22 37 08.9	+0.1	
ARCES	ARCESS Array B	117.99 345		PKP		PKPdf	22 37 06.8	-1.6	
ARCES	ARCESS Array B	117.99 345		PKP		PKPdf	22 37 06.8	-1.6	
	comp=Z,3.0nm,0.4s,baz=88,slow=2.2,SNR=16								
ARCES				PKKPbc		PKKPab	22 47 30.9	0.0	
	comp=Z,3.4nm,0.7s,baz=212,slow=1.8,SNR=6.0								
ARCES	ARCESS Array B	117.99 345		PKKPbc		PKKPbc	22 47 30.9	+0.1	
ARE0	ARCESS Array S	117.99 345		*e*PKPdf		PKPdf	22 37 07.0	-1.4	
SUMG	Summit	118.28 8		*i* P		PKKPab	22 47 33.5	+3.4	
MAK	Makhachkala	119.55 312		*i* PKIKP		PKPdf	22 37 11.4	-0.7	
MAK				*e*			22 38 36.3		
MAK				*e*PPP		PPP	22 41 11.2		
MAK				*e*SSS		SSS	22 59 23.0		
MAK				pmax		pmax			
	comp=Z,184nm,1.5s								
NCB	Newcomb	119.75 46		*e*PKPdf		PKPdf	22 37 12.5	0.0	
ISRB	Sarab	120.24 306		*e*P		PKPdf	22 37 12.3	-1.6	
MDV	Middlebury	120.48 46		*e*PKPdf		PKPdf	22 37 13.3	-0.5	
JOF	Joensuu	120.60 338		*e*PKIKP		PKPdf	22 37 14.5	+1.0	
JOF	Joensuu	120.60 338		*ep*		PKPdf	22 37 14.5	+1.0	
	comp=Z,0.8nm,0.3s								
IHRS	Heris	120.66 307		*e*P		PKPdf	22 37 13.6	-1.2	
IKOM	Komasi	120.79 302		*e*P		PKPdf	22 37 13.7	-1.3	
IBST	Bostanabad	120.87 306		*e*P		PKPdf	22 37 12.9	-2.3	
UMR	Umm Al-Rimmam	120.95 297		*e*P		PKPdf	22 37 14.2	-1.0	
UMR				AMb		AMB	22 37 22.2		
	comp=Z,294nm,1.2s								
RDF	Al-Radifah	121.12 296		*e*P		PKPdf	22 37 15.3	-0.2	
RDF				AMb		AMB	22 37 22.9		
	comp=Z,324nm,1.5s								
ILIN	Lien	121.16 303		*e*P		PKPdf	22 37 16.7	+0.9	
VRHR	Novokhopersk	121.28 323		*e*PKIKP		PKPdf	22 37 19.2	+4.0	
VRHR				pmax		pmax			
	comp=Z,60nm,0.9s								
VRHR				pmax		pmax			
	comp=N,50nm,1.7s								
VRHR				pmax		pmax			
	comp=E,70nm,1.8s								
IVIS	Veis	121.30 303		*e*P		PKPdf	22 37 14.6	-1.3	
ITBZ	Tabriz	121.37 307		*e*P		PKPdf	22 37 17.5	+1.5	
DGRG	David-gareji	121.39 311		P		PKPdf	22 37 16.3	+0.5	
IGHG	Ghaleghazi	121.55 303		*e*P		PKPdf	22 37 13.4	-3.2	
RST	Umm Al-Ruwaisa	121.57 297		*e*P		PKPdf	22 37 15.7	-0.7	
RST				AMb		AMB	22 37 26.1		
	comp=Z,2μm,0.9s								
IMRD	Marand	121.64 308		*e*P		PKPdf	22 37 15.3	-1.3	
IDHR	Dehrash	121.66 303		*e*P		PKPdf	22 37 15.1	-1.6	
TBLG	Delisi	121.80 311		P		PKPdf	22 37 16.7	+0.1	
GUDG	Gudauri	121.84 312		P		PKPdf	22 37 17.4	+0.6	
BRYW	Bryant College	122.11 48		*e*PKPdf		PKPdf	22 37 16.8	-0.3	
GNI	Garni	122.12 310		*e*PKPdf		PKPdf	22 37 17.3	-0.1	
GOF	Gofitskoye	122.22 316		*e*PKIKP		PKPdf	22 37 23.5	+6.3	
GOF				pmax		pmax			
	comp=Z,60nm,1.3s								
OBN	Obninsk	122.45 328	⇓	*i* PKIKP		PKPdf	22 37 17.6	+0.3	
OBN				*e*			22 38 52.2		
OBN				*e*			22 44 13.2		
OBN				*e*PS		PS	22 48 44.8	-4.4	
OBN				pmax		pmax			
	comp=Z,45nm,1.0s								
VOR	Voronezh	122.45 324		PKIKP		PKPdf	22 37 17.0	-0.4	
VOR				pmax		pmax			
	comp=Z,400nm,1.6s								
CPUP	Villa Florida	122.53 133		*e*PKPdf		PKPdf	22 37 16.7	-1.7	
ONI	Oni	122.55 313		P		PKPdf	22 37 18.5	+0.4	
KBZ	Khabaz	122.66 314		PKIKP		PKPdf	22 37 18.9	+0.8	
KBZ	Khabaz	122.66 314		PKP		PKPdf	22 37 18.9	+0.8	
KBZ	Khabaz	122.66 314		PKP		PKPdf	22 37 18.9	+0.8	
	comp=Z,26nm,1.0s,baz=133,slow=2.0,SNR=7.8								
VSR	Storozhevoye	122.67 323		*e*PKIKP		PKPdf	22 37 21.9	+4.0	
VSR				pmax		pmax			
	comp=E,40nm,1.1s								
VSR				pmax		pmax			
	comp=Z,80nm,1.1s								
VSR				pmax		pmax			
	comp=N,10.0nm,0.8s								
VORD	Divnogorie	122.69 323		*e*PKIKP		PKPdf	22 37 21.8	+3.9	
VORD				pmax		pmax			
	comp=Z,60nm,1.1s								
VORD				pmax		pmax			
	comp=E,30nm,1.0s								
KIV	Kislovodsk	122.75 314	⇓	*i* PKIKP		PKPdf	22 37 17.8	-0.6	
KIV				*e*			22 38 54.8		
KIV				*e*PS		PS	22 48 53.0	+0.3	
KIV				pmax		pmax			
	comp=Z,27nm,1.0s								
KAF	Kangasniemi	122.91 339		*e*PKIKP		PKPdf	22 37 16.6	-1.4	
KAF				pmax		pmax			
	comp=Z,6.0nm,0.7s								
KAF	Kangasniemi	122.91 339		*ep*		PKPdf	22 37 16.6	-1.4	
	comp=Z,5.6nm,0.7s								
DIGO	Kars	123.09 310		*i* P		PKPdf	22 37 10.3	-9.1	
EPOS	Posof	123.32 312		*i* P		PKPdf	22 37 14.3	-5.3	
HAKT	HAKKARI	123.39 307		*i* P		PKPd	22 37 20.2	+0.2	
FINES	FINESS Array B	123.44 338		PKP		PKPd	22 37 19.0	-0.1	
FINES	FINESS Array B	123.44 338		PKP		PKPd	22 37 19.0	-0.1	
	comp=Z,20nm,0.9s,baz=90,slow=2.6,SNR=7.4								
CHVG	Ch'k'valeri	123.49 313		P		PKPd	22 37 20.6	+0.8	
TUTA	Tutak	123.72 309		*i* P		PKPd	22 37 21.3	+0.7	
GEVA	Gevas	123.75 308		*i* P		PKPd	22 37 20.8	+0.2	
SDV	Santo Domingo	123.97 88		*e*PKPdf		PKPd	22 37 23.1	+1.3	
ARTV	Artvin	123.98 311		*i* P		PKPd	22 37 21.5	+0.5	
DBOC	Borcka	124.14 312		*i* P		PKPd	22 37 20.0	-1.0	
DDEM	Demirkent	124.18 311		*i* P		PKPd	22 37 21.2	-0.1	
DBAD	Bademkaya	124.19 311		*i* P		PKPd	22 37 21.8	+0.5	
HOMI	Horasan	124.27 310		*i* P		PKPd	22 37 22.9	+1.3	
BOSA	Boshof	124.38 222		PKP		PKPd	22 37 21.2	-0.9	
BOSA				*e*PKPdf		PKiKP	22 37 21.6	-0.8	
BOSA	Boshof	124.38 222		PKP		PKPd	22 37 21.2	-0.9	
	comp=Z,7.1nm,0.9s,baz=115,slow=0.8,SNR=4.7								
ERZM	Erzurum	124.70 310		*i* P		PKPd	22 37 23.2	+0.7	
SOC	Sochi	124.92 315		*e*PKIKP		PKPd	22 37 25.9	+3.5	
SOC				pmax		pmax			
	comp=Z,68nm,1.2s								
BNGL	BINGOL	125.08 309		*i* P		PKPd	22 37 23.5	+0.3	
BEST	Besiri	125.22 308		*i* P		PKPd	22 37 24.5	+1.2	
KOPT	Kop Dagi	125.32 310		*i* P		PKPd	22 37 25.1	+1.4	
MARD	Mardin	125.72 307		*i* P		PKPd	22 37 24.5	+0.1	
EUZM	Uzumlu	126.00 310		*i* P		PKPd	22 37 25.7	+0.9	
ANN	Anapa	126.09 317		*i* PKIKP		PKPdf	22 37 29.9	+5.3	
ANN				pmax		pmax			
	comp=Z,85nm,1.5s								
DIYA	Diyarbakir	126.10 308		*i* P		PKPd	22 37 25.6	+0.6	
KELT	Kelkit	126.21 311		*i* P		PKPd	22 37 26.2	+0.9	
SAML	Samuel	126.32 111		*e*PKPdf		PKPd	22 37 24.9	-1.1	
LBTB	Lobatse	126.50 226		PKP		PKPd	22 37 25.5	-0.7	
LBTB				*e*PKPdf		PKiKP	22 37 26.1	-0.5	
LBTB	Lobatse	126.50 226		PKP		PKPd	22 37 25.5	-0.7	
	comp=Z,3.8nm,0.8s,baz=167,slow=3.9,SNR=3.5								
SUSE	Susehri	126.97 311		*i* P		PKPd	22 37 26.8	+0.1	
KEMA	Kemaliye	127.01 310		*i* P		PKPd	22 37 27.6	+0.9	
MALT	Malatya	127.30 309	⇓	PKIKP		PKPd	22 37 28.3	+1.0	
MALT	Malatya	127.30 309	⇓	*i* P		PKPd	22 37 28.3	+1.0	
NACGM	Naroch	127.33 332		*e*P		PKPd	22 37 25.0	-1.7	
KMBO	Kilima Mbogo	127.69 259		*e*PKPdf		PKPd	22 37 25.3	-3.7	
SCER	sogukcermik	127.86 311		*i* P		PKPd	22 37 29.2	+0.8	
ERBA	Erbaa	127.89 312		*i* P		PKPd	22 37 29.7	+1.4	
GZT	Gaziantep	128.21 308		*i* P		PKPd	22 37 30.2	+1.1	
SIM	Simferopol'	128.23 318		*e*PKIKP		PKPd	22 37 32.7	+4.0	
NOA	NORSAR Array B	128.36 345		PKP		PKPd	22 37 28.8	+0.2	
NOA	NORSAR Array B	128.36 345		PKP		PKPd	22 37 28.8	+0.2	
	comp=Z,5.9nm,1.0s,baz=31,slow=2.6,SNR=5.3								
HFS	Hagfors	128.45 343		PKP		PKPd	22 37 28.2	-0.5	
HFS	Hagfors	128.45 343		PKP		PKPd	22 37 28.2	-0.5	
	comp=Z,6.3nm,0.9s,baz=319,slow=7.7,SNR=3.5								
AKASG	Malin Array Be	128.50 326		PKIKP		PKPd	22 37 29.0	0.0	
AKASG	Malin Array Be	128.50 326		PKP		PKPd	22 37 29.0	0.0	
AKASG	Malin Array Be	128.50 326		PKP		PKPd	22 37 29.0	0.0	
	comp=Z,4.3nm,0.6s,baz=54,slow=1.9,SNR=8.3								
KIEV	Kiev	128.51 326		*e*PKIKP		PKPd	22 37 28.9	-0.2	
KIEV	Kiev	128.51 326		*e*PKPdf		PKPd	22 37 28.9	-0.2	
NAO01	NORSAR Array S	128.61 345		*e*PKPdf		PKPd	22 37 29.3	+0.3	
KUZU	Kuzuini	128.73 307		*i* P		PKPd	22 37 30.9	+0.9	
CTKT	Corum	129.33 313		*i* P		PKPd	22 37 33.1	+1.9	
COBT	Iskenderun	129.43 307		*i* P		PKPd	22 37 32.4	+0.8	
SUW	Suwalki	129.52 333		*e*PKIKP		PKPd	22 37 31.0	+0.1	
SUW	Suwalki	129.52 333		*e*PKPdf		PKPd	22 37 31.0	+0.1	
SUW	Suwalki	129.52 333		*e*PKPdf		PKPd	22 37 32.9	+2.0	
SUW				LMZ		LR	23 33 28.2		
ILGA	Ilgaz	129.95 313		*i* P		PKPd	22 37 34.6	+2.2	
LSZ	Lusaka	130.18 237		PKP		PKPd	22 37 30.6	-2.8	
LSZ				*e*PKPpre		PKPpre	22 37 32.6		
LSZ	Lusaka	130.18 237		PKP		PKPd	22 37 30.6	-2.8	
	comp=Z,2.8nm,0.8s,baz=315,slow=2.9,SNR=2.8								
GULE	Gulek	130.37 308		*i* P		PKPd	22 37 33.5	+0.3	
BR131	Keskin Array S	130.46 312		*e*PKPdf		PKPd	22 37 32.8	-0.6	
BRTR	Keskin Array B	130.46 312		PKP		PKPd	22 37 33.0	-0.3	
BRTR	Keskin Array B	130.46 312		PKhKP		PKPpre	22 37 18.3		
	comp=Z,4.6nm,0.8s,baz=114,slow=1.8,SNR=4.5								
BRTR				PKP		PKPd	22 37 33.0	-0.3	
	comp=Z,5.5nm,0.6s,baz=136,slow=3.8,SNR=9.5								
KIS	Kishinev	130.63 322		*e*PKP		PKPd	22 37 35.0	+1.8	
KIS	Kishinev	130.63 322		*e*PPS		PPS	22 51 40.0		
KIS				*e*L		L	23 03 00.0		
	comp=Z,128μm,50.0s								
KIS				LRM		MLR	23 37 28.0		
	comp=Z,277μm,22.0s								
KIS	Kishinev	130.63 322		*e*PKIKP		PKPd	22 37 35.0	+1.8	
KIS				*e*			22 37 46.0		
KIS				*e*PPS		PPS	22 51 40.0		
BBAL	Bala	130.90 312		*i* P		PKPd	22 37 34.3	+0.2	
ANTO	Ankara	131.02 312	⇑	PKIKP		PKPd	22 37 34.4	+0.1	
ANTO	Ankara	131.02 312	⇑	*i* P		PKPd	22 37 34.4	+0.1	
ANTO	Ankara	131.02 312		*e*PKPdf		PKPd	22 37 33.5	-0.8	
SPB	Sao Paulo	131.14 137		*e*PKPdf		PKPd	22 37 36.2	+1.2	
LEOM	Leova	131.23 322	⇑	PKIKP		PKPd	22 37 39.7	+5.4	
LEOM	Leova	131.23 322	⇑	*i* P		PKPd	22 37 39.7	+5.4	
TLCR		131.51 320	⇓	PKIKP		PKPd	22 37 35.6	+0.7	
TLCR		131.51 320	⇓	*i* P		PKPd	22 37 35.6	+0.7	
CFR	Carcaliu	131.94 321	⇓	PKIKP		PKPd	22 37 35.8	+0.1	
CFR	Carcaliu	131.94 321	⇓	*i* P		PKPd	22 37 35.8	+0.1	
GHRR		131.94 322	⇑	*i* P		PKPd	22 37 42.1	+6.4	
ERMK	Ermenek	131.98 308		*i* P		PKPd	22 37 38.1	+1.7	
BEL	Belsk	132.05 332		*e*PKPdf		PKPd	22 37 39.9	+4.2	
BEL				LMZ		LR	23 31 49.9		
TIRR	Tirgusor	132.11 320	⇑	PKIKP		PKPd	22 37 36.5	+0.4	
TIRR	Tirgusor	132.11 320	⇑	*i* P		PKPd	22 37 36.5	+0.4	
CSS	Prodhromos	132.14 306		*e*PKPpre		PKPd	22 37 36.7	+0.2	
TLB	Topalu	132.28 320	⇑	PKIKP		PKPd	22 37 36.8	+0.4	
TLB	Topalu	132.28 320	⇑	*i* P		PKPd	22 37 36.8	+0.4	
MANR	Mangalia	132.30 319	⇓	*i* P		PKPd	22 37 38.1	+1.6	
BURAR	Bucovina Array	132.38 325	⇓	PKIKP		PKPd	22 37 37.6	+0.9	
BURAR	Bucovina Array	132.38 325	⇓	*i* P		PKPd	22 37 37.6	+0.9	
VRI	Vrincioaia	132.45 322	⇑	PKIKP		PKPd	22 37 36.7	0.0	
VRI	Vrincioaia	132.45 322	⇑	*i* P		PKPd	22 37 36.7	0.0	
PLOR	Plostina	132.50 322	⇓	PKIKP		PKPd	22 37 34.5	-2.4	
PLOR	Plostina	132.50 322	⇓	*i* P		PKPd	22 37 34.5	-2.4	
KWP	Kalwaria Pacla	132.54 328	⇓	PKIKP		PKPd	22 37 37.3	+0.5	
KWP	Kalwaria Pacla	132.54 328	⇓	*i* P		PKPd	22 37 37.3	+0.5	
KWP	Kalwaria Pacla	132.54 328		*e*PKPdf		PKPd	22 37 36.6	-0.2	
KWP	Kalwaria Pacla	132.54 328		*e*PKPdf		PKPd	22 37 41.4	+4.6	
KWP				*e*PP		PP	22 40 00.5	+0.2	
KWP				LMZ		LR	23 35 53.2		
SEYT	Eskypehyr	132.55 313		*i* P		PKPd	22 37 35.2	-2.0	
GAZI	Gazipasa	132.56 308		*i* P		PKPd	22 37 37.0	-0.3	
GKP	Gorka Klasztor	132.59 335		*e*PKPdf		PKPd	22 37 41.5	+4.8	
GKP				LMZ		LR	23 30 54.7		
MSAB	Monastry St. A	132.65 320	⇓	*i* P		PKPd	22 37 38.6	+1.5	
BORA	Eskisehir	132.69 313		*i* P		PKPd	22 37 36.5	-1.0	
BOLV	Bolvadin	132.77 312		*i* P		PKPd	22 37 37.4	-0.3	
ISR	Istrita	132.94 321	⇓	PKIKP		PKPd	22 37 42.0	+4.3	
ISR	Istrita	132.94 321	⇓	*i* P		PKPd	22 37 42.0	+4.3	
MLR	Muntele Rosu	133.11 322	⇑	*i* P		PKPd	22 37 41.1	+2.9	
DOPR	Dopca	133.19 323	⇑	*i* P		PKPd	22 37 44.7	+6.6	
KOLS	Kolonicke sedl	133.19 328		*e*PKIKP		PKPd	22 37 42.6	+4.6	
KOLS	Kolonicke sedl	133.19 328		*e*PKP		PKPd	22 37 42.6	+4.6	
KOLS				*e*			22 38 05.0		
SECR		133.28 322	⇑	*i* P		PKPd	22 37 43.4	+5.1	
BMR	Baia Mare	133.30 326	⇓	PKIKP		PKPd	22 37 39.5	+1.2	
BMR	Baia Mare	133.30 326	⇓	*i* P		PKPd	22 37 39.5	+1.2	
SULR		133.34 321	⇑	*i* P		PKPd	22 37 39.6	+1.2	
UZH	Uzhgorod	133.37 328		*e*PKHKP		PKPpre	22 37 25.5		
UZH				*i*			22 37 36.1		
UZH				*i*			22 37 43.5		
ISP	Isparta	133.40 311		*e*PKIKP		PKPd	22 37 38.9	0.0	
ISP	Isparta	133.40 311	⇑	*i* P		PKPd	22 37 32.0	-6.9	
ISP	Isparta	133.40 311		*e*PKPdf		PKPd	22 37 38.9	0.0	
STHS	Stebnicka Huta	133.41 329		*e*PKIKP		PKPd	22 37 42.8	+4.3	
STHS	Stebnicka Huta	133.41 329		*e*PKP		PKPd	22 37 42.8	+4.3	
STHS				*e*			22 38 04.0		
ULDT	Uludag	133.52 314		*i* P		PKPd	22 37 39.6	+0.4	
TRPA	Tarpa	133.55 327	⇑	*i* P		PKPd	22 37 37.9	-0.8	
GDZ	Gediz	133.69 313		*i* P		PKPd	22 37 39.5	0.0	
KORT	Korkueli	133.81 310		*i* P		PKPd	22 37 41.1	+1.4	
KHAL	Karahalli	133.96 312		*i* P		PKPd	22 37 41.6	+1.6	
HUMR	Humele	134.20 321	⇓	*i* P		PKPd	22 37 40.7	+0.7	
DRGR		134.25 325	⇑	PKIKP		PKPd	22 37 40.1	-0.1	
DRGR		134.25 325	⇑	*i* P		PKPd	22 37 40.1	-0.1	
DEMI	Demirci	134.26 313		*i* P		PKPd	22 37 40.2	-0.2	
RAC	Raciborz	134.44 332		*e*PKIKP		PKPd	22 37 36.6	-3.7	
RAC				*e*SS		SS	22 57 59.0	-1.2	
DNZL	Cakiroluk	134.54 311		*i* P		PKPd	22 37 43.0	+1.9	
RUE	Ruedersdorf	134.56 337		*e*PKPdf		PKPd	22 37 40.1	-0.3	
AKAS	Kas	134.64 309		*i* P		PKPd	22 37 42.3	+1.0	
OKC	Ostrava-Krasne	134.64 331		*e*PKIKP		PKPd	22 37 42.0	+1.3	
OKC				*e*			22 37 47.9		
OKC	Ostrava-Krasne	134.64 331		*e*PKP		PKPd	22 37 42.0	+1.3	
OKC				*ex*		x	22 37 47.9		
BALY	Balya	134.75 314		*i* P		PKPd	22 37 42.8	+1.5	
KSP	Ksiaz	134.76 334		*e*PKIKP		PKPd	22 37 45.9	+5.0	
KSP	Ksiaz	134.76 334		*e*PKPdf		PKPd	22 37 48.0	+7.1	
KSP				LMZ		LR	23 37 09.6		
MORC	Moravsky Berou	134.96 332		*e*PKIKP		PKPd	22 37 41.4	0.0	
MORC	Moravsky Berou	134.96 332	⇑	*i* P		PKPd	22 37 48.6	+7.2	
MORC	Moravsky Berou	134.96 332		*e*PKPdf		PKPd	22 37 41.4	0.0	
AKHS	Akhisar	134.97 313		*i* P		PKPd	22 37 42.8	+1.1	
PSZ	Piszkesteto	135.06 328		*e*PKIKP		PKPd	22 37 41.7	0.0	
PSZ	Piszkesteto	135.06 328	⇓	*i* P		PKPd	22 37 43.2	+1.8	
PSZ	Piszkesteto	135.06 328		*e*PKPdf		PKPd	22 37 41.7	0.0	
DPC	Dobruska-Polom	135.10 333		*e*PKIKP		PKPd	22 37 43.8	+2.2	
DPC				*e*			22 37 49.0		
DPC	Dobruska-Polom	135.10 333	

VLI	Veliai	139.38 313	eP		PKPdf	22 37 43.0	-6.9	
SNF	Seneffe	139.47 342	PKP		PKPdf	22 37 48.7	-0.9	
SNF			E			22 38 16.9		
ABTA	Abfaltersbach	139.47 332	i	PKPdf	PKPdf	22 37 48.1	-1.8	
	comp=Z,52nm,1.0s							
VLX	Vlachokerasia	139.48 314	eP		PKPdf	22 37 45.5	-4.7	
ANKY	Antikythira Is	139.49 311	eP		PKPdf	22 37 43.5	-6.6	
WLF	Walferdange	139.62 340	PKP		PKPdf	22 37 51.3	+1.4	
WLF			E			22 38 16.4		
DOU	Dourbes	139.74 342	PKP		PKPdf	22 37 48.5	-1.6	
DOU			E			22 38 16.1		
RLS	Riolos of Patr	139.78 315	eP		PKPdf	22 37 42.0	-8.6	
AMT	Artemida-Makis	139.87 314	eP		PKPdf	22 37 48.0	-2.8	
BAIF	Baives	139.89 342	ePKP1		PKPdf	22 37 42.9	-7.5	
	comp=Z,93nm,1.5s							
BAIF	Baives	139.89 342	ePKPbc		PKPdf	22 37 42.9	-7.5	
ITM	Ithomi	139.89 314	eP		PKPdf	22 37 43.0	-7.8	
BFO	Black Forest	139.97 337	ePKIKP		PKPdf	22 37 50.5	-0.2	
BFO	Black Forest	139.97 337	ePKPdf		PKPdf	22 37 50.5	-0.2	
KEK	Kerkira	140.03 319	eP		PKPdf	22 37 44.0	-7.0	
FETA	Feichten	140.05 334	i	PKPdf	PKPdf	22 37 46.9	-4.1	
	comp=Z,45nm,1.0s							
PYL	PYLOS	140.15 314	eP		PKPdf	22 37 44.0	-7.3	
CDF	Champ du Feu	140.29 338	ePKP1		PKPpre	22 37 41.6		
CDF	Champ du Feu	140.29 338	ePKHKP		PKPpre	22 37 41.6		
CDF	Champ du Feu	140.29 338	ePKPbc		PKPpre	22 37 41.6		
VLS	Valsamata	140.32 316	eP		PKPdf	22 37 43.0	-8.6	
ECH	Echery	140.50 338	ePKIKP		PKPdf	22 37 51.3	-0.3	
ECH	Echery	140.50 338	ePKPdf		PKPdf	22 37 51.3	-0.3	
DAVOX	Davos/Dischmat	140.60 334	PKP		PKPdf	22 37 52.4	+0.3	
DAVOX	Davos/Dischmat	140.60 334	PKP		PKPdf	22 37 52.4	+0.3	
	comp=Z,28nm,0.9s,baz=77,slow=9.0,SNR=7.6							
PAGF	Fort de Pagny	140.72 340	ePKP1		PKPdf	22 37 45.5	-6.5	
	comp=Z,34nm,1.0s							
PAGF	Fort de Pagny	140.72 340	ePKPbc		PKPdf	22 37 45.5	-6.5	
HINF	Hinteralfeld	140.95 338	ePKP1		PKPpre	22 37 43.3		
	comp=Z,34nm,0.9s							
HINF	Hinteralfeld	140.95 338	ePKHKP		PKPpre	22 37 43.3		
HINF	Hinteralfeld	140.95 338	ePKPbc		PKPpre	22 37 43.3		
HAU	Haudompre	140.97 339	ePKP1		PKPpre	22 37 43.4		
HAU			eR					
	comp=Z,693µm,21.0s							
HAU	Haudompre	140.97 339	ePKHKP		PKPpre	22 37 43.4		
HAU	Haudompre	140.97 339	ePKPbc		PKPpre	22 37 43.4		
MEZF	Maizieres J'vi	140.99 340	ePKIKP		PKPdf	22 37 42.7	-10	
	comp=Z,105nm,1.1s							
MEZF	Maizieres J'vi	140.99 340	ePKPdf		PKPdf	22 37 42.7	-10	
TUE	Stuetta	141.07 335	ePKPdf		PKPdf	22 37 49.0	-3.9	
SFTF	Sexfontaines	141.25 340	ePKP1		PKPdf	22 37 47.8	-5.1	
	comp=Z,313nm,1.5s							
SFTF	Sexfontaines	141.25 340	ePKPbc		PKPdf	22 37 47.8	-5.1	
CABF	La Chapelle	142.25 338	ePKP1		PKPpre	22 37 49.2		
	comp=Z,72nm,0.9s							
CABF	La Chapelle	142.25 338	ePKHKP		PKPpre	22 37 49.2		
CABF	La Chapelle	142.25 338	ePKPbc		PKPpre	22 37 49.2		
FLN	La Foliniere	142.34 346	ePKP1		PKPpre	22 37 47.9		
	comp=Z,175nm,1.5s							
FLN			eR					
	comp=Z,469µm,21.8s							
FLN	La Foliniere	142.34 346	ePKHKP		PKPpre	22 37 47.9		
FLN	La Foliniere	142.34 346	ePKPbc		PKPpre	22 37 47.9		
LDF	La Druitiere	142.41 345	ePKP1		PKPpre	22 37 49.3		
LDF	La Druitiere	142.41 345	ePKHKP		PKPpre	22 37 49.3		
LDF	La Druitiere	142.41 345	ePKPbc		PKPpre	22 37 49.3		
LOR	Lormes	142.46 340	ePKP1		PKPdf	22 37 48.9	-6.2	
	comp=Z,208nm,1.3s							
LOR			eR					
	comp=Z,892µm,22.8s							
LOR	Lormes	142.46 340	ePKPbc		PKPdf	22 37 48.9	-6.2	
SSF	Saint Saulge	142.76 341	ePKP1		PKPpre	22 37 50.4		
	comp=Z,47nm,0.8s							
SSF	Saint Saulge	142.76 341	ePKHKP		PKPpre	22 37 50.4		
SSF	Saint Saulge	142.76 341	ePKPbc		PKPpre	22 37 50.4		
GRR	Gorron	142.78 346	ePKP1		PKPpre	22 37 50.0		
GRR	Gorron	142.78 346	ePKHKP		PKPpre	22 37 50.0		
GRR	Gorron	142.78 346	ePKPbc		PKPpre	22 37 50.0		
LPL	La Plagne	142.91 336	ePKP1		PKPdf	22 37 53.0	-3.3	
	comp=Z,118nm,1.1s							
LPL	La Plagne	142.91 336	ePKPbc		PKPdf	22 37 53.0	-3.3	
LPG	La Plagne	142.92 336	ePKP1		PKPdf	22 37 53.1	-3.3	
LPG	La Plagne	142.92 336	ePKPbc		PKPdf	22 37 53.1	-3.3	
SMF	Signal de Mont	143.01 340	ePKP1		PKPab	22 37 50.7	-0.7	
	comp=Z,41nm,0.9s							
SMF	Signal de Mont	143.01 340	ePKPbc		PKPab	22 37 50.7	-0.7	
AVF	Avril sur Loir	143.04 340	ePKP1		PKPab	22 37 50.4	-1.0	
AVF	Avril sur Loir	143.04 340	ePKPbc		PKPab	22 37 50.4	-1.0	
SGMF	Saint Gilles	143.28 348	ePKP1		PKPab	22 37 52.5	+0.1	
SGMF	Saint Gilles	143.28 348	ePKIKP		PKPab	22 37 52.5	+0.1	
SGMF	Saint Gilles	143.28 348	ePKPbc		PKPab	22 37 52.5	+0.1	
BNI	Bardonecchia	143.32 336	ePKIKP		PKPbc	22 37 53.8	-0.2	
BNI	Bardonecchia	143.32 336	ePKPdf		PKPbc	22 37 53.8	-0.2	
ROSF	Rostrenen	143.35 348	ePKP1		PKPab	22 37 52.0	-0.6	
	comp=Z,134nm,1.5s							
ROSF	Rostrenen	143.35 348	ePKPbc		PKPab	22 37 52.0	-0.6	
MBDF	Montbardon	143.55 335	ePKP1		PKPab	22 37 52.8	-0.9	
	comp=Z,252nm,1.4s							
MBDF	Montbardon	143.55 335	ePKPbc		PKPab	22 37 52.8	-0.9	
SURF	Saint Ours	143.73 335	PKP		PKPab	22 37 54.0	-0.5	
QUIF	Quistinic	143.73 348	ePKP1		PKPab	22 37 53.4	-0.7	
	comp=Z,63nm,1.1s							
QUIF	Quistinic	143.73 348	ePKIKP		PKPab	22 37 53.4	-0.7	
QUIF	Quistinic	143.73 348	ePKPbc		PKPab	22 37 53.4	-0.7	
ORIF	Oris-en-Rattie	143.74 336	ePKP1		PKPab	22 37 54.1	-0.3	
	comp=Z,149nm,0.8s							
ORIF			eR					
	comp=Z,898µm,21.2s							
ORIF	Oris-en-Rattie	143.74 336	ePKPbc		PKPab	22 37 54.1	-0.3	
AGO	Saint Agoulin	143.77 340	PKP		PKPab	22 37 54.0	-0.4	
SAOF	Saorge	143.82 334	PKP		PKPab	22 37 53.2	-1.4	
TCF	Toulx Ste Croi	143.85 341	ePKP1		PKPab	22 37 54.0	-0.7	
	comp=Z,71nm,1.0s							
TCF	Toulx Ste Croi	143.85 341	ePKIKP		PKPab	22 37 54.0	-0.7	
TCF	Toulx Ste Croi	143.85 341	ePKPbc		PKPab	22 37 54.0	-0.7	
AUTN	L'Aution	143.87 334	PKP		PKPab	22 37 54.0	-1.1	
TOUF	Mont Tournerai	143.93 334	PKP		PKPab	22 37 54.4	-0.9	
SSB	Saint Sauveur	143.95 338	ePKIKP		PKPbc	22 37 55.6	-0.1	
SSB	Saint Sauveur	143.95 338	ePKPdf		PKPbc	22 37 55.6	-0.1	
SBF	Sospel	143.97 334	ePKP1		PKPab	22 37 52.8	-2.5	
	comp=Z,497nm,0.9s							
SBF	Sospel	143.97 334	ePKPbc		PKPab	22 37 52.8	-2.5	
LUCF	Luceram	143.98 334	PKP		PKPab	22 37 54.4	-1.0	
MVIF	Mont Vial	144.06 334	PKP		PKPab	22 37 54.6	-1.1	
PYM	Petit Puy Mans	144.07 340	PKP		PKPab	22 37 54.6	-1.0	
REVF	Revere	144.10 334	PKP		PKPab	22 37 54.4	-1.3	
OG25	Le Caire	144.12 336	PKP		PKPab	22 37 54.6	-1.3	
MFF	Saint Martin d	144.26 344	ePKP1		PKPab	22 37 54.1	-2.0	
	comp=Z,206nm,1.1s							
MFF	Saint Martin d	144.26 344	ePKPbc		PKPab	22 37 54.1	-2.0	
VIVF	Saint-Julien-l	144.26 338	ePKP1		PKPab	22 37 55.9	-0.4	
	comp=Z,659nm,1.4s							
VIVF	Saint-Julien-l	144.26 338	ePKIKP		PKPab	22 37 55.9	-0.4	
VIVF	Saint-Julien-l	144.26 338	ePKPbc		PKPab	22 37 55.9	-0.4	
PGF	Pioggiola	144.29 331	ePKP1		PKPab	22 37 55.5	-1.1	
	comp=Z,654nm,1.1s							
PGF	Pioggiola	144.29 331	ePKIKP		PKPab	22 37 55.5	-1.1	
PGF	Pioggiola	144.29 331	ePKPbc		PKPab	22 37 55.5	-1.1	
CALN	Calern	144.29 334	PKP		PKPab	22 37 54.9	-1.7	
FRNF	Fournols	144.54 340	PKP		PKPab	22 37 56.3	-1.0	
FRF	La Foret Royal	144.55 334	ePKP1		PKPab	22 37 55.9	-1.4	
	comp=Z,604nm,1.0s							
FRF	La Foret Royal	144.55 334	ePKIKP		PKPab	22 37 55.9	-1.4	
FRF	La Foret Royal	144.55 334	ePKPbc		PKPab	22 37 55.9	-1.4	
SMRF	Simiane la Rot	144.65 336	ePKP1		PKPab	22 37 57.3	-0.5	
	comp=Z,548nm,1.4s							
SMRF	Simiane la Rot	144.65 336	ePKPbc		PKPab	22 37 57.3	-0.5	
LMR	La Mourre	144.79 334	ePKP1		PKPab	22 37 56.9	-1.3	
	comp=Z,576nm,1.0s							
LMR	La Mourre	144.79 334	ePKIKP		PKPab	22 37 56.9	-1.3	
LMR	La Mourre	144.79 334	ePKPbc		PKPab	22 37 56.9	-1.3	
RJF	Les Rejaudoux	144.95 341	ePKP1		PKPab	22 37 58.0	-0.8	
	comp=Z,897nm,1.6s							
RJF			eR					
	comp=Z,1031µm,22.5s							
RJF	Les Rejaudoux	144.95 341	ePKIKP		PKPab	22 37 58.0	-0.8	
RJF	Les Rejaudoux	144.95 341	ePKPbc		PKPab	22 37 58.0	-0.8	
CAF	Calviac	145.11 340	ePKP1		PKPbc	22 37 58.4	-1.0	
	comp=Z,496nm,1.5s							
CAF	Calviac	145.11 340	ePKIKP		PKPbc	22 37 58.4	-1.0	
CAF	Calviac	145.11 340	ePKPbc		PKPbc	22 37 58.4	-1.0	
LASF	Ste Croix	145.23 338	ePKP1		PKPbc	22 37 57.9	-1.9	
	comp=Z,868nm,1.4s							
LASF	Ste Croix	145.23 338	ePKPbc		PKPbc	22 37 57.9	-1.9	
LFF	La Frestale	145.52 342	ePKP1		PKPdf	22 37 59.6	-0.9	
	comp=Z,933nm,1.5s							
LFF	La Frestale	145.52 342	ePKIKP		PKPdf	22 37 59.6	-0.9	
LFF	La Frestale	145.52 342	ePKPbc		PKPdf	22 37 59.6	-0.9	
MTLF	Montolieu	146.46 339	ePKP1		PKPdf	22 37 59.4	-2.8	
	comp=Z,294nm,1.1s							
MTLF	Montolieu	146.46 339	ePKIKP		PKPdf	22 37 59.4	-2.8	
MTLF	Montolieu	146.46 339	ePKPbc		PKPdf	22 37 59.4	-2.8	
EPF	Esparros	147.37 341	ePKP1		PKPdf	22 38 03.6	-0.2	
EPF	Esparros	147.37 341	ePKIKP		PKPdf	22 38 03.6	-0.2	
EPF	Esparros	147.37 341	ePKPbc		PKPdf	22 38 03.6	-0.2	
ETSF	Etsaut	147.77 342	ePKP1		PKPdf	22 38 03.6	-0.9	
	comp=Z,66nm,0.8s							
ETSF	Etsaut	147.77 342	ePKIKP		PKPdf	22 38 03.6	-0.9	
ETSF	Etsaut	147.77 342	ePKPbc		PKPdf	22 38 03.6	-0.9	
SJPF	Ste Jean	147.77 343	ePKP1		PKPdf	22 38 03.7	-0.7	
SJPF	Ste Jean	147.77 343	ePKIKP		PKPdf	22 38 03.7	-0.7	
SJPF	Ste Jean	147.77 343	ePKPbc		PKPdf	22 38 03.7	-0.7	
KEST	Kesra	149.02 322	ePKPbc		PKPbc	22 38 10.1	-0.7	
KEST	Kesra	149.02 322	PKPbc		PKPbc	22 38 10.1	-0.7	
	comp=Z,39nm,0.9s,baz=296,slow=0.5,SNR=27							
CMAH	Djebel Manchou	149.51 325	P		PKPbc	22 38 10.5	-1.5	
CAEH	`Ain El Ouahch	149.71 326	P		PKPbc	22 38 12.5	+0.1	
ABSA	Djebel Ababsia	149.73 325	P		PKPbc	22 38 11.7	-0.9	
CKFL	Kef-Lekhel	150.06 326	P		PKPbc	22 38 12.5	-1.0	
CASM	Ain Smara	150.29 326	P		PKPbc	22 38 12.9	-1.0	
PBRG	Braganca	150.30 350	ePKPbc		PKPbc	22 38 13.4	-0.4	
DFRA	Djebel Bou Aff	150.41 327	P		PKPbc	22 38 14.0	-0.3	
CTEI	Djebel Teioual	150.48 326	P		PKPbc	22 38 13.3	-1.2	
PCAB	Cabril	150.60 351	ePKPbc		PKPbc	22 38 15.4	+0.9	
POLO	Lamas de Olo	150.90 351	ePKPbc		PKPbc	22 38 14.8	-0.4	
SET	Setif	150.92 327	P		PKPbc	22 38 14.0	-1.5	
MVO	Moncorvo	150.97 350	ePKPbc		PKPbc	22 38 15.3	-0.1	
MVO	Moncorvo	150.97 350	eLQ	LQ		23 05 34.2		
MVO	Moncorvo	150.97 350	eLR	LR		23 21 30.2		
	comp=Z,595µm,20.0s							
PVRL	Vila Real	150.98 351	ePKPbc		PKPbc	22 38 13.7	-1.7	
CKHR	Kef el Ahmar	151.00 327	P		PKPbc	22 38 15.0	-0.7	
RCBR	Riachuelo	151.27 128	ePKPdf		PKPdf	22 38 11.8	+0.9	
PVIS	Viseu	151.55 351	ePKPab		PKPbc	22 38 20.8	+4.1	
ABA	Alger-Bouzarea	151.64 331	P		PKPbc	22 38 14.4	-2.6	
ESDC	Sonseca Array	151.72 344	PKPbc		PKPbc	22 38 16.1	-1.1	
ESDC	Sonseca Array	151.72 344	PKPbc		PKPbc	22 38 16.1	-1.1	
	comp=Z,12nm,0.9s,baz=21,slow=2.1,SNR=14							
ESLA	Sonseca Array	151.72 344	ePKPdf		PKPdf	22 38 11.1	+0.2	
ESLA			ePKPbc		PKiKP	22 38 17.6	0.0	
MTE	Manteigas	151.81 350	ePKPbc		PKPbc	22 38 15.9	-1.4	
MTE	Manteigas	151.81 350	eLQ	LQ		23 06 09.1		
MTE	Manteigas	151.81 350	eLR	LR		23 19 04.6		
	comp=Z,503µm,20.0s							
MTE	Manteigas	151.81 350	ePKPdf		PKPdf	22 38 11.7	+0.7	
MTE			ePKPbc		PKPbc	22 38 16.8	-0.5	
PAB	San Pablo	151.94 345	ePKIKP		PKPdf	22 38 11.6	+0.4	
PAB	San Pablo	151.94 345	ePKPdf		PKPdf	22 38 11.6	+0.4	
ADJB	Djebel Djouab	151.96 330	P		PKPbc	22 38 19.4	+1.5	
EMHD	Djebel Mahouad	152.16 330	P		PKPbc	22 38 16.8	-1.6	
PCAS	Casmilo, Conde	152.29 351	ePKPbc		PKPbc	22 38 16.9	-1.5	
PCBR	Castelo Branco	152.34 350	ePKPbc		PKPbc	22 38 17.1	-1.4	
PTOM	Tomar	152.71 351	ePKPbc		PKPbc	22 38 18.2	-1.1	
PMRV	Marv??o	152.72 349	ePKPbc		PKPbc	22 38 19.3	-0.1	
PMRV	Marv??o	152.72 349	eLR	LR		23 17 17.4		
	comp=Z,502µm,22.0s							
EBNR	Beni Rached	152.75 333	P		PKPbc	22 38 19.2	-0.4	
CMLA	Cha da Macela	152.79 21	ePKIKP		PKPdf	22 38 12.9	+0.5	
CMLA	Cha da Macela	152.79 21	ePKPdf		PKPdf	22 38 12.9	+0.5	
ECHA	Ech Chlef	152.94 333	P		PKPbc	22 38 19.3	-0.6	
PMTG	Montargil	153.22 351	ePKPbc		PKPbc	22 38 21.2	+0.8	
EANR	`Ain N'Sour	153.23 333	P		PKPbc	22 38 19.7	-1.0	
PESTR	Estremoz	153.31 349	ePKPdf		PKPdf	22 38 11.4	-1.7	
ETRT	Tiaret	153.60 332	P		PKPbc	22 38 20.1	-1.5	
EVO	Evora	153.71 350	ePKIKP		PKPdf	22 38 12.3	-1.4	
	comp=Z,267nm,1.6s							
EVO			eR					
	comp=Z,836µm,19.5s							
EVO	Evora	153.71 350	ePKPbc		PKPbc	22 38 19.1	-2.4	
EVOP	Sao Brissos	153.73 350	ePKIKP		PKPdf	22 38 12.3	-1.4	
EVOP	Sao Brissos	153.73 350	ePKPdf		PKPdf	22 38 12.3	-1.4	
PBAR	Barrancos	153.87 348	ePKPbc		PKPbc	22 38 19.9	-2.0	
PCVE	Castro Verde	154.59 350	ePKPdf		PKPdf	22 38 14.2	-0.8	
PVAQ	Vaqueiros	154.75 349	eLQ	LQ		23 08 31.1		
PVAQ	Vaqueiros	154.75 349	eLR	LR		23 20 30.3		
	comp=Z,679µm,22.0s							
PTEO	Sao Teotonio	154.78 351	ePKPbc		PKPbc	22 38 22.7	-1.1	
PBDV	Barranco-do-Ve	154.94 349	ePKPbc		PKPbc	22 38 23.2	-1.0	
MDT	Midelt	158.26 339	PKP		PKPdf	22 38 18.1	-2.0	
MDT	Midelt	158.26 339	PKP		PKPdf	22 38 18.1	-2.0	
	comp=Z,4.3nm,0.9s,baz=31,slow=3.3,SNR=3.6							
PMOZ	Porto Moniz, M	159.62 9	eLQ	LQ		23 10 21.1		
PMOZ			eLR	LR		23 18 01.3		
	comp=Z,268µm,22.0s							
TOA0	Torodi Ar. Sit	165.04 274	ePKPdf		PKPdf	22 38 26.3	-1.1	
TORD	Torodi Ar. Bea	165.04 274	PKP		PKPdf	22 38 25.3	-2.1	
TORD	Torodi Ar. Bea	165.04 274	PKP		PKPdf	22 38 25.3	-2.1	
	comp=Z,2.5nm,0.9s,baz=70,slow=3.4,SNR=3.0							
LIC	Lamto	169.40 234	ePKIKP		PKPdf	22 38 34.5	+3.8	
	comp=Z,57nm,0.9s							
LIC	Lamto	169.40 234	ePKPdf		PKPdf	22 38 34.5	+3.8	
DBIC	Dimbokro	169.52 237	PKP		PKPdf	22 38 33.1	+2.4	
DBIC	Dimbokro	169.52 237	PKP		PKPdf	22 38 33.1	+2.4	
	comp=Z,7.8nm,1.0s,baz=295,slow=8.5,SNR=3.3							

*IDC **07** 22:18:46.2±0.3, 12°.52S×166°.42E, h0km, mb5.8/27, mb1 5.9/27, mb1mx5.9/28, mbtmp5.8/27, MS7.3/2, Ms1 7.3/2, ms1mx6.4/13, Error ellipse: s-maj=15.3km s-min=13.4km az=105.0*

*MOS **07** 22:18:50.1±1.2, 12°.40S×166°.28E, h33km, mb6.0/48, MS7.9/23, Error ellipse: s-maj=8.8km s-min=7.8km az=56.8*

*DJA **07** 22:18:50.7±1.0, 13°.5S×3°.×16°.5E±°, h115km±10km, M7.6/98, mb6.2/98, mB7.6/31, Mw(mB)7.7/31*

*NEIC **07** 22:18:51.2±0.1, 12°.52S×166°.38E, h35km, mb6.4/53, MS7.9/144, MW7.8, Error ellipse: s-maj=5.2km s-min=4.4km az=142.0*

NEIC A tsunami with maximum wave heights [peak-to-trough] was recorded at the following selected tide stations: 62 cm at Port-Vila and 20 cm at Luganville, Vanuatu; 14 cm at Honiara, Solomon Islands; 24 cm at Rosslyn Bay, Australia; 6 cm at Suva, Fiji; 8 cm at Apia, Samoa; 14 cm at Pago Pago, American Samoa; 6 cm at Papeete, French Polynesia; 14 cm at Hilo, 10 cm at Honolulu, 38 cm at Kahului, 40 cm at Kawaihae and 16 cm at Nawiliwili, Hawaii; 12 cm in the Midway Islands; 6 cm on Wake Island; 18 cm at Coquimbo and 10 cm at Iquique, Chile; 8 cm at Cabo San Lucas, Mexico; 12 cm at Point Reyes, 30 cm at Santa Barbara and 10 cm at Santa Monica, California; 6 cm at Neah Bay, Washington; 8 cm at Tofino, Canada; 16 cm on Adak and 12 cm on Atka, Alaska.

*ISCJB **07** 22:18:53.1±0.1, 12°.50S±0°.04×166°.26E±0°.03, h59km, mb6.1/83, MS7.8/157, Error ellipse: s-maj=5.5km s-min=4.1km az=167.6*

*GCMT **07** 22:19:15.3±0.1, 11°.86S×166°.01E, h42km, MW7.8, Moment Tensor Solution. s123,c278; s99,c329; Moment tensor: Scale 10^{20}Nm; M_{rr}6.22±.04; $M_{\theta\theta}$-0.48±.02; $M_{\phi\phi}$-5.75±.03; $M_{r\theta}$0.11±.11; $M_{\theta\phi}$1.85±.02; $M_{\phi r}$-2.24±.10; Best double couple: M_o6.70000×10^{20} NP1:ϕ_s167.00000°, δ55.00000°, λ96.00000°. NP2: ϕ_s337.00000°, δ36.00000°, λ82.00000°. Principal axes: T 6.6300, Plg79.0000°, Azm100.0000°; N 0.0600, Plg5.0000°, Azm344.0000°; P -6.7000, Plg10.0000°, Azm253.0000°; Data Used: II IU CN G IC. LP body wave period 50 sec. Mantle wave period 150 sec. Mantle waves from 126 sta. Surface waves: sta=114, comp=203, per=50.*

*NEIC **07** 22:19:26.9±0.0, 12°.08S×166°.05E, h37km, Moment Tensor Solution. s174 Moment tensor: Scale 10^{20}Nm; M_{rr}6.59; $M_{\theta\theta}$-0.82; $M_{\phi\phi}$-5.77; $M_{r\theta}$0.93; $M_{\theta\phi}$1.43; $M_{\phi r}$-0.10; Best double couple: M_o6.40000×10^{20} NP1:ϕ_s158.00000°, δ47.00000°, λ80.00000°. NP2:ϕ_s352.00000°, δ44.00000°, λ100.00000°. Principal axes: T 6.7100, Plg82.0000°, Azm357.0000°; N -0.5400, Plg6.0000°, Azm164.0000°; P -6.1600, Plg1.0000°, Azm254.0000°;*

ISC 07 22:18:53.9±0.2, 12.47S±0.05×166.37E±0.05, h59km, n692, σ1§34/501, mb6.2/83, MS7.9/157, 3C-2D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.99	295	Pn	Pn	Pn	22 20 36.8	+3.0
HNR				Sn	Sn	Sn	22 21 58.7	+6.7
HNR	Honiara	6.99	295	Pn	Pn	Pn	22 20 36.8	+3.0
	749nm,0.3s,baz=178,slow=7.9,SNR=7.1							
HNR				Sn	Sn	Sn	22 21 58.7	+6.7
	1µm,0.3s,baz=215,slow=23,SNR=1.3							
DZM	Mont Dzumac	9.54	180	Pn	Pn	Pn	22 21 15.5	+6.7
DZM	Mont Dzumac	9.54	180	Pn	Pn	Pn	22 21 15.5	+6.7
	273nm,0.3s,baz=39,slow=14,SNR=7.4							
DZM				Sn	Sn	Sn	22 23 09.8	+15
	42nm,0.3s,baz=115,slow=23,SNR=1.0							
TARA	Tarawa	15.20	26	ePn	Pn	Pn	22 22 22.3	-2.9
	16µm,0.9s							
PMG	Port Moresby	19.11	277	eP	P	P	22 23 11.1	-1.1
EIDS	Eidsvold	19.30	226	P	P	Pn	22 23 17.7	+1.9
	2µm,1.4s							
CTAO	Charters Tower	20.73	246	eP	P	P	22 23 27.3	-2.5
CTAO					MLR	MLR		
	comp=Z,573µm,19.0s							
CTAO	Charters Tower	20.73	246	eP	P	P	22 23 27.2	-2.5
CTAO					LR	LR		
	comp=Z,573µm,19.0s							
KWAJ	Kwajalein Atol	21.17	3	eP	P	P	22 23 33.6	-0.9
KWAJ	Kwajalein Atol	21.17	3	eP	P	P	22 23 33.6	-0.9
AFI	Afiamalu	21.32	96	eP	P	P	22 23 36.4	+0.1
	comp=Z,1µm,0.9s							
AFI	Afiamalu	21.32	96	P	P	P	22 23 35.6	-0.6
	comp=Z,1µm,1.1s,baz=295,slow=7.1,SNR=6.0							
AFI					LR	LR	22 28 51.2	
	comp=Z,429µm,20.8s,baz=271,slow=28							
RAO	Raoul Island	22.19	141	eP	P	P	22 23 44.0	-1.3
	comp=Z,2µm,0.9s							
RAO	Raoul Island	22.19	141	P	P	P	22 23 48.6	+3.3
	comp=Z,680nm,0.9s,baz=74,slow=20,SNR=3.7							
RAO					LR	LR	22 29 31.7	
	comp=Z,165µm,19.4s,baz=123,slow=29							
ARMA	Armidale	22.47	215	eP	P	P	22 23 47.6	-0.9
	comp=Z,2µm,0.9s							
OUZ	Onahuta	23.57	165	eP	P	P	22 23 58.8	-0.5
	comp=Z,269nm,0.9s							
URZ	Urewera	27.41	161	eP	P	P	22 24 33.2	-0.8
	comp=Z,174nm,0.8s							
URZ	Urewera	27.41	161	P	P	P	22 24 37.4	+3.4
	comp=Z,95nm,0.8s,baz=294,slow=5.3,SNR=14							
URZ					S	S	22 29 13.1	+3.1
	comp=Z,38nm,0.6s,baz=334,slow=14,SNR=2.3							
CAN	Canberra	27.65	212	eP	P	P	22 24 36.3	+0.1
CAN					pmax	pmax		
	comp=Z,452nm,1.0s							
CAN					MLR	MLR		
	comp=Z,782µm,21.0s							
CAN	Canberra	27.65	212	eP	P	P	22 24 36.3	+0.1
	comp=Z,452nm,1.0s							
CAN					LR	LR		
	comp=Z,782µm,21.0s							
SNZO	South Karori	29.64	167	P	P	P	22 24 53.3	-0.5
SNZO					LR	LR		
	comp=Z,704µm,22.0s							
STKA	Stephens Creek	29.86	226	P	P	P	22 24 58.9	+3.0
STKA	Stephens Creek	29.86	226	P	P	P	22 24 58.9	+3.0
	comp=Z,125nm,0.8s,baz=44,slow=3.9,SNR=3.6							
STKA					LR	LR	22 36 41.2	
	comp=Z,1040µm,20.6s,baz=50,slow=36							

JOW Kunigami 53.81 317 eP P 22 28 11.3 +0.4
MAJO Matsushiro 55.51 333 eP P 22 28 22.2 -0.9
MAJO pmax pmax
comp=Z,428nm,0.9s
MAJO MLR MLR
comp=Z,1246µm,21.0s
MAJO Matsushiro 55.51 333 eP P 22 28 22.2 -0.9
comp=Z,428nm,0.9s
MAJO LR LR
comp=Z,1246µm,21.0s
TWG Pinlang 56.56 308 eP P 22 28 31.9 +1.1
JNU Nakatsue 56.59 324 eP P 22 28 30.6 -0.2
comp=Z,269nm,0.9s
JNU Nakatsue 56.59 324 P P 22 28 32.2 +1.3
comp=Z,550nm,0.8s,baz=60,slow=4.2,SNR=12
YULB Yu-li 56.70 309 eP P 22 28 32.9 +1.1
NACB Ninganchiao 56.92 310 eP P 22 28 33.7 +0.4
comp=Z,643nm,0.9s
TPUB Ta-pu 57.16 308 eP P 22 28 35.8 +0.8
comp=Z,1µm,0.9s
SSLB Suanglung 57.18 309 eP P 22 28 35.2 0.0
comp=Z,1µm,1.5s
YHNB Yeheng 57.36 310 eP P 22 28 37.2 +0.6
comp=Z,796nm,0.9s
YHNB LR LR
comp=Z,1677µm,22.0s
TATO Taipei 57.45 311 eP P 22 28 37.4 +0.3
TATO LR LR
comp=Z,1419µm,20.0s
XMIS Christmas Isla 59.43 265 eP P 22 28 51.6 +0.5
QZH Quanzhou 59.61 309 ⇓P P 22 28 51.9 -0.2
QZH S S 22 36 59.0 +0.8
QZH AMB AMB
comp=Z,1µm,1.0s
QZH LR LR
comp=N,626µm,16.9s
QZH LR LR
comp=E,1173µm,18.9s
QZH LR LR
comp=Z,1465µm,19.1s
ASAJ Asahikawa 60.34 340 P P 22 28 59.1 +2.4
comp=Z,100nm,0.8s,baz=208,slow=12,SNR=6.6
INCN Inchon 62.13 325 eP P 22 29 08.1 -0.9
comp=Z,613nm,1.4s
INCN LR LR
comp=Z,581µm,21.0s
GZH Guangzhou 62.79 304 P P 22 29 18.6 +5.0
GZH S S 22 37 59.1 +20
GZH LR LR
comp=N,391µm,20.4s
GZH LR LR
comp=E,954µm,19.2s
GZH LR LR
comp=Z,1040µm,19.0s
NJ2 Nanjing 63.46 316 eP P 22 29 17.1 -0.8
NJ2 sP sP 22 29 27.0 -14
NJ2 pP pP 22 29 34.0 +0.1
NJ2 S S 22 37 40.0 -6.7
NJ2 sS sS 22 38 08.0 -5.7
NJ2 Nanjing 63.46 316 SS SS 22 42 01.0 +6.0
NJ2 AMB AMB
comp=Z,340nm,0.6s
NJ2 AMB AMB
comp=Z,12µm,11.3s
NJ2 LR LR
comp=N,368µm,24.8s
NJ2 LR LR
comp=E,455µm,22.6s
NJ2 LR LR
comp=Z,397µm,27.1s
MYKOM Kota Tinggi 63.65 278 P P 22 29 23.1 +3.5
KGM Kluang 64.22 278 P P 22 29 26.1 +2.7
USRK Ussuriysk Arra 64.49 333 P P 22 29 26.2 +1.8
comp=Z,262nm,1.0s,baz=140,slow=7.2,SNR=6.0
AMKA Amchitka 64.57 9 eP P 22 29 25.5 +0.7
VNDA Vanda 65.08 181 eP P 22 29 27.9 +0.1
VNDA Vanda 65.08 181 P P 22 29 29.0 +1.1
comp=Z,102nm,1.0s,baz=358,slow=7.2,SNR=16
SMY Shemya 65.28 5 eP P 22 29 30.1 +0.8
SMY Shemya 65.28 5 eP P 22 29 30.1 +0.8
CASY Casey 65.28 202 eP P 22 29 27.9 -1.4
comp=Z,819nm,1.2s
CASY LR LR
comp=Z,101µm,20.0s
FX1 Attu Island--F 65.35 5 eP P 22 29 28.9 -1.0
FX1 Attu Island--F 65.35 5 P P 22 29 31.1 +1.3
comp=Z,64nm,0.5s,baz=288,slow=2.3,SNR=12
SBA Scott Base 65.38 180 eP P 22 29 31.1 +1.4
SBA pmax pmax
comp=Z,191nm,0.6s
SBA MLR MLR
comp=Z,174µm,21.0s
SBA Scott Base 65.38 180 eP P 22 29 31.1 +1.4
comp=Z,191nm,0.6s
SBA LR LR
comp=Z,174µm,21.0s
PETK Petropavlovsk- 65.74 354 P P 22 29 32.2 -0.2
PETK pmax pmax
comp=Z,47nm,1.0s
PETK Petropavlovsk- 65.74 354 P P 22 29 32.2 -0.2
PETK Petropavlovsk- 65.74 354 P P 22 29 32.2 -0.2
comp=Z,44nm,1.0s,baz=138,slow=6.9,SNR=8.8
PETK PKKPbc PKKPdf 22 50 17.3 +21
comp=Z,2.9nm,0.5s,baz=81,slow=4.7,SNR=4.7
PETK PKP2bc 22 58 15.4
comp=Z,2.4nm,0.7s,baz=321,slow=3.8,SNR=3.9
PETK Petropavlovsk- 65.74 354 PKKPbc PKKPbc 22 50 17.3
ADK Adak 65.75 11 eP P 22 29 31.9 -0.5
ADK MLR MLR
comp=Z,1044µm,20.0s
ADK Adak 65.75 11 eP P 22 29 31.9 -0.5
ADK LR LR
comp=Z,1044µm,20.0s
FRIM Kepong 66.17 279 P P 22 29 39.3 +3.3
SNY Shenyang 66.85 326 ⇑P P 22 29 35.0 -4.7
SNY S S 22 38 31.6 +3.6
SNY AMB AMB
comp=Z,90µm,21.1s
SNY LR LR
comp=N,401µm,19.8s
SNY LR LR
comp=E,465µm,21.0s
SNY LR LR
comp=Z,549µm,17.5s
TIA Tai'an 67.08 318 eP P 22 29 43.1 +1.8
TIA S S 22 38 46.6 +16
TIA LR LR
comp=N,123µm,20.2s
TIA LR LR
comp=E,176µm,21.4s
TIA LR LR
comp=Z,150µm,17.8s
KULM Kulim 67.65 281 eP P 22 29 45.4 0.0
comp=Z,1µm,1.5s
KULM LR LR
comp=Z,179µm,20.0s
COCO West Island 67.73 262 PFAKE 22 30 00.0 +14
COCO LR LR
comp=Z,184µm,20.0s
UNV Unalaska Valle 69.99 17 eP P 22 29 58.7 -0.3
comp=Z,239nm,1.0s
AKUT Akutan 70.45 17 eP P 22 30 03.8 +2.0
XAN Xi'an 71.53 312 P P 22 30 10.4 +1.5
XAN pP pP 22 30 20.6 -4.6
XAN sP sP 22 30 25.7 -6.0
XAN S SKiKP 22 39 36.5 -6.8
XAN AMB AMB
comp=Z,140nm,1.3s
XAN AMB AMB
comp=Z,23µm,14.3s
XAN LR LR
comp=N,342µm,21.5s
XAN LR LR
comp=E,255µm,26.6s
XAN LR LR
comp=Z,338µm,22.5s
FALS False Pass 71.77 18 eP P 22 30 10.2 +0.5
comp=Z,102nm,0.5s
CM31 Chiang Mai Arr 73.24 294 eP P 22 30 22.9 +3.6
comp=Z,226nm,0.6s
CMAR Chiang Mai Arr 73.24 294 P P 22 30 20.2 +0.9
CMAR Chiang Mai Arr 73.24 294 P P 22 30 20.2 +0.9
comp=Z,124nm,1.0s,baz=125,slow=4.1,SNR=9.0
CHTO Chiang Mai 73.36 294 eP P 22 30 21.4 +1.3
CHTO MLR MLR
comp=Z,263µm,20.0s
CHTO Chiang Mai 73.36 294 eP P 22 30 21.4 +1.3
CHTO LR LR
comp=Z,263µm,20.0s
CD2 Chengdu 73.95 307 P P 22 30 25.3 +1.9
CD2 pP PcP 22 30 36.1 -2.4
CD2 sP sP 22 30 40.3 -5.9
CD2 PP PP 22 33 11.4 +2.2
CD2 S S 22 39 51.4 +0.1
CD2 sS sS 22 40 09.8 -9.1
CD2 Chengdu 73.95 307 SS SS 22 44 37.0 -0.2
CD2 AMB AMB
comp=Z,720nm,1.0s
CD2 AMB AMB
comp=Z,68µm,11.8s
CD2 LR LR
comp=N,197µm,19.0s
CD2 LR LR
comp=Z,220µm,17.8s
OHAK Old Harbor 77.01 21 eP P 22 30 40.1 0.0
QSPA South Pole Qui 77.54 180 eP P 22 30 42.9 -0.4
comp=Z,595nm,1.1s
QSPA LR LR
comp=Z,208µm,20.0s
KDAK Kodiak Island 77.68 21 eP P 22 30 45.0 +1.1
KDAK LR LR
comp=Z,998µm,20.0s
RSO Redoubt South 79.66 19 eP P 22 30 55.9 +0.8
ULN Ulaanbaatar 79.81 324 eP P 22 30 55.8 -0.3
ULN LR LR
comp=Z,411µm,21.0s
SONM Songino Array 80.17 324 P P 22 30 59.4 +1.4
SONM PKKPbc PKKPbc 22 49 41.2 -2.6
SONM Songino Array 80.17 324 P P 22 30 59.4 +1.4
comp=Z,19nm,0.5s,baz=151,slow=5.3,SNR=5.8
SONM PKKPbc PKKPbc 22 49 41.2 -2.6
comp=Z,3.9nm,0.8s,baz=268,slow=4.4,SNR=4.6
SEW Seward 80.50 21 eP P 22 30 59.2 0.0
comp=Z,150nm,0.9s
PMR Palmer 81.68 20 eP P 22 31 04.8 -0.7
PMR Palmer 81.68 20 eP P 22 31 04.8 -0.7
BMRM Bremner River 82.82 22 P P 22 31 12.2 +0.6
KCPM Cahto Peak 83.07 47 eP P 22 31 13.8 +0.4
comp=Z,183nm,1.0s
H02S1 DAWSON INLET T 83.57 32 T T 00 02 45.8
SNR=127
MAW Mawson 83.63 202 P P 22 31 16.2 +0.5
comp=Z,215nm,1.0s,baz=102,slow=6.1,SNR=13
KEBM Edson Butte 83.78 44 eP P 22 31 17.3 +0.3
comp=Z,382nm,1.4s
PKM Peak Mountain 84.17 53 P P 22 31 19.8 +0.4
baz=84
YBH Yreka Blue Hor 84.45 45 P P 22 31 22.3 +1.8
YBH Yreka Blue Hor 84.45 45 P P 22 31 22.3 +1.8
comp=Z,62nm,0.9s,baz=113,slow=3.6,SNR=22
SCI San Clemente I 84.55 55 P P 22 31 21.9 +0.9
baz=85
ILAR Eielson Array 84.67 18 P P 22 31 23.3 +2.4
ILAR Eielson Array 84.67 18 P P 22 31 23.3 +2.4
comp=Z,64nm,0.7s,baz=250,slow=4.8,SNR=28
CIS Catalina Islan 84.80 54 P P 22 31 22.6 +0.2
baz=85
ARVC Arvin 85.01 53 P P 22 31 24.5 +1.2
baz=85
VES Vestal, Richgr 85.05 52 P P 22 31 24.5 +1.0
baz=85
ISA Isabella 85.46 52 P P 22 31 26.2 +0.5
baz=86
SKAG Skagway 85.55 26 eP P 22 31 26.4 +1.0
comp=Z,770nm,1.8s
EDW2 Edwards Air Fo 85.59 53 P P 22 31 27.2 +1.0
baz=86
BFSC Mount Baldy Ra 85.64 54 P P 22 31 27.6 +1.0
baz=86
109C Camp Elliot, M 85.67 55 P P 22 31 28.2 +1.5
baz=86
MURC Murrieta 85.81 54 P P 22 31 28.6 +1.2
baz=86
LRMC Laurel Mountai 86.01 53 P P 22 31 29.2 +0.7
baz=86
CWC Cottonwood Cre 86.01 52 P P 22 31 29.1 +0.6
baz=86
MONP Monument Peak 86.22 55 P P 22 31 31.4 +1.8
baz=86
MPMC Manual Prospec 86.34 52 P P 22 31 31.8 +1.6
baz=86
PFO Pinyon Flat Ob 86.41 55 P P 22 31 32.6 +2.2
comp=Z,52nm,1.5s
PFO LR LR
comp=Z,603µm,20.0s
PFO Pinyon Flat Ob 86.41 55 P P 22 31 32.1 +1.6
baz=86
PFO Pinyon Flat Ob 86.41 55 P P 22 31 32.6 +2.2
comp=Z,23nm,0.7s,baz=261,slow=3.7,SNR=23
NVAR Mina Array Bea 86.48 50 P P 22 31 32.1 +1.4
NVAR P'P' 22 57 40.4
NVAR Mina Array Bea 86.48 50 P P 22 31 32.1 +1.4
comp=Z,38nm,0.8s,baz=234,slow=7.7,SNR=18
NVAR PKPPKP P'P'df 22 57 40.4 +6.6
comp=Z,2.2nm,0.8s,baz=85,slow=3.4,SNR=5.0
NV11 Mina Array Sit 86.59 50 eP P 22 31 31.9 +0.6
PGC Sidney 86.62 39 eP P 22 31 32.5 +1.6
GSC Goldstone 86.64 53 eP P 22 31 32.6 +1.1
GSC Goldstone 86.64 53 eP P 22 31 32.6 +1.1
GSC Goldstone 86.64 53 P P 22 31 32.9 +1.4
baz=87
SWSC Sam W. Stewart 86.74 55 P P 22 31 34.0 +2.1
baz=87
HEC Hector,Ludlow 86.87 53 P P 22 31 34.1 +1.4
baz=87
BELC Belle Mtn. Jos 86.89 54 P P 22 31 34.4 +1.6
baz=87
FURC Furnace Creek, 86.95 52 P P 22 31 34.4 +1.6
baz=87
H06S1 SOCORRO T 87.16 70 T T 00 07 34.8
SNR=48
H06N1 SOCORRO T-PHAS 87.17 70 T T 00 07 30.5
SNR=29
H06E1 SOCORRO T-PHAS 87.20 70 T T 00 07 28.9
SNR=8.2
BC3 Big Chuckawall 87.22 55 P P 22 31 36.3 +1.9
baz=87
PALK Pallekele 87.35 278 eP P 22 31 36.0 +0.6
TUQ Turquoise Moun 87.37 53 P P 22 31 37.2 +2.1
baz=88
GMRC Granite Mounta 87.38 54 P P 22 31 36.2 +1.0
baz=88
WVOR Wild Horse Val 87.54 46 eP P 22 31 34.9 -0.8
WVOR pmax pmax
comp=Z,264nm,1.1s
WVOR MLR MLR
comp=Z,472µm,20.0s
WVOR Wild Horse Val 87.54 46 eP P 22 31 34.9 -0.8
comp=Z,264nm,1.1s
WVOR LR LR
comp=Z,472µm,20.0s
GLA Glamis 87.55 56 eP P 22 31 36.7 +0.8
GLA pmax pmax
comp=Z,145nm,0.9s
GLA Glamis 87.55 56 eP P 22 31 36.7 +0.8
comp=Z,145nm,0.9s
GLA Glamis 87.55 56 P P 22 31 38.5 +2.7
baz=88
IRM Iron Mountain 87.61 54 P P 22 31 37.6 +1.5
baz=88
BMN Battle Mountai 87.91 48 eP P 22 31 37.3 -0.3
BMN pmax pmax
comp=Z,444nm,1.8s
BMN MLR MLR
comp=Z,356µm,20.0s
BMN Battle Mountai 87.91 48 eP P 22 31 37.3 -0.3
comp=Z,444nm,1.8s
BMN LR LR
comp=Z,356µm,20.0s
Y12C Blythe 87.99 55 P P 22 31 38.9 +1.0
baz=88
HAWA Hanford 88.26 42 eP P 22 31 39.7 +0.8
comp=Z,245nm,1.1s
HAWA LR LR
comp=Z,368µm,21.0s
SHPR Sheep Range 88.27 52 eP P 22 31 40.4 +1.0
comp=Z,150nm,1.3s
113A Mohawk Valley, 88.33 56 P P 22 31 41.6 +2.1
baz=88
PDMCI Parker Dam,Lak 88.45 55 P P 22 31 41.8 +1.7
baz=89
R11A Troy Canyon, C 88.48 50 P P 22 31 41.6 +1.2
baz=89
W13A Hualapai Mount 88.87 54 P P 22 31 43.8 +1.4
baz=89
214A Organ Pipe Nat 88.89 57 P P 22 31 43.6 +1.3
baz=89
BMO Blue Mountains 89.23 44 eP P 22 31 43.6 -0.1
BMO pmax pmax
comp=Z,288nm,1.8s
BMO MLR MLR
comp=Z,328µm,20.0s
BMO Blue Mountains 89.23 44 eP P 22 31 43.6 -0.1
comp=Z,288nm,1.8s
BMO LR LR
comp=Z,328µm,20.0s
ELK Elko 89.44 48 eP P 22 31 45.1 +0.2
comp=Z,217nm,1.6s
MFID Camas Ranch 89.81 45 P P 22 31 47.6 +1.2
baz=90
CCUT Cedar City 89.94 52 eP P 22 31 46.4 -1.0
comp=Z,156nm,1.1s
ARUT Antelope Range 89.95 51 eP P 22 31 46.9 -0.3
ARUT Antelope Range 89.95 51 eP P 22 31 46.9 -0.3
comp=Z,4µm,1.2s
NEW Newport 90.42 41 PFAKE 22 32 00.0 +11
NEW LR LR
comp=Z,323µm,19.0s
NEW Newport 90.42 41 P P 22 31 50.5 +1.4
baz=91
U15A North Rim 90.47 53 P P 22 31 50.3 +0.4
baz=91
WMQ Urumqi 90.53 315 eP P 22 31 41.3 -8.4
WMQ pP PcP 22 31 51.9 +1.1
WMQ sP sP 22 31 55.8 -17
WMQ PP PP 22 35 17.6 -7.7
WMQ Urumqi 90.53 315 S S 22 42 30.4 -10
WMQ AMB AMB
comp=Z,550nm,1.0s
WMQ AMB AMB
comp=Z,16µm,10.4s
WMQ LR LR
comp=N,296µm,20.0s
WMQ LR LR
comp=E,432µm,21.8s
WMQ LR LR
comp=Z,607µm,25.6s
X16A Lo Mia Camp, P 90.63 55 P P 22 31 50.5 -0.1
baz=91
HLID Hailey 90.83 46 eP P 22 31 50.5 -0.8
comp=Z,133nm,1.1s
HLID LR LR
comp=Z,454µm,19.0s
HLID Hailey 90.83 46 P P 22 31 52.9 +1.6
baz=91
WUAZ Wupatki 90.96 54 eP P 22 31 50.7 -1.4
comp=Z,375nm,1.3s
WUAZ LR LR
comp=Z,491µm,19.0s
INK Inuvik 91.05 19 eP P 22 31 53.1 +1.7
comp=Z,78nm,1.3s
INK Inuvik 91.05 19 P P 22 31 54.4 +3.0
comp=Z,3.9nm,0.6s,baz=227,slow=2.2,SNR=5.1
DUG Dugway 91.06 49 eP P 22 31 52.7 +0.3
DUG pmax pmax
comp=Z,611nm,1.9s
DUG MLR MLR
comp=Z,624µm,19.0s
DUG Dugway 91.06 49 eP P 22 31 52.7 +0.3
comp=Z,611nm,1.9s
DUG LR LR
comp=Z,624µm,19.0s
DUG Dugway 91.06 49 P P 22 31 53.7 +1.3
baz=91
MVU Marysvale 91.07 51 eP P 22 31 52.1 -0.5
comp=Z,172nm,1.2s
MVU LR LR
comp=Z,424µm,19.0s
HVU Hansel Valley 91.51 48 eP P 22 31 54.8 +0.4
HVU pmax pmax
comp=Z,232nm,1.0s
HVU Hansel Valley 91.51 48 eP P 22 31 54.8 +0.4
comp=Z,232nm,1.0s
319A Douglas 91.66 58 P P 22 31 56.1 +0.8
baz=92
BSMT Bassoo Peak 91.80 41 eP P 22 31 56.0 +0.3
comp=Z,43nm,0.4s
MPU Maple Canyon 91.89 50 eP P 22 31 55.3 -1.0
Q16A Castle Valley 91.97 51 eP P 22 31 56.8 +0.1
Q16A Castle Valley 91.97 51 P P 22 31 57.9 +1.2
baz=92
CTU Camp Tracy 91.98 49 eP P 22 31 55.2 -1.5
CTU esP sP 22 32 26.0 +6.1
TMUT Trail Mountain 92.03 50 eP P 22 31 57.4 +0.3
JTMT Jette 92.09 42 eP P 22 31 55.5 -1.5
JLU Jordanelle 92.18 49 eP P 22 31 57.9 +0.3
SWMT Swartz Lake 92.21 42 eP P 22 31 55.9 -1.6
DGAR Diego Garcia 92.22 262 PFAKE 22 32 10.0 +12
DGAR LR LR
comp=Z,166µm,20.0s
MCMT McKenzie Canyo 92.26 45 eP P 22 31 58.4 +0.5
DAU Daniels Canyon 92.27 49 eP P 22 31 58.6 +0.4
DAU Daniels Canyon 92.27 49 eP P 22 31 58.6 +0.4
320A Kipp Ranch, An 92.28 59 P P 22 31 59.2 +1.0
baz=92
SLMT Seeley Lake 92.47 42 eP P 22 31 58.5 -0.2
SRU San Rafael 92.50 51 eP P 22 31 59.4 +0.3
SRU San Rafael 92.50 51 eP P 22 31 59.4 +0.3
CHMT Chamberlain Mo 92.54 43 P P 22 31 57.1 -2.0
DLMT Dillon 92.57 44 eP P 22 31 59.4 +0.2
comp=Z,173nm,1.1s
WALA Waterton Lakes 92.69 40 eP P 22 32 00.6 +0.9
LRM Limekiln Ridge 92.79 44 eP P 22 32 00.8 +0.4
RRI2 Red Ridge 92.95 46 eP P 22 32 02.4 +1.2
AHID Auburn Hatcher 92.96 47 PFAKE 22 32 10.0 +8.8
AHID LR LR
comp=Z,377µm,20.0s
M17A Scullys Gap (B 92.96 48 P P 22 32 02.9 +1.6
baz=93
QLMT Earthquake Lak 93.24 45 eP P 22 32 04.2 +1.8
TPAW Teton Pass 93.25 46 eP P 22 32 01.9 -0.7
TPAW ePP PP 22 35 46.0 -1.0
REDW Red Top Meadow 93.28 46 eP P 22 32 00.1 -2.6
U20A Newcomb 93.41 54 P P 22 32 04.7 +1.3
baz=94
Z21A St. Cloud Mine 93.42 57 P P 22 32 04.8 +1.2
baz=94
MOOW Moose Ponds 93.45 46 eP P 22 32 03.9 +0.5
LOHW Long Hollow 93.52 46 eP P 22 32 04.2 +0.5
YMR Madison River 93.52 45 eP P 22 32 04.7 +0.9
L18A Fontenelle, Gr 93.53 48 P P 22 32 04.6 +0.8
baz=94
FLWY Flagg Ranch 93.56 46 eP P 22 32 04.0 0.0
Y21A Point of Rocks 93.57 56 P P 22 32 04.7 +0.5
baz=94
X21A Alamocita Cree 93.58 56 P P 22 32 04.9 +0.6
baz=94
I17A Pilgrim Ck. 93.61 46 P P 22 32 05.7 +1.5
baz=94
MVCO Mesa Verde 93.62 53 eP P 22 32 06.3 +2.0
MVCO LR LR
comp=Z,455µm,19.0s
MVCO Mesa Verde 93.62 53 P P 22 32 05.4 +1.0
baz=94
222A Williams Famil 93.63 58 P P 22 32 05.2 +0.8
baz=94
H17A Grant Village 93.72 45 P P 22 32 06.3 +1.6
baz=94
P19A Cripple Cowboy 93.79 50 P P 22 32 06.0 +0.9
baz=94
O19A Miners Draw (B 93.83 50 P P 22 32 06.4 +1.2
baz=94
122A Conniff Cattle 93.84 58 P P 22 32 06.4 +1.0
baz=94
LKWY Lake 93.89 45 PFAKE 22 32 20.0 +15
LKWY LR LR
comp=Z,508µm,19.0s
Z22A Elephant Butte 93.99 57 P P 22 32 06.4 +0.4
baz=94
L19A Farson 94.06 48 P P 22 32 07.2 +0.9
baz=94
BW06 Boulder Array 94.07 47 eP P 22 32 06.9 +0.6
BW06 LR LR
comp=Z,344µm,20.0s
PDAR Pinedale Array 94.07 47 P P 22 32 07.4 +1.1
PDAR P'P' 22 57 31.7
PDAR Pinedale Array 94.07 47 P P 22 32 07.4 +1.1
comp=Z,9.1nm,0.8s,baz=246,slow=3.6,SNR=15
PDAR PKPPKP P'P'df 22 57 31.7 +12

comp=Z,2.7nm,1.0s,baz=107,slow=3.5,SNR=6.0
LAZ Ladron 94.09 56 *e*P **P 22 32 07.7 +1.2**
Y22A Socorro 94.13 56 P **P 22 32 07.2 +0.5**
baz=94
EDM Edmonton 94.15 36 *e*P **P 22 32 06.2 0.0**
EDM Edmonton 94.15 36 *e*P **P 22 32 06.2 0.0**
Q20A Ridgley Place, 94.16 51 P **P 22 32 07.6 +0.8**
baz=94
P20A De Beque 94.20 51 P **P 22 32 08.2 +1.3**
baz=94
S21A Coal Bank Pass 94.26 53 P **P 22 32 07.4 0.0**
baz=94
H18A Shoshone NF, C 94.42 45 P P 22 32 10.0 +2.1
baz=94
BNM Barren Site 94.45 56 *e*P **P 22 32 08.1 -0.2**
BNM *e*PP PP 22 36 00.5 +3.9
O20A White River Ci 94.45 50 *e*P **P 22 32 08.5 +0.5**
O20A White River Ci 94.45 50 P P 22 32 09.9 +1.8
baz=95
LPM Los Pinos Moun 94.48 56 *e*P **P 22 32 08.2 -0.1**
comp=Z,50nm,1.3s
J19A Crowheart 94.54 47 P **P 22 32 10.1 +1.7**
baz=95
Z23A Rita Site, Whi 94.59 57 P **P 22 32 10.0 +1.2**
baz=95
Q21A Lamborn Mesa, 94.68 51 P **P 22 32 10.8 +1.6**
baz=95
ANMO Albuquerque 94.75 55 *e*P **P 22 32 09.5 0.0**
ANMO LR LR
comp=Z,417µm,21.0s
L20A Wamsutter 94.78 48 P **P 22 32 10.8 +1.2**
baz=95
RLMT Red Lodge 94.80 45 *e*P **P 22 32 09.5 -0.1**
comp=Z,93nm,1.5s
RLMT LR LR
comp=Z,298µm,20.0s
324A Moseley Ranch, 94.84 59 P **P 22 32 11.1 +1.1**
baz=95
X23A Hourglass Bar 94.89 56 P **P 22 32 12.0 +1.8**
baz=95
H19A Powell 94.89 45 P P 22 32 12.1 +2.2
baz=95
K20A Yellowstone Ra 94.92 48 P **P 22 32 11.6 +1.5**
baz=95
P21A Newcastle 94.92 51 P **P 22 32 10.9 +0.7**
baz=95
224A Cornudas Mount 94.94 58 P **P 22 32 10.9 +0.5**
baz=95
MK31 Makanchi Array 94.97 317 *e*P **P 22 32 10.4 +0.3**
MK31 Makanchi Array 94.97 317 *e*P **P 22 32 10.3 +0.3**
MKAR Makanchi Array 94.97 317 P P **22 32 10.4 +0.3**
MKAR pmax pmax
comp=Z,207nm,0.8s
MKAR Makanchi Array 94.97 317 P **P 22 32 10.4 +0.3**
MKAR PKKPbc **PKKPdf 22 49 07.1 -0.1**
MKAR Makanchi Array 94.97 317 P **P 22 32 10.4 +0.3**
comp=Z,206nm,0.8s,baz=98,slow=5.9,SNR=18
MKAR PKKPbc **PKKPdf 22 49 07.1 -0.1**
comp=Z,7.8nm,0.6s,baz=279,slow=2.2,SNR=9.4
MNTX Cornudas Mount 94.98 59 *e*P **P 22 32 11.5 +1.0**
MNTX *e*PP **PP 22 35 58.3 -2.2**
MNTX LR LR
comp=Z,359µm,20.0s
ZAA0 Zalesovo Array 95.06 324 *e*P **P 22 32 10.2 0.0**
ZALV Zalesovo Beam 95.06 324 P **P 22 32 09.7 -0.6**
ZALV pmax pmax
comp=Z,85nm,1.0s
ZALV Zalesovo Beam 95.06 324 P **P 22 32 09.7 -0.6**
ZALV PKKPbc PKKPdf 22 49 11.2 +4.0
ZALV Zalesovo Beam 95.06 324 P **P 22 32 09.7 -0.6**
comp=Z,85nm,1.0s,baz=108,slow=4.8,SNR=8.3
ZALV PKKPbc PKKPdf 22 49 11.2 +4.0
comp=Z,7.7nm,0.5s,baz=290,slow=3.0,SNR=7.9
EGMT Eagleton 95.11 42 *e*P P 22 32 12.7 +1.9
EGMT LR LR
comp=Z,317µm,20.0s
124A Stringfield Ra 95.12 58 P **P 22 32 11.8 +0.4**
baz=95
F19A Roth Farm, Mol 95.18 44 P **P 22 32 12.4 +1.2**
baz=95
SMCO Snowmass 95.21 51 *e*P **P 22 32 13.2 +1.4**
J20A Shoshoni 95.25 47 P P 22 32 13.4 +1.8
baz=95
I20A Worland 95.34 46 P P 22 32 14.0 +2.1
baz=96
Y24A Capitan 95.37 57 P **P 22 32 13.8 +1.3**
baz=96
M21A Separation Pea 95.41 49 P **P 22 32 13.9 +1.4**
baz=96
P22A Eagle 95.45 51 P **P 22 32 13.2 +0.4**
baz=96
L21A Rawlins 95.48 48 P **P 22 32 12.9 +0.1**
baz=96
C19A Slack Wire Ran 95.51 42 P **P 22 32 14.3 +1.7**
baz=96
626A Big Bend Ranch 95.62 61 P **P 22 32 14.6 +1.1**
baz=96
W24A Lazy 6 Ranch, 95.65 55 P **P 22 32 14.9 +1.2**
baz=96
K21A Alcova 95.70 48 P **P 22 32 14.8 +1.1**
baz=96
O22A Kremmling 95.73 50 P **P 22 32 14.5 +0.4**
baz=96
B19A Brinkman Farms 95.74 42 P **P 22 32 14.4 +0.9**
baz=96
SNAA Sanae 95.74 183 *e*P **P 22 32 13.4 +0.2**
SNAA Sanae 95.74 183 P **P 22 32 13.1 -0.1**
comp=Z,13nm,0.9s,baz=185,slow=6.6,SNR=5.3
I21A Big Trails, Te 95.91 47 P **P 22 32 15.2 +0.6**
baz=96
426A McDonald Obser 95.92 60 P **P 22 32 15.3 +0.3**
baz=96
N22A Wattenberg Ran 95.92 50 P **P 22 32 16.3 +1.4**
baz=96
GDL2 Guadalupe Moun 95.92 58 *e*P **P 22 32 15.2 +0.3**
comp=Z,5.5nm,0.7s
YKA Yellowknife Ar 95.96 27 P **P 22 32 13.9 -0.2**
YKA PKiKP **PKiKP 22 36 54.9 +2.1**
YKA Yellowknife Ar 95.96 27 P **P 22 32 13.9 -0.2**
comp=Z,5.3nm,0.5s,baz=258,slow=4.8,SNR=12
YKA PKiKP **PKiKP 22 36 54.9 +2.1**
comp=Z,4.4nm,0.7s,baz=260,slow=1.6,SNR=7.3
TXAR Lajitas Array 95.97 61 P **P 22 32 14.8 -0.3**
TXAR Lajitas Array 95.97 61 P **P 22 32 14.8 -0.3**
comp=Z,11nm,0.7s,baz=223,slow=5.5,SNR=20
D20A Manuel Ranch, 95.99 43 P P 22 32 16.6 +1.8
baz=96
T24B San Luis 96.02 54 P **P 22 32 16.5 +1.1**
baz=96
Q23A Hartsel 96.02 52 P **P 22 32 15.7 +0.3**
baz=96
SDCO Great Sand Dun 96.06 53 PFAKE 22 32 30.0 +14
SDCO LR LR
comp=Z,501µm,20.0s
527A Woodward Ranch 96.17 61 P **P 22 32 16.0 -0.1**
baz=96
C20A Veseth Ranch, 96.20 43 P **P 22 32 16.0 +0.3**
baz=96
627A Terlingua Ranc 96.23 61 P **P 22 32 16.1 -0.2**
baz=96
S24A Houchin Ranch, 96.26 53 P **P 22 32 15.8 -0.7**
baz=96
N23A Red Feather La 96.32 50 P **P 22 32 17.0 +0.3**
baz=96
ISCO Idaho Springs 96.36 51 *e*P **P 22 32 17.3 +0.4**
ISCO MLR MLR
comp=Z,782µm,20.0s
ISCO Idaho Springs 96.36 51 *e*P **P 22 32 17.3 +0.4**
ISCO LR LR
comp=Z,782µm,20.0s
ISCO Idaho Springs 96.36 51 P **P 22 32 16.9 0.0**
baz=96
J22A Midwest 96.41 47 P **P 22 32 17.6 +0.7**
baz=96
W25A X Bar L Ranch, 96.41 55 P **P 22 32 17.8 +0.8**
baz=96
Z26A Caprock 96.44 57 P **P 22 32 17.3 +0.1**
baz=96
A20A Cobblestone Ra 96.48 41 P P 22 32 19.2 +2.3
baz=97
Q24A Divide 96.56 52 P **P 22 32 17.7 -0.2**
baz=97
U25A Circle Dot Ran 96.67 54 P **P 22 32 19.3 +1.0**
baz=97
628A Black Gap, Mar 96.67 61 P **P 22 32 18.5 +0.3**
baz=97
Y26A Elida 96.69 57 P **P 22 32 19.6 +1.2**
baz=97
L23A Garrett 96.73 48 P **P 22 32 19.7 +1.3**
baz=97
D21A La Casta Ranch 96.75 43 P **P 22 32 19.3 +1.1**
baz=97
PHWY Pilot Hill 96.76 49 *e*P **P 22 32 19.1 +0.4**
X26A CR and CF Fran 96.81 56 P **P 22 32 19.6 +0.7**
baz=97
C21A Desert Coulee 96.82 43 P **P 22 32 19.7 +1.2**
baz=97
127A Arkansas Junct 96.85 58 P **P 22 32 19.8 +0.7**
baz=97
528A Cox Ranch, San 96.88 61 P **P 22 32 19.7 +0.4**
baz=97
W26A Owens Ranch, T 96.95 56 P **P 22 32 19.7 +0.2**
baz=97
B21A Ellsworth Farm 96.99 42 P **P 22 32 19.9 +0.7**
baz=97
328A Wristen Ranch, 97.08 60 P Pdif 22 32 20.4 +0.2
baz=97
R25A Fountain Ranch 97.08 53 P Pdif 22 32 20.6 +0.5
baz=97
Z27A Tatum 97.08 58 P Pdif 22 32 20.7 +0.5
baz=97
LAO LASA Array 97.20 44 PFAKE 22 32 30.0 +10
LAO LR LR
comp=Z,254µm,21.0s
529A Stev Forest Ra 97.35 61 P Pdif 22 32 21.2 -0.3
baz=97
228A UT Block 9, Go 97.39 59 P Pdif 22 32 21.3 -0.2
baz=98
P25A Willow Gulch B 97.41 51 P Pdif 22 32 21.5 -0.1
baz=98
W27A Bowe Ranch, En 97.51 56 P Pdif 22 32 23.3 +1.2
baz=98
MSTX Muleshoe 97.56 57 P Pdif 22 32 23.1 +0.8
baz=98
128A Castleberry Fa 97.56 58 P Pdif 22 32 23.1 +0.7
baz=98
F23A Volborg 97.58 45 P Pdif 22 32 22.9 +0.8
baz=98
429A Davenport Ranc 97.72 60 P Pdif 22 32 24.3 +1.3
baz=98
R26A Arlington 97.75 53 P Pdif 22 32 23.8 +0.7
baz=98
Q26A Hugo 97.80 52 P Pdif 22 32 24.4 +1.1
baz=98
D23A Lindsay 97.97 44 P Pdif 22 32 25.7 +2.0
baz=98
H24A Dirks Ranch, A 98.01 46 P Pdif 22 32 25.2 +1.1
baz=98
530A J-C Ranch, Com 98.11 61 P Pdif 22 32 26.0 +1.2
baz=98
KURK Kurchatov 98.12 320 P Pdif 22 32 24.4 +0.2
KURK pmax pmax
comp=Z,14nm,0.8s
KURBB Kurchatov Arra 98.16 320 P Pdif 22 32 24.4 0.0
comp=Z,14nm,0.8s,baz=98,slow=4.5,SNR=7.1
KURBB PP PP 22 36 05.9 -19
comp=Z,24nm,1.1s,baz=101,slow=8.1,SNR=4.7
KURBB PKKPbc **PKKPbc 22 48 56.6 -1.9**
comp=Z,4.8nm,0.8s,baz=276,slow=3.4,SNR=4.3
KURBB PKPPKP P'P'df 22 57 14.9 +4.1
comp=Z,2.2nm,0.3s,baz=285,slow=2.3,SNR=8.0
O26A Horse Wrangler 98.18 51 P Pdif 22 32 25.1 +0.2
baz=98
330A Mertzon 98.46 60 P Pdif 22 32 27.2 +0.9
baz=98
I25A Rochford 98.47 47 P Pdif 22 32 27.9 +1.7
baz=99
631A Perdido Creek 98.64 62 P Pdif 22 32 26.9 -0.2
baz=99
H25A Fruitdale 98.66 46 P Pdif 22 32 28.0 +1.1
baz=99
531A Rocksprings 98.79 61 P Pdif 22 32 29.1 +1.3
baz=99
DGMT Dagmar 98.85 42 PFAKE 22 32 40.0 +12
DGMT LR LR
comp=Z,369µm,19.0s
TKM2 Tokmak 2 98.93 312 *e*P Pdif 22 32 29.1 +0.7
TKM2 MLR MLR
comp=Z,531µm,19.0s
TKM2 Tokmak 2 98.93 312 *e*P Pdif 22 32 29.1 +0.7
TKM2 LR LR
comp=Z,531µm,19.0s
OGNE Ogallala 99.25 50 PFAKE 22 32 40.0 +10
OGNE LR LR
comp=Z,910µm,20.0s
OGNE Ogallala 99.25 50 P **Pdif 22 32 30.9 +1.3**
baz=99
131A Roby 99.32 59 P **Pdif 22 32 30.6 +0.6**
baz=99
532A Rocksprings 99.33 61 P **Pdif 22 32 29.7 -0.5**
baz=99
JCT Junction City 99.47 61 *e*P **Pdif 22 32 31.5 +0.7**
JCT MLR MLR
comp=Z,481µm,21.0s
JCT Junction City 99.47 61 *e*P **Pdif 22 32 31.5 +0.7**
JCT LR LR
comp=Z,481µm,21.0s
JCT Junction City 99.47 61 P **Pdif 22 32 31.6 +0.8**
baz=100
432A Menard 99.54 60 P **Pdif 22 32 32.4 +1.3**
baz=100
Z31A Sharp Cattle R 99.62 58 P **Pdif 22 32 32.4 +1.0**
baz=100
332A Millersview 99.66 60 P **Pdif 22 32 33.0 +1.4**
baz=100
AAK Ala-Archa 99.70 312 *e*P **Pdif 22 32 30.6 -1.1**
AAK pmax pmax
comp=Z,30nm,0.8s
AAK MLR MLR
comp=Z,506µm,21.0s
AAK Ala-Archa 99.70 312 *e*Pdif **Pdif 22 32 30.6 -1.1**
comp=Z,30nm,0.8s
AAK LR LR
comp=Z,506µm,21.0s
AAK Ala-Archa 99.70 312 P **Pdif 22 32 31.0 -0.7**
comp=Z,12nm,0.9s,baz=157,slow=5.8,SNR=3.7
232A Coleman 99.82 59 P **Pdif 22 32 33.5 +1.1**
baz=100
EKS2 Erkin-Say 100.22 312 PFAKE 22 32 50.0 +16
EKS2 LR LR
comp=Z,477µm,21.0s
KVTX Kingsville 100.69 64 PFAKE 22 32 50.0 +14
KVTX LR LR
comp=Z,173µm,19.0s
WMOK Wichita Mounta 100.94 57 PFAKE 22 32 50.0 +13
WMOK LR LR
comp=Z,649µm,20.0s
FFC Flin Flon 101.02 36 PFAKE 22 32 50.0 +13
FFC LR LR
comp=Z,420µm,20.0s
KKAR Karatay Array 102.66 312 *e*P **Pdif 22 32 42.9 -1.7**
KKAR pmax pmax
comp=Z,1.0nm,1.1s
KKAR Karatay Array 102.66 312 *e*Pdif **Pdif 22 32 42.9 -1.7**
comp=Z,1.3nm,1.1s
PAYG Puerto Ayora 102.88 94 PFAKE 22 33 00.0 +14
PAYG LR LR
comp=Z,134µm,21.0s
KSU1 Kansas State U 103.16 52 PFAKE 22 33 00.0 +13
KSU1 LR LR
comp=Z,530µm,20.0s
BVAR Borovoye Array 103.44 322 P **Pdif 22 32 45.8 -2.1**
BVAR *i* 22 37 09.2
BVAR pmax pmax
comp=Z,11nm,0.8s
BVAR pmax pmax
comp=Z,16nm,0.8s
BVAR Borovoye Array 103.44 322 Pdif **Pdif 22 32 45.8 -2.1**
BVAR Borovoye Array 103.44 322 Pdiff **Pdif 22 32 45.8 -2.1**
comp=Z,10nm,0.8s,baz=107,slow=9.9,SNR=4.3
BVAR PKiKP **PKiKP 22 37 09.2 +2.8**
comp=Z,16nm,0.8s,baz=91,slow=6.2,SNR=4.3
BVAR PKKPbc **PKKPdf 22 48 47.8 -4.0**
comp=Z,1.2nm,0.4s,baz=307,slow=0.9,SNR=5.4
BRVK Borovoye 103.51 322 *e*P **Pdif 22 32 45.8 -2.4**
BRVK MLR MLR
comp=Z,1417µm,22.0s
BRVK Borovoye 103.51 322 *e*Pdif **Pdif 22 32 45.8 -2.4**
BRVK *e*PP PP 22 36 39.8 -25
BRVK LR LR
comp=Z,1417µm,22.0s
ECSD EROS Data Cent 103.55 48 PFAKE 22 33 00.0 +11
ECSD LR LR
comp=Z,254µm,20.0s
NATX Nacogdoches 104.01 60 PFAKE 22 33 00.0 +9.1
NATX LR LR
comp=Z,446µm,21.0s
RER Riviere de l'E 104.13 244 PFAKE 22 33 00.0 +8.2
RER LR LR
comp=Z,87µm,19.0s
AGMN Agassiz Nation 104.36 43 PFAKE 22 33 00.0 +8.0
AGMN LR LR
comp=Z,360µm,19.0s
ULM Lac du Bonnet 104.43 41 PKiKP **PKiKP 22 37 09.8 +1.5**
ULM Lac du Bonnet 104.43 41 PKiKP **PKiKP 22 37 09.8 +1.5**
comp=Z,11nm,0.6s,baz=247,slow=2.9,SNR=7.8
MIAR Mount Ida 105.19 57 PFAKE 22 37 20.0
MIAR LR LR
comp=Z,615µm,20.0s
EFI East Falkland 105.45 153 PFAKE 22 37 20.0
EFI LR LR
comp=Z,47µm,20.0s
APG El Apazote 105.68 78 PP PP 22 37 16.1 -6.1
APG El Apazote 105.68 78 PP PP 22 37 16.1 -6.1
comp=Z,23nm,1.0s,baz=55,slow=6.3,SNR=5.2
SCIA State Center 105.94 50 PFAKE 22 37 20.0
SCIA LR LR
comp=Z,721µm,20.0s
EYMN Ely 107.27 43 PFAKE 22 37 30.0
EYMN LR LR
comp=Z,363µm,20.0s
VBMS Vicksburg 107.56 60 PFAKE 22 37 30.0
VBMS LR LR
comp=Z,312µm,20.0s
JFWS Jewell Farm 108.16 49 *e*P **Pdif 22 33 09.6 +0.5**
JFWS pmax pmax
comp=Z,307nm,1.7s
JFWS MLR MLR
comp=Z,331µm,19.0s
JFWS Jewell Farm 108.16 49 *e*P **Pdif 22 33 09.6 +0.5**
comp=Z,307nm,1.7s
JFWS LR LR
comp=Z,331µm,19.0s
TEIG Tepich 108.46 73 PFAKE 22 37 30.0
TEIG LR LR
comp=Z,205µm,21.0s
TGUH Tegucigalpa,Un 108.59 79 *e*Pdif **Pdif 22 33 10.4 -1.2**
TGUH LR LR
comp=Z,207µm,21.0s
OXF Oxford 108.61 58 PFAKE 22 37 30.0
OXF LR LR
comp=Z,443µm,20.0s
HDIL Hopedale 108.86 51 PFAKE 22 37 30.0
HDIL LR LR
comp=Z,468µm,21.0s
COWI Conover 108.92 45 PFAKE 22 37 30.0
COWI LR LR
comp=Z,394µm,19.0s
MSEY Mahe Island 109.25 261 PFAKE 22 37 30.0
MSEY LR LR
comp=Z,139µm,19.0s
JTS JuntasAbangare 110.24 84 PFAKE 22 37 30.0
JTS LR LR
comp=Z,176µm,22.0s
BRAL Brewton 110.44 61 PFAKE 22 37 30.0
BRAL LR LR
comp=Z,182µm,19.0s
SOKR Solikamsk 110.56 329 *e*PKIKP PKiKP 22 37 27.3 +7.9
SOKR pmax pmax
comp=Z,50nm,1.4s
LRAL Lakeview Retre 110.57 59 PFAKE 22 37 30.0
LRAL LR LR
comp=Z,481µm,20.0s
LCO Las Campanas 111.19 128 PFAKE 22 37 30.0
LCO LR LR
comp=Z,59µm,19.0s
ABPO Ambohimpanom 112.36 243 PFAKE 22 37 40.0
ABPO LR LR
comp=Z,161µm,22.0s
TRQA Tornquist 112.37 140 PFAKE 22 37 40.0
TRQA LR LR
comp=Z,89µm,19.0s
KBS Kingsbay 112.39 355 PFAKE 22 37 30.0
KBS LR LR
comp=Z,390µm,22.0s
ACSO Alum Creek Sta 113.69 51 PFAKE 22 37 40.0
ACSO LR LR
comp=Z,478µm,20.0s
OTAV Otavalo 114.61 96 PFAKE 22 37 40.0 +11
OTAV LR LR
comp=Z,130µm,19.0s
BCIP Isla Barro Col 115.03 86 PFAKE 22 37 40.0 +11
BCIP LR LR
comp=Z,109µm,21.0s
LVC Limon Verde 115.59 123 PFAKE 22 37 40.0 +9.4
LVC LR LR
comp=Z,110µm,21.0s
ERPA Erie 115.77 49 PFAKE 22 37 40.0 +10
ERPA LR LR
comp=Z,472µm,19.0s
BLA Blacksburg 115.88 55 PFAKE 22 37 40.0 +10
BLA LR LR
comp=Z,397µm,19.0s
MCWV Mont Chateau 116.14 52 PFAKE 22 37 40.0 +9.2
MCWV LR LR
comp=Z,650µm,20.0s
IZEF Zefreh 116.79 301 *e*Pn **PKPdf 22 37 33.9 +1.3**
KEV Kevo 117.33 345 *e*PKIKP **PKPdf 22 37 30.6 -1.6**
KEV pmax pmax
comp=Z,16nm,0.6s
KEV Kevo 117.33 345 *e*p **PKPdf 22 37 30.6 -1.6**
comp=Z,16nm,0.6s
KEV Kevo 117.33 345 PFAKE 22 37 40.0 +7.8
KEV LR LR
comp=Z,1067µm,21.0s
ARCES ARCESS Array B 117.86 345 PKP **PKPdf 22 37 32.3 -0.9**
ARCES PKKPbc **PKKPab 22 47 56.5 -0.2**
ARCES ARCESS Array B 117.86 345 PKP **PKPdf 22 37 32.3 -0.9**
comp=Z,41nm,0.8s,baz=48,slow=1.8,SNR=12
ARCES PKKPbc **PKKPab 22 47 56.5 -0.2**
comp=Z,18nm,0.7s,baz=200,slow=1.4,SNR=8.8
ARE0 ARCESS Array S 117.86 345 *e*PKPdf **PKPdf 22 37 33.2 0.0**
CNNC Cliffs of the 118.07 57 PFAKE 22 37 50.0 +15
CNNC LR LR
comp=Z,432µm,21.0s
SUMG Summit 118.15 8 *i* PKIKP **PKPdf 22 37 34.6 +0.4**
SUMG pmax pmax
comp=Z,31nm,1.0s
SUMG Summit 118.15 8 *i* P **PKPdf 22 37 34.6 +0.4**
comp=Z,31nm,1.0s
CBN Corbin 118.20 53 PFAKE 22 37 50.0 +15
CBN LR LR
comp=Z,754µm,20.0s
KLMR Klimovskoe 118.29 334 *e*PKIKP **PKPdf 22 37 33.7 -0.5**
KLMR pmax pmax
comp=Z,135nm,1.6s
BINY Binghamton 118.71 49 PFAKE 22 37 50.0 +14
BINY LR LR
comp=Z,509µm,21.0s
LPAZ La Paz 119.00 117 PKP **PKPdf 22 37 36.6 -1.1**
LPAZ PKKPbc **PKKPab 22 47 52.4 -2.7**
LPAZ La Paz 119.00 117 PKP **PKPdf 22 37 36.6 -1.1**
comp=Z,8.2nm,0.7s,baz=308,slow=2.9,SNR=8.9
LPAZ PKKPbc **PKKPab 22 47 52.4 -2.7**
comp=Z,12nm,0.9s,baz=125,slow=3.3,SNR=7.3
LONY Lake Ozonia 119.27 46 PFAKE 22 37 50.0 +13
LONY LR LR
comp=Z,316µm,20.0s
TRO Tromso 119.29 348 *e*P **PKPdf 22 37 38.9 +3.0**
NCB Newcomb 119.65 46 *e*PKPdf **PKPdf 22 37 36.8 -0.6**
NCB LR LR
comp=Z,260µm,19.0s
SFJD Kangerlussuaq 120.26 16 *i* P **PKPdf 22 37 33.4 -4.5**
comp=Z,25nm,0.8s
SFJD Kangerlussuaq 120.26 16 PFAKE 22 37 50.0 +12
SFJD LR LR
comp=Z,547µm,22.0s
MDV Middlebury 120.38 46 *e*PKPdf **PKPdf 22 37 36.9 -1.9**
JOF Joensuu 120.48 338 *e*PKIKP **PKPdf 22 37 36.5 -1.9**
JOF pmax pmax
comp=Z,28nm,0.8s
JOF Joensuu 120.48 338 *e*p **PKPdf 22 37 36.5 -1.9**
comp=Z,28nm,0.8s
GTBY Guantanamo Bay 120.76 74 PFAKE 22 37 50.0 +10
GTBY LR LR
comp=Z,114µm,20.0s
SCHQ Schefferville 120.90 33 PKP **PKPdf 22 37 40.0 +0.5**
SCHQ PKKPbc **PKKPbc 22 47 43.8 -1.3**
SCHQ Schefferville 120.90 33 PKP **PKPdf 22 37 40.0 +0.5**

comp=Z,33nm,0.5s,baz=252,slow=3.6,SNR=19
SCHQ PKKPbc **PKKPbc** **22 47 43.8 -1.3**
comp=Z,18nm,1.0s,baz=117,slow=4.8,SNR=5.4
LBNH Lisbon 121.21 46 PFAKE 22 37 50.0 +10
LBNH LR LR
comp=Z,483µm,20.0s
STEI Steigen 121.46 348 *e*P **PKPdf** **22 37 39.1 -1.1**
MOS Moscow 121.51 329 *e*PKIKP **PKPdf** **22 37 38.1 -2.5**
MOS *e* 22 39 09.2
MOS pmax pmax
comp=Z,100nm,1.1s
LOF Lofoten 121.64 348 *e*P **PKPdf** **22 37 39.0 -1.5**
BRYW Bryant College 122.01 48 *e*PKPdf **PKPdf** **22 37 42.1 +0.1**
GNI Garni 122.03 310 *e*P **PP** **22 39 18.1 +0.8**
GNI Garni 122.03 310 *e*PKPdf **PKPdf** **22 37 43.6 +1.3**
GNI LR LR
comp=Z,362µm,20.0s
KBZ Khabaz 122.57 314 PKIKP **PKPdf** **22 37 44.0 +1.0**
KBZ pmax pmax
comp=Z,29nm,0.9s
KBZ Khabaz 122.57 314 PKP **PKPdf** **22 37 44.0 +1.0**
KBZ Khabaz 122.57 314 PKP **PKPdf** **22 37 44.0 +1.0**
comp=Z,29nm,0.8s,baz=86,slow=1.2,SNR=7.2
CPUP Villa Florida 122.62 133 PKP **PKPdf** **22 37 42.6 -1.0**
CPUP *e*PKPdf **PKiKP** **22 37 43.2 -0.7**
CPUP PKKPbc **PKKPab** **22 47 38.1 -0.7**
CPUP Villa Florida 122.62 133 PKP **PKPdf** **22 37 42.6 -1.0**
comp=Z,14nm,0.6s,baz=257,slow=0.4,SNR=13
CPUP PKKPbc **PKKPab** **22 47 38.1 -0.7**
comp=Z,11nm,0.8s,baz=44,slow=5.4,SNR=8.6
PKME Peaks-Kenny Pk 122.75 44 *e*PKPdf **PKPdf** **22 37 42.9 -0.4**
PKME LR LR
comp=Z,411µm,21.0s
KAF Kangasniemi 122.79 339 *e*PKIKP **PKPdf** **22 37 41.3 -1.6**
KAF pmax pmax
comp=Z,23nm,0.5s
KAF Kangasniemi 122.79 339 *e*p **PKPdf** **22 37 41.3 -1.6**
comp=Z,22nm,0.5s
CLDR Caldiran 122.85 309 *e*P **PP** **22 39 18.7 -4.3**
KARS Kars 123.18 311 *e*P PP 22 39 19.1 -5.9
FLOS Flostrand 123.20 347 *e*P **PKPdf** **22 37 46.5 +3.0**
STOK Stokkvaagen 123.28 347 *e*P **PKPdf** **22 37 47.2 +3.6**
FINES FINESS Array B 123.32 338 PKP **PKPdf** **22 37 42.6 -1.3**
FINES PKKPbc **PKKPbc** **22 47 35.6 -0.3**
FINES FINESS Array B 123.32 338 PKP **PKPdf** **22 37 42.6 -1.3**
comp=Z,46nm,0.9s,baz=80,slow=4.6,SNR=11
FINES PKKPbc **PKKPbc** **22 47 35.6 -0.3**
comp=Z,8.0nm,0.7s,baz=226,slow=3.3,SNR=6.2
CUKT Cukurca 123.44 306 *e*P PP 22 39 19.9 -7.1
AGRB Hanur-Agry 123.47 309 *e*P PP 22 39 21.1 -6.0
SDV Santo Domingo 123.95 88 *e*PKPdf **PKPdf** **22 37 44.7 -2.1**
SDV LR LR
comp=Z,14µm,20.0s
BCA Borcka 124.06 312 *e*P PP 22 39 21.8 -8.9
SIRT Sirnak 124.31 307 *e*P PP 22 39 19.9 -13
SDDR Presa de Saban 124.32 75 PFAKE 22 38 00.0 +13
SDDR LR LR
comp=Z,146µm,21.0s
BOSA Boshof 124.48 222 *e*PKPdf **PKPdf** **22 37 45.9 -1.5**
BOSA PKP **PKPdf** **22 37 47.9 +0.5**
BOSA Boshof 124.48 222 PKP **PKPdf** **22 37 47.9 +0.5**
comp=Z,18nm,0.7s,baz=122,slow=1.6,SNR=9.8
GRTK Grand Turk 124.53 72 PFAKE 22 38 00.0 +13
GRTK LR LR
comp=Z,123µm,20.0s
SUR Sutherland 124.55 216 PKP **PKPdf** **22 37 47.2 -0.3**
SUR LR LR
comp=Z,150µm,20.0s
SUR Sutherland 124.55 216 PKP **PKPdf** **22 37 47.2 -0.3**
comp=Z,25nm,0.9s,baz=167,slow=2.3,SNR=5.4
EZM Erzurum 124.62 310 *e*P PP 22 39 22.2 -13
NSS Namsos 125.06 347 *e*P **PKPdf** **22 37 45.6 -1.5**
SIV San Ignacio 125.21 120 PKP **PKPdf** **22 37 47.8 -1.2**
SIV San Ignacio 125.21 120 PKP **PKPdf** **22 37 47.8 -1.2**
comp=Z,12nm,0.9s,baz=332,slow=1.2,SNR=8.2
BNGB Bing ¶ll 125.35 309 *e*P PP 22 39 22.2 -17
MAZI Mazidag 125.87 307 *e*P PP 22 39 24.2 -19
GUMT Gumushane 125.88 311 *e*P PP 22 39 23.8 -19
ERZN Erzincan 125.92 310 *e*P PP 22 39 24.2 -19
DIY Diyarbakir 125.94 308 *e*P PP 22 39 24.2 -19
EZC Erzincan 126.16 310 *e*P PP 22 39 24.9 -20
ESPY Espiye-Giresun 126.30 312 *e*P PP 22 39 23.4 -22
PTK Pertek 126.35 309 *e*P PP 22 39 23.8 -23
SAML Samuel 126.36 111 *e*PKPdf **PKPdf** **22 37 50.8 -0.3**
SAML LR LR
comp=Z,98µm,19.0s
TBLU Trondheim 126.55 347 *e*P **PKPdf** **22 37 53.8 +3.7**
LBTB Lobatse 126.60 226 *e*PKPdf **PKPdf** **22 37 51.1 -0.4**
LBTB PKP **PKPdf** **22 37 51.7 +0.2**
LBTB Lobatse 126.60 226 PKP **PKPdf** **22 37 51.7 +0.2**
comp=Z,12nm,0.8s,baz=164,slow=5.4,SNR=8.0
ILIC ilic-Erzincan 126.82 310 *e*P PP 22 39 25.3 -24
ISAL Salakas 127.09 333 *e*P **PKPdf** **22 37 52.0 +0.7**
ISAL AMB AMB 22 38 24.1
comp=Z,40nm,1.3s
IIGN Ignalina 127.19 333 *e*P **PKPdf** **22 37 51.7 +0.2**
IIGN AMB AMB 22 38 23.9
comp=Z,78nm,1.2s
MALT Malatya 127.22 309 *e*P PP 22 39 26.4 -26
RSDY Resadiye-TOKAT 127.47 312 *e*P PP 22 39 26.9 -27
BORG Borgarnes 127.52 4 PFAKE 22 38 00.0 +8.2
BORG LR LR
comp=Z,434µm,22.0s
KMBO Kilima Mbogo 127.73 259 *e*PKPdf **PKPdf** **22 37 54.9 +0.8**
KMBO LR LR
comp=Z,128µm,19.0s
MOL Molde 127.73 348 *e*P **PKPdf** **22 37 54.1 +1.8**
SVSK Karacayir 127.86 311 *e*P PP 22 39 26.9 -29
TOKT Tokat 128.07 312 *e*P PP 22 39 30.0 -27
KVT Kavak 128.19 313 *e*P PP 22 39 26.1 -32
NB2 NORSAR Subarra128.23 345 PKPdf **PKPdf** **22 37 52.6 -0.8**
comp=Z,127nm,1.4s,baz=31,slow=1.9
NB2 NORSAR Subarra128.23 345 PKPdf **PKPdf** **22 37 52.6 -0.8**
baz=31,slow=1.9
NOA NORSAR Array B128.23 345 PKP **PKPdf** **22 37 52.5 -0.8**
NOA ⇑*e* 22 50 53.0
NOA NORSAR Array B128.23 345 PKP **PKPdf** **22 37 52.5 -0.8**
comp=Z,21nm,0.9s,baz=31,slow=2.0,SNR=13
NOA PKP2bc 22 50 53.0
comp=Z,2.6nm,0.9s,baz=212,slow=4.2,SNR=3.4
HFS Hagfors 128.32 343 PKP **PKPdf** **22 37 52.6 -0.9**
HFS Hagfors 128.32 343 PKP **PKPdf** **22 37 52.6 -0.9**
comp=Z,31nm,0.9s,baz=270,slow=2.5,SNR=11
AKASG Malin Array Be 128.38 327 PKIKP **PKPdf** **22 37 53.4 -0.5**
AKASG pmax pmax
comp=Z,35nm,0.9s
AKASG Malin Array Be 128.38 327 PKP **PKPdf** **22 37 53.4 -0.5**
AKASG PKKPab PKKPdf 22 47 16.2 -48
AKASG Malin Array Be 128.38 327 PKP **PKPdf** **22 37 53.4 -0.5**
comp=Z,56nm,1.1s,baz=72,slow=2.3,SNR=11
AKASG PKKPab PKKPdf 22 47 16.2 -48
comp=Z,1.4nm,0.7s,baz=257,slow=4.2,SNR=4.4
KIEV Kiev 128.40 327 *e*PKIKP **PKPdf** **22 37 53.3 -0.6**
KIEV MLR MLR
comp=Z,607µm,20.0s
KIEV Kiev 128.40 327 *e*PKPdf **PKPdf** **22 37 53.3 -0.6**
KIEV LR LR
comp=Z,607µm,20.0s
NA001 NORSAR Array S 128.48 345 *e*PKPdf **PKPdf** **22 37 54.1 +0.3**
DIKM Dikmen 128.56 314 *e*P PP 22 39 29.2 -31
KMRS Kahramanmaras 128.60 308 *e*P PP 22 39 28.8 -32
BNN Bunyan 129.02 310 *e*P PP 22 39 30.0 -34
SJG San Juan 129.16 77 PFAKE 22 38 10.0 +14
SJG LR LR
comp=Z,118µm,21.0s
BBSR BB Station 129.33 58 PFAKE 22 38 10.0 +14
BBSR LR LR
comp=Z,205µm,20.0s
SUW Suwalki 129.40 333 *e*PKIKP **PKPdf** **22 37 56.2 +0.5**
SUW Suwalki 129.40 333 *e*PKPdf **PKPdf** **22 37 56.2 +0.5**
KOZT Kozan 129.43 308 *e*P PP 22 39 29.2 -37
CORM Corum 129.50 312 *e*P PP 22 39 31.1 -36
HTY Hatay 129.55 307 *e*P PP 22 39 31.1 -36
TOS Tosya 129.65 313 *e*P PP 22 39 24.5 -43
KONO Kongsberg 129.84 345 *e*P **PKPdf** **22 37 58.2 +1.8**
KONO Kongsberg 129.84 345 PFAKE 22 38 10.0 +14
KONO LR LR
comp=Z,721µm,21.0s
KARA Karaisali 130.08 308 *e*P PP 22 39 32.3 -38
CANT Cankiri 130.08 313 *e*P PP 22 39 26.5 -44
NIG Nigde 130.17 310 *e*P PP 22 39 31.5 -40
BER Bergen 130.17 348 *e*P PKPdf 22 38 01.3 +4.3
LSZ Lusaka 130.26 237 PKP **PKPdf** **22 38 00.1 +1.4**
LSZ LR LR
comp=Z,190µm,19.0s
LSZ Lusaka 130.26 237 PKP **PKPdf** **22 38 00.1 +1.4**
comp=Z,10.0nm,0.6s,baz=62,slow=3.7,SNR=9.2
STVI Saint Thomas 130.31 76 *e*PKPdf **PKPdf** **22 37 58.8 +0.3**
ODD1 Odda 130.32 347 *e*P **PKPdf** **22 37 58.5 +1.1**
BR131 Keskin Array S 130.37 312 *e*PKPdf **PKPdf** **22 37 58.8 +0.5**
BRTR Keskin Array B 130.37 312 PKP **PKPdf** **22 37 57.8 -0.5**
BRTR PP PP 22 40 20.6 +8.1
BRTR Keskin Array B 130.37 312 PKP **PKPdf** **22 37 57.8 -0.5**
comp=Z,20nm,0.9s,baz=137,slow=3.0,SNR=9.8
BRTR PP PP 22 40 20.6 +8.1
comp=Z,24nm,0.9s,baz=84,slow=4.2,SNR=4.5
SAFT Safranbolu 130.52 314 *e*P PP 22 39 32.3 -41
TRIS Tristan da Cun 130.71 181 PFAKE 22 38 10.0 +11
TRIS LR LR
comp=Z,125µm,19.0s
AFSR Af ar-Bala (A 130.88 312 *e*P PP 22 39 31.5 -44
ANTO Ankara 130.93 312 *e*PKIKP **PKPdf** **22 37 59.4 +0.2**
ANTO MLR MLR
comp=Z,317µm,22.0s
ANTO Ankara 130.93 312 *e*P PP 22 39 32.5 -44
ANTO Ankara 130.93 312 *e*PKPdf **PKPdf** **22 37 59.4 +0.2**
ANTO LR LR
comp=Z,317µm,22.0s
SULT Sultanhani-AKS 130.96 310 *e*P PP 22 39 38.9 -37
SPB Sao Paulo 131.24 137 *e*PKPdf **PKPdf** **22 37 59.8 -0.5**
SPB LR LR
comp=Z,88µm,21.0s
KMY Karmoy 131.26 347 *e*P PKPdf 22 38 07.6 +8.5
IKL Isikli 131.43 308 *e*P PKPdf 22 38 33.5 +33
PHNC Paralimni 131.50 306 P PKPdf 22 37 50.2 -10
comp=Z,2.5nm,0.8s
MDUB Mudurnu 131.85 314 *e*P PP 22 39 35.4 -47
KONT Konya--Tatoy 131.91 310 *e*P PP 22 39 37.8 -45
KIZT Kizilcal 131.94 312 *e*P PP 22 39 34.3 -48
BSD Bornholm Skovb 131.96 338 *i* P **PKPdf** **22 38 00.4 -0.1**
comp=Z,39nm,0.8s
SVRH Sivrihisar-ESK 132.00 312 *e*P PP 22 39 35.0 -48
CSS Prodhromos 132.06 306 P PKPdf 22 37 50.9 -11
comp=Z,3.9nm,1.6s
MAMC Mammari 132.09 306 P PKPdf 22 37 51.4 -10
HDMB Hadim 132.13 309 *e*P PP 22 39 35.4 -49
COP Copenhagen 132.36 340 *e*PKIKP **PKPdf** **22 38 01.8 +0.5**
COP pmax pmax
comp=Z,35nm,0.8s
COP Copenhagen 132.36 340 *i* P **PKPdf** **22 38 01.8 +0.5**
comp=Z,35nm,0.8s
KWP Kalwaria Pacla 132.43 329 *e*PKIKP **PKPdf** **22 38 03.2 +1.5**
KWP MLR MLR
comp=Z,780µm,22.0s
KWP Kalwaria Pacla 132.43 329 *e*PKPdf **PKPdf** **22 38 03.2 +1.5**
KWP LR LR
comp=Z,780µm,22.0s
ESKT Eskisehir 132.46 313 *e*P PP 22 39 32.3 -54
SZAC Souni-Zanaja 132.47 306 P PKPdf 22 37 52.2 -10
comp=Z,3.1nm,0.6s
ALFC Alevga 132.58 307 P PKPdf 22 37 52.4 -10
comp=Z,2.0nm,0.8s
LLD Lille Linde 132.72 340 *i* PKIKP **PKPdf** **22 38 02.9 +0.9**
LLD pmax pmax
comp=Z,82nm,0.8s
LLD Lille Linde 132.72 340 *i* P **PKPdf** **22 38 02.9 +0.9**
comp=Z,82nm,0.8s
LLD *i* 22 38 34.9
AKMC Akamas 132.83 306 P PKPdf 22 37 52.9 -10
PPCY Paphos 132.86 306 P PKPdf 22 37 53.1 -10
ARCR ARCALIA 133.06 325 *i* P PKPdf 22 37 52.0 +11
SUTC Sutluce-Ispart 133.08 310 *e*P PP 22 39 37.8 -52
GRGR Grenville 133.13 85 PFAKE 22 38 20.0 +16
GRGR LR LR
comp=Z,132µm,21.0s
LZG Guadaloupe-1 133.28 80 *e*P PKPdf 22 37 49.7 -14
ANWB Willy Bob 133.31 77 PFAKE 22 38 20.0 +16
ANWB LR LR
comp=Z,179µm,21.0s
ISP Isparta 133.31 311 *e*PKPdf **PKPdf** **22 38 02.4 -1.5**
ISP LR LR
comp=Z,353µm,21.0s
FNG Fond-Bernard 133.37 80 *e*P **PKPdf** **22 38 06.8 +2.3**
SSG Sans Toucher 133.38 80 *e*P **PKPdf** **22 38 05.3 +0.8**
CRG Carmichael 133.39 80 *e*P **PKPdf** **22 38 07.8 +3.2**
ECG Echelle 133.40 80 *e*P **PKPdf** **22 38 05.9 +1.2**
OJC Ojcow 133.48 331 *e*PKPdf PKPdf 22 37 56.1 -7.5
OJC *ep*PKPdf **PKiKP** **22 38 06.8 +1.9**
NIE Niedzica 133.76 330 *e*PKPdf PKPdf 22 37 56.6 -7.6
NIE *ep*PKPdf **PKiKP** **22 38 07.9 +2.4**
MBAR Mbarara 134.10 257 PFAKE 22 38 20.0 +14
MBAR LR LR
comp=Z,682nm,22.0s
RUE Ruedersdorf 134.44 337 *e*PKPdf **PKPdf** **22 38 05.2 -0.1**
OKC Ostrava-Krasne 134.52 331 *e*PKP **PKPdf** **22 38 06.9 +1.3**
MORC Moravsky Berou 134.84 332 *e*PKIKP **PKPdf** **22 38 06.6 +0.4**
MORC Moravsky Berou 134.84 332 *e*PKPdf **PKPdf** **22 38 06.6 +0.4**
PSZ Piszkesteto 134.95 328 *e*PKIKP **PKPdf** **22 38 07.0 +0.5**
PSZ MLR MLR
comp=Z,655µm,19.0s
PSZ Piszkesteto 134.95 328 *e*PKPdf **PKPdf** **22 38 07.0 +0.5**
PSZ LR LR
comp=Z,655µm,19.0s
DPC Dobruska-Polom 134.99 333 *e*PKP **PKPdf** **22 38 08.9 +2.4**
UPC Upice 135.01 333 *e*PKP **PKPdf** **22 38 08.7 +2.2**
BBGH Gun Hill 135.26 84 PFAKE 22 38 20.0 +12
BBGH LR LR
comp=Z,186µm,20.0s
BRG Berggiesshubel 135.61 335 *i* PDIF **Pdif** **22 35 07.4 -3.6**
comp=Z,85nm,1.7s
BRG Berggiesshubel 135.61 335 *i* P **Pdif** **22 35 07.4 -3.6**
BRG pmax pmax
comp=Z,85nm,1.7s
PVCC Panska Ves 135.61 334 *e*PKP **PKPdf** **22 38 10.5 +2.9**
VRAC Vranov 135.61 332 PKP **PKPdf** **22 38 07.4 -0.2**
VRAC Vranov 135.61 332 PKP **PKPdf** **22 38 07.4 -0.2**
comp=Z,25nm,1.1s,baz=329,slow=2.1,SNR=5.2
CLL Collm 135.65 336 *e*PKPdf **PKPdf** **22 38 08.0 +0.4**
CLL *e*PKiKP **PKiKP** **22 38 10.0 +0.8**
comp=Z,36nm,0.9s
CLL *e*PP **PP** **22 40 46.0 +0.8**
CLL *es*PP 22 41 05.0
CLL *i* SKPdf **SKiKP** **22 41 39.9 -0.5**
CLL *e*PKSdf **PKSdf** **22 41 43.3 -0.4**
CLL *e* 22 42 11.0
BDFB Brasilia 135.98 128 PKPpre PKPpre 22 38 05.2
BDFB Brasilia 135.98 128 PKhKP PKPpre 22 38 05.2
comp=Z,17nm,0.8s,baz=150,slow=4.6,SNR=5.7
TSUM Tsumeb 135.99 225 PKP **PKPdf** **22 38 08.1 -1.4**
TSUM *e*PKPdf **PKiKP** **22 38 10.8 -0.3**
TSUM LR LR
comp=Z,303µm,19.0s
TSUM Tsumeb 135.99 225 PKP **PKPdf** **22 38 08.1 -1.4**
comp=Z,13nm,0.8s,baz=141,slow=3.8,SNR=4.9
PRA Prague 136.01 334 PKP **PKPdf** **22 38 11.0 +2.7**
PRU Pruhonice 136.03 334 *e*PKP **PKPdf** **22 38 10.3 +1.9**
TREC Trest 136.12 333 *e*PKP **PKPdf** **22 38 10.3 +1.7**
EKA Eskdalemuir Ar 136.46 351 PKP **PKPdf** **22 38 09.8 +0.8**
EKA Eskdalemuir Ar 136.46 351 PKP **PKPdf** **22 38 09.8 +0.8**
comp=Z,7.2nm,0.6s,baz=5.4,slow=2.3,SNR=13
ESK Eskdalemuir 136.49 351 PFAKE 22 38 20.0 +11
ESK LR LR
comp=Z,300µm,21.0s
KHC Kasperske Hory 137.09 334 *e*PKIKP **PKPdf** **22 38 13.5 +3.0**
KHC Kasperske Hory 137.09 334 *e*PKP **PKPdf** **22 38 10.2 -0.2**
KHC Kasperske Hory 137.09 334 *e*PKPdf **PKPdf** **22 38 13.5 +3.0**
GERES GERESS Array B 137.25 335 PKP **PKPdf** **22 38 10.8 0.0**
GERES GERESS Array B 137.25 335 PKP **PKPdf** **22 38 10.8 0.0**
comp=Z,15nm,0.8s,baz=66,slow=1.6,SNR=8.3
SANT Santorini 137.61 311 PFAKE 22 38 20.0 +8.2
SANT LR LR
comp=Z,208µm,20.0s
IDI Anoyia 138.47 310 *e*PKPdf **PKPdf** **22 38 14.7 +1.3**
TIR Tirane 138.98 321 *e*PKIKP **PKPdf** **22 38 15.4 +1.3**
TIR MLR MLR
comp=Z,1055µm,22.0s
TIR Tirane 138.98 321 *e*PKPdf **PKPdf** **22 38 15.4 +1.3**
TIR LR LR
comp=Z,1055µm,22.0s
GVD Gavdhos 139.25 310 *e*PKPdf **PKPdf** **22 38 15.8 +1.1**
KYTH Kithira 139.42 312 *e*P PKPdf 22 38 09.0 -6.1
WLF Walferdange 139.49 340 PFAKE 22 38 30.0 +15
WLF LR LR
comp=Z,913µm,19.0s
BFO Black Forest 139.85 337 *e*PKIKP **PKPdf** **22 38 17.6 +2.1**
BFO MLR MLR
comp=Z,368µm,20.0s
BFO Black Forest 139.85 337 *e*PKPdf **PKPdf** **22 38 17.6 +2.1**
BFO LR LR
comp=Z,368µm,20.0s
ECH Echery 140.38 338 *e*PKIKP **PKPdf** **22 38 16.2 -0.3**
ECH MLR MLR
comp=Z,526µm,20.0s
ECH Echery 140.38 338 *e*PKPdf **PKPdf** **22 38 16.2 -0.3**
ECH LR LR
comp=Z,526µm,20.0s
VAL Valentia 140.55 357 *e*P PKPdf 22 38 11.2 -5.4
TUE Stuetta 140.95 335 *e*PKPdf **PKPdf** **22 38 17.8 0.0**
TUE LR LR
comp=Z,674µm,20.0s
CUC Castrocucco 142.26 322 PFAKE 22 38 30.0 +10
CUC LR LR
comp=Z,563µm,21.0s
VLC Villacollemand 142.29 331 PFAKE 22 38 30.0 +10
VLC LR LR
comp=Z,896µm,22.0s
BNI Bardonecchia 143.19 336 *e*PKIKP **PKPdf** **22 38 21.7 -0.1**
BNI MLR MLR
comp=Z,678µm,19.0s
BNI Bardonecchia 143.19 336 *e*PKPdf **PKPdf** **22 38 21.7 -0.1**
BNI LR LR
comp=Z,678µm,19.0s
CEL Celeste 143.26 320 PFAKE 22 38 30.0 +8.0
CEL LR LR
comp=Z,449µm,22.0s
SSB Saint Sauveur 143.82 338 *e*PKPdf **PKPdf** **22 38 21.2 -1.5**
SSB LR LR
comp=Z,448µm,20.0s
VSL Villasalto 146.26 327 PFAKE 22 38 40.0 +11
VSL LR LR
comp=Z,343µm,21.0s
KEST Kesra 148.91 322 *e*PKP **PKPbc** **22 38 33.6 -2.1**
KEST PKPbc **PKPbc** **22 38 35.8 +0.1**
KEST Kesra 148.91 322 PKPbc **PKPbc** **22 38 35.8 +0.1**
comp=Z,134nm,0.8s,baz=284,slow=1.9,SNR=12
SHEL Horse Pasture 150.69 196 PFAKE 22 38 50.0 +2.6
SHEL LR LR
comp=Z,203µm,21.0s
RCBR Riachuelo 151.35 128 *e*PKPdf **PKPdf** **22 38 36.6 +0.5**
RCBR LR LR
comp=Z,167µm,21.0s
ESDC Sonseca Array 151.59 344 PKPbc **PKPbc** **22 38 41.8 -0.1**
ESDC Sonseca Array 151.59 344 PKPbc **PKPbc** **22 38 41.8 -0.1**
comp=Z,52nm,0.8s,baz=10.0,slow=3.2,SNR=16
ESLA Sonseca Array 151.59 344 *e*PKPdf **PKPbc** **22 38 37.7 -4.3**
ATAF Djebel Tarf 151.65 328 P PKPdf 22 38 28.8 -7.2
MTE Manteigas 151.67 350 *e*PKPdf **PKPbc** **22 38 37.9 -4.2**
MTE LR LR
comp=Z,471µm,20.0s
PAB San Pablo 151.81 345 *e*PKIKP **PKPbc** **22 38 43.0 +0.5**
PAB MLR MLR
comp=Z,859µm,19.0s
PAB San Pablo 151.81 345 *e*PKPdf **PKPbc** **22 38 43.0 +0.5**
PAB LR LR
comp=Z,859µm,19.0s
CMLA Cha da Macela 152.66 21 *e*PKIKP **PKPdf** **22 38 37.2 -0.1**
CMLA MLR MLR
comp=Z,217µm,22.0s
CMLA Cha da Macela 152.66 21 *e*PKPdf **PKPdf** **22 38 37.2 -0.1**
CMLA LR LR
comp=Z,217µm,22.0s
OJGS Djebel Guires 153.64 333 P PKPdf 22 38 32.0 -6.9
USTO Oran 154.00 335 P **PKPdf** **22 38 35.0 -4.2**
ODJA Bouhanifia 154.18 334 P PKPdf 22 38 33.0 -6.6
OLHC Oulhaca 154.77 336 P **PKPdf** **22 38 37.0 -3.4**
RTC Rabat Centre 157.71 345 PFAKE 22 39 00.0 +16
RTC LR LR
comp=Z,435µm,22.0s
TAM Tamanrasset 159.09 302 PFAKE 22 39 00.0 +14
TAM LR LR
comp=Z,266µm,20.0s
ASCN Ascension 159.71 178 PFAKE 22 39 00.0 +13
ASCN LR LR
comp=Z,70µm,22.0s
TOA0 Torodi Ar. Sit 165.04 274 *e*PKPdf **PKPdf** **22 38 56.1 +3.7**
TORD Torodi Ar. Bea 165.04 274 PKP **PKPdf** **22 38 52.0 -0.5**
TORD PKPab **PKPab** **22 39 50.2 +0.7**
TORD Torodi Ar. Bea 165.04 274 PKP2bc 22 19 00.7
comp=Z,9.9nm,1.2s,baz=271,slow=3.2,SNR=8.5
TORD PKP **PKPdf** **22 38 51.9 -0.5**
comp=Z,10.0nm,0.9s,baz=4.3,slow=0.7,SNR=4.8
TORD PKPab **PKPab** **22 39 50.2 +0.7**
comp=Z,202nm,1.1s,baz=75,slow=1.6,SNR=8.0
KIC Kosan Boka 169.33 236 *e*PKIKP PKPdf 22 39 10.5 +15
comp=Z,810nm,1.7s
LIC Lamto 169.49 235 *e*PKIKP PKPdf 22 39 11.0 +15
comp=Z,378nm,1.4s
DBIC Dimbokro 169.60 237 PKP **PKPdf** **22 38 55.3 -0.5**
DBIC *e*PKPdf PKPdf 22 38 57.3 +1.5
DBIC Dimbokro 169.60 237 PKP **PKPdf** **22 38 55.3 -0.5**
comp=Z,13nm,1.1s,baz=116,slow=5.3,SNR=3.6
TIC Toumodi 169.72 236 *e*PKIKP PKPdf 22 39 10.8 +15
comp=Z,1µm,2.0s
BBTS Babate 176.44 52 PKP **PKPdf** **22 39 00.1 +1.7**
BBTS Babate 176.44 52 PKP **PKPdf** **22 39 00.1 +1.7**
comp=Z,32nm,1.1s,baz=143,slow=5.1,SNR=2.7

IDC 07 22:25:19.2±6.6, 13°.35S×166°.04E, h0km, mb4.8/4, mb1 5.0/4, mb1mx4.6/18, mbtmp4.7/4, Error ellipse: s-maj=273.4km s-min=47.7km az=171.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**73.30**	**294**	P		P		22 36 52.5	-0.7
	2.2nm,0.7s,baz=123,slow=5.9,SNR=3.4								
ILAR	**Eielson Array**	**85.59**	**18**	P		P		22 37 58.5	-0.7
	5.8nm,0.8s,baz=251,slow=5.6,SNR=3.0								
NVAR	**Mina Array Bea**	**87.28**	**50**	P		P		22 38 08.4	0.0
	2.5nm,0.8s,baz=230,slow=2.2,SNR=2.2								
MKAR	**Makanchi Array**	**95.39**	**317**	P		P		22 38 47.2	+1.5
	11nm,0.8s,baz=106,slow=6.4,SNR=3.5								

IDC 07 22:26:02.2±1.5, 12°.13S×167°.39E, h0km, mb5.0/7, mb1 5.1/7, mb1mx4.8/19, mbtmp5.0/7, Error ellipse: s-maj=55.5km s-min=28.6km az=121.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.81**	**226**	P		P		22 32 20.8	+0.9
	38nm,0.9s,baz=350,slow=9.5,SNR=3.0								
ASAR	**Alice Springs**	**33.78**	**245**	P		P		22 32 46.0	0.0
	16nm,0.9s,baz=68,slow=9.6,SNR=1.2								
ASAJ	**Asahikawa**	**60.35**	**340**	P		P		22 36 13.4	+0.4
	45nm,0.8s,baz=219,slow=12,SNR=9.9								
USRK	**Ussuriysk Arra**	**64.64**	**333**	P		P		22 36 42.0	+0.3
	18nm,0.9s,baz=144,slow=5.5,SNR=7.7								
CMAR	**Chiang Mai Arr**	**74.02**	**293**	P		P		22 37 39.8	-0.5
	4.6nm,0.9s,baz=128,slow=4.5,SNR=2.0								
ILAR	**Eielson Array**	**84.03**	**18**	P		P		22 38 35.3	+1.1
	5.7nm,1.0s,baz=235,slow=5.7,SNR=2.3								
MKAR	**Makanchi Array**	**95.41**	**317**	P		P		22 39 27.7	-1.1
	6.3nm,0.7s,baz=90,slow=5.1,SNR=2.7								
ARCES	**ARCESS Array B**	**117.78**	**346**	PKP		PKPdf		22 44 49.1	-0.9
	9.4nm,0.8s,baz=301,slow=1.1,SNR=3.8								
FINES	**FINESS Array B**	**123.36**	**339**	PKP		PKPdf		22 45 01.4	+0.5
	9.4nm,0.8s,baz=301,slow=1.1,SNR=3.8								
NB2	**NORSAR Subarra128.15**	**346**		PKPdf		PKPdf		22 45 09.9	-0.3
	comp=Z,27nm,1.4s,baz=31,slow=1.9								
NB2	**NORSAR Subarra128.15**	**346**		PKPdf		PKPdf		22 45 09.9	-0.3
	baz=31,slow=1.9								
NOA	**NORSAR Array B128.15**	**346**		PKP		PKPdf		22 45 10.1	-0.1
	comp=Z,7.4nm,0.9s,baz=32,slow=2.0,SNR=7.4								
ESDC	**Sonseca Array**	**151.52**	**346**	PKPbc		PKPbc		22 45 57.4	-1.3
	comp=Z,22nm,0.9s,baz=20,slow=2.4,SNR=12								

*IDC **07** 22:26:33.2±0.8, 12°.00S×166°.79E, h0km, mb5.2/14, mb1 5.3/15, mb1mx5.1/24, mbtmp5.3/15, ML6.0/1, Error ellipse: s-maj=25.0km s-min=18.0km az=120.0*
*NEIC **07** 22:26:38.8±0.2, 12°.10S×166°.64E, h35km, mb5.6/20, Error ellipse: s-maj=6.0km s-min=5.3km az=46.0*
*ISCJB **07** 22:26:42.5±0.3, 12°.12S±0°.06×166°.54E±0°.06, h83km, mb5.3/32, Error ellipse: s-maj=8.7km s-min=7.8km az=159.8*

ISC 07 22:26:44.0±0.4, 12°.07S±0°.07×166°.58E±0°.08, h83km, n71, σ0.98/69, mb5.4/32, Santa Cruz Islands

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

HNR **Honiara** 7.02 291 Pn **Pn** 22 28 21.7 -2.5
HNR **Honiara** 7.02 291 Pn **Pn** 22 28 21.7 -2.5
229nm,0.3s,baz=119,slow=3.2,SNR=6.9
DZM **Mont Dzumac** 9.95 181 *e*Pn **Pn** 22 29 06.1 +1.9
45nm,0.3s
DZM **Mont Dzumac** 9.95 181 *e*Pn Pn 22 28 57.3 -6.9
MSVF **Nonsavu** 12.43 118 *e*Pn Pn 22 29 32.6 -5.4
EIDS **Eidsvold** 19.73 226 *e*P **P** 22 31 05.6 -1.6
263nm,1.3s
CTAO **Charters Tower** 21.08 245 *e*P **P** 22 31 20.6 -1.1
AFI **Afiamalu** 21.17 97 *e*P **P** 22 31 22.1 -0.8
158nm,1.1s
RAO **Raoul Island** 22.38 142 P **P** 22 31 33.9 -1.6
ARMA **Armidale** 22.92 215 *e*P **P** 22 31 40.0 -1.3
URZ **Urewera** 27.73 162 P **P** 22 32 24.4 -0.2
CAN **Canberra** 28.10 212 *e*P **P** 22 32 27.0 -1.1
STKA **Stephens Creek** 30.28 225 *e*P **P** 22 32 48.7 +1.3
10.0nm,0.6s
STKA **Stephens Creek** 30.28 225 P **P** 22 32 48.8 +1.3
55nm,0.6s,baz=50,slow=10.0,SNR=13
RPZ **Rata Peaks** 31.77 174 P **P** 22 33 01.2 +0.8
RPZ **Rata Peaks** 31.77 174 P **P** 22 33 01.2 +0.8
44nm,1.1s,baz=2.4,slow=5.1,SNR=3.5
WRAB **Tennant Creek** 31.91 252 *e*P **P** 22 33 02.6 +0.7
94nm,1.1s
WRA **Warramunga Arr** 31.92 252 P **P** 22 33 01.5 -0.5
WRA **Warramunga Arr** 31.92 252 P **P** 22 33 01.5 -0.5
30nm,1.0s,baz=75,slow=6.4,SNR=4.3
ASAR **Alice Springs** 33.08 245 P **P** 22 33 11.7 -0.5
ASAR **Alice Springs** 33.08 245 P **P** 22 33 11.7 -0.5
15nm,0.6s,baz=64,slow=10,SNR=9.5
XMAS **Kiritimati** 38.40 71 *e*P **P** 22 33 56.1 -1.5
126nm,1.1s
FITZ **Fitzroy Crossi** 39.92 256 P **P** 22 34 10.7 +0.4
FITZ **Fitzroy Crossi** 39.92 256 P **P** 22 34 10.7 +0.4
24nm,0.9s,baz=68,slow=12,SNR=6.0
BATI **Baumata** 42.12 268 P **P** 22 34 29.2 +0.7
BATI **Baumata** 42.12 268 P **P** 22 34 29.2 +0.7
54nm,0.6s,baz=260,slow=9.6,SNR=5.3
MCQ **Macquarie Isla** 42.75 187 P **P** 22 34 30.9 -2.1
MBWA **Marble Bar** 45.65 252 *e*P **P** 22 34 55.5 -1.1
260nm,1.6s
KAPI **Kappang** 46.78 274 *e*P **P** 22 35 05.8 +0.2
189nm,1.3s
JNU **Nakatsue** 56.38 324 P **P** 22 36 17.2 +0.3
JNU **Nakatsue** 56.38 324 P **P** 22 36 17.2 +0.3
19nm,0.6s,baz=148,slow=4.1,SNR=7.6
YULB **Yu-li** 56.61 309 *e*P **P** 22 36 18.8 +0.1
90nm,1.1s
NACB **Ninganchiao** 56.82 310 *e*P **P** 22 36 20.9 +0.8
112nm,1.3s
TPUB **Ta-pu** 57.07 308 *e*P **P** 22 36 21.9 0.0
102nm,0.8s
SSLB **Suanglung** 57.09 309 *e*P **P** 22 36 22.3 +0.2
101nm,1.3s
YHNB **Yeheng** 57.26 310 *e*P **P** 22 36 23.9 +0.5
97nm,0.8s
ASAJ **Asahikawa** 60.03 340 P **P** 22 36 42.5 +0.5
ASAJ **Asahikawa** 60.03 340 P **P** 22 36 42.5 +0.5
20nm,0.6s,baz=186,slow=6.5,SNR=5.1
KSRS **Korea Array** 61.18 325 P **P** 22 36 50.4 +0.4
7.5nm,0.7s,baz=135,slow=7.5,SNR=8.6
KSAR **Wonju Array Be** 61.19 325 P **P** 22 36 50.4 +0.3
VNDA **Vanda** 65.49 181 *e*P **P** 22 37 17.5 -0.4
CASY **Casey** 65.73 202 *e*P **P** 22 37 19.8 +0.2
20nm,0.8s
SBA **Scott Base** 65.78 180 *e*P **P** 22 37 20.3 +0.6
28nm,0.8s
KULM **Kulim** 67.77 281 *e*P **P** 22 37 34.0 +0.4
1μm,3.2s
CM31 **Chiang Mai Arr** 73.27 294 *e*P **P** 22 38 07.7 +0.8
20nm,0.6s
CMAR **Chiang Mai Arr** 73.27 294 P **P** 22 38 08.7 +1.7
CMAR **Chiang Mai Arr** 73.27 294 P **P** 22 38 08.7 +1.7
25nm,0.7s,baz=126,slow=5.0,SNR=30
QSPA **South Pole Qui** 77.94 180 *e*P **P** 22 38 33.5 +0.6
ULN **Ulaanbaatar** 79.60 324 *e*P **P** 22 38 42.9 +0.6
160nm,1.7s
SONM **Songino Array** 79.97 324 P **P** 22 38 45.5 +1.2
SONM **Songino Array** 79.97 324 P **P** 22 38 45.5 +1.2
6.4nm,0.6s,baz=136,slow=6.3,SNR=7.4
ILAR **Eielson Array** 84.22 18 P **P** 22 39 06.0 0.0
ILAR **Eielson Array** 84.22 18 P **P** 22 39 06.0 0.0
9.8nm,0.6s,baz=250,slow=4.7,SNR=13
CMB **Columbia Colle** 84.38 49 *e*P **P** 22 39 08.1 +0.6
18nm,1.0s
ISA **Isabella** 85.05 52 *e*P **P** 22 39 11.8 +0.8
92nm,1.9s
PAHR **Pah Rah Range** 85.68 48 *e*P **P** 22 39 15.2 +1.2
102nm,1.9s
PALK **Pallekele** 87.50 278 *e*P **P** 22 39 24.0 +0.7
84nm,1.3s
MK31 **Makanchi Array** 94.82 317 *e*P **P** 22 39 57.5 +0.8
MKAR **Makanchi Array** 94.82 317 P **P** 22 39 56.9 +0.2
MKAR **Makanchi Array** 94.82 317 P **P** 22 39 56.9 +0.2
16nm,0.6s,baz=90,slow=6.0,SNR=11
YKA **Yellowknife Ar** 95.50 27 P **P** 22 39 58.2 -1.1
YKA **Yellowknife Ar** 95.50 27 P **P** 22 39 58.2 -1.1
1.5nm,0.5s,baz=257,slow=4.9,SNR=4.8
SNAA **Sanae** 96.15 183 *e*P **P** 22 40 03.4 +1.0
ARCES **ARCESS Array B** 117.52 346 PKP **PKPdf** 22 45 19.3 -0.5
ARCES **ARCESS Array B** 117.52 346 PKP **PKPdf** 22 45 19.3 -0.5
2.1nm,0.4s,baz=68,slow=1.9,SNR=8.0
FINES **FINESS Array B** 123.02 339 PKP **PKPdf** 22 45 30.6 +0.2
FINES **FINESS Array B** 123.02 339 PKP **PKPdf** 22 45 30.6 +0.2
3.3nm,0.7s,baz=67,slow=2.4,SNR=5.4
NOA **NORSAR Array B** 127.90 345 PKP **PKPdf** 22 45 40.1 +0.3
NOA **NORSAR Array B** 127.90 345 PKP **PKPdf** 22 45 40.2 +0.3
1.2nm,0.7s,baz=31,slow=2.0,SNR=2.7
ESDC **Sonseca Array** 151.26 345 PKPbc **PKPbc** 22 46 27.8 -0.5
ESDC **Sonseca Array** 151.26 345 PKPbc **PKPbc** 22 46 27.8 -0.5
5.6nm,0.9s,baz=356,slow=2.9,SNR=2.6

IDC 07 22:26:52.6±1.6, **11°.43S**×**166°.13E**, **h0km**, **mb5.2**/10, **mb1 5.4**/10, **mb1mx5.1**/20, **mbtmp5.2**/10, **Error ellipse: s-maj=56.0km s-min=27.2km az=161.0**, **Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.70**	**251**	P	P	22 33 18.9	+0.6
31nm,0.9s,baz=77,slow=7.5,SNR=2.8							
BATI	**Baumata**	**41.70**	**267**	P	P	22 34 43.3	-0.3
54nm,0.6s,baz=143,slow=5.5,SNR=3.0							
PMOR	**Pomarrio Ree**	**44.84**	**100**	*e*P	P	22 35 06.6	-2.3
283nm,1.2s							
VAH	**Vaihoa**	**45.10**	**100**	*e*P	P	22 35 08.2	-2.8
258nm,1.2s							
KSRS	**Korea Array**	**60.41**	**326**	P	P	22 37 04.0	+0.1
5.8nm,0.8s,baz=141,slow=6.1,SNR=2.9							
USRK	**Ussuriysk Arra**	**63.46**	**333**	P	P	22 37 24.6	+0.3
38nm,1.1s,baz=155,slow=6.3,SNR=3.9							
CMAR	**Chiang Mai Arr**	**72.61**	**294**	P	P	22 38 22.9	+0.4
37nm,1.1s,baz=118,slow=4.2,SNR=6.1							
SONM	**Songino Array**	**79.20**	**324**	P	P	22 38 59.8	+0.1
11nm,0.8s,baz=123,slow=3.2,SNR=4.5							
YBH	**Yreka Blue Hor**	**83.90**	**45**	P	P	22 39 25.1	+0.5
14nm,0.9s,baz=318,slow=2.4,SNR=5.6							
NVAR	**Mina Array Bea**	**85.99**	**50**	P	P	22 39 35.6	+0.2
10nm,0.7s,baz=232,slow=8.6,SNR=8.7							
MKAR	**Makanchi Array**	**94.06**	**317**	P	P	22 40 11.9	-1.1
16nm,0.7s,baz=89,slow=4.6,SNR=5.5							
ZALV	**Zalesovo Beam**	**94.09**	**324**	P	P	22 40 12.4	-0.4
24nm,1.1s,baz=132,slow=2.2,SNR=3.1							
ARCES	**ARCESS Array B**	**116.80**	**346**	PKP	PKPdf	22 45 36.9	-1.7
4.9nm,0.8s,baz=72,slow=2.0,SNR=1.9							

*IDC **07** 22:29:13.1±0.5, 11°.50S×166°.07E, h0km, mb5.3/26, mb1 5.3/26, mb1mx5.3/29, mbtmp5.2/26, Error ellipse: s-maj=18.1km s-min=12.7km az=108.0*
*MOS **07** 22:29:16.8±1.0, 11°.60S×166°.01E, h33km, mb5.5/30, Error ellipse: s-maj=12.2km s-min=9.7km az=142.3*
*ISCJB **07** 22:29:17.4±0.2, 11°.56S±0°.04×166°.00E±0°.04, h37km, mb5.5/65, Error ellipse: s-maj=6.2km s-min=5.4km az=39.0*
*NEIC **07** 22:29:18.7±0.1, 11°.51S×166°.03E, h35km, mb5.5/36, Error ellipse: s-maj=4.9km s-min=4.0km az=122.0*
ISC 07 22:29:19.0±0.3, **11°.51S**±0°.06×**166°.04E**±0°.06, **h37**km, **n186**, σ1=**905**/186, **mb5.4**/65, **Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.51**	**178**	*e*Pn	**Pn**	**22 31 47.6**	**+0.3**
7μm,2.5s							
DZM	**Mont Dzumac**	**10.51**	**178**	Pn	**Pn**	**22 31 48.1**	**+0.8**
41nm,0.3s,baz=3.0,slow=18,SNR=1.9							
MSVF	**Nonsavu**	**13.17**	**119**	*e*P	**Pn**	**22 32 22.5**	**-1.1**
MSVF	**Nonsavu**	**13.17**	**119**	*e*Pn	**Pn**	**22 32 22.5**	**-1.1**
TARA	**Tarawa**	**14.49**	**29**	*e*Pn	**Pn**	**22 32 41.2**	**-0.4**
861nm,0.8s							
EIDS	**Eidsvold**	**19.76**	**224**	*e*P	**Pn**	**22 33 48.0**	**+0.5**
123nm,0.8s							
CTAO	**Charters Tower**	**20.84**	**243**	*e*P	**P**	**22 33 56.1**	**-1.7**
CTAO				pmax	pmax		
comp=Z,329nm,1.1s							
CTAO	**Charters Tower**	**20.84**	**243**	*e*P	**P**	**22 33 56.1**	**-1.7**
comp=Z,329nm,1.1s							
AFI	**Afiamalu**	**21.77**	**99**	P	**P**	**22 34 07.4**	**-0.4**
AFI	**Afiamalu**	**21.77**	**99**	P	**P**	**22 34 10.9**	**+3.1**
comp=Z,96nm,1.0s,baz=114,slow=18,SNR=3.3							
COEN	**Coen**	**22.43**	**261**	*e*P	**P**	**22 34 14.3**	**-0.6**
comp=Z,1μm,1.4s							
ARMA	**Armidale**	**23.09**	**213**	*e*P	**P**	**22 34 22.9**	**+1.3**
comp=Z,271nm,1.2s							
OUZ	**Omahuta**	**24.59**	**165**	*e*P	**P**	**22 34 35.3**	**-0.4**
comp=Z,497nm,2.0s							
CAN	**Canberra**	**28.31**	**210**	*e*P	**P**	**22 35 08.5**	**-0.7**
CAN	**Canberra**	**28.31**	**210**	*e*P	**P**	**22 35 08.5**	**-0.7**
URZ	**Urewera**	**28.42**	**161**	*e*P	**P**	**22 35 10.9**	**+0.7**
comp=Z,92nm,1.2s							
STKA	**Stephens Creek**	**30.31**	**224**	*e*P	**P**	**22 35 27.2**	**+0.2**
STKA	**Stephens Creek**	**30.31**	**224**	P	**P**	**22 35 26.8**	**-0.3**
comp=Z,42nm,0.9s,baz=35,slow=11,SNR=2.6							
SNZO	**South Karori**	**30.65**	**167**	*e*P	**P**	**22 35 29.7**	**-0.1**
comp=Z,31nm,0.5s							
WRAB	**Tennant Creek**	**31.59**	**251**	*e*P	**P**	**22 35 37.9**	**-0.5**
WRAB				pmax	pmax		
comp=Z,42nm,0.7s							
WRAB	**Tennant Creek**	**31.59**	**251**	*e*P	**P**	**22 35 37.9**	**-0.5**
comp=Z,42nm,0.7s							
WRA	**Warramunga Arr**	**31.60**	**251**	P	**P**	**22 35 37.5**	**-1.0**
WRA	**Warramunga Arr**	**31.60**	**251**	P	**P**	**22 35 37.5**	**-1.0**
comp=Z,50nm,0.9s,baz=82,slow=9.1,SNR=13							
RPZ	**Rata Peaks**	**32.39**	**173**	P	**P**	**22 35 45.1**	**-0.1**
comp=Z,33nm,0.9s							
RPZ	**Rata Peaks**	**32.39**	**173**	P	**P**	**22 35 45.1**	**-0.1**
comp=Z,94nm,0.8s,baz=135,slow=5.3,SNR=15							
AS31	**Alice Springs**	**32.84**	**244**	*e*P	**P**	**22 35 48.7**	**-0.8**
AS31				*e*PcP	**PcP**	**22 38 34.1**	**+0.2**
ASAR	**Alice Springs**	**32.85**	**244**	P	**P**	**22 35 48.4**	**-1.1**
ASAR				PcP	**PcP**	**22 38 34.7**	**+0.8**
ASAR	**Alice Springs**	**32.85**	**244**	P	**P**	**22 35 48.4**	**-1.1**
comp=Z,64nm,0.7s,baz=73,slow=9.4,SNR=21							
ASAR				PcP	**PcP**	**22 38 34.7**	**+0.8**
comp=Z,12nm,0.8s,baz=72,slow=2.6,SNR=7.9							
ODZ	**Otahua Downs**	**33.66**	**174**	*e*P	**P**	**22 35 56.0**	**-0.2**
comp=Z,92nm,1.5s							
RAR	**Rarotonga**	**34.13**	**111**	P	**P**	**22 36 00.1**	**-0.5**
TAU	**Tasmania Unive**	**35.27**	**204**	*e*P	**P**	**22 36 09.4**	**-0.7**
TAU	**Tasmania Unive**	**35.27**	**204**	*e*P	**P**	**22 36 09.4**	**-0.7**
FITZ	**Fitzroy Crossi**	**39.54**	**256**	P	**P**	**22 36 47.0**	**+0.2**
FITZ				PcP	**PcP**	**22 38 55.6**	**+1.7**
FITZ	**Fitzroy Crossi**	**39.54**	**256**	P	**P**	**22 36 47.0**	**+0.2**
comp=Z,37nm,0.9s,baz=73,slow=7.7,SNR=7.0							
FITZ				PcP	**PcP**	**22 38 55.6**	**+1.7**
comp=Z,16nm,1.1s,baz=112,slow=6.5,SNR=3.1							
FORT	**Forrest**	**40.02**	**235**	*e*P	**P**	**22 36 49.9**	**-0.6**
comp=Z,186nm,0.9s							
BATI	**Baumata**	**41.61**	**268**	P	**P**	**22 37 04.5**	**+0.6**
BATI	**Baumata**	**41.61**	**268**	P	**P**	**22 37 04.5**	**+0.6**
comp=Z,67nm,0.5s,baz=163,slow=0.8,SNR=6.8							
MCQ	**Macquarie Isla**	**43.25**	**186**	*e*P	**P**	**22 37 16.3**	**-0.3**
MCQ	**Macquarie Isla**	**43.25**	**186**	*e*P	**P**	**22 37 16.3**	**-0.3**
MBWA	**Marble Bar**	**45.32**	**252**	*e*P	**P**	**22 37 33.6**	**-0.1**
comp=Z,58nm,0.8s							
KAPI	**Kappang**	**46.21**	**274**	P	**P**	**22 37 40.9**	**0.0**
comp=Z,11nm,1.4s							
KAPI	**Kappang**	**46.21**	**274**	P	**P**	**22 37 40.9**	**0.0**
comp=Z,71nm,0.9s,baz=91,slow=3.2,SNR=7.7							
NWAO	**Narrogin (SRO)**	**49.45**	**236**	*e*P	**P**	**22 38 05.4**	**-0.3**
comp=Z,314nm,1.8s							
NWAO	**Narrogin (SRO)**	**49.45**	**236**	P	**P**	**22 38 06.0**	**+0.3**
comp=Z,44nm,0.8s,baz=75,slow=7.6,SNR=4.6							
KKM	**Kota Kinabalu**	**52.54**	**287**	*e*P	**P**	**22 38 29.7**	**+0.4**
comp=Z,174nm,1.1s							
JNU	**Nakatsue**	**55.62**	**324**	P	**P**	**22 38 50.3**	**-1.0**
JNU	**Nakatsue**	**55.62**	**324**	P	**P**	**22 38 50.3**	**-1.0**
comp=Z,22nm,1.0s,baz=149,slow=5.9,SNR=2.4							
YULB	**Yu-li**	**55.85**	**309**	*e*P	**P**	**22 38 53.8**	**+0.7**
comp=Z,43nm,1.0s							
TPUB	**Ta-pu**	**56.31**	**308**	*e*P	**P**	**22 38 55.7**	**-0.7**
comp=Z,93nm,1.0s							
YHNB	**Yeheng**	**56.49**	**310**	*e*P	**P**	**22 38 57.3**	**-0.5**
comp=Z,102nm,1.1s							
ASAJ	**Asahikawa**	**59.32**	**341**	P	**P**	**22 39 17.1**	**-0.1**
ASAJ	**Asahikawa**	**59.32**	**341**	P	**P**	**22 39 17.1**	**-0.1**
comp=Z,27nm,0.8s,baz=200,slow=8.9,SNR=7.7							
KSRS	**Korea Array**	**60.42**	**326**	P	**P**	**22 39 24.6**	**-0.2**
comp=Z,4.7nm,0.9s,baz=135,slow=7.3,SNR=3.5							
KSAR	**Wonju Array Be**	**60.43**	**326**	P	**P**	**22 39 24.6**	**-0.3**
USRK	**Ussuriysk Arra**	**63.48**	**333**	P	**P**	**22 39 44.6**	**-0.6**
comp=Z,18nm,0.9s,baz=142,slow=6.5,SNR=6.3							
FX1	**Attu Island--F**	**64.42**	**5**	P	**P**	**22 39 51.2**	**0.0**
FX1	**Attu Island--F**	**64.42**	**5**	P	**P**	**22 39 51.2**	**0.0**
comp=Z,36nm,0.6s,baz=199,slow=1.2,SNR=10							
PETK	**Petropavlovsk-**	**64.75**	**354**	P	**P**	**22 39 53.1**	**-0.3**
PETK				pmax	pmax		
comp=Z,13nm,0.8s							
PETK	**Petropavlovsk-**	**64.75**	**354**	P	**P**	**22 39 53.1**	**-0.3**
PETK	**Petropavlovsk-**	**64.75**	**354**	P	**P**	**22 39 53.1**	**-0.3**
comp=Z,13nm,0.8s,baz=149,slow=6.9,SNR=6.3							
VNDA	**Vanda**	**66.04**	**181**	*e*P	**P**	**22 40 01.7**	**+0.2**
VNDA	**Vanda**	**66.04**	**181**	P	**P**	**22 40 01.6**	**+0.1**
comp=Z,21nm,0.8s,baz=341,slow=6.5,SNR=8.4							
CASY	**Casey**	**66.06**	**201**	*e*P	**P**	**22 40 01.6**	**-0.1**
comp=Z,45nm,0.8s							
SBA	**Scott Base**	**66.34**	**180**	*e*P	**P**	**22 40 03.9**	**+0.5**
SBA				pmax	pmax		
comp=Z,58nm,1.0s							
SBA	**Scott Base**	**66.34**	**180**	*e*P	**P**	**22 40 03.9**	**+0.5**
comp=Z,58nm,1.0s							
PANO	**Nakornpanom**	**67.04**	**294**	P	P	22 40 12.1	+3.3
comp=Z,2μm,1.9s,comp=Z,60μm							
KULM	**Kulim**	**67.15**	**281**	*e*P	**P**	**22 40 10.6**	**+0.9**
comp=Z,86nm,1.4s							
SKNT	**Sakolnakorn**	**67.54**	**294**	P	**P**	**22 40 14.3**	**+2.2**
comp=Z,2μm,1.3s							
SRIT	**Nakonsritamara**	**69.02**	**284**	P	P	22 40 26.4	+5.0
comp=Z,2μm,0.8s							
SURA	**Surathani**	**69.15**	**284**	P	P	22 40 26.8	+4.6
comp=Z,1μm,1.3s							
LOEI	**Loei**	**70.16**	**293**	P	**P**	**22 40 28.6**	**+0.2**
comp=Z,2μm,0.9s							
NANT	**Nan**	**71.10**	**294**	P	**P**	**22 40 36.6**	**+2.5**
comp=Z,104nm,1.0s							
CM31	**Chiang Mai Arr**	**72.56**	**294**	*e*P	**P**	**22 40 44.4**	**+1.5**
comp=Z,11nm,0.6s							
CHTO	**Chiang Mai**	**72.67**	**294**	*e*P	**P**	**22 40 44.4**	**+0.8**
CHTO	**Chiang Mai**	**72.67**	**294**	*e*P	**P**	**22 40 44.4**	**+0.8**
CHTO	**Chiang Mai**	**72.67**	**294**	P	**P**	**22 40 46.2**	**+2.7**
comp=Z,11μm,1.6s							
CMAI	**Chiengmai2**	**72.95**	**295**	P	P	**22 40 48.2**	**+2.9**
comp=Z,622nm,1.7s							
QSPA	**South Pole Qui**	**78.50**	**180**	P	**P**	**22 41 15.6**	**-0.6**
comp=Z,78nm,0.9s							
QSPA	**South Pole Qui**	**78.50**	**180**	P	**P**	**22 41 15.6**	**-0.6**
comp=Z,133nm,0.9s,baz=4.5,slow=2.5,SNR=17							
ULN	**Ulaanbaatar**	**78.84**	**324**	*e*P	**P**	**22 41 18.6**	**+0.2**
comp=Z,57nm,1.2s							
SONM	**Songino Array**	**79.20**	**324**	P	**P**	**22 41 20.2**	**-0.1**
SONM	**Songino Array**	**79.20**	**324**	P	**P**	**22 41 20.2**	**-0.1**
comp=Z,6.6nm,0.5s,baz=146,slow=5.4,SNR=16							
PMR	**Palmer**	**80.89**	**20**	*e*P	**P**	**22 41 29.9**	**+1.0**
PMR				pmax	pmax		
comp=Z,31nm,1.0s							
PMR	**Palmer**	**80.89**	**20**	*e*P	**P**	**22 41 29.9**	**+1.0**
comp=Z,31nm,1.0s							
DIV	**Divide**	**81.73**	**21**	*e*P	**P**	**22 41 33.7**	**+0.2**
TRF	**Thorofare Moun**	**81.86**	**18**	*e*P	**P**	**22 41 33.6**	**-0.7**
comp=Z,26nm,0.9s							
MCCM	**Marconi Confer**	**82.61**	**49**	*e*P	**P**	**22 41 39.2**	**+0.7**
comp=Z,51nm,0.9s							
PKM	**Peak Mountain**	**83.84**	**53**	P	**P**	**22 41 45.7**	**+0.5**
baz=84							
ILAR	**Eielson Array**	**83.86**	**18**	P	P	**22 41 43.9**	**-0.5**
ILAR	**Eielson Array**	**83.86**	**18**	P	P	**22 41 43.9**	**-0.5**
comp=Z,9.4nm,0.6s,baz=265,slow=5.8,SNR=11							
YBH	**Yreka Blue Hor**	**84.01**	**45**	*e*P	**P**	**22 41 46.8**	**+1.0**
YBH	**Yreka Blue Hor**	**84.01**	**45**	P	**P**	**22 41 46.0**	**+0.2**
comp=Z,15nm,0.8s,baz=142,slow=1.9,SNR=8.9							
HUMO	**Hull Mountain**	**84.15**	**45**	*e*P	**P**	**22 41 46.3**	**-0.2**
comp=Z,25nm,1.0s							
MAW	**Mawson**	**84.41**	**202**	P	**P**	**22 41 46.5**	**-0.7**
MAW	**Mawson**	**84.41**	**202**	P	**P**	**22 41 46.5**	**-0.7**
comp=Z,9.6nm,1.0s,baz=134,slow=6.3,SNR=7.5							
CMB	**Columbia Colle**	**84.42**	**50**	*e*P	**P**	**22 41 49.1**	**+1.2**
CMB				pmax	pmax		
comp=Z,20nm,1.0s							
CMB	**Columbia Colle**	**84.42**	**50**	*e*P	**P**	**22 41 49.1**	**+1.2**
comp=Z,20nm,1.0s							
WRAK	**Wrangell Islan**	**84.60**	**29**	*e*S	**P**	**22 41 48.7**	**+0.4**
MWC	**Mount Wilson**	**85.02**	**54**	*e*P	**P**	**22 41 51.9**	**+0.7**
MWC				pmax	pmax		
comp=Z,59nm,1.4s							
MWC	**Mount Wilson**	**85.02**	**54**	*e*P	**P**	**22 41 51.9**	**+0.7**
comp=Z,60nm,1.4s							
BEKR	**Beckworth**	**85.04**	**48**	*e*P	**P**	**22 41 51.1**	**-0.1**
comp=Z,7.2nm,0.8s							
TAPN	**Taplejung**	**85.08**	**299**	*e*P	**P**	**22 41 50.8**	**-1.0**
ISA	**Isabella**	**85.12**	**52**	*e*P	**P**	**22 41 51.5**	**-0.1**
ISA				pmax	pmax		
comp=Z,31nm,1.1s							
ISA	**Isabella**	**85.12**	**52**	*e*P	**P**	**22 41 51.5**	**-0.1**
comp=Z,32nm,1.1s							
ISA	**Isabella**	**85.12**	**52**	P	**P**	**22 41 51.7**	**+0.1**
baz=85							
ODAN	**Odare**	**85.22**	**298**	*e*P	**P**	**22 41 52.6**	**+0.1**
comp=Z,260nm,1.3s							
EDW2	**Edwards Air Fo**	**85.27**	**53**	P	P	**22 41 52.4**	**+0.1**
baz=85							
BFSC	**Mount Baldy Ra**	**85.34**	**54**	P	**P**	**22 41 53.1**	**+0.3**
baz=85							
LRMC	**Laurel Mountai**	**85.68**	**53**	P	**P**	**22 41 55.2**	**+0.8**
baz=86							
EGAK	**Eagle**	**85.71**	**20**	*e*P	**P**	**22 41 53.1**	**-0.6**
comp=Z,46nm,0.8s							
RAMN	**Ramite**	**85.93**	**298**	*e*P	**P**	**22 41 56.1**	**+0.1**
comp=Z,249nm,1.5s							
MONP	**Monument Peak**	**85.94**	**55**	P	**P**	**22 41 56.9**	**+1.0**
baz=86							
NVAR	**Mina Array Bea**	**86.10**	**50**	P	**P**	**22 41 57.6**	**+1.0**
NVAR	**Mina Array Bea**	**86.10**	**50**	P	**P**	**22 41 57.6**	**+1.0**
comp=Z,10nm,0.8s,baz=231,slow=6.2,SNR=7.4							
PFO	**Pinyon Flat Ob**	**86.11**	**55**	P	**P**	**22 41 57.9**	**+1.3**
baz=86							
NV11	**Mina Array Sit**	**86.21**	**50**	*e*P	**P**	**22 41 58.1**	**+1.1**
JIRN	**Jiri**	**86.46**	**299**	*e*P	**P**	**22 41 58.7**	**-0.1**
HEC	**Hector,Ludlow**	**86.56**	**54**	P	**P**	**22 41 58.8**	**+0.1**
baz=87							
BELC	**Belle Mtn. Jos**	**86.59**	**54**	P	**P**	**22 41 57.6**	**-1.4**
baz=87							
GUN	**Gumba**	**86.79**	**299**	*e*P	**P**	**22 41 59.0**	**-1.4**
BC3	**Big Chuckawall**	**86.93**	**55**	P	**P**	**22 42 00.1**	**-0.5**
baz=87							
WVOR	**Wild Horse Val**	**87.10**	**46**	*e*P	**P**	**22 42 00.8**	**-0.4**
WVOR				pmax	pmax		
comp=Z,182nm,2.2s							
WVOR	**Wild Horse Val**	**87.10**	**46**	*e*P	**P**	**22 42 00.8**	**-0.4**
comp=Z,182nm,2.2s							
PKI	**Pulchoki**	**87.11**	**299**	*e*P	**P**	**22 42 01.8**	**-0.1**
comp=Z,349nm,1.5s							
KKN	**Kakani**	**87.27**	**299**	*e*P	**P**	**22 42 02.2**	**-0.3**
comp=Z,114nm,1.1s							
DMN	**Daman**	**87.38**	**299**	*e*P	**P**	**22 42 03.4**	**+0.3**
comp=Z,261nm,1.1s							
GKN	**Gorkha**	**87.88**	**299**	*e*P	**P**	**22 42 04.9**	**-0.5**
comp=Z,144nm,0.9s							
DANN	**Dangsing**	**88.71**	**299**	*e*P	**P**	**22 42 08.9**	**-0.6**
comp=Z,114nm,0.8s							
KOLN	**Koldanda**	**88.71**	**299**	*e*P	**P**	**22 42 08.9**	**-0.5**
comp=Z,83nm,1.1s							
BGU	**Big Grassy Mou**	**90.70**	**48**	*e*P	**P**	**22 42 18.8**	**+0.5**
comp=Z,23nm,1.2s							
BSMT	**Bassoo Peak**	**91.29**	**41**	*e*P	**P**	**22 42 22.0**	**+1.1**
comp=Z,10nm,0.7s							
PDAR	**Pinedale Array**	**93.65**	**47**	P	**P**	**22 42 32.4**	**+0.3**
PDAR	**Pinedale Array**	**93.65**	**47**	P	**P**	**22 42 32.4**	**+0.3**
comp=Z,4.4nm,0.9s,baz=265,slow=6.1,SNR=2.5							
MKAR	**Makanchi Array**	**94.05**	**317**	P	**P**	**22 42 33.3**	**-0.2**
MKAR				pmax	pmax		
comp=Z,24nm,0.7s							
MKAR	**Makanchi Array**	**94.05**	**317**	P	**P**	**22 42 33.3**	**-0.2**
MKAR	**Makanchi Array**	**94.05**	**317**	P	**P**	**22 42 33.3**	**-0.2**
comp=Z,24nm,0.7s,baz=92,slow=5.0,SNR=14							
ZALV	**Zalesovo Beam**	**94.09**	**324**	P	**P**	**22 42 32.9**	**-0.6**
ZALV				pmax	pmax		
comp=Z,15nm,0.9s							
ZALV	**Zalesovo Beam**	**94.09**	**324**	P	**P**	**22 42 32.9**	**-0.6**
**ZAL

IDC 07 22:33:46.8±1.8, 12°41S×165°95E, h0km, mb4.6/6, mb1 4.7/6, mb1mx4.5/18, mbtmp4.6/6, Error ellipse: s-maj=60.3km s-min=37.3km az=150.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**32.38**	**245**	P	P	22 40 18.1	-0.4
	3.5nm,0.7s,baz=74,slow=9.2,SNR=2.3						
JNU	**Nakatsue**	**56.30**	**325**	P	P	22 43 29.5	0.0
	44nm,0.9s,baz=153,slow=6.4,SNR=7.1						
SONM	**Songino Array**	**79.88**	**324**	P	P	22 45 58.5	+1.0
	2.3nm,0.5s,baz=144,slow=4.5,SNR=5.0						
ILAR	**Eielson Array**	**84.74**	**18**	P	P	22 46 20.9	-1.6
	1.1nm,0.5s,baz=254,slow=4.7,SNR=5.4						
NVAR	**Mina Array Bea**	**86.75**	**50**	P	P	22 46 34.5	+1.1
	1.1nm,0.7s,baz=224,slow=5.0,SNR=1.5						
MKAR	**Makanchi Array**	**94.65**	**317**	P	P	22 47 09.1	-0.7
	3.3nm,0.7s,baz=90,slow=4.4,SNR=3.4						
ARCES	**ARCESS Array B**	**117.70**	**345**	PKP	PKPdf	22 52 33.9	-0.6
	4.8nm,0.9s,baz=114,slow=1.5,SNR=4.0						
ESDC	**Sonseca Array**	**151.42**	**344**	PKPbc	PKPbc	22 53 43.7	+0.6
	0.9nm,0.7s,baz=6.6,slow=4.9,SNR=2.3						

IDC 07 22:34:50.7±1.9, 12°57S×166°33E, h0km, mb4.6/7, mb1 4.8/8, mb1mx4.5/19, mbtmp4.7/8, ML5.0/1, Error ellipse: s-maj=54.3km s-min=36.4km az=144.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.00**	**296**	Pn	Pn	22 36 35.7	+1.1
	27nm,0.3s,baz=269,slow=11,SNR=3.6						
ASAR	**Alice Springs**	**32.65**	**246**	P	P	22 41 25.0	+0.1
	3.3nm,0.9s,baz=255,slow=3.4,SNR=4.4						
KSRS	**Korea Array**	**61.45**	**326**	P	P	22 45 10.3	+1.1
	2.2nm,0.8s,baz=129,slow=9.5,SNR=3.1						
USRK	**Ussuriysk Arra**	**64.56**	**333**	P	P	22 45 29.7	0.0
	15nm,1.0s,baz=146,slow=5.5,SNR=6.4						
CMAR	**Chiang Mai Arr**	**73.24**	**294**	P	P	22 46 24.7	+0.3
	5.2nm,0.9s,baz=115,slow=4.3,SNR=1.9						
SONM	**Songino Array**	**80.23**	**324**	P	P	22 47 01.9	-1.5
	5.3nm,1.1s,baz=134,slow=3.7,SNR=3.8						
ILAR	**Eielson Array**	**154.77**	**18**	P	P	22 47 27.3	+0.7
	1.6nm,0.7s,baz=238,slow=5.1,SNR=4.3						
ZALV	**Zalesovo Beam**	**95.12**	**324**	P	P	22 48 13.9	-1.8
	7.1nm,0.9s,baz=108,slow=4.8,SNR=6.3						
KEST	**Kesra**	**148.97**	**322**	PKPbc	PKPbc	22 54 40.2	-1.0
	5.5nm,1.0s,baz=96,slow=1.3,SNR=5.3						
ESDC	**Sonseca Array**	**151.67**	**344**	PKPbc	PKPbc	22 54 48.8	+1.2
	0.6nm,0.6s,baz=6.5,slow=1.8,SNR=1.8						

IDC 07 22:36:07.4±1.8, 12°26S×166°14E, h0km, mb4.4/3, mb1 4.7/4, mb1mx4.2/20, mbtmp4.6/4, ML5.1/1, Error ellipse: s-maj=70.3km s-min=34.4km az=151.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.70**	**294**	Pn	Pn	22 37 47.4	+0.2
	36nm,0.3s,baz=73,slow=19,SNR=2.0						
CTA	**Charters Tower**	**20.61**	**245**	P	Pn	22 40 50.4	-0.2
	11nm,0.8s,baz=88,slow=12,SNR=3.2						
WRA	**Warramunga Arr**	**31.45**	**252**	P	P	22 42 29.8	-1.1
	2.7nm,0.7s,baz=86,slow=9.8,SNR=2.6						
ASAR	**Alice Springs**	**32.62**	**245**	P	P	22 42 40.3	-0.8
	7.3nm,0.7s,baz=71,slow=9.1,SNR=3.8						
ARCES	**ARCESS Array B**	**117.60**	**345**	PKP	PKPdf	22 54 52.9	-2.0
	2.5nm,0.7s,baz=53,slow=0.5,SNR=2.6						
KEST	**Kesra**	**148.61**	**322**	PKPbc	PKPbc	22 55 57.3	+0.3
	4.1nm,0.9s,baz=113,slow=7.7,SNR=2.7						
ESDC	**Sonseca Array**	**151.33**	**344**	PKPbc	PKPbc	22 56 03.3	-0.2
	1.4nm,0.9s,baz=27,slow=1.7,SNR=2.0						
TORD	**Torodi Ar. Bea**	**164.80**	**275**	PKP	PKPdf	22 56 15.6	+1.2
	2.0nm,1.0s,baz=107,slow=0.6,SNR=2.7						

*ISCJB **07** 22:38:17.7±0.5, 12°69S±0°08×166°31E±0°07, h20km, mb4.8/14, MS6.1/1, Error ellipse: s-maj=11.8km s-min=10.2km az=168.3*
*IDC **07** 22:38:17.2±0.7, 12°82S×166°05E, h0km, mb4.7/11, mb1 4.8/11, mb1mx4.7/22, mbtmp4.7/11, MS6.1/1, Ms1 6.1/1, ms1mx5.1/42, Error ellipse: s-maj=26.9km s-min=18.8km az=110.0*
*NEIC **07** 22:38:21.4±0.5, 12°91S×166°22E, h35km, mb4.9/6, Error ellipse: s-maj=12.7km s-min=9.7km az=172.0*

ISC 07 22:38:19.9±0.5, 12°84S±0°10×166°25E±0°09, h20km, n54, σ1§63/53, mb4.9/14, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.05**	**298**	Pn	**Pn**	**22 40 02.1**	**0.0**
HNR	**Honiara**	**7.05**	**298**	Pn	**Pn**	**22 40 02.1**	**0.0**
	66nm,0.3s,baz=201,slow=7.0,SNR=4.2						
EIDS	**Eidsvold**	**18.97**	**227**	*eP*	**Pn**	**22 42 41.4**	**+0.5**
	34nm,0.9s						
EIDS	**Eidsvold**	**18.97**	**227**	P	**Pn**	**22 42 43.7**	**+2.8**
	baz=16,SNR=4.5						
CTA	**Charters Tower**	**20.48**	**247**	P	**P**	**22 42 57.4**	**+0.8**
CTA	**Charters Tower**	**20.48**	**247**	P	**P**	**22 42 57.4**	**+0.8**
	24nm,1.1s,baz=84,slow=15,SNR=3.1						
CTAO	**Charters Tower**	**20.48**	**247**	*eP*	**P**	**22 42 54.8**	**-1.9**
RMQ	**Roma**	**21.31**	**228**	P	**P**	**22 43 09.5**	**+3.9**
	baz=19,SNR=9.6						
AFI	**Afiamalu**	**21.40**	**95**	*eP*	**P**	**22 43 06.4**	**-0.3**
ARMA	**Armidale**	**22.11**	**215**	*eP*	**P**	**22 43 10.9**	**-3.4**
	35nm,0.9s						
ARMA	**Armidale**	**22.11**	**215**	P	**P**	**22 43 16.6**	**+2.4**
	baz=19,SNR=7.3						
COEN	**Coen**	**22.48**	**265**	*eP*	**P**	**22 43 16.9**	**-1.3**
	176nm,0.8s						
QLP	**Quilpie**	**24.77**	**233**	P	**P**	**22 43 42.2**	**+1.7**
	baz=22,SNR=5.5						
CMSA	**Cobar Meteorol**	**26.54**	**222**	P	**P**	**22 44 00.1**	**+3.7**
	baz=24,SNR=6.9						
WRA	**Warramunga Arr**	**31.38**	**253**	P	**P**	**22 44 37.1**	**-2.6**
WRA	**Warramunga Arr**	**31.38**	**253**	P	**P**	**22 44 37.1**	**-2.6**
	5.4nm,1.2s,baz=345,slow=6.0,SNR=3.7						
ASAR	**Alice Springs**	**32.48**	**246**	P	**P**	**22 44 48.2**	**-1.1**
ASAR	**Alice Springs**	**32.48**	**246**	P	**P**	**22 44 48.2**	**-1.1**
	10nm,0.7s,baz=74,slow=9.7,SNR=11						
RAR	**Rarotonga**	**33.48**	**109**	*eP*	**P**	**22 44 57.4**	**-0.7**
BBOO	**Buckleboo**	**34.01**	**229**	P	**P**	**22 45 03.9**	**+1.4**
	baz=31,SNR=6.0						
KNRA	**Kununurra**	**36.41**	**261**	P	**P**	**22 45 24.1**	**+0.6**
	baz=34,SNR=4.0						
FITZ	**Fitzroy Crossi**	**39.43**	**257**	P	**P**	**22 45 49.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**39.43**	**257**	P	**P**	**22 45 49.3**	**+0.4**
	5.2nm,0.6s,baz=92,slow=7.6,SNR=3.8						
MBWA	**Marble Bar**	**45.12**	**253**	*eP*	**P**	**22 46 33.6**	**-1.6**
MEEK	**Meekatharra**	**46.63**	**245**	P	**P**	**22 46 49.9**	**+2.7**
	baz=44,SNR=5.2						
NWAO	**Narrogin (SRO)**	**48.90**	**237**	P	**P**	**22 47 04.9**	**+0.3**
NWAO	**Narrogin (SRO)**	**48.90**	**237**	P	**P**	**22 47 04.9**	**+0.3**
	12nm,0.9s,baz=140,slow=4.5,SNR=3.7						
MORW	**Morawa**	**49.22**	**243**	P	**P**	**22 47 09.0**	**+1.8**
	baz=47,SNR=3.9						
JOW	**Kunigami**	**53.99**	**317**	LR	LR	23 06 02.0	
	comp=Z,17μm,19.8s,baz=39,slow=31						
ASAJ	**Asahikawa**	**60.64**	**341**	P	**P**	**22 48 29.9**	**+0.4**
ASAJ	**Asahikawa**	**60.64**	**341**	P	**P**	**22 48 29.9**	**+0.4**
	17nm,0.8s,baz=228,slow=9.9,SNR=7.7						
KSRS	**Korea Array**	**61.63**	**326**	P	**P**	**22 48 35.2**	**-1.0**
	1.8nm,0.8s,baz=141,slow=8.0,SNR=3.7						
KSAR	**Wonju Array Be**	**61.64**	**326**	P	**P**	**22 48 35.2**	**-1.2**
VNDA	**Vanda**	**64.72**	**181**	*eP*	**P**	**22 48 54.1**	**-2.1**
	7.0nm,1.1s						
VNDA	**Vanda**	**64.72**	**181**	P	**P**	**22 48 56.8**	**+0.6**
	2.4nm,0.7s,baz=345,slow=8.6,SNR=6.2						
USRK	**Ussuriysk Arra**	**64.76**	**333**	P	**P**	**22 48 57.7**	**+0.8**
	9.4nm,1.0s,baz=162,slow=5.7,SNR=5.2						
SBA	**Scott Base**	**65.02**	**180**	*eP*	**P**	**22 48 57.3**	**-0.9**
QSPA	**South Pole Qui**	**77.18**	**180**	*eP*	**P**	**22 50 12.4**	**+0.2**
	14nm,0.8s						
QSPA	**South Pole Qui**	**77.18**	**180**	P	**P**	**22 50 13.0**	**+0.8**
	18nm,0.8s,baz=19,slow=1.8,SNR=9.3						
YBH	**Yreka Blue Hor**	**84.79**	**45**	P	**P**	**22 50 56.3**	**+3.2**
YBH	**Yreka Blue Hor**	**84.79**	**45**	P	**P**	**22 50 56.3**	**+3.2**
	7.6nm,0.9s,baz=241,slow=3.2,SNR=6.1						
ILAR	**Eielson Array**	**85.05**	**18**	P	**P**	**22 50 53.4**	**-0.4**
ILAR	**Eielson Array**	**85.05**	**18**	P	**P**	**22 50 53.4**	**-0.4**
	3.6nm,0.7s,baz=245,slow=5.2,SNR=6.9						
SNAA	**Sanae**	**95.37**	**183**	*eP*	**P**	**22 51 41.4**	**-1.2**
	8.0nm,1.1s						
BOSA	**Boshof**	**124.14**	**222**	PKP	**PKPdf**	**22 57 17.2**	**-0.8**
BOSA	**Boshof**	**124.14**	**222**	PKP	**PKPdf**	**22 57 17.2**	**-0.8**
	4.3nm,0.9s,baz=96,slow=7.2,SNR=4.3						
AKASG	**Malin Array Be**	**128.62**	**326**	PKP	**PKPdf**	**22 57 25.4**	**-0.2**
AKASG	**Malin Array Be**	**128.62**	**326**	PKP	**PKPdf**	**22 57 25.4**	**-0.2**
	0.2nm,0.3s,baz=51,slow=2.4,SNR=3.1						
GERES	**GERESS Array B**	**137.52**	**333**	PKP	**PKPdf**	**22 57 42.2**	**-0.4**
GERES	**GERESS Array B**	**137.52**	**333**	PKP	**PKPdf**	**22 57 42.2**	**-0.4**
	0.3nm,0.6s,baz=48,slow=2.0,SNR=3.9						
KEST	**Kesra**	**149.13**	**322**	PKPbc	**PKPbc**	**22 58 08.1**	**+0.7**
KEST	**Kesra**	**149.13**	**322**	PKPbc	**PKPbc**	**22 58 08.1**	**+0.7**
	11nm,0.8s,baz=352,slow=0.8,SNR=15						
ESDC	**Sonseca Array**	**151.91**	**344**	PKPbc	**PKPbc**	**22 58 12.8**	**-1.1**
ESDC	**Sonseca Array**	**151.91**	**344**	PKPbc	**PKPbc**	**22 58 12.8**	**-1.1**
	2.6nm,0.8s,baz=25,slow=2.6,SNR=7.7						

*IDC **07** 22:42:21.8±3.9, 8°04S×108°40E, h0km, mb4.3/4, mb1 4.5/5, mb1mx4.1/21, mbtmp4.4/5, ML4.8/1, Error ellipse: s-maj=94.9km s-min=36.1km az=172.0*
*ISCJB **07** 22:42:29.9±0.6, 8°06S±0°06×108°41E±0°05, h78km, mb4.0/4, Error ellipse: s-maj=9.6km s-min=6.0km az=24.5*
*DJA **07** 22:42:32.5±0.7, 8°S±5°×10°8E±°, h32km±6km, M4.7/17, MLv4.7/17*

ISC 07 22:42:31.1±0.9, 7°97S±0°09×108°40E±0°05, h78km, n29, σ1§32/23, mb4.0/4, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLJI	**Cilicap**	**0.66**	**68**	P	**Pn**	**22 42 47.4**	**+1.2**
CISI	**Cisompet, Garu**	**0.71**	**305**	P	**Pn**	**22 42 45.1**	**-1.7**
KPJI	**Karang Pucung**	**0.82**	**40**	P	**Pn**	**22 42 47.5**	**-0.5**
KPJI				S	**Sn**	**22 42 59.5**	**-1.0**
TGJI	**Tegal**	**1.31**	**33**	P	**Pn**	**22 42 53.2**	**-0.7**
LEM	**Lembang**	**1.37**	**326**	P	**Pn**	**22 42 55.3**	**+0.4**
LEM				S	**Sn**	**22 43 13.5**	**+0.7**
BJII	**Banjamegara**	**1.44**	**64**	P	**Pn**	**22 42 56.7**	**+1.0**
BJII				S	**Sn**	**22 43 13.8**	**-0.5**
YOGI	**Yogyakarta**	**1.89**	**86**	P	**Pn**	**22 43 01.1**	**-0.4**
UGM	**Wanagama**	**2.10**	**89**	P	**Pn**	**22 43 04.2**	**-0.2**
DBJI	**Dramaga**	**2.15**	**311**	P	**Pn**	**22 43 05.9**	**+0.8**
WOJI	**Wonogiri, Jawa**	**2.50**	**87**	P	**Pn**	**22 43 09.5**	**-0.3**
PCJI	**Pacitan**	**2.76**	**95**	P	**Pn**	**22 43 13.3**	**+0.1**
NGJI	**Ngawi**	**3.09**	**79**	P	Pn	22 43 23.4	+5.7
SJI	**Sawahan**	**3.34**	**86**	P	**Pn**	**22 43 21.9**	**+0.7**
PWJI	**Pagerwojo**	**3.37**	**91**	P	**Pn**	**22 43 22.6**	**+1.1**
KRKI	**Karangkates**	**4.02**	**93**	P	Pn	22 43 34.9	+4.6
BLSI	**Bandar Lampung**	**4.06**	**309**	P	Pn	22 43 34.7	+3.8
BATI	**Baumata**	**15.24**	**100**	Pn	**Pn**	**22 45 58.8**	**-3.2**
	4.2nm,0.3s,baz=284,slow=8.3,SNR=2.8						
SOEI	**Soe**	**15.78**	**98**	P	**P**	**22 46 13.6**	**+2.2**
	baz=39,SNR=3.5						
WRA	**Warramunga Arr**	**27.80**	**118**	P	**P**	**22 48 12.3**	**-0.8**
	1.6nm,0.9s,baz=292,slow=11,SNR=3.8						
ASAR	**Alice Springs**	**29.00**	**125**	P	**P**	**22 48 23.3**	**-0.6**
	0.8nm,0.4s,baz=308,slow=8.6,SNR=7.8						
H08S2	**Diego Garcia H**	**35.57**	**268**	T	T	23 26 47.2	
	baz=93,slow=0.7,SNR=50						
H08S3	**Diego Garcia H**	**35.58**	**268**	T	T	23 26 47.8	
	baz=93,slow=0.7,SNR=142						
H08S1	**Diego Garcia H**	**35.59**	**268**	T	T	23 26 46.0	
	baz=93,slow=0.7,SNR=44						
H08N1	**Diego Garcia H**	**37.12**	**270**	T	T	23 29 03.5	
	SNR=6.2						
H08N2	**Diego Garcia H**	**37.14**	**270**	T	T	23 29 04.4	
	SNR=4.2						
H08N3	**Diego Garcia H**	**37.14**	**270**	T	T	23 29 01.6	
	SNR=5.9						
STKA	**Stephens Creek**	**38.97**	**132**	P	**P**	**22 49 49.5**	**-0.4**
	4.9nm,0.4s,baz=310,slow=8.4,SNR=5.9						
MAW	**Mawson**	**66.85**	**197**	P	**P**	**22 53 14.5**	**+0.1**
	2.2nm,0.5s,baz=50,slow=6.3,SNR=7.0						
TXAR	**Lajitas Array**	**143.13**	**51**	PKP	**PKPdf**	**23 01 59.8**	**+2.8**
	1.4nm,0.6s,baz=284,slow=7.3,SNR=2.5						

*IDC **07** 22:43:55.0±0.6, 11°92S×166°07E, h0km, mb4.9/15, mb1 4.9/16, mb1mx4.8/21, mbtmp4.8/16, ML4.2/1, Error ellipse: s-maj=20.4km s-min=15.5km az=84.0*
*ISCJB **07** 22:43:58.0±0.4, 12°05S±0°06×166°00E±0°05, h30km, mb5.0/26, Error ellipse: s-maj=9.5km s-min=6.3km az=37.0*
*NEIC **07** 22:44:00.3±0.3, 12°05S×165°95E, h35km, mb5.1/11, Error ellipse: s-maj=9.0km s-min=7.3km az=219.0*

ISC 07 22:43:59.7±0.5, 12°02S±0°08×166°04E±0°07, h30km, n74, σ1§10/78, mb5.0/26, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.51**	**293**	Pn	**Pn**	**22 45 34.5**	**+1.0**
HNR				Sn	**Sn**	**22 46 48.2**	**+1.3**
HNR	**Honiara**	**6.51**	**293**	Pn	**Pn**	**22 45 34.5**	**+1.0**
	53nm,0.3s,baz=267,slow=0.5,SNR=9.3						
HNR				Sn	**Sn**	**22 46 48.2**	**+1.3**
	30nm,0.3s,baz=357,slow=23,SNR=3.7						
DZM	**Mont Dzumac**	**10.01**	**178**	*ePn*	**Pn**	**22 46 20.5**	**-1.0**
DZM	**Mont Dzumac**	**10.01**	**178**	Pn	**Pn**	**22 46 23.3**	**+1.7**
	1.9nm,0.3s,baz=320,slow=14,SNR=4.0						
MSVF	**Nonsavu**	**12.93**	**118**	*ePn*	**Pn**	**22 47 02.2**	**+0.7**
PMG	**Port Moresby**	**18.73**	**276**	P	**Pn**	**22 48 18.8**	**+2.1**
PMG	**Port Moresby**	**18.73**	**276**	P	**Pn**	**22 48 18.8**	**+2.1**
	0.6nm,0.3s,baz=77,slow=4.9,SNR=4.7						
EIDS	**Eidsvold**	**19.39**	**225**	P	**Pn**	**22 48 26.1**	**+1.4**
	66nm,1.3s						
CTA	**Charters Tower**	**20.62**	**245**	P	Pn	22 48 40.0	+0.8
CTA	**Charters Tower**	**20.62**	**245**	P	Pn	22 48 40.0	+0.8
	12nm,0.8s,baz=79,slow=12,SNR=6.1						
CTAO	**Charters Tower**	**20.62**	**245**	*eP*	**P**	**22 48 34.8**	**-2.0**
COEN	**Coen**	**22.36**	**263**	*eP*	**P**	**22 48 52.5**	**-3.0**
	119nm,0.8s						
ARMA	**Armidale**	**22.66**	**214**	*eP*	**P**	**22 49 00.4**	**+1.6**
	90nm,1.4s						
RAO	**Raoul Island**	**22.75**	**141**	*eP*	**P**	**22 48 59.8**	**+0.3**
RAO	**Raoul Island**	**22.75**	**141**	P	**P**	**22 48 59.4**	**-0.1**
	296nm,0.3s,baz=120,slow=22,SNR=3.1						
URZ	**Urewera**	**27.94**	**161**	*eP*	**P**	**22 49 47.4**	**0.0**
STKA	**Stephens Creek**	**29.95**	**225**	*eP*	**P**	**22 50 03.8**	**-1.6**
	1.6nm,0.7s						
STKA	**Stephens Creek**	**29.95**	**225**	P	**P**	**22 50 05.5**	**+0.2**
	7.7nm,0.8s,baz=36,slow=8.0,SNR=4.2						
WRAB	**Tennant Creek**	**31.42**	**251**	*eP*	**P**	**22 50 16.9**	**-1.6**
	12nm,0.9s						
WRA	**Warramunga Arr**	**31.43**	**251**	P	**P**	**22 50 18.4**	**-0.2**
WRA	**Warramunga Arr**	**31.43**	**251**	P	**P**	**22 50 18.4**	**-0.2**
	76nm,1.0s,baz=83,slow=9.3,SNR=8.6						
RPZ	**Rata Peaks**	**31.88**	**173**	P	**P**	**22 50 23.0**	**+0.7**
RPZ	**Rata Peaks**	**31.88**	**173**	P	**P**	**22 50 23.0**	**+0.7**
	17nm,0.7s,baz=352,slow=3.8,SNR=6.1						
AS31	**Alice Springs**	**32.62**	**245**	*eP*	**P**	**22 50 28.5**	**-0.6**
ASAR	**Alice Springs**	**32.62**	**245**	P	**P**	**22 50 28.5**	**-0.6**
ASAR				PcP	**PcP**	**22 53 14.9**	**-0.1**
ASAR	**Alice Springs**	**32.62**	**245**	P	**P**	**22 50 28.5**	**-0.6**
	6.9nm,0.8s,baz=74,slow=9.5,SNR=13						
ASAR				PcP	**PcP**	**22 53 14.9**	**-0.1**
	4.4nm,0.9s,baz=69,slow=2.3,SNR=5.7						
RAR	**Rarotonga**	**33.95**	**110**	*eP*	**P**	**22 50 42.7**	**+2.1**
BATI	**Baumata**	**41.59**	**268**	P	**P**	**22 51 46.8**	**+1.5**
BATI	**Baumata**	**41.59**	**268**	P	**P**	**22 51 46.8**	**+1.5**
	29nm,0.7s,baz=162,slow=2.5,SNR=7.1						
MBWA	**Marble Bar**	**45.16**	**252**	*eP*	**P**	**22 52 12.1**	**-1.9**
	23nm,1.0s						
KAPI	**Kappang**	**46.25**	**275**	*eP*	**P**	**22 52 22.7**	**0.0**
	55nm,1.4s						
KAPI	**Kappang**	**46.25**	**275**	P	**P**	**22 52 23.0**	**+0.3**
	20nm,0.7s,baz=155,slow=4.2,SNR=10						
JNU	**Nakatsue**	**56.03**	**324**	P	**P**	**22 53 35.3**	**-0.6**
JNU	**Nakatsue**	**56.03**	**324**	P	**P**	**22 53 35.3**	**-0.6**
	4.8nm,0.3s,baz=86,slow=4.4,SNR=4.8						
KSRS	**Korea Array**	**60.84**	**326**	P	**P**	**22 54 09.0**	**-0.3**
	4.3nm,1.0s,baz=146,slow=5.4,SNR=6.3						
KSAR	**Wonju Array Be**	**60.85**	**326**	P	**P**	**22 54 09.0**	**-0.4**
USRK	**Ussuriysk Arra**	**63.94**	**333**	P	**P**	**22 54 28.9**	**-1.0**
	12nm,1.1s,baz=132,slow=5.7,SNR=9.5						
VNDA	**Vanda**	**65.53**	**181**	*eP*	**P**	**22 54 40.2**	**+0.3**
	23nm,1.4s						
VNDA	**Vanda**	**65.53**	**181**	P	**P**	**22 54 40.4**	**+0.5**
	6.3nm,1.0s,baz=355,slow=5.0,SNR=7.0						
CASY	**Casey**	**65.58**	**201**	*eP*	**P**	**22 54 38.5**	**-1.8**
SBA	**Scott Base**	**65.83**	**180**	*eP*	**P**	**22 54 42.1**	**+0.4**
	26nm,1.1s						
SKNT	**Sakolnakorn**	**67.74**	**294**	P	**P**	**22 54 56.0**	**+1.0**
	810nm,1.1s						
LOEI	**Loei**	**70.36**	**294**	P	**P**	**22 55 10.7**	**-0.6**
NANT	**Nan**	**71.31**	**295**	P	**P**	**22 55 18.3**	**+1.3**
	26nm,1.2s						
CHTO	**Chiang Mai**	**72.88**	**294**	P	**P**	**22 55 28.0**	**+1.6**
CMAI	**Chiengmai2**	**73.16**	**295**	P	**P**	**22 55 29.7**	**+1.4**
QSPA	**South Pole Qui**	**77.99**	**180**	*eP*	**P**	**22 55 54.5**	**-0.6**
	10nm,0.8s						
ULN	**Ulaanbaatar**	**79.25**	**324**	*eP*	**P**	**22 56 02.8**	**+0.5**
	29nm,1.0s						
SONM	**Songino Array**	**79.61**	**324**	P	**P**	**22 56 04.5**	**+0.2**
SONM	**Songino Array**	**79.61**	**324**	P	**P**	**22 56 04.5**	**+0.2**
	18nm,1.1s,baz=142,slow=4.7,SNR=29						
ILAR	**Eielson Array**	**84.34**	**18**	P	**P**	**22 56 29.2**	**+0.7**
ILAR	**Eielson Array**	**84.34**	**18**	P	**P**	**22 56 29.2**	**+0.7**
	2.7nm,0.8s,baz=242,slow=5.2,SNR=17						
EGAK	**Eagle**	**86.19**	**20**	*eP*	**P**	**22 56 38.2**	**+0.4**
	8.9nm,0.8s						
NVAR	**Mina Array Bea**	**86.43**	**50**	P	**P**	**22 56 39.8**	**-0.1**
NVAR	**Mina Array Bea**	**86.43**	**50**	P	**P**	**22 56 39.8**	**-0.1**
	0.8nm,0.7s,baz=231,slow=8.0,SNR=3.9						
MKAR	**Makanchi Array**	**94.42**	**317**	P	**P**	**22 57 16.7**	**-0.2**
MKAR	**Makanchi Array**	**94.42**	**317**	P	**P**	**22 57 16.7**	**-0.2**
	24nm,0.8s,baz=94,slow=6.2,SNR=43						
ZAA0	**Zalesovo Array**	**94.51**	**324**	*eP*	**P**	**22 57 16.1**	**-0.9**
ZALV	**Zalesovo Beam**	**94.51**	**324**	P	**P**	**22 57 15.9**	**-1.1**
ZALV	**Zalesovo Beam**	**94.51**	**324**	P	**P**	**22 57 15.9**	**-1.1**
	10nm,1.0s,baz=104,slow=4.7,SNR=20						
BVAR	**Borovoye Array**	**102.89**	**322**	P	**Pdif**	**22 57 53.5**	**-1.2**
BVAR	**Borovoye Array**	**102.89**	**322**	P	**Pdif**	**22 57 53.5**	**-1.2**
	0.8nm,0.6s,baz=104,slow=6.3,SNR=3.5						
BOSA	**Boshof**	**124.60**	**222**	PKP	**PKPdf**	**23 02 56.5**	**-0.6**
BOSA	**Boshof**	**124.60**	**222**	PKP	**PKPdf**	**23 02 56.5**	**-0.6**
	2.5nm,0.6s,baz=224,slow=11,SNR=7.5						
KMBO	**Kilima Mbogo**	**127.49**	**259**	PKP	**PKPdf**	**23 03 03.0**	**-0.2**
KMBO	**Kilima Mbogo**	**127.49**	**259**	PKP	**PKPdf**	**23 03 03.0**	**-0.2**
	0.5nm,0.3s,baz=351,slow=7.5,SNR=3.2						
LSZ	**Lusaka**	**130.23**	**238**	PKP	**PKPdf**	**23 03 08.3**	**+0.1**
LSZ	**Lusaka**	**130.23**	**238**	PKP	**PKPdf**	**23 03 08.3**	**+0.1**
	2.8nm,0.5s,baz=44,slow=4.9,SNR=15						
KEST	**Kesra**	**148.36**	**322**	PKPbc	**PKPbc**	**23 03 43.5**	**-0.3**
KEST	**Kesra**	**148.36**	**322**	PKPbc	**PKPbc**	**23 03 43.5**	**-0.3**
	5.8nm,1.0s,baz=333,slow=0.5,SNR=7.2						
ESDC	**Sonseca Array**	**151.06**	**344**	PKPbc	**PKPbc**	**23 03 48.0**	**-2.2**
ESDC	**Sonseca Array**	**151.06**	**344**	PKPbc	**PKPbc**	**23 03 48.0**	**-2.2**
	0.8nm,0.8s,baz=49,slow=2.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**164.67**	**276**	PKP	**PKPdf**	**23 04 00.9**	**-0.7**
TORD				PKPab	**PKPab**	**23 04 57.4**	**+0.2**
TORD	**Torodi Ar. Bea**	**164.67**	**276**	PKP	**PKPdf**	**23 04 00.9**	**-0.7**
	2.1nm,0.9s,baz=55,slow=1.7,SNR=6.2						
TORD				PKPab	**PKPab**	**23 04 57.4**	**+0.2**
	2.0nm,0.9s,baz=118,slow=3.3,SNR=5.5						

WEL 07 22:45:11.1±0.1, 44°62S×168°46E, h5km, ML3.5/6, Error ellipse: s-maj=1.6km s-min=1.1km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.39**	**261**	PG	Pg	22 45 19.3	+0.7
MSZ				SG	Sg	22 45 24.5

180nm,0.3s,baz=291,slow=23,SNR=1.2
DZM Mont Dzumac 9.45 178 *e*Pn Pn 22 52 37.9 +4.8
65nm,0.3s
DZM Mont Dzumac 9.45 178 *e*Pn Pn 22 52 21.6 -12
DZM Mont Dzumac 9.45 178 Pn Pn 22 52 20.8 -12
3.4nm,0.3s,baz=127,slow=15,SNR=3.8
MSVF Nonsavu 12.70 115 *e*P **Pn 22 53 15.2 -2.4**
MSVF pmax pmax
comp=Z,2μm,1.8s
MSVF Nonsavu 12.70 115 *e*Pn **Pn 22 53 15.2 -2.4**
comp=Z,2μm,1.8s
TARA Tarawa 15.45 27 *e*Pn **Pn 22 53 50.4 -4.2**
comp=Z,1μm,1.1s
PMG Port Moresby 18.77 278 P **Pn 22 54 38.3 +2.2**
comp=Z,736nm,2.3s
PMG Port Moresby 18.77 278 *e*P **P 22 54 33.3 -2.0**
comp=Z,15μm,3.1s
PMG Port Moresby 18.77 278 P **P 22 54 33.5 -1.8**
comp=Z,1.0nm,0.3s,baz=238,slow=11,SNR=6.3
EIDS Eidsvold 18.98 226 *e*P **Pn 22 54 38.2 -0.3**
comp=Z,819nm,1.5s
CTA Charters Tower 20.36 246 P **P 22 54 49.8 -2.9**
CTA Charters Tower 20.36 246 P **P 22 54 49.8 -2.9**
comp=Z,47nm,1.2s,baz=65,slow=15,SNR=5.5
CTAO Charters Tower 20.36 246 *e*P **P 22 54 52.3 -0.4**
CTAO pmax pmax
comp=Z,200nm,1.0s
CTAO Charters Tower 20.36 246 *e*P **P 22 54 52.3 -0.4**
comp=Z,200nm,1.0s
ARMA Armidale 22.19 215 *e*P **P 22 55 12.4 0.0**
comp=Z,331nm,1.2s
COEN Coen 22.27 264 *e*P **P 22 55 13.8 +0.6**
comp=Z,1μm,1.0s
OUZ Omahuta 23.57 164 *e*P **P 22 55 26.5 +0.2**
comp=Z,6.2nm,0.7s
CAN Canberra 27.38 211 *e*P **P 22 56 01.1 0.0**
CAN pmax pmax
comp=Z,603nm,2.3s
CAN Canberra 27.38 211 *e*P **P 22 56 01.1 0.0**
comp=Z,603nm,2.3s
URZ Urewera 27.43 161 *e*P **P 22 55 57.6 -3.8**
URZ Urewera 27.43 161 P P 22 55 55.6 -5.8
comp=Z,3.2nm,0.3s,baz=136,slow=1.6,SNR=6.5
STKA Stephens Creek 29.54 226 *e*P **P 22 56 17.4 -2.9**
STKA Stephens Creek 29.54 226 P P 22 56 16.9 -3.4
comp=Z,32nm,0.8s,baz=25,slow=7.9,SNR=21
KHZ Kahutara 30.44 169 *e*P P 22 56 24.8 -3.3
comp=Z,216nm,1.3s
WRA Warramunga Arr 31.23 252 P **P 22 56 32.9 -2.6**
WRA Warramunga Arr 31.23 252 P **P 22 56 32.8 -2.6**
comp=Z,10nm,1.1s,baz=84,slow=8.3,SNR=7.7
RPZ Rata Peaks 31.33 173 *e*P P 22 56 31.7 -4.3
RPZ Rata Peaks 31.33 173 P P 22 56 30.4 -5.6
comp=Z,40nm,0.8s,baz=76,slow=1.2,SNR=12
AS31 Alice Springs 32.37 246 *e*P P 22 56 42.1 -3.3
ASAR Alice Springs 32.37 246 P **P 22 56 42.6 -2.8**
ASAR Alice Springs 32.37 246 P **P 22 56 42.6 -2.8**
comp=Z,26nm,1.1s,baz=72,slow=8.4,SNR=14
ASAR LR LR 23 09 14.0
comp=Z,184μm,18.6s,baz=28,slow=35
ODZ Otahua Downs 32.60 174 *e*P **P 22 56 47.8 +0.8**
comp=Z,135nm,1.2s
BBOO Buckleboo 34.00 229 *e*P P 22 56 55.8 -3.7
TAU Tasmania Unive 34.28 205 *e*P **P 22 57 04.0 +2.2**
TAU pmax pmax
comp=Z,51nm,1.1s
TAU Tasmania Unive 34.28 205 *e*P **P 22 57 04.0 +2.2**
comp=Z,52nm,1.1s
FITZ Fitzroy Crossi 39.26 257 P **P 22 57 42.2 -2.3**
FITZ Fitzroy Crossi 39.26 257 P **P 22 57 42.2 -2.3**
comp=Z,46nm,1.2s,baz=103,slow=5.7,SNR=14
FORT Forrest 39.40 237 *e*P **P 22 57 46.4 +0.9**
comp=Z,193nm,0.8s
BATI Baumata 41.55 269 P **P 22 58 02.6 -0.9**
BATI Baumata 41.55 269 P **P 22 58 02.6 -0.9**
comp=Z,20nm,0.7s,baz=72,slow=3.2,SNR=2.4
PPT2 Papeete2 43.10 102 *e*P P 22 58 20.5 +4.4
comp=Z,86nm,1.3s
PPT2 Papeete2 43.10 102 *e*LQ LQ 23 08 52.0
PPT2 *e*LR LR 23 10 51.3
comp=Z,411μm,25.8s
TBI Tubuai 43.54 111 *e*P P 22 58 24.7 +5.2
comp=Z,226nm,1.3s
PMOR Pomariorio Ree 44.77 99 *e*P P 22 58 33.2 +3.7
comp=Z,313nm,1.3s
MBWA Marble Bar 44.97 253 *e*P **P 22 58 29.9 -1.1**
comp=Z,72nm,0.9s
VAH Vaihoa 45.02 99 *e*P P 22 58 34.9 +3.4
comp=Z,200nm,1.3s
KAPI Kappang 46.27 275 *e*P **P 22 58 41.1 -0.3**
comp=Z,215nm,1.4s
KAPI Kappang 46.27 275 P **P 22 58 41.7 +0.3**
comp=Z,26nm,0.9s,baz=99,slow=12,SNR=5.4
NWAO Narrogin (SRO) 48.84 237 *e*P P 22 58 57.7 -3.4
comp=Z,7μm,3.0s
NWAO Narrogin (SRO) 48.84 237 P **P 22 58 58.9 -2.3**
comp=Z,17nm,0.9s,baz=80,slow=9.8,SNR=5.5
KKM Kota Kinabalu 52.83 288 *e*P **P 22 59 31.5 0.0**
comp=Z,136nm,1.1s
MAT Matsushiro 55.44 333 P **P 22 59 51.0 +1.0**
JNU Nakatsue 56.47 325 P **P 22 59 59.4 +1.9**
JNU Nakatsue 56.47 325 P **P 22 59 59.4 +1.9**
comp=Z,37nm,0.9s,baz=168,slow=4.5,SNR=6.2
YULB Yu-li 56.49 309 *e*P **P 22 59 56.0 -1.8**
comp=Z,162nm,1.4s
NACB Ninganchiao 56.71 310 *e*P **P 22 59 58.6 -0.8**
comp=Z,358nm,1.6s
TPUB Ta-pu 56.95 309 *e*P **P 22 59 59.6 -1.4**
comp=Z,158nm,1.0s
SSLB Suanglung 56.97 309 *e*P **P 22 59 59.2 -2.0**
comp=Z,3μm,3.2s
KSM Kuching 57.01 280 *e*P **P 23 00 01.0 -0.7**
comp=Z,54nm,1.0s
YHNB Yeheng 57.16 310 *e*P **P 23 00 00.6 -2.0**
comp=Z,176nm,1.1s
ERM Erimo 58.25 340⇑ *e*P **P 23 00 10.2 +0.4**
ERM pmax pmax
comp=Z,305nm,2.2s
ASAJ Asahikawa 60.32 341 P **P 23 00 25.4 +1.3**
ASAJ Asahikawa 60.32 341 P **P 23 00 25.4 +1.3**
comp=Z,93nm,0.9s,baz=194,slow=4.7,SNR=16
KSRS Korea Array 61.28 326 P **P 23 00 31.1 +0.3**
comp=Z,4.4nm,1.0s,baz=122,slow=7.1,SNR=3.0
KSAR Wonju Array Be 61.29 326 P **P 23 00 31.1 +0.2**
YSS Yuzh-Sakhalins 62.81 342⇑ *i*P **P 23 00 40.0 -0.8**
YSS pmax pmax
comp=Z,250nm,1.1s
NJ2 Nanjing 63.29 316 *e*P P 23 00 52.8 +8.5
NJ2 AMB AMB
comp=Z,90nm,1.1s
VLA Vladivostok 63.61 333⇓ *i*P **P 23 00 44.8 -1.4**
VLA *e* 23 01 20.0
VLA pmax pmax
comp=Z,24nm,0.6s
USRK Ussuriysk Arra 64.42 334 P **P 23 00 52.9 +1.4**
comp=Z,62nm,1.2s,baz=149,slow=5.9,SNR=12
VNDA Vanda 64.98 181 *e*P **P 23 00 55.5 +0.8**
comp=Z,98nm,1.5s
CASY Casey 65.06 202 *e*P P 23 00 51.9 -3.4
comp=Z,131nm,1.3s
SBA Scott Base 65.28 180 *e*P **P 23 00 57.5 +0.8**
SBA pmax pmax
comp=Z,782nm,2.1s
SBA Scott Base 65.28 180 *e*P **P 23 00 57.5 +0.8**
comp=Z,782nm,2.1s
FX1 Attu Island--F 65.48 5 P **P 23 00 58.5 +0.3**
FX1 Attu Island--F 65.48 5 P **P 23 00 58.5 +0.3**
comp=Z,15nm,0.6s,baz=282,slow=8.2,SNR=4.9
PETK Petropavlovsk- 65.81 355 P **P 23 01 00.8 +0.5**
PETK Petropavlovsk- 65.81 355 P **P 23 01 00.8 +0.5**
PETK Petropavlovsk- 65.81 355 P **P 23 01 00.8 +0.5**
comp=Z,22nm,1.0s,baz=143,slow=6.7,SNR=8.0
CN2 Changchun 67.18 329 *e*P P 23 01 14.4 +5.1
CN2 AMB AMB
comp=Z,140nm,1.1s
KULM Kulim 67.32 281 *e*P **P 23 01 10.8 -0.1**
comp=Z,163nm,1.5s
PANO Nakornpanom 67.45 295 P P 23 01 20.7 +9.2
comp=Z,2μm,1.5s
SKNT Sakolnakorn 67.95 294 P P 23 01 23.0 +8.3
comp=Z,3μm,1.8s
PSI Prapat 68.33 278 P **P 23 01 17.9 +0.5**
PSI Prapat 68.33 278 P **P 23 01 17.9 +0.5**
comp=Z,4.0nm,0.5s,baz=155,slow=6.0,SNR=2.6
SRIT Nakonsritamara 69.25 284 P P 23 01 31.5 +8.6
comp=Z,2μm,0.7s,comp=Z,57μm

CHAI Chaiyaphum 69.36 292 P P 23 01 43.0 +20
SURA Surathani 69.39 285 P P 23 01 37.3 +14
LOEI Loei 70.56 294 P P 23 01 37.4 +6.5
comp=Z,4μm,3.2s
NANT Nan 71.52 295 P P 23 01 42.9 +6.2
comp=Z,100nm,0.9s
KMI Kunming 72.14 302 P **P 23 01 42.7 +2.1**
KMI pP **pP 23 01 54.2 +1.6**
KMI AMB AMB
comp=Z,39nm,1.6s
PAYA Payao 72.45 295 P P 23 01 48.1 +5.8
comp=Z,16nm,1.1s
CM31 Chiang Mai Arr 72.96 294 *e*P P 23 01 37.6 -7.7
comp=Z,9.4nm,0.4s
CHTO Chiang Mai 73.08 294 *e*P **P 23 01 45.5 -0.5**
CHTO pmax pmax
comp=Z,151nm,1.1s
CHTO Chiang Mai 73.08 294 *e*P **P 23 01 45.5 -0.5**
comp=Z,151nm,1.1s
CHTO Chiang Mai 73.08 294 P P 23 01 49.0 +3.0
CMAI Chiengmai2 73.38 295 P P 23 01 51.6 +3.7
LZH Lanzhou 75.97 312⇑ P **P 23 02 03.6 +0.9**
LZH pP **pP 23 02 14.2 -0.6**
LZH sP **sP 23 02 18.7 -0.6**
LZH PP **PP 23 04 56.5 +2.8**
LZH S **S 23 11 45.6 +2.5**
LZH AMB AMB
comp=Z,230nm,1.0s
SEY Seymchan 76.02 354 *e*P **P 23 02 01.4 -0.7**
QSPA South Pole Qui 77.44 180 *e*P P 23 02 06.4 -4.0
comp=Z,284nm,1.0s
QSPA South Pole Qui 77.44 180 P P 23 02 06.5 -4.0
comp=Z,52nm,1.0s,baz=27,slow=3.4,SNR=19
CIT Chita 78.61 330 *e*P P 23 02 21.4 +4.5
YAK Yakutsk 79.63 344 *e*P **P 23 02 19.9 -2.3**
YAK pmax pmax
comp=Z,159nm,1.2s
YAK pmax pmax
comp=N,44nm,1.3s
YAK pmax pmax
comp=E,22nm,1.0s
ULN Ulaanbaatar 79.69 324 *e*P **P 23 02 21.4 -1.7**
comp=E,86nm,1.0s
SONM Songino Array 80.05 324 P **P 23 02 25.8 +0.8**
SONM Songino Array 80.05 324 P **P 23 02 25.8 +0.8**
comp=E,31nm,1.1s,baz=129,slow=4.0,SNR=15
GTA Gaotai 80.30 314 *e*P **P 23 02 27.1 +0.6**
GTA pP **pP 23 02 37.1 -1.6**
GTA sP **sP 23 02 41.2 -2.0**
GTA AMB AMB
comp=E,75nm,1.1s
ZAK Zakamensk 83.10 325 *e*P **P 23 02 40.8 -0.2**
ZAK pmax pmax
comp=Z,65nm,1.3s
LSA Lhasa 83.38 302 P P 23 02 50.6 +7.2
MAW Mawson 83.41 202 P P 23 02 37.5 -4.7
MAW Mawson 83.41 202 P P 23 02 37.5 -4.7
comp=Z,8.4nm,1.1s,baz=121,slow=7.8,SNR=4.9
IM04 Indian Mountai 83.81 15 *e*P **P 23 02 41.4 -2.8**
PAX Paxson 84.09 20 *e*P **P 23 02 43.7 -2.1**
PAX pmax pmax
comp=Z,50nm,1.4s
PAX Paxson 84.09 20 *e*P **P 23 02 43.7 -2.1**
comp=Z,50nm,1.4s
YBH Yreka Blue Hor 84.78 45 P **P 23 02 48.5 -1.3**
YBH Yreka Blue Hor 84.78 45 P **P 23 02 48.5 -1.3**
comp=Z,2.6nm,0.8s,baz=180,slow=10,SNR=2.4
ILAR Eielson Array 84.88 18 P P 23 02 45.7 -3.9
ILAR Eielson Array 84.88 18 P P 23 02 45.7 -3.9
comp=Z,19nm,1.0s,baz=247,slow=4.6,SNR=16
MOY Mondy 84.98 325 *e*P P 23 02 55.2 +4.6
MOY pmax pmax
comp=Z,391nm,3.3s
TAPN Taplejung 85.57 299 *e*P **P 23 02 54.1 -0.2**
comp=Z,470nm,1.5s
ODAN Odare 85.71 299 *e*P **P 23 02 53.7 -1.2**
comp=Z,789nm,1.7s
RAMN Ramite 86.41 298 *e*P **P 23 02 57.4 -1.0**
MOD Modoc 86.52 46 *e*P **P 23 02 56.0 -2.5**
comp=Z,54nm,1.0s
EGAK Eagle 86.72 20 *e*P **P 23 02 55.6 -3.2**
comp=Z,20nm,0.7s
NVAR Mina Array Bea 86.81 50 P **P 23 02 59.3 -0.8**
NVAR Mina Array Bea 86.81 50 P **P 23 02 59.3 -0.8**
comp=Z,2.8nm,0.8s,baz=234,slow=7.1,SNR=9.0
JIRN Jiri 86.95 299 *e*P **P 23 03 00.7 -0.5**
comp=Z,256nm,1.3s
GUN Gumba 87.28 299 *e*P **P 23 03 01.6 -1.2**
comp=Z,214nm,1.1s
PKI Pulchoki 87.60 299 *e*P **P 23 03 02.7 -1.6**
comp=Z,212nm,1.1s
TIXI Tiksi 87.63 349⇓ *i*P **P 23 03 02.0 -1.0**
TIXI pmax pmax
comp=Z,33nm,0.9s
KKN Kakani 87.77 299 *e*P **P 23 03 03.3 -1.6**
comp=Z,195nm,1.1s
WVOR Wild Horse Val 87.86 46 *e*P **P 23 03 03.2 -1.7**
WVOR pmax pmax
comp=Z,69nm,1.6s
WVOR Wild Horse Val 87.86 46 *e*P **P 23 03 03.2 -1.7**
comp=Z,69nm,1.6s
DMN Daman 87.87 299 *e*P **P 23 03 04.1 -1.4**
comp=Z,366nm,1.0s
GKN Gorkha 88.37 299 *e*P **P 23 03 05.4 -2.3**
comp=Z,255nm,1.0s
HVS Khovu-Aksy 88.92 323⇑ *i*P **P 23 03 10.1 +0.4**
KOLN Koldanda 89.20 299 *e*P **P 23 03 09.4 -2.3**
comp=Z,74nm,0.9s
DANN Dangsing 89.21 299 *e*P **P 23 03 10.2 -1.6**
comp=Z,171nm,0.9s
BMO Blue Mountains 89.55 44 *e*P **P 23 03 10.1 -2.7**
BMO pmax pmax
comp=Z,14nm,1.2s
BMO Blue Mountains 89.55 44 *e*P **P 23 03 10.1 -2.7**
comp=Z,14nm,1.2s
WMQ Urumqi 90.35 315 *e*P **P 23 03 14.5 -2.1**
SYO Syowa Base 90.40 197⇓ *i*P P 23 03 11.0 -5.2
NEW Newport 90.73 41 P **P 23 03 18.1 -0.1**
NEW Newport 90.73 41 P **P 23 03 18.1 -0.1**
comp=Z,4.4nm,0.9s,baz=35,slow=2.1,SNR=3.7
CHMT Chamberlain Mo 92.85 43 *e*P **P 23 03 26.1 -2.2**
comp=Z,11nm,1.6s
WALA Waterton Lakes 93.00 40 *e*P **P 23 03 26.3 -2.5**
comp=Z,42nm,1.2s
PDAR Pinedale Array 94.39 47 P **P 23 03 34.4 -1.1**
PDAR Pinedale Array 94.39 47 P **P 23 03 34.4 -1.1**
comp=Z,0.8nm,1.0s,baz=272,slow=4.4,SNR=2.6
O20A White River Ci 94.79 50 *e*P **P 23 03 34.6 -2.7**
MK31 Makanchi Array 94.81 317 *e*P **P 23 03 34.2 -2.8**
MK31 Makanchi Array 94.81 317 *e*P **P 23 03 34.2 -2.8**
MKAR Makanchi Array 94.81 317 P **P 23 03 35.0 -2.0**
MKAR Makanchi Array 94.81 317 P **P 23 03 35.0 -2.0**
MKAR PKKPbc **PKKPbc 23 20 38.2 +2.9**
MKAR Makanchi Array 94.81 317 P **P 23 03 35.0 -2.0**
comp=Z,23nm,1.1s,baz=95,slow=6.3,SNR=10.0
MKAR PKKPbc **PKKPbc 23 20 38.2 +2.9**
comp=Z,0.8nm,0.7s,baz=260,slow=5.2,SNR=5.1
ZAA0 Zalesovo Array 94.94 324 *e*P **P 23 03 36.0 -1.3**
ZALV Zalesovo Beam 94.94 324 P **P 23 03 34.9 -2.5**
ZALV Zalesovo Beam 94.94 324 P **P 23 03 34.9 -2.5**
ZALV PKKPbc **PKKPdf 23 20 40.2 +5.0**
ZALV Zalesovo Beam 94.94 324 P **P 23 03 34.9 -2.5**
comp=Z,5.9nm,0.9s,baz=117,slow=5.5,SNR=6.2
ZALV PKKPbc **PKKPdf 23 20 40.2 +5.0**
comp=Z,1.3nm,0.6s,baz=303,slow=2.3,SNR=3.8
SNAA Sanae 95.61 184 P P 23 03 35.6 -4.8
SNAA Sanae 95.61 184 P P 23 03 35.6 -4.8
comp=Z,4.3nm,1.0s,baz=183,slow=4.9,SNR=11
SDCO Great Sand Dun 96.40 53 *e*P **P 23 03 42.8 -2.1**
comp=Z,2μm,1.2s
KURK Kurchatov 97.97 320 *e*P **P 23 03 50.5 -0.7**
KURK pmax pmax
comp=Z,8.0nm,1.7s
KURK Kurchatov 97.97 320 P Pdif 23 03 51.8 +0.5
KURK PKKPbc **PKKPdf 23 20 28.4 -1.2**
KURBB Kurchatov Arra 98.02 320 P Pdif 23 03 51.8 +0.3
comp=Z,0.5nm,0.3s,baz=99,slow=2.6,SNR=2.3
KURBB PKKPbc **PKKPdf 23 20 28.4 -1.1**
comp=Z,0.7nm,0.3s,baz=279,slow=3.1,SNR=5.1
BVAR Borovoye Array 103.31 322 P **Pdif 23 04 17.1 +2.1**
BVAR Borovoye Array 103.31 322 Pdif **Pdif 23 04 17.1 +2.1**
BVAR Borovoye Array 103.31 322 Pdiff **Pdif 23 04 17.1 +2.1**
comp=Z,2.9nm,0.9s,baz=92,slow=3.6,SNR=6.6
ABKAR Akbulak array 109.91 318 *e*PKiKP **PKiKP 23 08 45.1 -1.2**
ARU Arti 110.03 326 PKiKP PKiKP 23 08 51.8 +5.4

SOKR Solikamsk 110.47 329 *e*PKiKP **PKiKP 23 08 52.1 +5.0**
SOKR pmax pmax
comp=Z,30nm,1.4s
KEV Kevo 117.34 345 *e*PKiKP PKPdf 23 08 53.4 -6.6
KEV Kevo 117.34 345 *e*pkp PKPdf 23 08 53.4 -6.6
ARCES ARCESS Array B 117.87 345 PKP **PKPdf 23 09 00.6 -0.5**
ARCES ARCESS Array B 117.87 345 PKP **PKPdf 23 09 00.6 -0.5**
comp=Z,24nm,0.9s,baz=73,slow=1.4,SNR=16
KLMR Klimovskoe 118.22 333 *e*PKiKP **PKPdf 23 08 58.8 -3.1**
KLMR pmax pmax
comp=Z,68nm,1.2s
SUMG Summit 118.30 8 *i*P PKiKP 23 09 17.4 +15
comp=Z,18nm,1.0s
SUMG Summit 118.30 8 *i*P **PKKPab 23 19 25.3 +2.4**
LPAZ La Paz 119.27 117 PKP **PKPdf 23 09 04.0 -2.0**
LPAZ La Paz 119.27 117 PKP **PKPdf 23 09 04.0 -2.0**
comp=Z,2.9nm,0.9s,baz=77,slow=0.3,SNR=3.9
JOF Joensuu 120.44 338 *e*PKiKP **PKPdf 23 09 06.2 +0.1**
JOF Joensuu 120.44 338 *e*pkp **PKPdf 23 09 06.2 +0.1**
SFJD Kangerlussuaq 120.46 16 *i*P PKPdf 23 09 19.0 +13
comp=Z,17nm,0.9s
UMR Umm Al-Rimmam 120.62 297 *e*P **PKPdf 23 09 05.8 -1.7**
UMR AMb AMB 23 09 15.7
comp=Z,73nm,1.0s
RDF Al-Radifah 120.79 296 *e*P **PKPdf 23 09 06.0 -1.8**
RDF AMb AMB 23 09 20.5
comp=Z,100nm,0.9s
VRHR Novokhopersk 121.04 323 *e*PKiKP **PKPdf 23 09 05.9 -1.7**
VRHR pmax pmax
comp=Z,70nm,0.9s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.8s
RST Umm Al-Ruwaisa 121.25 297 *e*P **PKPdf 23 09 06.5 -2.3**
RST AMb AMB 23 09 18.3
comp=Z,595nm,1.0s
MOS Moscow 121.42 329 *e*PKiKP **PKPdf 23 09 06.1 -2.1**
MOS *e* 23 09 19.6
MOS pmax pmax
comp=Z,60nm,1.0s
GNI Garni 121.83 310 *e*P **PKiKP 23 09 09.0 -0.9**
GNI Garni 121.83 310 *e*PKPdf **PKPdf 23 09 09.7 -0.1**
GNI PKP **PKPdf 23 09 10.1 +0.3**
GNI Garni 121.83 310 PKP **PKPdf 23 09 10.0 +0.3**
comp=Z,7.6nm,0.9s,baz=296,slow=8.3,SNR=4.0
ZEI Tsey 121.90 313 *i*PKiKP PKPdf 23 09 15.3 +5.4
ZEI pmax pmax
comp=Z,37nm,1.0s
GOF Gofitskoye 121.95 316 *e*PKiKP **PKPdf 23 09 08.0 -1.6**
OBN Obninsk 122.24 328⇓ *i*PKiKP **PKPdf 23 09 07.6 -2.2**
OBN *e* 23 10 44.2
OBN *e* 23 16 10.0
OBN *e*SS SS 23 27 30.1 +8.4
OBN pmax pmax
comp=Z,53nm,1.0s
KBZ Khabaz 122.39 314 PKiKP **PKPdf 23 09 11.7 +1.3**
KBZ Khabaz 122.39 314 PKP **PKPdf 23 09 11.7 +1.3**
KBZ Khabaz 122.39 314 PKP **PKPdf 23 09 11.7 +1.3**
comp=Z,4.7nm,0.9s,baz=307,slow=5.1,SNR=6.0
VSR Storozhevoye 122.44 323 *e*PKiKP **PKPdf 23 09 09.2 -1.1**
VSR pmax pmax
comp=Z,20nm,0.6s
VSR pmax pmax
comp=N,10.0nm,1.4s
VSR pmax pmax
comp=E,10.0nm,1.3s
VORD Divnogorie 122.46 323 *e*PKiKP **PKPdf 23 09 08.5 -1.8**
VORD pmax pmax
comp=Z,40nm,0.9s
VORD pmax pmax
comp=E,10.0nm,1.0s
KIV Kislovodsk 122.48 314⇓ *i*PKiKP **PKPdf 23 09 09.4 -1.4**
KIV pmax pmax
comp=Z,21nm,1.0s
CLDR Caldiran 122.64 309 *e*P **PKPdf 23 09 10.6 -0.8**
PUL Pulkovo 122.69 335 *i*PKiKP **PKPdf 23 09 12.5 +2.0**
KAF Kangasniemi 122.76 339 *e*pkp **PKPdf 23 09 10.1 -0.5**
CPUP Villa Florida 122.81 133 *e*PKPdf **PKPdf 23 09 10.2 -1.6**
CPUP PKP **PKPdf 23 09 10.3 -1.5**
CPUP Villa Florida 122.81 133 PKP **PKPdf 23 09 10.3 -1.5**
comp=Z,5.9nm,0.8s,baz=212,slow=2.0,SNR=5.5
KARS Kars 122.98 310 *e*P **PKPdf 23 09 16.0 +4.1**
HAKT HAKKARI 123.09 307 *i*P **PKPdf 23 09 12.7 +0.3**
CUKT Cukurca 123.22 306 *e*P **PKPdf 23 09 12.6 +0.1**
AGRB Hanur-Agry 123.26 309 *e*P **PKPdf 23 09 12.9 +0.4**
FIA1 FINESS Array S 123.28 338 *e*PKPdf **PKPdf 23 09 10.4 -1.2**
FINES FINESS Array B 123.28 338 PKP **PKPdf 23 09 10.7 -1.0**
FINES FINESS Array B 123.28 338 PKP **PKPdf 23 09 10.7 -1.0**
comp=Z,16nm,1.0s,baz=73,slow=6.6,SNR=10
ARTV Artvin 123.70 311 *i*P **PKPdf 23 09 13.4 0.0**
DAGI Agillar 123.74 311 *i*P **PKPdf 23 09 14.1 +0.8**
DBOC Borcka 123.85 312 *i*P **PKPdf 23 09 14.2 +0.8**
BCA Borcka 123.86 312 *e*P **PKPdf 23 09 15.3 +1.8**
DDEM Demirkent 123.90 311 *i*P **PKPdf 23 09 13.0 -0.6**
DBAD Bademkaya 123.91 311 *i*P **PKPdf 23 09 13.6 0.0**
HOMI Horasan 123.98 310 *i*P **PKPdf 23 09 17.9 +3.9**
SIRT Sirnak 124.09 307 *e*P PKPdf 23 09 21.9 +7.8
SDV Santo Domingo 124.31 88 *e*PKPdf **PKPdf 23 09 14.5 -0.7**
ERZM Erzurum 124.41 310 *i*P PKPdf 23 09 21.1 +6.2
EZM Erzurum 124.42 310 *e*P **PKPdf 23 09 15.3 +0.4**
BNGL BINGOL 124.79 309 *i*P **PKPdf 23 09 16.2 +0.6**
VSU Vasula 124.96 335 *i*PKiKP **PKPdf 23 09 14.5 -0.4**
KOPT Kop Dagi 125.04 310 *i*P **PKPdf 23 09 16.4 +0.4**
BNGB Bing ¶ll 125.14 309 *e*P **PKPdf 23 09 13.7 -2.4**
MAZI Mazidag 125.65 307 *e*P **PKPdf 23 09 17.6 +0.5**
GUMT Gumushane 125.68 311 *e*P **PKPdf 23 09 18.8 +1.7**
EUZM Uzumlu 125.71 310 *i*P **PKPdf 23 09 18.4 +1.3**
ERZN Erzincan 125.72 310 *e*P **PKPdf 23 09 15.7 -1.5**
DIY Diyarbakir 125.73 308 *e*P **PKPdf 23 09 20.3 +3.1**
ANN Anapa 125.83 317 *i*PKHKP PKPpre 23 08 58.2
ANN pmax pmax
comp=Z,93nm,1.5s
KELT Kelkit 125.93 311 *i*P **PKPdf 23 09 13.9 -3.8**
EZC Erzincan 125.95 310 *e*P **PKPdf 23 09 16.8 -0.8**
ESPY Espiye-Giresun 126.11 312 *e*P **PKPdf 23 09 16.8 -0.9**
PTK Pertek 126.14 309 *e*P **PKPdf 23 09 19.9 +1.8**
LBTB Lobatse 126.28 226 PKP **PKPdf 23 09 19.2 +0.5**
LBTB Lobatse 126.28 226 PKP **PKPdf 23 09 19.2 +0.5**
comp=Z,4.4nm,1.0s,baz=163,slow=14,SNR=4.1
ILIC ilic-Erzincan 126.62 310 *e*P **PKPdf 23 09 19.9 +1.0**
KEMA Kemaliye 126.72 310 *i*P **PKPdf 23 09 18.4 -0.6**
MALT Malatya 127.01 309⇑ *i*PKiKP **PKPdf 23 09 24.7 +5.0**
MALT Malatya 127.01 309 *e*P **PKPdf 23 09 18.4 -1.3**
MALT Malatya 127.01 309⇑ *i*P **PKPdf 23 09 24.6 +4.9**
NACGM Naroch 127.13 332 *e* **PKPdf 23 09 17.0 -2.2**
RSDY Resadiye-TOKAT 127.28 311 *e*P **PKPdf 23 09 21.1 +1.1**
ERBA Erbaa 127.61 312 *i*P **PKPdf 23 09 20.7 +0.1**
SVSK Karacayir 127.66 311 *e*P **PKPdf 23 09 17.6 -3.1**
KVT Kavak 128.00 313 *e*P PKPdf 23 09 29.2 +7.8
NB2 NORSAR Subarra 128.24 345 PKPdf **PKPdf 23 09 19.1 -2.1**
comp=Z,47nm,1.2s,baz=31,slow=1.9
NB2 NORSAR Subarra 128.24 345 PKPdf **PKPdf 23 09 19.1 -2.1**
baz=31,slow=1.9
NOA NORSAR Array B 128.24 345 PKPpre PKPpre 23 09 14.8
NOA NORSAR Array B 128.24 345 PKhKP PKPpre 23 09 14.9
comp=Z,1.3nm,0.7s,baz=38,slow=2.0,SNR=3.0
AKASG Malin Array Be 128.28 326 PKiKP PKPpre 23 09 15.2
AKASG Malin Array Be 128.28 326 PKPpre PKPpre 23 09 15.2
AKASG Malin Array Be 128.28 326 PKhKP PKPpre 23 09 15.2
comp=Z,12nm,1.0s,baz=55,slow=2.0,SNR=12
KIEV Kiev 128.29 326 *e*PKiKP **PKPdf 23 09 19.4 -2.1**
KIEV Kiev 128.29 326 *e*PKPdf **PKPdf 23 09 19.4 -2.1**
DIKM Dikmen 128.38 314 *e*P **PKPdf 23 09 21.5 -0.6**
ANDN Andirin 128.79 308 *i*P **PKPdf 23 09 23.9 +0.8**
KOZT Kozan 129.22 308 *e*P **PKPdf 23 09 27.7 +3.9**
CORM Corum 129.31 312 *e*P **PKPdf 23 09 24.2 +0.2**
ASF Jabal al Asfar 129.57 301 PKP **PKPdf 23 09 27.0 +2.3**
ASF Jabal al Asfar 129.57 301 PKP **PKPdf 23 09 27.0 +2.3**
comp=Z,3.6nm,0.7s,baz=90,slow=1.6,SNR=8.2
ILGA Ilgaz 129.67 313 *i*P PKPdf 23 09 30.4 +5.6
KARA Karaisali 129.87 308 *e*P **PKPdf 23 09 26.1 +1.1**
NIG Nigde 129.96 309 *e*P **PKPdf 23 09 21.1 -4.4**
GULE Gulek 130.07 308 *i*P **PKPdf 23 09 25.8 +0.2**
BR131 Keskin Array S 130.18 312 *e*PKPdf **PKPdf 23 09 24.4 -1.3**
BRTR Keskin Array B 130.18 312 PKPpre PKPpre 23 09 19.0
BRTR Keskin Array B 130.18 312 PKhKP PKPpre 23 09 19.0
comp=Z,0.5nm,0.8s,baz=69,slow=6.8,SNR=3.2
SAFT Safranbolu 130.33 314 *e*P **PKPdf 23 09 23.4 -2.4**
KIS Kishinev 130.39 322 *e*PKP **PKPdf 23 09 24.0 -1.7**
KIS Kishinev 130.39 322 *e*PP PP 23 11 42.0 +2.4
KIS *e*SKP 23 12 56.0
KIS Kishinev 130.39 322 *e*PKiKP **PKPdf 23 09 24.0 -1.7**

KIS			*e*			23 09 33.0
KIS			*e*			23 11 42.0
BBAL	**Bala**	**130.61 312**	*i* P		**PKPdf**	**23 09 27.8 +1.3**
MMAI	**Mount Meron Ar**	**130.63 303**		PKPpre	PKPpre	23 09 18.6
MMAI				SKPbc	**SKPab**	**23 12 51.9 +4.5**
MMAI	**Mount Meron Ar**	**130.63 303**		PKhKP	PKPpre	23 09 18.6
	comp=Z,0.8nm,0.7s,baz=87,slow=6.1,SNR=2.2					
MMAI				SKPbc	**SKPab**	**23 12 51.9 +4.5**
	comp=Z,11nm,1.1s,baz=2.9,slow=1.7,SNR=5.3					
AFSR	**Af'ar-Bala (A**	**130.68 312**	*eP*		**PKPdf**	**23 09 24.2 -2.4**
ANTO	**Ankara**	**130.74 312**	*e*PKIKP		**PKPdf**	**23 09 25.6 -1.1**
ANTO	**Ankara**	**130.74 312**	*eP*		**PKPdf**	**23 09 25.8 -0.9**
ANTO	**Ankara**	**130.74 312** ⇑	*iP*		**PKPdf**	**23 09 28.4 +1.7**
ANTO	**Ankara**	**130.74 312**	*e*PKPdf		**PKPdf**	**23 09 25.6 -1.1**
LEOM	**Leova**	**130.99 322**	⇓PKIKP		**PKPdf**	**23 09 30.0 +3.2**
LEOM	**Leova**	**130.99 322**	⇓*i*P		**PKPdf**	**23 09 30.0 +3.2**
IKL	**Isikli**	**131.21 307**	*eP*		**PKPdf**	**23 09 23.4 -4.1**
TLCR		**131.26 320**	⇓PKIKP		**PKPdf**	**23 09 30.6 +3.3**
TLCR		**131.26 320**	⇓*i*P		**PKPdf**	**23 09 30.6 +3.3**
LVV	**L'vov**	**131.53 328**	*e*PKIKP		PKPdf	23 09 33.8 +6.1
MDUB	**Mudurnu**	**131.67 314**	*eP*		PKPdf	23 09 20.3 -8.1
ERMK	**Ermenek**	**131.69 308**	*i* P		**PKPdf**	**23 09 28.6 -0.1**
CFR	**Carcaliu**	**131.69 321**	⇑PKIKP		**PKPdf**	**23 09 30.1 +1.9**
CFR	**Carcaliu**	**131.69 321**	⇑*i*P		**PKPdf**	**23 09 30.1 +1.9**
GHRR		**131.70 322**	⇓*i*P		**PKPdf**	**23 09 31.9 +3.7**
KONT	**Konya--Tatoy**	**131.70 310**	*eP*		PKPdf	23 09 37.4 +8.9
KIZT	**Kizilcal**	**131.75 311**	*eP*		**PKPdf**	**23 09 30.8 +2.1**
SVRH	**Sivrihisar-ESK**	**131.81 312**	*eP*		PKPdf	23 09 36.6 +7.9
TIRR	**Tirgusor**	**131.86 320**	⇓PKIKP		**PKPdf**	**23 09 31.1 +2.6**
TIRR	**Tirgusor**	**131.86 320**	⇓*i*P		**PKPdf**	**23 09 31.1 +2.6**
HDMB	**Hadim**	**131.92 309**	*eP*		**PKPdf**	**23 09 27.7 -1.5**
BSD	**Bornholm Skovb**	**131.92 338**	*e*PKIKP		PKPdf	23 09 34.2 +5.9
BSD				pmax	pmax	
	comp=Z,28nm,0.8s					
BSD	**Bornholm Skovb**	**131.92 338**	*i* P		PKPdf	23 09 34.2 +5.9
	comp=Z,28nm,0.8s					
PETR	**Petresti**	**131.98 322**	⇑*i*P		PKPdf	23 09 34.0 +5.3
TLB	**Topalu**	**132.03 320**	⇑PKIKP		**PKPdf**	**23 09 31.0 +2.2**
TLB	**Topalu**	**132.03 320**	⇑*i*P		**PKPdf**	**23 09 31.0 +2.2**
HARR	**Harsova**	**132.05 320**	⇑PKIKP		**PKPdf**	**23 09 32.0 +3.1**
HARR	**Harsova**	**132.05 320**	⇑*i*P		**PKPdf**	**23 09 32.0 +3.1**
BURAR	**Bucovina Array**	**132.16 325**	⇑PKIKP		**PKPdf**	**23 09 32.7 +3.6**
BURAR	**Bucovina Array**	**132.16 325**	⇑*i*P		**PKPdf**	**23 09 32.7 +3.6**
GULT	**Gulveren**	**132.16 314**	*eP*		**PKPdf**	**23 09 28.8 -0.5**
VRI	**Vrincioaia**	**132.21 322**	⇓PKIKP		**PKPdf**	**23 09 29.1 -0.1**
VRI	**Vrincioaia**	**132.21 322**	⇓*i*P		**PKPdf**	**23 09 29.1 -0.1**
PLOR	**Plostina**	**132.26 322**	⇓PKIKP		**PKPdf**	**23 09 31.4 +2.1**
PLOR	**Plostina**	**132.26 322**	⇓*i*P		**PKPdf**	**23 09 31.4 +2.1**
ESKT	**Eskisehir**	**132.27 313**	*eP*		PKPdf	23 09 23.8 -5.9
KWP	**Kalwaria Pacla**	**132.33 328**	⇑PKIKP		**PKPdf**	**23 09 32.0 +2.7**
KWP	**Kalwaria Pacla**	**132.33 328**	⇑*i*P		**PKPdf**	**23 09 32.0 +2.7**
MSAB	**Monastry St. A**	**132.40 319**	⇓*i*P		**PKPdf**	**23 09 29.9 +0.4**
BORA	**Eskisehir**	**132.42 313**	*i* P		**PKPdf**	**23 09 31.4 +1.6**
ISR	**Istrita**	**132.70 321**	⇓PKIKP		PKPdf	23 09 35.4 +5.2
ISR	**Istrita**	**132.70 321**	⇓*i*P		PKPdf	23 09 35.4 +5.2
MUD	**Monsted U'grnd**	**132.71 343**	*e*PKIKP		PKPdf	23 09 36.2 +6.5
MUD				pmax	pmax	
	comp=Z,16nm,1.0s					
MUD	**Monsted U'grnd**	**132.71 343**	*i* P		PKPdf	23 09 36.2 +6.5
	comp=Z,16nm,1.0s					
MLR	**Muntele Rosu**	**132.87 322**	⇑*i*P		**PKPdf**	**23 09 28.8 -1.8**
SUTC	**Sutluce-Ispart**	**132.88 310**	*eP*		**PKPdf**	**23 09 33.9 +3.0**
ARCR	**ARCALIA**	**132.94 325**	⇓*i*P		**PKPdf**	**23 09 30.2 -0.3**
DOPR	**Dopca**	**132.95 323**	⇑*i*P		**PKPdf**	**23 09 31.8 +1.2**
KOLS	**Kolonicke sedl**	**132.98 328**	*e*PKIKP		**PKPdf**	**23 09 28.4 -2.1**
KOLS			*e*			23 12 05.8
KOLS	**Kolonicke sedl**	**132.98 328**	*e*PKP		**PKPdf**	**23 09 28.4 -2.1**
KOLS			*e*			23 12 05.8
BMR	**Baia Mare**	**133.08 326**	⇓*i*P		**PKPdf**	**23 09 35.4 +4.7**
SULR		**133.10 321**	⇑*i*P		**PKPdf**	**23 09 31.3 +0.5**
ISP	**Isparta**	**133.11 310**	⇓*i*P		PKPdf	23 09 36.4 +5.1
BCK	**Bucak**	**133.19 310**	*eP*		PKPdf	23 09 23.4 -8.0
STHS	**Stebnicka Huta**	**133.21 329**	*e*PKP		**PKPdf**	**23 09 33.6 +2.6**
STHS			*e*			23 12 14.8
ULDT	**Uludag**	**133.25 314**	⇑*i*P		**PKPdf**	**23 09 30.0 -1.5**
TRPA	**Tarpa**	**133.33 327**	⇓*i*P		**PKPdf**	**23 09 30.8 -0.4**
GDZ	**Gediz**	**133.41 313**	*i* P		**PKPdf**	**23 09 32.6 +0.8**
VOIR		**133.44 322**	⇓PKIKP		**PKPdf**	**23 09 35.4 +3.8**
VOIR		**133.44 322**	⇓*i*P		**PKPdf**	**23 09 35.4 +3.8**
KORT	**Korkueli**	**133.52 309**	*i* P		**PKPdf**	**23 09 31.7 -0.4**
KHAL	**Karahalli**	**133.68 312**	*i* P		**PKPdf**	**23 09 30.6 -1.7**
ARR	**Arges**	**133.72 322**	⇑*i*P		**PKPdf**	**23 09 32.9 +0.8**
HUMR	**Humele**	**133.96 321**	⇓*i*P		**PKPdf**	**23 09 34.0 +1.5**
DEMI	**Demirci**	**133.98 313**	*i* P		**PKPdf**	**23 09 32.2 -0.7**
DRGR		**134.03 325**	⇑PKIKP		**PKPdf**	**23 09 31.9 -0.8**
DRGR		**134.03 325**	⇑*i*P		**PKPdf**	**23 09 31.9 -0.8**
DNZL	**Cakiroluk**	**134.25 311**	*i* P		**PKPdf**	**23 09 35.7 +2.2**
AKAS	**Kas**	**134.35 309**	*i* P		PKPdf	23 09 24.3 -9.3
OKC	**Ostrava-Krasne**	**134.44 331**	*e*PKIKP		**PKPdf**	**23 09 34.8 +1.6**
OKC			*e*			23 09 48.6
OKC	**Ostrava-Krasne**	**134.44 331**	*e*PKPdf		**PKPdf**	**23 09 34.8 +1.6**
OKC			*ex*		x	23 09 48.6
OKC			*ex*		x	23 12 17.8
BALY	**Balya**	**134.48 314**	*i* P		**PKPdf**	**23 09 34.6 +0.9**
KSP	**Ksiaz**	**134.57 333**	*e*PKIKP		**PKPdf**	**23 09 30.8 -2.6**
MORC	**Moravsky Berou**	**134.76 331**	⇑PKIKP		**PKPdf**	**23 09 33.1 -0.8**
MORC	**Moravsky Berou**	**134.76 331**	⇑*i*P		**PKPdf**	**23 09 33.1 -0.8**
PSZ	**Piszkesteto**	**134.85 328**	⇓PKIKP		**PKPdf**	**23 09 34.9 +0.7**
PSZ	**Piszkesteto**	**134.85 328**	⇓*i*P		**PKPdf**	**23 09 34.9 +0.7**
TURN	**Turunc**	**134.88 310**	*i* P		PKPdf	23 09 41.1 +6.7
DPC	**Dobruska-Polom**	**134.92 333**	*e*PKIKP		**PKPdf**	**23 09 29.5 -4.7**
DPC			*e*			23 09 39.5
DPC			*e*			23 12 12.0
DPC	**Dobruska-Polom**	**134.92 333**	*e*PKPdf		**PKPdf**	**23 09 29.5 -4.7**
DPC			*ex*		x	23 09 34.9
DPC			*ep*PKP		**PKiKP**	**23 09 39.5 +3.9**
DPC			*e*PP		**PP**	**23 12 12.0 +3.7**
DPC			*e*PKS		**PKSdf**	**23 13 14.7 +4.3**
SIRR	**Siria**	**134.93 325**	⇓*i*P		**PKPdf**	**23 09 34.0 +0.3**
UPC	**Upice**	**134.94 333**	*e*PKIKP		**PKPdf**	**23 09 36.4 +2.2**
UPC			*e*			23 12 12.8
UPC	**Upice**	**134.94 333**	*e*PKPdf		**PKPdf**	**23 09 36.4 +2.2**
UPC			*e*PP		**PP**	**23 12 12.8 +4.4**
UPC			*e*PKS		**PKSdf**	**23 13 14.5 +4.2**
ALN	**Alexandroupoli**	**135.05 316**	*eP*		**PKPdf**	**23 09 36.5 +1.9**
AYDN	**Tasoluk**	**135.12 311**	*i* P		**PKPdf**	**23 09 35.6 +0.6**
BZS	**Buzias**	**135.33 324**	⇑PKIKP		**PKPdf**	**23 09 35.2 +0.2**
BZS	**Buzias**	**135.33 324**	⇑*i*P		**PKPdf**	**23 09 35.2 +0.2**
VRAC	**Vranov**	**135.53 332**	⇓*i*P		**PKPdf**	**23 09 35.4 +0.1**
PVCC	**Panska Ves**	**135.55 334**	*e*PKIKP		**PKPdf**	**23 09 34.1 -1.2**
PVCC			*e*			23 09 41.4
PVCC			*e*			23 12 15.1
PVCC	**Panska Ves**	**135.55 334**	*e*PKPdf		**PKPdf**	**23 09 34.1 -1.2**
PVCC			*ep*PKP		**PKiKP**	**23 09 41.4 +4.6**
PVCC			*e*PP		**PP**	**23 12 15.1 +2.9**
PVCC			*e*PKS		PKSdf	23 13 18.7 +7.3
BRG	**Berggiesshubel**	**135.55 335**	*eP*		**PKPdf**	**23 09 34.1 -1.2**
	comp=Z,38nm,1.7s					
BRG			*i* PP		PP	23 12 22.7 +11
	comp=Z,38nm,1.6s					
BRG	**Berggiesshubel**	**135.55 335**	*e*PKIKP		**PKPdf**	**23 09 34.1 -1.2**
BRG			*i*			23 12 22.7
BRG				pmax	pmax	
	comp=Z,38nm,1.7s					
BRG				pmax	pmax	
	comp=Z,39nm,1.6s					
SMTH	**Samothraki Isl**	**135.60 316**	*eP*		**PKPdf**	**23 09 38.0 +2.3**
CLL	**Collm**	**135.60 336**	*e*PKIKP		**PKPdf**	**23 09 34.0 -1.3**
CLL				pmax	pmax	
	comp=Z,25nm,1.6s					
CLL	**Collm**	**135.60 336**	*e*PKPdf		**PKPdf**	**23 09 34.0 -1.3**
	comp=Z,20nm,1.6s					
CLL			*ep*PKPdf		**PKiKP**	**23 09 39.0 +2.1**
	comp=Z,53nm,1.4s					
CLL			*e*PP		**PP**	**23 12 15.0 +2.6**
CLL			*i* (sSKPbc)			23 13 14.5
CLL			*i* (pSKPab)			23 13 18.2
	comp=Z,301nm,2.3s					
CLL			*i*			23 13 26.4
PRK	**Paraskevi**	**135.63 314**	*eP*		PKPdf	23 09 30.5 -5.3
SMOL	**Smolenice**	**135.69 330**	*e*PKIKP		**PKPdf**	**23 09 37.4 +1.8**
SMOL	**Smolenice**	**135.69 330**	*e*PKP		**PKPdf**	**23 09 37.4 +1.8**
SMG	**Samos**	**135.86 312**	*eP*		**PKPdf**	**23 09 41.0 +4.7**
PRA	**Prague**	**135.95 334**	PKPdf		**PKPdf**	**23 09 34.0 -2.0**
PRA			PP		PP	23 12 22.0 +7.3
PRU	**Pruhonice**	**135.96 334**	*e*PKIKP		**PKPdf**	**23 09 33.8 -2.3**
PRU			*e*			23 09 39.9
PRU			*e*			23 12 21.0
PRU	**Pruhonice**	**135.96 334**	*e*PKPdf		**PKPdf**	**23 09 33.8 -2.3**
PRU			*ep*PKP		**PKiKP**	**23 09 39.9 +2.2**
PRU			*e*PP		PP	23 12 21.0 +6.2
PRU			*e*SKP			23 13 16.9
NIS1	**Nisyros Isl.**	**136.04 310**	*eP*		PKPdf	23 09 49.5 +13
TREC	**Trest**	**136.05 332**	*e*PKIKP		**PKPdf**	**23 09 35.9 -0.4**
TREC			*e*			23 09 40.2
TREC			*e*			23 12 17.7
TREC	**Trest**	**136.05 332**	*e*PKPdf		**PKPdf**	**23 09 35.9 -0.4**
TREC			*ep*PKP		**PKiKP**	**23 09 40.2 +2.3**
TREC			*e*PP		**PP**	**23 12 17.7 +2.3**
TREC			*e*PKS		PKSdf	23 13 19.4 +7.0
VTS	**Vitosha**	**136.07 320**	⇑PKIKP		**PKPdf**	**23 09 36.9 +0.2**
VTS	**Vitosha**	**136.07 320**	⇑*i*P		**PKPdf**	**23 09 36.9 +0.2**
ZST	**Bratislava**	**136.07 330**	*e*PKIKP		**PKPdf**	**23 09 38.9 +2.6**
ZST			*e*			23 12 23.6
ZST	**Bratislava**	**136.07 330**	*e*PKP		**PKPdf**	**23 09 38.9 +2.6**
ZST			*e*			23 12 23.6
LIA	**Limnos Island**	**136.09 316**	*eP*		**PKPdf**	**23 09 40.0 +3.4**
CHOS	**Chios island**	**136.15 313**	*eP*		PKPdf	23 09 29.5 -7.4
BDFB	**Brasilia**	**136.19 129**		PKP	**PKPdf**	**23 09 37.9 +0.3**
BDFB				SKPab	**SKiKP**	**23 13 16.1 +3.7**
BDFB	**Brasilia**	**136.19 129**		PKP	**PKPdf**	**23 09 37.9 +0.3**
	comp=Z,4.9nm,0.9s,baz=191,slow=6.0,SNR=9.1					
BDFB				SKPab	**SKiKP**	**23 13 16.1 +3.7**
	comp=Z,7.2nm,0.9s,baz=246,slow=2.2,SNR=5.0					
KARP	**Karpathos**	**136.44 309**	*eP*		**PKPdf**	**23 09 42.5 +5.0**
EKA	**Eskdalemuir Ar**	**136.51 351**		PKPpre	PKPpre	23 09 32.5
EKA	**Eskdalemuir Ar**	**136.51 351**		PKhKP	PKPpre	23 09 32.5
	comp=Z,3.2nm,0.7s,baz=45,slow=1.3,SNR=4.0					
CONA	**Conrad Observa**	**136.85 331**	⇑*i*PKIKP		**PKPdf**	**23 09 38.2 +0.3**
	comp=Z,45nm,1.1s					
SOH	**Sokhos**	**136.88 318**	*eP*		PKPdf	23 09 51.0 +13
KHC	**Kasperske Hory**	**137.02 334**	*e*PKIKP		**PKPdf**	**23 09 37.5 -0.6**
KHC			*e*			23 09 42.1
KHC			*e*			23 09 50.5
KHC			*e*			23 12 26.4
KHC	**Kasperske Hory**	**137.02 334**	*e*PKPdf		**PKPdf**	**23 09 37.5 -0.6**
KHC			*ep*PKP		**PKiKP**	**23 09 42.1 +2.2**
KHC			*ex*		x	23 09 50.5
KHC			*e*PP		**PP**	**23 12 26.4 +4.9**
KHC			*e*SKP			23 13 20.0
KHC	**Kasperske Hory**	**137.02 334**	*e*PKPdf		**PKPdf**	**23 09 37.4 -0.6**
PLG	**Polygyros**	**137.04 317**	*eP*		**PKPdf**	**23 09 42.0 +3.6**
PAIG	**Paliouri**	**137.10 316**	*eP*		PKPdf	23 09 47.0 +8.5
VAY	**Valandovo**	**137.14 319**	*e*PKP		**PKPdf**	**23 09 39.3 +0.8**
GERES	**GERESS Array B**	**137.18 333**	PKPpre		PKPpre	23 09 17.8
GERES			PKP		**PKPdf**	**23 09 35.6 -2.9**
GERES	**GERESS Array B**	**137.18 333**	PKhKP		PKPpre	23 09 17.8
	comp=Z,0.5nm,0.8s,baz=172,slow=2.7,SNR=3.7					
GERES				PKP	**PKPdf**	**23 09 35.6 -2.9**
	comp=Z,7.1nm,0.8s,baz=48,slow=2.0,SNR=12					
WTSB	**Winterswijk**	**137.28 341**	*e*PKPdf		**PKPdf**	**23 09 37.5 -0.9**
	comp=Z,20nm,0.7s					
WTSB			*e*PP		**PP**	**23 12 23.4 +0.6**
ZKR	**Zakros**	**137.32 309**	*eP*		PKPdf	23 09 45.0 +5.9
AOS	**Alonnisos**	**137.32 315**	*eP*		PKPdf	23 09 49.5 +11
GRG	**Griva**	**137.44 318**	*eP*		**PKPdf**	**23 09 44.0 +4.9**
SKO	**Skopje**	**137.51 320**	*e*PKP		**PKPdf**	**23 09 40.1 +1.0**
GRF	**Grafenberg Arr**	**137.57 336**	*e*PKIKP		**PKPdf**	**23 09 39.2 +0.1**
GRF			*e*			23 12 27.1
GRF	**Grafenberg Arr**	**137.57 336**	*e*PKPdf		**PKPdf**	**23 09 39.2 +0.1**
GRF			*e*PP		**PP**	**23 12 27.1 +2.3**
GRFO	**Grafenberg**	**137.58 336**	*e*PKIKP		**PKPdf**	**23 09 38.4 -0.7**
GRFO	**Grafenberg**	**137.58 336**	*e*PKPdf		**PKPdf**	**23 09 38.4 -0.7**
NEO	**Neokhori**	**137.71 316**	*eP*		PKPdf	23 09 48.0 +8.3
NPS	**Neapolis**	**137.72 309**	*eP*		**PKPdf**	**23 09 42.5 +2.7**
LIT	**Litokhoron**	**137.81 317**	*eP*		**PKPdf**	**23 09 36.0 -3.8**
PTL	**Penteli**	**137.85 314**	*eP*		**PKPdf**	**23 09 43.0 +3.0**
LAST	**Lasithi**	**137.87 309**	*eP*		**PKPdf**	**23 09 39.0 -1.2**
BIA	**Bitola**	**138.10 319**	*e*PKP		**PKPdf**	**23 09 40.3 0.0**
SOKA	**Soboth**	**138.13 330**	⇑*i*PKPdf		**PKPdf**	**23 09 37.4 -2.9**
	comp=Z,71nm,1.7s,SNR=5.6					
LKR	**Lokris**	**138.18 315**	*eP*		PKPdf	23 09 47.5 +7.0
KZN	**Kozani**	**138.18 318**	*eP*		PKPdf	23 09 50.5 +10
FNA	**Florina**	**138.19 319**	*eP*		**PKPdf**	**23 09 45.0 +4.4**
IDI	**Anoyia**	**138.26 310**	*eP*		**PKPdf**	**23 09 36.5 -4.4**
THL	**Klokotos Trika**	**138.40 317**	*eP*		**PKPdf**	**23 09 45.0 +4.1**
SIVA	**Sivas**	**138.43 309**	*eP*		**PKPdf**	**23 09 42.5 +1.4**
AGG	**Agios Georgios**	**138.45 316**	*eP*		**PKPdf**	**23 09 45.5 +4.4**
LTK	**Loutraki**	**138.49 314**	*eP*		PKPdf	23 09 47.0 +5.9
DID	**Didima**	**138.54 313**	*eP*		**PKPdf**	**23 09 44.5 +3.2**
HGN	**Heimansgroeve**	**138.59 341**	*e*PKPdf		PKPdf	23 09 49.4 +8.5
	comp=Z,69nm,1.4s					
HGN			*e*PP		PP	23 12 37.4 +6.5
KBA	**Koelnbreinsper**	**138.65 332**	⇑*i*PKPdf		**PKPdf**	**23 09 39.9 -1.5**
	comp=Z,38nm,1.1s					
VAM	**Vamos**	**138.73 310**	*eP*		**PKPdf**	**23 09 37.5 -4.1**
EVR	**Evrytania**	**138.86 316**	*eP*		PKPdf	23 09 49.0 +7.1
KALE	**Kalithea**	**138.89 315**	*eP*		**PKPdf**	**23 09 44.0 +2.1**
KARN	**Karanos**	**138.94 310**	*eP*		**PKPdf**	**23 09 42.5 +0.4**
GUR	**Goura**	**138.97 314**	*eP*		**PKPdf**	**23 09 47.0 +4.9**
EFP	**Efpalio**	**139.03 315**	*eP*		PKPdf	23 09 49.0 +6.9
GVD	**Gavdhos**	**139.04 309**	*eP*		PKPdf	23 09 49.0 +6.8
KLV	**Kalavryta, Ach**	**139.05 315**	*eP*		**PKPdf**	**23 09 41.5 -0.7**
LAKA	**Lakka**	**139.07 315**	*eP*		**PKPdf**	**23 09 40.0 -2.2**
VLI	**Veliai**	**139.10 312**	*eP*		**PKPdf**	**23 09 44.5 +2.2**
JAN	**Janina**	**139.12 318**	*eP*		PKPdf	23 09 50.0 +7.7
VLX	**Vlachokerasia**	**139.21 314**	*eP*		**PKPdf**	**23 09 40.5 -2.1**
ANKY	**Antikythira Is**	**139.21 311**	*eP*		PKPdf	23 09 37.0 -5.5
LANF	**Langenberg**	**139.46 338**		PKP	**PKPdf**	**23 09 42.5 -0.1**
RLS	**Riolos of Patr**	**139.52 315**	*eP*		**PKPdf**	**23 09 41.5 -1.5**
AMT	**Artemida-Makis**	**139.60 314**	*eP*		**PKPdf**	**23 09 46.0 +2.8**
ITM	**Ithomi**	**139.61 314**	*eP*		**PKPdf**	**23 09 41.0 -2.2**
KEK	**Kerkira**	**139.78 318**	*eP*		**PKPdf**	**23 09 47.5 +4.1**
FETA	**Feichten**	**139.87 334**	⇑*i*PKPdf		**PKPdf**	**23 09 41.2 -2.3**
	comp=Z,70nm,1.1s,SNR=15					
PYL	**PYLOS**	**139.88 313**	*eP*		**PKPdf**	**23 09 43.0 -0.7**
DAVA	**Damuels**	**140.02 335**	⇑*i*PKPdf		**PKPdf**	**23 09 40.2 -3.6**
	comp=Z,94nm,1.6s					
VLS	**Valsamata**	**140.06 316**	*eP*		**PKPdf**	**23 09 43.0 -1.0**
FELD	**Feldberg im Sc**	**140.30 337**		PKP	**PKPdf**	**23 09 41.8 -2.5**
ECH	**Echery**	**140.34 338**		PKP	**PKPdf**	**23 09 41.5 -2.7**
DAVOX	**Davos/Dischmat**	**140.42 334**		PKPpre	PKPpre	23 09 40.5
DAVOX	**Davos/Dischmat**	**140.42 334**		PKhKP	PKPpre	23 09 40.5
	comp=Z,15nm,0.9s,baz=226,slow=6.0,SNR=5.6					
MOF	**Molkenrain**	**140.65 337**		PKP	**PKPdf**	**23 09 44.9 0.0**
TUE	**Stuetta**	**140.85 334**	*e*PKPdf		**PKPdf**	**23 09 44.1 -1.4**
LOMF	**Lomont**	**141.18 337**		PKP	**PKPdf**	**23 09 44.0 -1.8**
BNI	**Bardonecchia**	**143.14 335**	*e*PKIKP		PKPbc	23 09 46.0 -0.4
BNI	**Bardonecchia**	**143.14 335**	*e*PKPdf		PKPbc	23 09 46.0 -0.5
PLDF	**La Plantade**	**143.52 339**		PKP	PKPbc	23 09 47.0 -0.3
AGO	**Saint Agoulin**	**143.62 340**		PKP	PKPab	23 09 45.7 -1.0
SAOF	**Saorge**	**143.63 333**		PKP	PKPbc	23 09 47.2 -0.5
AUTN	**L'Aution**	**143.68 334**		PKP	PKPab	23 09 45.2 -2.1
TOUF	**Mont Tournerai**	**143.74 334**		PKP	PKPab	23 09 46.5 -1.0
SSB	**Saint Sauveur**	**143.78 338**	*e*PKHKP		PKPpre	23 09 44.4
SSB	**Saint Sauveur**	**143.78 338**	*e*PKPdf		PKPpre	23 09 44.4
LUCF	**Luceram**	**143.80 334**		PKP	PKPbc	23 09 48.2 -0.1
MVIF	**Mont Vial**	**143.88 334**		PKP	PKPab	23 09 46.5 -1.4
REVF	**Revere**	**143.91 333**		PKP	PKPab	23 09 46.0 -1.9
PYM	**Petit Puy Mans**	**143.92 340**		PKP	PKPbc	23 09 48.5 0.0
CALN	**Calern**	**144.11 334**		PKP	**PKPab**	**23 09 47.9 -0.9**
LBIL	**Lubilhac**	**144.29 339**		PKP	**PKPab**	**23 09 46.6 -2.7**
LRDF	**Lanuejac-de-Fa**	**146.53 338**		PKP	**PKPdf**	**23 09 50.4 -4.8**
SJAF	**Saint Jean de**	**146.79 337**		PKP	**PKPdf**	**23 09 55.2 -0.5**
CARF	**Carcanieres**	**146.88 338**		PKP	**PKPdf**	**23 09 53.6 -2.4**
MLS	**Moulis**	**147.03 339**		PKP	**PKPdf**	**23 09 54.0 -2.1**
VALF	**Valcebollere**	**147.19 338**		PKP	**PKPdf**	**23 09 53.8 -2.8**
RESF	**Ens**	**147.42 340**		PKP	**PKPdf**	**23 09 56.6 -0.3**
REYF	**Montagne du Re**	**147.42 341**		PKP	**PKPdf**	**23 09 56.4 -0.4**
ORDF	**Ordiarp**	**147.45 342**		PKP	**PKPdf**	**23 09 54.3 -2.4**
VIEF	**Viey**	**147.45 341**		PKP	**PKPdf**	**23 09 57.3 +0.4**
ATE	**Arette**	**147.50 342**		PKP	**PKPdf**	**23 09 55.6 -1.3**
OSSF	**Osses**	**147.51 343**		PKP	**PKPdf**	**23 09 54.7 -2.1**
LARF	**Larrau**	**147.63 342**		PKP	**PKPdf**	**23 09 53.8 -3.3**
KEST	**Kesra**	**148.78 322**	*e*PKPdf		**PKPdf**	**23 10 00.1 +0.8**
KEST				PKPbc	**PKPdf**	**23 10 01.1 +1.8**
KEST	**Kesra**	**148.78 322**		PKPbc	**PKPdf**	**23 10 01.1 +1.8**
	comp=Z,8.0nm,0.9s,baz=284,slow=1.3,SNR=19					
PBRG	**Bragance**	**150.20 349**		PKPdf	**PKPbc**	**23 10 04.4 -2.0**
SHEL	**Horse Pasture**	**150.50 196**	*e*PKIKP		**PKPdf**	**23 10 02.9 +0.4**
SHEL	**Horse Pasture**	**150.50 196**	*e*PKPdf		**PKPdf**	**23 10 02.9 +0.4**
PCAB	**Cabril**	**150.51 351**	*e*PKPdf		**PKPbc**	**23 10 07.3 +0.2**
POLO	**Lamas de Olo**	**150.80 350**	*e*PKPdf		**PKPdf**	**23 10 04.6 +2.3**
MVO	**Moncorvo**	**150.88 349**	*e*PKPdf		**PKPdf**	**23 10 04.4 +2.0**
PVRL	**Vila Real**	**150.89 350**	*e*PKPdf		**PKPdf**	**23 10 05.2 +2.8**
PVIS	**Viseu**	**151.46 350**	*e*PKPdf		**PKPbc**	**23 10 06.6 -2.8**
RCBR	**Riachuelo**	**151.56 129**	*e*PKPdf		**PKPdf**	**23 10 03.7 -0.5**
ESDC	**Sonseca Array**	**151.59 344**	PKPbc		**PKPbc**	**23 10 07.0 -2.8**
ESDC	**Sonseca Array**	**151.59 344**	PKPbc		**PKPbc**	**23 10 06.9 -2.8**
	comp=Z,29nm,1.0s,baz=10,slow=2.0,SNR=32					
MTE	**Manteigas**	**151.71 350**	*e*PKPdf		**PKPdf**	**23 10 06.6 +2.9**
MTE	**Manteigas**	**151.71 350**	*e*PKPdf		**PKPdf**	**23 10 03.0 -0.6**
PAB	**San Pablo**	**151.82 344**	*e*PKIKP		**PKPdf**	**23 10 03.4 -0.5**
PAB	**San Pablo**	**151.82 344**	*e*PKPdf		**PKPdf**	**23 10 03.4 -0.5**
PCAS	**Casmilo, Conde**	**152.21 351**	*e*PKPdf		**PKPbc**	**23 10 08.1 -3.0**
PCBR	**Castelo Branco**	**152.24 349**	*e*PKPdf		**PKPdf**	**23 10 03.9 -0.5**
PTOM	**Tomar**	**152.62 351**	*e*PKPdf		**PKPbc**	**23 10 09.1 -2.9**
PMRV	**Marv??o**	**152.62 349**	*e*PKPdf		**PKPdf**	**23 10 06.7 +1.7**
PMTG	**Montargil**	**153.12 350**	*e*PKPdf		**PKPdf**	**23 10 09.4 +3.7**
PESTR	**Estremoz**	**153.21 349**	*e*PKPdf		**PKPdf**	**23 10 07.5 +1.6**
PMAFR	**Mafra**	**153.40 352**	*e*PKPdf		**PKPbc**	**23 10 11.0 -2.7**
**

	2.4nm,0.7s,baz=243,slow=5.2,SNR=2.2						
NVAR	Mina Array Bea	86.73	50	P	P	23 05 43.2	-2.0
NVAR	Mina Array Bea	86.73	50	P	P	23 05 43.2	-2.0
	0.4nm,0.4s,baz=240,slow=7.2,SNR=1.9						
MKAR	Makanchi Array	94.96	317	P	P	23 06 23.7	+0.4
MKAR	Makanchi Array	94.96	317	P	P	23 06 23.7	+0.4
	6.4nm,0.8s,baz=93,slow=6.5,SNR=5.1						
ANMO	Albuquerque	95.01	55	P	P	23 06 26.7	+2.7
	1.0nm,0.5s,baz=323,slow=5.1,SNR=2.8						
ZALV	Zalesovo Beam	95.08	324	P	P	23 06 23.3	-0.3
ZALV	Zalesovo Beam	95.08	324	P	P	23 06 23.3	-0.3
	5.5nm,0.7s,baz=111,slow=3.8,SNR=3.5						
KURBB	Kurchatov Arra	98.16	320	P	P	23 06 37.2	-0.4
	1.0nm,0.2s,baz=114,slow=3.4,SNR=1.0						
KEV	Kevo	117.44	345	*e*pkp	PKPdf	23 11 45.1	-0.6
ARCES	ARCESS Array B	117.97	345	PKP	PKPdf	23 11 46.5	-0.3
ARCES	ARCESS Array B	117.97	345	PKP	PKPdf	23 11 46.5	-0.3
	4.8nm,0.5s,baz=84,slow=2.1,SNR=14						
JOF	Joensuu	120.56	338	*e*pkp	PKPdf	23 11 50.4	-1.5
GNI	Garni	121.98	310	PKP	PKPdf	23 11 56.8	+1.2
GNI	Garni	121.98	310	PKP	PKPdf	23 11 56.8	+1.2
	8.9nm,0.8s,baz=350,slow=6.1,SNR=3.6						
KAF	Kangasniemi	122.87	339	*e*pkp	PKPdf	23 11 54.9	-1.5
FINES	FINESS Array B	123.39	338	PKP	PKPdf	23 11 57.4	-0.1
FINES	FINESS Array B	123.39	338	PKP	PKPdf	23 11 57.4	-0.1
	7.2nm,0.9s,baz=87,slow=1.1,SNR=6.2						
NOA	NORSAR Array B	128.34	345	PKP	PKPdf	23 12 07.0	0.0
NOA	NORSAR Array B	128.34	345	PKP	PKPdf	23 12 07.0	0.0
	2.2nm,0.7s,baz=30,slow=2.0,SNR=3.7						
AKASG	Malin Array Be	128.41	326	PKP	PKPdf	23 12 07.0	-0.3
AKASG	Malin Array Be	128.41	326	PKP	PKPdf	23 12 07.0	-0.3
	6.1nm,0.8s,baz=48,slow=2.9,SNR=5.4						
YURE	YUREGIR	129.70	308	*i* P	Pdif	23 08 49.0	-9.4
ASF	Jabal al Asfar	129.73	301	PKP	PKPdf	23 12 11.0	+0.5
ASF	Jabal al Asfar	129.73	301	PKP	PKPdf	23 12 11.0	+0.5
	3.8nm,0.7s,baz=80,slow=4.0,SNR=3.8						
BRTR	Keskin Array B	130.33	312	PKP	PKPdf	23 12 11.9	+0.4
BRTR	Keskin Array B	130.33	312	PKP	PKPdf	23 12 11.9	+0.4
	6.7nm,1.0s,baz=139,slow=4.8,SNR=6.3						
MMAI	Mount Meron Ar	130.79	303	PKP	PKPdf	23 12 13.5	+0.9
MMAI	Mount Meron Ar	130.79	303	PKP	PKPdf	23 12 13.5	+0.9
	3.4nm,0.7s,baz=73,slow=7.1,SNR=4.4						
EIL	Elat	131.82	299	PKP	PKPdf	23 12 15.5	+1.0
EIL	Elat	131.82	299	PKP	PKPdf	23 12 15.5	+1.0
	6.9nm,0.7s,baz=297,slow=5.0						
DURS	Dursunbey	134.08	314	*i* P	Pdif	23 09 18.7	+0.9
CLL	Collm	135.72	336	*e*PKPdf	PKPdf	23 12 22.0	+0.9
GERES	GERESS Array B	137.30	333	PKP	PKPdf	23 12 24.1	-0.1
GERES	GERESS Array B	137.30	333	PKP	PKPdf	23 12 24.1	-0.1
	3.7nm,0.9s,baz=70,slow=1.6,SNR=4.3						
KEST	Kesra	148.92	322	PKPbc	PKPbc	23 12 49.2	+0.1
KEST	Kesra	148.92	322	PKPbc	PKPbc	23 12 49.2	+0.1
	14nm,0.9s,baz=260,slow=2.6,SNR=5.3						
ESDC	Sonseca Array	151.69	344	PKPbc	PKPbc	23 12 55.8	+0.2
ESDC	Sonseca Array	151.69	344	PKPbc	PKPbc	23 12 55.8	+0.2
	7.4nm,0.8s,baz=6.7,slow=3.4,SNR=7.0						
TORD	Torodi Ar. Bea	164.85	274	PKPab	PKPab	23 14 02.0	+0.1
TORD	Torodi Ar. Bea	164.85	274	PKPab	PKPab	23 14 02.0	+0.1
	5.2nm,0.9s,baz=82,slow=5.1,SNR=3.8						

IDC 07 22:55:00.2±2.1, 12.46S×166.64E, h0km, mb4.7/10, mb1 4.8/10, mb1mx4.6/20, mbtmp4.7/10, Error ellipse: s-maj=65.3km s-min=25.4km az=131.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	31.85	252	P	P	23 01 25.8	-1.5
	10nm,1.1s,baz=84,slow=8.7,SNR=2.5						
ASAR	Alice Springs	32.97	246	P	P	23 01 36.9	-0.2
	10nm,0.8s,baz=73,slow=9.5,SNR=4.6						
BATI	Baumata	42.16	268	P	P	23 02 54.8	-0.3
	39nm,0.7s,baz=105,slow=12,SNR=4.1						
NWAO	Narrogin (SRO)	49.42	237	P	P	23 03 53.2	+1.1
	18nm,0.9s,baz=62,slow=5.1,SNR=3.7						
KSRS	Korea Array	61.52	326	P	P	23 05 19.0	-0.1
	1.0nm,0.6s,baz=127,slow=7.0,SNR=2.9						
CMAR	Chiang Mai Arr	73.47	294	P	P	23 06 36.2	+1.0
	3.4nm,0.7s,baz=118,slow=4.4,SNR=4.7						
SONM	Songino Array	80.31	324	P	P	23 07 14.8	+1.4
	1.9nm,0.9s,baz=160,slow=5.4,SNR=2.4						
ILAR	Eielson Array	84.57	18	P	P	23 07 34.8	-0.3
	1.7nm,0.6s,baz=240,slow=5.3,SNR=5.2						
MKAR	Makanchi Array	95.14	317	P	P	23 08 23.5	-2.1
	4.0nm,0.9s,baz=91,slow=4.1,SNR=5.2						
ZALV	Zalesovo Beam	95.20	324	P	P	23 08 25.1	-0.5
	5.4nm,1.0s,baz=98,slow=4.4,SNR=3.2						
TORD	Torodi Ar. Bea	165.30	274	PKP	PKPdf	23 15 07.1	-0.6
	3.2nm,1.0s,baz=142,slow=0.6,SNR=1.8						

*AUST **07** 22:55:25.3, 11.47S×166.98E, h0km*
*IDC **07** 22:55:37.0±0.7, 12.82S×165.97E, h0km, mb4.8/17, mb1 4.9/19, mb1mx4.8/26, mbtmp4.8/19, ML4.2/2, Error ellipse: s-maj=24.1km s-min=16.2km az=129.0*
*ISCJB **07** 22:55:39.0±0.4, 12.81S±0.06×165.89E±0.06, h20km, mb4.8/23, Error ellipse: s-maj=9.1km s-min=8.5km az=154.6*
*NEIC **07** 22:55:43.7±1.1, 12.83S×165.89E, h42km±10km, mb5.2/6, Error ellipse: s-maj=7.5km s-min=6.9km az=214.0*

ISC 07 22:55:40.8±0.4, 12.79S±0.08×165.92E±0.08, h20km, n87, σ1s30/85, mb5.0/23, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.74	299	Pn	Pn	22 57 19.5	+0.8
HNR	Honiara	6.74	299	Pn	Pn	22 57 19.5	+0.8
	32nm,0.3s,baz=167,slow=3.4,SNR=3.8						
MSVF	Nonsavu	12.70	114	*e*Pn	Pn	22 58 42.0	+1.6
PMG	Port Moresby	18.71	278	P	Pn	22 59 59.8	+1.1
PMG	Port Moresby	18.71	278	P	Pn	22 59 59.8	+1.1
	0.6nm,0.3s,baz=72,slow=2.8,SNR=3.8						
EIDS	Eidsvold	18.77	226	*e*P	Pn	22 59 59.1	-0.3
EIDS	Eidsvold	18.77	226	P	Pn	23 00 02.4	+3.1
	baz=20,SNR=4.7						
CTA	Charters Tower	20.19	246	P	Pn	23 00 15.4	-1.1
CTA	Charters Tower	20.19	246	P	Pn	23 00 15.4	-1.1
	80nm,1.0s,baz=72,slow=14,SNR=7.0						
CTAO	Charters Tower	20.19	246	*e*P	Pn	23 00 16.0	-0.4
RMQ	Roma	21.10	227	P	P	23 00 27.6	+3.3
	baz=23,SNR=7.4						
ARMA	Armidale	21.96	215	*e*P	P	23 00 33.8	+0.1
	59nm,0.8s						
COEN	Coen	22.15	264	*e*P	P	23 00 35.2	-0.5
	534nm,1.2s						
URZ	Urewera	27.26	161	*e*P	P	23 01 24.0	+0.2
STKA	Stephens Creek	29.32	226	*e*P	P	23 01 42.6	+0.3
STKA	Stephens Creek	29.32	226	P	P	23 01 43.1	+0.8
	baz=31,SNR=6.2						
STKA	Stephens Creek	29.32	226	P	P	23 01 41.6	-0.7
	42nm,0.9s,baz=42,slow=6.4,SNR=8.9						
TOO	Toolangi	30.69	213	P	P	23 01 55.1	+0.7
	baz=32,SNR=5.2						
WRAB	Tennant Creek	31.07	253	*e*P	P	23 01 57.0	-0.9
WRA	Warramunga Arr	31.08	253	P	P	23 01 57.0	-1.0
WRA	Warramunga Arr	31.08	253	P	P	23 01 57.0	-1.0
	10nm,1.0s,baz=83,slow=9.4,SNR=4.3						
RPZ	Rata Peaks	31.13	173	P	P	23 01 57.3	-0.8
RPZ	Rata Peaks	31.13	173	P	P	23 01 57.3	-0.8
	37nm,0.8s,baz=110,slow=2.2,SNR=4.6						
ASAR	Alice Springs	32.20	246	P	P	23 02 06.7	-1.2
ASAR	Alice Springs	32.20	246	P	P	23 02 06.7	-1.2
	19nm,0.9s,baz=77,slow=9.6,SNR=7.2						
BBOO	Buckleboo	33.79	229	P	P	23 02 21.8	+0.2
	baz=36,SNR=6.6						
TAU	Tasmania Unive	34.05	205	*e*P	P	23 02 23.8	+0.1
KNRA	Kununurra	36.10	261	P	P	23 02 41.6	-0.1
	baz=37,SNR=7.4						
PALU	Palau	37.10	301	P	P	23 02 43.3	-6.9
	baz=37,SNR=7.5						
FITZ	Fitzroy Crossi	39.12	257	P	P	23 03 06.5	-0.8
FITZ	Fitzroy Crossi	39.12	257	P	P	23 03 07.5	+0.2
	baz=40,SNR=6.4						
FITZ	Fitzroy Crossi	39.12	257	P	P	23 03 06.5	-0.8
	29nm,1.0s,baz=95,slow=8.1,SNR=4.9						
KAPI	Kappang	46.20	275	*e*P	P	23 04 05.4	+0.6
KLBR	Kellerberrin	47.94	239	P	P	23 04 17.9	-0.3
	baz=50,SNR=4.9						
NWAO	Narrogin (SRO)	48.65	237	P	P	23 04 23.0	-0.7
NWAO	Narrogin (SRO)	48.65	237	P	P	23 04 23.0	-0.7
	18nm,0.8s,baz=80,slow=7.0,SNR=4.4						
MORW	Morawa	48.95	243	P	P	23 04 26.0	-0.1
	baz=50,SNR=4.0						
ASAJ	Asahikawa	60.48	341	P	P	23 05 49.8	+0.4
	11nm,0.9s,baz=162,slow=14,SNR=2.9						
KSRS	Korea Array	61.41	326	P	P	23 05 56.5	+0.8
	3.5nm,0.9s,baz=169,slow=7.3,SNR=3.7						
KSAR	Wonju Array Be	61.42	326	P	P	23 05 56.5	+0.7
USRK	Ussuriysk Arra	64.57	334	P	P	23 06 15.5	-1.1
	13nm,1.1s,baz=111,slow=6.3,SNR=3.1						
VNDA	Vanda	64.76	181	*e*P	P	23 06 17.2	-0.2
	24nm,1.4s						
CASY	Casey	64.83	202	*e*P	P	23 06 16.7	-1.3
	16nm,0.9s						
SBA	Scott Base	65.07	180	*e*P	P	23 06 19.4	0.0
	35nm,1.4s						
PETK	Petropavlovsk-	66.01	355	P	P	23 06 24.3	-1.5
PETK	Petropavlovsk-	66.01	355	P	P	23 06 24.3	-1.5
	1.8nm,0.4s,baz=116,slow=6.7,SNR=9.2						
CMAR	Chiang Mai Arr	72.96	294	P	P	23 07 10.2	+0.7
CMAR	Chiang Mai Arr	72.96	294	P	P	23 07 10.2	+0.7
	7.0nm,0.8s,baz=112,slow=4.0,SNR=7.5						
QSPA	South Pole Qui	77.23	180	*e*P	P	23 07 33.1	-0.3
	64nm,1.3s						
ULN	Ulaanbaatar	79.80	324	*e*P	P	23 07 48.1	+0.2
	1.0nm,0.5s						
SONM	Songino Array	80.16	324	P	P	23 07 50.1	+0.3
SONM	Songino Array	80.16	324	P	P	23 07 50.1	+0.3
	4.8nm,1.0s,baz=143,slow=6.5,SNR=4.3						
ILAR	Eielson Array	85.10	18	P	P	23 08 14.4	-0.6
ILAR	Eielson Array	85.10	18	P	P	23 08 14.4	-0.6
	3.2nm,0.8s,baz=231,slow=6.1,SNR=3.4						
NVAR	Mina Array Bea	87.02	50	P	P	23 08 26.7	+1.3
NVAR	Mina Array Bea	87.02	50	P	P	23 08 26.7	+1.3
	1.0nm,0.7s,baz=251,slow=5.6,SNR=2.9						
NEW	Newport	90.95	41	P	P	23 08 44.0	+0.6
NEW	Newport	90.95	41	P	P	23 08 44.0	+0.6
	1.2nm,0.4s,baz=262,slow=7.1,SNR=2.4						
MKAR	Makanchi Array	94.90	317	P	P	23 09 00.6	-1.1
MKAR	Makanchi Array	94.90	317	P	P	23 09 00.6	-1.1
	4.3nm,1.0s,baz=84,slow=7.4,SNR=2.7						
ARCES	ARCESS Array B	118.05	345	PKP	PKPdf	23 14 24.4	-1.4
ARCES	ARCESS Array B	118.05	345	PKP	PKPdf	23 14 24.4	-1.4
	2.7nm,0.6s,baz=72,slow=1.4,SNR=6.4						
FINES	FINESS Array B	123.44	338	PKP	PKPdf	23 14 35.1	-1.2
FINES	FINESS Array B	123.44	338	PKP	PKPdf	23 14 35.1	-1.2
	4.0nm,0.8s,baz=22,slow=2.1,SNR=4.2						
AKASG	Malin Array Be	128.40	326	PKP	PKPdf	23 14 45.0	-1.2
AKASG	Malin Array Be	128.40	326	PKP	PKPdf	23 14 45.0	-1.2
	2.4nm,0.9s,baz=64,slow=2.6,SNR=4.5						
NOA	NORSAR Array B	128.42	345	PKP	PKPdf	23 14 45.2	-0.7
NOA	NORSAR Array B	128.42	345	PKP	PKPdf	23 14 45.2	-0.7
	1.3nm,0.8s,baz=33,slow=2.0,SNR=3.7						
MMAI	Mount Meron Ar	130.67	303	PKP	PKPdf	23 14 51.6	+0.5
MMAI	Mount Meron Ar	130.67	303	PKP	PKPdf	23 14 51.6	+0.5
	0.7nm,0.6s,baz=45,slow=6.3,SNR=1.9						
OKC	Ostrava-Krasne	134.58	331	*e*SKP	SKPdf	23 18 30.2	-1.9
DPC	Dobruska-Polom	135.06	333	*e*SKP	SKPdf	23 18 32.6	-0.4
UPC	Upice	135.09	333	*e*SKP	SKPdf	23 18 30.0	-3.0
PVCC	Panska Ves	135.70	334	*e*pPKP	pPKPdf	23 15 10.1	+3.3
PVCC				*e*SKP		23 18 36.0	
CLL	Collm	135.76	336	*e*PKPdf	PKPdf	23 15 01.0	+1.0
CLL				*e*		23 15 11.0	
PRU	Pruhonice	136.11	334	*e*pPKP	pPKPdf	23 15 10.8	+3.2
PRU				*e*SKP		23 18 34.2	
TREC	Trest	136.20	332	*e*pPKP	pPKPdf	23 15 11.1	+3.3
TREC				*e*SKP		23 18 34.8	
KHC	Kasperske Hory	137.17	333	*e*pPKP	pPKPdf	23 15 12.8	+3.2
KHC				*e*SKP		23 18 41.2	
GERES	GERESS Array B	137.33	333	PKP	PKPdf	23 15 02.6	-0.5
GERES	GERESS Array B	137.33	333	PKP	PKPdf	23 15 02.6	-0.5
	1.2nm,0.9s,baz=71,slow=4.3,SNR=2.6						
KEST	Kesra	148.88	321	PKPbc	PKPbc	23 15 27.7	-0.1
KEST	Kesra	148.88	321	PKPbc	PKPbc	23 15 27.7	-0.1
	5.0nm,0.8s,baz=93,slow=2.8,SNR=4.4						
ESDC	Sonseca Array	151.77	343	PKPbc	PKPbc	23 15 32.9	-1.7
ESDC	Sonseca Array	151.77	343	PKPbc	PKPbc	23 15 32.9	-1.7
	3.3nm,0.6s,baz=11,slow=2.9,SNR=5.6						
TORD	Torodi Ar. Bea	164.62	273	PKP	PKPdf	23 15 45.0	+0.7
TORD				PKPab	PKPab	23 16 37.5	-2.1
TORD	Torodi Ar. Bea	164.62	273	PKP	PKPdf	23 15 45.0	+0.7
	4.0nm,1.0s,baz=47,slow=2.1,SNR=4.1						
TORD				PKPab	PKPab	23 16 37.5	-2.1
	4.1nm,0.9s,baz=77,slow=4.6,SNR=3.5						

IDC 07 23:00:43.3±21.0, 11.96S×165.97E, h0km, mb4.1/3, mb1 4.1/3, mb1mx3.7/18, mbtmp4.1/3, Error ellipse: s-maj=648.5km s-min=55.1km az=121.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	32.59	245	P	P	23 07 16.8	-0.1
	0.9nm,0.8s,baz=72,slow=8.9,SNR=1.6						
SONM	Songino Array	79.53	324	P	P	23 12 52.1	-0.1
	1.1nm,0.8s,baz=133,slow=6.3,SNR=3.0						
MKAR	Makanchi Array	94.34	317	P	P	23 14 05.1	+0.1
	1.9nm,0.7s,baz=85,slow=6.0,SNR=5.1						

IDC 07 23:01:05.1±1.1, 11.85S×166.06E, h0km, mb4.3/9, mb1 4.4/9, mb1mx4.2/21, mbtmp4.3/9, Error ellipse: s-maj=41.2km s-min=23.0km az=141.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	31.50	251	P	P	23 07 29.4	+0.2
	5.6nm,1.0s,baz=82,slow=9.0,SNR=5.0						
ASAR	Alice Springs	32.72	245	P	P	23 07 39.4	-0.4
	4.0nm,0.7s,baz=69,slow=9.3,SNR=8.9						
FITZ	Fitzroy Crossi	39.48	256	P	P	23 08 37.9	+0.2
	2.3nm,0.8s,baz=104,slow=9.2,SNR=2.2						
KAPI	Kappang	46.26	274	P	P	23 09 32.2	-0.5
	15nm,1.0s,baz=146,slow=11,SNR=4.3						
PETK	Petropavlovsk-	65.09	354	P	P	23 11 49.1	+1.7
	1.5nm,0.6s,baz=116,slow=3.4,SNR=1.6						
QSPA	South Pole Qui	78.16	180	P	P	23 13 07.0	+0.7
	4.0nm,0.8s,baz=103,slow=3.5,SNR=3.9						
ILAR	Eielson Array	84.17	18	P	P	23 13 37.8	-0.1
	0.6nm,0.8s,baz=235,slow=6.3,SNR=4.9						
NVAR	Mina Array Bea	86.31	50	P	P	23 13 48.7	-0.9
	0.2nm,0.3s,baz=225,slow=4.7,SNR=2.3						
MKAR	Makanchi Array	94.31	317	P	P	23 14 25.5	-1.2
	1.0nm,0.7s,baz=86,slow=4.7,SNR=2.7						
FINES	FINESS Array B	122.63	338	PKP	PKPdf	23 20 00.9	-1.6
	4.8nm,1.0s,baz=80,slow=1.6,SNR=1.6						
NOA	NORSAR Array B	127.55	345	PKP	PKPdf	23 20 12.3	+0.3
	0.7nm,0.8s,baz=7.7,slow=6.3,SNR=4.0						

IDC 07 23:01:50.5±3.6, 13.71S×166.92E, h0km, mb4.1/5, mb1 4.2/5, mb1mx4.0/18, mbtmp4.0/5, Error ellipse: s-maj=141.2km s-min=35.6km az=140.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	31.75	254	P	P	23 08 16.3	-0.4
	1.7nm,0.9s,baz=84,slow=10,SNR=1.7						
ASAR	Alice Springs	32.73	248	P	P	23 08 25.0	-0.3
	1.7nm,0.7s,baz=77,slow=8.7,SNR=2.0						
SONM	Songino Array	81.48	324	P	P	23 14 09.5	-0.4
	0.8nm,0.6s,baz=135,slow=6.0,SNR=2.3						
ILAR	Eielson Array	85.67	18	P	P	23 14 29.8	-1.0
	0.6nm,0.6s,baz=233,slow=5.3,SNR=2.2						
MKAR	Makanchi Array	96.24	317	P	P	23 15 21.9	+1.0
	1.0nm,0.8s,baz=101,slow=6.0,SNR=2.5						
ESDC	Sonseca Array	152.92	344	PKPbc	PKPbc	23 21 51.1	+0.9
	0.8nm,0.7s,baz=9.6,slow=4.7,SNR=2.7						

*IDC **07** 23:03:32.9±1.0, 12.47S×166.36E, h0km, mb4.4/12, mb1 4.5/14, mb1mx4.4/22, mbtmp4.5/14, ML4.5/2, Error ellipse: s-maj=29.7km s-min=19.6km az=106.0*
*NEIC **07** 23:03:35.8±3.5, 12.48S×166.33E, h20km±22km, mb5.0/8, Error ellipse: s-maj=10.1km s-min=8.4km az=118.0*
*ISCJB **07** 23:03:38.2±0.5, 12.58S±0.07×166.38E±0.09, h59km, mb4.5/16, Error ellipse: s-maj=13.3km s-min=9.6km az=21.2*

ISC 07 23:03:40.4±0.6, 12.56S±0.09×166.4E±0.1, h59km, n44, σ1s28/42, mb4.5/16, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	7.06	296	Pn	Pn	23 05 16.2	-4.9
HNR	Honiara	7.06	296	Pn	Pn	23 05 16.2	-4.9
	28nm,0.3s,baz=105,slow=0.9,SNR=6.2						
DZM	Mont Dzumac	9.46	180	*e*Pn	Pn	23 05 53.2	-0.8
DZM	Mont Dzumac	9.46	180	Pn	Pn	23 05 53.6	-0.4
	1.7nm,0.3s,baz=354,slow=16,SNR=2.5						
TARA	Tarawa	15.27	26	*e*P	Pn	23 07 09.8	-2.7
	156nm,0.5s						
EIDS	Eidsvold	19.27	226	*e*P	P	23 07 59.9	-0.4
	147nm,1.9s						
CTA	Charters Tower	20.72	246	P	P	23 08 16.6	+0.5
CTA	Charters Tower	20.72	246	P	P	23 08 16.6	+0.5
	8.4nm,0.8s,baz=77,slow=13,SNR=4.0						
AFI	Afiamalu	21.29	96	P	P	23 08 21.9	-0.4
COEN	Coen	22.65	264	*e*P	P	23 08 34.2	-2.6
	80nm,1.0s						
CAN	Canberra	27.59	212	*e*P	P	23 09 21.4	-0.7
	51nm,1.3s						
STKA	Stephens Creek	29.82	226	*e*P	P	23 09 41.4	-0.6
	1.3nm,0.7s						
STKA	Stephens Creek	29.82	226	P	P	23 09 42.1	+0.1
	5.8nm,0.8s,baz=45,slow=9.6,SNR=4.6						
WRA	Warramunga Arr	31.60	252	P	P	23 09 55.8	-2.0
WRA	Warramunga Arr	31.60	252	P	P	23 09 55.8	-2.0
	2.1nm,0.6s,baz=82,slow=9.3,SNR=4.0						
ASAR	Alice Springs	32.72	246	P	P	23 10 05.8	-1.9
ASAR	Alice Springs	32.72	246	P	P	23 10 05.8	-1.9
	3.7nm,1.0s,baz=72,slow=9.7,SNR=5.9						
MBWA	Marble Bar	45.34	253	*e*P	P	23 11 52.9	-0.1
	16nm,1.1s						
KSRS	Korea Array	61.48	326	P	P	23 13 51.2	+0.2
	1.9nm,0.7s,baz=127,slow=7.0,SNR=4.5						
KSAR	Wonju Array Be	61.49	326	P	P	23 13 51.2	+0.1
USRK	Ussuriysk Arra	64.58	333	P	P	23 14 11.7	+0.2
	8.6nm,0.8s,baz=140,slow=6.1,SNR=10						
VNDA	Vanda	65.00	181	*e*P	P	23 14 13.9	+0.2
	3.1nm,1.1s						
CASY	Casey	65.21	202	*e*P	P	23 14 15.7	+0.4
	20nm,1.2s						
CMAR	Chiang Mai Arr	73.30	294	P	P	23 15 07.5	+1.3
CMAR	Chiang Mai Arr	73.30	294	P	P	23 15 07.5	+1.3
	0.6nm,0.3s,baz=128,slow=4.9,SNR=2.2						
QSPA	South Pole Qui	77.45	180	*e*P	P	23 15 29.8	+0.5
	10nm,0.9s						
QSPA	South Pole Qui	77.45	180	P	P	23 15 30.5	+1.2
	11nm,1.0s,baz=344,slow=5.9,SNR=5.2						
SONM	Songino Array	80.26	324	P	P	23 15 45.9	+1.0
SONM	Songino Array	80.26	324	P	P	23 15 45.9	+1.0
	1.2nm,0.4s,baz=140,slow=6.0,SNR=15						
ILAR	Eielson Array	84.74	18	P	P	23 16 06.4	-1.3
ILAR	Eielson Array	84.74	18	P	P	23 16 06.4	-1.3
	0.7nm,0.8s,baz=236,slow=4.7,SNR=3.5						
MK31	Makanchi Array	95.06	317	*e*P	P	23 16 56.3	-0.6
MKAR	Makanchi Array	95.06	317	P	P	23 16 56.6	-0.3
MKAR	Makanchi Array	95.06	317	P	P	23 16 56.6	-0.3
	4.5nm,1.1s,baz=89,slow=5.6,SNR=8.0						
ZALV	Zalesovo Beam	95.15	324	P	P	23 16 56.6	-0.4
ZALV	Zalesovo Beam	95.15	324	P	P	23 16 56.6	-0.4
	3.2nm,0.8s,baz=124,slow=3.5,SNR=7.7						
BRTR	Keskin Array B	130.45	312	PKP	PKPdf	23 22 46.1	+1.2
BRTR	Keskin Array B	130.45	312	PKP	PKPdf	23 22 46.1	+1.2
	0.5nm,0.5s,baz=153,slow=3.0,SNR=2.2						
KEST	Kesra	149.00	322	PKPbc	PKPbc	23 23 23.4	+1.0
KEST	Kesra	149.00	322	PKPbc	PKPbc	23 23 23.4	+1.0
	2.9nm,0.7s,baz=234,slow=2.3,SNR=7.4						
ESDC	Sonseca Array	151.68	344	PKPbc	PKPbc	23 23 29.9	+1.3
ESDC	Sonseca Array	151.68	344	PKPbc	PKPbc	23 23 29.9	+1.3
	0.8nm,0.8s,baz=355,slow=4.8,SNR=1.9						
TORD	Torodi Ar. Bea	165.07	274	PKPab	PKPab	23 24 38.5	+2.5
TORD	Torodi Ar. Bea	165.07	274	PKPab	PKPab	23 24 38.5	+2.5
	1.6nm,1.0s,baz=112,slow=4.3,SNR=3.6						

*IDC **07** 23:05:59.9±1.3, 12.26S×165.69E, h0km, mb4.4/10, mb1 4.5/10, mb1mx4.3/19, mbtmp4.4/10, Error ellipse: s-ma

2.3nm,0.7s,baz=72,slow=8.8,SNR=4.7
SONM Songino Array 79.38 324 P P 23 20 07.6 +0.1
0.6nm,0.7s,baz=139,slow=7.7,SNR=3.1
MKAR Makanchi Array 94.23 317 P P 23 21 20.1 -0.5
3.6nm,0.8s,baz=118,slow=4.4,SNR=4.9
ARCES ARCESS Array B 117.01 346 PKP PKPdf 23 26 46.1 +0.3
3.2nm,0.9s,baz=65,slow=5.1,SNR=2.3

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*IDC **07** 23:09:15.5±1.3, 12°.53S×166°.31E, h0km, mb4.4/12, mb1 4.5/12, mb1mx4.4/21, mbtmp4.4/12, Error ellipse: s-maj=37.5km s-min=21.4km az=109.0*
*NEIC **07** 23:09:20.7±0.7, 12°.56S×166°.32E, h35km, mb4.5/5, Error ellipse: s-maj=16.7km s-min=12.1km az=100.0*
*ISCJB **07** 23:09:21.6±0.6, 12°.54S±0°.08×166°.29E±0°.09, h59km, mb4.4/15, Error ellipse: s-maj=14.0km s-min=8.9km az=144.5*

ISC 07 23:09:23.6±0.8, 12°.54S±0°.10×166°.3E±0°.1, h59km, n33, σ0s96/34, mb4.4/15, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.98**	**296**	Pn	**Pn**	**23 11 04.2**	**+0.9**
HNR				Sn	**Sn**	**23 12 21.7**	**+0.4**
HNR	**Honiara**	**6.98**	**296**	Pn	**Pn**	**23 11 04.2**	**+0.9**
	39nm,0.3s,baz=152,slow=6.3,SNR=4.5						
HNR				Sn	**Sn**	**23 12 21.7**	**+0.4**
	baz=240,slow=22,SNR=1.0						
DZM	**Mont Dzumac**	**9.48**	**179**	Pn	**Pn**	**23 11 38.8**	**+1.3**
DZM	**Mont Dzumac**	**9.48**	**179**	Pn	**Pn**	**23 11 38.8**	**+1.3**
	2.0nm,0.3s,baz=67,slow=22,SNR=1.8						
ARMA	**Armidale**	**22.39**	**215**	*e*P	**P**	**23 14 17.4**	**+0.1**
	12nm,0.6s						
COEN	**Coen**	**22.57**	**264**	*e*P	**P**	**23 14 18.3**	**-1.0**
STKA	**Stephens Creek**	**29.78**	**226**	*e*P	**P**	**23 15 24.8**	**0.0**
	1.1nm,0.7s						
STKA	**Stephens Creek**	**29.78**	**226**	P	**P**	**23 15 24.5**	**-0.3**
	7.0nm,0.8s,baz=52,slow=5.3,SNR=5.4						
WRAB	**Tennant Creek**	**31.52**	**252**	*e*P	**P**	**23 15 39.0**	**-1.3**
WRA	**Warramunga Arr**	**31.54**	**252**	P	**P**	**23 15 38.6**	**-1.8**
WRA	**Warramunga Arr**	**31.54**	**252**	P	**P**	**23 15 38.7**	**-1.8**
	3.0nm,1.1s,baz=82,slow=8.4,SNR=3.3						
ASAR	**Alice Springs**	**32.66**	**246**	P	**P**	**23 15 48.9**	**-1.5**
ASAR	**Alice Springs**	**32.66**	**246**	P	**P**	**23 15 48.9**	**-1.5**
	3.1nm,0.8s,baz=74,slow=9.6,SNR=6.0						
FITZ	**Fitzroy Crossi**	**39.56**	**257**	P	**P**	**23 16 49.2**	**-0.1**
FITZ	**Fitzroy Crossi**	**39.56**	**257**	P	**P**	**23 16 49.2**	**-0.1**
	3.9nm,0.7s,baz=115,slow=7.7,SNR=4.2						
MCQ	**Macquarie Isla**	**42.26**	**186**	P	P	23 17 05.7	-5.2
JNU	**Nakatsue**	**56.62**	**324**	P	**P**	**23 19 01.2**	**+0.5**
JNU	**Nakatsue**	**56.62**	**324**	P	**P**	**23 19 01.2**	**+0.5**
	22nm,0.8s,baz=82,slow=4.1,SNR=4.9						
KSRS	**Korea Array**	**61.42**	**326**	P	**P**	**23 19 32.4**	**-1.4**
	4.5nm,0.8s,baz=144,slow=6.9,SNR=7.4						
KSAR	**Wonju Array Be**	**61.44**	**326**	P	**P**	**23 19 32.4**	**-1.5**
USRK	**Ussuriysk Arra**	**64.53**	**333**	P	**P**	**23 19 54.0**	**-0.3**
	4.0nm,0.9s,baz=183,slow=7.1,SNR=4.9						
VNDA	**Vanda**	**65.01**	**181**	*e*P	**P**	**23 19 56.0**	**-1.0**
	5.1nm,1.3s						
SBA	**Scott Base**	**65.31**	**180**	*e*P	**P**	**23 19 58.9**	**0.0**
	4.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**73.23**	**294**	P	**P**	**23 20 49.7**	**+0.8**
CMAR	**Chiang Mai Arr**	**73.23**	**294**	P	**P**	**23 20 49.7**	**+0.8**
	2.1nm,0.6s,baz=122,slow=4.4,SNR=8.8						
QSPA	**South Pole Qui**	**77.47**	**180**	*e*P	**P**	**23 21 12.0**	**-0.6**
	7.5nm,1.0s						
QSPA	**South Pole Qui**	**77.47**	**180**	P	**P**	**23 21 13.0**	**+0.4**
	2.5nm,0.8s,baz=273,slow=4.6,SNR=5.2						
SONM	**Songino Array**	**80.20**	**324**	P	**P**	**23 21 28.6**	**+0.8**
SONM	**Songino Array**	**80.20**	**324**	P	**P**	**23 21 28.6**	**+0.8**
	2.3nm,0.8s,baz=137,slow=5.8,SNR=8.8						
ILAR	**Eielson Array**	**84.75**	**18**	P	**P**	**23 21 50.5**	**-0.4**
ILAR	**Eielson Array**	**84.75**	**18**	P	**P**	**23 21 50.5**	**-0.4**
	0.5nm,0.9s,baz=231,slow=5.9,SNR=4.4						
MKAR	**Makanchi Array**	**94.99**	**317**	P	**P**	**23 22 40.3**	**+0.5**
MKAR	**Makanchi Array**	**94.99**	**317**	P	**P**	**23 22 40.3**	**+0.5**
	3.6nm,0.8s,baz=100,slow=6.6,SNR=6.9						

IDC 07 23:10:05.5±1.4, 12°.08S×166°.09E, h0km, mb4.1/7, mb1 4.3/7, mb1mx4.1/19, mbtmp4.1/7, Error ellipse: s-maj=43.2km s-min=28.9km az=127.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.46**	**252**	P	P	23 16 29.3	+0.2
	1.2nm,0.7s,baz=84,slow=10.0,SNR=3.6						
ASAR	**Alice Springs**	**32.65**	**245**	P	P	23 16 38.4	-1.1
	1.5nm,0.6s,baz=72,slow=9.4,SNR=4.3						
FITZ	**Fitzroy Crossi**	**39.45**	**256**	P	P	23 17 38.2	+0.4
	2.0nm,0.7s,baz=104,slow=10,SNR=2.9						
VNDA	**Vanda**	**65.47**	**181**	P	P	23 20 50.1	+0.1
	1.2nm,0.8s,baz=343,slow=6.1,SNR=3.6						
SONM	**Songino Array**	**79.69**	**324**	P	P	23 22 15.3	0.0
	1.2nm,0.6s,baz=139,slow=3.8,SNR=4.3						
ILAR	**Eielson Array**	**84.38**	**18**	P	P	23 22 39.2	-0.1
	0.5nm,0.4s,baz=250,slow=5.3,SNR=4.3						
MKAR	**Makanchi Array**	**94.50**	**317**	P	P	23 23 27.9	0.0
	3.8nm,0.8s,baz=86,slow=6.2,SNR=9.0						

IDC 07 23:10:44.9±1.6, 11°.29S×165°.60E, h0km, mb4.2/8, mb1 4.5/8, mb1mx4.2/20, mbtmp4.2/8, Error ellipse: s-maj=107.4km s-min=21.9km az=147.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**20.56**	**242**	P	Pn	23 15 27.4	-0.2
	8.6nm,0.8s,baz=64,slow=12,SNR=3.9						
WRA	**Warramunga Arr**	**31.27**	**250**	P	P	23 17 07.1	+0.3
	4.0nm,0.9s,baz=79,slow=8.9,SNR=5.2						
ASAR	**Alice Springs**	**32.55**	**244**	P	P	23 17 16.8	-1.4
	5.3nm,0.9s,baz=73,slow=9.7,SNR=5.1						
ILAR	**Eielson Array**	**83.79**	**19**	P	P	23 23 16.5	+0.7
	1.0nm,0.7s,baz=255,slow=5.5,SNR=5.0						
YBH	**Yreka Blue Hor**	**84.17**	**46**	P	P	23 23 18.4	0.0
	3.7nm,0.9s,baz=294,slow=5.4,SNR=3.6						
NVAR	**Mina Array Bea**	**86.29**	**50**	P	P	23 23 28.4	-0.9
	1.1nm,0.7s,baz=236,slow=7.8,SNR=5.3						
MKAR	**Makanchi Array**	**93.61**	**317**	P	P	23 24 02.3	-0.9
	1.4nm,0.8s,baz=116,slow=6.7,SNR=2.0						
PDAR	**Pinedale Array**	**93.82**	**47**	P	P	23 24 05.5	+0.9
	0.2nm,0.6s,baz=206,slow=3.5,SNR=1.5						

IDC 07 23:13:04.4±3.9, 11°.54S×165°.73E, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.9/17, mbtmp4.0/5, Error ellipse: s-maj=150.8km s-min=31.3km az=135.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.30**	**251**	P	P	23 19 26.5	-0.1
	1.8nm,0.6s,baz=81,slow=9.1,SNR=6.8						
ASAR	**Alice Springs**	**32.56**	**244**	P	P	23 19 37.8	+0.1
	2.5nm,0.7s,baz=73,slow=9.4,SNR=7.8						
ILAR	**Eielson Array**	**83.98**	**18**	P	P	23 25 36.4	+0.1
	0.5nm,0.6s,baz=252,slow=5.2,SNR=4.8						
MKAR	**Makanchi Array**	**93.87**	**317**	P	P	23 26 23.7	-0.3
	0.5nm,0.6s,baz=86,slow=7.0,SNR=2.8						
ZALV	**Zalesovo Beam**	**93.95**	**324**	P	P	23 26 24.1	0.0
	0.3nm,0.5s,baz=141,slow=4.8,SNR=2.1						

IDC 07 23:13:14.1±12.0, 12°.99S×167°.50E, h0km, mb4.3/4, mb1 4.3/4, mb1mx3.9/18, mbtmp4.2/4, Error ellipse: s-maj=392.6km s-min=49.8km az=124.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**33.53**	**247**	P	P	23 19 55.7	-0.1
	2.2nm,0.7s,baz=73,slow=9.2,SNR=5.4						
SONM	**Songino Array**	**81.24**	**323**	P	P	23 25 32.4	+0.2
	1.1nm,1.0s,baz=150,slow=5.4,SNR=3.1						
MKAR	**Makanchi Array**	**96.11**	**316**	P	P	23 26 43.9	+0.1
	0.8nm,0.5s,baz=88,slow=6.3,SNR=7.3						
ZALV	**Zalesovo Beam**	**96.13**	**324**	P	P	23 26 43.0	-0.6
	0.4nm,0.4s,baz=150,slow=6.5,SNR=1.7						

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*IDC **07** 23:13:42.8±0.3, 13°.17S×166°.60E, h0km, mb5.7/38, mb1 5.7/41, mb1mx5.7/41, mbtmp5.6/41, ML4.4/2, MS7.2/30, Ms1 7.2/30, ms1mx7.0/39, Error ellipse: s-maj=10.4km s-min=9.9km az=67.0*
*LDG **07** 23:13:43.2±0.4, 12°.59S×167°.05E, h10km, Mb6.8/4, Ms7.3/8, Error ellipse: s-maj=52.1km s-min=16.2km az=86.0*
*ISCJB **07** 23:13:46.2±1.3, 13°.10S±0°.02×166°.46E±0°.02, h25km±9km, mb6.3/241, MS7.2/91, Error ellipse: s-maj=4.2km s-min=3.0km az=176.6*
*MOS **07** 23:13:47.2±1.2, 13°.08S×166°.42E, h33km, mb6.5/53, MS7.1/20, Error ellipse: s-maj=6.4km s-min=6.3km az=81.2*
*BJI **07** 23:13:47.9, 12°.75S×166°.52E, h31km, mB7.4/20, mb6.2/61, Ms7.2/48, Ms7 7.0/46*
*NEIC **07** 23:13:48.2±0.3, 13°.09S×166°.50E, h31km±2km, mb6.4/132, MS7.2/37, MW7.3, MW7.4(USGS), Error ellipse: s-maj=4.4km s-min=3.2km az=150.0*
*AUST **07** 23:13:50.0±0.4, 13°.12S×166°.42E, h35km, Error ellipse: s-maj=8.0km s-min=5.9km az=82.0*
*DJA **07** 23:13:55.7±1.2, 13°.S±4°×16°.6E±°, h72km±14km, M7.3/54, mB7.4/16, mb6.5/54, Mw(mB)7.4/16*
*GCMT **07** 23:14:00.6±0.2, 13°.12S×166°.37E, h42km, MW7.4, Moment Tensor Solution. s113,c221; s96,c182; Moment tensor: Scale 10^20^Nm; Mrr 1.70±.03; Mθθ-0.23±.02; Mφφ-1.48±.02; Mrθ-0.13±.06; Mθφ 0.34±.01; Mφr-0.17±.04; Best double couple: M0 1.70000×10^20^ NP1:φs171.00000°, δ48.00000°, λ97.00000°. NP2: φs341.00000°, δ43.00000°, λ83.00000°. Principal axes: T 1.7200, Plg84.0000°, Azm140.0000°; N -0.1500, Plg5.0000°, Azm346.0000°; P -1.5700, Plg2.0000°, Azm256.0000°; Data Used: II IU CN G IC. LP body wave period 50 sec. Mantle wave period 150 sec. Surface waves: sta=112, comp=218, per= 50.*
*NEIC **07** 23:14:15.1±0.0, 13°.09S×166°.19E, h32km, Moment Tensor Solution. s161 Moment tensor: Scale 10^20^Nm; Mrr 1.19; Mθθ-0.05; Mφφ-1.14; Mrθ-0.06; Mθφ 0.22; Mφr 0.02; Best double couple: M0 1.20000×10^20^ NP1:φs171.00000°, δ44.00000°, λ94.00000°. NP2:φs346.00000°, δ46.00000°, λ87.00000°. Principal axes: T 1.1900, Plg87.0000°, Azm185.0000°; N 0.0000, Plg2.0000°, Azm348.0000°; P -1.1800, Plg0.0000°, Azm78.0000°;*

ISC 07 23:13:49.0±0.3, 13°.08S±0°.03×166°.46E±0°.03, h33km±1km, h33km:pP-P, n1615, s1579/1510, mb6.4/240, MS7.2/91, 191C-148D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.35**	**299**	Pn	**Pn**	**23 15 33.8**	**-0.4**
HNR				Sn	**Sn**	**23 17 01.5**	**+5.1**
HNR	**Honiara**	**7.35**	**299**	Pn	**Pn**	**23 15 33.7**	**-0.4**
	164nm,0.3s,baz=258,slow=1.7,SNR=43						
HNR				Sn	**Sn**	**23 17 01.5**	**+5.1**
	762nm,0.3s,baz=360,slow=12,SNR=1.2						
DZM	**Mont Dzumac**	**8.94**	**180**	*e*Pn	Pn	23 15 48.8	-7.2
	2μm,0.3s						
DZM				*e*LR	LR	23 17 57.0	
	3199μm,23.7s						
DZM	**Mont Dzumac**	**8.94**	**180**	Pn	Pn	23 15 51.8	-4.2
DZM				Sn	**Sn**	**23 17 36.2**	**+0.6**
DZM	**Mont Dzumac**	**8.94**	**180**	Pn	Pn	23 15 51.8	-4.2
	5.5nm,0.3s,baz=53,slow=14,SNR=6.2						
DZM				Sn	**Sn**	**23 17 36.2**	**+0.6**
	baz=300,slow=23,SNR=0.7						
MSVF	**Nonsavu**	**12.09**	**114**	*e*P	**Pn**	**23 16 41.4**	**+2.2**
MSVF				*e*		23 19 02.2	
MSVF	**Nonsavu**	**12.09**	**114**	Pn	Pn	23 16 43.1	+3.9
	13μm,1.7s,SNR=14						
MSVF	**Nonsavu**	**12.09**	**114**	*e*Pn	**Pn**	**23 16 41.4**	**+2.2**
MSVF				*e*Sn	Sn	23 19 02.2	+9.3
TARA	**Tarawa**	**15.71**	**25**	*e*Pn	**Pn**	**23 17 27.8**	**-0.3**
	6μm,0.9s						
TARA				*e*S	**S**	**23 20 35.5**	**+0.1**
EIDS	**Eidsvold**	**18.96**	**228**	*e*P	**Pn**	**23 18 08.8**	**+0.4**
	5μm,1.5s						
EIDS	**Eidsvold**	**18.96**	**228**	⇓P	**Pn**	**23 18 08.8**	**+0.4**
	baz=19,SNR=16						
PMG	**Port Moresby**	**19.28**	**279**	P	**Pn**	**23 18 12.6**	**+0.2**
	1μm,1.4s						
PMG	**Port Moresby**	**19.28**	**279**	*e*P	**Pn**	**23 18 12.2**	**-0.2**
	3μm,1.4s						
PMG	**Port Moresby**	**19.28**	**279**	P	**Pn**	**23 18 12.3**	**0.0**
	2.5nm,0.3s,baz=105,slow=5.8,SNR=38						
LHI	**Lord Howe Isla**	**19.57**	**199**	⇓P	**Pn**	**23 18 16.1**	**+0.4**
	baz=20,SNR=8.1						
CTA	**Charters Tower**	**20.57**	**248**	P	**P**	**23 18 25.6**	**+0.3**
CTA	**Charters Tower**	**20.57**	**248**	⇑P	**P**	**23 18 26.1**	**+0.9**
	baz=3						
CTA	**Charters Tower**	**20.57**	**248**	P	**P**	**23 18 25.6**	**+0.3**
	129nm,1.1s,baz=72,slow=14,SNR=20						
CTAO	**Charters Tower**	**20.57**	**248**	*e*P	**P**	**23 18 26.1**	**+0.9**
CTAO				*e*S	**S**	**23 22 11.9**	**-1.8**
CTAO				pmax	pmax		
	comp=Z,8μm,2.1s						
CTAO				MLR	MLR		
	comp=Z,954μm,21.0s						
CTAO	**Charters Tower**	**20.57**	**248**	*e*P	**P**	**23 18 26.1**	**+0.9**
	comp=Z,8μm,2.1s						
CTAO				*e*S	**S**	**23 22 11.9**	**-1.8**
CTAO				LR	LR		
	comp=Z,954μm,21.0s						
AFI	**Afiamalu**	**21.18**	**95**	*e*P	**P**	**23 18 31.2**	**-0.7**
	comp=Z,1μm,1.0s						
AFI	**Afiamalu**	**21.18**	**95**	P	**P**	**23 18 30.4**	**-1.4**
	comp=Z,141nm,0.7s,baz=27,slow=6.8,SNR=13						
AFI				LR	LR	23 23 33.7	
	comp=Z,315μm,21.7s,baz=279,slow=28						
RMQ	**Roma**	**21.30**	**229**	P	**P**	**23 18 34.6**	**+1.5**
	baz=21,SNR=45						
RAO	**Raoul Island**	**21.66**	**140**	*e*P	**P**	**23 18 36.6**	**-0.3**
	comp=Z,3μm,1.0s						
RAO				LR	LR		
	comp=Z,987μm,19.0s						
KWAJ	**Kwajalein Atol**	**21.77**	**3**	*e*P	**P**	**23 18 37.1**	**-1.0**
KWAJ	**Kwajalein Atol**	**21.77**	**3**	*e*P	**P**	**23 18 37.1**	**-1.0**
MANU	**Manus Island**	**21.85**	**299**	⇑P	**P**	**23 18 39.9**	**+0.8**
	baz=22,SNR=9.7						
ARMA	**Armidale**	**22.03**	**216**	*e*P	**P**	**23 18 41.1**	**+0.1**
	comp=Z,3μm,1.3s						
ARMA	**Armidale**	**22.03**	**216**	⇓P	**P**	**23 18 41.8**	**+0.8**
	baz=22,SNR=99						
COEN	**Coen**	**22.66**	**265**	*e*P	**P**	**23 18 47.4**	**-0.3**
	comp=Z,8μm,1.3s						
COEN	**Coen**	**22.66**	**265**	P	**P**	**23 18 47.5**	**-0.2**
	baz=23,SNR=39						
OUZ	**Omahuta**	**22.97**	**165**	*e*P	**P**	**23 18 51.2**	**+0.5**
	comp=Z,3μm,1.5s						
NIUE	**Niue**	**23.44**	**108**	P	**P**	**23 18 57.9**	**+2.3**
	baz=24,SNR=13						
KNTN	**Kanton**	**23.89**	**66**	*e*P	**P**	**23 18 60.0**	**+0.1**
	comp=Z,4μm,1.3s						
MGCD	**Mangrove Creek**	**24.45**	**212**	P	**P**	**23 19 05.5**	**+0.5**
	baz=24,SNR=42						
QLP	**Quilpie**	**24.80**	**234**	P	**P**	**23 19 08.2**	**+0.1**
	baz=25,SNR=48						
RIV	**Riverview**	**24.91**	**211**	⇓P	**P**	**23 19 09.5**	**+0.5**
	baz=25						
YNG	**Young**	**26.74**	**215**	⇑P	**P**	**23 19 25.8**	**+0.1**
	baz=27,SNR=30						
URZ	**Urewera**	**26.80**	**161**	*e*P	**P**	**23 19 25.4**	**-0.8**
URZ				S	**S**	**23 24 07.3**	**+7.1**
URZ	**Urewera**	**26.80**	**161**	P	**P**	**23 19 24.3**	**-1.8**
	comp=Z,9.5nm,0.5s,baz=321,slow=4.4,SNR=9.2						
URZ				S	**S**	**23 24 07.3**	**+7.1**
	comp=Z,38nm,0.9s,baz=65,slow=19,SNR=1.4						
URZ				LR	LR	23 28 39.7	
	comp=Z,1246μm,20.4s,baz=330,slow=34						
CAN	**Canberra**	**27.18**	**212**	*e*P	**P**	**23 19 29.3**	**-0.5**
CAN				pmax	pmax		
	comp=Z,879nm,1.3s						
CAN				MLR	MLR		
	comp=Z,262μm,20.0s						
CAN	**Canberra**	**27.18**	**212**	*e*P	**P**	**23 19 29.3**	**-0.5**
	comp=Z,879nm,1.3s						
CAN				LR	LR		
	comp=Z,262μm,20.0s						
CAN	**Canberra**	**27.18**	**212**	⇑P	**P**	**23 19 29.8**	**0.0**
	baz=27						
BKZ	**Black Stump Fm**	**27.45**	**163**	*e*P	**P**	**23 19 34.3**	**+2.2**
	comp=Z,1μm,1.4s						
BKZ				*e*ScP	ScP	23 26 38.5	+10
JAY	**Jayapura**	**27.56**	**290**	P	**P**	**23 19 36.3**	**+3.0**
	comp=Z,163nm,2.1s						
JAY	**Jayapura**	**27.56**	**290**	⇓P	**P**	**23 19 33.0**	**-0.3**
	baz=28,SNR=5.4						
MILA	**Mila**	**28.46**	**210**	⇑P	**P**	**23 19 42.3**	**+1.2**
	baz=28,SNR=20						
BFZ	**Birch Farm**	**28.80**	**164**	*e*P	**P**	**23 19 46.6**	**+2.6**
	comp=Z,866nm,1.4s						
SNZO	**South Karori**	**29.03**	**167**	*e*P	**P**	**23 19 46.1**	**+0.1**
SNZO				*e*S	**S**	**23 24 33.6**	**-1.6**
SNZO				LR	LR		
	comp=Z,1334μm,19.0s						
STKA	**Stephens Creek**	**29.50**	**227**	*e*P	**P**	**23 19 50.2**	**-0.3**
	comp=Z,1μm,1.7s						
STKA				PcP	**PcP**	**23 22 54.8**	**-0.6**
STKA				ScP	**ScP**	**23 26 40.7**	**+5.7**
STKA	**Stephens Creek**	**29.50**	**227**	⇓P	**P**	**23 19 50.3**	**-0.1**
	baz=30,SNR=36						
STKA	**Stephens Creek**	**29.50**	**227**	P	**P**	**23 19 50.1**	**-0.3**
	comp=Z,90nm,0.7s,baz=40,slow=5.6,SNR=32						
STKA				PcP	**PcP**	**23 22 54.8**	**-0.6**
	comp=Z,185nm,1.1s,baz=43,slow=4.0,SNR=3.0						
STKA				ScP	**ScP**	**23 26 40.7**	**+5.7**
	comp=Z,48nm,0.8s,baz=4.8,slow=7.7,SNR=3.0						
STKA				LR	LR	23 32 11.5	
	comp=Z,427μm,18.2s,baz=313,slow=38						
KHZ	**Kahutara**	**29.87**	**169**	*e*P	**P**	**23 19 54.8**	**+1.3**
	comp=Z,394nm,1.0s						
TOO	**Toolangi**	**30.74**	**214**	⇓P	**P**	**23 20 01.4**	**+0.1**
	baz=31,SNR=36						
RPZ	**Rata Peaks**	**30.78**	**173**	*e*P	**P**	**23 20 01.1**	**-0.4**
RPZ	**Rata Peaks**	**30.78**	**173**	P	**P**	**23 20 00.2**	**-1.3**
	comp=Z,103nm,0.7s,baz=207,slow=2.1,SNR=17						
H11S2	**WAKE ISLAND Hy**	**31.38**	**0**	T	T	23 51 30.8	
	baz=182,slow=0.7,SNR=25						
H11S3	**WAKE ISLAND Hy**	**31.38**	**0**	T	T	23 51 00.4	
	baz=182,slow=0.7,SNR=33						
H11S1	**WAKE ISLAND Hy**	**31.39**	**0**	T	T	23 51 00.3	
	baz=182,slow=0.7,SNR=32						
WRAB	**Tennant Creek**	**31.50**	**253**	*e*P	**P**	**23 20 08.0**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,4μm,2.6s						
WRAB				MLR	MLR		
	comp=Z,1076μm,19.0s						
WRAB	**Tennant Creek**	**31.50**	**253**	P	**P**	**23 20 09.0**	**+0.9**
	comp=Z,1μm,1.4s,SNR=22						
WRAB	**Tennant Creek**	**31.50**	**253**	*e*P	**P**	**23 20 08.0**	**-0.2**
	comp=Z,4μm,2.6s						
WRAB				LR	LR		
	comp=Z,1076μm,19.0s						
WRA	**Warramunga Arr**	**31.51**	**253**	P	**P**	**23 20 07.8**	**-0.5**
WRA				PcP	**PcP**	**23 22 58.6**	**-2.2**
WRA				ScP	**ScP**	**23 26 46.4**	**+4.7**
WRA	**Warramunga Arr**	**31.51**	**253**	P	**P**	**23 20 07.8**	**-0.5**
	comp=Z,97nm,0.9s,baz=85,slow=8.9,SNR=50						
WRA				PcP	**PcP**	**23 22 58.6**	**-2.2**
	comp=Z,50nm,1.0s,baz=85,slow=4.7,SNR=2.2						
WRA				ScP	**ScP**	**23 26 46.4**	**+4.7**
	comp=Z,25nm,0.8s,baz=93,slow=3.7,SNR=2.1						
ODZ	**Otahua Downs**	**32.05**	**174**	*e*P	**P**	**23 20 12.6**	**-0.1**
	comp=Z,394nm,1.1s						
ODZ				*e*PP	**PP**	**23 21 24.8**	**-0.7**
HTT	**Hallett**	**32.24**	**226**	⇑P	**P**	**23 20 14.8**	**+0.2**
	baz=32						
ARPS	**Mount Arapiles**	**32.30**	**219**	⇑P	**P**	**23 20 16.2**	**+1.2**
	baz=32,SNR=21						
BAKI	**Biak**	**32.30**	**289**	P	**P**	**23 20 17.9**	**+2.7**
	comp=Z,867nm,1.3s						
AS06	**Alice Springs**	**32.50**	**246**	⇓P	**P**	**23 20 15.9**	**-1.1**
	baz=32						
AS01	**Alice Springs**	**32.52**	**246**	*e*P	**P**	**23 20 15.1**	**-2.0**
ASAR	**Alice Springs**	**32.57**	**246**	P	**P**	**23 20 15.8**	**-1.8**
ASAR				PcP	**PcP**	**23 23 03.4**	**-0.4**
ASAR				ScP	ScP	23 26 54.1	+8.8
ASAR				*e*		23 51 49.6	
ASAR	**Alice Springs**	**32.57**	**246**	P	**P**	**23 20 15.8**	**-1.8**
	comp=Z,138nm,0.8s,baz=74,slow=9.4,SNR=37						
ASAR				PcP	**PcP**	**23 23 03.4**	**-0.4**
	comp=Z,62nm,0.9s,baz=75,slow=2.2,SNR=3.2						
ASAR				ScP	ScP	23 26 54.1	+8.8
	comp=Z,79nm,1.1s,baz=88,slow=2.9,SNR=9.4						
ASAR				LR	LR	23 33 25.9	
	comp=Z,698μm,18.6s,baz=69,slow=36						
ASAR				P3KPbc		23 51 49.6	
	comp=Z,1.2nm,0.7s,baz=267,slow=3.8,SNR=5.1						
H11N1	**WAKE ISLAND Hy**	**32.59**	**1**	T	T	23 52 57.5	
	baz=184,slow=0.7,SNR=39						
H11N3	**WAKE ISLAND Hy**	**32.60**	**1**	T	T	23 52 29.3	
	baz=184,slow=0.7,SNR=25						
H11N2	**WAKE ISLAND Hy**	**32.61**	**1**	T	T	23 52 30.3	
	baz=184,slow=0.7,SNR=33						
WHZ	**Wether Hill Ro**	**32.73**	**178**	*e*P	**P**	**23 20 17.0**	**-1.6**
	comp=Z,1μm,1.6s						
KDU	**Kakadu**	**33.12**	**267**	⇑P	**P**	**23 20 22.0**	**-0.4**
	baz=33,SNR=17						
RAR	**Rarotonga**	**33.20**	**109**	*e*P	**P**	**23 20 23.2**	**+0.2**
	comp=Z,651nm,1.1s						
RAR	**Rarotonga**	**33.20**	**109**	P	**P**	**23 20 21.0**	**-2.1**
	comp=Z,42nm,0.8s,baz=270,slow=5.3,SNR=3.0						
RAR				LR	LR	23 31 14.6	
	comp=Z,723μm,20.4s,baz=180,slow=32						
MOO	**Moorlands**	**33.69**	**206**	P	**P**	**23 20 27.2**	**+0.2**
	baz=34,SNR=43						
BBOO	**Buckleboo**	**34.00**	**230**	*e*P	**P**	**23 20 29.3**	**-0.6**
	comp=Z,17μm,1.6s						
BBOO	**Buckleboo**	**34.00**	**230**	P	**P**	**23 20 29.5**	**-0.5**
	baz=34,SNR=44						
TAU	**Tasmania Unive**	**34.02**	**206**	*e*P	**P

PPT Papeete 42.56 102 *e*P P 23 21 46.4 +4.2
PPT Papeete 42.56 102 P **P** **23 21 41.1 -1.1**
comp=Z,30nm,0.4s,baz=68,slow=5.4,SNR=3.0
PPT LR LR 23 34 12.1
comp=Z,183µm,19.4s,baz=270,slow=29
PPT2 Papeete2 42.56 102 *e*P **P** **23 21 41.9 -0.3**
comp=Z,553nm,1.3s
PPT2 *e*S **S** **23 28 06.3 +3.3**
comp=Z,398µm,27.2s
PPT2 *e*LQ LQ 23 31 41.6
comp=Z,1649µm,31.5s
PPT2 *e*LR LR 23 33 33.9
comp=Z,1685µm,27.2s,baz=272
TIAR Tiarei 42.78 102 *e*P **P** **23 21 43.3 -0.6**
comp=Z,529nm,0.9s
TBI Tubuai 42.95 110 *e*P **P** **23 21 44.7 -0.5**
comp=Z,632nm,1.0s
TBI *e*S **S** **23 28 11.3 +2.9**
comp=Z,288µm,30.8s
TBI *e*LQ LQ 23 31 55.5
comp=Z,1059µm,28.5s
TBI *e*LR LR 23 33 42.9
comp=Z,786µm,28.0s,baz=284
MMRI Maumere 43.62 271 P **P** **23 21 50.6 -0.1**
comp=Z,1µm,1.5s,comp=Z,66µm
MMRI Maumere 43.62 271 *e*P **P** **23 21 50.0 -0.7**
comp=Z,1µm,1.1s
BBSI Bau Bau 43.91 276 P **P** **23 21 55.5 +2.4**
comp=Z,1µm,1.1s,comp=Z,54µm
SGSI Sangihe 43.93 290 P **P** **23 21 56.2 +3.0**
comp=Z,4µm,1.5s,comp=Z,84µm
MIDW Midway 43.94 21 PFAKE 23 22 00.0 +7.0
MIDW LR LR
comp=Z,280µm,20.0s
MEH Mehetia 44.00 102 *e*P **P** **23 21 53.2 -0.6**
comp=Z,2µm,1.3s
KMSI Cibinong 44.25 285 P **P** **23 21 57.9 +2.1**
comp=Z,4µm,1.6s
PMOR Pomariorio Ree 44.26 98 *e*P **P** **23 21 55.8 0.0**
comp=Z,1µm,0.9s
VAH Vaihoa 44.51 98 *e*P **P** **23 21 57.5 -0.3**
comp=Z,787nm,0.8s
LUWI Luwuk 44.89 282 P **P** **23 22 02.9 +2.0**
comp=Z,2µm,1.4s,comp=Z,51µm
KKSI Kolaka, Sulawe 45.11 277 P **P** **23 22 04.4 +1.7**
comp=Z,762nm,1.5s
MBWA Marble Bar 45.24 253 *e*P **P** **23 22 03.8 +0.2**
comp=Z,627nm,0.9s
MBWA LR LR
comp=Z,449µm,19.0s
DAV Davao City (W) 45.28 294 PFAKE 23 22 20.0 +16
DAV LR LR
comp=Z,123µm,20.0s
GSPH General Santos 45.42 292 *e*P P 23 22 18.3 +13
BUKP Musuan 46.10 295 *e*P **P** **23 22 13.3 +2.8**
MRSI Marisa 46.15 284 P P 23 22 14.3 +3.5
comp=Z,464nm,1.4s
WBSI Waikabubak, Su 46.23 269 P P 23 22 16.7 +5.2
comp=Z,957nm,0.9s
BKSI Bulukumba 46.33 275 P **P** **23 22 12.7 +0.4**
comp=Z,387nm,2.2s
CBIJ Chichi jima 46.38 330 P **P** **23 22 13.7 +1.3**
JCJ Chichijima 46.38 330 P **P** **23 22 13.7 +1.3**
comp=Z,234nm,0.4s,baz=254,slow=14,SNR=7.5
JCJ LR LR 23 38 42.0
comp=Z,226µm,21.2s,baz=133,slow=32
CTBH Cotabato--PC H 46.54 293 *e*P P 23 22 17.1 +3.2
SCPH Surigao 46.60 297 *e*P **P** **23 22 15.1 +0.8**
SCPH *e*S **sP** **23 22 28.2 +0.1**
CGP Cagayan de Oro 46.68 295⇓ *e*P P 23 22 22.1 +7.1
MEEK Meekatharra 46.72 246 ⇓P **P** **23 22 15.0 -0.3**
baz=47,SNR=294
KAPI Kappang 46.76 275 P **P** **23 22 14.1 -1.5**
comp=Z,2µm,1.4s,SNR=23
KAPI Kappang 46.76 275 *e*P **P** **23 22 15.1 -0.6**
KAPI Kappang 46.76 275 P **P** **23 22 15.6 -0.1**
comp=Z,196nm,1.1s,baz=125,slow=5.5,SNR=20
KAPI LR LR 23 41 38.7
comp=Z,66µm,19.1s,baz=98,slow=36
SPSI Sidrap Palu 46.98 277 P **P** **23 22 17.7 +0.3**
comp=Z,515nm,1.6s
TTSI Tana Toraja 47.17 278 P **P** **23 22 21.0 +2.2**
comp=Z,530nm,1.5s,comp=Z,45µm
MSLP Maasin 47.31 297 *e*P **P** **23 22 20.3 +0.4**
PAGZ Pagadian 47.58 294 *e*P **P** **23 22 22.8 +0.8**
MJSI Majene 47.85 277 P **P** **23 22 26.1 +1.9**
comp=Z,929nm,1.1s,comp=Z,43µm
DCPH Dipolog City 47.92 294 *e*P **P** **23 22 27.5 +2.8**
TBP Tagbilaran 47.97 296 *e*P **P** **23 22 27.0 +1.9**
LLP Lapu-Lapu 48.17 297 *e*P **P** **23 22 26.9 +0.3**
LLP *e*S S 23 29 33.3 +9.4
KLBR Kellerberrin 48.24 239 ⇓P **P** **23 22 25.7 -1.3**
baz=48,SNR=35
SNPH Sibulan 48.36 295⇑ *i*P **P** **23 22 25.9 -2.2**
CNP Catarman 48.63 300 *e*P **P** **23 22 30.4 +0.3**
KIP Kipapa 48.91 46 *e*P **P** **23 22 31.2 -1.0**
KIP Kipapa 48.91 46 *e*P **P** **23 22 31.2 -1.0**
NWAO Narrogin (SRO) 48.94 238 *e*P **P** **23 22 30.8 -1.6**
comp=Z,904nm,1.0s
NWAO Narrogin (SRO) 48.94 238 P **P** **23 22 31.3 -1.1**
comp=Z,334nm,0.8s,baz=78,slow=7.2,SNR=38
NWAO LR LR 23 43 11.7
comp=Z,268µm,19.4s,baz=252,slow=36
BLDU Ballidu 48.95 241 P **P** **23 22 31.5 -1.0**
baz=49,SNR=26
OPA Opana 49.09 46 *e*P **P** **23 22 34.7 +1.2**
OPA Opana 49.09 46 *e*P **P** **23 22 34.7 +1.2**
MORW Morawa 49.29 243 P **P** **23 22 34.5 -0.6**
baz=49,SNR=88
GUIM Jordan 49.51 296 *e*P **P** **23 22 36.6 -0.3**
RKGY Rocky Gully 49.51 236 P **P** **23 22 36.5 -0.2**
baz=50,SNR=22
MTNI Mataram 49.53 270 P **P** **23 22 37.0 -0.1**
PVCP Virac 49.60 301 *e*P P 23 22 44.2 +6.6
POHA Pohakuloa 49.64 50 *e*P P 23 22 42.3 +4.2
HKL Haleakala 49.70 48 *e*P P 23 22 45.2 +6.5
HKL Haleakala 49.70 48 *ep*P P 23 22 45.2 +6.5
HLK Haleakala 49.74 48 *e*P P 23 22 43.6 +4.8
RCP Roxas 49.81 298⇓ *e*P **P** **23 22 40.3 +1.1**
GIRL Giralia 50.40 251 ⇓P **P** **23 22 44.5 +0.9**
baz=50,SNR=30
AUQP San Andres 50.71 300 *e*P **P** **23 22 47.8 +1.8**
OTRP Odiongan 50.81 298 *e*P **P** **23 22 47.3 +0.6**
MYLDM Lahad Datu 50.98 288 P P 23 22 51.2 +3.2
CUYO Cuyo Island 50.99 296 *e*P **P** **23 22 48.9 +0.8**
GQP Guimayangan 51.19 300⇓ *e*P **P** **23 22 49.9 +0.3**
TSM Tawau 51.25 286 P **P** **23 22 50.3 +0.3**
SJMP San Jose 51.63 298 *e*P **P** **23 22 53.5 +0.6**
LQP Lukban 52.06 300⇑ *e*P P 23 23 13.4 +17
BUSP Coron 52.22 297 *e*P **P** **23 22 57.8 +0.5**
SDKM Sandakan 52.35 288 P **P** **23 22 58.4 0.0**
TAOE Nuku Hiva Isla 52.51 91 *e*P **P** **23 22 59.5 -0.1**
comp=Z,1µm,1.3s
TAOE *e*S **S** **23 30 25.8 +1.3**
comp=Z,299µm,26.5s
TAOE *e*LR LR 23 38 07.1
comp=Z,842µm,27.5s
ENPP El Nido 52.55 295 *e*P **P** **23 23 00.3 +0.6**
PPR Puerto Princes 52.55 293 *e*P P 23 23 04.5 +4.7
PALP Palanan 52.81 303 *e*P **P** **23 22 08.8 +1.2**
BALP Baler 52.83 301 *e*P **P** **23 23 02.6 +0.8**
PCPH Palayan 53.14 301⇑ *e*P **P** **23 23 04.0 -0.1**
KDM Kudat 53.15 289 P P 23 23 08.9 +4.7
CAUP Cauayan 53.24 303 *e*P P 23 23 11.6 +6.8
KKM Kota Kinabalu 53.41 288 P **P** **23 23 07.7 +1.4**
KKM Kota Kinabalu 53.41 288 *e*P **P** **23 23 06.7 +0.4**
comp=Z,3µm,1.1s
KKM LR LR
comp=Z,69µm,20.0s
KKM Kota Kinabalu 53.41 288 P **P** **23 23 06.3 +0.1**
baz=53,SNR=9.6
APYP Conner 54.19 304 *e*P **P** **23 23 14.0 +2.2**
SCZP Santa Cruz 54.24 301 *e*P P 23 23 19.4 +7.2
JOW Kunigami 54.31 317 *e*P **P** **23 23 13.2 +0.7**
comp=Z,2µm,1.1s
ABRA Dolores 54.51 303 *e*P P 23 23 24.7 +11
UGM Wanagama 55.16 269 *e*P **P** **23 23 18.6 -0.3**
BTM Bintulu 55.40 283 P **P** **23 23 21.6 +1.0**
SBUM Sibu 55.99 282 P **P** **23 23 25.7 +0.8**
SBUM Sibu 55.99 282 *e*P **P** **23 23 25.1 +0.2**
comp=Z,997nm,1.3s
MAJO Matsushiro 56.09 333 *e*P **P** **23 23 23.8 -1.4**
MAJO pmax pmax
comp=Z,513nm,1.0s
MAJO MLR MLR
comp=Z,97µm,21.0s
MAJO Matsushiro 56.09 333 *e*P **P** **23 23 23.8 -1.4**
comp=Z,513nm,1.0s
MAJO LR LR
comp=Z,97µm,21.0s
MAT Matsushiro 56.09 333 P **P** **23 23 24.3 -0.9**
MAT *e*S **S** **23 31 15.2 +3.3**
RKT Rikitea 56.24 109 *e*P **P** **23 23 26.3 -0.2**
comp=Z,210nm,1.4s
RKT *e*S **S** **23 31 16.7 +2.2**
RKT comp=Z,216µm,27.5s *e*LQ LQ 23 37 26.8
RKT comp=Z,247µm,39.2s *e*LR LR 23 39 53.1
comp=Z,624µm,28.5s,baz=272
TWG Pinlang 57.00 308 *e*P **P** **23 23 32.1 +0.2**
comp=Z,2µm,1.1s
JNU Nakatsue 57.13 324 *e*P **P** **23 23 32.7 0.0**
comp=Z,1µm,1.1s
JNU Nakatsue 57.13 324 P **P** **23 23 32.6 0.0**
comp=Z,313nm,0.9s,baz=124,slow=4.5,SNR=40
JNU LR LR 23 45 03.7
comp=Z,142µm,19.2s,baz=40,slow=33
YULB Yu-li 57.15 309 *e*P **P** **23 23 34.0 +1.0**
comp=Z,856nm,1.1s
NACB Ninganchiao 57.38 310 *e*P **P** **23 23 34.2 -0.2**
comp=Z,3µm,1.4s
KSM Kuching 57.54 280 P **P** **23 23 36.4 +0.5**
KSM Kuching 57.54 280 *e*P **P** **23 23 35.6 -0.3**
comp=Z,2µm,1.5s
KSM LR LR
comp=Z,64µm,19.0s
KSM Kuching 57.54 280 P **P** **23 23 35.7 -0.1**
baz=58,SNR=29
TPUB Ta-pu 57.61 309 *e*P **P** **23 23 35.0 -1.2**
comp=Z,2µm,1.0s
SSLB Suanglung 57.64 309 *e*P **P** **23 23 34.2 -2.1**
comp=Z,1µm,1.2s
YHNB Yeheng 57.83 310 *e*P **P** **23 23 37.5 -0.2**
comp=Z,3µm,1.1s
YHNB LR LR
comp=Z,150µm,19.0s
CISI Cisompet, Garu 57.86 269 *e*P **P** **23 23 37.1 -1.1**
comp=Z,7µm,1.7s
TATO Taipei 57.92 311 *e*P **P** **23 23 37.5 -0.8**
comp=Z,11µm,1.3s
TATO LR LR
comp=Z,118µm,22.0s
LEM Lembang 58.19 270⇑P **P** **23 23 41.2 +0.6**
baz=58,SNR=17
ERM Erimo 58.88 340⇑ *e*P **P** **23 23 45.6 +1.0**
ERM pmax pmax
comp=Z,137nm,1.7s
ERM Erimo 58.88 340 *e*P **P** **23 23 45.2 +0.6**
comp=Z,309nm,1.2s
XMI Christmas Isla 59.44 266 ⇓P **P** **23 23 49.7 +0.6**
baz=59,SNR=8.1
XMIS Christmas Isla 59.47 265 *e*P **P** **23 23 50.0 +0.6**
comp=Z,11µm,1.4s
XMIS Christmas Isla 59.47 265⇑P **P** **23 23 49.5 +0.1**
baz=59,SNR=8.6
YUK Yuzh-Kuril'sk 59.87 343⇓ *i*P P 23 23 59.6 +8.2
YUK *i* 23 26 02.8
YUK S **S** **23 31 58.3 -2.6**
YUK pmax pmax
comp=Z,1µm,1.4s
YUK pmax pmax
comp=N,43nm,1.4s
QZH Quanzhou 60.06 309⇓ *i*P **P** **23 23 55.1 +1.9**
QZH AMB AMB
comp=N,4µm,1.2s
QZH LR LR
comp=N,145µm,17.3s
QZH LR LR
comp=N,82µm,16.2s
QZH LR LR
comp=N,152µm,19.3s
ASAJ Asahikawa 60.94 341 *e*P **P** **23 23 59.1 +0.3**
ASAJ Asahikawa 60.94 341 P **P** **23 23 58.5 -0.2**
comp=N,105nm,0.7s,baz=222,slow=12,SNR=19
ASAJ LR LR 23 48 05.7
comp=N,257µm,18.9s,baz=232,slow=34
SSE Sheshan 61.80 316⇑P **P** **23 24 04.7 -0.1**
SSE AMB AMB
comp=N,110nm,0.9s
SSE AMB AMB
comp=N,100µm,12.0s
KSRS Korea Array 61.95 326 P **P** **23 24 05.9 +0.2**
comp=N,96nm,0.9s,baz=138,slow=7.2,SNR=51
KSRS LR LR 23 49 52.4
comp=N,77µm,19.2s,baz=120,slow=35
KSRS PKP2bc 23 53 32.8
comp=N,5.3nm,0.9s,baz=318,slow=2.8,SNR=4.3
KSAR Wonju Array Be 61.96 326 P **P** **23 24 05.9 +0.1**
KSAR ⇑ *e* 23 53 32.8
KS01 Wonju Array Si 61.98 326 *e*P P **P** **23 24 04.1 -1.8**
KS01 ⇑ *e* 23 53 24.6
INCN Inchon 62.68 325 P **P** **23 24 11.6 +0.9**
SNR=21
INCN Inchon 62.68 325 *e*P **P** **23 24 11.0 +0.3**
comp=N,4µm,2.0s
MNAI Manna 63.23 272 *e*P **P** **23 24 15.1 +0.2**
comp=N,9µm,1.7s
YSS Yuzh-Sakhalins 63.43 342⇑ *i*P **P** **23 24 16.0 +0.6**
YSS *e**PP **pP** **23 24 25.3 -0.2**
YSS *e*S **S** **23 32 50.0 +4.0**
YSS pmax pmax
comp=N,280nm,1.3s
YSS pmax pmax
comp=Z,350nm,1.3s
YSS MLR MLR
comp=N,145µm,18.0s
YSS MLR MLR
comp=Z,168µm,18.0s
YSS MLR MLR
comp=E,62µm,20.0s
BTDF Bukit Timah Da 63.79 278⇑P **P** **23 24 19.1 +0.6**
baz=64,SNR=4.3
BTDF ⇑P **P** **23 24 19.1 +0.6**
baz=64,SNR=4.3
MYKOM Kota Tinggi 63.83 279 P **P** **23 24 19.3 +0.5**
NJ2 Nanjing 63.96 316 *e*P **P** **23 24 18.3 -0.9**
NJ2 pP **pP** **23 24 29.8 +0.5**
NJ2 sP **sP** **23 24 33.1 -0.1**
NJ2 PP **PP** **23 26 40.9 +0.6**
NJ2 S **S** **23 32 56.5 +3.4**
NJ2 AMB AMB
comp=E,100nm,0.8s
NJ2 AMB AMB
comp=E,8µm,8.7s
NJ2 LR LR
comp=E,80µm,28.2s
NJ2 LR LR
comp=E,78µm,26.4s
NJ2 LR LR
comp=E,124µm,29.5s
SKR Severo-Kuril's 64.14 353 *e*P **P** **23 24 20.0 +0.1**
SKR *e* 23 24 38.5
SKR pmax pmax
comp=Z,400nm,1.0s
QIZ Qiongzhong 64.26 299 P **P** **23 24 21.5 0.0**
QIZ S **S** **23 32 55.1 -2.3**
QIZ LR LR
comp=Z,46µm,15.2s
QIZ LR LR
comp=Z,87µm,20.2s
VLA Vladivostok 64.26 333⇑ *i*P **P** **23 24 20.8 -0.2**
VLA *e* 23 24 55.2
VLA *i* 23 26 41.9
VLA S **S** **23 32 54.6 -1.9**
VLA pmax pmax
comp=Z,251nm,1.5s
KGM Kluang 64.40 279 P **P** **23 24 23.3 +0.7**
VNDA Vanda 64.48 181 *e*P **P** **23 24 20.8 -1.2**
comp=Z,3µm,2.0s
VNDA P'P' 23 53 17.1
VNDA Vanda 64.48 181 P **P** **23 24 20.8 -1.2**
comp=Z,199nm,1.2s,baz=358,slow=6.7,SNR=46
VNDA LR LR 23 48 51.9
comp=Z,175µm,19.8s,baz=32,slow=33
VNDA PKPPKP **P'P'df** **23 53 17.1 +4.5**
comp=Z,6.6nm,1.2s,baz=296,slow=2.1,SNR=5.0
CASY Casey 64.75 202 *e*P **P** **23 24 22.0 -1.8**
comp=Z,1µm,1.3s
CASY LR LR
comp=Z,130µm,21.0s
SBA Scott Base 64.77 180 *e*P **P** **23 24 23.5 -0.4**
SBA pmax pmax
comp=Z,1µm,1.4s
SBA MLR MLR
comp=Z,170µm,20.0s
SBA Scott Base 64.77 180 *e*P **P** **23 24 23.5 -0.4**
comp=Z,1µm,1.4s
SBA LR LR
comp=Z,170µm,20.0s
USRK Ussuriysk Arra 65.07 333 P **P** **23 24 26.8 +0.6**
comp=Z,171nm,1.0s,baz=142,slow=6.0,SNR=122
USRK LR LR 23 49 38.1
comp=Z,95µm,19.3s,baz=45,slow=33
USRK PKP2bc 23 53 18.9
comp=Z,4.0nm,0.8s,baz=294,slow=4.6,SNR=4.2
KTGM Kuala Trenggan 65.50 282 P **P** **23 24 30.6 +0.9**
KTGM Kuala Trenggan 65.50 282 P **P** **23 24 30.8 +1.1**
FX1 Attu Island--F 65.95 4 *e*P **P** **23 24 32.0 +0.3**
FX1 Attu Island--F 65.95 4 P **P** **23 24 32.3 +0.6**
comp=Z,28nm,0.5s,baz=271,slow=3.9,SNR=13
FX1 LR LR 23 47 24.9
comp=Z,173µm,21.4s,baz=196,slow=31
PET Petropavlovsk 66.18 355 *e*P P 23 24 40.8 +7.6
PET pmax pmax
comp=Z,243nm,1.1s
WHN Wuhan 66.27 312⇑P **P** **23 24 34.0 -0.2**
ADK Adak 66.33 11 PFAKE 23 24 50.0 +16
ADK LR LR
comp=Z,224µm,20.0s
PEA0 Petropavlovsk- 66.35 354 *e*P **P** **23 24 33.7 -0.6**
PEA0 *e*P'P'df P'P'df 23 53 12.9 +8.9
PETK Petropavlovsk- 66.35 354 P **P** **23 24 34.2 -0.1**
PETK Petropavlovsk- 66.35 354 P **P** **23 24 34.1 -0.1**
PETK ⇑ *e* 23 53 20.2
PETK Petropavlovsk- 66.35 354 P **P** **23 24 34.1 -0.1**
comp=Z,19nm,0.7s,baz=155,slow=9.4,SNR=14
PETK LR LR 23 47 59.6
comp=Z,119µm,21.6s,baz=160,slow=31
PETK PKP2bc 23 53 20.2
comp=Z,11nm,1.0s,baz=328,slow=2.2,SNR=6.1
FRIM Kepong 66.36 279 P **P** **23 24 35.1 -0.1**
MDJ Mudanjiang 66.47 332 P **P** **23 24 35.8 +0.6**
MDJ pP **pP** **23 24 45.7 +0.3**
MDJ sP **sP** **23 24 48.3 -1.0**
MDJ PcP **PcP** **23 25 05.3 +0.7**
MDJ S **S** **23 33 26.4 +2.9**
MDJ ScS **ScS** **23 34 30.3 +0.7**
MDJ AMB AMB
comp=Z,540nm,1.1s
MDJ AMB AMB
comp=Z,93µm,9.5s
MDJ LR LR
comp=Z,54µm,27.8s
MDJ LR LR
comp=Z,37µm,27.8s
MDJ LR LR
comp=Z,58µm,27.8s
DL2 Dalian 66.52 323 P **P** **23 24 35.8 +0.1**
DL2 AMB AMB
comp=Z,250nm,1.0s
UBPT Khong Chiam 66.60 293 P **P** **23 24 37.3 +0.6**
comp=Z,786nm,1.4s
IPM Ipoh 67.27 281 P **P** **23 24 41.4 +0.3**
IPM Ipoh 67.27 281 *e*P **P** **23 24 40.9 -0.1**
comp=Z,3µm,1.3s
SNY Shenyang 67.41 327⇑P **P** **23 24 41.2 -0.1**
SNY AMB AMB
comp=Z,270nm,1.6s
SNY LR LR
comp=Z,59µm,19.6s
SNY LR LR
comp=Z,52µm,14.7s
SNY LR LR
comp=Z,80µm,17.2s
TIA Tai'an 67.59 318 *e*P **P** **23 24 42.2 -0.4**
TIA LR LR
comp=Z,70µm,16.7s
TIA LR LR
comp=Z,78µm,17.6s
TIA LR LR
comp=Z,125µm,18.6s
COCO West Island 67.74 262 *e*P **P** **23 24 44.8 +0.9**
COCO MLR MLR
comp=Z,106µm,20.0s
COCO West Island 67.74 262 P P 23 24 50.1 +6.1
SNR=9.9
COCO West Island 67.74 262 *e*P **P** **23 24 44.8 +0.9**
COCO LR LR
comp=Z,106µm,20.0s
CN2 Changchun 67.84 329⇑ *i*P **P** **23 24 44.2 +0.2**
CN2 *ep*P **pP** **23 24 52.8 -1.4**
CN2 *e*S **S** **23 33 39.6 -0.4**
CN2 AMB AMB
comp=Z,900nm,1.0s
CN2 LR LR
comp=Z,68µm,18.0s
CN2 LR LR
comp=Z,60µm,18.0s
CN2 LR LR
comp=Z,93µm,19.0s
KULM Kulim 67.86 281 P **P** **23 24 45.0 +0.3**
KULM Kulim 67.86 281 *e*P **P** **23 24 44.5 -0.2**
comp=Z,3µm,1.5s
KULM LR LR
comp=Z,78µm,19.0s
PANO Nakornpanom 68.06 295 P **P** **23 24 45.8 -0.1**
comp=Z,2µm,0.9s
SKLT Songkhla 68.42 283 P **P** **23 24 49.3 +1.1**
comp=Z,1µm,1.5s
SKNT Sakolnakorn 68.56 294 P **P** **23 24 48.7 -0.3**
comp=Z,2µm,1.3s
CHBT CHBT 68.57 289 P **P** **23 24 49.6 +0.5**
comp=Z,1µm,0.7s,comp=Z,40µm
PSI Prapat 68.84 278 P **P** **23 24 49.7 -1.3**
PSI Prapat 68.84 278 P **P** **23 24 50.1 -0.9**
baz=69,SNR=17
PSI Prapat 68.84 278 P **P** **23 24 49.7 -1.3**
comp=Z,50nm,0.8s,baz=112,slow=2.7,SNR=29
SRIT Nakonsritamara 69.80 284 P **P** **23 24 57.5 +0.7**
comp=Z,892nm,1.5s
SURA Surathani 69.95 285 P **P** **23 24 58.7 +1.0**
comp=Z,1µm,1.1s
CHAI Chaiyaphum 69.96 292 P **P** **23 24 57.3 -0.4**
comp=Z,118nm,0.9s,comp=Z,1µm
KRAB Krabi 70.08 284 P P 23 25 04.6 +6.1
comp=Z,660nm,1.4s
GYA Guiyang 70.14 305⇑ *i*P **P** **23 24 58.6 -0.2**
GYA pP **pP** **23 25 10.2 +1.2**
GYA sP **sP** **23 25 16.8 +3.9**
GYA PP **PP** **23 27 36.5 +2.0**
GYA S **S** **23 34 07.0 -1.2**
GYA SKS **SKSac** **23 34 55.3 -2.9**
GYA SS **SS** **23 38 39.0 +0.2**
GYA AMB AMB
comp=Z,360nm,1.0s
GYA LR LR
comp=Z,45µm,16.4s
GYA LR LR
comp=Z,61µm,17.1s
GYA LR LR
comp=Z,53µm,15.2s
BJI Beijing 70.50 321 P **P** **23 25 00.6 +0.1**
BJI S **S** **23 34 15.2 +3.6**
BJI AMB AMB
comp=Z,260nm,1.2s
BJI LR LR
comp=Z,113µm,21.1s
BJI LR LR
comp=Z,126µm,20.0s
BJI LR LR
comp=Z,96µm,26.7s
UNV Unalaska Valle 70.55 17 *e*P P 23 25 05.5 +5.0
comp=Z,170nm,0.9s
PKDT Phuket 70.80 283 P P 23 25 08.7 +5.8
comp=Z,741nm,1.5s
AKUT Akutan 71.00 17 *e*P **P** **23 25 02.4 -0.8**
LOEI Loei 71.17 294 P **P** **23 25 02.8 -2.3**
comp=Z,782nm,1.7s
TIY Taiyuan 71.53 317 *e*P **P** **23 25 07.7 +0.8**
TIY AMB AMB
comp=Z,2µm,1.4s
XAN Xi'an 72.01 313 P **P** **23 25 09.9 0.0**
XAN pP **pP** **23 25 19.7 -0.4**
XAN sP **sP** **23 25 24.5 +0.5**
XAN AMB AMB
comp=Z,94nm,1.3s
XAN LR LR

XAN LR LR
comp=Z,43µm,21.5s
XAN LR LR
comp=Z,16µm,17.4s
XAN LR LR
comp=Z,26µm,17.4s
NANT Nan 72.13 295 P **P** **23 25 10.9 +0.1**
comp=Z,1µm,1.3s,comp=Z,14µm
FALS False Pass 72.31 18 *e*P **P** **23 25 10.2 -1.0**
SPIA Saint Paul Isl 72.62 13 *e*pP pP 23 25 22.8 -0.4
KMI Kunming 72.78 302 P **P** **23 25 15.9 +1.0**
KMI pP **pP** **23 25 25.5 +0.3**
KMI sP **sP** **23 25 30.4 +1.4**
KMI PP **PP** **23 27 59.1 +1.8**
KMI S **S** **23 34 39.5 +0.5**
KMI sS **sS** **23 34 55.1 -0.8**
KMI SS **SS** **23 39 20.2 +0.6**
KMI AMB AMB
comp=Z,140nm,1.3s
KMI AMB AMB
comp=Z,37µm,5.0s
KMI LR LR
comp=Z,43µm,16.6s
KMI LR LR
comp=Z,42µm,17.5s
KMI LR LR
comp=Z,66µm,18.8s
PAYA Payao 73.06 295 P **P** **23 25 16.7 +0.3**
comp=Z,163nm,1.0s,comp=Z,2µm
CM01 Chiang Mai Arr 73.54 294 *e*P **P** **23 25 19.3 0.0**
CM31 Chiang Mai Arr 73.57 294 *e*P **P** **23 25 20.0 +0.6**
comp=Z,911nm,1.0s
CM31 *e*PcP **PcP** **23 25 34.2 -1.1**
CMAR Chiang Mai Arr 73.57 294 P **P** **23 25 20.1 +0.7**
CMAR Chiang Mai Arr 73.57 294 P **P** **23 25 20.1 +0.7**
comp=Z,47nm,0.8s,baz=124,slow=4.6,SNR=5.0
SDPT Sand Point 73.63 19 P **P** **23 25 18.4 -0.5**
CHTO Chiang Mai 73.69 294 *e*P **P** **23 25 20.0 -0.1**
CHTO MLR MLR
comp=Z,57µm,22.0s
CHTO Chiang Mai 73.69 294 P **P** **23 25 20.8 +0.7**
SNR=226
CHTO Chiang Mai 73.69 294 *e*P **P** **23 25 20.0 -0.1**
CHTO LR LR
comp=Z,57µm,22.0s
CHTO Chiang Mai 73.69 294 P **P** **23 25 20.1 -0.1**
comp=Z,6µm,1.1s
HHC Hu-ho-hao-te 73.83 320 *e*P **P** **23 25 19.8 -0.8**
HHC pP **pP** **23 25 31.5 +0.6**
HHC sP **sP** **23 25 35.6 +0.9**
HHC PP **PP** **23 28 07.8 +2.0**
HHC S **SKiKP** **23 34 48.2 +0.6**
HHC SKS **SKSac** **23 35 20.9 -4.5**
HHC SS **SS** **23 39 36.0 +1.1**
HHC AMB AMB
comp=Z,610nm,1.2s
HHC AMB AMB
comp=Z,137µm,8.7s
HHC LR LR
comp=Z,21µm,16.7s
HHC LR LR
comp=Z,105µm,17.8s
HHC LR LR
comp=Z,94µm,19.0s
CMAI Chiengmai2 73.99 295 P **P** **23 25 22.2 +0.2**
CD2 Chengdu 74.39 308 P **P** **23 25 24.3 +0.3**
CD2 pP **pP** **23 25 34.7 +0.4**
CD2 sP **sP** **23 25 38.6 +0.5**
CD2 PP **PP** **23 28 12.5 +1.8**
CD2 S **S** **23 34 55.4 -1.2**
CD2 sS **sS** **23 35 12.6 -1.0**
CD2 SKS **SKSac** **23 35 24.8 -5.1**
CD2 SS **SS** **23 39 44.4 +0.7**
CD2 LR LR
comp=Z,91µm,21.4s
CD2 LR LR
comp=Z,80µm,17.8s
BTO Baotou 74.68 319 *e*P **P** **23 25 25.9 +0.4**
BTO AMB AMB
comp=Z,97nm,1.7s
SEY Seymchan 76.57 353 *ce*P **P** **23 25 34.8 -0.9**
LZH Lanzhou 76.64 312 ⇑P **P** **23 25 38.2 +1.2**
LZH pP **PcP** **23 25 48.7 +0.4**
LZH sP **sP** **23 25 52.5 +1.4**
LZH PP **PP** **23 28 32.3 +2.5**
LZH S **S** **23 35 21.3 -0.3**
LZH sS **sS** **23 35 38.5 -0.2**
LZH SKS **SKSac** **23 35 42.6 -4.1**
LZH SS **SS** **23 40 20.1 +2.3**
LZH AMB AMB
comp=Z,1µm,1.0s
LZH AMB AMB
comp=Z,12µm,9.7s
LZH LR LR
comp=Z,58µm,17.0s
LZH LR LR
comp=Z,64µm,15.2s
LZH LR LR
comp=Z,84µm,18.0s
QSPA South Pole Qui 76.93 180 P **P** **23 25 36.6 -1.5**
QSPA South Pole Qui 76.93 180 P **P** **23 25 36.6 -1.5**
comp=Z,384nm,1.1s,baz=10,slow=1.8,SNR=36
QSPA LR LR 23 53 12.8
comp=Z,105µm,21.8s,baz=15,slow=31
OHAK Old Harbor 77.54 21 *e*P **P** **23 25 42.3 +1.0**
comp=Z,389nm,0.9s
KDAK Kodiak Island 78.21 21 P **P** **23 25 46.0 +1.0**
comp=Z,527nm,0.6s,SNR=5.5
KDAK Kodiak Island 78.21 21 *e*PcP **PcP** **23 25 51.4 -3.0**
KDAK LR LR
comp=Z,281µm,20.0s
CIT Chita 79.27 330 *e*P **P** **23 25 51.5 +0.5**
CIT *e* 23 26 07.1
CIT pmax pmax
comp=Z,3µm,1.8s
SVW2 Sparrevohn 79.83 18 *e*PcP **PcP** **23 25 59.5 -1.8**
IMP Imphal 80.09 298 *ex* **P** **23 25 54.0 -2.2**
RSO Redoubt South 80.20 19 *e*P **P** **23 25 55.8 -0.4**
YAK Yakutsk 80.24 343 *i*P **P** **23 25 54.6 -1.4**
YAK *e* 23 26 00.9
YAK *e* 23 29 06.3
YAK *e*PPP PPP 23 30 51.8
YAK *e*S **S** **23 35 53.1 -5.6**
YAK *e* 23 36 06.8
YAK pmax pmax
comp=Z,130nm,1.0s
YAK pmax pmax
comp=N,31nm,1.3s
YAK pmax pmax
comp=E,19nm,1.3s
YAK pmax pmax
comp=Z,161µm,16.5s
YAK pmax pmax
comp=N,91µm,16.2s
YAK pmax pmax
comp=E,97µm,16.9s
YAK smax smax
comp=N,41µm,16.4s
YAK smax smax
comp=E,33µm,14.3s
ULN Ulaanbaatar 80.35 324 P **P** **23 25 57.9 +0.7**
SNR=218
ULN Ulaanbaatar 80.35 324 *e*P **P** **23 25 57.6 +0.4**
comp=E,5µm,2.2s
ULN LR LR
comp=Z,70µm,19.0s
SONM Songino Array 80.72 324 P **P** **23 25 58.7 -0.4**
SONM PKKPbc **PKKPbc** **23 44 43.6 +2.8**
SONM ⇑*e* 23 52 21.3
SONM Songino Array 80.72 324 P **P** **23 25 58.7 -0.4**
comp=Z,29nm,0.4s,baz=137,slow=5.3,SNR=120
SONM PKKPbc **PKKPbc** **23 44 43.6 +2.8**
comp=Z,3.3nm,0.8s,baz=262,slow=2.5,SNR=4.4
SONM PKP2bc 23 52 21.3
comp=Z,2.1nm,0.9s,baz=271,slow=1.9,SNR=3.6
SONA1 Songino Array 80.72 324 *e*P **P** **23 25 58.4 -0.7**
SONA1 *e*S **S** **23 36 02.2 -2.4**
GTA Gaotai 80.97 314 ⇑P **P** **23 26 01.7 +1.1**
GTA pP **pP** **23 26 12.2 +1.2**
GTA sP **sP** **23 26 16.0 +1.2**
GTA S **S** **23 36 07.7 +0.1**
GTA SKS **SKSac** **23 36 14.3 -3.0**
GTA sS **ScS** **23 36 25.7 -0.4**
GTA AMB AMB
comp=Z,210nm,2.0s
GTA LR LR
comp=Z,44µm,17.6s
GTA LR LR
comp=Z,65µm,18.1s
GTA LR LR
comp=Z,76µm,19.5s
SPU Mount Spurr 80.97 19 *e*P P 23 26 04.3 +4.2
SEW Seward 81.03 21 *e*P **P** **23 26 02.2 +2.0**
comp=Z,181nm,1.0s
SHL Shillong 82.10 298 ⇑*i*P **P** **23 26 06.5 -0.5**
SHL *e*S **S** **23 36 18.0 -2.0**
PMR Palmer 82.22 20 *e*P **P** **23 26 06.0 -0.5**
PMR pmax pmax
comp=Z,485nm,1.4s
PMR Palmer 82.22 20 *e*P **P** **23 26 06.0 -0.5**
comp=Z,485nm,1.4s
PPLA Purkeypile 82.24 18 *e*P **P** **23 26 08.8 +2.0**
comp=Z,286nm,1.4s
CAST Castle Rocks 82.67 17 *e*P **P** **23 26 08.3 -0.6**
comp=Z,256nm,0.8s
RAGM Ragged Mountai 82.93 22 *e*PcP **PcP** **23 26 16.2 +1.2**
DIV Divide 83.04 21 *e*P **P** **23 26 10.4 -0.5**
comp=Z,358nm,1.0s
MAW Mawson 83.11 202 *e*P **P** **23 26 09.9 -1.3**
MAW PKKPbc **PKKPbc** **23 44 37.4 +2.5**
MAW Mawson 83.11 202 P **P** **23 26 09.9 -1.3**
baz=83,SNR=46
MAW Mawson 83.11 202 P **P** **23 26 09.4 -1.8**
comp=Z,26nm,0.9s,baz=97,slow=5.4,SNR=32
MAW PKKPbc **PKKPbc** **23 44 37.4 +2.5**
comp=Z,2.9nm,0.8s,baz=317,slow=6.7,SNR=4.7
MAW LR LR 23 56 25.0
comp=Z,104µm,20.9s,baz=42,slow=31
TRF Thorofare Moun 83.22 18 *e*P **P** **23 26 09.4 -2.5**
comp=Z,186nm,0.6s
MCCM Marconi Confer 83.33 49 *e*P **P** **23 26 13.8 +1.0**
comp=Z,190nm,0.8s
BMRM Bremner River 83.35 22 *e*P **P** **23 26 11.1 -1.4**
comp=Z,580nm,1.3s
KCPM Kodiak Peak 83.42 47 *e*P **P** **23 26 15.1 +1.6**
comp=Z,499nm,1.9s
KCPM *e*P'P'df P'P'df 23 52 43.7 +6.8
SAC San Andreas 83.46 49 P **P** **23 26 12.9 -0.7**
SAC San Andreas 83.46 49 P **P** **23 26 12.9 -0.7**
HOPS Hopland 83.52 48 *e*P **P** **23 26 15.4 +1.6**
comp=Z,329nm,1.2s
KIPM Iron Peak 83.54 47 *e*P **P** **23 26 13.9 -0.2**
ZAK Zakamensk 83.76 325 *e* **P** **23 26 14.4 -0.5**
KHMM Horse Mountain 83.78 46 *e*P **P** **23 26 17.5 +2.2**
comp=Z,209nm,1.2s
MCK McKinley 83.84 18 *e*P **P** **23 26 13.1 -1.9**
MCK pmax pmax
comp=Z,742nm,1.4s
MCK McKinley 83.84 18 *e*P **P** **23 26 13.1 -1.9**
comp=Z,742nm,1.4s
SAO San Andreas Ge 83.88 50 *e*P **P** **23 26 15.7 0.0**
SAO pmax pmax
comp=Z,175nm,1.1s
SAO San Andreas Ge 83.88 50 *e*P **P** **23 26 15.7 0.0**
comp=Z,175nm,1.1s
KRMB Red Mountain 83.91 45 *e*P P 23 26 19.4 +3.4
comp=Z,728nm,3.0s
KBO Bosley Butte 83.96 44 *e*P **P** **23 26 15.3 -0.9**
comp=Z,508nm,1.6s
H02S1 DAWSON INLET T 84.03 32 T T 00 59 08.7
SNR=541
IRK Irkutsk 84.14 327 *e*P **P** **23 26 15.7 -1.0**
IRK pmax pmax
comp=Z,1µm,1.4s
KEBM Edson Butte 84.15 44 *e*P P 23 26 21.5 +4.4
comp=Z,131nm,0.9s
IM04 Indian Mountai 84.17 15 *e*P **P** **23 26 16.3 -0.3**
TLY Talaya 84.20 326 *e*P **P** **23 26 16.9 -0.1**
TLY pmax pmax
comp=Z,1µm,1.5s
TLY Talaya 84.20 326 P **P** **23 26 16.4 -0.6**
comp=Z,4µm,1.1s,SNR=53
PAX Paxson 84.41 20 *e*P **P** **23 26 16.2 -1.8**
PAX pmax pmax
comp=Z,2µm,2.6s
PAX Paxson 84.41 20 *e*P **P** **23 26 16.2 -1.8**
comp=Z,2µm,2.6s
PKM Peak Mountain 84.47 52 ⇑P **P** **23 26 18.1 -0.9**
baz=85,SNR=18
SMMC Simmler 84.47 52 ⇑P **P** **23 26 18.9 +0.1**
baz=85
WDC Whiskeytown Da 84.50 46 *e*P **P** **23 26 17.4 -1.4**
WDC pmax pmax
comp=Z,233nm,1.4s
WDC Whiskeytown Da 84.50 46 *e*P **P** **23 26 17.4 -1.4**
comp=Z,233nm,1.4s
SIT Sitka 84.72 28 *e*P **P** **23 26 20.6 +1.2**
SIT pmax pmax
comp=Z,74nm,0.8s
SIT Sitka 84.72 28 *e*P **P** **23 26 20.6 +1.2**
comp=Z,74nm,0.8s
YBH Yreka Blue Hor 84.82 45 *e*P **P** **23 26 19.3 -1.2**
YBH Yreka Blue Hor 84.82 45 P **P** **23 26 18.4 -2.1**
comp=Z,11nm,0.7s,baz=281,slow=1.5,SNR=15
YBH LR LR 23 58 17.2
comp=Z,71µm,19.9s,baz=267,slow=32
SCI San Clemente I 84.82 55 ⇓P **P** **23 26 19.5 -1.1**
baz=85,SNR=6.3
CRAG Craig 84.89 30 *e*P P 23 26 24.0 +3.7
comp=Z,263nm,1.5s
MENT Mentasta 84.98 21 *e*P **P** **23 26 20.4 -0.3**
HUMO Hull Mountain 84.98 44 *e*P **P** **23 26 20.1 -1.1**
comp=Z,174nm,0.9s
HUMO *e*P'P'df **P'P'df** **23 52 36.7 +2.9**
COLA College 85.00 18 *e*P **P** **23 26 20.1 -0.6**
COLA pmax pmax
COLA comp=Z,472nm,1.0s MLR MLR
comp=Z,98µm,19.0s
COLA College 85.00 18 *e*P **P** **23 26 20.1 -0.6**
comp=Z,472nm,1.0s
COLA LR LR
comp=Z,98µm,19.0s
CIS Catalina Islan 85.08 54 ⇓P **P** **23 26 20.9 -1.0**
baz=85,SNR=6.5
CMB Columbia Colle 85.12 49 *e*P **P** **23 26 21.4 -0.6**
CMB pmax pmax
comp=Z,123nm,0.9s
CMB Columbia Colle 85.12 49 *e*P **P** **23 26 21.4 -0.6**
comp=Z,123nm,0.9s
CMB *e*P'P'df P'P'df 23 52 39.7 +5.7
ILAR Eielson Array 85.21 18 P **P** **23 26 19.2 -2.6**
ILAR P'P' 23 52 30.9
ILAR Eielson Array 85.21 18 P **P** **23 26 19.2 -2.6**
comp=Z,20nm,0.6s,baz=244,slow=4.0,SNR=58
ILAR PKPPKP **P'P'df** **23 52 30.9 -0.5**
comp=Z,1.6nm,0.8s,baz=20,slow=1.6,SNR=4.1
ILAR LR LR 23 58 31.0
comp=Z,153µm,20.5s,baz=236,slow=32
IL1 Eielson Array 85.22 18 *e*P P 23 26 17.5 -4.3
IL1 *e*PKKPdf **PKKPdf** **23 44 26.5 +3.0**
IL1 *e*P'P'df **P'P'df** **23 52 31.7 +0.4**
ARVC Arvin 85.31 52 ⇑P **P** **23 26 22.7 -0.3**
baz=85
VES Vestal, Richgr 85.35 52 ⇓P **P** **23 26 21.7 -1.5**
baz=85,SNR=7.2
RCTC Rector, Farmer 85.39 51 ⇓P **P** **23 26 22.0 -1.4**
baz=86,SNR=5.7
LBCM Butte Creek Ri 85.43 46 P **P** **23 26 21.4 -2.3**
LTIM Timbered Crate 85.46 46 P **P** **23 26 21.7 -2.0**
COR Corvallis 85.52 42 *e*P **P** **23 26 23.7 -0.1**
COR Corvallis 85.52 42 *e*P **P** **23 26 23.7 -0.1**
comp=Z,3µm,1.6s
MWC Mount Wilson 85.61 54 *e*P **P** **23 26 24.3 -0.5**
MWC pmax pmax
comp=Z,100nm,0.8s
MWC Mount Wilson 85.61 54 *e*P **P** **23 26 24.3 -0.5**
comp=Z,100nm,0.8s
MOY Mondy 85.64 325 *e*P **P** **23 26 23.8 -0.6**
MOY pmax pmax
comp=Z,910nm,2.3s
ISA Isabella 85.76 52 *e*P **P** **23 26 23.6 -1.7**
ISA pmax pmax
comp=Z,169nm,1.3s
ISA Isabella 85.76 52 *e*P **P** **23 26 23.6 -1.7**
comp=Z,168nm,1.3s
ISA *e*PKKPdf **PKKPbc** **23 44 27.7 -0.6**
ISA *e*P'P'df P'P'df 23 52 25.7 -7.4
ISA Isabella 85.76 52 ⇓P **P** **23 26 23.7 -1.7**
baz=86,SNR=18
WRAK Wrangell Islan 85.76 29 *e*P **P** **23 26 23.2 -1.5**
comp=Z,79nm,0.6s
BEKR Beckworth 85.79 48 *e*P **P** **23 26 23.3 -2.2**
BEKR *e*PKKPdf **PKKPbc** **23 44 28.7 +0.1**
BBB Bella Bella 85.86 34 LR LR 23 58 51.1
comp=Z,189µm,18.9s,baz=250,slow=32
EDW2 Edwards Air Fo 85.88 53 ⇓P **P** **23 26 24.4 -1.5**
baz=86,SNR=24
F03A Seaside 85.89 41 *e*P **P** **23 26 27.6 +2.0**
comp=Z,312nm,1.3s
SSK Sunset Peak 85.89 54 *e*PKiKP **PKiKP** **23 31 34.5 -0.7**
BFSC Mount Baldy Ra 85.93 54 ⇓P **P** **23 26 24.8 -1.5**
baz=86,SNR=20
HYT Haines Junctio 85.95 24 *e*P **P** **23 26 24.2 -1.5**
SKAG Skagway 86.06 26 *e*P **P** **23 26 29.1 +3.0**
comp=Z,97nm,1.0s
COLD Coldfoot 86.06 16 *e*P **P** **23 26 25.5 -0.5**
comp=Z,240nm,1.1s
MURC Murrieta 86.09 54 ⇑P **P** **23 26 25.7 -1.3**
baz=86,SNR=6.7
E03A Lebam 86.13 41 *e*P **P** **23 26 26.7 0.0**
comp=Z,258nm,0.8s
MLAC Mammoth Lakes 86.14 50 ⇑P **P** **23 26 25.9 -1.4**
baz=86,SNR=13
TAPN Taplejung 86.20 299 *e*P **P** **23 26 27.8 -0.2**
comp=Z,3µm,1.4s
BAR Barrett 86.22 55 *e*P **P** **23 26 27.2 -0.4**
NLWA Neilton Lookou 86.27 40 *e*P **P** **23 26 26.4 -1.2**
comp=Z,307nm,1.6s
H04A Detroit Lake 86.29 43 *e*P **P** **23 26 27.3 -0.4**
comp=Z,133nm,1.0s
H04A *e*P'P'df **P'P'df** **23 52 29.7 -1.5**
LRMC Laurel Mountai 86.30 52 ⇑P **P** **23 26 26.6 -1.4**
baz=86,SNR=12
CWC Cottonwood Cre 86.31 51 ⇓P **P** **23 26 27.2 -1.0**
baz=86,SNR=14
RVCM Rose Valley Ce 86.32 52 *e*P **P** **23 26 28.3 +0.2**
RVCM *e*PKiKP **PKiKP** **23 31 40.9 +5.1**
ODAN Odare 86.33 298 *e*P **P** **23 26 28.4 -0.2**
comp=Z,6µm,1.6s
TIN Tinemaha 86.40 51 ⇓P **P** **23 26 27.4 -1.2**
baz=86,SNR=6.7
K05A Summer Lake 86.44 45 *e*P **P** **23 26 26.9 -1.8**
K05A *e*P'P'df **P'P'df** **23 52 29.6 -1.7**
PAHR Pah Rah Range 86.44 48 *e*P **P** **23 26 30.0 +1.3**
comp=Z,348nm,1.4s
MONP Monument Peak 86.49 55 ⇑P **P** **23 26 27.5 -1.7**
baz=87,SNR=42
MOD Modoc 86.55 46 *e*P **P** **23 26 26.9 -2.3**
comp=Z,376nm,1.0s
MOD *e*PKKPdf **PKKPbc** **23 44 25.6 -1.2**
MOD *e*P'P'df **P'P'df** **23 52 29.8 -1.3**
F04A Amboy 86.62 41 *e*P **P** **23 26 28.7 -0.5**
comp=Z,132nm,0.8s
MPMC Manual Prospec 86.64 52 ⇑P **P** **23 26 28.8 -1.1**
baz=87,SNR=60
RRX Edison Barstow 86.65 53 ⇓P **P** **23 26 29.9 +0.3**
baz=87
DVTC Desert V Tower 86.68 56 ⇓P **P** **23 26 28.9 -1.0**
baz=87,SNR=7.2
PFO Pinyon Flat Ob 86.68 55 P **P** **23 26 29.3 -0.7**
comp=Z,318nm,0.6s,SNR=9.0
PFO Pinyon Flat Ob 86.68 55 *e*P **P** **23 26 30.6 +0.6**
comp=Z,537nm,2.2s
PFO PKKPbc **PKKPbc** **23 44 26.9 +0.8**
PFO Pinyon Flat Ob 86.68 55 ⇑P **P** **23 26 28.8 -1.2**
baz=87,SNR=8.6
PFO Pinyon Flat Ob 86.68 55 PKKPbc PKKPbc 23 44 26.9 +0.8
comp=Z,5.2nm,0.8s,baz=4.7,slow=2.4,SNR=4.4
FL2 Flat Top 2 86.77 41 P **P** **23 26 30.3 +0.2**
NV01 Mina Array Sit 86.80 50 *e*P **P** **23 26 28.4 -2.2**
NV01 *e*P'P'df **P'P'df** **23 52 33.2 +2.1**
NVAR Mina Array Bea 86.80 50 P **P** **23 26 28.1 -2.5**
NVAR PKKPbc **PKKPbc** **23 44 26.7 +0.6**
NVAR P'P' 23 52 33.5
NVAR Mina Array Bea 86.80 50 P **P** **23 26 28.1 -2.5**
comp=Z,4.9nm,0.7s,baz=229,slow=7.0,SNR=21
NVAR PKKPbc **PKKPbc** **23 44 26.7 +0.6**
comp=Z,7.4nm,0.8s,baz=93,slow=2.7,SNR=8.4
NVAR PKPPKP **P'P'df** **23 52 33.5 +2.4**
comp=Z,10nm,1.1s,baz=75,slow=3.0,SNR=12
NVAR LR LR 00 00 03.4
comp=Z,337µm,18.5s,baz=61,slow=32
PINOR Pine Mountain 86.85 44 *e*P'P'df P'P'df 23 52 32.3 +2.1
NV11 Mina Array Sit 86.91 50 *e*P **P** **23 26 30.6 -0.5**
GSC Goldstone 86.93 53 *e*P **P** **23 26 29.5 -1.6**
GSC pmax pmax
comp=Z,1µm,2.6s
GSC Goldstone 86.93 53 *e*P **P** **23 26 29.5 -1.6**
comp=Z,1µm,2.6s
GSC *e*PKKPdf **PKKPdf** **23 44 20.1 +0.5**
GSC Goldstone 86.93 53 ⇑P **P** **23 26 29.4 -1.6**
baz=87,SNR=22
SWSC Sam W. Stewart 87.01 55 ⇑P **P** **23 26 29.9 -1.5**
baz=87,SNR=15
PGC Sidney 87.03 39 *e*P **P** **23 26 31.9 +0.8**
RAMN Ramite 87.04 298 *e*P **P** **23 26 31.7 -0.3**
comp=Z,3µm,1.6s
EGAK Eagle 87.04 20 *e*P **P** **23 26 29.4 -1.4**
HEC Hector,Ludlow 87.16 53 ⇑P **P** **23 26 29.9 -2.4**
baz=87,SNR=51
BELC Belle Mtn. Jos 87.17 54 ⇑P **P** **23 26 30.5 -1.8**
baz=87,SNR=45
FURC Furnace Creek, 87.26 52 ⇑P **P** **23 26 31.2 -1.3**
baz=87,SNR=14
H06S1 SOCORRO T 87.28 70 T T 01 02 46.5
SNR=16
H06N1 SOCORRO T-PHAS 87.29 70 T T 01 02 34.3
LON Longmire 87.32 41 *e*P **P** **23 26 33.5 +0.8**
LON pmax pmax
comp=Z,703nm,2.8s
LON Longmire 87.32 41 *e*P **P** **23 26 33.5 +0.8**
comp=Z,703nm,2.8s
LON *e*P'P'df **P'P'df** **23 52 25.3 -3.9**
H06E1 SOCORRO T-PHAS 87.32 70 T T 01 02 40.8
SNR=16
D05A Enumclaw 87.37 40 *e*P **P** **23 26 31.9 -0.9**
comp=Z,915nm,1.6s
D05A *e*P'P'df P'P'df 23 52 35.1 +6.2
WPW White Pass 87.47 41 P **P** **23 26 31.3 -2.2**
BC3 Big Chuckawall 87.49 55 ⇑P **P** **23 26 32.0 -1.9**
baz=88,SNR=19
G06A Carlson Farm, 87.52 43 *e*P **P** **23 26 31.9 -1.8**
comp=Z,728nm,2.1s
G06A *e*P'P'df **P'P'df** **23 52 30.5 +1.6**
SHOC Shoshone 87.53 52 ⇓P **P** **23 26 32.0 -1.9**
baz=88,SNR=17
PALK Pallekele 87.53 278 P **P** **23 26 35.5 +1.1**
SNR=47
PALK Pallekele 87.53 278 P **P** **23 26 35.8 +1.4**
comp=Z,2µm,1.4s,SNR=11
JIRN Jiri 87.58 299 *e*P **P** **23 26 34.5 -0.3**
comp=Z,1µm,1.0s
TUQ Turquoise Moun 87.66 53 ⇓P **P** **23 26 32.9 -1.8**
baz=88,SNR=42
GMRC Granite Mounta 87.67 54 ⇑P **P** **23 26 32.7 -2.1**
baz=88,SNR=46
GLA Glamis 87.82 56 *e*P **P** **23 26 33.8 -1.6**
GLA Glamis 87.82 56 *e*P **P** **23 26 33.8 -1.6**
GLA *e*P'P'df **P'P'df** **23 52 30.9 +1.3**
GLA Glamis 87.82 56 ⇑P **P** **23 26 33.9 -1.6**
baz=88,SNR=64
DLBC Dease Lake 87.86 28 *e*P **P** **23 26 33.3 -1.7**
DLBC PKKPbc PKKPbc 23 44 30.8 +6.5
DLBC P'P' 23 52 26.9
DLBC Dease Lake 87.86 28 PKKPbc PKKPbc 23 44 30.8 +6.5
comp=Z,5.7nm,0.9s,baz=75,slow=8.1,SNR=4.9
DLBC PKPPKP **P'P'df** **23 52 26.9 -0.3**
comp=Z,3.3nm,1.0s,baz=359,slow=7.1,SNR=3.7
DLBC LR LR 23 58 14.4
comp=Z,118µm,19.8s,baz=240,slow=30
I07A Izee 87.87 44 *e*P **P** **23 26 33.6 -1.9**
comp=Z,158nm,0.8s
IRM Iron Mountain 87.88 54 ⇓P **P** **23 26 33.8 -1.8**
baz=88,SNR=20
GUN Gumba 87.92 299 *e*P **P** **23 26 36.0 -0.4**
comp=Z,1µm,0.9s
TRW Toppenish Ridg 87.96 42 P **P** **23 26 33.7 -2.0**
LDFC Landfair 88.19 54 *e*P **P** **23 26 37.5 +0.3**
comp=Z,237nm,0.9s
B06A Marblemount 88.19 39 *e*P **P** **23 26 37.7 +1.1**
comp=Z,1µm,2.5s
TIXI Tiksi 88.21 349 ⇑*e*P **P** **23 26 34.8 -1.5**
TIXI pmax pmax
comp=Z,137nm,1.6s
PKI Pulchoki 88.23 299 *e*P **P** **23 26 37.2 -0.6**
comp=Z,2µm,1.1s
LTY Liberty 88.23 41 *e*P **P** **23 26 34.6 -2.4**

LTY e P'P'df **P'P'df** 23 52 26.3 -1.2
comp=Z,80nm,0.7s

BMN Battle Mountai 88.24 48 eP **P** 23 26 36.0 -1.4
BMN pmax pmax
comp=Z,557nm,2.0s

BMN Battle Mountai 88.24 48 eP **P** 23 26 36.0 -1.4
comp=Z,557nm,2.0s

Y12C Blythe 88.26 55 ⇓P **P** 23 26 35.9 -1.6
baz=88,SNR=15

J08A Circle Bar Ran 88.32 45 eP **P** 23 26 35.6 -2.0
comp=Z,2µm,2.7s

J08A eP'P'df P'P'df 23 52 34.5 +6.7
KKN Kakani 88.40 299 eP **P** 23 26 38.0 -0.5
comp=Z,2µm,1.2s

DMN Daman 88.50 299 eP **P** 23 26 38.6 -0.4
comp=Z,3µm,1.1s

SHPR Sheep Range 88.57 52 eP **P** 23 26 38.6 -0.4
SHPR ePKKPdf **PKKPdf** 23 44 17.9 +1.1
SHPR eP'P'df **P'P'df** 23 52 30.7 +2.7
ETW Entiat 88.57 40 P **P** 23 26 36.5 -2.3
113A Mohawk Valley, 88.59 56 ⇑P **P** 23 26 37.5 -1.5
baz=89,SNR=12

G08A Pilot Rock 88.65 43 eP **P** 23 26 37.1 -2.0
comp=Z,554nm,1.9s

G08A ePKKPdf **PKKPdf** 23 44 17.8 +0.8
G08A eP'P'df **P'P'df** 23 52 22.8 -4.2
HAWA Hanford 88.65 42 eP'P'df P'P'df 23 52 33.6 +6.9
PDMCI Parker Dam,Lak 88.72 54 ⇑P **P** 23 26 38.0 -1.5
baz=89,SNR=42

R11A Troy Canyon, C 88.80 50 eP **P** 23 26 37.5 -2.6
comp=Z,1µm,3.0s

R11A eP'P'df **P'P'df** 23 52 29.5 +2.1
R11A Troy Canyon, C 88.80 50 ⇑P **P** 23 26 38.2 -1.9
baz=89

GKN Gorkha 89.00 299 eP **P** 23 26 40.3 -0.9
comp=Z,1µm,0.9s

214A Organ Pipe Nat 89.14 57 ⇑P **P** 23 26 40.3 -1.3
baz=89,SNR=32

W13A Hualapai Mount 89.15 54 ⇑P **P** 23 26 39.9 -2.0
baz=89

LPIG La Paz 89.22 65 LR LR 23 57 34.9
comp=Z,93µm,20.3s,baz=240,slow=30

D08A Wollman Farm, 89.28 41 eP **P** 23 26 42.2 +0.3
comp=Z,524nm,1.8s

Z14A Wintersburg 89.42 56 ⇑P **P** 23 26 41.6 -1.2
baz=90,SNR=9.6

B08A Colville Reser 89.47 40 eP P 23 26 38.5 -4.3
comp=Z,1µm,2.6s

B08A ePKKPdf **PKKPdf** 23 44 14.4 -1.1
B08A eP'P'df P'P'df 23 52 33.3 +8.2
Y14A Wickenburg 89.53 55 ⇓P **P** 23 26 41.6 -1.8
baz=90,SNR=10

HVS Khovu-Aksy 89.58 323c *i*P **P** 23 26 42.6 -0.7
HVS pmax pmax
comp=Z,1µm,1.7s

E09A Wood Farm, Sta 89.60 42 eP **P** 23 26 41.8 -1.6
E09A ePKKPdf **PKKPdf** 23 44 15.7 +0.5
E09A eP'P'df **P'P'df** 23 52 25.1 +0.2
ELK Elko 89.78 48 eP **P** 23 26 42.6 -2.1
KOLN Koldanda 89.83 298 eP **P** 23 26 43.9 -1.3
comp=Z,473nm,0.8s

DANN Dangsing 89.84 299 eP **P** 23 26 44.0 -1.3
comp=Z,660nm,0.7s

F10A Beach Ranch, E 90.02 43 eP **P** 23 26 43.3 -2.3
F10A ePKKPdf **PKKPbc** 23 44 20.0 +1.7
SYO Syowa Base 90.05 197 ⇓ *i*X 23 26 41.8
MFID Camas Ranch 90.17 45 ⇓P **P** 23 26 44.5 -1.8
baz=90,SNR=49

CCUT Cedar City 90.25 52 eP **P** 23 26 45.2 -1.8
CCUT ePKKPdf **PKKPdf** 23 44 15.3 +1.3
CCUT eP'P'df **P'P'df** 23 52 25.8 +0.9
PYUN Piuthan 90.43 299 eP **P** 23 26 46.7 -1.3
U15A North Rim 90.77 53 ⇓P **P** 23 26 47.8 -1.7
baz=91

NEW Newport 90.83 41 eP **P** 23 26 49.0 -0.1
comp=Z,70nm,0.8s

NEW Newport 90.83 41 ⇓P **P** 23 26 49.1 -0.1
baz=91,SNR=12

TUC Tucson 90.89 57 eP **P** 23 26 50.9 +1.0
TUC pmax pmax
comp=Z,159nm,1.4s

TUC Tucson 90.89 57 eP **P** 23 26 50.9 +1.0
comp=Z,159nm,1.4s

X16A Lo Mia Camp, P 90.91 55 ⇓P **P** 23 26 49.4 -0.6
baz=91,SNR=40

WMQ Urumqi 91.02 315 P **P** 23 26 50.0 -0.2
WMQ pP **pP** 23 27 00.6 -0.1
WMQ sP **sP** 23 27 04.5 0.0
WMQ AMB AMB
comp=Z,530nm,1.3s

WMQ LR LR
comp=Z,77µm,18.4s

WMQ LR LR
comp=Z,60µm,19.4s

WMQ LR LR
comp=Z,110µm,22.4s

HLID Hailey 91.19 46 eP **P** 23 26 49.5 -1.7
HLID Hailey 91.19 46 ⇓P **P** 23 26 51.4 +0.2
baz=91,SNR=46

WUAZ Wupatki 91.24 54 eP **P** 23 26 51.0 -0.6
comp=Z,192nm,1.4s

WUAZ ePKKPdf **PKKPdf** 23 44 11.6 -0.5
WUAZ Wupatki 91.24 54 ⇓P **P** 23 26 51.2 -0.3
baz=91,SNR=39

MVU Marysvale 91.38 51 eP **P** 23 26 51.3 -0.9
comp=Z,350nm,1.6s

MVU eP'P'df **P'P'df** 23 52 23.0 +0.2
DUG Dugway 91.39 49 eP **P** 23 26 52.0 -0.1
DUG pmax pmax
comp=Z,243nm,1.7s

DUG Dugway 91.39 49 eP **P** 23 26 52.0 -0.1
comp=Z,243nm,1.7s

DUG ePKKPdf **PKKPdf** 23 44 11.5 -0.5
DUG Dugway 91.39 49 ⇓P **P** 23 26 50.9 -1.2
baz=92

BGU Big Grassy Mou 91.43 48 eP **P** 23 26 50.6 -1.7
comp=Z,956nm,2.9s

INK Inuvik 91.59 19 eP **P** 23 26 53.4 +1.3
comp=Z,58nm,1.3s

INK PKKPbc **PKKPbc** 23 44 14.4 -0.6
INK P'P' 23 52 18.2
INK eP'P'df **P'P'df** 23 52 19.1 -0.5
INK Inuvik 91.59 19 P **P** 23 26 52.7 +0.6
comp=Z,4.4nm,0.5s,baz=261,slow=2.8,SNR=3.7

INK PKKPbc **PKKPbc** 23 44 14.4 -0.6
comp=Z,6.4nm,0.8s,baz=72,slow=4.8,SNR=4.8

INK PKPPKP **P'P'df** 23 52 18.2 -1.4
comp=Z,18nm,1.2s,baz=133,slow=3.4,SNR=3.1

INK LR LR 00 04 11.7
comp=Z,221µm,19.3s,baz=231,slow=33

KRAR Krasnoyarsk 91.81 327⇓ eP P 23 26 57.9 +4.5
KRAR pmax pmax
comp=Z,103nm,1.7s

HVU Hansel Valley 91.85 48 eP **P** 23 26 52.8 -1.4
HVU *e* 23 44 11.9
HVU pmax pmax
comp=Z,370nm,1.6s

HVU Hansel Valley 91.85 48 eP **P** 23 26 52.8 -1.4
comp=Z,370nm,1.6s

HVU ePKKPdf **PKKPdf** 23 44 11.9 +0.6
NLU North Lily Min 91.87 50 eP P 23 26 57.8 +3.3
comp=Z,189nm,1.5s

NLU ePKKPdf **PKKPdf** 23 44 12.1 +0.9
NLU eP'P'df **P'P'df** 23 52 25.9 +4.2
HYB Hyderabad 91.89 287 *i* P **P** 23 26 53.0 -1.8
HYB eSKS **SKSac** 23 37 22.0 -3.9
319A Douglas 91.90 58 ⇑P **P** 23 26 53.9 -0.8
baz=92,SNR=31

X18A Snowflake 92.12 55 ⇑P **P** 23 26 55.5 -0.2
baz=92,SNR=14

BSMT Bassoo Peak 92.19 41 eP **P** 23 26 56.6 +0.9
MPU Maple Canyon 92.22 50 eP **P** 23 26 58.9 +2.9
comp=Z,580nm,2.1s

MPU ePKKPdf **PKKPbc** 23 44 16.8 +4.2
MPU eP'P'df **P'P'df** 23 52 25.9 +4.8
NGP Nagpur 92.27 291 eP **P** 23 26 53.8 -2.6
NGP AMB AMB 23 27 00.7
comp=Z,430nm,2.6s

NGP *ex* x 23 27 30.5
Q16A Castle Valley 92.28 51 eP **P** 23 26 56.9 +0.5
Q16A Castle Valley 92.28 51 ⇑P **P** 23 26 55.5 -0.8
baz=92

TMUT Trail Mountain 92.35 50 eP **P** 23 26 59.5 +2.8
comp=Z,167nm,1.4s

TMUT ePP PP 23 30 27.6 -10

TMUT ePKKPdf **PKKPdf** 23 44 10.8 +0.4
TMUT eP'P'df P'P'df 23 52 15.6 -5.4
W18A Petrified Fore 92.44 55 eP P 23 27 02.1 +4.9
W18A Petrified Fore 92.44 55 ⇓P **P** 23 26 57.6 +0.5
baz=92,SNR=9.7

MSO Missoula 92.45 43 eP P 23 27 01.8 +5.0
comp=Z,72nm,1.4s

MSO eP'P'df **P'P'df** 23 52 23.3 +3.4
MSO Missoula 92.45 43 ⇓P **P** 23 26 56.9 +0.1
baz=92

JTMT Jette 92.49 42 eP **P** 23 26 57.0 +0.1
JTMT eP'P'df **P'P'df** 23 52 24.8 +5.0
JLU Jordanelle 92.50 49 eP **P** 23 26 58.5 +1.1
comp=Z,119nm,1.3s

JLU eP'P'df **P'P'df** 23 52 17.2 -3.3
BLMT Blacktail Moun 92.51 41 eP **P** 23 26 60.0 +2.8
320A Kipp Ranch, An 92.51 59 ⇑P **P** 23 26 57.9 +0.4
baz=93,SNR=22

DAU Daniels Canyon 92.60 49 eP **P** 23 26 57.6 -0.3
DAU Daniels Canyon 92.60 49 eP **P** 23 26 57.6 -0.3
MCMT McKenzie Canyo 92.63 45 eP **P** 23 26 57.6 -0.3
MCMT eP'P'df P'P'df 23 52 29.3 +9.4
220A Playas Peak, P 92.65 58 ⇓P **P** 23 26 58.1 -0.1
baz=93

120A U Bar Ranch, L 92.71 57 ⇑P **P** 23 26 58.4 -0.1
baz=93,SNR=8.6

SRU San Rafael 92.81 51 eP **P** 23 27 00.1 +1.3
SRU *e* 23 44 09.3
SRU San Rafael 92.81 51 eP **P** 23 27 00.1 +1.3
SRU ePKKPdf **PKKPdf** 23 44 09.3 -0.1
SRU eP'P'df P'P'df 23 52 29.1 +9.1
Z20A Nine Sixteen R 92.88 57 ⇑P **P** 23 26 59.4 +0.2
baz=93,SNR=8.3

DLMT Dillon 92.94 44 eP **P** 23 26 59.0 -0.2
DLMT eP'P'df **P'P'df** 23 52 24.0 +4.8
LGTI Lohaghat 93.09 299 eP P 23 27 00.9 +0.9
LGTI *ex* x 23 30 24.8
LRM Limekiln Ridge 93.17 44 eP **P** 23 27 00.2 -0.1
LRM ePKKPdf **PKKPbc** 23 44 09.9 -0.6
Y20A Horse Springs, 93.24 56 ⇑P **P** 23 27 00.8 -0.2
baz=93,SNR=13

X20A Quemado 93.29 55 ⇓P **P** 23 27 00.9 -0.2
baz=93,SNR=8.3

221A Mesquite Ranch 93.29 58 ⇓P **P** 23 27 00.8 -0.3
baz=93

M17A Scullys Gap (B 93.30 48 ⇓P **P** 23 27 00.9 -0.1
baz=93,SNR=15

RRI2 Red Ridge 93.30 46 eP **P** 23 27 00.2 -0.9
RRI2 ePKKPdf **PKKPdf** 23 44 08.6 -0.3
AHID Auburn Hatcher 93.31 47 eP **P** 23 27 01.3 +0.3
comp=Z,14nm,0.7s

121A Cookes Peak, D 93.41 58 ⇓P **P** 23 27 01.7 0.0
baz=94,SNR=13

W20A Ramah 93.42 55 ⇓P **P** 23 27 01.6 -0.1
baz=94,SNR=7.2

LCCM Lewis and Clar 93.56 44 eP **P** 23 27 03.3 +1.3
PMSA Palmer Station 93.57 161 eP **P** 23 27 01.2 -0.3
comp=Z,462nm,1.4s

PMSA LR LR
comp=Z,121µm,20.0s

PMSA Palmer Station 93.57 161 P **P** 23 26 59.6 -1.9
comp=Z,26nm,0.9s,baz=256,slow=4.4,SNR=6.4

TPAW Teton Pass 93.60 46 eP **P** 23 27 02.9 +0.5
TPAW eP'P'df P'P'df 23 52 24.6 +6.3
QLMT Earthquake Lak 93.60 45 eP **P** 23 27 02.0 -0.3
V20A Brimhall 93.61 54 ⇓P **P** 23 27 01.8 -0.7
baz=94

REDW Red Top Meadow 93.64 46 eP **P** 23 27 04.8 +2.3
REDW eP'P'df P'P'df 23 52 24.7 +6.5
PV05 Paradox Valley 93.65 52 eP **P** 23 27 03.8 +1.1
PV05 ePKKPdf **PKKPbc** 23 44 09.7 +0.9
Z21A St. Cloud Mine 93.68 57 ⇑P **P** 23 27 02.8 -0.2
baz=94,SNR=17

U20A Newcomb 93.70 54 ⇓P **P** 23 27 02.3 -0.6
baz=94

IMW Indian Meadow 93.71 46 eP **P** 23 27 02.5 -0.5
comp=Z,50nm,1.2s

IMW ePKKPdf **PKKPdf** 23 44 06.6 -1.6
IMW eP'P'df P'P'df 23 52 24.4 +6.3
PV09 Paradox Valley 93.72 51 eP P 23 27 08.7 +5.6
PV09 ePKKPdf **PKKPdf** 23 44 06.3 -1.7
SNOW Snow King Moun 93.73 46 eP **P** 23 27 03.0 0.0
PV10 Paradox Valley 93.76 52 eP **P** 23 27 02.5 -0.7
PV10 ePKKPdf **PKKPdf** 23 44 05.4 -2.4
PV10 eP'P'df **P'P'df** 23 52 20.9 +2.5
MOOW Moose Ponds 93.81 46 eP **P** 23 27 03.0 -0.3
comp=Z,190nm,2.3s

Y21A Point of Rocks 93.83 56 ⇑P **P** 23 27 03.7 +0.1
baz=94,SNR=28

X21A Alamocita Cree 93.84 56 ⇑P **P** 23 27 03.5 -0.2
baz=94,SNR=9.4

LOHW Long Hollow 93.87 46 eP **P** 23 27 03.7 +0.2
comp=Z,322nm,2.5s

LOHW eP'P'df P'P'df 23 52 24.8 +7.1
222A Williams Famil 93.87 58 ⇓P **P** 23 27 03.2 -0.6
baz=94

YMR Madison River 93.88 45 eP P 23 27 09.8 +6.2
comp=Z,87nm,1.3s

YMR eP'P'df P'P'df 23 52 25.4 +7.8
MVCO Mesa Verde 93.91 53 eP **P** 23 27 03.5 -0.4
comp=Z,601nm,2.8s

MVCO Mesa Verde 93.91 53 ⇓P **P** 23 27 03.7 -0.2
baz=94,SNR=11

FLWY Flagg Ranch 93.92 46 eP **P** 23 27 03.1 -0.7
comp=Z,315nm,2.2s

AKL Akola 94.03 290 ⇓ *i*P **P** 23 27 03.7 -0.8
AKL AMP 23 27 07.2
comp=Z,224nm,1.2s

PV01 Paradox Valley 94.07 52 eP **P** 23 27 05.0 +0.3
H17A Grant Village 94.08 46 ⇑P **P** 23 27 04.2 -0.4
baz=94,SNR=8.8

P19A Cripple Cowboy 94.10 50 ⇑P **P** 23 27 04.5 -0.3
baz=94,SNR=8.9

O19A Miners Draw (B 94.15 50 ⇓P **P** 23 27 04.8 -0.1
baz=94

S20A Disappointment 94.16 52 ⇓P **P** 23 27 04.4 -0.7
baz=94,SNR=13

PV15 Paradox Valley 94.18 52 eP **P** 23 27 07.6 +2.5
PV15 ePKKPdf **PKKPdf** 23 44 04.7 -2.4
R20A Redvale 94.22 52 ⇑P **P** 23 27 04.8 -0.5
baz=94,SNR=10

Z22A Elephant Butte 94.24 57 ⇓P **P** 23 27 05.1 -0.3
baz=94,SNR=12

V21A Milan 94.27 54 ⇓P **P** 23 27 05.3 -0.2
baz=94

LAZ Ladron 94.35 56 eP **P** 23 27 06.1 +0.1
LAZ ePKKPdf **PKKPdf** 23 44 05.4 -1.1
U21A Nageezi 94.39 54 ⇓P **P** 23 27 05.6 -0.5
baz=94,SNR=34

Y22A Socorro 94.39 56 ⇑P **P** 23 27 05.9 -0.2
baz=94,SNR=12

BW06 Boulder Array 94.41 47 eP **P** 23 27 06.4 +0.3
comp=Z,126nm,1.9s

BW06 ePKKPdf **PKKPdf** 23 44 03.1 -3.7
BW06 eP'P'df **P'P'df** 23 52 18.8 +2.0
PDAR Pinedale Array 94.41 47 P **P** 23 27 04.9 -1.2
PDAR PKKPbc **PKKPdf** 23 44 03.1 -3.7
PDAR P'P' 23 52 18.6
PDAR Pinedale Array 94.41 47 P **P** 23 27 04.9 -1.2
comp=Z,1.7nm,0.5s,baz=219,slow=2.3,SNR=22

PDAR PKKPbc **PKKPdf** 23 44 03.1 -3.7
comp=Z,3.3nm,0.7s,baz=97,slow=4.1,SNR=9.4

PDAR PKPPKP **P'P'df** 23 52 18.6 +1.8
comp=Z,3.9nm,1.1s,baz=117,slow=1.7,SNR=6.2

PDAR LR LR 00 07 28.8
comp=Z,99µm,18.1s,baz=1.8,slow=34

LENM Lemitar 94.43 56 eP P 23 27 12.7 +6.4
Q20A Ridgley Place, 94.46 51 ⇓P **P** 23 27 06.0 -0.4
baz=94,SNR=13

X22A Bernardo 94.48 56 ⇓P **P** 23 27 06.2 -0.3
baz=94,SNR=5.4

P20A De Beque 94.51 51 ⇑P **P** 23 27 06.0 -0.6
baz=95,SNR=34

S21A Coal Bank Pass 94.56 53 ⇓P **P** 23 27 06.2 -0.8
baz=95,SNR=43

MAIT Maitri 94.57 188 eP P 23 27 01.9 -4.1
EDM Edmonton 94.58 36 eP **P** 23 27 05.8 -0.6
EDM Edmonton 94.58 36 eP **P** 23 27 05.8 -0.6
T21A Navajo Lake 94.61 53 ⇓P **P** 23 27 06.3 -0.8
baz=95,SNR=7.6

BNM Barren Site 94.71 56 eP **P** 23 27 07.6 0.0
LPM Los Pinos Moun 94.74 56 epP **pP** 23 27 15.4 -2.8
LPM ePKKPdf **PKKPbc** 23 44 05.3 -0.4
O20A White River Ci 94.77 50 eP P 23 27 12.9 +5.1
O20A ePKKPdf **PKKPdf** 23 44 08.5 +2.5

O20A White River Ci 94.77 50 ⇑P **P** 23 27 07.8 0.0
baz=95

Z23A Rita Site, Whi 94.84 57 ⇓P **P** 23 27 07.5 -0.7
baz=95,SNR=6.5

V22A San Miguel Ran 94.87 54 ⇑P **P** 23 27 07.9 -0.4
baz=95

J19A Crowheart 94.89 47 ⇓P **P** 23 27 08.0 -0.2
baz=95

R21A Cimarron 94.90 52 ⇑P **P** 23 27 07.9 -0.6
baz=95,SNR=26

N20A Spence Gulch, 94.91 49 ⇓P **P** 23 27 07.9 -0.5
baz=95,SNR=8.5

Q21A Lamborn Mesa, 94.99 51 ⇑P **P** 23 27 07.9 -0.9
baz=95,SNR=7.6

ANMO Albuquerque 95.02 55 eP **P** 23 27 09.1 +0.1
comp=Z,58nm,1.2s

ANMO PKKPbc **PKKPbc** 23 44 03.1 -1.9
ANMO LR LR
comp=Z,208µm,20.0s

ANMO Albuquerque 95.02 55 PKKPbc PKKPbc 23 44 03.1 -1.9
comp=Z,6.0nm,1.0s,baz=88,slow=5.2,SNR=8.6

GCMT Greycliff 95.04 44 eP **P** 23 27 08.5 -0.3
324A Moseley Ranch, 95.08 59 ⇓P **P** 23 27 08.9 -0.4
baz=95,SNR=8.0

I19A Meeteetse 95.11 46 ⇑P **P** 23 27 09.0 -0.2
baz=95,SNR=5.0

T22A Edith 95.11 53 ⇑P **P** 23 27 08.9 -0.5
baz=95

M20A Sweetwater, Wa 95.11 49 ⇑P **P** 23 27 09.2 -0.1
baz=95

L20A Wamsutter 95.12 48 ⇓P **P** 23 27 08.8 -0.5
baz=95

Y23A Lovelace Mesa, 95.13 57 ⇑P **P** 23 27 09.3 -0.3
baz=95

SNAA Sanae 95.14 183 eP **P** 23 27 06.3 -2.4
SNAA Sanae 95.14 183 eP **P** 23 27 06.6 -2.1
SNAA PKKPbc PKKPbc 23 44 11.8 +6.5
SNAA Sanae 95.14 183 P **P** 23 27 06.2 -2.4
comp=Z,80nm,1.1s,baz=182,slow=4.4,SNR=86

SNAA PKKPbc PKKPbc 23 44 11.8 +6.5
comp=Z,2.4nm,1.0s,baz=234,slow=0.5,SNR=9.8

224A Cornudas Mount 95.18 58 ⇑P **P** 23 27 09.2 -0.5
baz=95,SNR=8.3

MNTX Cornudas Mount 95.21 59 eP **P** 23 27 10.0 +0.2
comp=Z,279nm,2.8s

P21A Newcastle 95.23 51 ⇓P **P** 23 27 09.2 -0.7
baz=95,SNR=8.9

K20A Yellowstone Ra 95.26 48 ⇑P **P** 23 27 09.7 -0.2
baz=95

S22A 4UR Ranch, Cre 95.32 53 ⇑P **P** 23 27 10.0 -0.5
baz=95,SNR=12

124A Stringfield Ra 95.36 58 ⇓P **P** 23 27 10.1 -0.6
baz=95,SNR=7.9

V23A Ortiz Mt. (NFS 95.41 55 ⇑P **P** 23 27 10.1 -0.7
baz=96,SNR=8.5

MK01 Makanchi Array 95.47 317 eP **P** 23 27 09.4 -1.1
MK01 ePKKPdf **PKKPbc** 23 44 02.5 -1.6
MK31 Makanchi Array 95.48 317c eP **P** 23 27 10.1 -0.5
MK31 pmax pmax
comp=Z,601nm,1.2s

MK31 Makanchi Array 95.48 317 eP **P** 23 27 10.2 -0.5
MKAR Makanchi Array 95.48 317 eP **P** 23 27 10.3 -0.3
MKAR 23 31 03.7
MKAR Makanchi Array 95.48 317 eP **P** 23 27 10.3 -0.3
MKAR PP **PP** 23 31 03.7 +1.8
MKAR ePKKPdf **PKKPbc** 23 44 02.9 -1.2
MKAR PKKPbc **PKKPdf** 23 44 05.0 +0.3
MKAR Makanchi Array 95.48 317 ⇑P **P** 23 27 10.6 0.0
baz=96

MKAR Makanchi Array 95.48 317 P **P** 23 27 10.2 -0.3
comp=Z,102nm,0.7s,baz=100,slow=5.7,SNR=129

MKAR PP **PP** 23 31 03.7 +1.8
comp=Z,68nm,1.2s,baz=96,slow=7.4,SNR=4.0

MKAR PKKPbc **PKKPdf** 23 44 05.0 +0.3
comp=Z,4.0nm,0.6s,baz=265,slow=3.6,SNR=12

MKAR LR LR 00 06 25.7
comp=Z,60µm,20.0s,baz=312,slow=33

R22A Saguache, Gunn 95.48 52 ⇑P **P** 23 27 10.4 -0.9
baz=96,SNR=8.5

325A Bean Ranch, Si 95.49 59 ⇑P **P** 23 27 10.5 -0.7
baz=96,SNR=7.3

Q22A Crested Butte, 95.50 52 ⇓P **P** 23 27 10.4 -0.8
baz=96,SNR=16

SMCO Snowmass 95.52 51 eP **P** 23 27 11.0 -0.4
NDI New Delhi 95.52 298 eP **P** 23 27 08.5 -2.7
U23A El Rito 95.52 54 ⇑P **P** 23 27 11.2 -0.2
baz=96,SNR=8.9

F19A Roth Farm, Mol 95.55 44 ⇓P **P** 23 27 11.4 +0.3
baz=96

J20A Shoshoni 95.60 47 ⇓P **P** 23 27 11.1 -0.3
baz=96

ZAA0 Zalesovo Array 95.61 324 eP **P** 23 27 08.7 -2.3
ZALV Zalesovo Beam 95.61 324 P **P** 23 27 09.4 -1.6
ZALV Zalesovo Beam 95.61 324 P **P** 23 27 09.4 -1.6
ZALV PP PP 23 31 11.9 +9.4
ZALV PKKPbc **PKKPbc** 23 44 04.1 +0.2
ZALV Zalesovo Beam 95.61 324 P **P** 23 27 09.4 -1.6
comp=Z,50nm,0.7s,baz=108,slow=4.8,SNR=112

ZALV PP PP 23 31 11.9 +9.4
comp=Z,34nm,1.1s,baz=98,slow=7.6,SNR=4.3

ZALV PKKPbc **PKKPbc** 23 44 04.1 +0.2
comp=Z,2.3nm,0.4s,baz=279,slow=2.8,SNR=5.0

Y24A Capitan 95.63 57 ⇓P **P** 23 27 11.1 -0.7
baz=96,SNR=11

I20A Worland 95.69 46 ⇓P **P** 23 27 11.8 0.0
baz=96

M21A Separation Pea 95.74 49 ⇑P **P** 23 27 12.3 +0.1
baz=96

225A Deer Hill, Car 95.76 59 ⇓P **P** 23 27 11.5 -1.0
baz=96,SNR=7.5

P22A Eagle 95.77 51 ⇑P **P** 23 27 12.1 -0.2
baz=96,SNR=13

T23A Casias Ranch, 95.79 53 ⇑P **P** 23 27 12.5 -0.1
baz=96

RWWY Rawlins 95.87 49 eP **P** 23 27 12.9 +0.1
D19A Cripps Ranch, 95.89 43 ⇑P **P** 23 27 12.1 -0.5
baz=96,SNR=14

H20A Greybull 95.90 46 ⇑P **P** 23 27 12.9 +0.2
baz=96

G20A Bridger 95.91 45 ⇑P **P** 23 27 12.9 +0.2
baz=96

W24A Lazy 6 Ranch, 95.92 55 ⇑P **P** 23 27 12.3 -0.8
baz=96,SNR=11

526A Mary Lane Ranc 95.97 61 ⇓P **P** 23 27 13.8 +0.4
baz=96

125A Gardner Draw, 96.01 58 ⇓P **P** 23 27 13.7 +0.2
baz=96

K21A Alcova 96.04 48 ⇓P **P** 23 27 13.5 0.0
baz=96

O22A Kremmling 96.04 50 ⇑P **P** 23 27 13.3 -0.5
baz=96,SNR=17

J21A Lysite 96.05 47 ⇓P **P** 23 27 13.7 +0.1
baz=96

SMLA Simla 96.05 300 *i* P **P** 23 27 12.7 -0.9
F20A Billings 96.08 45 ⇑P **P** 23 27 13.8 +0.3
baz=96

VNA2 Neumayer--Watz 96.09 182 eP P 23 27 09.0 -4.0
B19A Brinkman Farms 96.13 42 ⇓P **P** 23 27 13.1 -0.4
baz=96,SNR=6.2

V24A Rampart Ranch, 96.13 55 ⇑P **P** 23 27 14.5 +0.4
baz=96

426A McDonald Obser 96.14 60 ⇓P **P** 23 27 13.9 -0.3
baz=96,SNR=16

TX31 Lajitas Ar. Si 96.18 61 eP **P** 23 27 14.7 +0.3
TX31 ePKKPdf **PKKPbc** 23 44 00.8 -0.7
TX31 eP'P'df **P'P'df** 23 52 14.5 -0.1
TXAR Lajitas Array 96.18 61 P **P** 23 27 14.4 0.0
TXAR PP PP 23 31 16.8 +8.9
TXAR PKKPbc **PKKPdf** 23 44 03.5 +0.5
TXAR P'P' 23 52 13.4
TXAR Lajitas Array 96.18 61 P **P** 23 27 14.4 0.0
comp=Z,2.2nm,0.8s,baz=212,slow=4.4,SNR=6.4

TXAR PP PP 23 31 16.8 +8.9
comp=Z,8.3nm,1.1s,baz=243,slow=5.5,SNR=3.6

TXAR PKKPbc **PKKPdf** 23 44 03.5 +0.5
comp=Z,11nm,0.8s,baz=110,slow=4.6,SNR=8.3

TXAR PKPPKP **P'P'df** 23 52 13.4 -1.1
comp=Z,2.0nm,0.9s,baz=111,slow=6.9,SNR=4.4

TXAR LR LR 00 05 37.4
comp=Z,170µm,18.3s,baz=15,slow=32

R23A Moffat 96.19 52 ⇓P **P** 23 27 14.2 -0.2
baz=96,SNR=11

Y25A Mesa, Roswell 96.23 57 ⇑P **P** 23 27 14.1 -0.4
baz=96,SNR=10

E20A Meyer Farm, Mu 96.24 44 ⇑P **P** 23 27 15.0 +0.9
baz=96

N22A Wattenberg Ran 96.25 50 ⇓P **P** 23 27 14.2 -0.4

baz=96,SNR=6.2
I21A Big Trails, Te 96.26 47 ⇓P P 23 27 14.5 +0.1
baz=96,SNR=11
M22A Cedar Creek Ra 96.26 49 ⇑P P 23 27 14.4 -0.2
baz=96,SNR=5.6
226B Tecolote Peak, 96.30 59 ⇑P P 23 27 14.7 -0.1
baz=96,SNR=6.9
SDCO Great Sand Dun 96.35 53 *e*P P 23 27 15.3 +0.1
comp=Z,15nm,1.1s
SDCO LR LR
comp=Z,197µm,19.0s
D20A Manuel Ranch, 96.36 43 ⇑P P 23 27 14.8 +0.1
baz=96,SNR=6.5
527A Woodward Ranch 96.39 61 ⇑P P 23 27 15.3 0.0
baz=96
VNA1 Neumayer--Stat 96.39 182 *e*P P 23 27 12.5 -1.8
P23A Jefferson 96.42 51 ⇓P P 23 27 15.1 -0.4
baz=96,SNR=7.2
627A Terlingua Ranc 96.44 61 ⇑P P 23 27 15.5 0.0
baz=96
YKA Yellowknife Ar 96.45 27 P P 23 27 14.7 +0.1
YKA PKKPbc **PKKPdf** 23 44 02.8 -0.5
YKA P'P' 23 52 23.1
YKA Yellowknife Ar 96.45 27 P P 23 27 14.6 +0.1
comp=Z,18nm,0.8s,baz=259,slow=4.6,SNR=25
YKA PKKPbc **PKKPdf** 23 44 02.8 -0.5
comp=Z,4.2nm,0.8s,baz=76,slow=2.8,SNR=6.2
YKA PKPPKP P'P'df 23 52 23.1 +12
comp=Z,1.6nm,0.8s,baz=94,slow=4.6,SNR=3.8
YKB5 Yellowknife Ar 96.45 27 *e*P P 23 27 14.6 0.0
POO Poona 96.50 287 ⇑*i*P P 23 27 13.0 -2.9
comp=Z,293nm,1.5s
L22A Ellis Ranch, M 96.51 48 ⇑P P 23 27 16.0 +0.3
baz=97,SNR=8.8
O23A Lake Granby, G 96.53 50 ⇑P P 23 27 15.7 -0.2
baz=97,SNR=5.7
S24A Houchin Ranch, 96.56 53 ⇓P P 23 27 15.6 -0.5
baz=97,SNR=6.3
C20A Veseth Ranch, 96.58 43 ⇓P P 23 27 16.2 +0.5
baz=97
N23A Red Feather La 96.64 50 ⇑P P 23 27 16.1 -0.3
baz=97,SNR=9.7
V25A Rancho No Teng 96.67 55 ⇓P P 23 27 15.7 -0.8
baz=97,SNR=10
ISCO Idaho Springs 96.67 51 *e*P P 23 27 16.1 -0.5
ISCO pmax pmax
comp=Z,26nm,1.2s
ISCO Idaho Springs 96.67 51 *e*P P 23 27 16.1 -0.5
comp=Z,26nm,1.2s
ISCO Idaho Springs 96.67 51 ⇑P P 23 27 16.1 -0.5
baz=97,SNR=12
W25A X Bar L Ranch, 96.68 56 ⇓P P 23 27 16.1 -0.4
baz=97,SNR=7.1
Z26A Caprock 96.69 58 ⇓P P 23 27 16.0 -0.5
baz=97,SNR=9.0
427A Hayter Ranch, 96.70 60 ⇓P P 23 27 16.3 -0.3
baz=97
NVS Novosibirsk 96.72 325 ⇑*i*P P 23 27 13.3 -2.7
NVS *e* 23 37 50.9
NVS pmax pmax
comp=N,205nm,1.9s
NVS pmax pmax
comp=Z,516nm,1.9s
NVS pmax pmax
comp=E,236nm,2.2s
B20A Solberg Farm, 96.72 42 ⇑P P 23 27 16.1 -0.2
baz=97
R24A Sanders Place, 96.75 52 ⇑P P 23 27 16.3 -0.5
baz=97,SNR=6.6
F21A Absaloka Mine, 96.79 45 ⇓P P 23 27 17.1 +0.4
baz=97
I22A 9 Mile Ranch, 96.84 47 ⇑P P 23 27 17.7 +0.7
baz=97
Q24A Divide 96.86 52 ⇑P P 23 27 17.2 -0.3
baz=97,SNR=11
A20A Cobblestone Ra 96.88 42 ⇑P P 23 27 17.5 +0.5
baz=97
628A Black Gap, Mar 96.88 61 ⇑P P 23 27 17.4 -0.1
baz=97
Y26A Elida 96.94 57 ⇑P P 23 27 17.5 -0.2
baz=97
U25A Circle Dot Ran 96.95 54 ⇑P P 23 27 17.8 0.0
baz=97
E21A Keefer Ranch, 96.96 44 ⇓P P 23 27 18.3 +0.8
baz=97
L23A Garrett 97.06 49 ⇑P P 23 27 18.1 -0.1
baz=97,SNR=8.0
PHWY Pilot Hill 97.08 49 *e*P Pdif 23 27 22.4 +3.9
comp=E,11nm,0.8s
PHWY *e*PKKPdf **PKKPdf** 23 44 04.3 +2.4
D21A La Casta Ranch 97.12 43 ⇓P Pdif 23 27 19.1 +0.9
baz=97
S25A Robets Cordova 97.17 53 ⇓P P 23 27 18.5 -0.2
baz=97,SNR=13
K23A Bowen Ranch, D 97.24 48 ⇓P Pdif 23 27 19.5 +0.5
baz=97
G22A Birney 97.24 45 ⇑P Pdif 23 27 19.2 +0.4
baz=97
428A Kincaid Ranch, 97.29 60 ⇓P Pdif 23 27 19.7 +0.3
baz=97
328A Wristen Ranch, 97.30 60 ⇑P Pdif 23 27 19.7 +0.2
baz=97
V26A Tequesquite Ra 97.33 55 ⇑P Pdif 23 27 19.6 +0.1
baz=97
Z27A Tatum 97.33 58 ⇓P Pdif 23 27 19.5 0.0
baz=97
R25A Fountain Ranch 97.38 53 ⇓P Pdif 23 27 20.1 +0.4
baz=97
Y27A Causey 97.48 57 ⇓P Pdif 23 27 20.9 +0.7
baz=98
THN Thein Dam 97.52 301 *e*P P 23 27 16.5 -3.6
THN *ex* x 23 31 25.0
Q25A Bedland, Calha 97.55 52 ⇑P P 23 27 19.9 -0.6
baz=98,SNR=8.0
A21A Bergtoll Ranch 97.55 42 ⇑P Pdif 23 27 20.3 +0.3
baz=98
529A Stev Forest Ra 97.57 61 ⇓P P 23 27 20.6 0.0
baz=98
LAO LASA Array 97.57 44 *e*P Pdif 23 27 26.8 +6.6
comp=E,141nm,1.7s
M24A Cheyenne 97.58 49 ⇑P P 23 27 20.3 -0.2
baz=98
228A UT Block 9, Go 97.62 59 ⇑P Pdif 23 27 20.9 +0.1
baz=98
E22A Miles City 97.71 44 ⇓P Pdif 23 27 20.8 0.0
baz=98,SNR=5.0
128A Castleberry Fa 97.80 58 ⇑P Pdif 23 27 21.8 +0.1
baz=98
MSTX Muleshoe 97.81 57 *e*P Pdif 23 27 24.1 +2.5
comp=E,67nm,1.3s
MSTX Muleshoe 97.81 57 ⇑P Pdif 23 27 21.9 +0.2
baz=98
G23A Biddle 97.86 46 ⇑P Pdif 23 27 22.5 +0.9
baz=98
S26A Kim 97.91 53 ⇑P Pdif 23 27 22.6 +0.5
baz=98
429A Davenport Ranc 97.94 60 ⇓P Pdif 23 27 22.3 +0.1
baz=98
F23A Volborg 97.95 45 ⇑P Pdif 23 27 22.8 +0.8
baz=98
C22A Vida 97.99 43 ⇓P Pdif 23 27 22.8 +0.8
baz=98
J24A Dixon Ranch, L 98.04 47 ⇑P Pdif 23 27 22.9 +0.5
baz=98
R26A Arlington 98.05 53 ⇑P P 23 27 22.6 0.0
baz=98
Q26A Hugo 98.11 52 ⇑P Pdif 23 27 23.5 +0.5
baz=98
A22A Carney Farms, 98.20 42 ⇑Pdiff Pdif 23 27 24.2 +1.3
baz=98
U27A Thompson Grove 98.21 55 ⇑Pdiff Pdif 23 27 24.2 +0.8
baz=98
129A Stewart Farms, 98.32 58 ⇑Pdiff Pdif 23 27 24.5 +0.6
baz=98
530A J-C Ranch, Com 98.33 61 ⇑Pdiff Pdif 23 27 24.6 +0.6
baz=98
L25A Engebretsen Ra 98.34 49 ⇑Pdiff Pdif 23 27 24.4 +0.5
baz=98
P26A Davis Ranch, A 98.35 51 ⇓Pdiff Pdif 23 27 24.2 +0.2
baz=98
H24A Dirks Ranch, A 98.37 46 ⇓Pdiff Pdif 23 27 24.1 +0.3
baz=98
O26A Horse Wrangler 98.49 51 ⇑Pdiff Pdif 23 27 25.1 +0.5
baz=99
430A Baggett Ranch, 98.52 60 ⇑Pdiff Pdif 23 27 25.2 +0.3
baz=99
R27A Eads 98.55 53 ⇑Pdiff Pdif 23 27 25.2 +0.3
baz=99
KSH Kashi 98.57 309 P Pdif 23 27 27.1 +2.2
KSH pP pP 23 27 38.6 +3.2
KSH sP sP 23 27 41.0 +1.8
KSH PP **PP** **23 31 30.1 +4.1**
KSH SKS **SKSac** **23 38 01.4 +0.6**
KSH S **S** **23 38 50.6 -1.3**
KSH sS sS 23 39 07.5 -2.0
KSH SS **SS** **23 45 38.4 +0.6**
KSH AMB AMB
comp=E,220nm,2.0s
KSH LR LR
comp=E,52µm,16.4s
KSH LR LR
comp=E,44µm,17.1s
KSH LR LR
comp=E,50µm,16.8s
RSSD Black Hills 98.62 47 *e*P Pdif 23 27 25.4 +0.2
RSSD pmax pmax
comp=Z,389nm,2.3s
RSSD Black Hills 98.62 47 *e*P Pdif 23 27 25.4 +0.2
comp=Z,389nm,2.3s
F24A Ekalaka 98.63 45 ⇓Pdiff Pdif 23 27 25.3 +0.3
baz=99
KURK Kurchatov 98.64 320 *e*P **P** **23 27 23.2 -1.6**
KURK 23 31 22.3
KURK pmax pmax
comp=Z,128nm,1.6s
KURK MLR MLR
comp=Z,56µm,21.0s
KURK Kurchatov 98.64 320 Pdiff **P** **23 27 23.8 -1.0**
SNR=38
KURK Kurchatov 98.64 320 *e*P **P** **23 27 23.2 -1.6**
comp=Z,128nm,1.6s
KURK PP **PP** **23 31 22.2 -3.8**
KURK PKKPbc **PKKPbc** **23 43 55.9 +0.5**
KURK P'P' 23 52 12.4
KURK LR LR
comp=Z,56µm,21.0s
KURBB Kurchatov Arra 98.69 320 P **P** **23 27 23.4 -1.5**
comp=Z,13nm,0.9s,baz=102,slow=3.2,SNR=36
KURBB PP **PP** **23 31 22.2 -4.1**
comp=Z,34nm,1.1s,baz=98,slow=6.5,SNR=4.3
KURBB PKKPbc **PKKPbc** **23 43 55.9 +0.6**
comp=Z,2.7nm,0.8s,baz=279,slow=3.5,SNR=6.6
KURBB PKPPKP **P'P'df** **23 52 12.4 +4.6**
comp=Z,1.1nm,0.8s,baz=300,slow=2.4,SNR=6.2
I25A Rochford 98.82 47 ⇓Pdiff Pdif 23 27 26.8 +0.7
baz=99
631A Perdido Creek 98.85 62 ⇑Pdiff Pdif 23 27 26.6 +0.4
baz=99
T28A Walsh 98.89 54 ⇑Pdiff **P** **23 27 25.9 -0.4**
baz=99
K26A Motz Farm, Whi 99.00 48 ⇓Pdiff **Pdif** **23 27 27.2 +0.5**
baz=99
H25A Fruitdale 99.02 46 ⇑Pdiff **Pdif** **23 27 27.0 +0.3**
baz=99
431A Sonora 99.04 61 ⇑Pdiff **Pdif** **23 27 27.0 -0.1**
baz=99
Z30A Sanderson Ranc 99.04 58 ⇓Pdiff **Pdif** **23 27 27.4 +0.3**
baz=99
130A Snyder 99.06 59 ⇑Pdiff **Pdif** **23 27 26.7 -0.5**
baz=99
O27A Beecher Island 99.11 51 ⇑Pdiff **Pdif** **23 27 27.4 +0.1**
baz=99
N27A Anderson Farm, 99.17 50 ⇓Pdiff **Pdif** **23 27 27.9 +0.4**
baz=99
TKM2 Tokmak 2 99.41 312 *e*P **Pdif** **23 27 27.8 -0.9**
TKM2 pmax pmax
comp=Z,143nm,1.8s
TKM2 MLR MLR
comp=Z,69µm,20.0s
TKM2 Tokmak 2 99.41 312 P **Pdif** **23 27 27.8 -0.9**
SNR=13
TKM2 Tokmak 2 99.41 312 *e*P **Pdif** **23 27 27.8 -0.9**
comp=Z,143nm,1.8s
TKM2 *e*PKKPdf **PKKPbc** **23 43 52.8 -0.5**
TKM2 LR LR
comp=Z,69µm,20.0s
KZA Kyzart 99.53 311 *i*P **Pdif** **23 27 29.5 0.0**
KZA Kyzart 99.53 311 P **Pdif** **23 27 29.5 0.0**
SNR=15
532A Rocksprings 99.55 61 ⇓Pdiff **Pdif** **23 27 29.3 0.0**
baz=100
JCT Junction City 99.69 61 *e*P **Pdif** **23 27 29.3 -0.7**
JCT pmax pmax
comp=Z,23nm,0.8s
JCT Junction City 99.69 61 *e*Pdif **Pdif** **23 27 29.2 -0.7**
comp=Z,23nm,0.8s
JCT *e*PKKPdf **PKKPdf** **23 43 55.1 -1.4**
JCT Junction City 99.69 61 ⇓Pdiff **Pdif** **23 27 30.5 +0.5**
baz=100
Z31A Sharp Cattle R 99.86 58 ⇓Pdiff **Pdif** **23 27 30.7 +0.1**
baz=100
B25A Knox Farm, Ray 99.88 43 ⇓Pdiff **Pdif** **23 27 31.1 +0.6**
baz=100
CHMS Chumysh 100.03 312 *i*P **Pdif** **23 27 30.3 -0.9**
CHMS Chumysh 100.03 312 P **Pdif** **23 27 30.3 -0.9**
SNR=10
232A Coleman 100.05 60 ⇓Pdiff **Pdif** **23 27 31.2 -0.4**
baz=100
AAK Ala-Archa 100.17 311 ⇑*i*P **Pdif** **23 27 31.1 -0.9**
AAK pmax pmax
comp=Z,58nm,0.8s
AAK Ala-Archa 100.17 311 Pdiff **Pdif** **23 27 31.5 -0.5**
SNR=14
AAK Ala-Archa 100.17 311 P **Pdif** **23 27 31.1 -0.9**
SNR=12
AAK Ala-Archa 100.17 311 *e*Pdif **Pdif** **23 27 32.9 +0.9**
AAK LR LR
comp=Z,55µm,21.0s
AAK Ala-Archa 100.17 311 P **Pdif** **23 27 31.3 -0.7**
comp=Z,6.8nm,0.7s,baz=131,slow=5.2,SNR=9.9
ABTX Abilene, Hawle 100.17 59 *e*Pdif **Pdif** **23 27 37.0 +4.9**
ABTX *e*P'P'df **P'P'df** **23 52 11.0 +4.2**
ABTX Abilene, Hawle 100.17 59 ⇑Pdiff **Pdif** **23 27 32.2 +0.2**
baz=100
D26A Manning 100.19 44 ⇓Pdiff **Pdif** **23 27 31.9 +0.1**
baz=100
USP Ospenovka 100.25 312 *i*P **Pdif** **23 27 31.4 -0.8**
USP Ospenovka 100.25 312 P **Pdif** **23 27 31.4 -0.8**
SNR=8.1
AML Almayashu 100.68 311 *i*P **Pdif** **23 27 34.2 -0.4**
AML Almayashu 100.68 311 P **Pdif** **23 27 34.2 -0.4**
SNR=11
EKS2 Erkin-Say 100.69 311 *e*P **Pdif** **23 27 33.7 -0.6**
EKS2 MLR MLR
comp=Z,75µm,19.0s
EKS2 Erkin-Say 100.69 311 P **Pdif** **23 27 33.7 -0.6**
SNR=14
EKS2 Erkin-Say 100.69 311 *e*Pdif **Pdif** **23 27 33.7 -0.6**
EKS2 *e*PKKPdf **PKKPbc** **23 43 52.1 +2.6**
EKS2 LR LR
comp=Z,75µm,19.0s
P30A Selden 100.71 52 ⇑Pdiff **Pdif** **23 27 35.5 +1.1**
baz=101
WMOK Wichita Mounta 101.19 57 *e*P **Pdif** **23 27 35.0 -1.6**
WMOK *e* 23 31 52.0
WMOK Wichita Mounta 101.19 57 *e*Pdif **Pdif** **23 27 35.0 -1.6**
WMOK *e*PP PP 23 31 52.0 +6.0
WMOK *e*PKKPbc **PKKPbc** **23 43 46.0 -1.6**
FFC Flin Flon 101.45 36 *e*P **Pdif** **23 27 37.1 -0.1**
FFC Flin Flon 101.45 36 *e*Pdif **Pdif** **23 27 37.1 -0.1**
WHTX Lake Whitney 101.91 60 *e*PKiKP **PKiKP** **23 32 03.7 +1.0**
WHTX *e*PKKPdf **PKKPdf** **23 43 49.2 -3.2**
WHTX *e*P'P'df **P'P'df** **23 52 07.8 +4.3**
BRSD Miller 102.28 47 *e*PKKPdf PKKPdf 23 43 43.8 -8.3
MRIV Mauritius Mete 102.69 245 *e*Pdif **Pdif** **23 27 46.7 +3.1**
KKAR Karatay Array 103.13 312 *e*P **Pdif** **23 27 43.0 -2.0**
KKAR *e* 23 31 59.8
KKAR Karatay Array 103.13 312 *e*Pdif **Pdif** **23 27 43.0 -2.0**
KKAR *e*PP **PP** **23 31 59.8 -0.4**
KBL Kabul 103.35 303 *e*P **Pdif** **23 27 46.5 +0.1**
KBL Kabul 103.35 303 *e*Pdif **Pdif** **23 27 46.5 +0.1**
VOSK Vostochnaya 103.60 321 *e*P **Pdif** **23 27 45.2 -1.6**
VOSK Vostochnaya 103.60 321 *e*Pdif **Pdif** **23 27 45.2 -1.6**
ECSD EROS Data Cent 103.89 48 *e*Pdif **Pdif** **23 27 48.1 -0.2**
BVAR Borovoye Array 103.98 322 PKiKP **PKiKP** **23 32 06.3 +0.5**
BVAR Borovoye Array 103.98 322 PKiKP **PKiKP** **23 32 06.3 +0.5**
comp=Z,6.4nm,0.8s,baz=74,slow=11,SNR=3.4
BRVK Borovoye 104.04 322 *e*P **Pdif** **23 27 48.2 -0.6**
BRVK *e* 23 32 13.6
BRVK MLR MLR
comp=Z,97µm,20.0s
BRVK Borovoye 104.04 322 Pdiff **Pdif** **23 27 47.9 -0.8**
SNR=23
BRVK Borovoye 104.04 322 *e*Pdif **Pdif** **23 27 48.1 -0.6**
BRVK *e*PP PP 23 32 13.6 +6.9
BRVK LR LR
comp=Z,97µm,20.0s
RES Resolute Bay 104.82 16 PP PP 23 32 13.5 +1.7
RES Resolute Bay 104.82 16 PP PP 23 32 13.5 +1.7
comp=Z,7.3nm,0.6s,baz=128,slow=7.1,SNR=5.6
ULM Lac du Bonnet 104.83 41 PP PP 23 32 11.5 -1.1
ULM PKKPbc **PKKPdf** **23 43 44.0 -3.5**
ULM P'P' 23 51 59.2
ULM Lac du Bonnet 104.83 41 PP PP 23 32 11.5 -1.1
comp=Z,6.2nm,0.7s,baz=323,slow=0.7,SNR=5.3
ULM PKKPbc **PKKPdf** **23 43 44.0 -3.5**
comp=Z,5.7nm,0.5s,baz=84,slow=5.6,SNR=4.0
ULM PKPPKP **P'P'df** **23 51 59.2 +2.9**
comp=Z,10nm,1.0s,baz=160,slow=6.0,SNR=3.5
EFI East Falkland 104.86 153 PFAKE 23 28 00.0 +7.5
EFI LR LR
comp=Z,104µm,21.0s
PLCA Paso Flores 104.89 139 PKiKP **PKiKP** **23 32 10.4 +2.3**
PLCA PKKPbc **PKKPdf** **23 43 47.9 +1.6**
PLCA *e*PKKPdf PKKPab 23 43 49.1 -6.5
PLCA Paso Flores 104.89 139 PKiKP **PKiKP** **23 32 10.4 +2.3**
comp=Z,3.9nm,1.0s,baz=236,slow=4.1,SNR=2.8
PLCA PKKPbc **PKKPdf** **23 43 47.9 +1.6**
comp=Z,6.6nm,1.1s,baz=51,slow=4.6,SNR=5.6
SPMN St. Paul 106.70 46 *e*PKKPdf PKKPdf 23 43 42.5 -1.4
TGUH Tegucigalpa,Un 108.61 79 *e*PKKPbc PKKPbc 23 43 24.0 -0.4
TGUH *e*PKKPab **PKKPdf** **23 43 39.9 +0.4**
OXF Oxford 108.86 58 *e*PKKPbc PKKPbc 23 43 23.9 -0.3
HALT Halls 108.99 56 *e*PKKPab PKKPab 23 43 36.8 +1.7
HDIL Hopedale 109.17 51 *e*PKKPbc PKKPbc 23 43 23.6 +0.1
OLIL Olney 110.06 53 *e*PKKPdf PKKPdf 23 43 37.3 -0.1
WVT Waverly 110.22 56 *e*PKKPbc PKKPbc 23 43 22.9 +3.0
ABKAR Akbulak array 110.58 318 *e*Pdif **Pdif** **23 28 17.1 -0.8**
ABKAR PP PP **23 32 53.5 -1.1**
ABKAR *e*PKKPbc **PKKPbc** **23 43 18.3 -0.8**
ARU Arti 110.70 326 *i*PKiKP **PKiKP** **23 32 18.1 -0.1**
ARU 23 32 59.4
LRAL Lakeview Retre 110.80 59 *e*PKKPbc PKKPbc 23 43 18.0 +0.1
IDAH Dahanechah 110.83 300 *e*P **PKiKP** **23 32 22.6 +3.0**
IMON Monand 111.02 301 *e*P **PKiKP** **23 32 21.2 +1.3**
SOKR Solikamsk 111.13 329 *e*PKiKP PKiKP 23 32 26.5 +7.6
SOKR pmax pmax
comp=Z,70nm,1.0s
CFAA Coronel Fontan 111.29 132 PKiKP **PKiKP** **23 32 18.8 -1.5**
CFAA PKKPbc **PKKPbc** **23 43 17.5 +1.2**
CFAA Coronel Fontan 111.29 132 PKiKP **PKiKP** **23 32 18.8 -1.5**
comp=Z,0.2nm,0.7s,baz=248,slow=6.9,SNR=3.1
CFAA PKKPbc **PKKPbc** **23 43 17.5 +1.2**
comp=Z,0.7nm,0.8s,baz=21,slow=5.4,SNR=4.7
IKOO Kooshah 111.55 300 *e*P **PKiKP** **23 32 25.6 +4.7**
SWET Sewanee 111.74 57 *e*PKKPbc PKKPbc 23 43 16.4 +1.4
IAKL Akhelmad 111.84 304 *e*P **PKiKP** **23 32 18.2 -3.2**
TRQA Tornquist 111.85 140 PFAKE 23 32 30.0
TRQA LR LR
comp=Z,111µm,21.0s
IKRD Kardeh 112.03 305 *e*P **PKiKP** **23 32 20.8 -0.9**
OPO Ambohidratompo 112.38 243 PKiKP **PKiKP** **23 32 21.9 -0.9**
OPO Ambohidratompo 112.38 243 PKiKP **PKiKP** **23 32 21.9 -0.9**
baz=97,slow=1.1
ATAH Atahualpa 112.52 103 PKKPbc PKKPbc 23 43 16.0 +3.8
ATAH Atahualpa 112.52 103 PKKPbc PKKPbc 23 43 16.0 +3.8
comp=Z,13nm,1.1s,baz=58,slow=2.7,SNR=3.9
CPCT Cooper Cave 112.90 57 *e*PKKPab PKKPab 23 43 15.5 -2.2
KBS Kingsbay 113.00 355 ⇑*i*PKiKP **PKiKP** **23 32 22.6 +0.6**
KBS pmax pmax
comp=Z,64nm,2.5s
SPITS Spitsbergen Ar 113.22 354 PKiKP **PKiKP** **23 32 25.7 +3.2**
SPITS PKKPbc **PKKPbc** **23 43 12.2 +1.1**
SPITS Spitsbergen Ar 113.22 354 PKiKP **PKiKP** **23 32 25.7 +3.2**
comp=Z,19nm,0.7s,baz=98,slow=6.0,SNR=17
SPITS PKKPbc **PKKPbc** **23 43 12.2 +1.1**
comp=Z,2.6nm,0.6s,baz=165,slow=6.9,SNR=7.2
TKL Tuckaleechee C 113.51 57 PKiKP **PKiKP** **23 32 24.9 +0.7**
TKL Tuckaleechee C 113.51 57 PKiKP **PKiKP** **23 32 24.9 +0.7**
comp=Z,2.8nm,0.4s,baz=149,slow=6.5,SNR=7.3
TIGA Tifton 113.63 61 *e*PKKPbc PKKPbc 23 43 08.5 +0.1
ASHO Ashiyiah 113.73 291 PKiKP **PKiKP** **23 32 25.4 +0.4**
SNR=7.9
IBAF Bafgh 114.44 299 *e*P PKPdf 23 32 25.8 -0.6
IMND Minoodasht 114.51 305 *e*P PKPdf 23 32 25.1 -1.0
IMEH Mehriz 115.26 299 *e*P **PKPdf** **23 32 27.2 -0.8**
ICHK Chekchek 115.43 300 *e*P **PKPdf** **23 32 27.2 -1.1**
ISAD Sadrabad 116.05 299 *e*P **PKPdf** **23 32 34.3 +4.7**
BLA Blacksburg 116.16 55 *e*PKiKP **PKPdf** **23 32 28.1 -1.3**
BLA Blacksburg 116.16 55 *e*PKPdf **PKPdf** **23 32 28.1 -1.3**
DAG Danmarks Havn 116.26 1 *i*PKiKP PKPdf 23 32 35.4 +7.1
DAG pmax pmax
comp=Z,20nm,0.8s
DAG Danmarks Havn 116.26 1 *i*P PKPdf 23 32 35.4 +7.1
comp=Z,27nm,0.8s
ISRV Sarvestan 116.54 296 *e*P **PKPdf** **23 32 28.4 -2.3**
ILAS Lasjerd 116.56 303 *e*P **PKPdf** **23 32 32.0 +1.6**
IPAR Pars 116.60 297 *e*P **PKPdf** **23 32 31.1 +0.4**
FRB Frobisher Bay 116.74 24 PKP **PKPdf** **23 32 28.1 -1.4**
FRB Frobisher Bay 116.74 24 PKP **PKPdf** **23 32 28.1 -1.4**
comp=Z,16nm,0.8s,baz=304,slow=9.3,SNR=4.6
IZEF Zefreh 117.18 300 *e*P **PKPdf** **23 32 31.1 -0.6**
ISFB Sefidab 117.20 302 *e*P **PKPdf** **23 32 30.7 -0.8**
IDMV Damavand 117.31 303 *e*P **PKPdf** **23 32 36.9 +5.0**
IGAR Gharneh 117.43 300 *e*P **PKPdf** **23 32 36.4 +4.2**
APA Apatity 117.58 342 ⇓*i*PKiKP **PKPdf** **23 32 35.4 +4.3**
APA *i* 23 39 30.0
APA MLR MLR
comp=Z,114µm,19.0s
IVRN Varamin 117.59 303 *e*P **PKPdf** **23 32 28.1 -4.1**
IKAZ Kazeroun 117.65 297 *e*P **PKPdf** **23 32 32.1 -0.7**
IKLH Kolahrood 117.79 301 *e*P **PKPdf** **23 32 33.5 +0.6**
KEV Kevo 117.94 345 *e*PKiKP **PKPdf** **23 32 34.1 +2.4**
KEV Kevo 117.94 345 *e*pkp **PKPdf** **23 32 34.1 +2.4**
URVA University of 118.42 54 *e*pPKPdf pPKPdf 23 32 44.2 -0.2
ARA0 ARCESS Array S 118.47 345 *e*PKPdf **PKPdf** **23 32 31.1 -1.7**
ARA0 *e*PKKPab **PKKPab** **23 42 51.2 -1.0**
ARCES ARCESS Array B 118.47 345 PKP **PKPdf** **23 32 31.3 -1.5**
ARCES PKKPbc **PKKPab** **23 42 51.2 -1.0**
ARCES ARCESS Array B 118.47 345 PKP **PKPdf** **23 32 31.3 -1.5**
comp=Z,12nm,0.6s,baz=73,slow=1.8,SNR=13
ARCES PKKPbc **PKKPab** **23 42 51.2 -1.0**
comp=Z,20nm,0.8s,baz=219,slow=2.9,SNR=14
ARE0 ARCESS Array S 118.47 345 *e*PKPdf **PKPdf** **23 32 31.6 -1.2**
LPAZ La Paz 118.65 117 PKP **PKPdf** **23 32 33.7 -1.7**
LPAZ *e*PKPdf **PKiKP** **23 32 34.9 -0.6**
LPAZ *e*PKKPab **PKKPbc** **23 42 47.4 -4.0**
LPAZ PKKPbc **PKKPbc** **23 42 50.5 -0.9**
LPAZ La Paz 118.65 117 PKP **PKPdf** **23 32 33.7 -1.7**
comp=Z,6.7nm,0.8s,baz=340,slow=1.5,SNR=11
LPAZ PKKPbc **PKKPbc** **23 42 50.5 -0.9**
comp=Z,7.8nm,0.8s,baz=29,slow=5.3,SNR=7.8
IGZV Ghazvin 118.72 304 *e*P PKPdf 23 32 43.0 +8.5
SUMG Summit 118.73 8 *e*PKiKP **PKPdf** **23 32 33.7 0.0**
SUMG Summit 118.73 8 *i*P PKPdf 23 32 39.4 +5.7
comp=Z,51nm,1.0s
SUMG Summit 118.73 8 *i*P **PKKPbc** **23 42 50.2 -2.0**
comp=Z,38nm,0.9s
SUMG Summit 118.73 8 *e*PKPdf **PKPdf** **23 32 33.7 0.0**
SUMG *e*PKKPab **PKKPbc** **23 42 50.2 -2.0**
SDMD Soldier's Deli 118.78 52 *e*PKPdf **PKPdf** **23 32 34.7 +0.5**
IRAZ Razeghan 119.03 303 *e*P **PKPdf** **23 32 37.2 +2.0**
PTN Potsdam (NY) 119.36 46 *e*PKiKP **PKPdf** **23 32 39.1 +3.9**
PTN Potsdam (NY) 119.36 46 *e*PKPdf **PKPdf** **23 32 39.1 +3.9**
ROSC El Rosal 119.52 92 *e*PKKPab PKKPab 23 42 57.0 +6.7
TRO Tromso 119.90 347 *e*PKPdf **PKPdf** **23 32 40.2 +4.8**
MAK Makhachkala 119.94 312 *i*PKiKP PKPdf 23 32 43.1 +6.8
MAK *e* 23 34 07.8
MAK *e*SSS SSS 23 54 49.5
MAK pmax pmax
comp=Z,441nm,1.7s
MDV Middlebury 120.73 46 *e*PKPdf **PKPdf** **23 32 37.0 -0.9**
SFJD Kangerlussuaq 120.82 16 *i*P **PKPdf** **23 32 40.9 +3.6**
comp=Z,20nm,1.1s
SFJD Kangerlussuaq 120.82 16 *i*P **PKKPab** **23 42 43.1 +1.1**
comp=Z,20nm,0.8s
SFJD Kangerlussuaq 120.82 16 *e*PKPdf **PKPdf** **23 32 37.0 -0.3**
SFJD *e*PKKPab **PKKPab** **23 42 42.7 +0.7**
SFJD PKKPbc **PKKPbc** **23 42 43.7 -0.1**
SFJD Kangerlussuaq 120.82 16 PKKPbc PKKPbc 23 42 43.7 -0.1
comp=Z,28nm,0.9s,baz=129,slow=5.9,SNR=6.6
JOF Joensuu 121.08 338 *e*PKiKP **PKPdf** **23 32 38.7 +0.8**
JOF Joensuu 121.08 338 *e*pkp **PKPdf** **23 32 38.7 +0.8**
QRN Al-Qurain 121.10 296 *e*P **PKPdf** **23 32 36.6 -2.4**
QRN AMb AMB 23 32 45.4
comp=Z,239nm,0.8s

IKOM Komasi 121.12 302 *e*P **PKPdf** **23 32 38.6 -0.5**
UMR Umm Al-Rimmam 121.25 297 *e*P **PKPdf** **23 32 37.2 -2.0**
UMR AMb AMB 23 32 47.1
comp=Z,261nm,1.4s
SCHQ Schefferville 121.36 33 PKP **PKPdf** **23 32 38.7 0.0**
SCHQ *e*PKPdf **PKiKP** **23 32 39.0 +0.1**
SCHQ *e*PKKPab **PKKPab** **23 42 40.0 0.0**
SCHQ Schefferville 121.36 33 PKP **PKPdf** **23 32 38.7 0.0**
comp=Z,9.8nm,0.5s,baz=261,slow=2.0,SNR=19
RDF Al-Radifah 121.41 296 *e*P **PKPdf** **23 32 37.2 -2.4**
RDF AMb AMB 23 32 49.3
comp=Z,233nm,0.6s
IVIS Veis 121.63 303 *e*P **PKPdf** **23 32 36.9 -3.1**
NAY Al-Naaiem 121.67 296 *e*P **PKPdf** **23 32 37.7 -2.4**
NAY AMb AMB 23 32 54.9
comp=Z,225nm,1.3s
DGRG David-gareji 121.77 311 P **PKPdf** **23 32 42.0 +2.0**
RST Umm Al-Ruwaisa 121.87 297 *e*P **PKPdf** **23 32 37.9 -2.6**
RST AMb AMB 23 32 51.2
comp=Z,2µm,1.0s
IGHG Ghaleghazi 121.88 302 *e*P **PKPdf** **23 32 42.1 +1.4**
IDHR Dehrash 121.99 303 *e*P **PKPdf** **23 32 41.2 +0.3**
JMIC Jan Mayen 122.05 358 PKP **PKPdf** **23 32 39.0 -0.6**
JMIC Jan Mayen 122.05 358 PKP **PKPdf** **23 32 39.0 -0.6**
comp=Z,66nm,0.3s,baz=164,slow=7.0,SNR=3.0
STEI Steigen 122.07 348 *e*PKPdf **PKPdf** **23 32 41.8 +2.1**
MOS Moscow 122.08 329 *e*PKIKP **PKPdf** **23 32 38.6 -1.4**
MOS *i* 23 32 49.9
MOS *e* 23 34 10.5
MOS pmax pmax
comp=Z,44nm,0.8s
CPUP Villa Florida 122.14 133 *e*PKPdf **PKPdf** **23 32 38.9 -2.2**
CPUP *e*SKPdf **SKPdf** **23 36 14.4 +0.1**
CPUP PKKPab **PKKPbc** **23 42 36.5 -1.4**
CPUP Villa Florida 122.14 133 PKP **PKPdf** **23 32 39.0 -2.2**
comp=Z,12nm,0.7s,baz=223,slow=2.1,SNR=9.7
CPUP PKKPab **PKKPbc** **23 42 36.5 -1.4**
comp=Z,9.1nm,0.8s,baz=40,slow=4.7,SNR=9.7
TBLG Delisi 122.19 311 P **PKPdf** **23 32 42.2 +1.5**
GUDG Gudauri 122.22 312 P **PKPdf** **23 32 41.0 0.0**
SCO Scoresbysund 122.40 3 *i* PKIKP PKPdf 23 32 46.4 +6.1
SCO pmax pmax
comp=Z,51nm,0.9s
SCO Scoresbysund 122.40 3 *i* P PKPdf 23 32 46.4 +6.1
comp=Z,51nm,0.9s
GNI Garni 122.49 309 PKPdf **PKPdf** **23 32 42.8 +1.3**
SNR=12
GNI Garni 122.49 309 *e*P **PKPdf** **23 32 40.5 -1.0**
GNI Garni 122.49 309 PKP **PKPdf** **23 32 40.4 -1.2**
GNI *e*PKPdf **PKiKP** **23 32 41.1 -0.6**
GNI LR LR
comp=Z,43µm,19.0s
GNI Garni 122.49 309 PKP **PKPdf** **23 32 40.3 -1.2**
comp=Z,19nm,0.8s,baz=20,slow=9.0,SNR=7.2
ZEI Tsey 122.57 313 *i* PKIKP **PKPdf** **23 32 44.2 +2.5**
ZEI pmax pmax
comp=Z,113nm,1.0s
GOF Gofitskoye 122.62 315 *e*PKIKP **PKPdf** **23 32 46.2 +4.8**
VOR Voronezh 122.89 324 PKIKP **PKPdf** **23 32 40.0 -1.7**
VOR pmax pmax
comp=Z,340nm,1.2s
OBN Obninsk 122.90 328 ⇑*i*PKIKP **PKPdf** **23 32 43.5 +1.9**
OBN *e**PP PKiKP 23 32 55.1 +13
OBN *e* 23 34 22.9
OBN *e* 23 39 44.2
OBN pmax pmax
comp=Z,137nm,2.5s
ONI Oni 122.93 312 P **PKPdf** **23 32 41.8 -0.5**
KBZ Khabaz 123.06 314 PKIKP **PKPdf** **23 32 41.7 -0.6**
KBZ 23 34 22.0
KBZ Khabaz 123.06 314 PKP **PKPdf** **23 32 41.7 -0.6**
KBZ PP **PP** **23 34 22.0 +0.2**
KBZ Khabaz 123.06 314 PKP **PKPdf** **23 32 41.7 -0.6**
comp=Z,8.7nm,1.0s,baz=70,slow=4.0,SNR=4.6
KBZ PP **PP** **23 34 22.0 +0.2**
comp=Z,30nm,1.0s,baz=239,slow=3.2,SNR=4.0
PKME Peaks-Kenny Pk 123.13 44 *e*PKPdf **PKPdf** **23 32 41.4 -1.0**
KIV Kislovodsk 123.15 314 ⇑*i*PKIKP **PKPdf** **23 32 44.3 +1.7**
KIV *e**PP PKiKP 23 32 56.4 +14
KIV *e* 23 39 47.9
KIV pmax pmax
comp=Z,73nm,1.2s
AKH Akhalkalaki 123.17 311 P **PKPdf** **23 32 47.7 +4.8**
CLDR Caldiran 123.30 308 *e*P **PKPdf** **23 32 38.8 -4.5**
RAYN Ar Rayn 123.32 290 *e*PKPdf **PKPdf** **23 32 42.6 -0.9**
RAYN *e*Sdif Sdif 23 42 21.4 +2.4
PUL Pulkovo 123.34 335 ⇑*i*PKIKP **PKPdf** **23 32 44.7 +2.4**
KAF Kangasniemi 123.39 339 *e*PKIKP **PKPdf** **23 32 40.0 -2.4**
KAF Kangasniemi 123.39 339 *e*pkp **PKPdf** **23 32 40.0 -2.4**
KARS Kars 123.64 310 *e*P PKPdf 23 32 49.6 +5.9
DAMY Dhamar 123.86 279 *e*PKPdf **PKPdf** **23 32 45.6 +0.5**
CUKT Cukurca 123.88 306 *e*P **PKPdf** **23 32 42.7 -1.6**
CHVG Ch'k'valeri 123.88 313 P **PKPdf** **23 32 46.3 +2.3**
SDV Santo Domingo 123.89 88 *e*PKPdf **PKPdf** **23 32 45.3 +0.3**
SDV *e*PKKPab **PKKPab** **23 42 33.4 +2.3**
FIA1 FINESS Array S 123.91 338 *e*PKPdf **PKPdf** **23 32 42.6 -0.8**
FINES FINESS Array B 123.91 338 PKPpre PKPpre 23 32 36.2
FINES FINESS Array B 123.91 338 PKhKP PKPpre 23 32 36.2
comp=Z,2.5nm,0.4s,baz=83,slow=4.5,SNR=4.7
AGRB Hanur-Agry 123.92 309 P **PKPdf** **23 32 46.1 +1.8**
BOSA Boshof 124.09 222 *e*PKPdf **PKPdf** **23 32 43.8 -1.2**
BOSA PKP **PKPdf** **23 32 43.9 -1.1**
BOSA Boshof 124.09 222 PKP **PKPdf** **23 32 43.9 -1.1**
comp=Z,59nm,0.9s,baz=98,slow=2.0,SNR=33
SUR Sutherland 124.11 215 PKP **PKPdf** **23 32 44.3 -0.8**
SUR *e*PKPdf **PKiKP** **23 32 44.6 -0.8**
SUR Sutherland 124.11 215 PKP **PKPdf** **23 32 44.3 -0.8**
comp=Z,179nm,1.3s,baz=97,slow=2.3,SNR=12
SDDR Presa de Saban 124.38 76 *e*PKPdf **PKPdf** **23 32 49.7 +4.0**
SIRT Sirnak 124.75 307 *e*P PKPdf 23 32 56.0 +10
SIV San Ignacio 124.83 120 PKP **PKPdf** **23 32 44.8 -1.8**
SIV San Ignacio 124.83 120 PKP **PKPdf** **23 32 44.8 -1.8**
comp=Z,5.4nm,0.5s,baz=259,slow=3.6,SNR=15
ATD Arta Tunnel 124.98 275 PKP **PKPdf** **23 32 47.0 +0.1**
ATD Arta Tunnel 124.98 275 PKP **PKPdf** **23 32 47.0 +0.1**
comp=Z,13nm,0.8s,baz=64,slow=6.8,SNR=6.6
EZM Erzurum 125.08 310 *e*P **PKPdf** **23 32 48.5 +1.8**
SOC Sochi 125.32 314 *e*PKIKP PKPdf 23 32 58.6 +12
SOC pmax pmax
comp=Z,107nm,0.9s
VSU Vasula 125.60 335 ⇓*i*PKIKP **PKPdf** **23 32 48.4 +1.7**
NSS Namsos 125.67 347 *e*PKPdf **PKPdf** **23 32 50.5 +3.8**
BNGB Bing ¶‖ 125.80 309 *e*P **PKPdf** **23 32 43.9 -4.1**
SAML Samuel 126.06 111 *e*PKPdf **PKPdf** **23 32 47.1 -1.9**
LBTB Lobatse 126.24 225 *e*PKPdf **PKPdf** **23 32 48.0 -1.2**
MAZI Mazidag 126.31 307 *e*P **PKPdf** **23 32 48.5 -1.5**
GUMT Gumushane 126.34 311 *e*P **PKPdf** **23 32 49.6 +0.7**
ERZN Erzincan 126.38 310 *e*P **PKPdf** **23 32 47.9 -1.1**
DIY Diyarbakir 126.39 308 *e*P **PKPdf** **23 32 47.8 -1.2**
EZC Erzincan 126.62 310 *e*P **PKPdf** **23 32 46.1 -3.3**
NRS Narsarsuaq 126.72 19 *i* PKIKP **PKPdf** **23 32 52.5 +3.7**
NRS pmax pmax
comp=Z,78nm,0.7s
ESPY Espiye-Giresun 126.78 312 *e*P **PKPdf** **23 32 49.6 0.0**
PTK Pertek 126.80 309 *e*P **PKPdf** **23 32 51.9 +2.0**
TBLU Trondheim 127.16 347 *e*PKPdf **PKPdf** **23 32 52.4 +2.8**
ILIC ilic-Erzincan 127.28 310 *e*P **PKPdf** **23 32 48.5 -2.3**
MICGM Minsk 127.51 331 *e* **PKPdf** **23 32 48.0 -2.5**
MNK Minsk 127.53 331 *e*PKIKP **PKPdf** **23 32 48.0 -2.5**
ISAL Salakas 127.67 333 *e*P **PKPdf** **23 32 54.5 +3.8**
MALT Malatya 127.67 308 ⇑PKIKP **PKPdf** **23 32 50.8 -0.7**
MALT Malatya 127.67 308 *e*P **PKPdf** **23 32 52.0 +0.5**
MALT Malatya 127.67 308 ⇑*i*P **PKPdf** **23 32 50.8 -0.7**
KMBO Kilima Mbogo 127.69 258 PKPdf **PKPdf** **23 32 51.8 -0.7**
SNR=47
KMBO Kilima Mbogo 127.69 258 *e*PKPdf **PKPdf** **23 32 52.1 -0.3**
KMBO PKP **PKPdf** **23 32 52.5 +0.1**
KMBO Kilima Mbogo 127.69 258 PKP **PKPdf** **23 32 52.5 +0.1**
comp=Z,14nm,1.0s,baz=48,slow=3.4,SNR=9.9
IIGN Ignalina 127.77 332 *e*P **PKPdf** **23 32 54.2 +3.2**
NACGM Naroch 127.79 332 *e*P **PKPdf** **23 32 46.0 -5.0**
RSDY Resadiye-TOKAT 127.94 311 *e*P **PKPdf** **23 32 51.9 +0.1**
BORG Borgarnes 128.12 4 PKP **PKPdf** **23 32 53.2 +1.8**
BORG Borgarnes 128.12 4 PKP **PKPdf** **23 32 53.2 +1.8**
comp=Z,37nm,1.0s,baz=341,slow=3.3,SNR=9.9
CRPR Cabo Rojo, PR 128.29 77 *ep*PKPdf pPKPdf 23 33 03.2 -0.7
SVSK Karacayir 128.32 311 *e*P **PKPdf** **23 32 47.3 -5.2**
MOL Molde 128.34 348 *e*PKPdf **PKPdf** **23 32 55.0 +3.1**
MOL AMB AMB 23 33 07.5
comp=Z,183nm,1.3s
TOKT Tokat 128.54 311 *e*P **PKPdf** **23 32 48.5 -4.6**
LRS Lares 128.56 77 *e*PKPdf **PKPdf** **23 32 52.9 -0.8**
SIM Simferopol' 128.64 318 *i* PKIKP **PKPdf** **23 32 55.2 +2.2**
SIM pmax pmax
comp=Z,45nm,1.0s
KVT Kavak 128.67 313 *e*P **PKPdf** **23 32 56.5 +3.3**
CELP Cerrillos 128.80 77 *e*PKPdf **PKPdf** **23 32 54.3 +0.3**
NB2 NORSAR Subarra 128.84 345 PKPdf **PKPdf** **23 32 54.4 +1.5**
comp=Z,76nm,1.2s,baz=31,slow=1.9
NB2 NORSAR Subarra 128.84 345 PKPdf **PKPdf** **23 32 54.4 +1.5**
baz=31,slow=1.9
NOA NORSAR Array B 128.84 345 PKPpre PKPpre 23 32 41.1
NOA PKP **PKPdf** **23 32 51.9 -1.0**
NOA SKP 23 36 22.9
NOA NORSAR Array B 128.84 345 PKhKP PKPpre 23 32 41.1
comp=Z,2.6nm,0.8s,baz=47,slow=1.9,SNR=5.0
NOA PKP **PKPdf** **23 32 51.9 -1.0**
comp=Z,5.5nm,0.8s,baz=31,slow=2.6,SNR=9.5
NOA SKP 23 36 22.9
comp=Z,48nm,1.1s,baz=34,slow=2.9,SNR=5.0
HFS Hagfors 128.93 343 PKPpre PKPpre 23 32 42.7
HFS PKP **PKiKP** **23 32 53.4 -0.3**
HFS SKP 23 36 22.9
HFS Hagfors 128.93 343 PKhKP PKPpre 23 32 42.7
comp=Z,3.7nm,0.7s,baz=117,slow=1.7,SNR=5.7
HFS PKP **PKiKP** **23 32 53.4 -0.3**
comp=Z,12nm,0.6s,baz=52,slow=2.4,SNR=17
HFS SKP 23 36 22.9
comp=Z,24nm,0.9s,baz=35,slow=5.4,SNR=3.7
AKASG Malin Array Be 128.94 326 PKHKP PKPpre 23 32 40.1
AKASG 23 32 53.6
AKASG 23 34 59.5
AKASG Malin Array Be 128.94 326 PKPpre PKPpre 23 32 40.1
AKASG PKP **PKPdf** **23 32 53.5 +0.2**
AKASG PP **PP** **23 34 59.5 -1.0**
AKASG SKP 23 36 23.1
AKASG Malin Array Be 128.94 326 PKhKP PKPpre 23 32 40.1
comp=Z,0.9nm,0.5s,baz=52,slow=2.9,SNR=4.1
AKASG PKP **PKPdf** **23 32 53.5 +0.2**
comp=Z,2.0nm,0.4s,baz=47,slow=3.0,SNR=17
AKASG PP **PP** **23 34 59.5 -1.0**
comp=Z,22nm,1.1s,baz=50,slow=5.8,SNR=4.5
AKASG SKP 23 36 23.1
comp=Z,18nm,1.0s,baz=39,slow=4.2,SNR=3.3
DIKM Dikmen 129.05 313 *e*P **PKPdf** **23 32 55.2 +1.3**
NAO01 NORSAR Array S 129.09 345 *e*PKPdf **PKPdf** **23 32 53.5 +0.1**
SJG San Juan 129.21 77 PKP **PKPdf** **23 32 52.3 -2.5**
SJG San Juan 129.21 77 PKP **PKPdf** **23 32 52.3 -2.5**
comp=Z,7.1nm,0.3s,baz=16,slow=7.2,SNR=9.2
BNN Bunyan 129.48 310 *e*P **PKPdf** **23 32 55.4 +0.4**
HUMP Col San Antoni 129.50 77 *e*PKPdf **PKPdf** **23 32 55.2 -0.1**
MTP Monte Pirata 129.78 77 *e*PKPdf **PKPdf** **23 32 57.9 +2.0**
BZK Bozkurt 129.82 314 *e*P **PKPdf** **23 32 51.9 -3.4**
KOZT Kozan 129.87 308 *e*P **PKPdf** **23 32 53.6 -1.9**
CORM Corum 129.97 312 *e*P **PKPdf** **23 32 50.8 -5.1**
HTY Hatay 129.98 306 *e*P **PKPdf** **23 32 58.9 +3.1**
SUW Suwalki 129.98 333 *e*PKIKP **PKPdf** **23 32 55.3 +0.1**
SUW Suwalki 129.98 333 *e*PKPdf **PKPdf** **23 32 55.2 +0.1**
SUW *e*SKPdf **SKiKP** **23 36 31.8 +2.1**
SUW Suwalki 129.98 333 *e*PKP **PKPdf** **23 32 59.1 +3.9**
LSZ Lusaka 130.01 237 *e*PKPdf **PKPdf** **23 32 52.4 -4.2**
TOS Tosya 130.13 313 *e*P **PKPdf** **23 32 51.4 -4.7**
ASF Jabal al Asfar 130.21 301 PKP **PKPdf** **23 32 55.5 -0.9**
ASF SKP 23 36 30.0
ASF Jabal al Asfar 130.21 301 PKP **PKPdf** **23 32 55.5 -0.9**
comp=Z,7.9nm,1.0s,baz=43,slow=1.2,SNR=6.7
ASF SKP 23 36 30.0
comp=Z,27nm,1.0s,baz=87,slow=3.7,SNR=3.8
KONO Kongsberg 130.45 345 *e*PKIKP **PKPdf** **23 32 55.7 -0.3**
KONO Kongsberg 130.45 345 *e*PKPdf **PKPdf** **23 32 55.7 -0.3**
KARA Karaisali 130.53 308 *e*P PKPdf 23 32 51.4 -5.5
NIG Nigde 130.62 309 *e*P PKPdf 23 32 51.9 -5.4
RUND Rundenannen 130.75 348 *e*PKPdf **PKPdf** **23 32 59.3 +2.8**
RUND AMB AMB 23 33 12.1
comp=Z,276nm,2.0s
BRTR Keskin Array B 130.84 312 PKPpre PKPpre 23 32 41.6
BRTR PKP **PKPdf** **23 32 56.8 -0.7**
BRTR PP **PP** **23 35 14.9 +1.2**
BRTR SKP 23 36 31.1
BRTR Keskin Array B 130.84 312 PKhKP PKPpre 23 32 41.6
comp=Z,4.1nm,1.0s,baz=84,slow=1.6,SNR=4.2
BRTR PKP **PKPdf** **23 32 56.8 -0.7**
comp=Z,8.0nm,0.9s,baz=85,slow=2.0,SNR=7.7
BRTR PP **PP** **23 35 14.9 +1.2**
comp=Z,32nm,1.1s,baz=102,slow=5.3,SNR=5.2
BRTR SKP 23 36 31.1
comp=Z,14nm,0.7s,baz=80,slow=2.1,SNR=8.0
ODD1 Odda 130.93 347 *e*PKPdf **PKPdf** **23 32 58.2 +1.3**
ODD1 AMB AMB 23 33 12.7
comp=Z,237nm,1.1s
SAFT Safranbolu 131.00 314 *e*P **PKPdf** **23 32 56.0 -1.7**
KIS Kishinev 131.06 322 *e*PKP **PKPdf** **23 32 55.0 -2.5**
KIS Kishinev 131.06 322 *e*PP PP 23 35 14.0 -0.4
KIS Kishinev 131.06 322 *e*PKIKP **PKPdf** **23 32 55.0 -2.5**
KIS *e* 23 33 04.0
KIS *e* 23 33 08.0
KIS *e* 23 35 20.0
MMAI Mount Meron Ar 131.28 303 PKPpre PKPpre 23 32 49.7
MMAI PKP **PKiKP** **23 32 59.3 -0.1**
MMAI SKP 23 36 33.5
MMAI Mount Meron Ar 131.28 303 PKhKP PKPpre 23 32 49.7
comp=Z,2.3nm,0.5s,baz=46,slow=3.6,SNR=5.7
MMAI PKP **PKiKP** **23 32 59.3 -0.1**
comp=Z,11nm,0.8s,baz=72,slow=3.6,SNR=8.0
MMAI SKP 23 36 33.5
comp=Z,14nm,0.6s,baz=68,slow=6.7,SNR=8.3
AFSR Af'ar-Bala (A 131.35 311 *e*P **PKPdf** **23 32 53.6 -4.8**
ANTO Ankara 131.41 312 ⇑PKIKP **PKPdf** **23 32 57.4 -1.1**
ANTO Ankara 131.41 312 PKPdf **PKPdf** **23 32 58.4 -0.1**
SNR=34
ANTO Ankara 131.41 312 *e*P **PKPdf** **23 32 55.4 -3.1**
ANTO Ankara 131.41 312 ⇑*i*P **PKPdf** **23 32 57.3 -1.2**
ANTO Ankara 131.41 312 *e*PKPdf **PKPdf** **23 32 58.9 +0.4**
SULT Sultanhani-AKS 131.42 310 *e*P PKPdf 23 33 09.8 +11
LEOM Leova 131.66 322 ⇓PKIKP **PKPdf** **23 32 56.0 -2.6**
LEOM Leova 131.66 322 ⇓*i*P **PKPdf** **23 32 56.0 -2.6**
EREN Erenkoy 131.68 306 *e*P PKPdf 23 32 53.6 -5.4
IAS Iasi 131.70 323 ⇑PKIKP PKPdf 23 33 06.7 +8.0
IAS Iasi 131.70 323 ⇑*i*P PKPdf 23 33 06.7 +8.0
KDZE Karadeniz Ereo 131.85 314 *e*P PKPdf 23 33 06.3 +7.1
IKL Isikli 131.87 307 *e*P PKPdf 23 32 52.5 -6.9
PHNC Paralimni 131.92 305 P PKPdf 23 33 16.7 +17
comp=Z,2.5nm,1.0s
TLCR 131.93 320 ⇓PKIKP **PKPdf** **23 32 58.3 -0.9**
TLCR 131.93 320 ⇓*i*P **PKPdf** **23 32 58.3 -0.9**
LVV L'vov 132.19 328 *e*PKIKP PKPdf 23 33 10.4 +11
LFK Lefkose 132.25 306 *e*P PKPdf 23 32 54.8 -5.4
EIL Elat 132.28 298 PKP **PKPdf** **23 32 59.6 -0.7**
EIL Elat 132.28 298 PKP **PKPdf** **23 32 59.6 -0.7**
comp=Z,15nm,0.8s,baz=55,slow=1.0,SNR=7.7
MDUB Mudurnu 132.34 313 *e*P **PKPdf** **23 32 56.5 -3.7**
CFR Carcaliu 132.36 320 ⇑PKIKP **PKPdf** **23 33 00.2 +0.2**
CFR Carcaliu 132.36 320 ⇑*i*P **PKPdf** **23 33 00.2 +0.2**
KONT Konya--Tatoy 132.37 310 *e*P **PKPdf** **23 32 59.4 -0.9**
GHRR 132.37 322 ⇓*i*P **PKPdf** **23 33 03.6 +3.6**
PRAR RASCA 132.39 324 ⇑*i*P PKPdf 23 33 05.9 +5.9
KIZT Kizilcal 132.41 311 *e*P **PKPdf** **23 32 55.4 -5.1**
SVRH Sivrihisar-ESK 132.47 312 *e*P **PKPdf** **23 32 56.5 -4.0**
CSS Prodhromos 132.49 306 P PKPdf 23 33 19.7 +19
comp=Z,0.8nm,0.9s
CSS Prodhromos 132.49 306 P PKPdf 23 32 51.1 -10
CSS Prodhromos 132.49 306 *e*P PKPdf 23 32 52.9 -7.8
CSS Prodhromos 132.49 306 *e*PKPdf **PKPdf** **23 33 00.1 -0.6**
CSS LR LR
comp=Z,49µm,20.0s
BEL Belsk 132.50 332 *e*PKP **PKPdf** **23 33 01.0 +0.9**
MAMC Mammari 132.52 306 P PKPdf 23 33 18.0 +17
TIRR Tirgusor 132.53 319 ⇑PKIKP **PKPdf** **23 33 04.8 +4.5**
TIRR Tirgusor 132.53 319 ⇑*i*P **PKPdf** **23 33 04.8 +4.5**
BSD Bornholm Skovb 132.56 338 *i* PKIKP **PKPdf** **23 33 03.5 +3.5**
BSD pmax pmax
comp=Z,59nm,0.9s
BSD Bornholm Skovb 132.56 338 *i* P **PKPdf** **23 33 03.5 +3.5**
comp=Z,59nm,0.8s
HDMB Hadim 132.58 308 *e*P **PKPdf** **23 33 00.0 -1.0**
PETR Petresti 132.65 322 ⇓*i*P **PKPdf** **23 33 01.6 +1.1**
TLB Topalu 132.70 320 ⇓PKIKP **PKPdf** **23 33 03.8 +3.1**
TLB Topalu 132.70 320 ⇓*i*P **PKPdf** **23 33 03.8 +3.1**
MANR Mangalia 132.71 319 ⇑*i*P PKPdf 23 33 09.9 +9.2
HARR Harsova 132.72 320 ⇑PKIKP **PKPdf** **23 33 01.2 +0.5**
HARR Harsova 132.72 320 ⇑*i*P **PKPdf** **23 33 01.2 +0.5**
LEF Lefka 132.79 306 *e*P **PKPdf** **23 32 58.9 -2.3**
BURAR Bucovina Array 132.82 325 ⇑PKIKP **PKPdf** **23 33 02.0 +1.0**
BURAR Bucovina Array 132.82 325 ⇑*i*P **PKPdf** **23 33 02.0 +1.0**
BUR04 Bucovina Ar. S 132.82 325 *e*PKPdf **PKPdf** **23 32 57.6 -3.4**
GULT Gulveren 132.83 314 *e*P PKPdf 23 32 52.5 -8.7
VRI Vrincioaia 132.88 322 ⇑PKIKP PKPdf 23 33 09.2 +8.2
VRI Vrincioaia 132.88 322 ⇑*i*P PKPdf 23 33 09.1 +8.1
SZAC Souni-Zanaja 132.90 305 P PKPdf 23 33 20.1 +19
comp=Z,1.2nm,0.8s
PLOR Plostina 132.93 322 ⇓PKIKP **PKPdf** **23 33 02.2 +1.0**
PLOR Plostina 132.93 322 ⇓*i*P **PKPdf** **23 33 02.2 +1.0**
ESKT Eskisehir 132.93 312 *e*P **PKPdf** **23 33 04.6 +3.1**
KWP Kalwaria Pacla 132.99 328 ⇓PKIKP **PKPdf** **23 33 03.4 +2.3**
KWP Kalwaria Pacla 132.99 328 ⇓*i*P **PKPdf** **23 33 03.4 +2.3**
KWP Kalwaria Pacla 132.99 328 *e*PKP **PKPdf** **23 33 06.2 +5.1**
ALFC Alevga 133.01 306 P PKPdf 23 33 20.9 +19
comp=Z,1.2nm,0.7s
GPA Golpazari 133.03 314 *e*P PKPdf 23 32 53.6 -7.9
GKP Gorka Klasztor 133.05 335 *e*PKP **PKPdf** **23 33 01.7 +0.7**
MSAB Monastry St. A 133.07 319 ⇑*i*P PKPdf 23 33 09.4 +8.0
SILT Sile 133.16 315 *e*P **PKPdf** **23 33 05.2 +3.6**
AKMC Akamas 133.26 306 P PKPdf 23 33 25.3 +23
PPCY Paphos 133.29 306 P PKPdf 23 33 27.2 +25
LLD Lille Linde 133.32 340 *i* P PKPdf 23 33 14.3 +13
comp=Z,96nm,0.8s
MUD Monsted U'grnd 133.32 343 *e*PKIKP PKPdf 23 33 09.2 +7.8
MUD Monsted U'grnd 133.32 343 *i* P PKPdf 23 33 09.2 +7.8
ISR Istrita 133.37 321 ⇑PKIKP **PKPdf** **23 33 07.1 +5.1**
ISR Istrita 133.37 321 ⇑*i*P **PKPdf** **23 33 07.1 +5.1**
ADVT Abdulvahap 133.38 314 *e*P **PKPdf** **23 33 04.6 +2.5**
CAVI Cavuskoy 133.40 314 *e*P **PKPdf** **23 33 04.6 +2.4**
SUTC Sutuce-Ispart 133.54 310 *e*P **PKPdf** **23 33 01.1 -1.5**
MLR Muntele Rosu 133.54 322 ⇑*i*P **PKPdf** **23 33 07.2 +4.8**
ISK Istanbul-Kandi 133.59 315 *e*P PKPdf 23 32 57.1 -5.3
ARCR ARCALIA 133.61 325 ⇑*i*P **PKPdf** **23 33 00.5 -1.8**
DOPR Dopca 133.62 323 ⇑*i*P PKPdf 23 32 52.5 -10
KOLS Kolonicke sedl 133.64 328 *e*PKIKP **PKPdf** **23 32 57.6 -4.8**
KOLS *e* 23 33 09.8
KOLS Kolonicke sedl 133.64 328 *e*PKP **PKPdf** **23 32 57.6 -4.8**
KOLS *e* 23 33 09.8
SECR 133.70 321 ⇑*i*P **PKPdf** **23 33 03.0 +0.4**
BGKT Bogazkoy 133.74 315 *e*P PKPdf 23 32 53.1 -10
BMR Baia Mare 133.75 326 ⇓PKIKP **PKPdf** **23 33 03.7 +1.1**
BMR Baia Mare 133.75 326 ⇓*i*P **PKPdf** **23 33 03.7 +1.1**
SULR 133.77 321 ⇓*i*P **PKPdf** **23 33 06.3 +3.6**
ISP Isparta 133.78 310 PKIKP **PKPdf** **23 33 01.9 -1.2**
ISP Isparta 133.78 310 *e*P **PKPdf** **23 32 59.5 -3.6**
ISP Isparta 133.78 310 ⇓*i*P PKPdf 23 33 13.5 +10
ISP Isparta 133.78 310 PKPdf **PKPdf** **23 33 01.9 -1.2**
UZH Uzhgorod 133.82 327 *e*PKHKP PKPpre 23 32 52.0
BCK Bucak 133.85 310 *e*P PKPdf 23 32 53.1 -10
STHS Stebnicka Huta 133.87 329 *e*PKIKP PKPdf 23 32 56.1 -6.7
STHS *e* 23 33 03.8
STHS Stebnicka Huta 133.87 329 *e*PKP PKPdf 23 32 56.1 -6.7
STHS *e* 23 33 03.8
STHS *e* 23 35 43.7
CTKS Kestanelik-??a 133.90 315 *e*P **PKPdf** **23 32 60.0 -3.1**
ARMT Armutlu 133.94 314 *e*P **PKPdf** **23 33 07.5 +4.3**
TVSB Tavsanli 133.96 313 *e*P PKPdf 23 32 54.2 -9.1
TRPA Tarpa 133.99 327 ⇓*i*P **PKPdf** **23 33 03.7 +0.7**
VOIR 134.11 322 ⇑PKIKP **PKPdf** **23 33 06.5 +3.1**
VOIR 134.11 322 ⇑*i*P **PKPdf** **23 33 06.5 +3.1**
SLVT Silivri 134.11 316 *e*P **PKPdf** **23 32 59.4 -4.0**
KHL Karahalli 134.34 311 *e*P **PKPdf** **23 33 02.3 -1.8**
ARR Arges 134.39 322 ⇓*i*P PKPdf 23 32 56.5 -7.4
PHSR Pinarhisar 134.40 316 *e*P **PKPdf** **23 33 05.8 +1.8**
KCTX Karacabey (Bur 134.41 314 *e*P **PKPdf** **23 33 08.1 +4.0**
ELL Elmali 134.60 309 *e*P **PKPdf** **23 33 03.5 -1.2**
HUMR Humele 134.63 321 ⇓*i*P **PKPdf** **23 33 02.7 -1.6**
ZIMR 134.84 320 ⇓PKIKP PKPdf 23 33 13.0 +8.3
ZIMR 134.84 320 ⇓*i*P PKPdf 23 33 13.0 +8.3
KULA Kula-Manisa 134.89 312 *e*P **PKPdf** **23 33 00.0 -5.1**
GONE Gonen-Balikesi 134.97 314 *e*P **PKPdf** **23 33 04.0 -1.0**
BALB Balikesir 135.00 314 *e*P PKPdf 23 32 53.6 -12
RUE Ruedersdorf 135.03 337 *ep*PKPdf pPKPdf 23 33 11.4 -4.2
KRBG Karabiga-Canak 135.09 315 *e*P **PKPdf** **23 33 05.2 -0.1**
OKC Ostrava-Krasne 135.09 331 *e*PKHKP PKPpre 23 32 56.4
OKC Ostrava-Krasne 135.09 331 *e*PKPpre PKPpre 23 32 56.4
OKC *e*PKPdf **PKiKP** **23 33 06.7 +0.2**
OKC *ep*PKP pPKPdf 23 33 16.6 +0.8
OKC *e*PKKP **PKKPdf** **23 42 47.1 -2.6**
OKC *e*SKKP 23 45 29.0
OKC AMS AMS 00 33 30.0
comp=Z,67µm,21.0s
KSP Ksiaz 135.22 333 *e*PKIKP **PKPdf** **23 33 06.4 +1.2**
KSP *e* 23 35 40.2
KSP Ksiaz 135.22 333 *e*PKP **PKPdf** **23 33 06.7 +1.5**
FETY Fethiye 135.26 309 *e*P PKPdf 23 32 53.6 -12
AKS Akhisar 135.36 313 *e*P PKPdf 23 32 58.9 -7.0
MORC Moravsky Berou 135.42 332 ⇑PKIKP **PKPdf** **23 33 00.9 -4.8**
MORC Moravsky Berou 135.42 332 ⇑*i*P **PKPdf** **23 33 00.9 -4.8**
PSZ Piszkesteto 135.51 328 *e*PKIKP **PKPdf** **23 33 07.2 +1.2**
PSZ Piszkesteto 135.51 328 ⇑*i*P **PKPdf** **23 33 09.4 +3.4**
PSZ Piszkesteto 135.51 328 *e*PKPdf **PKPdf** **23 33 07.2 +1.2**
DALY Dalyan (Mu¨la 135.52 310 *e*P PKPdf 23 32 56.0 -10
BDFB Brasilia 135.53 129 PKPpre PKPpre 23 32 57.4
BDFB *e*PKPpre PKPpre 23 32 58.5
BDFB SKP 23 36 40.4
BDFB Brasilia 135.53 129 PKhKP PKPpre 23 32 57.4
comp=Z,3.1nm,0.6s,baz=90,slow=7.0,SNR=4.5
BDFB SKP 23 36 40.4
comp=Z,19nm,0.8s,baz=142,slow=12,SNR=4.1
DPC Dobruska-Polom 135.57 333 *e*PKHKP PKPpre 23 32 56.2
DPC Dobruska-Polom 135.57 333 *e*PKPpre PKPpre 23 32 56.2
DPC *e*PKPdf **PKiKP** **23 33 07.7 +0.2**
DPC *e*PKKP **PKKPdf** **23 42 48.8 0.0**
DPC AMS AMS 00 33 10.0
UPC Upice 135.59 333 *e*PKIKP **PKPdf** **23 33 02.0 -3.9**
UPC *e* 23 33 10.7
UPC *e* 23 35 49.8
UPC Upice 135.59 333 *e*PKPdf **PKPdf** **23 33 02.0 -3.9**
UPC *ex* x 23 33 10.7
UPC *e*PP PP 23 35 49.8 +6.8
UPC *e*PKKP **PKKPdf** **23 42 45.7 -3.0**
SIRR Siria 135.59 325 ⇑*i*P PKPdf 23 33 11.7 +5.6
TSUM Tsumeb 135.62 224 *e*PKPpre PKPpre 23 32 59.0
TSUM *e*PKPdf **PKPdf** **23 33 06.9 -0.3**
AYDB Zeytinkoy-Aydi 135.67 312 *e*P PKPdf 23 32 56.5 -10
ALN Alexandroupoli 135.72 316 P PKPdf 23 32 58.0 -8.5
ALN Alexandroupoli 135.72 316 *e*P **PKPdf** **23 33 04.4 -2.1**
ALN Alexandroupoli 135.72 316 *e*P **PKPdf** **23 33 08.0 +1.5**
IZM Izmir 135.95 312 *e*P **PKPdf** **23 33 02.3 -4.7**
BZS Buzias 136.00 324 ⇑PKIKP **P

SMTH	Samothraki Isl	136.27 316	P		PKPdf	23 33 05.0	-2.5	
SMTH	Samothraki Isl	136.27 316	eP		PKPdf	23 32 59.0	-8.5	
PRK	Paraskevi	136.30 314	eP		PKPdf	23 33 07.0	-0.6	
DAT	Datca	136.36 310	eP		PKPdf	23 32 54.2	-14	
BODT	Bodrum	136.43 311	eP		PKPdf	23 33 06.3	-1.6	
EDI	Edinburgh	136.51 352	ePKIKP		PKPdf	23 33 07.6	+0.2	
EDI	Edinburgh	136.51 352	ePKPdf		PKPdf	23 33 07.6	+0.2	
EDI			eSKPbc		SKPbc	23 36 37.8	+0.2	
SMG	Samos	136.53 312	eP		PKPdf	23 32 52.5	-16	
PRA	Prague	136.60 334	PKPdf		PKPdf	23 33 10.0	+2.2	
PRA			PP		PP	23 35 57.0	+7.8	
PRU	Pruhonice	136.61 334	ePKIKP		PKPdf	23 33 04.8	-3.0	
PRU			e			23 33 09.5		
PRU			e			23 35 56.1		
PRU	Pruhonice	136.61 334	ePKPdf		PKPdf	23 33 09.5	+1.7	
PRU			ePP		PP	23 35 56.1	+6.8	
PRU			ePKKP		PKKPdf	23 42 48.8	+2.1	
PRU			AMS		AMS	00 35 50.0		
	comp=Z,82µm,20.9s							
TREC	Trest	136.70 332	ePKHKP		PKPpre	23 32 56.8		
TREC			e			23 33 08.8		
TREC			e			23 35 53.4		
TREC	Trest	136.70 332	ePKPpre		PKPpre	23 32 56.8		
TREC			ePKPdf		PKPdf	23 33 08.8	+0.7	
TREC			ePP		PP	23 35 53.4	+3.4	
TREC			ePKKP		PKKPdf	23 42 48.3	+1.7	
TREC			AMS		AMS	00 33 00.0		
	comp=Z,122µm,21.7s							
NIS1	Nisyros Isl.	136.71 310	eP		PKPdf	23 33 06.5	-2.0	
ZST	Bratislava	136.73 330	ePKIKP		PKPdf	23 33 03.8	-4.3	
ZST			e			23 33 12.2		
ZST			e			23 35 57.8		
ZST	Bratislava	136.73 330	ePKP		PKPdf	23 33 03.8	-4.3	
ZST			e			23 33 12.2		
ZST			e			23 35 57.8		
VTS	Vitosha	136.74 320	⇓PKIKP		PKPdf	23 33 07.7	-0.8	
VTS	Vitosha	136.74 320	eP		PKPdf	23 32 57.3	-11	
VTS	Vitosha	136.74 320	⇓iP		PKPdf	23 33 07.7	-0.8	
LIA	Limnos Island	136.76 315	eP		PKPdf	23 33 05.5	-2.9	
CHOS	Chios island	136.82 313	eP		PKPdf	23 32 52.6	-16	
CHOS	Chios island	136.82 313	eP		PKPdf	23 33 04.5	-4.2	
NVR	Nevrokopi	136.96 318	eP		PKPdf	23 33 05.5	-3.3	
EKA	Eskdalemuir Ar	137.07 351	PKPpre		PKPpre	23 32 58.2		
EKA			SKP			23 36 46.2		
EKA	Eskdalemuir Ar	137.07 351	PKhKP		PKPpre	23 32 58.2		
	comp=Z,2.7nm,0.5s,baz=6.8,slow=2.1,SNR=14							
EKA			SKP			23 36 46.2		
	comp=Z,93nm,1.1s,baz=15,slow=3.5,SNR=12							
KARP	Karpathos	137.10 309	eP		PKPdf	23 33 03.0	-6.3	
OUR	Ouranopolis	137.37 317	eP		PKPdf	23 32 56.2	-13	
CONA	Conrad Observa	137.51 331	⇑iPKPdf		PKPdf	23 33 00.8	-8.8	
	comp=Z,178nm,1.4s							
SOH	Sokhos	137.55 318	P		PKPdf	23 33 03.9	-6.0	
SOH	Sokhos	137.55 318	eP		PKPdf	23 33 04.0	-6.0	
KHC	Kasperske Hory	137.67 334	ePKHKP		PKPpre	23 32 59.7		
KHC			e			23 35 58.2		
KHC	Kasperske Hory	137.67 334	ePKPpre		PKPpre	23 32 59.7		
KHC			ex		x	23 33 05.0		
KHC			ePKPdf		PKiKP	23 33 12.5	+0.7	
KHC			ePP		PP	23 35 58.2	+2.2	
KHC			ePKKP		PKKPdf	23 42 48.1	+3.4	
KHC			AMS		AMS	00 38 30.0		
	comp=Z,98µm,19.2s							
KHC	Kasperske Hory	137.67 334	ePKPdf		PKPdf	23 33 09.7	-0.2	
PLG	Polygyros	137.71 317	eP		PKPdf	23 33 04.5	-5.7	
APE	Apeiranthos	137.74 311	eP		PKPdf	23 33 08.0	-2.4	
APE	Apeiranthos	137.74 311	eP		PKPdf	23 33 07.0	-3.4	
PAIG	Paliouri	137.77 316	eP		PKPdf	23 33 06.5	-3.8	
VAY	Valandovo	137.81 319	ePKP		PKPdf	23 33 10.8	+0.5	
GEC2	GERESS Array S	137.83 333	ePKHKP		PKPpre	23 33 01.1		
GEC2	GERESS Array S	137.83 333	ePKPpre		PKPpre	23 33 01.1		
GEC2			ePKPdf		PKiKP	23 33 13.0	+0.8	
GERES	GERESS Array B	137.83 333	PKPpre		PKPpre	23 32 58.4		
GERES			SKP			23 36 49.4		
GERES	GERESS Array B	137.83 333	PKhKP		PKPpre	23 32 58.4		
	comp=Z,2.2nm,0.7s,baz=33,slow=3.2,SNR=7.4							
GERES			SKP			23 36 49.4		
	comp=Z,59nm,1.2s,baz=42,slow=2.5,SNR=5.8							
DIVS	Divibare	137.83 324	P		PKPdf	23 33 00.4	-10	
WTSB	Winterswijk	137.90 341	ePKPdf		PKPdf	23 33 13.1	+3.0	
WTSB			ePP		PP	23 36 03.2	+6.1	
ZKR	Zakros	137.98 308	eP		PKPdf	23 33 05.0	-5.8	
AOS	Alonnisos	137.99 315	eP		PKPdf	23 33 11.0	+0.3	
SANT	Santorini	138.07 311	eP		PKPdf	23 33 00.7	-10	
SANT	Santorini	138.07 311	eP		PKPdf	23 33 05.5	-5.5	
SANT	Santorini	138.07 311	ePKPdf		PKPdf	23 33 10.7	-0.3	
SANT			ePP		PP	23 35 58.7	-0.7	
SANT			LR		LR			
	comp=Z,46µm,19.0s							
GRG	Griva	138.10 318	P		PKPdf	23 33 00.5	-10	
GRG	Griva	138.10 318	eP		PKPdf	23 33 03.5	-7.4	
SKO	Skopje	138.18 320	ePKP		PKPdf	23 33 12.1	+1.1	
GRF	Grafenberg Arr	138.22 336	ePKIKP		PKPdf	23 33 11.7	+0.9	
GRF			e			23 36 07.0		
GRF	Grafenberg Arr	138.22 336	ePKPdf		PKPdf	23 33 11.7	+0.9	
GRF			ePP		PP	23 36 07.0	+7.7	
XOR	Xorichti	138.37 316	P		PKPdf	23 32 58.3	-13	
NEO	Neokhori	138.38 316	P		PKPdf	23 33 01.3	-10	
NEO	Neokhori	138.38 316	eP		PKPdf	23 33 04.0	-7.5	
NPS	Neapolis	138.39 309	eP		PKPdf	23 33 05.0	-6.6	
LIT	Litokhoron	138.48 317	P		PKPdf	23 33 00.6	-11	
LIT	Litokhoron	138.48 317	eP		PKPdf	23 33 06.0	-5.6	
PTL	Penteli	138.52 314	P		PKPdf	23 33 06.8	-5.0	
PTL	Penteli	138.52 314	eP		PKPdf	23 33 07.0	-4.8	
LAST	Lasithi	138.53 309	P		PKPdf	23 33 02.8	-9.2	
LAST	Lasithi	138.53 309	eP		PKPdf	23 33 06.0	-6.0	
SMIA	Simia	138.59 315	P		PKPdf	23 33 00.5	-11	
ATHU	Athens Univers	138.61 314	P		PKPdf	23 33 02.3	-10	
ATH	Athens Observa	138.66 314	eP		PKPdf	23 33 04.5	-7.5	
BIA	Bitola	138.77 319	P		PKPdf	23 33 09.1	-3.1	
BIA	Bitola	138.77 319	ePKP		PKPdf	23 33 10.2	-2.0	
LKR	Lokris	138.84 315	P		PKPdf	23 33 05.0	-7.3	
LKR	Lokris	138.84 315	eP		PKPdf	23 33 07.0	-5.3	
KZN	Kozani	138.85 318	eP		PKPdf	23 33 13.0	+0.6	
FNA	Florina	138.86 319	P		PKPdf	23 33 03.6	-8.8	
NAIG	Nisos Aigina	138.91 313	eP		PKPdf	23 33 03.5	-9.0	
IDI	Anoyia	138.92 309	P		PKPdf	23 33 11.7	-1.0	
IDI	Anoyia	138.92 309	eP		PKPdf	23 33 12.1	-0.5	
IDI	Anoyia	138.92 309	eP		PKPdf	23 33 07.0	-5.7	
IDI	Anoyia	138.92 309	ePKPdf		PKPdf	23 33 11.9	-0.8	
PHP	Peshkopia	138.96 320	P		PKPdf	23 33 01.1	-11	
AXAR	Agios Charalam	139.02 315	P		PKPdf	23 33 03.6	-9.1	
THL	Klokotos Trika	139.07 317	P		PKPdf	23 33 09.0	-3.7	
THL	Klokotos Trika	139.07 317	eP		PKPdf	23 33 11.5	-1.2	
SIVA	Sivas	139.09 309	P		PKPdf	23 33 29.9	+17	
SIVA	Sivas	139.09 309	eP		PKPdf	23 33 05.5	-7.4	
AGG	Agios Georgios	139.12 316	P		PKPdf	23 33 28.5	+16	
AGG	Agios Georgios	139.12 316	eP		PKPdf	23 33 07.5	-5.4	
LTK	Loutraki	139.16 314	P		PKPdf	23 33 03.8	-9.1	
LTK	Loutraki	139.16 314	eP		PKPdf	23 33 04.0	-8.9	
DID	Didima	139.21 313	P		PKPdf	23 33 05.2	-7.9	
DID	Didima	139.21 313	eP		PKPdf	23 33 05.5	-7.6	
HGN	Heimansgroeve	139.22 341	ePKPdf		PKPdf	23 33 25.9	+13	
HGN			ePP		PP	23 36 08.9	+3.6	
HGN			eL		L	23 40 12.5		
	comp=Z,722µm,21.8s							
MAKR	Makrakomi, Fth	139.26 316	P		PKPdf	23 33 01.2	-12	
NEST	Nestorio	139.26 318	P		PKPdf	23 33 04.7	-8.5	
DSF	Desfina	139.28 315	P		PKPdf	23 33 06.4	-6.8	
MEM	Membach	139.32 341	E		PKPpre	23 33 07.3		
MEM			PKP		PKiKP	23 33 14.7	-0.4	
MEM	Membach	139.32 341	ePKIKP		PKPpre	23 33 07.6		
MEM	Membach	139.32 341	ePKPpre		PKPpre	23 33 07.6		
VAM	Vamos	139.39 310	P		PKPdf	23 33 06.8	-6.6	
VAM	Vamos	139.39 310	eP		PKPdf	23 33 06.5	-6.9	
TIR	Tirane	139.51 320	ePKIKP		PKPdf	23 33 12.5	-0.9	
TIR	Tirane	139.51 320	ePKPdf		PKPdf	23 33 12.5	-0.9	
EVR	Evrytania	139.53 316	P		PKPdf	23 33 03.5	-10	
EVR	Evrytania	139.53 316	eP		PKPdf	23 33 04.5	-9.2	
KALE	Kalithea	139.56 315	P		PKPdf	23 33 04.0	-10	
KALE	Kalithea	139.56 315	eP		PKPdf	23 33 06.0	-7.7	
KARN	Karanos	139.61 310	P		PKPdf	23 33 07.5	-6.3	
KARN	Karanos	139.61 310	eP		PKPdf	23 33 11.5	-2.3	
GUR	Goura	139.64 314	P		PKPdf	23 33 03.6	-10	
GUR	Goura	139.64 314	eP		PKPdf	23 33 04.0	-10	
GVD	Gavdhos	139.70 309	P		PKPdf	23 33 09.4	-4.5	
GVD	Gavdhos	139.70 309	eP		PKPdf	23 33 09.5	-4.5	
GVD	Gavdhos	139.70 309	ePKPdf		PKPdf	23 33 15.7	+1.7	
EFP	Efpalio	139.70 315	P		PKPdf	23 33 04.1	-10	
EFP	Efpalio	139.70 315	eP		PKPdf	23 33 05.0	-8.9	
BCLA	Clavier	139.71 341	E		PKPpre	23 33 03.8		
BCLA			PKhKP		PKPpre	23 33 10.5		
KLV	Kalavryta, Ach	139.72 315	P		PKPdf	23 33 28.6	+15	
KLV	Kalavryta, Ach	139.72 315	eP		PKPdf	23 33 04.5	-10	
LAKA	Lakka	139.74 315	P		PKPdf	23 33 04.3	-10	
LAKA	Lakka	139.74 315	eP		PKPdf	23 33 05.0	-9.0	
PSA1	Psathopyrgos	139.77 315	eP		PKPdf	23 33 03.5	-10	
VLI	Veliai	139.77 312	P		PKPdf	23 33 07.1	-7.0	
VLI	Veliai	139.77 312	eP		PKPdf	23 33 07.5	-6.6	
JAN	Janina	139.79 318	P		PKPdf	23 33 04.5	-10	
PVO	Paravola	139.87 316	P		PKPdf	23 33 04.6	-10	
ANKY	Antikythira Is	139.87 311	P		PKPdf	23 33 12.8	-1.5	
ANKY	Antikythira Is	139.87 311	eP		PKPdf	23 33 08.5	-5.8	
VLX	Vlachokerasia	139.87 314	P		PKPdf	23 33 04.9	-9.5	
VLX	Vlachokerasia	139.87 314	eP		PKPdf	23 33 09.0	-5.4	
KYTH	Kithira	139.89 312	eP		PKPdf	23 33 06.5	-7.8	
STON	Ston	139.90 324	P		PKPdf	23 32 58.9	-15	
UDBI	Udbina	139.90 327	P		PKPdf	23 33 04.2	-10	
SNF	Seneffe	139.94 342	PKhKP		PKPpre	23 33 12.0		
DRO	Drossia	140.07 315	P		PKPdf	23 33 05.5	-9.1	
WLF	Walferdange	140.09 340	E		PKPpre	23 33 05.8		
WLF			PKP		PKPdf	23 33 13.3	-0.9	
WLF	Walferdange	140.09 340	ePKIKP		PKPdf	23 33 13.4	-0.9	
WLF	Walferdange	140.09 340	ePKPdf		PKPdf	23 33 13.4	-0.9	
PDO	Prodromos	140.11 316	P		PKPdf	23 33 04.7	-10	
GIVF	Givet	140.14 342	ePKP1		PKPdf	23 33 13.9	-0.4	
	comp=Z,338nm,1.2s							
GIVF	Givet	140.14 342	ePKIKP		PKPdf	23 33 13.9	-0.4	
GIVF	Givet	140.14 342	ePKPbc		PKPdf	23 33 13.9	-0.4	
RLS	Riolos of Patr	140.19 315	P		PKPdf	23 33 02.0	+17	
RLS	Riolos of Patr	140.19 315	eP		PKPdf	23 33 08.0	-6.8	
IGT	Igoumenitsa	140.20 318	P		PKPdf	23 33 05.3	-9.5	
DOU	Dourbes	140.21 342	E		PKPpre	23 33 11.0		
DOU			PKhKP		PKPdf	23 33 13.0	-1.4	
SRN	Sarande	140.23 318	P		PKPdf	23 33 06.1	-8.7	
AMT	Artemida-Makis	140.27 314	P		PKPdf	23 33 06.0	-9.0	
AMT	Artemida-Makis	140.27 314	eP		PKPdf	23 33 08.5	-6.5	
ITM	Ithomi	140.28 314	P		PKPdf	23 33 05.7	-9.3	
ITM	Ithomi	140.28 314	eP		PKPdf	23 33 11.5	-3.5	
BAIF	Baives	140.36 342	ePKP1		PKPdf	23 33 09.7	-5.0	
	comp=Z,100nm,1.0s							
BAIF	Baives	140.36 342	ePKIKP		PKPdf	23 33 09.7	-5.0	
BAIF	Baives	140.36 342	ePKPbc		PKPdf	23 33 09.7	-5.0	
BFO	Black Forest	140.44 337	ePKIKP		PKPdf	23 33 13.2	-1.8	
BFO	Black Forest	140.44 337	ePKPdf		PKPdf	23 33 13.2	-1.8	
KEK	Kerkira	140.45 318	P		PKPdf	23 33 08.4	-6.8	
PYL	PYLOS	140.54 313	P		PKPdf	23 33 07.1	-8.4	
PYL	PYLOS	140.54 313	eP		PKPdf	23 33 09.0	-6.5	
KFL	Anninata	140.62 315	P		PKPdf	23 33 07.5	-8.1	
DAVA	Damuels	140.67 335	⇓iPKPdf		PKPdf	23 33 08.5	-7.1	
	comp=Z,108nm,1.4s							
VLS	Valsamata	140.73 316	P		PKPdf	23 33 07.4	-8.4	
CDF	Champ du Feu	140.76 338	ePKP1		PKPpre	23 33 07.1		
	comp=Z,528nm,1.6s							
CDF	Champ du Feu	140.76 338	ePKHKP		PKPpre	23 33 07.1		
CDF	Champ du Feu	140.76 338	ePKPbc		PKPpre	23 33 07.1		
FELD	Feldberg im Sc	140.94 337	PKP		PKPdf	23 33 15.3	-0.7	
FUORN	Ofenpass-Fuorn	141.03 334	ePKPpre		PKPpre	23 33 08.9		
DAVOX	Davos/Dischmat	141.07 334	PKPpre		PKPpre	23 33 08.5		
DAVOX	Davos/Dischmat	141.07 334	PKhKP		PKPpre	23 33 08.5		
	comp=Z,13nm,0.6s,baz=38,slow=7.1,SNR=12							
VAL	Valentia	141.16 357	eP		PKPdf	23 33 11.0	-5.0	
PAGF	Fort de Pagny	141.19 340	ePKP1		PKPdf	23 33 09.9	-6.4	
	comp=Z,95nm,1.3s							
PAGF	Fort de Pagny	141.19 340	ePKPbc		PKPdf	23 33 09.9	-6.4	
HINF	Hinteralfeld	141.42 338	ePKP1		PKPpre	23 33 09.0		
	comp=Z,663nm,1.5s							
HINF	Hinteralfeld	141.42 338	ePKHKP		PKPpre	23 33 09.0		
HINF	Hinteralfeld	141.42 338	ePKPbc		PKPpre	23 33 09.0		
HAU	Haudompre	141.44 339	ePKP1		PKPpre	23 33 09.0		
	comp=Z,208nm,1.1s							
HAU			eR					
	comp=Z,94µm,21.0s							
HAU	Haudompre	141.44 339	ePKHKP		PKPpre	23 33 09.0		
HAU	Haudompre	141.44 339	ePKPbc		PKPpre	23 33 09.0		
MEZF	Maizieres J'vi	141.46 340	ePKP1		PKPdf	23 33 09.2	-7.5	
	comp=Z,216nm,0.8s							
MEZF	Maizieres J'vi	141.46 340	ePKPbc		PKPdf	23 33 09.2	-7.5	
TUE	Stuetta	141.53 334	ePKPpre		PKPpre	23 33 12.6		
TUE			ePKPdf		PKPdf	23 33 16.9	-0.3	
SFTF	Sexfontaines	141.72 340	ePKP1		PKPdf	23 33 11.6	-5.7	
	comp=Z,255nm,1.0s							
SFTF	Sexfontaines	141.72 340	ePKPbc		PKPdf	23 33 11.6	-5.7	
LOMF	Lomont	141.82 337	PKP		PKPdf	23 33 11.5	-6.0	
DYA	Yadsworthy	141.93 350	ePKPdf		PKPdf	23 33 19.7	+2.2	
DYA			eSKPab		SKPab	23 37 01.0	-6.4	
SENIN	Lac Senin/Sane	142.46 336	ePKPpre		PKPpre	23 33 13.8		
CABF	La Chapelle	142.72 338	ePKP1		PKPdf	23 33 14.9	-4.3	
	comp=Z,795nm,1.4s							
CABF	La Chapelle	142.72 338	ePKIKP		PKPdf	23 33 14.9	-4.3	
CABF	La Chapelle	142.72 338	ePKPbc		PKPdf	23 33 14.9	-4.3	
OG01	Vacheresse	142.72 337	PKP		PKPdf	23 33 18.0	-1.2	
CUC	Castrocucco	142.79 321	ePKPpre		PKPpre	23 33 13.6		
CUC			ePKPdf		PKPdf	23 33 19.4	-0.1	
FLN	La Foliniere	142.82 346	ePKP1		PKPpre	23 33 13.7		
	comp=Z,357nm,1.0s							
FLN			eR					
	comp=Z,115µm,22.0s							
FLN	La Foliniere	142.82 346	ePKHKP		PKPpre	23 33 13.7		
FLN	La Foliniere	142.82 346	ePKPbc		PKPpre	23 33 13.7		
VLC	Villacollemand	142.86 331	ePKPdf		PKPdf	23 33 19.5	+0.1	
LDF	La Druitiere	142.89 345	ePKP1		PKPpre	23 33 13.9		
	comp=Z,317nm,1.1s							
LDF	La Druitiere	142.89 345	ePKHKP		PKPpre	23 33 13.9		
LDF	La Druitiere	142.89 345	ePKPbc		PKPpre	23 33 13.9		
LOR	Lormes	142.93 340	ePKP1		PKPdf	23 33 14.1	-5.4	
	comp=Z,114nm,0.8s							
LOR			eR					
	comp=Z,138µm,23.0s							
LOR	Lormes	142.93 340	ePKPbc		PKPdf	23 33 14.1	-5.4	
SSF	Saint Saulge	143.23 340	ePKP1		PKPab	23 33 15.4	-0.3	
	comp=Z,192nm,0.8s							
SSF	Saint Saulge	143.23 340	ePKIKP		PKPab	23 33 15.4	-0.3	
SSF	Saint Saulge	143.23 340	ePKPbc		PKPab	23 33 15.4	-0.3	
GRR	Gorron	143.26 346	ePKP1		PKPab	23 33 15.4	-0.3	
	comp=Z,392nm,1.1s							
GRR	Gorron	143.26 346	ePKIKP		PKPab	23 33 15.4	-0.3	
GRR	Gorron	143.26 346	ePKPbc		PKPab	23 33 15.4	-0.3	
HYF	Humbligny	143.32 341	ePKP1		PKPbc	23 33 17.4	+0.2	
HYF	Humbligny	143.32 341	ePKPbc		PKPbc	23 33 17.4	+0.2	
LPL	La Plagne	143.38 336	ePKP1		PKPab	23 33 16.9	+0.3	
	comp=Z,215nm,0.8s							
LPL	La Plagne	143.38 336	ePKIKP		PKPab	23 33 16.9	+0.3	
LPL	La Plagne	143.38 336	ePKPbc		PKPab	23 33 16.9	+0.3	
LPG	La Plagne	143.39 336	ePKP1		PKPab	23 33 17.1	+0.4	
	comp=Z,308nm,0.9s							
LPG	La Plagne	143.39 336	ePKIKP		PKPab	23 33 17.1	+0.4	
LPG	La Plagne	143.39 336	ePKPbc		PKPab	23 33 17.1	+0.4	
SMF	Signal de Mont	143.48 340	ePKP1		PKPab	23 33 16.2	-0.5	
	comp=Z,637nm,1.4s							
SMF	Signal de Mont	143.48 340	ePKIKP		PKPab	23 33 16.2	-0.5	
SMF	Signal de Mont	143.48 340	ePKPbc		PKPab	23 33 16.2	-0.5	
AVF	Avril sur Loir	143.52 340	ePKP1		PKPab	23 33 16.2	-0.6	
	comp=Z,269nm,1.1s							
AVF	Avril sur Loir	143.52 340	ePKIKP		PKPab	23 33 16.2	-0.6	
AVF	Avril sur Loir	143.52 340	ePKPbc		PKPab	23 33 16.2	-0.6	
SGMF	Saint Gilles	143.76 348	ePKP1		PKPab	23 33 17.0	-0.7	
	comp=Z,556nm,1.0s							
SGMF	Saint Gilles	143.76 348	ePKIKP		PKPab	23 33 17.0	-0.7	
SGMF	Saint Gilles	143.76 348	ePKPbc		PKPab	23 33 17.0	-0.7	
ROSF	Rostrenen	143.83 348	ePKP1		PKPab	23 33 17.3	-0.7	
	comp=Z,402nm,1.0s							
ROSF	Rostrenen	143.83 348	ePKIKP		PKPab	23 33 17.3	-0.7	
ROSF	Rostrenen	143.83 348	ePKPbc		PKPab	23 33 17.3	-0.7	
GDM	Grand'Maison	143.88 336	PKP		PKPab	23 33 18.6	+0.1	
MBDF	Montbardon	144.01 335	ePKP1		PKPab	23 33 18.5	-0.5	
	comp=Z,285nm,0.7s							
MBDF	Montbardon	144.01 335	ePKIKP		PKPab	23 33 18.5	-0.5	
MBDF	Montbardon	144.01 335	ePKPbc		PKPab	23 33 18.5	-0.5	
BST	Brest	144.01 349	PKP		PKPab	23 33 17.9	-0.7	
PLDF	La Plantade	144.15 339	PKP		PKPab	23 33 18.6	-0.7	
SURF	Saint Ours	144.20 335	PKP		PKPab	23 33 18.9	-0.8	
QUIF	Quistinic	144.21 348	ePKP1		PKPab	23 33 18.4	-1.0	
	comp=Z,291nm,0.8s							
QUIF	Quistinic	144.21 348	ePKIKP		PKPab	23 33 18.4	-1.0	
QUIF	Quistinic	144.21 348	ePKPbc		PKPab	23 33 18.4	-1.0	
ORIF	Oris-en-Rattie	144.21 336	ePKP1		PKPab	23 33 19.7	+0.1	
	comp=Z,698nm,0.7s							
ORIF			eR					
	comp=Z,77µm,22.0s							
ORIF	Oris-en-Rattie	144.21 336	ePKIKP		PKPab	23 33 19.7	+0.1	
ORIF	Oris-en-Rattie	144.21 336	ePKPbc		PKPab	23 33 19.7	+0.1	
AGO	Saint Agoulin	144.24 340	PKP		PKPab	23 33 18.9	-0.7	
SAOF	Saorge	144.28 334	PKP		PKPab	23 33 18.7	-1.1	
AUTN	L'Aution	144.33 334	PKP		PKPab	23 33 18.7	-1.6	
TCF	Toulx Ste Croi	144.33 341	ePKP1		PKPab	23 33 19.4	-0.6	
	comp=Z,731nm,1.1s							
TCF	Toulx Ste Croi	144.33 341	ePKIKP		PKPab	23 33 19.4	-0.6	
TCF	Toulx Ste Croi	144.33 341	ePKPbc		PKPab	23 33 19.4	-0.6	
TOUF	Mont Tournerai	144.39 334	PKP		PKPab	23 33 19.4	-1.1	
SSB	Saint Sauveur	144.42 338	ePKIKP		PKPab	23 33 20.1	-0.3	
SSB	Saint Sauveur	144.42 338	ePKPdf		PKPab	23 33 20.1	-0.3	
SBF	Sospel	144.43 334	ePKP1		PKPab	23 33 19.5	-1.0	
	comp=Z,988nm,0.8s							
SBF	Sospel	144.43 334	ePKIKP		PKPab	23 33 19.5	-1.0	
SBF	Sospel	144.43 334	ePKPbc		PKPab	23 33 19.5	-1.0	
LUCF	Luceram	144.45 334	PKP		PKPab	23 33 19.6	-0.9	
MVIF	Mont Vial	144.53 334	PKP		PKPab	23 33 18.6	-2.3	
PYM	Petit Puy Mans	144.55 340	PKP		PKPab	23 33 20.2	-0.6	
REVF	Revere	144.56 334	PKP		PKPab	23 33 19.6	-1.3	
OG25	Le Caire	144.59 335	PKP		PKPab	23 33 20.1	-1.0	
VERF	Verneugheol	144.72 340	PKP		PKPab	23 33 20.5	-0.9	
VIVF	Saint-Julien-l	144.73 337	ePKP1		PKPab	23 33 21.3	-0.2	
	comp=Z,2µm,1.5s							
VIVF	Saint-Julien-l	144.73 337	ePKIKP		PKPab	23 33 21.3	-0.2	
VIVF	Saint-Julien-l	144.73 337	ePKPbc		PKPab	23 33 21.3	-0.2	
MFF	Saint Martin d	144.73 344	ePKP1		PKPab	23 33 20.8	-0.6	
	comp=Z,825nm,0.7s							
MFF	Saint Martin d	144.73 344	ePKIKP		PKPab	23 33 20.8	-0.6	
MFF	Saint Martin d	144.73 344	ePKPbc		PKPab	23 33 20.8	-0.6	
PGF	Pioggiola	144.75 331	ePKP1		PKPab	23 33 21.1	-0.6	
	comp=Z,1µm,1.1s							
PGF	Pioggiola	144.75 331	ePKIKP		PKPab	23 33 21.1	-0.6	
PGF	Pioggiola	144.75 331	ePKPbc		PKPab	23 33 21.1	-0.6	
CALN	Calern	144.75 334	PKP		PKPab	23 33 20.8	-1.0	
LBL	Lubilhac	144.92 339	PKP		PKPab	23 33 21.4	-0.8	
FRF	La Foret Royal	145.01 334	ePKP1		PKPbc	23 33 21.6	-0.9	
	comp=Z,3µm,1.4s							
FRF	La Foret Royal	145.01 334	ePKIKP		PKPbc	23 33 21.6	-0.9	
FRF	La Foret Royal	145.01 334	ePKPbc		PKPbc	23 33 21.6	-0.9	
FRNF	Fournols	145.01 340	PKP		PKPab	23 33 22.7	+0.2	
SMRF	Simiane la Rot	145.12 336	ePKP1		PKPbc	23 33 22.6	-0.3	
	comp=Z,2µm,1.5s							
SMRF	Simiane la Rot	145.12 336	ePKPbc		PKPbc	23 33 22.6	-0.3	
LMR	La Mourre	145.26 334	ePKP1		PKPbc	23 33 22.

PNCL	**Nicolau / Gran**	**154.68**	**351**	*e*PKPdf	**PKPdf**	**23 33 39.1**	**+0.6**
ODJA	**Bouhanifia**	**154.76**	**334**	P	**PKPbc**	**23 33 50.0**	**+2.6**
PCVE	**Castro Verde**	**155.06**	**350**	*e*PKPdf	**PKPdf**	**23 33 40.8**	**+1.7**
PVAQ	**Vaqueiros**	**155.23**	**349**	*e*PKPbc	**PKPdf**	**23 33 44.2**	**+4.9**
PTEO	**Sao Teotonio**	**155.26**	**351**	*e*PKPbc	PKPdf	23 33 45.8	+6.5
OLHC	**Oulhaca**	**155.36**	**336**	P	PKPab	23 33 54.0	-11
PBDV	**Barranco-do-Ve**	**155.42**	**349**	*e*PKPdf	**PKPdf**	**23 33 35.3**	**-4.3**
MORF	**Marmelete**	**155.49**	**351**	*e*PKPdf	**PKPdf**	**23 33 37.7**	**-2.0**
PFVI	**Vila Bisbo**	**155.68**	**351**	*e*PKPab	**PKPab**	**23 34 05.6**	**-0.5**
MDT	**Midelt**	**158.73**	**339**	PKP	**PKPdf**	**23 33 42.0**	**-2.1**
MDT	**Midelt**	**158.73**	**339**	PKP	**PKPdf**	**23 33 42.0**	**-2.1**
	comp=Z,7.9nm,1.1s,baz=335,slow=0.4,SNR=5.9						
TOA0	**Torodi Ar. Sit**	**165.16**	**272**	*e*PKPdf	**PKPdf**	**23 33 48.9**	**-2.0**
TORD	**Torodi Ar. Bea**	**165.16**	**272**	PKP	**PKPdf**	**23 33 48.7**	**-2.2**
TORD				PKPab	**PKPab**	**23 34 52.9**	**+4.6**
TORD				PP	**PP**	**23 38 37.0**	**+1.8**
TORD	**Torodi Ar. Bea**	**165.16**	**272**	PKP	**PKPdf**	**23 33 48.7**	**-2.2**
	comp=Z,55nm,1.2s,baz=4.2,slow=0.6,SNR=25						
TORD				PKPab	**PKPab**	**23 34 52.9**	**+4.6**
	comp=Z,84nm,0.9s,baz=91,slow=4.2,SNR=9.3						
TORD				PP	**PP**	**23 38 37.0**	**+1.8**
	comp=Z,42nm,1.2s,baz=117,slow=6.7,SNR=3.8						
KIC	**Kosan Boka**	**169.06**	**233**	*e*PKIKP	**PKPdf**	**23 33 50.7**	**-3.2**
	comp=Z,724nm,1.4s						
LIC	**Lamto**	**169.19**	**232**	*e*PKIKP	**PKPdf**	**23 33 53.1**	**-0.9**
	comp=Z,395nm,1.6s						
LIC				*e*R			
	comp=Z,142μm,21.0s						
LIC	**Lamto**	**169.19**	**232**	*e*PKIKP	**PKPdf**	**23 33 50.9**	**-3.1**
	comp=Z,317nm,1.6s						
LIC	**Lamto**	**169.19**	**232**	*e*PKPdf	**PKPdf**	**23 33 53.1**	**-0.9**
DBIC	**Dimbokro**	**169.34**	**234**	PKP	**PKPdf**	**23 33 51.2**	**-2.9**
DBIC				*e*PKPdf	PKPdf	23 33 52.2	-1.8
DBIC				PKPab	**PKPab**	**23 35 06.8**	**+0.2**
DBIC	**Dimbokro**	**169.34**	**234**	PKP	**PKPdf**	**23 33 51.2**	**-2.9**
	comp=Z,25nm,1.1s,baz=182,slow=2.2,SNR=10						
DBIC				PKPab	**PKPab**	**23 35 06.8**	**+0.2**
	comp=Z,36nm,0.6s,baz=107,slow=6.4,SNR=8.4						
TIC	**Toumodi**	**169.45**	**233**	*e*PKIKP	**PKPdf**	**23 33 51.3**	**-2.9**
	comp=Z,818nm,1.6s						
BBTS	**Babate**	**176.69**	**61**	PKP	**PKPdf**	**23 33 55.5**	**-1.4**
BBTS	**Babate**	**176.69**	**61**	PKP	**PKPdf**	**23 33 55.5**	**-1.4**
	comp=Z,22nm,0.9s,baz=273,slow=2.0,SNR=2.8						

NNC ***07*** *23:19:11.8±2.7, 38°.34N×70°.89E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=29.4km s-min=19.7km az=74.0*

ISC 07 23:19:10.2±3.8, 38°.0N±0°.2×70°.5E±0°.2, h10km, n10, σ1°03/10, 3C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.81**	**29**	P	Pn	23 20 20.1	-2.9
	SNR=10						
KK31	**Karatay Array**	**5.12**	**360**	Pn	**Pn**	**23 20 27.4**	**+0.4**
	1.9nm,0.4s,baz=180,slow=13,SNR=92						
KK31				⇑Pg	**Pb**	**23 20 39.2**	**-0.7**
	2.4nm,0.3s,baz=181,slow=12,SNR=5.3						
KK31				⇓Sn	**Sn**	**23 21 27.7**	**+1.6**
	7.0nm,0.5s,baz=178,slow=22,SNR=4.2						
KK31				⇑Lg	Lg	23 21 42.9	
	17nm,0.6s,baz=173,slow=30,SNR=4.6						
UCH	**Uchtor**	**5.23**	**34**	P	Pb	23 20 41.0	-1.0
	SNR=7.7						
EKS2	**Erkin-Say**	**5.30**	**27**	P	**Pn**	**23 20 29.3**	**-0.2**
	SNR=6.1						
AAK	**Ala-Archa**	**5.55**	**32**	P	**Pn**	**23 20 33.0**	**-0.1**
	SNR=5.7						
CHMS	**Chumysh**	**5.96**	**31**	P	**Pn**	**23 20 38.8**	**+0.3**
	SNR=5.0						
USP	**Ospenovka**	**6.09**	**28**	P	**Pn**	**23 20 39.6**	**-0.6**
	SNR=13						
TKM2	**Tokmak 2**	**6.27**	**36**	⇓Pn	Pn	23 20 40.4	-2.6
	6.8nm,0.7s						
TKM2				⇑Lg	Lg	23 22 10.4	
	3.7nm,0.6s						
TKM2	**Tokmak 2**	**6.27**	**36**	P	**Pn**	**23 20 42.7**	**-0.2**
	SNR=6.4						
AB31	**Akbulak array**	**13.62**	**329**	⇓Pn	**Pn**	**23 22 24.1**	**+0.8**
	0.3nm,0.5s,baz=143,slow=11,SNR=19						
AB31				⇓Sn	**Sn**	**23 24 52.8**	**-1.8**
	1.8nm,0.6s,baz=145,slow=23,SNR=7.8						

ISCJB ***07*** *23:22:29.5±0.4, 46°.58N±0°.08×27°.11W±0°.05, h10km, mb4.9/60, Error ellipse: s-maj=10.9km s-min=4.9km az=3.8*

MOS ***07*** *23:22:30.9±1.0, 46°.65N×26°.85W, h10km, mb5.5/26, Error ellipse: s-maj=13.6km s-min=5.4km az=157.7*

IDC ***07*** *23:22:31.0±0.8, 46°.66N×26°.71W, h0km, mb4.4/17, mb1 4.4/17, mb1mx4.3/39, mbtmp4.4/17, Error ellipse: s-maj=20.2km s-min=16.2km az=40.0*

CSEM ***07*** *23:22:31.1±0.2, 46°.64N×27°.11W, h10km, mb5.2/39, Error ellipse: s-maj=10.8km s-min=4.8km az=2.0*

NEIC ***07*** *23:22:31.3±0.3, 46°.63N×27°.08W, h10km, mb5.4/56, Error ellipse: s-maj=11.0km s-min=4.8km az=182.0*

ISC 07 23:22:31.5±0.5, 46°.6N±0°.1×27°.00W±0°.06, h10km, n355, σ1°23/326, mb5.1/59, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EVOP	**Sao Brissos**	**16.04**	**113**	*e*P	**Pn**	**23 26 13.0**	**-4.0**
EVOP				pmax	pmax		
	comp=Z,85nm,1.2s						
EVOP	**Sao Brissos**	**16.04**	**113**	*e*P	**Pn**	**23 26 13.0**	**-4.0**
	comp=Z,85nm,1.2s						
EVOP	**Sao Brissos**	**16.04**	**113**	*e*P	**Pn**	**23 26 13.0**	**-4.0**
	comp=Z,85nm,1.2s						
EVO	**Evora**	**16.11**	**113**	*e*P	Pn	23 26 13.0	-4.9
	comp=Z,85nm,1.2s						
ROSF	**Rostrenen**	**16.13**	**75**	*e*P	Pn	23 26 13.2	-4.9
	comp=Z,367nm,1.7s						
ROSF	**Rostrenen**	**16.13**	**75**	*e*P	Pn	23 26 13.2	-4.9
ROSF				pmax	pmax		
	comp=Z,367nm,1.7s						
ROSF	**Rostrenen**	**16.13**	**75**	*e*P	Pn	23 26 13.2	-4.9
	comp=Z,367nm,1.7s						
ROSF	**Rostrenen**	**16.13**	**75**	*e*P	Pn	23 26 13.2	-4.9
	comp=Z,367nm,1.7s						
QUIF	**Quistinic**	**16.23**	**77**	*e*P	**Pn**	**23 26 14.7**	**-4.7**
	comp=Z,464nm,1.9s						
QUIF	**Quistinic**	**16.23**	**77**	*e*P	**Pn**	**23 26 14.7**	**-4.7**
QUIF				pmax	pmax		
	comp=Z,464nm,1.9s						
QUIF	**Quistinic**	**16.23**	**77**	*e*P	**Pn**	**23 26 14.7**	**-4.7**
	comp=Z,464nm,1.9s						
SGMF	**Saint Gilles**	**16.61**	**75**	*e*P	Pn	23 26 16.6	-7.7
	comp=Z,423nm,1.7s						
SGMF	**Saint Gilles**	**16.61**	**75**	*e*P	Pn	23 26 16.6	-7.7
SGMF				pmax	pmax		
	comp=Z,423nm,1.7s						
SGMF	**Saint Gilles**	**16.61**	**75**	*e*P	Pn	23 26 16.6	-7.7
	comp=Z,423nm,1.7s						
SGMF	**Saint Gilles**	**16.61**	**75**	*e*P	Pn	23 26 16.6	-7.7
	comp=Z,423nm,1.7s						
ESK	**Eskdalemuir**	**17.28**	**51**	*e*P	**P**	**23 26 34.2**	**+0.1**
ESK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ESK	**Eskdalemuir**	**17.28**	**51**	*e*Pn	**P**	**23 26 34.2**	**+0.1**
	comp=Z,7.9nm,0.8s						
ESK	**Eskdalemuir**	**17.28**	**51**	*e*P	**P**	**23 26 34.2**	**+0.1**
	comp=Z,8.0nm,0.8s						
EKA	**Eskdalemuir Ar**	**17.31**	**51**	P	**P**	**23 26 34.5**	**0.0**
EKA	**Eskdalemuir Ar**	**17.31**	**51**	P	**P**	**23 26 34.5**	**0.0**
EKA	**Eskdalemuir Ar**	**17.31**	**51**	P	**P**	**23 26 34.5**	**0.0**
	baz=245,slow=10.0,SNR=11						
GRR	**Gorron**	**17.73**	**75**	*e*P	**Pn**	**23 26 36.6**	**-1.7**
	comp=Z,347nm,1.9s						
GRR	**Gorron**	**17.73**	**75**	*e*P	**Pn**	**23 26 36.6**	**-1.7**
GRR				pmax	pmax		
	comp=Z,347nm,1.9s						
GRR	**Gorron**	**17.73**	**75**	*e*P	**Pn**	**23 26 36.6**	**-1.7**
	comp=Z,347nm,1.9s						
GRR	**Gorron**	**17.73**	**75**	*e*P	**Pn**	**23 26 36.6**	**-1.7**
	comp=Z,347nm,1.9s						
PAB	**San Pablo**	**17.94**	**105**	*e*P	**P**	**23 26 43.0**	**+1.3**
PAB	**San Pablo**	**17.94**	**105**	*e*P	**P**	**23 26 43.0**	**+1.3**
PAB	**San Pablo**	**17.94**	**105**	*e*P	**P**	**23 26 43.0**	**+1.3**
FLN	**La Foliniere**	**17.96**	**73**	*e*P	**Pn**	**23 26 38.9**	**-2.2**
	comp=Z,496nm,1.9s						
FLN	**La Foliniere**	**17.96**	**73**	*e*P	**Pn**	**23 26 38.9**	**-2.2**
FLN				pmax	pmax		
	comp=Z,496nm,1.9s						
FLN	**La Foliniere**	**17.96**	**73**	*e*P	**Pn**	**23 26 38.9**	**-2.2**
	comp=Z,496nm,1.9s						
ESDC	**Sonseca Array**	**18.14**	**104**	P	**P**	**23 26 44.7**	**+0.9**
ESDC	**Sonseca Array**	**18.14**	**104**	P	**P**	**23 26 44.7**	**+0.9**
ESDC	**Sonseca Array**	**18.14**	**104**	P	**P**	**23 26 44.7**	**+0.9**
	comp=Z,1.8nm,0.3s,baz=296,slow=12,SNR=33						
ESLA	**Sonseca Array**	**18.14**	**104**	*e*P	**P**	**23 26 45.0**	**+1.2**
	comp=Z,53nm,1.8s						
ESLA	**Sonseca Array**	**18.14**	**104**	*e*P	**P**	**23 26 45.0**	**+1.2**
	comp=Z,53nm,1.8s						
LDF	**La Druitiere**	**18.21**	**74**	*e*P	**Pn**	**23 26 43.6**	**-0.6**
	comp=Z,327nm,1.9s						
LDF	**La Druitiere**	**18.21**	**74**	*e*P	**Pn**	**23 26 43.6**	**-0.6**
LDF				pmax	pmax		
	comp=Z,327nm,1.9s						
LDF	**La Druitiere**	**18.21**	**74**	*e*P	**Pn**	**23 26 43.6**	**-0.6**
	comp=Z,327nm,1.9s						
LDF	**La Druitiere**	**18.21**	**74**	*e*P	**Pn**	**23 26 43.6**	**-0.6**
	comp=Z,163nm,1.9s						
MFF	**Saint Martin d**	**18.43**	**80**	*e*P	**P**	**23 26 45.9**	**-0.9**
	comp=Z,149nm,1.7s						
MFF	**Saint Martin d**	**18.43**	**80**	*e*P	**P**	**23 26 45.9**	**-0.9**
MFF				pmax	pmax		
	comp=Z,149nm,1.7s						
MFF	**Saint Martin d**	**18.43**	**80**	*e*P	**P**	**23 26 45.9**	**-0.9**
	comp=Z,149nm,1.7s						
MFF	**Saint Martin d**	**18.43**	**80**	*e*P	**P**	**23 26 45.9**	**-0.9**
	comp=Z,74nm,1.7s						
SJPF	**Ste Jean**	**18.57**	**91**	*e*P	**Pn**	**23 26 49.4**	**+0.7**
	comp=Z,32nm,1.0s						
SJPF	**Ste Jean**	**18.57**	**91**	*e*P	**Pn**	**23 26 49.4**	**+0.7**
SJPF				pmax	pmax		
	comp=Z,32nm,1.0s						
SJPF	**Ste Jean**	**18.57**	**91**	*e*P	**Pn**	**23 26 49.4**	**+0.7**
	comp=Z,32nm,1.0s						
SJPF	**Ste Jean**	**18.57**	**91**	*e*P	**Pn**	**23 26 49.4**	**+0.7**
	comp=Z,16nm,1.0s						
ETSF	**Etsaut**	**19.10**	**91**	*e*P	**Pn**	**23 26 56.5**	**+1.3**
	comp=Z,170nm,1.6s						
ETSF	**Etsaut**	**19.10**	**91**	*e*P	**Pn**	**23 26 56.5**	**+1.3**
ETSF				pmax	pmax		
	comp=Z,170nm,1.6s						
ETSF	**Etsaut**	**19.10**	**91**	*e*P	**Pn**	**23 26 56.5**	**+1.3**
	comp=Z,170nm,1.6s						
ETSF	**Etsaut**	**19.10**	**91**	*e*P	**Pn**	**23 26 56.5**	**+1.3**
	comp=Z,85nm,1.6s						
LFF	**La Frestale**	**19.39**	**85**	*e*P	**P**	**23 26 57.1**	**-0.3**
	comp=Z,499nm,1.9s						
LFF	**La Frestale**	**19.39**	**85**	*e*P	**P**	**23 26 57.1**	**-0.3**
LFF				pmax	pmax		
	comp=Z,499nm,1.9s						
LFF	**La Frestale**	**19.39**	**85**	*e*P	**P**	**23 26 57.1**	**-0.3**
	comp=Z,499nm,1.9s						
LFF	**La Frestale**	**19.39**	**85**	*e*P	**P**	**23 26 57.1**	**-0.3**
	comp=Z,249nm,1.9s						
EPF	**Esparros**	**19.68**	**90**	*e*P	**Pn**	**23 27 02.6**	**+0.6**
	comp=Z,163nm,1.7s						
EPF	**Esparros**	**19.68**	**90**	*e*P	**Pn**	**23 27 02.6**	**+0.6**
EPF				pmax	pmax		
	comp=Z,163nm,1.7s						
EPF	**Esparros**	**19.68**	**90**	*e*P	**Pn**	**23 27 02.6**	**+0.6**
	comp=Z,163nm,1.7s						
EPF	**Esparros**	**19.68**	**90**	*e*P	**Pn**	**23 27 02.6**	**+0.6**
	comp=Z,81nm,1.7s						
RJF	**Les Rejaudoux**	**19.83**	**83**	*e*P	**P**	**23 27 01.8**	**-0.4**
	comp=Z,170nm,1.7s						
RJF	**Les Rejaudoux**	**19.83**	**83**	*e*P	**P**	**23 27 01.8**	**-0.4**
RJF				pmax	pmax		
	comp=Z,170nm,1.7s						
RJF	**Les Rejaudoux**	**19.83**	**83**	*e*P	**P**	**23 27 01.8**	**-0.4**
	comp=Z,170nm,1.7s						
RJF	**Les Rejaudoux**	**19.83**	**83**	*e*P	**P**	**23 27 01.8**	**-0.4**
	comp=Z,85nm,1.7s						
TCF	**Toulx Ste Croi**	**20.09**	**80**	*e*P	Pn	23 27 06.3	-0.6
	comp=Z,295nm,1.5s						
TCF	**Toulx Ste Croi**	**20.09**	**80**	*e*P	Pn	23 27 06.3	-0.6
TCF				pmax	pmax		
	comp=Z,295nm,1.5s						
TCF	**Toulx Ste Croi**	**20.09**	**80**	*e*P	Pn	23 27 06.3	-0.6
	comp=Z,295nm,1.5s						
TCF	**Toulx Ste Croi**	**20.09**	**80**	*e*P	Pn	23 27 06.3	-0.6
	comp=Z,148nm,1.5s						
HYF	**Humbligny**	**20.20**	**77**	*e*P	Pn	23 27 08.0	-0.2
HYF	**Humbligny**	**20.20**	**77**	*e*P	Pn	23 27 08.0	-0.2
HYF	**Humbligny**	**20.20**	**77**	*e*P	Pn	23 27 08.0	-0.2
CAF	**Calviac**	**20.30**	**84**	*e*P	**P**	**23 27 07.8**	**+0.4**
	comp=Z,200nm,1.9s						
CAF	**Calviac**	**20.30**	**84**	*e*P	**P**	**23 27 07.8**	**+0.4**
CAF				pmax	pmax		
	comp=Z,200nm,1.9s						
CAF	**Calviac**	**20.30**	**84**	*e*P	**P**	**23 27 07.8**	**+0.4**
	comp=Z,200nm,1.9s						
CAF	**Calviac**	**20.30**	**84**	*e*P	**P**	**23 27 07.8**	**+0.4**
	comp=Z,100nm,1.9s						
PYM	**Petit Puy Mans**	**20.74**	**81**	*e*P	**P**	**23 27 13.0**	**+0.8**
PYM	**Petit Puy Mans**	**20.74**	**81**	*e*P	**P**	**23 27 13.0**	**+0.8**
AGO	**Saint Agoulin**	**20.76**	**80**	*e*P	Pn	23 27 13.6	-1.2
AGO	**Saint Agoulin**	**20.76**	**80**	*e*P	Pn	23 27 13.6	-1.2
AVF	**Avril sur Loir**	**20.76**	**78**	*e*P	**P**	**23 27 13.2**	**+0.9**
	comp=Z,322nm,1.8s						
AVF	**Avril sur Loir**	**20.76**	**78**	*e*P	**P**	**23 27 13.2**	**+0.9**
AVF				pmax	pmax		
	comp=Z,322nm,1.8s						
AVF	**Avril sur Loir**	**20.76**	**78**	*e*P	**P**	**23 27 13.2**	**+0.9**
	comp=Z,322nm,1.8s						
AVF	**Avril sur Loir**	**20.76**	**78**	*e*P	**P**	**23 27 13.2**	**+0.9**
	comp=Z,161nm,1.8s						
SSF	**Saint Saulge**	**20.82**	**77**	*e*P	**P**	**23 27 13.8**	**+0.8**
	comp=Z,402nm,1.8s						
SSF	**Saint Saulge**	**20.82**	**77**	*e*P	**P**	**23 27 13.8**	**+0.8**
SSF				pmax	pmax		
	comp=Z,402nm,1.8s						
SSF	**Saint Saulge**	**20.82**	**77**	*e*P	**P**	**23 27 13.8**	**+0.8**
	comp=Z,402nm,1.8s						
SSF	**Saint Saulge**	**20.82**	**77**	*e*P	**P**	**23 27 13.8**	**+0.8**
	comp=Z,201nm,1.8s						
MTLF	**Montolieu**	**20.87**	**88**	*e*P	Pn	23 27 14.7	-1.3
	comp=Z,431nm,1.7s						
MTLF	**Montolieu**	**20.87**	**88**	*e*P	Pn	23 27 14.7	-1.3
MTLF				pmax	pmax		
	comp=Z,431nm,1.7s						
MTLF	**Montolieu**	**20.87**	**88**	*e*P	Pn	23 27 14.7	-1.3
	comp=Z,431nm,1.7s						
MTLF	**Montolieu**	**20.87**	**88**	*e*P	Pn	23 27 14.7	-1.3
	comp=Z,215nm,1.7s						
BAIF	**Baives**	**20.96**	**69**	*e*P	**P**	**23 27 14.9**	**+0.5**
	comp=Z,304nm,1.8s						
BAIF	**Baives**	**20.96**	**69**	*e*P	**P**	**23 27 14.9**	**+0.5**
BAIF				pmax	pmax		
	comp=Z,304nm,1.8s						
BAIF	**Baives**	**20.96**	**69**	*e*P	**P**	**23 27 14.9**	**+0.5**
	comp=Z,304nm,1.8s						
BAIF	**Baives**	**20.96**	**69**	*e*P	**P**	**23 27 14.9**	**+0.5**
	comp=Z,152nm,1.8s						
LOR	**Lormes**	**21.02**	**77**	*e*P	**P**	**23 27 15.9**	**+0.7**
	comp=Z,279nm,1.9s						
LOR	**Lormes**	**21.02**	**77**	*e*P	**P**	**23 27 15.9**	**+0.7**
	comp=Z,279nm,1.9s						
LOR	**Lormes**	**21.02**	**77**	*e*P	**P**	**23 27 15.9**	**+0.7**
	comp=Z,139nm,1.9s						
LBL	**Lubilhac**	**21.03**	**83**	*e*P	**P**	**23 27 16.8**	**+1.5**
LBL	**Lubilhac**	**21.03**	**83**	*e*P	**P**	**23 27 16.8**	**+1.5**
PLDF	**La Plantade**	**21.11**	**80**	*e*P	**P**	**23 27 17.1**	**+0.9**
PLDF	**La Plantade**	**21.11**	**80**	*e*P	**P**	**23 27 17.1**	**+0.9**
SMF	**Signal de Mont**	**21.12**	**79**	*e*P	**P**	**23 27 17.1**	**+0.9**
	comp=Z,180nm,1.5s						
SMF	**Signal de Mont**	**21.12**	**79**	*e*P	**P**	**23 27 17.1**	**+0.9**
SMF				pmax	pmax		
	comp=Z,181nm,1.5s						
SMF	**Signal de Mont**	**21.12**	**79**	*e*P	**P**	**23 27 17.1**	**+0.9**
	comp=Z,180nm,1.5s						
SMF	**Signal de Mont**	**21.12**	**79**	*e*P	**P**	**23 27 17.1**	**+0.9**
	comp=Z,90nm,1.5s						
GIVF	**Givet**	**21.35**	**69**	*e*P	**P**	**23 27 19.1**	**+0.4**
	comp=Z,407nm,1.5s						
GIVF	**Givet**	**21.35**	**69**	*e*P	**P**	**23 27 19.1**	**+0.4**
GIVF				pmax	pmax		
	comp=Z,407nm,1.5s						
GIVF	**Givet**	**21.35**	**69**	*e*P	**P**	**23 27 19.1**	**+0.4**
	comp=Z,407nm,1.5s						
GIVF	**Givet**	**21.35**	**69**	*e*P	**P**	**23 27 19.1**	**+0.4**
	comp=Z,204nm,1.5s						
MEZF	**Maizieres J'vi**	**21.64**	**73**	*e*P	**P**	**23 27 22.4**	**+0.6**
	comp=Z,827nm,1.8s						
MEZF	**Maizieres J'vi**	**21.64**	**73**	*e*P	**P**	**23 27 22.4**	**+0.6**
	comp=Z,827nm,1.8s						
MEZF	**Maizieres J'vi**	**21.64**	**73**	*e*P	**P**	**23 27 22.4**	**+0.6**
	comp=Z,413nm,1.8s						
SFTF	**Sexfontaines**	**21.67**	**74**	*e*P	**P**	**23 27 22.7**	**+0.6**
	comp=Z,624nm,1.8s						
SFTF	**Sexfontaines**	**21.67**	**74**	*e*P	**P**	**23 27 22.7**	**+0.6**
	comp=Z,312nm,1.8s						
LASF	**Ste Croix**	**21.77**	**85**	*e*P	**P**	**23 27 24.4**	**+1.2**
	comp=Z,506nm,1.9s						
LASF	**Ste Croix**	**21.77**	**85**	*e*P	**P**	**23 27 24.4**	**+1.2**
	comp=Z,506nm,1.9s						
LASF	**Ste Croix**	**21.77**	**85**	*e*P	**P**	**23 27 24.4**	**+1.2**
	comp=Z,253nm,1.9s						
SSB	**Saint Sauveur**	**21.90**	**82**	*e*P	**P**	**23 27 25.4**	**+0.7**
SSB				pmax	pmax		
	comp=Z,2μm,3.2s						
SSB	**Saint Sauveur**	**21.90**	**82**	*e*P	**P**	**23 27 25.4**	**+0.7**
	comp=Z,2μm,3.2s						
SSB	**Saint Sauveur**	**21.90**	**82**	*e*P	**P**	**23 27 25.4**	**+0.7**
	comp=Z,2μm,3.2s						
MDT	**Midelt**	**21.93**	**121**	P	**P**	**23 27 25.9**	**+0.7**
MDT	**Midelt**	**21.93**	**121**	P	**P**	**23 27 25.9**	**+0.7**
MDT	**Midelt**	**21.93**	**121**	P	**P**	**23 27 25.9**	**+0.7**
	comp=Z,21nm,1.2s,baz=311,slow=11,SNR=17						
PAGF	**Fort de Pagny**	**22.08**	**73**	*e*P	**P**	**23 27 26.7**	**+0.2**
	comp=Z,72nm,1.4s						
PAGF	**Fort de Pagny**	**22.08**	**73**	*e*P	**P**	**23 27 26.7**	**+0.2**
	comp=Z,72nm,1.4s						
PAGF	**Fort de Pagny**	**22.08**	**73**	*e*P	**P**	**23 27 26.7**	**+0.2**
	comp=Z,36nm,1.4s						
VIVF	**Saint-Julien-l**	**22.11**	**83**	*e*P	**P**	**23 27 28.3**	**+1.5**
	comp=Z,251nm,1.5s						
VIVF	**Saint-Julien-l**	**22.11**	**83**	*e*P	**P**	**23 27 28.3**	**+1.5**
VIVF				pmax	pmax		
	comp=Z,251nm,1.5s						
VIVF	**Saint-Julien-l**	**22.11**	**83**	*e*P	**P**	**23 27 28.3**	**+1.5**
	comp=Z,251nm,1.5s						
VIVF	**Saint-Julien-l**	**22.11**	**83**	*e*P	**P**	**23 27 28.3**	**+1.5**
	comp=Z,126nm,1.5s						
THEF	**They Montfort**	**22.29**	**74**	*e*P	**P**	**23 27 29.8**	**+1.0**
THEF	**They Montfort**	**22.29**	**74**	*e*P	**P**	**23 27 29.8**	**+1.0**
HAU	**Haudompre**	**22.57**	**74**	*e*P	**P**	**23 27 31.5**	**-0.2**
	comp=Z,233nm,1.6s						
HAU	**Haudompre**	**22.57**	**74**	*e*P	**P**	**23 27 31.5**	**-0.2**
HAU				pmax	pmax		
	comp=Z,233nm,1.6s						
HAU	**Haudompre**	**22.57**	**74**	*e*P	**P**	**23 27 31.5**	**-0.2**
	comp=Z,233nm,1.6s						
HAU	**Haudompre**	**22.57**	**74**	*e*P	**P**	**23 27 31.5**	**-0.2**
	comp=Z,116nm,1.6s						
CABF	**La Chapelle**	**22.64**	**78**	*e*P	**P**	**23 27 31.7**	**-1.0**
	comp=Z,354nm,1.7s						
CABF	**La Chapelle**	**22.64**	**78**	*e*P	**P**	**23 27 31.7**	**-1.0**
CABF				pmax	pmax		
	comp=Z,354nm,1.7s						
CABF	**La Chapelle**	**22.64**	**78**	*e*P	**P**	**23 27 31.7**	**-1.0**
	comp=Z,354nm,1.7s						
CABF	**La Chapelle**	**22.64**	**78**	*e*P	**P**	**23 27 31.7**	**-1.0**
	comp=Z,177nm,1.7s						
RUP	**Ruppelstein**	**22.82**	**70**	*e*P	**P**	**23 27 34.8**	**+0.3**
ORIF	**Oris-en-Rattie**	**22.91**	**82**	*e*P	**P**	**23 27 35.6**	**+0.1**
	comp=Z,307nm,1.9s						
ORIF	**Oris-en-Rattie**	**22.91**	**82**	*e*P	**P**	**23 27 35.6**	**+0.1**
ORIF				pmax	pmax		
	comp=Z,307nm,1.9s						
ORIF	**Oris-en-Rattie**	**22.91**	**82**	*e*P	**P**	**23 27 35.6**	**+0.1**
	comp=Z,307nm,1.9s						
ORIF	**Oris-en-Rattie**	**22.91**	**82**	*e*P	**P**	**23 27 35.6**	**+0.1**
	comp=Z,154nm,1.9s						
HINF	**Hinteld**	**22.93**	**74**	*e*P	**P**	**23 27 36.2**	**+0.6**
	comp=Z,328nm,1.7s						
HINF	**Hinteralfeld**	**22.93**	**74**	*e*P	**P**	**23 27 36.2**	**+0.6**
HINF				pmax	pmax		
	comp=Z,329nm,1.7s						
HINF	**Hinteralfeld**	**22.93**	**74**	*e*P	**P**	**23 27 36.2**	**+0.6**
	comp=Z,328nm,1.7s						
HINF	**Hinteralfeld**	**22.93**	**74**	*e*P	**P**	**23 27 36.2**	**+0.6**
	comp=Z,164nm,1.7s						
SMRF	**Simiane la Rot**	**22.98**	**85**	*e*P	**P**	**23 27 36.4**	**+0.3**
	comp=Z,416nm,1.9s						
SMRF	**Simiane la Rot**	**22.98**	**85**	*e*P	**P**	**23 27 36.4**	**+0.3**
	comp=Z,416nm,1.9s						
SMRF	**Simiane la Rot**	**22.98**

MVIF Mont Vial 24.09 84 eP P 23 27 48.3 +1.1
TOUF Mont Tournerai 24.11 84 eP P 23 27 48.7 +1.2
TOUF Mont Tournerai 24.11 84 eP P 23 27 48.7 +1.2
SPAK Spaichingen-Ko 24.16 73 eP P 23 27 48.6 +0.8
LUCF Luceram 24.22 84 eP P 23 27 48.3 -0.1
LUCF Luceram 24.22 84 eP P 23 27 48.3 -0.1
AUTN L'Aution 24.24 84 eP P 23 27 49.5 +0.8
AUTN L'Aution 24.24 84 eP P 23 27 49.5 +0.8
REVF Revere 24.28 84 eP P 23 27 48.3 -0.6
REVF Revere 24.28 84 eP P 23 27 48.3 -0.6
SBF Sospel 24.29 84 eP P 23 27 47.7 -1.3
comp=Z,240nm,1.6s
SBF Sospel 24.29 84 eP P 23 27 47.7 -1.3
SBF pmax pmax
comp=Z,240nm,1.6s
SBF Sospel 24.29 84 eP P 23 27 47.7 -1.3
comp=Z,240nm,1.6s
SBF Sospel 24.29 84 eP P 23 27 47.7 -1.3
comp=Z,120nm,1.6s
SAOF Saorge 24.33 83 eP P 23 27 50.4 +1.1
SAOF Saorge 24.33 83 eP P 23 27 50.4 +1.1
TUE Stuetta 24.87 77 eP P 23 27 55.7 +1.3
comp=Z,342nm,2.5s
TUE Stuetta 24.87 77 eP P 23 27 55.7 +1.3
comp=Z,342nm,2.5s
DAVOX Davos/Dischmat 25.16 76 P P 23 27 58.2 +1.3
DAVOX Davos/Dischmat 25.16 76 P P 23 27 58.2 +1.3
DAVOX Davos/Dischmat 25.16 76 P P 23 27 58.2 +1.3
comp=Z,9.9nm,0.9s,baz=291,slow=10,SNR=12
KONO Kongsberg 25.18 45 eP P 23 27 57.0 +0.2
KONO pmax pmax
comp=Z,598nm,1.5s
KONO Kongsberg 25.18 45 eP P 23 27 57.0 +0.2
comp=Z,598nm,1.5s
KONO Kongsberg 25.18 45 eP P 23 27 57.0 +0.2
comp=Z,598nm,1.5s
GRA1 Grafenberg Arr 25.51 69 eP P 23 28 00.7 +0.8
comp=Z,178nm,1.8s
GRF Grafenberg Arr 25.51 69 eP P 23 28 00.7 +0.8
GRF pmax pmax
comp=Z,178nm,1.8s
PGF Pioggiola 25.82 86 eP P 23 28 01.7 -1.1
comp=Z,289nm,1.9s
PGF Pioggiola 25.82 86 eP P 23 28 01.7 -1.1
PGF pmax pmax
comp=Z,289nm,1.9s
PGF Pioggiola 25.82 86 eP P 23 28 01.7 -1.1
comp=Z,289nm,1.9s
PGF Pioggiola 25.82 86 eP P 23 28 01.7 -1.1
comp=Z,144nm,1.9s
NOA NORSAR Array B 26.33 43 P P 23 28 04.8 -2.5
NOA NORSAR Array B 26.33 43 P P 23 28 04.8 -2.5
comp=Z,9.8nm,1.2s,baz=255,slow=9.6,SNR=2.9
CLL Collm 26.45 65 iP P 23 28 08.4 0.0
CLL pmax pmax
comp=Z,20nm,1.7s
CLL Collm 26.45 65 iP P 23 28 08.4 0.0
comp=Z,59nm,1.7s
CLL Collm 26.45 65 iP P 23 28 08.4 0.0
comp=Z,20nm,1.7s
BRG Berggiesshubel 27.09 66 eP P 23 28 14.4 +0.3
comp=Z,45nm,1.6s
BRG Berggiesshubel 27.09 66 eP P 23 28 14.4 +0.3
BRG pmax pmax
comp=Z,45nm,1.6s
BRG Berggiesshubel 27.09 66 eP P 23 28 14.4 +0.3
comp=Z,45nm,1.6s
KHC Kasperske Hory 27.12 70 eP P 23 28 15.2 +0.7
KHC Kasperske Hory 27.12 70 eP P 23 28 14.5 0.0
KHC epP pP 23 28 21.3 +3.8
KHC Kasperske Hory 27.12 70 eP P 23 28 15.2 +0.7
comp=Z,1.2nm,0.7s
KHC Kasperske Hory 27.12 70 eP P 23 28 15.2 +0.7
comp=Z,1.2nm,0.7s
GERES GERESS Array B 27.25 70 P P 23 28 15.1 -0.7
GERES GERESS Array B 27.25 70 P P 23 28 15.1 -0.7
GERES GERESS Array B 27.25 70 P P 23 28 15.0 -0.7
comp=Z,3.3nm,1.1s,baz=282,slow=8.1,SNR=18
PVCC Panska Ves 27.53 66 eP P 23 28 18.2 +0.1
PVCC Panska Ves 27.53 66 eP P 23 28 18.2 +0.1
PVCC Panska Ves 27.53 66 eP P 23 28 18.2 +0.1
PRU Pruhonice 27.59 68 eP P 23 28 19.0 +0.3
PRU e 23 28 26.3
PRU Pruhonice 27.59 68 eP P 23 28 19.0 +0.3
PRU epP pP 23 28 26.3 +4.6
PRU Pruhonice 27.59 68 eP P 23 28 19.0 +0.3
TREC Trest 28.32 69 eP P 23 28 25.5 +0.3
TREC e 23 28 31.8
TREC Trest 28.32 69 eP P 23 28 25.5 +0.3
TREC epP pP 23 28 31.8 +3.6
TREC Trest 28.32 69 eP P 23 28 25.5 +0.3
UPC Upice 28.45 66 eP P 23 28 26.0 -0.3
UPC e 23 28 32.5
UPC Upice 28.45 66 eP P 23 28 26.0 -0.3
UPC epP pP 23 28 32.5 +3.2
UPC Upice 28.45 66 eP P 23 28 26.0 -0.3
DPC Dobruska-Polom 28.67 66 eP P 23 28 28.4 +0.1
DPC e 23 28 34.7
DPC Dobruska-Polom 28.67 66 eP P 23 28 28.4 +0.1
DPC epP pP 23 28 34.7 +3.4
DPC Dobruska-Polom 28.67 66 P P 23 28 28.4 +0.1
KEST Kesra 29.19 99 P P 23 28 32.8 -0.3
KEST Kesra 29.19 99 P P 23 28 32.8 -0.3
KEST Kesra 29.19 99 P P 23 28 32.8 -0.3
comp=Z,3.5nm,1.1s,baz=284,slow=1.9,SNR=9.8
OKC Ostrava-Krasne 29.91 67 eP P 23 28 39.5 +0.2
OKC Ostrava-Krasne 29.91 67 eP P 23 28 39.5 +0.2
OKC Ostrava-Krasne 29.91 67 P P 23 28 39.5 +0.2
CUC Castrocucco 31.54 86 eP P 23 28 53.7 -0.2
comp=Z,60nm,1.5s
CUC Castrocucco 31.54 86 eP P 23 28 53.7 -0.2
comp=Z,60nm,1.5s
STHS Stebnicka Huta 31.97 67 eP P 23 28 57.9 +0.4
STHS pmax pmax
comp=Z,6.0nm,1.2s
STHS Stebnicka Huta 31.97 67 eP P 23 28 57.9 +0.4
CEL Celeste 32.40 89 eP P 23 29 00.8 -0.6
comp=Z,107nm,1.8s
CEL Celeste 32.40 89 eP P 23 29 00.8 -0.6
comp=Z,107nm,1.8s
KOLS Kolonicke sedl 32.74 67 eP P 23 29 04.7 +0.5
KOLS Kolonicke sedl 32.74 67 eP P 23 29 04.7 +0.5
UZH Uzhgorod 32.84 68 eP P 23 29 03.5 -1.5
UZH i 23 29 12.3
FINES FINESS Array B 33.48 44 P P 23 29 08.9 -1.6
FINES FINESS Array B 33.48 44 P P 23 29 08.9 -1.6
FINES FINESS Array B 33.48 44 P P 23 29 08.9 -1.6
comp=Z,4.3nm,0.8s,baz=270,slow=3.0,SNR=4.2
ARCES ARCESS Array B 34.37 30 P P 23 29 16.7 -1.4
ARCES ARCESS Array B 34.37 30 P P 23 29 16.7 -1.4
ARCES ARCESS Array B 34.37 30 P P 23 29 16.7 -1.4
comp=Z,2.8nm,0.7s,baz=215,slow=1.5,SNR=4.1
AKASG Malin Array Be 36.62 62 P P 23 29 36.5 -1.2
AKASG Malin Array Be 36.62 62 P P 23 29 36.5 -1.2
AKASG Malin Array Be 36.62 62 P P 23 29 36.5 -1.2
AKASG Malin Array Be 36.62 62 P P 23 29 36.5 -1.2
comp=Z,2.4nm,0.8s,baz=283,slow=8.7,SNR=18
BLA Blacksburg 40.17 276 eP P 23 30 08.0 +0.2
BLA pmax pmax
comp=Z,30nm,1.3s
BLA Blacksburg 40.17 276 eP P 23 30 08.0 +0.2
comp=Z,30nm,1.3s
BLA Blacksburg 40.17 276 eP P 23 30 08.0 +0.2
comp=Z,30nm,1.3s
ACSO Alum Creek Sta 40.43 282 eP P 23 30 10.2 +0.3
comp=Z,108nm,1.7s
ACSO Alum Creek Sta 40.43 282 eP P 23 30 10.2 +0.3
comp=Z,108nm,1.7s
TORD Torodi Ar. Bea 41.14 135 P P 23 30 15.8 -0.1
TORD Torodi Ar. Bea 41.14 135 P P 23 30 15.8 -0.1
TORD Torodi Ar. Bea 41.14 135 P P 23 30 15.8 -0.1
comp=Z,9.8nm,0.8s,baz=331,slow=8.2,SNR=43
H05N1 Guadeloupe/Mar 41.33 235 T T 00 13 58.7
SNR=5.0
TZTN Tazewell 42.66 277 eP P 23 30 27.5 -0.7
comp=Z,70nm,1.8s
TZTN Tazewell 42.66 277 eP P 23 30 27.5 -0.7
comp=Z,70nm,1.8s
TKL Tuckaleechee C 43.29 276 P P 23 30 37.5 +4.3
TKL Tuckaleechee C 43.29 276 P P 23 30 37.5 +4.3
comp=Z,2.7nm,0.9s,baz=58,slow=5.4,SNR=3.9
BRTR Keskin Array B 43.80 76 P P 23 30 37.1 -0.3
BRTR Keskin Array B 43.80 76 P P 23 30 37.2 -0.3
BRTR Keskin Array B 43.80 76 P P 23 30 37.1 -0.3
comp=Z,5.0nm,1.1s,baz=316,slow=3.4,SNR=11
DBIC Dimbokro 44.09 147 P P 23 30 39.5 -0.3
DBIC Dimbokro 44.09 147 P P 23 30 39.5 -0.3
DBIC Dimbokro 44.09 147 P P 23 30 39.5 -0.3
comp=Z,8.7nm,0.8s,baz=328,slow=9.0,SNR=13
LIC Lamto 44.44 148 eP P 23 30 36.5 -6.1
comp=Z,41nm,1.5s
LIC Lamto 44.44 148 eP P 23 30 36.5 -6.1
comp=Z,41nm,1.5s
HDIL Hopedale 44.50 286 eP P 23 30 41.0 -2.0
comp=Z,90nm,1.5s
HDIL Hopedale 44.50 286 eP P 23 30 41.0 -2.0
comp=Z,90nm,1.5s
SWET Sewanee 45.00 277 eP P 23 30 44.5 -2.6
comp=Z,123nm,1.8s
SWET Sewanee 45.00 277 eP P 23 30 44.5 -2.6
comp=Z,123nm,1.8s
LRAL Lakeview Retre 46.96 276 eP P 23 30 59.3 -3.2
comp=Z,51nm,1.6s
GOF Gofitskoye 47.34 65 eP P 23 31 05.4 +0.1
MMAI Mount Meron Ar 48.61 83 P P 23 31 16.1 +0.8
MMAI Mount Meron Ar 48.61 83 P P 23 31 16.1 +0.8
MMAI Mount Meron Ar 48.61 83 P P 23 31 16.1 +0.8
comp=Z,9.2nm,1.1s,baz=270,slow=4.1,SNR=6.2
KSU1 Kansas State U 50.08 288 eP P 23 31 27.4 +1.0
comp=Z,142nm,1.9s
KSU1 Kansas State U 50.08 288 eP P 23 31 27.4 +1.0
comp=Z,142nm,1.9s
ASF Jabal al Asfar 50.13 83 P P 23 31 27.7 +0.7
ASF Jabal al Asfar 50.13 83 P P 23 31 27.7 +0.7
comp=Z,0.7nm,0.3s,baz=246,slow=4.2,SNR=6.8
EIL Elat 50.29 87 P P 23 31 27.7 -0.4
EIL Elat 50.29 87 P P 23 31 27.7 -0.4
EIL Elat 50.29 87 P P 23 31 27.7 -0.4
comp=Z,4.1nm,0.8s,baz=349,slow=11,SNR=5.3
MIAR Mount Ida 50.58 281 eP P 23 31 27.6 -2.7
MIAR pmax pmax
comp=Z,161nm,1.7s
MIAR Mount Ida 50.58 281 eP P 23 31 27.6 -2.7
comp=Z,161nm,1.7s
MIAR Mount Ida 50.58 281 eP P 23 31 27.6 -2.7
comp=Z,161nm,1.7s
GNI Garni 50.90 70 P P 23 31 33.4 +0.5
GNI Garni 50.90 70 P P 23 31 33.3 +0.5
GNI Garni 50.90 70 P P 23 31 33.3 +0.5
comp=Z,1.8nm,0.5s,baz=188,slow=15,SNR=4.8
INK Inuvik 53.19 334 P P 23 31 51.4 +2.1
INK Inuvik 53.19 334 P P 23 31 51.4 +2.1
comp=Z,6.9nm,0.6s,baz=325,slow=7.3,SNR=6.9
H10N2 ASCENSION HYDR 55.30 165 T T 00 31 39.6
baz=350,slow=0.7,SNR=16
H10N3 ASCENSION HYDR 55.31 165 T T 00 31 40.1
baz=350,slow=0.7,SNR=24
H10N1 ASCENSION HYDR 55.32 165 T T 00 31 38.6
baz=350,slow=0.7,SNR=18
H10S1 ASCENSION HYDR 56.36 165 T T 00 32 58.9
baz=350,slow=0.7,SNR=185
H10S3 ASCENSION HYDR 56.37 165 T T 00 32 58.7
baz=350,slow=0.7,SNR=162
H10S2 ASCENSION HYDR 56.38 165 T T 00 33 00.3
baz=350,slow=0.7,SNR=195
RRI2 Red Ridge 56.98 300 eP P 23 32 17.4 +0.1
comp=Z,134nm,1.7s
RRI2 Red Ridge 56.98 300 eP P 23 32 17.4 +0.1
comp=Z,134nm,1.7s
SPUT South Promonto 58.85 299 eP P 23 32 30.6 +0.2
SPUT South Promonto 58.85 299 eP P 23 32 30.6 +0.2
MOD Modoc 63.13 303 eP P 23 32 56.8 -2.6
MOD Modoc 63.13 303 eP P 23 32 56.8 -2.6
SBA Scott Base 148.16 185 ePKPdf PKPdf 23 42 14.3 +1.6
SBA Scott Base 148.16 185 ePKIKP PKPdf 23 42 14.3 +1.6
VNDA Vanda 148.75 184 PKPbc PKPbc 23 42 16.8 -0.7
VNDA Vanda 148.75 184 PKPbc PKPbc 23 42 16.8 -0.7
VNDA Vanda 148.75 184 PKPbc PKPbc 23 42 16.8 -0.7
comp=Z,6.7nm,1.1s,baz=211,slow=3.0,SNR=8.5
WRA Warramunga Arr 149.35 36 PKPbc PKPbc 23 42 19.6 -1.1
WRA Warramunga Arr 149.35 36 PKPbc PKPbc 23 42 19.6 -1.1
WRA Warramunga Arr 149.35 36 PKPbc PKPbc 23 42 19.6 -1.1
comp=Z,6.5nm,1.2s,baz=326,slow=2.9,SNR=4.6
CASY Casey 150.22 147 ePKPdf PKPdf 23 42 17.3 +1.1
CASY Casey 150.22 147 ePKIKP PKPdf 23 42 17.3 +1.1

*IDC **07** 23:23:23.1±0.6, 12°.53S×165°.98E, h0km, mb5.2/19, mb1 5.2/19, mb1mx5.1/24, mbtmp5.2/19, Error ellipse: s-maj=24.7km s-min=14.1km az=93.0*
*MOS **07** 23:23:26.3±1.4, 12°.52S×165°.96E, h33km, mb5.6/19, Error ellipse: s-maj=10.8km s-min=9.0km az=35.3*
*ISCJB **07** 23:23:27.1±0.3, 12°.56S±0°.05×165°.93E±0°.06, h40km, mb5.3/32, Error ellipse: s-maj=8.7km s-min=6.7km az=154.6*
*NEIC **07** 23:23:28.5±1.2, 12°.56S×165°.96E, h36km±10km, mb5.5/13, Error ellipse: s-maj=8.3km s-min=7.1km az=70.0*
ISC 07 23:23:28.9±0.4, **12°.59S**±0°.06×**165°.94E**±0°.07, **h40**km, **n156,** σ1**s38**/156, **mb5.4**/32, **6C-21D, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.67	297	Pn		Pn		23 25 05.0	+0.6
HNR				Sn		Sn		23 26 17.9	-1.3
HNR	Honiara	6.67	297	Pn		Pn		23 25 05.0	+0.6
	68nm,0.3s,baz=238,slow=5.0,SNR=5.6								
HNR				Sn		Sn		23 26 17.9	-1.3
	15nm,0.3s,baz=38,slow=20,SNR=1.1								
MSVF	Nonsavu	12.76	115	P		Pn		23 26 26.7	-1.2
MSVF	Nonsavu	12.76	115	Pn		Pn		23 26 26.7	-1.2
PMG	Port Moresby	18.70	278	eP		Pn		23 27 44.5	-0.3
	151nm,1.1s								
EIDS	Eidsvold	18.92	226	eP		Pn		23 27 47.1	-0.3
	232nm,1.3s								
CTA	Charters Tower	20.30	246	P		Pn		23 28 04.0	+0.3
CTA	Charters Tower	20.30	246	P		Pn		23 28 04.0	+0.3
	46nm,0.9s,baz=64,slow=12,SNR=5.3								
CTAO	Charters Tower	20.30	246	eP		P		23 28 01.8	+0.2
CTAO	Charters Tower	20.30	246	eP		P		23 28 01.8	+0.2
ARMA	Armidale	22.14	215	eP		P		23 28 23.4	+1.9
	132nm,1.2s								
COEN	Coen	22.20	264	eP		P		23 28 20.9	-1.2
	86km,1.2s								
CAN	Canberra	27.33	211	P		P		23 29 06.3	-3.9
CAN	Canberra	27.33	211	P		P		23 29 06.3	-3.9
STKA	Stephens Creek	29.48	225	eP		P		23 29 30.5	+1.2
	18nm,1.1s								
STKA	Stephens Creek	29.48	225	P		P		23 29 30.6	+1.2
	26nm,0.8s,baz=48,slow=8.1,SNR=5.3								
WRA	Warramunga Arr	31.16	252	P		P		23 29 43.8	-0.6
WRA	Warramunga Arr	31.16	252	P		P		23 29 43.8	-0.6
	14nm,0.8s,baz=84,slow=8.9,SNR=5.9								
RPZ	Rata Peaks	31.33	173	eP		P		23 29 45.5	-0.1
RPZ				ePP		PP		23 30 55.1	-1.7
RPZ	Rata Peaks	31.33	173	P		P		23 29 44.8	-0.7
	47nm,0.8s,baz=181,slow=16,SNR=12								
ASAR	Alice Springs	32.30	246	P		P		23 29 54.2	-0.2
ASAR	Alice Springs	32.30	246	P		P		23 29 54.2	-0.2
	28nm,0.9s,baz=77,slow=9.5,SNR=13								
ODZ	Otahua Downs	32.59	174	eP		P		23 29 56.3	-0.3
	152nm,1.5s								
TAU	Tasmania Unive	34.24	205	eP		P		23 30 10.0	-1.0
TAU	Tasmania Unive	34.24	205	eP		P		23 30 10.0	-1.0
FITZ	Fitzroy Crossi	39.19	257	P		P		23 30 53.7	+0.3
	92nm,1.5s								
FITZ	Fitzroy Crossi	39.19	257	P		P		23 30 53.7	+0.3
	60nm,1.1s,baz=104,slow=9.7,SNR=5.0								
MCQ	Macquarie Isla	42.17	186	eP		P		23 31 17.1	-0.4
MCQ	Macquarie Isla	42.17	186	eP		P		23 31 17.1	-0.4
MBWA	Marble Bar	44.90	253	eP		P		23 31 39.2	-0.8
	60nm,0.9s								
NWAO	Narrogin (SRO)	48.78	237	eP		P		23 32 09.3	-0.9
NWAO	Narrogin (SRO)	48.78	237	P		P		23 32 10.5	+0.3
	57nm,0.9s,baz=84,slow=8.5,SNR=7.6								
KKM	Kota Kinabalu	52.77	288	eP		P		23 32 40.3	-0.3
MAJO	Matsushiro	55.42	333	eP		P		23 32 58.6	-0.8
MAJO				pmax	pmax				
	comp=Z,117nm,1.4s								
MAJO	Matsushiro	55.42	333	eP		P		23 32 58.6	-0.8
	comp=Z,117nm,1.4s								
JNU	Nakatsue	56.44	325	P		P		23 33 07.4	+0.5
JNU	Nakatsue	56.44	325	P		P		23 33 07.4	+0.5
	comp=Z,28nm,0.9s,baz=131,slow=10,SNR=5.3								
SSLB	Suanglung	56.93	309	eP		P		23 33 10.0	-0.5
KSM	Kuching	56.95	280	eP		P		23 33 09.0	-1.8
ASAJ	Asahikawa	60.30	341	P		P		23 33 33.1	-0.5
ASAJ	Asahikawa	60.30	341	P		P		23 33 33.1	-0.5
	comp=Z,41nm,0.7s,baz=212,slow=10,SNR=15								

KSRS Korea Array 61.25 326 P P 23 33 38.8 -1.3
comp=Z,12nm,1.1s,baz=138,slow=6.4,SNR=6.9
KSAR Wonju Array Be 61.27 326 P P 23 33 38.8 -1.4
YSS Yuzh-Sakhalins 62.81 342 ⇓iP P 23 33 50.0 -0.3
YSS pmax pmax
comp=Z,170nm,1.1s
YSS pmax pmax
comp=N,130nm,1.2s
YSS pmax pmax
comp=E,140nm,1.2s
USRK Ussuriysk Arra 64.41 334 P P 23 34 00.2 -0.7
comp=E,58nm,1.1s,baz=140,slow=6.2,SNR=25
VNDA Vanda 64.96 181 eP P 23 34 04.0 -0.2
comp=E,41nm,1.4s
VNDA Vanda 64.96 181 P P 23 34 05.2 +1.0
comp=E,19nm,1.2s,baz=349,slow=9.0,SNR=2.7
CASY Casey 65.02 202 eP P 23 34 04.7 0.0
SBA Scott Base 65.27 180 eP P 23 34 06.9 +0.8
SBA pmax pmax
comp=Z,143nm,1.6s
SBA Scott Base 65.27 180 eP P 23 34 06.9 +0.8
comp=Z,143nm,1.6s
PEA0B Petropavlovsk- 65.81 355 eP P 23 34 10.2 +0.3
PETK Petropavlovsk- 65.81 355 P P 23 34 10.1 +0.2
PETK pmax pmax
comp=Z,9.0nm,1.0s
PETK Petropavlovsk- 65.81 355 P P 23 34 10.1 +0.2
PETK Petropavlovsk- 65.81 355 P P 23 34 10.1 +0.2
comp=Z,8.7nm,0.9s,baz=108,slow=4.7,SNR=3.7
CN2 Changchun 67.16 329 eP P 23 34 18.8 +0.1
CN2 AMB AMB
comp=Z,60nm,1.3s
CHTO Chiang Mai 73.03 294 eP P 23 34 54.6 -0.7
CHTO Chiang Mai 73.03 294 eP P 23 34 54.6 -0.7
QSPA South Pole Qui 77.42 180 eP P 23 35 19.5 -0.4
comp=Z,110nm,0.9s
QSPA South Pole Qui 77.42 180 P P 23 35 19.9 0.0
comp=Z,51nm,1.0s,baz=34,slow=1.4,SNR=12
CIT Chita 78.58 330 eP P 23 35 25.5 -0.9
CIT e 23 35 41.3
CIT e 23 38 29.8
CIT pmax pmax
comp=Z,342nm,1.7s
ULN Ulaanbaatar 79.66 324 eP P 23 35 32.7 +0.2
SONM Songino Array 80.02 324 P P 23 35 35.0 +0.6
SONM Songino Array 80.02 324 P P 23 35 35.0 +0.6
comp=Z,17nm,1.0s,baz=140,slow=5.4,SNR=22
GTA Gaotai 80.26 314 eP P 23 35 37.0 +1.1
GTA pP pP 23 35 47.4 -0.6
GTA sP sP 23 35 51.2 -1.4
GTA AMB AMB
comp=Z,24nm,1.1s
ZAK Zakamensk 83.07 325 eP P 23 35 49.1 -1.3
ZAK pmax pmax
comp=Z,31nm,1.6s
LSA Lhasa 83.33 302 P P 23 35 48.0 -4.7
MAW Mawson 83.37 202 P P 23 35 52.5 +0.9
MAW Mawson 83.37 202 P P 23 35 52.5 +0.9
comp=Z,6.1nm,0.8s,baz=98,slow=8.1,SNR=6.0
TLY Talaya 83.50 326 eP P 23 35 51.8 -0.7
TLY pmax pmax
comp=Z,99nm,1.3s
TLY Talaya 83.50 326 P P 23 35 51.6 -0.9
comp=Z,322nm,1.4s,SNR=6.7
ILAR Eielson Array 84.91 18 P P 23 35 58.1 -1.2
ILAR Eielson Array 84.91 18 P P 23 35 58.1 -1.2
comp=Z,3.0nm,0.8s,baz=12,slow=28,SNR=4.4
MOY Mondy 84.95 326 eP P 23 35 59.4 -0.6
TAPN Taplejung 85.52 299 eP P 23 36 04.8 +1.2
comp=Z,176nm,1.4s
ODAN Odare 85.65 299 eP P 23 36 05.3 +1.1
comp=Z,109nm,1.1s
RAMN Ramite 86.36 298 eP P 23 36 08.5 +0.8
comp=Z,123nm,1.4s
JIRN Jiri 86.90 299 eP P 23 36 11.7 +1.2
comp=Z,81nm,1.2s
GUN Gumba 87.23 299 eP P 23 36 14.3 +2.2
comp=Z,116nm,1.2s
PKI Pulchoki 87.54 299 eP P 23 36 13.7 +0.1
comp=Z,97nm,1.3s
KKN Kakani 87.71 299 eP P 23 36 15.1 +0.9
comp=Z,90nm,1.1s
DMN Daman 87.81 299 eP P 23 36 15.8 +1.0
comp=Z,171nm,1.2s
GKN Gorkha 88.32 299 eP P 23 36 17.1 +0.1
comp=Z,109nm,1.1s
KOLN Koldanda 89.14 299 eP P 23 36 20.1 -0.9
DANN Dangsing 89.15 299 eP P 23 36 22.4 +1.3
comp=Z,76nm,1.0s
LENM Lemitar 94.58 56 P P 23 36 46.9 +0.8
comp=Z,15nm,0.8s
MKAR Makanchi Array 94.77 317 P P 23 36 45.9 -0.5
MKAR pmax pmax
comp=Z,13nm,0.8s
MKAR Makanchi Array 94.77 317 P P 23 36 45.9 -0.5
MKAR Makanchi Array 94.77 317 P P 23 36 45.9 -0.5
comp=Z,12nm,0.8s,baz=93,slow=3.6,SNR=12
ZAA0 Zalesovo Array 94.91 324 eP P 23 36 45.2 -1.6
ZALV Zalesovo Beam 94.91 324 P P 23 36 45.2 -1.6
ZALV pmax pmax
comp=Z,37nm,1.1s
ZALV Zalesovo Beam 94.91 324 P P 23 36 45.2 -1.6
ZALV Zalesovo Beam 94.91 324 P P 23 36 45.2 -1.6
comp=Z,31nm,1.1s,baz=116,slow=3.4,SNR=7.1
SNAA Sanae 95.60 184 eP P 23 36 49.4 -0.4
SNAA Sanae 95.60 184 P P 23 36 49.6 -0.2
comp=Z,16nm,1.2s,baz=238,slow=3.6,SNR=6.2
NVS Novosibirsk 96.03 325 eP P 23 36 48.4 -3.4
ARCES ARCESS Array B 117.87 345 PKP PKPdf 23 42 09.8 -0.8
ARCES ARCESS Array B 117.87 345 PKP PKPdf 23 42 09.8 -0.8
comp=Z,9.3nm,0.9s,baz=72,slow=2.3,SNR=9.2
QRN Al-Qurain 120.42 296 eP PKPdf 23 42 16.0 -0.7
QRN AMb AMB 23 42 21.6
comp=Z,151nm,1.0s
UMR Umm Al-Rimmam 120.57 297 eP PKPdf 23 42 16.5 -0.5
UMR AMb AMB 23 42 22.4
comp=Z,142nm,1.2s
RDF Al-Radifah 120.74 296 eP PKPdf 23 42 16.8 -0.6
RDF AMb AMB 23 42 23.1
comp=Z,97nm,1.4s
RST Umm Al-Ruwaisa 121.20 297 eP PKPdf 23 42 17.2 -1.0
RST AMb AMB 23 42 23.2
comp=Z,740nm,1.0s
GNI Garni 121.78 310 ePKPdf PKPdf 23 42 19.5 +0.2
FIA1 FINESS Array S 123.27 338 ePKPdf PKPdf 23 42 22.9 +1.7
FINES FINESS Array B 123.27 338 PKP PKPdf 23 42 22.4 +1.2
FINES FINESS Array B 123.27 338 PKP PKPdf 23 42 22.4 +1.2
comp=Z,20nm,1.0s,baz=46,slow=11,SNR=7.2
MALT Malatya 126.97 309 ⇓PKIKP PKPdf 23 42 28.5 -0.6
MALT Malatya 126.97 309 ⇓iP PKPdf 23 42 28.5 -0.6
ISAL Salakas 127.00 333 eP PKPdf 23 42 28.9 +0.4
IIGN Ignalina 127.09 332 eP PKPdf 23 42 28.4 -0.3
NACGM Naroch 127.11 332 e PKPdf 23 42 23.0 -5.7
NB2 NORSAR Subarra 128.23 345 PKPdf PKPdf 23 42 29.3 -1.5
comp=Z,50nm,1.4s,baz=31,slow=1.9
NB2 NORSAR Subarra 128.23 345 PKPdf PKPdf 23 42 29.3 -1.5
baz=31,slow=1.9
NOA NORSAR Array B 128.23 345 PKP PKPdf 23 42 32.5 +1.7
NOA NORSAR Array B 128.23 345 PKP PKPdf 23 42 32.5 +1.7
comp=Z,8.9nm,1.0s,baz=34,slow=2.0,SNR=8.4
AKASG Malin Array Be 128.25 326 PKIKP PKPdf 23 42 31.4 +0.4
AKASG pmax pmax
comp=Z,17nm,1.0s
AKASG Malin Array Be 128.25 326 PKP PKPdf 23 42 31.4 +0.4
AKASG Malin Array Be 128.25 326 PKP PKPdf 23 42 31.4 +0.4
comp=Z,16nm,1.0s,baz=48,slow=1.8,SNR=11
ANTO Ankara 130.70 312 ⇓PKIKP PKPdf 23 42 36.3 +0.1
ANTO Ankara 130.70 312 ⇓iP PKPdf 23 42 36.3 +0.1
ANTO Ankara 130.70 312 ePKPdf PKPdf 23 42 36.0 -0.2
TLCR 131.23 320 ⇓PKIKP PKPdf 23 42 33.3 -3.5
TLCR 131.23 320 ⇓iP PKPdf 23 42 33.3 -3.5
CFR Carcaliu 131.66 321 ⇓PKIKP PKPdf 23 42 37.3 -0.3
CFR Carcaliu 131.66 321 ⇓iP PKPdf 23 42 37.3 -0.3
GHRR 131.67 322 ⇑iP PKPdf 23 42 35.1 -2.6
HARR Harsova 132.02 320 ⇑PKIKP PKPdf 23 42 40.0 +1.6
HARR Harsova 132.02 320 ⇑iP PKPdf 23 42 40.0 +1.6
BURAR Bucovina Array 132.13 325 ⇓PKIKP PKPdf 23 42 38.4 -0.2
BURAR Bucovina Array 132.13 325 ⇓iP PKPdf 23 42 38.4 -0.2
VRI Vrincioaia 132.18 322 ⇓PKIKP PKPdf 23 42 35.8 -2.9
VRI Vrincioaia 132.18 322 ⇓iP PKPdf 23 42 35.8 -2.9
BMR Baia Mare 133.05 326 ⇓PKIKP PKPdf 23 42 40.8 +0.6
BMR Baia Mare 133.05 326 ⇓iP PKPdf 23 42 40.8 +0.6
VOIR 133.41 322 ⇓PKIKP PKPdf 23 42 46.3 +5.2
VOIR 133.41 322 ⇓iP PKPdf 23 42 46.3 +5.2
ARR Arges 133.69 322 ⇑iP PKPdf 23 42 41.8 +0.2

DRGR		134.00 325	⇓PKIKP	PKPdf	23 42 40.1	-2.1
DRGR		134.00 325	⇓iP	PKPdf	23 42 40.0	-2.1
MORC	Moravsky Berou	134.74 331	⇓PKIKP	PKPdf	23 42 39.1	-4.3
MORC	Moravsky Berou	134.74 331	⇓iP	PKPdf	23 42 39.1	-4.3
CLL	Collm	135.59 336	*e*PKPdf	PKPdf	23 42 45.0	+0.1
CLL			*e*PKiKP	PKiKP	23 42 48.0	+1.6
CLL			*e*PP	PP	23 45 24.0	+2.1
VTS	Vitosha	136.03 320	⇑PKIKP	PKPdf	23 42 44.2	-2.0
VTS	Vitosha	136.03 320	⇑iP	PKPdf	23 42 44.2	-2.0
GRF	Grafenberg Arr	137.56 336	*e*PKIKP	PKPdf	23 42 52.7	+4.1
GRF	Grafenberg Arr	137.56 336	*e*PKKP	PKPdf	23 42 52.7	+4.1
GVD	Gavdhos	139.00 309	PKPdf	PKPdf	23 42 52.4	+0.8
DAVOX	Davos/Dischmat	140.40 334	PKP	PKPdf	23 42 56.1	+2.0
DAVOX	Davos/Dischmat	140.40 334	PKP	PKPdf	23 42 56.1	+2.0
	comp=Z,15nm,0.9s,baz=82,slow=11,SNR=6.4					
VSL	Villasalto	146.12 326	*e*PKPdf	PKPdf	23 43 04.3	+0.1
KEST	Kesra	148.74 321	*e*PKPbc	PKPbc	23 43 12.5	-0.1
KEST	Kesra	148.74 321	PKPbc	PKPbc	23 43 12.3	-0.3
	comp=Z,111nm,0.8s,baz=250,slow=0.5,SNR=27					
ESDC	Sonseca Array	151.58 343	PKPbc	PKPbc	23 43 20.7	+1.4
ESDC	Sonseca Array	151.58 343	PKPbc	PKPbc	23 43 20.7	+1.4
	comp=Z,21nm,1.0s,baz=20,slow=2.0,SNR=12					
ESLA	Sonseca Array	151.58 343	*e*PKPdf	PKPdf	23 43 14.1	+1.0
TORD	Torodi Ar. Bea	164.63 274	PKPab	PKPab	23 44 25.5	+0.6
TORD	Torodi Ar. Bea	164.63 274	PKPab	PKPab	23 44 25.5	+0.6
	comp=Z,12nm,1.0s,baz=54,slow=2.6,SNR=4.0					

PGC 07 23:24:56.8±8.3, 50.50N×130.14W, h10km, ML2.9/4, Mw3.6,3D,193km west of Pt. Hardy, Bc Vancouver Island Region,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BPBC	Brooks Peninsu	1.56	102	⇓Pn	Pn	23 25 22.0	-2.7
BPBC				⇑Sn	Sn	23 25 40.5	-4.5
PHC	Port Hardy	1.74	82	⇓Pn	Pn	23 25 24.9	-2.2
PHC				⇓Sn	Sn	23 25 45.8	-3.4
MAYB	Maynard	1.90	92	⇑Pn	Pn	23 25 27.3	-2.2
BBB	Bella Bella	2.11	36	⇑Pn	Pn	23 25 30.9	-1.3
BBB				⇑Sn	Sn	23 25 54.5	-3.9
WOSB	Woss	2.31	97	⇑Pn	Pn	23 25 33.5	-1.5

*IDC **07** 23:26:01.9±0.8, 12.04S×166.01E, h0km, mb4.9/18, mb1 5.0/20, mb1mx4.9/26, mbtmp5.0/20, ML4.4/2, Error ellipse: s-maj=22.8km s-min=17.2km az=106.0*
*ISCJB **07** 23:26:04.5±0.5, 12.04S±0.07×165.92E±0.07, h30km, mb5.0/27, Error ellipse: s-maj=10.9km s-min=8.8km az=146.3*
*NEIC **07** 23:26:06.8±0.4, 12.11S×166.02E, h35km, mb5.3/11, Error ellipse: s-maj=9.4km s-min=9.1km az=201.0*

ISC 07 23:26:06.3±0.5, 12.06S±0.09×165.98E±0.08, h30km, n65, σ1§01/64, mb5.2/27, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	6.47	293	Pn	Pn	23 27 40.0	+0.4
HNR				Sn	Sn	23 28 50.3	-2.2
HNR	Honiara	6.47	293	Pn	Pn	23 27 39.9	+0.4
	61nm,0.3s,baz=14,slow=3.4,SNR=5.9						
HNR				Sn	Sn	23 28 50.3	-2.2
	18nm,0.3s,baz=20,slow=23,SNR=1.4						
PMG	Port Moresby	18.67	276	P	Pn	23 30 23.3	+0.7
PMG	Port Moresby	18.67	276	P	Pn	23 30 23.3	+0.7
	1.1nm,0.3s,baz=84,slow=4.5,SNR=3.8						
CTA	Charters Tower	20.55	245	P	P	23 30 43.4	+0.8
CTA	Charters Tower	20.55	245	P	P	23 30 43.4	+0.8
	32nm,0.8s,baz=71,slow=13,SNR=7.9						
CTAO	Charters Tower	20.55	245	*e*P	P	23 30 42.1	-0.4
	60nm,1.0s						
COEN	Coen	22.29	263	*e*P	P	23 31 00.7	-0.7
	479nm,1.1s						
ARMA	Armidale	22.59	214	*e*P	P	23 31 05.3	+0.7
	240nm,1.4s						
STKA	Stephens Creek	29.87	225	P	P	23 32 12.7	+1.4
	10nm,0.7s,baz=62,slow=11,SNR=3.5						
WRAB	Tennant Creek	31.35	251	*e*P	P	23 32 24.7	+0.2
	404nm,2.3s						
WRA	Warramunga Arr	31.36	251	P	P	23 32 23.6	-1.0
WRA	Warramunga Arr	31.36	251	P	P	23 32 23.6	-1.0
	24nm,1.1s,baz=85,slow=9.6,SNR=5.7						
RPZ	Rata Peaks	31.84	173	*e*P	P	23 32 28.1	-0.4
	28nm,0.7s						
RPZ	Rata Peaks	31.84	173	P	P	23 32 29.6	+1.1
	25nm,0.7s,baz=306,slow=23,SNR=4.7						
ASAR	Alice Springs	32.55	245	P	P	23 32 33.8	-1.3
ASAR	Alice Springs	32.55	245	P	P	23 32 33.8	-1.3
	15nm,0.8s,baz=69,slow=9.3,SNR=12						
RAR	Rarotonga	33.99	110	*e*P	P	23 32 45.1	-2.5
BATI	Baumata	41.53	268	P	P	23 33 52.9	+1.5
BATI	Baumata	41.53	268	P	P	23 33 52.9	+1.5
	43nm,0.7s,baz=145,slow=1.4,SNR=5.4						
MBWA	Marble Bar	45.09	252	*e*P	P	23 34 19.5	-0.6
	26nm,0.8s						
JNU	Nakatsue	56.03	324	P	P	23 35 42.3	-0.2
	12nm,0.8s,baz=94,slow=14,SNR=3.7						
ASAJ	Asahikawa	59.82	341	P	P	23 36 08.8	0.0
	7.8nm,0.7s,baz=216,slow=17,SNR=3.1						
KSRS	Korea Array	60.84	326	P	P	23 36 16.1	+0.2
	3.8nm,0.7s,baz=130,slow=7.4,SNR=4.7						
KSAR	Wonju Array Be	60.85	326	P	P	23 36 16.1	+0.1
NJ2	Nanjing	62.90	316	*e*P	P	23 36 29.5	-0.4
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s						
USRK	Ussuriysk Arra	63.95	333	P	P	23 36 37.0	+0.4
	comp=Z,25nm,1.1s,baz=151,slow=5.9,SNR=5.4						
PETK	Petropavlovsk-	65.30	355	P	P	23 36 45.2	+0.1
PETK	Petropavlovsk-	65.30	355	P	P	23 36 45.2	+0.1
	comp=Z,5.5nm,0.9s,baz=184,slow=10.0,SNR=3.5						
VNDA	Vanda	65.49	181	*e*P	P	23 36 46.4	+0.2
	comp=Z,12nm,1.1s						
CASY	Casey	65.52	201	*e*P	P	23 36 45.9	-0.7
	comp=Z,7.7nm,0.4s						
SBA	Scott Base	65.79	180	*e*P	P	23 36 48.6	+0.5
	comp=Z,18nm,0.8s						
PSI	Prapat	68.23	278	P	P	23 37 05.5	+0.6
PSI	Prapat	68.23	278	P	P	23 37 05.5	+0.6
	comp=Z,7.2nm,0.4s,baz=182,slow=6.6,SNR=4.6						
CMAR	Chiang Mai Arr	72.72	294	P	P	23 37 32.5	+0.4
CMAR	Chiang Mai Arr	72.72	294	P	P	23 37 32.5	+0.4
	comp=Z,3.9nm,0.8s,baz=120,slow=3.0,SNR=6.3						
CHTO	Chiang Mai	72.84	294	*e*P	P	23 37 31.4	-1.4
QSPA	South Pole Qui	77.95	180	*e*P	P	23 38 00.4	-1.1
	comp=Z,34nm,0.9s						
QSPA	South Pole Qui	77.95	180	P	P	23 38 01.5	+0.1
	comp=Z,39nm,1.1s,baz=48,slow=1.9,SNR=6.3						
ULN	Ulaanbaatar	79.25	324	*e*P	P	23 38 08.9	0.0
SONM	Songino Array	79.61	324	P	P	23 38 11.8	+0.9
SONM	Songino Array	79.61	324	P	P	23 38 11.8	+0.9
	comp=Z,16nm,1.1s,baz=144,slow=4.8,SNR=8.1						
ILAR	Eielson Array	84.40	18	P	P	23 38 36.3	+0.9
ILAR	Eielson Array	84.40	18	P	P	23 38 36.3	+0.9
	comp=Z,1.1nm,0.6s,baz=223,slow=5.4,SNR=1.5						
WRAK	Wrangell Islan	85.11	29	*e*P	P	23 38 34.3	-4.9
	comp=Z,12nm,0.4s						
NVAR	Mina Array Bea	86.50	50	P	P	23 38 51.2	+4.3
NVAR	Mina Array Bea	86.50	50	P	P	23 38 51.2	+4.3
	comp=Z,0.9nm,0.6s,baz=241,slow=8.5,SNR=2.2						
MKAR	Makanchi Array	94.41	317	P	P	23 39 23.5	0.0
MKAR	Makanchi Array	94.41	317	P	P	23 39 23.5	0.0
	comp=Z,6.5nm,0.7s,baz=88,slow=6.9,SNR=10						
ZAA0	Zalesovo Array	94.51	324	*e*P	P	23 39 22.7	-1.0
ZALV	Zalesovo Beam	94.51	324	P	P	23 39 23.1	-0.6
ZALV	Zalesovo Beam	94.51	324	P	P	23 39 23.1	-0.6
	comp=Z,10nm,0.9s,baz=117,slow=5.2,SNR=6.2						
SNAA	Sanae	96.12	184	*e*P	P	23 39 30.2	-0.7
ARCES	ARCESS Array B	117.37	345	PKP	PKPdf	23 44 47.4	-1.0
ARCES	ARCESS Array B	117.37	345	PKP	PKPdf	23 44 47.4	-1.0
	comp=Z,2.4nm,0.4s,baz=75,slow=1.5,SNR=4.3						
FINES	FINESS Array B	122.79	338	PKP	PKPdf	23 44 58.1	-0.9
FINES	FINESS Array B	122.79	338	PKP	PKPdf	23 44 58.1	-0.9
	comp=Z,3.4nm,0.6s,baz=357,slow=0.1,SNR=5.1						
NOA	NORSAR Array B	127.73	345	PKP	PKPdf	23 45 11.2	+2.6
NOA	NORSAR Array B	127.73	345	PKP	PKPdf	23 45 11.2	+2.6
	comp=Z,2.3nm,0.8s,baz=140,slow=3.5,SNR=3.3						
KEST	Kesra	148.35	322	PKPbc	PKPbc	23 45 50.3	0.0
KEST	Kesra	148.35	322	PKPbc	PKPbc	23 45 50.3	0.0
	comp=Z,7.3nm,0.9s,baz=78,slow=1.3,SNR=7.5						
ESDC	Sonseca Array	151.09	344	PKPbc	PKPbc	23 45 57.5	+0.6
ESDC	Sonseca Array	151.09	344	PKPbc	PKPbc	23 45 57.5	+0.6
	comp=Z,0.7nm,0.5s,baz=0.4,slow=3.6,SNR=2.0						
TORD	Torodi Ar. Bea	164.62	276	PKP	PKPdf	23 46 08.3	+0.1
TORD	Torodi Ar. Bea	164.62	276	PKP	PKPdf	23 46 08.3	+0.1
	comp=Z,8.6nm,1.0s,baz=80,slow=0.7,SNR=4.3						

IDC 07 23:29:05.2±4.4, 11.80S×165.26E, h0km, mb4.4/5, mb1 4.5/5, mb1mx4.2/18, mbtmp4.3/5, Error ellipse: s-maj=126.8km s-min=34.0km az=114.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	29.57	224	P	P	23 35 12.3	+0.4
	7.5nm,0.8s,baz=26,slow=8.1,SNR=2.0						
WRA	Warramunga Arr	30.79	251	P	P	23 35 22.8	0.0
	1.5nm,0.6s,baz=82,slow=9.1,SNR=3.1						
ASAR	Alice Springs	32.04	244	P	P	23 35 33.4	-0.5
	2.5nm,0.7s,baz=73,slow=9.3,SNR=4.7						
SONM	Songino Array	78.99	324	P	P	23 41 11.2	+0.1
	0.7nm,0.5s,baz=135,slow=4.5,SNR=5.2						
MKAR	Makanchi Array	93.74	317	P	P	23 42 23.9	-0.2
	2.7nm,0.8s,baz=92,slow=6.7,SNR=4.7						

*IDC **07** 23:29:22.3±0.9, 13.21S×166.49E, h0km, mb4.5/10, mb1 4.6/10, mb1mx4.5/19, mbtmp4.5/10, Error ellipse: s-maj=33.0km s-min=23.5km az=95.0*
*ISCJB **07** 23:29:25.7±0.4, 13.29S±0.09×166.58E±0.07, h39km, mb4.7/14, Error ellipse: s-maj=13.6km s-min=9.9km az=6.4*
*NEIC **07** 23:29:27.1±0.3, 13.24S×166.55E, h35km, mb5.0/3, Error ellipse: s-maj=11.0km s-min=7.2km az=182.0*

ISC 07 23:29:27.6±0.6, 13.3S±0.1×166.57E±0.09, h39km, n32, σ0§84/31, mb4.8/14, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	11.93	113	*e*Pn	Pn	23 32 14.4	-0.8
CTAO	Charters Tower	20.60	248	*e*P	P	23 34 04.0	+0.3
AFI	Afiamalu	21.06	94	*e*P	P	23 34 08.3	-0.4
ARMA	Armidale	21.96	217	*e*P	P	23 34 18.0	-0.2
COEN	Coen	22.75	265	*e*P	P	23 34 25.5	-1.2
	299nm,1.4s						
WRA	Warramunga Arr	31.56	253	P	P	23 35 45.3	-1.4
WRA	Warramunga Arr	31.56	253	P	P	23 35 45.3	-1.4
	3.9nm,1.1s,baz=86,slow=9.8,SNR=2.1						
ASAR	Alice Springs	32.59	247	P	P	23 35 55.0	-0.7
ASAR	Alice Springs	32.59	247	P	P	23 35 55.0	-0.7
	8.0nm,0.7s,baz=74,slow=9.5,SNR=9.1						
RAR	Rarotonga	33.05	109	*e*P	P	23 35 59.4	-0.3
FITZ	Fitzroy Crossi	39.64	258	*e*P	P	23 36 55.0	-1.0
	25nm,1.3s						
NWAO	Narrogin (SRO)	48.94	238	*e*P	P	23 38 05.5	-4.7
KSRS	Korea Array	62.15	326	P	P	23 39 44.9	0.0
	2.9nm,0.7s,baz=136,slow=7.4,SNR=4.0						
KSAR	Wonju Array Be	62.16	326	P	P	23 39 44.9	-0.1
VNDA	Vanda	64.31	181	P	P	23 40 00.7	+2.0
VNDA	Vanda	64.31	181	P	P	23 40 00.7	+2.0
	2.3nm,0.9s,baz=23,slow=12,SNR=2.6						
SBA	Scott Base	64.60	180	*e*P	P	23 40 01.0	+0.4
	14nm,1.0s						
USRK	Ussuriysk Arra	65.27	333	P	P	23 40 06.5	+1.1
	10.1nm,0.9s,baz=134,slow=6.3,SNR=8.8						
CHTO	Chiang Mai	73.86	294	*e*P	P	23 40 59.4	+0.4
	47nm,1.4s						
QSPA	South Pole Qui	76.76	180	*e*P	P	23 41 15.0	0.0
	67nm,1.9s						
QSPA	South Pole Qui	76.76	180	P	P	23 41 15.8	+0.8
	12nm,1.0s,baz=14,slow=4.9,SNR=5.6						
SONM	Songino Array	80.92	324	P	P	23 41 38.5	+0.5
SONM	Songino Array	80.92	324	P	P	23 41 38.5	+0.5
	2.8nm,1.1s,baz=130,slow=5.0,SNR=3.8						
ILAR	Eielson Array	85.34	18	P	P	23 42 00.1	-0.3
ILAR	Eielson Array	85.34	18	P	P	23 42 00.1	-0.3
	1.1nm,0.7s,baz=242,slow=4.7,SNR=3.2						
ANMO	Albuquerque	95.03	55	P	P	23 42 46.7	-0.2
ANMO	Albuquerque	95.03	55	P	P	23 42 46.7	-0.2
	3.2nm,1.1s,baz=247,slow=3.5,SNR=3.6						
ZAA0	Zalesovo Array	95.81	324	*e*P	P	23 42 49.9	+0.2
ZALV	Zalesovo Beam	95.81	324	P	P	23 42 49.6	-0.1
ZALV	Zalesovo Beam	95.81	324	P	P	23 42 49.6	-0.1
	3.6nm,0.7s,baz=120,slow=3.2,SNR=5.9						
TORD	Torodi Ar. Bea	165.27	271	PKP	PKPdf	23 49 29.3	+0.5
TORD	Torodi Ar. Bea	165.27	271	PKP	PKPdf	23 49 29.3	+0.5
	2.6nm,1.0s,baz=319,slow=1.1,SNR=3.6						

IDC 07 23:30:45.3±9.2, 11.56S×168.65E, h0km, mb4.4/5, mb1 4.5/5, mb1mx4.2/17, mbtmp4.4/5, Error ellipse: s-maj=241.9km s-min=34.5km az=118.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	34.01	251	P	P	23 37 31.4	+0.1
	2.8nm,0.9s,baz=85,slow=8.6,SNR=2.5						
ASAR	Alice Springs	35.14	245	P	P	23 37 41.0	0.0
	4.0nm,0.7s,baz=71,slow=9.5,SNR=4.6						
KSRS	Korea Array	61.94	324	P	P	23 41 06.1	-0.9
	2.8nm,0.9s,baz=130,slow=7.3,SNR=4.9						
USRK	Ussuriysk Arra	64.72	332	P	P	23 41 26.6	+1.3
	7.9nm,0.8s,baz=136,slow=7.6,SNR=7.8						
SONM	Songino Array	80.78	323	P	P	23 43 00.2	-0.8
	3.0nm,0.7s,baz=141,slow=5.1,SNR=6.4						

IDC 07 23:34:26.8±2.1, 12.17S×165.42E, h0km, mb4.3/7, mb1 4.5/7, mb1mx4.2/18, mbtmp4.3/7, Error ellipse: s-maj=71.2km s-min=26.8km az=128.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	6.03	296	Pn	Pn	23 36 04.7	+7.4
	22nm,0.3s,baz=158,slow=6.6,SNR=3.0						
HNR				Sn	Sn	23 37 10.6	+3.5
	37nm,0.3s,baz=74,slow=2.2,SNR=4.7						
STKA	Stephens Creek	29.41	224	P	P	23 40 32.1	-0.1
	4.6nm,0.7s,baz=21,slow=8.3,SNR=4.8						
WRA	Warramunga Arr	30.81	251	P	P	23 40 44.6	-0.2
	1.6nm,0.7s,baz=84,slow=9.0,SNR=4.8						
ASAR	Alice Springs	32.02	245	P	P	23 40 55.0	-0.4
	1.3nm,0.5s,baz=68,slow=9.6,SNR=5.8						
CMAR	Chiang Mai Arr	72.27	294	P	P	23 45 56.5	+1.8
	1.1nm,0.4s,baz=119,slow=4.1,SNR=4.8						
SONM	Songino Array	79.38	324	P	P	23 46 34.3	-0.6
	1.5nm,1.0s,baz=151,slow=5.9,SNR=4.0						
ILAR	Eielson Array	84.67	19	P	P	23 47 02.3	+0.1
	1.5nm,0.7s,baz=230,slow=5.2,SNR=5.5						
MKAR	Makanchi Array	94.12	317	P	P	23 47 46.0	-1.5
	1.5nm,0.7s,baz=90,slow=6.4,SNR=4.8						
ARCES	ARCESS Array B	117.34	345	PKP	PKPdf	23 53 14.5	+0.6
	8.7nm,1.1s,baz=84,slow=4.4,SNR=4.1						

IDC 07 23:35:23.2±2.1, 12.52S×166.11E, h0km, mb4.3/8, mb1 4.4/8, mb1mx4.2/19, mbtmp4.3/8, Error ellipse: s-maj=76.1km s-min=24.8km az=130.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	29.65	226	P	P	23 41 31.7	+1.0
	2.7nm,0.7s,baz=23,slow=5.6,SNR=3.2						
WRA	Warramunga Arr	31.34	252	P	P	23 41 45.3	-0.5
	0.7nm,0.5s,baz=93,slow=18,SNR=2.1						
ASAR	Alice Springs	32.48	245	P	P	23 41 54.5	-1.3
	4.8nm,0.7s,baz=75,slow=9.5,SNR=11						
FITZ	Fitzroy Crossi	39.37	257	P	P	23 42 55.4	+0.5
	2.8nm,0.6s,baz=80,slow=10.0,SNR=6.3						
USRK	Ussuriysk Arra	64.41	333	P	P	23 46 01.5	+0.2
	4.9nm,0.9s,baz=146,slow=4.5,SNR=4.7						
ILAR	Eielson Array	84.79	18	P	P	23 47 58.4	-0.8
	0.8nm,0.8s,baz=234,slow=5.9,SNR=2.1						
MKAR	Makanchi Array	94.83	317	P	P	23 48 47.7	+0.6
	1.9nm,1.0s,baz=116,slow=8.2,SNR=2.1						
ZALV	Zalesovo Beam	94.95	324	P	P	23 48 47.2	-0.2
	1.6nm,0.7s,baz=121,slow=5.0,SNR=3.8						
KEST	Kesra	148.79	322	PKPbc	PKPbc	23 55 12.6	-0.7
	2.2nm,0.9s,baz=326,slow=8.9,SNR=4.9						
ESDC	Sonseca Array	151.56	344	PKPbc	PKPbc	23 55 20.1	+0.2
	0.2nm,0.4s,baz=19,slow=2.9,SNR=2.1						

IDC 07 23:35:44.0±1.1, 12.06S×165.76E, h0km, mb4.4/5, mb1 4.5/5, mb1mx4.2/19, mbtmp4.4/5, Error ellipse: s-maj=39.2km s-min=31.5km az=93.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	31.16	251	P	P	23 42 05.4	+0.4
	3.1nm,1.1s,baz=82,slow=9.1,SNR=2.9						
RPZ	Rata Peaks	31.87	173	P	P	23 42 11.0	+0.1
	20nm,0.8s,baz=61,slow=1.4,SNR=6.9						
CMAR	Chiang Mai Arr	72.53	294	P	P	23 47 13.9	+0.5
	2.7nm,0.8s,baz=126,slow=4.9,SNR=6.7						
ILAR	Eielson Array	84.46	18	P	P	23 48 19.9	+1.7
	0.5nm,0.5s,baz=232,slow=5.2,SNR=4.8						
MKAR	Makanchi Array	94.27	317	P	P	23 49 04.3	-1.1
	1.3nm,0.6s,baz=95,slow=5.3,SNR=6.0						
ARCES	ARCESS Array B	117.31	345	PKP	PKPdf	23 54 30.8	-0.2
	2.2nm,0.8s,baz=46,slow=3.5,SNR=3.5						
ESDC	Sonseca Array	151.03	343	PKPbc	PKPbc	23 55 37.6	-1.9
	2.2nm,1.0s,baz=22,slow=2.8,SNR=3.8						

IDC 07 23:36:18.6±2.6, 11.97S×165.64E, h0km, mb4.4/7, mb1 4.5/7, mb1mx4.2/19, mbtmp4.4/7, Error ellipse: s-maj=85.5km s-min=30.2km az=129.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	29.70	224	P	P	23 42 26.9	+0.4
	2.7nm,0.6s,baz=43,slow=20,SNR=1.7						
WRA	Warramunga Arr	31.07	251	P	P	23 42 38.4	-0.5
	1.9nm,0.7s,baz=81,slow=9.2,SNR=2.6						
ASAR	Alice Springs	32.29	245	P	P	23 42 48.6	-0.9
	1.0nm,0.8s,baz=11,slow=1.6,SNR=1.7						
BATI	Baumata	41.20	268	P	P	23 44 06.7	+1.2
	9.8nm,0.3s,baz=144,slow=7.2,SNR=2.0						
SONM	Songino Array	79.34	324	P	P	23 48 26.2	-0.3
	2.5nm,1.0s,baz=149,slow=5.6,SNR=2.6						
ILAR	Eielson Array	84.42	19	P	P	23 48 53.1	+0.4
	0.5nm,0.5s,baz=242,slow=5.2,SNR=1.6						
MKAR	Makanchi Array	94.12	317	P	P	23 49 38.7	-0.6
	3.0nm,0.8s,baz=88,slow=5.6,SNR=3.3						

*BJI **07** 23:38:06.8, 16.60S×172.50W, h5km, mB5.3/6, mb5.3/14, Ms5.4/5, Ms7 5.1/5*
*IDC **07** 23:38:06.3±0.5, 16.91S×172.12W, h0km, mb4.7/18, mb1 4.8/18, mb1mx4.7/27, mbtmp4.7/18, MS5.8/2, Ms1 5.8/2, ms1mx5.2/44, Error ellipse: s-maj=22.1km s-min=13.2km az=135.0*
*ISCJB **07** 23:38:08.1±0.2, 16.83S±0.07×172.41W±0.05, h17km, mb5.1/50, MS5.5/3, Error ellipse: s-maj=10.9km s-min=3.9km az=147.9*
*NEIC **07** 23:38:08.2±0.2, 16.74S×172.40W, h10km, mb5.3/28, Error ellipse: s-maj=12.2km s-min=5.7km az=139.0*
*MOS **07** 23:38:12.2±2.0, 17.02S×171.54W, h33km, mb5.8/9, Error ellipse: s-maj=17.2km s-min=12.5km az=72.4*
*AUST **07** 23:38:13.9±1.2, 17.11S×173.19W, h0km, Error ellipse: s-maj=25.0km s-min=8.6km az=86.0*
*SZGRF **07** 23:38:14.0, 15.84S×172.14W, h10km, Samoa Islands region*

ISC 07 23:38:09.7±0.3, 16.89S±0.08×172.29W±0.08, h17km, n405, σ1§03/406, mb5.1/52, MS5.2/3, 110C-106D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	3.00	10	*e*Pn	Pn	23 38 49.9	-6.8
AFI				Sn	Sn	23 39 18.7	-14
AFI	Afiamalu	3.00	10	Pn	Pn	23 38 49.8	-6.8
	12nm,0.3s,baz=176,slow=1.6,SNR=7.9						
AFI				Sn	Sn	23 39 18.7	-14
	66nm,0.3s,baz=324,slow=23,SNR=6.9						
AFI				LR	LR	23 39 50.3	
	comp=Z,77µm,18.3s,baz=319,slow=35						
MSVF	Nonsavu	9.26	263	*e*P	Pn	23 40 28.4	+5.7
MSVF	Nonsavu	9.26	263	Pn	Pn	23 40 28.6	+5.9
	726nm,0.9s,SNR=9.4						
MSVF	Nonsavu	9.26	263	*e*Pn	Pn	23 40 28.4	+5.7
RAR	Rarotonga	12.59	112	*e*Pn	Pn	23 41 00.8	-7.4
RAR	Rarotonga	12.59	112	Pn	Pn	23 41 00.5	-7.7
	5.8nm,0.3s,baz=270,slow=9.9,SNR=12						
DZM	Mont Dzumac	20.69	252	*e*P	P	23 42 48.3	-1.0
	53nm,0.8s						
OUZ	Omahuta	22.18	212	*e*P	P	23 43 06.3	+1.3
	132nm,2.1s						
URZ	Urewera	23.24	202	*e*P	P	23 43 17.0	+0.9
URZ	Urewera	23.24	202	P	P	23 43 16.1	0.0
	20nm,0.5s,baz=30,slow=5.5,SNR=11						
RPZ	Rata Peaks	30.24	204	*e*P	P	23 44 21.1	+1.5
	124nm,1.5s						
ARMA	Armidale	35.52	241	⇓P	P	23 45 05.0	-1.1
	baz=35,SNR=8.6						
CTA	Charters Tower	39.37	259	P	P	23 45 36.9	-1.8

VNDA **Vanda** 62.02 186 P P 23 48 28.6 -0.1
VNDA **Vanda** 62.02 186 P P 23 48 28.6 -0.1
comp=Z,3.2nm,0.8s,baz=324,slow=5.6,SNR=5.8
BATI **Baumata** 62.40 267 P P 23 48 33.9 +1.6
BATI **Baumata** 62.40 267 P P 23 48 33.9 +1.6
comp=Z,36nm,0.6s,baz=111,slow=0.9,SNR=6.4
MBWA **Marble Bar** 63.98 254 *eP* P 23 48 42.3 -0.4
comp=Z,45nm,1.1s
MEEK **Meekatharra** 64.24 248 ⇓P P 23 48 44.3 -0.1
baz=63,SNR=23
KLBR **Kellerberrin** 64.50 243 ⇑P P 23 48 46.1 +0.2
baz=64,SNR=25
NWAO **Narrogin (SRO)** 64.83 241 P P 23 48 48.1 0.0
NWAO **Narrogin (SRO)** 64.83 241 P P 23 48 48.1 0.0
comp=Z,25nm,0.9s,baz=112,slow=8.0,SNR=10
BLDU **Ballidu** 65.48 244 ⇑P P 23 48 52.5 +0.2
baz=64,SNR=17
MORW **Morawa** 66.22 245 ⇑P P 23 48 57.8 +0.7
baz=65,SNR=8.9
PKM **Peak Mountain** 71.64 43 ⇑P P 23 49 31.2 +0.3
baz=72
SMMC **Simmler** 71.77 43 ⇓P P 23 49 32.2 +0.8
baz=72
MURC **Murrieta** 72.65 46 ⇓P P 23 49 37.2 +0.5
baz=73
VES **Vestal, Richgr** 72.69 43 ⇑P P 23 49 36.9 +0.1
baz=73
BFSC **Mount Baldy Ra** 72.70 45 ⇑P P 23 49 37.4 +0.3
baz=73
MONP **Monument Peak** 72.79 47 ⇓P P 23 49 38.0 +0.3
baz=73
EDW2 **Edwards Air Fo** 72.84 44 ⇑P P 23 49 37.7 -0.2
baz=73,SNR=5.6
ISA **Isabella** 72.98 43 *eP* P 23 49 38.7 0.0
ISA pmax pmax
comp=Z,122nm,2.8s
ISA **Isabella** 72.98 43 *eP* P 23 49 38.7 0.0
comp=Z,122nm,2.8s
ISA **Isabella** 72.98 43 ⇑P P 23 49 38.7 0.0
baz=73
PFO **Pinyon Flat Ob** 73.17 46 ⇑P P 23 49 40.0 +0.1
baz=73
QSPA **South Pole Qui** 73.17 180 *eP* P 23 49 38.8 -0.6
comp=Z,4.7nm,0.8s
CMB **Columbia Colle** 73.19 40 *eP* P 23 49 39.5 -0.3
CMB pmax pmax
comp=Z,114nm,2.6s
CMB **Columbia Colle** 73.19 40 *eP* P 23 49 39.5 -0.3
comp=Z,114nm,2.6s
SWSC **Sam W. Stewart** 73.25 47 ⇑P P 23 49 40.0 -0.2
baz=73
ASAJ **Asahikawa** 73.36 328 P P 23 49 41.6 +1.0
ASAJ **Asahikawa** 73.36 328 P P 23 49 41.6 +1.0
comp=Z,6.6nm,0.6s,baz=184,slow=1.0,SNR=3.6
LRMC **Laurel Mountai** 73.39 44 ⇑P P 23 49 41.4 +0.2
baz=74
BELC **Belle Mtn. Jos** 73.70 46 ⇓P P 23 49 43.0 0.0
baz=74
MPMC **Manual Prospec** 73.86 44 ⇑P P 23 49 44.1 +0.1
baz=74
GSC **Goldstone** 73.88 45 ⇑P P 23 49 44.1 +0.1
baz=74
BC3 **Big Chuckawall** 73.89 47 ⇑P P 23 49 44.1 0.0
baz=74
MTUM **Tungsten Hills** 73.92 42 *eP* P 23 49 44.8 +0.5
HEC **Hector,Ludlow** 73.94 45 ⇓P P 23 49 43.6 -0.7
baz=74,SNR=5.8
GLA **Glamis** 74.00 47 *eP* P 23 49 44.1 -0.6
GLA pmax pmax
comp=Z,10.0nm,1.2s
GLA **Glamis** 74.00 47 *eP* P 23 49 44.1 -0.6
comp=Z,10nm,1.2s
GLA **Glamis** 74.00 47 ⇓P P 23 49 44.5 -0.2
baz=74
YBH **Yreka Blue Hor** 74.15 36 P P 23 49 44.3 -1.1
YBH **Yreka Blue Hor** 74.15 36 P P 23 49 44.3 -1.1
comp=Z,11nm,0.8s,baz=317,slow=1.9,SNR=11
GMRC **Granite Mounta** 74.36 46 ⇓P P 23 49 47.1 +0.1
baz=74
PETK **Petropavlovsk-** 74.37 342 P P 23 49 46.0 -0.3
PETK **Petropavlovsk-** 74.37 342 P P 23 49 46.0 -0.3
PETK **Petropavlovsk-** 74.37 342 P P 23 49 46.0 -0.3
comp=Z,7.8nm,0.8s,baz=127,slow=9.3,SNR=7.4
IRM **Iron Mountain** 74.37 46 ⇑P P 23 49 46.6 -0.2
baz=74,SNR=6.8
FURC **Furnace Creek,** 74.51 44 ⇓P P 23 49 47.9 +0.4
baz=75
TUQ **Turquoise Moun** 74.55 45 ⇑P P 23 49 47.7 -0.2
baz=75
Y12C **Blythe** 74.59 47 ⇑P P 23 49 48.5 +0.4
baz=75
113A **Mohawk Valley,** 74.59 48 ⇓P P 23 49 48.6 +0.5
baz=75
NVAR **Mina Array Bea** 74.73 41 P P 23 49 48.2 -0.9
NVAR **Mina Array Bea** 74.73 41 P P 23 49 48.2 -0.9
comp=Z,6.6nm,0.8s,baz=228,slow=9.3,SNR=16
NV11 **Mina Array Sit** 74.82 41 *eP* P 23 49 48.2 -1.3
214A **Organ Pipe Nat** 74.86 49 ⇓P P 23 49 50.0 +0.3
baz=75
PDMCI **Parker Dam,Lak** 75.15 47 ⇑P P 23 49 51.7 +0.4
baz=75
Z14A **Wintersburg** 75.49 48 ⇑P P 23 49 53.7 +0.4
baz=76
MOD **Modoc** 75.64 37 *eP* P 23 49 54.0 -0.1
comp=Z,960nm,3.0s
Y14A **Wickenburg** 75.75 48 ⇓P P 23 49 55.2 +0.3
baz=76,SNR=8.3
W13A **Hualapai Mount** 75.76 46 ⇑P P 23 49 55.1 0.0
baz=76
K05A **Summer Lake** 75.82 36 *eP* P 23 49 55.5 +0.2
comp=Z,260nm,3.0s
R11A **Troy Canyon, C** 76.42 43 ⇓P P 23 49 58.7 0.0
baz=76
TUC **Tucson** 76.52 50 *eP* P 23 49 59.0 -0.3
TUC pmax pmax
comp=Z,10.0nm,0.9s
TUC **Tucson** 76.52 50 *eP* P 23 49 59.0 -0.3
comp=Z,10nm,0.9s
PINOR **Pine Mountain** 76.52 36 *eP* P 23 49 59.8 +0.9
comp=Z,18nm,1.2s
X16A **Lo Mia Camp, P** 77.11 48 ⇑P P 23 50 02.8 +0.1
baz=77,SNR=7.3
319A **Douglas** 77.17 51 ⇓P P 23 50 03.0 -0.1
baz=77
CCUT **Cedar City** 77.44 44 *eP* P 23 50 04.5 -0.1
comp=Z,118nm,2.9s
I07A **Izee** 77.46 36 *eP* P 23 50 04.2 -0.1
comp=Z,48nm,2.3s
U15A **North Rim** 77.56 46 ⇑P P 23 50 05.6 +0.3
baz=78
J08A **Circle Bar Ran** 77.60 37 *eP* P 23 50 04.8 -0.4
comp=Z,14nm,1.3s
320A **Kipp Ranch, An** 77.72 52 ⇑P P 23 50 06.5 +0.4
baz=78
WUAZ **Wupatki** 77.72 47 ⇓P P 23 50 06.8 +0.7
baz=78
KSRS **Korea Array** 77.96 315 P P 23 50 08.9 +1.8
comp=Z,4.3nm,0.9s,baz=122,slow=6.5,SNR=5.2
KSAR **Wonju Array Be** 77.98 315 P P 23 50 08.9 +1.7
220A **Playas Peak, P** 77.99 51 ⇑P P 23 50 08.1 +0.5
baz=78
120A **U Bar Ranch, L** 78.22 51 ⇑P P 23 50 09.4 +0.5
baz=78
KSM **Kuching** 78.38 275 *eP* P 23 50 09.3 -0.7
comp=Z,60nm,1.2s
KSM **Kuching** 78.38 275 ⇓P P 23 50 11.4 +1.4
baz=78,SNR=7.5
G08A **Pilot Rock** 78.52 35 *eP* P 23 50 09.8 -0.4
comp=Z,7.5nm,1.1s
Z20A **Nine Sixteen R** 78.52 50 ⇑P P 23 50 11.1 +0.5
baz=79
121A **Cookes Peak, D** 78.84 51 ⇑P P 23 50 12.6 +0.2
baz=79
Y20A **Horse Springs,** 79.06 50 ⇑P P 23 50 13.5 -0.1
baz=79
MFID **Camas Ranch** 79.18 38 ⇓P P 23 50 14.0 +0.1
baz=79
X20A **Quemado** 79.28 49 ⇑P P 23 50 15.1 +0.3
baz=79
Z21A **St. Cloud Mine** 79.29 50 ⇑P P 23 50 15.3 +0.4
baz=79,SNR=6.3
W20A **Ramah** 79.56 48 ⇓P P 23 50 16.6 +0.3
baz=80
X21A **Alamocita Cree** 79.75 49 ⇓P P 23 50 17.9 +0.5
baz=80
Z22A **Elephant Butte** 79.79 51 ⇑P P 23 50 17.9 +0.4
baz=80
F10A **Beach Ranch, E** 79.89 36 *eP* P 23 50 17.1 -0.6
comp=Z,8.0nm,0.9s
V20A **Brimhall** 79.91 48 ⇓P P 23 50 18.3 +0.1
baz=80
324A **Moseley Ranch,** 80.07 53 ⇓P P 23 50 18.9 -0.1
baz=80
Y22A **Socorro** 80.11 50 ⇑P P 23 50 19.1 -0.1
baz=80
HLID **Hailey** 80.11 39 ⇓P P 23 50 18.7 -0.3
baz=80
425A **Indio Mountain** 80.16 54 ⇑P P 23 50 19.7 +0.1
baz=80,SNR=5.5
MNTX **Cornudas Mount** 80.27 53 *eP* P 23 50 20.0 +0.1
comp=Z,34nm,1.9s
626A **Big Bend Ranch** 80.29 55 ⇑P P 23 50 20.0 -0.2
baz=80
224A **Cornudas Mount** 80.33 52 ⇓P P 23 50 20.7 +0.2
baz=80,SNR=7.0
325A **Bean Ranch, Si** 80.43 53 ⇓P P 23 50 20.9 -0.2
baz=81,SNR=6.5
526A **Mary Lane Ranc** 80.54 55 ⇑P P 23 50 21.8 +0.2
baz=81
TXAR **Lajitas Array** 80.56 56 P P 23 50 20.7 -1.0
TXAR **Lajitas Array** 80.56 56 P P 23 50 20.7 -1.0
comp=Z,3.3nm,0.9s,baz=218,slow=7.9,SNR=8.8
124A **Stringfield Ra** 80.66 52 ⇓P P 23 50 22.8 +0.5
baz=81
U21A **Nageezi** 80.79 48 ⇑P P 23 50 23.2 +0.3
baz=81
426A **McDonald Obser** 80.85 54 ⇓P P 23 50 23.3 0.0
baz=81,SNR=8.5
225A **Deer Hill, Car** 80.87 53 ⇓P P 23 50 23.7 +0.3
baz=81,SNR=7.7
ANMO **Albuquerque** 80.95 49 *eP* P 23 50 22.5 -1.2
ANMO **Albuquerque** 80.95 49 P P 23 50 21.0 -2.8
comp=Z,1.5nm,0.6s,baz=223,slow=3.2,SNR=4.4
527A **Woodward Ranch** 80.95 55 ⇑P P 23 50 24.1 +0.3
baz=81
Z24A **Sheeppen Canyo** 81.01 51 ⇓P P 23 50 24.8 +0.7
baz=81
T21A **Navajo Lake** 81.14 47 ⇑P P 23 50 25.2 +0.4
baz=81
326A **Caldwell Ranch** 81.17 54 ⇑P P 23 50 25.3 +0.4
baz=81
Y24A **Capitan** 81.23 51 ⇑P P 23 50 25.6 +0.3
baz=81
628A **Black Gap, Mar** 81.24 56 ⇓P P 23 50 25.8 +0.6
baz=81
125A **Gardner Draw,** 81.24 52 ⇑P P 23 50 25.7 +0.4
baz=81
GDL2 **Guadalupe Moun** 81.26 53 *eP* P 23 50 26.1 +0.8
W23A **Werner Place,** 81.27 49 ⇓P P 23 50 25.9 +0.4
baz=81
S21A **Coal Bank Pass** 81.29 46 ⇓P P 23 50 25.6 0.0
baz=81
226B **Tesiote Peak,** 81.36 53 ⇑P P 23 50 25.8 -0.1
baz=82,SNR=8.7
427A **Hayter Ranch,** 81.42 54 ⇓P P 23 50 26.3 +0.1
baz=82,SNR=6.8
Z25A **Roswell** 81.47 52 ⇑P P 23 50 26.7 +0.3
baz=82
V23A **Ortiz Mt. (NFS** 81.52 49 ⇓P P 23 50 27.1 +0.3
baz=82
X24A **Lazy VL Ranch,** 81.52 50 ⇓P P 23 50 26.8 0.0
baz=82
Q20A **Ridgley Place,** 81.58 45 ⇓P P 23 50 27.2 +0.3
baz=82
126A **Clayton Basin,** 81.72 52 ⇑P P 23 50 27.8 0.0
baz=82
Y25A **Mesa, Roswell** 81.78 51 ⇑P P 23 50 27.8 -0.3
baz=82
P20A **De Beque** 81.78 45 ⇑P P 23 50 28.0 0.0
baz=82
428A **Kincaid Ranch,** 81.92 55 ⇑P P 23 50 29.0 +0.1
baz=82
L18A **Fontenelle, Gr** 81.93 42 ⇓P P 23 50 28.9 +0.1
baz=82
S22A **4UR Ranch, Cre** 82.00 47 ⇑P P 23 50 29.2 -0.2
baz=82
Z26A **Caprock** 82.02 52 ⇓P P 23 50 29.1 -0.2
baz=82,SNR=5.8
529A **Stev Forest Ra** 82.03 55 ⇑P P 23 50 29.4 -0.1
baz=82
X25A **Clemmons Ranch** 82.07 50 ⇑P P 23 50 29.2 -0.4
baz=82
328A **Wristen Ranch,** 82.10 54 ⇓P P 23 50 29.2 -0.6
baz=82,SNR=5.3
V24A **Rampart Ranch,** 82.17 49 ⇓P P 23 50 30.1 -0.1
baz=82
127A **Arkansas Junct** 82.24 53 ⇑P P 23 50 30.8 +0.2
baz=82
MCK **McKinley** 82.38 10 *eP* P 23 50 29.7 -0.7
MCK pmax pmax
comp=Z,23nm,0.9s
MCK **McKinley** 82.38 10 *eP* P 23 50 29.7 -0.7
comp=Z,23nm,0.9s
Y26A **Elida** 82.42 51 ⇑P P 23 50 31.9 +0.3
baz=82
Q22A **Crested Butte,** 82.48 46 ⇑P P 23 50 32.1 +0.2
baz=83
429A **Davenport Ranc** 82.50 55 ⇓P P 23 50 31.5 -0.4
baz=83,SNR=11
PDAR **Pinedale Array** 82.67 41 P P 23 50 30.9 -1.7
PDAR **Pinedale Array** 82.67 41 P P 23 50 30.9 -1.7
comp=Z,1.8nm,0.9s,baz=242,slow=3.3,SNR=4.2
X26A **CR and CF Fran** 82.71 51 ⇓P P 23 50 33.1 +0.1
baz=83
530A **J-C Ranch, Com** 82.74 56 ⇓P P 23 50 33.3 +0.2
baz=83
329A **Wagon Wheel Ra** 82.79 54 ⇓P P 23 50 33.3 -0.1
baz=83,SNR=5.2
128A **Castleberry Fa** 82.88 53 ⇑P P 23 50 33.6 -0.2
baz=83,SNR=6.1
M20A **Sweetwater, Wa** 82.90 43 ⇑P P 23 50 34.5 +0.6
baz=83
CN2 **Changchun** 82.90 320 *eP* P 23 50 34.0 +0.4
Y27A **Causey** 82.90 52 ⇓P P 23 50 34.1 +0.1
baz=83
R23A **Moffat** 82.91 47 ⇓P P 23 50 34.3 +0.2
baz=83
P22A **Eagle** 82.93 45 ⇑P P 23 50 34.6 +0.5
baz=83
W26A **Owens Ranch, T** 82.98 50 ⇑P P 23 50 35.0 +0.6
baz=83
631A **Perdido Creek** 83.05 57 ⇓P P 23 50 34.3 -0.4
baz=83
L20A **Wamsutter** 83.06 42 ⇑P P 23 50 35.0 +0.3
baz=83
S24A **Houchin Ranch,** 83.08 47 ⇑P P 23 50 35.1 0.0
baz=83
U25A **Circle Dot Ran** 83.09 49 ⇑P P 23 50 35.3 +0.3
baz=83
MSTX **Muleshoe** 83.23 52 ⇑P P 23 50 35.7 0.0
baz=83
O22A **Kremmling** 83.34 45 ⇓P P 23 50 36.2 -0.2
baz=84
129A **Stewart Farms,** 83.36 53 ⇓P P 23 50 36.0 -0.2
baz=84
R24A **Sanders Place,** 83.43 47 ⇓P P 23 50 36.1 -0.6
baz=84
W27A **Bowe Ranch, En** 83.49 51 ⇓P P 23 50 36.7 -0.3
baz=84
H18A **Shoshone NF, C** 83.58 40 ⇑P P 23 50 36.6 -0.8
baz=84
COLA **College** 83.62 10 *eP* P 23 50 35.0 -1.7
COLA pmax pmax
comp=Z,109nm,0.9s
COLA **College** 83.62 10 *eP* P 23 50 35.0 -1.7
comp=Z,109nm,0.9s
230A **Sterling City** 83.63 54 ⇑P P 23 50 37.8 +0.1
baz=84
S25A **Robets Cordova** 83.64 48 ⇑P P 23 50 37.6 -0.2
baz=84
I19A **Meeteetse** 83.67 40 ⇓P P 23 50 37.5 -0.3
baz=84
ILAR **Eielson Array** 83.70 11 P P 23 50 35.5 -1.7
ILAR **Eielson Array** 83.70 11 P P 23 50 35.5 -1.7
comp=Z,2.9nm,0.8s,baz=216,slow=5.6,SNR=12
N22A **Wattenberg Ran** 83.71 44 ⇑P P 23 50 38.0 -0.1
baz=84
632A **Uvalde** 83.72 57 ⇓P P 23 50 38.2 0.0
baz=84
Q24A **Divide** 83.74 46 ⇓P P 23 50 38.4 0.0
baz=84
Z29A **Hungry Hill Ra** 83.74 53 ⇑P P 23 50 38.0 -0.2
baz=84
532A **Rocksprings** 83.87 56 ⇑P P 23 50 38.7 -0.3
baz=84
130A **Snyder** 84.03 54 ⇑P P 23 50 39.3 -0.5
baz=84
K21A **Alcova** 84.07 42 ⇓P P 23 50 39.5 -0.4
baz=84
JCT **Junction City** 84.09 56 ⇓P P 23 50 39.9 -0.1
baz=84
N23A **Red Feather La** 84.09 44 ⇑P P 23 50 39.7 -0.4
baz=84
I20A **Worland** 84.16 41 ⇓P P 23 50 40.0 -0.2
baz=84
Z30A **Sanderson Ranc** 84.19 53 ⇓P P 23 50 40.3 -0.2
baz=84
432A **Menard** 84.25 56 ⇑P P 23 50 40.6 -0.2
baz=84
231A **Bronte** 84.27 54 ⇓P P 23 50 40.4 -0.5
baz=84,SNR=6.2
J21A **Lysite** 84.30 42 ⇓P P 23 50 40.8 -0.2
baz=84
S26A **Kim** 84.31 48 ⇓P P 23 50 41.1 0.0
baz=84
332A **Millersview** 84.50 55 ⇓P P 23 50 41.7 -0.3
baz=85,SNR=5.7
H20A **Greybull** 84.51 40 ⇑P P 23 50 41.4 -0.5
baz=85
K22A **Casper** 84.55 43 ⇓P P 23 50 42.0 -0.3
baz=85
W29A **Amraillo** 84.56 51 ⇑P P 23 50 42.4 0.0
baz=85
Y30A **Stafford Cattl** 84.61 52 ⇓P P 23 50 42.4 -0.2
baz=85
I21A **Big Trails, Te** 84.62 41 ⇓P P 23 50 42.5 -0.1
baz=85
F19A **Roth Farm, Mol** 84.63 39 ⇑P P 23 50 42.5 0.0
baz=85
R26A **Arlington** 84.63 47 ⇑P P 23 50 42.3 -0.4
baz=85
232A **Coleman** 84.77 55 ⇓P P 23 50 43.4 -0.1
baz=85
L23A **Garrett** 84.83 43 ⇓P P 23 50 43.5 -0.2
baz=85
J22A **Midwest** 84.94 42 ⇓P P 23 50 43.5 -0.7
baz=85
Z31A **Sharp Cattle R** 84.96 53 ⇓P P 23 50 44.3 -0.1
baz=85
E19A **Rath Farm, Rou** 85.03 38 ⇓P P 23 50 44.7 +0.3
baz=85
ABTX **Abilene, Hawle** 85.06 54 ⇑P P 23 50 44.8 -0.1
baz=85
T28A **Walsh** 85.07 49 ⇑P P 23 50 44.9 0.0
baz=85
F20A **Billings** 85.08 39 ⇓P P 23 50 45.0 +0.2
baz=85
R27A **Eads** 85.08 48 ⇑P P 23 50 45.0 0.0
baz=85
M24A **Cheyenne** 85.11 44 ⇑P P 23 50 45.2 +0.1
baz=85
Y31A **Rekieta Farm,** 85.13 53 ⇓P P 23 50 45.4 +0.2
baz=85
I22A **9 Mile Ranch,** 85.17 41 ⇓P P 23 50 45.5 +0.2
baz=85
H21A **Big Horn, Sher** 85.18 41 ⇑P P 23 50 45.5 +0.2
baz=85
K23A **Bowen Ranch, D** 85.18 43 ⇑P P 23 50 45.5 +0.1
baz=85
EGMT **Eagleton** 85.27 37 ⇑P P 23 50 46.1 +0.4
baz=85
D19A **Cripps Ranch,** 85.33 38 ⇓P P 23 50 46.2 +0.3
baz=85
E20A **Meyer Farm, Mu** 85.44 39 ⇓P P 23 50 46.5 0.0
baz=86
Z32A **Haskell** 85.46 53 ⇑P P 23 50 46.8 -0.1
baz=86
C19A **Slack Wire Ran** 85.53 37 ⇓P P 23 50 47.0 0.0
baz=86
K24A **Anderson Ranch** 85.69 43 ⇓P P 23 50 48.6 +0.6
baz=86
D20A **Manuel Ranch,** 85.73 38 ⇓P P 23 50 48.6 +0.6
baz=86
Y32A **R-V Farms, Ver** 85.77 53 ⇑P P 23 50 48.9 +0.6
baz=86
R28A **Tribune** 85.80 48 ⇑P P 23 50 48.9 +0.4
baz=86
W31A **Holland Ranch,** 85.86 51 ⇑P P 23 50 49.0 +0.2
baz=86
V31A **Spring Creek L** 86.17 51 ⇓P P 23 50 50.9 +0.5
baz=86
EDM **Edmonton** 86.20 31 *eP* P 23 50 48.5 -1.6
EDM **Edmonton** 86.20 31 *eP* P 23 50 48.5 -1.6
MAW **Mawson** 86.73 198 P P 23 50 52.4 -0.1
MAW **Mawson** 86.73 198 P P 23 50 52.4 -0.1
comp=Z,4.7nm,0.8s,baz=123,slow=5.1,SNR=7.7
D22A **Cohagen** 86.93 39 ⇓P P 23 50 54.4 +0.6
baz=87
BJI **Beijing** 87.26 313 P P 23 50 55.5 0.0
BJI AMB AMB
comp=Z,15nm,1.1s
GYA **Guiyang** 89.67 298 P P 23 51 07.0 -0.4
GYA PP **PP** 23 54 41.8 +2.1
GYA SKS **SKSac** 00 01 39.5 +1.8
GYA S **SKKSac** 00 01 55.4 +5.0
GYA SS **SS** 00 07 54.0 -1.7
GYA AMB AMB
comp=Z,20nm,1.0s
GYA AMB AMB
comp=Z,140nm,5.8s
GYA LR LR
comp=Z,790nm,19.6s
GYA LR LR
comp=Z,670nm,20.0s
GYA LR LR
comp=Z,760nm,19.8s
JTS **JuntasAbangare** 90.43 79 *eP* P 23 51 12.4 +1.3
comp=Z,150nm,1.0s
HHC **Hu-ho-hao-te** 90.81 313 *eP* P 23 51 09.9 -2.5
HHC pP **PcP** 23 51 13.4 -0.1
HHC sP sP 23 51 17.1 -3.0
HHC PP **PP** 23 54 47.0 -1.4
HHC SKS **SKSac** 00 01 39.3 -4.4
HHC S **SKKSac** 00 02 03.1 +4.8
HHC SS **SS** 00 08 09.9 -1.7
HHC AMB AMB
comp=Z,22nm,0.8s
SYO **Syowa Base** 91.35 191 ⇓*eX* P 23 51 12.0 -2.3
SNAA **Sanae** 91.37 177 P P 23 51 13.6 -0.9
SNAA **Sanae** 91.37 177 P P 23 51 13.6 -0.9
comp=Z,1.6nm,0.9s,baz=191,slow=2.5,SNR=10
KMI **Kunming** 92.62 295 P P 23 51 21.0 -0.3
KMI AMB AMB
comp=Z,6.0nm,1.2s
CFAA **Coronel Fontan** 92.74 124 LR LR 00 26 37.2
comp=Z,8µm,20.3s,baz=48,slow=31
CD2 **Chengdu** 93.49 301 P P 23 51 24.4 -0.6
CD2 AMB AMB
comp=Z,20nm,0.5s
LZH **Lanzhou** 94.96 306 *eP* P 23 51 28.1 -3.6
LZH pP **PcP** 23 51 31.5 -0.5
LZH PP **PP** 23 55 19.3 -1.9
LZH SKS **SKSac** 00 02 01.5 -5.5
LZH *eS* S 00 02 38.3 -7.4
LZH sS sS 00 02 46.5 -8.7
LZH AMB AMB
comp=Z,21nm,1.5s
LZH AMB AMB
comp=Z,130nm,9.2s
LZH LR LR
comp=Z,560nm,17.7s
LZH LR LR
comp=Z,480nm,16.5s
LZH LR LR
comp=Z,790nm,19.0s
TIGA **Tifton** 97.55 60 ⇑P P 23 51 43.7 +0.4
baz=98
TKL **Tuckaleechee C** 98.48 55 *eP* P 23 51 47.5 0.0
KURK **Kurchatov** 114.95 318 PKIKP PKPdf 23 56 47.6 -2.0
KURK **Kurchatov** 114.95 318 PKP PKPdf 23 56 47.6 -2.0
KURBB **Kurchatov Arra** 115.02 318 PKP PKPdf 23 56 47.6 -2.1
comp=Z,1.0nm,0.8s,baz=85,slow=1.5,SNR=6.2
BVAR **Borovoye Array** 119.70 322 PKIKP **PKPdf** 23 56 57.2 -1.5
BVAR **Borovoye Array** 119.70 322 PKP **PKPdf** 23 56 57.2 -1.5
BVAR **Borovoye Array** 119.70 322 PKP **PKPdf** 23 56 57.2 -1.5
comp=Z,2.0nm,0.8s,baz=17,slow=1.5,SNR=6.9
OBN **Obninsk** 135.89 337 *e*PKIKP **PKPdf** 23 57 28.9 -0.5
OBN pmax pmax
comp=Z,6.0nm,1.2s
KIV **Kislovodsk** 140.02 320 *e*PKIKP **PKPdf** 23 57 35.2 -2.3
KIV pmax pmax
comp=Z,10.0nm,1.1s
BSEG **Bad Segeberg** 142.97 357 *e*PKPbc **PKPdf** 23 57 39.2 -3.1

RAYN	Ar Rayn	144.00 287	*e*PKPdf	PKPbc	23 57 44.2	+1.1
CLZ	Clausthal	145.06 357	*e*PKP2	**PKPbc**	**23 57 45.5**	**0.0**
CLZ	Clausthal	145.06 357	*e*PKPbc	**PKPbc**	**23 57 45.5**	**0.0**
KWP	Kalwaria Pacla	145.15 343	*e*PKP	**PKPbc**	**23 57 46.0**	**+0.1**
OJC	Ojcow	145.35 346	*e*PKIKP	**PKPbc**	**23 57 46.1**	**-0.4**
OJC	Ojcow	145.35 346	*e*PKPab	**PKPbc**	**23 57 46.1**	**-0.4**
CLL	Collm	145.40 354	*e*PKIKP	**PKPbc**	**23 57 46.0**	**-0.6**
CLL	comp=Z,207nm,0.9s		pmax	pmax		
CLL	Collm	145.40 354	*e*PKPbc	**PKPbc**	**23 57 46.1**	**-0.6**
CLL	Collm	145.40 354	*e*PKPdf	**PKPbc**	**23 57 46.0**	**-0.6**
KSP	comp=Z,10.0nm,0.9s Ksiaz	145.43 350	*e*PKIKP	**PKPbc**	**23 57 46.6**	**-0.1**
KSP	Ksiaz	145.43 350	*e*PKP	**PKPbc**	**23 57 46.7**	**0.0**
BUG	Bochum--Univer	145.53 0	*e*PKPbc	**PKPdf**	**23 57 46.7**	**-0.2**
ATD	Arta Tunnel	145.56 266	PKPbc	**PKPdf**	**23 57 48.9**	**+0.7**
ATD	Arta Tunnel	145.56 266	PKPbc	**PKPdf**	**23 57 48.9**	**+0.7**
MALT	comp=Z,30nm,0.9s,baz=84,slow=4.5,SNR=11 Malatya	145.66 315	⇑PKP2	**PKPab**	**23 57 49.6**	**+1.3**
MALT	Malatya	145.66 315	⇑*i*P	**PKPab**	**23 57 49.6**	**+1.3**
BRG	Berggiesshubel	145.73 353	*i* PKP	**PKPdf**	**23 57 47.2**	**-0.1**
BRG	comp=Z,21nm,1.3s Berggiesshubel	145.73 353	*i* PKIKP	**PKPdf**	**23 57 47.2**	**-0.1**
BRG	comp=Z,21nm,1.3s		pmax	pmax		
BRG	Berggiesshubel	145.73 353	*e*PKPbc	**PKPdf**	**23 57 47.6**	**+0.3**
STHS	Stebnicka Huta	145.74 344	*e*PKIKP	**PKPdf**	**23 57 48.2**	**+0.8**
STHS	Stebnicka Huta	145.74 344	*e*PKP	**PKPdf**	**23 57 48.2**	**+0.8**
UPC	Upice	145.80 351	*e*PKIKP	**PKPdf**	**23 57 48.0**	**+0.6**
UPC			*e*		23 57 58.1	
UPC	Upice	145.80 351	*e*PKP	**PKPdf**	**23 57 48.0**	**+0.6**
UPC			*ex*	x	23 57 58.1	
KMBO	Kilima Mbogo	145.81 241	PKPbc	**PKPdf**	**23 57 50.0**	**+1.2**
KMBO			*e*PKPab	**PKPbc**	**23 57 50.4**	**+1.0**
KMBO	Kilima Mbogo	145.81 241	PKPbc	**PKPdf**	**23 57 50.0**	**+1.2**
KOLS	comp=Z,7.2nm,0.9s,baz=81,slow=4.1,SNR=14 Kolonicke sedl	145.91 343	*e*PKIKP	**PKPdf**	**23 57 48.5**	**+0.8**
KOLS	Kolonicke sedl	145.91 343	*e*PKP	**PKPdf**	**23 57 48.5**	**+0.8**
DPC	Dobruska-Polom	145.91 350	*e*PKIKP	**PKPdf**	**23 57 48.3**	**+0.6**
DPC			*e*		23 57 58.3	
DPC	Dobruska-Polom	145.91 350	*e*PKP	**PKPdf**	**23 57 48.3**	**+0.6**
DPC			*ep*PKP	**PKiKP**	**23 57 53.8**	**+2.0**
DPC			*ex*	x	23 57 58.3	
LEOM	Leova	145.92 334	⇓PKIKP	**PKPdf**	**23 57 48.7**	**+1.0**
LEOM	Leova	145.92 334	⇓*i*P	**PKPdf**	**23 57 48.7**	**+1.0**
PRAR	RASCA	145.99 337	⇑*i*P	**PKPdf**	**23 57 48.0**	**+0.1**
PVCC	Panska Ves	145.99 352	*e*PKIKP	**PKPdf**	**23 57 48.7**	**+1.0**
PVCC			*e*		23 57 58.3	
PVCC	Panska Ves	145.99 352	*e*PKP	**PKPdf**	**23 57 48.7**	**+1.0**
PVCC			*ex*	x	23 57 58.3	
OKC	Ostrava-Krasne	146.06 348	*e*PKIKP	**PKPdf**	**23 57 48.8**	**+0.9**
OKC			*e*		23 57 53.7	
OKC			*e*		23 57 58.6	
OKC	Ostrava-Krasne	146.06 348	*e*PKP	**PKPdf**	**23 57 48.8**	**+0.9**
OKC			*ep*PKP	**PKiKP**	**23 57 53.7**	**+1.6**
OKC			*ex*	x	23 57 58.6	
UBBA	Unterbreizbach	146.10 357	*e*PKPbc	**PKPdf**	**23 57 48.6**	**+0.8**
BURAR	Bucovina Array	146.13 339	⇓*i*P	**PKPdf**	**23 57 46.1**	**-2.1**
UZH	Uzhgorod	146.17 343	*e*PKHKP	PKPpre	23 57 44.9	
UZH			*i*		23 57 48.3	
UZH			*i*		23 57 51.5	
UZH			*i*		23 57 56.9	
MOX	Moxa	146.18 356	*e*PKIKP	**PKPdf**	**23 57 49.2**	**+1.1**
MOX	Moxa	146.18 356	*e*PKPbc	**PKPdf**	**23 57 49.2**	**+1.1**
MORC	Moravsky Berou	146.24 349	⇓PKIKP	**PKPdf**	**23 57 49.4**	**+1.1**
MORC	Moravsky Berou	146.24 349	⇓*i*P	**PKPdf**	**23 57 49.3**	**+1.0**
MEM	Membach	146.33 2	PKP	**PKPdf**	**23 57 49.4**	**+1.1**
MEM	Membach	146.33 2	*e*PKP2	**PKPdf**	**23 57 50.0**	**+1.7**
MEM	Membach	146.33 2	*e*PKPab	**PKPdf**	**23 57 50.0**	**+1.7**
SNF	Seneffe	146.35 4	PKP	**PKPdf**	**23 57 49.6**	**+1.3**
PRA	Prague	146.46 352	PKP	**PKPbc**	**23 57 51.0**	**+1.1**
BCLA	Clavier	146.49 3	PKP	**PKPbc**	**23 57 51.1**	**+1.2**
PRU	Pruhonice	146.52 352	*e*PKIKP	**PKPdf**	**23 57 50.2**	**+1.5**
PRU			*e*		23 57 55.5	
PRU			*e*		23 58 00.7	
PRU	Pruhonice	146.52 352	*e*PKP	**PKPdf**	**23 57 50.2**	**+1.5**
PRU			*ep*PKP	**pPKPdf**	**23 57 55.5**	**+1.0**
PRU			*ex*	x	23 58 00.7	
TRPA	Tarpa	146.55 342	⇑*i*P	**PKPdf**	**23 57 49.8**	**+1.1**
GHRR		146.60 335	⇓*i*P	**PKPbc**	**23 57 51.5**	**+1.1**
BMR	Baia Mare	146.66 340	⇑PKP2	**PKPbc**	**23 57 51.7**	**+1.1**
BMR	Baia Mare	146.66 340	⇑*i*P	**PKPbc**	**23 57 51.7**	**+1.1**
DOU	Dourbes	146.78 4	PKP	**PKPdf**	**23 57 48.7**	**-0.4**
VRAC	Vranov	146.87 349	*i*P	**PKPdf**	**23 57 51.3**	**+2.0**
VRAC	Vranov	146.87 349	PKPbc	**PKPdf**	**23 57 50.9**	**+1.6**
VRAC	Vranov	146.87 349	PKPbc	**PKPdf**	**23 57 50.9**	**+1.6**
CFR	comp=Z,7.6nm,1.0s,baz=349,slow=2.7,SNR=9.0 Carcaliu	147.00 333	⇑PKP2	**PKPab**	**23 57 53.8**	**+0.8**
CFR	Carcaliu	147.00 333	⇑*i*P	**PKPab**	**23 57 53.8**	**+0.8**
ROTZ	Rotzenmuhle	147.00 355	*e*PKPbc	**PKPbc**	**23 57 52.1**	**+0.6**
VRI	Vrincioaia	147.03 335	⇓PKIKP	**PKPdf**	**23 57 51.6**	**+1.9**
VRI	Vrincioaia	147.03 335	⇓*i*P	**PKPdf**	**23 57 51.6**	**+1.9**
TREC	Trest	147.06 351	*e*PKIKP	**PKPdf**	**23 57 51.7**	**+2.1**
TREC			*e*		23 58 02.0	
TREC	Trest	147.06 351	*e*PKP	**PKPdf**	**23 57 51.7**	**+2.1**
TREC			*ex*	x	23 58 02.0	
GRF	Grafenberg Arr	147.16 356	*e*PKPbc	**PKPbc**	**23 57 53.4**	**+1.5**
WLF	Walferdange	147.28 2	PKPbc	**PKPdf**	**23 57 51.3**	**+1.4**
WLF	Walferdange	147.28 2	*e*PKPbc	**PKPbc**	**23 57 53.1**	**+0.8**
SMOL	Smolenice	147.47 348	*e*PKP	**PKPbc**	**23 57 53.6**	**+0.8**
PSZ	Piszkesteto	147.47 345	⇑*i*P	**PKPbc**	**23 57 53.5**	**+0.5**
KHC	Kasperske Hory	147.49 353	*e*PKP	**PKPbc**	**23 57 53.2**	**+0.3**
KHC			*ep*PKP	**pPKPdf**	**23 57 58.5**	**+2.3**
KHC			*ex*	x	23 58 03.5	
TLB	Topalu	147.51 332	⇓*i*P	**PKPbc**	**23 57 53.0**	**0.0**
WET	Wettzell	147.55 354	*e*PKPbc	**PKPbc**	**23 57 53.5**	**+0.4**
MLR	Muntele Rosu	147.66 336	⇓*i*P	**PKPbc**	**23 57 53.9**	**+0.3**
DRGR		147.69 341	⇓PKIKP	**PKPbc**	**23 57 53.4**	**-0.2**
DRGR		147.69 341	⇓*i*P	**PKPbc**	**23 57 53.4**	**-0.2**
GEC2	GERESS Array S	147.75 353	*e*PKP2	**PKPbc**	**23 57 53.8**	**+0.1**
GEC2	GERESS Array S	147.75 353	*e*PKPbc	**PKPbc**	**23 57 53.9**	**+0.1**
GEC2	GERESS Array S	147.75 353	*e*PKPab	**PKPbc**	**23 57 53.8**	**+0.1**
GERES	GERESS Array B	147.75 353	PKPbc	**PKPdf**	**23 57 53.3**	**+2.4**
GERES	GERESS Array B	147.75 353	PKPbc	**PKPdf**	**23 57 53.3**	**+2.4**
ZST	comp=Z,3.6nm,0.9s,baz=29,slow=3.0,SNR=18 Bratislava	147.84 348	*e*PKP2	**PKPab**	**23 57 56.8**	**+0.6**
ZST	Bratislava	147.84 348	*e*PKP	**PKPab**	**23 57 56.8**	**+0.6**
BRTR	Keskin Array B	147.98 321	PKPbc	**PKPbc**	**23 57 54.9**	**+0.2**
BRTR	Keskin Array B	147.98 321	PKPbc	**PKPbc**	**23 57 54.9**	**+0.2**
VOIR	comp=Z,7.9nm,0.9s,baz=126,slow=2.2,SNR=32	148.05 337	⇑PKIKP	**PKPdf**	**23 57 54.1**	**+2.6**
VOIR		148.05 337	⇑*i*P	**PKPdf**	**23 57 54.1**	**+2.6**
STU	Stuttgart	148.18 358	*e*PKPbc	**PKPbc**	**23 57 55.0**	**+0.3**
ARR	Arges	148.26 337	⇑*i*P	**PKPbc**	**23 57 56.1**	**+0.9**
CONA	Conrad Observa	148.33 350	⇓*i*PKiKP	**PKPbc**	**23 57 55.4**	**+0.1**
ANTO	comp=Z,16nm,1.1s,SNR=7.8 Ankara	148.40 321	⇑PKIKP	**PKPbc**	**23 57 56.3**	**+0.6**
ANTO	Ankara	148.40 321	⇑*i*P	**PKPbc**	**23 57 56.3**	**+0.6**
ANTO	Ankara	148.40 321	*e*PKPab	**PKPbc**	**23 57 56.4**	**+0.7**
SIRR	Siria	148.49 341	⇑*i*P	**PKPbc**	**23 57 55.7**	**+0.1**
LOT	Lotru	148.51 338	⇑*i*P	**PKPbc**	**23 57 55.6**	**-0.3**
BFO	Black Forest	148.64 359	*e*PKPbc	**PKPbc**	**23 57 56.3**	**+0.3**
BFO	Black Forest	148.64 359	*e*PKPab	**PKPbc**	**23 57 56.2**	**+0.2**
FUR	Furstenfeldbru	148.67 355	*e*PKP2	**PKPbc**	**23 57 56.6**	**+0.5**
FUR	Furstenfeldbru	148.67 355	*e*PKPbc	**PKPbc**	**23 57 56.6**	**+0.5**
RJOB	Jochberg	148.95 353	*e*PKPbc	**PKPbc**	**23 57 57.0**	**+0.2**
BZS	Buzias	149.08 341	⇓*i*P	**PKPbc**	**23 57 57.2**	**0.0**
SOKA	Soboth	149.68 350	⇓*i*PKiKP	**PKPbc**	**23 57 58.0**	**-0.7**
FETA	comp=Z,16nm,1.5s,SNR=6.5 Feichten	149.85 356	*i* PKiKP	**PKPbc**	**23 57 59.1**	**-0.1**
ABTA	comp=Z,17nm,1.0s,SNR=7.4 Abfaltersbach	149.96 353	⇑*i*PKiKP	**PKPbc**	**23 57 59.0**	**-0.5**
FUORN	comp=Z,25nm,1.2s,SNR=10.0 Ofenpass-Fuorn	150.28 356	*e*PKPdf	**PKPdf**	**23 57 54.5**	**-0.8**
SENIN	Lac Senin/Sane	150.61 1	*e*PKPab	**PKPbc**	**23 58 01.8**	**+0.7**
VTS	Vitosha	151.16 336	⇓PKIKP	**PKPdf**	**23 57 59.6**	**+3.0**
VTS	Vitosha	151.16 336	⇓*i*P	**PKPdf**	**23 57 59.6**	**+3.0**
CEL	Celeste	157.53 343	*e*PKPdf	**PKPdf**	**23 58 02.2**	**-3.3**
TORD	Torodi Ar. Bea	173.10 122	PKP	**PKPdf**	**23 58 16.4**	**-2.7**
TORD			PKPab	**PKPab**	**23 59 44.8**	**-1.6**
TORD	Torodi Ar. Bea	173.10 122	PKP	**PKPdf**	**23 58 16.4**	**-2.7**
TORD	comp=Z,1.5nm,1.1s,baz=305,slow=2.6,SNR=2.9		PKPab	**PKPab**	**23 59 44.8**	**-1.6**
	comp=Z,3.1nm,0.7s,baz=253,slow=4.7,SNR=5.3					

*IDC **07** 23:38:28.0±1.3, 13°.05S×166°.37E, h0km, mb4.7/13, mb1 4.7/14, mb1mx4.6/23, mbtmp4.7/14, ML4.5/1, Error ellipse: s-maj=39.4km s-min=19.9km az=118.0*
*ISCJB **07** 23:38:32.4±0.6, 13°.03S±0°.08×166°.25E±0°.09, h44km, mb4.6/15, Error ellipse: s-maj=13.8km s-min=8.9km az=140.6*
*NEIC **07** 23:38:33.1±0.4, 13°.11S×166°.34E, h35km, mb4.7/6, Error ellipse: s-maj=9.7km s-min=7.6km az=67.0*

ISC 07 23:38:34.4±0.6, 13°.07S±0°.08×166°.26E±0°.10, h44km, n44, σ0s96/43, mb4.7/15, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.17**	**300**	Pn	**Pn**		**23 40 16.2**	**-0.6**
HNR				Sn	**Sn**		**23 41 36.2**	**-0.7**
HNR	**Honiara**	**7.17**	**300**	Pn	**Pn**		**23 40 16.2**	**-0.6**
	7.2nm,0.3s,baz=188,slow=15,SNR=2.4							
HNR				Sn	**Sn**		**23 41 36.2**	**-0.7**
	13nm,0.3s,baz=165,slow=20,SNR=1.2							
DZM	**Mont Dzumac**	**8.96**	**179**	Pn	**Pn**		**23 40 38.8**	**-2.5**
DZM	**Mont Dzumac**	**8.96**	**179**	Pn	**Pn**		**23 40 44.1**	**+2.8**
	2.5nm,0.3s,baz=73,slow=19,SNR=1.8							
CTA	**Charters Tower**	**20.39**	**247**	P			23 43 08.8	-1.3
CTA	**Charters Tower**	**20.39**	**247**	P			23 43 08.8	-1.3
	7.3nm,0.7s,baz=60,slow=16,SNR=5.1							
CTAO	**Charters Tower**	**20.39**	**247**	*e*P	**P**		**23 43 07.6**	**-0.1**
	11nm,0.7s							
RAO	**Raoul Island**	**21.80**	**140**	P	**P**		**23 43 20.7**	**-2.0**
COEN	**Coen**	**22.46**	**265**	P	**P**		**23 43 29.7**	**-0.4**
STKA	**Stephens Creek**	**29.37**	**226**	*e*P	**P**		**23 44 34.0**	**+0.6**
	1.1nm,0.6s							
STKA	**Stephens Creek**	**29.37**	**226**	P	**P**		**23 44 34.0**	**+0.6**
	5.4nm,0.7s,baz=58,slow=6.2,SNR=7.2							
ASAR	**Alice Springs**	**32.39**	**246**	P	**P**		**23 44 59.4**	**-0.8**
ASAR	**Alice Springs**	**32.39**	**246**	P	**P**		**23 44 59.4**	**-0.8**
	10.0nm,0.7s,baz=75,slow=9.5,SNR=24							
BATI	**Baumata**	**41.78**	**269**	P	**P**		**23 46 21.1**	**+1.0**
BATI	**Baumata**	**41.78**	**269**	P	**P**		**23 46 21.1**	**+1.0**
	6.5nm,0.3s,baz=193,slow=1.5,SNR=3.8							
MBWA	**Marble Bar**	**45.06**	**253**	*e*P	**P**		**23 46 46.5**	**+0.2**
	11nm,1.0s							
NWAO	**Narrogin (SRO)**	**48.78**	**238**	*e*P	**P**		**23 47 14.9**	**-0.4**
	8.0nm,0.7s							
NWAO	**Narrogin (SRO)**	**48.78**	**238**	P	**P**		**23 47 14.7**	**-0.6**
	12nm,0.8s,baz=113,slow=9.2,SNR=4.3							
ASAJ	**Asahikawa**	**60.86**	**341**	P	**P**		**23 48 42.3**	**0.0**
ASAJ	**Asahikawa**	**60.86**	**341**	P	**P**		**23 48 42.3**	**0.0**
	9.8nm,0.5s,baz=232,slow=12,SNR=7.5							
KSRS	**Korea Array**	**61.82**	**326**	P	**P**		**23 48 48.7**	**-0.2**
	2.5nm,0.8s,baz=133,slow=6.8,SNR=3.6							
KSAR	**Wonju Array Be**	**61.84**	**326**	P	**P**		**23 48 48.7**	**-0.3**
VNDA	**Vanda**	**64.49**	**181**	*e*P	**P**		**23 49 05.8**	**-0.3**
	9.7nm,1.3s							
USRK	**Ussuriysk Arra**	**64.97**	**333**	P	**P**		**23 49 10.3**	**+0.7**
	8.5nm,1.0s,baz=153,slow=6.4,SNR=8.6							
PETK	**Petropavlovsk-**	**66.32**	**354**	P	**P**		**23 49 17.3**	**-0.8**
PETK	**Petropavlovsk-**	**66.32**	**354**	P	**P**		**23 49 17.3**	**-0.8**
	2.6nm,0.8s,baz=210,slow=8.6,SNR=3.9							
CMAR	**Chiang Mai Arr**	**73.38**	**294**	P	**P**		**23 50 03.2**	**+0.9**
CMAR	**Chiang Mai Arr**	**73.38**	**294**	P	**P**		**23 50 03.2**	**+0.9**
	3.4nm,0.6s,baz=123,slow=4.7,SNR=13							
QSPA	**South Pole Qui**	**76.95**	**180**	*e*P	**P**		**23 50 21.8**	**-0.4**
	16nm,0.9s							
SONM	**Songino Array**	**80.59**	**324**	P	**P**		**23 50 43.2**	**+0.8**
SONM	**Songino Array**	**80.59**	**324**	P	**P**		**23 50 43.2**	**+0.8**
	2.0nm,0.8s,baz=132,slow=2.2,SNR=3.9							
MKAR	**Makanchi Array**	**95.33**	**317**	P	**P**		**23 51 54.4**	**+0.4**
MKAR	**Makanchi Array**	**95.33**	**317**	P	**P**		**23 51 54.4**	**+0.4**
	2.1nm,0.7s,baz=101,slow=6.3,SNR=8.9							
ZALV	**Zalesovo Beam**	**95.48**	**324**	P	**P**		**23 51 53.8**	**-0.6**
ZALV	**Zalesovo Beam**	**95.48**	**324**	P	**P**		**23 51 53.8**	**-0.6**
	2.9nm,0.8s,baz=104,slow=4.7,SNR=8.0							
BOSA	**Boshof**	**123.97**	**222**	PKP	**PKPdf**		**23 57 29.9**	**+1.2**
BOSA	**Boshof**	**123.97**	**222**	PKP	**PKPdf**		**23 57 29.9**	**+1.2**
	4.1nm,1.0s,baz=183,slow=3.6,SNR=7.0							
CLL	**Collm**	**136.15**	**336**	*e*PKPdf	PKPdf		23 57 56.0	+5.2
	comp=Z,8.0nm,0.8s							
KEST	**Kesra**	**149.31**	**321**	*e*PKPbc	**PKPbc**		**23 58 19.7**	**+0.7**
KEST	**Kesra**	**149.31**	**321**	PKPbc	**PKPbc**		**23 58 19.1**	**+0.1**
	comp=Z,5.9nm,0.8s,baz=215,slow=1.1,SNR=14							
ESDC	**Sonseca Array**	**152.13**	**344**	PKPbc	**PKPbc**		**23 58 26.5**	**+1.1**
ESDC	**Sonseca Array**	**152.13**	**344**	PKPbc	**PKPbc**		**23 58 26.5**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=12,slow=3.8,SNR=1.8							
TORD	**Torodi Ar. Bea**	**164.97**	**272**	PKP	**PKPdf**		**23 58 34.6**	**-0.1**
TORD	**Torodi Ar. Bea**	**164.97**	**272**	PKP	**PKPdf**		**23 58 34.6**	**-0.1**
	comp=Z,1.6nm,0.9s,baz=129,slow=0.5,SNR=3.8							

*IDC **07** 23:40:14.8±1.7, 13°.29S×166°.35E, h0km, mb4.8/7, mb1 4.9/7, mb1mx4.6/18, mbtmp4.7/7, Error ellipse: s-maj=68.7km s-min=24.9km az=143.0*
*ISCJB **07** 23:40:18.2±0.6, 13°.46S±0°.10×166°.34E±0°.09, h39km, mb4.7/16, Error ellipse: s-maj=14.1km s-min=12.8km az=25.9*
*NEIC **07** 23:40:19.6±0.5, 13°.41S×166°.34E, h35km, mb4.6/9, Error ellipse: s-maj=13.7km s-min=11.8km az=183.0*

ISC 07 23:40:20.2±0.6, 13°.5S±0°.1×166°.3E±0°.1, h39km, n29, σ1s17/33, mb4.8/16, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**20.32**	**248**	*e*P	**P**		**23 44 53.0**	**-0.2**
	7.4nm,0.6s							
RAO	**Raoul Island**	**21.46**	**140**	*e*P	**P**		**23 45 05.4**	**0.0**
ARMA	**Armidale**	**21.67**	**216**	*e*P	**P**		**23 45 05.8**	**-2.0**
	12nm,0.6s							
COEN	**Coen**	**22.51**	**266**	*e*P	**P**		**23 45 16.1**	**-0.6**
	62nm,0.8s							
URZ	**Urewera**	**26.50**	**161**	*e*P	**P**		**23 45 54.3**	**+0.3**
	9.6nm,1.0s							
WRA	**Warramunga Arr**	**31.29**	**254**	P	**P**		**23 46 37.0**	**+0.1**
WRA	**Warramunga Arr**	**31.29**	**254**	P	**P**		**23 46 37.0**	**+0.1**
	3.6nm,0.6s,baz=86,slow=9.1,SNR=9.7							
AS31	**Alice Springs**	**32.31**	**247**	*e*P	**P**		**23 46 46.0**	**+0.2**
ASAR	**Alice Springs**	**32.31**	**247**	P	**P**		**23 46 46.5**	**+0.6**
ASAR	**Alice Springs**	**32.31**	**247**	P	**P**		**23 46 46.5**	**+0.6**
	9.0nm,0.7s,baz=71,slow=9.5,SNR=18							
FITZ	**Fitzroy Crossi**	**39.38**	**258**	*e*P	**P**		**23 47 46.5**	**+0.1**
	1.7nm,0.5s							
MBWA	**Marble Bar**	**45.02**	**253**	*e*P	**P**		**23 48 33.5**	**+1.1**
	7.7nm,0.7s							
VNDA	**Vanda**	**64.12**	**181**	*e*P	**P**		**23 50 50.2**	**+0.1**
	9.3nm,1.1s							
SBA	**Scott Base**	**64.41**	**180**	*e*P	**P**		**23 50 52.2**	**+0.2**
	8.4nm,1.0s							
USRK	**Ussuriysk Arra**	**65.34**	**333**	P	**P**		**23 50 58.6**	**+0.2**
	7.3nm,0.9s,baz=135,slow=4.8,SNR=5.1							
QSPA	**South Pole Qui**	**76.57**	**180**	*e*P	**P**		**23 52 06.4**	**-0.1**
	6.2nm,1.0s							
GTA	**Gaotai**	**81.13**	**314**	*e*P	**P**		**23 52 33.1**	**+1.2**
GTA				pP	**pP**		**23 52 43.4**	**-0.5**
GTA				sP	**sP**		**23 52 47.3**	**-1.0**
GTA				AMB	AMB			
	comp=Z,9.0nm,0.9s							
YBH	**Yreka Blue Hor**	**85.16**	**45**	P	**P**		**23 52 52.0**	**-0.6**
YBH	**Yreka Blue Hor**	**85.16**	**45**	P	**P**		**23 52 52.0**	**-0.6**
	comp=Z,5.4nm,0.7s,baz=262,slow=6.8,SNR=4.1							
ILAR	**Eielson Array**	**85.59**	**18**	P	**P**		**23 52 53.0**	**-1.1**
ILAR	**Eielson Array**	**85.59**	**18**	P	**P**		**23 52 53.0**	**-1.1**
	comp=Z,4.0nm,0.6s,baz=241,slow=4.9,SNR=21							
MKAR	**Makanchi Array**	**95.66**	**317**	P	**P**		**23 53 40.6**	**-1.2**
MKAR	**Makanchi Array**	**95.66**	**317**	P	**P**		**23 53 40.6**	**-1.2**
	comp=Z,3.5nm,0.7s,baz=102,slow=3.2,SNR=11							
ZALV	**Zalesovo Beam**	**95.83**	**324**	P	**P**		**23 53 40.3**	**-2.1**
ZALV	**Zalesovo Beam**	**95.83**	**324**	P	**P**		**23 53 40.3**	**-2.1**
	comp=Z,2.9nm,0.7s,baz=109,slow=4.0,SNR=6.3							
ARCES	**ARCESS Array B**	**118.79**	**345**	PKP	**PKPdf**		**23 59 04.8**	**+1.0**
ARCES	**ARCESS Array B**	**118.79**	**345**	PKP	**PKPdf**		**23 59 04.8**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=114,slow=1.5,SNR=5.5							
ESDC	**Sonseca Array**	**152.51**	**344**	PKPbc	**PKPbc**		**00 00 14.8**	**+2.0**
ESDC				PKPab	**PKPab**		**00 00 24.9**	**+1.8**
ESDC	**Sonseca Array**	**152.51**	**344**	PKPbc	**PKPbc**		**00 00 14.8**	**+2.0**
	comp=Z,0.8nm,0.7s,baz=3.8,slow=1.6,SNR=3.1							
ESDC				PKPab	**PKPab**		**00 00 24.9**	**+1.8**
	comp=Z,1.2nm,0.6s,baz=8.0,slow=4.7,SNR=8.2							

*ISCJB **07** 23:41:10.0±0.4, 13°.00S±0°.06×166°.17E±0°.07, h20km, mb4.9/26, Error ellipse: s-maj=10.2km s-min=7.1km az=141.9*
*IDC **07** 23:41:09.1±0.7, 12°.87S×166°.26E, h0km, mb4.8/20, mb1 4.9/22, mb1mx4.8/29, mbtmp4.9/22, ML3.6/1, Error ellipse: s-maj=20.9km s-min=15.5km az=103.0*
*NEIC **07** 23:41:14.1±0.3, 13°.04S×166°.19E, h35km, mb5.0/13, Error ellipse: s-maj=8.4km s-min=7.3km az=74.0*

ISC 07 23:41:12.0±0.5, 13°.00S±0°.07×166°.18E±0°.08, h20km, n71, σ0s93/71, mb4.9/26, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.07**	**299**	Pn	**Pn**		**23 42 55.0**	**+0.6**
HNR				Sn	**Sn**		**23 44 13.9**	**-0.3**
HNR	**Honiara**	**7.07**	**299**	Pn	**Pn**		**23 42 55.0**	**+0.6**
	65nm,0.3s,baz=222,slow=3.0,SNR=11							
HNR				Sn	**Sn**		**23 44 13.9**	**-0.3**
	17nm,0.3s,baz=24,slow=19,SNR=1.4							
DZM	**Mont Dzumac**	**9.03**	**178**	Pn	**Pn**		**23 43 20.4**	**-1.0**
MSVF	**Nonsavu**	**12.38**	**114**	*e*P	**Pn**		**23 44 08.3**	**+1.0**
	795nm,2.3s							
EIDS	**Eidsvold**	**18.81**	**227**	*e*P	**P**		**23 45 30.3**	**-0.1**
	56nm,1.0s							
PMG	**Port Moresby**	**18.99**	**279**	*e*P	**Pn**		**23 45 33.6**	**+0.3**
	6µm,3.7s							
PMG	**Port Moresby**	**18.99**	**279**	P	**Pn**		**23 45 33.7**	**+0.4**
	0.5nm,0.3s,baz=92,slow=7.2,SNR=6.8							
CTA	**Charters Tower**	**20.34**	**247**	P		Pn	23 45 49.7	+0.2
CTA	**Charters Tower**	**20.34**	**247**	P		Pn	23 45 49.7	+0.2
	51nm,1.0s,baz=67,slow=13,SNR=9.4							
CTAO	**Charters Tower**	**20.34**	**247**	*e*P	**P**		**23 45 47.4**	**0.0**
	98nm,1.1s							
ARMA	**Armidale**	**21.94**	**216**	*e*P	**P**		**23 46 03.9**	**-0.7**
	63nm,1.1s							
STKA	**Stephens Creek**	**29.36**	**226**	*e*P	**P**		**23 47 13.3**	**-0.5**
	4.2nm,0.6s							
STKA	**Stephens Creek**	**29.36**	**226**	P	**P**		**23 47 15.7**	**+1.9**
	30nm,0.8s,baz=31,slow=7.2,SNR=10							
RPZ	**Rata Peaks**	**30.89**	**173**	*e*P	**P**		**23 47 27.9**	**+0.6**
	42nm,0.8s							
RPZ	**Rata Peaks**	**30.89**	**173**	P	**P**		**23 47 29.2**	**+1.9**
	35nm,0.8s,baz=246,slow=2.1,SNR=11							
WRA	**Warramunga Arr**	**31.26**	**253**	P	**P**		**23 47 30.6**	**-0.3**
WRA	**Warramunga Arr**	**31.26**	**253**	P	**P**		**23 47 30.6**	**-0.3**
	6.7nm,0.8s,baz=80,slow=8.7,SNR=5.6							
BBOO	**Buckleboo**	**33.85**	**229**	*e*P	**P**		**23 47 53.6**	**+0.3**
	1µm,1.4s							
FITZ	**Fitzroy Crossi**	**39.33**	**257**	*e*P	**P**		**23 48 40.1**	**-0.1**
	33nm,1.0s							
FITZ	**Fitzroy Crossi**	**39.33**	**257**	P	**P**		**23 48 40.7**	**+0.5**
	32nm,1.0s,baz=96,slow=8.5,SNR=11							
MBWA

1C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.17**	**277**	*i* P	Pn	23 43 05.5	+0.2
CPCH				*e*S	Sn	23 43 22.3	+0.5
CDCH	**Caldera**	**1.64**	**285**	*i* P	Pn	23 43 11.8	+0.7
CDCH				*i* S	Sn	23 43 32.3	+0.3
VACH	**Vallenar**	**1.85**	**235**	*i* P	Pn	23 43 14.5	+0.6
VACH				*i* S	Sn	23 43 37.6	+0.7
VACH				AML	AML	23 43 39.8	
	comp=E,4μm,0.1s						
LCO	**Las Campanas**	**2.09**	**224**	*e*PKKPbc	Pn	23 43 17.6	+0.3
LCO	**Las Campanas**	**2.09**	**224**	⇑P	Pn	23 43 17.9	+0.6
LCO				*i* S	Sn	23 43 44.0	+1.0
LCO				AML	AML	23 43 46.9	
	comp=E,893nm,0.3s						
TLL	**Tololo Astrono**	**3.06**	**210**	⇓P	Pn	23 43 30.7	+0.4
TLL				AML	AML	23 44 35.9	
	comp=E,196nm,0.6s						

SKO ***07*** *23:44:37.6, 39°.58N×24°.26E, h0km*
ATH ***07*** *23:44:38.8, 39°.87N×24°.47E, h23km, MD3.5/20, ML3.5*
DDA ***07*** *23:44:39.4, 40°.06N×24°.61E, h22km, MD3.2*
ISCJB ***07*** *23:44:39.8±0.3, 39°.85N±0°.02×24°.46E±0°.02, h18km±3km, Error ellipse: s-maj=2.9km s-min=2.3km az=153.7*
THE ***07*** *23:44:39.4, 39°.85N×24°.47E, h10km, ML2.6/10, Error ellipse: s-maj=0.6km s-min=0.3km az=332.0*
CSEM ***07*** *23:44:39.6±0.1, 39°.85N×24°.45E, h15km, ML4.1, Error ellipse: s-maj=2.9km s-min=2.4km az=143.0*
ISK ***07*** *23:44:40.3, 39°.88N×24°.36E, h22km, ML4.1*

ISC 07 23:44:38.9±1.0, **39°.85N**±0°.02×**24°.50E**±0°.01, **h16**km±8km, **n138, σ0°76/196, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.53**	**84**	P	**Pb**	**23 44 50.1**	**+0.3**
LIA				S	**Sb**	**23 44 57.9**	**+0.9**
LIA	**Limnos Island**	**0.53**	**84**	*e*PN	**Pb**	**23 44 50.0**	**+0.3**
LIA				*e*SN	**Sb**	**23 44 58.0**	**+0.9**
LIA	**Limnos Island**	**0.53**	**84**	P	**Pb**	**23 44 50.1**	**+0.3**
LIA				*e*Sn	**Sb**	**23 44 58.0**	**+0.9**
OUR	**Ouranopolis**	**0.63**	**321**	P	**Pg**	**23 44 51.1**	**-0.2**
OUR				S	**Sg**	**23 45 00.0**	**+0.3**
OUR	**Ouranopolis**	**0.63**	**321**	*e*PG	**Pb**	**23 44 52.1**	**+0.5**
OUR	**Ouranopolis**	**0.63**	**321**	P	**Pg**	**23 44 51.1**	**-0.2**
OUR	**Ouranopolis**	**0.63**	**321**	*e*Pg	**Pb**	**23 44 52.1**	**+0.5**
OUR				S	**Sg**	**23 45 00.0**	**+0.3**
PAIG	**Paliouri**	**0.64**	**278**	P	**Pg**	**23 44 51.2**	**-0.2**
PAIG				S	**Sb**	**23 45 00.2**	**-0.2**
PAIG	**Paliouri**	**0.64**	**278**	*e*PN	**Pg**	**23 44 51.0**	**-0.4**
PAIG				*e*SN	**Sg**	**23 45 00.1**	**+0.2**
PAIG	**Paliouri**	**0.64**	**278**	P	**Pg**	**23 44 51.2**	**-0.2**
PAIG				S	**Sb**	**23 45 00.2**	**-0.2**
AOS	**Alonnisos**	**0.83**	**216**	P	**Pg**	**23 44 55.2**	**+0.2**
AOS				S	**Sn**	**23 45 07.2**	**-0.4**
AOS	**Alonnisos**	**0.83**	**216**	*e*PG	**Pn**	**23 44 55.8**	**-0.1**
AOS				*e*SG	**Sn**	**23 45 08.6**	**+0.7**
AOS	**Alonnisos**	**0.83**	**216**	*e*PN	**Pn**	**23 44 55.8**	**-0.1**
AOS				*e*SN	**Sn**	**23 45 07.4**	**-0.4**
AOS	**Alonnisos**	**0.83**	**216**	P	**Pg**	**23 44 55.2**	**+0.2**
AOS	**Alonnisos**	**0.83**	**216**	*e*Pg	**Pn**	**23 44 55.8**	**-0.1**
AOS				*e*Sn	**Sn**	**23 45 07.4**	**-0.4**
PLG	**Polygyros**	**0.97**	**303**	P	**Pb**	**23 44 56.9**	**-0.4**
PLG				S	**Sb**	**23 45 09.4**	**-0.5**
PLG	**Polygyros**	**0.97**	**303**	*e*PN	**Pb**	**23 44 56.8**	**-0.5**
PLG				*e*SN	**Sb**	**23 45 09.1**	**-0.8**
PLG	**Polygyros**	**0.97**	**303**	P	**Pb**	**23 44 56.9**	**-0.4**
PLG				*e*Sn	**Sb**	**23 45 09.1**	**-0.8**
SMTH	**Samothraki Isl**	**1.00**	**51**	P	**Pg**	**23 44 58.6**	**+0.3**
SMTH				S	**Sn**	**23 45 13.1**	**+0.9**
SMTH	**Samothraki Isl**	**1.00**	**51**	*e*PN	**Pb**	**23 44 58.2**	**+0.3**
SMTH				*e*SN	**Sn**	**23 45 12.2**	**0.0**
SMTH	**Samothraki Isl**	**1.00**	**51**	*e*Pn	**Pg**	**23 44 58.2**	**+0.3**
SMTH	**Samothraki Isl**	**1.00**	**51**	P	**Pg**	**23 44 58.6**	**+0.3**
SMTH				*e*Sn	**Sn**	**23 45 12.2**	**0.0**
SMTH				S	**Sn**	**23 45 13.1**	**+0.9**
SKIA	**Skiathos**	**1.05**	**230**	P	**Pb**	**23 44 58.8**	**+0.1**
SKIA				S	**Sn**	**23 45 13.6**	**+0.3**
SKIA	**Skiathos**	**1.05**	**230**	P	**Pb**	**23 44 58.8**	**+0.1**
SKIA				S	**Sn**	**23 45 13.6**	**+0.3**
XOR	**Xorichti**	**1.12**	**245**	P	**Pb**	**23 44 59.6**	**-0.3**
XOR				S	**Sn**	**23 45 15.0**	**-0.1**
XOR	**Xorichti**	**1.12**	**245**	P	**Pb**	**23 44 59.6**	**-0.3**
XOR				S	**Sn**	**23 45 15.0**	**-0.1**
NEO	**Neokhori**	**1.13**	**242**	P	**Pb**	**23 44 59.6**	**-0.4**
NEO				S	**Sb**	**23 45 14.6**	**+0.2**
NEO	**Neokhori**	**1.13**	**242**	*e*PN	**Pb**	**23 44 59.7**	**-0.3**
NEO				*e*SN	**Sg**	**23 45 15.5**	**+0.2**
NEO	**Neokhori**	**1.13**	**242**	P	**Pb**	**23 44 59.6**	**-0.4**
NEO				S	**Sb**	**23 45 14.6**	**+0.2**
NEO				*e*Sn	**Sg**	**23 45 15.5**	**+0.2**
KAVA	**Kavala**	**1.15**	**0**	P	**Pn**	**23 45 00.3**	**0.0**
KAVA				S	**Sg**	**23 45 17.3**	**+1.2**
KAVA	**Kavala**	**1.15**	**0**	P	**Pn**	**23 45 00.3**	**0.0**
KAVA				S	**Sg**	**23 45 17.3**	**+1.2**
BOZC	**Bozcaada**	**1.19**	**90**	*i* P	**Pn**	**23 45 01.0**	**+0.1**
BOZC				*i* S	**Sn**	**23 45 16.8**	**0.0**
HORT	**Hortiatis**	**1.31**	**305**	P	**Pn**	**23 45 02.8**	**+0.1**
HORT				S	**Sn**	**23 45 20.5**	**+0.6**
HORT	**Hortiatis**	**1.31**	**305**	P	**Pn**	**23 45 02.8**	**+0.1**
HORT				S	**Sn**	**23 45 20.5**	**+0.6**
SOH	**Sokhos**	**1.31**	**318**	P	**Pn**	**23 45 02.9**	**+0.3**
SOH	**Sokhos**	**1.31**	**318**	*e*PN	**Pn**	**23 45 02.9**	**+0.3**
SOH				*e*SN	**Sg**	**23 45 20.7**	**-0.6**
SOH	**Sokhos**	**1.31**	**318**	P	**Pn**	**23 45 02.9**	**+0.3**
SOH				*e*Sn	**Sg**	**23 45 20.7**	**-0.6**
MRKA	**Markates**	**1.34**	**212**	P	**Pn**	**23 45 03.0**	**0.0**
MRKA				S	**Sg**	**23 45 21.8**	**-0.4**
MRKA	**Markates**	**1.34**	**212**	P	**Pn**	**23 45 03.0**	**0.0**
MRKA				S	**Sg**	**23 45 21.8**	**-0.4**
SMIA	**Simia**	**1.39**	**227**	P	**Pn**	**23 45 04.0**	**+0.3**
SMIA				S	**Sb**	**23 45 22.9**	**+0.8**
SMIA	**Simia**	**1.39**	**227**	P	**Pn**	**23 45 04.0**	**+0.3**
SMIA				S	**Sb**	**23 45 22.9**	**+0.8**
THE	**Thessaloniki**	**1.42**	**304**	P	**Pn**	**23 45 04.1**	**+0.1**
THE	**Thessaloniki**	**1.42**	**304**	P	**Pn**	**23 45 04.1**	**+0.1**
PRK	**Paraskevi**	**1.49**	**113**	P	**Pb**	**23 45 05.9**	**-0.3**
PRK				S	**Sg**	**23 45 26.4**	**-0.6**
PRK	**Paraskevi**	**1.49**	**113**	*e*PN	**Pg**	**23 45 07.2**	**-0.4**
PRK				*e*SN	**Sg**	**23 45 27.6**	**+0.6**
PRK	**Paraskevi**	**1.49**	**113**	P	**Pb**	**23 45 05.9**	**-0.3**
PRK	**Paraskevi**	**1.49**	**113**	*e*Pn	**Pg**	**23 45 07.2**	**-0.4**
PRK				S	**Sg**	**23 45 26.4**	**-0.6**
PRK				*e*Sn	**Sg**	**23 45 27.6**	**+0.6**
ERET	**Eretria**	**1.50**	**201**	P	**Pn**	**23 45 05.5**	**+0.2**
ERET	**Eretria**	**1.50**	**201**	P	**Pn**	**23 45 05.5**	**+0.2**
LIT	**Litokhoron**	**1.57**	**280**	P	**Pn**	**23 45 06.4**	**+0.3**
LIT	**Litokhoron**	**1.57**	**280**	*e*PN	**Pn**	**23 45 06.6**	**+0.5**
LIT	**Litokhoron**	**1.57**	**280**	P	**Pn**	**23 45 06.4**	**+0.3**
ALN	**Alexandroupoli**	**1.58**	**48**	P	**Pn**	**23 45 06.5**	**+0.3**
ALN				S	**Sb**	**23 45 27.8**	**+0.4**
ALN	**Alexandroupoli**	**1.58**	**48**	*e*PN	**Pg**	**23 45 08.8**	**-0.4**
ALN	**Alexandroupoli**	**1.58**	**48**	*e*PN	**Pb**	**23 45 07.3**	**-0.4**
ALN				*e*SN	**Sb**	**23 45 28.5**	**+1.1**
ALN	**Alexandroupoli**	**1.58**	**48**	P	**Pn**	**23 45 06.5**	**+0.3**
ALN	**Alexandroupoli**	**1.58**	**48**	*e*Pn	**Pb**	**23 45 07.3**	**-0.4**
ALN				S	**Sb**	**23 45 27.8**	**+0.4**
ALN				*e*Sn	**Sb**	**23 45 28.5**	**+1.1**
NVR	**Nevrokopi**	**1.58**	**342**	P	**Pn**	**23 45 06.7**	**+0.4**
NVR				S	**Sn**	**23 45 25.6**	**-0.9**
NVR	**Nevrokopi**	**1.58**	**342**	*e*PN	**Pn**	**23 45 06.7**	**+0.4**
NVR				*e*SN	**Sb**	**23 45 27.6**	**+0.1**
NVR	**Nevrokopi**	**1.58**	**342**	P	**Pn**	**23 45 06.7**	**+0.4**
NVR				S	**Sn**	**23 45 25.6**	**-0.9**
NVR				*e*Sn	**Sb**	**23 45 27.6**	**+0.1**
LKR	**Lokris**	**1.67**	**225**	P	**Pn**	**23 45 07.5**	**0.0**
LKR	**Lokris**	**1.67**	**225**	*e*PB	**Pn**	**23 45 08.1**	**+0.6**
LKR				*e*SN	**Sb**	**23 45 30.9**	**+0.9**
LKR	**Lokris**	**1.67**	**225**	P	**Pn**	**23 45 07.5**	**0.0**
LKR	**Lokris**	**1.67**	**225**	*e*Pb	**Pn**	**23 45 08.1**	**+0.6**
LKR				*e*Sn	**Sb**	**23 45 30.9**	**+0.9**
AYVA	**Ayvalik**	**1.77**	**107**	*i* P	**Pn**	**23 45 08.7**	**-0.2**
AYVA	**Ayvalik**	**1.77**	**107**	*i* P	**Pn**	**23 45 08.7**	**-0.2**
AXAR	**Agios Charalam**	**1.79**	**234**	P	**Pn**	**23 45 09.2**	**0.0**
AXAR	**Agios Charalam**	**1.79**	**234**	P	**Pn**	**23 45 09.2**	**0.0**
KNT	**Kendrikon**	**1.80**	**318**	P	**Pn**	**23 45 09.8**	**+0.5**
KNT				S	**Sb**	**23 45 33.0**	**-0.7**
KNT	**Kendrikon**	**1.80**	**318**	P	**Pn**	**23 45 09.8**	**+0.5**
KNT				S	**Sb**	**23 45 33.0**	**-0.7**
LPK	**Lapseki**	**1.81**	**72**	*e*PN	**Pb**	**23 45 12.5**	**+0.9**
LPK	**Lapseki**	**1.81**	**72**	*e*Pn	**Pb**	**23 45 12.5**	**+0.9**
PTL	**Penteli**	**1.86**	**196**	P	**Pn**	**23 45 10.8**	**+0.6**
PTL	**Penteli**	**1.86**	**196**	*e*PN	**Pn**	**23 45 11.4**	**+1.2**
PTL				*e*SN	**Sb**	**23 45 34.8**	**-0.8**
PTL	**Penteli**	**1.86**	**196**	P	**Pn**	**23 45 10.8**	**+0.6**
PTL	**Penteli**	**1.86**	**196**	*e*Pn	**Pn**	**23 45 11.4**	**+1.2**
PTL				*e*Sn	**Sb**	**23 45 34.8**	**-0.8**
AGG	**Agios Georgios**	**1.87**	**245**	P	**Pn**	**23 45 10.7**	**+0.4**
AGG	**Agios Georgios**	**1.87**	**245**	*e*PB	**Pn**	**23 45 10.9**	**+0.6**
AGG	**Agios Georgios**	**1.87**	**245**	P	**Pn**	**23 45 10.7**	**+0.4**
CHOS	**Chios island**	**1.89**	**140**	P	**Pn**	**23 45 11.7**	**+1.1**
CHOS	**Chios island**	**1.89**	**140**	*e*PN	**Pn**	**23 45 14.0**	**+0.9**
CHOS	**Chios island**	**1.89**	**140**	*e*PB	**Pn**	**23 45 11.9**	**+1.3**
CHOS	**Chios island**	**1.89**	**140**	P	**Pn**	**23 45 11.7**	**+1.1**
THL	**Klokotos Trika**	**1.94**	**262**	P	**Pn**	**23 45 11.4**	**+0.2**
THL	**Klokotos Trika**	**1.94**	**262**	*e*PB	**Pn**	**23 45 11.5**	**+0.2**
THL	**Klokotos Trika**	**1.94**	**262**	P	**Pn**	**23 45 11.4**	**+0.2**
GRG	**Griva**	**1.95**	**305**	P	**Pn**	**23 45 11.8**	**+0.4**
GRG	**Griva**	**1.95**	**305**	*e*PB	**Pn**	**23 45 11.9**	**+0.5**
GRG	**Griva**	**1.95**	**305**	P	**Pn**	**23 45 11.8**	**+0.4**
ATHU	**Athens Univers**	**1.96**	**197**	P	**Pn**	**23 45 12.2**	**+0.7**
ATHU	**Athens Univers**	**1.96**	**197**	P	**Pn**	**23 45 12.2**	**+0.7**
ATH	**Athens Observa**	**1.97**	**198**	*e*PN	**Pn**	**23 45 13.0**	**+1.4**
ATH	**Athens Observa**	**1.97**	**198**	*e*Pn	**Pn**	**23 45 13.0**	**+1.4**
VAY	**Valandovo**	**2.08**	**316**	*e*Pn	**Pb**	**23 45 15.4**	**-0.9**
VAY				*e*Sn	**Sb**	**23 45 41.4**	**-0.6**
DSF	**Desfina**	**2.10**	**228**	P	**Pn**	**23 45 13.5**	**0.0**
DSF	**Desfina**	**2.10**	**228**	P	**Pn**	**23 45 13.5**	**0.0**
KZN	**Kozani**	**2.15**	**283**	*e*PB	**Pn**	**23 45 15.0**	**+0.9**
KZN	**Kozani**	**2.15**	**283**	*e*Pb	**Pn**	**23 45 15.0**	**+0.9**
LTK	**Loutraki**	**2.18**	**214**	*e*PN	**Pn**	**23 45 16.0**	**+1.5**
LTK	**Loutraki**	**2.18**	**214**	*e*Pn	**Pn**	**23 45 16.0**	**+1.5**
KRBG	**Karabiga-Canak**	**2.21**	**75**	*e*PN	**Pb**	**23 45 18.2**	**-0.3**
KRBG	**Karabiga-Canak**	**2.21**	**75**	*e*Pn	**Pb**	**23 45 18.2**	**-0.3**
RKY	**Sarkoy-Tekirda**	**2.21**	**67**	*e*PN	**Pb**	**23 45 17.9**	**-0.7**
RKY	**Sarkoy-Tekirda**	**2.21**	**67**	*e*Pn	**Pb**	**23 45 17.9**	**-0.7**
PLD	**Plovdiv**	**2.26**	**4**	*e*PN	**Pn**	**23 45 17.1**	**+1.4**
PLD	**Plovdiv**	**2.26**	**4**	*e*Pn	**Pn**	**23 45 17.1**	**+1.4**
EVR	**Evrytania**	**2.29**	**247**	*e*PN	**Pn**	**23 45 17.3**	**+1.2**
EVR	**Evrytania**	**2.29**	**247**	*e*Pn	**Pn**	**23 45 17.3**	**+1.2**
KALE	**Kalithea**	**2.34**	**232**	*e*PN	**Pn**	**23 45 17.6**	**+0.8**
KALE	**Kalithea**	**2.34**	**232**	*e*Pn	**Pn**	**23 45 17.6**	**+0.8**
BALY	**Balya**	**2.40**	**92**	*i* P	**Pb**	**23 45 20.9**	**-0.9**
BALY				*i* S	**Sn**	**23 45 44.6**	**-2.2**
BALY	**Balya**	**2.40**	**92**	*i* P	**Pb**	**23 45 20.9**	**-0.9**
BALY				*i* S	**Sn**	**23 45 44.6**	**-2.2**
GONE	**Gonen-Balikesi**	**2.46**	**84**	*e*PN	**Pb**	**23 45 21.8**	**-0.8**
EFP	**Efpalio**	**2.47**	**236**	*e*PN	**Pn**	**23 45 20.2**	**+1.8**
EFP	**Efpalio**	**2.47**	**236**	*e*Pn	**Pn**	**23 45 20.2**	**+1.8**
DID	**Didima**	**2.54**	**203**	P	**Pn**	**23 45 19.7**	**+0.2**
DID	**Didima**	**2.54**	**203**	*e*PN	**Pn**	**23 45 19.5**	**0.0**
DID	**Didima**	**2.54**	**203**	P	**Pn**	**23 45 19.7**	**+0.2**
LAKA	**Lakka**	**2.54**	**232**	*e*PN	**Pn**	**23 45 20.5**	**+1.1**
LAKA	**Lakka**	**2.54**	**232**	*e*Pn	**Pn**	**23 45 20.5**	**+1.1**
GUR	**Goura**	**2.54**	**222**	P	**Pn**	**23 45 20.0**	**+0.4**
GUR	**Goura**	**2.54**	**222**	*e*PN	**Pn**	**23 45 20.1**	**+0.4**
GUR	**Goura**	**2.54**	**222**	P	**Pn**	**23 45 20.0**	**+0.4**
FNA	**Florina**	**2.57**	**292**	P	**Pn**	**23 45 21.3**	**+1.4**
FNA	**Florina**	**2.57**	**292**	*e*PN	**Pn**	**23 45 21.3**	**+1.4**
FNA	**Florina**	**2.57**	**292**	P	**Pn**	**23 45 21.3**	**+1.4**
KLV	**Kalavryta, Ach**	**2.57**	**226**	*e*PN	**Pn**	**23 45 20.8**	**+0.9**
KLV	**Kalavryta, Ach**	**2.57**	**226**	*e*Pn	**Pn**	**23 45 20.8**	**+0.9**
BALB	**Balikesir**	**2.61**	**93**	*e*PN	**Pb**	**23 45 24.1**	**-1.2**
CRLT	**Corlu**	**2.78**	**61**	*e*PN	**Pb**	**23 45 26.1**	**-2.1**
JAN	**Janina**	**2.82**	**267**	*e*PN	**Pn**	**23 45 24.8**	**+1.4**
JAN	**Janina**	**2.82**	**267**	*e*Pn	**Pn**	**23 45 24.8**	**+1.4**
VTS	**Vitosha**	**2.91**	**341**	*e*PN	**Pn**	**23 45 25.6**	**+0.9**
VTS	**Vitosha**	**2.91**	**341**	*e*Pn	**Pn**	**23 45 25.6**	**+0.9**
KCTX	**Karacabey (Bur**	**2.99**	**81**	*e*PN	**Pb**	**23 45 29.1**	**-2.7**
JMB	**Yambol**	**3.05**	**30**	*e*PN	Pn	23 45 29.8	+3.3
DURS	**Dursunbey**	**3.07**	**93**	*i* P	**Pn**	**23 45 26.2**	**-0.6**
DURS	**Dursunbey**	**3.07**	**93**	*i* P	**Pn**	**23 45 26.2**	**-0.6**

DJA ***07*** *23:46:05.5±0.5, 10°.5±4°×10°.8E±°, h30km, M4.4/14, MLv4.4/14*
IDC ***07*** *23:46:10.4±3.6, 8°.52S×107°.63E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.8/21, mbtmp3.9/4, Error ellipse: s-maj=157.6km s-min=27.4km az=52.0*

ISC 07 23:46:06.6±1.7, **9°.5S**±0°.1×**107°.70E**±0°.08, **h23**km, **n20, σ1°63/17, mb3.9/4, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**1.89**	**4**	P	**Pb**	**23 46 38.9**	**-1.5**
CLJI	**Cilicap**	**2.16**	**37**	P	**Pb**	**23 46 43.6**	**-1.4**
CLJI				S	**Sb**	**23 47 10.9**	**-0.4**
KPJI	**Karang Pucung**	**2.43**	**30**	P	**Pb**	**23 46 47.8**	**-1.8**
KPJI				S	**Sb**	**23 47 20.7**	**+1.5**
LEM	**Lembang**	**2.61**	**358**	P	**Pb**	**23 46 51.1**	**-1.6**
LEM				S	**Sb**	**23 47 25.2**	**+0.8**
BJII	**Banjamegara**	**2.90**	**44**	P	**Pn**	**23 46 53.5**	**+2.1**
TGJI	**Tegal**	**2.93**	**29**	P	**Pb**	**23 46 55.2**	**-2.9**
DBJI	**Dramaga**	**3.03**	**342**	P	**Pb**	**23 46 56.9**	**-2.9**
UGM	**Wanagama**	**3.18**	**62**	P	**Pn**	**23 46 55.1**	**-0.2**
WOJI	**Wonogiri, Jawa**	**3.57**	**64**	P	**Pn**	**23 47 00.6**	**0.0**
PCJI	**Pacitan**	**3.66**	**70**	P	**Pn**	**23 47 01.6**	**-0.2**
PWJI	**Pagerwojo**	**4.30**	**71**	P	**Pn**	**23 47 10.6**	**0.0**
SJI	**Sawahan**	**4.37**	**67**	P	**Pn**	**23 47 12.5**	**+0.8**
WRA	**Warramunga Arr**	**27.76**	**115**	P	P	23 52 05.3	+11
	1.3nm,0.8s,baz=290,slow=11,SNR=2.1						
ASAR	**Alice Springs**	**28.75**	**123**	P	P	23 52 14.7	+12
	0.5nm,0.6s,baz=300,slow=9.4,SNR=3.0						
H08S2	**Diego Garcia H**	**34.85**	**270**	T	T	00 30 27.7	
	baz=91						
H08S3	**Diego Garcia H**	**34.86**	**270**	T	T	00 30 27.7	
	baz=91						
H08S1	**Diego Garcia H**	**34.87**	**270**	T	T	00 30 27.7	
	baz=91						
SONM	**Songino Array**	**57.04**	**359**	P	**P**	**23 55 52.2**	**+1.4**
	1.8nm,0.8s,baz=176,slow=8.3,SNR=3.6						
MKAR	**Makanchi Array**	**60.41**	**340**	P	**P**	**23 56 14.7**	**+0.5**
	1.5nm,0.6s,baz=151,slow=7.0,SNR=3.4						
TXAR	**Lajitas Array**	**144.60**	**52**	PKP	PKPdf	00 05 49.5	+7.4
	0.5nm,0.5s,baz=345,slow=3.1,SNR=1.5						

IDC 07 23:46:21.6±4.4, **11°.53S×165°.93E, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/17, mbtmp4.1/4, Error ellipse: s-maj=189.2km s-min=32.7km az=137.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.49**	**251**	P	P	23 52 45.3	-0.1
	2.8nm,0.9s,baz=83,slow=9.5,SNR=4.2						
ASAR	**Alice Springs**	**32.74**	**244**	P	P	23 52 56.5	+0.1
	2.4nm,0.8s,baz=72,slow=8.5,SNR=7.5						
ILAR	**Eielson Array**	**83.91**	**18**	P	P	23 58 53.2	+0.2
	0.2nm,0.5s,baz=233,slow=4.7,SNR=4.6						
MKAR	**Makanchi Array**	**94.00**	**317**	P	P	23 59 41.2	-0.5
	1.0nm,0.8s,baz=88,slow=5.0,SNR=5.1						

IDC ***07*** *23:46:56.7±0.8, 12°.51S×166°.06E, h0km, mb4.4/15, mb1 4.5/16, mb1mx4.4/21, mbtmp4.4/16, ML5.0/1, Error ellipse: s-maj=26.8km s-min=18.3km az=110.0*
ISCJB ***07*** *23:47:00.7±0.5, 12°.55S±0°.07×165°.97E±0°.10, h40km, mb4.5/18, Error ellipse: s-maj=13.4km s-min=9.8km az=176.9*
NEIC ***07*** *23:47:02.1±1.5, 12°.52S×166°.02E, h38km±13km, mb4.9/6, Error ellipse: s-maj=12.2km s-min=9.8km az=66.0*

ISC 07 23:47:02.6±0.6, **12°.53S**±0°.08×**166°.0E**±0°.1, **h40**km, **n48, σ0°92/46, mb4.6/18, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.68**	**297**	Pn	**Pn**	**23 48 37.8**	**-0.4**
HNR	**Honiara**	**6.68**	**297**	Pn	**Pn**	**23 48 37.7**	**-0.4**
	31nm,0.3s,baz=144,slow=7.8,SNR=6.3						
DZM	**Mont Dzumac**	**9.50**	**177**	*e*Pn	**Pn**	**23 49 16.6**	**-0.3**
	64nm,0.9s						
EIDS	**Eidsvold**	**18.99**	**226**	*e*P	**Pn**	**23 51 22.7**	**+0.9**
	43nm,1.3s						
CTA	**Charters Tower**	**20.36**	**246**	P	Pn	23 51 37.0	-1.0
CTA	**Charters Tower**	**20.36**	**246**	P	Pn	23 51 37.0	-1.0
	7.7nm,0.9s,baz=61,slow=13,SNR=4.4						
CTAO	**Charters Tower**	**20.36**	**246**	*e*P	**P**	**23 51 35.9**	**+0.1**
	42nm,1.6s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEN	**Coen**	**22.24**	**264**	*e*P	**P**	**23 51 55.8**	**-0.4**
	80nm,0.9s						
URZ	**Urewera**	**27.48**	**161**	P	**P**	**23 52 43.1**	**-1.9**
STKA	**Stephens Creek**	**29.55**	**225**	P	**P**	**23 53 05.3**	**+1.8**
	3.5nm,0.7s,baz=41,slow=11,SNR=3.7						
WRA	**Warramunga Arr**	**31.22**	**252**	P	**P**	**23 53 18.2**	**-0.3**
WRA	**Warramunga Arr**	**31.22**	**252**	P	**P**	**23 53 18.2**	**-0.3**
	2.7nm,0.9s,baz=86,slow=9.0,SNR=4.9						
ASAR	**Alice Springs**	**32.36**	**245**	P	**P**	**23 53 28.4**	**-0.1**
ASAR	**Alice Springs**	**32.36**	**245**	P	**P**	**23 53 28.4**	**-0.1**
	2.6nm,0.9s,baz=70,slow=9.7,SNR=6.8						
FITZ	**Fitzroy Crossi**	**39.24**	**257**	*e*P	**P**	**23 54 27.3**	**-0.2**
MBWA	**Marble Bar**	**44.96**	**253**	*e*P	**P**	**23 55 13.1**	**-1.0**
	13nm,0.9s						
ASAJ	**Asahikawa**	**60.26**	**341**	*e*P	**P**	**23 57 06.1**	**-0.7**
ASAJ	**Asahikawa**	**60.26**	**341**	P	**P**	**23 57 07.5**	**+0.6**
	4.7nm,0.6s,baz=225,slow=5.7,SNR=1.9						
KSRS	**Korea Array**	**61.23**	**326**	P	**P**	**23 57 13.8**	**+0.2**
	4.8nm,0.7s,baz=142,slow=8.8,SNR=3.2						
KSAR	**Wonju Array Be**	**61.24**	**326**	P	**P**	**23 57 13.8**	**+0.1**
USRK	**Ussuriysk Arra**	**64.37**	**334**	P	**P**	**23 57 35.0**	**+0.7**
	4.8nm,0.6s,baz=142,slow=6.6,SNR=7.2						
VNDA	**Vanda**	**65.02**	**181**	P	**P**	**23 57 38.2**	**0.0**
	4.1nm,1.1s,baz=39,slow=6.5,SNR=5.4						
QSPA	**South Pole Qui**	**77.48**	**180**	*e*P	**P**	**23 58 53.4**	**-0.4**
	13nm,1.0s						
ULN	**Ulaanbaatar**	**79.63**	**324**	*e*P	**P**	**23 59 05.5**	**-0.5**
	55nm,1.5s						
SONM	**Songino Array**	**79.99**	**324**	P	**P**	**23 59 08.5**	**+0.7**
SONM	**Songino Array**	**79.99**	**324**	P	**P**	**23 59 08.5**	**+0.7**
	2.0nm,0.6s,baz=139,slow=6.4,SNR=9.9						
MAW	**Mawson**	**83.44**	**202**	P	**P**	**23 59 25.7**	**+0.1**
	2.6nm,0.6s,baz=131,slow=6.3,SNR=17						
ILAR	**Eielson Array**	**84.84**	**18**	P	**P**	**23 59 32.6**	**0.0**
ILAR	**Eielson Array**	**84.84**	**18**	P	**P**	**23 59 32.6**	**0.0**
	2.2nm,0.7s,baz=235,slow=5.2,SNR=6.9						
NVAR	**Mina Array Bea**	**86.80**	**50**	P	**P**	**23 59 44.6**	**+1.4**
NVAR	**Mina Array Bea**	**86.80**	**50**	P	**P**	**23 59 44.6**	**+1.4**
	0.5nm,0.5s,baz=236,slow=7.8,SNR=3.7						
MKAR	**Makanchi Array**	**94.76**	**317**	P	**P**	**00 00 19.6**	**-0.3**
MKAR	**Makanchi Array**	**94.76**	**317**	P	**P**	**00 00 19.6**	**-0.3**
	4.1nm,0.8s,baz=89,slow=5.5,SNR=14						

URZ	Urewera	26.34	161	P		P	23 54	27.6	+2.2
	18nm,0.7s,baz=1.5,slow=3.5,SNR=12								
YNG	Young	26.34	215	⇓P		P	23 54	26.4	+0.8
	baz=26,SNR=17								
CNB	Canberra Magne	26.58	213	P		P	23 54	29.0	+1.3
	baz=27,SNR=12								
CAN	Canberra	26.78	213	eP		P	23 54	30.2	+0.7
CAN				pmax		pmax			
	comp=Z,168nm,1.4s								
CAN	Canberra	26.78	213	eP		P	23 54	30.2	+0.7
	comp=Z,168nm,1.4s								
CAN	Canberra	26.78	213	⇑P		P	23 54	30.4	+0.9
	baz=27								
BKZ	Black Stump Fm	26.98	163	eP		P	23 54	34.6	+3.3
SNZO	South Karori	28.55	167	eP		P	23 54	46.4	+1.3
	comp=Z,166nm,1.2s								
STKA	Stephens Creek	29.18	227	P		P	23 54	52.0	+1.1
	comp=Z,124nm,1.9s								
STKA	Stephens Creek	29.18	227	⇑P		P	23 54	51.9	+1.1
	baz=29,SNR=97								
STKA	Stephens Creek	29.18	227	P		P	23 54	52.0	+1.1
	comp=Z,54nm,0.5s,baz=43,slow=7.1,SNR=61								
RPZ	Rata Peaks	30.29	173	eP		P	23 55	01.3	+0.7
RPZ	Rata Peaks	30.29	173	P		P	23 55	00.7	+0.1
	comp=Z,65nm,0.8s,baz=165,slow=7.1,SNR=14								
TOO	Toolangi	30.34	214	P		P	23 55	02.3	+1.1
	baz=30,SNR=35								
WRAB	Tennant Creek	31.36	254	eP		P	23 55	09.5	-0.9
WRAB				pmax		pmax			
	comp=Z,293nm,1.5s								
WRAB	Tennant Creek	31.36	254	P		P	23 55	09.6	-0.9
	comp=Z,515nm,1.9s,SNR=17								
WRAB	Tennant Creek	31.36	254	eP		P	23 55	09.5	-0.9
	comp=Z,293nm,1.5s								
WRA	Warramunga Arr	31.38	254	P		P	23 55	09.4	-1.1
WRA				PcP		PcP	23 58	02.3	-1.5
WRA				ScP		ScP	00 01	46.1	+2.2
WRA	Warramunga Arr	31.38	254	P		P	23 55	09.4	-1.1
	comp=Z,36nm,0.9s,baz=81,slow=6.8,SNR=47								
WRA				PcP		PcP	23 58	02.3	-1.5
	comp=Z,12nm,1.0s,baz=84,slow=2.9,SNR=5.4								
WRA				ScP		ScP	00 01	46.1	+2.2
	comp=Z,50nm,1.1s,baz=89,slow=5.4,SNR=6.2								
HTT	Hallett	31.91	227	⇓P		P	23 55	15.9	+0.8
	baz=32								
ARPS	Mount Arapiles	31.92	219	⇓P		P	23 55	16.0	+1.0
	baz=32,SNR=12								
WHZ	Wether Hill Ro	32.24	178	eP		P	23 55	17.6	-0.1
AS06	Alice Springs	32.32	247	⇑P		P	23 55	17.8	-1.0
	baz=32								
AS01	Alice Springs	32.34	247	eP		P	23 55	17.2	-1.8
AS31	Alice Springs	32.38	247	eP		P	23 55	17.8	-1.5
ASAR	Alice Springs	32.38	247	P		P	23 55	18.2	-1.1
ASAR	Alice Springs	32.38	247	P		P	23 55	18.2	-1.1
	comp=Z,40nm,1.0s,baz=76,slow=9.1,SNR=40								
BAKI	Biak	32.47	290	P		P	23 55	20.4	+0.3
	comp=Z,272nm,1.4s								
RAR	Rarotonga	33.04	108	eP		P	23 55	25.5	+0.4
	comp=Z,401nm,1.3s								
RAR	Rarotonga	33.04	108	P		P	23 55	25.1	0.0
	comp=Z,182nm,1.1s,baz=270,slow=6.4,SNR=9.3								
KDU	Kakadu	33.11	268	⇑P		P	23 55	25.9	+0.2
	baz=33,SNR=4.6								
MOO	Moorlands	33.25	206	⇑P		P	23 55	27.6	+0.9
	baz=33,SNR=12								
TAU	Tasmania Unive	33.58	206	eP		P	23 55	30.5	+1.1
TAU				pmax		pmax			
	comp=Z,159nm,1.3s								
TAU	Tasmania Unive	33.58	206	eP		P	23 55	30.5	+1.1
	comp=Z,159nm,1.3s								
BBOO	Buckleboo	33.69	230	eP		P	23 55	31.1	+0.5
BBOO				eS		S	00 00	54.7	+3.4
BBOO	Buckleboo	33.69	230	⇑P		P	23 55	31.1	+0.5
	baz=34,SNR=75								
TLE	Tual	34.15	280	P		P	23 55	34.9	+0.1
FAKI	Fak Fak	35.43	284	P		P	23 55	45.3	-0.6
	comp=Z,79nm,1.6s								
KNRA	Kununurra	36.52	262	⇓P		P	23 55	54.7	-0.5
	baz=36,SNR=28								
SWI	Sorong	37.07	287	P		P	23 55	59.8	-0.1
	comp=Z,166nm,1.2s								
SWI	Sorong	37.07	287	⇓P		P	23 56	00.2	+0.3
	baz=37								
BNDI	Bandanaira	37.17	281	P		P	23 56	01.4	+0.7
XMAS	Kiritimati	39.00	69	eP		P	23 56	16.8	+0.6
FORT	Forrest	39.24	238	eP		P	23 56	17.0	-1.0
	comp=Z,355nm,1.4s								
FORT	Forrest	39.24	238	⇑P		P	23 56	17.6	-0.3
	baz=39,SNR=13								
FITZ	Fitzroy Crossi	39.48	258	eP		P	23 56	19.6	-0.5
	comp=Z,205nm,1.4s								
FITZ	Fitzroy Crossi	39.48	258	⇑P		P	23 56	19.8	-0.4
	baz=40,SNR=24								
FITZ	Fitzroy Crossi	39.48	258	P		P	23 56	19.7	-0.4
	comp=Z,72nm,1.1s,baz=89,slow=9.7,SNR=22								
TNTI	Ternate	41.29	287	eP		P	23 56	36.9	+1.7
	comp=Z,520nm,1.7s								
BATI	Baumata	41.98	270	P		P	23 56	42.0	+1.1
BATI	Baumata	41.98	270	P		P	23 56	42.0	+1.1
	comp=Z,264nm,1.2s,baz=138,slow=0.9,SNR=26								
PPT2	Papeete2	42.46	101	eP		P	23 56	45.8	+1.1
	comp=Z,214nm,1.5s								
PPT	Papeete	42.46	101	eP		P	23 56	46.9	+2.2
PPT	Papeete	42.46	101	P		P	23 56	45.9	+1.3
	comp=Z,27nm,0.4s,baz=70,slow=20,SNR=6.7								
TIAR	Tiarei	42.68	101	eP		P	23 56	47.4	+0.9
	comp=Z,327nm,1.5s								
TBI	Tubuai	42.77	110	eP		P	23 56	48.1	+1.0
	comp=Z,324nm,1.3s								
MMRI	Maumere	43.64	272	eP		P	23 56	53.9	-0.4
	comp=Z,334nm,1.2s								
MEH	Mehetia	43.89	102	eP		P	23 56	57.3	+1.0
	comp=Z,583nm,1.5s								
PMOR	Pomariorio Ree	44.19	98	eP		P	23 57	00.0	+1.4
	comp=Z,2μm,1.4s								
VAH	Vaihoa	44.43	98	eP		P	23 57	01.6	+1.1
	comp=Z,858nm,1.3s								
MBWA	Marble Bar	45.11	254	eP		P	23 57	05.7	-0.2
	comp=Z,220nm,1.4s								
MEEK	Meekatharra	46.53	246	⇑P		P	23 57	17.1	0.0
	baz=47,SNR=43								
KAPI	Kappang	46.81	276	P		P	23 57	19.8	+0.3
	comp=Z,2μm,1.3s,SNR=25								
KAPI	Kappang	46.81	276	P		P	23 57	19.2	-0.3
KAPI	Kappang	46.81	276	P		P	23 57	19.2	-0.3
	comp=Z,318nm,1.1s,baz=108,slow=3.4,SNR=54								
KLBR	Kellerberrin	48.00	240	⇑P		P	23 57	27.9	-0.6
	baz=48,SNR=14								
NWAO	Narrogin (SRO)	48.69	238	eP		P	23 57	33.2	-0.5
	comp=Z,125nm,1.3s								
NWAO				PP		PP	23 59	27.0	0.0
NWAO	Narrogin (SRO)	48.69	238	P		P	23 57	33.2	-0.5
	comp=Z,38nm,0.7s,baz=78,slow=7.9,SNR=18								
NWAO				PP		PP	23 59	27.0	0.0
	comp=Z,36nm,1.0s,baz=85,slow=9.5,SNR=6.5								
BLDU	Ballidu	48.72	241	⇓P		P	23 57	33.4	-0.7
	baz=49,SNR=5.9								
MORW	Morawa	49.08	243	⇓P		P	23 57	37.0	+0.1
	baz=49,SNR=27								
RCP	Roxas	50.04	298	⇑eP		P	23 57	45.3	+1.0
GIRL	Giralia	50.25	252	⇓P		P	23 57	46.3	+0.4
	baz=50,SNR=4.7								
MYLDM	Lahad Datu	51.13	288	P		P	23 57	55.5	+3.0
TSM	Tawau	51.39	287	P		P	23 57	55.6	+1.1
SDKM	Sandakan	52.51	288	P		P	23 58	02.8	-0.2
KKM	Kota Kinabalu	53.56	288	P		P	23 58	11.9	+1.1
KKM	Kota Kinabalu	53.56	288	eP		P	23 58	11.2	+0.5
	comp=Z,720nm,1.3s								
KKM	Kota Kinabalu	53.56	288	⇑P		P	23 58	11.5	+0.7
	baz=54,SNR=28								
UGM	Wanagama	55.16	270	eP		P	23 58	22.9	+0.6
BTM	Bintulu	55.52	284	P		P	23 58	26.4	+1.5
SBUM	Sibu	56.10	282	P		P	23 58	30.4	+1.4
SBUM	Sibu	56.10	282	P		P	23 58	30.5	+1.4
SBUM	Sibu	56.10	282	eP		P	23 58	30.1	+1.0
	comp=Z,325nm,1.4s								
MAJO	Matsushiro	56.53	333	eP		P	23 58	31.2	-0.5
MAJO				pmax		pmax			
	comp=Z,62nm,0.9s								
MAJO	Matsushiro	56.53	333	eP		P	23 58	31.1	-0.5
	comp=Z,62nm,0.9s								
MAT	Matsushiro	56.53	333	P		P	23 58	30.6	-1.0
YULB	Yu-li	57.47	309	eP		P	23 58	38.2	-0.4
JNU	Nakatsue	57.54	325	eP		P	23 58	38.8	-0.1
JNU	Nakatsue	57.54	325	P		P	23 58	38.5	-0.4
	comp=Z,85nm,1.0s,baz=84,slow=3.2,SNR=11								
KSM	Kuching	57.63	281	P		P	23 58	40.6	+0.8
KSM	Kuching	57.63	281	P		P	23 58	40.7	+0.8
KSM	Kuching	57.63	281	eP		P	23 58	39.8	-0.1
	comp=Z,557nm,1.4s								
NACB	Ninganchiao	57.70	310	eP		P	23 58	40.4	+0.2
	comp=Z,416nm,1.8s								
CISI	Cisompet, Garu	57.86	270	eP		P	23 58	41.0	-0.6
	comp=Z,648nm,1.4s								
TPUB	Ta-pu	57.92	309	eP		P	23 58	40.5	-1.2
YHNB	Yeheng	58.15	311	eP		P	23 58	42.9	-0.5
	comp=Z,982nm,2.3s								
XMIS	Christmas Isla	59.44	266	eP		P	23 58	51.6	-0.8
ASAJ	Asahikawa	61.40	341	eP		P	23 59	05.6	+0.4
	comp=Z,42nm,0.7s								
ASAJ	Asahikawa	61.40	341	P		P	23 59	05.5	+0.4
	comp=Z,39nm,0.5s,baz=207,slow=11,SNR=26								
KSRS	Korea Array	62.36	326	P		P	23 59	11.8	0.0
	comp=Z,27nm,0.9s,baz=142,slow=6.9,SNR=34								
KSAR	Wonju Array Be	62.37	326	P		P	23 59	11.8	-0.1
KS01	Wonju Array Si	62.39	326	eP		P	23 59	11.1	-0.9
INCN	Inchon	63.09	325	eP		P	23 59	17.4	+0.7
	comp=Z,316nm,1.7s								
YSS	Yuzh-Sakhalins	63.90	342	⇑iP		P	23 59	22.2	+0.4
YSS				pmax		pmax			
	comp=N,50nm,1.0s								
YSS				pmax		pmax			
	comp=Z,70nm,1.0s								
MYKOM	Kota Tinggi	63.91	279	P		P	23 59	23.4	+0.8
VNDA	Vanda	63.99	181	eP		P	23 59	22.1	+0.1
	comp=Z,128nm,1.5s								
VNDA	Vanda	63.99	181	P		P	23 59	22.1	+0.1
	comp=Z,20nm,0.9s,baz=358,slow=7.8,SNR=13								
SBA	Scott Base	64.28	180	eP		P	23 59	25.0	+1.0
SBA				pmax		pmax			
	comp=Z,92nm,1.0s								
SBA	Scott Base	64.28	180	eP		P	23 59	24.9	+1.0
	comp=Z,92nm,1.0s								
CASY	Casey	64.30	202	eP		P	23 59	23.8	-0.4
	comp=Z,114nm,1.3s								
NJ2	Nanjing	64.31	316	eP		P	23 59	24.1	-0.8
NJ2				pP		pP	23 59	34.0	-2.5
NJ2				sP		sP	23 59	37.1	-3.9
NJ2				PP		PP	00 01	49.0	+2.2
NJ2				S		S	00 08	09.0	+8.7
NJ2				sS		sS	00 08	18.0	-1.6
NJ2				AMB		AMB			
	comp=Z,160nm,1.0s								
NJ2				AMB		AMB			
	comp=Z,2μm,10.3s								
KGM	Kluang	64.48	279	P		P	23 59	27.8	+1.4
KGM	Kluang	64.48	279	P		P	23 59	27.8	+1.4
QIZ	Qiongzhong	64.51	299	P		P	23 59	27.4	+1.0
QIZ				AMB		AMB			
	comp=Z,50nm,1.4s								
VLA	Vladivostok	64.70	333	α iP		P	23 59	26.1	-1.1
VLA				pmax		pmax			
	comp=Z,124nm,1.4s								
USRK	Ussuriysk Arra	65.51	333	P		P	23 59	33.0	+0.6
	comp=Z,89nm,0.9s,baz=137,slow=6.1,SNR=49								
KTGM	Kuala Trenggan	65.61	282	P		P	23 59	35.3	+1.6
FX1	Attu Island--F	66.44	4	eP		P	23 59	37.8	-0.4
FX1	Attu Island--F	66.44	4	P		P	23 59	40.4	+2.2
	comp=Z,31nm,0.7s,baz=145,slow=4.1,SNR=6.2								
FRIM	Kepong	66.45	280	P		P	23 59	39.6	+0.5
PET	Petropavlovsk	66.67	355	eP		P	23 59	42.0	+2.4
PET				pmax		pmax			
	comp=Z,38nm,1.5s								
UBPT	Khong Chiam	66.80	293	P		P	23 59	42.6	+1.3
	comp=Z,862nm,1.2s								
PEA0	Petropavlovsk-	66.84	354	eP		P	23 59	41.3	+0.6
PETK	Petropavlovsk-	66.84	354	P		P	23 59	41.9	+1.1
PETK				pmax		pmax			
	comp=Z,22nm,0.9s								
PETK	Petropavlovsk-	66.84	354	P		P	23 59	41.9	+1.1
PETK	Petropavlovsk-	66.84	354	P		P	23 59	41.9	+1.1
	comp=Z,22nm,0.9s,baz=154,slow=8.2,SNR=18								
MDJ	Mudanjiang	66.91	332	P		P	23 59	42.3	+1.0
MDJ				AMB		AMB			
	comp=Z,82nm,0.9s								
IPM	Ipoh	67.37	281	P		P	23 59	45.4	+0.4
IPM	Ipoh	67.37	281	eP		P	23 59	44.7	-0.3
	comp=Z,959nm,2.0s								
KULM	Kulim	67.96	281	P		P	23 59	49.2	+0.5
KULM	Kulim	67.96	281	P		P	23 59	49.8	+1.2
KULM	Kulim	67.96	281	eP		P	23 59	49.2	+0.5
	comp=Z,266nm,1.6s								
CN2	Changchun	68.27	329	eP		P	23 59	50.0	+0.1
CN2				epP		pP	00 00	04.3	+2.6
CN2				eS		S	00 08	47.7	-0.2
CN2				AMB		AMB			
	comp=Z,10.0nm,0.7s								
CN2				AMB		AMB			
	comp=Z,200nm,3.0s								
PANO	Nakornpanom	68.28	295	P		P	23 59	51.2	+0.7
	comp=Z,714nm,1.5s								
SKLT	Songkhla	68.54	283	P		P	23 59	53.5	+1.2
	comp=Z,86nm,1.4s								
CHBT	CHBT	68.74	290	P		P	23 59	54.5	+1.0
	comp=Z,342nm,0.9s								
SKNT	Sakolnakorn	68.77	294	P		P	23 59	54.0	+0.4
	comp=Z,327nm,0.6s								
PSI	Prapat	68.92	278	P		P	23 59	54.2	-0.6
PSI	Prapat	68.92	278	⇑P		P	23 59	54.6	-0.3
	baz=69,SNR=21								
PSI	Prapat	68.92	278	P		P	23 59	54.2	-0.6
	comp=Z,43nm,0.9s,baz=137,slow=3.7,SNR=28								
SRIT	Nakonsritamara	69.93	284	P		P	00 00	02.2	+1.3
	comp=Z,486nm,1.2s								
SURA	Surathani	70.08	285	P		P	00 00	03.4	+1.6
	comp=Z,562nm,0.8s								
KRAB	Krabi	70.20	284	P		P	00 00	04.7	+2.1
	comp=Z,65nm,1.1s								
GYA	Guiyang	70.43	305	⇑iP		P	00 00	05.7	+1.8
GYA				pP		pP	00 00	16.8	+1.2
GYA				PP		PP	00 02	43.0	+2.7
GYA				S		S	00 09	15.6	+1.3
GYA				sS		sS	00 09	30.3	-3.5
GYA				SKS		SKSac	00 10	01.2	-1.8
GYA				SS		SS	00 13	47.7	+1.6
GYA				AMB		AMB			
	comp=Z,60nm,1.0s								
GYA				AMB		AMB			
	comp=Z,190nm,5.3s								
GYA				LR		LR			
	comp=Z,9μm,17.6s								
GYA				LR		LR			
	comp=Z,7μm,18.0s								
GYA				LR		LR			
	comp=Z,8μm,17.8s								
BJI	Beijing	70.89	321	P		P	00 00	06.4	+0.2
BJI				AMB		AMB			
	comp=Z,94nm,1.4s								
LOEI	Loei	71.38	294	P		P	00 00	08.1	-1.5
	comp=Z,827nm,2.6s								
TIY	Taiyuan	71.89	318	eP		P	00 00	13.6	+1.2
TIY				S		S	00 09	24.5	-6.3
TIY				AMB		AMB			
	comp=Z,140nm,1.0s								
XAN	Xi'an	72.34	313	P		P	00 00	15.2	0.0
XAN				pP		pP	00 00	23.8	-3.2
XAN				sP		sP	00 00	28.1	-3.4
XAN				AMB		AMB			
	comp=Z,21nm,1.3s								
KMI	Kunming	73.04	302	P		P	00 00	27.1	+7.3
KMI				AMB		AMB			
	comp=Z,50nm,1.5s								
CMAR	Chiang Mai Arr	73.78	294	P		P	00 00	24.9	+1.0
CMAR	Chiang Mai Arr	73.78	294	P		P	00 00	24.9	+1.0
	comp=Z,50nm,1.0s,baz=122,slow=4.2,SNR=50								
CHTO	Chiang Mai	73.90	294	eP		P	00 00	25.2	+0.6
CHTO	Chiang Mai	73.90	294	P		P	00 00	25.4	+0.8
	comp=Z,1μm,0.9s								
CMAI	Chiengmai2	74.21	295	P		P	00 00	27.5	+0.9
	comp=Z,374nm,0.9s								
HHC	Hu-ho-hao-te	74.21	320	eP		P	00 00	27.3	+1.2
HHC				pP		pP	00 00	37.6	-0.4
HHC				sP		sP	00 00	41.4	-1.0
HHC				PP		PP	00 03	15.2	+2.8
HHC				S		S	00 10	00.0	+2.9
HHC				sS		sS	00 10	16.3	-0.4
HHC				SS		SS	00 14	47.8	+4.3
HHC				AMB		AMB			
	comp=Z,120nm,0.9s								
HHC				LR		LR			
	comp=Z,8μm,16.7s								
HHC				LR		LR			
	comp=Z,5μm,15.3s								
HHC				LR		LR			
	comp=Z,9μm,15.5s								
CD2	Chengdu	74.70	308	⇓iP		P	00 00	29.2	+0.1
CD2				pP		pP	00 00	38.4	-2.6
CD2				sP		sP	00 00	42.1	-3.3
CD2				PP		PP	00 03	18.5	+1.8
CD2				S		S	00 10	02.3	-0.5
CD2				sS		sS	00 10	17.6	-4.9
CD2				SKS		SKSac	00 10	30.6	-4.3
CD2				SS		SS	00 14	52.2	+1.0
CD2				AMB		AMB			
	comp=Z,90nm,1.3s								
BTO	Baotou	75.05	319	eP		P	00 00	31.0	0.0
QSPA	South Pole Qui	76.44	180	eP		P	00 00	38.3	-0.3
	comp=Z,131nm,1.1s								
LZH	Lanzhou	76.98	312	⇑P		P	00 00	44.0	+1.8
LZH				pP		pP	00 00	53.8	-0.3
LZH				sP		sP	00 00	57.9	-0.6
LZH				PP		PP	00 03	39.1	+3.1
LZH				S		S	00 10	29.0	+1.0
LZH				sS		sS	00 10	46.2	-1.5
LZH				SKS		SKSac	00 10	49.0	-2.8
LZH				SS		SS	00 15	29.3	+3.5
LZH				AMB		AMB			
	comp=Z,220nm,1.2s								
LZH				AMB		AMB			
	comp=Z,2μm,8.0s								
CIT	Chita	79.69	330	eP		P	00 00	56.2	-0.5
IMP	Imphal	80.33	298	eP		P	00 00	59.0	-1.7
YAK	Yakutsk	80.71	343	eP		P	00 01	00.6	-1.2
YAK				pmax		pmax			
	comp=Z,58nm,0.9s								
YAK				pmax		pmax			
	comp=E,17nm,1.5s								
YAK				pmax		pmax			
	comp=N,26nm,1.4s								
ULN	Ulaanbaatar	80.75	324	eP		P	00 01	03.0	+0.4
SONM	Songino Array	81.11	324	P		P	00 01	04.5	0.0
SONM	Songino Array	81.11	324	P		P	00 01	04.5	0.0
	comp=N,37nm,0.9s,baz=146,slow=6.9,SNR=30								
SONA1	Songino Array	81.12	324	eP		P	00 01	04.1	-0.4
GTA	Gaotai	81.31	314	⇓P		P	00 01	06.8	+1.0
GTA				pP		pP	00 01	16.9	-0.8
GTA				sP		sP	00 01	20.8	-1.4
GTA				S		S	00 11	13.0	-0.9
GTA				sS		ScS	00 11	30.3	-1.3
GTA				SS		SS	00 16	32.0	+1.3
GTA				AMB		AMB			
	comp=N,76nm,1.7s								
SHL	Shillong	82.34	299	⇓iP		P	00 01	13.5	+2.0
MAW	Mawson	82.66	202	P		P	00 01	12.0	-0.1
	comp=N,8.7nm,1.0s								
MAW	Mawson	82.66	202	⇓P		P	00 01	11.9	-0.3
	baz=83,SNR=14								
MAW	Mawson	82.66	202	P		P	00 01	12.0	-0.1
	comp=N,14nm,0.9s,baz=107,slow=6.3,SNR=13								
CAST	Castle Rocks	83.13	17	eP		P	00 01	14.6	0.0
DIV	Divide	83.49	21	eP		P	00 01	17.2	+0.7
	comp=N,42nm,0.9s								
TRF	Thorofare Moun	83.69	18	eP		P	00 01	17.2	-0.4
BMRM	Bremner River	83.80	22	eP		P	00 01	18.6	+0.5
DPD	Davis Peak	84.14	52	eP		P	00 01	24.8	+4.4
ZAK	Zakamensk	84.17	325	eP		P	00 01	19.8	-0.5
ZAK				pmax		pmax			
	comp=Z,51nm,1.2s								
LSA	Lhasa	84.30	302	P		P	00 01	21.3	-0.6
IRK	Irkutsk	84.55	327	eP		P	00 01	23.2	+1.1
IRK				pmax		pmax			
	comp=Z,82nm,1.0s								
TLY	Talaya	84.61	326	eP		P	00 01	22.5	+0.1
TLY				pmax		pmax			
	comp=Z,65nm,0.9s								
TLY	Talaya	84.61	326	P		P	00 01	22.7	+0.3
	comp=Z,458nm,0.8s,SNR=16								
WDC	Whiskeytown Da	84.83	46	eP		P	00 01	24.8	+1.1
WDC				pmax		pmax			
	comp=Z,33nm,1.3s								
WDC	Whiskeytown Da	84.83	46	eP		P	00 01	24.8	+1.1
	comp=Z,33nm,1.3s								
PAX	Paxson	84.87	20	eP		P	00 01	23.8	+0.2
PAX				pmax		pmax			
	comp=Z,33nm,1.3s								
PAX	Paxson	84.87	20	eP		P	00 01	23.8	+0.2
	comp=Z,32nm,1.3s								
YBH	Yreka Blue Hor	85.16	45	eP		P	00 01	26.4	+0.9
YBH	Yreka Blue Hor	85.16	45	P		P	00 01	26.0	+0.5
	comp=Z,8.4nm,0.7s,baz=166,slow=3.8,SNR=8.6								
HUMO	Hull Mountain	85.33	44	eP		P	00 01	27.1	+0.9
	comp=Z,31nm,1.2s								
ILAR	Eielson Array	85.68	18	P		P	00 01	25.3	-2.1
ILAR	Eielson Array	85.68	18	P		P	00 01	25.3	-2.1
	comp=Z,15nm,0.4s,baz=235,slow=5.2,SNR=68								
ILAR				PKKPbc		PKKPbc	00 19	29.9	-3.2
	comp=Z,0.8nm,1.0s,baz=18,slow=3.0,SNR=4.6								
ILAR				PKPPKP		P'P'df	00 27	34.5	+0.7
	comp=Z

comp=Z,106nm,1.1s
TUQ Turquoise Moun 87.95 53 P P 00 01 39.5 +0.2
baz=88
GMRC Granite Mounta 87.95 54 P P 00 01 40.0 +0.7
baz=88
GLA Glamis 88.09 55 P P 00 01 41.3 +1.3
baz=88
GUN Gumba 88.16 299 eP P 00 01 40.7 -0.1
comp=Z,80nm,0.8s
IRM Iron Mountain 88.16 54 P P 00 01 41.2 +0.9
baz=88
I07A Izee 88.21 44 eP P 00 01 40.4 0.0
comp=Z,135nm,2.5s
WVOR Wild Horse Val 88.23 46 eP P 00 01 41.2 +0.7
WVOR pmax pmax
comp=Z,33nm,1.3s
WVOR Wild Horse Val 88.23 46 eP P 00 01 41.2 +0.7
comp=Z,33nm,1.3s
DLBC Dease Lake 88.29 28 eP P 00 01 39.9 -0.4
DLBC Dease Lake 88.29 28 P P 00 01 39.0 -1.3
comp=Z,8.7nm,1.1s,baz=212,slow=5.9,SNR=6.6
PKI Pulchoki 88.47 299 eP P 00 01 41.8 -0.4
comp=Z,108nm,0.9s
LDFC Landfair 88.47 53 eP P 00 01 43.2 +1.4
comp=Z,38nm,1.1s
Y12C Blythe 88.54 55 P P 00 01 42.9 +0.9
baz=89
BMN Battle Mountai 88.57 48 eP P 00 01 47.0 +4.8
BMN pmax pmax
comp=Z,30nm,1.4s
BMN Battle Mountai 88.57 48 eP P 00 01 47.0 +4.8
comp=Z,30nm,1.4s
KKN Kakani 88.64 299 eP P 00 01 42.6 -0.3
comp=Z,131nm,0.9s
J08A Circle Bar Ran 88.66 45 eP P 00 01 43.1 +0.6
comp=Z,28nm,1.2s
TIXI Tiksi 88.69 349⇓eP P 00 01 40.7 -1.1
TIXI pmax pmax
comp=Z,31nm,1.7s
DMN Daman 88.74 299 eP P 00 01 43.4 0.0
G08A Pilot Rock 89.00 43 eP P 00 01 44.5 +0.4
comp=Z,22nm,1.4s
PDMCI Parker Dam,Lak 89.00 54 P P 00 01 45.0 +0.8
baz=89
HAWA Hanford 89.01 42 eP P 00 01 44.9 +1.0
comp=Z,31nm,1.4s
R11A Troy Canyon, C 89.11 50 eP P 00 01 45.9 +1.1
comp=Z,14nm,1.2s
R11A Troy Canyon, C 89.11 50 P P 00 01 45.5 +0.7
baz=89
GKN Gorkha 89.25 299 eP P 00 01 45.0 -0.7
W13A Hualapai Mount 89.44 54 P P 00 01 47.1 +0.6
baz=90
SYO Syowa Base 89.58 197⇓eX P 00 01 43.8 -2.4
SYO Syowa Base 89.58 197⇓ePcP P 00 01 46.8 +0.6
D08A Wollman Farm, 89.64 41 eP P 00 01 48.2 +1.3
comp=Z,56nm,1.8s
Z14A Wintersburg 89.69 56 P P 00 01 48.6 +1.2
baz=90
B08A Colville Reser 89.84 40 eP P 00 01 47.8 -0.1
comp=Z,14nm,1.1s
BMO Blue Mountains 89.96 44 eP P 00 01 48.7 +0.2
BMO pmax pmax
comp=Z,40nm,1.6s
BMO Blue Mountains 89.96 44 eP P 00 01 48.7 +0.2
comp=Z,40nm,1.6s
E09A Wood Farm, Sta 89.96 42 eP P 00 01 49.2 +0.9
comp=Z,35nm,1.6s
HVS Khovu-Aksy 89.98 323 d iP P 00 01 47.9 -0.6
KOLN Koldanda 90.07 298 eP P 00 01 48.5 -1.1
comp=Z,37nm,0.9s
DANN Dangsing 90.08 299 eP P 00 01 48.8 -1.0
ELK Elko 90.10 48 eP P 00 01 50.1 +0.6
comp=Z,14nm,1.1s
F10A Beach Ranch, E 90.38 43 eP P 00 01 50.6 +0.2
MFID Camas Ranch 90.50 45 P P 00 01 51.7 +0.6
baz=91
CCUT Cedar City 90.55 52 eP P 00 01 52.9 +1.2
U15A North Rim 91.06 53 P P 00 01 55.1 +1.1
baz=91
X16A Lo Mia Camp, P 91.18 55 P P 00 01 55.6 +1.0
baz=91
NEW Newport 91.19 41 eP P 00 01 54.9 +0.8
NEW Newport 91.19 41 P P 00 01 54.4 +0.3
baz=91
NEW Newport 91.19 41 P P 00 01 54.3 +0.2
comp=Z,4.6nm,0.9s,baz=215,slow=6.3,SNR=5.7
WMQ Urumqi 91.37 315 P P 00 01 54.9 -0.2
WMQ pP **pP 00 02 05.5 -1.7**
WMQ sP **sP 00 02 09.4 -2.2**
WMQ S **S 00 12 48.6 -2.9**
WMQ AMB AMB
comp=Z,31nm,0.8s
WUAZ Wupatki 91.53 54 eP P 00 02 01.5 +5.4
comp=Z,10.0nm,1.1s
WUAZ Wupatki 91.53 54 P P 00 01 56.2 0.0
baz=92
HLID Hailey 91.53 46 eP P 00 01 57.3 +1.3
comp=Z,18nm,1.4s
HLID Hailey 91.53 46 P P 00 01 56.2 +0.2
baz=92
MVU Marysvale 91.69 51 eP P 00 01 58.8 +1.9
comp=Z,7.9nm,1.1s
DUG Dugway 91.71 49 eP P 00 01 58.1 +1.2
DUG pmax pmax
comp=Z,4.0nm,0.9s
DUG Dugway 91.71 49 eP P 00 01 58.1 +1.2
comp=Z,4.4nm,0.9s
DUG Dugway 91.71 49 P P 00 01 57.2 +0.3
baz=92
BGU Big Grassy Mou 91.75 48 eP P 00 01 58.7 +1.6
319A Douglas 92.15 58 P P 00 02 00.0 +1.0
baz=92
MPU Maple Canyon 92.53 50 eP P 00 02 07.0 +6.2
comp=Z,3.3nm,0.9s
BSMT Bassoo Peak 92.55 41 eP P 00 02 01.4 +0.8
Q16A Castle Valley 92.58 51 eP P 00 02 08.2 +7.2
320A Kipp Ranch, An 92.76 59 P P 00 02 04.0 +2.0
baz=93
WALA Waterton Lakes 93.46 40 eP P 00 02 06.1 +1.4
Z21A St. Cloud Mine 93.94 57 P P 00 02 09.6 +2.2
baz=94
PV10 Paradox Valley 94.06 52 eP P 00 02 08.3 +0.4
Z22A Elephant Butte 94.50 57 P P 00 02 10.8 +0.9
baz=95
SNAA Sanae 94.65 183 eP P 00 02 08.4 -1.4
SNAA Sanae 94.65 183 eP P 00 02 08.3 -1.4
comp=Z,74nm,1.1s
U21A Nageezi 94.67 54 P P 00 02 11.6 +0.9
baz=95
PDAR Pinedale Array 94.74 47 P P 00 02 11.2 +0.4
PDAR Pinedale Array 94.74 47 P P 00 02 11.2 +0.4
comp=Z,0.8nm,0.6s,baz=180,slow=1.5,SNR=5.8
PDAR PKKPbc **PKKPbc 00 19 06.3 -3.1**
comp=Z,0.8nm,0.8s,baz=114,slow=3.6,SNR=5.5
P20A De Beque 94.82 51 P P 00 02 12.0 +0.8
baz=95
S21A Coal Bank Pass 94.85 53 P P 00 02 12.4 +0.8
baz=95
EDM Edmonton 94.97 36 eP P 00 02 13.2 +1.8
EDM Edmonton 94.97 36 eP P 00 02 13.2 +1.8
R21A Cimarron 95.20 52 P P 00 02 13.2 +0.1
baz=95
VNA2 Neumayer--Watz 95.60 182 eP P 00 02 13.0 -1.0
S22A 4UR Ranch, Cre 95.61 53 P P 00 02 14.9 -0.2
baz=96
Q22A Crested Butte, 95.80 52 P P 00 02 15.9 0.0
baz=96
MK01 Makanchi Array 95.83 317 eP P 00 02 15.0 -0.5
MKAR Makanchi Array 95.84 317 P P 00 02 15.1 -0.5
MKAR pmax pmax
comp=Z,19nm,0.8s
MKAR Makanchi Array 95.84 317 eP P 00 02 15.5 -0.1
MKAR Makanchi Array 95.84 317 ⇑P P 00 02 15.3 -0.3
baz=96
MKAR Makanchi Array 95.84 317 P P 00 02 15.1 -0.5
comp=Z,19nm,0.8s,baz=99,slow=5.9,SNR=26
MKAR PKKPbc **PKKPbc 00 19 05.1 -1.3**
comp=Z,2.3nm,0.9s,baz=323,slow=1.8,SNR=6.5
VNA1 Neumayer--Stat 95.90 182 eP P 00 02 14.8 -0.6
ZAA0 Zalesovo Array 96.01 324 eP P 00 02 14.4 -1.7
ZALV Zalesovo Beam 96.01 324 P P 00 02 14.8 -1.3
ZALV pmax pmax
comp=Z,25nm,0.9s
ZALV Zalesovo Beam 96.01 324 P P 00 02 14.8 -1.3
ZALV Zalesovo Beam 96.01 324 P P 00 02 14.8 -1.3
comp=Z,25nm,0.9s,baz=115,slow=5.2,SNR=36
O22A Kremmling 96.35 50 P P 00 02 19.1 +0.7
baz=96
YKA Yellowknife Ar 96.88 27 P P 00 02 18.6 -1.2
YKA Yellowknife Ar 96.88 27 P P 00 02 18.6 -1.2
comp=Z,2.4nm,0.5s,baz=258,slow=4.7,SNR=6.9
NVS Novosibirsk 97.12 325 eP P 00 02 20.7 -0.4
NVS *e* 00 12 53.2
NVS pmax pmax
comp=Z,34nm,1.9s
KSH Kashi 98.88 308 P Pdif 00 02 32.0 +2.4
KSH pP pP 00 02 41.3 -0.4
KSH sP sP 00 02 47.7 +1.6
KSH PP PP 00 06 37.3 +5.6
KSH SKS **SKSac 00 13 07.3 +2.3**
KSH S **ScS 00 14 02.3 +5.0**
KSH sS sS 00 14 16.9 -0.7
KSH AMB AMB
comp=Z,8.0nm,1.6s
KSH AMB AMB
comp=Z,20µm,13.7s
KURK Kurchatov 99.03 320⇓eP Pdif 00 02 30.3 +0.6
KURK pmax pmax
comp=Z,5.0nm,1.2s
KURK Kurchatov 99.03 320 P Pdif 00 02 30.5 +0.7
comp=Z,2.3nm,1.0s
KURK PP **PP 00 06 33.8 +1.5**
KURBB Kurchatov Arra 99.06 320 P Pdif 00 02 28.1 -1.9
comp=Z,3.2nm,0.9s,baz=103,slow=3.3,SNR=11
KURBB PP **PP 00 06 33.8 +1.2**
comp=Z,0.9nm,0.4s,baz=103,slow=4.2,SNR=5.2
KURBB PKKPbc **PKKPbc 00 18 57.1 -0.4**
comp=Z,2.8nm,1.0s,baz=279,slow=3.8,SNR=7.2
KKAR Karatay Array 103.46 311 eP Pdif 00 02 49.3 -0.4
KKAR *e* 00 07 07.6
KKAR Karatay Array 103.46 311 ePdif Pdif 00 02 49.3 -0.4
KKAR *e*PP **PKiKP 00 07 07.6 -0.8**
VOSK Vostochnaya 103.99 321 eP Pdif 00 02 52.6 +0.8
VOSK Vostochnaya 103.99 321 ePdif Pdif 00 02 52.6 +0.8
BVAR Borovoye Array 104.37 322 P Pdif 00 02 52.0 -1.5
BVAR 00 07 11.0
BVAR pmax pmax
comp=Z,5.0nm,1.0s
BVAR pmax pmax
comp=Z,3.0nm,0.9s
BVAR Borovoye Array 104.37 322 Pdif Pdif 00 02 52.0 -1.5
BVAR PP **PKiKP 00 07 11.0 +1.2**
BVAR Borovoye Array 104.37 322 Pdiff Pdif 00 02 52.0 -1.5
comp=Z,4.5nm,1.0s,baz=100,slow=6.2,SNR=11
BVAR PP **PKiKP 00 07 11.0 +1.2**
comp=Z,2.8nm,0.9s,baz=104,slow=4.7,SNR=5.4
ARU Arti 111.11 325 *i* PKIKP **PKiKP 00 07 22.5 +0.3**
ARU 00 08 05.0
ARU SS SS 00 23 34.6 +3.8
APA Apatity 118.05 341 ⇑*i* PKIKP **PKPdf 00 07 37.6 +2.4**
APA MLR MLR
comp=Z,21µm,22.0s
KEV Kevo 118.42 345 ePKIKP **PKPdf 00 07 33.9 -2.0**
KEV pmax pmax
comp=Z,6.0nm,0.7s
KEV Kevo 118.42 345 *e*pkp **PKPdf 00 07 33.9 -2.0**
comp=Z,6.0nm,0.7s
LPAZ La Paz 118.42 117 ePKPdf **PKPdf 00 07 37.7 -0.5**
LPAZ SKP 00 11 10.8
LPAZ La Paz 118.42 117 PKP **PKPdf 00 07 36.6 -1.6**
comp=Z,4.4nm,1.0s,baz=14,slow=3.2,SNR=8.1
LPAZ SKP 00 11 10.8
comp=Z,2.1nm,0.9s,baz=4.8,slow=1.5,SNR=5.8
ARA0 ARCESS Array S 118.95 345 ePKPdf **PKPdf 00 07 35.5 -1.4**
ARCES ARCESS Array B 118.95 345 PKP **PKPdf 00 07 35.7 -1.3**
ARCES PKKPbc **PKKPab 00 17 53.6 +0.2**
ARCES ARCESS Array B 118.95 345 PKP **PKPdf 00 07 35.7 -1.3**
comp=Z,11nm,0.6s,baz=65,slow=1.6,SNR=26
ARCES PKKPbc **PKKPab 00 17 53.6 +0.2**
comp=Z,11nm,1.1s,baz=298,slow=2.6,SNR=5.8
KLMR Klimovskoe 119.31 333 ePKIKP **PKPdf 00 07 36.3 -1.5**
KLMR pmax pmax
comp=Z,30nm,1.4s
QRN Al-Qurain 121.31 295 eP P 00 07 41.9 -0.8
QRN AMb AMB 00 07 45.0
comp=Z,100nm,1.0s
UMR Umm Al-Rimmam 121.47 296 eP P 00 07 41.9 -1.0
UMR AMb AMB 00 07 45.9
comp=Z,84nm,1.2s
JOF Joensuu 121.53 338 ePKIKP **PKPdf 00 07 39.6 -2.4**
JOF pmax pmax
comp=Z,14nm,1.0s
JOF Joensuu 121.53 338 *e*pkp **PKPdf 00 07 39.6 -2.4**
comp=Z,14nm,1.0s
RDF Al-Radifah 121.63 296 eP P 00 07 42.6 -0.7
RDF AMb AMB 00 07 46.1
comp=Z,70nm,0.9s
CPUP Villa Florida 121.80 133 PKP PKPdf 00 07 41.3 -2.4
CPUP *e*PKPdf **PKiKP 00 07 43.4 -0.5**
CPUP Villa Florida 121.80 133 PKP **PKPdf 00 07 41.3 -2.4**
comp=Z,5.1nm,0.9s,baz=314,slow=4.6,SNR=3.3
CPUP PKPPKP **P'P'df 00 26 28.5 -2.0**
comp=Z,0.5nm,0.4s,baz=57,slow=8.7,SNR=3.5
DGRG David-gareji 122.10 311 P PKPdf 00 07 44.3 +0.4
RST Umm Al-Ruwaisa 122.10 296 eP PKPdf 00 07 42.7 -1.5
RST AMb AMB 00 07 46.7
comp=Z,621nm,1.0s
VRHR Novokhopersk 122.10 322 ePKIKP **PKPdf 00 07 42.2 -1.3**
VRHR pmax pmax
comp=Z,30nm,0.7s
VRHR pmax pmax
comp=N,9.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
TBLG Delisi 122.51 311 P PKPdf 00 07 44.5 -0.1
GUDG Gudauri 122.56 312 P PKPdf 00 07 45.3 +0.3
GNI Garni 122.81 309 ePKPdf **PKPdf 00 07 45.4 0.0**
ZEI Tsey 122.90 312 *i* PKIKP **PKPdf 00 07 44.6 -1.0**
ZEI pmax pmax
comp=Z,33nm,1.2s
GOF Gofitskoye 122.97 315 ePKIKP **PKPdf 00 07 46.1 +0.7**
ONI Oni 123.27 312 P PKPdf 00 07 46.3 +0.1
OBN Obninsk 123.32 328 *d* iPKIKP **PKPdf 00 07 44.6 -1.1**
OBN pmax pmax
comp=Z,44nm,1.3s
KBZ Khabaz 123.40 314 PKIKP PKPdf 00 07 45.3 -0.9
KBZ 00 09 28.0
KBZ pmax pmax
comp=Z,9.0nm,0.8s
KBZ pmax pmax
comp=Z,8.0nm,1.2s
KBZ Khabaz 123.40 314 PKP PKPdf 00 07 45.3 -0.9
KBZ PP **PP 00 09 27.9 +0.4**
KBZ Khabaz 123.40 314 PKP PKPdf 00 07 45.3 -0.9
comp=Z,8.7nm,0.8s,baz=114,slow=3.4,SNR=15
KBZ PP **PP 00 09 27.9 +0.4**
comp=Z,8.4nm,1.2s,baz=162,slow=3.5,SNR=4.7
KIV Kislovodsk 123.50 314 *d* iPKIKP **PKPdf 00 07 46.1 -0.4**
KIV pmax pmax
comp=Z,30nm,1.3s
VSR Storozhevoye 123.50 323 ePKIKP **PKPdf 00 07 45.4 -0.8**
VSR pmax pmax
comp=E,20nm,1.2s
VSR pmax pmax
comp=Z,50nm,1.2s
VSR pmax pmax
comp=N,7.0nm,0.4s
BOSA Boshof 123.73 221 PKP PKPdf 00 07 46.9 -0.7
BOSA Boshof 123.73 221 PKP PKPdf 00 07 46.9 -0.7
comp=N,12nm,0.9s,baz=182,slow=2.1,SNR=11
KAF Kangasniemi 123.85 339 ePKIKP **PKPdf 00 07 43.7 -2.8**
KAF pmax pmax
comp=Z,8.0nm,0.6s
KAF Kangasniemi 123.85 339 *e*pkp **PKPdf 00 07 43.7 -2.8**
comp=Z,8.3nm,0.6s
CHVG Ch'k'valeri 124.22 313 P PKPdf 00 07 46.5 -1.4
FIA1 FINESS Array S 124.37 338 ePKPdf **PKPdf 00 07 48.5 +1.0**
FINES FINESS Array B 124.37 338 PKP PKPdf 00 07 45.6 -1.9
FINES FINESS Array B 124.37 338 PKP PKPdf 00 07 45.6 -1.9
comp=Z,23nm,0.9s,baz=134,slow=5.5,SNR=14
SAML Samuel 125.87 112 ePKPpre PKPpre 00 07 49.8
LBTB Lobatse 125.90 225 ePKPdf **PKPdf 00 07 51.1 -0.7**
ANN Anapa 126.86 316 *i* PKIKP PKPdf 00 07 46.6 -6.2
ANN pmax pmax
comp=Z,70nm,1.3s
KMBO Kilima Mbogo 127.60 258 PKP PKPdf 00 07 55.7 +0.2
KMBO Kilima Mbogo 127.60 258 PKP PKPdf 00 07 55.7 +0.2
comp=Z,4.7nm,0.8s,baz=48,slow=4.6,SNR=12
MALT Malatya 127.98 308 ⇑PKIKP **PKPdf 00 07 55.3 0.0**
MALT Malatya 127.98 308 ⇑*i P* **PKPdf 00 07 55.3 0.0**
ISAL Salakas 128.11 333 *e*P **PKPdf 00 07 55.0 +0.2**
ISAL AMB AMB 00 07 57.2
comp=Z,14nm,1.3s
IIGN Ignalina 128.20 332 *e*P **PKPdf 00 07 54.7 -0.3**
IIGN AMB AMB 00 07 58.1
comp=Z,14nm,1.0s
NACGM Naroch 128.22 332 *e* **PKPdf 00 07 52.0 -3.1**
NB2 NORSAR Subarra 129.31 345 PKPdf **PKPdf 00 07 56.6 -0.5**
comp=Z,12nm,1.1s,baz=31,slow=1.9
NB2 NORSAR Subarra 129.31 345 PKPdf **PKPdf 00 07 56.6 -0.5**
baz=31,slow=1.9
NOA NORSAR Array B 129.31 345 PKP **PKPdf 00 07 56.4 -0.7**
NOA NORSAR Array B 129.31 345 PKP **PKPdf 00 07 56.4 -0.7**
comp=Z,11nm,0.9s,baz=32,slow=2.0,SNR=13
AKASG Malin Array Be 129.35 326 PKIKP **PKPdf 00 07 56.5 -0.8**
AKASG 00 10 07.9
AKASG pmax pmax
comp=Z,12nm,0.9s
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 129.35 326 PKP **PKPdf 00 07 56.5 -0.8**
AKASG PP **PP 00 10 07.9 +1.4**
AKASG Malin Array Be 129.35 326 PKP **PKPdf 00 07 56.5 -0.8**
comp=Z,13nm,0.9s,baz=49,slow=1.7,SNR=24
AKASG PP **PP 00 10 07.9 +1.4**
comp=Z,1.2nm,0.6s,baz=52,slow=6.2,SNR=4.9
KIEV Kiev 129.36 326 ePKIKP **PKPdf 00 07 56.7 -0.7**
KIEV Kiev 129.36 326 ePKPdf **PKPdf 00 07 56.7 -0.7**
NBO02 NORSAR Array S 129.40 345 ePKPdf **PKPdf 00 07 57.0 -0.3**
HUMP Col San Antoni 129.60 78 ePKPdf **PKPdf 00 07 59.6 +0.8**
SUW Suwalki 130.42 332 ePKIKP **PKPdf 00 07 59.6 +0.3**
SUW Suwalki 130.42 332 ePKPdf **PKPdf 00 07 59.6 +0.3**
SUW *e*SKPbc **SKPbc 00 11 21.4 +1.7**
SUW Suwalki 130.42 332 ePKP **SKPbc 00 11 21.6 +1.9**
KONO Kongsberg 130.93 345 eSKPbc **SKPab 00 11 22.9 +1.4**
BRTR Keskin Array B 131.17 311 PKP PKPdf 00 08 00.5 -1.0
BRTR PP **PP 00 10 20.1 +1.0**
BRTR Keskin Array B 131.17 311 PKP PKPdf 00 08 00.5 -1.0
comp=Z,5.5nm,0.8s,baz=83,slow=1.5,SNR=19
BRTR PP **PP 00 10 20.1 +1.0**
comp=Z,7.1nm,1.2s,baz=95,slow=5.2,SNR=6.7
KIS Kishinev 131.45 322 *e* **SKPab 00 11 24.0 -0.2**
ANTO Ankara 131.74 312 ⇑PKIKP **PKPdf 00 08 02.0 -0.4**
ANTO Ankara 131.74 312 ⇑*i* P **PKPdf 00 08 02.0 -0.4**
ANTO Ankara 131.74 312 ⇑*i* P **SKPab 00 11 27.1 +1.2**
ANTO Ankara 131.74 312 *e*PKPdf **PKPdf 00 08 02.2 -0.2**
ANTO *e*SKPbc **SKPab 00 11 27.1 +1.2**
BR231 Keskin MP Arra 131.76 312 *e*PKPdf **PKPdf 00 08 00.2 -2.3**
BR231 *e*PP **PP 00 10 20.7 -2.1**
BR231 *e*SKPbc **SKPab 00 11 25.7 -0.3**
LEOM Leova 132.05 322 ⇓PKIKP **PKPdf 00 08 02.0 -0.6**
LEOM Leova 132.05 322 ⇓*i* P **PKPdf 00 08 02.0 -0.6**
LEOM Leova 132.05 322 ⇑*i* P **SKPab 00 11 27.8 +1.0**
LVV L'vov 132.61 328 ePKIKP **PKPdf 00 08 04.2 +0.6**
CFR Carcaliu 132.74 320 ⇓PKIKP **PKPdf 00 08 03.5 -0.5**
CFR Carcaliu 132.74 320 ⇓*i* P **PKPdf 00 08 03.5 -0.5**
CFR Carcaliu 132.74 320 ⇑*i* P **SKPab 00 11 30.3 +0.5**
GHRR 132.76 322 ⇑*i* P **PKPdf 00 08 05.2 +1.2**
GHRR 132.76 322 ⇓*i* P **SKPab 00 11 31.6 +1.7**
CSS Prodhromos 132.78 305 eSKPbc **SKPab 00 11 30.5 +0.1**
BEL Belsk 132.94 331 ePKP **SKPab 00 11 31.6 +1.2**
TLB Topalu 133.08 320 ⇓PKIKP **PKPdf 00 08 04.1 -0.5**
TLB Topalu 133.08 320 ⇓*i* P **PKPdf 00 08 04.1 -0.5**
HARR Harsova 133.10 320 ⇑PKIKP **PKPdf 00 08 01.2 -3.5**
HARR Harsova 133.10 320 ⇑*i* P **PKPdf 00 08 01.2 -3.5**
BURAR Bucovina Array 133.23 324 ⇓PKIKP **PKPdf 00 08 05.2 +0.2**
BURAR Bucovina Array 133.23 324 ⇓*i* P **PKPdf 00 08 05.2 +0.2**
BURAR Bucovina Array 133.23 324 ⇓*i* P **SKPab 00 11 32.5 +0.5**
BUR04 Bucovina Ar. S 133.23 324 ePKPdf **PKPdf 00 08 04.6 -0.4**
BUR04 *e*PP **PP 00 10 33.3 +1.5**
BUR04 *e*SKPbc **SKPab 00 11 32.4 +0.4**
VRI Vrincioaia 133.27 322 ⇓PKIKP **PKPdf 00 08 04.4 -0.6**
VRI Vrincioaia 133.27 322 ⇓*i* P **PKPdf 00 08 04.4 -0.6**
VRI Vrincioaia 133.27 322 ⇓*i* P **SKPab 00 11 32.4 +0.3**
KWP Kalwaria Pacla 133.41 328 ⇓PKIKP **PKPdf 00 08 05.2 +0.1**
KWP Kalwaria Pacla 133.41 328 ⇓*i* P **PKPdf 00 08 05.2 +0.1**
KWP Kalwaria Pacla 133.41 328 ePKP **PKPdf 00 08 03.8 -1.3**
KWP Kalwaria Pacla 133.41 328 ePKP **SKPab 00 11 33.0 +0.4**
MSAB Monastry St. A 133.45 319 ⇑*i* P **PKPdf 00 08 06.3 +1.0**
GKP Gorka Klasztor 133.50 335 ePKP **PKPdf 00 08 06.1 +1.0**
GKP Gorka Klasztor 133.50 335 ePKP **SKPab 00 11 33.0 +0.2**
ISR Istrita 133.75 321 ⇑PKIKP **PKPdf 00 08 07.6 +1.6**
ISR Istrita 133.75 321 ⇑*i* P **PKPdf 00 08 07.6 +1.6**
MLR Muntele Rosu 133.93 322 ⇓*i* P **PKPdf 00 08 04.8 -1.6**
MLR Muntele Rosu 133.93 322 ⇓*i* P **SKPab 00 11 34.7 -0.5**
DOPR Dopca 134.02 322 ⇓*i* P **PKPdf 00 08 09.2 +2.8**
KOLS Kolonicke sedl 134.06 328 ePKIKP **PKPdf 00 08 06.9 +0.5**
KOLS *e* 00 10 39.8
ISP Isparta 134.10 310 ⇑PKIKP **PKPdf 00 08 06.8 -0.1**
ISP Isparta 134.10 310 ⇑*i* P **PKPdf 00 08 06.8 -0.1**
SULR 134.15 320 ⇑*i* P **PKPdf 00 08 09.4 +2.8**
BMR Baia Mare 134.16 325 ⇓PKIKP **PKPdf 00 08 06.6 0.0**
BMR Baia Mare 134.16 325 ⇓*i* P **PKPdf 00 08 06.6 0.0**
BMR Baia Mare 134.16 325 ⇑*i* P **SKPab 00 11 35.0 -0.9**
UZH Uzhgorod 134.24 327 ePKIKP PKPdf 00 07 58.7 -8.0
UZH *i* 00 08 08.3
STHS Stebnicka Huta 134.29 329 ePKIKP **PKPdf 00 08 08.7 +1.9**
STHS *e* 00 10 40.2
TRPA Tarpa 134.41 326 ⇓*i* P **PKPdf 00 08 06.1 -0.9**
TRPA Tarpa 134.41 326 ⇓*i* P **SKPab 00 11 35.1 -1.4**
VOIR 134.50 322 ⇓PKIKP **PKPdf 00 08 06.3 -1.1**
VOIR 134.50 322 ⇓*i* P **PKPdf 00 08 06.3 -1.1**
VOIR 134.50 322 ⇑*i* P **SKPab 00 11 37.5 -0.1**
ARR Arges 134.78 322 ⇓*i* P **PKPdf 00 08 07.8 -0.1**
ARR Arges 134.78 322 ⇓*i* P **SKPab 00 11 38.1 -0.7**
HUMR Humele 135.01 321 ⇓*i* P **PKPdf 00 08 07.2 -1.1**
DRGR 135.10 325 ⇓PKIKP **PKPdf 00 08 08.1 -0.4**
DRGR 135.10 325 ⇓*i* P **PKPdf 00 08 08.1 -0.4**
DRGR 135.10 325 ⇓*i* P **SKPab 00 11 38.0 -2.2**
BDFB Brasilia 135.21 129 PKP **PKPdf 00 08 07.5 -2.2**
BDFB *e*SKPbc **SKPbc 00 11 38.9 +1.3**
BDFB Brasilia 135.21 129 PKP **PKPdf 00 08 07.5 -2.2**
comp=Z,2.4nm,0.5s,baz=255,slow=2.6,SNR=6.3
OKC Ostrava-Krasne 135.53 331 ePKPdf **PKPdf 00 08 08.8 -0.3**
OKC *e*SKP 00 11 37.6
KSP Ksiaz 135.66 333 ePKIKP **PKPdf 00 08 11.3 +2.0**
KSP Ksiaz 135.66 333 ePKP **PKPdf 00 08 12.1 +2.8**
KSP Ksiaz 135.66 333 ePKP **SKPdf 00 11 40.5 -1.0**
MORC Moravsky Berou 135.85 331 ePKIKP **PKPdf 00 08 09.6 -0.2**
MORC Moravsky Berou 135.85 331 ⇑*i* P **PKPdf 00 08 09.8 0.0**
MORC Moravsky Berou 135.85 331 ⇑*i* P **SKPdf 00 11 41.8 -0.1**
MORC Moravsky Berou 135.85 331 ePKPdf **PKPdf 00 08 09.6 -0.2**
PSZ Piszkesteto 135.93 328 ePKIKP **PKPdf 00 08 09.8 -0.2**
PSZ Piszkesteto 135.93 328 ⇓*i* P **PKPdf 00 08 10.8 +0.8**
PSZ Piszkesteto 135.93 328 ⇓*i* P **SKPdf 00 11 41.0 -1.1**
PSZ Piszkesteto 135.93 328 ePKPdf **PKPdf 00 08 09.8 -0.2**
PSZ *e*SKPbc **SKPbc 00 11 40.4 +1.6**
SIRR Siria 136.00 325 ⇓*i* P **PKPdf 00 08 08.9 -1.2**
SIRR Siria 136.00 325 ⇑*i* P **SKPdf 00 11 40.8 -1.4**
DPC Dobruska-Polom 136.01 333 ePKPdf **PKPdf 00 08 11.2 +1.2**
DPC *e*SKP 00 11 40.6
DPC Dobruska-Polom 136.01 333 eSKPbc **SKPbc 00 11 41.3 +2.4**
UPC Upice 136.03 333 ePKPdf **PKPdf 00 08 11.6 +1.6**
UPC *e*SKP 00 11 41.2
BZS Buzias 136.40 324 ⇑PKIKP **PKPdf 00 08 10.1 -0.7**
BZS Buzias 136.40 324 ⇑*i* P **PKPdf 00 08 10.1 -0.7**
VRAC Vranov 136.62 331 ⇓*i* P **PKPdf 00 08 10.8 -0.4**
VRAC Vranov 136.62 331 ⇓*i* P **SKPdf 00 11 42.8 -0.5**
PVCC Panska Ves 136.64 334 ePKPdf **PKPdf 00 08 11.4 +0.3**
PVCC *e*SKP 00 11 43.2
BRG Berggiesshubel 136.64 335 ePKP PKPdf 00 08 05.5 -5.7
comp=Z,13nm,1.4s
BRG *e* 00 08 12.0
comp=Z,22nm,1.2s
BRG Berggiesshubel 136.64 335 ePKP **SKPdf 00 11 42.3 -0.9**
comp=Z,7nm,1.4s
BRG *i* 00 11 48.9
comp=Z,83nm,1.6s
CLL Collm 136.69 336 *i* PKIKP **PKPdf 00 08 11.6 +0.4**
CLL pmax pmax
comp=Z,10.0nm,1.1s
CLL Collm 136.69 336 *i* PKPdf **PKPdf 00 08 11.6 +0.4**
comp=Z,22nm,1.1s
CLL *i* PKiKP **PKiKP 00 08 14.0 +1.1**
CLL *e*PP **PP 00 10 52.0 -1.1**
CLL ⇑*i* SKPbc **SKPbc 00 11 42.2 +1.3**
comp=Z,53nm,1.3s
CLL *i* SKPab **SKPab 00 11 48.1 +1.2**
comp=Z,89nm,1.6s
SMOL Smolenice 136.78 330 ePKIKP **PKPdf 00 08 13.0 +1.5**
PRA Prague 137.04 334 PKPdf **PKPdf 00 08 12.0 +0.1**

PRU	**Pruhonice**	**137.05**	**334**	*e*PKPdf	**PKPdf**	**00 08 11.3**	**-0.6**
PRU				*ex*	x	00 08 13.0	
PRU				*e*SKP		00 11 43.5	
VTS	**Vitosha**	**137.12**	**320**	⇑PKIKP	**PKPdf**	**00 08 12.2**	**-0.3**
VTS	**Vitosha**	**137.12**	**320**	⇑*i*P	**PKPdf**	**00 08 12.2**	**-0.3**
TREC	**Trest**	**137.14**	**332**	*e*PKPdf	**PKPdf**	**00 08 11.7**	**-0.4**
TREC				*ex*	x	00 08 13.1	
TREC				*e*SKP		00 11 43.7	
ZST	**Bratislava**	**137.15**	**330**	*e*PKIKP	**PKPdf**	**00 08 14.4**	**+2.3**
ZST				*e*		00 10 58.6	
CONA	**Conrad Observa**	**137.94**	**330**	⇑*i*PKPdf	PKPdf	00 08 08.2	-5.5
	comp=Z,18nm,0.9s,SNR=11						
KHC	**Kasperske Hory**	**138.11**	**333**	*e*PKIKP	**PKPdf**	**00 08 12.9**	**-1.0**
KHC	**Kasperske Hory**	**138.11**	**333**	*e*PKPdf	**PKPdf**	**00 08 12.4**	**-1.6**
KHC				*ex*	x	00 08 15.2	
KHC				*e*SKP		00 11 46.4	
KHC				*e*PKS	PKSdf	00 12 02.0	+12
KHC	**Kasperske Hory**	**138.11**	**333**	*e*PKPdf	**PKPdf**	**00 08 12.9**	**-1.0**
GEC2	**GERESS Array S**	**138.27**	**333**	*e*PKHKP	PKPpre	00 08 07.6	
GEC2				*e*		00 08 14.0	
GEC2	**GERESS Array S**	**138.27**	**333**	*e*PKPpre	PKPpre	00 08 07.6	
GEC2				*e*PKPdf	**PKPdf**	**00 08 14.0**	**-0.4**
GEC2				*e*SKPbc	**SKPbc**	**00 11 47.1**	**+1.4**
GEC2				*e*SKPbc	**SKiKP**	**00 11 47.6**	**-2.0**
GERES	**GERESS Array B**	**138.27**	**333**	PKPpre	PKPpre	00 08 03.2	
GERES				PKP	**PKPdf**	**00 08 13.9**	**-0.4**
GERES	**GERESS Array B**	**138.27**	**333**	PKhKP	PKPpre	00 08 03.2	
	comp=Z,1.0nm,0.9s,baz=64,slow=3.1,SNR=5.7						
GERES				PKP	**PKPdf**	**00 08 13.9**	**-0.4**
	comp=Z,6.8nm,0.9s,baz=79,slow=2.0,SNR=24						
MEM	**Membach**	**139.79**	**341**	PKP	**PKPdf**	**00 08 17.6**	**+0.8**
MEM				SKP		00 11 51.5	
MEM	**Membach**	**139.79**	**341**	*e*PKIKP	**PKPdf**	**00 08 17.7**	**+0.8**
MEM	**Membach**	**139.79**	**341**	*e*PKPdf	**PKPdf**	**00 08 17.7**	**+0.8**
MEM				*e*SKPbc	**SKiKP**	**00 11 52.2**	**-0.4**
BOJS	**Bojanci**	**139.93**	**328**	*i* PKPdf	PKPdf	00 08 09.7	-7.6
BOJS				*i*		00 08 16.9	
VISS	**Visnje**	**139.93**	**329**	*i* PKPdf	PKPdf	00 08 11.7	-5.6
VISS				*i*		00 08 16.7	
VISS	**Visnje**	**139.93**	**329**	*i* PKPbc	**SKPbc**	**00 11 51.7**	**+1.5**
STU	**Stuttgart**	**140.20**	**336**	*e*SKPdf	**SKiKP**	**00 11 52.4**	**-1.1**
JAVS	**Javornik**	**140.25**	**330**	*i* PKPdf	PKPdf	00 08 12.7	-5.3
JAVS				*i*		00 08 20.4	
JAVS	**Javornik**	**140.25**	**330**	*i* PKPbc	**SKPbc**	**00 11 52.7**	**+1.4**
ABTA	**Abfaltersbach**	**140.37**	**332**	P	PKPdf	00 08 09.7	-8.5
	comp=Z,20nm,0.9s,SNR=7.2						
SNF	**Seneffe**	**140.41**	**342**	PKP	**PKPdf**	**00 08 18.4**	**+0.4**
WLF	**Walferdange**	**140.56**	**340**	PKP	**PKPdf**	**00 08 19.5**	**+1.2**
WLF				SKP		00 11 54.5	
DOU	**Dourbes**	**140.68**	**342**	PKP	**PKPdf**	**00 08 18.1**	**-0.5**
DOU				SKP		00 11 54.0	
BFO	**Black Forest**	**140.90**	**337**	*e*PKIKP	**PKPdf**	**00 08 17.9**	**-1.1**
BFO	**Black Forest**	**140.90**	**337**	*e*PKPdf	**PKPdf**	**00 08 17.9**	**-1.1**
TUE	**Stuetta**	**141.98**	**334**	*e*PKPpre	PKPpre	00 08 17.8	
SENIN	**Lac Senin/Sane**	**142.91**	**336**	*e*PKPdf	**PKPdf**	**00 08 24.4**	**+1.5**
CUC	**Castrocucco**	**143.18**	**321**	*e*PKPpre	PKPpre	00 08 19.0	
CEL	**Celeste**	**144.16**	**319**	*e*PKPdf	**PKPab**	**00 08 22.3**	**-0.6**
BNI	**Bardonecchia**	**144.23**	**335**	*e*PKIKP	PKPbc	00 08 24.0	+0.6
BNI	**Bardonecchia**	**144.23**	**335**	*e*PKPdf	PKPbc	00 08 23.9	+0.5
BNI				*e*SKPbc	**SKiKP**	**00 11 01.9**	**-0.1**
SHEL	**Horse Pasture**	**149.66**	**195**	*e*PKP2	**PKPbc**	**00 08 39.8**	**+0.2**
SHEL	**Horse Pasture**	**149.66**	**195**	*e*PKPbc	**PKPbc**	**00 08 39.8**	**+0.2**
KEST	**Kesra**	**149.83**	**321**	*e*PKPdf	**PKPdf**	**00 08 35.3**	**+0.5**
KEST				PKPbc	**PKPbc**	**00 08 39.5**	**-0.1**
KEST	**Kesra**	**149.83**	**321**	PKPbc	**PKPbc**	**00 08 39.5**	**-0.1**
	comp=Z,31nm,0.9s,baz=281,slow=0.6,SNR=36						
CMAH	**Djebel Manchou**	**150.36**	**324**	P	**PKPbc**	**00 08 40.5**	**-0.3**
CAEH	**'Ain El Ouahch**	**150.56**	**325**	P	**PKPbc**	**00 08 41.0**	**-0.2**
ABSA	**Djebel Ababsia**	**150.57**	**324**	P	**PKPbc**	**00 08 41.0**	**-0.4**
RCBR	**Riachuelo**	**150.59**	**130**	*e*PKPbc	**PKPbc**	**00 08 43.0**	**+1.0**
CKFL	**Kef-Lekhel**	**150.91**	**325**	P	**PKPbc**	**00 08 42.0**	**-0.2**
CASM	**Ain Smara**	**151.14**	**325**	P	**PKPbc**	**00 08 43.0**	**+0.4**
PBRG	**Braganca**	**151.26**	**349**	*e*PKPbc	**PKPbc**	**00 08 41.9**	**-0.8**
DFRA	**Djebel Bou Aff**	**151.27**	**326**	P	**PKPbc**	**00 08 44.0**	**+1.0**
CTEI	**Djebel Teioual**	**151.33**	**325**	P	**PKPbc**	**00 08 44.0**	**+0.8**
PCAB	**Cabril**	**151.56**	**351**	*e*PKPbc	**PKPbc**	**00 08 43.1**	**-0.3**
SET	**Setif**	**151.78**	**326**	P	**PKPdf**	**00 08 38.0**	**+0.2**
CKHR	**Kef el Ahmar**	**151.86**	**326**	P	**PKPbc**	**00 08 45.0**	**+0.6**
POLO	**Lamas de Olo**	**151.86**	**351**	*e*PKPdf	**PKPdf**	**00 08 38.7**	**+1.0**
POLO	**Lamas de Olo**	**151.86**	**351**	*e*PKPbc	**PKPbc**	**00 08 43.6**	**-0.6**
MVO	**Moncorvo**	**151.94**	**350**	*e*PKPdf	**PKPdf**	**00 08 38.4**	**+0.6**
MVO	**Moncorvo**	**151.94**	**350**	*e*PKPbc	**PKPbc**	**00 08 43.7**	**-0.6**
PVRL	**Vila Real**	**151.94**	**351**	*e*PKPbc	**PKPbc**	**00 08 43.9**	**-0.4**
PTO	**Porto**	**152.21**	**352**	*e*PKPbc	**PKPbc**	**00 08 44.8**	**0.0**
PVIS	**Viseu**	**152.52**	**351**	*e*PKPbc	**PKPbc**	**00 08 45.2**	**-0.4**
ES19	**SONSECA Array**	**152.63**	**344**	*e*PKPdf	**PKPdf**	**00 08 40.6**	**+1.7**
ESDC	**Sonseca Array**	**152.67**	**344**	PKP	**PKPdf**	**00 08 36.5**	**-2.4**
ESDC				PKPbc	**PKPbc**	**00 08 44.9**	**-1.1**
ESDC				PKPab	**PKPab**	**00 08 56.8**	**+0.2**
ESDC	**Sonseca Array**	**152.67**	**344**	PKP	**PKPdf**	**00 08 36.5**	**-2.4**
	comp=Z,2.0nm,0.9s,baz=17,slow=2.0,SNR=2.9						
ESDC				PKPbc	**PKPbc**	**00 08 44.9**	**-1.1**
	comp=Z,12nm,0.9s,baz=20,slow=2.5,SNR=21						
ESDC				PKPab	**PKPab**	**00 08 56.8**	**+0.2**
	comp=Z,9.4nm,0.7s,baz=7.8,slow=3.3,SNR=7.0						
ESLA	**Sonseca Array**	**152.67**	**344**	*e*PKPdf	**PKPdf**	**00 08 40.2**	**+1.3**
MTE	**Manteigas**	**152.77**	**350**	*e*PKPdf	**PKPdf**	**00 08 39.7**	**+0.6**
MTE	**Manteigas**	**152.77**	**350**	*e*PKPbc	**PKPbc**	**00 08 45.5**	**-0.7**
MTE	**Manteigas**	**152.77**	**350**	*e*PKPdf	**PKPbc**	**00 08 44.9**	**-1.3**
ADJB	**Djebel Djouab**	**152.84**	**329**	P	**PKPbc**	**00 08 47.0**	**+0.4**
PAB	**San Pablo**	**152.90**	**344**	*e*PKIKP	**PKPbc**	**00 08 46.3**	**-0.3**
PAB	**San Pablo**	**152.90**	**344**	*e*PKPbc	**PKPbc**	**00 08 46.3**	**-0.3**
EMHD	**Djebel Mahouad**	**153.05**	**330**	P	**PKPbc**	**00 08 47.0**	**0.0**
PCAS	**Casmilo, Conde**	**153.26**	**351**	*e*PKPbc	**PKPbc**	**00 08 46.9**	**-0.3**
PCBR	**Castelo Branco**	**153.30**	**350**	*e*PKPdf	**PKPbc**	**00 08 39.7**	**-0.1**
PCBR	**Castelo Branco**	**153.30**	**350**	*e*PKPbc	**PKPbc**	**00 08 47.0**	**-0.3**
EBNR	**Beni Rached**	**153.65**	**332**	P	**PKPbc**	**00 08 50.0**	**+1.7**
PTOM	**Tomar**	**153.67**	**351**	*e*PKPdf	**PKPdf**	**00 08 41.5**	**+1.2**
PTOM	**Tomar**	**153.67**	**351**	*e*PKPbc	**PKPbc**	**00 08 48.0**	**-0.1**
PMRV	**Marv??o**	**153.69**	**349**	*e*PKPdf	**PKPdf**	**00 08 41.8**	**+1.4**
PMRV	**Marv??o**	**153.69**	**349**	*e*PKPbc	**PKPbc**	**00 08 47.9**	**-0.3**
ECHA	**Ech Chlef**	**153.84**	**332**	P	**PKPbc**	**00 08 51.2**	**+2.6**
EANR	**'Ain N'Sour**	**154.13**	**332**	P	**PKPbc**	**00 08 53.2**	**+3.9**
PMTG	**Montargil**	**154.18**	**350**	*e*PKPdf	**PKPdf**	**00 08 42.1**	**+1.0**
PMTG	**Montargil**	**154.18**	**350**	*e*PKPbc	**PKPbc**	**00 08 49.0**	**-0.2**
ETRT	**Tiaret**	**154.50**	**331**	P	**PKPbc**	**00 08 55.2**	**+5.0**
PBEJ	**Beja**	**155.13**	**349**	*e*PKPbc	PKPbc	00 08 52.9	
TOA0	**Torodi Ar. Sit**	**165.18**	**270**	*e*PKPab	**PKPab**	**00 09 52.7**	**+1.1**
TORD	**Torodi Ar. Bea**	**165.18**	**270**	PKP	**PKPdf**	**00 08 52.8**	**-1.5**
TORD				PKPab	**PKPab**	**00 09 51.4**	**-0.2**
TORD	**Torodi Ar. Bea**	**165.18**	**270**	PKP	**PKPdf**	**00 08 52.8**	**-1.5**
	comp=Z,14nm,1.1s,baz=14,slow=0.7,SNR=13						
TORD				PKPab	**PKPab**	**00 09 51.4**	**-0.2**
	comp=Z,6.1nm,0.9s,baz=97,slow=1.8,SNR=5.8						
KIC	**Kosan Boka**	**168.76**	**231**	*e*PKIKP	**PKPdf**	**00 08 55.6**	**-1.4**
	comp=Z,81nm,1.2s						
KIC	**Kosan Boka**	**168.76**	**231**	*e*P	PKPab	00 10 15.8	+8.5
	comp=Z,139nm,1.7s						
KIC	**Kosan Boka**	**168.76**	**231**	*e*PKIKP	**PKPdf**	**00 08 55.5**	**-1.4**
	comp=Z,81nm,1.2s						
LIC	**Lamto**	**168.89**	**230**	*e*PKIKP	**PKPdf**	**00 08 55.4**	**-1.6**
	comp=Z,48nm,1.1s						
LIC	**Lamto**	**168.89**	**230**	*e*P	PKPab	00 10 15.0	+7.2
	comp=Z,19nm,0.8s						
LIC	**Lamto**	**168.89**	**230**	*e*PKIKP	**PKPdf**	**00 08 55.4**	**-1.6**
	comp=Z,48nm,1.1s						
DBIC	**Dimbokro**	**169.05**	**232**	PKP	**PKPdf**	**00 08 55.2**	**-1.9**
DBIC				*e*PKPdf	PKPdf	00 08 56.3	-0.8
DBIC	**Dimbokro**	**169.05**	**232**	PKP	**PKPdf**	**00 08 55.2**	**-1.9**
	comp=Z,16nm,1.0s,baz=77,slow=0.6,SNR=7.9						
TIC	**Toumodi**	**169.16**	**231**	*e*PKIKP	**PKPdf**	**00 08 55.7**	**-1.5**
	comp=Z,64nm,1.3s						
TIC	**Toumodi**	**169.16**	**231**	*e*P	PKPab	00 10 17.5	+8.4
	comp=Z,44nm,1.0s						
TIC	**Toumodi**	**169.16**	**231**	*e*PKIKP	**PKPdf**	**00 08 55.8**	**-1.5**
	comp=Z,64nm,1.3s						

IDC 07 23:53:02.3±2.2, 13°.53S×167°.55E, h0km, mb4.8/6, mb1 4.7/6, mb1mx4.4/18, mbtmp4.7/6, Error ellipse: s-maj=92.5km s-min=67.8km az=52.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**61.72**	**340**	P	P	00 03 22.7	+0.3
	7.4nm,0.5s,baz=220,slow=18,SNR=2.6						
USRK	**Ussuriysk Arra**	**65.95**	**333**	P	P	00 03 51.0	+0.7
	12nm,0.9s,baz=141,slow=6.6,SNR=11						
SONM	**Songino Array**	**81.71**	**323**	P	P	00 05 22.5	-0.4
	2.9nm,0.9s,baz=132,slow=6.4,SNR=2.7						
ILAR	**Eielson Array**	**85.31**	**18**	P	P	00 05 40.1	-0.7
	1.9nm,0.8s,baz=237,slow=5.1,SNR=4.2						
MKAR	**Makanchi Array**	**96.53**	**316**	P	P	00 06 32.8	-1.2
	3.0nm,0.9s,baz=86,slow=5.5,SNR=3.1						
ZALV	**Zalesovo Beam**	**96.60**	**324**	P	P	00 06 32.5	-1.5
	4.0nm,0.8s,baz=114,slow=4.2,SNR=7.1						
ARCES	**ARCESS Array B**	**119.17**	**346**	PKP	PKPdf	00 11 52.7	-0.1
	2.1nm,0.6s,baz=76,slow=2.0,SNR=1.8						
KEST	**Kesra**	**150.45**	**322**	PKPbc	PKPbc	00 12 56.8	+0.3
	5.2nm,0.7s,baz=247,slow=1.9,SNR=9.7						
ESDC	**Sonseca Array**	**152.91**	**346**	PKPbc	PKPbc	00 13 02.5	+0.6
	2.1nm,0.8s,baz=24,slow=3.2,SNR=5.6						

*IDC **07** 23:54:10.3±0.4, 13°.23S×166°.50E, h0km, mb5.3/26, mb1 5.3/27, mb1mx5.3/30, mbtmp5.3/27, ML5.6/1, MS6.4/8, Ms1 6.4/8, ms1mx6.0/34, Error ellipse: s-maj=15.4km s-min=12.6km az=131.0*

*ISCJB **07** 23:54:13.4±2.2, 13°.25S±0°.03×166°.21E±0°.03, h18km±15km, mb5.7/137, MS6.4/8, Error ellipse: s-maj=5.6km s-min=4.5km az=2.4*

*AUST **07** 23:54:14.7±0.9, 13°.43S×166°.03E, h0km, Error ellipse: s-maj=17.6km s-min=12.5km az=10.0*

*MOS **07** 23:54:15.1±1.3, 13°.20S×166°.31E, h33km, mb5.7/54, Error ellipse: s-maj=7.6km s-min=7.0km az=131.8*

*NEIC **07** 23:54:16.4±0.2, 13°.24S×166°.36E, h35km, mb5.8/81, Error ellipse: s-maj=6.1km s-min=4.6km az=143.0*

*BJI **07** 23:54:18.4, 12°.76S×166°.22E, h48km, mB5.9/1, mb5.6/33, Ms6.1/2, Ms7 6.0/3*

*DJA **07** 23:54:22.3±1.4, 13°.5±5.5×16°.6E±°, h53km±16km, M6.0/28, mB7.1/3, mb5.8/28, Mw(mB)7.0/3*

ISC 07 23:54:17.7±0.4, 13°.29S±0°.04×166°.31E±0°.05, h46km±2km, h46km:pP-P, n600, σ1°.57/608, mb5.7/138, **MS6.4**/8, **68C-86D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.33**	**301**	Pn	**Pn**	**23 56 01.9**	**-0.4**
HNR				Sn	**Sn**	**23 57 21.3**	**-2.9**
HNR	**Honiara**	**7.33**	**301**	Pn	**Pn**	**23 56 01.8**	**-0.4**
	87nm,0.3s,baz=145,slow=4.0,SNR=17						
HNR				Sn	**Sn**	**23 57 21.3**	**-2.9**
	34nm,0.3s,baz=226,slow=14,SNR=1.1						
DZM	**Mont Dzumac**	**8.73**	**179**	*e*Pn	**Pn**	**23 56 20.6**	**-1.0**
	264nm,0.3s						
DZM				*e*LR	LR	23 58 24.4	
	439µm,24.1s						
DZM	**Mont Dzumac**	**8.73**	**179**	*e*Pn	**Pn**	**23 56 20.9**	**-0.7**
	26nm,3.3s						
DZM				*e*Sn	**Sn**	**23 57 58.9**	**+0.2**
DZM	**Mont Dzumac**	**8.73**	**179**	Pn	**Pn**	**23 56 22.7**	**+1.2**
	12nm,0.3s,baz=26,slow=22,SNR=5.5						
DZM				Sn	**Sn**	**23 57 55.3**	**-3.5**
	baz=306,slow=23,SNR=0.9						
DZM				LR	LR	23 58 51.0	
	comp=Z,114µm,18.5s,baz=11,slow=32						
MSVF	**Nonsavu**	**12.14**	**113**	*e*P	**Pn**	**23 57 07.9**	**-0.4**
MSVF				pmax	pmax		
	comp=Z,4µm,1.9s						
MSVF	**Nonsavu**	**12.14**	**113**	*e*Pn	**Pn**	**23 57 07.9**	**-0.4**
	comp=Z,4µm,1.9s						
TARA	**Tarawa**	**15.96**	**25**	*e*P	**Pn**	**23 57 58.2**	**-1.1**
	comp=Z,651nm,0.9s						
EIDS	**Eidsvold**	**18.71**	**228**	*e*Pn	**Pn**	**23 58 35.2**	**+1.9**
	comp=Z,825nm,1.5s						
EIDS	**Eidsvold**	**18.71**	**228**	⇓P	**Pn**	**23 58 35.0**	**+1.7**
	baz=18,SNR=8.1						
PMG	**Port Moresby**	**19.17**	**280**	P	**Pn**	**23 58 39.4**	**+0.6**
	comp=Z,602nm,1.9s						
PMG	**Port Moresby**	**19.17**	**280**	*e*Pn	**Pn**	**23 58 39.5**	**+0.6**
	comp=Z,1µm,1.6s						
PMG	**Port Moresby**	**19.17**	**280**	P	**Pn**	**23 58 39.6**	**+0.7**
	comp=Z,1.4nm,0.3s,baz=102,slow=7.1,SNR=21						
CTA	**Charters Tower**	**20.36**	**248**	P	Pn	23 58 51.9	-1.1
CTA	**Charters Tower**	**20.36**	**248**	⇓P	Pn	23 58 53.1	+0.1
	baz=20						
CTA	**Charters Tower**	**20.36**	**248**	P	Pn	23 58 51.9	-1.1
	comp=Z,35nm,1.1s,baz=66,slow=13,SNR=7.9						
CTAO	**Charters Tower**	**20.36**	**248**	*e*P	Pn	23 58 54.0	+1.0
CTAO				pmax	pmax		
	comp=Z,426nm,1.1s						
CTAO	**Charters Tower**	**20.36**	**248**	*e*Pn	Pn	23 58 54.0	+1.0
	comp=Z,426nm,1.1s						
RMQ	**Roma**	**21.05**	**229**	⇑P	**P**	**23 59 00.2**	**+2.2**
	baz=21,SNR=32						
AFI	**Afiamalu**	**21.30**	**94**	*e*P	**P**	**23 59 00.4**	**-0.5**
	comp=Z,469nm,1.3s						
AFI	**Afiamalu**	**21.30**	**94**	P	**P**	**23 59 03.2**	**+2.4**
	comp=Z,99nm,1.0s,baz=73,slow=24,SNR=4.7						
PATS	**Pohnpei**	**21.52**	**338**	⇑P	**P**	**23 59 03.5**	**+0.5**
	baz=22,SNR=5.4						
RAO	**Raoul Island**	**21.59**	**140**	*e*P	**P**	**23 59 04.0**	**+0.3**
ARMA	**Armidale**	**21.78**	**216**	*e*P	**P**	**23 59 07.8**	**+1.9**
	comp=Z,4µm,2.4s						
ARMA	**Armidale**	**21.78**	**216**	P	**P**	**23 59 07.3**	**+1.5**
	baz=22,SNR=14						
MANU	**Manus Island**	**21.83**	**299**	⇑P	**P**	**23 59 07.2**	**+0.8**
	baz=22,SNR=4.8						
COEN	**Coen**	**22.50**	**266**	*e*P	**P**	**23 59 14.5**	**+0.8**
	comp=Z,12µm,1.8s						
COEN	**Coen**	**22.50**	**266**	⇓P	**P**	**23 59 12.5**	**-1.1**
	baz=22,SNR=20						
OUZ	**Omahuta**	**22.80**	**164**	*e*P	**P**	**23 59 18.7**	**+2.1**
	comp=Z,436nm,1.3s						
NIUE	**Niue**	**23.52**	**107**	⇓P	P	23 59 29.0	+5.2
	baz=24,SNR=4.6						
KNTN	**Kanton**	**24.10**	**66**	*e*P	**P**	**23 59 32.3**	**+2.9**
	comp=Z,1µm,1.4s						
MGCD	**Mangrove Creek**	**24.20**	**212**	⇓P	**P**	**23 59 31.3**	**+1.3**
	baz=24,SNR=7.4						
QLP	**Quilpie**	**24.56**	**234**	⇓P	**P**	**23 59 33.3**	**-0.1**
	baz=24,SNR=7.7						
RIV	**Riverview**	**24.66**	**211**	⇓P	**P**	**23 59 35.3**	**+1.1**
	baz=24						
CMSA	**Cobar Meteorol**	**26.24**	**223**	⇓P	**P**	**23 59 50.1**	**+1.5**
	baz=26,SNR=12						
YNG	**Young**	**26.49**	**215**	⇓P	**P**	**23 59 53.1**	**+2.2**
	baz=26,SNR=12						
URZ	**Urewera**	**26.66**	**161**	*e*P	**P**	**23 59 52.8**	**+0.5**
	comp=Z,982nm,2.0s						
CNB	**Canberra Magne**	**26.74**	**212**	⇑P	**P**	**23 59 53.4**	**+0.3**
	baz=26,SNR=15						
CAN	**Canberra**	**26.93**	**213**	*e*P	**P**	**23 59 56.0**	**+1.1**
CAN				pmax	pmax		
	comp=Z,217nm,1.4s						
CAN	**Canberra**	**26.93**	**213**	*e*P	**P**	**23 59 56.0**	**+1.1**
	comp=Z,217nm,1.4s						
CAN	**Canberra**	**26.93**	**213**	⇓P	**P**	**23 59 57.4**	**+2.5**
	baz=27						
SNZO	**South Karori**	**28.86**	**167**	*e*P	**P**	**00 00 12.2**	**+0.3**
STKA	**Stephens Creek**	**29.26**	**227**	*e*P	**P**	**00 00 16.1**	**+0.5**
	comp=Z,176nm,1.6s						
STKA	**Stephens Creek**	**29.26**	**227**	⇑P	**P**	**00 00 16.9**	**+1.3**
	baz=29,SNR=13						
STKA	**Stephens Creek**	**29.26**	**227**	P	**P**	**00 00 17.4**	**+1.8**
	comp=Z,38nm,0.8s,baz=25,slow=8.7,SNR=12						
STKA				LR	LR	00 12 18.2	
	comp=Z,107µm,18.0s,baz=44,slow=37						
TOO	**Toolangi**	**30.49**	**214**	⇑P	**P**	**00 00 26.3**	**-0.2**
	baz=30,SNR=30						
RPZ	**Rata Peaks**	**30.59**	**173**	*e*P	**P**	**00 00 27.9**	**+0.7**
RPZ	**Rata Peaks**	**30.59**	**173**	P	**P**	**00 00 27.4**	**+0.2**
	comp=Z,28nm,0.7s,baz=195,slow=5.3,SNR=8.2						
WRAB	**Tennant Creek**	**31.30**	**253**	*e*P	**P**	**00 00 33.1**	**-0.7**
WRAB	**Tennant Creek**	**31.30**	**253**	*e*P	**P**	**00 00 33.1**	**-0.7**
WRA	**Warramunga Arr**	**31.31**	**253**	P	**P**	**00 00 33.0**	**-0.8**
WRA	**Warramunga Arr**	**31.31**	**253**	P	**P**	**00 00 33.0**	**-0.8**
	comp=Z,60nm,0.9s,baz=84,slow=8.7,SNR=31						
WRA				LR	LR	00 12 40.2	
	comp=Z,92µm,18.5s,baz=80,slow=35						
ODZ	**Otahua Downs**	**31.86**	**174**	*e*P	**P**	**00 00 38.3**	**-0.1**
	comp=Z,250nm,1.6s						
ARPS	**Mount Arapiles**	**32.04**	**219**	⇑P	P	00 00 43.4	+3.3
	baz=32,SNR=18						
AS17	**Alice Springs**	**32.27**	**247**	⇑P	**P**	**00 00 40.5**	**-1.9**
	baz=32						
AS06	**Alice Springs**	**32.29**	**247**	⇓P	**P**	**00 00 41.2**	**-1.3**
	baz=32						
ASAR	**Alice Springs**	**32.35**	**247**	P	**P**	**00 00 41.4**	**-1.7**
ASAR				ScP	ScP	00 07 21.2	+11
ASAR	**Alice Springs**	**32.35**	**247**	P	**P**	**00 00 41.4**	**-1.7**
	comp=Z,43nm,0.8s,baz=75,slow=9.5,SNR=17						
ASAR				ScP	ScP	00 07 21.2	+11
	comp=Z,5.8nm,0.9s,baz=79,slow=3.1,SNR=5.2						
KDU	**Kakadu**	**32.97**	**267**	⇓P	**P**	**00 00 50.0**	**+1.5**
	baz=33,SNR=7.1						
RAR	**Rarotonga**	**33.28**	**108**	*e*P	**P**	**00 00 53.8**	**+2.8**
RAR	**Rarotonga**	**33.28**	**108**	P	**P**	**00 00 53.3**	**+2.2**
	comp=Z,33nm,0.9s,baz=270,slow=7.9,SNR=2.6						
MOO	**Moorlands**	**33.44**	**206**	⇓P	**P**	**00 00 52.8**	**+0.5**
	baz=33,SNR=8.4						
BBOO	**Buckleboo**	**33.76**	**230**	⇓P	**P**	**00 00 53.9**	**-1.3**
	baz=34,SNR=6.6						
TAU	**Tasmania Unive**	**33.77**	**205**	*e*P	**P**	**00 00 56.2**	**+1.1**
TAU	**Tasmania Unive**	**33.77**	**205**	*e*P	**P**	**00 00 56.2**	**+1.1**
FAKI	**Fak Fak**	**35.21**	**284**	P	P	00 01 14.8	+6.8
	comp=Z,85nm,1.8s						
KNRA	**Kununurra**	**36.41**	**262**	⇑P	**P**	**00 01 18.1**	**-0.1**
	baz=36,SNR=17						
SWI	**Sorong**	**36.84**	**287**	P	**P**	**00 01 21.8**	**-0.1**
	comp=Z,144nm,1.4s						
BNDI	**Bandanaira**	**36.97**	**280**	P	**P**	**00 01 25.8**	**+2.9**
	comp=Z,876nm,1.7s						
FORT	**Forrest**	**39.26**	**237**	*e*P	**P**	**00 01 42.0**	**-0.1**
	comp=Z,137nm,0.9s						
FORT	**Forrest**	**39.26**	**237**	⇑P	**P**	**00 01 42.2**	**+0.1**
	baz=39,SNR=7.7						
FITZ	**Fitzroy Crossi**	**39.39**	**258**	*e*P	**P**	**00 01 43.9**	**+0.6**
	comp=Z,155nm,1.1s						
FITZ	**Fitzroy Crossi**	**39.39**	**258**	⇑P	**P**	**00 01 43.9**	**+0.6**
	baz=39,SNR=11						
FITZ	**Fitzroy Crossi**	**39.39**	**258**	P	**P**	**00 01 44.6**	**+1.3**
	comp=Z,27nm,0.9s,baz=105,slow=8.5,SNR=11						
FITZ				LR	LR	00 17 25.2	
	comp=Z,49µm,18.8s,baz=265,slow=35						
NLAI	**Namlea**	**40.01**	**281**	P	**P**	**00 01 50.7**	**+2.2**
	comp=Z,266nm,1.9s						
LBMI	**Labuha**	**40.44**	**285**	P	P	00 01 55.9	+3.8
	comp=Z,416nm,1.8s						
SOEI	**Soe**	**41.31**	**270**	P	P	00 02 02.8	+3.4
	comp=Z,234nm,1.4s						
SOEI	**Soe**	**41.31**	**270**	⇑P	**P**	**00 02 00.2**	**+0.8**
	baz=41,SNR=3.4						
MCQ	**Macquarie Isla**	**41.52**	**186**	*e*P	**P**	**00 02 01.7**	**+1.4**
MCQ	**Macquarie Isla**	**41.52**	**186**	*e*P	**P**	**00 02 01.7**	**+1.4**
BATI	**Baumata**	**41.83**	**269**	P	P	00 02 06.8	+3.2
	comp=Z,159nm,1.9s						
BATI	**Baumata**	**41.83**	**269**	P	**P**	**00 02 05.0**	**+1.4**
BATI	**Baumata**	**41.83**	**269**	P	**P**	**00 02 05.0**	**+1.4**
	comp=Z,121nm

comp=Z,1µm,0.8s
MDJ Mudanjiang 66.58 332 P **P** **00 05 03.3 +0.1**
MDJ AMB AMB
comp=Z,160nm,1.8s
IPM Ipoh 67.17 281 P **P** **00 05 08.4 +0.8**
IPM Ipoh 67.17 281 *e*P **P** **00 05 08.2 +0.7**
comp=Z,252nm,1.4s
KULM Kulim 67.75 281 P **P** **00 05 12.5 +1.3**
KULM Kulim 67.75 281 *e*P **P** **00 05 12.0 +0.7**
comp=Z,182nm,1.4s
CN2 Changchun 67.94 329 *e*P **P** **00 05 12.5 +0.7**
PANO Nakornpanom 68.02 295 P **P** **00 05 15.4 +2.6**
comp=Z,77nm,1.0s
SKLT Songkhla 68.33 283 P P 00 05 20.7 +5.9
comp=Z,254nm,1.0s
CHBT CHBT 68.50 290 P P 00 05 22.0 +6.1
comp=Z,810nm,1.6s
SKNT Sakolnakorn 68.51 294 P **P** **00 05 17.0 +1.1**
comp=Z,136nm,1.0s
PSI Prapat 68.73 278 P **P** **00 05 16.3 -1.2**
PSI Prapat 68.73 278 P **P** **00 05 16.3 -1.2**
comp=Z,36nm,1.1s,baz=164,slow=4.6,SNR=9.9
KLR Kul'dur 69.33 337 *e*P P 00 05 16.7 -3.6
SRIT Nakonsritamara 69.71 284 P P 00 05 26.9 +3.5
comp=Z,74nm,2.1s
SURA Surathani 69.86 285 P P 00 05 28.3 +4.0
comp=Z,15µmcomp=Z,190nm,1.1s
KRAB Krabi 69.98 284 P P 00 05 33.1 +8.0
comp=Z,56nm,1.4s
BJI Beijing 70.57 321 P **P** **00 05 28.2 +0.1**
BJI AMB AMB
comp=Z,72nm,2.0s
LOEI Loei 71.12 294 P **P** **00 05 32.2 +0.2**
comp=Z,162nm,0.9s
XAN Xi'an 72.04 313 P **P** **00 05 37.9 +0.7**
XAN pP **PcP** **00 05 53.3 -2.3**
XAN sP sP 00 06 01.0 +5.2
NANT Nan 72.09 295 P **P** **00 05 39.3 +1.5**
comp=Z,2µmcomp=Z,144nm,1.3s
KMI Kunming 72.77 302 P **P** **00 05 42.9 +0.9**
KMI pP **pP** **00 05 57.1 +1.8**
KMI sP **sP** **00 06 04.5 +3.9**
KMI AMB AMB
comp=Z,40nm,2.0s
CM31 Chiang Mai Arr 73.52 294 *e*P **P** **00 05 46.6 +0.3**
comp=Z,43nm,0.8s
CHTO Chiang Mai 73.64 294 *e*P **P** **00 05 47.5 +0.5**
CHTO Chiang Mai 73.64 294 P **P** **00 05 48.0 +1.0**
SNR=24
CHTO Chiang Mai 73.64 294 *e*P **P** **00 05 47.5 +0.5**
comp=Z,653nm,1.4s
CHTO Chiang Mai 73.64 294 P **P** **00 05 48.5 +1.5**
comp=Z,681nm,0.9s
CMAI Chiengmai2 73.95 295 P **P** **00 05 51.4 +2.4**
comp=Z,552nm,0.7s
BTO Baotou 74.74 319 *e*P **P** **00 05 52.4 -0.7**
LZH Lanzhou 76.67 312 ⇑P **P** **00 06 06.2 +1.9**
LZH pP **pP** **00 06 16.8 -1.0**
LZH sP **sP** **00 06 21.3 -1.7**
LZH PP **PP** **00 08 59.5 +2.1**
LZH S **S** **00 15 49.0 +1.1**
LZH sS **sS** **00 16 06.0 -4.5**
LZH AMB AMB
comp=Z,140nm,1.2s
LZH AMB AMB
comp=Z,1µm,8.5s
QSPA South Pole Qui 76.73 180 *e*P **P** **00 06 02.9 -1.1**
comp=Z,244nm,1.1s
SEY Seymchan 76.75 354⇓*e*P **P** **00 06 03.3 -0.6**
CLNS Chul'man 77.86 338 *e*P **P** **00 06 11.2 +0.9**
CLNS *e* 00 06 20.5
CLNS *e* 00 09 04.4
CLNS *e*S **S** **00 16 03.3 +3.6**
CLNS *e* 00 16 26.9
CLNS *e*SS **SS** **00 21 07.5 +6.1**
CLNS pmax pmax
comp=Z,124nm,1.2s
CLNS pmax pmax
comp=E,17nm,1.1s
CLNS pmax pmax
comp=N,101nm,1.8s
CLNS pmax pmax
comp=Z,31nm,1.5s
CLNS pmax pmax
comp=E,11nm,1.3s
CLNS pmax pmax
comp=N,38nm,1.5s
CLNS smax smax
comp=E,12µm,14.2s
CLNS smax smax
comp=N,16µm,15.1s
CLNS MLR MLR
comp=N,5µm,13.0s
CLNS MLR MLR
comp=Z,14µm,17.0s
CLNS MLR MLR
comp=E,7µm,16.0s
CIT Chita 79.37 330 *e*P **P** **00 06 19.4 +0.6**
CIT *e* 00 06 31.0
CIT *e* 00 06 34.9
CIT *e* 00 16 31.8
CIT pmax pmax
comp=Z,792nm,2.0s
YAK Yakutsk 80.40 343 *e*P **P** **00 06 21.7 -2.3**
YAK pmax pmax
comp=Z,68nm,1.0s
YAK pmax pmax
comp=N,20nm,1.3s
YAK pmax pmax
comp=E,13nm,1.3s
ULN Ulaanbaatar 80.44 324 P **P** **00 06 25.9 +1.1**
SNR=39
SONM Songino Array 80.80 324 P **P** **00 06 26.4 -0.2**
SONM Songino Array 80.80 324 P **P** **00 06 26.4 -0.2**
comp=E,21nm,1.0s,baz=136,slow=5.4,SNR=31
GTA Gaotai 81.01 314 ⇓P **P** **00 06 29.3 +1.3**
GTA pP **pP** **00 06 41.7 +0.1**
GTA sP **sP** **00 06 47.7 +1.0**
GTA S **S** **00 16 35.8 +1.8**
GTA AMB AMB
comp=E,88nm,2.2s
PMR Palmer 82.47 20 *e*P **P** **00 06 37.2 +2.2**
comp=E,102nm,1.3s
MAW Mawson 82.86 202 *e*P **P** **00 06 36.9 -0.2**
comp=E,15nm,1.3s
BPAW Bear Paw Mtn. 83.74 17 *e*P **P** **00 06 40.9 -0.7**
comp=E,52nm,1.5s
KIPM Iron Peak 83.78 47 *e*P **P** **00 06 42.7 +0.3**
comp=E,32nm,1.1s
ZAK Zakamensk 83.85 325 *e*P **P** **00 06 42.3 -0.2**
ZAK pmax pmax
comp=Z,107nm,1.5s
LSA Lhasa 84.02 302 P **P** **00 06 43.3 -1.0**
MCK McKinley 84.09 18 *e*P **P** **00 06 41.9 -1.4**
MCK pmax pmax
comp=Z,232nm,1.4s
MCK McKinley 84.09 18 *e*P **P** **00 06 41.9 -1.4**
comp=Z,232nm,1.4s
SAO San Andreas Ge 84.13 50 *e*P **P** **00 06 45.7 +1.6**
SAO pmax pmax
comp=Z,22nm,1.1s
SAO San Andreas Ge 84.13 50 *e*P **P** **00 06 45.7 +1.6**
comp=Z,22nm,1.1s
IRK Irkutsk 84.23 327 *e*P **P** **00 06 43.9 -0.4**
IRK pmax pmax
comp=Z,381nm,2.0s
H02S1 DAWSON INLET T 84.29 32 T T 01 39 35.0
SNR=53
TLY Talaya 84.29 326 *e*P **P** **00 06 45.9 +1.3**
TLY pmax pmax
comp=Z,343nm,2.0s
TLY Talaya 84.29 326 P **P** **00 06 44.1 -0.5**
comp=Z,609nm,1.6s,SNR=20
PAX Paxson 84.66 20 *e*P **P** **00 06 45.1 -1.2**
PAX pmax pmax
comp=Z,333nm,2.6s
PAX Paxson 84.66 20 *e*P **P** **00 06 45.1 -1.2**
comp=Z,333nm,2.6s
YBH Yreka Blue Hor 85.06 45 P **P** **00 06 47.5 -1.3**
YBH Yreka Blue Hor 85.06 45 P **P** **00 06 47.5 -1.3**
comp=Z,17nm,0.9s,baz=244,slow=5.6,SNR=19
HUMO Hull Mountain 85.23 44 *e*P **P** **00 06 50.5 +0.9**
comp=Z,27nm,1.0s
COLA College 85.24 18 *e*P **P** **00 06 49.0 0.0**
COLA pmax pmax
comp=Z,135nm,1.1s
COLA College 85.24 18 *e*P **P** **00 06 49.0 0.0**
comp=Z,135nm,1.1s
CMB Columbia Colle 85.37 49 *e*P **P** **00 06 48.1 -2.3**
CMB pmax pmax
comp=Z,18nm,0.9s
CMB Columbia Colle 85.37 49 *e*P **P** **00 06 48.1 -2.3**
comp=Z,18nm,0.9s
ILAR Eielson Array 85.46 18 P **P** **00 06 48.0 -2.2**
ILAR Eielson Array 85.46 18 P **P** **00 06 48.0 -2.2**
comp=Z,12nm,0.9s,baz=233,slow=6.2,SNR=14
FMP Fort Macarthur 85.50 54 ⇓P **P** **00 06 52.0 +0.9**
baz=86
VES Vestal, Richgr 85.59 52 ⇓P **P** **00 06 52.6 +1.1**
baz=86
MOY Mondy 85.73 325 *e*P **P**
MOY pmax pmax
comp=Z,324nm,2.3s
MWC Mount Wilson 85.85 54 *e*P **P** **00 06 54.9 +1.8**
MWC pmax pmax
comp=Z,64nm,1.5s
MWC Mount Wilson 85.85 54 *e*P **P** **00 06 54.9 +1.8**
comp=Z,64nm,1.5s
ISA Isabella 86.00 52 *e*P **P** **00 06 51.6 -2.0**
ISA pmax pmax
comp=Z,91nm,1.8s
ISA Isabella 86.00 52 *e*P **P** **00 06 51.6 -2.0**
comp=Z,91nm,1.8s
ISA Isabella 86.00 52 ⇓P **P** **00 06 54.2 +0.5**
baz=86
EDW2 Edwards Air Fo 86.12 53 ⇑P **P** **00 06 54.5 +0.2**
baz=86
BFSC Mount Baldy Ra 86.17 54 ⇑P **P** **00 06 55.5 +0.9**
baz=86
TAPN Taplejung 86.18 299 *e*P **P** **00 06 55.8 +0.8**
HYT Haines Junctio 86.20 24 *e*P **P** **00 06 53.0 -1.1**
COLD Coldfoot 86.30 16 *e*P **P** **00 06 54.5 +0.2**
comp=Z,683nm,2.7s
ODAN Odare 86.31 299 *e*P **P** **00 06 56.4 +0.8**
comp=Z,245nm,1.0s
SKAG Skagway 86.31 26 *e*P **P** **00 06 57.6 +3.2**
comp=Z,19nm,1.0s
E03A Lebam 86.38 41 *e*P **P** **00 06 57.4 +2.3**
comp=Z,51nm,1.0s
MTUM Tungsten Hills 86.49 50 *e*P **P** **00 06 57.7 +1.5**
H04A Detroit Lake 86.55 43 *e*P **P** **00 06 57.0 +0.9**
comp=Z,20nm,0.8s
LRMC Laurel Mountai 86.55 53 ⇓P **P** **00 06 57.5 +1.1**
baz=87
CWC Cottonwood Cre 86.56 51 ⇓P **P** **00 06 56.6 +0.1**
baz=87
PAHR Pah Rah Range 86.69 48 *e*P **P** **00 06 56.8 -0.2**
comp=Z,37nm,1.2s
K05A Summer Lake 86.69 45 *e*P **P** **00 06 57.4 +0.4**
comp=Z,202nm,1.9s
MONP Monument Peak 86.73 55 ⇓P **P** **00 06 59.3 +1.8**
baz=87,SNR=5.5
MOD Modoc 86.80 46 *e*P **P** **00 06 58.3 +0.8**
comp=Z,165nm,1.4s
MPMC Manual Prospec 86.89 52 ⇓P **P** **00 06 59.1 +1.0**
baz=87
PFO Pinyon Flat Ob 86.92 55 ⇑P **P** **00 06 59.1 +0.8**
baz=87
RAMN Ramite 87.01 298 *e*P **P** **00 06 59.5 +0.5**
NVAR Mina Array Bea 87.05 50 P **P** **00 06 58.8 -0.1**
NVAR Mina Array Bea 87.05 50 P **P** **00 06 58.8 -0.1**
comp=Z,10nm,0.9s,baz=231,slow=6.8,SNR=23
PINOR Pine Mountain 87.10 44 *e*P **P** **00 07 00.6 +1.9**
comp=Z,33nm,1.1s
NV11 Mina Array Sit 87.16 50 *e*P **P** **00 06 59.0 -0.4**
GSC Goldstone 87.17 53 *e*P **P** **00 07 01.6 +2.2**
GSC pmax pmax
comp=Z,37nm,1.4s
GSC Goldstone 87.17 53 *e*P **P** **00 07 01.6 +2.2**
comp=Z,37nm,1.4s
GSC Goldstone 87.17 53 ⇓P **P** **00 07 00.6 +1.2**
baz=87
SWSC Sam W. Stewart 87.24 55 ⇓P **P** **00 07 01.7 +2.0**
baz=87,SNR=6.0
EGAK Eagle 87.29 20 *e*P **P** **00 06 57.8 -1.3**
comp=Z,45nm,1.0s
PGC Sidney 87.29 39 *e*P **P** **00 06 59.4 0.0**
comp=Z,2.6nm,1.3s
HEC Hector,Ludlow 87.40 53 ⇓P **P** **00 07 01.9 +1.4**
baz=87
BELC Belle Mtn. Jos 87.40 54 ⇑P **P** **00 07 01.9 +1.3**
baz=87,SNR=9.1
FURC Furnace Creek, 87.50 52 ⇑P **P** **00 07 02.0 +1.3**
baz=88
JIRN Jiri 87.56 299 *e*P **P** **00 07 02.4 +0.6**
LON Longmire 87.57 41 *e*P **P** **00 07 01.9 +0.9**
LON pmax pmax
comp=Z,53nm,1.8s
LON Longmire 87.57 41 *e*P **P** **00 07 01.9 +0.9**
comp=Z,53nm,1.8s
D05A Enumclaw 87.62 40 *e*P **P** **00 07 03.6 +2.5**
comp=Z,119nm,1.4s
BC3 Big Chuckawall 87.73 55 ⇓P **P** **00 07 03.4 +1.2**
baz=88
GUN Gumba 87.89 299 *e*P **P** **00 07 04.0 +0.6**
TUQ Turquoise Moun 87.90 53 ⇑P **P** **00 07 04.5 +1.5**
baz=88,SNR=12
GMRC Granite Mounta 87.91 54 ⇓P **P** **00 07 03.9 +0.9**
baz=88,SNR=8.6
GLA Glamis 88.05 56 *e*P **P** **00 07 05.2 +1.6**
GLA pmax pmax
comp=Z,297nm,2.6s
GLA Glamis 88.05 56 *e*P **P** **00 07 05.2 +1.6**
comp=Z,296nm,2.6s
GLA Glamis 88.05 56 ⇓P **P** **00 07 05.6 +1.9**
baz=88,SNR=7.0
DLBC Dease Lake 88.11 28 *e*P **P** **00 07 03.6 +0.3**
I07A Izee 88.12 44 *e*P **P** **00 07 02.3 -1.4**
comp=Z,163nm,2.1s
IRM Iron Mountain 88.12 54 ⇓P **P** **00 07 05.0 +1.1**
baz=88,SNR=9.1
WVOR Wild Horse Val 88.15 46 *e*P **P** **00 07 02.1 -1.9**
WVOR pmax pmax
comp=Z,45nm,1.4s
WVOR Wild Horse Val 88.15 46 *e*P **P** **00 07 02.1 -1.9**
comp=Z,45nm,1.4s
PKI Pulchoki 88.20 299 *e*P **P** **00 07 05.0 +0.2**
KKN Kakani 88.37 299 *e*P **P** **00 07 05.8 +0.3**
comp=Z,273nm,1.5s
TIXI Tiksi 88.39 349⇓*e*P **P** **00 07 03.1 -1.1**
TIXI pmax pmax
comp=Z,138nm,2.5s
DMN Daman 88.47 299 *e*P **P** **00 07 06.5 +0.5**
LTY Liberty 88.48 41 *e*P **P** **00 07 03.1 -2.2**
comp=Z,137nm,2.1s
Y12C Blythe 88.50 55 ⇑P **P** **00 07 06.9 +1.3**
baz=88
J08A Circle Bar Ran 88.57 45 *e*P **P** **00 07 04.6 -1.3**
comp=Z,64nm,1.5s
113A Mohawk Valley, 88.83 56 ⇓P **P** **00 07 09.2 +2.0**
baz=89
G08A Pilot Rock 88.90 43 *e*P **P** **00 07 06.0 -1.4**
comp=Z,398nm,3.0s
HAWA Hanford 88.91 42 *e*P **P** **00 07 09.1 +1.8**
comp=Z,78nm,1.6s
PDMCI Parker Dam,Lak 88.96 55 ⇓P **P** **00 07 09.5 +1.7**
baz=89,SNR=7.3
GKN Gorkha 88.97 299 *e*P **P** **00 07 08.2 0.0**
comp=Z,152nm,1.0s
R11A Troy Canyon, C 89.05 50 *e*P **P** **00 07 09.0 +0.6**
comp=Z,38nm,1.6s
R11A Troy Canyon, C 89.05 50 ⇓P **P** **00 07 08.8 +0.4**
baz=89
214A Organ Pipe Nat 89.37 57 ⇑P **P** **00 07 12.1 +2.3**
baz=89
W13A Hualapai Mount 89.39 54 ⇓P **P** **00 07 11.6 +1.5**
baz=89,SNR=7.4
Z14A Wintersburg 89.65 56 ⇑P **P** **00 07 13.1 +2.0**
baz=90
HVS Khovu-Aksy 89.66 323*d iP* **P** **00 07 10.9 +0.1**
B08A Colville Reser 89.72 40 *e*P **P** **00 07 12.1 +1.0**
comp=Z,107nm,1.9s
Y14A Wickenburg 89.77 55 ⇓P **P** **00 07 13.5 +1.8**
baz=90
KOLN Koldanda 89.80 298 *e*P **P** **00 07 11.5 -0.7**
comp=Z,38nm,0.8s
SYO Syowa Base 89.81 197⇑*e*P **P** **00 07 08.8 -2.3**
DANN Dangsing 89.81 299 *e*P **P** **00 07 11.9 -0.4**
E09A Wood Farm, Sta 89.85 42 *e*P **P** **00 07 12.9 +1.2**
comp=Z,64nm,1.4s
ELK Elko 90.02 48 *e*P **P** **00 07 11.7 -1.3**
comp=Z,24nm,1.3s
F10A Beach Ranch, E 90.27 43 *e*P **P** **00 07 12.2 -1.6**
comp=Z,156nm,1.8s
MFID Camas Ranch 90.42 45 ⇓P **P** **00 07 14.9 +0.3**
baz=90,SNR=8.5
CCUT Cedar City 90.49 52 *e*P **P** **00 07 17.1 +1.9**
comp=Z,76nm,1.9s
U15A North Rim 91.01 53 ⇑P **P** **00 07 19.0 +1.3**
baz=91,SNR=11
WMQ Urumqi 91.06 315 P **P** **00 07 17.3 -0.2**
WMQ pP **pP** **00 07 33.3 +2.1**
WMQ sP **sP** **00 07 40.3 +3.9**
WMQ AMB AMB
comp=Z,93nm,1.5s
NEW Newport 91.08 41 *e*P **P** **00 07 19.0 +1.5**
NEW Newport 91.08 41 ⇑P **P** **00 07 17.7 +0.3**
baz=91,SNR=9.3
NEW Newport 91.08 41 P **P** **00 07 17.9 +0.4**
comp=Z,10nm,0.9s,baz=234,slow=4.1,SNR=12
X16A Lo Mia Camp, P 91.14 55 ⇑P **P** **00 07 20.1 +1.9**
baz=91
HLID Hailey 91.44 46 *e*P **P** **00 07 18.2 -1.2**
comp=Z,43nm,1.8s
HLID Hailey 91.44 46 ⇑P **P** **00 07 19.2 -0.3**
baz=92,SNR=8.3
WUAZ Wupatki 91.48 54 *e*P **P** **00 07 20.4 +0.6**
comp=Z,31nm,1.4s
WUAZ Wupatki 91.48 54 ⇑P **P** **00 07 22.2 +2.4**
baz=92
MVU Marysvale 91.63 51 *e*P **P** **00 07 22.5 +2.0**
comp=Z,94nm,2.2s
DUG Dugway 91.64 49 ⇑P **P** **00 07 21.9 +1.5**
baz=92
BGU Big Grassy Mou 91.68 48 *e*P **P** **00 07 21.9 +1.3**
comp=Z,13nm,1.1s
HVU Hansel Valley 92.10 48 *e*P **P** **00 07 24.7 +2.2**
HVU pmax pmax
comp=Z,55nm,1.5s
HVU Hansel Valley 92.10 48 *e*P **P** **00 07 24.6 +2.2**
comp=Z,55nm,1.5s
NLU North Lily Min 92.12 50 *e*P **P** **00 07 23.8 +1.1**
comp=Z,31nm,1.7s
319A Douglas 92.13 58 ⇓P **P** **00 07 25.9 +3.0**
baz=92
X18A Snowflake 92.36 55 ⇑P **P** **00 07 26.3 +2.4**
baz=92
BSMT Bassoo Peak 92.44 41 *e*P **P** **00 07 24.2 +0.2**
comp=Z,10nm,1.0s
320A Kipp Ranch, An 92.75 59 ⇓P P 00 07 29.3 +3.6
baz=93
MCMT McKenzie Canyo 92.88 45 *e*P **P** **00 07 26.2 +0.1**
comp=Z,3.7nm,1.1s
120A U Bar Ranch, L 92.95 57 ⇓P **P** **00 07 29.7 +3.1**
baz=93
Z20A Nine Sixteen R 93.11 57 ⇓P **P** **00 07 30.1 +2.7**
baz=93
DLMT Dillon 93.19 44 *e*P **P** **00 07 29.5 +2.1**
comp=Z,21nm,1.3s
LRM Limekiln Ridge 93.42 44 *e*P **P** **00 07 30.2 +1.6**
LRM *e*pP **pP** **00 07 40.1 -2.2**
Y20A Horse Springs, 93.48 56 ⇓P **P** **00 07 31.9 +2.7**
baz=94
X20A Quemado 93.53 56 ⇓P **P** **00 07 31.9 +2.6**
baz=94
M17A Scullys Gap (B 93.54 48 ⇑P **P** **00 07 30.3 +1.1**
baz=94
121A Cookes Peak, D 93.64 58 ⇓P **P** **00 07 33.0 +3.1**
baz=94
W20A Ramah 93.66 55 ⇑P **P** **00 07 32.2 +2.3**
baz=94
V20A Brimhall 93.85 54 ⇓P **P** **00 07 33.0 +2.3**
baz=94
Z21A St. Cloud Mine 93.91 57 ⇓P **P** **00 07 33.8 +2.7**
baz=94
IMW Indian Meadow 93.96 46 *e*P **P** **00 07 33.6 +2.4**
comp=Z,48nm,2.0s
Y21A Point of Rocks 94.07 56 ⇓P **P** **00 07 34.0 +2.1**
baz=94
X21A Alamocita Cree 94.08 56 ⇓P **P** **00 07 34.7 +2.8**
baz=94
PV15 Paradox Valley 94.42 52 *e*P **P** **00 07 35.8 +2.4**
R20A Redvale 94.47 52 ⇓P **P** **00 07 35.0 +1.4**
baz=94
U21A Nageezi 94.63 54 ⇓P **P** **00 07 36.4 +2.1**
baz=95
PDAR Pinedale Array 94.66 47 P **P** **00 07 34.2 -0.1**
PDAR Pinedale Array 94.66 47 P **P** **00 07 34.2 -0.1**
comp=Z,1.1nm,0.9s,baz=246,slow=1.1,SNR=3.7
S21A Coal Bank Pass 94.80 53 ⇑P **P** **00 07 36.6 +1.4**
baz=95
SNAA Sanae 94.92 183 *e*P **P** **00 07 34.1 -0.7**
SNAA Sanae 94.92 183 *e*P **P** **00 07 33.9 -0.9**
comp=Z,149nm,1.2s
R21A Cimarron 95.14 52 ⇓P **P** **00 07 38.6 +1.9**
baz=95
Q21A Lamborn Mesa, 95.23 51 ⇓P **P** **00 07 38.3 +1.3**
baz=95
ANMO Albuquerque 95.26 55 *e*P **P** **00 07 36.9 -0.3**
224A Cornudas Mount 95.41 58 ⇓P **P** **00 07 41.1 +3.2**
baz=95
MK31 Makanchi Array 95.53 317 *e*P **P** **00 07 37.0 -0.9**
MK31 Makanchi Array 95.53 317 *e*P **P** **00 07 37.0 -0.9**
MKAR Makanchi Array 95.53 317 P **P** **00 07 37.1 -0.9**
MKAR 00 11 28.2
MKAR pmax pmax
comp=Z,21nm,0.9s
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 95.53 317 *e*P **P** **00 07 37.7 -0.3**
MKAR PP **PP** **00 11 28.1 -1.4**
MKAR PKKPbc **PKKPbc** **00 24 30.8 -0.2**
MKAR Makanchi Array 95.53 317 P **P** **00 07 37.0 -0.9**
comp=Z,21nm,0.9s,baz=92,slow=4.0,SNR=35
MKAR PP **PP** **00 11 28.1 -1.4**
comp=Z,2.8nm,0.8s,baz=95,slow=6.1,SNR=4.0
MKAR PKKPbc **PKKPbc** **00 24 30.8 -0.2**
comp=Z,1.1nm,0.6s,baz=266,slow=2.3,SNR=5.3
S22A 4UR Ranch, Cre 95.56 53 ⇓P **P** **00 07 40.3 +1.6**
baz=96
425A Indio Mountain 95.59 60 ⇓P P 00 07 42.9 +4.1
baz=96
124A Stringfield Ra 95.60 58 ⇑P P 00 07 42.3 +3.4
baz=96
V23A Ortiz Mt. (NFS 95.64 55 ⇑P P 00 07 42.2 +3.2
baz=96
ZAA0 Zalesovo Array 95.69 324 *e*P **P** **00 07 36.5 -2.0**
ZALV Zalesovo Beam 95.69 324 P **P** **00 07 36.6 -1.8**
ZALV 00 11 36.0
ZALV pmax pmax
comp=Z,41nm,1.0s
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 95.69 324 P **P** **00 07 36.6 -1.8**
ZALV PP PP 00 11 36.0 +5.5
ZALV Zalesovo Beam 95.69 324 P **P** **00 07 36.6 -1.8**
comp=Z,41nm,1.0s,baz=111,slow=4.2,SNR=41
ZALV PP PP 00 11 36.0 +5.5
comp=Z,1.0nm,0.4s,baz=117,slow=5.6,SNR=4.3
Q22A Crested Butte, 95.74 52 ⇓P **P** **00 07 41.5 +2.0**
baz=96
U23A El Rito 95.76 54 ⇓P P 00 07 42.9 +3.3
baz=96
Y24A Capitan 95.87 57 ⇑P **P** **00 07 43.0 +3.0**
baz=96
M21A Separation Pea 95.99 49 ⇓P **P** **00 07 41.7 +1.2**
baz=96
P22A Eagle 96.01 51 ⇑P **P** **00 07 42.8 +2.2**
baz=96
D19A Cripps Ranch, 96.14 43 ⇓P **P** **00 07 42.7 +2.0**
baz=96
C19A Slack Wire Ran 96.15 43 ⇑P **P** **00 07 42.6 +1.8**
baz=96
VNA1 Neumayer--Stat 96.18 182 *e*P **P** **00 07 40.3 -0.2**
O22A Kremmling 96.29 50 ⇑P **P** **00 07 43.6 +1.6**
baz=96
B19A Brinkman Farms 96.38 42 ⇑P **P** **00 07 43.1 +1.3**
baz=96
R23A Moffat 96.43 52 ⇓P **P** **00 07 44.5 +1.9**
baz=96
YKA Yellowknife Ar 96.70 27 P **P** **00 07 41.1 -1.8**
YKA Yellowknife Ar 96.70 27 P **P** **00 07 41.1 -1.8**
comp=Z,5.0nm,0.9s,baz=147,slow=38,SNR=4.0
NVS Novosibirsk 96.81 325 *e*P P 00 07 40.0 -3.5
NVS *e* 00 18 13.7
NVS *e*S **S** **00 18 56.0 -5.7**
NVS pmax pmax
comp=N,40nm,1.9s
NVS pmax pmax
comp=E,92nm,1.9s

NVS pmax pmax
comp=Z,190nm,1.9s
Q24A Divide 97.11 52 ⇑P Pdif 00 07 47.7 +1.9
baz=97
KURK Kurchatov 98.71 320⇓*e*P **P 00 07 51.6 -0.6**
KURK pmax pmax
comp=Z,45nm,2.5s
KURK Kurchatov 98.71 320 P Pdif 00 07 52.2 0.0
SNR=7.5
KURK Kurchatov 98.71 320 P **P 00 07 50.2 -2.0**
KURK PP **PP 00 11 58.6 +4.8**
KURBB Kurchatov Arra 98.75 320 P **P 00 07 50.2 -2.2**
comp=Z,2.4nm,0.8s,baz=108,slow=3.2,SNR=12
KURBB PP **PP 00 11 58.6 +4.4**
comp=Z,3.8nm,1.0s,baz=97,slow=7.3,SNR=6.0
VOSK Vostochnaya 103.67 321 *e*P **Pdif 00 08 13.9 -0.4**
VOSK Vostochnaya 103.67 321 *e*Pdif **Pdif 00 08 13.9 -0.4**
BVAR Borovoye Array 104.05 322 P **Pdif 00 08 15.1 -0.8**
BVAR 00 12 37.3
BVAR pmax pmax
comp=Z,5.0nm,0.9s
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR Borovoye Array 104.05 322 Pdif **Pdif 00 08 15.1 -0.8**
BVAR PP **PP 00 12 37.3 +3.2**
BVAR Borovoye Array 104.05 322 Pdiff **Pdif 00 08 15.1 -0.8**
comp=Z,4.6nm,0.9s,baz=120,slow=5.8,SNR=5.6
BVAR PP **PP 00 12 37.3 +3.2**
comp=Z,1.9nm,0.6s,baz=113,slow=0.7,SNR=4.3
ISRV Sarvestan 116.50 296 *e*P **PKPdf 00 12 56.2 -1.4**
ISFB Sefidab 117.19 302 *e*P **PKPdf 00 12 57.4 -1.1**
IVRN Varamin 117.58 303 *e*P **PKPdf 00 12 58.7 -0.5**
IKAZ Kazeroun 117.61 297 *e*P **PKPdf 00 12 59.3 -0.5**
KEV Kevo 118.11 345 *e*PKIKP PKPdf 00 12 52.1 -7.0
KEV Kevo 118.11 345 *e*pkp PKPdf 00 12 52.1 -7.0
ARCES ARCESS Array B 118.64 345 PKP **PKPdf 00 12 58.0 -2.2**
ARCES PKKPbc **PKKPbc 00 23 20.1 +1.0**
ARCES ARCESS Array B 118.64 345 PKP **PKPdf 00 12 58.0 -2.2**
comp=Z,3.9nm,0.4s,baz=71,slow=1.9,SNR=9.7
ARCES PKKPbc **PKKPbc 00 23 20.1 +1.0**
comp=Z,2.4nm,0.6s,baz=222,slow=1.6,SNR=7.0
LPAZ La Paz 118.69 117 PKP **PKPdf 00 13 00.7 -1.9**
LPAZ *e*PKPdf **PKiKP 00 13 02.5 -0.1**
LPAZ La Paz 118.69 117 PKP **PKPdf 00 13 00.7 -1.9**
comp=Z,3.1nm,1.0s,baz=24,slow=2.7,SNR=5.4
SUMG Summit 118.96 8 *i* P **PKPdf 00 13 03.4 +2.2**
comp=Z,9.9nm,1.0s
KLMR Klimovskoe 118.99 333 *e*PKIKP PKPdf 00 13 10.2 +9.2
KLMR pmax pmax
comp=Z,106nm,1.7s
IRAZ Razeghan 119.03 303 *e*P **PKPdf 00 13 01.8 -0.4**
IHRS Heris 121.03 307 *e*P **PKPdf 00 13 04.9 -1.1**
QRN Al-Qurain 121.06 296 *e*P **PKPdf 00 13 04.9 -1.1**
QRN AMb AMB 00 13 13.3
comp=Z,167nm,1.2s
IKOM Komasi 121.11 302 *e*P **PKPdf 00 13 03.2 -2.9**
UMR Umm Al-Rimmam 121.21 297 *e*P **PKPdf 00 13 05.0 -1.2**
UMR AMb AMB 00 13 07.6
comp=Z,96nm,1.1s
JOF Joensuu 121.21 338 *e*PKIKP **PKPdf 00 13 01.4 -3.8**
JOF Joensuu 121.21 338 *e*pkp **PKPdf 00 13 01.4 -3.8**
IBST Bostanabad 121.23 306 *e*P **PKPdf 00 13 03.7 -2.7**
RDF Al-Radifah 121.37 296 *e*P **PKPdf 00 13 05.1 -1.5**
RDF AMb AMB 00 13 14.2
comp=Z,103nm,1.3s
VRHR Novokhopersk 121.78 322 *e*PKIKP **PKPdf 00 13 06.2 -0.5**
VRHR pmax pmax
comp=Z,30nm,1.0s
VRHR pmax pmax
comp=N,6.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,1.3s
RST Umm Al-Ruwaisa 121.84 297 *e*P **PKPdf 00 13 05.6 -1.8**
RST AMb AMB 00 13 10.2
comp=Z,904nm,1.0s
CPUP Villa Florida 122.10 133 *e*PKPdf **PKPdf 00 13 05.9 -2.1**
CPUP Villa Florida 122.10 133 PKP **PKPdf 00 13 06.0 -2.1**
comp=Z,4.8nm,0.9s,baz=215,slow=2.3,SNR=5.8
CPUP PKKPbc **PKKPab 00 23 06.3 -0.1**
comp=Z,1.5nm,0.7s,baz=67,slow=9.2,SNR=2.8
MOS Moscow 122.18 329 *e*PKIKP **PKPdf 00 13 02.6 -4.7**
MOS pmax pmax
comp=Z,35nm,1.0s
ZEI Tsey 122.60 312 *i* PKIKP **PKPdf 00 13 08.2 -0.6**
ZEI pmax pmax
comp=Z,24nm,1.0s
VOR Voronezh 122.97 324 PKIKP **PKPdf 00 13 07.0 -1.9**
VOR pmax pmax
comp=Z,280nm,2.0s
OBN Obninsk 123.00 328*c i*PKIKP **PKPdf 00 13 08.4 -0.4**
OBN pmax pmax
comp=Z,53nm,1.5s
KBZ Khabaz 123.10 314 PKIKP **PKPdf 00 13 08.7 -0.7**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KBZ Khabaz 123.10 314 PKP **PKPdf 00 13 08.7 -0.7**
KBZ Khabaz 123.10 314 PKP **PKPdf 00 13 08.7 -0.7**
comp=Z,5.9nm,0.9s,baz=147,slow=4.1,SNR=6.9
VSR Storozhevoye 123.19 323 *e*PKIKP **PKPdf 00 13 09.1 -0.3**
VSR pmax pmax
comp=Z,30nm,1.3s
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,0.8s
KIV Kislovodsk 123.19 314*c i*PKIKP **PKPdf 00 13 09.2 -0.5**
KIV pmax pmax
comp=Z,30nm,1.3s
VORD Divnogorie 123.21 323 *e*PKIKP **PKPdf 00 13 09.3 -0.1**
VORD pmax pmax
comp=Z,20nm,0.4s
VORD pmax pmax
comp=E,40nm,1.5s
RAYN Ar Rayn 123.26 289 *e*PKPdf **PKPdf 00 13 09.4 -1.0**
KAF Kangasniemi 123.53 339 *e*PKIKP PKPdf 00 13 03.9 -5.8
KAF Kangasniemi 123.53 339 *e*pkp PKPdf 00 13 03.9 -5.8
BOSA Boshof 123.84 222 PKP **PKPdf 00 13 09.9 -1.7**
BOSA *e*PKPdf **PiKiKP 00 13 11.7 -0.2**
BOSA Boshof 123.84 222 PKP **PKPdf 00 13 09.9 -1.7**
comp=E,13nm,0.9s,baz=148,slow=1.1,SNR=10.0
SDV Santo Domingo 124.04 88 *e*PKPdf **PKPdf 00 13 11.1 -1.2**
FINES FINESS Array B 124.05 338 PKP **PKPdf 00 13 10.5 -0.2**
FINES PKKPbc **PKKPbc 00 23 00.1 +1.8**
FINES FINESS Array B 124.05 338 PKP **PKPdf 00 13 10.5 -0.2**
comp=E,5.3nm,0.8s,baz=33,slow=2.1,SNR=5.2
FINES PKKPbc **PKKPbc 00 23 00.1 +1.8**
comp=E,3.1nm,0.9s,baz=80,slow=10,SNR=4.0
SIV San Ignacio 124.85 120 PKP **PKPdf 00 13 11.6 -2.1**
SIV San Ignacio 124.85 120 PKP **PKPdf 00 13 11.6 -2.1**
comp=E,4.2nm,0.8s,baz=224,slow=3.9,SNR=6.7
LBTB Lobatse 125.99 225 PKP **PKPdf 00 13 14.7 -1.1**
LBTB *e*PKPdf **PiKiKP 00 13 15.4 -0.8**
LBTB Lobatse 125.99 225 PKP **PKPdf 00 13 14.7 -1.1**
comp=E,11nm,0.8s,baz=130,slow=5.3,SNR=11
SAML Samuel 126.11 112 *e*PKPdf **PKPdf 00 13 14.1 -2.0**
ANN Anapa 126.55 316 *i* PKIKP PKPdf 00 13 25.2 +9.2
ANN *e* 00 15 12.2
ANN pmax pmax
comp=Z,42nm,1.3s
KMBO Kilima Mbogo 127.51 258 P **PKPdf 00 13 20.1 +1.0**
SNR=9.7
KMBO Kilima Mbogo 127.51 258 PKP **PKPdf 00 13 18.9 -0.2**
KMBO Kilima Mbogo 127.51 258 PKP **PKPdf 00 13 18.9 -0.2**
comp=Z,4.4nm,0.9s,baz=85,slow=1.6,SNR=9.9
MALT Malatya 127.69 308 ⇓PKIKP **PKPdf 00 13 19.7 +1.1**
MALT Malatya 127.69 308 ⇓P **PKPdf 00 13 19.6 +1.0**
NACGM Naroch 127.90 332 *e* **PKPdf 00 13 16.0 -2.3**
NB2 NORSAR Subarra 129.00 345 PKPdf **PKPdf 00 13 19.7 -0.6**
comp=Z,21nm,1.0s,baz=28,slow=2.0
NOA NORSAR Array B 129.00 345 PKP **PKPdf 00 13 20.3 +0.1**
NOA NORSAR Array B 129.00 345 PKP **PKPdf 00 13 20.3 +0.1**
comp=Z,3.4nm,0.9s,baz=37,slow=2.2,SNR=4.8
AKASG Malin Array Be 129.03 326 PKIKP **PKPdf 00 13 20.1 -0.5**
AKASG pmax pmax
comp=Z,12nm,1.0s
AKASG Malin Array Be 129.03 326 PKP **PKPdf 00 13 20.1 -0.5**
AKASG Malin Array Be 129.03 326 PKP **PKPdf 00 13 20.1 -0.5**
comp=Z,12nm,1.0s,baz=62,slow=2.0,SNR=16
KIEV Kiev 129.04 326 *e*PKIKP **PKPdf 00 13 20.5 -0.1**
KIEV Kiev 129.04 326 *e*PKPdf **PKPdf 00 13 20.5 -0.1**
SJG San Juan 129.40 77 PKP **PKPdf 00 13 20.8 -1.4**
SJG San Juan 129.40 77 PKP **PKPdf 00 13 20.8 -1.4**
comp=Z,18nm,0.8s,baz=0.0,slow=15,SNR=4.4
HUMP Col San Antoni 129.69 77 *e*PKPdf **PKPdf 00 13 21.8 -0.9**
LSZ Lusaka 129.78 237 PKP **PKPdf 00 13 23.2 0.0**
LSZ *e*PKPdf **PKiKP 00 13 23.9 0.0**
LSZ Lusaka 129.78 237 PKP **PKPdf 00 13 23.2 0.0**
comp=Z,7.1nm,0.9s,baz=42,slow=6.9,SNR=6.5
BR131 Keskin Array S 130.87 311 *e*PKPdf **PKPdf 00 13 24.1 -0.6**
BRTR Keskin Array B 130.87 311 PKP **PKPdf 00 13 24.8 +0.2**
BRTR Keskin Array B 130.87 311 PKP **PKPdf 00 13 24.8 +0.2**
comp=Z,3.0nm,0.8s,baz=138,slow=3.3,SNR=5.2
KIS Kishinev 131.13 322 *e*PKP **PKPdf 00 13 23.0 -1.7**
ANTO Ankara 131.44 312 ⇑PKIKP **PKPdf 00 13 25.6 0.0**
ANTO Ankara 131.44 312 P **PKPdf 00 13 26.1 +0.5**
SNR=8.6
ANTO Ankara 131.44 312 ⇑*i*P **PKPdf 00 13 25.6 0.0**
ANTO Ankara 131.44 312 *e*PKPdf **PKPdf 00 13 25.7 +0.1**
LEOM Leova 131.73 322 ⇑PKIKP **PKPdf 00 13 25.3 -0.5**
LEOM Leova 131.73 322 ⇑*i*P **PKPdf 00 13 25.3 -0.5**
TLCR 132.00 320 ⇓PKIKP **PKPdf 00 13 27.8 +1.5**
TLCR 132.00 320 ⇓*i*P **PKPdf 00 13 27.8 +1.5**
LVV L'vov 132.29 328 *e*PKIKP **PKPdf 00 13 25.8 -1.0**
CFR Carcaliu 132.43 320 ⇑PKIKP **PKPdf 00 13 25.3 -1.9**
CFR Carcaliu 132.43 320 ⇑*i*P **PKPdf 00 13 25.3 -1.9**
GHRR 132.44 322 ⇑*i*P **PKPdf 00 13 26.2 -1.0**
CSS Prodhromos 132.49 305 *e*PKPdf **PKPdf 00 13 28.6 +0.9**
TIRR Tirgusor 132.59 319 ⇓PKIKP **PKPdf 00 13 28.1 +0.6**
TIRR Tirgusor 132.59 319 ⇓*i*P **PKPdf 00 13 28.1 +0.6**
TLB Topalu 132.77 320 ⇑PKIKP **PKPdf 00 13 28.7 +0.9**
TLB Topalu 132.77 320 ⇑*i*P **PKPdf 00 13 28.7 +0.9**
HARR Harsova 132.79 320 ⇑PKIKP **PKPdf 00 13 23.4 -4.5**
HARR Harsova 132.79 320 ⇑*i*P **PKPdf 00 13 23.4 -4.5**
BURAR Bucovina Array 132.91 325 ⇓PKIKP **PKPdf 00 13 29.9 +1.7**
BURAR Bucovina Array 132.91 325 ⇓*i*P **PKPdf 00 13 29.9 +1.7**
VRI Vrincioaia 132.95 322 ⇓PKIKP **PKPdf 00 13 26.0 -2.2**
VRI Vrincioaia 132.95 322 ⇓*i*P **PKPdf 00 13 26.0 -2.2**
PLOR Plostina 133.01 322 ⇑PKIKP **PKPdf 00 13 30.4 +2.1**
PLOR Plostina 133.01 322 ⇑*i*P **PKPdf 00 13 30.4 +2.1**
MSAB Monastry St. A 133.13 319 ⇑*i*P **PKPdf 00 13 30.6 +2.1**
ISR Istrita 133.44 321 ⇑PKIKP **PKPdf 00 13 28.9 -0.3**
ISR Istrita 133.44 321 ⇑*i*P **PKPdf 00 13 28.9 -0.3**
MLR Muntele Rosu 133.62 322 ⇓*i*P **PKPdf 00 13 30.0 +0.4**
KOLS Kolonicke sedl 133.74 328 *e*PKIKP **PKPdf 00 13 30.7 +1.1**
SULR 133.84 321 ⇓*i*P **PKPdf 00 13 28.6 -1.2**
UZH Uzhgorod 133.92 327 *e*PKIKP **PKPdf 00 13 30.0 +0.1**
STHS Stebnicka Huta 133.97 329 *e*PKIKP **PKPdf 00 13 32.7 +2.7**
TRPA Tarpa 134.09 327 ⇓*i*P **PKPdf 00 13 29.1 -1.1**
VOIR 134.18 322 ⇑PKIKP **PKPdf 00 13 28.4 -2.2**
VOIR 134.18 322 ⇑*i*P **PKPdf 00 13 28.4 -2.2**
ARR Arges 134.47 322 ⇓*i*P **PKPdf 00 13 32.5 +1.4**
HUMR Humele 134.70 321 ⇓*i*P **PKPdf 00 13 30.8 -0.7**
DRGR 134.78 325 ⇑PKIKP **PKPdf 00 13 31.9 +0.2**
DRGR 134.78 325 ⇑*i*P **PKPdf 00 13 31.9 +0.2**
OKC Ostrava-Krasne 135.21 331 *e*PKPdf **PKPdf 00 13 33.8 +1.5**
OKC *ep*PKP **pPKPdf 00 13 43.9 -2.5**
OKC *ep*PP **PP 00 16 08.9 +1.1**
KSP Ksiaz 135.34 333 *e*PKIKP **PKPdf 00 13 31.4 -1.1**
TSUM Tsumeb 135.37 224 PKPpre PKPpre 00 13 30.6
TSUM Tsumeb 135.37 224 PKhKP PKPpre 00 13 30.6
comp=Z,10nm,1.1s,baz=180,slow=2.0,SNR=3.8
BDFB Brasilia 135.51 129 PKP **PKPdf 00 13 32.2 -1.8**
BDFB *e*PKPdf **PiKiKP 00 13 33.5 -2.0**
BDFB Brasilia 135.51 129 PKP **PKPdf 00 13 32.2 -1.8**
comp=Z,9.6nm,0.9s,baz=157,slow=8.6,SNR=8.0
MORC Moravsky Berou 135.53 331 ⇓PKIKP **PKPdf 00 13 33.2 +0.3**
MORC Moravsky Berou 135.53 331 ⇓*i*P **PKPdf 00 13 33.2 +0.3**
PSZ Piszkesteto 135.61 328 ⇓PKIKP **PKPdf 00 13 34.0 +0.8**
PSZ Piszkesteto 135.61 328 ⇓*i*P **PKPdf 00 13 34.0 +0.8**
DPC Dobruska-Polom 135.69 333 *e*PKPdf **PKPdf 00 13 33.7 +0.5**
DPC *ep*PKP **pPKPdf 00 13 45.1 -2.3**
DPC *e*PP **PP 00 16 11.1 +0.3**
UPC Upice 135.71 333 *e*PKPdf **PKPdf 00 13 35.5 +2.3**
UPC *ep*PKP **pPKPdf 00 13 47.3 -0.1**
UPC *e*PP **PP 00 16 10.1 -0.8**
BZS Buzias 136.09 324 ⇑PKIKP **PKPdf 00 13 34.3 +0.3**
BZS Buzias 136.09 324 ⇑*i*P **PKPdf 00 13 34.3 +0.3**
VRAC Vranov 136.30 331 ⇓*i*P **PKPdf 00 13 35.1 +0.7**
PVCC Panska Ves 136.32 334 *e*PKPdf **PKPdf 00 13 34.6 +0.3**
PVCC *ep*PKP **pPKPdf 00 13 46.0 -2.5**
PVCC *e*PP **PP 00 16 13.8 -0.9**
PVCC *e*SKP 00 17 08.7
BRG Berggiesshubel 136.32 335 *e*PKP **PKPdf 00 13 35.2 +0.9**
comp=Z,12nm,1.3s
BRG *i* PP **PP 00 16 14.6 -0.1**
comp=Z,60nm,1.8s
BRG *e*PKS **PKSdf 00 17 07.6 -2.7**
comp=Z,18nm,1.3s
CLL Collm 136.37 336 *i* PKIKP **PKPdf 00 13 34.4 0.0**
CLL Collm 136.37 336 *i* PKPdf **PKPdf 00 13 34.4 0.0**
CLL *i* pPKiKP **pPKiKP 00 13 46.3 -4.0**
CLL *i* sPKiKP sPKiKP 00 13 48.9 -6.4
comp=Z,39nm,1.4s
CLL *e*SKPdf **SKPdf 00 17 07.0 +1.2**
CLL *i* PKSab **PKSab 00 17 14.7 +1.2**
comp=Z,67nm,1.6s
SMOL Smolenice 136.46 330 *e*PKIKP **PKPdf 00 13 37.4 +2.7**
PRA Prague 136.72 334 PKPdf **PKPdf 00 13 38.0 +2.9**
PRU Pruhonice 136.73 334 *e*PKPdf **PKPdf 00 13 37.8 +2.7**
PRU *e*PP **PP 00 16 16.9 -0.4**
VTS Vitosha 136.80 320 ⇓PKIKP **PKPdf 00 13 33.6 -2.1**
VTS Vitosha 136.80 320 ⇓*i*P **PKPdf 00 13 33.5 -2.1**
TREC Trest 136.82 332 *e*PKPdf **PKPdf 00 13 35.1 -0.2**
TREC *e*PP PP 00 16 07.5 -10
EKA Eskdalemuir Ar 137.26 351 PKP **PKPdf 00 13 35.2 -0.7**
EKA Eskdalemuir Ar 137.26 351 PKP **PKPdf 00 13 35.2 -0.7**
comp=Z,2.1nm,0.7s,baz=17,slow=2.8,SNR=4.3
KHC Kasperske Hory 137.79 333 *e*PKPdf **PKPdf 00 13 37.4 +0.3**
KHC *ex* x 00 13 44.5
KHC *e*PP **PP 00 16 24.0 0.0**
KHC *e*SKP 00 17 12.4
KHC *ex* x 00 17 20.5
GEC2 GERESS Array S 137.95 333 *e*PKIKP PKPdf 00 13 46.2 +8.7
GEC2 GERESS Array S 137.95 333 *e*PKPdf PKPdf 00 13 46.1 +8.7
GEC2 *e*PKPdf PKPdf 00 13 46.2 +8.7
GERES GERESS Array B 137.95 333 PKPpre PKPpre 00 13 28.5
GERES PKP **PKiKP 00 13 38.6 -0.9**
GERES GERESS Array B 137.95 333 PKhKP PKPpre 00 13 28.5
comp=Z,2.8nm,0.9s,baz=90,slow=1.3,SNR=4.0
GERES PKP **PKiKP 00 13 38.6 -0.9**
comp=Z,2.4nm,0.9s,baz=35,slow=1.6,SNR=4.6
IDI Anoyia 138.94 309 *e*PKPdf **PKPdf 00 13 42.4 +2.7**
MEM Membach 139.47 341 PKP **PKPdf 00 13 42.3 +2.2**
MEM Membach 139.47 341 *e*PKIKP **PKPdf 00 13 39.8 -0.3**
MEM Membach 139.47 341 *e*PKPdf **PKPdf 00 13 39.8 -0.3**
TIR Tirane 139.57 320 *e*PKIKP **PKPdf 00 13 43.1 +2.5**
TIR Tirane 139.57 320 *e*PKPdf **PKPdf 00 13 43.0 +2.5**
STU Stuttgart 139.88 336 *e*PKIKP **PKPdf 00 13 43.7 +2.8**
STU Stuttgart 139.88 336 *e*PKPdf **PKPdf 00 13 43.7 +2.8**
WLF Walferdange 140.24 340 PKP **PKPdf 00 13 42.1 +0.6**
DOU Dourbes 140.37 342 PKP **PKPdf 00 13 42.3 +0.6**
BFO Black Forest 140.57 337 *e*PKHKP PKPpre 00 13 35.6
BFO Black Forest 140.57 337 *e*PKPdf PKPpre 00 13 35.6
TUE Stuetta 141.66 334 *e*PKPdf PKPdf 00 13 39.1 -5.4
CUC Castrocucco 142.86 321 *e*PKPdf **PKPdf 00 13 42.0 -4.6**
CEL Celeste 143.84 319 *e*PKPdf PKPab 00 13 44.5 -0.9
BNI Bardonecchia 143.91 335 *e*PKIKP PKPbc 00 13 46.4 +0.2
BNI Bardonecchia 143.91 335 *e*PKPdf PKPbc 00 13 46.4 +0.1
GDM Grand'Maison 144.01 336 PKP **PKPab 00 13 46.1 +0.1**
PLDF La Plantade 144.29 339 PKP **PKPab 00 13 47.1 +0.2**
SURF Saint Ours 144.32 335 PKP **PKPab 00 13 47.3 0.0**
AGO Saint Agoulin 144.38 340 PKP **PKPab 00 13 47.1 -0.1**
SAOF Saorge 144.40 333 PKP **PKPab 00 13 46.8 -0.6**
AUTN L'Aution 144.45 333 PKP **PKPab 00 13 47.4 -0.4**
TOUF Mont Tournerai 144.51 334 PKP **PKPab 00 13 46.8 -1.2**
SSB Saint Sauveur 144.55 338 *e*PKIKP **PKPab 00 13 46.9 -1.0**
SSB Saint Sauveur 144.55 338 *e*PKPdf **PKPab 00 13 46.9 -1.0**
LUCF Luceram 144.57 333 PKP **PKPab 00 13 47.3 -0.8**
MVIF Mont Vial 144.65 334 PKP **PKPab 00 13 47.8 -0.6**
REVF Revere 144.68 333 PKP **PKPab 00 13 47.8 -0.6**
PYM Petit Puy Mans 144.69 340 PKP **PKPab 00 13 48.4 0.0**
OG25 Le Caire 144.72 335 PKP **PKPab 00 13 48.5 -0.1**
VERF Verneugheol 144.87 340 PKP **PKPab 00 13 48.3 -0.8**
CALN Calern 144.88 334 PKP **PKPab 00 13 48.7 -0.6**
LBL Lubilhac 145.06 339 PKP **PKPbc 00 13 49.3 -0.5**
FRNF Fournols 145.16 340 PKP **PKPdf 00 13 50.4 -0.1**
VSL Villasalto 146.91 326 *e*PKPdf **PKPdf 00 13 54.3 +0.7**
KEST Kesra 149.52 321 *e*PKPdf **PKPdf 00 13 58.3 +0.2**
KEST *e*PKPbc **PKPbc 00 14 03.1 +0.5**
KEST PKPbc **PKPbc 00 14 03.1 +0.5**
KEST Kesra 149.52 321 PKPbc **PKPbc 00 14 03.1 +0.5**
comp=Z,17nm,0.8s,baz=287,slow=1.9,SNR=19
SHEL Horse Pasture 149.89 195 *e*PKHKP **PKPdf 00 13 59.7 +0.5**
SHEL Horse Pasture 149.89 195 *e*PKPdf **PKPdf 00 13 59.6 +0.5**
RCBR Riachuelo 150.88 129 *e*PKPdf **PKPdf 00 14 02.7 +1.9**
PBRG Braganca 150.96 349 *e*PKPbc **PKPbc 00 14 05.2 -0.6**
PBRG Braganca 150.96 349 *e*PKPab **PKPab 00 14 13.2 0.0**
PCAB Cabril 151.26 351 *e*PKPab **PKPab 00 14 13.3 -1.1**
POLO Lamas de Olo 151.55 351 *e*PKPbc **PKPbc 00 14 06.2 -1.1**
MVO Moncorvo 151.63 349 *e*PKPdf **PKPdf 00 14 00.0 -1.2**
MVO Moncorvo 151.63 349 *e*PKPbc **PKPbc 00 14 06.3 -1.1**
PVRL Vila Real 151.64 351 *e*PKPdf **PKPbc 00 14 06.5 -0.9**
PTO Porto 151.91 352 *e*PKPbc **PKPbc 00 14 06.5 -1.4**
PVIS Viseu 152.21 351 *e*PKPdf **PKPbc 00 14 07.6 -1.1**
ESDC Sonseca Array 152.36 344 PKPbc **PKPbc 00 14 07.9 -1.2**
ESDC Sonseca Array 152.36 344 PKPbc **PKPbc 00 14 07.9 -1.2**
comp=Z,6.9nm,0.9s,baz=16,slow=2.2,SNR=8.0
MTE Manteigas 152.46 350 *e*PKPdf **PKPdf 00 14 01.3 -1.1**
MTE Manteigas 152.46 350 *e*PKPbc **PKPbc 00 14 08.6 -0.7**
PAB San Pablo 152.58 344 *e*PKIKP **PKPdf 00 14 03.3 +0.6**
PAB San Pablo 152.58 344 *e*PKPdf **PKPdf 00 14 03.3 +0.6**
PCAS Casmilo, Conde 152.96 351 *e*PKPbc **PKPbc 00 14 09.7 -0.7**
PCAS Casmilo, Conde 152.96 351 *e*PKPab **PKPab 00 14 19.3 -2.2**
PCBR Castelo Branco 153.00 349 *e*PKPbc **PKPbc 00 14 09.6 -0.8**
PTOM Tomar 153.37 351 *e*PKPbc **PKPbc 00 14 11.1 -0.1**
PMRV Marv??o 153.38 349 *e*PKPdf **PKPdf 00 14 03.9 +0.2**
PMRV Marv??o 153.38 349 *e*PKPbc **PKPbc 00 14 10.0 -1.3**
PMTG Montargil 153.88 350 *e*PKPbc **PKPbc 00 14 11.7 -0.7**
PMTG Montargil 153.88 350 *e*PKPab **PKPab 00 14 23.2 -2.2**
PESTR Estremoz 153.96 349 *e*PKPab **PKPab 00 14 26.6 +0.8**
EVO Evora 154.36 350 *e*PKPdf **PKPbc 00 14 11.0 -2.4**
EVO Evora 154.36 350 *e*PKPab **PKPab 00 14 26.6 -0.9**
PBAR Barrancos 154.52 348 *e*PKPdf **PKPdf 00 14 02.2 -3.2**
PBAR Barrancos 154.52 348 *e*PKPab **PKPab 00 14 28.9 +0.7**
PBEJ Beja 154.83 349 *e*PKPab **PKPab 00 14 29.5 0.0**
PNCL Nicolau / Gran 154.86 350 *e*PKPbc **PKPbc 00 14 14.6 +0.1**
PNCL Nicolau / Gran 154.86 350 *e*PKPab **PKPab 00 14 30.4 +0.8**
PCVE Castro Verde 155.24 349 *e*PKPab **PKPab 00 14 32.3 +1.0**
PVAQ Vaqueiros 155.40 349 *e*PKPab **PKPab 00 14 32.8 +0.8**
MORF Marmelete 155.67 350 *e*PKPab **PKPab 00 14 34.1 +0.9**
TORD Torodi Ar. Bea 165.02 271 PKP **PKPdf 00 14 16.7 -1.1**
TORD PKPab **PKPab 00 15 16.8 +2.0**
TORD Torodi Ar. Bea 165.02 271 PKP **PKPdf 00 14 16.7 -1.1**
comp=Z,14nm,0.9s,baz=21,slow=1.0,SNR=13
TORD PKPab **PKPab 00 15 16.8 +2.0**
comp=Z,10.0nm,1.0s,baz=92,slow=4.1,SNR=4.5
KIC Kosan Boka 168.82 233 *e*PKIKP **PKPdf 00 14 19.2 -1.6**
comp=Z,192nm,1.5s
LIC Lamlo 168.95 231 *e*PKIKP **PKPdf 00 14 19.2 -1.7**
comp=Z,139nm,1.9s
DBIC Dimbokro 169.10 234 PKP **PKPdf 00 14 18.6 -2.3**
DBIC *e*PKPdf PKPdf 00 14 19.8 -1.2
DBIC Dimbokro 169.10 234 PKP **PKPdf 00 14 18.6 -2.3**
comp=Z,18nm,1.0s,baz=110,slow=1.3,SNR=7.9
TIC Toumodi 169.21 233 *e*PKIKP **PKPdf 00 14 19.3 -1.7**
comp=Z,396nm,1.9s

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*IDC **08** 00:01:15.3±0.5, 12°.62S×166°.29E, h0km, mb4.9/23, mb1 4.9/25, mb1mx4.9/28, mbtmp4.9/25, ML4.1/2, Error ellipse: s-maj=18.1km s-min=13.7km az=140.0*
*NEIC **08** 00:01:18.1±1.8, 12°.85S×166°.46E, h24km±12km, mb4.9/7, Error ellipse: s-maj=9.2km s-min=7.5km az=196.0*
*ISCJB **08** 00:01:20.3±0.4, 12°.64S±0°.06×166°.24E±0°.06, h44km, mb4.9/30, Error ellipse: s-maj=8.1km s-min=7.6km az=144.4*
*AUST **08** 00:01:30.6±3.3, 12°.81S×165°.88E, h89km, Error ellipse: s-maj=2.4km s-min=1.0km az=344.0*

ISC 08 00:01:21.2±0.4, **12°.79S**±0°.07×**166°.34E**±0°.06, **h44**km, **n118**, σ1**s29**/117, **mb4.9**/30, **Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.10**	**297**	Pn	**Pn**	**00 03 03.1**	**+0.4**
HNR				Sn	**Sn**	**00 04 20.8**	**-1.4**
HNR	**Honiara**	**7.10**	**297**	Pn	**Pn**	**00 03 03.1**	**+0.4**
	39nm,0.3s,baz=176,slow=1.3,SNR=17						
HNR				Sn	**Sn**	**00 04 20.7**	**-1.4**
	9.2nm,0.3s,baz=30,slow=20,SNR=4.6						
DZM	**Mont Dzumac**	**9.23**	**179**	*e*Pn	**Pn**	**00 03 30.2**	**-1.7**
	416nm,1.7s						
DZM				Sn	Sn	00 05 30.0	+15
DZM	**Mont Dzumac**	**9.23**	**179**	Pn	**Pn**	**00 03 33.4**	**+1.6**
	2.0nm,0.3s,baz=0.0,slow=20,SNR=2.5						
DZM				Sn	Sn	00 05 30.0	+15
	1.4nm,0.3s,baz=284,slow=17,SNR=2.2						
MSVF	**Nonsavu**	**12.32**	**115**	*e*Pn	Pn	00 04 09.6	-4.6
EIDS	**Eidsvold**	**19.06**	**227**	P	**Pn**	**00 05 43.6**	**+2.5**
	baz=19,SNR=10						
PMG	**Port Moresby**	**19.11**	**278**	P	**P**	**00 05 40.7**	**+0.1**
PMG	**Port Moresby**	**19.11**	**278**	P	**P**	**00 05 40.7**	**+0.1**
	1.6nm,0.3s,baz=113,slow=5.2,SNR=6.6						
CTA	**Charters Tower**	**20.57**	**247**	P	Pn	00 05 57.9	-1.1
CTA	**Charters Tower**	**20.57**	**247**	P	Pn	00 05 57.9	-1.1
	18nm,0.9s,baz=73,slow=13,SNR=8.0						
CTAO	**Charters Tower**	**20.57**	**247**	*e*P	**P**	**00 05 56.2**	**-0.3**
AFI	**Afiamalu**	**21.32**	**95**	*e*P	**P**	**00 06 02.2**	**-2.5**
AFI	**Afiamalu**	**21.32**	**95**	P	**P**	**00 06 07.8**	**+3.0**
	32nm,0.7s,baz=141,slow=19,SNR=4.4						
RMQ	**Roma**	**21.40**	**228**	P	**P**	**00 06 08.6**	**+3.1**
	baz=21,SNR=13						
RAO	**Raoul Island**	**21.96**	**141**	*e*P	**P**	**00 06 07.4**	**-4.0**
ARMA	**Armidale**	**22.20**	**215**	*e*P	**P**	**00 06 11.3**	**-2.7**
	26nm,0.8s						
ARMA	**Armidale**	**22.20**	**215**	P	**P**	**00 06 16.1**	**+2.1**
	baz=22,SNR=8.5						
COEN	**Coen**	**22.56**	**264**	*e*P	**P**	**00 06 18.0**	**0.0**
	583nm,1.4s						
COEN	**Coen**	**22.56**	**264**	P	**P**	**00 06 18.6**	**+0.6**
	baz=22,SNR=8.0						
QLP	**Quilpie**	**24.87**	**233**	P	**P**	**00 06 41.5**	**+1.6**
	baz=24,SNR=4.2						
CMSA	**Cobar Meteorol**	**26.62**	**222**	P	P	00 07 00.8	+5.1
	baz=26,SNR=5.5						
STKA	**Stephens Creek**	**29.61**	**226**	P	**P**	**00 07 24.1**	**+1.7**
STKA	**Stephens Creek**	**29.61**	**226**	P	**P**	**00 07 24.1**	**+1.7**
	20nm,0.8s,baz=15,slow=7.8,SNR=7.0						
TOO	**Toolangi**	**30.91**	**213**	P	**P**	**00 07 35.9**	**+2.0**
	baz=31,SNR=4.6						
**WRA

3.8nm,0.8s
VNDA **Vanda** 64.77 181 P P 00 11 59.8 +5.1
1.5nm,0.6s,baz=342,slow=6.9,SNR=6.6
CASY **Casey** 64.97 202 P P 00 11 54.4 -1.8
SBA **Scott Base** 65.06 180 *eP* P 00 11 54.8 -1.8
7.9nm,0.9s
FX1 **Attu Island--F** 65.67 5 P P 00 12 00.7 -0.2
FX1 **Attu Island--F** 65.67 5 P P 00 12 00.7 -0.2
14nm,0.7s,baz=270,slow=12,SNR=4.0
PSI **Prapat** 68.68 278 P P 00 12 20.4 -0.6
PSI **Prapat** 68.68 278 P P 00 12 20.8 -0.2
baz=68,SNR=5.3
PSI **Prapat** 68.68 278 P P 00 12 20.4 -0.6
11nm,0.8s,baz=114,slow=8.1,SNR=7.4
QSPA **South Pole Qui** 77.22 180 *eP* P 00 13 08.9 -1.7
12nm,0.7s
ULN **Ulaanbaatar** 80.05 324 *eP* P 00 13 26.3 -0.1
SONM **Songino Array** 80.41 324 P P 00 13 28.3 0.0
SONM **Songino Array** 80.41 324 P P 00 13 28.3 0.0
4.9nm,0.8s,baz=136,slow=5.3,SNR=17
MAW **Mawson** 83.33 202 P P 00 13 44.5 +1.3
MAW **Mawson** 83.33 202 P P 00 13 44.5 +1.3
5.4nm,1.0s,baz=41,slow=1.5,SNR=3.9
ILAR **Eielson Array** 84.98 18 P P 00 13 52.2 +0.7
ILAR **Eielson Array** 84.98 18 P P 00 13 52.2 +0.7
5.2nm,0.6s,baz=242,slow=5.1,SNR=39
ODAN **Odare** 86.09 299 *eP* P 00 13 58.7 +0.5
NVAR **Mina Array Bea** 86.71 50 P P 00 14 01.8 +0.8
NVAR **Mina Array Bea** 86.71 50 P P 00 14 01.8 +0.8
2.4nm,0.8s,baz=234,slow=8.1,SNR=10.0
RAMN **Ramite** 86.79 298 *eP* P 00 14 02.1 +0.4
EGAK **Eagle** 86.81 20 *eP* P 00 14 00.3 -0.3
JIRN **Jiri** 87.34 299 *eP* P 00 14 04.3 -0.2
GUN **Gumba** 87.67 299 *eP* P 00 14 05.5 -0.5
PKI **Pulchoki** 87.98 299 *eP* P 00 14 06.9 -0.6
KKN **Kakani** 88.15 299 *eP* P 00 14 07.9 -0.3
DMN **Daman** 88.25 299 *eP* P 00 14 08.6 -0.1
36nm,0.7s
GKN **Gorkha** 88.75 299 *eP* P 00 14 10.1 -0.8
28nm,0.8s
KOLN **Koldanda** 89.58 298 *eP* P 00 14 13.9 -1.0
11nm,0.6s
MK31 **Makanchi Array** 95.18 317 *eP* P 00 14 40.0 -0.1
MKAR **Makanchi Array** 95.18 317 P P 00 14 39.8 -0.3
MKAR **Makanchi Array** 95.18 317 P P 00 14 39.8 -0.3
9.0nm,0.8s,baz=100,slow=6.2,SNR=20
ZALV **Zalesovo Beam** 95.30 324 P P 00 14 39.1 -1.3
ZALV **Zalesovo Beam** 95.30 324 P P 00 14 39.1 -1.3
5.6nm,0.8s,baz=117,slow=5.1,SNR=8.8
YKA **Yellowknife Ar** 96.25 27 P P 00 14 44.1 -0.4
YKA **Yellowknife Ar** 96.25 27 P P 00 14 44.1 -0.4
2.1nm,0.8s,baz=304,slow=4.4,SNR=3.5
KURK **Kurchatov** 98.34 320 P P 00 14 52.5 -1.8
KURBB **Kurchatov Arra** 98.39 320 P P 00 14 52.5 -2.0
1.9nm,0.5s,baz=93,slow=5.0,SNR=8.4
ARCES **ARCESS Array B** 118.16 345 PKP PKPdf 00 20 01.5 -1.5
ARCES **ARCESS Array B** 118.16 345 PKP PKPdf 00 20 01.5 -1.5
2.7nm,0.8s,baz=48,slow=2.7,SNR=5.8
LPAZ **La Paz** 118.89 117 PKP PKPdf 00 20 05.7 -1.0
LPAZ **La Paz** 118.89 117 PKP PKPdf 00 20 05.7 -1.0
0.8nm,0.6s,baz=309,slow=6.5,SNR=3.9
CPUP **Villa Florida** 122.43 133 PKP PKPdf 00 20 13.4 +1.0
CPUP **Villa Florida** 122.43 133 PKP PKPdf 00 20 13.4 +1.0
1.6nm,0.6s,baz=282,slow=2.5,SNR=4.7
FINES **FINESS Array B** 123.60 338 PKP PKPdf 00 20 16.3 +2.7
FINES **FINESS Array B** 123.60 338 PKP PKPdf 00 20 16.3 +2.7
3.3nm,0.8s,baz=330,slow=4.8,SNR=4.8
SIV **San Ignacio** 125.08 120 PKP PKPdf 00 20 18.5 +0.7
SIV **San Ignacio** 125.08 120 PKP PKPdf 00 20 18.5 +0.7
1.2nm,0.6s,baz=271,slow=7.0,SNR=4.8
AKASG **Malin Array Be** 128.63 326 PKP PKPdf 00 20 22.5 -1.0
AKASG **Malin Array Be** 128.63 326 PKP PKPdf 00 20 22.5 -1.0
0.2nm,0.3s,baz=55,slow=3.5,SNR=3.6
BRTR **Keskin Array B** 130.56 312 SKPbc SKPbc 00 23 49.8 +1.8
BRTR **Keskin Array B** 130.56 312 SKPbc SKPbc 00 23 49.8 +1.8
1.6nm,0.9s,baz=160,slow=4.6,SNR=4.9
BDFB **Brasilia** 135.81 129 PKP PKPdf 00 20 39.5 +1.2
BDFB **Brasilia** 135.81 129 PKP PKPdf 00 20 39.5 +1.2
2.7nm,0.6s,baz=209,slow=10,SNR=3.3
GERES **GERESS Array B** 137.52 333 PKP PKPdf 00 20 42.6 +2.1
GERES SKPab SKiKP 00 24 13.7 -1.5
GERES **GERESS Array B** 137.52 333 PKP PKPdf 00 20 42.6 +2.1
0.3nm,0.5s,baz=70,slow=1.1,SNR=3.0
GERES SKPab SKiKP 00 24 13.7 -1.5
0.2nm,0.4s,baz=9.9,slow=3.1,SNR=4.5
DAVOX **Davos/Dischmat** 140.75 334 PKP PKPdf 00 20 47.3 +0.7
DAVOX **Davos/Dischmat** 140.75 334 PKP PKPdf 00 20 47.3 +0.7
1.3nm,0.6s,baz=188,slow=5.6,SNR=4.6
KEST **Kesra** 149.14 322 PKPbc PKPbc 00 21 05.1 -0.3
KEST **Kesra** 149.14 322 PKPbc PKPbc 00 21 05.1 -0.3
2.1nm,0.7s,baz=332,slow=1.4,SNR=6.5
ESDC **Sonseca Array** 151.89 344 PKPbc PKPbc 00 21 10.7 -1.1
ESDC **Sonseca Array** 151.89 344 PKPbc PKPbc 00 21 10.7 -1.1
1.5nm,0.7s,baz=44,slow=0.7,SNR=4.8
TORD **Torodi Ar. Bea** 165.03 273 PKPab PKPab 00 22 18.4 -0.1
TORD **Torodi Ar. Bea** 165.03 273 PKPab PKPab 00 22 18.4 -0.1
5.8nm,0.9s,baz=82,slow=3.4,SNR=8.8

IDC 08 00:05:07.7±10.0, **13°.19S×167°.08E, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.8/18, mbtmp4.0/3, Error ellipse: s-maj=337.5km s-min=59.3km az=129.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.05**	**253**	P		P	00 11 36.4	-0.1
	1.1nm,0.9s,baz=86,slow=8.9,SNR=2.3							
ASAR	**Alice Springs**	**33.08**	**247**	P		P	00 11 45.6	+0.1
	0.8nm,0.6s,baz=74,slow=10.0,SNR=4.1							
MKAR	**Makanchi Array**	**95.97**	**317**	P		P	00 18 36.6	-0.2
	0.3nm,0.5s,baz=92,slow=4.2,SNR=4.0							

*IDC **08** 00:08:13.5±0.8, 13°.31S×166°.18E, h0km, mb4.3/13, mb1 4.4/13, mb1mx4.3/20, mbtmp4.2/13, Error ellipse: s-maj=30.2km s-min=19.5km az=127.0*
*ISCJB **08** 00:08:17.2±0.5, 13°.52S±0°.08×166°.15E±0°.08, h36km, mb4.3/17, Error ellipse: s-maj=11.9km s-min=11.2km az=161.3*
*NEIC **08** 00:08:19.0±1.2, 13°.45S×166°.18E, h40km±11km, mb4.4/6, Error ellipse: s-maj=10.0km s-min=9.4km az=50.0*

ISC 08 00:08:18.7±0.6, **13°.45S±0°.09×166°.2E±0°.1, h36km, n39, σ0s98/37, mb4.3/16, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**7.32**	**302**	Pn		**Pn**	**00 10 03.7**	**+0.5**
HNR	**Honiara**	**7.32**	**302**	Pn		**Pn**	**00 10 03.7**	**+0.5**
	13nm,0.3s,baz=18,slow=20,SNR=3.4							
DZM	**Mont Dzumac**	**8.58**	**179**	*e*Pn		**Pn**	**00 10 19.9**	**-0.6**
	38nm,0.7s							
CTAO	**Charters Tower**	**20.20**	**248**	*eP*		**P**	**00 12 50.9**	**+0.4**
	6.2nm,0.9s							
AFI	**Afiamalu**	**21.39**	**94**	*eP*		**P**	**00 13 04.1**	**+0.5**
ARMA	**Armidale**	**21.59**	**216**	*eP*		**P**	**00 13 05.7**	**+0.1**
	18nm,1.0s							
STKA	**Stephens Creek**	**29.07**	**227**	*eP*		**P**	**00 14 16.1**	**+0.2**
	5.6nm,1.6s							
STKA	**Stephens Creek**	**29.07**	**227**	P		**P**	**00 14 17.6**	**+1.7**
	3.0nm,0.7s,baz=38,slow=7.1,SNR=5.0							
WRA	**Warramunga Arr**	**31.16**	**254**	P		**P**	**00 14 34.0**	**-0.5**
WRA	**Warramunga Arr**	**31.16**	**254**	P		**P**	**00 14 34.0**	**-0.5**
	4.5nm,1.0s,baz=85,slow=8.3,SNR=7.1							
ASAR	**Alice Springs**	**32.20**	**247**	P		**P**	**00 14 43.6**	**+0.1**
ASAR	**Alice Springs**	**32.20**	**247**	P		**P**	**00 14 43.6**	**+0.1**
	3.8nm,0.7s,baz=73,slow=9.6,SNR=13							
FITZ	**Fitzroy Crossi**	**39.26**	**258**	*eP*		**P**	**00 15 42.4**	**-1.8**
FITZ	**Fitzroy Crossi**	**39.26**	**258**	P		**P**	**00 15 44.6**	**+0.5**
	2.2nm,0.9s,baz=118,slow=14,SNR=4.1							
MBWA	**Marble Bar**	**44.90**	**253**	*eP*		**P**	**00 16 29.0**	**-1.2**
	7.2nm,0.6s							
NWAO	**Narrogin (SRO)**	**48.54**	**238**	*eP*		**P**	**00 16 58.2**	**-0.3**
NWAO	**Narrogin (SRO)**	**48.54**	**238**	P		**P**	**00 16 58.3**	**-0.2**
	8.1nm,0.8s,baz=124,slow=7.3,SNR=2.5							
VNDA	**Vanda**	**64.11**	**181**	*eP*		**P**	**00 18 49.8**	**+1.0**
	14nm,1.7s							
VNDA	**Vanda**	**64.11**	**181**	P		**P**	**00 18 51.4**	**+2.6**
	1.5nm,0.8s,baz=353,slow=7.7,SNR=5.5							
CASY	**Casey**	**64.32**	**202**	P		**P**	**00 18 50.7**	**+0.4**
SBA	**Scott Base**	**64.41**	**180**	*eP*		**P**	**00 18 50.7**	**0.0**
USRK	**Ussuriysk Arra**	**65.29**	**334**	P		P	00 19 00.9	+4.0
	5.3nm,0.9s,baz=157,slow=5.6,SNR=4.3							
QSPA	**South Pole Qui**	**76.57**	**180**	*eP*		**P**	**00 20 05.4**	**+0.1**
	3.5nm,0.6s							
SONM	**Songino Array**	**80.86**	**324**	P		**P**	**00 20 30.6**	**+1.5**
SONM	**Songino Array**	**80.86**	**324**	P		**P**	**00 20 30.6**	**+1.5**
	0.6nm,0.5s,baz=97,slow=4.5,SNR=3.0							
ILAR	**Eielson Array**	**85.64**	**18**	P		**P**	**00 20 53.5**	**+0.4**
ILAR	**Eielson Array**	**85.64**	**18**	P		**P**	**00 20 53.5**	**+0.4**
	1.0nm,0.5s,baz=229,slow=5.8,SNR=6.6							
NVAR	**Mina Array Bea**	**87.22**	**50**	P		**P**	**00 21 01.2**	**-0.6**
NVAR	**Mina Array Bea**	**87.22**	**50**	P		**P**	**00 21 01.2**	**-0.6**
	0.2nm,0.3s,baz=224,slow=6.3,SNR=3.3							
SNAA	**Sanae**	**94.76**	**183**	P		**P**	**00 21 35.4**	**-0.8**
	0.5nm,0.8s,baz=143,slow=7.1,SNR=5.9							
MKAR	**Makanchi Array**	**95.57**	**317**	P		**P**	**00 21 39.0**	**-1.2**
MKAR	**Makanchi Array**	**95.57**	**317**	P		**P**	**00 21 39.0**	**-1.2**
	0.9nm,0.9s,baz=145,slow=5.3,SNR=3.4							
ZALV	**Zalesovo Beam**	**95.76**	**324**	P		**P**	**00 21 39.2**	**-1.6**
ZALV	**Zalesovo Beam**	**95.76**	**324**	P		**P**	**00 21 39.2**	**-1.6**
	1.1nm,0.7s,baz=112,slow=1.6,SNR=4.3							
KURBB	**Kurchatov Arra**	**98.81**	**320**	P		Pdif	00 21 55.5	+0.8
	0.4nm,0.3s,baz=108,slow=4.5,SNR=5.5							
ESDC	**Sonseca Array**	**152.48**	**343**	PKPab		**PKPab**	**00 28 21.7**	**0.0**
ESDC	**Sonseca Array**	**152.48**	**343**	PKPab		**PKPab**	**00 28 21.7**	**0.0**
	1.3nm,0.8s,baz=7.7,slow=4.1,SNR=3.6							
TORD	**Torodi Ar. Bea**	**164.92**	**271**	PKPab		**PKPab**	**00 29 15.7**	**-0.7**
TORD	**Torodi Ar. Bea**	**164.92**	**271**	PKPab		**PKPab**	**00 29 15.7**	**-0.7**
	0.7nm,1.0s,baz=79,slow=2.6,SNR=2.2							

IDC 08 00:11:10.4±2.0, **12°.70S×166°.52E, h0km, mb4.2/7, mb1 4.2/8, mb1mx4.1/18, mbtmp4.3/8, ML5.1/1, Error ellipse: s-maj=58.0km s-min=27.0km az=122.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**7.22**	**296**	Pn		Pn	00 12 57.9	+0.6
	29nm,0.3s,baz=160,slow=1.3,SNR=5.7							
STKA	**Stephens Creek**	**29.81**	**226**	P		P	00 17 19.7	+0.5
	1.9nm,0.7s,baz=50,slow=12,SNR=3.0							
WRA	**Warramunga Arr**	**31.67**	**253**	P		P	00 17 35.1	-0.8
	0.4nm,0.6s,baz=83,slow=7.3,SNR=2.7							
ASAR	**Alice Springs**	**32.77**	**246**	P		P	00 17 45.9	+0.3
	0.7nm,0.6s,baz=83,slow=8.5,SNR=3.7							
USRK	**Ussuriysk Arra**	**64.75**	**333**	P		P	00 21 50.7	+0.1
	2.8nm,0.8s,baz=165,slow=6.0,SNR=4.7							
SONM	**Songino Array**	**80.44**	**324**	P		P	00 23 24.7	+0.5
	1.1nm,0.7s,baz=124,slow=4.2,SNR=5.3							
ILAR	**Eielson Array**	**84.83**	**18**	P		P	00 23 49.8	+3.3
	0.4nm,0.5s,baz=243,slow=5.6,SNR=4.1							
MKAR	**Makanchi Array**	**95.23**	**317**	P		P	00 24 36.1	0.0
	0.9nm,0.5s,baz=90,slow=5.6,SNR=7.4							
ZALV	**Zalesovo Beam**	**95.33**	**324**	P		P	00 24 34.4	-2.0
	1.3nm,0.5s,baz=103,slow=3.1,SNR=6.4							
KEST	**Kesra**	**149.18**	**322**	PKPbc		PKPbc	00 31 00.8	-0.7
	1.4nm,0.7s,baz=207,slow=4.9,SNR=6.2							
ESDC	**Sonseca Array**	**151.84**	**344**	PKPab		PKPab	00 31 17.1	+0.5
	0.1nm,0.3s,baz=7.0,slow=3.3,SNR=3.8							

IDC 08 00:12:44.2±8.3, **12°.45S×166°.38E, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.9/18, mbtmp4.1/4, Error ellipse: s-maj=229.3km s-min=50.0km az=123.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.62**	**252**	P		P	00 19 09.6	+0.3
	1.1nm,0.8s,baz=83,slow=9.1,SNR=3.5							
ASAR	**Alice Springs**	**32.75**	**246**	P		P	00 19 18.4	-0.8
	1.2nm,0.8s,baz=68,slow=9.7,SNR=4.9							
CMAR	**Chiang Mai Ar**	**73.24**	**294**	P		P	00 24 18.7	+0.8
	0.9nm,0.4s,baz=129,slow=4.8,SNR=4.4							
MKAR	**Makanchi Array**	**94.96**	**317**	P		P	00 26 08.0	-0.8
	1.5nm,0.8s,baz=92,slow=5.9,SNR=6.2							

*IDC **08** 00:15:15.6±0.7, 13°.20S×166°.46E, h0km, mb4.7/18, mb1 4.7/20, mb1mx4.7/24, mbtmp4.7/20, ML4.4/2, Error ellipse: s-maj=22.1km s-min=15.2km az=113.0*
*BKK **08** 00:15:18.4±0.5, 13°.5±9°×16°.7E±°, h10km, M6.0/14, mB5.8/1, mb6.0/14, Mw(mB)5.4/1*
*ISCJB **08** 00:15:20.0±0.4, 13°.20S±0°.06×166°.43E±0°.07, h44km, mb4.8/31, Error ellipse: s-maj=10.7km s-min=8.8km az=19.5*
*NEIC **08** 00:15:20.6±0.2, 13°.22S×166°.42E, h35km, mb5.0/10, Error ellipse: s-maj=6.4km s-min=6.2km az=143.0*
*DJA **08** 00:15:34.9±3.8, 13°.5±12°×16°.6E±1°.7, h154km±30km, M5.8/10, mb5.8/10*
*AUST **08** 00:15:40.2, 12°.97S×166°.95E, h300km*

ISC 08 00:15:22.1±0.4, **13°.17S±0°.07×166°.31E±0°.07, h44km, n108, σ1s11/97, mb4.8/31, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**7.26**	**300**	Pn		**Pn**	**00 17 04.4**	**-1.3**
HNR				Sn		**Sn**	**00 18 24.4**	**-2.5**
HNR	**Honiara**	**7.26**	**300**	Pn		**Pn**	**00 17 04.4**	**-1.3**
	18nm,0.3s,baz=335,slow=1.2,SNR=7.9							
HNR				Sn		**Sn**	**00 18 24.4**	**-2.5**
	15nm,0.3s,baz=162,slow=20,SNR=4.7							
DZM	**Mont Dzumac**	**8.85**	**179**	*e*Pn		Pn	00 17 24.7	-2.9
	40nm,0.5s							
DZM	**Mont Dzumac**	**8.85**	**179**	Pn		**Pn**	**00 17 27.5**	**-0.1**
	2.3nm,0.3s,baz=345,slow=18,SNR=4.6							
PMG	**Port Moresby**	**19.15**	**279**	P		**Pn**	**00 19 43.9**	**+0.8**
	273nm,2.5s							
PMG	**Port Moresby**	**19.15**	**279**	Pn		**P**	**00 19 42.6**	**+0.7**
PMG	**Port Moresby**	**19.15**	**279**	Pn		**P**	**00 19 42.6**	**+0.7**
	1.4nm,0.3s,baz=17,slow=3.2,SNR=7.1							
CTA	**Charters Tower**	**20.40**	**248**	P		**P**	**00 19 56.1**	**+0.6**
CTA	**Charters Tower**	**20.40**	**248**	P		**P**	**00 19 56.1**	**+0.6**
	12nm,0.9s,baz=72,slow=13,SNR=6.7							
CTAO	**Charters Tower**	**20.40**	**248**	*eP*		**P**	**00 19 55.8**	**+0.3**
	20nm,0.8s							
RMQ	**Roma**	**21.13**	**229**	P		**P**	**00 20 06.5**	**+3.1**
	baz=22,SNR=14							
AFI	**Afiamalu**	**21.32**	**95**	P		**P**	**00 20 02.2**	**-3.4**
PATS	**Pohnpei**	**21.41**	**338**	P		**P**	**00 20 07.5**	**+1.1**
	baz=22,SNR=3.6							
COEN	**Coen**	**22.50**	**265**	P		**P**	**00 20 20.4**	**+2.2**
	baz=23,SNR=5.8							
QLP	**Quilpie**	**24.62**	**234**	P		**P**	**00 20 40.7**	**+2.2**
	baz=25,SNR=4.8							
CMSA	**Cobar Meteorol**	**26.33**	**223**	P		P	00 21 06.0	+12
	baz=27,SNR=4.9							
STKA	**Stephens Creek**	**29.33**	**227**	*eP*		**P**	**00 21 21.1**	**+0.2**
	9.0nm,1.1s							
STKA	**Stephens Creek**	**29.33**	**227**	P		**P**	**00 21 22.2**	**+1.4**
	baz=30,SNR=5.7							
STKA	**Stephens Creek**	**29.33**	**227**	P		**P**	**00 21 21.9**	**+1.1**
	8.7nm,0.8s,baz=79,slow=4.7,SNR=8.3							
WRAB	**Tennant Creek**	**31.32**	**253**	*eP*		**P**	**00 21 39.0**	**+0.4**
	0.3nm,0.4s							
WRA	**Warramunga Arr**	**31.34**	**253**	P		**P**	**00 21 37.8**	**-0.9**
WRA	**Warramunga Arr**	**31.34**	**253**	P		**P**	**00 21 37.8**	**-0.9**
	3.4nm,0.9s,baz=82,slow=8.6,SNR=6.2							
ASAR	**Alice Springs**	**32.39**	**247**	P		**P**	**00 21 47.4**	**-0.6**
ASAR	**Alice Springs**	**32.39**	**247**	P		**P**	**00 21 47.4**	**-0.6**
	11nm,0.8s,baz=74,slow=9.5,SNR=28							
PALU	**Palau**	**37.62**	**301**	P		**P**	**00 22 33.8**	**+0.8**
	baz=38,SNR=3.9							
FITZ	**Fitzroy Crossi**	**39.41**	**257**	*eP*		**P**	**00 22 47.6**	**-0.5**
FITZ	**Fitzroy Crossi**	**39.41**	**257**	P		**P**	**00 22 49.0**	**+1.0**
	3.5nm,0.9s,baz=85,slow=10,SNR=3.7							
BATI	**Baumata**	**41.83**	**269**	P		**P**	**00 23 09.8**	**+1.7**
BATI	**Baumata**	**41.83**	**269**	P		**P**	**00 23 09.8**	**+1.7**
	13nm,0.5s,baz=198,slow=3.5,SNR=3.5							
LUWI	**Luwuk**	**44.76**	**282**	P		P	00 23 27.4	-4.3
	baz=45,SNR=4.8							
MBWA	**Marble Bar**	**45.07**	**253**	*eP*		**P**	**00 23 34.0**	**-0.2**
MEEK	**Meekatharra**	**46.55**	**246**	P		**P**	**00 23 46.5**	**+0.7**
	baz=47,SNR=7.4							
KAPI	**Kappang**	**46.61**	**276**	*eP*		**P**	**00 23 47.0**	**+0.6**
	35nm,1.3s							
NWAO	**Narrogin (SRO)**	**48.77**	**238**	P		**P**	**00 24 03.0**	**+0.1**
NWAO	**Narrogin (SRO)**	**48.77**	**238**	P		**P**	**00 24 03.0**	**+0.1**
	16nm,0.9s,baz=59,slow=5.9,SNR=3.0							
MORW	**Morawa**	**49.12**	**243**	P		**P**	**00 24 06.4**	**+0.7**
	baz=50,SNR=6.5							
ASAJ	**Asahikawa**	**60.97**	**341**	P		**P**	**00 25 31.6**	**+0.8**
ASAJ	**Asahikawa**	**60.97**	**341**	P		**P**	**00 25 31.6**	**+0.8**
	14nm,0.5s,baz=210,slow=12,SNR=9.7							
KSRS	**Korea Array**	**61.93**	**326**	P		**P**	**00 25 37.9**	**+0.4**
	4.0nm,0.9s,baz=120,slow=7.4,SNR=5.0							
KSAR	**Wonju Array Be**	**61.95**	**326**	P		**P**	**00 25 37.9**	**+0.3**
VNDA	**Vanda**	**64.39**	**181**	*eP*		**P**	**00 25 52.5**	**-0.6**
	27nm,1.6s							
VNDA	**Vanda**	**64.39**	**181**	P		**P**	**00 25 53.1**	**0.0**
	8.1nm,1.2s,baz=347,slow=7.9,SNR=11							
SBA	**Scott Base**	**64.68**	**180**	*eP*		**P**	**00 25 54.6**	**-0.5**
	104nm,1.9s							
USRK	**Ussuriysk Arra**	**65.08**	**333**	P		**P**	**00 25 58.9**	**+0.8**
	9.7nm,0.9s,baz=143,slow=4.8,SNR=16							
PETK	**Petropavlovsk-**	**66.42**	**354**	P		**P**	**00 26 06.5**	**-0.1**
PETK	**Petropavlovsk-**	**66.42**	**354**	P		**P**	**00 26 06.5**	**-0.1**
	4.2nm,0.8s,baz=109,slow=8.0,SNR=3.7							
COCO	**West Island**	**67.58**	**262**	P		**P**	**00 26 12.6**	**-2.1**
	497nm,0.6s							
SKNT	**Sakolnakorn**	**68.46**	**294**	P		**P**	**00 26 22.4**	**+2.2**
	134nm,0.8s							
LOEI	**Loei**	**71.07**	**294**	P		**P**	**00 26 35.2**	**-1.0**
	126nm,1.4s							
CMAR	**Chiang Mai Arr**	**73.47**	**294**	P		**P**	**00 26 51.5**	**+1.0**
CMAR	**Chiang Mai Arr**	**73.47**	**294**	P		**P**	**00 26 51.5**	**+1.0**
	6.4nm,0.8s,baz=119,slow=4.6,SNR=21							
CHTO	**Chiang Mai**	**73.59**	**294**	P		**P**	**00 26 52.7**	**+1.4**
	368nm,1.1s							
CHTO	**Chiang Mai**	**73.59**	**294**	*eP*		**P**	**00 26 51.5**	**+0.2**
	42nm,1.2s							
CHTO	**Chiang Mai**	**73.59**	**294**	P		**P**	**00 26 52.7**	**+1.4**
	368nm,1.1s							
CMAI	**Chiengmai2**	**73.89**	**295**	P		P	00 26 58.4	+5.2
	364nm,2.4s							
QSPA	**South Pole Qui**	**76.84**	**180**	*eP*		**P**	**00 27 08.4**	**-0.9**
	29nm,1.2s							
ULN	**Ulaanbaatar**	**80.33**	**324**	*eP*		**P**	**00 27 28.8**	**0.0**
	12nm,1.1s							
SONM	**Songino Array**	**80.70**	**324**	P		**P**	**00 27 31.2**	**+0.5**
SONM	**Songino Array**	**80.70**	**324**	P		**P**	**00 27 31.2**	**+0.5**
	3.5nm,1.1s,baz=138,slow=5.5,SNR=7.7							
MAW	**Mawson**	**82.97**	**202**	*eP*		**P**	**00 27 41.8**	**-0.4**
MAW	**Mawson**	**82.97**	**202**	P		P	00 27 45.5	+3.3
	2.9nm,1.1s,baz=122,slow=15,SNR=1.9							
ILAR	**Eielson Array**	**85.34**	**18**	P		**P**	**00 27 53.6**	**-0.6**
ILAR	**Eielson Array**	**85.34**	**18**	P		**P**	**00 27 53.6**	**-0.6**
	3.5nm,0.7s,baz=241,slow=4.4,SNR=16							
NVAR	**Mina Array Bea**	**86.97**	**50**	P		**P**	**00 28 06.0**	**+2.9**
NVAR	**Mina Array Bea**	**86.97**	**50**	P		**P**	**00 28 06.0**	**+2.9**
	1.6nm,0.8s,baz=236,slow=6.5,SNR=5.8							
EGAK	**Eagle**	**87.17**	**20**	*eP*		**P**	**00 28 02.6**	**-0.6**
	6.5nm,0.8s							
ELK	**Elko**	**89.95**	**48**	*eP*		**P**	**00 28 16.1**	**-1.1**
	1.3nm,0.8s							
SNAA	**Sanae**	**95.04**	**183**	P		**P**	**00 28 39.6**	**-0.4**
SNAA	**Sanae**	**95.04**	**183**	P		**P**	**00 28 39.6**	**-0.4**
	2.4nm,1.1s,baz=168,slow=5.9,SNR=7.6							
MKAR	**Makanchi Array**	**95.44**	**317**	P		**P**	**00 28 42.2**	**+0.1**
MKAR	**Makanchi Array**	**95.44**	**317**	P		**P**	**00 28 42.2**	**+0.1**
	3.0nm,0.9s,baz=95,slow=6.1,SNR=6.8							
ZALV	**Zalesovo Beam**	**95.59**	**324**	P		**P**	**00 28 42.1**	**-0.5**
ZALV	**Zalesovo Beam**	**95.59**	**324**	P		**P**	**00 28 42.1**	**-0.5**
	2.3nm,0.8s,baz=107,slow=4.4,SNR=12							
ARCES	**ARCESS Array B**	**118.52**	**345**	PKP		**PKPdf**	**00 34 03.9**	**-0.7**
ARCES	**ARCESS Array B**	**118.52**	**345**	PKP		**PKPdf**	**00 34 03.9**	**-0.7**
	2.6nm,0.7s,baz=0.0,slow=2.5,SNR=4.4							
BOSA	**Boshof**	**123.93**	**222**	PKP		**PKPdf**	**00 34 17.0**	**+0.7**
BOSA	**Boshof**	**123.93**	**222**	PKP		**PKPdf**	**00 34 17.0**	**+0.7**
	5.0nm,0.9s,baz=141,slow=5.5,SNR=4.0							
LBTB	**Lobatse**	**126.07**	**225**	PKP		**PKPdf**	**00 34 20.6**	**+0.1**
LBTB	**Lobatse**	**126.07**	**225**	PKP		**PKPdf**	**00 34 20.6**	**+0.1**
	4.8nm,0.9s,baz=173,slow=7.7,SNR=4.0							
AKASG	**Malin Array Be**	**128.93**	**326**	PKP		**PKPdf**	**00 34 24.1**	**-0.9**
AKASG	**Malin Array Be**	**128.93**	**326**	PKP		**PKPdf**	**00 34 24.1**	**-0.9**
	0.2nm,0.3s,baz=52,slow=2.5,SNR=7.1							
BRTR	**Keskin Array B**	**130.79**	**311**	PKP		**PKPdf**	**00 34 28.9**	**-0.2**
BRTR	**Keskin Array B**	**130.79**	**311**	PKP		**PKPdf**	**00 34 28.9**	**-0.2**
	0.9nm,0.8s,baz=23,slow=4.0,SNR=4.3							
GERES	**GERESS Array B**	**137.84**	**333**	PKPpre		PK

1.7nm,0.3s,baz=54,slow=8.7,SNR=2.8
EIDS Eidsvold 19.61 224 P **Pn** **00 22 41.0 +1.2**
baz=19,SNR=4.6
CTA Charters Tower 20.73 244 P Pn 00 22 51.5 -1.5
CTA Charters Tower 20.73 244 P Pn 00 22 51.5 -1.5
19nm,0.9s,baz=55,slow=14,SNR=5.8
CTAO Charters Tower 20.73 244 *e*P **P** **00 22 49.4 -1.0**
LHI Lord Howe Isla 20.79 197 P Pn 00 23 14.3 +21
baz=20,SNR=4.5
RMQ Roma 21.93 225 P **P** **00 23 05.3 +2.1**
baz=21,SNR=6.7
COEN Coen 22.35 262 *e*P **P** **00 23 06.7 -1.2**
ARMA Armidale 22.94 213 *e*P **P** **00 23 12.0 -2.1**
JAY Jayapura 26.64 288 P **P** **00 23 49.9 +1.4**
baz=26,SNR=4.1
STKA Stephens Creek 30.17 224 *e*P **P** **00 24 18.6 -1.1**
STKA Stephens Creek 30.17 224 P **P** **00 24 19.7 0.0**
5.0nm,0.9s,baz=60,slow=12,SNR=3.6
WRAB Tennant Creek 31.48 251 *e*P **P** **00 24 30.9 -0.5**
684nm,3.1s
WRA Warramunga Arr 31.50 251 P **P** **00 24 31.7 +0.2**
WRA Warramunga Arr 31.50 251 P **P** **00 24 31.7 +0.2**
8.4nm,0.8s,baz=79,slow=9.3,SNR=13
RPZ Rata Peaks 32.26 173 P **P** **00 24 39.4 +1.4**
RPZ Rata Peaks 32.26 173 P **P** **00 24 39.4 +1.4**
9.2nm,0.8s,baz=283,slow=3.5,SNR=5.9
ASAR Alice Springs 32.73 244 P **P** **00 24 41.7 -0.7**
ASAR PcP **PcP** **00 27 27.8 +0.3**
ASAR Alice Springs 32.73 244 P **P** **00 24 41.7 -0.7**
8.7nm,0.8s,baz=67,slow=9.8,SNR=8.8
ASAR PcP **PcP** **00 27 27.8 +0.3**
2.0nm,0.7s,baz=68,slow=2.2,SNR=6.2
KDU Kakadu 32.75 265 P **P** **00 24 42.4 -0.2**
baz=32,SNR=4.5
KNRA Kununurra 36.35 259 P **P** **00 25 14.1 +0.4**
baz=35,SNR=4.5
FITZ Fitzroy Crossi 39.45 256 *e*P **P** **00 25 38.3 -1.5**
4.0nm,0.6s
FITZ Fitzroy Crossi 39.45 256 P **P** **00 25 40.0 +0.2**
baz=38,SNR=4.7
FITZ Fitzroy Crossi 39.45 256 P **P** **00 25 38.4 -1.5**
3.3nm,0.7s,baz=113,slow=6.8,SNR=7.5
MBWA Marble Bar 45.22 252 *e*P **P** **00 26 25.8 -1.1**
6.9nm,0.5s
KAPI Kappang 46.16 274 *e*P **P** **00 26 33.0 -1.3**
46nm,1.3s
KAPI Kappang 46.16 274 P **P** **00 26 34.4 0.0**
14nm,0.7s,baz=160,slow=7.9,SNR=6.3
MEEK Meekatharra 46.89 244 P **P** **00 26 41.0 +1.0**
baz=46,SNR=8.8
NWAO Narrogin (SRO) 49.32 236 *e*P **P** **00 26 58.5 -0.1**
17nm,0.9s
PETK Petropavlovsk- 64.88 354 P **P** **00 28 47.4 -0.8**
PETK Petropavlovsk- 64.88 354 P **P** **00 28 47.4 -0.8**
2.6nm,0.7s,baz=146,slow=8.0,SNR=3.3
VNDA Vanda 65.90 181 *e*P **P** **00 28 53.5 -1.0**
CASY Casey 65.91 201 *e*P **P** **00 28 53.8 -0.9**
SBA Scott Base 66.20 180 *e*P **P** **00 28 55.3 -1.1**
PSI Prapat 68.17 278 P **P** **00 29 09.5 -0.7**
PSI Prapat 68.17 278 P **P** **00 29 09.5 -0.7**
7.3nm,0.8s,baz=339,slow=4.1,SNR=4.2
CMAR Chiang Mai Arr 72.56 294 P **P** **00 29 38.0 +1.2**
CMAR Chiang Mai Arr 72.56 294 P **P** **00 29 38.0 +1.2**
2.0nm,0.4s,baz=122,slow=5.2,SNR=6.3
CHTO Chiang Mai 72.67 294 *e*P **P** **00 29 36.8 -0.7**
2.7nm,0.4s
QSPA South Pole Qui 78.36 180 *e*P **P** **00 30 09.1 -0.4**
ULN Ulaanbaatar 78.91 324 *e*P **P** **00 30 11.6 -1.1**
8.5nm,1.1s
SONM Songino Array 79.28 324 P **P** **00 30 15.0 +0.4**
SONM Songino Array 79.28 324 P **P** **00 30 15.0 +0.4**
0.9nm,0.4s,baz=148,slow=6.1,SNR=4.9
ILAR Eielson Array 84.00 18 P **P** **00 30 38.2 -0.8**
ILAR Eielson Array 84.00 18 P **P** **00 30 38.2 -0.8**
1.6nm,0.6s,baz=266,slow=5.0,SNR=5.5
MAW Mawson 84.26 202 *e*P **P** **00 30 39.7 -0.7**
NVAR Mina Array Bea 86.24 50 P **P** **00 30 53.6 +2.5**
NVAR Mina Array Bea 86.24 50 P **P** **00 30 53.6 +2.5**
1.8nm,0.7s,baz=238,slow=7.8,SNR=8.9
PFO Pinyon Flat Ob 86.24 55 P **P** **00 30 52.6 +1.4**
PFO Pinyon Flat Ob 86.24 55 P **P** **00 30 52.6 +1.4**
1.9nm,0.6s,baz=249,slow=2.4,SNR=4.5
PDAR Pinedale Array 93.79 47 P **P** **00 31 29.0 +2.4**
PDAR Pinedale Array 93.79 47 P **P** **00 31 29.0 +2.4**
0.5nm,0.8s,baz=288,slow=1.4,SNR=3.6
MKAR Makanchi Array 94.11 317 P **P** **00 31 27.9 +0.3**
MKAR Makanchi Array 94.11 317 P **P** **00 31 27.9 +0.3**
5.9nm,0.8s,baz=102,slow=5.8,SNR=14
ZALV Zalesovo Beam 94.17 324 P **P** **00 31 26.5 -1.2**
ZALV Zalesovo Beam 94.17 324 P **P** **00 31 26.5 -1.2**
1.6nm,0.8s,baz=112,slow=3.5,SNR=3.7
SNAA Sanae 96.54 184 *e*P **P** **00 31 37.6 -0.8**
ARCES ARCESS Array B 116.97 345 PKP **PKPdf** **00 36 52.1 -1.1**
ARCES ARCESS Array B 116.97 345 PKP **PKPdf** **00 36 52.1 -1.1**
3.2nm,0.6s,baz=68,slow=2.1,SNR=10
FINES FINESS Array B 122.41 338 PKP **PKPdf** **00 37 03.9 +0.1**
FINES FINESS Array B 122.41 338 PKP **PKPdf** **00 37 03.9 +0.1**
2.9nm,0.8s,baz=47,slow=3.9,SNR=5.7
BOSA Boshof 124.83 223 PKP **PKPdf** **00 37 09.9 +0.1**
BOSA Boshof 124.83 223 PKP **PKPdf** **00 37 09.9 +0.1**
6.6nm,1.1s,baz=195,slow=3.7,SNR=3.1
NOA NORSAR Array B 127.33 345 PKP **PKPdf** **00 37 12.8 -0.6**
NOA NORSAR Array B 127.33 345 PKP **PKPdf** **00 37 12.8 -0.6**
2.0nm,0.9s,baz=41,slow=2.1,SNR=3.9
ASF Jabal al Asfar 129.05 302 PKP **PKPdf** **00 37 19.0 +1.4**
ASF Jabal al Asfar 129.05 302 PKP **PKPdf** **00 37 19.0 +1.4**
0.9nm,0.5s,baz=89,slow=8.0,SNR=3.5
GERES GERESS Array B 136.34 334 PKP **PKPdf** **00 37 31.5 +0.7**
GERES GERESS Array B 136.34 334 PKP **PKPdf** **00 37 31.5 +0.7**
0.6nm,0.7s,baz=47,slow=1.9,SNR=3.6
KEST Kesra 148.02 322 PKPbc **PKPbc** **00 37 55.1 +0.1**
KEST Kesra 148.02 322 PKPbc **PKPbc** **00 37 55.1 +0.1**
3.0nm,0.9s,baz=298,slow=4.9,SNR=4.8
ESDC Sonseca Array 150.69 344 PKP **PKPdf** **00 37 56.7 +0.7**
ESDC PKPbc **PKPbc** **00 38 01.9 +0.3**
ESDC PKPab **PKPab** **00 38 09.2 +0.8**
ESDC Sonseca Array 150.69 344 PKP **PKPdf** **00 37 56.7 +0.7**
0.8nm,0.8s,baz=360,slow=3.3,SNR=3.6
ESDC PKPbc **PKPbc** **00 38 01.9 +0.3**
0.6nm,0.5s,baz=12,slow=3.0,SNR=4.7
ESDC PKPab **PKPab** **00 38 09.2 +0.8**
1.0nm,0.7s,baz=6.2,slow=4.3,SNR=5.0
TORD Torodi Ar. Bea 164.57 277 PKP **PKPdf** **00 38 14.5 +0.7**
TORD Torodi Ar. Bea 164.57 277 PKP **PKPdf** **00 38 14.5 +0.7**
1.3nm,1.0s,baz=112,slow=0.7,SNR=3.9

IDC ***08*** *00:21:58.8±0.4, 13°.38S×166°.20E, h0km, mb4.9/27, mb1 4.9/29, mb1mx4.9/32, mbtmp4.8/29, ML4.1/2, Error ellipse: s-maj=15.9km s-min=12.3km az=114.0*
BJI ***08*** *00:22:00.9, 13°.39S×166°.82E, h34km, mB5.1/6, mb5.0/40, Ms5.6/6, Ms7 5.4/6*
ISCJB ***08*** *00:22:03.4±0.2, 13°.38S±0°.03×166°.16E±0°.03, h36km, mb5.1/95, MS5.4/3, Error ellipse: s-maj=5.0km s-min=4.4km az=43.7*
MOS ***08*** *00:22:03.1±1.3, 13°.37S×166°.16E, h33km, mb5.5/20, Error ellipse: s-maj=10.4km s-min=9.0km az=8.9*
NEIC ***08*** *00:22:04.7±0.2, 13°.29S×166°.14E, h35km, mb5.1/46, Error ellipse: s-maj=7.0km s-min=4.8km az=148.0*
DJA ***08*** *00:22:12.2±1.5, 13°S±8°×16°6E±1°0, h83km±18km, M5.0/10, mb5.0/10*
AUST ***08*** *00:22:18.7±1.1, 13°.63S×165°.70E, h129km±12km, Error ellipse: s-maj=10.3km s-min=9.1km az=61.0*

ISC 08 00:22:04.9±0.3**, 13°.37S**±0°.04×**166°.22E**±0°.05**, h36**km**, n270,** σ1°**46**/296**, mb5.1**/95**, MS5.6**/3**, 5C-1D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
HNR	**Honiara**	**7.29**	**302**	Pn	**Pn**	**00 23 49.8**	**+0.8**
HNR				Sn	**Sn**	**00 25 11.1**	**+0.6**
HNR	**Honiara**	**7.29**	**302**	Pn	**Pn**	**00 23 49.7**	**+0.8**
48nm,0.3s,baz=161,slow=3.4,SNR=11							
HNR				Sn	**Sn**	**00 25 11.1**	**+0.6**
5.4nm,0.3s,baz=189,slow=19,SNR=2.7							
DZM	**Mont Dzumac**	**8.66**	**179**	*e*Pn	**Pn**	**00 24 07.5**	**-0.3**
DZM				*e*Sn	**Sn**	**00 25 46.5**	**+2.2**
DZM	**Mont Dzumac**	**8.66**	**179**	Pn	**Pn**	**00 24 07.0**	**-0.8**
4.5nm,0.3s,baz=3.5,slow=19,SNR=12							
DZM				Sn	**Sn**	**00 25 45.3**	**+1.1**
baz=308,slow=19,SNR=1.5							
MSVF	**Nonsavu**	**12.19**	**112**	*e*P	**Pn**	**00 24 59.3**	**+3.1**
MSVF	**Nonsavu**	**12.19**	**112**	*e*Pn	**Pn**	**00 24 59.3**	**+3.1**
TARA	**Tarawa**	**16.07**	**25**	*e*Pn	**Pn**	**00 25 48.2**	**0.0**
158nm,0.7s							
EIDS	**Eidsvold**	**18.59**	**228**	*e*Pn	**Pn**	**00 26 20.8**	**+1.3**
146nm,1.6s							
EIDS	**Eidsvold**	**18.59**	**228**	P	**Pn**	**00 26 21.4**	**+1.8**
baz=18,SNR=3.4							
PMG	**Port Moresby**	**19.09**	**280**	P	**Pn**	**00 26 25.8**	**+0.1**
103nm,1.1s							
PMG	**Port Moresby**	**19.09**	**280**	*e*Pn	**Pn**	**00 26 26.0**	**+0.3**
PMG	**Port Moresby**	**19.09**	**280**	Pn	**P**	**00 26 23.8**	**-0.9**
1.1nm,0.3s,baz=80,slow=5.5,SNR=6.9							
CTA	**Charters Tower**	**20.25**	**248**	P	Pn	00 26 39.7	+0.3
CTA	**Charters Tower**	**20.25**	**248**	P	Pn	00 26 39.7	+0.3
32nm,0.8s,baz=80,slow=14,SNR=9.1							
CTAO	**Charters Tower**	**20.25**	**248**	*e*P	Pn	00 26 38.7	-0.7
CTAO				pmax	pmax		
comp=Z,54nm,1.0s							
CTAO	**Charters Tower**	**20.25**	**248**	*e*Pn	Pn	00 26 38.7	-0.7
comp=Z,54nm,1.0s							
RMQ	**Roma**	**20.94**	**229**	P	Pn	00 26 46.6	-0.8
baz=20,SNR=23							
PATS	**Pohnpei**	**21.55**	**338**	P	P	00 26 59.6	+8.3
baz=22,SNR=3.6							
ARMA	**Armidale**	**21.67**	**216**	*e*P	**P**	**00 26 53.9**	**+1.3**
comp=Z,54nm,0.9s							
ARMA	**Armidale**	**21.67**	**216**	P	**P**	**00 26 53.8**	**+1.2**
baz=21,SNR=6.2							
COEN	**Coen**	**22.40**	**266**	*e*P	**P**	**00 27 00.9**	**+0.4**
comp=Z,434nm,1.1s							
COEN	**Coen**	**22.40**	**266**	P	**P**	**00 27 00.8**	**+0.4**
baz=22,SNR=7.0							
OUZ	**Omahuta**	**22.76**	**164**	*e*P	**P**	**00 27 07.0**	**+2.9**
comp=Z,68nm,1.2s							
QLP	**Quilpie**	**24.44**	**234**	P	**P**	**00 27 20.6**	**+0.2**
baz=24,SNR=11							
CMSA	**Cobar Meteorol**	**26.13**	**223**	P	**P**	**00 27 36.6**	**+1.0**
baz=26,SNR=7.9							
YNG	**Young**	**26.37**	**215**	P	**P**	**00 27 38.4**	**+0.5**
baz=26,SNR=6.2							
URZ	**Urewera**	**26.61**	**161**	P	**P**	**00 27 43.6**	**+3.7**
URZ	**Urewera**	**26.61**	**161**	P	**P**	**00 27 43.7**	**+3.7**
comp=Z,8.6nm,0.8s,baz=40,slow=11,SNR=4.0							
STKA	**Stephens Creek**	**29.14**	**227**	*e*P	**P**	**00 28 03.1**	**+0.4**
STKA	**Stephens Creek**	**29.14**	**227**	P	**P**	**00 28 03.0**	**+0.3**
baz=29,SNR=9.3							
STKA	**Stephens Creek**	**29.14**	**227**	P	**P**	**00 28 03.0**	**+0.3**
comp=Z,12nm,0.7s,baz=34,slow=7.7,SNR=14							
TOO	**Toolangi**	**30.38**	**214**	P	**P**	**00 28 14.0**	**+0.5**
baz=30,SNR=10							
RPZ	**Rata Peaks**	**30.53**	**173**	*e*P	**P**	**00 28 16.4**	**+1.7**
RPZ	**Rata Peaks**	**30.53**	**173**	P	**P**	**00 28 13.8**	**-1.0**
comp=Z,14nm,0.8s,baz=191,slow=1.7,SNR=6.1							
WRAB	**Tennant Creek**	**31.19**	**254**	P	**P**	**00 28 19.0**	**-1.9**
comp=Z,117nm,0.9s,SNR=7.5							
WRA	**Warramunga Arr**	**31.20**	**254**	P	**P**	**00 28 19.8**	**-1.3**
WRA	**Warramunga Arr**	**31.20**	**254**	P	**P**	**00 28 19.8**	**-1.3**
comp=Z,15nm,0.8s,baz=83,slow=8.7,SNR=27							
ARPS	**Mount Arapiles**	**31.93**	**219**	P	**P**	**00 28 28.9**	**+1.7**
baz=32,SNR=9.8							
AS07	**Alice Springs**	**32.18**	**247**	P	**P**	**00 28 28.5**	**-1.2**
baz=32							
AS01	**Alice Springs**	**32.20**	**247**	P	**P**	**00 28 28.6**	**-1.2**
baz=32							
AS16	**Alice Springs**	**32.21**	**247**	P	**P**	**00 28 28.7**	**-1.2**
baz=32							
ASAR	**Alice Springs**	**32.24**	**247**	P	**P**	**00 28 28.8**	**-1.4**
ASAR				PcP	**PcP**	**00 31 16.6**	**-1.7**
ASAR	**Alice Springs**	**32.24**	**247**	P	**P**	**00 28 28.8**	**-1.4**
comp=Z,18nm,0.8s,baz=75,slow=9.7,SNR=29							
ASAR				PcP	**PcP**	**00 31 16.6**	**-1.7**
comp=Z,1.2nm,0.8s,baz=79,slow=1.3,SNR=4.1							
KDU	**Kakadu**	**32.87**	**267**	P	**P**	**00 28 36.1**	**+0.3**
baz=32,SNR=4.1							
MOO	**Moorlands**	**33.33**	**206**	P	**P**	**00 28 40.1**	**+0.7**
baz=33,SNR=3.8							
BBOO	**Buckleboo**	**33.64**	**230**	*e*P	**P**	**00 28 42.2**	**-0.1**
comp=Z,393nm,0.8s							
BBOO	**Buckleboo**	**33.64**	**230**	P	**P**	**00 28 42.2**	**-0.1**
baz=33,SNR=6.4							
KNRA	**Kununurra**	**36.31**	**262**	P	**P**	**00 29 04.4**	**-1.0**
baz=36,SNR=6.1							
FITZ	**Fitzroy Crossi**	**39.29**	**258**	*e*P	**P**	**00 29 29.8**	**-0.7**
FITZ	**Fitzroy Crossi**	**39.29**	**258**	P	**P**	**00 29 29.9**	**-0.7**
baz=39,SNR=6.3							
FITZ	**Fitzroy Crossi**	**39.29**	**258**	P	**P**	**00 29 29.6**	**-1.0**
comp=Z,13nm,1.0s,baz=104,slow=7.6,SNR=8.5							
BATI	**Baumata**	**41.74**	**270**	P	**P**	**00 29 50.2**	**-0.8**
BATI	**Baumata**	**41.74**	**270**	P	**P**	**00 29 50.2**	**-0.8**
comp=Z,49nm,0.9s,baz=135,slow=3.7,SNR=6.5							
PMOR	**Pomariorio Ree**	**44.46**	**98**	*e*P	**P**	**00 30 12.9**	**0.0**
comp=Z,93nm,1.0s							
VAH	**Vaihoa**	**44.70**	**98**	*e*P	**P**	**00 30 14.5**	**-0.3**
comp=Z,59nm,0.9s							
MBWA	**Marble Bar**	**44.94**	**253**	*e*P	**P**	**00 30 16.5**	**-0.2**
comp=Z,24nm,0.8s							
MEEK	**Meekatharra**	**46.39**	**246**	P	**P**	**00 30 27.8**	**-0.3**
baz=46,SNR=26							
KAPI	**Kappang**	**46.55**	**276**	P	**P**	**00 30 31.6**	**+2.1**
comp=Z,39nm,1.3s							
KAPI	**Kappang**	**46.55**	**276**	*e*P	**P**	**00 30 28.1**	**-1.4**
comp=Z,19nm,0.9s							
KAPI	**Kappang**	**46.55**	**276**	P	**P**	**00 30 28.1**	**-1.4**
comp=Z,16nm,0.9s,baz=227,slow=6.2,SNR=6.2							
NWAO	**Narrogin (SRO)**	**48.59**	**238**	P	**P**	**00 30 44.2**	**-0.9**
NWAO	**Narrogin (SRO)**	**48.59**	**238**	P	**P**	**00 30 44.2**	**-0.9**
comp=Z,23nm,0.8s,baz=66,slow=9.3,SNR=8.1							
MORW	**Morawa**	**48.96**	**243**	P	**P**	**00 30 47.6**	**-0.4**
baz=48,SNR=7.0							
MAT	**Matsushiro**	**56.24**	**333**	P	**P**	**00 31 39.8**	**-1.9**
JNU	**Nakatsue**	**57.23**	**325**	P	**P**	**00 31 47.7**	**-1.1**
JNU	**Nakatsue**	**57.23**	**325**	P	**P**	**00 31 47.7**	**-1.1**
comp=Z,16nm,0.8s,baz=140,slow=7.9,SNR=2.5							
KSM	**Kuching**	**57.36**	**281**	P	**P**	**00 31 51.3**	**+1.3**
KSM	**Kuching**	**57.36**	**281**	*e*P	**P**	**00 31 50.1**	**+0.1**
comp=Z,28nm,1.0s							
KSM	**Kuching**	**57.36**	**281**	P	**P**	**00 31 50.2**	**+0.2**
baz=57,SNR=3.5							
YUK	**Yuzh-Kuril'sk**	**60.07**	**343**	⇓*i*P	**P**	**00 32 10.6**	**+2.4**
YUK						00 34 17.8	
YUK				*e*S	**S**	**00 40 23.9**	**+5.2**
YUK				MLR	MLR		
comp=N,182nm,20.0s							
YUK				MLR	MLR		
comp=E,2μm,20.0s							
YUK				MLR	MLR		
comp=Z,11μm,20.0s							
ASAJ	**Asahikawa**	**61.13**	**341**	*e*P	**P**	**00 32 15.1**	**-0.4**
comp=Z,49nm,1.6s							
ASAJ	**Asahikawa**	**61.13**	**341**	P	**P**	**00 32 15.3**	**-0.2**
comp=Z,14nm,0.6s,baz=177,slow=9.1,SNR=9.0							
YSS	**Yuzh-Sakhalins**	**63.63**	**342**	*e*P	**P**	**00 32 31.0**	**-1.1**
YSS				pmax	pmax		
comp=Z,50nm,1.2s							
NJ2	**Nanjing**	**64.00**	**316**	*e*P	P	00 32 39.2	+4.3
NJ2				pP	pP	00 32 44.7	-1.2
NJ2				AMB	AMB		
comp=Z,40nm,1.1s							
QIZ	**Qiongzhong**	**64.19**	**299**	P	**P**	**00 32 36.5**	**0.0**
QIZ				S	**S**	**00 41 12.2**	**+0.5**
VNDA	**Vanda**	**64.19**	**181**	*e*P	**P**	**00 32 35.0**	**-0.6**
comp=Z,24nm,1.3s							
VNDA	**Vanda**	**64.19**	**181**	P	**P**	**00 32 34.9**	**-0.6**
comp=Z,15nm,1.1s,baz=352,slow=7.2,SNR=12							
SBA	**Scott Base**	**64.49**	**180**	*e*P	**P**	**00 32 37.9**	**+0.4**
SBA				pmax	pmax		
comp=Z,44nm,1.0s							
SBA	**Scott Base**	**64.49**	**180**	*e*P	**P**	**00 32 37.9**	**+0.4**
comp=Z,44nm,1.0s							
USRK	**Usuryisk Arra**	**65.22**	**334**	P	**P**	**00 32 42.2**	**-0.4**
comp=Z,22nm,1.0s,baz=152,slow=8.4,SNR=18							
MDJ	**Mudanjiang**	**66.61**	**332**	P	**P**	**00 32 52.4**	**+0.8**
MDJ				AMB	AMB		
comp=Z,11nm,0.9s							
MDJ				AMB	AMB		
comp=Z,5μm,13.7s							
PETK	**Petropavlovsk-**	**66.61**	**354**	P	**P**	**00 32 50.4**	**-1.0**
PETK	**Petropavlovsk-**	**66.61**	**354**	P	**P**	**00 32 50.4**	**-1.0**
PETK	**Petropavlovsk-**	**66.61**	**354**	P	**P**	**00 32 50.4**	**-1.0**
comp=Z,2.0nm,0.6s,baz=120,slow=14,SNR=3.9							
SKNT	**Saholnakorn**	**68.46**	**294**	P	**P**	**00 33 03.9**	**0.0**
comp=Z,152nm,0.7s							
PSI	**Prapat**	**68.65**	**278**	P	**P**	**00 33 03.7**	**-1.6**
PSI	**Prapat**	**68.65**	**278**	P	**P**	**00 33 04.6**	**-0.7**
baz=68,SNR=3.5							
PSI	**Prapat**	**68.65**	**278**	P	**P**	**00 33 03.7**	**-1.6**
comp=Z,6.8nm,0.4s,baz=132,slow=4.9,SNR=6.3							
KLR	**Kul'dur**	**69.36**	**337**	*e*P	P	00 33 04.7	-4.1
CHAI	**Chaiyaphum**	**69.85**	**293**	P	**P**	**00 33 13.2**	**+0.7**
comp=Z,4.4nm,0.7s							
GYA	**Guiyang**	**70.11**	**305**	⇑*i*P	**P**	**00 33 15.0**	**+1.0**
GYA				pP	**pP**	**00 33 25.4**	**+0.2**
GYA				sP	**sP**	**00 33 29.7**	**+0.4**
GYA				PP	**PP**	**00 35 53.8**	**+4.1**
GYA				S	**S**	**00 42 22.0**	**-1.0**
GYA				sS	**sS**	**00 42 39.9**	**-1.4**
GYA				SS	**SS**	**00 46 55.0**	**+1.4**
GYA				AMB	AMB		
comp=Z,20nm,1.0s							
GYA				AMB	AMB		
comp=Z,120nm,5.5s							
GYA				LR	LR		
comp=Z,2μm,17.6s							
GYA				LR	LR		
comp=Z,1μm,18.0s							
GYA				LR	LR		
comp=Z,3μm,17.8s							
BJI	**Beijing**	**70.57**	**321**	P	**P**	**00 33 16.6**	**+0.2**
BJI				AMB	AMB		
comp=Z,9.0nm,0.9s							
LOEI	**Loei**	**71.07**	**294**	P	**P**	**00 33 18.1**	**-1.8**
comp=Z,17nm,1.4s							
XAN	**Xi'an**	**72.03**	**313**	P	P	00 33 29.7	+4.3
XAN				pP	pP	00 33 38.7	+2.1
XAN				sP	sP	00 33 43.2	+2.5
XAN				AMB	AMB		
comp=Z,5.0nm,1.2s							
NANT	**Nan**	**72.04**	**295**	P	**P**	**00 33 28.6**	**+2.9**
comp=Z,39nm,1.6s,comp=Z,1μm							
KMI	**Kunming**	**72.73**	**302**	P	**P**	**00 33 31.9**	**+1.9**
KMI				pP	**pP**	**00 33 41.3**	**+0.1**
KMI				sP	**sP**	**00 33 44.9**	**-0.4**
KMI				AMB	AMB		
comp=Z,19nm,1.0s							
PAYA	**Payao**	**72.97**	**295**	P	**P**	**00 33 33.5**	**+2.2**
comp=Z,6.1nm,1.0s,comp=Z,76nm							
CMAR	**Chiang Mai Arr**	**73.47**	**294**	P	**P**	**00 33 35.0**	**+0.7**
CMAR	**Chiang Mai Arr**	**73.47**	**294**	P	**P**	**00 33 35.0**	**+0.7**
comp=Z,6.0nm,0.7s,baz=127,slow=4.9,SNR=21							
CHTO	**Chiang Mai**	**73.59**	**294**	*e*P	**P**	**00 33 34.0**	**-1.0**
CHTO				pmax	pmax		
comp=Z,78nm,1.1s							
CHTO	**Chiang Mai**	**73.59**	**294**	*e*P	**P**	**00 33 34.0**	**-1.0**
comp=Z,78nm,1.1s							
CHTO	**Chiang Mai**	**73.59**	**294**	P	**P**	**00 33 36.0**	**+1.0**
comp=Z,1μm,1.4s,comp=Z,40μm							
HHC	**Hu-ho-hao-te**	**73.89**	**320**	*e*P	**P**	**00 33 36.4**	**0.0**
HHC				pP	**pP**	**00 33 46.7**	**-0.9**
HHC				sP	**sP**	**00 33 50.7**	**-1.1**
HHC				PP	**PP**	**00 36 23.2**	**+1.4**
HHC				S	**S**	**00 43 04.7**	**-1.2**
HHC				sS	**sS**	**00 43 21.8**	**-2.6**
HHC				SKS	**SKSac**	**00 43 36.2**	**-4.8**
HHC				ScS	**SKKSac**	**00 43 40.2**	**-1.0**
HHC				SS	**SS**	**00 47 51.5**	**+0.4**
HHC				AMB	AMB		
comp=Z,75nm,1.0s							
CMAI	**Chiengmai2**	**73.90**	**296**	P	P	00 33 40.5	+3.5
comp=Z,209nm,0.8s							
CD2	**Chengdu**	**74.38**	**308**	P	**P**	**00 33 41.0**	**+1.6**
CD2				AMB	AMB		
comp=Z,20nm,0.5s							
QSPA	**South Pole Qui**	**76.65**	**180**	*e*P	**P**	**00 33 51.3**	**-0.6**
comp=Z,64nm,1.0s							
LZH	**Lanzhou**	**76.66**	**312**	*e*P	**P**	**00 33 53.1**	**+0.6**
LZH				pP	**pP**	**00 34 03.7**	**0.0**
LZH				sP	**sP**	**00 34 08.2**	**+0.3**
LZH				*e*PP	**PP**	**00 36 47.0**	**+1.6**
LZH				*e*S	**S**	**00 43 36.0**	**-0.9**
LZH				sS	**sS**	**00 43 53.5**	**-2.0**
LZH				*e*SS	**SS**	**00 48 34.2**	**+0.9**
LZH				AMB	AMB		
comp=Z,36nm,1.5s							
LZH				AMB	AMB		
comp=Z,190nm,9.2s							
LZH				LR	LR		
comp=Z,470nm,14.5s							
LZH				LR	LR		
comp=Z,460nm,14.0s							
LZH				LR	LR		
comp=Z,690nm,17.6s							
CLNS	**Chul'man**	**77.89**	**338**	*e*P	**P**	**00 33 58.5**	**-0.3**
CLNS				pmax	pmax		
comp=Z,17nm,1.1s							
CLNS				pmax	pmax		
comp=N,6.0nm,1.0s							
CLNS				pmax	pmax		
comp=E,4.0nm,1.0s							
CIT	**Chita**	**79.39**	**330**	*e*P	**P**	**00 34 10.0**	**+2.8**
CIT				*e*		00 34 16.3	
YAK	**Yakutsk**	**80.44**	**343**	*e*P	**P**	**00 34 11.6**	**-0.9**
YAK				pmax	pmax		
comp=Z,29nm,0.9s							
ULN	**Ulaanbaatar**	**80.44**	**324**	*e*P	**P**	**00 34 13.0**	**-0.1**
comp=Z,66nm,1.4s							
SONM	**Songino Array**	**80.80**	**324**	P	**P**	**00 34 14.5**	**-0.5**
SONM	**Songino Array**	**80.80**	**324**	P	**P**	**00 34 14.5**	**-0.5**
comp=Z,3.5nm,0.9s,baz=135,slow=4.0,SNR=11							
GTA	**Gaotai**	**81.00**	**314**	P	**P**	**00 34 16.9**	**+0.7**
GTA				pP	**pP**	**00 34 26.2**	**-1.3**
GTA				sP	**sP**	**00 34 30.9**	**-0.7**
GTA				S	**S**	**00 44 24.8**	**+1.8**
GTA				AMB	AMB		
comp=Z,9.0nm,0.9s							
SHL	**Shillong**	**82.03**	**299**	*e*P	P	00 34 28.0	+6.0
MAW	**Mawson**	**82.76**	**202**	P	**P**	**00 34 23.4**	**-1.4**
MAW	**Mawson**	**82.76**	**202**	P	**P**	**00 34 23.4**	**-1.4**
comp=Z,4.1nm,0.9s,baz=124,slow=3.1,SNR=6.2							
CAST	**Castle Rocks**	**83.01**	**18**	*e*P	**P**	**00 34 26.5**	**+0.4**
comp=Z,18nm,0.8s							
PAF	**Port-aux-

LON	**Longmire**	**87.69**	**41**	*e*P		P		00 34 58.3	+8.4
LON					pmax	pmax			
	comp=Z,3.0nm,0.9s								
LON	**Longmire**	**87.69**	**41**	*e*P		P		00 34 58.2	+8.4
	comp=Z,3.3nm,0.9s								
PKI	**Pulchoki**	**88.16**	**299**	*e*P		**P**		**00 34 52.4**	**-0.5**
	comp=Z,23nm,0.7s								
GLA	**Glamis**	**88.17**	**56**	*e*P		**P**		**00 34 52.7**	**+0.2**
GLA					pmax	pmax			
	comp=Z,8.0nm,0.7s								
GLA	**Glamis**	**88.17**	**56**	*e*P		**P**		**00 34 52.7**	**+0.2**
	comp=Z,7.9nm,0.7s								
I07A	**Izee**	**88.23**	**44**	*e*P		**P**		**00 34 52.8**	**+0.1**
	comp=Z,11nm,0.8s								
WVOR	**Wild Horse Val**	**88.26**	**46**	*e*P		**P**		**00 34 52.4**	**-0.4**
WVOR					pmax	pmax			
	comp=Z,3.0nm,0.8s								
WVOR	**Wild Horse Val**	**88.26**	**46**	*e*P		**P**		**00 34 52.4**	**-0.4**
	comp=Z,3.0nm,0.8s								
KKN	**Kakani**	**88.33**	**299**	*e*P		**P**		**00 34 53.3**	**-0.3**
	comp=Z,32nm,0.9s								
DMN	**Daman**	**88.43**	**299**	*e*P		**P**		**00 34 53.5**	**-0.6**
	comp=Z,62nm,0.8s								
LDFC	**Landfair**	**88.54**	**54**	*e*P		**P**		**00 34 54.5**	**+0.2**
	comp=Z,13nm,0.8s								
LTY	**Liberty**	**88.60**	**41**	*e*P		**P**		**00 34 54.5**	**+0.3**
	comp=Z,4.8nm,0.8s								
J08A	**Circle Bar Ran**	**88.69**	**45**	*e*P		**P**		**00 34 54.4**	**-0.4**
	comp=Z,8.6nm,0.8s								
GKN	**Gorkha**	**88.93**	**299**	*e*P		**P**		**00 34 55.4**	**-0.9**
	comp=Z,33nm,0.8s								
G08A	**Pilot Rock**	**89.02**	**43**	*e*P		**P**		**00 34 56.2**	**-0.1**
	comp=Z,7.0nm,0.8s								
HAWA	**Hanford**	**89.02**	**42**	*e*P		**P**		**00 34 56.0**	**-0.1**
	comp=Z,7.9nm,0.8s								
B08A	**Colville Reser**	**89.83**	**40**	*e*P		**P**		**00 34 59.6**	**-0.3**
	comp=Z,19nm,1.7s								
E09A	**Wood Farm, Sta**	**89.96**	**42**	*e*P		**P**		**00 35 00.6**	**+0.1**
	comp=Z,22nm,1.6s								
BMO	**Blue Mountains**	**89.97**	**44**	*e*P		**P**		**00 34 59.6**	**-1.2**
BMO					pmax	pmax			
	comp=Z,4.0nm,0.9s								
BMO	**Blue Mountains**	**89.97**	**44**	*e*P		**P**		**00 34 59.5**	**-1.2**
	comp=Z,4.3nm,0.9s								
ELK	**Elko**	**90.14**	**48**	*e*P		**P**		**00 35 01.6**	**-0.3**
	comp=Z,5.0nm,1.0s								
F10A	**Beach Ranch, E**	**90.39**	**43**	*e*P		**P**		**00 35 02.3**	**-0.4**
	comp=Z,11nm,0.9s								
CCUT	**Cedar City**	**90.61**	**52**	*e*P		**P**		**00 35 05.1**	**+1.0**
	comp=Z,4.4nm,0.9s								
WMQ	**Urumqi**	**91.05**	**315**	*e*P		**P**		**00 35 06.6**	**+0.8**
WMQ					pP	**pP**		**00 35 17.2**	**0.0**
WMQ					sP	**sP**		**00 35 21.1**	**-0.2**
WMQ					AMB	AMB			
	comp=Z,26nm,1.2s								
NEW	**Newport**	**91.19**	**41**	*e*P		**P**		**00 35 06.5**	**+0.2**
	comp=Z,5.2nm,0.8s								
HLID	**Hailey**	**91.56**	**46**	*e*P		**P**		**00 35 08.5**	**+0.3**
	comp=Z,3.4nm,0.8s								
WUAZ	**Wupatki**	**91.60**	**54**	*e*P		**P**		**00 35 09.4**	**+0.7**
	comp=Z,3.0nm,0.7s								
MVU	**Marysvale**	**91.74**	**51**	*e*P		**P**		**00 35 10.1**	**+0.7**
	comp=Z,47nm,2.5s								
DUG	**Dugway**	**91.75**	**49**	*e*P		**P**		**00 35 10.2**	**+1.0**
DUG					pmax	pmax			
	comp=Z,21nm,2.0s								
DUG	**Dugway**	**91.75**	**49**	*e*P		**P**		**00 35 10.2**	**+1.0**
	comp=Z,21nm,2.0s								
BGU	**Big Grassy Mou**	**91.80**	**48**	*e*P		**P**		**00 35 10.3**	**+0.9**
	comp=Z,78nm,2.9s								
PDAR	**Pinedale Array**	**94.78**	**47**	P		**P**		**00 35 24.1**	**+0.9**
PDAR	**Pinedale Array**	**94.78**	**47**	P		**P**		**00 35 24.1**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=279,slow=2.4,SNR=3.6								
SNAA	**Sanae**	**94.84**	**183**	*e*P		**P**		**00 35 20.8**	**-2.0**
SNAA	**Sanae**	**94.84**	**183**	*e*P		**P**		**00 35 20.1**	**-2.7**
	comp=Z,34nm,1.2s								
SNAA	**Sanae**	**94.84**	**183**	P		**P**		**00 35 20.9**	**-1.9**
	comp=Z,5.8nm,1.1s,baz=179,slow=4.6,SNR=20								
MK31	**Makanchi Array**	**95.52**	**317**	*e*P		**P**		**00 35 25.7**	**-0.5**
MK31	**Makanchi Array**	**95.52**	**317**	*e*P		**P**		**00 35 25.7**	**-0.5**
MKAR	**Makanchi Array**	**95.52**	**317**	*e*P		**P**		**00 35 25.8**	**-0.5**
MKAR	**Makanchi Array**	**95.52**	**317**	*e*P		**P**		**00 35 25.8**	**-0.5**
MKAR	**Makanchi Array**	**95.52**	**317**	P		**P**		**00 35 25.7**	**-0.5**
	comp=Z,3.7nm,0.8s,baz=100,slow=5.3,SNR=9.0								
ZALV	**Zalesovo Beam**	**95.70**	**324**	P		**P**		**00 35 24.9**	**-1.9**
ZALV	**Zalesovo Beam**	**95.70**	**324**	P		**P**		**00 35 24.9**	**-1.9**
ZALV	**Zalesovo Beam**	**95.70**	**324**	P		**P**		**00 35 24.9**	**-1.9**
	comp=Z,5.4nm,0.9s,baz=106,slow=5.4,SNR=14								
VNA2	**Neumayer--Watz**	**95.80**	**182**	*e*P		P		00 35 23.3	-3.8
VNA1	**Neumayer--Stat**	**96.10**	**182**	*e*P		**P**		**00 35 26.9**	**-1.5**
YKA	**Yellowknife Ar**	**96.81**	**27**	P		**P**		**00 35 30.4**	**-1.3**
YKA	**Yellowknife Ar**	**96.81**	**27**	P		**P**		**00 35 30.4**	**-1.3**
	comp=Z,1.9nm,0.7s,baz=263,slow=5.0,SNR=3.6								
NVS	**Novosibirsk**	**96.81**	**325**	*e*P		**P**		**00 35 33.4**	**+1.6**
KSH	**Kashi**	**98.56**	**309**	*e*P		Pdif		00 35 46.5	+6.2
KSH					pP	pP		00 35 52.9	+1.2
KSH					sP	sP		00 35 58.9	+3.1
KSH					PP	**PP**		**00 39 46.4**	**+5.0**
KSH					S	**ScS**		**00 47 07.5**	**+0.5**
KSH					sS	sS		00 47 23.8	-2.3
KSH					SS	**SS**		**00 53 58.8**	**+5.9**
KURK	**Kurchatov**	**98.71**	**320**	P		**P**		**00 35 39.2**	**-1.3**
KURK	**Kurchatov**	**98.71**	**320**	P		**P**		**00 35 39.2**	**-1.3**
KURBB	**Kurchatov Arra**	**98.75**	**320**	P		**P**		**00 35 39.2**	**-1.4**
	comp=Z,1.2nm,0.9s,baz=101,slow=2.9,SNR=3.5								
VOSK	**Vostochnaya**	**103.68**	**321**	*e*P		**Pdif**		**00 36 05.7**	**+3.1**
VOSK	**Vostochnaya**	**103.68**	**321**	*e*Pdif		**Pdif**		**00 36 05.7**	**+3.1**
ARCES	**ARCESS Array B**	**118.69**	**345**	PKP		**PKPdf**		**00 40 48.1**	**-0.5**
ARCES	**ARCESS Array B**	**118.69**	**345**	PKP		**PKPdf**		**00 40 48.1**	**-0.5**
	comp=Z,6.1nm,1.0s,baz=72,slow=2.9,SNR=5.9								
GNI	**Garni**	**122.49**	**309**	PKP		**PKPdf**		**00 40 58.5**	**+1.5**
GNI	**Garni**	**122.49**	**309**	PKP		**PKPdf**		**00 40 58.4**	**+1.5**
	comp=Z,0.9nm,0.3s,baz=187,slow=8.1,SNR=2.6								
RAYN	**Ar Rayn**	**123.20**	**289**	*e*PKPdf		**PKPdf**		**00 40 58.1**	**-0.5**
FINES	**FINESS Array B**	**124.09**	**338**	PKPpre		PKPpre		00 40 54.6	
FINES	**FINESS Array B**	**124.09**	**338**	PKhKP		PKPpre		00 40 54.6	
	comp=Z,3.3nm,1.0s,baz=59,slow=5.4,SNR=2.8								
LBTB	**Lobatse**	**125.87**	**225**	PKP		**PKPdf**		**00 41 02.9**	**-1.1**
LBTB				*e*PKPdf		**PKiKP**		**00 41 03.1**	**-1.2**
LBTB	**Lobatse**	**125.87**	**225**	PKP		**PKPdf**		**00 41 02.9**	**-1.1**
	comp=Z,5.3nm,1.2s,baz=153,slow=2.3,SNR=2.2								
KMBO	**Kilima Mbogo**	**127.41**	**258**	PKP		**PKPdf**		**00 41 07.5**	**+0.2**
KMBO	**Kilima Mbogo**	**127.41**	**258**	PKP		**PKPdf**		**00 41 07.5**	**+0.2**
	comp=Z,0.5nm,0.2s,baz=136,slow=13,SNR=3.9								
AKASG	**Malin Array Be**	**129.04**	**326**	PKIKP		**PKPdf**		**00 41 08.5**	**-0.5**
AKASG	**Malin Array Be**	**129.04**	**326**	PKP		**PKPdf**		**00 41 08.5**	**-0.5**
AKASG	**Malin Array Be**	**129.04**	**326**	PKP		**PKPdf**		**00 41 08.5**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=44,slow=1.4,SNR=9.2								
NB2	**NORSAR Subarra**	**129.05**	**345**	PKPdf		**PKPdf**		**00 41 10.5**	**+1.8**
	comp=Z,20nm,1.7s,baz=31,slow=1.9								
NB2	**NORSAR Subarra**	**129.05**	**345**	PKPdf		**PKPdf**		**00 41 10.5**	**+1.8**
	baz=31,slow=1.9								
NOA	**NORSAR Array B**	**129.05**	**345**	PKP		**PKPdf**		**00 41 10.7**	**+1.9**
NOA	**NORSAR Array B**	**129.05**	**345**	PKP		**PKPdf**		**00 41 10.7**	**+1.9**
	comp=Z,2.2nm,0.8s,baz=28,slow=1.9,SNR=6.2								
KOLS	**Kolonicke sedl**	**133.76**	**328**	*e*PKIKP		**PKPdf**		**00 41 19.0**	**+1.0**
KOLS	**Kolonicke sedl**	**133.76**	**328**	*e*PKP		**PKPdf**		**00 41 19.0**	**+1.0**
BDFB	**Brasilia**	**135.53**	**129**	PKP		**PKPdf**		**00 41 20.4**	**-2.0**
BDFB	**Brasilia**	**135.53**	**129**	PKP		**PKPdf**		**00 41 20.4**	**-2.0**
	comp=Z,2.7nm,0.8s,baz=166,slow=4.2,SNR=4.0								
BRG	**Berggiesshubel**	**136.35**	**335**	*e*PKP		**PKPdf**		**00 41 23.4**	**+0.6**
	comp=Z,12nm,1.3s								
BRG				*e*PP		**PP**		**00 44 06.9**	**+3.7**
	comp=Z,14nm,1.7s								
BRG				*e*PKS		**PKSdf**		**00 44 55.6**	**-3.2**
	comp=Z,12nm,1.4s								
CLL	**Collm**	**136.40**	**336**	*e*PKIKP		**PKPdf**		**00 41 27.0**	**+4.2**
CLL					pmax	pmax			
	comp=Z,22nm,1.4s								
CLL	**Collm**	**136.40**	**336**	*e*(PKiKP)		**PKPdf**		**00 41 27.0**	**+4.2**
	comp=Z,11nm,1.4s								
CLL				*i* SKPdf		**SKPdf**		**00 44 56.1**	**+0.9**
	comp=Z,8.0nm,1.1s								
ZST	**Bratislava**	**136.85**	**330**	*e*PKIKP		**PKPdf**		**00 41 26.2**	**+2.5**
ZST	**Bratislava**	**136.85**	**330**	*e*PKP		**PKPdf**		**00 41 26.1**	**+2.4**
CONA	**Conrad Observa**	**137.64**	**330**	⇑PKPdf		**PKPdf**		**00 41 24.1**	**-1.3**
	comp=Z,8.2nm,1.3s								
GERES	**GERESS Array B**	**137.98**	**333**	PKP		**PKPdf**		**00 41 23.6**	**-2.3**
GERES	**GERESS Array B**	**137.98**	**333**	PKP		**PKPdf**		**00 41 23.6**	**-2.3**
	comp=Z,1.2nm,0.7s,baz=66,slow=1.6,SNR=6.5								
KBA	**Koelnbreinsper**	**139.44**	**331**	⇑*i*PKPdf		**PKPdf**		**00 41 28.1**	**-0.7**
	comp=Z,5.6nm,1.1s								
BOJS	**Bojanci**	**139.62**	**328**	*i* PKPdf		**PKPdf**		**00 41 31.9**	**+2.9**
VISS	**Visnje**	**139.62**	**329**	*i* PKPdf		**PKPdf**		**00 41 31.2**	**+2.3**
JAVS	**Javornik**	**139.95**	**330**	*i* PKPdf		**PKPdf**		**00 41 33.5**	**+3.8**
ABTA	**Abfaltersbach**	**140.07**	**332**	⇑*i*PKiKP		**PKPdf**		**00 41 31.2**	**+1.3**
	comp=Z,12nm,2.0s								
FETA	**Feichten**	**140.66**	**333**	⇑*i*PKiKP		**PKPdf**		**00 41 33.0**	**+2.0**
	comp=Z,6.0nm,1.3s								
FUORN	**Ofenpass-Fuorn**	**141.18**	**333**	*e*PKPdf		**PKPdf**		**00 41 29.7**	**-2.4**
CEL	**Celeste**	**143.84**	**319**	*e*PKPdf		PKPab		00 41 33.1	-0.7
BNI	**Bardonecchia**	**143.94**	**335**	*e*PKIKP		**PKPdf**		**00 41 36.5**	**-0.4**
BNI	**Bardonecchia**	**143.94**	**335**	*e*PKPdf		**PKPdf**		**00 41 36.5**	**-0.4**
PLDF	**La Plantade**	**144.33**	**339**	PKP		**PKPab**		**00 41 35.0**	**-0.4**
AGO	**Saint Agoulin**	**144.43**	**340**	PKP		PKPbc		00 41 36.7	+0.7
SAOF	**Saorge**	**144.43**	**333**	PKP		**PKPab**		**00 41 34.6**	**-1.2**
TOUF	**Mont Tournerai**	**144.54**	**333**	PKP		**PKPab**		**00 41 36.0**	**-0.4**
LUCF	**Luceram**	**144.59**	**333**	PKP		**PKPab**		**00 41 34.1**	**-2.4**
MVIF	**Mont Vial**	**144.68**	**333**	PKP		**PKPab**		**00 41 36.5**	**-0.4**
PYM	**Petit Puy Mans**	**144.73**	**340**	PKP		**PKPab**		**00 41 36.9**	**0.0**
CALN	**Calern**	**144.91**	**334**	PKP		**PKPab**		**00 41 37.2**	**-0.5**
LBL	**Lubilhac**	**145.10**	**339**	PKP		**PKPbc**		**00 41 37.4**	**-0.9**
FRNF	**Fournols**	**145.20**	**340**	PKP		**PKPbc**		**00 41 38.5**	**0.0**
KEST	**Kesra**	**149.52**	**321**	PKPbc		**PKPbc**		**00 41 49.5**	**-1.4**
KEST				*e*PKPdf		**PKiKP**		**00 41 50.9**	**-1.2**
KEST	**Kesra**	**149.52**	**321**	PKPbc		**PKPbc**		**00 41 49.5**	**-1.4**
	comp=Z,6.0nm,1.1s,baz=199,slow=3.5,SNR=6.6								
SHEL	**Horse Pasture**	**149.80**	**195**	*e*PKPdf		**PKPdf**		**00 41 48.0**	**+0.6**
POLO	**Lamas de Olo**	**151.61**	**351**	*e*PKPbc		**PKPbc**		**00 41 54.7**	**-1.1**
MVO	**Moncorvo**	**151.69**	**349**	*e*PKPbc		**PKPbc**		**00 41 55.1**	**-0.8**
PVRL	**Vila Real**	**151.70**	**350**	*e*PKPbc		**PKPbc**		**00 41 54.6**	**-1.3**
ESDC	**Sonseca Array**	**152.40**	**344**	PKPbc		**PKPbc**		**00 41 55.5**	**-2.0**
ESDC				PKPab		**PKPab**		**00 42 06.7**	**-1.0**
ESDC	**Sonseca Array**	**152.40**	**344**	PKPbc		**PKPbc**		**00 41 55.5**	**-2.0**
	comp=Z,3.2nm,0.7s,baz=9.1,slow=2.1,SNR=12								
ESDC				PKPab		**PKPab**		**00 42 06.7**	**-1.0**
	comp=Z,4.4nm,0.7s,baz=7.8,slow=3.8,SNR=14								
MTE	**Manteigas**	**152.52**	**350**	*e*PKPbc		**PKPbc**		**00 41 57.6**	**-0.2**
PCAS	**Casmilo, Conde**	**153.01**	**351**	*e*PKPbc		**PKPbc**		**00 42 00.3**	**+1.4**
PCBR	**Castelo Branco**	**153.05**	**349**	*e*PKPbc		**PKPbc**		**00 41 58.2**	**-0.7**
PTOM	**Tomar**	**153.43**	**351**	*e*PKPbc		**PKPbc**		**00 42 00.7**	**+0.9**
PMRV	**Marv??o**	**153.44**	**349**	*e*PKPbc		**PKPbc**		**00 42 00.8**	**+1.0**
PBEJ	**Beja**	**154.88**	**349**	*e*PKPab		**PKPab**		**00 42 18.3**	**+0.2**
TORD	**Torodi Ar. Bea**	**164.94**	**271**	PKP		**PKPdf**		**00 42 04.4**	**-1.8**
TORD				PKPab		**PKPab**		**00 43 02.0**	**-0.7**
TORD	**Torodi Ar. Bea**	**164.94**	**271**	PKP		**PKPdf**		**00 42 04.4**	**-1.8**
	comp=Z,5.1nm,1.1s,baz=4.1,slow=0.9,SNR=6.2								
TORD				PKPab		**PKPab**		**00 43 02.0**	**-0.7**
	comp=Z,1.9nm,0.8s,baz=91,slow=3.7,SNR=4.6								
DBIC	**Dimbokro**	**168.98**	**234**	PKPab		**PKPab**		**00 43 19.9**	**-0.5**
DBIC	**Dimbokro**	**168.98**	**234**	PKPab		**PKPab**		**00 43 19.9**	**-0.5**
	comp=Z,7.9nm,1.0s,baz=180,slow=4.0,SNR=4.3								

*ISCJB **08** 00:24:00.1±0.7, 4.°0N±0.°1×122.°4E±0.°3, h573km, mb3.6/7, Error ellipse: s-maj=42.4km s-min=11.4km az=168.2*
*IDC **08** 00:24:02.4±2.0, 4.°05N×122.°66E, h592km±30km, mb3.0/7, mb1 3.2/8, mb1mx3.0/26, mbtmp3.2/8, Error ellipse: s-maj=48.6km s-min=12.7km az=71.0*

ISC 08 00:24:01.3±0.9, 4.°0N±0.°1×122.°5E±0.°3, h573km, n9, σ1°34/10, mb3.7/7, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**5.81**	**13**	*e*P		**P**	**00 25 40.6**	**+1.2**
BATI	**Baumata**	**14.17**	**175**	P		**P**	**00 27 03.0**	**+0.8**
	4.5nm,0.3s,baz=135,slow=5.7,SNR=4.1							
FITZ	**Fitzroy Crossi**	**22.19**	**172**	P		**P**	**00 28 16.2**	**+0.3**
	1.1nm,0.6s,baz=1.4,slow=7.9,SNR=3.3							
WRA	**Warramunga Arr**	**26.50**	**154**	P		**P**	**00 28 53.7**	**-0.4**
	1.3nm,0.3s,baz=333,slow=9.4,SNR=8.2							
ASAR	**Alice Springs**	**29.67**	**159**	P		**P**	**00 29 22.0**	**+0.2**
	2.0nm,0.8s,baz=338,slow=6.7,SNR=2.8							
ASAR				ScP		**ScP**	**00 34 52.9**	**-3.0**
	0.5nm,0.5s,baz=333,slow=3.6,SNR=4.5							
USRK	**Ussuriysk Arra**	**40.90**	**10**	P		**P**	**00 30 53.5**	**-0.9**
	2.3nm,0.5s,baz=217,slow=8.0,SNR=4.7							
SONM	**Songino Array**	**45.81**	**345**	P		**P**	**00 31 32.8**	**+0.2**
	0.5nm,0.6s,baz=158,slow=7.9,SNR=3.5							
MKAR	**Makanchi Array**	**54.98**	**327**	P		**P**	**00 32 39.4**	**+0.2**
	1.4nm,0.3s,baz=125,slow=7.8,SNR=2.8							
KURBB	**Kurchatov Arra**	**59.28**	**329**	P		**P**	**00 33 08.1**	**-0.3**
	1.2nm,0.6s,baz=134,slow=6.5,SNR=9.7							

*ISCJB **08** 00:25:02.9±0.3, 11.°28S±0.°08×167.°08E±0.°07, h10km, mb4.8/29, Error ellipse: s-maj=12.5km s-min=8.0km az=144.2*
*IDC **08** 00:25:03.3±0.9, 11.°15S×167.°14E, h0km, mb4.4/13, mb1 4.6/13, mb1mx4.5/19, mbtmp4.4/13, Error ellipse: s-maj=31.4km s-min=19.5km az=130.0*
*NEIC **08** 00:25:08.0±0.2, 11.°26S×167.°07E, h35km, mb5.2/18, Error ellipse: s-maj=9.1km s-min=5.6km az=146.0*

ISC 08 00:25:04.6±0.5, 11.°2S±0.°1×167.°1E±0.°1, h10km, n52, σ0°82/50, mb4.9/29, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**20.79**	**100**	*e*P		**P**	**00 29 40.6**	**-0.7**
CTAO	**Charters Tower**	**21.89**	**244**	*e*P		**P**	**00 29 57.5**	**-0.5**
COEN	**Coen**	**23.50**	**261**	*e*P		**P**	**00 30 13.4**	**-1.5**
	63nm,0.8s							
ARMA	**Armidale**	**23.89**	**215**	*e*P		**P**	**00 30 18.4**	**-0.3**
URZ	**Urewera**	**28.37**	**163**	*e*P		**P**	**00 30 59.0**	**+0.1**
STKA	**Stephens Creek**	**31.23**	**225**	*e*P		**P**	**00 31 23.4**	**-1.0**
	1.5nm,0.7s							
STKA	**Stephens Creek**	**31.23**	**225**	P		**P**	**00 31 26.4**	**+2.0**
	3.7nm,0.7s,baz=28,slow=12,SNR=2.0							
WRAB	**Tennant Creek**	**32.65**	**251**	*e*P		**P**	**00 31 36.5**	**-0.6**
	36nm,1.7s							
WRA	**Warramunga Arr**	**32.67**	**251**	P		**P**	**00 31 37.1**	**-0.1**
WRA	**Warramunga Arr**	**32.67**	**251**	P		**P**	**00 31 37.1**	**-0.1**
	3.3nm,0.7s,baz=80,slow=8.7,SNR=5.1							
ASAR	**Alice Springs**	**33.90**	**244**	P		**P**	**00 31 48.6**	**+0.7**
ASAR	**Alice Springs**	**33.90**	**244**	P		**P**	**00 31 48.6**	**+0.7**
	3.9nm,0.7s,baz=73,slow=9.7,SNR=5.6							
TAU	**Tasmania Unive**	**35.95**	**205**	*e*P		P	00 31 58.5	-6.8
FITZ	**Fitzroy Crossi**	**40.61**	**255**	*e*P		**P**	**00 32 43.6**	**-1.4**
	14nm,1.1s							
FITZ	**Fitzroy Crossi**	**40.61**	**255**	P		**P**	**00 32 44.8**	**-0.2**
	3.8nm,0.8s,baz=90,slow=7.1,SNR=3.8							
MBWA	**Marble Bar**	**46.39**	**252**	*e*P		**P**	**00 33 31.0**	**-0.6**
USRK	**Ussuriysk Arra**	**63.71**	**333**	P		**P**	**00 35 37.6**	**+1.3**
	10nm,1.1s,baz=157,slow=7.4,SNR=7.1							
VNDA	**Vanda**	**66.34**	**181**	*e*P		**P**	**00 35 52.7**	**-0.3**
	128nm,2.7s							
VNDA	**Vanda**	**66.34**	**181**	P		**P**	**00 35 54.5**	**+1.5**
	2.4nm,0.9s,baz=335,slow=6.2,SNR=4.4							
SBA	**Scott Base**	**66.62**	**180**	*e*P		**P**	**00 35 55.4**	**+0.6**
	51nm,1.9s							
CASY	**Casey**	**66.69**	**202**	*e*P		**P**	**00 35 55.3**	**-0.1**
CMAR	**Chiang Mai Arr**	**73.40**	**293**	P		**P**	**00 36 38.0**	**+0.6**
CMAR	**Chiang Mai Arr**	**73.40**	**293**	P		**P**	**00 36 38.0**	**+0.6**
	2.4nm,0.3s,baz=117,slow=4.6,SNR=5.1							
CHTO	**Chiang Mai**	**73.51**	**294**	*e*P		**P**	**00 36 38.0**	**-0.1**
	63nm,1.5s							
QSPA	**South Pole Qui**	**78.78**	**180**	*e*P		P	00 37 05.4	-2.0
ULN	**Ulaanbaatar**	**79.23**	**324**	*e*P		**P**	**00 37 09.1**	**-1.1**
	14nm,1.0s							
SONM	**Songino Array**	**79.60**	**323**	P		**P**	**00 37 13.2**	**+1.0**
SONM	**Songino Array**	**79.60**	**323**	P		**P**	**00 37 13.2**	**+1.0**
	3.9nm,1.1s,baz=134,slow=5.0,SNR=5.7							
ILAR	**Eielson Array**	**83.27**	**18**	P		**P**	**00 37 31.7**	**+0.6**
ILAR	**Eielson Array**	**83.27**	**18**	P		**P**	**00 37 31.7**	**+0.6**
	2.5nm,0.9s,baz=234,slow=5.1,SNR=4.3							
WRAK	**Wrangell Islan**	**83.85**	**29**	*e*P		**P**	**00 37 34.1**	**-0.1**
	50nm,1.7s							
MAW	**Mawson**	**85.05**	**202**	*e*P		**P**	**00 37 40.2**	**0.0**
NVAR	**Mina Array Bea**	**85.13**	**49**	P		**P**	**00 37 41.4**	**-0.1**
NVAR	**Mina Array Bea**	**85.13**	**49**	P		**P**	**00 37 41.4**	**-0.1**
	1.8nm,0.8s,baz=228,slow=8.9,SNR=6.4							
NV11	**Mina Array Sit**	**85.25**	**49**	*e*P		**P**	**00 37 41.7**	**-0.2**
DLBC	**Dease Lake**	**85.94**	**28**	*e*P		**P**	**00 37 45.0**	**+0.1**
WVOR	**Wild Horse Val**	**86.17**	**46**	*e*P		**P**	**00 37 46.0**	**-0.4**
	20nm,1.4s							
GLA	**Glamis**	**86.26**	**55**	*e*P		**P**	**00 37 46.8**	**-0.2**
	22nm,1.4s							
BMO	**Blue Mountains**	**87.85**	**44**	*e*P		**P**	**00 37 53.7**	**-0.7**
	13nm,1.6s							
ELK	**Elko**	**88.08**	**48**	*e*P		**P**	**00 37 55.3**	**-0.6**
	5.3nm,1.6s							
HLID	**Hailey**	**89.46**	**45**	*e*P		**P**	**00 38 02.1**	**-0.2**
	51nm,2.4s							
WUAZ	**Wupatki**	**89.66**	**54**	*e*P		**P**	**00 38 03.3**	**0.0**
	18nm,1.4s							
DUG	**Dugway**	**89.72**	**49**	*e*P		**P**	**00 38 03.4**	**-0.1**
	20nm,1.6s							
MVU	**Marysvale**	**89.74**	**51**	*e*P		**P**	**00 38 03.7**	**0.0**
	24nm,1.6s							
BSMT	**Bassoo Peak**	**90.40**	**41**	*e*P		**P**	**00 38 06.0**	**-0.5**
	9.5nm,1.4s							
BW06	**Boulder Array**	**92.70**	**47**	*e*P		**P**	**00 38 17.0**	**-0.4**
	31nm,2.3s							
PDAR	**Pinedale Array**	**92.71**	**47**	P		**P**	**00 38 15.8**	**-1.6**
PDAR	**Pinedale Array**	**92.71**	**47**	P		**P**	**00 38 15.8**	**-1.6**
	2.7nm,1.2s,baz=270,slow=1.5,SNR=7.5							
ZALV	**Zalesovo Beam**	**94.48**	**324**	P		**P**	**00 38 23.5**	**-1.5**
ZALV	**Zalesovo Beam**	**94.48**	**324**	P		**P**	**00 38 23.5**	**-1.5**
	2.0nm,0.6s,baz=123,slow=5.3,SNR=3.7							
MKAR	**Makanchi Array**	**94.56**	**317**	P		**P**	**00 38 25.3**	**-0.3**
MKAR	**Makanchi Array**	**94.56**	**317**	P		**P**	**00 38 25.3**	**-0.3**
	2.7nm,0.9s,baz=108,slow=5.8,SNR=6.0							

*IDC **08** 00:35:08.1±1.4, 12.°11S×166.°07E, h0km, mb4.2/8, mb1 4.4/10, mb1mx4.2/21, mbtmp4.2/10, ML3.8/2, Error ellipse: s-maj=39.2km s-min=22.7km az=123.0*
*ISCJB **08** 00:35:10.8±0.9, 12.°24S±0.°10×166.°0E±0.°1, h30km, mb4.2/9, Error ellipse: s-maj=17.8km s-min=12.7km az=147.7*
*NEIC **08** 00:35:13.1±0.8, 12.°25S×166.°08E, h35km, mb4.3/3, Error ellipse: s-maj=16.6km s-min=15.7km az=223.0*

ISC 08 00:35:12.5±1.0, 12.°2S±0.°1×166.°1E±0.°1, h30km, n27, σ1°06/25, mb4.2/9, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.64**	**294**	Pn		**Pn**	**00 36 49.8**	**+1.7**
HNR	**Honiara**	**6.64**	**294**	Pn		**Pn**	**00 36 49.8**	**+1.7**
	37nm,0.3s,baz=275,slow=4.6,SNR=4.2							
DZM	**Mont Dzumac**	**9.84**	**178**	Pn		**Pn**	**00 37 33.2**	**+1.1**
	1.4nm,0.3s,baz=117,slow=16,SNR=5.0							
PMG	**Port Moresby**	**18.82**	**277**	P		**P**	**

baz=45,SNR=4.6
MBWA Marble Bar 45.50 252 *e*P **P 00 46 24.7 -0.3**
15nm,1.0s
MEEK Meekatharra 47.09 245 P **P 00 46 38.2 +0.9**
baz=48,SNR=16
KLBR Kellerberrin 48.71 239 P **P 00 46 50.1 +0.3**
baz=49,SNR=7.2
NWAO Narrogin (SRO) 49.43 237 P **P 00 46 56.0 +0.7**
NWAO Narrogin (SRO) 49.43 237 P **P 00 46 56.0 +0.7**
5.4nm,0.6s,baz=130,slow=7.9,SNR=2.0
MORW Morawa 49.70 242 P **P 00 46 58.1 +0.6**
baz=50,SNR=8.1
VNDA Vanda 65.42 181 P **P 00 48 45.9 -1.0**
0.8nm,0.6s,baz=20,slow=7.4,SNR=3.3
PSI Prapat 68.69 278 P **P 00 49 08.7 -0.2**
PSI Prapat 68.69 278 P **P 00 49 08.7 -0.2**
baz=69,SNR=3.8
PSI Prapat 68.69 278 P **P 00 49 08.7 -0.2**
4.7nm,0.5s,baz=329,slow=19,SNR=5.4
CMAR Chiang Mai Arr 73.17 294 P **P 00 49 36.8 +1.0**
CMAR Chiang Mai Arr 73.17 294 P **P 00 49 36.8 +1.0**
3.0nm,0.6s,baz=127,slow=4.9,SNR=13
SONM Songino Array 79.94 324 P **P 00 50 13.3 -0.3**
SONM Songino Array 79.94 324 P **P 00 50 13.3 -0.3**
0.2nm,0.3s,baz=147,slow=5.9,SNR=4.3
ILAR Eielson Array 84.33 18 P **P 00 50 36.0 +0.1**
ILAR Eielson Array 84.33 18 P **P 00 50 36.0 +0.1**
0.9nm,0.5s,baz=238,slow=5.0,SNR=10
MKAR Makanchi Array 94.78 317 P **P 00 51 25.6 -0.4**
MKAR Makanchi Array 94.78 317 P **P 00 51 25.6 -0.4**
2.0nm,0.7s,baz=84,slow=6.3,SNR=13
ARCES ARCESS Array B 117.56 346 PKP **PKPdf 00 56 48.0 -1.3**
ARCES ARCESS Array B 117.56 346 PKP **PKPdf 00 56 48.0 -1.3**
0.7nm,0.5s,baz=45,slow=1.5,SNR=6.2
FINES FINESS Array B 123.03 339 PKP **PKPdf 00 56 58.6 -1.3**
FINES FINESS Array B 123.03 339 PKP **PKPdf 00 56 58.6 -1.3**
2.4nm,0.8s,baz=101,slow=2.8,SNR=4.2
TORD Torodi Ar. Bea 165.08 275 PKPab **PKPab 00 59 06.1 -0.3**
TORD Torodi Ar. Bea 165.08 275 PKPab **PKPab 00 59 06.1 -0.3**
0.6nm,0.8s,baz=90,slow=5.4,SNR=3.0

IDC 08 00:39:25.8±3.6, 11°64S×165°64E, *h*0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/18, mbtmp4.0/5, Error ellipse: s-maj=131.3km s-min=30.8km az=135.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.18 251**		P	P	00 45 47.3	+0.3
	0.8nm,0.3s,baz=74,slow=6.1,SNR=12						
ASAR	**Alice Springs**	**32.44 244**		P	P	00 45 57.5	-0.4
	0.4nm,0.5s,baz=72,slow=9.1,SNR=4.3						
SONM	**Songino Array**	**79.08 324**		P	P	00 51 32.1	-0.1
	0.8nm,0.7s,baz=137,slow=5.2,SNR=4.3						
ILAR	**Eielson Array**	**84.11 19**		P	P	00 51 58.3	0.0
	0.3nm,0.5s,baz=251,slow=5.3,SNR=3.9						
MKAR	**Makanchi Array**	**93.89 317**		P	P	00 52 45.4	0.0
	2.2nm,0.6s,baz=91,slow=6.2,SNR=11						

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*IDC **08** 00:40:21.7±1.6, 12°.65S×166°.01E, h0km, mb4.5/7, mb1 4.5/7, mb1mx4.2/17, mbtmp4.4/7, Error ellipse: s-maj=53.5km s-min=27.8km az=109.0*
*ISCJB **08** 00:40:22.8±0.7, 12°.86S±0°.09×165°.9E±0°.1, h20km, mb4.2/10, Error ellipse: s-maj=15.7km s-min=11.5km az=139.9*
*NEIC **08** 00:40:27.0±0.7, 12°.89S×165°.89E, h35km, mb4.0/4, Error ellipse: s-maj=15.3km s-min=11.9km az=220.0*
ISC 08 00:40:25.1±0.7, 12°.8S±0°.1×165°.9E±0°.1, h20km, n30, σ1§27/29, mb4.2/10, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.76 299**		Pn	**Pn**	**00 42 05.1**	**+1.8**
HNR	**Honiara**	**6.76 299**		Pn	**Pn**	**00 42 05.1**	**+1.8**
	22nm,0.3s,baz=240,slow=4.0,SNR=6.4						
DZM	**Mont Dzumac**	**9.20 177**		*e*Pn	**Pn**	**00 42 36.8**	**0.0**
MSVF	**Nonsavu**	**12.68 114**		*e*Pn	**Pn**	**00 43 25.4**	**+0.9**
CTA	**Charters Tower**	**20.17 246**		P	Pn	00 45 03.1	+2.7
CTA	**Charters Tower**	**20.17 246**		P	Pn	00 45 03.1	+2.7
	7.9nm,0.9s,baz=56,slow=13,SNR=5.0						
CTAO	**Charters Tower**	**20.17 246**		*e*P	**P**	**00 44 56.7**	**-1.9**
	9.2nm,0.8s						
ARMA	**Armidale**	**21.92 215**		*e*P	**P**	**00 45 16.5**	**-0.9**
	3.3nm,0.8s						
STKA	**Stephens Creek**	**29.29 226**		*e*P	**P**	**00 46 25.1**	**-1.2**
	0.9nm,0.8s						
STKA	**Stephens Creek**	**29.29 226**		P	P	00 46 32.3	+6.1
	3.6nm,0.7s,baz=40,slow=10.0,SNR=4.6						
WRA	**Warramunga Arr**	**31.07 253**		P	**P**	**00 46 44.3**	**+2.2**
WRA	**Warramunga Arr**	**31.07 253**		P	**P**	**00 46 44.3**	**+2.2**
	1.4nm,0.7s,baz=83,slow=7.9,SNR=2.7						
ASAR	**Alice Springs**	**32.18 246**		P	**P**	**00 46 51.4**	**-0.6**
ASAR				PcP	**PcP**	**00 49 42.1**	**+1.4**
ASAR	**Alice Springs**	**32.18 246**		P	**P**	**00 46 51.4**	**-0.6**
	1.7nm,0.8s,baz=68,slow=9.5,SNR=4.3						
ASAR				PcP	**PcP**	**00 49 42.1**	**+1.4**
	1.8nm,0.8s,baz=76,slow=3.9,SNR=3.2						
FITZ	**Fitzroy Crossi**	**39.11 257**		*e*P	**P**	**00 47 50.0**	**-1.4**
	3.1nm,0.8s						
USRK	**Ussuriysk Arra**	**64.61 334**		P	**P**	**00 51 00.3**	**-0.8**
	12nm,0.9s,baz=153,slow=6.5,SNR=12						
SONM	**Songino Array**	**80.20 324**		P	**P**	**00 52 33.8**	**-0.5**
SONM	**Songino Array**	**80.20 324**		P	**P**	**00 52 33.8**	**-0.5**
	3.2nm,0.8s,baz=140,slow=5.0,SNR=14						
MAW	**Mawson**	**83.13 202**		P	**P**	**00 52 50.0**	**+0.7**
MAW	**Mawson**	**83.13 202**		P	**P**	**00 52 50.0**	**+0.7**
	4.2nm,0.9s,baz=93,slow=4.0,SNR=8.3						
MKAR	**Makanchi Array**	**94.93 317**		P	**P**	**00 53 45.2**	**-0.9**
MKAR	**Makanchi Array**	**94.93 317**		P	**P**	**00 53 45.2**	**-0.9**
	5.4nm,0.9s,baz=101,slow=6.3,SNR=16						
KURK	**Kurchatov**	**98.11 320**		P	**P**	**00 53 58.9**	**-1.4**
KURBB	**Kurchatov Arra**	**98.15 320**		P	**P**	**00 53 58.9**	**-1.6**
	0.3nm,0.4s,baz=108,slow=3.0,SNR=6.2						
BRTR	**Keskin Array B**	**130.28 312**		PKP	**PKPdf**	**00 59 33.8**	**-0.8**
BRTR	**Keskin Array B**	**130.28 312**		PKP	**PKPdf**	**00 59 33.8**	**-0.8**
	0.8nm,1.0s,baz=64,slow=2.9,SNR=4.1						
KEST	**Kesra**	**148.92 321**		PKPbc	**PKPbc**	**01 00 11.3**	**-0.8**
KEST	**Kesra**	**148.92 321**		PKPbc	**PKPbc**	**01 00 11.3**	**-0.8**
	3.0nm,0.8s,baz=292,slow=8.9,SNR=2.3						
TORD	**Torodi Ar. Bea**	**164.62 273**		PKPab	**PKPab**	**01 01 24.9**	**+1.1**
TORD	**Torodi Ar. Bea**	**164.62 273**		PKPab	**PKPab**	**01 01 24.9**	**+1.1**
	1.5nm,0.9s,baz=77,slow=4.7,SNR=3.7						

IDC 08 00:48:24.9±4.2, 12°.50S×166°.23E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.8/18, mbtmp3.9/6, Error ellipse: s-maj=121.7km s-min=31.4km az=120.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**20.59 246**		P	Pn	00 53 07.6	-0.3
	2.5nm,0.7s,baz=51,slow=14,SNR=2.9						
STKA	**Stephens Creek**	**29.74 226**		P	P	00 54 33.7	+0.5
	2.8nm,0.8s,baz=83,slow=8.1,SNR=4.9						
WRA	**Warramunga Arr**	**31.46 252**		P	P	00 54 47.8	-0.7
	0.7nm,0.8s,baz=87,slow=9.9,SNR=3.3						
ASAR	**Alice Springs**	**32.59 246**		P	P	00 54 57.3	-1.1
	1.8nm,0.8s,baz=72,slow=8.6,SNR=10						
SONM	**Songino Array**	**80.11 324**		P	P	01 00 36.4	-0.5
	0.3nm,0.5s,baz=131,slow=5.9,SNR=2.5						
MKAR	**Makanchi Array**	**94.90 317**		P	P	01 01 50.1	+1.0
	0.4nm,0.7s,baz=91,slow=7.2,SNR=3.0						

IDC 08 00:49:20.3±9.0, 3°.83N×122°.69E, h558km±125km, mb3.0/4, mb1 3.2/4, mb1mx2.7/23, mbtmp3.0/4, Error ellipse: s-maj=166.9km s-min=23.3km az=58.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**13.98 176**		P	P	00 52 19.8	+0.5
	11nm,0.3s,baz=19,slow=1.9,SNR=6.3						
BATI				S	S	00 54 44.5	-2.1
	2.7nm,0.3s,baz=108,slow=20,SNR=4.2						
WRA	**Warramunga Arr**	**26.25 155**		P	P	00 54 11.5	-0.3
	1.4nm,0.4s,baz=336,slow=9.5,SNR=8.6						
ASAR	**Alice Springs**	**29.43 159**		P	P	00 54 39.8	+0.2
	1.0nm,0.4s,baz=336,slow=7.2,SNR=12						
STKA	**Stephens Creek**	**39.80 154**		P	P	00 56 05.6	-0.2
	0.9nm,0.3s,baz=318,slow=7.3,SNR=5.1						
MKAR	**Makanchi Array**	**55.23 327**		P	P	00 58 00.9	-0.2
	0.3nm,0.3s,baz=127,slow=7.8,SNR=5.7						

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*ISCJB **08** 00:51:50.9±0.2, 41°.73N±0°.02×13°.67E±0°.02, h11km±1km, mb3.6/4, Error ellipse: s-maj=3.1km s-min=2.3km az=8.8*
*ROM **08** 00:51:51.1±0.1, 41°.74N×13°.70E, h11km, Ml3.6/25, Error ellipse: s-maj=0.9km s-min=0.6km az=9.0*
*CSEM **08** 00:51:51.3±0.1, 41°.74N×13°.66E, h2km, ML3.6, Error ellipse: s-maj=2.8km s-min=1.9km az=17.0*
*LDG **08** 00:51:52.0±0.1, 41°.75N×13°.74E, h2km, Ml3.0/6, Error ellipse: s-maj=5.2km s-min=2.9km az=27.0*
*IDC **08** 00:51:52.2±1.2, 41°.84N×13°.85E, h0km, mb3.6/4, mb1 3.8/7, mb1mx3.6/28, mbtmp3.6/7, ML3.5/3, Error ellipse: s-maj=33.3km s-min=13.5km az=96.0*
*VIE **08** 00:51:52.2±0.6, 41°.75N×13°.75E, h10km, mb3.0/7, ML3.3/5, Ms4.7/1, Error ellipse: s-maj=8.0km s-min=4.7km az=94.0*
106 km E of Rome
*PRU **08** 00:51:54.3, 41°.79N×14°.29E, h9km*
ISC 08 00:51:51.4±0.7, 41°.71N±0°.02×13°.67E±0°.02, h13km±4km, n146, σ1§43/191, mb3.7/4, 10C-13D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POFI	**Posta Fibreno**	**0.03**	**80**	Pg	**Pg**	**00 51 53.5**	**-0.3**
POFI				Sg	**Sg**	**00 51 55.0**	**-0.5**
	32μm,0.3s						
POFI	**Posta Fibreno**	**0.03**	**80**	Pg	**Pg**	**00 51 53.5**	**-0.3**
POFI				Sg	**Sg**	**00 51 55.0**	**-0.5**
	32μm,0.3s						
SDI	**San Donato**	**0.11**	**91**	Pg	**Pg**	**00 51 54.1**	**-0.4**
SDI	**San Donato**	**0.11**	**91**	Pg	**Pg**	**00 51 54.1**	**-0.4**
GUAR	**Guarcino**	**0.28**	**287**	Pg	**Pb**	**00 51 57.7**	**-0.6**
GUAR				Sg	**Sb**	**00 52 02.4**	**-0.6**
	6μm,0.3s						
GUAR	**Guarcino**	**0.28**	**287**	Pg	**Pb**	**00 51 57.7**	**-0.6**
GUAR				Sg	**Sb**	**00 52 02.4**	**-0.6**
	6μm,0.3s						
CERA	**Filignano**	**0.29**	**113**	Pg	**Pb**	**00 51 57.1**	**-1.4**
CERA				Sg	**Sb**	**00 52 01.8**	**-1.4**
CERA	**Filignano**	**0.29**	**113**	Pg	**Pb**	**00 51 57.1**	**-1.4**
CERA				Sg	**Sb**	**00 52 01.8**	**-1.4**
GIUL	**Giuliano Di Ro**	**0.35**	**244**	Pg	**Pb**	**00 51 59.1**	**-0.4**
GIUL				Sg	**Sb**	**00 52 05.0**	**+0.1**
	7μm,0.7s						
GIUL	**Giuliano Di Ro**	**0.35**	**244**	Pg	**Pb**	**00 51 59.1**	**-0.4**
INTR	**Introdacqua**	**0.35**	**30**	Pg	**Pg**	**00 51 57.8**	**-0.7**
INTR				Sg	**Sg**	**00 52 02.8**	**-0.4**
	14μm,0.6s						
INTR	**Introdacqua**	**0.35**	**30**	Pg	**Pg**	**00 51 57.8**	**-0.7**
INTR				Sg	**Sg**	**00 52 02.8**	**-0.4**
	14μm,0.6s						
RNI2	**Rionero Sannit**	**0.36**	**91**	Pg	**Pb**	**00 51 58.8**	**-1.0**
RNI2				Sg	**Sb**	**00 52 03.7**	**-1.7**
	11μm,0.9s						
RNI2	**Rionero Sannit**	**0.36**	**91**	Pg	**Pb**	**00 51 58.8**	**-1.0**
RNI2				Sg	**Sb**	**00 52 03.7**	**-1.7**
	11μm,0.9s						
PTQR	**Pietraquaria**	**0.37**	**327**	Pg	**Pb**	**00 51 58.8**	**-1.1**
PTQR	**Pietraquaria**	**0.37**	**327**	Pg	**Pb**	**00 51 58.8**	**-1.1**
MIDA	**Miranda**	**0.44**	**99**	Pg	**Pb**	**00 51 59.6**	**-1.6**
MIDA				Sg	**Sb**	**00 52 06.5**	**-1.3**
	3μm,0.8s						
MIDA	**Miranda**	**0.44**	**99**	Pg	**Pb**	**00 51 59.6**	**-1.6**
MIDA				Sg	**Sb**	**00 52 06.5**	**-1.3**
	3μm,0.8s						
LPEL	**Lama dei Pelig**	**0.51**	**49**	Pg	**Pg**	**00 52 00.4**	**-1.0**
LPEL				Sg	**Sg**	**00 52 07.9**	**-0.3**
	3μm,0.5s						
LPEL	**Lama dei Pelig**	**0.51**	**49**	Pg	**Pg**	**00 52 00.4**	**-1.0**
LPEL				Sg	**Sg**	**00 52 07.9**	**-0.3**
	3μm,0.5s						
VAGA	**Valle Agricola**	**0.52**	**125**	Pg	**Pb**	**00 52 01.5**	**-0.9**
VAGA	**Valle Agricola**	**0.52**	**125**	Pg	**Pb**	**00 52 01.5**	**-0.9**
FAGN	**Fagnano**	**0.56**	**354**	Pg	**Pg**	**00 52 01.6**	**-0.7**
FAGN				Sg	**Sg**	**00 52 09.7**	**-0.1**
	10μm,0.3s						
FAGN	**Fagnano**	**0.56**	**354**	Pg	**Pg**	**00 52 01.6**	**-0.7**
FAGN				Sg	**Sg**	**00 52 09.7**	**-0.1**
	10μm,0.3s						
CERT	**Cerreto**	**0.56**	**295**	Pg	**Pb**	**00 52 02.2**	**-1.0**
CERT				Sg	**Sb**	**00 52 10.7**	**-0.5**
	5μm,0.4s						
CERT	**Cerreto**	**0.56**	**295**	Pg	**Pb**	**00 52 02.2**	**-1.0**
CERT				Sg	**Sb**	**00 52 10.7**	**-0.5**
	5μm,0.4s						
MSC	**Monte Massico**	**0.57**	**156**	Pg	**Pb**	**00 52 02.4**	**-0.8**
MSC	**Monte Massico**	**0.57**	**156**	Pg	**Pb**	**00 52 02.4**	**-0.8**
SGG	**Gregorio Mates**	**0.62**	**121**	Pg	**Pb**	**00 52 04.1**	**-0.1**
	1μm,0.6s						
SGG	**Gregorio Mates**	**0.62**	**121**	Pg	**Pb**	**00 52 04.1**	**-0.1**
	1μm,0.6s						
TRIV	**Trivento**	**0.66**	**85**	Pg	**Pg**	**00 52 03.5**	**-0.8**
	2μm,0.8s						
TRIV	**Trivento**	**0.66**	**85**	Pg	**Pg**	**00 52 03.5**	**-0.8**
	2μm,0.8s						
FIAM	**Fiamignano**	**0.69**	**324**	Pg	**Pb**	**00 52 04.6**	**-0.8**
	3μm,0.6s						
FIAM	**Fiamignano**	**0.69**	**324**	Pg	**Pb**	**00 52 04.6**	**-0.8**
	3μm,0.6s						
VCEL	**Villa Celiera**	**0.69**	**11**	Pg	**Pg**	**00 52 04.1**	**-0.8**
VCEL				Sg	**Sg**	**00 52 13.4**	**-0.7**
	8μm,0.3s						
VCEL	**Villa Celiera**	**0.69**	**11**	Pg	**Pg**	**00 52 04.1**	**-0.8**
VCEL				Sg	**Sg**	**00 52 13.4**	**-0.7**
	8μm,0.3s						
BSSO	**Busso**	**0.71**	**103**	Pg	**Pb**	**00 52 05.1**	**-0.7**
	1μm,0.7s						
BSSO	**Busso**	**0.71**	**103**	Pg	**Pb**	**00 52 05.1**	**-0.7**
	1μm,0.7s						
RDP	**Rocca di Papa**	**0.71**	**274**	Pg	**Pb**	**00 52 05.1**	**-0.7**
	6μm,0.4s						
RDP	**Rocca di Papa**	**0.71**	**274**	Pg	**Pb**	**00 52 05.1**	**-0.7**
	6μm,0.4s						
CAFR	**Castel Frentan**	**0.72**	**44**	Pg	**Pg**	**00 52 04.3**	**-1.1**
CAFR	**Castel Frentan**	**0.72**	**44**	Pg	**Pg**	**00 52 04.3**	**-1.1**
LAV9	**Lanuvio**	**0.73**	**268**	Pg	**Pb**	**00 52 05.3**	**-0.6**
	8μm,0.5s						
LAV9	**Lanuvio**	**0.73**	**268**	Pg	**Pb**	**00 52 05.3**	**-0.6**
	8μm,0.5s						
RMP	**Rome, Mte Porz**	**0.73**	**278**	Pg	**Pb**	**00 52 05.1**	**-0.9**
	4μm,0.3s						
RMP	**Rome, Mte Porz**	**0.73**	**278**	Pg	**Pb**	**00 52 05.1**	**-0.9**
	4μm,0.3s						
PTRJ	**Pietraroja**	**0.73**	**118**	Pg	**Pb**	**00 52 05.2**	**-0.9**
	3μm,0.9s						
PTRJ	**Pietraroja**	**0.73**	**118**	Pg	**Pb**	**00 52 05.2**	**-0.9**
	3μm,0.9s						
MA9	**Marino**	**0.76**	**275**	Pg	**Pb**	**00 52 05.5**	**-1.0**
	4μm,0.6s						
MA9	**Marino**	**0.76**	**275**	Pg	**Pb**	**00 52 05.5**	**-1.0**
	4μm,0.6s						
MTCE	**Montecelio**	**0.76**	**295**	Pg	**Pb**	**00 52 05.3**	**-1.2**
	2μm,0.7s						
MTCE	**Montecelio**	**0.76**	**295**	Pg	**Pb**	**00 52 05.3**	**-1.2**
	2μm,0.7s						
FRES	**Fresagrandinar**	**0.79**	**70**	Pg	**Pg**	**00 52 05.2**	**-1.5**
	3μm,0.9s						
FRES	**Fresagrandinar**	**0.79**	**70**	Pg	**Pg**	**00 52 05.2**	**-1.5**
	3μm,0.9s						
SAMA	**S.Maria delle**	**0.81**	**275**	Pg	**Pb**	**00 52 06.6**	**-0.7**
SAMA	**S.Maria delle**	**0.81**	**275**	Pg	**Pb**	**00 52 06.6**	**-0.7**
ROM9	**Roma**	**0.87**	**278**	Pg	**Pb**	**00 52 07.9**	**-0.5**
	4μm,0.9s						
ROM9	**Roma**	**0.87**	**278**	Pg	**Pb**	**00 52 07.9**	**-0.5**
	4μm,0.9s						
TERO	**Teramo**	**0.91**	**357**	Pg	**Pg**	**00 52 07.4**	**-1.6**
	1μm,0.4s						
TERO	**Teramo**	**0.91**	**357**	Pg	**Pg**	**00 52 07.4**	**-1.6**
	1μm,0.4s						
CIGN	**Sant'Elia a Pi**	**0.93**	**93**	Pg	**Pb**	**00 52 08.5**	**-0.9**
CIGN	**Sant'Elia a Pi**	**0.93**	**93**	Pg	**Pb**	**00 52 08.5**	**-0.9**
NRCA	**Norcia**	**1.19**	**340**	Pg	**Pg**	**00 52 12.7**	**-1.7**
	762nm,0.5s						
NRCA	**Norcia**	**1.19**	**340**	Pg	**Pg**	**00 52 12.7**	**-1.7**
	762nm,0.5s						
CESX	**Cesi**	**1.21**	**318**	Pg	**Pn**	**00 52 13.9**	**-0.2**
CESX	**Cesi**	**1.21**	**318**	Pg	**Pn**	**00 52 13.9**	**-0.2**
OFFI	**Offida**	**1.22**	**1**	Pg	**Pg**	**00 52 13.4**	**-1.5**
OFFI	**Offida**	**1.22**	**1**	Pg	**Pg**	**00 52 13.4**	**-1.5**
FDMO	**Fiordimonte**	**1.39**	**342**	Pg	**Pb**	**00 52 16.8**	**-0.5**
FDMO	**Fiordimonte**	**1.39**	**342**	Pg	**Pb**	**00 52 16.8**	**-0.5**
VULT	**Monte Vulture**	**1.65**	**117**	Pg	**Pg**	**00 52 21.5**	**-1.6**
	315nm,0.7s						
VULT	**Monte Vulture**	**1.65**	**117**	Pg	**Pg**	**00 52 21.5**	**-1.6**
	315nm,0.7s						
BAI	**Bari**	**2.49**	**103**	*e*Pn	**Pn**	**00 52 33.2**	**+1.6**
PE1	**Pezze di Greco**	**2.97**	**107**	*e*Pn	**Pn**	**00 52 39.7**	**+1.4**
NVLJ	**Novalja**	**2.98**	**17**	*e*Pn	**Pn**	**00 52 38.6**	**+0.2**
NVLJ				Sn	**Sn**	**00 53 15.7**	**+1.6**
NVLJ	**Novalja**	**2.98**	**17**	*e*Pn	**Pn**	**00 52 38.6**	**+0.2**
NVLJ				Sn	**Sn**	**00 53 15.7**	**+1.6**
UDBI	**Udbina**	**3.21**	**28**	*e*Pn	**Pn**	**00 52 42.4**	**+0.8**
UDBI				Sn	**Sn**	**00 53 21.8**	**+2.0**
UDBI	**Udbina**	**3.21**	**28**	*e*Pn	**Pn**	**00 52 42.3**	**+0.8**
UDBI				Sn	**Sn**	**00 53 21.7**	**+2.0**
STON	**Ston**	**3.21**	**67**	*e*Pn	**Pn**	**00 52 42.8**	**+1.2**
STON				Sn	**Sn**	**00 53 18.4**	**-1.2**
STON	**Ston**	**3.21**	**67**	*e*Pn	**Pn**	**00 52 42.7**	**+1.2**
STON				Sn	**Sn**	**00 53 18.4**	**-1.2**
PGF	**Pioggiola**	**3.57**	**285**	*e*Pn	**Pn**	**00 52 47.8**	**+1.2**
PGF				*e*Sn	**Sn**	**00 53 27.6**	**-1.2**
	21nm,0.6s						
PGF	**Pioggiola**	**3.57**	**285**	*e*Pn	**Pn**	**00 52 47.8**	**+1.2**
PGF				*e*Sn	**Sn**	**00 53 27.6**	**-1.2**
	10nm,0.6s						
SKDS	**Skadanscina**	**3.84**	**4**	*i* Pn	**Pn**	**00 52 50.5**	**+0.2**
SKDS				*i* Sn	**Sn**	**00 53 37.9**	**+2.6**
SKDS	**Skadanscina**	**3.84**	**4**	*i* Pn	**Pn**	**00 52 50.5**	**+0.2**
SKDS				*i* Sn	**Sn**	**00 53 37.9**	**+2.6**
BOJS	**Bojanci**	**3.96**	**16**	*i* Pn	**Pn**	**00 52 54.1**	**+2.2**
BOJS				*i* Sn	**Sn**	**00 53 41.0**	**+2.8**
BOJS	**Bojanci**	**3.96**	**16**	*i* Pn	**Pn**	**00 52 54.1**	**+2.2**
BOJS				*i* Sn	**Sn**	**00 53 41.0**	**+2.8**
VISS	**Visnje**	**4.18**	**11**	*i* Pn	**Pn**	**00 52 56.3**	**+1.4**
VISS				*i* Sn	**Sn**	**00 53 46.0**	**+2.4**
VISS	**Visnje**	**4.18**	**11**	*i* Pn	**Pn**	**00 52 56.3**	**+1.4**
VISS				*i* Sn	**Sn**	**00 53 46.0**	**+2.4**
VOY	**Vojsko**	**4.32**	**2**	*e*Pn	**Pn**	**00 52 58.2**	**+1.3**
VOY				*e*		00 52 59.6	
VOY				*e*		00 53 19.8	
VOY				*e*Sn	**Sn**	**00 53 48.4**	**+1.2**
VOY	**Vojsko**	**4.32**	**2**	*e*Pn	**Pn**	**00 52 58.2**	**+1.3**
VOY				*e*Sn	**Sn**	**00 53 48.4**	**+1.2**
BBLS	**Lazići**	**4.74**	**61**	*e*Pn	**Pn**	**00 53 04.7**	**+2.1**
OBKA	**Obir**	**4.84**	**7**	⇑*i*Pn	**Pn**	**00 53 05.3**	**+1.3**
OBKA				⇓*i*Sn	**Sn**	**00 54 00.7**	**+0.7**
OBKA	**Obir**	**4.84**	**7**	Pn	**Pn**	**00 53 05.3**	**+1.3**
OBKA				Sn	**Sn**	**00 54 00.7**	**+0.7**
SOKA	**Soboth**	**5.06**	**11**	⇑*i*Pn	**Pn**	**00 53 07.4**	**+0.3**
SOKA				⇑*i*Sn	**Sn**	**00 54 06.3**	**+0.9**
SOKA	**Soboth**	**5.06**	**11**	Pn	**Pn**	**00 53 07.4**	**+0.3**
SOKA				Sn	**Sn**	**00 54 06.3**	**+0.9**
SBF	**Sospel**	**5.07**	**297**	*e*Pn	**Pn**	**00 53 07.5**	**+0.4**
SBF				*e*Sn	**Sn**	**00 54 03.1**	**-2.4**
	2.5nm,0.3s						
SBF	**Sospel**	**5.07**	**297**	*e*Pn	**Pn**	**00 53 07.5**	**+0.4**
SBF				*e*Sn	**Sn**	**00 54 03.1**	**-2.4**
	1.2nm,0.3s						
ABTA	**Abfaltersbach**	**5.10**	**351**	⇑*i*Pn	**Pn**	**00 53 08.1**	**+0.4**
ABTA				⇓*i*Sn	**Sn**	**00 54 08.6**	**+2.1**
ABTA	**Abfaltersbach**	**5.10**	**351**	Pn	**Pn**	**00 53 08.1**	**+0.4**
ABTA				Sn	**Sn**	**00 54 08.6**	**+2.1**
IVAS	**Ivanjica**	**5.13**	**67**	*e*Pn	**Pn**	**00 53 09.7**	**+1.7**
TEKS	**Tekeris**	**5.14**	**55**	*e*Pn	**Pn**	**00 53 10.0**	**+1.9**
DIVS	**Divibare**	**5.22**	**61**	*e*Pn	**Pn**	**00 53 11.0**	**+1.7**
KBA	**Koelnbreinsper**	**5.37**	**358**	⇓*i*Pn	**Pn**	**00 53 11.7**	**+0.3**
KBA				⇓*i*Sn	**Sn**	**00 54 15.1**	**+1.9**
KBA	**Koelnbreinsper**	**5.37**	**358**	Pn	**Pn**	**00 53 11.7**	**+0.3**
KBA				Sn	**Sn**	**00 54 15.1**	**+1.9**
FRF	**La Foret Royal**	**5.50**	**292**	*e*Pn	**Pn**	**00 53 13.3**	**+0.3**
FRF				*e*Sn	**Sn**	**00 54 14.0**	**-2.1**
	0.6nm,0.2s						
FRF	**La Foret Royal**	**5.50**	**292**	*e*Pn	**Pn**	**00 53 13.3**	**+0.3**
LMR	**La Mourre**	**5.53**	**289**	*e*Pn	**Pn**	**00 53 13.9**	**+0.4**
LMR				*e*Sn	**Sn**	**00 54 15.7**	**-1.2**
	7.1nm,0.5s						
LMR	**La Mourre**	**5.53**	**289**	*e*Pn	**Pn**	**00 53 13.9**	**+0.4**
TRUS	**Trudelj**	**5.54**	**61**	*e*Pn	**Pn**	**00 53 14.0**	**+0.4**
GRUS	**Gruza**	**5.62**	**65**	*e*Pn	**Pn**	**00 53 15.9**	**+1.2**
FGSL	**Fruska Gora**	**5.64**	**50**	*e*Pn	**Pn**	**00 53 15.6**	**+0.6**
SELS	**Selova**	**5.71**	**72**	*e*Pn	**Pn**	**00 53 16.7**	**+0.7**
DAVOX	**Davos/Dischmat

ellipse: s-maj=3.7km s-min=2.1km az=20.0
*IDC **08** 00:53:39.9±1.5, 41°.89N×13°.20E, h0km, mb3.7/2, mb1 3.7/5, mb1mx3.5/28, mbtmp3.6/5, ML3.3/3, Error ellipse: s-maj=49.9km s-min=14.6km az=99.0*
*LDG **08** 00:53:39.6±0.1, 41°.66N×13°.71E, h2km, Ml3.1/4, Error ellipse: s-maj=5.9km s-min=3.3km az=34.0*

ISC 08 00:53:39.1±0.7, 41°.75N±0°.02×13°.68E±0°.02, h11km±4km, n94, σ1§41/125, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POFI	**Posta Fibreno**	**0.04**	**140**	**Pg**	**Pg**	**00 53 40.6**	**-0.6**
POFI				Sg	**Sg**	**00 53 42.1**	**-0.6**
	27µm,0.2s						
POFI	**Posta Fibreno**	**0.04**	**140**	Pg	**Pg**	**00 53 40.6**	**-0.6**
POFI				Sg	**Sg**	**00 53 42.1**	**-0.6**
	27µm,0.2s						
SDI	**San Donato**	**0.11**	**112**	Pg	**Pg**	**00 53 41.1**	**-0.8**
SDI	**San Donato**	**0.11**	**112**	Pg	**Pg**	**00 53 41.1**	**-0.8**
VVLD	**Villa Vallelon**	**0.13**	**341**	Pg	**Pg**	**00 53 42.1**	**-0.2**
VVLD				Sg	**Sg**	**00 53 44.9**	**+0.4**
VVLD	**Villa Vallelon**	**0.13**	**341**	Pg	**Pg**	**00 53 42.1**	**-0.2**
VVLD				Sg	**Sg**	**00 53 44.9**	**+0.4**
GUAR	**Guarcino**	**0.28**	**280**	Pg	**Pg**	**00 53 44.6**	**-0.2**
GUAR				Sg	**Sg**	**00 53 49.4**	**+0.9**
	2µm,0.6s						
GUAR	**Guarcino**	**0.28**	**280**	Pg	**Pg**	**00 53 44.6**	**-0.2**
GUAR				Sg	**Sg**	**00 53 49.4**	**+0.9**
	2µm,0.6s						
CERA	**Filignano**	**0.30**	**120**	Pg	**Pg**	**00 53 44.1**	**-1.0**
CERA				Sg	**Sg**	**00 53 48.6**	**-0.5**
CERA	**Filignano**	**0.30**	**120**	Pg	**Pg**	**00 53 44.1**	**-1.0**
CERA				Sg	**Sg**	**00 53 48.6**	**-0.5**
INTR	**Introdacqua**	**0.31**	**33**	Pg	**Pg**	**00 53 44.9**	**-0.5**
INTR				Sg	**Sg**	**00 53 50.0**	**+0.3**
INTR	**Introdacqua**	**0.31**	**33**	Pg	**Pg**	**00 53 44.9**	**-0.5**
INTR				Sg	**Sg**	**00 53 50.0**	**+0.3**
RNI2	**Rionero Sannit**	**0.36**	**97**	Pg	**Pg**	**00 53 45.7**	**-0.6**
RNI2				Sg	**Sg**	**00 53 51.5**	**+0.4**
RNI2	**Rionero Sannit**	**0.36**	**97**	Pg	**Pg**	**00 53 45.7**	**-0.6**
RNI2				Sg	**Sg**	**00 53 51.5**	**+0.4**
GIUL	**Giuliano Di Ro**	**0.37**	**239**	Pg	**Pg**	**00 53 46.1**	**-0.3**
GIUL				Sg	**Sb**	**00 53 52.8**	**-0.7**
	3µm,0.4s						
GIUL	**Giuliano Di Ro**	**0.37**	**239**	Pg	**Pg**	**00 53 46.1**	**-0.3**
MIDA	**Miranda**	**0.45**	**104**	Pg	**Pg**	**00 53 46.6**	**-1.3**
MIDA	**Miranda**	**0.45**	**104**	Pg	**Pg**	**00 53 46.6**	**-1.3**
FAGN	**Fagnano**	**0.52**	**352**	Pg	**Pg**	**00 53 48.5**	**-0.8**
	7µm,0.4s						
FAGN	**Fagnano**	**0.52**	**352**	Pg	**Pg**	**00 53 48.5**	**-0.8**
	7µm,0.4s						
VAGA	**Valle Agricola**	**0.53**	**128**	Pg	**Pg**	**00 53 48.1**	**-1.4**
VAGA	**Valle Agricola**	**0.53**	**128**	Pg	**Pg**	**00 53 48.1**	**-1.4**
CERT	**Cerreto**	**0.56**	**291**	Pg	**Pg**	**00 53 49.1**	**-0.9**
CERT				Sg	**Sg**	**00 53 58.0**	**+0.7**
	3µm,0.4s						
CERT	**Cerreto**	**0.56**	**291**	Pg	**Pg**	**00 53 49.1**	**-0.9**
CERT				Sg	**Sg**	**00 53 58.0**	**+0.7**
	3µm,0.4s						
TRIV	**Trivento**	**0.65**	**88**	Pg	**Pg**	**00 53 50.4**	**-1.4**
TRIV	**Trivento**	**0.65**	**88**	Pg	**Pg**	**00 53 50.4**	**-1.4**
FIAM	**Fiamignano**	**0.67**	**321**	Pg	**Pg**	**00 53 51.4**	**-0.6**
	2µm,0.5s						
FIAM	**Fiamignano**	**0.67**	**321**	Pg	**Pg**	**00 53 51.4**	**-0.6**
	2µm,0.5s						
BSSO	**Busso**	**0.72**	**106**	Pg	**Pg**	**00 53 52.2**	**-0.8**
BSSO	**Busso**	**0.72**	**106**	Pg	**Pg**	**00 53 52.2**	**-0.8**
RDP	**Rocca di Papa**	**0.72**	**271**	Pg	**Pg**	**00 53 52.1**	**-0.9**
	4µm,0.4s						
RDP	**Rocca di Papa**	**0.72**	**271**	Pg	**Pg**	**00 53 52.1**	**-0.9**
	4µm,0.4s						
RMP	**Rome, Mte Porz**	**0.73**	**275**	Pg	**Pg**	**00 53 52.2**	**-1.0**
	2µm,0.5s						
RMP	**Rome, Mte Porz**	**0.73**	**275**	Pg	**Pn**	**00 53 52.2**	**-1.0**
	2µm,0.5s						
LAV9	**Lanuvio**	**0.74**	**265**	Pg	**Pg**	**00 53 52.4**	**-0.9**
	6µm,0.5s						
LAV9	**Lanuvio**	**0.74**	**265**	Pg	**Pg**	**00 53 52.4**	**-0.9**
	6µm,0.5s						
PTRJ	**Pietraroja**	**0.75**	**121**	Pg	**Pg**	**00 53 52.5**	**-1.0**
	3µm,0.8s						
PTRJ	**Pietraroja**	**0.75**	**121**	Pg	**Pg**	**00 53 52.5**	**-1.0**
	3µm,0.8s						
MTCE	**Montecelio**	**0.75**	**292**	Pg	**Pg**	**00 53 52.3**	**-1.3**
	671nm,0.7s						
MTCE	**Montecelio**	**0.75**	**292**	Pg	**Pg**	**00 53 52.3**	**-1.3**
	671nm,0.7s						
MA9	**Marino**	**0.76**	**272**	Pg	**Pg**	**00 53 52.6**	**-1.2**
MA9	**Marino**	**0.76**	**272**	Pg	**Pg**	**00 53 52.6**	**-1.2**
FRES	**Fresagrandinar**	**0.77**	**73**	Pg	**Pg**	**00 53 52.2**	**-1.9**
	3µm,1.0s						
FRES	**Fresagrandinar**	**0.77**	**73**	Pg	**Pg**	**00 53 52.2**	**-1.9**
	3µm,1.0s						
SAMA	**S.Maria delle**	**0.81**	**273**	Pg	**Pg**	**00 53 53.3**	**-1.5**
SAMA	**S.Maria delle**	**0.81**	**273**	Pg	**Pg**	**00 53 53.3**	**-1.5**
TERO	**Teramo**	**0.88**	**356**	Pg	**Pg**	**00 53 54.2**	**-1.8**
TERO	**Teramo**	**0.88**	**356**	Pg	**Pg**	**00 53 54.2**	**-1.8**
CIGN	**Sant'Elia a Pi**	**0.92**	**95**	Pg	**Pg**	**00 53 54.9**	**-2.0**
	427nm,0.6s						
CIGN	**Sant'Elia a Pi**	**0.92**	**95**	Pg	**Pg**	**00 53 54.9**	**-2.0**
	427nm,0.6s						
PSB1	**Pescosannita**	**1.00**	**121**	Pg	**Pg**	**00 53 57.2**	**-1.1**
PSB1	**Pescosannita**	**1.00**	**121**	Pg	**Pg**	**00 53 57.2**	**-1.1**
NRCA	**Norcia**	**1.16**	**339**	Pg	**Pb**	**00 53 59.6**	**-1.7**
	549nm,0.6s						
NRCA	**Norcia**	**1.16**	**339**	Pg	**Pb**	**00 53 59.6**	**-1.7**
	549nm,0.6s						
CESX	**Cesi**	**1.19**	**317**	Pg	**Pb**	**00 54 00.1**	**-1.6**
CESX	**Cesi**	**1.19**	**317**	Pg	**Pb**	**00 54 00.1**	**-1.6**
OFFI	**Offida**	**1.19**	**0**	Pg	**Pb**	**00 54 00.6**	**-1.1**
	3µm,0.8s						
OFFI	**Offida**	**1.19**	**0**	Pg	**Pb**	**00 54 00.6**	**-1.1**
	3µm,0.8s						
FDMO	**Fiordimonte**	**1.36**	**341**	Pg	**Pn**	**00 54 03.2**	**-0.9**
	474nm,0.6s						
FDMO	**Fiordimonte**	**1.36**	**341**	Pg	**Pn**	**00 54 03.2**	**-0.9**
	474nm,0.6s						
CESI	**CESI - Serrava**	**1.38**	**336**	Pg	**Pn**	**00 54 04.5**	**+0.1**
	259nm,0.7s						
CESI	**CESI - Serrava**	**1.38**	**336**	Pg	**Pn**	**00 54 04.5**	**+0.1**
	259nm,0.7s						
CING	**Cingoli**	**1.66**	**348**	Pg	**Pn**	**00 54 08.2**	**-0.1**
	133nm,0.4s						
CING	**Cingoli**	**1.66**	**348**	Pg	**Pn**	**00 54 08.2**	**-0.1**
	133nm,0.4s						
BAI	**Bari**	**2.49**	**104**	*e*Pn	**Pn**	**00 54 19.6**	**0.0**
BAI				*e*Sn	**Sn**	**00 54 50.5**	**+0.5**
NVLJ	**Novalja**	**2.95**	**17**	*e*Pn	**Pn**	**00 54 25.5**	**-0.4**
NVLJ				Sn	**Sn**	**00 54 57.2**	**-4.0**
NVLJ	**Novalja**	**2.95**	**17**	*e*Pn	**Pn**	**00 54 25.4**	**-0.4**
NVLJ				Sn	**Sn**	**00 54 57.2**	**-4.0**
PE1	**Pezze di Greco**	**2.98**	**107**	*e*Pn	**Pn**	**00 54 24.5**	**-1.8**
PE1				*e*Sn	**Sn**	**00 55 03.9**	**+1.9**
UDBI	**Udbina**	**3.17**	**28**	*e*Pn	**Pn**	**00 54 29.5**	**+0.5**
UDBI				Sn	**Sn**	**00 55 07.2**	**+0.2**
UDBI	**Udbina**	**3.17**	**28**	*e*Pn	**Pn**	**00 54 29.5**	**+0.5**
UDBI				Sn	**Sn**	**00 55 07.1**	**+0.2**
STON	**Ston**	**3.19**	**68**	*i* Pn	**Pn**	**00 54 29.2**	**0.0**
STON				Sn	**Sn**	**00 55 08.7**	**+1.5**
STON	**Ston**	**3.19**	**68**	*i* Pn	**Pn**	**00 54 29.1**	**0.0**
STON				Sn	**Sn**	**00 55 08.6**	**+1.5**
PGF	**Pioggiola**	**3.57**	**284**	*e*Pn	**Pn**	**00 54 34.7**	**+0.1**
PGF				*e*Sn	**Sn**	**00 55 15.1**	**-1.7**
	11nm,0.4s						
PGF	**Pioggiola**	**3.57**	**284**	*e*Pn	**Pn**	**00 54 34.7**	**+0.1**
PGF				*e*Sn	**Sn**	**00 55 15.1**	**-1.7**
	5.4nm,0.4s						
SBF	**Sospel**	**5.05**	**297**	*e*Pn	**Pn**	**00 54 54.5**	**-0.4**
SBF	**Sospel**	**5.05**	**297**	*e*Pn	**Pn**	**00 54 54.5**	**-0.4**
FRF	**La Foret Royal**	**5.49**	**292**	*e*Pn	**Pn**	**00 55 00.0**	**-0.9**
FRF	**La Foret Royal**	**5.49**	**292**	*e*Pn	**Pn**	**00 55 00.0**	**-0.9**
LMR	**La Mourre**	**5.53**	**289**	*e*Pn	**Pn**	**00 55 00.3**	**-1.0**
LMR				*e*Sn	**Sn**	**00 56 02.4**	**-2.5**
	3.5nm,0.4s						
LMR	**La Mourre**	**5.53**	**289**	*e*Pn	**Pn**	**00 55 00.3**	**-1.0**
LMR				*e*Sn	**Sn**	**00 56 02.4**	**-2.5**
	1.8nm,0.4s						
DAVOX	**Davos/Dischmat**	**5.72**	**333**	Pn	Pn	00 55 08.2	+4.0
	0.4nm,0.3s,baz=163,slow=19,SNR=1.9						
DAVOX				Sn	**Sn**	**00 56 14.3**	**+4.4**
	0.3nm,0.3s,baz=260,slow=18,SNR=2.3						
MBDF	**Montbardon**	**5.86**	**303**	*e*Pn	**Pn**	**00 55 06.5**	**+0.5**
MBDF	**Montbardon**	**5.86**	**303**	*e*Pn	**Pn**	**00 55 06.5**	**+0.5**
ORIF	**Oris-en-Rattie**	**6.51**	**302**	*e*P	Pn	00 55 19.8	+4.9
KEST	**Kesra**	**6.89**	**211**	Pn	**Pn**	**00 55 22.6**	**+2.3**
	0.7nm,0.3s,baz=293,slow=5.3,SNR=12						
KEST				Sn	**Sn**	**00 56 35.1**	**-3.6**
	baz=9.6,slow=16,SNR=1.2						
GERES	**GERESS Array B**	**7.10**	**0**	Pn	**Pn**	**00 55 23.7**	**+0.7**
	0.3nm,0.3s,baz=181,slow=19,SNR=5.5						
GERES				Sn	**Sn**	**00 56 41.8**	**-1.8**
	0.9nm,0.3s,baz=177,slow=24,SNR=4.7						
HINF	**Hinteralfeld**	**7.77**	**324**	*e*Pn	**Pn**	**00 55 32.4**	**+0.3**
HINF				*e*Sn	**Sn**	**00 56 57.5**	**-2.6**
	3.0nm,0.4s						
HINF	**Hinteralfeld**	**7.77**	**324**	*e*Pn	**Pn**	**00 55 32.4**	**+0.3**
HINF				*e*Sn	**Sn**	**00 56 57.5**	**-2.6**
	1.5nm,0.4s						
CDF	**Champ du Feu**	**8.05**	**328**	*e*Pn	**Pn**	**00 55 37.0**	**+0.9**
CDF				*e*Sn	**Sn**	**00 57 04.6**	**-2.6**
	1.3nm,0.4s						
CDF	**Champ du Feu**	**8.05**	**328**	*e*Pn	**Pn**	**00 55 37.0**	**+0.9**
CDF				*e*Sn	**Sn**	**00 57 04.6**	**-2.6**
	0.6nm,0.4s						
BRG	**Berggiesshubel**	**9.13**	**1**	*e*P	Pn	00 55 56.1	+5.4
	6.6nm,1.4s						
BRTR	**Keskin Array B**	**15.27**	**91**	Pn	**P**	**00 57 21.6**	**+1.9**
	0.1nm,0.3s,baz=324,slow=14,SNR=3.0						
FINES	**FINESS Array B**	**21.10**	**17**	P	**P**	**00 58 27.3**	**+3.9**
	2.6nm,0.8s,baz=207,slow=2.1,SNR=3.4						
TORD	**Torodi Ar. Bea**	**30.35**	**204**	P	**P**	**00 59 52.4**	**+1.4**
	0.4nm,0.6s,baz=22,slow=8.2,SNR=4.1						

IDC 08 00:56:00.1±1.8, 12°.71S×165°.92E, h0km, mb4.0/10, mb1 4.2/11, mb1mx4.0/21, mbtmp4.1/11, ML4.9/1, Error ellipse: s-maj=52.3km s-min=23.4km az=131.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.71**	**298**	Pn	Pn	00 57 39.7	-0.3
	26nm,0.3s,baz=170,slow=5.3,SNR=7.2						
DZM	**Mont Dzumac**	**9.32**	**177**	Pn	Pn	00 58 19.8	+3.8
	0.3nm,0.3s,baz=135,slow=20,SNR=1.8						
CTA	**Charters Tower**	**20.23**	**246**	P	P	01 00 36.5	-0.6
	3.1nm,0.7s,baz=77,slow=14,SNR=3.5						
STKA	**Stephens Creek**	**29.38**	**226**	P	P	01 02 06.2	+1.0
	2.5nm,0.8s,baz=1.6,slow=7.5,SNR=3.5						
WRA	**Warramunga Arr**	**31.11**	**252**	P	P	01 02 20.2	-0.4
	1.0nm,0.8s,baz=80,slow=10,SNR=3.5						
ASAR	**Alice Springs**	**32.24**	**246**	P	P	01 02 29.7	-0.9
	1.7nm,0.7s,baz=69,slow=9.5,SNR=8.9						
FITZ	**Fitzroy Crossi**	**39.15**	**257**	P	P	01 03 29.9	0.0
	2.8nm,0.7s,baz=101,slow=5.2,SNR=6.1						
CMAR	**Chiang Mai Arr**	**72.94**	**294**	P	P	01 07 33.0	+1.0
	0.6nm,0.3s,baz=104,slow=3.8,SNR=3.6						
SONM	**Songino Array**	**80.11**	**324**	P	P	01 08 12.1	-0.1
	0.2nm,0.4s,baz=118,slow=5.5,SNR=2.1						
ILAR	**Eielson Array**	**85.03**	**18**	P	P	01 08 36.7	-0.5
	0.3nm,0.6s,baz=230,slow=5.8,SNR=4.1						
MKAR	**Makanchi Array**	**94.85**	**317**	P	P	01 09 23.0	-1.1
	0.6nm,0.8s,baz=97,slow=5.0,SNR=3.7						
ZALV	**Zalesovo Beam**	**95.00**	**324**	P	P	01 09 25.3	+0.7
	0.4nm,0.4s,baz=102,slow=5.0,SNR=3.2						

*ISCJB **08** 00:57:36.6±0.6, 1°.76N±0°.05×98°.14E±0°.05, h46km, mb3.9/7, Error ellipse: s-maj=8.0km s-min=6.2km az=140.7*
*IDC **08** 00:57:37.1±5.0, 1°.80N×97°.95E, h55km±43km, mb3.6/7, mb1 3.7/7, mb1mx3.4/26, mbtmp3.6/7, Error ellipse: s-maj=40.8km s-min=22.1km az=62.0*
*DJA **08** 00:57:37.4±0.7, 2°.N±4°×97°.8E±°, h26km±12km, M4.1/5, MLv4.1/5*

ISC 08 00:57:36.6±0.8, 1°.76N±0°.05×98°.12E±0°.05, h46km, n25, σ1§65/24, mb3.9/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.70**	**230**	P	**Pn**	**00 57 51.9**	**+1.6**
PSI	**Prapat**	**1.31**	**38**	P	**Pn**	**00 57 59.3**	**+0.6**
	19nm,0.3s,baz=246,slow=5.6,SNR=53						
PSI				S	**Sn**	**00 58 16.1**	**+1.0**
	41nm,0.3s,baz=143,slow=7.6,SNR=13						
MNSI	**Mandailing Nat**	**1.75**	**123**	S	**Sn**	**00 58 26.6**	**+0.9**
KCSI	**Kotacane, Aceh**	**1.78**	**349**	P	**Pn**	**00 58 07.1**	**+2.1**
KCSI				S	**Sn**	**00 58 28.9**	**+2.4**
SNSI	**Sinabang, Aceh**	**1.90**	**290**	P	**Pn**	**00 58 08.6**	**+2.0**
PPI	**Padang Panjang**	**3.17**	**134**	P	**Pn**	**00 58 26.4**	**+2.3**
LHMI	**Lhok Sumawe**	**3.64**	**341**	P	**Pn**	**00 58 32.4**	**+1.9**
IPM	**Ipoh**	**3.97**	**47**	P	**Pn**	**00 58 36.9**	**+1.9**
IPM	**Ipoh**	**3.97**	**47**	P	**Pn**	**00 58 35.3**	**+0.3**
KULM	**Kulim**	**4.32**	**36**	P	**Pn**	**00 58 42.1**	**+2.2**
KULM	**Kulim**	**4.32**	**36**	P	**Pn**	**00 58 41.5**	**+1.6**
KGM	**Kluang**	**5.21**	**87**	P	**Pn**	**00 58 53.4**	**+1.4**
MYKOM	**Kota Tinggi**	**5.73**	**90**	P	**Pn**	**00 59 00.4**	**+1.1**
KTGM	**Kuala Trenggan**	**6.13**	**55**	P	**Pn**	**00 59 07.0**	**+2.2**
H08S2	**Diego Garcia H**	**27.21**	**250**	T	T	01 30 47.7	
	baz=71,slow=0.7,SNR=19						
H08S3	**Diego Garcia H**	**27.22**	**250**	T	T	01 30 49.6	
	baz=71,slow=0.7,SNR=18						
H08S1	**Diego Garcia H**	**27.23**	**250**	T	T	01 30 43.9	
	baz=71,slow=0.7,SNR=24						
WRA	**Warramunga Arr**	**41.56**	**123**	P	**P**	**01 05 21.0**	**+0.8**
	0.8nm,0.3s,baz=305,slow=8.9,SNR=3.6						
SONM	**Songino Array**	**46.45**	**8**	P	**P**	**01 05 57.9**	**-1.2**
	0.5nm,0.3s,baz=192,slow=9.0,SNR=5.4						
MKAR	**Makanchi Array**	**46.93**	**345**	P	**P**	**01 06 01.9**	**-0.8**
	1.3nm,0.5s,baz=155,slow=7.8,SNR=17						
KURBB	**Kurchatov Arra**	**51.44**	**344**	P	**P**	**01 06 36.4**	**-0.7**
	0.6nm,0.6s,baz=164,slow=6.7,SNR=5.2						
ZALV	**Zalesovo Beam**	**53.16**	**350**	P	**P**	**01 06 48.7**	**-1.1**
	2.7nm,0.4s,baz=161,slow=6.8,SNR=14						
BVAR	**Borovoye Array**	**56.03**	**340**	P	**P**	**01 07 09.8**	**-0.9**
	0.3nm,0.5s,baz=128,slow=11,SNR=3.5						
BRTR	**Keskin Array B**	**69.42**	**312**	P	**P**	**01 08 38.1**	**-2.2**
	0.5nm,0.7s,baz=134,slow=7.1,SNR=3.9						
CPUP	**Villa Florida**	**146.03**	**222**	PKPbc	**PKPdf**	**01 17 10.8**	**-0.7**
	0.9nm,0.5s,baz=96,slow=9.2,SNR=3.1						

*IDC **08** 00:59:35.4±0.7, 11°.83S×166°.20E, h0km, mb4.4/15, mb1 4.5/17, mb1mx4.5/23, mbtmp4.4/17, ML4.4/2, Error ellipse: s-maj=22.6km s-min=17.3km az=115.0*
*ISCJB **08** 00:59:38.5±0.5, 11°.97S±0°.08×166°.04E±0°.08, h30km, mb4.8/25, Error ellipse: s-maj=12.3km s-min=9.3km az=38.9*
*NEIC **08** 00:59:40.3±0.4, 12°.03S×166°.13E, h35km, mb4.9/9, Error ellipse: s-maj=10.6km s-min=8.9km az=81.0*
*DJA **08** 00:59:45.7±1.7, 11°.5±9°×166°.6E±2°.3, h30km, M4.8/10, mB7.1/2, mb4.8/10, Mw(mB)7.0/2*

ISC 08 00:59:39.9±0.6, 11°.93S±0°.09×166°.11E±0°.09, h30km, n60, σ1§18/63, mb4.7/25, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.55**	**292**	Pn	**Pn**	**01 01 13.3**	**-0.9**
HNR				Sn	**Sn**	**01 02 27.1**	**-0.9**
HNR	**Honiara**	**6.55**	**292**	Pn	**Pn**	**01 01 13.3**	**-0.9**
	11nm,0.3s,baz=148,slow=6.8,SNR=2.2						
HNR				Sn	**Sn**	**01 02 27.1**	**-0.9**
	7.6nm,0.3s,baz=187,slow=22,SNR=6.2						
DZM	**Mont Dzumac**	**10.09**	**178**	*e*Pn	**Pn**	**01 02 00.9**	**-2.0**
	22nm,0.4s						
DZM				Sn	Sn	01 04 04.5	+9.4
DZM	**Mont Dzumac**	**10.09**	**178**	Pn	**Pn**	**01 02 04.6**	**+1.7**
	2.3nm,0.3s,baz=300,slow=20,SNR=5.2						
DZM				Sn	Sn	01 04 04.5	+9.4
	baz=25,slow=17,SNR=3.0						
CTA	**Charters Tower**	**20.73**	**244**	P	Pn	01 04 20.3	-0.3
CTA	**Charters Tower**	**20.73**	**244**	P	Pn	01 04 20.3	-0.3
	9.4nm,0.9s,baz=67,slow=13,SNR=7.0						
CTAO	**Charters Tower**	**20.73**	**244**	*e*P	**P**	**01 04 16.5**	**-1.6**
	1µm,3.3s						
JAY	**Jayapura**	**26.86**	**288**	P	P	01 05 11.7	-6.5
	162nm,0.6s,28µm						
STKA	**Stephens Creek**	**30.06**	**225**	*e*P	**P**	**01 05 45.2**	**-1.3**
	1.0nm,0.8s						
STKA	**Stephens Creek**	**30.06**	**225**	P	**P**	**01 05 48.0**	**+1.4**
	3.2nm,0.9s,baz=61,slow=12,SNR=4.1						
WRAB	**Tennant Creek**	**31.52**	**251**	*e*P	**P**	**01 05 59.7**	**+0.1**
	16nm,1.4s						
WRA	**Warramunga Arr**	**31.53**	**251**	P	**P**	**01 06 00.2**	**+0.5**
WRA				PcP	**PcP**	**01 08 53.7**	**+1.5**
WRA	**Warramunga Arr**	**31.53**	**251**	P	**P**	**01 06 00.2**	**+0.5**
	4.3nm,0.7s,baz=80,slow=8.2,SNR=11						
WRA				PcP	**PcP**	**01 08 53.7**	**+1.5**
	0.7nm,0.3s,baz=82,slow=2.7,SNR=5.2						
ASAR	**Alice Springs**	**32.73**	**245**	P	**P**	**01 06 09.8**	**-0.5**
ASAR				PcP	**PcP**	**01 08 56.5**	**+1.0**
ASAR	**Alice Springs**	**32.73**	**245**	P	**P**	**01 06 09.8**	**-0.5**
	4.8nm,0.9s,baz=75,slow=9.0,SNR=19						
ASAR				PcP	**PcP**	**01 08 56.5**	**+1.0**
	3.8nm,1.0s,baz=91,slow=3.0,SNR=11						
FITZ	**Fitzroy Crossi**	**39.51**	**256**	*e*P	**P**	**01 07 07.3**	**-0.9**
	17nm,1.1s						
FITZ	**Fitzroy Crossi**	**39.51**	**256**	P	**P**	**01 07 07.9**	**-0.3**
	11nm,1.0s,baz=106,slow=8.9,SNR=6.8						
MBWA	**Marble Bar**	**45.26**	**252**	*e*P	**P**	**01 07 55.1**	**0.0**
	22nm,1.1s						
KAPI	**Kappang**	**46.32**	**274**	P	**P**	**01 08 04.3**	**+0.8**
	45nm,1.4s						
KAPI	**Kappang**	**46.32**	**274**	P	**P**	**01 08 03.6**	**+0.2**
KAPI	**Kappang**	**46.32**	**274**	P	**P**	**01 08 03.6**	**+0.2**
	16nm,0.9s,baz=136,slow=5.1,SNR=8.6						
KSM	**Kuching**	**57.00**	**280**	P	**P**	**01 09 25.3**	**+1.9**
	21nm,1.3s						
USRK	**Ussuriysk Arra**	**63.90**	**333**	P	**P**	**01 10 10.1**	**+0.3**
	2.9nm,0.8s,baz=161,slow=8.1,SNR=7.8						
VNDA	**Vanda**	**65.62**	**181**	*e*P	**P**	**01 10 19.8**	**-0.8**
	9.0nm,1.3s						
VNDA	**Vanda**	**65.62**	**181**	P	**P**	**01 10 21.3**	**+0.7**
	3.2nm,0.9s,baz=352,slow=6.9,SNR=7.7						
SBA	**Scott Base**	**65.92**	**180**	*e*P	**P**	**01 10 21.3**	**-1.2**
	11nm,1.2s						
SKNT	**Sakolnakorn**	**67.78**	**294**	P	**P**	**01 10 37.0**	**+1.6**
	165nm,1.0s						
LOEI	**Loei**	**70.40**	**294**	P	**P**	**01 10 51.1**	**-0.6**
	128nm,5.0s						
CMAR	**Chiang Mai Arr**	**72.80**	**294**	P	**P**	**01 11 07.2**	**+1.1**
CMAR	**Chiang Mai Arr**	**72.80**	**294**	P	**P**	**01 11 07.2**	**+1.1**
	4.0nm,1.0s,baz=119,slow=4.1						
CHTO	**Chiang Mai**	**72.91**	**294**	P	**P**	**01 11 09.1**	**+2.3**
CHTO	**Chiang Mai**	**72.91**	**294**	*e*P	**P**	**01 11 07.0**	**+0.2**
	39nm,1.2s						
CHTO	**Chiang Mai**	**72.91**	**294**	P	**P**	**01 11 09.1**	**+2.3**
	343nm,1.5s						
CMAI	**Chiengmai2**	**73.19**	**295**	P	**P**	**01 11 10.6**	**+2.0**
	65nm,0.8s						
QSPA	**South Pole Qui**	**78.08**	**180**	*e*P	**P**	**01 11 35.0**	**-0.7**
	31nm,1.6s						
ULN	**Ulaanbaatar**	**79.23**	**324**	*e*P	**P**	**01 11 43.0**	**+0.7**
	37nm,1.4s						
SONM	**Songino Array**	**79.59**	**324**	P	**P**	**01 11 44.9**	**+0.6**
SONM	**Songino Array**	**79.59**	**324**	P	**P**	**01 11 44.9**	**+0.6**
	6.1nm,0.9s,baz=136,slow=5.1,SNR=28						
MAW	**Mawson**	**84.04**	**202**	*e*P	**P**	**01 12 07.1**	**-0.2**
	1.8nm,1.2s						
MAW	**Mawson**	**84.04**	**202**	P	**P**	**01 12 08.0**	**+0.8**
	3.8nm,1.0s,baz=100,slow=6.9,SNR=5.7						
ILAR	**Eielson Array**	**84.23**	**18**	P	**P**	**01 12 07.4**	**-0.8**
ILAR	**Eielson Array**	**84.23**	**18**	P	**P**	**01 12 07.4**	**-0.8**
	0.7nm,0.8s,baz=255,slow=3.5,SNR=3.2						
NVAR	**Mina Array Bea**	**86.32**	**50**	P	**P**	**01 12 18.7**	**-0.8**
NVAR	**Mina Array Bea**	**86.32**	**50**	P	**P**	**01 12 18.7**	**-0.8**
	0.9nm,0.8s,baz=244,slow=6.6,SNR=4.3						
MK31	**Makanchi Array**	**94.41**	**317**	*e*P	**P**	**01 12 57.0**	**0.0**
MKAR	**Makanchi Array**	**94.41**	**317**	P	**P**	**01 12 57.5**	**+0.5**
MKAR	**Makanchi Array**	**94.41**	**317**	P	**P**	**01 12 57.5**	**+0.5**
	13nm,0.8s,baz=97,slow=6.4,SNR=82						
ZALV	**Zalesovo

MKAR	**Makanchi Array**	**94.47 317**	P	**P**		**01 19 24.1**	**0.0**
MKAR	**Makanchi Array**	**94.47 317**	P	**P**		**01 19 24.1**	**0.0**
	8.5nm,0.7s,baz=92,slow=6.5,SNR=65						
ZALV	**Zalesovo Beam**	**94.54 324**	P	**P**		**01 19 23.6**	**-0.7**
ZALV	**Zalesovo Beam**	**94.54 324**	P	**P**		**01 19 23.6**	**-0.7**
	1.7nm,0.8s,baz=96,slow=4.5,SNR=8.3						
KURK	**Kurchatov**	**97.61 320**	P	**P**		**01 19 37.1**	**-1.1**
KURBB	**Kurchatov Arra**	**97.65 320**	P	**P**		**01 19 37.1**	**-1.3**
	0.4nm,0.5s,baz=102,slow=4.0,SNR=5.3						
BVAR	**Borovoye Array**	**102.93 322**	Pdif	**Pdif**		**01 20 00.7**	**-1.2**
BVAR	**Borovoye Array**	**102.93 322**	Pdiff	**Pdif**		**01 20 00.7**	**-1.2**
	0.3nm,0.5s,baz=66,slow=3.5,SNR=3.1						
BOSA	**Boshof**	**124.65 222**	PKP	**PKPdf**		**01 25 03.9**	**-0.4**
BOSA	**Boshof**	**124.65 222**	PKP	**PKPdf**		**01 25 03.9**	**-0.4**
	5.1nm,1.1s,baz=0.0,slow=0.0,SNR=4.0						
KEST	**Kesra**	**148.40 322**	PKPbc	**PKPbc**		**01 25 51.1**	**+0.2**
KEST	**Kesra**	**148.40 322**	PKPbc	**PKPbc**		**01 25 51.1**	**+0.2**
	2.0nm,1.0s,baz=307,slow=5.1,SNR=4.2						
TORD	**Torodi Ar. Bea**	**164.75 276**	PKP	**PKPdf**		**01 26 08.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**164.75 276**	PKP	**PKPdf**		**01 26 08.6**	**-0.2**
	0.9nm,0.9s,baz=274,slow=2.4,SNR=4.0						

*IDC **08** 01:06:32.7±0.6, 12.°81S×166.°23E, h0km, mb4.6/15, mb1 4.7/17, mb1mx4.6/24, mbtmp4.7/17, ML4.3/2, Error ellipse: s-maj=22.0km s-min=15.7km az=107.0*

*ISCJB **08** 01:06:34.2±0.6, 12.°81S±0.°08×166.°1E±0.°1, h20km, mb4.7/17, Error ellipse: s-maj=15.4km s-min=11.5km az=162.0*

*NEIC **08** 01:06:38.1±0.3, 12.°80S×166.°17E, h35km, mb4.9/6, Error ellipse: s-maj=10.9km s-min=9.9km az=113.0*

ISC 08 01:06:36.2±0.5, 12.°77S±0.°09×166.°07E±0.°09, h20km, n75, σ0s97/78, mb4.6/17, 3C-3D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**6.87**	**298**	Pn		**Pn**	**01 08 15.7**	**-0.1**
HNR				Sn		**Sn**	**01 09 30.5**	**-2.9**
HNR	**Honiara**	**6.87**	**298**	Pn		**Pn**	**01 08 15.7**	**-0.1**
	35nm,0.3s,baz=192,slow=0.9,SNR=9.1							
HNR				Sn		**Sn**	**01 09 30.5**	**-2.9**
	12nm,0.3s,baz=36,slow=19,SNR=1.5							
PMG	**Port Moresby**	**18.86**	**278**	P		**Pn**	**01 10 58.2**	**+2.3**
PMG	**Port Moresby**	**18.86**	**278**	P		**Pn**	**01 10 58.2**	**+2.3**
	0.9nm,0.3s,baz=80,slow=11,SNR=3.6							
CTA	**Charters Tower**	**20.34**	**246**	P		Pn	01 11 13.9	+0.4
CTA	**Charters Tower**	**20.34**	**246**	P		Pn	01 11 13.9	+0.4
	19nm,0.9s,baz=77,slow=16,SNR=9.0							
CTAO	**Charters Tower**	**20.34**	**246**	P		**P**	**01 11 12.2**	**+0.8**
	52nm,1.2s							
STKA	**Stephens Creek**	**29.44**	**226**	P		**P**	**01 12 39.2**	**+0.5**
	2.3nm,0.8s							
STKA	**Stephens Creek**	**29.44**	**226**	P		**P**	**01 12 39.6**	**+0.9**
	8.5nm,0.8s,baz=9.5,slow=7.8,SNR=9.3							
RPZ	**Rata Peaks**	**31.13**	**173**	P		**P**	**01 12 53.6**	**+0.1**
RPZ	**Rata Peaks**	**31.13**	**173**	P		**P**	**01 12 53.6**	**+0.1**
	20nm,0.6s,baz=297,slow=5.0,SNR=7.7							
WRA	**Warramunga Arr**	**31.23**	**253**	P		**P**	**01 12 54.0**	**-0.7**
WRA	**Warramunga Arr**	**31.23**	**253**	P		**P**	**01 12 54.0**	**-0.7**
	2.8nm,0.6s,baz=84,slow=9.0,SNR=7.6							
ASAR	**Alice Springs**	**32.34**	**246**	P		**P**	**01 13 04.4**	**0.0**
ASAR	**Alice Springs**	**32.34**	**246**	P		**P**	**01 13 04.4**	**0.0**
	5.8nm,0.8s,baz=76,slow=9.6,SNR=12							
FITZ	**Fitzroy Crossi**	**39.27**	**257**	P		**P**	**01 14 04.1**	**+0.2**
FITZ	**Fitzroy Crossi**	**39.27**	**257**	P		**P**	**01 14 04.1**	**+0.2**
	8.1nm,0.6s,baz=99,slow=7.2,SNR=16							
ASAJ	**Asahikawa**	**60.52**	**341**	P		**P**	**01 16 45.3**	**+0.4**
ASAJ	**Asahikawa**	**60.52**	**341**	P		**P**	**01 16 45.3**	**+0.4**
	21nm,0.7s,baz=221,slow=11,SNR=14							
USRK	**Ussuriysk Arra**	**64.62**	**334**	P		**P**	**01 17 13.7**	**+1.4**
	17nm,1.2s,baz=141,slow=6.4,SNR=9.7							
VNDA	**Vanda**	**64.78**	**181**	*eP*		**P**	**01 17 11.8**	**-1.2**
	4.2nm,0.9s							
VNDA	**Vanda**	**64.78**	**181**	P		**P**	**01 17 11.9**	**-1.0**
	2.9nm,0.8s,baz=15,slow=6.4,SNR=6.4							
CASY	**Casey**	**64.90**	**202**	*eP*		**P**	**01 17 12.7**	**-1.1**
	29nm,1.1s							
QSPA	**South Pole Qui**	**77.24**	**180**	*eP*		**P**	**01 18 28.8**	**-0.1**
	22nm,0.8s							
SONM	**Songino Array**	**80.24**	**324**	P		**P**	**01 18 46.7**	**+1.2**
SONM	**Songino Array**	**80.24**	**324**	P		**P**	**01 18 46.7**	**+1.2**
	2.5nm,0.8s,baz=153,slow=9.0,SNR=4.9							
MAW	**Mawson**	**83.25**	**202**	P		**P**	**01 19 01.3**	**+0.3**
MAW	**Mawson**	**83.25**	**202**	P		**P**	**01 19 01.3**	**+0.3**
	3.6nm,0.9s,baz=71,slow=6.4,SNR=4.6							
ILAR	**Eielson Array**	**85.04**	**18**	P		**P**	**01 19 08.7**	**-1.4**
ILAR	**Eielson Array**	**85.04**	**18**	P		**P**	**01 19 08.7**	**-1.4**
	2.9nm,0.7s,baz=237,slow=5.8,SNR=14							
SYO	**Syowa Base**	**90.23**	**197**⇑	*eP*		**P**	**01 19 33.7**	**-1.4**
MKAR	**Makanchi Array**	**94.99**	**317**	P		**P**	**01 19 58.0**	**+0.5**
MKAR	**Makanchi Array**	**94.99**	**317**	P		**P**	**01 19 58.0**	**+0.5**
	1.6nm,0.7s,baz=91,slow=5.5,SNR=4.6							
ZALV	**Zalesovo Beam**	**95.13**	**324**	P		**P**	**01 19 57.2**	**-0.6**
ZALV	**Zalesovo Beam**	**95.13**	**324**	P		**P**	**01 19 57.2**	**-0.6**
	2.0nm,0.7s,baz=101,slow=4.7,SNR=8.9							
SNAA	**Sanae**	**95.42**	**184**	*eP*		**P**	**01 19 58.1**	**-1.0**
	5.5nm,1.1s							
KURK	**Kurchatov**	**98.16**	**320**	P		**P**	**01 20 11.4**	**-0.3**
KURBB	**Kurchatov Arra**	**98.20**	**320**	P		**P**	**01 20 11.4**	**-0.5**
	0.2nm,0.2s,baz=100,slow=3.7,SNR=3.1							
BVAR	**Borovoye Array**	**103.50**	**322**	Pdif		**Pdif**	**01 20 34.8**	**-0.7**
BVAR	**Borovoye Array**	**103.50**	**322**	Pdiff		**Pdif**	**01 20 34.8**	**-0.7**
	0.4nm,0.7s,baz=116,slow=3.4,SNR=3.8							
SIUC	**Southern Illin**	**109.29**	**54**	*e*PKPdf		**PKiKP**	**01 25 05.1**	**-0.2**
ARCES	**ARCESS Array B**	**118.08**	**345**	PKP		**PKPdf**	**01 25 20.5**	**-0.7**
ARCES	**ARCESS Array B**	**118.08**	**345**	PKP		**PKPdf**	**01 25 20.5**	**-0.7**
	3.0nm,0.8s,baz=60,slow=2.9,SNR=5.2							
GNI	**Garni**	**122.00**	**309**	PKP		**PKPdf**	**01 25 30.3**	**+0.6**
GNI	**Garni**	**122.00**	**309**	PKP		**PKPdf**	**01 25 30.3**	**+0.6**
	2.1nm,0.5s,baz=55,slow=7.3,SNR=4.2							
KBZ	**Khabaz**	**122.57**	**314**	PKP		**PKPdf**	**01 25 30.8**	**+0.3**
KBZ	**Khabaz**	**122.57**	**314**	PKP		**PKPdf**	**01 25 30.8**	**+0.3**
	3.0nm,0.9s,baz=37,slow=4.6,SNR=4.5							
FINES	**FINESS Array B**	**123.48**	**338**	PKP		**PKPdf**	**01 25 31.9**	**+0.2**
FINES	**FINESS Array B**	**123.48**	**338**	PKP		**PKPdf**	**01 25 31.9**	**+0.2**
	4.9nm,0.9s,baz=146,slow=4.1,SNR=3.8							
MALT	**Malatya**	**127.18**	**309**⇓	*i*P		**PKPdf**	**01 25 41.2**	**+1.5**
NOA	**NORSAR Array B**	**128.44**	**345**	PKP		**PKPdf**	**01 25 41.2**	**-0.1**
NOA	**NORSAR Array B**	**128.44**	**345**	PKP		**PKPdf**	**01 25 41.2**	**-0.1**
	0.8nm,0.8s,baz=31,slow=2.1,SNR=3.5							
AKASG	**Malin Array Be**	**128.47**	**326**	PKP		**PKPdf**	**01 25 41.4**	**-0.2**
AKASG	**Malin Array Be**	**128.47**	**326**	PKP		**PKPdf**	**01 25 41.4**	**-0.2**
	0.3nm,0.3s,baz=60,slow=2.3,SNR=10							
BRTR	**Keskin Array B**	**130.35**	**312**	PKP		**PKPdf**	**01 25 44.8**	**-0.9**
BRTR				SKPbc		**SKPbc**	**01 29 09.3**	**+1.3**
BRTR	**Keskin Array B**	**130.35**	**312**	PKP		**PKPdf**	**01 25 44.8**	**-0.9**
	1.6nm,0.9s,baz=108,slow=1.7,SNR=7.1							
BRTR				SKPbc		**SKPbc**	**01 29 09.3**	**+1.3**
	2.3nm,1.1s,baz=3.8,slow=3.7,SNR=4.0							
BURAR	**Bucovina Array**	**132.35**	**325**⇑	*i*P		**PKPdf**	**01 25 50.6**	**+1.4**
ARR	**Arges**	**133.91**	**322**⇓	*i*P		**PKPdf**	**01 25 53.1**	**+0.9**
MORC	**Moravsky Berou**	**134.97**	**331**⇑	*i*P		**PKPdf**	**01 25 54.5**	**+0.5**
SIRR	**Siria**	**135.12**	**325**⇓	*i*P		**PKPdf**	**01 25 54.6**	**+0.3**
BRG	**Berggiesshubel**	**135.75**	**335**	*e*PDIF		**PKPdf**	**01 25 54.5**	**-0.8**
	16nm,1.9s							
CLL	**Collm**	**135.80**	**336**	*e*PKPdf		**PKPdf**	**01 25 55.0**	**-0.4**
GERES	**GERESS Array B**	**137.38**	**333**	PKP		**PKPdf**	**01 25 58.7**	**+0.1**
GERES	**GERESS Array B**	**137.38**	**333**	PKP		**PKPdf**	**01 25 58.7**	**+0.1**
	1.2nm,0.8s,baz=48,slow=2.0,SNR=7.3							
DAVOX	**Davos/Dischmat**	**140.62**	**334**	PKP		**PKPdf**	**01 26 03.5**	**-1.1**
DAVOX	**Davos/Dischmat**	**140.62**	**334**	PKP		**PKPdf**	**01 26 03.5**	**-1.1**
	3.0nm,0.9s,baz=53,slow=10,SNR=3.3							
BNI	**Bardonecchia**	**143.34**	**335**	*e*PKPdf		PKPbc	01 26 07.0	+0.4
KEST	**Kesra**	**148.97**	**321**	PKPbc		**PKPbc**	**01 26 23.8**	**+0.5**
KEST	**Kesra**	**148.97**	**321**	PKPbc		**PKPbc**	**01 26 23.8**	**+0.5**
	12nm,0.8s,baz=264,slow=0.6,SNR=29							
ESDC	**Sonseca Array**	**151.79**	**344**	PKPbc		**PKPbc**	**01 26 29.6**	**-0.3**
ESDC				PKPab		**PKPab**	**01 26 39.2**	**+0.5**
ESDC	**Sonseca Array**	**151.79**	**344**	PKPbc		**PKPbc**	**01 26 29.6**	**-0.3**
	4.5nm,0.8s,baz=14,slow=2.6,SNR=24							
ESDC				PKPab		**PKPab**	**01 26 39.2**	**+0.5**
	2.1nm,0.6s,baz=10,slow=2.9,SNR=6.5							
MDT	**Midelt**	**158.30**	**338**	PKPab		**PKPab**	**01 27 08.0**	**+1.2**
MDT	**Midelt**	**158.30**	**338**	PKPab		**PKPab**	**01 27 08.0**	**+1.2**
	1.1nm,0.7s,baz=352,slow=6.4,SNR=4.0							
TORD	**Torodi Ar. Bea**	**164.77**	**273**	PKPab		**PKPab**	**01 27 36.8**	**+1.2**
TORD	**Torodi Ar. Bea**	**164.77**	**273**	PKPab		**PKPab**	**01 27 36.8**	**+1.2**
	2.7nm,1.1s,baz=81,slow=6.3,SNR=6.1							

*IDC **08** 01:08:30.8±0.6, 12.°93S×166.°35E, h0km, mb4.9/21, mb1 5.0/23, mb1mx4.9/27, mbtmp4.9/23, ML4.5/2, Error ellipse: s-maj=18.4km s-min=13.8km az=111.0*

*ISCJB **08** 01:08:34.5±1.9, 12.°84S±0.°04×166.°19E±0.°04, h30km±13km, mb5.2/77, MS5.7/6, Error ellipse: s-maj=7.2km s-min=5.8km az=2.1*

*MOS **08** 01:08:35.1±1.2, 12.°86S×166.°14E, h33km, mb5.6/28, Error ellipse: s-maj=10.3km s-min=8.3km az=28.2*

*NEIC **08** 01:08:36.6±0.2, 12.°80S×166.°20E, h35km, mb5.3/33, Error ellipse: s-maj=6.9km s-min=5.7km az=143.0*

*AUST **08** 01:08:36.2±7.3, 12.°88S×165.°79E, h0km, Error ellipse: s-maj=1.4km s-min=1.1km az=246.0*

*BJI **08** 01:08:36.0, 12.°40S×166.°46E, h26km, mB5.6/8, mb5.1/44, Ms5.8/9, Ms7 5.6/12*

*DJA **08** 01:08:50.6±2.0, 13.°S±9.°×16.°6E±.°, h156km±27km, M4.9/13, mB6.2/1, mb4.9/13, Mw(mB)5.9/1*

ISC 08 01:08:37.5±0.3, 12.°92S±0.°05×166.°23E±0.°05, h38km±2km, h38km:pP-P, n333, σ1s64/378, mb5.3/77, MS5.7/6, 17C-15D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**7.07**	**299**	Pn		**Pn**	**01 10 17.4**	**-1.1**
HNR				Sn		**Sn**	**01 11 36.2**	**-1.4**
HNR	**Honiara**	**7.07**	**299**	Pn		**Pn**	**01 10 17.3**	**-1.1**
	68nm,0.3s,baz=209,slow=2.5,SNR=16							
HNR				Sn		**Sn**	**01 11 36.2**	**-1.4**
	24nm,0.3s,baz=30,slow=20,SNR=3.5							
DZM	**Mont Dzumac**	**9.11**	**179**	*e*Pn		**Pn**	**01 10 44.9**	**-1.6**
	26nm,0.3s							
DZM				*e*LR		LR	01 12 54.2	
	74µm,28.1s							
DZM	**Mont Dzumac**	**9.11**	**179**	*e*Pn		**Pn**	**01 10 49.0**	**+2.5**
	103nm,0.8s							
DZM	**Mont Dzumac**	**9.11**	**179**	Pn		**Pn**	**01 10 46.6**	**+0.1**
	1.6nm,0.3s,baz=128,slow=19,SNR=2.6							
MSVF	**Nonsavu**	**12.37**	**114**	*e*P		**Pn**	**01 11 31.9**	**+0.8**
MSVF	**Nonsavu**	**12.37**	**114**	Pn		P	01 11 38.1	-4.4
	886nm,1.6s,SNR=6.9							
MSVF	**Nonsavu**	**12.37**	**114**	*e*Pn		**Pn**	**01 11 31.9**	**+0.8**
TARA	**Tarawa**	**15.66**	**26**	*e*Pn		**Pn**	**01 12 15.6**	**+0.2**
	509nm,1.2s							
EIDS	**Eidsvold**	**18.90**	**227**	*e*P		**P**	**01 12 55.0**	**+0.1**
	39nm,0.8s							
EIDS				*e*Pn		**Pn**	**01 12 56.2**	**+0.4**
EIDS	**Eidsvold**	**18.90**	**227**	P		**Pn**	**01 12 56.1**	**+0.4**
	baz=19,SNR=8.2							
PMG	**Port Moresby**	**19.03**	**279**	P		**Pn**	**01 12 56.9**	**-0.5**
	132nm,1.4s							
PMG	**Port Moresby**	**19.03**	**279**	*e*P		**P**	**01 12 56.5**	**+0.1**
	230nm,1.3s							
PMG	**Port Moresby**	**19.03**	**279**	P		**P**	**01 12 56.4**	**+0.1**
	1.1nm,0.3s,baz=93,slow=6.5,SNR=17							
LHI	**Lord Howe Isla**	**19.66**	**198**	P		Pn	01 13 10.4	+5.7
	baz=20,SNR=3.4							
CTA	**Charters Tower**	**20.43**	**247**	P		**P**	**01 13 12.2**	**+0.6**
CTA	**Charters Tower**	**20.43**	**247**	P		**P**	**01 13 12.2**	**+0.6**
	77nm,1.1s,baz=73,slow=14,SNR=25							
CTAO	**Charters Tower**	**20.43**	**247**	*e*P		**P**	**01 13 11.3**	**-0.3**
CTAO				pmax		pmax		
	comp=Z,195nm,1.3s							
CTAO	**Charters Tower**	**20.43**	**247**	*e*P		**P**	**01 13 11.3**	**-0.3**
	comp=Z,195nm,1.3s							
PATS	**Pohnpei**	**21.14**	**338**	P		**P**	**01 13 23.2**	**+3.9**
	baz=21,SNR=3.3							
RMQ	**Roma**	**21.24**	**228**	P		**P**	**01 13 21.8**	**+1.4**
	baz=21,SNR=9.3							
AFI	**Afiamalu**	**21.42**	**95**	*e*P		**P**	**01 13 24.9**	**+2.5**
	comp=Z,222nm,1.5s							
AFI	**Afiamalu**	**21.42**	**95**	P		**P**	**01 13 23.0**	**+0.6**
	comp=Z,12nm,0.4s,baz=309,slow=19,SNR=2.3							
ARMA	**Armidale**	**22.04**	**215**	*e*P		**P**	**01 13 30.4**	**+1.5**
	comp=Z,500nm,2.3s							
ARMA	**Armidale**	**22.04**	**215**	P		**P**	**01 13 30.4**	**+1.5**
	baz=22,SNR=4.7							
COEN	**Coen**	**22.45**	**265**	*e*P		**P**	**01 13 32.8**	**-0.6**
	comp=Z,790nm,1.1s							
COEN	**Coen**	**22.45**	**265**	P		**P**	**01 13 32.7**	**-0.6**
	baz=22,SNR=13							
OUZ	**Omahuta**	**23.19**	**165**	*e*P		**P**	**01 13 43.0**	**+2.2**
	comp=Z,79nm,1.4s							
QLP	**Quilpie**	**24.71**	**233**	P		**P**	**01 13 55.5**	**+0.2**
	baz=24,SNR=4.5							
CMSA	**Cobar Meteorol**	**26.46**	**222**	P		**P**	**01 14 12.5**	**+1.4**
	baz=26,SNR=4.9							
STKA	**Stephens Creek**	**29.45**	**226**	*e*P		**P**	**01 14 38.4**	**+0.6**
STKA	**Stephens Creek**	**29.45**	**226**	P		**P**	**01 14 38.4**	**+0.6**
	baz=29,SNR=9.9							
STKA	**Stephens Creek**	**29.45**	**226**	P		**P**	**01 14 37.5**	**-0.3**
	comp=Z,12nm,0.7s,baz=20,slow=6.5,SNR=8.8							
TOO	**Toolangi**	**30.75**	**213**	P		**P**	**01 14 50.8**	**+1.6**
	baz=31,SNR=4.6							
RPZ	**Rata Peaks**	**30.97**	**173**	*e*P		**P**	**01 14 51.4**	**+0.3**
RPZ	**Rata Peaks**	**30.97**	**173**	P		**P**	**01 14 50.5**	**-0.6**
	comp=Z,20nm,0.7s,baz=68,slow=4.6,SNR=5.0							
WRAB	**Tennant Creek**	**31.33**	**253**	*e*P		**P**	**01 14 52.7**	**-1.8**
WRAB	**Tennant Creek**	**31.33**	**253**	*e*P		**P**	**01 14 52.7**	**-1.8**
WRA	**Warramunga Arr**	**31.34**	**253**	P		**P**	**01 14 52.9**	**-1.7**
WRA	**Warramunga Arr**	**31.34**	**253**	P		**P**	**01 14 52.9**	**-1.7**
	comp=Z,7.5nm,1.0s,baz=82,slow=8.7,SNR=8.4							
ASAR	**Alice Springs**	**32.42**	**246**	P		**P**	**01 15 02.4**	**-1.8**
ASAR				PcP		**PcP**	**01 17 49.0**	**-2.0**
ASAR	**Alice Springs**	**32.42**	**246**	P		**P**	**01 15 02.4**	**-1.8**
	comp=Z,11nm,0.7s,baz=72,slow=9.6,SNR=15							
ASAR				PcP		**PcP**	**01 17 49.0**	**-2.0**
	comp=Z,1.9nm,0.8s,baz=84,slow=3.8,SNR=2.5							
KDU	**Kakadu**	**32.91**	**267**	P		**P**	**01 15 08.1**	**-0.2**
	baz=32,SNR=4.2							
BBOO	**Buckleboo**	**33.94**	**229**	*e*P		**P**	**01 15 17.3**	**+0.1**
	comp=Z,2µm,1.4s							
BBOO	**Buckleboo**	**33.94**	**229**	P		**P**	**01 15 17.5**	**+0.3**
	baz=34,SNR=7.8							
KNRA	**Kununurra**	**36.38**	**261**	P		**P**	**01 15 37.6**	**-0.8**
	baz=36,SNR=15							
FITZ	**Fitzroy Crossi**	**39.39**	**257**	*e*P		**P**	**01 16 02.9**	**-0.9**
FITZ	**Fitzroy Crossi**	**39.39**	**257**	P		**P**	**01 16 03.4**	**-0.4**
	baz=38,SNR=11							
FITZ	**Fitzroy Crossi**	**39.39**	**257**	P		**P**	**01 16 02.2**	**-1.6**
	comp=Z,46nm,1.1s,baz=91,slow=9.1,SNR=16							
BATI	**Baumata**	**41.76**	**269**	P		**P**	**01 16 23.6**	**+0.2**
BATI	**Baumata**	**41.76**	**269**	P		**P**	**01 16 23.6**	**+0.2**
	comp=Z,12nm,0.4s,baz=347,slow=2.4,SNR=7.2							
PPT2	**Papeete2**	**42.82**	**102**	*e*P		**P**	**01 16 34.4**	**+2.3**
	comp=Z,90nm,1.3s							
TBI	**Tubuai**	**43.22**	**110**	*e*P		**P**	**01 16 37.9**	**+2.7**
	comp=Z,293nm,1.5s							
PMOR	**Poariorio Ree**	**44.51**	**98**	*e*P		**P**	**01 16 48.1**	**+2.5**
	comp=Z,185nm,1.2s							
VAH	**Vaihoa**	**44.76**	**99**	*e*P		**P**	**01 16 49.8**	**+2.2**
	comp=Z,149nm,1.2s							
MBWA	**Marble Bar**	**45.08**	**253**	*e*P		**P**	**01 16 49.2**	**-0.9**
	comp=Z,51nm,1.6s							
KAPI	**Kappang**	**46.51**	**275**	*e*P		**P**	**01 17 00.1**	**-1.5**
	comp=Z,83nm,1.4s							
KAPI	**Kappang**	**46.51**	**275**	P		**P**	**01 17 00.1**	**-1.5**
	comp=Z,9.0nm,0.7s,baz=129,slow=1.9,SNR=4.6							
MEEK	**Meekatharra**	**46.58**	**246**	P		**P**	**01 17 02.1**	**+0.2**
	baz=46,SNR=7.1							
MORW	**Morawa**	**49.17**	**243**	P		**P**	**01 17 22.2**	**+0.3**
	baz=49,SNR=6.6							
KKM	**Kota Kinabalu**	**53.14**	**288**	P		**P**	**01 17 52.1**	**+0.1**
	baz=53,SNR=3.8							
MAT	**Matsushiro**	**55.84**	**333**	P		**P**	**01 18 09.7**	**-1.5**
JNU	**Nakatsue**	**56.87**	**325**	P		**P**	**01 18 19.2**	**+0.7**
	comp=Z,23nm,1.1s							
JNU	**Nakatsue**	**56.87**	**325**	P		**P**	**01 18 19.2**	**+0.7**
	comp=Z,37nm,1.1s,baz=128,slow=5.1,SNR=4.3							
KSM	**Kuching**	**57.28**	**280**	*e*P		**P**	**01 18 21.4**	**-0.4**
	comp=Z,71nm,1.3s							
KSM	**Kuching**	**57.28**	**280**	P		**P**	**01 18 21.9**	**+0.1**
	baz=57,SNR=5.5							
YUK	**Yuzh-Kuril'sk**	**59.64**	**343**	*e*P		P	01 18 48.1	+10
YUK				S		S	01 27 06.4	+21
ASAJ	**Asahikawa**	**60.71**	**341**	*e*P		**P**	**01 18 44.8**	**-0.2**
	comp=Z,30nm,1.1s							
ASAJ	**Asahikawa**	**60.71**	**341**	P		**P**	**01 18 44.8**	**-0.2**
	comp=Z,39nm,0.9s,baz=217,slow=11,SNR=12							
KSRS	**Korea Array**	**61.68**	**326**	P		**P**	**01 18 52.1**	**+0.4**
	comp=Z,9.0nm,1.1s,baz=132,slow=5.4,SNR=6.9							
KSAR	**Wonju Array Be**	**61.69**	**326**	P		**P**	**01 18 52.1**	**+0.3**
YSS	**Yuzh-Sakhalins**	**63.20**	**342**⇑	*e*P		**P**	**01 19 01.0**	**-0.6**
YSS				pmax		pmax		
	comp=Z,110nm,1.1s							
YSS				pmax		pmax		
	comp=N,70nm,1.2s							
YSS				pmax		pmax		
	comp=E,90nm,1.2s							
NJ2	**Nanjing**	**63.68**	**316**	*e*P		**P**	**01 19 05.2**	**+0.1**
NJ2				pP		**pP**	**01 19 15.0**	**-1.7**
NJ2				sP		**sP**	**01 19 19.4**	**-1.7**
NJ2				S		**S**	**01 27 42.5**	**+5.5**
NJ2				AMB		AMB		
	comp=E,20nm,0.7s							
NJ2				LR		LR		
	comp=E,8µm,21.9s							
QIZ	**Qiongzhong**	**63.98**	**299**	P		**P**	**01 19 07.8**	**+0.4**
QIZ				S		**S**	**01 27 41.6**	**+0.4**
VLA	**Vladivostok**	**64.01**	**333**⇓	*i*P		**P**	**01 19 06.5**	**-0.6**
VLA				*e*S		**S**	**01 27 39.5**	**-1.1**
VLA				pmax		pmax		
	comp=Z,38nm,1.3s							
VNDA	**Vanda**	**64.64**	**181**	*e*P		**P**	**01 19 10.8**	**0.0**
	comp=Z,37nm,1.5s							
VNDA	**Vanda**	**64.64**	**181**	P		**P**	**01 19 10.7**	**0.0**
	comp=Z,4.3nm,0.9s,baz=3.7,slow=7.9,SNR=11							
CASY	**Casey**	**64.82**	**202**	*e*P		**P**	**01 19 12.6**	**+0.5**
	comp=Z,34nm,1.3s							
USRK	**Ussuriysk Arra**	**64.82**	**333**	P		**P**	**01 19 12.7**	**+0.4**
	comp=Z,30nm,1.0s,baz=134,slow=5.5,SNR=26							
SBA	**Scott Base**	**64.94**	**180**	*e*P		**P**	**01 19 13.4**	**+0.7**
SBA				pmax		pmax		
	comp=Z,138nm,1.9s							
SBA	**Scott Base**	**64.94**	**180**	*e*P		**P**	**01 19 13.4**	**+0.7**
	comp=Z,138nm,1.9s							
WHN	**Wuhan**	**65.99**	**312**	P		P	01 19 23.8	+3.6
PETK	**Petropavlovsk-**	**66.16**	**354**	P		**P**	**01 19 19.6**	**-1.3**
PETK	**Petropavlovsk-**	**66.16**	**354**	P		**P**	**01 19 19.6**	**-1.3**
PETK	**Petropavlovsk-**	**66.16**	**354**	P		**P**	**01 19 19.6**	**-1.3**
	comp=Z,12nm,0.9s,baz=142,slow=7.4,SNR=9.2							
MDJ	**Mudanjiang**	**66.22**	**332**	P		**P**	**01 19 22.0**	**+0.6**
MDJ				pP		**pP**	**01 19 31.2**	**-1.7**
MDJ				sP		**sP**	**01 19 35.0**	**-2.4**
MDJ				PcP		**PcP**	**01 19 51.7**	**+0.4**
MDJ				PP		**PP**	**01 21 46.9**	**-0.8**
MDJ				S		**S**	**01 28 08.6**	**+0.9**
MDJ				ScS		**ScS**	**01 29 16.0**	**+1.2**
MDJ				SS		**SS**	**01 32 24.9**	**+0.3**
MDJ				AMB		AMB		
	comp=Z,33nm,1.4s							
MDJ				AMB		AMB		
	comp=Z,9µm

CIT e 01 20 47.9
CIT e 01 20 50.0
CIT e 01 23 34.8
CIT pmax pmax
comp=Z,187nm,1.7s
YAK Yakutsk 80.01 343 *e*P **P** **01 20 40.2 -2.3**
YAK pmax pmax
comp=Z,55nm,1.0s
YAK pmax pmax
comp=N,28nm,1.4s
YAK pmax pmax
comp=E,11nm,1.1s
ULN Ulaanbaatar 80.08 324 *e*P **P** **01 20 43.4 -0.1**
comp=E,51nm,1.3s
SONM Songino Array 80.45 324 P **P** **01 20 45.6 +0.2**
SONM Songino Array 80.45 324 P **P** **01 20 45.6 +0.2**
comp=E,7.0nm,0.9s,baz=136,slow=4.6,SNR=14
GTA Gaotai 80.69 314 *e*P **P** **01 20 47.5 +0.6**
GTA pP **pP** **01 20 58.0 -0.7**
GTA sP **sP** **01 21 02.1 -1.0**
GTA S **S** **01 30 55.2 +3.3**
GTA sS **sS** **01 31 11.8 +0.2**
GTA AMB AMB
comp=E,8.0nm,1.0s
SHL Shillong 81.82 299 *e*P P 01 20 57.0 +3.8
MAW Mawson 83.18 202 *e*P **P** **01 20 58.5 -0.8**
MAW Mawson 83.18 202 P **P** **01 20 57.6 -1.6**
comp=E,1.3nm,0.8s,baz=58,slow=7.6,SNR=2.6
ZAK Zakamensk 83.50 325 *e*P **P** **01 20 59.9 -1.4**
ZAK pmax pmax
comp=Z,25nm,1.4s
LSA Lhasa 83.75 302 P **P** **01 21 05.7 +2.2**
MCK McKinley 83.76 18 *e*P **P** **01 21 00.7 -1.5**
MCK McKinley 83.76 18 *e*P **P** **01 21 00.7 -1.5**
TLY Talaya 83.93 326 *e*P **P** **01 21 03.7 +0.3**
TLY *e* 01 21 16.8
TLY pmax pmax
comp=Z,42nm,1.3s
TLY Talaya 83.93 326 P **P** **01 21 03.1 -0.3**
comp=Z,148nm,1.5s,SNR=6.9
COLA College 84.91 18 *e*P **P** **01 21 06.8 -1.2**
COLA pmax pmax
comp=Z,114nm,1.4s
COLA College 84.91 18 *e*P **P** **01 21 06.8 -1.2**
comp=Z,114nm,1.4s
ILAR Eielson Array 85.13 18 P **P** **01 21 07.2 -1.9**
ILAR Eielson Array 85.13 18 P **P** **01 21 07.2 -1.9**
comp=Z,8.3nm,1.0s,baz=229,slow=6.1,SNR=11
MOY Mondy 85.38 325 *e*P **P** **01 21 10.5 -0.3**
MOY pmax pmax
comp=Z,89nm,3.2s
MONP Monument Peak 86.58 55 P **P** **01 21 17.9 +0.5**
baz=87
NVAR Mina Array Bea 86.86 50 P **P** **01 21 16.9 -1.7**
NVAR Mina Array Bea 86.86 50 P **P** **01 21 16.9 -1.7**
comp=Z,0.5nm,0.5s,baz=218,slow=4.2,SNR=3.2
EGAK Eagle 86.96 20 *e*P **P** **01 21 16.4 -1.8**
comp=Z,8.5nm,0.9s
BELC Belle Mtn. Jos 87.25 54 P **P** **01 21 19.0 -1.5**
baz=87
BC3 Big Chuckawall 87.58 55 P **P** **01 21 20.5 -1.6**
baz=88
TUQ Turquoise Moun 87.74 53 P **P** **01 21 22.0 -0.8**
baz=88
I07A Izee 87.91 44 *e*P **P** **01 21 25.2 +1.8**
comp=Z,52nm,2.1s
WVOR Wild Horse Val 87.94 46 *e*P **P** **01 21 23.0 -0.6**
WVOR pmax pmax
comp=Z,5.0nm,1.2s
WVOR Wild Horse Val 87.94 46 *e*P **P** **01 21 23.0 -0.6**
comp=Z,5.2nm,1.2s
IRM Iron Mountain 87.97 54 P **P** **01 21 21.8 -2.0**
baz=88
TIXI Tiksi 88.01 349⇓ *e*P **P** **01 21 21.6 -1.4**
TIXI pmax pmax
comp=Z,19nm,1.2s
LDFC Landfair 88.27 54 *e*P **P** **01 21 25.9 +0.6**
comp=Z,21nm,1.1s
J08A Circle Bar Ran 88.36 45 *e*P **P** **01 21 24.4 -1.1**
comp=Z,34nm,1.8s
SHPR Sheep Range 88.65 52 *e*P **P** **01 21 25.5 -1.6**
R11A Troy Canyon, C 88.87 50 *e*P **P** **01 21 26.0 -2.2**
comp=Z,9.8nm,1.5s
R11A Troy Canyon, C 88.87 50 P **P** **01 21 25.9 -2.3**
baz=89
HVS Khovu-Aksy 89.31 323 *d iP* **P** **01 21 29.7 -0.1**
HVS pmax pmax
comp=Z,93nm,1.2s
ELK Elko 89.83 48 *e*P **P** **01 21 31.4 -1.3**
comp=Z,9.3nm,1.4s
F10A Beach Ranch, E 90.05 43 *e*P **P** **01 21 31.3 -2.1**
comp=Z,125nm,2.7s
CCUT Cedar City 90.32 52 *e*P **P** **01 21 33.7 -1.4**
comp=Z,17nm,1.5s
ARUT Antelope Range 90.33 51 *e*P **P** **01 21 32.9 -2.1**
ARUT pmax pmax
comp=Z,120nm,1.3s
ARUT Antelope Range 90.33 51 *e*P **P** **01 21 32.9 -2.1**
comp=Z,120nm,1.3s
WMQ Urumqi 90.74 315 P **P** **01 21 38.5 +1.9**
WMQ pP **pP** **01 21 49.1 +0.5**
WMQ sP **sP** **01 21 53.0 0.0**
WMQ AMB AMB
comp=Z,19nm,1.4s
NEW Newport 90.85 41 *e*P **P** **01 21 36.1 -0.8**
comp=Z,4.9nm,1.1s
NEW Newport 90.85 41 P **P** **01 21 35.8 -1.2**
baz=91
U15A North Rim 90.85 53 P **P** **01 21 36.4 -1.2**
baz=91
X16A Lo Mia Camp, P 91.00 55 P **P** **01 21 36.4 -1.8**
baz=91
HLID Hailey 91.24 46 *e*P **P** **01 21 37.2 -1.9**
comp=Z,25nm,1.9s
HLID Hailey 91.24 46 P **P** **01 21 37.7 -1.4**
baz=91
MVU Marysvale 91.45 51 *e*P **P** **01 21 39.8 -0.5**
comp=Z,30nm,1.9s
Z21A St. Cloud Mine 93.78 57 P **P** **01 21 50.5 -0.6**
baz=94
S21A Coal Bank Pass 94.64 53 P **P** **01 21 55.9 +0.8**
baz=95
MK31 Makanchi Array 95.20 317 *e*P **P** **01 21 55.8 -1.3**
MK31 Makanchi Array 95.20 317 *e*P **P** **01 21 55.8 -1.3**
MKAR Makanchi Array 95.20 317 P **P** **01 21 56.7 -0.4**
MKAR Makanchi Array 95.20 317 P **P** **01 21 56.7 -0.4**
MKAR Makanchi Array 95.20 317 P **P** **01 21 56.7 -0.4**
comp=Z,3.0nm,0.7s,baz=104,slow=3.9,SNR=7.7
SNAA Sanae 95.29 183 *e*P **P** **01 21 55.0 -2.1**
comp=Z,24nm,1.1s
ZALV Zalesovo Beam 95.34 324 P **P** **01 21 56.1 -1.3**
ZALV Zalesovo Beam 95.34 324 P **P** **01 21 56.1 -1.3**
ZALV Zalesovo Beam 95.34 324 P **P** **01 21 56.1 -1.3**
comp=Z,8.4nm,1.0s,baz=110,slow=3.5,SNR=14
Q22A Crested Butte, 95.57 52 P **P** **01 21 58.3 -1.0**
baz=96
O22A Kremmling 96.11 50 P **P** **01 22 00.8 -1.0**
baz=96
NVS Novosibirsk 96.45 325 *e*P **P** **01 21 59.7 -2.8**
NVS pmax pmax
comp=Z,30nm,1.7s
NVS pmax pmax
comp=E,18nm,1.5s
KSH Kashi 98.29 309 P Pdif 01 22 17.4 +6.0
KSH pP pP 01 22 25.8 +2.4
KSH sP sP 01 22 27.7 0.0
KURK Kurchatov 98.37 320 P **P** **01 22 10.5 -0.8**
KURK Kurchatov 98.37 320 P **P** **01 22 10.5 -0.8**
KURBB Kurchatov Arra 98.41 320 P **P** **01 22 10.5 -0.9**
comp=E,0.8nm,0.7s,baz=283,slow=8.3,SNR=4.9
BVAR Borovoye Array 103.71 322 P **Pdif** **01 22 34.7 -0.3**
BVAR Borovoye Array 103.71 322 Pdif **Pdif** **01 22 34.7 -0.3**
BVAR Borovoye Array 103.71 322 Pdiff **Pdif** **01 22 34.7 -0.3**
comp=E,0.3nm,0.4s,baz=122,slow=1.9,SNR=3.6
ARU Arti 110.43 326 PKIKP **PKiKP** **01 27 01.6 -3.8**
ARCES ARCESS Array B 118.25 345 PKP **PKPdf** **01 27 18.6 -1.5**
ARCES ARCESS Array B 118.25 345 PKP **PKPdf** **01 27 18.6 -1.5**
comp=E,1.8nm,0.4s,baz=53,slow=1.3,SNR=7.2
IKOM Komasi 120.84 302 *e*P **PKPdf** **01 27 22.5 -3.8**
VRHR Novokhopersk 121.44 323 *e*PKIKP **PKPdf** **01 27 24.1 -2.6**
VRHR pmax pmax
comp=Z,8.0nm,1.0s
VRHR pmax pmax
comp=N,9.0nm,1.1s
VRHR pmax pmax
comp=E,10.0nm,0.8s

GNI Garni 122.21 309 PKP **PKPdf** **01 27 28.0 -0.7**
GNI Garni 122.21 309 PKP **PKPdf** **01 27 28.0 -0.7**
comp=E,2.6nm,0.5s,baz=163,slow=11,SNR=3.1
ZEI Tsey 122.29 313 *i* PKIKP **PKPdf** **01 27 31.2 +2.3**
ZEI pmax pmax
comp=Z,20nm,1.6s
OBN Obninsk 122.64 328⇑ *i*PKIKP **PKPdf** **01 27 28.6 -0.2**
OBN *e* 01 34 27.8
OBN pmax pmax
comp=Z,19nm,1.2s
VSR Storozhevoye 122.84 323 *e*PKIKP **PKPdf** **01 27 27.1 -2.3**
VSR pmax pmax
comp=Z,20nm,1.3s
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,20nm,1.4s
VORD Divnogorie 122.86 323 *e*PKIKP **PKPdf** **01 27 27.2 -2.2**
VORD pmax pmax
comp=Z,8.0nm,1.1s
VORD pmax pmax
comp=E,20nm,0.7s
KIV Kislovodsk 122.87 314⇑ *i*PKIKP **PKPdf** **01 27 28.3 -1.5**
KIV *e* 01 34 18.8
KIV *e*PS **PS** **01 38 55.5 -10**
KIV pmax pmax
comp=Z,21nm,1.2s
FINES FINESS Array B 123.67 338 PKP **PKPdf** **01 27 30.2 -0.4**
FINES FINESS Array B 123.67 338 PKP **PKPdf** **01 27 30.2 -0.4**
comp=Z,6.9nm,1.0s,baz=127,slow=4.2,SNR=3.7
BOSA Boshof 124.07 222 PKP **PKPdf** **01 27 33.0 +0.3**
BOSA Boshof 124.07 222 PKP **PKPdf** **01 27 33.0 +0.3**
comp=Z,4.5nm,0.9s,baz=151,slow=3.0,SNR=3.8
MALT Malatya 127.39 309⇓ PKIKP **PKPdf** **01 27 40.3 +1.6**
MALT Malatya 127.39 309⇓ *i*P **PKPdf** **01 27 40.3 +1.6**
NACGM Naroch 127.53 332 *e* **PKPdf** **01 27 34.0 -4.2**
SIM Simferopol' 128.37 318 *e*PKIKP PKPdf 01 27 46.0 +5.8
SIM pmax pmax
comp=Z,12nm,1.1s
AKASG Malin Array Be 128.68 326 PKIKP **PKPdf** **01 27 39.3 -1.2**
AKASG 01 29 44.8
AKASG Malin Array Be 128.68 326 PKP **PKPdf** **01 27 39.3 -1.2**
AKASG PP **PP** **01 29 44.8 -1.7**
AKASG Malin Array Be 128.68 326 PKP **PKPdf** **01 27 39.3 -1.2**
comp=Z,6.5nm,1.0s,baz=50,slow=1.7,SNR=16
AKASG PP **PP** **01 29 44.8 -1.7**
comp=Z,0.2nm,0.2s,baz=46,slow=6.3,SNR=5.3
ASF Jabal al Asfar 129.93 301 PKP **PKPdf** **01 27 43.0 -0.7**
ASF Jabal al Asfar 129.93 301 PKP **PKPdf** **01 27 43.0 -0.7**
comp=Z,1.0nm,0.4s,baz=304,slow=3.6,SNR=5.2
BRTR Keskin Array B 130.56 312 PKP **PKPdf** **01 27 43.7 -1.0**
BRTR SKPbc **SKPab** **01 31 09.7 +4.2**
BRTR Keskin Array B 130.56 312 PKP **PKPdf** **01 27 43.7 -1.0**
comp=Z,1.2nm,0.9s,baz=140,slow=4.0,SNR=6.6
BRTR SKPbc **SKPab** **01 31 09.7 +4.2**
comp=Z,1.6nm,1.0s,baz=50,slow=1.9,SNR=7.7
KIS Kishinev 130.79 322 *e*PKP **PKPdf** **01 27 43.0 -1.7**
MMAI Mount Meron Ar 131.00 303 SKPbc **SKPab** **01 31 12.4 +5.0**
MMAI Mount Meron Ar 131.00 303 SKPbc **SKPab** **01 31 12.4 +5.0**
comp=Z,2.1nm,0.8s,baz=67,slow=6.4,SNR=4.6
ANTO Ankara 131.13 312⇑ *i*PKIKP **PKPdf** **01 27 46.6 +0.9**
ANTO Ankara 131.13 312⇑ *i*P **PKPdf** **01 27 46.6 +0.9**
EIL Elat 132.01 298 SKPab **SKPab** **01 31 16.0 +4.3**
EIL Elat 132.01 298 SKPab **SKPab** **01 31 16.0 +4.3**
comp=Z,1.1nm,0.6s,baz=104,slow=7.8,SNR=4.0
CFR Carcaliu 132.09 320⇑ PKIKP **PKPdf** **01 27 48.9 +1.7**
CFR Carcaliu 132.09 320⇑ *i*P **PKPdf** **01 27 48.9 +1.7**
CSS Strodhromos 132.21 306 PKPdf **PKPdf** **01 27 47.1 -0.7**
BURAR Bucovina Array 132.56 325⇑ PKIKP **PKPdf** **01 27 50.6 +2.4**
BURAR Bucovina Array 132.56 325⇑ *i*P **PKPdf** **01 27 50.6 +2.4**
MLR Muntele Rosu 133.27 322⇓ *i*P **PKPdf** **01 27 48.0 -1.6**
KOLS Kolonicke sedl 133.38 328 *e*PKIKP **PKPdf** **01 27 50.4 +0.8**
KOLS Kolonicke sedl 133.38 328 *e*PKP **PKPdf** **01 27 50.4 +0.8**
UZH Uzhgorod 133.56 327 *e*PKIKP **PKPdf** **01 27 50.0 +0.1**
ARR Arges 134.12 322⇑ *i*P **PKPdf** **01 27 51.6 +0.5**
DRGR 134.43 325⇓ PKIKP **PKPdf** **01 27 51.1 -0.6**
DRGR 134.43 325⇓ *i*P **PKPdf** **01 27 51.1 -0.6**
OKC Ostrava-Krasne 134.84 331 *e*PKPdf **PKPdf** **01 27 53.8 +1.6**
MORC Moravsky Berou 135.16 331⇓ PKIKP **PKPdf** **01 27 54.1 +1.2**
MORC Moravsky Berou 135.16 331⇓ *i*P **PKPdf** **01 27 54.1 +1.2**
PSZ Piszkesteto 135.25 328⇑ PKIKP **PKPdf** **01 27 54.8 +1.6**
PSZ Piszkesteto 135.25 328⇑ *i*P **PKPdf** **01 27 54.8 +1.6**
DPC Dobruska-Polom 135.31 333 *e*PKPdf **PKPdf** **01 27 54.9 +1.7**
DPC *e*PP **PP** **01 30 32.6 +3.5**
DPC *e*SKP 01 31 28.2
SIRR Siria 135.32 325⇑ *i*P **PKPdf** **01 27 54.4 +1.1**
UPC Upice 135.34 333 *e*PKPdf **PKPdf** **01 27 53.3 +0.1**
UPC *e*SKP 01 31 29.5
BZS Buzias 135.73 324⇓ PKIKP **PKPdf** **01 27 53.5 -0.5**
BZS Buzias 135.73 324⇓ *i*P **PKPdf** **01 27 53.5 -0.5**
BDFB Brasilia 135.81 129 SKPbc **SKPbc** **01 31 24.8 +0.9**
BDFB Brasilia 135.81 129 SKPbc **SKPbc** **01 31 24.8 +0.9**
comp=Z,4.0nm,0.9s,baz=304,slow=3.6,SNR=4.3
PVCC Panska Ves 135.95 334 *e*PKPdf **PKPdf** **01 27 54.7 +0.4**
PVCC *e*SKP 01 31 32.4
BRG Berggiesshubel 135.95 335 *e*PKP **PKPdf** **01 27 54.8 +0.5**
comp=Z,11nm,1.3s
BRG *e*PP **PP** **01 30 32.3 -0.6**
comp=Z,33nm,2.2s
BRG *e* 01 31 32.6
comp=Z,24nm,1.7s
CLL Collm 136.00 336 *i* PKIKP **PKPdf** **01 27 54.6 +0.3**
CLL pmax pmax
comp=Z,11nm,1.3s
CLL Collm 136.00 336 *i* PKPdf **PKPdf** **01 27 54.6 +0.3**
comp=Z,13nm,1.3s
CLL *i* sPKiKP sPKiKP 01 28 09.8 -2.8
comp=Z,9.0nm,1.1s
CLL *e*PP **PP** **01 30 32.0 -1.2**
CLL *e*SKPab **SKPab** **01 31 27.0 -1.3**
PRA Prague 136.35 334 PKPdf **PKPdf** **01 27 55.0 0.0**
PRU Pruhonice 136.36 334 *e*PKPdf **PKPdf** **01 27 55.3 +0.2**
PRU *ex* x 01 31 42.1
TREC Trest 136.45 332 *e*PKPdf **PKPdf** **01 27 56.3 +1.0**
TREC *ep*PKP **pPKPdf** **01 28 09.0 +1.4**
VTS Vitosha 136.47 320⇓ PKIKP **PKPdf** **01 27 56.3 +0.6**
VTS Vitosha 136.47 320⇓ *i*P **PKPdf** **01 27 56.3 +0.6**
ZST Bratislava 136.47 330 *e*PKIKP **PKPdf** **01 27 58.0 +2.7**
ZST Bratislava 136.47 330 *e*PKP **PKPdf** **01 27 58.0 +2.7**
KHC Kasperske Hory 137.42 334 *e*PKIKP **PKPdf** **01 27 56.8 -0.3**
KHC Kasperske Hory 137.42 334 *e*PKPdf **PKPdf** **01 27 57.2 +0.1**
KHC *ep*PKP **pPKPdf** **01 28 10.7 +1.2**
KHC *e*PP **PP** **01 30 43.3 +1.1**
KHC *e*SKP 01 31 37.8
KHC Kasperske Hory 137.42 334 *e*PKPdf **PKPdf** **01 27 56.8 -0.3**
GERES GERESS Array B 137.58 333 PKPpre PKPpre 01 27 48.2
GERES PKP **PKPdf** **01 27 57.0 -0.5**
GERES GERESS Array B 137.58 333 PKhKP PKPpre 01 27 48.2
comp=Z,0.5nm,0.7s,baz=82,slow=2.8,SNR=3.8
GERES PKP **PKPdf** **01 27 57.0 -0.5**
comp=Z,1.9nm,1.0s,baz=74,slow=5.7,SNR=8.4
SOKA Soboth 138.53 330⇑ *i*PKPdf **PKPdf** **01 27 54.8 -4.6**
comp=Z,16nm,1.4s
MEM Membach 139.09 341 PKP **PKPdf** **01 28 01.4 +1.3**
BCLA Clavier 139.48 341 PKP **PKPdf** **01 28 01.7 +0.9**
ABTA Abfaltersbach 139.68 332⇑ *i*PKPdf PKPdf 01 27 53.1 -8.3
comp=Z,14nm,1.7s
SNF Seneffe 139.72 342 PKP **PKPdf** **01 28 01.0 -0.2**
WLF Walferdange 139.86 340 PKP **PKPdf** **01 28 03.1 +1.6**
BFO Black Forest 140.20 337 *e*PKHKP PKPpre 01 27 54.1
BFO Black Forest 140.20 337 *e*PKPdf PKPpre 01 27 54.1
FETA Feichten 140.26 334⇑ *i*PKPdf PKPpre 01 27 56.4
comp=Z,13nm,1.3s
DAVOX Davos/Dischmat 140.82 334 PKPpre PKPpre 01 27 58.5
DAVOX PKP **PKPdf** **01 28 02.2 -1.4**
DAVOX Davos/Dischmat 140.82 334 PKhKP PKPpre 01 27 58.5
comp=Z,3.5nm,0.6s,baz=116,slow=2.7,SNR=4.3
DAVOX PKP **PKPdf** **01 28 02.2 -1.4**
comp=Z,3.8nm,0.6s,baz=214,slow=7.3,SNR=8.2
CEL Celeste 143.51 319 *e*PKPdf PKPbc 01 28 05.7 -0.1
BNI Bardonecchia 143.54 335 *e*PKIKP PKPbc 01 28 05.7 -0.1
BNI Bardonecchia 143.54 335 *e*PKPdf PKPbc 01 28 05.7 -0.1
PLDF La Plantade 143.91 339 PKP PKPbc 01 28 06.6 -0.2
SURF Saint Ours 143.95 335 PKP PKPab 01 28 05.6 -0.9
AGO Saint Agoulin 144.01 340 PKP **PKPab** **01 28 06.3 -0.1**
SAOF Saorge 144.03 333 PKP **PKPab** **01 28 05.9 -0.7**
AUTN L'Aution 144.08 334 PKP **PKPab** **01 28 06.2 -0.9**
TOUF Mont Tournerai 144.14 334 PKP **PKPab** **01 28 06.4 -0.8**
SSB Saint Sauveur 144.18 338 *e*PKIKP PKPbc 01 28 07.4 -0.2
SSB Saint Sauveur 144.18 338 *e*PKPdf PKPbc 01 28 07.4 -0.1
LUCF Luceram 144.20 334 PKP **PKPab** **01 28 06.6 -0.7**
MVIF Mont Vial 144.28 334 PKP **PKPab** **01 28 06.4 -1.3**
REVF Revere 144.31 333 PKP **PKPab** **01 28 06.9 -0.8**

PYM Petit Puy Mans 144.31 340 PKP **PKPab** **01 28 07.2 -0.5**
OG25 Le Caire 144.34 335 PKP **PKPab** **01 28 07.4 -0.5**
CALN Calern 144.50 334 PKP **PKPab** **01 28 07.1 -1.4**
LBL Lubilhac 144.68 339 PKP **PKPab** **01 28 08.8 -0.3**
FRNF Fournols 144.78 340 PKP **PKPab** **01 28 09.3 -0.1**
VSL Villasalto 146.55 327 *e*PKPbc **PKPbc** **01 28 14.5 -0.7**
LRDF Laroque-de-Fa 146.93 338 PKP **PKPbc** **01 28 15.2 -0.9**
SJAF Saint Jean de 147.19 337 PKP **PKPbc** **01 28 15.8 -1.1**
CARF Carcanieres 147.28 338 PKP **PKPdf** **01 28 15.3 +0.4**
MLS Moulis 147.42 340 PKP **PKPbc** **01 28 16.7 -0.8**
VALF Valcebollere 147.58 338 PKP **PKPbc** **01 28 17.3 -0.8**
REYF Montagne du Re 147.81 341 PKP **PKPbc** **01 28 17.9 -0.7**
RESF Ens 147.81 340 PKP **PKPbc** **01 28 18.6 -0.1**
VIEF Viey 147.84 341 PKP **PKPbc** **01 28 18.4 -0.3**
OSSF Osses 147.90 343 PKP **PKPdf** **01 28 17.2 +1.5**
LARF Larrau 148.01 342 PKP **PKPbc** **01 28 18.6 -0.5**
KEST Kesra 149.17 321 *e*PKPbc **PKPbc** **01 28 22.2 -0.2**
KEST Kesra 149.17 321 PKPbc **PKPbc** **01 28 22.2 -0.2**
comp=Z,16nm,0.8s,baz=338,slow=1.0,SNR=20
CMAH Djebel Manchou 149.69 325 P **PKPbc** **01 28 23.0 -0.6**
CAEH 'Ain El Ouahch 149.89 326 P **PKPbc** **01 28 25.0 +0.9**
ABSA Djebel Ababsia 149.90 324 P **PKPbc** **01 28 24.0 -0.2**
SHEL Horse Pasture 150.23 196 *e*PKIKP **PKPbc** **01 28 25.4 -0.1**
SHEL Horse Pasture 150.23 196 *e*PKPbc **PKPbc** **01 28 25.4 -0.1**
CKFL Kef-Lekhel 150.24 325 P **PKPbc** **01 28 25.5 +0.5**
CASM Ain Smara 150.47 325 P **PKPbc** **01 28 26.0 +0.5**
PBRG Braganca 150.57 349 *e*PKPbc **PKPbc** **01 28 24.7 -0.9**
DFRA Djebel Bou Aff 150.59 327 P **PKPbc** **01 28 26.0 +0.1**
CTEI Djebel Teioual 150.66 325 P **PKPbc** **01 28 26.0 -0.1**
POLO Lamas de Olo 151.17 351 *e*PKPbc **PKPbc** **01 28 26.4 -0.7**
CKHR Kef el Ahmar 151.18 326 P **PKPbc** **01 28 28.0 +0.7**
MVO Moncorvo 151.25 349 *e*PKPbc **PKPbc** **01 28 27.1 -0.1**
PVRL Vila Real 151.25 350 *e*PKPbc **PKPbc** **01 28 26.7 -0.5**
ESDC Sonseca Array 151.97 344 PKPbc **PKPbc** **01 28 28.1 -0.8**
ESDC PKPab **PKPab** **01 28 36.9 -1.2**
ESDC Sonseca Array 151.97 344 PKPbc **PKPbc** **01 28 28.1 -0.8**
comp=Z,14nm,1.1s,baz=12,slow=2.6,SNR=19
ESDC PKPab **PKPab** **01 28 36.9 -1.2**
comp=Z,2.9nm,0.6s,baz=358,slow=2.9,SNR=9.3
MTE Manteigas 152.08 350 *e*PKPbc **PKPbc** **01 28 27.7 -1.4**
ADJB Djebel Djouab 152.16 329 P **PKPbc** **01 28 33.9 +4.4**
EMHD Djebel Mahouad 152.36 330 P **PKPbc** **01 28 28.0 -2.0**
PCBR Castelo Branco 152.61 349 *e*PKPbc **PKPbc** **01 28 30.1 -0.1**
EBNR Beni Rached 152.96 332 P **PKPbc** **01 28 32.0 +0.8**
PTOM Tomar 152.99 351 *e*PKPbc **PKPbc** **01 28 29.8 -1.3**
PMRV Marv??o 153.00 349 *e*PKPbc **PKPbc** **01 28 30.4 -0.7**
ECHA Ech Chlef 153.15 332 P **PKPbc** **01 28 33.8 +2.3**
EANR 'Ain N'Sour 153.44 332 P **PKPbc** **01 28 35.0 +2.7**
PMTG Montargil 153.49 350 *e*PKPbc **PKPbc** **01 28 31.5 -0.7**
ETRT Tiaret 153.81 331 P **PKPbc** **01 28 37.0 +3.8**
PBEJ Beja 154.44 349 *e*PKPab **PKPab** **01 28 49.0 +0.5**
PCVE Castro Verde 154.86 349 *e*PKPab **PKPab** **01 28 49.4 -0.9**
PVAQ Vaqueiros 155.02 349 *e*PKPab **PKPab** **01 28 50.1 -0.9**
MDT Midelt 158.49 339 PKPab **PKPab** **01 29 05.2 -1.0**
MDT Midelt 158.49 339 PKPab **PKPab** **01 29 05.2 -1.0**
comp=Z,15nm,1.2s,baz=50,slow=4.8,SNR=10
TORD Torodi Ar. Bea 164.93 273 PKP **PKPdf** **01 28 36.7 -1.8**
TORD PKPab **PKPab** **01 29 35.0 0.0**
TORD Torodi Ar. Bea 164.93 273 PKP **PKPdf** **01 28 36.7 -1.8**
comp=Z,4.6nm,1.2s,baz=113,slow=0.3,SNR=6.6
TORD PKPab **PKPab** **01 29 35.0 0.0**
comp=Z,2.4nm,0.7s,baz=98,slow=6.3,SNR=12
DBIC Dimbokro 169.25 236 PKPab **PKPab** **01 29 55.0 +1.1**
DBIC Dimbokro 169.25 236 PKPab **PKPab** **01 29 55.0 +1.1**
comp=Z,2.4nm,0.7s,baz=87,slow=12,SNR=4.4

*IDC **08** 01:12:10.6±1.0, 13°.36S×166°.52E, h0km, mb4.5/9, mb1 4.6/10, mb1mx4.4/18, mbtmp4.5/10, ML5.1/1, Error ellipse: s-maj=35.9km s-min=21.0km az=135.0*
*ISCJB **08** 01:12:15.4±0.7, 13°.31S±0°.09×166°.31E±0°.09, h39km, mb4.4/10, Error ellipse: s-maj=15.4km s-min=9.7km az=139.1*
*NEIC **08** 01:12:16.3±0.5, 13°.25S×166°.45E, h35km, mb4.6/1, Error ellipse: s-maj=15.8km s-min=12.1km az=84.0*

ISC 08 01:12:17.0±0.6, 13°.26S±0°.10×166°.4E±0°.1, h39km, n30, σ1s10/38, mb4.5/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.41**	**300**	Pn	**Pn**	**01 14 03.6**	**+0.9**
HNR				Sn	**Sn**	**01 15 25.1**	**-0.4**
	27nm,0.3s,baz=218,slow=18,SNR=3.1						
HNR	**Honiara**	**7.41**	**300**	Pn	**Pn**	**01 14 03.6**	**+0.9**
HNR				Sn	**Sn**	**01 15 25.1**	**-0.4**
	24nm,0.3s,baz=155,slow=18,SNR=3.0						
DZM	**Mont Dzumac**	**8.76**	**180**	*e*Pn	**Pn**	**01 14 22.0**	**+0.7**
STKA	**Stephens Creek**	**29.36**	**227**	P	**P**	**01 18 16.7**	**+0.2**
STKA	**Stephens Creek**	**29.36**	**227**	P	**P**	**01 18 16.7**	**+0.2**
	4.2nm,0.7s,baz=88,slow=5.9,SNR=5.9						
WRA	**Warramunga Arr**	**31.42**	**253**	P	**P**	**01 18 33.8**	**-1.1**
WRA	**Warramunga Arr**	**31.42**	**253**	P	**P**	**01 18 33.8**	**-1.1**
	2.6nm,0.7s,baz=86,slow=9.3,SNR=8.6						
ASAR	**Alice Springs**	**32.47**	**247**	P	**P**	**01 18 42.8**	**-1.2**
ASAR				PcP	**PcP**	**01 21 30.1**	**-0.5**
ASAR				ScP	**ScP**	**01 25 14.6**	**+3.0**
ASAR	**Alice Springs**	**32.47**	**247**	P	**P**	**01 18 42.8**	**-1.2**
	5.3nm,0.7s,baz=72,slow=9.9,SNR=12						
ASAR				PcP	**PcP**	**01 21 30.1**	**-0.5**
	0.6nm,0.6s,baz=62,slow=2.7,SNR=4.3						
ASAR				ScP	**ScP**	**01 25 14.6**	**+3.0**
	0.8nm,0.9s,baz=64,slow=2.2,SNR=4.6						
USRK	**Ussuriysk Arra**	**65.22**	**333**	P	**P**	**01 22 55.2**	**+0.8**
	5.3nm,0.8s,baz=121,slow=6.8,SNR=5.9						
QSPA	**South Pole Qui**	**76.76**	**180**	*e*P	**P**	**01 24 03.5**	**-0.8**
	4.6nm,0.6s						
SONM	**Songino Array**	**80.84**	**324**	P	**P**	**01 24 27.5**	**+0.6**
SONM	**Songino Array**	**80.84**	**324**	P	**P**	**01 24 27.5**	**+0.6**
	1.4nm,0.4s,baz=149,slow=6.1,SNR=13						
ILAR	**Eielson Array**	**85.39**	**18**	P	**P**	**01 24 48.6**	**-1.3**
ILAR	**Eielson Array**	**85.39**	**18**	P	**P**	**01 24 48.6**	**-1.3**
	1.4nm,0.4s,baz=239,slow=4.9,SNR=22						
NVAR	**Mina Array Bea**	**86.94**	**50**	P	**P**	**01 24 59.2**	**+0.7**
NVAR	**Mina Array Bea**	**86.94**	**50**	P	**P**	**01 24 59.2**	**+0.7**
	0.5nm,0.7s,baz=219,slow=9.9,SNR=3.1						
MK31	**Makanchi Array**	**95.58**	**317**	*e*P	**P**	**01 25 38.1**	**-0.2**
MKAR	**Makanchi Array**	**95.58**	**317**	P	**P**	**01 25 38.1**	**-0.2**
MKAR	**Makanchi Array**	**95.58**	**317**	P	**P**	**01 25 38.1**	**-0.2**
	2.6nm,0.7s,baz=92,slow=6.0,SNR=15						
ZALV	**Zalesovo Beam**	**95.73**	**324**	P	**P**	**01 25 37.2**	**-1.6**
ZALV	**Zalesovo Beam**	**95.73**	**324**	P	**P**	**01 25 37.2**	**-1.6**
	2.8nm,0.7s,baz=121,slow=4.2,SNR=8.0						
ARCES	**ARCESS Array B**	**118.63**	**345**	PKP	**PKPdf**	**01 30 59.3**	**-1.0**
ARCES	**ARCESS Array B**	**118.63**	**345**	PKP	**PKPdf**	**01 30 59.3**	**-1.0**
	1.1nm,0.4s,baz=80,slow=2.4,SNR=9.4						
BOSA	**Boshof**	**123.94**	**222**	PKP	**PKPdf**	**01 31 11.6**	**-0.3**
BOSA	**Boshof**	**123.94**	**222**	PKP	**PKPdf**	**01 31 11.6**	**-0.3**
	3.0nm,0.9s,baz=180,slow=6.1,SNR=2.9						
ESDC	**Sonseca Array**	**152.36**	**344**	PKPbc	**PKPbc**	**01 32 10.0**	**+0.7**
ESDC				PKPab	**PKPab**	**01 32 19.8**	**+0.6**
ESDC	**Sonseca Array**	**152.36**	**344**	PKPbc	**PKPbc**	**01 32 10.0**	**+0.7**
	0.1nm,0.3s,baz=1.6,slow=2.7,SNR=4.6						
ESDC				PKPab	**PKPab**	**01 32 19.8**	**+0.6**
	1.1nm,0.8s,baz=15,slow=3.8,SNR=7.2						
TORD	**Torodi Ar. Bea**	**165.13**	**271**	PKPab	**PKPab**	**01 33 15.1**	**-0.2**
TORD	**Torodi Ar. Bea**	**165.13**	**271**	PKPab	**PKPab**	**01 33 15.1**	**-0.2**
	1.6nm,1.0s,baz=79,slow=3.7,SNR=3.9						

**IDC 08 01:12:36.1±1.5, 11°.76S×166°.11E, h0km, mb4

ellipse: s-maj=16.2km s-min=13.5km az=102.0
*MOS **08** 01:19:25.6±0.9, 12°.68S×166°.42E, h33km, mb5.2/9, Error ellipse: s-maj=12.4km s-min=9.7km az=5.0*
*NEIC **08** 01:19:27.3±0.3, 12°.64S×166°.49E, h35km, mb5.0/17, Error ellipse: s-maj=7.4km s-min=6.9km az=120.0*
*AUST **08** 01:19:27.2±2.3, 12°.20S×166°.46E, h52km, Error ellipse: s-maj=1.8km s-min=1.6km az=36.0*
*ISCJB **08** 01:19:28.8±0.2, 12°.67S±0°.04×166°.36E±0°.03, h59km, mb5.0/51, Error ellipse: s-maj=5.2km s-min=4.7km az=149.2*
*DJA **08** 01:19:47.9±1.4, 13°.5S±6°×16°.6E±°, h204km±15km, M4.8/16, mB6.1/1, mb4.8/16, Mw(mB)5.8/1*

ISC 08 01:19:30.1±0.3, 12°.65S±0°.05×166°.38E±0°.06, h59km, n199, σ0°82/205, mb4.9/51, 1C-1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.08**	**296**	Pn	**Pn**	**01 21 11.6**	**+0.4**
HNR				Sn	**Sn**	**01 22 30.2**	**-0.1**
HNR	**Honiara**	**7.08**	**296**	Pn	**Pn**	**01 21 11.6**	**+0.4**
	116nm,0.3s,baz=175,slow=1.2,SNR=48						
HNR				Sn	**Sn**	**01 22 30.2**	**-0.1**
	28nm,0.3s,baz=345,slow=20,SNR=4.2						
DZM	**Mont Dzumac**	**9.37**	**180**	Pn	**Pn**	**01 21 41.4**	**-1.2**
DZM				Sn	**Sn**	**01 23 27.5**	**+0.9**
DZM	**Mont Dzumac**	**9.37**	**180**	Pn	**Pn**	**01 21 41.4**	**-1.2**
	2.3nm,0.3s,baz=30,slow=18,SNR=9.3						
DZM				Sn	**Sn**	**01 23 27.5**	**+0.9**
	baz=307,slow=20,SNR=1.7						
MSVF	**Nonsavu**	**12.34**	**116**	*e*P	**Pn**	**01 22 25.6**	**+2.4**
MSVF	**Nonsavu**	**12.34**	**116**	*e*Pn	**Pn**	**01 22 25.6**	**+2.4**
PMG	**Port Moresby**	**19.14**	**278**	P	Pn	01 23 56.0	+5.9
	48nm,1.0s						
PMG	**Port Moresby**	**19.14**	**278**	*e*P	**Pn**	**01 23 50.5**	**+0.4**
PMG	**Port Moresby**	**19.14**	**278**	P	**Pn**	**01 23 50.3**	**+0.2**
	0.6nm,0.3s,baz=63,slow=3.8,SNR=4.2						
EIDS	**Eidsvold**	**19.19**	**227**	*e*Pn	**Pn**	**01 23 51.3**	**+0.6**
	45nm,0.8s						
EIDS	**Eidsvold**	**19.19**	**227**	P	**Pn**	**01 23 51.2**	**+0.6**
	baz=20,SNR=9.4						
CTA	**Charters Tower**	**20.67**	**246**	P	**P**	**01 24 06.6**	**+1.4**
CTA	**Charters Tower**	**20.67**	**246**	P	**P**	**01 24 06.6**	**+1.4**
	6.8nm,0.7s,baz=77,slow=13,SNR=10						
CTAO	**Charters Tower**	**20.67**	**246**	*e*P	**P**	**01 24 06.7**	**+1.4**
CTAO				pmax	pmax		
	comp=Z,86nm,1.6s						
CTAO	**Charters Tower**	**20.67**	**246**	*e*P	**P**	**01 24 06.7**	**+1.4**
	comp=Z,86nm,1.6s						
AFI	**Afiamalu**	**21.29**	**96**	P	**P**	**01 24 12.9**	**+0.8**
AFI	**Afiamalu**	**21.29**	**96**	P	**P**	**01 24 12.9**	**+0.8**
	comp=Z,34nm,0.9s,baz=127,slow=20,SNR=3.6						
RMQ	**Roma**	**21.53**	**228**	P	**P**	**01 24 16.3**	**+1.8**
	baz=22,SNR=15						
ARMA	**Armidale**	**22.34**	**215**	*e*P	**P**	**01 24 24.0**	**+0.7**
	comp=Z,136nm,1.4s						
ARMA	**Armidale**	**22.34**	**215**	P	**P**	**01 24 23.7**	**+0.5**
	baz=23,SNR=20						
COEN	**Coen**	**22.62**	**264**	*e*P	P	01 24 33.8	+7.5
	comp=Z,248nm,1.0s						
MGCD	**Mangrove Creek**	**24.77**	**212**	P	**P**	**01 24 47.3**	**+0.9**
	baz=25,SNR=6.6						
QLP	**Quilpie**	**24.99**	**233**	P	**P**	**01 24 49.0**	**+0.5**
	baz=25,SNR=23						
CMSA	**Cobar Meteorol**	**26.76**	**222**	P	**P**	**01 25 07.6**	**+3.2**
	baz=27,SNR=9.5						
URZ	**Urewera**	**27.24**	**161**	P	**P**	**01 25 08.1**	**-0.5**
URZ	**Urewera**	**27.24**	**161**	P	**P**	**01 25 08.1**	**-0.5**
	comp=Z,3.1nm,0.3s,baz=203,slow=12,SNR=3.0						
CNB	**Canberra Magne**	**27.32**	**211**	P	**P**	**01 25 10.2**	**+0.7**
	baz=28,SNR=5.9						
STKA	**Stephens Creek**	**29.75**	**226**	*e*P	**P**	**01 25 31.9**	**+0.8**
STKA	**Stephens Creek**	**29.75**	**226**	P	**P**	**01 25 31.7**	**+0.6**
	baz=30,SNR=9.2						
STKA	**Stephens Creek**	**29.75**	**226**	P	**P**	**01 25 31.8**	**+0.7**
	comp=Z,17nm,0.9s,baz=55,slow=6.4,SNR=18						
TOO	**Toolangi**	**31.06**	**213**	P	**P**	**01 25 42.9**	**+0.3**
	baz=32,SNR=5.7						
RPZ	**Rata Peaks**	**31.22**	**173**	P	**P**	**01 25 43.5**	**-0.4**
RPZ	**Rata Peaks**	**31.22**	**173**	P	**P**	**01 25 43.5**	**-0.4**
	comp=Z,18nm,0.8s,baz=3.8,slow=5.3,SNR=6.2						
WRA	**Warramunga Arr**	**31.56**	**252**	P	**P**	**01 25 46.8**	**-0.5**
WRA	**Warramunga Arr**	**31.56**	**252**	P	**P**	**01 25 46.8**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=84,slow=8.9,SNR=6.9						
ASAR	**Alice Springs**	**32.67**	**246**	P	**P**	**01 25 56.0**	**-1.0**
ASAR	**Alice Springs**	**32.67**	**246**	P	**P**	**01 25 56.0**	**-1.0**
	comp=Z,6.0nm,0.6s,baz=73,slow=9.4,SNR=28						
KDU	**Kakadu**	**33.07**	**266**	P	**P**	**01 26 00.5**	**0.0**
	baz=33,SNR=3.8						
MOO	**Moorlands**	**34.04**	**206**	P	**P**	**01 26 09.3**	**+0.7**
	baz=35,SNR=3.4						
BBOO	**Buckleboo**	**34.23**	**229**	*e*P	**P**	**01 26 10.4**	**+0.1**
BBOO	**Buckleboo**	**34.23**	**229**	P	**P**	**01 26 10.5**	**+0.1**
	baz=35,SNR=36						
KNRA	**Kununurra**	**36.57**	**261**	P	**P**	**01 26 30.8**	**+0.2**
	baz=37,SNR=4.8						
FITZ	**Fitzroy Crossi**	**39.60**	**257**	*e*P	P	01 27 02.9	+6.8
	comp=Z,30nm,1.1s						
FITZ	**Fitzroy Crossi**	**39.60**	**257**	P	**P**	**01 26 56.4**	**+0.2**
	baz=40,SNR=14						
FORT	**Forrest**	**39.66**	**237**	P	**P**	**01 26 56.6**	**+0.1**
	baz=40,SNR=7.9						
BATI	**Baumata**	**41.91**	**269**	P	**P**	**01 27 16.2**	**+0.9**
BATI	**Baumata**	**41.91**	**269**	P	**P**	**01 27 16.2**	**+0.9**
	comp=Z,21nm,0.5s,baz=167,slow=4.6,SNR=6.6						
MBWA	**Marble Bar**	**45.30**	**253**	*e*P	P	01 27 38.0	-4.4
	comp=Z,15nm,1.0s						
KAPI	**Kappang**	**46.64**	**275**	P	**P**	**01 27 53.4**	**+0.3**
KAPI				PcP	**PcP**	**01 29 26.3**	**0.0**
KAPI	**Kappang**	**46.64**	**275**	P	**P**	**01 27 53.4**	**+0.3**
	comp=Z,6.5nm,0.4s,baz=198,slow=20,SNR=4.3						
KAPI				PcP	**PcP**	**01 29 26.3**	**0.0**
	comp=Z,10nm,0.7s,baz=90,slow=5.1,SNR=5.1						
MEEK	**Meekatharra**	**46.83**	**245**	P	**P**	**01 27 54.9**	**+0.4**
	baz=47,SNR=16						
KLBR	**Kellerberrin**	**48.40**	**239**	P	**P**	**01 28 06.2**	**-0.3**
	baz=49,SNR=5.7						
NWAO	**Narrogin (SRO)**	**49.11**	**237**	*e*P	**P**	**01 28 11.8**	**-0.1**
	comp=Z,29nm,0.8s						
MORW	**Morawa**	**49.42**	**243**	P	**P**	**01 28 14.6**	**+0.2**
	baz=50,SNR=9.2						
KKM	**Kota Kinabalu**	**53.20**	**287**	*e*P	**P**	**01 28 42.1**	**-0.9**
	comp=Z,38nm,1.0s						
MAT	**Matsushiro**	**55.67**	**333**	P	**P**	**01 28 59.5**	**-0.9**
JNU	**Nakatsue**	**56.74**	**324**	P	**P**	**01 29 08.4**	**+0.3**
JNU	**Nakatsue**	**56.74**	**324**	P	**P**	**01 29 08.4**	**+0.3**
	comp=Z,50nm,0.8s,baz=115,slow=5.4,SNR=18						
ASAJ	**Asahikawa**	**60.51**	**341**	P	**P**	**01 29 34.6**	**+0.6**
ASAJ	**Asahikawa**	**60.51**	**341**	P	**P**	**01 29 34.6**	**+0.6**
	comp=Z,8.5nm,0.5s,baz=233,slow=4.7,SNR=4.7						
KSRS	**Korea Array**	**61.55**	**326**	P	**P**	**01 29 42.0**	**+0.8**
	comp=Z,11nm,0.8s,baz=136,slow=7.1,SNR=23						
KSAR	**Wonju Array Be**	**61.56**	**326**	P	**P**	**01 29 42.0**	**+0.7**
YSS	**Yuzh-Sakhalins**	**63.00**	**342**	*e*P	**P**	**01 29 51.0**	**+0.3**
USRK	**Ussuriysk Arra**	**64.65**	**333**	P	**P**	**01 30 02.8**	**+1.1**
	comp=Z,6.9nm,0.8s,baz=146,slow=5.8,SNR=12						
VNDA	**Vanda**	**64.91**	**181**	*e*P	**P**	**01 30 02.4**	**-0.5**
VNDA	**Vanda**	**64.91**	**181**	P	**P**	**01 30 02.4**	**-0.5**
	comp=Z,6.3nm,0.9s,baz=354,slow=6.7,SNR=14						
SBA	**Scott Base**	**65.20**	**180**	*e*P	**P**	**01 30 04.6**	**-0.2**
SBA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SBA	**Scott Base**	**65.20**	**180**	*e*P	**P**	**01 30 04.5**	**-0.2**
	comp=Z,7.9nm,0.9s						
PETK	**Petropavlovsk-**	**65.92**	**354**	P	**P**	**01 30 10.4**	**+0.7**
PETK	**Petropavlovsk-**	**65.92**	**354**	P	**P**	**01 30 10.4**	**+0.7**
PETK	**Petropavlovsk-**	**65.92**	**354**	P	**P**	**01 30 10.4**	**+0.7**
	comp=Z,3.8nm,0.8s,baz=134,slow=13,SNR=3.7						
IPM	**Ipoh**	**67.12**	**280**	P	**P**	**01 30 18.6**	**+0.4**
	comp=Z,37nm,1.2s,comp=Z,4μm						
PANO	**Nakornpanom**	**67.81**	**295**	P	**P**	**01 30 23.7**	**+1.2**
	comp=Z,78nm,0.8s,comp=Z,25μm						
SKNT	**Sakolnakorn**	**68.31**	**294**	P	**P**	**01 30 26.2**	**+0.6**
	comp=Z,53nm,0.9s,comp=Z,4μm						
PSI	**Prapat**	**68.70**	**278**	P	**P**	**01 30 27.9**	**-0.5**
PSI	**Prapat**	**68.70**	**278**	P	**P**	**01 30 28.3**	**-0.1**
	baz=69,SNR=5.6						
PSI	**Prapat**	**68.70**	**278**	P	**P**	**01 30 27.9**	**-0.5**
	comp=Z,11nm,0.7s,baz=118,slow=2.3,SNR=9.6						
KLR	**Kul'dur**	**68.77**	**336**	*e*P	**P**	**01 30 25.0**	**-2.8**
KLR				pmax	pmax		
	comp=Z,56nm,1.8s						
SRIT	**Nakonsritamara**	**69.62**	**284**	P	**P**	**01 30 36.0**	**+2.2**
	comp=Z,86nm,0.7s						
SURA	**Surathani**	**69.76**	**285**	P	**P**	**01 30 36.7**	**+2.0**
	comp=Z,179nm,0.9s						
LOEI	**Loei**		**70.92**	**294**	P	**P**	**01 30 40.4**	**-1.3**
	comp=Z,124nm,1.3s						
PAYA	**Payao**		**72.81**	**295**	P	**P**	**01 30 54.3**	**+1.3**
	comp=Z,8.1nm,1.0s						
CM31	**Chiang Mai Arr**		**73.32**	**294**	*e*P	**P**	**01 30 57.3**	**+1.2**
	comp=Z,4.2nm,0.4s						
CMAR	**Chiang Mai Arr**		**73.32**	**294**	P	**P**	**01 30 56.7**	**+0.6**
CMAR	**Chiang Mai Arr**		**73.32**	**294**	P	**P**	**01 30 56.7**	**+0.6**
	comp=Z,16nm,0.9s,baz=125,slow=5.3							
CHTO	**Chiang Mai**		**73.44**	**294**	*e*P	**P**	**01 30 57.7**	**+1.0**
CHTO					pmax	pmax		
	comp=Z,99nm,1.2s							
CHTO	**Chiang Mai**		**73.44**	**294**	P	**P**	**01 30 57.8**	**+1.0**
	comp=Z,96nm,1.2s							
CHTO	**Chiang Mai**		**73.44**	**294**	*e*P	**P**	**01 30 57.7**	**+1.0**
	comp=Z,99nm,1.2s							
CHTO	**Chiang Mai**		**73.44**	**294**	P	**P**	**01 30 57.7**	**+1.0**
	comp=Z,379nm,0.8s							
CMAI	**Chiengmai2**		**73.73**	**295**	P	**P**	**01 30 59.8**	**+1.2**
	comp=Z,18nm,1.3s							
QSPA	**South Pole Qui**		**77.36**	**180**	*e*P	**P**	**01 31 17.6**	**-1.0**
	comp=Z,56nm,1.1s							
ULN	**Ulaanbaatar**		**79.96**	**324**	P	**P**	**01 31 33.7**	**+0.6**
	comp=Z,36nm,1.0s							
ULN	**Ulaanbaatar**		**79.96**	**324**	*e*P	**P**	**01 31 33.8**	**+0.7**
	comp=Z,20nm,0.8s							
SONM	**Songino Array**		**80.32**	**324**	P	**P**	**01 31 35.6**	**+0.6**
SONM	**Songino Array**		**80.32**	**324**	P	**P**	**01 31 35.6**	**+0.6**
	comp=Z,9.1nm,0.7s,baz=142,slow=5.9,SNR=31							
ZAK	**Zakamensk**		**83.36**	**325**	*e*P	**P**	**01 31 49.9**	**-1.0**
ZAK					pmax	pmax		
	comp=Z,14nm,1.2s							
MAW	**Mawson**		**83.48**	**202**	*e*P	**P**	**01 31 50.4**	**-0.7**
	comp=Z,1.1nm,1.0s							
MAW	**Mawson**		**83.48**	**202**	P	**P**	**01 31 50.6**	**-0.5**
	baz=84,SNR=9.3							
MAW	**Mawson**		**83.48**	**202**	P	**P**	**01 31 50.5**	**-0.7**
	comp=Z,3.3nm,0.8s,baz=101,slow=8.4,SNR=11							
TLY	**Talaya**		**83.80**	**326**	*e*P	**P**	**01 31 53.3**	**+0.3**
TLY					*e*		01 32 01.0	
TLY					pmax	pmax		
	comp=Z,22nm,0.9s							
ILAR	**Eielson Array**		**84.83**	**18**	P	**P**	**01 31 58.0**	**+0.1**
ILAR	**Eielson Array**		**84.83**	**18**	P	**P**	**01 31 58.0**	**+0.1**
	comp=Z,5.2nm,0.6s,baz=238,slow=4.4,SNR=61							
CMB	**Columbia Colle**		**84.90**	**49**	*e*P	**P**	**01 31 59.0**	**0.0**
CMB					pmax	pmax		
	comp=Z,2.0nm,0.7s							
CMB	**Columbia Colle**		**84.90**	**49**	*e*P	**P**	**01 31 59.0**	**0.0**
	comp=Z,1.7nm,0.7s							
ISA	**Isabella**		**85.56**	**52**	P	**P**	**01 32 02.2**	**-0.1**
	baz=86							
TAPN	**Taplejung**		**85.92**	**299**	*e*P	**P**	**01 32 05.2**	**+0.6**
ODAN	**Odare**		**86.06**	**298**	*e*P	**P**	**01 32 05.5**	**+0.3**
	comp=Z,85nm,0.9s							
CWC	**Cottonwood Cre**		**86.11**	**52**	P	**P**	**01 32 05.4**	**+0.2**
	baz=86							
NVAR	**Mina Array Bea**		**86.58**	**50**	P	**P**	**01 32 07.7**	**+0.2**
NVAR	**Mina Array Bea**		**86.58**	**50**	P	**P**	**01 32 07.7**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=232,slow=7.8,SNR=13							
RAMN	**Ramite**		**86.76**	**298**	*e*P	**P**	**01 32 08.9**	**+0.2**
BELC	**Belle Mtn. Jos**		**86.98**	**54**	P	**P**	**01 32 09.4**	**0.0**
	baz=87							
JIRN	**Jiri**		**87.31**	**299**	*e*P	**P**	**01 32 11.4**	**-0.1**
BC3	**Big Chuckawall**		**87.31**	**55**	P	**P**	**01 32 10.7**	**-0.3**
	baz=87							
SHOC	**Shoshone**		**87.32**	**52**	P	**P**	**01 32 10.8**	**-0.1**
	baz=87							
TUQ	**Turquoise Moun**		**87.46**	**53**	P	**P**	**01 32 11.9**	**+0.2**
	baz=88							
GMRC	**Granite Mounta**		**87.47**	**54**	P	**P**	**01 32 12.3**	**+0.5**
	baz=88							
GLA	**Glamis**		**87.64**	**56**	P	**P**	**01 32 13.8**	**+1.3**
	baz=88							
GUN	**Gumba**		**87.64**	**299**	*e*P	**P**	**01 32 13.1**	**+0.1**
IRM	**Iron Mountain**		**87.70**	**54**	P	**P**	**01 32 13.2**	**+0.4**
	baz=88							
PKI	**Pulchoki**		**87.95**	**299**	*e*P	**P**	**01 32 14.2**	**-0.3**
KKN	**Kakani**		**88.12**	**299**	*e*P	**P**	**01 32 15.2**	**+0.1**
	comp=Z,43nm,0.7s							
DMN	**Daman**		**88.22**	**299**	*e*P	**P**	**01 32 15.6**	**-0.1**
	comp=Z,108nm,0.8s							
PDMCI	**Parker Dam,Lak**		**88.54**	**55**	P	**P**	**01 32 16.6**	**-0.1**
	baz=88							
R11A	**Troy Canyon, C**		**88.58**	**50**	P	**P**	**01 32 16.4**	**-0.7**
	baz=89							
GKN	**Gorkha**		**88.72**	**299**	*e*P	**P**	**01 32 17.6**	**-0.3**
	comp=Z,83nm,0.9s							
W13A	**Hualapai Mount**		**88.96**	**54**	P	**P**	**01 32 18.8**	**-0.1**
	baz=89							
214A	**Organ Pipe Nat**		**88.97**	**57**	P	**P**	**01 32 17.9**	**-1.0**
	baz=89							
KOLN	**Koldanda**		**89.55**	**298**	*e*P	**P**	**01 32 21.3**	**-0.6**
	comp=Z,30nm,0.9s							
DANN	**Dangsing**		**89.56**	**299**	*e*P	**P**	**01 32 21.3**	**-0.7**
	comp=Z,69nm,0.9s							
MFID	**Camas Ranch**		**89.92**	**45**	P	**P**	**01 32 23.3**	**+0.2**
	baz=90							
SYO	**Syowa Base**		**90.44**	**197‖**	*e*P	**P**	**01 32 22.4**	**-2.5**
SYO	**Syowa Base**		**90.44**	**197‖**	*e*P	P	01 32 31.6	+6.7
NEW	**Newport**		**90.55**	**41**	*e*P	**P**	**01 32 25.2**	**-0.7**
	comp=Z,2.6nm,0.8s							
NEW	**Newport**		**90.55**	**41**	P	**P**	**01 32 26.1**	**+0.3**
	baz=91							
U15A	**North Rim**		**90.57**	**53**	P	**P**	**01 32 26.3**	**-0.2**
	baz=91							
X16A	**Lo Mia Camp, P**		**90.72**	**55**	P	**P**	**01 32 26.7**	**-0.5**
	baz=91							
HLID	**Hailey**		**90.95**	**46**	*e*P	**P**	**01 32 27.8**	**-0.1**
	comp=Z,1.5nm,0.8s							
HLID	**Hailey**		**90.95**	**46**	P	**P**	**01 32 27.9**	**-0.1**
	baz=91							
WUAZ	**Wupatki**		**91.05**	**54**	P	**P**	**01 32 28.3**	**-0.4**
	baz=91							
DUG	**Dugway**		**91.17**	**49**	P	**P**	**01 32 28.9**	**-0.2**
	baz=91							
319A	**Douglas**		**91.74**	**58**	P	**P**	**01 32 31.8**	**0.0**
	baz=92							
X18A	**Snowflake**		**91.94**	**55**	P	**P**	**01 32 32.8**	**0.0**
	baz=92							
W18A	**Petrified Fore**		**92.25**	**55**	P	**P**	**01 32 34.1**	**-0.2**
	baz=92							
320A	**Kipp Ranch, An**		**92.36**	**59**	P	**P**	**01 32 35.4**	**+0.7**
	baz=92							
220A	**Playas Peak, P**		**92.49**	**58**	P	**P**	**01 32 35.7**	**+0.4**
	baz=92							
Y20A	**Horse Springs,**		**93.06**	**56**	P	**P**	**01 32 37.2**	**-0.9**
	baz=93							
Y21A	**Point of Rocks**		**93.66**	**56**	P	**P**	**01 32 40.1**	**-0.8**
	baz=94							
X21A	**Alamocita Cree**		**93.66**	**56**	P	**P**	**01 32 40.5**	**-0.3**
	baz=94							
Z22A	**Elephant Butte**		**94.07**	**57**	P	**P**	**01 32 42.9**	**+0.2**
	baz=94							
PDAR	**Pinedale Array**		**94.18**	**47**	P	**P**	**01 32 43.5**	**+0.6**
PDAR	**Pinedale Array**		**94.18**	**47**	P	**P**	**01 32 43.5**	**+0.6**
	comp=Z,1.2nm,1.1s,baz=256,slow=4.4,SNR=5.2							
U21A	**Nageezi**		**94.20**	**54**	P	**P**	**01 32 43.0**	**-0.2**
	baz=94							
S21A	**Coal Bank Pass**		**94.36**	**53**	P	**P**	**01 32 44.1**	**0.0**
	baz=94							
MK31	**Makanchi Array**		**95.11**	**317**	*e*P	**P**	**01 32 46.8**	**-0.1**
MK31	**Makanchi Array**		**95.11**	**317**	*e*P	**P**	**01 32 46.8**	**-0.1**
MKAR	**Makanchi Array**		**95.11**	**317**	P	**P**	**01 32 46.9**	**0.0**
MKAR	**Makanchi Array**		**95.11**	**317**	P	**P**	**01 32 46.9**	**0.0**
MKAR	**Makanchi Array**		**95.11**	**317**	P	**P**	**01 32 46.9**	**0.0**
	comp=Z,11nm,0.7s,baz=92,slow=6.6,SNR=89							
ZAA0	**Zalesovo Array**		**95.21**	**324**	*e*P	**P**	**01 32 46.1**	**-1.1**
ZALV	**Zalesovo Beam**		**95.21**	**324**	P	**P**	**01 32 46.1**	**-1.0**
ZALV	**Zalesovo Beam**		**95.21**	**324**	P	**P**	**01 32 46.1**	**-1.0**
ZALV	**Zalesovo Beam**		**95.21**	**324**	P	**P**	**01 32 46.1**	**-1.0**
	comp=Z,5.5nm,0.8s,baz=112,slow=4.5,SNR=23							
Q22A	**Crested Butte,**		**95.29**	**52**	P	**P**	**01 32 47.4**	**-0.9**
	baz=95							
SNAA	**Sanae**		**95.56**	**183**	*e*P	**P**	**01 32 46.6**	**-2.0**
	comp=Z,6.5nm,1.1s							
TXAR	**Lajitas Array**		**96.05**	**61**	P	**P**	**01 32 51.7**	**0.0**
TXAR	**Lajitas Array**		**96.05**	**61**	P	**P**	**01 32 51.7**	**0.0**
	comp=Z,0.6nm,0.8s,baz=233,slow=8.9,SNR=2.9							
KURK	**Kurchatov**		**98.26**	**320**	P	**P**	**01 33 00.5**	**-0.5**
KURK	**Kurchatov**		**98.26**	**320**	P	**P**	**01 33 00.5**	**-0.5**
KURBB	**Kurchatov Arra**		**98.31**	**320**	P	**P**	**01 33 00.5**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=96,slow=4.2,SNR=12							
BVAR	**Borovoye Array**		**103.59**	**322**	P	**Pdif**	**01 33 23.9**	**-0.8**
BVAR	**Borovoye Array**		**103.59**	**322**	Pdif	**Pdif**	**01 33 23.9**	**-0.8**
BVAR	**Borovoye Array**		**103.59**	**322**	Pdiff	**Pdif**	**01 33 23.9**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=90,slow=4.4,SNR=4.3							
ARCES	**ARCESS Array B**		**118.03**	**345**	PKP	**PKPdf**	**01 38 08.4**	**-1.4**
ARCES	**ARCESS Array B**		**118.03**	**345**	PKP	**PKPdf**	**01 38 08.4**	**-1.4**
	comp=Z,2.8nm,0.9s,baz=77,slow=2.1,SNR=7.2							
LPAZ	**La Paz**		**118.92**	**117**	PKP	**PKPdf**	**01 38 12.6**	**-1.2**
LPAZ	**La Paz**		**118.92**	**117**	PKP	**PKPdf**	**01 38 12.6**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=307,slow=3.2,SNR=3.1							
AKASG	**Malin Array Be**		**128.54**	**326**	PKIKP	**PKPdf**	**01 38 29.8**	**-0.6**
AKASG	**Malin Array Be**		**128.54**	**326**	PKP	**PKPdf**	**01 38 29.8**	**-0.6**
AKASG	**Malin Array Be**		**128.54**	**326**	PKP	**PKPdf**	**01 38 29.8**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=46,slow=1.5,SNR=6.3							
BRTR	**Keskin Array B**		**130.50**	**312**	PKP	**PKPdf**	**01 38 34.4**	**-0.3**
BRTR					PP	**PP**	**01 40 50.2**	**+0.7**
BRTR	**Keskin Array B**		**130.50**	**312**	PKP	**PKPdf**	**01 38 34.4**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=144,slow=5.6,SNR=4.0							
BRTR					PP	**PP**	**01 40 50.2**	**+0.7**
	comp=Z,1.3nm,0.9s,baz=94,slow=5.0,SNR=4.5							
BDFB	**Brasilia**		**135.86**	**129**	PKP	**PKPdf**	**01 38 46.2**	**+0.8**
BDFB	**Brasilia**		**135.86**	**129**	PKP	**PKPdf**	**01 38 46.2**	**+0.8**
	comp=Z,2.1nm,0.7s,baz=258,slow=6.1,SNR=4.6							
GERES	**GERESS Array B**		**137.41**	**333**	PKP	**PKPdf**	**01 38 48.1**	**+0.8**
GERES	**GERESS Array B**		**137.41**	**333**	PKP	**PKPdf**	**01 38 48.1**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=116,slow=3.1,SNR=6.1							
DAVOX	**Davos/Dischmat**		**140.64**	**334**	PKPpre	PKPdf	01 38 46.8	
DAVOX	**Davos/Dischmat**		**140.64**	**334**	PKhKP	PKPpre	01 38 46.8	
	comp=Z,2.4nm,0.7s,baz=346,slow=4.2,SNR=4.5							
KEST	**Kesra**		**149.06**	**322**	PKPbc	**PKPbc**	**01 39 12.2**	**-0.1**
KEST				*e*	PKPdf	**PKPbc**	**01 39 12.2**	**-0.1**
KEST	**Kesra**		**149.06**	**322**	PKPbc	**PKPbc**	**01 39 12.2**	**-0.1**
	comp=Z,5.3nm,0.7s,baz=334,slow=0.3,SNR=22							
ESDC	**Sonseca Array**		**151.76**	**344**	PKPbc	**PKPbc**	**01 39 17.9**	**-0.7**
ESDC					PKPab	**PKPab**	**01 39 27.5**	**0.0**
ESDC	**Sonseca Array**		**151.76**	**344**	PKPbc	**PKPbc**	**01 39 17.9**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=13,slow=2.9,SNR=8.9							
ESDC					PKPab	**PKPab**	**01 39 27.5**	**0.0**
	comp=Z,1.8nm,0.8s,baz=17,slow=3.2,SNR=6.1							
TORD	**Torodi Ar. Bea**		**165.06**	**274**	PKP	**PKPdf**	**01 39 27.3**	**-1.3**
TORD					PKPab	**PKPab**	**01 40 26.1**	**+0.4**
TORD	**Torodi Ar. Bea**		**165.06**	**274**	PKP	**PKPdf**	**01 39 27.3**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=26,slow=1.3,SNR=3.6							
TORD					PKPab	**PKPab**	**01 40 26.1**	**+0.4**
	comp=Z,13nm,0.9s,baz=82,slow=5.0,SNR=41							
KIC	**Kosan Boka**		**169.25**	**235**	*e*PKP2	**PKPab**	**01 40 44.4**	**+0.2**
	comp=Z,30nm,1.0s							
LIC	**Lamto**		**169.39**	**234**	*e*PKP2	**PKPab**	**01 40 44.7**	**-0.1**
	comp=Z,35nm,1.3s							
DBIC	**Dimbokro**		**169.52**	**236**	PKPab	**PKPab**	**01 40 45.6**	**+0.2**
DBIC	**Dimbokro**		**169.52**	**236**	PKPab	**PKPab**	**01 40 45.6**	**+0.2**
	comp=Z,11nm,0.9s,baz=87,slow=5.0,SNR=

WRA	**Warramunga Arr**	**31.62 254**	P	P	01 33 23.6	-0.4	
	1.4nm,0.9s,baz=86,slow=9.0,SNR=2.8						
ASAR	**Alice Springs**	**32.61 247**	P	P	01 33 33.0	+0.3	
	1.6nm,0.7s,baz=72,slow=9.6,SNR=4.5						
SONM	**Songino Array**	**81.34 324**	P	P	01 39 18.2	+0.6	
	0.3nm,0.2s,baz=133,slow=6.1,SNR=2.7						
ILAR	**Eielson Array**	**85.66 18**	P	P	01 39 39.1	-0.2	
	1.1nm,0.5s,baz=242,slow=5.4,SNR=10.0						
MKAR	**Makanchi Array**	**96.08 317**	P	P	01 40 28.2	-0.4	
	0.5nm,0.7s,baz=115,slow=5.1,SNR=4.1						

*IDC **08** 01:27:12.6±0.8, 12.°81S×166.°11E, h0km, mb4.5/13, mb1 4.6/15, mb1mx4.4/24, mbtmp4.5/15, ML4.2/2, Error ellipse: s-maj=23.8km s-min=18.0km az=124.0*

*ISCJB **08** 01:27:13.8±0.7, 12.°81S±0.°09×166.°04E±0.°09, h20km, mb4.4/12, Error ellipse: s-maj=13.6km s-min=10.7km az=40.0*

*NEIC **08** 01:27:18.0±0.5, 12.°76S×166.°06E, h35km, mb4.1/1, Error ellipse: s-maj=15.0km s-min=11.6km az=128.0*

ISC 08 01:27:15.8±0.6, 12.°78S±0.°10×166.°10E±0.°09, h20km, n49, σ0s81/55, mb4.4/12, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.89**	**298**	Pn	**Pn**	**01 28 55.0**	**-0.7**
HNR				Sn	**Sn**	**01 30 13.8**	**+0.1**
HNR	**Honiara**	**6.89**	**298**	Pn	**Pn**	**01 28 55.0**	**-0.7**
	13nm,0.3s,baz=256,slow=4.2,SNR=3.1						
HNR				Sn	**Sn**	**01 30 13.8**	**+0.1**
	7.2nm,0.3s,baz=240,slow=20,SNR=4.9						
PMG	**Port Moresby**	**18.88**	**278**	P	**Pn**	**01 31 35.9**	**+0.1**
PMG	**Port Moresby**	**18.88**	**278**	P	**Pn**	**01 31 35.9**	**+0.1**
	1.1nm,0.3s,baz=248,slow=5.4,SNR=3.7						
EIDS	**Eidsvold**	**18.90**	**226**	*e*P	**Pn**	**01 31 38.2**	**+2.3**
CTA	**Charters Tower**	**20.36**	**246**	P	**P**	**01 31 50.6**	**-0.6**
CTA	**Charters Tower**	**20.36**	**246**	P	**P**	**01 31 50.6**	**-0.6**
	12nm,1.0s,baz=78,slow=16,SNR=5.6						
STKA	**Stephens Creek**	**29.45**	**226**	*e*P	**P**	**01 33 17.5**	**-0.9**
	7.2nm,1.7s						
STKA	**Stephens Creek**	**29.45**	**226**	P	**P**	**01 33 18.1**	**-0.4**
	10nm,0.9s,baz=44,slow=6.5,SNR=5.6						
RPZ	**Rata Peaks**	**31.12**	**173**	P	**P**	**01 33 32.4**	**-0.6**
RPZ	**Rata Peaks**	**31.12**	**173**	P	**P**	**01 33 32.4**	**-0.6**
	17nm,0.8s,baz=29,slow=6.2,SNR=5.3						
WRA	**Warramunga Arr**	**31.25**	**253**	P	**P**	**01 33 34.0**	**-0.4**
WRA	**Warramunga Arr**	**31.25**	**253**	P	**P**	**01 33 34.0**	**-0.4**
	3.7nm,0.9s,baz=82,slow=9.2,SNR=6.6						
ASAR	**Alice Springs**	**32.36**	**246**	P	**P**	**01 33 43.4**	**-0.9**
ASAR				PcP	**PcP**	**01 36 32.6**	**+0.7**
ASAR	**Alice Springs**	**32.36**	**246**	P	**P**	**01 33 43.4**	**-0.9**
	4.7nm,0.8s,baz=73,slow=9.7,SNR=9.1						
ASAR				PcP	**PcP**	**01 36 32.6**	**+0.7**
	0.7nm,0.8s,baz=58,slow=3.5,SNR=3.4						
FITZ	**Fitzroy Crossi**	**39.30**	**257**	P	**P**	**01 34 43.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**39.30**	**257**	P	**P**	**01 34 43.6**	**-0.1**
	16nm,1.1s,baz=98,slow=8.5,SNR=9.2						
ASAJ	**Asahikawa**	**60.54**	**341**	P	**P**	**01 37 25.5**	**+0.9**
ASAJ	**Asahikawa**	**60.54**	**341**	P	**P**	**01 37 25.5**	**+0.9**
	8.8nm,0.6s,baz=202,slow=8.7,SNR=9.9						
USRK	**Ussuriysk Arra**	**64.64**	**333**	P	**P**	**01 37 52.4**	**+0.3**
	1.4nm,0.6s,baz=123,slow=5.7,SNR=4.6						
SONM	**Songino Array**	**80.26**	**324**	P	**P**	**01 39 25.4**	**+0.1**
SONM	**Songino Array**	**80.26**	**324**	P	**P**	**01 39 25.4**	**+0.1**
	0.8nm,0.2s,baz=116,slow=5.0,SNR=5.2						
ILAR	**Eielson Array**	**85.04**	**18**	P	**P**	**01 39 48.4**	**-1.2**
ILAR	**Eielson Array**	**85.04**	**18**	P	**P**	**01 39 48.4**	**-1.2**
	1.5nm,0.7s,baz=232,slow=6.0,SNR=7.3						
MK31	**Makanchi Array**	**95.02**	**317**	*e*P	**P**	**01 40 36.9**	**-0.2**
MKAR	**Makanchi Array**	**95.02**	**317**	P	**P**	**01 40 37.3**	**+0.1**
MKAR	**Makanchi Array**	**95.02**	**317**	P	**P**	**01 40 37.3**	**+0.1**
	1.6nm,0.7s,baz=88,slow=5.8,SNR=7.9						
ZALV	**Zalesovo Beam**	**95.16**	**324**	P	**P**	**01 40 36.8**	**-0.8**
ZALV	**Zalesovo Beam**	**95.16**	**324**	P	**P**	**01 40 36.8**	**-0.8**
	1.0nm,0.5s,baz=119,slow=5.2,SNR=4.3						
KURK	**Kurchatov**	**98.19**	**320**	P	**P**	**01 40 50.8**	**-0.6**
KURBB	**Kurchatov Arra**	**98.23**	**320**	P	**P**	**01 40 50.7**	**-0.8**
	0.1nm,0.5s,baz=45,slow=5.9,SNR=2.8						
ARCES	**ARCESS Array B**	**118.09**	**345**	PKP	**PKPdf**	**01 46 00.1**	**-0.7**
ARCES	**ARCESS Array B**	**118.09**	**345**	PKP	**PKPdf**	**01 46 00.1**	**-0.7**
	2.4nm,0.8s,baz=90,slow=0.5,SNR=5.7						
FINES	**FINESS Array B**	**123.50**	**338**	PKP	**PKPdf**	**01 46 10.7**	**-0.6**
FINES	**FINESS Array B**	**123.50**	**338**	PKP	**PKPdf**	**01 46 10.7**	**-0.6**
	2.7nm,0.8s,baz=169,slow=1.9,SNR=3.7						
AKASG	**Malin Array Be**	**128.49**	**326**	PKP	**PKPdf**	**01 46 21.8**	**+0.6**
AKASG	**Malin Array Be**	**128.49**	**326**	PKP	**PKPdf**	**01 46 21.8**	**+0.6**
	1.4nm,0.6s,baz=52,slow=2.2,SNR=7.5						
BRTR	**Keskin Array B**	**130.38**	**312**	PKP	**PKPdf**	**01 46 24.2**	**-1.1**
BRTR	**Keskin Array B**	**130.38**	**312**	PKP	**PKPdf**	**01 46 24.2**	**-1.1**
	0.7nm,0.8s,baz=127,slow=3.6,SNR=4.7						
MMAI	**Mount Meron Ar**	**130.82**	**303**	PKP	**PKPdf**	**01 46 28.2**	**+1.9**
MMAI	**Mount Meron Ar**	**130.82**	**303**	PKP	**PKPdf**	**01 46 28.2**	**+1.9**
	2.1nm,0.7s,baz=54,slow=3.9,SNR=3.6						
GERES	**GERESS Array B**	**137.40**	**333**	PKP	**PKPdf**	**01 46 38.8**	**+0.6**
GERES	**GERESS Array B**	**137.40**	**333**	PKP	**PKPdf**	**01 46 38.8**	**+0.6**
	1.2nm,0.7s,baz=66,slow=1.6,SNR=10						
KEST	**Kesra**	**148.99**	**321**	*e*PKPbc	**PKPbc**	**01 47 03.4**	**+0.4**
KEST	**Kesra**	**148.99**	**321**	PKPbc	**PKPbc**	**01 47 03.5**	**+0.6**
	3.9nm,0.8s,baz=294,slow=0.7,SNR=11						
ESDC	**Sonseca Array**	**151.81**	**344**	PKPbc	**PKPbc**	**01 47 09.8**	**+0.3**
ESDC				PKPab	**PKPab**	**01 47 19.1**	**+0.7**
ESDC	**Sonseca Array**	**151.81**	**344**	PKPbc	**PKPbc**	**01 47 09.8**	**+0.3**
	2.2nm,0.8s,baz=15,slow=2.9,SNR=14						
ESDC				PKPab	**PKPab**	**01 47 19.1**	**+0.7**
	1.6nm,0.6s,baz=12,slow=4.2,SNR=10						
TORD	**Torodi Ar. Bea**	**164.79**	**273**	PKPab	**PKPab**	**01 48 15.9**	**+0.6**
TORD	**Torodi Ar. Bea**	**164.79**	**273**	PKPab	**PKPab**	**01 48 15.9**	**+0.6**
	0.7nm,1.0s,baz=79,slow=5.3,SNR=4.8						

*IDC **08** 01:30:54.7±0.6, 13.°61S×166.°62E, h0km, mb4.8/19, mb1 4.8/21, mb1mx4.7/26, mbtmp4.7/21, ML4.2/2, Error ellipse: s-maj=19.7km s-min=14.6km az=113.0*

*BJI **08** 01:30:58.2, 13.°58S×166.°78E, h36km, mB5.4/6, mb5.0/36, Ms5.6/8, Ms7 5.4/11*

*ISCJB **08** 01:30:59.6±0.3, 13.°53S±0.°04×166.°46E±0.°06, h39km, mb5.1/54, MS5.4/3, Error ellipse: s-maj=8.3km s-min=5.4km az=5.7*

*MOS **08** 01:30:59.4±1.2, 13.°53S×166.°39E, h33km, mb5.5/24, Error ellipse: s-maj=11.0km s-min=8.9km az=28.7*

*NEIC **08** 01:31:00.5±0.3, 13.°45S×166.°49E, h35km, mb5.2/12, Error ellipse: s-maj=8.1km s-min=7.1km az=145.0*

*DJA **08** 01:31:00.8±0.8, 14.°S±11.°×16.°6E±1.°0, h10km, M4.8/11, mB6.6/1, mb4.8/11, Mw(mB)6.4/1*

*AUST **08** 01:31:16.4±4.1, 13.°64S×165.°92E, h149km±27km, Error ellipse: s-maj=33.4km s-min=15.6km az=45.0*

ISC 08 01:31:01.1±0.3, 13.°46S±0.°05×166.°44E±0.°06, h39km, n240, σ1s49/252, mb5.1/53, MS5.2/3, 22C-21D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.52**	**301**	Pn	**Pn**	**01 32 48.2**	**0.0**
HNR	**Honiara**	**7.52**	**301**	Pn	**Pn**	**01 32 48.2**	**0.0**
	8.7nm,0.3s,baz=112,slow=2.3,SNR=11						
HNR				Sn	**Sn**	**01 34 11.3**	**-1.0**
	15nm,0.3s,baz=144,slow=19,SNR=2.6						
DZM	**Mont Dzumac**	**8.56**	**180**	Pn	**Pn**	**01 33 02.3**	**-0.4**
DZM	**Mont Dzumac**	**8.56**	**180**	Pn	**Pn**	**01 33 02.3**	**-0.4**
	2.1nm,0.3s,baz=11,slow=19,SNR=8.0						
DZM				Sn	**Sn**	**01 34 38.2**	**0.0**
	baz=357,slow=17,SNR=1.6						
MSVF	**Nonsavu**	**11.96**	**112**	*e*P	**Pn**	**01 33 48.8**	**-0.5**
MSVF	**Nonsavu**	**11.96**	**112**	*e*Pn	**Pn**	**01 33 48.8**	**-0.5**
EIDS	**Eidsvold**	**18.69**	**228**	*e*Pn	**Pn**	**01 35 19.2**	**+2.4**
	37nm,1.0s						
EIDS	**Eidsvold**	**18.69**	**228**	⇓P	**Pn**	**01 35 19.2**	**+2.4**
	baz=18,SNR=4.6						
PMG	**Port Moresby**	**19.32**	**280**	P	**Pn**	**01 35 25.5**	**+1.0**
	46nm,1.6s						
PMG	**Port Moresby**	**19.32**	**280**	P	**Pn**	**01 35 24.6**	**+0.1**
PMG				*e*Pn	**P**	**01 35 24.7**	**+1.5**
PMG	**Port Moresby**	**19.32**	**280**	P	**Pn**	**01 35 24.6**	**+0.1**
	1.1nm,0.3s,baz=75,slow=6.3,SNR=5.3						
CTA	**Charters Tower**	**20.41**	**248**	P	**P**	**01 35 36.0**	**+0.9**
CTA	**Charters Tower**	**20.41**	**248**	⇓P	**P**	**01 35 36.1**	**+1.1**
	baz=20						
CTA	**Charters Tower**	**20.41**	**248**	P	**P**	**01 35 36.0**	**+0.9**
	18nm,0.9s,baz=74,slow=14,SNR=18						
CTAO	**Charters Tower**	**20.41**	**248**	*e*P	**P**	**01 35 35.9**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,97nm,1.4s						
CTAO	**Charters Tower**	**20.41**	**248**	*e*P	**P**	**01 35 35.9**	**+0.9**
	comp=Z,97nm,1.4s						

RMQ	**Roma**	**21.04**	**229**	P	**P**	**01 35 43.2**	**+1.4**
	baz=21,SNR=41						
ARMA	**Armidale**	**21.72**	**217**	⇑P	**P**	**01 35 51.3**	**+2.1**
	baz=21,SNR=5.9						
COEN	**Coen**	**22.61**	**266**	*e*P	**P**	**01 35 57.7**	**-1.0**
	comp=Z,1μm,2.1s						
COEN	**Coen**	**22.61**	**266**	⇑P	**P**	**01 35 59.0**	**+0.3**
	baz=22,SNR=4.9						
QLP	**Quilpie**	**24.56**	**235**	P	**P**	**01 36 17.7**	**+0.3**
	baz=24,SNR=9.2						
CMSA	**Cobar Meteorol**	**26.20**	**223**	⇑P	**P**	**01 36 33.4**	**+1.0**
	baz=26,SNR=11						
YNG	**Young**	**26.42**	**215**	⇑P	**P**	**01 36 36.3**	**+2.0**
	baz=26						
STKA	**Stephens Creek**	**29.23**	**227**	*e*P	**P**	**01 37 00.3**	**+0.9**
STKA	**Stephens Creek**	**29.23**	**227**	P	**P**	**01 37 00.3**	**+0.9**
	baz=29,SNR=11						
STKA	**Stephens Creek**	**29.23**	**227**	P	**P**	**01 36 59.6**	**+0.2**
	comp=Z,12nm,0.9s,baz=31,slow=8.7,SNR=11						
RPZ	**Rata Peaks**	**30.41**	**173**	P	P	01 37 05.8	-3.9
RPZ	**Rata Peaks**	**30.41**	**173**	P	P	01 37 05.8	-3.9
	comp=Z,8.1nm,0.7s,baz=127,slow=12,SNR=1.8						
TOO	**Toolangi**	**30.42**	**214**	⇓P	**P**	**01 37 11.6**	**+1.7**
	baz=30,SNR=5.0						
WRAB	**Tennant Creek**	**31.37**	**254**	*e*P	**P**	**01 37 16.6**	**-1.9**
WRAB				pmax	pmax		
	comp=Z,27nm,1.3s						
WRAB	**Tennant Creek**	**31.37**	**254**	*e*P	**P**	**01 37 16.6**	**-1.9**
	comp=Z,27nm,1.3s						
WRA	**Warramunga Arr**	**31.38**	**254**	P	**P**	**01 37 16.9**	**-1.6**
WRA	**Warramunga Arr**	**31.38**	**254**	P	**P**	**01 37 16.9**	**-1.6**
	comp=Z,9.7nm,0.9s,baz=85,slow=8.8,SNR=15						
WRA				ScP	**ScP**	**01 43 55.5**	**+3.5**
	comp=Z,3.9nm,1.0s,baz=83,slow=3.8,SNR=8.3						
HTT	**Hallett**	**31.97**	**227**	⇑P	**P**	**01 37 24.8**	**+1.2**
	baz=32						
ARPS	**Mount Arapiles**	**31.99**	**219**	⇑P	**P**	**01 37 24.8**	**+1.1**
	baz=32						
AS17	**Alice Springs**	**32.32**	**247**	⇑P	**P**	**01 37 25.4**	**-1.4**
	baz=32						
AS07	**Alice Springs**	**32.34**	**247**	⇓P	**P**	**01 37 25.3**	**-1.7**
	baz=32						
AS16	**Alice Springs**	**32.37**	**247**	⇓P	**P**	**01 37 26.3**	**-1.0**
	baz=32						
AS10	**Alice Springs**	**32.40**	**247**	⇓P	**P**	**01 37 25.9**	**-1.6**
	baz=32						
ASAR	**Alice Springs**	**32.40**	**247**	P	**P**	**01 37 25.8**	**-1.8**
ASAR	**Alice Springs**	**32.40**	**247**	P	**P**	**01 37 25.8**	**-1.8**
	comp=Z,4.1nm,0.6s,baz=73,slow=9.8,SNR=27						
ASAR				ScP	**ScP**	**01 43 59.0**	**+3.5**
	comp=Z,2.9nm,1.0s,baz=76,slow=3.9,SNR=8.3						
BBOO	**Buckleboo**	**33.74**	**230**	*e*P	**P**	**01 37 39.9**	**+0.8**
	comp=Z,915nm,1.4s						
BBOO	**Buckleboo**	**33.74**	**230**	⇓P	**P**	**01 37 39.6**	**+0.5**
	baz=33,SNR=9.1						
KNRA	**Kununurra**	**36.50**	**262**	⇓P	**P**	**01 38 01.8**	**-1.3**
	baz=36,SNR=6.1						
FITZ	**Fitzroy Crossi**	**39.48**	**258**	*e*P	**P**	**01 38 27.6**	**-0.6**
FITZ	**Fitzroy Crossi**	**39.48**	**258**	P	**P**	**01 38 26.6**	**-1.5**
	baz=39,SNR=5.2						
FITZ	**Fitzroy Crossi**	**39.48**	**258**	P	**P**	**01 38 26.8**	**-1.3**
	comp=Z,4.0nm,0.9s,baz=107,slow=12,SNR=5.6						
BATI	**Baumata**	**41.95**	**270**	P	**P**	**01 38 50.0**	**+1.3**
BATI	**Baumata**	**41.95**	**270**	P	**P**	**01 38 50.0**	**+1.3**
	comp=Z,11nm,0.4s,baz=119,slow=19,SNR=2.6						
MBWA	**Marble Bar**	**45.12**	**254**	*e*P	**P**	**01 39 13.6**	**-0.5**
MEEK	**Meekatharra**	**46.55**	**246**	P	**P**	**01 39 25.2**	**-0.1**
	baz=46,SNR=11						
KAPI	**Kappang**	**46.77**	**276**	P	pP	01 39 41.5	+3.1
KAPI	**Kappang**	**46.77**	**276**	P	**P**	**01 39 26.8**	**-0.4**
KAPI	**Kappang**	**46.77**	**276**	P	**P**	**01 39 26.8**	**-0.4**
	comp=Z,6.6nm,0.8s,baz=108,slow=16,SNR=3.5						
NWAO	**Narrogin (SRO)**	**48.72**	**238**	P	**P**	**01 39 42.9**	**+0.8**
NWAO	**Narrogin (SRO)**	**48.72**	**238**	P	**P**	**01 39 42.9**	**+0.8**
	comp=Z,16nm,0.9s,baz=102,slow=5.1,SNR=5.0						
MORW	**Morawa**	**49.10**	**243**	P	**P**	**01 39 45.0**	**-0.1**
	baz=49,SNR=5.7						
KSM	**Kushiro**	**57.58**	**280**	P	P	01 40 53.7	+6.2
	comp=Z,31nm,1.4s						
ASAJ	**Asahikawa**	**61.28**	**341**	*e*P	**P**	**01 41 13.9**	**+1.4**
	comp=Z,20nm,1.3s						
ASAJ	**Asahikawa**	**61.28**	**341**	P	**P**	**01 41 13.8**	**+1.4**
	comp=Z,19nm,1.0s,baz=232,slow=12,SNR=6.6						
KSRS	**Korea Array**	**62.24**	**326**	P	P	01 41 22.2	+3.2
	comp=Z,1.3nm,0.5s,baz=137,slow=6.7,SNR=3.0						
KSAR	**Wonju Array Be**	**62.25**	**326**	P	P	01 41 22.2	+3.1
YSS	**Yuzh-Sakhalins**	**63.78**	**342**	⇓*e*P	**P**	**01 41 30.0**	**+1.0**
YSS				*e*		01 41 39.0	
YSS				pmax	pmax		
	comp=Z,50nm,1.0s						
VNDA	**Vanda**	**64.11**	**181**	*e*P	**P**	**01 41 31.2**	**+0.3**
	comp=Z,29nm,1.4s						
VNDA	**Vanda**	**64.11**	**181**	P	**P**	**01 41 31.1**	**+0.3**
	comp=Z,4.0nm,0.9s,baz=359,slow=6.9,SNR=12						
NJ2	**Nanjing**	**64.21**	**316**	*e*P	**P**	**01 41 33.7**	**+1.5**
NJ2				pP	**pP**	**01 41 42.6**	**-1.3**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s						
SBA	**Scott Base**	**64.40**	**180**	*e*P	**P**	**01 41 33.7**	**+0.9**
SBA				pmax	pmax		
	comp=Z,45nm,1.4s						
SBA	**Scott Base**	**64.40**	**180**	*e*P	**P**	**01 41 33.7**	**+0.9**
	comp=Z,45nm,1.4s						
QIZ	**Qiongzhong**	**64.42**	**299**	P	**P**	**01 41 34.8**	**+0.9**
QIZ				S	**S**	**01 50 08.8**	**-1.4**
QIZ				AMB	AMB		
	comp=Z,11nm,1.5s						
USRK	**Ussuriysk Arra**	**65.40**	**333**	P	**P**	**01 41 41.5**	**+1.8**
	comp=Z,15nm,1.0s,baz=134,slow=5.5,SNR=20						
PETK	**Petropavlovsk-**	**66.72**	**354**	P	**P**	**01 41 49.0**	**+1.0**
PETK	**Petropavlovsk-**	**66.72**	**354**	P	**P**	**01 41 49.0**	**+1.0**
PETK	**Petropavlovsk-**	**66.72**	**354**	P	**P**	**01 41 49.0**	**+1.0**
	comp=Z,7.3nm,0.9s,baz=179,slow=11,SNR=6.1						
MDJ	**Mudanjiang**	**66.79**	**332**	P	**P**	**01 41 50.0**	**+1.4**
MDJ				AMB	AMB		
	comp=Z,22nm,1.9s						
CN2	**Changchun**	**68.15**	**329**	*e*P	**P**	**01 42 00.1**	**+2.9**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s						
SKNT	**Sakolnakorn**	**68.69**	**294**	P	P	01 42 06.7	+5.5
	comp=Z,86nm,1.0s						
KLR	**Kul'dur**	**69.53**	**337**	*e*P	**P**	**01 42 03.7**	**-2.0**
KLR				pmax	pmax		
	comp=Z,150nm,1.8s						
GYA	**Guiyang**	**70.33**	**305**	⇑*i*P	**P**	**01 42 13.0**	**+1.7**
GYA				pP	**pP**	**01 42 23.6**	**+0.5**
GYA				sP	**sP**	**01 42 28.0**	**+0.4**
GYA				PP	**PP**	**01 44 50.2**	**+2.6**
GYA				S	S	01 51 31.0	+10
GYA				sS	**sS**	**01 51 39.5**	**-1.3**
GYA				SKS	**SKSac**	**01 52 07.0**	**-3.4**
GYA				SS	**SS**	**01 55 54.3**	**+1.6**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s						
GYA				AMB	AMB		
	comp=Z,120nm,5.8s						
GYA				LR	LR		
	comp=Z,1μm,18.5s						
GYA				LR	LR		
	comp=Z,870nm,19.0s						
GYA				LR	LR		
	comp=Z,1μm,18.0s						
BJI	**Beijing**	**70.78**	**321**	P	**P**	**01 42 14.6**	**+1.1**
BJI				AMB	AMB		
	comp=Z,14nm,2.7s						
LOEI	**Loei**	**71.30**	**294**	P	P	01 42 20.9	+3.7
	comp=Z,127nm,1.3s						
XAN	**Xi'an**	**72.24**	**313**	P	P	01 42 27.7	+5.1
XAN				pP	pP	01 42 37.2	+2.8
XAN				sP	sP	01 42 41.9	+3.0
KMI	**Kunming**	**72.96**	**302**	P	**P**	**01 42 30.3**	**+3.0**
KMI				pP	**pP**	**01 42 39.3**	**+0.2**
KMI				sP	**sP**	**01 42 44.2**	**+0.6**
KMI				AMB	AMB		
	comp=Z,27nm,1.4s						
CHTO	**Chiang Mai**	**73.82**	**294**	*e*P	**P**	**01 42 33.2**	**+1.0**
CHTO				pmax	pmax		
	comp=Z,84nm,1.4s						
CHTO	**Chiang Mai**	**73.82**	**294**	P	P	01 42 38.2	+6.0
	comp=Z,44nm,1.3s						
CHTO	**Chiang Mai**	**73.82**	**294**	*e*P	**P**	**01 42 33.2**	**+1.0**
	comp=Z,84nm,1.4s						
CHTO	**Chiang Mai**	**73.82**	**294**	P	P	01 42 38.5	+6.3
	comp=Z,630nm,1.9s						
HHC	**Hu-ho-hao-te**	**74.10**	**320**	*e*P	**P**	**01 42 33.6**	**+0.1**
HHC				pP	**pP**	**01 42 43.9**	**-1.5**

HHC				sP	**sP**	**01 42 47.9**	**-1.9**
HHC				PP	**PP**	**01 45 20.9**	**+1.4**
HHC				S	**S**	**01 52 03.0**	**-0.9**
HHC				sS	**sS**	**01 52 20.2**	**-3.3**
HHC				SKS	**SKSac**	**01 52 33.7**	**-4.4**
HHC				ScS	**SKKSac**	**01 52 37.8**	**-0.6**
HHC				SS	**SS**	**01 56 50.5**	**+0.6**
HHC				AMB	AMB		
	comp=Z,37nm,1.1s						
HHC				LR	LR		
	comp=Z,3μm,17.9s						
HHC				LR	LR		
	comp=Z,3μm,16.7s						
HHC				LR	LR		
	comp=Z,5μm,17.7s						
CMAI	**Chiengmai2**	**74.13**	**295**	P	P	01 42 40.4	+6.2
	comp=Z,199nm,1.0s						
CD2	**Chengdu**	**74.60**	**308**	P	**P**	**01 42 37.5**	**+0.9**
CD2				AMB	AMB		
	comp=Z,20nm,0.5s						
QSPA	**South Pole Qui**	**76.56**	**180**	*e*P	**P**	**01 42 47.1**	**-0.2**
	comp=Z,40nm,1.2s						
LZH	**Lanzhou**	**76.87**	**312**	*e*P	**P**	**01 42 50.1**	**+0.5**
LZH				pP	**PcP**	**01 43 00.6**	**-0.1**
LZH				sP	**sP**	**01 43 05.2**	**-0.8**
LZH				*e*PP	**PP**	**01 45 44.3**	**+1.1**
LZH				*e*S	**S**	**01 52 34.5**	**-0.4**
LZH				*e*SS	**SS**	**01 57 33.2**	**+0.9**
LZH				AMB	AMB		
	comp=Z,29nm,1.5s						
LZH				AMB	AMB		
	comp=Z,160nm,9.0s						
LZH				LR	LR		
	comp=Z,470nm,14.5s						
LZH				LR	LR		
	comp=Z,460nm,14.0s						
LZH				LR	LR		
	comp=Z,690nm,17.6s						
SEY	**Seymchan**	**76.93**	**353**	⇓*e*P	**P**	**01 42 48.0**	**-1.1**
CLNS	**Chul'man**	**78.06**	**338**	*e*P	**P**	**01 42 57.5**	**+1.9**
CLNS				pmax	pmax		
	comp=Z,29nm,1.1s						
CLNS				pmax	pmax		
	comp=N,11nm,1.1s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.9s						
CIT	**Chita**	**79.58**	**330**	*e*P	**P**	**01 43 04.8**	**+0.7**
CIT				*e*		01 43 12.8	
CIT				*e*		01 43 22.2	
CIT				pmax	pmax		
	comp=Z,113nm,1.7s						
SONM	**Songino Array**	**81.00**	**324**	P	**P**	**01 43 13.0**	**+1.1**
SONM	**Songino Array**	**81.00**	**324**	P	**P**	**01 43 13.0**	**+1.1**
	comp=Z,7.1nm,1.0s,baz=143,slow=5.0,SNR=22						
GTA	**Gaotai**	**81.21**	**314**	P	**P**	**01 43 14.8**	**+1.5**
GTA				pP	**pP**	**01 43 23.8**	**-1.4**
GTA				sP	**sP**	**01 43 27.2**	**-2.5**
GTA				S	**SKSac**	**01 53 25.6**	**-4.0**
GTA				AMB	AMB		
	comp=Z,8.0nm,1.1s						
PMR	**Palmer**	**82.58**	**20**	*e*P	**P**	**01 43 19.5**	**-0.2**
PMR	**Palmer**	**82.58**	**20**	*e*P	**P**	**01 43 19.5**	**-0.2**
MAW	**Mawson**	**82.75**	**202**	*e*P	**P**	**01 43 20.4**	**-0.3**
MAW	**Mawson**	**82.75**	**202**	P	**P**	**01 43 19.8**	**-0.8**
	comp=Z,5.9nm,1.1s,baz=112,slow=12,SNR=4.0						
ZAK	**Zakamensk**	**84.06**	**325**	*e*P	**P**	**01 43 27.9**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,19nm,1.5s						
MCK	**McKinley**	**84.20**	**18**	*e*P	**P**	**01 43 27.2**	**-0.9**
MCK				pmax	pmax		
	comp=Z,190nm,2.8s						
MCK	**McKinley**	**84.20**	**18**	*e*P	**P**	**01 43 27.2**	**-0.9**
	comp=Z,190nm,2.8s						
TLY	**Talaya**	**84.49**	**326**	*e*P	**P**	**01 43 30.7**	**+0.9**
TLY				pmax	pmax		
	comp=Z,42nm,1.5s						
TLY	**Talaya**	**84.49**	**326**	P	**P**	**01 43 30.8**	**+0.9**
	comp=Z,122nm,1.0s,SNR=5.1						
ILAR	**Eielson Array**	**85.58**	**18**	P	**P**	**01 43 33.6**	**-1.3**
ILAR	**Eielson Array**	**85.58**	**18**	P	**P**	**01

FINES	**FINES Array B**	**124.25 338**	PKP	**PKPdf**	**01 49 54.4**	**-0.9**	
FINES	**FINES Array B**	**124.25 338**	PKP	**PKPdf**	**01 49 54.4**	**-0.9**	
	comp=E,4.7nm,1.0s,baz=96,slow=1.9,SNR=4.8						
NB2	**NORSAR Subarra**	**129.19 345**	PKPdf	**PKPdf**	**01 50 03.4**	**-1.5**	
	comp=Z,1.9nm,1.0s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**129.19 345**	PKP	**PKPdf**	**01 50 04.2**	**-0.7**	
NOA	**NORSAR Array B**	**129.19 345**	PKP	**PKPdf**	**01 50 04.2**	**-0.7**	
	comp=Z,1.5nm,0.7s,baz=30,slow=2.0,SNR=4.5						
AKASG	**Malin Array Be**	**129.24 326**	PKIKP	**PKPdf**	**01 50 05.1**	**-0.1**	
AKASG	**Malin Array Be**	**129.24 326**	PKP	**PKPdf**	**01 50 05.0**	**-0.1**	
AKASG	**Malin Array Be**	**129.24 326**	PKP	**PKPdf**	**01 50 05.0**	**-0.1**	
	comp=Z,1.5nm,0.6s,baz=61,slow=2.1,SNR=17						
HFS	**Hagfors**	**129.28 343**	PKP	**PKPdf**	**01 50 03.7**	**-1.3**	
HFS	**Hagfors**	**129.28 343**	PKP	**PKPdf**	**01 50 03.7**	**-1.3**	
	comp=Z,2.4nm,0.8s,baz=129,slow=2.1,SNR=5.2						
ASF	**Jabal al Asfar**	**130.38 301**	SKPbc	**SKPbc**	**01 53 32.6**	**+4.1**	
	comp=Z,1.7nm,0.8s,baz=51,slow=4.9,SNR=4.2						
BRTR	**Keskin Array B**	**131.07 311**	PKP	**PKPdf**	**01 50 09.3**	**+0.1**	
BRTR	**Keskin Array B**	**131.07 311**	PKP	**PKPdf**	**01 50 09.3**	**+0.1**	
	comp=Z,0.6nm,0.7s,baz=106,slow=1.7,SNR=3.8						
BRTR			SKPbc	**SKPab**	**01 53 35.5**	**+4.3**	
	comp=Z,1.7nm,1.1s,baz=142,slow=6.3,SNR=5.7						
ANTO	**Ankara**	**131.64 312**	⇓PKIKP	**PKPdf**	**01 50 11.0**	**+0.8**	
ANTO	**Ankara**	**131.64 312**	⇓*i*P	**PKPdf**	**01 50 11.0**	**+0.8**	
CFR	**Carcaliu**	**132.63 320**	⇑PKIKP	**PKPdf**	**01 50 12.8**	**+1.0**	
CFR	**Carcaliu**	**132.63 320**	⇑*i*P	**PKPdf**	**01 50 12.8**	**+1.0**	
BURAR	**Bucovina Array**	**133.11 325**	⇑PKIKP	**PKPdf**	**01 50 14.0**	**+1.2**	
BURAR	**Bucovina Array**	**133.11 325**	⇑*i*P	**PKPdf**	**01 50 14.0**	**+1.2**	
MLR	**Muntele Rosu**	**133.82 322**	⇓*i*P	**PKPdf**	**01 50 14.1**	**-0.1**	
KOLS	**Kolonicke sedl**	**133.95 328**	*e*PKIKP	**PKPdf**	**01 50 14.6**	**+0.4**	
KOLS	**Kolonicke sedl**	**133.95 328**	*e*PKP	**PKPdf**	**01 50 14.6**	**+0.4**	
UZH	**Uzhgorod**	**134.12 327**	*e*PKHKP	PKPpre	01 50 02.7		
UZH			*e*		01 50 14.5		
STHS	**Stebnicka Huta**	**134.17 329**	*e*PKIKP	**PKPdf**	**01 50 16.1**	**+1.5**	
STHS	**Stebnicka Huta**	**134.17 329**	*e*PKP	**PKPdf**	**01 50 16.1**	**+1.5**	
BTMR	**Bucharest-Geot**	**134.25 320**	⇓*i*P	**PKPdf**	**01 50 14.7**	**-0.2**	
ARR	**Arges**	**134.67 322**	⇓*i*P	**PKPdf**	**01 50 16.9**	**+1.2**	
DRGR		**134.99 325**	⇓PKIKP	**PKPdf**	**01 50 17.6**	**+1.3**	
DRGR		**134.99 325**	⇓*i*P	**PKPdf**	**01 50 17.6**	**+1.3**	
OKC	**Ostrava-Krasne**	**135.41 331**	*e*PKPdf	**PKPdf**	**01 50 17.5**	**+0.6**	
PSZ	**Piszkesteto**	**135.82 328**	*e*PKIKP	**PKPdf**	**01 50 18.8**	**+1.0**	
PSZ	**Piszkesteto**	**135.82 328**	⇑*i*P	**PKPdf**	**01 50 19.1**	**+1.3**	
PSZ	**Piszkesteto**	**135.82 328**	*e*PKPdf	**PKPdf**	**01 50 18.8**	**+1.0**	
DPC	**Dobruska-Polom**	**135.89 333**	*e*PKPdf	**PKPdf**	**01 50 18.4**	**+0.6**	
UPC	**Upice**	**135.91 333**	*e*PKPdf	**PKPdf**	**01 50 18.1**	**+0.3**	
BZS	**Buzias**	**136.29 324**	⇑PKIKP	**PKPdf**	**01 50 18.9**	**+0.2**	
BZS	**Buzias**	**136.29 324**	⇑*i*P	**PKPdf**	**01 50 18.9**	**+0.2**	
PVCC	**Panska Ves**	**136.52 334**	*e*PKPdf	**PKPdf**	**01 50 20.7**	**+1.8**	
BRG	**Berggiesshubel**	**136.53 335**	*e*PKP	**PKPdf**	**01 50 19.3**	**+0.4**	
	comp=Z,1.1nm,1.3s						
BRG			*e*		01 53 52.9		
	comp=Z,4.7nm,1.1s						
CLL	**Collm**	**136.57 336**	*i* PKIKP	**PKPdf**	**01 50 19.7**	**+0.7**	
CLL			pmax	pmax			
	comp=Z,13nm,0.6s						
CLL	**Collm**	**136.57 336**	*i* PKPdf	**PKPdf**	**01 50 19.7**	**+0.7**	
	comp=Z,3.0nm,0.6s						
CLL			*e*SKPab	**SKiKP**	**01 53 53.0**	**-0.9**	
PRU	**Pruhonice**	**136.94 334**	*e*PKPdf	**PKPdf**	**01 50 20.0**	**+0.3**	
VTS	**Vitosha**	**137.01 320**	⇓PKIKP	**PKPdf**	**01 50 20.8**	**+0.5**	
VTS	**Vitosha**	**137.01 320**	⇓*i*P	**PKPdf**	**01 50 20.8**	**+0.5**	
ZST	**Bratislava**	**137.04 330**	*e*PKIKP	**PKPdf**	**01 50 21.9**	**+1.9**	
ZST	**Bratislava**	**137.04 330**	*e*PKP	**PKPdf**	**01 50 21.9**	**+1.9**	
CSNA	**Conrad Observa**	**137.82 331**	⇑*i*PKPdf	**PKPdf**	**01 50 21.1**	**-0.5**	
	comp=Z,7.4nm,1.5s						
KHC	**Kasperske Hory**	**137.99 333**	*e*PKIKP	**PKPdf**	**01 50 21.4**	**-0.4**	
KHC	**Kasperske Hory**	**137.99 333**	*e*PKPdf	**PKPdf**	**01 50 20.4**	**-1.4**	
KHC	**Kasperske Hory**	**137.99 333**	*e*PKPdf	**PKPdf**	**01 50 21.4**	**-0.4**	
GEC2	**GERESS Array S**	**138.15 333**	*e*PKIKP	**PKPdf**	**01 50 23.0**	**+0.9**	
GEC2	**GERESS Array S**	**138.15 333**	*e*PKPdf	**PKPdf**	**01 50 23.0**	**+0.9**	
GERES	**GERESS Array B**	**138.15 333**	PKP	**PKPdf**	**01 50 22.1**	**0.0**	
GERES	**GERESS Array B**	**138.15 333**	PKP	**PKPdf**	**01 50 22.1**	**0.0**	
	comp=Z,2.0nm,0.9s,baz=112,slow=1.4,SNR=9.7						
GERES			SKPbc	**SKiKP**	**01 53 57.7**	**+0.3**	
	comp=Z,1.6nm,0.9s,baz=46,slow=3.9,SNR=9.6						
SOKA	**Soboth**	**139.10 330**	⇑*i*PKPdf	**PKPdf**	**01 50 23.6**	**-0.4**	
	comp=Z,5.9nm,1.2s						
MEM	**Membach**	**139.67 341**	PKP	**PKPdf**	**01 50 27.2**	**+2.5**	
BCLA	**Clavier**	**140.06 341**	PKP	**PKPdf**	**01 50 25.3**	**-0.1**	
ABTA	**Abfaltersbach**	**140.25 332**	⇓*i*PKPdf	**PKPdf**	**01 50 25.4**	**-0.6**	
	comp=Z,13nm,1.4s						
SNF	**Seneffe**	**140.29 342**	PKP	**PKPdf**	**01 50 23.1**	**-2.7**	
WLF	**Walferdange**	**140.44 340**	PKP	**PKPdf**	**01 50 24.3**	**-1.9**	
FELD	**Feldberg im Sc**	**141.27 337**	PKP	**PKPdf**	**01 50 25.2**	**-2.7**	
FUORN	**Ofenpass-Fuorn**	**141.35 334**	*e*PKPdf	**PKPdf**	**01 50 23.7**	**-4.5**	
TUE	**Stuetta**	**141.86 334**	*e*PKPdf	**PKPdf**	**01 50 25.0**	**-4.1**	
CEL	**Celeste**	**144.05 319**	*e*PKPdf	PKPbc	01 50 31.2	+0.2	
BNI	**Bardonecchia**	**144.11 335**	*e*PKIKP	PKPbc	01 50 31.7	+0.6	
BNI	**Bardonecchia**	**144.11 335**	*e*PKPdf	PKPbc	01 50 31.7	+0.6	
PLDF	**La Plantade**	**144.49 339**	PKP	PKPbc	01 50 32.6	+0.5	
AGO	**Saint Agoulin**	**144.58 340**	PKP	PKPbc	01 50 32.8	+0.4	
SAOF	**Saorge**	**144.60 333**	PKP	**PKPab**	**01 50 32.4**	**+0.1**	
AUTN	**L'Aution**	**144.65 333**	PKP	PKPbc	01 50 33.1	+0.2	
TOUF	**Mont Tournerai**	**144.72 334**	PKP	PKPbc	01 50 33.3	+0.2	
SSB	**Saint Sauveur**	**144.75 338**	*e*PKIKP	**PKPdf**	**01 50 33.8**	**-0.2**	
SSB	**Saint Sauveur**	**144.75 338**	*e*PKPdf	**PKPdf**	**01 50 33.8**	**-0.2**	
LUCF	**Luceram**	**144.77 333**	PKP	PKPbc	01 50 33.2	+0.1	
MVIF	**Mont Vial**	**144.85 334**	PKP	PKPbc	01 50 33.5	0.0	
REVF	**Revere**	**144.88 333**	PKP	**PKPab**	**01 50 33.3**	**-0.1**	
PYM	**Petit Puy Mans**	**144.89 340**	PKP	**PKPdf**	**01 50 33.9**	**-0.4**	
OG25	**Le Caire**	**144.92 335**	PKP	PKPbc	01 50 34.0	+0.4	
CALN	**Calern**	**145.08 334**	PKP	**PKPbc**	**01 50 34.2**	**0.0**	
LBL	**Lubilhac**	**145.26 339**	PKP	**PKPdf**	**01 50 35.7**	**+0.8**	
VSL	**Villasalto**	**147.12 326**	*e*PKPdf	**PKPdf**	**01 50 38.6**	**+0.4**	
RESF	**Ens**	**148.38 340**	PKP	**PKPdf**	**01 50 36.5**	**-3.8**	
KEST	**Kesra**	**149.72 321**	PKPbc	**PKPbc**	**01 50 48.0**	**+0.7**	
KEST	**Kesra**	**149.72 321**	PKPbc	**PKPbc**	**01 50 48.0**	**+0.7**	
	comp=Z,10.0nm,1.0s,baz=215,slow=1.5,SNR=19						
PBRG	**Braganca**	**151.14 349**	*e*PKPbc	**PKPbc**	**01 50 48.2**	**-2.3**	
POLO	**Lamas de Olo**	**151.74 351**	*e*PKPbc	**PKPbc**	**01 50 51.5**	**-0.4**	
MVO	**Moncorvo**	**151.81 350**	*e*PKPbc	**PKPbc**	**01 50 52.1**	**0.0**	
PVRL	**Vila Real**	**151.82 351**	*e*PKPbc	**PKPbc**	**01 50 52.1**	**0.0**	
ESDC	**Sonseca Array**	**152.55 344**	PKPbc	**PKPbc**	**01 50 53.6**	**-0.1**	
ESDC	**Sonseca Array**	**152.55 344**	PKPbc	**PKPbc**	**01 50 53.6**	**-0.1**	
	comp=Z,3.4nm,0.8s,baz=19,slow=2.3,SNR=17						
MTE	**Manteigas**	**152.65 350**	*e*PKPbc	**PKPbc**	**01 50 54.2**	**+0.2**	
PCBR	**Castelo Branco**	**153.18 350**	*e*PKPbc	**PKPbc**	**01 50 54.2**	**-0.9**	
PTOM	**Tomar**	**153.55 351**	*e*PKPbc	**PKPbc**	**01 50 56.2**	**+0.3**	
PMRV	**Marv??o**	**153.56 349**	*e*PKPbc	**PKPbc**	**01 50 55.9**	**-0.1**	
TORD	**Torodi Ar. Bea**	**165.15 271**	PKP	**PKPdf**	**01 51 01.5**	**-0.7**	
TORD	**Torodi Ar. Bea**	**165.15 271**	PKP	**PKPdf**	**01 51 01.5**	**-0.7**	
	comp=Z,4.4nm,1.2s,baz=129,slow=0.3,SNR=11						
TORD			PKPab	**PKPab**	**01 52 00.5**	**+1.0**	
	comp=Z,3.3nm,1.2s,baz=103,slow=3.4,SNR=2.6						

IDC 08 01:34:11.1±7.8, 11°15S×165°11E, 0km, mb4.3/3, mb1 4.4/3, mb1mx3.9/18, mbtmp4.2/3, Error ellipse: s-maj=234.9km s-min=52.3km az=124.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.86**	**250**	P	P	01 40 30.0	+0.7
	2.5nm,0.9s,baz=80,slow=9.3,SNR=4.0						
ASAR	**Alice Springs**	**32.19**	**243**	P	P	01 40 40.2	-0.9
	2.6nm,0.7s,baz=69,slow=9.5,SNR=4.7						
MKAR	**Makanchi Array**	**93.17**	**317**	P	P	01 47 27.3	-0.1
	1.4nm,0.7s,baz=93,slow=6.6,SNR=3.7						

IDC 08 01:34:40.0±2.5, 12°32S×165°99E, 0km, mb4.2/6, mb1 4.3/6, mb1mx4.0/18, mbtmp4.2/6, Error ellipse: s-maj=83.5km s-min=28.8km az=133.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.29**	**252**	P	P	01 41 02.6	+0.5
	1.0nm,0.8s,baz=80,slow=9.2,SNR=3.5						
ASAR	**Alice Springs**	**32.45**	**245**	P	P	01 41 12.1	-0.3
	1.4nm,0.7s,baz=72,slow=9.2,SNR=3.1						
USRK	**Ussuriysk Arra**	**64.18**	**333**	P	P	01 45 16.5	0.0
	3.5nm,0.9s,baz=152,slow=6.5,SNR=3.5						
ILAR	**Eielson Array**	**84.64**	**18**	P	P	01 47 15.5	+0.4
	0.4nm,0.5s,baz=238,slow=5.7,SNR=3.2						
MKAR	**Makanchi Array**	**94.60**	**317**	P	P	01 48 03.4	+0.4
	1.8nm,0.6s,baz=88,slow=7.2,SNR=5.1						
ZALV	**Zalesovo Beam**	**94.72**	**324**	P	P	01 48 02.0	-1.2
	2.4nm,0.9s,baz=123,slow=5.5,SNR=5.4						
TORD	**Torodi Ar. Bea**	**164.65**	**275**	PKP	PKPdf	01 54 46.0	-1.0
	1.0nm,0.9s,baz=80,slow=1.0,SNR=4.2						

*ECX **08** 01:38:30.7±0.3, 30.4°40N×113.4°84W, h8km, MD4.5, ML4.8*
*IDC **08** 01:38:34.4±0.9, 30.4°40N×113.4°99W, h0km, mb4.3/12, mb1 4.4/19, mb1mx4.3/33, mbtmp4.2/19, ML3.7/7, MS5.4/1, Ms1 5.3/1, ms1mx3.3/56, Error ellipse: s-maj=19.8km s-min=9.7km az=41.0*
*BJI **08** 01:38:34.7, 30.4°30N×114.0°00W, h10km, mb5.1/2, Ms7 5.0/1*
*MEX **08** 01:38:34.5±1.2, 30.4°30N×113.9°3W, h10km, MD4.7*
*NEIC **08** 01:38:36.3±0.6, 30.4°30N×114.0°3W, h10km, mb4.7/9, ML4.8(ECX), Error ellipse: s-maj=8.6km s-min=5.4km az=43.0*

ISC 08 01:38:35.8±0.8, 30°17N±0°.04×114°01W±0°.03, h17km±4km, n109, σ1s95/121, mb4.5/16, 4C-5D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**1.53**	**305**	⇓*e*P	Pn	01 38 57.4	-5.2
SPX				*e*S	**Sn**	**01 39 18.0**	**-4.3**
SPX				⇓*e*		01 39 21.9	
	comp=N,6μm,1.1s						
SPIG	**San Pedro Mart**	**1.53**	**305**	*e*P	Pn	01 38 57.5	-5.2
SPIG				*i* S	**Sn**	**01 39 18.4**	**-3.9**
SPIG	**San Pedro Mart**	**1.53**	**305**	*e*P	Pn	01 38 57.4	-5.2
SPIG				*i* S	**Sn**	**01 39 18.8**	**-3.5**
ECBX	**El Chinero**	**1.58**	**326**	*e*P	Pn	01 38 56.0	-7.0
ECBX				*e*S	Sn	01 39 16.3	-6.7
EMX	**El Mayor**	**2.10**	**330**	*e*P	**Pn**	**01 39 09.2**	**-0.9**
EMX				*e*S	**Sn**	**01 39 35.2**	**-0.6**
EMX				⇑*e*		01 39 43.3	
	comp=N,5μm,1.0s						
ZAX	**El Zacaton**	**2.36**	**305**	⇑*e*P	Pn	01 39 09.6	-4.3
RDX	**Rancho Dawling**	**2.41**	**317**	⇑*e*P	Pn	01 39 09.8	-4.9
RDX				⇓*e*		01 39 49.5	
	comp=N,2μm,0.8s						
MBIG	**Mexicali**	**2.45**	**336**	*i* P	Pn	01 39 09.6	-5.4
MBIG				*i* S	**Sn**	**01 39 39.0**	**-5.6**
ECNX	**Esteban Cantu**	**2.67**	**304**	⇑*e*P	Pn	01 39 14.1	-4.1
PBX	**Punta Banda**	**2.81**	**305**	*e*P	Pn	01 39 15.5	-4.5
HSIG		**2.90**	**113**	*i* P	**Pn**	**01 39 18.4**	**-2.8**
HSIG				*i* S	**Sn**	**01 39 51.3**	**-4.4**
HSIG		**2.90**	**113**	*i* P	**Pn**	**01 39 18.4**	**-2.8**
HSIG				*i* S	**Sn**	**01 39 51.3**	**-4.4**
GLA	**Glamis**	**2.96**	**347**	*e*Pn	Pn	01 39 17.8	-4.2
GLA				*e*S	Sg	01 40 18.4	+7.6
RMX	**La Rumorosa**	**3.00**	**324**	*e*P	Pn	01 39 17.5	-5.3
CBX	**Cerro Bola**	**3.12**	**314**	⇓*e*P	Pn	01 39 19.7	-4.6
CBX				⇓*e*		01 40 26.1	
	comp=N,5μm,0.8s						
SRIG	**Santa Rosalia**	**3.24**	**151**	*i* P	**Pn**	**01 39 24.0**	**-1.8**
SRIG				*i* S	**Sn**	**01 40 02.9**	**-1.1**
SRIG	**Santa Rosalia**	**3.24**	**151**	*i* P	**Pn**	**01 39 24.0**	**-1.8**
SRIG				*i* S	**Sn**	**01 40 02.9**	**-1.1**
BAR	**Barrett**	**3.38**	**318**	*e*Pn	Pn	01 39 23.5	-4.3
TUC	**Tucson**	**3.49**	**52**	*e*Pn	**Pn**	**01 39 27.1**	**-2.3**
TUC				*e*Pg	**Pg**	**01 39 42.6**	**0.0**
TUC				*e*S	**Sb**	**01 40 17.5**	**-1.7**
PFO	**Pinyon Flat Ob**	**4.01**	**329**	*e*Pn	Pn	01 39 32.1	-4.4
PFO				*e*Pg	**Pg**	**01 39 52.9**	**+0.3**
PFO				*e*S	**Sg**	**01 40 41.4**	**-3.2**
PFO				Lg	Lg	01 40 41.9	
PFO	**Pinyon Flat Ob**	**4.01**	**329**	Pn	Pn	01 39 32.5	-4.1
	comp=N,1.1nm,0.3s,baz=146,slow=12,SNR=13						
PFO				Lg	Lg	01 40 41.9	
	comp=N,11nm,0.3s,baz=74,slow=17,SNR=5.0						
LDFC	**Landfair**	**4.98**	**350**	*e*Pn	**Pn**	**01 39 47.7**	**-2.2**
LDFC				*e*Pg	Pg	01 40 17.8	+6.7
LDFC				*e*S	Sg	01 41 26.3	+11
CGIG		**5.22**	**86**	*i* P	**Pn**	**01 39 50.7**	**-2.6**
CGIG				*i* S	**Sn**	**01 40 49.3**	**-3.9**
CGIG		**5.22**	**86**	*i* P	**Pn**	**01 39 50.7**	**-2.6**
CGIG				*i* S	**Sn**	**01 40 49.3**	**-3.9**
MWC	**Mount Wilson**	**5.30**	**321**	Pn	**Pn**	**01 39 55.3**	**+0.9**
	comp=N,185nm,1.1s						
MWC				*e*Pg	**Pg**	**01 40 18.4**	**+1.1**
MWC				*e*S	**Sb**	**01 41 12.6**	**+1.0**
GSC	**Goldstone**	**5.63**	**336**	*e*Pn	**Pn**	**01 39 59.6**	**+0.7**
	comp=N,105nm,1.1s						
GSC				*e*Pg	**Pg**	**01 40 23.8**	**+0.1**
GSC				*e*S	Sg	01 41 44.3	+7.7
WUAZ	**Wupatki**	**5.77**	**22**	*e*Pn	**Pn**	**01 40 00.3**	**-0.5**
	comp=N,81nm,0.8s						
WUAZ				*e*S	**Sg**	**01 41 41.7**	**+0.7**
OSI	**Osito Adit**	**5.96**	**319**	*e*Pn	**Pn**	**01 40 02.6**	**-0.7**
	comp=N,59nm,0.8s						
OSI				*e*S	**Sb**	**01 41 27.2**	**-3.1**
W18A	**Petrified Fore**	**6.11**	**35**	*e*Pn	**Pn**	**01 40 04.7**	**-0.7**
W18A				*e*S	**Sg**	**01 41 51.4**	**-0.4**
SHPR	**Sheep Range**	**6.39**	**352**	*e*Pn	**Pn**	**01 40 08.0**	**-1.3**
	comp=N,102nm,1.4s						
SHPR				*e*S	Sg	01 42 07.9	+7.1
ISA	**Isabella**	**6.64**	**327**	*e*Pn	**Pn**	**01 40 14.0**	**+1.4**
ISA				*e*S	Sb	01 41 55.8	+5.9
LPIG	**La Paz**	**6.89**	**151**	*i* P	**Pn**	**01 40 14.0**	**-2.0**
LPIG				*i* S	**Sn**	**01 41 31.3**	**-2.7**
LPIG	**La Paz**	**6.89**	**151**	Pn	Pn	01 40 20.5	+4.6
LPIG				*i* S	**Sn**	**01 41 31.3**	**-2.7**
LPIG	**La Paz**	**6.89**	**151**	Pn	Pn	01 40 20.5	+4.6
	comp=N,1.1nm,0.3s,baz=96,slow=0.7,SNR=8.7						
LENM	**Lemitar**	**7.17**	**54**	*e*Pn	**Pn**	**01 40 19.5**	**-0.5**
	comp=N,7.9nm,0.4s						
LENM				*e*S	**Sg**	**01 42 26.2**	**+0.4**
LAZ	**Ladron**	**7.18**	**52**	*e*Pn	**Pn**	**01 40 20.4**	**+0.2**
	comp=N,22nm,1.0s						
LAZ				*e*Pg	Pg	01 41 00.9	+7.6
LAZ				*e*S	**Sn**	**01 41 41.0**	**-0.5**
CCUT	**Cedar City**	**7.38**	**4**	*e*Pn	**Pn**	**01 40 22.7**	**-0.3**
	comp=N,103nm,1.2s						
CCUT				*e*S	Sg	01 42 26.1	-6.4
BNM	**Barren Site**	**7.41**	**56**	*e*Pn	**Pn**	**01 40 22.6**	**-0.7**
	comp=N,10nm,0.4s						
BNM				*e*S	**Sg**	**01 42 37.9**	**+4.5**
LPM	**Los Pinos Moun**	**7.49**	**55**	*e*Pn	**Pn**	**01 40 24.4**	**0.0**
	comp=N,14nm,0.9s						
LPM				*e*S	Sg	01 42 40.8	+4.6
MNTX	**Cornudas Mount**	**7.56**	**76**	*e*Pn	**Pn**	**01 40 26.0**	**+0.7**
	comp=N,282nm,1.8s						
MNTX				*e*S		01 42 34.9	
ARUT	**Antelope Range**	**7.61**	**3**	*e*Pn	**Pn**	**01 40 25.3**	**-0.8**
	comp=N,222nm,1.0s						
ARUT				*e*S		01 42 43.1	
ANMO	**Albuquerque**	**7.95**	**51**	*e*Pn	**Pn**	**01 40 30.3**	**-0.5**
	comp=N,27nm,1.1s						
ANMO				Lg	Lg	01 42 46.0	
ANMO				*e*S		01 42 53.5	
ANMO	**Albuquerque**	**7.95**	**51**	Pn	**Pn**	**01 40 28.8**	**-1.0**
	comp=N,0.9nm,0.3s,baz=232,slow=12,SNR=41						
ANMO				Sn	**Sn**	**01 41 58.4**	**-2.1**
	comp=N,1.1nm,0.3s,baz=178,slow=2.6,SNR=4.1						
ANMO				Lg	Lg	01 42 46.0	
	comp=N,0.4nm,0.3s,baz=316,slow=13,SNR=2.1						
HPIG		**8.01**	**112**	*e*P	Pn	01 40 28.4	-3.3
HPIG				*e*S	**Sn**	**01 41 59.3**	**-2.7**
HPIG		**8.01**	**112**	*e*P	Pn	01 40 28.4	-3.3
HPIG				*e*S	**Sn**	**01 41 59.3**	**-2.7**
MVCO	**Mesa Verde**	**8.38**	**32**	*e*P	**Pn**	**01 40 36.8**	**0.0**
	comp=N,748nm,1.5s						
MVU	**Marysvale**	**8.44**	**10**	*e*Pn	**Pn**	**01 40 38.4**	**+0.8**
	comp=N,34nm,0.8s						
GDL2	**Guadalupe Moun**	**8.50**	**74**	*e*Pn	**Pn**	**01 40 40.2**	**+1.9**
	comp=N,5.6nm,0.5s						
NVAR	**Mina Array Bea**	**8.97**	**338**	Pn	**Pn**	**01 40 44.5**	**-0.3**
NVAR				Lg	Lg	01 43 18.4	
NVAR	**Mina Array Bea**	**8.97**	**338**	Pn	**Pn**	**01 40 44.5**	**-0.3**
	comp=N,0.1nm,0.3s,baz=161,slow=15,SNR=14						
NVAR				Lg	Lg	01 43 18.4	
	baz=161,slow=20,SNR=3.0						
TXAR	**Lajitas Array**	**9.03**	**93**	Pn	**Pn**	**01 40 46.6**	**+1.2**
TXAR				Lg	Lg	01 43 28.0	
TXAR	**Lajitas Array**	**9.03**	**93**	Pn	**Pn**	**01 40 46.6**	**+1.2**
	comp=N,0.5nm,0.3s,baz=264,slow=12,SNR=18						
TXAR				Lg	Lg	01 43 28.0	
	comp=N,1.9nm,0.3s,baz=295,slow=22,SNR=6.8						
PV01	**Paradox Valley**	**9.13**	**28**	*e*Pn	**Pn**	**01 40 47.1**	**+0.2**
	comp=N,2μm,1.5s						
PV01				*e*S	Sn	01 43 11.5	+42
DUG	**Dugway**	**10.05**	**5**	*e*Pn	**Pn**	**01 41 00.9**	**+1.4**
	comp=N,39nm,0.3s						
SDCO	**Great Sand Dun**	**10.34**	**41**	*e*Pn	**Pn**	**01 41 04.2**	**+0.7**
	comp=N,10nm,1.1s						
SDCO				*e*S		01 44 01.0	
DAU	**Daniels Canyon**	**10.46**	**12**	*e*Pn	**Pn**	**01 41 06.9**	**+1.7**
	comp=N,13nm,1.0s						
JCT	**Junction City**	**12.28**	**85**	*e*Pn	Pn	01 41 33.4	+3.5
	comp=N,13nm,0.6s						
PDAR	**Pinedale Array**	**13.06**	**15**	Pn	**Pn**	**01 41 40.4**	**-0.4**
PDAR	**Pinedale Array**	**13.06**	**15**	Pn	**Pn**	**01 41 40.4**	**-0.4**
	comp=N,0.1nm,0.3s,baz=211,slow=8.4,SNR=5.8						
HLID	**Hailey**	**13.37**	**359**	*e*Pn	**Pn**	**01 41 47.7**	**+2.8**
	comp=N,17nm,1.3s						
WMOK	**Wichita Mounta**	**13.64**	**67**	*e*Pn	**Pn**	**01 41 49.6**	**+1.1**
	comp=N,12nm,1.2s						
MCMT	**McKenzie Canyo**	**14.66**	**3**	*e*Pn	**Pn**	**01 42 04.6**	**+2.0**
	comp=N,8.5nm,1.2s						
YNR	**Norris Junctio**	**14.75**	**9**	*e*Pn	**P**	**01 42 07.2**	**-2.6**
	comp=N,33nm,1.2s						
BMO	**Blue Mountains**	**14.88**	**351**	*e*Pn	**Pn**	**01 42 05.5**	**0.0**
	comp=N,12nm,1.1s						
LRM	**Limekiln Ridge**	**15.67**	**4**	*e*Pn	**P**	**01 42 17.7**	**-2.3**
	comp=N,244nm,1.6s						
HKT	**Hockley**	**15.74**	**86**	*e*Pn	**P**	**01 42 19.0**	**-1.6**
	comp=N,36nm,1.5s						
RSSD	**Black Hills**	**16.01**	**27**	*e*Pn	**Pn**	**01 42 20.6**	**+0.2**
	comp=N,149nm,1.0s						
EGMT	**Eagleton**	**18.12**	**9**	*e*Pn	**P**	**01 42 47.4**	**+0.4**
	comp=N,13nm,0.4s						
NEW	**Newport**	**18.22**	**353**	P	**Pn**	**01 42 47.3**	**-0.6**
NEW	**Newport**	**18.22**	**353**	P	**Pn**	**01 42 47.3**	**-0.6**
	comp=N,0.2nm,0.3s,baz=179,slow=12,SNR=6.8						
ECSD	**EROS Data Cent**	**19.35**	**41**	*e*P	**Pn**	**01 43 01.7**	**+0.2**
	comp=N,56nm,1.5s						
WVT	**Waverly**	**22.67**	**68**	*e*P	**P**	**01 43 37.8**	**+1.4**
	comp=N,26nm,1.4s						
AGMN	**Agassiz Nation**	**22.82**	**32**	*e*P	**P**	**01 43 38.0**	**+0.3**
	comp=N,32nm,1.2s						
ULM	**Lac du Bonnet**	**24.25**	**29**	P	**P**	**01 43 51.4**	**-0.4**
ULM	**Lac du Bonnet**	**24.25**	**29**	P	**P**	**01 43 51.4**	**-

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.02**	**288**	Pn	**Pn**	**01 44 09.7**	**-1.9**
HNR				Sn	**Sn**	**01 45 22.1**	**+2.8**
HNR	**Honiara**	**6.02**	**288**	Pn	**Pn**	**01 44 09.7**	**-1.9**
	36nm,0.3s,baz=112,slow=4.3,SNR=8.8						
HNR				Sn	**Sn**	**01 45 22.1**	**+2.8**
	15nm,0.3s,baz=356,slow=22,SNR=3.5						
DZM	**Mont Dzumac**	**10.70**	**177**	Pn	**Pn**	**01 45 15.8**	**-0.1**
DZM	**Mont Dzumac**	**10.70**	**177**	Pn	**Pn**	**01 45 15.8**	**-0.1**
	10nm,0.3s,baz=40,slow=16,SNR=11						
MSVF	**Nonsavu**	**13.49**	**120**	*e*Pn	**P**	**01 46 02.3**	**-0.4**
PMG	**Port Moresby**	**18.39**	**274**	P	**P**	**01 46 56.5**	**-0.5**
PMG	**Port Moresby**	**18.39**	**274**	P	**P**	**01 46 56.5**	**-0.5**
	0.5nm,0.3s,baz=126,slow=10.0,SNR=4.8						
CTA	**Charters Tower**	**20.67**	**243**	P	**P**	**01 47 22.2**	**+0.2**
CTA	**Charters Tower**	**20.67**	**243**	P	**P**	**01 47 22.2**	**+0.2**
	15nm,0.8s,baz=75,slow=12,SNR=19						
CTAO	**Charters Tower**	**20.67**	**243**	*e*P	**P**	**01 47 22.2**	**+0.2**
	207nm,2.2s						
LHI	**Lord Howe Isla**	**21.02**	**196**	P	P	01 47 41.1	+16
	baz=22,SNR=3.4						
RMQ	**Roma**	**22.00**	**224**	P	P	01 47 43.2	+7.1
	baz=22,SNR=3.8						
COEN	**Coen**	**22.18**	**261**	*e*P	**P**	**01 47 38.7**	**+0.5**
	459nm,1.5s						
COEN	**Coen**	**22.18**	**261**	P	**P**	**01 47 38.0**	**-0.2**
	baz=22,SNR=4.6						
NIUE	**Niue**	**24.68**	**111**	P	P	01 48 15.7	+13
	baz=26,SNR=3.7						
OUZ	**Omahuta**	**24.83**	**165**	*e*P	P	01 48 08.9	+5.1
	25nm,1.0s						
JAY	**Jayapura**	**26.34**	**288**	P	**P**	**01 48 16.8**	**-1.1**
	baz=26,SNR=4.2						
CMSA	**Cobar Meteorol**	**27.35**	**220**	P	**P**	**01 48 29.8**	**+3.1**
	baz=28,SNR=5.1						
URZ	**Urewera**	**28.67**	**161**	P	**P**	**01 48 39.5**	**+1.0**
URZ	**Urewera**	**28.67**	**161**	P	**P**	**01 48 39.5**	**+1.0**
	6.1nm,0.9s,baz=3.6,slow=16,SNR=3.1						
STKA	**Stephens Creek**	**30.24**	**224**	P	**P**	**01 48 52.9**	**+0.4**
STKA	**Stephens Creek**	**30.24**	**224**	P	**P**	**01 48 53.2**	**+0.8**
	baz=30,SNR=7.3						
STKA	**Stephens Creek**	**30.24**	**224**	P	**P**	**01 48 52.9**	**+0.4**
	6.0nm,0.8s,baz=33,slow=8.6,SNR=9.6						
WRA	**Warramunga Arr**	**31.39**	**250**	P	**P**	**01 49 02.1**	**-0.7**
WRA	**Warramunga Arr**	**31.39**	**250**	P	**P**	**01 49 02.1**	**-0.7**
	12nm,0.7s,baz=81,slow=9.1,SNR=41						
KDU	**Kakadu**	**32.57**	**264**	P	**P**	**01 49 11.7**	**-1.4**
	baz=32,SNR=4.9						
RPZ	**Rata Peaks**	**32.59**	**173**	P	**P**	**01 49 13.2**	**+0.2**
RPZ	**Rata Peaks**	**32.59**	**173**	P	**P**	**01 49 13.2**	**+0.2**
	11nm,0.7s,baz=358,slow=14,SNR=3.0						
ASAR	**Alice Springs**	**32.67**	**244**	P	**P**	**01 49 12.6**	**-1.5**
ASAR	**Alice Springs**	**32.67**	**244**	P	**P**	**01 49 12.6**	**-1.5**
	2.6nm,0.7s,baz=70,slow=9.6,SNR=10						
KNRA	**Kununurra**	**36.20**	**259**	P	**P**	**01 49 45.3**	**+0.8**
	baz=36,SNR=3.2						
FITZ	**Fitzroy Crossi**	**39.31**	**255**	P	**P**	**01 50 09.7**	**-1.1**
FITZ	**Fitzroy Crossi**	**39.31**	**255**	P	**P**	**01 50 09.8**	**-1.1**
	baz=39,SNR=8.6						
FITZ	**Fitzroy Crossi**	**39.31**	**255**	P	**P**	**01 50 09.7**	**-1.1**
	7.6nm,0.7s,baz=96,slow=5.5,SNR=16						
BATI	**Baumata**	**41.34**	**267**	P	**P**	**01 50 25.9**	**-1.8**
BATI	**Baumata**	**41.34**	**267**	P	**P**	**01 50 25.9**	**-1.8**
	24nm,0.5s,baz=56,slow=7.3,SNR=3.3						
KAPI	**Kappang**	**45.92**	**274**	P	**P**	**01 51 02.9**	**-1.7**
KAPI	**Kappang**	**45.92**	**274**	P	**P**	**01 51 02.9**	**-1.7**
	4.9nm,0.2s,baz=134,slow=18,SNR=4.2						
MEEK	**Meekatharra**	**46.83**	**244**	P	**P**	**01 51 11.7**	**0.0**
	baz=47,SNR=4.9						
NWAO	**Narrogin (SRO)**	**49.31**	**236**	P	**P**	**01 51 28.5**	**-2.2**
NWAO	**Narrogin (SRO)**	**49.31**	**236**	P	**P**	**01 51 28.5**	**-2.2**
	6.7nm,0.8s,baz=39,slow=14,SNR=2.7						
MJAR	**Matsushiro Arr**	**54.23**	**333**	P	**P**	**01 52 05.3**	**-1.9**
MJAR	**Matsushiro Arr**	**54.23**	**333**	P	**P**	**01 52 05.3**	**-1.9**
	0.8nm,0.3s,baz=161,slow=12,SNR=3.2						
VNDA	**Vanda**	**66.21**	**181**	P	**P**	**01 53 29.2**	**+0.6**
VNDA	**Vanda**	**66.21**	**181**	P	**P**	**01 53 29.2**	**+0.6**
	1.3nm,0.6s,baz=6.6,slow=3.7,SNR=5.5						
SKNT	**Sakolnakorn**	**67.22**	**294**	P	**P**	**01 53 36.9**	**+0.8**
	53nm,1.1s						
CMAR	**Chiang Mai Arr**	**72.23**	**294**	P	**P**	**01 54 08.4**	**+1.4**
CMAR	**Chiang Mai Arr**	**72.23**	**294**	P	**P**	**01 54 08.4**	**+1.4**
	4.9nm,0.9s,baz=116,slow=4.3						
CHTO	**Chiang Mai**	**72.35**	**294**	P	P	01 54 11.2	+3.5
	535nm,1.2s						
CMAI	**Chiengmai2**	**72.62**	**295**	P	P	**01 54 11.4**	**+1.9**
	12nm,1.3s						
QSPA	**South Pole Qui**	**78.67**	**180**	*e*P	P	01 54 29.6	-14
SONM	**Songino Array**	**78.90**	**324**	P	**P**	**01 54 45.8**	**+1.0**
SONM	**Songino Array**	**78.90**	**324**	P	**P**	**01 54 45.8**	**+1.0**
	2.5nm,1.0s,baz=140,slow=7.2,SNR=7.9						
ILAR	**Eielson Array**	**83.78**	**18**	P	**P**	**01 55 09.1**	**-1.0**
ILAR	**Eielson Array**	**83.78**	**18**	P	**P**	**01 55 09.1**	**-1.0**
	2.1nm,0.8s,baz=231,slow=6.6,SNR=8.0						
MAW	**Mawson**	**84.46**	**202**	P	**P**	**01 55 13.9**	**+0.3**
MAW	**Mawson**	**84.46**	**202**	P	**P**	**01 55 15.0**	**+1.4**
	baz=85,SNR=7.8						
MAW	**Mawson**	**84.46**	**202**	P	**P**	**01 55 13.9**	**+0.3**
	6.6nm,1.0s,baz=80,slow=6.0,SNR=10						
NVAR	**Mina Array Bea**	**86.20**	**50**	P	**P**	**01 55 23.6**	**+0.5**
NVAR	**Mina Array Bea**	**86.20**	**50**	P	**P**	**01 55 23.6**	**+0.5**
	0.4nm,0.5s,baz=226,slow=2.1,SNR=5.4						
J08A	**Circle Bar Ran**	**87.58**	**45**	*e*P	P	01 55 40.0	+10
G08A	**Pilot Rock**	**87.85**	**43**	*e*P	P	01 55 41.6	+11
NEW	**Newport**	**89.96**	**41**	*e*P	P	01 55 50.6	+10
	5.3nm,0.8s						
HLID	**Hailey**	**90.47**	**46**	*e*P	P	01 55 53.8	+10
MVU	**Marysvale**	**90.83**	**51**	*e*P	P	01 55 55.0	+10
SRU	**San Rafael**	**92.25**	**51**	*e*P	P	01 55 59.5	+7.9
	63nm,2.9s						
MKAR	**Makanchi Array**	**93.74**	**317**	*e*P	**P**	**01 55 58.6**	**+0.5**
MKAR				PP	**PP**	**01 59 46.9**	**+3.1**
MKAR	**Makanchi Array**	**93.74**	**317**	P	**P**	**01 55 58.6**	**+0.5**
	3.5nm,0.8s,baz=96,slow=6.3,SNR=11						
MKAR				PP	**PP**	**01 59 46.9**	**+3.1**
	0.4nm,0.7s,baz=108,slow=6.5,SNR=3.6						
PDAR	**Pinedale Array**	**93.74**	**47**	P	**P**	**01 55 58.7**	**+0.2**
PDAR	**Pinedale Array**	**93.74**	**47**	P	**P**	**01 55 58.7**	**+0.2**
	0.3nm,0.5s,baz=262,slow=5.5,SNR=4.1						
ZALV	**Zalesovo Beam**	**93.79**	**324**	P	**P**	**01 55 57.9**	**-0.2**
ZALV	**Zalesovo Beam**	**93.79**	**324**	P	**P**	**01 55 57.9**	**-0.2**
	1.6nm,0.6s,baz=98,slow=4.5,SNR=6.3						
CPUP	**Villa Florida**	**123.83**	**132**	PKP	**PKPdf**	**02 01 40.0**	**+0.2**
CPUP	**Villa Florida**	**123.83**	**132**	PKP	**PKPdf**	**02 01 40.0**	**+0.2**
	0.4nm,0.4s,baz=189,slow=9.6,SNR=3.5						
AKASG	**Malin Array Be**	**127.11**	**327**	PKP	**PKPdf**	**02 01 45.2**	**-0.1**
AKASG	**Malin Array Be**	**127.11**	**327**	PKP	**PKPdf**	**02 01 45.2**	**-0.1**
	0.2nm,0.3s,baz=53,slow=1.3,SNR=3.5						
BRTR	**Keskin Array B**	**129.16**	**312**	PKP	**PKPdf**	**02 01 47.5**	**-2.3**
BRTR	**Keskin Array B**	**129.16**	**312**	PKP	**PKPdf**	**02 01 47.5**	**-2.3**
	0.9nm,1.1s,baz=347,slow=5.9,SNR=2.6						
GERES	**GERESS Array B**	**135.97**	**334**	PKP	**PKPdf**	**02 02 01.6**	**-0.6**
GERES	**GERESS Array B**	**135.97**	**334**	PKP	**PKPdf**	**02 02 01.6**	**-0.6**
	0.5nm,0.9s,baz=165,slow=1.5,SNR=4.0						
DAVOX	**Davos/Dischmat**	**139.20**	**335**	PKP	**PKPdf**	**02 02 09.9**	**+1.4**
DAVOX	**Davos/Dischmat**	**139.20**	**335**	PKP	**PKPdf**	**02 02 09.9**	**+1.4**
	2.7nm,1.0s,baz=318,slow=13,SNR=3.1						
KEST	**Kesra**	**147.65**	**323**	PKPbc	**PKPbc**	**02 02 26.2**	**0.0**
KEST	**Kesra**	**147.65**	**323**	PKPbc	**PKPbc**	**02 02 26.2**	**0.0**
	3.4nm,0.8s,baz=308,slow=6.2,SNR=8.0						
ESDC	**Sonseca Array**	**150.34**	**344**	PKPbc	**PKPbc**	**02 02 32.3**	**-0.5**
ESDC	**Sonseca Array**	**150.34**	**344**	PKPbc	**PKPbc**	**02 02 32.3**	**-0.5**
	1.3nm,0.8s,baz=9.1,slow=3.6,SNR=5.1						
TORD	**Torodi Ar. Bea**	**164.32**	**278**	PKP	**PKPdf**	**02 02 46.9**	**+1.2**
TORD	**Torodi Ar. Bea**	**164.32**	**278**	PKP	**PKPdf**	**02 02 46.9**	**+1.2**
	0.9nm,1.0s,baz=140,slow=7.2,SNR=3.9						
BBTS	**Babate**	**176.01**	**34**	PKP	**PKPdf**	**02 02 53.4**	**+1.2**
BBTS	**Babate**	**176.01**	**34**	PKP	**PKPdf**	**02 02 53.4**	**+1.2**
	56nm,1.1s,baz=212,slow=2.7,SNR=3.8						

*ISCJB **08** 01:47:23.1±0.6,81.6°N±0.1×119.5°E±0.4,h10km,mb4.0/23, Error ellipse: s-maj=16.3km s-min=8.8km az=169.5*
*IDC **08** 01:47:23.4±0.7,81.56°N×119.22°E,h0km,mb4.0/19, mb1 4.2/20,mb1mx4.1/32,mbtmp4.0/20,ML4.2/1, Error ellipse: s-maj=23.2km s-min=12.9km az=166.0*
*NEIC **08** 01:47:24.9±0.6,81.60°N×119.40E,h10km,mb4.6/4, Error ellipse: s-maj=16.6km s-min=8.9km az=169.0*

ISC 08 01:47:24.6±0.6,81.6°N±0.1×119.45E±0.0,h10km,n46, σ1°17/48,mb4.0/23,East of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPITS	**Spitsbergen Ar**	**16.06**	**313**	Pn	**Pn**	**01 51 09.9**	**-0.2**
	baz=46,slow=19,SNR=8.3						
KEV	**Kevo**	**22.32**	**294**	P	**P**	**01 52 23.0**	**+1.1**
	154nm,1.9s						
ARCES	**ARCESS Array B**	**22.73**	**295**	P	**P**	**01 52 25.5**	**-0.7**
ARCES	**ARCESS Array B**	**22.73**	**295**	P	**P**	**01 52 25.5**	**-0.7**
	3.6nm,0.7s,baz=27,slow=11,SNR=11						
INK	**Inuvik**	**25.56**	**55**	*e*P	**P**	**01 52 51.9**	**-1.1**
INK	**Inuvik**	**25.56**	**55**	P	**P**	**01 52 52.5**	**-0.4**
	5.4nm,0.8s,baz=325,slow=5.9,SNR=5.6						
ILAR	**Eielson Array**	**27.18**	**69**	P	**P**	**01 53 06.8**	**-0.9**
ILAR	**Eielson Array**	**27.18**	**69**	P	**P**	**01 53 06.8**	**-0.9**
	3.8nm,0.8s,baz=338,slow=11,SNR=26						
NOA	**NORSAR Array B**	**32.69**	**301**	P	**P**	**01 53 55.9**	**-0.6**
NOA	**NORSAR Array B**	**32.69**	**301**	P	**P**	**01 53 55.9**	**-0.6**
	1.6nm,0.8s,baz=14,slow=8.8,SNR=3.9						
SONM	**Songino Array**	**34.15**	**196**	P	**P**	**01 54 10.0**	**+0.5**
SONM				PcP	**PcP**	**01 56 45.2**	**-0.9**
SONM	**Songino Array**	**34.15**	**196**	P	**P**	**01 54 10.0**	**+0.5**
	0.3nm,0.4s,baz=354,slow=5.7,SNR=3.7						
SONM				PcP	**PcP**	**01 56 45.2**	**-0.9**
	0.6nm,0.6s,baz=14,slow=2.2,SNR=3.1						
MKAR	**Makanchi Array**	**36.93**	**224**	P	**P**	**01 54 32.2**	**-1.0**
MKAR	**Makanchi Array**	**36.93**	**224**	P	**P**	**01 54 32.2**	**-1.0**
	0.7nm,0.7s,baz=12,slow=7.4,SNR=5.3						
AKASG	**Malin Array Be**	**40.27**	**280**	P	**P**	**01 55 00.8**	**-0.4**
AKASG	**Malin Array Be**	**40.27**	**280**	P	**P**	**01 55 00.8**	**-0.4**
	2.1nm,0.7s,baz=12,slow=8.7,SNR=7.2						
CLL	**Collm**	**41.95**	**296**	*e*P	**P**	**01 55 16.0**	**+1.1**
GERES	**GERESS Array B**	**44.26**	**294**	P	**P**	**01 55 34.5**	**+0.7**
GERES	**GERESS Array B**	**44.26**	**294**	P	**P**	**01 55 34.5**	**+0.7**
	0.6nm,0.5s,baz=22,slow=7.5,SNR=5.5						
KBZ	**Khabaz**	**45.08**	**265**	P	**P**	**01 55 42.1**	**+1.9**
KBZ	**Khabaz**	**45.08**	**265**	P	**P**	**01 55 42.1**	**+1.9**
	1.8nm,0.9s,baz=297,slow=6.8,SNR=3.4						
WALA	**Waterton Lakes**	**46.60**	**47**	P	**P**	**01 55 51.9**	**-0.4**
	0.1nm,1.0s						
NEW	**Newport**	**47.03**	**50**	P	**P**	**01 55 57.9**	**+2.3**
NEW	**Newport**	**47.03**	**50**	P	**P**	**01 55 57.9**	**+2.3**
	2.7nm,0.8s,baz=339,slow=9.2,SNR=4.9						
BR131	**Keskin Array S**	**50.36**	**273**	*e*P	**P**	**01 56 22.5**	**+1.1**
	1.4nm,0.6s						
BRTR	**Keskin Array B**	**50.36**	**273**	P	**P**	**01 56 22.6**	**+1.1**
BRTR	**Keskin Array B**	**50.36**	**273**	P	**P**	**01 56 22.6**	**+1.1**
	2.1nm,0.7s,baz=14,slow=4.8,SNR=13						
BMO	**Blue Mountains**	**50.37**	**51**	*e*P	**P**	**01 56 22.2**	**+0.7**
	5.6nm,0.9s						
PDAR	**Pinedale Array**	**53.27**	**44**	P	**P**	**01 56 45.3**	**+2.1**
PDAR	**Pinedale Array**	**53.27**	**44**	P	**P**	**01 56 45.3**	**+2.1**
	0.6nm,0.8s,baz=6.1,slow=9.3,SNR=2.6						
ESDC	**Sonseca Array**	**55.51**	**309**	P	**P**	**01 56 59.4**	**+0.1**
ESDC	**Sonseca Array**	**55.51**	**309**	P	**P**	**01 56 59.4**	**+0.1**
	0.3nm,0.5s,baz=358,slow=8.0,SNR=5.2						
NVAR	**Mina Array Bea**	**56.60**	**53**	P	**P**	**01 57 09.8**	**+2.4**
NVAR	**Mina Array Bea**	**56.60**	**53**	P	**P**	**01 57 09.8**	**+2.4**
	1.1nm,0.8s,baz=343,slow=4.6,SNR=4.4						
KEST	**Kesra**	**57.73**	**295**	P	**P**	**01 57 15.5**	**+0.3**
KEST	**Kesra**	**57.73**	**295**	P	**P**	**01 57 15.5**	**+0.3**
	0.8nm,0.5s,baz=346,slow=9.4,SNR=8.6						
WMOK	**Wichita Mounta**	**62.24**	**35**	*e*P	**P**	**01 57 44.5**	**-1.6**
	5.4nm,1.1s						
MDT	**Midelt**	**62.35**	**308**	P	**P**	**01 57 46.8**	**-0.1**
MDT	**Midelt**	**62.35**	**308**	P	**P**	**01 57 46.8**	**-0.1**
	1.3nm,0.8s,baz=12,slow=6.0						
TXAR	**Lajitas Array**	**67.16**	**40**	P	**P**	**01 58 17.6**	**-0.8**
TXAR	**Lajitas Array**	**67.16**	**40**	P	**P**	**01 58 17.6**	**-0.8**
	1.3nm,1.0s,baz=344,slow=8.0,SNR=4.3						
TORD	**Torodi Ar. Bea**	**80.98**	**299**	P	**P**	**01 59 38.2**	**-0.9**
TORD	**Torodi Ar. Bea**	**80.98**	**299**	P	**P**	**01 59 38.2**	**-0.9**
	5.7nm,0.7s,baz=4.8,slow=5.6,SNR=44						
DBIC	**Dimbokro**	**88.19**	**305**	P	**P**	**02 00 14.8**	**-0.6**
DBIC	**Dimbokro**	**88.19**	**305**	P	**P**	**02 00 14.8**	**-0.6**
	2.7nm,0.8s,baz=349,slow=10,SNR=3.2						

IDC 08 01:50:40.5±3.4,11°89S×166°01E,h0km,mb3.9/6, mb1 4.0/6,mb1mx3.9/18,mbtmpb3.9/6,MS5.3/1,Ms1 5.3/1, ms1mx4.4/45,Error ellipse: s-maj=121.0km s-min=29.7km az=136.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.13**	**178**	LR	LR	01 56 42.2	
	comp=Z,15µm,19.2s,baz=298,slow=36						
WRA	**Warramunga Arr**	**31.45**	**251**	P	P	01 57 05.2	+1.2
	0.6nm,0.3s,baz=88,slow=9.0,SNR=5.5						
ASAR	**Alice Springs**	**32.66**	**245**	P	P	01 57 13.7	-1.0
	0.6nm,0.6s,baz=76,slow=10,SNR=5.6						
SONM	**Songino Array**	**79.50**	**324**	P	P	02 02 49.7	+0.5
	0.5nm,0.7s,baz=128,slow=4.4,SNR=3.1						
ILAR	**Eielson Array**	**84.23**	**18**	P	P	02 03 13.9	+0.4
	0.9nm,0.5s,baz=241,slow=4.6,SNR=18						
MKAR	**Makanchi Array**	**94.31**	**317**	P	P	02 04 02.1	0.0
	0.5nm,0.8s,baz=91,slow=6.1,SNR=3.8						
ZALV	**Zalesovo Beam**	**94.39**	**324**	P	P	02 04 00.5	-1.7
	0.3nm,0.2s,baz=96,slow=4.3,SNR=3.5						

IDC 08 01:52:41.2±4.0,13°52S×166°67E,h0km,mb3.9/3, mb1 4.0/3,mb1mx3.7/18,mbtmpb3.8/3,Error ellipse: s-maj=186.6km s-min=38.8km az=139.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**32.58**	**247**	P	P	01 59 15.0	+0.3
	0.8nm,0.6s,baz=75,slow=11,SNR=3.9						
ILAR	**Eielson Array**	**85.57**	**18**	P	P	02 05 21.6	+0.6
	0.4nm,0.5s,baz=238,slow=5.4,SNR=5.8						
MKAR	**Makanchi Array**	**95.93**	**317**	P	P	02 06 09.8	-0.4
	0.3nm,0.6s,baz=114,slow=3.6,SNR=2.0						
BRTR	**Keskin Array B**	**131.28**	**311**	PKP	PKPdf	02 11 54.6	-1.4
	0.3nm,0.6s,baz=33,slow=5.5,SNR=2.9						

*IDC **08** 01:53:11.1±0.6,11°96S×165°91E,h0km,mb4.4/16, mb1 4.4/18,mb1mx4.3/26,mbtmp4.4/18,ML4.4/2,Error ellipse: s-maj=21.5km s-min=15.9km az=102.0*
*ISCJB **08** 01:53:14.5±0.5,12°08S±0.0°5×165°77E±0.0°7,h30km, mb4.4/20,Error ellipse: s-maj=10.8km s-min=6.8km az=153.1*
*NEIC **08** 01:53:16.7±0.4,11°99S×165°85E,h35km,mb4.6/5,Error ellipse: s-maj=11.1km s-min=9.1km az=98.0*

ISC 08 01:53:16.0±0.5,12°00S±0.0°06×165°86E±0.0°8,h30km,n60, σ1°92/66,mb4.4/20,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.34**	**293**	Pn	**Pn**	**01 54 47.4**	**-0.1**
HNR				Sn	**Sn**	**01 55 59.5**	**+0.4**
HNR	**Honiara**	**6.34**	**293**	Pn	**Pn**	**01 54 47.4**	**-0.1**
	17nm,0.3s,baz=330,slow=20,SNR=4.3						
HNR				Sn	**Sn**	**01 55 59.5**	**+0.4**
	13nm,0.3s,baz=207,slow=20,SNR=5.7						
DZM	**Mont Dzumac**	**10.03**	**177**	Pn	**Pn**	**01 55 38.3**	**+0.1**
DZM				Sn	**Sn**	**01 57 29.6**	**-0.2**
DZM	**Mont Dzumac**	**10.03**	**177**	Pn	**Pn**	**01 55 38.3**	**+0.1**
	1.6nm,0.3s,baz=101,slow=16,SNR=4.5						
DZM				Sn	**Sn**	**01 57 29.6**	**-0.2**
	0.5nm,0.3s,baz=196,slow=13,SNR=2.8						
CTA	**Charters Tower**	**20.47**	**244**	P	P	**01 57 52.5**	**+1.0**
CTA	**Charters Tower**	**20.47**	**244**	P	P	**01 57 52.5**	**+1.0**
	5.4nm,0.7s,baz=80,slow=12,SNR=7.8						
CTAO	**Charters Tower**	**20.47**	**244**	*e*P	P	**01 57 52.2**	**+0.8**
STKA	**Stephens Creek**	**29.83**	**225**	P	P	**01 59 22.5**	**+1.8**
STKA	**Stephens Creek**	**29.83**	**225**	P	P	**01 59 22.5**	**+1.8**
	1.5nm,0.3s,baz=328,slow=19,SNR=4.2						
WRAB	**Tennant Creek**	**31.26**	**251**	*e*P	P	**01 59 33.5**	**+0.1**
	2.9nm,0.6s						
WRA	**Warramunga Arr**	**31.27**	**251**	P	P	**01 59 33.5**	**0.0**
WRA	**Warramunga Arr**	**31.27**	**251**	P	P	**01 59 33.5**	**0.0**
	1.2nm,0.6s,baz=83,slow=8.6,SNR=6.6						
RPZ	**Rata Peaks**	**31.92**	**173**	P	P	**01 59 39.1**	**+0.2**
RPZ	**Rata Peaks**	**31.92**	**173**	P	P	**01 59 39.1**	**+0.2**
	12nm,0.8s,baz=141,slow=9.6,SNR=3.8						
ASAR	**Alice Springs**	**32.47**	**245**	P	P	**01 59 43.8**	**-0.3**
ASAR	**Alice Springs**	**32.47**	**245**	P	P	**01 59 43.8**	**-0.3**
	1.5nm,0.7s,baz=68,slow=9.7,SNR=9.6						
FITZ	**Fitzroy Crossi**	**39.25**	**256**	P	P	**02 00 42.6**	**+0.4**
FITZ	**Fitzroy Crossi**	**39.25**	**256**	P	P	**02 00 42.6**	**+0.4**
	1.9nm,0.7s,baz=123,slow=11,SNR=5.6						
ASAJ	**Asahikawa**	**59.73**	**341**	P	P	**02 03 17.4**	**-0.5**
ASAJ	**Asahikawa**	**59.73**	**341**	P	P	**02 03 17.4**	**-0.5**
	5.0nm,0.7s,baz=194,slow=8.5,SNR=3.1						
USRK	**Ussuriysk Arra**	**63.85**	**333**	P	P	**02 03 44.5**	**-1.1**
	4.0nm,0.9s,baz=98,slow=5.8,SNR=7.0						
VNDA	**Vanda**	**65.55**	**181**	*e*P	P	**02 03 55.6**	**-0.6**
	2.8nm,1.0s						
VNDA	**Vanda**	**65.55**	**181**	P	P	**02 03 55.3**	**-1.0**
	2.4nm,0.9s,baz=16,slow=6.1,SNR=4.4						
SBA	**Scott Base**	**65.85**	**180**	*e*P	P	**02 03 59.0**	**+0.8**
	17nm,1.3s						
QSPA	**South Pole Qui**	**78.01**	**180**	*e*P	P	**02 05 11.3**	**-0.2**
	10nm,1.0s						
ULN	**Ulaanbaatar**	**79.14**	**324**	*e*P	P	**02 05 18.4**	**+0.5**
	3.6nm,0.6s						
SONM	**Songino Array**	**79.50**	**324**	P	P	**02 05 19.9**	**0.0**
SONM	**Songino Array**	**79.50**	**324**	P	P	**02 05 19.9**	**0.0**
	1.8nm,0.5s,baz=140,slow=6.5,SNR=17						
ILAR	**Eielson Array**	**84.38**	**18**	P	P	**02 05 46.6**	**+1.6**
ILAR	**Eielson Array**	**84.38**	**18**	P	P	**02 05 46.6**	**+1.6**
	0.6nm,0.6s,baz=227,slow=5.4,SNR=6.9						
NVAR	**Mina Array Bea**	**86.55**	**50**	P	P	**02 05 59.0**	**+2.2**
NVAR	**Mina Array Bea**	**86.55**	**50**	P	P	**02 05 59.0**	**+2.2**
	0.6nm,0.6s,baz=234,slow=6.4,SNR=4.9						
NEW	**Newport**	**90.39**	**41**	P	P	**02 06 16.1**	**+1.5**
NEW	**Newport**	**90.39**	**41**	P	P	**02 06 16.1**	**+1.5**
	1.4nm,0.6s,baz=329,slow=5.9,SNR=3.9						
MKAR	**Makanchi Array**	**94.29**	**317**	P	P	**02 06 32.5**	**-0.1**
MKAR	**Makanchi Array**	**94.29**	**317**	P	P	**02 06 32.5**	**-0.1**
	2.0nm,0.7s,baz=82,slow=6.4,SNR=15						
ZALV	**Zalesovo Beam**	**94.39**	**324**	P	P	**02 06 31.6**	**-1.2**
ZALV	**Zalesovo Beam**	**94.39**	**324**	P	P	**02 06 31.6**	**-1.2**
	5.5nm,0.9s,baz=104,slow=4.7,SNR=17						
SNAA	**Sanae**	**96.17**	**184**	P	P	**02 06 39.6**	**-1.3**
SNAA	**Sanae**	**96.17**	**184**	P	P	**02 06 39.6**	**-1.3**
	0.8nm,1.2s,baz=179,slow=3.4,SNR=3.5						
KURK	**Kurchatov**	**97.44**	**320**	P	P	**02 06 46.1**	**-0.7**
KURBB	**Kurchatov Arra**	**97.48**	**320**	P	P	**02 06 46.1**	**-0.8**
	0.6nm,0.2s,baz=104,slow=3.9,SNR=4.2						
BVAR	**Borovoye Array**	**102.77**	**322**	Pdif	**Pdif**	**02 07 08.9**	**-1.6**
BVAR	**Borovoye Array**	**102.77**	**322**	Pdiff	**Pdif**	**02 07 08.9**	**-1.6**
	1.8nm,1.0s,baz=100,slow=4.5,SNR=3.8						
ARCES	**ARCESS Array B**	**117.28**	**345**	PKP	**PKPdf**	**02 11 56.3**	**-1.6**
ARCES	**ARCESS Array B**	**117.28**	**345**	PKP	**PKPdf**	**02 11 56.3**	**-1.6**
	3.7nm,1.0s,baz=90,slow=2.4,SNR=5.2						
AKASG	**Malin Array Be**	**127.72**	**326**	PKP	**PKPdf**	**02 12 16.3**	**-2.1**
AKASG	**Malin Array Be**	**127.72**	**326**	PKP	**PKPdf**	**02 12 16.3**	**-2.1**
	0.3nm,0.4s,baz=58,slow=1.9,SNR=4.7						
BRTR	**Keskin Array B**	**129.69

Ms6.0/39,Ms7.5.7/37

ISC 08 01:59:19.3±0.2,**11°95S**±0'04×**166°00E**±0'05,**h30**km,
h30km:**pP-P,n664,**σ1ᵗ**43/716,mb5.8**/163,**MS5.8**/15,
32C-43D,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.45**	**292**	Pn	**Pn**	**02 00 51.2**	**-1.2**
HNR				Sn	**Sn**	**02 02 01.4**	**-3.6**
HNR	**Honiara**	**6.45**	**292**	Pn	**Pn**	**02 00 51.2**	**-1.2**
	104nm,0.3s,baz=170,slow=4.5,SNR=34						
HNR				Sn	**Sn**	**02 02 01.4**	**-3.6**
	baz=38,slow=19,SNR=5.4						
DZM	**Mont Dzumac**	**10.07**	**178**	*e*Pn	**Pn**	**02 01 41.8**	**-0.4**
	160nm,0.9s						
DZM				*e*S	Sn	02 04 04.6	+30
DZM	**Mont Dzumac**	**10.07**	**178**	Pn	**Pn**	**02 01 41.6**	**-0.6**
	16nm,0.3s,baz=7.2,slow=16,SNR=37						
DZM				Sn	**Sn**	**02 03 32.3**	**-1.9**
	0.6nm,0.3s,baz=323,slow=20,SNR=3.3						
MSVF	**Nonsavu**	**12.99**	**118**	*e*P	**Pn**	**02 02 24.1**	**+2.0**
MSVF	**Nonsavu**	**12.99**	**118**	Pn	**P**	**02 02 33.8**	**+1.6**
	2μm,1.3s,SNR=7.9						
MSVF	**Nonsavu**	**12.99**	**118**	*e*Pn	**Pn**	**02 02 24.1**	**+2.0**
TARA	**Tarawa**	**14.90**	**28**	*e*Pn	**Pn**	**02 02 47.8**	**-0.3**
PMG	**Port Moresby**	**18.68**	**276**	P	**Pn**	**02 03 37.2**	**+1.4**
	343nm,1.9s,21μm						
PMG	**Port Moresby**	**18.68**	**276**	*e*Pn	**P**	**02 03 34.5**	**-0.8**
	551nm,1.3s						
PMG	**Port Moresby**	**18.68**	**276**	P	**Pn**	**02 03 36.0**	**+0.2**
	1.1nm,0.3s,baz=88,slow=8.3,SNR=44						
EIDS	**Eidsvold**	**19.41**	**224**	*e*Pn	**P**	**02 03 43.5**	**+0.3**
	615nm,1.7s						
EIDS	**Eidsvold**	**19.41**	**224**	P	**Pn**	**02 03 44.8**	**+0.3**
	baz=20,SNR=14						
CTA	**Charters Tower**	**20.61**	**244**	P	**P**	**02 03 57.3**	**+1.0**
CTA				S	Sn	02 07 51.1	+0.5
CTA	**Charters Tower**	**20.61**	**244**	⇑P	**P**	**02 03 56.5**	**+0.1**
	baz=21						
CTA	**Charters Tower**	**20.61**	**244**	P	**P**	**02 03 57.3**	**+1.0**
	89nm,0.9s,baz=69,slow=13,SNR=63						
CTA				S	Sn	02 07 51.1	+0.5
	71nm,1.2s,baz=80,slow=14,SNR=2.0						
CTAO	**Charters Tower**	**20.61**	**244**	*e*P	**P**	**02 03 55.9**	**-0.5**
CTAO				pmax	pmax		
	comp=Z,962nm,1.8s						
CTAO	**Charters Tower**	**20.61**	**244**	*e*P	**P**	**02 03 55.9**	**-0.5**
	comp=Z,962nm,1.8s						
KWAJ	**Kwajalein Atol**	**20.68**	**5**	*e*P	**P**	**02 03 55.9**	**-1.1**
KWAJ				pmax	pmax		
	comp=Z,463nm,1.4s						
KWAJ	**Kwajalein Atol**	**20.68**	**5**	*e*P	**P**	**02 03 55.9**	**-1.1**
	comp=Z,463nm,1.4s						
RMQ	**Roma**	**21.73**	**226**	⇓P	**P**	**02 04 10.1**	**+1.7**
	baz=22,SNR=115						
AFI	**Afiamalu**	**21.75**	**98**	P	P	02 04 14.2	+5.5
AFI	**Afiamalu**	**21.75**	**98**	P	P	02 04 14.2	+5.5
	comp=Z,62nm,0.9s,baz=238,slow=18,SNR=3.1						
AFI				LR	LR	02 11 07.4	
	comp=Z,8μm,19.4s,baz=64,slow=33						
COEN	**Coen**	**22.33**	**262**	*e*P	**P**	**02 04 14.4**	**-0.4**
	comp=Z,3μm,1.4s						
COEN	**Coen**	**22.33**	**262**	P	**P**	**02 04 14.4**	**-0.4**
	baz=23,SNR=46						
ARMA	**Armidale**	**22.70**	**214**	*e*P	**P**	**02 04 18.7**	**0.0**
	comp=Z,2μm,1.6s						
ARMA	**Armidale**	**22.70**	**214**	P	**P**	**02 04 19.0**	**+0.3**
	baz=23,SNR=26						
KNTN	**Kanton**	**23.89**	**69**	*e*P	**P**	**02 04 32.8**	**+2.2**
	comp=Z,612nm,1.4s						
OUZ	**Omahuta**	**24.17**	**165**	*e*P	**P**	**02 04 33.7**	**+0.7**
	comp=Z,584nm,1.9s						
QLP	**Quilpie**	**25.11**	**231**	P	**P**	**02 04 41.3**	**-0.5**
	baz=26,SNR=18						
MGCD	**Mangrove Creek**	**25.17**	**210**	⇓P	**P**	**02 04 42.9**	**+0.7**
	baz=26,SNR=11						
JAY	**Jayapura**	**26.76**	**289**	⇓P	**P**	**02 04 57.4**	**+0.6**
	baz=27,SNR=6.1						
CMSA	**Cobar Meteorol**	**27.03**	**221**	⇑P	**P**	**02 04 59.6**	**+0.5**
	baz=27,SNR=39						
YNG	**Young**	**27.42**	**213**	P	**P**	**02 05 04.3**	**+1.8**
	baz=28,SNR=8.0						
CNB	**Canberra Magne**	**27.72**	**210**	⇓P	**P**	**02 05 06.7**	**+1.4**
	baz=28,SNR=7.8						
URZ	**Urewera**	**28.02**	**161**	*e*P	**P**	**02 05 08.9**	**+1.2**
URZ	**Urewera**	**28.02**	**161**	P	**P**	**02 05 08.2**	**+0.5**
	comp=Z,6.1nm,0.6s,baz=146,slow=3.1,SNR=7.9						
BKZ	**Black Stump Fm**	**28.66**	**163**	*e*P	**P**	**02 05 15.1**	**+1.5**
	comp=Z,124nm,1.4s						
STKA	**Stephens Creek**	**29.96**	**225**	*e*P	**P**	**02 05 25.1**	**-0.1**
	comp=Z,93nm,2.0s						
STKA				PcP	**PcP**	**02 08 27.4**	**+0.1**
STKA	**Stephens Creek**	**29.96**	**225**	P	**P**	**02 05 25.1**	**-0.1**
	baz=30,SNR=48						
STKA	**Stephens Creek**	**29.96**	**225**	P	**P**	**02 05 25.3**	**+0.1**
	comp=Z,33nm,0.7s,baz=43,slow=8.2,SNR=34						
STKA				PcP	**PcP**	**02 08 27.4**	**+0.1**
	comp=Z,10.0nm,0.7s,baz=39,slow=6.5,SNR=3.2						
BFZ	**Birch Farm**	**30.01**	**164**	*e*P	**P**	**02 05 25.6**	**+0.2**
	comp=Z,403nm,1.9s						
KHZ	**Kahutara**	**31.06**	**169**	*e*P	**P**	**02 05 37.2**	**+2.6**
	comp=Z,389nm,1.9s						
WRAB	**Tennant Creek**	**31.40**	**251**	*e*P	**P**	**02 05 36.4**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,346nm,1.6s						
WRAB	**Tennant Creek**	**31.40**	**251**	P	**P**	**02 05 37.4**	**-0.6**
	comp=Z,617nm,1.5s,SNR=14						
WRAB	**Tennant Creek**	**31.40**	**251**	*e*P	**P**	**02 05 36.4**	**-1.6**
	comp=Z,346nm,1.6s						
WRA	**Warramunga Arr**	**31.41**	**251**	P	**P**	**02 05 37.4**	**-0.8**
WRA				PcP	**PcP**	**02 08 32.5**	**+1.1**
WRA	**Warramunga Arr**	**31.41**	**251**	P	**P**	**02 05 37.4**	**-0.8**
	comp=Z,38nm,0.9s,baz=81,slow=8.7,SNR=94						
WRA				PcP	**PcP**	**02 08 32.5**	**+1.1**
	comp=Z,2.8nm,0.9s,baz=81,slow=3.2,SNR=5.9						
TOO	**Toolangi**	**31.43**	**212**	⇓P	**P**	**02 05 38.9**	**+0.7**
	baz=32,SNR=8.9						
RPZ	**Rata Peaks**	**31.95**	**173**	*e*P	**P**	**02 05 42.2**	**-0.3**
	comp=Z,261nm,1.1s						
RPZ	**Rata Peaks**	**31.95**	**173**	P	**P**	**02 05 42.5**	**0.0**
	comp=Z,113nm,0.8s,baz=332,slow=2.4,SNR=39						
AS07	**Alice Springs**	**32.56**	**245**	⇓P	**P**	**02 05 46.9**	**-1.3**
	baz=33						
AS08	**Alice Springs**	**32.57**	**245**	⇑P	**P**	**02 05 46.9**	**-1.4**
	baz=33						
ASAR	**Alice Springs**	**32.62**	**245**	P	**P**	**02 05 47.4**	**-1.3**
ASAR				PcP	**PcP**	**02 08 35.1**	**+0.5**
ASAR	**Alice Springs**	**32.62**	**245**	P	**P**	**02 05 47.4**	**-1.3**
	comp=Z,49nm,0.7s,baz=72,slow=9.3,SNR=90						
ASAR				PcP	**PcP**	**02 08 35.1**	**+0.5**
	comp=Z,7.3nm,0.9s,baz=79,slow=2.5,SNR=4.7						
HTT	**Hallett**	**32.70**	**225**	⇓P	**P**	**02 05 49.2**	**-0.1**
	baz=33						
KDU	**Kakadu**	**32.75**	**265**	⇓P	**P**	**02 05 49.0**	**-0.8**
	baz=33,SNR=6.8						
ODZ	**Otahua Downs**	**33.22**	**174**	*e*P	**P**	**02 05 53.3**	**-0.3**
	comp=Z,377nm,1.7s						
BBOO	**Buckleboo**	**34.40**	**228**	*e*P	**P**	**02 06 03.3**	**-0.8**
	comp=Z,1μm,0.9s						
BBOO	**Buckleboo**	**34.40**	**228**	P	**P**	**02 06 03.5**	**-0.6**
	baz=35,SNR=11						
MOO	**Moorlands**	**34.51**	**205**	⇓P	**P**	**02 06 05.5**	**+0.6**
	baz=35,SNR=3.5						
TAU	**Tasmania Unive**	**34.84**	**204**	*e*P	**P**	**02 06 09.0**	**+1.3**
TAU				pmax	pmax		
	comp=Z,125nm,1.3s						
TAU	**Tasmania Unive**	**34.84**	**204**	*e*P	**P**	**02 06 09.0**	**+1.3**
	comp=Z,125nm,1.3s						
SWI	**Sorong**	**36.18**	**285**	P	**P**	**02 06 20.4**	**+0.8**
	comp=Z,72nm,1.6s						
SWI	**Sorong**	**36.18**	**285**	⇑P	**P**	**02 06 20.7**	**+1.2**
	baz=37						
KNRA	**Kununurra**	**36.31**	**260**	⇑P	**P**	**02 06 20.4**	**-0.3**
	baz=37,SNR=22						
BNDI	**Bandanaira**	**36.44**	**279**	P	**P**	**02 06 23.2**	**+1.4**
	comp=Z,590nm,1.6s,comp=Z,10μm						
FITZ	**Fitzroy Crossi**	**39.39**	**256**	*e*P	**P**	**02 06 45.7**	**-1.0**
FITZ	**Fitzroy Crossi**	**39.39**	**256**	⇓P	**P**	**02 06 45.9**	**-0.8**
	baz=40,SNR=17						
FITZ	**Fitzroy Crossi**	**39.39**	**256**	P	**P**	**02 06 46.1**	**-0.6**
	comp=Z,49nm,1.1s,baz=81,slow=11,SNR=34						
NLAI	**Namlea**	**39.47**	**280**	P	**P**	**02 06 49.9**	**+2.5**
	comp=Z,248nm,2.1s						
FORT	**Forrest**	**39.73**	**236**	*e*P	**P**	**02 06 49.0**	**-0.4**
	comp=Z,200nm,1.0s						
FORT	**Forrest**	**39.73**	**236**	P	**P**	**02 06 48.8**	**-0.7**
	baz=40,SNR=10						
LBMI	**Labuha**	**39.81**	**284**	P	**P**	**02 06 52.4**	**+2.1**
	comp=Z,264nm,1.6s,comp=Z,7μm						
TNTI	**Ternate**	**40.39**	**286**	P	**P**	**02 06 57.0**	**+2.0**
	comp=Z,167nm,1.6s,comp=Z,4μm						
SOEI	**Soe**	**41.01**	**269**	P	**P**	**02 07 01.4**	**+1.0**
	comp=Z,92nm,1.5s						
BATI	**Baumata**	**41.55**	**268**	P	**P**	**02 07 05.5**	**+0.8**
	comp=Z,117nm,1.0s						
BATI	**Baumata**	**41.55**	**268**	P	**P**	**02 07 05.3**	**+0.6**
BATI	**Baumata**	**41.55**	**268**	P	**P**	**02 07 05.3**	**+0.6**
	comp=Z,118nm,0.7s,baz=194,slow=1.9,SNR=28						
SGSI	**Sangihe**	**43.13**	**289**	P	P	02 07 29.5	+12
MMRI	**Maumere**	**43.15**	**270**	P	**P**	**02 07 17.6**	**0.0**
	comp=Z,218nm,0.8s						
BBSI	**Bau Bau**	**43.36**	**275**	P	**P**	**02 07 21.6**	**+2.2**
	comp=Z,247nm,1.8s,comp=Z,6μm						
KMSI	**Cibinong**	**43.53**	**284**	P	**P**	**02 07 22.6**	**+1.9**
	comp=Z,1μm,1.3s,comp=Z,15μm						
LUWI	**Luwuk**	**44.22**	**281**	P	**P**	**02 07 26.9**	**+0.6**
	comp=Z,881nm,1.1s,comp=Z,9μm						
LUWI	**Luwuk**	**44.22**	**281**	P	**P**	**02 07 26.8**	**+0.6**
	baz=45,SNR=13						
KKSI	**Kolaka, Sulawe**	**44.53**	**276**	P	**P**	**02 07 30.3**	**+1.5**
	comp=Z,264nm,1.7s						
MBWA	**Marble Bar**	**45.15**	**252**	P	**P**	**02 07 33.5**	**0.0**
	SNR=17						
MBWA	**Marble Bar**	**45.15**	**252**	*e*P	**P**	**02 07 33.2**	**-0.4**
	comp=Z,310nm,1.4s						
APSI	**Ampana**	**45.33**	**281**	P	**P**	**02 07 36.0**	**+0.9**
	comp=Z,425nm,1.6s,comp=Z,8μm						
MRSI	**Marisa**	**45.45**	**283**	P	**P**	**02 07 36.0**	**0.0**
	comp=Z,184nm,1.2s,comp=Z,3μm						
BKSI	**Bulukumba**	**45.78**	**274**	P	**P**	**02 07 39.2**	**+0.5**
	comp=Z,195nm,1.4s						
BNSI	**Bone**	**45.98**	**275**	P	**P**	**02 07 41.0**	**+0.7**
	comp=Z,249nm,1.5s,comp=Z,5μm						
KAPI	**Kappang**	**46.20**	**275**	P	**P**	**02 07 41.9**	**-0.1**
	SNR=35						
KAPI	**Kappang**	**46.20**	**275**	P	**P**	**02 07 41.4**	**-0.6**
	comp=Z,932nm,1.3s,SNR=28						
KAPI	**Kappang**	**46.20**	**275**	P	**P**	**02 07 41.6**	**-0.4**
	comp=Z,235nm,1.7s,comp=Z,5μm						
KAPI	**Kappang**	**46.20**	**275**	*e*P	**P**	**02 07 41.4**	**-0.6**
	comp=Z,437nm,1.5s						
KAPI				*e*PP	**PP**	**02 09 29.4**	**-1.4**
KAPI	**Kappang**	**46.20**	**275**	P	**P**	**02 07 41.6**	**-0.4**
	comp=Z,149nm,1.2s,baz=90,slow=7.1,SNR=49						
SPSI	**Sidrap Palu**	**46.41**	**276**	P	**P**	**02 07 43.7**	**+0.1**
	comp=Z,95nm,1.3s						
TTSI	**Tana Toraja**	**46.56**	**277**	P	**P**	**02 07 46.0**	**+1.1**
	comp=Z,130nm,1.7s,comp=Z,4μm						
MEEK	**Meekatharra**	**46.78**	**245**	P	**P**	**02 07 46.1**	**-0.3**
	baz=47,SNR=26						
MJSI	**Majene**	**47.27**	**276**	P	**P**	**02 07 53.3**	**+2.9**
	comp=Z,353nm,1.4s,comp=Z,7μm						
KLBR	**Kelleberrin**	**48.44**	**238**	P	**P**	**02 07 58.4**	**-0.8**
	baz=49,SNR=16						
RCP	**Roxas**	**48.89**	**297**	⇓*e*P	**P**	**02 08 04.4**	**+1.5**
MTNI	**Mataram**	**49.08**	**269**	P	**P**	**02 08 05.6**	**+1.2**
	comp=Z,86nm,1.8s,comp=Z,3μm						
BLDU	**Ballidu**	**49.11**	**240**	⇑P	**P**	**02 08 04.2**	**-0.2**
	baz=50,SNR=8.9						
NWAO	**Narrogin (SRO)**	**49.17**	**237**	P	**P**	**02 08 05.6**	**+0.8**
	SNR=7.2						
NWAO	**Narrogin (SRO)**	**49.17**	**237**	*e*P	**P**	**02 08 03.9**	**-0.9**
	comp=Z,194nm,1.4s						
NWAO				PcP	**PcP**	**02 09 28.6**	**+0.7**
NWAO	**Narrogin (SRO)**	**49.17**	**237**	P	**P**	**02 08 04.3**	**-0.5**
	comp=Z,49nm,0.8s,baz=74,slow=7.6,SNR=14						
NWAO				PcP	**PcP**	**02 09 28.6**	**+0.7**
	comp=Z,22nm,1.0s,baz=64,slow=4.4,SNR=2.3						
SGKI	**Sangatta, Kali**	**49.33**	**280**	P	P	02 08 13.2	+6.9
	comp=Z,342nm,1.9s,comp=Z,5μm						
MORW	**Morawa**	**49.41**	**242**	P	**P**	**02 08 06.2**	**-0.5**
	baz=50,SNR=23						
RKGY	**Rocky Gully**	**49.78**	**235**	⇑P	**P**	**02 08 09.7**	**+0.2**
	baz=50,SNR=4.4						
BKB	**Balikpapan**	**49.83**	**279**	P	P	02 08 14.3	+4.2
	comp=Z,217nm,1.6s						
SRBI	**Singaraja**	**50.10**	**269**	P	**P**	**02 08 14.9**	**+2.7**
	comp=Z,110nm,2.1s,comp=Z,3μm						
MYLDM	**Lahad Datu**	**50.20**	**287**	P	P	02 08 16.3	+3.4
MYLDM	**Lahad Datu**	**50.20**	**287**	P	**P**	**02 08 15.5**	**+2.6**
	comp=Z,373nm,1.7s						
TSM	**Tawau**	**50.50**	**286**	P	**P**	**02 08 15.4**	**+0.2**
BYJI	**Banyuwangi**	**50.92**	**269**	P	**P**	**02 08 20.7**	**+2.3**
	comp=Z,406nm,1.7s,comp=Z,13μm						
ABJI	**Asem Bagus**	**51.10**	**270**	P	**P**	**02 08 21.5**	**+1.8**
	comp=Z,254nm,1.9s						
KMMI	**Kalianget**	**51.49**	**270**	P	**P**	**02 08 24.9**	**+2.3**
	comp=Z,151nm,1.8s,comp=Z,5μm						
GMJI	**Gumukmas**	**51.80**	**269**	P	**P**	**02 08 25.3**	**+0.3**
	comp=Z,146nm,0.7s						
MTKI	**Muara Teweh, K**	**51.84**	**278**	P	**P**	**02 08 26.8**	**+1.5**
	comp=Z,122nm,1.7s						
KKM	**Kota Kinabalu**	**52.63**	**287**	P	**P**	**02 08 32.4**	**+1.2**
KKM	**Kota Kinabalu**	**52.63**	**287**	P	**P**	**02 08 32.1**	**+0.8**
	comp=Z,296nm,1.9s,comp=Z,6μm						
KKM	**Kota Kinabalu**	**52.63**	**287**	*e*P	**P**	**02 08 31.6**	**+0.3**
	comp=Z,1μm,1.8s						
KKM	**Kota Kinabalu**	**52.63**	**287**	⇓P	**P**	**02 08 31.9**	**+0.7**
	baz=53,SNR=12						
KRKI	**Karangkates**	**52.79**	**269**	P	**P**	**02 08 34.2**	**+1.9**
	comp=Z,422nm,1.8s,comp=Z,23μm						
PWJI	**Pagerwojo**	**53.45**	**269**	P	**P**	**02 08 37.9**	**+0.8**
	comp=Z,110nm,2.1s,comp=Z,4μm						
NGJI	**Ngawi**	**53.89**	**270**	P	**P**	**02 08 43.1**	**+2.7**
	comp=Z,360nm,1.3s						
PCJI	**Pacitan**	**54.03**	**268**	P	**P**	**02 08 42.5**	**+1.1**
	comp=Z,456nm,1.6s,comp=Z,10μm						
UGM	**Wanagama**	**54.72**	**269**	P	**P**	**02 08 49.0**	**+2.5**
	comp=Z,251nm,2.0s						
UGM	**Wanagama**	**54.72**	**269**	⇓P	**P**	**02 08 47.4**	**+0.9**
	baz=55,SNR=4.4						
MJAR	**Matsushiro Arr**	**54.88**	**333**	P	**P**	**02 08 46.0**	**-1.2**
MJAR				PcP	**PcP**	**02 09 48.5**	**-0.5**
MJAR	**Matsushiro Arr**	**54.88**	**333**	P	**P**	**02 08 46.0**	**-1.2**
	comp=Z,22nm,0.9s,baz=171,slow=8.2,SNR=26						
MJAR				PcP	**PcP**	**02 09 48.5**	**-0.5**
	comp=Z,9.1nm,0.8s,baz=155,slow=2.2,SNR=4.2						
MAJO	**Matsushiro**	**54.88**	**333**	*e*P	**P**	**02 08 45.6**	**-1.6**
MAJO				pmax	pmax		
	comp=Z,270nm,1.5s						
MAJO	**Matsushiro**	**54.88**	**333**	*e*P	**P**	**02 08 45.6**	**-1.6**
	comp=Z,270nm,1.5s						
MAT	**Matsushiro**	**54.88**	**333**	P	**P**	**02 08 46.0**	**-1.2**
YOGI	**Yogyakarta**	**54.96**	**269**	P	P	02 08 52.6	+4.4
	comp=Z,754nm,2.0s,comp=Z,11μm						
SBUM	**Sibu**	**55.32**	**281**	P	**P**	**02 08 52.3**	**+1.5**
SBUM	**Sibu**	**55.32**	**281**	P	**P**	**02 08 52.0**	**+1.2**
	comp=Z,174nm,1.6s						
STKI	**Sintang**	**55.40**	**278**	P	**P**	**02 08 53.6**	**+2.2**
	comp=Z,164nm,1.5s,comp=Z,17μm						
BJII	**Banjarnegara**	**55.61**	**269**	P	**P**	**02 08 54.7**	**+1.8**
	comp=Z,622nm,1.3s,comp=Z,7μm						
JNU	**Nakatsue**	**55.95**	**324**	*e*P	**P**	**02 08 54.3**	**-0.7**
	comp=Z,58nm,0.9s						
JNU	**Nakatsue**	**55.95**	**324**	P	**P**	**02 08 55.1**	**+0.1**
	comp=Z,88nm,0.8s,baz=105,slow=6.2,SNR=20						
YULB	**Yu-li**	**56.09**	**309**	*e*P	**P**	**02 08 55.6**	**-0.5**
	comp=Z,42nm,0.8s						
NACB	**Ninganchiao**	**56.30**	**310**	*e*P	**P**	**02 08 57.6**	**0.0**
	comp=Z,87nm,1.0s						
TPUB	**Ta-pu**	**56.55**	**308**	*e*P	**P**	**02 08 58.5**	**-0.9**
	comp=Z,91nm,0.9s						
YHNB	**Yeheng**	**56.75**	**310**	*e*P	**P**	**02 09 01.0**	**+0.1**
	comp=Z,64nm,0.8s						
KSM	**Kuching**	**56.89**	**280**	P	**P**	**02 09 02.7**	**+0.7**
KSM	**Kuching**	**56.89**	**280**	P	**P**	**02 09 02.6**	**+0.6**
	comp=Z,120nm,1.9s						
KSM	**Kuching**	**56.89**	**280**	*e*P	**P**	**02 09 02.2**	**+0.2**
	comp=Z,420nm,1.7s						
CISI	**Cimpet, Garu**	**57.42**	**269**	P	**P**	**02 09 05.9**	**0.0**
	comp=Z,258nm,1.5s,comp=Z,5μm						
LEM	**Lembang**	**57.74**	**269**	P	**P**	**02 09 09.4**	**+1.2**
	comp=Z,358nm,1.8s						
LEM	**Lembang**	**57.74**	**269**	⇑P	**P**	**02 09 09.0**	**+0.8**
	baz=58,SNR=3.1						
TPI	**Tanjungpandan**	**58.48**	**274**	P	**P**	**02 09 14.8**	**+1.6**
	comp=Z,57nm,1.7s						
CBJI	**Cepu**	**58.56**	**270**	P	**P**	**02 09 14.7**	**+1.0**
	comp=Z,449nm,1.9s,comp=Z,29μm						
DBJI	**Dramaga**	**58.63**	**270**	P	**P**	**02 09 15.0**	**+0.7**
	comp=Z,277nm,1.7s,comp=Z,6μm						
YUK	**Yuzh-Kuril'sk**	**58.66**	**343**	P	**P**	**02 09 14.3**	**+0.5**
YUK				*e*S	**S**	**02 17 20.7**	**+4.4**
XMI	**Christmas Isla**	**59.08**	**265**	⇓P	**P**	**02 09 18.7**	**+1.4**
	baz=60						
XMIS	**Christmas Isla**	**59.11**	**265**	*e*P	**P**	**02 09 18.0**	**+0.4**
	comp=Z,962nm,1.4s						
ASAJ	**Asahikawa**	**59.73**	**341**	*e*P	**P**	**02 09 20.8**	**-0.4**
	comp=Z,21nm,0.8s						
ASAJ	**Asahikawa**	**59.73**	**341**	P	**P**	**02 09 21.5**	**+0.3**
	comp=Z,39nm,0.7s,baz=212,slow=8.7,SNR=24						
SSE	**Sheshan**	**60.67**	**316**	P	**P**	**02 09 28.9**	**+1.0**
SSE				AMB	AMB		
	comp=Z,65nm,0.7s						
KSRS	**Korea Array**	**60.76**	**326**	P	**P**	**02 09 28.0**	**-0.4**
	comp=Z,20nm,0.8s,baz=138,slow=6.8,SNR=28						
KSRS				PcP	**PcP**	**02 10 11.9**	**-0.3**
	comp=Z,13nm,0.8s,baz=142,slow=5.4,SNR=3.8						
KSAR	**Wonju Array Be**	**60.77**	**326**	P	**P**	**02 09 28.0**	**-0.5**
KSAR				PcP	**PcP**	**02 10 11.9**	**-0.3**
KASI	**Kota Agung**	**61.02**	**270**	P	**P**	**02 09 30.2**	**-0.5**
	comp=Z,180nm,1.0s						
INCN	**Inchon**	**61.50**	**325**	*e*P	**P**	**02 09 34.4**	**+0.9**
	comp=Z,346nm,1.6s						
MDSI	**Maura Dua**	**61.53**	**271**	P	**P**	**02 09 33.4**	**-0.7**
	comp=Z,251nm,0.8s,comp=Z,3μm						
YSS	**Yuzh-Sakhalins**	**62.22**	**342**	*e*P	**P**	**02 09 38.0**	**-0.1**
YSS				pmax	pmax		
	comp=Z,270nm,1.6s						
LHSI	**Lahat**	**62.29**	**272**	P	**P**	**02 09 39.5**	**+0.2**
	comp=Z,92nm,1.6s,comp=Z,4μm						
TPRI	**Tanjung Pinang**	**62.35**	**277**	P	P	02 09 49.7	+10
NJ2	**Nanjing**	**62.83**	**316**	*e*P	**P**	**02 09 42.1**	**-0.4**
NJ2				pP	**pP**	**02 09 53.6**	**+1.8**
NJ2				sP	sP	02 10 01.0	+5.7
NJ2				S	**S**	**02 18 10.5**	**+0.4**
NJ2				AMB	AMB		
	comp=Z,110nm,0.9s						
NJ2				AMB	AMB		
	comp=Z,2μm,6.1s						
NJ2				LR	LR		
	comp=Z,6μm,20.4s						
NJ2				LR	LR		
	comp=Z,2μm,17.4s						
NJ2				LR	LR		
	comp=Z,6μm,21.0s						
VLA	**Vladivostok**	**63.05**	**333**	⇑*i*P	**P**	**02 09 43.5**	**-0.2**
VLA				*e*		02 10 20.2	
VLA				*e*		02 12 00.5	
VLA				*e*S	**S**	**02 18 10.6**	**-1.9**
VLA				pmax	pmax		
	comp=Z,163nm,1.6s						
MYKOM	**Kota Tinggi**	**63.22**	**278**	P	**P**	**02 09 46.8**	**+1.3**
MYKOM	**Kota Tinggi**	**63.22**	**278**	P	**P**	**02 09 46.5**	**+1.1**
	comp=Z,84nm,2.0s						
KSI	**Kapahiang**	**63.24**	**272**	P	**P**	**02 09 47.7**	**+2.0**
	comp=Z,159nm,0.8s,comp=Z,23μm						
QIZ	**Qiongzhong**	**63.32**	**298**	P	**P**	**02 09 46.2**	**+0.2**
QIZ				S	**S**	**02 18 16.6**	**-0.1**
QIZ				AMB	AMB		
	comp=Z,35nm,1.5s						
KGM	**Kluang**	**63.79**	**278**	P	**P**	**02 09 50.2**	**+0.9**
USRK	**Ussuriysk Arra**	**63.86**	**333**	P	**P**	**02 09 48.9**	**-0.1**
	comp=Z,43nm,0.8s,baz=145,slow=5.0,SNR=49						
RGRI	**Rengat**	**64.19**	**275**	P	**P**	**02 09 54.4**	**+2.5**
	comp=Z,522nm,1.0s						
KTGM	**Kuala Trenggan**	**64.82**	**282**	P	**P**	**02 09 57.0**	**+1.1**
KTGM	**Kuala Trenggan**	**64.82**	**282**	P	**P**	**02 09 57.3**	**+1.4**
FX1	**Attu Island--F**	**64.86**	**5**	P	**P**	**02 09 56.0**	**+0.5**
FX1	**Attu Island--F**	**64.86**	**5**	P	**P**	**02 09 56.0**	**+0.5**
	comp=Z,27nm,0.8s,baz=270,slow=20,SNR=3.3						
WHN	**Wuhan**	**65.17**	**312**	P	**P**	**02 09 58.2**	**+0.3**
PETK	**Petropavlovsk-**	**65.19**	**354**	P	**P**	**02 09 56.7**	**-0.9**
PETK	**Petropavlovsk-**	**65.19**	**354**	P	**P**	**02 09 56.6**	**-0.9**
PETK	**Petropavlovsk-**	**65.19**	**354**	P	**P**	**02 09 56.6**	**-0.9**
	comp=Z,18nm,0.8s,baz=156,slow=8.1,SNR=11

GYA AMB AMB
comp=Z,8μm,9.8s
GYA LR LR
comp=Z,13μm,20.3s
GYA LR LR
comp=Z,11μm,19.2s
GYA LR LR
comp=Z,24μm,18.0s
GSI Gunungsitoli 69.19 276 P **P** **02 10 23.9 +0.1**
comp=Z,186nm,1.6s
GSI Gunungsitoli 69.19 276 ⇓P **P** **02 10 23.3 -0.5**
baz=70
SURA Surathani 69.22 285 P **P** **02 10 25.8 +1.9**
comp=Z,226nm,1.7s
BJI Beijing 69.34 321 P **P** **02 10 23.9 -0.2**
BJI AMB AMB
comp=Z,94nm,2.0s
BJI AMB AMB
comp=Z,4μm,12.4s
KCSI Kotacane, Aceh 69.53 278 P **P** **02 10 25.0 -0.9**
comp=Z,184nm,1.1s
PKDT Phuket 70.10 283 P **P** **02 10 32.2 +2.8**
comp=Z,86nm,1.7s
TIY Taiyuan 70.39 317 *e*P **P** **02 10 32.6 +1.8**
TIY pP **pP** **02 10 43.9 +3.7**
TIY AMB AMB
comp=Z,150nm,1.3s
TIY LR LR
comp=Z,3μm,15.3s
TIY LR LR
comp=Z,1μm,16.3s
TIY LR LR
comp=Z,7μm,21.3s
SNSI Sinabang, Aceh 70.66 277 P **P** **02 10 35.8 +3.0**
comp=Z,238nm,1.6s,comp=Z,5μm
XAN Xi'an 70.91 312 P **P** **02 10 34.1 +0.1**
XAN pP **pP** **02 10 45.4 +2.0**
XAN sP **sP** **02 10 51.0 +4.1**
XAN S **S** **02 19 49.8 +2.0**
XAN AMB AMB
comp=Z,23nm,1.8s
XAN AMB AMB
comp=Z,370nm,7.5s
XAN LR LR
comp=Z,3μm,21.5s
XAN LR LR
comp=Z,1μm,20.4s
NANT Nan 71.25 295 P **P** **02 10 36.8 +0.5**
comp=Z,93nm,1.0s,comp=Z,2μm
KMI Kunming 71.80 302 P **P** **02 10 41.0 +1.2**
KMI pP **pP** **02 10 52.0 +2.8**
KMI sP **sP** **02 10 56.4 +3.7**
KMI AMB AMB
comp=Z,130nm,1.7s
KMI AMB AMB
comp=Z,2μm,6.1s
HHC Hu-ho-hao-te 72.68 320 *e*P **P** **02 10 46.1 +1.5**
HHC pP **pP** **02 10 56.4 +2.4**
HHC sP **sP** **02 11 00.4 +2.9**
HHC PP **PP** **02 13 30.0 +3.3**
HHC S **S** **02 20 07.9 -0.1**
HHC sS **sS** **02 20 25.1 +1.5**
HHC SKS **SKSac** **02 20 44.0 -3.8**
HHC ScS **SKKSac** **02 20 47.3 -0.6**
HHC AMB AMB
comp=Z,160nm,1.1s
HHC AMB AMB
comp=Z,6μm,5.0s
HHC LR LR
comp=Z,2μm,18.4s
HHC LR LR
comp=Z,1μm,17.5s
HHC LR LR
comp=Z,2μm,17.7s
CMAR Chiang Mai Arr 72.70 294 P **P** **02 10 45.2 +0.2**
CMAR Chiang Mai Arr 72.70 294 P **P** **02 10 45.2 +0.2**
baz=123,slow=4.0
CHTO Chiang Mai 72.81 294 *e*P **P** **02 10 45.8 +0.1**
CHTO pmax pmax
comp=Z,631nm,1.7s
CHTO Chiang Mai 72.81 294 P **P** **02 10 46.6 +1.0**
SNR=33
CHTO Chiang Mai 72.81 294 P **P** **02 10 46.7 +1.0**
comp=Z,642nm,0.8s
CHTO Chiang Mai 72.81 294 *e*P **P** **02 10 45.8 +0.1**
comp=Z,631nm,1.7s
CHTO Chiang Mai 72.81 294 P **P** **02 10 46.7 +1.0**
comp=Z,642nm,0.8s
CMAI Chiengmai2 73.10 295 P **P** **02 10 48.2 +0.7**
comp=Z,45nm,1.8s,comp=Z,2μm
CD2 Chengdu 73.34 307 ⇑*i*P **P** **02 10 49.3 +0.7**
CD2 pP **pP** **02 11 00.1 +2.0**
CD2 sP **sP** **02 11 04.3 +2.7**
CD2 PP **PP** **02 13 35.0 +2.5**
CD2 S **S** **02 20 14.5 -1.4**
CD2 sS **sS** **02 20 32.4 +0.9**
CD2 SS **SS** **02 24 59.3 +0.6**
CD2 AMB AMB
comp=Z,110nm,1.7s
CD2 AMB AMB
comp=Z,4μm,9.3s
CD2 LR LR
comp=Z,6μm,22.6s
CD2 LR LR
comp=Z,8μm,17.8s
BTO Baotou 73.53 319 *e*P **P** **02 10 50.6 +1.0**
BTO AMB AMB
comp=Z,33nm,1.7s
SEY Seymchan 75.40 354 ⇓*e*P **P** **02 10 59.9 +0.1**
LZH Lanzhou 75.55 312 ⇑P **P** **02 11 03.2 +1.7**
LZH pP **PcP** **02 11 13.7 -0.7**
LZH sP **sP** **02 11 18.1 +3.6**
LZH PP **PP** **02 13 55.3 +4.1**
LZH S **S** **02 20 41.0 +0.4**
LZH sS **sS** **02 20 58.5 +2.3**
LZH SKS **SKSac** **02 21 05.7 -4.0**
LZH AMB AMB
comp=Z,240nm,1.5s
LZH AMB AMB
comp=Z,2μm,9.4s
LZH LR LR
comp=Z,10μm,18.6s
LZH LR LR
comp=Z,12μm,18.9s
LZH LR LR
comp=Z,15μm,20.0s
CLNS Chul'man 76.50 338 *e*P **P** **02 11 06.8 +0.5**
CLNS *e**PP **pP** **02 11 14.1 -1.7**
CLNS *e* 02 11 16.5
CLNS *e*PPP PPP 02 15 44.5
CLNS *e*S **S** **02 20 50.3 +0.3**
CLNS *e* 02 21 31.6
CLNS pmax pmax
comp=Z,73nm,1.0s
CLNS pmax pmax
comp=N,67nm,1.4s
CLNS pmax pmax
comp=E,19nm,1.0s
CLNS smax smax
comp=E,2μm,15.2s
CLNS smax smax
comp=N,2μm,12.0s
CLNS MLR MLR
comp=N,2μm,14.0s
CLNS MLR MLR
comp=E,1μm,13.0s
QSPA South Pole Qui 78.06 180 *e*P **P** **02 11 13.9 -1.2**
comp=E,609nm,1.9s
CIT Chita 78.06 330 *e*P **P** **02 11 15.1 -0.1**
CIT *e* 02 11 32.2
CIT pmax pmax
comp=Z,951nm,1.9s
YAK Yakutsk 79.03 343 *e*P **P** **02 11 19.9 -0.3**
YAK *e* 02 11 25.1
YAK *e* 02 14 25.9
YAK *e*PPP PPP 02 16 07.3
YAK *e*S **S** **02 21 11.1 -5.8**
YAK *e* 02 21 35.1
YAK *e**SS ScS 02 21 53.0 +13
YAK pmax pmax
comp=Z,96nm,1.0s
YAK pmax pmax
comp=N,40nm,1.2s
YAK pmax pmax
comp=E,29nm,1.2s

YAK pmax pmax
comp=Z,2μm,11.7s
YAK pmax pmax
comp=N,769nm,11.6s
YAK pmax pmax
comp=E,804nm,12.6s
YAK smax smax
comp=N,423nm,6.0s
YAK smax smax
comp=E,349nm,4.8s
ULN Ulaanbaatar 79.17 324 P **P** **02 11 22.3 +0.8**
SNR=158
ULN Ulaanbaatar 79.17 324 P **P** **02 11 21.5 0.0**
comp=E,157nm,1.8s,comp=E,3μm
ULN Ulaanbaatar 79.17 324 *e*P **P** **02 11 21.7 +0.1**
comp=E,502nm,1.6s
SONM Songino Array 79.54 324 P **P** **02 11 23.5 0.0**
SONM Songino Array 79.54 324 P **P** **02 11 23.5 0.0**
comp=E,27nm,1.0s,baz=134,slow=4.4,SNR=80
GTA Gaotai 79.86 314 P **P** **02 11 27.0 +1.6**
GTA pP **pP** **02 11 37.4 +2.4**
GTA sP **sP** **02 11 41.2 +2.7**
GTA S **S** **02 21 28.9 +1.9**
GTA sS **ScS** **02 21 46.5 -1.6**
GTA AMB AMB
comp=E,78nm,1.9s
GTA AMB AMB
comp=E,3μm,7.8s
GTA LR LR
comp=E,3μm,17.1s
GTA LR LR
comp=E,4μm,19.0s
GTA LR LR
comp=E,5μm,18.1s
RPN Rapa Nui 79.96 116 P P 02 11 29.8 +3.6
RPN Rapa Nui 79.96 116 P P 02 11 29.8 +3.6
comp=E,35nm,1.2s,baz=310,slow=0.3,SNR=4.6
ZAK Zakamensk 82.58 325 *e*P **P** **02 11 38.4 -1.2**
ZAK *e* 02 14 50.6
ZAK pmax pmax
comp=Z,69nm,1.8s
IRK Irkutsk 82.95 327 *e*P **P** **02 11 40.2 -1.1**
IRK *e* 02 15 00.5
IRK pmax pmax
comp=Z,283nm,2.0s
TLY Talaya 83.01 326 *e*P **P** **02 11 41.4 -0.3**
TLY pmax pmax
comp=Z,225nm,1.7s
TLY Talaya 83.01 326 P **P** **02 11 40.5 -1.2**
comp=Z,465nm,1.7s,SNR=38
LSA Lhasa 83.04 302 P **P** **02 11 43.5 +0.6**
MAW Mawson 83.98 202 P **P** **02 11 46.9 +0.5**
MAW Mawson 83.98 202 P **P** **02 11 45.8 -0.6**
baz=84,SNR=12
MAW Mawson 83.98 202 P **P** **02 11 46.9 +0.5**
comp=Z,14nm,0.9s,baz=103,slow=6.6,SNR=18
COLA College 84.07 18 *e*P **P** **02 11 45.4 -1.4**
COLA pmax pmax
comp=Z,54nm,0.9s
COLA College 84.07 18 *e*P **P** **02 11 45.4 -1.4**
comp=Z,54nm,0.9s
ILAR Eielson Array 84.29 18 P **P** **02 11 46.4 -1.6**
ILAR Eielson Array 84.29 18 P **P** **02 11 46.4 -1.6**
comp=Z,3.3nm,0.8s,baz=204,slow=6.5,SNR=11
YBH Yreka Blue Hor 84.35 45 P **P** **02 11 47.4 -1.4**
YBH Yreka Blue Hor 84.35 45 P **P** **02 11 47.4 -1.4**
comp=Z,1.0nm,0.4s,baz=247,slow=9.3,SNR=2.8
MOY Mondy 84.46 325 *e*P **P** **02 11 49.7 +0.5**
MOY pmax pmax
comp=Z,370nm,2.6s
CMB Columbia Colle 84.74 50 *e*P **P** **02 11 48.6 -2.3**
CMB pmax pmax
comp=Z,26nm,1.4s
CMB Columbia Colle 84.74 50 *e*P **P** **02 11 48.6 -2.3**
comp=Z,26nm,1.4s
HYT Haines Junctio 85.11 24 *e*P **P** **02 11 51.1 -1.2**
TAPN Taplejung 85.26 299 *e*P **P** **02 11 54.6 +0.6**
comp=Z,357nm,1.7s
ODAN Odare 85.40 299 *e*P **P** **02 11 54.9 +0.2**
comp=Z,128nm,0.8s
ISA Isabella 85.43 52 *e*P **P** **02 11 53.9 -0.5**
ISA pmax pmax
comp=Z,54nm,1.7s
ISA Isabella 85.43 52 *e*P **P** **02 11 53.9 -0.5**
comp=Z,54nm,1.7s
ISA Isabella 85.43 52 P **P** **02 11 54.3 -0.2**
baz=86
EDW2 Edwards Air Fo 85.57 53 P **P** **02 11 54.4 -0.8**
baz=86
BFSC Mount Baldy Ra 85.63 54 P **P** **02 11 54.5 -1.0**
baz=86
CWC Cottonwood Cre 85.97 52 P **P** **02 11 56.5 -0.7**
baz=86
LRMC Laurel Mountai 85.98 53 P **P** **02 11 56.7 -0.5**
baz=86
RAMN Ramite 86.10 298 *e*P **P** **02 11 58.6 +0.4**
comp=Z,470nm,1.9s
MONP Monument Peak 86.23 55 P **P** **02 11 57.9 -0.7**
baz=86
MPMC Manual Prospec 86.31 52 P **P** **02 11 57.6 -1.4**
baz=86
PFO Pinyon Flat Ob 86.40 55 *e*P **P** **02 11 57.9 -1.5**
PFO Pinyon Flat Ob 86.40 55 P **P** **02 11 58.0 -1.4**
baz=86
NVAR Mina Array Bea 86.42 50 P **P** **02 11 57.6 -1.8**
NVAR P'P' 02 38 10.4
NVAR Mina Array Bea 86.42 50 P **P** **02 11 57.6 -1.8**
comp=Z,1.8nm,0.8s,baz=228,slow=8.1,SNR=9.6
NVAR PKPPKP P'P'df 02 38 10.4 +7.7
comp=Z,1.1nm,0.9s,baz=66,slow=1.8,SNR=5.4
JIRN Jiri 86.64 299 *e*P **P** **02 12 01.4 +0.4**
comp=Z,436nm,1.8s
HEC Hector,Ludlow 86.86 54 P **P** **02 12 01.1 -0.4**
baz=87
BELC Belle Mtn. Jos 86.88 54 P **P** **02 12 00.4 -1.4**
baz=87
PALK Pallekele 86.92 278 P P 02 12 06.5 +4.3
comp=Z,47nm,1.9s,comp=Z,4μm
PALK Pallekele 86.92 278 *e*P **P** **02 12 01.2 -1.0**
comp=Z,110nm,1.4s
FURC Furnace Creek, 86.92 52 P **P** **02 12 01.6 -0.1**
baz=87
GUN Gumba 86.97 299 *e*P **P** **02 12 02.9 +0.3**
comp=Z,683nm,2.1s
TIXI Tiksi 87.02 349 ⇑*i*P **P** **02 12 00.3 -1.0**
TIXI pmax pmax
comp=Z,89nm,2.5s
BC3 Big Chuckawall 87.22 55 P **P** **02 12 02.0 -1.3**
baz=87
PKI Pulchoki 87.29 299 *e*P **P** **02 12 03.6 -0.5**
comp=Z,356nm,1.7s
TUQ Turquoise Moun 87.35 53 P **P** **02 12 02.6 -1.3**
baz=87
GMRC Granite Mounta 87.37 54 P **P** **02 12 03.0 -1.1**
baz=88
KKN Kakani 87.45 299 *e*P **P** **02 12 04.8 +0.1**
comp=Z,342nm,1.7s
DMN Daman 87.56 299 *e*P **P** **02 12 05.2 -0.1**
comp=Z,396nm,1.6s
GLA Glamis 87.56 56 P **P** **02 12 03.9 -1.0**
baz=88
IRM Iron Mountain 87.60 55 P **P** **02 12 04.1 -0.9**
baz=88
Y12C Blythe 87.99 55 P **P** **02 12 06.8 -0.1**
baz=88
GKN Gorkha 88.06 299 *e*P **P** **02 12 06.5 -1.0**
comp=Z,94nm,1.1s
SHPR Sheep Range 88.24 52 *e*P **P** **02 12 08.5 +0.2**
comp=Z,44nm,1.6s
113A Mohawk Valley, 88.34 56 P **P** **02 12 08.5 -0.1**
baz=88
HVS Khovu-Aksy 88.41 323 *d i*P **P** **02 12 08.5 -0.1**
HVS pmax pmax
comp=Z,681nm,1.7s
R11A Troy Canyon, C 88.43 50 P **P** **02 12 07.6 -1.5**
baz=88
PDMCI Parker Dam,Lak 88.44 55 P **P** **02 12 08.7 -0.3**
baz=88
W13A Hualapai Mount 88.86 54 P **P** **02 12 09.8 -1.5**
baz=89
KOLN Koldanda 88.89 299 *e*P **P** **02 12 10.6 -0.9**
comp=Z,42nm,0.9s
DANN Dangsing 88.89 299 *e*P **P** **02 12 10.4 -1.3**
comp=Z,159nm,1.3s
214A Organ Pipe Nat 88.91 57 P **P** **02 12 09.8 -1.5**
baz=89
WMQ Urumqi 89.91 315 P **P** **02 12 16.1 +0.3**

WMQ pP **pP** **02 12 26.7 +1.3**
WMQ sP **sP** **02 12 30.6 +1.7**
WMQ AMB AMB
comp=Z,79nm,2.0s
WMQ AMB AMB
comp=Z,3μm,5.6s
NEW Newport 90.27 41 *e*P **P** **02 12 17.2 -0.1**
comp=Z,62nm,2.1s
NEW Newport 90.27 41 P **P** **02 12 17.0 -0.4**
baz=90
NEW Newport 90.27 41 P **P** **02 12 16.9 -0.5**
comp=Z,2.6nm,0.9s,baz=253,slow=20,SNR=3.6
U15A North Rim 90.45 53 P **P** **02 12 17.5 -1.3**
baz=90
X16A Lo Mia Camp, P 90.63 55 P **P** **02 12 17.9 -1.7**
baz=91
HLID Hailey 90.73 46 P **P** **02 12 18.8 -1.0**
baz=91
WUAZ Wupatki 90.95 54 P **P** **02 12 20.5 -0.5**
baz=91
SYO Syowa Base 90.99 197 ⇑*e*X P 02 12 17.2 -3.1
SYO Syowa Base 90.99 197 ⇑*i*PcP **PcP** **02 12 21.4 +0.1**
DUG Dugway 91.00 49 *e*P **P** **02 12 20.9 -0.1**
DUG pmax pmax
comp=Z,17nm,1.3s
DUG Dugway 91.00 49 *e*P **P** **02 12 20.9 -0.1**
comp=Z,17nm,1.3s
DUG Dugway 91.00 49 P **P** **02 12 20.8 -0.3**
baz=91
HYB Hyderabad 91.12 287 *i* P **P** **02 12 21.5 -0.4**
BSMT Bassoo Peak 91.65 41 *e*P **P** **02 12 24.3 +0.3**
comp=Z,7.1nm,0.8s
319A Douglas 91.70 58 P **P** **02 12 24.1 -0.4**
baz=92
MCMT McKenzie Canyo 92.15 45 *e*P **P** **02 12 24.8 -1.6**
comp=Z,1.1nm,0.7s
CHMT Chamberlain Mo 92.41 43 *e*P **P** **02 12 26.4 -1.1**
comp=Z,7.6nm,1.3s
220A Playas Peak, P 92.44 58 P **P** **02 12 26.9 -1.0**
baz=92
Z21A St. Cloud Mine 93.44 57 P **P** **02 12 32.7 +0.1**
baz=94
PDAR Pinedale Array 93.98 47 P **P** **02 12 33.8 -1.1**
PDAR Pinedale Array 93.98 47 P **P** **02 12 33.8 -1.1**
comp=Z,0.4nm,0.8s,baz=216,slow=4.5,SNR=3.4
U21A Nageezi 94.09 54 P **P** **02 12 34.1 -1.5**
baz=94
P20A De Beque 94.15 51 P **P** **02 12 34.6 -1.1**
baz=94
S21A Coal Bank Pass 94.24 53 P **P** **02 12 35.0 -1.3**
baz=94
MK31 Makanchi Array 94.35 317 *e*P **P** **02 12 35.6 -0.6**
MK31 Makanchi Array 94.35 317 *e*P **P** **02 12 35.6 -0.6**
MKAR Makanchi Array 94.35 317 P **P** **02 12 35.4 -0.8**
MKAR Makanchi Array 94.35 317 P **P** **02 12 35.4 -0.8**
MKAR Makanchi Array 94.35 317 ⇓P **P** **02 12 35.9 -0.3**
baz=95
MKAR Makanchi Array 94.35 317 P **P** **02 12 35.4 -0.8**
comp=Z,28nm,1.0s,baz=95,slow=5.5,SNR=50
ZAA0 Zalesovo Array 94.43 324 *e*P **P** **02 12 34.6 -1.7**
ZALV Zalesovo Beam 94.43 324 P **P** **02 12 34.8 -1.5**
ZALV Zalesovo Beam 94.43 324 P **P** **02 12 34.8 -1.5**
ZALV Zalesovo Beam 94.43 324 P **P** **02 12 34.8 -1.5**
comp=Z,20nm,0.9s,baz=108,slow=4.8,SNR=58
I19A Meeteetse 94.65 46 P **P** **02 12 36.9 -1.0**
baz=95
PMSA Palmer Station 94.78 161 *e*P **P** **02 12 38.4 +0.6**
comp=Z,92nm,1.5s
S22A 4UR Ranch, Cre 95.00 53 P **P** **02 12 37.6 -2.2**
baz=95
E19A Rath Farm, Rou 95.30 44 P **P** **02 12 41.0 +0.4**
baz=95
D19A Cripps Ranch, 95.37 43 P **P** **02 12 41.5 +0.5**
baz=96
NVS Novosibirsk 95.54 325 *e*P **P** **02 12 38.9 -2.5**
NVS *e* 02 23 15.8
NVS *e*S **S** **02 23 50.4 -5.6**
NVS pmax pmax
comp=N,48nm,1.8s
NVS pmax pmax
comp=Z,184nm,1.8s
NVS pmax pmax
comp=E,86nm,1.7s
MAIT Maitri 95.61 188 *e*P P 02 12 37.2 -4.4
YKA Yellowknife Ar 95.66 27 P **P** **02 12 41.2 -0.5**
YKA Yellowknife Ar 95.66 27 P **P** **02 12 41.2 -0.5**
comp=E,1.4nm,0.6s,baz=258,slow=5.0,SNR=3.2
R23A Moffat 95.86 52 P **P** **02 12 43.8 +0.1**
baz=96
SNAA Sanae 96.23 184 *e*P **P** **02 12 42.3 -2.2**
SNAA Sanae 96.23 184 *e*P P 02 12 41.2 -3.2
comp=E,60nm,1.4s
SNAA Sanae 96.23 184 P **P** **02 12 42.6 -1.9**
comp=E,2.2nm,0.9s,baz=185,slow=4.0,SNR=20
V25A Rancho No Teng 96.40 55 P **P** **02 12 45.7 -0.4**
baz=96
VNA2 Neumayer--Watz 97.20 182 *e*P **P** **02 12 47.0 -1.7**
KURK Kurchatov 97.49 320 *ce*P **P** **02 12 49.8 -0.5**
KURK pmax pmax
comp=Z,45nm,1.8s
KURK Kurchatov 97.49 320 P **P** **02 12 50.1 -0.2**
SNR=34
KURK Kurchatov 97.49 320 P **P** **02 12 49.6 -0.7**
comp=Z,163nm,1.9s,SNR=10
KURK Kurchatov 97.49 320 *e*P **P** **02 12 49.5 -0.8**
comp=Z,68nm,1.8s
VNA1 Neumayer--Stat 97.50 182 *e*P **P** **02 12 49.4 -0.7**
KSH Kashi 97.51 309 P Pdif 02 12 53.4 +2.4
KSH pP pP **02 13 06.7 +6.1**
KSH sP sP 02 13 09.2 +5.2
KSH PP PP 02 16 56.6 +8.0
KSH SKS **SKSac** **02 23 29.3 +2.8**
KSH S **S** **02 24 13.6 -0.4**
KSH sS sS 02 24 30.1 0.0
KSH SS **SS** **02 30 57.6 +3.8**
KSH AMB AMB
comp=Z,12nm,1.4s
KSH AMB AMB
comp=Z,670nm,6.9s
KSH LR LR
comp=Z,1μm,12.8s
KSH LR LR
comp=Z,1μm,14.5s
KURBB Kurchatov Arra 97.53 320 P **P** **02 12 49.7 -0.8**
comp=Z,1.3nm,0.3s,baz=102,slow=3.4,SNR=32
TKM2 Tokmak 2 98.31 312 *e*P Pdif 02 12 55.1 +0.5
TKM2 pmax pmax
comp=Z,16nm,1.5s
TKM2 Tokmak 2 98.31 312 *e*P Pdif 02 12 55.1 +0.5
comp=Z,16nm,1.5s
AAK Ala-Archa 99.08 312 P **Pdif** **02 12 58.9 +1.0**
AAK Ala-Archa 99.08 312 P **Pdif** **02 12 58.9 +1.0**
AAK Ala-Archa 99.08 312 P **Pdif** **02 12 58.9 +1.0**
comp=Z,1.6nm,0.5s,baz=152,slow=7.7,SNR=5.3
KK31 Karaby Array 102.04 312 *i* P **Pdif** **02 13 10.0 -0.9**
VOSK Vostochnaya 102.44 322 P **Pdif** **02 13 10.4 -2.0**
VOSK pmax pmax
comp=Z,33nm,1.7s
BVA0 Borovoye Array 102.81 322 *i* P **Pdif** **02 13 12.7 -1.4**
BVA0 pmax pmax
comp=Z,56nm,2.0s
BVAR Borovoye Array 102.81 322 P **Pdif** **02 13 13.1 -0.9**
BVAR Borovoye Array 102.81 322 Pdif **Pdif** **02 13 13.1 -0.9**
BVAR Borovoye Array 102.81 322 Pdiff **Pdif** **02 13 13.1 -0.9**
comp=Z,3.5nm,0.8s,baz=104,slow=6.3,SNR=11
BRVK Borovoye 102.88 322 Pdiff **Pdif** **02 13 14.3 -0.1**
SNR=19
IDAH Dahanechah 109.87 301 *e*P **PKiKP** **02 17 48.8 +0.3**
IKOO Kooshah 110.59 300 *e*P **PKiKP** **02 17 49.2 -0.7**
IAKL Akhelmad 110.83 305 *e*P **PKiKP** **02 17 50.5 +0.2**
IKRD Kardeh 111.02 305 *e*P **PKiKP** **02 17 45.8 -4.8**
IMEH Mehriz 114.32 299 *e*P PKPdf 02 17 55.8 -1.2
ICHK Chekchek 114.48 300 *e*P PKPdf 02 17 57.3 0.0
ISAD Sadrabad 115.10 300 *e*P **PKPdf** **02 17 57.7 -0.8**
IPAR Pars 115.68 297 *e*P **PKPdf** **02 17 59.5 -0.3**
ISFB Sefidab 116.21 302 *e*P **PKPdf** **02 17 59.2 -1.2**
IDMV Damavand 116.31 304 *e*P **PKPdf** **02 17 58.4 -2.4**
APA Apatity 116.37 342 ⇓*i*PKIKP PKPdf 02 18 08.4 +8.9
APA MLR MLR
comp=Z,5μm,19.0s
IVRN Varamin 116.60 303 *e*P **PKPdf** **02 18 00.5 -0.6**
IKAZ Kazeroun 116.73 297 *e*P **PKPdf** **02 18 01.6 -0.2**
IKLH Kolahrood 116.82 301 *e*P **PKPdf** **02 18 02.3 +0.5**
ARCES ARCESS Array B 117.27 345 PKP **PKPdf** **02 18 00.6 -0.6**
ARCES ARCESS Array B 117.27 345 PKP **PKPdf** **02 18 00.6 -0.6**

comp=Z,7.7nm,0.7s,baz=84,slow=1.7,SNR=21
KLMR Klimovskoe 117.66 334 *e*PKIKP PKPdf 02 17 54.9 -7.3
KLMR pmax pmax
comp=Z,37nm,1.5s
IGZV Ghazvin 117.71 305 *e*P **PKPdf 02 18 00.1 -3.3**
IRAZ Razeghan 118.03 304 *e*P **PKPdf 02 18 03.5 -0.5**
ISRB Sarab 119.56 307 *e*P **PKPdf 02 18 05.5 -1.4**
LPAZ La Paz 119.56 117 PKP **PKPdf 02 18 07.3 -0.6**
LPAZ PKKPab **PKKPab 02 28 23.7 +2.1**
LPAZ La Paz 119.56 117 PKP **PKPdf 02 18 07.3 -0.6**
comp=Z,0.9nm,0.7s,baz=85,slow=3.9,SNR=4.1
LPAZ PKKPab **PKKPab 02 28 23.7 +2.1**
comp=Z,1.0nm,0.9s,baz=36,slow=12,SNR=3.6
JOF Joensuu 119.86 338 *e*PKIKP **PKPdf 02 18 03.7 -2.7**
JOF Joensuu 119.86 338 *e*pkp **PKPdf 02 18 03.7 -2.7**
IHRS Heris 119.98 307 *e*P **PKPdf 02 18 06.8 -0.9**
IKOM Komasi 120.13 303 *e*P **PKPdf 02 18 06.3 -1.7**
IBST Bostanabad 120.19 307 *e*P **PKPdf 02 18 06.1 -2.0**
VRHR Novokhopersk 120.53 323 *e*PKIKP **PKPdf 02 18 06.7 -1.3**
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=N,9.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.9s
IVIS Veis 120.64 303 *e*P **PKPdf 02 18 08.1 -0.8**
DGRG David-gareji 120.69 311 P **PKPdf 02 18 09.7 +1.0**
MOS Moscow 120.88 329 *e*PKIKP **PKPdf 02 18 04.8 -3.7**
IGHG Ghaleghazi 120.89 303 *e*P **PKPdf 02 18 07.6 -2.0**
IMRD Marand 120.95 308 *e*P **PKPdf 02 18 08.8 -0.7**
IDHR Dehrash 121.00 303 *e*P **PKPdf 02 18 07.6 -2.1**
TBLG Delisi 121.10 312 P **PKPdf 02 18 09.8 +0.3**
GNI Garni 121.42 310 *e*PKPdf **PKPdf 02 18 10.0 -0.3**
GNI PKP **PKPdf 02 18 10.2 -0.1**
GNI Garni 121.42 310 PKP **PKPdf 02 18 10.2 -0.1**
comp=E,18nm,0.8s,baz=17,slow=4.3,SNR=12
ZEI Tsey 121.47 313 *i* PKIKP **PKPdf 02 18 09.4 -1.0**
ZEI pmax pmax
comp=Z,57nm,2.0s
OBN Obninsk 121.70 329 ⇓*i*PKIKP **PKPdf 02 18 09.3 -0.8**
OBN *e* 02 19 40.0
OBN *e* 02 24 59.4
OBN *e*SS SS 02 36 26.5 +10
OBN pmax pmax
comp=Z,73nm,1.7s
ONI Oni 121.84 313 P **PKPdf 02 18 10.9 0.0**
VSR Storozhevoye 121.93 324 *e*PKIKP **PKPdf 02 18 08.5 -2.2**
VSR pmax pmax
comp=Z,9.0nm,0.8s
VSR pmax pmax
comp=N,10.0nm,1.2s
VSR pmax pmax
comp=E,6.0nm,0.4s
KBZ Khabaz 121.95 314 PKIKP **PKPdf 02 18 10.9 0.0**
KBZ Khabaz 121.95 314 PKP **PKPdf 02 18 10.9 0.0**
KBZ Khabaz 121.95 314 PKP **PKPdf 02 18 10.9 0.0**
comp=E,7.4nm,0.8s,baz=108,slow=1.8,SNR=14
VORD Divnogorie 121.95 323 *e*PKIKP **PKPdf 02 18 10.1 -0.6**
VORD pmax pmax
comp=Z,20nm,1.0s
VORD pmax pmax
comp=E,10.0nm,0.7s
KIV Kislovodsk 122.03 315 ⇑*i*PKIKP **PKPdf 02 18 10.9 -0.4**
KIV *e* 02 19 46.7
KIV *e* 02 25 07.2
KIV *e*PS PS 02 29 35.8 -4.7
KIV pmax pmax
comp=Z,28nm,1.4s
AKH Akhalkalaki 122.08 312 P **PKPdf 02 18 12.3 +0.7**
KAF Kangasniemi 122.17 339 *e*pkp **PKPdf 02 18 06.1 -4.7**
FINES FINESS Array B 122.70 338 PKP **PKPdf 02 18 11.1 -0.8**
FINES FINESS Array B 122.70 338 PKP **PKPdf 02 18 11.1 -0.8**
comp=Z,12nm,0.8s,baz=64,slow=3.1,SNR=14
CHVG Ch'k'valeri 122.78 313 P **PKPdf 02 18 15.2 +2.5**
ATD Arta Tunnel 124.42 276 PKP **PKPdf 02 18 19.5 +2.9**
ATD Arta Tunnel 124.42 276 PKP **PKPdf 02 18 19.5 +2.9**
comp=Z,3.4nm,0.3s,baz=297,slow=2.3,SNR=5.4
BOSA Boshof 124.62 223 PKP **PKPdf 02 18 16.0 -0.8**
BOSA Boshof 124.62 223 PKP **PKPdf 02 18 16.0 -0.8**
comp=Z,9.7nm,0.9s,baz=79,slow=4.5,SNR=7.8
ANN Anapa 125.37 317 *e* **SKSac 02 25 17.6 -2.0**
MICGM Minsk 126.31 331 *e* **PKPdf 02 18 18.0 -1.0**
NACGM Naroch 126.58 332 *e* **PKPdf 02 18 16.0 -3.5**
MALT Malatya 126.61 309 ⇑*i*P **PKPdf 02 18 20.4 +0.2**
LBTB Lobatse 126.70 226 PKP **PKPdf 02 18 20.2 -0.7**
LBTB Lobatse 126.70 226 PKP **PKPdf 02 18 20.2 -0.7**
comp=Z,13nm,1.1s,baz=107,slow=1.7,SNR=6.4
KMBO Kilima Mbogo 127.47 259 PKP **PKPdf 02 18 23.7 +0.9**
KMBO Kilima Mbogo 127.47 259 PKP **PKPdf 02 18 23.7 +0.9**
comp=Z,2.9nm,0.9s,baz=72,slow=5.5,SNR=16
SIM Simferopol' 127.50 318 *e* **PP 02 20 23.0 +0.9**
NB2 NORSAR Subarra127.64 345 PKPdf **PKPdf 02 18 20.5 -0.9**
comp=Z,72nm,1.7s,baz=34,slow=2.0
NB2 NORSAR Subarra127.64 345 PKPdf **PKPdf 02 18 20.5 -0.9**
baz=34,slow=2.0
NOA NORSAR Array B127.64 345 PKP **PKPdf 02 18 20.6 -0.9**
NOA NORSAR Array B127.64 345 PKP **PKPdf 02 18 20.6 -0.9**
comp=Z,7.0nm,0.9s,baz=34,slow=2.0,SNR=14
HFS Hagfors 127.72 343 PKP **PKPdf 02 18 21.1 -0.4**
HFS Hagfors 127.72 343 PKP **PKPdf 02 18 21.1 -0.4**
comp=Z,7.5nm,0.9s,baz=62,slow=3.8,SNR=5.7
AKASG Malin Array Be 127.75 327 PKIKP **PKPdf 02 18 21.3 -0.5**
AKASG Malin Array Be 127.75 327 PKP **PKPdf 02 18 21.3 -0.5**
AKASG Malin Array Be 127.75 327 PKP **PKPdf 02 18 21.3 -0.5**
comp=Z,8.3nm,0.9s,baz=59,slow=1.9,SNR=32
SUW Suwalki 128.77 333 *e*PKP **PKPdf 02 18 23.5 -0.2**
ASF Jabal al Asfar 129.23 302 PKP **PKPdf 02 18 26.1 +0.7**
ASF Jabal al Asfar 129.23 302 PKP **PKPdf 02 18 26.1 +0.7**
comp=Z,8.9nm,1.0s,baz=49,slow=2.1,SNR=17
BR131 Keskin Array S 129.75 312 *e*PKPdf **PKPdf 02 18 25.8 -0.4**
BRTR Keskin Array B 129.75 312 PKP **PKPdf 02 18 25.9 -0.4**
BRTR Keskin Array B 129.75 312 PKP **PKPdf 02 18 25.9 -0.4**
comp=Z,5.5nm,0.9s,baz=126,slow=1.7,SNR=20
MMAI Mount Meron Ar 130.28 303 PKP **PKPdf 02 18 28.6 +1.2**
MMAI Mount Meron Ar 130.28 303 PKP **PKPdf 02 18 28.6 +1.2**
comp=Z,8.5nm,0.8s,baz=63,slow=3.8,SNR=15
ANTO Ankara 130.31 313 ⇓PKIKP **PKPdf 02 18 27.4 +0.2**
ANTO Ankara 130.31 313 ⇓*i*P **PKPdf 02 18 27.4 +0.2**
ANTO Ankara 130.31 313 *e*PKPdf **PKPdf 02 18 27.1 -0.1**
TLCR 130.78 321 ⇓PKIKP **PKPdf 02 18 27.1 -0.7**
TLCR 130.78 321 ⇓*i*P **PKPdf 02 18 27.1 -0.7**
LVV L'vov 131.00 328 *e*PKIKP **PKPdf 02 18 28.6 +0.5**
LVV *e* 02 20 45.6
LVV *e* 02 23 33.0
LVV *e* 02 25 26.4
CFR Carcaliu 131.20 321 ⇓PKIKP **PKPdf 02 18 28.1 -0.5**
CFR Carcaliu 131.20 321 ⇓*i*P **PKPdf 02 18 28.1 -0.5**
BEL Belsk 131.30 332 *e*PKP **PKPdf 02 18 30.2 +1.6**
EIL Elat 131.34 299 PKP **PKPdf 02 18 29.1 -0.3**
EIL Elat 131.34 299 PKP **PKPdf 02 18 29.1 -0.3**
comp=Z,9.6nm,0.7s,baz=311,slow=2.4,SNR=12
TIRR Tirgusor 131.37 320 ⇓PKIKP **PKPdf 02 18 28.5 -0.4**
TIRR Tirgusor 131.37 320 ⇓*i*P **PKPdf 02 18 28.5 -0.4**
CSS Prodhromos 131.46 306 *e*PKPdf **PKPdf 02 18 29.1 -0.4**
TLB Topalu 131.55 320 ⇑PKIKP **PKPdf 02 18 29.2 -0.1**
TLB Topalu 131.55 320 ⇑*i*P **PKPdf 02 18 29.2 -0.1**
BURAR Bucovina Array 131.64 325 ⇑PKIKP **PKPdf 02 18 30.0 +0.5**
BURAR Bucovina Array 131.64 325 ⇑*i*P **PKPdf 02 18 30.0 +0.5**
VRI Vrincioaia 131.71 322 ⇓PKIKP **PKPdf 02 18 27.9 -1.7**
VRI Vrincioaia 131.71 322 ⇓*i*P **PKPdf 02 18 27.9 -1.7**
KWP Kalwaria Pacla 131.79 329 *e*PKIKP **PKPdf 02 18 30.0 +0.4**
KWP Kalwaria Pacla 131.79 329 *e*PKPdf **PKPdf 02 18 30.0 +0.4**
KWP Kalwaria Pacla 131.79 329 *e*PKP **PKPdf 02 18 30.4 +0.8**
GKP Gorka Klasztor 131.84 335 *e*PKP **PKPdf 02 18 30.3 +0.8**
MSAB Monastry St. A 131.92 320 ⇓*i*P **PKPdf 02 18 29.8 -0.2**
MLR Muntele Rosu 132.37 322 ⇑*i*P **PKPdf 02 18 31.9 +0.9**
KOLS Kolonicke sedl 132.45 328 *e*PKIKP **PKPdf 02 18 31.5 +0.6**
KOLS *e* 02 20 57.7
KOLS Kolonicke sedl 132.45 328 *e*PKP **PKPdf 02 18 31.4 +0.6**
KOLS *e*PP **PP 02 20 57.7 +3.8**
SULR ⇓*i*P **132.61 321 PKPdf 02 18 30.6 -0.7**
PRD Provadia 132.62 319 *e*P **PKPdf 02 18 33.0 +1.7**
UZH Uzhgorod 132.62 328 *e*PKHKP PKPpre 02 18 16.0
UZH *i* 02 18 31.6
UZH *e* 02 20 58.3
UZH *e* 02 25 29.1
STHS Stebnicka Huta 132.67 329 *e*PKIKP **PKPdf 02 18 33.1 +1.8**
STHS *e* 02 20 54.8
STHS Stebnicka Huta 132.67 329 *e*PKP **PKPdf 02 18 33.1 +1.8**
STHS *e*PP **PP 02 20 54.8 -0.5**
TRPA Tarpa 132.80 327 ⇑*i*P **PKPdf 02 18 30.3 -1.2**
OJC Ojcow 132.85 331 *e*PKIKP **PKPdf 02 18 33.4 +1.8**
OJC Ojcow 132.85 331 *e*PKPdf **PKPdf 02 18 33.4 +1.8**

VOIR 132.94 323 ⇓PKIKP **PKPdf 02 18 33.1 +1.1**
VOIR 132.94 323 ⇓*i*P **PKPdf 02 18 33.1 +1.1**
NIE Niedzica 133.13 330 *e*PKIKP **PKPdf 02 18 34.3 +2.1**
NIE Niedzica 133.13 330 *e*PKPdf **PKPdf 02 18 34.3 +2.1**
ARR Arges 133.22 323 ⇑*i*P **PKPdf 02 18 31.4 -1.1**
HUMR Humele 133.46 322 ⇓*i*P **PKPdf 02 18 33.5 +0.6**
DRGR 133.51 326 ⇑PKIKP **PKPdf 02 18 32.7 -0.3**
DRGR 133.51 326 ⇑*i*P **PKPdf 02 18 32.7 -0.3**
OKC Ostrava-Krasne 133.89 331 *e*PKPdf **PKPdf 02 18 33.2 -0.3**
KSP Ksiaz 134.01 334 *e*PKIKP **PKPdf 02 18 33.7 0.0**
KSP Ksiaz 134.01 334 *e*PKP **PKPdf 02 18 34.3 +0.6**
MORC Moravsky Berou 134.21 332 *e*PKIKP **PKPdf 02 18 33.9 -0.3**
MORC Moravsky Berou 134.21 332 ⇓*i*P **PKPdf 02 18 34.4 +0.2**
MORC Moravsky Berou 134.21 332 *e*PKPdf **PKPdf 02 18 33.9 -0.3**
PSZ Piszkesteto 134.32 328 *e*PKIKP **PKPdf 02 18 34.6 +0.1**
PSZ 02 21 04.7
PSZ Piszkesteto 134.32 328 ⇑*i*P **PKPdf 02 18 37.2 +2.7**
PSZ Piszkesteto 134.32 328 *e*PKPdf **PKPdf 02 18 34.6 +0.1**
PSZ *e*PP **PP 02 21 04.7 -1.3**
DPC Dobruska-Polom 134.36 333 *e*PKPdf **PKPdf 02 18 35.0 +0.5**
UPC Upice 134.38 333 *e*PKPdf **PKPdf 02 18 33.7 -0.8**
SIRR Síria 134.41 326 ⇓*i*P **PKPdf 02 18 34.5 -0.2**
BZS Buzias 134.82 325 ⇓PKIKP PKPdf 02 18 27.8 -7.6
BZS Buzias 134.82 325 ⇓*i*P PKPdf 02 18 27.8 -7.6
MPEP Malo Peshtene 134.84 321 *e*P **PKPdf 02 18 36.5 +1.0**
VRAC Vranov 134.98 332 ⇑*i*P **PKPdf 02 18 38.5 +2.9**
VRAC Vranov 134.98 332 PKP **PKPdf 02 18 38.1 +2.5**
VRAC Vranov 134.98 332 PKP **PKPdf 02 18 38.1 +2.5**
comp=Z,9.0nm,1.1s,baz=39,slow=1.2,SNR=8.2
BRG Berggiesshubel 134.98 335 *e*PKP PKPdf 02 18 25.7 -10
comp=Z,8.0nm,1.1s
BRG *e* 02 18 36.0
comp=Z,39nm,1.6s
BRG *e*PP **PP 02 21 12.8 +3.0**
comp=Z,21nm,1.6s
BRG *e*PKS PKSdf 02 21 56.1 -16
comp=Z,3.0nm,0.7s
PVCC Panska Ves 134.98 334 *e*PKPdf **PKPdf 02 18 35.4 -0.2**
PVCC *e*SKP 02 22 09.5
CLL Collm 135.03 336 *i* PKIKP **PKPdf 02 18 35.2 -0.4**
CLL Collm 135.03 336 *i* PKPdf **PKPdf 02 18 35.2 -0.4**
comp=Z,14nm,1.0s
CLL *e*PP **PP 02 21 12.0 +2.0**
comp=Z,72nm,2.2s
CLL *e*SKPab **SKPab 02 22 07.0 -1.0**
comp=Z,18nm,1.4s
RZN Rozhen 135.09 318 *e*P **PKPdf 02 18 35.5 -0.8**
SMOL Smolenice 135.15 331 *e*PKIKP **PKPdf 02 18 36.3 +0.3**
SMOL Smolenice 135.15 331 *e*PKP **PKPdf 02 18 36.3 +0.3**
PRA Prague 135.39 334 PKPdf **PKPdf 02 18 36.0 -0.3**
PRU Pruhonice 135.40 334 *e*PKPdf **PKPdf 02 18 36.1 -0.3**
PRU *e*PP PP 02 21 17.9 +5.4
TRIEC Trest 135.50 333 *e*PKPdf **PKPdf 02 18 37.3 +0.7**
VTS Vitosha 135.58 320 ⇓PKIKP **PKPdf 02 18 36.9 -0.3**
VTS Vitosha 135.58 320 ⇓*i*P **PKPdf 02 18 36.9 -0.3**
VTS Vitosha 135.58 320 *e*P **PKPdf 02 18 36.4 -0.8**
EKA Eskdalemuir Ar 135.89 351 PKP **PKPdf 02 18 38.6 +1.5**
EKA Eskdalemuir Ar 135.89 351 PKP **PKPdf 02 18 38.6 +1.5**
comp=Z,3.1nm,0.8s,baz=29,slow=1.9,SNR=5.2
TSUM Tsumeb 136.10 226 *e*PKPdf **PKPdf 02 18 33.9 -4.9**
CONA Conrad Observa 136.30 331 ⇑*i*PKPdf PKPdf 02 18 30.2 -8.0
comp=Z,21nm,1.0s
KHC Kasperske Hory 136.46 334 *e*PKIKP **PKPdf 02 18 37.9 -0.6**
KHC Kasperske Hory 136.46 334 *e*PKPpre PKPpre 02 18 28.0
KHC *e*PKPdf **PKPdf 02 18 37.5 -0.9**
KHC *e*pPKP pPKPdf 02 18 48.5 +0.1
KHC *e*PP PP 02 21 10.2 -9.0
KHC *e*SKP 02 21 59.0
KHC Kasperske Hory 136.46 334 *e*PKPdf **PKPdf 02 18 37.9 -0.6**
KHC *e*PP PP 02 21 12.6 -6.5
BDFB Brasilia 136.59 128 PKP **PKPdf 02 18 38.3 -1.4**
BDFB Brasilia 136.59 128 PKP **PKPdf 02 18 38.3 -1.4**
comp=Z,3.2nm,0.8s,baz=52,slow=6.0,SNR=3.8
GERES GERESS Array B 136.62 333 PKPpre PKPpre 02 18 27.0
GERES PKP **PKiKP 02 18 39.9 -0.6**
GERES GERESS Array B 136.62 333 PKhKP PKPpre 02 18 27.0
comp=Z,2.3nm,0.8s,baz=60,slow=3.2,SNR=18
GERES PKP **PKiKP 02 18 39.9 -0.6**
comp=Z,4.6nm,0.8s,baz=90,slow=1.3,SNR=12
SOKA Soboth 137.59 330 ⇑*i*PKPdf PKPdf 02 18 31.5 -9.1
comp=Z,29nm,1.6s
IDI Anoyia 137.85 310 *e*PKPdf **PKPdf 02 18 41.2 -0.3**
IDI PKP **PKPdf 02 18 41.5 +0.1**
IDI Anoyia 137.85 310 PKP **PKPdf 02 18 41.6 +0.1**
comp=Z,20nm,0.9s,baz=117,slow=2.3,SNR=5.6
MEM Membach 138.11 341 PKP **PKPdf 02 18 40.2 -1.1**
BCLA Clavier 138.50 341 PKP **PKPdf 02 18 41.5 -0.5**
STU Stuttgart 138.53 337 *e*PKIKP **PKPdf 02 18 43.8 +1.6**
STU Stuttgart 138.53 337 *e*PKPdf **PKPdf 02 18 43.8 +1.6**
SNF Seneffe 138.73 342 PKP **PKPdf 02 18 41.0 -1.5**
WLF Walferdange 138.88 340 PKP **PKPdf 02 18 42.4 -0.4**
WLF Walferdange 138.88 340 *e*PKIKP **PKPdf 02 18 42.9 +0.1**
WLF Walferdange 138.88 340 *e*PKPdf **PKPdf 02 18 42.9 +0.1**
LANF Langenberg 138.88 338 PKP **PKPdf 02 18 44.0 +1.1**
DOU Dourbes 139.00 342 PKP **PKPdf 02 18 43.1 +0.1**
BFO Black Forest 139.23 337 *e*PKIKP **PKPdf 02 18 40.5 -3.0**
BFO Black Forest 139.23 337 *e*PKPdf **PKPdf 02 18 40.5 -3.0**
FELD Feldberg im Sc 139.72 337 PKP PKPdf 02 18 39.3 -5.3
DAVOX Davos/Dischmat 139.85 334 PKPpre PKPpre 02 18 36.8
DAVOX Davos/Dischmat 139.85 334 PKhKP PKPpre 02 18 36.8
baz=16,slow=6.9
TUE Stuetta 140.32 335 *e*PKPpre PKPpre 02 18 39.3
TUE *e*PKPdf **PKPdf 02 18 45.9 +0.1**
CUC Castrocucco 141.63 322 *e*PKPdf **PKPdf 02 18 48.0 -0.2**
BNI Bardonecchia 142.57 336 *e*PKIKP **PKPdf 02 18 45.9 -3.9**
BNI Bardonecchia 142.57 336 *e*PKPdf **PKPdf 02 18 45.9 -3.9**
CEL Celeste 142.63 320 *e*PKPdf **PKPdf 02 18 46.7 -3.3**
GDM Grand'Maison 142.67 336 PKP **PKPdf 02 18 46.9 -3.1**
PLDF La Plantade 142.93 339 PKP **PKPdf 02 18 48.8 -1.5**
SURF Saint Ours 142.98 335 PKP **PKPdf 02 18 48.4 -2.2**
AGO Saint Agoulin 143.03 340 PKP PKPbc 02 18 47.7 +0.5
SAOF Saorge 143.07 334 PKP PKPab 02 18 46.5 +0.6
AUTN L'Aution 143.12 334 PKP PKPab 02 18 46.9 +0.5
TOUF Mont Tournerai 143.18 334 PKP PKPab 02 18 47.1 +0.5
SSB Saint Sauveur 143.20 338 *e*PKIKP PKPbc 02 18 47.7 -0.1
SSB Saint Sauveur 143.20 338 PKP PKPbc 02 18 47.7 -0.1
SSB Saint Sauveur 143.20 338 *e*PKPdf PKPbc 02 18 47.7 -0.1
LUCF Luceram 143.24 334 PKP PKPab 02 18 46.8 +0.1
MVIF Mont Vial 143.31 334 PKP PKPbc 02 18 48.4 +0.2
PYM Petit Puy Mans 143.33 340 PKP PKPbc 02 18 49.3 +1.2
REVF Revere 143.35 334 PKP PKPbc 02 18 48.3 +0.1
OG25 Le Caire 143.38 336 PKP PKPbc 02 18 48.7 +0.4
CALN Calern 143.54 334 PKP PKPab 02 18 48.4 +0.4
LCHF La Chataignera 143.62 345 PKP PKPbc 02 18 50.1 +1.3
LBL Lubilhac 143.71 339 PKP PKPbc 02 18 49.8 +0.6
FRNF Fournols 143.80 340 PKP PKPbc 02 18 50.2 +1.1
OLEF Ile d'Oleron 144.45 345 PKP PKPdf 02 18 52.2 -0.7
VSL Villasalto 145.62 327 *e*PKPdf **PKPdf 02 18 54.7 -0.5**
VSL *e*PP **PP 02 22 14.4 -0.9**
LRDF Laroque-de-Fa 145.95 338 PKP **PKPbc 02 18 56.2 -0.1**
SJAF Saint Jean de 146.22 337 PKP **PKPbc 02 18 56.7 -0.4**
CARF Carcanieres 146.30 338 PKP **PKPbc 02 18 57.4 -0.1**
MLS Moulis 146.44 340 PKP **PKPab 02 18 58.9 +0.2**
SALF Salau 146.59 339 PKP **PKPbc 02 18 58.4 +0.1**
VALF Valcebollere 146.61 338 PKP **PKPbc 02 18 58.4 -0.1**
LABF Labassere 146.70 341 PKP **PKPbc 02 18 58.1 -0.5**
REYF Montagne du Re 146.82 342 PKP **PKPbc 02 18 58.5 -0.5**
RESF Ens 146.83 341 PKP **PKPbc 02 18 59.2 +0.2**
ORDF Ordiarp 146.86 342 PKP **PKPbc 02 18 58.1 -0.8**
VIEF Viey 146.86 341 PKP **PKPbc 02 18 59.4 +0.3**
ATE Arette 146.90 342 PKP **PKPbc 02 18 58.6 -0.5**
OSSF Osses 146.91 343 PKP **PKPbc 02 18 59.7 +0.6**
LARF Larrau 147.03 342 PKP **PKPbc 02 18 59.4 -0.1**
KEST Kesra 148.28 322 *e*PKPdf **PKPbc 02 19 00.1 +0.3**
KEST *e*PKPbc **PKPbc 02 19 02.9 -0.2**
KEST Kesra 148.28 322 PKPbc **PKPbc 02 19 03.0 -0.2**
comp=Z,28nm,1.0s,baz=9.6,slow=0.4,SNR=50
CMAH Djebel Manchou 148.77 325 P **PKPbc 02 19 04.0 -0.4**
CAEH 'Ain El Ouahch 148.97 326 P **PKPbc 02 19 04.7 -0.1**
ABSA Djebel Ababsia 148.99 325 P **PKPbc 02 19 05.0 0.0**
CKFL Kef-Lekhel 149.32 326 P **PKPbc 02 19 05.5 -0.4**
CASM Ain Smara 149.55 326 P **PKPbc 02 19 07.0 +0.7**
PBRG Braganca 149.59 349 *e*PKPdf **PKPdf 02 19 01.2 -0.5**
PBRG Braganca 149.59 349 *e*PKPab **PKPab 02 19 09.6 -1.6**
DFRA Djebel Bou Aff 149.66 327 P **PKPbc 02 19 07.0 +0.3**
CTEI Djebel Teioual 149.74 326 P **PKPbc 02 19 06.0 -0.9**
PCAB Cabril 149.90 351 *e*PKPbc **PKPbc 02 19 06.5 -0.5**
SET Setif 150.18 327 P **PKPdf 02 19 00.0 -2.9**
POLO Lamas de Olo 150.19 351 *e*PKPbc **PKPbc 02 19 07.5 -0.3**
CKHR Kef el Ahmar 150.26 327 P **PKPbc 02 19 08.0 -0.2**
MVO Moncorvo 150.26 349 *e*PKPbc **PKPbc 02 19 07.2 -0.8**

PVRL Vila Real 150.27 350 *e*PKPdf **PKPdf 02 19 03.0 +0.2**
PVRL Vila Real 150.27 350 *e*PKPbc **PKPbc 02 19 07.6 -0.3**
PTO Porto 150.54 352 *e*PKPbc **PKPbc 02 19 07.5 -1.0**
PVIS Viseu 150.85 350 *e*PKPbc **PKPbc 02 19 08.1 -1.2**
ABA Alger-Bouzarea 150.89 331 P **PKPdf 02 19 05.1 +1.3**
ESDC Sonseca Array 150.99 344 PKP **PKPdf 02 19 03.8 -0.2**
ESDC PKPbc **PKPbc 02 19 09.6 -0.1**
ESDC PKPab **PKPab 02 19 18.7 +1.6**
ESDC Sonseca Array 150.99 344 PKP **PKPdf 02 19 03.8 -0.2**
comp=Z,1.5nm,0.9s,baz=357,slow=2.9,SNR=10.0
ESDC PKPbc **PKPbc 02 19 09.6 -0.1**
comp=Z,9.0nm,0.9s,baz=7.7,slow=2.2,SNR=28
ESDC PKPab **PKPab 02 19 18.7 +1.6**
comp=Z,14nm,0.8s,baz=12,slow=3.5,SNR=22
ESLA Sonseca Array 150.99 344 *e*PKPdf **PKPdf 02 19 04.1 +0.1**
ESLA *e*PKPbc **PKPbc 02 19 09.8 +0.1**
AKET Djebel Ketaf 151.08 329 P **PKPdf 02 19 06.3 +2.0**
SHEL Horse Pasture 151.09 197 *e*PKIKP **PKPbc 02 19 10.9 +0.3**
SHEL Horse Pasture 151.09 197 *e*PKPbc **PKPbc 02 19 10.8 +0.3**
MTE Manteigas 151.10 350 *e*PKPdf **PKPdf 02 19 03.0 -1.1**
MTE Manteigas 151.10 350 *e*PKPbc **PKPbc 02 19 08.9 -1.0**
MTE Manteigas 151.10 350 *e*PKPdf **PKPdf 02 19 04.5 +0.3**
MTE *e*PKPbc **PKPbc 02 19 09.9 0.0**
ADJB Djebel Djouab 151.21 330 P **PKPdf 02 19 05.5 +1.0**
PAB San Pablo 151.21 344 *e*PKIKP **PKPbc 02 19 07.5 -2.8**
PAB San Pablo 151.21 344 *e*PKPbc **PKPbc 02 19 07.5 -2.8**
EMHD Djebel Mahouad 151.41 330 P **PKPbc 02 19 10.1 -0.8**
PCAS Casmilo, Conde 151.59 351 *e*PKPbc **PKPbc 02 19 09.4 -1.6**
PCBR Castelo Branco 151.63 349 *e*PKPdf **PKPdf 02 19 04.8 0.0**
PTOM Tomar 152.00 351 *e*PKPbc **PKPbc 02 19 10.4 -1.6**
EBNR Beni Rached 152.01 333 P **PKPbc 02 19 14.0 +1.9**
PMRV Marv??o 152.01 349 *e*PKPbc **PKPbc 02 19 11.7 -0.3**
ECHA Ech Chlef 152.20 333 P **PKPbc 02 19 15.2 +2.7**
EANR 'Ain N'Sour 152.48 333 P **PKPbc 02 19 16.1 +2.9**
PMTG Montargil 152.51 350 *e*PKPdf **PKPdf 02 19 05.4 -0.8**
PMTG Montargil 152.51 350 *e*PKPbc **PKPbc 02 19 12.1 -1.0**
ETRT Tiaret 152.85 332 P **PKPbc 02 19 19.2 +5.0**
EVO Evora 153.00 350 *e*PKPdf **PKPdf 02 19 05.4 -1.5**
PBAR Barrancos 153.15 348 *e*PKPdf **PKPdf 02 19 06.7 -0.5**
PBEJ Beja 153.46 349 *e*PKPdf **PKPdf 02 19 07.3 -0.3**
PNCL Nicolau / Gran 153.49 350 *e*PKPdf **PKPdf 02 19 09.7 +2.1**
PVAQ Vaqueiros 154.03 349 *e*PKPdf **PKPdf 02 19 07.7 -0.7**
PVAQ Vaqueiros 154.03 349 *e*PKPbc **PKPbc 02 19 15.4 -1.1**
RTC Rabat Centre 157.11 345 *e*PKPab **PKPab 02 19 45.0 +2.0**
TAM Tamanrasset 158.50 303 *e*PKIKP **PKPdf 02 19 15.4 +0.5**
TAM Tamanrasset 158.50 303 *e*PKPdf **PKPdf 02 19 15.4 +0.5**
TORD Torodi Ar. Bea 164.63 276 PKP **PKPdf 02 19 20.8 -0.5**
TORD PKPab **PKPab 02 20 16.9 +0.3**
TORD Torodi Ar. Bea 164.63 276 PKP **PKPdf 02 19 20.8 -0.5**
comp=Z,15nm,0.9s,baz=2.0,slow=1.0,SNR=45
TORD PKPab **PKPab 02 20 16.9 +0.3**
comp=Z,4.9nm,0.9s,baz=95,slow=3.1,SNR=3.3
KIC Kosan Boka 169.30 240 *e*PKIKP **PKPdf 02 19 23.5 -1.3**
comp=Z,257nm,1.5s
LIC Lamto 169.47 238 *e*PKIKP **PKPdf 02 19 23.6 -1.3**
comp=Z,72nm,1.2s
DBIC Dimbokro 169.56 241 *e*PKPdf **PKPdf 02 19 24.3 -0.7**
DBIC PKPab **PKPab 02 20 38.4 0.0**
DBIC Dimbokro 169.56 241 PKP **PKPdf 02 19 24.3 -0.7**
comp=Z,22nm,1.0s,baz=118,slow=1.4,SNR=12
DBIC PKPab **PKPab 02 20 38.4 0.0**
comp=Z,7.2nm,0.7s,baz=97,slow=6.0,SNR=7.5
TIC Toumodi 169.69 240 *e*PKIKP **PKPdf 02 19 23.8 -1.3**
comp=Z,292nm,1.6s

IDC 08 02:00:44.3±8.5, 12°.11S×165°.88E, h35km±68km, mb4.7/7, mb1 4.8/8, mb1mx4.4/20, mbtmp4.6/8, ML4.4/1, Error ellipse: s-maj=41.3km s-min=35.9km az=148.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.92**	**177**	Pn	P	Pn	02 03 05.3	+0.8
	3.0nm,0.3s,baz=45,slow=19,SNR=1.6							
WRA	**Warramunga Arr**	**31.26**	**252**	P	P		02 07 00.8	-0.2
	12nm,1.0s,baz=86,slow=10,SNR=2.7							
ASAR	**Alice Springs**	**32.45**	**245**	P	P		02 07 10.2	-1.3
	14nm,0.7s,baz=70,slow=9.2,SNR=5.5							
FITZ	**Fitzroy Crossi**	**39.25**	**256**	P	P		02 08 10.6	+0.9
	14nm,0.9s,baz=94,slow=11,SNR=2.3							
USRK	**Ussuriysk Arra**	**63.96**	**333**	P	P		02 11 14.1	+0.1
	7.5nm,0.8s,baz=125,slow=6.9,SNR=3.3							
SONM	**Songino Array**	**79.60**	**324**	P	P		02 12 46.9	-1.2
	4.9nm,0.9s,baz=126,slow=7.3,SNR=2.4							
MKAR	**Makanchi Array**	**94.39**	**317**	P	P		02 14 02.1	+1.5
	3.5nm,0.8s,baz=100,slow=6.4,SNR=2.7							
ZALV	**Zalesovo Beam**	**94.50**	**324**	P	P		02 14 01.7	+0.9
	3.3nm,0.9s,baz=131,slow=4.4,SNR=2.1							
ARCES	**ARCESS Array B**	**117.40**	**345**	PKP	PKPdf		02 19 24.6	-1.1
	3.7nm,0.7s,baz=64,slow=2.1,SNR=4.6							
FINES	**FINESS Array B**	**122.81**	**338**	PKP	PKPdf		02 19 36.0	-0.3
	2.6nm,0.7s,baz=44,slow=4.2,SNR=2.8							
BRTR	**Keskin Array B**	**129.78**	**312**	PKP	PKPdf		02 19 49.8	-0.6
	1.1nm,0.8s,baz=85,slow=1.8,SNR=1.9							
EKA	**Eskdalemuir Ar**	**136.03**	**351**	PKP	PKPdf		02 20 00.8	-0.7
	1.1nm,0.7s,baz=46,slow=3.1,SNR=3.0							
GERES	**GERESS Array B**	**136.71**	**333**	PKP	PKPdf		02 20 02.9	-0.2
	1.5nm,0.8s,baz=83,slow=3.1,SNR=2.2							
TORD	**Torodi Ar. Bea**	**164.

mb5.2/41, Error ellipse: s-maj=7.9km s-min=6.1km az=147.4
*MOS **08** 02:02:38.2±0.8, 11°.96S×165°.76E, h33km, mb5.5/5, Error ellipse: s-maj=12.2km s-min=9.3km az=8.8*
*NEIC **08** 02:02:39.6±0.2, 11°.89S×165°.83E, h35km, mb5.3/15, Error ellipse: s-maj=6.3km s-min=5.5km az=67.0*
*AUST **08** 02:02:42.5±14.0, 11°.95S×165°.92E, h56km±1km, Error ellipse: s-maj=4.1km s-min=1.5km az=225.0*

ISC 08 02:02:39.0±0.3, **11°.89S**±0°.06×**165°.87E**±0°.06, **h30**km, **n171, σ1°07/188, mb5.4/41, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**6.32**	**292**	Pn		**Pn**	**02 04 10.3**	**+0.2**
HNR				Sn		**Sn**	**02 05 21.6**	**+0.3**
HNR	**Honiara**	**6.32**	**292**	Pn		**Pn**	**02 04 10.3**	**+0.2**
	67nm,0.3s,baz=182,slow=2.4,SNR=5.1							
HNR				Sn		**Sn**	**02 05 21.6**	**+0.3**
	82nm,0.3s,baz=148,slow=17,SNR=3.2							
DZM	**Mont Dzumac**	**10.14**	**177**	Pn		**Pn**	**02 05 02.8**	**+0.1**
DZM	**Mont Dzumac**	**10.14**	**177**	Pn		**Pn**	**02 05 02.8**	**+0.1**
	10nm,0.3s,baz=11,slow=17,SNR=7.3							
MSVF	**Nonsavu**	**13.13**	**118**	*e*P		**Pn**	**02 05 44.2**	**+0.7**
MSVF	**Nonsavu**	**13.13**	**118**	*e*Pn		**Pn**	**02 05 44.2**	**+0.7**
PMG	**Port Moresby**	**18.56**	**276**	P		**P**	**02 06 52.6**	**-1.0**
PMG				*e*Pn		**Pn**	**02 06 54.3**	**+0.4**
PMG	**Port Moresby**	**18.56**	**276**	P		**P**	**02 06 52.6**	**-1.0**
	0.9nm,0.3s,baz=142,slow=12,SNR=2.6							
EIDS	**Eidsvold**	**19.37**	**224**	*e*P		**P**	**02 07 02.4**	**0.0**
	124nm,1.0s							
EIDS	**Eidsvold**	**19.37**	**224**	P		**Pn**	**02 07 04.4**	**+0.7**
	baz=19,SNR=9.2							
CTA	**Charters Tower**	**20.53**	**244**	P		**P**	**02 07 15.8**	**+0.7**
CTA	**Charters Tower**	**20.53**	**244**	P		**P**	**02 07 15.8**	**+0.7**
	82nm,0.9s,baz=76,slow=13,SNR=11							
CTAO	**Charters Tower**	**20.53**	**244**	*e*P		**P**	**02 07 15.8**	**+0.7**
CTAO				pmax		pmax		
	comp=Z,134nm,1.0s							
CTAO	**Charters Tower**	**20.53**	**244**	*e*P		**P**	**02 07 15.8**	**+0.7**
	comp=Z,134nm,1.0s							
RMQ	**Roma**	**21.69**	**226**	P		**P**	**02 07 29.4**	**+1.8**
	baz=22,SNR=6.4							
COEN	**Coen**	**22.22**	**262**	*e*P		**P**	**02 07 32.1**	**-1.2**
	comp=Z,1μm,1.3s							
COEN	**Coen**	**22.22**	**262**	P		**P**	**02 07 34.2**	**+0.9**
	baz=22,SNR=8.9							
ARMA	**Armidale**	**22.68**	**213**	*e*P		**P**	**02 07 38.5**	**+0.3**
	comp=Z,438nm,1.1s							
ARMA	**Armidale**	**22.68**	**213**	P		**P**	**02 07 39.3**	**+1.1**
	baz=23,SNR=18							
OUZ	**Omahuta**	**24.26**	**164**	*e*P		**P**	**02 07 54.0**	**+0.5**
	comp=Z,140nm,1.3s							
QLP	**Quilpie**	**25.06**	**231**	P		**P**	**02 08 01.9**	**+1.1**
	baz=25,SNR=3.7							
MGCD	**Mangrove Creek**	**25.16**	**210**	P		**P**	**02 08 03.6**	**+1.9**
	baz=25,SNR=6.3							
CMSA	**Cobar Meteorol**	**27.00**	**220**	P		**P**	**02 08 20.9**	**+2.5**
	baz=27,SNR=8.5							
STKA	**Stephens Creek**	**29.92**	**225**	P		**P**	**02 08 45.0**	**+0.6**
STKA	**Stephens Creek**	**29.92**	**225**	P		**P**	**02 08 45.0**	**+0.6**
	comp=Z,17nm,0.9s,baz=40,slow=11,SNR=3.5							
WRAB	**Tennant Creek**	**31.31**	**251**	*e*P		**P**	**02 08 54.9**	**-1.9**
WRAB				pmax		pmax		
	comp=Z,50nm,1.2s							
WRAB	**Tennant Creek**	**31.31**	**251**	*e*P		**P**	**02 08 54.9**	**-1.9**
	comp=Z,50nm,1.2s							
WRA	**Warramunga Arr**	**31.32**	**251**	P		**P**	**02 08 56.2**	**-0.7**
WRA				PcP		**PcP**	**02 11 50.9**	**+0.2**
WRA	**Warramunga Arr**	**31.32**	**251**	P		**P**	**02 08 56.2**	**-0.7**
	comp=Z,26nm,0.9s,baz=84,slow=9.0,SNR=8.5							
WRA				PcP		**PcP**	**02 11 50.9**	**+0.2**
	comp=Z,5.9nm,0.9s,baz=77,slow=3.3,SNR=4.7							
RPZ	**Rata Peaks**	**32.03**	**173**	*e*P		**P**	**02 09 02.9**	**0.0**
	comp=Z,121nm,0.9s							
RPZ	**Rata Peaks**	**32.03**	**173**	P		**P**	**02 09 03.6**	**+0.7**
	comp=Z,89nm,0.8s,baz=26,slow=4.8,SNR=8.7							
ASAR	**Alice Springs**	**32.53**	**245**	P		**P**	**02 09 06.2**	**-1.5**
ASAR				PcP		**PcP**	**02 11 53.5**	**-0.5**
ASAR				ScP		**ScP**	**02 15 39.0**	**+3.0**
ASAR	**Alice Springs**	**32.53**	**245**	P		**P**	**02 09 06.2**	**-1.5**
	comp=Z,32nm,0.9s,baz=76,slow=8.3,SNR=8.2							
ASAR				PcP		**PcP**	**02 11 53.5**	**-0.5**
	comp=Z,11nm,1.0s,baz=58,slow=2.0,SNR=6.4							
ASAR				ScP		**ScP**	**02 15 39.0**	**+3.0**
	comp=Z,5.6nm,1.2s,baz=86,slow=4.7,SNR=4.6							
ODZ	**Otahua Downs**	**33.29**	**174**	*e*P		**P**	**02 09 12.6**	**-1.2**
	comp=Z,174nm,1.5s							
KNRA	**Kununurra**	**36.21**	**260**	P		**P**	**02 09 39.7**	**+0.3**
	baz=36,SNR=4.3							
FITZ	**Fitzroy Crossi**	**39.29**	**256**	P		**P**	**02 10 05.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**39.29**	**256**	P		**P**	**02 10 05.3**	**-0.3**
	baz=39,SNR=5.9							
FITZ	**Fitzroy Crossi**	**39.29**	**256**	P		**P**	**02 10 05.2**	**-0.3**
	comp=Z,30nm,0.9s,baz=82,slow=7.4,SNR=5.7							
FORT	**Forrest**	**39.67**	**236**	*e*P		**P**	**02 10 08.3**	**-0.2**
	comp=Z,69nm,0.9s							
BATI	**Baumata**	**41.43**	**268**	P		**P**	**02 10 24.4**	**+1.1**
BATI	**Baumata**	**41.43**	**268**	P		**P**	**02 10 24.4**	**+1.1**
	comp=Z,100nm,0.9s,baz=66,slow=0.8,SNR=7.0							
LUWI	**Luwuk**	**44.09**	**281**	P		**P**	**02 10 45.5**	**+0.7**
	baz=44,SNR=6.7							
MBWA	**Marble Bar**	**45.05**	**252**	*e*P		**P**	**02 10 52.2**	**-0.3**
	comp=Z,79nm,1.1s							
KAPI	**Kappang**	**46.08**	**274**	*e*P		**P**	**02 10 57.9**	**-2.8**
	comp=Z,151nm,1.2s							
KAPI	**Kappang**	**46.08**	**274**	P		**P**	**02 10 59.5**	**-1.2**
	comp=Z,76nm,1.0s,baz=105,slow=5.5,SNR=9.9							
MEEK	**Meekatharra**	**46.69**	**245**	P		**P**	**02 11 05.8**	**+0.4**
	baz=47,SNR=11							
KLBR	**Kellerberrin**	**48.37**	**238**	P		**P**	**02 11 18.1**	**-0.2**
	baz=48,SNR=4.8							
NWAO	**Narrogin (SRO)**	**49.10**	**237**	*e*P		**P**	**02 11 23.7**	**-0.3**
	comp=Z,61nm,1.1s							
NWAO	**Narrogin (SRO)**	**49.10**	**237**	P		**P**	**02 11 22.4**	**-1.6**
	comp=Z,50nm,1.0s,baz=66,slow=7.7,SNR=6.7							
MORW	**Morawa**	**49.33**	**242**	P		**P**	**02 11 25.7**	**-0.1**
	baz=49,SNR=6.4							
KKM	**Kota Kinabalu**	**52.50**	**287**	*e*P		**P**	**02 11 49.9**	**0.0**
	comp=Z,110nm,1.1s							
KKM	**Kota Kinabalu**	**52.50**	**287**	P		**P**	**02 11 50.8**	**+0.9**
	baz=53,SNR=4.9							
UGM	**Wanagama**	**54.60**	**269**	P		**P**	**02 12 06.1**	**+0.8**
	baz=55,SNR=4.2							
MJAR	**Matsushiro Arr**	**54.77**	**333**	P		**P**	**02 12 04.1**	**-2.0**
MJAR	**Matsushiro Arr**	**54.77**	**333**	P		**P**	**02 12 04.1**	**-2.0**
	comp=Z,8.2nm,0.8s,baz=171,slow=9.3,SNR=7.1							
JNU	**Nakatsue**	**55.84**	**324**	P		**P**	**02 12 13.8**	**0.0**
JNU	**Nakatsue**	**55.84**	**324**	P		**P**	**02 12 13.8**	**0.0**
	comp=Z,36nm,0.9s,baz=51,slow=5.7,SNR=5.9							
TPUB	**Ta-pu**	**56.42**	**308**	*e*P		**P**	**02 12 17.8**	**-0.3**
	comp=Z,79nm,1.0s							
KSM	**Kuching**	**56.76**	**280**	*e*P		**P**	**02 12 20.8**	**+0.1**
	comp=Z,13nm,0.7s							
ASAJ	**Asahikawa**	**59.63**	**341**	P		**P**	**02 12 40.2**	**0.0**
ASAJ	**Asahikawa**	**59.63**	**341**	P		**P**	**02 12 40.2**	**0.0**
	comp=Z,13nm,0.5s,baz=227,slow=12,SNR=4.9							
KSRS	**Korea Array**	**60.64**	**326**	P		**P**	**02 12 46.8**	**-0.4**
	comp=Z,5.4nm,0.7s,baz=139,slow=7.2,SNR=7.0							
KSRS				PcP		**PcP**	**02 13 31.9**	**+0.6**
	comp=Z,9.3nm,0.9s,baz=138,slow=4.5,SNR=4.3							
KSAR	**Wonju Array Be**	**60.65**	**326**	P		**P**	**02 12 46.8**	**-0.5**
KSAR				PcP		**PcP**	**02 13 31.9**	**+0.5**
YSS	**Yuzh-Sakhalins**	**62.12**	**342**	*e*P		**P**	**02 12 58.0**	**+0.9**
USRK	**Ussuriysk Arra**	**63.75**	**333**	P		**P**	**02 13 08.1**	**+0.1**
	comp=Z,16nm,0.9s,baz=123,slow=7.2,SNR=6.0							
CASY	**Casey**	**65.64**	**201**	*e*P		**P**	**02 13 19.3**	**-0.8**
	comp=Z,38nm,1.1s							
VNDA	**Vanda**	**65.66**	**181**	*e*P		**P**	**02 13 20.2**	**+0.2**
	comp=Z,45nm,1.5s							
VNDA	**Vanda**	**65.66**	**181**	P		**P**	**02 13 20.9**	**+0.9**
	comp=Z,7.2nm,0.7s,baz=350,slow=6.8,SNR=6.2							
PPI	**Padang Panjang**	**65.93**	**275**	P		**P**	**02 13 23.9**	**+1.0**
	baz=66,SNR=4.2							
SBA	**Scott Base**	**65.96**	**180**	*e*P		**P**	**02 13 23.0**	**+1.1**
SBA	**Scott Base**	**65.96**	**180**	*e*P		**P**	**02 13 23.0**	**+1.1**
IPM	**Ipoh**	**66.49**	**280**	*e*P		**P**	**02 13 26.6**	**+0.1**
	comp=Z,106nm,1.0s							
KULM	**Kulim**	**67.06**	**281**	*e*P		**P**	**02 13 30.6**	**+0.5**
	comp=Z,37nm,1.0s							
PSI	**Prapat**	**68.11**	**278**	P		**P**	**02 13 36.6**	**-0.2**
	baz=68,SNR=8.7							
CHTO	**Chiang Mai**	**72.68**	**294**	*e*P		**P**	**02 14 05.0**	**+0.5**
CHTO				pmax		pmax		
	comp=Z,61nm,1.0s							
CHTO	**Chiang Mai**	**72.68**	**294**	*e*P		**P**	**02 14 05.0**	**+0.5**
	comp=Z,62nm,1.0s							
CIT	**Chita**	**77.95**	**330**	*e*P		**P**	**02 14 35.2**	**+1.0**
CIT				*e*			02 14 46.3	
CIT				pmax		pmax		
	comp=Z,234nm,1.7s							
QSPA	**South Pole Qui**	**78.12**	**180**	*e*P		**P**	**02 14 34.4**	**-0.7**
	comp=Z,34nm,0.9s							
ULN	**Ulaanbaatar**	**79.05**	**324**	*e*P		**P**	**02 14 41.4**	**+0.9**
SONM	**Songino Array**	**79.42**	**324**	P		**P**	**02 14 42.9**	**+0.4**
SONM	**Songino Array**	**79.42**	**324**	P		**P**	**02 14 42.9**	**+0.4**
	comp=Z,18nm,1.0s,baz=128,slow=6.0,SNR=7.5							
MAW	**Mawson**	**83.99**	**202**	*e*P		**P**	**02 15 06.3**	**+0.2**
	comp=Z,8.9nm,1.4s							
MAW	**Mawson**	**83.99**	**202**	P		**P**	**02 15 06.5**	**+0.4**
	comp=Z,12nm,1.0s,baz=109,slow=4.6,SNR=4.4							
ILAR	**Eielson Array**	**84.27**	**18**	P		**P**	**02 15 07.8**	**+0.4**
ILAR	**Eielson Array**	**84.27**	**18**	P		**P**	**02 15 07.8**	**+0.4**
	comp=Z,3.0nm,0.6s,baz=251,slow=5.2,SNR=2.7							
MOY	**Mondy**	**84.34**	**325**	*e*P		**P**	**02 15 10.0**	**+1.7**
MOY				pmax		pmax		
	comp=Z,89nm,2.3s							
YBH	**Yreka Blue Hor**	**84.39**	**45**	P		**P**	**02 15 09.8**	**+1.1**
YBH	**Yreka Blue Hor**	**84.39**	**45**	P		**P**	**02 15 09.8**	**+1.1**
	comp=Z,3.2nm,0.9s,baz=213,slow=12,SNR=2.0							
NVAR	**Mina Array Bea**	**86.47**	**50**	P		P	02 15 22.8	+3.5
NVAR	**Mina Array Bea**	**86.47**	**50**	P		P	02 15 22.8	+3.5
	comp=Z,1.0nm,0.6s,baz=0.0,slow=0.7,SNR=4.6							
PDAR	**Pinedale Array**	**94.03**	**47**	P		P	02 15 59.9	+5.2
PDAR	**Pinedale Array**	**94.03**	**47**	P		P	02 15 59.9	+5.2
	comp=Z,0.7nm,0.8s,baz=225,slow=2.4,SNR=3.6							
MK31	**Makanchi Array**	**94.22**	**317**	*e*P		**P**	**02 15 55.5**	**+0.2**
MK31	**Makanchi Array**	**94.22**	**317**	*e*P		**P**	**02 15 55.5**	**+0.2**
MKAR	**Makanchi Array**	**94.22**	**317**	P		**P**	**02 15 55.5**	**+0.2**
MKAR	**Makanchi Array**	**94.22**	**317**	P		**P**	**02 15 55.5**	**+0.2**
MKAR	**Makanchi Array**	**94.22**	**317**	P		**P**	**02 15 55.5**	**+0.2**
	comp=Z,15nm,0.8s,baz=101,slow=5.9,SNR=9.4							
ZAA0	**Zalesovo Array**	**94.31**	**324**	*e*P		**P**	**02 15 54.5**	**-1.0**
ZALV	**Zalesovo Beam**	**94.31**	**324**	P		**P**	**02 15 54.9**	**-0.5**
ZALV	**Zalesovo Beam**	**94.31**	**324**	P		**P**	**02 15 54.9**	**-0.5**
ZALV	**Zalesovo Beam**	**94.31**	**324**	P		**P**	**02 15 54.9**	**-0.5**
	comp=Z,28nm,1.0s,baz=108,slow=4.8,SNR=14							
SNAA	**Sanae**	**96.29**	**184**	*e*P		**P**	**02 16 03.2**	**-1.2**
SNAA	**Sanae**	**96.29**	**184**	P		**P**	**02 16 03.1**	**-1.2**
	comp=Z,3.4nm,1.1s,baz=185,slow=9.6,SNR=5.2							
KURK	**Kurchatov**	**97.36**	**320**	P		**P**	**02 16 08.6**	**-0.8**
KURK	**Kurchatov**	**97.36**	**320**	P		**P**	**02 16 08.6**	**-0.8**
KURBB	**Kurchatov Arra**	**97.41**	**320**	P		**P**	**02 16 08.6**	**-1.0**
	comp=Z,1.5nm,0.2s,baz=102,slow=4.7,SNR=5.0							
KKAR	**Karatay Array**	**101.91**	**312**	*e*P		**Pdif**	**02 16 29.6**	**-0.4**
KKAR				pmax		pmax		
	comp=Z,5.0nm,0.9s							
KKAR	**Karatay Array**	**101.91**	**312**	*e*Pdif		**Pdif**	**02 16 29.6**	**-0.4**
	comp=Z,5.3nm,0.9s							
BVAR	**Borovoye Array**	**102.69**	**322**	P		**Pdif**	**02 16 32.4**	**-0.8**
BVAR	**Borovoye Array**	**102.69**	**322**	Pdif		**Pdif**	**02 16 32.4**	**-0.8**
BVAR	**Borovoye Array**	**102.69**	**322**	Pdiff		**Pdif**	**02 16 32.4**	**-0.8**
	comp=Z,4.3nm,0.9s,baz=105,slow=5.1,SNR=7.3							
ARCES	**ARCESS Array B**	**117.18**	**345**	PKP		**PKPdf**	**02 21 19.4**	**-1.3**
ARCES	**ARCESS Array B**	**117.18**	**345**	PKP		**PKPdf**	**02 21 19.4**	**-1.3**
	comp=Z,3.9nm,0.6s,baz=82,slow=1.6,SNR=8.0							
GNI	**Garni**	**121.29**	**310**	PKP		**PKPdf**	**02 21 30.6**	**+0.8**
GNI	**Garni**	**121.29**	**310**	PKP		**PKPdf**	**02 21 30.5**	**+0.8**
	comp=Z,7.6nm,0.8s,baz=79,slow=5.2,SNR=3.7							
FINES	**FINESS Array B**	**122.60**	**338**	PKP		**PKPdf**	**02 21 29.9**	**-1.4**
FINES	**FINESS Array B**	**122.60**	**338**	PKP		**PKPdf**	**02 21 29.9**	**-1.4**
	comp=Z,4.1nm,0.8s,baz=38,slow=5.3,SNR=4.9							
BOSA	**Boshof**	**124.59**	**223**	PKP		**PKPdf**	**02 21 36.2**	**-0.2**
BOSA	**Boshof**	**124.59**	**223**	PKP		**PKPdf**	**02 21 36.2**	**-0.2**
	comp=Z,5.5nm,0.8s,baz=250,slow=1.7,SNR=8.3							
ANN	**Anapa**	**125.24**	**317**	*i* P		**Pdif**	**02 18 15.2**	**+1.6**
ANN				pmax		pmax		
	comp=Z,72nm,2.3s							
LBTB	**Lobatse**	**126.65**	**226**	PKP		**PKPdf**	**02 21 40.1**	**-0.3**
LBTB	**Lobatse**	**126.65**	**226**	PKP		**PKPdf**	**02 21 40.1**	**-0.3**
	comp=Z,9.7nm,1.0s,baz=107,slow=5.2,SNR=4.7							
KMBO	**Kilima Mbogo**	**127.36**	**259**	PKP		**PKPdf**	**02 21 41.8**	**-0.4**
KMBO	**Kilima Mbogo**	**127.36**	**259**	PKP		**PKPdf**	**02 21 41.8**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=343,slow=5.8,SNR=3.3							
SIM	**Simferopol'**	**127.38**	**318**	*e*P		**Pdif**	**02 18 25.0**	**+1.9**
SIM				pmax		pmax		
	comp=Z,17nm,0.7s							
NB2	**NORSAR Subarra**	**127.54**	**345**	PKPdf		**PKPdf**	**02 21 40.5**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=33,slow=1.9							
NOA	**NORSAR Array B**	**127.54**	**345**	PKP		**PKPdf**	**02 21 40.6**	**-0.3**
NOA	**NORSAR Array B**	**127.54**	**345**	PKP		**PKPdf**	**02 21 40.6**	**-0.3**
	comp=Z,3.1nm,0.9s,baz=35,slow=2.0,SNR=4.2							
HFS	**Hagfors**	**127.62**	**343**	PKP		**PKPdf**	**02 21 40.3**	**-0.7**
HFS	**Hagfors**	**127.62**	**343**	PKP		**PKPdf**	**02 21 40.3**	**-0.7**
	comp=Z,6.6nm,0.9s,baz=57,slow=5.3,SNR=3.7							
AKASG	**Malin Array Be**	**127.63**	**327**	PKIKP		**PKPdf**	**02 21 40.6**	**-0.7**
AKASG	**Malin Array Be**	**127.63**	**327**	PKP		**PKPdf**	**02 21 40.6**	**-0.7**
AKASG	**Malin Array Be**	**127.63**	**327**	PKP		**PKPdf**	**02 21 40.6**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=52,slow=1.9,SNR=5.4							
KIEV	**Kiev**	**127.64**	**327**	*e*PKIKP		**PKPdf**	**02 21 40.9**	**-0.4**
KIEV	**Kiev**	**127.64**	**327**	*e*PKPdf		**PKPdf**	**02 21 40.9**	**-0.4**
BRTR	**Keskin Array B**	**129.62**	**312**	PKP		**PKPdf**	**02 21 44.9**	**-0.8**
BRTR				PP		**PP**	**02 23 54.8**	**-1.3**
BRTR	**Keskin Array B**	**129.62**	**312**	PKP		**PKPdf**	**02 21 44.9**	**-0.8**
	comp=Z,4.4nm,1.0s,baz=139,slow=2.6,SNR=6.3							
BRTR				PP		**PP**	**02 23 54.8**	**-1.3**
	comp=Z,0.7nm,0.9s,baz=71,slow=6.2,SNR=3.6							
EIL	**Elat**	**131.21**	**299**	PKP		**PKPdf**	**02 21 49.8**	**+1.0**
EIL	**Elat**	**131.21**	**299**	PKP		**PKPdf**	**02 21 49.8**	**+1.0**
	comp=Z,8.1nm,1.0s,baz=31,slow=7.7,SNR=4.1							
VRAC	**Vranov**	**134.87**	**332**	PKP		**PKPdf**	**02 21 55.9**	**+0.8**
VRAC	**Vranov**	**134.87**	**332**	PKP		**PKPdf**	**02 21 55.9**	**+0.8**
	comp=Z,3.9nm,0.8s,baz=42,slow=4.3,SNR=3.6							
CLL	**Collm**	**134.92**	**336**	*e*PKPdf		**PKPdf**	**02 21 55.0**	**-0.1**
EKA	**Eskdalemuir Ar**	**135.81**	**351**	PKP		**PKPdf**	**02 21 56.1**	**-0.5**
EKA				SKPbc		**SKPab**	**02 25 29.6**	**-1.4**
EKA	**Eskdalemuir Ar**	**135.81**	**351**	PKP		**PKPdf**	**02 21 56.1**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=23,slow=2.3,SNR=4.9							
EKA				SKPbc		**SKPab**	**02 25 29.6**	**-1.4**
	comp=Z,4.7nm,1.0s,baz=24,slow=2.6,SNR=3.6							
GERES	**GERESS Array B**	**136.51**	**333**	PKPpre		PKPpre	02 21 46.6	
GERES				PKP		**PKiKP**	**02 21 60.0**	**0.0**
GERES	**GERESS Array B**	**136.51**	**333**	PKhKP		PKPpre	02 21 46.6	
	comp=Z,1.5nm,0.8s,baz=46,slow=2.8,SNR=3.4							
GERES				PKP		**PKiKP**	**02 21 60.0**	**0.0**
	comp=Z,2.4nm,0.8s,baz=70,slow=1.6,SNR=4.7							
VISS	**Visnje**	**138.19**	**329**	*i* PKPdf		**PKPdf**	**02 22 04.4**	**+3.1**
BOJS	**Bojanci**	**138.19**	**329**	*i* PKPdf		**PKPdf**	**02 22 02.9**	**+1.6**
JAVC	**Javornik**	**138.51**	**330**	*i* PKPdf		**PKPdf**	**02 22 06.4**	**+4.4**
DAVOX	**Davos/Dischmat**	**139.75**	**334**	PKPpre		PKPpre	02 21 56.7	
DAVOX	**Davos/Dischmat**	**139.75**	**334**	PKhKP		PKPpre	02 21 56.7	
	comp=Z,2.5nm,0.5s,baz=220,slow=6.3,SNR=5.2							
KEST	**Kesra**	**148.16**	**322**	PKPbc		**PKPbc**	**02 22 22.7**	**+0.2**
KEST	**Kesra**	**148.16**	**322**	PKPbc		**PKPbc**	**02 22 22.7**	**+0.2**
	comp=Z,16nm,0.7s,baz=280,slow=1.3,SNR=14							
POLO	**Lamas de Olo**	**150.11**	**350**	*e*PKPdf		**PKPbc**	**02 22 27.3**	**0.0**
MVO	**Moncorvo**	**150.18**	**349**	*e*PKPdf		**PKPbc**	**02 22 26.6**	**-0.8**
PVRL	**Vila Real**	**150.19**	**350**	*e*PKPdf		**PKPbc**	**02 22 27.6**	**+0.2**
ESDC	**Sonseca Array**	**150.90**	**344**	PKP		**PKPdf**	**02 22 24.2**	**+0.7**
ESDC				PKPbc		**PKPbc**	**02 22 28.0**	**-1.2**
ESDC				PKPab		**PKPab**	**02 22 36.5**	**+0.1**
ESDC	**Sonseca Array**	**150.90**	**344**	PKP		**PKPdf**	**02 22 24.2**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=357,slow=4.6,SNR=2.5							
ESDC				PKPbc		**PKPbc**	**02 22 28.0**	**-1.2**
	comp=Z,4.3nm,0.8s,baz=348,slow=2.5,SNR=4.1							
ESDC				PKPab		**PKPab**	**02 22 36.5**	**+0.1**
	comp=Z,7.5nm,1.0s,baz=14,slow=4.0,SNR=4.6							
MTE	**Manteigas**	**151.01**	**350**	*e*PKPdf		**PKPbc**	**02 22 27.1**	**-2.3**
PCBR	**Castelo Branco**	**151.54**	**349**	*e*PKPdf		**PKPbc**	**02 22 29.3**	**-1.2**
PTOM	**Tomar**	**151.92**	**351**	*e*PKPdf		**PKPbc**	**02 22 30.0**	**-1.4**
PMRV	**Marv??o**	**151.93**	**349**	*e*PKPdf		**PKPbc**	**02 22 30.1**	**-1.4**
PMTG	**Montargil**	**152.43**	**350**	*e*PKPdf		**PKPbc**	**02 22 33.4**	**+0.8**
EVO	**Evora**	**152.91**	**349**	*e*PKPdf		**PKPbc**	**02 22 33.7**	**0.0**
TORD	**Torodi Ar. Bea**	**164.50**	**276**	PKP		**PKPdf**	**02 22 40.5**	**-0.3**
TORD				PKPab		**PKPab**	**02 23 35.6**	**-0.1**
TORD	**Torodi Ar. Bea**	**164.50**	**276**	PKP		**PKPdf**	**02 22 40.5**	**-0.3**
	comp=Z,2.8nm,0.6s,baz=352,slow=0.8,SNR=11							
TORD				PKPab		**PKPab**	**02 23 35.6**	**-0.1**
	comp=Z,3.0nm,0.9s,baz=90,slow=2.2,SNR=2.8							
KIC	**Kosan Boka**	**169.23**	**240**	*e*P		**PKPdf**	**02 22 44.5**	**+0.1**
	comp=Z,188nm,1.7s							
LIC	**Lamto**	**169.40**	**239**	*e*P		**PKPdf**	**02 22 41.0**	**-3.5**
	comp=Z,44nm,1.5s							
DBIC	**Dimbokro**	**169.48**	**241**	PKP		**PKPdf**	**02 22 43.6**	**-1.0**
DBIC				PKPab		**PKPab**	**02 23 56.7**	**-1.0**
DBIC	**Dimbokro**	**169.48**	**241**	PKP		**PKPdf**	**02 22 43.6**	**-1.0**
	comp=Z,12nm,1.0s,baz=98,slow=2.6,SNR=4.7							
DBIC				PKPab		**PKPab**	**02 23 56.7**	**-1.0**
	comp=Z,9.1nm,1.0s,baz=126,slow=7.6,SNR=3.4							
TIC	**Toumodi**	**169.61**	**241**	*e*P		**PKPdf**	**02 22 41.4**	**-3.3**
	comp=Z,172nm,1.8s							

ISC 08 02:05:45.6±1.5, **42°.70N**±0°.09×**43°.61E**±0°.03, **h12**km±7km, **n16, σ1°17/28, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ONI	**Oni**	**0.16**	**227**	P		**Pg**	**02 05 49.2**	**-0.1**
ONI				S		**Sg**	**02 05 51.3**	**-0.7**
GUDG	**Gudauri**	**0.68**	**110**	P		**Pg**	**02 05 59.8**	**+0.9**
GUDG				S		**Sg**	**02 06 06.6**	**-1.3**
CHVG	**Ch'k'valeri**	**1.12**	**271**	P		**Pn**	**02 06 07.3**	**+0.1**
CHVG				S		**Sb**	**02 06 22.5**	**+0.9**
TBLG	**Delisi**	**1.28**	**139**	P		**Pn**	**02 06 08.8**	**-0.5**
TBLG				S		**Sb**	**02 06 25.8**	**-0.3**
KZR	**Kazreti**	**1.45**	**155**	P		**Pn**	**02 06 10.5**	**-1.2**
KZR				S		**Sn**	**02 06 28.3**	**-2.3**
DGRG	**David-gareji**	**1.81**	**133**	P		**Pb**	**02 06 19.2**	**+0.5**
DGRG				S		**Sg**	**02 06 45.0**	**+1.2**
BCA	**Borcka**	**1.94**	**230**	*e*PN		**Pn**	**02 06 18.2**	**-0.2**
BCA				*e*SN		**Sn**	**02 06 39.6**	**-3.2**
ARTV	**Artvin**	**1.97**	**220**	*i* P		**Pn**	**02 06 18.9**	**0.0**
ARTV				*i* S		**Sn**

CAN	**Canberra**	**28.25**	**211**	*e*P	**P**	**02 18 29.2**	**0.0**
CAN				pmax	pmax			
	comp=Z,76nm,1.1s							
CAN	**Canberra**	**28.25**	**211**	*e*P	**P**	**02 18 29.2**	**0.0**
	comp=Z,76nm,1.1s							
CAN	**Canberra**	**28.25**	**211**	⇑P	**P**	**02 18 30.6**	**+1.4**
	baz=28							
BKZ	**Black Stump Fm**	**28.89**	**163**	*e*P	**P**	**02 18 35.8**	**+1.0**
	comp=Z,121nm,0.9s							
MILA	**Mila**	**29.57**	**208**	⇑P	**P**	**02 18 42.5**	**+1.6**
	baz=30,SNR=6.1							
BFZ	**Birch Farm**	**30.24**	**165**	*e*P	**P**	**02 18 46.6**	**-0.1**
	comp=Z,115nm,0.7s							
STKA	**Stephens Creek**	**30.31**	**225**	*e*P	**P**	**02 18 45.8**	**-1.7**
	comp=Z,26nm,1.0s							
STKA				*e*PcP	**PcP**	**02 21 47.9**	**+0.4**
STKA	**Stephens Creek**	**30.31**	**225**	P	**P**	**02 18 47.0**	**-0.5**
	baz=30,SNR=23							
STKA	**Stephens Creek**	**30.31**	**225**	P	**P**	**02 18 46.9**	**-0.5**
	comp=Z,41nm,1.1s,baz=31,slow=7.9,SNR=26							
STKA				PcP	**PcP**	**02 21 48.1**	**+0.7**
	comp=Z,70nm,1.0s,baz=35,slow=3.4,SNR=5.0							
STKA				LR	LR	02 30 20.2		
	comp=Z,64µm,18.8s,baz=84,slow=35							
SNZO	**South Karori**	**30.47**	**167**	*e*P	**P**	**02 18 47.5**	**-1.2**
	comp=Z,327nm,1.6s							
WAKE	**Wake Island**	**30.75**	**1**	*e*P	**P**	**02 18 51.3**	**-0.1**
	comp=Z,457nm,1.4s							
KHZ	**Kahutara**	**31.31**	**170**	*e*P	**P**	**02 18 55.2**	**-0.9**
	comp=Z,961nm,2.4s							
WRAB	**Tennant Creek**	**31.68**	**251**	*e*P	**P**	**02 18 58.2**	**-1.5**
WRAB				*e*		02 21 51.0		
WRAB				pmax	pmax			
	comp=Z,172nm,0.9s							
WRAB	**Tennant Creek**	**31.68**	**251**	P	**P**	**02 18 58.4**	**-1.3**
	comp=Z,1µm,1.4s,SNR=32							
WRAB	**Tennant Creek**	**31.68**	**251**	*e*P	**P**	**02 18 58.2**	**-1.5**
	comp=Z,172nm,0.9s							
WRAB				*e*PcP	**PcP**	**02 21 51.0**	**-0.3**
WRA	**Warramunga Arr**	**31.69**	**251**	P	**P**	**02 18 59.1**	**-0.7**
WRA				PcP	**PcP**	**02 21 51.7**	**+0.4**
WRA				ScP	**ScP**	**02 25 35.4**	**+3.0**
WRA	**Warramunga Arr**	**31.69**	**251**	P	**P**	**02 18 59.1**	**-0.7**
	comp=Z,134nm,1.1s,baz=81,slow=9.2,SNR=43							
WRA				PcP	**PcP**	**02 21 51.7**	**+0.4**
	comp=Z,54nm,1.1s,baz=77,slow=2.6,SNR=6.0							
WRA				ScP	**ScP**	**02 25 35.4**	**+3.0**
	comp=Z,8.8nm,0.8s,baz=80,slow=3.6,SNR=6.0							
WRA				LR	LR	02 30 21.9		
	comp=Z,48µm,21.2s,baz=75,slow=34							
TOO	**Toolangi**	**31.79**	**212**	⇓P	**P**	**02 19 00.9**	**+0.4**
	baz=32,SNR=20							
RPZ	**Rata Peaks**	**32.22**	**173**	*e*P	**P**	**02 19 05.0**	**+0.9**
	comp=Z,201nm,0.7s							
RPZ	**Rata Peaks**	**32.22**	**173**	P	**P**	**02 19 05.1**	**+0.9**
	comp=Z,124nm,0.6s,baz=308,slow=2.4,SNR=41							
RPZ				LR	LR	02 28 51.9		
	comp=Z,13µm,19.8s,baz=340,slow=30							
AS05	**Alice Springs**	**32.88**	**244**	⇓P	**P**	**02 19 08.5**	**-1.7**
	baz=33							
AS16	**Alice Springs**	**32.89**	**244**	⇓P	**P**	**02 19 08.6**	**-1.7**
	baz=33							
ASAR	**Alice Springs**	**32.92**	**244**	P	**P**	**02 19 08.5**	**-2.1**
ASAR				PcP	**PcP**	**02 21 54.8**	**+0.1**
ASAR				ScP	**ScP**	**02 25 40.4**	**+3.8**
ASAR	**Alice Springs**	**32.92**	**244**	P	**P**	**02 19 08.5**	**-2.1**
	comp=Z,69nm,0.7s,baz=74,slow=8.6,SNR=165							
ASAR				PcP	**PcP**	**02 21 54.8**	**+0.1**
	comp=Z,48nm,1.0s,baz=80,slow=3.1,SNR=9.1							
ASAR				ScP	**ScP**	**02 25 40.4**	**+3.8**
	comp=Z,5.4nm,0.9s,baz=57,slow=2.4,SNR=5.2							
KDU	**Kakadu**	**32.97**	**265**	⇑P	**P**	**02 19 10.5**	**-0.5**
	baz=33,SNR=20							
ARPS	**Mount Arapiles**	**33.25**	**217**	⇑P	**P**	**02 19 14.4**	**+1.2**
	baz=33,SNR=19							
ODZ	**Otahua Downs**	**33.49**	**174**	*e*P	**P**	**02 19 15.1**	**-0.2**
	comp=Z,280nm,1.5s							
TLE	**Tual**	**33.59**	**277**	P	**P**	**02 19 16.2**	**-0.3**
	comp=Z,139nm,2.2s							
TLE	**Tual**	**33.59**	**277**	⇑P	**P**	**02 19 17.0**	**+0.5**
	baz=33							
FAKI	**Fak Fak**	**34.73**	**282**	P	**P**	**02 19 24.4**	**-2.0**
	comp=Z,69nm,1.8s							
FAKI	**Fak Fak**	**34.73**	**282**	P	**P**	**02 19 26.9**	**+0.4**
	baz=35,SNR=5.5							
BBOO	**Buckleboo**	**34.74**	**228**	*e*P	**P**	**02 19 25.4**	**-0.9**
	comp=Z,2µm,0.9s							
BBOO				*e*PcP	**PcP**	**02 21 59.5**	**-0.1**
BBOO	**Buckleboo**	**34.74**	**228**	⇓P	**P**	**02 19 26.7**	**+0.5**
	baz=35,SNR=13							
MOO	**Moorlands**	**34.85**	**205**	P	**P**	**02 19 28.7**	**+1.6**
	baz=35,SNR=12							
TAU	**Tasmania Unive**	**35.19**	**204**	*e*P	**P**	**02 19 29.9**	**-0.1**
TAU				pmax	pmax			
	comp=Z,268nm,1.3s							
TAU	**Tasmania Unive**	**35.19**	**204**	P	**P**	**02 19 31.1**	**+1.1**
	comp=Z,789nm,1.0s,SNR=11							
TAU	**Tasmania Unive**	**35.19**	**204**	*e*P	**P**	**02 19 29.9**	**-0.1**
	comp=Z,268nm,1.3s							
SWI	**Sorong**	**36.29**	**285**	P	**P**	**02 19 40.0**	**+0.2**
	comp=Z,250nm,1.0s,comp=Z,5µm							
SWI	**Sorong**	**36.29**	**285**	P	**P**	**02 19 41.1**	**+1.3**
	baz=36,SNR=5.3							
KNRA	**Kununurra**	**36.56**	**259**	P	**P**	**02 19 42.2**	**+0.1**
	baz=36,SNR=40							
BNDI	**Bandanaira**	**36.59**	**278**	P	**P**	**02 19 41.6**	**-0.7**
	comp=Z,1µm,1.9s,comp=Z,26µm							
BNDI	**Bandanaira**	**36.59**	**278**	⇑P	**P**	**02 19 42.7**	**+0.4**
	baz=36							
PALU	**Palau**	**36.77**	**299**	P	**P**	**02 19 45.3**	**+1.5**
	baz=37,SNR=7.8							
AAI	**Ambon**	**38.44**	**279**	P	**P**	**02 19 57.2**	**-0.9**
	comp=Z,177nm,0.9s							
NLAI	**Namlea**	**39.61**	**279**	P	**P**	**02 20 08.7**	**+0.9**
	comp=Z,750nm,1.6s,comp=Z,13µm							
FITZ	**Fitzroy Crossi**	**39.65**	**256**	*e*P	**P**	**02 20 07.5**	**-0.6**
FITZ				*e*PcP	**PcP**	**02 22 16.2**	**+1.4**
FITZ	**Fitzroy Crossi**	**39.65**	**256**	P	**P**	**02 20 07.6**	**-0.5**
	baz=39,SNR=88							
FITZ	**Fitzroy Crossi**	**39.65**	**256**	P	**P**	**02 20 07.3**	**-0.9**
	comp=Z,103nm,0.9s,baz=90,slow=7.6,SNR=66							
FITZ				PcP	**PcP**	**02 22 15.4**	**+0.6**
	comp=Z,50nm,0.9s,baz=103,slow=8.7,SNR=3.1							
FITZ				LR	LR	02 35 53.6		
	comp=Z,78µm,19.4s,baz=77,slow=35							
LBMI	**Labuha**	**39.93**	**283**	P	**P**	**02 20 11.5**	**+1.0**
	comp=Z,1µm,0.9s,comp=Z,20µm							
FORT	**Forrest**	**40.06**	**236**	*e*P	**P**	**02 20 11.6**	**+0.3**
	comp=Z,317nm,0.8s							
FORT				*e*PcP	**PcP**	**02 22 15.8**	**-0.1**
FORT	**Forrest**	**40.06**	**236**	P	**P**	**02 20 11.7**	**+0.3**
	baz=40,SNR=34							
TNTI	**Ternate**	**40.50**	**285**	P	**P**	**02 20 15.3**	**+0.1**
	comp=Z,539nm,1.9s,comp=Z,13µm							
TNTI	**Ternate**	**40.50**	**285**	*e*P	**P**	**02 20 16.3**	**+1.1**
	comp=Z,6µm,2.9s							
SOEI	**Soe**	**41.22**	**268**	P	**P**	**02 20 21.4**	**+0.1**
	comp=Z,493nm,1.1s,comp=Z,11µm							
SOEI	**Soe**	**41.22**	**268**	⇓P	**P**	**02 20 22.4**	**+1.1**
	baz=41,SNR=19							
BATI	**Baumata**	**41.76**	**268**	P	**P**	**02 20 26.1**	**+0.5**
	comp=Z,487nm,1.0s,comp=Z,10µm							
BATI	**Baumata**	**41.76**	**268**	P	**P**	**02 20 26.4**	**+0.8**
BATI	**Baumata**	**41.76**	**268**	P	**P**	**02 20 26.4**	**+0.8**
	comp=Z,380nm,0.8s,baz=56,slow=0.4							
BATI				LR	LR	02 37 33.5		
	comp=Z,51µm,21.0s,baz=110,slow=36							
MCQ	**Macquarie Isla**	**43.12**	**186**	*e*P	**P**	**02 20 36.4**	**+0.4**
MCQ	**Macquarie Isla**	**43.12**	**186**	*e*P	**P**	**02 20 36.4**	**+0.4**
	comp=Z,61µm,1.5s							
PPT2	**Papeete2**	**43.13**	**103**	*e*S	**S**	**02 27 02.7**	**+1.4**
	comp=Z,16µm,27.2s							
PPT2				*e*LQ	LQ	02 30 52.0		
	comp=Z,47µm,31.2s							
PPT2				*e*LR	LR	02 32 43.5		
	comp=Z,75µm,26.8s,baz=280							
SGSI	**Sangihe**	**43.22**	**288**	P	**P**	**02 20 38.1**	**+0.7**
	comp=Z,1µm,2.2s,comp=Z,31µm							
MMRI	**Maumere**	**43.34**	**270**	P	**P**	**02 20 37.5**	**-1.0**
	comp=Z,1µm,1.1s,comp=Z,15µm							
MMRI	**Maumere**	**43.34**	**270**	*e*P	**P**	**02 20 38.0**	**-0.5**
	comp=Z,879nm,1.0s							
BBSI	**Bau Bau**	**43.53**	**274**	P	**P**	**02 20 41.4**	**+1.4**
	comp=Z,1µm,2.1s,comp=Z,22µm							
KMSI	**Cibinong**	**43.65**	**283**	P	**P**	**02 20 42.2**	**+1.2**
	comp=Z,2µm,1.1s,comp=Z,23µm							
TBI	**Tubuai**	**43.70**	**112**	*e*LQ	LQ	02 30 59.5		
	comp=Z,19µm,31.0s							
TBI				*e*LR	LR	02 32 58.7		
	comp=Z,84µm,28.8s,baz=286							
LUWI	**Luwuk**	**44.35**	**281**	P	**P**	**02 20 47.4**	**+0.8**
	comp=Z,758nm,1.5s,comp=Z,15µm							
DAV	**Davao City (W)**	**44.48**	**293**	*e*P	**P**	**02 20 48.2**	**+0.7**
KKSI	**Kolaka, Sulawe**	**44.69**	**276**	P	**P**	**02 20 50.0**	**+0.7**
	comp=Z,525nm,1.4s,comp=Z,10µm							
PMOR	**Pomariorio Ree**	**44.74**	**100**	*e*P	**P**	**02 20 51.4**	**+1.8**
	comp=Z,259nm,1.4s							
JCJ	**Chichijima**	**45.02**	**329**	LR	LR	02 36 33.8		
	comp=Z,18µm,21.4s,baz=159,slow=32							
WSI	**Waingapu**	**45.11**	**268**	P	P	02 20 59.7	+7.1	
MBWA	**Marble Bar**	**45.42**	**252**	P	**P**	**02 20 56.1**	**+1.1**
	SNR=19							
MBWA	**Marble Bar**	**45.42**	**252**	*e*P	**P**	**02 20 54.3**	**-0.7**
	comp=Z,208nm,0.8s							
APSI	**Ampana**	**45.47**	**280**	P	P	02 21 04.5	+9.0	
MRSI	**Marisa**	**45.57**	**282**	P	**P**	**02 20 55.0**	**-1.3**
	comp=Z,197nm,1.1s,comp=Z,5µm							
BKSI	**Bulukumba**	**45.95**	**274**	P	**P**	**02 20 58.9**	**-0.4**
	comp=Z,250nm,1.7s,comp=Z,7µm							
WBSI	**Waikabubak, Su**	**46.00**	**268**	P	P	02 21 06.1	+6.4	
BNSI	**Bone**	**46.15**	**275**	P	**P**	**02 21 00.5**	**-0.4**
	comp=Z,795nm,1.1s,comp=Z,12µm							
KAPI	**Kappang**	**46.38**	**274**	P	**P**	**02 21 02.7**	**+0.1**
	SNR=68							
KAPI	**Kappang**	**46.38**	**274**	P	**P**	**02 21 02.1**	**-0.5**
	comp=Z,2µm,1.0s,SNR=61							
KAPI	**Kappang**	**46.38**	**274**	P	**P**	**02 21 02.2**	**-0.4**
	comp=Z,570nm,1.1s,comp=Z,13µm							
KAPI	**Kappang**	**46.38**	**274**	*e*P	**P**	**02 21 02.3**	**-0.4**
	comp=Z,5µm,2.5s							
KAPI				*e*PcP	**PcP**	**02 22 37.2**	**-0.2**
KAPI				PcP	**PcP**	**02 22 37.7**	**+0.2**
KAPI	**Kappang**	**46.38**	**274**	P	**P**	**02 21 02.3**	**-0.4**
	comp=Z,149nm,0.9s,baz=109,slow=4.7,SNR=78							
KAPI				PcP	**PcP**	**02 22 37.7**	**+0.2**
	comp=Z,76nm,1.1s,baz=191,slow=5.2,SNR=2.0							
SPSI	**Sidrap Palu**	**46.57**	**276**	P	**P**	**02 21 03.6**	**-0.6**
	comp=Z,289nm,1.1s,comp=Z,7µm							
TTSI	**Tana Toraja**	**46.72**	**277**	P	**P**	**02 21 05.1**	**-0.2**
	comp=Z,237nm,2.4s,comp=Z,7µm							
MEEK	**Meekatharra**	**47.08**	**244**	P	**P**	**02 21 07.5**	**-0.5**
	baz=47,SNR=170							
MJSI	**Majene**	**47.43**	**276**	P	**P**	**02 21 11.0**	**+0.1**
	comp=Z,430nm,1.4s,comp=Z,10µm							
KIP	**Kipapa**	**48.13**	**47**	*e*P	**P**	**02 21 13.5**	**-2.6**
KIP				pmax	pmax			
	comp=Z,102nm,0.9s							
KIP	**Kipapa**	**48.13**	**47**	*e*P	**P**	**02 21 13.5**	**-2.6**
	comp=Z,102nm,0.9s							
KLBR	**Kellerberrin**	**48.76**	**238**	P	**P**	**02 21 19.7**	**-1.2**
	baz=48,SNR=22							
RCP	**Roxas**	**48.93**	**297**	⇑*e*P	**P**	**02 21 23.6**	**+1.2**
MTNI	**Mataram**	**49.28**	**269**	P	**P**	**02 21 24.9**	**-0.3**
	comp=Z,230nm,2.3s,comp=Z,8µm							
BLDU	**Balidu**	**49.43**	**240**	⇑P	**P**	**02 21 25.1**	**-0.9**
	baz=49,SNR=22							
NWAO	**Narrogin (SRO)**	**49.49**	**237**	P	**P**	**02 21 27.2**	**+0.7**
	SNR=7.9							
NWAO	**Narrogin (SRO)**	**49.49**	**237**	*e*P	**P**	**02 21 25.4**	**-1.1**
	comp=Z,229nm,1.2s							
NWAO	**Narrogin (SRO)**	**49.49**	**237**	P	**P**	**02 21 26.8**	**+0.3**
	comp=Z,122nm,1.0s,baz=78,slow=7.5,SNR=24							
NWAO				LR	LR	02 42 16.4		
	comp=Z,85µm,19.8s,baz=251,slow=36							
MORW	**Morawa**	**49.72**	**242**	P	**P**	**02 21 27.4**	**-0.9**
	baz=50,SNR=47							
BKB	**Balikpapan**	**49.98**	**278**	P	P	02 21 42.7	+12	
RKGY	**Rocky Gully**	**50.11**	**234**	⇓P	**P**	**02 21 32.1**	**+0.9**
	baz=50,SNR=9.8							
DNP	**Denpasar**	**50.22**	**268**	P	**P**	**02 21 32.7**	**+0.4**
	comp=Z,673nm,1.8s,comp=Z,31µm							
GQP	**Guinayangan**	**50.26**	**299**	⇓*e*P	**P**	**02 21 32.8**	**+0.3**
SRBI	**Singaraja**	**50.30**	**269**	P	**P**	**02 21 32.1**	**-0.8**
	comp=Z,352nm,1.9s,comp=Z,11µm							
MYLDM	**Lahad Datu**	**50.30**	**287**	P	**P**	**02 21 35.6**	**+2.7**
MYLDM	**Lahad Datu**	**50.30**	**287**	P	**P**	**02 21 34.6**	**+1.7**
	comp=Z,398nm,2.4s							
TSM	**Tawau**	**50.60**	**285**	P	**P**	**02 21 36.3**	**+1.1**
GIRL	**Giralia**	**50.62**	**250**	⇑P	**P**	**02 21 36.7**	**+1.5**
	baz=50,SNR=13							
BYJI	**Banyuwangi**	**51.12**	**269**	P	**P**	**02 21 39.8**	**+0.7**
	comp=Z,978nm,1.4s,comp=Z,22µm							
LQP	**Lukban**	**51.14**	**299**	*e*P	**P**	**02 21 40.1**	**+0.7**
ABJI	**Asem Bagus**	**51.30**	**269**	P	**P**	**02 21 40.4**	**-0.1**
	comp=Z,526nm,1.2s,comp=Z,15µm							
KMMI	**Kalianget**	**51.68**	**270**	P	**P**	**02 21 43.6**	**+0.3**
	comp=Z,206nm,2.0s,comp=Z,8µm							
SDKM	**Sandakan**	**51.68**	**287**	P	**P**	**02 21 43.4**	**0.0**
BLJI	**Banyuglugur**	**51.94**	**269**	P	**P**	**02 21 44.7**	**-0.5**
	comp=Z,430nm,1.3s,comp=Z,9µm							
MTKI	**Muara Teweh, K**	**51.99**	**278**	P	**P**	**02 21 48.7**	**+3.0**
	comp=Z,154nm,2.8s							
GMJI	**Gumukmas**	**52.01**	**269**	P	**P**	**02 21 44.6**	**-1.1**
	comp=Z,196nm,0.9s,comp=Z,7µm							
KDM	**Kudat**	**52.45**	**288**	P	**P**	**02 21 50.0**	**+1.0**
KKM	**Kota Kinabalu**	**52.73**	**287**	P	**P**	**02 21 52.6**	**+1.3**
KKM	**Kota Kinabalu**	**52.73**	**287**	P	**P**	**02 21 51.6**	**+0.4**
	comp=Z,498nm,1.7s,comp=Z,15µm							
KKM	**Kota Kinabalu**	**52.73**	**287**	*e*P	**P**	**02 21 51.5**	**+0.2**
	comp=Z,2µm,2.0s							
KKM	**Kota Kinabalu**	**52.73**	**287**	P	**P**	**02 21 51.9**	**+0.6**
	baz=53,SNR=19							
KRKI	**Karangkates**	**52.99**	**269**	P	**P**	**02 21 52.8**	**-0.2**
	comp=Z,1µm,2.1s,comp=Z,29µm							
JOW	**Kunigami**	**53.10**	**317**	*e*P	**P**	**02 21 53.8**	**+0.2**
	comp=Z,113nm,0.9s							
PWJI	**Pagerwojo**	**53.65**	**269**	P	**P**	**02 21 57.3**	**-0.6**
	comp=Z,486nm,0.9s,comp=Z,11µm							
SJI	**Sawahan**	**53.73**	**269**	P	**P**	**02 21 58.9**	**+0.3**
	comp=Z,788nm,1.6s,comp=Z,20µm							
NGJI	**Ngawi**	**54.08**	**269**	P	**P**	**02 22 02.7**	**+1.7**
	comp=Z,523nm,1.0s,comp=Z,14µm							
PCJI	**Pacitan**	**54.24**	**268**	P	**P**	**02 22 02.5**	**+0.3**
	comp=Z,1µm,0.9s,comp=Z,16µm							
WOJI	**Wonogiri, Jawa**	**54.54**	**269**	P	**P**	**02 22 04.5**	**+0.1**
	comp=Z,563nm,0.9s,comp=Z,12µm							
MJAR	**Matsushiro Arr**	**54.71**	**332**	P	**P**	**02 22 03.6**	**-1.6**
MJAR	**Matsushiro Arr**	**54.71**	**332**	P	**P**	**02 22 03.6**	**-1.6**
	comp=Z,23nm,0.7s,baz=171,slow=8.9,SNR=31							
MJAR				LR	LR	02 42 50.5		
	comp=Z,13µm,22.0s,baz=155,slow=33							
MAJO	**Matsushiro**	**54.72**	**332**	*e*P	**P**	**02 22 03.7**	**-1.5**
MAJO				pmax	pmax			
	comp=Z,72nm,0.9s							
MAJO	**Matsushiro**	**54.72**	**332**	*e*P	**P**	**02 22 03.7**	**-1.5**
	comp=Z,72nm,0.9s							
MAT	**Matsushiro**	**54.72**	**332**	P	**P**	**02 22 03.8**	**-1.4**
MAT				*e*S	**S**	**02 29 40.0**	**-3.5**
PBKI	**Pangkalan Bun**	**54.74**	**275**	P	**P**	**02 22 08.7**	**+2.9**
	comp=Z,457nm,1.0s,comp=Z,7µm							
BTM	**Bintulu**	**54.83**	**282**	P	**P**	**02 22 08.5**	**+2.0**
UGM	**Wanagama**	**54.92**	**268**	P	**P**	**02 22 07.4**	**+0.3**
	comp=Z,821nm,0.9s,comp=Z,14µm							
UGM	**Wanagagama**	**54.92**	**268**	*e*P	**P**	**02 22 07.2**	**0.0**
	comp=Z,567nm,0.9s							
UGM	**Wanagama**	**54.92**	**268**	⇑P	**P**	**02 22 07.5**	**+0.3**
	baz=55,SNR=20							
YOGI	**Yogyakarta**	**55.16**	**269**	P	**P**	**02 22 09.8**	**+0.9**
	comp=Z,2µm,0.9s,comp=Z,28µm							
SBUM	**Sibu**	**55.45**	**281**	P	**P**	**02 22 12.1**	**+1.2**
SBUM	**Sibu**	**55.45**	**281**	P	**P**	**02 22 11.3**	**+0.3**
	comp=Z,131nm,2.9s,comp=Z,7µm							
SBUM	**Sibu**	**55.45**	**281**	*e*P	**P**	**02 22 11.8**	**+0.9**
	comp=Z,554nm,2.0s							
STKI	**Sintang**	**55.55**	**278**	P	**P**	**02 22 12.7**	**+1.0**
	comp=Z,176nm,1.4s,comp=Z,11µm							
BJII	**Banjamegara**	**55.80**	**269**	P	**P**	**02 22 14.3**	**+0.7**
	comp=Z,361nm,2.4s,comp=Z,14µm							
JNU	**Nakatsue**	**55.83**	**324**	*e*P	**P**	**02 22 13.2**	**-0.2**
	comp=Z,52nm,1.0s							
JNU	**Nakatsue**	**55.83**	**324**	P	**P**	**02 22 13.5**	**+0.1**
	comp=Z,74nm,1.1s,baz=101,slow=4.6							
TWG	**Pinlang**	**55.92**	**308**	*e*P	**P**	**02 22 12.9**	**-1.2**
	comp=Z,267nm,0.8s							
YULB	**Yu-li**	**56.06**	**309**	*e*P	**P**	**02 22 14.5**	**-0.6**
	comp=Z,155nm,1.1s							
YULB				*e*PcP	**PcP**	**02 23 17.6**	**+4.5**
NACB	**Ninganchiao**	**56.27**	**310**	*e*P	**P**	**02 22 16.5**	**-0.1**
	comp=Z,1µm,2.0s							
CLJI	**Cilicap**	**56.43**	**268**	P	**P**	**02 22 16.6**	**-1.3**
	comp=Z,237nm,1.5s,comp=Z,5µm							
TGJI	**Tegal**	**56.46**	**269**	P	**P**	**02 22 18.3**	**+0.1**
	comp=Z,338nm,1.1s,comp=Z,10µm							
TPUB	**Ta-pu**	**56.52**	**308**	*e*P	**P**	**02 22 17.7**	**-0.8**
	comp=Z,285nm,1.0s							
SSLB	**Suanglung**	**56.54**	**309**	*e*P	**P**	**02 22 17.3**	**-1.3**
	comp=Z,73nm,0.7s							
KPJI	**Karang Pucung**	**56.57**	**269**	P	**P**	**02 22 19.3**	**+0.3**
	comp=Z,448nm,1.0s,comp=Z,7µm							
YHNB	**Yeheng**	**56.71**	**310**	*e*P	**P**	**02 22 19.5**	**-0.3**
	comp=Z,159nm,0.8s							
TATO	**Taipei**	**56.80**	**310**	*e*P	**P**	**02 22 20.6**	**+0.2**
	comp=Z,4µm,1.8s							
RKT	**Rikitea**	**56.97**	**110**	*e*LQ	LQ	02 36 43.7		
	comp=Z,6µm,33.2s							
RKT				*e*LR	LR	02 39 08.4		
	comp=Z,79µm,27.5s,baz=277							
KSM	**Kuching**	**57.04**	**279**	P	**P**	**02 22 23.4**	**+1.1**
KSM	**Kuching**	**57.04**	**279**	P	**P**	**02 22 22.4**	**+0.1**
	comp=Z,154nm,1.6s,comp=Z,5µm							
KSM	**Kuching**	**57.04**	**279**	*e*P	**P**	**02 22 22.3**	**+0.1**
	comp=Z,364nm,1.5s							
KSM				*e*PP	**PP**	**02 24 28.6**	**-0.7**
KSM	**Kuching**	**57.04**	**279**	⇑P	**P**	**02 22 22.8**	**+0.5**
	baz=57,SNR=24							
CISI	**Cisompet, Garu**	**57.63**	**268**	P	**P**	**02 22 26.0**	**-0.5**
	comp=Z,466nm,1.0s,comp=Z,11µm							
LEM	**Lembang**	**57.94**	**269**	P	**P**	**02 22 29.5**	**+0.7**
	comp=Z,762nm,1.1s,comp=Z,15µm							
LEM	**Lembang**	**57.94**	**269**	⇑P	**P**	**02 22 29.8**	**+0.9**
	baz=58,SNR=5.7							
TPI	**Tanjungpandan**	**58.65**	**274**	P	**P**	**02 22 34.7**	**+1.1**
	comp=Z,76nm,1.5s,comp=Z,4µm							
CBJI	**Citeko**	**58.76**	**270**	P	**P**	**02 22 34.1**	**-0.2**
	comp=Z,825nm,0.9s,comp=Z,31µm							
DBJI	**Dramaga**	**58.83**	**269**	P	**P**	**02 22 35.0**	**+0.1**
	comp=Z,350nm,1.9s,comp=Z,9µm							
SKJI	**Sukabumi**	**58.95**	**269**	P	**P**	**02 22 34.8**	**-0.9**
	comp=Z,651nm,0.9s,comp=Z,9µm							
QZH	**Quanzhou**	**58.97**	**309**	⇓*i*P	**P**	**02 22 33.0**	**-2.6**
QZH				S	**S**	**02 30 38.8**	**-1.3**
QZH				AMB	AMB			
	comp=Z,440nm,1.1s							
QZH				LR	LR			
	comp=Z,19µm,20.1s							
QZH				LR	LR			
	comp=Z,16µm,19.5s							
QZH				LR	LR			
	comp=Z,28µm,24.0s							
KUR	**Kuril'sk**	**59.00**	**345**	⇓*i*P	**P**	**02 22 34.8**	**-0.6**
KUR				S	**S**	**02 30 43.1**	**+3.4**
KUR				pmax	pmax			
	comp=E,304nm,1.5s							
KUR				pmax	pmax			
	comp=N,91nm,1.0s							
KUR				MLR	MLR			
	comp=N,21µm,19.0s							
KUR				MLR	MLR			
	comp=E,13µm,19.0s							
KUR				MLR	MLR			
	comp=Z,17µm,19.0s							
XMIS	**Christmas Isla**	**59.33**	**265**	*e*P	**P**	**02 22 38.9**	**+0.5**
	comp=Z,827nm,1.1s							
XMIS	**Christmas Isla**	**59.33**	**265**	⇑P	**P**	**02 22 39.1**	**+0.7**
	baz=59,SNR=7.8							
ASAJ	**Asahikawa**	**59.51**	**340**	*e*P	**P**	**02 22 39.0**	**+0.1**
	comp=Z,40nm,0.8s							
ASAJ	**Asahikawa**	**59.51**	**340**	P	**P**	**02 22 39.2**	**+0.2**
	comp=Z,45nm,0.8s,baz=227,slow=10,SNR=24							
ASAJ				LR	LR	02 45 26.8		
	comp=Z,23µm,20.3s,baz=202,slow=33							
PPBI	**Pangkal Pinang**	**60.26**	**274**	P	**P**	**02 22 45.7**	**+1.0**
	comp=Z,118nm,1.4s,comp=Z,5µm							
SSE	**Sheshan**	**60.59**	**316**	P	**P**	**02 22 46.5**	**-0.2**

MDJ	**Mudanjiang**	**65.09**	**332**	P	**P**	**02**	**23**	**16.7 +0.4**
MDJ				pP	**pP**	**02**	**23**	**25.8 -0.5**
MDJ				sP	**sP**	**02**	**23**	**29.5 -0.6**
MDJ				PcP	**PcP**	**02**	**23**	**48.0 -0.9**
MDJ				PP	**PP**	**02**	**25**	**40.8 +0.8**
MDJ				S	**S**	**02**	**32**	**00.1 +3.4**
MDJ				AMB	AMB			
	comp=Z,62nm,1.1s							
MDJ				LR	LR			
	comp=Z,5μm,31.0s							
MDJ				LR	LR			
	comp=Z,7μm,23.9s							
MDJ				LR	LR			
	comp=Z,12μm,23.9s							
WHN	**Wuhan**	**65.13**	**312**	P	**P**	**02**	**23**	**16.6 -0.2**
WHN				S	**S**	**02**	**31**	**58.0 +0.4**
WHN				LR	LR			
	comp=Z,21μm,20.6s							
WHN				LR	LR			
	comp=Z,21μm,20.6s							
WHN				LR	LR			
	comp=Z,48μm,25.3s							
DL2	**Dalian**	**65.23**	**323**	P	**P**	**02**	**23**	**17.6 +0.3**
DL2				S	**S**	**02**	**31**	**57.9 -0.7**
DL2				AMB	AMB			
	comp=Z,170nm,0.9s							
DL2				LR	LR			
	comp=Z,5μm,16.7s							
DL2				LR	LR			
	comp=Z,5μm,18.6s							
DL2				LR	LR			
	comp=Z,8μm,20.6s							
FRIM	**Kepong**	**65.87**	**279**	P	**P**	**02**	**23**	**22.8 +0.7**
VNDA	**Vanda**	**65.89**	**181**	*e*P	**P**	**02**	**23**	**21.2 +0.1**
	comp=Z,388nm,1.5s							
VNDA			⇑	*e*		02	52	00.6
VNDA	**Vanda**	**65.89**	**181**	P	**P**	**02**	**23**	**21.7 +0.6**
	comp=Z,76nm,1.0s,baz=353,slow=7.2,SNR=108							
VNDA				PKP2bc		02	52	00.6
	comp=Z,1.7nm,1.0s,baz=269,slow=2.7,SNR=4.7							
CASY	**Casey**	**65.97**	**201**	*e*P	**P**	**02**	**23**	**22.1 +0.3**
	comp=Z,220nm,0.9s							
SNY	**Shenyang**	**66.08**	**326**	⇓P	**P**	**02**	**23**	**22.3 -0.5**
SNY				AMB	AMB			
	comp=Z,38nm,1.7s							
SNY				LR	LR			
	comp=Z,8μm,18.0s							
SNY				LR	LR			
	comp=Z,8μm,17.4s							
SNY				LR	LR			
	comp=Z,13μm,18.3s							
SBA	**Scott Base**	**66.19**	**180**	*e*P	**P**	**02**	**23**	**23.5 +0.5**
SBA				pmax	pmax			
	comp=Z,230nm,1.0s							
SBA	**Scott Base**	**66.19**	**180**	*e*P	**P**	**02**	**23**	**23.5 +0.5**
	comp=Z,230nm,1.0s							
PPI	**Padang Panjang**	**66.22**	**275**	P	**P**	**02**	**23**	**24.7 +0.4**
	comp=Z,179nm,2.2s,comp=Z,5μm							
PPI	**Padang Panjang**	**66.22**	**275**	⇓P	**P**	**02**	**23**	**24.7 +0.4**
	baz=66,SNR=3.9							
TIA	**Tai'an**	**66.36**	**318**	S	**S**	**02**	**32**	**10.8 -1.8**
TIA				LR	LR			
	comp=N,9μm,20.6s							
TIA				LR	LR			
	comp=E,13μm,25.5s							
TIA				LR	LR			
	comp=Z,18μm,19.6s							
CN2	**Changchun**	**66.49**	**329**	*e*P	**P**	**02**	**23**	**25.4 0.0**
CN2				*e*sP	**sP**	**02**	**23**	**39.6 +0.4**
CN2				*e*S	**S**	**02**	**32**	**12.8 -1.0**
CN2				LR	LR			
	comp=Z,8μm,18.0s							
CN2				LR	LR			
	comp=Z,8μm,18.0s							
CN2				LR	LR			
	comp=Z,12μm,16.0s							
IPM	**Ipoh**	**66.76**	**280**	P	**P**	**02**	**23**	**28.9 +1.1**
IPM	**Ipoh**	**66.76**	**280**	P	**P**	**02**	**23**	**28.2 +0.4**
	comp=Z,240nm,2.7s,comp=Z,7μm							
IPM	**Ipoh**	**66.76**	**280**	*e*P	**P**	**02**	**23**	**27.9 +0.2**
	comp=Z,371nm,1.3s							
KULM	**Kulim**	**67.33**	**281**	P	**P**	**02**	**23**	**32.2 +0.9**
KULM	**Kulim**	**67.33**	**281**	P	**P**	**02**	**23**	**31.8 +0.5**
	comp=Z,115nm,3.1s							
KULM	**Kulim**	**67.33**	**281**	*e*P	**P**	**02**	**23**	**30.3 -1.0**
	comp=Z,335nm,1.7s							
SKNT	**Sakolnakorn**	**67.74**	**294**	P	**P**	**02**	**23**	**34.1 +0.2**
	comp=Z,481nm,1.1s,comp=Z,8μm							
KLR	**Kul'dur**	**67.79**	**336**	⇑*i*P	**P**	**02**	**23**	**30.4 -3.1**
KLR				pmax	pmax			
	comp=E,57nm,1.6s							
KLR				pmax	pmax			
	comp=Z,600nm,1.6s							
SKLT	**Songkhla**	**67.85**	**283**	P	**P**	**02**	**23**	**36.2 +1.6**
	comp=Z,118nm,3.0s,comp=Z,6μm							
PSI	**Prapat**	**68.39**	**278**	P	**P**	**02**	**23**	**37.6 -0.6**
PSI	**Prapat**	**68.39**	**278**	P	**P**	**02**	**23**	**37.6 -0.6**
	baz=68,SNR=24							
PSI	**Prapat**	**68.39**	**278**	P	**P**	**02**	**23**	**37.6 -0.6**
	comp=Z,31nm,0.8s,baz=130,slow=3.4,SNR=37							
GYA	**Guiyang**	**69.12**	**304**	⇑*i*P	**P**	**02**	**23**	**42.9 +0.4**
GYA				pP	**pP**	**02**	**23**	**54.8 +2.2**
GYA				PP	**PP**	**02**	**26**	**18.2 +2.6**
GYA				ScP		02	28	07.3
GYA				S	**S**	**02**	**32**	**46.0 -0.3**
GYA				SKS	**SKSac**	**02**	**33**	**37.0 -3.6**
GYA				AMB	AMB			
	comp=Z,160nm,0.9s							
GYA				AMB	AMB			
	comp=Z,13μm,10.3s							
GYA				LR	LR			
	comp=Z,16μm,24.0s							
GYA				LR	LR			
	comp=Z,18μm,22.5s							
GYA				LR	LR			
	comp=Z,18μm,23.0s							
CHAI	**Chaiyaphum**	**69.18**	**292**	P	**P**	**02**	**23**	**43.1 +0.2**
	comp=Z,42nm,0.9s,comp=Z,411nm							
BJI	**Beijing**	**69.23**	**321**	P	**P**	**02**	**23**	**43.0 +0.3**
BJI				sP	**sP**	**02**	**23**	**57.0 +0.5**
BJI				PP	**PP**	**02**	**26**	**18.6 +2.5**
BJI				S	**S**	**02**	**32**	**45.9 -0.8**
BJI				AMB	AMB			
	comp=Z,91nm,1.4s							
BJI				AMB	AMB			
	comp=Z,4μm,10.8s							
BJI				LR	LR			
	comp=Z,11μm,21.5s							
BJI				LR	LR			
	comp=Z,6μm,27.0s							
BJI				LR	LR			
	comp=Z,16μm,28.8s							
SURA	**Surathani**	**69.33**	**284**	P	**P**	**02**	**23**	**45.4 +1.5**
	comp=Z,292nm,0.9s							
GSI	**Gunungsitoli**	**69.36**	**276**	P	**P**	**02**	**23**	**44.3 +0.3**
	comp=Z,266nm,2.1s,comp=Z,6μm							
GSI	**Gunungsitoli**	**69.36**	**276**	⇓P	**P**	**02**	**23**	**44.4 +0.3**
	baz=69							
KCSI	**Kotacane, Aceh**	**69.67**	**278**	P	**P**	**02**	**23**	**45.0 -1.0**
	comp=Z,84nm,2.7s,comp=Z,4μm							
TIY	**Taiyuan**	**70.31**	**317**	*e*P	**P**	**02**	**23**	**50.4 +0.9**
TIY				S	**S**	**02**	**32**	**58.6 -1.1**
TIY				AMB	AMB			
	comp=Z,160nm,1.2s							
TIY				AMB	AMB			
	comp=Z,2μm,5.2s							
TIY				LR	LR			
	comp=Z,8μm,16.9s							
TIY				LR	LR			
	comp=Z,7μm,20.0s							
TIY				LR	LR			
	comp=Z,20μm,27.8s							
SNSI	**Sinabang, Aceh**	**70.82**	**277**	P	**P**	**02**	**23**	**55.0 +2.0**
	comp=Z,178nm,1.7s							
XAN	**Xi'an**	**70.86**	**312**	P	**P**	**02**	**23**	**53.4 +0.5**
XAN				pP	**pP**	**02**	**24**	**04.0 +1.0**
XAN				AMB	AMB			
	comp=Z,55nm,1.3s							
XAN				LR	LR			
	comp=Z,8μm,21.5s							
XAN				LR	LR			
	comp=Z,5μm,24.5s							
XAN				LR	LR			
	comp=Z,7μm,24.5s							
KMI	**Kunming**	**71.81**	**301**	P	**P**	**02**	**24**	**00.9 +1.8**
KMI				pP	**pP**	**02**	**24**	**09.7 +0.5**
KMI				sP	**sP**	**02**	**24**	**14.5 +1.6**
KMI				PP	**PP**	**02**	**26**	**42.2 +3.2**
KMI				S	**S**	**02**	**33**	**19.1 +1.1**
KMI				sS	**SKiKP**	**02**	**33**	**35.2 0.0**
KMI				SS	**SS**	**02**	**37**	**52.5 -2.3**
KMI				AMB	AMB			
	comp=Z,310nm,1.6s							
KMI				AMB	AMB			
	comp=Z,4μm,5.4s							
KMI				LR	LR			
	comp=Z,4μm,23.3s							
KMI				LR	LR			
	comp=Z,12μm,23.3s							
KMI				LR	LR			
	comp=Z,18μm,22.3s							
SDPT	**Sand Point**	**72.38**	**19**	*e*P	**P**	**02**	**24**	**01.7 +0.2**
	comp=Z,67nm,0.6s							
HHC	**Hu-ho-hao-te**	**72.58**	**320**	*e*P	**P**	**02**	**24**	**04.0 +0.8**
HHC				pP	**pP**	**02**	**24**	**14.3 +1.0**
HHC				sP	**sP**	**02**	**24**	**18.3 +1.2**
HHC				PP	**PP**	**02**	**26**	**47.9 +2.8**
HHC				S	**S**	**02**	**33**	**25.8 -0.1**
HHC				SKS	**SKSac**	**02**	**34**	**01.9 -4.1**
HHC				ScS	**SKKSac**	**02**	**34**	**05.2 -1.0**
HHC				AMB	AMB			
	comp=Z,180nm,1.2s							
HHC				AMB	AMB			
	comp=Z,7μm,5.3s							
HHC				LR	LR			
	comp=Z,20μm,20.6s							
HHC				LR	LR			
	comp=Z,26μm,23.7s							
HHC				LR	LR			
	comp=Z,46μm,24.7s							
CM31	**Chiang Mai Arr**	**72.76**	**294**	*e*P	**P**	**02**	**24**	**06.3 +1.7**
	comp=Z,89nm,0.8s							
CMAR	**Chiang Mai Arr**	**72.76**	**294**	P	**P**	**02**	**24**	**04.6 0.0**
CMAR	**Chiang Mai Arr**	**72.76**	**294**	P	**P**	**02**	**24**	**04.6 0.0**
	baz=121,slow=4.1							
CHTO	**Chiang Mai**	**72.87**	**294**	*e*P	**P**	**02**	**24**	**06.3 +1.0**
CHTO	**Chiang Mai**	**72.87**	**294**	P	**P**	**02**	**24**	**06.5 +1.3**
	SNR=67							
CHTO	**Chiang Mai**	**72.87**	**294**	P	**P**	**02**	**24**	**05.8 +0.5**
	comp=Z,772nm,1.7s,comp=Z,17μm							
CHTO	**Chiang Mai**	**72.87**	**294**	*e*P	**P**	**02**	**24**	**06.2 +1.0**
	comp=Z,1μm,1.5s							
CHTO	**Chiang Mai**	**72.87**	**294**	P	**P**	**02**	**24**	**05.8 +0.5**
	comp=Z,772nm,1.7s,comp=Z,17μm							
CMAI	**Chiengmai2**	**73.15**	**295**	P	**P**	**02**	**24**	**07.8 +0.7**
	comp=Z,186nm,1.2s,comp=Z,4μm							
CD2	**Chengdu**	**73.32**	**307**	P	**P**	**02**	**24**	**08.6 +0.9**
CD2				pP	**pP**	**02**	**24**	**19.3 +1.4**
CD2				sP	**sP**	**02**	**24**	**23.5 +1.9**
CD2				PP	**PP**	**02**	**26**	**54.2 +2.6**
CD2				S	**S**	**02**	**33**	**33.9 -0.7**
CD2				sS	**sS**	**02**	**33**	**51.8 +0.5**
CD2				SS	**SS**	**02**	**38**	**18.7 +1.3**
CD2				AMB	AMB			
	comp=Z,390nm,1.3s							
CD2				AMB	AMB			
	comp=Z,4μm,4.9s							
CD2				LR	LR			
	comp=Z,16μm,22.6s							
CD2				LR	LR			
	comp=Z,18μm,25.5s							
BTO	**Baotou**	**73.44**	**319**	*e*P	**P**	**02**	**24**	**08.4 +0.1**
BTO				AMB	AMB			
	comp=Z,37nm,1.9s							
CMBY	**CAMPBELL BAY**	**74.23**	**281**	*e*P	**P**	**02**	**24**	**12.8 -0.5**
CMBY				AMB	AMB	02	24	15.5
	comp=Z,171nm,2.1s							
SEY	**Seymchan**	**75.13**	**354**	⇑*e*P	**P**	**02**	**24**	**17.4 -0.1**
LZH	**Lanzhou**	**75.49**	**312**	⇓P	**P**	**02**	**24**	**22.1 +1.7**
LZH				pP	**PcP**	**02**	**24**	**32.6 -0.8**
LZH				sP	**sP**	**02**	**24**	**35.0 +0.7**
LZH				PP	**PP**	**02**	**27**	**14.0 +4.0**
LZH				S	**S**	**02**	**33**	**59.7 +0.7**
LZH				SKS	**SKSac**	**02**	**34**	**24.6 -3.7**
LZH				AMB	AMB			
	comp=Z,540nm,1.4s							
LZH				AMB	AMB			
	comp=Z,2μm,5.8s							
LZH				LR	LR			
	comp=Z,1μm,14.0s							
LZH				LR	LR			
	comp=Z,2μm,15.2s							
LZH				LR	LR			
	comp=Z,2μm,17.3s							
CLNS	**Chul'man**	**76.31**	**338**	*e*P	**P**	**02**	**24**	**24.6 +0.2**
CLNS				*e**PP	**pP**	**02**	**24**	**31.0 -3.6**
CLNS				*e*		02	24	33.8
CLNS				*e*		02	27	14.1
CLNS				*e*PPP	PPP	02	28	59.5
CLNS				*e*S	**S**	**02**	**34**	**05.4 -1.4**
CLNS				*e*		02	34	44.9
CLNS				*e*SS	**SS**	**02**	**39**	**02.6 +0.9**
CLNS				pmax	pmax			
	comp=Z,80nm,1.4s							
CLNS				pmax	pmax			
	comp=E,11nm,1.0s							
CLNS				pmax	pmax			
	comp=N,58nm,1.5s							
CLNS				pmax	pmax			
	comp=N,11nm,1.1s							
CLNS				pmax	pmax			
	comp=Z,9.0nm,1.1s							
CLNS				pmax	pmax			
	comp=E,11nm,0.9s							
CLNS				smax	smax			
	comp=N,533nm,12.9s							
CLNS				smax	smax			
	comp=E,3μm,14.2s							
DGPR	**DIGLIPUR**	**76.75**	**287**	*e*P	**P**	**02**	**24**	**25.4 -2.3**
DGPR				AMB	AMB	02	24	34.7
	comp=Z,187nm,1.7s							
CIT	**Chita**	**77.91**	**330**	*e*P	**P**	**02**	**24**	**34.3 +0.8**
CIT				*e*		02	24	40.0
CIT				*e*		02	27	31.1
CIT				pmax	pmax			
	comp=Z,584nm,1.5s							
QSPA	**South Pole Qui**	**78.35**	**180**	*e*P	**P**	**02**	**24**	**35.6 -0.3**
	comp=Z,504nm,1.1s							
QSPA	**South Pole Qui**	**78.35**	**180**	P	**P**	**02**	**24**	**36.0 0.0**
	comp=Z,380nm,1.1s,baz=18,slow=1.8,SNR=249							
SVW2	**Sparrevohn**	**78.56**	**18**	*e*P	**P**	**02**	**24**	**36.8 -0.1**
	comp=Z,118nm,1.4s							
YAK	**Yakutsk**	**78.81**	**343**	*d i*P	**P**	**02**	**24**	**37.6 -0.6**
YAK				*e*		02	24	42.6
YAK				*e*		02	27	35.2
YAK				*e*PPP	PPP	02	29	27.9
YAK				*e*S	**S**	**02**	**34**	**28.7 -4.8**
YAK				*e*		02	34	50.1
YAK				*e**SS	ScS	02	35	12.4 +15
YAK				pmax	pmax			
	comp=Z,107nm,1.2s							
YAK				pmax	pmax			
	comp=N,49nm,1.4s							
YAK				pmax	pmax			
	comp=E,28nm,1.3s							
YAK				pmax	pmax			
	comp=Z,245nm,2.8s							
YAK				pmax	pmax			
	comp=N,280nm,4.6s							
YAK				pmax	pmax			
	comp=E,54nm,2.0s							
YAK				smax	smax			
	comp=N,270nm,5.9s							
YAK				smax	smax			
	comp=E,949nm,7.9s							
RSO	**Redoubt South**	**78.95**	**19**	*e*P	**P**	**02**	**24**	**38.6 -0.7**
ULN	**Ulaanbaatar**	**79.05**	**324**	P	**P**	**02**	**24**	**41.0 +0.9**
	SNR=64							
ULN	**Ulaanbaatar**	**79.05**	**324**	P	**P**	**02**	**24**	**40.4 +0.3**
	comp=E,162nm,1.6s							
ULN	**Ulaanbaatar**	**79.05**	**324**	*e*P	**P**	**02**	**24**	**40.7 +0.6**
	comp=E,389nm,1.6s							
SONM	**Songino Array**	**79.42**	**324**	P	**P**	**02**	**24**	**42.4 +0.3**
SONM	**Songino Array**	**79.42**	**324**	P	**P**	**02**	**24**	**42.4 +0.3**
	comp=E,58nm,1.2s,baz=135,slow=4.3,SNR=129							
GTA	**Gaotai**	**79.80**	**314**	⇓P	**P**	**02**	**24**	**45.7 +1.4**
GTA				pP	**pP**	**02**	**24**	**54.1 -0.4**
GTA				sP	**sP**	**02**	**24**	**58.1 -0.2**
GTA				S	**S**	**02**	**34**	**48.4 +3.0**
GTA				SKS	**SKSac**	**02**	**34**	**56.6 -2.6**
GTA				AMB	AMB			
	comp=E,270nm,1.3s							
GTA				AMB	AMB			
	comp=E,2μm,5.9s							
GTA				LR	LR			
	comp=E,9μm,20.9s							
GTA				LR	LR			
	comp=E,14μm,20.9s							
GTA				LR	LR			
	comp=E,20μm,20.9s							
SEW	**Seward**	**79.80**	**21**	*e*P	**P**	**02**	**24**	**43.1 -0.5**
	comp=E,517nm,2.2s							
PMR	**Palmer**	**80.98**	**20**	*e*P	**P**	**02**	**24**	**48.9 -1.0**
PMR				pmax	pmax			
	comp=Z,40nm,0.6s							
PMR	**Palmer**	**80.98**	**20**	*e*P	**P**	**02**	**24**	**48.9 -1.0**
	comp=Z,40nm,0.6s							
SHL	**Shillong**	**81.19**	**298**	⇓*i*P	**P**	**02**	**24**	**52.0 -0.2**
	comp=Z,31nm,1.5s							
CAST	**Castle Rocks**	**81.39**	**18**	*e*P	**P**	**02**	**24**	**51.6 -0.6**
	comp=Z,67nm,0.7s							
DIV	**Divide**	**81.81**	**21**	*e*P	**P**	**02**	**24**	**53.8 -0.7**
	comp=Z,76nm,0.8s							
TRF	**Thorofare Moun**	**81.96**	**18**	*e*P	**P**	**02**	**24**	**53.5 -1.8**
	comp=Z,35nm,0.8s							
BMRM	**Bremner River**	**82.13**	**22**	*e*P	**P**	**02**	**24**	**55.1 -1.0**
	comp=Z,200nm,1.6s							
ZAK	**Zakamensk**	**82.45**	**325**	*e*P	**P**	**02**	**24**	**57.3 -0.8**
ZAK				pmax	pmax			
	comp=Z,63nm,1.2s							
MCK	**McKinley**	**82.58**	**18**	*e*P	**P**	**02**	**24**	**57.1 -1.3**
MCK				pmax	pmax			
	comp=Z,89nm,1.2s							
MCK	**McKinley**	**82.58**	**18**	*e*P	**P**	**02**	**24**	**57.1 -1.3**
	comp=Z,89nm,1.2s							
KCPM	**Cahto Peak**	**82.64**	**47**	*e*P	**P**	**02**	**24**	**59.7 +0.3**
	comp=Z,53nm,0.7s							
KIPM	**Iron Peak**	**82.76**	**47**	*e*P	**P**	**02**	**24**	**59.4 -0.7**
	comp=Z,65nm,0.7s							
IRK	**Irkutsk**	**82.81**	**327**	*e*P	**P**	**02**	**24**	**59.1 -0.7**
IRK				pmax	pmax			
	comp=Z,189nm,1.9s							
TLY	**Talaya**	**82.87**	**326**	*e*P	**P**	**02**	**25**	**00.3 +0.1**
TLY				*e*		02	25	06.5
TLY				pmax	pmax			
	comp=Z,118nm,1.4s							
TLY	**Talaya**	**82.87**	**326**	P	**P**	**02**	**25**	**00.3 +0.1**
	comp=Z,429nm,1.0s,SNR=20							
IM04	**Indian Mountai**	**82.88**	**15**	*e*P	**P**	**02**	**24**	**59.2 -0.7**
KHMM	**Horse Mountain**	**82.97**	**46**	*e*P	**P**	**02**	**25**	**02.0 +0.8**
	comp=Z,56nm,0.8s							
LSA	**Lhasa**	**83.05**	**302**	P	**P**	**02**	**25**	**03.4 +1.2**
PAX	**Paxson**	**83.17**	**20**	*e*P	**P**	**02**	**25**	**00.4 -1.2**
PAX				pmax	pmax			
	comp=Z,110nm,1.8s							
PAX	**Paxson**	**83.17**	**20**	*e*P	**P**	**02**	**25**	**00.4 -1.2**
	comp=Z,110nm,1.8s							
WDC	**Whiskeytown Da**	**83.71**	**47**	*e*P	**P**	**02**	**25**	**04.6 -0.1**
WDC				pmax	pmax			
	comp=Z,111nm,1.6s							
WDC	**Whiskeytown Da**	**83.71**	**47**	*e*P	**P**	**02**	**25**	**04.6 -0.1**
	comp=Z,111nm,1.6s							
COLA	**College**	**83.73**	**18**	*e*P	**P**	**02**	**25**	**03.1 -1.1**
COLA				pmax	pmax			
	comp=Z,89nm,0.6s							
COLA	**College**	**83.73**	**18**	*e*P	**P**	**02**	**25**	**03.1 -1.1**
	comp=Z,89nm,0.6s							
SMMC	**Simmler**	**83.80**	**52**	⇑P	**P**	**02**	**25**	**06.2 +0.8**
	baz=84							
PKM	**Peak Mountain**	**83.81**	**53**	⇑P	**P**	**02**	**25**	**06.5 +0.9**
	baz=84							
ILAR	**Eielson Array**	**83.95**	**18**	P	**P**	**02**	**25**	**04.2 -1.2**
ILAR				PKKPbc	**PKKPbc**	**02**	**43**	**20.6 -3.3**
ILAR	**Eielson Array**	**83.95**	**18**	P	**P**	**02**	**25**	**04.2 -1.2**
	comp=Z,13nm,0.9s,baz=240,slow=1.7,SNR=44							
ILAR				PKKPbc	**PKKPbc**	**02**	**43**	**20.6 -3.3**
	comp=Z,0.6nm,0.5s,baz=353,slow=1.9,SNR=6.2							
YBH	**Yreka Blue Hor**	**84.01**	**45**	*e*P	**P**	**02**	**25**	**06.4 0.0**
YBH	**Yreka Blue Hor**	**84.01**	**45**	P	**P**	**02**	**25**	**06.2 -0.1**
	comp=Z,15nm,0.8s,baz=178,slow=1.4,SNR=7.6							
OHCM	**Honcut**	**84.03**	**48**	*e*P	P	02	25	02.0 -4.4
HUMO	**Hull Mountain**	**84.15**	**45**	*e*P	**P**	**02**	**25**	**07.5 +0.5**
	comp=Z,35nm,0.8s							
SCI	**San Clemente I**	**84.22**	**55**	⇓P	**P**	**02**	**25**	**09.1 +1.6**
	baz=84							
MAW	**Mawson**	**84.32**	**202**	*e*P	**P**	**02**	**25**	**07.0 -0.3**
	comp=Z,38nm,1.4s							
MAW	**Mawson**	**84.32**	**202**	P	**P**	**02**	**25**	**07.6 +0.2**
	baz=84,SNR=42							
MAW	**Mawson**	**84.32**	**202**	P	**P**	**02**	**25**	**07.6 +0.2**
	comp=Z,49nm,1.0s,baz=106,slow=6.4,SNR=70							
MOY	**Mondy**	**84.33**	**325**	*e*P	**P**	**02**	**25**	**07.7 -0.1**
MOY				pmax	pmax			
	comp=Z,286nm,4.4s							
CMB	**Columbia Colle**	**84.40**	**50**	*e*P	**P**	**02**	**25**	**08.1 -0.3**
CMB				pmax	pmax			
	comp=Z,40nm,0.9s							
CMB	**Columbia Colle**	**84.40**	**50**	*e*P	**P**	**02**	**25**	**08.1 -0.3**
	comp=Z,40nm,0.9s							
CIS	**Catalina Islan**	**84.46**	**54**	⇓P	**P**	**02**	**25**	**10.2 +1.5**
	baz=85							
FMP	**Fort Macarthur**	**84.64**	**54**	⇓P	**P**	**02**	**25**	**11.1 +1.4**
	baz=85							
WRAK	**Wrangell Islan**	**84.65**	**29**	*e*P	**P**	**02**	**25**	**08.7 -0.4**
	comp=Z,48nm,0.7s							
HYT	**Haines Junctio**	**84.76**	**24**	*e*P	**P**	**02**	**25**	**09.5 -0.3**
COLD	**Coldfoot**	**84.77**	**16**	*e*P	**P**	**02**	**25**	**10.2 +0.7**
	comp=Z,25nm,0.9s							
BBB	**Bella Bella**	**84.83**	**34**	P	**P**	**02**	**25**	**13.2 +3.1**
BBB	**Bella Bella**	**84.83**	**34**	P	**P**	**02**	**25**	**13.2 +3.1**
	comp=Z,13nm,1.0s,baz=207,slow=2.3,SNR=3.4							
SKAG	**Skagway**	**84.90**	**26**	*e*P	**P**	**02**	**25**	**09.3 -1.0**
	comp=Z,57nm,1.3s							
MWC	**Mount Wilson**	**84.98**	**54**	*e*P	**P**	**02**	**25**	**11.1 -0.5**
MWC				pmax	pmax			
	comp=Z,43nm,0.8s							
MWC	**Mount Wilson**	**84.98**	**54**	*e*P	**P**	**02**	**25**	**11.1 -0.5**
	comp=Z,43nm,0.8s							
BEKR	**Beckworth**	**85.03**	**48**	*e*P	**P**	**02**	**25**	**11.0 -0.7**
	comp=Z,20nm,0.6s							
E03A	**Lebam**	**85.22**	**41**	*e*P	P	02	25	16.5 +4.3
EDW2	**Edwards Air Fo**	**85.23**	**53**	⇑P	**P**	**02**	**25**	**13.0 +0.3**
	baz=85							
TAPN	**Taplejung**	**85.28**	**299**	*e*P	**P**	**02**	**25**	**14.0 +0.6**
	comp=Z,1μm,1.5s							
FRIS	**Frissel Point**	**85.32**	**43**	P	P	02	25	16.6 +3.5
109C	**Camp Elliot, M**	**85.35**	**55**	⇑P	**P**	**02**	**25**	**13.0 -0.2**
	baz=86							
NLWA	**Neilton Lookou**	**85.35**	**40**	*e*P	P	02	25	17.1 +4.2
	comp=Z,289nm,2.7s							
ODAN	**Odare**	**85.43**	**298**	*e*P	**P**	**02**	**25**	**14.8 +0.8**
	comp=Z,540nm,0.8s							
H04A	**Detroit Lake**	**85.43**	**43**	*e*P	**P**	**02**	**25**	**13.0 -0.4**
	comp=Z,23nm,0.7s							
HUOR	**Husband**	**85.45**	**43**	P	P	02	25	17.7 +4.0
MURC	**Murrieta**	**85.48**	**55**	⇓P	**P**	**02**	**25**	**14.7 +0.8**
	baz=86							
MOON	**Moon Mountain**	**85.55**	**44**	P	P	02	25	18.1 +4.2
K05A	**Summer Lake**	**85.62**	**45**	*e*P	**P**	**02**	**25**	**14.8 +0.2**
	comp=Z,42nm,0.7s							
BKCOR	**Black Crater**	**85.62**	**43**	P	P	02	25

NVAR PKKP **PKKPdf** 02 43 08.9 -2.3
comp=Z,0.4nm,0.6s,baz=123,slow=1.6,SNR=3.6
NVAR PKKPbc **PKKPbc** 02 43 18.9 +1.1
comp=Z,1.0nm,0.7s,baz=120,slow=4.1,SNR=6.8
NVAR PKPPKP **P'P'df** 02 51 21.9 -0.7
comp=Z,1.1nm,0.8s,baz=87,slow=3.0,SNR=7.5
PGC Sidney 86.09 39 *e*P **P** 02 25 16.2 -0.3
comp=Z,1.8nm,0.9s
RAMN Ramite 86.13 298 *e*P **P** 02 25 18.1 +0.5
comp=Z,1μm,1.5s
VIPM Ingram Point 86.42 43 P P 02 25 22.0 +3.5
VIPM Ingram Point 86.42 43 P P 02 25 22.0 +3.5
SWSC Sam W. Stewart 86.42 56 ⇑P **P** 02 25 19.0 +0.5
baz=86,SNR=8.8
LON Longmire 86.42 41 *e*P P 02 25 21.6 +3.3
LON pmax pmax
comp=Z,38nm,1.5s
LON Longmire 86.42 41 *e*P P 02 25 21.6 +3.3
comp=Z,38nm,1.5s
D05A Enumclaw 86.46 40 *e*P **P** 02 25 19.5 +1.1
comp=Z,138nm,1.4s
GLK Glacier Lake 86.48 41 P P 02 25 22.3 +3.6
HEC Hector,Ludlow 86.53 54 ⇑P **P** 02 25 19.2 +0.1
baz=87
BELC Belle Mtn. Jos 86.55 54 ⇓P **P** 02 25 19.2 -0.2
baz=87,SNR=26
G06A Carlson Farm, 86.66 43 *e*P **P** 02 25 19.5 0.0
comp=Z,111nm,1.9s
JIRN Jiri 86.67 299 *e*P **P** 02 25 20.8 +0.5
comp=Z,1μm,1.4s
DLBC Dease Lake 86.74 28 P **P** 02 25 19.3 -0.2
DLBC PKKP **PKKPdf** 02 43 06.5 -4.1
DLBC P'P' 02 51 21.8
DLBC Dease Lake 86.74 28 P **P** 02 25 19.3 -0.2
comp=Z,10nm,1.1s,baz=246,slow=8.0,SNR=6.7
DLBC PKKP **PKKPdf** 02 43 06.5 -4.1
comp=Z,2.1nm,0.8s,baz=0.0,slow=3.0,SNR=4.7
DLBC PKPPKP **P'P'df** 02 51 21.8 +2.3
comp=Z,1.8nm,0.8s,baz=289,slow=4.1,SNR=3.9
TIXI Tiksi 86.77 349 *d iP* **P** 02 25 18.2 -1.1
TIXI pmax pmax
comp=Z,109nm,1.8s
VIS Vishakhapatnam 86.83 289 *e*P **P** 02 25 20.9 +0.1
VIS AMB AMB 02 25 22.6
comp=Z,140nm,1.2s
BC3 Big Chuckawall 86.89 55 ⇓P **P** 02 25 21.1 +0.1
baz=87,SNR=14
GUN Gumba 87.00 299 *e*P **P** 02 25 22.3 +0.4
comp=Z,564nm,1.0s
TUQ Turquoise Moun 87.02 53 ⇓P **P** 02 25 21.9 +0.4
baz=87
I07A Izee 87.03 44 *e*P **P** 02 25 21.4 0.0
comp=Z,29nm,0.8s
GMRC Granite Mounta 87.04 54 ⇑P **P** 02 25 21.6 -0.1
baz=87
A05A Maple Falls 87.06 39 *e*P P 02 25 24.8 +3.6
comp=Z,163nm,2.2s
PALK Pallekele 87.07 278 P **P** 02 25 23.5 +1.3
comp=Z,339nm,2.6s,SNR=5.2
PALK Pallekele 87.07 278 P **P** 02 25 24.1 +1.9
comp=Z,97nm,2.1s,comp=Z,4μm
PALK Pallekele 87.07 278 *e*P **P** 02 25 20.3 -1.8
comp=Z,969nm,2.5s
WVOR Wild Horse Val 87.09 46 *e*P **P** 02 25 22.0 +0.2
WVOR pmax pmax
comp=Z,55nm,1.1s
WVOR Wild Horse Val 87.09 46 *e*P **P** 02 25 22.0 +0.2
comp=Z,55nm,1.1s
GLA Glamis 87.23 56 *e*P **P** 02 25 23.1 +0.6
GLA pmax pmax
comp=Z,47nm,0.8s
GLA Glamis 87.23 56 *e*P **P** 02 25 23.1 +0.6
comp=Z,47nm,0.8s
GLA Glamis 87.23 56 ⇓P **P** 02 25 22.6 0.0
baz=87,SNR=8.8
IRM Iron Mountain 87.27 54 ⇑P **P** 02 25 22.7 0.0
baz=87,SNR=34
PKI Pulchoki 87.32 299 *e*P **P** 02 25 23.5 +0.1
comp=Z,1μm,1.4s
LTY Liberty 87.33 41 *e*P **P** 02 25 21.6 -1.2
comp=Z,38nm,1.3s
KKN Kakani 87.48 299 *e*P **P** 02 25 24.5 +0.4
comp=Z,1μm,1.6s
BMN Battle Mountai 87.49 48 *e*P **P** 02 25 25.8 +2.0
BMN pmax pmax
comp=Z,223nm,2.3s
BMN Battle Mountai 87.49 48 *e*P **P** 02 25 25.8 +2.0
comp=Z,223nm,2.3s
J08A Circle Bar Ran 87.50 45 *e*P **P** 02 25 23.2 -0.5
comp=Z,27nm,0.8s
LDFC Landfair 87.56 54 *e*P **P** 02 25 24.0 -0.2
comp=Z,63nm,0.8s
DMN Daman 87.59 299 *e*P **P** 02 25 25.1 +0.5
comp=Z,1μm,1.3s
Y12C Blythe 87.66 55 ⇑P **P** 02 25 24.6 0.0
baz=88,SNR=7.5
SNIWA Snively Ranch 87.71 42 P P 02 25 28.3 +3.8
G08A Pilot Rock 87.79 43 *e*P **P** 02 25 24.8 -0.3
comp=Z,76nm,1.5s
113A Mohawk Valley, 88.02 56 ⇑P **P** 02 25 26.6 +0.4
baz=88
GKN Gorkha 88.08 299 *e*P **P** 02 25 26.8 -0.1
comp=Z,582nm,0.9s
R11A Troy Canyon, C 88.10 50 *e*P **P** 02 25 24.7 -2.1
comp=Z,262nm,2.8s
R11A Troy Canyon, C 88.10 50 ⇑P **P** 02 25 26.4 -0.3
baz=88
PDMCI Parker Dam,Lak 88.12 55 ⇓P **P** 02 25 26.9 +0.2
baz=88,SNR=8.2
HVS Khovu-Aksy 88.29 323 *d iP* **P** 02 25 26.9 -0.3
W13A Hualapai Mount 88.53 54 ⇑P **P** 02 25 29.0 0.0
baz=89
B08A Colville Reser 88.55 40 *e*P **P** 02 25 27.4 -1.1
comp=Z,120nm,2.0s
214A Organ Pipe Nat 88.59 57 ⇓P **P** 02 25 29.2 +0.2
baz=89
E09A Wood Farm, Sta 88.72 42 *e*P **P** 02 25 29.2 0.0
comp=Z,87nm,1.5s
Z14A Wintersburg 88.83 56 ⇓P **P** 02 25 30.4 +0.2
baz=89
DANN Dangsing 88.92 299 *e*P **P** 02 25 30.5 -0.5
comp=Z,361nm,0.7s
KOLN Koldanda 88.92 298 *e*P **P** 02 25 30.5 -0.4
comp=Z,226nm,0.8s
Y14A Wickenburg 88.93 55 ⇓P **P** 02 25 30.7 +0.1
baz=89,SNR=5.4
ELK Elko 89.03 48 *e*P **P** 02 25 31.4 +0.2
comp=Z,176nm,2.3s
C09A Chrisman Ranch 89.04 41 *e*P P 02 25 34.3 +3.5
comp=Z,11nm,0.7s
F10A Beach Ranch, E 89.16 43 *e*P **P** 02 25 30.6 -0.9
comp=Z,195nm,2.0s
MFID Camas Ranch 89.36 45 ⇑P **P** 02 25 32.5 0.0
baz=90
PYUN Piuthan 89.52 299 *e*P **P** 02 25 33.3 -0.4
comp=Z,961nm,0.8s
CCUT Cedar City 89.57 52 *e*P **P** 02 25 33.7 -0.1
comp=Z,75nm,1.4s
WMQ Urumqi 89.84 315 P **P** 02 25 34.6 -0.1
WMQ pP **pP** 02 25 45.2 +0.2
WMQ sP **sP** 02 25 49.1 +0.4
WMQ AMB AMB
comp=Z,180nm,1.4s
WMQ AMB AMB
comp=Z,4μm,5.2s
WMQ LR LR
comp=Z,5μm,21.6s
WMQ LR LR
comp=Z,7μm,23.2s
WMQ LR LR
comp=Z,12μm,23.8s
NEW Newport 89.92 41 *e*P **P** 02 25 34.5 -0.4
NEW Newport 89.92 41 ⇑P **P** 02 25 34.8 -0.1
baz=90,SNR=6.2
NEW Newport 89.92 41 P **P** 02 25 34.9 0.0
comp=Z,7.3nm,0.6s,baz=230,slow=4.2,SNR=19
U15A North Rim 90.12 53 ⇑P **P** 02 25 35.7 -0.7
baz=90
X16A Lo Mia Camp, P 90.31 55 ⇑P **P** 02 25 37.2 0.0
baz=90,SNR=15
INK Inuvik 90.33 19 P **P** 02 25 38.9 +2.6
INK Inuvik 90.33 19 P **P** 02 25 38.9 +2.6
comp=Z,3.2nm,0.9s,baz=270,slow=2.0,SNR=3.1
TUC Tucson 90.34 57 *e*P **P** 02 25 36.9 -0.4
TUC pmax pmax
comp=Z,18nm,0.7s
TUC Tucson 90.34 57 *e*P **P** 02 25 36.9 -0.4
comp=Z,18nm,0.7s
HLID Hailey 90.39 46 *e*P **P** 02 25 36.4 -0.9
comp=Z,21nm,0.6s
HLID Hailey 90.39 46 ⇑P **P** 02 25 37.3 -0.1
baz=90
WUAZ Wupatki 90.62 54 ⇑P **P** 02 25 38.6 -0.1
baz=91,SNR=6.9
DUG Dugway 90.66 49 *e*P **P** 02 25 38.4 -0.3
DUG pmax pmax
comp=Z,523nm,3.0s
DUG Dugway 90.66 49 *e*P **P** 02 25 38.4 -0.3
comp=Z,523nm,3.0s
DUG Dugway 90.66 49 ⇑P **P** 02 25 38.8 +0.1
baz=91
BGU Big Grassy Mou 90.69 48 *e*P **P** 02 25 38.8 0.0
comp=Z,27nm,0.7s
MVU Marysvale 90.69 51 *e*P **P** 02 25 39.5 +0.5
comp=Z,28nm,0.8s
NLU North Lily Min 91.15 50 *e*P **P** 02 25 41.1 0.0
comp=Z,22nm,0.7s
SPUT South Promonto 91.21 48 *e*P **P** 02 25 40.8 -0.4
comp=Z,24nm,0.7s
HYB Hyderabad 91.22 287 *i* P **P** 02 25 40.5 -1.1
comp=Z,350nm,1.4s
HYB *e*SKS **SKSac** 02 36 11.0 -1.1
HYB Hyderabad 91.22 287 *e*P **P** 02 25 40.8 -0.8
BSMT Bassoo Peak 91.30 41 *e*P **P** 02 25 41.1 -0.5
SYO Syowa Base 91.33 197 ⇑ *i*P **P** 02 25 38.6 -2.4
SYO Syowa Base 91.33 197 ⇓ *i* PcP **PcP** 02 25 41.9 -0.1
319A Douglas 91.38 58 ⇓P **P** 02 25 41.9 -0.3
baz=92,SNR=7.4
MPU Maple Canyon 91.50 50 *e*P **P** 02 25 43.0 +0.3
comp=Z,52nm,1.2s
NGP Nagpur 91.52 291 *e*P **P** 02 25 40.5 -2.4
NGP *ex* x 02 25 43.0
comp=Z,190nm,1.8s
NGP *ex* x 02 29 55.7
X18A Snowflake 91.53 55 ⇓P **P** 02 25 42.6 -0.3
baz=92,SNR=6.4
MSO Missoula 91.58 43 *e*P **P** 02 25 42.5 -0.2
comp=Z,9.9nm,0.8s
MSO Missoula 91.58 43 ⇑P **P** 02 25 43.1 +0.4
baz=92
Q16A Castle Valley 91.58 51 ⇑P **P** 02 25 43.7 +0.7
baz=92
JTMT Jette 91.60 42 *e*P **P** 02 25 43.8 +1.0
TMUT Trail Mountain 91.64 50 *e*P **P** 02 25 44.0 +0.6
comp=Z,463nm,2.9s
SWMT Swartz Lake 91.72 42 *e*P **P** 02 25 43.7 +0.3
JLU Jordanelle 91.77 49 *e*P **P** 02 25 44.2 +0.2
comp=Z,76nm,1.5s
MCMT McKenzie Canyo 91.80 45 *e*P **P** 02 25 44.1 +0.1
comp=Z,6.5nm,0.7s
W18A Petrified Fore 91.83 55 *e*P P 02 25 48.4 +4.1
comp=Z,49nm,1.3s
W18A Petrified Fore 91.83 55 ⇓P **P** 02 25 44.3 0.0
baz=92
DAU Daniels Canyon 91.87 49 *e*P **P** 02 25 43.9 -0.6
DAU pmax pmax
comp=Z,38nm,1.3s
DAU Daniels Canyon 91.87 49 *e*P **P** 02 25 43.9 -0.6
comp=Z,38nm,1.3s
SLMT Seeley Lake 91.98 42 *e*P **P** 02 25 44.0 -0.7
320A Kipp Ranch, An 92.00 59 ⇓P **P** 02 25 45.3 +0.2
baz=92,SNR=8.4
CHMT Chamberlain Mo 92.06 43 *e*P **P** 02 25 44.1 -1.0
DLMT Dillon 92.11 44 *e*P **P** 02 25 45.4 +0.1
comp=Z,35nm,0.7s
SRU San Rafael 92.12 51 *e*P **P** 02 25 48.1 +2.6
SRU pmax pmax
comp=Z,11nm,0.9s
SRU San Rafael 92.12 51 *e*P **P** 02 25 48.1 +2.6
comp=Z,11nm,0.9s
220A Playas Peak, P 92.12 58 ⇑P **P** 02 25 45.9 +0.2
baz=92
LGTI Lohaghat 92.17 299 *ex* P 02 25 50.1 +4.4
120A U Bar Ranch, L 92.17 57 ⇓P **P** 02 25 46.1 +0.2
baz=92
WALA Waterton Lakes 92.19 40 *e*P **P** 02 25 45.3 -0.2
comp=Z,1.2nm,1.2s
LRM Limekiln Ridge 92.32 44 *e*P **P** 02 25 45.8 -0.6
Z20A Nine Sixteen R 92.32 57 ⇑P **P** 02 25 47.4 +0.8
baz=92,SNR=7.6
RRI2 Red Ridge 92.51 46 *e*P **P** 02 25 47.5 +0.1
comp=Z,29nm,0.7s
M17A Scullys Gap (B 92.55 48 ⇑P **P** 02 25 47.2 -0.3
baz=93
Y20A Horse Springs, 92.67 56 ⇑P **P** 02 25 48.3 0.0
baz=93,SNR=6.5
X20A Quemado 92.70 55 ⇓P **P** 02 25 48.7 +0.3
baz=93
221A Mesquite Ranch 92.77 58 ⇓P **P** 02 25 48.8 +0.2
baz=93
QLMT Earthquake Lak 92.78 45 *e*P **P** 02 25 48.6 +0.1
TPAW Teton Pass 92.81 46 *e*P **P** 02 25 48.6 -0.1
comp=Z,14nm,0.7s
W20A Ramah 92.82 55 ⇓P **P** 02 25 48.7 -0.2
baz=93,SNR=5.2
REDW Red Top Meadow 92.85 46 *e*P **P** 02 25 48.2 -0.7
comp=Z,17nm,0.8s
121A Cookes Peak, D 92.87 58 ⇑P **P** 02 25 49.4 +0.3
baz=93,SNR=12
IMW Indian Meadow 92.91 46 *e*P **P** 02 25 49.3 +0.1
comp=Z,13nm,0.8s
SNOW Snow King Moun 92.94 46 *e*P P 02 25 53.4 +4.1
comp=Z,254nm,2.8s
PV05 Paradox Valley 92.98 52 *e*P **P** 02 25 50.0 +0.4
V20A Brimhall 92.99 54 ⇑P **P** 02 25 49.9 +0.2
baz=93
MOOW Moose Ponds 93.01 46 *e*P P 02 25 53.4 +3.8
comp=Z,21nm,1.4s
PV09 Paradox Valley 93.04 51 *e*P P 02 25 53.9 +4.0
YMR Madison River 93.07 45 *e*P **P** 02 25 50.5 +0.6
comp=Z,19nm,0.7s
U20A Newcomb 93.07 54 ⇓P **P** 02 25 50.4 +0.4
baz=93
LOHW Long Hollow 93.08 46 *e*P P 02 25 53.7 +3.8
comp=Z,14nm,1.1s
PV10 Paradox Valley 93.09 52 *e*P **P** 02 25 50.7 +0.6
comp=Z,370nm,0.7s
L18A Fontenelle, Gr 93.11 48 ⇓P **P** 02 25 50.5 +0.4
baz=93
Z21A St. Cloud Mine 93.12 57 ⇓P **P** 02 25 50.5 +0.1
baz=93,SNR=11
FLWY Flagg Ranch 93.12 46 *e*P P 02 25 54.3 +4.3
comp=Z,12nm,0.7s
I17A Pilgrim Ck. 93.17 46 ⇑P **P** 02 25 50.4 +0.1
baz=93
X21A Alamocita Cree 93.26 56 ⇑P **P** 02 25 51.1 +0.1
baz=93
Y21A Point of Rocks 93.26 56 ⇑P **P** 02 25 51.0 0.0
baz=93,SNR=12
MVCO Mesa Verde 93.26 53 *e*P **P** 02 25 50.8 -0.2
comp=Z,11nm,0.7s
MVCO Mesa Verde 93.26 53 ⇓P **P** 02 25 51.0 +0.1
baz=93,SNR=6.0
H17A Grant Village 93.28 45 ⇓P **P** 02 25 51.6 +0.7
baz=93
AKL Akola 93.29 290 *e*P **P** 02 25 50.8 -0.4
AKL ⇓ *i*P **P** 02 25 50.8 -0.4
AKL AMP 02 25 53.3
comp=Z,247nm,1.8s
AKL AMP 02 25 53.4
comp=Z,243nm,1.8s
AKL *i* x x 02 27 13.2
222A Williams Famil 93.35 58 ⇓P **P** 02 25 51.8 +0.5
baz=93
PV01 Paradox Valley 93.40 52 *e*P **P** 02 25 51.6 +0.1
P19A Cripple Cowboy 93.40 50 ⇑P **P** 02 25 52.1 +0.6
baz=94
BHPL Bhopal 93.41 293 *e*P **P** 02 25 49.8 -1.8
BHPL AMB AMB 02 25 51.9
comp=Z,93nm,2.2s
S20A Disappointment 93.50 52 ⇑P **P** 02 25 51.7 -0.4
baz=94
PV15 Paradox Valley 93.51 52 *e*P P 02 25 58.0 +5.9
R20A Redvale 93.56 52 ⇑P **P** 02 25 52.4 +0.1
baz=94,SNR=7.8
EDM Edmonton 93.60 36 *e*P P 02 26 01.6 +10
EDM Edmonton 93.60 36 *e*P P 02 26 01.6 +10
PDAR Pinedale Array 93.64 47 P **P** 02 25 51.6 -0.9
PDAR PKKPbc **PKKPdf** 02 42 58.2 +0.1
PDAR Pinedale Array 93.64 47 P **P** 02 25 51.6 -0.9
comp=Z,2.7nm,0.9s,baz=238,slow=2.8,SNR=9.9
PDAR PKKPbc **PKKPdf** 02 42 58.2 +0.1
comp=Z,3.6nm,0.7s,baz=95,slow=4.4,SNR=16
Z22A Elephant Butte 93.69 57 ⇓P **P** 02 25 53.1 +0.2
baz=94,SNR=9.7
U21A Nageezi 93.76 54 ⇓P **P** 02 25 53.1 -0.1
baz=94,SNR=15
Q20A Ridgley Place, 93.78 51 ⇑P **P** 02 25 53.5 +0.3
baz=94,SNR=12
P20A De Beque 93.82 51 ⇓P **P** 02 25 53.9 +0.5
baz=94,SNR=12
Y22A Socorro 93.82 56 ⇓P **P** 02 25 53.4 -0.1
baz=94
S21A Coal Bank Pass 93.91 53 ⇓P **P** 02 25 53.5 -0.4
baz=94,SNR=8.5
T21A Navajo Lake 93.97 53 ⇓P **P** 02 25 54.5 +0.4
baz=94,SNR=5.3
O20A White River Ci 94.06 50 *e*P **P** 02 25 55.1 +0.6
O20A White River Ci 94.06 50 ⇑P **P** 02 25 55.9 +1.5
baz=94
J19A Crowheart 94.11 47 ⇓P **P** 02 25 55.9 +1.3
baz=94
123A Bell Site, Whi 94.15 58 ⇓P **P** 02 25 56.0 +1.0
baz=94
N20A Spence Gulch, 94.19 49 ⇑P **P** 02 25 56.0 +0.9
baz=94
GCMT Greycliff 94.21 44 *e*P **P** 02 25 52.2 -2.8
comp=Z,3.8nm,0.7s
R21A Cimarron 94.23 52 ⇑P **P** 02 25 56.4 +1.1
baz=94
V22A San Miguel Ran 94.25 54 ⇑P **P** 02 25 56.5 +1.0
baz=94
MK31 Makanchi Array 94.27 317 *e*P **P** 02 25 55.0 -0.1
MK31 Makanchi Array 94.27 317 *e*P **P** 02 25 55.0 -0.1
MKAR Makanchi Array 94.27 317 P **P** 02 25 55.2 +0.1
MKAR pmax pmax
comp=Z,76nm,0.8s
MKAR Makanchi Array 94.27 317 P **P** 02 25 55.1 +0.1
MKAR PKKP **PKKPdf** 02 42 54.0 -2.8
MKAR Makanchi Array 94.27 317 ⇓P **P** 02 25 55.6 +0.6
baz=94
MKAR Makanchi Array 94.27 317 P **P** 02 25 55.1 +0.1
comp=Z,75nm,0.8s,baz=94,slow=6.2,SNR=257
MKAR PKKP **PKKPdf** 02 42 54.0 -2.8
comp=Z,1.0nm,0.6s,baz=248,slow=3.3,SNR=6.6
Z23A Rita Site, Whi 94.29 57 ⇓P **P** 02 25 56.5 +0.9
baz=94
Q21A Lamborn Mesa, 94.31 51 ⇓P **P** 02 25 56.5 +0.8
baz=94
ZAA0 Zalesovo Array 94.31 324 *e*P **P** 02 25 53.6 -1.3
ZALV Zalesovo Beam 94.31 324 P **P** 02 25 53.9 -1.1
ZALV pmax pmax
comp=Z,34nm,0.8s
ZALV Zalesovo Beam 94.31 324 P **P** 02 25 53.9 -1.1
ZALV Zalesovo Beam 94.31 324 P **P** 02 25 53.9 -1.1
comp=Z,34nm,0.8s,baz=104,slow=4.7,SNR=88
I19A Meeteetse 94.31 46 ⇑P **P** 02 25 57.1 +1.6
baz=94
ANMO Albuquerque 94.43 55 *e*P **P** 02 25 57.6 +1.3
comp=Z,5.3nm,0.8s
H19A Powell 94.45 45 ⇓P **P** 02 25 57.6 +1.5
baz=95
T22A Edith 94.47 53 ⇓P **P** 02 25 57.1 +0.6
baz=95
K20A Yellowstone Ra 94.50 48 ⇓P **P** 02 25 56.5 +0.2
baz=95
P21A Newcastle 94.54 51 ⇓P **P** 02 25 57.0 +0.3
baz=95
Y23A Lovelace Mesa, 94.56 56 ⇑P **P** 02 25 57.6 +0.7
baz=95
324A Moseley Ranch, 94.57 59 ⇓P **P** 02 25 56.8 -0.2
baz=95
NDI New Delhi 94.62 298 *e*P P 02 25 53.0 -4.0
EGMT Eagleton 94.62 42 *e*P **P** 02 25 55.6 -1.1
comp=Z,44nm,1.3s
EGMT Eagleton 94.62 42 ⇓P **P** 02 25 57.0 +0.3
baz=95
224A Cornudas Mount 94.66 58 ⇑P **P** 02 25 57.3 0.0
baz=95
S22A 4UR Ranch, Cre 94.67 53 ⇓P **P** 02 25 58.0 +0.5
baz=95,SNR=7.7
W23A Werner Place, 94.72 55 ⇑P **P** 02 25 58.0 +0.4
baz=95
F19A Roth Farm, Mol 94.72 44 ⇓P **P** 02 25 58.1 +0.9
baz=95
V23A Ortiz Mt. (NFS 94.80 55 ⇓P **P** 02 25 58.2 +0.1
baz=95
R22A Saguache, Gunn 94.82 52 ⇓P **P** 02 25 58.7 +0.5
baz=95
Q22A Crested Butte, 94.82 51 ⇑P **P** 02 25 58.4 +0.3
baz=95,SNR=12
124A Stringfield Ra 94.83 58 ⇑P **P** 02 25 59.1 +0.9
baz=95
425A Indio Mountain 94.87 60 ⇓P **P** 02 25 58.7 +0.4
baz=95
U23A El Rito 94.90 54 ⇓P **P** 02 25 58.9 +0.4
baz=95
I20A Worland 94.91 46 ⇑P **P** 02 25 58.8 +0.7
baz=95
E19A Rath Farm, Rou 94.95 44 ⇑P **P** 02 25 59.1 +0.8
baz=95
325A Bean Ranch, Si 94.99 59 ⇑P **P** 02 25 59.4 +0.5
baz=95
PMSA Palmer Station 95.00 161 *e*P **P** 02 25 58.2 +0.2
comp=Z,84nm,1.6s
D19A Cripps Ranch, 95.03 43 ⇓P **P** 02 25 59.1 +0.5
baz=95,SNR=9.5
C19A Slack Wire Ran 95.03 42 ⇓P **P** 02 25 60.0 +1.4
baz=95
L21A Rawlins 95.07 48 ⇑P **P** 02 26 00.4 +1.3
baz=95
Y24A Capitan 95.07 57 ⇓P **P** 02 26 00.0 +0.8
baz=95
P22A Eagle 95.07 51 ⇓P **P** 02 25 60.0 +0.8
baz=95
G20A Bridger 95.09 45 ⇑P **P** 02 25 59.7 +0.7
baz=95
H20A Greybull 95.10 46 ⇑P **P** 02 26 00.4 +1.4
baz=95
SMLA Simla 95.11 301 *e*P **P** 02 25 58.6 -0.5
SMLA AMB AMB 02 26 00.1
comp=Z,254nm,2.2s
T23A Casias Ranch, 95.16 53 ⇓P **P** 02 26 00.6 +0.9
baz=95
B19A Brinkman Farms 95.24 42 ⇑P **P** 02 26 01.0 +1.5
baz=95
J21A Lysite 95.28 47 ⇑P **P** 02 26 00.9 +1.0
baz=95
K21A Alcova 95.28 48 ⇑P **P** 02 26 01.2 +1.2
baz=95
YKA Yellowknife Ar 95.31 27 P **P** 02 25 58.2 -1.1
YKA Yellowknife Ar 95.31 27 P **P** 02 25 58.2 -1.1
comp=Z,1.8nm,0.6s,baz=262,slow=4.6,SNR=7.6
W24A Lazy 6 Ranch, 95.33 55 ⇓P **P** 02 26 00.9 +0.5
baz=95
O22A Kremmling 95.34 50 ⇑P **P** 02 26 01.3 +0.8
baz=95
626A Big Bend Ranch 95.37 61 ⇓P **P** 02 26 01.7 +1.1
baz=96
E20A Meyer Farm, Mu 95.40 44 ⇑P **P** 02 26 01.9 +1.6
baz=96
NVS Novosibirsk 95.41 325 ⇓ *i*P **P** 02 25 57.7 -2.3
NVS *e* 02 36 26.1
NVS *e*S **S** 02 37 08.9 -5.0
NVS pmax pmax
comp=N,33nm,1.8s
NVS pmax pmax
comp=Z,135nm,1.8s
NVS pmax pmax
comp=E,63nm,1.7s
A19A Klindworth Far 95.47 41 ⇓P **P** 02 26 02.0 +1.4
baz=96
I21A Big Trails, Te 95.47 47 ⇓P **P** 02 26 02.0 +1.1
baz=96
125A Gardner Draw, 95.48 58 ⇑P **P** 02 26 02.0 +1.0
baz=96
526A Mary Lane Ranc 95.50 61 ⇓P **P** 02 26 02.0 +0.7
baz=96
D20A Manuel Ranch, 95.51 43 ⇑P **P** 02 26 02.4 +1.7
baz=96
N22A Wattenberg Ran 95.53 50 ⇑P **P** 02 26 03.2 +1.9
baz=96
V24A Rampart Ranch, 95.53 55 ⇑P **P** 02 26 02.1 +0.8
baz=96
Z25A Roswell 95.54 57 ⇓P **P** 02 26 03.4 +2.1
baz=96
426A McDonald Obser 95.66 60 ⇑P **P** 02 26 03.0 +0.9
baz=96
Y25A Mesa, Roswell 95.68 57 ⇓P **P** 02 26 03.5 +1.5
baz=96
SDCO Great Sand Dun 95.70 53 *e*P **P** 02 26 03.8 +1.6
comp=E,7.6nm,1.3s

C20A	**Veseth Ranch,**	**95.72**	**43**	⇓P		**P**		02 26 03.9	+2.2
	baz=96								
P23A	**Jefferson**	**95.73**	**51**	⇓P		**P**		02 26 03.8	+1.5
	baz=96								
TXAR	**Lajitas Array**	**95.73**	**61**	P		**P**		02 26 02.4	+0.2
TXAR	**Lajitas Array**	**95.73**	**61**	P		**P**		02 26 02.4	+0.2
	comp=E,1.9nm,0.7s,baz=226,slow=4.9,SNR=12								
L22A	**Ellis Ranch, M**	**95.77**	**48**	⇑P		**P**		02 26 03.8	+1.6
	baz=96								
226B	**Tecolote Peak,**	**95.79**	**59**	⇑P		**P**		02 26 03.6	+1.1
	baz=96								
326A	**Caldwell Ranch**	**95.81**	**59**	⇓P		**P**		02 26 04.1	+1.5
	baz=96								
POO	**Poona**	**95.82**	**288**	*e*P		**P**		02 26 01.9	-0.9
POO				AMB		AMB		02 26 03.3	
	comp=Z,134nm,2.3s								
B20A	**Solberg Farm,**	**95.84**	**42**	⇑P		**P**		02 26 04.1	+1.8
	baz=96								
S24A	**Houchin Ranch,**	**95.91**	**53**	⇓P		**P**		02 26 04.0	+0.9
	baz=96								
N23A	**Red Feather La**	**95.92**	**50**	⇓P		**P**		02 26 04.1	+1.0
	baz=96								
MAIT	**Maitri**	**95.93**	**188**	*e*P		**P**		02 25 59.3	-2.9
ISCO	**Idaho Springs**	**95.98**	**51**	*e*P		P		02 26 07.2	+3.8
ISCO				pmax		pmax			
	comp=Z,8.0nm,0.6s								
ISCO	**Idaho Springs**	**95.98**	**51**	*e*P		P		02 26 07.2	+3.8
	comp=Z,7.6nm,0.6s								
ISCO	**Idaho Springs**	**95.98**	**51**	⇑P		**P**		02 26 04.4	+0.9
	baz=96,SNR=6.4								
J22A	**Midwest**	**95.98**	**47**	⇓P		**P**		02 26 04.5	+1.4
	baz=96								
A20A	**Cobblestone Ra**	**95.99**	**41**	⇑P		**P**		02 26 04.2	+1.3
	baz=96,SNR=5.5								
DHRM	**DHARAMSHALA**	**96.03**	**302**	*e*P		**P**		02 26 02.9	-0.8
DHRM				AMB		AMB		02 26 08.1	
	comp=Z,184nm,0.0s								
I22A	**9 Mile Ranch,**	**96.06**	**47**	⇓P		**P**		02 26 03.8	+0.3
	baz=96								
V25A	**Rancho No Teng**	**96.07**	**55**	⇓P		**P**		02 26 05.2	+1.4
	baz=96								
W25A	**X Bar L Ranch,**	**96.09**	**55**	⇓P		**P**		02 26 04.8	+1.0
	baz=96								
R24A	**Sanders Place,**	**96.10**	**52**	⇓P		**P**		02 26 04.7	+0.9
	baz=96								
Z26A	**Caprock**	**96.15**	**57**	⇓P		**P**		02 26 05.2	+1.1
	baz=96								
Q24A	**Divide**	**96.19**	**52**	⇑P		**P**		02 26 05.6	+1.2
	baz=96								
427A	**Hayter Ranch,**	**96.22**	**60**	⇑P		**P**		02 26 05.6	+1.2
	baz=96								
D21A	**La Casta Ranch**	**96.27**	**43**	⇑P		**P**		02 26 05.6	+1.3
	baz=96								
H22A	**Clearmont**	**96.28**	**46**	⇓P		**P**		02 26 06.4	+2.0
	baz=96								
L23A	**Garrett**	**96.32**	**48**	⇑P		**P**		02 26 07.3	+2.5
	baz=96								
U25A	**Circle Dot Ran**	**96.33**	**54**	⇓P		**P**		02 26 07.3	+2.4
	baz=96								
628A	**Black Gap, Mar**	**96.43**	**61**	⇓P		**P**		02 26 06.1	+0.8
	baz=96								
T25A	**Trinidad**	**96.45**	**54**	⇑P		**P**		02 26 08.1	+2.6
	baz=96								
B21A	**Ellsworth Farm**	**96.50**	**42**	⇑P		**P**		02 26 07.7	+2.5
	baz=97								
S25A	**Robets Cordova**	**96.52**	**53**	⇓P		**P**		02 26 06.1	+0.3
	baz=97,SNR=8.0								
SNAA	**Sanae**	**96.54**	**183**	*e*P		**P**		02 26 03.9	-1.1
SNAA	**Sanae**	**96.54**	**183**	*e*P		**P**		02 26 03.4	-1.7
	comp=Z,54nm,1.2s								
SNAA	**Sanae**	**96.54**	**183**	P		**P**		02 26 03.6	-1.5
	comp=Z,6.1nm,0.8s,baz=183,slow=4.4,SNR=46								
THN	**Thein Dam**	**96.55**	**302**	*e*P		**P**		02 26 04.0	-1.7
127A	**Arkansas Junct**	**96.56**	**58**	⇑P		**P**		02 26 06.8	+0.8
	baz=97								
528A	**Cox Ranch, San**	**96.63**	**61**	⇑P		**P**		02 26 08.4	+2.1
	baz=97								
W26A	**Owens Ranch, T**	**96.63**	**56**	⇓P		**P**		02 26 08.6	+2.4
	baz=97								
A21A	**Bergtoll Ranch**	**96.66**	**41**	⇑P		**P**		02 26 08.2	+2.2
	baz=97								
N24A	**Carr**	**96.71**	**50**	⇓P		**P**		02 26 08.3	+1.8
	baz=97								
V26A	**Tequesquite Ra**	**96.73**	**55**	⇑P		**P**		02 26 08.7	+2.0
	baz=97								
328A	**Wristen Ranch,**	**96.81**	**59**	⇓P		**P**		02 26 09.8	+2.8
	baz=97								
D22A	**Cohagen**	**96.84**	**43**	⇓P		**P**		02 26 09.4	+2.6
	baz=97								
U26A	**Atchley Ranch,**	**96.86**	**54**	⇑P		**P**		02 26 08.8	+1.5
	baz=97								
Q25A	**Bedland, Calha**	**96.88**	**52**	⇓P		**P**		02 26 09.3	+2.0
	baz=97								
Y27A	**Causey**	**96.92**	**57**	⇓P		**P**		02 26 09.8	+2.2
	baz=97								
P25A	**Willow Gulch B**	**97.03**	**51**	⇑P		Pdif		02 26 09.6	+1.5
	baz=97,SNR=6.2								
W27A	**Bowe Ranch, En**	**97.19**	**56**	⇑P		Pdif		02 26 10.6	+1.7
	baz=97								
MSTX	**Muleshoe**	**97.26**	**57**	*e*P		Pdif		02 26 16.2	+7.0
	comp=Z,13nm,1.3s								
MSTX	**Muleshoe**	**97.26**	**57**	⇓P		Pdif		02 26 10.9	+1.7
	baz=97								
S26A	**Kim**	**97.27**	**53**	⇓P		Pdif		02 26 10.7	+1.5
	baz=97								
128A	**Castleberry Fa**	**97.28**	**58**	⇑P		Pdif		02 26 10.4	+1.1
	baz=97								
A22A	**Carney Farms,**	**97.31**	**42**	⇑P		Pdif		02 26 10.1	+1.1
	baz=97								
KURK	**Kurchatov**	**97.39**	**320**	*d i*P		**P**		02 26 07.7	-1.3
KURK				pmax		pmax			
	comp=Z,51nm,1.9s								
KURK	**Kurchatov**	**97.39**	**320**	P		**P**		02 26 08.4	-0.7
	SNR=24								
KURK	**Kurchatov**	**97.39**	**320**	P		**P**		02 26 08.7	-0.4
	comp=Z,200nm,1.6s,SNR=18								
KURK	**Kurchatov**	**97.39**	**320**	*e*P		**P**		02 26 07.8	-1.3
	comp=Z,72nm,1.7s								
KURBB	**Kurchatov Arra**	**97.43**	**320**	P		**P**		02 26 08.2	-1.1
	comp=Z,5.0nm,0.8s,baz=104,slow=3.5,SNR=40								
429A	**Davenport Ranc**	**97.47**	**60**	⇓P		Pdif		02 26 11.3	+1.2
	baz=98								
KSH	**Kashi**	**97.48**	**309**	P		Pdif		02 26 13.5	+3.4
KSH				pP		pP		02 26 24.5	+4.2
KSH				PP		**PP**		**02 30 12.2**	**+4.6**
KSH				SKS		**SKSac**		**02 36 49.1**	**+3.8**
KSH				S		**S**		**02 37 32.0**	**-0.7**
KSH				sS		sS		02 37 50.3	+0.3
KSH				AMB		AMB			
	comp=Z,34nm,1.1s								
KSH				AMB		AMB			
	comp=Z,750nm,5.3s								
KSH				LR		LR			
	comp=Z,3μm,17.4s								
KSH				LR		LR			
	comp=Z,9μm,19.9s								
KSH				LR		LR			
	comp=Z,11μm,23.4s								
D23A	**Lindsay**	**97.50**	**43**	⇓P		Pdif		02 26 10.9	+1.0
	baz=98								
VNA2	**Neumayer--Watz**	**97.50**	**182**	*e*P		**P**		**02 26 08.5**	**-0.8**
U27A	**Thompson Grove**	**97.60**	**54**	⇑P		Pdif		02 26 12.1	+1.5
	baz=98								
C23A	**Lambert**	**97.61**	**43**	⇓P		Pdif		02 26 12.0	+1.7
	baz=98								
Y28A	**McKinney Farm,**	**97.68**	**57**	⇓P		Pdif		02 26 11.8	+0.7
	baz=98								
ULHL	**Ulahol**	**97.69**	**311**	*i* P		Pdif		02 26 11.3	+0.2
ULHL	**Ulahol**	**97.69**	**311**	P		Pdif		02 26 11.3	+0.2
	SNR=6.3								
O26A	**Horse Wrangler**	**97.80**	**51**	⇓P		Pdif		02 26 12.9	+1.4
	baz=98								
VNA1	**Neumayer--Stat**	**97.80**	**182**	*e*P		**P**		**02 26 09.7**	**-0.9**
B23A	**Brockton**	**97.84**	**42**	⇑P		Pdif		02 26 14.0	+2.7
	baz=98								
D24A	**Glendive**	**98.08**	**44**	⇓P		Pdif		02 26 15.0	+2.6
	baz=98								
Y29A	**Porterfield Fa**	**98.15**	**57**	⇑P		Pdif		02 26 15.2	+2.1
	baz=98								
TKM2	**Tokmak 2**	**98.26**	**312**	*i* P		**P**		**02 26 13.3**	**-0.2**
TKM2	**Tokmak 2**	**98.26**	**312**	P		**P**		**02 26 13.3**	**-0.2**
	SNR=9.6								
TKM2	**Tokmak 2**	**98.26**	**312**	*e*P		**P**		**02 26 12.7**	**-0.8**
	comp=Z,191nm,2.3s								
T28A	**Walsh**	**98.27**	**54**	⇓Pdiff		Pdif		02 26 15.8	+2.2
	baz=98								
DGMT	**Dagmar**	**98.36**	**42**	⇓Pdiff		Pdif		02 26 16.1	+2.5
	baz=98								
KZA	**Kyzart**	**98.40**	**311**	*i* P		Pdif		02 26 14.8	+0.3
KZA	**Kyzart**	**98.40**	**311**	P		Pdif		02 26 14.8	+0.4
	SNR=15								
631A	**Perdido Creek**	**98.41**	**62**	⇑Pdiff		Pdif		02 26 15.8	+1.5
	baz=98								
S28A	**Manter**	**98.50**	**53**	⇑Pdiff		Pdif		02 26 16.7	+2.1
	baz=99								
R28A	**Tribune**	**98.68**	**53**	⇑Pdiff		Pdif		02 26 17.5	+2.1
	baz=99								
331A	**San Angelo**	**98.81**	**60**	⇓Pdiff		Pdif		02 26 18.0	+2.0
	baz=99								
CHMS	**Chumysh**	**98.89**	**312**	*i* P		Pdif		02 26 16.3	+0.2
CHMS	**Chumysh**	**98.89**	**312**	P		Pdif		02 26 16.3	+0.2
	SNR=6.8								
FRU	**Bishkek**	**98.97**	**312**	*e*P		**P**		**02 26 15.5**	**-1.0**
FRU				pmax		pmax			
	comp=Z,240nm,2.5s								
FRU				MLR		MLR			
	comp=Z,7μm,22.0s								
G26A	**Maurine**	**99.02**	**46**	⇑Pdiff		**Pdif**		**02 26 19.0**	**+2.4**
	baz=99								
AAK	**Ala-Archa**	**99.03**	**312**	P		**Pdif**		**02 26 16.6**	**-0.3**
AAK				pmax		pmax			
	comp=Z,7.0nm,0.9s								
AAK	**Ala-Archa**	**99.03**	**312**	Pdiff		**Pdif**		**02 26 17.6**	**+0.7**
	SNR=8.0								
AAK	**Ala-Archa**	**99.03**	**312**	P		**Pdif**		**02 26 17.3**	**+0.3**
	SNR=7.5								
AAK	**Ala-Archa**	**99.03**	**312**	P		**Pdif**		**02 26 16.6**	**-0.3**
AAK	**Ala-Archa**	**99.03**	**312**	P		**Pdif**		**02 26 16.6**	**-0.3**
	comp=Z,7.3nm,1.0s,baz=106,slow=2.8,SNR=14								
632A	**Uvalde**	**99.10**	**62**	⇑Pdiff		**Pdif**		**02 26 19.0**	**+1.6**
	baz=99								
USP	**Ospenovka**	**99.11**	**312**	*i* P		**Pdif**		**02 26 16.8**	**-0.3**
USP	**Ospenovka**	**99.11**	**312**	P		**Pdif**		**02 26 16.8**	**-0.3**
	SNR=9.2								
JCT	**Junction City**	**99.23**	**61**	*e*P		**Pdif**		**02 26 25.3**	**+7.4**
JCT				pmax		pmax			
	comp=Z,14nm,1.4s								
JCT	**Junction City**	**99.23**	**61**	*e*P		**Pdif**		**02 26 25.3**	**+7.4**
	comp=Z,14nm,1.4s								
432A	**Menard**	**99.29**	**60**	⇑Pdiff		**Pdif**		**02 26 20.4**	**+2.2**
	baz=99								
Z31A	**Sharp Cattle R**	**99.33**	**58**	⇑Pdiff		**Pdif**		**02 26 19.9**	**+1.6**
	baz=99								
332A	**Millersview**	**99.41**	**60**	⇓Pdiff		**Pdif**		**02 26 20.1**	**+1.4**
	baz=100								
AML	**Almayashu**	**99.55**	**311**	*i* P		**Pdif**		**02 26 20.0**	**+0.4**
AML	**Almayashu**	**99.55**	**311**	P		**Pdif**		**02 26 20.0**	**+0.4**
	SNR=7.8								
EKS2	**Erkin-Say**	**99.56**	**312**	*e*P		**Pdif**		**02 26 19.3**	**+0.1**
EKS2				pmax		pmax			
	comp=Z,129nm,2.2s								
EKS2	**Erkin-Say**	**99.56**	**312**	P		**Pdif**		**02 26 19.3**	**+0.1**
	SNR=9.9								
EKS2	**Erkin-Say**	**99.56**	**312**	*e*P		**Pdif**		**02 26 19.2**	**+0.1**
	comp=Z,129nm,2.2s								
KK31	**Karatay Array**	**101.99**	**312**	*i* P		**Pdif**		**02 26 28.9**	**-1.0**
KK31				pmax		pmax			
	comp=Z,33nm,1.1s								
VOSK	**Vostochnaya**	**102.33**	**322**	*e*P		**Pdif**		**02 26 29.9**	**-1.3**
VOSK	**Vostochnaya**	**102.33**	**322**	*e*Pdif		**Pdif**		**02 26 29.9**	**-1.3**
BVA0	**Borovoye Array**	**102.70**	**322**	P		**Pdif**		**02 26 31.0**	**-1.8**
BVA0				pmax		pmax			
	comp=Z,25nm,1.4s								
BVAR	**Borovoye Array**	**102.70**	**322**	P		**Pdif**		**02 26 31.8**	**-1.0**
BVAR				pmax		pmax			
	comp=Z,5.0nm,0.8s								
BVAR	**Borovoye Array**	**102.70**	**322**	Pdif		**Pdif**		**02 26 31.8**	**-1.0**
BVAR	**Borovoye Array**	**102.70**	**322**	Pdiff		**Pdif**		**02 26 31.8**	**-1.0**
	comp=Z,5.0nm,0.8s,baz=99,slow=4.7,SNR=13								
BRVK	**Borovoye**	**102.77**	**322**	P		**Pdif**		**02 26 31.6**	**-1.4**
BRVK				pmax		pmax			
	comp=Z,90nm,2.8s								
BRVK	**Borovoye**	**102.77**	**322**	Pdiff		**Pdif**		**02 26 32.5**	**-0.6**
	SNR=10								
PLCA	**Paso Flores**	**106.12**	**139**	PKKP		**PKKPdf**		**02 42 28.9**	**-5.2**
	comp=Z,2.9nm,0.8s,baz=51,slow=5.7,SNR=6.6								
IDAH	**Dahanechah**	**109.89**	**301**	*e*P		**PKiKP**		**02 31 08.1**	**+0.3**
IKOO	**Kooshah**	**110.61**	**300**	*e*P		**PKiKP**		**02 31 08.9**	**-0.2**
IAKL	**Akhelmad**	**110.82**	**305**	*e*P		**PKiKP**		**02 31 08.3**	**-1.2**
IKRD	**Kardeh**	**111.01**	**305**	*e*P		PKiKP		02 31 02.5	-7.3
CFAA	**Coronel Fontan**	**112.43**	**131**	PKKPbc		PKKPbc		02 42 00.6	-2.0
CFAA				PKKPab		**PKKPab**		**02 42 08.2**	**-3.6**
CFAA	**Coronel Fontan**	**112.43**	**131**	PKKPbc		PKKPbc		02 42 00.6	-2.0
	comp=Z,0.6nm,0.9s,baz=65,slow=1.9,SNR=6.0								
CFAA				PKKPab		**PKKPab**		**02 42 08.2**	**-3.6**
	comp=Z,1.2nm,1.2s,baz=1.3,slow=1.9,SNR=9.1								
IBAF	**Bafgh**	**113.53**	**299**	*e*P		**PKiKP**		**02 31 14.1**	**-0.5**
IMEH	**Mehriz**	**114.34**	**299**	*e*P		PKPdf		02 31 15.0	-1.3
ICHK	**Chekchek**	**114.50**	**300**	*e*P		PKPdf		02 31 16.0	-0.5
ISAD	**Sadrabad**	**115.12**	**300**	*e*P		**PKPdf**		**02 31 18.6**	**+0.8**
ISAR	**Pars**	**115.72**	**298**	*e*P		**PKPdf**		**02 31 18.4**	**-0.6**
APA	**Apatity**	**116.15**	**342**	*i* PKIKP		PKPdf		02 31 29.0	+11
APA				*i*				02 32 22.0	
APA				*i* PS		**PS**		**02 42 04.0**	**-1.6**
APA				MLR		MLR			
	comp=Z,13μm,21.0s								
ISFB	**Sefidab**	**116.22**	**303**	*e*P		**PKPdf**		**02 31 19.7**	**+0.1**
IZEF	**Zefreh**	**116.23**	**301**	*e*P		**PKPdf**		**02 31 21.6**	**+1.7**
KEV	**Kevo**	**116.51**	**345**	*e*PKIKP		**PKPdf**		**02 31 19.3**	**+0.4**
KEV	**Kevo**	**116.51**	**345**	*e*pkp		**PKPdf**		**02 31 19.3**	**+0.4**
IVRN	**Varamin**	**116.60**	**303**	*e*P		**PKPdf**		**02 31 20.6**	**+0.3**
IKAZ	**Kazeroun**	**116.77**	**297**	*e*P		**PKPdf**		**02 31 21.6**	**+0.5**
IKLH	**Kolahrood**	**116.83**	**301**	*e*P		**PKPdf**		**02 31 21.0**	**0.0**
ARCES	**ARCESS Array B**	**117.03**	**346**	PKP		**PKPdf**		**02 31 18.5**	**-1.5**
ARCES	**ARCESS Array B**	**117.03**	**346**	PKP		**PKPdf**		**02 31 18.5**	**-1.5**
	comp=Z,5.2nm,0.6s,baz=78,slow=2.0,SNR=17								
KLMR	**Klimovskoe**	**117.48**	**334**	*e*PKIKP		**PKPdf**		**02 31 18.3**	**-2.7**
KLMR				pmax		pmax			
	comp=Z,45nm,1.5s								
IRAZ	**Razeghan**	**118.03**	**304**	*e*P		**PKPdf**		**02 31 23.0**	**-0.2**
LPAZ	**La Paz**	**119.52**	**116**	PKP		**PKPdf**		**02 31 25.8**	**-1.3**
LPAZ				PKKPbc		**PKKPbc**		**02 41 37.9**	**-0.4**
LPAZ	**La Paz**	**119.52**	**116**	PKP		**PKPdf**		**02 31 25.8**	**-1.3**
	comp=Z,3.7nm,1.0s,baz=242,slow=3.0,SNR=11								
LPAZ				PKKPbc		**PKKPbc**		**02 41 37.9**	**-0.4**
	comp=Z,5.9nm,1.0s,baz=40,slow=6.2,SNR=14								
JOF	**Joensuu**	**119.66**	**338**	*e*PKIKP		**PKPdf**		**02 31 23.2**	**-2.0**
JOF	**Joensuu**	**119.66**	**338**	*e*pkp		**PKPdf**		**02 31 23.2**	**-2.0**
IHRS	**Heris**	**119.96**	**308**	*e*P		**PKPdf**		**02 31 26.8**	**0.0**
IKOM	**Komasi**	**120.14**	**303**	*e*P		**PKPdf**		**02 31 26.2**	**-1.0**
IBST	**Bostanabad**	**120.17**	**307**	*e*P		**PKPdf**		**02 31 25.2**	**-2.1**
UMR	**Umm Al-Rimmam**	**120.37**	**297**	*e*P		**PKPdf**		**02 31 27.2**	**-0.3**
UMR				AMb		AMB		02 31 29.4	
	comp=Z,133nm,1.4s								
VRHR	**Novokhopersk**	**120.42**	**323**	*e*PKIKP		**PKPdf**		**02 31 26.2**	**-0.8**
VRHR				pmax		pmax			
	comp=Z,10.0nm,1.1s								
VRHR				pmax		pmax			
	comp=N,10.0nm,1.0s								
VRHR				pmax		pmax			
	comp=E,20nm,1.0s								
VRHR				MLR		MLR			
	comp=Z,5μm,22.0s								
VRHR				MLR		MLR			
	comp=N,360nm,17.0s								
VRHR				MLR		MLR			
	comp=E,4μm,19.0s								
RDF	**Al-Radifah**	**120.55**	**297**	*e*P		**PKPdf**		**02 31 27.8**	**-0.1**
RDF				AMb		AMB		02 31 30.9	
	comp=Z,124nm,1.2s								
DGRG	**David-gareji**	**120.64**	**311**	P		**PKPdf**		**02 31 29.5**	**+1.7**
MOS	**Moscow**	**120.73**	**329**	*e*PKIKP		**PKPdf**		**02 31 22.7**	**-4.7**
NAY	**Al-Naaiem**	**120.80**	**297**	*e*P		**PKPdf**		**02 31 27.8**	**-0.6**
NAY				AMb		AMB		02 31 30.1	
	comp=Z,57nm,1.3s								
IGHG	**Ghaleghazi**	**120.89**	**303**	*e*P		**PKPdf**		**02 31 27.3**	**-1.5**
IMRD	**Marand**	**120.93**	**308**	*e*P		**PKPdf**		**02 31 28.3**	**-0.3**
RST	**Umm Al-Ruwaisa**	**121.00**	**297**	*e*P		**PKPdf**		**02 31 28.0**	**-0.8**
RST				AMb		AMB		02 31 36.3	
	comp=Z,881nm,0.8s								
IDHR	**Dehrash**	**121.00**	**303**	*e*P		**PKPdf**		**02 31 27.7**	**-1.2**
TBLG	**Delisi**	**121.05**	**312**	P		**PKPdf**		**02 31 29.5**	**+0.9**
GUDG	**Gudauri**	**121.07**	**313**	P		**PKPdf**		**02 31 30.0**	**+1.1**
GNI	**Garni**	**121.38**	**310**	*e*PKPdf		**PKPdf**		**02 31 30.0**	**+0.5**
GNI				PKP		**PKPdf**		**02 31 30.4**	**+0.9**
GNI				*e*PP		**PP**		**02 32 56.4**	**-4.4**
GNI	**Garni**	**121.38**	**310**	PKP		**PKPdf**		**02 31 30.4**	**+0.9**
	comp=Z,15nm,0.9s,baz=1.6,slow=3.8,SNR=7.7								
ZEI	**Tsey**	**121.41**	**313**	*i* PKIKP		**PKPdf**		**02 31 28.5**	**-1.0**
ZEI				pmax		pmax			
	comp=Z,20nm,1.2s								
GOF	**Gofitskoye**	**121.42**	**316**	*e*PKIKP		**PKPdf**		**02 31 29.6**	**+0.5**
OBN	**Obninsk**	**121.55**	**329**	⇑*i*PKIKP		**PKPdf**		**02 31 28.7**	**-0.3**
OBN				*e*				02 33 05.0	
OBN				*e*				02 38 41.3	
OBN				*e*PS		PS		02 42 42.0	-13
OBN				pmax		pmax			
	comp=Z,38nm,1.2s								
ONI	**Oni**	**121.78**	**313**	P		**PKPdf**		**02 31 31.1**	**+1.1**
VSR	**Storozhevoye**	**121.81**	**324**	*e*PKIKP		**PKPdf**		**02 31 28.8**	**-0.9**
VSR				pmax		pmax			
	comp=E,10.0nm,1.2s								
VSR				pmax		pmax			
	comp=Z,20nm,1.2s								
VSR				pmax		pmax			
	comp=N,6.0nm,0.6s								
VSR				MLR		MLR			
	comp=Z,9μm,22.0s								
VSR				MLR		MLR			
	comp=N,6μm,21.0s								
VSR				MLR		MLR			
	comp=E,4μm,25.0s								
VORD	**Divnogorie**	**121.83**	**323**	*e*PKIKP		**PKPdf**		**02 31 28.9**	**-0.8**
VORD				pmax		pmax			
	comp=Z,20nm,1.3s								
VORD				pmax		pmax			
	comp=E,20nm,0.9s								
VORD				MLR		MLR			
	comp=Z,8μm,20.0s								
VORD				MLR		MLR			
	comp=E,4μm,23.0s								
KBZ	**Khabaz**	**121.88**	**314**	PKIKP		**PKPdf**		**02 31 31.9**	**+1.9**
KBZ				pmax		pmax			
	comp=Z,5.0nm,0.8s								
KBZ	**Khabaz**	**121.88**	**314**	PKP		**PKPdf**		**02 31 31.9**	**+1.9**
KBZ	**Khabaz**	**121.88**	**314**	PKP		**PKPdf**		**02 31 31.9**	**+1.9**
	comp=Z,5.0nm,0.9s,baz=165,slow=1.7,SNR=6.8								
KIV	**Kislovodsk**	**121.97**	**315**	⇑*i*PKIKP		**PKPdf**		**02 31 30.3**	**-0.1**
KIV				*e*				02 33 04.2	
KIV				pmax		pmax			
	comp=Z,43nm,1.9s								
KAF	**Kangasniemi**	**121.97**	**339**	*e*PKIKP		**PKPdf**		**02 31 27.8**	**-1.8**
KAF	**Kangasniemi**	**121.97**	**339**	*e*pkp		**PKPdf**		**02 31 27.8**	**-1.8**
FINES	**FINESS Array B**	**122.50**	**339**	PKP		**PKPdf**		**02 31 30.1**	**-0.6**
FINES	**FINESS Array B**	**122.50**	**339**	PKP		**PKPdf**		**02 31 30.1**	**-0.6**
	comp=Z,15nm,1.0s,baz=34,slow=2.4,SNR=11								
HAKT	**HAKKARI**	**122.69**	**307**	*i* P		**PKPdf**		**02 31 32.5**	**+0.4**
CHVG	**Ch'k'valeri**	**122.72**	**314**	P		**PKPdf**		**02 31 31.7**	**0.0**
TUTA	**Tutak**	**122.99**	**310**	*i* P		**PKPdf**		**02 31 33.1**	**+0.5**
ARTV	**Artvin**	**123.23**	**312**	*i* P		**PKPdf**		**02 31 33.8**	**+0.7**
DAGI	**Agillar**	**123.27**	**312**	*i* P		**PKPdf**		**02 31 33.8**	**+0.9**
CPUP	**Villa Florida**	**123.29**	**132**	*e*PKPdf		**PKPdf**		**02 31 32.6**	**-0.7**
CPUP				PKP		**PKPdf**		**02 31 32.9**	**-0.4**
CPUP				PKKPab		**PKKPbc**		**02 41 21.3**	**-2.1**
CPUP	**Villa Florida**	**123.29**	**132**	PKP		**PKPdf**		**02 31 32.9**	**-0.4**
	comp=Z,2.0nm,0.8s,baz=76,slow=2.8,SNR=3.5								
CPUP				PKKPab		**PKKPbc**		**02 41 21.3**	**-2.1**
	comp=Z,4.8nm,1.0s,baz=56,slow=6.3,SNR=4.0								
DBOC	**Borcka**	**123.38**	**312**	*i* P		**PKPdf**		**02 31 33.8**	**+0.7**
DDEM	**Demirkent**	**123.43**	**311**	*i* P		**PKPdf**		**02 31 34.1**	**+0.8**
ERZM	**Erzurum**	**123.96**	**310**	*i* P		**PKPdf**		**02 31 36.0**	**+1.4**
SDV	**Santo Domingo**	**124.09**	**87**	*e*PKPdf		**PKPdf**		**02 31 34.2**	**-1.1**
BEST	**Besiri**	**124.51**

TLB	**Topalu**	**131.44**	**321**	⇓PKIKP	**PKPdf**	**02 31 51.5**	**+3.2**
TLB	**Topalu**	**131.44**	**321**	⇓*i*P	**PKPdf**	**02 31 51.5**	**+3.2**
MAMC	**Mammari**	**131.47**	**307**	P	**SKPdf**	**02 35 28.6**	**+6.9**
BURAR	**Bucovina Array**	**131.51**	**325**	⇓PKIKP	PKPdf	02 31 43.1	-5.4
BURAR	**Bucovina Array**	**131.51**	**325**	⇓*i*P	PKPdf	02 31 43.1	-5.4
VRI	**Vrincioaia**	**131.60**	**323**	⇓PKIKP	**PKPdf**	**02 31 51.2**	**+2.6**
VRI	**Vrincioaia**	**131.60**	**323**	⇓*i*P	**PKPdf**	**02 31 51.2**	**+2.6**
KWP	**Kalwaria Pacla**	**131.64**	**329**	*e*PKIKP	**PKPdf**	**02 31 49.7**	**+1.1**
KWP	**Kalwaria Pacla**	**131.64**	**329**	*e*PKPdf	**PKPdf**	**02 31 49.7**	**+1.1**
KWP	**Kalwaria Pacla**	**131.64**	**329**	*e*PKP	**PKPdf**	**02 31 49.9**	**+1.4**
PLOR	**Plostina**	**131.65**	**323**	⇑PKIKP	**PKPdf**	**02 31 48.4**	**-0.3**
PLOR	**Plostina**	**131.65**	**323**	⇑*i*P	**PKPdf**	**02 31 48.4**	**-0.3**
GKP	**Gorka Klasztor**	**131.66**	**336**	*e*PKP	**PKPdf**	**02 31 48.9**	**+0.5**
PSN	**Preselentsi**	**131.79**	**319**	*e*P	**SKPdf**	**02 35 16.5**	**-5.5**
MSAB	**Monastry St. A**	**131.82**	**320**	⇑*i*P	**PKPdf**	**02 31 50.0**	**+1.0**
SZAC	**Souni-Zanaja**	**131.85**	**306**	P	**SKPdf**	**02 35 29.5**	**+7.0**
BORA	**Eskisehir**	**131.92**	**314**	*i* P	**PKPdf**	**02 31 46.7**	**-2.8**
ALFC	**Alevga**	**131.96**	**307**	P	SKPdf	02 35 30.0	+7.3
	comp=Z,2.2nm,1.4s						
AKMC	**Akamas**	**132.21**	**307**	P	SKPdf	02 35 31.1	+8.0
PPCY	**Paphos**	**132.24**	**307**	P	SKPdf	02 35 31.8	+8.7
MLR	**Muntele Rosu**	**132.26**	**323**	⇑*i*P	**PKPdf**	**02 31 47.7**	**-2.3**
KOLS	**Kolonicke sedl**	**132.30**	**328**	*e*PKIKP	**PKPdf**	**02 31 50.5**	**+0.7**
KOLS				*e*		02 34 16.0	
KOLS	**Kolonicke sedl**	**132.30**	**328**	*e*PKP	**PKPdf**	**02 31 50.5**	**+0.7**
KOLS				*e*PP	**PP**	**02 34 16.0**	**+3.8**
UZH	**Uzhgorod**	**132.48**	**328**	*e*PKIKP	**PKPdf**	**02 31 49.0**	**-1.1**
UZH				*e*		02 31 58.2	
UZH				MLR	MLR		
	comp=N,4µm,19.0s						
UZH				MLR	MLR		
	comp=E,6µm,19.0s						
UZH				MLR	MLR		
	comp=Z,2µm,19.0s						
STHS	**Stebnicka Huta**	**132.52**	**329**	*e*PKIKP	**PKPdf**	**02 31 51.8**	**+1.6**
STHS				*e*		02 34 16.7	
STHS	**Stebnicka Huta**	**132.52**	**329**	*e*PKP	**PKPdf**	**02 31 51.8**	**+1.6**
STHS				*e*PP	**PP**	**02 34 16.7**	**+3.2**
PRD	**Provadia**	**132.52**	**319**	*e*P	**PKPdf**	**02 31 54.0**	**+3.6**
PRD	**Provadia**	**132.52**	**319**	*e*P	**SKPdf**	**02 35 20.0**	**-3.4**
TRPA	**Tarpa**	**132.66**	**327**	⇑*i*P	**PKPdf**	**02 31 48.6**	**-1.9**
OJC	**Ojcow**	**132.69**	**331**	*e*PKIKP	**PKPdf**	**02 31 47.5**	**-3.0**
OJC	**Ojcow**	**132.69**	**331**	*e*PKPdf	**PKPdf**	**02 31 47.5**	**-3.0**
VOIR		**132.82**	**323**	⇓PKIKP	**PKPdf**	**02 31 49.7**	**-1.3**
VOIR		**132.82**	**323**	⇓*i*P	**PKPdf**	**02 31 49.7**	**-1.3**
GDZ	**Gediz**	**132.93**	**313**	*i* P	**PKPdf**	**02 31 50.9**	**-0.6**
ARR	**Arges**	**133.10**	**323**	⇓*i*P	**PKPdf**	**02 31 52.2**	**+0.7**
KHAL	**Karahalli**	**133.20**	**312**	*i* P	**PKPdf**	**02 31 51.9**	**-0.1**
DRGR		**133.38**	**326**	⇓PKIKP	**PKPdf**	**02 31 53.7**	**+1.7**
DRGR		**133.38**	**326**	⇓*i*P	**PKPdf**	**02 31 53.7**	**+1.7**
OKC	**Ostrava-Krasne**	**133.72**	**332**	*e*PKPdf	**PKPdf**	**02 31 51.5**	**-0.9**
OKC				*ex*	x	02 31 59.1	
OKC				AMS	AMS	03 26 50.0	
	comp=Z,9µm,23.3s						
KSP	**Ksiaz**	**133.84**	**334**	*e*PKIKP	**PKPdf**	**02 31 53.1**	**+0.5**
KSP				MLR	MLR		
	comp=Z,23µm,22.1s						
KSP	**Ksiaz**	**133.84**	**334**	*e*PKP	PKPdf	02 32 00.6	+8.0
MORC	**Moravsky Berou**	**134.05**	**332**	⇑PKIKP	**PKPdf**	**02 31 54.3**	**+1.2**
MORC	**Moravsky Berou**	**134.05**	**332**	⇑*i*P	**PKPdf**	**02 31 54.3**	**+1.2**
MORC	**Moravsky Berou**	**134.05**	**332**	*e*PKPdf	**PKPdf**	**02 31 53.1**	**0.0**
PSZ	**Piszkesteto**	**134.17**	**329**	⇑PKIKP	**PKPdf**	**02 31 54.7**	**+1.3**
PSZ	**Piszkesteto**	**134.17**	**329**	⇑*i*P	**PKPdf**	**02 31 54.7**	**+1.3**
DPC	**Dobruska-Polom**	**134.18**	**333**	*e*PKPdf	**PKPdf**	**02 31 53.2**	**-0.2**
DPC				*ep*PKP	**pPKPdf**	**02 32 01.4**	**-2.6**
DPC				*e*PP	**PP**	**02 34 25.3**	**+1.2**
DPC				*e*SKP		02 35 24.4	
DPC				AMS	AMS	03 30 20.0	
UPC	**Upice**	**134.20**	**334**	*e*PKPdf	**PKPdf**	**02 31 54.4**	**+1.1**
UPC				*ex*	x	02 31 59.7	
UPC				*e*PP	PP	02 34 32.5	+8.4
UPC				*e*SKP		02 35 23.9	
SIRR	**Siria**	**134.28**	**326**	⇑*i*P	**PKPdf**	**02 31 54.0**	**+0.4**
TURN	**Turunc**	**134.43**	**311**	*i* P	**PKPdf**	**02 31 50.8**	**-3.4**
BZS	**Buzias**	**134.69**	**325**	⇑PKIKP	**PKPdf**	**02 31 51.4**	**-3.0**
BZS	**Buzias**	**134.69**	**325**	⇑*i*P	**PKPdf**	**02 31 51.4**	**-3.0**
MPEP	**Malo Peshtene**	**134.74**	**321**	*e*P	**PKPdf**	**02 31 52.0**	**-2.6**
BRG	**Berggiesshubel**	**134.80**	**335**	*e*PDIF	**PKPdf**	**02 31 54.8**	**+0.3**
	comp=Z,43nm,2.0s						
PVCC	**Panska Ves**	**134.80**	**335**	*e*PKPdf	**PKPdf**	**02 31 54.9**	**+0.5**
PVCC				*ep*PKP	**pPKPdf**	**02 32 02.9**	**-2.2**
PVCC				AMS	AMS	03 30 10.0	
	comp=Z,10µm,22.2s						
VRAC	**Vranov**	**134.81**	**332**	⇓*i*P	**PKPdf**	**02 31 55.2**	**+0.7**
VRAC	**Vranov**	**134.81**	**332**	PKP	**PKPdf**	**02 31 54.6**	**+0.1**
VRAC				SKPbc	**SKPab**	**02 35 27.6**	**+1.4**
VRAC	**Vranov**	**134.81**	**332**	PKP	**PKPdf**	**02 31 54.6**	**+0.1**
	comp=Z,5.4nm,0.9s,baz=84,slow=3.9,SNR=6.3						
VRAC				SKPbc	**SKPab**	**02 35 27.6**	**+1.4**
	comp=Z,7.2nm,0.7s,baz=57,slow=4.5,SNR=4.4						
CLL	**Collm**	**134.84**	**336**	*i* PKIKP	**PKPdf**	**02 31 52.9**	**-1.6**
CLL				pmax	pmax		
	comp=Z,14nm,1.1s						
CLL				MLR	MLR		
	comp=Z,10µm,19.9s						
CLL	**Collm**	**134.84**	**336**	*e*PKPpre	PKPpre	02 31 49.0	
	comp=Z,4.0nm,0.9s						
CLL				*e*PKPdf	**PKPdf**	**02 31 54.0**	**-0.5**
	comp=Z,19nm,1.1s						
CLL				*i*		02 32 01.5	
	comp=Z,27nm,1.4s						
CLL				*e*PP	**PP**	**02 34 28.0**	**0.0**
CLL				*i* SKPbc	**SKPab**	**02 35 25.4**	**-0.7**
	comp=Z,31nm,1.4s						
CLL				*i*		02 38 18.9	
	comp=Z,28nm,1.9s						
CLL				LmV		03 35 00.0	
	comp=Z,10µm,19.9s						
SMOL	**Smolenice**	**134.99**	**331**	*e*PKIKP	**PKPdf**	**02 31 55.5**	**+0.6**
SMOL	**Smolenice**	**134.99**	**331**	*e*PKP	**PKPdf**	**02 31 55.5**	**+0.6**
PRA	**Prague**	**135.21**	**334**	PKPdf	**PKPdf**	**02 31 55.0**	**-0.2**
PRU	**Pruhonice**	**135.22**	**334**	*e*PKPdf	**PKPdf**	**02 31 54.7**	**-0.5**
PRU				*ep*PKP	**pPKPdf**	**02 32 03.1**	**-2.8**
PRU				*e*PP	PP	02 34 39.4	+8.8
PRU				*e*SKP		02 35 27.9	
PRU				AMS	AMS	03 30 30.0	
	comp=Z,9µm,21.9s						
TREC	**Trest**	**135.32**	**333**	*e*PKPdf	**PKPdf**	**02 31 55.3**	**-0.2**
TREC				*e*PP	**PP**	**02 34 30.2**	**-1.1**
TREC				AMS	AMS	03 32 00.0	
	comp=Z,15µm,20.9s						
ZST	**Bratislava**	**135.36**	**331**	*e*PKIKP	**PKPdf**	**02 31 57.1**	**+1.6**
ZST	**Bratislava**	**135.36**	**331**	*e*PKP	**PKPdf**	**02 31 57.1**	**+1.6**
VTS	**Vitosha**	**135.48**	**321**	⇑PKIKP	**PKPdf**	**02 31 55.9**	**-0.3**
VTS	**Vitosha**	**135.48**	**321**	⇑*i*P	**PKPdf**	**02 31 55.9**	**-0.3**
VTS	**Vitosha**	**135.48**	**321**	*e*P	**PKPdf**	**02 31 57.0**	**+0.8**
KHC	**Kasperske Hory**	**136.28**	**334**	*e*PKIKP	**PKPdf**	**02 31 56.9**	**-0.4**
KHC	**Kasperske Hory**	**136.28**	**334**	*e*PKPpre	PKPpre	02 31 50.5	
KHC				*e*PKPdf	**PKPdf**	**02 31 56.7**	**-0.6**
KHC				*ex*	x	02 32 03.4	
KHC				*e*PP	**PP**	**02 34 40.2**	**+2.9**
KHC				*e*SKP		02 35 34.2	
KHC				*ex*	x	02 35 40.5	
KHC				AMS	AMS	03 31 10.0	
	comp=Z,16µm,23.9s						
TSUM	**Tsumeb**	**136.44**	**226**	*e*PKPpre	PKPpre	02 31 50.7	
TSUM				*e*PKPdf	**PKPdf**	**02 31 58.4**	**-0.2**
GERES	**GERESS Array B**	**136.44**	**334**	PKPpre	PKPpre	02 31 46.3	
GERES				PKP	**PKPdf**	**02 31 57.5**	**-0.2**
GERES				SKPbc	**SKiKP**	**02 35 32.3**	**-1.0**
GERES	**GERESS Array B**	**136.44**	**334**	PKhKP	PKPpre	02 31 46.3	
	comp=Z,1.7nm,0.7s,baz=64,slow=3.1,SNR=6.3						
GERES				PKP	**PKPdf**	**02 31 57.5**	**-0.2**
	comp=Z,7.0nm,1.0s,baz=52,slow=1.7,SNR=19						
GERES				SKPbc	**SKiKP**	**02 35 32.3**	**-1.0**
	comp=Z,9.7nm,0.9s,baz=56,slow=2.5,SNR=11						
BDFB	**Brasilia**	**136.61**	**128**	PKP	**PKPdf**	**02 31 59.7**	**+0.8**
BDFB				SKPbc	**SKPbc**	**02 35 28.8**	**-0.5**
BDFB	**Brasilia**	**136.61**	**128**	PKP	**PKPdf**	**02 31 59.7**	**+0.8**
	comp=Z,2.9nm,0.8s,baz=204,slow=8.5,SNR=4.4						
BDFB				SKPbc	**SKPbc**	**02 35 28.8**	**-0.5**
	comp=Z,14nm,1.1s,baz=320,slow=2.1,SNR=7.0						
MEM	**Membach**	**137.90**	**341**	PKP	**PKPdf**	**02 31 59.8**	**-0.4**
MEM				APKP	**pPKPdf**	**02 32 08.0**	**-2.8**
BCLA	**Clavier**	**138.28**	**342**	PKP	**PKPdf**	**02 32 00.5**	**-0.4**
STU	**Stuttgart**	**138.34**	**337**	*e*PKIKP	**PKPdf**	**02 32 00.7**	**-0.3**
STU	**Stuttgart**	**138.34**	**337**	*e*PKPdf	**PKPdf**	**02 32 00.7**	**-0.3**
SNF	**Seneffe**	**138.51**	**343**	PKP	**PKPdf**	**02 32 01.7**	**+0.4**
ABTA	**Abfaltersbach**	**138.56**	**333**	⇑*i*PKPdf	PKPpre	02 31 50.9	
	comp=Z,27nm,0.9s						
WLF	**Walferdange**	**138.67**	**340**	PKP	**PKPdf**	**02 31 59.7**	**-1.9**
WLF				APKP	**PKiKP**	**02 32 07.5**	**+3.7**
WLF	**Walferdange**	**138.67**	**340**	*e*PKIKP	**PKPdf**	**02 32 00.0**	**-1.6**
WLF	**Walferdange**	**138.67**	**340**	*e*PKPdf	**PKPdf**	**02 31 60.0**	**-1.6**
LANF	**Langenberg**	**138.68**	**338**	PKP	**PKPdf**	**02 32 02.2**	**+0.5**
DOU	**Dourbes**	**138.78**	**342**	PKP	**PKPdf**	**02 32 01.9**	**+0.1**
DOU				APKP	**pPKPdf**	**02 32 09.6**	**-2.9**
FELD	**Feldberg im Sc**	**139.53**	**337**	PKP	**PKPdf**	**02 32 03.1**	**-0.4**
ECH	**Echery**	**139.56**	**338**	*e*PKIKP	**PKPdf**	**02 32 02.7**	**-0.7**
ECH	**Echery**	**139.56**	**338**	*e*PKPdf	**PKPdf**	**02 32 02.7**	**-0.7**
DAVOX	**Davos/Dischmat**	**139.67**	**335**	PKPpre	PKPpre	02 31 57.0	
DAVOX				PKP	**PKPdf**	**02 32 03.4**	**-0.4**
DAVOX				SKPbc	**SKiKP**	**02 35 40.9**	**+0.8**
DAVOX	**Davos/Dischmat**	**139.67**	**335**	PKhKP	PKPpre	02 31 57.0	
	comp=Z,2.5nm,0.5s,baz=243,slow=5.5,SNR=8.7						
DAVOX				PKP	**PKPdf**	**02 32 03.4**	**-0.4**
	comp=Z,14nm,0.8s,baz=338,slow=6.6,SNR=12						
DAVOX				SKPbc	**SKiKP**	**02 35 40.9**	**+0.8**
	baz=90,slow=2.0						
MOF	**Molkenrain**	**139.88**	**338**	PKP	**PKPdf**	**02 32 04.2**	**+0.2**
THEF	**They Montfort**	**139.96**	**339**	PKP	**PKPdf**	**02 31 59.2**	**-4.9**
TUE	**Stuetta**	**140.14**	**335**	*e*PKPpre	PKPpre	02 31 57.6	
TUE				*e*PKPdf	**PKPdf**	**02 32 03.9**	**-0.8**
BNI	**Bardonecchia**	**142.38**	**336**	*e*PKIKP	PKPpre	02 32 04.5	
BNI				*e*		02 32 08.9	
BNI	**Bardonecchia**	**142.38**	**336**	*e*PKPpre	PKPpre	02 32 04.5	
BNI				*e*PKPdf	**PKPdf**	**02 32 08.9**	**+0.2**
CEL	**Celeste**	**142.53**	**320**	*e*PKPpre	PKPpre	02 32 04.7	
CEL				*e*PKPdf	**PKPdf**	**02 32 09.3**	**+0.2**
PLDF	**La Plantade**	**142.73**	**340**	PKP	**PKPdf**	**02 32 06.7**	**-2.5**
SURF	**Saint Ours**	**142.80**	**335**	PKP	**PKPdf**	**02 32 06.2**	**-3.3**
SSB	**Saint Sauveur**	**143.00**	**338**	*e*PKIKP	PKPbc	02 32 05.7	-0.7
SSB				*e*		02 32 10.1	
SSB	**Saint Sauveur**	**143.00**	**338**	PKP	PKPbc	02 32 06.0	-0.4
SSB	**Saint Sauveur**	**143.00**	**338**	*e*PKPpre	PKPpre	02 32 05.7	
SSB				*e*PKPdf	**PKPdf**	**02 32 10.1**	**+0.5**
PYM	**Petit Puy Mans**	**143.12**	**340**	PKP	**PKPdf**	**02 32 11.4**	**+1.5**
OG25	**Le Caire**	**143.19**	**336**	PKP	PKPab	02 32 06.1	+0.4
LBL	**Lubilhac**	**143.50**	**340**	PKP	PKPbc	02 32 07.6	-0.2
VSL	**Villasalto**	**145.49**	**327**	*e*PKPdf	**PKPdf**	**02 32 14.1**	**0.0**
LRDF	**Laroque-de-Fa**	**145.75**	**338**	PKP	**PKPab**	**02 32 15.2**	**0.0**
SJAF	**Saint Jean de**	**146.02**	**338**	PKP	**PKPdf**	**02 32 15.1**	**+0.2**
CARF	**Carcanieres**	**146.10**	**339**	PKP	**PKPdf**	**02 32 15.6**	**+0.4**
MLS	**Moulis**	**146.24**	**340**	PKP	**PKPbc**	**02 32 16.1**	**-0.3**
SALF	**Salau**	**146.38**	**340**	PKP	**PKPdf**	**02 32 16.1**	**+0.5**
VALF	**Valcebollere**	**146.41**	**339**	PKP	**PKPdf**	**02 32 15.1**	**-0.7**
LABF	**Labassere**	**146.48**	**341**	PKP	**PKPab**	**02 32 17.7**	**-0.4**
REYF	**Montagne du Re**	**146.61**	**342**	PKP	**PKPbc**	**02 32 17.1**	**-0.4**
RESF	**Ens**	**146.62**	**341**	PKP	**PKPbc**	**02 32 17.4**	**-0.2**
ORDF	**Ordiarp**	**146.64**	**343**	PKP	**PKPdf**	**02 32 16.6**	**+0.7**
VIEF	**Viey**	**146.65**	**341**	PKP	**PKPdf**	**02 32 16.2**	**+0.1**
ATE	**Arette**	**146.68**	**342**	PKP	**PKPbc**	**02 32 17.2**	**-0.5**
OSSF	**Osses**	**146.69**	**343**	PKP	**PKPbc**	**02 32 16.9**	**-0.8**
LARF	**Larrau**	**146.81**	**343**	PKP	**PKPbc**	**02 32 18.1**	**0.0**
KEST	**Kesra**	**148.17**	**323**	*e*PKPdf	**PKPdf**	**02 32 18.4**	**-0.4**
KEST				PKPbc	**PKPdf**	**02 32 20.2**	**+1.4**
KEST				*e*PKPbc	**PKiKP**	**02 32 21.9**	**-2.0**
KEST	**Kesra**	**148.17**	**323**	PKPbc	**PKPdf**	**02 32 20.2**	**+1.4**
	comp=Z,29nm,1.0s,baz=271,slow=1.2,SNR=43						
CMAH	**Djebel Manchou**	**148.64**	**326**	P	**PKPbc**	**02 32 22.0**	**-1.3**
CAEH	**`Ain El Ouahch**	**148.83**	**327**	P	**PKPbc**	**02 32 23.0**	**-0.7**
ABSA	**Djebel Absabia**	**148.86**	**325**	P	**PKPbc**	**02 32 23.0**	**-0.9**
CKFL	**Kef-Lekhel**	**149.18**	**326**	P	**PKPbc**	**02 32 24.0**	**-0.7**
PBRG	**Braganca**	**149.34**	**350**	*e*PKPbc	**PKPbc**	**02 32 24.6**	**-0.2**
CASM	**Ain Smara**	**149.41**	**327**	P	**PKPbc**	**02 32 25.0**	**-0.2**
DFRA	**Djebel Bou Aff**	**149.52**	**328**	P	**PKPbc**	**02 32 25.6**	**0.0**
CTEI	**Djebel Teioual**	**149.60**	**326**	P	**PKPbc**	**02 32 25.6**	**-0.2**
PCAB	**Cabril**	**149.64**	**351**	*e*PKPbc	**PKPbc**	**02 32 25.5**	**-0.1**
POLO	**Lamas de Olo**	**149.93**	**351**	*e*PKPbc	**PKPbc**	**02 32 26.3**	**-0.1**
PGRA	**Graciosa**	**149.96**	**22**	*e*LR	LR	03 23 38.8	
	comp=Z,1µm,21.7s						
MVO	**Moncorvo**	**150.01**	**350**	*e*PKPbc	**PKPbc**	**02 32 25.7**	**-0.9**
MVO	**Moncorvo**	**150.01**	**350**	*e*LR	LR	03 25 20.3	
	comp=Z,13µm,20.0s						
PVRL	**Vila Real**	**150.01**	**351**	*e*PKPbc	**PKPbc**	**02 32 26.2**	**-0.3**
SET	**Setif**	**150.03**	**328**	P	**PKPbc**	**02 32 22.0**	**+0.2**
CKHR	**Kef el Ahmar**	**150.12**	**327**	P	**PKPbc**	**02 32 27.0**	**-0.1**
PVIS	**Viseu**	**150.59**	**351**	*e*PKPbc	**PKPbc**	**02 32 28.0**	**+0.1**
ABA	**Alger-Bouzarea**	**150.73**	**332**	P	**PKPbc**	**02 32 28.1**	**-0.2**
ESDC	**Sonseca Array**	**150.76**	**344**	PKP	**PKPdf**	**02 32 22.6**	**-0.2**
ESDC				PKPbc	**PKPbc**	**02 32 28.6**	**+0.2**
ESDC				PKPab	**PKPab**	**02 32 34.9**	**-0.4**
ESDC	**Sonseca Array**	**150.76**	**344**	PKP	**PKPdf**	**02 32 22.6**	**-0.2**
	comp=Z,2.9nm,1.0s,baz=29,slow=2.2,SNR=8.3						
ESDC				PKPbc	**PKPbc**	**02 32 28.6**	**+0.2**
	comp=Z,17nm,1.1s,baz=14,slow=2.4,SNR=30						
ESDC				PKPab	**PKPab**	**02 32 34.9**	**-0.4**
	comp=Z,13nm,0.8s,baz=14,slow=2.4,SNR=24						
ESLA	**Sonseca Array**	**150.76**	**344**	*e*PKPdf	**PKPdf**	**02 32 21.7**	**-1.2**
ESLA				*e*PKPbc	**PKPbc**	**02 32 28.5**	**+0.1**
MTE	**Manteigas**	**150.84**	**350**	*e*PKPbc	**PKPbc**	**02 32 27.7**	**-0.9**
MTE	**Manteigas**	**150.84**	**350**	*e*LR	LR	03 29 40.9	
	comp=Z,9µm,20.0s						
MTE	**Manteigas**	**150.84**	**350**	*e*PKPdf	**PKPdf**	**02 32 22.3**	**-0.6**
MTE				*e*PKPbc	**PKPbc**	**02 32 28.7**	**+0.1**
AKET	**Djebel Ketaf**	**150.93**	**330**	P	**PKPbc**	**02 32 30.3**	**+1.3**
PAB	**San Pablo**	**150.98**	**345**	*e*PKIKP	**PKPdf**	**02 32 22.7**	**-0.5**
PAB				*e*		02 32 28.9	
PAB	**San Pablo**	**150.98**	**345**	*e*PKPdf	**PKPdf**	**02 32 22.7**	**-0.5**
PAB				*e*PKPbc	**PKPbc**	**02 32 28.9**	**-0.1**
ADJB	**Djebel Djouab**	**151.06**	**330**	P	**PKPbc**	**02 32 29.7**	**+0.4**
EMHD	**Djebel Mahouad**	**151.25**	**331**	P	**PKPbc**	**02 32 32.0**	**+2.3**
PCAS	**Casmilo, Conde**	**151.33**	**351**	*e*PKPbc	**PKPbc**	**02 32 28.8**	**-0.8**
PCBR	**Castelo Branco**	**151.38**	**350**	*e*PKPbc	**PKPbc**	**02 32 28.5**	**-1.2**
SHEL	**Horse Pasture**	**151.43**	**196**	*e*PKIKP	**PKPdf**	**02 32 24.5**	**0.0**
SHEL				*e*		02 32 31.5	
SHEL	**Horse Pasture**	**151.43**	**196**	*e*PKPdf	**PKPdf**	**02 32 24.5**	**0.0**
SHEL				*e*PKPbc	**PKiKP**	**02 32 31.5**	**+0.5**
PTOM	**Tomar**	**151.74**	**351**	*e*PKPbc	**PKPbc**	**02 32 30.8**	**+0.2**
PMRV	**Marv??o**	**151.76**	**349**	*e*PKPbc	**PKPbc**	**02 32 29.9**	**-0.8**
PMRV	**Marv??o**	**151.76**	**349**	*e*LR	LR	03 30 21.0	
	comp=Z,11µm,18.0s						
EBNR	**Beni Rached**	**151.84**	**333**	P	**PKPbc**	**02 32 34.5**	**+3.5**
PSET	**Sete Cidades**	**151.84**	**20**	*e*LR	LR	03 23 35.5	
	comp=Z,1µm,18.1s						
CMLA	**Cha da Macela**	**151.96**	**20**	*e*LR	LR	03 23 28.8	
	comp=Z,1µm,15.2s						
ECHA	**Ech Chlef**	**152.03**	**333**	P	**PKPbc**	**02 32 34.8**	**+3.5**
PMTG	**Montargil**	**152.25**	**351**	*e*PKPbc	**PKPbc**	**02 32 31.3**	**-0.4**
EANR	**`Ain N'Sour**	**152.31**	**333**	P	**PKPbc**	**02 32 36.7**	**+4.6**
PESTR	**Estremoz**	**152.34**	**350**	*e*PKPbc	**PKPbc**	**02 32 31.4**	**-0.6**
PACT	**Alcochete**	**152.64**	**352**	*e*PKPbc	**PKPbc**	**02 32 33.7**	**+1.1**
ETRT	**Tiaret**	**152.69**	**332**	P	**PKPab**	**02 32 39.4**	**-4.2**
LIS	**Lisbon**	**152.73**	**352**	*e*P	**PKPdf**	**02 32 25.2**	**-0.5**
LIS	**Lisbon**	**152.73**	**352**	*e*P	**PKPdf**	**02 32 25.2**	**-0.5**
EVO	**Evora**	**152.74**	**350**	*e*PKPbc	**PKPbc**	**02 32 32.6**	**-0.3**
PSMN	**Pico do Norte,**	**152.81**	**20**	*e*LR	LR	03 23 03.8	
	comp=Z,1µm,18.8s						
PBAR	**Barrancos**	**152.91**	**348**	*e*PKPbc	**PKPbc**	**02 32 33.2**	**0.0**
PBEJ	**Beja**	**153.21**	**350**	*e*PKPbc	**PKPbc**	**02 32 33.2**	**-0.7**
PNCL	**Nicolau / Gran**	**153.24**	**351**	*e*PKPbc	**PKPbc**	**02 32 31.7**	**-2.2**
PCVE	**Castro Verde**	**153.62**	**350**	*e*PKPbc	**PKPbc**	**02 32 34.4**	**-0.4**
PVAQ	**Vaqueiros**	**153.79**	**349**	*e*LR	LR	03 26 09.4	
	comp=Z,12µm,20.0s						
PBDV	**Barranco-do-Ve**	**153.98**	**349**	*e*PKPbc	**PKPbc**	**02 32 34.8**	**-0.8**
MORF	**Marmelete**	**154.04**	**351**	*e*PKPbc	**PKPbc**	**02 32 33.9**	**-1.9**
TAM	**Tamanrasset**	**158.50**	**304**	*e*PKIKP	**PKPdf**	**02 32 34.3**	**+0.2**
TAM				*e*		02 33 10.0	
TAM	**Tamanrasset**	**158.50**	**304**	*e*PKPdf	**PKPdf**	**02 32 34.3**	**+0.2**
TAM				*e*PKPab	**PKPab**	**02 33 10.0**	**+1.0**
PMOZ	**Porto Moniz, M**	**158.70**	**8**	*e*LR	LR	03 29 33.0	
	comp=Z,11µm,22.0s						
TORD	**Torodi Ar. Bea**	**164.79**	**277**	PKP	**PKPdf**	**02 32 39.9**	**-0.8**
TORD				PKPab	**PKPab**	**02 33 37.1**	**+0.6**
TORD	**Torodi Ar. Bea**	**164.79**	**277**	PKP	**PKPdf**	**02 32 39.9**	**-0.8**
	comp=Z,24nm,1.1s,baz=20,slow=1.2,SNR=44						
TORD				PKPab	**PKPab**	**02 33 37.1**	**+0.6**
	comp=Z,34nm,1.3s,baz=69,slow=3.7,SNR=8.0						
KIC	**Kosan Boka**	**169.62**	**240**	*e*PKIKP	**PKPdf**	**02 32 42.6**	**-1.6**
	comp=Z,147nm,1.4s						
LIC	**Lamto**	**169.79**	**239**	*e*PKIKP	**PKPdf**	**02 32 43.2**	**-1.1**
	comp=Z,45nm,1.0s						
DBIC	**Dimbokro**	**169.87**	**241**	*e*PKPdf	**PKPdf**	**02 32 43.7**	**-0.6**
DBIC				PKP		02 32 44.0	
DBIC				*e*PKPab	**PKPab**	**02 33 59.0**	**+0.1**
DBIC				PKPab	PKPab	02 33 59.5	+0.6
DBIC	**Dimbokro**	**169.87**	**241**	PKP	**PKPdf**	**02 32 44.0**	**-0.3**
	comp=Z,27nm,1.2s,baz=127,slow=2.3,SNR=8.4						
DBIC				PKPab	**PKPab**	**02 33 59.5**	**+0.6**
	comp=Z,49nm,1.1s,baz=95,slow=4.2,SNR=8.7						
TIC	**Toumodi**	**170.00**	**241**	*e*PKIKP	**PKPdf**	**02 32 42.7**	**-1.8**
	comp=Z,149nm,1.5s						

IDC 08 02:14:24.1±9.4, 11°56S×166°81E, h0km, mb5.2/4, mb1 5.1/4, mb1mx4.7/18, mbtmp5.1/4, Error ellipse: s-maj=821.8km s-min=64.9km az=70.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**60.89**	**325**	P	P	02 24 38.4	-0.3
	6.5nm,0.9s,baz=134,slow=6.8,SNR=2.1						
SONM	**Songino Array**	**79.70**	**323**	P	P	02 26 34.5	+0.7
	11nm,1.0s,baz=116,slow=6.6,SNR=2.7						
ZALV	**Zalesovo Beam**	**94.58**	**324**	P	P	02 27 46.0	-0.6
	13nm,0.9s,baz=106,slow=5.4,SNR=4.2						
MKAR	**Makanchi Array**	**94.61**	**317**	P	P	02 27 46.9	-0.1
	23nm,0.8s,baz=103,slow=6.2,SNR=4.9						
BOSA	**Boshof**	**125.45**	**222**	PK

ILAR	**Eielson Array**	**85.27**	**18**	P		**P**	**02 32 28.2**	**+1.7**
ILAR	**Eielson Array**	**85.27**	**18**	P		**P**	**02 32 28.2**	**+1.7**
	2.1nm,0.6s,baz=246,slow=5.0,SNR=11							
NVAR	**Mina Array Bea**	**87.01**	**50**	P		**P**	**02 32 37.7**	**+1.7**
NVAR	**Mina Array Bea**	**87.01**	**50**	P		**P**	**02 32 37.7**	**+1.7**
	1.3nm,0.6s,baz=236,slow=7.7,SNR=6.6							
MK31	**Makanchi Array**	**95.23**	**317**	*eP*		**P**	**02 33 12.7**	**-1.2**
MKAR	**Makanchi Array**	**95.23**	**317**	P		**P**	**02 33 13.6**	**-0.3**
MKAR	**Makanchi Array**	**95.23**	**317**	P		**P**	**02 33 13.6**	**-0.3**
	4.7nm,0.7s,baz=90,slow=7.6,SNR=6.4							
ZALV	**Zalesovo Beam**	**95.39**	**324**	P		**P**	**02 33 12.8**	**-1.6**
ZALV	**Zalesovo Beam**	**95.39**	**324**	P		**P**	**02 33 12.8**	**-1.6**
	3.5nm,0.8s,baz=120,slow=3.7,SNR=3.4							
TXAR	**Lajitas Array**	**96.44**	**61**	P		**P**	**02 33 20.3**	**+0.4**
TXAR	**Lajitas Array**	**96.44**	**61**	P		**P**	**02 33 20.3**	**+0.4**
	1.0nm,0.8s,baz=258,slow=3.5,SNR=3.6							
ARCES	**ARCESS Array B**	**118.35**	**345**	PKP		**PKPdf**	**02 38 34.8**	**-2.3**
ARCES	**ARCESS Array B**	**118.35**	**345**	PKP		**PKPdf**	**02 38 34.8**	**-2.3**
	4.9nm,0.9s,baz=78,slow=1.9,SNR=6.7							
FINES	**FINESS Array B**	**123.76**	**338**	PKP		**PKPdf**	**02 38 47.5**	**-0.1**
FINES	**FINESS Array B**	**123.76**	**338**	PKP		**PKPdf**	**02 38 47.5**	**-0.1**
	5.8nm,1.0s,baz=100,slow=2.1,SNR=4.3							
AKASG	**Malin Array Be**	**128.73**	**326**	PKP		**PKPdf**	**02 38 55.8**	**-1.6**
AKASG	**Malin Array Be**	**128.73**	**326**	PKP		**PKPdf**	**02 38 55.8**	**-1.6**
	0.2nm,0.2s,baz=49,slow=1.5,SNR=3.7							
DAVOX	**Davos/Dischmat**	**140.89**	**334**	PKPpre		PKPpre	02 39 12.8	
DAVOX				PKP		**PKPdf**	**02 39 18.6**	**-1.9**
DAVOX	**Davos/Dischmat**	**140.89**	**334**	PKhKP		PKPpre	02 39 12.8	
	2.2nm,0.7s,baz=225,slow=4.3,SNR=3.3							
DAVOX				PKP		**PKPdf**	**02 39 18.6**	**-1.9**
	3.3nm,0.6s,baz=166,slow=4.2,SNR=7.3							
CEL	**Celeste**	**143.54**	**319**	*e*PKPdf		PKPab	02 39 22.1	+0.4
VSL	**Villasalto**	**146.61**	**326**	*e*PKPbc		**PKPdf**	**02 39 30.8**	**+0.3**
KEST	**Kesra**	**149.22**	**321**	*e*PKPbc		**PKPbc**	**02 39 38.2**	**-1.0**
KEST	**Kesra**	**149.22**	**321**	PKPbc		**PKPbc**	**02 39 38.9**	**-0.4**
	8.7nm,0.8s,baz=152,slow=2.4,SNR=24							
SHEL	**Horse Pasture**	**150.09**	**196**	*e*PKPbc		**PKPbc**	**02 39 42.9**	**+1.0**
ESDC	**Sonseca Array**	**152.07**	**344**	PKPbc		**PKPbc**	**02 39 46.2**	**+0.3**
ESDC				PKPab		**PKPab**	**02 39 54.6**	**-0.6**
ESDC	**Sonseca Array**	**152.07**	**344**	PKPbc		**PKPbc**	**02 39 46.2**	**+0.3**
	1.5nm,0.8s,baz=7.4,slow=3.6,SNR=4.9							
ESDC				PKPab		**PKPab**	**02 39 54.6**	**-0.6**
	1.3nm,0.5s,baz=13,slow=3.4,SNR=12							
MDT	**Midelt**	**158.57**	**338**	PKPab		**PKPab**	**02 40 22.7**	**-0.6**
MDT	**Midelt**	**158.57**	**338**	PKPab		**PKPab**	**02 40 22.7**	**-0.6**
	2.7nm,0.9s,baz=92,slow=1.9,SNR=3.6							
TORD	**Torodi Ar. Bea**	**164.84**	**272**	PKP		**PKPdf**	**02 39 54.0**	**-1.2**
TORD				PKPab		**PKPab**	**02 40 51.0**	**-0.3**
TORD	**Torodi Ar. Bea**	**164.84**	**272**	PKP		**PKPdf**	**02 39 54.0**	**-1.2**
	1.3nm,1.0s,baz=64,slow=1.7,SNR=2.7							
TORD				PKPab		**PKPab**	**02 40 51.0**	**-0.3**
	6.9nm,1.2s,baz=79,slow=5.3,SNR=3.9							

IDC 08 02:21:09.2±3.3, 12°.14S×166°.74E, h0km, mb4.5/4, mb1 4.7/4, mb1mx4.1/20, mbtmp4.5/4, Error ellipse: s-maj=116.6km s-min=45.3km az=139.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
WRA	**Warramunga Arr**	**32.04**	**252**	P	P	02	27 38.0	+0.1
	6.5nm,0.9s,baz=82,slow=9.6,SNR=3.7							
ASAR	**Alice Springs**	**33.20**	**245**	P	P	02	27 48.6	+0.6
	6.2nm,0.7s,baz=69,slow=9.8,SNR=3.3							
FITZ	**Fitzroy Crossi**	**40.05**	**256**	P	P	02	28 45.6	-0.9
	5.6nm,0.9s,baz=90,slow=7.1,SNR=2.1							
MKAR	**Makanchi Array**	**94.98**	**317**	P	P	02	34 34.5	+0.7
	0.9nm,0.6s,baz=101,slow=6.2,SNR=2.9							
TORD	**Torodi Ar. Bea**	**165.37**	**276**	PKP	PKPdf	02	41 14.9	-1.8
	2.5nm,0.9s,baz=110,slow=3.3,SNR=2.5							

*AUST **08** 02:22:30.8±14.0, 11°.57S×169°.57E, h5km≈2km, Error ellipse: s-maj=4.4km s-min=1.6km az=264.0*
*IDC **08** 02:22:59.6±0.8, 13°.03S×166°.25E, h0km, mb4.7/19, mb1 4.7/21, mb1mx4.6/29, mbtmp4.7/21, ML3.8/1, Error ellipse: s-maj=22.0km s-min=15.7km az=115.0*
*ISCJB **08** 02:23:01.2±0.7, 12°.96S±0°.07×166°.2E±0°.1, h20km, mb4.6/18, Error ellipse: s-maj=14.8km s-min=9.6km az=16.7*
*NEIC **08** 02:23:05.1±0.4, 13°.04S×166°.18E, h35km, mb4.4/3, Error ellipse: s-maj=10.9km s-min=9.1km az=116.0*

ISC 08 02:23:02.8±0.6, 13°.03S±0°.09×166°.3E±0°.1, h20km, n68, σ0.96s/65, mb4.8/18, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
HNR	**Honiara**	**7.15**	**299**	Pn	**Pn**	**02**	**24 45.8**	**-0.5**
HNR	**Honiara**	**7.15**	**299**	Pn	**Pn**	**02**	**24 45.8**	**-0.5**
	98nm,0.3s,baz=161,slow=5.7,SNR=8.1							
EIDS	**Eidsvold**	**18.85**	**227**	*e*P	**P**	**02**	**27 20.4**	**-1.3**
	24nm,0.9s							
EIDS	**Eidsvold**	**18.85**	**227**	P	**Pn**	**02**	**27 24.2**	**+1.9**
	baz=22,SNR=4.6							
PMG	**Port Moresby**	**19.08**	**279**	P	**Pn**	**02**	**27 25.1**	**+0.1**
PMG	**Port Moresby**	**19.08**	**279**	P	**Pn**	**02**	**27 25.1**	**+0.1**
	0.8nm,0.3s,baz=146,slow=3.6,SNR=3.7							
LHI	**Lord Howe Isla**	**19.56**	**199**	P	**P**	**02**	**27 26.4**	**-2.9**
	baz=22,SNR=4.6							
CTA	**Charters Tower**	**20.41**	**247**	P	Pn	02	27 39.8	-1.1
CTA	**Charters Tower**	**20.41**	**247**	P	Pn	02	27 39.8	-1.1
	15nm,0.9s,baz=69,slow=13,SNR=4.6							
RMQ	**Roma**	**21.19**	**228**	P	**P**	**02**	**27 49.1**	**+2.0**
	baz=25,SNR=4.8							
ARMA	**Armidale**	**21.96**	**216**	P	**P**	**02**	**27 57.1**	**+1.6**
	baz=25,SNR=3.8							
COEN	**Coen**	**22.47**	**265**	P	**P**	**02**	**28 03.1**	**+2.2**
	baz=26,SNR=11							
QLP	**Quilpie**	**24.67**	**234**	P	**P**	**02**	**28 23.3**	**+0.9**
	baz=28,SNR=5.4							
STKA	**Stephens Creek**	**29.40**	**226**	P	**P**	**02**	**29 05.1**	**+0.2**
	1.3nm,0.6s							
STKA	**Stephens Creek**	**29.40**	**226**	P	**P**	**02**	**29 05.7**	**+0.8**
	baz=33,SNR=6.3							
STKA	**Stephens Creek**	**29.40**	**226**	P	**P**	**02**	**29 05.9**	**+1.0**
	7.4nm,0.7s,baz=30,slow=7.1,SNR=8.2							
RPZ	**Rata Peaks**	**30.86**	**173**	P	**P**	**02**	**29 18.2**	**+0.6**
RPZ	**Rata Peaks**	**30.86**	**173**	P	**P**	**02**	**29 18.2**	**+0.6**
	11nm,0.6s,baz=270,slow=10,SNR=3.7							
WRA	**Warramunga Arr**	**31.33**	**253**	P	**P**	**02**	**29 20.4**	**-1.8**
WRA	**Warramunga Arr**	**31.33**	**253**	P	**P**	**02**	**29 20.4**	**-1.8**
	3.3nm,0.8s,baz=84,slow=8.7,SNR=4.6							
ASAR	**Alice Springs**	**32.41**	**246**	P	**P**	**02**	**29 30.6**	**-0.9**
ASAR	**Alice Springs**	**32.41**	**246**	P	**P**	**02**	**29 30.6**	**-0.9**
	12nm,0.7s,baz=75,slow=9.6,SNR=11							
KDU	**Kakadu**	**32.93**	**267**	P	P	02	29 49.8	+14
	baz=36,SNR=3.8							
BBOO	**Buckleboo**	**33.89**	**229**	P	**P**	**02**	**29 44.8**	**+0.5**
	baz=37,SNR=19							
KNRA	**Kununurra**	**36.39**	**261**	P	**P**	**02**	**30 05.8**	**-0.3**
	baz=40,SNR=3.2							
FITZ	**Fitzroy Crossi**	**39.40**	**257**	P	**P**	**02**	**30 30.8**	**-0.7**
FITZ	**Fitzroy Crossi**	**39.40**	**257**	P	**P**	**02**	**30 30.8**	**-0.7**
	4.2nm,0.7s,baz=106,slow=7.5,SNR=4.1							
BATI	**Baumata**	**41.78**	**269**	P	**P**	**02**	**30 50.8**	**-0.6**
BATI	**Baumata**	**41.78**	**269**	P	**P**	**02**	**30 50.8**	**-0.6**
	26nm,0.6s,baz=335,slow=2.8,SNR=5.3							
KAPI	**Kappang**	**46.55**	**275**	P	**P**	**02**	**31 28.4**	**-1.2**
KAPI	**Kappang**	**46.55**	**275**	P	**P**	**02**	**31 28.4**	**-1.2**
	3.9nm,0.7s,baz=101,slow=16,SNR=3.7							
MEEK	**Meekatharra**	**46.56**	**246**	P	**P**	**02**	**31 29.7**	**+0.2**
	baz=50,SNR=6.0							
NWAO	**Narrogin (SRO)**	**48.80**	**238**	P	**P**	**02**	**31 46.4**	**-0.4**
NWAO	**Narrogin (SRO)**	**48.80**	**238**	P	**P**	**02**	**31 46.4**	**-0.4**
	9.3nm,0.7s,baz=74,slow=9.4,SNR=5.3							
MORW	**Morawa**	**49.14**	**243**	P	**P**	**02**	**31 49.6**	**+0.1**
	baz=53,SNR=4.5							
ASAJ	**Asahikawa**	**60.82**	**341**	P	**P**	**02**	**33 14.1**	**+0.6**
ASAJ	**Asahikawa**	**60.82**	**341**	P	**P**	**02**	**33 14.1**	**+0.6**
	8.3nm,0.6s,baz=212,slow=9.5,SNR=4.2							
KSRS	**Korea Array**	**61.79**	**326**	P	**P**	**02**	**33 20.3**	**+0.1**
	2.6nm,0.7s,baz=136,slow=6.7,SNR=4.5							
KSAR	**Wonju Array Be**	**61.80**	**326**	P	**P**	**02**	**33 20.3**	**0.0**
USRK	**Ussuriysk Arra**	**64.94**	**333**	P	**P**	**02**	**33 41.6**	**+0.7**
	5.9nm,0.9s,baz=163,slow=6.2,SNR=4.7							
PETK	**Petropavlovsk-**	**66.28**	**354**	P	**P**	**02**	**33 49.7**	**+0.3**
PETK	**Petropavlovsk-**	**66.28**	**354**	P	**P**	**02**	**33 49.7**	**+0.3**
	3.9nm,0.8s,baz=138,slow=11,SNR=3.6							
CMAR	**Chiang Mai Arr**	**73.37**	**294**	P	**P**	**02**	**34 35.0**	**+1.2**
CMAR	**Chiang Mai Arr**	**73.37**	**294**	P	**P**	**02**	**34 35.0**	**+1.2**
	8.4nm,0.9s,baz=124,slow=4.5,SNR=14							
QSPA	**South Pole Qui**	**76.99**	**180**	*e*P	**P**	**02**	**34 54.5**	**+0.4**
	35nm,1.3s							
QSPA	**South Pole Qui**	**76.99**	**180**	P	**P**	**02**	**34 54.4**	**+0.4**
	16nm,1.0s,baz=343,slow=4.3,SNR=5.7							
SONM	**Songino Array**	**80.56**	**324**	P	**P**	**02**	**35 14.2**	**+0.4**
SONM	**Songino Array**	**80.56**	**324**	P	**P**	**02**	**35 14.3**	**+0.4**
	1.0nm,0.6s,baz=145,slow=5.3,SNR=4.0							
ILAR	**Eielson Array**	**85.22**	**18**	P	**P**	**02**	**35 36.8**	**-0.7**
ILAR	**Eielson Array**	**85.22**	**18**	P	**P**	**02**	**35 36.8**	**-0.7**
	0.9nm,0.5s,baz=245,slow=5.1,SNR=5.4							
MK31	**Makanchi Array**	**95.30**	**317**	*e*P	**P**	**02**	**36 25.3**	**-0.2**
MKAR	**Makanchi Array**	**95.30**	**317**	P	**P**	**02**	**36 25.4**	**0.0**
MKAR	**Makanchi Array**	**95.30**	**317**	P	**P**	**02**	**36 25.4**	**0.0**
	3.8nm,0.7s,baz=96,slow=5.9,SNR=11							
ZALV	**Zalesovo Beam**	**95.45**	**324**	P	**P**	**02**	**36 24.9**	**-1.0**
ZALV	**Zalesovo Beam**	**95.45**	**324**	P	**P**	**02**	**36 24.9**	**-1.0**
	2.5nm,0.7s,baz=127,slow=4.9,SNR=5.7							
LVC	**Limon Verde**	**115.38**	**123**	*e*PKPdf	**PKPdf**	**02**	**41 45.2**	**+0.9**
ARCES	**ARCESS Array B**	**118.37**	**345**	PKP	**PKPdf**	**02**	**41 46.8**	**-1.5**
ARCES	**ARCESS Array B**	**118.37**	**345**	PKP	**PKPdf**	**02**	**41 46.8**	**-1.5**
	2.4nm,0.8s,baz=76,slow=3.8,SNR=4.4							
BOSA	**Boshof**	**124.00**	**222**	PKP	**PKPdf**	**02**	**42 00.7**	**+0.1**
BOSA	**Boshof**	**124.00**	**222**	PKP	**PKPdf**	**02**	**42 00.7**	**+0.1**
	3.4nm,0.9s,baz=108,slow=9.6,SNR=3.2							
DAVOX	**Davos/Dischmat**	**140.93**	**334**	PKPpre	PKPpre	02	42 27.5	
DAVOX	**Davos/Dischmat**	**140.93**	**334**	PKhKP	PKPpre	02	42 27.5	
	1.7nm,0.6s,baz=176,slow=13,SNR=4.3							
KEST	**Kesra**	**149.28**	**321**	PKPbc	**PKPbc**	**02**	**42 51.2**	**+0.6**
KEST	**Kesra**	**149.28**	**321**	PKPbc	**PKPbc**	**02**	**42 51.2**	**+0.6**
	5.4nm,0.7s,baz=47,slow=1.8,SNR=14							
ESDC	**Sonseca Array**	**152.09**	**344**	PKPbc	**PKPbc**	**02**	**42 56.8**	**-0.4**
ESDC				PKPab	**PKPab**	**02**	**43 07.2**	**+0.6**
ESDC	**Sonseca Array**	**152.09**	**344**	PKPbc	**PKPbc**	**02**	**42 56.8**	**-0.4**
	0.4nm,0.6s,baz=8.2,slow=3.8,SNR=3.1							
ESDC				PKPab	**PKPab**	**02**	**43 07.2**	**+0.6**
	1.7nm,0.6s,baz=12,slow=4.0,SNR=8.8							
TORD	**Torodi Ar. Bea**	**164.96**	**272**	PKPab	**PKPab**	**02**	**44 03.2**	**+0.2**
TORD	**Torodi Ar. Bea**	**164.96**	**272**	PKPab	**PKPab**	**02**	**44 03.2**	**+0.2**
	0.9nm,0.7s,baz=83,slow=4.3,SNR=6.3							

*IDC **08** 02:26:11.4±0.6, 11°.87S×165°.84E, h0km, mb4.7/18, mb1 4.7/21, mb1mx4.6/29, mbtmp4.7/21, ML4.0/3, Error ellipse: s-maj=19.0km s-min=15.5km az=77.0*
*ISCJB **08** 02:26:14.2±0.6, 11°.85S±0°.07×165°.83E±0°.08, h30km, mb4.6/20, Error ellipse: s-maj=12.7km s-min=8.1km az=141.1*
*NEIC **08** 02:26:17.5±0.5, 11°.94S×165°.75E, h35km, mb4.7/6, Error ellipse: s-maj=12.4km s-min=11.5km az=102.0*
*AUST **08** 02:27:16.2, 12°.83S×162°.89E, h450km*

ISC 08 02:26:16.4±0.5, 11°.90S±0°.08×165°.81E±0°.08, h30km, n84, σ1.06s/85, mb4.7/20, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
HNR	**Honiara**	**6.26**	**293**	Pn	**Pn**	**02**	**27 47.0**	**+0.2**
HNR				Sn	**Sn**	**02**	**28 57.3**	**-0.1**
HNR	**Honiara**	**6.26**	**293**	Pn	**Pn**	**02**	**27 47.0**	**+0.2**
	22nm,0.3s,baz=0.0,slow=4.0,SNR=4.5							
HNR				Sn	**Sn**	**02**	**28 57.3**	**-0.1**
	7.7nm,0.3s,baz=202,slow=16,SNR=4.6							
DZM	**Mont Dzumac**	**10.13**	**177**	Pn	**Pn**	**02**	**28 40.3**	**+0.4**
DZM	**Mont Dzumac**	**10.13**	**177**	Pn	**Pn**	**02**	**28 40.3**	**+0.4**
	2.3nm,0.3s,baz=18,slow=19,SNR=5.8							
PMG	**Port Moresby**	**18.49**	**276**	P	**Pn**	**02**	**30 31.0**	**+0.5**
PMG	**Port Moresby**	**18.49**	**276**	P	**Pn**	**02**	**30 31.0**	**+0.5**
	0.2nm,0.3s,baz=146,slow=8.1,SNR=3.0							
EIDS	**Eidsvold**	**19.31**	**224**	*e*P	**Pn**	**02**	**30 40.6**	**+0.2**
	21nm,0.9s							
EIDS	**Eidsvold**	**19.31**	**224**	P	**Pn**	**02**	**30 41.2**	**+0.8**
	baz=17,SNR=6.0							
CTA	**Charters Tower**	**20.46**	**244**	P	Pn	02	30 53.2	-0.9
CTA	**Charters Tower**	**20.46**	**244**	P	Pn	02	30 53.2	-0.9
	22nm,0.8s,baz=71,slow=12,SNR=13							
CTAO	**Charters Tower**	**20.46**	**244**	*e*P	**P**	**02**	**30 52.4**	**+0.6**
	30nm,1.0s							
RMQ	**Roma**	**21.63**	**225**	P	**P**	**02**	**31 06.2**	**+1.9**
	baz=19,SNR=15							
COEN	**Coen**	**22.15**	**262**	P	**P**	**02**	**31 10.7**	**+0.7**
	baz=19,SNR=4.3							
ARMA	**Armidale**	**22.63**	**213**	P	**P**	**02**	**31 16.1**	**+1.0**
	baz=20,SNR=12							
CMSA	**Cobar Meteorol**	**26.95**	**220**	P	**P**	**02**	**31 58.3**	**+3.0**
	baz=24,SNR=8.7							
STKA	**Stephens Creek**	**29.87**	**224**	*e*P	**P**	**02**	**32 21.8**	**+0.4**
	2.2nm,0.8s							
STKA	**Stephens Creek**	**29.87**	**224**	P	**P**	**02**	**32 22.1**	**+0.7**
	baz=27,SNR=6.1							
STKA	**Stephens Creek**	**29.87**	**224**	P	**P**	**02**	**32 21.9**	**+0.6**
	10nm,0.8s,baz=34,slow=9.6,SNR=8.3							
WRA	**Warramunga Arr**	**31.25**	**251**	P	**P**	**02**	**32 33.0**	**-0.8**
WRA	**Warramunga Arr**	**31.25**	**251**	P	**P**	**02**	**32 33.0**	**-0.8**
	9.5nm,0.9s,baz=83,slow=9.1,SNR=13							
RPZ	**Rata Peaks**	**32.02**	**173**	*e*P	**P**	**02**	**32 40.7**	**+0.5**
	49nm,0.8s							
RPZ	**Rata Peaks**	**32.02**	**173**	P	**P**	**02**	**32 40.8**	**+0.6**
	46nm,0.8s,baz=132,slow=5.2,SNR=15							
ASAR	**Alice Springs**	**32.47**	**244**	P	**P**	**02**	**32 43.2**	**-1.2**
ASAR				PcP	**PcP**	**02**	**35 30.4**	**-0.8**
ASAR	**Alice Springs**	**32.47**	**244**	P	**P**	**02**	**32 43.2**	**-1.2**
	12nm,0.8s,baz=73,slow=9.5,SNR=20							
ASAR				PcP	**PcP**	**02**	**35 30.4**	**-0.8**
	1.7nm,0.8s,baz=93,slow=3.2,SNR=5.2							
KNRA	**Kununurra**	**36.14**	**260**	P	**P**	**02**	**33 16.5**	**+0.3**
	baz=33,SNR=3.7							
FITZ	**Fitzroy Crossi**	**39.22**	**256**	P	**P**	**02**	**33 40.1**	**-2.3**
FITZ	**Fitzroy Crossi**	**39.22**	**256**	P	**P**	**02**	**33 42.2**	**-0.2**
	baz=36,SNR=4.1							
FITZ	**Fitzroy Crossi**	**39.22**	**256**	P	**P**	**02**	**33 40.1**	**-2.3**
	6.1nm,0.8s,baz=101,slow=6.7,SNR=5.2							
BATI	**Baumata**	**41.37**	**268**	P	**P**	**02**	**34 01.0**	**+0.8**
BATI	**Baumata**	**41.37**	**268**	P	**P**	**02**	**34 01.0**	**+0.8**
	14nm,0.4s,baz=19,slow=6.0,SNR=4.8							
MBWA	**Marble Bar**	**44.98**	**252**	*e*P	**P**	**02**	**34 29.5**	**+0.1**
	18nm,1.0s							
BKSI	**Bulukumba**	**45.59**	**274**	P	P	02	34 43.0	+8.8
BNSI	**Bone**	**45.79**	**275**	P	**P**	**02**	**34 36.4**	**+0.6**
KAPI	**Kappang**	**46.01**	**275**	P	**P**	**02**	**34 36.9**	**-0.6**
KAPI	**Kappang**	**46.01**	**275**	P	**P**	**02**	**34 37.0**	**-0.6**
KAPI	**Kappang**	**46.01**	**275**	P	**P**	**02**	**34 37.0**	**-0.6**
	19nm,1.0s,baz=132,slow=1.9,SNR=7.7							
SPSI	**Sidrap Palu**	**46.22**	**276**	P	**P**	**02**	**34 38.7**	**-0.5**
MEEK	**Meekatharra**	**46.63**	**245**	P	**P**	**02**	**34 42.5**	**+0.1**
	baz=44,SNR=6.7							
KLBR	**Kellerberrin**	**48.30**	**238**	P	**P**	**02**	**34 54.8**	**-0.5**
	baz=45,SNR=6.7							
NWAO	**Narrogin (SRO)**	**49.04**	**237**	P	**P**	**02**	**35 00.6**	**-0.3**
NWAO	**Narrogin (SRO)**	**49.04**	**237**	P	**P**	**02**	**35 00.6**	**-0.3**
	19nm,1.0s,baz=91,slow=6.3,SNR=5.5							
MORW	**Morawa**	**49.27**	**242**	P	**P**	**02**	**35 02.6**	**0.0**
	baz=46,SNR=3.9							
USRK	**Ussuriysk Arra**	**63.74**	**333**	P	**P**	**02**	**36 44.2**	**-1.1**
	1.2nm,0.6s,baz=116,slow=6.6,SNR=4.0							
VNDA	**Vanda**	**65.64**	**181**	P	**P**	**02**	**36 57.0**	**-0.2**
VNDA	**Vanda**	**65.64**	**181**	P	**P**	**02**	**36 57.0**	**-0.2**
	2.3nm,0.9s,baz=347,slow=6.3,SNR=4.2							
PSI	**Prapat**	**68.04**	**278**	P	**P**	**02**	**37 13.5**	**-0.4**
	baz=65,SNR=5.2							
CMAR	**Chiang Mai Arr**	**72.51**	**294**	P	**P**	**02**	**37 42.0**	**+1.1**
CMAR	**Chiang Mai Arr**	**72.51**	**294**	P	**P**	**02**	**37 42.0**	**+1.1**
	3.6nm,0.7s,baz=123,slow=4.9,SNR=10							
QSPA	**South Pole Qui**	**78.11**	**180**	*e*P	**P**	**02**	**38 12.0**	**-0.4**
	8.8nm,0.8s							
QSPA	**South Pole Qui**	**78.11**	**180**	P	**P**	**02**	**38 12.2**	**-0.2**
	5.5nm,0.8s,baz=19,slow=1.9,SNR=7.0							
SONM	**Songino Array**	**79.39**	**324**	P	**P**	**02**	**38 19.7**	**0.0**
SONM	**Songino Array**	**79.39**	**324**	P	**P**	**02**	**38 19.7**	**0.0**
	1.3nm,0.6s,baz=129,slow=4.9,SNR=7.7							
ILAR	**Eielson Array**	**84.30**	**18**	P	**P**	**02**	**38 47.8**	**+2.8**
ILAR	**Eielson Array**	**84.30**	**18**	P	**P**	**02**	**38 47.8**	**+2.8**
	1.2nm,0.7s,baz=250,slow=5.3,SNR=6.5							
NVAR	**Mina Array Bea**	**86.53**	**50**	P	P	02	39 00.7	+3.6
NVAR	**Mina Array Bea**	**86.53**	**50**	P	P	02	39 00.7	+3.6
	1.3nm,0.7s,baz=229,slow=8.5,SNR=5.6							
MKAR	**Makanchi Array**	**94.18**	**317**	P	**P**	**02**	**39 32.1**	**-0.4**
MKAR	**Makanchi Array**	**94.18**	**317**	P	**P**	**02**	**39 32.1**	**-0.4**
	2.2nm,0.8s,baz=99,slow=6.4,SNR=9.2							
ZALV	**Zalesovo Beam**	**94.28**	**324**	P	**P**	**02**	**39 31.6**	**-1.1**
ZALV	**Zalesovo Beam**	**94.28**	**324**	P	**P**	**02**	**39 31.6**	**-1.1**
	6.4nm,1.0s,baz=104,slow=6.3,SNR=9.9							
SNAA	**Sanae**	**96.27**	**184**	P	**P**	**02**	**39 39.8**	**-1.9**
SNAA	**Sanae**	**96.27**	**184**	P	**P**	**02**	**39 39.8**	**-1.9**
	0.6nm,0.9s,baz=195,slow=7.8,SNR=2.8							
KURK	**Kurchatov**	**97.33**	**320**	P	**P**	**02**	**39 45.6**	**-1.1**
KURBB	**Kurchatov Arra**	**97.37**	**320**	P	**P**	**02**	**39 45.6**	**-1.3**
	0.7nm,0.3s,baz=86,slow=4.7,SNR=3.2							
BVAR	**Borovoye Array**	**102.66**	**322**	Pdif	**Pdif**	**02**	**40 10.1**	**-0.3**
BVAR	**Borovoye Array**	**102.66**	**322**	Pdiff	**Pdif**	**02**	**40 10.1**	**-0.3**
	0.6nm,0.6s,baz=106,slow=3.1,SNR=3.0							
ARCES	**ARCESS Array B**	**117.17**	**345**	PKP	**PKPdf**	**02**	**45 00.0**	**+1.9**
ARCES	**ARCESS Array B**	**117.17**	**345**	PKP	**PKPdf**	**02**	**45 00.0**	**+1.9**
	2.1nm,0.7s,baz=38,slow=4.6,SNR=3.0							
BOSA	**Boshof**	**124.53**	**223**	PKP	**PKPdf**	**02**	**45 13.4**	**-0.3**
BOSA	**Boshof**	**124.53**	**223**	PKP	**PKPdf**	**02**	**45 13.4**	**-0.3**
	4.4nm,1.0s,baz=90,slow=5.1,SNR=3.6							
AKASG	**Malin Array Be**	**127.61**	**327**	PKP	**PKPdf**	**02**	**45 18.1**	**-0.5**
AKASG	**Malin Array Be**	**127.61**	**327**	PKP	**PKPdf**	**02**	**45 18.1**	**-0.5**
	0.4nm,0.5s,baz=64,slow=2.2,SNR=3.3							
BRTR	**Keskin Array B**	**129.58**	**312**	PKP	**PKPdf**	**02**	**45 21.7**	**-1.3**
BRTR	**Keskin Array B**	**129.58**	**312**	PKP	**PKPdf**	**02**	**45 21.7**	**-1.3**
	0.8nm,0.7s,baz=347,slow=1.8,SNR=3.8							
MMAI	**Mount Meron Ar**	**130.10**	**303**	PKP	**PKPdf**	**02**	**45 25.2**	**+1.2**
MMAI	**Mount Meron Ar**	**130.10**	**303**	PKP	**PKPdf**	**02**	**45 25.2**	**+1.2**
	1.0nm,0.6s,baz=104,slow=6.1,SNR=3.7							
GERES	**GERESS Array B**	**136.49**	**333**	PKP	**PKPdf**	**02**	**45 37.0**	**+1.4**
GERES	**GERESS Array B**	**136.49**	**333**	PKP	**PKPdf**	**02**	**45 37.0**	**+1.4**
	0.8nm,0.8s,baz=76,slow=4.1,SNR=3.3							
KEST	**Kesra**	**148.13**	**322**	PKPbc	**PKPbc**	**02**	**45 59.8**	**-0.1**
KEST	**Kesra**	**148.13**	**322**	PKPbc	**PKPbc**	**02**	**45 59.8**	**-0.1**
	4.5nm,0.8s,baz=281,slow=2.1,S

WRA	**Warramunga Arr**	**31.69 251**	P	**P**	**02 42 13.5**	**-0.8**
	3.8nm,0.9s,baz=83,slow=8.9,SNR=11						
WRA			PcP	**PcP**	**02 45 05.8**	**+0.1**
	1.4nm,0.9s,baz=79,slow=3.3,SNR=4.7						
ASAR	**Alice Springs**	**32.95 244**	P	**P**	**02 42 23.9**	**-1.4**
ASAR			PcP	**PcP**	**02 45 09.3**	**+0.2**
ASAR	**Alice Springs**	**32.95 244**	P	**P**	**02 42 23.9**	**-1.4**
	4.9nm,0.7s,baz=72,slow=9.5,SNR=37						
ASAR			PcP	**PcP**	**02 45 09.3**	**+0.2**
	2.1nm,0.8s,baz=81,slow=3.3,SNR=7.1						
FITZ	**Fitzroy Crossi**	**39.63 255**	P	**P**	**02 43 21.6**	**-0.7**
FITZ	**Fitzroy Crossi**	**39.63 255**	P	**P**	**02 43 21.6**	**-0.7**
	3.8nm,0.9s,baz=112,slow=8.9,SNR=6.6						
BATI	**Baumata**	**41.68 267**	P	**P**	**02 43 39.6**	**+0.2**
BATI	**Baumata**	**41.68 267**	P	**P**	**02 43 39.6**	**+0.2**
	9.2nm,0.4s,baz=55,slow=22,SNR=3.7						
JOW	**Kunigami**	**52.86 317**	LR	LR	03 02 21.9		
	comp=Z,62nm,21.4s,baz=136,slow=30						
VNDA	**Vanda**	**66.14 181**	*eP*	**P**	**02 46 36.5**	**-0.6**
	3.9nm,1.2s						
VNDA	**Vanda**	**66.14 181**	P	**P**	**02 46 36.5**	**-0.6**
	1.8nm,0.9s,baz=352,slow=6.5,SNR=4.4						
SBA	**Scott Base**	**66.44 180**	*eP*	**P**	**02 46 40.1**	**+1.1**
	7.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**72.58 294**	P	**P**	**02 47 19.4**	**+1.4**
CMAR	**Chiang Mai Arr**	**72.58 294**	P	**P**	**02 47 19.4**	**+1.4**
	3.7nm,0.8s,baz=123,slow=4.8,SNR=11						
QSPA	**South Pole Qui**	**78.60 180**	*eP*	**P**	**02 47 51.4**	**-0.4**
	8.8nm,0.8s						
QSPA	**South Pole Qui**	**78.60 180**	P	**P**	**02 47 51.8**	**0.0**
	9.5nm,0.8s,baz=12,slow=1.5,SNR=25						
SONM	**Songino Array**	**79.16 324**	P	**P**	**02 47 55.6**	**+0.5**
SONM	**Songino Array**	**79.16 324**	P	**P**	**02 47 55.6**	**+0.5**
	0.9nm,0.5s,baz=136,slow=5.4,SNR=5.9						
ILAR	**Eielson Array**	**83.74 18**	P	**P**	**02 48 18.5**	**-0.3**
ILAR	**Eielson Array**	**83.74 18**	P	**P**	**02 48 18.5**	**-0.3**
	2.4nm,0.9s,baz=255,slow=5.2,SNR=12						
EGAK	**Eagle**	**85.59 20**	*eP*	**P**	**02 48 28.2**	**+0.1**
	10nm,0.7s						
NVAR	**Mina Array Bea**	**85.99 50**	P	P	02 48 35.5	+4.5
NVAR	**Mina Array Bea**	**85.99 50**	P	P	02 48 35.5	+4.5
	2.8nm,0.8s,baz=230,slow=8.4,SNR=16						
PDAR	**Pinedale Array**	**93.54 47**	P	P	02 49 10.8	+4.3
PDAR	**Pinedale Array**	**93.54 47**	P	P	02 49 10.8	+4.3
	0.7nm,0.9s,baz=76,slow=0.6,SNR=4.8						
MK31	**Makanchi Array**	**94.02 317**	*eP*	**P**	**02 49 08.1**	**-0.3**
MKAR	**Makanchi Array**	**94.02 317**	P	**P**	**02 49 08.4**	**+0.1**
MKAR	**Makanchi Array**	**94.02 317**	P	**P**	**02 49 08.4**	**+0.1**
	2.2nm,0.7s,baz=98,slow=6.0,SNR=19						
ZALV	**Zalesovo Beam**	**94.05 324**	P	**P**	**02 49 07.8**	**-0.5**
ZALV	**Zalesovo Beam**	**94.05 324**	P	**P**	**02 49 07.8**	**-0.5**
	0.6nm,0.4s,baz=180,slow=0.4,SNR=3.6						
TXAR	**Lajitas Array**	**95.70 61**	P	**P**	**02 49 17.5**	**+1.0**
TXAR	**Lajitas Array**	**95.70 61**	P	**P**	**02 49 17.5**	**+1.0**
	0.3nm,0.8s,baz=232,slow=5.5,SNR=2.6						
KURK	**Kurchatov**	**97.14 320**	P	**P**	**02 49 21.7**	**-0.7**
KURBB	**Kurchatov Arra**	**97.18 320**	P	**P**	**02 49 21.7**	**-0.9**
	0.3nm,0.7s,baz=92,slow=4.6,SNR=2.5						
ARCES	**ARCESS Array B**	**116.77 346**	PKP	**PKPdf**	**02 54 33.1**	**-0.8**
ARCES	**ARCESS Array B**	**116.77 346**	PKP	**PKPdf**	**02 54 33.1**	**-0.8**
	1.4nm,0.7s,baz=90,slow=2.4,SNR=6.6						
NOA	**NORSAR Array B**	**127.14 345**	PKP	**PKPdf**	**02 54 53.3**	**-0.8**
NOA	**NORSAR Array B**	**127.14 345**	PKP	**PKPdf**	**02 54 53.3**	**-0.8**
	0.8nm,0.7s,baz=32,slow=1.9,SNR=3.1						
LSZ	**Lusaka**	**130.60 238**	PKP	**PKPdf**	**02 55 02.2**	**+0.1**
LSZ	**Lusaka**	**130.60 238**	PKP	**PKPdf**	**02 55 02.2**	**+0.1**
	1.1nm,0.5s,baz=57,slow=5.7,SNR=5.3						
KEST	**Kesra**	**147.91 323**	PKPbc	**PKPbc**	**02 55 36.5**	**+0.7**
KEST	**Kesra**	**147.91 323**	PKPbc	**PKPbc**	**02 55 36.5**	**+0.7**
	1.9nm,0.8s,baz=0.7,slow=1.0,SNR=8.1						
ESDC	**Sonseca Array**	**150.50 344**	PKPbc	**PKPbc**	**02 55 40.8**	**-1.3**
ESDC	**Sonseca Array**	**150.50 344**	PKPbc	**PKPbc**	**02 55 40.8**	**-1.3**
	0.7nm,0.7s,baz=7.7,slow=3.2,SNR=5.1						
TORD	**Torodi Ar. Bea**	**164.66 278**	PKP	**PKPdf**	**02 55 54.5**	**-0.4**
TORD	**Torodi Ar. Bea**	**164.66 278**	PKP	**PKPdf**	**02 55 54.5**	**-0.4**
	0.8nm,1.0s,baz=27,slow=0.7,SNR=3.8						

IDC 08 02:37:41.6±0.7, 12°.76S×166°.20E, h0km, mb4.4/14, mb1 4.5/15, mb1mx4.4/24, mbtmp4.4/15, ML5.0/1, Error ellipse: s-maj=26.4km s-min=17.9km az=124.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.97**	**298**	Pn	Pn	02 39 25.6	+0.5
	28nm,0.3s,baz=198,slow=3.2,SNR=5.2						
HNR				Sn	Sn	02 40 42.4	-2.8
	baz=342,slow=20,SNR=3.4						
DZM	**Mont Dzumac**	**9.27**	**179**	Pn	Pn	02 40 01.9	+5.1
	baz=335,slow=19,SNR=1.9						
CTA	**Charters Tower**	**20.46**	**247**	P	P	02 42 21.5	+0.4
	2.8nm,0.4s,baz=76,slow=9.3,SNR=4.0						
STKA	**Stephens Creek**	**29.55**	**226**	P	P	02 43 49.8	+1.6
	8.7nm,0.9s,baz=63,slow=5.4,SNR=7.6						
WRA	**Warramunga Arr**	**31.36**	**253**	P	P	02 44 03.2	-1.2
	2.5nm,0.9s,baz=82,slow=9.0,SNR=4.5						
ASAR	**Alice Springs**	**32.47**	**246**	P	P	02 44 13.1	-1.1
	3.7nm,0.7s,baz=76,slow=9.1,SNR=9.0						
FITZ	**Fitzroy Crossi**	**39.40**	**257**	P	P	02 45 13.0	-0.5
	8.4nm,0.9s,baz=110,slow=7.5,SNR=6.7						
ASAJ	**Asahikawa**	**60.55**	**341**	P	P	02 47 54.5	+0.8
	13nm,0.8s,baz=205,slow=11,SNR=7.9						
USRK	**Ussuriysk Arra**	**64.67**	**333**	P	P	02 48 21.8	+0.5
	3.3nm,0.8s,baz=143,slow=6.7,SNR=5.9						
QSPA	**South Pole Qui**	**77.26**	**180**	P	P	02 49 38.3	+0.6
	6.0nm,0.9s,baz=36,slow=2.6,SNR=5.6						
SONM	**Songino Array**	**80.30**	**324**	P	P	02 49 54.5	-0.2
	1.3nm,0.8s,baz=128,slow=6.4,SNR=6.2						
ILAR	**Eielson Array**	**84.98**	**18**	P	P	02 50 17.2	-1.3
	1.0nm,0.7s,baz=238,slow=5.4,SNR=5.8						
PDAR	**Pinedale Array**	**94.38**	**47**	P	P	02 51 03.4	-0.5
	1.0nm,1.1s,baz=241,slow=3.0,SNR=4.3						
MKAR	**Makanchi Array**	**95.07**	**317**	P	P	02 51 06.0	-0.6
	1.8nm,0.8s,baz=99,slow=7.5,SNR=6.6						
ZALV	**Zalesovo Beam**	**95.20**	**324**	P	P	02 51 06.5	-0.5
	0.7nm,0.4s,baz=106,slow=4.7,SNR=3.6						
SNAA	**Sanae**	**95.45**	**183**	P	P	02 51 07.2	-0.9
	0.8nm,0.9s,baz=179,slow=4.7,SNR=7.3						
ARCES	**ARCESS Array B**	**118.09**	**345**	PKP	PKPdf	02 56 28.8	-1.3
	4.0nm,0.9s,baz=75,slow=1.9,SNR=8.6						
FINES	**FINESS Array B**	**123.52**	**338**	PKP	PKPdf	02 56 42.3	+1.6
	1.9nm,0.8s,baz=54,slow=7.1,SNR=3.9						
AKASG	**Malin Array Be**	**128.53**	**326**	PKP	PKPdf	02 56 50.0	-0.7
	0.4nm,0.5s,baz=58,slow=1.6,SNR=6.8						
BRTR	**Keskin Array B**	**130.44**	**312**	PKP	PKPdf	02 56 54.9	0.0
	0.5nm,0.7s,baz=2.2,slow=6.4,SNR=3.8						
GERES	**GERESS Array B**	**137.43**	**333**	PKP	PKPdf	02 57 08.1	+0.5
	0.6nm,0.7s,baz=20,slow=4.3,SNR=4.2						
KEST	**Kesra**	**149.03**	**322**	PKPbc	PKPbc	02 57 32.4	0.0
	2.7nm,1.0s,baz=343,slow=3.0,SNR=6.5						
ESDC	**Sonseca Array**	**151.82**	**344**	PKPbc	PKPbc	02 57 38.7	-0.2
	0.6nm,0.5s,baz=17,slow=2.4,SNR=8.1						
ESDC				PKPab	PKPab	02 57 47.6	-0.1
	0.6nm,0.5s,baz=11,slow=3.5,SNR=6.6						
TORD	**Torodi Ar. Bea**	**164.90**	**273**	PKPab	PKPab	02 58 45.0	0.0
	1.5nm,0.9s,baz=95,slow=6.0,SNR=6.8						

IDC 08 02:39:40.1±2.5, 11°.29S×165°.08E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/19, mbtmp3.9/4, Error ellipse: s-maj=117.8km s-min=29.6km az=127.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**29.82**	**223**	P	P	02 45 49.3	+0.3
	0.9nm,0.4s,baz=55,slow=5.3,SNR=2.1						
ASAR	**Alice Springs**	**32.10**	**243**	P	P	02 46 08.8	-0.5
	0.5nm,0.7s,baz=71,slow=8.9,SNR=2.4						
ILAR	**Eielson Array**	**83.95**	**19**	P	P	02 52 11.6	-0.2
	0.3nm,0.7s,baz=229,slow=4.2,SNR=2.7						
MKAR	**Makanchi Array**	**93.26**	**317**	P	P	02 52 57.1	+0.4
	1.3nm,0.6s,baz=92,slow=6.9,SNR=6.1						

IDC 08 02:40:03.4±9.8, 12°.14S×166°.01E, h0km, mb4.1/4, mb1 4.1/4, mb1mx3.8/19, mbtmp4.0/4, Error ellipse: s-maj=288.7km s-min=40.0km az=124.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.36**	**252**	P	P	02 46 26.7	+0.6
	1.0nm,0.7s,baz=82,slow=8.6,SNR=4.2						
ASAR	**Alice Springs**	**32.55**	**245**	P	P	02 46 35.8	-0.7
	0.7nm,0.7s,baz=68,slow=10,SNR=3.9						
SONM	**Songino Array**	**79.70**	**324**	P	P	02 52 13.5	+0.4
	0.4nm,0.3s,baz=139,slow=6.8,SNR=4.5						
MKAR	**Makanchi Array**	**94.49**	**317**	P	P	02 53 25.2	-0.5
	2.4nm,0.7s,baz=91,slow=6.0,SNR=11						

*ISCJB **08** 02:42:54.4±0.4, 23°.92N±0°.02×122°.45E±0°.02, h19km±3km, mb3.9/9, Error ellipse: s-maj=3.3km s-min=2.3km az=157.4*
*TAP **08** 02:42:55.3, 24°.01N×122°.39E, h22km, ML4.2, C*
*JMA **08** 02:42:55.6±0.2, 24°.10N×122°.41E, h37km, M3.5*
*IDC **08** 02:43:13.4±9.7, 24°.78N×122°.00E, h144km±102km, mb3.5/9, mb1 3.6/10, mb1mx3.4/28, mbtmp3.5/10, Error ellipse: s-maj=84.8km s-min=15.1km az=63.0*

ISC 08 02:42:53.7±1.1, 23°.94N±0°.02×122°.43E±0°.02, h18km±3km, n68, σ0s92/120, mb3.9/9, 4C-6D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.74**	**45**	P	**Pb**	**02 43 08.5**	**+0.4**
YOJ				*e*S	**Sb**	**02 43 17.5**	**-0.4**
HWA	**Hwalien**	**0.76**	**273**	*e*P	**Pb**	**02 43 09.0**	**+0.6**
	baz=254						
HWA				*e*S	**Sg**	**02 43 20.0**	**+1.3**
	baz=254						
TWD	**Chiawan**	**0.78**	**281**	*i* P	**Pb**	**02 43 08.9**	**+0.2**
	baz=275						
TWD				S	**Sb**	**02 43 19.3**	**+0.3**
	baz=275						
ENA	**Nanau**	**0.80**	**308**	⇑*i* P	**Pb**	**02 43 09.2**	**+0.1**
	baz=315						
ENA				*e*S	**Sb**	**02 43 19.0**	**-0.5**
	baz=315						
TEGC	**Jichi Village**	**0.85**	**255**	*e*P	**Pg**	**02 43 10.9**	**+0.6**
	baz=248						
TEGC				*e*S	**Sg**	**02 43 22.2**	**+0.6**
	baz=248						
TWC	**Suao**	**0.86**	**322**	⇑*i* P	**Pb**	**02 43 09.8**	**-0.3**
	baz=321						
TWC				*i* S	**Sb**	**02 43 20.2**	**-1.0**
	baz=321						
ESL	**Shilin**	**0.92**	**263**	P	**Pb**	**02 43 11.0**	**-0.2**
	baz=246						
ESL				*e*S	**Sb**	**02 43 22.9**	**-0.2**
	baz=246						
ILA	**Ilan**	**1.04**	**323**	*e*P	**Pb**	**02 43 13.4**	**+0.2**
	baz=322						
ILA				*e*S	**Sg**	**02 43 28.6**	**+1.1**
	baz=322						
ENTT	**Nioudou**	**1.06**	**312**	⇓P	**Pb**	**02 43 13.9**	**+0.4**
	baz=309						
ENTT				*e*S	**Sg**	**02 43 28.4**	**+0.2**
	baz=309						
NNS	**Nan Shan**	**1.09**	**298**	⇓*i* P	**Pb**	**02 43 14.4**	**+0.2**
	baz=280						
NNS				*e*S	**Sb**	**02 43 28.4**	**+0.3**
	baz=280						
EHY	**Hungye**	**1.10**	**247**	*i* P	**Pn**	**02 43 14.2**	**-0.1**
	baz=242						
EHY				S	**Sb**	**02 43 28.7**	**+0.3**
	baz=242						
TWB1	**Santiao Chiao**	**1.14**	**339**	*i* P	**Pn**	**02 43 14.9**	**+0.1**
	baz=326						
TWB1				*i* S	**Sg**	**02 43 31.1**	**+0.2**
	baz=326						
TWT	**Tachien**	**1.19**	**286**	⇑*i* P	**Pb**	**02 43 16.5**	**+0.6**
	baz=270						
TWT				*e*S	**Sb**	**02 43 31.3**	**+0.2**
	baz=270						
TWF1	**Yuli**	**1.19**	**241**	*i* P	**Pn**	**02 43 15.7**	**+0.2**
	baz=236						
TWF1				S	**Sb**	**02 43 31.0**	**+0.1**
	baz=236						
NSK	**Sanguang**	**1.23**	**307**	⇓*i* P	**Pn**	**02 43 16.4**	**+0.4**
	baz=304						
NSK				S	**Sn**	**02 43 32.9**	**+0.7**
	baz=304						
IRIF	**Iriomote-Funau**	**1.25**	**71**	P	**Pb**	**02 43 17.2**	**+0.4**
IRIF				*e*S	**Sb**	**02 43 32.6**	**+0.1**
HATJ	**Hateruma jima**	**1.26**	**84**	P	**Pb**	**02 43 17.4**	**+0.5**
HATJ				*e*S	**Sn**	**02 43 34.4**	**+1.5**
NWF	**Wu-fen Shan**	**1.28**	**332**	⇓*i* P	**Pn**	**02 43 17.1**	**+0.3**
	baz=331						
NWF				S	**Sn**	**02 43 34.2**	**+0.8**
	baz=331						
CHKT	**Chengkung**	**1.29**	**230**	*e*P	**Pn**	**02 43 16.5**	**-0.3**
	baz=225						
TWA	**Mucha**	**1.30**	**324**	P	**Pb**	**02 43 18.4**	**+0.8**
	baz=322						
TWA				*e*S	**Sb**	**02 43 35.0**	**+1.1**
	baz=322						
TAP1	**Taipei**	**1.38**	**323**	*e*P	**Pn**	**02 43 18.7**	**+0.7**
	baz=320						
TAP1				*e*S	**Sg**	**02 43 37.9**	**-0.4**
	baz=320						
TAP	**Taipei**	**1.39**	**323**	*e*P	**Pb**	**02 43 19.6**	**+0.4**
	baz=320						
TAP				*e*S	**Sg**	**02 43 37.8**	**-0.8**
	baz=320						
SMLT	**Sun Moon Lake**	**1.40**	**268**	⇓*i* P	**Pn**	**02 43 19.3**	**+0.7**
	baz=253						
SMLT				*e*S	**Sn**	**02 43 37.0**	**+0.4**
	baz=253						
YUS	**Yu-Shan**	**1.43**	**252**	⇑P	**Pn**	**02 43 19.8**	**+0.6**
	baz=248						
YUS				S	**Sn**	**02 43 37.9**	**+0.1**
	baz=248						
TYC	**Yuchr**	**1.44**	**269**	*i* P	**Pn**	**02 43 19.8**	**+0.9**
	baz=265						
TYC				*e*S	**Sb**	**02 43 38.3**	**+0.2**
	baz=265						
JKRS	**Kuro-shima**	**1.47**	**78**	P	**Pn**	**02 43 20.6**	**+1.3**
JKRS				*e*S	**Sb**	**02 43 39.3**	**+0.4**
NSTT	**Nanjuang**	**1.48**	**298**	P	**Pb**	**02 43 21.0**	**+0.3**
	baz=295						
NSTT				S	**Sb**	**02 43 39.4**	**+0.2**
	baz=295						
TWS1	**Kuangyinshan**	**1.48**	**322**	*e*P	**Pb**	**02 43 20.8**	**0.0**
	baz=320						
TWS1				*e*S	**Sb**	**02 43 40.7**	**+1.4**
	baz=320						
ELDTW	**Lidau**	**1.50**	**241**	P	**Pn**	**02 43 19.9**	**+0.1**
	baz=236						
ELDTW				*i* S	**Sn**	**02 43 38.4**	**-0.6**
	baz=236						
NCU	**National Centr**	**1.53**	**312**	*e*P	**Pn**	**02 43 21.1**	**+0.9**
	baz=309						
NCU				*e*S	**Sb**	**02 43 41.8**	**+1.1**
	baz=309						
TWY	**Chenhua**	**1.54**	**331**	*e*P	**Pb**	**02 43 22.1**	**+0.4**
	baz=328						
TWY				*e*S	**Sb**	**02 43 42.0**	**+1.3**
	baz=328						
ALS	**Alishan**	**1.55**	**254**	*e*P	**Pn**	**02 43 21.9**	**+1.2**
	baz=250						
ALS				*e*S	**Sn**	**02 43 41.1**	**+0.6**
	baz=250						
TWQ1	**Liyutan**	**1.57**	**285**	⇓*e*P	**Pb**	**02 43 22.6**	**+0.3**
	baz=282						
TWQ1				*e*S	**Sn**	**02 43 40.8**	**+0.2**
	baz=282						
NSY	**Sanyi**	**1.60**	**288**	*e*P	**Pb**	**02 43 22.7**	**-0.1**
	baz=272						
NSY				*e*S	**Sb**	**02 43 43.5**	**+0.8**
	baz=272						
WNT	**Mingjian**	**1.60**	**268**	*e*P	**Pb**	**02 43 23.4**	**+0.6**
	baz=264						
WNT				*e*S	**Sb**	**02 43 43.3**	**+0.6**
	baz=264						
JIJ	**Ishigaki jima**	**1.62**	**74**	P	**Pn**	**02 43 21.9**	**+0.5**
JIJ				*e*S	**Sn**	**02 43 42.2**	**+0.5**
TCU	**Taichung**	**1.62**	**278**	*e*P	**Pb**	**02 43 23.4**	**+0.3**
	baz=274						
TCU				*e*S	**Sb**	**02 43 44.8**	**+1.6**
	baz=274						
CHN5	**Tsauling**	**1.64**	**259**	*e*P	**Pb**	**02 43 23.6**	**0.0**
	baz=243						
CHN5				*e*S	**Sn**	**02 43 43.8**	**+1.3**
	baz=243						
TTN	**Taitung**	**1.67**	**225**	*e*P	**Pn**	**02 43 23.4**	**+1.4**
	baz=221						
TTN				*e*S	**Sn**	**02 43 43.9**	**+1.0**
	baz=221						
TWG	**Pinlang**	**1.67**	**229**	*e*P	**Pn**	**02 43 22.2**	**+0.1**
	baz=238						
TWG				*e*S	**Sn**	**02 43 42.4**	**-0.7**
	baz=238						
WGK	**Gukeng**	**1.73**	**262**	*e*P	**Pn**	**02 43 24.3**	**+1.4**
	baz=258						
WGK				*e*S	**Sb**	**02 43 47.0**	**+0.6**
	baz=258						
WTP	**Ta-pu**	**1.81**	**248**	*e*P	**Pb**	**02 43 25.9**	**-0.4**
	baz=244						
WTP				*e*S	**Sb**	**02 43 48.4**	**-0.2**
	baz=244						
CHY	**Chiayi**	**1.89**	**257**	*e*P	**Pn**	**02 43 26.3**	**+1.2**
	baz=253						
CHY				*e*S	**Sb**	**02 43 51.3**	**+0.2**
	baz=253						
SGST	**Jiashian**	**1.90**	**244**	*e*P	**Pn**	**02 43 27.1**	**+1.8**
	baz=229						
SGST				*e*S	**Sb**	**02 43 51.0**	**-0.3**
	baz=229						
CHN1	**Nanshi**	**1.90**	**247**	*e*P	**Pn**	**02 43 27.2**	**+2.0**
	baz=243						
CHN1				*e*S	**Sb**	**02 43 51.5**	**+0.2**
	baz=243						
WTCT	**Ta-ch'eng**	**1.97**	**268**	*e*P	**Pn**	**02 43 27.4**	**+1.2**
	baz=265						
WTCT				*e*S	**Sn**	**02 43 51.8**	**+1.4**
	baz=265						
CHN3	**Shinhua**	**2.08**	**246**	*e*P	**Pb**	**02 43 30.0**	**-1.0**
	baz=243						
EAST	**Anshuo**	**2.13**	**224**	*e*P	**Pn**	**02 43 28.4**	**+0.1**
	baz=220						
EAST				*e*S	**Sn**	**02 43 54.2**	**-0.1**
	baz=220						
TWM1	**Shoushan**	**2.15**	**239**	*e*P	**Pb**	**02 43 31.9**	**-0.3**
	baz=236						
JTJ	**Tarama**	**2.19**	**71**	P	**Pn**	**02 43 30.5**	**+1.3**
JTJ				*e*S	**Sn**	**02 43 56.6**	**+0.9**
SCLT	**Jiali**	**2.19**	**250**	*e*P	**Pn**	**02 43 30.4**	**+1.2**
	baz=246						
SCLT				*e*S	**Sn**	**02 43 58.3**	**+2.5**
	baz=246						
TAI1	**Yung-k'ang**	**2.21**	**247**	*e*P	**Pn**	**02 43 31.6**	**+2.1**
	baz=243						
TAI1				*e*S	**Sb**	**02 43 59.1**	**-1.1**
	baz=243						
HEN	**Hengchun**	**2.48**	**219**	*e*P	**Pn**	**02 43 35.0**	**+1.8**
	baz=216						
HEN				*e*S	**Sn**	**02 44 05.5**	**+2.5**
	baz=216						
TWP	**Hsiaoliuchiu**	**2.48**	**231**	*e*P	**Pn**	**02 43 35.2**	**+2.0**
	baz=244						
TWK1	**Hengchun**	**2.49**	**217**	*e*P	**Pn**	**02 43 34.4**	**+1.1**
	baz=214						
TWK1				*e*S	**Sn**	**02 44 04.3**	**+1.1**
	baz=214						
WDGT	**Dungji**	**2.63**	**256**	P	**Pn**	**02 43 36.7**	**+1.4**
	baz=241						
WDGT				*e*S	**Sn**	**02 44 06.5**	**-0.2**
	baz=241						
PNG	**Penghu**	**2.66**	**263**	*e*P	**Pn**	**02 43 36.2**	**+0.5**
	baz=259						
PNG				*e*S	**Sn**	**02 44 08.6**	**+1.1**
	baz=259						
KNM	**Kinmen**	**3.68**	**278**	*e*P	**Pn**	**02 43 50.5**	**+0.7**
	baz=274						
KNM				*e*S	**Sn**	**02 44 33.3**	**+0.6**
	baz=274						
KSRS	**Korea Array**	**14.27**	**18**	P	**P**	**02 46 20.1**	**-1.9**
	0.4nm,0.3s,baz=198,slow=12,SNR=5.9						
SONM	**Songino Array**	**27.05**	**336**	P	**P**	**02 48 34.7**	**-0.4**
	1.7nm,0.7s,baz=151,slow=9.6,SNR=6.6						
MKAR	**Makanchi Array**	**39.31**	**316**	P	**P**	**02 50 21.3**	**-0.4**
	1.4nm,0.5s,baz=97,slow=7.9,SNR=13						
ZALV	**Zalesovo Beam**	**41.08**	**327**	P	**P**	**02 50 34.2**	**-1.9**
	2.4nm,0.5s,baz=114,slow=7.7,SNR=7.7						
KURBB	**Kurchatov Arra**	**43.03**	**320**	P	**P**	**02 50 50.9**	**-1.3**
	0.8nm,0.6s,baz=124,slow=7.5,SNR=8.5						
WRA	**Warramunga Arr**	**45.13**	**164**	P	P	02 51 22.2	+13
	1.0nm,0.6s,baz=346,slow=8.9,SNR=3.7						
BVAR	**Borovoye Array**	**48.59**	**321**	P	**P**	**02 51 35.5**	**-0.6**
	0.8nm,0.5s,baz=116,slow=8.4,SNR=4.0						
ASAR	**Alice Springs**	**48.61**	**166**	P	P	02 51 50.2	+14
	0.6nm,0.5s,baz=348,slow=7.8,SNR=4.7						
FINES	**FINESS Array B**	**72.23**	**330**	P	**P**	**02 54 17.0**	**-0.5**
	1.8nm,0.8s,baz=103,slow=8.2,SNR=3.6						
BRTR	**Keskin Array B**	**74.24**	**307**	P	**P**	**02 54 30.1**	**+0.1**
	1.0nm,0.8s,baz=126,slow=4.7,SNR=6.4						

IDC 08 02:43:08.7±1.1, 13°.05S×166°.41E, h0km, mb4.1/7, mb1 4.2/8, mb1mx4.0/21, mbtmp4.1/8, ML3.9/1, Error ellipse: s-maj=37.4km s-min=25.2km az=101.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.97**	**180**	Pn	Pn	02 45 21.9	+2.1
	1.2nm,0.3s,baz=102,slow=14,SNR=5.9						
WRA	**Warramunga Arr**	**31.47**	**253**	P	P	02 49 31.3	-1.1
	0.6nm,0.7s,baz=85,slow=8.4,SNR=3.5						
ASAR	**Alice Springs**	**32.53**	**246**	P	P	02 49 42.1	+0.4
	1.4nm,0.8s,baz=74,slow=9.9,SNR=7.0						
QSPA	**South Pole Qui**	**76.97**	**180**	P	P	02 55 02.6	-0.5
	4.0nm,1.0s,baz=15,slow=3.6,SNR=8.1						
SONM	**Songino Array**	**80.66**	**324**	P	P	02 55 24.2	+0.6
	0.4nm,0.5s,baz=133,slow=6.1,SNR=3.0						
ILAR	**Eielson Array**	**85.20**	**18**	P	P	02 55 46.2	-0.4
	0.8nm,0.8s,baz=238,slow=5.0,S

PETK **Petropavlovsk-** **66.47 354** P P 02 55 30.1 -0.3
PETK **Petropavlovsk-** **66.47 354** P P 02 55 30.1 -0.3
3.5nm,0.8s,baz=160,slow=9.0,SNR=4.8
CMAR **Chiang Mai Arr** **73.32 294** P P 02 56 14.3 +1.0
CMAR **Chiang Mai Arr** **73.32 294** P P 02 56 14.3 +1.0
2.5nm,0.8s,baz=126,slow=4.5,SNR=7.8
QSPA **South Pole Qui** **76.78 180** *eP* P 02 56 32.7 +0.1
14nm,1.4s
QSPA **South Pole Qui** **76.78 180** P P 02 56 32.7 +0.1
5.4nm,1.0s,baz=0.6,slow=0.9,SNR=10
SONM **Songino Array** **80.63 324** P P 02 56 54.9 +0.9
SONM **Songino Array** **80.63 324** P P 02 56 54.9 +0.9
0.4nm,0.4s,baz=129,slow=7.1,SNR=5.2
ILAR **Eielson Array** **85.46 18** P P 02 57 15.9 -2.5
ILAR **Eielson Array** **85.46 18** P P 02 57 15.9 -2.5
0.8nm,0.5s,baz=243,slow=4.9,SNR=10
SNAA **Sanae** **94.97 183** *eP* P 02 58 02.0 -1.3
1.9nm,1.0s
SNAA **Sanae** **94.97 183** P P 02 58 02.6 -0.7
0.9nm,1.1s,baz=211,slow=6.0,SNR=7.9
MKAR **Makanchi Array** **95.35 317** P P 02 58 04.8 -0.6
MKAR **Makanchi Array** **95.35 317** P P 02 58 04.8 -0.6
0.7nm,0.5s,baz=87,slow=7.7,SNR=6.4
ZALV **Zalesovo Beam** **95.53 324** P P 02 58 06.6 +0.6
ZALV **Zalesovo Beam** **95.53 324** P P 02 58 06.6 +0.6
0.4nm,0.3s,baz=152,slow=6.5,SNR=3.3
ARCES **ARCESS Array B** **118.53 345** PKP **PKPdf** **03 03 27.4 -0.8**
ARCES **ARCESS Array B** **118.53 345** PKP **PKPdf** **03 03 27.4 -0.8**
6.5nm,1.1s,baz=128,slow=2.0,SNR=5.0
BOSA **Boshof** **123.76 222** PKP **PKPdf** **03 03 39.6 -0.1**
BOSA **Boshof** **123.76 222** PKP **PKPdf** **03 03 39.6 -0.1**
1.8nm,0.7s,baz=45,slow=5.7,SNR=2.9
FINES **FINESS Array B** **123.92 338** PKP **PKPdf** **03 03 38.1 -0.7**
FINES **FINESS Array B** **123.92 338** PKP **PKPdf** **03 03 38.1 -0.7**
4.2nm,1.0s,baz=9.5,slow=4.2,SNR=2.9
AKASG **Malin Array Be** **128.87 326** PKP **PKPdf** **03 03 49.7 +1.1**
AKASG **Malin Array Be** **128.87 326** PKP **PKPdf** **03 03 49.7 +1.1**
0.1nm,0.3s,baz=46,slow=2.7,SNR=5.0
BNI **Bardonecchia** **143.78 335** *e*PKPdf PKPbc 03 04 14.4 +0.3
SSB **Saint Sauveur** **144.43 337** *e*PKPdf **PKPab** **03 04 16.0 +0.3**
KEST **Kesra** **149.35 321** PKPbc **PKPbc** **03 04 29.9 -0.5**
KEST **Kesra** **149.35 321** PKPbc **PKPbc** **03 04 29.9 -0.5**
2.1nm,0.8s,baz=261,slow=4.9,SNR=6.1
ESDC **Sonseca Array** **152.25 343** PKPab **PKPab** **03 04 47.3 +0.4**
ESDC **Sonseca Array** **152.25 343** PKPab **PKPab** **03 04 47.3 +0.4**
1.4nm,0.5s,baz=10,slow=3.9,SNR=16
TORD **Torodi Ar. Bea** **164.83 271** PKP **PKPdf** **03 04 45.3 -0.7**
TORD **Torodi Ar. Bea** **164.83 271** PKP **PKPdf** **03 04 45.3 -0.7**
1.4nm,1.0s,baz=98,slow=0.1,SNR=5.1

IDC 08 02:48:33.0±1.2, 11°61'S×166°22'E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/20, mbtmp3.9/5, MS5.0/1, Ms1 5.0/1, ms1mx4.1/34, Error ellipse: s-maj=45.5km s-min=29.8km az=128.0, Santa Cruz Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DZM **Mont Dzumac** **10.40 179** Pn Pn 02 51 08.9 +5.1
0.5nm,0.3s,baz=108,slow=18,SNR=3.6
AFI **Afiamalu** **21.58 98** LR LR 03 00 36.3
comp=Z,4μm,18.5s,baz=354,slow=34
WRA **Warramunga Arr** **31.73 251** P P 02 54 58.7 -0.3
0.8nm,0.5s,baz=85,slow=9.2,SNR=3.4
ASAR **Alice Springs** **32.96 244** P P 02 55 09.3 -0.5
1.7nm,0.7s,baz=72,slow=9.8,SNR=7.6
QSPA **South Pole Qui** **78.40 180** P P 03 00 35.8 +0.3
2.4nm,1.0s,baz=14,slow=1.3,SNR=3.7
ILAR **Eielson Array** **83.90 18** P P 03 01 03.6 -0.9
0.3nm,0.7s,baz=218,slow=7.4,SNR=2.5
MKAR **Makanchi Array** **94.25 317** P P 03 01 54.5 +0.2
0.6nm,0.7s,baz=92,slow=7.6,SNR=5.5
KEST **Kesra** **148.14 323** PKPbc PKPbc 03 08 21.8 +0.3
0.7nm,0.8s,baz=344,slow=7.4,SNR=2.9

IDC 08 02:50:07.5±1.7, 13°53'S×166°16'E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/19, mbtmp3.8/5, ML3.4/1, Error ellipse: s-maj=50.5km s-min=31.2km az=124.0, Vanuatu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DZM **Mont Dzumac** **8.50 178** Pn Pn 02 52 12.7 +0.6
0.5nm,0.3s,baz=29,slow=19,SNR=2.5
WRA **Warramunga Arr** **31.09 254** P P 02 56 27.3 -0.5
1.8nm,0.9s,baz=85,slow=8.0,SNR=4.9
ASAR **Alice Springs** **32.12 247** P P 02 56 36.4 -0.4
0.8nm,0.8s,baz=76,slow=11,SNR=4.2
ILAR **Eielson Array** **85.73 18** P P 03 02 47.1 -1.0
0.3nm,0.5s,baz=239,slow=5.2,SNR=6.4
MKAR **Makanchi Array** **95.59 317** P P 03 03 36.4 +1.6
0.4nm,0.7s,baz=94,slow=4.3,SNR=3.3

IDC 08 02:51:13.2±13.0, 12°28'S×166°03'E, h0km, mb4.2/4, mb1 4.2/4, mb1mx3.9/18, mbtmp4.1/4, Error ellipse: s-maj=443.0km s-min=78.0km az=168.0, Santa Cruz Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SONM **Songino Array** **79.82 324** P P 03 03 23.7 0.0
0.7nm,0.7s,baz=114,slow=3.7,SNR=5.2
ILAR **Eielson Array** **84.59 18** P P 03 03 48.1 0.0
0.8nm,0.7s,baz=245,slow=5.2,SNR=10.0
MKAR **Makanchi Array** **94.60 317** P P 03 04 36.0 -0.2
1.5nm,0.9s,baz=108,slow=6.5,SNR=7.0
ZALV **Zalesovo Beam** **94.71 324** P P 03 04 36.4 0.0
0.5nm,0.3s,baz=116,slow=3.4,SNR=2.9

IDC 08 02:51:28.1±1.3, 11°48'S×166°15'E, h0km, mb4.1/6, mb1 4.3/7, mb1mx4.0/21, mbtmp4.2/7, ML4.6/1, Error ellipse: s-maj=36.4km s-min=27.4km az=149.0, Santa Cruz Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
HNR **Honiara** **6.43 288** Pn Pn 02 53 03.3 -0.8
14nm,0.3s,baz=225,slow=1.4,SNR=2.4
CTA **Charters Tower** **20.95 243** P P 02 56 13.7 +0.9
6.8nm,0.6s,baz=66,slow=15,SNR=4.6
WRA **Warramunga Arr** **31.71 251** P P 02 57 53.9 0.0
3.7nm,0.8s,baz=81,slow=9.1,SNR=8.6
ASAR **Alice Springs** **32.95 244** P P 02 58 04.4 -0.4
4.3nm,0.7s,baz=71,slow=9.6,SNR=17
FITZ **Fitzroy Crossi** **39.65 256** P P 02 59 01.8 -0.3
1.8nm,0.8s,baz=74,slow=15,SNR=4.6
QSPA **South Pole Qui** **78.53 180** P P 03 03 31.3 0.0
baz=23,slow=2.8
ILAR **Eielson Array** **83.80 18** P P 03 03 58.6 -0.4
0.3nm,0.6s,baz=261,slow=5.2,SNR=5.6
MKAR **Makanchi Array** **94.11 317** P P 03 04 49.7 +0.9
0.9nm,0.8s,baz=112,slow=4.4,SNR=5.4

IDC 08 02:53:53.0±4.2, 11°35'S×165°89'E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/18, mbtmp3.8/4, Error ellipse: s-maj=181.5km s-min=31.0km az=137.0, Santa Cruz Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA **Warramunga Arr** **31.51 250** P P 03 00 16.9 -0.1
0.6nm,0.7s,baz=84,slow=9.4,SNR=2.5
ASAR **Alice Springs** **32.78 244** P P 03 00 28.4 +0.2
0.5nm,0.6s,baz=70,slow=10,SNR=3.9
ILAR **Eielson Array** **83.76 18** P P 03 06 23.9 +0.2
0.2nm,0.6s,baz=242,slow=5.8,SNR=4.1
MKAR **Makanchi Array** **93.84 317** P P 03 07 11.7 -0.6
1.0nm,0.7s,baz=104,slow=5.8,SNR=6.0

IDC 08 02:56:23.2±1.4, 12°87'S×166°30'E, h0km, mb4.1/8, mb1 4.1/9, mb1mx4.0/20, mbtmp4.0/9, ML3.4/1, MS4.8/1, Ms1 4.8/1, ms1mx4.1/37, Error ellipse: s-maj=46.7km s-min=22.4km az=122.0, Santa Cruz Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
HNR **Honiara** **7.11 298** LR LR 03 00 02.5
comp=Z,6μm,18.0s,baz=116,slow=31
DZM **Mont Dzumac** **9.15 179** Pn Pn 02 58 37.1 +0.3
0.4nm,0.3s,baz=343,slow=19,SNR=3.1
CTA **Charters Tower** **20.51 247** P P 03 01 03.8 +0.6
5.1nm,0.6s,baz=68,slow=11,SNR=3.9
STKA **Stephens Creek** **29.54 226** P P 03 02 30.2 +0.6
3.2nm,0.7s,baz=34,slow=7.9,SNR=6.0
WRA **Warramunga Arr** **31.42 253** P P 03 02 45.4 -1.0
0.8nm,0.8s,baz=85,slow=8.6,SNR=3.1
ASAR **Alice Springs** **32.51 246** P P 03 02 54.9 -1.1
3.0nm,0.9s,baz=74,slow=9.8,SNR=14
SONM **Songino Array** **80.45 324** P P 03 08 38.6 +1.5
0.3nm,0.5s,baz=115,slow=6.8,SNR=2.8
ILAR **Eielson Array** **85.06 18** P P 03 08 58.9 -1.7
0.3nm,0.6s,baz=240,slow=5.8,SNR=4.0
MKAR **Makanchi Array** **95.22 317** P P 03 09 49.3 +0.4
1.1nm,0.8s,baz=102,slow=6.1,SNR=5.5
ZALV **Zalesovo Beam** **95.34 324** P P 03 09 47.5 -1.7
0.7nm,0.5s,baz=108,slow=4.7,SNR=3.4
KEST **Kesra** **149.18 322** PKPbc PKPbc 03 16 15.6 +1.2
2.2nm,0.8s,baz=336,slow=1.5,SNR=8.4

IDC 08 02:57:48.7±1.6, 11°41'S×165°78'E, h0km, mb4.1/7, mb1 4.3/8, mb1mx4.0/21, mbtmp4.1/8, ML4.4/1, MS4.8/1, Ms1 4.7/1, ms1mx4.0/37, Error ellipse: s-maj=46.1km s-min=24.9km az=126.0, Santa Cruz Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DZM **Mont Dzumac** **10.62 177** Pn Pn 03 00 21.7 -0.7
2.8nm,0.3s,baz=295,slow=20,SNR=10
CTA **Charters Tower** **20.67 243** P P 03 02 31.9 -0.7
4.4nm,0.5s,baz=106,slow=7.4,SNR=2.2
STKA **Stephens Creek** **30.21 224** P P 03 04 02.1 +1.0
1.9nm,0.8s,baz=45,slow=7.1,SNR=2.4
STKA LR LR 03 14 18.7
comp=Z,2μm,19.1s,baz=29,slow=33
WRA **Warramunga Arr** **31.40 250** P P 03 04 11.6 -0.1
1.5nm,0.4s,baz=84,slow=8.5,SNR=11
ASAR **Alice Springs** **32.67 244** P P 03 04 22.4 -0.5
3.9nm,0.7s,baz=72,slow=9.4,SNR=9.2
FITZ **Fitzroy Crossi** **39.33 255** P P 03 05 18.6 -1.3
0.9nm,0.5s,baz=100,slow=11,SNR=5.2
ILAR **Eielson Array** **83.84 18** P P 03 10 20.1 +0.3
0.4nm,0.6s,baz=249,slow=5.4,SNR=2.8
MKAR **Makanchi Array** **93.81 317** P P 03 11 07.5 -0.4
0.5nm,0.7s,baz=90,slow=4.3,SNR=2.8

*IDC **08** 03:04:16.6±1.0, 12°73'S×166°17'E, h0km, mb4.1/13, mb1 4.2/15, mb1mx4.1/23, mbtmp4.1/15, ML4.3/2, Error ellipse: s-maj=29.3km s-min=17.6km az=126.0*
*ISCJB **08** 03:04:20.8±0.7, 12°78S±0°09×166°1E±0°1, h40km, mb4.0/12, Error ellipse: s-maj=17.2km s-min=12.4km az=12.3*
ISC 08 03:04:22.5±0.8, 12°8S±0°1×166°2E±0°1, h40km, n19, σ0892/19, mb4.0/12, Santa Cruz Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
HNR **Honiara** **6.93 298** Pn **Pn** **03 06 01.6 0.0**
31nm,0.3s,baz=190,slow=12,SNR=3.7
DZM **Mont Dzumac** **9.27 178** Pn **Pn** **03 06 33.4 -0.3**
0.4nm,0.3s,baz=171,slow=19,SNR=2.4
CTA **Charters Tower** **20.43 246** P **P** **03 08 57.4 +0.9**
1.3nm,0.3s,baz=49,slow=11,SNR=3.2
STKA **Stephens Creek** **29.52 226** P **P** **03 10 23.8 +0.6**
2.1nm,0.8s,baz=37,slow=11,SNR=4.9
WRA **Warramunga Arr** **31.32 253** P **P** **03 10 37.3 -2.0**
0.7nm,0.9s,baz=77,slow=7.8,SNR=3.2
ASAR **Alice Springs** **32.43 246** P **P** **03 10 48.0 -1.0**
2.7nm,0.8s,baz=74,slow=9.7,SNR=12
FITZ **Fitzroy Crossi** **39.36 257** P **P** **03 11 48.9 +0.5**
1.2nm,0.6s,baz=79,slow=8.3,SNR=6.2
MEEK **Meekatharra** **46.58 245** P **P** **03 12 48.1 +1.3**
baz=58,SNR=4.5
MJAR **Matsushiro Arr** **55.66 333** P **P** **03 13 54.2 -0.5**
1.1nm,0.7s,baz=176,slow=8.8,SNR=4.9
ASAJ **Asahikawa** **60.53 341** P **P** **03 14 28.9 +0.4**
4.5nm,0.4s,baz=211,slow=7.1,SNR=8.5
USRK **Ussuriysk Arra** **64.64 333** P **P** **03 14 56.5 +0.5**
4.4nm,1.0s,baz=191,slow=8.9,SNR=5.3
SONM **Songino Array** **80.27 324** P **P** **03 16 29.5 +0.2**
1.3nm,1.0s,baz=157,slow=4.2,SNR=7.1
ILAR **Eielson Array** **85.00 18** P **P** **03 16 53.6 +0.4**
0.6nm,0.6s,baz=246,slow=5.1,SNR=18
NVAR **Mina Array Bea** **86.81 50** P **P** **03 17 03.9 +0.7**
0.1nm,0.4s,baz=210,slow=7.1,SNR=2.7
MKAR **Makanchi Array** **95.03 317** P **P** **03 17 40.9 -0.2**
0.5nm,0.6s,baz=86,slow=8.3,SNR=7.3
ZALV **Zalesovo Beam** **95.17 324** P **P** **03 17 40.5 -1.0**
0.5nm,0.3s,baz=119,slow=5.2,SNR=3.6
ARCES **ARCESS Array B** **118.08 345** PKP **PKPdf** **03 23 03.1 -1.5**
4.3nm,1.0s,baz=66,slow=2.9,SNR=4.9
BRTR **Keskin Array B** **130.40 312** PKP **PKPdf** **03 23 29.8 +0.6**
0.6nm,0.9s,baz=7.1,slow=5.8,SNR=3.6
KEST **Kesra** **149.00 322** PKPbc **PKPbc** **03 24 06.0 -0.7**
0.6nm,0.6s,baz=308,slow=14,SNR=4.1

MAN 08 03:06:29, 17°48N×122°68E, h1km, mb4.1, ML2.9, MS2.6, 1D, Luzon

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PALP **Palanan** **0.48 210** ↓*iP* Pg 03 06 38.7 +0.5
PALP *eS* Sg 03 06 44.5 +0.1
SGCP **Mt. Cagua** **0.97 322** *eP* Pb 03 06 48.1 -0.5
CAUP **Cauayan** **0.97 237** *eP* Pn 03 06 49.3 -0.6
CAUP *eS* Sb 03 07 01.7 -0.4
APYP **Conner** **1.42 286** *eP* Pn 03 06 55.1 -0.9

IDC 08 03:06:38.0±1.5, 13°35'S×165°75'E, h0km, mb3.7/3, mb1 4.1/4, mb1mx3.8/18, mbtmp3.9/4, ML3.6/1, Error ellipse: s-maj=49.7km s-min=29.6km az=129.0, Vanuatu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DZM **Mont Dzumac** **8.70 176** Pn Pn 03 08 45.8 +0.5
0.8nm,0.3s,baz=123,slow=24,SNR=9.3
STKA **Stephens Creek** **28.82 226** P P 03 12 42.0 +4.0
0.8nm,0.5s,baz=35,slow=12,SNR=3.2
WRA **Warramunga Arr** **30.76 253** P P 03 12 56.6 +1.2
0.5nm,0.6s,baz=87,slow=9.8,SNR=4.1
ASAR **Alice Springs** **31.82 247** P P 03 13 03.1 -1.6
0.4nm,0.6s,baz=73,slow=9.7,SNR=3.4
ILAR **Eielson Array** **85.68 18** P P 03 19 17.8 -0.6
0.6nm,0.6s,baz=234,slow=5.2,SNR=11
KEST **Kesra** **149.21 320** PKPbc PKPbc 03 26 29.4 +0.3
0.4nm,0.5s,baz=117,slow=2.3,SNR=4.5

IDC 08 03:07:51.6±309.0, 4°23S×121°12E, h0km, Error ellipse: s-maj=123.0km s-min=90.8km az=72.0, Sulawesi

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
I39PW **PALAU INFRASON** **17.78 49** *i* 04 40 54.8
baz=231,slow=352
I07AU **WARRAMUNGA INF** **20.24 142** *i* 04 56 30.0
baz=315,slow=322,SNR=0.9
I04AU **SHANNON INFRAS** **30.54 188** *i* 05 58 40.0
baz=8.4,slow=322,SNR=1.9
I30JP **ISUMI INFRASON** **43.26 23** *i* 07 38 14.6
baz=212,slow=311,SNR=1.1
I05AU **HOBART INFRASO** **44.84 152** *i* 07 34 17.6
baz=321,slow=324,SNR=3.1
I22FR **PORTLAGUERRE I** **47.72 116** *i* 07 46 22.0
baz=286,slow=312,SNR=3.0
I45RU **USSURIYSK INFR** **49.19 10** *i* 08 10 21.6
baz=195,slow=330,SNR=4.7
I44RU **PETROPAVLOVSK** **64.89 23** *i* 09 47 48.3
baz=225,slow=321,SNR=4.8
I46RU **ZALESOVO INFRA** **65.41 337** *i* 09 51 25.0
baz=140,slow=336
I55US **WINDLESS BIGHT** **77.39 171** *i* 10 56 49.5
baz=310,slow=344
I53US **FAIRBANKS INFR** **94.23 25** *i* 12 51 49.1
baz=271,slow=322,SNR=9.0
I18DK **QAANAAQ INFRAS** **106.59 2** *i* 14 18 39.9
baz=337,slow=344
I56US **NEWPORT INFRAS** **113.91 38** *i* 15 00 32.9
baz=306,slow=392,SNR=7.9
I13CL **EASTER ISLAND** **122.17 126** *i* 16 32 25.0
baz=242,slow=344
I17CI **DIMBOKRO INFRA** **126.18 275** *i* 17 06 21.8
baz=89,slow=312,SNR=2.6

IDC 08 03:08:53.4±1.4, 13°26S×166°18E, h0km, mb4.1/8, mb1 4.3/8, mb1mx4.0/17, mbtmp4.1/8, Error ellipse: s-maj=60.8km s-min=22.6km az=137.0, Vanuatu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
STKA **Stephens Creek** **29.18 227** P P 03 14 57.4 +0.8
1.9nm,0.5s,baz=50,slow=9.4,SNR=8.3
WRA **Warramunga Arr** **31.19 253** P P 03 15 14.4 -0.2
0.9nm,0.5s,baz=86,slow=9.6,SNR=5.0
ASAR **Alice Springs** **32.24 247** P P 03 15 23.4 -0.4
1.2nm,0.7s,baz=68,slow=9.5,SNR=7.5
SONM **Songino Array** **80.69 324** P P 03 21 09.6 +1.1
0.6nm,0.6s,baz=145,slow=5.3,SNR=4.0
ILAR **Eielson Array** **85.47 18** P P 03 21 32.8 +0.1
1.0nm,0.5s,baz=242,slow=4.9,SNR=16
NVAR **Mina Array Bea** **87.12 50** P P 03 21 41.6 -0.2
0.2nm,0.5s,baz=225,slow=5.0,SNR=2.8
MKAR **Makanchi Array** **95.41 317** P P 03 22 19.7 -0.3
0.7nm,0.6s,baz=89,slow=6.7,SNR=6.6
ZALV **Zalesovo Beam** **95.59 324** P P 03 22 19.4 -1.1
0.5nm,0.3s,baz=123,slow=5.5,SNR=3.6
KEST **Kesra** **149.41 321** PKPbc PKPbc 03 28 44.4 -0.6
0.5nm,0.6s,baz=15,slow=8.7,SNR=4.0
TORD **Torodi Ar. Bea** **164.89 271** PKPab PKPab 03 29 55.4 -1.3
0.5nm,1.0s,baz=74,slow=3.7,SNR=2.5

MEX 08 03:09:05.2±0.6, 17°06N×95°48W, h165km±8km, MD4.3, Oaxaca

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
OXX **Oaxaca** **1.19 271** *eP* Pn 03 09 32.6 -0.6
VHO **Vista Hermosa** **1.20 271** *iP* Pn 03 09 32.3 -1.0
VHO *iS* Sn 03 09 52.5 -2.4
HUIG **Huatulco** **1.42 205** *eP* Pn 03 09 33.9 -1.3
HUIG *iS* Sn 03 09 56.4 -1.8
TPIG **Tehuac#an** **2.24 307** *eP* Pn 03 09 43.6 -0.6
TPIG *iS* Sn 03 10 11.8 -2.7
PCIG **2.56 122** *eP* Pn 03 09 46.4 -1.4
PCIG *iS* Sn 03 10 18.4 -2.4
PNIG **Pinotepa** **2.62 256** *eP* Pn 03 09 46.8 -1.8
PNIG *iS* Sn 03 10 20.0 -2.1
PPM **Popocatepetl** **3.59 304** *eP* Pn 03 09 60.0 -1.3
PPM *iS* Sn 03 10 43.5 -1.5
YAIG **Yautepec** **3.85 298** *iP* Pn 03 10 03.8 -0.3
YAIG *eS* Sn 03 10 47.7 -2.4
MEIG **Mezcala** **4.04 283** *eP* Pn 03 10 06.2 -0.3
MEIG *iS* Sn 03 10 51.7 -2.6
PLIG **Platanillo** **4.05 290** *iP* Pn 03 10 04.7 -1.9
PLIG *iS* Sn 03 10 53.2 -1.3
CAIG **El Cayaco** **4.58 271** *iP* Pn 03 10 14.1 +0.8
ARIG **Puente Sto Nin** **4.79 285** *eP* Pn 03 10 15.0 -1.2
ARIG *iS* Sn 03 11 09.1 -2.7

IDC 08 03:09:42.2±8.4, 11°78S×166°34E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/19, mbtmp4.0/5, Error ellipse: s-maj=250.9km s-min=46.9km az=128.0, Santa Cruz Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CTA **Charters Tower** **20.99 244** P Pn 03 14 29.3 -0.6
2.4nm,0.7s,baz=85,slow=15,SNR=3.1
WRA **Warramunga Arr** **31.79 251** P P 03 16 08.4 -0.3
1.1nm,0.5s,baz=82,slow=9.6,SNR=5.1
ASAR **Alice Springs** **32.99 245** P P 03 16 18.8 -0.5
2.2nm,0.7s,baz=71,slow=9.8,SNR=8.5
FITZ **Fitzroy Crossi** **39.76 256** P P 03 17 16.3 -0.8
1.3nm,0.7s,baz=117,slow=6.8,SNR=3.2
MKAR **Makanchi Array** **94.45 317** P P 03 23 04.6 +0.2
0.4nm,0.7s,baz=101,slow=6.0,SNR=3.4

*ISCJB **08** 03:14:34.8±0.5, 20°13S±0°05×68°87W±0°08, h107km±9km, mb3.6/1, Error ellipse: s-maj=11.9km s-min=7.3km az=12.1*
*GUC **08** 03:14:36.2±0.5, 20°28S×69°26W, h122km±4km, ML4.2*
*IDC **08** 03:14:39.6±2.6, 20°12S×68°68W, h139km±23km, mb3.3/3, mb1 3.5/6, mb1mx3.1/19, mbtmp3.4/6, Error ellipse: s-maj=33.3km s-min=24.1km az=115.0*
ISC 08 03:14:35.4±0.9, 20°16S±0°05×69°00W±0°10, h120km±13km, n25, σ2902/22, 3C-3D, Northern Chile

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
HMBC **Humberstone** **0.84 262** ↑*iP* **Pn** **03 14 55.8 -0.3**
HMBC *iS* **Sn** **03 15 10.2 -1.4**
HMBC AML AML 03 15 11.1
comp=N,7μm,0.2s
MNMC **Minimini** **1.17 331** *iP* **Pn** **03 15 00.9 +1.5**
MNMC *iS* **Sn** **03 15 20.1 +2.6**
PSGC **Pisagua** **1.19 298** ↑*iP* **Pn** **03 14 59.5 0.0**
PSGC *iS* **Sn** **03 15 17.5 -0.3**
PSGC AML AML 03 15 19.8
comp=N,3μm,0.4s
PB09 **Plate Boundary** **1.65 188** *iP* **Pn** **03 15 05.0 +0.3**
PB09 *iS* **Sn** **03 15 26.6 -0.4**
PB09 AML AML 03 15 28.2
comp=E,6μm,0.4s
PB07 **Plate Boundary** **1.77 208** ↓*iP* **Pn** **03 15 05.6 -0.5**
PB07 *iS* **Sn** **03 15 27.5 -2.1**
PB07 AML AML 03 15 31.8
comp=E,2μm,0.2s
PB04 **Plate Boundary** **2.14 192** ↓*iP* **Pn** **03 15 13.6 +3.0**
PB04 *iS* **Sn** **03 15 42.0 +4.3**
PB04 AML AML 03 15 43.3
comp=E,905nm,0.3s
MACH **Maria Elena** **2.15 199** *iP* **Pn** **03 15 10.8 -0.1**
CEN1 **Los Morros** **3.40 199** ↑*iP* **Pn** **03 15 28.9 +1.9**
CEN1 *iS* **Sn** **03 16 09.4 +2.4**
CEN1 AML AML 03 16 10.9
comp=N,227nm,0.1s
PB10 **Plate Boundary** **3.64 203** AML AML 03 16 29.6
comp=E,653nm,0.6s
ANCH **Antofagasta** **3.74 200** ↓*iP* **Pn** **03 15 29.8 -1.7**
ANCH *iS* **Sn** **03 16 11.6 -3.3**
ANCH AML AML 03 16 13.8
comp=N,535nm,0.1s
LPAZ **La Paz** **3.94 12** P Pn 03 15 38.5 +3.7
comp=N,14nm,0.3s,baz=199,slow=6.1,SNR=580
SIV **San Ignacio** **8.61 62** P **Pn** **03 16 36.5 -0.6**
comp=N,1.7nm,0.3s,baz=268,slow=9.5,SNR=16
SIV S **Sn** **03 18 10.2 -2.3**
comp=N,0.2nm,0.3s,baz=339,slow=20,SNR=4.2
CPUP **Villa Florida** **12.36 122** P **Pn** **03 17 27.0 -0.3**
comp=N,1.7nm,0.3s,baz=284,slow=11,SNR=12
H03N1 **Juan Fernandez** **15.90 212** T T 03 33 52.1
baz=32,slow=0.7,SNR=8.6
H03N2 **Juan Fernandez** **15.91 212** T T 03 33 45.0
baz=32
H03N3 **Juan Fernandez** **15.92 212** T T 03 33 53.3
baz=32,slow=0.7,SNR=9.3
BDFB **Brasilia** **20.47 81** P **P** **03 19 04.8 +1.0**
comp=N,2.2nm,0.5s,baz=265,slow=16,SNR=5.6
PLCA **Paso Flores** **20.55 183** P Pn 03 19 08.3 +0.5
comp=N,1.7nm,0.7s,baz=353,slow=8.1,SNR=2.9
TORD **Torodi Ar. Bea** **76.99 71** P **P** **03 26 15.6 +0.1**
comp=N,0.4nm,0.3s,baz=259,slow=5.4,SNR=16
H11S2 **WAKE ISLAND Hy** **27.61 278** T T 05 53 21.4
baz=104,slow=0.7,SNR=11
H11S1 **WAKE ISLAND Hy** **27.62 278** T T 05 53 22.8
baz=104,slow=0.7,SNR=18
H11S3 **WAKE ISLAND Hy** **27.63 278** T T 05 53 16.0
baz=104,slow=0.7,SNR=10
H11N3 **WAKE ISLAND Hy** **27.66 280** T T 05 53 27.1
baz=105,slow=0.7,SNR=27
H11N2 **WAKE ISLAND Hy** **27.67 280** T T 05 53 26.3
baz=105,slow=0.7,SNR=20
H11N1 **WAKE ISLAND Hy** **27.67 280** T T 05 53 28.6
baz=105,slow=0.7,SNR=23

IDC 08 03:14:50.8±2.5, 13°33S×166°22E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/17, mbtmp3.7/4, Error ellipse: s-maj=121.5km s-min=29.3km az=136.0, Vanuatu Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
STKA **Stephens Creek** **29.17 227** P P 03 20 54.2 +0.3
0.9nm,0.4s,baz=44,slow=12,SNR=4.2
WRA **Warramunga Arr** **31.21 254** P P 03 21 12.3 +0.1

0.7nm,0.6s,baz=86,slow=9.6,SNR=3.2
ASAR Alice Springs 32.26 247 P P 03 21 21.1 -0.3
0.3nm,0.6s,baz=74,slow=9.9,SNR=3.1
ILAR Eielson Array 85.52 18 P P 03 27 30.4 +0.1
0.3nm,0.5s,baz=227,slow=5.6,SNR=5.7
KEST Kesra 149.49 321 PKPbc PKPbc 03 34 42.0 -0.7
0.4nm,0.6s,baz=10,slow=3.6,SNR=3.5

MEX 08 03:17:23.7±0.9, 16.67N×99.70W, h7km±5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.25**	**323**	*eP*			Pg	03 17 28.9	+0.3
ACX				*i* S			Sg	03 17 32.7	+0.7
CAIG	**El Cayaco**	**0.66**	**305**	*eP*			Pg	03 17 35.3	-1.1
CAIG				*eS*			Sg	03 17 44.0	-1.0
MEIG	**Mezcala**	**1.25**	**4**	*eP*			Pn	03 17 43.5	-4.2
MEIG				*i* S			Sb	03 17 59.0	-5.1
PNIG	**Pinotepa**	**1.54**	**100**	*i* P			Pn	03 17 48.3	-3.2
PNIG				*i* S			Sn	03 18 06.2	-5.6
ARIG	**Puente Sto Nin**	**1.71**	**339**	*i* P			Pn	03 17 51.1	-2.9
ARIG				*i* S			Sn	03 18 12.0	-4.2
PLIG	**Platanillo**	**1.72**	**6**	*i* P			Pn	03 17 50.9	-3.3
PLIG				*i* S			Sn	03 18 12.2	-4.3
YAIG	**Yautepec**	**2.26**	**15**	*eP*			Pn	03 17 57.7	-4.0
YAIG				*i* S			Sn	03 18 25.6	-4.4
PPM	**Popocatepetl**	**2.59**	**23**	*i* P			Pn	03 18 05.7	-1.0
PPM				*i* S			Sn	03 18 33.6	-5.3

IDC 08 03:20:37.3±1.2, 5.27N×124.47E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/24, mbtmp3.8/4, Error ellipse: s-maj=82.6km s-min=23.4km az=70.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.87**	**159**	P			P	03 26 20.6	+0.6
1.4nm,0.3s,baz=337,slow=9.4,SNR=11									
ASAR	**Alice Springs**	**30.20**	**163**	P			P	03 26 49.0	-0.7
0.6nm,0.6s,baz=339,slow=7.5,SNR=8.2									
MKAR	**Makanchi Array**	**55.02**	**326**	P			P	03 30 10.7	0.0
0.5nm,0.3s,baz=126,slow=7.6,SNR=8.5									
ILAR	**Eielson Array**	**84.69**	**25**	P			P	03 33 12.7	-0.2
0.2nm,0.6s,baz=245,slow=4.9,SNR=5.1									

IDC 08 03:26:17.7±3.2, 11.72S×166.13E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.7/18, mbtmp3.9/4, ML3.7/1, MS4.4/1, Ms1 4.4/1, ms1mx3.9/39, Error ellipse: s-maj=67.6km s-min=43.2km az=88.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.30**	**178**	Pn			Pn	03 28 46.9	0.0
0.6nm,0.3s,baz=336,slow=20,SNR=5.6									
RAO	**Raoul Island**	**22.92**	**142**	LR			LR	03 37 46.0	
comp=Z,824nm,18.4s,baz=87,slow=30									
WRA	**Warramunga Arr**	**31.62**	**251**	P			P	03 32 43.0	+0.4
0.7nm,0.7s,baz=81,slow=9.3,SNR=5.2									
ASAR	**Alice Springs**	**32.84**	**244**	P			P	03 32 53.0	-0.4
1.3nm,0.7s,baz=72,slow=8.9,SNR=12									
MKAR	**Makanchi Array**	**94.27**	**317**	P			P	03 39 39.0	-0.1
0.5nm,0.6s,baz=98,slow=7.5,SNR=6.1									

IDC 08 03:29:07.5±2.4, 11.88S×166.25E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/18, mbtmp3.9/5, MS3.7/1, Ms1 3.7/1, ms1mx3.6/37, Error ellipse: s-maj=101.8km s-min=28.0km az=132.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.19**	**225**	P			P	03 35 19.8	+0.1
2.8nm,0.8s,baz=44,slow=12,SNR=4.7									
WRA	**Warramunga Arr**	**31.67**	**251**	P			P	03 35 33.3	+0.3
0.7nm,0.5s,baz=85,slow=9.5,SNR=5.4									
ASAR	**Alice Springs**	**32.87**	**245**	P			P	03 35 43.0	-0.4
1.3nm,0.7s,baz=69,slow=9.5,SNR=4.7									
TGY	**Tagaytay City**	**51.80**	**299**	LR			LR	03 59 06.9	
comp=Z,68nm,19.8s,baz=100,slow=35									
ILAR	**Eielson Array**	**84.14**	**18**	P			P	03 41 40.2	+0.1
0.7nm,0.6s,baz=239,slow=5.1,SNR=10.0									
MKAR	**Makanchi Array**	**94.46**	**317**	P			P	03 42 29.4	-0.3
0.3nm,0.5s,baz=96,slow=7.5,SNR=2.6									

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*NEIC **08** 03:31:18.0, 32.71N×118.25W, h20km, ML3.7(PAS), After PAS.*
NEIC Felt [II] at Aliso Viejo, Irvine, Laguna Niguel and Newport Beach. Also felt at Avalon, Capistrano Beach, El Cajon, Garden Grove, Imperial Beach, La Jolla, Laguna Beach, Laguna Hills, Mission Viejo, Oceanside, Orange, San Clemente and San Diego.
*ECX **08** 03:31:18.0±0.7, 32.69N×118.24W, h16km, MD3.7, ML3.6*
ISC 08 03:31:16.7±1.4, 32.71N±0.04×118.22W±0.03, h12km±10km, n51, σ1§06/84, 27C-28D, Off coast of California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SCI	**San Clemente I**	**0.39**	**314**	⇑P			**Pb**	**03 31 25.4**	**-0.1**
SCI				⇓S			**Sb**	**03 31 31.2**	**-0.3**
baz=0.4,SNR=370									
CIS	**Catalina Islan**	**0.71**	**347**	⇓P			**Pg**	**03 31 30.7**	**+0.1**
baz=0.7,SNR=323									
CIS				⇓S			**Sg**	**03 31 39.6**	**-0.4**
baz=0.7									
109C	**Camp Elliot, M**	**0.95**	**79**	P			**Pg**	**03 31 35.2**	**+0.1**
baz=1.0,SNR=80									
109C				⇑S			**Sb**	**03 31 48.1**	**+0.4**
baz=1.0									
FMP	**Fort Macarthur**	**1.00**	**356**	⇓P			**Pb**	**03 31 35.7**	**-0.4**
baz=1.0,SNR=21									
FMP				⇑S			**Sb**	**03 31 48.8**	**-0.5**
baz=1.0									
DPP	**Dos Picos Cty**	**1.11**	**75**	⇑*i*P			**Pb**	**03 31 37.5**	**-0.4**
EML	**El Monte Cty P**	**1.17**	**81**	⇑*i*P			**Pb**	**03 31 38.2**	**-0.6**
MURC	**Murrieta**	**1.23**	**43**	⇑P			**Pn**	**03 31 39.0**	**-0.8**
baz=1.3,SNR=28									
MURC				⇑S			**Sb**	**03 31 55.4**	**-0.4**
baz=1.3									
BAR	**Barrett**	**1.30**	**91**	⇑*i*P			**Pn**	**03 31 40.3**	**-0.5**
BAR	**Barrett**	**1.30**	**91**	*e*Pn			**Pn**	**03 31 40.2**	**-0.6**
BAR				*eS*			**Sb**	**03 31 57.4**	**-0.4**
CBX	**Cerro Bola**	**1.37**	**106**	⇑*eP*			**Pn**	**03 31 41.7**	**-0.1**
CBX				*eS*			**Sn**	**03 31 59.4**	**-0.5**
CBX				⇓*e*				03 32 04.9	
comp=E,1μm,0.6s									
MWC	**Mount Wilson**	**1.52**	**5**	*e*Pn			**Pn**	**03 31 43.2**	**-0.7**
MWC				*eS*			**Sn**	**03 32 03.5**	**-0.1**
MONP	**Monument Peak**	**1.52**	**83**	⇑P			**Pn**	**03 31 43.7**	**-0.2**
baz=1.5,SNR=58									
MONP				⇓S			**Sn**	**03 32 03.5**	**-0.3**
baz=1.5									
DECC	**Green Verdugo**	**1.54**	**356**	⇑P			**Pn**	**03 31 43.8**	**-0.3**
baz=1.5,SNR=7.5									
DECC				⇓S			**Sn**	**03 32 02.3**	**-1.7**
baz=1.5									
BLG	**Laguna Peak**	**1.57**	**333**	⇓P			**Pn**	**03 31 44.3**	**-0.1**
baz=1.6,SNR=29									
BLG				⇓S			**Sn**	**03 32 03.9**	**-0.8**
baz=1.6									
PBX	**Punta Banda**	**1.59**	**127**	⇓*i*P			**Pn**	**03 31 44.5**	**-0.2**
PBX				*eP*			**Pn**	**03 31 44.5**	**-0.2**
PBX				*eS*			**Sn**	**03 32 05.6**	**+0.5**
BFSC	**Mount Baldy Ra**	**1.60**	**17**	⇓P			**Pn**	**03 31 44.7**	**-0.2**
baz=1.6,SNR=164									
BFSC				⇓S			**Sn**	**03 32 04.2**	**-1.3**
baz=1.6									
PFO	**Pinyon Flat Ob**	**1.73**	**58**	*e*Pn			**Pn**	**03 31 47.0**	**+0.2**
PFO				*eS*			**Sn**	**03 32 09.7**	**+0.9**
PFO	**Pinyon Flat Ob**	**1.73**	**58**	⇑P			**Pn**	**03 31 46.9**	**+0.2**
baz=1.8,SNR=83									
PFO				⇓S			**Sn**	**03 32 08.5**	**-0.3**
baz=1.8									
DVTC	**Desert V Tower**	**1.78**	**91**	⇑P			**Pn**	**03 31 48.1**	**+0.6**
baz=1.8,SNR=16									
DVTC				⇓S			**Sn**	**03 32 10.9**	**+0.9**
baz=1.8									
RMX	**La Rumorosa**	**1.81**	**93**	⇑*eP*			**Pn**	**03 31 48.7**	**+0.9**
RMX				*eS*			**Sb**	**03 32 12.6**	**+0.1**
BBRC	**Big Bear Solar**	**1.89**	**35**	⇓P			**Pn**	**03 31 49.8**	**+0.8**
baz=1.9,SNR=14									
BBRC				⇓Sb			**Sb**	**03 32 15.4**	**+0.4**
baz=1.9									
OSI	**Osito Adit**	**1.95**	**348**	*e*Pn			**Pn**	**03 31 49.8**	**+0.1**
OSI				*eS*			**Sg**	**03 32 22.9**	**+3.4**
OSI	**Osito Adit**	**1.95**	**348**	⇓S			**Sn**	**03 32 13.4**	**-0.7**
baz=1.9									
ZAX	**El Zacaton**	**2.03**	**125**	*eP*			**Pn**	**03 31 51.5**	**+0.6**
SWSC	**Sam W. Stewart**	**2.05**	**83**	⇑P			**Pb**	**03 31 52.7**	**-1.2**
baz=2.1,SNR=39									
SWSC				⇓S			**Sn**	**03 32 17.2**	**+0.7**
baz=2.1									
RDX	**Rancho Dawling**	**2.08**	**111**	⇑*eP*			**Pn**	**03 31 52.0**	**+0.5**
RDX				⇑*e*				03 32 26.8	
comp=E,345nm,0.4s									
EDW2	**Edwards Air Fo**	**2.17**	**5**	⇑P			**Pn**	**03 31 53.6**	**+0.8**
baz=2.2,SNR=46									
EDW2				⇓S			**Sn**	**03 32 18.9**	**-0.8**
baz=2.2									
BELC	**Belle Mtn. Jos**	**2.26**	**55**	⇓P			**Pn**	**03 31 54.5**	**+0.5**
baz=2.3,SNR=81									
BELC				⇓Sb			**Sb**	**03 32 26.4**	**+0.9**
baz=2.3									
ARVC	**Arvin**	**2.47**	**348**	⇓P			**Pn**	**03 31 57.3**	**+0.6**
baz=2.5,SNR=43									
BC3	**Big Chuckawall**	**2.50**	**67**	⇓P			**Pn**	**03 31 57.6**	**+0.3**
baz=2.5,SNR=13									
PKM	**Peak Mountain**	**2.56**	**329**	⇑P			**Pn**	**03 31 58.9**	**+0.7**
baz=2.5									
LRMC	**Laurel Mountai**	**2.80**	**9**	⇓P			**Pn**	**03 32 02.0**	**+0.6**
baz=2.8,SNR=12									
LRMC				⇑S			**Sn**	**03 32 33.6**	**-1.5**
baz=2.8									
GSC	**Goldstone**	**2.84**	**24**	*e*Pn			**Pn**	**03 32 03.3**	**+1.3**
GSC				*eS*			**Sb**	**03 32 45.3**	**+3.2**
GSC	**Goldstone**	**2.84**	**24**	⇓P			**Pn**	**03 32 02.7**	**+0.7**
baz=2.9,SNR=26									
SPX	**San Pedro Mart**	**2.87**	**125**	⇓*eP*			**Pn**	**03 32 03.9**	**+1.3**
GLA	**Glamis**	**2.87**	**82**	*e*Pn			**Pn**	**03 32 02.7**	**+0.4**
GLA				*eS*			**Sg**	**03 32 47.2**	**-1.9**
GLA	**Glamis**	**2.87**	**82**	⇑P			**Pn**	**03 32 02.9**	**+0.5**
baz=2.9									
IRM	**Iron Mountain**	**2.94**	**60**	⇑P			**Pn**	**03 32 03.9**	**+0.5**
baz=3.0,SNR=11									
ISA	**Isabella**	**2.96**	**356**	*e*Pn			**Pn**	**03 32 04.4**	**+0.8**
ISA				*eS*			**Sn**	**03 32 40.6**	**+1.7**
ISA	**Isabella**	**2.96**	**356**	⇑P			**Pn**	**03 32 04.4**	**+0.8**
baz=3.0,SNR=7.5									
ISA				⇑S			**Sn**	**03 32 37.8**	**-1.2**
baz=3.0									
GMRC	**Granite Mounta**	**2.97**	**45**	⇑P			**Pn**	**03 32 04.6**	**+0.9**
baz=3.0,SNR=10									
GMRC				⇓Sb			**Sb**	**03 32 47.1**	**+1.2**
baz=3.0									
TUQ	**Turquoise Moun**	**3.32**	**34**	⇓P			**Pn**	**03 32 09.1**	**+0.5**
baz=3.3,SNR=17									
MPMC	**Manual Prospec**	**3.40**	**10**	⇑P			**Pn**	**03 32 10.1**	**+0.3**
baz=3.4,SNR=14									
LDFC	**Landfair**	**3.50**	**47**	*e*Pn			**Pn**	**03 32 11.6**	**+0.5**
LDFC				*eS*			**Sg**	**03 33 09.9**	**+0.7**
113A	**Mohawk Valley,**	**3.75**	**88**	⇑P			**Pn**	**03 32 15.6**	**+1.2**
baz=3.8									
SHPR	**Sheep Range**	**4.55**	**33**	*e*Pn			**Pn**	**03 32 27.5**	**+2.0**
SHPR				*eS*			**Sg**	**03 33 40.2**	**-2.6**
SAO	**San Andreas Ge**	**4.84**	**328**	*e*Pn			**Pn**	**03 32 29.5**	**+0.1**
SAO				*eS*			**Sn**	**03 33 23.3**	**-2.1**
CMB	**Columbia Colle**	**5.60**	**342**	*e*Pn			**Pn**	**03 32 41.0**	**+1.1**
CCUT	**Cedar City**	**6.26**	**38**	*e*Pn			**Pn**	**03 32 51.2**	**+2.1**
comp=E,3.0nm,0.8s									
WUAZ	**Wupatki**	**6.33**	**62**	*e*Pn			**Pn**	**03 32 51.5**	**+1.5**
ARUT	**Antelope Range**	**6.40**	**36**	*e*Pn			**Pn**	**03 32 49.4**	**-1.5**
comp=E,58nm,0.5s									
ARUT				*eS*			**Sg**	**03 34 41.2**	**-0.9**

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*TAP **08** 03:31:18.2, 24.80N×122.44E, h118km, ML3.6, C*
*ISCJB **08** 03:31:19.2±0.8, 24.73N±0.05×122.45E±0.02, h107km±6km, Error ellipse: s-maj=8.0km s-min=3.6km az=173.8*
*JMA **08** 03:31:19.3±0.2, 24.84N×122.49E, h107km, M2.3*
ISC 08 03:31:19.4±1.8, 24.74N±0.07×122.45E±0.03, h109km±12km, n29, σ0§60/55, 2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.50**	**303**	P			**Pn**	**03 31 36.0**	**0.0**
baz=289									
TWC	**Suao**	**0.56**	**257**	*i* P			**Pn**	**03 31 36.2**	**-0.3**
baz=247									
TWC				S			**Sn**	**03 31 49.4**	**0.0**
baz=247									
YOJ	**Yonaguni jima**	**0.58**	**118**	P			**Pn**	**03 31 36.7**	**0.0**
YOJ				*eS*			**Sn**	**03 31 49.9**	**+0.3**
NWF	**Wu-fen Shan**	**0.69**	**299**	P			**Pn**	**03 31 37.6**	**0.0**
baz=285									
NWF				S			**Sn**	**03 31 51.0**	**-0.4**
baz=285									
ENA	**Nanau**	**0.71**	**245**	⇓*i*P			**Pn**	**03 31 38.1**	**+0.4**
baz=237									
ENA				S			**Sn**	**03 31 52.2**	**+0.8**
baz=237									
ENTT	**Nioudou**	**0.81**	**263**	*i* P			**Pn**	**03 31 39.0**	**-0.4**
baz=261									
ENTT				S			**Sn**	**03 31 53.9**	**+0.8**
baz=261									
NSK	**Sanguang**	**0.99**	**267**	⇓*i*P			**Pn**	**03 31 40.6**	**+0.2**
baz=268									
NSK				S			**Sn**	**03 31 56.3**	**0.0**
baz=268									
TWS1	**Kuangyinshan**	**1.00**	**291**	*eP*			**Pn**	**03 31 40.3**	**-0.2**
baz=282									
TWS1				*eS*			**Sn**	**03 31 55.9**	**-0.5**
baz=282									
TWD	**Chiawan**	**1.01**	**230**	P			**Pn**	**03 31 40.3**	**-0.3**
baz=223									
TWD				S			**Sn**	**03 31 56.4**	**-0.2**
baz=223									
NNS	**Nan Shan**	**1.02**	**253**	P			**Pn**	**03 31 41.2**	**+0.4**
baz=244									
NNS				*eS*			**Sn**	**03 31 57.2**	**+0.2**
baz=244									
HWA	**Hwalien**	**1.08**	**226**	*eP*			**Pn**	**03 31 41.1**	**-0.2**
baz=216									
IRIF	**Iriomote-Funau**	**1.24**	**109**	P			**Pn**	**03 31 42.8**	**-0.2**
IRIF				*eS*			**Sn**	**03 32 00.9**	**0.0**
TWT	**Tachien**	**1.25**	**248**	*eP*			**Pn**	**03 31 43.6**	**-0.2**
baz=239									
TWT				S			**Sn**	**03 32 02.1**	**+0.5**
baz=239									
ESL	**Shilin**	**1.30**	**225**	*eP*			**Pn**	**03 31 43.1**	**-0.7**
baz=229									
ESL				*eS*			**Sn**	**03 32 01.0**	**-1.3**
baz=229									
NSTT	**Nanjuang**	**1.32**	**266**	*eP*			**Pn**	**03 31 43.8**	**-0.2**
baz=262									
NSTT				*eS*			**Sn**	**03 32 01.8**	**-0.8**
baz=262									
HATJ	**Hateruma jima**	**1.41**	**118**	P			**Pn**	**03 31 45.4**	**+0.4**
HATJ				*eS*			**Sn**	**03 32 05.3**	**+0.8**
JKRS	**Kuro-shima**	**1.51**	**109**	P			**Pn**	**03 31 46.4**	**+0.2**
JKRS				*eS*			**Sn**	**03 32 06.6**	**0.0**
TWQ1	**Liyutan**	**1.57**	**256**	*eP*			**Pn**	**03 31 46.1**	**-0.9**
baz=253									
TWQ1				*eS*			**Sn**	**03 32 07.7**	**-0.3**
baz=253									
JIJ	**Ishigaki jima**	**1.59**	**103**	P			**Pn**	**03 31 47.0**	**-0.2**
JIJ				*eS*			**Sn**	**03 32 07.4**	**-0.9**
EHY	**Hungye**	**1.60**	**220**	*eP*			**Pn**	**03 31 47.3**	**0.0**
baz=225									
SMLT	**Sun Moon Lake**	**1.65**	**239**	P			**Pn**	**03 31 48.7**	**+0.7**
baz=233									
SMLT				*eS*			**Sn**	**03 32 09.8**	**0.0**
baz=233									
TYC	**Yuchr**	**1.67**	**241**	P			**Pn**	**03 31 49.0**	**+0.8**
baz=235									
TYC				*eS*			**Sn**	**03 32 10.7**	**+0.6**
baz=235									
TWF1	**Yuli**	**1.73**	**218**	*eP*			**Pn**	**03 31 48.6**	**-0.4**
baz=222									
TWF1				*eS*			**Sn**	**03 32 10.0**	**-1.5**
baz=222									
YUS	**Yu-Shan**	**1.85**	**228**	*eP*			**Pn**	**03 31 51.4**	**+0.5**
baz=220									
YUS				*eS*			**Sn**	**03 32 14.7**	**-0.1**
baz=220									
CHN5	**Tsauling**	**1.97**	**235**	*eP*			**Pn**	**03 31 52.4**	**+0.3**
baz=241									
CHN5				*eS*			**Sn**	**03 32 17.5**	**+0.5**
baz=241									
ELDTW	**Lidau**	**2.02**	**221**	*eP*			**Pn**	**03 31 52.5**	**-0.2**
baz=218									
ELDTW				*eS*			**Sn**	**03 32 16.6**	**-1.6**
baz=218									
JTJ	**Tarama**	**2.05**	**92**	P			**Pn**	**03 31 53.5**	**+0.5**
JTJ				*eS*			**Sn**	**03 32 18.0**	**-0.7**
WTP	**Ta-pu**	**2.24**	**229**	*eP*			**Pn**	**03 31 55.4**	**0.0**
baz=238									
WTP				*eS*			**Sn**	**03 32 24.4**	**+1.4**
baz=238									
CHN1	**Nanshi**	**2.34**	**229**	*eP*			**Pn**	**03 31 57.4**	**+0.7**
baz=227									
CHN1				*eS*			**Sn**	**03 32 25.5**	**+0.2**
baz=227									

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*IDC **08** 03:33:15.5±0.8, 12.09S×166.15E, h0km, mb4.1/10, mb1 4.3/12, mb1mx4.1/21, mbtmp4.2/12, ML4.4/2, Error ellipse: s-maj=27.7km s-min=20.0km az=110.0*
*ISCJB **08** 03:33:18.8±0.8, 12.10S±0.09×166.0E±0.1, h30km, mb4.2/12, Error ellipse: s-maj=18.5km s-min=12.0km az=160.6*
*NEIC **08** 03:33:21.3±0.6, 12.05S×166.04E, h35km, mb4.5/2, Error ellipse: s-maj=16.1km s-min=11.4km az=83.0*
ISC 08 03:33:20.5±0.7, 12.04S±0.09×166.1E±0.1, h30km, n38, σ1§11/40, mb4.2/12, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.55**	**293**	Pn			**Pn**	**03 34 56.0**	**+1.1**
HNR	**Honiara**	**6.55**	**293**	Pn			**Pn**	**03 34 56.0**	**+1.1**
18nm,0.3s,baz=342,slow=3.2,SNR=3.6									
DZM	**Mont Dzumac**	**9.98**	**178**	Pn			**Pn**	**03 35 41.7**	**-0.4**
DZM	**Mont Dzumac**	**9.98**	**178**	Pn			**Pn**	**03 35 41.7**	**-0.4**
1.1nm,0.3s,baz=39,slow=18,SNR=5.5									
CTA	**Charters Tower**	**20.64**	**245**	P			**P**	**03 37 56.0**	**-1.9**
CTA	**Charters Tower**	**20.64**	**245**	P			**P**	**03 37 56.0**	**-1.9**
2.4nm,0.6s,baz=64,slow=11,SNR=4.2									
ARMA	**Armidale**	**22.66**	**214**	*eP*			**P**	**03 38 19.9**	**+0.3**
13nm,0.9s									
STKA	**Stephens Creek**	**29.95**	**225**	P			**P**	**03 39 26.8**	**+0.5**
STKA	**Stephens Creek**	**29.95**	**225**	P			**P**	**03 39 26.8**	**+0.5**
1.5nm,0.6s,baz=66,slow=9.1,SNR=4.7									
WRA	**Warramunga Arr**	**31.45**	**251**	P			**P**	**03 39 38.6**	**-1.1**
WRA	**Warramunga Arr**	**31.45**	**251**	P			**P**	**03 39 38.6**	**-1.1**
1.4nm,0.6s,baz=83,slow=9.0,SNR=5.7									
RPZ	**Rata Peaks**	**31.85**	**173**	P			**P**	**03 39 44.9**	**+2.0**
RPZ	**Rata Peaks**	**31.85**	**173**	P			**P**	**03 39 44.9**	**+2.0**
14nm,0.7s,baz=228,slow=3.6,SNR=7.8									
ASAR	**Alice Springs**	**32.64**	**245**	P			**P**	**03 39 48.9**	**-1.3**
ASAR				PcP			**PcP**	**03 42 36.2**	**+0.3**
ASAR	**Alice Springs**	**32.64**	**245**	P			**P**	**03 39 48.9**	**-1.3**
2.4nm,0.7s,baz=71,slow=9.8,SNR=16									
ASAR				PcP			**PcP**	**03 42 36.2**	**+0.3**
1.0nm,0.9s,baz=80,slow=2.5,SNR=4.1									
VNDA	**Vanda**	**65.51**	**181**	P			**P**	**03 43 59.3**	**-1.2**
VNDA	**Vanda**	**65.51**	**181**	P			**P**	**03 43 59.3**	**-1.2**
0.7nm,0.6s,baz=18,slow=3.2,SNR=2.3									
CMAR	**Chiang Mai Arr**	**72.80**	**294**	P			**P**	**03 44 47.9**	**+1.1**
CMAR	**Chiang Mai Arr**	**72.80**	**294**	P			**P**	**03 44 47.9**	**+1.1**
2.3nm,0.7s,baz=133,slow=6.3,SNR=9.8									
QSPA	**South Pole Qui**	**77.97**	**180**	*eP*			**P**	**03 45 16.6**	**+0.8**
5.9nm,0.9s									
SONM	**Songino Array**	**79.66**	**324**	P			**P**	**03 45 26.1**	**+0.7**
SONM	**Songino Array**	**79.66**	**324**	P			**P**	**03 45 26.1**	**+0.7**
0.9nm,0.6s,baz=141,slow=5.7,SNR=6.5									
ILAR	**Eielson Array**	**84.35**	**18**	P			**P**	**03 45 47.8**	**-1.7**
ILAR	**Eielson Array**	**84.35**	**18**	P			**P**	**03 45 47.8**	**-1.7**
0.4nm,0.7s,baz=206,slow=5.5,SNR=3.2									
MKAR	**Makanchi Array**	**94.46**	**317**	P			**P**	**03 46 37.9**	**0.0**
MKAR	**Makanchi Array**	**94.46**	**317**	P			**P**	**03 46 37.9**	**0.0**
1.2nm,0.6s,baz=97,slow=5.9,SNR=11									
ZALV	**Zalesovo Beam**	**94.55**	**324**	P			**P**	**03 46 36.9**	**-1.2**
ZALV	**Zalesovo Beam**	**94.55**	**324**	P			**P**	**03 46 36.9**	**-1.2**
0.7nm,0.3s,baz=100,slow=6.2,SNR=5.2									
ARCES	**ARCESS Array B**	**117.38**	**345**	PKP			**PKPdf**	**03 52 01.9**	**-0.7**
ARCES	**ARCESS Array B**	**117.38**	**345**	PKP			**PKPdf**	**03 52 01.9**	**-0.7**
1.4nm,0.6s,baz=38,slow=4.6,SNR=6.0									
BRTR	**Keskin Array B**	**129.87**	**312**	PKP			**PKPdf**	**03 52 29.1**	**+1.4**
BRTR	**Keskin Array B**	**129.87**	**312**	PKP			**PKPdf**	**03 52 29.1**	**+1.4**
0.4nm,0.6s,baz=3.8,slow=4.3,SNR=3.2									
KEST	**Kesra**	**148.40**	**322**	PKPbc			**PKPbc**	**03 53 04.6**	**-0.1**
KEST	**Kesra**	**148.40**	**322**	PKPbc			**PKPbc**	**03 53 04.6**	**-0.1**
2.7nm,0.7s,baz=75,slow=0.8,SNR=12									
ESDC	**Sonseca Array**	**151.10**	**344**	PKPab			**PKPab**	**03 53 18.5**	**-0.2**
ESDC	**Sonseca Array**	**151.10**	**344**	PKPab			**PKPab**	**03 53 18.5**	**-0.2**
1.2n

ellipse: s-maj=27.1km s-min=23.3km az=116.0
*ISCJB **08** 03:40:14.6±0.9, 11°.6S×0°.1×166°.0E±0°.1, h37km, mb4.1/11, Error ellipse: s-maj=18.0km s-min=14.0km az=153.8*
*NEIC **08** 03:40:16.6±0.8, 11°.54S×165°.97E, h35km, mb4.4/2, Error ellipse: s-maj=15.8km s-min=15.0km az=90.0*

ISC 08 03:40:16.0±0.9, 11°.5S±0°.1×166°.1E±0°.1, h37km, n28, s0878/26, mb4.2/11, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.36**	**288**		Pn		**Pn**	**03 41 47.6**	**+0.4**
HNR	**Honiara**	**6.36**	**288**		Pn		**Pn**	**03 41 47.6**	**+0.4**
	46nm,0.3s,baz=152,slow=6.6,SNR=5.3								
DZM	**Mont Dzumac**	**10.53**	**178**	Pn			**Pn**	**03 42 45.1**	**+0.6**
DZM	**Mont Dzumac**	**10.53**	**178**	Pn			**Pn**	**03 42 45.1**	**+0.6**
	3.8nm,0.3s,baz=360,slow=16,SNR=24								
CTA	**Charters Tower**	**20.88**	**243**	P			**P**	**03 44 56.1**	**+1.0**
CTA	**Charters Tower**	**20.88**	**243**	P			**P**	**03 44 56.1**	**+1.0**
	7.0nm,0.7s,baz=72,slow=10,SNR=5.2								
CTAO	**Charters Tower**	**20.88**	**243**	*e*P			**P**	**03 44 56.1**	**+1.0**
	10nm,0.8s								
STKA	**Stephens Creek**	**30.34**	**224**	P			**P**	**03 46 24.3**	**0.0**
STKA	**Stephens Creek**	**30.34**	**224**	P			**P**	**03 46 24.3**	**0.0**
	0.9nm,0.5s,baz=92,slow=13,SNR=2.8								
WRAB	**Tennant Creek**	**31.62**	**251**	*e*P			**P**	**03 46 34.8**	**-0.9**
	8.1nm,1.0s								
WRA	**Warramunga Arr**	**31.64**	**251**	P			**P**	**03 46 35.2**	**-0.6**
WRA	**Warramunga Arr**	**31.64**	**251**	P			**P**	**03 46 35.2**	**-0.6**
	5.3nm,1.0s,baz=80,slow=8.3,SNR=15								
ASAR	**Alice Springs**	**32.88**	**244**	P			**P**	**03 46 45.4**	**-1.4**
ASAR	**Alice Springs**	**32.88**	**244**	P			**P**	**03 46 45.4**	**-1.4**
	5.1nm,0.7s,baz=71,slow=9.5,SNR=34								
FITZ	**Fitzroy Crossi**	**39.58**	**256**	P			**P**	**03 47 42.7**	**-1.4**
FITZ	**Fitzroy Crossi**	**39.58**	**256**	P			**P**	**03 47 42.7**	**-1.4**
	2.7nm,0.6s,baz=109,slow=11,SNR=8.9								
VNDA	**Vanda**	**66.06**	**181**	P			**P**	**03 50 58.0**	**-0.6**
VNDA	**Vanda**	**66.06**	**181**	P			**P**	**03 50 58.0**	**-0.6**
	1.0nm,0.8s,baz=339,slow=3.8,SNR=4.6								
QSPA	**South Pole Qui**	**78.52**	**180**	P			**P**	**03 52 13.3**	**0.0**
QSPA	**South Pole Qui**	**78.52**	**180**	P			**P**	**03 52 13.3**	**0.0**
	7.0nm,1.1s,baz=57,slow=1.5,SNR=15								
SONM	**Songino Array**	**79.21**	**324**	P			**P**	**03 52 17.5**	**+0.1**
SONM	**Songino Array**	**79.21**	**324**	P			**P**	**03 52 17.5**	**+0.1**
	0.5nm,0.6s,baz=142,slow=7.3,SNR=2.6								
ILAR	**Eielson Array**	**83.83**	**18**	P			**P**	**03 52 41.5**	**+0.2**
ILAR	**Eielson Array**	**83.83**	**18**	P			**P**	**03 52 41.5**	**+0.2**
	0.3nm,0.5s,baz=247,slow=4.8,SNR=6.9								
NVAR	**Mina Array Bea**	**86.06**	**50**	P			P	03 52 57.5	+4.1
NVAR	**Mina Array Bea**	**86.06**	**50**	P			P	03 52 57.5	+4.1
	0.5nm,0.8s,baz=228,slow=7.8,SNR=4.4								
MKAR	**Makanchi Array**	**94.06**	**317**	P			**P**	**03 53 30.6**	**0.0**
MKAR	**Makanchi Array**	**94.06**	**317**	P			**P**	**03 53 30.6**	**0.0**
	1.2nm,0.7s,baz=95,slow=6.4,SNR=11								

*IDC **08** 03:40:49.0±0.5, 12°.74S×166°.09E, h0km, mb4.6/20, mb1 4.8/21, mb1mx4.7/24, mbtmp4.7/21, ML5.3/1, Error ellipse: s-maj=18.7km s-min=13.2km az=102.0*
*ISCJB **08** 03:40:51.7±0.3, 12°.74S±0°.04×165°.91E±0°.05, h20km, mb4.9/47, MS5.2/5, Error ellipse: s-maj=7.4km s-min=6.0km az=164.5*
*AUST **08** 03:40:53.7, 12°.95S×165°.94E, h5km*
*MOS **08** 03:40:53.8±1.0, 12°.77S×165°.77E, h33km, mb5.0/24, Error ellipse: s-maj=11.3km s-min=9.0km az=14.8*
*NEIC **08** 03:40:54.9±0.3, 12°.71S×165°.90E, h35km, mb5.1/18, Error ellipse: s-maj=8.9km s-min=8.1km az=122.0*
*BJI **08** 03:40:57.7, 11°.96S×165°.73E, h35km, mB5.7/21, mb4.9/40, Ms5.4/21, Ms7 5.1/21*
*DJA **08** 03:41:01.2±4.8, 13°.S±20°×16°.6E±2°.1, h86km±34km, M5.0/12, mB5.7/4, mb4.9/12, Mw(mB)5.3/4*

ISC 08 03:40:52.7±0.4, 12°.78S±0°.06×166°.03E±0°.07, h20km, n161, s1872/186, mb4.9/47, MS5.1/7, 3C-1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.83**	**298**		Pn		**Pn**	**03 42 32.4**	**+0.4**
HNR					Sn		**Sn**	**03 43 48.6**	**-0.6**
HNR	**Honiara**	**6.83**	**298**		Pn		**Pn**	**03 42 32.3**	**+0.4**
	52nm,0.3s,baz=189,slow=4.2,SNR=9.1								
HNR					Sn		**Sn**	**03 43 48.6**	**-0.6**
	34nm,0.3s,baz=189,slow=19,SNR=2.2								
MSVF	**Nonsavu**	**12.60**	**115**	*e*P			Pn	03 43 56.6	+5.6
MSVF	**Nonsavu**	**12.60**	**115**	*e*Pn			Pn	03 43 56.6	+5.6
EIDS	**Eidsvold**	**18.86**	**226**	*e*Pn			**P**	**03 45 12.6**	**+0.8**
	364nm,2.1s								
EIDS	**Eidsvold**	**18.86**	**226**	P			**Pn**	**03 45 14.2**	**+1.9**
	baz=19,SNR=12								
CTA	**Charters Tower**	**20.30**	**246**	P			**P**	**03 45 28.6**	**+1.0**
CTA	**Charters Tower**	**20.30**	**246**	P			**P**	**03 45 28.6**	**+1.0**
	29nm,0.9s,baz=73,slow=14,SNR=22								
CTAO	**Charters Tower**	**20.30**	**246**	*e*P			**P**	**03 45 26.6**	**-1.0**
CTAO					pmax		pmax		
	comp=Z,92nm,1.2s								
CTAO	**Charters Tower**	**20.30**	**246**	*e*P			**P**	**03 45 26.6**	**-1.0**
	comp=Z,92nm,1.2s								
PATS	**Pohnpei**	**20.94**	**338**	P			Pn	03 45 40.2	+3.1
	baz=21,SNR=3.6								
RMQ	**Roma**	**21.19**	**227**	P			**P**	**03 45 39.5**	**+2.4**
	baz=21,SNR=29								
AFI	**Afiamalu**	**21.62**	**96**	*e*P			P	03 45 47.6	+5.7
	comp=Z,171nm,1.6s								
ARMA	**Armidale**	**22.04**	**215**	*e*P			**P**	**03 45 47.0**	**+0.7**
	comp=Z,64nm,0.9s								
ARMA	**Armidale**	**22.04**	**215**	P			**P**	**03 45 48.6**	**+2.3**
	baz=22,SNR=9.2								
COEN	**Coen**	**22.27**	**264**	*e*P			**P**	**03 45 49.2**	**+0.4**
	comp=Z,275nm,1.0s								
COEN	**Coen**	**22.27**	**264**	P			**P**	**03 45 49.9**	**+1.0**
	baz=22,SNR=6.8								
OUZ	**Omahuta**	**23.37**	**164**	*e*P			**P**	**03 46 01.8**	**+1.7**
	comp=Z,76nm,1.3s								
QLP	**Quilpie**	**24.64**	**233**	P			**P**	**03 46 12.6**	**+0.5**
	baz=24,SNR=7.5								
CMSA	**Cobar Meteorol**	**26.44**	**222**	P			**P**	**03 46 29.5**	**+1.1**
	baz=26,SNR=6.2								
YNG	**Young**	**26.76**	**214**	P			**P**	**03 46 33.4**	**+2.1**
	baz=27,SNR=6.8								
CNB	**Canberra Magne**	**27.03**	**211**	P			**P**	**03 46 35.9**	**+2.1**
	baz=27,SNR=4.3								
BKZ	**Black Stump Fm**	**27.87**	**162**	*e*P			**P**	**03 46 41.9**	**+0.6**
	comp=Z,131nm,2.0s								
STKA	**Stephens Creek**	**29.41**	**226**	*e*P			**P**	**03 46 55.5**	**+0.5**
	comp=Z,12nm,1.0s								
STKA	**Stephens Creek**	**29.41**	**226**	P			**P**	**03 46 55.8**	**+0.8**
	baz=29,SNR=24								
STKA	**Stephens Creek**	**29.41**	**226**	P			**P**	**03 46 56.1**	**+1.1**
	comp=Z,32nm,0.8s,baz=40,slow=7.6,SNR=44								
TOO	**Toolangi**	**30.77**	**213**	P			**P**	**03 47 08.1**	**+1.2**
	baz=31,SNR=5.3								
RPZ	**Rata Peaks**	**31.13**	**173**	*e*P			**P**	**03 47 10.7**	**+0.6**
RPZ	**Rata Peaks**	**31.13**	**173**	P			**P**	**03 47 09.9**	**-0.2**
	comp=Z,43nm,0.8s,baz=14,slow=1.6,SNR=14								
WRAB	**Tennant Creek**	**31.18**	**253**	*e*P			**P**	**03 47 09.1**	**-1.7**
WRAB					pmax		pmax		
	comp=Z,50nm,1.8s								
WRAB	**Tennant Creek**	**31.18**	**253**	*e*P			**P**	**03 47 09.1**	**-1.7**
	comp=Z,50nm,1.8s								
WRA	**Warramunga Arr**	**31.20**	**253**	P			**P**	**03 47 10.5**	**-0.4**
WRA	**Warramunga Arr**	**31.20**	**253**	P			**P**	**03 47 10.5**	**-0.4**
	comp=Z,8.4nm,0.9s,baz=82,slow=8.9,SNR=10								
ASAR	**Alice Springs**	**32.31**	**246**	P			**P**	**03 47 19.1**	**-1.6**
ASAR	**Alice Springs**	**32.31**	**246**	P			**P**	**03 47 19.1**	**-1.6**
	comp=Z,12nm,0.8s,baz=74,slow=9.5,SNR=25								
BBOO	**Buckleboo**	**33.88**	**229**	*e*P			**P**	**03 47 33.9**	**-0.5**
	comp=Z,1μm,1.2s								
BBOO	**Buckleboo**	**33.88**	**229**	P			**P**	**03 47 34.2**	**-0.1**
	baz=34,SNR=8.0								
KNRA	**Kununurra**	**36.21**	**261**	P			**P**	**03 47 54.1**	**-0.5**
	baz=36,SNR=11								
FITZ	**Fitzroy Crossi**	**39.24**	**257**	*e*P			**P**	**03 48 19.4**	**-0.7**
FITZ	**Fitzroy Crossi**	**39.24**	**257**	P			**P**	**03 48 20.2**	**+0.1**
	baz=39,SNR=13								
FITZ	**Fitzroy Crossi**	**39.24**	**257**	P			**P**	**03 48 19.2**	**-0.9**
	comp=Z,43nm,1.1s,baz=93,slow=9.9,SNR=16								
MBWA	**Marble Bar**	**44.93**	**253**	*e*P			**P**	**03 49 06.9**	**+0.2**
	comp=Z,29nm,1.0s								
MEEK	**Meekatharra**	**46.46**	**245**	P			**P**	**03 49 19.4**	**+0.6**
	baz=46,SNR=8.1								
KLBR	**Kellerberrin**	**48.04**	**239**	P			**P**	**03 49 30.9**	**0.0**
	baz=48,SNR=6.8								
NWAO	**Narrogin (SRO)**	**48.75**	**237**	P			**P**	**03 49 34.9**	**-1.5**
NWAO	**Narrogin (SRO)**	**48.75**	**237**	P			**P**	**03 49 34.9**	**-1.5**
	comp=Z,21nm,0.9s,baz=94,slow=6.8,SNR=5.7								
MORW	**Morawa**	**49.06**	**243**	P			**P**	**03 49 38.5**	**-0.4**
	baz=49,SNR=6.7								
MJAR	**Matsushiro Arr**	**55.63**	**333**	P			**P**	**03 50 26.4**	**-1.0**
MJAR	**Matsushiro Arr**	**55.63**	**333**	P			**P**	**03 50 26.4**	**-1.0**
	comp=Z,3.0nm,0.8s,baz=175,slow=7.7,SNR=5.6								
ASAJ	**Asahikawa**	**60.51**	**341**	*e*P			**P**	**03 51 00.8**	**-0.6**
	comp=Z,8.4nm,0.8s								
ASAJ	**Asahikawa**	**60.51**	**341**	P			**P**	**03 51 01.0**	**-0.4**
	comp=Z,15nm,0.6s,baz=203,slow=10,SNR=18								
KSRS	**Korea Array**	**61.46**	**326**	P			**P**	**03 51 08.6**	**+0.7**
	comp=Z,2.3nm,0.8s,baz=137,slow=5.8,SNR=5.0								
KSAR	**Wonju Array Be**	**61.47**	**326**	P			**P**	**03 51 08.6**	**+0.6**
YSS	**Yuzh-Sakhalins**	**63.01**	**342**	⇓*i*P			**P**	**03 51 18.5**	**+0.3**
NJ2	**Nanjing**	**63.45**	**316**	*e*P			**P**	**03 51 21.6**	**+0.2**
NJ2					AMB		AMB		
	comp=Z,20nm,0.9s								
QIZ	**Qiongzhong**	**63.75**	**299**	P			**P**	**03 51 24.3**	**+0.7**
QIZ					S		**S**	**03 59 56.7**	**-1.0**
QIZ					AMB		AMB		
	comp=Z,12nm,1.4s								
USRK	**Ussuriysk Arra**	**64.61**	**334**	P			**P**	**03 51 29.2**	**+0.4**
	comp=Z,7.6nm,0.9s,baz=153,slow=5.8,SNR=11								
VNDA	**Vanda**	**64.78**	**181**	*e*P			**P**	**03 51 31.1**	**+1.7**
	comp=Z,64nm,2.1s								
VNDA	**Vanda**	**64.78**	**181**	P			**P**	**03 51 31.1**	**+1.7**
	comp=Z,1.2nm,0.7s,baz=348,slow=10,SNR=4.4								
SBA	**Scott Base**	**65.08**	**180**	*e*P			**P**	**03 51 32.3**	**+0.9**
SBA	**Scott Base**	**65.08**	**180**	*e*P			**P**	**03 51 32.3**	**+0.9**
MDJ	**Mudanjiang**	**66.00**	**332**	P			**P**	**03 51 39.1**	**+1.3**
MDJ					AMB		AMB		
	comp=Z,19nm,1.5s								
MDJ					AMB		AMB		
	comp=Z,860nm,14.6s								
PETK	**Petropavlovsk-**	**66.01**	**355**	P			**P**	**03 51 38.5**	**+0.8**
PETK	**Petropavlovsk-**	**66.01**	**355**	P			**P**	**03 51 38.5**	**+0.8**
PETK	**Petropavlovsk-**	**66.01**	**355**	P			**P**	**03 51 38.4**	**+0.8**
	comp=Z,1.7nm,0.7s,baz=155,slow=11,SNR=2.6								
CN2	**Changchun**	**67.36**	**329**	*e*P			**P**	**03 51 46.6**	**+0.1**
CN2				*es*P			sP	03 52 00.8	+5.4
CN2				*e*S			**S**	**04 00 38.6**	**-2.5**
CN2					AMB		AMB		
	comp=Z,10.0nm,1.0s								
CN2					AMB		AMB		
	comp=Z,200nm,5.0s								
CN2					LR		LR		
	comp=Z,300nm,15.0s								
CN2					LR		LR		
	comp=Z,500nm,15.0s								
CN2					LR		LR		
	comp=Z,530nm,14.0s								
KLR	**Kul'dur**	**68.75**	**337**	*e*P			P	03 51 51.4	-3.7
KLR				*e*				03 52 02.4	
KLR					pmax		pmax		
	comp=E,54nm,2.0s								
KLR					pmax		pmax		
	comp=Z,170nm,2.0s								
GYA	**Guiyang**	**69.62**	**305**	⇑*i*P			**P**	**03 52 03.0**	**+1.8**
GYA					pP		pP	03 52 13.8	+6.1
GYA					sP		sP	03 52 19.0	+8.9
GYA					PP		**PP**	**03 54 38.9**	**+3.5**
GYA					ScP			03 56 25.3	
GYA					S		**S**	**04 01 07.4**	**-1.5**
GYA					sS		sS	04 01 26.2	+6.5
GYA					SKS		**SKSac**	**04 01 56.4**	**-4.8**
GYA					AMB		AMB		
	comp=Z,30nm,1.0s								
GYA					AMB		AMB		
	comp=Z,120nm,5.6s								
GYA					LR		LR		
	comp=Z,2μm,17.7s								
GYA					LR		LR		
	comp=Z,1μm,18.0s								
GYA					LR		LR		
	comp=Z,3μm,18.4s								
BJI	**Beijing**	**70.00**	**321**	P			**P**	**03 52 05.0**	**+2.0**
BJI					AMB		AMB		
	comp=Z,7.0nm,1.7s								
XAN	**Xi'an**	**71.49**	**313**	P			**P**	**03 52 12.5**	**+0.2**
XAN					pP		pP	03 52 24.4	+5.5
XAN					sP		sP	03 52 30.3	+9.0
XAN					AMB		AMB		
	comp=Z,3.0nm,1.2s								
XAN					LR		LR		
	comp=Z,480nm,18.4s								
XAN					LR		LR		
	comp=Z,240nm,13.3s								
KMI	**Kunming**	**72.26**	**302**	P			**P**	**03 52 18.0**	**+0.6**
KMI					pP		**PcP**	**03 52 30.7**	**-4.8**
KMI					sP		sP	03 52 34.8	+8.5
KMI					PP		**PP**	**03 55 01.6**	**+3.3**
KMI					S		**S**	**04 01 37.8**	**-2.1**
KMI					sS		**SKiKP**	**04 01 55.5**	**+2.6**
KMI					AMB		AMB		
	comp=Z,17nm,1.5s								
HHC	**Hu-ho-hao-te**	**73.33**	**320**	*e*P			**P**	**03 52 24.0**	**+0.8**
HHC					pP		**pP**	**03 52 34.3**	**+4.5**
HHC					sP		sP	03 52 38.3	+6.1
HHC					PP		**PP**	**03 55 09.5**	**+2.6**
HHC					S		**S**	**04 01 49.1**	**-2.1**
HHC					sS		**sS**	**04 02 06.2**	**+4.2**
HHC					SKS		**SKSac**	**04 02 22.8**	**-5.8**
HHC					ScS		**SKKSac**	**04 02 26.5**	**-2.3**
HHC					AMB		AMB		
	comp=Z,52nm,1.1s								
HHC					AMB		AMB		
	comp=Z,990nm,5.4s								
HHC					LR		LR		
	comp=Z,540nm,17.6s								
HHC					LR		LR		
	comp=Z,880nm,18.2s								
HHC					LR		LR		
	comp=Z,1μm,19.2s								
CD2	**Chengdu**	**73.87**	**308**	P			**P**	**03 52 28.7**	**+2.1**
CD2					pP		**PcP**	**03 52 39.5**	**-2.5**
CD2					sP		sP	03 52 43.7	+8.1
CD2					PP		**PP**	**03 55 15.4**	**+3.7**
CD2					S		**SKiKP**	**04 01 56.3**	**+1.4**
CD2					sS		sS	04 02 14.4	+6.0
CD2					AMB		AMB		
	comp=Z,10.0nm,0.5s								
CD2					AMB		AMB		
	comp=Z,670nm,5.9s								
CD2					LR		LR		
	comp=Z,800nm,15.5s								
CD2					LR		LR		
	comp=Z,1μm,21.4s								
LZH	**Lanzhou**	**76.12**	**312**	*e*P			**P**	**03 52 41.0**	**+1.4**
LZH					sP		sP	03 52 56.0	+7.4
LZH					*e*PP		**PP**	**03 55 34.1**	**+3.2**
LZH					*e*S		**S**	**04 02 21.2**	**-1.5**
LZH					sS		**sS**	**04 02 38.3**	**+4.7**
LZH					AMB		AMB		
	comp=Z,37nm,1.5s								
LZH					AMB		AMB		
	comp=Z,210nm,8.6s								
LZH					LR		LR		
	comp=Z,720nm,17.5s								
LZH					LR		LR		
	comp=Z,660nm,18.0s								
LZH					LR		LR		
	comp=Z,1μm,19.7s								
QSPA	**South Pole Qui**	**77.24**	**180**	P			**P**	**03 52 45.1**	**-0.3**
QSPA	**South Pole Qui**	**77.24**	**180**	P			**P**	**03 52 45.1**	**-0.3**
	comp=Z,12nm,1.0s,baz=339,slow=2.3,SNR=12								
ULN	**Ulaanbaatar**	**79.86**	**324**	*e*P			**P**	**03 52 59.6**	**-0.5**
	comp=Z,21nm,1.2s								
SONM	**Songino Array**	**80.22**	**324**	P			**P**	**03 53 01.5**	**-0.5**
SONM	**Songino Array**	**80.22**	**324**	P			**P**	**03 53 01.5**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=147,slow=4.5,SNR=13								
GTA	**Gaotai**	**80.45**	**314**	P			**P**	**03 53 04.1**	**+0.6**
GTA					pP		**PcP**	**03 53 13.5**	**+3.1**
GTA					sP		sP	03 53 17.9	+5.4
GTA					S		**S**	**04 03 05.7**	**-3.4**
GTA					SKS		**SKSac**	**04 03 14.1**	**-6.6**
GTA					sS		**SKKSac**	**04 03 22.9**	**+0.1**
GTA					AMB		AMB		
	comp=Z,14nm,1.3s								
GTA					AMB		AMB		
	comp=Z,910nm,6.2s								
GTA					LR		LR		
	comp=Z,800nm,20.4s								
GTA					LR		LR		
	comp=Z,590nm,18.3s								
GTA					LR		LR		
	comp=Z,880nm,20.4s								
PMR	**Palmer**	**82.08**	**20**	*e*P			**P**	**03 53 12.4**	**+1.0**
PMR					pmax		pmax		
	comp=Z,4.0nm,0.8s								
PMR	**Palmer**	**82.08**	**20**	*e*P			**P**	**03 53 12.4**	**+1.0**
	comp=Z,4.2nm,0.8s								
MAW	**Mawson**	**83.23**	**202**	*e*P			**P**	**03 53 17.0**	**-0.5**
	comp=Z,7.0nm,1.7s								
MAW	**Mawson**	**83.23**	**202**	P			**P**	**03 53 17.0**	**-0.5**
	comp=Z,2.8nm,0.9s,baz=122,slow=2.2,SNR=5.2								
TLY	**Talaya**	**83.71**	**326**	*e*P			**P**	**03 53 20.8**	**+0.6**
TLY				*e*				03 53 32.0	
TLY					pmax		pmax		
	comp=Z,16nm,1.5s								
COLA	**College**	**84.83**	**18**	*e*P			**P**	**03 53 27.4**	**+1.9**
COLA					pmax		pmax		
	comp=Z,16nm,0.8s								
COLA	**College**	**84.83**	**18**	*e*P			**P**	**03 53 27.4**	**+1.9**
	comp=Z,16nm,0.8s								
ILAR	**Eielson Array**	**85.06**	**18**	P			**P**	**03 53 24.2**	**-2.5**
ILAR	**Eielson Array**	**85.06**	**18**	P			**P**	**03 53 24.2**	**-2.5**
	comp=Z,2.4nm,0.6s,baz=239,slow=5.3,SNR=17								
CMB	**Columbia Colle**	**85.24**	**49**	*e*P			**P**	**03 53 31.0**	**+2.7**
CMB					pmax		pmax		
	comp=Z,2.0nm,0.8s								
CMB	**Columbia Colle**	**85.24**	**49**	*e*P			**P**	**03 53 31.0**	**+2.7**
	comp=Z,1.6nm,0.8s								
NVAR	**Mina Array Bea**	**86.92**	**50**	P			**P**	**03 53 35.8**	**-1.0**
NVAR	**Mina Array Bea**	**86.92**	**50**	P			**P**	**03 53 35.8**	**-1.0**
	comp=Z,1.1nm,1.0s,baz=240,slow=9.0,SNR=2.5								
TIXI	**Tiksi**	**87.83**	**349**	*i* P			**P**	**03 53 43.0**	**+2.9**
TIXI					pmax		pmax		
	comp=Z,15nm,2.2s								
SYO	**Syowa Base**	**90.22**	**197**	⇑*e*P			**P**	**03 53 50.3**	**-1.3**
WMQ	**Urumqi**	**90.51**	**315**	*e*P			**P**	**03 53 53.7**	**+0.3**
MK31	**Makanchi Array**	**94.97**	**317**	*e*P			**P**	**03 54 14.5**	**+0.6**
MK31	**Makanchi Array**	**94.97**	**317**	*e*P			**P**	**03 54 12.8**	**-1.1**
MKAR	**Makanchi Array**	**94.97**	**317**	P			**P**	**03 54 12.9**	**-1.0**
MKAR					pmax		pmax		
	comp=Z,2.0nm,0.8s								
MKAR	**Makanchi Array**	**94.97**	**317**	P			**P**	**03 54 12.9**	**-1.0**
MKAR	**Makanchi Array**	**94.97**	**317**	P			**P**	**03 54 12.9**	**-1.0**
	comp=Z,1.5nm,0.8s,baz=99,slow=6.5,SNR=6.8								
ZALV	**Zalesovo Beam**	**95.11**	**324**	P			**P**	**03 54 12.5**	**-1.9**
ZALV					pmax		pmax		
	comp=Z,1.0nm,0.5s								
ZALV	**Zalesovo Beam**	**95.11**	**324**	P			**P**	**03 54 12.4**	**-1.9**
ZALV	**Zalesovo Beam**	**95.11**	**324**	P			**P**	**03 54 12.4**	**-1.9**
	comp=Z,1.1nm,0.5s,baz=117,slow=5.3,SNR=6.3								
SNAA	**Sanae**	**95.42**	**184**	*e*P			**P**	**03 54 13.9**	**-1.7**
SNAA	**Sanae**	**95.42**	**184**	*e*P			**P**	**03 54 13.9**	**-1.7**
	comp=Z,11nm,1.1s								
VNA2	**Neumayer--Watz**	**96.38**	**182**	*e*P			**P**	**03 54 18.8**	**-1.1**
KSH	**Kashi**	**98.05**	**309**	*e*P			Pdif	03 54 31.9	+3.6
KSH					sP		sP	03 54 44.4	+7.1
ARCES	**ARCESS Array B**	**118.07**	**345**	PKP			**PKPdf**	**03 59 35.9**	**-1.8**
ARCES	**ARCESS Array B**	**118.07**	**345**	PKP			**PKPdf**	**03 59 35.9**	**-1.8**
	comp=Z,4.8nm,0.6s,baz=37,slow=1.0,SNR=14								
OBN	**Obninsk**	**122.42**	**328**	⇑*i*PKIKP			**PKPdf**	**03 59 46.7**	**+0.3**
OBN				*e*				04 01 22.1	
OBN					pmax		pmax		
	comp=Z,6.0nm,0.5s								
FINES	**FINESS Array B**	**123.47**	**338**	PKP			**PKPdf**	**03 59 47.1**	**-1.2**
FINES	**FINESS Array B**	**123.47**	**338**	PKP			**PKPdf**	**03 59 47.1**	**-1.2**
	comp=Z,2.7nm,0.7s,baz=66,slow=2.3,SNR=5.6								
NB2	**NORSAR Subarra**	**128.44**	**345**	PKPdf			**PKPdf**	**03 59 56.2**	**-1.7**
	comp=Z,7.9nm,1.4s,baz=31,slow=1.9								
NOA	**NORSAR Array B**	**128.44**	**345**	PKP			**PKPdf**	**03 59 56.4**	**-1.5**
NOA	**NORSAR Array B**	**128.44**	**345**	PKP			**PKPdf**	**03 59 56.4**	**-1.5**
	comp=Z,1.4nm,0.7s,baz=33,slow=2.0,SNR=7.2								
AKASG	**Malin Array Be**	**128.45**	**326**	PKIKP			**PKPdf**	**03 59 57.7**	**-0.4**
AKASG					pmax		pmax		
	comp=Z,1.0nm,0.5s								
AKASG	**Malin Array Be**	**128.45**	**326**	PKP			**PKPdf**	**03 59 57.7**	**-0.4**
AKASG	**Malin Array Be**	**128.45**	**326**	PKP			**PKPdf**	**03 59 57.7**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=50,slow=1.5,SNR=8.1								
HFS	**Hagfors**	**128.51**	**343**	PKP			**PKPdf**	**03 59 56.8**	**-1.2**
HFS	**Hagfors**	**128.51**	**343**	PKP			**PKPdf**	**03 59 56.8**	**-1.2**
	comp=Z,1.9nm,0.6s,baz=131,slow=4.0,SNR=4.4								
BRTR	**Keskin Array B**	**130

0.4nm,0.4s,baz=126,slow=7.3,SNR=3.5
ILAR Eielson Array 84.94 18 P P 03 55 01.2 -1.8
0.8nm,0.7s,baz=250,slow=4.8,SNR=3.0
MKAR Makanchi Array 94.84 317 P P 03 55 50.5 +0.2
1.2nm,0.8s,baz=91,slow=7.2,SNR=3.5
ARCES ARCESS Array B 117.93 345 PKP PKPdf 04 01 13.7 -0.8
2.5nm,0.8s,baz=77,slow=2.6,SNR=4.4
FINES FINESS Array B 123.33 338 PKP PKPdf 04 01 24.4 -0.6
3.9nm,0.9s,baz=126,slow=2.6,SNR=4.6
BRTR Keskin Array B 130.20 312 PKP PKPdf 04 01 39.9 +0.8
0.5nm,0.7s,baz=134,slow=3.9,SNR=2.6
GERES GERESS Array B 137.23 333 PKP PKPdf 04 01 53.0 +1.1
0.8nm,0.7s,baz=70,slow=1.6,SNR=4.4
KEST Kesra 148.81 321 PKPbc PKPbc 04 02 16.5 0.0
1.6nm,0.6s,baz=253,slow=9.5,SNR=4.4
ESDC Sonseca Array 151.64 344 PKPbc PKPbc 04 02 23.5 +0.3
1.4nm,0.8s,baz=0.1,slow=2.9,SNR=3.3

ECX 08 03:47:45.1±0.3, 30.54N×114.32W, h5km, MD3.5, ML3.6, 3D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SPX	**San Pedro Mart**	**1.10**	**297**	*e*P		Pg	03 48 04.7	-2.1
SPX				*e*S		Sg	03 48 19.4	-2.1
SPX				⇓*e*			03 48 31.8	
	comp=E,736nm,0.8s							
ECBX	**El Chinero**	**1.12**	**326**	*e*P		Pg	03 48 04.3	-2.3
ECBX				*e*S		Sg	03 48 19.6	-1.5
ECBX				⇓*e*			03 48 30.6	
	comp=N,1μm,0.8s							
EMX	**El Mayor**	**1.64**	**332**	*e*P		Pn	03 48 13.9	-0.7
EMX				*e*S		Sn	03 48 35.9	-0.3
EMX				⇓*e*			03 48 50.6	
	comp=N,359nm,0.9s							
ZAX	**El Zacaton**	**1.94**	**301**	*e*P		Pn	03 48 18.2	-0.6
ECNX	**Esteban Cantu**	**2.25**	**300**	*e*P		Pn	03 48 22.8	-0.3
PBX	**Punta Banda**	**2.38**	**301**	*e*P		Pn	03 48 24.4	-0.5
PBX				*e*S		Sn	03 48 55.6	+1.0
CBX	**Cerro Bola**	**2.67**	**312**	*e*PN		Pn	03 48 28.5	-0.5
CBX				*e*S		Sn	03 49 02.6	+0.7

IDC 08 03:48:05.0±29.0, 19.16S×175.61W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/18, mbtmp4.0/4, Error ellipse: s-maj=559.6km s-min=158.2km az=88.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**40.40**	**243**	P		P	03 55 44.6	-0.4
0.9nm,0.4s,baz=73,slow=11,SNR=3.4								
ASAR	**Alice Springs**	**47.03**	**255**	P		P	03 56 38.6	0.0
1.5nm,0.5s,baz=94,slow=7.9,SNR=17								
WRA	**Warramunga Arr**	**47.03**	**260**	P		P	03 56 38.9	+0.2
0.5nm,0.3s,baz=96,slow=7.3,SNR=14								
FITZ	**Fitzroy Crossi**	**55.45**	**261**	P		P	03 57 41.5	-0.4
1.7nm,0.8s,baz=60,slow=8.1,SNR=4.5								

IDC 08 03:49:49.6±1.2, 11.37S×166.32E, h0km, mb4.1/5, mb1 4.1/5, mb1mx3.8/19, mbtmp4.1/5, Error ellipse: s-maj=46.8km s-min=30.3km az=97.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RPZ	**Rata Peaks**	**32.49**	**174**	P		P	03 56 22.1	+0.2
15nm,0.9s,baz=27,slow=14,SNR=3.7								
ASAR	**Alice Springs**	**33.15**	**244**	P		P	03 56 27.6	-0.5
1.1nm,0.8s,baz=77,slow=9.9,SNR=6.2								
QSPA	**South Pole Qui**	**78.64**	**180**	P		P	04 01 53.5	+0.1
2.0nm,0.9s,baz=10,slow=2.6,SNR=7.0								
ILAR	**Eielson Array**	**83.64**	**18**	P		P	04 02 19.3	-0.4
0.2nm,0.5s,baz=241,slow=3.5,SNR=3.1								
MKAR	**Makanchi Array**	**94.14**	**317**	P		P	04 03 11.1	+0.7
0.5nm,0.7s,baz=106,slow=5.5,SNR=4.0								

IDC 08 03:53:08.3±5.6, 11.76S×166.83E, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.6/3, Error ellipse: s-maj=281.5km s-min=35.0km az=140.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.25**	**251**	P		P	03 59 38.5	-0.4
0.7nm,0.8s,baz=84,slow=9.5,SNR=3.4								
ASAR	**Alice Springs**	**33.44**	**245**	P		P	03 59 49.6	+0.3
0.4nm,0.6s,baz=70,slow=10.0,SNR=4.1								
ILAR	**Eielson Array**	**83.85**	**18**	P		P	04 05 39.4	0.0
0.9nm,1.0s,baz=211,slow=6.0,SNR=4.5								

IDC 08 03:56:01.8±8.7, 11.56S×166.16E, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/18, mbtmp4.1/4, Error ellipse: s-maj=264.7km s-min=50.9km az=126.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTA	**Charters Tower**	**20.93**	**244**	P		Pn	04 00 47.9	-0.9
4.1nm,0.7s,baz=78,slow=14,SNR=3.2								
WRA	**Warramunga Arr**	**31.69**	**251**	P		P	04 02 26.5	-1.0
2.2nm,0.6s,baz=80,slow=9.0,SNR=9.1								
ASAR	**Alice Springs**	**32.93**	**244**	P		P	04 02 38.0	-0.3
3.4nm,0.7s,baz=76,slow=9.7,SNR=16								
MKAR	**Makanchi Array**	**94.17**	**317**	P		P	04 09 22.9	+0.2
0.5nm,0.7s,baz=86,slow=6.4,SNR=3.6								

*CSEM **08** 03:57:39.5±0.3, 50.39N×18.82E, h2km, Error ellipse: s-maj=9.1km s-min=3.9km az=6.0*
WAR 08 03:57:39.2, 50.37N×18.91E, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OJC	**Ojcow**	**0.59**	**104**	*e*Pg		Pg	03 57 51.0	+0.5
OJC				*e*Sg		Sb	03 58 00.1	-1.2
OJC	**Ojcow**	**0.59**	**104**	*e*Pg		Pg	03 57 51.0	+0.5
OJC				*e*Sg		Sb	03 58 00.1	-1.2
OKC	**Ostrava-Krasne**	**0.72**	**223**	*e*PG		Pg	03 57 53.3	+0.2
OKC				*e*SG		Sg	03 58 01.9	-0.5
	comp=Z,21nm,0.4s							
OKC	**Ostrava-Krasne**	**0.72**	**223**	Pg		Pg	03 57 53.3	+0.2
OKC				Sg		Sg	03 58 01.9	-0.5
	21nm,0.4s							
MORC	**Moravsky Berou**	**1.06**	**237**	*e*Pg		Pg	03 57 59.2	-0.4
MORC				*e*Sg		Sg	03 58 13.1	-0.3
NIE	**Niedzica**	**1.31**	**136**	*e*Pg		Pn	03 58 05.2	+0.4
NIE				*e*Sg		Sn	03 58 24.2	+1.1
NIE				*e*			03 58 24.6	
NIE	**Niedzica**	**1.31**	**136**	*e*Pg		Pn	03 58 05.2	+0.4
NIE				*e*Sg		Sn	03 58 24.2	+1.1
DPC	**Dobruska-Polom**	**1.66**	**270**	*e*PG		Pn	03 58 09.1	-0.5
DPC				*e*SG		Sn	03 58 30.6	-1.1
DPC	**Dobruska-Polom**	**1.66**	**270**	Pg		Pn	03 58 09.1	-0.5
DPC				Sg		Sn	03 58 30.6	-1.1
KSP	**Ksiaz**	**1.73**	**287**	*e*Pg		Pb	03 58 12.1	+0.2
KSP				*e*Sg		Sg	03 58 34.7	-0.3
KSP	**Ksiaz**	**1.73**	**287**	*e*Pg		Pb	03 58 12.1	+0.2
KSP				*e*Sg		Sg	03 58 34.7	-0.3
STHS	**Stebnicka Huta**	**1.78**	**121**	*e*PN		Pg	03 58 13.6	+0.2
STHS				*e*SN		Sg	03 58 40.6	+4.0
STHS	**Stebnicka Huta**	**1.78**	**121**	*e*Pn		Pg	03 58 13.6	+0.2
VRAC	**Vranov**	**1.84**	**236**	*e*Pn		Pn	03 58 12.5	+0.5
VRAC				*e*Sg		Sb	03 58 36.7	-0.5
KOLS	**Kolonicke sedl**	**2.61**	**122**	*e*		Pg	03 58 31.9	+2.6
PRU	**Pruhonice**	**2.83**	**264**	*e*PG		Pb	03 58 29.3	-1.4
PRU				*e*SG		Sb	03 59 07.4	+1.5
BRG	**Berggiesshubel**	**3.20**	**281**	PG		Pg	03 58 40.6	0.0
BRG				SG		Sg	03 59 22.9	+0.7
	3.8nm,0.5s							
KHC	**Kasperske Hory**	**3.67**	**252**	*e*PG		Pb	03 58 44.4	-0.6
KHC				*e*SG		Sg	03 59 34.6	-2.7
	comp=Z,3.8nm,0.4s							
CLL	**Collm**	**3.86**	**286**	*e*Sg		Sg	03 59 44.0	+0.8

*IDC **08** 03:57:34.0±3.2, 8.56S×111.55E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/20, mbtmp3.7/4, Error ellipse: s-maj=153.0km s-min=23.1km az=52.0*
*ISCJB **08** 03:57:41.4±0.8, 8.84S±0.09×111.57E±0.03, h53km±14km, mb3.7/4, Error ellipse: s-maj=14.6km s-min=5.4km az=2.2*

*DJA **08** 03:57:42.1±0.5, 9.3S±4.1×111.2E±.1, h26km±5km, M4.1/17, MLv4.1/17*
ISC 08 03:57:41.9±1.4, 8.38S±0.1×111.57E±0.04, h59km±13km, n24, σ1s34/28, mb3.6/4, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCJI	**Pacitan**	**0.69**	**326**	P		**Pn**	**03 57 55.3**	**-0.7**
PCJI				S		**Sn**	**03 58 05.1**	**-1.1**
PWJI	**Pagerwojo**	**0.77**	**18**	P		**Pn**	**03 57 57.0**	**-0.1**
PWJI				S		**Sn**	**03 58 07.9**	**-0.2**
SJI	**Sawahan**	**1.04**	**11**	P		**Pn**	**03 58 01.4**	**+0.8**
SJI				S		**Sn**	**03 58 15.2**	**+0.8**
KRKI	**Karangkates**	**1.06**	**55**	P		**Pn**	**03 58 01.1**	**+0.3**
KRKI				S		**Sn**	**03 58 15.1**	**+0.4**
WOJI	**Wonogiri, Jawa**	**1.12**	**325**	P		**Pn**	**03 58 02.2**	**+0.6**
WOJI				S		**Sn**	**03 58 16.8**	**+0.7**
UGM	**Wanagama**	**1.34**	**309**	P		**Pn**	**03 58 04.9**	**+0.4**
UGM				S		**Sn**	**03 58 22.9**	**+1.6**
NGJI	**Ngawi**	**1.39**	**356**	P		Pn	03 58 09.2	+4.0
YOGI	**Yogyakarta**	**1.57**	**307**	P		**Pn**	**03 58 08.7**	**+1.1**
YOGI				S		**Sn**	**03 58 29.1**	**+2.1**
GMJI	**Gumukmas**	**1.92**	**75**	P		**Pn**	**03 58 12.2**	**-0.1**
GMJI				S		**Sn**	**03 58 35.2**	**-0.1**
GRJI	**Gresik**	**2.05**	**26**	S		**Sn**	**03 58 41.0**	**+2.5**
BLJI	**Banyuglugur**	**2.25**	**63**	P		**Pn**	**03 58 18.0**	**+1.2**
BJII	**Banjamegara**	**2.33**	**308**	P		**Pn**	**03 58 20.5**	**+2.6**
ABJI	**Asem Bagus**	**2.81**	**70**	P		**Pn**	**03 58 25.6**	**+1.2**
BYJI	**Banyuwangi**	**2.81**	**79**	P		**Pn**	**03 58 26.9**	**+2.4**
KPJI	**Karang Pucung**	**2.97**	**298**	P		**Pn**	**03 58 28.3**	**+1.6**
TGJI	**Tegal**	**3.07**	**308**	P		**Pn**	**03 58 29.0**	**+1.0**
CISI	**Cisompet, Garu**	**3.91**	**288**	P		**Pn**	**03 58 39.2**	**-0.3**
WRA	**Warramunga Arr**	**24.66**	**119**	P		**P**	**04 02 57.4**	**0.0**
1.0nm,0.6s,baz=293,slow=11,SNR=4.6								
ASAR	**Alice Springs**	**26.01**	**127**	P		**P**	**04 03 10.4**	**+0.8**
0.9nm,0.6s,baz=305,slow=9.1,SNR=8.3								
H08S2	**Diego Garcia H**	**38.68**	**269**	T		T	04 46 04.6	
baz=93								
H08S3	**Diego Garcia H**	**38.69**	**269**	T		T	04 46 05.3	
baz=93								
H08S1	**Diego Carcia H**	**38.70**	**269**	T		T	04 46 18.1	
baz=93								
SONM	**Songino Array**	**56.54**	**356**	P		**P**	**04 07 16.9**	**-1.4**
0.5nm,0.6s,baz=184,slow=6.4,SNR=4.4								
MKAR	**Makanchi Array**	**61.16**	**337**	P		**P**	**04 07 48.7**	**-1.6**
0.4nm,0.4s,baz=149,slow=7.6,SNR=7.9								

IDC 08 03:57:57.0±1.4, 11.49S×166.83E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.8/19, mbtmp3.8/6, ML3.3/1, Error ellipse: s-maj=51.0km s-min=26.9km az=120.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.53**	**182**	Pn		Pn	04 00 28.8	-0.7
0.2nm,0.3s,baz=326,slow=15,SNR=2.2								
DZM				Sn		Sn	04 02 15.5	-13
0.1nm,0.3s,baz=251,slow=18,SNR=1.7								
WRA	**Warramunga Arr**	**32.34**	**251**	P		P	04 04 28.9	+0.5
0.7nm,0.8s,baz=81,slow=9.7,SNR=2.6								
ASAR	**Alice Springs**	**33.56**	**244**	P		P	04 04 40.0	+1.0
0.5nm,0.7s,baz=74,slow=9.5,SNR=3.2								
ASAR				PcP		PcP	04 07 18.1	-1.8
1.0nm,0.9s,baz=90,slow=2.8,SNR=5.0								
SONM	**Songino Array**	**79.66**	**323**	P		P	04 10 06.2	-0.4
0.4nm,0.6s,baz=115,slow=6.5,SNR=3.0								
ILAR	**Eielson Array**	**83.60**	**18**	P		P	04 10 28.4	+1.5
0.3nm,0.8s,baz=236,slow=5.7,SNR=3.6								
MKAR	**Makanchi Array**	**94.58**	**317**	P		P	04 11 18.4	-1.4
2.1nm,0.7s,baz=93,slow=6.6,SNR=16								
KEST	**Kesra**	**148.41**	**324**	PKPbc		PKPbc	04 17 45.6	-0.6
0.7nm,0.8s,baz=70,slow=3.4,SNR=3.8								

*CSEM **08** 03:58:37.9±0.5, 50.36N×19.20E, h1km, Error ellipse: s-maj=15.1km s-min=5.6km az=1.0*
PRU 08 03:58:38.3, 50.32N×19.22E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OJC	**Ojcow**	**0.39**	**105**	*e*Pg		Pg	03 58 44.9	-0.8
OJC				*e*Sg		Sg	03 58 49.1	-1.6
OKC	**Ostrava-Krasne**	**0.84**	**235**	*e*PG		Pg	03 58 54.9	+0.4
OKC				*e*SG		Sg	03 59 06.2	+0.8
	comp=Z,16nm,0.3s							
OKC	**Ostrava-Krasne**	**0.84**	**235**	Pg		Pg	03 58 54.9	+0.4
OKC				Sg		Sg	03 59 06.2	+0.8
	16nm,0.3s							
MORC	**Moravsky Berou**	**1.21**	**244**	*e*Pg		Pg	03 59 01.7	+0.1
MORC				*e*Sg		Sg	03 59 17.8	+0.4
STHS	**Stebnicka Huta**	**1.59**	**124**	*e*PN		Pn	03 59 07.6	-0.2
STHS				*e*SN		Sn	03 59 28.9	-0.2
STHS	**Stebnicka Huta**	**1.59**	**124**	*e*Pn		Pn	03 59 07.6	-0.2
STHS				*e*Sn		Sn	03 59 28.9	-0.2
DPC	**Dobruska-Polom**	**1.86**	**272**	*e*PG		Pb	03 59 13.4	+0.2
DPC				*e*SG		Sb	03 59 37.0	0.0
DPC	**Dobruska-Polom**	**1.86**	**272**	Pg		Pb	03 59 13.4	+0.2
DPC				Sg		Sb	03 59 37.0	0.0
VRAC	**Vranov**	**1.98**	**240**	*e*Sg		Sb	03 59 39.6	-0.9
KHC	**Kasperske Hory**	**3.85**	**254**	*e*SG		Sg	04 00 40.0	-2.1
KHC	**Kasperske Hory**	**3.85**	**254**	Sg		Sg	04 00 40.0	-2.1

IDC 08 04:00:19.4±2.0, 12.01S×164.85E, h0km, mb4.0/4, mb1 4.0/5, mb1mx3.8/19, mbtmp4.0/5, ML4.2/1, MS3.7/1, Ms1 3.7/1, ms1mx3.5/34, Error ellipse: s-maj=62.9km s-min=30.3km az=98.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**5.46**	**298**	LR		LR	04 03 23.6	
comp=Z,711nm,18.1s,baz=28,slow=34								
DZM	**Mont Dzumac**	**10.12**	**172**	Pn		Pn	04 02 45.2	-1.0
1.8nm,0.3s,baz=315,slow=2.9,SNR=6.2								
STKA	**Stephens Creek**	**29.14**	**224**	P		P	04 06 22.1	-0.3
1.8nm,0.7s,baz=42,slow=12,SNR=3.1								
ASAR	**Alice Springs**	**31.58**	**244**	P		P	04 06 44.5	+0.4
1.1nm,0.8s,baz=68,slow=10,SNR=4.9								
SONM	**Songino Array**	**78.93**	**324**	P		P	04 12 24.6	-0.4
0.3nm,0.3s,baz=116,slow=6.6,SNR=4.1								
MKAR	**Makanchi Array**	**93.63**	**317**	P		P	04 13 36.4	-1.4
0.7nm,0.7s,baz=97,slow=4.5,SNR=3.9								
KEST	**Kesra**	**147.63**	**321**	PKPbc		PKPab	04 20 07.8	-0.8
1.2nm,0.9s,baz=90,slow=6.1,SNR=3.8								

*IDC **08** 04:01:17.4±0.6, 13.16S×166.27E, h0km, mb4.5/18, mb1 4.5/21, mb1mx4.5/26, mbtmp4.5/21, ML4.3/3, MS4.5/3, Ms1 4.5/3, ms1mx4.1/34, Error ellipse: s-maj=20.0km s-min=14.1km az=99.0*
*ISCJB **08** 04:01:18.8±0.5, 13.13S±0.05×166.25E±0.07, h20km, mb4.5/21, MS4.3/3, Error ellipse: s-maj=9.9km s-min=7.5km az=163.3*
*NEIC **08** 04:01:22.6±0.3, 13.15S×166.23E, h35km, mb4.8/8, Error ellipse: s-maj=7.5km s-min=7.2km az=56.0*
*AUST **08** 04:01:30.4, 13.45S×165.93E, h60km*
ISC 08 04:01:20.9±0.4, 13.12S±0.06×166.22E±0.07, h20km, n91, σ1s10/92, mb4.6/21, MS4.3/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**7.16**	**300**	Pn		**Pn**	**04 03 05.3**	**+0.8**
HNR				Sn		**Sn**	**04 04 23.2**	**-2.2**
HNR	**Honiara**	**7.16**	**300**	Pn		**Pn**	**04 03 05.3**	**+0.8**
26nm,0.3s,baz=360,slow=4.6,SNR=4.9								
HNR				Sn		**Sn**	**04 04 23.2**	**-2.2**
25nm,0.3s,baz=187,slow=19,SNR=5.7								
DZM	**Mont Dzumac**	**8.90**	**179**	*e*Pn		**Pn**	**04 03 28.4**	**-0.2**
DZM				*e*S		**Sn**	**04 05 10.9**	**+2.5**
DZM	**Mont Dzumac**	**8.90**	**179**	Pn		**Pn**	**04 03 27.9**	**-0.6**
4.5nm,0.3s,baz=16,slow=22,SNR=10								
DZM				Sn		**Sn**	**04 05 05.7**	**-2.7**
0.8nm,0.3s,baz=270,slow=20,SNR=5.8								
MSVF	**Nonsavu**	**12.29**	**113**	*e*Pn		**Pn**	**04 04 15.5**	**+0.6**
194nm,1.5s								
EIDS	**Eidsvold**	**18.76**	**227**	*e*Pn		**Pn**	**04 05 39.2**	**-0.1**
75nm,1.5s								
PMG	**Port Moresby**	**19.05**	**279**	P		**Pn**	**04 05 43.7**	**+0.8**
PMG	**Port Moresby**	**19.05**	**279**	P		**Pn**	**04 05 43.7**	**+0.8**
0.7nm,0.3s,baz=121,slow=7.8,SNR=3.1								
CTA	**Charters Tower**	**20.34**	**247**	P		**P**	**04 05 56.3**	**+0.2**
CTA	**Charters Tower**	**20.34**	**247**	P		**P**	**04 05 56.3**	**+0.2**
3.8nm,0.6s,baz=70,slow=13,SNR=7.9								
CTA				LR		LR	04 12 25.2	
comp=Z,887nm,20.8s,baz=142,slow=33								
CTAO	**Charters Tower**	**20.34**	**247**	*e*P		**P**	**04 05 56.8**	**+0.7**
64nm,1.5s								
RMQ	**Roma**	**21.10**	**228**	P		**P**	**04 06 06.6**	**+2.3**
baz=21,SNR=9.9								
AFI	**Afiamalu**	**21.41**	**95**	LR		LR	04 12 22.4	
comp=Z,1μm,21.7s,baz=164,slow=31								
COEN	**Coen**	**22.42**	**265**	P		**P**	**04 06 20.0**	**+1.4**
baz=22,SNR=3.9								
STKA	**Stephens Creek**	**29.31**	**226**	*e*P		**P**	**04 07 22.7**	**+0.6**
3.0nm,1.1s								
STKA				PcP		**PcP**	**04 10 28.7**	**+0.1**
STKA	**Stephens Creek**	**29.31**	**226**	P		**P**	**04 07 23.9**	**+1.8**
baz=29,SNR=4.7								
STKA	**Stephens Creek**	**29.31**	**226**	P		**P**	**04 07 21.6**	**-0.5**
5.7nm,0.7s,baz=41,slow=7.9,SNR=11								
STKA				PcP		**PcP**	**04 10 28.7**	**+0.1**
2.7nm,0.8s,baz=31,slow=3.8,SNR=3.1								
TOO	**Toolangi**	**30.58**	**214**	P		**P**	**04 07 36.0**	**+2.6**
baz=30,SNR=4.3								
RPZ	**Rata Peaks**	**30.77**	**173**	P		**P**	**04 07 34.8**	**-0.2**
RPZ	**Rata Peaks**	**30.77**	**173**	P		**P**	**04 07 34.8**	**-0.2**
12nm,0.7s,baz=288,slow=4.1,SNR=9.3								
WRAB	**Tennant Creek**	**31.26**	**253**	*e*P		**P**	**04 07 38.5**	**-1.1**
30nm,1.6s								
WRA	**Warramunga Arr**	**31.27**	**253**	P		**P**	**04 07 38.0**	**-1.7**
WRA				PcP		**PcP**	**04 10 33.4**	**-0.6**
WRA	**Warramunga Arr**	**31.27**	**253**	P		**P**	**04 07 38.0**	**-1.7**
1.9nm,0.6s,baz=85,slow=9.4,SNR=9.5								
WRA				PcP		**PcP**	**04 10 33.4**	**-0.6**
0.6nm,0.3s,baz=72,slow=3.1,SNR=3.5								
WRA				LR		LR	04 19 21.3	
comp=Z,1μm,19.1s,baz=90,slow=35								
ASAR	**Alice Springs**	**32.34**	**246**	P		**P**	**04 07 47.4**	**-1.6**
ASAR	**Alice Springs**	**32.34**	**246**	P		**P**	**04 07 47.4**	**-1.6**
10nm,0.7s,baz=73,slow=9.6,SNR=39								
BBOO	**Buckleboo**	**33.80**	**230**	P		**P**	**04 08 01.9**	**+0.2**
baz=33,SNR=9.3								
FITZ	**Fitzroy Crossi**	**39.34**	**257**	P		**P**	**04 08 48.4**	**-0.7**
FITZ	**Fitzroy Crossi**	**39.34**	**257**	P		**P**	**04 08 49.8**	**+0.7**
baz=39,SNR=3.8								
FITZ	**Fitzroy Crossi**	**39.34**	**257**	P		**P**	**04 08 48.4**	**-0.7**
2.5nm,0.8s,baz=77,slow=10,SNR=5.7								
MBWA	**Marble Bar**	**45.01**	**253**	*e*P		**P**	**04 09 34.6**	**-0.8**
10nm,1.2s								
MEEK	**Meekatharra**	**46.49**	**246**	P		**P**	**04 09 47.7**	**+0.6**
baz=46,SNR=17								
KLBR	**Kellerberrin**	**48.02**	**239**	P		**P**	**04 09 58.2**	**-0.7**
baz=48,SNR=5.8								
NWAO	**Narrogin (SRO)**	**48.72**	**238**	P		**P**	**04 10 03.9**	**-0.4**
NWAO	**Narrogin (SRO)**	**48.72**	**238**	P		**P**	**04 10 03.9**	**-0.4**
11nm,0.6s,baz=73,slow=6.0,SNR=5.5								
MORW	**Morawa**	**49.07**	**243**	P		**P**	**04 10 06.7**	**-0.3**
baz=49,SNR=18								
ASAJ	**Asahikawa**	**60.89**	**341**	P		**P**	**04 11 33.1**	**+1.0**
ASAJ	**Asahikawa**	**60.89**	**341**	P		**P**	**04 11 33.1**	**+1.0**
2.5nm,0.7s,baz=165,slow=15,SNR=4.6								
KSRS	**Korea Array**	**61.84**	**326**	P		**P**	**04 11 39.0**	**+0.4**
2.4nm,0.7s,baz=144,slow=8.1,SNR=6.5								
KSAR	**Wonju Array Be**	**61.86**	**326**	P		**P**	**04 11 39.0**	**+0.3**
VNDA	**Vanda**	**64.44**	**181**	*e*P		**P**	**04 11 55.5**	**+0.2**
37nm,1.8s								
VNDA	**Vanda**	**64.44**	**181**	P		**P**	**04 11 55.4**	**0.0**
2.3nm,0.7s,baz=350,slow=7.2,SNR=7.4								
SBA	**Scott Base**	**64.74**	**180**	*e*P		**P**	**04 11 57.6**	**+0.3**
34nm,1.4s								
USRK	**Ussurijsk Arra**	**65.00**	**333**	P		**P**	**04 11 59.8**	**+0.4**
4.5nm,0.8s,baz=152,slow=8.6,SNR=6.9								
PETK	**Petropavlovsk-**	**66.36**	**354**	P		**P**	**04 12 08.2**	**+0.1**
PETK	**Petropavlovsk-**	**66.36**	**354**	P		**P**	**04 12 08.2**	**+0.1**
4.5nm,0.9s,baz=116,slow=13,SNR=4.3								
CMAR	**Chiang Mai Arr**	**73.37**	**294**	P		**P**	**04 12 53.0**	**+1.1**
CMAR	**Chiang Mai Arr**	**73.37**	**294**	P		**P**	**04 12 53.0**	**+1.1**
2.7nm,0.5s,baz=121,slow=4.8,SNR=14								
QSPA	**South Pole Qui**	**76.90**	**180**	*e*P		**P**	**04 13 10.8**	**-0.8**
17nm,1.0s								
SONM	**Songino Array**	**80.61**	**324**	P		**P**	**04 13 33.1**	**+0.8**
SONM	**Songino Array**	**80.61**	**324**	P		**P**	**04 13 33.1**	**+0.8**
1.4nm,1.0s,baz=142,slow=5.1,SNR=4.7								
MAW	**Mawson**	**82.98**	**202**	P		**P**	**04 13 44.7**	**+0.4**
MAW	**Mawson**	**82.98**	**202**	P		**P**	**04 13 44.7**	**+0.4**
1.0nm,0.7s,baz=94,slow=7.2,SNR=2.8								
ILAR	**Eielson Array**	**85.32**	**18**	P		**P**	**04 13 54.7**	**-1.4**
ILAR	**Eielson Array**	**85.32**	**18**	P		**P**	**04 13 54.7**	**-1.4**
3.3nm,1.2s,baz=256,slow=5.1,SNR=12								
MKAR	**Makanchi Array

TYV	**Tymovskoe**	**3.90**	**175**	*e*Pg	Pg	04 03 27.6	+7.5
TYV				AMB	AMB	04 03 30.0	
	10.0nm,0.8s						
TYV				*e*Sg	Sg	04 04 23.0	+12
TYV				A	A	04 04 25.2	
	10.0nm,0.8s						
GRNR	**Gornyy**	**5.28**	**223**	*e*Sg	Sg	04 05 04.0	+8.9

IDC 08 04:07:26.5±1.9, 11°51S×165°67E, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.9/18, mbtmp4.0/5, Error ellipse: s-maj=100.5km s-min=25.5km az=145.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.25**	**251**	P	P	04 13 48.4	+0.1
	4.0nm,0.9s,baz=80,slow=8.9,SNR=12						
ASAR	**Alice Springs**	**32.52**	**244**	P	P	04 13 59.4	0.0
	3.7nm,0.8s,baz=74,slow=9.3,SNR=14						
ILAR	**Eielson Array**	**83.98**	**19**	P	P	04 19 59.0	+0.7
	0.4nm,0.6s,baz=237,slow=5.5,SNR=6.1						
NVAR	**Mina Array Bea**	**86.38**	**50**	P	P	04 20 11.0	-0.2
	0.4nm,0.7s,baz=234,slow=7.7,SNR=3.5						
MKAR	**Makanchi Array**	**93.81**	**317**	P	P	04 20 44.8	-0.9
	0.8nm,0.7s,baz=97,slow=6.2,SNR=6.0						

IDC 08 04:08:22.9±1.6, 12°97S×166°40E, h0km, mb4.2/7, mb1 4.2/8, mb1mx4.0/18, mbtmp4.1/8, Error ellipse: s-maj=49.0km s-min=26.2km az=118.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.24**	**298**	Sn	Sn	04 11 33.3	+0.2
	5.1nm,0.3s,baz=0.0,slow=20,SNR=2.6						
DZM	**Mont Dzumac**	**9.05**	**180**	Pn	Pn	04 10 35.2	+0.2
	baz=323,slow=20,SNR=1.7						
DZM				Sn	Sn	04 12 14.3	-3.5
	baz=336,slow=20,SNR=2.1						
WRA	**Warramunga Arr**	**31.48**	**253**	P	P	04 14 47.1	+0.4
	2.4nm,1.1s,baz=86,slow=8.9,SNR=7.6						
ASAR	**Alice Springs**	**32.56**	**246**	P	P	04 14 55.4	-0.7
	2.4nm,0.7s,baz=73,slow=9.7,SNR=9.8						
USRK	**Ussuriysk Arra**	**64.94**	**333**	P	P	04 19 03.7	-0.7
	3.3nm,0.8s,baz=151,slow=13,SNR=4.2						
SONM	**Songino Array**	**80.59**	**324**	P	P	04 20 38.8	+1.3
	0.3nm,0.4s,baz=87,slow=3.8,SNR=3.6						
ILAR	**Eielson Array**	**85.12**	**18**	P	P	04 21 00.3	-0.2
	0.3nm,0.5s,baz=247,slow=5.6,SNR=3.3						
MKAR	**Makanchi Array**	**95.35**	**317**	P	P	04 21 49.9	+0.7
	0.6nm,0.6s,baz=85,slow=6.7,SNR=4.0						
ZALV	**Zalesovo Beam**	**95.48**	**324**	P	P	04 21 48.5	-1.0
	1.1nm,0.3s,baz=126,slow=7.3,SNR=2.6						

*MEX **08** 04:10:44.5±0.6, 30°23N×113°83W, h10km, MD4.2*
*ECX **08** 04:10:45.1±0.4, 30°51N×113°81W, h5km, MD4.2, ML4.5*
*NEIC **08** 04:10:51.6±1.2, 30°28N×113°78W, h10km, mb4.5/1, MD4.2(MEX), ML4.5(ECX), Error ellipse: s-maj=15.7km s-min=7.7km az=25.0*

ISC 08 04:10:42.7±0.8, 30°15N±0°05×113°84W±0°04, h10km, n45, σ2s24/46, 2C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**1.66**	**303**	⇓*e*P	**Pn**	**04 11 11.2**	**-0.9**
SPX				*e*S	**Sn**	**04 11 32.1**	**-1.6**
SPX				⇑*e*		04 11 48.5	
	comp=N,4μm,0.8s						
SPIG	**San Pedro Mart**	**1.66**	**303**	*e*P	**Pn**	**04 11 10.7**	**-1.5**
SPIG				*i* S	**Sn**	**04 11 29.3**	**-4.5**
SPIG	**San Pedro Mart**	**1.66**	**303**	*e*P	**Pn**	**04 11 10.7**	**-1.5**
SPIG				*i* S	**Sn**	**04 11 29.3**	**-4.5**
ECBX	**El Chinero**	**1.68**	**322**	*e*P	**Pn**	**04 11 10.1**	**-2.0**
ECBX				*e*S	**Sn**	**04 11 28.8**	**-4.9**
EMX	**El Mayor**	**2.19**	**327**	*e*P	**Pb**	**04 11 23.2**	**+0.8**
EMX				*e*S	**Sn**	**04 11 48.4**	**+2.0**
ZAX	**El Zacaton**	**2.50**	**304**	*e*P	**Pn**	**04 11 23.9**	**+0.5**
RDX	**Rancho Dawling**	**2.53**	**315**	⇑*e*P	**Pn**	**04 11 23.8**	**-0.2**
RDX				⇓*e*		04 12 10.1	
	comp=N,2μm,0.7s						
HSIG		**2.76**	**113**	*i* P	**Pn**	**04 11 27.5**	**+0.6**
HSIG				*i* S	**Sn**	**04 11 57.7**	**-2.7**
HSIG		**2.76**	**113**	*i* P	**Pn**	**04 11 27.5**	**+0.6**
HSIG				*i* S	**Sn**	**04 11 57.7**	**-2.7**
ECNX	**Esteban Cantu**	**2.81**	**303**	*e*PN	**Pn**	**04 11 28.3**	**+0.6**
PBX	**Punta Banda**	**2.94**	**303**	*e*PN	**Pn**	**04 11 30.0**	**+0.5**
GLA	**Glamis**	**3.01**	**344**	*e*Pn	**Pn**	**04 11 32.0**	**+1.5**
SRIG	**Santa Rosalia**	**3.15**	**153**	*i* P	**Pn**	**04 11 32.0**	**-0.3**
SRIG				*i* S	**Sn**	**04 12 09.2**	**-0.8**
SRIG	**Santa Rosalia**	**3.15**	**153**	*i* P	**Pn**	**04 11 32.0**	**-0.3**
SRIG				*i* S	**Sn**	**04 12 09.2**	**-0.8**
CBX	**Cerro Bola**	**3.24**	**312**	*e*PN	**Pn**	**04 11 33.6**	**-0.1**
TUC	**Tucson**	**3.39**	**50**	*e*Pn	**Pb**	**04 11 41.6**	**-1.3**
TUC				*e*S	**Sg**	**04 12 31.9**	**+0.3**
BAR	**Barrett**	**3.50**	**317**	*e*Pn	**Pn**	**04 11 37.4**	**+0.3**
BAR				*e*S	**Sb**	**04 12 27.9**	**+0.7**
PFO	**Pinyon Flat Ob**	**4.10**	**328**	*e*Pn	**Pb**	**04 11 54.1**	**-1.0**
PFO				*e*S	**Sg**	**04 12 55.6**	**+1.1**
LDFC	**Landfair**	**5.03**	**348**	*e*Pn	Pn	04 12 05.0	+6.7
CGIG		**5.08**	**86**	*i* P	**Pn**	**04 11 58.5**	**-0.6**
CGIG				*i* S	**Sn**	**04 12 54.9**	**-2.9**
CGIG		**5.08**	**86**	*i* P	**Pn**	**04 11 58.5**	**-0.6**
CGIG				*i* S	**Sn**	**04 12 54.9**	**-2.9**
MWC	**Mount Wilson**	**5.41**	**320**	*e*Pn	Pb	04 12 13.4	-4.0
	comp=N,84nm,1.0s						
MWC				*e*S	**Sb**	**04 13 20.6**	**-1.9**
GSC	**Goldstone**	**5.71**	**335**	*e*Pn	Pb	04 12 15.9	-6.6
	comp=N,4.2nm,1.0s						
GSC				*e*Pg	Pg	04 12 36.2	+4.1
GSC				*e*S	**Sg**	**04 13 48.9**	**+2.8**
WUAZ	**Wupatki**	**5.74**	**21**	*e*Pn	Pn	04 12 13.8	+5.6
	comp=N,30nm,0.9s						
OSI	**Osito Adit**	**6.07**	**318**	*e*Pn	Pn	04 12 19.7	+7.1
	comp=N,39nm,0.8s						
OSI				*e*S	**Sb**	**04 13 42.4**	**+1.1**
SHPR	**Sheep Range**	**6.43**	**350**	*e*Pn	Pn	04 12 21.5	+3.9
	comp=N,22nm,1.1s						
LAZ	**Ladron**	**7.08**	**51**	*e*Pn	Pn	04 12 34.7	+8.1
	comp=N,0.8nm,0.3s						
LAZ				*e*S	Sb	04 14 19.4	+8.8
BNM	**Barren Site**	**7.30**	**55**	*e*Pn	Pn	04 12 37.4	+7.8
	comp=N,2.6nm,0.3s						
BNM				*e*S	Sg	04 14 49.4	+12
CCUT	**Cedar City**	**7.39**	**3**	*e*Pn	Pn	04 12 36.7	+5.8
	comp=N,32nm,1.1s						
MNTX	**Cornudas Mount**	**7.43**	**76**	*e*Pn	Pn	04 12 39.7	+8.6
	comp=N,4.9nm,0.9s						
MNTX				*e*S	Sg	04 14 53.1	+12
ARUT	**Antelope Range**	**7.63**	**2**	*e*Pn	Pn	04 12 39.5	+5.5
	comp=N,293nm,0.9s						
ARUT				*e*S	Sg	04 15 00.1	+12
ANMO	**Albuquerque**	**7.86**	**51**	*e*Pn	Pn	04 12 45.2	+8.1
	comp=N,4.1nm,1.2s						
HPIG		**7.87**	**112**	*i* P	**Pn**	**04 12 36.7**	**-0.7**
HPIG				*i* S	**Sn**	**04 14 07.5**	**+0.9**
HPIG		**7.87**	**112**	*i* P	**Pn**	**04 12 36.7**	**-0.7**
HPIG				*i* S	**Sn**	**04 14 07.5**	**+0.9**
MVCO	**Mesa Verde**	**8.33**	**31**	*e*Pn	Pn	04 12 50.9	+7.2
	comp=N,8.0nm,0.9s						
MVCO				*e*S	**Sg**	**04 15 10.9**	**+0.9**
MVU	**Marysvale**	**8.44**	**9**	*e*Pn	Pn	04 12 52.1	+6.8
	comp=N,31nm,1.5s						
PV01	**Paradox Valley**	**9.08**	**27**	*e*Pn	Pn	04 13 02.9	+8.9
	comp=N,1μm,1.3s						
FLWY	**Flagg Ranch**	**14.13**	**9**	*e*Pn	**P**	**04 14 09.9**	**-0.9**
	comp=N,13nm,1.3s						
RSSD	**Black Hills**	**15.97**	**26**	*e*Pn	**P**	**04 14 35.5**	**+4.3**
	comp=N,33nm,1.0s						
CHMT	**Chamberlain Mo**	**16.75**	**1**	*e*Pn	P	04 14 44.8	+5.0
	comp=N,5.4nm,1.2s						
HHC	**Hu-ho-hao-te**	**97.80**	**327**	*e*P	Pdif	04 24 24.7	+6.1
HHC				pP	pP	04 24 29.5	+7.6
HHC				sP	sP	04 24 31.7	+8.6
HHC				PP	PP	04 28 24.8	+9.0
HHC	**Hu-ho-hao-te**	**97.80**	**327**	S	**S**	**04 35 45.4**	**+0.7**
HHC	**Hu-ho-hao-te**	**97.80**	**327**	sS	S	04 35 53.6	+8.9
HHC	**Hu-ho-hao-te**	**97.80**	**327**	SS	SS	04 42 28.5	+4.7
HHC				AMB	AMB		
	comp=Z,53nm,1.1s						
HHC				AMB	AMB		
	comp=Z,1μm,5.4s						
HHC				LR	LR		
	comp=N,1μm,20.8s						
HHC				LR	LR		
	comp=E,770nm,18.8s						
HHC				LR	LR		
	comp=Z,2μm,18.0s						
CD2	**Chengdu**	**109.54**	**326**	Pdif	**Pdif**	**04 25 18.5**	**+7.6**

IDC 08 04:13:18.6±4.6, 12°40S×166°10E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/17, mbtmp3.7/3, Error ellipse: s-maj=201.9km s-min=37.5km az=137.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**32.52**	**245**	P	P	04 19 51.5	0.0
	0.4nm,0.7s,baz=72,slow=9.3,SNR=3.5						
ILAR	**Eielson Array**	**84.68**	**18**	P	P	04 25 54.1	+0.1
	0.2nm,0.6s,baz=223,slow=4.9,SNR=3.7						
MKAR	**Makanchi Array**	**94.74**	**317**	P	P	04 26 41.8	-0.3
	1.0nm,0.6s,baz=96,slow=6.5,SNR=8.7						

IDC 08 04:16:41.2±0.8, 11°38S×166°18E, h0km, mb4.3/11, mb1 4.5/13, mb1mx4.3/21, mbtmp4.3/13, ML3.9/2, Error ellipse: s-maj=26.1km s-min=18.3km az=142.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.43**	**287**	Pn	Pn	04 18 16.8	-0.5
	8.0nm,0.3s,baz=196,slow=2.7,SNR=2.5						
DZM	**Mont Dzumac**	**10.64**	**179**	Pn	Pn	04 19 16.4	+1.3
	0.3nm,0.3s,baz=352,slow=19,SNR=3.2						
CTA	**Charters Tower**	**21.03**	**243**	P	P	04 21 29.3	+2.5
	8.0nm,0.7s,baz=86,slow=9.5,SNR=9.6						
STKA	**Stephens Creek**	**30.50**	**224**	P	P	04 22 56.4	+0.2
	2.9nm,0.8s,baz=15,slow=7.1,SNR=5.0						
WRA	**Warramunga Arr**	**31.78**	**250**	P	P	04 23 07.6	0.0
	5.5nm,0.9s,baz=81,slow=9.1,SNR=15						
ASAR	**Alice Springs**	**33.03**	**244**	P	P	04 23 18.3	-0.3
	5.0nm,0.8s,baz=69,slow=10.0,SNR=35						
FITZ	**Fitzroy Crossi**	**39.71**	**255**	P	P	04 24 16.3	+0.5
	4.3nm,0.7s,baz=113,slow=5.8,SNR=18						
VNDA	**Vanda**	**66.17**	**181**	P	P	04 27 29.5	-0.7
	2.3nm,1.1s,baz=348,slow=3.1,SNR=4.2						
CMAR	**Chiang Mai Arr**	**72.64**	**293**	P	P	04 28 11.0	-0.3
	0.7nm,0.3s,baz=108,slow=5.8,SNR=2.9						
ILAR	**Eielson Array**	**83.69**	**18**	P	P	04 29 10.8	-0.7
	1.3nm,0.8s,baz=245,slow=5.6,SNR=15						
NVAR	**Mina Array Bea**	**85.91**	**50**	P	P	04 29 24.2	+0.6
	1.8nm,0.8s,baz=235,slow=8.3,SNR=11						
PDAR	**Pinedale Array**	**93.46**	**47**	P	P	04 30 00.3	+1.0
	0.4nm,0.8s,baz=316,slow=3.8,SNR=3.5						
MKAR	**Makanchi Array**	**94.06**	**317**	P	P	04 30 01.0	-0.6
	1.5nm,0.6s,baz=92,slow=6.7,SNR=13						
ZALV	**Zalesovo Beam**	**94.08**	**324**	P	P	04 30 02.5	+1.0
	0.7nm,0.6s,baz=108,slow=3.6,SNR=3.0						
LPAZ	**La Paz**	**119.65**	**116**	PKP	PKPdf	04 35 33.5	-1.4
	0.6nm,0.5s,baz=266,slow=7.6,SNR=6.6						

*IDC **08** 04:17:47.8±0.4, 13°04S×166°10E, h0km, mb5.0/27, mb1 5.1/30, mb1mx5.1/32, mbtmp5.0/30, ML3.9/2, MS5.2/7, Ms1 5.2/7, ms1mx4.7/31, Error ellipse: s-maj=13.9km s-min=11.8km az=87.0*
*ISCJB **08** 04:17:50.0±0.1, 13°03S±0°03×166°02E±0°03, h20km, mb5.3/106, MS5.3/30, Error ellipse: s-maj=4.6km s-min=3.9km az=154.5*
*MOS **08** 04:17:51.9±1.1, 13°00S×166°01E, h33km, mb5.6/29, MS5.3/6, Error ellipse: s-maj=9.2km s-min=7.8km az=34.1*
*NEIC **08** 04:17:53.5±0.2, 13°02S×166°03E, h35km, mb5.3/55, Error ellipse: s-maj=5.9km s-min=5.1km az=143.0*
*BJI **08** 04:17:55.0, 12°52S×165°86E, h35km, mB5.6/35, mb5.3/50, Ms5.4/34, Ms7 5.1/34*
*AUST **08** 04:17:57.9±1.2, 13°05S×166°00E, h72km±13km, Error ellipse: s-maj=8.2km s-min=6.6km az=52.0*
*DJA **08** 04:18:04.4±2.5, 13°S±9′×16°6E±1°, h119km±35km, M5.2/11, mB5.8/6, mb5.0/11, Mw(mB)5.4/6*

ISC 08 04:17:51.4±0.2, 13°10S±0°04×166°19E±0°05, h20km, h20km:pP-P, n465, σ1s60/522, mb5.4/107, MS5.3/31, 30C-19D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.12**	**300**	Pn	**Pn**	**04 19 33.5**	**-1.1**
HNR				Sn	**Sn**	**04 20 52.9**	**-2.1**
HNR	**Honiara**	**7.12**	**300**	Pn	**Pn**	**04 19 33.5**	**-1.1**
	121nm,0.3s,baz=254,slow=1.3,SNR=24						
HNR				Sn	**Sn**	**04 20 52.9**	**-2.1**
	24nm,0.3s,baz=24,slow=20,SNR=2.5						
DZM	**Mont Dzumac**	**8.93**	**178**	*e*Pn	**Pn**	**04 19 59.1**	**-0.3**
	350nm,0.9s						
DZM				*e*LR	LR	04 22 25.1	
	13μm,26.1s						
DZM	**Mont Dzumac**	**8.93**	**178**	*e*Pn	**Pn**	**04 20 01.1**	**+1.7**
	125nm,0.8s						
DZM				*e*S	Sn	04 21 53.8	+14
DZM	**Mont Dzumac**	**8.93**	**178**	Pn	**Pn**	**04 20 00.5**	**+1.1**
	1.1nm,0.3s,baz=16,slow=18,SNR=3.1						
DZM				Sn	**Sn**	**04 21 39.4**	**-0.1**
	baz=31,slow=19,SNR=1.2						
MSVF	**Nonsavu**	**12.33**	**113**	*e*P	Pn	04 20 50.6	+4.6
MSVF	**Nonsavu**	**12.33**	**113**	Pn	**P**	**04 20 55.5**	**-2.6**
	557nm,1.2s,SNR=6.5						
MSVF	**Nonsavu**	**12.33**	**113**	*e*Pn	Pn	04 20 50.6	+4.6
TARA	**Tarawa**	**15.84**	**25**	*e*Pn	**P**	**04 21 36.3**	**-0.7**
	166nm,0.8s						
EIDS	**Eidsvold**	**18.75**	**227**	*e*Pn	**Pn**	**04 22 10.5**	**+0.8**
	208nm,1.5s						
EIDS	**Eidsvold**	**18.75**	**227**	P	**Pn**	**04 22 11.4**	**+1.7**
	baz=19,SNR=10.0						
PMG	**Port Moresby**	**19.02**	**279**	P	**Pn**	**04 22 12.9**	**-0.1**
	131nm,1.1s,6μm						
PMG	**Port Moresby**	**19.02**	**279**	*e*Pn	**P**	**04 22 10.8**	**-1.4**
	137nm,1.1s						
PMG	**Port Moresby**	**19.02**	**279**	P	**P**	**04 22 11.9**	**-0.3**
	1.4nm,0.3s,baz=88,slow=3.9,SNR=12						
PMG				LR	LR	04 28 45.6	
	comp=Z,3μm,18.4s,baz=117,slow=35						
CTA	**Charters Tower**	**20.32**	**247**	P	**P**	**04 22 27.0**	**+0.6**
CTA	**Charters Tower**	**20.32**	**247**	⇓P	**P**	**04 22 26.6**	**+0.2**
	baz=20						
CTA	**Charters Tower**	**20.32**	**247**	P	**P**	**04 22 27.0**	**+0.6**
	93nm,1.2s,baz=70,slow=14,SNR=21						
CTAO	**Charters Tower**	**20.32**	**247**	*e*P	**P**	**04 22 26.4**	**0.0**
CTAO				pmax	pmax		
	comp=Z,122nm,1.2s						
CTAO	**Charters Tower**	**20.32**	**247**	*e*P	**P**	**04 22 26.4**	**0.0**
	comp=Z,122nm,1.2s						
CTAO				*e*S	Sn	04 26 18.0	+1.0
RMQ	**Roma**	**21.09**	**228**	⇑P	**P**	**04 22 36.0**	**+1.3**
	baz=21,SNR=81						
PATS	**Pohnpei**	**21.29**	**338**	⇓P	**P**	**04 22 37.8**	**+0.9**
	baz=21,SNR=8.1						
AFI	**Afiamalu**	**21.44**	**95**	P	**P**	**04 22 39.4**	**+0.7**
AFI	**Afiamalu**	**21.44**	**95**	P	**P**	**04 22 39.4**	**+0.7**
	comp=Z,38nm,0.7s,baz=247,slow=7.7,SNR=3.5						
AFI				LR	LR	04 29 40.8	
	comp=Z,4μm,18.2s,baz=86,slow=33						
ARMA	**Armidale**	**21.87**	**216**	*e*P	**P**	**04 22 43.9**	**+0.7**
	comp=Z,112nm,1.3s						
ARMA	**Armidale**	**21.87**	**216**	⇑P	**P**	**04 22 44.7**	**+1.6**
	baz=22,SNR=5.0						
COEN	**Coen**	**22.39**	**265**	*e*P	**P**	**04 22 47.5**	**-1.3**
	comp=Z,734nm,1.0s						
COEN	**Coen**	**22.39**	**265**	⇓P	**P**	**04 22 48.3**	**-0.5**
	baz=22,SNR=18						
OUZ	**Omahuta**	**23.02**	**164**	*e*P	**P**	**04 22 57.5**	**+2.2**
	comp=Z,64nm,1.2s						
MGCD	**Mangrove Creek**	**24.30**	**212**	⇑P	**P**	**04 23 09.6**	**+2.0**
	baz=24,SNR=5.6						
QLP	**Quilpie**	**24.57**	**234**	P	**P**	**04 23 10.0**	**-0.1**
	baz=24,SNR=30						
RIV	**Riverview**	**24.76**	**211**	⇑P	**P**	**04 23 12.8**	**+1.0**
	baz=25						
CMSA	**Cobar Meteorol**	**26.30**	**222**	⇓P	**P**	**04 23 27.2**	**+1.4**
	baz=26,SNR=7.6						
YNG	**Young**	**26.58**	**214**	⇑P	**P**	**04 23 28.7**	**+0.4**
	baz=27						
CNB	**Canberra Magne**	**26.84**	**212**	⇓P	**P**	**04 23 32.1**	**+1.4**
	baz=27						
URZ	**Urewera**	**26.88**	**161**	*e*P	**P**	**04 23 34.0**	**+3.0**
	comp=Z,7.9nm,0.8s						
URZ	**Urewera**	**26.88**	**161**	P	**P**	**04 23 32.0**	**+1.1**
	comp=Z,2.4nm,0.4s,baz=354,slow=6.2,SNR=3.0						
JAY	**Jayapura**	**27.31**	**290**	P	**P**	**04 23 34.9**	**-0.3**
	baz=27,SNR=4.6						
STKA	**Stephens Creek**	**29.30**	**226**	*e*P	**P**	**04 23 52.4**	**-0.3**
	comp=Z,6.9nm,0.8s						
STKA	**Stephens Creek**	**29.30**	**226**	P	**P**	**04 23 52.7**	**0.0**
	baz=29,SNR=10						
STKA	**Stephens Creek**	**29.30**	**226**	P	**P**	**04 23 52.4**	**-0.3**
	comp=Z,24nm,0.7s,baz=40,slow=7.2,SNR=16						
TOO	**Toolangi**	**30.58**	**214**	⇑P	**P**	**04 24 04.6**	**+0.6**
	baz=31,SNR=4.9						
RPZ	**Rata Peaks**	**30.80**	**173**	*e*P	**P**	**04 24 05.9**	**+0.1**
	comp=Z,87nm,0.8s						
RPZ	**Rata Peaks**	**30.80**	**173**	P	**P**	**04 24 05.8**	**+0.1**
	comp=Z,80nm,0.7s,baz=136,slow=2.3,SNR=18						
WRAB	**Tennant Creek**	**31.23**	**253**	*e*P	**P**	**04 24 07.2**	**-2.7**
WRAB				pmax	pmax		
	comp=Z,29nm,1.2s						
WRAB	**Tennant Creek**	**31.23**	**253**	P	**P**	**04 24 08.0**	**-1.9**
	comp=Z,86nm,0.9s,SNR=6.1						
WRAB	**Tennant Creek**	**31.23**	**253**	*e*P	**P**	**04 24 07.2**	**-2.7**
	comp=Z,29nm,1.2s						
WRA	**Warramunga Arr**	**31.25**	**253**	P	**P**	**04 24 07.8**	**-2.3**
WRA				PcP	**PcP**	**04 27 03.0**	**-1.5**
WRA	**Warramunga Arr**	**31.25**	**253**	P	**P**	**04 24 07.8**	**-2.3**
	comp=Z,14nm,0.8s,baz=83,slow=8.9,SNR=15						
WRA				PcP	**PcP**	**04 27 03.0**	**-1.5**
	comp=Z,4.5nm,0.9s,baz=89,slow=3.2,SNR=4.1						
WRA				LR	LR	04 35 11.0	
	comp=Z,3μm,21.9s,baz=80,slow=34						
AS08	**Alice Springs**	**32.27**	**246**	⇓P	**P**	**04 24 17.4**	**-1.7**
	baz=32						
AS02	**Alice Springs**	**32.29**	**246**	⇑P	**P**	**04 24 17.6**	**-1.6**
	baz=32						
ASAR	**Alice Springs**	**32.32**	**246**	P	**P**	**04 24 17.3**	**-2.1**
ASAR				PcP	**PcP**	**04 27 06.8**	**-0.6**
ASAR				ScP	**ScP**	**04 30 51.9**	**+1.7**
ASAR	**Alice Springs**	**32.32**	**246**	P	**P**	**04 24 17.3**	**-2.1**
	comp=Z,62nm,0.7s,baz=74,slow=9.5,SNR=61						
ASAR				PcP	**PcP**	**04 27 06.8**	**-0.6**
	comp=Z,6.6nm,0.9s,baz=73,slow=3.1,SNR=4.8						
ASAR				ScP	**ScP**	**04 30 51.9**	**+1.7**
	comp=Z,2.1nm,1.0s,baz=107,slow=3.2,SNR=3.3						
KDU	**Kakadu**	**32.85**	**267**	⇓P	**P**	**04 24 22.1**	**-2.1**
	baz=33,SNR=12						
BBOO	**Buckleboo**	**33.79**	**229**	*e*P	**P**	**04 24 31.6**	**-0.6**
	comp=Z,990nm,0.9s						
BBOO	**Buckleboo**	**33.79**	**229**	P	**P**	**04 24 31.7**	**-0.5**
	baz=34,SNR=27						
TAU	**Tasmania Unive**	**33.89**	**205**	*e*P	**P**	**04 24 34.0**	**+1.2**
TAU				pmax	pmax		
	comp=Z,178nm,1.8s						
TAU	**Tasmania Unive**	**33.89**	**205**	*e*P	**P**	**04 24 34.0**	**+1.2**
	comp=Z,178nm,1.8s						
KNRA	**Kununurra**	**36.31**	**261**	P	**P**	**04 24 52.9**	**-1.2**
	baz=36,SNR=12						
FORT	**Forrest**	**39.26**	**237**	*e*P	**P**	**04 25 17.8**	**-1.0**
	comp=Z,136nm,0.9s						
FORT	**Forrest**	**39.26**	**237**	P	**P**	**04 25 18.2**	**-0.6**
	baz=39,SNR=8.0						
FITZ	**Fitzroy Crossi**	**39.31**	**257**	*e*P	**P**	**04 25 17.4**	**-2.0**
	comp=Z,34nm,0.9s						
FITZ	**Fitzroy Crossi**	**39.31**	**257**	P	**P**	**04 25 18.6**	**-0.8**
	baz=39,SNR=19						
FITZ	**Fitzroy Crossi**	**39.31**	**257**	P	**P**	**04 25 19.0**	**-0.4**
	comp=Z,26nm,1.0s,baz=95,slow=7.6,SNR=19						
FITZ				LR	LR	04 41 34.5	
	comp=Z,3μm,19.0s,baz=24,slow=36						
NLAI	**Namlea**	**39.85**	**281**	P	**P**	**04 25 24.8**	**+0.8**
	comp=Z,113nm,0.8s,comp=Z,2μm						
LBMI	**Labuha**	**40.27**	**285**	P	**P**	**04 25 30.0**	**+2.5**
	comp=Z,218nm,1.1s,comp=Z,3μm						
SOEI	**Soe**	**41.19**	**270**	P	P	04 25 38.5	+3.3
PPT2	**Papeete2**	**42.82**	**102**	*e*LQ	LQ	04 36 04.5	
	comp=Z,6μm,26.2s						
PPT2				*e*LR	LR	04 37 56.8	
	comp=Z,9μm,26.8s,baz=268						
TBI	**Tubuai**	**43.19**	**110**	*e*LQ	LQ	04 35 59.2	
	comp=Z,3μm,26.0s						
TBI				*e*LR	LR	04 38 03.3	
	comp=Z,5μm,27.5s,baz=291						
SGSI	**Sangihe**	**43.68**	**290**	P	P	04 26 08.3	+13
	comp=Z,300nm,1.1s,comp=Z,15μm						
KMSI	**Cibinong**	**43.99**	**285**	P	P	04 26 08.5	+11
	comp=Z,494nm,1.3s						
PMOR	**Pomariorio Ree**	**44.53**	**98**	*e*P	P	04 26 06.8	+4.7
	comp=Z,209nm,1.2s						
LUWI	**Luwuk**	**44.63**	**282**	P	**P**	**04 26 05.3**	**+2.4**
	comp=Z,79nm,1.1s,comp=Z,2μm						
MBWA	**Marble Bar**	**44.98**	**253**	*e*P	**P**	**04 26 04.8**	**-1.0**
	comp=Z,22nm,0.8s						
MBWA				*e*		04 27 49.4	
BNSI	**Bone**	**46.29**	**276**	P	**P**	**04 26 19.1**	**+3.0**
	comp=Z,36nm,0.9s,comp=Z,1μm						
MEEK	**Meekatharra**	**46.47**	**246**	P	**P**

KUR pmax pmax
comp=N,44nm,0.8s
KUR MLR MLR
comp=N,3µm,20.0s
KUR MLR MLR
comp=E,1µm,20.0s
KUR MLR MLR
comp=Z,3µm,20.0s
ASAJ Asahikawa 60.86 341 *e*P **P 04 28 02.3 -0.2**
comp=Z,26nm,1.0s
ASAJ Asahikawa 60.86 341 P **P 04 28 02.3 -0.2**
comp=Z,27nm,0.7s,baz=220,slow=11,SNR=14
KSRS Korea Array 61.81 326 P **P 04 28 08.2 -0.7**
comp=Z,9.8nm,0.9s,baz=137,slow=7.4,SNR=16
KSAR Wonju Array Be 61.82 326 P **P 04 28 08.2 -0.8**
YSS Yuzh-Sakhalins 63.36 342⇑ *i*P **P 04 28 19.0 -0.1**
YSS *e**PP **pP 04 28 29.8 +4.2**
YSS *e*S **S 04 36 48.0 -2.5**
YSS pmax pmax
comp=Z,90nm,1.0s
YSS pmax pmax
comp=N,40nm,1.2s
YSS MLR MLR
comp=N,2µm,18.0s
YSS MLR MLR
comp=E,2µm,18.0s
YSS MLR MLR
comp=Z,3µm,18.0s
NJ2 Nanjing 63.78 316 *e*P **P 04 28 21.0 -1.2**
NJ2 pP **pP 04 28 31.4 +2.7**
NJ2 sP sP 04 28 38.2 +7.1
NJ2 S **S 04 36 55.5 -0.8**
NJ2 AMB AMB
comp=Z,50nm,1.1s
NJ2 AMB AMB
comp=Z,640nm,5.1s
NJ2 LR LR
comp=Z,1µm,14.2s
NJ2 LR LR
comp=Z,990nm,23.4s
NJ2 LR LR
comp=Z,1µm,20.8s
QIZ Qiongzhong 64.03 299 P **P 04 28 23.9 -0.3**
QIZ S **S 04 36 57.2 -2.8**
QIZ LR LR
comp=Z,920nm,29.9s
SKR Severo-Kuril's 64.12 353 *e*P P 04 28 13.5 -11
SKR *e* 04 36 50.0
VLA Vladivostok 64.15 333 *i* P **P 04 28 22.2 -2.2**
VLA pmax pmax
comp=Z,23nm,0.8s
VNDA Vanda 64.46 181 *e*P **P 04 28 26.6 +0.6**
comp=Z,26nm,1.1s
VNDA Vanda 64.46 181 P **P 04 28 25.4 -0.6**
comp=Z,14nm,1.1s,baz=355,slow=6.1,SNR=13
SBA Scott Base 64.76 180 *e*P **P 04 28 28.9 +0.9**
SBA pmax pmax
comp=Z,37nm,1.0s
SBA Scott Base 64.76 180 *e*P **P 04 28 28.9 +0.9**
comp=Z,37nm,1.0s
USRK Ussuriysk Arra 64.97 334 P **P 04 28 29.4 -0.4**
comp=Z,44nm,0.9s,baz=128,slow=5.6,SNR=47
WHN Wuhan 66.08 312 P **P 04 28 37.4 +0.2**
PEA0B Petropavlovsk- 66.34 354 *e*P **P 04 28 37.8 -0.7**
PETK Petropavlovsk- 66.34 354 P **P 04 28 37.5 -1.0**
PETK Petropavlovsk- 66.34 354 P **P 04 28 37.5 -1.0**
PETK Petropavlovsk- 66.34 354 P **P 04 28 37.5 -1.0**
comp=Z,25nm,0.8s,baz=148,slow=8.0,SNR=26
MDJ Mudanjiang 66.36 332 P **P 04 28 39.7 +1.0**
MDJ pP **pP 04 28 48.9 +3.7**
MDJ sP sP 04 28 52.8 +5.1
MDJ PcP **PcP 04 29 09.2 +0.7**
MDJ PP **PP 04 31 04.3 -0.9**
MDJ S **S 04 37 28.9 +1.4**
MDJ AMB AMB
comp=Z,35nm,1.0s
MDJ AMB AMB
comp=Z,310nm,6.5s
MDJ LR LR
comp=Z,1µm,23.1s
MDJ LR LR
comp=Z,530nm,19.5s
MDJ LR LR
comp=Z,940nm,21.9s
DL2 Dalian 66.37 323 P **P 04 28 39.6 +0.7**
DL2 S **S 04 37 27.8 -0.1**
DL2 AMB AMB
comp=Z,110nm,1.2s
DL2 AMB AMB
comp=Z,550nm,6.9s
DL2 LR LR
comp=Z,690nm,17.2s
DL2 LR LR
comp=Z,1µm,15.2s
IPM Ipoh 67.01 281 *e*P **P 04 28 43.0 -0.6**
comp=Z,8.1nm,0.6s
SNY Shenyang 67.27 327⇑P **P 04 28 45.5 +0.9**
SNY AMB AMB
comp=Z,21nm,0.7s
SNY LR LR
comp=Z,670nm,14.7s
SNY LR LR
comp=Z,610nm,12.0s
SNY LR LR
comp=Z,1µm,19.8s
KULM Kulim 67.60 281 *e*P **P 04 28 47.0 -0.3**
comp=Z,40nm,1.2s
CN2 Changchun 67.72 329 *e*P **P 04 28 46.6 -0.8**
CN2 *es*P **sP 04 29 00.9 +4.6**
CN2 *e*S **S 04 37 40.9 -3.1**
CN2 AMB AMB
comp=Z,10.0nm,0.9s
CN2 LR LR
comp=Z,1µm,17.0s
CN2 LR LR
comp=Z,500nm,17.0s
CN2 LR LR
comp=Z,1µm,18.0s
SKNT Sakolnakorn 68.32 294 P **P 04 28 51.3 -0.4**
comp=Z,74nm,1.1s,comp=Z,1µm
PSI Prapat 68.58 278 P **P 04 28 52.0 -1.6**
PSI Prapat 68.58 278 P **P 04 28 52.0 -1.6**
comp=Z,7.1nm,0.9s,baz=141,slow=4.0,SNR=3.7
KLR Kul'dur 69.10 337 *e*P 04 28 52.7 -3.2
KLR pmax pmax
comp=Z,150nm,1.8s
CHAI Chaiyaphum 69.72 293 P **P 04 29 01.3 +0.9**
comp=Z,7.2nm,1.1s
GYA Guiyang 69.93 305⇑ *i*P **P 04 29 03.2 +1.5**
GYA pP **pP 04 29 13.0 +4.7**
GYA sP sP 04 29 19.4 +8.7
GYA PP **PP 04 31 39.2 +2.5**
GYA ScP 04 33 25.5
GYA S **S 04 38 07.8 -3.4**
GYA sS **sS 04 38 26.4 +4.5**
GYA SKS **SKSac 04 38 56.0 -6.2**
GYA AMB AMB
comp=Z,30nm,1.0s
GYA AMB AMB
comp=Z,140nm,5.9s
GYA LR LR
comp=Z,5µm,18.2s
GYA LR LR
comp=Z,4µm,19.0s
GYA LR LR
comp=Z,5µm,18.4s
BJI Beijing 70.34 321 P **P 04 29 04.4 +0.6**
BJI S **S 04 38 15.6 +0.4**
BJI sS sS 04 38 31.4 +5.4
BJI AMB AMB
comp=Z,28nm,1.0s
BJI AMB AMB
comp=Z,490nm,12.6s
BJI LR LR
comp=Z,990nm,18.2s
BJI LR LR
comp=Z,890nm,21.8s
BJI LR LR
comp=Z,1µm,22.9s
XAN Xi'an 71.82 313 P **P 04 29 12.1 -0.9**
XAN pP **pP 04 29 22.3 +2.8**
XAN sP sP 04 29 27.4 +5.5
XAN S **S 04 38 33.6 +0.9**
XAN AMB AMB
comp=Z,7.0nm,0.8s
XAN AMB AMB
comp=Z,93nm,7.0s
XAN LR LR
comp=Z,620nm,19.4s
XAN LR LR
comp=Z,280nm,18.4s
NANT Nan 71.89 295 P **P 04 29 14.0 +0.3**
comp=Z,83nm,1.1s
KMI Kunming 72.56 302 P **P 04 29 17.7 -0.1**
KMI pP pP 04 29 29.6 +5.2
KMI sP sP 04 29 35.0 +8.2
KMI PP **PP 04 32 02.8 +3.3**
KMI S **S 04 38 39.3 -2.6**
KMI sS sS 04 38 59.7 +7.0
KMI AMB AMB
comp=Z,34nm,0.8s
KMI AMB AMB
comp=Z,250nm,5.8s
KMI LR LR
comp=Z,650nm,17.4s
KMI LR LR
comp=Z,800nm,18.4s
KMI LR LR
comp=Z,1µm,19.4s
CMAR Chiang Mai Arr 73.33 294 P **P 04 29 22.1 -0.1**
CMAR Chiang Mai Arr 73.33 294 P **P 04 29 22.1 -0.1**
comp=Z,18nm,0.9s,baz=120,slow=4.4
CHTO Chiang Mai 73.45 294 *e*P **P 04 29 22.3 -0.7**
CHTO pmax pmax
comp=Z,220nm,1.1s
CHTO Chiang Mai 73.45 294 *e*P **P 04 29 22.2 -0.7**
comp=Z,220nm,1.1s
CHTO Chiang Mai 73.45 294 P **P 04 29 23.0 0.0**
comp=Z,94nm,1.1s
HHC Hu-ho-hao-te 73.67 320 *e*P **P 04 29 24.3 +0.4**
HHC pP **pP 04 29 34.6 +4.1**
HHC sP sP 04 29 38.6 +5.7
HHC PP **PP 04 32 10.8 +2.3**
HHC S **SKiKP 04 38 51.5 -1.6**
HHC sS **sS 04 39 08.7 +4.2**
HHC SKS **SKSac 04 39 23.8 -6.0**
HHC ScS **SKKSac 04 39 27.7 -2.3**
HHC AMB AMB
comp=Z,57nm,1.1s
HHC AMB AMB
comp=Z,780nm,5.2s
HHC LR LR
comp=Z,1µm,17.6s
HHC LR LR
comp=Z,2µm,17.1s
HHC LR LR
comp=Z,2µm,17.7s
CMAI Chiengmai2 73.75 295 P **P 04 29 25.2 +0.3**
comp=Z,40nm,1.1s,comp=Z,750nm
CD2 Chengdu 74.19 308 P **P 04 29 28.0 +0.9**
CD2 pP **PcP 04 29 38.8 -3.2**
CD2 sP sP 04 29 43.0 +6.9
CD2 PP **PP 04 32 15.4 +2.3**
CD2 S **S 04 38 57.2 -2.6**
CD2 sS **sS 04 39 15.3 +4.7**
CD2 AMB AMB
comp=Z,50nm,0.6s
CD2 AMB AMB
comp=Z,720nm,6.5s
CD2 LR LR
comp=Z,1µm,16.1s
CD2 LR LR
comp=Z,2µm,16.7s
BTO Baotou 74.51 319 *e*P **P 04 29 29.1 +0.3**
LZH Lanzhou 76.45 312 *e*P **P 04 29 40.7 +0.6**
LZH pP **PcP 04 29 51.2 -0.6**
LZH sP sP 04 29 55.7 +6.6
LZH *e*PP **PP 04 32 34.0 +1.7**
LZH *e*S **S 04 39 22.0 -3.0**
LZH sS **sS 04 39 39.8 +3.9**
LZH AMB AMB
comp=Z,58nm,1.5s
LZH AMB AMB
comp=Z,520nm,8.6s
LZH LR LR
comp=Z,1µm,18.0s
LZH LR LR
comp=Z,1µm,17.9s
LZH LR LR
comp=Z,2µm,19.5s
SEY Seymchan 76.55 354⇓ *e*P **P 04 29 38.8 -1.0**
QSPA South Pole Qui 76.92 180 *e*P **P 04 29 42.0 -0.2**
comp=Z,46nm,1.0s
CLNS Chul'man 77.63 338 *e*P P 04 29 51.8 +5.7
CLNS *e* 04 30 01.3
CLNS *e* 04 32 47.5
CLNS *e* 04 40 40.5
CLNS pmax pmax
comp=Z,85nm,1.2s
CLNS pmax pmax
comp=E,16nm,1.0s
CLNS pmax pmax
comp=N,45nm,1.2s
CLNS pmax pmax
comp=N,10.0nm,0.9s
CLNS pmax pmax
comp=E,4.0nm,0.9s
CLNS pmax pmax
comp=Z,6.0nm,1.2s
CLNS MLR MLR
comp=Z,627nm,18.0s
CLNS MLR MLR
comp=E,516nm,16.0s
CLNS MLR MLR
comp=N,453nm,16.0s
CIT Chita 79.14 330 *e*P **P 04 29 53.3 -1.3**
CIT *e* 04 30 04.4
CIT *e* 04 30 10.2
YAK Yakutsk 80.17 343 *e*P **P 04 29 58.7 -1.2**
YAK *e* 04 30 05.3
YAK *e* 04 33 00.7
YAK *e*PPP PPP 04 34 53.1
YAK *e*S S 04 39 55.9 -7.6
YAK *e* 04 40 14.7
YAK *e**SS ScS 04 40 38.1 +14
YAK *e*SSS SSS 04 48 33.3
YAK pmax pmax
comp=Z,119nm,0.9s
YAK pmax pmax
comp=N,12nm,0.9s
YAK pmax pmax
comp=E,10.0nm,0.9s
YAK pmax pmax
comp=Z,144nm,3.7s
YAK pmax pmax
comp=N,45nm,2.3s
YAK pmax pmax
comp=E,84nm,2.7s
YAK smax smax
comp=N,32nm,2.0s
YAK smax smax
comp=E,40nm,2.2s
ULN Ulaanbaatar 80.21 324 *e*P **P 04 30 00.5 -0.1**
comp=E,29nm,0.9s
SONM Songino Array 80.57 324 P **P 04 30 02.0 -0.5**
SONM Songino Array 80.57 324 P **P 04 30 02.0 -0.5**
comp=E,12nm,1.0s,baz=141,slow=5.0,SNR=29
GTA Gaotai 80.79 314 P **P 04 30 04.5 +0.6**
GTA pP **PcP 04 30 14.6 +4.0**
GTA sP sP 04 30 18.9 +6.0
GTA S **S 04 40 09.9 -1.3**
GTA SKS **SKSac 04 40 16.4 -5.3**
GTA sS **ScS 04 40 27.3 -2.9**
GTA AMB AMB
comp=E,11nm,1.0s
GTA AMB AMB
comp=E,410nm,6.7s
GTA LR LR
comp=E,930nm,19.2s
GTA LR LR
comp=E,450nm,18.8s
GTA LR LR
comp=E,1µm,18.5s
SHL Shillong 81.87 299 *e*P **P 04 30 09.5 -0.5**
PMR Palmer 82.33 20 *e*P **P 04 30 11.0 -0.3**
PMR pmax pmax
comp=Z,12nm,1.0s
PMR Palmer 82.33 20 *e*P **P 04 30 11.0 -0.3**
comp=Z,12nm,1.0s
MAW Mawson 82.99 202 *e*P **P 04 30 15.0 +0.1**
comp=Z,4.6nm,1.4s
MAW Mawson 82.99 202 P **P 04 30 15.3 +0.4**
comp=Z,5.8nm,1.0s,baz=52,slow=7.7,SNR=4.8
TRF Thorofare Moun 83.32 18 *e*P **P 04 30 16.3 -0.4**
comp=Z,158nm,2.6s
ZAK Zakamensk 83.62 325 *e*P **P 04 30 17.4 -1.1**
ZAK pmax pmax
comp=Z,26nm,1.4s
LSA Lhasa 83.81 302 P **P 04 30 20.2 -0.2**
TLY Talaya 84.06 326 *e*P **P 04 30 20.7 +0.1**
TLY pmax pmax
comp=Z,61nm,1.3s
TLY MLR MLR
comp=Z,1µm,18.0s
IM04 Indian Mountai 84.26 15 *e*P **P 04 30 20.4 -0.9**
PAX Paxson 84.52 20 *e*P **P 04 30 23.1 +0.4**
PAX Paxson 84.52 20 *e*P **P 04 30 23.1 +0.4**
PKM Peak Mountain 84.69 53 P **P 04 30 25.3 +0.9**
baz=85
YBH Yreka Blue Hor 85.02 45 P **P 04 30 26.0 +0.2**
YBH Yreka Blue Hor 85.02 45 P **P 04 30 26.0 +0.2**
comp=Z,4.6nm,0.9s,baz=243,slow=3.4,SNR=3.9
COLA College 85.09 18 *e*P **P 04 30 23.0 -2.4**
COLA pmax pmax
comp=Z,102nm,1.0s
COLA College 85.09 18 *e*P **P 04 30 23.0 -2.4**
comp=Z,102nm,1.0s
CIS Catalina Islan 85.30 54 P **P 04 30 27.8 +0.5**
baz=86
ILAR Eielson Array 85.31 18 P **P 04 30 23.6 -2.9**
ILAR Eielson Array 85.31 18 P **P 04 30 23.6 -2.9**
comp=Z,11nm,0.9s,baz=234,slow=5.3,SNR=38
CMB Columbia Colle 85.33 49 *e*P **P 04 30 26.3 -1.1**
CMB Columbia Colle 85.33 49 *e*P **P 04 30 26.2 -1.1**
comp=Z,4.5nm,0.8s
MOY Mondy 85.50 325 *e*P **P 04 30 29.0 +1.0**
ISA Isabella 85.98 52 P **P 04 30 31.7 +1.0**
baz=86
BEKR Beckworth 86.00 48 *e*P **P 04 30 32.3 +1.4**
comp=Z,3.0nm,1.0s
EDW2 Edwards Air Fo 86.10 53 P **P 04 30 32.3 +1.0**
baz=86
COLD Coldfoot 86.14 16 *e*P **P 04 30 31.2 +0.5**
comp=Z,9.7nm,0.9s
BFSC Mount Baldy Ra 86.15 54 P **P 04 30 32.3 +0.6**
baz=86
LRMC Laurel Mountai 86.52 53 P **P 04 30 33.6 +0.2**
baz=87
MOD Modoc 86.75 46 *e*P **P 04 30 34.0 -0.4**
comp=Z,19nm,1.0s
MPMC Manual Prospec 86.86 52 P **P 04 30 35.1 -0.1**
baz=87
PFO Pinyon Flat Ob 86.91 55 LR LR 05 04 12.1
comp=Z,4µm,18.7s,baz=173,slow=32
NVAR Mina Array Bea 87.01 50 P **P 04 30 33.3 -2.6**
NVAR Mina Array Bea 87.01 50 P **P 04 30 33.3 -2.6**
comp=Z,2.3nm,0.8s,baz=232,slow=8.6,SNR=9.8
NVAR LR LR 05 04 29.4
comp=Z,4µm,18.7s,baz=192,slow=32
EGAK Eagle 87.14 20 *e*P **P 04 30 35.5 -0.1**
comp=Z,14nm,0.9s
GSC Goldstone 87.15 53 P **P 04 30 37.0 +0.5**
baz=87
PALK Pallekele 87.26 278 *e*P **P 04 30 37.0 -0.4**
comp=Z,45nm,1.1s
HEC Hector,Ludlow 87.38 54 P **P 04 30 38.0 +0.4**
baz=88
BELC Belle Mtn. Jos 87.39 54 P **P 04 30 37.4 -0.3**
baz=88
FURC Furnace Creek, 87.47 52 P **P 04 30 38.3 +0.5**
baz=88
BC3 Big Chuckawall 87.72 55 P **P 04 30 39.5 +0.2**
baz=88
SHOC Shoshone 87.75 53 P **P 04 30 39.6 +0.4**
baz=88
TUQ Turquoise Moun 87.88 53 P **P 04 30 39.3 -0.8**
baz=88
GMRC Granite Mounta 87.89 54 P **P 04 30 39.5 -0.6**
baz=88
GLA Glamis 88.04 56 P **P 04 30 40.7 -0.1**
baz=88
I07A Izee 88.06 44 *e*P **P 04 30 41.7 +1.0**
comp=Z,35nm,2.0s
IRM Iron Mountain 88.11 54 P **P 04 30 41.0 0.0**
baz=88
TIXI Tiksi 88.17 349⇑ *e*P **P 04 30 39.2 -1.2**
TIXI pmax pmax
comp=Z,14nm,0.8s
J08A Circle Bar Ran 88.52 45 *e*P **P 04 30 45.5 +2.7**
SHPR Sheep Range 88.79 52 *e*P **P 04 30 44.9 +0.5**
comp=Z,4.5nm,1.1s
G08A Pilot Rock 88.84 43 *e*P **P 04 30 44.2 -0.1**
comp=Z,14nm,1.6s
PDMCI Parker Dam,Lak 88.95 55 P **P 04 30 45.4 +0.5**
baz=89
R11A Troy Canyon, C 89.02 50 P **P 04 30 45.4 0.0**
baz=89
214A Organ Pipe Nat 89.37 57 P **P 04 30 47.2 +0.2**
baz=90
W13A Hualapai Mount 89.38 54 P **P 04 30 47.1 -0.1**
baz=90
HVS Khovu-Aksy 89.43 323⇑ *e*P **P 04 30 46.3 -0.6**
HVS pmax pmax
comp=Z,50nm,1.0s
Y14A Wickenburg 89.75 55 P **P 04 30 48.9 +0.1**
baz=90
SYO Syowa Base 89.96 197⇓ *e*P **P 04 30 47.4 -1.6**
SYO Syowa Base 89.96 197⇓ *e*PcP **P 04 30 49.5 +0.5**
ELK Elko 89.98 48 *e*P **P 04 30 49.2 -0.7**
comp=Z,4.9nm,0.9s
MFID Camas Ranch 90.37 45 P **P 04 30 50.5 -1.0**
baz=90
CCUT Cedar City 90.47 52 *e*P **P 04 30 54.4 +2.1**
comp=Z,4.8nm,1.1s
WMQ Urumqi 90.84 315 P **P 04 30 53.2 -0.4**
WMQ pP **pP 04 31 03.8 +3.5**
WMQ sP **sP 04 31 07.7 +5.0**
WMQ AMB AMB
comp=Z,28nm,1.4s
WMQ AMB AMB
comp=Z,730nm,8.0s
U15A North Rim 90.99 53 P **P 04 30 54.6 -0.2**
baz=91
NEW Newport 91.01 41 P **P 04 30 54.0 -0.3**
NEW Newport 91.01 41 P **P 04 30 54.0 -0.3**
baz=91
NEW Newport 91.01 41 P **P 04 30 54.0 -0.3**
comp=Z,2.5nm,0.9s,baz=250,slow=10,SNR=4.1
X16A Lo Mia Camp, P 91.13 55 P **P 04 30 56.1 +0.7**
baz=91
HLID Hailey 91.39 46 *e*P **P 04 30 57.8 +1.5**
comp=Z,22nm,1.9s
HLID Hailey 91.39 46 P **P 04 30 56.8 +0.4**
baz=92
WUAZ Wupatki 91.47 54 *e*P **P 04 30 58.1 +1.2**
comp=Z,5.4nm,0.8s
WUAZ Wupatki 91.47 54 P **P 04 30 57.4 +0.6**
baz=92
319A Douglas 92.13 58 P **P 04 31 00.4 +0.4**
baz=92
X18A Snowflake 92.35 55 P **P 04 31 01.4 +0.3**
baz=92
DLMT Dillon 93.14 44 *e*P **P 04 31 03.6 -0.8**
comp=Z,8.9nm,1.3s
Y20A Horse Springs, 93.47 56 P **P 04 31 06.5 +0.2**
baz=94
PMSA Palmer Station 93.65 161 *e*P **P 04 31 07.1 +1.0**
comp=Z,57nm,1.3s
W20A Ramah 93.65 55 P **P 04 31 07.5 +0.4**
baz=94
PV10 Paradox Valley 93.98 52 *e*P **P 04 31 10.0 +1.5**
comp=Z,72nm,0.8s
S20A Disappointment 94.38 52 P **P 04 31 10.9 +0.6**
baz=94
R20A Redvale 94.44 52 P **P 04 31 10.9 +0.3**
baz=95
MAIT Maitri 94.52 188 *e*P P 04 31 06.2 -3.8
U21A Nageezi 94.61 54 P **P 04 31 11.4 -0.1**
baz=95
PDAR Pinedale Array 94.62 47 P **P 04 31 12.2 +0.9**
PDAR Pinedale Array 94.62 47 P **P 04 31 12.2 +0.9**
comp=Z,0.4nm,0.7s,baz=222,slow=2.0,SNR=4.0
Y22A Socorro 94.62 56 P **P 04 31 12.1 +0.6**
baz=95
P20A De Beque 94.73 51 P **P 04 31 12.2 +0.3**
baz=95
S21A Coal Bank Pass 94.78 53 P **P 04 31 11.5 -0.8**
baz=95

SNAA	Sanae	95.11	183	*e*P		P	04 31 12.1	-0.8
SNAA	Sanae	95.11	183	*e*P		P	04 31 11.9	-0.9
	comp=Z,15nm,1.1s							
R21A	Cimarron	95.12	52	P		P	04 31 14.0	+0.2
	baz=95							
MK31	Makanchi Array	95.30	317	*e*P		P	04 31 13.0	-1.1
MK31	Makanchi Array	95.30	317	*e*P		P	04 31 13.0	-1.1
MKAR	Makanchi Array	95.30	317	P		P	04 31 13.1	-1.0
MKAR							04 35 06.3	
MKAR	Makanchi Array	95.30	317	P		P	04 31 13.1	-1.0
MKAR				PP		PP	04 35 06.2	+1.6
MKAR				PKKPbc		PKKPbc	04 48 05.6	-3.2
MKAR	Makanchi Array	95.30	317	P		P	04 31 13.1	-1.0
	comp=Z,6.6nm,0.6s,baz=94,slow=6.0,SNR=33							
MKAR				PP		PP	04 35 06.2	+1.6
	comp=Z,5.4nm,1.1s,baz=118,slow=5.2,SNR=4.3							
MKAR				PKKPbc		PKKPbc	04 48 05.6	-3.2
	comp=Z,2.0nm,0.8s,baz=294,slow=2.3,SNR=12							
ZAA0	Zalesovo Array	95.46	324	*e*P		P	04 31 12.6	-2.0
ZALV	Zalesovo Beam	95.46	324	P		P	04 31 12.5	-2.1
ZALV	Zalesovo Beam	95.46	324	P		P	04 31 12.5	-2.1
ZALV	Zalesovo Beam	95.46	324	P		P	04 31 12.5	-2.1
	comp=Z,12nm,0.9s,baz=116,slow=5.1,SNR=29							
ZALV				LR		LR	05 16 47.2	
	comp=Z,712nm,19.7s,baz=69,slow=37							
S22A	4UR Ranch, Cre	95.54	53	P		P	04 31 16.6	+0.8
	baz=96							
V23A	Ortiz Mt. (NFS	95.63	55	P		P	04 31 17.6	+1.5
	baz=96							
EGMT	Eagleton	95.69	42	P		P	04 31 16.7	+0.7
	baz=96							
Q22A	Crested Butte,	95.72	52	P		P	04 31 15.9	-0.7
	baz=96							
VNA2	Neumayer--Watz	96.07	182	*e*P		P	04 31 16.5	-0.7
KSH	Kashi	98.37	309	*e*P		Pdif	04 31 30.8	+2.5
KSH				pP		pP	04 31 41.8	+6.8
KSH				sP		sP	04 31 46.6	+9.2
KURK	Kurchatov	98.48	320	*e*P		P	04 31 28.2	-0.1
KURK							04 35 24.0	
KURK				pmax		pmax		
	comp=Z,4.0nm,1.3s							
KURK	Kurchatov	98.48	320	*e*P		P	04 31 28.2	-0.1
	comp=Z,4.2nm,1.3s							
KURK				PP		PP	04 35 24.0	-5.0
KURK				PKiKP		PKiKP	04 35 59.3	-1.0
KURK				PKKPbc		PKKPbc	04 47 57.0	-3.2
KURBB	Kurchatov Arra	98.52	320	P		P	04 31 27.3	-1.2
	comp=Z,0.9nm,0.8s,baz=103,slow=3.1,SNR=9.8							
KURBB				PP		PP	04 35 24.0	-5.3
	comp=Z,1.4nm,0.8s,baz=94,slow=7.8,SNR=4.5							
KURBB				PKiKP		PKiKP	04 35 59.3	-1.1
	comp=Z,0.6nm,0.8s,baz=99,slow=2.7,SNR=4.1							
KURBB				PKKPbc		PKKPbc	04 47 57.0	-3.1
	comp=Z,0.8nm,0.2s,baz=271,slow=3.1,SNR=9.8							
BVAR	Borovoye Array	103.82	322	P		Pdif	04 31 51.6	-0.5
BVAR				*i*			04 36 10.2	
BVAR	Borovoye Array	103.82	322	Pdif		Pdif	04 31 51.6	-0.5
BVAR				PKiKP		PKiKP	04 36 10.2	+0.3
BVAR	Borovoye Array	103.82	322	Pdiff		Pdif	04 31 51.6	-0.5
	comp=Z,1.6nm,0.9s,baz=117,slow=5.8,SNR=5.6							
BVAR				PKiKP		PKiKP	04 36 10.2	+0.3
	comp=Z,0.6nm,0.5s,baz=90,slow=3.0,SNR=3.6							
ARU	Arti	110.56	326	*i* PKIKP		PKiKP	04 36 21.9	-0.4
ARU							04 37 01.0	
ARU				SS		SS	04 52 24.5	-1.5
KEV	Kevo	117.89	345	*e*PKiKP		PKPdf	04 36 33.9	-2.0
KEV	Kevo	117.89	345	*e*pkp		PKPdf	04 36 33.9	-2.0
ARCES	ARCESS Array B	118.42	345	PKP		PKPdf	04 36 35.7	-1.4
ARCES	ARCESS Array B	118.42	345	PKP		PKPdf	04 36 35.7	-1.4
	comp=Z,9.1nm,0.8s,baz=38,slow=2.2,SNR=12							
KLMR	Klimovskoe	118.76	333	*e*PKiKP		PKPdf	04 36 31.2	-6.7
KLMR				pmax		pmax		
	comp=Z,44nm,2.0s							
LPAZ	La Paz	118.88	117	PKP		PKPdf	04 36 39.5	-0.7
LPAZ	La Paz	118.88	117	PKP		PKPdf	04 36 39.5	-0.7
	comp=Z,1.3nm,0.8s,baz=211,slow=6.9,SNR=5.6							
JOF	Joensuu	120.99	338	*e*PKiKP		PKPdf	04 36 39.0	-3.1
JOF	Joensuu	120.99	338	*e*pkp		PKPdf	04 36 39.0	-3.1
UMR	Umm Al-Rimmam	121.01	297	*e*P		PKPdf	04 36 42.0	-1.2
UMR				AMb		AMB	04 36 48.0	
	comp=Z,16nm,0.8s							
RDF	Al-Radifah	121.18	296	*e*P		PKPdf	04 36 42.6	-0.9
RDF				AMb		AMB	04 36 47.8	
	comp=Z,20nm,1.2s							
NAY	Al-Naaiem	121.44	296	*e*P		PKPdf	04 36 42.8	-1.3
NAY				AMb		AMB	04 36 45.9	
	comp=Z,7.7nm,0.9s							
VRHR	Novokhopersk	121.55	322	*e*PKiKP		PKPdf	04 36 42.5	-1.0
VRHR				pmax		pmax		
	comp=Z,10.0nm,0.7s							
VRHR				pmax		pmax		
	comp=N,10.0nm,0.6s							
VRHR				pmax		pmax		
	comp=E,10.0nm,1.1s							
CPUP	Villa Florida	122.33	133	PKP		PKPdf	04 36 45.7	-0.1
CPUP				*e*PKPdf		PKiKP	04 36 46.1	+0.1
CPUP	Villa Florida	122.33	133	PKP		PKPdf	04 36 45.7	-0.1
	comp=E,3.7nm,0.8s,baz=196,slow=2.6,SNR=6.3							
ZEI	Tsey	122.38	313	*i* PKIKP		PKPdf	04 36 46.0	+0.3
ZEI				pmax		pmax		
	comp=Z,7.0nm,1.0s							
OBN	Obninsk	122.77	328	⫴ *i* PKIKP		PKPdf	04 36 44.3	-1.4
OBN				*e*			04 38 25.4	
OBN				pmax		pmax		
	comp=Z,39nm,1.6s							
KBZ	Khabaz	122.87	314	PKIKP		PKPdf	04 36 46.2	-0.1
KBZ	Khabaz	122.87	314	PKP		PKPdf	04 36 46.2	-0.1
KBZ	Khabaz	122.87	314	PKP		PKPdf	04 36 46.2	-0.1
	comp=Z,2.9nm,0.8s,baz=91,slow=3.0,SNR=5.4							
VSR	Storozhevoye	122.96	323	*e*PKiKP		PKPdf	04 36 45.6	-0.6
VSR				pmax		pmax		
	comp=Z,10.0nm,0.9s							
VSR				pmax		pmax		
	comp=N,8.0nm,0.6s							
VSR				pmax		pmax		
	comp=E,20nm,1.1s							
VORD	Divnogorie	122.98	323	*e*PKiKP		PKPdf	04 36 45.7	-0.6
VORD				pmax		pmax		
	comp=Z,10.0nm,0.9s							
VORD				pmax		pmax		
	comp=E,6.0nm,0.6s							
KAF	Kangasniemi	123.30	339	*e*PKiKP		PKPdf	04 36 44.4	-2.2
KAF	Kangasniemi	123.30	339	*e*pkp		PKPdf	04 36 44.4	-2.2
FINES	FINESS Array B	123.83	338	PKP		PKPdf	04 36 45.9	-1.7
FINES	FINESS Array B	123.83	338	PKP		PKPdf	04 36 45.9	-1.7
	comp=E,11nm,0.9s,baz=103,slow=6.8,SNR=11							
BOSA	Boshof	123.91	222	PKP		PKPdf	04 36 48.9	-0.1
BOSA	Boshof	123.91	222	PKP		PKPdf	04 36 48.9	-0.1
	comp=E,3.8nm,0.8s,baz=122,slow=5.9,SNR=5.8							
SDV	Santo Domingo	124.16	88	*e*PKPdf		PKPdf	04 36 47.7	-2.2
SAML	Samuel	126.30	112	*e*PKPdf		PKPdf	04 36 52.4	-1.4
MALT	Malatya	127.47	308	⫴ *i*P		PKPdf	04 36 55.4	-0.1
NACGM	Naroch	127.67	332	*e*		PKPdf	04 36 53.0	-2.1
NB2	NORSAR Subarra	128.78	345	PKPdf		PKPdf	04 36 57.1	-0.1
	comp=Z,4.3nm,0.9s,baz=31,slow=1.9							
NOA	NORSAR Array B	128.78	345	PKP		PKPdf	04 36 56.4	-0.8
NOA				PP		PP	04 39 04.0	+0.8
NOA	NORSAR Array B	128.78	345	PKP		PKPdf	04 36 56.4	-0.8
	comp=Z,5.1nm,0.8s,baz=32,slow=2.0,SNR=14							
NOA				PP		PP	04 39 04.0	+0.8
	comp=Z,1.1nm,0.8s,baz=349,slow=7.3,SNR=3.4							
AKASG	Malin Array Be	128.80	326	PKIKP		PKPdf	04 36 56.0	-1.4
AKASG							04 39 06.3	
AKASG	Malin Array Be	128.80	326	PKP		PKPdf	04 36 56.0	-1.4
AKASG				PP		PP	04 39 06.3	+2.5
AKASG	Malin Array Be	128.80	326	PKP		PKPdf	04 36 56.0	-1.4
	comp=Z,9.5nm,1.0s,baz=59,slow=2.0,SNR=17							
AKASG				PP		PP	04 39 06.3	+2.5
	comp=Z,2.2nm,0.8s,baz=50,slow=6.4,SNR=4.4							
KIEV	Kiev	128.81	326	*e*PKIKP		PKPdf	04 36 56.3	-1.2
KIEV	Kiev	128.81	326	*e*PKPdf		PKPdf	04 36 56.3	-1.2
BRTR	Keskin Array B	130.65	312	PKP		PKPdf	04 37 01.6	+0.1
BRTR				PP		PP	04 39 16.0	-0.6
BRTR	Keskin Array B	130.65	312	PKP		PKPdf	04 37 01.6	+0.1
	comp=Z,1.5nm,0.9s,baz=109,slow=1.6,SNR=5.9							
BRTR				PP		PP	04 39 16.0	-0.6
	comp=Z,1.6nm,1.0s,baz=100,slow=7.5,SNR=3.5							
ANTO	Ankara	131.22	312	⫴ *i*P		PKPdf	04 37 04.7	+2.2
LVV	L'vov	132.06	328	*e*PKHKP		PKPpre	04 36 49.4	
CFR	Carcaliu	132.20	320	⫴ *i*P		PKPdf	04 37 05.7	+1.7
CSS	Prodhromos	132.28	306	*e*PKPdf		PKPdf	04 37 05.0	+0.4
TIRR	Tirgusor	132.36	319	⫴ *i*P		PKPdf	04 37 07.0	+2.6
TLB	Topalu	132.54	320	⫴ *i*P		PKPdf	04 37 05.8	+1.1
HARR	Harsova	132.56	320	⫴ *i*P		PKPdf	04 37 05.4	+0.7
BUR08	Bucovina Ar. S	132.67	325	*e*PKPdf		PKPdf	04 37 06.2	+1.2
BURAR	Bucovina Array	132.68	325	⫴ *i*P		PKPdf	04 37 06.5	+1.4
VRI	Vrincioaia	132.72	322	⫴ *i*P		PKPdf	04 37 06.5	+1.4
KWP	Kalwaria Pacla	132.86	328	⫴ *i*P		PKPdf	04 37 07.2	+2.0
ISR	Istrita	133.21	321	⫴ *i*P		PKPdf	04 37 11.1	+5.0
MLR	Muntele Rosu	133.39	322	⫴ *i*P		PKPdf	04 37 07.5	+1.0
DOPR	Dopca	133.47	323	⫴ *i*P		PKPdf	04 37 08.7	+2.2
STHS	Stebnicka Huta	133.74	329	*e*PKIKP		PKPdf	04 37 08.3	+1.4
STHS	Stebnicka Huta	133.74	329	*e*PKP		PKPdf	04 37 08.3	+1.4
TRPA	Tarpa	133.86	327	⫴ *i*P		PKPdf	04 37 07.4	+0.3
VOIR		133.95	322	⫴ *i*P		PKPdf	04 37 07.5	0.0
ARR	Arges	134.24	322	⫴ *i*P		PKPdf	04 37 07.7	-0.3
DRGR		134.55	325	⫴ *i*P		PKPdf	04 37 10.3	+1.7
LOT	Lotru	134.71	323	⫴ *i*P		PKPdf	04 37 04.9	-4.0
OKC	Ostrava-Krasne	134.98	331	*e*PKPdf		PKPdf	04 37 11.2	+2.1
OKC				AMS		AMS	05 41 10.0	
	comp=E,800nm,20.2s							
MORC	Moravsky Berou	135.30	331	*e*PKIKP		PKPdf	04 37 10.5	+0.7
MORC	Moravsky Berou	135.30	331	⫴ *i*P		PKPdf	04 37 11.1	+1.3
MORC	Moravsky Berou	135.30	331	*e*PKPdf		PKPdf	04 37 10.5	+0.7
PSZ	Piszkesteto	135.38	328	*e*PKIKP		PKPdf	04 37 10.8	+0.7
PSZ	Piszkesteto	135.38	328	⫴ *i*P		PKPdf	04 37 12.2	+2.1
PSZ	Piszkesteto	135.38	328	*e*PKPdf		PKPdf	04 37 10.8	+0.7
SIRR	Siria	135.45	325	⫴ *i*P		PKPdf	04 37 12.6	+2.4
DPC	Dobruska-Polom	135.46	333	*e*PKPdf		PKPdf	04 37 12.1	+2.0
DPC				*ep*PKP		pPKPdf	04 37 22.8	+5.8
DPC				*ex*		x	04 39 57.3	
UPC	Upice	135.48	333	*e*PKPdf		PKPdf	04 37 11.3	+1.2
BDFB	Brasilia	135.73	129	PKP		PKPdf	04 37 11.8	+0.1
BDFB	Brasilia	135.73	129	PKP		PKPdf	04 37 11.8	+0.1
	comp=Z,3.2nm,0.8s,baz=193,slow=8.9,SNR=6.5							
BZS	Buzias	135.86	324	⫴ *i*P		PKPdf	04 37 11.2	+0.3
VRAC	Vranov	136.07	331	⫴ *i*P		PKPdf	04 37 12.4	+1.2
PVCC	Panska Ves	136.09	334	*e*PKPdf		PKPdf	04 37 12.4	+1.2
PVCC				*ep*PKP		pPKPdf	04 37 23.4	+5.3
PVCC				AMS		AMS	05 43 00.0	
	comp=Z,2μm,17.9s							
BRG	Berggiesshubel	136.09	335	*e*PKP		PKPdf	04 37 12.3	+1.1
	comp=Z,7.4nm,0.9s							
BRG				*e*			04 37 23.1	
BRG				*e*			04 39 59.4	
	comp=Z,28nm,1.9s							
BRG				*e*PKS		PKSdf	04 40 43.9	-3.4
	comp=Z,7.6nm,1.0s							
BRG								
	comp=N,1μm,19.9s							
BRG								
	comp=E,377nm,18.5s							
BRG								
	comp=Z,2μm,17.3s							
CLL	Collm	136.15	336	*i* PKIKP		PKPdf	04 37 11.8	+0.5
CLL				pmax		pmax		
	comp=Z,19nm,1.0s							
CLL				MLR		MLR		
	comp=Z,1μm,21.3s							
CLL	Collm	136.15	336	*i* PKPdf		PKPdf	04 37 11.8	+0.5
	comp=Z,9.0nm,1.0s							
CLL				*i* PKiKP		PKiKP	04 37 13.7	+0.8
	comp=Z,11nm,0.9s							
CLL				LmV			05 43 00.0	
	comp=Z,1μm,21.3s							
PRA	Prague	136.49	334	PKPdf		PKPdf	04 37 13.0	+1.0
PRU	Pruhonice	136.50	334	*e*PKPdf		PKPdf	04 37 13.1	+1.1
PRU				*ep*PKP		pPKPdf	04 37 22.6	+3.7
PRU				AMS		AMS	05 45 10.0	
	comp=Z,1μm,23.3s							
VTS	Vitosha	136.58	320	⫴ *i*P		PKPdf	04 37 13.7	+1.1
TREC	Trest	136.59	332	*e*PKPdf		PKPdf	04 37 13.4	+1.2
TREC				*ep*PKP		pPKPdf	04 37 23.0	+3.9
TREC				AMS		AMS	05 45 10.0	
	comp=Z,1μm,22.7s							
ZST	Bratislava	136.60	330	*e*PKIKP		PKPdf	04 37 14.3	+2.1
ZST	Bratislava	136.60	330	*e*PKP		PKPdf	04 37 14.3	+2.1
KHC	Kasperske Hory	137.56	333	*e*PKIKP		PKPdf	04 37 13.5	-0.5
KHC	Kasperske Hory	137.56	333	*e*PKPdf		PKPdf	04 37 13.5	-0.5
KHC				*ep*PKP		pPKPdf	04 37 23.7	+2.8
KHC				*ex*		x	04 40 12.4	
KHC				*e*SKP			04 40 48.8	
KHC				AMS		AMS	05 44 00.0	
	comp=Z,1μm,18.4s							
KHC	Kasperske Hory	137.56	333	*e*PKPdf		PKPdf	04 37 13.5	-0.5
GERES	GERESS Array B	137.72	333	PKPpre		PKPpre	04 37 02.5	
GERES				PKP		PKPdf	04 37 14.7	+0.3
GERES				PP		PP	04 40 01.4	+0.8
GERES				SKPbc		SKPbc	04 40 48.4	+1.1
GERES	GERESS Array B	137.72	333	PKhKP		PKPpre	04 37 02.5	
	comp=Z,0.7nm,0.7s,baz=40,slow=2.3,SNR=6.2							
GERES				PKP		PKPdf	04 37 14.7	+0.3
	comp=Z,5.8nm,0.8s,baz=70,slow=1.6,SNR=29							
GERES				PP		PP	04 40 01.4	+0.8
	comp=Z,1.1nm,1.0s,baz=60,slow=7.9,SNR=3.6							
GERES				SKPbc		SKPbc	04 40 48.4	+1.1
	comp=Z,1.7nm,0.9s,baz=20,slow=3.1,SNR=6.2							
SOKA	Soboth	138.67	330	⫴ *i*PKiKP		PKPdf	04 37 17.6	+1.4
	comp=Z,16nm,1.3s							
MEM	Membach	139.25	341	PKP		PKPdf	04 37 16.3	-0.7
DOU	Dourbes	140.14	341	PKP		PKPdf	04 37 17.4	-1.3
BFO	Black Forest	140.35	337	*e*PKIKP		PKPdf	04 37 17.4	-1.7
BFO	Black Forest	140.35	337	*e*PKPdf		PKPdf	04 37 17.4	-1.7
ECH	Echery	140.88	338	*e*PKIKP		PKPdf	04 37 22.0	+1.9
ECH	Echery	140.88	338	*e*PKPdf		PKPdf	04 37 22.0	+1.9
TUE	Stuetta	141.43	334	*e*PKPdf		PKPdf	04 37 17.7	-3.7
OG01	Vacheresse	142.63	336	PKP		PKPdf	04 37 20.7	-2.7
CEL	Celeste	143.62	319	*e*PKPdf		PKPbc	04 37 22.9	+0.2
BNI	Bardonecchia	143.68	335	*e*PKIKP		PKPbc	04 37 22.7	-0.1
BNI	Bardonecchia	143.68	335	*e*PKPpre		PKPbc	04 37 22.7	-0.1
BNI				*e*PKPdf		PKPdf	04 37 25.3	-0.1
OG22	Abries	143.76	335	PKP		PKPdf	04 37 24.5	-1.1
GDM	Grand'Maison	143.78	336	PKP		PKPdf	04 37 25.3	-0.3
PLDF	La Plantade	144.06	339	PKP		PKPbc	04 37 23.9	+0.1
SURF	Saint Ours	144.09	335	PKP		PKPdf	04 37 25.7	-0.5
AGO	Saint Agoulin	144.16	340	PKP		PKPab	04 37 23.9	+0.3
SAOF	Saorge	144.17	333	PKP		PKPab	04 37 23.6	-0.2
AUTN	L'Aution	144.22	333	PKP		PKPab	04 37 23.9	-0.3
TOUF	Mont Tournerai	144.28	334	PKP		PKPab	04 37 24.1	-0.3
SSB	Saint Sauveur	144.33	338	*e*PKIKP		PKPbc	04 37 24.7	0.0
SSB	Saint Sauveur	144.33	338	PKP		PKPbc	04 37 24.7	0.0
SSB	Saint Sauveur	144.33	338	*e*PKPdf		PKPbc	04 37 24.7	0.0
LUCF	Luceram	144.34	333	PKP		PKPab	04 37 24.0	-0.5
MVIF	Mont Vial	144.42	334	PKP		PKPab	04 37 24.6	-0.2
REVF	Revere	144.45	333	PKP		PKPab	04 37 24.5	-0.3
PYM	Petit Puy Mans	144.47	340	PKP		PKPab	04 37 25.1	+0.2
OG25	Le Caire	144.49	335	PKP		PKPab	04 37 24.9	-0.1
VERF	Verneugheol	144.64	340	PKP		PKPab	04 37 25.4	-0.1
CALN	Calern	144.65	334	PKP		PKPab	04 37 25.4	-0.3
LCHF	La Chataignera	144.77	344	PKP		PKPbc	04 37 26.3	+0.4
LBL	Lubilhac	144.84	339	PKP		PKPbc	04 37 26.5	+0.2
FRNF	Fournols	144.94	340	PKP		PKPbc	04 37 27.0	+0.4
OLEF	Ile d'Oleron	145.60	345	PKP		PKPdf	04 37 27.9	-0.5
VSL	Villasalto	146.68	326	*e*PKPbc		PKPbc	04 37 31.7	-0.5
LRDF	Laroque-de-Fa	147.08	338	PKP		PKPbc	04 37 33.0	-0.2
SJAF	Saint Jean de	147.34	337	PKP		PKPbc	04 37 33.4	-0.5
CARF	Carcanieres	147.43	338	PKP		PKPbc	04 37 33.6	-0.7
MLS	Moulis	147.57	339	PKP		PKPbc	04 37 34.1	-0.4
SALF	Salau	147.72	339	PKP		PKPbc	04 37 34.8	-0.2
VALF	Valcebollere	147.73	338	PKP		PKPbc	04 37 35.0	-0.2
LABF	Labassere	147.84	341	PKP		PKPbc	04 37 35.4	+0.1
RESF	Ens	147.96	340	PKP		PKPbc	04 37 36.3	+0.6
REYF	Montagne du Re	147.96	341	PKP		PKPbc	04 37 36.5	+0.8
VIEF	Viey	148.00	341	PKP		PKPbc	04 37 36.2	+0.4
ATE	Arette	148.04	342	PKP		PKPbc	04 37 35.4	-0.4
LARF	Larrau	148.17	342	PKP		PKPbc	04 37 36.2	0.0
KEST	Kesra	149.29	321	*e*PKPbc		PKPbc	04 37 39.0	-0.3
KEST	Kesra	149.29	321	PKPbc		PKPbc	04 37 38.9	-0.4
	comp=Z,29nm,0.8s,baz=300,slow=2.6,SNR=39							
CMAH	Djebel Manchou	149.81	325	P		PKPbc	04 37 39.0	-1.6
CAEH	'Ain El Ouahch	150.02	325	P		PKPbc	04 37 41.0	0.0
ABSA	Djebel Ababsia	150.03	324	P		PKPbc	04 37 40.0	-1.1
SHEL	Horse Pasture	150.05	196	*e*PKIKP		PKPbc	04 37 42.4	+0.7
SHEL	Horse Pasture	150.05	196	*e*PKPbc		PKPbc	04 37 42.4	+0.7
CKFL	Kef-Lekhel	150.36	325	P		PKPbc	04 37 41.0	-1.0
CASM	Ain Smara	150.59	325	P		PKPbc	04 37 42.0	-0.4
DFRA	Djebel Bou Aff	150.72	326	P		PKPbc	04 37 42.6	-0.2
PBRG	Braganca	150.74	349	*e*PKPbc		PKPbc	04 37 41.7	-0.9
PBRG	Braganca	150.74	349	*e*PKPab		PKPab	04 37 49.0	-0.5
CTEI	Djebel Teioual	150.78	325	P		PKPbc	04 37 42.6	-0.4
PCAB	Cabril	151.05	351	*e*PKPbc		PKPbc	04 37 43.0	-0.3
SETF	Setif	151.23	326	P		PKPdf	04 37 40.0	+1.9
CKHR	Kef el Ahmar	151.31	326	P		PKPbc	04 37 44.0	-0.2
POLO	Lamas de Olo	151.34	351	*e*PKPbc		PKPbc	04 37 43.8	-0.3
POLO	Lamas de Olo	151.34	351	*e*PKPab		PKPab	04 37 51.0	-1.1
MVO	Moncorvo	151.42	349	*e*PKPbc		PKPbc	04 37 43.9	-0.3
PVRL	Vila Real	151.43	350	*e*PKPbc		PKPbc	04 37 43.1	-1.1
PVRL	Vila Real	151.43	350	*e*PKPab		PKPab	04 37 52.4	0.0
ABA	Alger-Bouzarea	151.98	330	P		PKPab	04 37 56.4	+1.6
PVIS	Viseu	152.00	350	*e*PKPbc		PKPbc	04 37 44.3	-1.3
ESDC	Sonseca Array	152.14	344	PKPbc		PKPbc	04 37 45.2	-0.7
ESDC				PP		PP	04 41 35.1	+8.8
ESDC	Sonseca Array	152.14	344	PKPbc		PKPbc	04 37 45.2	-0.7
	comp=Z,15nm,0.9s,baz=17,slow=2.2,SNR=46							
ESDC				PP		PP	04 41 35.1	+8.8
	comp=Z,0.2nm,0.4s,baz=26,slow=5.5,SNR=4.0							
ESLA	Sonseca Array	152.14	344	*e*PKPbc		PKPbc	04 37 45.5	-0.4
MTE	Manteigas	152.25	350	*e*PKPbc		PKPbc	04 37 45.9	-0.3
MTE	Manteigas	152.25	350	*e*PKPab		PKPab	04 37 54.8	-1.1
MTE	Manteigas	152.25	350	*e*PKPbc		PKPbc	04 37 46.1	-0.1
PAB	San Pablo	152.36	344	*e*PKIKP		PKPbc	04 37 45.6	-0.9
PAB	San Pablo	152.36	344	*e*PKPbc		PKPbc	04 37 45.5	-0.9
PCAS	Casmilo, Conde	152.74	351	*e*PKPbc		PKPbc	04 37 47.0	-0.2
PCBR	Castelo Branco	152.78	349	*e*PKPbc		PKPbc	04 37 46.5	-0.8
PTOM	Tomar	153.16	351	*e*PKPbc		PKPbc	04 37 47.8	-0.3
PMRV	Marv??o	153.17	349	*e*PKPbc		PKPbc	04 37 47.3	-0.9
PMRV	Marv??o	153.17	349	*e*PKPab		PKPab	04 38 01.2	+1.5
PMTG	Montargil	153.66	350	*e*PKPbc		PKPbc	04 37 48.5	-0.7
PESTR	Estremoz	153.75	349	*e*PKPbc		PKPbc	04 37 48.0	-1.4
PMAFR	Mafra	153.93	352	*e*PKPdf		PKPdf	04 37 38.6	-3.3
PBAR	Barrancos	154.31	348	*e*PKPbc		PKPbc	04 37 50.1	-0.5
PBAR	Barrancos	154.31	348	*e*PKPab		PKPab	04 38 03.8	-0.7
PBEJ	Beja	154.61	349	*e*PKPbc		PKPbc	04 37 50.8	-0.5
PBEJ	Beja	154.61	349	*e*PKPab		PKPab	04 38 06.2	+0.4
PNCL	Nicolau / Gran	154.65	350	*e*PKPab		PKPab	04 38 05.9	0.0
PCVE	Castro Verde	155.03	349	*e*PKPbc			04 37 50.8	
PCVE	Castro Verde	155.03	349	*e*PKPab		PKPab	04 38 07.5	-0.1
PVAQ	Vaqueiros	155.19	348	*e*PKPdf		PKPdf	04 37 41.4	-2.2
PVAQ	Vaqueiros	155.19	348	*e*PKPab		PKPab	04 38 08.7	+0.4
PTEO	Sao Teotonio	155.23	350	*e*PKPbc		PKPdf	04 37 51.9	+8.2
MORF	Marmelete

1.1nm,0.3s,baz=21,slow=5.2,SNR=3.9
EIDS Eidsvold 19.76 224 *e*P **Pn 04 40 39.0 -0.1**
CTA Charters Tower 20.85 243 P **P 04 40 50.5 +1.1**
CTA Charters Tower 20.85 243 P **P 04 40 50.5 +1.1**
13nm,0.6s,baz=67,slow=15,SNR=19
CTAO Charters Tower 20.85 243 *e*P **P 04 40 50.5 +1.1**
40nm,1.1s
LHI Lord Howe Isla 20.93 197 P Pn 04 41 03.5 +11
baz=22,SNR=4.2
RMQ Roma 22.07 225 P **P 04 41 04.0 +1.6**
baz=22,SNR=5.2
COEN Coen 22.44 261 P **P 04 41 07.5 +1.0**
baz=22,SNR=4.7
STKA Stephens Creek 30.31 224 *e*P **P 04 42 19.3 +0.8**
0.7nm,0.8s
STKA Stephens Creek 30.31 224 P **P 04 42 19.1 +0.6**
2.9nm,0.7s,baz=36,slow=6.8,SNR=5.9
H11N1 WAKE ISLAND Hy 31.04 2 T T 05 14 13.0
baz=184,slow=0.7,SNR=5.4
H11N3 WAKE ISLAND Hy 31.05 2 T T 05 14 14.2
baz=184,slow=0.7,SNR=3.9
H11N2 WAKE ISLAND Hy 31.06 2 T T 05 14 15.0
baz=184,slow=0.7,SNR=5.1
WRAB Tennant Creek 31.59 251 *e*P **P 04 42 29.6 -0.4**
WRA Warramunga Arr 31.61 251 P **P 04 42 29.5 -0.6**
WRA Warramunga Arr 31.61 251 P **P 04 42 29.5 -0.6**
8.3nm,1.0s,baz=84,slow=8.9,SNR=30
KDU Kakadu 32.84 264 P **P 04 42 40.4 -0.5**
baz=32,SNR=4.7
ASAR Alice Springs 32.85 244 P **P 04 42 40.1 -0.9**
ASAR pP **pP 04 42 53.9 +2.3**
ASAR Alice Springs 32.85 244 P **P 04 42 40.1 -0.9**
8.0nm,0.6s,baz=72,slow=9.5,SNR=56
ASAR pP **pP 04 42 53.9 +2.3**
1.6nm,0.6s,baz=78,slow=9.3,SNR=3.4
KNRA Kununurra 36.45 259 P **P 04 43 12.1 0.0**
baz=36,SNR=3.4
FITZ Fitzroy Crossi 39.55 256 P **P 04 43 38.1 -0.2**
FITZ Fitzroy Crossi 39.55 256 P **P 04 43 38.3 0.0**
baz=39,SNR=5.4
FITZ Fitzroy Crossi 39.55 256 P **P 04 43 38.1 -0.2**
3.6nm,0.5s,baz=91,slow=5.9,SNR=18
KAPI Kappang 46.23 274 *e*P **P 04 44 31.2 -1.2**
35nm,1.5s
KAPI Kappang 46.23 274 P **P 04 44 31.6 -0.8**
19nm,1.0s,baz=147,slow=5.0,SNR=7.6
MEEK Meekatharra 47.01 244 P **P 04 44 38.9 +0.4**
baz=47,SNR=4.8
KLBR Kellerberrin 48.71 238 P **P 04 44 51.5 -0.1**
baz=49,SNR=6.1
MORW Morawa 49.66 242 P **P 04 44 59.4 +0.5**
baz=50,SNR=3.6
VNDA Vanda 66.03 181 P **P 04 46 52.6 -0.4**
VNDA Vanda 66.03 181 P **P 04 46 52.6 -0.4**
0.7nm,0.7s,baz=11,slow=4.2,SNR=2.8
QSPA South Pole Qui 78.49 180 *e*P **P 04 48 07.8 +0.1**
7.6nm,1.1s
SONM Songino Array 79.22 324 P **P 04 48 12.2 +0.2**
SONM Songino Array 79.22 324 P **P 04 48 12.2 +0.2**
0.6nm,0.5s,baz=147,slow=8.1,SNR=3.2
ILAR Eielson Array 83.86 18 P **P 04 48 35.6 -0.3**
ILAR Eielson Array 83.86 18 P **P 04 48 35.6 -0.3**
0.4nm,0.5s,baz=258,slow=4.9,SNR=9.2
MAW Mawson 84.40 202 P **P 04 48 39.4 +0.7**
MAW Mawson 84.40 202 P **P 04 48 39.4 +0.7**
0.4nm,0.5s,baz=90,slow=8.1,SNR=2.2
W18A Petrified Fore 91.87 55 *e*P P 04 49 10.4 -5.0
MKAR Makanchi Array 94.07 317 P **P 04 49 25.1 +0.1**
MKAR pP **pP 04 49 37.1 +0.4**
MKAR Makanchi Array 94.07 317 P **P 04 49 25.1 +0.1**
1.3nm,0.7s,baz=100,slow=6.5,SNR=5.8
MKAR pP **pP 04 49 37.1 +0.4**
1.6nm,0.7s,baz=95,slow=5.7,SNR=6.2
ARCES ARCESS Array B 116.86 345 PKP **PKPdf 04 54 49.2 -1.4**
ARCES ARCESS Array B 116.86 345 PKP **PKPdf 04 54 49.2 -1.4**
2.8nm,0.8s,baz=56,slow=2.3,SNR=3.9
KEST Kesra 147.97 323 PKPbc **PKPbc 04 55 51.1 -1.4**
KEST Kesra 147.97 323 PKPbc **PKPbc 04 55 51.1 -1.4**
0.9nm,0.7s,baz=186,slow=3.3,SNR=4.2

IDC 08 04:37:28.8±1.9, 12°.96S×166°.13E, h0km, mb4.0/7, mb1 4.2/7, mb1mx4.0/18, mbtmp4.0/7, Error ellipse: s-maj=76.1km s-min=24.2km az=133.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.35 226**		P	P	04 43 33.8	+0.2
1.4nm,0.7s,baz=65,slow=12,SNR=1.9							
WRA	**Warramunga Arr**	**31.23 253**		P	P	04 43 49.9	-0.4
1.6nm,1.0s,baz=85,slow=10,SNR=2.6							
ASAR	**Alice Springs**	**32.32 246**		P	P	04 43 59.6	-0.3
1.2nm,0.5s,baz=74,slow=9.1,SNR=4.7							
FITZ	**Fitzroy Crossi**	**39.28 257**		P	P	04 45 00.5	+0.8
3.6nm,0.7s,baz=89,slow=9.8,SNR=3.6							
SONM	**Songino Array**	**80.42 324**		P	P	04 49 42.8	+0.3
0.4nm,0.6s,baz=93,slow=2.9,SNR=2.3							
ILAR	**Eielson Array**	**85.20 18**		P	P	04 50 07.5	+0.7
0.9nm,0.6s,baz=247,slow=4.8,SNR=7.3							
MKAR	**Makanchi Array**	**95.16 317**		P	P	04 50 53.3	-0.9
0.3nm,0.6s,baz=85,slow=5.8,SNR=2.2							
KEST	**Kesra**	**149.14 321**		PKPbc	PKPbc	04 57 19.0	-0.8
1.0nm,0.7s,baz=46,slow=4.3,SNR=3.2							
ESDC	**Sonseca Array**	**151.99 344**		PKPbc	PKPbc	04 57 25.6	-0.8
0.1nm,0.3s,baz=95,slow=0.2,SNR=2.8							

IDC 08 04:37:36.0±6.1, 13°.23S×166°.69E, h0km, mb4.2/7, mb1 4.3/7, mb1mx4.0/19, mbtmp4.1/7, Error ellipse: s-maj=181.2km s-min=34.9km az=128.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.68 253**		P	P	04 44 01.8	+0.3
0.9nm,0.6s,baz=79,slow=10.0,SNR=5.7							
ASAR	**Alice Springs**	**32.71 247**		P	P	04 44 10.8	+0.2
1.2nm,0.7s,baz=71,slow=9.6,SNR=3.0							
FITZ	**Fitzroy Crossi**	**39.76 258**		P	P	04 45 10.3	-0.7
2.5nm,0.6s,baz=95,slow=9.1,SNR=4.1							
CMAR	**Chiang Mai Arr**	**73.83 294**		P	P	04 49 13.1	0.0
1.0nm,0.3s,baz=112,slow=4.4							
SONM	**Songino Array**	**80.97 324**		P	P	04 49 53.4	+0.8
1.0nm,0.8s,baz=127,slow=3.8,SNR=3.7							
MKAR	**Makanchi Array**	**95.74 317**		P	P	04 51 04.3	+0.2
1.6nm,0.8s,baz=95,slow=6.8,SNR=5.8							
ZALV	**Zalesovo Beam**	**95.86 324**		P	P	04 51 03.3	-1.1
0.5nm,0.6s,baz=108,slow=7.7,SNR=3.0							
TORD	**Torodi Ar. Bea**	**165.39 271**		PKPab	PKPab	04 58 41.3	-0.3
0.9nm,1.1s,baz=151,slow=3.3,SNR=3.4							

IDC 08 04:38:37.1±1.1, 13°.09S×165°.94E, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.2/18, mbtmp4.2/9, ML4.9/1, Error ellipse: s-maj=34.1km s-min=23.6km az=112.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.91 301**		Pn	Pn	04 40 20.5	+0.8
22nm,0.3s,baz=135,slow=2.9,SNR=3.2							
CTA	**Charters Tower**	**20.10 247**		P	Pn	04 43 15.8	+1.5
6.7nm,0.8s,baz=79,slow=13,SNR=3.4							
STKA	**Stephens Creek**	**29.13 226**		P	P	04 44 41.3	+1.4
5.1nm,0.9s,baz=47,slow=9.1,SNR=4.3							
WRA	**Warramunga Arr**	**31.02 253**		P	P	04 44 55.5	-1.2
0.9nm,0.7s,baz=83,slow=9.6,SNR=3.2							
ASAR	**Alice Springs**	**32.10 246**		P	P	04 45 06.0	-0.2
3.3nm,0.8s,baz=75,slow=9.9,SNR=6.3							
MJAR	**Matsushiro Arr**	**55.86 333**		P	P	04 48 16.5	-0.1
1.3nm,0.3s,baz=132,slow=8.5,SNR=5.1							
VNDA	**Vanda**	**64.47 181**		P	P	04 49 15.2	+0.2
0.6nm,0.4s,baz=32,slow=2.8,SNR=3.9							
SONM	**Songino Array**	**80.42 324**		P	P	04 50 51.0	+0.2
1.3nm,1.1s,baz=126,slow=4.2,SNR=4.1							
ILAR	**Eielson Array**	**85.39 18**		P	P	04 51 16.3	+0.3
1.2nm,0.7s,baz=234,slow=5.7,SNR=7.7							
MKAR	**Makanchi Array**	**95.13 317**		P	P	04 52 02.5	+0.1
0.7nm,0.7s,baz=102,slow=5.3,SNR=3.6							
ARCES	**ARCESS Array B**	**118.35 345**		PKP	PKPdf	04 57 24.1	-1.9
9.1nm,1.2s,baz=121,slow=3.5,SNR=3.2							
KEST	**Kesra**	**149.13 321**		PKPbc	PKPbc	04 58 27.8	-0.2
1.9nm,0.9s,baz=169,slow=1.9,SNR=3.6							

*IDC **08** 04:38:45.9±0.5, 12°.98S×165°.94E, h0km, mb4.8/25, mb1 4.9/25, mb1mx4.8/27, mbtmp4.7/25, MS5.0/1, Ms1 5.0/1, ms1mx4.2/25, Error ellipse: s-maj=18.0km s-min=13.6km az=116.0*

*ISCJB **08** 04:38:47.9±0.3, 12°.92S±0°.04×165°.98E±0°.05, h20km, mb5.0/64, MS5.0/10, Error ellipse: s-maj=7.2km s-min=5.3km az=11.7*

*MOS **08** 04:38:49.0±1.1, 13°.00S×166°.02E, h33km, mb5.3/13, Error ellipse: s-maj=11.3km s-min=9.6km az=13.0*

*NEIC **08** 04:38:50.9±0.3, 12°.92S×166°.00E, h35km, mb5.0/23, Error ellipse: s-maj=7.7km s-min=7.7km az=57.0*

*BJI **08** 04:38:51.6, 12°.30S×166°.32E, h35km, mB5.5/29, mb5.0/38, Ms5.3/23, Ms7 5.0/22*

*AUST **08** 04:38:58.8±1.6, 12°.98S×165°.94E, h100km±17km, Error ellipse: s-maj=12.9km s-min=6.3km az=8.0*

*DJA **08** 04:38:59.2±1.4, 13°.S±7°×16°.6E±°, h77km±17km, M5.0/14, mB6.1/1, mb5.0/14, Mw(mB)5.7/1*

ISC 08 04:38:49.3±0.3, 12°.93S±0°.05×166°.04E±0°.06, h20km, n215, σ1s70/235, mb5.1/64, MS5.0/10, 10C-8D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.92 300**		Sn	Sn	04 41 44.6	-3.1
HNR	**Honiara**	**6.92 300**		Sn	Sn	04 41 44.6	-3.1
baz=168,slow=20,SNR=1.5							
DZM	**Mont Dzumac**	**9.10 178**		*e*Pn	Pn	04 41 03.9	+4.3
90nm,0.3s							
DZM				*e*LR	LR	04 43 14.7	
9µm,24.4s							
DZM	**Mont Dzumac**	**9.10 178**		*e*Pn	**Pn**	**04 41 00.1**	**+0.4**
46nm,0.4s							
DZM				*e*S	Sn	04 42 54.0	+12
DZM	**Mont Dzumac**	**9.10 178**		Pn	Pn	04 41 03.3	+3.7
4.3nm,0.3s,baz=329,slow=18,SNR=7.2							
DZM				Sn	**Sn**	**04 42 41.6**	**+0.1**
baz=126,slow=19,SNR=1.9							
MSVF	**Nonsavu**	**12.53 114**		*e*P	**Pn**	**04 41 46.7**	**+0.1**
MSVF	**Nonsavu**	**12.53 114**		*e*Pn	**Pn**	**04 41 46.7**	**+0.1**
TARA	**Tarawa**	**15.75 26**		*e*Pn	**Pn**	**04 42 28.8**	**-1.4**
358nm,1.4s							
EIDS	**Eidsvold**	**18.75 227**		*e*Pn	**Pn**	**04 43 08.1**	**+0.4**
41nm,0.8s							
EIDS	**Eidsvold**	**18.75 227**		⇓P	**Pn**	**04 43 09.1**	**+1.5**
baz=19,SNR=12							
PMG	**Port Moresby**	**18.85 279**		P	**Pn**	**04 43 10.9**	**+2.0**
83nm,1.2s							
PMG	**Port Moresby**	**18.85 279**		*e*Pn	**Pn**	**04 43 09.2**	**+0.3**
108nm,1.2s							
PMG	**Port Moresby**	**18.85 279**		P	**Pn**	**04 43 10.3**	**+1.4**
1.0nm,0.3s,baz=131,slow=5.0,SNR=9.8							
CTA	**Charters Tower**	**20.25 247**		P	Pn	04 43 25.1	-0.5
CTA	**Charters Tower**	**20.25 247**		⇑P	Pn	04 43 25.3	-0.2
baz=20							
CTA	**Charters Tower**	**20.25 247**		P	Pn	04 43 25.1	-0.5
48nm,1.0s,baz=74,slow=13,SNR=20							
CTAO	**Charters Tower**	**20.25 247**		*e*P	**P**	**04 43 24.1**	**+0.5**
CTAO				pmax	pmax		
comp=Z,103nm,1.2s							
CTAO	**Charters Tower**	**20.25 247**		*e*P	**P**	**04 43 24.1**	**+0.5**
comp=Z,103nm,1.2s							
RMQ	**Roma**	**21.09 228**		⇓P	**P**	**04 43 36.0**	**+3.3**
baz=21,SNR=12							
ARMA	**Armidale**	**21.91 215**		*e*P	**P**	**04 43 42.5**	**+0.9**
comp=Z,45nm,1.0s							
ARMA	**Armidale**	**21.91 215**		⇑P	**P**	**04 43 43.0**	**+1.5**
baz=22,SNR=4.8							
COEN	**Coen**	**22.26 265**		*e*P	**P**	**04 43 45.9**	**+0.6**
comp=Z,412nm,1.1s							
COEN	**Coen**	**22.26 265**		⇓P	**P**	**04 43 46.1**	**+0.8**
baz=22,SNR=8.4							
OUZ	**Omahuta**	**23.22 164**		*e*P	**P**	**04 43 55.0**	**-0.1**
comp=Z,65nm,1.4s							
NIUE	**Niue**	**23.88 108**		⇓P	**P**	**04 44 04.1**	**+2.3**
baz=24							
MGCD	**Mangrove Creek**	**24.36 212**		⇓P	**P**	**04 44 08.3**	**+2.3**
baz=24							
QLP	**Quilpie**	**24.55 233**		P	**P**	**04 44 08.6**	**+0.7**
baz=24,SNR=11							
RIV	**Riverview**	**24.82 211**		⇓P	**P**	**04 44 11.2**	**+1.0**
baz=25							
CMSA	**Cobar Meteorol**	**26.32 222**		P	**P**	**04 44 24.5**	**+0.6**
baz=26,SNR=11							
YNG	**Young**	**26.63 214**		P	**P**	**04 44 28.1**	**+1.4**
baz=27,SNR=5.0							
CNB	**Canberra Magne**	**26.90 211**		⇑P	**P**	**04 44 30.1**	**+0.9**
baz=27							
URZ	**Urewera**	**27.08 161**		P	**P**	**04 44 34.3**	**+3.7**
URZ	**Urewera**	**27.08 161**		P	**P**	**04 44 34.3**	**+3.7**
comp=Z,3.0nm,0.4s,baz=252,slow=3.2,SNR=2.8							
STKA	**Stephens Creek**	**29.31 226**		*e*P	**P**	**04 44 49.5**	**-1.1**
comp=Z,12nm,1.3s							
STKA	**Stephens Creek**	**29.31 226**		P	**P**	**04 44 51.2**	**+0.6**
baz=29,SNR=8.2							
STKA	**Stephens Creek**	**29.31 226**		P	**P**	**04 44 50.8**	**+0.1**
comp=Z,16nm,0.8s,baz=22,slow=7.9,SNR=7.2							
TOO	**Toolangi**	**30.64 213**		P	**P**	**04 45 03.1**	**+0.7**
baz=31,SNR=4.0							
RPZ	**Rata Peaks**	**30.98 173**		*e*P	**P**	**04 45 04.2**	**-1.0**
comp=Z,59nm,1.0s							
RPZ	**Rata Peaks**	**30.98 173**		P	**P**	**04 45 04.4**	**-0.8**
comp=Z,42nm,0.8s,baz=310,slow=2.0,SNR=11							
WRAB	**Tennant Creek**	**31.14 253**		*e*P	**P**	**04 45 05.6**	**-1.5**
WRAB				pmax	pmax		
comp=Z,11nm,1.0s							
WRAB	**Tennant Creek**	**31.14 253**		*e*P	**P**	**04 45 05.5**	**-1.5**
comp=Z,11nm,1.0s							
WRA	**Warramunga Arr**	**31.15 253**		P	**P**	**04 45 05.3**	**-1.8**
WRA				PcP	**PcP**	**04 48 01.8**	**-0.3**
WRA	**Warramunga Arr**	**31.15 253**		P	**P**	**04 45 05.3**	**-1.8**
comp=Z,8.3nm,0.9s,baz=82,slow=8.7,SNR=12							
WRA				PcP	**PcP**	**04 48 01.8**	**-0.3**
comp=Z,3.1nm,0.9s,baz=84,slow=2.6,SNR=5.8							
WRA				LR	LR	04 56 10.4	
comp=Z,3µm,19.7s,baz=70,slow=34							
AS17	**Alice Springs**	**32.17 246**		⇑P	**P**	**04 45 14.9**	**-1.1**
baz=32							
AS07	**Alice Springs**	**32.19 246**		⇓P	**P**	**04 45 15.0**	**-1.2**
baz=32							
AS02	**Alice Springs**	**32.22 246**		⇑P	**P**	**04 45 15.4**	**-1.1**
baz=32							
ASAR	**Alice Springs**	**32.25 246**		P	**P**	**04 45 15.6**	**-1.2**
ASAR				PcP	**PcP**	**04 48 04.8**	**-0.2**
ASAR	**Alice Springs**	**32.25 246**		P	**P**	**04 45 15.6**	**-1.2**
comp=Z,26nm,0.9s,baz=75,slow=9.6,SNR=27							
ASAR				PcP	**PcP**	**04 48 04.8**	**-0.2**
comp=Z,4.9nm,0.9s,baz=87,slow=2.5,SNR=8.3							
BBOO	**Buckleboo**	**33.79 229**		*e*P	**P**	**04 45 29.9**	**-0.2**
comp=Z,970nm,1.1s							
BBOO	**Buckleboo**	**33.79 229**		P	**P**	**04 45 30.2**	**+0.2**
baz=34,SNR=9.8							
KNRA	**Kununurra**	**36.19 261**		P	**P**	**04 45 50.8**	**-0.2**
baz=36,SNR=4.3							
FITZ	**Fitzroy Crossi**	**39.21 257**		P	**P**	**04 46 16.4**	**-0.1**
comp=Z,43nm,1.3s							
FITZ	**Fitzroy Crossi**	**39.21 257**		P	**P**	**04 46 16.5**	**0.0**
baz=39,SNR=7.7							
FITZ	**Fitzroy Crossi**	**39.21 257**		P	**P**	**04 46 16.4**	**-0.1**
comp=Z,32nm,1.1s,baz=110,slow=7.1,SNR=12							
FORT	**Forrest**	**39.23 237**		*e*P	**P**	**04 46 16.3**	**-0.2**
comp=Z,54nm,0.8s							
FORT	**Forrest**	**39.23 237**		⇓P	**P**	**04 46 16.6**	**+0.1**
baz=39							
LBMI	**Labuha**	**40.09 285**		P	**P**	**04 46 25.1**	**+1.2**
comp=Z,112nm,1.1s							
SOEI	**Soe**	**41.05 270**		P	P	04 46 35.3	+3.4
comp=Z,50nm,0.4s							
PPT2	**Papeete2**	**43.00 102**		*e*LQ	LQ	04 56 50.3	
comp=Z,4µm,26.5s							
PPT2				*e*LR	LR	04 58 37.5	
comp=Z,6µm,27.8s,baz=267							
TBI	**Tubuai**	**43.39 110**		*e*LQ	LQ	04 56 55.8	
comp=Z,2µm,27.2s							
TBI				*e*LR	LR	04 58 47.7	
comp=Z,2µm,23.5s							
KAPI	**Kappang**	**46.33 275**		P	**P**	**04 47 13.5**	**-0.9**
KAPI	**Kappang**	**46.33 275**		P	**P**	**04 47 13.5**	**-0.9**
comp=Z,5.0nm,0.7s,baz=80,slow=17,SNR=2.2							
MEEK	**Meekatharra**	**46.40 246**		P	**P**	**04 47 15.0**	**+0.1**
baz=46,SNR=8.5							
KLBR	**Kellerberrin**	**47.97 239**		P	**P**	**04 47 26.4**	**-0.5**
baz=48,SNR=4.7							
NWAO	**Narrogin (SRO)**	**48.67 237**		*e*P	**P**	**04 47 33.4**	**+1.1**
NWAO	**Narrogin (SRO)**	**48.67 237**		P	**P**	**04 47 31.9**	**-0.4**
comp=Z,28nm,0.9s,baz=104,slow=7.8,SNR=7.5							
MORW	**Morawa**	**48.99 243**		⇑P	**P**	**04 47 34.7**	**-0.2**
baz=49,SNR=6.3							
MJAR	**Matsushiro Arr**	**55.77 333**		P	**P**	**04 48 24.2**	**-0.8**
MJAR	**Matsushiro Arr**	**55.77 333**		P	**P**	**04 48 24.2**	**-0.8**
comp=Z,6.0nm,0.7s,baz=172,slow=8.8,SNR=8.8							
MAT	**Matsushiro**	**55.77 333**		P	**P**	**04 48 24.2**	**-0.8**
RKT	**Rikitea**	**56.68 109**		*e*LQ	LQ	05 02 35.7	
comp=Z,1µm,28.2s							
KSM	**Kuching**	**57.10 280**		*e*P	**P**	**04 48 34.3**	**-0.6**
comp=Z,21nm,1.0s							
ASAJ	**Asahikawa**	**60.66 341**		*e*P	**P**	**04 48 58.6**	**-0.3**
comp=Z,11nm,0.9s							
ASAJ	**Asahikawa**	**60.66 341**		P	**P**	**04 48 59.0**	**0.0**
comp=Z,20nm,0.8s,baz=193,slow=11,SNR=9.0							
KSRS	**Korea Array**	**61.59 326**		P	**P**	**04 49 06.5**	**+1.1**
comp=Z,2.3nm,0.8s,baz=148,slow=6.4,SNR=5.3							
KSAR	**Wonju Array Be**	**61.60 326**		P	**P**	**04 49 06.5**	**+1.0**
YSS	**Yuzh-Sakhalins**	**63.16 342**		*e*P	**P**	**04 49 15.0**	**-0.7**
YSS				pmax	pmax		
comp=Z,40nm,1.0s							
QIZ	**Qiongzhong**	**63.83 299**		P	**P**	**04 49 21.3**	**+0.6**
QIZ				S	**S**	**04 57 51.6**	**-3.7**
QIZ				AMB	AMB		
comp=Z,11nm,1.7s							
VNDA	**Vanda**	**64.62 181**		*e*P	**P**	**04 49 24.7**	**-0.4**
comp=Z,10nm,1.1s							
VNDA	**Vanda**	**64.62 181**		P	**P**	**04 49 24.6**	**-0.4**
comp=Z,2.7nm,0.8s,baz=354,slow=7.4,SNR=10							
USRK	**Ussuriysk Arra**	**64.75 334**		P	**P**	**04 49 26.4**	**+0.2**
comp=Z,15nm,1.0s,baz=145,slow=7.0,SNR=15							
SBA	**Scott Base**	**64.92 180**		*e*P	**P**	**04 49 26.7**	**-0.3**
SBA				pmax	pmax		
comp=Z,38nm,1.4s							
SBA	**Scott Base**	**64.92 180**		*e*P	**P**	**04 49 26.6**	**-0.3**
comp=Z,38nm,1.4s							
MDJ	**Mudanjiang**	**66.14 332**		P	**P**	**04 49 36.7**	**+1.4**
MDJ				AMB	AMB		
comp=Z,18nm,0.9s							
PETK	**Petropavlovsk-**	**66.16 355**		P	**P**	**04 49 33.8**	**-1.4**
PETK	**Petropavlovsk-**	**66.16 355**		P	**P**	**04 49 33.8**	**-1.4**
PETK	**Petropavlovsk-**	**66.16 355**		P	**P**	**04 49 33.8**	**-1.4**
comp=Z,7.0nm,0.9s,baz=109,slow=8.2,SNR=4.9							
IPM	**Ipoh**	**66.84 281**		*e*P	**P**	**04 49 40.7**	**+0.3**
comp=Z,7.8nm,0.6s							
CN2	**Changchun**	**67.50 329**		*e*P	**P**	**04 49 44.7**	**+0.7**
CN2				*es*P	sP	04 49 59.0	+6.1
CN2				*e*S	**S**	**04 58 39.0**	**-0.3**
CN2				AMB	AMB		
comp=Z,30nm,0.9s							
CN2				AMB	AMB		
comp=Z,200nm,4.0s							
CN2				LR	LR		
comp=Z,450nm,13.0s							
CN2				LR	LR		
comp=Z,370nm,13.0s							
CN2				LR	LR		
comp=Z,700nm,15.0s							
SKNT	**Sakolnakorn**	**68.12 294**		P	**P**	**04 49 49.5**	**+1.1**
comp=Z,30nm,1.0s,comp=Z,2µm							
PSI	**Prapat**	**68.41 278**		P	**P**	**04 49 48.8**	**-1.7**
PSI	**Prapat**	**68.41 278**		P	**P**	**04 49 48.8**	**-1.7**
comp=Z,4.0nm,0.2s,baz=315,slow=12,SNR=8.1							
KLR	**Kul'dur**	**68.89 337**		*e*P	P	04 49 48.8	-3.8
KLR				pmax	pmax		
comp=Z,120nm,1.6s							
GYA	**Guiyang**	**69.72 305**	⇑	*i*P	**P**	**04 50 00.2**	**+1.9**
GYA				pP	pP	04 50 11.7	+6.8
GYA				PP	**PP**	**04 52 37.9**	**+5.1**
GYA				S	**S**	**04 59 05.6**	**-1.0**
GYA				sS	sS	04 59 23.4	+6.0
GYA				SKS	**SKSac**	**04 59 53.0**	**-5.5**
GYA				SS	**SS**	**05 03 37.8**	**+2.4**
GYA				AMB	AMB		
comp=Z,30nm,1.0s							
GYA				AMB	AMB		
comp=Z,120nm,5.8s							
GYA				LR	LR		
comp=Z,1µm,18.3s							
GYA				LR	LR		
comp=Z,870nm,19.5s							
GYA				LR	LR		
comp=Z,1µm,18.2s							
BJI	**Beijing**	**70.12 321**		P	**P**	**04 50 02.0**	**+1.6**
BJI				S	**S**	**04 59 09.1**	**-1.5**
BJI				AMB	AMB		
comp=Z,15nm,1.0s							
BJI				AMB	AMB		
comp=Z,460nm,4.8s							
BJI				LR	LR		
comp=Z,690nm,19.1s							
BJI				LR	LR		
comp=Z,750nm,19.1s							
BJI				LR	LR		
comp=Z,530nm,49.1s							
XAN	**Xi'an**	**71.60 313**		P	**P**	**04 50 10.4**	**+0.8**
XAN				pP	**pP**	**04 50 19.9**	**+3.8**
XAN				sP	sP	04 50 24.7	+6.2
XAN				AMB	AMB		
comp=Z,3.0nm,0.8s							
XAN				AMB	AMB		
comp=Z,92nm,6.7s							
XAN				LR	LR		
comp=Z,480nm,17.4s							
XAN				LR	LR		
comp=Z,170nm,16.4s							
NANT	**Nan**	**71.69 295**		P	**P**	**04 50 12.4**	**+2.0**
comp=Z,25nm,1.2s							
KMI	**Kunming**	**72.35 302**		P	**P**	**04 50 16.5**	**+2.0**
KMI				pP	PcP	04 50 26.8	-5.6
KMI				sP	sP	04 50 31.0	+7.6
KMI				PP	**PP**	**04 52 59.5**	**+3.9**
KMI				S	**S**	**04 59 40.4**	**+3.0**
KMI				sS	**SKiKP**	**04 59 55.3**	**+5.7**
KMI				AMB	AMB		
comp=Z,19nm,0.9s							
KMI				AMB	AMB		
comp=Z,420nm,5.9s							
KMI				LR	LR		
comp=Z,270nm,17.6s							
KMI				LR	LR		
comp=Z,460nm,18.2s							
KMI				LR	LR		
comp=Z,700nm,21.7s							
CMAR	**Chiang Mai Arr**	**73.13 294**		P	**P**	**04 50 20.2**	**+1.3**
CMAR	**Chiang Mai Arr**	**73.13 294**		P	**P**	**04 50 20.2**	**+1.3**
comp=Z,12nm,1.0s,baz=119,slow=4.6							
CHTO	**Chiang Mai**	**73.25 294**		*e*P	**P**	**04 50 19.0**	**-0.7**
CHTO				pmax	pmax		
comp=Z,59nm,1.2s							
CHTO

	comp=Z,860nm,16.1s								
LZH	**Lanzhou**	**76.23**	**312**	*e*P		**P**	**04 50 38.8**	**+2.0**
LZH				pP		**PcP**	**04 50 49.3**	**+0.5**
LZH				sP		sP	04 50 53.9	+8.1
LZH				*e*PP		**PP**	**04 53 31.7**	**+3.3**
LZH				*e*S		**S**	**05 00 20.2**	**-0.3**
LZH				sS		sS	05 00 37.6	+6.2
LZH				AMB		AMB		
	comp=Z,35nm,1.5s							
LZH				AMB		AMB		
	comp=Z,150nm,8.4s							
LZH				LR		LR		
	comp=Z,1μm,18.0s							
LZH				LR		LR		
	comp=Z,1μm,17.9s							
LZH				LR		LR		
	comp=Z,2μm,19.5s							
SEY	**Seymchan**	**76.37**	**354**⇑	*e*P		**P**	**04 50 35.8**	**-1.0**
QSPA	**South Pole Qui**	**77.08**	**180**	*e*P		**P**	**04 50 39.7**	**-1.4**
	comp=Z,36nm,1.1s							
YAK	**Yakutsk**	**79.98**	**344**	*e*P		**P**	**04 50 55.2**	**-1.5**
YAK				pmax		pmax		
	comp=Z,25nm,1.0s							
ULN	**Ulaanbaatar**	**79.99**	**324**	*e*P		**P**	**04 50 57.2**	**-0.1**
	comp=Z,26nm,1.3s							
SONM	**Songino Array**	**80.35**	**324**	P		**P**	**04 50 59.0**	**-0.3**
SONM	**Songino Array**	**80.35**	**324**	P		**P**	**04 50 59.0**	**-0.3**
	comp=Z,4.2nm,1.0s,baz=133,slow=5.2,SNR=15							
GTA	**Gaotai**	**80.57**	**314**	P		**P**	**04 51 02.7**	**+2.0**
GTA				pP		PcP	04 51 13.2	+5.7
GTA				sP		sP	04 51 17.1	+7.4
GTA				S		**S**	**05 01 09.5**	**+2.7**
GTA				AMB		AMB		
	comp=Z,11nm,1.2s							
GTA				AMB		AMB		
	comp=Z,380nm,7.4s							
GTA				LR		LR		
	comp=Z,430nm,19.5s							
GTA				LR		LR		
	comp=Z,400nm,21.9s							
GTA				LR		LR		
	comp=Z,670nm,21.4s							
MAW	**Mawson**	**83.09**	**202**	*e*P		**P**	**04 51 11.2**	**-2.1**
	comp=Z,0.3nm,0.8s							
MAW	**Mawson**	**83.09**	**202**	P		**P**	**04 51 12.0**	**-1.2**
	comp=Z,3.3nm,1.0s,baz=98,slow=8.2,SNR=3.5							
ZAK	**Zakamensk**	**83.40**	**325**	*e*P		**P**	**04 51 14.6**	**-0.7**
ZAK				pmax		pmax		
	comp=Z,10.0nm,1.4s							
TLY	**Talaya**	**83.84**	**326**	*e*P		**P**	**04 51 17.7**	**+0.3**
TLY				*e*			04 51 27.4	
TLY				pmax		pmax		
	comp=Z,32nm,1.8s							
COLA	**College**	**84.98**	**18**	*e*P		**P**	**04 51 22.4**	**-0.4**
COLA				pmax		pmax		
	comp=Z,12nm,0.7s							
COLA	**College**	**84.98**	**18**	*e*P		**P**	**04 51 22.4**	**-0.4**
	comp=Z,12nm,0.7s							
YBH	**Yreka Blue Hor**	**85.00**	**45**	P		**P**	**04 51 25.9**	**+2.2**
YBH	**Yreka Blue Hor**	**85.00**	**45**	P		**P**	**04 51 25.9**	**+2.2**
	comp=Z,4.4nm,1.0s,baz=225,slow=7.1,SNR=3.3							
ILAR	**Eielson Array**	**85.20**	**18**	P		**P**	**04 51 24.5**	**+0.5**
ILAR	**Eielson Array**	**85.20**	**18**	P		**P**	**04 51 24.5**	**+0.5**
	comp=Z,4.8nm,0.8s,baz=229,slow=5.8,SNR=7.7							
NVAR	**Mina Array Bea**	**87.02**	**50**	P		**P**	**04 51 35.9**	**+2.0**
NVAR	**Mina Array Bea**	**87.02**	**50**	P		**P**	**04 51 35.9**	**+2.0**
	comp=Z,1.8nm,0.8s,baz=231,slow=7.5,SNR=4.2							
EGAK	**Eagle**	**87.04**	**20**	*e*P		**P**	**04 51 34.3**	**+1.2**
	comp=Z,4.9nm,0.8s							
HVS	**Khovu-Aksy**	**89.22**	**323**	*ce*P		**P**	**04 51 44.4**	**+0.6**
HVS				pmax		pmax		
	comp=Z,84nm,1.7s							
WMQ	**Urumqi**	**90.62**	**315**	P		**P**	**04 51 51.9**	**+1.4**
WMQ				pP		pP	04 52 02.5	+5.3
WMQ				sP		sP	04 52 06.4	+6.8
WMQ				AMB		AMB		
	comp=Z,18nm,0.5s							
WMQ				AMB		AMB		
	comp=Z,190nm,4.8s							
NEW	**Newport**	**90.98**	**41**	P		**P**	**04 51 53.9**	**+1.8**
NEW	**Newport**	**90.98**	**41**	P		**P**	**04 51 53.9**	**+1.8**
	comp=Z,1.6nm,0.7s,baz=243,slow=4.5,SNR=3.0							
PDAR	**Pinedale Array**	**94.61**	**47**	P		**P**	**04 52 11.3**	**+2.1**
PDAR	**Pinedale Array**	**94.61**	**47**	P		**P**	**04 52 11.3**	**+2.1**
	comp=Z,0.6nm,0.9s,baz=290,slow=2.6,SNR=3.1							
MK31	**Makanchi Array**	**95.08**	**317**	*e*P		**P**	**04 52 10.6**	**-0.4**
MK31	**Makanchi Array**	**95.08**	**317**	*e*P		**P**	**04 52 10.6**	**-0.4**
MKAR	**Makanchi Array**	**95.08**	**317**	P		**P**	**04 52 11.2**	**+0.2**
MKAR	**Makanchi Array**	**95.08**	**317**	P		**P**	**04 52 11.2**	**+0.2**
MKAR	**Makanchi Array**	**95.08**	**317**	P		**P**	**04 52 11.2**	**+0.2**
	comp=Z,2.8nm,0.7s,baz=94,slow=5.5,SNR=12							
ZAA0	**Zalesovo Array**	**95.25**	**324**	*e*P		**P**	**04 52 10.4**	**-1.1**
ZALV	**Zalesovo Beam**	**95.25**	**324**	P		**P**	**04 52 09.9**	**-1.6**
ZALV	**Zalesovo Beam**	**95.25**	**324**	P		**P**	**04 52 09.9**	**-1.6**
ZALV	**Zalesovo Beam**	**95.25**	**324**	P		**P**	**04 52 09.9**	**-1.6**
	comp=Z,6.1nm,0.9s,baz=106,slow=5.3,SNR=13							
SNAA	**Sanae**	**95.26**	**184**	*e*P		**P**	**04 52 09.4**	**-2.1**
	comp=Z,5.3nm,1.0s							
KURK	**Kurchatov**	**98.27**	**320**	P		**P**	**04 52 23.9**	**-1.4**
KURK	**Kurchatov**	**98.27**	**320**	P		**P**	**04 52 23.9**	**-1.4**
KURBB	**Kurchatov Arra**	**98.31**	**320**	P		**P**	**04 52 23.9**	**-1.6**
	comp=Z,0.5nm,0.2s,baz=101,slow=3.2,SNR=5.0							
BVAR	**Borovoye Array**	**103.60**	**322**	P		**Pdif**	**04 52 49.8**	**+0.7**
BVAR	**Borovoye Array**	**103.60**	**322**	Pdif		**Pdif**	**04 52 49.8**	**+0.7**
BVAR	**Borovoye Array**	**103.60**	**322**	Pdiff		**Pdif**	**04 52 49.8**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=64,slow=3.4,SNR=2.6							
ARCES	**ARCESS Array B**	**118.22**	**345**	PKP		**PKPdf**	**04 57 32.1**	**-2.4**
ARCES	**ARCESS Array B**	**118.22**	**345**	PKP		**PKPdf**	**04 57 32.1**	**-2.4**
	comp=Z,2.6nm,0.8s,baz=54,slow=2.1,SNR=5.7							
LPAZ	**La Paz**	**119.09**	**117**	PKP		**PKPdf**	**04 57 37.7**	**-0.8**
LPAZ	**La Paz**	**119.09**	**117**	PKP		**PKPdf**	**04 57 37.7**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=154,slow=4.3,SNR=2.3							
OBN	**Obninsk**	**122.55**	**328**⇑	*i*PKIKP		**PKPdf**	**04 57 41.6**	**-1.6**
OBN				*e*			04 59 21.1	
OBN				*e*			05 04 48.2	
OBN				*e*PS		**PS**	**05 09 21.4**	**+5.9**
OBN				pmax		pmax		
	comp=Z,10.0nm,0.5s							
KBZ	**Khabaz**	**122.66**	**314**	PKIKP		**PKPdf**	**04 57 43.7**	**-0.1**
KBZ	**Khabaz**	**122.66**	**314**	PKP		**PKPdf**	**04 57 43.7**	**-0.1**
KBZ	**Khabaz**	**122.66**	**314**	PKP		**PKPdf**	**04 57 43.7**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=201,slow=6.4,SNR=3.8							
AKASG	**Malin Array Be**	**128.59**	**326**	PKIKP		**PKPdf**	**04 57 53.3**	**-1.6**
AKASG	**Malin Array Be**	**128.59**	**326**	PKP		**PKPdf**	**04 57 53.3**	**-1.6**
AKASG	**Malin Array Be**	**128.59**	**326**	PKP		**PKPdf**	**04 57 53.3**	**-1.6**
	comp=Z,1.4nm,0.8s,baz=70,slow=2.1,SNR=7.9							
BRTR	**Keskin Array B**	**130.43**	**312**	PKP		**PKPdf**	**04 57 57.4**	**-1.6**
BRTR	**Keskin Array B**	**130.43**	**312**	PKP		**PKPdf**	**04 57 57.4**	**-1.6**
	comp=Z,0.7nm,0.6s,baz=222,slow=1.9,SNR=3.4							
BUR08	**Bucovina Ar. S**	**132.46**	**325**	*e*PKPdf		**PKPdf**	**04 58 02.7**	**+0.1**
STHS	**Stebnicka Huta**	**133.53**	**329**	*e*PKIKP		**PKPdf**	**04 58 06.1**	**+1.7**
STHS	**Stebnicka Huta**	**133.53**	**329**	*e*PKP		**PKPdf**	**04 58 06.1**	**+1.7**
CLL	**Collm**	**135.94**	**336**	*i* SKPab		**SKPbc**	**05 01 42.0**	**+2.4**
ZST	**Bratislava**	**136.39**	**330**	*e*PKP		PKPdf	04 58 23.0	+1.3
GERES	**GERESS Array B**	**137.51**	**333**	PKP		**PKPdf**	**04 58 09.7**	**-2.3**
GERES				SKPab		**SKPbc**	**05 01 45.0**	**+0.5**
GERES	**GERESS Array B**	**137.51**	**333**	PKP		**PKPdf**	**04 58 09.7**	**-2.3**
	comp=Z,1.9nm,0.8s,baz=90,slow=1.3,SNR=9.4							
GERES				SKPab		**SKPbc**	**05 01 45.0**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=18,slow=4.5,SNR=3.4							
CEL	**Celeste**	**143.40**	**319**	*e*PKPdf		PKPbc	04 58 19.9	-0.1
BNI	**Bardonecchia**	**143.47**	**335**	*e*PKIKP		PKPab	04 58 19.5	+0.4
BNI	**Bardonecchia**	**143.47**	**335**	*e*PKPdf		PKPab	04 58 19.5	+0.4
PLDF	**La Plantade**	**143.86**	**339**	PKP		PKPab	04 58 20.2	-0.3
SAOF	**Saorge**	**143.96**	**333**	PKP		PKPab	04 58 19.6	-1.3
AUTN	**L'Aution**	**144.01**	**336**	PKP		**PKPab**	**04 58 20.4**	**-0.9**
TOUF	**Mont Tournerai**	**144.07**	**334**	PKP		**PKPab**	**04 58 20.3**	**-1.2**
SSB	**Saint Sauveur**	**144.12**	**338**	*e*PKIKP		**PKPab**	**04 58 21.1**	**-0.4**
SSB	**Saint Sauveur**	**144.12**	**338**	*e*PKPdf		**PKPab**	**04 58 21.1**	**-0.4**
LUCF	**Luceram**	**144.13**	**333**	PKP		**PKPab**	**04 58 20.3**	**-1.3**
MVIF	**Mont Vial**	**144.21**	**334**	PKP		**PKPab**	**04 58 20.5**	**-1.5**
REVF	**Revere**	**144.24**	**333**	PKP		**PKPab**	**04 58 20.8**	**-1.2**
PYM	**Petit Puy Mans**	**144.26**	**340**	PKP		**PKPab**	**04 58 21.6**	**-0.4**
OG25	**Le Caire**	**144.28**	**335**	PKP		**PKPab**	**04 58 21.4**	**-0.8**
CALN	**Calern**	**144.44**	**334**	PKP		**PKPab**	**04 58 21.5**	**-1.3**
LBL	**Lubilhac**	**144.63**	**339**	PKP		**PKPab**	**04 58 22.8**	**-0.6**
FRNF	**Fournols**	**144.73**	**340**	PKP		**PKPab**	**04 58 23.1**	**-0.6**
VSL	**Villasalto**	**146.46**	**326**	*e*PKPbc		**PKPdf**	**04 58 28.0**	**-0.1**
LRDF	**Laroque-de-Fa**	**146.87**	**338**	PKP		**PKPdf**	**04 58 29.5**	**+0.9**
CARF	**Carcanieres**	**147.22**	**338**	PKP		**PKPdf**	**04 58 30.0**	**+0.6**
MLS	**Moulis**	**147.37**	**339**	PKP		**PKPdf**	**04 58 30.5**	**+1.0**
VALF	**Valcebollere**	**147.53**	**338**	PKP		**PKPbc**	**04 58 31.6**	**-0.9**
RESF	**Ens**	**147.76**	**340**	PKP		**PKPbc**	**04 58 32.4**	**-0.7**
VIEF	**Viey**	**147.80**	**341**	PKP		**PKPbc**	**04 58 32.6**	**-0.6**
KEST	**Kesra**	**149.07**	**321**	*e*PKPdf		**PKPdf**	**04 58 31.2**	**-1.4**
KEST				PKPbc		**PKPdf**	**04 58 34.2**	**+1.6**
KEST				*e*PKPbc		**PKiKP**	**04 58 35.9**	**-2.1**
KEST	**Kesra**	**149.07**	**321**	PKPbc		**PKPdf**	**04 58 34.2**	**+1.6**
	comp=Z,9.0nm,0.8s,baz=280,slow=1.8,SNR=13							
SHEL	**Horse Pasture**	**150.16**	**196**	*e*PKIKP		**PKPbc**	**04 58 39.6**	**-0.2**
SHEL	**Horse Pasture**	**150.16**	**196**	*e*PKPbc		**PKPbc**	**04 58 39.6**	**-0.2**
PBRG	**Braganca**	**150.56**	**349**	*e*PKPdf		**PKPdf**	**04 58 32.9**	**-1.8**
POLO	**Lamas de Olo**	**151.16**	**350**	*e*PKPdf		**PKPdf**	**04 58 36.6**	**+0.9**
POLO	**Lamas de Olo**	**151.16**	**350**	*e*PKPbc		**PKPbc**	**04 58 40.5**	**-1.1**
MVO	**Moncorvo**	**151.23**	**349**	*e*PKPbc		**PKPbc**	**04 58 40.9**	**-0.8**
PVRL	**Vila Real**	**151.24**	**350**	*e*PKPdf		**PKPdf**	**04 58 35.5**	**-0.3**
PVRL	**Vila Real**	**151.24**	**350**	*e*PKPbc		**PKPbc**	**04 58 40.9**	**-0.8**
ESDC	**Sonseca Array**	**151.94**	**343**	PKPbc		**PKPbc**	**04 58 42.0**	**-1.4**
ESDC	**Sonseca Array**	**151.94**	**343**	PKPbc		**PKPbc**	**04 58 42.0**	**-1.4**
	comp=Z,4.1nm,0.9s,baz=23,slow=1.9,SNR=13							
MTE	**Manteigas**	**152.06**	**350**	*e*PKPbc		**PKPbc**	**04 58 42.6**	**-1.1**
PTOM	**Tomar**	**152.97**	**351**	*e*PKPbc		**PKPbc**	**04 58 44.8**	**-0.8**
PMRV	**Marv??o**	**152.98**	**349**	*e*PKPbc		**PKPbc**	**04 58 43.5**	**-2.2**
PESTR	**Estremoz**	**153.56**	**349**	*e*PKPab		**PKPab**	**04 58 58.9**	**-0.3**
EVO	**Evora**	**153.96**	**349**	*e*PKPab		**PKPab**	**04 59 00.7**	**-0.2**
PNCL	**Nicolau / Gran**	**154.46**	**350**	*e*PKPdf		**PKPdf**	**04 58 37.5**	**-3.0**
PCVE	**Castro Verde**	**154.84**	**349**	*e*PKPab		**PKPab**	**04 59 03.9**	**-0.8**
MORF	**Marmelete**	**155.27**	**350**	*e*PKPdf		**PKPdf**	**04 58 40.3**	**-1.4**
TORD	**Torodi Ar. Bea**	**164.74**	**273**	PKP		**PKPdf**	**04 58 49.8**	**-3.1**
TORD				PKPab		**PKPab**	**04 59 49.0**	**+0.3**
TORD	**Torodi Ar. Bea**	**164.74**	**273**	PKP		**PKPdf**	**04 58 49.8**	**-3.1**
	comp=Z,1.3nm,0.9s,baz=52,slow=2.2,SNR=5.3							
TORD				PKPab		**PKPab**	**04 59 49.0**	**+0.3**
	comp=Z,2.0nm,0.8s,baz=73,slow=4.0,SNR=7.0							

*ISCJB **08** 04:39:06.4±0.5, 32.°34N±0.°04×105.°08E±0.°06, h14km, mb3.8/6, Error ellipse: s-maj=7.9km s-min=4.6km az=37.7*
*IDC **08** 04:39:06.4±1.0, 32.°15N×104.°88E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.7/29, mbtmp3.8/8, ML3.6/2, Error ellipse: s-maj=51.6km s-min=17.9km az=56.0*
*BJI **08** 04:39:11.1, 32.°31N×105.°02E, h24km, mb3.7/1, ML3.6/13, Ms3.0/1*

ISC 08 04:39:08.8±0.6, 32.°25N±0.°04×105.°03E±0.°05, h14km, n13, σ1§81/25, mb3.8/6, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.72**	**219**	Pn		**Pb**	**04 39 39.7**	**-0.5**
CD2				Pg		**Pg**	**04 39 41.2**	**-0.7**
CD2				Sn		**Sg**	**04 40 03.6**	**-0.6**
CD2				Sg		**Sb**	**04 40 05.6**	**+3.8**
CD2				SMN				
	3μm,0.6s							
CD2				SME				
	3μm,0.6s							
XAN	**Xi'an**	**3.72**	**60**	Pn		**Pn**	**04 40 05.2**	**-0.6**
XAN				Pg		**Pb**	**04 40 16.7**	**+2.4**
XAN				Sn		**Sn**	**04 40 46.7**	**-2.8**
XAN				Sg		**Sb**	**04 41 00.1**	**+0.9**
XAN				SMN				
	comp=Z,230nm,0.6s							
XAN				SME				
	comp=Z,67nm,0.6s							
XAN				LR		LR		
	comp=N,170nm,7.2s							
XAN				LR		LR		
	comp=E,120nm,7.2s							
LZH	**Lanzhou**	**3.95**	**346**	*e*Pn		**Pn**	**04 40 11.0**	**+1.9**
LZH				Pg		**Pb**	**04 40 20.8**	**+2.5**
LZH				Sn		**Sn**	**04 40 57.6**	**+2.2**
LZH				Sg		**Sg**	**04 41 11.7**	**-4.0**
LZH				SMN				
	comp=Z,210nm,1.1s							
LZH				SME				
	comp=Z,330nm,1.1s							
GTA	**Gaotai**	**8.30**	**331**	*e*P		**Pn**	**04 41 08.7**	**-0.2**
GTA				S		**Sn**	**04 42 41.5**	**-1.0**
GTA				AMB		AMB		
	comp=Z,2.0nm,0.6s							
HHC	**Hu-ho-hao-te**	**10.06**	**30**	*e*P		**Pn**	**04 41 31.2**	**-1.7**
HHC				pP			04 41 34.4	
HHC				sP			04 41 39.5	
HHC				S		**Sn**	**04 43 24.7**	**-0.9**
HHC				sS			04 43 30.0	
HHC				SS		**SnSn**	**04 43 37.8**	**+0.3**
HHC				AMB		AMB		
	comp=Z,34nm,1.0s							
HHC				AMB		AMB		
	comp=Z,500nm,6.0s							
HHC				LR		LR		
	comp=N,350nm,8.8s							
HHC				LR		LR		
	comp=E,640nm,10.8s							
HHC				LR		LR		
	comp=Z,730nm,7.8s							
SONM	**Songino Array**	**15.60**	**3**	Pn		**Pn**	**04 42 49.8**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=172,slow=11,SNR=3.8							
KSRS	**Korea Array**	**19.47**	**68**	Pn		**Pn**	**04 43 37.6**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=246,slow=12,SNR=3.4							
MKAR	**Makanchi Array**	**22.66**	**316**	P		**P**	**04 44 10.4**	**+0.8**
	comp=Z,1.3nm,0.9s,baz=107,slow=11,SNR=6.2							
ZALV	**Zalesovo Beam**	**26.06**	**332**	P		**P**	**04 44 41.5**	**0.0**
	comp=Z,0.6nm,0.4s,baz=133,slow=15,SNR=2.7							
KURBB	**Kurchatov Arra**	**26.82**	**321**	P		**P**	**04 44 47.6**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=124,slow=9.0,SNR=4.3							
FINES	**FINESS Array B**	**57.06**	**326**	P		**P**	**04 48 53.2**	**-0.9**
	comp=Z,1.8nm,0.8s,baz=88,slow=7.5,SNR=2.3							
WRA	**Warramunga Arr**	**59.00**	**148**	P		**P**	**04 49 07.6**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=340,slow=7.5,SNR=6.6							
ASAR	**Alice Springs**	**62.07**	**150**	P		**P**	**04 49 29.1**	**0.0**
	comp=Z,0.9nm,0.8s,baz=334,slow=8.2,SNR=3.7							

*IDC **08** 04:43:56.5±0.7, 11.°47S×166.°03E, h0km, mb4.7/14, mb1 4.7/16, mb1mx4.5/24, mbtmp4.7/16, ML4.6/2, Error ellipse: s-maj=22.0km s-min=16.2km az=113.0*
*ISCJB **08** 04:43:60.0±0.5, 11.°53S±0.°07×165.°95E±0.°07, h37km, mb4.8/19, Error ellipse: s-maj=10.7km s-min=8.7km az=39.8*
*NEIC **08** 04:44:01.6±0.4, 11.°50S×166.°04E, h35km, mb4.7/8, Error ellipse: s-maj=9.9km s-min=8.3km az=110.0*

ISC 08 04:44:02.2±0.5, 11.°57S±0.°07×165.°97E±0.°08, h37km, n61, σ1§25/70, mb4.8/19, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.30**	**289**	Pn		**Pn**	**04 45 31.6**	**-1.0**
HNR				Sn		**Sn**	**04 46 42.5**	**-0.8**
HNR	**Honiara**	**6.30**	**289**	Pn		**Pn**	**04 45 31.5**	**-1.0**
	12nm,0.3s,baz=167,slow=18,SNR=2.4							
HNR				Sn		**Sn**	**04 46 42.5**	**-0.8**
	37nm,0.3s,baz=185,slow=22,SNR=4.4							
DZM	**Mont Dzumac**	**10.45**	**178**	Pn		**Pn**	**04 46 30.5**	**+0.8**
DZM				Sn		**Sn**	**04 48 23.1**	**-2.5**
DZM	**Mont Dzumac**	**10.45**	**178**	Pn		**Pn**	**04 46 30.5**	**+0.8**
	5.5nm,0.3s,baz=0.7,slow=16,SNR=23							
DZM				Sn		**Sn**	**04 48 23.1**	**-2.5**
	1.1nm,0.3s,baz=131,slow=20,SNR=3.5							
PMG	**Port Moresby**	**18.62**	**275**	P		**Pn**	**04 48 19.4**	**+2.1**
PMG	**Port Moresby**	**18.62**	**275**	P		**Pn**	**04 48 19.4**	**+2.1**
	0.3nm,0.3s,baz=102,slow=8.8,SNR=3.6							
EIDS	**Eidsvold**	**19.66**	**224**	*e*P		**P**	**04 48 28.4**	**+0.3**
	22nm,0.8s							
CTA	**Charters Tower**	**20.76**	**243**	P		Pn	04 48 41.5	-1.1
CTA	**Charters Tower**	**20.76**	**243**	P		Pn	04 48 41.5	-1.1
	27nm,0.6s,baz=72,slow=12,SNR=23							
CTAO	**Charters Tower**	**20.76**	**243**	*e*P		**P**	**04 48 40.6**	**+0.6**
	29nm,0.7s							
STKA	**Stephens Creek**	**30.22**	**224**	*e*P		**P**	**04 50 09.5**	**0.0**
	1.8nm,0.8s							
STKA				PcP		**PcP**	**04 53 09.7**	**-0.1**
STKA	**Stephens Creek**	**30.22**	**224**	P		**P**	**04 50 10.1**	**+0.7**
	9.2nm,0.8s,baz=21,slow=7.6,SNR=8.5							
STKA				PcP		**PcP**	**04 53 09.7**	**-0.1**
	2.0nm,0.7s,baz=338,slow=3.2,SNR=4.0							
WRAB	**Tennant Creek**	**31.50**	**251**	*e*P		**P**	**04 50 20.6**	**-0.4**
	29nm,1.2s							
WRA	**Warramunga Arr**	**31.52**	**251**	P		**P**	**04 50 20.8**	**-0.3**
WRA				PcP		**PcP**	**04 53 13.7**	**+0.2**
WRA	**Warramunga Arr**	**31.52**	**251**	P		**P**	**04 50 20.8**	**-0.3**
	12nm,0.8s,baz=82,slow=9.0,SNR=27							
WRA				PcP		**PcP**	**04 53 13.7**	**+0.2**
	0.7nm,0.3s,baz=88,slow=3.5,SNR=4.9							
RPZ	**Rata Peaks**	**32.33**	**173**	P		**P**	**04 50 28.5**	**+0.7**
RPZ	**Rata Peaks**	**32.33**	**173**	P		**P**	**04 50 28.5**	**+0.7**
	12nm,0.5s,baz=124,slow=6.6,SNR=8.9							
ASAR	**Alice Springs**	**32.76**	**244**	P		**P**	**04 50 31.3**	**-0.6**
ASAR				PcP		**PcP**	**04 53 16.5**	**-0.4**
ASAR	**Alice Springs**	**32.76**	**244**	P		**P**	**04 50 31.3**	**-0.6**
	18nm,0.7s,baz=71,slow=9.5,SNR=57							
ASAR				PcP		**PcP**	**04 53 16.5**	**-0.4**
	3.2nm,0.8s,baz=82,slow=2.5,SNR=9.1							
FITZ	**Fitzroy Crossi**	**39.46**	**256**	P		**P**	**04 51 29.2**	**-0.1**
FITZ	**Fitzroy Crossi**	**39.46**	**256**	P		**P**	**04 51 29.2**	**-0.1**
	5.4nm,0.6s,baz=104,slow=6.2,SNR=20							
KAPI	**Kappang**	**46.15**	**274**	P		**P**	**04 52 23.4**	**-0.1**
KAPI	**Kappang**	**46.15**	**274**	P		**P**	**04 52 23.5**	**-0.1**
	17nm,0.9s,baz=101,slow=6.4,SNR=8.3							
NWAO	**Narrogin (SRO)**	**49.36**	**236**	P		**P**	**04 52 48.0**	**-0.2**
NWAO	**Narrogin (SRO)**	**49.36**	**236**	P		**P**	**04 52 48.0**	**-0.2**
	11nm,0.7s,baz=90,slow=6.8,SNR=5.4							
FX1	**Attu Island--F**	**64.49**	**5**	P		**P**	**04 54 34.2**	**-0.7**
FX1	**Attu Island--F**	**64.49**	**5**	P		**P**	**04 54 34.2**	**-0.7**
	24nm,0.8s,baz=168,slow=9.3,SNR=3.5							
VNDA	**Vanda**	**65.97**	**181**	*e*P		**P**	**04 54 43.6**	**-0.7**
	4.0nm,1.0s							
VNDA				PKKP		**PKKPdf**	**05 15 01.9**	**-2.4**
VNDA	**Vanda**	**65.97**	**181**	P		**P**	**04 54 44.1**	**-0.2**
	2.8nm,0.9s,baz=358,slow=6.1,SNR=6.4							
VNDA				PKKP		**PKKPdf**	**05 15 01.9**	**-2.4**
	1.8nm,1.0s,baz=191,slow=7.3,SNR=4.2							
SBA	**Scott Base**	**66.28**	**180**	*e*P		**P**	**04 54 47.0**	**+0.8**
	8.0nm,1.0s							
QSPA	**South Pole Qui**	**78.44**	**180**	*e*P		**P**	**04 55 58.4**	**-0.7**
	12nm,1.0s							
SONM	**Songino Array**	**79.22**	**324**	P		**P**	**04 56 04.1**	**+0.5**
SONM	**Songino Array**	**79.22**	**324**	P		**P**	**04 56 04.1**	**+0.5**
	0.5nm,0.5s,baz=152,slow=6.4,SNR=3.9							
COLA	**College**	**83.71**	**18**	*e*P		**P**	**04 56 25.1**	**-1.8**
	38nm,1.3s							
ILAR	**Eielson Array**	**83.94**	**18**	P		**P**	**04 56 26.1**	**-1.9**
ILAR	**Eielson Array**	**83.94**	**18**	P		**P**	**04 56 26.1**	**-1.9**
	1.2nm,0.7s,baz=260,slow=5.1,SNR=7.9							
EGAK	**Eagle**	**85.79**	**20**	*e*P		**P**	**04 56 35.8**	**-1.6**
	287nm,1.3s							
NVAR	**Mina Array Bea**	**86.19**	**50**	P		P	04 56 43.6	+3.4
NVAR	**Mina Array Bea**	**86.19**	**50**	P		P	04 56 43.6	+3.4
	1.2nm,0.6s,baz=233,slow=7.9,SNR=11							
H06S1	**SOCORRO T**	**87.22**	**70**	T		T	06 31 18.7	
	SNR=26							
MK31	**Makanchi Array**	**94.06**	**317**	*e*P		**P**	**04 57 15.8**	**-0.9**
MKAR	**Makanchi Array**	**94.06**	**317**	P		**P**	**04 57 16.9**	**+0.2**
MKAR	**Makanchi Array**	**94.06**	**317**	P		**P**	**04 57 16.9**	**+0.2**
	2.4nm,0.8s,baz=90,slow=6.0,SNR=13							
ZALV	**Zalesovo Beam**	**94.11**	**324**	P		**P**	**04 57 16.3**	**-0.4**
ZALV	**Zalesovo Beam**	**94.11**	**324**	P		**P

comp=N,1.3nm,1.3s
ANMO Albuquerque 7.98 52 Pn **Pn 04 47 48.9 +2.2**
comp=N,0.2nm,0.3s,baz=241,slow=15,SNR=9.1
ANMO Sn **Sn 04 49 15.4 -1.5**
comp=N,0.1nm,0.3s,baz=336,slow=9.1,SNR=3.3
ANMO Lg Lg 04 50 02.4
comp=N,0.1nm,0.3s,baz=168,slow=20,SNR=2.3
HPIG 8.15 112 *i* P **Pn 04 47 48.7 -0.3**
HPIG *i* S **Sn 04 49 20.9 -0.3**
MVCO Mesa Verde 8.36 33 *e*Pn **Pn 04 47 52.0 +0.1**
comp=N,8.8nm,0.8s
MVCO *e*S **Sg 04 50 15.3 -3.9**
MVU Marysvale 8.37 10 *e*Pn Pn 04 47 55.2 +3.2
comp=N,11nm,0.8s
NVAR Mina Array Bea 8.84 338 Pn Pn 04 48 05.7 +7.2
comp=N,0.1nm,0.3s,baz=158,slow=15,SNR=8.1
NVAR Lg Lg 04 50 38.3
baz=169,slow=30,SNR=2.5
NVAR LR LR 04 52 01.6
comp=N,1μm,18.1s,baz=193,slow=43
PV01 Paradox Valley 9.10 29 *e*Pn **Pn 04 48 03.4 +1.4**
comp=N,349nm,0.7s
PDAR Pinedale Array 13.00 15 Pn P 04 49 01.0 -5.0
comp=N,0.0nm,0.3s,baz=184,slow=16,SNR=4.3
YBH Yreka Blue Hor 13.37 331 Pn **P 04 49 08.5 -1.4**
baz=155,slow=13,SNR=1.8
RSSD Black Hills 15.98 27 Pn **Pn 04 49 36.0 +0.6**
comp=N,39nm,1.0s
NEW Newport 18.12 354 P **P 04 50 07.0 +4.6**
comp=N,0.1nm,0.3s,baz=166,slow=14,SNR=3.4
DLBC Dease Lake 30.21 343 P P 04 52 06.4 +5.5
comp=N,3.2nm,0.8s,baz=170,slow=9.3,SNR=7.3
ILAR Eielson Array 40.10 339 P P 04 53 30.7 +5.0
comp=N,1.2nm,0.8s,baz=154,slow=8.2,SNR=6.6

IDC 08 04:50:13.1±9.4, 12°.18S×166°.70E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.8/3, Error ellipse: s-maj=289.9km s-min=53.6km az=127.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.00**	**252**	P		P	P	04 56 41.3	-0.2
	0.7nm,0.9s,baz=84,slow=9.4,SNR=3.6								
ASAR	**Alice Springs**	**33.15**	**245**	P		P	P	04 56 51.7	+0.1
	0.8nm,0.6s,baz=72,slow=9.3,SNR=6.2								
MKAR	**Makanchi Array**	**94.99**	**317**	P		P	P	05 03 37.6	-0.2
	0.4nm,0.6s,baz=94,slow=6.4,SNR=2.6								

IDC 08 04:50:49.2±6.1, 12°.30S×166°.97E, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.6/17, mbtmp3.7/3, Error ellipse: s-maj=311.5km s-min=31.4km az=140.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.21**	**252**	P		P	P	04 57 19.5	+0.2
	0.6nm,0.6s,baz=83,slow=8.8,SNR=2.9								
ASAR	**Alice Springs**	**33.33**	**246**	P		P	P	04 57 28.9	-0.3
	0.6nm,0.7s,baz=70,slow=9.1,SNR=3.6								
ILAR	**Eielson Array**	**84.32**	**18**	P		P	P	05 03 22.8	0.0
	0.7nm,0.6s,baz=240,slow=4.9,SNR=11								

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*ISCJB **08** 04:53:14.6±0.4, 3°.70N±0°.06×122°.5E±0°.1, h602km, mb4.0/15, Error ellipse: s-maj=14.1km s-min=7.2km az=176.8*
*IDC **08** 04:53:16.6±1.2, 3°.59N×122°.25E, h610km±17km, mb3.4/15, mb1 3.4/16, mb1mx3.2/30, mbtmp3.4/16, Error ellipse: s-maj=24.4km s-min=8.4km az=78.0*
*DJA **08** 04:53:19.6±2.1, 3°.1N±20°.×12°.2E±1°.8, h568km±16km, M4.7/7, mb4.4/6, mB5.0/2, MLv4.8/7, Mw(mB)4.4/2*
ISC 08 04:53:15.8±0.6, 3°.63N±0°.08×122°.4E±0°.1, h602km, n29, σ1§19/34, mb4.1/15, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**3.17**	**189**	P		**P**	**P**	**04 54 35.9**	**-0.2**
KMSI	**Cibinong**	**3.40**	**153**	P		**P**	**P**	**04 54 38.5**	**+1.0**
APSI	**Ampana**	**4.58**	**190**	P		**P**	**P**	**04 54 45.1**	**-0.5**
LUWI	**Luwuk**	**4.65**	**176**	P		**P**	**P**	**04 54 44.1**	**-2.0**
PCI	**Palu**	**5.20**	**210**	P		P	P	04 54 59.6	+9.2
KKSI	**Kolaka, Sulawe**	**7.79**	**186**	P		**P**	**P**	**04 55 14.0**	**+0.8**
	75nm,0.6s,0.5nm								
SPSI	**Sidrap Palu**	**8.00**	**200**	P		**P**	**P**	**04 55 14.3**	**-0.9**
	34nm,0.7s,0.1nm								
MTKI	**Muara Teweh, K**	**8.80**	**239**	P		**P**	**P**	**04 55 22.3**	**-0.6**
	124nm,0.4s,1.8nm								
KAPI	**Kappang**	**8.99**	**197**	P		**P**	**P**	**04 55 24.3**	**-0.5**
	1.1nm,0.3s,baz=52,slow=13,SNR=5.7								
SBUM	**Sibu**	**10.28**	**264**	P		**P**	**P**	**04 55 37.4**	**0.0**
	35nm,0.8s,1μm								
BATI	**Baumata**	**13.79**	**175**	P		**P**	**P**	**04 56 12.9**	**+0.2**
	26nm,0.3s,baz=290,slow=22,SNR=12								
GMJI	**Gumukmas**	**14.84**	**217**	P		**P**	**P**	**04 56 23.9**	**+1.4**
	42nm,0.9s								
BJII	**Banjamegara**	**16.73**	**229**	P		**P**	**P**	**04 56 40.5**	**+0.6**
FITZ	**Fitzroy Crossi**	**21.82**	**172**	P		**P**	**P**	**04 57 26.2**	**+0.4**
	4.3nm,0.7s,baz=5.6,slow=9.0,SNR=10								
WRA	**Warramunga Arr**	**26.18**	**154**	P		**P**	**P**	**04 58 04.1**	**-0.2**
	3.6nm,0.3s,baz=335,slow=9.5,SNR=35								
WRA				S		**S**	**S**	**05 01 51.2**	**-4.2**
	1.6nm,0.8s,baz=337,slow=15,SNR=4.9								
ASAR	**Alice Springs**	**29.34**	**158**	P		**P**	**P**	**04 58 33.0**	**+1.2**
	2.7nm,0.5s,baz=334,slow=7.1,SNR=29								
ASAR				PcP		**PcP**	**PcP**	**05 01 18.6**	**+0.1**
	0.5nm,0.5s,baz=346,slow=2.8,SNR=4.5								
ASAR				ScP		**ScP**	**ScP**	**05 04 03.5**	**-0.6**
	1.6nm,0.5s,baz=341,slow=3.2,SNR=10								
KSRS	**Korea Array**	**34.04**	**8**	P		**P**	**P**	**04 59 12.9**	**+1.5**
	1.2nm,0.5s,baz=184,slow=9.6,SNR=4.4								
NWAO	**Narrogin (SRO)**	**36.69**	**187**	P		**P**	**P**	**04 59 33.8**	**+0.4**
	7.9nm,0.5s,baz=14,slow=9.4,SNR=12								
STKA	**Stephens Creek**	**39.73**	**154**	P		**P**	**P**	**04 59 59.5**	**+1.5**
	1.1nm,0.4s,baz=315,slow=10.0,SNR=4.5								
USRK	**Ussuriysk Arra**	**41.28**	**10**	P		**P**	**P**	**05 00 10.5**	**+0.5**
	4.4nm,0.5s,baz=201,slow=6.6,SNR=10								
ASAJ	**Asahikawa**	**44.08**	**21**	P		**P**	**P**	**05 00 32.6**	**+0.8**
	3.9nm,0.4s,baz=148,slow=13,SNR=3.2								
SONM	**Songino Array**	**46.16**	**345**	P		**P**	**P**	**05 00 48.4**	**+0.6**
	5.1nm,0.8s,baz=159,slow=8.6,SNR=24								
SONM				PcP		**PcP**	**PcP**	**05 02 10.8**	**-0.1**
	0.8nm,0.7s,baz=166,slow=2.6,SNR=3.5								
MKAR	**Makanchi Array**	**55.27**	**327**	P		**P**	**P**	**05 01 53.8**	**+0.2**
	3.4nm,0.4s,baz=128,slow=7.7,SNR=40								
MKAR				PcP		**PcP**	**PcP**	**05 02 44.5**	**-0.5**
	1.6nm,0.6s,baz=130,slow=3.9,SNR=8.8								
MKAR				ScP		**ScP**	**ScP**	**05 05 45.8**	**-1.0**
	0.5nm,0.6s,baz=151,slow=4.5,SNR=4.7								
ZALV	**Zalesovo Beam**	**58.81**	**335**	P		**P**	**P**	**05 02 16.6**	**-0.9**
	1.6nm,0.4s,baz=140,slow=4.3,SNR=7.5								
KURBB	**Kurchatov Arra**	**59.58**	**329**	P		**P**	**P**	**05 02 22.4**	**-0.2**
	3.0nm,0.5s,baz=130,slow=6.1,SNR=32								
BVAR	**Borovoye Array**	**65.12**	**328**	P		**P**	**P**	**05 02 57.3**	**-1.0**
	1.0nm,0.5s,baz=132,slow=8.8,SNR=4.7								
ARCES	**ARCESS Array B**	**89.06**	**340**	P		**P**	**P**	**05 05 05.9**	**-1.5**
	3.5nm,0.9s,baz=85,slow=7.4,SNR=3.6								
FINES	**FINESS Array B**	**89.89**	**331**	P		**P**	**P**	**05 05 09.9**	**-1.5**
	3.5nm,1.0s,baz=113,slow=9.2,SNR=3.6								
TORD	**Torodi Ar. Bea**	**118.87**	**287**	PKP		**PKPdf**	**PKPdf**	**05 10 57.0**	**-0.8**
	0.4nm,0.3s,baz=66,slow=1.5,SNR=13								

IDC 08 04:53:22.0±2.6, 11°.39S×165°.89E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.7/18, mbtmp3.9/4, ML3.5/1, Error ellipse: s-maj=78.2km s-min=35.6km az=93.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.64**	**177**	Pn		Pn	Pn	04 55 55.9	-0.1
	0.4nm,0.3s,baz=140,slow=16,SNR=6.9								
ASAR	**Alice Springs**	**32.77**	**244**	P		P	P	04 59 57.0	-0.1
	1.0nm,0.5s,baz=74,slow=9.2,SNR=6.6								
SONM	**Songino Array**	**79.02**	**324**	P		P	P	05 05 27.7	-0.4
	0.2nm,0.4s,baz=133,slow=8.1,SNR=2.2								
MKAR	**Makanchi Array**	**93.86**	**317**	P		P	P	05 06 42.4	+0.8
	0.4nm,0.7s,baz=100,slow=6.3,SNR=3.7								

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*IDC **08** 04:55:36.7±0.9, 13°.51S×166°.72E, h0km, mb4.3/14, mb1 4.4/15, mb1mx4.3/21, mbtmp4.3/15, ML4.8/1, Error ellipse: s-maj=27.4km s-min=17.6km az=110.0*

*ISCJB **08** 04:55:41.2±0.6, 13°.54S±0°.06×166°.6E±0°.1, h39km, mb4.3/14, Error ellipse: s-maj=16.5km s-min=8.7km az=174.7*
*NEIC **08** 04:55:42.2±0.5, 13°.45S×166°.67E, h35km, mb4.4/3, Error ellipse: s-maj=13.5km s-min=9.4km az=94.0*
ISC 08 04:55:42.8±0.7, 13°.50S±0°.07×166°.7E±0°.1, h39km, n42, σ1§20/48, mb4.2/14, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.74**	**301**	Pn		**Pn**	**Pn**	**04 57 32.0**	**-0.9**
HNR	**Honiara**	**7.74**	**301**	Pn		**Pn**	**Pn**	**04 57 32.0**	**-0.9**
	13nm,0.3s,baz=169,slow=8.3,SNR=3.7								
DZM	**Mont Dzumac**	**8.53**	**181**	Pn		**Pn**	**Pn**	**04 57 44.8**	**+0.9**
DZM				Sn		**Sn**	**Sn**	**04 59 17.3**	**-1.6**
DZM	**Mont Dzumac**	**8.53**	**181**	Pn		**Pn**	**Pn**	**04 57 44.8**	**+0.9**
	2.6nm,0.3s,baz=27,slow=15,SNR=14								
DZM				Sn		**Sn**	**Sn**	**04 59 17.3**	**-1.6**
	baz=139,slow=19,SNR=1.4								
EIDS	**Eidsvold**	**18.84**	**229**	*e*Pn		**Pn**	**Pn**	**05 00 01.2**	**+0.9**
CTA	**Charters Tower**	**20.61**	**249**	P		**P**	**P**	**05 00 19.5**	**+0.6**
CTA	**Charters Tower**	**20.61**	**249**	P		**P**	**P**	**05 00 19.5**	**+0.6**
	3.4nm,0.7s,baz=76,slow=16,SNR=4.3								
STKA	**Stephens Creek**	**29.38**	**227**	*e*P		**P**	**P**	**05 01 42.8**	**+0.5**
	2.5nm,1.0s								
STKA	**Stephens Creek**	**29.38**	**227**	P		**P**	**P**	**05 01 43.2**	**+0.9**
	5.3nm,0.7s,baz=29,slow=7.5,SNR=5.1								
WRA	**Warramunga Arr**	**31.59**	**254**	P		**P**	**P**	**05 02 00.3**	**-1.8**
WRA	**Warramunga Arr**	**31.59**	**254**	P		**P**	**P**	**05 02 00.3**	**-1.8**
	1.9nm,0.5s,baz=86,slow=9.6,SNR=12								
ASAR	**Alice Springs**	**32.60**	**247**	P		**P**	**P**	**05 02 08.9**	**-2.0**
ASAR				ScP		**ScP**	**ScP**	**05 08 40.2**	**+2.4**
ASAR	**Alice Springs**	**32.60**	**247**	P		**P**	**P**	**05 02 08.9**	**-2.0**
	1.1nm,0.6s,baz=71,slow=9.5,SNR=8.2								
ASAR				ScP		**ScP**	**ScP**	**05 08 40.2**	**+2.4**
	1.1nm,0.8s,baz=76,slow=3.8,SNR=4.5								
FITZ	**Fitzroy Crossi**	**39.70**	**258**	P		**P**	**P**	**05 03 11.3**	**-0.3**
FITZ	**Fitzroy Crossi**	**39.70**	**258**	P		**P**	**P**	**05 03 11.3**	**-0.3**
	1.3nm,0.7s,baz=113,slow=6.3,SNR=3.3								
MJAR	**Matsushiro Arr**	**56.55**	**333**	P		**P**	**P**	**05 05 20.6**	**-0.8**
MJAR	**Matsushiro Arr**	**56.55**	**333**	P		**P**	**P**	**05 05 20.6**	**-0.8**
	1.9nm,0.8s,baz=158,slow=10,SNR=4.5								
ASAJ	**Asahikawa**	**61.40**	**340**	P		**P**	**P**	**05 05 55.5**	**+0.7**
ASAJ	**Asahikawa**	**61.40**	**340**	P		**P**	**P**	**05 05 55.5**	**+0.7**
	8.5nm,0.6s,baz=73,slow=31,SNR=5.6								
VNDA	**Vanda**	**64.08**	**181**	*e*P		**P**	**P**	**05 06 11.9**	**-0.4**
	4.4nm,1.3s								
VNDA	**Vanda**	**64.08**	**181**	P		**P**	**P**	**05 06 12.8**	**+0.4**
	1.3nm,0.8s,baz=357,slow=4.4,SNR=6.0								
USRK	**Ussuriysk Arra**	**65.53**	**333**	P		**P**	**P**	**05 06 23.6**	**+1.4**
	7.4nm,0.9s,baz=138,slow=7.0,SNR=8.7								
SONM	**Songino Array**	**81.17**	**324**	P		**P**	**P**	**05 07 55.0**	**+0.5**
SONM	**Songino Array**	**81.17**	**324**	P		**P**	**P**	**05 07 55.0**	**+0.5**
	2.0nm,0.8s,baz=136,slow=5.8,SNR=9.8								
MAW	**Mawson**	**82.81**	**202**	P		**P**	**P**	**05 08 03.0**	**+0.4**
MAW	**Mawson**	**82.81**	**202**	P		**P**	**P**	**05 08 03.0**	**+0.4**
	1.4nm,0.9s,baz=135,slow=14,SNR=3.1								
ILAR	**Eielson Array**	**85.54**	**18**	P		**P**	**P**	**05 08 15.3**	**-1.1**
ILAR	**Eielson Array**	**85.54**	**18**	P		**P**	**P**	**05 08 15.3**	**-1.1**
	3.5nm,0.8s,baz=235,slow=5.3,SNR=37								
SNAA	**Sanae**	**94.74**	**183**	*e*P		**P**	**P**	**05 08 59.1**	**-0.8**
SNAA	**Sanae**	**94.74**	**183**	*e*P		**P**	**P**	**05 08 59.2**	**-0.6**
	5.0nm,1.1s								
VNA2	**Neumayer--Watz**	**95.69**	**182**	*e*P		**P**	**P**	**05 09 03.9**	**-0.2**
MK31	**Makanchi Array**	**95.92**	**317**	*e*P		**P**	**P**	**05 09 06.2**	**+0.6**
MKAR	**Makanchi Array**	**95.92**	**317**	P		**P**	**P**	**05 09 05.8**	**+0.2**
MKAR	**Makanchi Array**	**95.92**	**317**	P		**P**	**P**	**05 09 05.8**	**+0.2**
	1.2nm,0.8s,baz=89,slow=6.7,SNR=8.9								
ZALV	**Zalesovo Beam**	**96.06**	**324**	P		**P**	**P**	**05 09 05.1**	**-0.9**
ZALV	**Zalesovo Beam**	**96.06**	**324**	P		**P**	**P**	**05 09 05.1**	**-0.9**
	1.2nm,0.6s,baz=119,slow=5.2,SNR=5.4								
ARCES	**ARCESS Array B**	**118.92**	**345**	PKP		**PKPdf**	**PKPdf**	**05 14 25.7**	**-0.9**
ARCES	**ARCESS Array B**	**118.92**	**345**	PKP		**PKPdf**	**PKPdf**	**05 14 25.7**	**-0.9**
	3.0nm,0.8s,baz=80,slow=2.8,SNR=5.1								
KEST	**Kesra**	**149.90**	**321**	*e*PKPbc		**PKPbc**	**PKPbc**	**05 15 29.7**	**+0.3**
KEST	**Kesra**	**149.90**	**321**	PKPbc		**PKPbc**	**PKPbc**	**05 15 29.2**	**-0.2**
	2.4nm,0.7s,baz=292,slow=2.7,SNR=8.3								
TORD	**Torodi Ar. Bea**	**165.38**	**270**	PKP		**PKPdf**	**PKPdf**	**05 15 43.8**	**-0.3**
TORD				PKPab		**PKPab**	**PKPab**	**05 16 44.9**	**+2.7**
TORD	**Torodi Ar. Bea**	**165.38**	**270**	PKP		**PKPdf**	**PKPdf**	**05 15 43.8**	**-0.3**
	0.9nm,1.0s,baz=164,slow=2.2,SNR=3.4								
TORD				PKPab		**PKPab**	**PKPab**	**05 16 44.9**	**+2.7**
	0.5nm,0.9s,baz=87,slow=5.3,SNR=2.6								

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*IDC **08** 04:57:04.8±0.8, 12°.79S×166°.26E, h0km, mb4.4/15, mb1 4.5/16, mb1mx4.4/23, mbtmp4.4/16, ML5.1/1, Error ellipse: s-maj=24.5km s-min=17.4km az=121.0*
*ISCJB **08** 04:57:09.4±0.6, 12°.76S±0°.09×166°.03E±0°.08, h40km, mb4.3/15, Error ellipse: s-maj=13.5km s-min=10.3km az=37.0*
*NEIC **08** 04:57:11.5±0.6, 12°.45S×166°.02E, h35km, mb4.2/3, Error ellipse: s-maj=16.0km s-min=10.0km az=93.0*
ISC 08 04:57:10.9±0.6, 12°.7S±0°.1×166°.12E±0°.09, h40km, n48, σ0§98/49, mb4.4/15, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.90**	**298**	Pn		**Pn**	**Pn**	**04 58 48.0**	**-1.5**
HNR				Sn		**Sn**	**Sn**	**05 00 06.0**	**-0.7**
HNR	**Honiara**	**6.90**	**298**	Pn		**Pn**	**Pn**	**04 58 47.9**	**-1.5**
	38nm,0.3s,baz=215,slow=3.4,SNR=4.8								
HNR				Sn		**Sn**	**Sn**	**05 00 06.0**	**-0.7**
	baz=18,slow=20,SNR=2.4								
DZM	**Mont Dzumac**	**9.29**	**178**	Sn		Sn	Sn	05 01 15.3	+10
DZM	**Mont Dzumac**	**9.29**	**178**	Sn		Sn	Sn	05 01 15.3	+10
	baz=181,slow=19,SNR=1.3								
CTA	**Charters Tower**	**20.40**	**246**	P		**P**	**P**	**05 01 45.5**	**+0.9**
CTA	**Charters Tower**	**20.40**	**246**	P		**P**	**P**	**05 01 45.5**	**+0.9**
	11nm,0.9s,baz=82,slow=15,SNR=3.0								
CTAO	**Charters Tower**	**20.40**	**246**	P		Pn		05 01 46.5	-0.5
	11nm,1.0s								
STKA	**Stephens Creek**	**29.50**	**226**	P		**P**	**P**	**05 03 12.5**	**+1.0**
	1.3nm,0.9s								
STKA	**Stephens Creek**	**29.50**	**226**	P		**P**	**P**	**05 03 11.8**	**+0.4**
	7.1nm,0.8s,baz=23,slow=10,SNR=5.7								
RPZ	**Rata Peaks**	**31.16**	**173**	P		**P**	**P**	**05 03 25.9**	**0.0**
RPZ	**Rata Peaks**	**31.16**	**173**	P		**P**	**P**	**05 03 25.9**	**0.0**
	7.9nm,0.8s,baz=29,slow=10,SNR=3.4								
WRA	**Warramunga Arr**	**31.29**	**253**	P		**P**	**P**	**05 03 26.6**	**-0.9**
WRA	**Warramunga Arr**	**31.29**	**253**	P		**P**	**P**	**05 03 26.6**	**-0.9**
	1.5nm,0.8s,baz=84,slow=8.9,SNR=3.6								
ASAR	**Alice Springs**	**32.40**	**246**	P		**P**	**P**	**05 03 36.1**	**-1.1**
ASAR				PcP		**PcP**	**PcP**	**05 06 24.2**	**0.0**
ASAR	**Alice Springs**	**32.40**	**246**	P		**P**	**P**	**05 03 36.1**	**-1.1**
	3.2nm,0.7s,baz=75,slow=9.5,SNR=7.1								
ASAR				PcP		**PcP**	**PcP**	**05 06 24.2**	**0.0**
	1.4nm,1.0s,baz=85,slow=3.1,SNR=40								
FITZ	**Fitzroy Crossi**	**39.33**	**257**	P		**P**	**P**	**05 04 36.7**	**+0.1**
FITZ	**Fitzroy Crossi**	**39.33**	**257**	P		**P**	**P**	**05 04 36.7**	**+0.1**
	4.7nm,0.7s,baz=92,slow=7.6,SNR=8.1								
MJAR	**Matsushiro Arr**	**55.64**	**333**	P		**P**	**P**	**05 06 42.7**	**-0.2**
MJAR	**Matsushiro Arr**	**55.64**	**333**	P		**P**	**P**	**05 06 42.7**	**-0.2**
	4.6nm,1.0s,baz=178,slow=8.6,SNR=3.6								
ASAJ	**Asahikawa**	**60.51**	**341**	P		**P**	**P**	**05 07 18.0**	**+1.2**
ASAJ	**Asahikawa**	**60.51**	**341**	P		**P**	**P**	**05 07 18.0**	**+1.2**
	8.9nm,0.5s,baz=309,slow=13,SNR=4.4								
USRK	**Ussuriysk Arra**	**64.62**	**333**	P		**P**	**P**	**05 07 46.1**	**+1.8**
	4.2nm,0.9s,baz=159,slow=5.9,SNR=8.4								
CMAR	**Chiang Mai Arr**	**73.13**	**294**	P		**P**	**P**	**05 08 39.9**	**+2.1**
CMAR	**Chiang Mai Arr**	**73.13**	**294**	P		**P**	**P**	**05 08 39.9**	**+2.1**
	2.2nm,0.6s,baz=129,slow=5.0,SNR=11								
SONM	**Songino Array**	**80.24**	**324**	P		**P**	**P**	**05 09 18.2**	**+0.7**
SONM	**Songino Array**	**80.24**	**324**	P		**P**	**P**	**05 09 18.2**	**+0.7**
	1.5nm,0.7s,baz=135,slow=4.0,SNR=7.6								
ILAR	**Eielson Array**	**84.99**	**18**	P		**P**	**P**	**05 09 41.0**	**-0.7**
ILAR	**Eielson Array**	**84.99**	**18**	P		**P**	**P**	**05 09 41.0**	**-0.7**
	0.9nm,0.6s,baz=239,slow=5.1,SNR=5.3								
NVAR	**Mina Array Bea**	**86.83**	**50**	P		**P**	**P**	**05 09 50.5**	**-1.2**
NVAR	**Mina Array Bea**	**86.83**	**50**	P		**P**	**P**	**05 09 50.5**	**-1.2**
	0.5nm,0.8s,baz=238,slow=6.3,SNR=3.0								
MK31	**Makanchi Array**	**95.00**	**317**	*e*P		**P**	**P**	**05 10 29.6**	**+0.2**
MKAR	**Makanchi Array**	**95.00**	**317**	P		**P**	**P**	**05 10 30.1**	**+0.8**
MKAR	**Makanchi Array**	**95.00**	**317**	P		**P**	**P**	**05 10 30.1**	**+0.8**
	1.1nm,0.6s,baz=88,slow=6.5,SNR=7.6								
ZALV	**Zalesovo Beam**	**95.14**	**324**	P		**P**	**P**	**05 10 29.5**	**-0.2**
ZALV	**Zalesovo Beam**	**95.14**	**324**	P		**P**	**P**	**05 10 29.5**	**-0.2**
	0.6nm,0.4s,baz=138,slow=5.1,SNR=6.4								
SNAA	**Sanae**	**95.46**	**183**	P		**P**	**P**	**05 10 28.8**	**-2.3**
	3.0nm,1.1s								
ARCES	**ARCESS Array B**	**118.06**	**345**	PKP		**PKPdf**	**PKPdf**	**05 15 52.4**	**-0.5**
ARCES	**ARCESS Array B**	**118.06**	**345**	PKP		**PKPdf**	**PKPdf**	**05 15 52.4**	**-0.5**
	3.6nm,0.9s,baz=20,slow=2.9,SNR=4.1								
AKASG	**Malin Array Be**	**128.47**	**326**	PKP		**PKPdf**	**PKPdf**	**05 16 13.2**	**-0.2**

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*IDC **08** 05:02:21.2±0.8, 12°.79S×166°.29E, h0km, mb4.4/14, mb1 4.5/17, mb1mx4.4/23, mbtmp4.4/17, ML4.0/3, Error ellipse: s-maj=21.7km s-min=16.6km az=111.0*
*ISCJB **08** 05:02:25.9±0.6, 12°.82S±0°.06×166°.24E±0°.08, h44km, mb4.3/13, Error ellipse: s-maj=11.7km s-min=7.3km az=157.2*
ISC 08 05:02:27.6±0.7, 12°.81S±0°.07×166°.27E±0°.10, h44km, n32, σ1§11/33, mb4.3/13, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.06**	**298**	Pn		**Pn**	**Pn**	**05 04 07.9**	**-0.5**
	27nm,0.3s,baz=181,slow=5.7,SNR=8.2								
HNR				Sn		**Sn**	**Sn**	**05 05 27.1**	**-0.3**
	15nm,0.3s,baz=210,slow=20,SNR=3.1								
DZM	**Mont Dzumac**	**9.21**	**179**	Pn		**Pn**	**Pn**	**05 04 37.2**	**-0.8**
	0.2nm,0.3s,baz=311,slow=20,SNR=2.8								
DZM				Sn		**Sn**	**Sn**	**05 06 19.9**	**-0.5**
	0.8nm,0.3s,baz=312,slow=18,SNR=3.5								
EIDS	**Eidsvold**	**19.01**	**227**	P		**Pn**	**Pn**	**05 06 48.0**	**+1.2**
	baz=15,SNR=4.6								
PMG	**Port Moresby**	**19.06**	**278**	P		**Pn**	**Pn**	**05 06 47.1**	**-0.4**
	1.2nm,0.3s,baz=135,slow=1.4,SNR=3.0								
CTA	**Charters Tower**	**20.51**	**247**	P		**P**	**P**	**05 07 02.4**	**+0.2**
	13nm,1.0s,baz=76,slow=15,SNR=6.2								
RMQ	**Roma**	**21.34**	**228**	P		**P**	**P**	**05 07 13.2**	**+2.1**
	baz=17,SNR=4.3								
ARMA	**Armidale**	**22.15**	**215**	P		**P**	**P**	**05 07 20.8**	**+1.0**
	baz=18,SNR=4.4								
COEN	**Coen**	**22.50**	**264**	P		**P**	**P**	**05 07 26.0**	**+2.3**
	baz=19,SNR=5.4								
QLP	**Quilpie**	**24.81**	**233**	P		**P**	**P**	**05 07 46.5**	**+0.8**
	baz=21,SNR=7.4								
CMSA	**Cobar Meteorol**	**26.57**	**222**	P		**P**	**P**	**05 08 04.5**	**+2.9**
	baz=23,SNR=5.4								
STKA	**Stephens Creek**	**29.56**	**226**	P		**P**	**P**	**05 08 29.2**	**+0.9**
	baz=26,SNR=5.3								
STKA	**Stephens Creek**	**29.56**	**226**	P		**P**	**P**	**05 08 29.1**	**+0.7**
	3.7nm,0.7s,baz=50,slow=12,SNR=11								
RPZ	**Rata Peaks**	**31.07**	**173**	P		**P**	**P**	**05 08 41.4**	**-0.1**
	15nm,0.9s,baz=98,slow=2.2,SNR=4.3								
WRA	**Warramunga Arr**	**31.41**	**253**	P		**P**	**P**	**05 08 42.9**	**-1.9**
	2.8nm,0.9s,baz=80,slow=9.1,SNR=7.1								
ASAR	**Alice Springs**	**32.51**	**246**	P		**P**	**P**	**05 08 53.1**	**-1.3**
	7.2nm,0.7s,baz=74,slow=9.3,SNR=13								
BBOO	**Buckleboo**	**34.04**	**229**	P		**P**	**P**	**05 09 07.8**	**+0.1**
	baz=30,SNR=6.4								
KNRA	**Kununurra**	**36.44**	**261

1.9nm,0.8s,baz=93,slow=2.0,SNR=4.2
AKASG Malin Array Be 127.72 326 PKP **PKPdf 05 22 59.6 -0.5**
AKASG Malin Array Be 127.72 326 PKP **PKPdf** 05 22 59.6 -0.5
0.2nm,0.3s,baz=57,slow=1.7,SNR=4.5
BRTR Keskin Array B 129.68 312 PKP **PKPdf 05 23 05.3 +0.9**
BRTR Keskin Array B 129.68 312 PKP **PKPdf** 05 23 05.3 +0.9
0.8nm,0.8s,baz=29,slow=3.3,SNR=5.0
GERES GERESS Array B 136.61 333 PKP **PKPdf 05 23 17.5 +0.4**
GERES GERESS Array B 136.61 333 PKP **PKPdf** 05 23 17.5 +0.4
0.2nm,0.2s,baz=153,slow=3.3,SNR=5.2
KEST Kesra 148.23 322 PKPbc **PKPbc 05 23 40.9 -0.4**
KEST Kesra 148.23 322 PKPbc **PKPbc** 05 23 40.9 -0.4
3.0nm,0.9s,baz=48,slow=3.0,SNR=4.5
ESDC Sonseca Array 151.01 344 PKPbc **PKPbc 05 23 47.0 -1.1**
ESDC Sonseca Array 151.01 344 PKPbc **PKPbc** 05 23 47.0 -1.1
0.3nm,0.3s,baz=28,slow=4.2,SNR=4.4
TORD Torodi Ar. Bea 164.48 276 PKP **PKPdf 05 23 58.9 -0.5**
TORD Torodi Ar. Bea 164.48 276 PKP **PKPdf** 05 23 58.9 -0.5
0.3nm,0.4s,baz=347,slow=2.8,SNR=5.6

IDC 08 05:04:50.0±1.2,**46°.22N**×**28°.35W**,**h0**km,**mb3.7**/4,
mb1 3.8/5,**mb1mx3.5**/31,**mbtmp3.6**/5,**ML4.7**/1,**Error ellipse: s-maj=46.8km s-min=24.6km az=28.0,Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**18.97**	**101**	P		P	Pn	05 09 13.7	+0.3
	0.5nm,0.3s,baz=302,slow=12,SNR=4.0								
TORD	**Torodi Ar. Bea**	**41.57**	**133**	P		P	P	05 12 39.5	0.0
	1.3nm,0.8s,baz=334,slow=8.1,SNR=16								
BRTR	**Keskin Array B**	**44.80**	**75**	P		P	P	05 13 04.6	-1.0
	0.4nm,0.6s,baz=321,slow=13,SNR=3.2								
PDAR	**Pinedale Array**	**55.60**	**298**	P		P	P	05 14 27.4	-0.1
	0.5nm,0.9s,baz=70,slow=5.2,SNR=3.1								
H10S1	**ASCENSION HYDR**	**56.26**	**164**	T		T	T	06 15 10.6	
	baz=351,slow=0.7,SNR=7.2								
H10S3	**ASCENSION HYDR**	**56.27**	**164**	T		T	T	06 15 11.2	
	baz=351,slow=0.7,SNR=8.2								
H10S2	**ASCENSION HYDR**	**56.28**	**164**	T		T	T	06 15 12.0	
	baz=351,slow=0.7,SNR=9.1								
SONM	**Songino Array**	**78.32**	**29**	P		P	P	05 16 52.7	+0.8
	1.2nm,0.9s,baz=347,slow=5.9,SNR=2.7								
WRA	**Warramunga Arr**	**150.19**	**34**	PKPbc		PKPbc	PKPbc	05 24 42.1	-0.9
	1.5nm,0.8s,baz=341,slow=2.7,SNR=5.0								
ASAR	**Alice Springs**	**153.33**	**39**	PKPbc		PKPbc	PKPbc	05 24 49.9	-0.2
	0.5nm,0.6s,baz=331,slow=1.5,SNR=5.8								

IDC 08 05:09:06.7±1.1,**13°.15S**×**166°.27E**,**h0**km,**mb4.1**/7,
mb1 4.3/8,**mb1mx4.1**/19,**mbtmp4.1**/8,**ML3.2**/1,**Error ellipse: s-maj=41.8km s-min=21.7km az=131.0,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.22**	**300**	Sn		Sn	Sn	05 12 19.9	+3.6
	2.1nm,0.3s,baz=66,slow=20,SNR=3.1								
DZM	**Mont Dzumac**	**8.88**	**179**	Pn		Pn	Pn	05 11 17.9	+1.4
	0.3nm,0.3s,baz=345,slow=20,SNR=3.0								
DZM				Sn		Sn	Sn	05 12 56.8	-0.6
	0.2nm,0.3s,baz=83,slow=15,SNR=3.1								
CTA	**Charters Tower**	**20.38**	**248**	P		Pn	Pn	05 13 48.2	+1.0
	2.0nm,0.4s,baz=45,slow=10.0,SNR=2.7								
STKA	**Stephens Creek**	**29.33**	**226**	P		P	P	05 15 10.3	-1.0
	1.1nm,0.5s,baz=38,slow=12,SNR=2.5								
WRA	**Warramunga Arr**	**31.31**	**253**	P		P	P	05 15 28.8	-0.2
	1.4nm,0.7s,baz=88,slow=9.1,SNR=4.9								
ASAR	**Alice Springs**	**32.37**	**246**	P		P	P	05 15 38.6	+0.3
	2.5nm,0.6s,baz=75,slow=9.4,SNR=19								
SONM	**Songino Array**	**80.66**	**324**	P		P	P	05 21 22.3	+0.7
	0.8nm,0.7s,baz=163,slow=7.3,SNR=3.7								
ILAR	**Eielson Array**	**85.33**	**18**	P		P	P	05 21 45.0	-0.4
	1.0nm,0.5s,baz=248,slow=4.9,SNR=22								
NVAR	**Mina Array Bea**	**86.98**	**50**	P		P	P	05 21 54.2	-0.2
	0.2nm,0.3s,baz=266,slow=2.7,SNR=2.6								
MKAR	**Makanchi Array**	**95.40**	**317**	P		P	P	05 22 33.4	+0.2
	1.1nm,0.6s,baz=92,slow=6.7,SNR=9.6								

IDC 08 05:12:10.4±1.7,**13°.04S**×**166°.63E**,**h0**km,**mb3.8**/4,
mb1 4.0/5,**mb1mx3.7**/18,**mbtmp3.8**/5,**ML3.3**/1,**Error ellipse: s-maj=52.7km s-min=29.9km az=125.0,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.99**	**181**	Pn		Pn	Pn	05 14 21.9	+0.2
	0.3nm,0.3s,baz=319,slow=20,SNR=2.8								
DZM				Sn		Sn	Sn	05 15 52.2	-12
	0.2nm,0.3s,baz=3.4,slow=19,SNR=1.7								
WRA	**Warramunga Arr**	**31.67**	**253**	P		P	P	05 18 35.5	-0.4
	0.6nm,0.5s,baz=85,slow=9.6,SNR=6.0								
ASAR	**Alice Springs**	**32.73**	**246**	P		P	P	05 18 45.1	0.0
	0.6nm,0.5s,baz=80,slow=10,SNR=4.3								
ILAR	**Eielson Array**	**85.12**	**18**	P		P	P	05 24 47.6	-0.4
	0.3nm,0.4s,baz=229,slow=5.5,SNR=7.9								
MKAR	**Makanchi Array**	**95.55**	**317**	P		P	P	05 25 38.1	+0.5
	0.3nm,0.6s,baz=90,slow=5.8,SNR=3.5								

*KRSC **08** 05:25:11.1*±*3.6,52°.82N*×*160°.29E,h10*km±*10*km*,ML5.2*
*BJI **08** 05:25:13.3,53°.35N*×*159°.82E,h49*km*,mB5.2/26,mb4.9/33,Ms4.8/22,Ms7 4.6/22*
*NEIC **08** 05:25:15.8*±*0.6,52°.98N*×*159°.88E,h49*km*±5*km*,mb5.0/42,Error ellipse: s-maj=6.8km s-min=3.8km az=167.0*
NEIC Felt [III] at Petropavlovsk-Kamchatskiy.
*ISCJB **08** 05:25:15.7*±*0.3,52°.93N*±*0°.03*×*159°.96E*±*0°.03,h65*km*±*2km,mb4.9/164,Error ellipse: s-maj=4.6km s-min=2.5km az=164.7*
*MOS **08** 05:25:15.4*±*1.2,53°.01N*×*159°.77E,h17*km*,mb5.4/62,Error ellipse: s-maj=8.9km s-min=4.6km az=96.0*
MOS Felt (III) at Petropavlovsk-Kamchatskiy.
*IDC **08** 05:25:18.6*±*1.2,53°.01N*×*159°.84E,h77*km*±*10*km*,mb4.3/29,mb1 4.5/30,mb1mx4.5/31,mbtmp4.3/30,MS4.2/3,Ms1 4.2/3,ms1mx3.8/40,Error ellipse: s-maj=13.2km s-min=9.2km az=143.0*

ISC 08 05:25:14.6±0.3,**52°.93N**±0°.04×**160°.04E**±0°.03,**h45**km±2km,**n744**,σ1°**33**/792,**mb5.1**/164,**MS4.5**/10,**158C-15D**,**Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SDLR	**Sedlovina**	**0.78**	**297**	P		**Pn**	**Pn**	**05 25 30.7**	**+1.4**
UGLR	**Uglovaya**	**0.78**	**291**	P		**Pn**	**Pn**	**05 25 30.8**	**+1.4**
SMAR	**Somma**	**0.82**	**295**	P		**Pn**	**Pn**	**05 25 31.0**	**+1.1**
SMAR				*i* S		**Sn**	**Sn**	**05 25 42.8**	**+1.8**
PET	**Petropavlovsk**	**0.84**	**277**	ǁ *i* PN		**Pn**	**Pn**	**05 25 31.2**	**+1.2**
PET				*e*S		**Sn**	**Sn**	**05 25 43.4**	**+2.1**
PET				pmax		pmax			
	comp=Z,8μm,0.4s								
PET				pmax		pmax			
	comp=Z,2μm,2.2s								
PET				pmax		pmax			
	comp=Z,9μm,0.5s								
PET				smax		smax			
	comp=E,52μm,0.5s								
PET				smax		smax			
	comp=N,24μm,0.4s								
PET	**Petropavlovsk**	**0.84**	**277**	P		**Pn**	**Pn**	**05 25 31.3**	**+1.2**
AVH	**Avacha**	**0.85**	**294**	*i* P		**Pn**	**Pn**	**05 25 31.8**	**+1.5**
KRER	**Koryakskii**	**0.86**	**296**	*e*P		**Pn**	**Pn**	**05 25 31.8**	**+1.3**
INSR	**Institute**	**0.88**	**280**	*e*P		**Pn**	**Pn**	**05 25 30.3**	**-0.2**
KOK	**Koryaka**	**0.92**	**294**	*i* P		**Pn**	**Pn**	**05 25 32.7**	**+1.5**
KRX	**Arik**	**0.94**	**298**	*i* P		**Pn**	**Pn**	**05 25 32.8**	**+1.3**
RUS	**Russkaya**	**1.05**	**242**	PN		**Pn**	**Pn**	**05 25 33.2**	**+0.3**
RUS	**Russkaya**	**1.05**	**242**	P		**Pn**	**Pn**	**05 25 33.2**	**+0.3**
KII	**Karymskiy**	**1.16**	**343**	*i* P		**Pn**	**Pn**	**05 25 35.9**	**+1.4**
KII				*i* S		**Sn**	**Sn**	**05 25 52.7**	**+3.4**
MTVR	**Mutnovka**	**1.21**	**249**	*e*P		**Pn**	**Pn**	**05 25 36.0**	**+0.8**
GRL	**Gorelyy**	**1.25**	**253**	*i* P		**Pn**	**Pn**	**05 25 37.1**	**+1.3**
GRL				*i* S		**Sn**	**Sn**	**05 25 53.6**	**+2.1**
ASAK	**Asacha**	**1.41**	**248**	P		**Pn**	**Pn**	**05 25 39.4**	**+1.5**
ASAK				*i* S		**Sn**	**Sn**	**05 25 57.6**	**+2.3**
PEA0B	**Petropavlovsk-**	**1.42**	**278**	*e*Pn		**Pn**	**Pn**	**05 25 40.0**	**+2.0**
PEA0B				*e*Sn		**Sn**	**Sn**	**05 25 59.1**	**+3.6**
PETK	**Petropavlovsk-**	**1.42**	**278**	PN		**Pn**	**Pn**	**05 25 40.1**	**+2.1**
PETK	**Petropavlovsk-**	**1.42**	**278**	P		**Pn**	**Pn**	**05 25 40.1**	**+2.1**
PETK				S		**Sn**	**Sn**	**05 25 58.6**	**+3.0**
PETK	**Petropavlovsk-**	**1.42**	**278**	P		**Pn**	**Pn**	**05 25 40.1**	**+2.1**
	comp=N,2μm,0.3s,baz=95,slow=18,SNR=5998								
PETK				S		**Sn**	**Sn**	**05 25 58.6**	**+3.0**
	comp=N,1μm,0.3s,baz=81,slow=21,SNR=11								
GNL	**Ganaly**	**1.47**	**302**	P		**Pn**	**Pn**	**05 25 41.3**	**+2.5**
APC	**Apacha**	**1.74**	**271**	*i* P		**Pn**	**Pn**	**05 25 45.0**	**+2.7**
APC				*i* S		**Sn**	**Sn**	**05 26 08.1**	**+4.8**
MKZ	**Mys Kozlova**	**1.92**	**31**	PN		**Pn**	**Pn**	**05 25 44.4**	**-0.3**
MKZ				S		**Sn**	**Sn**	**05 26 06.9**	**-0.6**
MKZ	**Mys Kozlova**	**1.92**	**31**	P		**Pn**	**Pn**	**05 25 44.4**	**-0.3**
MKZ				*i* S		**Sn**	**Sn**	**05 26 06.9**	**-0.6**
MIPR	**Malaya Ipel'ka**	**2.10**	**253**	P		**Pn**	**Pn**	**05 25 49.7**	**+2.4**
TUMR	**Tumrok**	**2.36**	**2**	*e*P		**Pn**	**Pn**	**05 25 53.4**	**+2.5**
PAU	**Pauzhetka**	**2.47**	**235**	PN		**Pn**	**Pn**	**05 25 54.0**	**+1.7**
PAU				S		**Sn**	**Sn**	**05 26 24.8**	**+3.7**
PAU	**Pauzhetka**	**2.47**	**235**	*i* S		**Sn**	**Sn**	**05 25 54.0**	**+1.7**
PAU				S		**Sn**	**Sn**	**05 26 24.8**	**+3.7**
KMNR	**Kamenistaya**	**2.83**	**2**	P		Pn	Pn	05 26 00.5	+3.1
ESO	**Esso**	**3.10**	**346**	PN		**Pn**	**Pn**	**05 26 03.4**	**+2.4**
ESO	**Esso**	**3.10**	**346**	*e*P		**Pn**	**Pn**	**05 26 03.4**	**+2.4**
SKR	**Severo-Kuril's**	**3.31**	**229**	*e*PN		Pn	Pn	05 25 58.9	-5.0
SKR				pmax		pmax			
	comp=Z,230nm,0.5s								
SKR				pmax		pmax			
	comp=N,80nm,0.4s								
SKR				pmax		pmax			
	comp=E,160nm,0.4s								
SKR	**Severo-Kuril's**	**3.31**	**229**	*e*P		**Pn**	**Pn**	**05 26 05.1**	**+1.2**
SKR				*i* S		**Sn**	**Sn**	**05 26 43.5**	**+1.5**
KBTR	**Krutoberegovo**	**3.66**	**25**	PN		**Pn**	**Pn**	**05 26 10.9**	**+2.2**
KBTR	**Krutoberegovo**	**3.66**	**25**	P		**Pn**	**Pn**	**05 26 10.9**	**+2.2**
SMKR	**Semkarok**	**3.75**	**12**	*e*P		**Pn**	**Pn**	**05 26 12.3**	**+2.3**
SRKR	**Sorokina**	**3.79**	**9**	*e*P		Pn	Pn	05 26 14.0	+3.5
BKI	**Bering**	**4.17**	**55**	PN		**Pn**	**Pn**	**05 26 15.4**	**-0.2**
BKI	**Bering**	**4.17**	**55**	*i* P		**Pn**	**Pn**	**05 26 15.4**	**-0.2**
FX1	**Attu Island--F**	**7.94**	**85**	*e*Pn		**Pn**	**Pn**	**05 27 06.9**	**-0.4**
FX1				S		Sn	Sn	05 28 28.4	-7.3
FX1				*e*Sn		Sn	Sn	05 28 28.5	-7.3
FX1	**Attu Island--F**	**7.94**	**85**	P		**Pn**	**Pn**	**05 27 07.0**	**-0.4**
	comp=E,85nm,0.3s,baz=296,slow=4.3,SNR=168								
FX1				S		Sn	Sn	05 28 28.4	-7.3
	comp=E,37nm,0.3s,baz=78,slow=22,SNR=9.3								
YSS	**Yuzh-Sakhalins**	**12.62**	**249**	*e*PN		P	P	05 28 29.8	+8.1
YUK	**Yuzh-Kuril'sk**	**12.93**	**232**	ǁ *i*PN		Pn	Pn	05 28 18.8	+3.3
YUK				*i* S		**Sn**	**Sn**	**05 30 42.0**	**+4.2**
YUK				pmax		pmax			
	comp=Z,42nm,0.5s								
YUK				pmax		pmax			
	comp=E,123nm,0.5s								
YUK				pmax		pmax			
	comp=N,21nm,0.1s								
ASAJ	**Asahikawa**	**14.50**	**240**	*e*Pn		**Pn**	**Pn**	**05 28 38.0**	**+1.1**
ASAJ	**Asahikawa**	**14.50**	**240**	P		**Pn**	**Pn**	**05 28 38.4**	**+1.5**
	comp=N,7.7nm,0.3s,baz=69,slow=12,SNR=20								
ATKA	**Atka Island**	**15.66**	**82**	*e*Pn		**Pn**	**Pn**	**05 28 49.3**	**-2.6**
	comp=N,48μm,1.6s								
ERM	**Erimo**	**15.75**	**233**	*e*P		**Pn**	**Pn**	**05 28 49.8**	**-3.3**
ERM	**Erimo**	**15.75**	**233**	Pn		Pn	**Pn**	**05 28 50.2**	**-2.9**
	comp=N,362nm,0.4s,SNR=6.4								
KLR	**Kul'dur**	**18.10**	**270**	*e*P		**P**	**P**	**05 29 20.2**	**-2.2**
KLR				pmax		pmax			
	comp=Z,80nm,2.0s								
YAK	**Yakutsk**	**18.52**	**311**	*e*P		**P**	**P**	**05 29 26.7**	**-0.2**
YAK				pmax		pmax			
	comp=Z,43nm,1.0s								
YAK				pmax		pmax			
	comp=E,12nm,1.0s								
USRK	**Ussuriysk Arra**	**20.40**	**256**	P		**P**	**P**	**05 29 47.3**	**-0.2**
	comp=E,25nm,0.5s,baz=60,slow=14,SNR=56								
USRK				LR		LR	LR	05 38 21.6	
	comp=E,420nm,18.6s,baz=300,slow=39								
MDJ	**Mudanjiang**	**21.59**	**260**	P		**P**	**P**	**05 29 59.6**	**-0.7**
MDJ				AMB		AMB			
	comp=E,9.0nm,0.6s								
MDJ				AMB		AMB			
	comp=E,100nm,3.9s								
MAJO	**Matsushiro**	**22.42**	**232**	*e*P		**P**	**P**	**05 30 09.8**	**+0.5**
MAJO				pmax		pmax			
	comp=Z,59nm,0.7s								
MAJO	**Matsushiro**	**22.42**	**232**	*e*P		**P**	**P**	**05 30 09.8**	**+0.5**
	comp=Z,59nm,0.7s								
MAT	**Matsushiro**	**22.42**	**232**	P		**P**	**P**	**05 30 09.7**	**+0.4**
MJAR	**Matsushiro Arr**	**22.42**	**232**	P		**P**	**P**	**05 30 10.1**	**+0.8**
MJAR	**Matsushiro Arr**	**22.42**	**232**	P		**P**	**P**	**05 30 10.1**	**+0.8**
	comp=Z,15nm,0.8s,baz=21,slow=9.4,SNR=27								
MJAR				LR		LR	LR	05 40 06.4	
	comp=Z,482nm,19.3s,baz=80,slow=40								
TIXI	**Tiksi**	**23.22**	**335**	ǁ *i*P		**P**	**P**	**05 30 16.5**	**-0.7**
TIXI				pmax		pmax			
	comp=Z,7.0nm,0.5s								
CN2	**Changchun**	**24.52**	**262**	*e*P		**P**	**P**	**05 30 29.3**	**-0.3**
CN2				*es*P		**sP**	**sP**	**05 30 46.3**	**-0.5**
CN2				*e*S		**S**	**S**	**05 34 41.6**	**-5.2**
CN2				AMB		AMB	AMB		
	comp=Z,10.0nm,0.9s								
CN2				AMB		AMB	AMB		
	comp=Z,200nm,4.0s								
CN2				LR		LR	LR		
	comp=Z,200nm,13.0s								
CN2				LR		LR	LR		
	comp=Z,300nm,13.0s								
CN2				LR		LR	LR		
	comp=Z,530nm,19.0s								
IM04	**Indian Mountai**	**26.13**	**42**	*e*P		**P**	**P**	**05 30 45.1**	**+1.0**
PPLA	**Purkeypile**	**26.64**	**49**	*e*pP		pP	pP	05 31 01.5	+1.0
KSRS	**Korea Array**	**27.12**	**248**	P		**P**	**P**	**05 30 53.1**	**-0.1**
	comp=Z,6.2nm,0.5s,baz=40,slow=9.4,SNR=13								
KSAR	**Wonju Array Be**	**27.15**	**248**	P		**P**	**P**	**05 30 53.1**	**-0.4**
COLD	**Coldfoot**	**27.70**	**40**	*e*P		**P**	**P**	**05 30 59.1**	**+1.0**
	comp=Z,1.9nm,0.6s								
COLA	**College**	**28.54**	**45**	ǁ *i*P		**P**	**P**	**05 31 06.4**	**+0.9**
JNU	**Nakatsue**	**28.78**	**238**	P		**P**	**P**	**05 31 08.7**	**+0.7**
JNU	**Nakatsue**	**28.78**	**238**	P		**P**	**P**	**05 31 08.7**	**+0.7**
	comp=Z,5.9nm,0.3s,baz=57,slow=10,SNR=7.5								
ILAR	**Eielson Array**	**28.95**	**45**	P		**P**	**P**	**05 31 09.2**	**-0.1**
ILAR	**Eielson Array**	**28.95**	**45**	P		**P**	**P**	**05 31 09.2**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=264,slow=7.5,SNR=28								
BMRM	**Bremner River**	**30.38**	**53**	*e*P		**P**	**P**	**05 31 22.1**	**+0.1**
	comp=Z,19nm,1.1s								
BMRM					*e*PcP	**PcP**	**PcP**	**05 34 22.2**	**+1.5**
EGAK	**Eagle**	**31.40**	**45**	*e*P		**P**	**P**	**05 31 31.0**	**+0.1**
	comp=Z,5.3nm,0.8s								
BJI	**Beijing**	**32.31**	**264**	P		**P**	**P**	**05 31 37.7**	**-1.4**
H11N2	**WAKE ISLAND Hy**	**33.56**	**168**	T		T	T	06 07 49.9	
	baz=354,slow=0.7,SNR=3415								
H11N3	**WAKE ISLAND Hy**	**33.58**	**168**	T		T	T	06 07 42.9	
	baz=354,slow=0.7,SNR=4346								
H11N1	**WAKE ISLAND Hy**	**33.58**	**168**	T		T	T	06 07 41.6	
	baz=354,slow=0.7,SNR=4749								
HYT	**Haines Junctio**	**33.80**	**51**	*e*P		**P**	**P**	**05 31 53.4**	**+1.4**
SONM	**Songino Array**	**33.91**	**283**	P		**P**	**P**	**05 31 52.7**	**-0.4**
SONM				PcP		**PcP**	**PcP**	**05 34 31.2**	**+0.5**
SONM	**Songino Array**	**33.91**	**283**	P		**P**	**P**	**05 31 52.7**	**-0.4**
	comp=Z,2.9nm,0.5s,baz=65,slow=8.2,SNR=20								
SONM				PcP		**PcP**	**PcP**	**05 34 31.2**	**+0.5**
	comp=Z,6.4nm,0.5s,baz=74,slow=1.6,SNR=25								
INK	**Inuvik**	**34.02**	**38**	P		**P**	**P**	**05 31 54.8**	**+1.2**
INK				PcP		**PcP**	**PcP**	**05 34 30.9**	**+0.5**
INK	**Inuvik**	**34.02**	**38**	P		**P**	**P**	**05 31 54.8**	**+1.2**
	comp=Z,5.9nm,0.5s,baz=295,slow=7.5,SNR=29								
INK				PcP		**PcP**	**PcP**	**05 34 30.9**	**+0.5**
	comp=Z,1.3nm,0.4s,baz=321,slow=3.6,SNR=4.6								
HHC	**Hu-ho-hao-te**	**34.61**	**269**	*e*P		**P**	**P**	**05 31 58.1**	**-1.1**
HHC				pP		**pP**	**pP**	**05 32 10.2**	**-1.0**
HHC				sP		**sP**	**sP**	**05 32 15.6**	**-1.0**
HHC				PP		**PnPn**	**PnPn**	**05 33 14.2**	**-1.4**
HHC				S		**S**	**S**	**05 37 21.3**	**-4.0**
HHC				sS		**sS**	**sS**	**05 37 41.5**	**-4.0**
HHC				PcS		**PcS**	**PcS**	**05 38 19.0**	**-0.3**
HHC				SS		**SnSn**	**SnSn**	**05 39 32.8**	**-7.2**
HHC				ScS		**ScS**	**ScS**	**05 42 15.0**	**-2.1**
HHC				AMB		AMB	AMB		
	comp=Z,36nm,1.1s								
HHC				AMB		AMB	AMB		
	comp=Z,690nm,5.0s								
HHC				LR		LR	LR		
	comp=Z,680nm,17.1s								
HHC				LR		LR	LR		
	comp=Z,380nm,14.9s								
HHC				LR		LR	LR		
	comp=Z,580nm,16.3s								
H11S1	**WAKE ISLAND Hy**	**34.74**	**169**	T		T	T	06 08 59.0	
	baz=354,slow=0.7,SNR=162								
H11S3	**WAKE ISLAND Hy**	**34.76**	**169**	T		T	T	06 09 13.3	
	baz=354,slow=0.7,SNR=248								
H11S2	**WAKE ISLAND Hy**	**34.76**	**169**	T		T	T	06 09 00.7	
	baz=354,slow=0.7,SNR=81								
JOW	**Kunigami**	**35.19**	**235**	*e*P		**P**	**P**	**05 32 06.7**	**+2.5**
	comp=Z,47nm,0.5s								
NJ2	**Nanjing**	**36.17**	**251**	*e*P		**P**	**P**	**05 32 12.5**	**-0.1**
NJ2				AMB		AMB	AMB		
	comp=Z,30nm,1.0s								
DLBC	**Dease Lake**	**38.17**	**53**	*e*P		**P**	**P**	**05 32 31.7**	**+2.4**
HVS	**Khovu-Aksy**	**39.54**	**295**	*i* P		**P**	**P**	**05 32 40.2**	**-0.7**
HVS				pmax		pmax			
	comp=Z,10.0nm,0.6s								
LZH	**Lanzhou**	**42.30**	**270**	*e*P		**P**	**P**	**05 33 01.5**	**-2.4**
LZH				pP		**pP**	**pP**	**05 33 13.8**	**-2.4**
LZH				sP		**sP**	**sP**	**05 33 19.0**	**-2.4**
LZH				*e*PP		**PP**	**PP**	**05 34 42.6**	**+0.3**
LZH				*e*S		**S**	**S**	**05 39 17.5**	**-4.1**
LZH				sS		**sS**	**sS**	**05 39 37.7**	**-4.3**
LZH				*e*SS		SS	SS	05 42 19.4	-12
LZH				AMB		AMB	AMB		
	comp=Z,52nm,1.5s								
LZH				AMB		AMB	AMB		
	comp=Z,170nm,6.0s								
LZH				LR		LR	LR		
	comp=Z,560nm,13.7s								
LZH				LR		LR	LR		
	comp=Z,540nm,14.0s								
LZH				LR		LR	LR		
	comp=Z,830nm,17.5s								
GTA	**Gaotai**	**42.59**	**276**	*e*P		**P**	**P**	**05 33 06.3**	**+0.1**
GTA				pP		**pP**	**pP**	**05 33 18.7**	**+0.3**
GTA				sP		**sP**	**sP**	**05 33 24.1**	**+0.4**
GTA				S		**S**	**S**	**05 39 23.2**	**-2.5**
GTA				sS		**sS**	**sS**	**05 39 43.4**	**-2.8**
GTA				SS		SS	SS	05 42 26.4	-10
GTA				AMB		AMB	AMB		
	comp=Z,14nm,1.0s								
GTA				AMB		AMB	AMB		
	comp=Z,240nm,5.7s								
GTA				LR		LR	LR		
	comp=Z,260nm,18.5s								
GTA				LR		LR	LR		
	comp=Z,370nm,18.0s								
GTA				LR		LR	LR		
	comp=Z,550nm,17.1s								
ZAA0	**Zalesovo Array**	**42.84**	**303**	*e*P		**P**	**P**	**05 33 06.2**	**-1.5**
ZALV	**Zalesovo Beam**	**42.84**	**303**	P		**P**	**P**	**05 33 05.8**	**-2.0**
ZALV				pmax		pmax			
	comp=Z,4.0nm,0.5s								
ZALV	**Zalesovo Beam**	**42.84**	**303**	P		**P**	**P**	**05 33 05.8**	**-2.0**
ZALV	**Zalesovo Beam**	**42.84**	**303**	P		**P**	**P**	**05 33 05.8**	**-2.0**
	comp=Z,3.5nm,0.5s,baz=60,slow=8.9,SNR=12								
ALE	**Alert**	**43.09**	**7**	P		**P**	**P**	**05 33 10.3**	**+0.8**
	comp=Z,82nm,0.6s,SNR=6.5								
NVS	**Novosibirsk**	**43.18**	**305**	*e*P		**P**	**P**	**05 33 08.1**	**-2.4**
NVS				pmax		pmax			
	comp=Z,13nm,0.5s								
YKA	**Yellowknife Ar**	**43.31**	**42**	P		**P**	**P**	**05 33 12.2**	**+0.8**
YKA	**Yellowknife Ar**	**43.31**	**42**	P		**P**	**P**	**05 33 12.2**	**+0.8**
	comp=Z,2.4nm,0.5s,baz=298,slow=7.4,SNR=9.6								
CD2	**Chengdu**	**45.92**	**264**	P		**P**	**P**	**05 33 33.1**	**+0.4**
CD2				pP		**pP**	**pP**	**05 33 45.2**	**+0.1**
CD2				sP		**sP**	**sP**	**05 33 50.3**	**-0.1**
CD2				PP		**PP**	**PP**	**05 35 20.7**	**-0.1**
CD2				S		**S**	**S**	**05 40 12.0**	**-2.0**
CD2				sS		**sS**	**sS**	**05 40 32.4**	**-2.3**
CD2				SS		**ScS**	**ScS**	**05 43 28.0**	**+3.5**
CD2				AMB		AMB	AMB		
	comp=Z,10.0nm,0.5s								
CD2				AM

ARCES PcP **PcP** 05 35 36.1 +0.3
comp=Z,2.7nm,0.5s,baz=35,slow=4.4,SNR=5.9
ARU Arti 53.49 317 *d* iP **P** 05 34 28.9 -1.0
ARU S **S** 05 41 59.6 +0.5
ARU SS **SKiKP** 05 45 42.5 +1.6
ARU pmax pmax
comp=Z,8.0nm,0.6s
MFID Camas Ranch 53.83 64 P **P** 05 34 33.7 +1.0
baz=54
A19A Klindworth Far 53.86 55 P **P** 05 34 33.0 +0.1
baz=54
EGMT Eagleton 53.95 56 P **P** 05 34 34.3 +0.7
baz=54
B19A Brinkman Farms 54.07 55 P **P** 05 34 34.7 +0.3
baz=54
SUMG Summit 54.13 7 *e*P **P** 05 34 35.4 +0.6
SUMG pmax pmax
comp=Z,31nm,1.1s
SUMG Summit 54.13 7 *i* P **P** 05 34 35.4 +0.6
comp=Z,15nm,0.9s
SUMG Summit 54.13 7 *e*P **P** 05 34 35.4 +0.6
comp=Z,30nm,1.1s
A20A Cobblestone Ra 54.29 54 P **P** 05 34 36.7 +0.7
baz=54
TKM2 Tokmak 2 54.33 296 *e*P **P** 05 34 35.5 -1.0
TKM2 Tokmak 2 54.33 296 *e*P **P** 05 34 35.5 -1.0
MCMT McKenzie Canyo 54.48 61 *e*P **P** 05 34 38.6 +1.0
comp=Z,1.3nm,0.8s
HLID Hailey 54.50 63 P **P** 05 34 38.9 +1.2
baz=54
C19A Slack Wire Ran 54.50 56 P **P** 05 34 38.4 +0.9
baz=54
TRO Tromso 54.51 344 *e* **P** 05 34 35.4 -1.7
B20A Solberg Farm, 54.54 55 P **P** 05 34 38.3 +0.5
baz=54
A21A Bergtoll Ranch 54.71 54 P **P** 05 34 39.8 +0.8
baz=54
HEF Hetta 54.75 342 *e*P **P** 05 34 38.0 -0.8
D19A Cripps Ranch, 54.97 56 P **P** 05 34 41.7 +0.7
baz=55
C20A Veseth Ranch, 55.04 55 P **P** 05 34 42.6 +1.2
baz=55
B21A Ellsworth Farm 55.04 54 P **P** 05 34 42.2 +0.9
baz=55
AAK Ala-Archa 55.12 296 *e*P **P** 05 34 41.4 -0.8
AAK pmax pmax
comp=Z,7.0nm,0.6s
AAK Ala-Archa 55.12 296 P **P** 05 34 41.2 -1.0
comp=Z,65nm,0.7s,SNR=6.5
AAK Ala-Archa 55.12 296 *e*P **P** 05 34 41.4 -0.8
comp=Z,7.1nm,0.6s
A22A Carney Farms, 55.20 53 P **P** 05 34 43.3 +0.8
baz=55
QLMT Earthquake Lak 55.23 60 *e*P **P** 05 34 44.3 +1.3
comp=Z,0.3nm,0.4s
D20A Manuel Ranch, 55.39 56 P **P** 05 34 45.0 +1.1
baz=55
E19A Rath Farm, Rou 55.49 57 P **P** 05 34 46.0 +1.3
baz=55
EKS2 Erkin-Say 55.49 297 *e*P **P** 05 34 44.3 -0.5
EKS2 pmax pmax
comp=Z,10.0nm,0.6s
EKS2 Erkin-Say 55.49 297 *e*P **P** 05 34 44.3 -0.5
comp=Z,9.9nm,0.6s
GCMT Greycliff 55.49 58 *e*P **P** 05 34 44.9 +0.1
B22A Reddig Ranch S 55.63 54 P **P** 05 34 47.0 +1.4
baz=55
E20A Meyer Farm, Mu 55.79 57 P **P** 05 34 48.5 +1.6
baz=56
F19A Roth Farm, Mol 55.82 58 P **P** 05 34 48.6 +1.5
baz=56
NVAR Mina Array Bea 55.83 70 P **P** 05 34 49.0 +1.6
NVAR Mina Array Bea 55.83 70 P **P** 05 34 49.0 +1.6
comp=Z,1.8nm,0.6s,baz=296,slow=7.3,SNR=16
D21A La Casta Ranch 55.98 55 P **P** 05 34 49.3 +1.2
baz=56
B23A Brockton 56.01 53 P **P** 05 34 49.6 +1.3
baz=56
FLWY Flagg Ranch 56.12 60 *e*P **P** 05 34 52.5 +3.1
IMW Indian Meadow 56.12 61 *e*P **P** 05 34 51.6 +2.1
comp=Z,4.7nm,1.0s
A24A Westby 56.16 52 P **P** 05 34 50.7 +1.2
baz=56
D22A Cohagen 56.33 55 P **P** 05 34 51.8 +1.2
baz=56
C23A Lambert 56.37 54 P **P** 05 34 52.2 +1.3
baz=56
KSH Kashi 56.44 293 P **P** 05 34 54.7 +3.1
KSH pP **pP** 05 35 07.5 +3.2
KSH sP **sP** 05 35 14.0 +4.5
KSH PP **PP** 05 36 59.1 +1.9
KSH S **S** 05 42 40.1 +0.9
KSH sS **sS** 05 43 00.6 +0.2
KSH ScS **ScS** 05 44 39.9 +3.0
KSH AMB AMB
comp=Z,6.0nm,0.6s
KSH AMB AMB
comp=Z,180nm,6.8s
KSH LR LR
comp=Z,170nm,7.1s
KSH LR LR
comp=Z,160nm,5.1s
KSH LR LR
comp=Z,300nm,12.4s
REDW Red Top Meadow 56.54 61 *e*P **P** 05 34 55.4 +3.0
comp=Z,14nm,1.6s
A25A Svangstu Ranch 56.58 52 P **P** 05 34 53.4 +1.0
baz=56
H19A Powell 56.61 59 P **P** 05 34 54.0 +1.1
baz=56
G20A Bridger 56.63 58 P **P** 05 34 54.2 +1.2
baz=56
LOF Lofoten 56.71 346 *e*P **P** 05 34 51.7 -1.2
LOF AMB AMB 05 34 55.0
comp=Z,168nm,1.8s
F21A Absaloka Mine, 56.77 57 P **P** 05 34 55.1 +1.3
baz=57
KK31 Karatay Array 56.93 299 *e*P **P** 05 34 53.2 -1.8
KK31 pmax pmax
comp=Z,4.0nm,0.5s
KKAR Karatay Array 56.93 299 *e*P **P** 05 34 53.4 -1.6
KKAR pmax pmax
comp=Z,6.0nm,0.5s
KKAR Karatay Array 56.93 299 *e*P **P** 05 34 53.4 -1.6
comp=Z,6.3nm,0.5s
F22A Rosebud 57.24 56 P **P** 05 34 58.0 +0.9
baz=57
D24A Glendive 57.26 54 P **P** 05 34 58.4 +1.2
baz=57
C25A Freed Ranch, W 57.37 53 P **P** 05 34 59.3 +1.4
baz=57
R11A Troy Canyon, C 57.42 68 P **P** 05 35 00.3 +1.7
baz=57
J19A Crowheart 57.55 60 P **P** 05 35 01.4 +1.9
baz=57
I20A Worland 57.56 59 P **P** 05 35 01.1 +1.6
baz=57
G22A Birney 57.61 57 P **P** 05 35 00.9 +1.1
baz=57
PDAR Pinedale Array 57.63 61 P **P** 05 35 01.8 +1.6
PDAR Pinedale Array 57.63 61 P **P** 05 35 01.8 +1.6
comp=Z,2.6nm,0.6s,baz=330,slow=2.5,SNR=26
H21A Big Horn, Sher 57.64 58 P **P** 05 35 01.5 +1.5
baz=58
DUG Dugway 57.67 65 *e*P **P** 05 35 02.7 +2.3
DUG pmax pmax
comp=Z,13nm,1.6s
DUG Dugway 57.67 65 *e*P **P** 05 35 02.6 +2.3
comp=Z,12nm,1.6s
DUG Dugway 57.67 65 P **P** 05 35 01.8 +1.4
baz=58
JOF Joensuu 57.70 335 *e*P **P** 05 34 58.2 -1.8
JOF pmax pmax
comp=Z,8.0nm,0.4s
JOF Joensuu 57.70 335 *e*p **P** 05 34 58.2 -1.8
comp=Z,8.0nm,0.4s
F23A Volborg 57.70 56 P **P** 05 35 01.8 +1.4
baz=58
CHTO Chiang Mai 57.84 258 *e*P **P** 05 35 02.4 +0.8
CHTO pmax pmax
comp=Z,32nm,1.3s
CHTO Chiang Mai 57.84 258 *e*P **P** 05 35 02.4 +0.8
comp=Z,32nm,1.3s
AB31 Akbulak array 57.87 310 *e*P **P** 05 35 00.1 -1.3
AB31 pmax pmax
comp=Z,2.0nm,0.3s
ABKAR Akbulak array 57.87 310 *e*P **P** 05 34 59.9 -1.5

A28A Rude Farm, Bot 57.94 50 P **P** 05 35 03.4 +1.4
baz=58
J20A Shoshoni 58.00 59 P **P** 05 35 04.3 +1.7
baz=58
FURC Furnace Creek, 58.02 71 P **P** 05 35 04.3 +1.7
baz=58
G23A Biddle 58.08 56 P **P** 05 35 04.0 +0.9
baz=58
I21A Big Trails, Te 58.08 58 P **P** 05 35 04.3 +1.1
baz=58
CMAR Chiang Mai Arr 58.11 258 P **P** 05 35 03.8 +0.3
CMAR Chiang Mai Arr 58.11 258 P **P** 05 35 03.8 +0.3
comp=Z,2.0nm,0.7s,baz=26,slow=6.1,SNR=7.7
E25A Miller Ranch, 58.15 54 P **P** 05 35 05.0 +1.5
baz=58
SFJD Kangerlussuaq 58.18 14 *i* P **P** 05 35 03.0 -0.3
comp=Z,6.1nm,0.7s
TAPN Taplejung 58.18 274 *e*P **P** 05 35 03.5 -0.8
comp=Z,26nm,0.6s
KONS Konsvik 58.28 345 *e*P **P** 05 35 04.5 +0.5
K20A Yellowstone Ra 58.35 60 P **P** 05 35 06.1 +1.0
baz=58
DAU Daniels Canyon 58.37 64 *e*P P 05 35 08.7 +3.2
DAU Daniels Canyon 58.37 64 *e*P P 05 35 08.7 +3.2
FLOS Flostrand 58.40 345 *e*P **P** 05 35 04.7 -0.1
A29A Manning Farm, 58.41 50 P **P** 05 35 06.1 +0.9
baz=58
I22A 9 Mile Ranch, 58.44 58 P **P** 05 35 06.7 +1.0
baz=58
G24A Alzada 58.48 55 P **P** 05 35 06.4 +0.6
baz=58
EDW2 Edwards Air Fo 58.49 73 P **P** 05 35 07.1 +1.1
baz=58
E26A Carlson Angus 58.63 53 P **P** 05 35 08.2 +1.4
baz=58
C28A Hausauer Farms 58.73 51 P **P** 05 35 08.7 +1.2
baz=58
ODAN Odare 58.73 274 *e*P **P** 05 35 07.6 -0.5
comp=Z,12nm,0.5s
SHOC Shoshone 58.75 71 P **P** 05 35 09.2 +1.4
baz=59
J22A Midwest 58.78 58 P **P** 05 35 09.8 +1.7
baz=59
L20A Wamsutter 58.81 61 P **P** 05 35 09.8 +1.4
baz=59
H24A Dirks Ranch, A 58.82 56 P **P** 05 35 09.4 +1.1
baz=59
JIRN Jiri 58.87 276 *e*P **P** 05 35 08.0 -1.2
GUN Gumba 58.88 276 *e*P **P** 05 35 08.0 -1.2
K21A Alcova 58.94 59 P **P** 05 35 10.6 +1.4
baz=59
ULM Lac du Bonnet 58.96 47 P **P** 05 35 09.8 +0.9
ULM Lac du Bonnet 58.96 47 P **P** 05 35 09.8 +0.9
comp=Z,8.2nm,0.5s,baz=326,slow=7.2,SNR=22
F26A Lodgepole 58.97 54 P **P** 05 35 10.3 +1.1
baz=59
MDND Maddock 59.01 51 P **P** 05 35 10.8 +1.5
baz=59
ARUT Antelope Range 59.02 67 *e*P P 05 35 13.1 +3.3
ARUT pmax pmax
comp=Z,24nm,0.7s
ARUT Antelope Range 59.02 67 *e*P P 05 35 13.1 +3.3
comp=Z,24nm,0.7s
D28A Regan 59.02 52 P **P** 05 35 11.1 +1.6
baz=59
G25A Newell 59.07 55 P **P** 05 35 11.1 +1.2
baz=59
E27A Carson 59.09 53 P **P** 05 35 10.6 +0.6
baz=59
RAMN Ramite 59.15 275 *e*P **P** 05 35 10.1 -0.8
comp=Z,70nm,0.5s
B30A Myrvik Farm, E 59.16 49 P **P** 05 35 11.7 +1.2
baz=59
TMUT Trail Mountain 59.19 65 *e*P **P** 05 35 12.9 +1.8
M20A Sweetwater, Wa 59.26 61 P **P** 05 35 12.7 +1.2
baz=59
F27A Lemmon 59.27 54 P **P** 05 35 12.3 +1.0
baz=59
TUQ Turquoise Moun 59.29 71 P **P** 05 35 13.2 +1.6
baz=59
K22A Casper 59.30 59 P **P** 05 35 12.9 +1.2
baz=59
KKN Kakani 59.33 276 *e*P **P** 05 35 11.3 -0.8
comp=Z,39nm,0.5s
L21A Rawlins 59.35 60 P **P** 05 35 13.2 +1.1
baz=59
H25A Fruitdale 59.39 56 P **P** 05 35 13.1 +0.9
baz=59
G26A Maurine 59.40 54 P **P** 05 35 13.5 +1.3
baz=59
E28A Huff 59.41 52 P **P** 05 35 13.4 +1.3
baz=59
PKI Pulchoki 59.41 276 *e*P **P** 05 35 11.8 -1.0
comp=Z,25nm,0.6s
RSSD Black Hills 59.52 56 *e*P **P** 05 35 14.6 +1.3
RSSD Black Hills 59.52 56 *e*P **P** 05 35 14.6 +1.3
GKN Gorkha 59.56 277 *e*P **P** 05 35 12.7 -0.9
comp=Z,24nm,0.6s
DMN Daman 59.56 276 *e*P **P** 05 35 12.9 -0.9
O19A Miners Draw (B 59.60 62 P **P** 05 35 14.9 +1.1
baz=59
M21A Separation Pea 59.61 60 P **P** 05 35 14.8 +0.8
baz=59
KAF Kangasniemi 59.62 337 *e*P **P** 05 35 12.1 -1.3
KAF pmax pmax
comp=Z,11nm,0.5s
KAF Kangasniemi 59.62 337 *e*p **P** 05 35 12.1 -1.3
comp=Z,11nm,0.5s
G27A Dupree 59.67 54 P **P** 05 35 15.1 +1.1
baz=60
N20A Spence Gulch, 59.68 61 P **P** 05 35 15.7 +1.3
baz=60
SRU San Rafael 59.69 64 *e*P **P** 05 35 16.9 +2.4
SRU San Rafael 59.69 64 *e*P **P** 05 35 16.9 +2.4
I25A Rochford 59.75 56 P **P** 05 35 15.9 +1.1
baz=60
H26A Fairpoint 59.80 55 P **P** 05 35 16.1 +1.2
baz=60
DANN Dangsing 59.83 278 *e*P **P** 05 35 15.0 -0.7
comp=Z,36nm,0.8s
F28A McLaughlin 59.88 53 P **P** 05 35 16.5 +1.0
baz=60
GMRC Granite Mounta 59.91 71 P **P** 05 35 17.1 +1.1
baz=60
D30A Buchanan 59.94 51 P **P** 05 35 16.7 +0.9
baz=60
L23A Garrett 60.11 59 P **P** 05 35 18.1 +0.7
baz=60
H27A Howes 60.13 55 P **P** 05 35 18.1 +0.9
baz=60
P19A Cripple Cowboy 60.15 63 P **P** 05 35 18.2 +0.5
baz=60
J25A Sunshine Ranch 60.17 57 P **P** 05 35 18.1 +0.5
baz=60
FIA1 FINESS Array S 60.26 337 *e*P **P** 05 35 17.4 -0.3
FINES FINESS Array B 60.26 337 P **P** 05 35 17.3 -0.4
FINES FINESS Array B 60.26 337 P **P** 05 35 17.3 -0.4
comp=Z,8.7nm,0.5s,baz=35,slow=8.0,SNR=69
BELC Belle Mtn. Jos 60.27 72 P **P** 05 35 19.5 +1.1
baz=60
PFO Pinyon Flat Ob 60.29 73 P **P** 05 35 19.5 +1.0
baz=60
NSS Namsos 60.30 345 *e*P **P** 05 35 17.3 -0.6
NSS AMB AMB 05 35 19.2
comp=Z,37nm,1.6s
KOLN Koldanda 60.35 278 *e*P **P** 05 35 18.3 -0.8
comp=Z,16nm,0.5s
F29A Eureka 60.36 52 P **P** 05 35 19.9 +1.2
baz=60
G28A Parade 60.38 54 P **P** 05 35 19.8 +0.8
baz=60
PYUN Piuthan 60.47 278 *e*P **P** 05 35 19.1 -0.9
I27A Quinn 60.55 55 P **P** 05 35 21.3 +1.2
baz=60
H28A Mission Ridge 60.62 54 P **P** 05 35 21.8 +1.3
baz=60
N22A Wattenberg Ran 60.66 60 P **P** 05 35 22.5 +1.4
baz=60
N23A Red Feather La 60.86 60 P **P** 05 35 24.1 +1.6
baz=61
P21A Newcastle 61.05 62 P **P** 05 35 25.5 +1.7
baz=61
J27A Elkhorn Farm, 61.17 56 P **P** 05 35 25.8 +1.5
baz=61
PV05 Paradox Valley 61.21 64 *e*P **P** 05 35 27.0 +2.1
PV15 Paradox Valley 61.35 64 *e*P **P** 05 35 27.6 +1.7
O23A Lake Granby, G 61.37 60 P **P** 05 35 28.0 +2.0
baz=61
P22A Eagle 61.37 62 P **P** 05 35 27.6 +1.6
baz=61
J28A Allard Ranch, 61.43 55 P **P** 05 35 27.5 +1.4
baz=61
I29A Vivian Onida 61.45 54 P **P** 05 35 26.9 +0.8
baz=61
GLA Glamis 61.63 72 P **P** 05 35 29.5 +2.0
baz=62
WUAZ Wupatki 61.80 68 P **P** 05 35 30.9 +2.0
baz=62
Q22A Crested Butte, 61.82 62 P **P** 05 35 30.8 +1.7
baz=62
ISCO Idaho Springs 61.83 61 *e*P **P** 05 35 31.4 +2.3
ISCO pmax pmax
comp=Z,19nm,1.9s
ISCO Idaho Springs 61.83 61 *e*P **P** 05 35 31.4 +2.3
comp=Z,19nm,1.9s
ISCO Idaho Springs 61.83 61 P **P** 05 35 30.7 +1.5
baz=62
R21A Cimarron 61.84 63 P **P** 05 35 30.8 +1.7
baz=62
K28A Ten Mile Ranch 61.88 56 P **P** 05 35 30.6 +1.4
baz=62
J29A Okreek 61.89 55 P **P** 05 35 29.9 +0.8
baz=62
MVCO Mesa Verde 62.16 64 P **P** 05 35 32.9 +1.5
baz=62
S21A Coal Bank Pass 62.22 64 P **P** 05 35 33.3 +1.5
baz=62
X16A Lo Mia Camp, P 62.56 69 P **P** 05 35 36.5 +2.6
baz=62
S22A 4UR Ranch, Cre 62.68 63 P **P** 05 35 36.5 +1.6
baz=62
MOL Molde 62.82 346 *e*P **P** 05 35 35.1 +0.2
OGNE Ogallala 62.85 57 P **P** 05 35 36.7 +1.0
baz=63
R23A Moffat 62.89 62 P **P** 05 35 38.0 +1.7
baz=63
T22A Edith 63.18 64 P **P** 05 35 39.8 +1.7
baz=63
O27A Beecher Island 63.18 58 P **P** 05 35 39.2 +1.3
baz=63
P26A Davis Ranch, A 63.19 59 P **P** 05 35 39.3 +1.3
baz=63
U21A Nageezi 63.20 65 P **P** 05 35 39.7 +1.5
baz=63
V20A Brimhall 63.21 66 P **P** 05 35 39.9 +1.6
baz=63
R24A Sanders Place, 63.25 61 P **P** 05 35 39.5 +1.0
baz=63
N28A Pribbeno Ranch 63.29 57 P **P** 05 35 39.7 +1.1
baz=63
ECSD EROS Data Cent 63.45 52 *e*P **P** 05 35 40.0 +0.5
comp=Z,46nm,1.9s
L31A Butterfield Fa 63.54 55 P **P** 05 35 41.1 +1.0
baz=63
Q26A Hugo 63.57 60 P **P** 05 35 41.5 +1.0
baz=63
O28A Krutsinger Ran 63.59 58 P **P** 05 35 41.6 +1.0
baz=63
S24A Houchin Ranch, 63.62 62 P **P** 05 35 42.6 +1.5
baz=64
V21A Milan 63.66 65 P **P** 05 35 43.1 +1.8
baz=64
U22A Llaves 63.67 64 P **P** 05 35 42.8 +1.4
baz=64
W20A Ramah 63.69 66 P **P** 05 35 43.2 +1.7
baz=64
NB2 NORSAR Subarra 63.69 344 P **P** 05 35 40.4 -0.4
comp=Z,12nm,0.4s,baz=23,slow=6.9
NB2 NORSAR Subarra 63.69 344 P **P** 05 35 40.4 -0.4
comp=23,slow=6.9
NOA NORSAR Array B 63.69 344 P **P** 05 35 40.5 -0.3
NOA NORSAR Array B 63.69 344 P **P** 05 35 40.5 -0.3
comp=Z,13nm,0.5s,baz=22,slow=6.6,SNR=81
NAO01 NORSAR Array S 63.93 344 *e*P **P** 05 35 42.1 -0.2
comp=Z,6.5nm,0.5s
U23A El Rito 64.07 64 P **P** 05 35 45.0 +1.1
baz=64
R26A Arlington 64.07 60 P **P** 05 35 44.9 +1.0
baz=64
X20A Quemado 64.12 67 P **P** 05 35 45.8 +1.5
baz=64
HYA Hoyanger 64.36 346 *e*P **P** 05 35 44.5 -0.6
R27A Eads 64.42 60 P **P** 05 35 46.9 +0.8
baz=64
V23A Ortiz Mt. (NFS 64.50 64 P **P** 05 35 49.0 +2.2
baz=64
X21A Alamocita Cree 64.59 66 P **P** 05 35 49.3 +1.9
baz=64
Y20A Horse Springs, 64.66 67 P **P** 05 35 49.9 +2.0
baz=64
T26A Comanche Natio 64.83 61 P **P** 05 35 49.9 +1.0
baz=65
R28A Tribune 64.90 59 P **P** 05 35 50.5 +1.4
baz=65
U25A Circle Dot Ran 64.98 62 P **P** 05 35 50.5 +0.7
baz=65
V24A Rampart Ranch, 65.01 63 P **P** 05 35 51.8 +1.6
baz=65
KONO Kongsberg 65.28 344 *e*P **P** 05 35 51.1 0.0
KONO Kongsberg 65.28 344 *e*P **P** 05 35 51.1 0.0
ISAL Salakas 65.38 333 *e*P **P** 05 35 51.7 -0.1
ISAL AMB AMB 05 35 52.9
comp=Z,6.2nm,0.8s
IIGN Ignalina 65.55 333 *e*P **P** 05 35 52.3 -0.6
IIGN AMB AMB 05 35 54.1
comp=Z,8.8nm,0.5s
T28A Walsh 65.66 60 P **P** 05 35 54.5 +0.4
baz=66
R30A Dighton 65.74 58 P **P** 05 35 54.8 +0.2
baz=66
V26A Tequesquite Ra 65.76 62 P **P** 05 35 55.5 +0.7
baz=66
U27A Thompson Grove 65.81 61 P **P** 05 35 55.8 +0.6
baz=66
SCHQ Schefferville 65.81 28 P **P** 05 35 54.6 -0.1
SCHQ Schefferville 65.81 28 P **P** 05 35 54.6 -0.1
comp=Z,5.0nm,0.5s,baz=344,slow=7.6,SNR=17
W25A X Bar L Ranch, 65.83 63 P **P** 05 35 55.9 +0.6
baz=66
Y23A Lovelace Mesa, 65.92 65 P **P** 05 35 57.0 +1.0
baz=66
BLS5 Blasjo 65.99 346 *e*P **P** 05 35 56.4 +0.6
220A Playas Peak, P 66.06 68 P **P** 05 35 57.9 +1.0
baz=66
X25A Clemmons Ranch 66.24 64 P **P** 05 35 58.8 +0.8
baz=66
Y24A Capitan 66.27 65 P **P** 05 35 59.2 +1.0
baz=66
SCIA State Center 66.46 51 *e*P **P** 05 35 59.8 +0.7
comp=Z,31nm,0.6s
Y25A Mesa, Roswell 66.68 64 P **P** 05 36 01.9 +1.1
baz=66
X26A CR and CF Fran 66.68 63 P **P** 05 36 01.5 +0.7
baz=66
Z24A Sheeppen Canyo 66.76 65 P **P** 05 36 02.2 +0.9
baz=67
X27A F and S Farms, 67.00 63 P **P** 05 36 03.7 +0.9
baz=67
Z25A Roswell 67.15 65 P **P** 05 36 05.3 +1.6
baz=67
224A Cornudas Mount 67.61 66 P **P** 05 36 08.0 +1.3
baz=68
125A Gardner Draw, 67.65 65 P **P** 05 36 08.0 +1.1
baz=68
X29A Tulia 67.90 62 P **P** 05 36 09.1 +0.7
baz=68
Z27A Tatum 67.94 64 P **P** 05 36 09.0 +0.3
baz=68
225A Deer Hill, Car 67.97 66 P **P** 05 36 09.4 +0.4
baz=68
226B Tecolote Peak, 68.36 65 P **P** 05 36 11.8 +0.5
baz=68
325A Bean Ranch, Si 68.45 66 P **P** 05 36 12.9 +0.8
baz=68
COP Copenhagen 68.50 341 *i* P **P** 05 36 12.0 +0.4
COP pmax pmax
comp=Z,14nm,0.6s
COP Copenhagen 68.50 341 *i* P **P** 05 36 12.0 +0.4
comp=Z,14nm,0.5s
BSD Bornholm Skovb 68.52 339 *i* P **P** 05 36 12.0 +0.2
BSD pmax pmax
comp=Z,10.0nm,0.6s
BSD Bornholm Skovb 68.52 339 *i* P **P** 05 36 12.0 +0.2
comp=Z,10nm,0.5s
X31A McDonald Ranch 68.67 61 P **P** 05 36 13.8 +0.7

baz=68
AKASG **Malin Array Be** 68.74 329 P P 05 36 12.2 -1.0
AKASG pmax pmax
comp=Z,14nm,0.5s
AKASG **Malin Array Be** 68.74 329 P P 05 36 12.2 -1.0
AKASG **Malin Array Be** 68.74 329 P P 05 36 12.2 -1.0
comp=Z,14nm,0.5s,baz=29,slow=6.2,SNR=40
KIEV **Kiev** 68.75 329 *e*P P 05 36 12.5 -0.8
KIEV pmax pmax
comp=Z,12nm,0.6s
KIEV **Kiev** 68.75 329 *e*P P 05 36 12.5 -0.8
comp=Z,12nm,0.6s
KIEV *e*PP PP 05 38 40.9 -3.9
Y30A **Stafford Cattl** 68.76 62 P P 05 36 14.4 +0.6
baz=69
Z29A **Hungry Hill Ra** 68.80 63 P P 05 36 14.9 +0.9
baz=69
128A **Castleberry Fa** 68.87 64 P P 05 36 15.4 +0.9
baz=69
LLD **Lille Linde** 68.87 341 *i* P P 05 36 13.9 -0.1
LLD pmax pmax
comp=Z,34nm,0.7s
LLD **Lille Linde** 68.87 341 *i* P P 05 36 13.9 -0.1
comp=Z,34nm,0.6s
425A **Indio Mountain** 68.89 67 P P 05 36 15.5 +0.8
baz=69
Y32A **R-V Farms, Ver** 69.44 61 P P 05 36 18.3 +0.4
baz=69
426A **McDonald Obser** 69.51 66 P P 05 36 19.1 +0.5
baz=69
Z31A **Sharp Cattle R** 69.59 62 P P 05 36 19.4 +0.5
baz=69
KBZ **Khabaz** 69.63 317 P P 05 36 18.9 0.0
KBZ pmax pmax
comp=Z,3.0nm,0.6s
KBZ **Khabaz** 69.63 317 P P 05 36 18.9 0.0
KBZ **Khabaz** 69.63 317 P P 05 36 18.9 0.0
comp=Z,2.7nm,0.6s,baz=195,slow=2.9,SNR=8.9
328A **Wristen Ranch,** 69.64 65 P P 05 36 20.1 +0.9
baz=70
427A **Hayter Ranch,** 69.72 66 P P 05 36 20.7 +0.9
baz=70
TUL1 **Tulsa** 69.85 57 P P 05 36 20.4 0.0
baz=70
526A **Mary Lane Ranc** 69.94 67 P P 05 36 22.4 +1.1
baz=70
Z32A **Haskell** 69.95 61 P P 05 36 21.6 +0.5
baz=70
329A **Wagon Wheel Ra** 70.01 64 P P 05 36 22.7 +1.1
baz=70
527A **Woodward Ranch** 70.14 66 P P 05 36 23.0 +0.6
baz=70
BEL **Belsk** 70.14 334 *e*P P 05 36 23.1 +1.2
428A **Kincaid Ranch,** 70.21 65 P P 05 36 23.7 +0.9
baz=70
626A **Big Bend Ranch** 70.30 67 P P 05 36 24.4 +1.0
baz=70
ABTX **Abilene, Hawle** 70.39 62 P P 05 36 24.2 +0.4
baz=70
SFIN **Scholer Farm** 70.49 48 P P 05 36 24.1 -0.1
baz=70
330A **Mertzon** 70.51 64 P P 05 36 24.8 +0.2
baz=70
528A **Cox Ranch, San** 70.58 66 P P 05 36 25.9 +0.8
baz=70
ITEG **Tejag** 70.70 299 *e*P P 05 36 24.8 -1.1
429A **Davenport Ranc** 70.72 65 P P 05 36 26.6 +0.7
baz=71
627A **Terlingua Ranc** 70.80 67 P P 05 36 27.2 +0.7
baz=71
529A **Stev Forest Ra** 70.92 65 P P 05 36 27.8 +0.7
baz=71
430A **Baggett Ranch,** 70.95 64 P P 05 36 27.9 +0.6
baz=71
232A **Coleman** 70.96 62 P P 05 36 27.8 +0.5
baz=71
331A **San Angelo** 70.99 63 P P 05 36 28.1 +0.6
baz=71
628A **Black Gap, Mar** 71.05 66 P P 05 36 28.7 +0.8
baz=71
ESK **Eskdalemuir** 71.23 350 P P 05 36 29.2 +0.7
comp=Z,256nm,0.5s,SNR=14
332A **Millersview** 71.30 63 P P 05 36 30.2 +0.8
baz=71
431A **Sonora** 71.38 64 P P 05 36 30.3 +0.4
baz=71
530A **J-C Ranch, Com** 71.39 65 P P 05 36 30.4 +0.5
baz=71
KWP **Kalwaria Pacla** 71.62 332 ⇑P P 05 36 31.5 +0.5
KWP **Kalwaria Pacla** 71.62 332 ⇑*i*P P 05 36 31.5 +0.5
KWP **Kalwaria Pacla** 71.62 332 *e*P P 05 36 31.9 +0.9
432A **Menard** 71.67 63 P P 05 36 32.1 +0.5
baz=72
531A **Rocksprings** 71.81 64 P P 05 36 32.6 +0.1
baz=72
OJC **Ojcow** 71.88 334 *e*P P 05 36 33.2 +0.7
OJC **Ojcow** 71.88 334 *e*P P 05 36 33.2 +0.7
JCT **Junction City** 71.97 63 P P 05 36 33.6 +0.2
baz=72
WHTX **Lake Whitney** 72.05 61 P P 05 36 34.0 +0.2
baz=72
KIS **Kishinev** 72.11 327 *e*PKP P 05 36 29.0 -4.9
KIS **Kishinev** 72.11 327 *e*P P 05 36 29.0 -4.9
KSP **Ksiaz** 72.18 337 *e*P P 05 36 34.9 +0.7
KSP **Ksiaz** 72.18 337 *e*P P 05 36 35.0 +0.7
532A **Rocksprings** 72.19 64 P P 05 36 35.0 +0.3
baz=72
IHRS **Heris** 72.22 310 *e*P P 05 36 33.3 -1.7
STHS **Stebnicka Huta** 72.22 333 *e*P P 05 36 36.0 +1.4
STHS pmax pmax
comp=Z,18nm,0.6s
STHS **Stebnicka Huta** 72.22 333 *e*P P 05 36 36.0 +1.4
PARMO **Parma** 72.24 52 *e*P P 05 36 35.8 +1.0
631A **Perdido Creek** 72.38 65 P P 05 36 36.3 +0.5
baz=72
NIE **Niedzica** 72.47 334 *e*P P 05 36 37.3 +1.2
NIE **Niedzica** 72.47 334 *e*P P 05 36 37.3 +1.2
CLL **Collm** 72.49 339 *i* P P 05 36 36.7 +0.6
CLL pmax pmax
comp=Z,9.0nm,0.8s
CLL **Collm** 72.49 339 *i* P P 05 36 36.7 +0.6
comp=Z,21nm,0.8s
UPC **Upice** 72.56 337 *e*P P 05 36 37.6 +1.1
DPC **Dobruska-Polom** 72.63 337 *e*P P 05 36 37.9 +0.9
UZH **Uzhgorod** 72.64 332 *e*P P 05 36 31.3 -5.7
OKC **Ostrava-Krasne** 72.65 335 *e*P P 05 36 37.6 +0.5
BUR08 **Bucovina Ar. S** 72.68 330 *e*P P 05 36 37.4 0.0
BRG **Berggiesshubel** 72.69 338 *e*PKP P 05 36 37.5 +0.2
comp=Z,11nm,0.7s
BURAR **Bucovina Array** 72.70 330 ⇑P P 05 36 37.8 +0.3
BURAR **Bucovina Array** 72.70 330 ⇑*i*P P 05 36 37.8 +0.3
632A **Uvalde** 72.73 64 P P 05 36 38.4 +0.5
baz=73
MORC **Moravsky Berou** 72.86 336 ⇓P P 05 36 39.4 +1.0
MORC **Moravsky Berou** 72.86 336 ⇓*i*P P 05 36 39.4 +1.0
MORC **Moravsky Berou** 72.86 336 *e*P P 05 36 38.5 +0.1
comp=Z,16nm,0.7s
PVCC **Panska Ves** 72.88 338 *e*P P 05 36 39.5 +1.1
TRPA **Tarpa** 73.03 332 ⇑*i*P P 05 36 40.4 +1.1
TRPA **Tarpa** 73.03 332 ⇑*e*SKKPdf P 05 36 40.1 +0.8
WTSB **Winterswijk** 73.09 343 *e*P P 05 36 40.3 +0.8
comp=Z,33nm,0.6s
732A **Laxson Ranch,** 73.24 65 P P 05 36 42.3 +1.4
baz=73
PRU **Pruhonice** 73.39 338 *e*P P 05 36 42.7 +1.3
VRAC **Vranov** 73.53 336 ⇑*i*P P 05 36 43.6 +1.3
CTA **Charters Tower** 73.69 193 P P 05 36 43.3 -0.1
CTA **Charters Tower** 73.69 193 P P 05 36 43.3 -0.1
comp=Z,3.0nm,0.5s,baz=11,slow=6.8,SNR=4.4
TLCR 73.70 326 ⇑P P 05 36 43.4 +0.1
TLCR 73.70 326 ⇑*i*P P 05 36 43.4 +0.1
VRI **Vrincioaia** 73.78 328 ⇑P P 05 36 44.2 +0.3
VRI **Vrincioaia** 73.78 328 ⇑*i*P P 05 36 44.2 +0.3
TREC **Trest** 73.81 337 *e*P P 05 36 44.7 +0.7
PLOR **Plostina** 73.82 328 ⇑P P 05 36 45.1 +1.0
PLOR **Plostina** 73.82 328 ⇑*i*P P 05 36 45.1 +1.0
CFR **Carcaliu** 73.94 327 ⇑P P 05 36 44.6 -0.1
CFR **Carcaliu** 73.94 327 ⇑*i*P P 05 36 44.6 -0.1
PSZ **Piszkesteto** 73.96 333 *e*P P 05 36 46.1 +1.2
PSZ pmax pmax
comp=Z,10.0nm,0.9s
PSZ **Piszkesteto** 73.96 333 ⇑*i*P P 05 36 46.2 +1.3
PSZ **Piszkesteto** 73.96 333 *e*P P 05 36 46.1 +1.2
comp=Z,9.8nm,0.9s
PSZ **Piszkesteto** 73.96 333 ⇓*e* P 05 36 46.2 +1.3

IZEF **Zefreh** 74.02 304 *e*P P 05 36 44.5 -1.3
IMEH **Mehriz** 74.05 301 *e*P P 05 36 44.4 -1.5
IKLH **Kolahrood** 74.06 304 *e*P P 05 36 44.3 -1.7
SMOL **Smolenice** 74.06 335 *e*P P 05 36 47.4 +2.0
SMOL **Smolenice** 74.06 335 *e*P P 05 36 47.4 +2.0
DOPR **Dopca** 74.12 329 ⇑*i*P P 05 36 47.2 +1.4
DRGR 74.19 331 ⇑P P 05 36 46.8 +0.5
DRGR 74.19 331 ⇑*i*P P 05 36 46.8 +0.5
MLR **Muntele Rosu** 74.37 328 ⇑*i*P P 05 36 48.3 +0.9
HGN **Heimansgroeve** 74.40 343 *e*P P 05 36 47.5 +0.2
comp=Z,27nm,0.8s
BEBN **Eben Emael** 74.41 343 P P 05 36 48.0 +0.7
comp=Z,7.3nm,0.8s
KHC **Kasperske Hory** 74.41 338 *e*P P 05 36 48.9 +1.4
KHC pmax pmax
comp=Z,34nm,1.4s
KHC **Kasperske Hory** 74.41 338 *e*P P 05 36 48.7 +1.2
KHC **Kasperske Hory** 74.41 338 *e*P P 05 36 48.9 +1.4
comp=Z,34nm,1.4s
HARR **Harsova** 74.44 327 ⇑P P 05 36 48.3 +0.7
HARR **Harsova** 74.44 327 ⇑*i*P P 05 36 48.3 +0.7
TIRR **Tirgusor** 74.48 326 ⇓P P 05 36 48.6 +0.7
TIRR **Tirgusor** 74.48 326 ⇓*i*P P 05 36 48.6 +0.7
TLB **Topalu** 74.49 327 ⇑P P 05 36 48.3 +0.4
TLB **Topalu** 74.49 327 ⇑*i*P P 05 36 48.3 +0.4
ISR **Istrita** 74.51 328 ⇑P P 05 36 49.4 +1.3
ISR **Istrita** 74.51 328 ⇑*i*P P 05 36 49.4 +1.3
MEM **Membach** 74.53 343 P P 05 36 48.9 +0.8
comp=Z,33nm,0.8s
GERES **GERESS Array B** 74.65 338 P P 05 36 49.6 +0.6
GERES **GERESS Array B** 74.65 338 P P 05 36 49.6 +0.6
comp=Z,6.7nm,0.5s,baz=32,slow=6.0,SNR=61
VOIR 74.70 329 ⇑P P 05 36 50.2 +0.9
VOIR 74.70 329 ⇑*i*P P 05 36 50.2 +0.9
BCLA **Clavier** 74.84 344 P P 05 36 50.5 +0.7
ARR **Arges** 74.89 329 ⇑*i*P P 05 36 52.2 +1.8
PKSN **Nyarlorinc** 74.90 333 ⇑*e* P 05 36 51.8 +1.5
SNF **Seneffe** 74.92 344 P P 05 36 50.8 +0.4
PKS7 **Kunszentmiklos** 74.97 333 ⇑*e* P 05 36 51.9 +1.3
SIRR **Sinia** 74.97 332 ⇑*i*P P 05 36 51.6 +0.9
CONA **Conrad Observa** 74.99 336 ⇓*i*P P 05 36 52.3 +1.4
comp=Z,16nm,0.6s,SNR=13
MSAB **Monastry St. A** 75.00 326 ⇓*i*P P 05 36 52.1 +1.2
PKST **T``s** 75.06 334 ⇓*e* P 05 36 52.7 +1.5
SWET **Sewanee** 75.22 51 *e*P P 05 36 51.9 -0.5
comp=Z,8.2nm,0.5s
GIVF **Givet** 75.22 344 ⇑*i*P P 05 36 52.6 +0.5
comp=Z,33nm,0.7s
GIVF **Givet** 75.22 344 ⇑*i*P P 05 36 52.6 +0.5
GIVF pmax pmax
comp=Z,33nm,0.7s
GIVF **Givet** 75.22 344 ⇑*i*P P 05 36 52.6 +0.5
comp=Z,33nm,0.7s
WES **Weston** 75.25 37 *e*P P 05 36 52.7 +0.3
WES **Weston** 75.25 37 *e*P P 05 36 52.7 +0.3
DOU **Dourbes** 75.27 344 P P 05 36 53.0 +0.6
BAIF **Baives** 75.37 344 ⇑*i*P P 05 36 53.6 +0.7
comp=Z,56nm,0.6s
BAIF **Baives** 75.37 344 ⇑*i*P P 05 36 53.6 +0.7
BAIF pmax pmax
comp=Z,56nm,0.6s
BAIF **Baives** 75.37 344 ⇑*i*P P 05 36 53.6 +0.7
comp=Z,56nm,0.6s
PKS2 **Kecel** 75.45 333 ⇓*e* P 05 36 54.5 +1.1
MOA **Molln** 75.45 337 ⇑*i*P P 05 36 54.3 +0.8
comp=Z,5.7nm,0.6s
BZS **Buzias** 75.57 331 ⇑P P 05 36 54.3 +0.1
BZS **Buzias** 75.57 331 ⇑*i*P P 05 36 54.3 +0.1
PKS9 **Tamasi** 75.61 334 ⇓*e* P 05 36 50.1 -4.3
ARSA **Arzberg** 75.71 336 ⇑*i*P P 05 36 56.1 +1.1
comp=Z,11nm,0.6s,SNR=6.6
WRA **Warramunga Arr** 75.92 205 P P 05 36 56.1 -0.2
WRA **Warramunga Arr** 75.92 205 P P 05 36 56.1 -0.2
comp=Z,3.2nm,0.7s,baz=20,slow=6.1,SNR=8.6
MALT **Malatya** 76.01 316 ⇑P P 05 36 57.3 +0.4
MALT **Malatya** 76.01 316 ⇑*i*P P 05 36 57.3 +0.4
IPAR **Pars** 76.09 301 *e*P P 05 36 57.7 -0.1
BFO **Black Forest** 76.29 341 *e*P P 05 36 57.2 -1.1
BFO pmax pmax
comp=Z,9.0nm,0.6s
BFO **Black Forest** 76.29 341 P P 05 36 57.8 -0.5
comp=Z,120nm,0.5s,SNR=5.4
BFO **Black Forest** 76.29 341 *e*P P 05 36 57.2 -1.1
comp=Z,8.6nm,0.6s
SOKA **Soboth** 76.36 336 *i* P P 05 36 59.6 +0.8
comp=Z,12nm,0.5s,SNR=15
PERS **Pernice** 76.38 336 *i* P P 05 36 59.6 +0.8
KBA **Koelnbreinsper** 76.39 337 *i* P P 05 37 00.6 +1.5
comp=Z,44nm,0.7s,SNR=21
WLS **Welschbruch** 76.40 342 *e*P P 05 36 59.3 +0.4
CDF **Champ du Feu** 76.41 342 ⇑*i*P P 05 36 59.7 +0.7
comp=Z,39nm,0.6s
CDF **Champ du Feu** 76.41 342 ⇑*i*P P 05 36 59.7 +0.7
CDF pmax pmax
comp=Z,39nm,0.6s
CDF **Champ du Feu** 76.41 342 ⇑*i*P P 05 36 59.7 +0.7
comp=Z,39nm,0.6s
ISRV **Sarvestan** 76.42 301 *e*P P 05 36 58.9 -0.8
PAGF **Fort de Pagny** 76.56 343 ⇑*i*P P 05 37 00.9 +1.1
comp=Z,20nm,0.6s
PAGF **Fort de Pagny** 76.56 343 ⇑*i*P P 05 37 00.9 +1.1
comp=Z,20nm,0.6s
ECH **Echery** 76.62 342 *e*P P 05 37 00.4 +0.2
ECH pmax pmax
comp=Z,11nm,0.6s
ECH **Echery** 76.62 342 *e*P P 05 37 00.6 +0.4
ECH **Echery** 76.62 342 *e*P P 05 37 00.4 +0.2
comp=Z,11nm,0.6s
OBKA **Obir** 76.64 336 *i* P P 05 37 01.1 +0.8
comp=Z,17nm,0.8s,SNR=11
BR131 **Keskin Array S** 76.72 320 *e*P P 05 37 01.0 0.0
comp=Z,5.5nm,0.5s
BRTR **Keskin Array B** 76.72 320 P P 05 37 01.2 +0.2
BRTR **Keskin Array B** 76.72 320 P P 05 37 01.2 +0.2
comp=Z,7.7nm,0.6s,baz=46,slow=3.4,SNR=46
MEZF **Maizieres J'vi** 76.73 343 ⇑*i*P P 05 37 01.6 +0.9
comp=Z,35nm,0.5s
MEZF **Maizieres J'vi** 76.73 343 ⇑*i*P P 05 37 01.6 +0.9
comp=Z,35nm,0.5s
MYKA **Terra Mystica** 76.75 337 ⇑*i*P P 05 37 01.4 +0.5
comp=Z,8.1nm,0.9s
IKAZ **Kazeroun** 76.76 302 *e*P P 05 37 01.3 -0.3
FELD **Feldberg im Sc** 76.78 341 *e*P P 05 37 01.5 +0.3
THEF **They Montfort** 76.83 343 *e*P P 05 37 02.0 +0.7
ABTA **Abfaltersbach** 76.90 338 ⇑*i*P P 05 37 02.5 +0.7
comp=Z,19nm,0.9s,SNR=9.2
DAVA **Damuels** 76.97 340 ⇑*i*P P 05 37 03.0 +0.8
comp=Z,6.3nm,0.6s
HAU **Haudompre** 76.98 342 ⇑*i*P P 05 37 02.7 +0.6
comp=Z,42nm,0.5s
HAU **Haudompre** 76.98 342 ⇑*i*P P 05 37 02.7 +0.6
HAU pmax pmax
comp=Z,42nm,0.5s
HAU **Haudompre** 76.98 342 ⇑*i*P P 05 37 02.7 +0.6
comp=Z,42nm,0.5s
MOF **Molkenrain** 76.98 342 *e*P P 05 37 02.6 +0.4
MPEP **Malo Peshtene** 76.98 329 *i* P P 05 37 02.6 +0.4
SFTF **Sexfontaines** 77.02 343 ⇑*i*P P 05 37 03.0 +0.6
comp=Z,80nm,0.7s
SFTF **Sexfontaines** 77.02 343 ⇑*i*P P 05 37 03.0 +0.6
comp=Z,80nm,0.7s
FETA **Feichten** 77.04 339 ⇑*i*P P 05 37 03.8 +1.1
comp=Z,12nm,0.6s,SNR=8.8
HINF **Hinteralfeld** 77.06 342 ⇑*i*P P 05 37 03.0 +0.3
comp=Z,19nm,0.6s
HINF **Hinteralfeld** 77.06 342 ⇑*i*P P 05 37 03.0 +0.3
HINF pmax pmax
comp=Z,19nm,0.6s
HINF **Hinteralfeld** 77.06 342 ⇑*i*P P 05 37 03.0 +0.3
comp=Z,19nm,0.6s
VISS **Visnje** 77.23 336 *i* P P 05 37 03.7 +0.1
JAVS **Javornik** 77.33 336 *e*P P 05 37 04.0 -0.2
FLN **La Foliniere** 77.34 347 ⇑*i*P P 05 37 04.3 +0.2
comp=Z,35nm,0.6s
FLN **La Foliniere** 77.34 347 ⇑*i*P P 05 37 04.3 +0.2
FLN pmax pmax
comp=Z,35nm,0.6s
FLN **La Foliniere** 77.34 347 ⇑*i*P P 05 37 04.3 +0.2
comp=Z,35nm,0.6s
BOJS **Bojanci** 77.41 335 *i* P P 05 37 05.0 +0.4
LDF **La Druitiere** 77.46 347 ⇑*i*P P 05 37 04.9 +0.1
comp=Z,14nm,0.5s
LDF **La Druitiere** 77.46 347 ⇑*i*P P 05 37 04.9 +0.1
LDF pmax pmax
comp=Z,15nm,0.5s

LDF **La Druitiere** 77.46 347 ⇑*i*P P 05 37 04.9 +0.1
comp=Z,14nm,0.5s
LOMF **Lomont** 77.52 342 *e*P P 05 37 05.5 +0.2
GRR **Gorron** 77.76 347 ⇑*i*P P 05 37 07.0 +0.5
comp=Z,41nm,0.5s
GRR **Gorron** 77.76 347 ⇑*i*P P 05 37 07.0 +0.5
GRR pmax pmax
comp=Z,41nm,0.5s
GRR **Gorron** 77.76 347 ⇑*i*P P 05 37 07.0 +0.5
comp=Z,41nm,0.5s
VTS **Vitosha** 77.84 329 ⇑P P 05 37 07.5 +0.3
VTS **Vitosha** 77.84 329 ⇑*i*P P 05 37 07.5 +0.3
VTS **Vitosha** 77.84 329 *i* P P 05 37 07.1 -0.1
TUE **Stuetta** 77.85 340 *e*P P 05 37 08.3 +1.0
comp=Z,35nm,0.6s
SGMF **Saint Gilles** 78.11 348 ⇑*i*P P 05 37 09.0 +0.6
comp=Z,54nm,0.6s
SGMF **Saint Gilles** 78.11 348 ⇑*i*P P 05 37 09.0 +0.6
SGMF pmax pmax
comp=Z,54nm,0.6s
SGMF **Saint Gilles** 78.11 348 ⇑*i*P P 05 37 09.0 +0.6
comp=Z,54nm,0.6s
ROSF **Rostrenen** 78.12 349 ⇑*i*P P 05 37 09.1 +0.7
comp=Z,32nm,0.6s
ROSF **Rostrenen** 78.12 349 ⇑*i*P P 05 37 09.1 +0.7
ROSF pmax pmax
comp=Z,32nm,0.6s
ROSF **Rostrenen** 78.12 349 ⇑*i*P P 05 37 09.1 +0.7
comp=Z,32nm,0.6s
LOR **Lormes** 78.13 344 ⇑*i*P P 05 37 09.1 +0.5
comp=Z,41nm,0.7s
LOR **Lormes** 78.13 344 ⇑*i*P P 05 37 09.1 +0.5
comp=Z,41nm,0.7s
RZN **Rozhen** 78.17 327 *i* P P 05 37 09.0 -0.1
UDBI **Udbina** 78.19 335 P P 05 37 08.7 -0.3
HYF **Humbligny** 78.33 344 ⇑*i*P P 05 37 10.7 +1.0
HYF **Humbligny** 78.33 344 ⇑*i*P P 05 37 10.7 +1.0
CABF **La Chapelle** 78.37 342 ⇑*i*P P 05 37 10.9 +0.9
comp=Z,21nm,0.5s
CABF **La Chapelle** 78.37 342 ⇑*i*P P 05 37 10.9 +0.9
CABF pmax pmax
comp=Z,21nm,0.5s
CABF **La Chapelle** 78.37 342 ⇑*i*P P 05 37 10.9 +0.9
comp=Z,21nm,0.5s
SSF **Saint Saulge** 78.39 344 ⇑*i*P P 05 37 10.6 +0.6
comp=Z,28nm,0.6s
SSF **Saint Saulge** 78.39 344 ⇑*i*P P 05 37 10.6 +0.6
SSF pmax pmax
comp=Z,28nm,0.6s
SSF **Saint Saulge** 78.39 344 ⇑*i*P P 05 37 10.6 +0.6
comp=Z,28nm,0.6s
QUIF **Quistinic** 78.52 349 ⇑*i*P P 05 37 11.2 +0.6
comp=Z,22nm,0.6s
QUIF **Quistinic** 78.52 349 ⇑*i*P P 05 37 11.2 +0.6
QUIF pmax pmax
comp=Z,22nm,0.6s
QUIF **Quistinic** 78.52 349 ⇑*i*P P 05 37 11.2 +0.6
comp=Z,22nm,0.6s
OG01 **Vacheresse** 78.52 342 *e*P P 05 37 11.7 +0.8
MMB **Musomiste** 78.58 328 *i* P P 05 37 11.5 +0.3
AVF **Avril sur Loir** 78.68 344 ⇑*i*P P 05 37 12.3 +0.7
comp=Z,48nm,0.7s
AVF **Avril sur Loir** 78.68 344 ⇑*i*P P 05 37 12.3 +0.7
AVF pmax pmax
comp=Z,48nm,0.7s
AVF **Avril sur Loir** 78.68 344 ⇑*i*P P 05 37 12.3 +0.7
comp=Z,48nm,0.7s
SMF **Signal de Mont** 78.74 344 ⇑*i*P P 05 37 12.4 +0.5
comp=Z,15nm,0.5s
SMF **Signal de Mont** 78.74 344 ⇑*i*P P 05 37 12.4 +0.5
SMF pmax pmax
comp=Z,15nm,0.5s
SMF **Signal de Mont** 78.74 344 ⇑*i*P P 05 37 12.4 +0.5
comp=Z,15nm,0.5s
STON **Ston** 79.21 333 P P 05 37 13.7 -0.8
LPL **La Plagne** 79.30 341 ⇑*i*P P 05 37 16.9 +1.6
comp=Z,76nm,0.6s
LPL **La Plagne** 79.30 341 ⇑*i*P P 05 37 16.9 +1.6
LPL pmax pmax
comp=Z,77nm,0.6s
LPL **La Plagne** 79.30 341 ⇑*i*P P 05 37 16.9 +1.6
comp=Z,76nm,0.6s
LPG **La Plagne** 79.31 341 ⇑*i*P P 05 37 17.1 +1.6
comp=Z,94nm,0.6s
LPG **La Plagne** 79.31 341 ⇑*i*P P 05 37 17.1 +1.6
LPG pmax pmax
comp=Z,94nm,0.6s
LPG **La Plagne** 79.31 341 ⇑*i*P P 05 37 17.1 +1.6
comp=Z,94nm,0.6s
KBD **Kabd** 79.35 305 *e*P P 05 37 14.8 -0.7
KBD AMb AMB 05 37 16.7
comp=Z,18nm,0.5s
TCF **Toulx Ste Croi** 79.36 345 ⇑*i*P P 05 37 16.2 +0.8
comp=Z,33nm,0.6s
TCF **Toulx Ste Croi** 79.36 345 ⇑*i*P P 05 37 16.2 +0.8
TCF pmax pmax
comp=Z,33nm,0.6s
TCF **Toulx Ste Croi** 79.36 345 ⇑*i*P P 05 37 16.2 +0.8
comp=Z,33nm,0.6s
MFF **Saint Martin d** 79.41 346 ⇑*i*P P 05 37 16.4 +0.8
comp=Z,25nm,0.7s
MFF **Saint Martin d** 79.41 346 ⇑*i*P P 05 37 16.4 +0.8
MFF pmax pmax
comp=Z,25nm,0.7s
MFF **Saint Martin d** 79.41 346 ⇑*i*P P 05 37 16.4 +0.8
comp=Z,25nm,0.7s
PLDF **La Plantade** 79.43 344 *e*P P 05 37 16.9 +1.1
RST **Umm Al-Ruwaisa** 79.43 305 *e*P P 05 37 14.5 -1.5
RST AMb AMB 05 37 16.4
comp=Z,282nm,0.8s
QRN **Al-Qurain** 79.59 304 *e*P P 05 37 15.8 -1.1
QRN AMb AMB 05 37 17.3
comp=Z,52nm,0.5s
ASAR **Alice Springs** 79.59 204 P P 05 37 17.6 +0.9
ASAR **Alice Springs** 79.59 204 P P 05 37 17.6 +0.9
comp=Z,3.9nm,0.6s,baz=17,slow=5.1,SNR=7.5
RDF **Al-Radifah** 79.63 305 *e*P P 05 37 16.5 -0.5
RDF AMb AMB 05 37 17.9
comp=Z,45nm,0.6s
PYM **Petit Puy Mans** 79.75 344 *e*P P 05 37 18.7 +1.2
BNI **Bardonecchia** 79.75 341 *e*P P 05 37 19.2 +1.5
BNI pmax pmax
comp=Z,14nm,0.6s
BNI **Bardonecchia** 79.75 341 *e*P P 05 37 19.2 +1.5
comp=Z,14nm,0.6s
SSB **Saint Sauveur** 79.94 343 *e*P P 05 37 19.2 +0.6
SSB pmax pmax
comp=Z,29nm,0.5s
SSB **Saint Sauveur** 79.94 343 *e*P P 05 37 19.2 +0.6
comp=Z,29nm,0.5s
ORIF **Oris-en-Rattie** 80.04 342 ⇑*i*P P 05 37 20.7 +1.5
comp=Z,57nm,0.6s
ORIF **Oris-en-Rattie** 80.04 342 ⇑*i*P P 05 37 20.7 +1.5
ORIF pmax pmax
comp=Z,57nm,0.6s
ORIF **Oris-en-Rattie** 80.04 342 ⇑*i*P P 05 37 20.7 +1.5
comp=Z,57nm,0.6s
MBDF **Montbardon** 80.05 341 ⇑*i*P P 05 37 20.3 +1.0
comp=Z,30nm,0.6s
MBDF **Montbardon** 80.05 341 ⇑*i*P P 05 37 20.3 +1.0
MBDF pmax pmax
comp=Z,30nm,0.6s
MBDF **Montbardon** 80.05 341 ⇑*i*P P 05 37 20.3 +1.0
comp=Z,30nm,0.6s
VIVF **Saint-Julien-l** 80.32 342 ⇑*i*P P 05 37 22.0 +1.4
comp=Z,47nm,0.8s
VIVF **Saint-Julien-l** 80.32 342 ⇑*i*P P 05 37 22.0 +1.4
VIVF pmax pmax
comp=Z,47nm,0.8s
VIVF **Saint-Julien-l** 80.32 342 ⇑*i*P P 05 37 22.0 +1.4
comp=Z,47nm,0.8s
RJF **Les Rejaudoux** 80.42 345 ⇑*i*P P 05 37 21.9 +0.8
comp=Z,16nm,0.7s
RJF **Les Rejaudoux** 80.42 345 ⇑*i*P P 05 37 21.9 +0.8
RJF pmax pmax
comp=Z,16nm,0.7s
RJF **Les Rejaudoux** 80.42 345 ⇑*i*P P 05 37 21.9 +0.8
comp=Z,16nm,0.7s
OG25 **Le Caire** 80.53 341 *e*P P 05 37 23.1 +1.3
SAOF **Saorge** 80.60 340 *e*P P 05 37 22.5 +0.4
AUTN **L'Aution** 80.62 340 *e*P P 05 37 23.2 +0.7
TOUF **Mont Tournerai** 80.64 340 *e*P P 05 37 23.3 +0.8
CAF **Calviac** 80.70 344 ⇑*i*P P 05 37 24.1 +1.4
comp=Z,32nm,0.7s
CAF **Calviac** 80.70 344 ⇑*i*P P 05 37 24.1 +1.4
CAF pmax pmax

comp=Z,32nm,0.7s
CAF Calviac 80.70 344⇑ *iP* **P 05 37 24.1 +1.4**
comp=Z,32nm,0.7s
LUCF Luceram 80.73 340 *eP* **P 05 37 23.5 +0.6**
SBF Sospel 80.74 340⇑ *iP* **P 05 37 23.4 +0.5**
comp=Z,38nm,0.7s
SBF Sospel 80.74 340⇑ *iP* **P 05 37 23.4 +0.5**
SBF pmax pmax
comp=Z,38nm,0.7s
SBF Sospel 80.74 340⇑ *iP* **P 05 37 23.4 +0.5**
comp=Z,38nm,0.7s
REVF Revere 80.88 340 *eP* **P 05 37 24.0 +0.4**
LFF La Frestale 80.90 345⇑ *iP* **P 05 37 24.9 +1.3**
comp=Z,26nm,0.6s
LFF La Frestale 80.90 345⇑ *iP* **P 05 37 24.9 +1.3**
LFF pmax pmax
comp=Z,26nm,0.6s
LFF La Frestale 80.90 345⇑ *iP* **P 05 37 24.9 +1.3**
comp=Z,26nm,0.6s
SMRF Simiane la Rot 81.00 342⇑ *iP* **P 05 37 26.7 +2.4**
comp=Z,14nm,0.6s
SMRF Simiane la Rot 81.00 342⇑ *iP* **P 05 37 26.7 +2.4**
comp=Z,14nm,0.6s
FRF La Foret Royal 81.19 341⇑ *iP* **P 05 37 25.8 +0.6**
comp=Z,14nm,0.7s
FRF La Foret Royal 81.19 341⇑ *iP* **P 05 37 25.8 +0.6**
FRF pmax pmax
comp=Z,14nm,0.6s
FRF La Foret Royal 81.19 341⇑ *iP* **P 05 37 25.8 +0.6**
comp=Z,14nm,0.6s
LASF Ste Croix 81.22 343⇑ *iP* **P 05 37 27.0 +1.6**
comp=Z,19nm,0.7s
LASF Ste Croix 81.22 343⇑ *iP* **P 05 37 27.0 +1.6**
comp=Z,19nm,0.7s
LMR La Mourre 81.44 341⇑ *iP* **P 05 37 27.3 +0.8**
LMR La Mourre 81.44 341⇑ *iP* **P 05 37 27.3 +0.8**
LMR La Mourre 81.44 341⇑ *iP* **P 05 37 27.3 +0.8**
PGF Pioggiola 81.67 339 *eP* **P 05 37 28.4 +0.5**
comp=Z,25nm,0.5s
PGF Pioggiola 81.67 339 *eP* **P 05 37 28.4 +0.5**
PGF pmax pmax
comp=Z,25nm,0.5s
PGF Pioggiola 81.67 339 *eP* **P 05 37 28.4 +0.5**
comp=Z,25nm,0.5s
MTLF Montolieu 82.22 344⇑ *iP* **P 05 37 32.2 +1.5**
comp=Z,19nm,0.7s
MTLF Montolieu 82.22 344⇑ *iP* **P 05 37 32.2 +1.5**
MTLF pmax pmax
comp=Z,19nm,0.6s
MTLF Montolieu 82.22 344⇑ *iP* **P 05 37 32.2 +1.5**
comp=Z,19nm,0.6s
MLS Moulis 82.78 345 *eP* **P 05 37 35.0 +1.4**
EPF Esparros 82.83 345⇑ *iP* **P 05 37 34.6 +0.7**
comp=Z,14nm,0.8s
EPF Esparros 82.83 345⇑ *iP* **P 05 37 34.6 +0.7**
EPF pmax pmax
comp=Z,14nm,0.8s
EPF Esparros 82.83 345⇑ *iP* **P 05 37 34.6 +0.7**
comp=Z,14nm,0.8s
SJPF Ste Jean 82.98 346⇑ *iP* **P 05 37 36.5 +1.9**
comp=Z,15nm,0.6s
SJPF Ste Jean 82.98 346⇑ *iP* **P 05 37 36.5 +1.9**
SJPF pmax pmax
comp=Z,15nm,0.6s
SJPF Ste Jean 82.98 346⇑ *iP* **P 05 37 36.5 +1.9**
comp=Z,15nm,0.6s
LARF Larrau 83.02 346 *eP* **P 05 37 36.6 +1.7**
RESF Ens 83.05 345 *eP* **P 05 37 37.0 +1.9**
ETSF Etsaut 83.09 346⇑ *iP* **P 05 37 36.9 +1.6**
comp=Z,31nm,0.6s
ETSF Etsaut 83.09 346⇑ *iP* **P 05 37 36.9 +1.6**
ETSF pmax pmax
comp=Z,31nm,0.6s
ETSF Etsaut 83.09 346⇑ *iP* **P 05 37 36.9 +1.6**
comp=Z,31nm,0.6s
PBRG Braganca 84.95 350 *eP* **P 05 37 45.8 +1.0**
comp=Z,28nm,1.6s
RAYN Ar Rayn 85.11 303 P P **05 37 45.0 -0.9**
comp=Z,391nm,0.6s,SNR=20
POLO Lamas de Olo 85.48 351 *eP* **P 05 37 47.6 +0.1**
comp=Z,17nm,1.7s
PVRL Vila Real 85.57 351 *eP* **P 05 37 48.6 +0.7**
comp=Z,32nm,1.4s
MVO Moncorvo 85.62 350 *eP* **P 05 37 49.1 +1.0**
comp=Z,26nm,1.9s
STKA Stephens Creek 85.97 196 P P **05 37 49.8 +0.3**
STKA Stephens Creek 85.97 196 P P **05 37 49.8 +0.3**
comp=Z,1.5nm,0.5s,baz=344,slow=8.6,SNR=6.8
PVIS Viseu 86.15 351 *eP* **P 05 37 51.7 +1.0**
TEIG Tepich 86.36 61 LR LR 06 22 16.1
comp=Z,241nm,18.1s,baz=148,slow=40
MTE Manteigas 86.42 351 *eP* **P 05 37 53.1 +1.0**
comp=Z,24nm,1.9s
ESDC Sonseca Array 86.73 348 P P **05 37 53.9 +0.3**
ESDC Sonseca Array 86.73 348 P P **05 37 53.9 +0.3**
comp=Z,4.0nm,0.5s,baz=1.5,slow=4.7,SNR=27
ESLA Sonseca Array 86.73 348 *eP* **P 05 37 53.7 +0.1**
comp=Z,0.6nm,0.6s
PCAS Casmilo, Conde 86.86 351 *eP* **P 05 37 55.2 +1.0**
comp=Z,43nm,2.0s
PCBR Castelo Branco 86.97 350 *eP* **P 05 37 55.4 +0.7**
comp=Z,18nm,1.7s
KEST Kesra 88.09 337 *eP* **P 05 38 00.3 +0.1**
KEST Kesra 88.09 337 P P **05 38 00.3 +0.1**
comp=Z,2.4nm,0.6s,baz=294,slow=1.7,SNR=24
TORD Torodi Ar. Bea 111.60 337 Pdif **Pdif 05 39 44.0 -2.6**
TORD PKiKP **PKiKP 05 43 43.9 -0.3**
TORD Torodi Ar. Bea 111.60 337 Pdiff **Pdif 05 39 44.0 -2.6**
comp=Z,0.2nm,0.6s,baz=352,slow=4.7,SNR=2.3
TORD PKiKP **PKiKP 05 43 43.9 -0.3**
comp=Z,0.6nm,0.4s,baz=9.1,slow=1.7,SNR=13
DBIC Dimbokro 119.26 343 PKP **PKPdf 05 43 59.0 +0.1**
DBIC Dimbokro 119.26 343 PKP **PKPdf 05 43 59.0 +0.1**
comp=Z,1.4nm,0.5s,baz=334,slow=0.5,SNR=4.7
LPAZ La Paz 127.56 65 PKP **PKPdf 05 44 15.6 +0.1**
LPAZ La Paz 127.56 65 PKP **PKPdf 05 44 15.6 +0.1**
comp=Z,1.0nm,0.6s,baz=23,slow=6.4,SNR=9.1
VNDA Vanda 130.19 179 PKP **PKPdf 05 44 18.2 +0.4**
VNDA Vanda 130.19 179 PKP **PKPdf 05 44 18.2 +0.4**
comp=Z,0.5nm,0.7s,baz=46,slow=3.7,SNR=3.8
BOSA Boshof 138.95 288 PKPpre PKPpre 05 44 28.3
BOSA Boshof 138.95 288 PKhKP PKPpre 05 44 28.3
comp=Z,2.8nm,0.9s,baz=77,slow=2.4,SNR=3.0
CPUP Villa Florida 141.53 61 PKP **PKPdf 05 44 41.0 +0.6**
CPUP Villa Florida 141.53 61 PKP **PKPdf 05 44 41.0 +0.6**
comp=Z,0.6nm,0.4s,baz=351,slow=2.6,SNR=4.2
QSPA South Pole Qui 142.67 180 *e*PKPdf **PKPdf 05 44 36.6 -4.7**
PLCA Paso Flores 144.04 91 PKP PKPbc 05 44 43.5 +0.8
PLCA Paso Flores 144.04 91 PKP PKPbc 05 44 43.5 +0.8
comp=Z,2.0nm,0.6s,baz=238,slow=2.2,SNR=7.3
SUR Sutherland 144.30 289 PKP **PKPdf 05 44 45.4 0.0**
SUR Sutherland 144.30 289 PKP **PKPdf 05 44 45.4 0.0**
comp=Z,4.3nm,0.5s,baz=358,slow=1.5,SNR=8.1
SYO Syowa Base 148.54 217⇑ *e*PKPdf **PKPdf 05 44 51.2 +0.1**
USHA Ushuaia 151.81 114 PKPbc **PKPbc 05 45 03.6 +0.5**
USHA Ushuaia 151.81 114 PKPbc **PKPbc 05 45 03.6 +0.5**
comp=Z,5.6nm,1.0s,baz=297,slow=4.5,SNR=4.0
SNAA Sanae 159.73 196 PKP **PKPdf 05 45 07.4 +0.6**
SNAA PKPab **PKPab 05 45 45.3 -0.7**
SNAA Sanae 159.73 196 PKP **PKPdf 05 45 07.4 +0.6**
comp=Z,0.5nm,1.1s,baz=191,slow=5.2,SNR=2.9
SNAA PKPab **PKPab 05 45 45.3 -0.7**
comp=Z,0.3nm,0.5s,baz=224,slow=4.0,SNR=7.7

IDC 08 05:26:27.4±10.0, 15°74S×173°86W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.7/18, mbtmp3.6/3, Error ellipse: s-maj=485.2km s-min=36.3km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.71**	**48**	Pn	Pn	05 27 06.7	-5.7
	7.3nm,0.3s,baz=208,slow=16,SNR=5.4						
AFI				Sn	Sn	05 27 35.8	-10
	36nm,0.3s,baz=35,slow=22,SNR=13						
WRA	**Warramunga Arr**	**49.33**	**257**	P	P	05 35 19.2	+0.4
	0.6nm,0.8s,baz=92,slow=7.6,SNR=3.0						
ASAR	**Alice Springs**	**49.58**	**252**	P	P	05 35 20.0	-0.8
	1.5nm,0.7s,baz=88,slow=8.5,SNR=13						
ILAR	**Eielson Array**	**82.86**	**11**	P	P	05 38 52.8	-0.6
	0.2nm,0.6s,baz=221,slow=5.9,SNR=4.2						
BRTR	**Keskin Array B**	**146.13**	**320**	PKPbc	PKPbc	05 46 10.1	+0.1
	1.4nm,0.8s,baz=90,slow=2.9,SNR=7.1						

IDC 08 05:29:40.3±1.7, 12°10S×167°46E, h0km, mb3.9/5, mb1 3.9/6, mb1mx3.7/19, mbtmp3.9/6, ML3.3/1, Error ellipse: s-maj=59.7km s-min=30.5km az=113.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.96**	**185**	Pn	Pn	05 32 03.6	-1.3
	0.3nm,0.3s,baz=1.5,slow=17,SNR=3.0						
DZM				Sn	Sn	05 34 06.2	+8.6
	0.6nm,0.3s,baz=157,slow=17,SNR=2.2						
ASAR	**Alice Springs**	**33.85**	**245**	P	P	05 36 25.8	+0.9
	0.6nm,0.8s,baz=77,slow=9.6,SNR=3.2						
SONM	**Songino Array**	**80.51**	**323**	P	P	05 41 54.1	-0.3
	0.6nm,0.7s,baz=111,slow=3.2,SNR=3.6						
ILAR	**Eielson Array**	**83.98**	**18**	P	P	05 42 13.1	+1.0
	0.2nm,0.7s,baz=214,slow=6.4,SNR=3.1						
ZALV	**Zalesovo Beam**	**95.39**	**324**	P	P	05 43 05.6	-1.0
	0.5nm,0.3s,baz=103,slow=6.5,SNR=2.9						
MKAR	**Makanchi Array**	**95.44**	**317**	P	P	05 43 06.2	-0.8
	0.8nm,0.8s,baz=97,slow=6.2,SNR=5.8						

IDC 08 05:34:34.3±1.6, 11°77S×166°17E, h0km, mb4.1/5, mb1 4.3/6, mb1mx3.9/18, mbtmp4.1/6, ML3.6/1, Error ellipse: s-maj=51.0km s-min=26.0km az=122.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.54**	**290**	Sn	Sn	05 37 34.5	+7.3
	17nm,0.3s,baz=0.0,slow=20,SNR=3.1						
DZM	**Mont Dzumac**	**10.24**	**179**	Pn	Pn	05 37 03.0	+0.2
	0.5nm,0.3s,baz=156,slow=12,SNR=6.0						
STKA	**Stephens Creek**	**30.22**	**225**	P	P	05 40 46.8	+0.1
	4.6nm,0.8s,baz=38,slow=9.0,SNR=10						
WRA	**Warramunga Arr**	**31.63**	**251**	P	P	05 40 59.4	0.0
	2.0nm,0.9s,baz=84,slow=9.2,SNR=8.1						
ASAR	**Alice Springs**	**32.84**	**244**	P	P	05 41 09.8	-0.2
	3.4nm,0.7s,baz=71,slow=9.6,SNR=27						
ILAR	**Eielson Array**	**84.07**	**18**	P	P	05 47 06.5	0.0
	0.4nm,0.6s,baz=239,slow=5.8,SNR=8.7						
MKAR	**Makanchi Array**	**94.33**	**317**	P	P	05 47 55.7	-0.2
	0.2nm,0.5s,baz=89,slow=6.4,SNR=3.0						

IDC 08 05:37:08.8±1.5, 12°59S×165°63E, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.8/18, mbtmp3.9/6, ML3.3/1, MS3.7/1, Ms1 3.7/1, ms1mx3.5/24, Error ellipse: s-maj=48.7km s-min=28.0km az=125.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.39**	**299**	LR	LR	05 40 44.1	
	comp=Z,736nm,20.5s,baz=85,slow=34						
DZM	**Mont Dzumac**	**9.46**	**175**	Pn	Pn	05 39 27.1	+0.5
	0.3nm,0.3s,baz=336,slow=20,SNR=3.7						
DZM				Sn	Sn	05 41 05.9	-8.0
	baz=128,slow=17,SNR=2.4						
WRA	**Warramunga Arr**	**30.87**	**252**	P	P	05 43 26.4	-0.8
	0.3nm,0.7s,baz=85,slow=9.3,SNR=2.0						
ASAR	**Alice Springs**	**32.02**	**245**	P	P	05 43 37.5	+0.2
	0.4nm,0.5s,baz=75,slow=9.6,SNR=3.8						
ILAR	**Eielson Array**	**85.00**	**18**	P	P	05 49 45.3	-0.5
	1.7nm,0.6s,baz=236,slow=5.1,SNR=20						
MKAR	**Makanchi Array**	**94.56**	**317**	P	P	05 50 32.1	+0.7
	0.3nm,0.6s,baz=104,slow=6.8,SNR=3.6						
ZALV	**Zalesovo Beam**	**94.73**	**324**	P	P	05 50 32.1	+0.2
	0.4nm,0.4s,baz=114,slow=3.6,SNR=2.7						

IDC 08 05:39:04.5±1.6, 11°70S×166°02E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.8/19, mbtmp3.8/6, ML3.5/1, Error ellipse: s-maj=51.5km s-min=26.9km az=122.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.33**	**178**	Pn	Pn	05 41 33.8	-0.3
	0.4nm,0.3s,baz=62,slow=18,SNR=5.3						
DZM				Sn	Sn	05 43 18.8	-12
	0.1nm,0.3s,baz=326,slow=18,SNR=2.5						
STKA	**Stephens Creek**	**30.16**	**224**	P	P	05 45 17.1	+0.6
	1.3nm,0.6s,baz=51,slow=6.5,SNR=4.1						
WRA	**Warramunga Arr**	**31.52**	**251**	P	P	05 45 28.7	+0.1
	0.8nm,0.6s,baz=84,slow=9.0,SNR=5.6						
ASAR	**Alice Springs**	**32.75**	**244**	P	P	05 45 39.0	-0.5
	0.9nm,0.5s,baz=71,slow=10,SNR=9.3						
ILAR	**Eielson Array**	**84.04**	**18**	P	P	05 51 36.7	+0.1
	0.2nm,0.6s,baz=228,slow=5.7,SNR=3.3						
MKAR	**Makanchi Array**	**94.18**	**317**	P	P	05 52 25.0	-0.4
	0.3nm,0.6s,baz=85,slow=6.3,SNR=3.4						

*AUST **08** 05:50:33.1±6.7, 28°44S×176°32W, h101km±2km, Error ellipse: s-maj=5.3km s-min=3.3km az=240.0*
*ISCJB **08** 05:50:41.5±2.7, 29°76S±0°07×177°4W±0°4, h130km, mb4.2/7, Error ellipse: s-maj=45.9km s-min=10.1km az=2.1*
*IDC **08** 05:50:46.1±0.9, 29°23S×177°91W, h124km±3km, mb4.1/7, mb1 4.2/7, mb1mx3.9/18, mbtmp4.1/7, Error ellipse: s-maj=26.6km s-min=17.2km az=33.0*

ISC 08 05:50:45.5±0.9, 29°7S±0°2×177°9W±0°2, h100km, n35, σ2°58/24, mb4.5/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.42**	**358**	P	Pn	05 51 03.2	+2.4
	802nm,0.3s,baz=74,slow=21,SNR=36						
RAO				S	**Sn**	**05 51 15.7**	**+3.6**
	4µm,0.3s,baz=287,slow=20,SNR=37						
URZ	**Urewera**	**9.51**	**204**	P	Pn	05 52 56.5	-2.9
	1.0nm,0.3s,baz=151,slow=19,SNR=13						
URZ				S	Sn	05 54 44.1	-0.3
	17nm,0.3s,baz=157,slow=20,SNR=22						
DZM	**Mont Dzumac**	**15.98**	**295**	P	**P**	**05 54 25.2**	**-1.0**
	0.8nm,0.3s,baz=163,slow=23,SNR=6.4						
ARMA	**Armidale**	**26.35**	**261**	P	**P**	**05 56 14.3**	**+2.0**
	baz=28,SNR=5.1						
RMQ	**Roma**	**29.53**	**268**	P	**P**	**05 56 41.7**	**+1.1**
	baz=31,SNR=4.5						
CMSA	**Cobar Meteorol**	**31.30**	**257**	P	**P**	**05 56 57.3**	**+1.2**
	baz=33,SNR=5.6						
CTA	**Charters Tower**	**33.77**	**278**	P	**P**	**05 57 16.5**	**-1.4**
	4.5nm,0.4s,baz=107,slow=10,SNR=13						
STKA	**Stephens Creek**	**34.73**	**256**	P	**P**	**05 57 25.8**	**-0.2**
	baz=36,SNR=13						
STKA	**Stephens Creek**	**34.73**	**256**	P	**P**	**05 57 25.5**	**-0.5**
	3.0nm,0.4s,baz=103,slow=12,SNR=16						
BBOO	**Buckleboo**	**39.25**	**253**	P	**P**	**05 58 04.0**	**-0.3**
	baz=41,SNR=14						
ASAR	**Alice Springs**	**43.23**	**266**	P	**P**	**05 58 34.6**	**-2.4**
	1.9nm,0.5s,baz=105,slow=6.8,SNR=20						
ASAR				pP	**pP**	**05 59 04.3**	**+3.9**
	2.5nm,0.7s,baz=105,slow=7.6,SNR=6.0						
WRA	**Warramunga Arr**	**44.16**	**271**	P	P	05 58 41.6	-2.9
	4.3nm,0.5s,baz=110,slow=8.0,SNR=47						
WRA				pP	pP	05 59 11.8	+3.9
	3.1nm,0.7s,baz=110,slow=7.7,SNR=4.9						
KDU	**Kakadu**	**48.88**	**279**	P	P	05 59 17.0	-4.4
	baz=50,SNR=3.5						
FITZ	**Fitzroy Crossi**	**52.45**	**269**	P	**P**	**05 59 45.9**	**-2.3**
	baz=54,SNR=5.4						
FITZ	**Fitzroy Crossi**	**52.45**	**269**	P	**P**	**05 59 45.8**	**-2.4**
	2.4nm,0.6s,baz=140,slow=7.8,SNR=7.7						
FITZ				pP	**pP**	**06 00 15.5**	**+3.3**
	4.2nm,0.9s,baz=192,slow=3.8,SNR=3.8						
MORW	**Morawa**	**56.82**	**253**	P	P	06 00 16.9	-2.7
	baz=58,SNR=3.3						
QSPA	**South Pole Qui**	**60.43**	**180**	P	**P**	**06 00 46.3**	**+2.0**
	7.3nm,0.5s,baz=340,slow=1.1,SNR=71						
MAW	**Mawson**	**73.01**	**200**	P	**P**	**06 02 03.9**	**0.0**
	0.7nm,0.4s,baz=129,slow=9.5,SNR=7.5						
H03N3	**Juan Fernandez**	**80.98**	**123**	T	T	07 32 38.8	
	baz=238						
H03N2	**Juan Fernandez**	**80.98**	**123**	T	T	07 32 43.7	
	baz=238						
H03N1	**Juan Fernandez**	**81.00**	**123**	T	T	07 32 47.2	
	baz=238						
MKAR	**Makanchi Array**	**117.37**	**310**	PKP	**PKPdf**	**06 09 14.9**	**-4.1**
	0.3nm,0.6s,baz=225,slow=1.4,SNR=4.2						
ARCES	**ARCESS Array B**	**137.90**	**348**	PKhKP	PKPpre	06 09 51.3	
	2.9nm,0.9s,baz=24,slow=2.5,SNR=2.9						
H10S3	**ASCENSION HYDR**	**138.34**	**155**	T	T	08 45 17.7	
	baz=204,slow=0.7,SNR=8.0						
H10S2	**ASCENSION HYDR**	**138.34**	**155**	T	T	08 45 17.9	
	baz=204,slow=0.7,SNR=12						
H10S1	**ASCENSION HYDR**	**138.36**	**155**	T	T	08 45 23.6	
	baz=204,slow=0.7,SNR=6.9						
H10N3	**ASCENSION HYDR**	**139.42**	**154**	T	T	08 46 32.7	
	baz=203,slow=0.7,SNR=13						
H10N1	**ASCENSION HYDR**	**139.43**	**154**	T	T	08 46 39.6	
	baz=203,slow=0.7,SNR=11						
H10N2	**ASCENSION HYDR**	**139.44**	**154**	T	T	08 46 26.1	
	baz=203,slow=0.7,SNR=12						
FINES	**FINESS Array B**	**144.50**	**340**	PKP	**PKPab**	**06 10 04.5**	**-3.5**
	4.3nm,0.5s,baz=60,slow=2.5,SNR=38						
NB2	**NORSAR Subarra**	**148.05**	**352**	PKPdf	**PKPdf**	**06 10 14.9**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**148.05**	**352**	PKPbc	**PKPdf**	**06 10 15.0**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=15,slow=4.4,SNR=7.0						
AKASG	**Malin Array Be**	**150.77**	**324**	PKPbc	**PKPdf**	**06 10 22.1**	**+2.0**
	comp=Z,3.3nm,0.5s,baz=46,slow=2.9,SNR=14						
AKASG				pPKPab	**pPKPab**	**06 11 05.1**	**+5.3**
	comp=Z,0.4nm,0.3s,baz=46,slow=3.2,SNR=2.4						
BRTR	**Keskin Array B**	**152.32**	**300**	PKPbc	**PKPbc**	**06 10 27.2**	**-2.7**
	comp=Z,0.5nm,0.4s,baz=146,slow=2.8,SNR=3.9						
TORD	**Torodi Ar. Bea**	**163.55**	**179**	PKPab	**PKPab**	**06 11 27.9**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=178,slow=4.2,SNR=10						

IDC 08 05:58:14.0±2.2, 12°04S×166°31E, h0km, mb3.9/5, mb1 3.9/6, mb1mx3.7/19, mbtmp3.8/6, Error ellipse: s-maj=49.1km s-min=37.5km az=68.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.98**	**179**	Pn	Pn	06 00 37.9	-0.9
	baz=284,slow=22,SNR=3.5						
STKA	**Stephens Creek**	**30.12**	**225**	P	P	06 04 26.4	+0.8
	2.3nm,0.9s,baz=54,slow=13,SNR=3.0						
WRA	**Warramunga Arr**	**31.68**	**252**	P	P	06 04 38.5	-1.0
	0.5nm,0.8s,baz=81,slow=8.9,SNR=3.3						
ASAR	**Alice Springs**	**32.86**	**245**	P	P	06 04 50.4	+0.5
	0.8nm,0.8s,baz=71,slow=9.6,SNR=4.4						
QSPA	**South Pole Qui**	**77.97**	**180**	P	P	06 10 14.0	0.0
	2.4nm,1.0s,baz=346,slow=5.8,SNR=4.8						
MKAR	**Makanchi Array**	**94.62**	**317**	P	P	06 11 37.0	+0.1
	0.2nm,0.6s,baz=91,slow=5.8,SNR=2.9						

IDC 08 05:59:41.1±1.3, 12°54S×165°70E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.8/18, mbtmp3.9/6, MS4.4/1, Ms1 4.4/1, ms1mx3.4/21, Error ellipse: s-maj=39.5km s-min=28.0km az=123.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**29.35**	**225**	P	P	06 05 47.0	+1.1
	1.3nm,0.7s,baz=46,slow=14,SNR=3.9						
WRA	**Warramunga Arr**	**30.95**	**252**	P	P	06 06 00.8	+0.6
	0.9nm,0.7s,baz=85,slow=8.9,SNR=3.8						
ASAR	**Alice Springs**	**32.11**	**245**	P	P	06 06 10.8	+0.3
	1.2nm,0.6s,baz=69,slow=9.3,SNR=9.4						
JCJ	**Chichijima**	**45.53**	**330**	LR	LR	06 23 39.9	
	comp=Z,433nm,20.8s,baz=99,slow=32						
CMAR	**Chiang Mai Arr**	**72.67**	**294**	P	P	06 11 10.3	-1.0
	baz=122,slow=6.8						
QSPA	**South Pole Qui**	**77.48**	**180**	P	P	06 11 37.6	-0.8
	0.8nm,0.8s,baz=347,slow=3.4,SNR=3.5						
ILAR	**Eielson Array**	**84.93**	**18**	P	P	06 12 19.2	+1.4
	0.5nm,1.0s,baz=240,slow=5.0,SNR=3.6						
MKAR	**Makanchi Array**	**94.57**	**317**	P	P	06 13 02.6	-1.2
	0.4nm,0.6s,baz=87,slow=6.0,SNR=5.4						

*ECX **08** 06:01:00.3±0.6, 30°28N×113°75W, h6km±17km, MD4.6, ML5.0, MW4.7*
*IDC **08** 06:01:05.3±0.9, 30°12N×114°10W, h0km, mb4.4/12, mb1 4.4/15, mb1mx4.3/30, mbtmp4.3/15, ML3.9/3, MS4.3/7, Ms1 4.3/7, ms1mx4.0/42, Error ellipse: s-maj=25.3km s-min=11.5km az=51.0*
*ISCJB **08** 06:01:06.3±0.3, 30°16N±0°03×113°99W±0°03, h10km, mb4.4/22, MS4.6/3, Error ellipse: s-maj=5.2km s-min=2.8km az=43.8*
*MEX **08** 06:01:07.5±0.3, 30°46N×113°97W, h20km±58km, MD4.6*
*NEIC **08** 06:01:07.4±0.5, 30°06N×114°07W, h10km, mb4.6/32, MD4.6(MEX), ML5.0(ECX), Error ellipse: s-maj=7.0km s-min=4.4km az=40.0*
*BJI **08** 06:01:12.0, 30°40N×113°90W, h30km, mB5.6/3, mb5.1/3, Ms5.3/3, Ms7 5.0/3*

ISC 08 06:01:08.0±0.4, 30°19N±0°04×114°03W±0°03, h10km, n201, σ1°72/177, mb4.5/22, MS4.4/3, 7C-5D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPX	**San Pedro Mart**	**1.50**	**305⇓**	*e*P	Pn	06 01 29.3	-6.0
SPX				*e*S	**Sn**	**06 01 51.3**	**-3.8**
SPX				⇑*e*		06 01 54.6	
	comp=E,10µm,0.9s						
SPX				⇓*e*		06 02 06.4	
	comp=N,8µm,0.7s						
SPIG	**San Pedro Mart**	**1.50**	**305**	*i* P	Pn	06 01 29.3	-6.0
SPIG				*i* S	Sn	06 01 46.4	-8.7
SPIG	**San Pedro Mart**	**1.50**	**305**	*i* P	Pn	06 01 29.3	-6.0
SPIG				*i* S	Sn	06 01 46.4	-8.7
ECBX	**El Chinero**	**1.55**	**326⇓**	*e*P	Pn	06 01 28.0	-7.6
ECBX				*e*S	**Sn**	**06 01 50.3**	**-5.4**
EMX	**El Mayor**	**2.07**	**330⇑**	*e*P	Pn	06 01 36.0	-6.7
EMX				⇓*e*		06 02 40.0	
	comp=N,9µm,0.9s						
ZAX	**El Zacaton**	**2.33**	**305⇑**	*e*P	Pn	06 01 41.4	-5.1
RDX	**Rancho Dawling**	**2.38**	**317⇓**	*e*P	Pn	06 01 41.2	-6.1
MBIG	**Mexicali**	**2.42**	**336**	*e*P	Pn	06 01 39.6	-8.0
MBIG				*i* S	Sn	06 02 06.4	-11
CPBX	**Cerro Prieto**	**2.47**	**334**	*e*P	Pn	06 01 43.5	-4.8
CPBX				⇑*e*		06 02 57.5	
	comp=N,20µm,0.7s						
ECNX	**Esteban Cantu**	**2.65**	**304⇑**	*e*P	Pn	06 01 45.7	-5.1
ECNX				*e*S	**Sn**	**06 02 20.4**	**-2.6**
PBX	**Punta Banda**	**2.78**	**304⇑**	*e*P	Pn	06 01 47.8	-4.8
HSIG		**2.93**	**113**	*e*P	Pn	06 01 52.2	-2.3
HSIG				*i* S	**Sn**	**06 02 26.5**	**-3.4**
HSIG		**2.93**	**113**	*e*P	Pn	06 01 52.2	-2.3
HSIG				*i* S	**Sn**	**06 02 26.5**	**-3.4**
GLA	**Glamis**	**2.93**	**347**	*e*Pn	Pn	06 01 50.0	-4.7
GLA				*e*Sn	**Sn**	**06 02 26.4**	**-3.6**
RMX	**La Rumorosa**	**2.97**	**324**	*e*P	Pn	06 01 50.6	-4.8
CBX	**Cerro Bola**	**3.09**	**314⇑**	*e*P	Pn	06 01 51.2	-5.8
SRIG	**Santa Rosalia**	**3.27**

LPIG				Lg		Lg	06 04 53.2	
	comp=N,3.5nm,0.3s,baz=18,slow=20,SNR=2.5							
LPIG				LR		LR	06 05 37.9	
	comp=N,2µm,18.9s,baz=346,slow=40							
LENM	**Lemitar**	**7.17**	**55**	*e*Pn		**Pn**	**06 02 52.2**	**-0.9**
LAZ	**Ladron**	**7.19**	**52**	*e*Pn		**Pn**	**06 02 52.0**	**-1.3**
	comp=N,6.9nm,0.4s							
CCUT	**Cedar City**	**7.36**	**4**	*e*Pn		**Pn**	**06 02 54.2**	**-1.5**
BNM	**Barren Site**	**7.41**	**56**	*e*Pn		**Pn**	**06 02 54.8**	**-1.6**
	comp=N,1µm,0.9s							
BNM				*e*Sg		**Sg**	**06 05 09.2**	**+3.2**
LPM	**Los Pinos Moun**	**7.49**	**55**	*e*Pn		**Pn**	**06 02 57.0**	**-0.5**
MNTX	**Cornudas Mount**	**7.58**	**76**	*e*Pn		**Pn**	**06 02 58.1**	**-0.5**
	comp=N,30nm,1.2s							
ARUT	**Antelope Range**	**7.59**	**4**	*e*Pn		**Pn**	**06 02 57.0**	**-1.9**
	comp=N,644nm,1.8s							
ANMO	**Albuquerque**	**7.96**	**51**	Pn		**Pn**	**06 03 02.0**	**-1.8**
ANMO				Sn		Sn	06 04 28.6	-5.5
ANMO				Lg		Lg	06 05 16.2	
ANMO	**Albuquerque**	**7.96**	**51**	Pn		**Pn**	**06 03 02.0**	**-1.8**
	comp=N,1.7nm,0.3s,baz=229,slow=12,SNR=45							
ANMO				Sn		Sn	06 04 28.6	-5.5
	comp=N,0.4nm,0.3s,baz=274,slow=15,SNR=4.4							
ANMO				Lg		Lg	06 05 16.2	
	comp=N,0.2nm,0.3s,baz=237,slow=8.3,SNR=3.5							
HPIG		**8.04**	**112**	*i* P		Pn	06 03 03.1	-1.9
HPIG				*i* S		**Sn**	**06 04 33.3**	**-2.9**
HPIG		**8.04**	**112**	*i* P		Pn	06 03 03.1	-1.9
HPIG				*i* S		**Sn**	**06 04 33.3**	**-2.9**
MTUM	**Tungsten Hills**	**8.08**	**333**	*e*Pn		Pn	06 03 09.0	+3.4
R11A	**Troy Canyon, C**	**8.24**	**351**	*e*Pn		**Pn**	**06 03 06.0**	**-1.7**
MVCO	**Mesa Verde**	**8.38**	**32**	*e*Pn		**Pn**	**06 03 08.5**	**-1.2**
MVU	**Marysvale**	**8.43**	**10**	*e*Pn		**Pn**	**06 03 11.2**	**+0.9**
GDL2	**Guadalupe Moun**	**8.52**	**74**	*e*Pn		**Pn**	**06 03 14.5**	**+3.0**
PV05	**Paradox Valley**	**8.86**	**26**	*e*Pn		**Pn**	**06 03 18.2**	**+1.9**
NV11	**Mina Array Sit**	**8.90**	**339**	*e*Pn		**Pn**	**06 03 18.5**	**+1.8**
NVAR	**Mina Array Bea**	**8.94**	**338**	Pn		**Pn**	**06 03 18.0**	**+0.6**
NVAR				Lg		Lg	06 05 51.7	
NVAR	**Mina Array Bea**	**8.94**	**338**	Pn		**Pn**	**06 03 18.0**	**+0.6**
	comp=N,0.2nm,0.3s,baz=162,slow=14,SNR=30							
NVAR				Lg		Lg	06 05 51.7	
	baz=177,slow=22,SNR=2.4							
NVAR				LR		LR	06 06 47.2	
	comp=N,1µm,18.5s,baz=84,slow=38							
Q16A	**Castle Valley**	**9.02**	**14**	*e*Pn		**Pn**	**06 03 17.8**	**-0.6**
PV01	**Paradox Valley**	**9.12**	**28**	*e*Pn		**Pn**	**06 03 19.3**	**-0.6**
	comp=N,36nm,0.9s							
PV09	**Paradox Valley**	**9.22**	**25**	*e*Pn		Pn	06 03 15.1	-6.2
PV15	**Paradox Valley**	**9.34**	**28**	*e*Pn		**Pn**	**06 03 22.2**	**-0.6**
SRU	**San Rafael**	**9.35**	**17**	*e*Pn		**Pn**	**06 03 23.7**	**+0.7**
TMUT	**Trail Mountain**	**9.38**	**14**	*e*Pn		**Pn**	**06 03 24.4**	**+1.0**
CMB	**Columbia Colle**	**9.43**	**328**	*e*Pn		Pn	06 03 30.1	+6.1
NLU	**North Lily Min**	**9.87**	**9**	*e*Pn		**Pn**	**06 03 33.1**	**+2.9**
MPU	**Maple Canyon**	**10.00**	**11**	*e*Pn		**Pn**	**06 03 34.2**	**+2.4**
DUG	**Dugway**	**10.03**	**5**	*e*Pn		**Pn**	**06 03 34.1**	**+1.8**
MSTX	**Muleshoe**	**10.27**	**66**	*e*Pn		**Pn**	**06 03 37.9**	**+2.4**
SDCO	**Great Sand Dun**	**10.34**	**41**	*e*Pn		**Pn**	**06 03 36.5**	**-0.1**
	comp=N,18nm,1.4s							
DAU	**Daniels Canyon**	**10.45**	**12**	*e*Pn		**Pn**	**06 03 40.1**	**+2.0**
PAHR	**Pah Rah Range**	**10.46**	**337**	*e*Pn		**Pn**	**06 03 40.9**	**+2.8**
BMN	**Battle Mountai**	**10.54**	**347**	*e*Pn		Pn	06 03 43.2	+3.9
	comp=N,18nm,1.2s							
ELK	**Elko**	**10.58**	**355**	*e*Pn		**Pn**	**06 03 38.2**	**-1.6**
JLU	**Jordanelle**	**10.60**	**11**	*e*Pn		**Pn**	**06 03 42.0**	**+1.8**
BGU	**Big Grassy Mou**	**10.74**	**4**	*e*Pn		**Pn**	**06 03 43.6**	**+1.6**
BEKR	**Beckworth**	**10.95**	**333**	*e*Pn		**Pn**	**06 03 46.1**	**+1.1**
	comp=N,32nm,1.5s							
O20A	**White River Ci**	**10.99**	**24**	*e*Pn		**Pn**	**06 03 46.3**	**+0.9**
SPUT	**South Promonto**	**11.17**	**6**	*e*Pn		**Pn**	**06 03 49.5**	**+1.7**
	comp=N,982nm,1.6s							
ISCO	**Idaho Springs**	**11.80**	**33**	*e*Pn		Pn	06 04 00.2	+3.5
JCT	**Junction City**	**12.30**	**85**	*e*Pn		Pn	06 04 07.5	+4.3
ABTX	**Abilene, Hawle**	**12.53**	**75**	*e*Pn		**Pn**	**06 04 07.5**	**+1.2**
MOD	**Modoc**	**12.73**	**338**	*e*Pn		**Pn**	**06 04 11.2**	**+1.9**
WVOR	**Wild Horse Val**	**12.77**	**344**	*e*Pn		**Pn**	**06 04 10.4**	**+0.8**
	comp=N,188nm,2.1s							
KSCO	**Kaye Shedlock'**	**12.86**	**44**	*e*Pn		**Pn**	**06 04 13.5**	**+2.5**
BW06	**Boulder Array**	**13.05**	**15**	*e*Pn		**Pn**	**06 04 15.4**	**+1.8**
	comp=N,1µm,1.6s							
PDAR	**Pinedale Array**	**13.05**	**15**	Pn		**Pn**	**06 04 13.2**	**-0.5**
PDAR				Lg		Lg	06 07 58.8	
PDAR	**Pinedale Array**	**13.05**	**15**	Pn		**Pn**	**06 04 13.2**	**-0.5**
	comp=N,0.2nm,0.3s,baz=171,slow=10,SNR=20							
PDAR				Lg		Lg	06 07 58.8	
	comp=N,0.0nm,0.3s,baz=189,slow=21,SNR=2.7							
PHWY	**Pilot Hill**	**13.08**	**30**	*e*Pn		Pn	06 04 17.8	+3.7
RRI2	**Red Ridge**	**13.31**	**9**	*e*Pn		Pn	06 04 22.0	+4.8
HLID	**Hailey**	**13.35**	**359**	*e*Pn		**Pn**	**06 04 20.1**	**+2.4**
REDW	**Red Top Meadow**	**13.39**	**10**	*e*Pn		**Pn**	**06 04 19.5**	**+1.2**
YBH	**Yreka Blue Hor**	**13.48**	**331**	*e*Pn		**Pn**	**06 04 21.2**	**+1.8**
	comp=N,56nm,1.5s							
YBH	**Yreka Blue Hor**	**13.48**	**331**	Pn		P	06 04 26.3	-2.4
	comp=N,0.2nm,0.3s,baz=135,slow=5.6,SNR=8.5							
YBH				LR		LR	06 09 10.2	
	comp=N,1µm,21.6s,baz=159,slow=36							
TPAW	**Teton Pass**	**13.50**	**10**	*e*Pn		**Pn**	**06 04 20.6**	**+0.8**
SNOW	**Snow King Moun**	**13.50**	**10**	*e*Pn		**Pn**	**06 04 20.8**	**+1.0**
J08A	**Circle Bar Ran**	**13.61**	**346**	*e*Pn		**Pn**	**06 04 23.4**	**+2.3**
WMOK	**Wichita Mounta**	**13.65**	**67**	Pn		**Pn**	**06 04 23.8**	**+2.1**
	comp=N,20nm,1.4s							
K05A	**Summer Lake**	**13.67**	**338**	*e*Pn		Pn	06 04 25.2	+3.2
LOHW	**Long Hollow**	**13.67**	**11**	*e*Pn		**Pn**	**06 04 22.6**	**+0.5**
MOOW	**Moose Ponds**	**13.78**	**10**	*e*Pn		**Pn**	**06 04 25.0**	**+1.4**
IMW	**Indian Meadow**	**13.90**	**9**	*e*Pn		**Pn**	**06 04 27.0**	**+1.7**
FLWY	**Flagg Ranch**	**14.12**	**10**	*e*Pn		**Pn**	**06 04 30.2**	**+2.1**
WHTX	**Lake Whitney**	**14.32**	**79**	*e*Pn		**Pn**	**06 04 31.2**	**+0.4**
H17A	**Grant Village**	**14.44**	**10**	*e*Pn		**Pn**	**06 04 34.8**	**+2.2**
YFT	**Old Faithful**	**14.46**	**9**	*e*Pn		Pn	06 04 36.5	+3.6
	comp=N,59nm,1.4s							
I07A	**Izee**	**14.53**	**344**	*e*Pn		**Pn**	**06 04 36.0**	**+2.2**
MCMT	**McKenzie Canyo**	**14.64**	**3**	P		**Pn**	**06 04 37.5**	**+2.1**
YMR	**Madison River**	**14.65**	**9**	*e*Pn		**Pn**	**06 04 37.5**	**+2.0**
	comp=N,126nm,1.8s							
YNR	**Norris Junctio**	**14.74**	**9**	*e*Pn		**Pn**	**06 04 39.6**	**+2.9**
	comp=N,37nm,1.2s							
QLMT	**Earthquake Lak**	**14.76**	**7**	*e*Pn		**Pn**	**06 04 38.8**	**+1.9**
BMO	**Blue Mountains**	**14.86**	**351**	*e*Pn		**Pn**	**06 04 38.8**	**+0.6**
	comp=N,33nm,1.4s							
IRO	**Indian Ridge**	**15.26**	**337**	P		**Pn**	**06 04 45.5**	**+2.0**
G08A	**Pilot Rock**	**15.56**	**347**	*e*Pn		**Pn**	**06 04 49.8**	**+2.2**
	comp=N,45nm,1.4s							
LRM	**Limekiln Ridge**	**15.65**	**4**	*e*Pn		**Pn**	**06 04 50.5**	**+1.7**
HKT	**Hockley**	**15.76**	**86**	*e*P		**P**	**06 04 55.1**	**+1.2**
	comp=N,46nm,1.6s							
H04A	**Detroit Lake**	**15.84**	**338**	*e*Pn		**Pn**	**06 04 52.3**	**+1.3**
	comp=N,270nm,2.3s							
G06A	**Carlson Farm,**	**15.89**	**343**	*e*Pn		**Pn**	**06 04 53.0**	**+1.3**
	comp=N,234nm,2.2s							
GCMT	**Greycliff**	**15.95**	**11**	*e*Pn		**Pn**	**06 04 53.8**	**+1.2**
	comp=N,16nm,1.3s							
F10A	**Beach Ranch, E**	**15.95**	**352**	*e*P		**P**	**06 04 56.8**	**+0.7**
	comp=N,36nm,1.4s							
RSSD	**Black Hills**	**16.01**	**27**	*e*Pn		**Pn**	**06 04 53.0**	**-0.4**
	comp=N,118nm,0.9s							
COR	**Corvallis**	**16.13**	**336**	*e*Pn		**Pn**	**06 04 57.0**	**+2.3**
	comp=N,1µm,2.0s							
TUL1	**Tulsa**	**16.31**	**65**	*e*P		**Pn**	**06 04 59.5**	**+2.4**
VLL	**Laurance Lake**	**16.39**	**341**	P		**Pn**	**06 04 58.9**	**+0.8**
BLTW	**Bickleton**	**16.42**	**345**	P		**Pn**	**06 04 59.6**	**+1.1**
E09A	**Wood Farm, Sta**	**16.61**	**350**	*e*Pn		**Pn**	**06 05 02.8**	**+2.0**
	comp=N,18nm,1.1s							
MSO	**Missoula**	**16.61**	**0**	*e*Pn		**Pn**	**06 05 01.0**	**0.0**
	comp=N,38nm,1.3s							
CHMT	**Chamberlain Mo**	**16.71**	**2**	*e*Pn		**Pn**	**06 05 03.2**	**+0.9**
HAWA	**Hanford**	**16.73**	**347**	*e*Pn		**Pn**	**06 05 04.0**	**+1.6**
	comp=N,101nm,2.2s							
TRW	**Toppenish Ridg**	**16.86**	**344**	P		**Pn**	**06 05 05.1**	**+1.0**
SLMT	**Seeley Lake**	**17.03**	**1**	*e*Pn		**Pn**	**06 05 06.9**	**+0.6**
SWMT	**Swartz Lake**	**17.29**	**0**	*e*Pn		**Pn**	**06 05 09.9**	**+0.3**
JTMT	**Jette**	**17.53**	**359**	*e*P		**P**	**06 05 14.7**	**+1.0**
LAO	**LASA Array**	**17.55**	**18**	*e*P		**Pn**	**06 05 12.2**	**-0.6**
	comp=N,171nm,1.6s							
LON	**Longmire**	**17.60**	**342**	*e*Pn		**Pn**	**06 05 13.8**	**+0.4**
	comp=N,57nm,1.5s							
BSMT	**Bassoo Peak**	**17.64**	**358**	*e*Pn		**Pn**	**06 05 14.5**	**+0.5**
MIAR	**Mount Ida**	**17.81**	**71**	*e*P		**Pn**	**06 05 15.8**	**-0.2**
	comp=N,42nm,1.6s							
C09A	**Chrisman Ranch**	**17.89**	**351**	*e*Pn		**Pn**	**06 05 16.8**	**-0.1**
	comp=N,206nm,2.9s							
E03A	**Lebam**	**17.93**	**338**	*e*Pn		**P**	**06 05 19.1**	**+1.2**
	comp=N,169nm,1.5s							
GSM	**Grass Mountain**	**18.02**	**343**	P		**P**	**06 05 20.7**	**+1.7**
D05A	**Enumclaw**	**18.05**	**342**	*e*Pn		**P**	**06 05 20.1**	**+0.9**
	comp=N,130nm,1.4s							
EGMT	**Eagleton**	**18.11**	**9**	*e*Pn		**Pn**	**06 05 20.5**	**+0.9**
NEW	**Newport**	**18.20**	**353**	*e*Pn		**Pn**	**06 05 20.5**	**-0.2**
NEW	**Newport**	**18.20**	**353**	P		**Pn**	**06 05 19.9**	**-0.8**
	comp=N,0.5nm,0.3s,baz=171,slow=11,SNR=13							
NEW				LR		LR	06 12 41.2	
	comp=N,937nm,19.0s,baz=158,slow=38							
BRSD	**Miller**	**18.56**	**36**	*e*Pn		**Pn**	**06 05 26.3**	**+1.2**
B08A	**Colville Reser**	**18.59**	**349**	*e*P		**P**	**06 05 25.0**	**-0.3**
	comp=N,48nm,1.9s							
NLWA	**Neilton Lookou**	**18.78**	**339**	*e*P		**P**	**06 05 28.2**	**+0.9**
	comp=N,244nm,2.4s							
WALA	**Waterton Lakes**	**18.84**	**0**	*e*P		**P**	**06 05 29.1**	**+1.0**
	comp=N,0.8nm,1.4s							
ECSD	**EROS Data Cent**	**19.35**	**41**	*e*P		**P**	**06 05 34.2**	**+0.6**
	comp=N,78nm,1.6s							
DGMT	**Dagmar**	**19.75**	**20**	*e*P		**P**	**06 05 38.8**	**+0.9**
	comp=N,94nm,1.4s							
A05A	**Maple Falls**	**19.76**	**344**	*e*P		**P**	**06 05 37.9**	**0.0**
	comp=N,29nm,1.4s							
PGC	**Sidney**	**19.79**	**341**	*e*P		**P**	**06 05 37.8**	**-0.5**
	comp=N,4.1nm,1.3s							
SCIA	**State Center**	**20.43**	**49**	*e*P		**P**	**06 05 47.2**	**+1.7**
	comp=N,95nm,1.6s							
MDND	**Maddock**	**20.83**	**28**	*e*Pn		Pn	06 05 52.2	+0.1
OXF	**Oxford**	**21.23**	**72**	*e*P		**P**	**06 05 55.2**	**+1.2**
	comp=N,8.4nm,0.9s							
SLM	**Saint Louis**	**21.32**	**60**	*e*P		**P**	**06 05 55.5**	**+0.6**
SPMN	**St. Paul**	**22.43**	**42**	*e*P		**P**	**06 06 07.1**	**+0.3**
WVT	**Waverly**	**22.68**	**68**	*e*P		**P**	**06 06 10.6**	**+0.9**
	comp=N,49nm,1.6s							
AGMN	**Agassiz Nation**	**22.81**	**32**	*e*P		P	06 06 15.7	+4.8
OLIL	**Olney**	**22.96**	**61**	*e*P		**P**	**06 06 15.2**	**+2.7**
	comp=N,19nm,1.0s							
EDM	**Edmonton**	**23.02**	**1**	*e*P		**P**	**06 06 11.1**	**-1.9**
ULM	**Lac du Bonnet**	**24.24**	**29**	P		**P**	**06 06 23.4**	**-1.5**
ULM	**Lac du Bonnet**	**24.24**	**29**	P		**P**	**06 06 23.4**	**-1.5**
	comp=N,9.0nm,1.0s,baz=230,slow=12,SNR=6.0							
BLO	**Bloomington**	**24.26**	**61**	*e*P		**P**	**06 06 25.4**	**+0.2**
	comp=N,16nm,0.8s							
BBB	**Bella Bella**	**24.31**	**339**	LR		LR	06 15 25.6	
	comp=N,939nm,21.9s,baz=156,slow=35							
TKL	**Tuckaleechee C**	**25.92**	**70**	P		**P**	**06 06 40.2**	**-0.2**
TKL	**Tuckaleechee C**	**25.92**	**70**	P		**P**	**06 06 40.2**	**-0.2**
	comp=N,3.1nm,1.0s,baz=297,slow=4.5,SNR=2.9							
APG	**El Apazote**	**26.41**	**120**	P		**P**	**06 06 45.8**	**+0.6**
APG	**El Apazote**	**26.41**	**120**	P		**P**	**06 06 45.8**	**+0.6**
	comp=N,9.9nm,1.1s,baz=330,slow=16,SNR=2.4							
DLBC	**Dease Lake**	**30.31**	**343**	P		**P**	**06 07 19.5**	**+0.1**
	comp=N,7.7nm,1.2s							
DLBC	**Dease Lake**	**30.31**	**343**	P		**P**	**06 07 19.5**	**+0.1**
	comp=N,12nm,0.7s,baz=162,slow=7.8,SNR=24							
DLBC				LR		LR	06 20 16.3	
	comp=N,885nm,20.8s,baz=154,slow=38							
DAWY	**Dawson**	**37.49**	**342**	*e*P		**P**	**06 08 21.8**	**+0.2**
PAX	**Paxson**	**38.50**	**337**	*e*P		**P**	**06 08 29.3**	**-0.9**
	comp=N,111nm,1.5s							
EGAK	**Eagle**	**38.53**	**342**	*e*P		**P**	**06 08 30.2**	**-0.1**
	comp=N,12nm,1.2s							
ILAR	**Eielson Array**	**40.20**	**339**	P		**P**	**06 08 43.9**	**-0.3**
ILAR	**Eielson Array**	**40.20**	**339**	P		**P**	**06 08 43.9**	**-0.3**
	comp=N,4.2nm,0.7s,baz=152,slow=7.3,SNR=43							
SCHQ	**Schefferville**	**41.54**	**40**	P		**P**	**06 08 54.8**	**-0.7**
SCHQ	**Schefferville**	**41.54**	**40**	P		**P**	**06 08 54.8**	**-0.7**
	comp=N,7.2nm,0.9s,baz=202,slow=5.4,SNR=3.7							
OTAV	**Otavalo**	**45.07**	**125**	*e*P		P	06 09 28.9	+4.0
	comp=N,16nm,1.6s							
SUMG	**Summit**	**57.17**	**20**	*i* P		**P**	**06 10 54.8**	**-0.3**
	comp=N,9.4nm,1.0s							
SUMG	**Summit**	**57.17**	**20**	*e*P		**P**	**06 10 53.3**	**-1.8**
	comp=N,21nm,1.2s							
SIV	**San Ignacio**	**68.61**	**124**	P		**P**	**06 12 11.5**	**-0.1**
SIV	**San Ignacio**	**68.61**	**124**	P		**P**	**06 12 11.5**	**-0.1**
	comp=N,4.9nm,0.9s,baz=291,slow=5.2,SNR=4.9							
NOA	**NORSAR Array B**	**78.82**	**24**	P		**P**	**06 13 09.8**	**-1.1**
NOA	**NORSAR Array B**	**78.82**	**24**	P		**P**	**06 13 09.8**	**-1.1**
	comp=N,1.5nm,0.8s,baz=318,slow=5.8,SNR=4.5							
PLCA	**Paso Flores**	**81.25**	**148**	*e*P		**P**	**06 13 25.2**	**+1.0**
	comp=N,24nm,1.0s							
FINES	**FINESS Array B**	**83.13**	**18**	P		**P**	**06 13 33.0**	**-0.8**
FINES	**FINESS Array B**	**83.13**	**18**	P		**P**	**06 13 33.0**	**-0.8**
	comp=N,2.2nm,0.7s,baz=46,slow=4.0,SNR=3.7							
USRK	**Ussuriysk Arra**	**84.58**	**319**	P		**P**	**06 13 40.4**	**-1.1**
	comp=N,3.6nm,0.8s,baz=119,slow=5.6,SNR=5.3							
ESDC	**Sonseca Array**	**84.90**	**47**	P		**P**	**06 13 43.2**	**-0.1**
ESDC	**Sonseca Array**	**84.90**	**47**	P		**P**	**06 13 43.2**	**-0.1**
	comp=N,0.2nm,0.3s,baz=302,slow=7.3,SNR=3.3							
CN2	**Changchun**	**88.47**	**321**	*e*P		**P**	**06 14 03.0**	**+2.4**
SONM	**Songino Array**	**94.26**	**334**	P		**P**	**06 14 27.4**	**-0.3**
SONM	**Songino Array**	**94.26**	**334**	P		**P**	**06 14 27.3**	**-0.3**
	comp=N,1.0nm,1.0s,baz=48,slow=2.1,SNR=5.5							
HHC	**Hu-ho-hao-te**	**97.67**	**327**	*e*P		**P**	**06 14 43.4**	**+0.1**
HHC				pP		pP	06 14 54.0	+7.4
HHC				sP		sP	06 14 57.9	+10
HHC				PP		**PP**	**06 18 42.6**	**+2.5**
HHC				SKS		**SKSac**	**06 25 16.7**	**-4.5**
HHC				S		S	06 26 01.0	-8.0
HHC				sS		**sS**	**06 26 18.8**	**+4.3**
HHC				SS		**SS**	**06 32 42.8**	**-4.5**
HHC				AMB		AMB		
	comp=N,38nm,1.1s							
HHC				AMB		AMB		
	comp=N,370nm,5.3s							
HHC				LR		LR		
	comp=N,260nm,17.6s							
HHC				LR		LR		
	comp=N,460nm,17.3s							
HHC				LR		LR		
	comp=N,570nm,17.6s							
CD2	**Chengdu**	**109.41**	**326**	Pdif		**Pdif**	**06 15 36.6**	**+1.0**
WRA	**Warramunga Arr**	**118.03**	**262**	PKP		**PKPdf**	**06 19 52.7**	**-2.9**
WRA	**Warramunga Arr**	**118.03**	**262**	PKP		**PKPdf**	**06 19 52.7**	**-2.9**
	comp=N,0.7nm,0.9s,baz=56,slow=1.6,SNR=5.4							
ASAR	**Alice Springs**	**119.86**	**258**	PKP		**PKPdf**	**06 19 57.0**	**-2.1**
ASAR	**Alice Springs**	**119.86**	**258**	PKP		**PKPdf**	**06 19 57.0**	**-2.1**
	comp=N,0.6nm,0.8s,baz=101,slow=2.3,SNR=5.0							
SNAA	**Sanae**	**125.01**	**159**	PKP		**PKPdf**	**06 20 05.8**	**-1.8**
SNAA	**Sanae**	**125.01**	**159**	PKP		**PKPdf**	**06 20 05.8**	**-1.8**
	comp=N,0.5nm,0.9s,baz=337,slow=4.8,SNR=4.1							
BOSA	**Boshof**	**144.63**	**98**	PKP		**PKPab**	**06 20 43.2**	**-0.7**
BOSA	**Boshof**	**144.63**	**98**	PKP		**PKPab**	**06 20 43.2**	**-0.7**
	comp=N,5.3nm,1.0s,baz=333,slow=4.5,SNR=2.8							

IDC 08 06:03:13.0±3.3, 11°.93S×166°.53E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.9/17, mbtmp3.9/5, Error ellipse: s-maj=108.1km s-min=30.2km az=135.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.91**	**251**	P	P	06 09 40.1	-0.4
	1.5nm,0.9s,baz=82,slow=8.5,SNR=4.8						
ASAR	**Alice Springs**	**33.10**	**245**	P	P	06 09 50.9	0.0
	1.9nm,0.7s,baz=73,slow=9.2,SNR=11						
CMAR	**Chiang Mai Arr**	**73.16**	**294**	P	P	06 14 47.1	+1.0
	baz=118,slow=5.2						
SONM	**Songino Array**	**79.83**	**324**	P	P	06 15 22.8	-0.7
	0.7nm,1.0s,baz=134,slow=4.2,SNR=2.6						
ILAR	**Eielson Array**	**84.10**	**18**	P	P	06 15 45.6	+0.2
	0.2nm,0.6s,baz=242,slow=5.0,SNR=2.8						
MKAR	**Makanchi Array**	**94.68**	**317**	P	P	06 16 35.9	-0.4
	1.8nm,0.7s,baz=93,slow=5.9,SNR=14						

IDC 08 06:04:57.7±3.3, 12°.21S×165°.56E, h0km, mb4.2/8, mb1 4.2/8, mb1mx4.0/17, mbtmp4.1/8, Error ellipse: s-maj=99.0km s-min=24.5km az=114.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.16**	**296**	Sn	Sb	06 07 51.1	-9.1
	16nm,0.3s,baz=348,slow=20,SNR=3.4						
STKA	**Stephens Creek**	**29.48**	**225**	P	P	06 11 04.0	+0.4
	0.2nm,0.7s,baz=35,slow=9.3,SNR=6.9						
WRA	**Warrnunga Arr**	**30.93**	**252**	P	P	06 11 16.3	-0.2
	0.6nm,0.6s,baz=78,slow=8.9,SNR=5.1						
ASAR	**Alice Springs**	**32.12**	**245**	P	P	06 11 26.9	-0.2
	1.7nm,0.8s,baz=76,slow=9.5,SNR=8.1						
MJAR	**Matsushiro Arr**	**54.91**	**333**	P	P	06 14 28.4	-2.0
	1.1nm,0.3s,baz=167,slow=10.0,SNR=5.4						
USRK	**Ussuriysk Arra**	**63.90**	**334**	P	P	06 15 34.1	+1.8
	1.7nm,0.7s,baz=123,slow=5.3,SNR=3.9						
SONM	**Songino Array**	**79.49**	**324**	P	P	06 17 07.4	+1.1
	0.5nm,0.3s,baz=135,slow=6.6,SNR=7.5						
MKAR	**Makanchi Array**	**94.24**	**317**	P	P	06 18 18.8	-0.1
	0.5nm,0.7s,baz=96,slow=5.9,SNR=5.1						
ZALV	**Zalesovo Beam**	**94.38**	**324**	P	P	06 18 17.6	-1.7
	0.8nm,0.3s,baz=128,slow=4.8,SNR=2.6						
KEST	**Kesra**	**148.21**	**321**	PKPbc	PKPbc	06 24 45.2	-1.1
	1.3nm,0.7s,baz=94,slow=5.0,SNR=4.7						

*IDC **08** 06:07:05.9±0.5, 11°.46S×165°.83E, h0km, mb4.5/21, mb1 4.6/24, mb1mx4.6/26, mbtmp4.5/24, ML4.3/3, MS4.2/4, Ms1 4.2/4, ms1mx3.9/23, Error ellipse: s-maj=17.8km s-min=13.8km az=106.0*

*BJI **08** 06:07:06.6, 11°.83S×166°.40E, h35km, mB5.3/23, mb4.9/36, Ms5.2/18, Ms7 5.0/17*

*ISCJB **08** 06:07:08.6±0.3, 11°.44S±0°.05×165°.70E±0°.05, h24km, mb4.8/43, MS4.5/9, Error ellipse: s-maj=7.0km s-min=6.6km az=156.6*

*MOS **08** 06:07:10.0±1.1, 11°.46S×165°.62E, h33km, mb5.1/5, Error ellipse: s-maj=13.1km s-min=9.9km az=7.5*

*NEIC **08** 06:07:11.4±0.2, 11°.44S×165°.72E, h35km, mb5.0/13, Error ellipse: s-maj=7.4km s-min=6.2km az=129.0*

*AUST **08** 06:07:12.9±4.1, 11°.29S×165°.06E, h12km, Error ellipse: s-maj=1.8km s-min=1.0km az=36.0*

*DJA **08** 06:07:22.4±1.8, 12°.S±8°×16°.5E±°, h100km±25km, M4.8/11, mB5.7/3, mb4.7/11, Mw(mB)5.2/3*

ISC 08 06:07:10.6±0.3, 11°.57S±0°.05×165°.74E±0°.06, h24km, n159, σ1§91/189, mb4.9/43, MS4.6/10, 1C-1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.07**	**290**	Pn	**Pn**	**06 08 39.4**	**+0.5**
HNR				Sn	**Sn**	**06 09 45.3**	**-2.4**
HNR	**Honiara**	**6.07**	**290**	Pn	**Pn**	**06 08 39.4**	**+0.5**
	14nm,0.3s,baz=5.7,slow=12,SNR=4.1						
HNR				Sn	**Sn**	**06 09 45.3**	**-2.4**
	8.1nm,0.3s,baz=86,slow=21,SNR=9.1						
DZM	**Mont Dzumac**	**10.47**	**176**	Pn	**Pn**	**06 09 38.7**	**-0.6**
DZM				Sn	**Sn**	**06 11 33.5**	**-2.5**
DZM	**Mont Dzumac**	**10.47

KLR	Kul'dur	67.53	337	*e*P		P	06 18 00.0	-4.7
PSI	Prapat	67.93	278	P		P	06 18 11.0	+2.8
	baz=67,SNR=5.3							
GYA	Guiyang	68.70	304	⇑*i*P		P	06 18 15.2	+2.5
GYA				pP		pP	06 18 26.2	+5.8
GYA				sP		sP	06 18 30.8	+7.5
GYA				PP		PP	06 20 47.5	+2.7
GYA				S		S	06 27 13.9	-1.0
GYA				sS		sS	06 27 30.0	+2.4
GYA				SKS		SKiKP	06 28 07.4	+3.1
GYA				AMB		AMB		
	comp=Z,30nm,1.0s							
GYA				AMB		AMB		
	comp=Z,120nm,5.5s							
GYA				LR		LR		
	comp=Z,1μm,18.0s							
GYA				LR		LR		
	comp=Z,970nm,19.2s							
GYA				LR		LR		
	comp=Z,1μm,18.8s							
XAN	Xi'an	70.46	312	P		P	06 18 22.9	-0.5
XAN				pP		pP	06 18 33.0	+1.9
XAN				sP		sP	06 18 38.0	+4.1
XAN				S		S	06 27 32.3	-3.0
XAN				AMB		AMB		
	comp=Z,4.0nm,1.1s							
XAN				AMB		AMB		
	comp=Z,45nm,4.8s							
XAN				LR		LR		
	comp=Z,200nm,15.3s							
KMI	Kunming	71.38	302	P		P	06 18 30.4	+1.0
KMI				pP		pP	06 18 41.0	+3.9
KMI				sP		sP	06 18 46.1	+6.2
KMI				AMB		AMB		
	comp=Z,12nm,1.1s							
KMI				AMB		AMB		
	comp=Z,180nm,4.4s							
HHC	Hu-ho-hao-te	72.22	320	*e*P		P	06 18 34.8	+0.9
HHC				pP		pP	06 18 45.1	+3.4
HHC				sP		sP	06 18 49.1	+4.6
HHC				PP		PP	06 21 16.9	+2.1
HHC				S		S	06 27 53.4	-2.1
HHC				sS		SKiKP	06 28 10.5	+1.4
HHC				SKS		SKSac	06 28 32.0	-5.1
HHC				ScS		SKKSac	06 28 34.8	-2.4
HHC				AMB		AMB		
	comp=Z,50nm,1.1s							
HHC				AMB		AMB		
	comp=Z,340nm,5.4s							
HHC				LR		LR		
	comp=Z,230nm,17.5s							
HHC				LR		LR		
	comp=Z,520nm,17.3s							
HHC				LR		LR		
	comp=Z,700nm,17.5s							
CMAR	Chiang Mai Arr	72.31	294	P		P	06 18 35.6	+0.8
CMAR	Chiang Mai Arr	72.31	294	P		P	06 18 35.6	+0.8
	comp=Z,2.1nm,0.3s,baz=110,slow=4.1							
CHTO	Chiang Mai	72.42	294	P		P	06 18 39.9	+4.4
	comp=Z,30nm,1.6s							
CMAI	Chiengmai2	72.70	295	P		P	06 18 55.5	+18
CD2	Chengdu	72.91	307	P		P	06 18 38.8	+0.6
CD2				pP		pP	06 18 49.6	+3.7
CD2				sP		sP	06 18 53.8	+5.1
CD2				PP		PP	06 21 23.0	+2.2
CD2				S		S	06 28 00.8	-2.8
CD2				sS		sS	06 28 18.8	+2.5
CD2				AMB		AMB		
	comp=Z,20nm,0.5s							
CD2				AMB		AMB		
	comp=Z,360nm,6.0s							
CD2				LR		LR		
	comp=Z,450nm,8.3s							
CD2				LR		LR		
	comp=Z,510nm,6.1s							
LZH	Lanzhou	75.10	312	*e*P		P	06 18 52.0	+1.0
LZH				pP		PcP	06 19 02.5	-2.1
LZH				sP		sP	06 19 05.2	+3.6
LZH				PP		PP	06 21 45.1	+5.6
LZH				AMB		AMB		
	comp=Z,22nm,1.0s							
LZH				AMB		AMB		
	comp=Z,100nm,9.3s							
LZH				LR		LR		
	comp=Z,500nm,17.6s							
LZH				LR		LR		
	comp=Z,450nm,17.8s							
LZH				LR		LR		
	comp=Z,760nm,19.5s							
ULN	Ulaanbaatar	78.71	324	*e*P		P	06 19 10.1	-1.0
	comp=Z,9.3nm,0.9s							
SONM	Songino Array	79.08	324	P		P	06 19 12.1	-1.0
SONM	Songino Array	79.08	324	P		P	06 19 12.1	-1.0
	comp=Z,3.5nm,0.9s,baz=135,slow=6.1,SNR=15							
GTA	Gaotai	79.41	314	*e*P		P	06 19 15.8	+0.7
GTA				pP		PcP	06 19 26.5	+3.3
GTA				sP		sP	06 19 30.4	+4.7
GTA				S		S	06 29 12.0	-3.0
GTA				SKS		SKSac	06 29 24.4	-5.9
GTA				AMB		AMB		
	comp=Z,14nm,1.0s							
GTA				AMB		AMB		
	comp=Z,140nm,6.2s							
GTA				LR		LR		
	comp=Z,260nm,17.6s							
GTA				LR		LR		
	comp=Z,170nm,18.1s							
GTA				LR		LR		
	comp=Z,370nm,19.0s							
ZAK	Zakamensk	82.12	325	*e*P		P	06 19 27.7	-1.6
ZAK				pmax		pmax		
	comp=Z,5.0nm,1.1s							
MENT	Mentasta	83.82	21	*e*P		P	06 19 36.3	-1.4
ILAR	Eielson Array	84.01	18	P		P	06 19 35.7	-2.9
ILAR	Eielson Array	84.01	18	P		P	06 19 35.7	-2.9
	comp=Z,3.0nm,0.8s,baz=255,slow=5.0,SNR=18							
MAW	Mawson	84.24	202	P		P	06 19 40.0	+0.2
MAW	Mawson	84.24	202	P		P	06 19 40.0	+0.2
	comp=Z,3.2nm,1.0s,baz=65,slow=5.3,SNR=4.4							
COLD	Coldfoot	84.80	16	*e*P		P	06 19 41.3	-1.3
HYT	Haines Junctio	84.86	24	*e*P		P	06 19 40.4	-2.8
EGAK	Eagle	85.87	20	*e*P		P	06 19 46.5	-1.4
	comp=Z,9.7nm,0.8s							
NVAR	Mina Array Bea	86.37	50	P		P	06 19 48.0	-3.3
NVAR	Mina Array Bea	86.37	50	P		P	06 19 48.0	-3.3
	comp=Z,1.3nm,0.9s,baz=234,slow=6.0,SNR=8.6							
DLBC	Dease Lake	86.87	28	P		P	06 19 50.5	-2.6
DLBC	Dease Lake	86.87	28	P		P	06 19 50.5	-2.6
	comp=Z,2.3nm,1.0s,baz=314,slow=5.6,SNR=4.1							
GLA	Glamis	87.55	56	*e*P		P	06 19 55.0	-2.0
GLA				pmax		pmax		
	comp=Z,11nm,1.0s							
GLA	Glamis	87.55	56	*e*P		P	06 19 55.0	-2.0
	comp=Z,11nm,1.0s							
LDFC	Landfair	87.86	54	P		P	06 20 00.9	+2.3
	comp=Z,5.8nm,0.8s							
WMQ	Urumqi	89.45	315	*e*P		P	06 20 05.3	-0.5
WMQ				pP		pP	06 20 15.9	+2.2
WMQ				sP		sP	06 20 19.8	+3.3
WMQ				AMB		AMB		
	comp=Z,11nm,0.4s							
WMQ				AMB		AMB		
	comp=Z,220nm,4.4s							
SYO	Syowa Base	91.28	197	‖*e*X		pP	06 20 21.6	0.0
Q16A	Castle Valley	91.88	51	*e*P		P	06 20 17.0	-0.3
MK31	Makanchi Array	93.89	317	*e*P		P	06 20 25.6	-0.6
MK31	Makanchi Array	93.89	317	*e*P		P	06 20 25.6	-0.6
MKAR	Makanchi Array	93.89	317	P		P	06 20 25.6	-0.7
MKAR	Makanchi Array	93.89	317	P		P	06 20 25.6	-0.7
MKAR				PKKP		PKKPdf	06 37 27.0	-3.5
MKAR	Makanchi Array	93.89	317	P		P	06 20 25.6	-0.7
	comp=Z,7.0nm,0.8s,baz=100,slow=6.2,SNR=50							
MKAR				PKKP		PKKPdf	06 37 27.0	-3.5
	comp=Z,0.6nm,0.7s,baz=298,slow=3.1,SNR=6.9							
PDAR	Pinedale Array	93.91	47	P		P	06 20 25.5	-1.2
PDAR	Pinedale Array	93.91	47	P		P	06 20 25.5	-1.2
	comp=Z,0.2nm,0.8s,baz=278,slow=8.1,SNR=2.2							
ZALV	Zalesovo Beam	93.97	324	P		P	06 20 24.5	-1.9
ZALV	Zalesovo Beam	93.97	324	P		P	06 20 24.5	-1.9
ZALV	Zalesovo Beam	93.97	324	P		P	06 20 24.5	-1.9
	comp=Z,3.2nm,0.8s,baz=114,slow=3.7,SNR=10							
SNAA	Sanae	96.60	184	P		P	06 20 38.0	-0.2
SNAA	Sanae	96.60	184	P		P	06 20 38.0	-0.2
	comp=Z,0.5nm,1.1s,baz=207,slow=4.5,SNR=2.5							
H03N3	Juan Fernandez	103.97	129	T		T	08 15 33.4	
	SNR=109							
ARCES	ARCESS Array B	116.83	345	PKP		PKPdf	06 25 51.1	-1.4
ARCES	ARCESS Array B	116.83	345	PKP		PKPdf	06 25 51.1	-1.4
	comp=Z,2.7nm,0.8s,baz=90,slow=1.2,SNR=5.6							
KBZ	Khabaz	121.50	314	PKIKP		PKPdf	06 26 02.6	+0.4
KBZ	Khabaz	121.50	314	PKP		PKPdf	06 26 02.6	+0.4
KBZ	Khabaz	121.50	314	PKP		PKPdf	06 26 02.6	+0.4
	comp=Z,2.4nm,0.9s,baz=142,slow=2.0,SNR=3.6							
CPUP	Villa Florida	123.69	133	PKP		PKPdf	06 26 06.0	-1.0
CPUP	Villa Florida	123.69	133	PKP		PKPdf	06 26 06.0	-1.0
	comp=Z,1.9nm,0.8s,baz=220,slow=2.5,SNR=5.0							
NB2	NORSAR Subarra	127.20	345	PKPdf		PKPdf	06 26 12.3	-0.5
	comp=Z,1.1nm,0.8s,baz=31,slow=1.9							
NOA	NORSAR Array B	127.20	345	PKP		PKPdf	06 26 11.0	-1.7
NOA	NORSAR Array B	127.20	345	PKP		PKPdf	06 26 11.0	-1.7
	comp=Z,2.3nm,0.9s,baz=38,slow=2.0,SNR=5.1							
AKASG	Malin Array Be	127.29	327	PKIKP		PKPdf	06 26 12.2	-1.0
AKASG	Malin Array Be	127.29	327	PKP		PKPdf	06 26 12.2	-1.0
AKASG	Malin Array Be	127.29	327	PKP		PKPdf	06 26 12.2	-1.0
	comp=Z,0.8nm,0.6s,baz=58,slow=2.4,SNR=9.5							
BRTR	Keskin Array B	129.31	312	PKP		PKPdf	06 26 16.4	-1.2
BRTR	Keskin Array B	129.31	312	PKP		PKPdf	06 26 16.4	-1.2
	comp=Z,0.6nm,0.4s,baz=219,slow=3.2,SNR=4.4							
STHS	Stebnicka Huta	132.21	329	*e*PKIKP		PKPdf	06 26 27.6	+5.0
STHS	Stebnicka Huta	132.21	329	*e*PKP		PKPdf	06 26 27.6	+5.0
GERES	GERESS Array B	136.16	333	PKP		PKPdf	06 26 29.6	-0.6
GERES	GERESS Array B	136.16	333	PKP		PKPdf	06 26 29.6	-0.6
	comp=Z,0.6nm,0.6s,baz=0.0,slow=0.1,SNR=7.1							
BDFB	Brasilia	137.03	128	PKP		PKPdf	06 26 31.8	-0.9
BDFB	Brasilia	137.03	128	PKP		PKPdf	06 26 31.8	-0.9
	comp=Z,4.3nm,0.8s,baz=158,slow=8.6,SNR=7.4							
VSL	Villasalto	145.16	327	*e*PKPbc		PKPbc	06 26 45.1	-0.9
KEST	Kesra	147.82	322	*e*PKPbc		PKPbc	06 26 52.7	-1.4
KEST	Kesra	147.82	322	*e*PKPbc		PKPbc	06 26 53.5	-0.6
	comp=Z,7.8nm,0.8s,baz=282,slow=0.3,SNR=26							
PBRG	Braganca	149.16	349	*e*PKPbc		PKPbc	06 26 56.6	-0.8
PCAB	Cabril	149.48	351	*e*PKPbc		PKPbc	06 26 57.9	-0.2
POLO	Lamas de Olo	149.77	350	*e*PKPbc		PKPbc	06 26 58.4	-0.6
MVO	Moncorvo	149.84	349	*e*PKPbc		PKPbc	06 26 59.0	-0.1
PVIS	Viseu	150.43	350	*e*PKPbc		PKPbc	06 26 59.9	-0.6
ESDC	Sonseca Array	150.55	344	PKPbc		PKPbc	06 27 00.2	-0.7
ESDC				PKPab		PKPab	06 27 06.9	-0.5
ESDC	Sonseca Array	150.55	344	PKPbc		PKPbc	06 27 00.2	-0.7
	comp=Z,3.7nm,0.8s,baz=16,slow=2.5,SNR=13							
ESDC				PKPab		PKPab	06 27 06.9	-0.5
	comp=Z,5.3nm,0.9s,baz=11,slow=4.0,SNR=7.4							
ESLA	Sonseca Array	150.55	344	*e*PKPbc		PKPbc	06 27 00.7	-0.1
MTE	Manteigas	150.67	349	*e*PKPbc		PKPbc	06 27 00.7	-0.4
MTE	Manteigas	150.67	349	*e*PKPbc		PKPbc	06 26 59.0	-2.2
PAB	San Pablo	150.78	344	*e*PKIKP		PKPbc	06 26 59.6	-1.8
PAB	San Pablo	150.78	344	*e*PKPbc		PKPbc	06 26 59.6	-1.8
PCAS	Casmilo, Conde	151.17	351	*e*PKPbc		PKPbc	06 27 00.8	-1.4
PCBR	Castelo Branco	151.20	349	*e*PKPbc		PKPbc	06 27 01.7	-0.6
PTOM	Tomar	151.58	350	*e*PKPdf		PKPdf	06 26 57.5	+0.5
PTOM	Tomar	151.58	350	*e*PKPbc		PKPbc	06 27 03.1	-0.1
PMRV	Marv??o	151.59	349	*e*PKPdf		PKPdf	06 26 56.8	-0.2
PMRV	Marv??o	151.59	349	*e*PKPbc		PKPbc	06 27 03.3	+0.1
PMTG	Montargil	152.09	350	*e*PKPbc		PKPbc	06 27 03.3	-1.0
PBAR	Barrancos	152.72	348	*e*PKPdf		PKPdf	06 26 59.0	+0.3
PBAR	Barrancos	152.72	348	*e*PKPbc		PKPbc	06 27 05.7	-0.1
MORF	Marmelete	153.88	350	*e*PKPdf		PKPdf	06 27 00.8	+0.3
PFVI	Vila Bisbo	154.08	350	*e*PKPdf		PKPdf	06 27 02.0	+1.3
TORD	Torodi Ar. Bea	164.33	277	PKP		PKPdf	06 27 11.8	-1.4
TORD	Torodi Ar. Bea	164.33	277	PKP		PKPdf	06 27 11.8	-1.4
	comp=Z,2.5nm,0.9s,baz=5.2,slow=2.2,SNR=9.4							

IDC 08 06:08:12.7±2.7, 23.73S×66.47W, h197km±22km, mb3.4/3, mb1 3.4/7, mb1mx3.3/19, mbtmp3.3/7, MS3.9/1, Ms1 3.9/1, ms1mx3.4/11, Error ellipse: s-maj=29.1km s-min=18.9km az=74.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	La Paz	7.56	348	P	Pn	06 10 00.9	-0.3
	0.2nm,0.3s,baz=203,slow=6.3,SNR=12						
LPAZ				S	Sn	06 11 24.9	-2.4
	0.0nm,0.3s,baz=245,slow=14,SNR=3.7						
CFAA	Coronel Fontan	8.00	191	P	Pn	06 09 59.2	-6.9
	0.1nm,0.3s,baz=19,slow=13,SNR=20						
CFAA				S	Sn	06 11 24.6	-12
	0.3nm,0.3s,baz=273,slow=21,SNR=26						
CPUP	Villa Florida	8.69	109	P	Pn	06 10 16.4	+1.4
	0.1nm,0.3s,baz=256,slow=11,SNR=5.1						
SIV	San Ignacio	9.22	34	P	Pn	06 10 23.4	+1.3
	0.4nm,0.3s,baz=228,slow=8.4,SNR=7.9						
SIV				S	Sn	06 11 60.0	-5.4
	0.0nm,0.3s,baz=261,slow=13,SNR=2.5						
BDFB	Brasilia	19.14	69	P	Pn	06 12 23.1	-1.4
	1.9nm,0.3s,baz=242,slow=11,SNR=35						
ROSC	El Rosal	29.43	344	LR	LR	06 28 13.9	
	comp=Z,254nm,21.8s,baz=19,slow=41						
SNAA	Sanae	59.45	161	P	P	06 17 54.0	-0.5
	0.2nm,0.7s,baz=272,slow=8.1,SNR=3.7						
TORD	Torodi Ar. Bea	76.02	69	P	P	06 19 37.8	-0.9
	0.6nm,0.5s,baz=262,slow=5.6,SNR=18						
SCHQ	Schefferville	78.24	360	P	P	06 19 51.0	+0.8
	5.2nm,0.9s,baz=234,slow=11,SNR=3.2						
MKAR	Makanchi Array	146.01	40	PKPbc	PKPbc	06 27 29.0	-0.3
	0.6nm,0.7s,baz=299,slow=2.7,SNR=5.9						

IDC 08 06:11:12.9±3.2, 11.42S×166.70E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/18, mbtmp3.8/4, ML3.3/1, Error ellipse: s-maj=70.8km s-min=42.5km az=92.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	10.60	181	Pn	Pn	06 13 45.8	-0.4
	0.3nm,0.3s,baz=78,slow=20,SNR=3.7						
WRA	Warramunga Arr	32.24	251	P	P	06 17 43.9	+0.5
	0.5nm,0.3s,baz=78,slow=8.7,SNR=4.7						
ASAR	Alice Springs	33.47	244	P	P	06 17 53.5	-0.7
	0.7nm,0.7s,baz=72,slow=9.2,SNR=6.6						
MKAR	Makanchi Array	94.43	317	P	P	06 24 35.1	+0.1
	0.2nm,0.5s,baz=102,slow=5.1,SNR=3.2						

IDC 08 06:26:04.3±3.0, 12.34S×165.31E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.6/19, mbtmp3.6/4, ML3.2/1, Error ellipse: s-maj=62.6km s-min=42.7km az=84.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	9.74	174	Pn	Pn	06 28 26.2	+0.3
	0.2nm,0.3s,baz=307,slow=20,SNR=2.6						
WRA	Warramunga Arr	30.66	252	P	P	06 32 21.3	+0.5
	0.3nm,0.7s,baz=82,slow=7.0,SNR=4.5						
ASAR	Alice Springs	31.85	245	P	P	06 32 30.7	-0.6
	0.5nm,0.6s,baz=74,slow=9.3,SNR=7.5						
MKAR	Makanchi Array	94.17	317	P	P	06 39 25.0	-0.1
	0.2nm,0.5s,baz=91,slow=5.4,SNR=3.1						

IDC 08 06:41:06.1±3.1, 11.47S×165.79E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.6/19, mbtmp3.7/4, ML3.0/1, Error ellipse: s-maj=66.4km s-min=42.5km az=88.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	10.56	177	Pn	Pn	06 43 39.3	+0.4
	0.1nm,0.3s,baz=307,slow=20,SNR=2.6						
WRA	Warramunga Arr	31.38	251	P	P	06 47 29.1	+0.2
	0.5nm,1.0s,baz=83,slow=8.9,SNR=3.1						
ASAR	Alice Springs	32.64	244	P	P	06 47 39.6	-0.4
	0.5nm,0.7s,baz=74,slow=9.1,SNR=5.4						
MKAR	Makanchi Array	93.86	317	P	P	06 54 25.4	-0.2
	0.9nm,0.7s,baz=94,slow=5.7,SNR=8.1						

KRSC 08 06:41:08.9±4.0, 52.75N×160.14E, h16km±16km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLC	Nalytchevo	0.64	312	P	Pn	06 41 22.7	-0.6
NLC				*i* S	Sb	06 41 31.5	+1.1
UGLR	Uglovaya	0.92	301	P	Pg	06 41 26.9	0.0
UGLR				*i* S	Sg	06 41 39.2	+0.1
SDLR	Sedlovina	0.93	305	P	Pg	06 41 26.9	-0.1
SDLR				*i* S	Sb	06 41 38.8	-0.1
PET	Petropavlovsk	0.94	288	P	Pg	06 41 27.2	+0.1
PET				*i* S	Sg	06 41 39.6	+0.1
SMAR	Somma	0.96	303	P	Pb	06 41 27.3	-0.1
SMAR				*i* S	Sg	06 41 40.8	+0.2
AVH	Avacha	0.99	302	*e*P	Pg	06 41 28.1	-0.1
AVH				*i* S	Sb	06 41 41.0	+0.3
KRER	Koryakskii	1.01	304	P	Pb	06 41 28.4	+0.2
KRER				*i* S	Sg	06 41 41.9	-0.2
RUS	Russkaya	1.04	253	P	Pb	06 41 28.2	-0.3
RUS				*i* S	Sb	06 41 42.3	+0.4
KOK	Koryaka	1.06	301	P	Pn	06 41 29.1	-0.1
KOK				*i* S	Sg	06 41 43.3	-0.2
KRX	Arik	1.09	305	P	Pb	06 41 29.2	-0.3
KRX				*i* S	Sb	06 41 42.8	-0.8
MTVR	Mutnovka	1.22	258	P	Pn	06 41 31.2	-0.3
MTVR				*i* S	Sb	06 41 47.4	-0.1
GRL	Gorelyy	1.27	262	P	Pb	06 41 32.5	-0.2
GRL				*i* S	Sn	06 41 49.5	+0.4
KII	Karymskiy	1.35	342	P	Pn	06 41 33.2	0.0
KII				*i* S	Sn	06 41 50.0	-1.0
ASAK	Asacha	1.42	256	*e*P	Pn	06 41 34.5	+0.4
ASAK				*i* S	Sb	06 41 53.1	+0.2
GNL	Ganaly	1.63	306	P	Pn	06 41 37.8	+0.8
GNL				*i* S	Sb	06 41 58.9	-0.2
APC	Apacha	1.82	277	*e*P	Pb	06 41 41.2	-0.5
APC				*i* S	Sb	06 42 03.8	-0.4
MKZ	Mys Kozlova	2.04	27	P	Pn	06 41 41.6	-0.9
MKZ				*i* S	Sn	06 42 05.9	-1.8
MIPR	Malaya Ipel'ka	2.12	258	P	Pn	06 41 44.6	+0.9
PAU	Pauzhetka	2.42	239	P	Pb	06 41 50.1	-1.9
PAU				*i* S	Sb	06 42 19.7	-1.9
TUMR	Tumrok	2.54	0	P	Pn	06 41 50.7	+1.1
TUMR				*i* S	Sn	06 42 21.1	+0.9
KMNR	Kamenistaya	3.01	1	P	Pn	06 41 57.3	+1.2
SRDR	Sredinnyy	3.58	356	P	Pn	06 42 06.9	+3.1
KBTR	Krutoberegovo	3.80	23	P	Pn	06 42 07.9	+1.2
KBTR				*i* S	Sn	06 42 51.4	+0.3
BDR	Baidarnaya	3.88	9	P	Pn	06 42 11.4	+3.5
SMKR	Semkarok	3.92	11	P	Pn	06 42 10.8	+2.4
SMKR				*i* S	Sn	06 42 55.7	+1.6
SRKR	Sorokina	3.96	8	P	Pn	06 42 12.5	+3.5

*IDC **08** 06:44:40.5±0.5, 12.49S×166.79E, h0km, mb4.9/23, mb1 4.9/24, mb1mx4.9/26, mbtmp4.8/24, ML3.5/1, MS4.2/7, Ms1 4.2/7, ms1mx3.9/28, Error ellipse: s-maj=17.7km s-min=12.1km az=100.0*

*BJI **08** 06:44:44.5, 12.30S×167.03E, h37km, mB5.4/28, mb5.3/46, Ms5.3/15, Ms7 5.0/12*

*NEIC **08** 06:44:46.6±0.2, 12.50S×166.59E, h35km, mb4.9/33, Error ellipse: s-maj=8.0km s-min=6.1km az=141.0*

*ISCJB **08** 06:44:48.6±0.2, 12.52S±0.03×166.45E±0.03, h59km, mb5.1/73, MS4.4/11, Error ellipse: s-maj=5.2km s-min=3.8km az=150.3*

*AUST **08** 06:44:51.4±1.4, 12.44S×166.52E, h72km±13km, Error ellipse: s-maj=8.2km s-min=4.9km az=103.0*

*DJA **08** 06:44:58.0±1.6, 13.3S±9.1×16.7E±1.4, h146km±23km, M5.0/17, mB5.4/6, mb5.2/17, Mw(mB)4.9/6*

ISC 08 06:44:49.1±0.3, 12.45S±0.05×166.58E±0.05, h59km, n262, σ1.1s56/316, mb5.1/73, MS4.3/11, 16C-10D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	7.17	294	*e*Pn	Pn	06 46 27.8	-3.6
HNR				Sn	**Sn**	**06 47 48.9**	**-2.7**
HNR	Honiara	7.17	294	Pn	**Pn**	**06 46 32.4**	**+0.9**
	77nm,0.3s,baz=169,slow=0.9,SNR=22						
HNR				Sn	**Sn**	**06 47 48.9**	**-2.7**
	50nm,0.3s,baz=164,slow=18,SNR=3.6						
DZM	Mont Dzumac	9.57	181	*e*Pn	**Pn**	**06 47 05.4**	**+1.0**
	26nm,0.4s						
DZM				*e*Sn	**Sn**	**06 48 49.7**	**-0.8**
	34nm,0.5s						
DZM				*e*LR	LR	06 49 19.7	
	3μm,25.9s						
DZM	Mont Dzumac	9.57	181	Pn	Pn	06 47 00.7	-3.6
DZM				Sn	**Sn**	**06 48 50.0**	**-0.5**
DZM	Mont Dzumac	9.57	181	Pn	Pn	06 47 00.7	-3.6
	0.4nm,0.3s,baz=331,slow=19,SNR=5.1						
DZM				Sn	**Sn**	**06 48 50.0**	**-0.5**
	2.0nm,0.3s,baz=319,slow=20,SNR=1.8						
MSVF	Nonsavu	12.25	117	*e*Pn	**Pn**	**06 47 43.7**	**+2.6**
TARA	Tarawa	15.09	25	*e*Pn	**P**	**06 48 22.6**	**-0.4**
	284nm,0.5s						
PMG	Port Moresby	19.31	277	P	**Pn**	**06 49 11.9**	**+0.8**
PMG	Port Moresby	19.31	277	P	**Pn**	**06 49 11.9**	**+0.8**
	1.0nm,0.3s,baz=68,slow=19,SNR=2.3						
EIDS	Eidsvold	19.47	226	*e*Pn	**Pn**	**06 49 13.4**	**+0.4**
	40nm,0.8s						
EIDS	Eidsvold	19.47	226	⇑P	**Pn**	**06 49 13.3**	**+0.3**
	baz=20,SNR=13						
PATS	Pohnpei	20.85	336	⇑P	**P**	**06 49 27.4**	**+1.1**
	baz=21						
CTA	Charters Tower	20.93	246	P	**P**	**06 49 28.4**	**+1.3**
CTA	Charters Tower	20.93	246	P	**P**	**06 49 28.4**	**+1.3**
	10nm,0.7s,baz=81,slow=12,SNR=9.7						
CTA				LR	LR	06 56 47.8	
	comp=Z,674nm,19.1s,baz=338,slow=34						
CTAO	Charters Tower	20.93	246	*e*P	**P**	**06 49 25.3**	**-1.8**
	25nm,1.0s						
AFI	Afiamalu	21.12	96	LR	LR	06 56 27.0	
	comp=Z,424nm,19.6s,baz

ASAR ScP **ScP** 06 57 45.9 +5.0
1.8nm,0.8s,baz=88,slow=3.1,SNR=8.2
ASPA Alice Springs 32.93 246 ⇑P **P** 06 51 17.7 -0.6
baz=33
KDU Kakadu 33.28 266 ⇑P **P** 06 51 21.1 -0.2
baz=33,SNR=9.6
BBOO Buckleboo 34.50 229 *e*P **P** 06 51 32.0 +0.2
376nm,0.8s
BBOO Buckleboo 34.50 229 P **P** 06 51 32.0 +0.2
baz=34,SNR=18
KNRA Kununurra 36.80 260 ⇓P **P** 06 51 51.4 -0.2
baz=37,SNR=7.2
SWI Sorong 36.86 285 P **P** 06 51 52.9 +0.7
90nm,1.0s
FITZ Fitzroy Crossi 39.84 257 *e*P **P** 06 52 17.0 -0.1
24nm,0.9s
FITZ Fitzroy Crossi 39.84 257 P **P** 06 52 17.0 -0.1
baz=40,SNR=16
FITZ Fitzroy Crossi 39.84 257 P **P** 06 52 17.0 -0.1
44nm,1.2s,baz=105,slow=6.4,SNR=30
FORT Forrest 39.94 237 ⇓P **P** 06 52 17.9 +0.1
baz=40,SNR=9.5
NLAI Namlea 40.12 280 P **P** 06 52 20.8 +1.3
103nm,0.9s,1µm
PPT2 Papeete2 42.58 102 *e*LQ LQ 07 02 57.1
PPT2 *e*LR LR 07 04 58.5
1µm,29.0s
TBI Tubuai 43.06 111 *e*LR LR 07 05 07.6
765nm,38.8s
MBWA Marble Bar 45.54 253 *e*P **P** 06 53 03.9 +0.5
40nm,0.9s
BNSI Bone 46.60 276 P **P** 06 53 12.6 +0.8
91nm,1.0s,894nm
KAPI Kappang 46.82 275 P **P** 06 53 13.4 -0.1
56nm,1.1s,1µm
KAPI Kappang 46.82 275 *e*P **P** 06 53 13.7 +0.2
MEEK Meekatharra 47.09 245 P **P** 06 53 15.9 +0.4
baz=47,SNR=34
KLBR Kellerberrin 48.67 239 P **P** 06 53 27.5 -0.1
baz=49,SNR=10.0
BLDU Ballidu 49.37 240 ⇓P **P** 06 53 33.7 +0.7
baz=49,SNR=4.5
NWAO Narrogin (SRO) 49.38 237 P **P** 06 53 32.7 -0.3
NWAO Narrogin (SRO) 49.38 237 P **P** 06 53 32.7 -0.3
11nm,0.7s,baz=72,slow=8.3,SNR=8.3
MORW Morawa 49.69 242 P **P** 06 53 35.8 +0.4
baz=50,SNR=15
RKGY Rocky Gully 49.97 235 ⇓P **P** 06 53 38.0 +0.5
baz=50
GIRL Giralia 50.71 251 P **P** 06 53 45.2 +1.9
baz=51,SNR=3.5
KKM Kota Kinabalu 53.33 287 P **P** 06 54 03.8 +0.8
88nm,1.0s
KKM Kota Kinabalu 53.33 287 *e*P **P** 06 54 03.6 +0.7
91nm,1.0s
KKM Kota Kinabalu 53.33 287 ⇓P **P** 06 54 04.0 +1.1
baz=53,SNR=8.9
MJAR Matsushiro Arr 55.59 332 P **P** 06 54 18.4 -0.4
MJAR Matsushiro Arr 55.59 332 P **P** 06 54 18.4 -0.4
2.4nm,0.6s,baz=172,slow=8.8,SNR=6.5
SBUM Sibu 55.98 282 P **P** 06 54 22.5 +0.5
JNU Nakatsue 56.69 324 P **P** 06 54 27.4 +0.6
JNU Nakatsue 56.69 324 P **P** 06 54 27.4 +0.6
30nm,0.8s,baz=148,slow=2.9,SNR=5.5
YHNB Yeheng 57.51 310 *e*P **P** 06 54 33.5 +0.7
48nm,0.8s
CISI Cisompet, Garu 57.99 269 ⇑P **P** 06 54 36.2 -0.1
baz=58
ASAJ Asahikawa 60.38 340 P **P** 06 54 52.9 +0.6
ASAJ Asahikawa 60.38 340 P **P** 06 54 52.9 +0.6
12nm,0.5s,baz=187,slow=32,SNR=6.0
ASAJ LR LR 07 17 31.0
comp=Z,236nm,18.6s,baz=180,slow=33
SSE Sheshan 61.42 316 P **P** 06 55 00.6 +1.1
SSE AMB AMB
comp=Z,88nm,0.8s
SSE AMB AMB
comp=Z,360nm,5.9s
KSRS Korea Array 61.49 326 P **P** 06 55 00.8 +1.0
4.7nm,0.7s,baz=134,slow=7.0,SNR=12
KSAR Wonju Array Be 61.50 326 P **P** 06 55 00.8 +0.9
NJ2 Nanjing 63.59 315 *e*P **P** 06 55 13.5 -0.5
NJ2 pP pP 06 55 22.6 -7.4
NJ2 sP sP 06 55 26.9 -10
NJ2 AMB AMB
comp=Z,120nm,0.8s
QIZ Qiongzhong 64.06 298 P **P** 06 55 19.0 +1.6
QIZ S **S** 07 03 51.0 +1.1
QIZ AMB AMB
comp=Z,23nm,0.9s
USRK Ussuriysk Arra 64.56 333 P **P** 06 55 20.9 +0.8
6.6nm,0.8s,baz=149,slow=6.2,SNR=9.2
VNDA Vanda 65.11 181 *e*P **P** 06 55 23.0 -0.3
16nm,1.4s
VNDA Vanda 65.11 181 P **P** 06 55 23.0 -0.3
3.8nm,0.9s,baz=358,slow=7.5,SNR=12
SBA Scott Base 65.40 180 *e*P **P** 06 55 25.8 +0.7
13nm,0.8s
PETK Petropavlovsk- 65.73 354 P **P** 06 55 27.9 +0.3
PETK Petropavlovsk- 65.73 354 P **P** 06 55 27.9 +0.3
2.2nm,0.6s,baz=198,slow=9.1,SNR=3.3
PETK LR LR 07 22 04.2
comp=Z,103nm,18.7s,baz=234,slow=34
WHN Wuhan 65.93 312 P **P** 06 55 27.7 -1.6
MDJ Mudanjiang 65.97 332 P **P** 06 55 30.1 +0.9
MDJ AMB AMB
comp=Z,10.0nm,1.0s
MDJ AMB AMB
comp=Z,69nm,3.8s
IPM Ipoh 67.27 280 *e*P **P** 06 55 38.9 +0.7
70nm,1.1s
CN2 Changchun 67.36 329 *e*P **P** 06 55 39.0 +0.9
CN2 AMB AMB
comp=Z,30nm,0.9s
SKNT Sakolnakorn 68.41 294 P **P** 06 55 45.9 +0.7
77nm,0.8s
CHBT CHBT 68.47 289 P **P** 06 55 47.9 +2.3
36nm,0.8s
PSI Prapat 68.87 278 ⇓P **P** 06 55 47.9 -0.5
baz=69,SNR=7.2
GSI Gunungsitoli 69.82 276 ⇑P **P** 06 55 54.9 +0.8
baz=70
CHAI Chaiyaphum 69.83 292 P **P** 06 55 54.7 +0.7
8.4nm,0.8s,228nm
GYA Guiyang 69.88 304 ⇑P **P** 06 55 57.3 +2.9
GYA pP **pP** 06 56 10.2 -0.3
GYA sP **sP** 06 56 15.7 -1.4
GYA PP **PP** 06 58 33.0 +3.3
GYA S **S** 07 05 01.4 +1.3
GYA sS **sS** 07 05 22.7 -4.7
GYA SKS **SKSac** 07 05 49.2 -1.5
GYA SS **SS** 07 09 31.0 +0.7
GYA AMB AMB
comp=Z,30nm,1.0s
GYA AMB AMB
comp=Z,120nm,5.8s
GYA LR LR
comp=N,1µm,18.2s
GYA LR LR
comp=E,970nm,19.0s
GYA LR LR
comp=Z,1µm,18.6s
SURA Surathani 69.90 285 P **P** 06 55 56.7 +2.2
38nm,1.4s
BJI Beijing 70.08 321 P **P** 06 55 55.8 +0.7
BJI AMB AMB
comp=Z,39nm,0.8s
XAN Xi'an 71.67 312 P **P** 06 56 06.1 +1.1
XAN pP **pP** 06 56 18.1 -3.1
XAN AMB AMB
comp=Z,21nm,0.8s
XAN AMB AMB
comp=Z,44nm,4.9s
NANT Nan 71.97 295 P **P** 06 56 08.0 +1.0
60nm,0.9s
KMI Kunming 72.55 301 P **P** 06 56 12.6 +2.0
KMI pP **pP** 06 56 25.5 -1.4
KMI sP **sP** 06 56 31.5 -2.0
KMI AMB AMB
comp=Z,99nm,4.4s
CM31 Chiang Mai Arr 73.42 294 *e*P **P** 06 56 17.6 +2.0
29nm,1.0s
CMAR Chiang Mai Arr 73.42 294 P **P** 06 56 17.4 +1.7
CMAR Chiang Mai Arr 73.42 294 P **P** 06 56 17.4 +1.7
22nm,0.8s,baz=123,slow=4.6,SNR=70
HHC Hu-ho-hao-te 73.42 320 *e*P **P** 06 56 17.1 +1.8

HHC pP **PcP** 06 56 30.2 -1.1
HHC sP **sP** 06 56 35.5 -2.7
HHC PP **PP** 06 59 03.0 +3.2
HHC S **SKiKP** 07 05 41.6 +0.4
HHC sS **sS** 07 06 03.7 -4.2
HHC SKS **SKSac** 07 06 14.8 -2.0
HHC ScS **ScS** 07 06 18.6 -0.8
HHC SS **SS** 07 10 26.8 +2.7
HHC AMB AMB
comp=Z,54nm,1.0s
HHC AMB AMB
comp=Z,310nm,5.1s
HHC LR LR
comp=N,340nm,17.8s
HHC LR LR
comp=E,870nm,17.5s
HHC LR LR
comp=Z,310nm,17.3s
CHTO Chiang Mai 73.54 294 *e*P **P** 06 56 17.6 +1.2
172nm,1.4s
CHTO Chiang Mai 73.54 294 P **P** 06 56 17.5 +1.2
128nm,1.1s
CMAI Chiengmai2 73.83 295 P **P** 06 56 19.5 +1.3
26nm,1.1s
CD2 Chengdu 74.10 307 P **P** 06 56 20.7 +1.3
CD2 pP **PcP** 06 56 34.0 -0.3
CD2 sP **sP** 06 56 39.4 -2.9
CD2 PP **PP** 06 59 07.9 +2.2
CD2 S **S** 07 05 48.3 +0.1
CD2 sS **sS** 07 06 10.8 -5.0
CD2 SS **SS** 07 10 35.7 +1.0
CD2 AMB AMB
comp=Z,70nm,0.7s
CD2 AMB AMB
comp=Z,330nm,6.3s
CD2 LR LR
comp=N,480nm,5.4s
CD2 LR LR
comp=Z,630nm,7.7s
LZH Lanzhou 76.30 312 *e*P **P** 06 56 34.3 +2.2
LZH pP **PcP** 06 56 45.5 +1.7
LZH sP **sP** 06 56 52.7 -2.4
LZH PP **PP** 06 59 27.5 +3.1
LZH *e*S **S** 07 06 14.0 +1.3
LZH sS **SKSac** 07 06 36.2 -2.5
LZH SS **SS** 07 11 11.3 +3.2
LZH AMB AMB
comp=Z,79nm,1.5s
LZH AMB AMB
comp=Z,300nm,5.6s
LZH LR LR
comp=N,1µm,18.7s
LZH LR LR
comp=E,740nm,19.5s
LZH LR LR
comp=Z,1µm,20.1s
QSPA South Pole Qui 77.56 180 *e*P **P** 06 56 38.3 -0.4
QSPA South Pole Qui 77.56 180 P **P** 06 56 38.1 -0.6
14nm,0.8s,baz=6.3,slow=1.4,SNR=68
ULN Ulaanbaatar 79.91 324 *e*P **P** 06 56 52.9 +1.0
23nm,0.8s
SONM Songino Array 80.28 324 P **P** 06 56 54.6 +0.8
SONM PP **PP** 06 59 55.4 -1.9
SONM Songino Array 80.28 324 P **P** 06 56 54.6 +0.8
8.2nm,0.6s,baz=139,slow=5.9,SNR=63
SONM PP **PP** 06 59 55.4 -1.9
0.8nm,0.8s,baz=122,slow=7.7,SNR=3.6
GTA Gaotai 80.62 314 ⇑P **P** 06 56 57.5 +1.7
GTA pP **pP** 06 57 10.8 -1.5
GTA sP **sP** 06 57 15.9 -2.9
GTA S **S** 07 07 02.6 +3.9
GTA SKS **SKSac** 07 07 09.0 -0.3
GTA sS **sS** 07 07 25.7 -0.9
GTA SS SS 07 12 22.3 +9.5
GTA AMB AMB
comp=Z,26nm,0.9s
GTA AMB AMB
comp=Z,140nm,7.6s
GTA LR LR
comp=N,120nm,18.5s
GTA LR LR
comp=E,120nm,17.3s
GTA LR LR
comp=Z,140nm,17.6s
MAW Mawson 83.74 202 P **P** 06 57 11.4 -0.1
4.6nm,1.0s
MAW Mawson 83.74 202 P **P** 06 57 11.3 -0.1
baz=84,SNR=21
MAW Mawson 83.74 202 P **P** 06 57 11.4 -0.1
11nm,0.9s,baz=110,slow=6.4,SNR=28
LSA Lhasa 83.79 302 P **P** 06 57 14.5 +1.4
ILAR Eielson Array 84.58 18 P **P** 06 57 14.6 -1.1
ILAR Eielson Array 84.58 18 P **P** 06 57 14.6 -1.1
5.4nm,0.6s,baz=244,slow=4.9,SNR=49
CMB Columbia Colle 84.62 49 *e*P **P** 06 57 17.8 +1.2
6.3nm,0.7s
VES Vestal, Richgr 84.87 52 P **P** 06 57 18.7 +0.9
baz=85
RCTC Rector, Farmer 84.90 51 P **P** 06 57 19.1 +1.1
baz=85
BEKR Beckworth 85.28 48 *e*P **P** 06 57 21.4 +1.4
3.5nm,0.6s
ISA Isabella 85.28 52 *e*P **P** 06 57 20.5 +0.5
3.7nm,0.8s
ISA Isabella 85.28 52 P **P** 06 57 21.0 +1.0
baz=85
EDW2 Edwards Air Fo 85.40 53 P **P** 06 57 21.8 +1.2
baz=86
BFSC Mount Baldy Ra 85.46 54 P **P** 06 57 21.9 +1.0
baz=86
LRMC Laurel Mountai 85.83 52 P **P** 06 57 23.9 +1.2
baz=86
CWC Cottonwood Cre 85.83 51 P **P** 06 57 24.1 +1.3
baz=86
TAPN Taplejung 86.00 299 *e*P **P** 06 57 24.5 +0.5
64nm,1.1s
MOD Modoc 86.03 46 *e*P **P** 06 57 24.5 +0.8
23nm,0.6s
MONP Monument Peak 86.03 55 P **P** 06 57 25.9 +2.0
baz=86
ODAN Odare 86.14 298 *e*P **P** 06 57 25.1 +0.5
109nm,0.8s
MPMC Manual Prospec 86.16 52 P **P** 06 57 26.2 +1.7
baz=86
DVTC Desert V Tower 86.22 56 P **P** 06 57 25.9 +1.2
baz=86
NVAR Mina Array Bea 86.30 50 P **P** 06 57 24.8 -0.3
NVAR Mina Array Bea 86.30 50 P **P** 06 57 24.8 -0.3
4.6nm,0.7s,baz=236,slow=6.8,SNR=40
EGAK Eagle 86.41 20 *e*P **P** 06 57 25.2 +0.5
5.8nm,0.7s
NV11 Mina Array Sit 86.41 50 *e*P **P** 06 57 26.3 +0.7
GSC Goldstone 86.46 53 P **P** 06 57 27.2 +1.4
baz=87
HEC Hector,Ludlow 86.69 53 P **P** 06 57 27.8 +0.9
baz=87
BELC Belle Mtn. Jos 86.70 54 P **P** 06 57 28.2 +1.1
baz=87
FURC Furnace Creek, 86.77 52 P **P** 06 57 28.4 +1.2
baz=87
RAMN Ramite 86.84 298 *e*P **P** 06 57 28.3 +0.2
60nm,1.0s
SHOC Shoshone 87.05 52 P **P** 06 57 30.0 +1.4
baz=87
TUQ Turquoise Moun 87.19 53 P **P** 06 57 30.6 +1.2
baz=87
GMRC Granite Mounta 87.20 54 P **P** 06 57 30.6 +1.1
baz=87
WVOR Wild Horse Val 87.37 46 *e*P **P** 06 57 32.0 +1.8
4.2nm,0.9s
JIRN Jiri 87.38 299 *e*P **P** 06 57 31.2 +0.4
56nm,0.8s
IRM Iron Mountain 87.42 54 P **P** 06 57 31.6 +1.2
baz=88
GUN Gumba 87.71 299 *e*P **P** 06 57 32.9 +0.5
72nm,0.8s
LDFC Landfair 87.72 53 *e*P **P** 06 57 33.9 +1.9
13nm,0.8s
PKI Pulchoki 88.03 299 *e*P **P** 06 57 34.1 +0.2
105nm,0.9s
KKN Kakani 88.19 299 *e*P **P** 06 57 34.9 +0.4
77nm,0.7s
PDMCI Parker Dam,Lak 88.26 54 P **P** 06 57 36.1 +1.7
baz=88
DMN Daman 88.30 299 *e*P **P** 06 57 35.6 +0.5
163nm,0.7s

R11A Troy Canyon, C 88.31 50 P **P** 06 57 36.5 +1.7
baz=88
W13A Hualapai Mount 88.69 54 P **P** 06 57 38.3 +1.7
baz=89
214A Organ Pipe Nat 88.70 57 P **P** 06 57 38.8 +2.2
baz=89
GKN Gorkha 88.80 299 *e*P **P** 06 57 37.2 -0.1
111nm,0.7s
Y14A Wickenburg 89.07 55 P **P** 06 57 40.2 +1.9
baz=89
ELK Elko 89.27 48 *e*P **P** 06 57 40.9 +1.5
3.5nm,0.8s
KOLN Koldanda 89.63 298 *e*P **P** 06 57 40.9 -0.4
40nm,0.7s
DANN Dangsing 89.63 299 *e*P **P** 06 57 41.1 -0.3
88nm,0.7s
MFID Camas Ranch 89.64 45 P **P** 06 57 42.2 +1.4
baz=90
CCUT Cedar City 89.77 52 *e*P **P** 06 57 43.6 +1.9
3.7nm,0.8s
ARUT Antelope Range 89.77 51 *e*P **P** 06 57 43.6 +2.0
69nm,0.9s
U15A North Rim 90.29 53 P **P** 06 57 45.6 +1.4
baz=90
X16A Lo Mia Camp, P 90.45 55 P **P** 06 57 46.5 +1.6
baz=91
WMQ Urumqi 90.66 315 P **P** 06 57 45.7 +0.2
WMQ pP **pP** 06 57 59.2 -3.1
WMQ sP **sP** 06 58 04.3 -4.4
WMQ AMB AMB
comp=Z,23nm,1.0s
WMQ AMB AMB
comp=Z,160nm,4.6s
HLID Hailey 90.67 46 *e*P **P** 06 57 47.2 +1.5
3.9nm,0.7s
HLID Hailey 90.67 46 P **P** 06 57 47.2 +1.5
baz=91
SYO Syowa Base 90.69 197 ⇓*e*X **P** 06 57 42.8 -2.3
WUAZ Wupatki 90.78 54 *e*P **P** 06 57 48.6 +2.2
3.8nm,0.8s
WUAZ Wupatki 90.78 54 P **P** 06 57 48.4 +2.0
baz=91
DUG Dugway 90.89 49 *e*P **P** 06 57 47.6 +0.8
1.7nm,0.6s
DUG Dugway 90.89 49 P **P** 06 57 48.2 +1.4
baz=91
MVU Marysvale 90.89 51 *e*P **P** 06 57 47.1 +0.1
3.7nm,0.8s
BGU Big Grassy Mou 90.93 48 *e*P **P** 06 57 47.5 +0.6
3.2nm,0.7s
X18A Snowflake 91.67 55 P **P** 06 57 51.8 +1.3
baz=92
320A Kipp Ranch, An 92.08 59 P **P** 06 57 53.7 +1.2
baz=92
Y20A Horse Springs, 92.79 56 P **P** 06 57 58.0 +2.1
baz=93
W20A Ramah 92.97 55 P **P** 06 57 58.8 +2.2
baz=93
MVCO Mesa Verde 93.43 53 P **P** 06 58 00.1 +1.4
baz=94
PV01 Paradox Valley 93.58 52 *e*P **P** 06 58 00.9 +1.5
O19A Miners Draw (B 93.65 50 P **P** 06 58 00.7 +1.1
baz=94
S20A Disappointment 93.68 52 P **P** 06 58 01.0 +1.1
baz=94
R20A Redvale 93.74 52 P **P** 06 58 01.3 +1.2
baz=94
Z22A Elephant Butte 93.80 57 P **P** 06 58 01.8 +1.4
baz=94
PDAR Pinedale Array 93.90 47 P **P** 06 57 59.9 -0.9
PDAR Pinedale Array 93.90 47 P **P** 06 57 59.9 -0.9
0.9nm,0.8s,baz=212,slow=3.3,SNR=6.9
U21A Nageezi 93.92 54 P **P** 06 58 02.0 +1.0
baz=94
Q20A Ridgley Place, 93.97 51 P **P** 06 58 01.7 +0.6
baz=94
P20A De Beque 94.02 51 P **P** 06 58 02.7 +1.4
baz=94
S21A Coal Bank Pass 94.08 52 P **P** 06 58 02.9 +1.1
baz=94
O20A White River Ci 94.27 50 P **P** 06 58 03.7 +1.3
baz=94
R21A Cimarron 94.42 52 P **P** 06 58 04.2 +0.9
baz=94
P21A Newcastle 94.74 51 P **P** 06 58 06.3 +1.6
baz=95
S22A 4UR Ranch, Cre 94.84 53 P **P** 06 58 06.6 +1.3
baz=95
Q22A Crested Butte, 95.01 51 P **P** 06 58 07.6 +1.6
baz=95
MK31 Makanchi Array 95.10 317 *e*P **P** 06 58 06.2 +0.3
MKAR Makanchi Array 95.10 317 P **P** 06 58 06.2 +0.3
MKAR PKKP **PKKPbc** 07 14 58.5 -3.5
MKAR Makanchi Array 95.10 317 ⇑P **P** 06 58 06.5 +0.6
baz=95
MKAR Makanchi Array 95.10 317 P **P** 06 58 06.2 +0.3
19nm,0.7s,baz=97,slow=6.4,SNR=116
MKAR PKKP **PKKPbc** 07 14 58.5 -3.5
0.4nm,0.6s,baz=266,slow=3.6,SNR=4.6
ZAA0 Zalesovo Array 95.17 324 *e*P **P** 06 58 05.3 -0.6
ZALV Zalesovo Beam 95.17 324 P **P** 06 58 05.4 -0.6
ZALV Zalesovo Beam 95.17 324 P **P** 06 58 05.4 -0.6
4.2nm,0.7s,baz=116,slow=4.9,SNR=13
P22A Eagle 95.28 51 P **P** 06 58 08.5 +1.4
baz=95
D19A Cripps Ranch, 95.34 43 P **P** 06 58 09.1 +2.0
baz=96
O22A Kremmling 95.55 50 P **P** 06 58 09.8 +1.4
baz=96
SNAA Sanae 95.78 183 *e*P **P** 06 58 07.0 -1.6
SNAA Sanae 95.78 183 *e*P **P** 06 58 06.8 -1.8
2.0nm,0.8s
VNA2 Neumayer--Watz 96.72 182 *e*P **P** 06 58 11.7 -1.1
ARCES ARCESS Array B 117.89 346 PKP **PKPdf** 07 03 27.9 -0.6
ARCES PKKPbc **PKKPbc** 07 13 47.6 -4.1
ARCES ARCESS Array B 117.89 346 PKP **PKPdf** 07 03 27.9 -0.6
3.0nm,0.5s,baz=81,slow=2.7,SNR=21
ARCES PKKPbc **PKKPbc** 07 13 47.6 -4.1
6.3nm,1.1s,baz=262,slow=2.5,SNR=6.0
CPUP Villa Florida 122.48 132 PKP **PKPdf** 07 03 37.1 -1.5
CPUP Villa Florida 122.48 132 PKP **PKPdf** 07 03 37.1 -1.5
1.3nm,0.6s,baz=312,slow=12,SNR=3.7
KBZ Khabaz 122.70 314 PKP **PKPdf** 07 03 37.4 -1.1
KBZ Khabaz 122.70 314 PKP **PKPdf** 07 03 37.4 -1.1
0.8nm,0.4s,baz=96,slow=5.9,SNR=4.0
SIV San Ignacio 125.04 120 PKP **PKPdf** 07 03 41.9 -1.9
SIV San Ignacio 125.04 120 PKP **PKPdf** 07 03 41.9 -1.9
0.7nm,0.5s,baz=265,slow=5.5,SNR=3.7
NB2 NORSAR Subarra 128.26 345 PKPdf **PKPdf** 07 03 49.3 +0.6
comp=Z,0.4nm,0.5s,baz=31,slow=1.9
NOA NORSAR Array B 128.26 345 PKP **PKPdf** 07 03 48.3 -0.4
NOA NORSAR Array B 128.26 345 PKP **PKPdf** 07 03 48.3 -0.4
comp=Z,1.1nm,0.6s,baz=29,slow=1.9,SNR=4.6
AKASG Malin Array Be 128.48 327 PKP **PKPdf** 07 03 49.1 -0.2
AKASG Malin Array Be 128.48 327 PKP **PKPdf** 07 03 49.1 -0.2
comp=Z,1.1nm,0.8s,baz=68,slow=2.1,SNR=5.0
BRTR Keskin Array B 130.51 312 PKP **PKPdf** 07 03 54.3 +0.6
BRTR PP **PP** 07 06 08.3 -0.4
BRTR Keskin Array B 130.51 312 PKP **PKPdf** 07 03 54.3 +0.6
comp=Z,0.4nm,0.4s,baz=207,slow=1.4,SNR=3.6
BRTR PP **PP** 07 06 08.3 -0.4
comp=Z,1.1nm,0.7s,baz=93,slow=6.2,SNR=5.5
BUR08 Bucovina Ar. S 132.37 325 *e*PKPdf **PKPdf** 07 03 56.6 -0.4
BDFB Brasilia 135.83 128 PKP **PKPdf** 07 04 03.1 -1.2
BDFB Brasilia 135.83 128 PKP **PKPdf** 07 04 03.1 -1.2
comp=Z,2.1nm,0.9s,baz=133,slow=6.8,SNR=4.1
GERES GERESS Array B 137.32 334 PKP **PKPdf** 07 04 06.8 +0.6
GERES GERESS Array B 137.32 334 PKP **PKPdf** 07 04 06.8 +0.6
comp=Z,0.5nm,0.6s,baz=12,slow=1.9,SNR=7.2
SSB Saint Sauveur 143.87 338 *e*PKPdf PKPbc 07 04 16.4 +0.6
KEST Kesra 149.02 322 PKPbc **PKPbc** 07 04 31.6 +0.4
KEST Kesra 149.02 322 PKPbc **PKPbc** 07 04 31.6 +0.4
comp=Z,7.5nm,0.8s,baz=229,slow=0.6,SNR=23
POLO Lamas de Olo 150.77 351 *e*PKPbc **PKPbc** 07 04 35.0 -0.3
MVO Moncorvo 150.85 350 *e*PKPbc **PKPbc** 07 04 36.6 +1.2
PVRL Vila Real 150.85 351 *e*PKPbc **PKPbc** 07 04 36.5 +1.1
PVIS Viseu 151.43 351 *e*PKPbc **PKPbc** 07 04 38.8 +2.0
ESDC Sonseca Array 151.62 345 PKPbc **PKPbc** 07 04 37.0 -0.3
ESDC PKPab **PKPab** 07 04 46.1 +0.2
ESDC Sonseca Array 151.62 345 PKPbc **PKPbc** 07 04 37.0 -0.3
comp=Z,1.9nm,0.6s,baz=13,slow=2.1,SNR=13
ESDC PKPab **PKPab** 07 04 46.1 +0.2
comp=Z,1.6nm,0.5s,baz=15,slow=4.2,SNR=5.6
MTE Manteigas 151.68 351 *e*PKPbc **PKPbc** 07 04 37.6 +0.2
PCAS Casmilo, Conde 152.16 352 *e*PKPbc **PKPbc** 07 04 40.8 +2.4
PCBR Castelo Branco 152.22 350 *e*PKPbc **PKPbc** 07 04 38.6 +0.1

PTOM	**Tomar**	**152.58**	**352**	*e*PKPbc	**PKPbc**	**07 04 40.0**	**+0.7**
PMRV	**Marv??o**	**152.60**	**350**	*e*PKPbc	**PKPbc**	**07 04 40.1**	**+0.7**
PMTG	**Montargil**	**153.09**	**351**	*e*PKPbc	**PKPbc**	**07 04 38.1**	**-2.4**
PTEO	**Sao Teotonio**	**154.66**	**351**	*e*PKPbc	**PKPbc**	**07 04 45.0**	**+1.1**
TORD	**Torodi Ar. Bea**	**165.25**	**274**	PKP	**PKPdf**	**07 04 46.7**	**-1.2**
TORD				PKPab	**PKPab**	**07 05 46.1**	**+0.5**
TORD				PP	**PP**	**07 09 34.8**	**+2.1**
TORD	**Torodi Ar. Bea**	**165.25**	**274**	PKP	**PKPdf**	**07 04 46.7**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=293,slow=1.1,SNR=3.3						
TORD				PKPab	**PKPab**	**07 05 46.1**	**+0.5**
	comp=Z,13nm,0.9s,baz=76,slow=4.5,SNR=49						
TORD				PP	**PP**	**07 09 34.8**	**+2.1**
	comp=Z,0.8nm,0.9s,baz=95,slow=4.5,SNR=4.0						
DBIC	**Dimbokro**	**169.79**	**237**	PKPab	**PKPab**	**07 06 05.6**	**0.0**
DBIC	**Dimbokro**	**169.79**	**237**	PKPab	**PKPab**	**07 06 05.6**	**0.0**
	comp=Z,4.1nm,0.8s,baz=19,slow=0.9,SNR=4.4						

*ISCJB **08** 07:02:33.5±0.4, 22.°56S±0.°04×68.°58W±0.°07, h106km±6km, mb4.1/5, Error ellipse: s-maj=10.8km s-min=6.4km az=12.8*

*GUC **08** 07:02:35.3±0.5, 22.°54S×68.°79W, h107km±5km, ML4.2*

*NEIC **08** 07:02:35.3, 22.°54S×68.°79W, h107km, mb4.7/2, After GUC.*

*IDC **08** 07:02:36.0±2.6, 22.°51S×68.°39W, h107km±22km, mb3.9/6, mb1 3.6/10, mb1mx3.5/22, mbtmp3.6/10, Error ellipse: s-maj=30.0km s-min=18.0km az=110.0*

ISC 08 07:02:34.6±0.6, 22.°52S±0.°04×68.°57W±0.°06, h103km±5km, n58, σt1s13/69, mb4.1/5, 13C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.33**	**253**	*e*Pn	**Pn**	**07 02 49.7**	**-0.3**
LVC				*e*Sn	**Sn**	**07 03 00.3**	**-1.1**
PB04	**Plate Boundary**	**0.88**	**286**	⇑*i*P	Pn	07 03 00.1	+6.1
PB04				*i* S	Sn	07 03 19.0	+10
PB04	**Plate Boundary**	**0.88**	**286**	⇑*i*P	Pn	07 03 00.1	+6.1
PB04				*i* S	Sn	07 03 19.0	+10
PB04				AML	AML	07 03 25.5	
	comp=N,6μm,0.5s						
PB09	**Plate Boundary**	**0.95**	**319**	⇓*i*P	**Pn**	**07 02 55.5**	**+0.6**
PB09				*i* S	**Sn**	**07 03 10.7**	**+0.5**
PB09	**Plate Boundary**	**0.95**	**319**	⇓*i*P	**Pn**	**07 02 55.5**	**+0.6**
PB09				*i* S	**Sn**	**07 03 10.7**	**+0.5**
MACH	**Maria Elena**	**1.14**	**286**	⇑*i*P	**Pn**	**07 02 56.7**	**-0.4**
MACH				*i* S	**Sn**	**07 03 12.8**	**-1.2**
MACH	**Maria Elena**	**1.14**	**286**	⇑*i*P	**Pn**	**07 02 56.7**	**-0.4**
MACH				*i* S	**Sn**	**07 03 12.8**	**-1.2**
PB07	**Plate Boundary**	**1.45**	**303**	⇑*i*P	**Pn**	**07 03 00.5**	**-0.2**
PB07				*i* S	**Sn**	**07 03 19.5**	**-0.8**
PB07	**Plate Boundary**	**1.45**	**303**	⇑*i*P	**Pn**	**07 03 00.5**	**-0.2**
PB07				*i* S	**Sn**	**07 03 19.5**	**-0.8**
PB07				AML	AML	07 03 24.5	
	comp=N,5μm,0.2s						
PB01	**Plate Boundary**	**1.70**	**330**	⇑*i*P	**Pn**	**07 03 04.2**	**+0.6**
PB01				*i* S	**Sn**	**07 03 26.1**	**+0.5**
PB01	**Plate Boundary**	**1.70**	**330**	⇑*i*P	**Pn**	**07 03 04.2**	**+0.6**
PB01				*i* S	**Sn**	**07 03 26.1**	**+0.5**
PB01				AML	AML	07 03 30.7	
	comp=E,3μm,0.4s						
CEN1	**Los Morros**	**1.73**	**240**	⇑*i*P	**Pn**	**07 03 05.5**	**+1.5**
CEN1				*i* S	**Sn**	**07 03 29.2**	**+2.7**
CEN1	**Los Morros**	**1.73**	**240**	⇑*i*P	**Pn**	**07 03 05.5**	**+1.5**
CEN1				*i* S	**Sn**	**07 03 29.2**	**+2.7**
CEN1				AML	AML	07 03 34.2	
	comp=N,1μm,0.5s						
ANCH	**Antofagasta**	**2.05**	**235**	*e*P	**Pn**	**07 03 07.5**	**-0.4**
ANCH				*i* S	**Sn**	**07 03 31.4**	**-2.1**
ANCH	**Antofagasta**	**2.05**	**235**	*e*P	**Pn**	**07 03 07.5**	**-0.4**
ANCH				*i* S	**Sn**	**07 03 31.4**	**-2.1**
ANCH				AML	AML	07 03 39.3	
	comp=E,2μm,0.4s						
PB10	**Plate Boundary**	**2.08**	**241**	*e*P	**Pn**	**07 03 07.5**	**-0.8**
PB10				*i* S	**Sn**	**07 03 31.8**	**-2.3**
PB10				AML	AML	07 03 40.3	
	comp=N,3μm,0.4s						
HMBC	**Humberstone**	**2.54**	**331**	⇑*i*P	**Pn**	**07 03 13.9**	**-0.6**
HMBC				*i* S	**Sn**	**07 03 44.6**	**-0.6**
HMBC	**Humberstone**	**2.54**	**331**	⇑*i*P	**Pn**	**07 03 13.9**	**-0.6**
HMBC				*i* S	**Sn**	**07 03 44.6**	**-0.6**
HMBC				AML	AML	07 03 54.2	
	comp=N,2μm,0.5s						
LPAZ	**La Paz**	**6.21**	**4**	*e*Pn	**Pn**	**07 04 06.7**	**+2.3**
LPAZ	**La Paz**	**6.21**	**4**	P	**Pn**	**07 04 06.8**	**+2.4**
	comp=N,1.4nm,0.3s,baz=183,slow=8.2,SNR=33						
LCO	**Las Campanas**	**6.75**	**196**	*e*Pn	Pn	07 04 06.9	-4.4
	comp=N,60nm,0.3s						
CFAA	**Coronel Fontan**	**9.06**	**178**	P	Pn	07 04 39.0	-3.5
CFAA				S	Sn	07 06 14.0	-8.7
CFAA	**Coronel Fontan**	**9.06**	**178**	P	Pn	07 04 39.0	-3.5
	comp=N,0.4nm,0.3s,baz=355,slow=14,SNR=55						
CFAA				S	Sn	07 06 14.0	-8.7
	comp=N,0.2nm,0.3s,baz=254,slow=18,SNR=3.2						
SIV	**San Ignacio**	**9.61**	**49**	P	**Pn**	**07 04 48.5**	**-1.5**
SIV				S	Sn	07 06 28.7	-7.5
SIV	**San Ignacio**	**9.61**	**49**	P	**Pn**	**07 04 48.5**	**-1.5**
	comp=N,1.6nm,0.3s,baz=238,slow=11,SNR=18						
SIV				S	Sn	07 06 28.7	-7.5
	comp=N,0.4nm,0.3s,baz=266,slow=14,SNR=2.1						
CPUP	**Villa Florida**	**10.92**	**113**	P	**Pn**	**07 05 07.8**	**-0.1**
CPUP	**Villa Florida**	**10.92**	**113**	P	**Pn**	**07 05 07.8**	**-0.1**
	comp=N,0.2nm,0.3s,baz=291,slow=13,SNR=2.7						
H03N1	**Juan Fernandez**	**14.20**	**218**	T	T	07 18 17.4	
	baz=41,slow=0.7,SNR=17						
H03N2	**Juan Fernandez**	**14.21**	**218**	T	T	07 18 17.0	
	baz=41,slow=0.7,SNR=13						
H03N3	**Juan Fernandez**	**14.21**	**218**	T	T	07 18 17.5	
	baz=41,slow=0.7,SNR=16						
TRQA	**Tornquist**	**16.49**	**161**	*e*Pn	**Pn**	**07 06 19.7**	**-0.1**
	comp=N,3.9nm,0.4s						
PLCA	**Paso Flores**	**18.24**	**185**	P	**Pn**	**07 06 40.7**	**-0.3**
PLCA	**Paso Flores**	**18.24**	**185**	P	**Pn**	**07 06 40.7**	**-0.3**
	comp=N,0.1nm,0.3s,baz=17,slow=17,SNR=2.4						
BDFB	**Brasilia**	**20.59**	**74**	P	**P**	**07 07 03.4**	**-2.3**
BDFB	**Brasilia**	**20.59**	**74**	P	**P**	**07 07 03.4**	**-2.3**
	comp=N,3.9nm,1.0s,baz=224,slow=16,SNR=3.9						
SNAA	**Sanae**	**61.22**	**161**	P	**P**	**07 12 38.6**	**+0.3**
SNAA	**Sanae**	**61.22**	**161**	P	**P**	**07 12 38.6**	**+0.3**
	comp=N,0.9nm,0.6s,baz=281,slow=6.7,SNR=31						
QSPA	**South Pole Qui**	**67.68**	**180**	P	**P**	**07 13 21.8**	**+1.2**
QSPA				pP	**PcP**	**07 13 47.1**	**+0.3**
QSPA	**South Pole Qui**	**67.68**	**180**	P	**P**	**07 13 21.8**	**+1.2**
	comp=N,2.8nm,0.5s,baz=207,slow=2.9,SNR=67						
QSPA				pP	**PcP**	**07 13 47.1**	**+0.3**
DBIC	**Dimbokro**	**68.73**	**73**	P	**P**	**07 13 28.1**	**+0.2**
DBIC	**Dimbokro**	**68.73**	**73**	P	**P**	**07 13 28.1**	**+0.2**
	comp=N,2.3nm,0.7s,baz=229,slow=12,SNR=3.2						
SYO	**Syowa Base**	**75.44**	**159**	⇑*e*P	**P**	**07 14 06.4**	**-0.5**
TORD	**Torodi Ar. Bea**	**77.40**	**70**	P	**P**	**07 14 18.8**	**-0.1**
TORD				pP	**pP**	**07 14 45.4**	**+0.1**
TORD	**Torodi Ar. Bea**	**77.40**	**70**	P	**P**	**07 14 18.8**	**-0.1**
	comp=N,1.6nm,0.3s,baz=259,slow=5.7,SNR=58						
TORD				pP	**pP**	**07 14 45.4**	**+0.1**
	comp=N,2.6nm,0.8s,baz=256,slow=5.3,SNR=6.8						
TSUM	**Tsumeb**	**79.45**	**106**	P	**P**	**07 14 31.6**	**+1.2**
TSUM	**Tsumeb**	**79.45**	**106**	P	**P**	**07 14 31.6**	**+1.2**
	comp=N,1.7nm,0.5s,baz=252,slow=12,SNR=2.9						
H11N3	**WAKE ISLAND Hyl**	**28.41**	**278**	T	T	09 41 56.9	
	baz=106,slow=0.7						
H11N2	**WAKE ISLAND Hyl**	**28.43**	**278**	T	T	09 42 04.9	
	baz=106,slow=0.7						
H11N1	**WAKE ISLAND Hyl**	**28.43**	**278**	T	T	09 42 03.3	
	baz=106						
ASAR	**Alice Springs**	**129.16**	**207**	PKP	**PKPdf**	**07 21 31.8**	**+0.2**
ASAR				pPKP	**pPKPdf**	**07 22 00.2**	**+0.6**
ASAR	**Alice Springs**	**129.16**	**207**	PKP	**PKPdf**	**07 21 31.8**	**+0.2**
	comp=N,0.4nm,0.6s,baz=138,slow=1.3,SNR=6.6						
ASAR				pPKP	**pPKPdf**	**07 22 00.2**	**+0.6**
	comp=N,0.5nm,1.0s,baz=107,slow=3.2,SNR=2.5						
WRA	**Warramunga Arr**	**132.24**	**210**	PKP	**PKPdf**	**07 21 37.8**	**+0.5**
WRA	**Warramunga Arr**	**132.24**	**210**	PKP	**PKPdf**	**07 21 37.8**	**+0.5**
	comp=N,0.5nm,0.4s,baz=160,slow=1.8,SNR=3.7						
ZALV	**Zalesovo Beam**	**142.73**	**26**	PKP	**PKPdf**	**07 21 54.1**	**-1.5**
ZALV	**Zalesovo Beam**	**142.73**	**26**	PKP	**PKPdf**	**07 21 54.1**	**-1.5**
	comp=N,0.8nm,0.5s,baz=336,slow=3.2,SNR=2.5						
MK31	**Makanchi Array**	**146.26**	**37**	*e*PKPbc	**PKPbc**	**07 22 03.4**	**+0.1**
MKAR	**Makanchi Array**	**146.26**	**37**	PKPbc	**PKPbc**	**07 22 02.8**	**-0.4**
MKAR				pPKPbc	pPKPbc	07 22 31.6	+0.5
MKAR	**Makanchi Array**	**146.26**	**37**	PKPbc	**PKPbc**	**07 22 02.8**	**-0.4**
	comp=N,2.7nm,0.8s,baz=311,slow=3.2,SNR=18						
MKAR				pPKPbc	pPKPbc	07 22 31.6	+0.5
	comp=N,1.9nm,1.1s,baz=289,slow=3.7,SNR=3.5						

IDC 08 07:05:33.8±1.4, 12.°66S×166.°30E, h0km, mb4.2/9, mb1 4.3/11, mb1mx4.1/20, mbtmp4.2/11, ML4.1/2, MS3.8/2, Ms1 3.8/2, ms1mx3.4/18, Error ellipse: s-maj=38.0km s-min=21.8km az=114.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.01**	**297**	Pn	Pn	07 07 19.8	+2.0
	11nm,0.3s,baz=151,slow=9.6,SNR=3.1						
HNR				Sn	Sn	07 08 39.5	+1.2
	32nm,0.3s,baz=197,slow=22,SNR=5.6						
DZM	**Mont Dzumac**	**9.36**	**179**	Pn	Pn	07 07 51.8	+1.7
	0.5nm,0.3s,baz=330,slow=22,SNR=8.2						
DZM				Sn	Sn	07 09 40.9	+4.7
	baz=152,slow=12,SNR=1.8						
PMG	**Port Moresby**	**19.06**	**278**	LR	LR	07 15 54.2	
	comp=Z,676nm,20.4s,baz=221,slow=32						
STKA	**Stephens Creek**	**29.68**	**226**	P	P	07 11 41.7	+0.3
	2.1nm,0.7s,baz=45,slow=5.7,SNR=3.2						
WRA	**Warramunga Arr**	**31.48**	**252**	P	P	07 11 56.9	-0.6
	0.5nm,0.9s,baz=75,slow=6.9,SNR=2.5						
WRA				LR	LR	07 24 07.6	
	comp=Z,189nm,19.0s,baz=240,slow=35						
ASAR	**Alice Springs**	**32.59**	**246**	P	P	07 12 06.1	-1.2
	0.8nm,0.7s,baz=70,slow=9.2,SNR=12						
USRK	**Usuriysk Arra**	**64.63**	**333**	P	P	07 16 13.4	+0.2
	3.0nm,0.8s,baz=158,slow=4.7,SNR=3.8						
CMAR	**Chiang Mai Arr**	**73.25**	**294**	P	P	07 17 08.8	+1.3
	1.9nm,0.6s,baz=118,slow=4.1,SNR=11						
SONM	**Songino Array**	**80.28**	**324**	P	P	07 17 46.4	-0.3
	1.3nm,0.7s,baz=123,slow=5.5,SNR=8.8						
ILAR	**Eielson Array**	**84.87**	**18**	P	P	07 18 10.2	+0.2
	0.6nm,0.6s,baz=245,slow=4.8,SNR=11						
MKAR	**Makanchi Array**	**95.06**	**317**	P	P	07 18 58.2	-0.6
	2.9nm,0.9s,baz=102,slow=6.0,SNR=19						
ZALV	**Zalesovo Beam**	**95.18**	**324**	P	P	07 18 57.7	-1.3
	1.0nm,0.6s,baz=114,slow=3.5,SNR=3.4						
TORD	**Torodi Ar. Bea**	**164.98**	**274**	PKPab	PKPab	07 26 37.2	-0.3
	1.9nm,1.1s,baz=99,slow=3.9,SNR=6.8						

*IDC **08** 07:18:22.9±0.9, 12.°00S×166.°05E, h0km, mb4.2/11, mb1 4.4/13, mb1mx4.2/21, mbtmp4.3/13, ML4.3/2, Error ellipse: s-maj=28.1km s-min=19.6km az=108.0*

*ISCJB **08** 07:18:26.0±0.6, 12.°05S±0.°08×165.°93E±0.°08, h30km, mb4.3/15, Error ellipse: s-maj=12.9km s-min=8.7km az=39.3*

*NEIC **08** 07:18:28.2±0.4, 12.°00S×166.°04E, h35km, mb4.5/6, Error ellipse: s-maj=10.1km s-min=9.6km az=188.0*

ISC 08 07:18:27.6±0.6, 11.°99S±0.°09×166.°03E±0.°09, h30km, n44, σt0s84/48, mb4.2/15, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.49**	**292**	Pn	**Pn**	**07 20 01.6**	**+0.5**
HNR				Sn	**Sn**	**07 21 13.1**	**-1.1**
HNR	**Honiara**	**6.49**	**292**	Pn	**Pn**	**07 20 01.6**	**+0.5**
	12nm,0.3s,baz=162,slow=9.6,SNR=3.1						
HNR				Sn	**Sn**	**07 21 13.1**	**-1.1**
	6.9nm,0.3s,baz=199,slow=18,SNR=3.3						
DZM	**Mont Dzumac**	**10.04**	**178**	*e*Pn	**Pn**	**07 20 49.7**	**-0.1**
DZM	**Mont Dzumac**	**10.04**	**178**	Pn	**Pn**	**07 20 49.6**	**-0.2**
	1.1nm,0.3s,baz=9.6,slow=21,SNR=11						
CTA	**Charters Tower**	**20.62**	**245**	P	**P**	**07 23 04.2**	**-0.5**
CTA	**Charters Tower**	**20.62**	**245**	P	**P**	**07 23 04.2**	**-0.5**
	2.1nm,0.3s,baz=72,slow=12,SNR=5.6						
CTAO	**Charters Tower**	**20.62**	**245**	*e*P	**P**	**07 23 05.6**	**+0.9**
	17nm,1.3s						
AFI	**Afiamalu**	**21.71**	**97**	*e*P	**P**	**07 23 15.1**	**-1.4**
STKA	**Stephens Creek**	**29.96**	**225**	P	**P**	**07 24 33.4**	**0.0**
STKA	**Stephens Creek**	**29.96**	**225**	P	**P**	**07 24 33.4**	**0.0**
	1.2nm,0.3s,baz=51,slow=7.6,SNR=4.3						
WRAB	**Tennant Creek**	**31.42**	**251**	*e*P	**P**	**07 24 45.5**	**-0.9**
	1.5nm,0.6s						
WRA	**Warramunga Arr**	**31.43**	**251**	P	**P**	**07 24 45.3**	**-1.2**
WRA	**Warramunga Arr**	**31.43**	**251**	P	**P**	**07 24 45.3**	**-1.2**
	1.4nm,0.3s,baz=82,slow=8.9,SNR=6.6						
AS31	**Alice Springs**	**32.63**	**245**	*e*P	**P**	**07 24 56.0**	**-1.0**
ASAR	**Alice Springs**	**32.63**	**245**	P	**P**	**07 24 55.8**	**-1.3**
ASAR				PcP	**PcP**	**07 27 43.1**	**+0.2**
ASAR	**Alice Springs**	**32.63**	**245**	P	**P**	**07 24 55.8**	**-1.3**
	2.0nm,0.6s,baz=71,slow=9.6,SNR=34						
ASAR				PcP	**PcP**	**07 27 43.1**	**+0.2**
	0.2nm,0.4s,baz=75,slow=3.3,SNR=3.6						
FITZ	**Fitzroy Crossi**	**39.41**	**256**	*e*P	**P**	**07 25 56.0**	**+0.9**
	2.7nm,0.8s						
USRK	**Usuriysk Arra**	**63.91**	**333**	P	**P**	**07 28 58.4**	**+0.8**
	5.4nm,1.0s,baz=163,slow=10.0,SNR=5.1						
VNDA	**Vanda**	**65.56**	**181**	*e*P	**P**	**07 29 08.5**	**+0.6**
VNDA	**Vanda**	**65.56**	**181**	P	**P**	**07 29 08.3**	**+0.4**
	2.6nm,1.1s,baz=338,slow=5.4,SNR=4.4						
SBA	**Scott Base**	**65.86**	**180**	*e*P	**P**	**07 29 11.5**	**+1.6**
	10.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**72.74**	**294**	P	**P**	**07 29 54.5**	**+1.1**
CMAR	**Chiang Mai Arr**	**72.74**	**294**	P	**P**	**07 29 54.5**	**+1.1**
	1.5nm,0.7s,baz=126,slow=4.6,SNR=2.9						
QSPA	**South Pole Qui**	**78.02**	**180**	*e*P	**P**	**07 30 23.2**	**+0.1**
	13nm,1.0s						
ULN	**Ulaanbaatar**	**79.22**	**324**	*e*P	**P**	**07 30 31.4**	**+1.4**
	3.4nm,0.3s						
SONM	**Songino Array**	**79.58**	**324**	P	**P**	**07 30 32.1**	**+0.1**
SONM	**Songino Array**	**79.58**	**324**	P	**P**	**07 30 32.1**	**+0.1**
	3.6nm,1.2s,baz=140,slow=5.7,SNR=10						
MAW	**Mawson**	**83.96**	**202**	P	**P**	**07 30 54.6**	**+0.1**
ILAR	**Eielson Array**	**84.31**	**18**	P	**P**	**07 30 55.6**	**-0.7**
ILAR	**Eielson Array**	**84.31**	**18**	P	**P**	**07 30 55.6**	**-0.7**
	0.3nm,0.6s,baz=244,slow=5.8,SNR=6.7						
MKAR	**Makanchi Array**	**94.39**	**317**	P	**P**	**07 31 45.6**	**+1.0**
MKAR	**Makanchi Array**	**94.39**	**317**	P	**P**	**07 31 45.6**	**+1.0**
	3.0nm,0.7s,baz=93,slow=6.7,SNR=31						
ZALV	**Zalesovo Beam**	**94.48**	**324**	P	**P**	**07 31 43.2**	**-1.6**
ZALV	**Zalesovo Beam**	**94.48**	**324**	P	**P**	**07 31 43.2**	**-1.6**
	1.3nm,0.5s,baz=119,slow=5.2,SNR=5.0						
ARCES	**ARCESS Array B**	**117.31**	**345**	PKP	**PKPdf**	**07 37 09.0**	**-0.5**
ARCES	**ARCESS Array B**	**117.31**	**345**	PKP	**PKPdf**	**07 37 09.0**	**-0.5**
	1.7nm,0.7s,baz=77,slow=4.0,SNR=3.5						
KBZ	**Khabaz**	**121.99**	**314**	PKP	**PKPdf**	**07 37 18.9**	**-0.3**
KBZ	**Khabaz**	**121.99**	**314**	PKP	**PKPdf**	**07 37 18.9**	**-0.3**
	1.2nm,0.5s,baz=121,slow=18,SNR=4.3						
AKASG	**Malin Array Be**	**127.80**	**327**	PKP	**PKPdf**	**07 37 30.2**	**0.0**
AKASG	**Malin Array Be**	**127.80**	**327**	PKP	**PKPdf**	**07 37 30.2**	**0.0**
	0.1nm,0.3s,baz=51,slow=2.7,SNR=5.9						
KEST	**Kesra**	**148.33**	**322**	PKPbc	**PKPbc**	**07 38 11.9**	**+0.4**
KEST	**Kesra**	**148.33**	**322**	PKPbc	**PKPbc**	**07 38 11.9**	**+0.4**
	1.5nm,0.7s,baz=261,slow=6.6,SNR=6.5						
TORD	**Torodi Ar. Bea**	**164.66**	**276**	PKP	**PKPdf**	**07 38 29.6**	**0.0**
TORD	**Torodi Ar. Bea**	**164.66**	**276**	PKP	**PKPdf**	**07 38 29.6**	**0.0**
	1.1nm,1.0s,baz=341,slow=2.3,SNR=6.1						

IDC 08 07:19:46.0±1.6, 12.°47S×165.°76E, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.8/19, mbtmp3.9/6, ML3.6/1, MS3.8/2, Ms1 3.8/2, ms1mx3.4/23, Error ellipse: s-maj=49.3km s-min=27.3km az=122.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.45**	**297**	LR	LR	07 23 28.4	
	comp=Z,650nm,19.1s,baz=185,slow=34						
DZM	**Mont Dzumac**	**9.57**	**176**	Pn		07 22 04.2	-1.1
	0.5nm,0.3s,baz=338,slow=19,SNR=1.6						
STKA	**Stephens Creek**	**29.43**	**225**	P	P	07 25 52.6	+1.1
	2.7nm,0.7s,baz=76,slow=4.2,SNR=4.1						
STKA				LR	LR	07 36 29.1	
	comp=Z,226nm,21.5s,baz=100,slow=34						
WRA	**Warramunga Arr**	**31.03**	**252**	P	P	07 26 05.6	-0.2
	0.6nm,0.6s,baz=84,slow=9.9,SNR=3.1						
ASAR	**Alice Springs**	**32.19**	**245**	P	P	07 26 15.7	-0.2
	1.3nm,0.8s,baz=72,slow=9.2,SNR=3.4						
ILAR	**Eielson Array**	**84.85**	**18**	P	P	07 32 22.5	+0.3
	0.3nm,0.6s,baz=235,slow=5.0,SNR=3.6						
MKAR	**Makanchi Array**	**94.56**	**317**	P	P	07 33 07.9	-0.8
	0.6nm,0.6s,baz=89,slow=6.3,SNR=2.4						

*MEX **08** 07:23:35.9±0.3, 16.°04N×96.°88W, h22km±13km, MD4.3*

*NEIC **08** 07:23:35.9, 16.°04N×96.°88W, h22km, mb4.4/26, MD4.3(MEX), After MEX.*

NEIC Felt at Puerto Escondido.

*IDC **08** 07:23:40.7±4.3, 16.°60N×96.°34W, h57km±46km, mb3.7/5, mb1 4.1/7, mb1mx3.7/23, mbtmp3.9/7, ML4.1/2, Error ellipse: s-maj=43.1km s-min=26.5km az=22.0*

*BJI **08** 07:23:42.4, 16.°60N×96.°40W, h58km*

ISC 08 07:23:35.3±0.6, 16.°07N±0.°05×96.°84W±0.°03, h32km±3km, n303, σt1s22/324, mb4.4/24, 94C-97D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.77**	**113**	*i* P	**Pb**	**07 23 48.7**	**-1.6**
HUIG				*i* S	**Sb**	**07 23 58.3**	**-2.0**
HUIG	**Huatulco**	**0.77**	**113**	*i* P	**Pb**	**07 23 48.7**	**-1.6**
HUIG				*i* S	**Sb**	**07 23 58.3**	**-2.0**
VHO	**Vista Hermosa**	**1.00**	**6**	*i* P	**Pn**	**07 23 52.0**	**-1.4**
VHO				*i* S	**Sb**	**07 24 05.6**	**-1.7**
VHO	**Vista Hermosa**	**1.00**	**6**	*i* P	**Pn**	**07 23 52.0**	**-1.4**
VHO				*i* S	**Sb**	**07 24 05.6**	**-1.7**
PNIG	**Pinotepa**	**1.28**	**285**	*e*P	**Pn**	**07 23 55.1**	**-1.9**
PNIG				*i* S	**Sn**	**07 24 10.4**	**-2.6**
PNIG	**Pinotepa**	**1.28**	**285**	*e*P	**Pn**	**07 23 55.1**	**-1.9**
PNIG				*i* S	**Sn**	**07 24 10.4**	**-2.6**
TPIG	**Tehuac#an**	**2.39**	**348**	*e*P	**Pn**	**07 24 12.3**	**-0.1**
TPIG				*i* S	**Sn**	**07 24 40.3**	**-0.4**
TPIG	**Tehuac#an**	**2.39**	**348**	*e*P	**Pn**	**07 24 12.3**	**-0.1**
TPIG				*i* S	**Sn**	**07 24 40.3**	**-0.4**
MEIG	**Mezcala**	**3.24**	**305**	*e*P	**Pn**	**07 24 23.8**	**-0.2**
MEIG				*i* S	**Sn**	**07 24 59.6**	**-1.9**
MEIG	**Mezcala**	**3.24**	**305**	*e*P	**Pn**	**07 24 23.8**	**-0.2**
MEIG				*i* S	**Sn**	**07 24 59.6**	**-1.9**
CAIG	**El Cayaco**	**3.43**	**287**	*e*P	**Pn**	**07 24 24.9**	**-1.6**
CAIG				*i* S	**Sn**	**07 25 04.3**	**-1.8**
CAIG	**El Cayaco**	**3.43**	**287**	*e*P	**Pn**	**07 24 24.9**	**-1.6**
CAIG				*i* S	**Sn**	**07 25 04.3**	**-1.8**
PLIG	**Platanillo**	**3.44**	**313**	*i* P	**Pn**	**07 24 25.8**	**-1.0**
PLIG				*e*S	**Sn**	**07 25 05.2**	**-1.3**
PLIG	**Platanillo**	**3.44**	**313**	*i* P	**Pn**	**07 24 25.8**	**-1.0**
PLIG				*e*S	**Sn**	**07 25 05.2**	**-1.3**
TGIG		**3.64**	**78**	*e*P	**Pn**	**07 24 29.3**	**-0.2**
TGIG				*i* S	**Sn**	**07 25 11.8**	**+0.4**
TGIG		**3.64**	**78**	*e*P	**Pn**	**07 24 29.3**	**-0.2**
TGIG				*i* S	**Sn**	**07 25 11.8**	**+0.4**
ZIIG	**Zihuatanejo**	**4.68**	**290**	*e*P	**Pn**	**07 24 43.0**	**-0.8**
ZIIG				*i* S	**Sn**	**07 25 35.9**	**-1.2**
ZIIG	**Zihuatanejo**	**4.68**	**290**	*e*P	**Pn**	**07 24 43.0**	**-0.8**
ZIIG				*i* S	**Sn**	**07 25 35.9**	**-1.2**
MOIG	**Morelia**	**5.48**	**312**	*e*P	**Pn**	**07 24 55.3**	**+0.3**
MOIG				*i* S	**Sn**	**07 25 57.0**	**-0.1**
MOIG	**Morelia**	**5.48**	**312**	*e*P	**Pn**	**07 24 55.3**	**+0.3**
MOIG				*i* S	**Sn**	**07 25 57.0**	**-0.1**
APG	**El Apazote**	**6.24**	**99**	P	**Pn**	**07 25 05.2**	**-0.2**
APG				S	**Sn**	**07 26 12.5**	**-3.3**
APG	**El Apazote**	**6.24**	**99**	P	**Pn**	**07 25 05.2**	**-0.2**
	1.2nm,0.3s,baz=292,slow=13,SNR=19						
APG				S	**Sn**	**07 26 12.5**	**-3.3**
	3.0nm,0.3s,baz=93,slow=21,SNR=12						
TEIG	**Tepich**	**9.13

	baz=18						
Z27A	Tatum	18.11	343	⇑P	Pn	07 27 43.7	-0.9
	baz=18,SNR=19						
Y29A	Porterfield Fa	18.24	347	⇑P	Pn	07 27 44.5	-1.6
	baz=18,SNR=9.1						
Z26A	Caprock	18.30	341	⇓P	P	07 27 46.0	-0.9
	baz=18,SNR=8.7						
124A	Stringfield Ra	18.31	336	⇑P	P	07 27 47.2	+0.1
	baz=18,SNR=11						
Y28A	McKinney Farm,	18.42	346	⇑P	P	07 27 47.2	-0.9
	baz=18,SNR=11						
Z25A	Roswell	18.55	339	⇓P	P	07 27 49.4	-0.2
	baz=19,SNR=8.1						
320A	Kipp Ranch, An	18.56	327	⇓P	P	07 27 50.7	+0.9
	baz=19,SNR=5.3						
MSTX	Muleshoe	18.61	344	⇓P	P	07 27 49.7	-0.5
	baz=19						
MIAR	Mount Ida	18.63	8	eP	P	07 27 48.9	-1.4
	47nm,0.8s						
Y27A	Causey	18.63	343	⇓P	P	07 27 49.8	-0.7
	baz=19,SNR=5.6						
X30A	Coker Ranch, T	18.65	350	⇓P	P	07 27 49.6	-1.0
	baz=19,SNR=8.5						
WMOK	Wichita Mounta	18.67	355	eP	P	07 27 49.1	-1.7
	4.2nm,0.8s						
X31A	McDonald Ranch	18.70	352	⇑P	P	07 27 49.7	-1.4
	baz=19						
X29A	Tulia	18.81	347	⇓P	P	07 27 51.3	-1.2
	baz=19						
Z24A	Sheeppen Canyo	18.83	337	⇓P	P	07 27 53.5	+0.7
	baz=19,SNR=5.7						
Y26A	Elida	18.86	342	⇓P	P	07 27 53.0	0.0
	baz=19						
220A	Playas Peak, P	19.01	328	⇓P	P	07 27 55.8	+1.1
	baz=19						
LRAL	Lakeview Retre	19.09	26	eP	P	07 27 54.2	-1.2
	5.0nm,0.4s						
Z23A	Rita Site, Whi	19.11	335	⇑P	P	07 27 57.2	+1.5
	baz=19,SNR=8.1						
Y25A	Mesa, Roswell	19.13	340	⇑P	P	07 27 56.7	+0.7
	baz=19,SNR=9.9						
121A	Cookes Peak, D	19.16	331	⇑P	P	07 27 57.9	+1.5
	baz=19						
W31A	Holland Ranch,	19.24	352	⇑P	P	07 27 56.9	-0.1
	baz=19						
X27A	F and S Farms,	19.33	344	⇓P	P	07 27 57.9	-0.3
	baz=19						
Y24A	Capitan	19.39	338	P	P	07 28 00.0	+1.1
	baz=20,SNR=13						
Z22A	Elephant Butte	19.40	334	⇑P	P	07 27 59.6	+0.6
	baz=20						
X26A	CR and CF Fran	19.44	342	⇑P	P	07 27 58.8	-0.6
	baz=20,SNR=7.5						
TIGA	Tifton	19.49	36	⇑P	P	07 27 56.8	-2.9
	baz=20						
120A	U Bar Ranch, L	19.58	329	⇑P	P	07 28 01.9	+1.0
	baz=20						
Y23A	Lovelace Mesa,	19.63	337	⇑P	P	07 28 01.9	+0.4
	baz=20,SNR=7.0						
W28A	Vega	19.70	347	⇑P	P	07 28 01.6	-0.6
	baz=20						
W27A	Bowe Ranch, En	19.72	345	⇓P	P	07 28 01.6	-0.8
	baz=20,SNR=13						
Z21A	St. Cloud Mine	19.76	332	⇓P	P	07 28 03.5	+0.6
	baz=20,SNR=7.6						
TUL1	Tulsa	19.78	3	eP	P	07 28 01.1	-1.9
TUL1	Tulsa	19.78	3	⇑P	P	07 28 01.0	-1.9
	baz=20						
V31A	Spring Creek L	19.80	353	⇓P	P	07 28 02.1	-1.2
	baz=20						
V30A	Spur Ranch, Mi	19.91	351	⇑P	P	07 28 03.6	-0.8
	baz=20,SNR=7.1						
W26A	Owens Ranch, T	19.93	343	⇑P	P	07 28 04.3	-0.4
	baz=20						
Y22A	Socorro	19.99	335	P	P	07 28 07.0	+1.5
	baz=20,SNR=14						
Z20A	Nine Sixteen R	20.02	330	⇓P	Pn	07 28 07.7	0.0
	baz=20,SNR=7.0						
BNM	Barren Site	20.04	336	eP	P	07 28 07.2	+1.1
	10nm,0.9s						
V29A	Stinnett	20.16	349	P	P	07 28 06.7	-0.4
	baz=20,SNR=5.2						
V28A	Channing	20.18	347	⇓P	P	07 28 07.0	-0.4
	baz=20,SNR=9.3						
LPM	Los Pinos Moun	20.19	336	eP	P	07 28 09.0	+1.5
W25A	X Bar L Ranch,	20.25	342	⇓P	P	07 28 07.8	-0.4
	baz=20						
Y21A	Point of Rocks	20.35	333	⇓P	P	07 28 10.6	+1.2
	baz=20,SNR=6.8						
LAZ	Ladron	20.47	335	eP	P	07 28 12.3	+1.7
	7.1nm,0.8s						
X22A	Bernardo	20.51	335	⇓P	P	07 28 12.6	+1.6
	baz=21,SNR=7.4						
W24A	Lazy 6 Ranch,	20.55	340	⇑P	P	07 28 11.8	+0.4
	baz=21,SNR=10						
Y20A	Horse Springs,	20.58	332	⇓P	P	07 28 12.9	+1.0
	baz=21,SNR=6.3						
V26A	Tequesquite Ra	20.60	344	⇓P	P	07 28 12.3	+0.3
	baz=21,SNR=13						
U30A	WK&E Inc. Balk	20.66	351	⇑P	P	07 28 12.0	-0.5
	baz=21						
ANMO	Albuquerque	20.68	337	eP	P	07 28 13.4	+0.5
	7.4nm,1.0s						
ANMO	Albuquerque	20.68	337	P	P	07 28 13.6	+0.6
	3.8nm,0.7s,baz=148,slow=13,SNR=26						
W23A	Werner Place,	20.76	338	P	P	07 28 14.4	+0.7
	baz=21,SNR=11						
X21A	Alamocita Cree	20.77	334	⇑P	P	07 28 15.8	+1.8
	baz=21,SNR=24						
U28A	Mallet	20.79	348	⇑P	P	07 28 13.6	-0.4
	baz=21						
V25A	Rancho No Teng	20.87	342	P	P	07 28 15.2	+0.2
	baz=21,SNR=8.8						
U27A	Thompson Grove	20.96	346	⇑P	P	07 28 15.8	0.0
	baz=21						
V24A	Rampart Ranch,	20.97	341	P	P	07 28 16.9	+0.8
	baz=21,SNR=5.3						
GOGA	Godfrey	21.07	33	eP	P	07 28 14.6	-2.4
	154nm,2.7s						
T31A	Randall Ranch,	21.09	354	⇑P	P	07 28 18.0	+0.8
	baz=21,SNR=5.4						
T30A	Plains	21.15	352	⇑P	P	07 28 17.7	-0.2
	baz=21						
U26A	Atchley Ranch,	21.15	344	⇑P	P	07 28 17.8	-0.2
	baz=21						
X20A	Quemado	21.17	332	⇑P	P	07 28 19.6	+1.4
	baz=21,SNR=8.9						
W21A	San Fidel	21.30	335	⇑P	P	07 28 20.6	+1.1
	baz=21						
V23A	Ortiz Mt. (NFS	21.30	339	⇑P	P	07 28 20.5	+1.0
	baz=21,SNR=9.3						
U25A	Circle Dot Ran	21.34	343	P	P	07 28 20.1	+0.1
	baz=21,SNR=12						
T29A	Hugoton	21.37	350	⇑P	P	07 28 19.4	-0.8
	baz=22						
SWET	Sewanee	21.42	25	eP	P	07 28 18.2	-2.5
	24nm,0.5s						
PARMO	Parma	21.46	16	eP	P	07 28 19.7	-1.3
T28A	Walsh	21.48	348	⇓P	P	07 28 20.7	-0.7
	baz=22						
WVT	Waverly	21.53	20	eP	P	07 28 19.1	-2.7
	9.0nm,0.6s						
W20A	Ramah	21.66	333	⇑P	P	07 28 24.5	+1.0
	baz=22,SNR=6.2						
V22A	San Miguel Ran	21.71	337	P	P	07 28 24.6	+0.5
	baz=22,SNR=11						
S29A	Ulysses	21.80	351	⇑P	P	07 28 24.2	-0.6
	baz=22,SNR=5.3						
U23A	El Rito	21.83	339	P	P	07 28 26.0	+0.7
	baz=22,SNR=21						
X18A	Snowflake	21.83	330	P	P	07 28 27.3	+2.0
	baz=22,SNR=10						
T26A	Comanche Natio	21.86	345	P	P	07 28 25.6	0.0
	baz=22,SNR=10.0						
V21A	Milan	21.89	336	⇑P	P	07 28 26.3	+0.4
	baz=22						
S28A	Manter	21.90	349	⇓P	P	07 28 24.9	-1.0
	baz=22						
T25A	Trinidad	22.03	344	⇑P	P	07 28 28.1	+0.6
	baz=22,SNR=7.5						
U22A	Llaves	22.10	338	P	P	07 28 29.2	+0.9
	baz=22,SNR=10						
V20A	Brimhall	22.22	334	⇓P	P	07 28 30.8	+1.4
	baz=22,SNR=5.5						
CPCT	Cooper Cave	22.22	27	eP	P	07 28 27.7	-1.6
T24B	San Luis	22.24	342	⇓P	P	07 28 29.7	-0.1
	baz=22						
S26A	Kim	22.25	346	⇓P	P	07 28 29.5	-0.3
	baz=22						
R31A	Burdett	22.26	354	⇑P	P	07 28 28.4	-1.3
	baz=22						
R30A	Dighton	22.34	353	⇑P	P	07 28 29.9	-0.6
	baz=22						
T23A	Casias Ranch,	22.42	340	⇑P	P	07 28 32.2	+0.6
	baz=22						
U21A	Nageezi	22.44	337	P	P	07 28 32.8	+0.9
	baz=22,SNR=12						
X16A	Lo Mia Camp, P	22.49	327	⇑P	P	07 28 33.6	+1.2
	baz=23						
S25A	Robets Cordova	22.53	344	P	P	07 28 33.3	+0.5
	baz=23,SNR=8.8						
SIUC	Southern Illin	22.59	16	eP	P	07 28 32.8	-0.3
R28A	Tribune	22.61	350	⇑P	P	07 28 32.6	-0.9
	baz=23						
113A	Mohawk Valley,	22.61	320	⇓P	P	07 28 35.9	+2.5
	baz=23						
T22A	Edith	22.69	339	P	P	07 28 35.4	+0.9
	baz=23,SNR=17						
S24A	Houchin Ranch,	22.72	343	⇓P	P	07 28 35.0	+0.1
	baz=23						
TKL	Tuckaleechee C	22.73	28	eP	P	07 28 31.9	-2.8
U20A	Newcomb	22.74	335	⇓P	P	07 28 35.4	+0.4
	baz=23						
R27A	Eads	22.74	348	⇑P	P	07 28 34.0	-0.9
	baz=23						
T21A	Navajo Lake	22.89	338	⇑P	P	07 28 37.1	+0.4
	baz=23						
R26A	Arlington	22.90	347	P	P	07 28 37.0	+0.4
	baz=23,SNR=22						
SDCO	Great Sand Dun	22.91	342	eP	P	07 28 36.6	-0.2
	11nm,1.3s						
R25A	Fountain Ranch	22.95	345	⇓P	P	07 28 37.1	0.0
	baz=23						
Q31A	Ellis	22.96	355	⇑P	P	07 28 36.3	-0.8
	baz=23						
Y14A	Wickenburg	22.99	324	⇓P	P	07 28 39.1	+1.6
	baz=23						
Q30A	Quinter	23.01	353	⇓P	P	07 28 36.8	-0.9
	baz=23						
S23A	Nye Farm, Mont	23.02	341	⇓P	P	07 28 38.2	+0.2
	baz=23						
Q29A	Oakley	23.02	352	⇑P	P	07 28 37.0	-0.8
	baz=23						
R24A	Sanders Place,	23.25	343	⇓P	P	07 28 40.2	0.0
	baz=23						
WUAZ	Wupatki	23.32	329	eP	P	07 28 42.5	+1.6
	51nm,1.7s						
WUAZ				epP	pP	07 28 53.1	+3.5
WUAZ	Wupatki	23.32	329	P	P	07 28 42.9	+2.0
	baz=23,SNR=6.7						
S22A	4UR Ranch, Cre	23.32	340	P	P	07 28 41.6	+0.6
	baz=23,SNR=6.2						
KSCO	Kaye Shedlock'	23.41	349	⇑P	P	07 28 41.6	-0.1
	baz=24						
MVCO	Mesa Verde	23.45	336	eP	P	07 28 42.5	+0.2
	15nm,1.1s						
MVCO	Mesa Verde	23.45	336	⇓P	P	07 28 43.0	+0.8
	baz=24,SNR=5.5						
P31A	Stockton	23.47	355	⇓P	P	07 28 42.4	+0.3
	baz=24,SNR=6.6						
Q26A	Hugo	23.51	347	⇑P	P	07 28 42.7	0.0
	baz=24,SNR=9.7						
P32A	Hilting Farm,	23.52	357	⇑P	P	07 28 42.1	-0.5
	baz=24						
TZTN	Tazewell	23.57	28	eP	P	07 28 39.9	-3.2
	4.7nm,0.6s						
P30A	Selden	23.57	353	⇓P	P	07 28 42.3	-0.9
	baz=24						
S21A	Coal Bank Pass	23.58	338	P	P	07 28 44.0	+0.3
	baz=24,SNR=13						
P29A	Atwood	23.72	352	P	P	07 28 43.7	-0.9
	baz=24,SNR=9.2						
R22A	Saguache, Gunn	23.74	340	⇓P	P	07 28 45.9	+0.8
	baz=24						
P28A	Saint Francis	23.81	351	P	P	07 28 45.6	+0.2
	baz=24,SNR=6.8						
OLIL	Olney	23.85	17	eP	P	07 28 43.9	-1.8
	15nm,1.0s						
S20A	Disappointment	23.94	337	⇓P	P	07 28 47.9	+1.0
	baz=24,SNR=5.2						
Q24A	Divide	23.94	344	⇑P	P	07 28 48.2	+1.1
	baz=24						
WCI	Wyandotte Cave	23.95	21	eP	P	07 28 44.9	-1.9
	26nm,0.9s						
WCI				epP	pP	07 28 54.9	-1.0
WCI				esP	sP	07 29 00.1	+0.4
P26A	Davis Ranch, A	24.08	348	⇓P	P	07 28 48.7	+0.5
	baz=24						
O31A	Woolen Ranch,	24.09	355	⇓P	P	07 28 47.4	-0.6
	baz=24						
R21A	Cimarron	24.13	339	⇑P	P	07 28 50.1	+1.4
	baz=24						
P25A	Willow Gulch B	24.22	346	P	P	07 28 50.0	+0.6
	baz=24,SNR=6.8						
BC3	Big Chuckawall	24.25	320	⇓P	P	07 28 51.5	+1.8
	baz=24						
R20A	Redvale	24.27	337	⇓P	P	07 28 51.2	+1.3
	baz=24,SNR=9.8						
PV01	Paradox Valley	24.29	337	eP	P	07 28 51.8	+1.7
	2um,1.2s						
W13A	Hualapai Mount	24.33	324	⇓P	P	07 28 52.7	+2.2
	baz=24						
Q22A	Crested Butte,	24.36	341	⇑P	P	07 28 51.9	+1.0
	baz=24						
IRM	Iron Mountain	24.41	321	⇓P	P	07 28 53.3	+2.2
	baz=24						
PV15	Paradox Valley	24.44	337	eP	P	07 28 53.5	+2.0
U15A	North Rim	24.49	329	⇑P	P	07 28 54.2	+2.1
	baz=25,SNR=9.3						
P23A	Jefferson	24.52	343	⇓P	P	07 28 53.4	+1.1
	baz=25						
Q21A	Lamborn Mesa,	24.56	340	⇓P	P	07 28 54.1	+1.6
	baz=25						
BLO	Bloomington	24.73	19	eP	P	07 28 52.3	-1.5
	34nm,1.4s						
O25A	Wiggins	24.78	347	⇓P	P	07 28 55.1	+0.6
	baz=25						
PV09	Paradox Valley	24.82	337	eP	P	07 28 56.8	+1.8
BELC	Belle Mtn. Jos	24.82	320	⇑P	P	07 28 57.1	+2.2
	baz=25						
ISCO	Idaho Springs	24.85	344	eP	P	07 28 56.1	+0.9
	6.4nm,0.8s						
ISCO	Idaho Springs	24.85	344	P	P	07 28 56.2	+0.9
	baz=25,SNR=10						
Q20A	Ridgley Place,	24.91	338	⇓P	P	07 28 56.7	+1.0
	baz=25						
P22A	Eagle	24.99	342	P	P	07 28 57.5	+1.0
	baz=25,SNR=6.4						
O24A	Longmont	25.01	345	⇓P	P	07 28 57.8	+1.2
	baz=25						
N27A	Anderson Farm,	25.14	350	⇑P	P	07 28 57.2	-0.4
	baz=25						
P21A	Newcastle	25.14	340	⇓P	P	07 28 58.8	+1.0
	baz=25,SNR=5.2						
OGNE	Ogallala	25.19	351	⇓P	P	07 28 58.9	+0.8
	baz=25						
BGNE	Belgrade	25.27	358	⇓P	P	07 28 59.2	+0.4
	baz=25						
O23A	Lake Granby, G	25.32	344	⇑P	P	07 29 01.2	+1.7
	baz=25,SNR=13						
P20A	De Beque	25.43	339	⇓P	P	07 29 01.4	+1.0
	baz=26						
O22A	Kremmling	25.45	342	⇑P	P	07 29 02.2	+1.5
	baz=26						
SFIN	Scholer Farm	25.66	17	⇓P	P	07 29 00.9	-1.4
	baz=26						
TUQ	Turquoise Moun	25.75	322	⇑P	P	07 29 06.1	+2.8
	baz=26						
SRU	San Rafael	25.90	335	eP	P	07 29 06.9	+2.3
	14nm,1.5s						
O20A	White River Ci	25.95	340	eP	P	07 29 06.4	+1.3
O20A	White River Ci	25.95	340	P	P	07 29 06.3	+1.1
	baz=26,SNR=5.1						
N23A	Red Feather La	25.96	344	⇑P	P	07 29 06.3	+0.9
	baz=26						
Q16A	Castle Valley	26.00	334	⇓P	P	07 29 08.2	+2.6
	baz=26						
L31A	Butterfield Fa	26.07	357	⇑P	P	07 29 06.6	+0.6
	baz=26						
M24A	Cheyenne	26.23	346	⇑P	P	07 29 09.4	+1.7
	baz=26						
O19A	Miners Draw (B	26.40	339	⇑P	P	07 29 09.9	+0.7
	baz=26						
M22A	Cedar Creek Ra	26.61	343	⇓P	P	07 29 12.1	+0.9
	baz=27						
ACSO	Alum Creek Sta	26.93	24	eP	P	07 29 12.1	-1.6
	19nm,0.9s						
L23A	Garrett	27.05	345	⇓P	P	07 29 15.5	+0.4
	baz=27						
JFWS	Jewell Farm	27.34	11	eP	P	07 29 16.0	-1.4
	14nm,0.7s						
ECSD	EROS Data Cent	27.57	0	eP	P	07 29 18.9	-0.6
	5.0nm,0.9s						
PDAR	Pinedale Array	28.75	340	P	P	07 29 30.1	-0.1
PDAR	Pinedale Array	28.75	340	P	P	07 29 30.1	-0.1
	0.5nm,0.5s,baz=138,slow=9.6,SNR=5.9						
H27A	Howes	28.81	352	⇓P	P	07 29 30.8	+0.2
	baz=29						
I21A	Big Trails, Te	29.05	344	⇑P	P	07 29 32.3	-0.5
	baz=29						
NVAR	Mina Array Bea	29.19	324	P	P	07 29 36.0	+1.8
NVAR	Mina Array Bea	29.19	324	P	P	07 29 36.0	+1.8
	2.1nm,1.0s,baz=139,slow=10,SNR=11						
SPMN	St. Paul	29.26	6	eP	P	07 29 32.7	-1.7
SPMN	St. Paul	29.26	6	⇑P	P	07 29 32.6	-1.9
	baz=29,SNR=5.5						
H22A	Clearmont	29.55	346	⇓P	P	07 29 37.7	+0.5
	baz=30						
REDW	Red Top Meadow	29.71	339	eP	P	07 29 39.4	+0.6
	6.6nm,1.1s						
SNOW	Snow King Moun	29.77	339	eP	P	07 29 40.1	+0.8
SNOW				epP	pP	07 29 49.6	+1.1
TPAW	Teton Pass	29.86	339	eP	P	07 29 41.6	+1.4
	39nm,2.5s						
G23A	Biddle	29.92	348	⇓P	P	07 29 39.9	-0.5
	baz=30						
G22A	Birney	30.13	347	⇓P	P	07 29 41.9	-0.4
	baz=30						
H19A	Powell	30.30	343	⇓P	P	07 29 44.4	+0.5
	baz=30						
F23A	Volborg	30.42	348	⇑P	P	07 29 44.8	0.0
	baz=30						
H18A	Shoshone NF, C	30.51	342	⇓P	P	07 29 46.3	+0.4
	baz=31						
E22A	Miles City	31.22	348	⇑P	P	07 29 51.3	-0.5
	baz=31						
D26A	Manning	31.22	353	⇑P	P	07 29 51.0	-0.8
	baz=31						
HLID	Hailey	31.22	335	⇓P	P	07 29 52.9	+0.9
	baz=31						
MCMT	McKenzie Canyo	31.69	338	eP	P	07 29 57.4	+1.1
	1.5nm,1.0s						
MCMT				epP	pP	07 30 07.1	+1.6
MCMT				esP	sP	07 30 13.1	+3.7
E19A	Rath Farm, Rou	31.90	344	⇓P	P	07 29 57.9	+0.1
	baz=32						
D22A	Cohagen	31.94	348	⇑P	P	07 29 58.2	0.0
	baz=32						
DLMT	Dillon	32.06	339	eP	P	07 30 00.3	+0.8
	9.1nm,1.1s						
DLMT				epP	pP	07 30 09.7	+1.0
D20A	Manuel Ranch,	32.32	346	⇑P	P	07 30 01.7	+0.1
	baz=32						
LRM	Limekiln Ridge	32.42	339	eP	P	07 30 03.1	+0.4
B28A	Dugan Ranch, T	32.42	356	⇓P	P	07 30 02.2	-0.1
	baz=32						
D19A	Cripps Ranch,	32.57	345	⇓P	P	07 30 03.9	+0.2
	baz=33						
C20A	Veseth Ranch,	32.87	346	⇑P	P	07 30 07.0	+0.6
	baz=33						
C19A	Slack Wire Ran	33.15	345	⇓P	P	07 30 09.5	+0.8
	baz=33						
B19A	Brinkman Farms	33.79	345	⇑P	P	07 30 15.0	+0.6
	baz=34						
MSO	Missoula	33.80	339	⇓P	P	07 30 15.1	+0.5
	baz=34						
A21A	Bergtoll Ranch	33.85	348	⇓P	P	07 30 15.5	+0.6
	baz=34						
A19A	Klindworth Far	34.19	346	⇓P	P	07 30 18.1	+0.3
	baz=34						
LPAZ	La Paz	42.85	137	pP	pP	07 31 45.0	+4.0
LPAZ	La Paz	42.85	137	pP	pP	07 31 45.0	+4.0
	0.6nm,0.4s,baz=315,slow=8.3,SNR=2.9						
SCHQ	Schefferville	45.08	24	P	P	07 31 46.0	-2.3
SCHQ	Schefferville	45.08	24	P	P	07 31 46.0	-2.3
	4.7nm,1.0s,baz=242,slow=15,SNR=3.0						
SIV	San Ignacio	47.55	130	pP	pP	07 32 20.0	+2.2
SIV	San Ignacio	47.55	130	pP	pP	07 32 20.0	+2.2
	1.2nm,0.5s,baz=292,slow=9.3,SNR=4.4						
CPUP	Villa Florida	57.02	137	pP	pP	07 33 32.2	+4.1
CPUP	Villa Florida	57.02	137	pP	pP	07 33 32.2	+4.1
	1.2nm,0.7s,baz=188,slow=16,SNR=2.4						
ILAR	Eielson Array	59.12	337	P	P	07 33 32.2	-0.3
ILAR				pP	pP	07 33 43.1	+0.8
ILAR				sP	sP	07 33 47.5	+1.4
ILAR	Eielson Array	59.12	337	P	P	07 33 32.2	-0.3
	1.1nm,0.6s,baz=139,slow=5.6,SNR=19						
ILAR				pP	pP	07 33 43.1	+0.8
	1.3nm,0.9s,baz=135,slow=4.3,SNR=6.9						
ILAR				sP	sP	07 33 47.5	+1.4
	1.1nm,0.9s,baz=131,slow=5.3,SNR=5.1						
HHC	Hu-ho-hao-te	117.53	336	ePKP	PKPdf	07 42 22.3	+3.8
HHC				PKS	PKSdf	07 45 57.7	+2.4
HHC				SKS	SKSdf	07 49 29.5	+0.9
WMQ	Urumqi	120.26	356	ePKP	PKPdf	07 42 26.4	+2.8
LZH	Lanzhou	124.56	340	ePKP	PKPdf	07 42 33.5	+1.3
LZH				sPKP		07 42 57.7	
CD2	Chengdu	129.26	337	PKP	PKPdf	07 42 43.6	+2.4

*ISCJB **08** 07:26:09.6±0.9, 22°.45S±0'.08×68°.6W±0'.2, h112^{km}±17^{km}, mb3.5/1, Error ellipse: s-maj=23.2km s-min=12.3km az=9.1*

*IDC **08** 07:26:11.0±2.5, 22°.62S×68°.15W, h91^{km}±22^{km}, mb3.5/1, mb1 3.1/4, mb1mx3.0/18, mbtmp3.1/4, Error ellipse: s-maj=63.1km s-min=19.8km az=98.0*

*GUC **08** 07:26:12.3±0.5, 22°.37S×68°.75W, h111^{km}±5^{km}, ML3.7*

ISC 08 07:26:09.2±0.9, 22°.46S±0'.07×68°.33W±0'.10, h90^{km}±15^{km}, n14, σ1'.94/16, 6C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB09	Plate Boundary	1.07	308	⇑iP		P	Pn	07 26 31.8	+1.8
PB09				*i* S		Sn	Sn	07 26 46.3	+0.8
PB09				AML		AML	AML	07 26 47.3	
	comp=N,7μm,0.4s								
PB04	Plate Boundary	1.09	280	⇑iP		Pn	Pn	07 26 37.5	+7.6
PB04				*i* S		Sn	Sn	07 26 57.0	+12
PB04				AML		AML	AML	07 27 02.6	
	comp=N,1μm,0.4s								
MACH	Maria Elena	1.35	281	⇑iP		Pn	Pn	07 26 33.8	+0.5
MACH				*i* S		Sn	Sn	07 26 50.3	-1.1
PB07	Plate Boundary	1.62	297	⇑iP		Pn	Pn	07 26 37.0	+0.4
PB07				*i* S		Sn	Sn	07 26 55.5	-2.0
PB07				AML		AML	AML	07 26 59.1	
	comp=E,1μm,0.2s								
PB01	Plate Boundary	1.78	323	⇑iP		Pn	Pn	07 26 39.6	+1.0
PB01				*i* S		Sn	Sn	07 27 00.6	-0.4
PB01				AML		AML	AML	07 27 03.3	
	comp=N,1μm,0.2s								
ANCH	Antofagasta	2.27	237	AML		AML	AML	07 27 19.7	
	comp=N,411nm,0.1s							

MRL			*e*S	Sn	07 44 33.3	-6.0
TGUH	**Tegucigalpa,Un**	**1.65 147**	*e*P	Pn	07 44 20.5	-0.4
TGUH			*e*S	Sb	07 44 43.1	-0.1
CAHU	**Cacacuatique**	**1.67 181**	*e*P	Pn	07 44 21.4	-0.1
CAHU			*e*S	Sb	07 44 44.4	0.0
LBRS	**Las Brisas**	**1.89 206**	*e*P	Pn	07 44 23.7	-0.7
LBRS			*e*S	Sn	07 44 48.9	0.0
LFU	**La Fuente**	**1.91 208**	*e*P	Pn	07 44 24.3	-0.4
LFU			*e*S	Sn	07 44 49.8	+0.4
SNVI	**San Vicente**	**1.93 199**	*e*P	Pn	07 44 25.6	+0.5
SNVI			*e*S	Sb	07 44 51.4	-0.4
RBDL	**Robledal**	**1.96 228**	*e*P	Pn	07 44 24.6	-0.9
RBDL			*e*S	Sn	07 44 51.4	+0.6
LFRS	**El Faro**	**2.00 205**	*e*P	Pn	07 44 26.1	+0.1
BOQS	**Boqueron**	**2.00 212**	*e*P	Pn	07 44 25.4	-0.7
VSM	**San Miguel**	**2.01 182**	*e*P	Pn	07 44 25.5	-0.8
VSM			*e*S	Sb	07 44 53.5	-0.9
SNET	**Serv Nac Est T**	**2.02 210**	AML	AML	07 45 02.8	
	comp=Z,157nm,0.3s					
SNJE	**San Jose**	**2.08 221**	*e*P	Pn	07 44 26.4	-0.8
RTR	**El Retiro**	**2.09 223**	*e*P	Pn	07 44 26.4	-0.9
SBLS	**San Blas**	**2.12 221**	*e*P	Pn	07 44 26.9	-0.8
SBLS			*e*S	Sn	07 44 55.7	+0.9
NBG	**Las Nubes**	**2.25 248**	*e*P	Pn	07 44 29.3	-0.2
NBG			*e*S	Sn	07 44 59.5	+1.4

IDC 08 07:44:11.1±1.7, 12°13S×165°41E, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.9/19, mbtmp4.0/6, ML3.1/1, MS4.2/1, Ms1 4.2/1, ms1mx3.3/22, Error ellipse: s-maj=46.1km s-min=30.4km az=119.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.00**	**296**	Sn	Sn	07 46 55.5	+4.9
	4.6nm,0.3s,baz=68,slow=16,SNR=2.7						
DZM	**Mont Dzumac**	**9.94**	**174**	Pn	Pn	07 46 35.2	-0.2
	0.2nm,0.3s,baz=47,slow=19,SNR=3.3						
WRA	**Warramunga Arr**	**30.81**	**251**	P	P	07 50 29.1	+0.2
	0.4nm,0.3s,baz=83,slow=9.0,SNR=6.3						
ASAR	**Alice Springs**	**32.02**	**245**	P	P	07 50 39.5	-0.1
	0.8nm,0.6s,baz=70,slow=9.6,SNR=15						
JCJ	**Chichijima**	**45.04**	**330**	LR	LR	08 11 03.2	
	comp=Z,264nm,18.6s,baz=175,slow=36						
CMAR	**Chiang Mai Arr**	**72.24**	**294**	P	P	07 55 39.2	+0.4
	0.7nm,0.3s,baz=132,slow=4.0,SNR=4.3						
ILAR	**Eielson Array**	**84.64**	**19**	P	P	07 56 46.8	+0.5
	0.6nm,0.9s,baz=239,slow=5.8,SNR=4.3						
MKAR	**Makanchi Array**	**94.08**	**317**	P	P	07 57 30.4	-1.2
	1.2nm,0.7s,baz=100,slow=6.5,SNR=12						

IDC 08 07:44:48.6±2.4, 18°18S×69°60W, h0km, mb3.8/1, mb1 3.9/2, mb1mx3.5/18, mbtmp3.8/2, ML3.4/1, Error ellipse: s-maj=105.1km s-min=53.0km az=132.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.34**	**37**	Pn	Pn	07 45 28.9	0.0
	10nm,0.3s,baz=227,slow=14,SNR=397						
LPAZ				Sn	Sn	07 45 55.2	-3.7
	16nm,0.3s,baz=349,slow=22,SNR=9.9						
TORD	**Torodi Ar. Bea**	**76.88**	**71**	P	P	07 56 43.3	+0.1
	0.6nm,0.8s,baz=247,slow=4.9,SNR=3.9						
SONM	**Songino Array**	**150.24**	**5**	PKPbc	PKPbc	08 04 41.5	-0.4
	0.5nm,0.6s,baz=22,slow=1.6,SNR=3.4						

*CSEM **08** 07:46:50.5±0.2, 40°42N×25°74E, h10km, ML2.4/5, Error ellipse: s-maj=4.3km s-min=4.2km az=173.0*
*ATH **08** 07:46:50.2, 40°40N×25°75E, h19km±2km, MD2.9/7*
*THE **08** 07:46:50.9, 40°41N×25°74E, h8km±1km, ML2.4/5, Error ellipse: s-maj=1.1km s-min=0.5km az=13.0*
*DDA **08** 07:46:52.0, 40°35N×25°88E, h7km, MD3.0*
*SOF **08** 07:46:52.7, 40°54N×25°43E, h2km, MD2.8*

ISC 08 07:46:50.7±0.9, 40°41N±0°02×25°75E±0°02, h11km±7km, n35, σ0°57/53, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMTH	**Samothraki Isl**	**0.18**	**291**	P	**Pg**	**07 46 54.7**	**0.0**
SMTH				S	**Sg**	**07 46 57.5**	**+0.1**
SMTH	**Samothraki Isl**	**0.18**	**291**	*e*PB	**Pg**	**07 46 54.6**	**-0.1**
SMTH				*e*SB	**Sg**	**07 46 57.8**	**+0.4**
SMTH	**Samothraki Isl**	**0.18**	**291**	*e*Pb	**Pg**	**07 46 54.6**	**-0.1**
SMTH				S	**Sg**	**07 46 57.5**	**+0.1**
ALN	**Alexandroupoli**	**0.54**	**25**	P	**Pg**	**07 47 01.1**	**-0.2**
ALN				S	**Sg**	**07 47 08.9**	**+0.5**
ALN	**Alexandroupoli**	**0.54**	**25**	*e*PN	**Pg**	**07 47 01.0**	**-0.2**
ALN				*e*SN	**Sg**	**07 47 08.9**	**+0.5**
ALN	**Alexandroupoli**	**0.54**	**25**	*e*Pn	**Pg**	**07 47 01.0**	**-0.2**
ALN				S	**Sg**	**07 47 08.9**	**+0.5**
BOZC	**Bozcaada**	**0.61**	**157**	*i* P	**Pg**	**07 47 02.3**	**-0.3**
BOZC				*i* S	**Sg**	**07 47 10.4**	**-0.2**
LIA	**Limnos Island**	**0.67**	**221**	P	**Pg**	**07 47 03.7**	**0.0**
LIA				S	**Sg**	**07 47 13.2**	**+0.8**
LIA	**Limnos Island**	**0.67**	**221**	*e*PN	**Pg**	**07 47 03.9**	**+0.2**
LIA				*e*SN	**Sg**	**07 47 13.1**	**+0.7**
LIA	**Limnos Island**	**0.67**	**221**	P	**Pg**	**07 47 03.7**	**0.0**
LIA				*e*Sn	**Sg**	**07 47 13.1**	**+0.7**
RDO	**Rodhopi**	**0.76**	**348**	P	**Pg**	**07 47 05.1**	**-0.3**
RDO				S	**Sg**	**07 47 15.9**	**+0.6**
RDO	**Rodhopi**	**0.76**	**348**	*e*PN	**Pg**	**07 47 05.2**	**-0.2**
RDO	**Rodhopi**	**0.76**	**348**	P	**Pg**	**07 47 05.1**	**-0.3**
RDO				S	**Sg**	**07 47 15.9**	**+0.6**
KAVA	**Kavala**	**1.11**	**303**	P	**Pg**	**07 47 11.5**	**-0.6**
KAVA				S	**Sg**	**07 47 27.4**	**+1.0**
KAVA	**Kavala**	**1.11**	**303**	P	**Pg**	**07 47 11.5**	**-0.6**
KAVA				S	**Sb**	**07 47 27.4**	**+1.0**
SART	**Tekirdag**	**1.13**	**75**	*i* P	**Pg**	**07 47 11.8**	**-0.6**
SART	**Tekirdag**	**1.13**	**75**	*i* P	**Pg**	**07 47 11.8**	**-0.6**
PRK	**Paraskevi**	**1.23**	**161**	*e*PN	**Pn**	**07 47 13.0**	**-0.8**
PRK	**Paraskevi**	**1.23**	**161**	*e*Pn	**Pn**	**07 47 13.0**	**-0.8**
KDZ	**Kurdzhali**	**1.27**	**349**	*i* P	**Pn**	**07 47 14.1**	**-0.4**
KDZ	**Kurdzhali**	**1.27**	**349**	*i* P	**Pn**	**07 47 14.1**	**-0.4**
OUR	**Ouranopolis**	**1.35**	**268**	P	**Pn**	**07 47 14.5**	**-1.1**
OUR				S	**Sg**	**07 47 34.2**	**-0.1**
OUR	**Ouranopolis**	**1.35**	**268**	P	**Pn**	**07 47 14.5**	**-1.1**
OUR				S	**Sg**	**07 47 34.2**	**-0.1**
RZN	**Rozhen**	**1.50**	**329**	*i* Pg	**Pn**	**07 47 17.6**	**-0.2**
RZN	**Rozhen**	**1.50**	**329**	*i* Pg	**Pn**	**07 47 17.6**	**-0.2**
BALY	**Balya**	**1.58**	**114**	*i* P	**Pn**	**07 47 19.7**	**+0.9**
BALY				*i* S	**Sn**	**07 47 40.0**	**+0.7**
BALY	**Balya**	**1.58**	**114**	*i* P	**Pn**	**07 47 19.7**	**+0.9**
BALY				*i* S	**Sn**	**07 47 40.0**	**+0.7**
NVR	**Nevrokopi**	**1.71**	**304**	*e*PB	**Pn**	**07 47 20.2**	**-0.4**
NVR	**Nevrokopi**	**1.71**	**304**	*e*Pb	**Pn**	**07 47 20.2**	**-0.4**
PLG	**Polygyros**	**1.76**	**270**	*e*PN	**Pn**	**07 47 21.5**	**+0.3**
PLG	**Polygyros**	**1.76**	**270**	*e*Pn	**Pn**	**07 47 21.5**	**+0.3**
MMB	**Musomiste**	**1.93**	**308**	P	**Pn**	**07 47 23.2**	**-0.4**
MMB	**Musomiste**	**1.93**	**308**	P	**Pn**	**07 47 23.2**	**-0.4**
DURS	**Dursunbey**	**2.24**	**110**	*i* P	**Pb**	**07 47 30.5**	**-0.8**
DURS	**Dursunbey**	**2.24**	**110**	*i* P	**Pb**	**07 47 30.5**	**-0.8**

DJA 08 07:47:12.1±0.7, 1°S±12°×100°E±14, h73km±11km, M3.7/3, MLv3.7/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPI	**Padang Panjang**	**0.38**	**60**	P	Pn	07 47 25.7	+1.5
PDSI	**Padang**	**0.47**	**124**	P	Pn	07 47 26.6	+1.6
PDSI				S	Sn	07 47 37.4	+3.0
GSI	**Gunungsitoli**	**3.16**	**308**	P	Pn	07 47 59.5	-0.1
MNAI	**Manna**	**4.68**	**142**	P	Pn	07 48 19.9	-0.4

IDC 08 07:47:28.5±2.6, 12°65S×166°14E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/18, mbtmp3.7/5, Error ellipse: s-maj=104.5km s-min=29.7km az=132.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**29.58**	**226**	P	P	07 53 36.5	+1.1
	1.8nm,0.8s,baz=37,slow=5.1,SNR=3.5						
WRA	**Warramunga Arr**	**31.34**	**252**	P	P	07 53 50.6	-0.5
	0.4nm,0.7s,baz=83,slow=8.9,SNR=2.7						
ASAR	**Alice Springs**	**32.46**	**246**	P	P	07 54 00.1	-0.8
	0.9nm,0.7s,baz=75,slow=9.2,SNR=8.9						
ILAR	**Eielson Array**	**84.90**	**18**	P	P	08 00 04.5	-0.5
	0.3nm,0.6s,baz=233,slow=5.3,SNR=5.3						
MKAR	**Makanchi Array**	**94.95**	**317**	P	P	08 00 53.8	+0.8
	0.2nm,0.4s,baz=92,slow=4.5,SNR=2.7						

IDC 08 07:48:45.4±9.1, 13°62S×165°18E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.7/17, mbtmp3.7/4, Error ellipse: s-maj=263.7km s-min=43.0km az=126.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**30.16**	**254**	P	P	07 54 57.8	+0.3
	0.4nm,0.7s,baz=84,slow=9.2,SNR=2.8						
ASAR	**Alice Springs**	**31.21**	**247**	P	P	07 55 06.3	-0.5
	0.6nm,0.7s,baz=74,slow=9.1,SNR=4.9						
SONM	**Songino Array**	**60.41**	**324**	P	P	08 00 58.4	-0.6
	0.7nm,0.8s,baz=122,slow=5.4,SNR=3.9						
MKAR	**Makanchi Array**	**95.01**	**317**	P	P	08 02 11.0	+0.8
	0.2nm,0.4s,baz=86,slow=6.5,SNR=4.0						

IDC 08 07:50:04.3±8.9, 12°57S×165°11E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/17, mbtmp3.7/3, Error ellipse: s-maj=269.3km s-min=52.2km az=126.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**30.39**	**252**	P	P	07 56 18.6	+0.1
	0.3nm,0.8s,baz=79,slow=8.8,SNR=7.4						
ASAR	**Alice Springs**	**31.57**	**245**	P	P	07 56 28.6	-0.2
	2.2nm,0.7s,baz=72,slow=9.6,SNR=14						
MKAR	**Makanchi Array**	**94.20**	**317**	P	P	08 03 25.2	-0.1
	0.1nm,0.5s,baz=103,slow=6.2,SNR=2.2						

IDC 08 07:52:28.1±2.7, 16°38S×173°37W, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.9/18, mbtmp3.9/5, Error ellipse: s-maj=149.3km s-min=25.3km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.90**	**32**	Sn	Sn	07 53 42.8	-8.4
	36nm,0.3s,baz=256,slow=23,SNR=5.7						
H11S2	**WAKE ISLAND Hy**	**39.81**	**330**	T	T	08 41 32.3	
	baz=152,slow=0.7,SNR=26						
H11S3	**WAKE ISLAND Hy**	**39.82**	**330**	T	T	08 41 33.3	
	baz=152,slow=0.7,SNR=29						
H11S1	**WAKE ISLAND Hy**	**39.83**	**330**	T	T	08 41 35.9	
	baz=152,slow=0.7,SNR=37						
H11N3	**WAKE ISLAND Hy**	**40.77**	**331**	T	T	08 42 44.0	
	baz=152,slow=0.7,SNR=13						
H11N1	**WAKE ISLAND Hy**	**40.77**	**331**	T	T	08 42 44.2	
	baz=152,slow=0.7,SNR=14						
H11N2	**WAKE ISLAND Hy**	**40.79**	**331**	T	T	08 42 47.7	
	baz=152,slow=0.7,SNR=13						
STKA	**Stephens Creek**	**43.58**	**241**	P	P	08 00 34.1	0.0
	2.4nm,0.7s,baz=76,slow=11,SNR=4.4						
WRA	**Warramunga Arr**	**49.66**	**258**	P	P	08 01 21.3	-0.7
	0.5nm,0.6s,baz=93,slow=7.7,SNR=8.6						
ASAR	**Alice Springs**	**49.84**	**253**	P	P	08 01 23.1	-0.3
	3.5nm,0.5s,baz=89,slow=8.3,SNR=34						
PDAR	**Pinedale Array**	**82.97**	**42**	P	P	08 04 54.9	-0.6
	1.1nm,1.0s,baz=248,slow=1.6,SNR=4.3						
ILAR	**Eielson Array**	**83.39**	**11**	P	P	08 04 56.0	-0.8
	0.3nm,0.6s,baz=236,slow=6.5,SNR=5.4						
BRTR	**Keskin Array B**	**146.92**	**320**	PKPbc	PKPbc	08 12 13.3	+0.3
	0.8nm,0.7s,baz=46,slow=4.2,SNR=3.1						
GERES	**GERESS Array B**	**147.10**	**351**	PKPbc	PKPbc	08 12 13.7	+0.5
	0.4nm,0.2s,baz=308,slow=3.6,SNR=3.4						

IDC 08 07:57:26.6±9.6, 16°49S×173°29W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.7/19, mbtmp3.6/3, Error ellipse: s-maj=420.3km s-min=38.8km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.95**	**30**	Sn	Sn	07 58 46.0	-5.1
	15nm,0.3s,baz=72,slow=20,SNR=3.5						
WRA	**Warramunga Arr**	**49.70**	**258**	P	P	08 06 20.4	-0.6
	0.3nm,0.4s,baz=97,slow=7.0,SNR=2.9						
ASAR	**Alice Springs**	**49.88**	**253**	P	P	08 06 22.6	+0.4
	0.8nm,0.6s,baz=86,slow=8.8,SNR=8.1						
ILAR	**Eielson Array**	**83.49**	**11**	P	P	08 09 55.9	0.0
	0.3nm,0.6s,baz=223,slow=6.4,SNR=4.6						

*GUC **08** 08:02:08.8±0.4, 20°88S×69°36W, h115km±2km, ML3.6*
*ISCJB **08** 08:02:10.8±0.8, 20°80S±0°04×69°1W±0°1, h95km±10km, mb3.4/1, Error ellipse: s-maj=21.8km s-min=7.0km az=174.4*
*IDC **08** 08:02:24.2±8.6, 15°53S×71°48W, h222km±179km, mb3.2/1, mb1 2.8/2, mb1mx2.7/20, mbtmp2.8/2, MS3.4/2, Ms1 3.4/2, ms1mx3.3/4, Error ellipse: s-maj=989.4km s-min=85.1km az=5.0*

ISC 08 08:02:11.9±1.2, 20°81S±0°05×69°2W±0°1, h90km±11km, n14, σ1°13/14, 4C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**Plate Boundary**	**0.36**	**229**	⇑*i* P	**Pn**	**08 02 25.2**	**-0.5**
PB01				*i* S	**Sn**	**08 02 37.5**	**+1.5**
PB01				AML	AML	08 02 38.0	
	comp=N,6μm,0.3s						
HMBC	**Humberstone**	**0.83**	**309**	*i* P	**Pn**	**08 02 29.4**	**-0.4**
HMBC				*e*S	**Sn**	**08 02 44.8**	**+1.5**
HMBC				AML	AML	08 02 45.5	
	comp=N,2μm,0.4s						
PB09	**Plate Boundary**	**0.99**	**182**	⇑*i* P	**Pn**	**08 02 30.4**	**-1.3**
PB09				*i* S	**Sn**	**08 02 46.4**	**0.0**
PB09				AML	AML	08 02 49.6	
	comp=N,2μm,0.6s						
PB07	**Plate Boundary**	**1.12**	**215**	⇑*i* P	**Pn**	**08 02 32.0**	**-1.2**
PB07				*i* S	**Sn**	**08 02 48.8**	**-0.3**
PSGC	**Pisagua**	**1.48**	**324**	⇑*i* P	**Pn**	**08 02 36.2**	**-1.3**
PSGC				*i* S	**Sn**	**08 02 56.9**	**0.0**
MNMC	**Minimini**	**1.71**	**347**	AML	AML	08 03 05.9	
	comp=E,668nm,0.2s						
PB06	**Plate Boundary**	**1.92**	**190**	AML	AML	08 03 06.1	
	comp=E,175nm,0.4s						
CEN1	**Los Morros**	**2.73**	**200**	*e*P	**Pn**	**08 02 54.1**	**+0.1**
CEN1				*i* S	**Sn**	**08 03 28.1**	**+1.8**
PB10	**Plate Boundary**	**2.97**	**205**	AML	AML	08 03 27.8	
	comp=E,160nm,0.4s						
LPAZ	**La Paz**	**4.61**	**13**	P	**Pn**	**08 03 19.7**	**-0.1**
	comp=E,0.3nm,0.3s,baz=256,slow=4.2,SNR=9.1						
LPAZ				S	Sn	08 04 02.5	-10
	comp=E,0.2nm,0.3s,baz=208,slow=8.0,SNR=5.8						
ROSC	**El Rosal**	**25.99**	**348**	LR	LR	08 15 54.6	
	comp=E,63nm,20.9s,baz=6.8,slow=40						
JTS	**JuntasAbangare**	**34.57**	**332**	LR	LR	08 20 51.7	
	comp=E,165nm,21.0s,baz=2.4,slow=38						
TORD	**Torodi Ar. Bea**	**77.38**	**71**	P	**P**	**08 13 57.6**	**0.0**
	0.3nm,0.4s,baz=248,slow=5.8,SNR=7.1						
MKAR	**Makanchi Array**	**145.23**	**35**	PKP	PKPbc	08 21 27.2	-12
	comp=E,0.7nm,1.2s,baz=299,slow=3.0,SNR=2.4						

IDC 08 08:04:05.8±1.3, 11°37S×165°95E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.9/18, mbtmp4.0/7, ML4.0/1, Error ellipse: s-maj=47.8km s-min=24.6km az=121.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.65**	**178**	Pn	Pn	08 06 39.7	-0.1
	1.2nm,0.3s,baz=345,slow=18,SNR=8.5						
DZM				Sn	Sn	08 08 33.4	-6.6
	0.2nm,0.3s,baz=271,slow=16,SNR=1.7						
CTA	**Charters Tower**	**20.83**	**243**	P	Pn	08 08 53.3	+1.7
	0.9nm,0.3s,baz=73,slow=7.3,SNR=4.9						
STKA	**Stephens Creek**	**30.35**	**224**	P	P	08 10 19.6	+0.3
	1.5nm,0.9s,baz=97,slow=19,SNR=3.7						
WRA	**Warramunga Arr**	**31.57**	**250**	P	P	08 10 30.1	-0.2
	1.2nm,0.7s,baz=324,slow=6.0,SNR=9.3						
ASAR	**Alice Springs**	**32.83**	**244**	P	P	08 10 41.0	-0.4
	2.2nm,0.7s,baz=69,slow=9.6,SNR=20						
ASAR				PcP	PcP	08 13 26.5	-0.1
	0.6nm,0.7s,baz=48,slow=1.9,SNR=6.0						
SONM	**Songino Array**	**79.05**	**324**	P	P	08 16 11.6	-0.5
	0.2nm,0.4s,baz=94,slow=4.3,SNR=1.9						
ILAR	**Eielson Array**	**83.76**	**18**	P	P	08 16 36.3	-0.2
	0.3nm,0.6s,baz=269,slow=5.2,SNR=7.4						
MKAR	**Makanchi Array**	**93.90**	**317**	P	P	08 17 26.4	+1.0
	1.0nm,0.8s,baz=100,slow=6.5,SNR=7.1						
ARCES	**ARCESS Array B**	**116.70**	**345**	PKP	PKPdf	08 22 51.0	-0.6
	6.1nm,1.1s,baz=40,slow=2.1,SNR=5.8						

IDC 08 08:08:46.9±1.9, 12°40S×165°76E, h0km, mb4.1/7, mb1 4.2/8, mb1mx4.0/18, mbtmp4.1/8, ML3.4/1, Error ellipse: s-maj=55.0km s-min=27.4km az=103.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.64**	**176**	Pn	Pn	08 11 07.9	+0.8
	0.3nm,0.3s,baz=310,slow=18,SNR=1.6						
STKA	**Stephens Creek**	**29.49**	**225**	P	P	08 14 56.0	+3.1
	0.9nm,0.5s,baz=54,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**31.06**	**252**	P	P	08 15 06.9	0.0
	0.8nm,1.1s,baz=84,slow=9.8,SNR=2.6						
ASAR	**Alice Springs**	**32.22**	**245**	P	P	08 15 16.6	-0.6
	0.6nm,0.7s,baz=79,slow=8.2,SNR=4.1						
MJAR	**Matsushiro Arr**	**55.18**	**333**	P	P	08 18 20.2	-1.3
	1.1nm,0.6s,baz=177,slow=9.3,SNR=4.0						
USRK	**Ussuriysk Arra**	**64.16**	**334**	P	P	08 19 24.3	+1.1
	4.8nm,0.8s,baz=161,slow=7.7,SNR=4.9						
CMAR	**Chiang Mai Arr**	**72.67**	**294**	P	P	08 20 17.7	+0.6
	1.2nm,0.3s,baz=108,slow=4.9,SNR=2.1						
SONM	**Songino Array**	**79.76**	**324**	P	P	08 20 57.2	+0.2
	0.6nm,0.3s,baz=134,slow=5.9,SNR=5.8						
MKAR	**Makanchi Array**	**94.52**	**317**	P	P	08 22 09.2	-0.1
	0.7nm,0.5s,baz=92,slow=5.4,SNR=8.9						
KEST	**Kesra**	**148.49**	**321**	PKPbc	PKPdf	08 28 34.3	+1.7
	1.0nm,0.7s,baz=330,slow=20,SNR=4.0						

IDC 08 08:12:06.3±1.0, 12°23S×166°41E, h0km, mb4.1/10, mb1 4.2/12, mb1mx4.1/21, mbtmp4.1/12, ML4.0/2, MS3.3/2, Ms1 3.3/2, ms1mx3.0/36, Error ellipse: s-maj=30.8km s-min=21.1km az=128.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.93**	**293**	Pn	Pn	08 13 48.9	-0.3
	4.0nm,0.3s,baz=216,slow=5.6,SNR=1.3						
HNR				LR	LR	08 15 59.8	
	comp=Z,146nm,21.8s,baz=58,slow=34						
DZM	**Mont Dzumac**	**9.79**	**180**	Pn	Pn	08 14 30.2	+1.6
	1.1nm,0.3s,baz=44,slow=19,SNR=11						
DZM				LR	LR	08 17 52.1	
	comp=Z,273nm,20.0s,baz=10.0,slow=35						
STKA	**Stephens Creek**	**30.06**	**225**	P	P	08 18 17.6	+0.3
	2.4nm,0.8s,baz=118,slow=8.3,SNR=3.5						
WRA	**Warramunga Arr**	**31.71**	**252**	P	P	08 18 32.1	0.0
	0.9nm,0.6s,baz=84,slow=9.0,SNR=11						
ASAR	**Alice Springs**	**32.87**	**245**	P	P	08 18 42.1	-0.1
	1.6nm,0.7s,baz=66,slow=10.0,SNR=12						
FITZ	**Fitzroy Crossi**	**39.72**	**256**	P	P	08 19 41.2	+0.3
	3.7nm,0.9s,baz=79,slow=10,SNR=3.6						
CMAR	**Chiang Mai Arr**	**73.18**	**294**	P	P	08 23 40.5	+1.0
	1.0nm,0.3s,baz=129,slow=5.0,SNR=5.1						
SONM	**Songino Array**	**80.00**	**324**	P	P	08 24 17.5	-0.2
	0.3nm,0.4s,baz=183,slow=5.8,SNR=2.6						
MAW	**Mawson**	**83.88**	**202**	P	P	08 24 35.9	-1.7
	0.7nm,0.8s,baz=123,slow=9.2,SNR=4.8						
ILAR	**Eielson Array**	**84.42**	**18**	P	P	08 24 40.2	-0.2
	1.0nm,0.7s,baz=244,slow=5.0,SNR=14						
NVAR	**Mina Array Bea**	**86.29**	**50**	P	P	08 24 51.6	+1.0
	0.3nm,0.5s,baz=213,slow=9.0,SNR=4.3						
MKAR	**Makanchi Array**	**94.82**	**317**	P	P	08 25 29.3	-0.9
	1.6nm,0.7s,baz=98,slow=6.1,SNR=13						
TORD	**Torodi Ar. Bea**	**165.06**	**275**	PKPab	PKPab	08 33 09.9	-0.4
	0.9nm,0.8s,baz=67,slow=2.1,SNR=4.4						

CASC 08 08:12:32.4±4.6, 12°45N×87°50W, h126km±121km, MD3.7, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.89**	**338**	*e*P	Pn	08 12 53.8	-0.4
CNCH				*e*S	Sn	08 13 07.3	-3.3
COPN	**Copaltepe**	**0.93**	**107**	*e*P	Pn	08 12 54.0	-0.3
COPN				*e*S	Sn	08 13 06.6	-4.3
MRL	**Marmol**	**3.36**	**321**	*e*P	Pn	08 13 35.2	+11
NBG	**Las Nubes**	**3.49**	**308**	*e*P	Pn	08 13 24.6	-1.1

*IDC **08** 08:12:34.0±2.9, 14°28N×93°36W, h0km, mb3.9/7, mb1 4.2/9, mb1mx3.9/25, mbtmp3.9/9, ML3.8/2, MS3.5/1, Ms1 3.5/1, ms1mx3.2/37, Error ellipse: s-maj=67.3km s-min=27.6km az=10.0*
*NEIC **08** 08:12:43.2, 14°69N×93°75W, h16km, MD4.3(MEX), After MEX.*
*MEX **08** 08:12:43.2±0.4, 14°69N×93°76W, h16km±12km, MD4.3*

ISC 08 08:12:42.6±3.5, 14°8N±0°1×93°67W±0°05, h26km±20km, n165, σ1°66/158, mb3.9/7, 70C-65D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.03**	**25**	*

232A	Coleman baz=18	17.90 343	⇓P	Pn	08 16 50.2	+0.4
428A	Kincaid Ranch, baz=18	17.91 334	⇑P	P	08 16 52.5	+2.0
330A	Mertzon baz=18	17.93 339	⇑P	P	08 16 51.9	+1.2
526A	Mary Lane Ranc baz=18	18.00 330	⇑P	P	08 16 54.2	+2.8
231A	Bronte baz=18	18.14 342	⇓P	Pn	08 16 53.4	+0.7
329A	Wagon Wheel Ra baz=18	18.30 337	⇓P	Pn	08 16 56.4	+1.7
427A	Hayter Ranch, baz=18	18.33 332	⇓P	Pn	08 16 56.9	+1.7
230A	Sterling City baz=18	18.35 340	⇓P	Pn	08 16 56.4	+1.0
426A	McDonald Obser baz=19	18.47 331	⇑P	Pn	08 16 57.8	+0.9
328A	Wristen Ranch, baz=19	18.54 335	⇑P	Pn	08 16 58.3	+0.8
326A	Caldwell Ranch baz=19	18.99 332	⇑P	Pn	08 17 04.7	+1.6
425A	Indio Mountain baz=19	19.03 329	⇓P	Pn	08 17 05.3	+1.6
Z31A	Sharp Cattle R baz=20	19.38 343	⇓P	P	08 17 06.7	+0.2
325A	Bean Ranch, Si baz=20	19.50 330	⇑P	Pn	08 17 10.0	+0.6
128A	Castleberry Fa baz=20	19.50 337	⇓P	P	08 17 09.2	+1.2
Z30A	Sanderson Ranc baz=20,SNR=6.2	19.64 341	⇓P	P	08 17 10.6	+1.2
226B	Tecolote Peak, baz=20	19.72 333	⇓P	Pn	08 17 12.9	+1.1
Z29A	Hungry Hill Ra baz=20	19.81 340	⇓P	P	08 17 12.2	+1.0
324A	Moseley Ranch, baz=20	19.81 329	⇑P	Pn	08 17 13.4	+0.4
Y32A	R-V Farms, Ver baz=20	19.86 346	⇓P	P	08 17 12.0	+0.3
127A	Arkansas Junct baz=20	19.89 335	⇓P	P	08 17 13.3	+1.1
Y31A	Rekieta Farm, baz=20	20.02 344	⇑P	P	08 17 13.9	+0.4
225A	Deer Hill, Car baz=20	20.04 331	⇑P	Pn	08 17 16.3	+0.5
Z28A	Tucker Farm, M baz=20	20.07 338	⇑P	P	08 17 15.5	+1.4
Y30A	Stafford Cattl baz=20	20.12 342	⇑P	P	08 17 15.6	+1.0
126A	Clayton Basin, baz=20	20.14 334	⇑P	Pn	08 17 16.9	+0.1
Y29A	Porterfield Fa baz=20	20.34 341	⇓P	P	08 17 18.2	+1.2
224A	Cornudas Mount baz=20	20.35 330	⇑P	Pn	08 17 19.1	-0.2
Z27A	Tatum baz=20,SNR=17	20.40 337	⇑P	P	08 17 19.3	+1.6
125A	Gardner Draw, baz=20	20.43 333	⇓P	Pn	08 17 19.9	-0.3
Y28A	McKinney Farm, baz=21,SNR=6.2	20.58 339	⇓P	P	08 17 20.7	+1.0
X31A	McDonald Ranch baz=21	20.58 345	⇓P	P	08 17 19.5	-0.1
X30A	Coker Ranch, T baz=21	20.65 343	⇑P	P	08 17 21.2	+0.9
Z26A	Caprock baz=21,SNR=5.3	20.67 335	⇑P	Pn	08 17 22.6	-0.4
124A	Stringfield Ra baz=21	20.83 331	⇓P	Pn	08 17 24.6	-0.4
Y27A	Causey baz=21	20.89 337	⇓P	P	08 17 24.3	+1.4
X29A	Tulia baz=21	20.89 341	⇑P	P	08 17 24.3	+1.3
Z25A	Roswell baz=21	20.98 333	⇓P	P	08 17 26.2	+2.2
Z24A	Sheeppen Canyo baz=21,SNR=6.0	21.31 332	⇑P	P	08 17 30.2	+2.5
320A	Kipp Ranch, An baz=21	21.38 323	⇑P	P	08 17 31.7	+3.4
221A	Mesquite Ranch baz=22	21.46 326	⇓P	P	08 17 32.8	+3.6
Y25A	Mesa, Roswell baz=22	21.52 334	⇑P	P	08 17 31.3	+1.4
X27A	F and S Farms, baz=22	21.55 338	⇓P	P	08 17 31.1	+1.1
V31A	Spring Creek L baz=22	21.64 346	⇓P	P	08 17 31.8	+0.9
Z23A	Rita Site, Whi baz=22,SNR=7.7	21.66 330	⇑P	P	08 17 33.8	+2.5
X26A	CR and CF Fran baz=22	21.72 337	⇓P	P	08 17 33.5	+1.5
220A	Playas Peak, P baz=22	21.80 324	⇓P	P	08 17 36.7	+3.8
Y24A	Capitan baz=22,SNR=6.5	21.85 333	⇓P	P	08 17 35.4	+2.1
121A	Cookes Peak, D baz=22,SNR=5.4	21.87 326	⇑P	P	08 17 37.2	+3.6
W27A	Bowe Ranch, En baz=22	21.91 339	⇓P	P	08 17 35.6	+1.6
Z22A	Elephant Butte baz=22	22.01 329	⇑P	P	08 17 37.7	+2.6
X25A	Clemmons Ranch baz=22	22.04 335	⇑P	P	08 17 36.9	+1.6
V28A	Channing baz=22	22.26 341	⇑P	P	08 17 38.3	+0.6
120A	U Bar Ranch, L baz=22	22.34 325	⇑P	P	08 17 42.1	+3.4
V27A	Dan Oppiter Fa baz=23	22.46 340	⇑P	P	08 17 40.9	+1.0
U30A	WK&E Inc. Balk baz=23	22.56 345	⇓P	P	08 17 41.4	+0.6
W25A	X Bar L Ranch, baz=23,SNR=8.9	22.56 336	⇑P	P	08 17 42.5	+1.5
V26A	Tequesquite Ra baz=23	22.82 338	⇑P	P	08 17 45.1	+1.4
W24A	Lazy 6 Ranch, baz=23	22.93 335	⇑P	P	08 17 46.8	+1.9
Y21A	Point of Rocks baz=23	22.97 329	⇑P	P	08 17 48.3	+2.9
U27A	Thompson Grove baz=23	23.07 341	⇓P	P	08 17 47.2	+1.0
ANMO	Albuquerque 0.4nm,0.4s,baz=131,slow=11,SNR=2.6	23.16 332	P	P	08 17 48.1	+0.8
V25A	Rancho No Teng baz=23,SNR=5.3	23.17 337	⇓P	P	08 17 48.2	+0.9
Y20A	Horse Springs, baz=23,SNR=5.6	23.25 328	⇓P	P	08 17 50.7	+2.6
V24A	Rampart Ranch, baz=23	23.32 336	⇓P	P	08 17 50.1	+1.1
U26A	Atchley Ranch, baz=24	23.35 339	⇓P	P	08 17 50.2	+1.1
X21A	Alamocita Cree baz=24,SNR=7.0	23.37 329	⇓P	P	08 17 51.8	+2.4
T28A	Walsh baz=24	23.50 343	⇑P	P	08 17 51.1	+0.6
U25A	Circle Dot Ran baz=24,SNR=5.6	23.59 338	⇓P	P	08 17 52.7	+1.3
T27A	Campo baz=24	23.62 342	⇑P	P	08 17 52.2	+0.5
S29A	Ulysses baz=24	23.70 345	⇑P	P	08 17 53.4	+1.0
V23A	Ortiz Mt. (NFS baz=24,SNR=7.2	23.71 334	⇓P	P	08 17 54.8	+2.0
X20A	Quemado baz=24,SNR=6.5	23.80 328	⇓P	P	08 17 56.0	+2.4
R31A	Burdett baz=24	24.00 349	⇑P	P	08 17 55.0	-0.2
T26A	Comanche Natio baz=24	24.00 340	⇓P	P	08 17 56.1	+0.7
R30A	Dighton baz=24	24.15 347	⇓P	P	08 17 56.7	+0.1
U23A	El Rito baz=24	24.22 335	⇓P	P	08 17 59.0	+1.6
T25A	Trinidad baz=24	24.25 339	⇑P	P	08 17 59.4	+1.7
W20A	Ramah baz=24	24.27 329	⇑P	P	08 18 00.5	+2.6
S26A	Kim baz=24	24.37 341	⇓P	P	08 18 00.5	+1.8
R29A	Marienthal baz=25,SNR=5.2	24.47 346	⇓P	P	08 18 00.5	+0.9
T24B	San Luis baz=25	24.53 337	⇑P	P	08 18 01.9	+1.5
X18A	Snowflake baz=25	24.55 326	⇑P	P	08 18 03.5	+3.0
R28A	Tribune baz=25	24.56 344	⇓P	P	08 18 01.1	+0.6
S25A	Robets Cordova baz=25,SNR=6.5	24.73 339	⇑P	P	08 18 03.8	+1.7
T23A	Casias Ranch, baz=25	24.77 336	⇓P	P	08 18 03.9	+1.4
R27A	Eads baz=25	24.78 343	⇓P	P	08 18 03.4	+1.0
Q29A	Oakley baz=25	24.88 346	⇑P	P	08 18 03.5	+0.2
U21A	Nageezi baz=25	24.93 332	⇓P	P	08 18 05.9	+2.0
T22A	Edith baz=25	25.10 334	⇑P	P	08 18 07.3	+1.9
X16A	Lo Mia Camp, P baz=25	25.30 324	⇑P	P	08 18 10.5	+3.3
T21A	Navajo Lake baz=25	25.35 333	⇓P	P	08 18 09.7	+2.1
P30A	Selden baz=26	25.35 348	⇑P	P	08 18 08.1	+0.6
R24A	Sanders Place, baz=26	25.47 339	⇓P	P	08 18 10.2	+1.4
P29A	Atwood baz=26	25.55 347	⇓P	P	08 18 10.0	+0.7
MVCO	Mesa Verde baz=26	25.96 332	⇑P	P	08 18 15.2	+1.9
R22A	Saguache, Gunn baz=26	26.08 336	⇓P	P	08 18 15.7	+1.2
P23A	Jefferson baz=27	26.75 339	⇓P	P	08 18 22.1	+1.7
M21A	Separation Pea baz=29	29.26 339	⇓P	P	08 18 45.0	+2.2
I28A	Midland baz=30	29.83 349	⇑P	P	08 18 47.6	0.0
L18A	Fontenelle, Gr baz=31	30.54 336	⇑P	P	08 18 56.2	+2.1
H26A	Fairpoint baz=31	30.74 347	⇓P	P	08 18 56.0	+0.3
PDAR	Pinedale Array 0.8nm,0.9s,baz=124,slow=8.0,SNR=5.3	31.07 337	P	P	08 18 58.8	0.0
H24A	Dirks Ranch, A baz=31	31.28 345	⇓P	P	08 19 01.1	+0.6
G26A	Maurine baz=32	31.36 348	⇑P	P	08 19 01.2	+0.2
I19A	Meeteetse baz=32	31.97 339	⇑P	P	08 19 08.3	+1.6
H20A	Greybull baz=32	32.03 340	⇓P	P	08 19 07.9	+0.9
NVAR	Mina Array Bea 1.4nm,0.8s,baz=130,slow=9.0,SNR=10	32.07 322	P	P	08 19 08.5	+0.9
I17A	Pilgrim Ck. baz=33	32.44 337	⇑P	P	08 19 13.1	+2.3
E26A	Carlson Angus baz=33	32.46 349	⇓P	P	08 19 11.6	+0.9
H18A	Shoshone NF, C baz=33,SNR=8.0	32.76 339	⇓P	P	08 19 14.3	+0.7
E24A	Baker baz=33	32.93 346	⇑P	P	08 19 15.6	+0.7
E22A	Miles City baz=33	33.21 344	⇑P	P	08 19 17.8	+0.5
D25A	Fairfield baz=33	33.28 348	⇑P	P	08 19 18.6	+0.8
F19A	Roth Farm, Mol baz=34	33.55 341	⇑P	P	08 19 21.2	+0.8
HLID	Hailey baz=34	33.74 332	⇓P	P	08 19 24.0	+1.9
E20A	Meyer Farm, Mu baz=34	33.88 342	⇓P	P	08 19 24.1	+0.9
D22A	Cohagen baz=34,SNR=8.0	33.93 345	⇑P	P	08 19 24.2	+0.6
C22A	Vida baz=34	34.41 345	⇑P	P	08 19 28.5	+0.8
D20A	Manuel Ranch, baz=34	34.41 342	⇑P	P	08 19 28.9	+1.1
B23A	Brocket baz=35	34.88 347	⇑P	P	08 19 32.6	+0.9
A23A	Redstone baz=36	35.32 347	⇓P	P	08 19 36.3	+0.7
B20A	Solberg Farm, baz=36	35.61 344	⇑P	P	08 19 38.3	+0.3
B19A	Brinkman Farms baz=36	35.88 343	⇑P	P	08 19 41.0	+0.6
MSO	Missoula baz=36	36.17 336	⇓P	P	08 19 44.5	+1.5
YKA	Yellowknife Ar 2.2nm,0.7s,baz=155,slow=6.8,SNR=3.5	49.92 347	P	P	08 21 32.7	-1.1
ILAR	Eielson Array 0.7nm,0.8s,baz=157,slow=3.2,SNR=7.3	61.51 337	P	P	08 22 55.3	-1.5
NOA	NORSAR Array B 1.0nm,0.8s,baz=296,slow=5.2,SNR=4.2	84.25 28	P	P	08 25 08.7	-3.1
ARCES	ARCESS Array B 1.7nm,0.7s,baz=285,slow=4.6,SNR=1.6	85.92 18	P	P	08 25 17.9	-2.0
CMAR	Chang Mai Arr 0.9nm,0.3s,baz=338,slow=4.2,SNR=6.2	144.72 339	PKPbc	PKPab	08 32 14.2	-2.5

IDC 08 08:13:18.1±2.2, 12.78S×166.11E, h0km, mb4.1/7, mb1 4.2/7, mb1mx4.0/19, mbtmp4.1/7, Error ellipse: s-maj=80.1km s-min=27.1km az=127.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek 2.7nm,0.8s,baz=22,slow=7.2,SNR=3.0	29.47	226	P	P	P	08 19 25.4	+1.5
WRA	Warramunga Arr 1.1nm,0.7s,baz=83,slow=9.4,SNR=2.8	31.27	253	P	P	P	08 19 38.7	-1.4
ASAR	Alice Springs 1.6nm,0.7s,baz=75,slow=9.4,SNR=5.2	32.38	246	P	P	P	08 19 48.9	-0.9
ASAJ	Asahikawa 5.6nm,0.6s,baz=270,slow=27,SNR=2.5	60.54	341	P	P	P	08 23 31.0	+0.8
SONM	Songino Array 0.4nm,0.5s,baz=108,slow=4.7,SNR=1.9	80.27	324	P	P	P	08 25 31.4	+0.4
ILAR	Eielson Array 0.6nm,0.6s,baz=248,slow=5.5,SNR=3.3	85.03	18	P	P	P	08 25 53.6	-1.7
MKAR	Makanchi Array 0.5nm,0.6s,baz=108,slow=5.9,SNR=3.0	95.02	317	P	P	P	08 26 43.0	0.0
ARCES	ARCESS Array B 0.8nm,0.6s,baz=44,slow=3.7,SNR=0.9	118.09	345	PKP	PKPdf	PKPdf	08 32 06.1	-0.5
KEST	Kesra 1.1nm,0.7s,baz=135,slow=1.4,SNR=3.2	149.00	321	PKPbc	PKPbc	PKPbc	08 33 09.7	+0.9

IDC 08 08:15:26.9±2.2, 6.57S×129.84E, h0km, mb3.4/1, mb1 3.8/4, mb1mx3.6/19, mbtmp3.6/4, ML3.8/3, Error ellipse: s-maj=90.3km s-min=28.1km az=77.0
AUST 08 08:15:37.0, 6.98S×130.04E, h60km

ISC 08 08:15:36.6±1.0, 7.22S±0.08×130.1E±0.1, h104km, n9, σ2.938/8, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak baz=4.6,SNR=4.8	4.77	27	P	P	Pn	08 16 46.5	+0.2
KDU	Kakadu baz=6.2,SNR=62	5.92	157	P	P	Pn	08 17 09.1	+7.3
KNRA	Kununurra baz=8.8,SNR=6.0	8.51	189	P	P	Pn	08 17 42.0	+4.9
WSI	Waingapu baz=10.0,SNR=3.5	10.00	255	P	P	Pn	08 17 58.0	+0.7
FITZ	Fitzroy Crossi baz=12,SNR=10	11.66	201	P	P	P	08 18 24.6	-4.2
FITZ	Fitzroy Crossi 0.6nm,0.3s,baz=22,slow=9.4,SNR=30	11.66	201	Pn	P	Pn	08 18 22.0	+2.2
FITZ	0.5nm,0.3s,baz=178,slow=15,SNR=8.0			Sn	Sn	Sn	08 20 24.6	-3.5
WRA	Warramunga Arr 0.5nm,0.3s,baz=344,slow=12,SNR=26	13.30	162	Pn	P	P	08 18 46.0	-1.3
WRA	0.6nm,0.3s,baz=334,slow=22,SNR=10			Sn	Sn	Sn	08 21 07.1	-0.8
ASAR	Alice Springs 0.2nm,0.3s,baz=344,slow=10.0,SNR=12	16.76	168	Pn	P	P	08 19 32.0	+6.4
ASAR	0.2nm,0.3s,baz=351,slow=26,SNR=5.2			Sn	Sn	Sn	08 22 34.2	+2.8
MKAR	Makanchi Array 0.1nm,0.4s,baz=120,slow=7.9,SNR=2.6	68.46	327	P	P	P	08 26 26.7	-0.9

IDC 08 08:24:29.7±9.9, 11.58S×164.90E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.8/3, Error ellipse: s-maj=300.9km s-min=56.1km az=125.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.9nm,0.9s,baz=82,slow=9.2,SNR=3.6	30.52	250	P	P	P	08 30 45.1	+0.1
ASAR	Alice Springs 0.8nm,0.7s,baz=68,slow=9.2,SNR=8.6	31.81	244	P	P	P	08 30 56.1	-0.2
MKAR	Makanchi Array 0.6nm,0.7s,baz=80,slow=6.3,SNR=3.8	93.35	317	P	P	P	08 37 46.7	-0.1

IDC 08 08:28:40.0±0.4, 13.13S×166.37E, h0km, mb5.2/21, mb1 5.2/24, mb1mx5.2/24, mbtmp5.2/24, ML4.6/3, MS6.5/34, Ms1 6.5/34, ms1mx6.4/40, Error ellipse: s-maj=16.2km s-min=12.1km az=94.0
BJI 08 08:28:41.8, 13.20S×166.96E, h35km, mB6.6/59, mb5.5/58, Ms6.8/76, Ms7 6.6/70
AUST 08 08:28:44.1±0.5, 13.17S×166.62E, h35km, Error ellipse: s-maj=10.1km s-min=4.6km az=34.0
MOS 08 08:28:45.8±1.8, 13.22S×165.86E, h33km, mb5.9/49, MS6.8/16, Error ellipse: s-maj=7.5km s-min=6.8km az=179.9
ISCJB 08 08:28:47.6±1.6, 13.31S±0.03×165.82E±0.02, h33km±11km, mb5.6/219, MS6.7/70, Error ellipse: s-maj=5.2km s-min=3.9km az=177.9
NEIC 08 08:28:48.0±0.2, 13.30S×165.91E, h35km, mb5.7/117, MW6.8, Error ellipse: s-maj=7.1km s-min=5.6km az=151.0
GCMT 08 08:28:52.8±0.1, 13.14S×166.09E, h14km, MW6.7, Moment Tensor Solution. s130,c334; s92,c136; Moment tensor: Scale 10¹⁹Nm; Mrr1.27±.01; Mθθ-0.11±.01; Mϕϕ-1.16±.01; Mrθ0.46±.02; Mθϕ0.37±.01; Mϕr-0.86±.02; Best double couple: M⊙1.60000×10¹⁹ NP1:ϕs156.00000°, δ64.00000°, λ.84.00000°. NP2: ϕs349.00000°, δ27.00000°, λ101.00000°. Principal axes: T 1.6100, Plg71.0000°, Azm54.0000°; N -0.0100, Plg5.0000°, Azm159.0000°; P -1.6000, Plg19.0000°, Azm250.0000°; Data Used: II IU CN G IC. LP body wave period 50 sec. Surface waves: sta=125, comp=319, per=50.
NEIC 08 08:29:05.0±0.0, 13.07S×165.88E, h26km, Moment Tensor Solution. s139 Moment tensor: Scale 10¹⁹Nm; Mrr1.43; Mθθ-0.28; Mϕϕ-1.15; Mrθ0.67; Mθϕ0.16; Mϕr-0.87; Best double couple: M⊙1.70000×10¹⁹ NP1:ϕs154.00000°, δ65.00000°, λ.79.00000°. NP2:ϕs358.00000°, δ27.00000°, λ112.00000°. Principal axes: T 1.8600, Plg68.0000°, Azm43.0000°; N -0.3400, Plg9.0000°, Azm158.0000°; P -1.5200, Plg19.0000°, Azm251.0000°;
DJA 08 08:29:06.3±3.0, 14°S±.8'×16°E±2'0, h115km±20km, M6.5/43, mb5.7/43, mB6.7/43, Mw(mB)6.5/43, Mwp6.6/13

ISC 08 08:28:48.4±0.3, 13.32S±0.03×166.03E±0.03, h40km±2km, h40km:pP-P, n1015, σ2.911/949, mb5.7/218, MS6.7/73, 55C-39D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HNR	Honiara	7.11	302		Pn	Pn	08 30 26.3	-3.6
HNR					Sn	Sn	08 31 48.9	-0.6
HNR	Honiara 65nm,0.3s,baz=32,slow=1.3,SNR=38	7.11	302		Pn	Pn	08 30 26.3	-3.6
HNR					Sn	Sn	08 31 48.9	-0.6
DZM	Mont Dzumac 176nm,0.5s	8.71	177	ePn	Pn	Pn	08 30 50.6	-1.4
DZM				eLR	LR		08 32 56.6	
DZM	Mont Dzumac 575μm,26.9s	8.71	177	ePn	Pn	Pn	08 30 52.0	0.0
DZM					Sn	Sn	08 32 30.3	+1.4
DZM				eSn	Sn	Sn	08 32 31.9	+2.8
DZM	Mont Dzumac 13nm,0.3s,baz=8.2,slow=20,SNR=40	8.71	177	Pn	Pn	Pn	08 30 51.6	-0.3
DZM					Sn	Sn	08 32 30.3	+1.4
DZM	baz=118,slow=18,SNR=1.6			LR	LR		08 32 56.7	
MSVF	comp=Z,56μm,18.3s,baz=8.5,slow=29 Nonsavu	12.38	112	ePn	Pn	Pn	08 31 42.3	0.0
MSVF	Nonsavu	12.38	112	ePn	Pn	Pn	08 31 42.3	0.0
FUNA	Funafuti 848nm,1.2s	13.78	71	ePn	Pn	Pn	08 32 00.7	-0.6
TARA	Tarawa 1μm,1.2s	16.11	26	ePn	Pn	Pn	08 32 31.1	-0.9
EIDS	Eidsvold 5μm,3.0s	18.48	227	eP	Pn	Pn	08 33 01.9	+0.4
EIDS	Eidsvold baz=19,SNR=13	18.48	227	⇑P	Pn	Pn	08 33 03.1	+1.6
PMG	Port Moresby 558nm,1.4s,54μm360μm	18.90	280	P	Pn	Pn	08 33 06.3	-0.4
PMG	Port Moresby 327nm,1.1s	18.90	280	eP	Pn	Pn	08 33 06.2	-0.4
PMG	Port Moresby 1.1nm,0.3s,baz=82,slow=6.7,SNR=14	18.90	280	P	Pn	Pn	08 33 06.4	-0.2
PMG				LR	LR		08 39 23.8	
CTA	comp=Z,111μm,21.4s,baz=126,slow=34 Charters Tower	20.09	248	P	Pn	Pn	08 33 20.2	-0.6
CTA	Charters Tower baz=21	20.09	248	⇑P	Pn	Pn	08 33 19.6	-1.2
CTA	Charters Tower 14nm,0.7s,baz=74,slow=13,SNR=15	20.09	248	P	Pn	Pn	08 33 20.2	-0.6
CTA				LR	LR		08 40 15.5	
CTAO	comp=Z,156μm,20.1s,baz=76,slow=34 Charters Tower	20.09	248	eP	P	P	08 33 17.3	-1.5
CTAO				pmax	pmax			
CTAO	comp=Z,815nm,1.6s Charters Tower comp=Z,815nm,1.6s	20.09	248	eP	P	P	08 33 17.3	-1.5
RMQ	Roma baz=21,SNR=27	20.83	228	P	Pn	Pn	08 33 29.1	-0.3
AFI	Afiamalu	21.58	94	eP	P	P	08 33 34.1	-0.9
AFI	Afiamalu comp=Z,145nm,0.9s,baz=242,slow=21,SNR=5.9	21.58	94	P	P	P	08 33 33.6	-1.3
AFI				LR	LR		08 38 57.3	
ARMA	comp=Z,60μm,19.5s,baz=278,slow=29 Armidale comp=Z,2μm,2.1s	21.59	216	eP	P	P	08 33 34.7	-0.2
MANU	Manus Island baz=22,SNR=5.6	21.60	300	P	P	P	08 33 35.6	+0.6
RAO	Raoul Island comp=Z,51μm,21.5s,baz=106,slow=30	21.75	139	LR	LR		08 39 38.2	
COEN	Coen comp=Z,1μm,1.3s	22.22	266	eP	P	P	08 33 39.9	-1.8
COEN	Coen baz=23,SNR=17	22.22	266	⇓P	P	P	08 33 43.3	+1.6
OUZ	Omahuta comp=Z,705nm,1.5s	22.85	164	eP	P	P	08 33 49.3	+1.1
MGCD	Mangrove Creek baz=24,SNR=6.8	24.02	212	⇑P	P	P	08 34 01.4	+1.8
QLP	Quilpie baz=25,SNR=17	24.31	234	⇑P	P	P	08 34 03.4	+1.0
KNTN	Kanton comp=Z,1μm,1.8s	24.37	66	eP	P	P	08 34 01.0	-2.0
CMSA	Cobar Meteorol baz=27,SNR=20	26.03	223	⇓P	P	P	08 34 19.4	+1.4
YNG	Young baz=27,SNR=7.4	26.30	214	⇑P	P	P	08 34 22.0	+1.6
CNB	Canberra Magne baz=27,SNR=5.2	26.57	212	⇑P	P	P	08 34 24.6	+1.8
URZ	Urewera comp=Z,886nm,2.1s	26.72	160	eP	P	P	08 34 24.7	+0.7
URZ	Urewera comp=Z,19nm,1.0s,baz=39,slow=7.9,SNR=6.8	26.72	160	P	P	P	08 34 26.0	+2.0
CAN	Canberra	26.76	212	eP	P	P	08 34 25.7	+1.2
CAN				pmax	pmax			
CAN	comp=Z,628nm,2.1s Canberra comp=Z,628nm,2.1s	26.76	212	eP	P	P	08 34 25.7	+1.2
JAY	Jayapura baz=28,SNR=7.7	27.25	291	⇑P	P	P	08 34 30.0	+0.8
BKZ	Black Stump Fm comp=Z,557nm,2.1s	27.36	162	eP	P	P	08 34 28.8	-1.1
BFZ	Birch Farm comp=Z,530nm,1.9s	28.69	164	eP	P	P	08 34 42.3	+0.7
STKA	Stephens Creek comp=Z,138nm,1.9s	29.03	226	eP	P	P	08 34 45.4	+0.6
STKA				PcP	PcP	PcP	08 37 54.8	+2.2
STKA	Stephens Creek baz=30,SNR=43	29.03	226	⇓P	P	P	08 34 46.2	+1.4
STKA	Stephens Creek comp=Z,29nm,0.8s,baz=33,slow=8.0,SNR=44	29.03	226	P	P	P	08 34 46.2	+1.4
STKA				PcP	PcP	PcP	08 37 54.8	+2.2
STKA	comp=Z,47nm,1.1s,baz=31,slow=8.9,SNR=3.0			LR	LR	LR	08 46 11.8	
KHZ	comp=Z,56μm,20.1s,baz=56,slow=36 Kahutara comp=Z,2μm,2.3s	29.71	169	eP	P	P	08 34 52.7	+2.1
TOO	Toolangi baz=31,SNR=14	30.31	214	⇑P	P	P	08 34 57.8	+1.7
RPZ	Rata Peaks	30.59	173	P	P	P	08 34 57.2	-1.2
RPZ	Rata Peaks comp=Z,117nm,0.8s,baz=191,slow=2.1,SNR=14	30.59	173	P	P	P	08 34 57.2	-1.2
WRAB	Tennant Creek	31.02	253	eP	P	P	08 35 01.4	-1.2

WRAB pmax pmax
comp=Z,77nm,1.1s
WRAB Tennant Creek 31.02 253 *e*P **P** **08 35 01.4 -1.2**
comp=Z,77nm,1.1s
WRA Warramunga Arr 31.03 253 P **P** **08 35 01.8 -0.9**
WRA PcP **PcP** **08 37 56.9 -1.1**
WRA Warramunga Arr 31.03 253 P **P** **08 35 01.8 -0.9**
comp=Z,16nm,1.0s,baz=84,slow=8.7,SNR=28
WRA PcP **PcP** **08 37 56.9 -1.1**
comp=Z,5.8nm,0.9s,baz=91,slow=3.3,SNR=2.0
WRA LR LR 08 47 07.5
comp=Z,84µm,19.8s,baz=80,slow=35
HTT Hallett 31.77 226 ⇓P **P** **08 35 10.2 +1.1**
baz=32
ODZ Otahua Downs 31.86 174 *e*P **P** **08 35 10.5 +0.9**
comp=Z,1µm,2.3s
AS31 Alice Springs 32.08 247 *e*P **P** **08 35 10.6 -1.3**
ASAR Alice Springs 32.08 247 P **P** **08 35 10.6 -1.3**
ASAR PcP **PcP** **08 38 03.6 +2.8**
ASAR Alice Springs 32.08 247 P **P** **08 35 10.6 -1.3**
comp=Z,73nm,0.8s,baz=73,slow=7.6,SNR=156
ASAR PcP **PcP** **08 38 03.6 +2.8**
comp=Z,16nm,0.9s,baz=83,slow=3.6,SNR=5.2
ASAR LR LR 08 47 21.0
comp=Z,231µm,21.0s,baz=72,slow=34
KDU Kakadu 32.69 267 ⇑P **P** **08 35 17.1 -0.1**
baz=33,SNR=9.9
MOO Moorlands 33.29 206 ⇓P **P** **08 35 22.1 0.0**
baz=34,SNR=4.4
BBOO Buckleboo 33.53 230 *e*P **P** **08 35 23.4 -1.0**
BBOO Buckleboo 33.53 230 ⇓P **P** **08 35 24.3 -0.1**
baz=34,SNR=28
RAR Rarotonga 33.53 108 P **P** **08 35 23.9 -0.6**
RAR Rarotonga 33.53 108 P **P** **08 35 23.9 -0.6**
comp=Z,44nm,1.0s,baz=270,slow=3.4,SNR=2.7
RAR LR LR 08 46 51.5
comp=Z,75µm,19.6s,baz=181,slow=33
TAU Tasmania Unive 33.62 205 *e*P **P** **08 35 25.2 +0.2**
TAU pmax pmax
comp=Z,781nm,1.9s
TAU Tasmania Unive 33.62 205 *e*P **P** **08 35 25.2 +0.2**
comp=Z,781nm,1.9s
FAKI Fak Fak 34.95 284 ⇓P **P** **08 35 37.9 +1.0**
baz=36
KNRA Kununurra 36.13 262 ⇓P **P** **08 35 46.9 -0.1**
baz=37,SNR=18
BNDI Bandanaira 36.70 280 P P 08 35 55.7 +3.8
comp=Z,865nm,1.3s,comp=Z,16µmcomp=Z,160µm
AAI Ambon 38.57 281 P P 08 36 12.0 +4.3
comp=Z,115nm,0.9s,comp=Z,10µmcomp=Z,154µm
FORT Forrest 39.01 237 *e*P **P** **08 36 10.9 -0.3**
comp=Z,227nm,0.7s
FORT Forrest 39.01 237 ⇓P **P** **08 36 11.2 0.0**
baz=40,SNR=19
FITZ Fitzroy Crossi 39.11 258 *e*P **P** **08 36 12.6 +0.3**
comp=Z,221nm,1.4s
FITZ Fitzroy Crossi 39.11 258 ⇓P **P** **08 36 12.1 -0.1**
baz=40,SNR=16
FITZ Fitzroy Crossi 39.11 258 P **P** **08 36 12.9 +0.6**
comp=Z,31nm,1.0s,baz=94,slow=9.7,SNR=17
FITZ LR LR 08 52 13.2
comp=Z,105µm,18.9s,baz=79,slow=36
NLAI Namlea 39.74 281 P **P** **08 36 19.8 +2.2**
comp=Z,223nm,1.8s,comp=Z,10µm
SOEI Soe 41.04 270 P P 08 36 31.9 +3.5
comp=Z,229nm,1.7s,comp=Z,12µm
SOEI Soe 41.04 270 ⇓P **P** **08 36 29.2 +0.7**
baz=42,SNR=4.1
PPT2 Papeete2 42.93 102 *e*S **S** **08 43 07.3 +0.9**
comp=Z,81µm,28.0s
PPT2 *e*LQ LQ 08 46 49.1
comp=Z,281µm,27.2s
PPT2 *e*LR LR 08 48 37.7
comp=Z,305µm,29.0s,baz=270
PPT Papeete 42.93 102 P **P** **08 36 43.8 +0.1**
PPT Papeete 42.93 102 P **P** **08 36 43.8 +0.1**
comp=Z,38nm,1.0s,baz=245,slow=13,SNR=2.5
PPT LR LR 08 50 43.5
comp=Z,20µm,20.0s,baz=270,slow=31
MMRI Maumere 43.20 272 P **P** **08 36 48.0 +2.1**
comp=Z,348nm,1.7s,comp=Z,12µm
TBI Tubuai 43.26 110 *e*S **S** **08 43 15.5 +4.5**
comp=Z,63µm,27.2s
TBI *e*LQ LQ 08 46 58.4
comp=Z,150µm,31.2s
TBI *e*LR LR 08 48 47.8
comp=Z,108µm,28.0s,baz=286
SGSI Sangihe 43.61 290 P **P** **08 36 50.9 +1.7**
comp=Z,839nm,1.2s,comp=Z,89µmcomp=Z,76µm
KMSI Cibinong 43.90 285 P P 08 36 55.7 +4.1
comp=Z,818nm,1.5s,comp=Z,16µmcomp=Z,56µm
LUWI Luwuk 44.52 282 P P 08 37 01.4 +4.8
comp=Z,234nm,1.6s,comp=Z,10µm
PMOR Pomariorio Ree 44.65 98 *e*P **P** **08 36 58.2 +0.7**
comp=Z,417nm,1.0s
MBWA Marble Bar 44.77 253 P P 08 37 04.8 +6.4
SNR=19
MBWA Marble Bar 44.77 253 *e*P **P** **08 36 58.4 -0.1**
comp=Z,136nm,1.1s
VAH Vaihoa 44.89 98 *e*P **P** **08 36 59.8 +0.4**
comp=Z,236nm,0.9s
APSI Ampana 45.63 282 P **P** **08 37 06.9 +1.5**
comp=Z,228nm,1.4s,comp=Z,9µm
MRSI Marisa 45.79 284 P **P** **08 37 08.8 +2.2**
comp=Z,70nm,1.2s,comp=Z,5µm
BKSI Bulukumba 45.93 276 P P 08 37 11.9 +4.2
comp=Z,75nm,3.8s,comp=Z,8µm
BNSI Bone 46.16 277 P P 08 37 12.3 +2.8
comp=Z,137nm,2.2s,comp=Z,11µm
MEEK Meekatharra 46.24 246 ⇑P **P** **08 37 11.3 +1.2**
baz=47,SNR=71
KAPI Kappang 46.36 276 P **P** **08 37 12.0 +1.0**
SNR=18
KAPI Kappang 46.36 276 P **P** **08 37 13.2 +2.1**
comp=Z,175nm,1.6s,comp=Z,11µm
KAPI Kappang 46.36 276 *e*P **P** **08 37 11.3 +0.2**
comp=Z,269nm,1.4s
KAPI Kappang 46.36 276 LR LR 08 57 55.3
comp=Z,21µm,18.6s,baz=105,slow=38
CBIJ Chichi jima 46.37 330 P **P** **08 37 10.2 -0.7**
JCJ Chichijima 46.37 330 P **P** **08 37 10.2 -0.7**
comp=Z,89nm,0.5s,baz=238,slow=19,SNR=1.5
JCJ LR LR 08 54 47.6
comp=Z,35µm,21.2s,baz=313,slow=34
SPSI Sidrap Palu 46.59 277 P P 08 37 19.2 +6.3
comp=Z,72nm,2.0s,comp=Z,8µm
TTSI Tana Toraja 46.78 278 P P 08 37 19.3 +4.9
comp=Z,74nm,3.1s,comp=Z,9µmcomp=Z,86µm
PCI Palu 47.36 281 P P 08 37 32.5 +14
comp=Z,226nm,0.6s,comp=Z,8µm
PLP Palo 47.44 299⇓ *e*P **P** **08 37 16.4 -3.1**
KLBR Kellerberrin 47.76 239 ⇑P **P** **08 37 21.4 -0.4**
baz=48,SNR=24
NWAO Narrogin (SRO) 48.46 238 P **P** **08 37 29.7 +2.5**
SNR=9.1
NWAO Narrogin (SRO) 48.46 238 *e*P **P** **08 37 27.4 +0.2**
comp=Z,173nm,1.1s
NWAO Narrogin (SRO) 48.46 238 LR LR 08 57 41.5
comp=Z,87µm,18.7s,baz=254,slow=36
MORW Morawa 48.81 243 ⇓P **P** **08 37 30.3 +0.4**
baz=49,SNR=54
MTNI Mataram 49.10 270 P **P** **08 37 34.0 +1.6**
comp=Z,160nm,1.5s,comp=Z,8µm
KIP Kipapa 49.38 46 *e*P P 08 37 28.3 -6.0
KIP pmax pmax
comp=Z,40nm,1.4s
KIP MLR MLR
comp=Z,33µm,17.0s
RCP Roxas 49.55 298⇑ *e*P **P** **08 37 37.7 +2.0**
DNP Denpasar 50.03 270 P P 08 37 44.9 +5.4
comp=Z,705nm,0.9s,comp=Z,34µm
SRBI Singaraja 50.13 271 P P 08 37 44.6 +4.4
comp=Z,155nm,3.5s,comp=Z,15µm
MYLDM Lahad Datu 50.65 288 P P 08 37 50.4 +6.3
MYLDM Lahad Datu 50.65 288 P P 08 37 49.7 +5.6
comp=Z,221nm,2.0s,comp=Z,13µmcomp=Z,113µm
TSM Tawau 50.91 287 P **P** **08 37 47.0 +0.9**
BYJI Banyuwangi 50.95 270 P P 08 37 49.7 +3.3
comp=Z,400nm,1.8s,comp=Z,20µm
ABJI Asem Bagus 51.14 271 P **P** **08 37 49.8 +2.0**
comp=Z,339nm,1.3s,comp=Z,14µm
BLJI Banyuglugur 51.77 271 P **P** **08 37 52.7 +0.1**
comp=Z,244nm,0.9s,comp=Z,10µm
GMJI Gumukmas 51.82 270 P **P** **08 37 52.7 -0.2**
comp=Z,135nm,1.7s,comp=Z,8µmcomp=Z,57µm
SDKM Sandakan 52.02 288 P **P** **08 37 56.3 +1.8**
KRKI Karangkates 52.81 270 P P 08 38 05.2 +5.0
comp=Z,624nm,1.6s,comp=Z,22µm

KKM Kota Kinabalu 53.08 288 P **P** **08 38 04.2 +1.8**
KKM Kota Kinabalu 53.08 288 P **P** **08 38 02.8 +0.4**
comp=Z,168nm,1.7s,comp=Z,8µm
KKM Kota Kinabalu 53.08 288 *e*P **P** **08 38 03.4 +1.1**
comp=Z,172nm,1.1s
PWJI Pagerwojo 53.47 270 P **P** **08 38 05.8 +0.7**
comp=Z,140nm,1.2s,comp=Z,9µm
SJI Sawahan 53.55 270 P **P** **08 38 08.2 +2.3**
comp=Z,328nm,2.9s,comp=Z,12µm
NGJI Ngawi 53.92 271 P P 08 38 12.4 +4.0
comp=Z,298nm,1.3s,comp=Z,17µm
PCJI Pacitan 54.04 269 P **P** **08 38 11.2 +1.9**
comp=Z,359nm,1.6s,comp=Z,11µmcomp=Z,72µm
WOJI Wonogiri, Jawa 54.36 270 P **P** **08 38 13.0 +1.4**
BTM Bintulu 55.04 284 P **P** **08 38 18.9 +2.3**
SBUM Sibu 55.63 282 P **P** **08 38 23.5 +2.7**
DRV Dumont d'Urvil 56.05 192 P P 08 38 08.0 -15
DRV S S 08 45 59.0 -9.4
DRV SS SS 08 49 34.0 -21
DRV L L 08 52 00.0
DRV R 08 55 00.0
MJAR Matsushiro Arr 56.11 333 P P 08 38 20.0 -3.8
MJAR Matsushiro Arr 56.11 333 P P 08 38 20.0 -3.8
comp=Z,25nm,1.1s,baz=171,slow=8.3,SNR=16
MAJO Matsushiro 56.11 333 *e*P **P** **08 38 22.6 -1.2**
MAJO pmax pmax
comp=Z,240nm,1.3s
MAJO Matsushiro 56.11 333 *e*P **P** **08 38 22.6 -1.2**
comp=Z,240nm,1.3s
MAT Matsushiro 56.11 333 P P 08 38 20.3 -3.5
MAT S **S** **08 46 13.6 +3.5**
RKT Rikitea 56.56 109 *e*S **S** **08 46 18.6 +2.0**
comp=Z,61µm,30.8s
RKT *e*SS **SS** **08 50 08.8 +4.2**
comp=Z,29µm,28.0s
RKT *e*LQ LQ 08 52 39.3
comp=Z,71µm,28.0s
RKT *e*LR LR 08 54 57.5
comp=Z,61µm,34.8s
YULB Yu-li 56.98 310 *e*P **P** **08 38 27.8 -2.4**
comp=Z,70nm,1.0s
JNU Nakatsue 57.09 325 P P 08 38 27.5 -3.3
JNU Nakatsue 57.09 325 P P 08 38 27.5 -3.3
comp=Z,31nm,1.0s,baz=99,slow=5.2,SNR=8.7
JNU LR LR 09 02 07.5
comp=Z,24µm,18.8s,baz=128,slow=35
KSM Kuching 57.16 281 P **P** **08 38 34.4 +2.6**
KSM Kuching 57.16 281 *e*P **P** **08 38 32.9 +1.2**
comp=Z,97nm,1.1s
NACB Ninganchiao 57.21 310 *e*P **P** **08 38 32.7 +0.9**
comp=Z,315nm,1.5s
TPUB Ta-pu 57.43 309 *e*P **P** **08 38 32.1 -1.4**
comp=Z,188nm,1.1s
SSLB Suanglung 57.46 310 *e*P **P** **08 38 32.4 -1.3**
comp=Z,135nm,1.3s
YHNB Yeheng 57.66 311 *e*P **P** **08 38 36.3 +1.2**
comp=Z,170nm,1.0s
ERM Erimo 58.96 340 *e*P P 08 38 39.8 -3.9
ERM pmax pmax
comp=Z,128nm,1.6s
ERM MLR MLR
comp=Z,66µm,19.0s
QZH Quanzhou 59.89 309⇓ *i*P **P** **08 38 50.2 -0.3**
QZH S **S** **08 46 57.2 -2.6**
QZH AMB AMB
comp=Z,10µm,11.2s
QZH LR LR
comp=Z,54µm,15.7s
QZH LR LR
comp=Z,49µm,22.6s
QZH LR LR
comp=Z,71µm,17.7s
YUK Yuzh-Kuril'sk 59.97 343*c* *i*P P 08 38 41.3 -9.4
YUK *i* 08 41 09.6
YUK *i* PPP PPP 08 42 27.4
YUK *i* S **S** **08 46 54.5 -5.7**
YUK *i* SS **SS** **08 51 01.5 +3.9**
YUK *i* SSS SSS 08 53 28.1
YUK pmax pmax
comp=Z,17µm,12.7s
YUK pmax pmax
comp=E,342nm,1.3s
YUK pmax pmax
comp=N,27nm,1.3s
YUK MLR MLR
comp=E,35µm,19.0s
YUK MLR MLR
comp=Z,58µm,19.0s
KUR Kuril'sk 60.56 345*c* *i*P P 08 38 45.7 -8.9
KUR *i* S 08 47 00.9 -6.7
KUR pmax pmax
comp=Z,728nm,1.4s
KUR pmax pmax
comp=N,289nm,1.4s
KUR pmax pmax
comp=E,193nm,1.4s
KUR MLR MLR
comp=N,72µm,16.0s
KUR MLR MLR
comp=E,18µm,16.0s
KUR MLR MLR
comp=Z,68µm,16.0s
ASAJ Asahikawa 61.02 341 P **P** **08 38 55.7 -2.2**
ASAJ Asahikawa 61.02 341 P **P** **08 38 55.7 -2.2**
comp=Z,48nm,0.5s,baz=204,slow=9.7,SNR=17
ASAJ LR LR 09 04 45.9
comp=Z,84µm,19.6s,baz=172,slow=36
SSE Sheshan 61.68 317 P **P** **08 39 00.2 -2.4**
SSE PcP **PcP** **08 39 39.4 -4.3**
SSE S **S** **08 47 26.7 +4.2**
SSE SS **SS** **08 51 29.9 +5.0**
SSE AMB AMB
comp=Z,69nm,0.9s
SSE AMB AMB
comp=Z,7µm,12.5s
SSE LR LR
comp=Z,24µm,17.8s
SSE LR LR
comp=Z,30µm,17.6s
SSE LR LR
comp=Z,39µm,18.5s
KSRS Korea Array 61.91 326 P **P** **08 39 01.6 -2.3**
comp=Z,13nm,1.1s,baz=142,slow=6.7,SNR=14
KSRS LR LR 09 01 03.9
comp=Z,26µm,21.6s,baz=130,slow=31
KSAR Wonju Array Be 61.92 326 P **P** **08 39 01.6 -2.4**
HKC Hong Kong Obse 61.94 304⇓ *i*P **P** **08 39 06.0 +1.5**
INCN Inchon 62.63 325 *e*P **P** **08 39 09.4 +0.6**
comp=Z,205nm,1.2s
GZH Guangzhou 62.99 305 P **P** **08 39 13.5 +2.0**
GZH PP **PP** **08 41 33.1 +2.5**
GZH S S 08 47 45.6 +6.3
GZH SS SS 08 51 52.7 +7.0
GZH LR LR
comp=Z,18µm,17.6s
GZH LR LR
comp=Z,41µm,16.9s
GZH LR LR
comp=Z,51µm,17.6s
MYKOM Kota Tinggi 63.45 279 P P 08 39 20.4 +5.7
YSS Yuzh-Sakhalins 63.53 342⇑ *i*P **P** **08 39 12.0 -2.5**
YSS *e*PPP PPP 08 43 08.0
YSS *i* S **S** **08 47 42.0 -3.1**
YSS pmax pmax
comp=N,230nm,1.2s
YSS pmax pmax
comp=E,270nm,1.2s
YSS pmax pmax
comp=Z,410nm,1.2s
YSS pmax pmax
comp=N,3µm,6.0s
YSS pmax pmax
comp=Z,6µm,6.0s
YSS smax smax
comp=N,8µm,18.0s
YSS smax smax
comp=E,19µm,16.0s
YSS MLR MLR
comp=N,83µm,18.0s
YSS MLR MLR
comp=E,48µm,18.0s
YSS MLR MLR
comp=Z,82µm,18.0s
NJ2 Nanjing 63.84 316 *e*P **P** **08 39 15.6 -1.3**
NJ2 sS **sS** **08 48 12.5 +3.3**
NJ2 AMB AMB
comp=Z,50nm,1.0s
NJ2 AMB AMB
comp=Z,2µm,9.0s
NJ2 LR LR
comp=Z,16µm,23.2s
NJ2 LR LR
comp=Z,21µm,18.6s
NJ2 LR LR
comp=Z,26µm,18.4s
QIZ Qiongzhong 64.01 299 P **P** **08 39 19.7 +1.4**
QIZ S **S** **08 47 55.1 +3.0**
QIZ LR LR
comp=Z,9µm,19.3s
QIZ LR LR
comp=Z,8µm,20.4s
QIZ LR LR
comp=Z,36µm,28.8s
KGM Kluang 64.02 279 P **P** **08 39 20.9 +2.3**
VNDA Vanda 64.23 181 *e*P **P** **08 39 18.2 -0.6**
VNDA ⇑ *e* 09 08 11.5
VNDA Vanda 64.23 181 P **P** **08 39 18.0 -0.9**
comp=Z,25nm,1.0s,baz=354,slow=7.4,SNR=26
VNDA LR LR 09 03 29.9
comp=Z,18µm,19.2s,baz=139,slow=32
VNDA PKP2bc 09 08 11.5
comp=Z,2.5nm,1.1s,baz=311,slow=3.1,SNR=4.8
VLA Vladivostok 64.28 333⇓ *i*P **P** **08 39 18.9 -0.7**
VLA *e* 08 39 50.7
VLA S **S** **08 47 52.3 -2.3**
VLA pmax pmax
comp=Z,221nm,1.4s
SKR Severo-Kuril's 64.32 353 *e*P P 08 39 10.5 -9.2
SKR *e*S **S** **08 47 54.0 -0.7**
SKR *e* 08 49 12.0
SKR pmax pmax
comp=N,640nm,1.5s
SKR pmax pmax
comp=Z,800nm,1.5s
SKR pmax pmax
comp=N,5µm,10.0s
SKR pmax pmax
comp=E,3µm,10.0s
SKR pmax pmax
comp=Z,6µm,10.0s
SKR smax smax
comp=N,11µm,12.0s
SKR smax smax
comp=E,32µm,12.0s
SKR smax smax
comp=Z,16µm,12.0s
SKR MLR MLR
comp=N,43µm,18.0s
SKR MLR MLR
comp=E,38µm,18.0s
SKR MLR MLR
comp=Z,50µm,18.0s
CASY Casey 64.37 202 *e*P **P** **08 39 20.2 +0.3**
comp=Z,364nm,1.6s
SBA Scott Base 64.53 180 *e*P **P** **08 39 19.8 -1.0**
SBA pmax pmax
comp=Z,230nm,1.3s
SBA Scott Base 64.53 180 *e*P **P** **08 39 19.8 -1.0**
comp=Z,230nm,1.3s
USRK Ussuriysk Arra 65.10 334 P **P** **08 39 23.4 -1.6**
comp=Z,103nm,1.1s,baz=141,slow=6.4,SNR=35
USRK LR LR 09 07 36.7
comp=Z,36µm,18.4s,baz=134,slow=36
USRK PKP2bc 09 08 16.2
comp=Z,2.0nm,0.8s,baz=48,slow=2.8,SNR=4.0
KTGM Kuala Trenggan 65.13 282 P **P** **08 39 27.8 +2.0**
FRIM Kepong 65.98 280 P P 08 39 34.2 +2.9
WHN Wuhan 66.11 312 P **P** **08 39 30.9 -0.8**
WHN S **S** **08 48 20.1 +2.6**
WHN LR LR
comp=Z,70µm,16.9s
WHN LR LR
comp=Z,25µm,13.6s
WHN LR LR
comp=Z,113µm,19.0s
FX1 Attu Island--F 66.22 5 *e*P **P** **08 39 31.3 -0.7**
FX1 Attu Island--F 66.22 5 LR LR 09 06 39.0
comp=Z,32µm,18.1s,baz=201,slow=34
UBPT Khong Chiam 66.31 293 P P 08 39 37.1 +3.8
comp=Z,99nm,0.9s,comp=Z,7µm
MDJ Mudanjiang 66.48 332 P **P** **08 39 34.4 +0.6**
MDJ pP **pP** **08 39 43.6 -2.2**
MDJ PcP **PcP** **08 40 03.8 +0.7**
MDJ PP **PP** **08 41 59.5 -1.3**
MDJ S **S** **08 48 23.1 +1.6**
MDJ SS **SS** **08 52 39.1 -0.3**
MDJ AMB AMB
comp=Z,57nm,1.3s
MDJ AMB AMB
comp=Z,6µm,6.4s
MDJ LR LR
comp=Z,30µm,19.5s
MDJ LR LR
comp=Z,6µm,16.0s
MDJ LR LR
comp=Z,37µm,19.5s
PEA0B Petropavlovsk- 66.55 355 *e*P P 08 39 30.8 -3.2
PETK Petropavlovsk- 66.55 355 P P 08 39 30.6 -3.5
PETK Petropavlovsk- 66.55 355 P P 08 39 30.6 -3.5
PETK Petropavlovsk- 66.55 355 P P 08 39 30.6 -3.5
comp=Z,51nm,1.0s,baz=145,slow=5.4,SNR=20
PETK LR LR 09 07 26.8
comp=Z,35µm,19.6s,baz=166,slow=35
IPM Ipoh 66.90 281 P **P** **08 39 39.3 +2.1**
IPM Ipoh 66.90 281 *e*P **P** **08 39 37.3 +0.1**
comp=Z,171nm,1.2s
SNY Shenyang 67.38 327 ⇓P **P** **08 39 39.4 -0.2**
SNY S **S** **08 48 33.6 +1.2**
SNY AMB AMB
comp=Z,26nm,1.2s
SNY LR LR
comp=Z,20µm,17.4s
SNY LR LR
comp=Z,12µm,19.5s
SNY LR LR
comp=Z,15µm,18.6s
KULM Kulim 67.49 281 P P 08 39 43.7 +2.8
KULM Kulim 67.49 281 *e*P **P** **08 39 41.0 +0.1**
comp=Z,214nm,1.5s
TIA Tai'an 67.50 319 ⇓P P 08 39 44.4 +3.9
TIA S **S** **08 48 36.3 +2.2**
TIA AMB AMB
comp=Z,5µm,9.3s
TIA LR LR
comp=Z,70µm,20.6s
TIA LR LR
comp=Z,41µm,19.6s
TIA LR LR
comp=Z,96µm,13.7s
PANO Nakornpanom 67.78 295 P **P** **08 39 43.0 +0.4**
comp=Z,77nm,3.0s,comp=Z,5µm
CN2 Changchun 67.83 329 *e*P **P** **08 39 40.0 -2.4**
CN2 *e*S **S** **08 48 35.4 -2.4**
CN2 SS **SS** **08 52 59.1 -1.2**
CN2 AMB AMB
comp=Z,20nm,0.7s
CN2 AMB AMB
comp=Z,8µm,7.0s
CN2 LR LR
comp=Z,16µm,15.0s
CN2 LR LR
comp=Z,18µm,15.0s
CN2 LR LR
comp=Z,10µm,20.0s
SKLT Songkhla 68.06 283 P P 08 39 52.7 +8.2
PSI Prapat 68.46 278 P **P** **08 39 47.5 +0.4**
PSI Prapat 68.46 278 ⇑P **P** **08 39 45.9 -1.2**
baz=69,SNR=5.7
PSI Prapat 68.46 278 P **P** **08 39 47.5 +0.4**
comp=Z,17nm,1.0s,baz=270,slow=2.8,SNR=7.7
KLR Kul'dur 69.25 337 *e*P P 08 39 45.8 -5.3
KLR pmax pmax
comp=N,90nm,1.4s
KLR pmax pmax
comp=Z,850nm,1.4s
CHAI Chaiyaphum 69.66 293 P **P** **08 39 54.0 -0.4**
comp=Z,8.3nm,1.3s
GYA Guiyang 69.93 305⇑ *i*P **P** **08 39 57.5 +1.5**
GYA pP **pP** **08 40 09.2 +1.2**
GYA sP **sP** **08 40 13.9 +1.3**
GYA PP **PP** **08 42 35.0 +3.8**
GYA S **S** **08 49 05.9 +2.3**

GYA SKS **SKSac** **08 49 51.2 -3.1**
GYA SS **SS** **08 53 36.8 +3.2**
GYA AMB AMB
comp=Z,100nm,1.0s
GYA AMB AMB
comp=Z,3μm,10.3s
GYA LR LR
comp=Z,14μm,20.0s
GYA LR LR
comp=Z,18μm,21.2s
GYA LR LR
comp=Z,16μm,19.8s
BJI Beijing 70.42 321 P **P** **08 39 56.6 -1.9**
BJI S **S** **08 49 12.9 +4.4**
BJI AMB AMB
comp=Z,43nm,1.2s
BJI AMB AMB
comp=Z,6μm,6.1s
BJI LR LR
comp=Z,20μm,16.0s
BJI LR LR
comp=Z,24μm,18.4s
BJI LR LR
comp=Z,22μm,20.3s
TIY Taiyuan 71.42 318 *e*P **P** **08 40 04.5 -0.3**
TIY S **S** **08 49 21.2 +0.8**
TIY AMB AMB
comp=Z,160nm,1.1s
TIY AMB AMB
comp=Z,4μm,5.6s
TIY LR LR
comp=Z,14μm,17.1s
TIY LR LR
comp=Z,37μm,17.5s
TIY LR LR
comp=Z,55μm,17.2s
NANT Nan 71.85 295 P **P** **08 40 07.7 +0.1**
comp=Z,150nm,1.1s
XAN Xi'an 71.86 313 P **P** **08 40 05.7 -1.8**
XAN PP **PP** **08 42 49.5 +1.9**
XAN S **S** **08 49 23.1 -2.5**
XAN SKS **SKSac** **08 50 02.0 -6.4**
XAN SS **SS** **08 54 05.3 +2.5**
XAN AMB AMB
comp=Z,18nm,1.5s
XAN AMB AMB
comp=Z,1μm,9.5s
XAN LR LR
comp=Z,14μm,23.5s
XAN LR LR
comp=Z,4μm,19.4s
XAN LR LR
comp=Z,9μm,20.4s
KMI Kunming 72.55 302 P **P** **08 40 11.2 -0.8**
KMI PP **PP** **08 42 55.4 +1.5**
KMI S **S** **08 49 31.9 -2.3**
KMI AMB AMB
comp=Z,86nm,1.5s
KMI AMB AMB
comp=Z,4μm,6.2s
KMI LR LR
comp=Z,14μm,18.3s
KMI LR LR
comp=Z,23μm,17.2s
KMI LR LR
comp=Z,32μm,19.1s
CRAI Chiangrai 72.66 296 P **P** **08 40 12.1 -0.4**
comp=Z,103nm,1.3s,comp=Z,4μm
LAMP Lampang 72.69 294 P **P** **08 40 12.9 +0.2**
comp=Z,30nm,0.9s,comp=Z,259nm
PAYA Payao 72.78 295 P **P** **08 40 13.2 0.0**
comp=Z,16nm,1.1s,comp=Z,203nm
CM31 Chiang Mai Arr 73.28 294 *e*P **P** **08 40 16.4 +0.2**
comp=Z,35nm,0.8s
CMAR Chiang Mai Arr 73.28 294 P **P** **08 40 16.5 +0.3**
CMAR Chiang Mai Arr 73.28 294 P **P** **08 40 16.5 +0.3**
comp=Z,38nm,1.1s,baz=119,slow=4.3,SNR=3.8
CHTO Chiang Mai 73.41 294 *e*P **P** **08 40 16.5 -0.4**
CHTO pmax pmax
comp=Z,153nm,0.9s
CHTO Chiang Mai 73.41 294 P **P** **08 40 16.6 -0.4**
SNR=35
CHTO Chiang Mai 73.41 294 *e*P **P** **08 40 16.5 -0.4**
comp=Z,153nm,0.9s
CHTO Chiang Mai 73.41 294 P **P** **08 40 16.6 -0.4**
comp=Z,511nm,1.1s,comp=Z,23μm
CMAI Chiengmai2 73.71 296 P **P** **08 40 19.0 +0.1**
comp=Z,78nm,1.3s,comp=Z,4μm
HHC Hu-ho-hao-te 73.74 320 *e*P **P** **08 40 19.8 +1.2**
HHC pP **pP** **08 40 30.1 -0.5**
HHC sP **sP** **08 40 34.1 -1.1**
HHC PP **PP** **08 43 06.4 +2.8**
HHC S **S** **08 49 47.5 +0.6**
HHC ScS **SKKSac** **08 50 23.4 +0.7**
HHC SS **SS** **08 54 34.0 +2.5**
HHC AMB AMB
comp=Z,100nm,1.2s
HHC AMB AMB
comp=Z,12μm,5.2s
HHC LR LR
comp=Z,49μm,16.5s
HHC LR LR
comp=Z,52μm,17.5s
HHC LR LR
comp=Z,78μm,18.2s
CD2 Chengdu 74.20 308 P **P** **08 40 22.4 +1.0**
CD2 pP **pP** **08 40 33.2 -0.3**
CD2 PP **PP** **08 43 10.3 +2.6**
CD2 S **S** **08 49 54.3 +1.9**
CD2 SKS **SKSac** **08 50 22.5 -3.7**
CD2 SS **SS** **08 54 40.8 +2.0**
CD2 AMB AMB
comp=Z,120nm,1.2s
CD2 AMB AMB
comp=Z,5μm,6.4s
CD2 LR LR
comp=Z,34μm,19.0s
CD2 LR LR
comp=Z,34μm,18.3s
CMBY CAMPBELL BAY 74.39 281 *e*P **P** **08 40 23.6 +0.9**
CMBY AMB AMB 08 40 47.2
comp=Z,212nm,1.3s
BTO Baotou 74.58 319 *e*P **P** **08 40 23.1 -0.4**
BTO AMB AMB
comp=Z,13nm,2.2s
LZH Lanzhou 76.49 313 ⇑P P 08 40 39.2 +4.6
LZH pP pP 08 40 49.8 +3.1
LZH sP sP 08 40 54.0 +2.7
LZH S **S** **08 50 22.3 +4.5**
LZH sS sS 08 50 39.6 +1.7
LZH AMB AMB
comp=Z,600nm,1.3s
LZH AMB AMB
comp=Z,7μm,8.2s
LZH LR LR
comp=Z,12μm,15.4s
LZH LR LR
comp=Z,32μm,18.2s
LZH LR LR
comp=Z,44μm,18.6s
QSPA South Pole Qui 76.69 180 *e*P **P** **08 40 34.1 -1.1**
comp=Z,265nm,1.2s
SEY Seymchan 76.75 354*d i*P **P** **08 40 32.2 -3.0**
PBA Port Blair 76.80 285 *e*P P 08 40 35.4 -1.1
DGPR DIGLIPUR 77.07 287 *e*P **P** **08 40 36.7 -1.3**
DGPR AMB AMB 08 40 46.1
comp=Z,127nm,1.4s
CLNS Chul'man 77.78 338 *e*P **P** **08 40 39.3 -1.9**
CLNS *e* 08 40 48.4
CLNS *e**PP **pP** **08 40 53.1 -0.3**
CLNS *e* 08 43 35.3
CLNS *e*PPP PPP 08 45 21.5
CLNS *e*S **S** **08 50 30.1 -0.6**
CLNS *e* 08 51 08.0
CLNS pmax pmax
comp=E,62nm,1.2s
CLNS pmax pmax
comp=N,123nm,1.2s
CLNS pmax pmax
comp=Z,177nm,1.0s
CLNS pmax pmax
comp=Z,37nm,1.3s
CLNS pmax pmax
comp=N,51nm,1.3s
CLNS pmax pmax
comp=E,31nm,1.5s

CLNS smax smax
comp=N,7μm,9.6s
CLNS smax smax
comp=E,15μm,9.0s
CLNS MLR MLR
comp=N,22μm,22.0s
CLNS MLR MLR
comp=Z,16μm,19.0s
CLNS MLR MLR
comp=E,16μm,17.0s
CIT Chita 79.26 330 *e*P **P** **08 40 47.8 -1.7**
CIT *e* 08 40 58.1
CIT *e* 08 41 03.8
CIT pmax pmax
comp=Z,597nm,1.5s
IMP Imphal 79.83 299 *e*P **P** **08 40 52.0 -1.2**
IMP *e*S x 08 46 41.0
ULN Ulaanbaatar 80.30 324 P **P** **08 40 54.0 -1.3**
SNR=84
ULN Ulaanbaatar 80.30 324 *e*P **P** **08 40 53.5 -1.9**
comp=Z,202nm,1.3s
YAK Yakutsk 80.35 344 *e*P P 08 40 50.2 -4.8
YAK *e* 08 41 00.4
YAK *e* 08 43 53.6
YAK *e*PPP PPP 08 45 45.3
YAK *e*S S 08 50 47.5 -10
YAK *e**SS sS 08 51 38.8 +21
YAK *e*SSS SSS 08 59 27.4
YAK pmax pmax
comp=E,42nm,1.2s
YAK pmax pmax
comp=Z,214nm,1.1s
YAK pmax pmax
comp=N,76nm,1.3s
YAK pmax pmax
comp=Z,2μm,8.9s
YAK pmax pmax
comp=N,660nm,4.8s
YAK pmax pmax
comp=E,369nm,4.7s
YAK smax smax
comp=N,2μm,6.6s
YAK smax smax
comp=E,7μm,8.7s
RSO Redoubt South 80.56 19 *e*P **P** **08 40 56.4 -0.2**
comp=E,56nm,0.8s
SONM Songino Array 80.66 324 P **P** **08 40 55.9 -1.3**
SONM PKKPbc **PKKPbc** **08 59 39.9 +0.5**
SONM P'P' 09 07 46.0
SONM Songino Array 80.66 324 P **P** **08 40 55.9 -1.3**
comp=E,34nm,1.1s,baz=134,slow=5.2,SNR=38
SONM PKKPbc **PKKPbc** **08 59 39.9 +0.5**
comp=E,0.6nm,0.7s,baz=349,slow=1.5,SNR=3.6
SONM PKPPKP P'P'df 09 07 46.0 +6.5
comp=E,0.2nm,0.5s,baz=228,slow=3.8,SNR=3.7
SONM LR LR 09 18 40.5
comp=E,23μm,18.1s,baz=213,slow=37
GTA Gaotai 80.83 314 ⇑P **P** **08 40 57.7 -0.7**
GTA pP **pP** **08 41 08.0 -2.6**
GTA S **S** **08 51 02.7 -1.3**
GTA SKS **SKSac** **08 51 08.9 -5.2**
GTA SS **SS** **08 56 21.5 +2.9**
GTA AMB AMB
comp=E,26nm,2.2s
GTA AMB AMB
comp=E,6μm,9.5s
GTA LR LR
comp=E,18μm,18.5s
GTA LR LR
comp=E,18μm,18.5s
GTA LR LR
comp=E,26μm,19.5s
SHL Shillong 81.84 299 *ex* **pP** **08 41 16.0 -0.3**
SHL *ex* **S** **08 51 20.0 +4.9**
SHL Shillong 81.84 299 *e*P **P** **08 41 03.1 -1.0**
SHL AMB AMB 08 41 11.6
comp=Z,152nm,1.6s
PMR Palmer 82.59 20 *e*P **P** **08 41 08.5 +1.6**
PMR pmax pmax
comp=Z,67nm,1.2s
PMR Palmer 82.59 20 *e*P **P** **08 41 08.5 +1.6**
comp=Z,67nm,1.2s
MAW Mawson 82.73 202 *e*P **P** **08 41 07.2 -0.5**
MAW Mawson 82.73 202 P **P** **08 41 06.2 -1.5**
comp=Z,12nm,1.0s,baz=99,slow=8.9,SNR=18
MAW LR LR 09 12 07.6
comp=Z,30μm,21.4s,baz=95,slow=31
DIV Divide 83.42 21 *e*P **P** **08 41 11.8 +0.5**
comp=Z,150nm,1.6s
TRF Thorofare Moun 83.58 18 *e*P **P** **08 41 10.5 -1.8**
comp=Z,49nm,0.9s
ZAK Zakamensk 83.72 325 *e*P **P** **08 41 10.9 -2.3**
ZAK *e* 08 51 32.1
ZAK pmax pmax
comp=Z,87nm,1.0s
BMRM Bremner River 83.72 22 *e*P **P** **08 41 11.1 -1.8**
comp=Z,124nm,1.3s
LSA Lhasa 83.80 302 P **P** **08 41 12.9 -1.6**
LSA S **S** **08 51 34.3 -1.2**
LSA LR LR
comp=Z,9μm,17.5s
LSA LR LR
comp=Z,10μm,23.3s
LSA LR LR
comp=Z,14μm,28.0s
HOPS Hopland 83.99 48 *e*P P 08 41 20.4 +5.7
comp=Z,66nm,1.3s
IRK Irkutsk 84.11 327 *e*P **P** **08 41 13.7 -1.3**
IRK pmax pmax
comp=Z,402nm,2.8s
TLY Talaya 84.16 326*c i*P **P** **08 41 12.6 -2.7**
TLY *e*S **S** **08 51 36.5 -0.8**
TLY *e*SSS SSS 09 00 35.9
TLY pmax pmax
comp=Z,203nm,1.5s
TLY MLR MLR
comp=Z,34μm,18.0s
TLY Talaya 84.16 326 P **P** **08 41 16.8 +1.5**
comp=Z,551nm,1.4s,SNR=19
MCK McKinley 84.20 18 *e*P **P** **08 41 14.1 -1.2**
MCK pmax pmax
comp=Z,106nm,1.3s
MCK McKinley 84.20 18 *e*P **P** **08 41 14.1 -1.2**
comp=Z,106nm,1.3s
SAO San Andreas Ge 84.36 50 *e*P **P** **08 41 16.9 +0.2**
SAO pmax pmax
comp=Z,18nm,1.1s
SAO San Andreas Ge 84.36 50 *e*P **P** **08 41 16.9 +0.2**
comp=Z,18nm,1.1s
IM04 Indian Mountai 84.52 15 *e*P P 08 41 13.5 -3.3
PAX Paxson 84.78 20 *e*P **P** **08 41 20.3 +2.0**
PAX pmax pmax
comp=Z,96nm,1.6s
PAX Paxson 84.78 20 *e*P **P** **08 41 20.3 +2.0**
comp=Z,96nm,1.6s
PKM Peak Mountain 84.94 53 P **P** **08 41 21.2 +1.3**
baz=85
SMMC Simmler 84.95 52 P **P** **08 41 21.6 +1.9**
baz=85
WDC Whiskeytown Da 84.97 46 *e*P **P** **08 41 19.9 +0.3**
WDC pmax pmax
comp=Z,61nm,1.4s
WDC Whiskeytown Da 84.97 46 *e*P **P** **08 41 19.9 +0.3**
comp=Z,62nm,1.4s
BLG Laguna Peak 85.27 53 P **P** **08 41 22.5 +1.2**
baz=86
YBH Yreka Blue Hor 85.28 45 *e*P **P** **08 41 21.1 -0.2**
comp=Z,48nm,1.2s
YBH Yreka Blue Hor 85.28 45 LR LR 09 11 36.4
comp=Z,14μm,21.2s,baz=248,slow=30
SCI San Clemente I 85.31 55 P **P** **08 41 22.7 +1.2**
baz=86
MENT Mentasta 85.35 21 *e*P **P** **08 41 18.6 -2.5**
COLA College 85.35 18 *e*P P 08 41 14.7 -6.2
COLA College 85.35 18 *e*P P 08 41 14.7 -6.2
comp=Z,273nm,0.8s
HUMO Hull Mountain 85.45 44 *e*P **P** **08 41 20.2 -1.8**
comp=Z,30nm,0.9s
CIS Catalina Islan 85.56 54 P **P** **08 41 23.9 +1.1**
baz=86
ILAR Eielson Array 85.57 18 P P 08 41 16.4 -5.7
ILAR PKKPbc **PKKPbc** **08 59 30.1 +1.7**
ILAR P'P' 09 07 33.4
ILAR Eielson Array 85.57 18 P P 08 41 16.4 -5.7
comp=Z,8.1nm,0.8s,baz=246,slow=4.8,SNR=42
ILAR PKKPbc **PKKPbc** **08 59 30.1 +1.7**

comp=Z,2.0nm,0.9s,baz=353,slow=2.1,SNR=8.9
ILAR PKPPKP **P'P'df** **09 07 33.4 +4.2**
comp=Z,1.2nm,0.9s,baz=351,slow=2.7,SNR=5.7
ILAR LR LR 09 15 55.4
comp=Z,33μm,18.6s,baz=234,slow=33
MOY Mondy 85.60 326 *e*P **P** **08 41 23.5 +0.8**
MOY pmax pmax
comp=Z,508nm,3.6s
ARVC Arvin 85.79 53 P **P** **08 41 25.2 +1.4**
baz=86
VES Vestal, Richgr 85.83 52 P **P** **08 41 25.4 +1.4**
baz=86
RCTC Rector, Farmer 85.87 51 P **P** **08 41 25.6 +1.4**
baz=86
MWC Mount Wilson 86.09 54 *e*P **P** **08 41 25.4 -0.2**
MWC pmax pmax
comp=Z,43nm,1.1s
MWC Mount Wilson 86.09 54 *e*P **P** **08 41 25.4 -0.2**
comp=Z,43nm,1.1s
WRAK Wrangell Islan 86.18 29 *e*P **P** **08 41 24.8 -0.4**
comp=Z,14nm,0.7s
ISA Isabella 86.24 52 *e*P **P** **08 41 28.4 +2.3**
ISA pmax pmax
comp=Z,28nm,1.2s
ISA Isabella 86.24 52 *e*P **P** **08 41 28.4 +2.3**
comp=Z,28nm,1.2s
ISA Isabella 86.24 52 P **P** **08 41 27.4 +1.3**
baz=86
BEKR Beckworth 86.26 48 *e*P **P** **08 41 24.4 -2.0**
comp=Z,29nm,1.4s
BBB Bella Bella 86.29 34 LR LR 09 19 00.3
comp=Z,54μm,18.1s,baz=252,slow=35
HYT Haines Junctio 86.34 24 *e*P **P** **08 41 25.3 -0.8**
EDW2 Edwards Air Fo 86.36 53 P **P** **08 41 27.2 +0.4**
baz=86
COLD Coldfoot 86.40 16 *e*P **P** **08 41 23.2 -2.9**
comp=Z,342nm,2.0s
BFSC Mount Baldy Ra 86.41 54 P **P** **08 41 27.4 +0.3**
baz=87
109C Camp Elliot, M 86.42 55 P **P** **08 41 27.5 +0.5**
baz=87
SKAG Skagway 86.46 26 *e*P **P** **08 41 26.1 -0.4**
comp=Z,18nm,1.0s
BOK Bokaro 86.52 295 *e*P **P** **08 41 27.1 -0.6**
BOK AMB AMB 08 41 34.9
comp=Z,118nm,6.5s
MURC Murrieta 86.57 54 P **P** **08 41 29.0 +1.2**
baz=87
OOW Octopus West 86.67 39 P P 08 41 31.5 +3.5
BAR Barrett 86.71 55 *e*P **P** **08 41 30.6 +2.2**
comp=Z,10nm,0.9s
LRMC Laurel Mountai 86.78 53 P **P** **08 41 30.2 +1.3**
baz=87
CWC Cottonwood Cre 86.79 52 P **P** **08 41 30.5 +1.6**
baz=87
PAHR Pah Rah Range 86.91 48 *e*P **P** **08 41 30.2 +0.7**
comp=Z,68nm,1.4s
MONP Monument Peak 86.97 55 P **P** **08 41 31.5 +1.5**
baz=87
MOD Modoc 87.02 46 *e*P **P** **08 41 28.0 -1.9**
comp=Z,108nm,1.2s
MPMC Manual Prospec 87.12 52 P **P** **08 41 32.1 +1.5**
baz=87
RRX Edison Barstow 87.13 53 P **P** **08 41 32.3 +1.8**
baz=87
PALK Pallekele 87.14 278 *e*P **P** **08 41 31.4 +0.4**
comp=Z,103nm,1.4s
DVTC Desert V Tower 87.16 56 P **P** **08 41 32.4 +1.7**
baz=87
PFO Pinyon Flat Ob 87.17 55 *e*P **P** **08 41 32.5 +1.7**
PFO Pinyon Flat Ob 87.17 55 P **P** **08 41 32.3 +1.5**
baz=87
PFO Pinyon Flat Ob 87.17 55 P **P** **08 41 29.8 -1.1**
comp=Z,5.6nm,0.6s,baz=262,slow=3.2,SNR=11
VIS Vishakhapatnam 87.21 289 *e*P **P** **08 41 29.4 -1.7**
VIS AMB AMB 08 41 38.8
comp=Z,71nm,1.4s
NVAR Mina Array Bea 87.28 50 P P 08 41 27.5 -3.9
NVAR PKKP **PKKPdf** **08 59 17.7 +0.1**
NVAR P'P' 09 07 29.7
NVAR Mina Array Bea 87.28 50 P P 08 41 27.5 -3.9
comp=Z,0.8nm,0.3s,baz=246,slow=11,SNR=13
NVAR PKKP **PKKPdf** **08 59 17.7 +0.1**
comp=Z,0.7nm,0.9s,baz=183,slow=5.9,SNR=4.2
NVAR PKPPKP **P'P'df** **09 07 29.7 +0.9**
comp=Z,1.0nm,0.9s,baz=66,slow=2.9,SNR=3.9
NVAR LR LR 09 15 18.6
comp=Z,75μm,19.6s,baz=89,slow=32
VLL Laurance Lake 87.38 42 P **P** **08 41 33.8 +2.2**
NV11 Mina Array Sit 87.39 50 *e*P **P** **08 41 33.4 +1.6**
EGAK Eagle 87.41 20 *e*P P 08 41 26.5 -4.6
comp=Z,49nm,0.9s
GSC Goldstone 87.41 53 *e*P **P** **08 41 33.4 +1.5**
GSC pmax pmax
comp=Z,12nm,1.1s
GSC Goldstone 87.41 53 *e*P **P** **08 41 33.4 +1.5**
comp=Z,12nm,1.1s
GSC Goldstone 87.41 53 P **P** **08 41 32.9 +1.0**
baz=88
VFP Flag Point 87.47 42 P **P** **08 41 33.8 +1.8**
PGC Sidney 87.48 39 *e*P **P** **08 41 34.2 +2.4**
comp=Z,2.0nm,1.0s
SWSC Sam W. Stewart 87.49 55 P **P** **08 41 33.4 +1.2**
baz=88
DAWY Dawson 87.57 21 *e*P **P** **08 41 32.8 +0.8**
HEC Hector,Ludlow 87.64 54 P **P** **08 41 34.8 +1.8**
baz=88
BELC Belle Mtn. Jos 87.65 54 P **P** **08 41 34.7 +1.6**
baz=88
VIPM Ingram Point 87.73 43 P **P** **08 41 35.4 +2.0**
VIPM Ingram Point 87.73 43 P **P** **08 41 35.4 +2.0**
FURC Furnace Creek, 87.74 52 P **P** **08 41 35.0 +1.8**
baz=88
LON Longmire 87.78 41 *e*P **P** **08 41 33.9 +0.6**
LON pmax pmax
comp=Z,24nm,1.2s
LON Longmire 87.78 41 *e*P **P** **08 41 33.9 +0.6**
comp=Z,24nm,1.2s
BC3 Big Chuckawall 87.98 55 P **P** **08 41 35.9 +1.2**
baz=88
SHOC Shoshone 88.00 53 P **P** **08 41 36.2 +1.5**
baz=88
TUQ Turquoise Moun 88.14 53 P **P** **08 41 36.7 +1.2**
baz=88
GMRC Granite Mounta 88.15 54 P **P** **08 41 36.6 +1.1**
baz=88
DLBC Dease Lake 88.27 28 *e*P **P** **08 41 33.3 -2.1**
DLBC Dease Lake 88.27 28 LR LR 09 17 56.7
comp=Z,58μm,18.9s,baz=244,slow=34
GLA Glamis 88.30 56 *e*P **P** **08 41 38.1 +1.9**
GLA pmax pmax
comp=Z,40nm,0.9s
GLA Glamis 88.30 56 *e*P **P** **08 41 38.1 +1.9**
comp=Z,40nm,0.9s
GLA Glamis 88.30 56 P **P** **08 41 37.1 +1.0**
baz=88
IRM Iron Mountain 88.37 54 P **P** **08 41 37.2 +0.8**
baz=89
TIXI Tiksi 88.37 349*c i*P P 08 41 31.4 -4.1
TIXI pmax pmax
comp=Z,106nm,1.7s
WVOR Wild Horse Val 88.37 46 *e*P **P** **08 41 34.3 -2.0**
WVOR pmax pmax
comp=Z,105nm,1.5s
WVOR Wild Horse Val 88.37 46 *e*P **P** **08 41 34.3 -2.0**
comp=Z,105nm,1.5s
LDFC Landfair 88.67 54 *e*P **P** **08 41 40.5 +2.6**
comp=Z,117nm,1.3s
BMN Battle Mountai 88.72 48 *e*P **P** **08 41 40.8 +2.7**
BMN pmax pmax
comp=Z,21nm,1.1s
BMN Battle Mountai 88.72 48 *e*P **P** **08 41 40.8 +2.7**
comp=Z,21nm,1.1s
Y12C Blythe 88.75 55 P **P** **08 41 38.8 +0.6**
baz=89
MDRS Chennai 88.95 284 *e*P **P** **08 41 38.1 -1.4**
MDRS AMB AMB 08 41 47.1
comp=Z,68nm,0.8s
ETW Entiat 89.03 40 P **P** **08 41 37.1 -2.2**
113A Mohawk Valley, 89.07 56 P **P** **08 41 40.3 +0.6**
baz=89
HAWA Hanford 89.11 42 *e*P **P** **08 41 39.8 +0.2**
comp=Z,25nm,0.8s
PDMCI Parker Dam,Lak 89.21 55 P **P** **08 41 41.0 +0.7**
baz=89
R11A Troy Canyon, C 89.28 50 *e*P P 08 41 37.6 -3.2
R11A Troy Canyon, C 89.28 50 P **P** **08 41 41.6 +0.8**

baz=90
HVS **Khovu-Aksy** 89.52 323 ⇓ *i*P P 08 41 39.4 -2.1
214A **Organ Pipe Nat** 89.62 57 P P 08 41 43.5 +1.1
baz=90
W13A **Hualapai Mount** 89.64 54 P P 08 41 43.5 +0.9
baz=90
SYO **Syowa Base** 89.70 197 ⇑ *i*P P 08 41 43.4 +1.5
SYO **Syowa Base** 89.70 197 ⇑ *i*P P 08 41 47.6 +5.7
Z14A **Wintersburg** 89.90 56 P P 08 41 45.0 +1.4
baz=90
Y14A **Wickenburg** 90.01 55 P P 08 41 45.7 +1.5
baz=90
BMO **Blue Mountains** 90.07 44 *e*P P 08 41 38.6 -5.7
BMO pmax pmax
comp=Z,21nm,0.9s
BMO **Blue Mountains** 90.07 44 *e*P P 08 41 38.6 -5.7
comp=Z,21nm,0.9s
ELK **Elko** 90.25 48 *e*P P 08 41 42.1 -3.2
comp=Z,17nm,1.0s
MFID **Camas Ranch** 90.64 45 P P 08 41 48.6 +1.7
baz=91
CCUT **Cedar City** 90.73 52 *e*P P 08 41 46.1 -1.5
comp=Z,164nm,2.1s
ARUT **Antelope Range** 90.74 51 *e*P P 08 41 49.0 +1.4
ARUT **Antelope Range** 90.74 51 *e*P P 08 41 49.0 +1.4
comp=Z,987nm,1.5s
WMQ **Urumqi** 90.89 315 P P 08 41 47.7 -0.3
WMQ pP **pP** 08 41 58.3 -2.1
WMQ PP **PP** 08 45 25.9 +1.3
WMQ SKS **SKSac** 08 52 15.0 -1.9
WMQ S **S** 08 52 39.4 -2.8
WMQ SS **SS** 08 58 45.7 -0.4
WMQ AMB AMB
comp=Z,87nm,1.4s
WMQ AMB AMB
comp=Z,4μm,5.4s
WMQ LR LR
comp=Z,25μm,17.6s
WMQ LR LR
comp=Z,23μm,16.6s
WMQ LR LR
comp=Z,23μm,18.4s
TRD **Trivandrum** 91.03 278 *e*P P 08 41 47.4 -1.9
TRD AMB AMB 08 41 56.5
comp=Z,80nm,1.2s
U15A **North Rim** 91.25 53 P P 08 41 51.7 +1.5
baz=91
NEW **Newport** 91.28 41 *e*P P 08 41 45.1 -4.6
comp=Z,14nm,0.8s
NEW **Newport** 91.28 41 P P 08 41 51.7 +2.0
baz=92
NEW **Newport** 91.28 41 LR LR 09 21 47.8
comp=Z,27μm,18.4s,baz=252,slow=35
TUC **Tucson** 91.38 57 *e*P P 08 41 52.1 +1.5
TUC pmax pmax
comp=Z,19nm,0.9s
TUC **Tucson** 91.38 57 *e*P P 08 41 52.1 +1.5
comp=Z,19nm,0.9s
X16A **Lo Mia Camp, P** 91.39 55 P P 08 41 52.7 +2.0
baz=92
HYB **Hyderabad** 91.56 287 *i* P P 08 41 52.0 +0.3
HYB *e*SKS **SKSac** 08 52 20.0 -1.7
HYB *e*ScS **S** 08 52 48.0 -1.2
HYB *e*PS pS 08 52 58.0 -7.1
HYB **Hyderabad** 91.56 287 *e*P P 08 41 50.7 -1.0
HYB AMB AMB 08 41 58.8
comp=Z,64nm,1.7s
HLID **Hailey** 91.66 46 *e*P P 08 41 50.8 -1.0
comp=Z,14nm,0.8s
HLID **Hailey** 91.66 46 P P 08 41 54.2 +2.4
baz=92
WUAZ **Wupatki** 91.73 54 *e*P P 08 41 50.7 -1.5
comp=Z,19nm,0.9s
WUAZ **Wupatki** 91.73 54 P P 08 41 54.6 +2.3
baz=92
MVU **Marysvale** 91.86 51 *e*P P 08 41 49.2 -3.7
comp=Z,56nm,1.4s
DUG **Dugway** 91.87 49 *e*P P 08 41 53.9 +1.1
DUG pmax pmax
comp=Z,21nm,1.2s
DUG **Dugway** 91.87 49 *e*P P 08 41 53.9 +1.1
comp=Z,21nm,1.2s
DUG **Dugway** 91.87 49 P P 08 41 55.0 +2.2
baz=92
BGU **Big Grassy Mou** 91.91 48 *e*P P 08 41 55.1 +2.2
comp=Z,54nm,1.5s
INK **Inuvik** 91.95 19 LR LR 09 18 00.2
comp=Z,21μm,20.4s,baz=231,slow=32
NGP **Nagpur** 91.96 291 *e*P P 08 41 52.5 -1.0
NGP AMB AMB 08 41 58.1
comp=Z,76nm,2.4s
HVU **Hansel Valley** 92.33 48 *e*P P 08 41 57.2 +2.3
HVU pmax pmax
comp=Z,37nm,1.2s
HVU **Hansel Valley** 92.33 48 *e*P P 08 41 57.2 +2.3
comp=Z,37nm,1.2s
NLU **North Lily Min** 92.35 50 *e*P P 08 41 57.9 +2.8
comp=Z,5.9nm,1.0s
319A **Douglas** 92.38 58 P P 08 41 58.0 +2.7
baz=93
SPUT **South Promonto** 92.43 48 *e*P P 08 41 57.7 +2.3
comp=Z,92nm,2.0s
X18A **Snowflake** 92.61 55 P P 08 41 58.2 +1.8
baz=93
BSMT **Bassoo Peak** 92.65 41 *e*P P 08 41 55.5 -0.8
comp=Z,13nm,0.8s
MPU **Maple Canyon** 92.69 50 *e*P P 08 41 58.2 +1.6
comp=Z,14nm,1.2s
Q16A **Castle Valley** 92.76 51 *e*P P 08 41 59.6 +2.6
Q16A **Castle Valley** 92.76 51 P P 08 41 59.7 +2.8
baz=93
TMUT **Trail Mountain** 92.83 50 *e*P P 08 41 53.3 -4.1
comp=Z,9.3nm,0.8s
MSO **Missoula** 92.91 43 P P 08 41 59.3 +2.0
baz=93
JTMT **Jette** 92.94 42 *e*P P 08 41 58.7 +1.1
comp=Z,7.9nm,1.0s
JLU **Jordanelle** 92.98 49 *e*P P 08 42 00.8 +2.7
comp=Z,15nm,1.2s
320A **Kipp Ranch, An** 93.00 59 P P 08 42 00.4 +2.2
baz=93
SWMT **Swartz Lake** 93.06 42 *e*P P 08 41 58.7 +0.6
comp=Z,9.1nm,1.2s
DAU **Daniels Canyon** 93.07 49 *e*P P 08 42 00.6 +2.0
DAU pmax pmax
comp=Z,160nm,2.2s
DAU **Daniels Canyon** 93.07 49 *e*P P 08 42 00.6 +2.0
comp=Z,160nm,2.2s
MCMT **McKenzie Canyo** 93.09 45 *e*P P 08 42 00.9 +2.4
comp=Z,6.4nm,1.1s
220A **Playas Peak, P** 93.13 58 P P 08 42 00.9 +2.1
baz=93
120A **U Bar Ranch, L** 93.20 57 P P 08 42 01.9 +2.8
baz=93
SRU **San Rafael** 93.29 51 *e*P P 08 42 01.3 +1.9
SRU pmax pmax
comp=Z,5.0nm,0.8s
SRU **San Rafael** 93.29 51 *e*P P 08 42 01.3 +1.9
comp=Z,4.6nm,0.8s
SLMT **Seeley Lake** 93.32 42 *e*P P 08 42 01.1 +1.8
comp=Z,19nm,1.4s
Z20A **Nine Sixteen R** 93.36 57 P P 08 42 02.4 +2.5
baz=94
CHMT **Chamberlain Mo** 93.39 43 *e*P P 08 42 01.2 +1.5
comp=Z,24nm,1.6s
DLMT **Dillon** 93.41 44 *e*P P 08 42 01.6 +1.8
comp=Z,24nm,1.1s
PMSA **Palmer Station** 93.49 161 *e*P P 08 41 57.9 -1.7
comp=Z,100nm,1.3s
WALA **Waterton Lakes** 93.55 40 *e*P P 08 42 03.3 +3.0
comp=Z,1.0nm,1.3s
LATR **Latur** 93.63 288 *ex* P 08 41 54.0 -7.1
AKL **Akola** 93.72 290 *i* P P 08 42 00.4 -1.2
AKL AMP 08 42 14.3
comp=Z,125nm,1.6s
AKL *i* x x 08 52 33.7
Y20A **Horse Springs,** 93.72 56 P P 08 42 04.3 +2.7
baz=94
RRI2 **Red Ridge** 93.77 46 *e*P P 08 42 00.7 -1.0
comp=Z,38nm,1.5s
X20A **Quemado** 93.77 56 P P 08 42 04.5 +2.7
baz=94
221A **Mesquite Ranch** 93.78 58 P P 08 42 04.7 +2.9
baz=94
121A **Cookes Peak, D** 93.89 58 P P 08 42 04.9 +2.6
baz=94
BHPL **Bhopal** 93.90 293 *e*P P 08 42 00.1 -2.3

W20A **Ramah** 93.91 55 P P 08 42 05.1 +2.7
baz=94
TPAW **Teton Pass** 94.07 46 *e*P P 08 42 05.2 +2.2
comp=Z,43nm,1.8s
REDW **Red Top Meadow** 94.11 47 *e*P P 08 42 05.2 +2.0
comp=Z,64nm,1.8s
Z21A **St. Cloud Mine** 94.16 57 P P 08 42 06.2 +2.6
baz=94
IMW **Indian Meadow** 94.18 46 *e*P P 08 42 06.4 +2.8
comp=Z,19nm,1.5s
SNOW **Snow King Moun** 94.20 46 *e*P P 08 42 05.9 +2.3
comp=Z,339nm,2.8s
MAIT **Maitri** 94.27 188 *e*P P 08 41 59.0 -4.1
MAIT *e* 08 47 53.3
Y21A **Point of Rocks** 94.32 56 P P 08 42 07.3 +3.0
baz=94
X21A **Alamocita Cree** 94.33 56 P P 08 42 06.9 +2.5
baz=94
LOHW **Long Hollow** 94.34 46 *e*P P 08 42 05.5 +1.3
comp=Z,21nm,1.6s
YMR **Madison River** 94.35 45 *e*P P 08 42 04.8 +0.6
comp=Z,8.7nm,0.9s
222A **Williams Famil** 94.36 58 P P 08 42 07.3 +2.9
baz=94
MVCO **Mesa Verde** 94.39 53 *e*P P 08 42 07.5 +2.9
comp=Z,6.5nm,0.9s
MVCO **Mesa Verde** 94.39 53 P P 08 42 06.8 +2.2
baz=95
FLWY **Flagg Ranch** 94.39 46 *e*P P 08 42 05.6 +1.2
comp=Z,23nm,1.4s
PV01 **Paradox Valley** 94.55 52 *e*P P 08 42 07.4 +2.1
comp=Z,539nm,0.9s
P19A **Cripple Cowboy** 94.58 51 P P 08 42 07.0 +1.6
baz=95
S20A **Disappointment** 94.64 52 P P 08 42 07.4 +1.6
baz=95
R20A **Redvale** 94.70 52 P P 08 42 07.5 +1.5
baz=95
Z22A **Elephant Butte** 94.73 57 P P 08 42 08.3 +2.2
baz=95
LAZ **Ladron** 94.84 56 *e*P P 08 42 08.0 +1.3
comp=Z,2.1nm,0.9s
U21A **Nageezi** 94.87 54 P P 08 42 08.6 +1.7
baz=95
L19A **Farson** 94.87 48 P P 08 42 09.7 +3.0
baz=95
SNAA **Sanae** 94.87 184 *e*P P 08 42 03.5 -2.5
SNAA **Sanae** 94.87 184 *e*P P 08 42 03.1 -2.9
comp=Z,67nm,1.4s
BW06 **Boulder Array** 94.88 47 *e*P P 08 42 09.9 +3.2
comp=Z,25nm,1.8s
PDAR **Pinedale Array** 94.88 47 P P 08 42 03.5 -3.3
PDAR PKKP **PKKPdf** 08 59 05.8 +1.5
PDAR P'P' 09 07 22.2
PDAR **Pinedale Array** 94.88 47 P P 08 42 03.5 -3.3
comp=Z,0.5nm,0.8s,baz=204,slow=2.0,SNR=3.5
PDAR PKKP **PKKPdf** 08 59 05.8 +1.5
comp=Z,1.0nm,0.8s,baz=109,slow=4.1,SNR=5.0
PDAR PKPPKP P'P'df 09 07 22.2 +7.8
comp=Z,0.8nm,0.9s,baz=114,slow=3.7,SNR=3.7
PDAR LR LR 09 23 50.2
comp=Z,27μm,18.5s,baz=252,slow=35
DDI **Dehra Dun** 94.89 300 *e*P P 08 42 05.5 -1.3
DDI AMB AMB 08 42 14.2
comp=Z,161nm,2.6s
Q20A **Ridgley Place,** 94.94 51 P P 08 42 09.2 +2.2
baz=95
X22A **Bernardo** 94.96 56 P P 08 42 09.1 +1.9
baz=95
P20A **De Beque** 94.99 51 P P 08 42 09.2 +2.0
baz=95
EDM **Edmonton** 95.02 37 *e*P P 08 42 08.3 +1.4
EDM **Edmonton** 95.02 37 *e*P P 08 42 08.2 +1.4
S21A **Coal Bank Pass** 95.04 53 P P 08 42 09.6 +1.9
baz=95
T21A **Navajo Lake** 95.09 53 P P 08 42 10.0 +2.2
baz=95
BNM **Barren Site** 95.19 56 *e*P P 08 42 11.4 +3.0
comp=Z,7.4nm,1.1s
O20A **White River Ci** 95.25 50 *e*P P 08 42 08.7 +0.3
O20A **White River Ci** 95.25 50 P P 08 42 10.5 +2.1
baz=95
NDI **New Delhi** 95.26 298 *ex* P 08 42 09.0 +0.6
Z23A **Rita Site, Whi** 95.33 57 P P 08 42 11.6 +2.8
baz=96
J19A **Crowheart** 95.36 47 P P 08 42 11.7 +2.9
baz=96
MK31 **Makanchi Array** 95.36 317 *e*P P 08 42 06.5 -2.0
MK31 **Makanchi Array** 95.36 317 *e*P P 08 42 06.5 -2.0
MKAR **Makanchi Array** 95.36 317 P P 08 42 06.2 -2.3
MKAR 08 45 58.6
MKAR **Makanchi Array** 95.36 317 P P 08 42 06.2 -2.3
MKAR PP **PP** 08 45 58.6 -0.9
MKAR PKKP **PKKPbc** 08 59 01.3 -1.5
MKAR ⇑P P 08 42 06.0 -2.5
MKAR **Makanchi Array** 95.36 317 P P 08 42 06.2 -2.3
comp=Z,8.0nm,0.7s,baz=101,slow=5.6,SNR=40
MKAR PP **PP** 08 45 58.6 -0.9
comp=Z,8.3nm,1.2s,baz=103,slow=5.5,SNR=5.2
MKAR PKKP **PKKPbc** 08 59 01.3 -1.5
comp=Z,1.2nm,0.7s,baz=279,slow=2.3,SNR=5.8
MKAR LR LR 09 27 44.2
comp=Z,18μm,19.2s,baz=3.2,slow=37
R21A **Cimarron** 95.38 52 P P 08 42 11.8 +2.7
baz=96
N20A **Spence Gulch,** 95.39 49 P P 08 42 11.0 +2.0
baz=96
Q21A **Lamborn Mesa,** 95.47 52 P P 08 42 11.8 +2.4
baz=96
ANMO **Albuquerque** 95.50 56 *e*P P 08 42 10.9 +1.2
comp=Z,8.2nm,0.9s
ANMO **Albuquerque** 95.50 56 LR LR 09 18 55.8
comp=Z,64μm,19.9s,baz=78,slow=32
ZAA0 **Zalesovo Array** 95.55 324 *e*P P 08 42 06.0 -3.1
ZALV **Zalesovo Beam** 95.55 324 P P 08 42 05.9 -3.3
ZALV **Zalesovo Beam** 95.55 324 P P 08 42 05.9 -3.3
ZALV **Zalesovo Beam** 95.55 324 P P 08 42 05.9 -3.3
comp=Z,22nm,1.1s,baz=108,slow=4.8,SNR=18
ZALV LR LR 09 27 30.3
comp=Z,24μm,18.0s,baz=103,slow=37
GOA **Goa** 95.56 285 *e*P P 08 42 09.0 -1.1
GOA AMB AMB 08 42 17.0
comp=Z,31nm,1.7s
324A **Moseley Ranch,** 95.56 59 P P 08 42 12.0 +2.0
baz=96
L20A **Wamsutter** 95.59 48 P P 08 42 12.8 +2.8
baz=96
Y23A **Lomlace Mesa,** 95.61 57 P P 08 42 12.3 +2.1
baz=96
X23A **Hourglass Bar** 95.64 56 P P 08 42 12.7 +2.4
baz=96
224A **Cornudas Mount** 95.66 59 P P 08 42 12.8 +2.4
baz=96
MNTX **Cornudas Mount** 95.70 59 *e*P P 08 42 11.7 +1.3
comp=Z,4.5nm,0.9s
P21A **Newcastle** 95.71 51 P P 08 42 12.5 +1.9
baz=96
H19A **Powell** 95.72 46 P P 08 42 13.7 +3.3
baz=96
W23A **Werner Place,** 95.79 55 P P 08 42 13.1 +2.1
baz=96
S22A **4UR Ranch, Cre** 95.80 53 P P 08 42 13.1 +1.9
baz=96
SMLA **Simla** 95.81 300 *e*P P 08 42 08.9 -2.0
VNA2 **Neumayer--Watz** 95.83 182 *e*P P 08 42 08.7 -1.6
V23A **Ortiz Mt. (NFS** 95.89 55 P P 08 42 13.9 +2.4
baz=96
R22A **Saguache, Gunn** 95.96 52 P P 08 42 14.3 +2.5
baz=96
EGMT **Eagleton** 95.96 42 *e*P P 08 42 14.0 +2.7
comp=Z,33nm,1.4s
EGMT **Eagleton** 95.96 42 P P 08 42 14.3 +3.0
baz=96
Q22A **Crested Butte,** 95.98 52 P P 08 42 14.0 +2.1
baz=96
U23A **El Rito** 96.00 54 P P 08 42 14.1 +2.1
baz=96
F19A **Roth Farm, Mol** 96.02 44 P P 08 42 14.3 +2.6
baz=96
Y24A **Capitan** 96.11 57 P P 08 42 14.4 +1.9
baz=96
VNA1 **Neumayer--Stat** 96.14 182 *e*P P 08 42 10.3 -1.3
POO **Poona** 96.17 288 *e*P P 08 42 11.4 -1.5
P22A **Eagle** 96.25 51 P P 08 42 15.3 +2.3
baz=96
225A **Deer Hill, Car** 96.25 59 P P 08 42 15.5 +2.3

baz=96
E19A **Rath Farm, Rou** 96.26 44 P P 08 42 16.3 +3.6
baz=96
626A **Big Bend Ranch** 96.31 61 P P 08 42 14.8 +1.4
baz=96
D19A **Cripps Ranch,** 96.35 43 P P 08 42 15.8 +2.7
baz=96
C19A **Slack Wire Ran** 96.36 43 P P 08 42 16.7 +3.5
baz=96
W24A **Lazy 6 Ranch,** 96.40 55 P P 08 42 14.2 +0.4
baz=97
526A **Mary Lane Ranc** 96.45 61 P P 08 42 16.2 +2.2
baz=97
125A **Gardner Draw,** 96.50 58 P P 08 42 16.3 +2.1
baz=97
O22A **Kremmling** 96.52 50 P P 08 42 16.0 +1.7
baz=97
Z25A **Roswell** 96.57 57 P P 08 42 16.6 +2.1
baz=97
B19A **Brinkman Farms** 96.59 42 P P 08 42 16.3 +2.2
baz=97
V24A **Rampart Ranch,** 96.61 55 P P 08 42 16.7 +1.9
baz=97
426A **McDonald Obser** 96.62 60 P P 08 42 16.7 +1.8
baz=97
GDL2 **Guadalupe Moun** 96.65 59 *e*P P 08 42 17.4 +2.5
comp=Z,2.6nm,0.7s
R23A **Moffat** 96.67 52 P P 08 42 17.1 +2.0
baz=97
NVS **Novosibirsk** 96.67 325 *e*P P 08 42 11.1 -3.1
NVS *e*PPP PPP 08 48 14.4
NVS *e* 08 52 46.8
NVS *e*S S 08 53 25.7 -6.8
NVS pmax pmax
comp=Z,86nm,1.5s
NVS pmax pmax
comp=E,44nm,1.6s
E20A **Meyer Farm, Mu** 96.71 44 P P 08 42 17.1 +2.4
baz=97
Y25A **Mesa, Roswell** 96.72 57 P P 08 42 17.2 +2.0
baz=97
N22A **Wattenberg Ran** 96.72 50 P P 08 42 17.2 +2.0
baz=97
DHRM **DHARAMSHALA** 96.76 301 *e*P P 08 42 14.9 -0.6
DHRM AMB AMB 08 42 30.4
comp=Z,48nm,2.3s
A19A **Klindworth Far** 96.82 41 P P 08 42 18.3 +3.1
baz=97
D20A **Manuel Ranch,** 96.83 43 P P 08 42 17.5 +2.3
baz=97
SDCO **Great Sand Dun** 96.83 53 *e*P P 08 42 18.3 +2.5
comp=Z,2.9nm,1.1s
YKA **Yellowknife Ar** 96.86 27 P P 08 42 12.2 -2.7
YKA **Yellowknife Ar** 96.86 27 P P 08 42 12.1 -2.7
comp=Z,1.5nm,0.7s,baz=262,slow=4.7,SNR=3.7
527A **Woodward Ranch** 96.88 61 P P 08 42 17.6 +1.6
baz=97
627A **Terlingua Ranc** 96.93 61 P 08 42 18.2
baz=97
O23A **Lake Granby, G** 97.00 50 P Pdif 08 42 17.9 +1.3
baz=97
S24A **Houchin Ranch,** 97.04 53 P Pdif 08 42 18.7 +1.9
baz=97
N23A **Red Feather La** 97.12 50 P Pdif 08 42 18.7 +1.6
baz=97
ISCO **Idaho Springs** 97.15 51 *e*P Pdif 08 42 19.7 +2.4
ISCO pmax pmax
comp=Z,8.0nm,1.4s
ISCO **Idaho Springs** 97.15 51 *e*P Pdif 08 42 19.7 +2.4
comp=Z,7.7nm,1.4s
ISCO **Idaho Springs** 97.15 51 P Pdif 08 42 19.1 +1.8
baz=97
W25A **X Bar L Ranch,** 97.16 56 P Pdif 08 42 18.7 +1.5
baz=97
Z26A **Caprock** 97.17 58 P Pdif 08 42 18.8 +1.5
baz=97
427A **Hayter Ranch,** 97.19 60 P Pdif 08 42 19.0 +1.6
baz=97
628A **Black Gap, Mar** 97.36 62 P Pdif 08 42 20.0 +1.9
baz=98
Y26A **Elida** 97.43 57 P Pdif 08 42 20.2 +1.7
baz=98
PHWY **Pilot Hill** 97.56 49 *e*P Pdif 08 42 21.3 +2.3
comp=Z,3.7nm,0.8s
528A **Cox Ranch, San** 97.58 61 P Pdif 08 42 21.1 +1.9
baz=98
D21A **La Casta Ranch** 97.59 44 P Pdif 08 42 21.7 +3.0
baz=98
S25A **Robets Cordova** 97.65 53 P Pdif 08 42 21.2 +1.8
baz=98
328A **Wristen Ranch,** 97.79 60 P Pdif 08 42 21.9 +1.9
baz=98
Y27A **Causey** 97.96 57 P Pdif 08 42 22.6 +1.8
baz=98
529A **Stev Forest Ra** 98.05 61 P Pdif 08 42 22.8 +1.6
baz=98
MSTX **Muleshoe** 98.30 57 *e*P Pdif 08 42 24.1 +1.8
MSTX **Muleshoe** 98.30 57 P Pdif 08 42 24.3 +2.0
baz=98
AAA **Alma-Ata** 98.34 312 *e*P Pdif 08 42 26.5 +4.3
AAA *e*S **S** 08 53 51.9 +4.5
AAA pmax pmax
comp=Z,3μm,20.4s
AAA smax smax
comp=N,8μm,15.9s
KSH **Kashi** 98.39 309 P Pdif 08 42 25.0 +2.4
KSH pP pP 08 42 36.7 +1.8
KSH sP sP 08 42 39.7 +0.3
KSH PP PP 08 46 30.6 +7.4
KSH S **ScS** 08 53 50.6 +2.4
KSH SS SS 09 00 40.9 +7.7
KSH AMB AMB
comp=N,3.0nm,0.6s
KSH AMB AMB
comp=N,1μm,5.9s
KSH LR LR
comp=N,3μm,14.4s
KSH LR LR
comp=N,9μm,17.3s
KSH LR LR
comp=N,14μm,25.0s
429A **Davenport Ranc** 98.42 61 P Pdif 08 42 24.3 +1.5
baz=99
R26A **Arlington** 98.53 53 P Pdif 08 42 24.2 +1.0
baz=99
KURK **Kurchatov** 98.56 320 *c i*P P 08 42 20.7 -2.1
KURK pmax pmax
comp=Z,8.0nm,1.6s
KURK MLR MLR
comp=Z,23μm,18.0s
KURK **Kurchatov** 98.56 320 *e*P P 08 42 22.2 -0.6
comp=Z,77nm,2.0s
KURK PKKPbc **PKKPbc** 08 58 52.2 -1.9
KURBB **Kurchatov Arra** 98.60 320 PKKPbc PKKPbc 08 58 52.2 -1.8
comp=Z,0.5nm,0.3s,baz=283,slow=4.0,SNR=4.1
P26A **Davis Ranch, A** 98.83 51 P Pdif 08 42 26.7 +2.1
baz=99
FRU **Bishkek** 99.95 312 *e*P **Pdif** 08 42 34.0 +4.7
JCT **Junction City** 100.17 61 *e*P **Pdif** 08 42 31.8 +1.2
JCT pmax pmax
comp=Z,6.0nm,0.9s
JCT **Junction City** 100.17 61 *e*Pdif **Pdif** 08 42 31.8 +1.2
comp=Z,5.9nm,0.9s
Z32A **Haskell** 100.89 58 P **Pdif** 08 42 35.7 +2.0
baz=101
BHJ **Bhuj** 100.91 291 *e*P **Pdif** 08 42 33.5 -0.5
BHJ AMB AMB 08 42 48.9
comp=Z,51nm,1.4s
ARU **Arti** 110.65 326 *i* PKIKP **PKiKP** 08 47 13.6 -2.9
ARU 08 47 50.7
ARU SP SP 08 57 27.0 +8.3
ISRO **Mashad** 111.04 304 *e*P PP 08 47 45.9 -11
SOKR **Solikamsk** 111.12 329 *i* PKIKP **PKiKP** 08 47 16.3 -1.0
SOKR 08 48 03.0
SOKR SS SS 09 03 22.2 -3.6
SOKR pmax pmax
comp=Z,10.0nm,1.0s
IKRD **Kardeh** 111.82 304 *e*P **PP** 08 47 58.7 -4.2
SOR **Soroa** 114.18 71 *e* **PP** 08 48 18.1 -1.7
ISRV **Sarvestan** 116.27 296 *e*P **PKPdf** 08 47 24.6 -4.0
IPAR **Pars** 116.33 297 *e*P **PKPdf** 08 47 26.6 -2.0
MGV **Manicaragua** 116.92 72 *e* PP 08 48 32.8 -6.2
ISFB **Sefidab** 116.97 302 *e*P **PKPdf** 08 47 26.7 -2.8
ISFB **Sefidab** 116.97 302 *e*P **PKPdf** 08 47 26.6 -2.9
IVRN **Varamin** 117.36 303 *e*P **PKPdf** 08 47 27.7 -2.5
IKAZ **Kazeroun** 117.38 297 *e*P **PKPdf** 08 47 30.9 +0.2

IR5	Iran Long-Peri	118.29	303	*e*P		**PKPdf**	08 47 29.3	-2.7
IR5	Iran Long-Peri	118.29	303	*e*P		**PKPdf**	08 47 30.7	-1.3
IGZV	Ghazvin	118.51	304	*e*P		**PKPdf**	08 47 33.9	+1.4
IGZV	Ghazvin	118.51	304	*e*P		**PKPdf**	08 47 34.2	+1.7
ARCES	ARCESS Array B	118.59	345	PKP		**PKPdf**	08 47 30.1	-1.4
ARCES				PKKPbc		**PKKPab**	08 57 49.3	-0.8
ARCES	ARCESS Array B	118.59	345	PKP		**PKPdf**	08 47 30.1	-1.4
	comp=Z,6.1nm,0.7s,baz=71,slow=1.8,SNR=15							
ARCES				PKKPbc		**PKKPab**	08 57 49.3	-0.8
	comp=Z,4.7nm,0.9s,baz=248,slow=3.8,SNR=6.3							
KLMR	Klimovskoe	118.89	333	*e*PKIKP		**PKPdf**	08 47 29.3	-2.9
KLMR				pmax	pmax			
	comp=Z,48nm,1.4s							
LPAZ	La Paz	118.92	117	PKP		**PKPdf**	08 47 30.4	-3.9
LPAZ				*e*PKPdf		**PKiKP**	08 47 33.1	-1.3
LPAZ	La Paz	118.92	117	PKP		**PKPdf**	08 47 30.4	-3.9
	comp=Z,1.2nm,0.8s,baz=16,slow=4.0,SNR=5.6							
SUMG	Summit	119.03	8	*i* PKIKP		**PKPdf**	08 47 35.7	+3.0
SUMG				*i*			08 48 49.7	
SUMG				pmax	pmax			
	comp=Z,7.0nm,1.0s							
SUMG				MLR	MLR			
	comp=Z,31μm,18.0s							
SUMG	Summit	119.03	8	*i* P		**PKPdf**	08 47 35.7	+3.0
	comp=Z,7.4nm,1.0s							
SUMG				*i*			08 48 49.7	
SUMG								
	comp=Z,31μm,18.0s							
LMGC	Las Mercedes	119.54	74	*e*		PP	08 48 50.9	-6.4
KBD	Kabd	121.00	296	*e*P		**PKPdf**	08 47 34.6	-2.6
KBD				AMb	AMB		08 47 43.3	
	comp=Z,28nm,0.9s							
JOF	Joensuu	121.14	338	*e*PKIKP		**PKPdf**	08 47 32.2	-4.2
JOF				pmax	pmax			
	comp=Z,7.0nm,0.8s							
JOF	Joensuu	121.14	338	*e*p		**PKPdf**	08 47 32.2	-4.2
	comp=Z,7.4nm,0.8s							
NAY	Al-Naaiem	121.40	296	*e*P		**PKPdf**	08 47 35.2	-2.8
NAY				AMb	AMB		08 47 43.7	
	comp=Z,26nm,1.3s							
MOAC	Moa	121.49	74	*e*		PP	08 49 05.4	-5.2
RST	Umm Al-Ruwaisa	121.60	296	*e*P		**PKPdf**	08 47 35.5	-2.9
RST				AMb	AMB		08 47 44.0	
	comp=Z,576nm,0.9s							
DGRG	David-gareji	121.61	311	P		**PKPdf**	08 47 38.0	-0.1
VRHR	Novokhopersk	121.64	322	*e*PKIKP		**PKPdf**	08 47 35.2	-2.6
VRHR				*e*			08 47 45.4	
VRHR				*e*			08 49 10.2	
VRHR				*e*PS		**PS**	08 59 08.2	+3.9
VRHR				*e*SS		SS	09 05 45.0	+1.5
VRHR				pmax	pmax			
	comp=Z,30nm,1.0s							
VRHR				pmax	pmax			
	comp=N,30nm,0.4s							
VRHR				pmax	pmax			
	comp=E,30nm,0.4s							
VRHR				pmax	pmax			
	comp=Z,1μm,5.4s							
VRHR				pmax	pmax			
	comp=N,190nm,2.1s							
VRHR				pmax	pmax			
	comp=E,600nm,4.0s							
SCHQ	Schefferville	121.79	33	PKP		**PKPdf**	08 47 35.9	-2.1
SCHQ	Schefferville	121.79	33	PKP		**PKPdf**	08 47 35.9	-2.1
	comp=E,4.8nm,0.8s,baz=150,slow=2.0,SNR=3.7							
TBLG	Delisi	122.02	311	P		**PKPdf**	08 47 40.3	+1.4
MOS	Moscow	122.06	328	*e*PKIKP		**PKPdf**	08 47 34.7	-3.7
MOS				*e*			08 49 10.5	
MOS				*e*SS		SS	09 05 40.8	-7.7
MASC	Masc	122.15	74	*e*		**PP**	08 49 13.4	-1.7
CPUP	Villa Florida	122.28	133	PKP		**PKPdf**	08 47 37.1	-2.7
CPUP				*e*PKPdf		**PKPdf**	08 47 37.2	-2.7
CPUP	Villa Florida	122.28	133	PKP		**PKPdf**	08 47 37.1	-2.7
	comp=E,1.7nm,0.6s,baz=306,slow=3.0,SNR=6.2							
GNI	Garni	122.31	309	*e*PKPdf		**PKPdf**	08 47 38.6	-1.1
ZEI	Tsey	122.42	312	*i* PKIKP		**PKPdf**	08 47 37.5	-2.3
ZEI				pmax	pmax			
	comp=Z,32nm,1.3s							
GOF	Gofitskoye	122.49	315	*e*PKIKP		**PKPdf**	08 47 44.1	+4.5
ONI	Oni	122.78	312	P		**PKPdf**	08 47 38.3	-2.1
KBZ	Khabaz	122.92	314	PKIKP		**PKPdf**	08 47 38.5	-2.0
KBZ	Khabaz	122.92	314	PKP		**PKPdf**	08 47 38.5	-2.0
KBZ	Khabaz	122.92	314	PKP		**PKPdf**	08 47 38.5	-2.0
	comp=Z,4.9nm,0.8s,baz=138,slow=2.4,SNR=7.7							
AKH	Akhalkalaki	123.00	311	P		**PKPdf**	08 47 42.4	+1.4
VSR	Storozhevoye	123.05	323	*e*PKIKP		**PKPdf**	08 47 39.3	-1.2
VSR				*e*			08 47 48.0	
VSR				*e*			08 49 16.9	
VSR				*e*PS		PS	08 59 06.3	-10
VSR				pmax	pmax			
	comp=Z,40nm,1.1s							
VSR				pmax	pmax			
	comp=N,20nm,1.0s							
VSR				pmax	pmax			
	comp=E,10.0nm,0.7s							
VSR				pmax	pmax			
	comp=Z,1μm,4.6s							
VSR				pmax	pmax			
	comp=N,530nm,4.7s							
VSR				pmax	pmax			
	comp=E,520nm,3.6s							
VORD	Divnogorie	123.06	323	*e*PKIKP		**PKPdf**	08 47 39.3	-1.2
VORD				*e*			08 49 20.7	
VORD				*e*PS		**PS**	08 59 08.2	-8.7
VORD				*e*SS		SS	09 06 06.1	+4.5
VORD				pmax	pmax			
	comp=Z,30nm,1.2s							
VORD				pmax	pmax			
	comp=E,20nm,0.6s							
VORD				pmax	pmax			
	comp=Z,2μm,5.0s							
VORD				pmax	pmax			
	comp=E,1μm,9.7s							
PUL	Pulkovo	123.38	335	*i* PKIKP		**PKPdf**	08 47 39.3	-1.5
KAF	Kangasniemi	123.46	339	*e*PKIKP		**PKPdf**	08 47 37.6	-3.3
KAF	Kangasniemi	123.46	339	*e*p		**PKPdf**	08 47 37.6	-3.3
BOSA	Boshof	123.63	222	PKP		**PKPdf**	08 47 40.1	-2.4
BOSA				*e*PKPdf		**PKiKP**	08 47 40.6	-2.2
BOSA	Boshof	123.63	222	PKP		**PKPdf**	08 47 40.1	-2.4
	comp=E,9.6nm,0.8s,baz=138,slow=5.9,SNR=6.9							
SUR	Sutherland	123.67	215	PKP		**PKPdf**	08 47 41.6	-1.1
SUR				*e*PKPdf		**PKiKP**	08 47 42.1	-0.8
SUR	Sutherland	123.67	215	PKP		**PKPdf**	08 47 41.6	-1.1
	comp=E,56nm,0.9s,baz=183,slow=1.7,SNR=13							
CHVG	Ch'k'valeri	123.74	313	P		**PKPdf**	08 47 43.3	+1.2
FINES	FINESS Array B	123.98	338	PKP		**PKPdf**	08 47 39.2	-2.7
FINES	FINESS Array B	123.98	338	PKP		**PKPdf**	08 47 39.2	-2.7
	comp=E,14nm,1.0s,baz=116,slow=6.6,SNR=7.8							
ARTV	Artvin	124.20	311	*i* P		**PKPdf**	08 47 43.8	+0.5
DAGI	Agillar	124.24	311	*i* P		**PKPdf**	08 47 41.5	-1.7
SDV	Santo Domingo	124.32	88	*e*PKPdf		**PKPdf**	08 47 44.7	+0.5
DDEM	Demirkent	124.40	311	*i* P		**PKPdf**	08 47 44.1	+0.5
DBAD	Bademkaya	124.41	311	*i* P		**PKPdf**	08 47 42.1	-1.5
EKAR	Karacoban	124.51	309	*i* P		**PKPdf**	08 47 43.5	-0.5
SOC	Sochi	125.18	314	*d i* PKIKP		**PKPdf**	08 47 46.9	+2.1
SOC				*e*			08 49 36.2	
SOC				*e*PPP		PPP	08 52 10.1	
SOC				*e*SSS		SSS	09 11 04.7	
SOC				pmax	pmax			
	comp=Z,10.0nm,0.5s							
VSU	Vasula	125.64	335	*i* PKIKP		**PKPdf**	08 47 45.2	0.0
SAML	Samuel	126.36	112	*e*PKPdf		**PKPdf**	08 47 45.0	-2.9
ANN	Anapa	126.38	316	*i* PKIKP		**PKPdf**	08 47 47.2	+0.2
ANN				*e*			08 49 39.3	
ANN				*e*			08 54 45.4	
ANN				*e*SS		SS	09 06 42.4	-1.4
ANN				pmax	pmax			
	comp=Z,726nm,10.3s							
ANN				pmax	pmax			
	comp=N,92nm,5.2s							
ANN				pmax	pmax			
	comp=E,74nm,5.2s							
ANN				pmax	pmax			
	comp=N,50nm,1.8s							
ANN				pmax	pmax			
	comp=E,17nm,1.8s							
ANN				pmax	pmax			
	comp=Z,71nm,1.8s							
MZM	Mzuzu	126.42	245	*i* P		PP	08 49 29.6	-14
MZM						**SS**	**09 06 48.9**	**+3.5**
MZM							09 28 14.5	
KELT	Kelkit	126.42	310	*i* P		**PKPdf**	08 47 46.6	-1.0
DODT	Dodoma, Tanzan	126.95	252	*i* P		PP	08 49 21.3	-26
DODT						SS	09 07 01.5	+8.6
DODT							09 27 03.5	
KEMA	Kemaliye	127.21	309	*i* P		**PKPdf**	08 47 47.4	-1.6
KMBO	Kilima Mbogo	127.23	258	PKP		**PKPdf**	08 47 48.4	-1.5
KMBO	Kilima Mbogo	127.23	258	PKP		**PKPdf**	08 47 48.4	-1.5
	comp=Z,3.9nm,0.8s,baz=141,slow=3.3,SNR=8.7							
MAUS	Longido	127.25	256	*i* P		PP	08 49 34.0	-15
MAUS						SS	09 06 36.4	-20
MAUS							09 27 28.6	
MALT	Malatya	127.49	308	⇑PKIKP		**PKPdf**	08 47 48.8	-0.8
MALT	Malatya	127.49	308	⇑*i*P		**PKPdf**	08 47 48.8	-0.8
MICGM	Minsk	127.51	331	*e*PKP		**PKPdf**	08 47 46.0	-2.9
MNK	Minsk	127.53	331	*e*PKIKP		**PKPdf**	08 47 46.0	-3.0
MNK				*e*			08 49 46.0	
MNK				*e*PPP		PPP	08 52 30.0	
DESE	Dese	127.64	274	*e*P		PKPdf	08 47 56.6	+5.8
NACGM	Naroch	127.80	332	*e*PKP		**PKPdf**	08 47 45.0	-4.4
AAE	Adis Abeba	128.16	271	*i* P		PKPdf	08 47 45.3	-6.5
AAE							09 07 55.7	
AAE							09 28 27.0	
SIM	Simferopol'	128.53	318	*e*PKIKP		**PKPdf**	08 47 54.7	+3.5
SIM				*e*			08 50 03.0	
SIM				pmax	pmax			
	comp=Z,290nm,7.7s							
SIM				pmax	pmax			
	comp=Z,1μm,9.3s							
AKASG	Malin Array Be	128.90	326	PKIKP		**PKPdf**	08 47 49.2	-2.5
AKASG	Malin Array Be	128.90	326	PKP		**PKPdf**	08 47 49.1	-2.5
AKASG	Malin Array Be	128.90	326	PKP		**PKPdf**	08 47 49.1	-2.5
	comp=Z,18nm,1.1s,baz=55,slow=1.7,SNR=24							
KIEV	Kiev	128.91	326	*e*PKIKP		**PKPdf**	08 47 50.0	-1.7
KIEV	Kiev	128.91	326	*e*PKPdf		**PKPdf**	08 47 50.0	-1.7
NB2	NORSAR Subarra	128.96	345	PKPdf		**PKPdf**	08 47 47.7	-3.9
	comp=Z,50nm,1.4s,baz=31,slow=1.9							
NB2	NORSAR Subarra	128.96	345	PKPdf		**PKPdf**	08 47 47.7	-3.9
	baz=31,slow=1.9							
NOA	NORSAR Array B	128.96	345	PKP		**PKPdf**	08 47 48.5	-3.1
NOA	NORSAR Array B	128.96	345	PKP		**PKPdf**	08 47 48.5	-3.1
	comp=Z,3.7nm,0.8s,baz=33,slow=2.0,SNR=8.5							
LRS	Lares	129.02	77	*e*PKPdf		**PKPdf**	08 47 54.0	+1.1
LSZ	Lusaka	129.53	237	PKP		**PKPdf**	08 47 52.7	-1.4
LSZ	Lusaka	129.53	237	PKP		**PKPdf**	08 47 52.7	-1.4
	comp=Z,4.4nm,0.7s,baz=42,slow=14,SNR=3.4							
SJG	San Juan	129.68	77	*e*PKPdf		**PKPdf**	08 47 50.5	-3.6
SUW	Suwalki	130.00	332	*e*PKP		**PKPdf**	08 47 54.3	+0.6
SUW				*e*PP		**PP**	08 50 05.6	-0.1
GULE	Gulek	130.55	308	*i* P		**PKPdf**	08 47 53.7	-1.8
BR131	Keskin Array S	130.68	311	*e*PKPdf		**PKPdf**	08 47 56.2	+0.5
BRTR	Keskin Array B	130.69	311	PKP		**PKPdf**	08 47 51.9	-3.8
BRTR				PP		**PP**	08 50 13.7	+2.6
BRTR				SKPbc		**SKPab**	08 51 22.4	+5.9
BRTR	Keskin Array B	130.69	311	PKP		**PKPdf**	08 47 51.9	-3.8
	comp=Z,1.8nm,0.8s,baz=108,slow=2.1,SNR=11							
BRTR				PP		**PP**	08 50 13.7	+2.6
	comp=Z,4.5nm,1.1s,baz=108,slow=4.0,SNR=4.5							
BRTR				SKPbc		**SKPab**	08 51 22.4	+5.9
	comp=Z,31nm,1.3s,baz=102,slow=3.0,SNR=7.5							
KIS	Kishinev	130.99	322	*e*P		Pdif	08 45 00.0	+13
KIS	Kishinev	130.99	322	*e*PKP		**PKPdf**	08 47 51.0	-4.8
KIS	Kishinev	130.99	322	*i* PP		PP	08 50 14.0	+1.5
	comp=Z,4μm,12.0s							
KIS	Kishinev	130.99	322	*i* PKS		**PKSab**	08 51 26.0	+4.4
KIS	Kishinev	130.99	322	*e*P		Pdif	08 45 00.0	+13
KIS				*e*			08 47 51.0	
KIS				*e*			08 48 05.0	
KIS				*i*			08 50 14.0	
KIS				*i* PS		**PS**	**09 00 25.0**	**-1.4**
KIS				*e*PPS		PPS	09 02 05.0	
ANTO	Ankara	131.25	312	*e*PKIKP		**PKPdf**	08 47 57.8	+1.2
ANTO	Ankara	131.25	312	*e*PKPdf		**PKPdf**	08 47 57.8	+1.2
LVV	L'vov	132.17	327	*e*PKIKP		**PKPdf**	08 48 01.2	+3.3
LVV				*e*			08 50 18.2	
LVV				*e*			08 55 02.8	
LVV				*e*			09 12 52.2	
CFR	Carcaliu	132.27	320	⇑PKIKP		**PKPdf**	08 47 56.1	-2.1
CFR	Carcaliu	132.27	320	⇑*i*P		**PKPdf**	08 47 56.1	-2.1
CSS	Prodhromos	132.28	305	P		**PKPdf**	08 47 58.0	-0.7
CSS	Prodhromos	132.28	305	*e*PKPdf		**PKPdf**	08 47 58.6	-0.1
BEL	Belsk	132.51	331	*e*PKP		**PKPdf**	08 47 59.8	+1.3
BEL				*e*PKIKP		**PKiKP**	08 48 00.4	+0.8
TESR	Tescani	132.52	322	⇑*i*P		**PKPdf**	08 48 00.3	+1.6
TLB	Topalu	132.61	319	⇑PKIKP		**PKPdf**	08 47 57.4	-1.5
TLB	Topalu	132.61	319	⇑*i*P		**PKPdf**	08 47 57.4	-1.5
BSD	Bornholm Skovb	132.62	338	*e*PKIKP		**PKPdf**	08 48 02.0	+3.4
BSD				*i*			08 50 23.8	
BSD				MLR	MLR			
	comp=Z,31μm,21.0s							
BSD	Bornholm Skovb	132.62	338	*i* P		**PKPdf**	08 48 02.0	+3.4
BSD				*i*			08 50 23.8	
BSD								
	comp=Z,31μm,20.0s							
HARR	Harsova	132.63	320	⇑PKIKP		**PKPdf**	08 47 57.7	-1.2
HARR	Harsova	132.63	320	⇑*i*P		**PKPdf**	08 47 57.7	-1.2
BURAR	Bucovina Array	132.77	324	⇑PKIKP		**PKPdf**	08 47 59.4	+0.1
BURAR	Bucovina Array	132.77	324	⇑P		**PKPdf**	08 47 59.4	+0.1
SEYT	Eskypetsyr	132.78	312	*i* P		**PKPdf**	08 48 04.2	+4.6
VRI	Vrincioaia	132.80	322	⇓PKIKP		**PKPdf**	08 48 03.3	+4.0
VRI	Vrincioaia	132.80	322	⇓*i*P		**PKPdf**	08 48 03.3	+4.0
PLOR	Plostina	132.86	322	⇑PKIKP		**PKPdf**	08 48 02.3	+2.9
PLOR	Plostina	132.86	322	⇑*i*P		**PKPdf**	08 48 02.3	+2.9
COP	Copenhagen	133.04	340	*e*PKIKP		**PKPdf**	08 48 00.9	+1.6
COP				*i*			08 50 33.0	
COP				MLR	MLR			
	comp=Z,18μm,19.0s							
COP	Copenhagen	133.04	340	*i* P		**PKPdf**	08 48 00.9	+1.6
COP				*i*			08 50 33.0	
COP								
	comp=Z,18μm,18.0s							
GKP	Gorka Klasztor	133.09	335	*e*PKP		**PKPdf**	08 48 01.5	+2.0
WIN	Windhoek	133.10	221	*i* P		PP	08 50 35.4	+9.1
WIN				*e*P		x	09 11 41.1	
WIN							09 27 45.3	
MUD	Monsted U'grnd	133.42	343	*e*PKIKP		**PKPdf**	08 48 00.8	+0.8
MUD				MLR	MLR			
	comp=Z,25μm,19.0s							
MUD	Monsted U'grnd	133.42	343	*i* P		**PKPdf**	08 48 00.8	+0.8
MUD								
	comp=Z,25μm,18.0s							
ISK	Istanbul-Kandi	133.46	315	P		**PKPdf**	08 48 01.8	+1.2
MLR	Muntele Rosu	133.47	322	⇑*i*P		**PKPdf**	08 47 59.2	-1.5
DOPR	Dopca	133.56	322	⇓*i*P		**PKPdf**	08 48 00.2	-0.5
ISP	Isparta	133.61	310	P		**PKPdf**	08 48 02.0	+0.8
ULDT	Uludag	133.78	313	*i* P		**PKPdf**	08 48 00.1	-1.4
UZH	Uzhgorod	133.79	327	*e*PKHKP		PKPpre	08 47 49.1	
UZH				*e*			08 48 02.7	
STHS	Stebnicka Huta	133.85	329	*e*PKIKP		**PKPdf**	08 48 03.3	+2.1
STHS	Stebnicka Huta	133.85	329	*e*PKP		**PKPdf**	08 48 03.3	+2.1
TRPA	Tarpa	133.96	326	⇑*i*P		**PKPdf**	08 48 00.4	-0.9
TRPA	Tarpa	133.96	326	⇓*e*PKPdf		**PKPdf**	08 48 05.4	+4.1
VOIR		134.03	322	⇓PKIKP		**PKPdf**	08 48 03.1	+1.4
VOIR		134.03	322	⇓*i*P		**PKPdf**	08 48 03.1	+1.4
VOIR		134.03	322	⇑*i*P		**PKPdf**	08 48 06.1	+4.4
VOIR		134.03	322	⇓*i*P		PKPdf	08 48 07.6	+5.9
OJC	Ojcow	134.05	330	*e*PKIKP		**PKPdf**	08 48 04.9	+3.4
OJC				*e*			08 50 33.7	
OJC	Ojcow	134.05	330	*e*PKPdf		**PKPdf**	08 48 04.9	+3.4
OJC				*e*PP		**PP**	08 50 33.7	+1.9
OJC				*e*SS		SS	09 08 25.7	+8.6
OJC				L		L	09 55 33.0	
	comp=Z,33μm,18.5s							
KHAL	Karahalli	134.18	311	*i* P		**PKPdf**	08 47 59.4	-2.9
ARR	Arges	134.32	322	⇑*i*P		**PKPdf**	08 48 02.9	+0.7
NIE	Niedzica	134.32	329	*e*PKIKP		**PKPdf**	08 48 06.2	+4.1
NIE				*e*			08 50 36.4	
NIE	Niedzica	134.32	329	*e*PKPdf		**PKPdf**	08 48 06.2	+4.1
NIE				*e*PP		**PP**	08 50 36.4	+2.8
NIE				*e*SS		SS	09 08 28.9	+8.4
NIE				L		L	09 55 46.0	
	comp=Z,43μm,18.2s							
JMB	Yambol	134.53	318	P		**PKPdf**	08 48 04.2	+1.6
DRGR		134.65	325	⇑PKIKP		**PKPdf**	08 48 02.2	-0.6
DRGR		134.65	325	⇑*i*P		**PKPdf**	08 48 02.2	-0.6
KULA	Kula-Manisa	134.74	312	P		**PKPdf**	08 48 06.8	+3.6
RAC	Raciborz	134.91	331	*e*PKIKP		**PKPdf**	08 48 07.6	+4.5
RAC				*e*			08 50 39.4	
RAC				MLR	MLR			
	comp=E,22μm,22.5s							
OKC	Ostrava-Krasne	135.10	331	*e*PKPdf		**PKPdf**	08 48 03.4	0.0
OKC				*e*PP		**PP**	08 50 35.6	-2.8
OKC				*e*SKP			08 51 43.8	
OKC				*ex*	x		09 02 58.4	
OKC				AMS	AMS		09 55 10.0	
	comp=E,28μm,17.9s							
KSP	Ksiaz	135.25	333	*e*PKIKP		**PKPdf**	08 48 03.2	-0.5
KSP	Ksiaz	135.25	333	*e*PKP		**PKPdf**	08 48 03.1	-0.6
KSP				*e*			08 48 05.8	
KSP				*e*PP		**PP**	08 50 39.0	-0.3
MORC	Moravsky Berou	135.43	331	*e*PKIKP		**PKPdf**	08 48 03.8	-0.3
MORC	Moravsky Berou	135.43	331	⇑*i*P		PKPdf	08 47 58.9	-5.2
MORC	Moravsky Berou	135.43	331	*e*PKPdf		**PKPdf**	08 48 03.8	-0.3
PSZ	Piszkesteto	135.49	328	*e*PKIKP		**PKPdf**	08 48 01.0	-3.3
PSZ	Piszkesteto	135.49	328	⇓*i*P		**PKPdf**	08 48 00.3	-4.0
PSZ	Piszkesteto	135.49	328	*e*PKPdf		**PKPdf**	08 48 01.0	-3.3
PSZ	Piszkesteto	135.49	328	⇓*e*PKPdf		**PKPdf**	08 48 08.6	+4.3
SIRR	Siria	135.54	325	⇓*i*P		**PKPdf**	08 48 03.6	-0.8
DPC	Dobruska-Polom	135.59	333	*e*PKPpre		PKPpre	08 48 00.7	
DPC				*e*PKPdf		**PKiKP**	08 48 06.5	+0.5
DPC				*e*PP		**PP**	08 50 44.4	+2.9
DPC				*e*SKP			08 51 41.7	
DPC				AMS	AMS		09 56 10.0	
ALN	Alexandroupoli	135.60	316	P		**PKPdf**	08 48 00.5	-4.1
ALN	Alexandroupoli	135.60	316	*e*P		**PKPdf**	08 48 03.2	-1.4
UPC	Upice	135.61	333	*e*PKPdf		**PKPdf**	08 48 06.2	+1.8
UPC				*e*PKS		**PKSdf**	08 51 41.9	+1.4
BDFB	Brasilia	135.71	129	PKPpre		PKPpre	08 47 59.8	
BDFB				SKP			08 51 39.1	
BDFB	Brasilia	135.71	129	PKhKP		PKPpre	08 47 59.8	
	comp=E,5.3nm,0.8s,baz=210,slow=3.3,SNR=3.0							
BDFB				SKP			08 51 39.1	
	comp=E,7.2nm,1.0s,baz=155,slow=7.6,SNR=4.7							
RDO	Rodhopi	135.83	316	P		**PKPdf**	08 48 02.5	-2.6
RDO	Rodhopi	135.83	316	*e*P		**PKPdf**	08 48 07.3	+2.2
PLD	Plovdiv	135.93	318	P		**PKPdf**	08 48 04.6	-0.6
BZS	Buzias	135.95	324	⇑PKIKP		**PKPdf**	08 48 03.1	-2.1
BZS	Buzias	135.95	324	⇑*i*P		**PKPdf**	08 48 03.1	-2.1
SMTH	Samothraki Isl	136.14	316	P		**PKPdf**	08 48 08.1	+2.4
SMTH	Samothraki Isl	136.14	316	*e*P		**PKPdf**	08 48 09.8	+4.1
PKSN	Nyarlorinc	136.15	327	⇓*e*		**PKPdf**	08 48 09.9	+4.4
PRK	Paraskevi	136.16	314	P		**PKPdf**	08 48 09.3	+3.6
PRK	Paraskevi	136.16	314	*e*P		**PKPdf**	08 48 06.1	+0.4
BUD	Budapest	136.22	328	⇓*e*PKPdf		**PKPdf**	08 48 09.9	+4.3
PVCC	Panska Ves	136.23	334	*e*PKPdf		**PKPdf**	08 48 05.1	-0.4
PVCC				*e*PP		**PP**	08 50 45.2	-0.2
PVCC				AMS	AMS		09 54 00.0	
	comp=E,45μm,19.2s							
BRG	Berggiesshubel	136.23	335	*e*PKP		PKPdf	08 47 56.9	-8.6
	comp=E,9.6nm,1.2s							
BRG				*i*			08 48 06.0	
	comp=E,71nm,1.5s							
BRG				PP		**PP**	08 50 41.0	-4.5
BRG				*e*PKS		PKSdf	08 51 36.0	-5.6
	comp=E,49nm,1.8s							
CLL	Collm	136.29	336	*i* PKIKP		**PKPdf**	08 48 03.8	-1.8
CLL				pmax	pmax			
	comp=Z,21nm,1.4s							
CLL				MLR	MLR			
	comp=Z,40μm,18.8s							
CLL	Collm	136.29	336	*e*PKPdf		**PKPdf**	08 48 03.0	-2.6
CLL				*i* PKiKP		**PKiKP**	08 48 05.5	-1.8
	comp=Z,40nm,1.4s							
CLL				*e*PKPlp			08 48 09.0	
CLL				*e*PP		**PP**	08 50 44.0	-1.7
CLL				*e*PPlp			08 50 46.0	
	comp=N,1μm,11.2s							
CLL				*e*PPlp			08 50 46.0	
	comp=E,1μm,11.1s							
CLL				*e*PPlp			08 50 46.0	
CLL				*e*pPP			08 50 53.0	
CLL				*e*sPP			08 50 59.0	
CLL				*e*PKSbc		**PKSbc**	08 51 39.0	+0.2
CLL				*i* PKSab		**PKSab**	08 51 44.2	-0.

ATH	Athens Observa	138.51	313	P		PKPdf	08 48 12.9	+2.8
ATH	Athens Observa	138.51	313	*e*P		PKPdf	08 48 12.2	+2.1
LKR	Lokris	138.71	314	P		PKPdf	08 48 11.8	+1.3
LKR	Lokris	138.71	314	*e*P		PKPdf	08 48 11.4	+0.9
KZN	Kozani	138.74	317	P		PKPdf	08 48 11.4	+0.8
KZN	Kozani	138.74	317	*e*P		PKPdf	08 48 11.8	+1.2
IDI	Anoyia	138.75	309	P		PKPdf	08 48 06.4	-4.3
IDI	Anoyia	138.75	309	*e*P		PKPdf	08 48 09.8	-0.9
IDI	Anoyia	138.75	309	*e*PKPdf		PKPdf	08 48 12.9	+2.2
FNA	Florina	138.76	318	P		PKPdf	08 48 09.0	-1.6
FNA	Florina	138.76	318	*e*P		PKPdf	08 48 05.3	-5.3
SOKA	Soboth	138.79	330	⇓*i*	PKPdf	PKPdf	08 48 00.7	-10
	comp=Z,41nm,1.3s							
PHP	Peshkopia	138.87	320	P		PKPdf	08 48 12.1	+1.3
AXAR	Agios Charalam	138.89	315	P		PKPdf	08 48 12.5	+1.7
THL	Klokotos Trika	138.95	316	P		PKPdf	08 48 08.0	-2.9
THL	Klokotos Trika	138.95	316	*e*P		PKPdf	08 48 12.6	+1.7
AGG	Agios Georgios	139.00	315	P		PKPdf	08 48 08.0	-3.1
AGG	Agios Georgios	139.00	315	*e*P		PKPdf	08 48 06.5	-4.6
LTK	Loutraki	139.02	314	P		PKPdf	08 48 12.2	+1.1
LTK	Loutraki	139.02	314	*e*P		PKPdf	08 48 07.7	-3.4
DIDY	Didyma	139.09	313	P		PKPdf	08 48 12.0	+0.6
MAKR	Makrakomi, Fth	139.14	315	P		PKPdf	08 48 07.5	-3.8
DSF	Desfina	139.15	314	P		PKPdf	08 48 08.2	-3.2
CRES	Cresnjev	139.16	328	*i*	PKPdf	PKPdf	08 48 10.8	-0.3
NEST	Nestorio	139.16	318	P		PKPdf	08 48 13.2	+1.8
VAM	Vamos	139.22	309	*e*P		PKPdf	08 48 17.1	+5.6
BEBN	Eben Emael	139.35	341	PP		PP	08 51 06.4	+1.8
EVR	Evrytania	139.41	315	P		PKPdf	08 48 13.6	+1.7
EVR	Evrytania	139.41	315	*e*P		PKPdf	08 48 14.2	+2.3
MEM	Membach	139.41	340	PP		PP	08 51 06.2	+1.2
KALE	Kalithea	139.43	315	P		PKPdf	08 48 14.9	+3.0
KALE	Kalithea	139.43	315	*e*P		PKPdf	08 48 11.8	-0.1
KARN	Karanos	139.44	310	*e*P		PKPdf	08 48 15.5	+3.6
LJU	Ljubljana	139.48	329	*e*PKPdf		PKPdf	08 48 11.2	-0.4
VISS	Visnje	139.49	329	*e*PKPdf		PKPdf	08 48 11.1	-0.6
GUR	Goura	139.50	314	P		PKPdf	08 48 11.0	-1.1
GUR	Goura	139.50	314	*e*P		PKPdf	08 48 09.8	-2.3
GVD	Gavdhos	139.52	309	*e*P		PKPdf	08 48 13.0	+0.9
EFP	Efpalio	139.57	315	P		PKPdf	08 48 10.0	-2.1
EFP	Efpalio	139.57	315	*e*P		PKPdf	08 48 11.8	-0.3
KLV	Kalavryta, Ach	139.58	314	P		PKPdf	08 48 07.5	-4.7
KLV	Kalavryta, Ach	139.58	314	*e*P		PKPdf	08 48 09.8	-2.4
LAKA	Lakka	139.61	314	P		PKPdf	08 48 10.5	-1.7
LAKA	Lakka	139.61	314	*e*P		PKPdf	08 48 08.1	-4.1
VLI	Veliai	139.62	312	P		PKPdf	08 48 13.2	+1.0
VLI	Veliai	139.62	312	*e*P		PKPdf	08 48 13.0	+0.8
JAN	Janina	139.68	317	P		PKPdf	08 48 14.7	+2.4
JAN	Janina	139.68	317	*e*P		PKPdf	08 48 13.0	+0.7
ANKY	Antikythira Is	139.71	310	*e*P		PKPdf	08 48 12.2	-0.2
VLX	Vlachokerasia	139.73	313	P		PKPdf	08 48 09.4	-3.1
VLX	Vlachokerasia	139.73	313	*e*P		PKPdf	08 48 06.5	-6.0
BCLA	Clavier	139.80	341	PP		PP	08 51 09.8	+2.3
ABTA	Abfaltersbach	139.94	332	⇓*i*	PKPdf	PKPdf	08 48 02.0	-11
	comp=Z,46nm,1.4s							
SNF	Seneffe	140.04	342	PP		PP	08 51 11.0	+2.2
RLS	Riolos of Patr	140.05	315	P		PKPdf	08 48 08.9	-4.0
RLS	Riolos of Patr	140.05	315	*e*P		PKPdf	08 48 15.9	+3.0
ITM	Ithomi	140.14	313	P		PKPdf	08 48 08.7	-4.5
ITM	Ithomi	140.14	313	*e*P		PKPdf	08 48 11.0	-2.2
RETA	Reutte	140.17	334	⇑*i*	PKPdf	PKPdf	08 48 04.7	-8.3
	comp=Z,19nm,0.9s							
DOU	Dourbes	140.31	341	PP		PP	08 51 11.6	+1.1
KEK	Kerkira	140.35	318	P		PKPdf	08 48 15.3	+1.9
PYL	PYLOS	140.40	313	*e*P		PKPdf	08 48 09.4	-4.2
FETA	Feichten	140.54	333	⇓*i*	PKPdf	PKPdf	08 48 04.3	-10
	comp=Z,33nm,1.2s							
VLS	Valsamata	140.60	315	P		PKPdf	08 48 10.2	-3.8
VLS	Valsamata	140.60	315	*e*P		PKPdf	08 48 12.6	-1.4
DAVA	Damuels	140.70	334	P		PKPdf	08 48 02.8	-11
	comp=Z,63nm,1.6s							
FELD	Feldberg im Sc	140.99	336	PKP		PKPdf	08 48 05.6	-8.9
ECH	Echery	141.03	337	PKP		PKPdf	08 48 07.7	-6.8
ECH	Echery	141.03	337	*e*PKPdf		PKPdf	08 48 08.4	-6.0
MOF	Molkenrain	141.34	337	PKP		PKPdf	08 48 10.3	-4.8
VAL	Valentia	141.37	356	*e*P		PKPdf	08 48 06.4	-8.5
TUE	Stuetta	141.56	334	*e*PKPdf		PKPdf	08 48 07.4	-8.3
LOMF	Lomont	141.88	337	PKP		PKPdf	08 48 09.7	-6.4
CUC	Castrocucco	142.71	321	*e*PKPdf		PKPdf	08 48 12.9	-4.8
CEL	Celeste	143.68	319	*e*PKPdf		PKPab	08 48 14.0	-2.2
BNI	Bardonecchia	143.82	335	*e*PKIKP		PKPab	08 48 14.9	-1.8
BNI	Bardonecchia	143.82	335	*e*PKPdf		PKPab	08 48 14.9	-1.8
GDM	Grand'Maison	143.93	336	PKP		PKPab	08 48 15.8	-1.3
BST	Brest	144.17	349	PKP		PKPab	08 48 15.0	-2.7
PLDF	La Plantade	144.22	339	PKP		PKPab	08 48 16.4	-1.6
SURF	Saint Ours	144.23	334	PKP		PKPab	08 48 16.3	-2.0
SAOF	Saorge	144.30	333	PKP		PKPab	08 48 15.9	-2.5
AGO	Saint Agoulin	144.32	339	PKP		PKPab	08 48 16.0	-2.3
AUTN	L'Aution	144.35	333	PKP		PKPab	08 48 16.4	-2.4
TOUF	Mont Tournerai	144.42	333	PKP		PKPab	08 48 16.0	-3.0
LUCF	Luceram	144.47	333	PKP		PKPab	08 48 16.7	-2.4
SSB	Saint Sauveur	144.48	337	*e*PKIKP		PKPab	08 48 16.6	-2.4
SSB	Saint Sauveur	144.48	337	*e*PKPdf		PKPab	08 48 16.6	-2.4
MVIF	Mont Vial	144.55	333	PKP		PKPab	08 48 17.1	-2.3
REVF	Revere	144.58	333	PKP		PKPab	08 48 17.2	-2.2
PYM	Petit Puy Mans	144.62	339	PKP		PKPab	08 48 17.1	-2.5
CALN	Calern	144.78	333	PKP		PKPab	08 48 17.9	-2.4
LBL	Lubilhac	144.99	339	PKP		PKPab	08 48 18.4	-2.5
VSL	Villasalto	146.78	326	*e*PKPdf		PKPdf	08 48 23.8	-0.9
LRDF	Laroque-de-Fa	147.23	337	PKP		PKPdf	08 48 25.2	-0.2
SJAF	Saint Jean de	147.48	336	PKP		PKPdf	08 48 25.4	-0.4
CARF	Carcanieres	147.58	338	PKP		PKPdf	08 48 25.1	-1.0
MLS	Moulis	147.73	339	PKP		PKPdf	08 48 25.8	-0.4
SALF	Salau	147.87	339	PKP		PKPdf	08 48 26.3	-0.2
VALF	Valcebollere	147.88	337	PKP		PKPdf	08 48 27.0	+0.3
LABF	Labassere	148.00	340	PKP		PKPdf	08 48 26.1	-0.6
RESF	Ens	148.12	340	PKP		PKPdf	08 48 28.1	+1.1
REYF	Montagne du Re	148.13	341	PKP		PKPdf	08 48 26.8	-0.2
VIEF	Viey	148.16	340	PKP		PKPdf	08 48 28.3	+1.3
ORDF	Ordiarp	148.16	342	PKP		PKPdf	08 48 26.0	-0.9
OSSF	Osses	148.22	342	PKP		PKPdf	08 48 27.2	-0.3
LARF	Larrau	148.34	342	PKP		PKPdf	08 48 26.7	-0.6
KEST	Kesra	149.37	321	*e*PKPdf		PKPdf	08 48 30.2	+1.0
KEST				PKPbc	PKPbc	PKPbc	08 48 31.7	-1.9
KEST	Kesra	149.37	321	PKPbc		PKPbc	08 48 31.7	-1.9
	comp=Z,28nm,1.0s,baz=285,slow=1.5,SNR=56							
SHEL	Horse Pasture	149.79	196	*e*PKPdf		PKPdf	08 48 31.9	+1.5
PBRG	Braganca	150.93	349	*e*PKPdf		PKPbc	08 48 34.6	-2.5
PBRG	Braganca	150.93	349	*e*PKPab		PKPab	08 48 44.9	+0.4
PBRG	Braganca	150.93	349	*e*PP		PP	08 52 12.2	-1.3
RCBR	Riachuelo	151.08	130	*e*PKPdf		PKPdf	08 48 34.2	+1.7
PCAB	Cabril	151.25	351	*e*PKPdf		PKPdf	08 48 33.7	+1.8
POLO	Lamas de Olo	151.54	350	*e*PKPdf		PKPdf	08 48 34.3	+1.9
POLO	Lamas de Olo	151.54	350	*e*PP		PP	08 52 17.7	+0.7
PGRA	Graciosa	151.55	23	*e*PKP		PKPdf	08 48 23.8	-8.6
MVO	Moncorvo	151.61	349	*e*PKPdf		PKPdf	08 48 33.0	+0.5
MVO	Moncorvo	151.61	349	*e*PP		PP	08 52 16.3	-1.1
MVO	Moncorvo	151.61	349	*e*SS		SS	09 11 49.9	+5.8
MVO	Moncorvo	151.61	349	*e*LR		LR	09 49 07.7	
	comp=Z,25µm,18.0s							
PVRL	Vila Real	151.62	350	*e*PKPdf		PKPdf	08 48 33.7	+1.2
PVRL	Vila Real	151.62	350	*e*PKPbc		PKPbc	08 48 39.4	+0.7
PTO	Porto	151.90	351	*e*PKPbc		PKPbc	08 48 42.3	+3.0
PVIS	Viseu	152.20	350	*e*PKPdf		PKPdf	08 48 36.1	+2.7
ESDC	Sonseca Array	152.31	343	PKPbc		PKPdf	08 48 36.3	+2.7
ESDC	Sonseca Array	152.31	343	PKPbc		PKPdf	08 48 36.3	+2.7
	comp=Z,9.5nm,0.9s,baz=0.5,slow=2.5,SNR=12							
ESLA	Sonseca Array	152.31	343	*e*PKPdf		PKPdf	08 48 33.8	+0.2
ESLA				*e*PKPbc		PKPbc	08 48 40.5	+0.1
MTE	Manteigas	152.44	349	*e*PKPdf		PKPdf	08 48 36.8	+3.0
MTE	Manteigas	152.44	349	*e*SS		SS	09 11 53.1	+4.8
MTE	Manteigas	152.44	349	*e*LR		LR	09 49 43.8	
	comp=Z,28µm,18.0s							
MTE	Manteigas	152.44	349	*e*PKPdf		PKPdf	08 48 33.3	-0.5
MTE				*e*PKPbc		PKiKP	08 48 41.1	+0.2
PAB	San Pablo	152.53	344	*e*PKIKP		PKPdf	08 48 34.2	+0.2
PAB				*e*			08 48 41.5	
PAB	San Pablo	152.53	344	*e*PKPdf		PKPdf	08 48 34.2	+0.2
PAB				*e*PKPbc		PiKiKP	08 48 41.5	+0.3
PCAS	Casmilo, Conde	152.94	351	*e*PKPdf		PKPdf	08 48 36.5	+2.1
PCBR	Castelo Branco	152.97	349	*e*PKPdf		PKPdf	08 48 33.8	-0.7
PTOM	Tomar	153.35	350	*e*PKPdf		PKPdf	08 48 36.2	+1.2
PTOM	Tomar	153.35	350	*e*PKPbc		PKPbc	08 48 42.8	+0.2
PMRV	Marv??o	153.36	349	*e*PKPdf		PKPdf	08 48 37.6	+2.5
PMRV	Marv??o	153.36	349	*e*PP		PP	08 52 31.1	+3.9
PMRV	Marv??o	153.36	349	*e*SS		SS	09 12 05.4	+7.2
PMRV	Marv??o	153.36	349	*e*LR		LR	09 52 22.8	
	comp=Z,30µm,18.0s							
PSET	Sete Cidades	153.45	21	*e*PKP		PKPdf	08 48 28.6	-6.7
CMLA	Cha da Macela	153.57	21	*e*PKP		PKPdf	08 48 31.4	-4.0
BART	Pico Bartolome	153.68	20	*e*PKP		PKPdf	08 48 27.5	-8.2
PMTG	Montargil	153.86	350	*e*PKPdf		PKPdf	08 48 34.6	-1.2
PESTR	Estremoz	153.94	349	*e*PKPdf		PKPdf	08 48 37.6	+1.7
PMAFR	Mafra	154.13	352	*e*PKPdf		PKPdf	08 48 38.7	+2.5
PMAFR	Mafra	154.13	352	*e*PP		PP	08 52 35.5	+3.9
PACT	Alcochete	154.25	351	*e*PKPdf		PKPdf	08 48 37.1	+0.8
PMST	Lisbon--Monsan	154.34	351	*e*PKPdf		PKPdf	08 48 40.1	+3.6
PMST	Lisbon--Monsan	154.34	351	*e*PP		PP	08 52 35.9	+3.2
EVO	Evora	154.34	349	*e*PKPdf		PKPdf	08 48 39.7	+3.2
LIS	Lisbon	154.35	351	*e*P		PKPdf	08 48 36.5	+0.1
LIS	Lisbon	154.35	351	*e*P		PKPdf	08 48 36.5	+0.1
PSMA	Santa Maria	154.40	21	*e*PKP		PKPdf	08 48 38.0	+1.4
PSMN	Pico do Norte,	154.41	21	*e*PKP		PKPdf	08 48 37.2	+0.6
PBAR	Barrancos	154.49	347	*e*PKPdf		PKPdf	08 48 38.2	+1.5
PBAR	Barrancos	154.49	347	*e*PP		PP	08 52 37.6	+4.0
PNCL	Nicolau / Gran	154.84	350	*e*PKPdf		PKPdf	08 48 39.1	+1.9
PNCL	Nicolau / Gran	154.84	350	*e*PP		PP	08 52 37.3	+1.8
PCVE	Castro Verde	155.22	349	*e*PKPdf		PKPdf	08 48 39.5	+1.8
PCVE	Castro Verde	155.22	349	*e*PKPab		PKPab	08 49 01.9	-0.6
PCVE	Castro Verde	155.22	349	*e*PP		PP	08 52 37.7	0.0
PVAQ	Vaqueiros	155.38	348	*e*PKPdf		PKPdf	08 48 40.1	+2.2
PVAQ	Vaqueiros	155.38	348	*e*PP		PP	08 52 37.8	-0.8
PVAQ	Vaqueiros	155.38	348	*e*SS		SS	09 12 10.1	-10
PVAQ	Vaqueiros	155.38	348	*e*LR		LR	09 51 16.8	
	comp=Z,27µm,20.0s							
PTEO	Sao Teotonio	155.43	350	*e*PKPdf		PKPdf	08 48 40.1	+2.1
PTEO	Sao Teotonio	155.43	350	*e*PKPab		PKPab	08 49 05.2	+1.8
PBDV	Barranco-do-Ve	155.57	348	*e*PKPdf		PKPdf	08 48 40.0	+1.8
PBDV	Barranco-do-Ve	155.57	348	*e*PKPab		PKPab	08 49 05.8	+1.7
MORF	Marmelete	155.65	350	*e*PKPdf		PKPdf	08 48 40.4	+2.0
MORF	Marmelete	155.65	350	*e*PKPab		PKPab	08 49 05.8	+1.4
MORF	Marmelete	155.65	350	*e*PP		PP	08 52 42.8	+2.7
PFVI	Vila Bisbo	155.85	350	*e*PKPdf		PKPdf	08 48 41.9	+3.3
PFVI	Vila Bisbo	155.85	350	*e*PKPab		PKPab	08 49 06.2	+1.0
PFVI	Vila Bisbo	155.85	350	*e*PP		PP	08 52 45.1	+4.0
MDT	Midelt	158.79	338	PP		PP	08 52 59.1	+1.3
MDT	Midelt	158.79	338	PP		PP	08 52 59.1	+1.3
	comp=Z,17nm,1.2s,baz=63,slow=6.3,SNR=3.7							
TAM	Tamanrasset	159.23	300	*e*PKIKP		PKPdf	08 48 44.6	+1.2
TAM	Tamanrasset	159.23	300	*e*PKPdf		PKPdf	08 48 44.6	+1.2
PMPST	Porto Santo, M	160.22	6	*e*PKPdf		PKPdf	08 48 47.1	+3.0
PMPST	Porto Santo, M	160.22	6	*e*PKPab		PKPab	08 49 25.2	+1.0
PMPST	Porto Santo, M	160.22	6	*e*PP		PP	08 53 06.7	+1.7
PMPS	Porto Santo	160.24	6	*e*PKPdf		PKPdf	08 48 46.7	+2.7
PMPS	Porto Santo	160.24	6	*e*PKPab		PKPab	08 49 25.1	+0.8
PMOZ	Porto Moniz, M	160.37	8	*e*PKPdf		PKPdf	08 48 47.8	+3.4
PMOZ	Porto Moniz, M	160.37	8	*e*PKPab		PKPab	08 49 27.1	+2.1
PMOZ	Porto Moniz, M	160.37	8	*e*PP		PP	08 53 08.5	+2.5
PMOZ	Porto Moniz, M	160.37	8	*e*SS		SS	09 13 21.9	+8.4
PMOZ	Porto Moniz, M	160.37	8	*e*LR		LR	09 51 12.8	
	comp=Z,26µm,18.0s							
TOA0	Tordoi Ar. Sit	164.75	271	*e*PKPdf		PKPdf	08 48 49.4	+0.4
TORD	Tordoi Ar. Bea	164.75	271	PKP		PKPdf	08 48 45.5	-3.5
TORD				PKPab		PKPab	08 49 44.4	-0.5
TORD				PP		PP	08 53 45.6	+14
TORD	Tordoi Ar. Bea	164.75	271	PKP		PKPdf	08 48 45.5	-3.5
	comp=Z,11nm,1.0s,baz=47,slow=0.7,SNR=23							
TORD				PKPab		PKPab	08 49 44.4	-0.5
	comp=Z,11nm,0.9s,baz=84,slow=2.3,SNR=5.3							
TORD				PP		PP	08 53 45.6	+14
	comp=Z,9.9nm,1.3s,baz=122,slow=3.1,SNR=4.3							
KIC	Kosan Boka	168.58	234	*e*PKIKP		PKPdf	08 48 48.9	-3.1
	comp=Z,167nm,1.3s							
LIC	Lamto	168.72	232	*e*PKIKP		PKPdf	08 48 48.9	-3.2
	comp=Z,61nm,1.2s							
DBIC	Dimbokro	168.85	234	PKP		PKPdf	08 48 48.6	-3.6
DBIC				*e*PKPdf		PKPdf	08 48 49.4	-2.8
DBIC				PKPab		PKPab	08 50 03.4	+0.6
DBIC	Dimbokro	168.85	234	PKP		PKPdf	08 48 48.6	-3.6
	comp=Z,18nm,1.0s,baz=78,slow=3.4,SNR=7.8							
DBIC				PKPab		PKPab	08 50 03.4	+0.6
	comp=Z,24nm,1.0s,baz=137,slow=5.7,SNR=6.5							
TIC	Toumodi	168.97	234	*e*PKIKP		PKPdf	08 48 49.2	-3.1
	comp=Z,159nm,1.5s							

DJA 08 08:32:37.9±0.7, 8°S±3', 10°7E±°, h15km±5km, M4.0/6, MLv4.0/6, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	Cisompet, Garu	0.79	45	P	Pg	08 32 52.4	-1.0
CISI				S	Sg	08 33 02.2	-1.7
SKJI	Sukabumi	1.30	328	P	Pn	08 33 00.4	-1.2
SKJI				S	Sb	08 33 16.6	-2.1
LEM	Lembang	1.34	16	P	Pn	08 33 01.8	-0.5
LEM				S	Sn	08 33 18.9	-1.0
DBJI	Dramaga	1.63	342	S	Sn	08 33 26.4	-0.6
CLJI	Cilicap	1.79	77	P	Pn	08 33 09.4	+1.1
CLJI				S	Sn	08 33 31.2	+0.3
UGM	Wanagama	3.25	87	P	Pn	08 33 27.3	-1.1
PCJI	Pacitan	3.89	91	P	Pn	08 33 36.7	-0.5

*IDC **08** 08:34:30.3±0.4, 12°.31S×166°.75E, h0km, mb5.1/24, mb1 5.2/24, mb1mx5.2/25, mbtmp5.1/24, Error ellipse: s-maj=16.1km s-min=12.1km az=119.0*

*BJI **08** 08:34:35.2, 12°.07S×166°.83E, h40km, mB6.3/38, mb5.7/51, Ms6.7/45, Ms7 6.4/43*

*MOS **08** 08:34:35.1±1.1, 12°.21S×166°.43E, h33km, mb5.6/40, Error ellipse: s-maj=9.0km s-min=7.6km az=59.0*

*NEIC **08** 08:34:37.0±0.2, 12°.24S×166°.49E, h35km, mb6.0/89, Error ellipse: s-maj=6.8km s-min=4.4km az=152.0*

*ISCJB **08** 08:34:37.8±0.9, 12°.27S±0°.03×166°.49E±0°.02, h54km±8km, mb5.8/176, MS6.4/14, Error ellipse: s-maj=5.5km s-min=3.4km az=166.5*

*AUST **08** 08:34:39.5±0.3, 12°.35S×166°.32E, h35km, Error ellipse: s-maj=6.4km s-min=5.2km az=172.0*

*DJA **08** 08:34:47.9±1.2, 12°S±4'×16°6E±°, h89km±13km, M6.6/49, mB6.9/13, mb5.9/49, Mw(mB)6.8/13*

ISC 08 08:34:36.7±0.3, 12°33S±0°.04×166°66E±0°.04, h40km±2km, h40km:pP-P, n614, σ1§43/651, mb5.8/178, MS6.4/14, 27C-10D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	7.19	293	Pn	Pn	08 36 22.8	+3.3
HNR				Sn	**Sn**	**08 37 39.0**	**-0.9**
HNR	Honiara	7.19	293	Pn	Pn	08 36 22.7	+3.3
	1µm,0.3s,baz=143,slow=6.1,SNR=151						
HNR				Sn	**Sn**	**08 37 38.9**	**-0.9**
	840nm,0.3s,baz=192,slow=23,SNR=8.3						
DZM	Mont Dzumac	9.69	181	*e*Pn	Pn	08 36 57.8	+4.0
	512nm,0.8s						
DZM	Mont Dzumac	9.69	181	Pn	Pn	08 36 58.0	+4.2
DZM				Sn	**Sn**	**08 38 42.6**	**+1.1**
DZM	Mont Dzumac	9.69	181	Pn	Pn	08 36 58.0	+4.2
	18nm,0.3s,baz=27,slow=20,SNR=38						
DZM				Sn	**Sn**	**08 38 42.6**	**+1.1**
	6.2nm,0.3s,baz=303,slow=22,SNR=1.4						
MSVF	Nonsavu	12.24	117	*e*P	Pn	08 37 32.7	+3.9
MSVF	Nonsavu	12.24	117	*e*Pn	Pn	08 37 32.7	+3.9
FUNA	Funafuti	12.90	74	*e*Pn	Pn	08 37 42.4	+4.8
	4µm,1.7s						
FUNA				*e*Sn	Sn	08 40 09.1	+9.2
TARA	Tarawa	14.95	25	*e*Pn	**P**	**08 38 09.8**	**-0.6**
TARA				*e*Sn	**Sn**	**08 40 50.9**	**+1.0**
PMG	Port Moresby	19.37	277	P	**Pn**	**08 39 01.7**	**+1.1**
	500nm,2.5s						
PMG	Port Moresby	19.37	277	*e*P	**P**	**08 38 59.2**	**-0.1**
	573nm,1.2s						
PMG	Port Moresby	19.37	277	P	**Pn**	**08 39 01.5**	**+0.9**
	1.7nm,0.3s,baz=82,slow=7.7,SNR=11						
EIDS	Eidsvold	19.61	226	*e*P	**Pn**	**08 39 04.6**	**+1.2**
	348nm,1.3s						
LHI	Lord Howe Isla	20.35	199	⇑P	Pn	08 39 11.1	-0.9
	bazo=20						
PATS	Pohnpei	20.77	336	⇑P	**P**	**08 39 15.7**	**+1.3**
	baz=21,SNR=5.3						
KWAJ	Kwajalein Atol	21.01	3	*e*P	**P**	**08 39 15.9**	**-1.1**
KWAJ				pmax	pmax		
	comp=Z,611nm,1.2s						
KWAJ	Kwajalein Atol	21.01	3	*e*P	**P**	**08 39 15.9**	**-1.1**
	comp=Z,611nm,1.2s						
CTA	Charters Tower	21.04	246	P	**P**	**08 39 18.9**	**+1.5**
CTA	Charters Tower	21.04	246	P	**P**	**08 39 18.9**	**+1.5**
	comp=Z,51nm,0.7s,baz=75,slow=12,SNR=23						
AFI	Afiamalu	21.06	97	*e*P	**P**	**08 39 22.1**	**+4.3**
AFI	Afiamalu	21.06	97	P	**P**	**08 39 21.7**	**+4.0**
	comp=Z,161nm,0.9s,baz=175,slow=4.4,SNR=12						
MANU	Manus Island	21.67	297	P	**P**	**08 39 26.3**	**+2.1**
	baz=21,SNR=11						
RMQ	Roma	21.95	227	⇑P	**P**	**08 39 29.5**	**+2.4**
	baz=22,SNR=36						
ARMA	Armidale	22.76	215	*e*P	**P**	**08 39 37.7**	**+1.9**
	comp=Z,1µm,2.0s						
ARMA	Armidale	22.76	215	P	**P**	**08 39 37.3**	**+1.5**
	baz=23,SNR=43						
COEN	Coen	22.93	263	*e*P	**P**	**08 39 37.2**	**-0.4**
	comp=Z,2µm,1.3s						
COEN	Coen	22.93	263	P	**P**	**08 39 38.3**	**+0.7**
	baz=23,SNR=23						
KNTN	Kanton	23.42	68	*e*P	**P**	**08 39 45.2**	**+2.8**
	comp=Z,3µm,2.2s						
MGCD	Mangrove Creek	25.19	212	P	**P**	**08 40 00.8**	**+2.1**
	baz=25,SNR=14						
QLP	Quilpie	25.40	233	P	**P**	**08 40 01.6**	**+1.0**
	baz=25,SNR=9.2						
CMSA	Cobar Meteorol	27.18	222	P	**P**	**08 40 17.6**	**+1.0**
	baz=27,SNR=8.3						
URZ	Urewera	27.46	162	P	**P**	**08 40 20.8**	**+1.7**
URZ	Urewera	27.46	162	P	**P**	**08 40 20.8**	**+1.7**
	comp=Z,20nm,0.8s,baz=330,slow=4.7,SNR=9.2						
JAY	Jayapura	27.49	289	P	**P**	**08 40 19.4**	**-0.2**
	comp=Z,130nm,1.3s						
STKA	Stephens Creek	30.16	226	P	**P**	**08 40 44.6**	**+1.4**
STKA	Stephens Creek	30.16	226	⇑P	**P**	**08 40 44.0**	**+0.8**
	baz=30,SNR=38						
STKA	Stephens Creek	30.16	226	P	**P**	**08 40 44.6**	**+1.4**
	comp=Z,78nm,0.8s,baz=46,slow=9.8,SNR=28						
H11S2	WAKE ISLAND Hy	30.62	**0**	T	T	09 11 24.9	
	baz=182,slow=0.7,SNR=30						
H11S3	WAKE ISLAND Hy	30.62	**0**	T	T	09 11 25.3	
	baz=182,slow=0.7,SNR=24						
H11S1	WAKE ISLAND Hy	30.64	**0**	T	T	09 11 26.2	
	baz=182,slow=0.7,SNR=27						
TOO	Toolangi	31.47	213	P	**P**	**08 40 56.5**	**+1.7**
	baz=31,SNR=

KLBR **Kellerberrin** 48.80 239 P P 08 43 18.2 +0.1
baz=48,SNR=51
POHA **Pohakuloa** 49.01 50 eP P 08 43 22.4 +2.2
comp=Z,672nm,1.5s
HKL **Haleakala** 49.06 48 eP P 08 43 23.1 +2.4
HKL **Haleakala** 49.06 48 eP P 08 43 23.1 +2.4
BLDU **Ballidu** 49.49 240 P P 08 43 23.5 0.0
baz=49,SNR=29
NWAO **Narrogin (SRO)** 49.51 237 eP P 08 43 23.9 +0.3
comp=Z,1µm,2.0s
NWAO **Narrogin (SRO)** 49.51 237 P P 08 43 23.6 0.0
comp=Z,104nm,0.6s,baz=86,slow=7.1
RCP **Roxas** 49.63 297⇑eP P 08 43 25.1 +0.3
MTNI **Mataram** 49.73 269 P P 08 43 26.0 +0.5
comp=Z,269nm,2.0s,comp=Z,11µm
MORW **Morawa** 49.81 242 ⇓P P 08 43 26.1 +0.1
baz=50
MORW P P 08 43 26.4 +0.5
baz=50,SNR=54
RKGY **Rocky Gully** 50.10 235 P P 08 43 29.0 +1.0
baz=50,SNR=22
DNP **Denpasar** 50.66 269 P P 08 43 33.5 +0.9
comp=Z,850nm,0.8s
SRBI **Singaraja** 50.75 270 P P 08 43 33.5 +0.3
comp=Z,396nm,1.7s
GIRL **Giralia** 50.82 251 P P 08 43 35.3 +1.6
baz=50,SNR=6.8
MYLDM **Lahad Datu** 50.93 287 P P 08 43 37.5 +2.9
MYLDM **Lahad Datu** 50.93 287 P P 08 43 36.4 +1.8
comp=Z,335nm,1.6s
TSM **Tawau** 51.22 286 P P 08 43 37.7 +0.9
BYJI **Banyuwangi** 51.56 269 P P 08 43 39.6 +0.2
comp=Z,1µm,1.7s
ABJI **Asem Bagus** 51.75 270 P P 08 43 41.5 +0.7
SDKM **Sandakan** 52.31 287 P P 08 43 44.8 -0.2
KDM **Kudat** 53.09 288 P P 08 43 52.6 +1.9
KKM **Kota Kinabalu** 53.36 287 P P 08 43 54.1 +1.3
KKM **Kota Kinabalu** 53.36 287 eP P 08 43 53.1 +0.3
comp=Z,320nm,0.9s
KKM **Kota Kinabalu** 53.36 287 P P 08 43 53.4 +0.6
baz=53,SNR=32
UGM **Wanagama** 55.36 269 P P 08 44 07.7 +0.4
baz=55,SNR=7.7
BTM **Bintulu** 55.42 283 P P 08 44 09.0 +1.3
MJAR **Matsushiro Arr** 55.51 332 P P 08 44 06.8 -1.1
MJAR **Matsushiro Arr** 55.51 332 P P 08 44 06.8 -1.1
comp=Z,9.4nm,0.7s,baz=172,slow=9.3,SNR=25
MAJO **Matsushiro** 55.51 332 eP P 08 44 07.3 -0.6
MAJO pmax pmax
comp=Z,22nm,0.7s
MAJO **Matsushiro** 55.51 332 eP P 08 44 07.3 -0.6
comp=Z,22nm,0.7s
MAT **Matsushiro** 55.51 332 P P 08 44 07.1 -0.8
SBUM **Sibu** 56.02 281 P P 08 44 13.5 +1.4
SBUM **Sibu** 56.02 281 eP P 08 44 12.8 +0.8
comp=Z,567nm,2.1s
JNU **Nakatsue** 56.63 324 P P 08 44 15.6 -0.5
JNU **Nakatsue** 56.63 324 P P 08 44 15.6 -0.5
comp=Z,42nm,0.7s,baz=126,slow=4.4,SNR=13
TWG **Pinlang** 56.69 308 eP P 08 44 16.0 -0.6
comp=Z,1µm,1.6s
YULB **Yu-li** 56.83 309 eP P 08 44 17.5 -0.1
comp=Z,250nm,1.4s
NACB **Ninganchiao** 57.04 310 eP P 08 44 19.3 +0.3
comp=Z,991nm,2.0s
TPUB **Ta-pu** 57.29 308 eP P 08 44 20.6 -0.3
comp=Z,363nm,1.1s
SSLB **Suanglung** 57.31 309 eP P 08 44 20.6 -0.4
comp=Z,600nm,2.0s
YHNB **Yeheng** 57.48 310 eP P 08 44 23.0 +0.7
comp=Z,176nm,0.8s
KSM **Kuching** 57.59 280 P P 08 44 23.9 +0.8
KSM **Kuching** 57.59 280 eP P 08 44 23.4 +0.2
comp=Z,431nm,1.7s
KSM **Kuching** 57.59 280 P P 08 44 23.5 +0.3
baz=57,SNR=21
CISI **Cisompet, Garu** 58.06 269 P P 08 44 26.0 -0.6
baz=58,SNR=5.3
LEM **Lembang** 58.38 270 P P 08 44 29.8 +0.9
baz=58,SNR=19
XMI **Christmas Isla** 59.69 265 P P 08 44 39.0 +1.2
baz=59,SNR=3.3
XMIS **Christmas Isla** 59.72 265 eP P 08 44 38.4 +0.4
comp=Z,2µm,1.6s
XMIS **Christmas Isla** 59.72 265 P P 08 44 38.4 +0.4
baz=59,SNR=5.6
QZH **Quanzhou** 59.74 309⇑iP P 08 44 35.5 -2.4
QZH pP pP 08 44 49.8 +0.2
QZH eS S 08 52 49.1 +2.8
QZH AMB AMB
comp=Z,290nm,1.0s
QZH LR LR
comp=Z,9µm,11.2s
QZH LR LR
comp=Z,21µm,15.7s
QZH LR LR
comp=Z,31µm,16.4s
SSE **Sheshan** 61.39 316 P P 08 44 49.2 +0.2
SSE AMB AMB
comp=Z,130nm,0.8s
SSE AMB AMB
comp=Z,2µm,6.5s
KSRS **Korea Array** 61.43 325 P P 08 44 49.5 +0.4
comp=Z,8.7nm,0.7s,baz=135,slow=7.1,SNR=17
KSAR **Wonju Array Be** 61.45 325 P P 08 44 49.5 +0.3
INCN **Inchon** 62.17 325 eP P 08 44 55.2 +1.0
comp=Z,552nm,2.1s
YSS **Yuzh-Sakhalins** 62.77 342⇑eP P 08 44 58.0 +0.1
YSS e 08 45 11.0
NJ2 **Nanjing** 63.55 315 eP P 08 45 02.5 -0.9
NJ2 pP pP 08 45 16.3 +1.1
NJ2 sP sP 08 45 19.8 0.0
NJ2 S S 08 53 36.0 +1.6
NJ2 AMB AMB
comp=Z,150nm,0.8s
NJ2 AMB AMB
comp=Z,3µm,7.8s
NJ2 LR LR
comp=Z,21µm,22.7s
NJ2 LR LR
comp=Z,23µm,20.8s
NJ2 LR LR
comp=Z,22µm,25.6s
VLA **Vladivostok** 63.69 332⇓iP P 08 45 02.0 -2.0
VLA e 08 45 38.6
VLA e 08 47 20.8
VLA eS S 08 53 32.9 -2.7
VLA pmax pmax
comp=Z,34nm,1.2s
MYKOM **Kota Tinggi** 63.91 278 P P 08 45 07.5 +1.3
QIZ **Qiongzhong** 64.07 298 P P 08 45 08.3 +1.2
QIZ S S 08 53 41.1 -0.2
QIZ AMB AMB
comp=Z,110nm,1.1s
KGM **Kluang** 64.48 278 P P 08 45 11.0 +1.1
USRK **Ussuriysk Arra** 64.49 333 P P 08 45 10.1 +0.8
comp=Z,6.9nm,0.7s,baz=144,slow=6.8,SNR=12
VNDA **Vanda** 65.24 181 P P 08 45 14.0 +0.3
VNDA **Vanda** 65.24 181 P P 08 45 14.0 +0.3
comp=Z,19nm,1.0s,baz=354,slow=5.7,SNR=20
CASY **Casey** 65.52 202 eP P 08 45 15.7 -0.1
comp=Z,311nm,2.0s
SBA **Scott Base** 65.53 180 eP P 08 45 16.8 +1.2
SBA pmax pmax
comp=Z,72nm,1.0s
SBA **Scott Base** 65.53 180 eP P 08 45 16.8 +1.2
comp=Z,72nm,1.0s
KTGM **Kuala Trenggan** 65.53 282 P P 08 45 18.1 +1.4
PETK **Petropavlovsk-** 65.62 354 P P 08 45 16.8 +0.3
PETK pmax pmax
comp=Z,8.0nm,0.7s
PETK **Petropavlovsk-** 65.62 354 P P 08 45 16.8 +0.3
PETK **Petropavlovsk-** 65.62 354 P P 08 45 16.8 +0.3
comp=Z,8.1nm,0.7s,baz=146,slow=8.2,SNR=7.5
MDJ **Mudanjiang** 65.89 332 P P 08 45 18.7 +0.3
MDJ PP PP 08 47 40.4 -3.6
MDJ S S 08 54 04.6 +1.8
MDJ SS SS 08 58 14.7 -3.9
MDJ AMB AMB
comp=Z,50nm,2.0s
MDJ AMB AMB
comp=Z,1µm,8.6s
MDJ LR LR
comp=Z,30µm,18.2s
MDJ LR LR
comp=Z,6µm,13.9s
MDJ LR LR
comp=Z,37µm,19.2s
FRIM **Kepong** 66.43 279 P P 08 45 22.8 +0.3
UBPT **Khong Chiam** 66.49 293 P P 08 45 23.8 +1.0
comp=Z,90nm,1.6s
PPI **Padang Panjang** 66.73 275 P P 08 45 25.6 +1.1
baz=66,SNR=4.2
CN2 **Changchun** 67.29 329 eP P 08 45 27.7 +0.3
CN2 eSP sP 08 45 41.9 -2.0
CN2 eS S 08 54 19.7 0.0
CN2 AMB AMB
comp=Z,60nm,1.1s
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,37µm,15.0s
CN2 LR LR
comp=Z,16µm,15.0s
CN2 LR LR
comp=Z,50µm,16.0s
IPM **Ipoh** 67.32 280 P P 08 45 29.2 +1.0
IPM **Ipoh** 67.32 280 eP P 08 45 28.5 +0.2
comp=Z,1µm,2.0s
KULM **Kulim** 67.90 281 P P 08 45 32.6 +0.7
KULM **Kulim** 67.90 281 eP P 08 45 32.1 +0.3
comp=Z,220nm,1.3s
PANO **Nakornpanom** 67.92 294 P P 08 45 32.6 +0.7
comp=Z,142nm,1.3s
SKNT **Sakolnakorn** 68.42 294 P P 08 45 35.4 +0.3
comp=Z,378nm,0.9s
SKLT **Songkhla** 68.44 283 P P 08 45 36.9 +1.7
comp=Z,134nm,1.0s
CHBT **CHBT** 68.50 289 P P 08 45 36.3 +0.8
comp=Z,111nm,2.1s
KLR **Kul'dur** 68.58 336 eP P 08 45 33.0 -2.4
KLR pmax pmax
comp=Z,280nm,1.8s
UNV **Unalaska Valle** 69.77 17 eP P 08 45 43.4 +0.8
CHAI **Chaiyaphum** 69.85 292 P P 08 45 44.0 +0.1
comp=Z,29nm,0.8s,comp=Z,279nm
GYA **Guiyang** 69.87 304⇑iP P 08 45 44.7 +0.7
GYA pP pP 08 45 57.2 +1.2
GYA sP sP 08 46 02.8 +2.2
GYA PP PP 08 48 23.0 +3.9
GYA S S 08 54 52.4 +1.0
GYA SKS SKSac 08 55 40.0 -2.3
GYA SS SS 08 59 22.7 +1.6
GYA AMB AMB
comp=Z,70nm,1.0s
GYA AMB AMB
comp=Z,1µm,9.3s
GYA LR LR
comp=Z,11µm,19.0s
GYA LR LR
comp=Z,10µm,20.2s
GYA LR LR
comp=Z,10µm,20.8s
BJI **Beijing** 70.03 321 P P 08 45 45.0 +0.5
BJI AMB AMB
comp=Z,70nm,2.1s
BJI AMB AMB
comp=Z,3µm,7.4s
BJI LR LR
comp=Z,44µm,18.1s
BJI LR LR
comp=Z,20µm,17.0s
BJI LR LR
comp=Z,34µm,31.8s
PKDT **Phuket** 70.81 283 P P 08 45 51.8 +1.9
comp=Z,139nm,1.4s
TIY **Taiyuan** 71.10 317 P P 08 45 51.8 +0.6
TIY pP pP 08 46 05.2 +2.0
TIY S S 08 54 56.4 -8.8
TIY LR LR
comp=Z,12µm,14.8s
TIY LR LR
comp=Z,8µm,15.6s
TIY LR LR
comp=Z,18µm,16.3s
XAN **Xi'an** 71.64 312 P P 08 45 55.0 +0.5
XAN pP pP 08 46 09.4 +2.9
XAN sP sP 08 46 16.6 +5.5
XAN AMB AMB
comp=Z,43nm,0.9s
XAN LR LR
comp=Z,8µm,16.4s
XAN LR LR
comp=Z,3µm,16.4s
KMI **Kunming** 72.55 301 P P 08 46 02.0 +1.6
KMI pP PcP 08 46 16.8 -1.1
KMI sP sP 08 46 21.7 +4.8
KMI PP PP 08 48 45.6 +3.3
KMI S S 08 55 23.8 +1.2
KMI AMB AMB
comp=Z,250nm,1.6s
KMI AMB AMB
comp=Z,2µm,7.4s
KMI LR LR
comp=Z,10µm,16.7s
KMI LR LR
comp=Z,10µm,16.4s
KMI LR LR
comp=Z,12µm,16.4s
CRAI **Chiangrai** 72.77 296 P P 08 46 02.3 +0.8
comp=Z,110nm,1.7s
LAMP **Lampang** 72.85 294 P P 08 46 03.0 +1.0
comp=Z,74nm,0.7s,comp=Z,645nm
PAYA **Payao** 72.92 295 P P 08 46 03.1 +0.7
comp=Z,41nm,1.2s,comp=Z,416nm
HHC **Hu-ho-hao-te** 73.38 320 eP P 08 46 06.5 +1.7
HHC pP pP 08 46 16.8 0.0
HHC sP sP 08 46 20.8 -0.6
HHC PP PP 08 48 52.2 +3.3
HHC S S 08 55 32.1 +0.9
HHC sS sS 08 55 49.2 -2.0
HHC SKS SKSac 08 56 05.4 -2.8
HHC ScS SKSac 08 56 09.2 +0.8
HHC SS SS 09 00 17.0 +2.6
HHC AMB AMB
comp=Z,120nm,1.1s
HHC AMB AMB
comp=Z,4µm,5.4s
HHC LR LR
comp=Z,20µm,16.5s
HHC LR LR
comp=Z,27µm,16.7s
HHC LR LR
comp=Z,27µm,18.4s
CM31 **Chiang Mai Arr** 73.44 294 eP P 08 46 07.1 +1.6
comp=Z,61nm,0.7s
CHTO **Chiang Mai** 73.56 294 eP P 08 46 07.2 +1.0
CHTO **Chiang Mai** 73.56 294 eP P 08 46 07.2 +1.0
comp=Z,2µm,1.9s
CHTO **Chiang Mai** 73.56 294 P P 08 46 06.9 +0.7
comp=Z,665nm,1.5s
CMAI **Chiengmai2** 73.84 295 P P 08 46 09.0 +1.0
comp=Z,156nm,1.2s
CD2 **Chengdu** 74.08 307 P P 08 46 09.8 +0.7
CD2 pP pP 08 46 20.6 -0.5
CD2 sP sP 08 46 24.8 -0.9
CD2 PP PP 08 48 57.2 +2.1
CD2 S S 08 55 39.0 -0.5
CD2 sS sS 08 55 57.0 -2.4
CD2 SS SS 09 00 26.7 +1.3
CD2 AMB AMB
comp=Z,170nm,1.5s
CD2 AMB AMB
comp=Z,2µm,8.6s
CD2 LR LR
comp=Z,12µm,18.4s
CD2 LR LR
comp=Z,12µm,17.8s
SEY **Seymchan** 75.84 353 iP P 08 46 17.7 -0.7
LZH **Lanzhou** 76.28 312 ⇑P P 08 46 23.5 +1.7
LZH pP pP 08 46 34.3 +0.5
LZH sP sP 08 46 38.4 0.0
LZH PP PP 08 49 16.6 +3.0
LZH S S 08 56 04.5 +0.7
LZH sS sS 08 56 21.7 -2.2
LZH SKS SKSac 08 56 27.0 -3.2
LZH SS SS 09 01 01.5 +2.8
LZH AMB AMB
comp=Z,140nm,1.0s
LZH AMB AMB
comp=Z,2µm,8.4s
LZH LR LR
comp=Z,8µm,15.2s
LZH LR LR
comp=Z,7µm,15.0s
LZH LR LR
comp=Z,17µm,17.8s
CLNS **Chul'man** 77.09 338 eP P 08 46 43.3 +18
CLNS pmax pmax
comp=Z,64nm,1.3s
CLNS pmax pmax
comp=N,50nm,1.5s
CLNS pmax pmax
comp=E,13nm,0.9s
QSPA **South Pole Qui** 77.69 180 eP P 08 46 29.2 0.0
comp=E,124nm,1.2s
CIT **Chita** 78.71 330 eP P 08 46 35.2 +0.3
CIT e 08 46 50.6
CIT e 08 49 31.0
CIT pmax pmax
comp=Z,397nm,2.3s
YAK **Yakutsk** 79.57 343 eP P 08 46 56.4 +17
YAK pmax pmax
comp=Z,123nm,1.2s
YAK pmax pmax
comp=N,37nm,1.3s
YAK pmax pmax
comp=E,17nm,1.3s
ULN **Ulaanbaatar** 79.86 324 eP P 08 46 41.8 +0.4
comp=E,75nm,1.1s
SONM **Songino Array** 80.22 324 P P 08 46 43.5 +0.2
SONM PKKPbc **PKKPbc** 09 05 26.0 -2.8
SONM **Songino Array** 80.22 324 P P 08 46 43.5 +0.2
comp=E,7.7nm,0.3s,baz=141,slow=6.0,SNR=84
SONM PKKPbc **PKKPbc** 09 05 26.0 -2.8
comp=E,1.3nm,0.8s,baz=261,slow=2.6,SNR=6.6
GTA **Gaotai** 80.58 314 ⇑P P 08 46 46.6 +1.2
GTA pP pP 08 46 56.8 -0.8
GTA sP sP 08 47 01.1 -1.0
GTA S S 08 56 49.9 +0.1
GTA sS ScS 08 57 07.9 -1.2
GTA SS SS 09 02 05.8 +2.5
GTA AMB AMB
comp=E,66nm,2.0s
GTA AMB AMB
comp=E,3µm,5.7s
GTA LR LR
comp=E,16µm,17.6s
GTA LR LR
comp=E,21µm,18.1s
GTA LR LR
comp=E,26µm,18.0s
PMR **Palmer** 81.45 20 eP P 08 46 50.6 +1.3
PMR pmax pmax
comp=Z,95nm,1.4s
PMR **Palmer** 81.45 20 eP P 08 46 50.6 +1.3
comp=Z,95nm,1.4s
CAST **Castle Rocks** 81.89 17 eP P 08 46 51.1 -0.6
comp=Z,43nm,1.1s
TRF **Thorofare Moun** 82.45 18 eP P 08 46 52.5 -2.3
comp=Z,35nm,1.1s
TRF e 08 47 17.6
BMRM **Bremner River** 82.58 22 eP P 08 46 55.4 0.0
comp=Z,10nm,0.8s
KCPM **Cahto Peak** 82.76 47 eP P 08 46 58.8 +1.9
comp=Z,100nm,1.3s
HOPS **Hopland** 82.87 48 P P 08 46 57.3 0.0
comp=Z,228nm,1.3s
KIPM **Iron Peak** 82.88 47 eP P 08 46 58.2 +0.7
comp=Z,214nm,1.3s
MCK **McKinley** 83.07 18 eP P 08 46 58.2 +0.4
MCK **McKinley** 83.07 18 eP P 08 46 58.2 +0.4
KHMM **Horse Mountain** 83.11 46 eP P 08 46 59.2 +0.5
comp=Z,136nm,1.2s
KRMB **Red Mountain** 83.24 45 eP P 08 46 57.3 -2.0
comp=Z,446nm,2.5s
H02S1 **DAWSON INLET T** 83.29 32 T T 10 18 21.8
SNR=9.2
IM04 **Indian Mountai** 83.40 15 eP P 08 47 00.0 +0.6
IRK **Irkutsk** 83.61 327 eP P 08 47 13.3 +12
IRK pmax pmax
comp=Z,157nm,1.9s
PAX **Paxson** 83.64 20 eP P 08 47 02.2 +1.3
PAX pmax pmax
comp=Z,90nm,1.5s
PAX **Paxson** 83.64 20 eP P 08 47 02.1 +1.3
comp=Z,90nm,1.5s
TLY **Talaya** 83.68 326 eP P 08 47 01.0 -0.2
TLY e 08 47 17.0
TLY pmax pmax
comp=Z,63nm,1.6s
TLY **Talaya** 83.68 326 P P 08 47 00.8 -0.4
comp=Z,164nm,1.0s,SNR=5.2
LSA **Lhasa** 83.79 302 P P 08 47 03.9 +1.0
WDC **Whiskeytown Da** 83.84 46 eP P 08 47 05.6 +3.3
WDC **Whiskeytown Da** 83.84 46 eP P 08 47 05.6 +3.3
MAW **Mawson** 83.88 202 P P 08 47 02.0 0.0
MAW **Mawson** 83.88 202 P P 08 47 02.0 0.0
comp=Z,32nm,0.8s,baz=108,slow=6.4,SNR=52
CRAG **Craig** 84.14 30 eP P 08 47 05.2 +1.8
comp=Z,81nm,1.5s
YBH **Yreka Blue Hor** 84.15 45 eP P 08 47 04.7 +0.7
comp=Z,126nm,1.2s
YBH **Yreka Blue Hor** 84.15 45 P P 08 47 04.3 +0.3
comp=Z,7.9nm,0.9s,baz=351,slow=4.5,SNR=12
MENT **Mentasta** 84.21 21 eP P 08 47 03.1 -0.6
COLA **College** 84.22 18 eP P 08 47 02.6 -1.0
COLA **College** 84.22 18 eP P 08 47 02.6 -1.0
HUMO **Hull Mountain** 84.31 44 eP P 08 47 06.7 +2.0
comp=Z,114nm,1.1s
ILAR **Eielson Array** 84.44 18 P P 08 47 03.5 -1.3
ILAR PKKPbc **PKKPdf** 09 05 14.6 +3.0
ILAR **Eielson Array** 84.44 18 P P 08 47 03.5 -1.3
comp=Z,7.2nm,0.6s,baz=239,slow=5.2,SNR=33
ILAR PKKPbc **PKKPdf** 09 05 14.6 +3.0
comp=Z,0.8nm,0.9s,baz=218,slow=1.6,SNR=6.1
CMB **Columbia Colle** 84.49 49 eP P 08 47 06.0 +0.3
CMB pmax pmax
comp=Z,58nm,1.1s
CMB **Columbia Colle** 84.49 49 eP P 08 47 06.0 +0.3
comp=Z,58nm,1.1s
COR **Corvallis** 84.84 42 eP P 08 47 10.4 +3.2
COR **Corvallis** 84.84 42 eP P 08 47 10.4 +3.2
comp=Z,485nm,1.3s
WRAK **Wrangell Islan** 85.01 29 eP P 08 47 08.6 +0.9
comp=Z,54nm,1.1s
MWC **Mount Wilson** 85.01 54 eP P 08 47 09.8 +1.2
MWC pmax pmax
comp=Z,157nm,1.5s
MWC **Mount Wilson** 85.01 54 eP P 08 47 09.8 +1.2
comp=Z,158nm,1.5s
MOY **Mondy** 85.13 325 eP P 08 47 08.7 0.0
BEKR **Beckworth** 85.14 48 eP P 08 47 09.4 +0.3
ISA **Isabella** 85.14 52 eP P 08 47 09.5 +0.4
ISA pmax pmax
comp=Z,128nm,1.5s
ISA **Isabella** 85.14 52 eP P 08 47 09.5 +0.4
comp=Z,128nm,1.5s
ISA **Isabella** 85.14 52 P P 08 47 10.8 +1.7
baz=85
F03A **Seaside** 85.19 41 eP P 08 47 09.4 +0.4
comp=Z,212nm,1.4s
EDW2 **Edwards Air Fo** 85.27 53 P P 08 47 11.0 +1.3
baz=86
COLD **Coldfoot** 85.28 15 eP P 08 47 09.9 +0.9
SKAG **Skagway** 85.30 26 eP P 08 47 10.3 +1.2
comp=Z,41nm,1.2s
BFSC **Mount Baldy Ra** 85.33 54 P P 08 47 11.6 +1.4
baz=86
E03A **Lebam** 85.43 41 eP P 08 47 13.5 +3.4
MTUM **Tungsten Hills** 85.62 50 eP P 08 47 13.0 +1.4
BAR **Barrett** 85.64 55 eP P 08 47 14.2 +2.6
LRMC **Laurel Mountai** 85.69 52 P P 08 47 13.3 +1.4
baz=86
CWC **Cottonwood Cre** 85.70 51 P P 08 47 12.8 +0.9
baz=86
K05A **Summer Lake** 85.77 45 eP P 08 47 14.0 +1.8
comp=Z,134nm,1.1s
PAHR **Pah Rah Range** 85.79 48 eP P 08 47 12.5 +0.2
comp=Z,108nm,1.2s
MOD **Modoc** 85.89 46 eP P 08 47 13.7 +1.0
comp=Z,336nm,1.2s
MONP **Monument Peak** 85.90 55 P P 08 47 14.6 +1.5
baz=86
BBRC **Big Bear Solar** 85.92 54 P P 08 47 14.7 +1.5
baz=86
TAPN **Taplejung** 86.00 299 eP P 08 47 13.9 +0.1

MPMC Manual Prospec 86.03 52 P **P** 08 47 14.8 +1.2
baz=86
PFO Pinyon Flat Ob 86.09 55 *e*P **P** 08 47 16.0 +2.1
PFO Pinyon Flat Ob 86.09 55 P **P** 08 47 15.3 +1.4
baz=86
PFO Pinyon Flat Ob 86.09 55 P **P** 08 47 14.9 +1.0
comp=Z,3.0nm,0.7s,baz=274,slow=6.8,SNR=6.2
DVTC Desert V Tower 86.09 56 P **P** 08 47 15.3 +1.4
baz=86
ODAN Odare 86.14 298 *e*P **P** 08 47 14.5 0.0
comp=Z,211nm,0.9s
NVAR Mina Array Bea 86.17 50 P **P** 08 47 14.5 +0.2
NVAR PKKPbc **PKKPbc** 09 05 13.8 -0.7
NVAR Mina Array Bea 86.17 50 P **P** 08 47 14.5 +0.2
comp=Z,3.1nm,0.7s,baz=230,slow=8.0,SNR=9.6
NVAR PKKPbc **PKKPbc** 09 05 13.8 -0.7
comp=Z,0.6nm,0.7s,baz=97,slow=3.2,SNR=5.8
EGAK Eagle 86.27 20 *e*P **P** 08 47 13.4 -0.5
comp=Z,102nm,1.5s
NV11 Mina Array Sit 86.28 50 *e*P **P** 08 47 14.7 -0.1
GSC Goldstone 86.33 53 *e*P **P** 08 47 16.5 +1.5
GSC Goldstone 86.33 53 *e*P **P** 08 47 16.5 +1.5
PGC Sidney 86.33 39 *e*P **P** 08 47 17.4 +2.9
SWSC Sam W. Stewart 86.42 55 P **P** 08 47 17.2 +1.9
baz=87
DAWY Dawson 86.42 21 *e*P **P** 08 47 14.4 -0.4
HEC Hector,Ludlow 86.56 53 P **P** 08 47 17.7 +1.6
baz=87
BELC Belle Mtn. Jos 86.57 54 P **P** 08 47 17.9 +1.6
baz=87
LON Longmire 86.62 41 *e*P **P** 08 47 18.1 +1.9
LON pmax pmax
comp=Z,48nm,1.3s
LON Longmire 86.62 41 *e*P **P** 08 47 18.1 +1.9
comp=Z,48nm,1.3s
FURC Furnace Creek, 86.64 52 P **P** 08 47 17.0 +0.6
baz=87
D05A Enumclaw 86.67 40 *e*P P 08 47 19.7 +3.4
comp=Z,335nm,1.4s
H06S1 SOCORRO T 86.85 70 T T 10 23 05.2
SNR=15
RAMN Ramite 86.85 298 *e*P **P** 08 47 17.8 -0.1
H06N1 SOCORRO T-PHAS 86.85 70 T T 10 23 02.7
SNR=8.8
H06E1 SOCORRO T-PHAS 86.89 70 T T 10 23 02.7
SNR=8.5
BC3 Big Chuckawall 86.90 55 P **P** 08 47 18.9 +1.0
baz=87
TUQ Turquoise Moun 87.05 53 P **P** 08 47 19.5 +0.9
baz=87
GMRC Granite Mounta 87.07 54 P **P** 08 47 19.5 +0.8
baz=87
DLBC Dease Lake 87.11 28 *e*P **P** 08 47 19.9 +1.7
DLBC Dease Lake 87.11 28 P **P** 08 47 19.5 +1.2
comp=Z,2.0nm,0.8s,baz=254,slow=4.1,SNR=3.2
I07A Izee 87.19 44 *e*P **P** 08 47 20.6 +1.6
comp=Z,77nm,1.2s
GLA Glamis 87.23 55 *e*P **P** 08 47 19.7 +0.3
GLA pmax pmax
comp=Z,170nm,1.4s
GLA Glamis 87.23 55 *e*P **P** 08 47 19.7 +0.3
comp=Z,170nm,1.4s
GLA Glamis 87.23 55 P **P** 08 47 20.2 +0.8
baz=87
WVOR Wild Horse Val 87.23 46 *e*P **P** 08 47 20.7 +1.4
WVOR pmax pmax
comp=Z,121nm,1.4s
WVOR Wild Horse Val 87.23 46 *e*P **P** 08 47 20.7 +1.4
comp=Z,121nm,1.4s
IRM Iron Mountain 87.29 54 P **P** 08 47 20.3 +0.7
baz=88
A05A Maple Falls 87.29 39 *e*P **P** 08 47 17.2 -2.1
comp=Z,155nm,2.0s
JIRN Jiri 87.39 299 *e*P **P** 08 47 20.6 -0.1
TIXI Tiksi 87.51 349 *e*P **P** 08 47 18.8 -1.0
TIXI pmax pmax
comp=Z,12nm,1.6s
LTY Liberty 87.54 41 *e*P **P** 08 47 22.8 +2.2
comp=Z,46nm,1.2s
LDFC Landfair 87.59 53 *e*P **P** 08 47 22.0 +0.9
comp=Z,238nm,1.3s
BMN Battle Mountai 87.60 48 *e*P **P** 08 47 22.5 +1.3
BMN Battle Mountai 87.60 48 *e*P **P** 08 47 22.5 +1.3
PALK Pallekele 87.61 278 *e*P **P** 08 47 22.5 +0.9
comp=Z,130nm,1.3s
J08A Circle Bar Ran 87.65 45 *e*P **P** 08 47 22.7 +1.4
comp=Z,79nm,1.2s
Y12C Blythe 87.67 55 P **P** 08 47 22.4 +0.9
baz=88
GUN Gumba 87.72 299 *e*P **P** 08 47 22.2 0.0
SHPR Sheep Range 87.96 52 *e*P **P** 08 47 23.7 +0.7
HAWA Hanford 87.96 42 *e*P **P** 08 47 24.2 +1.6
comp=Z,60nm,1.2s
G08A Pilot Rock 87.97 43 *e*P **P** 08 47 24.1 +1.4
comp=Z,66nm,1.2s
113A Mohawk Valley, 88.01 56 P **P** 08 47 24.5 +1.5
baz=88
PKI Pulchoki 88.03 299 *e*P **P** 08 47 23.5 -0.2
comp=Z,101nm,0.8s
PDMCI Parker Dam,Lak 88.13 54 P **P** 08 47 25.1 +1.4
baz=88
R11A Troy Canyon, C 88.17 50 P **P** 08 47 25.5 +1.5
baz=88
KKN Kakani 88.20 299 *e*P **P** 08 47 24.3 -0.1
comp=Z,182nm,0.8s
DMN Daman 88.30 299 *e*P **P** 08 47 24.9 0.0
comp=Z,254nm,0.7s
W13A Hualapai Mount 88.56 54 P **P** 08 47 26.7 +0.8
baz=89
214A Organ Pipe Nat 88.57 57 P **P** 08 47 26.7 +0.9
baz=89
GKN Gorkha 88.80 299 *e*P **P** 08 47 26.6 -0.6
comp=Z,177nm,0.7s
Z14A Wintersburg 88.83 56 P **P** 08 47 28.3 +1.3
baz=89
BMO Blue Mountains 88.93 44 *e*P **P** 08 47 27.9 +0.6
BMO Blue Mountains 88.93 44 *e*P **P** 08 47 27.9 +0.6
Y14A Wickenburg 88.94 55 P **P** 08 47 28.6 +1.1
baz=89
HVS Khovu-Aksy 89.10 323 *e*P **P** 08 47 26.3 -1.6
HVS pmax pmax
comp=Z,58nm,1.0s
ELK Elko 89.13 48 *e*P **P** 08 47 28.6 +0.1
F10A Beach Ranch, E 89.34 43 *e*P **P** 08 47 30.3 +1.2
comp=Z,445nm,2.3s
MFID Camas Ranch 89.50 45 P **P** 08 47 30.7 +0.7
baz=90
CCUT Cedar City 89.63 52 *e*P **P** 08 47 31.4 +0.5
KOLN Koldanda 89.64 298 *e*P **P** 08 47 30.3 -0.8
comp=Z,76nm,0.7s
ARUT Antelope Range 89.64 51 *e*P **P** 08 47 31.6 +0.7
ARUT Antelope Range 89.64 51 *e*P **P** 08 47 31.6 +0.7
comp=Z,2µm,1.6s
DANN Dangsing 89.64 299 *e*P **P** 08 47 30.4 -0.8
comp=Z,122nm,0.7s
NEW Newport 90.13 40 *e*P **P** 08 47 33.6 +0.8
comp=Z,294nm,2.6s
NEW Newport 90.13 40 P **P** 08 47 31.9 -0.8
comp=Z,3.7nm,0.8s,baz=248,slow=5.3,SNR=6.8
U15A North Rim 90.16 53 P **P** 08 47 34.0 +0.5
baz=90
PYUN Piuthan 90.24 299 *e*P **P** 08 47 32.9 -1.0
comp=Z,107nm,0.6s
X16A Lo Mia Camp, P 90.32 55 P **P** 08 47 34.7 +0.6
baz=90
TUC Tucson 90.32 57 *e*P **P** 08 47 36.4 +2.3
TUC pmax pmax
comp=Z,139nm,1.7s
TUC Tucson 90.32 57 *e*P **P** 08 47 36.4 +2.3
comp=Z,139nm,1.7s
HLID Hailey 90.53 46 *e*P **P** 08 47 35.5 +0.6
comp=Z,34nm,1.0s
HLID Hailey 90.53 46 P **P** 08 47 35.4 +0.5
baz=91
WMQ Urumqi 90.63 315 P P 08 47 32.0 -3.2
WMQ pP pP 08 47 42.6 -4.9
WMQ PP **PP** 08 51 09.2 -1.6
WMQ SKS **SKSac** 08 57 59.0 -4.8
WMQ S **SKKSac** 08 58 22.4 +4.2
WMQ SS **SS** 09 04 27.2 -3.5
WMQ AMB AMB
comp=Z,84nm,1.0s
WMQ AMB AMB
comp=Z,3µm,11.4s
WMQ LR LR
comp=Z,24µm,17.0s
WMQ LR LR
comp=Z,23µm,17.0s
WMQ LR LR
comp=Z,23µm,18.2s
WUAZ Wupatki 90.65 54 *e*P **P** 08 47 37.6 +2.0
comp=Z,137nm,1.5s
WUAZ Wupatki 90.65 54 P **P** 08 47 36.5 +0.9
baz=91
DUG Dugway 90.75 49 *e*P **P** 08 47 37.4 +1.4
DUG Dugway 90.75 49 *e*P **P** 08 47 37.4 +1.4
DUG Dugway 90.75 49 P **P** 08 47 36.8 +0.8
baz=91
MVU Marysvale 90.76 51 *e*P **P** 08 47 37.3 +1.1
comp=Z,82nm,1.3s
BGU Big Grassy Mou 90.79 48 *e*P **P** 08 47 37.0 +0.9
comp=Z,45nm,1.2s
INK Inuvik 90.82 19 P **P** 08 47 35.8 +0.4
INK PKKPbc **PKKPdf** 09 04 59.4 -1.0
INK Inuvik 90.82 19 P **P** 08 47 35.8 +0.4
comp=Z,6.4nm,1.1s,baz=181,slow=1.7,SNR=3.1
INK PKKPbc **PKKPdf** 09 04 59.4 -1.0
comp=Z,2.0nm,0.8s,baz=104,slow=7.0,SNR=3.9
SYO Syowa Base 90.83 197 ⇓*i*P **P** 08 47 33.4 -2.2
SYO Syowa Base 90.83 197 ⇑*i*P P 08 47 49.0 +13
HVU Hansel Valley 91.20 48 *e*P **P** 08 47 38.6 +0.6
HVU pmax pmax
comp=Z,127nm,1.3s
HVU Hansel Valley 91.20 48 *e*P **P** 08 47 38.6 +0.6
comp=Z,127nm,1.3s
NLU North Lily Min 91.24 49 *e*P **P** 08 47 39.5 +1.2
SPUT South Promonto 91.31 48 *e*P **P** 08 47 40.3 +1.7
comp=Z,59nm,1.3s
319A Douglas 91.34 58 P **P** 08 47 40.0 +1.1
baz=92
BSMT Bassoo Peak 91.50 41 *e*P **P** 08 47 40.4 +1.0
X18A Snowflake 91.54 55 P **P** 08 47 41.3 +1.5
baz=92
MPU Maple Canyon 91.58 49 *e*P **P** 08 47 42.2 +2.3
Q16A Castle Valley 91.65 51 *e*P **P** 08 47 40.7 +0.5
TMUT Trail Mountain 91.72 50 *e*P **P** 08 47 41.8 +1.1
JTMT Jette 91.80 42 *e*P **P** 08 47 41.0 +0.4
HYB Hyderabad 91.85 287 *i*P **P** 08 47 39.5 -1.9
HYB eSKS **SKSac** 08 58 12.0 +0.2
HYB eScS **S** 08 58 40.0 -0.3
W18A Petrified Fore 91.85 55 *e*P **P** 08 47 43.1 +1.9
JLU Jordanelle 91.86 49 *e*P **P** 08 47 41.9 +0.7
SWMT Swartz Lake 91.91 42 *e*P **P** 08 47 43.3 +2.1
MCMT McKenzie Canyo 91.96 45 *e*P **P** 08 47 44.0 +2.4
320A Kipp Ranch, An 91.96 59 P **P** 08 47 43.0 +1.2
baz=92
SLMT Seeley Lake 92.17 42 *e*P **P** 08 47 44.4 +2.0
CHMT Chamberlain Mo 92.24 43 P **P** 08 47 43.1 +0.3
DLMT Dillon 92.27 44 *e*P **P** 08 47 43.3 +0.4
comp=Z,54nm,1.2s
Z20A Nine Sixteen R 92.31 57 P **P** 08 47 45.1 +1.8
baz=92
WALA Waterton Lakes 92.40 40 *e*P **P** 08 47 45.4 +2.0
comp=Z,1.3nm,1.3s
LRM Limekiln Ridge 92.49 44 *e*P **P** 08 47 45.8 +1.8
Y20A Horse Springs, 92.66 56 P **P** 08 47 46.7 +1.6
baz=93
X20A Quemado 92.71 55 P **P** 08 47 46.8 +1.6
baz=93
221A Mesquite Ranch 92.73 58 P **P** 08 47 46.9 +1.6
baz=93
121A Cookes Peak, D 92.84 57 P **P** 08 47 47.4 +1.5
baz=93
QLMT Earthquake Lak 92.93 45 *e*P **P** 08 47 46.9 +0.8
YMR Madison River 93.22 45 *e*P **P** 08 47 48.7 +1.3
comp=Z,69nm,1.6s
YMR *e* 08 48 05.4
PV01 Paradox Valley 93.45 52 *e*P P 08 47 52.5 +3.9
Z22A Elephant Butte 93.67 57 P **P** 08 47 50.4 +0.7
baz=94
L19A Farson 93.75 48 P **P** 08 47 51.1 +1.2
baz=94
BW06 Boulder Array 93.76 47 *e*P **P** 08 47 52.4 +2.5
PDAR Pinedale Array 93.76 47 P **P** 08 47 52.3 +2.4
PDAR PP PP 08 51 42.8 +7.0
PDAR PKKPbc **PKKPdf** 09 04 51.9 -2.9
PDAR Pinedale Array 93.76 47 P **P** 08 47 52.3 +2.4
comp=Z,0.7nm,0.7s,baz=177,slow=5.9,SNR=3.8
PDAR PP PP 08 51 42.8 +7.0
comp=Z,3.8nm,1.1s,baz=255,slow=5.8,SNR=4.1
PDAR PKKPbc **PKKPdf** 09 04 51.9 -2.9
comp=Z,0.6nm,0.7s,baz=86,slow=5.2,SNR=5.4
LAZ Ladron 93.77 56 *e*P **P** 08 47 53.0 +2.8
comp=Z,7.6nm,1.4s
U21A Nageezi 93.79 54 P **P** 08 47 51.0 +0.8
baz=94
EDM Edmonton 93.86 36 *e*P **P** 08 47 50.8 +0.9
EDM Edmonton 93.86 36 *e*P **P** 08 47 50.8 +0.9
P20A De Beque 93.89 51 P **P** 08 47 51.4 +0.9
baz=94
BNM Barren Site 94.13 56 *e*P **P** 08 47 53.8 +2.0
comp=Z,21nm,1.4s
LPM Los Pinos Moun 94.16 56 *e*P **P** 08 47 54.5 +2.6
comp=Z,12nm,1.4s
GCMT Greycliff 94.37 44 *e*P **P** 08 47 52.5 -0.1
comp=Z,11nm,1.3s
ANMO Albuquerque 94.43 55 *e*P **P** 08 47 54.2 +1.0
224A Cornudas Mount 94.62 58 P **P** 08 47 55.2 +1.2
baz=95
MNTX Cornudas Mount 94.66 59 *e*P **P** 08 47 55.5 +1.4
comp=Z,15nm,1.4s
EGMT Eagleton 94.81 42 *e*P **P** 08 47 56.7 +2.2
EGMT Eagleton 94.81 42 P **P** 08 47 56.5 +2.0
baz=95
V23A Ortiz Mt. (NFS 94.81 55 P **P** 08 47 56.9 +2.0
baz=95
Q22A Crested Butte, 94.88 51 P **P** 08 47 56.2 +0.9
baz=95
MK31 Makanchi Array 95.06 317 *e*P **P** 08 47 55.2 -0.3
MK31 Makanchi Array 95.06 317 *e*P **P** 08 47 55.2 -0.3
MKAR Makanchi Array 95.06 317 *e*P **P** 08 47 55.4 -0.2
MKAR 08 51 43.9
MKAR Makanchi Array 95.06 317 *e*P **P** 08 47 55.4 -0.2
MKAR PP **PP** 08 51 43.9 -1.7
MKAR PKKPbc **PKKPbc** 09 04 48.4 -3.7
MKAR Makanchi Array 95.06 317 P **P** 08 47 55.3 -0.2
comp=Z,48nm,0.7s,baz=92,slow=4.4,SNR=92
MKAR PP **PP** 08 51 43.9 -1.7
comp=Z,5.1nm,1.0s,baz=99,slow=7.5,SNR=5.3
MKAR PKKPbc **PKKPbc** 09 04 48.4 -3.7
comp=Z,3.7nm,0.7s,baz=288,slow=2.6,SNR=30
ZAA0 Zalesovo Array 95.11 324 *e*P **P** 08 47 54.4 -1.1
ZALV Zalesovo Beam 95.11 324 P **P** 08 47 54.2 -1.3
ZALV pmax pmax
comp=Z,7.0nm,0.6s
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 95.11 324 P **P** 08 47 54.2 -1.3
ZALV PKKP **PKKPbc** 09 04 48.9 -3.2
ZALV Zalesovo Beam 95.11 324 P **P** 08 47 54.2 -1.3
comp=Z,7.0nm,0.6s,baz=117,slow=4.1,SNR=7.9
ZALV PKKP **PKKPbc** 09 04 48.9 -3.2
comp=Z,0.9nm,0.3s,baz=270,slow=1.5,SNR=3.9
P22A Eagle 95.14 51 P **P** 08 47 57.5 +1.1
baz=95
D19A Cripps Ranch, 95.20 43 P **P** 08 47 57.5 +1.2
baz=95
626A Big Bend Ranch 95.30 61 P **P** 08 47 58.2 +1.1
baz=96
O22A Kremmling 95.42 50 P **P** 08 47 58.3 +0.7
baz=96
D20A Manuel Ranch, 95.69 43 P **P** 08 48 00.5 +2.1
baz=96
YKA Yellowknife Ar 95.69 27 P **P** 08 47 56.2 -1.7
YKA Yellowknife Ar 95.69 27 P **P** 08 47 56.3 -1.7
comp=Z,1.8nm,0.7s,baz=258,slow=5.2,SNR=2.3
527A Woodward Ranch 95.85 61 P **P** 08 48 00.4 +0.7
baz=96
SNAA Sanae 95.90 183 *e*P **P** 08 47 57.6 -1.4
Z26A Caprock 96.12 57 P **P** 08 48 02.0 +1.1
baz=96
528A Cox Ranch, San 96.56 61 P **P** 08 48 04.7 +1.8
baz=97
S25A Robets Cordova 96.56 53 P **P** 08 48 03.9 +1.1
baz=97
V26A Tequesquite Ra 96.74 55 P **P** 08 48 05.0 +1.4
baz=97
VNA2 Neumayer--Watz 96.85 182 *e*P **P** 08 48 02.4 -0.8
Z28A Tucker Farm, M 97.44 58 P Pdif 08 48 08.0 +1.1
baz=98
U27A Thompson Grove 97.61 54 P Pdif 08 48 08.2 +0.6
baz=98
Y28A McKinney Farm, 97.66 57 P Pdif 08 48 08.7 +0.9
baz=98
D23A Lindsay 97.66 43 P Pdif 08 48 08.4 +1.0
baz=98
631A Perdido Creek 98.32 62 P Pdif 08 48 11.8 +1.1
baz=98
531A Rocksprings 98.47 61 P Pdif 08 48 12.3 +0.9
baz=99
431A Sonora 98.50 60 P Pdif 08 48 12.8 +1.2
baz=99
231A Bronte 98.95 59 P Pdif 08 48 14.4 +0.9
baz=99
632A Uvalde 99.02 62 P **Pdif** **08 48 15.2 +1.4**
baz=99
JCT Junction City 99.16 61 P **Pdif** **08 48 15.4 +0.9**
baz=99
432A Menard 99.22 60 P **Pdif** **08 48 15.7 +0.9**
baz=99
R29A Marienthal 99.25 53 P **Pdif** **08 48 15.9 +1.1**
baz=99
AAK Ala-Archa 99.81 312 *e*P **Pdif** **08 48 17.0 -0.3**
AAK pmax pmax
comp=Z,11nm,1.1s
Q30A Quinter 100.04 52 P **Pdif** **08 48 18.9 +0.7**
baz=100
GLAT Glass 108.46 56 *e*PKPdf **PKiKP** **08 53 02.3 +0.9**
CFAA Coronel Fontan 111.65 131 PKKPbc PKKPbc 09 04 01.2 -0.8
CFAA Coronel Fontan 111.65 131 PKKPbc PKKPbc 09 04 01.2 -0.8
comp=Z,0.2nm,0.7s,baz=282,slow=2.7,SNR=4.3
ARCES ARCESS Array B 117.79 346 PKP **PKPdf** **08 53 17.4 -0.9**
ARCES PKKPbc **PKKPbc** **09 03 39.7 -2.2**
ARCES ARCESS Array B 117.79 346 PKP **PKPdf** **08 53 17.4 -0.9**
comp=Z,2.1nm,0.4s,baz=67,slow=1.9,SNR=30
ARCES PKKPbc **PKKPbc** **09 03 39.7 -2.2**
comp=Z,3.3nm,0.7s,baz=215,slow=2.7,SNR=11
LPAZ La Paz 118.82 116 PKP **PKPdf** **08 53 21.4 -1.1**
LPAZ PKKPbc **PKKPbc** **09 03 36.2 -1.4**
LPAZ La Paz 118.82 116 PKP **PKPdf** **08 53 21.4 -1.1**
comp=Z,1.8nm,0.8s,baz=244,slow=3.6,SNR=5.3
LPAZ PKKPbc **PKKPbc** **09 03 36.2 -1.4**
comp=Z,2.4nm,0.9s,baz=47,slow=7.6,SNR=5.6
SCHQ Schefferville 120.62 33 PKP **PKPdf** **08 53 24.4 +0.2**
SCHQ PKKPbc **PKKPab** **09 03 30.1 0.0**
SCHQ Schefferville 120.62 33 PKP **PKPdf** **08 53 24.4 +0.2**
comp=Z,5.7nm,0.7s,baz=264,slow=4.7,SNR=6.4
SCHQ PKKPbc **PKKPab** **09 03 30.1 0.0**
comp=Z,4.0nm,0.7s,baz=34,slow=1.0,SNR=3.5
QRN Al-Qurain 120.94 296 *e*P **PKPdf** **08 53 25.0 -0.5**
QRN AMb AMB 08 53 26.5
comp=Z,102nm,0.7s
UMR Umm Al-Rimmam 121.07 297 *e*P **PKPdf** **08 53 25.0 -0.7**
UMR AMb AMB 08 53 25.9
comp=Z,66nm,1.0s
RDF Al-Radifah 121.25 296 *e*P **PKPdf** **08 53 25.5 -0.6**
RDF AMb AMB 08 53 26.6
comp=Z,76nm,0.9s
NAY Al-Naaiem 121.50 297 *e*P **PKPdf** **08 53 25.6 -1.0**
NAY AMb AMB 08 53 26.9
comp=Z,22nm,0.9s
RST Umm Al-Ruwaisa 121.70 297 *e*P **PKPdf** **08 53 25.8 -1.2**
RST AMb AMB 08 53 27.3
comp=Z,638nm,0.8s
GNI Garni 122.16 310 *e*PKPdf **PKPdf** **08 53 28.1 +0.4**
ZEI Tsey 122.19 313 *i* PKIKP **PKPdf** **08 53 26.6 -1.2**
ZEI pmax pmax
comp=Z,8.0nm,0.9s
OBN Obninsk 122.36 329 ⇑*i* PKIKP **PKPdf** **08 53 27.0 -0.4**
OBN *e* 08 55 01.7
OBN pmax pmax
comp=Z,17nm,1.4s
CPUP Villa Florida 122.51 132 PKP **PKPdf** **08 53 26.4 -2.2**
CPUP *e*PKPdf **PKiKP** **08 53 27.1 -1.8**
CPUP PKKPbc **PKKPbc** **09 03 23.1 -0.3**
CPUP Villa Florida 122.51 132 PKP **PKPdf** **08 53 26.4 -2.2**
comp=Z,5.6nm,0.7s,baz=265,slow=2.3,SNR=15
CPUP PKKPbc **PKKPbc** **09 03 23.1 -0.3**
comp=Z,2.6nm,0.7s,baz=22,slow=2.3,SNR=5.9
KBZ Khabaz 122.67 314 PKIKP **PKPdf** **08 53 27.8 -0.5**
KBZ 08 55 07.0
KBZ pmax pmax
comp=Z,4.0nm,0.8s
KBZ pmax pmax
comp=Z,9.0nm,1.1s
KBZ Khabaz 122.67 314 PKP **PKPdf** **08 53 27.8 -0.5**
KBZ PP **PP** **08 55 07.0 +0.9**
KBZ Khabaz 122.67 314 PKP **PKPdf** **08 53 27.8 -0.5**
comp=Z,4.4nm,0.8s,baz=78,slow=1.6,SNR=5.7
KBZ PP **PP** **08 55 07.0 +0.9**
comp=Z,8.5nm,1.1s,baz=117,slow=4.1,SNR=6.4
KIV Kislovodsk 122.76 315 ⇑*i* PKIKP **PKPdf** **08 53 27.8 -0.9**
KIV *i* 08 55 08.6
KIV pmax pmax
comp=Z,17nm,1.5s
RAYN Ar Rayn 123.25 290 *e*PKPdf **PKPdf** **08 53 29.9 -0.3**
FINES FINESS Array B 123.28 339 PKP **PKPdf** **08 53 27.1 -1.9**
FINES FINESS Array B 123.28 339 PKP **PKPdf** **08 53 27.1 -1.9**
comp=Z,1.7nm,0.5s,baz=34,slow=1.0,SNR=7.8
SDV Santo Domingo 123.67 87 *e*PKPdf **PKPdf** **08 53 30.1 -1.3**
ARTV Artvin 124.01 312 *i* P **PKPdf** **08 53 33.5 +2.1**
DAGI Agillar 124.05 311 *i* P **PKPdf** **08 53 32.2 +0.9**
DDEM Demirkent 124.21 311 *i* P **PKPdf** **08 53 33.4 +1.8**
DBAD Bademkaya 124.22 311 *i* P **PKPdf** **08 53 32.5 +0.9**
EKAR Karacoban 124.36 309 *i* P **PKPdf** **08 53 33.6 +1.5**
BOSA Boshof 124.78 222 PKP **PKPdf** **08 53 32.3 -0.8**
BOSA Boshof 124.78 222 PKP **PKPdf** **08 53 32.3 -0.8**
comp=Z,9.2nm,0.8s,baz=133,slow=2.7,SNR=10
SUR Sutherland 124.84 215 PKP **PKPdf** **08 53 32.2 -1.0**
SUR Sutherland 124.84 215 PKP **PKPdf** **08 53 32.2 -1.0**
comp=Z,13nm,0.9s,baz=272,slow=2.1,SNR=3.7
VSU Vasula 124.99 336 *i* PKIKP **PKPdf** **08 53 32.0 -0.3**
SIV San Ignacio 125.04 120 PKP **PKPdf** **08 53 32.0 -1.7**
SIV San Ignacio 125.04 120 PKP **PKPdf** **08 53 32.0 -1.7**
comp=Z,3.0nm,0.7s,baz=235,slow=1.5,SNR=8.3
KELT Kelkit 126.24 311 *i* P **PKPdf** **08 53 36.0 +0.4**
LBTB Lobatse 126.90 225 PKP **PKPdf** **08 53 35.8 -1.5**
LBTB *e*PKPdf **PKiKP** **08 53 36.3 -1.4**
LBTB Lobatse 126.90 225 PKP **PKPdf** **08 53 35.8 -1.5**
comp=Z,6.3nm,0.8s,baz=132,slow=5.2,SNR=7.0
MALT Malatya 127.35 309 ⇑PKIKP **PKPdf** **08 53 37.8 +0.1**
MALT Malatya 127.35 309 ⇑*i*P **PKPdf** **08 53 37.8 +0.1**
KMBO Kilima Mbogo 128.03 259 PKP **PKPdf** **08 53 38.8 -1.1**
KMBO Kilima Mbogo 128.03 259 PKP **PKPdf** **08 53 38.8 -1.1**
comp=Z,1.7nm,0.6s,baz=68,slow=8.7,SNR=5.3
NB2 NORSAR Subarra 128.16 345 PKPdf **PKPdf** **08 53 37.3 -1.1**
comp=Z,18nm,1.2s,baz=31,slow=1.9
NB2 NORSAR Subarra 128.16 345 PKPdf **PKPdf** **08 53 37.3 -1.1**
baz=31,slow=1.9
NOA NORSAR Array B 128.16 345 PKPpre PKPpre 08 53 32.7
NOA NORSAR Array B 128.16 345 PKhKP PKPpre 08 53 32.7
comp=Z,2.0nm,0.9s,baz=29,slow=1.9,SNR=5.6
AKASG Malin Array Be 128.42 327 PKIKP **PKPdf** **08 53 37.9 -1.2**
AKASG Malin Array Be 128.42 327 PKP **PKPdf** **08 53 37.9 -1.2**
AKASG PP PP 08 55 55.5 +12
AKASG Malin Array Be 128.42 327 PKP **PKPdf** **08 53 37.9 -1.2**
comp=Z,1.8nm,0.7s,baz=61,slow=1.9,SNR=5.4
AKASG PP PP 08 55 55.5 +12
comp=Z,2.2nm,0.8s,baz=53,slow=7.4,SNR=4.3
YAYL Yayladag 129.73 307 *i* P **PKPdf** **08 53 42.1 -0.2**
ASF Jabal al Asfar 129.98 302 SKPbc SKPbc 08 57 03.8 +1.4
comp=Z,3.1nm,0.6s,baz=253,slow=1.6,SNR=4.3
GULE Gulek 130.41 309 *i* P **PKPdf** **08 53 43.4 -0.3**
BRTR Keskin Array B 130.48 312 PKP **PKPdf** **08 53 42.9 -0.8**
BRTR PP PP 08 56 08.9 +11
BRTR SKP 08 57 29.4
BRTR Keskin Array B 130.48 312 PKP **PKPdf** **08 53 42.9 -0.8**
comp=Z,2.0nm,0.9s,baz=130,slow=2.6,SNR=5.4
BRTR PP PP 08 56 08.9 +11
comp=Z,7.1nm,1.0s,baz=76,slow=2.2,SNR=6.7
BRTR SKP 08 57 29.4
comp=Z,11nm,1.2s,baz=62,slow=2.9,SNR=4.9
KIS Kishinev 130.58 323 *i* PPP PPP 08 52 42.0
KIS *i* SKS 08 54 40.0
KIS *i* SKKS **SKiKP** **08 57 24.0 +6.7**
LSZ Lusaka 130.58 237 PKP **PKPdf** **08 53 43.3 -1.1**
LSZ Lusaka 130.58 237 PKP **PKPdf** **08 53 43.3 -1.1**
comp=Z,2.6nm,0.6s,baz=91,slow=8.0,SNR=3.8
CFR Carcaliu 131.90 321 ⇑PKIKP **PKPdf** **08 53 45.3 -0.6**
CFR Carcaliu 131.90 321 ⇑*i*P **PKPdf** **08 53 45.3 -0.6**
EIL Elat 132.09 299 PKP **PKPdf** **08 53 46.1 -0.7**
EIL Elat 132.09 299 PKP **PKPdf** **08 53 46.1 -0.7**
comp=Z,15nm,0.7s,baz=342,slow=3.9
TLB Topalu 132.25 320 ⇑PKIKP **PKPdf** **08 53 47.1 +0.5**
TLB Topalu 132.25 320 ⇑*i*P **PKPdf** **08 53 47.1 +0.5**
HARR Harsova 132.26 321 ⇓PKIKP **PKPdf** **08 53 47.3 +0.7**
HARR Harsova 132.26 321 ⇓*i*P **PKPdf** **08 53 47.3 +0.7**
BURAR Bucovina Array 132.32 325 ⇑PKIKP **PKPdf** **08 53 48.2 +1.4**

BURAR	Bucovina Array	132.32 325	⇑ *i*P	PKPdf	08 53 48.2	+1.4		
MLR	Muntele Rosu	133.06 322	⇑ *i*P	PKPdf	08 53 51.3	+3.0		
UZH	Uzhgorod	133.28 328	*e*PKIKP	PKPdf	08 53 56.5	+8.1		
STHS	Stebnicka Huta	133.32 329	*e*PKIKP	PKPdf	08 53 56.0	+7.5		
STHS	Stebnicka Huta	133.32 329	*e*PKP	PKPdf	08 53 56.0	+7.5		
ARR	Arges	133.91 323	⇓ *i*P	PKPdf	08 53 50.3	+0.5		
OKC	Ostrava-Krasne	134.52 332	*e*PKPdf	PKPdf	08 53 53.3	+2.6		
OKC			*ex*	x	08 54 11.9			
DPC	Dobruska-Polom	134.98 333	*e*PKPdf	PKPdf	08 53 53.4	+1.7		
DPC			*ex*	x	08 54 12.7			
SIRR	Siria	135.08 326	⇑ *i*P	PKPdf	08 53 52.4	+0.5		
BZS	Buzias	135.50 325	⇑ PKIKP	PKPdf	08 53 53.0	+0.3		
BZS	Buzias	135.50 325	⇑ *i*P	PKPdf	08 53 53.0	+0.3		
PVCC	Panska Ves	135.60 335	*e*PKPdf	PKPdf	08 53 55.4	+2.7		
PVCC			*es*PKP		08 54 11.1			
CLL	Collm	135.63 337	*i* PKIKP	PKPdf	08 53 54.1	+1.3		
CLL			pmax	pmax				
	comp=Z,40nm,1.0s							
CLL	Collm	135.63 337	*i* PKPdf	PKPdf	08 53 54.1	+1.3		
	comp=Z,14nm,1.0s							
CLL			*ep*PKiKP	pPKiKP	08 54 06.0	-1.0		
CLL			*i* sPKiKP	sPKiKP	08 54 10.3	-1.1		
	comp=Z,18nm,1.1s							
BDFB	Brasilia	135.85 128	PKP	PKPdf	08 53 52.4	-2.0		
BDFB			*e*PKPdf	PKiKP	08 53 54.1	-1.8		
BDFB			SKPbc	SKPbc	08 57 21.6	-1.4		
BDFB	Brasilia	135.85 128	PKP	PKPdf	08 53 52.4	-2.0		
	comp=Z,8.9nm,0.8s,baz=241,slow=1.9,SNR=8.3							
BDFB			SKPbc	SKPbc	08 57 21.6	-1.4		
	comp=Z,10nm,1.1s,baz=43,slow=3.2,SNR=5.1							
PRA	Prague	136.00 334	PKPdf	PKPdf	08 53 54.0	+0.5		
PRU	Pruhonice	136.02 334	*e*PKPdf	PKPdf	08 53 53.3	-0.2		
PRU			*es*PKP		08 54 11.9			
ZST	Bratislava	136.16 331	*e*PKIKP	PKPdf	08 54 01.1	+7.2		
ZST	Bratislava	136.16 331	*e*PKP	PKPdf	08 54 01.0	+7.2		
VTS	Vitosha	136.28 320	⇓ PKIKP	PKPdf	08 53 54.4	-0.1		
VTS	Vitosha	136.28 320	⇓ *i*P	PKPdf	08 53 54.4	-0.1		
TSUM	Tsumeb	136.29 225	PKP	PKPdf	08 53 53.2	-2.0		
TSUM			PP	PP	08 56 34.2	-0.8		
TSUM	Tsumeb	136.29 225	PKP	PKPdf	08 53 53.2	-2.0		
	comp=Z,3.7nm,0.7s,baz=108,slow=6.3,SNR=4.2							
TSUM			PP	PP	08 56 34.2	-0.8		
	comp=Z,4.5nm,1.0s,baz=172,slow=3.1,SNR=3.3							
EKA	Eskdalemuir Ar	136.36 352	SKPbc	SKPbc	08 57 25.1	+1.9		
EKA	Eskdalemuir Ar	136.36 352	SKPbc	SKPbc	08 57 25.1	+1.9		
	comp=Z,4.6nm,0.9s,baz=20,slow=2.7,SNR=4.6							
CONA	Conrad Observa	136.94 331	⇑ *i*PKPdf	PKPdf	08 53 47.0	-8.5		
	comp=Z,8.8nm,0.8s							
KHC	Kasperske Hory	137.08 334	*e*PKPdf	PKPdf	08 53 56.4	+0.8		
KHC			*es*PKP		08 54 13.7			
GERES	GERESS Array B	137.24 334	PKP	PKPdf	08 53 56.1	+0.1		
	comp=Z,1.9nm,0.7s,baz=90,slow=0.5,SNR=4.5							
GERES			SKPbc	SKiKP	08 57 31.5	+0.5		
	comp=Z,2.0nm,0.8s,baz=82,slow=2.8,SNR=3.9							
CRES	Cresnjev	138.63 329	*e*PKPdf	Pdif	08 51 05.5	-4.2		
LJU	Ljubljana	138.93 330	*e*PKPdf	Pdif	08 51 06.4	-4.5		
VISS	Visnje	138.95 330	*e*PKPdf	Pdif	08 51 07.0	-4.1		
DAVOX	Davos/Dischmat	140.47 335	PKPpre	PKPpre	08 53 58.9			
DAVOX	Davos/Dischmat	140.47 335	PKhKP	PKPpre	08 53 58.9			
	comp=Z,8.3nm,0.7s,baz=1.5,slow=5.0,SNR=4.7							
TUE	Stuetta	140.94 335	*e*PKPdf	PKPdf	08 54 02.3	-0.6		
BNI	Bardonecchia	143.17 336	*e*PKIKP	PKPbc	08 54 03.6	-0.3		
BNI	Bardonecchia	143.17 336	*e*PKPdf	PKPbc	08 54 03.6	-0.3		
CEL	Celeste	143.33 320	*e*PKPdf	PKPab	08 54 03.5	+0.2		
SSB	Saint Sauveur	143.79 338	*e*PKIKP	PKPbc	08 54 05.3	-0.2		
SSB	Saint Sauveur	143.79 338	*e*PKPdf	PKPbc	08 54 05.3	-0.1		
VSL	Villasalto	146.29 327	*e*PKPdf	PKPbc	08 54 13.0	-0.4		
KEST	Kesra	148.97 322	*e*PKPbc	PKPbc	08 54 21.1	+0.1		
KEST	Kesra	148.97 322	PKPbc	PKPbc	08 54 21.1	+0.1		
	comp=Z,20nm,0.7s,baz=208,slow=0.4,SNR=31							
CMAH	Djebel Manchou	149.44 326	P	PKPbc	08 54 21.1	-1.0		
CAEH	'Ain El Ouahch	149.63 327	P	PKPbc	08 54 21.6	-0.9		
ABSA	Djebel Ababsia	149.66 325	P	PKPbc	08 54 21.3	-1.4		
CKFL	Kef-Lekhel	149.99 326	P	PKPbc	08 54 23.2	-0.3		
PBRG	Braganca	150.07 350	*e*PKP	PKPbc	08 54 23.0	-0.5		
CASM	Ain Smara	150.22 326	P	PKPbc	08 54 23.5	-0.5		
DFRA	Djebel Bou Aff	150.33 328	P	PKPbc	08 54 24.5	+0.1		
PCAB	Cabril	150.36 352	*e*PKP	PKPbc	08 54 23.6	-0.6		
PGRA	Graciosa	150.40 23	eLR	LR	09 47 04.9			
	comp=Z,10μm,19.3s							
POLO	Lamas de Olo	150.66 351	*e*PKP	PKPbc	08 54 24.6	-0.4		
PVRL	Vila Real	150.74 351	*e*PKP	PKPbc	08 54 24.9	-0.2		
MVO	Moncorvo	150.74 350	*e*PKP	PKPbc	08 54 24.9	-0.2		
SET	Setif	150.84 328	P	PKPbc	08 54 24.0	-1.5		
SHEL	Horse Pasture	150.91 195	*e*PKIKP	PKPbc	08 54 26.4	+0.2		
SHEL	Horse Pasture	150.91 195	*e*PKPbc	PKPbc	08 54 26.4	+0.2		
RCBR	Riachuelo	151.22 128	*e*PKPdf	PKPdf	08 54 21.5	+0.4		
RCBR			*e*PKPbc	PKPbc	08 54 25.7	-1.3		
PVIS	Viseu	151.32 351	*e*PKP	PKPbc	08 54 26.3	-0.2		
ESDC	Sonseca Array	151.52 345	PKPbc	PKPbc	08 54 26.5	-0.5		
ESDC			PKPab	PKPab	08 54 35.1	-0.2		
ESDC	Sonseca Array	151.52 345	PKPbc	PKPbc	08 54 26.5	-0.5		
	comp=Z,5.9nm,0.7s,baz=12,slow=3.4,SNR=10							
ESDC			PKPab	PKPab	08 54 35.1	-0.2		
	comp=Z,4.1nm,0.6s,baz=10,slow=3.9,SNR=6.7							
MTE	Manteigas	151.57 351	*e*PKP	PKPbc	08 54 26.7	-0.4		
MTE	Manteigas	151.57 351	*e*PKPbc	PKPbc	08 54 27.0	-0.1		
PAB	San Pablo	151.74 345	*e*PKIKP	PKPbc	08 54 27.6	+0.1		
PAB	San Pablo	151.74 345	*e*PKPbc	PKPbc	08 54 27.6	+0.1		
PCAS	Casmilo, Conde	152.05 352	*e*PKP	PKPbc	08 54 27.6	-0.5		
PCBR	Castelo Branco	152.11 350	*e*PKP	PKPbc	08 54 27.7	-0.5		
PSET	Sete Cidades	152.30 21	eLR	LR	09 47 08.4			
	comp=Z,14μm,22.8s							
CMLA	Cha da Macela	152.42 21	eLR	LR	09 47 08.4			
	comp=Z,9μm,21.9s							
PTOM	Tomar	152.47 352	*e*PKP	PKPbc	08 54 28.9	-0.1		
PMRV	Marv??o	152.50 350	*e*PKP	PKPbc	08 54 28.5	-0.6		
PSMN	Pico do Norte,	153.27 21	eLR	LR	09 47 53.7			
	comp=Z,7μm,20.2s							
TORD	Torodi Ar. Bea	165.31 275	PKP	PKPdf	08 54 37.2	-0.6		
TORD			PKPab	PKPab	08 55 35.9	+0.2		
TORD			PP	PP	08 59 25.7	+2.8		
TORD	Torodi Ar. Bea	165.31 275	PKP	PKPdf	08 54 37.2	-0.6		
	comp=Z,4.2nm,0.9s,baz=47,slow=1.7,SNR=2.8							
TORD			PKPab	PKPab	08 55 35.9	+0.2		
	comp=Z,16nm,0.8s,baz=90,slow=1.9,SNR=9.6							
TORD			PP	PP	08 59 25.7	+2.8		
	comp=Z,2.6nm,0.9s,baz=75,slow=4.7,SNR=4.3							
KIC	Kosan Boka	169.65 236	*e*P	PKPab	08 55 53.5	-1.3		
	comp=Z,340nm,1.7s							
KIC	Kosan Boka	169.65 236	*e*P	PP	08 59 44.4	+0.1		
	comp=Z,85nm,1.4s							
LIC	Lamto	169.80 234	*e*P	PKPab	08 55 55.3	-0.2		
	comp=Z,93nm,1.4s							
LIC	Lamto	169.80 234	*e*P	PP	08 59 42.7	-2.3		
	comp=Z,66nm,1.9s							
DBIC	Dimbokro	169.92 237	PKPab	PKPab	08 55 55.5	-0.5		
DBIC	Dimbokro	169.92 237	PKPab	PKPab	08 55 55.5	-0.5		
	comp=Z,5.6nm,0.8s,baz=120,slow=7.8,SNR=4.0							
TIC	Toumodi	170.04 236	*e*P	PKPab	08 55 55.3	-1.3		
	comp=Z,211nm,1.5s							
TIC	Toumodi	170.04 236	*e*P	PP	08 59 39.8	-6.5		
	comp=Z,26nm,0.8s							

IDC 08 08:40:07.4±6.2, 13°29S×165°87E, h0km, mb4.3/3, mb1 4.4/4, mb1mx4.0/19, mbtmp4.4/4, ML4.9/1, Error ellipse: s-maj=217.8km s-min=56.2km az=10.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	6.96	303	Pn	Pn	08 41 50.8	+0.1
	21nm,0.3s,baz=156,slow=12,SNR=3.2						
SONM	Songino Array	80.54	324	P	P	08 52 21.4	-0.3
	1.1nm,0.7s,baz=123,slow=5.3,SNR=2.7						
ILAR	Eielson Array	85.59	18	P	P	08 52 47.4	+0.1
	0.5nm,0.5s,baz=213,slow=6.5,SNR=1.7						
MKAR	Makanchi Array	95.23	317	P	P	08 53 33.1	0.0
	2.9nm,0.6s,baz=92,slow=6.1,SNR=4.6						

IDC 08 08:40:30.9±1.6, 13°21S×166°05E, h0km, mb4.5/8, mb1 4.6/9, mb1mx4.3/20, mbtmp4.5/9, ML4.2/1, Error ellipse: s-maj=49.7km s-min=24.3km az=112.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	8.82	178	Pn	Pn	08 42 40.1	+0.3
	2.7nm,0.3s,baz=163,slow=15,SNR=3.5						
STKA	Stephens Creek	29.12	226	P	P	08 46 33.2	-0.4
	4.7nm,0.7s,baz=105,slow=7.3,SNR=2.8						
ASAR	Alice Springs	32.14	246	P	P	08 47 00.3	-0.2
	12nm,0.7s,baz=74,slow=9.5,SNR=24						
NWAO	Narrogin (SRO)	48.53	238	P	P	08 49 16.0	0.0
	9.8nm,0.7s,baz=5.2,slow=2.9,SNR=3.2						
USRK	Ussuriysk Arra	65.01	334	P	P	08 51 12.5	-0.3
	2.8nm,0.8s,baz=142,slow=5.1,SNR=3.4						
CMAR	Chiang Mai Arr	73.25	294	P	P	08 52 05.0	+0.5
	2.1nm,0.7s,baz=131,slow=4.6,SNR=5.2						
SONM	Songino Array	80.58	324	P	P	08 52 45.9	+0.5
	1.4nm,0.8s,baz=134,slow=4.2,SNR=2.5						
ILAR	Eielson Array	85.47	18	P	P	08 53 10.2	0.0
	1.3nm,0.7s,baz=243,slow=5.3,SNR=6.7						
MKAR	Makanchi Array	95.30	317	P	P	08 53 56.1	-0.8
	1.1nm,0.6s,baz=92,slow=4.3,SNR=2.1						

IDC 08 08:44:04.9±1.6, 12°92S×166°35E, h0km, mb4.0/4, mb1 4.0/5, mb1mx3.8/19, mbtmp3.9/5, ML3.7/1, Error ellipse: s-maj=56.3km s-min=32.5km az=108.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	9.10	179	Pn	Pn	08 46 19.1	+1.4
	0.8nm,0.3s,baz=300,slow=14,SNR=3.2						
ASAR	Alice Springs	32.53	246	P	P	08 50 36.7	-1.2
	1.0nm,0.7s,baz=75,slow=9.6,SNR=4.1						
SONM	Songino Array	80.52	324	P	P	08 56 20.6	+1.5
	1.5nm,1.1s,baz=125,slow=9.0,SNR=3.5						
ILAR	Eielson Array	85.10	18	P	P	08 56 41.4	-0.9
	0.3nm,0.7s,baz=232,slow=6.7,SNR=3.5						
MKAR	Makanchi Array	95.28	317	P	P	08 57 30.2	-0.6
	2.0nm,1.0s,baz=93,slow=4.9,SNR=3.6						

IDC 08 08:55:41.5±1.4, 1°69N×126°77E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/21, mbtmp3.9/5, Error ellipse: s-maj=150.5km s-min=19.6km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	22.74	161	P	P	09 00 45.0	-0.5
	5.7nm,0.6s,baz=340,slow=10,SNR=26						
ASAR	Alice Springs	26.14	165	P	P	09 01 17.8	+0.1
	1.3nm,0.6s,baz=345,slow=7.6,SNR=19						
STKA	Stephens Creek	36.22	158	P	P	09 02 46.4	0.0
	1.7nm,0.7s,baz=333,slow=9.0,SNR=3.4						
SONM	Songino Array	49.23	342	P	P	09 04 32.1	+0.2
	0.4nm,0.6s,baz=153,slow=7.4,SNR=1.8						
MKAR	Makanchi Array	59.25	326	P	P	09 05 44.8	-0.1
	0.7nm,0.4s,baz=123,slow=7.2,SNR=8.8						

IDC 08 08:58:24.3±2.3, 11°68S×165°70E, h0km, mb4.1/4, mb1 4.2/5, mb1mx3.9/18, mbtmp4.1/5, ML4.0/1, Error ellipse: s-maj=60.6km s-min=32.3km az=101.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	10.36	176	Pn	Pn	09 00 54.5	+0.1
	1.1nm,0.3s,baz=21,slow=18,SNR=14						
WRA	Warramunga Arr	31.23	251	P	P	09 04 46.0	+0.1
	1.5nm,0.9s,baz=84,slow=9.1,SNR=5.5						
ASAR	Alice Springs	32.47	244	P	P	09 04 56.7	-0.1
	1.5nm,0.7s,baz=68,slow=9.5,SNR=19						
SONM	Songino Array	79.15	324	P	P	09 10 31.5	+0.4
	0.4nm,0.5s,baz=121,slow=6.9,SNR=2.3						
MKAR	Makanchi Array	93.95	317	P	P	09 11 43.6	-0.6
	0.7nm,0.2s,baz=103,slow=5.2,SNR=12						

*BJI **08** 09:09:54.7, 3°25N×122°83E, h584km, mB5.1/7, mb5.0/44*
*ISCJB **08** 09:10:01.7±0.2, 3°93N±0°03×122°45E±0°03, h597km±3km, mb4.9/80, Error ellipse: s-maj=5.5km s-min=3.4km az=147.1*
*DJA **08** 09:10:02.8±0.3, 4°N±4°×12°2E±°, h590km±3km, M5.2/46, mB5.8/5, mb5.1/46, MLv5.2/10, Mw(mB)5.4/5*
*IDC **08** 09:10:02.8±0.7, 3°88N×122°42E, h598km±8km, mb4.0/34, mb1 4.0/34, mb1mx4.0/38, mbtmp4.9/34, Error ellipse: s-maj=12.4km s-min=5.3km az=65.0*
*NEIC **08** 09:10:02.4±0.3, 3°91N×122°44E, h594km±4km, mb4.8/18, Error ellipse: s-maj=7.5km s-min=4.1km az=57.0*
*AUST **08** 09:10:04.0±0.3, 3°66N×122°33E, h601km, Error ellipse: s-maj=1.3km s-min=0.6km az=37.0*

ISC 08 09:10:02.4±0.3, 3°90N±0°04×122°49E±0°06, h593km±3km, n259, σ1°23/336, mb4.9/80, 1C-2D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	Sangihe	3.04	94	P	P	09 11 20.0	-1.3
TOLI	Toli-Toli	3.24	212	P	P	09 11 21.7	-0.8
MRSI	Marisa	3.44	189	P	P	09 11 23.3	-0.5
KMSI	Cibinong	3.62	156	P	P	09 11 24.5	-0.4
MYLDM	Lahad Datu	4.17	288	P	P	09 11 29.5	+0.8
MYLDM	Lahad Datu	4.17	288	P	P	09 11 29.1	+0.4
DAV	Davao City (W)	4.40	44	P	P	09 11 33.1	+2.8
DAV	Davao City (W)	4.40	44	*e*P	P	09 11 30.8	+0.5
TSM	Tawau	4.62	275	P	P	09 11 31.2	-0.8
LUWI	Luwuk	4.92	177	P	P	09 11 33.1	-1.2
LUWI	Luwuk	4.92	177	P	P	09 11 32.2	-2.1
	baz=4.7,SNR=39						
SDKM	Sandakan	5.55	288	P	P	09 11 37.5	-2.0
TNTI	Ternate	5.78	122	P	P	09 11 40.4	-0.9
	2μm,0.7s,18μm5.1nm						
TNTI	Ternate	5.78	122	*e*P	P	09 11 40.5	-0.9
TBP	Tagbilaran	5.91	13	*e*P	P	09 11 42.1	-0.5
TBP				*e*S	S	09 13 02.9	-1.4
KDM	Kudat	6.38	298	P	P	09 11 45.8	-0.8
KKM	Kota Kinabalu	6.60	289	P	P	09 11 47.8	-1.0
KKM	Kota Kinabalu	6.60	289	P	P	09 11 47.4	-1.3
	383nm,0.8s,1.1nm						
KKM	Kota Kinabalu	6.60	289	*e*P	P	09 11 47.8	-1.0
KKM	Kota Kinabalu	6.60	289	P	P	09 11 47.7	-1.0
	baz=6.5,SNR=61						
LBMI	Labuha	6.74	132	P	P	09 11 49.7	-0.1
	1μm,0.6s,13μm4.0nm						
TTSI	Tana Toraja	7.40	201	P	P	09 11 56.3	+0.4
	52nm,0.7s,0.3nm						
SPSI	Sidrap Palu	8.27	199	P	P	09 12 03.3	-0.9
	45nm,0.8s						
NLAI	Namlea	8.46	147	P	P	09 12 07.3	+1.3
	1μm,0.8s,12μm						
BNSI	Bone	8.58	196	P	P	09 12 10.1	+2.9
KAPI	Kappang	9.27	197	*e*P	P	09 12 12.0	-1.8
	22nm,0.9s						
BTM	Bintulu	9.41	266	P	P	09 12 15.6	+0.3
AAI	Ambon	9.45	143	P	P	09 12 16.3	+0.6
	261nm,0.8s						
AAI	Ambon	9.45	143	P	P	09 12 16.4	+0.6
	baz=9.4,SNR=3.4						
SWI	Sorong	9.96	118	P	P	09 12 20.8	+0.1
	213nm,0.5s						
SWI	Sorong	9.96	118	P	P	09 12 21.2	+0.4
	baz=10.0,SNR=13						
SBUM	Sibu	10.35	262	P	P	09 12 25.3	+0.6
SBUM	Sibu	10.35	262	P	P	09 12 24.8	+0.1
	128nm,0.7s						
SBUM	Sibu	10.35	262	*e*P	P	09 12 25.1	+0.4
BNDI	Bandanaira	11.17	138	P	P	09 12 33.0	+0.1
	1μm,0.6s						
BNDI	Bandanaira	11.17	138	P	P	09 12 33.5	+0.6
	baz=11,SNR=6.1						
STKI	Sintang	11.64	251	P	P	09 12 37.2	-0.4
	43nm,0.6s						
FAKI	Fak Fak	11.87	125	P	P	09 12 39.8	-0.2
	113nm,1.2s						
FAKI	Fak Fak	11.87	125	P	P	09 12 40.5	+0.5
	baz=12,SNR=24						
KSM	Kuching	12.40	259	P	P	09 12 44.6	-0.7
KSM	Kuching	12.40	259	P	P	09 12 44.6	-0.7
	122nm,0.8s						
KSM	Kuching	12.40	259	*e*P	P	09 12 44.5	-0.7
KSM	Kuching	12.40	259	P	P	09 12 44.9	-0.4
	baz=12,SNR=22						
SOEI	Soe	13.68	173	P	P	09 12 57.9	-0.5
	88nm,0.7s						
SOEI	Soe	13.68	173	P	P	09 12 58.1	-0.4
	baz=14,SNR=6.7						
TLE	Tual	13.95	133	P	P	09 13 02.3	+1.3
	185nm,1.2s						
TLE	Tual	13.95	133	P	P	09 13 02.6	+1.6
	baz=14,SNR=6.8						
BATI	Baumata	14.06	175	P	P	09 13 01.9	-0.2
	252nm,0.7s						
BATI	Baumata	14.06	175	P	P	09 13 02.0	-0.1
BATI				S	S	09 15 27.7	-1.4
BATI	Baumata	14.06	175	P	P	09 13 02.0	-0.1
	70nm,0.3s,baz=48,slow=1.0,SNR=29						
BATI				S	S	09 15 27.7	-1.4
	10nm,0.3s,baz=55,slow=22,SNR=8.7						
BAKI	Biak	14.52	110	P	P	09 13 07.2	+0.7
	326nm,0.9s						
BJII	Banjamegara	16.95	229	P	P	09 13 31.0	+2.1
	73nm,1.4s						
TGJI	Tegal	17.10	231	P	P	09 13 31.9	+1.7
	38nm,1.1s						
PPBI	Pangkal Pinang	17.42	250	P	P	09 13 33.3	+0.2
	55nm,0.7s						
LEM	Lembang	18.27	234	P	P	09 13 41.7	+0.6
	54nm,1.1s						
MYKOM	Kota Tinggi	18.73	264	P	P	09 13 46.0	+0.9
MYKOM	Kota Tinggi	18.73	264	P	P	09 13 45.7	+0.6
	101nm,1.1s						
BTDF	Bukit Timah Da	18.86	263	P	P	09 13 47.0	+0.7
	baz=19,SNR=3.0						
BTDF				P	P	09 13 47.0	+0.7
	baz=19,SNR=3.0						
KDU	Kakadu	19.23	149	P	P	09 13 49.7	+0.1
	baz=19,SNR=79						
KGM	Kluang	19.23	265	P	P	09 13 50.2	+0.5
KTGM	Kuala Trenggan	19.34	275	P	P	09 13 51.3	+0.6
QIZ	Qiongzhong	19.46	322	P	P	09 13 52.0	+0.3
QIZ				sP	sP	09 16 20.8	+0.2
QIZ				S	S	09 16 59.0	+1.7
QIZ				ScS	ScS	09 24 09.1	+1.7
QIZ				AMB	AMB		
	comp=Z,35nm,1.0s						
MDSI	Maura Dua	20.10	246	P	P	09 13 57.2	-0.3
	14nm,1.0s						
UBPT	Khong Chiam	20.21	305	P	P	09 13 58.3	-0.2
	128nm,0.9s						
KASI	Kota Agung	20.26	243	P	P	09 13 57.7	-1.3
	65nm,0.9s						
KNRA	Kununurra	20.42	162	P	P	09 14 00.8	+0.5
	baz=20,SNR=28						
LHSI	Lahat	20.45	248	P	P	09 14 00.8	+0.2
	42nm,0.7s						
FRIM	Kepong	20.83	269	P	P	09 14 04.5	+0.4
KSI	Kapahiang	21.25	250	P	P	09 14 08.2	+0.3
	113nm,0.7s						
MASI	Maura Aman, Be	21.41	251	P	P	09 14 09.9	+0.5
	235nm,0.8s						
IPM	Ipoh	21.41	272	P	P	09 14 09.5	+0.1
IPM	Ipoh	21.41	272	P	P	09 14 08.9	-0.5
	54nm,1.1s,10μm						
IPM	Ipoh	21.41	272	*e*P	P	09 14 09.1	-0.3
	33nm,0.7s						
CHBT	CHBT	21.78	295	P	P	09 14 12.7	+0.1
	269nm,0.8s						
KULM	Kulim	21.81	274	P	P	09 14 13.0	+0.1
KULM	Kulim	21.81	274	P	P	09 14 12.3	-0.6
	29nm,1.1s						
PANO	Nakornpanom	21.93	308	P	P	09 14 13.5	-0.4
	94nm,0.8s						
FITZ	Fitzroy Crossi	22.08	172	*e*P	P	09 14 15.3	+0.1
	29nm,0.9s						
FITZ				ScP	ScP	09 20 30.8	-0.1
FITZ	Fitzroy Crossi	22.08	172	P	P	09 14 15.3	+0.1
	baz=22,SNR=36						
FITZ	Fitzroy Crossi	22.08	172	P	P	09 14 15.3	+0.1
	27nm,0.8s,baz=3.7,slow=7.5,SNR=58						
FITZ				ScP	ScP	09 20 30.8	-0.1
	1.3nm,0.5s,baz=343,slow=4.1,SNR=6.3						
SKNT	Sakolnakorn	22.33	307	P	P	09 14 17.0	-0.5
	210nm,0.8s						
PPI	Padang Panjang	22.50	259	P	P	09 14 18.5	-0.5
	42nm,0.9s						
CHAI	Chaiyaphum	23.42	302	P	P	09 14 26.6	-0.6
	53nm,0.7s,624nm						
PSI	Prapat	23.55	268	P	P	09 14 27.9	-0.6
PSI				ScP	ScP	09 20 34.0	-1.1
PSI	Prapat	23.55	268	P	P	09 14 28.3	-0.2
	baz=23,SNR=10						
PSI	Prapat	23.55	268	P	P	09 14 27.9	-0.6
	30nm,0.8s,baz=78,slow=5.9,SNR=16						
PSI				ScP	ScP	09 20 34.0	-1.1
	3.3nm,0.5s,baz=256,slow=7.0,SNR=3.9						
PKDT	Phuket	24.35	280	P	P	09 14 35.6	+0.2
	142nm,0.8s						
KCSI	Kotacane, Aceh	24.67	270	P	P	09 14 36.9	-1.4
	69nm,1.0s						
GSI	Gunungsitoli	25.02	265	P	P	09 14 40.2	-1.2
	117nm,1.3s						
MBWA	Marble Bar	25.05	186	*e*P	P	09 14 40.9	-0.6
	29nm,0.8s						
NANT	Nan	25.94	306	P	P	09 14 50.0	+0.6
	767nm,0.6s,8μm						
WRAB	Tennant Creek	26.40	154	*e

CD2	**Chengdu**	**32.15**	**329**	⇓*i*P		**P**	09 15 43.0	+0.1
CD2				PcP		**PcP**	09 18 14.0	+0.5
CD2				sP		**sP**	09 18 25.5	-2.4
CD2				S		**S**	09 20 17.6	+2.7
CD2				AMB		AMB		
	comp=Z,100nm,0.8s							
XAN	**Xi'an**	**32.54**	**339**	P		**P**	09 15 45.8	-0.3
XAN				AMB		AMB		
	comp=Z,16nm,0.8s							
MORW	**Morawa**	**33.36**	**190**	P		**P**	09 15 53.2	+0.2
	baz=33,SNR=18							
CTA	**Charters Tower**	**33.37**	**136**	P		**P**	09 15 54.8	+1.6
CTA				PcP		**PcP**	09 18 17.9	+0.9
CTA	**Charters Tower**	**33.37**	**136**	P		**P**	09 15 54.8	+1.6
	11nm,0.5s,baz=321,slow=11,SNR=16							
CTA				PcP		**PcP**	09 18 17.9	+0.9
	6.8nm,0.8s,baz=289,slow=3.5,SNR=3.6							
CTAO	**Charters Tower**	**33.37**	**136**	*e*P		**P**	09 15 54.4	+1.2
	20nm,0.8s							
KSAR	**Wonju Array Be**	**33.75**	**8**	P		**P**	09 15 57.1	+1.0
KSAR				ScP		**ScP**	09 21 07.4	+0.4
KSRS	**Korea Array**	**33.77**	**8**	P		**P**	09 15 57.1	+0.9
	4.8nm,0.6s,baz=187,slow=9.3,SNR=17							
KSRS				ScP		**ScP**	09 21 07.4	+0.4
	0.5nm,0.3s,baz=189,slow=2.7,SNR=4.1							
BLDU	**Ballidu**	**34.76**	**189**	P		**P**	09 16 04.5	-0.1
	baz=35,SNR=42							
FORT	**Forrest**	**34.89**	**172**	*e*P		**P**	09 16 06.6	+0.8
	188nm,0.6s							
FORT	**Forrest**	**34.89**	**172**	P		**P**	09 16 06.5	+0.8
	baz=35,SNR=75							
MJAR	**Matsushiro Arr**	**35.56**	**22**	ScP		**ScP**	09 21 13.7	0.0
MJAR	**Matsushiro Arr**	**35.56**	**22**	ScP		**ScP**	09 21 13.7	0.0
	2.9nm,0.9s,baz=167,slow=5.1,SNR=4.4							
KLBR	**Kellerberrin**	**35.58**	**187**	P		**P**	09 16 11.5	0.0
	baz=36,SNR=111							
LZH	**Lanzhou**	**36.36**	**334**	⇑P		**P**	09 16 19.5	+1.5
LZH				PP		**PP**	09 18 02.0	-1.3
LZH				PcP		**PcP**	09 18 28.0	+2.1
LZH				sP		**sP**	09 19 03.2	-1.8
LZH				AMB		AMB		
	comp=Z,97nm,1.2s							
LZH				AMB		AMB		
	comp=Z,320nm,7.5s							
BJI	**Beijing**	**36.43**	**352**	P		**P**	09 16 18.1	-0.2
BJI				ScP		**ScP**	09 21 17.6	+0.8
BJI				AMB		AMB		
	comp=Z,59nm,0.5s							
QLP	**Quilpie**	**36.89**	**146**	P		**P**	09 16 23.6	+1.3
	baz=37,SNR=14							
NWAO	**Narrogin (SRO)**	**36.96**	**187**	P		**P**	09 16 23.4	+0.6
NWAO	**Narrogin (SRO)**	**36.96**	**187**	P		**P**	09 16 23.4	+0.6
	37nm,0.5s,baz=23,slow=8.0,SNR=55							
HHC	**Hu-ho-hao-te**	**38.08**	**347**	*e*P		**P**	09 16 30.9	-1.0
HHC				PP		**PP**	09 18 17.1	-1.8
HHC				sP		**sP**	09 19 20.3	+0.6
HHC				S		**S**	09 21 44.0	+0.7
HHC				PcS		**PcS**	09 22 18.7	-2.6
HHC				sS		**sS**	09 24 47.4	-0.3
HHC				SS		**SS**	09 24 57.4	-7.0
HHC				ScS		**ScS**	09 25 31.6	-3.4
HHC				AMB		AMB		
	comp=Z,110nm,1.2s							
RKGY	**Rocky Gully**	**38.65**	**187**	P		**P**	09 16 37.8	+1.4
	baz=39,SNR=46							
BBOO	**Buckleboo**	**38.71**	**162**	*e*P		**P**	09 16 37.3	+0.4
	1µm,0.4s							
BBOO	**Buckleboo**	**38.71**	**162**	P		**P**	09 16 37.8	+0.8
	baz=39,SNR=155							
LSA	**Lhasa**	**39.22**	**314**	P		**P**	09 16 42.9	+1.2
LSA				AMB		AMB		
	comp=Z,90nm,0.6s							
RMQ	**Roma**	**39.48**	**141**	P		**P**	09 16 44.3	+1.1
	baz=40,SNR=12							
CN2	**Changchun**	**39.82**	**3**	*e*P		**P**	09 16 47.4	+1.7
STKA	**Stephens Creek**	**39.95**	**154**	P		**P**	09 16 48.2	+1.3
	101nm,0.8s							
STKA				PcP		**PcP**	09 18 37.8	+0.6
STKA				ScP		**ScP**	09 21 29.7	-0.8
STKA	**Stephens Creek**	**39.95**	**154**	P		**P**	09 16 48.2	+1.3
	baz=40,SNR=109							
STKA	**Stephens Creek**	**39.95**	**154**	P		**P**	09 16 48.2	+1.3
	56nm,0.7s,baz=329,slow=7.5,SNR=157							
STKA				PcP		**PcP**	09 18 37.8	+0.6
	7.4nm,0.6s,baz=297,slow=5.7,SNR=3.5							
STKA				ScP		**ScP**	09 21 29.7	-0.8
	4.2nm,0.7s,baz=347,slow=2.6,SNR=4.7							
EIDS	**Eidsvold**	**40.20**	**138**	*e*P		**P**	09 16 49.7	+0.6
	40nm,1.0s							
EIDS	**Eidsvold**	**40.20**	**138**	P		**P**	09 16 49.5	+0.5
	baz=40,SNR=13							
TAPN	**Taplejung**	**40.56**	**309**	*e*P		**P**	09 16 52.4	+0.2
	73nm,0.4s							
ODAN	**Odare**	**40.57**	**308**	*e*P		**P**	09 16 52.5	+0.2
	146nm,0.7s							
GTA	**Gaotai**	**40.90**	**333**	⇓P		**P**	09 16 55.5	+1.0
GTA				pP		**PcP**	09 18 40.3	-0.1
GTA				sP		**sP**	09 19 45.7	+2.0
GTA				AMB		AMB		
	comp=Z,48nm,0.9s							
USRK	**Ussuriysk Arra**	**41.00**	**10**	P		**P**	09 16 55.2	+0.2
	8.9nm,0.5s,baz=198,slow=6.5,SNR=25							
MDJ	**Mudanjiang**	**41.03**	**8**	P		**P**	09 16 55.5	+0.2
MDJ				AMB		AMB		
	comp=Z,26nm,0.8s							
RAMN	**Ramite**	**41.24**	**307**	*e*P		**P**	09 16 58.0	+0.5
	214nm,0.7s							
CMSA	**Cobar Meteorol**	**41.60**	**150**	P		**P**	09 17 01.8	+1.9
	baz=42,SNR=20							
JIRN	**Jiri**	**41.89**	**308**	*e*P		**P**	09 17 03.1	+0.3
GUN	**Gumba**	**42.25**	**308**	*e*P		**P**	09 17 05.9	+0.3
PKI	**Pulchoki**	**42.47**	**308**	*e*P		**P**	09 17 07.0	-0.2
	67nm,0.5s							
KKN	**Kakani**	**42.67**	**308**	*e*P		**P**	09 17 08.7	0.0
DMN	**Daman**	**42.72**	**307**	*e*P		**P**	09 17 09.2	0.0
	145nm,0.9s							
GKN	**Gorkha**	**43.27**	**308**	*e*P		**P**	09 17 13.2	-0.1
	140nm,0.8s							
ASAJ	**Asahikawa**	**43.81**	**21**	P		**P**	09 17 17.7	+0.7
ASAJ	**Asahikawa**	**43.81**	**21**	P		**P**	09 17 17.7	+0.7
	4.2nm,0.4s,baz=294,slow=9.6,SNR=5.2							
KOLN	**Koldanda**	**43.99**	**307**	*e*P		**P**	09 17 19.4	+0.5
	396nm,0.6s							
ARMA	**Armidale**	**44.05**	**143**	P		**P**	09 17 21.9	+2.7
	baz=44,SNR=31							
DANN	**Dangsing**	**44.12**	**308**	*e*P		**P**	09 17 20.2	+0.2
	450nm,0.6s							
PYUN	**Piuthan**	**44.62**	**307**	*e*P		**P**	09 17 24.2	+0.5
HYB	**Hyderabad**	**45.09**	**291**	*i* P		**P**	09 17 26.0	-1.3
YNG	**Young**	**45.16**	**149**	P		**P**	09 17 29.3	+1.8
	baz=45,SNR=15							
ULN	**Ulaanbaatar**	**45.77**	**346**	P		**P**	09 17 32.3	+0.2
	159nm,0.8s,8µm							
ULN	**Ulaanbaatar**	**45.77**	**346**	*e*P		**P**	09 17 31.9	-0.2
	12nm,0.6s							
MGCD	**Mangrove Creek**	**45.78**	**146**	P		**P**	09 17 35.0	+2.8
	baz=46,SNR=9.2							
SONM	**Songino Array**	**45.91**	**345**	P		**P**	09 17 33.4	+0.3
SONM				ScP		**ScP**	09 21 54.4	-0.3
SONM	**Songino Array**	**45.91**	**345**	P		**P**	09 17 33.4	+0.3
	16nm,0.7s,baz=161,slow=8.4,SNR=66							
SONM				ScP		**ScP**	09 21 54.4	-0.3
	5.1nm,0.7s,baz=164,slow=4.4,SNR=21							
CNB	**Canberra Magne**	**46.45**	**149**	P		**P**	09 17 39.2	+1.9
	baz=46,SNR=38							
TOO	**Toolangi**	**46.47**	**155**	P		**P**	09 17 39.3	+1.9
	baz=46,SNR=19							
MILA	**Mila**	**47.72**	**151**	P		**P**	09 17 48.5	+1.7
	baz=48,SNR=6.2							
WMQ	**Urumqi**	**50.23**	**327**	P		**P**	09 18 06.2	+1.0
WMQ				pP		**pP**	09 19 56.4	+2.3
WMQ				sP		**sP**	09 21 01.1	+2.1
WMQ				AMB		AMB		
	comp=Z,41nm,0.5s							
SMLA	**Simla**	**50.48**	**308**	*i* P		**P**	09 18 07.7	+0.6
SMLA				*i* x		x	09 18 07.7	
	baz=207,slow=18							
KSH	**Kashi**	**54.98**	**317**	P		**P**	09 18 39.0	-0.1
KSH				PP		PP	09 20 58.5	+7.1
KSH				sP		**sP**	09 21 30.3	-4.7
KSH				S		**S**	09 25 40.3	+2.9
KSH				ScS		**ScS**	09 27 22.7	-4.7
KSH				sS		**sS**	09 29 01.4	+2.9
KSH				SS		**SS**	09 29 39.6	+5.9
KSH				AMB		AMB		
	comp=Z,13nm,0.6s							
MK31	**Makanchi Array**	**55.06**	**327**	*e*P		**P**	09 18 39.5	+0.1
MKAR	**Makanchi Array**	**55.06**	**327**	P		**P**	09 18 39.8	+0.3
MKAR				PcP		**PcP**	09 19 31.2	-0.5
MKAR				ScP		**ScP**	09 22 33.2	-0.9
MKAR	**Makanchi Array**	**55.06**	**327**	P		**P**	09 18 39.8	+0.3
	22nm,0.4s,baz=125,slow=8.1,SNR=364							
MKAR				PcP		**PcP**	09 19 31.2	-0.5
	6.3nm,0.6s,baz=110,slow=5.1,SNR=7.8							
MKAR				ScP		**ScP**	09 22 33.2	-0.9
	3.8nm,0.6s,baz=129,slow=5.1,SNR=10							
KZA	**Kyzart**	**56.67**	**319**	P		**P**	09 18 52.3	+1.2
	SNR=9.1							
TKM2	**Tokmak 2**	**56.86**	**320**	P		**P**	09 18 52.4	+0.2
	SNR=30							
TKM2	**Tokmak 2**	**56.86**	**320**	*e*P		**P**	09 18 52.6	+0.4
KBK	**Karagaybulak**	**57.15**	**320**	P		**P**	09 18 55.0	+0.9
	SNR=7.3							
UCH	**Uchtor**	**57.23**	**319**	P		**P**	09 18 56.5	+1.5
	SNR=5.2							
AAK	**Ala-Archa**	**57.43**	**319**	P		**P**	09 18 56.6	+0.7
	SNR=8.2							
AAK	**Ala-Archa**	**57.43**	**319**	*e*P		**P**	09 18 56.6	+0.7
	9.0nm,0.7s							
AAK				ScP		**ScP**	09 22 45.0	+0.1
AAK	**Ala-Archa**	**57.43**	**319**	P		**P**	09 18 56.7	+0.8
	7.5nm,0.7s,baz=102,slow=2.9,SNR=20							
AAK				ScP		**ScP**	09 22 45.0	+0.1
	0.7nm,0.3s,baz=85,slow=4.2,SNR=4.0							
AML	**Almayashu**	**57.72**	**319**	P		**P**	09 18 59.1	+0.9
	SNR=11							
USP	**Ospenovka**	**57.73**	**320**	P		**P**	09 18 58.3	+0.5
	SNR=14							
EKS2	**Erkin-Say**	**57.91**	**319**	P		**P**	09 18 60.0	+0.8
	SNR=23							
EKS2	**Erkin-Say**	**57.91**	**319**	*e*P		**P**	09 18 60.0	+0.8
	16nm,0.8s							
KBL	**Kabul**	**58.09**	**309**	*e*P		**P**	09 19 00.5	0.0
	24nm,0.7s							
KBL	**Kabul**	**58.09**	**309**	P		**P**	09 19 00.6	0.0
	baz=58,SNR=6.1							
ZAA0	**Zalesovo Array**	**58.58**	**335**	*e*P		**P**	09 19 02.1	-1.1
ZALV	**Zalesovo Beam**	**58.58**	**335**	P		**P**	09 19 02.3	-0.9
ZALV	**Zalesovo Beam**	**58.58**	**335**	P		**P**	09 19 02.3	-0.9
	6.8nm,0.4s,baz=133,slow=4.9,SNR=18							
KURBB	**Kurchatov Arra**	**59.37**	**329**	P		**P**	09 19 08.5	0.0
	19nm,0.6s,baz=131,slow=6.4,SNR=109							
KURK	**Kurchatov**	**59.38**	**329**	*e*P		**P**	09 19 08.7	+0.1
KKAR	**Karatay Array**	**60.26**	**318**	*e*P		**P**	09 19 14.7	0.0
RPZ	**Rata Peaks**	**64.39**	**143**	*e*P		**P**	09 19 42.3	+1.0
RPZ	**Rata Peaks**	**64.39**	**143**	P		**P**	09 19 42.1	+0.8
	25nm,0.6s,baz=227,slow=1.4,SNR=19							
BVAR	**Borovoye Array**	**64.91**	**328**	P		**P**	09 19 43.1	-1.2
BVAR	**Borovoye Array**	**64.91**	**328**	P		**P**	09 19 43.1	-1.2
	5.8nm,0.7s,baz=140,slow=7.7,SNR=21							
BRVK	**Borovoye**	**64.98**	**328**	*e*P		**P**	09 19 44.4	-0.4
	24nm,1.2s							
BKZ	**Black Stump Fm**	**65.58**	**136**	*e*P		**P**	09 19 49.5	+0.7
	57nm,0.5s							
URZ	**Urewera**	**65.60**	**135**	*e*P		**P**	09 19 48.9	0.0
	26nm,0.5s							
URZ	**Urewera**	**65.60**	**135**	P		**P**	09 19 49.2	+0.3
	20nm,0.4s,baz=257,slow=5.4,SNR=28							
ABKAR	**Akbulak array**	**69.37**	**322**	*e*P		**P**	09 20 11.1	-0.5
	6.0nm,0.6s							
RDF	**Al-Radifah**	**74.94**	**299**	*e*P		**P**	09 20 43.8	-0.4
RDF				AMb		AMB	09 20 45.6	
	comp=Z,30nm,1.1s							
MIB	**Mutribah**	**75.19**	**300**	*e*P		**P**	09 20 44.6	-0.9
MIB				AMb		AMB	09 20 45.0	
	comp=Z,0.7nm,0.7s							
NAY	**Al-Naaiem**	**75.23**	**299**	*e*P		**P**	09 20 44.8	-1.1
NAY				AMb		AMB	09 20 45.6	
	comp=Z,15nm,0.5s							
RST	**Umm Al-Ruwaisa**	**75.46**	**299**	*e*P		**P**	09 20 45.9	-1.2
RST				AMb		AMB	09 20 46.8	
	comp=Z,420nm,0.8s							
OPO	**Ambohidratompo**	**77.36**	**250**	P		**P**	09 20 57.3	-0.6
OPO	**Ambohidratompo**	**77.36**	**250**	P		**P**	09 20 57.3	-0.6
	comp=Z,21nm,0.3s,baz=58,slow=6.1,SNR=5.6							
KBZ	**Khabaz**	**79.79**	**314**	P		**P**	09 21 09.7	-0.4
KBZ	**Khabaz**	**79.79**	**314**	P		**P**	09 21 09.7	-0.4
	comp=Z,3.6nm,0.9s,baz=90,slow=1.9,SNR=6.5							
MAW	**Mawson**	**82.47**	**199**	P		**P**	09 21 23.3	0.0
MAW	**Mawson**	**82.47**	**199**	P		**P**	09 21 23.7	+0.4
	baz=82,SNR=14							
MAW	**Mawson**	**82.47**	**199**	P		**P**	09 21 23.3	0.0
	comp=Z,1.5nm,0.5s,baz=59,slow=7.3,SNR=5.8							
VNDA	**Vanda**	**84.15**	**172**	P		**P**	09 21 31.6	+0.2
VNDA	**Vanda**	**84.15**	**172**	P		**P**	09 21 31.6	+0.2
	comp=Z,5.8nm,0.6s,baz=316,slow=6.3,SNR=31							
ASF	**Jabal al Asfar**	**84.21**	**302**	P		**P**	09 21 33.4	+0.5
ASF	**Jabal al Asfar**	**84.21**	**302**	P		**P**	09 21 33.4	+0.5
	comp=Z,7.3nm,0.8s,baz=84,slow=7.0,SNR=8.4							
KMBO	**Kilima Mbogo**	**85.32**	**269**	P		**P**	09 21 39.4	+0.5
KMBO	**Kilima Mbogo**	**85.32**	**269**	P		**P**	09 21 39.4	+0.5
	comp=Z,3.9nm,0.9s,baz=46,slow=7.4,SNR=11							
MMAI	**Mount Meron Ar**	**85.45**	**303**	P		**P**	09 21 38.8	0.0
MMAI	**Mount Meron Ar**	**85.45**	**303**	P		**P**	09 21 38.8	0.0
	comp=Z,3.3nm,0.5s,baz=54,slow=8.4,SNR=4.5							
BRTR	**Keskin Array B**	**86.65**	**309**	P		**P**	09 21 43.0	-1.5
BRTR	**Keskin Array B**	**86.65**	**309**	P		**P**	09 21 43.0	-1.5
	comp=Z,1.3nm,0.7s,baz=113,slow=4.9,SNR=6.7							
ILAR	**Eielson Array**	**86.77**	**25**	P		**P**	09 21 42.9	-1.4
ILAR	**Eielson Array**	**86.77**	**25**	P		**P**	09 21 42.9	-1.4
	comp=Z,0.9nm,0.6s,baz=247,slow=5.0,SNR=18							
ARCES	**ARCESS Array B**	**88.82**	**340**	P		**P**	09 21 52.2	-1.6
ARCES	**ARCESS Array B**	**88.82**	**340**	P		**P**	09 21 52.2	-1.6
	comp=Z,6.0nm,0.9s,baz=72,slow=5.2,SNR=9.8							
AKASG	**Malin Array Be**	**89.08**	**321**	P		**P**	09 21 53.6	-1.7
AKASG	**Malin Array Be**	**89.08**	**321**	P		**P**	09 21 53.6	-1.7
	comp=Z,1.3nm,0.5s,baz=69,slow=4.7,SNR=8.3							
FINES	**FINESS Array B**	**89.67**	**331**	P		**P**	09 21 56.4	-1.5
FINES	**FINESS Array B**	**89.67**	**331**	P		**P**	09 21 56.4	-1.5
	comp=Z,4.7nm,0.6s,baz=73,slow=5.7,SNR=13							
QSPA	**South Pole Qui**	**93.81**	**180**	P		**P**	09 22 17.2	+0.4
QSPA	**South Pole Qui**	**93.81**	**180**	P		**P**	09 22 17.2	+0.4
	comp=Z,2.7nm,0.8s,baz=310,slow=1.9,SNR=42							
NOA	**NORSAR Array B**	**96.73**	**333**	P		**P**	09 22 28.0	-2.1
NOA	**NORSAR Array B**	**96.73**	**333**	P		**P**	09 22 28.0	-2.1
	comp=Z,1.1nm,0.8s,baz=71,slow=4.8,SNR=3.5							
TORD	**Torodi Ar. Bea**	**118.84**	**287**	PKP		**PKPdf**	09 27 44.2	-1.0
TORD				SKP			09 30 24.4	
TORD				PKKPbc		**PKKPbc**	09 38 03.4	+0.9
TORD	**Torodi Ar. Bea**	**118.84**	**287**	PKP		**PKPdf**	09 27 44.2	-1.0
	comp=Z,0.8nm,0.3s,baz=61,slow=1.7,SNR=20							
TORD				SKP			09 30 24.4	
	comp=Z,1.4nm,0.7s,baz=51,slow=2.2,SNR=6.9							
TORD				PKKPbc		**PKKPbc**	09 38 03.4	+0.9
	comp=Z,0.9nm,0.9s,baz=275,slow=2.9,SNR=11							
SCHQ	**Schefferville**	**120.97**	**6**	PKP		**PKPdf**	09 27 48.1	-0.1
SCHQ	**Schefferville**	**120.97**	**6**	PKP		**PKPdf**	09 27 48.1	-0.1
	comp=Z,6.2nm,1.0s,baz=272,slow=8.4,SNR=2.4							
USHA	**Ushuaia**	**128.45**	**172**	PKP		**PKPdf**	09 28 02.4	-0.1
USHA	**Ushuaia**	**128.45**	**172**	PKP		**PKPdf**	09 28 02.4	-0.1
	comp=Z,10nm,1.0s,baz=302,slow=5.0,SNR=3.2							
PLCA	**Paso Flores**	**141.49**	**164**	PKPpre		PKPpre	09 28 23.1	
PLCA	**Paso Flores**	**141.49**	**164**	PKhKP		PKPpre	09 28 23.1	
	comp=Z,2.5nm,0.7s,baz=158,slow=1.1,SNR=8.5							
CFAA	**Coronel Fontan**	**150.65**	**161**	PKP		**PKPdf**	09 28 42.8	0.0
CFAA				PKPbc		**PKPbc**	09 28 49.1	+0.1
CFAA				PKPab		**PKPab**	09 28 58.5	0.0
CFAA	**Coronel Fontan**	**150.65**	**161**	PKP		**PKPdf**	09 28 42.8	0.0
	comp=Z,0.2nm,0.7s,baz=275,slow=1.0,SNR=5.8							
CFAA				PKPbc		**PKPbc**	09 28 49.1	+0.1
	comp=Z,2.5nm,0.5s,baz=212,slow=2.3,SNR=40							
CFAA				PKPab		**PKPab**	09 28 58.5	0.0
	comp=Z,0.5nm,0.3s,baz=188,slow=6.0,SNR=7.4							
CPUP	**Villa Florida**	**157.69**	**180**	PKP		**PKPdf**	09 28 51.4	-1.2
CPUP				PKPab		**PKPab**	09 29 28.4	-0.2
CPUP	**Villa Florida**	**157.69**	**180**	PKP		**PKPdf**	09 28 51.4	-1.2
	comp=Z,0.6nm,0.5s,baz=8.4,slow=12,SNR=3.1							
CPUP				PKPab		**PKPab**	09 29 28.4	-0.2
	comp=Z,4.8nm,0.8s,baz=152,slow=5.3,SNR=8.7							
LPAZ	**La Paz**	**163.86**	**140**	PKP		**PKPdf**	09 29 00.7	+0.6
LPAZ	**La Paz**	**163.86**	**140**	PKP		**PKPdf**	09 29 00.7	+0.6
	comp=Z,1.7nm,0.9s,baz=58,slow=3.0,SNR=8.0							
SIV	**San Ignacio**	**167.48**	**164**	PKP		**PKPdf**	09 29 01.7	-0.6
SIV				PKPab		**PKPab**	09 30 12.6	+0.7
SIV	**San Ignacio**	**167.48**	**164**	PKP		**PKPdf**	09 29 01.7	-0.6
	comp=Z,2.2nm,0.8s,baz=215,slow=3.1,SNR=6.4							
SIV				PKPab		**PKPab**	09 30 12.6	+0.7
	comp=Z,1.7nm,0.5s,baz=214,slow=5.9,SNR=8.0							

IDC 08 09:15:42.9±2.8, 12°84S×167°32E, h0km, mb4.3/4, mb1 4.2/5, mb1mx3.8/19, mbtmp4.1/5, ML3.5/1, Error ellipse: s-maj=88.5km s-min=32.0km az=98.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.21**	**185**	Pn	Pn	09 17 57.5	+0.2
	0.5nm,0.3s,baz=230,slow=23,SNR=6.9						
ASAR	**Alice Springs**	**33.43**	**246**	P	P	09 22 23.7	0.0
	1.1nm,0.8s,baz=75,slow=9.5,SNR=4.3						
USRK	**Ussuriysk Arra**	**65.24**	**333**	P	P	09 26 26.5	+0.2
	4.8nm,0.9s,baz=138,slow=8.8,SNR=7.6						
SONM	**Songino Array**	**81.02**	**323**	P	P	09 28 00.2	+0.4
	1.8nm,1.0s,baz=133,slow=6.1,SNR=5.7						
MKAR	**Makanchi Array**	**95.88**	**317**	P	P	09 29 10.5	-1.1
	1.6nm,1.0s,baz=96,slow=5.7,SNR=7.3						

IDC 08 09:23:36.6±1.9, 12°06S×167°42E, h0km, mb4.2/7, mb1 4.4/7, mb1mx4.0/19, mbtmp4.2/7, Error ellipse: s-maj=99.4km s-min=21.4km az=146.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**21.84**	**246**	P	P	09 28 31.8	+0.9
	7.2nm,0.7s,baz=74,slow=10,SNR=5.3						
STKA	**Stephens Creek**	**30.89**	**226**	P	P	09 30 00.2	+5.1
	3.5nm,0.9s,baz=24,slow=8.2,SNR=4.4						
WRA	**Warramunga Arr**	**32.71**	**252**	P	P	09 30 11.3	+0.1
	4.0nm,0.8s,baz=82,slow=9.2,SNR=13						
ASAR	**Alice Springs**	**33.84**	**245**	P	P	09 30 20.6	-0.5
	4.6nm,0.8s,baz=75,slow=8.7,SNR=17						
FITZ	**Fitzroy Crossi**	**40.72**	**256**	P	P	09 31 18.6	-0.9
	1.8nm,0.7s,baz=108,slow=6.0,SNR=5.4						
ILAR	**Eielson Array**	**83.95**	**18**	P	P	09 36 07.2	-1.2
	0.6nm,0.6s,baz=238,slow=5.2,SNR=12						
NVAR	**Mina Array Bea**	**85.42**	**49**	P	P	09 36 17.4	+0.7
	0.4nm,0.6s,baz=250,slow=4.7,SNR=3.3						
MKAR	**Makanchi Array**	**95.38**	**317**	P	P	09 37 04.4	+1.3
	0.8nm,0.7s,baz=96,slow=5.9,SNR=5.2						

IDC 08 09:25:26.4±4.1, 12°22S×167°57E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/18, mbtmp3.9/4, Error ellipse: s-maj=174.5km s-min=31.9km az=138.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.80**	**252**	P	P	09 32 01.4	-0.4
	2.2nm,0.9s,baz=85,slow=8.8,SNR=5.6						
ASAR	**Alice Springs**	**33.91**	**246**	P	P	09 32 11.8	+0.3
	2.1nm,0.7s,baz=71,slow=9.5,SNR=6.8						
ILAR	**Eielson Array**	**84.06**	**18**	P	P	09 37 58.7	0.0
	0.5nm,0.9s,baz=239,slow=4.9,SNR=3.2						
MKAR	**Makanchi Array**	**95.60**	**317**	P	P	09 38 53.6	-0.2
	0.2nm,0.5s,baz=98,slow=6.1,SNR=2.7						

*IDC **08** 09:28:04.0±0.6, 13°.27S×166°.27E, h0km, mb4.5/20, mb1 4.6/23, mb1mx4.6/26, mbtmp4.5/23, ML4.2/3, MS5.3/1, Ms1 5.3/1, ms1mx4.4/34, Error ellipse: s-maj=19.7km s-min=13.7km az=92.0*
*BJI **08** 09:28:04.3, 13°.27S×166°.82E, h24km, mb5.0/10*
*MOS **08** 09:28:07.6±0.9, 13°.24S×166°.15E, h33km, mb5.0/6, Error ellipse: s-maj=12.5km s-min=9.9km az=26.0*
*ISCJB **08** 09:28:08.9±0.3, 13°.25S±0°.05×166°.16E±0°.06, h44km, mb4.6/30, MS5.1/1, Error ellipse: s-maj=8.9km s-min=6.8km az=22.3*

YSS	**Yuzh-Sakhalins**	**63.51 342**	ǁ*e*P		**P**		**09 38 36.3**	**+0.1**
VNDA	**Vanda**	**64.32 181**	P		**P**		**09 38 40.9**	**-0.3**
VNDA	**Vanda**	**64.32 181**	P		**P**		**09 38 40.9**	**-0.3**
	comp=Z,3.8nm,1.2s,baz=3.7,slow=8.0,SNR=7.5							
SBA	**Scott Base**	**64.62 180**	*e*P		**P**		**09 38 43.8**	**+0.7**
SBA			pmax		pmax			
	comp=Z,88nm,1.7s							
SBA	**Scott Base**	**64.62 180**	*e*P		**P**		**09 38 43.8**	**+0.7**
	comp=Z,88nm,1.7s							
USRK	**Ussuriysk Arra**	**65.11 334**	P		**P**		**09 38 47.4**	**+0.7**
	comp=Z,8.0nm,1.0s,baz=145,slow=7.0,SNR=12							
PETK	**Petropavlovsk-**	**66.48 354**	P		**P**		**09 38 55.5**	**+0.1**
PETK	**Petropavlovsk-**	**66.48 354**	P		**P**		**09 38 55.5**	**+0.1**
PETK	**Petropavlovsk-**	**66.48 354**	P		**P**		**09 38 55.5**	**+0.1**
	comp=Z,3.6nm,0.8s,baz=178,slow=10,SNR=3.8							
CN2	**Changchun**	**67.85 329**	*e*P		**P**		**09 39 04.7**	**+0.4**
CN2			AMB		AMB			
	comp=Z,10.0nm,1.0s							
KLR	**Kul'dur**	**69.24 337**	*e*P		P		09 39 09.3	-3.6
KLR			pmax		pmax			
	comp=Z,100nm,1.8s							
CMAR	**Chiang Mai Arr**	**73.42 294**	P		**P**		**09 39 39.3**	**+0.5**
CMAR	**Chiang Mai Arr**	**73.42 294**	P		**P**		**09 39 39.3**	**+0.5**
	comp=Z,3.1nm,0.7s,baz=124,slow=4.1,SNR=8.8							
QSPA	**South Pole Qui**	**76.78 180**	*e*P		**P**		**09 39 57.1**	**-0.4**
	comp=Z,33nm,1.3s							
QSPA	**South Pole Qui**	**76.78 180**	P		**P**		**09 39 57.3**	**-0.2**
	comp=Z,4.3nm,0.7s,baz=3.0,slow=2.8,SNR=22							
CLNS	**Chul'man**	**77.77 338**	*e*P		**P**		**09 40 03.8**	**+0.9**
CLNS			pmax		pmax			
	comp=N,16nm,1.4s							
CLNS			pmax		pmax			
	comp=Z,20nm,1.5s							
CLNS			pmax		pmax			
	comp=E,5.0nm,1.0s							
ULN	**Ulaanbaatar**	**80.34 324**	*e*P		**P**		**09 40 17.3**	**-0.1**
	comp=E,4.9nm,0.6s							
SONM	**Songino Array**	**80.70 324**	P		**P**		**09 40 19.1**	**-0.1**
SONM	**Songino Array**	**80.70 324**	P		**P**		**09 40 19.2**	**-0.1**
	comp=E,2.5nm,0.9s,baz=134,slow=6.2,SNR=9.7							
GTA	**Gaotai**	**80.91 314**	*e*P		P		09 40 23.6	+3.1
GTA			pP		**PcP**		**09 40 29.1**	**+2.1**
GTA			sP		sP		09 40 32.0	-6.6
ZAK	**Zakamensk**	**83.75 325**	*e*P		**P**		**09 40 34.8**	**-0.3**
ZAK			pmax		pmax			
	comp=Z,10.0nm,1.3s							
TLY	**Talaya**	**84.19 326**	*e*P		**P**		**09 40 37.9**	**+0.7**
TLY			*e*				09 40 47.2	
TLY			pmax		pmax			
	comp=Z,17nm,1.0s							
COLA	**College**	**85.21 18**	*i* P		**P**		**09 40 43.3**	**+1.3**
ILAR	**Eielson Array**	**85.43 18**	P		**P**		**09 40 40.8**	**-2.3**
ILAR	**Eielson Array**	**85.43 18**	P		**P**		**09 40 40.8**	**-2.3**
	comp=Z,1.5nm,0.6s,baz=238,slow=5.2,SNR=14							
NVAR	**Mina Array Bea**	**87.08 50**	P		**P**		**09 40 52.6**	**+0.5**
NVAR	**Mina Array Bea**	**87.08 50**	P		**P**		**09 40 52.6**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=224,slow=8.3,SNR=5.0							
TIXI	**Tiksi**	**88.32 349**	⇑*i* P		**P**		**09 40 56.6**	**-0.4**
TIXI			pmax		pmax			
	comp=Z,6.0nm,1.5s							
HVS	**Khovu-Aksy**	**89.56 323**	⇓*i* P		**P**		**09 41 04.0**	**+0.5**
HVS			pmax		pmax			
	comp=Z,68nm,1.8s							
PDAR	**Pinedale Array**	**94.69 47**	P		**P**		**09 41 28.5**	**+0.9**
PDAR	**Pinedale Array**	**94.69 47**	P		**P**		**09 41 28.5**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=170,slow=3.0,SNR=5.3							
SNAA	**Sanae**	**94.97 183**	P		**P**		**09 41 27.0**	**-1.2**
SNAA	**Sanae**	**94.97 183**	P		**P**		**09 41 27.0**	**-1.2**
	comp=Z,1.7nm,1.1s,baz=228,slow=7.4,SNR=8.1							
MK31	**Makanchi Array**	**95.43 317**	*e*P		**P**		**09 41 29.8**	**-0.8**
MK31	**Makanchi Array**	**95.43 317**	*e*P		**P**		**09 41 29.8**	**-0.8**
MKAR	**Makanchi Array**	**95.43 317**	P		**P**		**09 41 30.0**	**-0.6**
MKAR	**Makanchi Array**	**95.43 317**	P		**P**		**09 41 30.0**	**-0.6**
MKAR	**Makanchi Array**	**95.43 317**	P		**P**		**09 41 30.0**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=92,slow=6.5,SNR=11							
ZALV	**Zalesovo Beam**	**95.59 324**	P		**P**		**09 41 29.9**	**-1.2**
ZALV	**Zalesovo Beam**	**95.59 324**	P		**P**		**09 41 29.9**	**-1.2**
ZALV	**Zalesovo Beam**	**95.59 324**	P		**P**		**09 41 29.9**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=100,slow=6.6,SNR=6.0							
NVS	**Novosibirsk**	**96.71 325**	*e*P		**P**		**09 41 33.2**	**-2.9**
ARCES	**ARCESS Array B**	**118.56 345**	PKP		**PKPdf**		**09 46 51.0**	**-2.1**
ARCES	**ARCESS Array B**	**118.56 345**	PKP		**PKPdf**		**09 46 51.0**	**-2.1**
	comp=Z,2.6nm,0.8s,baz=67,slow=2.2,SNR=5.1							
UZH	**Uzhgorod**	**133.82 327**	*e*PKHKP		PKPpre		09 47 10.9	
SSB	**Saint Sauveur**	**144.47 338**	*e*PKIKP		PKPbc		09 47 40.8	-0.1
SSB	**Saint Sauveur**	**144.47 338**	*e*PKPdf		PKPbc		09 47 40.8	-0.2
KEST	**Kesra**	**149.42 321**	PKPbc		**PKPbc**		**09 47 54.6**	**-0.9**
KEST	**Kesra**	**149.42 321**	PKPbc		**PKPbc**		**09 47 54.6**	**-0.9**
	comp=Z,2.1nm,0.7s,baz=86,slow=3.0,SNR=6.6							
ESDC	**Sonseca Array**	**152.28 344**	PKPbc		**PKPbc**		**09 48 04.2**	**+2.1**
ESDC	**Sonseca Array**	**152.28 344**	PKPbc		**PKPbc**		**09 48 04.2**	**+2.1**
	comp=Z,0.6nm,0.3s,baz=221,slow=29,SNR=5.6							
TORD	**Torodi Ar. Bea**	**164.93 271**	PKP		**PKPdf**		**09 48 09.8**	**-1.1**
TORD	**Torodi Ar. Bea**	**164.93 271**	PKP		**PKPdf**		**09 48 09.8**	**-1.1**
	comp=Z,1.0nm,0.8s,baz=334,slow=3.2,SNR=4.6							

SKHL 08 09:34:40.2±0.9, 54°.76N×142°.37E, h10km, mb4.8/5, 1C-1D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
OKH	**Okha**	**1.26**	**164**	ǁ*i*	Pg		Pn	09 35 02.6	-1.2
OKH					AMB	AMB	AMB	09 35 04.0	
	2μm,0.3s								
OKH				⇑*i*	Sg		Sb	09 35 19.0	-1.1
OKH					A		A	09 35 20.2	
	4μm,0.5s								
OKH					A		A	09 35 20.2	
	3μm,0.5s								
NKL	**Nikolayevsk**	**1.90**	**212**	*i*	Pb		Pg	09 35 16.0	-0.5
NKL				*i*	Pg		Pb	09 35 18.0	+3.1
NKL					AMB	AMB	AMB	09 35 21.2	
	170nm,0.3s								
NKL					AMB		AMB	09 35 21.2	
	210nm,0.3s								
NKL					AMB		AMB	09 35 21.2	
	190nm,0.3s								
NKL					*e*S		Sb	09 35 38.0	-0.6
NKL					*e*Sg		Sg	09 35 44.0	+2.9
NKL					A		A	09 35 46.3	
	410nm,0.4s								
NKL					A		A	09 35 46.3	
	750nm,0.4s								
TYV	**Tymovskoe**	**3.91**	**177**	*e*P			Pn	09 35 41.5	+1.3
TYV				*e*Pg			Pg	09 35 58.0	+3.0
TYV					AMB		AMB	09 36 03.0	
	20nm,0.4s								
TYV				*e*Sg			Sg	09 36 52.2	+6.6
TYV					A		A	09 36 53.3	
	16nm,0.7s								
GRNR	**Gornyy**	**5.39**	**225**	*e*Pg			Pg	09 36 27.0	+3.7
GRNR					AMB		AMB	09 36 59.2	
	42nm,1.0s								
GRNR				*e*Sg			Sg	09 37 41.0	+7.9
GRNR					A		A	09 37 43.0	
	35nm,0.4s								
GRNR					A		A	09 37 43.0	
	39nm,0.4s								
BMKR	**Bomnak**	**7.83**	**275**	*e*Sg			Sg	09 38 55.5	+4.1
BMKR					A		A	09 38 59.3	
	10.0nm,0.4s								
BMKR					A		A	09 38 59.3	
	30nm,0.4s								
ZEA	**Zeya**	**8.91**	**270**	*e*Pg			Sg	09 39 32.7	+6.6
ZEA					AMB		AMB	09 39 40.1	
	23nm,1.0s								
KROS	**Kirovskiy**	**8.95**	**274**	*e*P			Pn	09 36 55.0	+5.6
KROS					AMB		AMB	09 36 56.0	
	1.0nm,0.4s								
KROS				*e*Sg			Sg	09 39 28.6	+1.4
KROS					A		A	09 39 39.9	
	8.0nm,0.7s								

IDC 08 09:35:06.8±4.2, 12°.75S×165°.82E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/18, mbtmp3.6/4, Error ellipse: s-maj=175.8km s-min=32.8km az=139.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
WRA	**Warramunga Arr**	**31.00**	**253**	P		P	P	09 41 26.6	+0.3
	0.4nm,0.6s,baz=83,slow=9.3,SNR=3.4								
ASAR	**Alice Springs**	**32.12**	**246**	P		P	P	09 41 36.1	-0.1
	0.5nm,0.6s,baz=77,slow=9.2,SNR=5.3								
ILAR	**Eielson Array**	**85.10**	**18**	P		P	P	09 47 44.5	+0.3
	0.5nm,0.6s,baz=252,slow=5.5,SNR=5.8								
MKAR	**Makanchi Array**	**94.81**	**317**	P		P	P	09 48 29.9	-0.6
	0.2nm,0.4s,baz=91,slow=5.8,SNR=2.1								

IDC 08 09:36:54.3±4.4, 12°.28S×165°.20E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/17, mbtmp3.8/4, Error ellipse: s-maj=187.5km s-min=33.3km az=138.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
WRA	**Warramunga Arr**	**30.57**	**252**	P		P	P	09 43 10.1	+0.1
	0.8nm,0.9s,baz=74,slow=9.5,SNR=4.4								
ASAR	**Alice Springs**	**31.77**	**245**	P		P	P	09 43 20.1	-0.5
	1.9nm,0.9s,baz=73,slow=9.4,SNR=6.9								
ILAR	**Eielson Array**	**84.84**	**19**	P		P	P	09 49 30.1	-0.4
	0.4nm,0.7s,baz=245,slow=3.9,SNR=4.5								
MKAR	**Makanchi Array**	**94.05**	**317**	P		P	P	09 50 15.4	+0.8
	0.5nm,0.8s,baz=102,slow=6.1,SNR=3.9								

IDC 08 09:50:38.3±1.4, 16°.12S×172°.16W, h0km, mb3.9/6, mb1 4.2/6, mb1mx4.0/19, mbtmp3.9/6, ML1.5/1, MS3.5/1, Ms1 3.5/1, ms1mx3.5/37, Error ellipse: s-maj=55.4km s-min=19.0km az=132.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
AFI	**Afiamalu**	**2.23**	**10**	Pn		Pn	Pn	09 51 16.4	-0.2
	7.1nm,0.3s,baz=220,slow=23,SNR=6.0								
AFI						LR	LR	09 51 44.0	
	comp=Z,1μm,18.8s,baz=60,slow=30								
AFI						Sn	Sn	09 51 45.9	+1.0
	49nm,0.3s,baz=19,slow=22,SNR=13								
STKA	**Stephens Creek**	**44.72**	**241**	P		P	P	09 58 53.5	0.0
	1.9nm,0.7s,baz=5.6,slow=19,SNR=4.4								
WRA	**Warramunga Arr**	**50.85**	**257**	P		P	P	09 59 41.0	-0.3
	1.1nm,0.6s,baz=96,slow=8.6,SNR=14								
ASAR	**Alice Springs**	**51.03**	**252**	P		P	P	09 59 42.1	-0.5
	4.2nm,0.6s,baz=89,slow=8.1,SNR=5.9								
NVAR	**Mina Array Bea**	**74.07**	**41**	P		P	P	10 02 16.7	+0.1
	0.7nm,0.9s,baz=227,slow=7.9,SNR=3.8								
PDAR	**Pinedale Array**	**82.00**	**41**	P		P	P	10 03 00.2	-0.5
	0.3nm,0.7s,baz=191,slow=7.2,SNR=3.4								
ILAR	**Eielson Array**	**82.92**	**11**	P		P	P	10 03 04.3	-0.3
	0.4nm,0.7s,baz=246,slow=5.5,SNR=5.1								
BRTR	**Keskin Array B**	**147.46**	**321**	PKPbc		PKPbc	PKPbc	10 10 25.4	+0.6
	0.9nm,0.6s,baz=0.0,slow=3.7,SNR=4.5								

IDC 08 09:59:52.2±2.4, 13°.19S×166°.70E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.8/19, mbtmp3.7/7, Error ellipse: s-maj=84.6km s-min=25.4km az=131.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
STKA	**Stephens Creek**	**29.60**	**227**	P		P	P	10 05 59.2	0.0
	0.7nm,0.5s,baz=34,slow=3.6,SNR=2.3								
WRA	**Warramunga Arr**	**31.70**	**253**	P		P	P	10 06 18.0	+0.2
	0.4nm,0.6s,baz=85,slow=11,SNR=3.8								
ASAR	**Alice Springs**	**32.73**	**247**	P		P	P	10 06 26.9	-0.1
	1.1nm,0.8s,baz=79,slow=9.1,SNR=8.0								
FITZ	**Fitzroy Crossi**	**39.78**	**258**	P		P	P	10 07 27.1	-0.2
	1.4nm,0.6s,baz=132,slow=4.7,SNR=5.3								
SONM	**Songino Array**	**80.93**	**324**	P		P	P	10 12 08.8	+0.2
	0.6nm,0.8s,baz=160,slow=4.6,SNR=3.3								
ILAR	**Eielson Array**	**85.24**	**18**	P		P	P	10 12 30.4	+0.1
	0.3nm,0.8s,baz=232,slow=4.4,SNR=3.3								
MKAR	**Makanchi Array**	**95.71**	**317**	P		P	P	10 13 19.6	-0.5
	0.3nm,0.7s,baz=103,slow=6.5,SNR=3.4								

IDC 08 10:02:47.3±0.9, 16°.08S×172°.22W, h0km, mb4.1/8, mb1 4.4/8, mb1mx4.1/22, mbtmp4.1/8, Error ellipse: s-maj=54.4km s-min=18.8km az=140.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
URZ	**Urewera**	**24.01**	**201**	P		P	P	10 08 03.9	+0.2
	7.0nm,0.7s,baz=7.4,slow=11,SNR=3.6								
RPZ	**Rata Peaks**	**31.00**	**204**	P		P	P	10 09 11.8	+5.3
	15nm,1.0s,baz=12,slow=14,SNR=5.5								
STKA	**Stephens Creek**	**44.69**	**241**	P		P	P	10 11 01.9	-0.4
	5.0nm,0.9s,baz=74,slow=13,SNR=4.2								
WRA	**Warramunga Arr**	**50.80**	**257**	P		P	P	10 11 49.1	-0.8
	2.4nm,0.6s,baz=95,slow=7.9,SNR=14								
ASAR	**Alice Springs**	**50.99**	**252**	P		P	P	10 11 50.5	-0.7
	10nm,0.6s,baz=88,slow=8.4,SNR=38								
NVAR	**Mina Array Bea**	**74.08**	**41**	P		P	P	10 14 25.2	-0.5
	1.7nm,1.0s,baz=225,slow=9.2,SNR=7.3								
ANMO	**Albuquerque**	**80.37**	**49**	P		P	P	10 15 00.2	-0.8
	0.8nm,0.7s,baz=338,slow=3.5,SNR=5.0								
PDAR	**Pinedale Array**	**82.02**	**41**	P		P	P	10 15 08.9	-0.7
	0.4nm,0.8s,baz=224,slow=4.1,SNR=3.5								
ILAR	**Eielson Array**	**82.90**	**11**	P		P	P	10 15 13.7	+0.2
	0.8nm,0.8s,baz=232,slow=5.3,SNR=6.7								
ARCES	**ARCESS Array B**	**125.44**	**352**	PKP		PKPdf	PKPdf	10 21 51.5	+1.7
	1.8nm,0.8s,baz=94,slow=2.6,SNR=6.8								
KMBO	**Kilima Mbogo**	**146.25**	**242**	PKPbc		PKPbc	PKPbc	10 22 31.3	+0.2
	0.9nm,0.3s,baz=66,slow=21,SNR=4.9								
BRTR	**Keskin Array B**	**147.40**	**321**	PKPbc		PKPbc	PKPbc	10 22 33.8	+0.2
	1.4nm,0.7s,baz=191,slow=0.6,SNR=6.9								

*IDC **08** 10:03:05.4±0.9, 12°.70S×166°.06E, h0km, mb4.3/15, mb1 4.4/16, mb1mx4.3/20, mbtmp4.2/16, ML3.6/1, Error ellipse: s-maj=27.7km s-min=17.2km az=113.0*
*ISCJB **08** 10:03:08.7±0.5, 12°.77S±0°.07×166°.15E±0°.07, h40km, mb4.3/15, Error ellipse: s-maj=10.4km s-min=9.3km az=156.2*
*NEIC **08** 10:03:10.3±0.5, 12°.72S×166°.16E, h35km, mb4.5/2, Error ellipse: s-maj=12.7km s-min=8.8km az=117.0*

ISC 08 10:03:10.9±0.6, 12°.77S±0°.08×166°.20E±0°.09, h40km, n41, σ1§03/40, mb4.3/15, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
HNR	**Honiara**	**6.98**	**298**	Pn		Pn	**Pn**	**10 04 51.2**	**+0.5**
HNR				Sn		Sn	**Sn**	**10 06 09.8**	**+1.0**
HNR	**Honiara**	**6.98**	**298**	Pn		Pn	**Pn**	**10 04 51.2**	**+0.5**
	64nm,0.3s,baz=140,slow=4.7,SNR=14								
HNR				Sn			**Sn**	**10 06 09.8**	**+1.0**
	baz=180,slow=20,SNR=1.0								
DZM	**Mont Dzumac**	**9.26**	**179**	*e*Pn			**Pn**	**10 05 22.9**	**+0.9**
DZM	**Mont Dzumac**	**9.26**	**179**	Pn			**Pn**	**10 05 22.4**	**+0.4**
	0.6nm,0.3s,baz=8.9,slow=19,SNR=1.2								
TARA	**Tarawa**	**15.53**	**26**	*e*Pn			**Pn**	**10 06 46.0**	**-1.2**
	114nm,0.9s								
CTA	**Charters Tower**	**20.46**	**247**	P			Pn	10 07 45.5	-2.2
CTA	**Charters Tower**	**20.46**	**247**	P			Pn	10 07 45.5	-2.2
	6.7nm,1.8s,baz=78,slow=11,SNR=4.5								
CTAO	**Charters Tower**	**20.46**	**247**	*e*P			Pn	10 07 45.9	-1.8
	23nm,1.1s								
STKA	**Stephens Creek**	**29.54**	**226**	P			**P**	**10 09 11.2**	**-0.7**
STKA	**Stephens Creek**	**29.54**	**226**	P			**P**	**10 09 11.2**	**-0.7**
	6.8nm,0.8s,baz=13,slow=11,SNR=8.5								
WRAB	**Tennant Creek**	**31.35**	**253**	*e*P			**P**	**10 09 27.6**	**-0.4**
	21nm,1.8s								
WRA	**Warramunga Arr**	**31.36**	**253**	P			**P**	**10 09 26.1**	**-2.0**
WRA	**Warramunga Arr**	**31.36**	**253**	P			**P**	**10 09 26.1**	**-2.0**
	1.5nm,0.8s,baz=80,slow=9.5,SNR=8.0								
AS31	**Alice Springs**	**32.46**	**246**	*e*P			**P**	**10 09 36.3**	**-1.4**
ASAR	**Alice Springs**	**32.46**	**246**	P			**P**	**10 09 36.2**	**-1.5**
ASAR	**Alice Springs**	**32.46**	**246**	P			**P**	**10 09 36.2**	**-1.5**
	4.7nm,0.8s,baz=74,slow=9.6,SNR=34								
FITZ	**Fitzroy Crossi**	**39.40**	**257**	P			**P**	**10 10 36.6**	**-0.5**
FITZ	**Fitzroy Crossi**	**39.40**	**257**	P			**P**	**10 10 36.6**	**-0.5**
	3.4nm,0.8s,baz=100,slow=5.8,SNR=8.2								
MJAR	**Matsushiro Arr**	**55.70**	**333**	P			**P**	**10 12 42.0**	**-1.4**
MJAR	**Matsushiro Arr**	**55.70**	**333**	P			**P**	**10 12 42.0**	**-1.4**
	6.0nm,1.1s,baz=166,slow=8.7,SNR=5.4								
KSRS	**Korea Array**	**61.54**	**326**	P			**P**	**10 13 22.1**	**-1.9**
	1.2nm,0.8s,baz=129,slow=7.7,SNR=2.8								
KSAR	**Wonju Array Be**	**61.56**	**326**	P			**P**	**10 13 22.1**	**-2.0**
USRK	**Ussuriysk Arra**	**64.68**	**333**	P			**P**	**10 13 45.1**	**+0.4**
	2.0nm,0.6s,baz=126,slow=7.3,SNR=4.4								
VNDA	**Vanda**	**64.79**	**181**	P			**P**	**10 13 45.5**	**+0.5**
VNDA	**Vanda**	**64.79**	**181**	P			**P**	**10 13 45.5**	**+0.5**
	1.6nm,1.0s,baz=21,slow=2.8,SNR=4.0								
SONM	**Songino Array**	**80.31**	**324**	P			**P**	**10 15 18.4**	**+0.5**
SONM	**Songino Array**	**80.31**	**324**	P			**P**	**10 15 18.4**	**+0.5**
	2.3nm,0.9s,baz=137,slow=4.6,SNR=9.7								
MAW	**Mawson**	**83.31**	**202**	P			**P**	**10 15 33.5**	**+0.3**
MAW	**Mawson**	**83.31**	**202**	P			**P**	**10 15 33.5**	**+0.3**
	1.4nm,0.8s,baz=110,slow=3.9,SNR=4.2								
ILAR	**Eielson Array**	**84.99**	**18**	P			**P**	**10 15 42.5**	**+0.8**
ILAR	**Eielson Array**	**84.99**	**18**	P			**P**	**10 15 42.5**	**+0.8**
	2.5nm,0.6s,baz=245,slow=5.1,SNR=43								
NVAR	**Mina Array Bea**	**86.79**	**50**	P			**P**	**10 15 51.4**	**-0.1**
NVAR	**Mina Array Bea**	**86.79**	**50**	P			**P**	**10 15 51.4**	**-0.1**
	0.7nm,0.9s,baz=235,slow=7.6,SNR=2.4								
MKAR	**Makanchi Array**	**95.08**	**317**	P			**P**	**10 16 29.9**	**+0.2**
MKAR	**Makanchi Array**	**95.08**	**317**	P			**P**	**10 16 29.9**	**+0.2**
	2.3nm,0.8s,baz=93,slow=6.2,SNR=13								
ZALV	**Zalesovo Beam**	**95.21**	**324**	P			**P**	**10 16 29.4**	**-0.6**
ZALV	**Zalesovo Beam**	**95.21**	**324**	P			**P**	**10 16 29.4**	**-0.6**
	1.0nm,0.3s,baz=101,slow=3.0,SNR=4.0								
KEST	**Kesra**	**149.04**	**322**	PKPbc			**PKPbc**	**10 22 56.4**	**+1.1**
KEST	**Kesra**	**149.04**	**322**	PKPbc			**PKPbc**	**10 22 56.4**	**+1.1**
	3.3nm,0.9s,baz=91,slow=1.2,SNR=6.9								
TORD	**Torodi Ar. Bea**	**164.90**	**273**	PKPab			**PKPab**	**10 24 07.8**	**-0.3**
TORD	**Torodi Ar. Bea**	**164.90**	**273**	PKPab			**PKPab**	**10 24 07.8**	**-0.3**
	0.7nm,0.9s,baz=104,slow=1.9,SNR=3.7								

DJA 08 10:08:10.6±0.9, 3°.S±5°×13°.0E±°, h65km±28km, M3.6/8, MLv3.6/8, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
MSAI	**Masohi**	**1.08**	**220**	P		P	Pn	10 08 30.2	+0.3
AAI	**Ambon**	**1.84**	**231**	P		P	Pn	10 08 41.2	+1.2
BNDI	**Bandanaira**	**2.02**	**172**	P		P	Pn	10 08 42.8	+0.4
SWI	**Sorong**	**2.32**	**45**	P		P	Pn	10 08 47.4	+0.9
SWI						S	Sn	10 09 14.2	+0.3
NLAI	**Namlea**	**2.62**	**254**	P		P	Pn	10 08 51.7	+1.1
NLAI						S	Sn	10 09 20.4	-0.9
FAKI	**Fak Fak**	**2.66**	**99**	P		P	Pn	10 08 50.3	-0.8
LBMI	**Labuha**	**2.82**	**311**	P		P	Pn	10 08 54.3	+1.0

IDC 08 10:10:08.7±1.7, 11°.09S×165°.73E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/19, mbtmp3.9/5, ML3.8/1, Error ellipse: s-maj=53.1km s-min=30.4km az=124.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
DZM	**Mont Dzumac**	**10.94**	**176**	Pn		Pn	Pn	10 12 46.4	-0.3
	0.7nm,0.3s,baz=292,slow=22,SNR=6.5								
WRA	**Warramunga Arr**	**31.45**	**250**	P		P		10 16 32.7	+0.5
	1.7nm,0.8s,baz=80,slow=9.4,SNR=8.0								
ASAR	**Alice Springs**	**32.76**	**243**	P		P		10 16 43.1	-0.6
	0.4nm,0.8s,baz=69,slow=10,SNR=2.3								
ILAR	**Eielson Array**	**83.56**	**19**	P		P		10 22 38.5	+0.1
	0.6nm,0.6s,baz=240,slow=4.9,SNR=7.8								
MKAR	**Makanchi Array**	**93.54**	**317**	P		P		10 23 26.3	-0.4
	0.5nm,0.6s,baz=104,slow=6.1,SNR=3.9								

*IDC **08** 10:11:00.5±0.4, 11°.26S×165°.91E, h0km, mb4.7/25, mb1 4.9/28, mb1mx4.9/31, mbtmp4.8/28, ML4.5/3, MS5.6/17, Ms1 5.6/17, ms1mx5.4/35, Error ellipse: s-maj=15.2km s-min=12.3km az=140.0*
*MOS **08** 10:11:04.6±1.0, 11°.17S×165°.69E, h33km, mb5.5/19, Error ellipse: s-maj=10.4km s-min=9.2km az=145.6*
*BJI **08** 10:11:05.2, 11°.01S×165°.96E, h33km, mB6.0/25, mb5.0/47, Ms5.7/32, Ms7 5.6/32*
*ISCJB **08** 10:11:05.1±0.1, 11°.33S±0°.04×165°.83E±0°.03, h37km, mb5.1/89, MS5.6/26, Error ellipse: s-maj=5.3km s-min=3.4km az=158.9*
*NEIC **08** 10:11:07.5±0.9, 11°.26S×165°.82E, h45km±8km, mb5.3/37, Error ellipse: s-maj=6.2km s-min=4

STKA **Stephens Creek** 30.36 224 *e*P P 10 17 14.9 +0.3
comp=Z,20nm,1.7s
STKA **Stephens Creek** 30.36 224 ⇑P P 10 17 14.6 -0.1
baz=30,SNR=11
STKA **Stephens Creek** 30.36 224 P P 10 17 14.9 +0.3
comp=Z,9.3nm,0.8s,baz=36,slow=9.0,SNR=14
STKA LR LR 10 28 44.5
comp=Z,15μm,19.5s,baz=47,slow=35
BFZ Birch Farm 30.60 165 *e*P P 10 17 17.1 +0.4
comp=Z,107nm,1.4s
H11N1 WAKE ISLAND Hy 30.88 2 T T 10 49 05.3
baz=184,slow=0.7,SNR=5.6
H11N3 WAKE ISLAND Hy 30.89 2 T T 10 49 08.1
baz=184,slow=0.7,SNR=4.2
H11N2 WAKE ISLAND Hy 30.90 2 T T 10 49 09.0
baz=184,slow=0.7,SNR=3.3
WRAB Tennant Creek 31.55 250 *e*P P 10 17 23.9 -1.5
WRAB pmax pmax
comp=Z,71nm,1.0s
WRAB Tennant Creek 31.55 250 P P 10 17 24.4 -1.0
comp=Z,257nm,1.5s,SNR=5.3
WRAB Tennant Creek 31.55 250 *e*P P 10 17 23.9 -1.5
comp=Z,71nm,1.0s
WRA Warramunga Arr 31.56 250 P P 10 17 23.8 -1.7
WRA PcP **PcP** 10 20 15.1 -2.5
WRA Warramunga Arr 31.56 250 P P 10 17 23.8 -1.7
comp=Z,18nm,0.8s,baz=80,slow=9.1,SNR=31
WRA PcP **PcP** 10 20 15.1 -2.5
comp=Z,1.3nm,0.9s,baz=72,slow=3.0,SNR=1.4
WRA LR LR 10 29 13.3
comp=Z,8μm,19.6s,baz=70,slow=35
KHZ Kahutara 31.65 169 *e*P P 10 17 27.7 +1.8
comp=Z,124nm,1.3s
TOO Toolangi 31.92 212 ⇓P P 10 17 29.7 +1.3
baz=31
RPZ Rata Peaks 32.55 173 LR LR 10 29 40.7
comp=Z,7μm,18.9s,baz=343,slow=34
KDU Kakadu 32.75 264 P P 10 17 36.2 +0.3
baz=32,SNR=6.6
AS17 Alice Springs 32.75 244 ⇓P P 10 17 34.2 -1.7
baz=32
AS31 Alice Springs 32.83 244 *e*P P 10 17 35.3 -1.3
ASAR Alice Springs 32.83 244 P P 10 17 34.8 -1.8
ASAR PcP **PcP** 10 20 20.9 -0.2
ASAR Alice Springs 32.83 244 P P 10 17 34.8 -1.8
comp=Z,6.2nm,0.9s,baz=73,slow=9.3,SNR=20
ASAR PcP **PcP** 10 20 20.9 -0.2
comp=Z,2.5nm,0.9s,baz=78,slow=3.1,SNR=3.0
ASAR LR LR 10 29 56.2
comp=Z,18μm,18.8s,baz=66,slow=35
HTT Hallett 33.09 224 ⇓P P 10 17 39.0 +0.2
baz=32
ARPS Mount Arapiles 33.35 217 ⇑P P 10 17 41.9 +1.0
baz=33
RAR Rarotonga 34.27 111 LR LR 10 29 12.6
comp=Z,9μm,19.6s,baz=278,slow=32
BBOO Buckleboo 34.77 227 *e*P P 10 17 52.8 -0.4
comp=Z,577nm,0.9s
BBOO Buckleboo 34.77 227 P P 10 17 53.2 0.0
baz=34,SNR=6.1
SWI Sorong 35.98 284 ⇓P P 10 18 05.5 +1.6
baz=35
KNRA Kununurra 36.38 259 ⇑P P 10 18 07.6 +0.4
baz=36,SNR=6.8
NLAI Namlea 39.32 279 P P 10 18 37.6 +5.4
FITZ Fitzroy Crossi 39.49 255 *e*P P 10 18 32.4 -1.2
comp=Z,42nm,1.0s
FITZ Fitzroy Crossi 39.49 255 ⇑P P 10 18 32.0 -1.5
baz=39,SNR=12
FITZ Fitzroy Crossi 39.49 255 P P 10 18 32.4 -1.2
comp=Z,18nm,0.9s,baz=88,slow=6.9,SNR=18
LBMI Labuha 39.63 283 P P 10 18 35.4 +0.7
comp=Z,97nm,1.1s,comp=Z,3μm
SOEI Soe 40.98 268 P P 10 18 47.1 +1.0
comp=Z,48nm,1.8s
BATI Baumata 41.52 267 P P 10 18 51.2 +0.8
BATI Baumata 41.52 267 P P 10 18 51.2 +0.8
comp=Z,29nm,0.6s,baz=210,slow=5.4,SNR=3.5
BATI LR LR 10 36 13.8
comp=Z,10μm,20.2s,baz=310,slow=36
PPT Papeete 43.44 104 LR LR 10 33 57.5
comp=Z,8μm,18.9s,baz=86,slow=32
PPT2 Papeete2 43.44 104 *e*S S 10 25 28.2 -4.0
comp=Z,5μm,25.8s
PPT2 *e*LQ LQ 10 29 06.7
comp=Z,15μm,29.2s
PPT2 *e*LR LR 10 30 54.9
comp=Z,13μm,25.8s,baz=281
TBI Tubuai 44.04 112 *e*S S 10 25 37.7 -3.0
comp=Z,5μm,27.5s
TBI *e*LQ LQ 10 29 23.2
comp=Z,12μm,31.0s
TBI *e*LR LR 10 31 12.8
comp=Z,12μm,26.0s
MBWA Marble Bar 45.28 251 *e*P P 10 19 19.8 -0.8
comp=Z,35nm,0.9s
BKSI Bulukumba 45.69 274 P P 10 19 27.2 +3.3
comp=Z,21nm,2.0s
BNSI Bone 45.88 275 P P 10 19 25.5 0.0
comp=Z,70nm,1.3s
KAPI Kappang 46.11 274 P P 10 19 27.8 +0.5
comp=Z,51nm,1.2s,comp=Z,2μm
KAPI Kappang 46.11 274 P P 10 19 27.2 -0.1
KAPI Kappang 46.11 274 P P 10 19 27.2 -0.1
comp=Z,6.6nm,0.5s,baz=114,slow=6.1,SNR=4.2
KAPI LR LR 10 37 17.1
comp=Z,2μm,20.2s,baz=280,slow=34
MEEK Meekatharra 46.99 244 ⇑P P 10 19 33.8 -0.3
baz=46,SNR=9.8
KLBR Kellerberrin 48.71 238 ⇓P P 10 19 46.9 -0.4
baz=48,SNR=3.8
BLDU Ballidu 49.37 239 ⇑P P 10 19 51.4 -1.0
baz=49,SNR=4.3
NWAO Narrogin (SRO) 49.46 236 *e*P P 10 19 54.8 +1.8
NWAO Narrogin (SRO) 49.46 236 P P 10 19 53.4 +0.4
comp=Z,27nm,1.1s,baz=54,slow=9.1,SNR=4.7
NWAO LR LR 10 40 57.4
comp=Z,27μm,18.6s,baz=83,slow=36
MORW Morawa 49.65 241 ⇓P P 10 19 54.1 -0.4
baz=49,SNR=5.3
TSM Tawau 50.29 285 P P 10 20 01.9 +2.4
MJAR Matsushiro Arr 54.33 333 P P 10 20 27.6 -1.5
MJAR Matsushiro Arr 54.33 333 P P 10 20 27.6 -1.5
comp=Z,27nm,0.8s,baz=175,slow=9.1,SNR=7.2
MAT Matsushiro 54.33 333 P P 10 20 27.4 -1.7
MAT S S 10 28 05.2 +0.5
UGM Wanagama 54.68 268 ⇓P P 10 20 33.1 +1.0
baz=54,SNR=3.9
SBUM Sibu 55.15 281 P P 10 20 37.6 +2.1
SBUM Sibu 55.15 281 *e*P P 10 20 36.9 +1.4
comp=Z,139nm,2.2s
KSM Kuching 56.74 279 P P 10 20 54.3 +7.4
RKT Rikitea 57.30 110 *e*S S 10 28 40.6 -4.2
comp=Z,3μm,31.5s
RKT *e*LQ LQ 10 34 57.4
comp=Z,6μm,31.2s
RKT *e*LR LR 10 37 21.4
comp=Z,14μm,25.5s,baz=279
DRV Dumont d'Urvil 57.95 192 S S 10 28 48.0 -3.9
DRV L L 10 35 00.0
DRV R 10 38 00.0
QZH Quanzhou 58.59 309 ⇑*i*P P 10 21 00.3 +0.6
QZH *e*S S 10 28 55.3 -6.1
QZH AMB AMB
comp=Z,2μm,5.4s
QZH LR LR
comp=Z,4μm,14.8s
QZH LR LR
comp=Z,4μm,15.0s
QZH LR LR
comp=Z,5μm,21.5s
ASAJ Asahikawa 59.14 341 LR LR 10 44 08.3
comp=Z,5μm,19.3s,baz=353,slow=34
KSRS Korea Array 60.24 326 P P 10 21 10.8 0.0
comp=Z,1.8nm,0.8s,baz=237,slow=43,SNR=4.2
KSRS LR LR 10 42 59.6
comp=Z,2μm,19.3s,baz=150,slow=32
KSAR Wonju Array Be 60.25 326 P P 10 21 10.8 -0.1
YSS Yuzh-Sakhalins 61.63 342 *e*P P 10 21 19.7 -0.4
YSS *e* 10 21 31.7
YSS pmax pmax
comp=Z,30nm,1.1s
NJ2 Nanjing 62.37 315 *e*P P 10 21 24.9 -0.5
NJ2 pP **pP** 10 21 33.0 -3.6
NJ2 sP **sP** 10 21 37.6 -3.3
NJ2 S **S** 10 29 54.0 +4.4
NJ2 sS **sS** 10 30 04.0 -4.1
NJ2 AMB AMB
comp=Z,30nm,0.9s
NJ2 AMB AMB
comp=Z,1μm,8.8s
NJ2 LR LR
comp=Z,3μm,16.5s
NJ2 LR LR
comp=Z,2μm,17.4s
NJ2 LR LR
comp=Z,5μm,20.3s
QIZ Qiongzhong 62.99 298 P P 10 21 30.6 +0.8
QIZ S **S** 10 29 56.8 -1.1
USRK Ussuriysk Arra 63.30 333 P P 10 21 30.9 -0.4
comp=Z,5.2nm,0.9s,baz=115,slow=8.6,SNR=7.6
USRK LR LR 10 45 51.6
comp=Z,3μm,18.7s,baz=224,slow=33
KGM Kluang 63.65 278 P P 10 21 35.9 +1.6
PETK Petropavlovsk- 64.59 355 P P 10 21 39.5 -0.1
PETK Petropavlovsk- 64.59 355 P P 10 21 39.5 -0.1
PETK Petropavlovsk- 64.59 355 P P 10 21 39.5 -0.1
comp=Z,7.5nm,0.9s,baz=134,slow=8.5,SNR=8.9
PETK LR LR 10 43 56.7
comp=Z,3μm,20.7s,baz=63,slow=31
MDJ Mudanjiang 64.71 332 P P 10 21 42.5 +2.0
MDJ AMB AMB
comp=Z,10.0nm,1.5s
MDJ AMB AMB
comp=Z,1μm,8.3s
FRIM Kepong 65.58 279 P P 10 21 50.0 +3.1
CN2 Changchun 66.10 329 *e*P P 10 21 49.2 -0.4
CN2 *es*P **sP** 10 22 03.4 -1.8
CN2 *e*S **S** 10 30 34.3 -1.1
CN2 AMB AMB
comp=Z,10.0nm,0.7s
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,2μm,19.0s
CN2 LR LR
comp=Z,1μm,19.0s
CN2 LR LR
comp=Z,4μm,15.0s
CASY Casey 66.17 201 *e*P P 10 21 50.5 +0.8
comp=Z,70nm,1.3s
VNDA Vanda 66.19 181 *e*P P 10 21 50.3 +0.6
VNDA Vanda 66.19 181 P P 10 21 50.1 +0.4
comp=Z,12nm,1.1s,baz=346,slow=7.1,SNR=13
IPM Ipoh 66.47 280 P P 10 21 54.3 +1.7
IPM Ipoh 66.47 280 *e*P P 10 21 54.5 +1.9
comp=Z,116nm,1.1s
SBA Scott Base 66.50 180 *e*P P 10 21 53.3 +1.7
SBA pmax pmax
comp=Z,36nm,1.1s
SBA Scott Base 66.50 180 *e*P P 10 21 53.3 +1.7
comp=Z,36nm,1.1s
PANO Nakornpanom 66.89 294 P P 10 21 56.8 +1.7
comp=Z,23nm,1.3s
KULM Kulim 67.03 281 P P 10 21 58.4 +2.3
KULM Kulim 67.03 281 *e*P P 10 21 57.9 +1.7
comp=Z,126nm,1.9s
SKNT Sakolnakorn 67.39 294 P P 10 21 58.6 +0.2
comp=Z,62nm,1.1s
KLR Kul'dur 67.41 336 *e*P P 10 21 55.0 -2.8
KLR pmax pmax
comp=Z,64nm,1.8s
PSI Prapat 68.10 278 P P 10 22 02.4 -0.7
PSI Prapat 68.10 278 ⇑P P 10 22 04.5 +1.4
baz=67,SNR=3.1
PSI Prapat 68.10 278 P P 10 22 02.4 -0.7
comp=Z,5.8nm,0.6s,baz=176,slow=4.0,SNR=7.5
GYA Guiyang 68.75 304 ⇑*i*P P 10 22 08.7 +1.8
GYA pP **pP** 10 22 19.2 +1.0
GYA sP **sP** 10 22 24.0 +1.5
GYA PP **PP** 10 24 42.9 +3.8
GYA ScP 10 26 33.8
GYA S **S** 10 31 08.2 +0.1
GYA sS **sS** 10 31 25.4 -1.4
GYA SKS **SKSac** 10 32 00.9 -3.0
GYA SS **SS** 10 35 34.5 +0.8
GYA AMB AMB
comp=Z,30nm,1.0s
GYA AMB AMB
comp=Z,140nm,5.8s
GYA LR LR
comp=Z,2μm,18.0s
GYA LR LR
comp=Z,2μm,19.2s
GYA LR LR
comp=Z,2μm,18.8s
BJI Beijing 68.84 321 P P 10 22 06.8 -0.2
BJI S **S** 10 31 13.3 +4.9
BJI AMB AMB
comp=Z,15nm,1.0s
BJI LR LR
comp=Z,2μm,23.0s
BJI LR LR
comp=Z,2μm,19.2s
BJI LR LR
comp=Z,3μm,31.7s
SURA Surathani 69.02 284 P P 10 22 18.1 +9.5
comp=Z,162nm,1.8s
GSI Gunungsitoli 69.08 276 ⇓P P 10 22 11.1 +2.0
baz=68
XAN Xi'an 70.47 312 P P 10 22 16.7 -0.5
XAN pP **pP** 10 22 27.3 -1.3
XAN sP **sP** 10 22 32.6 -0.3
XAN AMB AMB
comp=Z,5.0nm,1.3s
NANT Nan 70.95 294 P P 10 22 21.0 +0.6
comp=Z,69nm,1.0s
KMI Kunming 71.44 301 P P 10 22 24.3 +0.7
KMI pP **pP** 10 22 36.9 +2.0
KMI sP **sP** 10 22 42.1 +2.9
KMI S **S** 10 31 40.5 +0.5
KMI sS **sS** 10 31 57.6 -1.2
KMI AMB AMB
comp=Z,37nm,1.5s
KMI AMB AMB
comp=Z,2μm,8.6s
KMI LR LR
comp=Z,1μm,17.1s
KMI LR LR
comp=Z,2μm,19.9s
KMI LR LR
comp=Z,3μm,20.2s
PAYA Payao 71.88 295 P P 10 22 28.5 +2.5
comp=Z,11nm,0.9s
HHC Hu-ho-hao-te 72.19 320 *e*P P 10 22 28.4 +0.8
HHC pP **pP** 10 22 38.7 -0.3
HHC sP **sP** 10 22 42.7 -0.5
HHC PP **PP** 10 25 10.8 +2.3
HHC S **S** 10 31 47.5 -0.2
HHC sS **sS** 10 32 04.6 -1.9
HHC SKS **SKSac** 10 32 25.7 -3.6
HHC ScS **SKKSac** 10 32 28.6 -0.8
HHC SS **SS** 10 36 27.2 +1.1
HHC AMB AMB
comp=Z,32nm,1.1s
HHC AMB AMB
comp=Z,4μm,5.5s
HHC LR LR
comp=Z,1μm,15.9s
HHC LR LR
comp=Z,1μm,16.9s
HHC LR LR
comp=Z,3μm,15.7s
CHTO Chiang Mai 72.53 294 *e*P P 10 22 30.1 +0.2
CHTO pmax pmax
comp=Z,119nm,1.2s
CHTO Chiang Mai 72.53 294 *e*P P 10 22 30.1 +0.2
comp=Z,119nm,1.2s
CHTO Chiang Mai 72.53 294 P P 10 22 30.6 +0.7
CD2 Chengdu 72.94 307 P P 10 22 32.3 +0.1
CD2 pP **pP** 10 22 43.1 -0.5
CD2 sP **sP** 10 22 47.3 -0.6
CD2 PP **PP** 10 25 17.0 +1.9
CD2 S **S** 10 31 55.0 -1.6
CD2 sS **sS** 10 32 13.1 -2.3
CD2 SS **SS** 10 36 38.2 +0.3
CD2 AMB AMB
comp=Z,50nm,0.8s
CD2 AMB AMB
comp=Z,2μm,11.9s
CD2 LR LR
comp=Z,3μm,16.1s
CD2 LR LR
comp=Z,3μm,18.4s
BTO Baotou 73.05 319 *e*P P 10 22 33.5 +0.8
SEY Seymchan 74.80 354 *ce*P P 10 22 41.3 -0.9
LZH Lanzhou 75.11 312 *e*P P 10 22 45.8 +0.9
LZH pP **pP** 10 22 56.3 0.0
LZH sP **sP** 10 23 00.7 +0.1
LZH PP **PP** 10 25 37.0 +3.5
LZH *e*S S 10 32 20.5 -0.5
LZH sS **sS** 10 32 38.0 -1.9
LZH *e*SS **SS** 10 37 12.7 +1.8
LZH AMB AMB
comp=Z,32nm,1.5s
LZH AMB AMB
comp=Z,170nm,9.2s
LZH LR LR
comp=Z,540nm,17.0s
LZH LR LR
comp=Z,510nm,16.7s
LZH LR LR
comp=Z,770nm,19.5s
SVW2 Sparrevohn 78.34 18 *e*P P 10 23 06.1 +3.8
comp=Z,46nm,1.3s
YAK Yakutsk 78.44 343 *e*P P 10 23 01.3 -1.5
YAK pmax pmax
comp=Z,17nm,1.0s
YAK pmax pmax
comp=N,11nm,1.5s
QSPA South Pole Qui 78.66 180 *e*P P 10 23 04.8 +0.5
comp=N,66nm,1.1s
ULN Ulaanbaatar 78.66 324 *e*P P 10 23 04.5 -0.2
comp=N,145nm,2.3s
RSO Redoubt South 78.74 19 *e*P P 10 23 07.7 +2.8
SONM Songino Array 79.03 324 P P 10 23 06.6 0.0
SONM Songino Array 79.03 324 P P 10 23 06.6 0.0
comp=N,3.8nm,0.9s,baz=138,slow=5.9,SNR=16
GTA Gaotai 79.41 314 P P 10 23 09.7 +0.8
GTA pP **pP** 10 23 20.0 -0.4
GTA sP **sP** 10 23 23.7 -0.9
GTA S **S** 10 33 09.1 +1.6
GTA AMB AMB
comp=N,20nm,1.5s
GTA AMB AMB
comp=N,2μm,8.3s
GTA LR LR
comp=N,3μm,18.1s
GTA LR LR
comp=N,3μm,18.8s
GTA LR LR
comp=N,4μm,20.7s
CAST Castle Rocks 81.18 18 *e*P P 10 23 17.2 -0.5
DIV Divide 81.62 21 *e*P P 10 23 20.6 +0.4
BMRM Bremner River 81.94 22 *e*P P 10 23 21.8 0.0
ZAK Zakamensk 82.06 325 *e*P P 10 23 20.5 -2.3
ZAK pmax pmax
comp=Z,8.0nm,1.4s
MCK McKinley 82.37 19 *e*P P 10 23 23.7 -0.3
MCK McKinley 82.37 19 *e*P P 10 23 23.7 -0.3
TLY Talaya 82.48 326 *e*P P 10 23 25.2 +0.3
TLY *e* 10 23 39.5
TLY pmax pmax
comp=Z,10.0nm,0.9s
IM04 Indian Mountai 82.65 15 *e*Pn P 10 23 24.6 -0.8
LSA Lhasa 82.68 302 P P 10 23 28.2 +1.2
SAO San Andreas Ge 83.17 51 *e*P P 10 23 30.1 +1.3
SAO pmax pmax
comp=Z,23nm,1.4s
SAO San Andreas Ge 83.17 51 *e*P P 10 23 30.1 +1.3
comp=Z,23nm,1.4s
COLA College 83.51 18 *e*P P 10 23 29.5 -0.3
COLA College 83.51 18 *e*P P 10 23 29.5 -0.3
MENT Mentasta 83.54 21 *e*P P 10 23 29.8 -0.4
ILAR Eielson Array 83.74 18 P P 10 23 30.2 -0.8
ILAR Eielson Array 83.74 18 P P 10 23 30.2 -0.8
comp=Z,5.8nm,0.8s,baz=227,slow=6.4,SNR=29
PKM Peak Mountain 83.82 53 ⇑P P 10 23 32.8 +0.5
baz=84
MOY Mondy 83.94 325 *e*P P 10 23 30.3 -2.2
YBH Yreka Blue Hor 83.97 45 P P 10 23 32.7 -0.1
YBH Yreka Blue Hor 83.97 45 P P 10 23 32.7 -0.1
comp=Z,10nm,1.1s,baz=197,slow=1.9,SNR=6.6
OHCM Honcut 84.01 48 *e*P P 10 23 32.8 -0.2
HUMO Hull Mountain 84.11 45 *e*P P 10 23 34.4 +1.0
comp=Z,18nm,1.1s
CMB Columbia Colle 84.39 50 *e*P P 10 23 35.3 +0.3
CMB pmax pmax
comp=Z,7.0nm,0.8s
CMB Columbia Colle 84.39 50 *e*P P 10 23 35.3 +0.3
comp=Z,7.2nm,0.8s
CIS Catalina Islan 84.48 55 ⇓P P 10 23 36.2 +0.7
baz=85
COLD Coldfoot 84.54 16 *e*P P 10 23 35.1 0.0
comp=Z,15nm,1.0s
HYT Haines Junctio 84.58 24 *e*P P 10 23 35.0 -0.6
VES Vestal, Richgr 84.68 52 ⇑P P 10 23 36.9 +0.4
baz=85
MWC Mount Wilson 85.00 54 *e*P P 10 23 39.9 +1.5
MWC Mount Wilson 85.00 54 *e*P P 10 23 39.9 +1.5
ISA Isabella 85.10 52 *e*P P 10 23 39.1 +0.4
ISA Isabella 85.10 52 *e*P P 10 23 39.1 +0.4
ISA Isabella 85.10 52 ⇓P P 10 23 39.4 +0.7
baz=85
E03A Lebam 85.15 41 *e*P P 10 23 39.7 +1.2
comp=Z,31nm,1.0s
EDW2 Edwards Air Fo 85.25 53 ⇓P P 10 23 39.3 -0.1
baz=85,SNR=7.6
BFSC Mount Baldy Ra 85.32 54 ⇑P P 10 23 39.8 -0.1
baz=86,SNR=6.8
MURC Murrieta 85.50 55 ⇓P P 10 23 40.9 +0.2
baz=86
MTUM Tungsten Hills 85.55 51 *e*P P 10 23 41.8 +0.7
K05A Summer Lake 85.58 45 *e*P P 10 23 41.8 +0.7
comp=Z,22nm,1.1s
CWC Cottonwood Cre 85.64 52 ⇑P P 10 23 41.4 -0.1
baz=86
LRMC Laurel Mountai 85.66 53 ⇑P P 10 23 41.7 +0.1
baz=86
PAHR Pah Rah Range 85.67 48 *e*P P 10 23 42.4 +0.9
MOD Modoc 85.71 46 *e*P P 10 23 42.1 +0.3
BBRC Big Bear Solar 85.91 54 ⇑P P 10 23 42.6 -0.3
baz=86
MONP Monument Peak 85.93 55 ⇑P P 10 23 42.7 -0.3
baz=86
MPMC Manual Prospec 85.98 52 ⇓P P 10 23 42.9 -0.4
baz=86,SNR=8.0
NVAR Mina Array Bea 86.07 50 P P 10 23 43.6 -0.1
NVAR Mina Array Bea 86.07 50 P P 10 23 43.6 -0.1
comp=Z,4.6nm,1.0s,baz=231,slow=7.8,SNR=19
PFO Pinyon Flat Ob 86.10 55 P P 10 23 44.2 +0.4
PFO Pinyon Flat Ob 86.10 55 P P 10 23 44.2 +0.4
comp=Z,2.3nm,0.8s,baz=274,slow=12,SNR=4.5
GSC Goldstone 86.30 53 *e*P P 10 23 46.2 +1.5
GSC pmax pmax
comp=Z,90nm,2.8s
GSC Goldstone 86.30 53 *e*P P 10 23 46.2 +1.5
comp=Z,90nm,2.8s
GSC Goldstone 86.30 53 ⇑P P 10 23 44.7 0.0
baz=86
LON Longmire 86.35 41 *e*P P 10 23 46.4 +1.8
LON Longmire 86.35 41 *e*P P 10 23 46.4 +1.8
D05A Enumclaw 86.39 41 *e*P P 10 23 46.5 +1.8
comp=Z,37nm,1.3s
TIXI Tiksi 86.42 349 *ce*P P 10 23 42.7 -1.6
TIXI pmax pmax
comp=Z,32nm,1.6s
SWSC Sam W. Stewart 86.45 56 ⇑P P 10 23 45.4 +0.1
baz=87
BELC Belle Mtn. Jos 86.57 55 ⇓P P 10 23 45.9 -0.3
baz=87,SNR=6.7
FURC Furnace Creek, 86.59 52 ⇑P P 10 23 45.9 0.0
baz=87,SNR=7.2
SHOC Shoshone 86.88 53 ⇑P P 10 23 47.7 +0.3
baz=87
BC3 Big Chuckawall 86.92 55 ⇑P P 10 23 47.8 0.0
baz=87
I07A Izee 86.98 44 *e*P P 10 23 48.4 +0.6
comp=Z,63nm,2.1s
TUQ Turquoise Moun 87.03 53 ⇓P P 10 23 48.4 +0.1
baz=87
GMRC Granite Mounta 87.06 54 ⇓P P 10 23 48.7 +0.2
baz=87
LTY Liberty 87.26 41 *e*P P 10 23 49.0 -0.1
comp=Z,16nm,1.4s
GLA Glamis 87.26 56 ⇓P P 10 23 49.7 +0.3
baz=87
IRM Iron Mountain 87.30 55 ⇓P P 10 23 49.7 +0.2

	baz=87							
J08A	Circle Bar Ran	87.46	45	*e*P	P	10 23 50.3	+0.1	
LDFC	Landfair	87.57	54	*e*P	P	10 23 52.9	+2.0	
Y12C	Blythe	87.69	55	⇓P	P	10 23 51.5	+0.1	
	baz=88							
HAWA	Hanford	87.71	42	*e*P	P	10 23 51.8	+0.6	
G08A	Pilot Rock	87.73	43	*e*P	P	10 23 51.7	+0.2	
	comp=Z,11nm,1.1s							
HVS	Khovu-Aksy	87.90	323	⇓*i*P	P	10 23 50.1	-2.0	
HVS				pmax	pmax			
	comp=Z,84nm,1.5s							
SHPR	Sheep Range	87.92	52	*e*P	P	10 23 54.5	+2.0	
113A	Mohawk Valley,	88.05	56	⇑P	P	10 23 53.2	+0.1	
	baz=88							
R11A	Troy Canyon, C	88.09	50	⇓P	P	10 23 53.7	+0.3	
	baz=88,SNR=14							
PDMCI	Parker Dam,Lak	88.14	55	⇑P	P	10 23 53.9	+0.5	
	baz=88							
B08A	Colville Reser	88.47	40	*e*P	P	10 23 54.8	0.0	
	comp=Z,17nm,1.5s							
W13A	Hualapai Mount	88.55	54	⇓P	P	10 23 56.0	+0.3	
	baz=89,SNR=10.0							
214A	Organ Pipe Nat	88.63	57	⇓P	P	10 23 56.1	+0.2	
	baz=89							
E09A	Wood Farm, Sta	88.66	42	*e*P	P	10 23 56.4	+0.7	
BMO	Blue Mountains	88.71	44	*e*P	P	10 23 55.3	-0.8	
BMO				pmax	pmax			
	comp=Z,17nm,1.5s							
BMO	Blue Mountains	88.71	44	*e*P	P	10 23 55.3	-0.8	
	comp=Z,17nm,1.5s							
Z14A	Wintersburg	88.86	56	⇓P	P	10 23 57.5	+0.5	
	baz=89							
ELK	Elko	89.00	48	*e*P	P	10 23 58.3	+0.6	
F10A	Beach Ranch, E	89.10	43	*e*P	P	10 23 58.0	+0.1	
MFID	Camas Ranch	89.32	46	⇓P	P	10 23 58.8	-0.2	
	baz=90,SNR=5.9							
WMQ	Urumqi	89.45	315	P	P	10 23 59.2	-0.3	
WMQ				pP	pP	10 24 07.2	-4.0	
WMQ				sP	sP	10 24 10.4	-5.0	
WMQ				AMB	AMB			
	comp=Z,33nm,1.5s							
CCUT	Cedar City	89.58	52	*e*P	P	10 24 01.6	+1.1	
ARUT	Antelope Range	89.58	51	*e*P	P	10 24 01.1	+0.7	
ARUT	Antelope Range	89.58	51	*e*P	P	10 24 01.1	+0.7	
	comp=Z,539nm,1.6s							
NEW	Newport	89.85	41	P	P	10 24 00.7	-0.6	
NEW	Newport	89.85	41	⇑P	P	10 24 01.5	+0.2	
	baz=90							
NEW	Newport	89.85	41	P	P	10 24 00.7	-0.6	
	comp=Z,2.7nm,0.9s,baz=314,slow=3.1,SNR=4.9							
U15A	North Rim	90.13	53	⇓P	P	10 24 03.6	+0.4	
	baz=90							
X16A	Lo Mia Camp, P	90.33	55	⇑P	P	10 24 04.6	+0.5	
	baz=90							
HLID	Hailey	90.35	46	*e*P	P	10 24 04.7	+0.8	
HLID	Hailey	90.35	46	⇑P	P	10 24 04.1	+0.2	
	baz=90,SNR=9.7							
WUAZ	Wupatki	90.64	54	⇓P	P	10 24 05.7	+0.3	
	baz=91							
DUG	Dugway	90.65	49	*e*P	P	10 24 05.4	+0.1	
DUG	Dugway	90.65	49	*e*P	P	10 24 05.4	+0.1	
DUG	Dugway	90.65	49	⇓P	P	10 24 05.1	-0.2	
	baz=91,SNR=5.2							
BGU	Big Grassy Mou	90.67	48	*e*P	P	10 24 06.0	+0.6	
NLU	North Lily Min	91.14	50	*e*P	P	10 24 08.6	+0.9	
BSMT	Bassoo Peak	91.23	41	*e*P	P	10 24 07.9	0.0	
MSO	Missoula	91.52	43	⇑P	P	10 24 09.1	-0.1	
	baz=92							
SYO	Syowa Base	91.55	197	⇑*e*P	P	10 24 08.6	-0.2	
SYO	Syowa Base	91.55	197	⇑*e*PcP	PcP	10 24 13.0	+3.4	
X18A	Snowflake	91.56	55	⇓P	P	10 24 10.0	+0.2	
	baz=92							
Q16A	Castle Valley	91.58	51	⇓P	P	10 24 10.5	+0.8	
	baz=92							
SWMT	Swartz Lake	91.66	42	*e*P	P	10 24 10.3	+0.6	
JLU	Jordanelle	91.76	49	*e*P	P	10 24 11.0	+0.4	
	comp=Z,19nm,1.5s							
MCMT	McKenzie Canyo	91.76	45	*e*P	P	10 24 10.3	-0.2	
	comp=Z,4.4nm,1.2s							
CHMT	Chamberlain Mo	92.00	43	*e*P	P	10 24 11.6	+0.1	
120A	U Bar Ranch, L	92.21	57	⇓P	P	10 24 10.9	-1.9	
	baz=92							
LRM	Limekiln Ridge	92.27	44	*e*P	P	10 24 13.4	+0.6	
Z20A	Nine Sixteen R	92.36	57	⇓P	P	10 24 12.8	-0.6	
	baz=92							
RRI2	Red Ridge	92.48	46	*e*P	P	10 24 13.7	-0.2	
	comp=Z,7.2nm,1.1s							
M17A	Scullys Gap (B	92.53	48	⇑P	P	10 24 13.9	-0.2	
	baz=93							
Y20A	Horse Springs,	92.70	56	⇑P	P	10 24 15.2	+0.1	
	baz=93							
X20A	Quemado	92.73	55	⇑P	P	10 24 15.9	+0.7	
	baz=93							
W20A	Ramah	92.85	55	⇑P	P	10 24 16.4	+0.6	
	baz=93							
121A	Cookes Peak, D	92.91	58	⇑P	P	10 24 16.4	+0.4	
	baz=93							
Z21A	St. Cloud Mine	93.16	57	⇑P	P	10 24 17.6	+0.4	
	baz=93							
X21A	Alamocita Cree	93.29	56	⇓P	P	10 24 18.8	+1.0	
	baz=93							
Y21A	Point of Rocks	93.29	56	⇓P	P	10 24 17.7	-0.1	
	baz=93							
P19A	Cripple Cowboy	93.39	50	⇑P	P	10 24 18.5	+0.3	
	baz=94							
S20A	Disappointment	93.50	52	⇓P	P	10 24 18.5	-0.2	
	baz=94							
R20A	Redvale	93.56	52	⇓P	P	10 24 19.3	+0.3	
	baz=94							
PDAR	Pinedale Array	93.61	47	P	P	10 24 18.7	-0.4	
PDAR	Pinedale Array	93.61	47	P	P	10 24 18.7	-0.4	
	comp=Z,2.0nm,1.0s,baz=254,slow=4.3,SNR=9.9							
Z22A	Elephant Butte	93.73	57	⇑P	P	10 24 19.9	+0.2	
	baz=94							
Q20A	Ridgley Place,	93.78	51	⇓P	P	10 24 19.9	0.0	
	baz=94							
U21A	Nageezi	93.78	54	⇓P	P	10 24 20.1	+0.1	
	baz=94							
P20A	De Beque	93.81	51	⇓P	P	10 24 20.0	0.0	
	baz=94							
Y22A	Socorro	93.86	56	⇓P	P	10 24 20.3	-0.1	
	baz=94							
MK31	Makanchi Array	93.88	317	*e*P	P	10 24 18.9	-1.0	
MK31	Makanchi Array	93.88	317	*e*P	P	10 24 18.9	-1.0	
MKAR	Makanchi Array	93.88	317	P	P	10 24 19.7	-0.2	
MKAR	Makanchi Array	93.88	317	P	P	10 24 19.7	-0.2	
MKAR				PKKPbc	PKKPdf	10 41 23.6	-0.5	
MKAR	Makanchi Array	93.88	317	P	P	10 24 19.7	-0.2	
	comp=Z,8.3nm,0.8s,baz=101,slow=6.3,SNR=39							
MKAR				PKKPbc	PKKPdf	10 41 23.6	-0.5	
	comp=Z,2.6nm,1.0s,baz=270,slow=0.1,SNR=5.4							
S21A	Coal Bank Pass	93.91	53	⇓P	P	10 24 20.5	-0.2	
	baz=94							
ZALV	Zalesovo Beam	93.92	324	P	P	10 24 18.7	-1.2	
ZALV	Zalesovo Beam	93.92	324	P	P	10 24 18.7	-1.2	
ZALV	Zalesovo Beam	93.92	324	P	P	10 24 18.7	-1.2	
	comp=Z,3.8nm,0.7s,baz=104,slow=6.3,SNR=6.5							
N20A	Spence Gulch,	94.17	49	⇑P	P	10 24 22.0	+0.3	
	baz=94							
U22A	Llaves	94.41	54	⇓P	P	10 24 22.9	0.0	
	baz=94							
ANMO	Albuquerque	94.46	55	P	P	10 24 22.4	-0.7	
ANMO	Albuquerque	94.46	55	P	P	10 24 22.4	-0.7	
	comp=Z,0.3nm,0.3s,baz=16,slow=15,SNR=2.2							
EGMT	Eagleton	94.56	42	⇑P	P	10 24 23.5	+0.4	
	baz=95							
Y23A	Lovelace Mesa,	94.60	56	⇑P	P	10 24 24.3	+0.5	
	baz=95							
F19A	Roth Farm, Mol	94.67	44	⇑P	P	10 24 23.5	-0.2	
	baz=95							
S22A	4UR Ranch, Cre	94.68	53	⇑P	P	10 24 24.0	-0.2	
	baz=95							
224A	Cornudas Mount	94.70	58	⇑P	P	10 24 24.3	0.0	
	baz=95							
Q22A	Crested Butte,	94.82	51	⇓P	P	10 24 25.5	+0.7	
	baz=95							
E19A	Rath Farm, Rou	94.90	44	⇓P	P	10 24 25.0	+0.3	
	baz=95							
U23A	El Rito	94.92	54	⇑P	P	10 24 25.1	-0.2	
	baz=95							
425A	Indio Mountain	94.93	60	⇑P	P	10 24 25.1	-0.1	
	baz=95							
C19A	Slack Wire Ran	94.97	42	⇑P	P	10 24 25.3	+0.4	
	baz=95							
D19A	Cripps Ranch,	94.97	43	⇓P	P	10 24 25.6	+0.6	
	baz=95							
M21A	Separation Pea	94.99	49	⇓P	P	10 24 26.0	+0.5	
	baz=95							
NVS	Novosibirsk	95.02	325	*e*P	P	10 24 21.9	-3.0	
NVS				pmax	pmax			
	comp=Z,17nm,1.8s							
NVS				pmax	pmax			
	comp=N,5.0nm,1.4s							
NVS				pmax	pmax			
	comp=E,10.0nm,1.7s							
L21A	Rawlins	95.05	48	⇓P	P	10 24 27.0	+1.3	
	baz=95							
G20A	Bridger	95.05	45	⇓P	P	10 24 26.2	+0.7	
	baz=95							
Y24A	Capitan	95.11	57	⇑P	P	10 24 26.6	+0.5	
	baz=95							
F20A	Billings	95.21	44	⇓P	P	10 24 26.8	+0.7	
	baz=95							
J21A	Lysite	95.25	47	⇑P	P	10 24 26.9	+0.4	
	baz=96							
K21A	Alcova	95.26	48	⇓P	P	10 24 26.9	+0.3	
	baz=95							
225A	Deer Hill, Car	95.30	58	⇓P	P	10 24 27.4	+0.4	
	baz=95							
O22A	Kremmling	95.33	50	⇑P	P	10 24 27.9	+0.8	
	baz=96							
E20A	Meyer Farm, Mu	95.35	44	⇑P	P	10 24 27.6	+0.8	
	baz=96							
A19A	Klindworth Far	95.40	41	⇑P	P	10 24 27.4	+0.5	
	baz=96							
D20A	Manuel Ranch,	95.46	43	⇓P	P	10 24 27.7	+0.5	
	baz=96							
POO	Poona	95.50	288	*ex*	x	10 24 37.0		
526A	Mary Lane Ranc	95.56	61	⇑P	P	10 24 28.0	-0.2	
	baz=96							
A20A	Cobblestone Ra	95.92	41	⇓P	P	10 24 29.4	+0.1	
	baz=96							
J22A	Midwest	95.95	47	⇓P	P	10 24 29.8	+0.1	
	baz=96							
I22A	9 Mile Ranch,	96.03	47	⇑P	P	10 24 29.8	-0.2	
	baz=96							
W25A	X Bar L Ranch,	96.12	55	⇑P	P	10 24 30.7	+0.1	
	baz=96							
S25A	Robets Cordova	96.53	53	⇓P	P	10 24 32.9	+0.3	
	baz=97							
A21A	Bergtoll Ranch	96.59	41	⇓P	P	10 24 33.1	+0.8	
	baz=98							
528A	Cox Ranch, San	96.69	61	⇑P	P	10 24 33.6	+0.3	
	baz=97							
V26A	Tequesquite Ra	96.75	55	⇓P	P	10 24 33.6	+0.1	
	baz=97							
D22A	Cohagen	96.78	43	⇓P	P	10 24 34.4	+1.1	
	baz=97							
M24A	Cheyenne	96.84	49	⇓P	P	10 24 33.7	-0.1	
	baz=97							
KURK	Kurchatov	97.00	320	PP	PP	10 28 37.4	+7.3	
KURBB	Kurchatov Arra	97.04	320	PP	PP	10 28 37.4	+7.0	
	comp=E,1.0nm,1.1s,baz=100,slow=7.3,SNR=4.1							
KSH	Kashi	97.10	309	P	Pdif	10 24 38.3	+3.3	
KSH				pP	pP	10 24 47.0	+0.4	
KSH				sP	sP	10 24 52.0	+1.2	
A22A	Carney Farms,	97.25	42	⇓P	Pdif	10 24 36.7	+1.3	
	baz=97							
S26A	Kim	97.28	53	⇓P	Pdif	10 24 36.6	+0.6	
	baz=97							
D23A	Lindsay	97.44	43	⇑P	Pdif	10 24 37.2	+0.9	
	baz=98							
H24A	Dirks Ranch, A	97.53	46	⇓P	Pdif	10 24 37.6	+0.8	
	baz=98							
ARCES	ARCESS Array B	116.67	345	PKP	PKPdf	10 29 45.4	-0.5	
ARCES	ARCESS Array B	116.67	345	PKP	PKPdf	10 29 45.4	-0.5	
	comp=E,4.2nm,1.0s,baz=54,slow=2.5,SNR=7.1							
LPAZ	La Paz	119.88	116	PKP	PKPdf	10 29 54.1	-0.3	
LPAZ	La Paz	119.88	116	PKP	PKPdf	10 29 54.1	-0.3	
	comp=E,3.4nm,1.1s,baz=291,slow=2.2,SNR=7.7							
ZEI	Tsey	121.02	313	*i* PKIKP	PKPdf	10 29 57.8	+2.4	
ZEI				pmax	pmax			
	comp=Z,7.0nm,1.4s							
OBN	Obninsk	121.16	329	⇑*i*PKIKP	PKPdf	10 29 54.4	-0.5	
OBN				*e*		10 37 00.9		
OBN				pmax	pmax			
	comp=Z,17nm,0.9s							
KIV	Kislovodsk	121.58	315	⇑*i*PKIKP	PKPdf	10 29 58.5	+2.2	
KIV				*e*SS	SS	10 48 19.3	+17	
KIV				pmax	pmax			
	comp=Z,14nm,1.1s							
FINES	FINESS Array B	122.12	339	PKP	PKPdf	10 29 55.0	-1.6	
FINES	FINESS Array B	122.12	339	PKP	PKPdf	10 29 55.0	-1.6	
	comp=Z,7.7nm,1.0s,baz=172,slow=5.8,SNR=5.4							
CPUP	Villa Florida	123.68	132	PKP	PKPdf	10 29 59.3	-1.4	
CPUP	Villa Florida	123.68	132	PKP	PKPdf	10 29 59.3	-1.4	
	comp=Z,3.1nm,0.6s,baz=280,slow=1.6,SNR=7.4							
BOSA	Boshof	125.03	223	PKP	PKPdf	10 30 03.9	+0.4	
BOSA	Boshof	125.03	223	PKP	PKPdf	10 30 03.9	+0.4	
	comp=Z,7.1nm,0.9s,baz=108,slow=5.4,SNR=4.8							
NB2	NORSAR Subarra	127.04	345	PKPdf	PKPdf	10 30 04.9	-1.3	
	comp=Z,13nm,1.2s,baz=31,slow=1.9							
NB2	NORSAR Subarra	127.04	345	PKPdf	PKPdf	10 30 04.9	-1.3	
	baz=31,slow=1.9							
NOA	NORSAR Array B	127.04	345	PKP	PKPdf	10 30 05.2	-1.0	
NOA	NORSAR Array B	127.04	345	PKP	PKPdf	10 30 05.2	-1.0	
	comp=Z,2.6nm,0.8s,baz=33,slow=2.0,SNR=6.8							
AKASG	Malin Array Be	127.22	327	PKIKP	PKPdf	10 30 06.3	-0.4	
AKASG	Malin Array Be	127.22	327	PKP	PKPdf	10 30 06.2	-0.4	
AKASG	Malin Array Be	127.22	327	PKP	PKPdf	10 30 06.2	-0.4	
	comp=Z,2.9nm,0.8s,baz=53,slow=1.7,SNR=14							
KMBO	Kilima Mbogo	127.53	260	PKP	PKPdf	10 30 10.1	+1.4	
KMBO	Kilima Mbogo	127.53	260	PKP	PKPdf	10 30 10.1	+1.4	
	comp=Z,0.9nm,0.5s,baz=240,slow=24,SNR=5.1							
BRTR	Keskin Array B	129.31	313	PKP	PKPdf	10 30 11.2	-0.1	
BRTR	Keskin Array B	129.31	313	PKP	PKPdf	10 30 11.2	-0.1	
	comp=Z,4.0nm,1.1s,baz=164,slow=2.2,SNR=10							
EIL	Elat	131.01	299	PKP	PKPdf	10 30 15.1	+0.5	
EIL	Elat	131.01	299	PKP	PKPdf	10 30 15.1	+0.5	
	comp=Z,4.7nm,0.4s,baz=137,slow=19,SNR=6.1							
UZH	Uzhgorod	132.09	328	*e*PKHKP	PKPpre	10 30 00.0		
STHS	Stebnicka Huta	132.13	329	*e*PKIKP	PKPdf	10 30 20.4	+4.3	
STHS	Stebnicka Huta	132.13	329	*e*PKP	PKPdf	10 30 20.4	+4.3	
BRG	Berggiesshubel	134.42	335	*e*PKP	PKPdf	10 30 22.4	+2.0	
	comp=Z,34nm,2.0s							
CLL	Collm	134.46	336	*e*PKIKP	PKPdf	10 30 22.0	+1.6	
CLL				MLR	MLR			
	comp=Z,2μm,21.6s							
CLL	Collm	134.46	336	*e*PKPdf	PKPdf	10 30 22.0	+1.6	
CLL				*i* PKiKP	PKiKP	10 30 24.2	+2.4	
CLL				LmV		11 28 00.0		
	comp=Z,2μm,21.6s							
ZST	Bratislava	134.98	331	*e*PKIKP	PKPdf	10 30 30.3	+8.8	
ZST	Bratislava	134.98	331	*e*PKP	PKPdf	10 30 30.3	+8.8	
CONA	Conrad Observa	135.75	331	⇓*i*PKiKP	PKiKP	10 30 24.9	+0.2	
	comp=Z,8.7nm,1.2s							
KHC	Kasperske Hory	135.90	334	*e*PKPpre	PKPpre	10 30 17.0		
KHC				*ex*	x	10 30 30.5		
GERES	GERESS Array B	136.06	334	PKP	PKPdf	10 30 24.0	+0.4	
GERES	GERESS Array B	136.06	334	PKP	PKPdf	10 30 24.0	+0.4	
	comp=Z,2.3nm,0.9s,baz=90,slow=2.7,SNR=5.8							
BDFB	Brasilia	137.00	128	PKP	PKPdf	10 30 27.1	+0.7	
BDFB	Brasilia	137.00	128	PKP	PKPdf	10 30 27.1	+0.7	
	comp=Z,4.6nm,0.8s,baz=197,slow=3.7,SNR=4.7							
SOKA	Soboth	137.04	331	⇑*i*PKiKP	PKPdf	10 30 25.9	+0.4	
	comp=Z,11nm,1.0s							
ABTA	Abfaltersbach	138.17	333	⇑*i*PKPdf	PKPdf	10 30 27.7	+0.1	
	comp=Z,13nm,1.2s							
FETA	Feichten	138.74	334	⇑*i*PKPdf	PKPdf	10 30 28.6	-0.1	
	comp=Z,12nm,1.0s							
FELD	Feldberg im Sc	139.15	337	PKP	PKPdf	10 30 32.3	+2.9	
ECH	Echery	139.18	338	PKP	PKPdf	10 30 33.5	+4.2	
MOF	Molkenrain	139.50	338	PKP	PKPdf	10 30 33.0	+3.0	
LOMF	Lomont	140.03	338	PKP	PKPdf	10 30 34.3	+3.3	
LRDF	Laroque-de-Fa	145.38	338	PKP	PKPab	10 30 40.8	+0.3	
MLS	Moulis	145.86	340	PKP	PKPab	10 30 42.5	+0.2	
SALF	Salau	146.01	340	PKP	PKPab	10 30 43.2	+0.2	
VALF	Valcebollere	146.03	338	PKP	PKPbc	10 30 42.6	0.0	
RESF	Ens	146.25	341	PKP	PKPab	10 30 44.7	+0.8	
VIEF	Viey	146.28	341	PKP	PKPab	10 30 43.8	-0.2	
LARF	Larrau	146.45	343	PKP	PKPab	10 30 44.6	0.0	
KEST	Kesra	147.77	323	PKPbc	PKPbc	10 30 48.2	+0.5	
KEST	Kesra	147.77	323	PKPbc	PKPbc	10 30 48.2	+0.5	
	comp=Z,16nm,1.0s,baz=269,slow=0.9,SNR=22							
CMAH	Djebel Manchou	148.25	326	P	PKPdf	10 30 45.5	-0.1	
ABSA	Djebel Ababsia	148.47	325	P	PKPbc	10 30 50.7	+1.1	
CKFL	Kef-Lekhel	148.79	326	P	PKPdf	10 30 46.1	-0.4	
PBRG	Braganca	148.99	349	*e*PKPbc	PKPbc	10 30 50.4	-0.2	
CASM	Ain Smara	149.02	327	P	PKPbc	10 30 51.0	+0.1	
DFRA	Djebel Bou Aff	149.13	328	P	PKPbc	10 30 52.3	+1.0	
CTEI	Djebel Teioual	149.21	326	P	PKPbc	10 30 51.8	+0.3	
PCAB	Cabril	149.30	351	*e*PKPbc	PKPbc	10 30 51.5	+0.1	
POLO	Lamas de Olo	149.59	351	*e*PKPbc	PKPbc	10 30 52.3	+0.1	
SET	Setif	149.65	328	P	PKPbc	10 30 51.0	-1.5	
MVO	Moncorvo	149.66	349	*e*PKPbc	PKPbc	10 30 51.2	-1.2	
PVRL	Vila Real	149.67	351	*e*PKPbc	PKPbc	10 30 52.5	+0.1	
PVIS	Viseu	150.25	351	*e*PKPbc	PKPbc	10 30 54.2	+0.4	
ABA	Alger-Bouzarea	150.34	332	P	PKPbc	10 30 54.5	+0.4	
ESDC	Sonseca Array	150.40	344	PKP	PKPdf	10 30 49.8	+0.9	
ESDC				PKPbc	PKPbc	10 30 54.3	+0.1	
ESDC	Sonseca Array	150.40	344	PKP	PKPdf	10 30 49.8	+0.9	
	comp=Z,5.4nm,0.8s,baz=20,slow=2.7,SNR=4.2							
ESDC				PKPbc	PKPbc	10 30 54.3	+0.1	
	comp=Z,6.5nm,0.9s,baz=8.4,slow=2.7,SNR=8.2							
MTE	Manteigas	150.50	350	*e*PKPdf	PKPdf	10 30 50.0	+0.9	
EMHD	Djebel Mahouad	150.87	331	P	PKPbc	10 30 58.2	+2.7	
PCAS	Casmilo, Conde	150.99	351	*e*PKPbc	PKPbc	10 30 55.8	+0.3	
PCBR	Castelo Branco	151.03	350	*e*PKPbc	PKPbc	10 30 55.8	+0.2	
PTOM	Tomar	151.40	351	*e*PKPbc	PKPbc	10 30 57.2	+0.8	
PMRV	Marv??o	151.41	349	*e*PKPbc	PKPbc	10 30 57.2	+0.7	
PMTG	Montargil	151.91	350	*e*PKPbc	PKPbc	10 30 57.6	0.0	
EANR	'Ain N'Sour	151.93	333	P	PKPbc	10 30 58.3	+0.4	
ETRT	Tiaret	152.30	332	P	PKPbc	10 31 00.0	+1.2	
PBEJ	Beja	152.86	349	*e*PKPdf	PKPdf	10 30 53.8	+1.2	
PNCL	Nicolau / Gran	152.89	350	*e*PKPbc	PKPbc	10 30 59.5	-0.3	
PCVE	Castro Verde	153.28	349	*e*PKPdf	PKPdf	10 30 55.0	+1.8	
PVAQ	Vaqueiros	153.44	349	*e*PKPbc	PKPbc	10 31 00.6	-0.5	
PFVI	Vila Bisbo	153.90	350	*e*PKPdf	PKPdf	10 30 57.3	+3.2	
TORD	Torodi Ar. Bea	164.50	278	PKP	PKPdf	10 31 06.9	-0.1	
TORD	Torodi Ar. Bea	164.50	278	PKP	PKPdf	10 31 06.9	-0.1	
	comp=Z,8.1nm,1.1s,baz=0.6,slow=1.0,SNR=22							
KIC	Kosan Boka	169.55	242	*e*PKIKP	PKPdf	10 31 10.9	0.0	
	comp=Z,156nm,1.5s							
LIC	Lamto	169.73	241	*e*PKIKP	PKPdf	10 31 10.8	-0.2	
	comp=Z,40nm,1.4s							
DBIC	Dimbokro	169.79	244	PKP	PKPdf	10 31 11.0	0.0	
DBIC	Dimbokro	169.79	244	PKP	PKPdf	10 31 11.0	0.0	
	comp=Z,14nm,1.1s,baz=104,slow=2.4,SNR=6.0							
TIC	Toumodi	169.93	243	*e*PKIKP	PKPdf	10 31 11.3	+0.2	
	comp=Z,104nm,1.4s							

IDC ***08*** *10:15:39.4±1.2, 11°.26S×165°.84E, h0km, mb4.1/9, mb1 4.3/11, mb1mx4.1/21, mbtmp4.2/11, ML4.3/2, Error ellipse: s-maj=36.0km s-min=21.3km az=134.0*
ISCJB ***08*** *10:15:43.7±0.7, 11°.38S±0°.10×165°.7E±0°.1, h37km, mb4.1/9, Error ellipse: s-maj=15.4km s-min=13.5km az=155.1*
NEIC ***08*** *10:15:45.0±0.6, 11°.29S×165°.80E, h35km, mb4.3/2, Error ellipse: s-maj=12.9km s-min=12.0km az=72.0*

ISC 08 10:15:45.3±0.8, 11°.3S±0°.1×165°.8E±0°.1, h37km, n26, σ0992/26, mb4.3/9, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	6.06	287	Pn	Pn	10 17 12.8	+0.5
HNR	Honiara	6.06	287	Pn	Pn	10 17 12.8	+0.5
	9.5nm,0.3s,baz=108,slow=19,SNR=2.4						
DZM	Mont Dzumac	10.73	177	Pn	Pn	10 18 16.5	-0.1
DZM	Mont Dzumac	10.73	177	Pn	Pn	10 18 16.5	-0.1
	2.1nm,0.3s,baz=26,slow=19,SNR=12						
CTA	Charters Tower	20.74	243	P	P	10 20 23.8	+0.9
CTA	Charters Tower	20.74	243	P	P	10 20 23.8	+0.9
	11nm,0.9s,baz=88,slow=15,SNR=4.0						
CTAO	Charters Tower	20.74	243	P	P	10 20 22.7	-0.2
	14nm,0.9s						
STKA	Stephens Creek	30.31	224	P	P	10 21 53.1	-0.2
STKA	Stephens Creek	30.31	224	P	P	10 21 53.1	-0.2
	6.1nm,0.9s,baz=57,slow=7.4,SNR=4.5						
WRAB	Tennant Creek	31.45	250	*e*P	P	10 22 02.5	-1.0
	3.2nm,0.7s						
WRA	Warramunga Arr	31.46	250	P	P	10 22 01.9	-1.7
WRA	Warramunga Arr	31.46	250	P	P	10 22 01.9	-1.7

LBZ					AML	AML	10 17 48.7	
LBZ					AML	AML	10 17 48.7	
LBZ					AML	AML	10 18 02.1	
LBZ					AML	AML	10 18 02.2	
LBZ	**Lake Benmore**	**2.73**	**66**	Pn	**Pn**	**10 17 12.2**	**+0.1**	
HHSZ	**Highcliff Hill**	**2.74**	**98**	PN	**Pn**	**10 17 13.5**	**+1.2**	
ODZ	**Otahua Downs**	**2.83**	**81**	PN	**Pn**	**10 17 13.3**	**-0.1**	
ODZ	**Otahua Downs**	**2.83**	**81**	Pn	**Pn**	**10 17 13.2**	**-0.2**	
FOZ	**Fox Glacier**	**2.92**	**48**	PN	**Pn**	**10 17 16.6**	**+2.0**	
FOZ					AML	AML	10 18 06.0	
FOZ					AML	AML	10 18 06.0	
FOZ					AML	AML	10 18 10.3	
FOZ					AML	AML	10 18 10.4	
FOZ	**Fox Glacier**	**2.92**	**48**	Pn	**Pn**	**10 17 16.6**	**+2.0**	
RPZ	**Rata Peaks**	**3.61**	**61**	AML	AML	10 18 12.5		
RPZ					AML	AML	10 18 16.2	
RPZ	**Rata Peaks**	**3.61**	**61**	Pn	**Pn**	**10 17 24.4**	**+0.2**	
RPZ					Sn	**Sn**	**10 18 09.5**	**+2.9**
RPZ	**Rata Peaks**	**3.61**	**61**	Pn	**Pn**	**10 17 24.4**	**+0.2**	
	87nm,0.3s,baz=226,slow=5.0,SNR=154							
RPZ					Sn	**Sn**	**10 18 09.5**	**+2.9**
	71nm,0.3s,baz=100,slow=22,SNR=10							
RPZ					LR	LR	10 18 55.2	
	comp=Z,3μm,19.5s,baz=206,slow=41							
WVZ	**Waitaha Valley**	**3.81**	**51**	PN	**Pn**	**10 17 27.1**	**+0.1**	
WVZ					AML	AML	10 18 24.5	
WVZ					AML	AML	10 18 36.5	
WVZ	**Waitaha Valley**	**3.81**	**51**	Pn	**Pn**	**10 17 27.4**	**+0.4**	
MQZ	**McQueen's Vall**	**4.63**	**68**	Pn	**Pn**	**10 17 36.8**	**-1.4**	
CRLZ	**Canterbury Las**	**4.67**	**67**	AML	AML	10 18 36.5		
CRLZ					AML	AML	10 19 07.3	
CRLZ	**Canterbury Las**	**4.67**	**67**	Pn	**Pn**	**10 17 39.9**	**+1.2**	
LTZ	**Lake Taylor**	**4.87**	**57**	PN	**Pn**	**10 17 40.7**	**-0.8**	
LTZ					AML	AML	10 18 55.5	
LTZ					AML	AML	10 20 09.2	
LTZ	**Lake Taylor**	**4.87**	**57**	Pn	**Pn**	**10 17 41.6**	**+0.1**	
DSZ	**Denniston Nort**	**5.31**	**46**	PN	**Pn**	**10 17 47.7**	**+0.1**	
DSZ					AML	AML	10 18 57.1	
DSZ					AML	AML	10 18 57.4	
DSZ					AML	AML	10 18 57.7	
DSZ					AML	AML	10 18 57.7	
DSZ	**Denniston Nort**	**5.31**	**46**	Pn	**Pn**	**10 17 48.8**	**+1.3**	
THZ	**Tophouse**	**5.89**	**52**	AML	AML	10 19 11.4		
THZ					AML	AML	10 19 16.9	
QRZ	**Quartz Range**	**6.37**	**44**	Pn	**Pn**	**10 18 04.2**	**+2.2**	
NNZ	**Nelson**	**6.52**	**51**	Pn	Pn	10 18 08.2	+4.2	
OUZ	**Omahuta**	**11.59**	**29**	*e*Pn	**Pn**	**10 19 14.1**	**+0.6**	
H01W1	**Cape Leeuwin H**	**40.86**	**266**	T	T	11 07 33.7		
	baz=120,slow=0.7,SNR=122							
H01W2	**Cape Leeuwin H**	**40.86**	**266**	T	T	11 07 34.5		
	baz=120,slow=0.7,SNR=159							
H01W3	**Cape Leeuwin H**	**40.87**	**266**	T	T	11 07 35.0		
	baz=120,slow=0.7,SNR=163							
H08S2	**Diego Garcia H**	**87.54**	**262**	T	T	12 05 48.6		
	baz=136,slow=0.7,SNR=159							
H08S1	**Diego Garcia H**	**87.55**	**262**	T	T	12 05 48.6		
	baz=136,slow=0.7,SNR=136							
H08S3	**Diego Garcia H**	**87.56**	**262**	T	T	12 05 50.7		
	baz=136,slow=0.7,SNR=215							
CMAR	**Chiang Mai Arr**	**88.38**	**298**	P	**P**	**10 29 18.4**	**-1.6**	
CMAR	**Chiang Mai Arr**	**88.38**	**298**	P	**P**	**10 29 18.4**	**-1.6**	
	3.8nm,0.7s,baz=126,slow=4.9,SNR=4.6							
H08N1	**Diego Garcia H**	**89.49**	**262**	T	T	12 08 24.3		
	baz=117,slow=0.6,SNR=18							
H08N3	**Diego Garcia H**	**89.51**	**262**	T	T	12 08 26.2		
	baz=117,slow=0.6,SNR=26							
H08N2	**Diego Garcia H**	**89.52**	**262**	T	T	12 08 17.9		
	baz=117,slow=0.6,SNR=19							
TORD	**Torodi Ar. Bea**	**145.27**	**206**	PKPbc	**PKPdf**	**10 36 05.6**	**-0.5**	
TORD	**Torodi Ar. Bea**	**145.27**	**206**	PKPbc	**PKPdf**	**10 36 05.6**	**-0.5**	
	4.5nm,0.8s,baz=165,slow=2.0,SNR=4.7							
BRTR	**Keskin Array B**	**145.39**	**277**	PKPbc	**PKPab**	**10 36 06.4**	**+0.5**	
BRTR	**Keskin Array B**	**145.39**	**277**	PKPbc	**PKPab**	**10 36 06.4**	**+0.5**	
	0.5nm,0.4s,baz=132,slow=4.1,SNR=3.7							
ARCES	**ARCESS Array B**	**149.18**	**335**	PKPbc	**PKPbc**	**10 36 14.8**	**-0.4**	
ARCES	**ARCESS Array B**	**149.18**	**335**	PKPbc	**PKPbc**	**10 36 14.8**	**-0.4**	
	3.8nm,0.9s,baz=60,slow=3.2,SNR=5.6							
AKASG	**Malin Array Be**	**151.47**	**296**	PKPbc	**PKPbc**	**10 36 21.2**	**0.0**	
AKASG	**Malin Array Be**	**151.47**	**296**	PKPbc	**PKPbc**	**10 36 21.2**	**0.0**	
	0.7nm,0.5s,baz=82,slow=2.4,SNR=4.9							
FINES	**FINESS Array B**	**152.26**	**319**	PKPbc	**PKPbc**	**10 36 22.7**	**0.0**	
FINES	**FINESS Array B**	**152.26**	**319**	PKPbc	**PKPbc**	**10 36 22.7**	**0.0**	
	1.4nm,0.7s,baz=116,slow=6.3,SNR=4.3							

IDC 08 10:17:40.5±1.6,12°51S×167°03E,h0km,mb4.5/8, mb1 4.6/9,mb1mx4.3/21,mbtmp4.5/9,ML5.5/1,Error ellipse: s-maj=50.2km s-min=23.5km az=130.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.59**	**293**	Pn	Pn	10 19 34.0	+1.5
	76nm,0.3s,baz=152,slow=8.7,SNR=11						
STKA	**Stephens Creek**	**30.29**	**226**	P	P	10 23 54.3	+0.6
	3.1nm,0.6s,baz=43,slow=1,SNR=6.1						
WRA	**Warramunga Arr**	**32.20**	**252**	P	P	10 24 09.7	-1.0
	2.1nm,0.6s,baz=83,slow=8.6,SNR=9.8						
ASAR	**Alice Springs**	**33.30**	**246**	P	P	10 24 19.6	-0.7
	4.4nm,0.7s,baz=69,slow=9.7,SNR=21						
FITZ	**Fitzroy Crossi**	**40.24**	**257**	P	P	10 25 19.1	-0.4
	9.3nm,1.2s,baz=197,slow=22,SNR=3.5						
NWAO	**Narrogin (SRO)**	**49.71**	**237**	P	P	10 26 35.3	+0.6
	11nm,0.6s,baz=85,slow=4.0,SNR=9.5						
SONM	**Songino Array**	**80.58**	**323**	P	P	10 29 55.0	-0.1
	1.0nm,0.3s,baz=145,slow=6.0,SNR=12						
ILAR	**Eielson Array**	**84.50**	**18**	P	P	10 30 15.0	0.0
	0.5nm,0.6s,baz=252,slow=4.5,SNR=4.8						
MKAR	**Makanchi Array**	**95.44**	**317**	P	P	10 31 07.2	0.0
	3.0nm,0.7s,baz=94,slow=6.5,SNR=16						
ARCES	**ARCESS Array B**	**118.06**	**346**	PKP	PKPdf	10 36 28.7	-0.3
	5.7nm,1.0s,baz=52,slow=2.6,SNR=5.3						
TORD	**Torodi Ar. Bea**	**165.68**	**274**	PKPab	PKPab	10 38 47.2	-0.2
	0.8nm,0.8s,baz=85,slow=6.2,SNR=4.5						

IDC 08 10:18:38.3±1.5,15°26S×172°71W,h0km,mb4.0/7, mb1 4.2/7,mb1mx4.0/21,mbtmp4.0/7,Error ellipse: s-maj=83.0km s-min=16.5km az=140.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.61**	**34**	Pn	Pn	10 19 08.5	+0.3
	84nm,0.3s,baz=89,slow=0.7,SNR=39						
AFI				Sn	Sn	10 19 29.7	-0.1
	153nm,0.3s,baz=30,slow=23,SNR=8.0						
STKA	**Stephens Creek**	**44.69**	**240**	P	P	10 26 54.0	+0.8
	2.2nm,0.7s,baz=145,slow=11,SNR=3.5						
WRA	**Warramunga Arr**	**50.53**	**257**	P	P	10 27 36.9	-1.9
	0.7nm,0.7s,baz=96,slow=6.6,SNR=5.0						
ASAR	**Alice Springs**	**50.79**	**252**	P	P	10 27 40.7	-0.1
	3.0nm,0.7s,baz=87,slow=8.2,SNR=19						
NVAR	**Mina Array Bea**	**73.78**	**42**	P	P	10 30 15.2	+0.3
	1.0nm,0.8s,baz=229,slow=10,SNR=5.3						
ANMO	**Albuquerque**	**80.20**	**50**	P	P	10 30 50.9	-0.3
	0.2nm,0.4s,baz=259,slow=5.2,SNR=3.7						
PDAR	**Pinedale Array**	**81.72**	**42**	P	P	10 30 58.1	-1.0
	0.4nm,0.9s,baz=253,slow=1.5,SNR=3.7						
ILAR	**Eielson Array**	**82.18**	**11**	P	P	10 31 00.7	-0.1
	1.3nm,0.8s,baz=220,slow=6.0,SNR=5.6						
BRTR	**Keskin Array B**	**146.46**	**322**	PKPbc	PKPab	10 38 23.1	+0.3
	2.3nm,0.9s,baz=132,slow=1.8,SNR=7.3						

IDC 08 10:19:41.2±16.0,12°17S×166°08E,h0km,mb4.1/4, mb1 4.1/4,mb1mx3.7/18,mbtmp4.1/4,Error ellipse: s-maj=504.7km s-min=52.6km az=123.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**32.60**	**245**	P	P	10 26 14.7	-0.1
	0.6nm,0.8s,baz=70,slow=9.1,SNR=1.8						
SONM	**Songino Array**	**79.77**	**324**	P	P	10 31 51.5	+0.2
	0.6nm,0.7s,baz=125,slow=7.2,SNR=2.7						
MKAR	**Makanchi Array**	**94.56**	**317**	P	P	10 33 04.2	+0.3
	1.3nm,0.6s,baz=95,slow=6.2,SNR=12						
ZALV	**Zalesovo Beam**	**94.66**	**324**	P	P	10 33 03.2	-0.9
	0.7nm,0.3s,baz=150,slow=6.1,SNR=1.3						

*IDC **08** 10:27:02.5±0.6,13°05S×166°39E,h0km,mb4.5/16, mb1 4.6/18,mb1mx4.5/24,mbtmp4.6/18,ML3.3/1,MS5.2/1, Ms1 5.2/1,ms1mx4.2/25,Error ellipse: s-maj=21.5km s-min=15.6km az=98.0*

*ISCJB **08** 10:27:07.7±0.6,13°02S±0°05×166°19E±0°08,h44km, mb4.5/15,MS5.1/1,Error ellipse: s-maj=11.6km s-min=6.8km az=158.0*

*NEIC **08** 10:27:07.9±0.5,13°01S×166°37E,h35km,mb4.5/1,Error ellipse: s-maj=11.8km s-min=9.7km az=94.0*

ISC 08 10:27:09.2±0.6,12°98S±0°07×166°29E±0°09,h44km,n47, σ0°77/58,mb4.4/15,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.15**	**299**	Pn	**Pn**	**10 28 51.9**	**+0.7**
HNR				Sn	**Sn**	**10 30 11.1**	**-0.1**
HNR	**Honiara**	**7.15**	**299**	Pn	**Pn**	**10 28 51.9**	**+0.7**
	51nm,0.3s,baz=177,slow=6.6,SNR=21						
HNR				Sn	**Sn**	**10 30 11.1**	**-0.1**
	26nm,0.3s,baz=227,slow=20,SNR=2.8						
DZM	**Mont Dzumac**	**9.05**	**179**	Pn	**Pn**	**10 29 17.1**	**-0.3**
DZM				Sn	**Sn**	**10 30 59.6**	**+1.6**
DZM	**Mont Dzumac**	**9.05**	**179**	Pn	**Pn**	**10 29 17.1**	**-0.3**
	1.3nm,0.3s,baz=39,slow=19,SNR=7.3						
DZM				Sn	**Sn**	**10 30 59.6**	**+1.6**
	baz=68,slow=23,SNR=1.4						
PMG	**Port Moresby**	**19.09**	**279**	*e*P	**Pn**	**10 31 29.2**	**-0.3**
PMG	**Port Moresby**	**19.09**	**279**	P	**Pn**	**10 31 28.9**	**-0.7**
	0.3nm,0.3s,baz=126,slow=9.1,SNR=3.8						
CTA	**Charters Tower**	**20.45**	**247**	P	**P**	**10 31 43.6**	**+0.4**
CTA	**Charters Tower**	**20.45**	**247**	P	**P**	**10 31 43.6**	**+0.4**
	8.0nm,0.7s,baz=79,slow=14,SNR=6.9						
CTAO	**Charters Tower**	**20.45**	**247**	*e*P	**P**	**10 31 43.7**	**+0.5**
	29nm,1.3s						
STKA	**Stephens Creek**	**29.45**	**226**	P	**P**	**10 33 09.7**	**+0.7**
STKA				PcP	**PcP**	**10 36 14.2**	**+0.2**
STKA	**Stephens Creek**	**29.45**	**226**	P	**P**	**10 33 09.7**	**+0.7**
	3.9nm,0.8s,baz=58,slow=9.3,SNR=5.4						
STKA				PcP	**PcP**	**10 36 14.2**	**+0.2**
	7.2nm,0.9s,baz=5.8,slow=3.6,SNR=8.7						
WRA	**Warramunga Arr**	**31.37**	**253**	P	**P**	**10 33 25.3**	**-0.9**
WRA				PcP	**PcP**	**10 36 19.4**	**+0.2**
WRA	**Warramunga Arr**	**31.37**	**253**	P	**P**	**10 33 25.3**	**-0.9**
	3.4nm,0.9s,baz=84,slow=8.8,SNR=11						
WRA				PcP	**PcP**	**10 36 19.4**	**+0.2**
	2.0nm,0.9s,baz=75,slow=2.6,SNR=6.1						
AS31	**Alice Springs**	**32.45**	**246**	*e*P	**P**	**10 33 35.2**	**-0.4**
ASAR	**Alice Springs**	**32.45**	**246**	P	**P**	**10 33 34.8**	**-0.8**
ASAR				PcP	**PcP**	**10 36 22.2**	**0.0**
ASAR	**Alice Springs**	**32.45**	**246**	P	**P**	**10 33 34.8**	**-0.8**
	4.2nm,0.9s,baz=76,slow=9.2,SNR=30						
ASAR				PcP	**PcP**	**10 36 22.2**	**0.0**
	2.8nm,1.0s,baz=83,slow=3.5,SNR=9.3						
ASAR				LR	LR	10 45 44.0	
	comp=Z,4μm,18.6s,baz=353,slow=34						
MJAR	**Matsushiro Arr**	**55.92**	**333**	P	**P**	**10 36 41.8**	**-1.1**
MJAR	**Matsushiro Arr**	**55.92**	**333**	P	**P**	**10 36 41.8**	**-1.1**
	6.9nm,1.0s,baz=165,slow=8.5,SNR=7.2						
ASAJ	**Asahikawa**	**60.78**	**341**	P	**P**	**10 37 17.4**	**+0.8**
ASAJ	**Asahikawa**	**60.78**	**341**	P	**P**	**10 37 17.4**	**+0.8**
	5.0nm,0.4s,baz=56,slow=33,SNR=11						
KSRS	**Korea Array**	**61.76**	**326**	P	**P**	**10 37 24.6**	**+1.2**
	2.8nm,0.9s,baz=126,slow=6.4,SNR=4.7						
KSAR	**Wonju Array Be**	**61.77**	**326**	P	**P**	**10 37 24.6**	**+1.1**
VNDA	**Vanda**	**64.58**	**181**	P	**P**	**10 37 40.9**	**-0.7**
VNDA	**Vanda**	**64.58**	**181**	P	**P**	**10 37 40.9**	**-0.7**
	3.9nm,1.1s,baz=12,slow=6.0,SNR=5.3						
USRK	**Ussuriysk Arra**	**64.90**	**333**	P	**P**	**10 37 44.3**	**+0.3**
	12nm,0.9s,baz=131,slow=5.8,SNR=11						
QSPA	**South Pole Qui**	**77.04**	**180**	P	**P**	**10 38 57.1**	**-0.4**
QSPA	**South Pole Qui**	**77.04**	**180**	P	**P**	**10 38 57.1**	**-0.4**
	18nm,1.1s,baz=42,slow=1.8,SNR=24						
SONM	**Songino Array**	**80.53**	**324**	P	**P**	**10 39 17.5**	**+0.5**
SONM	**Songino Array**	**80.53**	**324**	P	**P**	**10 39 17.5**	**+0.5**
	2.2nm,0.6s,baz=136,slow=4.4,SNR=16						
ILAR	**Eielson Array**	**85.17**	**18**	P	**P**	**10 39 39.8**	**-0.7**
ILAR	**Eielson Array**	**85.17**	**18**	P	**P**	**10 39 39.8**	**-0.7**
	3.2nm,0.7s,baz=235,slow=5.8,SNR=21						
NVAR	**Mina Array Bea**	**86.86**	**50**	P	**P**	**10 39 51.3**	**+1.6**
NVAR	**Mina Array Bea**	**86.86**	**50**	P	**P**	**10 39 51.3**	**+1.6**
	1.0nm,0.8s,baz=236,slow=7.4,SNR=7.1						
SNAA	**Sanae**	**95.23**	**183**	P	**P**	**10 40 26.4**	**-1.6**
SNAA	**Sanae**	**95.23**	**183**	P	**P**	**10 40 26.4**	**-1.6**
	1.5nm,1.0s,baz=190,slow=5.2						
MK31	**Makanchi Array**	**95.28**	**317**	*e*P	**P**	**10 40 28.8**	**+0.3**
MKAR	**Makanchi Array**	**95.28**	**317**	P	**P**	**10 40 28.6**	**+0.1**
MKAR	**Makanchi Array**	**95.28**	**317**	P	**P**	**10 40 28.6**	**+0.1**
	2.0nm,0.6s,baz=95,slow=6.0,SNR=16						
ZALV	**Zalesovo Beam**	**95.42**	**324**	P	**P**	**10 40 28.6**	**-0.3**
ZALV	**Zalesovo Beam**	**95.42**	**324**	P	**P**	**10 40 28.6**	**-0.3**
	5.7nm,0.9s,baz=108,slow=4.8,SNR=12						
BOSA	**Boshof**	**124.06**	**222**	PKP	**PKPdf**	**10 46 02.9**	**-0.9**
BOSA	**Boshof**	**124.06**	**222**	PKP	**PKPdf**	**10 46 02.9**	**-0.9**
	4.2nm,0.8s,baz=94,slow=7.6,SNR=5.6						
CEL	**Celeste**	**143.59**	**319**	*e*PKPdf	PKPbc	10 46 37.2	+0.1
KEST	**Kesra**	**149.25**	**321**	PKPbc	**PKPbc**	**10 46 53.7**	**0.0**
KEST	**Kesra**	**149.25**	**321**	PKPbc	**PKPbc**	**10 46 53.7**	**0.0**
	2.2nm,0.7s,baz=298,slow=2.1,SNR=6.9						
ESDC	**Sonseca Array**	**152.05**	**344**	PKPbc	**PKPbc**	**10 46 60.0**	**-0.1**
ESDC				PKPab	**PKPab**	**10 47 09.4**	**-0.1**
ESDC	**Sonseca Array**	**152.05**	**344**	PKPbc	**PKPbc**	**10 46 60.0**	**-0.1**
	0.1nm,0.3s,baz=12,slow=3.8,SNR=3.4						
ESDC				PKPab	**PKPab**	**10 47 09.4**	**-0.1**
	1.3nm,0.5s,baz=15,slow=4.1,SNR=6.1						

*IDC **08** 10:31:41.8±1.6,1°72S×99°27E,h0km,mb4.1/9, mb1 4.2/10,mb1mx3.9/28,mbtmp4.1/10,ML3.2/1,MS4.1/1, Ms1 4.1/1,ms1mx2.5/47,Error ellipse: s-maj=61.2km s-min=17.8km az=54.0*

*ISCJB **08** 10:31:44.6±0.8,1°64S±0°09×99°30E±0°08,h30km, mb4.2/9,Error ellipse: s-maj=13.6km s-min=11.4km az=164.0*

*DJA **08** 10:31:46.1±1.4,2°S±8°×10°0E±1°5,h109km±13km,M4.3/6, MLv4.3/6*

ISC 08 10:31:46.8±1.0,1°6S±0°1×99°51E±0°09,h30km,n21, σ1°54/14,mb4.1/9,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**1.16**	**55**	P	**Pb**	**10 32 08.5**	**+0.1**
PDSI				S	**Sb**	**10 32 25.5**	**+2.4**
PPI	**Padang Panjang**	**1.43**	**38**	P	**Pb**	**10 32 11.5**	**-1.4**
KRJI	**Kerinci**	**2.01**	**104**	P	Pn	10 32 13.4	-5.4
SDSI	**Sungai Dareh**	**2.02**	**71**	P	**Pn**	**10 32 16.0**	**-2.9**
RGRI	**Rengat**	**3.08**	**66**	P	Pn	10 32 29.7	-3.7
PSI	**Prapat**	**4.40**	**352**	Pn	**Pn**	**10 32 50.3**	**-1.5**
	1.1nm,0.3s,baz=222,slow=6.9,SNR=3.7						
PSI				LR	LR	10 35 00.2	
	comp=Z,2μm,18.1s,baz=212,slow=45						
H08S2	**Diego Garcia H**	**27.58**	**257**	T	T	11 05 25.9	
	baz=78,slow=0.7,SNR=150						
H08S3	**Diego Garcia H**	**27.59**	**257**	T	T	11 05 25.4	
	baz=78,slow=0.7,SNR=155						
H08S1	**Diego Garcia H**	**27.60**	**257**	T	T	11 05 26.4	
	baz=78,slow=0.7,SNR=133						
H01W3	**Cape Leeuwin H**	**35.82**	**159**	T	T	11 16 33.7	
	baz=335,slow=0.7,SNR=15						
H01W2	**Cape Leeuwin H**	**35.83**	**159**	T	T	11 16 39.7	
	baz=335,slow=0.7,SNR=14						
H01W1	**Cape Leeuwin H**	**35.84**	**159**	T	T	11 16 37.2	
	baz=335,slow=0.7,SNR=18						
WRA	**Warramunga Arr**	**38.62**	**121**	P	**P**	**10 39 08.6**	**+0.9**
	0.8nm,0.5s,baz=302,slow=9.2,SNR=15						
ASAR	**Alice Springs**	**39.89**	**126**	P	**P**	**10 39 19.2**	**+0.8**
	0.8nm,0.6s,baz=301,slow=7.8,SNR=16						
PMG	**Port Moresby**	**48.01**	**101**	P	**P**	**10 40 23.6**	**0.0**
	19nm,1.0s,baz=218,slow=6.5,SNR=3.3						
SONM	**Songino Array**	**49.59**	**6**	P	**P**	**10 40 36.7**	**+1.3**
	1.0nm,0.7s,baz=181,slow=7.2,SNR=3.1						
USRK	**Ussuriysk Arra**	**54.03**	**29**	P	**P**	**10 41 09.2**	**+0.8**
	2.3nm,0.8s,baz=270,slow=1.9,SNR=5.7						
KURBB	**Kurchatov Arra**	**55.02**	**344**	P	**P**	**10 41 16.1**	**+0.6**
	0.8nm,0.7s,baz=162,slow=7.2,SNR=4.9						
ZALV	**Zalesovo Beam**	**56.68**	**350**	P	**P**	**10 41 27.8**	**+0.5**
	1.9nm,0.5s,baz=176,slow=4.5,SNR=6.2						
FINES	**FINESS Array B**	**83.52**	**332**	P	**P**	**10 44 12.0**	**+0.3**
	1.0nm,0.6s,baz=87,slow=8.2,SNR=5.5						
SPITS	**Spitsbergen Ar**	**90.13**	**348**	P	**P**	**10 44 41.8**	**-1.9**
	1.6nm,0.4s,baz=323,slow=11,SNR=22						

*ISCJB **08** 10:35:32.7±0.9,45°51S±0°03×166°62E±0°05,h12km±6km, mb3.9/8,Error ellipse: s-maj=6.6km s-min=4.6km az=36.6*

*IDC **08** 10:35:32.5±0.7,45°60S×166°78E,h0km,mb3.9/8, mb1 4.1/9,mb1mx4.0/17,mbtmp4.0/9,ML4.1/2,Error ellipse: s-maj=21.8km s-min=20.0km az=68.0*

*NEIC **08** 10:35:34.6,45°60S×166°72E,h7km,ML4.8(WEL),After WEL.*

*WEL **08** 10:35:35.1±0.3,45°56S×166°72E,h21km±1km,ML4.8/20, Error ellipse: s-maj=3.0km s-min=1.8km az=90.0*

WEL Felt between Fiordland, Southland and Otago, maximum reported intensity MM 4.

ISC 08 10:35:34.5±1.3,45°58S±0°04×166°76E±0°05,h14km±8km, n81,σ1°24/79,mb4.0/8,3C,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.29**	**70**	P*	**Pb**	**10 35 41.8**	**+0.3**
DCZ				S*	**Sb**	**10 35 46.6**	**+0.4**
DCZ				AML	AML	10 35 46.9	
DCZ				AML	AML	10 35 46.9	
DCZ				AML	AML	10 35 47.0	
DCZ	**Deep Cove**	**0.29**	**70**	Pg	**Pb**	**10 35 41.7**	**+0.2**
DCZ				Sg	**Sg**	**10 35 46.0**	**+1.2**
PYZ	**Puysegur Point**	**0.59**	**185**	P*	**Pb**	**10 35 46.4**	**-0.3**
PYZ				S*	**Sb**	**10 35 54.5**	**-0.4**
PYZ	**Puysegur Point**	**0.59**	**185**	P*	**Pb**	**10 35 46.3**	**-0.3**
PYZ				Sg	**Sg**	**10 35 53.6**	**-0.4**
WHZ	**Wether Hill Ro**	**0.89**	**111**	⇑P*	**Pb**	**10 35 52.2**	**+0.5**
WHZ				S*	**Sn**	**10 36 05.3**	**0.0**
WHZ				AML	AML	10 36 18.0	
MLZ	**Mavora Lakes**	**1.02**	**77**	⇑PN	**Pg**	**10 35 53.2**	**-1.0**
MLZ				S*	**Sg**	**10 36 07.0**	**-0.5**
MLZ				AML	AML	10 36 08.8	
MSZ	**Milford Sound**	**1.23**	**43**	AML	AML	10 36 17.0	
MSZ				AML	AML	10 36 19.1	
MSZ	**Milford Sound**	**1.23**	**43**	P*	**Pn**	**10 35 54.9**	**-2.3**
APZ	**The Paps**	**1.52**	**146**	PN	**Pb**	**10 36 02.3**	**-0.1**
WKZ	**Wanaka**	**1.76**	**66**	PN	**Pn**	**10 36 05.1**	**+0.5**
WKZ				AML	AML	10 36 33.4	
WKZ				AML	AML	10 36 33.5	
WKZ				AML	AML	10 36 37.3	
WKZ				AML	AML	10 36 37.3	
WKZ	**Wanaka**	**1.76**	**66**	Pn	**Pn**	**10 36 05.2**	**+0.6**
EAZ	**Earnscleugh**	**1.83**	**80**	PN	**Pn**	**10 36 06.3**	**+0.8**
EAZ				AML	AML	10 36 35.2	
EAZ				AML	AML	10 36 37.2	
EAZ				AML	AML	10 36 37.2	
EAZ				AML	AML	10 36 37.4	
EAZ	**Earnscleugh**	**1.83**	**80**	Pn	**Pn**	**10 36 06.5**	**+1.1**
SYZ	**Scrubby Hill**	**1.91**	**121**	PN	**Pb**	**10 36 08.3**	**-0.8**
TUZ	**Tuapeka**	**2.04**	**102**	PN	**Pn**	**10 36 09.8**	**+1.4**
TUZ				AML	AML	10 36 42.9	
TUZ				AML	AML	10 36 43.0	
TUZ	**Tuapeka**	**2.04**	**102**	Pn	**Pn**	**10 36 09.8**	**+1.4**
JCZ	**Jackson Bay**	**2.07**	**44**	PN	**Pn**	**10 36 09.9**	**+0.8**
JCZ				AML	AML	10 36 44.7	
JCZ				AML	AML	10 36 49.6	
JCZ	**Jackson Bay**	**2.07**	**44**	Pn	**Pn**	**10 36 09.8**	**+0.9**
HHSZ	**Highcliff Hill**	**2.70**	**98**	PN	**Pn**	**10 36 19.1**	**+1.6**
LBZ	**Lake Benmore**	**2.71**	**65**	PN	**Pn**	**10 36 17.2**	**-0.3**
LBZ				AML	AML	10 36 53.4	
LBZ				AML	AML	10 36 54.3	
LBZ				AML	AML	10 36 55.9	
LBZ				AML	AML	10 36 56.8	
LBZ	**Lake Benmore**	**2.71**	**65**	Pn	**Pn**	**10 36 17.2**	**-0.3**
ODZ	**Otahua Downs**	**2.79**	**80**	PN	**Pn**	**10 36 18.6**	**-0.1**
ODZ	**Otahua Downs**	**2.79**	**80**	Pn	**Pn**	**10 36 18.6**	**-0.1**
FOZ	**Fox Glacier**	**2.90**	**47**	AML	AML	10 37 10.9	
FOZ				AML	AML	10 37 13.5	
RPZ	**Rata Peaks**	**3.58**	**60**	PN	**Pn**	**10 36 28.5**	**-1.1**
RPZ				AML	AML	10 37 15.5	
RPZ				AML	AML	10 37 16.

AKASG **Malin Array Be** 151.50 296 PKPbc **PKPbc** 10 55 26.4 -0.7
AKASG **Malin Array Be** 151.50 296 PKPbc **PKPbc** 10 55 26.4 -0.7
0.6nm,0.5s,baz=83,slow=2.2,SNR=1.6
FINES **FINESS Array B** 152.30 319 PKPbc **PKPbc** 10 55 28.0 -0.6
FINES **FINESS Array B** 152.30 319 PKPbc **PKPbc** 10 55 28.0 -0.6
2.0nm,0.7s,baz=74,slow=6.8,SNR=4.7

IDC 08 10:37:09.4±1.0, 11°.34S×166°.11E, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.9/20, mbtmp4.0/8, MS5.1/1, Ms1 5.1/1, ms1mx4.1/31, Error ellipse: s-maj=44.8km s-min=21.9km az=139.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**20.98 243**		P	P	10 41 55.6	+1.1
	3.3nm,0.4s,baz=92,slow=9.4,SNR=5.4						
STKA	**Stephens Creek**	**30.48 224**		P	P	10 43 24.8	+0.5
	1.6nm,0.7s,baz=45,slow=9.3,SNR=3.7						
WRA	**Warramunga Arr**	**31.72 250**		P	P	10 43 34.6	-0.7
	0.6nm,0.7s,baz=82,slow=8.5,SNR=5.8						
ASAR	**Alice Springs**	**32.98 244**		P	P	10 43 45.6	-0.7
	1.9nm,0.7s,baz=70,slow=9.5,SNR=12						
ASAR				PcP	PcP	10 46 30.9	+0.2
	0.4nm,0.6s,baz=88,slow=2.1,SNR=6.9						
JNU	**Nakatsue**	**55.52 324**		LR	LR	11 09 43.3	
	comp=Z,1μm,18.1s,baz=292,slow=35						
QSPA	**South Pole Qui**	**78.67 180**		P	P	10 49 13.2	-0.2
	3.1nm,0.8s,baz=310,slow=1.6,SNR=7.7						
ILAR	**Eielson Array**	**83.67 18**		P	P	10 49 39.2	-0.5
	0.4nm,0.7s,baz=254,slow=5.4,SNR=3.9						
NVAR	**Mina Array Bea**	**85.94 50**		P	P	10 49 52.4	+0.3
	0.2nm,0.4s,baz=262,slow=2.7,SNR=3.0						
MKAR	**Makanchi Array**	**93.97 317**		P	P	10 50 29.9	+0.4
	0.7nm,0.7s,baz=101,slow=6.3,SNR=3.9						

NNC 08 10:42:30.2±4.1, 54°.41N×86°.56E, h0km, mb4.2, mpv3.8, 8C-2D, Error ellipse: s-maj=30.0km s-min=27.3km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**6.09 236**		⇑Pn	Pn	10 44 02.1	+0.7
	3.8nm,0.7s						
KURK				⇑Sn	Sn	10 45 13.7	+2.0
	4.9nm,0.8s						
KURK				⇓Lg	Lg	10 45 43.9	
	21nm,1.0s						
KURBB	**Kurchatov Arra**	**6.20 236**		⇑Pn	Pn	10 44 03.3	+0.5
	13nm,0.6s						
KURBB				⇑Sn	Sn	10 45 16.8	+2.5
	20nm,0.8s						
KURBB				⇑Lg	Lg	10 45 46.1	
	38nm,0.8s						
MK31	**Makanchi Array**	**8.09 201**		⇑Pn	Pn	10 44 28.0	-0.9
	1.8nm,0.7s,baz=25,slow=12,SNR=23						
MK31				Sn	Sn	10 46 00.5	-0.6
	5.9nm,0.9s,baz=29,slow=27,SNR=3.4						
MK31				⇑Lg	Lg	10 46 47.0	
	20nm,1.0s,baz=30,slow=30,SNR=8.6						
VOSK	**Vostochnaya**	**9.42 266**		⇓Pn	Pn	10 44 48.4	+1.2
	3.3nm,0.6s						
VOSK				⇑Sn	Sn	10 46 29.9	-3.8
	12nm,0.8s						

IDC 08 10:46:07.5±4.9, 12°.99S×166°.13E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/18, mbtmp3.6/4, Error ellipse: s-maj=204.6km s-min=37.2km az=139.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.22 253**		P	P	10 52 28.2	-0.7
	0.6nm,1.0s,baz=76,slow=10,SNR=2.0						
ASAR	**Alice Springs**	**32.31 246**		P	P	10 52 38.8	+0.3
	0.6nm,0.7s,baz=72,slow=9.6,SNR=4.0						
ILAR	**Eielson Array**	**85.23 18**		P	P	10 58 45.1	-0.5
	0.3nm,0.6s,baz=246,slow=5.0,SNR=2.9						
MKAR	**Makanchi Array**	**95.19 317**		P	P	10 59 33.8	+0.8
	0.2nm,0.5s,baz=90,slow=4.3,SNR=2.2						

*IDC **08** 10:47:18.0±0.6, 12°.27S×165°.54E, h0km, mb4.7/21, mb1 4.8/23, mb1mx4.8/26, mbtmp4.7/23, ML4.6/2, MS4.5/4, Ms1 4.5/4, ms1mx4.2/33, Error ellipse: s-maj=18.3km s-min=13.5km az=92.0*
*ISCJB **08** 10:47:22.2±0.3, 12°.35S±0°.04×165°.40E±0°.05, h33km, mb4.9/51, MS5.2/7, Error ellipse: s-maj=6.9km s-min=5.8km az=161.8*
*MOS **08** 10:47:22.1±1.2, 12°.32S×165°.44E, h33km, mb5.3/4, Error ellipse: s-maj=12.9km s-min=9.0km az=13.0*
*NEIC **08** 10:47:23.6±0.3, 12°.27S×165°.45E, h35km, mb5.2/16, Error ellipse: s-maj=6.7km s-min=6.0km az=53.0*
*BJI **08** 10:47:28.0, 12°.17S×165°.40E, h76km, mB5.5/14, mb4.8/36, Ms5.5/15, Ms7 5.3/16*
*DJA **08** 10:47:36.0±4.6, 12°S±14°×16°5E±2°.5, h145km±33km, M4.9/16, mb4.9/16*
*AUST **08** 10:47:43.3±1.5, 12°.54S×164°.90E, h192km, Error ellipse: s-maj=2.8km s-min=1.5km az=236.0*

ISC 08 10:47:24.0±0.4, 12°.27S±0°.06×165°.39E±0°.06, h35km, n153, σ1§52/169, mb5.0/51, MS5.2/7, 2C-1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.04 297**		*e*Pn	Pn	10 48 55.1	+4.1
HNR				Sn	**Sn**	**10 49 59.2**	**+0.2**
HNR	**Honiara**	**6.04 297**		Pn	**Pn**	**10 48 52.1**	**+1.2**
	37nm,0.3s,baz=142,slow=2.5,SNR=12						
HNR				Sn	**Sn**	**10 49 59.2**	**+0.2**
	86nm,0.3s,baz=246,slow=23,SNR=10						
HNR				LR	LR	10 50 55.9	
	comp=Z,3μm,19.7s,baz=113,slow=35						
DZM	**Mont Dzumac**	**9.80 174**		Pn	**Pn**	**10 49 41.3**	**-1.2**
DZM	**Mont Dzumac**	**9.80 174**		Pn	**Pn**	**10 49 41.3**	**-1.2**
	1.8nm,0.3s,baz=15,slow=12,SNR=11						
DZM				LR	LR	10 52 38.2	
	comp=Z,3μm,18.4s,baz=339,slow=33						
MSVF	**Nonsavu**	**13.38 115**		*e*P	**Pn**	**10 50 32.6**	**+1.0**
MSVF				pmax	pmax		
	comp=Z,31nm,1.3s						
MSVF	**Nonsavu**	**13.38 115**		*e*Pn	**Pn**	**10 50 32.6**	**+1.0**
	comp=Z,31nm,1.3s						
TARA	**Tarawa**	**15.47 29**		P	**Pn**	**10 51 01.5**	**+1.8**
PMG	**Port Moresby**	**18.13 277**		*e*P	**P**	**10 51 34.3**	**+1.1**
PMG	**Port Moresby**	**18.13 277**		LR	LR	10 56 52.9	
	comp=Z,2μm,18.1s,baz=341,slow=31						
EIDS	**Eidsvold**	**18.77 224**		*e*P	**Pn**	**10 51 41.5**	**+0.7**
	comp=Z,38nm,0.9s						
EIDS	**Eidsvold**	**18.77 224**		P	**Pn**	**10 51 42.3**	**+1.5**
	baz=18,SNR=11						
CTA	**Charters Tower**	**19.94 245**		P	**Pn**	**10 51 54.8**	**-0.2**
CTA	**Charters Tower**	**19.94 245**		P	**Pn**	**10 51 54.8**	**-0.2**
	comp=Z,40nm,0.8s,baz=79,slow=12,SNR=36						
CTA				LR	LR	10 57 33.8	
	comp=Z,2μm,20.4s,baz=337,slow=31						
CTAO	**Charters Tower**	**19.94 245**		*e*P	**P**	**10 51 54.0**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,65nm,1.0s						
CTAO	**Charters Tower**	**19.94 245**		*e*P	**P**	**10 51 54.0**	**+0.9**
	comp=Z,65nm,1.0s						
RMQ	**Roma**	**21.08 225**		P	**P**	**10 52 07.0**	**+1.6**
	baz=21,SNR=17						
COEN	**Coen**	**21.70 263**		*e*P	**P**	**10 52 13.1**	**+1.0**
	comp=Z,293nm,0.9s						
COEN	**Coen**	**21.70 263**		P	**P**	**10 52 15.5**	**+3.4**
	baz=21,SNR=9.8						
ARMA	**Armidale**	**22.10 213**		*e*P	**P**	**10 52 16.7**	**+0.2**
	comp=Z,56nm,1.0s						
ARMA	**Armidale**	**22.10 213**		P	**P**	**10 52 17.3**	**+0.9**
	baz=22,SNR=12						
OUZ	**Omahuta**	**24.03 163**		*e*P	**P**	**10 52 35.8**	**+0.1**
	comp=Z,116nm,1.3s						
QLP	**Quilpie**	**24.45 231**		P	**P**	**10 52 39.7**	**0.0**
	baz=24,SNR=8.5						
CMSA	**Cobar Meteorol**	**26.40 220**		P	**P**	**10 52 57.7**	**+0.3**
	baz=26,SNR=8.7						
URZ	**Urewera**	**27.91 160**		P	**P**	**10 53 09.9**	**-0.9**
	comp=Z,115nm,1.9s						
URZ	**Urewera**	**27.91 160**		P	**P**	**10 53 09.9**	**-0.9**
	comp=Z,17nm,0.9s,baz=339,slow=4.9,SNR=6.0						
BKZ	**Black Stump Fm**	**28.54 162**		*e*P	**P**	**10 53 16.1**	**-0.4**
	comp=Z,30nm,0.7s						
STKA	**Stephens Creek**	**29.32 224**		P	**P**	**10 53 23.6**	**+0.1**
STKA	**Stephens Creek**	**29.32 224**		P	**P**	**10 53 24.0**	**+0.5**
	baz=29,SNR=7.3						
STKA	**Stephens Creek**	**29.32 224**		P	**P**	**10 53 23.6**	**+0.1**
	comp=Z,12nm,0.8s,baz=26,slow=8.2,SNR=17						
BFZ	**Birch Farm**	**29.87 163**		*e*P	**P**	**10 53 27.1**	**-1.1**
	comp=Z,223nm,1.8s						
WRAB	**Tennant Creek**	**30.74 252**		*e*P	**P**	**10 53 35.3**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.8s						
WRAB	**Tennant Creek**	**30.74 252**		*e*P	**P**	**10 53 35.3**	**-0.8**
	comp=Z,8.0nm,0.8s						
WRA	**Warramunga Arr**	**30.75 252**		P	**P**	**10 53 35.7**	**-0.6**
WRA	**Warramunga Arr**	**30.75 252**		P	**P**	**10 53 35.7**	**-0.6**
	comp=Z,14nm,0.8s,baz=84,slow=9.0,SNR=70						
TOO	**Toolangi**	**30.85 212**		P	**P**	**10 53 37.8**	**+0.9**
	baz=30,SNR=9.6						
RPZ	**Rata Peaks**	**31.71 172**		P	**P**	**10 53 43.4**	**-1.0**
RPZ	**Rata Peaks**	**31.71 172**		P	**P**	**10 53 43.4**	**-1.0**
	comp=Z,17nm,0.7s,baz=281,slow=4.4,SNR=12						
AS31	**Alice Springs**	**31.94 245**		*e*P	**P**	**10 53 45.6**	**-1.2**
ASAR	**Alice Springs**	**31.94 245**		P	**P**	**10 53 45.8**	**-1.0**
ASAR				PcP	**PcP**	**10 56 36.1**	**-0.6**
ASAR	**Alice Springs**	**31.94 245**		P	**P**	**10 53 45.8**	**-1.0**
	comp=Z,20nm,0.8s,baz=74,slow=9.4,SNR=133						
ASAR				PcP	**PcP**	**10 56 36.1**	**-0.6**
	comp=Z,3.0nm,0.8s,baz=80,slow=3.3,SNR=9.3						
KDU	**Kakadu**	**32.13 266**		P	**P**	**10 53 48.3**	**-0.1**
	baz=32,SNR=18						
BBOO	**Buckleboo**	**33.75 228**		P	**P**	**10 54 02.1**	**-0.3**
	baz=33,SNR=5.4						
KNRA	**Kununurra**	**35.67 260**		P	**P**	**10 54 19.2**	**0.0**
	baz=35,SNR=28						
FITZ	**Fitzroy Crossi**	**38.74 256**		*e*P	**P**	**10 54 45.0**	**-0.3**
	comp=Z,55nm,1.2s						
FITZ	**Fitzroy Crossi**	**38.74 256**		P	**P**	**10 54 45.3**	**+0.1**
	baz=38,SNR=16						
FITZ	**Fitzroy Crossi**	**38.74 256**		P	**P**	**10 54 44.9**	**-0.3**
	comp=Z,26nm,1.0s,baz=74,slow=8.3,SNR=25						
BATI	**Baumata**	**40.95 269**		P	**P**	**10 55 04.0**	**+0.3**
BATI	**Baumata**	**40.95 269**		P	**P**	**10 55 04.0**	**+0.3**
	comp=Z,23nm,0.5s,baz=129,slow=5.5,SNR=3.7						
MBWA	**Marble Bar**	**44.48 252**		*e*P	**P**	**10 55 32.0**	**-0.2**
	comp=Z,53nm,0.9s						
BNSI	**Bone**	**45.42 276**		P	P	10 55 33.8	-6.0
	comp=Z,38nm,1.3s						
KAPI	**Kappang**	**45.64 275**		P	**P**	**10 55 40.0**	**-1.5**
	comp=Z,41nm,1.3s						
KAPI	**Kappang**	**45.64 275**		*e*P	**P**	**10 55 41.2**	**-0.3**
	comp=Z,63nm,1.3s						
MEEK	**Meekatharra**	**46.10 245**		P	**P**	**10 55 45.3**	**+0.2**
	baz=46,SNR=22						
KLBR	**Kellerberrin**	**47.76 238**		P	**P**	**10 55 57.5**	**-0.4**
	baz=47,SNR=6.9						
MORW	**Morawa**	**48.74 242**		P	**P**	**10 56 05.5**	**0.0**
	baz=48,SNR=18						
MYLDM	**Lahad Datu**	**49.73 288**		P	**P**	**10 56 15.0**	**+1.7**
MJAR	**Matsushiro Arr**	**54.90 333**		P	**P**	**10 56 49.9**	**-1.3**
MJAR	**Matsushiro Arr**	**54.90 333**		P	**P**	**10 56 49.9**	**-1.3**
	comp=Z,2.9nm,0.8s,baz=159,slow=8.8,SNR=4.0						
KSRS	**Korea Array**	**60.69 326**		P	**P**	**10 57 32.4**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=128,slow=8.1,SNR=4.6						
KSAR	**Wonju Array Be**	**60.70 326**		P	**P**	**10 57 32.4**	**+0.4**
YSS	**Yuzh-Sakhalins**	**62.34 343**		*e*P	**P**	**10 57 45.0**	**+2.2**
YSS				*e*		11 06 25.0	
YSS				pmax	pmax		
	comp=N,30nm,0.7s						
NJ2	**Nanjing**	**62.65 316**		*e*P	**P**	**10 57 47.0**	**+1.8**
NJ2				AMB	AMB		
	comp=N,20nm,0.6s						
QIZ	**Qiongzhong**	**62.95 299**		P	**P**	**10 57 49.5**	**+2.0**
QIZ				pP	pP	10 58 06.5	+8.3
QIZ				sP	sP	10 58 17.3	+15
QIZ				S	**S**	**11 06 15.0**	**-0.6**
QIZ				sS	sS	11 06 50.9	+18
QIZ				AMB	AMB		
	comp=N,19nm,1.5s						
QIZ				LR	LR		
	comp=N,810nm,14.8s						
QIZ				LR	LR		
	comp=N,400nm,15.5s						
QIZ				LR	LR		
	comp=N,2μm,16.6s						
USRK	**Ussuriysk Arra**	**63.88 334**		P	**P**	**10 57 53.3**	**+0.2**
	comp=N,2.6nm,0.6s,baz=153,slow=8.5,SNR=4.9						
MDJ	**Mudanjiang**	**65.27 333**		P	P	10 58 06.8	+4.6
MDJ				AMB	AMB		
	comp=N,10.0nm,1.4s						
MDJ				AMB	AMB		
	comp=N,310nm,6.5s						
VNDA	**Vanda**	**65.27 181**		P	**P**	**10 58 01.0**	**-0.7**
VNDA	**Vanda**	**65.27 181**		P	**P**	**10 58 01.0**	**-0.7**
	comp=N,2.4nm,0.9s,baz=1.6,slow=6.2,SNR=6.4						
PETK	**Petropavlovsk-**	**65.45 355**		P	**P**	**10 58 02.8**	**-0.4**
PETK	**Petropavlovsk-**	**65.45 355**		P	**P**	**10 58 02.8**	**-0.4**
PETK	**Petropavlovsk-**	**65.45 355**		P	**P**	**10 58 02.8**	**-0.4**
	comp=N,10nm,1.1s,baz=134,slow=4.3,SNR=5.1						
IPM	**Ipoh**	**66.09 281**		*e*P	**P**	**10 58 08.3**	**+0.1**
	comp=N,43nm,1.4s						
CN2	**Changchun**	**66.61 330**		*e*P	P	10 58 15.6	+4.8
PANO	**Nakornpanom**	**66.77 295**		P	**P**	**10 58 13.6**	**+1.2**
	comp=N,16nm,1.0s						
SKNT	**Sakolnakorn**	**67.27 294**		P	**P**	**10 58 16.5**	**+0.9**
	comp=N,40nm,1.2s,comp=N,2μm						
KLR	**Kul'dur**	**68.04 337**		*e*P	P	10 58 09.0	-11
CHAI	**Chaiyaphum**	**68.68 293**		P	**P**	**10 58 25.7**	**+1.3**
	comp=N,3.1nm,0.9s						
GYA	**Guiyang**	**68.82 305**		⇑*i*P	**P**	**10 58 28.2**	**+2.9**
GYA				pP	**PcP**	**10 58 51.5**	**+1.8**
GYA				PP	PP	11 01 04.0	+6.3
GYA				ScP		11 02 45.7	
GYA				S	**S**	**11 07 25.0**	**-2.1**
GYA				sS	SKiKP	11 08 03.2	-12
GYA				AMB	AMB		
	comp=N,20nm,1.0s						
GYA				AMB	AMB		
	comp=N,120nm,5.5s						
GYA				LR	LR		
	comp=N,580nm,18.5s						
GYA				LR	LR		
	comp=N,650nm,19.0s						
GYA				LR	LR		
	comp=N,540nm,18.9s						
BJI	**Beijing**	**69.21 322**		P	**P**	**10 58 28.0**	**+0.7**
BJI				AMB	AMB		
	comp=N,10.0nm,1.3s						
BJI				LR	LR		
	comp=N,1μm,17.0s						
BJI				LR	LR		
	comp=N,990nm,20.0s						
BJI				LR	LR		
	comp=N,1μm,18.8s						
XAN	**Xi'an**	**70.69 313**		P	**P**	**10 58 36.9**	**+0.3**
XAN				AMB	AMB		
	comp=N,5.0nm,0.9s						
NANT	**Nan**	**70.84 295**		P	**P**	**10 58 38.9**	**+1.2**
	comp=N,29nm,1.2s						
KMI	**Kunming**	**71.46 302**		P	**P**	**10 58 43.5**	**+1.8**
KMI				AMB	AMB		
	comp=N,23nm,1.5s						
PAYA	**Payao**	**71.77 295**		P	**P**	**10 58 44.8**	**+1.4**
	comp=N,5.3nm,0.8s						
CM31	**Chiang Mai Arr**	**72.28 294**		*e*P	**P**	**10 58 47.5**	**+1.0**
	comp=N,11nm,0.9s						
CMAR	**Chiang Mai Arr**	**72.28 294**		P	**P**	**10 58 48.0**	**+1.5**
CMAR	**Chiang Mai Arr**	**72.28 294**		P	**P**	**10 58 48.0**	**+1.5**
	comp=N,10nm,0.9s,baz=121,slow=4.4,SNR=48						
CHTO	**Chiang Mai**	**72.40 294**		*e*P	**P**	**10 58 47.7**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,121nm,1.4s						
CHTO	**Chiang Mai**	**72.40 294**		*e*P	**P**	**10 58 47.7**	**+0.5**
	comp=Z,121nm,1.4s						
CHTO	**Chiang Mai**	**72.40 294**		P	**P**	**10 58 48.2**	**+1.0**
	comp=Z,122nm,1.0s						
HHC	**Hu-ho-hao-te**	**72.54 320**		*e*P	**P**	**10 58 48.7**	**+1.1**
HHC				pP	PcP	10 59 13.7	+8.5
HHC				PP	**PP**	**11 01 34.2**	**+4.7**
HHC				S	**S**	**11 08 05.4**	**-4.5**
HHC				SKS	SKSac	11 08 40.3	-10
HHC				ScS	**SKKSac**	**11 08 43.8**	**-6.5**
HHC				SS	**SS**	**11 12 49.5**	**-0.1**
HHC				AMB	AMB		
	comp=Z,32nm,1.0s						
HHC				AMB	AMB		
	comp=Z,2μm,5.2s						
HHC				LR	LR		
	comp=Z,2μm,16.1s						
HHC				LR	LR		
	comp=Z,1μm,16.5s						
HHC				LR	LR		
	comp=Z,3μm,16.5s						
CD2	**Chengdu**	**73.07 308**		P	**P**	**10 58 51.8**	**+0.9**
CD2				pP	PcP	10 59 15.1	+7.5
CD2				sP	sP	10 59 25.2	+19
CD2				PP	**PP**	**11 01 38.3**	**+4.2**
CD2				S	**S**	**11 08 11.7**	**-4.5**
CD2				sS	**SKSac**	**11 08 52.0**	**-2.4**
CD2				SS	**SS**	**11 12 57.6**	**-0.4**
CD2				AMB	AMB		
	comp=Z,30nm,1.0s						
CD2				AMB	AMB		
	comp=Z,540nm,11.8s						
CD2				LR	LR		
	comp=Z,1μm,17.8s						
CD2				LR	LR		
	comp=Z,1μm,15.5s						
LZH	**Lanzhou**	**75.32 313**		*e*P	**P**	**10 59 05.6**	**+1.5**
LZH				pP	PcP	10 59 29.5	+12
LZH				sP	sP	10 59 40.0	+21
LZH				PP	**PP**	**11 01 58.5**	**+5.2**
LZH				*e*S	**S**	**11 08 37.2**	**-4.3**
LZH				*e*SS	**SS**	**11 13 33.1**	**+0.8**
LZH				AMB	AMB		
	comp=Z,35nm,1.5s						
LZH				AMB	AMB		
	comp=Z,130nm,8.0s						
LZH				LR	LR		
	comp=Z,410nm,17.0s						
LZH				LR	LR		
	comp=Z,460nm,17.2s						
LZH				LR	LR		
	comp=Z,600nm,19.0s						
SEY	**Seymchan**	**75.65 354**		*i* P	**P**	**10 59 05.3**	**+0.2**
SONM	**Songino Array**	**79.44 324**		P	**P**	**10 59 27.5**	**+0.6**
SONM	**Songino Array**	**79.44 324**		P	**P**	**10 59 27.5**	**+0.6**
	comp=Z,3.0nm,0.9s,baz=138,slow=5.8,SNR=14						
GTA	**Gaotai**	**79.65 314**		P	**P**	**10 59 30.2**	**+2.0**
GTA				S	**S**	**11 09 23.7**	**-4.6**
GTA				AMB	AMB		
	comp=Z,17nm,1.3s						
GTA				LR	LR		
	comp=Z,700nm,18.8s						
GTA				LR	LR		
	comp=Z,780nm,17.3s						
GTA				LR	LR		
	comp=Z,1μm,18.1s						
ZAK	**Zakamensk**	**82.50 325**		*e*P	**P**	**10 59 42.5**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
TLY	**Talaya**	**82.94 326**		*e*P	**P**	**10 59 46.3**	**+1.0**
TLY				pmax	pmax		
	comp=Z,11nm,0.8s						
MAW	**Mawson**	**83.46 202**		P	**P**	**10 59 48.1**	**+0.4**
MAW	**Mawson**	**83.46 202**		P	**P**	**10 59 48.0**	**+0.3**
	baz=83,SNR=9.9						
MAW	**Mawson**	**83.46 202**		P	**P**	**10 59 48.1**	**+0.4**
	comp=Z,8.9nm,1.0s,baz=105,slow=6.4,SNR=16						
ILAR	**Eielson Array**	**84.78 19**		P	**P**	**10 59 53.2**	**-1.1**
ILAR	**Eielson Array**	**84.78 19**		P	**P**	**10 59 53.2**	**-1.1**
	comp=Z,3.5nm,0.7s,baz=250,slow=5.1,SNR=32						
NVAR	**Mina Array Bea**	**87.08 50**		P	**P**	**11 00 05.7**	**-0.9**
NVAR	**Mina Array Bea**	**87.08 50**		P	**P**	**11 00 05.7**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=246,slow=7.1,SNR=5.6						
WMQ	**Urumqi**	**89.71 315**		*e*P	P	11 00 26.5	+7.8
BMO	**Blue Mountains**	**89.75 44**		*e*P	**P**	**11 00 19.2**	**+0.2**
BMO				pmax	pmax		
	comp=Z,9.0nm,1.7s						
BMO	**Blue Mountains**	**89.75 44**		*e*P	**P**	**11 00 19.2**	**+0.2**
	comp=Z,8.8nm,1.7s						
MK31	**Makanchi Array**	**94.17 317**		*e*P	**P**	**11 00 39.2**	**-0.1**
MK31	**Makanchi Array**	**94.17 317**		*e*P	**P**	**11 00 39.2**	**-0.1**
MKAR	**Makanchi Array**	**94.17 317**		P	**P**	**11 00 39.4**	**+0.1**
MKAR						11 04 25.2	
MKAR	**Makanchi Array**	**94.17 317**		P	**P**	**11 00 39.4**	**+0.1**
MKAR				PP	**PP**	**11 04 25.2**	**-1.2**
MKAR	**Makanchi Array**	**94.17 317**		P	**P**	**11 00 39.4**	**+0.1**
	comp=Z,6.9nm,0.8s,baz=95,slow=6.4,SNR=53						
MKAR				PP	**PP**	**11 04 25.2**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=100,slow=5.3,SNR=3.7						
ZALV	**Zalesovo Beam**	**94.34 324**		P	**P**	**11 00 39.1**	**-0.7**
ZALV	**Zalesovo Beam**	**94.34 324**		P	**P**	**11 00 39.1**	**-0.7**
ZALV	**Zalesovo Beam**	**94.34 324**		P	**P**	**11 00 39.1**	**-0.7**
	comp=Z,1.5nm,0.3s,baz=120,slow=3.4,SNR=5.4						
KSH	**Kashi**	**97.25 309**		P	Pdif	11 00 57.8	+4.1
KSH				pP	pP	11 01 21.4	+17
KURK	**Kurchatov**	**97.35 320**		P	**P**	**11 00 51.7**	**-1.9**
KURK	**Kurchatov**	**97.35 320**		P	**P**	**11 00 51.7**	**-1.9**
KURBB	**Kurchatov Arra**	**97.39 320**		P	**P**	**11 00 51.7**	**-2.1**
	comp=Z,0.3nm,0.4s,baz=100,slow=3.9,SNR=4.4						
ARCES	**ARCESS Array B**	**117.42 345**		PKP	**PKPdf**	**11 06 04.3**	**-1.1**
ARCES	**ARCESS Array B**	**117.42 345**		PKP	**PKPdf**	**11 06 04.3**	**-1.1**
	comp=Z,1.9nm,0.6s,baz=43,slow=2.5,SNR=10						
OBN	**Obninsk**	**121.66 328**		⇑*i*PKIKP	**PKPdf**	**11 06 13.2**	**-0.7**
OBN				*e*		11 07 44.9	
OBN				*e*PS	**PS**	**11 17 34.6**	**-5.7**
OBN				pmax	pmax		
	comp=Z,11nm,0.5s						
KIV	**Kislovodsk**	**121.83 314**		⇓*i*PKIKP	**PKPdf**	**11 06 13.8**	**-1.0**
KIV				*e*PS	PS	11 17 31.4	-11
KIV				pmax	pmax		
	comp=Z,11nm,1.4s						
BOSA	**Boshof**	**123.99 223**		PKP	**PKPdf**	**11 06 18.8**	**-0.7**
BOSA	**Boshof**	**123.99 223**		PKP	**PKPdf**	**11 06 18.8**	**-0.7**
	comp=Z,2.5nm,0.7s,baz=106,slow=13,SNR=3.2						
AKASG	**Malin Array Be**	**127.69 326**		PKIKP	**PKPdf**	**11 06 24.7**	**-0.9**
AKASG	**Malin Array Be**	**127.69 326**		PKP	**PKPdf**	**11 06 24.7**	**-0.9**
AKASG	**Malin Array Be**	**127.69 326**		PKP	**PKPdf**	**11 06 24.7**	**-0.9**
	comp=Z,3.1nm,0.9s,baz=46,slow=1.9,SNR=8.9						
BRTR	**Keskin Array B**	**129.52 312**		PKP	**PKPdf**	**11 06 29.2**	**-0.5**
BRTR	**Keskin Array B**	**129.52 312**		PKP	**PKPdf**	**11 06 29.2**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=132,slow=1.8,SNR=6.0

PMG	Port Moresby	19.36 280	P	P	10 57 25.2	-0.6	
	0.2nm,0.3s,baz=136,slow=10,SNR=3.6						
CTA	Charters Tower	20.39 249	P	Pn	10 57 38.5	-0.8	
	2.8nm,0.8s,baz=76,slow=16,SNR=5.2						
STKA	Stephens Creek	29.17 227	P	P	10 59 01.9	+0.8	
	3.1nm,0.4s,baz=48,slow=10,SNR=6.2						
WRA	Warramunga Arr	31.37 254	P	P	10 59 20.1	-0.6	
	1.6nm,0.5s,baz=80,slow=6.8,SNR=23						
ASAR	Alice Springs	32.37 247	P	P	10 59 28.6	-0.9	
	2.3nm,0.8s,baz=72,slow=9.4,SNR=14						
FITZ	Fitzroy Crossi	39.47 258	P	P	11 00 23.1	-7.2	
	baz=40,SNR=3.9						
FITZ	Fitzroy Crossi	39.47 258	P	P	11 00 29.7	-0.6	
	1.2nm,0.5s,baz=153,slow=6.4,SNR=6.4						
MEEK	Meekatharra	46.52 246	P	P	11 01 27.8	+0.4	
	baz=49,SNR=13						
CMAR	Chiang Mai Arr	73.76 294	P	P	11 04 34.7	+0.6	
	1.2nm,0.4s,baz=118,slow=4.6,SNR=6.5						
SONM	Songino Array	81.10 324	P	P	11 05 14.4	-0.3	
	0.5nm,0.4s,baz=130,slow=4.6,SNR=4.3						
ILAR	Eielson Array	85.68 18	P	P	11 05 38.1	+0.5	
	2.3nm,0.5s,baz=236,slow=5.1,SNR=53						
MKAR	Makanchi Array	95.83 317	P	P	11 06 25.6	-0.1	
	0.6nm,0.6s,baz=88,slow=7.2,SNR=5.2						
ARCES	ARCESS Array B 118.94 345		PKP	PKPdf	11 11 45.9	-1.3	
	2.1nm,0.7s,baz=71,slow=1.9,SNR=7.1						

*AUST **08** 10:53:01.4,5.°93S×165.°09E,h200km*
*IDC **08** 10:53:19.5±0.9, 13.°66S×166.°61E, h0km, mb4.4/9, mb1 4.6/11, mb1mx4.3/21, mbtmp4.5/11, ML4.9/2, Error ellipse: s-maj=28.2km s-min=21.8km az=101.0*
*ISCJB **08** 10:53:23.7±0.7, 13.°60S±0.°06×166.°63E±0.°09, h39km, mb4.4/12, Error ellipse: s-maj=12.7km s-min=8.8km az=164.7*
*NEIC **08** 10:53:24.8±0.6, 13.°65S×166.°66E, h35km, mb4.4/5, Error ellipse: s-maj=12.8km s-min=11.8km az=182.0*

ISC 08 10:53:25.4±0.6, 13.°56S±0.°07×166.°61E±0.°09, h39km, n41, σ1s34/53, mb4.4/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	Honiara	7.71	301	Pn		Pn	Pn	10 55 15.4	+0.2
HNR				Sn			Sn	10 56 39.5	-1.8
HNR	Honiara	7.71	301	Pn		Pn	Pn	10 55 15.4	+0.2
	38nm,0.3s,baz=59,slow=1.8,SNR=18								
HNR				Sn			Sn	10 56 39.5	-1.8
	14nm,0.3s,baz=65,slow=23,SNR=1.3								
DZM	Mont Dzumac	8.47	181	Pn		Pn	Pn	10 55 24.0	-1.7
DZM				Sn			Sn	10 57 01.2	+1.1
DZM	Mont Dzumac	8.47	181	Pn		Pn	Pn	10 55 24.0	-1.7
	5.4nm,0.3s,baz=16,slow=16,SNR=7.5								
DZM				Sn			Sn	10 57 01.2	+1.1
	4.5nm,0.3s,baz=327,slow=23,SNR=2.4								
EIDS	Eidsvold	18.75	229	eP		Pn	Pn	10 57 42.0	+0.1
	41nm,1.1s								
EIDS	Eidsvold	18.75	229	P		Pn	Pn	10 57 43.5	+1.7
	baz=24,SNR=4.5								
CTAO	Charters Tower	20.53	249	eP		P	P	10 58 00.6	0.0
	11nm,1.0s								
AFI	Afiamalu	21.00	94	eP		P	P	10 58 04.7	-1.1
RMQ	Roma	21.10	230	P		P	P	10 58 09.8	+3.0
	baz=26,SNR=6.1								
ARMA	Armidale	21.74	217	P		P	P	10 58 16.0	+2.3
	baz=28,SNR=3.7								
COEN	Coen	22.77	266	P		P	P	10 58 26.6	+2.0
	103nm,0.9s								
QLP	Quilpie	24.64	235	P		P	P	10 58 42.5	+0.1
	baz=29,SNR=4.1								
CMSA	Cobar Meteorol	26.25	224	P		P	P	10 58 59.3	+2.3
	baz=31,SNR=5.9								
STKA	Stephens Creek	29.29	227	eP		P	P	10 59 24.6	+0.4
	11nm,1.4s								
STKA	Stephens Creek	29.29	227	P		P	P	10 59 25.4	+1.2
	baz=34,SNR=4.7								
STKA	Stephens Creek	29.29	227	P		P	P	10 59 24.1	-0.1
	11nm,0.6s,baz=52,slow=7.9,SNR=9.3								
TOO	Toolangi	30.43	214	P		P	P	10 59 35.4	+1.1
	baz=36,SNR=5.9								
WRAB	Tennant Creek	31.50	254	eP		P	P	10 59 42.1	-1.8
	8.2nm,1.2s								
WRA	Warramunga Arr	31.51	254	P		P	P	10 59 42.9	-1.2
WRA				PcP		PcP	PcP	11 02 35.9	-0.6
WRA				ScP		ScP	ScP	11 06 18.2	+1.5
WRA	Warramunga Arr	31.51	254	P		P	P	10 59 42.9	-1.2
	3.9nm,0.9s,baz=86,slow=9.4,SNR=8.6								
WRA				PcP		PcP	PcP	11 02 35.9	-0.6
	2.1nm,1.1s,baz=78,slow=3.4,SNR=4.8								
WRA				ScP		ScP	ScP	11 06 18.2	+1.5
	1.5nm,1.0s,baz=84,slow=3.5,SNR=4.8								
ASAR	Alice Springs	32.51	247	P		P	P	10 59 51.9	-1.0
ASAR				PcP		PcP	PcP	11 02 38.9	-0.3
ASAR				ScP		ScP	ScP	11 06 21.8	+1.6
ASAR	Alice Springs	32.51	247	P		P	P	10 59 51.9	-1.0
	3.1nm,0.9s,baz=76,slow=9.6,SNR=9.0								
ASAR				PcP		PcP	PcP	11 02 38.9	-0.3
	1.0nm,0.8s,baz=69,slow=2.2,SNR=4.5								
ASAR				ScP		ScP	ScP	11 06 21.8	+1.6
	1.2nm,0.9s,baz=65,slow=2.8,SNR=5.3								
FITZ	Fitzroy Crossi	39.62	258	P		P	P	11 00 52.5	-1.0
FITZ	Fitzroy Crossi	39.62	258	P		P	P	11 00 52.5	-1.0
	3.1nm,0.9s,baz=117,slow=4.5,SNR=3.3								
VNDA	Vanda	64.01	181	P		P	P	11 03 53.5	-1.1
VNDA	Vanda	64.01	181	P		P	P	11 03 53.5	-1.1
	2.1nm,0.7s,baz=1.4,slow=6.2,SNR=9.1								
CASY	Casey	64.37	202	eP		P	P	11 03 56.3	-0.8
	7.7nm,0.6s								
SONM	Songino Array	81.18	324	P		P	P	11 05 38.7	+1.5
SONM	Songino Array	81.18	324	P		P	P	11 05 38.7	+1.5
	0.6nm,0.6s,baz=159,slow=5.7,SNR=2.0								
MAW	Mawson	82.73	202	P		P	P	11 05 45.2	+0.4
MAW	Mawson	82.73	202	P		P	P	11 05 45.2	+0.4
	4.8nm,0.9s,baz=94,slow=8.5,SNR=10								
ILAR	Eielson Array	85.62	18	P		P	P	11 06 01.6	+2.2
ILAR	Eielson Array	85.62	18	P		P	P	11 06 01.6	+2.2
	1.7nm,0.6s,baz=239,slow=5.5,SNR=7.1								
MKAR	Makanchi Array	95.92	317	P		P	P	11 06 48.5	+0.2
MKAR	Makanchi Array	95.92	317	P		P	P	11 06 48.5	+0.2
	0.9nm,0.8s,baz=92,slow=6.1,SNR=4.3								
ARCES	ARCESS Array B 118.96 345		PKP	PKPdf	11 12 08.2	-1.1			
ARCES	ARCESS Array B 118.96 345		PKP	PKPdf	11 12 08.2	-1.1			
	1.4nm,0.7s,baz=52,slow=1.7,SNR=6.4								
KEST	Kesra	149.90	321	PKPbc		PKPbc	PKPbc	11 13 11.7	-0.4
KEST	Kesra	149.90	321	PKPbc		PKPbc	PKPbc	11 13 11.7	-0.4
	4.0nm,0.9s,baz=300,slow=1.4,SNR=3.9								
TORD	Torodi Ar. Bea	165.31	270	PKP		PKPdf	PKPdf	11 13 25.1	-1.6
TORD	Torodi Ar. Bea	165.31	270	PKP		PKPdf	PKPdf	11 13 25.1	-1.6
	1.1nm,0.9s,baz=87,slow=2.1,SNR=3.9								

IDC 08 11:01:50.1±1.1, 11.°29S×165.°75E, h0km, mb4.0/8, mb1 4.3/10, mb1mx4.0/21, mbtmp4.2/10, ML4.5/2, Error ellipse: s-maj=36.2km s-min=20.1km az=141.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	Honiara	6.00	287	Pn		Pn	Pn	11 03 22.1	+1.9
	14nm,0.3s,baz=153,slow=9.0,SNR=4.0								
DZM	Mont Dzumac	10.74	177	Pn		Pn	Pn	11 04 26.6	+1.2
	3.5nm,0.3s,baz=48,slow=17,SNR=18								
CTA	Charters Tower	20.69	243	P		P	P	11 06 33.0	+1.0
	6.5nm,0.9s,baz=68,slow=13,SNR=6.2								
STKA	Stephens Creek	30.26	224	P		P	P	11 08 03.5	+0.5
	1.6nm,0.3s,baz=334,slow=19,SNR=3.9								
WRA	Warramunga Arr	31.40	250	P		P	P	11 08 13.0	-0.2
	3.5nm,0.7s,baz=82,slow=9.2,SNR=21								
ASAR	Alice Springs	32.68	244	P		P	P	11 08 22.9	-1.5
	0.9nm,0.7s,baz=71,slow=9.2,SNR=8.9								
FITZ	Fitzroy Crossi	39.32	255	P		P	P	11 09 20.8	-0.5
	2.5nm,0.8s,baz=117,slow=3.8								
ILAR	Eielson Array	83.75	18	P		P	P	11 14 20.6	-0.2
	0.8nm,0.8s,baz=245,slow=4.8,SNR=5.7								
NVAR	Mina Array Bea	86.18	50	P		P	P	11 14 34.1	+0.2
	0.3nm,0.7s,baz=222,slow=3.6,SNR=2.9								
MKAR	Makanchi Array	93.70	317	P		P	P	11 15 09.4	+0.5
	0.8nm,0.8s,baz=101,slow=6.3,SNR=5.8								
ARCES	ARCESS Array B 116.57 345		PKP	PKPdf	11 20 35.0	-0.7			
	3.6nm,0.9s,baz=61,slow=2.3,SNR=3.5								

*CSEM **08** 11:04:10.0, 41.°21N×29.°01E, h6km, MD2.6, After ISK*

ISK 08 11:04:10.0, 41.°21N×29.°01E, h6km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KLYT	Kilyos	0.05	32	ePG		Pg		11 04 11.8	+0.4
KLYT	Kilyos	0.05	32	ePg		Pg		11 04 11.8	+0.4
ISK	Istanbul-Kandi	0.15	166	ePG		Pg		11 04 13.8	+0.7
ISK	Istanbul-Kandi	0.15	166	ePg		Pg		11 04 13.8	+0.7
BGKT	Bogazkoy	0.18	260	ePG		Pg		11 04 14.2	+0.5
BGKT				eSG		Sg		11 04 17.3	+1.2
BGKT	Bogazkoy	0.18	260	ePg		Pg		11 04 14.2	+0.6
BGKT				eSg		Sg		11 04 17.3	+1.2
HRT	Hereke	0.63	128	ePG		Pg		11 04 22.5	+0.2
HRT				eSG		Sb		11 04 31.9	-0.9
HRT	Hereke	0.63	128	ePg		Pg		11 04 22.5	+0.2
HRT				eSg		Sb		11 04 31.9	-0.8
ARMT	Armutlu	0.66	190	ePG		Pg		11 04 23.1	+0.4
ARMT				eSG		Sb		11 04 32.7	-0.6
ARMT	Armutlu	0.66	190	ePg		Pg		11 04 23.1	+0.4
ARMT				eSg		Sb		11 04 32.7	-0.6
ADVT	Abdulvahap	0.96	144	ePG		Pb		11 04 28.8	-0.1
ADVT	Abdulvahap	0.96	144	ePg		Pb		11 04 28.8	-0.2
GULT	Gulveren	1.38	124	ePN		Pg		11 04 36.6	-0.1
GULT	Gulveren	1.38	124	ePn		Pg		11 04 36.6	-0.1

*JMA **08** 11:04:20.6±0.3, 43.°63N×147.°67E, h0km, M4.2*
*SKHL **08** 11:04:22.3±0.9, 43.°77N×147.°93E, h33km, mb5.2/2*

ISC 08 11:04:21.1±2.8, 43.°8N±0.°1×148.°0E±0.°1, h34km, n14, σ1s32/19, 1C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.49	356	↑*i*P			Pn	11 04 45.6	+0.1
KUR					AMB	AMB		11 04 46.7	
	618nm,0.1s								
KUR					AMB	AMB		11 04 46.9	
	164nm,0.3s								
KUR					AMB	AMB		11 04 47.0	
	606nm,0.3s								
KUR					AMB	AMB		11 04 47.0	
	5µm,0.3s								
KUR					AMB	AMB		11 04 47.0	
	380nm,0.5s								
KUR					AMB	AMB		11 04 47.0	
	230nm,0.5s								
KUR					AMB	AMB		11 04 47.0	
	610nm,0.5s								
KUR				*e*S			Sn	11 05 02.4	-1.3
KUR				A		A		11 05 06.2	
	550nm,0.2s								
KUR				A		A		11 06 06.0	
	840nm,0.5s								
KUR				A		A		11 06 06.0	
	380nm,0.5s								
YUK	Yuzh-Kuril'sk	1.59	281	↓*i*P			Pn	11 04 46.1	-0.8
YUK					AMB	AMB		11 04 48.3	
	267nm,0.4s								
YUK				*i* S			Sn	11 05 04.6	-1.7
YUK				A		A		11 05 11.1	
	63nm,0.4s								
YUK				A		A		11 05 11.1	
	961nm,0.4s								
NEM2	Nemuro 2	1.71	258	P			Pn	11 04 47.6	-0.8
NEM2				*e*S			Sn	11 05 07.0	-2.1
JRA	Rausu	2.11	276	P			Pn	11 04 54.0	0.0
JRA				*e*S			Sn	11 05 18.8	-0.3
JNK	Nakash	2.41	267	P			Pn	11 04 58.0	-0.1
JAK	Akkeshi	2.54	254	P			Pn	11 05 00.1	+0.1
JTKR	Abashiri--Toko	2.99	276	P			Pn	11 05 07.0	+0.9
JTKR				*e*S			Sn	11 05 41.0	+0.3
JAR	Ashorobuto	3.13	263	P			Pn	11 05 09.1	+1.0
JMP	Maruseppu	3.39	276	P			Pn	11 05 12.7	+1.1
JCH	Churui	3.60	253	P			Pn	11 05 15.1	+0.7
JKK2	Kamakawa 2	3.83	274	P			Pn	11 05 20.2	+2.6
JFR	Furan	4.00	263	P			Pn	11 05 21.8	+1.8
JNBK	Urakawa-nobuka	4.14	251	P			Pn	11 05 23.2	+1.3
YSS	Yuzh-Sakhalins	4.91	313	eP			Pn	11 05 34.0	+1.5

IDC 08 11:09:07.2±6.5, 6.°11S×151.°41E, h59km±53km, mb3.5/4, mb1 3.8/5, mb1mx3.4/18, mbtmp3.5/5, ML2.6/1, Error ellipse: s-maj=95.4km s-min=34.6km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.33	232	P		P	Pn	11 10 25.7	+1.4
	1.3nm,0.3s,baz=45,slow=7.1,SNR=2.4								
PMG				S			Sn	11 11 24.8	+0.3
	0.8nm,0.3s,baz=234,slow=19,SNR=1.6								
WRA	Warramunga Arr	21.54	229	P		P		11 13 51.3	-0.5
	0.8nm,0.5s,baz=55,slow=11,SNR=13								
ASAR	Alice Springs	24.25	222	P		P		11 14 19.1	+0.1
	2.6nm,0.7s,baz=54,slow=9.2,SNR=41								
FITZ	Fitzroy Crossi	27.82	242	P		P		11 14 51.1	-0.1
	1.4nm,0.7s,baz=57,slow=10.0,SNR=5.9								
ILAR	Eielson Array	83.89	22	P		P		11 21 29.8	-0.6
	0.4nm,0.7s,baz=253,slow=4.9,SNR=4.5								
TORD	Torodi Ar. Bea	149.36	285	PKPbc		PKPbc		11 28 51.1	+0.5
	0.9nm,1.1s,baz=64,slow=1.8,SNR=3.0								

IDC 08 11:12:10.7±1.6, 12.°77S×166.°33E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.9/19, mbtmp4.0/7, ML4.1/1, Error ellipse: s-maj=49.7km s-min=27.2km az=120.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	9.26	179	Pn		P	Pn	11 14 25.5	-0.2
	1.8nm,0.3s,baz=339,slow=18,SNR=12								
WRA	Warramunga Arr	31.47	253	P		P		11 18 34.2	-0.2
	0.6nm,0.7s,baz=84,slow=9.0,SNR=5.4								
ASAR	Alice Springs	32.57	246	P		P		11 18 43.6	-0.5
	1.1nm,0.7s,baz=70,slow=9.7,SNR=15								
SONM	Songino Array	80.38	324	P		P		11 24 23.1	-1.1
	0.7nm,0.7s,baz=143,slow=6.0,SNR=5.3								
ILAR	Eielson Array	84.95	18	P		P		11 24 47.0	-0.4
	0.5nm,0.6s,baz=249,slow=4.8,SNR=8.6								
MKAR	Makanchi Array	95.16	317	P		P		11 25 37.0	+0.9
	1.3nm,0.9s,baz=100,slow=6.7,SNR=9.7								
ZALV	Zalesovo Beam	95.27	324	P		P		11 25 36.8	+0.4
	0.4nm,0.3s,baz=90,slow=1.4,SNR=3.4								
TORD	Torodi Ar. Bea	165.02	273	PKPab		PKPab		11 33 15.1	+0.5
	1.8nm,1.0s,baz=93,slow=5.8,SNR=6.1								

*IDC **08** 11:13:45.9±0.8, 11.°43S×166.°29E, h0km, mb4.4/15, mb1 4.6/17, mb1mx4.4/23, mbtmp4.5/17, ML3.4/1, MS5.1/1, Ms1 5.1/1, ms1mx4.0/38, Error ellipse: s-maj=21.8km s-min=17.0km az=117.0*
*ISCJB **08** 11:13:50.2±0.5, 11.°47S±0.°06×166.°19E±0.°08, h37km, mb4.5/19, MS5.0/1, Error ellipse: s-maj=11.2km s-min=8.3km az=14.2*
*NEIC **08** 11:13:51.7±0.4, 11.°45S×166.°20E, h35km, mb4.8/6, Error ellipse: s-maj=10.2km s-min=8.1km az=114.0*
*AUST **08** 11:13:53.7, 11.°43S×165.°47E, h0km*

ISC 08 11:13:52.0±0.5, 11.°43S±0.°07×166.°21E±0.°09, h37km, n56, σ0s94/58, mb4.5/20, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	Honiara	6.47	287	Pn		Pn	Pn	11 15 25.3	+0.5
HNR	Honiara	6.47	287	Pn		Pn	Pn	11 15 25.3	+0.5
	54nm,0.3s,baz=133,slow=2.6,SNR=31								
DZM	Mont Dzumac	10.58	179	Pn		Pn	Pn	11 16 22.0	+0.7
DZM	Mont Dzumac	10.58	179	Pn		Pn	Pn	11 16 22.0	+0.7
	6.1nm,0.3s,baz=23,slow=20,SNR=9.2								
TARA	Tarawa	14.35	28	ePn			Pn	11 17 14.9	+2.2
	133nm,0.9s								
PMG	Port Moresby	18.84	274	P		P	Pn	11 18 09.8	+0.1
PMG	Port Moresby	18.84	274	P		P	Pn	11 18 09.8	+0.1
	0.4nm,0.3s,baz=16,slow=3.5,SNR=3.6								
PATS	Pohnpei	19.78	336	P		P	Pn	11 18 21.1	+0.2
	baz=20,SNR=6.9								
CTA	Charters Tower	21.02	243	P		P	P	11 18 34.1	+1.4
CTA	Charters Tower	21.02	243	P		P	P	11 18 34.1	+1.4
	8.8nm,0.8s,baz=74,slow=12,SNR=7.1								
CTAO	Charters Tower	21.02	243	eP		P	P	11 18 33.8	+1.1
	12nm,0.8s								
RMQ	Roma	22.24	225	P		P	P	11 18 48.1	+2.4
	baz=22,SNR=5.6								
ARMA	Armidale	23.24	213	P		P	P	11 18 58.4	+2.2
	baz=23,SNR=5.1								
QLP	Quilpie	25.60	231	P		P	P	11 19 18.7	+0.7
	baz=25,SNR=6.0								
STKA	Stephens Creek	30.48	224	P		P	P	11 20 01.4	-0.1
STKA	Stephens Creek	30.48	224	P		P	P	11 20 02.5	+1.0
	baz=30,SNR=7.0								
STKA	Stephens Creek	30.48	224	P		P	P	11 20 01.4	-0.1
	4.5nm,0.7s,baz=42,slow=8.9,SNR=8.3								
WRAB	Tennant Creek	31.77	251	eP		P	P	11 20 12.4	-0.7
	16nm,1.3s								
WRA	Warramunga Arr	31.78	251	P		P	P	11 20 12.5	-0.6
WRA	Warramunga Arr	31.78	251	P		P	P	11 20 12.5	-0.6
	6.9nm,0.8s,baz=82,slow=9.1,SNR=26								
TOO	Toolangi	31.98	212	P		P	P	11 20 15.9	+1.2
	baz=32,SNR=5.2								
RPZ	Rata Peaks	32.44	173	eP		P	P	11 20 17.7	-0.9
RPZ	Rata Peaks	32.44	173	P		P	P	11 20 17.8	-0.8
	7.0nm,0.5s,baz=57,slow=7.0,SNR=11								
RPZ					LR		LR	11 30 09.9	
	comp=Z,3µm,18.2s,baz=298,slow=30								
AS31	Alice Springs	33.02	244	eP		P	P	11 20 23.1	-1.0
ASAR	Alice Springs	33.03	244	P		P	P	11 20 23.1	-1.0
ASAR					PcP		PcP	11 23 07.5	0.0
ASAR	Alice Springs	33.03	244	P		P	P	11 20 23.1	-1.0
	5.3nm,0.7s,baz=74,slow=9.3,SNR=23								
ASAR					PcP		PcP	11 23 07.5	0.0
	1.8nm,1.0s,baz=60,slow=3.2,SNR=4.3								
KNRA	Kununurra	36.61	259	P		P	P	11 20 54.9	-0.2
	baz=36,SNR=6.3								
FITZ	Fitzroy Crossi	39.72	255	P		P	P	11 21 20.7	-0.6
FITZ	Fitzroy Crossi	39.72	255	P		P	P	11 21 21.1	-0.2
	baz=39,SNR=7.4								
FITZ	Fitzroy Crossi	39.72	255	P		P	P	11 21 20.7	-0.6
	5.4nm,0.7s,baz=90,slow=7.0,SNR=14								
KAPI	Kappang	46.37	274	P		P	P	11 22 13.9	-1.2
KAPI	Kappang	46.37	274	P		P	P	11 22 13.9	-1.2
	8.3nm,0.9s,baz=127,slow=5.2,SNR=5.1								
MEEK	Meekatharra	47.19	244	P		P	P	11 22 22.1	+0.7
	baz=46,SNR=5.4								
USRK	Ussuriysk Arra	63.49	333	P		P	P	11 24 18.6	+0.2
	4.6nm,1.0s,baz=142,slow=9.5,SNR=4.8								
PETK	Petropavlovsk-	64.69	354	P		P	P	11 24 25.2	-0.9
PETK	Petropavlovsk-	64.69	354	P		P	P	11 24 25.2	-0.9
	3.3nm,0.9s,baz=163,slow=5.4,SNR=2.6								
VNDA	Vanda	66.12	181	P		P	P	11 24 34.4	-0.7
VNDA	Vanda	66.12	181	P		P	P	11 24 34.4	-0.7
	3.1nm,0.8s,baz=356,slow=6.5,SNR=7.0								
SBA	Scott Base	66.41	180	eP		P	P	11 24 37.4	+0.5
	9.0nm,1.0s								
CM31	Chiang Mai Arr	72.68	294	eP		P	P	11 25 17.0	+0.3
CHTO	Chiang Mai	72.79	294	eP		P	P	11 25 17.6	+0.3
	56nm,1.3s								
QSPA	South Pole Qui	78.57	180	eP		P	P	11 25 48.8	-0.9
	20nm,1.0s								
ULN	Ulaanbaatar	78.88	324	eP		P	P	11 25 51.7	0.0
	5.3nm,1.1s								
SONM	Songino Array	79.24	324	P		P	P	11 25 53.5	-0.1
SONM	Songino Array	79.24	324	P		P	P	11 25 53.5	-0.1
	2.0nm,0.9s,baz=141,slow=6.7,SNR=9.7								
ILAR	Eielson Array	83.73	18	P		P	P	11 26 15.8	-1.1
ILAR	Eielson Array	83.73	18	P		P	P	11 26 15.8	-1.1
	0.7nm,0.6s,baz=251,slow=4.7,SNR=5.6								
NVAR	Mina Array Bea	85.93	50	P		P	P	11 26 29.1	+0.3
NVAR	Mina Array Bea	85.93	50	P		P	P	11 26 29.1	+0.3
	0.2nm,0.8s,baz=235,slow=10.0,SNR=3.7								
MK31	Makanchi Array	94.11	317	eP		P	P	11 27 06.3	-0.6
MKAR	Makanchi Array	94.11	317	P		P	P	11 27 06.2	-0.7
MKAR	Makanchi Array	94.11	317	P		P	P	11 27 06.2	-0.7
	4.1nm,0.9s,baz=101,slow=6.3,SNR=16								
ZALV	Zalesovo Beam	94.13	324	P		P	P	11 27 05.2	-1.5
ZALV	Zalesovo Beam	94.13	324	P		P	P	11 27 05.2	-1.5
	1.2nm,0.7s,baz=95,slow=5.2,SNR=5.7								
KEST	Kesra	148.00	323	PKPbc		PKPbc	PKPbc	11 33 35.2	+1.1
KEST	Kesra	148.00	323	PKPbc		PKPbc	PKPbc	11 33 35.2	+1.1
	2.0nm,0.8s,baz=359,slow=4.1,SNR=4.4								

IDC 08 11:15:18.7±8.5, 11.°64S×166.°28E, h0km, mb4.3/4, mb1 4.4/4, mb1mx3.9/18, mbtmp4.3/4, Error ellipse: s-maj=254.0km s-min=52.6km az=127.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	31.78	251	P		P	P	11 21 45.0	-0.1
	2.1nm,0.8s,baz=81,slow=8.3,SNR=2.4								
ASAR	Alice Springs	33.00	244	P		P	P	11 21 55.6	-0.3
	2.7nm,0.7s,baz=71,slow=9.8,SNR=3.4								
FITZ	Fitzroy Crossi	39.74	256	P		P	P	11 22 53.5	+0.1
	1.8

IDC 08 11:32:10.2±1.6, 12°09S×165°93E, h0km, mb3.9/5, mb1 4.0/7, mb1mx3.8/18, mbtmp4.0/7, ML4.1/2, Error ellipse: s-maj=40.5km s-min=28.4km az=121.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.44 294**		Pn	Pn	11 33 48.5	+2.1
	20nm,0.3s,baz=13,slow=11,SNR=6.8						
HNR				Sn	Sn	11 35 00.2	-0.5
	4.3nm,0.3s,baz=2.7,slow=18,SNR=2.1						
DZM	**Mont Dzumac**	**9.94 177**		Pn	Pn	11 34 34.9	+0.4
	0.3nm,0.3s,baz=13,slow=18,SNR=1.7						
WRA	**Warramunga Arr**	**31.31 251**		P	P	11 38 32.1	-0.3
	0.9nm,0.8s,baz=81,slow=9.1,SNR=7.5						
ASAR	**Alice Springs**	**32.50 245**		P	P	11 38 42.8	-0.2
	0.8nm,0.7s,baz=71,slow=9.1,SNR=13						
SONM	**Songino Array**	**79.61 324**		P	P	11 44 19.3	-0.2
	0.5nm,0.4s,baz=150,slow=6.3,SNR=5.1						
ILAR	**Eielson Array**	**84.44 18**		P	P	11 44 44.9	+0.6
	0.2nm,0.6s,baz=254,slow=5.1,SNR=5.6						
MKAR	**Makanchi Array**	**94.40 317**		P	P	11 45 31.4	-0.7
	1.1nm,0.6s,baz=90,slow=6.1,SNR=11						

*IDC **08** 11:34:57.8±0.7, 13°.50S×166°.57E, h0km, mb4.7/17, mb1 4.8/19, mb1mx4.7/23, mbtmp4.7/19, ML4.3/2, Error ellipse: s-maj=21.5km s-min=16.0km az=123.0*
*BJI **08** 11:34:58.7, 13°.61S×167°.28E, h35km, mB5.4/15, mb4.9/35, Ms5.2/17, Ms7 4.9/17*
*ISCJB **08** 11:35:02.9±0.4, 13°.51S±0°.04×166°.49E±0°.07, h39km, mb4.9/42, MS4.9/6, Error ellipse: s-maj=9.6km s-min=5.6km az=4.4*
*MOS **08** 11:35:02.5±1.2, 13°.45S×166°.36E, h33km, mb5.4/8, Error ellipse: s-maj=13.0km s-min=10.6km az=14.5*
*NEIC **08** 11:35:03.5±0.3, 13°.44S×166°.53E, h35km, mb5.1/14, Error ellipse: s-maj=9.8km s-min=7.9km az=125.0*
*DJA **08** 11:35:23.5±3.6, 14°S±12°×16°6E±1°8, h156km±27km, M4.5/13, mb4.5/13*
*AUST **08** 11:35:23.9±3.8, 13°.64S×166°.02E, h202km, Error ellipse: s-maj=1.8km s-min=1.4km az=287.0*

ISC 08 11:35:04.4±0.5, 13°49S±0°05×166°53E±0°08, h39km, n134, σ1°38/161, mb5.0/42, MS4.9/6, 2C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.61 301**		Pn	**Pn**	**11 36 51.4**	**-1.4**
HNR				Sn	**Sn**	**11 38 14.7**	**-3.2**
HNR	**Honiara**	**7.61 301**		Pn	**Pn**	**11 36 51.4**	**-1.4**
	23nm,0.3s,baz=221,slow=1.9,SNR=10.0						
HNR				Sn	**Sn**	**11 38 14.7**	**-3.2**
	12nm,0.3s,baz=128,slow=21,SNR=1.5						
DZM	**Mont Dzumac**	**8.54 181**		Pn	**Pn**	**11 37 06.5**	**+0.9**
DZM				Sn	**Sn**	**11 38 41.7**	**+0.9**
DZM	**Mont Dzumac**	**8.54 181**		Pn	**Pn**	**11 37 06.5**	**+0.9**
	1.4nm,0.3s,baz=33,slow=17,SNR=10						
DZM				Sn	**Sn**	**11 38 41.7**	**+0.9**
	baz=23,slow=19,SNR=1.0						
EIDS	**Eidsvold**	**18.74 229**		*e*Pn	**Pn**	**11 39 21.1**	**+0.4**
	77nm,1.2s						
EIDS	**Eidsvold**	**18.74 229**		P	**Pn**	**11 39 22.4**	**+1.7**
	baz=18,SNR=12						
LHI	**Lord Howe Isla**	**19.21 200**		P	**P**	**11 39 24.8**	**-0.4**
	baz=19,SNR=5.5						
PMG	**Port Moresby**	**19.41 280**		P	**P**	**11 39 27.5**	**0.0**
	54nm,1.1s						
PMG	**Port Moresby**	**19.41 280**		P	**P**	**11 39 26.7**	**-0.8**
PMG	**Port Moresby**	**19.41 280**		P	**P**	**11 39 26.7**	**-0.8**
	0.8nm,0.3s,baz=83,slow=4.9,SNR=5.8						
CTA	**Charters Tower**	**20.48 249**		P	**P**	**11 39 38.5**	**-0.7**
CTA	**Charters Tower**	**20.48 249**		P	**P**	**11 39 38.5**	**-0.7**
	6.7nm,0.9s,baz=80,slow=15,SNR=3.7						
CTAO	**Charters Tower**	**20.48 249**		*e*P	Pn	11 39 40.4	-1.1
CTAO				pmax	pmax		
	comp=Z,14nm,0.9s						
CTAO	**Charters Tower**	**20.48 249**		*e*P	Pn	11 39 40.4	-1.1
	comp=Z,14nm,0.9s						
RMQ	**Roma**	**21.09 229**		P	**P**	**11 39 47.8**	**+2.2**
	baz=21,SNR=27						
ARMA	**Armidale**	**21.75 217**		P	**P**	**11 39 54.7**	**+1.9**
	baz=21,SNR=5.6						
PATS	**Pohnpei**	**21.78 338**		P	**P**	**11 39 54.9**	**+1.8**
	baz=22,SNR=4.9						
COEN	**Coen**	**22.70 266**		P	**P**	**11 40 03.1**	**+0.2**
	baz=22,SNR=6.6						
QLP	**Quilpie**	**24.62 235**		P	**P**	**11 40 21.7**	**+0.4**
	baz=24,SNR=12						
CMSA	**Cobar Meteorol**	**26.25 223**		P	**P**	**11 40 36.7**	**+0.7**
	baz=26,SNR=12						
STKA	**Stephens Creek**	**29.28 227**		*e*P	**P**	**11 41 03.6**	**+0.5**
STKA	**Stephens Creek**	**29.28 227**		P	**P**	**11 41 04.0**	**+0.9**
	baz=29,SNR=5.2						
STKA	**Stephens Creek**	**29.28 227**		P	**P**	**11 41 02.7**	**-0.5**
	comp=Z,8.0nm,0.5s,baz=27,slow=8.6,SNR=24						
TOO	**Toolangi**	**30.45 214**		P	**P**	**11 41 14.5**	**+1.1**
	baz=30,SNR=6.4						
WRAB	**Tennant Creek**	**31.45 254**		*e*P	**P**	**11 41 20.5**	**-1.9**
WRAB				pmax	pmax		
	comp=Z,26nm,1.4s						
WRAB	**Tennant Creek**	**31.45 254**		*e*P	**P**	**11 41 20.5**	**-1.9**
	comp=Z,26nm,1.4s						
WRA	**Warramunga Arr**	**31.46 254**		P	**P**	**11 41 19.8**	**-2.7**
WRA				ScP	**ScP**	**11 47 58.5**	**+3.0**
WRA	**Warramunga Arr**	**31.46 254**		P	**P**	**11 41 19.8**	**-2.7**
	comp=Z,13nm,1.0s,baz=84,slow=8.9,SNR=37						
WRA				ScP	**ScP**	**11 47 58.5**	**+3.0**
	comp=Z,2.2nm,1.1s,baz=75,slow=3.5,SNR=5.3						
AS31	**Alice Springs**	**32.47 247**		*e*P	**P**	**11 41 29.8**	**-1.7**
ASAR	**Alice Springs**	**32.47 247**		P	**P**	**11 41 29.7**	**-1.7**
ASAR				ScP	**ScP**	**11 48 01.6**	**+2.6**
ASAR	**Alice Springs**	**32.47 247**		P	**P**	**11 41 29.7**	**-1.7**
	comp=Z,6.7nm,0.8s,baz=74,slow=9.7,SNR=51						
ASAR				ScP	**ScP**	**11 48 01.6**	**+2.6**
	comp=Z,2.2nm,1.0s,baz=78,slow=3.0,SNR=4.5						
KDU	**Kakadu**	**33.17 267**		P	**P**	**11 41 37.4**	**-0.2**
	baz=33,SNR=3.4						
KNRA	**Kununurra**	**36.59 262**		P	**P**	**11 42 06.5**	**-0.6**
	baz=36,SNR=21						
FITZ	**Fitzroy Crossi**	**39.56 258**		*e*P	**P**	**11 42 31.2**	**-0.9**
FITZ	**Fitzroy Crossi**	**39.56 258**		P	**P**	**11 42 31.6**	**-0.5**
	baz=39,SNR=7.1						
FITZ	**Fitzroy Crossi**	**39.56 258**		P	**P**	**11 42 30.9**	**-1.2**
	comp=Z,11nm,0.8s,baz=89,slow=7.3,SNR=16						
BATI	**Baumata**	**42.05 270**		P	**P**	**11 42 52.0**	**-0.7**
BATI	**Baumata**	**42.05 270**		P	**P**	**11 42 52.0**	**-0.7**
	comp=Z,11nm,0.7s,baz=250,slow=4.4,SNR=5.4						
MBWA	**Marble Bar**	**45.19 254**		*e*P	**P**	**11 43 18.3**	**+0.3**
	comp=Z,24nm,1.0s						
MEEK	**Meekatharra**	**46.62 246**		P	**P**	**11 43 29.2**	**0.0**
	baz=46,SNR=22						
MORW	**Morawa**	**49.17 243**		P	**P**	**11 43 48.6**	**-0.2**
	baz=49,SNR=5.5						
SBUM	**Sibu**	**56.14 282**		P	**P**	**11 44 41.6**	**+1.0**
	comp=Z,17nm,1.1s						
SBUM	**Sibu**	**56.14 282**		*e*P	**P**	**11 44 41.7**	**+1.0**
	comp=Z,16nm,1.0s						
KSM	**Kuching**	**57.68 280**		P	**P**	**11 44 51.5**	**0.0**
	comp=Z,36nm,1.3s						
KSM	**Kuching**	**57.68 280**		*e*P	**P**	**11 44 51.9**	**+0.3**
	comp=Z,36nm,1.0s						
KSM	**Kuching**	**57.68 280**		P	**P**	**11 44 52.0**	**+0.5**
	baz=57,SNR=7.8						
ASAJ	**Asahikawa**	**61.34 341**		P	**P**	**11 45 15.6**	**-0.6**
ASAJ	**Asahikawa**	**61.34 341**		P	**P**	**11 45 15.6**	**-0.6**
	comp=Z,9.7nm,0.8s,baz=196,slow=19,SNR=7.8						
KSRS	**Korea Array**	**62.32 326**		P	**P**	**11 45 22.6**	**-0.2**
	comp=Z,2.3nm,0.9s,baz=140,slow=8.6,SNR=6.9						
KSAR	**Wonju Array Be**	**62.33 326**		P	**P**	**11 45 22.6**	**-0.3**
YSS	**Yuzh-Sakhalins**	**63.83 342**		*e*P	**P**	**11 45 33.4**	**+0.7**
VNDA	**Vanda**	**64.08 181**		*e*P	**P**	**11 45 34.5**	**+0.5**
VNDA	**Vanda**	**64.08 181**		P	**P**	**11 45 34.2**	**+0.3**
	comp=Z,2.6nm,0.7s,baz=342,slow=5.8,SNR=10						
SBA	**Scott Base**	**64.37 180**		*e*P	P	11 45 39.6	+3.7
SBA				pmax	pmax		
	comp=Z,93nm,2.9s						
SBA	**Scott Base**	**64.37 180**		*e*P	P	11 45 39.6	+3.7
	comp=Z,93nm,2.9s						
QIZ	**Qiongzhong**	**64.52 299**		P	**P**	**11 45 38.2**	**+0.4**
QIZ				S	**S**	**11 54 15.9**	**+1.3**
USRK	**Ussuriysk Arra**	**65.46 333**		P	**P**	**11 45 43.6**	**+0.2**
	comp=Z,15nm,0.9s,baz=139,slow=6.1,SNR=15						
MDJ	**Mudanjiang**	**66.86 332**		P	**P**	**11 45 52.5**	**+0.1**
MDJ				AMB	AMB		
	comp=Z,10.0nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,190nm,4.4s						
IPM	**Ipoh**	**67.41 281**		P	**P**	**11 45 57.2**	**+0.6**
CN2	**Changchun**	**68.22 329**		*e*P	**P**	**11 46 01.0**	**0.0**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s						
SKNT	**Sakolnakorn**	**68.78 294**		P	**P**	**11 46 05.6**	**+0.5**
	comp=Z,34nm,1.8s						
PSI	**Prapat**	**68.97 278**		P	**P**	**11 46 06.2**	**-0.3**
	baz=68,SNR=3.3						
KLR	**Kul'dur**	**69.59 336**		*e*P	P	11 46 06.0	-3.4
GYA	**Guiyang**	**70.42 305**		P	**P**	**11 46 16.8**	**+1.6**
GYA				pP	**pP**	**11 46 27.4**	**+0.4**
GYA				PP	**PP**	**11 48 55.7**	**+4.0**
GYA				S	**S**	**11 55 25.8**	**+0.2**
GYA				SKS	**SKSac**	**11 56 11.0**	**-3.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
GYA				AMB	AMB		
	comp=Z,90nm,5.8s						
GYA				LR	LR		
	comp=Z,380nm,18.7s						
GYA				LR	LR		
	comp=Z,260nm,19.2s						
GYA				LR	LR		
	comp=Z,390nm,18.6s						
BJI	**Beijing**	**70.86 321**		P	**P**	**11 46 17.3**	**0.0**
BJI				S	**S**	**11 55 30.5**	**+0.7**
BJI				AMB	AMB		
	comp=Z,14nm,1.0s						
BJI				LR	LR		
	comp=Z,650nm,16.7s						
BJI				LR	LR		
	comp=Z,580nm,17.3s						
BJI				LR	LR		
	comp=Z,430nm,20.5s						
XAN	**Xi'an**	**72.33 313**		P	**P**	**11 46 26.3**	**-0.1**
XAN				AMB	AMB		
	comp=Z,2.0nm,1.1s						
KMI	**Kunming**	**73.05 302**		P	**P**	**11 46 32.2**	**+1.1**
KMI				pP	**PcP**	**11 46 45.4**	**-2.4**
KMI				sP	**sP**	**11 46 51.1**	**+3.7**
KMI				AMB	AMB		
	comp=Z,15nm,1.0s						
CMAR	**Chiang Mai Arr**	**73.80 294**		P	**P**	**11 46 36.4**	**+1.0**
CMAR	**Chiang Mai Arr**	**73.80 294**		P	**P**	**11 46 36.4**	**+1.0**
	comp=Z,4.8nm,0.8s,baz=123,slow=4.7,SNR=30						
CHTO	**Chiang Mai**	**73.92 294**		*e*P	**P**	**11 46 36.3**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,31nm,1.2s						
CHTO	**Chiang Mai**	**73.92 294**		*e*P	**P**	**11 46 36.3**	**+0.2**
	comp=Z,31nm,1.2s						
CHTO	**Chiang Mai**	**73.92 294**		P	**P**	**11 46 37.2**	**+1.1**
	comp=Z,102nm,0.8s						
HHC	**Hu-ho-hao-te**	**74.18 320**		*e*P	**P**	**11 46 37.7**	**+0.4**
HHC				PP	**PP**	**11 49 25.7**	**+2.2**
HHC				S	**S**	**11 56 08.2**	**+0.1**
HHC				SKS	**SKSac**	**11 56 38.1**	**-3.9**
HHC				ScS	**SKKSac**	**11 56 42.4**	**+0.1**
HHC				SS	**SS**	**12 00 56.5**	**+2.1**
HHC				AMB	AMB		
	comp=Z,45nm,1.1s						
HHC				LR	LR		
	comp=Z,500nm,16.5s						
HHC				LR	LR		
	comp=Z,370nm,16.7s						
HHC				LR	LR		
	comp=Z,460nm,17.8s						
CD2	**Chengdu**	**74.69 308**		P	**P**	**11 46 41.3**	**+0.9**
CD2				pP	**pP**	**11 46 52.1**	**-0.2**
CD2				PP	**PP**	**11 49 31.0**	**+3.0**
CD2				S	**S**	**11 56 14.3**	**+0.2**
CD2				SS	**SS**	**12 01 04.6**	**+2.2**
CD2				AMB	AMB		
	comp=Z,20nm,0.5s						
CD2				LR	LR		
	comp=Z,770nm,17.8s						
CD2				LR	LR		
	comp=Z,800nm,16.7s						
QSPA	**South Pole Qui**	**76.53 180**		*e*P	**P**	**11 46 50.1**	**-0.4**
	comp=Z,12nm,1.0s						
LZH	**Lanzhou**	**76.96 312**		*e*P	**P**	**11 46 54.7**	**+1.3**
LZH				pP	**pP**	**11 47 05.2**	**-0.1**
LZH				*e*PP	**PP**	**11 49 50.0**	**+2.8**
LZH				*e*S	**S**	**11 56 40.1**	**+0.9**
LZH				*e*SS	**SS**	**12 01 40.5**	**+3.6**
LZH				AMB	AMB		
	comp=Z,28nm,1.5s						
LZH				AMB	AMB		
	comp=Z,120nm,8.3s						
LZH				LR	LR		
	comp=Z,370nm,17.2s						
LZH				LR	LR		
	comp=Z,320nm,16.8s						
LZH				LR	LR		
	comp=Z,500nm,19.3s						
SEY	**Seymchan**	**76.97 353**		i*P*	**P**	**11 46 54.9**	**+2.3**
ULN	**Ulaanbaatar**	**80.72 324**		*e*P	**P**	**11 47 14.2**	**+0.5**
	comp=Z,19nm,0.8s						
SONM	**Songino Array**	**81.08 324**		P	**P**	**11 47 15.9**	**+0.2**
SONM	**Songino Array**	**81.08 324**		P	**P**	**11 47 15.9**	**+0.2**
	comp=Z,8.1nm,1.0s,baz=138,slow=6.0,SNR=30						
GTA	**Gaotai**	**81.30 314**		P	**P**	**11 47 18.0**	**+1.0**
GTA				pP	**pP**	**11 47 28.2**	**-0.8**
GTA				S	**S**	**11 57 26.2**	**+1.1**
GTA				AMB	AMB		
	comp=Z,19nm,1.1s						
GTA				LR	LR		
	comp=Z,360nm,17.6s						
GTA				LR	LR		
	comp=Z,360nm,18.3s						
GTA				LR	LR		
	comp=Z,460nm,17.1s						
MAW	**Mawson**	**82.76 202**		P	**P**	**11 47 23.7**	**-0.3**
MAW	**Mawson**	**82.76 202**		P	**P**	**11 47 23.7**	**-0.3**
	comp=Z,2.2nm,0.9s,baz=102,slow=6.2,SNR=5.8						
CAST	**Castle Rocks**	**83.03 17**		*e*P	**P**	**11 47 26.2**	**+0.8**
	comp=Z,148nm,2.9s						
ZAK	**Zakamensk**	**84.13 325**		*e*P	**P**	**11 47 30.5**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,12nm,1.2s						
TLY	**Talaya**	**84.57 326**		*e*P	**P**	**11 47 33.9**	**+0.4**
TLY				*e*		11 47 43.4	
TLY				pmax	pmax		
	comp=Z,18nm,0.7s						
COLA	**College**	**85.36 18**		*e*P	**P**	**11 47 35.8**	**-1.3**
COLA				pmax	pmax		
	comp=Z,30nm,0.9s						
COLA	**College**	**85.36 18**		*e*P	**P**	**11 47 35.8**	**-1.3**
	comp=Z,30nm,0.9s						
ILAR	**Eielson Array**	**85.58 18**		P	**P**	**11 47 36.2**	**-2.0**
ILAR	**Eielson Array**	**85.58 18**		P	**P**	**11 47 36.2**	**-2.0**
	comp=Z,3.5nm,0.5s,baz=234,slow=5.5,SNR=55						
MOY	**Mondy**	**86.01 325**		*e*P	**P**	**11 47 40.7**	**-0.2**
BAR	**Barrett**	**86.40 55**		*e*P	**P**	**11 47 42.1**	**-1.0**
	comp=Z,9.3nm,0.3s						
TAPN	**Taplejung**	**86.46 299**		*e*P	**P**	**11 47 44.0**	**+0.1**
ODAN	**Odare**	**86.59 298**		*e*P	**P**	**11 47 44.5**	**+0.1**
NVAR	**Mina Array Bea**	**87.01 49**		P	**P**	**11 47 46.5**	**+0.2**
NVAR	**Mina Array Bea**	**87.01 49**		P	**P**	**11 47 46.5**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=229,slow=8.9,SNR=4.9						
RAMN	**Ramite**	**87.29 298**		*e*P	**P**	**11 47 47.6**	**-0.2**
JIRN	**Jiri**	**87.84 299**		*e*P	**P**	**11 47 50.6**	**0.0**
GUN	**Gumba**	**88.17 299**		*e*P	**P**	**11 47 52.0**	**-0.2**
	comp=Z,23nm,0.8s						
PKI	**Pulchoki**	**88.48 299**		*e*P	**P**	**11 47 53.2**	**-0.4**
KKN	**Kakani**	**88.65 299**		*e*P	**P**	**11 47 54.0**	**-0.3**
	comp=Z,30nm,0.9s						
DMN	**Daman**	**88.75 299**		*e*P	**P**	**11 47 54.7**	**-0.1**
	comp=Z,49nm,0.8s						
GKN	**Gorkha**	**89.25 299**		*e*P	**P**	**11 47 56.3**	**-0.7**
	comp=Z,39nm,0.9s						
HVS	**Khovu-Aksy**	**89.95 323**		i*P*	**P**	**11 47 58.8**	**-0.8**
HVS				pmax	pmax		
	comp=Z,42nm,1.1s						
KOLN	**Koldanda**	**90.08 298**		*e*P	**P**	**11 47 59.8**	**-1.2**
	comp=Z,6.1nm,0.6s						
DANN	**Dangsing**	**90.09 299**		*e*P	**P**	**11 47 59.7**	**-1.4**
	comp=Z,34nm,0.8s						
WMQ	**Urumqi**	**91.35 315**		*e*P	**P**	**11 48 07.4**	**+1.1**
MAIT	**Maitri**	**94.18 188**		*e*P	**P**	**11 48 16.4**	**-2.4**
MAIT				*e*		11 48 38.8	
SNAA	**Sanae**	**94.74 183**		*e*P	**P**	**11 48 20.4**	**-1.1**
	comp=Z,5.3nm,1.0s						
MK31	**Makanchi Array**	**95.82 317**		*e*P	**P**	**11 48 26.1**	**-0.7**
MK31	**Makanchi Array**	**95.82 317**		*e*P	**P**	**11 48 26.1**	**-0.7**
MKAR	**Makanchi Array**	**95.82 317**		*e*P	**P**	**11 48 26.5**	**-0.3**
MKAR	**Makanchi Array**	**95.82 317**		*e*P	**P**	**11 48 26.5**	**-0.3**
MKAR	**Makanchi Array**	**95.82 317**		P	**P**	**11 48 26.2**	**-0.5**
	comp=Z,4.5nm,0.7s,baz=96,slow=6.5,SNR=40						
ZAA0	**Zalesovo Array**	**95.97 324**		*e*P	**P**	**11 48 25.9**	**-1.3**
ZALV	**Zalesovo Beam**	**95.97 324**		P	**P**	**11 48 26.1**	**-1.1**
ZALV	**Zalesovo Beam**	**95.97 324**		P	**P**	**11 48 26.1**	**-1.1**
ZALV	**Zalesovo Beam**	**95.97 324**		P	**P**	**11 48 26.1**	**-1.1**
	comp=Z,6.4nm,0.8s,baz=113,slow=4.5,SNR=25						
ARCES	**ARCESS Array B**	**118.88 345**		PKP	**PKPdf**	**11 53 46.5**	**-1.7**
ARCES	**ARCESS Array B**	**118.88 345**		PKP	**PKPdf**	**11 53 46.5**	**-1.7**
	comp=Z,4.1nm,0.8s,baz=72,slow=4.0,SNR=14						
FINES	**FINESS Array B**	**124.31 338**		PKP	**PKPdf**	**11 53 58.7**	**0.0**
FINES	**FINESS Array B**	**124.31 338**		PKP	**PKPdf**	**11 53 58.7**	**0.0**
	comp=Z,1.4nm,0.8s,baz=5.7,slow=3.8,SNR=3.4						
AKASG	**Malin Array Be**	**129.31 326**		PKIKP	**PKPdf**	**11 54 08.2**	**-0.4**
AKASG	**Malin Array Be**	**129.31 326**		PKP	**PKPdf**	**11 54 08.2**	**-0.4**
AKASG	**Malin Array Be**	**129.31 326**		PKP	**PKPdf**	**11 54 08.2**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=92,slow=1.2,SNR=4.8						
BRTR	**Keskin Array B**	**131.16 311**		PKP	**PKPdf**	**11 54 11.4**	**-1.3**
BRTR	**Keskin Array B**	**131.16 311**		PKP	**PKPdf**	**11 54 11.4**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=90,slow=1.2,SNR=4.3						
ZST	**Bratislava**	**137.11 330**		*e*PKP	PKPdf	11 54 38.8	+15
KEST	**Kesra**	**149.80 321**		PKPbc	**PKPbc**	**11 54 49.8**	**-1.0**
KEST	**Kesra**	**149.80 321**		PKPbc	**PKPbc**	**11 54 49.8**	**-1.0**
	comp=Z,3.1nm,0.8s,baz=86,slow=0.5,SNR=11						
ESDC	**Sonseca Array**	**152.60 344**		PKPbc	**PKPbc**	**11 54 55.7**	**-1.5**
ESDC	**Sonseca Array**	**152.60 344**		PKPbc	**PKPbc**	**11 54 55.7**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=2.9,slow=3.0,SNR=5.3						
TORD	**Torodi Ar. Bea**	**165.24 270**		PKP	**PKPdf**	**11 55 04.5**	**-1.1**
TORD				PKPab	**PKPab**	**11 56 02.9**	**-0.3**
TORD	**Torodi Ar. Bea**	**165.24 270**		PKP	**PKPdf**	**11 55 04.5**	**-1.1**
	comp=Z,1.3nm,0.9s,baz=336,slow=2.2,SNR=5.2						
TORD				PKPab	**PKPab**	**11 56 02.9**	**-0.3**
	comp=Z,2.4nm,1.1s,baz=95,slow=2.9,SNR=6.7						

*IDC **08** 11:37:40.4±0.7, 12°.99S×166°.13E, h0km, mb4.6/18, mb1 4.7/20, mb1mx4.6/25, mbtmp4.7/20, ML5.4/1, MS4.5/3, Ms1 4.5/3, ms1mx4.0/32, Error ellipse: s-maj=21.1km s-min=14.9km az=100.0*
*ISCJB **08** 11:37:41.8±0.5, 12°.97S±0°.05×166°.09E±0°.07, h20km, mb4.7/19, MS5.1/1, Error ellipse: s-maj=10.4km s-min=7.5km az=167.9*
*NEIC **08** 11:37:45.5±0.4, 13°.01S×166°.13E, h35km, mb4.7/4, Error ellipse: s-maj=10.7km s-min=7.7km az=98.0*
*AUST **08** 11:38:41.3, 14°.83S×162°.81E, h300km*

ISC 08 11:37:43.5±0.5, 12°97S±0°07×166°17E±0°09, h20km, n74, σ0°94/81, mb4.7/19, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.04 299**		Pn	**Pn**	**11 39 25.8**	**+0.3**
HNR				Sn	**Sn**	**11 40 44.5**	**-0.5**
HNR	**Honiara**	**7.04 299**		Pn	**Pn**	**11 39 25.8**	**+0.3**
	68nm,0.3s,baz=3.3,slow=7.4,SNR=5.0						
HNR				Sn	**Sn**	**11 40 44.5**	**-0.5**
	baz=29,slow=23,SNR=1.8						
HNR				LR	LR	11 41 32.0	
	comp=Z,1μm,19.7s,baz=98,slow=33						
DZM	**Mont Dzumac**	**9.06 178**		Pn	**Pn**	**11 39 53.5**	**+0.2**
DZM	**Mont Dzumac**	**9.06 178**		Pn	**Pn**	**11 39 53.5**	**+0.2**
	baz=27,slow=18,SNR=0.9						
DZM				LR	LR	11 42 59.6	
	comp=Z,2μm,19.8s,baz=177,slow=35						
EIDS	**Eidsvold**	**18.82 227**		*e*P	**Pn**	**11 42 02.4**	**-0.3**
	63nm,1.4s						
CTA	**Charters Tower**	**20.35 247**		P	**P**	**11 42 18.9**	**+0.1**
CTA	**Charters Tower**	**20.35 247**		P	**P**	**11 42 18.9**	**+0.1**
	10nm,0.7s,baz=73,slow=11,SNR=5.3						
CTAO	**Charters Tower**	**20.35 247**		*e*P	**P**	**11 42 19.4**	**+0.5**
	14nm,0.8s						
RMQ	**Roma**	**21.16 228**		P	**P**	**11 42 29.1**	**+1.5**
	baz=18,SNR=19						
ARMA	**Armidale**	**21.96 215**		P	**P**	**11 42 39.5**	**+3.3**
	baz=19,SNR=3.9						
COEN	**Coen**	**22.38 265**		P	**P**	**11 42 41.2**	**+0.4**
	baz=19,SNR=4.4						
QLP	**Quilpie**	**24.63 233**		P	**P**	**11 43 03.3**	**+0.5**
	baz=21,SNR=7.6						
CMSA	**Cobar Meteorol**	**26.39 222**		P	**P**	**11 43 18.7**	**+0.1**
	baz=23,SNR=6.6						
STKA	**Stephens Creek**	**29.38 226**		P	**P**	**11 43 45.8**	**+0.4**
STKA	**Stephens Creek**	**29.38 226**		P	**P**	**11 43 45.8**	**+0.4**
	baz=26,SNR=9.7						
STKA	**Stephens Creek**	**29.38 226**		P	**P**	**11 43 45.8**	**+0.4**
	6.0nm,0.7s,baz=48,slow=7.5,SNR=11						
TOO	**Toolangi**	**30.68 213**		P	**P**	**11 43 57.5**	**+0.5**
	baz=27,SNR=5.1						
RPZ	**Rata Peaks**	**30.93 173**		P	**P**	**11 43 58.9**	**-0.1**
RPZ	**Rata Peaks**	**30.93 173**		P	**P**	**11 43 58.9**	**-0.1**
	17nm,0.7s,baz=67,slow=9.6,SNR=9.6						
WRA	**Warramunga Arr**	**31.26 253**		P	**P**	**11 44 00.2**	**-2.0**
WRA	**Warramunga Arr**	**31.26 253**		P	**P**	**11 44 00.2**	**-2.0**
	4.6nm,0.8s,baz=83,slow=6.8,SNR=8.5						
AS31	**Alice

ARCES	ARCESS Array B	118.28	345	PKP	PKPdf	11 56 28.2	-0.6
ARCES	ARCESS Array B	118.28	345	PKP	PKPdf	11 56 28.2	-0.6
	3.7nm,0.8s,baz=83,slow=2.5,SNR=8.2						
AKASG	Malin Array Be	128.68	326	PKP	PKPdf	11 56 49.7	+0.4
AKASG	Malin Array Be	128.68	326	PKP	PKPdf	11 56 49.7	+0.4
	0.2nm,0.3s,baz=65,slow=1.8,SNR=6.8						
BNI	Bardonecchia	143.56	335	ePKPdf	PKPdf	11 57 16.1	-1.1
SSB	Saint Sauveur	144.20	338	ePKPdf	PKPdf	11 57 17.6	-0.6
VSL	Villasalto	146.56	326	ePKPdf	PKPdf	11 57 22.0	-0.4
KEST	Kesra	149.17	321	ePKPbc	PKPbc	11 57 31.6	+0.5
KEST	Kesra	149.17	321	PKPbc	PKPbc	11 57 31.3	+0.2
	5.1nm,0.8s,baz=223,slow=0.4,SNR=12						
ESDC	Sonseca Array	152.00	344	PKPbc	PKPbc	11 57 37.3	-0.4
ESDC				PKPab	PKPab	11 57 47.6	+0.7
ESDC	Sonseca Array	152.00	344	PKPbc	PKPbc	11 57 37.3	-0.4
	0.6nm,0.5s,baz=343,slow=4.5,SNR=6.7						
ESDC				PKPab	PKPab	11 57 47.6	+0.7
	2.4nm,0.8s,baz=27,slow=3.3,SNR=7.8						
TORD	Torodi Ar. Bea	164.87	272	PKP	PKPdf	11 57 44.6	-2.5
TORD				PKPab	PKPab	11 58 43.0	-0.4
TORD	Torodi Ar. Bea	164.87	272	PKP	PKPdf	11 57 44.6	-2.5
	1.3nm,1.1s,baz=186,slow=2.9,SNR=3.8						
TORD				PKPab	PKPab	11 58 43.0	-0.4
	1.2nm,0.8s,baz=90,slow=4.5,SNR=5.2						

IDC 08 11:44:58.2±1.2, 13°.53S×166°.52E, h0km, mb4.3/10, mb1 4.3/12, mb1mx4.1/21, mbtmp4.3/12, ML3.7/2, Error ellipse: s-maj=36.3km s-min=20.0km az=120.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	7.62	302	Pn	Pn	11 46 51.0	+0.5
	11nm,0.3s,baz=187,slow=7.1,SNR=3.6						
DZM	Mont Dzumac	8.50	180	Pn	Pn	11 47 02.8	0.0
	0.1nm,0.3s,baz=22,slow=18,SNR=1.3						
STKA	Stephens Creek	29.24	227	P	P	11 51 02.8	+0.7
	1.3nm,0.6s,baz=337,slow=23,SNR=7.7						
WRA	Warramunga Arr	31.43	254	P	P	11 51 21.1	-0.5
	2.5nm,0.9s,baz=86,slow=9.2,SNR=13						
ASAR	Alice Springs	32.44	247	P	P	11 51 30.3	-0.2
	1.6nm,0.8s,baz=71,slow=9.8,SNR=17						
FITZ	Fitzroy Crossi	39.54	258	P	P	11 52 31.3	0.0
	3.1nm,0.8s,baz=126,slow=7.6,SNR=4.8						
ASAJ	Asahikawa	61.37	341	P	P	11 55 16.2	+0.2
	10nm,0.9s,baz=224,slow=15,SNR=5.9						
USRK	Ussuriysk Arra	65.49	333	P	P	11 55 43.7	+0.5
	3.7nm,0.8s,baz=100,slow=8.6,SNR=5.0						
SONM	Songino Array	81.10	324	P	P	11 57 15.6	0.0
	1.3nm,0.8s,baz=158,slow=6.1,SNR=6.6						
ILAR	Eielson Array	85.62	18	P	P	11 57 38.8	+0.5
	1.0nm,0.5s,baz=240,slow=4.9,SNR=22						
MKAR	Makanchi Array	95.83	317	P	P	11 58 26.7	0.0
	0.9nm,0.6s,baz=95,slow=6.7,SNR=10						
ZALV	Zalesovo Beam	96.00	324	P	P	11 58 25.4	-1.8
	1.4nm,0.6s,baz=144,slow=5.2,SNR=5.4						
ARCES	ARCESS Array B	118.91	345	PKP	PKPdf	12 03 46.0	-2.2
	5.6nm,1.1s,baz=81,slow=1.6,SNR=5.7						
BRTR	Keskin Array B	131.18	311	PKP	PKPdf	12 04 14.3	+1.6
	0.2nm,0.4s,baz=60,slow=5.7,SNR=2.1						

*ISCJB **08** 11:50:03.6±0.9, 51°.7N±0°.2×175°.06W×0°.06, h10km, mb3.4/2, Error ellipse: s-maj=28.5km s-min=4.8km az=176.0*

*NEIC **08** 11:50:05.9, 51°.83N×175°.19W, h13km, ML3.7(AEIC), After AEIC.*

ISC 08 11:50:04.8±1.4, 51°.7N±0°.2×175°.11W±0°.05, h10km, n12, σ1°27/16, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ADK	Adak	1.00	284	P	Pg	11 50 23.6	-0.5
ADK				S	Sg	11 50 36.3	-0.9
CERAA	Semis' Rag'd T	3.24	276	P	Pn	11 50 56.1	+0.4
CERB	Semis' Cerberu	3.28	277	P	Pn	11 50 57.1	+0.9
CERB				S	Sn	11 51 35.6	+0.4
AMKA	Amchitka	3.50	268	P	Pn	11 50 58.9	-0.3
AMKA				S	Sn	11 51 42.8	+2.1
LSPA	Little Sitkin	3.93	277	P	Pn	11 51 05.7	+0.5
LSPA				S	Sn	11 51 53.6	+2.3
LSNW	Little Sitkin	3.97	277	P	Pn	11 51 05.4	-0.2
OKFG	Magazine Ridge	4.73	65	P	Pn	11 51 16.7	+0.5
MREP	Makushin Rep't	5.52	64	P	Pn	11 51 28.4	+1.4
UNV	Unalaska Valle	5.67	64	P	Pn	11 51 31.2	+2.2
ILAR	Eielson Array	19.61	37	Pn	P	11 54 32.1	-0.8
	0.2nm,0.3s,baz=218,slow=9.8,SNR=10						
NVAR	Mina Array Bea	41.23	86	P	P	11 57 49.3	-0.7
	0.2nm,0.5s,baz=349,slow=9.2,SNR=2.6						
PDAR	Pinedale Array	44.02	75	P	P	11 58 11.5	-1.1
	0.9nm,0.5s,baz=319,slow=3.3,SNR=13						

IDC 08 11:54:03.9±3.7, 10°.94S×165°.29E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/16, mbtmp3.7/4, Error ellipse: s-maj=162.7km s-min=30.8km az=137.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	31.10	249	P	P	12 00 24.7	+0.5
	2.2nm,0.9s,baz=79,slow=9.1,SNR=8.5						
ASAR	Alice Springs	32.44	243	P	P	12 00 35.2	-0.9
	0.8nm,1.0s,baz=62,slow=10,SNR=3.7						
ILAR	Eielson Array	83.55	19	P	P	12 06 33.1	-0.4
	0.2nm,0.6s,baz=241,slow=5.5,SNR=3.7						
MKAR	Makanchi Array	93.13	317	P	P	12 07 20.9	+1.0
	0.5nm,0.8s,baz=90,slow=4.3,SNR=4.3						

*IDC **08** 11:57:29.3±0.6, 7°.11N×82°.26W, h0km, mb4.4/17, mb1 4.6/18, mb1mx4.4/29, mbtmp4.4/18, ML5.2/2, MS3.7/2, Ms1 3.7/2, ms1mx3.4/35, Error ellipse: s-maj=28.3km s-min=12.6km az=58.0*

*NEIC **08** 11:57:34.0±2.4, 7°.15N×82°.16W, h30km±17km, mb4.7/62, Error ellipse: s-maj=9.3km s-min=5.5km az=46.0*

*ISCJB **08** 11:57:36.0±3.2, 7°.9N±0°.1×82°.06W±0°.05, h27km±22km, mb4.6/76, Error ellipse: s-maj=18.1km s-min=8.0km az=7.8*

*BJI **08** 11:57:37.0, 7°.20N×82°.00W, h57km, mB5.0/1, Ms5.1/1, Ms7 4.8/1*

ISC 08 11:57:30.6±0.5, 7°.11N±0°.06×82°.32W±0°.07, h10km, n500, σ1°24/501, mb4.6/76, 180C-174D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BCIP	Isla Barro Col	3.20	50	ePn	Pn	11 58 20.8	-0.2
JTS	JuntasAbangare	4.09	321	Pn	Pn	11 58 32.7	-0.6
JTS				Sn	Sn	11 59 18.2	-3.2
JTS	JuntasAbangare	4.09	321	Pn	Pn	11 58 32.7	-0.6
	285nm,0.3s,baz=111,slow=6.1,SNR=652						
JTS				Sn	Sn	11 59 18.2	-3.2
	14nm,0.3s,baz=313,slow=19,SNR=1.2						
JTS				LR	LR	12 00 21.0	
	comp=Z,1μm,20.1s,baz=168,slow=42						
OTAV	Otavalo	7.84	150	ePn	Pn	11 59 25.1	-0.1
	4.7nm,0.6s						
APG	El Apazote	11.20	315	LR	LR	12 05 21.6	
	comp=Z,361nm,18.2s,baz=111,slow=42						
SDV	Santo Domingo	11.71	81	ePn	Pn	12 00 19.1	+1.1
TEIG	Tepich	14.26	337	ePn	P	12 00 56.5	-3.6
TEIG	Tepich	14.26	337	Pn	Pn	12 00 55.8	+3.0
	0.4nm,0.3s,baz=196,slow=19,SNR=2.6						
SDDR	Presa de Saban	15.95	41	ePn	Pn	12 01 14.2	-1.2
	29nm,0.9s						
CELP	Cerrillos	18.82	53	eP	P	12 01 48.2	-2.4
AOPR	Arecibo Observ	18.83	52	eP	Pn	12 01 52.5	+1.2
	78nm,0.7s						
SJG	San Juan	19.18	54	P	Pn	12 01 55.5	0.0
SJG	San Juan	19.18	54	P	Pn	12 01 55.5	0.0
	0.1nm,0.3s,baz=227,slow=6.9,SNR=11						
HUMP	Col San Antoni	19.44	54	ePn	Pn	12 01 58.6	0.0
	18nm,0.6s						
HKT	Hockley	26.03	332	eP	P	12 03 05.0	+1.0
	12nm,1.0s						
LRAL	Lakeview Retre	26.16	351	eP	P	12 03 05.3	+0.1
	18nm,1.0s						
LPAZ	La Paz	27.16	149	P	P	12 03 15.2	+0.1
LPAZ	La Paz	27.16	149	P	P	12 03 15.2	+0.1
	0.9nm,0.6s,baz=348,slow=8.5,SNR=2.1						
732A	Laxson Ranch,	27.21	324	⇑P	P	12 03 15.3	+0.6
	baz=27						
632A	Uvalde	27.69	326	⇑P	P	12 03 19.4	+0.3
	baz=28,SNR=7.7						
631A	Perdido Creek	28.07	324	⇑P	P	12 03 22.9	+0.4
	baz=28						
532A	Rocksprings	28.23	326	⇑P	P	12 03 24.2	+0.2
	baz=28,SNR=7.7						
TKL	Tuckaleechee C	28.45	358	P	P	12 03 26.6	+0.8
TKL	Tuckaleechee C	28.45	358	P	P	12 03 26.6	+0.8
	3.6nm,0.8s,baz=214,slow=7.3,SNR=2.6						
JCT	Junction City	28.45	327	eP	P	12 03 26.3	+0.4
	9.3nm,0.9s						
JCT	Junction City	28.45	327	⇓P	P	12 03 26.3	+0.4
	baz=29						
WHTX	Lake Whitney	28.50	332	⇑P	P	12 03 26.5	+0.2
	baz=29						
432A	Menard	28.76	328	⇑P	P	12 03 29.1	+0.5
	baz=29						
431A	Sonora	29.05	326	⇑P	P	12 03 31.5	+0.3
	baz=29,SNR=7.5						
530A	J-C Ranch, Com	29.06	324	⇓P	P	12 03 31.9	+0.6
	baz=29,SNR=6.9						
332A	Millersview	29.13	328	⇑P	P	12 03 31.8	-0.1
	baz=29						
331A	San Angelo	29.43	327	⇑P	P	12 03 35.0	+0.4
	baz=30						
430A	Baggett Ranch,	29.48	325	⇓P	P	12 03 35.2	+0.2
	baz=30						
232A	Coleman	29.48	329	⇑P	P	12 03 35.1	+0.1
	baz=30						
628A	Black Gap, Mar	29.50	322	⇑P	P	12 03 36.8	+1.5
	baz=30,SNR=15						
529A	Stev Forest Ra	29.56	323	⇑P	P	12 03 36.5	+0.7
	baz=30,SNR=21						
429A	Davenport Ranc	29.73	324	⇑P	P	12 03 37.6	+0.3
	baz=30,SNR=29						
231A	Bronte	29.86	328	⇑P	P	12 03 38.1	-0.3
	baz=30						
330A	Mertzon	29.91	326	⇓P	P	12 03 38.9	+0.1
	baz=30						
528A	Cox Ranch, San	29.92	323	⇓P	P	12 03 40.1	+1.1
	baz=30,SNR=25						
ABTX	Abilene, Hawle	30.07	330	⇓P	P	12 03 39.9	-0.2
	baz=30						
230A	Sterling City	30.25	327	⇑P	P	12 03 41.6	-0.2
	baz=30						
428A	Kincaid Ranch,	30.27	324	⇑P	P	12 03 43.3	+1.2
	baz=30						
626A	Big Bend Ranch	30.33	320	⇓P	P	12 03 44.0	+1.4
	baz=30,SNR=6.8						
527A	Woodward Ranch	30.41	322	⇑P	P	12 03 44.5	+1.0
	baz=31,SNR=11						
329A	Wagon Wheel Ra	30.42	325	⇑P	P	12 03 44.1	+0.7
	baz=31						
Z32A	Haskell	30.54	331	⇓P	P	12 03 44.0	-0.4
	baz=31,SNR=14						
526A	Mary Lane Ranc	30.65	321	⇓P	P	12 03 46.8	+1.3
	baz=31,SNR=10						
229A	Bryant Ranch,	30.69	326	⇓P	P	12 03 45.7	-0.1
	baz=31						
130A	Snyder	30.72	328	⇑P	P	12 03 45.1	-0.9
	baz=31						
427A	Hayter Ranch,	30.78	323	⇑P	P	12 03 48.4	+1.8
	baz=31						
328A	Wristen Ranch,	30.82	324	⇑P	P	12 03 47.1	+0.2
	baz=31,SNR=5.1						
Z31A	Sharp Cattle R	30.87	330	⇓P	P	12 03 46.4	-0.9
	baz=31,SNR=5.4						
Y32A	R-V Farms, Ver	31.09	332	⇓P	P	12 03 48.7	-0.5
	baz=31,SNR=6.0						
SIV	San Ignacio	31.14	138	P	P	12 03 49.8	0.0
SIV	San Ignacio	31.14	138	P	P	12 03 49.8	0.0
	0.7nm,0.4s,baz=296,slow=6.8,SNR=4.4						
TUL1	Tulsa	31.21	339	eP	P	12 03 49.5	-0.7
	9.8nm,0.8s						
TUL1	Tulsa	31.21	339	⇑P	P	12 03 48.8	-1.5
	baz=31						
129A	Stewart Farms,	31.23	327	⇓P	P	12 03 50.1	-0.4
	baz=31						
228A	UT Block 9, Go	31.24	325	⇓P	P	12 03 50.6	0.0
	baz=31						
Z30A	Sanderson Ranc	31.35	329	⇑P	P	12 03 50.8	-0.8
	baz=32,SNR=9.7						
Y31A	Rekieta Farm,	31.45	331	⇓P	P	12 03 52.1	-0.3
	baz=32,SNR=6.5						
128A	Castleberry Fa	31.56	326	⇑P	P	12 03 53.8	+0.4
	baz=32						
227A	Bennet, Jal	31.56	324	⇑P	P	12 03 53.6	+0.2
	baz=32,SNR=5.6						
Z29A	Hungry Hill Ra	31.63	328	⇑P	P	12 03 53.4	-0.7
	baz=32,SNR=6.6						
Y30A	Stafford Cattl	31.70	330	⇑P	P	12 03 54.2	-0.4
	baz=32,SNR=20						
425A	Indio Mountain	31.71	321	⇓P	P	12 03 55.8	+0.9
	baz=32,SNR=10						
X31A	McDonald Ranch	31.86	332	⇑P	P	12 03 56.0	+0.1
	baz=32						
OLIL	Olney	31.92	351	eP	P	12 03 56.2	-0.1
	29nm,1.0s						
Z28A	Tucker Farm, M	32.01	327	⇑P	P	12 03 57.6	+0.2
	baz=32						
Y29A	Porterfield Fa	32.08	329	⇑P	P	12 03 57.9	-0.1
	baz=32,SNR=7.6						
325A	Bean Ranch, Si	32.10	322	⇑P	P	12 03 58.7	+0.3
	baz=32,SNR=8.9						
226B	Tecolote Peak,	32.12	324	⇑P	P	12 03 59.0	+0.7
	baz=32,SNR=13						
X30A	Coker Ranch, T	32.14	330	⇓P	P	12 03 57.9	-0.6
	baz=32,SNR=7.6						
GDL2	Guadalupe Moun	32.32	323	eP	P	12 04 01.8	+1.6
126A	Clayton Basin,	32.44	324	⇓P	P	12 04 02.0	+0.7
	baz=33						
324A	Moseley Ranch,	32.47	321	⇑P	P	12 04 02.0	+0.5
	baz=33,SNR=23						
Z27A	Tatum	32.48	326	⇑P	P	12 04 02.0	+0.4
	baz=33						
225A	Deer Hill, Car	32.53	323	⇑P	P	12 04 03.1	+1.0
	baz=33,SNR=14						
X29A	Tulia	32.55	329	⇑P	P	12 04 02.4	+0.3
	baz=33						
MNTX	Cornudas Mount	32.58	322	eP	P	12 04 03.0	+0.6
	17nm,1.1s						
MSTX	Muleshoe	32.74	328	eP	P	12 04 03.7	-0.1
MSTX	Muleshoe	32.74	328	⇓P	P	12 04 04.1	+0.3
	baz=33,SNR=7.4						
V31A	Spring Creek L	32.74	333	⇑P	P	12 04 03.6	-0.2
	baz=33						
125A	Gardner Draw,	32.82	324	⇑P	P	12 04 04.8	+0.2
	baz=33,SNR=14						
X28A	Dimmitt	32.86	329	⇓P	P	12 04 04.3	-0.6
	baz=33,SNR=7.6						
Y27A	Causey	32.88	327	⇑P	P	12 04 04.2	-0.9
	baz=33,SNR=12						
224A	Cornudas Mount	32.93	322	⇓P	P	12 04 06.3	+0.7
	baz=33,SNR=14						
Y26A	Elida	33.27	326	⇓P	P	12 04 08.5	0.0
	baz=33						
Z25A	Roswell	33.30	324	⇑P	P	12 04 09.5	+0.7
	baz=34,SNR=10						
124A	Stringfield Ra	33.33	323	⇓P	P	12 04 10.3	+1.2
	baz=34,SNR=16						
SFIN	Scholer Farm	33.40	353	⇑P	P	12 04 08.4	-1.0
	baz=34						
Z24A	Sheeppen Canyo	33.72	324	⇓P	P	12 04 13.3	+0.8
	baz=34,SNR=8.0						
U30A	WK&E Inc. Balk	33.73	333	⇓P	P	12 04 12.1	-0.3
	baz=34,SNR=7.0						
W27A	Bowe Ranch, En	33.73	328	⇑P	P	12 04 12.2	-0.3
	baz=34						
Y25A	Mesa, Roswell	33.76	325	⇓P	P	12 04 13.1	+0.4
	baz=34,SNR=8.0						
T31A	Randall Ranch,	33.78	335	⇓P	P	12 04 12.2	-0.6
	baz=34						
222A	Williams Famil	33.93	320	⇓P	P	12 04 15.2	+1.0
	baz=34						
U29A	Oasis Ranch, S	33.95	332	⇓P	P	12 04 14.6	+0.3
	baz=34						
T30A	Plains	34.11	334	⇑P	P	12 04 15.8	+0.1
	baz=34						
W26A	Owens Ranch, T	34.12	328	⇓P	P	12 04 16.0	+0.1
	baz=34						
V27A	Dan Oppiter Fa	34.16	329	⇓P	P	12 04 16.7	+0.5
	baz=34						
Z23A	Rita Site, Whi	34.18	323	⇓P	P	12 04 18.1	+1.7
	baz=34,SNR=6.9						
Y24A	Capitan	34.19	324	⇑P	P	12 04 17.5	+0.9
	baz=34,SNR=21						
X25A	Clemmons Ranch	34.19	326	⇓P	P	12 04 17.8	+1.3
	baz=34						
221A	Mesquite Ranch	34.30	320	⇑P	P	12 04 19.8	+2.3
	baz=34,SNR=11						
320A	Kipp Ranch, An	34.36	318	⇓P	P	12 04 20.6	+2.6
	baz=34,SNR=17						
T29A	Hugoton	34.54	333	⇓P	P	12 04 19.6	+0.1
	baz=35						
Y23A	Lovelace Mesa,	34.55	324	⇓P	P	12 04 21.6	+1.9
	baz=35						
S30A	Montezuma	34.57	334	⇑P	P	12 04 19.8	+0.1
	baz=35						
W25A	X Bar L Ranch,	34.59	327	⇓P	P	12 04 20.6	+0.7
	baz=35						
Z22A	Elephant Butte	34.62	322	⇓P	P	12 04 21.9	+1.6
	baz=35,SNR=14						
121A	Cookes Peak, D	34.65	320	⇓P	P	12 04 22.7	+2.1
	baz=35,SNR=24						
U27A	Thompson Grove	34.67	330	⇓P	P	12 04 20.0	-0.6
	baz=35,SNR=7.9						
V26A	Tequesquite Ra	34.67	328	⇑P	P	12 04 20.6	-0.1
	baz=35,SNR=13						
220A	Playas Peak, P	34.72	319	⇑P	P	12 04 23.3	+2.2
	baz=35,SNR=25						
R31A	Burdett	34.73	336	⇑P	P	12 04 20.8	-0.2
	baz=35						
319A	Douglas	34.89	317	⇓P	P	12 04 23.8	+1.2
	baz=35,SNR=8.7						
P33A	Williams Farm,	35.03	339	⇓P	P	12 04 22.9	-0.7
	baz=35						
R30A	Dighton	35.04	335	⇑P	P	12 04 23.6	0.0
	baz=35,SNR=10						
Y22A	Socorro	35.09	323	⇑P	P	12 04 26.0	+1.7
	baz=35,SNR=19						
Z21A	St. Cloud Mine	35.09	321	⇓P	P	12 04 26.5	+2.0
	baz=35,SNR=7.1						
W24A	Lazy 6 Ranch,	35.10	326	⇑P	P	12 04 24.9	+0.5
	baz=35						
U26A	Atchley Ranch,	35.11	329	⇓P	P	12 04 24.6	0.0
	baz=35,SNR=8.4						
T27A	Campo	35.13	331	⇓P	P	12 04 24.7	+0.1
	baz=35						
V25A	Rancho No Teng	35.14	328	⇓P	P	12 04 25.4	+0.6
	baz=35,SNR=12						
LPM	Los Pinos Moun	35.16	324	eP	P	12 04 27.2	+2.3
Y22D	IRIS PASSCAL I	35.16	323	⇓P	P	12 04 25.8	+0.8
	baz=35						
S28A	Manter	35.17	332	⇑P	P	12 04 25.1	+0.2
	baz=35						
120A	U Bar Ranch, L	35.20	320	⇓P	P	12 04 27.7	+2.4
	baz=35,SNR=43						
Q31A	Ellis	35.29	337	⇑P	P	12 04 25.4	-0.5
	baz=35,SNR=6.8						
V24A	Rampart Ranch,	35.41	327	⇑P	P	12 04 28.4	+1.3
	baz=36,SNR=6.2						
U25A	Circle Dot Ran	35.46	328	⇓P	P	12 04 27.9	+0.4
	baz=36						
W23A	Werner Place,	35.48	325	⇓P	P	12 04 28.6	+0.8
	baz=36,SNR=12						
ANMO	Albuquerque	35.50	325	eP	P	12 04 29.2	+1.4
	10nm,0.8s						
ANMO	Albuquerque	35.50	325	P	P	12 04 29.3	+1.4
	9.6nm,0.7s,baz=132,slow=8.6,SNR=48						
X22A	Bernardo	35.51	324	⇓P	P	12 04 29.9	+1.9
	baz=36,SNR=6.5						
LAZ	Ladron	35.52	323	eP	P	12 04 28.9	+0.9
	7.7nm,1.1s						
P32A	Huiting Farm,	35.53	338	⇓P	P	12 04 27.6	-0.2
	baz=36						
Z20A	Nine Sixteen R	35.54	320	⇓P	P	12 04 30.3	+2.1
	baz=36,SNR=26						
Y21A	Point of Rocks	35.57	322	⇓P	P	12 04 31.0	+2.5
	baz=36,SNR=28						
T26A	Comanche Natio	35.65	330	⇑P	P	12 04 29.9	+0.8
	baz=36						
P31A	Stockton	35.73	337	⇓P	P	12 04 29.4	-0.2
	baz=36,SNR=6.9						
R28A	Tribune	35.75	333	⇑P	P	12 04 29.8	-0.1
	baz=36,SNR=11						
W22A	Albuquerque	35.83	324	⇑P	P	12 04 32.1	+1.4
	baz=36						
Q29A	Oakley	35.84	335	⇑P	P	12 04 30.3	-0.3
	baz=36,SNR=8.4						
U24A	Moreno Valley	35.92	328	⇓P	P	12 04 32.8	+1.2
	baz=36						
V23A	Ortiz Mt. (NFS	35.92	326	⇑P	P	12 04 32.6	+1.1
	baz=36						
Y20A	Horse Springs,	35.93	322	⇓P	P	12 04 33.9	+2.2
	baz=36,SNR=14						
X21A	Alamocita Cree	35.93	323	⇑P	P	12 04 33.6	+2.0
	baz=36,SNR=24						
S26A	Kim	35.94	331	⇑P	P	12 04 31.6	+0.1
	baz=36,SNR=7.7						
O32A	Brockman Farm,	35.97	339	⇑P	P	12 04 30.9	-0.8
	baz=36						
T25A	Trinidad	36.03	329	⇑P	P	12 04 33.5	+1.1
	baz=36,SNR=11						
P30A	Selden	36.09	336	⇑P	P	12 04 32.3	-0.5
	baz=36,SNR=10.0						
R27A	Eads	36.15	332	⇑P	P	12 04 33.1	-0.2
	baz=36,SNR=5.8						
Q28A	Sharon Springs	36.35	334	⇑P	P	12 04 35.0	0.0
	baz=36,SNR=12						
U23A	El Rito	36.36	327	⇓P	P	12 04 36.5	+1.3
	baz=36,SNR=16						
P29A	Atwood	36.42	335	⇑P	P	12 04 35.7	+0.1
	baz=37,SNR=7.6						
X20A	Quemado	36.43	322	⇑P	P	12 04 37.9	+2.0
	baz=37,SNR=7.6						
S25A	Robets Cordova	36.44	330	⇓P	P	12 04 37.0	+1.1
	baz=37						
R26A	Arlington	36.47	332	⇑P	P	12 04 35.9	-0.1
	baz=37,SNR=6.2						
T24B	San Luis	36.47	328	⇓P	P	12 04 37.7	+1.4
	baz=37,SNR=5.4						
TUC	Tucson	36.47	317	eP	P	12 04 38.0	+2.0
	8.5nm,0.8s						
O30A	MW Ranch, Wils	36.56	337	⇓P	P	12 04 36.6	-0.1
	baz=37,SNR=5.4						
KSCO	Kaye Shedlock'	36.66	333	⇓P	P	12 04 38.1	+0.4
	baz=37						
R25A	Fountain Ranch	36.75	330	⇓P	P	12 04 40.0	+1.5
	baz=37						
U22A	Llaves	36.76	326	⇓P	P	12 04 40.2	+1.5
	baz=37,

	baz=38,SNR=6.1								
N28A	Pribbeno Ranch	37.59	336	⇑P		P	12 04 46.5	+1.1	
	baz=38,SNR=8.1								
214A	Organ Pipe Nat	37.66	315	⇓P		P	12 04 47.3	+1.1	
	baz=38,SNR=6.5								
U20A	Newcomb	37.70	324	⇑P		P	12 04 48.1	+1.4	
	baz=38,SNR=7.2								
S22A	4UR Ranch, Cre	37.74	328	⇓P		P	12 04 48.0	+0.9	
	baz=38,SNR=14								
P25A	Willow Gulch B	37.77	332	⇓P		P	12 04 48.1	+0.9	
	baz=38								
Q24A	Divide	37.81	330	⇑P		P	12 04 47.9	+0.3	
	baz=38,SNR=9.1								
L31A	Butterfield Fa	37.86	340	⇑P		P	12 04 47.0	-0.7	
	baz=38,SNR=7.0								
M29A	Burnside Ranch	37.90	337	⇑P		P	12 04 47.6	-0.5	
	baz=38,SNR=9.2								
O26A	Horse Wrangler	37.97	334	⇑P		P	12 04 48.9	+0.1	
	baz=38								
OGNE	Ogallala	38.01	335	eP		P	12 04 49.0	0.0	
	40nm,0.9s								
OGNE	Ogallala	38.01	335	⇓P		P	12 04 49.1	+0.1	
	baz=38,SNR=6.3								
R22A	Saguache, Gunn	38.06	328	⇓P		P	12 04 50.8	+0.9	
	baz=38,SNR=15								
N27A	Anderson Farm,	38.10	335	⇑P		P	12 04 50.1	+0.3	
	baz=38,SNR=6.5								
M28A	Bar X Bar Ranc	38.12	337	⇓P		P	12 04 50.1	+0.2	
	baz=38								
P24A	Kohler Place,	38.12	331	⇓P		P	12 04 51.4	+1.3	
	baz=38								
X16A	Lo Mia Camp, P	38.20	319	⇓P		P	12 04 53.0	+2.1	
	baz=38,SNR=17								
S21A	Coal Bank Pass	38.20	327	⇓P		P	12 04 52.6	+1.6	
	baz=38								
O25A	Wiggins	38.23	333	⇓P		P	12 04 51.4	+0.4	
	baz=38,SNR=5.8								
MVCO	Mesa Verde	38.27	325	eP		P	12 04 52.8	+1.3	
	8.2nm,0.8s								
MVCO	Mesa Verde	38.27	325	⇑P		P	12 04 52.3	+0.8	
	baz=38,SNR=10								
N26A	Koester Ranch,	38.41	334	⇑P		P	12 04 53.5	+1.0	
	baz=39								
P23A	Jefferson	38.46	330	⇓P		P	12 04 54.3	+1.1	
	baz=39,SNR=8.8								
Z14A	Wintersburg	38.56	317	⇑P		P	12 04 55.3	+1.6	
	baz=39								
K30A	Basset	38.57	339	⇑P		P	12 04 52.9	-0.9	
	baz=39,SNR=10								
R21A	Cimarron	38.59	328	⇑P		P	12 04 54.7	+0.5	
	baz=39								
Q22A	Crested Butte,	38.62	329	⇓P		P	12 04 54.8	+0.3	
	baz=39,SNR=16								
S20A	Disappointment	38.64	326	⇑P		P	12 04 55.9	+1.3	
	baz=39								
O24A	Longmont	38.68	332	⇑P		P	12 04 55.6	+0.8	
	baz=39								
ISCO	Idaho Springs	38.68	331	eP		P	12 04 55.8	+0.8	
	5.5nm,0.7s								
ISCO	Idaho Springs	38.68	331	⇑P		P	12 04 55.3	+0.3	
	baz=39,SNR=11								
113A	Mohawk Valley,	38.78	315	⇓P		P	12 04 57.7	+2.1	
	baz=39,SNR=8.5								
WUAZ	Wupatki	38.85	321	eP		P	12 04 58.9	+2.6	
	42nm,1.0s								
WUAZ	Wupatki	38.85	321	⇑P		P	12 04 58.6	+2.3	
	baz=39,SNR=30								
SMCO	Snowmass	38.89	329	eP		P	12 04 58.0	+1.2	
	5.4nm,0.8s								
R20A	Redvale	38.90	327	⇓P		P	12 04 58.2	+1.4	
	baz=39,SNR=6.2								
Y14A	Wickenburg	38.93	318	⇑P		P	12 04 58.5	+1.6	
	baz=39,SNR=14								
Q21A	Lamborn Mesa,	38.94	328	⇑P		P	12 04 58.3	+1.2	
	baz=39								
PV01	Paradox Valley	38.97	326	eP		P	12 04 58.5	+1.2	
	384nm,1.1s								
SPMN	St. Paul	39.05	348	eP		P	12 04 56.0	-1.6	
SPMN	St. Paul	39.05	348	⇓P		P	12 04 55.7	-2.0	
	baz=39,SNR=5.1								
PV15	Paradox Valley	39.07	327	eP		P	12 04 59.9	+1.7	
P22A	Eagle	39.09	330	⇑P		P	12 04 58.8	+0.5	
	baz=39,SNR=11								
J30A	Dallas	39.10	340	⇓P		P	12 04 57.0	-1.1	
	baz=39,SNR=13								
N24A	Carr	39.15	333	⇓P		P	12 04 59.7	+1.0	
	baz=39,SNR=6.2								
O23A	Lake Granby, G	39.15	331	⇑P		P	12 04 59.8	+0.9	
	baz=39,SNR=5.9								
PV05	Paradox Valley	39.22	326	eP		P	12 05 00.6	+1.2	
K28A	Ten Mile Ranch	39.24	338	⇓P		P	12 04 59.6	+0.2	
	baz=39								
L26A	Underwood Farm	39.35	335	⇓P		P	12 05 01.7	+1.4	
	baz=40								
P21A	Newcastle	39.39	329	⇑P		P	12 05 02.1	+1.2	
	baz=40,SNR=7.8								
Q20A	Ridgley Place,	39.41	327	⇓P		P	12 05 02.3	+1.3	
	baz=40								
O22A	Kremmling	39.42	330	⇑P		P	12 05 01.3	+0.1	
	baz=40,SNR=6.9								
J29A	Okreek	39.46	339	⇑P		P	12 05 00.4	-0.7	
	baz=40,SNR=9.6								
K27A	Flueckinger Fa	39.57	337	⇓P		P	12 05 02.5	+0.4	
	baz=40,SNR=5.7								
I30A	Oacoma	39.61	341	⇑P		P	12 05 01.3	-1.0	
	baz=40								
M24A	Cheyenne	39.63	333	⇓P		P	12 05 03.3	+0.5	
	baz=40,SNR=6.7								
GLA	Glamis	39.68	315	eP		P	12 05 05.8	+2.7	
	20nm,1.0s								
GLA	Glamis	39.68	315	⇓P		P	12 05 05.4	+2.3	
	baz=40,SNR=7.1								
N23A	Red Feather La	39.70	332	⇑P		P	12 05 03.9	+0.5	
	baz=40,SNR=5.9								
J28A	Allard Ranch,	39.81	338	⇓P		P	12 05 03.9	-0.1	
	baz=40,SNR=7.7								
Y12C	Blythe	39.86	316	⇓P		P	12 05 06.9	+2.3	
	baz=40,SNR=7.8								
P20A	De Beque	39.86	328	⇓P		P	12 05 06.0	+1.3	
	baz=40,SNR=5.2								
N22A	Wattenberg Ran	39.87	331	⇑P		P	12 05 05.6	+0.8	
	baz=40								
PDMCI	Parker Dam,Lak	39.91	317	⇓P		P	12 05 07.2	+2.2	
	baz=40,SNR=8.4								
BRSD	Miller	39.93	341	eP		P	12 05 03.8	-1.2	
BRSD	Miller	39.93	341	⇓P		P	12 05 03.7	-1.3	
	baz=40								
J27A	Elkhorn Farm,	39.95	337	⇓P		P	12 05 05.6	+0.3	
	baz=40,SNR=13								
I29A	Vivian Onida	40.00	340	⇑P		P	12 05 04.6	-1.0	
	baz=40,SNR=6.3								
U15A	North Rim	40.00	321	⇓P		P	12 05 08.7	+2.6	
	baz=40,SNR=24								
L24A	Wheatland	40.15	334	⇑P		P	12 05 07.7	+0.7	
	baz=40								
W13A	Hualapai Mount	40.21	318	⇓P		P	12 05 10.2	+2.5	
	baz=40,SNR=11								
O20A	White River Ci	40.25	329	eP		P	12 05 09.1	+1.1	
O20A	White River Ci	40.25	329	⇓P		P	12 05 09.1	+1.1	
	baz=40,SNR=6.7								
P19A	Cripple Cowboy	40.27	328	⇑P		P	12 05 09.4	+1.2	
	baz=40								
I28A	Midland	40.28	339	⇑P		P	12 05 07.7	-0.3	
	baz=40,SNR=7.4								
M22A	Cedar Creek Ra	40.40	332	⇑P		P	12 05 10.1	+0.9	
	baz=40								
J26A	Sides Ranch, S	40.41	336	⇑P		P	12 05 09.8	+0.7	
	baz=41,SNR=6.1								
BC3	Big Chuckawall	40.45	315	⇑P		P	12 05 10.6	+1.0	
	baz=41,SNR=5.7								
H03N2	Juan Fernandez	40.45	176	T		T	12 48 46.4		
	baz=354,slow=0.7,SNR=5.9								
H03N1	Juan Fernandez	40.45	176	T		T	12 48 46.7		
	baz=354,slow=0.7,SNR=7.1								
H03N3	Juan Fernandez	40.47	176	T		T	12 48 47.9		
	baz=354,slow=0.7,SNR=7.6								
H29A	Onida	40.50	340	⇑P		P	12 05 08.6	-1.2	
	baz=41								
IRM	Iron Mountain	40.52	316	⇓P		P	12 05 12.1	+2.1	
	baz=41								
L23A	Garrett	40.55	333	⇓P		P	12 05 10.9	+0.5	
	baz=41,SNR=11								
G30A	Faulkton	40.60	342	⇑P		P	12 05 09.1	-1.4	
	baz=41,SNR=7.6								
I27A	Quinn	40.66	338	⇑P		P	12 05 10.9	-0.3	
	baz=41,SNR=6.8								
MONP	Monument Peak	40.72	314	⇑P		P	12 05 13.8	+1.8	
	baz=41								
SRU	San Rafael	40.74	326	eP		P	12 05 13.2	+1.2	
	7.3nm,0.7s								
J25A	Sunshine Ranch	40.77	336	⇓P		P	12 05 12.8	+0.7	
	baz=41								
CFAA	Coronel Fontan	40.78	161	P		P	12 05 11.8	-0.3	
CFAA	Coronel Fontan	40.78	161	P		P	12 05 11.8	-0.3	
	0.2nm,0.4s,baz=216,slow=14,SNR=8.1								
N20A	Spence Gulch,	40.78	329	⇓P		P	12 05 13.3	+0.9	
	baz=41,SNR=6.7								
L22A	Ellis Ranch, M	40.81	332	⇓P		P	12 05 13.9	+1.3	
	baz=41,SNR=8.1								
H28A	Mission Ridge	40.82	340	⇓P		P	12 05 12.3	0.0	
	baz=41								
O19A	Miners Draw (B	40.83	328	⇓P		P	12 05 13.5	+0.8	
	baz=41								
G29A	Hoven	40.91	341	⇓P		P	12 05 12.3	-0.8	
	baz=41								
RWWY	Rawlins	40.91	331	eP		P	12 05 16.0	+2.6	
	10nm,0.8s								
M21A	Separation Pea	40.92	331	⇓P		P	12 05 14.4	+0.9	
	baz=41,SNR=6.4								
I26A	New Underwood	40.94	337	⇑P		P	12 05 13.7	+0.3	
	baz=41,SNR=5.1								
BELC	Belle Mtn. Jos	41.02	315	⇑P		P	12 05 16.5	+2.2	
	baz=41,SNR=7.8								
K23A	Bowen Ranch, D	41.02	334	⇑P		P	12 05 14.7	+0.4	
	baz=41								
PFO	Pinyon Flat Ob	41.13	315	eP		P	12 05 17.3	+2.0	
PFO	Pinyon Flat Ob	41.13	315	⇑P		P	12 05 17.4	+2.2	
	baz=41								
PFO	Pinyon Flat Ob	41.13	315	P		P	12 05 16.7	+1.5	
	4.2nm,0.9s,baz=104,slow=6.4,SNR=6.3								
G28A	Parade	41.13	340	⇓P		P	12 05 14.4	-0.6	
	baz=41								
L21A	Rawlins	41.20	331	⇓P		P	12 05 16.8	+1.0	
	baz=41,SNR=6.5								
GMRC	Grite Mounta	41.21	317	⇑P		P	12 05 18.0	+2.1	
	baz=41,SNR=6.8								
M20A	Sweetwater, Wa	41.23	330	⇑P		P	12 05 17.3	+1.2	
	baz=41								
I25A	Rochford	41.27	336	⇑P		P	12 05 17.2	+0.9	
	baz=41,SNR=11								
MVU	Marysvale	41.30	324	eP		P	12 05 18.7	+2.0	
	36nm,1.7s								
K22A	Casper	41.34	333	⇑P		P	12 05 17.4	+0.6	
	baz=42,SNR=8.0								
CCUT	Cedar City	41.37	322	eP		P	12 05 19.9	+2.6	
	13nm,1.1s								
H26A	Fairpoint	41.40	338	⇓P		P	12 05 17.0	-0.2	
	baz=42,SNR=7.6								
F29A	Eureka	41.45	341	⇑P		P	12 05 15.9	-1.6	
	baz=42,SNR=5.7								
RSSD	Black Hills	41.47	336	eP		P	12 05 18.9	+0.9	
MURC	Murrieta	41.65	314	⇓P		P	12 05 21.1	+1.7	
	baz=42								
K21A	Alcova	41.66	332	⇓P		P	12 05 20.6	+1.0	
	baz=42								
HEC	Hector,Ludlow	41.70	316	⇑P		P	12 05 22.4	+2.5	
	baz=42,SNR=5.9								
L20A	Wamsutter	41.70	331	⇓P		P	12 05 20.6	+0.7	
	baz=42								
H25A	Fruitdale	41.72	337	⇓P		P	12 05 19.9	+0.1	
	baz=42,SNR=7.3								
TUQ	Turquoise Moun	41.76	317	⇓P		P	12 05 22.5	+2.1	
	baz=42,SNR=8.3								
E30A	Jud	41.77	343	⇓P		P	12 05 19.0	-1.1	
	baz=42,SNR=6.6								
F28A	McLaughlin	41.77	341	⇑P		P	12 05 19.7	-0.5	
	baz=42								
BBRC	Big Bear Solar	41.80	315	⇓P		P	12 05 24.3	+3.5	
	baz=42								
SHPR	Sheep Range	41.87	319	eP		P	12 05 24.1	+2.7	
G26A	Maurine	41.91	339	⇑P		P	12 05 20.8	-0.6	
	baz=42								
J22A	Midwest	41.92	333	⇓P		P	12 05 21.5	-0.1	
	baz=42,SNR=9.3								
E29A	Napoleon	42.05	342	⇑P		P	12 05 21.3	-1.1	
	baz=42								
DAU	Daniels Canyon	42.05	327	eP		P	12 05 23.8	+0.8	
	2.8nm,0.6s								
G27A	Dupree	42.11	338	⇓P		P	12 05 19.5	-3.5	
	baz=42								
G25A	Newell	42.13	338	⇑P		P	12 05 23.0	-0.2	
	baz=42,SNR=5.8								
K20A	Yellowstone Ra	42.20	331	⇑P		P	12 05 23.9	0.0	
	baz=42,SNR=8.2								
H24A	Dirks Ranch, A	42.20	336	⇓P		P	12 05 23.7	-0.1	
	baz=42,SNR=7.4								
F27A	Lemmon	42.21	339	⇑P		P	12 05 23.3	-0.5	
	baz=42,SNR=6.3								
SHOC	Shoshone	42.26	318	⇑P		P	12 05 26.4	+2.0	
	baz=42,SNR=10								
D30A	Buhman	42.27	343	⇑P		P	12 05 23.2	-1.0	
	baz=42,SNR=7.4								
GSC	Goldstone	42.28	317	eP		P	12 05 27.3	+2.6	
	17nm,1.1s								
GSC	Goldstone	42.28	317	⇑P		P	12 05 26.7	+2.1	
	baz=42,SNR=15								
JLU	Jordanelle	42.29	327	eP		P	12 05 26.0	+1.3	
	4.1nm,0.8s								
J21A	Lysite	42.31	333	⇓P		P	12 05 26.3	+1.5	
	baz=42								
BFSC	Mount Baldy Ra	42.31	315	⇑P		P	12 05 26.5	+1.6	
	baz=42								
I22A	9 Mile Ranch,	42.31	334	⇑P		P	12 05 25.4	+0.7	
	baz=42								
E28A	Huff	42.38	341	⇑P		P	12 05 24.3	-0.9	
	baz=42,SNR=7.6								
CIS	Catalina Islan	42.42	313	⇓P		P	12 05 27.4	+1.8	
	baz=43								
F26A	Lodgepole	42.42	339	⇑P		P	12 05 25.3	-0.2	
	baz=43,SNR=6.3								
L18A	Fontenelle, Gr	42.48	329	⇓P		P	12 05 27.1	+0.8	
	baz=43,SNR=8.9								
M17A	Scullys Gap (B	42.48	328	⇑P		P	12 05 26.9	+0.5	
	baz=43,SNR=17								
E27A	Carson	42.54	340	⇓P		P	12 05 26.3	-0.1	
	baz=43,SNR=7.0								
I21A	Big Trails, Te	42.60	333	⇓P		P	12 05 27.6	+0.4	
	baz=43								
J20A	Shoshoni	42.61	332	⇓P		P	12 05 28.1	+0.9	
	baz=43,SNR=6.3								
G24A	Alzada	42.63	337	⇑P		P	12 05 27.3	0.0	
	baz=43,SNR=6.9								
AGMN	Agassiz Nation	42.63	347	eP		P	12 05 25.9	-1.2	
	9.1nm,0.9s								
C30A	Mose, Pekin	42.74	344	⇑P		P	12 05 27.2	-0.8	
	baz=43								
DUG	Dugway	42.77	325	⇑P		P	12 05 30.1	+1.5	
	baz=43,SNR=6.6								
H22A	Clearmont	42.81	335	⇑P		P	12 05 29.0	+0.2	
	baz=43								
PDAR	Pinedale Array	42.87	330	P		P	12 05 29.4	-0.1	
PDAR				PcP		PcP	12 07 19.1	-1.3	
PDAR	Pinedale Array	42.87	330	P		P	12 05 29.4	-0.1	
	1.9nm,0.6s,baz=128,slow=8.9,SNR=22								
PDAR				PcP		PcP	12 07 19.1	-1.3	
	0.5nm,0.7s,baz=123,slow=3.3,SNR=3.3								
BW06	Boulder Array	42.87	330	eP		P	12 05 28.6	-0.9	
	6.3nm,1.1s								
EDW2	Edwards Air Fo	42.88	315	⇓P		P	12 05 31.2	+1.8	
	baz=43								
E26A	Carlson Angus	42.88	340	⇓P		P	12 05 29.0	-0.3	
	baz=43								
D28A	Regan	42.89	342	⇓P		P	12 05 28.4	-0.9	
	baz=43,SNR=5.6								
G23A	Biddle	42.91	336	⇑P		P	12 05 29.9	+0.4	
	baz=43								
FURC	Furnace Creek,	42.97	318	⇑P		P	12 05 32.4	+2.3	
	baz=43,SNR=11								
LRMC	Laurel Mountai	42.98	316	⇑P		P	12 05 32.6	+2.3	
	baz=43,SNR=9.4								
J19A	Crowheart	42.99	331	⇑P		P	12 05 30.5	+0.1	
	baz=43,SNR=5.8								
F24A	Ekalaka	43.07	337	⇓P		P	12 05 31.1	+0.2	
	baz=43								
I20A	Worland	43.09	333	⇑P		P	12 05 31.5	+0.4	
	baz=43,SNR=9.6								
D27A	Center	43.12	341	⇑P		P	12 05 31.0	-0.1	
	baz=43								
MPMC	Manual Prospec	43.16	317	⇑P		P	12 05 33.6	+1.7	
	baz=43,SNR=8.8								
MDND	Maddock	43.19	343	eP		P	12 05 31.3	-0.4	
	51nm,0.8s								
MDND	Maddock	43.19	343	⇑P		P	12 05 31.5	-0.2	
	baz=43								
E25A	Miller Ranch,	43.24	339	⇓P		P	12 05 31.6	-0.5	
	baz=43,SNR=6.1								
R11A	Troy Canyon, C	43.25	321	⇓P		P	12 05 34.7	+2.1	
	baz=43,SNR=21								
G22A	Birney	43.29	335	⇑P		P	12 05 34.7	+2.0	
	baz=43								
C28A	Hausauer Farms	43.30	342	⇓P		P	12 05 32.8	+0.2	
	baz=43								
F23A	Volborg	43.34	336	⇑P		P	12 05 32.9	-0.1	
	baz=44,SNR=9.2								
B30A	Myrvik Farm, E	43.38	344	⇓P		P	12 05 32.0	-1.2	
	baz=44,SNR=6.7								
BGU	Big Grassy Mou	43.38	326	eP		P	12 05 35.3	+1.7	
	13nm,1.0s								
H20A	Greybull	43.45	333	⇑P		P	12 05 34.2	+0.3	
	baz=44								
I19A	Meeteetse	43.55	332	⇓P		P	12 05 35.5	+0.6	
	baz=44								
ARVC	Arvin	43.59	315	⇓P		P	12 05 37.9	+2.8	
	baz=44								
E24A	Baker	43.62	338	⇓P		P	12 05 36.0	+0.7	
	baz=44								
ISA	Isabella	43.62	316	eP		P	12 05 37.4	+1.9	
	5.3nm,1.0s								
ISA	Isabella	43.62	316	⇓P		P	12 05 37.9	+2.4	
	baz=44								
B29A	Wagenman Farm,	43.67	344	⇓P		P	12 05 35.0	-0.6	
	baz=44,SNR=11								
F22A	Rosebud	43.73	336	⇓P		P	12 05 36.3	+0.2	
	baz=44								
HVU	Hansel Valley	43.83	327	eP		P	12 05 38.0	+0.9	
	5.7nm,0.8s								
REDW	Red Top Meadow	43.95	330	eP		P	12 05 38.8	+0.7	
B28A	Dugan Ranch, T	43.95	343	⇑P		P	12 05 36.9	-0.9	
	baz=44,SNR=5.7								
SNOW	Snow King Moun	43.97	330	eP		P	12 05 39.4	+1.0	
	8.0nm,0.6s								
LOHW	Long Hollow	44.01	330	eP		P	12 05 39.0	+0.4	
H19A	Powell	44.03	333	⇑P		P	12 05 38.7	0.0	
	baz=44								
A29A	Manning Farm,	44.06	344	⇓P		P	12 05 37.8	-0.8	
	baz=44,SNR=5.8								
TPAW	Teton Pass	44.09	330	eP		P	12 05 39.5	+0.1	
G20A	Bridger	44.12	334	⇑P		P	12 05 39.4	+0.1	
	baz=44,SNR=9.8								
F21A	Absaloka Mine,	44.12	335	⇑P		P	12 05 39.5	+0.1	
	baz=44								
VES	Vestal, Richgr	44.14	316	⇓P		P	12 05 41.9	+2.4	
	baz=44								
E22A	Miles City	44.15	337	⇓P		P	12 05 39.4	-0.1	
	baz=44,SNR=22								
PKM	Peak Mountain	44.17	314	⇓P		P	12 05 41.4	+1.4	
	baz=44								
B27A	Peters Farms,	44.18	342	⇓P		P	12 05 39.8	+0.2	
	baz=44								
I17A	Pilgrim Ck.	44.22	331	⇑P		P	12 05 40.9	+0.6	
	baz=44								
C25A	Freed Ranch, W	44.23	340	⇑P		P	12 05 40.4	+0.3	
	baz=44								
A28A	Rude Farm, Bot	44.34	343	⇑P		P	12 05 40.8	-0.1	
	baz=44								
H18A	Shoshone NF, C	44.35	332	⇓P		P	12 05 41.4	0.0	
	baz=44,SNR=5.5								
IMW	Indian Meadow	44.38	330	eP		P	12 05 42.3	+0.6	
	5.5nm,0.6s								
FLWY	Flagg Ranch	44.40	331	eP		P	12 05 42.6	+0.8	
	7.4nm,0.8s								
B26A	Jensen Ranch,	44.46	341	⇑P		P	12 05 42.1	+0.2	
	baz=45								
D23A	Lindsay	44.47	338	⇑P		P	12 05 42.5	+0.5	
	baz=45,SNR=16								
ULM	Lac du Bonnet	44.47	348	eP		P	12 05 40.1	-1.8	
ULM	Lac du Bonnet	44.47	348	P		P	12 05 40.3	-1.6	
	17nm,0.8s,baz=148,slow=8.6,SNR=12								
RCTC	Rector, Farmer	44.49	316	⇑P		P	12 05 45.3	+3.0	
	baz=45								
ELK	Elko	44.53	324	eP		P	12 05 44.5	+1.7	
F20A	Billings	44.54	334	⇑P		P	12 05 43.1	+0.4	
	baz=45,SNR=7.4								
A27A	Ledoux Ranch,	44.66	342	⇑P		P	12 05 43.7	+0.2	
	baz=45								
B25A	Knox Farm, Ray	44.67	340	⇑P		P	12 05 44.5	+0.8	
	baz=45								
E21A	Keefer Ranch,	44.68	336	⇑P		P	12 05 44.0	+0.3	
	baz=45								
D22A	Cohagen	44.82	337	⇑P		P	12 05 45.2	+0.4	
	baz=45,SNR=12								
NV11	Mina Array Sit	44.93	319	eP		P	12 05 47.9	+1.9	
F19A	Roth Farm, Mol	44.93	334	⇓P		P	12 05 45.9	+0.1	
	baz=45,SNR=7.4								
C23A	Lambert	44.99	338	⇑P		P	12 05 46.5	+0.3	
	baz=45,SNR=6.6								
NVAR	Mina Array Bea	45.02	319	P		P	12 05 48.8	+2.0	
NVAR				PcP		PcP	12 07 29.1	+1.3	
NVAR	Mina Array Bea	45.02	319	P		P	12 05 48.8	+2.0	
	9.2nm,0.6s,baz=127,slow=6.9,SNR=66								
NVAR				PcP		PcP	12 07 29.1	+1.3	
	0.9nm,0.8s,baz=133,slow=3.8,SNR=3.2								
D21A	La Casta Ranch	45.07	336	⇓P		P	12 05 47.7	+0.9	
	baz=45								
E20A	Meyer Farm, Mu	45.09	335	⇓P		P	12 05 47.4	+0.4	
	baz=45,SNR=10								
DGMT	Dagmar	45.20	340	eP		P	12 05 48.3	+0.5	
	23nm,0.8s								
DGMT	Dagmar	45.20	340	⇑P		P	12 05 48.1	+0.3	
	baz=45								
C22A	Vida	45.20	338	⇑P		P	12 05 48.1	+0.

BMO	Blue Mountains	48.34	327	*eP*		P	12 06 12.3	-0.3
	8.1nm,1.0s							
PLCA	Paso Flores	48.82	168	P		P	12 06 16.3	+0.1
PLCA	Paso Flores	48.82	168	P		P	12 06 16.3	+0.1
	2.1nm,0.9s,baz=316,slow=8.0,SNR=6.3							
F10A	Beach Ranch, E	49.03	328	*eP*		P	12 06 18.4	+0.6
	7.3nm,0.9s							
I07A	Izee	49.08	325	*eP*		P	12 06 18.9	+0.6
	10nm,0.8s							
BSMT	Bassoo Peak	49.09	331	*eP*		P	12 06 18.0	-0.4
	6.1nm,1.3s							
G08A	Pilot Rock	49.52	326	*eP*		P	12 06 22.3	+0.7
	8.7nm,0.9s							
YBH	Yreka Blue Hor	49.66	320	P		P	12 06 22.0	-0.8
YBH	Yreka Blue Hor	49.66	320	P		P	12 06 22.0	-0.8
	3.0nm,0.6s,baz=110,slow=6.0,SNR=8.9							
E09A	Wood Farm, Sta	49.86	328	*eP*		P	12 06 24.9	+0.9
	21nm,0.9s							
G06A	Carlson Farm,	50.42	325	*eP*		P	12 06 30.4	+2.0
	14nm,1.2s							
NEW	Newport	50.51	330	*eP*		P	12 06 29.9	+0.8
NEW	Newport	50.51	330	⇓P		P	12 06 29.8	+0.8
	baz=51							
NEW	Newport	50.51	330	P		P	12 06 29.1	+0.1
	4.5nm,1.0s,baz=160,slow=5.6,SNR=6.0							
HAWA	Hanford	50.52	327	*eP*		P	12 06 30.0	+0.9
	12nm,1.0s							
C09A	Chrisman Ranch	50.77	329	*eP*		P	12 06 32.0	+1.0
	6.3nm,0.8s							
VLL	Laurance Lake	51.15	325	P		P	12 06 36.3	+2.3
SAW	Saint Andrews	51.29	329	P		P	12 06 36.0	+1.2
WTV	Waterville	51.57	328	P		P	12 06 38.2	+1.1
TBM	Table Mountain	51.58	327	P		P	12 06 38.6	+1.5
LTY	Liberty	51.67	327	*eP*		P	12 06 39.0	+1.1
	9.3nm,0.9s							
B08A	Colville Reser	51.67	329	*eP*		P	12 06 38.5	+0.7
	7.7nm,0.9s							
WPW	White Pass	51.81	326	P		P	12 06 40.5	+1.6
LON	Longmire	51.98	326	*eP*		P	12 06 40.9	+0.7
	8.6nm,0.9s							
NLW	Nelson Butte	52.01	328	P		P	12 06 41.3	+0.9
D05A	Enumclaw	52.34	327	*eP*		P	12 06 44.0	+1.3
	23nm,0.9s							
EDM	Edmonton	52.44	337	*eP*		P	12 06 43.0	-0.4
E03A	Lebam	52.84	325	*eP*		P	12 06 48.0	+1.6
	33nm,1.0s							
NLWA	Neilton Lookou	53.50	326	*eP*		P	12 06 53.3	+2.0
	23nm,1.1s							
MCW	Mount Constitu	53.69	328	P		P	12 06 53.8	+1.1
YKA	Yellowknife Ar	60.11	343	P		P	12 07 37.4	-0.5
YKA	Yellowknife Ar	60.11	343	P		P	12 07 37.4	-0.5
	9.2nm,0.8s,baz=139,slow=6.6,SNR=11							
DLBC	Dease Lake	62.88	334	*eP*		P	12 07 58.1	+1.2
DLBC	Dease Lake	62.88	334	P		P	12 07 58.2	+1.4
	7.9nm,0.8s,baz=144,slow=5.2,SNR=19							
INK	Inuvik	69.80	342	*eP*		P	12 08 40.0	-0.8
	15nm,1.1s							
INK	Inuvik	69.80	342	P		P	12 08 41.2	+0.3
	4.9nm,0.6s,baz=117,slow=7.9,SNR=13							
ILAR	Eielson Array	72.92	336	P		P	12 09 00.1	+0.2
ILAR				PP		PP	12 11 40.8	-1.2
ILAR	Eielson Array	72.92	336	P		P	12 09 00.1	+0.2
	3.4nm,0.6s,baz=104,slow=4.7,SNR=61							
ILAR				PP		PP	12 11 40.8	-1.2
	0.8nm,1.0s,baz=122,slow=5.5,SNR=4.2							
ESDC	Sonseca Array	76.55	51	P		P	12 09 21.6	+0.2
ESDC	Sonseca Array	76.55	51	P		P	12 09 21.6	+0.2
	0.7nm,0.5s,baz=279,slow=7.7,SNR=5.4							
TORD	Torodi Ar. Bea	82.62	78	P		P	12 09 55.0	+0.2
TORD	Torodi Ar. Bea	82.62	78	P		P	12 09 55.0	+0.2
	0.6nm,0.7s,baz=278,slow=4.6,SNR=3.6							
CN2	Changchun	123.44	336	*e*PKP	PKPdf		12 16 22.5	-6.0
HHC	Hu-ho-hao-te	130.60	346	*e*PKP	PKPdf		12 16 42.4	0.0
HHC				PP	PP		12 19 00.8	+5.0
HHC				PKS	PKSdf		12 20 17.4	-1.6
HHC				SKS	SKSdf		12 23 48.7	-5.7
HHC				SKKS	SKKSac		12 25 48.4	-5.8
LZH	Lanzhou	136.65	353	*e*PKP	PKPdf		12 16 52.9	-1.1
LZH				sPKP			12 17 16.5	
LZH				LR	LR			
	comp=N,130nm,18.0s							
LZH				LR	LR			
	comp=E,130nm,18.1s							
LZH				LR	LR			
	comp=Z,170nm,20.0s							
ASAR	Alice Springs	141.54	241	PKPpre	PKPpre		12 16 56.8	
ASAR	Alice Springs	141.54	241	PKhKP	PKPpre		12 16 56.8	
	0.4nm,0.6s,baz=113,slow=4.0,SNR=4.5							
WRA	Warramunga Arr	142.24	247	PKPpre	PKPpre		12 16 59.5	
WRA	Warramunga Arr	142.24	247	PKhKP	PKPpre		12 16 59.5	
	1.0nm,0.9s,baz=12,slow=36,SNR=4.1							
GYA	Guiyang	145.51	346	*e*PKPbc	PKPbc		12 17 08.2	-1.9
GYA				sPKP			12 17 31.0	
GYA				PP	PP		12 20 31.0	+2.5
GYA				PPMZ				
	80nm,7.9s							
KMI	Kunming	147.59	351	PKPbc	PKPdf		12 17 11.8	-1.9

IDC 08 12:08:29.8±10.0, 13°49'S×167°63'E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.5/17, mbtmp3.5/3, Error ellipse: s-maj=314.1km s-min=57.6km az=129.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.48	254	P	P	12 15 02.9	+0.4
	0.3nm,0.6s,baz=84,slow=8.5,SNR=3.5						
ASAR	Alice Springs	33.45	247	P	P	12 15 10.2	-0.7
	0.4nm,0.7s,baz=74,slow=8.8,SNR=5.1						
MKAR	Makanchi Array	96.55	316	P	P	12 22 01.5	-0.1
	0.4nm,0.6s,baz=94,slow=6.4,SNR=5.2						

*ISCJB **08** 12:11:46.4±1.5, 36°18N±0°10×70°9E±0°2, h213km, Error ellipse: s-maj=18.8km s-min=11.4km az=150.9*
*NNC **08** 12:11:49.5±3.6, 36°90N×70°26E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=28.6km s-min=22.6km az=177.0*
ISC 08 12:11:46.5±1.7, 36°2N±0°1×70°7E±0°2, h213km, n4, σ3s41/6, 1C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	Thein Dam	5.61	131	*eP*	Pn	12 13 07.7	-1.2
THN				*eS*	S	12 14 03.5	-10
KK31	Karatay Array	6.86	359	P	Pn	12 13 23.0	-2.0
	3.3nm,0.5s,baz=185,slow=16,SNR=30						
KK31				S	S	12 14 35.3	-8.0
	6.6nm,0.5s,baz=190,slow=27,SNR=16						
TKM2	Tokmak 2	7.67	28	⇓P	Pn	12 13 36.9	+1.4
	5.9nm,0.6s						
TKM2				⇓S	S	12 15 01.7	-0.8
	3.6nm,0.8s						
AB31	Akbulak array	15.21	332	P	P	12 15 15.1	+4.4
	1.8nm,0.7s,baz=149,slow=12,SNR=18						
AB31				⇑S	S	12 17 56.0	-2.7
	0.5nm,0.5s,baz=160,slow=22,SNR=3.7						

IDC 08 12:31:15.3±2.2, 11°17S×165°73E, h0km, mb4.1/6, mb1 4.2/6, mb1mx3.9/18, mbtmp4.0/6, Error ellipse: s-maj=88.7km s-min=26.8km az=132.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	30.34	224	P	P	12 37 28.8	0.0
	3.0nm,0.8s,baz=71,slow=9.7,SNR=6.2						
WRA	Warramunga Arr	31.42	250	P	P	12 37 39.0	+0.4
	2.4nm,0.8s,baz=81,slow=9.1,SNR=14						
ASAR	Alice Springs	32.72	243	P	P	12 37 49.5	-0.5
	1.7nm,0.7s,baz=69,slow=9.5,SNR=24						
FITZ	Fitzroy Crossi	39.33	255	P	P	12 38 46.8	+0.2
	2.4nm,0.8s,baz=90,slow=7.1,SNR=4.5						
ILAR	Eielson Array	83.64	19	P	P	12 43 45.7	+0.3
	0.4nm,0.9s,baz=219,slow=6.9,SNR=3.6						
MKAR	Makanchi Array	93.60	317	P	P	12 44 32.7	-0.9
	1.0nm,0.8s,baz=108,slow=4.7,SNR=4.9						

*IDC **08** 12:35:28.6±1.2, 11°62S×166°35E, h0km, mb4.3/10, mb1 4.4/11, mb1mx4.2/20, mbtmp4.3/11, ML4.8/1, MS3.6/1, Ms1 3.6/1, ms1mx3.2/30, Error ellipse: s-maj=41.8km s-min=21.1km az=128.0*

*ISCJB **08** 12:35:34.9±0.5, 11°65S±0°08×166°20E±0°09, h59km, mb4.3/11, Error ellipse: s-maj=13.0km s-min=9.9km az=143.6*
*NEIC **08** 12:35:34.3±0.3, 11°56S×166°25E, h35km, mb4.3/2, Error ellipse: s-maj=8.9km s-min=6.9km az=49.0*
ISC 08 12:35:36.9±0.5, 11°61S±0°09×166°26E±0°09, h59km, n43, σ1s73/41, mb4.3/11, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.57	289	Pn	Pn	12 37 09.1	-1.9
HNR	Honiara	6.57	289	Pn	Pn	12 37 09.0	-1.9
	18nm,0.3s,baz=175,slow=7.1,SNR=4.8						
HNR				LR	LR	12 39 26.9	
	comp=Z,490nm,20.1s,baz=51,slow=36						
DZM	Mont Dzumac	10.41	179	*e*Pn	Pn	12 38 02.8	-0.7
	17nm,0.5s						
DZM	Mont Dzumac	10.41	179	Pn	Pn	12 38 03.9	+0.4
	3.8nm,0.3s,baz=330,slow=18,SNR=35						
MSVF	Nonsavu	12.93	119	*e*Pn	Pn	12 38 35.5	-2.4
CTAO	Charters Tower	20.99	244	P	P	12 40 13.8	-1.8
	26nm,2.0s						
URZ	Urewera	28.26	162	P	P	12 41 24.1	-0.4
H11S2	WAKE ISLAND Hy	29.91	1	T	T	13 12 08.0	
	baz=182,slow=0.7,SNR=14						
H11S3	WAKE ISLAND Hy	29.91	1	T	T	13 12 07.6	
	baz=182,slow=0.7,SNR=3.5						
H11S1	WAKE ISLAND Hy	29.93	1	T	T	13 12 07.7	
	baz=182,slow=0.7,SNR=4.1						
STKA	Stephens Creek	30.39	225	P	P	12 41 43.9	+0.3
STKA	Stephens Creek	30.39	225	P	P	12 41 43.9	+0.3
	1.8nm,0.7s,baz=36,slow=4.7,SNR=3.7						
H11N1	WAKE ISLAND Hy	31.13	1	T	T	13 13 39.6	
	baz=184,slow=0.7,SNR=3.7						
H11N3	WAKE ISLAND Hy	31.14	1	T	T	13 13 39.2	
	baz=184,slow=0.7,SNR=2.9						
H11N2	WAKE ISLAND Hy	31.15	1	T	T	13 13 41.0	
	baz=184,slow=0.7,SNR=3.8						
WRA	Warramunga Arr	31.77	251	P	P	12 41 54.6	-1.2
WRA	Warramunga Arr	31.77	251	P	P	12 41 54.6	-1.2
	2.2nm,0.7s,baz=83,slow=8.9,SNR=10						
RPZ	Rata Peaks	32.26	173	P	P	12 42 00.6	+0.7
ASAR	Alice Springs	33.00	244	P	P	12 42 05.5	-1.1
ASAR				PcP	PcP	12 44 50.6	+1.1
ASAR				ScP	ScP	12 48 35.2	+6.4
ASAR	Alice Springs	33.00	244	P	P	12 42 05.5	-1.1
	3.2nm,0.7s,baz=71,slow=9.5,SNR=41						
ASAR				PcP	PcP	12 44 50.6	+1.1
	0.8nm,0.6s,baz=77,slow=2.0,SNR=8.7						
ASAR				ScP	ScP	12 48 35.2	+6.4
	1.0nm,1.0s,baz=81,slow=3.3,SNR=4.2						
RAR	Rarotonga	33.89	111	*e*P	P	12 42 14.3	0.0
ASAJ	Asahikawa	59.49	340	P	P	12 45 33.5	-0.3
ASAJ	Asahikawa	59.49	340	P	P	12 45 33.5	-0.3
	12nm,1.1s,baz=8.0,slow=32,SNR=4.6						
PETK	Petropavlovsk-	64.87	354	P	P	12 46 09.4	-0.3
PETK	Petropavlovsk-	64.87	354	P	P	12 46 09.4	-0.3
	2.0nm,0.8s,baz=254,slow=9.3,SNR=4.8						
CMAR	Chiang Mai Arr	72.80	294	P	P	12 47 00.8	+1.1
CMAR	Chiang Mai Arr	72.80	294	P	P	12 47 00.8	+1.1
	2.8nm,0.7s,baz=116,slow=4.7,SNR=11						
QSPA	South Pole Qui	78.40	180	*e*P	P	12 47 32.2	+1.1
	4.0nm,0.9s						
SONM	Songino Array	79.41	324	P	P	12 47 37.3	+0.4
SONM	Songino Array	79.41	324	P	P	12 47 37.3	+0.4
	0.8nm,0.5s,baz=146,slow=6.2,SNR=7.6						
ILAR	Eielson Array	83.88	18	P	P	12 47 59.7	-0.2
ILAR	Eielson Array	83.88	18	P	P	12 47 59.7	-0.2
	0.7nm,0.6s,baz=263,slow=5.1,SNR=15						
MK31	Makanchi Array	94.27	317	*e*P	P	12 48 49.4	-0.4
MKAR	Makanchi Array	94.27	317	P	P	12 48 50.0	+0.1
MKAR	Makanchi Array	94.27	317	P	P	12 48 50.0	+0.1
	2.6nm,0.6s,baz=93,slow=6.3,SNR=27						
ZALV	Zalesovo Beam	94.30	324	P	P	12 48 49.1	-0.6
ZALV	Zalesovo Beam	94.30	324	P	P	12 48 49.1	-0.6
	0.8nm,0.6s,baz=108,slow=4.8,SNR=5.0						
ARCES	ARCESS Array B	117.00	346	PKP	PKPdf	12 54 14.5	-0.1
ARCES	ARCESS Array B	117.00	346	PKP	PKPdf	12 54 14.5	-0.1
	11nm,1.2s,baz=58,slow=1.6,SNR=12						
FINES	FINESS Array B	122.47	339	PKP	PKPdf	12 54 25.5	+0.3
FINES	FINESS Array B	122.47	339	PKP	PKPdf	12 54 25.5	+0.3
	2.1nm,0.9s,baz=98,slow=6.7,SNR=5.5						
KEST	Kesra	148.16	323	PKPbc	PKPbc	12 55 17.5	+0.8
KEST	Kesra	148.16	323	PKPbc	PKPbc	12 55 17.5	+0.8
	1.4nm,0.8s,baz=233,slow=6.0,SNR=3.8						

IDC 08 12:36:52.3±1.9, 6°22S×128°57E, h0km, mb3.7/2, mb1 3.6/4, mb1mx3.4/18, mbtmp3.5/4, ML3.2/2, MS3.3/1, Ms1 3.3/1, ms1mx2.9/30, Error ellipse: s-maj=182.0km s-min=28.8km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	8.85	277	LR	LR	12 42 27.3	
	comp=Z,184nm,20.5s,baz=76,slow=38						
WRA	Warramunga Arr	14.75	158	Pn	Pn	12 40 24.3	+1.9
	0.1nm,0.3s,baz=341,slow=13,SNR=3.4						
WRA				Sn	Sn	12 42 55.3	-11
	0.3nm,0.3s,baz=326,slow=26,SNR=4.9						
ASAR	Alice Springs	18.09	164	P	Pn	12 41 04.2	-1.1
	0.1nm,0.3s,baz=337,slow=9.7,SNR=10						
MKAR	Makanchi Array	66.80	327	P	P	12 47 46.0	+0.3
	0.4nm,0.5s,baz=122,slow=7.9,SNR=8.4						
KURBB	Kurchatov Arra	71.11	329	P	P	12 48 12.2	-0.2
	0.3nm,0.4s,baz=129,slow=5.2,SNR=6.8						

IDC 08 12:46:00.1±2.4, 13°08S×166°00E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.8/17, mbtmp3.8/6, Error ellipse: s-maj=87.5km s-min=26.0km az=129.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	29.18	226	P	P	12 52 04.8	+1.4
	1.4nm,0.6s,baz=45,slow=11,SNR=5.8						
WRA	Warramunga Arr	31.07	253	P	P	12 52 20.0	-0.3
	0.4nm,0.8s,baz=85,slow=8.7,SNR=7.9						
ASAR	Alice Springs	32.15	246	P	P	12 52 28.2	-1.6
	0.7nm,0.8s,baz=74,slow=9.9,SNR=8.7						
SONM	Songino Array	80.44	324	P	P	12 58 14.7	+0.7
	0.4nm,0.7s,baz=150,slow=6.1,SNR=2.8						
ILAR	Eielson Array	85.36	18	P	P	12 58 38.1	-0.8
	0.4nm,0.4s,baz=237,slow=5.2,SNR=12						
MKAR	Makanchi Array	95.17	317	P	P	12 59 26.2	+0.6
	0.2nm,0.5s,baz=93,slow=5.4,SNR=3.7						

IDC 08 12:49:11.9±1.7, 26°78S×107°11W, h0km, mb3.8/4, mb1 4.3/4, mb1mx3.9/16, mbtmp3.8/4, Error ellipse: s-maj=59.4km s-min=37.6km az=36.0, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	37.60	82	P	P	12 56 29.2	-0.1
	0.7nm,0.5s,baz=243,slow=4.5,SNR=3.5						
H06S1	SOCORRO T	45.40	355	T	T	13 45 55.7	
	SNR=8.5						
TXAR	Lajitas Array	55.89	4	P	P	12 58 51.8	+0.2
	0.7nm,0.8s,baz=188,slow=8.6,SNR=6.4						
NVAR	Mina Array Bea	65.71	350	P	P	12 59 59.2	+0.7
	2.1nm,0.9s,baz=178,slow=8.9,SNR=12						
PDAR	Pinedale Array	69.23	358	P	P	13 00 19.6	-1.1
	0.6nm,0.6s,baz=170,slow=7.1,SNR=6.7						
BRTR	Keskin Array B	145.00	58	PKPbc	PKPbc	13 08 49.6	-1.2
	0.4nm,0.4s,baz=251,slow=4.4,SNR=2.5						
SONM	Songino Array	146.45	318	PKPbc	PKPbc	13 08 54.3	-0.7
	1.6nm,0.8s,baz=40,slow=1.4,SNR=8.2						
KBZ	Khabaz	150.46	47	PKPbc	PKPbc	13 09 05.5	+0.1
	2.5nm,0.8s,baz=288,slow=6.8,SNR=4.5						
ZALV	Zalesovo Beam	151.46	345	PKPbc	PKPbc	13 09 06.2	-1.2
	1.7nm,0.8s,baz=38,slow=2.8,SNR=8.3						
MKAR	Makanchi Array	158.68	342	PKP	PKPdf	13 09 12.4	+1.0
	0.1nm,0.5s,baz=132,slow=1.8,SNR=3.7						

IDC 08 12:51:59.7±2.3, 5°59N×124°10E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/22, mbtmp3.4/3, Error ellipse: s-maj=252.3km s-min=24.7km az=64.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	27.30	159	P	P	12 57 46.3	+0.1
	0.5nm,1.1s,baz=338,slow=9.4,SNR=3.3						
ASAR	Alice Springs	30.61	162	P	P	12 58 15.5	-0.2
	0.2nm,0.3s,baz=336,slow=7.8,SNR=9.6						
MKAR	Makanchi Array	54.55	326	P	P	13 01 29.6	-0.1
	0.4nm,0.5s,baz=119,slow=8.5,SNR=11						

IDC 08 12:55:47.2±1.8, 22°78S×173°15W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/19, mbtmp4.0/4, Error ellipse: s-maj=75.5km s-min=37.4km az=1.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	37.80	266	P	P	13 03 05.5	-0.1
	2.2nm,0.3s,baz=88,slow=12,SNR=9.0						
STKA	Stephens Creek	40.97	247	P	P	13 03 32.2	+0.3
	1.7nm,0.6s,baz=101,slow=12,SNR=7.2						
ASAR	Alice Springs	48.43	258	P	P	13 04 31.4	-0.2
	0.4nm,0.7s,baz=96,slow=7.0,SNR=9.3						
WRA	Warramunga Arr	48.78	263	P	P	13 04 33.7	-0.7
	0.5nm,0.3s,baz=105,slow=6.2,SNR=27						
BRTR	Keskin Array B	151.69	313	PKPbc	PKPbc	13 15 44.1	0.0
	0.3nm,0.3s,baz=355,slow=4.9,SNR=3.0						
TORD	Torodi Ar. Bea	169.24	152	PKPab	PKPab	13 17 08.9	-0.2
	0.8nm,1.1s,baz=249,slow=4.6,SNR=4.4						

IDC 08 13:03:17.5±3.8, 6°07S×151°18E, h0km, mb3.0/2, mb1 3.4/2, mb1mx3.2/16, mbtmp3.1/2, Error ellipse: s-maj=169.2km s-min=47.6km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.41	228	P	P	13 08 07.0	-0.2
	0.2nm,0.6s,baz=54,slow=10,SNR=4.2						
ASAR	Alice Springs	24.14	222	P	P	13 08 35.5	+0.1
	0.7nm,0.7s,baz=55,slow=9.0,SNR=9.3						
TORD	Torodi Ar. Bea	149.13	285	PKPbc	PKPbc	13 23 08.5	-0.5
	0.4nm,1.0s,baz=90,slow=4.3,SNR=2.1						

*IDC **08** 13:05:06.8±1.2, 11°47S×166°49E, h0km, mb4.1/10, mb1 4.3/11, mb1mx4.1/20, mbtmp4.2/11, ML5.4/1, Error ellipse: s-maj=33.8km s-min=23.4km az=124.0*
*ISCJB **08** 13:05:11.9±0.8, 11°45S±0°07×166°21E±0°09, h37km, mb4.0/10, Error ellipse: s-maj=13.9km s-min=8.1km az=150.2*
*AUST **08** 13:05:22.5±2.7, 12°52S×168°35E, h262km, Error ellipse: s-maj=2.1km s-min=1.3km az=347.0*
ISC 08 13:05:13.3±0.9, 11°35S±0°09×166°3E±0°1, h37km, n24, σ0s98/20, mb4.1/10, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.55	286	Pn	Pn	13 06 48.3	+1.2
	66nm,0.3s,baz=155,slow=5.0,SNR=20						
HNR				Sn	Sn	13 07 59.5	-1.1
	8.6nm,0.3s,baz=180,slow=15,SNR=1.5						
DZM	Mont Dzumac	10.66	179	Pn	Pn	13 07 44.6	+1.0
	4.8nm,0.3s,baz=354,slow=16,SNR=38						
DZM				Sn	Sn	13 09 41.4	-0.4
	0.3nm,0.3s,baz=96,slow=18,SNR=2.3						
CTA	Charters Tower	21.16	243	P	P	13 09 55.6	+0.2
	3.5nm,0.6s,baz=77,slow=9.4,SNR=3.2						
RMQ	Roma	22.38	225	P	P	13 10 10.2	+1.8
	baz=23,SNR=4.4						
H11S2	WAKE ISLAND Hy	29.65	1	T	T	13 41 44.5	
	baz=183,slow=0.7,SNR=31						
H11S3	WAKE ISLAND Hy	29.66	1	T	T	13 41 44.8	
	baz=183,slow=0.7,SNR=22						
H11S1	WAKE ISLAND Hy	29.67	1	T	T	13 41 46.8	
	baz=183,slow=0.7,SNR=27						
STKA	Stephens Creek	30.61	224	P	P	13 11 24.0	+0.1
	2.1nm,0.8s,baz=36,slow=11,SNR=3.7						
H11N1	WAKE ISLAND Hy	30.87	1	T	T	13 43 16.1	
	baz=184,slow=0.7,SNR=20						
H11N3	WAKE ISLAND Hy	30.88	1	T	T	13 43 16.5	
	baz=184,slow=0.7,SNR=12						
H11N2	WAKE ISLAND Hy	30.89	1	T	T	13 43 17.5	
	baz=184,slow=0.7,SNR=15						
WRA	Warramunga Arr	31.91	250	P	P	13 11 34.7	-0.9
	3.6nm,0.8s,baz=80,slow=9.1,SNR=22						
KDU	Kakadu	33.12	264	P	P	13 11 45.1	-1.0
	baz=35,SNR=6.8						
ASAR	Alice Springs	33.16	244	P	P	13 11 45.0	-1.5
	3.1nm,0.8s,baz=74,slow=9.7,SNR=30						
KNRA	Kununurra	36.74	259	P	P	13 12 16.9	-0.4
	baz=38,SNR=5.2						
FITZ	Fitzroy Crossi	39.85	255	P	P	13 12 43.0	-0.5
	baz=42,SNR=7.9						
MEEK	Meekatharra	47.32	244	P	P	13 13 43.8	+0.1
	baz=49,SNR=6.4						
VNDA	Vanda	66.20	181	P	P	13 15 55.8	-1.0
	1.6nm,1.0s,baz=1.4,slow=7.6,SNR=3.7						
CMAR	Chiang Mai Arr	72.75	293	P	P	13 16 39.3	+1.1
	2.2nm,0.7s,baz=122,slow=4.7,SNR=14						
SONM	Songino Array	79.24	324	P	P	13 17 15.9	+1.1
	0.5nm,0.6s,baz=135,slow=6.5,SNR=3.4						
ILAR	Eielson Array	83.62	18	P	P	13 17 37.1	-0.3
	0.3nm,0.6s,baz=225,slow=5.1,SNR=4.8						
MKAR	Makanchi Array	94.13	317	P	P	13 18 28.2	+0.1
	1.3nm,0.7s,baz=91,slow=6.0,SNR=16						
ZALV	Zalesovo Beam	94.13	324	P	P	13 18 27.3	-0.6
	0.4nm,0.4s,baz=112,slow=3.4,SNR=2.8						
ARCES	ARCESS Array B	116.77	346	PKP	PKPdf	13 23 52.2	-1.0
	1.8nm,0.9s,baz=83,slow=2.8,SNR=5.4						

IDC 08 13:06:28.4±2.8, 13°24S×166°24E, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.8/17, mbtmp4.1/4, Error ellipse: s-maj=86.4km s-min=37.1km az=126.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	29.25	227	P	P	13 12 33.1	+0.9
	2.6nm,0.8s,baz=45,slow=10.0

0.7nm,0.7s,baz=95,slow=6.8,SNR=8.2
ZALV Zalesovo Beam 95.28 324 P P 13 27 42.3 -1.5
0.5nm,0.5s,baz=119,slow=5.3,SNR=2.9
KEST Kesra 149.11 321 PKPbc PKPbc 13 34 08.5 -0.4
1.1nm,0.6s,baz=314,slow=1.1,SNR=5.7

IDC 08 13:15:07.5±1.1, 25°29S×176°53W, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.9/16, mbtmp3.7/5, MS3.1/1, Ms1 3.1/1, ms1mx2.9/28, Error ellipse: s-maj=49.5km s-min=28.8km az=160.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.14**	**197**	LR	LR	13 16 57.3	
	comp=Z,256nm,19.2s,baz=299,slow=26						
ASAR	**Alice Springs**	**44.94**	**261**	P	P	13 23 24.8	+0.2
	0.5nm,0.4s,baz=91,slow=7.1,SNR=6.2						
WRA	**Warramunga Arr**	**45.47**	**266**	P	P	13 23 28.2	-0.6
	0.3nm,0.5s,baz=99,slow=8.4,SNR=7.1						
H06S1	**SOCORRO T**	**77.34**	**62**	T	T	14 51 39.5	
	SNR=4.7						
MAW	**Mawson**	**77.54**	**200**	P	P	13 27 05.2	+0.4
	1.5nm,0.8s,baz=130,slow=6.3,SNR=3.9						
H03N2	**Juan Fernandez**	**82.36**	**123**	T	T	14 58 12.8	
	baz=246,slow=0.7,SNR=41						
H03N3	**Juan Fernandez**	**82.36**	**123**	T	T	14 58 06.0	
	baz=246,slow=0.7,SNR=23						
H03N1	**Juan Fernandez**	**82.37**	**123**	T	T	14 58 09.1	
	baz=246,slow=0.7,SNR=37						
TXAR	**Lajitas Array**	**88.51**	**57**	P	P	13 28 02.5	+0.1
	0.4nm,0.8s,baz=204,slow=6.5,SNR=4.2						
PDAR	**Pinedale Array**	**91.52**	**43**	P	P	13 28 16.2	-0.1
	0.5nm,0.9s,baz=197,slow=1.9,SNR=3.4						
TORD	**Torodi Ar. Bea**	**167.81**	**172**	PKPab	PKPab	13 36 22.2	-0.8
	0.6nm,0.8s,baz=188,slow=4.5,SNR=3.2						

IDC 08 13:24:32.1±1.9, 23°85S×116°24W, h0km, mb3.9/3, mb1 4.3/3, mb1mx3.9/18, mbtmp3.9/3, Error ellipse: s-maj=99.1km s-min=32.3km az=58.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez**	**33.95**	**115**	T	T	14 06 42.6	
	baz=278,slow=0.7,SNR=6.3						
H03N3	**Juan Fernandez**	**33.96**	**115**	T	T	14 06 37.5	
	baz=278,slow=0.7,SNR=7.7						
H03N1	**Juan Fernandez**	**33.97**	**115**	T	T	14 06 40.3	
	baz=278,slow=0.7,SNR=8.3						
PLCA	**Paso Flores**	**41.63**	**125**	P	P	13 32 22.4	+0.2
	2.7nm,1.0s,baz=274,slow=12,SNR=4.9						
NVAR	**Mina Array Bea**	**61.98**	**358**	P	P	13 34 55.4	+1.2
	1.8nm,0.9s,baz=185,slow=9.7,SNR=8.3						
PDAR	**Pinedale Array**	**66.57**	**5**	P	P	13 35 22.6	-1.6
	0.5nm,0.7s,baz=178,slow=9.0,SNR=4.0						
H11S2	**WAKE ISLAND Hy**	**86.11**	**292**	T	T	15 12 58.3	
	baz=123,slow=0.7						
H11S1	**WAKE ISLAND Hy**	**86.12**	**292**	T	T	15 12 59.4	
	baz=123,slow=0.7						
H11S3	**WAKE ISLAND Hy**	**86.13**	**292**	T	T	15 13 11.1	
	baz=123,slow=0.7						
H11N3	**WAKE ISLAND Hy**	**86.48**	**293**	T	T	15 13 26.2	
	baz=120,slow=0.7						
H11N1	**WAKE ISLAND Hy**	**86.50**	**293**	T	T	15 13 29.6	
	baz=120						
H11N2	**WAKE ISLAND Hy**	**86.50**	**293**	T	T	15 13 20.7	
	baz=120,slow=0.7						
ZALV	**Zalesovo Beam**	**146.03**	**338**	PKPbc	PKPbc	13 44 13.4	-0.2
	0.3nm,0.3s,baz=28,slow=6.5,SNR=2.8						
BRTR	**Keskin Array B**	**150.08**	**51**	PKPbc	PKPbc	13 44 24.4	-0.7
	1.1nm,0.8s,baz=90,slow=1.2,SNR=5.6						
MKAR	**Makanchi Array**	**152.70**	**332**	PKPbc	PKPbc	13 44 30.0	-0.9
	0.4nm,0.7s,baz=47,slow=2.1,SNR=4.4						

IDC 08 13:27:53.1±5.3, 17°40S×69°93W, h50km±41km, mb3.5/2, mb1 3.8/4, mb1mx3.5/20, mbtmp3.6/4, ML3.7/2, Error ellipse: s-maj=48.8km s-min=32.9km az=10.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.05**	**58**	P	Pn	13 28 24.8	-1.0
	18nm,0.3s,baz=245,slow=12,SNR=453						
LPAZ				S	Sn	13 28 50.9	+0.4
	39nm,0.3s,baz=38,slow=19,SNR=9.6						
SIV	**San Ignacio**	**8.60**	**82**	P	Pn	13 29 55.2	+0.1
	1.1nm,0.3s,baz=275,slow=15,SNR=9.0						
SIV				S	Sn	13 31 35.1	+4.3
	0.2nm,0.3s,baz=163,slow=19,SNR=2.2						
H03N1	**Juan Fernandez**	**17.90**	**205**	T	T	13 49 55.5	
	baz=25,slow=0.7,SNR=3.7						
H03N2	**Juan Fernandez**	**17.91**	**205**	T	T	13 49 57.8	
	baz=25,slow=0.7,SNR=6.8						
H03N3	**Juan Fernandez**	**17.92**	**205**	T	T	13 49 58.1	
	baz=25,slow=0.7,SNR=5.3						
TXAR	**Lajitas Array**	**56.74**	**325**	P	P	13 37 32.9	+0.8
	0.5nm,0.8s,baz=126,slow=9.1,SNR=2.6						
TORD	**Torodi Ar. Bea**	**76.94**	**72**	P	P	13 39 39.8	-1.1
	1.5nm,0.8s,baz=257,slow=5.6,SNR=6.8						
ZALV	**Zalesovo Beam**	**138.60**	**22**	PKP	PKPdf	13 47 11.0	-2.2
	0.3nm,0.3s,baz=311,slow=3.1,SNR=2.6						
SONM	**Songino Array**	**149.50**	**5**	PKPbc	PKPbc	13 47 37.5	+0.5
	1.1nm,0.9s,baz=351,slow=1.9,SNR=5.6						

*JMA **08** 13:30:51.8±0.4, 23°.00N×122°.96E, h33km, M2.3*
*TAP **08** 13:30:52.1, 23°.03N×122°.72E, h79km±1km, ML3.2, D*
ISC 08 13:30:51.0±1.9, 23°.01N±0°.06×122°.81E±0°.04, h30km±18km, n34, σ1s21/58, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**1.33**	**274**	*e*P	**Pn**	**13 31 12.9**	**-0.6**
	baz=278						
CHKT				*e*S	**Sn**	**13 31 27.8**	**-2.5**
	baz=278						
HATJ	**Hateruma jima**	**1.39**	**41**	P	**Pn**	**13 31 14.4**	**+0.1**
HATJ				S	**Sn**	**13 31 31.2**	**-0.4**
TWF1	**Yuli**	**1.43**	**284**	*i* P	**Pn**	**13 31 14.8**	**-0.2**
	baz=281						
TWF1				*e*S	**Sn**	**13 31 32.3**	**-0.5**
	baz=281						
EHY	**Hungye**	**1.45**	**290**	*e*P	**Pn**	**13 31 15.1**	**-0.1**
	baz=288						
EHY				*e*S	**Sn**	**13 31 32.1**	**-1.2**
	baz=288						
HWA	**Hwalien**	**1.46**	**311**	*e*P	**Pn**	**13 31 15.8**	**+0.4**
	baz=313						
HWA				*e*S	**Sn**	**13 31 33.2**	**-0.4**
	baz=313						
ESL	**Shilin**	**1.49**	**303**	*e*P	**Pn**	**13 31 15.0**	**-0.8**
	baz=304						
ESL				*e*S	**Sn**	**13 31 32.2**	**-2.2**
	baz=304						
TWD	**Chiawan**	**1.54**	**314**	*e*P	**Pn**	**13 31 16.1**	**-0.3**
	baz=316						
TWD				*e*S	**Sn**	**13 31 35.4**	**0.0**
	baz=316						
IRIF	**Iriomote-Funau**	**1.57**	**33**	P	**Pn**	**13 31 17.4**	**+0.6**
IRIF				eS	**Sn**	**13 31 36.0**	**-0.1**
TWG	**Pinlang**	**1.61**	**264**	*e*P	**Pn**	**13 31 18.4**	**+0.9**
	baz=262						
TWG				*e*S	**Sn**	**13 31 36.6**	**-0.7**
	baz=262						
JKRS	**Kuro-shima**	**1.65**	**42**	P	**Pn**	**13 31 18.6**	**+0.7**
JKRS				S	**Sn**	**13 31 37.6**	**-0.4**
ELDTW	**Lidau**	**1.66**	**276**	*e*P	**Pn**	**13 31 18.3**	**+0.1**
	baz=280						
ELDTW				*e*S	**Sn**	**13 31 37.3**	**-1.2**
	baz=280						
ENA	**Nanau**	**1.71**	**326**	*i* P	**Pn**	**13 31 19.7**	**+0.8**
	baz=322						
ENA				*e*S	**Sn**	**13 31 38.9**	**-0.9**
	baz=322						
ECL	**Taimali**	**1.76**	**257**	*e*P	**Pn**	**13 31 19.8**	**+0.3**
	baz=255						
ECL				*e*S	**Sn**	**13 31 39.0**	**-1.8**
	baz=255						
YUS	**Yu-Shan**	**1.77**	**286**	*e*P	**Pn**	**13 31 20.8**	**+0.8**
	baz=281						
YUS				*e*S	**Sn**	**13 31 40.8**	**-1.0**
	baz=281						
WHF	**Hehuan Shan**	**1.81**	**309**	P	**Pn**	**13 31 20.5**	**-0.1**
	baz=310						
WHF				*e*S	**Sn**	**13 31 40.9**	**-1.8**
	baz=310						
TWC	**Suao**	**1.82**	**331**	*e*P	**Pb**	**13 31 23.8**	**+0.2**
	baz=340						
JIJ	**Ishigaki jima**	**1.82**	**42**	P	**Pn**	**13 31 20.5**	**+0.2**
JIJ				S	**Sn**	**13 31 41.1**	**-1.3**
ALS	**Alishan**	**1.91**	**285**	P	**Pn**	**13 31 23.0**	**+1.2**
	baz=281						
ALS				S	**Sn**	**13 31 44.9**	**-0.1**
	baz=281						
EAST	**Anshuo**	**1.91**	**251**	*e*P	**Pn**	**13 31 22.4**	**+0.7**
	baz=254						
NNS	**Nan Shan**	**1.94**	**318**	*e*P	**Pn**	**13 31 22.9**	**+0.9**
	baz=314						
NNS				S	**Sn**	**13 31 45.2**	**-0.2**
	baz=314						
TWT	**Tachien**	**1.94**	**310**	*e*P	**Pn**	**13 31 22.8**	**+0.7**
	baz=311						
TWT				*e*S	**Sn**	**13 31 44.8**	**-0.8**
	baz=311						
SMLT	**Sun Moon Lake**	**1.95**	**297**	*e*P	**Pn**	**13 31 23.2**	**+0.9**
	baz=301						
ENTT	**Nioudou**	**1.98**	**325**	*e*P	**Pn**	**13 31 23.0**	**+0.5**
	baz=327						
TYC	**Yuchr**	**2.00**	**297**	*e*P	**Pn**	**13 31 23.7**	**+1.0**
	baz=301						
WTP	**Ta-pu**	**2.03**	**277**	*e*P	**Pn**	**13 31 24.9**	**+1.6**
	baz=276						
WTP				*e*S	**Sn**	**13 31 48.9**	**+1.2**
	baz=276						
CHN5	**Tsauling**	**2.04**	**287**	*e*P	**Pn**	**13 31 25.3**	**+1.9**
	baz=287						
CHN5				*e*S	**Sn**	**13 31 50.0**	**+2.0**
	baz=287						
SGST	**Jiashian**	**2.05**	**272**	*e*P	**Pn**	**13 31 25.8**	**+2.3**
	baz=274						
CHN1	**Nanshi**	**2.10**	**275**	*e*P	**Pn**	**13 31 26.5**	**+2.2**
	baz=277						
CHN1				*e*S	**Sn**	**13 31 51.0**	**+1.6**
	baz=277						
NSK	**Sanguang**	**2.12**	**322**	*e*P	**Pn**	**13 31 25.2**	**+0.7**
	baz=315						
NSK				*e*S	**Sn**	**13 31 48.4**	**-1.5**
	baz=315						
WGK	**Gukeng**	**2.17**	**288**	*e*P	**Pn**	**13 31 27.0**	**+1.9**
	baz=288						
TWM1	**Shoushan**	**2.21**	**266**	*e*P	**Pb**	**13 31 29.4**	**-0.9**
	baz=264						
TWQ1	**Liyutan**	**2.29**	**306**	*e*P	**Pn**	**13 31 28.8**	**+2.0**
	baz=307						
NSTT	**Nanjuang**	**2.31**	**315**	*e*P	**Pn**	**13 31 29.7**	**+2.7**
	baz=311						
JTJ	**Tarama**	**2.38**	**47**	P	**Pn**	**13 31 28.8**	**+0.9**
JTJ				S	**Sn**	**13 31 55.8**	**-0.3**

IDC 08 13:43:08.8±1.8, 13°25S×166°05E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.7/19, mbtmp3.8/6, ML2.9/1, Error ellipse: s-maj=51.0km s-min=30.2km az=120.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.78**	**178**	Pn	Pn	13 45 15.3	-1.9
	0.1nm,0.3s,baz=330,slow=20,SNR=4.3						
STKA	**Stephens Creek**	**29.09**	**226**	P	P	13 49 12.9	+1.6
	1.5nm,0.8s,baz=51,slow=9.9,SNR=3.1						
WRA	**Warramunga Arr**	**31.07**	**253**	P	P	13 49 27.5	-1.4
	0.3nm,0.8s,baz=86,slow=7.8,SNR=3.1						
ASAR	**Alice Springs**	**32.13**	**247**	P	P	13 49 38.6	+0.4
	1.5nm,0.7s,baz=71,slow=9.5,SNR=20						
ILAR	**Eielson Array**	**85.50**	**18**	P	P	13 55 48.8	+0.5
	0.4nm,0.7s,baz=237,slow=5.1,SNR=3.7						
MKAR	**Makanchi Array**	**95.32**	**317**	P	P	13 56 33.9	-1.0
	0.2nm,0.7s,baz=97,slow=5.8,SNR=2.6						

IDC 08 13:58:19.7±3.2, 15°95S×173°59W, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/19, mbtmp3.7/5, ML1.7/1, Error ellipse: s-maj=168.7km s-min=23.3km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.68**	**41**	Pn	Pn	13 59 03.2	-1.0
	7.4nm,0.3s,baz=290,slow=22,SNR=7.8						
AFI				Sn	Sn	13 59 32.4	-5.0
	23nm,0.3s,baz=46,slow=20,SNR=3.7						
WRA	**Warramunga Arr**	**49.54**	**257**	P	P	14 07 12.2	-0.6
	0.6nm,0.8s,baz=91,slow=7.8,SNR=6.2						
ASAR	**Alice Springs**	**49.77**	**252**	P	P	14 07 14.0	-0.5
	2.1nm,0.5s,baz=88,slow=8.4,SNR=41						
PDAR	**Pinedale Array**	**82.80**	**42**	P	P	14 10 45.8	-0.4
	0.1nm,0.5s,baz=225,slow=4.8,SNR=4.5						
ILAR	**Eielson Array**	**83.02**	**11**	P	P	14 10 46.7	+0.2
	0.2nm,0.6s,baz=234,slow=6.1,SNR=4.7						
BRTR	**Keskin Array B**	**146.46**	**320**	PKPbc	PKPab	14 18 04.3	+0.1
	0.5nm,0.5s,baz=117,slow=1.9,SNR=4.1						

*IDC **08** 14:05:58.1±0.9, 13°.25S×166°.64E, h0km, mb4.3/12, mb1 4.4/13, mb1mx4.2/20, mbtmp4.3/13, ML4.5/1, Error ellipse: s-maj=29.4km s-min=19.9km az=95.0*
*ISCJB **08** 14:06:03.5±0.6, 13°.26S±0°.08×166°.3E±0°.1, h44km, mb4.3/13, Error ellipse: s-maj=15.9km s-min=9.3km az=145.8*
*NEIC **08** 14:06:03.8±0.6, 13°.18S×166°.55E, h35km, mb4.7/1, Error ellipse: s-maj=17.4km s-min=10.2km az=78.0*
ISC 08 14:06:04.9±0.8, 13°.20S±0°.10×166°.5E±0°.1, h44km, n30, σ0s77/32, mb4.2/13, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.40**	**300**	Pn	**Pn**	**14 07 51.0**	**+0.5**
HNR				Sn	**Sn**	**14 09 12.4**	**-0.8**
HNR	**Honiara**	**7.40**	**300**	Pn	**Pn**	**14 07 51.0**	**+0.5**
	6.4nm,0.3s,baz=27,slow=2.1,SNR=6.5						
HNR				Sn	**Sn**	**14 09 12.4**	**-0.8**
	8.6nm,0.3s,baz=72,slow=20,SNR=5.1						
DZM	**Mont Dzumac**	**8.82**	**180**	Pn	**Pn**	**14 08 10.2**	**+0.2**
DZM	**Mont Dzumac**	**8.82**	**180**	Pn	**Pn**	**14 08 10.2**	**+0.2**
	0.6nm,0.3s,baz=35,slow=21,SNR=11						
STKA	**Stephens Creek**	**29.43**	**227**	P	**P**	**14 12 04.5**	**0.0**
STKA	**Stephens Creek**	**29.43**	**227**	P	**P**	**14 12 04.5**	**0.0**
	1.5nm,0.8s,baz=55,slow=12,SNR=3.2						
WRA	**Warramunga Arr**	**31.47**	**253**	P	**P**	**14 12 21.9**	**-0.8**
WRA	**Warramunga Arr**	**31.47**	**253**	P	**P**	**14 12 21.9**	**-0.8**
	1.2nm,0.7s,baz=86,slow=9.0,SNR=11						
ASAR	**Alice Springs**	**32.52**	**247**	P	**P**	**14 12 31.5**	**-0.4**
ASAR	**Alice Springs**	**32.52**	**247**	P	**P**	**14 12 31.5**	**-0.4**
	2.5nm,0.7s,baz=73,slow=9.7,SNR=44						
KSRS	**Korea Array**	**62.04**	**326**	P	**P**	**14 16 21.8**	**+0.8**
	1.4nm,0.7s,baz=143,slow=6.0,SNR=3.9						
KSAR	**Wonju Array Be**	**62.05**	**326**	P	**P**	**14 16 21.8**	**+0.7**
VNDA	**Vanda**	**64.37**	**181**	P	**P**	**14 16 35.8**	**0.0**
VNDA	**Vanda**	**64.37**	**181**	P	**P**	**14 16 35.8**	**0.0**
	0.2nm,0.9s,baz=359,slow=6.3,SNR=3.0						
USRK	**Ussuriysk Arra**	**65.17**	**333**	P	**P**	**14 16 42.7**	**+1.2**
	5.6nm,0.9s,baz=134,slow=8.2,SNR=5.4						
QSPA	**South Pole Qui**	**76.82**	**180**	P	**P**	**14 17 51.8**	**-0.3**
QSPA	**South Pole Qui**	**76.82**	**180**	P	**P**	**14 17 51.7**	**-0.3**
	5.0nm,1.1s,baz=49,slow=7.9,SNR=16						
ULN	**Ulaanbaatar**	**80.44**	**324**	*e*P	**P**	**14 18 12.1**	**-0.1**
	11nm,1.3s						
SONM	**Songino Array**	**80.81**	**324**	P	**P**	**14 18 15.2**	**+1.0**
SONM	**Songino Array**	**80.81**	**324**	P	**P**	**14 18 15.2**	**+1.0**
	1.5nm,0.6s,baz=141,slow=6.2,SNR=9.2						
ILAR	**Eielson Array**	**85.32**	**18**	P	**P**	**14 18 35.3**	**-1.6**
ILAR	**Eielson Array**	**85.32**	**18**	P	**P**	**14 18 35.3**	**-1.6**
	1.2nm,0.5s,baz=245,slow=5.1,SNR=28						
MKAR	**Makanchi Array**	**95.56**	**317**	P	**P**	**14 19 26.4**	**+0.9**
MKAR	**Makanchi Array**	**95.56**	**317**	P	**P**	**14 19 26.4**	**+0.9**
	3.1nm,0.6s,baz=92,slow=6.5,SNR=35						
ZALV	**Zalesovo Beam**	**95.70**	**324**	P	**P**	**14 19 25.7**	**-0.2**
ZALV	**Zalesovo Beam**	**95.70**	**324**	P	**P**	**14 19 25.7**	**-0.2**
	1.7nm,0.7s,baz=117,slow=5.0,SNR=8.8						
KURK	**Kurchatov**	**98.73**	**320**	P	**P**	**14 19 39.3**	**-0.4**
KURBB	**Kurchatov Arra**	**98.77**	**320**	P	**P**	**14 19 39.3**	**-0.6**
	0.3nm,0.6s,baz=105,slow=3.4,SNR=4.6						
TORD	**Torodi Ar. Bea**	**165.16**	**272**	PKPab	**PKPab**	**14 27 03.6**	**+0.8**
TORD	**Torodi Ar. Bea**	**165.16**	**272**	PKPab	**PKPab**	**14 27 03.6**	**+0.8**
	1.7nm,1.0s,baz=85,slow=4.9,SNR=6.5						

*IDC **08** 14:08:32.7±0.6, 12°.73S×166°.48E, h0km, mb4.7/23,*
mb1 4.8/24, mb1mx4.7/28, mbtmp4.7/24, ML5.5/1, MS4.7/18, Ms1 4.7/18, ms1mx4.6/22, Error ellipse: s-maj=18.7km s-min=13.2km az=102.0
*BJI **08** 14:08:35.4, 12°.54S×167°.09E, h38km, mB5.3/15, mb4.9/28, Ms5.0/10, Ms7 4.7/10*
*MOS **08** 14:08:36.5±0.9, 12°.75S×166°.31E, h33km, mb5.2/13, Error ellipse: s-maj=12.9km s-min=9.5km az=12.8*
*NEIC **08** 14:08:38.5±0.4, 12°.70S×166°.33E, h35km, mb4.8/11, Error ellipse: s-maj=9.4km s-min=8.3km az=115.0*
*ISCJB **08** 14:08:39.5±0.3, 12°.75S±0°.05×166°.35E±0°.06, h59km, mb4.8/42, MS4.7/23, Error ellipse: s-maj=8.4km s-min=6.4km az=12.3*
*DJA **08** 14:08:43.9±1.4, 13°S±7°×16°6E±°, h85km±15km, M5.0/13, mB5.5/1, mb5.0/13, Mw(mB)5.0/1*
*AUST **08** 14:08:46.5, 12°.96S×166°.44E, h100km*
*BKK **08** 14:08:52.1±1.6, 13°S±8°×16°6E±1°0, h148km±17km, M4.9/14, mb4.9/14*
ISC 08 14:08:41.0±0.4, 12°71S±0°06×166°35E±0°06, h59km, n159, σ1s43/160, mb4.8/42, MS4.7/23, 2C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.08**	**297**	Pn	**Pn**	**14 10 21.2**	**-0.8**
HNR				Sn	**Sn**	**14 11 39.2**	**-1.9**
HNR	**Honiara**	**7.08**	**297**	Pn	**Pn**	**14 10 21.2**	**-0.8**
	85nm,0.3s,baz=169,slow=2.9,SNR=28						
HNR				Sn	**Sn**	**14 11 39.2**	**-1.9**
	100nm,0.3s,baz=60,slow=20,SNR=8.2						
DZM	**Mont Dzumac**	**9.31**	**179**	*e*Pn	Pn	14 10 56.8	+4.2
	105nm,0.7s						
DZM				*e*LR	LR	14 13 21.4	
	8µm,23.2s						
DZM	**Mont Dzumac**	**9.31**	**179**	Pn	**Pn**	**14 10 53.0**	**+0.4**
DZM	**Mont Dzumac**	**9.31**	**179**	Pn	**Pn**	**14 10 53.0**	**+0.4**
	1.1nm,0.3s,baz=344,slow=11,SNR=5.8						
MSVF	**Nonsavu**	**12.35**	**115**	*e*P	**Pn**	**14 11 33.7**	**-0.5**
MSVF				pmax	pmax		
	comp=Z,55nm,1.1s						
MSVF	**Nonsavu**	**12.35**	**115**	*e*Pn	**Pn**	**14 11 33.7**	**-0.5**
	comp=Z,55nm,1.1s						
TARA	**Tarawa**	**15.43**	**25**	*e*Pn	**Pn**	**14 12 15.9**	**+0.7**
	comp=Z,382nm,1.2s						
PMG	**Port Moresby**	**19.11**	**278**	P	**Pn**	**14 13 01.1**	**+0.4**
PMG	**Port Moresby**	**19.11**	**278**	P	**Pn**	**14 13 01.1**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=97,slow=8.1,SNR=3.3						
EIDS	**Eidsvold**	**19.12**	**227**	*e*P	**P**	**14 12 59.3**	**-0.1**
	comp=Z,40nm,0.8s						
EIDS	**Eidsvold**	**19.12**	**227**	P	**Pn**	**14 13 01.3**	**+0.6**
	baz=19,SNR=16						
CTA	**Charters Tower**	**20.61**	**247**	P	**P**	**14 13 16.3**	**+0.7**
CTA	**Charters Tower**	**20.61**	**247**	P	**P**	**14 13 16.3**	**+0.7**
	comp=Z,12nm,0.8s,baz=75,slow=14,SNR=15						
CTA				LR	LR	14 20 13.7	
	comp=Z,4µm,20.8s,baz=151,slow=34						
CTAO	**Charters Tower**	**20.61**	**247**	*e*P	**P**	**14 13 14.2**	**-1.4**
CTAO				pmax	pmax		
	comp=Z,41nm,1.0s						
CTAO	**Charters Tower**	**20.61**	**247**	*e*P	**P**	**14 13 14.2**	**-1.4**
	comp=Z,41nm,1.0s						
AFI	**Afiamalu**	**21.32**	**96**	LR	LR	14 20 21.9	
	comp=Z,2µm,18.4s,baz=247,slow=34						
RMQ	**Roma**	**21.46**	**228**	P	**P**	**14 13 26.4**	**+1.7**
	baz=21,SNR=30						
RAO	**Raoul Island**	**22.02**	**141**	LR	LR	14 20 06.3	
	comp=Z,2µm,21.3s,baz=54,slow=32						
ARMA	**Armidale**	**22.27**	**215**	*e*P	**P**	**14 13 31.6**	**-1.8**
	comp=Z,32nm,0.8s						
ARMA	**Armidale**	**22.27**	**215**	P	**P**	**14 13 34.3**	**+0.9**
	baz=22,SNR=17						
COEN	**Coen**	**22.58**	**264**	*e*P	**P**	**14 13 35.4**	**-1.4**
	comp=Z,183nm,1.0s						
COEN	**Coen**	**22.58**	**264**	P	**P**	**14 13 37.5**	**+0.7**
	baz=23,SNR=6.1						
MGCD	**Mangrove Creek**	**24.70**	**212**	P	**P**	**14 13 57.8**	**+1.1**
	baz=25,SNR=7.5						
QLP	**Quilpie**	**24.92**	**233**	P	**P**	**14 13 59.3**	**+0.5**
	baz=25,SNR=24						
CMSA	**Cobar Meteorol**	**26.69**	**222**	P	**P**	**14 14 15.6**	**+0.9**
	baz=27,SNR=7.5						
URZ	**Urewera**	**27.19**	**161**	LR	LR	14 23 27.4	
	comp=Z,2µm,20.6s,baz=161,slow=33						
STKA	**Stephens Creek**	**29.68**	**226**	P	**P**	**14 14 42.1**	**+0.7**
STKA	**Stephens Creek**	**29.68**	**226**	P	**P**	**14 14 42.0**	**+0.7**
	baz=30,SNR=20						
STKA	**Stephens Creek**	**29.68**	**226**	P	**P**	**14 14 42.1**	**+0.7**
	comp=Z,20nm,0.9s,baz=45,slow=9.7,SNR=22						
STKA				LR	LR	14 26 29.9	
	comp=Z,3µm,18.7s,baz=58,slow=36						
TOO	**Toolangi**	**30.98**	**213**	P	**P**	**14 14 53.9**	**+1.0**
	baz=31,SNR=5.4						
RPZ	**Rata Peaks**	**31.16**	**173**	P	**P**	**14 14 54.3**	**0.0**
RPZ	**Rata Peaks**	**31.16**	**173**	P	**P**	**14 14 54.3**	**0.0**
	comp=Z,6.9nm,0.6s,baz=25,slow=13,SNR=8.6						
WRAB	**Tennant Creek**	**31.49**	**253**	*e*P	**P**	**14 14 56.8**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,15nm,1.3s						
WRAB	**Tennant Creek**	**31.49**	**253**	*e*P	**P**	**14 14 56.8**	**-0.8**
	comp=Z,15nm,1.3s						
WRA	**Warramunga Arr**	**31.51**	**253**	P	**P**	**14 14 56.3**	**-1.4**
WRA	**Warramunga Arr**	**31.51**	**253**	P	**P**	**14 14 56.3**	**-1.4**
	comp=Z,2.8nm,0.8s,baz=83,slow=8.8,SNR=14						
WRA				LR	LR	14 26 47.9	
	comp=Z,2µm,19.6s,baz=70,slow=35						
AS31	**Alice Springs**	**32.61**	**246**	*e*P	**P**	**14 15 05.6**	**-1.7**
ASAR	**Alice Springs**	**32.61**	**246**	P	**P**	**14 15 06.3**	**-1.0**
ASAR				ScP	ScP	14 21 38.9	+7.2
ASAR	**Alice Springs**	**32.61**	**246**	P	**P**	**14 15 06.3**	**-1.0**
	comp=Z,4.8nm,0.7s,baz=74,slow=9.3,SNR=29						
ASAR				ScP	ScP	14 21 38.9	+7.2

baz=58,SNR=3.7
ASAJ Asahikawa 60.55 341 P **P** **14 18 45.6 +0.3**
ASAJ Asahikawa 60.55 341 P **P** **14 18 45.6 +0.3**
comp=Z,3.6nm,0.4s,baz=332,slow=14,SNR=5.7
KSRS Korea Array 61.58 326 P **P** **14 18 52.7 +0.4**
comp=Z,5.3nm,0.7s,baz=139,slow=7.2,SNR=19
KSRS LR LR 14 44 21.4
comp=Z,258nm,18.3s,baz=138,slow=35
KSAR Wonju Array Be 61.59 326 P **P** **14 18 52.7 +0.3**
PMBI Palembang 61.64 274 P **P** **14 18 56.3 +3.0**
baz=62,SNR=5.4
YSS Yuzh-Sakhalins 63.05 342 *eP* P 14 19 11.3 +9.4
YSS pmax pmax
comp=Z,40nm,1.1s
YSS MLR MLR
comp=N,500nm,18.0s
YSS MLR MLR
comp=Z,500nm,18.0s
USRK Ussuriysk Arra 64.69 333 P **P** **14 19 13.3 +0.5**
comp=Z,9.4nm,1.0s,baz=134,slow=6.2,SNR=8.4
USRK LR LR 14 44 29.6
comp=Z,310nm,20.8s,baz=314,slow=33
VNDA Vanda 64.85 181 P **P** **14 19 13.0 -0.4**
VNDA Vanda 64.85 181 P **P** **14 19 13.0 -0.4**
comp=Z,1.5nm,0.7s,baz=356,slow=7.0,SNR=6.8
VNDA LR LR 14 44 20.7
comp=Z,490nm,19.9s,baz=7.9,slow=33
SBA Scott Base 65.14 180 *eP* **P** **14 19 14.7 -0.6**
SBA pmax pmax
comp=Z,9.0nm,1.0s
SBA Scott Base 65.14 180 *eP* **P** **14 19 14.7 -0.6**
comp=Z,9.4nm,1.0s
PETK Petropavlovsk- 65.97 354 P **P** **14 19 22.3 +1.3**
PETK Petropavlovsk- 65.97 354 P **P** **14 19 22.3 +1.3**
PETK Petropavlovsk- 65.97 354 P **P** **14 19 22.3 +1.3**
comp=Z,1.7nm,0.8s,baz=183,slow=8.1,SNR=4.7
PANO Nakornpanom 67.81 295 P **P** **14 19 34.9 +1.6**
comp=Z,227nm,0.8s
SKNT Sakolnakorn 68.30 294 P **P** **14 19 37.2 +0.7**
comp=Z,51nm,0.9s
PSI Prapat 68.68 278 P **P** **14 19 38.4 -0.6**
PSI Prapat 68.68 278 P **P** **14 19 39.3 +0.2**
baz=69,SNR=4.2
PSI Prapat 68.68 278 P **P** **14 19 38.4 -0.6**
comp=Z,9.6nm,0.8s,baz=67,slow=3.8,SNR=7.6
PSI LR LR 14 51 51.1
comp=Z,283nm,19.9s,baz=117,slow=38
KLR Kul'dur 68.81 336 *eP* **P** **14 19 36.2 -2.8**
KLR pmax pmax
comp=Z,64nm,1.8s
CHAI Chaiyaphum 69.71 292 P **P** **14 19 46.1 +0.9**
comp=Z,4.1nm,0.8s
XAN Xi'an 71.67 313 P **P** **14 19 57.1 +0.2**
XAN pP **pP** **14 20 10.7 -2.4**
XAN sP **sP** **14 20 17.4 -2.3**
XAN AMB AMB
comp=Z,6.0nm,0.8s
XAN LR LR
comp=Z,130nm,23.5s
XAN LR LR
comp=Z,140nm,23.5s
NANT Nan 71.87 295 P **P** **14 19 59.6 +1.3**
comp=Z,22nm,0.8s
KMI Kunming 72.49 302 P **P** **14 20 03.7 +1.5**
KMI pP pP 14 20 11.0 -7.4
KMI PP **PP** **14 22 47.7 +3.5**
KMI S **S** **14 29 26.8 +4.4**
KMI SS SS 14 34 11.7 +9.2
KMI AMB AMB
comp=Z,19nm,1.0s
KMI AMB AMB
comp=Z,190nm,3.4s
KMI LR LR
comp=Z,180nm,24.4s
KMI LR LR
comp=Z,230nm,23.4s
KMI LR LR
comp=Z,310nm,23.9s
CHTO Chiang Mai 73.44 294 *eP* **P** **14 20 06.0 -1.6**
CHTO pmax pmax
comp=Z,50nm,1.1s
CHTO Chiang Mai 73.44 294 P **P** **14 20 07.8 +0.2**
comp=Z,51nm,1.1s
CHTO Chiang Mai 73.44 294 *eP* **P** **14 20 06.0 -1.6**
comp=Z,50nm,1.1s
CHTO Chiang Mai 73.44 294 P **P** **14 20 08.7 +1.1**
comp=Z,69nm,1.0s
LZH Lanzhou 76.31 312 *eP* **P** **14 20 25.0 +0.9**
LZH pP **PcP** **14 20 35.6 -0.1**
LZH sP sP 14 20 40.1 -6.9
LZH PP **PP** **14 23 18.3 +2.0**
LZH AMB AMB
comp=Z,27nm,1.3s
LZH AMB AMB
comp=Z,95nm,8.7s
LZH LR LR
comp=Z,370nm,18.1s
LZH LR LR
comp=Z,330nm,17.6s
LZH LR LR
comp=Z,460nm,19.7s
QSPA South Pole Qui 77.30 180 P **P** **14 20 28.3 -0.8**
QSPA South Pole Qui 77.30 180 P **P** **14 20 28.3 -0.8**
comp=Z,24nm,1.0s,baz=0.0,slow=3.5,SNR=35
YAK Yakutsk 79.85 343 *eP* P 14 20 52.0 +9.2
YAK pmax pmax
comp=Z,12nm,0.9s
ULN Ulaanbaatar 79.99 324 P **P** **14 20 44.6 +0.4**
ULN Ulaanbaatar 79.99 324 *eP* **P** **14 20 41.4 -2.8**
comp=Z,11nm,0.7s
SONM Songino Array 80.35 324 P **P** **14 20 46.4 +0.4**
SONM Songino Array 80.35 324 P **P** **14 20 46.4 +0.4**
comp=Z,5.9nm,0.8s,baz=138,slow=6.3,SNR=20
SONM LR LR 14 56 34.0
comp=Z,343nm,20.0s,baz=99,slow=36
GTA Gaotai 80.63 314 ⇑*P* **P** **14 20 49.2 +1.4**
GTA pP **pP** **14 21 01.7 -2.6**
GTA sP **sP** **14 21 06.2 -4.6**
GTA S **SKSac** **14 30 57.2 -4.1**
GTA sS **sS** **14 31 19.3 +0.6**
GTA AMB AMB
comp=Z,12nm,1.0s
GTA AMB AMB
comp=Z,260nm,6.2s
GTA LR LR
comp=Z,160nm,17.1s
GTA LR LR
comp=Z,230nm,21.4s
GTA LR LR
comp=Z,280nm,20.7s
ZAK Zakamensk 83.40 325 *eP* **P** **14 21 01.6 -0.4**
ZAK pmax pmax
comp=Z,7.0nm,1.3s
MAW Mawson 83.41 202 P **P** **14 21 02.1 +0.5**
MAW Mawson 83.41 202 P **P** **14 21 02.1 +0.5**
comp=Z,2.3nm,0.8s,baz=133,slow=6.6,SNR=5.8
MAW LR LR 14 52 30.8
comp=Z,258nm,19.9s,baz=94,slow=32
LSA Lhasa 83.73 302 P **P** **14 21 04.1 -0.6**
TLY Talaya 83.83 326 *eP* **P** **14 21 04.0 -0.1**
TLY *e* 14 32 16.3
TLY pmax pmax
comp=Z,10.0nm,0.8s
TLY MLR MLR
comp=Z,25nm,7.0s
ILAR Eielson Array 84.90 18 P **P** **14 21 09.8 +0.6**
ILAR Eielson Array 84.90 18 P **P** **14 21 09.7 +0.6**
comp=Z,1.7nm,0.5s,baz=237,slow=5.2,SNR=28
MOY Mondy 85.28 325 *eP* **P** **14 21 11.4 -0.1**
TAPN Taplejung 85.92 299 *eP* **P** **14 21 16.3 +0.8**
ODAN Odare 86.06 298 *eP* **P** **14 21 16.5 +0.4**
comp=Z,33nm,0.9s
NVAR Mina Array Bea 86.65 50 P **P** **14 21 18.4 -0.4**
NVAR Mina Array Bea 86.65 50 P **P** **14 21 18.4 -0.4**
comp=Z,0.8nm,0.7s,baz=240,slow=7.2,SNR=4.1
RAMN Ramite 86.76 298 *eP* **P** **14 21 19.6 0.0**
JIRN Jiri 87.31 299 *eP* **P** **14 21 22.7 +0.3**
comp=Z,22nm,0.9s
GUN Gumba 87.64 299 *eP* **P** **14 21 24.2 +0.3**
comp=Z,29nm,0.8s
PKI Pulchoki 87.95 299 *eP* **P** **14 21 25.3 -0.1**
KKN Kakani 88.12 299 *eP* **P** **14 21 26.2 +0.2**
comp=Z,30nm,0.8s
DMN Daman 88.22 299 *eP* **P** **14 21 26.9 +0.3**
comp=Z,30nm,0.7s
GKN Gorkha 88.72 299 *eP* **P** **14 21 28.4 -0.4**
comp=Z,36nm,0.8s
HVS Khovu-Aksy 89.22 323 *eP* **P** **14 21 31.2 +0.7**
HVS pmax pmax
comp=Z,24nm,1.1s
KOLN Koldanda 89.55 298 *eP* **P** **14 21 32.2 -0.6**
comp=Z,14nm,0.8s
DANN Dangsing 89.56 299 *eP* **P** **14 21 32.3 -0.6**
comp=Z,27nm,0.7s
SYO Syowa Base 90.37 197⇑ *eP* **P** **14 21 33.6 -1.9**
MKAR Makanchi Array 95.13 317 P **P** **14 21 57.9 0.0**
MKAR Makanchi Array 95.13 317 P **P** **14 21 57.9 0.0**
MKAR Makanchi Array 95.13 317 P **P** **14 21 57.9 0.0**
comp=Z,7.4nm,0.8s,baz=93,slow=5.8,SNR=48
ZALV Zalesovo Beam 95.24 324 P **P** **14 21 57.1 -1.1**
ZALV Zalesovo Beam 95.24 324 P **P** **14 21 57.0 -1.1**
ZALV Zalesovo Beam 95.24 324 P **P** **14 21 57.0 -1.1**
comp=Z,3.7nm,0.8s,baz=108,slow=4.7,SNR=15
KURK Kurchatov 98.29 320 P **P** **14 22 11.2 -0.8**
KURK Kurchatov 98.29 320 P **P** **14 22 11.2 -0.8**
KURBB Kurchatov Arra 98.33 320 P **P** **14 22 11.2 -1.0**
comp=Z,0.8nm,0.8s,baz=97,slow=4.6,SNR=9.1
ARCES ARCESS Array B 118.09 345 PKP **PKPdf** **14 27 19.4 -1.4**
ARCES ARCESS Array B 118.09 345 PKP **PKPdf** **14 27 19.4 -1.4**
comp=Z,1.5nm,0.5s,baz=60,slow=2.2,SNR=12
FINES FINESS Array B 123.53 338 PKP **PKPdf** **14 27 31.2 -0.2**
FINES FINESS Array B 123.53 338 PKP **PKPdf** **14 27 31.2 -0.2**
comp=Z,1.3nm,0.7s,baz=347,slow=39,SNR=4.5
AKASG Malin Array Be 128.57 326 PKIKP **PKPdf** **14 27 41.6 +0.2**
AKASG Malin Array Be 128.57 326 PKP **PKPdf** **14 27 41.5 +0.2**
AKASG Malin Array Be 128.57 326 PKP **PKPdf** **14 27 41.6 +0.2**
comp=Z,0.2nm,0.3s,baz=32,slow=2.1,SNR=2.5
CLL Collm 135.86 336 *e*SKPbc **SKPab** **14 31 25.0 -1.8**
CLL LmV 15 32 00.0
comp=Z,300nm,19.5s
GERES GERESS Array B 137.45 333 PKP **PKPdf** **14 27 58.2 -0.1**
GERES GERESS Array B 137.45 333 PKP **PKPdf** **14 27 58.2 -0.1**
comp=Z,0.2nm,0.3s,baz=343,slow=3.1,SNR=3.0
KEST Kesra 149.09 322 PKPbc **PKPbc** **14 28 23.3 +0.1**
KEST Kesra 149.09 322 PKPbc **PKPbc** **14 28 23.3 +0.1**
comp=Z,4.6nm,0.9s,baz=175,slow=3.5,SNR=11
CMAH Djebel Manchou 149.59 325 P **PKPab** **14 28 32.9 +3.4**
ABSA Djebel Ababsia 149.81 325 P **PKPab** **14 28 33.6 +3.1**
CKFL Kef-Lekhel 150.14 326 P **PKPab** **14 28 34.5 +2.6**
DFRA Djebel Bou Aff 150.49 327 P **PKPab** **14 28 35.5 +2.2**
POLO Lamas de Olo 150.99 351 *e*PKPbc **PKPbc** **14 28 31.1 +3.4**
POLO Lamas de Olo 150.99 351 *e*PKPab **PKPab** **14 28 39.3 +4.1**
MVO Moncorvo 151.07 350 *e*PKPbc **PKPbc** **14 28 31.2 +3.4**
ESDC Sonseca Array 151.81 344 PKPbc **PKPbc** **14 28 29.6 0.0**
ESDC Sonseca Array 151.81 344 PKPbc **PKPbc** **14 28 29.6 0.0**
comp=Z,0.4nm,0.4s,baz=23,slow=2.4,SNR=5.3
MTE Manteigas 151.90 350 *e*PKPbc **PKPbc** **14 28 32.7 +2.9**
PCBR Castelo Branco 152.43 350 *e*PKPbc **PKPab** **14 28 37.4 -3.7**
PMRV Marv??o 152.82 349 *e*PKPbc **PKPab** **14 28 39.4 -3.3**
TORD Torodi Ar. Bea 165.03 273 PKPab **PKPab** **14 29 36.8 +0.2**
TORD Torodi Ar. Bea 165.03 273 PKPab **PKPab** **14 29 36.8 +0.2**
comp=Z,4.4nm,0.8s,baz=82,slow=4.3,SNR=18
DBIC Dimbokro 169.45 236 PKPab **PKPab** **14 29 56.7 +0.7**
DBIC Dimbokro 169.45 236 PKPab **PKPab** **14 29 56.7 +0.7**
comp=Z,4.9nm,0.8s,baz=141,slow=3.8,SNR=6.3

IDC 08 14:13:19.7±8.7,**11°.36S**×**165°.52E**,**h0**km,**mb3.8**/3,
mb1 3.9/3,**mb1mx3.6**/17,**mbtmp3.7**/3,**Error ellipse:**
s-maj=262.7km s-min=52.4km az=125.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.17 250**		P	P	14 19 41.1	+0.4
	0.5nm,0.7s,baz=81,slow=9.2,SNR=2.5						
ASAR	**Alice Springs**	**32.45 244**		P	P	14 19 51.5	-0.5
	0.8nm,0.7s,baz=69,slow=9.2,SNR=5.9						
MKAR	**Makanchi Array**	**93.60 317**		P	P	14 26 37.9	-0.1
	0.5nm,0.7s,baz=100,slow=6.0,SNR=4.3						

*PRE **08** 14:29:04.2±3.3,17°.76S×35°.09E,h10km,ML5.8*
*IDC **08** 14:29:05.5±1.1,17°.87S×35°.07E,h0km,mb4.0/6,*
mb1 4.1/13,mb1mx3.9/30,mbtmp4.1/13,ML3.9/5,MS3.3/1,
Ms1 3.3/1,ms1mx2.0/37,Error ellipse: s-maj=29.1km
s-min=20.3km az=148.0
*NEIC **08** 14:29:06.7±0.5,17°.83S×35°.04E,h10km,mb4.6/1,Error*
ellipse: s-maj=12.8km s-min=7.1km az=124.0
ISC 08 14:29:05.5±0.7,**17°.94S**±0°.04×**34°.86E**±0°.07,**h6**km,**n54,**
s48/78,**mb4.0**/7,**1C-2D,Mozambique**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSNA	**Messina**	**6.31 225**		*eP*	Pn	14 30 43.5	+4.3
MSNA				*eS*	**Sn**	**14 31 55.7**	**+4.1**
MSNA				AML	AML	14 32 34.5	
	comp=Z,423nm,0.5s						
MSNA	**Messina**	**6.31 225**		*eP*	Pn	14 30 43.5	+4.3
MSNA				*eS*	**Sn**	**14 31 55.7**	**+4.1**
MZM	**Mzuzu**	**6.52 353**		*i* P	**Pn**	**14 30 43.5**	**+1.5**
MZM				*i* S	**Sb**	**14 32 16.0**	**-1.7**
LSZ	**Lusaka**	**6.92 292**		*e*Pn	**Pn**	**14 30 50.5**	**+2.9**
	comp=Z,8.3nm,0.5s						
LSZ				⇑*i* P	Pb	14 30 51.1	-15
LSZ				*e*Sn	**Sn**	**14 32 05.0**	**-1.9**
LSZ				*e*S	Sb	14 32 06.3	-23
LSZ				Lg	Lg	14 32 39.5	
LSZ	**Lusaka**	**6.92 292**		Pn	Pn	14 30 51.0	+3.3
	comp=Z,10nm,0.3s,baz=111,slow=16,SNR=80						
LSZ				Sn	**Sn**	**14 32 04.5**	**-2.4**
	comp=Z,25nm,0.3s,baz=30,slow=20,SNR=11						
LSZ				Lg	Lg	14 32 39.5	
	comp=Z,26nm,0.3s,baz=24,slow=20,SNR=7.0						
POGA	**Pongola**	**9.85 197**		⇓*i* P	Pn	14 31 31.8	+4.0
POGA				*e*S	**Sn**	**14 33 17.1**	**-1.7**
POGA				AML	AML	14 34 51.9	
	comp=Z,35nm,0.7s						
POGA	**Pongola**	**9.85 197**		⇓*i* P	Pn	14 31 31.8	+4.0
POGA				*e*S	**Sn**	**14 33 17.1**	**-1.7**
SLR	**Silverton**	**9.87 217**		*e*P	**Pn**	**14 31 30.5**	**+2.4**
SLR				*e*S	**Sn**	**14 33 21.4**	**+2.1**
SLR				AML	AML	14 34 29.9	
	comp=Z,149nm,0.6s						
SLR	**Silverton**	**9.87 217**		*e*P	**Pn**	**14 31 30.5**	**+2.4**
SLR				*e*S	**Sn**	**14 33 21.4**	**+2.1**
KLOF	**Kloof**	**10.73 217**		*e*S	**Sn**	**14 33 38.1**	**-2.4**
KLOF				AML	AML	14 34 21.2	
	comp=Z,136nm,0.1s						
LBTB	**Lobatse**	**11.12 229**		*e*P	**Pn**	**14 31 48.4**	**+3.1**
LBTB				*e*S	**Sn**	**14 33 49.9**	**-0.3**
LBTB				AML	AML	14 35 07.3	
	comp=Z,99nm,0.6s						
LBTB	**Lobatse**	**11.12 229**		*e*Pn	**Pn**	**14 31 48.1**	**+2.8**
	comp=Z,0.2nm,0.4s						
LBTB				*e*P		14 31 48.4	
LBTB				Sn	**Sn**	**14 33 48.2**	**-2.0**
LBTB				*e*S		14 33 49.9	
LBTB				Lg	Lg	14 34 51.1	
LBTB	**Lobatse**	**11.12 229**		Pn	**Pn**	**14 31 48.4**	**+3.1**
	comp=Z,1.7nm,0.3s,baz=54,slow=15,SNR=5.7						
LBTB				Sn	**Sn**	**14 33 48.2**	**-2.0**
	comp=Z,2.7nm,0.3s,baz=136,slow=18,SNR=3.8						
LBTB				Lg	Lg	14 34 51.1	
	comp=Z,10nm,0.3s,baz=330,slow=20,SNR=12						
PRYS	**Parys**	**11.31 216**		*e*P	Pn	14 31 52.5	+4.6
PRYS				*e*S	**Sn**	**14 33 53.8**	**-0.9**
PRYS				AML	AML	14 37 01.4	
	comp=Z,32nm,0.6s						
PRYS	**Parys**	**11.31 216**		*e*P	Pn	14 31 52.5	+4.6
PRYS				*e*S	**Sn**	**14 33 53.8**	**-0.9**
OPO	**Ambohidratompo**	**11.73 95**		Pn	Pn	14 31 51.8	-1.9
OPO				Sn	Sn	14 33 53.0	-12
OPO	**Ambohidratompo**	**11.73 95**		Pn	Pn	14 31 51.8	-1.9
	comp=Z,1.9nm,0.3s,baz=265,slow=16,SNR=13						
OPO				Sn	Sn	14 33 53.0	-12
	comp=Z,2.1nm,0.3s,baz=328,slow=19,SNR=3.8						
OPO				LR	LR	14 36 39.3	
	comp=Z,147nm,20.1s,baz=289,slow=39						
SEK	**Senekal**	**12.29 211**		*e*P	**Pn**	**14 32 03.8**	**+2.5**
SEK				*e*S	**Sn**	**14 34 15.8**	**-2.8**
SEK				AML	AML	14 35 49.4	
	comp=Z,64nm,0.7s						
SEK	**Senekal**	**12.29 211**		*e*P	**Pn**	**14 32 03.8**	**+2.5**
SEK				*e*S	**Sn**	**14 34 15.8**	**-2.8**
SWZ	**Schweizer**	**12.72 222**		*e*P	**Pn**	**14 32 08.8**	**+1.6**
SWZ				*e*S	**Sn**	**14 34 25.9**	**-3.4**
SWZ				AML	AML	14 36 08.3	
	comp=Z,91nm,0.6s						
SWZ	**Schweizer**	**12.72 222**		*e*P	**Pn**	**14 32 08.8**	**+1.6**
SWZ				*e*S	**Sn**	**14 34 25.9**	**-3.4**
KSD	**Kokstad**	**13.48 201**		*e*S	**Sn**	**14 34 44.3**	**-3.7**
KSD				AML	AML	14 36 31.4	
	comp=Z,27nm,0.7s						
BOSA	**Boshof**	**13.80 218**		*e*P	**Pn**	**14 32 24.5**	**+2.6**
BOSA				*e*S	**Sn**	**14 34 54.3**	**-1.4**
BOSA				AML	AML	14 36 50.3	
	comp=Z,38nm,0.8s						
BOSA	**Boshof**	**13.80 218**		Pn	**Pn**	**14 32 23.5**	**+1.6**
BOSA				*e*P	**Pn**	**14 32 24.5**	**+2.6**
BOSA				Sn	**Sn**	**14 34 52.8**	**-2.8**
BOSA				*e*S	**Sn**	**14 34 54.3**	**-1.4**
BOSA				Lg	Lg	14 36 17.0	
BOSA	**Boshof**	**13.80 218**		Pn	**Pn**	**14 32 23.5**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=39,slow=14,SNR=3.6						
BOSA				Sn	**Sn**	**14 34 52.8**	**-2.8**
	comp=Z,0.6nm,0.3s,baz=354,slow=12,SNR=3.7						
BOSA				Lg	Lg	14 36 17.0	
	comp=Z,1.1nm,0.3s,baz=308,slow=19,SNR=4.5						
UPI	**Upington**	**16.24 228**		*e*P	**P**	**14 33 00.2**	**+2.7**
UPI				*e*S	**Sn**	**14 35 50.9**	**-4.0**
UPI				AML	AML	14 37 42.1	
	comp=Z,36nm,0.7s						
UPI	**Upington**	**16.24 228**		*e*P	**P**	**14 33 00.2**	**+2.7**
UPI				*e*S	**Sn**	**14 35 50.9**	**-4.0**
TSUM	**Tsumeb**	**16.43 263**		*e*P	**P**	**14 32 58.7**	**-1.0**
TSUM				*e*S	**Sn**	**14 35 53.5**	**-6.2**
TSUM	**Tsumeb**	**16.43 263**		*e*P	**P**	**14 32 58.7**	**-1.0**
TSUM				Pn	**P**	**14 32 59.7**	**0.0**
TSUM				*e*S	**Sn**	**14 35 53.5**	**-6.2**
TSUM				Sn	**Sn**	**14 35 57.3**	**-2.4**
TSUM	**Tsumeb**	**16.43 263**		Pn	**P**	**14 32 59.7**	**0.0**
	comp=Z,0.6nm,0.3s,baz=88,slow=12,SNR=5.5						
TSUM				Sn	**Sn**	**14 35 57.3**	**-2.4**
	comp=Z,1.1nm,0.3s,baz=139,slow=20,SNR=3.5						
KMBO	**Kilima Mbogo**	**16.87 8**		*e*P	**Pn**	**14 33 00.6**	**-2.2**
KMBO				*e*S	Sn	14 35 55.8	-15
KMBO	**Kilima Mbogo**	**16.87 8**		*e*P	**Pn**	**14 33 00.6**	**-2.2**
KMBO				Pn	**Pn**	**14 33 01.6**	**-1.1**
KMBO				*e*S	Sn	14 35 55.8	-15
KMBO				Lg	Lg	14 37 38.0	
KMBO	**Kilima Mbogo**	**16.87 8**		Pn	**Pn**	**14 33 01.6**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=198,slow=17,SNR=3.1						
KMBO				Lg	Lg	14 37 38.0	
	comp=Z,0.2nm,0.3s,baz=233,slow=20,SNR=4.8						
WIN	**Windhoek**	**17.28 252**		*e*S	**Sn**	**14 36 16.5**	**-4.0**
WIN				AML	AML	14 38 18.7	
	comp=Z,15nm,0.7s						
SUR	**Sutherland**	**19.16 219**		P	**Pn**	**14 33 32.9**	**+2.1**
SUR				S	**S**	**14 37 08.8**	**+1.1**
SUR				Lg	Lg	14 39 08.9	
SUR	**Sutherland**	**19.16 219**		P	**Pn**	**14 33 32.9**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=44,slow=16,SNR=2.2						
SUR				S	**S**	**14 37 08.8**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=0.0,slow=20,SNR=2.4						
SUR				Lg	Lg	14 39 08.9	
	comp=Z,0.5nm,0.3s,baz=319,slow=20,SNR=4.1						
CVNA	**Calvinia**	**19.20 223**		*e*S	**S**	**14 37 11.4**	**+3.0**
CVNA				AML	AML	14 39 13.1	
	comp=Z,30nm,0.7s						
KOMG	**Komaggas**	**19.76 230**		*e*S	**Sn**	**14 37 25.0**	**+4.8**
KOMG				AML	AML	14 39 35.2	
	comp=Z,14nm,0.7s						
TORD	**Torodi Ar. Bea**	**45.00 311**		P	**P**	**14 37 23.3**	**+1.2**
TORD	**Torodi Ar. Bea**	**45.00 311**		P	**P**	**14 37 23.3**	**+1.2**
	comp=Z,1.4nm,0.8s,baz=124,slow=7.6,SNR=11						
DBIC	**Dimbokro**	**46.20 298**		P	**P**	**14 37 33.0**	**+1.3**
DBIC	**Dimbokro**	**46.20 298**		P	**P**	**14 37 33.0**	**+1.3**
	comp=Z,2.1nm,0.6s,baz=136,slow=10,SNR=3.2						
BRTR	**Keskin Array B**	**57.38 359**		P	**P**	**14 38 55.2**	**+0.3**
BRTR	**Keskin Array B**	**57.38 359**		P	**P**	**14 38 55.2**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=177,slow=7.2,SNR=4.3						
ESDC	**Sonseca Array**	**67.81 328**		P	**P**	**14 40 06.3**	**+1.8**
ESDC	**Sonseca Array**	**67.81 328**		P	**P**	**14 40 06.3**	**+1.8**
	comp=Z,1.5nm,0.7s,baz=140,slow=6.7,SNR=6.9						
KKAR	**Karatay Array**	**69.02 27**		*e*P	**P**	**14 40 10.2**	**-1.8**
	comp=Z,2.8nm,0.7s						
MK31	**Makanchi Array**	**77.29 31**		*e*P	**P**	**14 40 59.6**	**-1.2**
MKAR	**Makanchi Array**	**77.29 31**		P	**P**	**14 41 00.5**	**-0.3**
MKAR	**Makanchi Array**	**77.29 31**		P	**P**	**14 41 00.5**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=219,slow=6.6,SNR=9.9						
ZALV	**Zalesovo Beam**	**83.39 27**		P	**P**	**14 41 33.0**	**-0.4**
ZALV	**Zalesovo Beam**	**83.39 27**		P	**P**	**14 41 33.0**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=232,slow=4.7,SNR=2.6						
NVAR	**Mina Array Bea**	**148.94 317**		PKPbc	**PKPab**	**14 48 57.7**	**-1.3**
NVAR	**Mina Array Bea**	**148.94 317**		PKPbc	**PKPab**	**14 48 57.7**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=64,slow=2.1,SNR=5.5						

IDC 08 14:34:03.5±1.0,**16°.52S**×**171°.82W**,**h0**km,**mb3.9**/7,
mb1 4.2/7,**mb1mx4.0**/19,**mbtmp3.9**/7,**Error ellipse:**
s-maj=61.3km s-min=20.6km az=150.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.59**	**1**	Sn	Sn	14 35 11.8	-7.3
	19nm,0.3s,baz=18,slow=20,SNR=3.0						
H11S2	**WAKE ISLAND Hy**	**40.70 328**		T	T	15 25 14.0	
	baz=138,SNR=10						
H11S3	**WAKE ISLAND Hy**	**40.72 328**		T	T	15 25 15.2	
	baz=138						
H11S1	**WAKE ISLAND Hy**	**40.72 328**		T	T	15 25 16.9	
	baz=138						
STKA	**Stephens Creek**	**44.82 241**		P	P	14 42 20.2	+0.8
	3.9nm,1.0s,baz=98,slow=7.1,SNR=4.2						
WRA	**Warramunga Arr**	**51.08 257**		P	P	14 43 07.5	-0.8
	2.6nm,1.1s,baz=94,slow=8.5,SNR=8.2						
ASAR	**Alice Springs**	**51.22 253**		P	P	14 43 08.7	-0.6
	6.3nm,0.9s,baz=86,slow=8.7,SNR=24						
NVAR	**Mina Array Bea**	**74.15 41**		P	P	14 45 42.1	-0.2
	0.7nm,0.8s,baz=213,slow=6.5,SNR=5.8						
TXAR	**Lajitas Array**	**79.98 55**		P	P	14 46 15.8	+0.7
	0.4nm,0.9s,baz=235,slow=6.1,SNR=2.6						
PDAR	**Pinedale Array**	**82.09 41**		P	P	14 46 26.1	-0.2
	0.4nm,0.9s,baz=243,slow=6.0,SNR=4.1						
ILAR	**Eielson Array**	**83.25 10**		P	P	14 46 30.9	-0.6
	0.5nm,0.7s,baz=222,slow=6.3,SNR=5.1						
BRTR	**Keskin Array B**	**147.97 321**		PKPbc	PKPbc	14 53 52.0	+0.7
	1.9nm,0.9s,baz=101,slow=2.9,SNR=6.3						
TORD	**Torodi Ar. Bea**	**172.89 117**		PKPab	PKPab	14 55 41.1	-0.9
	3.5nm,1.3s,baz=266,slow=4.3,SNR=4.3						

IDC 08 14:53:17.8±1.1,**12°.29S**×**165°.66E**,**h0**km,**mb4.1**/8,
mb1 4.2/10,**mb1mx4.1**/19,**mbtmp4.1**/10,**ML4.0**/2,
MS3.3/1,**Ms1 3.3**/1,**ms1mx3.0**/34,**Error ellipse:**
s-maj=34.1km s-min=23.2km az=133.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.29 296**		Pn	Pn	14 54 51.3	-0.5
	7.6nm,0.3s,baz=20,slow=3.9,SNR=7.2						
HNR				Sn	Sn	14 56 01.4	-3.1
	1.5nm,0.3s,baz=66,slow=20,SNR=4.5						
DZM	**Mont Dzumac**	**9.76 176**		Pn	Pn	14 55 39.9	+0.3
	0.6nm,0.3s,baz=35,slow=13,SNR=12						
PMG	**Port Moresby**	**18.39 277**		LR	LR	15 03 35.7	
	comp=Z,93nm,20.5s,baz=234,slow=34						
WRA	**Warramunga Arr**	**31.00 252**		P	P	14 59 37.1	-0.2
	1.2nm,0.8s,baz=83,slow=8.9,SNR=6.8						
ASAR	**Alice Springs**	**32.18 245**		P	P	14 59 47.5	-0.2
	1.7nm,0.8s,baz=72,slow=10.0,SNR=17						
PETK	**Petropavlovsk-**	**65.49 355**		P	P	15 04 03.0	+0.4
	4.5nm,0.9s,baz=154,slow=7.2,SNR=4.4						
SONM	**Songino Array**	**79.61 324**		P	P	15 05 28.1	+1.1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.05**	**178**	Pn	Pn	14 56 55.8	+1.0
	0.2nm,0.3s,baz=312,slow=19,SNR=2.3						
ASAR	**Alice Springs**	**32.27**	**246**	P	P	15 01 12.4	-0.9
	1.3nm,0.8s,baz=76,slow=9.6,SNR=6.9						
CMAR	**Chiang Mai Arr**	**73.19**	**294**	P	P	15 06 16.6	+0.7
	0.6nm,0.8s,baz=120,slow=5.3,SNR=5.1						
SONM	**Songino Array**	**80.41**	**324**	P	P	15 06 57.0	+0.7
	0.3nm,0.3s,baz=106,slow=5.1,SNR=3.0						
ILAR	**Eielson Array**	**85.23**	**18**	P	P	15 07 20.2	-0.5
	0.4nm,0.7s,baz=232,slow=5.6,SNR=3.8						
MKAR	**Makanchi Array**	**95.14**	**317**	P	P	15 08 06.8	-1.2
	0.6nm,0.6s,baz=96,slow=6.3,SNR=3.7						

*IDC **08** 14:55:47.3±0.8, 15°.27S×174°.68W, h0km, mb4.0/9, mb1 4.3/9, mb1mx4.2/18, mbtmp4.0/9, MS4.2/22, Ms1 4.2/22, ms1mx4.1/35, Error ellipse: s-maj=40.9km s-min=19.8km az=139.0*

*ISCJB **08** 14:55:50.8±0.7, 15°.3S±0°.2×174°.7W±0°.2, h33km, mb4.1/10, MS4.3/20, Error ellipse: s-maj=33.0km s-min=15.2km az=140.6*

ISC 08 14:55:53.0±0.7, 15°.1S±0°.2×174°.8W±0°.2, h35km, n43, σ1§40/15, mb4.2/10, MS4.4/20, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.11**	**68**	Pn	Pn	14 56 28.3	-11
	77nm,0.3s,baz=49,slow=6.4,SNR=12						
AFI				Sn	Sn	14 56 56.5	-19
	83nm,0.3s,baz=338,slow=20,SNR=11						
AFI				LR	LR	14 57 29.7	
	comp=Z,2μm,19.1s,baz=49,slow=33						
RAO	**Raoul Island**	**14.39**	**191**	LR	LR	15 03 57.2	
	comp=Z,793nm,18.5s,baz=303,slow=34						
RAR	**Rarotonga**	**15.47**	**115**	LR	LR	15 03 55.3	
	comp=Z,632nm,20.6s,baz=270,slow=32						
DZM	**Mont Dzumac**	**19.12**	**246**	*e*P	Pn	15 00 21.2	+7.0
	103nm,1.6s						
DZM				*e*LR	LR	15 04 59.4	
	1μm,29.8s						
DZM	**Mont Dzumac**	**19.12**	**246**	P	**Pn**	**15 00 15.6**	**+1.4**
	baz=90,slow=19,SNR=2.7						
URZ	**Urewera**	**24.17**	**196**	P	**P**	**15 01 08.2**	**+2.3**
	15nm,1.1s,baz=101,slow=2.7,SNR=4.7						
URZ				LR	LR	15 09 41.4	
	comp=Z,718nm,19.5s,baz=22,slow=35						
PPT	**Papeete**	**24.28**	**99**	LR	LR	15 09 08.7	
	comp=Z,198nm,19.3s,baz=310,slow=33						
PPT2	**Papeete2**	**24.28**	**99**	*e*LQ	LQ	15 05 47.2	
	2μm,26.0s						
PPT2				*e*LR	LR	15 06 47.7	
	769nm,27.5s						
TBI	**Tubuai**	**25.22**	**113**	*e*LQ	LQ	15 06 12.9	
	2μm,26.8s						
TBI				*e*LR	LR	15 07 20.3	
	1μm,28.0s,baz=293						
HNR	**Honiara**	**25.34**	**280**	LR	LR	15 09 37.8	
	comp=Z,600nm,21.5s,baz=328,slow=33						
RPZ	**Rata Peaks**	**30.99**	**200**	LR	LR	15 13 24.9	
	comp=Z,364nm,19.3s,baz=25,slow=34						
PMG	**Port Moresby**	**37.61**	**274**	LR	LR	15 17 08.7	
	comp=Z,456nm,18.3s,baz=312,slow=34						
H11S2	**WAKE ISLAND Hy**	**38.05**	**331**	T	T	15 43 30.1	
	baz=148						
H11S3	**WAKE ISLAND Hy**	**38.06**	**331**	T	T	15 43 30.5	
	baz=148						
H11S1	**WAKE ISLAND Hy**	**38.07**	**331**	T	T	15 43 30.6	
	baz=148						
RKT	**Rikitea**	**38.33**	**108**	*e*LR	LR	15 13 21.7	
	542nm,28.2s						
H11N3	**WAKE ISLAND Hy**	**39.02**	**332**	T	T	15 44 39.9	
	baz=153,slow=0.7,SNR=36						
H11N1	**WAKE ISLAND Hy**	**39.02**	**332**	T	T	15 44 41.3	
	baz=153,slow=0.7,SNR=69						
H11N2	**WAKE ISLAND Hy**	**39.03**	**332**	T	T	15 44 40.9	
	baz=153,slow=0.7,SNR=35						
STKA	**Stephens Creek**	**43.06**	**239**	P	**P**	**15 03 49.2**	**-0.5**
	3.2nm,1.0s,baz=61,slow=10,SNR=2.8						
STKA				LR	LR	15 19 18.5	
	comp=Z,231nm,19.6s,baz=41,slow=33						
WRA	**Warramunga Arr**	**48.64**	**257**	P	**P**	**15 04 32.2**	**-1.8**
	1.3nm,1.0s,baz=90,slow=6.4,SNR=2.5						
ASAR	**Alice Springs**	**48.97**	**252**	P	**P**	**15 04 36.2**	**-0.2**
	7.8nm,0.7s,baz=83,slow=7.6,SNR=26						
ASAR				LR	LR	15 23 35.1	
	comp=Z,474nm,19.1s,baz=89,slow=34						
FITZ	**Fitzroy Crossi**	**57.00**	**258**	LR	LR	15 27 57.2	
	comp=Z,250nm,18.5s,baz=91,slow=34						
JCJ	**Chichijima**	**59.21**	**315**	LR	LR	15 29 13.5	
	comp=Z,463nm,20.5s,baz=112,slow=34						
BATI	**Baumata**	**60.13**	**267**	LR	LR	15 28 36.7	
	comp=Z,344nm,21.7s,baz=273,slow=33						
VNDA	**Vanda**	**63.55**	**186**	P	**P**	**15 06 18.4**	**-1.1**
	0.4nm,0.7s,baz=31,slow=5.9,SNR=2.3						
VNDA				LR	LR	15 29 15.9	
	comp=Z,145nm,19.0s,baz=29,slow=32						
PETK	**Petropavlovsk-**	**71.95**	**343**	P	**P**	**15 07 13.6**	**+0.9**
	1.7nm,0.7s,baz=141,slow=9.3,SNR=5.2						
NVAR	**Mina Array Bea**	**74.98**	**43**	P	**P**	**15 07 29.9**	**-1.2**
	2.3nm,1.0s,baz=225,slow=7.5,SNR=9.1						
KSRS	**Korea Array**	**75.03**	**316**	LR	LR	15 36 06.4	
	comp=Z,114nm,18.2s,baz=135,slow=32						
USRK	**Ussuriysk Arra**	**76.36**	**324**	LR	LR	15 34 43.7	
	comp=Z,195nm,21.6s,baz=132,slow=30						
H02S1	**DAWSON INLET T**	**77.10**	**25**	T	T	16 31 59.9	
	SNR=5.9						
TXAR	**Lajitas Array**	**81.53**	**57**	P	**P**	**15 08 07.3**	**-0.1**
	0.8nm,0.9s,baz=226,slow=4.9,SNR=5.9						
ILAR	**Eielson Array**	**82.41**	**12**	P	**P**	**15 08 12.4**	**+1.3**
	4.6nm,1.3s,baz=218,slow=5.7,SNR=8.3						
ILAR				LR	LR	15 39 06.2	
	comp=Z,85nm,19.9s,baz=266,slow=32						
PDAR	**Pinedale Array**	**82.92**	**42**	P	**P**	**15 08 16.3**	**+1.7**
	2.6nm,1.2s,baz=241,slow=5.6,SNR=7.1						
PDAR				LR	LR	15 38 07.4	
	comp=Z,152nm,19.4s,baz=190,slow=31						
USHA	**Ushuaia**	**86.90**	**146**	LR	LR	15 38 29.2	
	comp=Z,2μm,20.9s,baz=195,slow=30						
MAW	**Mawson**	**87.66**	**199**	LR	LR	15 44 25.6	
	comp=Z,200nm,21.5s,baz=309,slow=33						
PLCA	**Paso Flores**	**90.68**	**133**	LR	LR	15 38 47.6	
	comp=Z,165nm,20.6s,baz=141,slow=28						
SONM	**Songino Array**	**93.75**	**319**	LR	LR	15 45 19.8	
	comp=Z,145nm,20.1s,baz=322,slow=32						
ULM	**Lac du Bonnet**	**94.52**	**39**	LR	LR	15 43 13.9	
	comp=Z,198nm,19.6s,baz=253,slow=30						
KMBO	**Kilima Mbogo**	**144.48**	**246**	PKP	**PKPab**	**15 15 24.8**	**-0.6**
	0.9nm,0.4s,baz=336,slow=12,SNR=2.6						
BRTR	**Keskin Array B**	**145.10**	**320**	PKPbc	**PKPdf**	**15 15 27.1**	**-0.1**
	3.8nm,0.9s,baz=96,slow=2.9,SNR=13						
GERES	**GERESS Array B**	**145.64**	**350**	PKPbc	**PKPdf**	**15 15 25.9**	**-1.9**
	0.3nm,0.3s,baz=356,slow=2.9,SNR=4.3						
DAVOX	**Davos/Dischmat**	**148.18**	**354**	PKPbc	**PKPab**	**15 15 37.6**	**-0.9**
	4.1nm,0.9s,baz=304,slow=3.6,SNR=3.0						

IDC 08 15:08:22.4±1.6, 13°.17S×166°.18E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/19, mbtmp3.7/6, ML3.7/1, Error ellipse: s-maj=46.5km s-min=29.4km az=123.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.85**	**178**	Pn	Pn	15 10 32.4	+0.7
	0.8nm,0.3s,baz=342,slow=20,SNR=9.4						
WRA	**Warramunga Arr**	**31.22**	**253**	P	P	15 14 43.3	-0.5
	0.2nm,0.6s,baz=85,slow=10,SNR=3.2						
ASAR	**Alice Springs**	**32.28**	**246**	P	P	15 14 52.9	-0.3
	2.1nm,0.7s,baz=74,slow=9.5,SNR=30						
CMAR	**Chiang Mai Arr**	**73.36**	**294**	P	P	15 19 57.5	+0.9
	0.3nm,0.3s,baz=134,slow=3.9,SNR=3.9						
ILAR	**Eielson Array**	**85.39**	**18**	P	P	15 21 01.0	-0.3
	0.2nm,0.6s,baz=239,slow=4.8,SNR=3.9						
MKAR	**Makanchi Array**	**95.35**	**317**	P	P	15 21 48.1	-0.6
	0.3nm,0.8s,baz=92,slow=6.0,SNR=2.6						

IDC 08 15:09:01.4±0.8, 12°.61S×166°.03E, h0km, mb4.1/12, mb1 4.3/13, mb1mx4.1/21, mbtmp4.1/13, ML5.0/1, Error ellipse: s-maj=26.9km s-min=19.2km az=138.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.75**	**297**	Pn	Pn	15 10 43.5	+1.6
	28nm,0.3s,baz=143,slow=6.0,SNR=11						
STKA	**Stephens Creek**	**29.52**	**226**	P	P	15 15 08.3	+0.6
	3.1nm,0.7s,baz=40,slow=6.6,SNR=11						
WRA	**Warramunga Arr**	**31.24**	**252**	P	P	15 15 22.5	-0.6
	1.0nm,0.6s,baz=84,slow=9.4,SNR=9.4						
RPZ	**Rata Peaks**	**31.29**	**173**	P	P	15 15 23.6	+0.4
	11nm,0.8s,baz=326,slow=3.6,SNR=5.5						
ASAR	**Alice Springs**	**32.37**	**246**	P	P	15 15 31.9	-1.0
	1.5nm,0.7s,baz=68,slow=9.7,SNR=11						
FITZ	**Fitzroy Crossi**	**39.27**	**257**	P	P	15 16 32.3	+0.1
	6.0nm,1.1s,baz=97,slow=7.2,SNR=4.2						
CMAR	**Chiang Mai Arr**	**72.99**	**294**	P	P	15 20 34.3	+0.8
	0.9nm,0.8s,baz=125,slow=4.2,SNR=7.0						
SONM	**Songino Array**	**80.09**	**324**	P	P	15 21 13.8	+0.5
	0.3nm,0.4s,baz=105,slow=3.3,SNR=3.3						
ILAR	**Eielson Array**	**84.90**	**18**	P	P	15 21 37.9	0.0
	0.8nm,0.9s,baz=231,slow=6.1,SNR=4.8						
NVAR	**Mina Array Bea**	**86.82**	**50**	P	P	15 21 48.8	+0.5
	0.3nm,0.6s,baz=251,slow=8.5,SNR=2.9						
PDAR	**Pinedale Array**	**94.41**	**47**	P	P	15 22 23.5	-0.2
	0.1nm,0.4s,baz=64,slow=2.1,SNR=2.2						
MKAR	**Makanchi Array**	**94.85**	**317**	P	P	15 22 24.6	-0.8
	1.4nm,0.9s,baz=93,slow=6.4,SNR=8.2						
ZALV	**Zalesovo Beam**	**94.98**	**324**	P	P	15 22 24.7	-1.1
	0.5nm,0.6s,baz=111,slow=7.9,SNR=3.2						
ARCES	**ARCESS Array B**	**117.91**	**345**	PKP	PKPdf	15 27 48.4	-1.1
	1.9nm,0.8s,baz=76,slow=3.9,SNR=6.0						
KEST	**Kesra**	**148.82**	**322**	PKPbc	PKPbc	15 28 51.2	-0.4
	1.0nm,0.6s,baz=18,slow=9.3,SNR=3.5						

IDC 08 15:10:48.1±2.3, 13°.43S×166°.38E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.8/18, mbtmp3.7/7, Error ellipse: s-maj=76.8km s-min=26.2km az=129.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.21**	**227**	P	P	15 16 52.4	+0.8
	1.1nm,0.7s,baz=73,slow=11,SNR=2.8						
WRA	**Warramunga Arr**	**31.33**	**254**	P	P	15 17 09.6	-0.9
	0.3nm,0.5s,baz=86,slow=9.3,SNR=5.8						
ASAR	**Alice Springs**	**32.35**	**247**	P	P	15 17 18.9	-0.7
	0.6nm,0.6s,baz=73,slow=9.5,SNR=4.1						
CMAR	**Chiang Mai Arr**	**73.63**	**294**	P	P	15 22 25.3	+1.3
	0.4nm,0.7s,baz=126,slow=6.1,SNR=3.4						
SONM	**Songino Array**	**80.94**	**324**	P	P	15 23 04.8	+0.2
	0.3nm,0.5s,baz=152,slow=6.4,SNR=2.8						
ILAR	**Eielson Array**	**85.57**	**18**	P	P	15 23 27.8	-0.1
	0.4nm,0.4s,baz=235,slow=5.3,SNR=11						
MKAR	**Makanchi Array**	**95.67**	**317**	P	P	15 24 14.5	-1.4
	0.2nm,0.7s,baz=100,slow=6.3,SNR=2.3						

IDC 08 15:12:47.6±3.8, 12°.10S×167°.69E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/18, mbtmp3.8/5, ML3.5/1, Error ellipse: s-maj=82.0km s-min=43.8km az=92.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.99**	**187**	Pn	Pn	15 15 13.5	+1.0
	0.4nm,0.3s,baz=315,slow=20,SNR=4.8						
STKA	**Stephens Creek**	**31.05**	**227**	P	P	15 19 07.2	-0.1
	2.0nm,0.8s,baz=74,slow=10,SNR=2.6						
WRA	**Warramunga Arr**	**32.94**	**252**	P	P	15 19 24.2	0.0
	0.6nm,0.9s,baz=87,slow=9.4,SNR=4.0						
ASAR	**Alice Springs**	**34.06**	**246**	P	P	15 19 33.7	-0.2
	0.9nm,0.7s,baz=78,slow=8.8,SNR=6.7						
MKAR	**Makanchi Array**	**95.59**	**317**	P	P	15 26 14.6	-0.3
	0.4nm,0.9s,baz=96,slow=2.9,SNR=2.9						

MAN 08 15:12:49, 17°.16N×122°.76E, h27km, mb4.8, ML3.8, MS3.8, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.34**	**253**	*i*P	Pn	15 12 58.4	+0.2
CAUP	**Cauayan**	**0.92**	**257**	*e*P	Pb	15 13 08.6	+2.2
APYP	**Conner**	**1.61**	**296**	*e*P	Pn	15 13 14.7	-0.9
APYP				*e*S	Sn	15 13 36.5	+0.9
ABRA	**Dolores**	**2.02**	**284**	*e*P	Pn	15 13 22.1	+0.8

IDC 08 15:15:08.0±0.9, 13°.72S×166°.41E, h0km, mb4.1/12, mb1 4.2/13, mb1mx4.1/21, mbtmp4.1/13, ML3.6/1, MS3.7/8, Ms1 3.7/8, ms1mx3.5/39, Error ellipse: s-maj=29.8km s-min=19.9km az=115.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.63**	**303**	LR	LR	15 19 28.2	
	comp=Z,290nm,20.0s,baz=251,slow=34						
DZM	**Mont Dzumac**	**8.31**	**180**	Pn	Pn	15 17 10.4	+0.5
	0.8nm,0.3s,baz=18,slow=20,SNR=3.8						
DZM				LR	LR	15 19 55.6	
	comp=Z,289nm,20.0s,baz=278,slow=35						
CTA	**Charters Tower**	**20.29**	**249**	P	Pn	15 19 47.0	-0.4
	6.5nm,0.8s,baz=84,slow=14,SNR=6.8						
STKA	**Stephens Creek**	**29.04**	**227**	P	P	15 21 09.5	-0.5
	3.9nm,0.8s,baz=105,slow=9.2,SNR=6.2						
STKA				LR	LR	15 32 27.4	
	comp=Z,230nm,20.6s,baz=28,slow=36						
RPZ	**Rata Peaks**	**30.16**	**173**	LR	LR	15 32 19.8	
	comp=Z,152nm,19.5s,baz=212,slow=34						
WRA	**Warramunga Arr**	**31.28**	**254**	P	P	15 21 29.0	-1.0
	1.6nm,0.8s,baz=83,slow=8.3,SNR=7.8						
WRA				LR	LR	15 32 09.5	
	comp=Z,125nm,20.9s,baz=85,slow=33						
ASAR	**Alice Springs**	**32.27**	**247**	P	P	15 21 37.3	-1.4
	1.4nm,0.7s,baz=74,slow=9.6,SNR=9.9						
ASAR				ScP	ScP	15 28 18.5	+6.1
	1.1nm,0.9s,baz=81,slow=2.9,SNR=2.8						
ASAR				LR	LR	15 32 54.9	
	comp=Z,177nm,20.7s,baz=65,slow=33						
FITZ	**Fitzroy Crossi**	**39.40**	**258**	P	P	15 22 40.2	+0.4
	2.2nm,0.8s,baz=99,slow=11,SNR=3.8						
FITZ				LR	LR	15 39 01.9	
	comp=Z,134nm,19.0s,baz=57,slow=36						
PPT	**Papeete**	**42.49**	**101**	LR	LR	15 36 45.5	
	comp=Z,120nm,19.1s,baz=240,slow=30						
VNDA	**Vanda**	**63.85**	**181**	P	P	15 25 42.4	+0.5
	0.7nm,0.7s,baz=360,slow=7.1,SNR=2.7						
USRK	**Ussuriysk Arra**	**65.61**	**333**	P	P	15 25 55.1	+1.3
	3.6nm,1.0s,baz=172,slow=4.4,SNR=2.5						
CMAR	**Chiang Mai Arr**	**73.78**	**294**	P	P	15 26 46.4	+1.7
	0.4nm,0.5s,baz=111,slow=4.9,SNR=2.3						
SONM	**Songino Array**	**81.19**	**324**	P	P	15 27 25.3	-0.5
	0.5nm,0.8s,baz=142,slow=7.5,SNR=4.0						
ILAR	**Eielson Array**	**85.83**	**18**	P	P	15 27 48.2	-0.8
	1.1nm,0.5s,baz=243,slow=5.0,SNR=23						
MKAR	**Makanchi Array**	**95.90**	**317**	P	P	15 28 37.0	+0.2
	0.6nm,0.7s,baz=88,slow=5.4,SNR=5.5						
ZALV	**Zalesovo Beam**	**96.09**	**324**	P	P	15 28 36.5	-0.8
	0.4nm,0.4s,baz=108,slow=8.0,SNR=4.3						
ARCES	**ARCESS Array B**	**119.07**	**345**	PKP	PKPdf	15 33 59.3	+1.1
	5.9nm,1.1s,baz=46,slow=2.6,SNR=5.0						
KEST	**Kesra**	**149.91**	**321**	PKPbc	PKPbc	15 34 59.0	-1.8
	1.4nm,0.7s,baz=335,slow=3.6,SNR=3.8						
TORD	**Torodi Ar. Bea**	**165.12**	**270**	PKP	PKPdf	15 35 14.2	-1.1
	0.5nm,0.8s,baz=301,slow=0.4,SNR=2.7						

*IDC **08** 15:19:18.5±1.1, 11°.38S×166°.08E, h0km, mb4.0/9, mb1 4.2/10, mb1mx4.0/19, mbtmp4.0/10, ML4.0/1, Error ellipse: s-maj=41.4km s-min=21.3km az=136.0*

*ISCJB **08** 15:19:22.6±0.6, 11°.53S±0°.09×165°.99E±0°.07, h37km, mb4.1/11, Error ellipse: s-maj=12.8km s-min=9.6km az=26.6*

*NEIC **08** 15:19:23.8±0.4, 11°.44S×166°.10E, h35km, mb4.5/5, Error ellipse: s-maj=11.2km s-min=9.2km az=125.0*

ISC 08 15:19:24.1±0.7, 11°.44S±0°.10×166°.10E±0°.09, h37km, n31, σ0§68/33, mb4.2/11, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.37**	**288**	Pn	**Pn**	**15 20 56.0**	**+0.6**
HNR				Sn	**Sn**	**15 22 06.7**	**-0.3**
HNR	**Honiara**	**6.37**	**288**	Pn	**Pn**	**15 20 56.0**	**+0.6**
	18nm,0.3s,baz=160,slow=6.1,SNR=6.5						
HNR				Sn	**Sn**	**15 22 06.7**	**-0.3**
	4.3nm,0.3s,baz=180,slow=15,SNR=1.6						
DZM	**Mont Dzumac**	**10.58**	**178**	Pn	**Pn**	**15 21 53.7**	**+0.3**
DZM	**Mont Dzumac**	**10.58**	**178**	Pn	**Pn**	**15 21 53.7**	**+0.3**
	1.3nm,0.3s,baz=340,slow=22,SNR=14						
EIDS	**Eidsvold**	**19.85**	**224**	*e*P	**P**	**15 23 51.2**	**-0.8**
	11nm,0.9s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**20.93**	**243**	P	**P**	**15 24 04.2**	**+0.4**
CTA	**Charters Tower**	**20.93**	**243**	P	**P**	**15 24 04.2**	**+0.4**
	5.8nm,0.8s,baz=68,slow=12,SNR=5.6						
CTAO	**Charters Tower**	**20.93**	**243**	*e*P	**P**	**15 24 04.4**	**+0.7**
	27nm,1.4s						
WRAB	**Tennant Creek**	**31.66**	**251**	*e*P	**P**	**15 25 43.2**	**-1.0**
	13nm,1.3s						
WRA	**Warramunga Arr**	**31.68**	**251**	P	**P**	**15 25 43.1**	**-1.2**
WRA	**Warramunga Arr**	**31.68**	**251**	P	**P**	**15 25 43.1**	**-1.2**
	2.8nm,0.9s,baz=81,slow=9.2,SNR=12						
ASAR	**Alice Springs**	**32.93**	**244**	P	**P**	**15 25 54.4**	**-1.0**
ASAR	**Alice Springs**	**32.93**	**244**	P	**P**	**15 25 54.4**	**-1.0**
	2.8nm,0.7s,baz=74,slow=9.4,SNR=20						
SBA	**Scott Base**	**66.41**	**180**	*e*P	**P**	**15 30 10.0**	**+1.0**
	4.1nm,1.0s						
QSPA	**South Pole Qui**	**78.57**	**180**	*e*P	**P**	**15 31 21.2**	**-0.5**
	11nm,1.2s						
SONM	**Songino Array**	**79.18**	**324**	P	**P**	**15 31 25.9**	**+0.6**
SONM	**Songino Array**	**79.18**	**324**	P	**P**	**15 31 25.9**	**+0.6**
	0.3nm,0.5s,baz=116,slow=6.7,SNR=3.2						
ILAR	**Eielson Array**	**83.77**	**18**	P	**P**	**15 31 48.5**	**-0.6**
ILAR	**Eielson Array**	**83.77**	**18**	P	**P**	**15 31 48.5**	**-0.6**
	0.4nm,0.6s,baz=256,slow=5.3,SNR=7.6						
NVAR	**Mina Array Bea**	**86.01**	**50**	P	**P**	**15 32 00.8**	**-0.5**
NVAR	**Mina Array Bea**	**86.01**	**50**	P	**P**	**15 32 00.8**	**-0.5**
	0.1nm,0.3s,baz=254,slow=6.4,SNR=2.8						
PDAR	**Pinedale Array**	**93.56**	**47**	P	**P**	**15 32 37.0**	**+0.3**
PDAR	**Pinedale Array**	**93.56**	**47**	P	**P**	**15 32 37.0**	**+0.3**
	0.1nm,0.3s,baz=350,slow=2.2,SNR=2.3						
MKAR	**Makanchi Array**	**94.04**	**317**	P	**P**	**15 32 39.0**	**+0.4**
MKAR	**Makanchi Array**	**94.04**	**317**	P	**P**	**15 32 39.0**	**+0.4**
	1.4nm,0.8s,baz=100,slow=6.6,SNR=12						
ZALV	**Zalesovo Beam**	**94.07**	**324**	P	**P**	**15 32 38.6**	**+0.1**
ZALV	**Zalesovo Beam**	**94.07**	**324**	P	**P**	**15 32 38.6**	**+0.1**
	0.3nm,0.3s,baz=98,slow=3.2,SNR=2.6						
ARCES	**ARCESS Array B**	**116.80**	**346**	PKP	**PKPdf**	**15 38 03.4**	**-0.7**
ARCES	**ARCESS Array B**	**116.80**	**346**	PKP	**PKPdf**	**15 38 03.4**	**-0.7**
	1.0nm,0.5s,baz=97,slow=2.8,SNR=4.9						
KEST	**Kesra**	**147.93**	**323**	PKPbc	**PKPbc**	**15 39 06.7**	**+0.7**
KEST	**Kesra**	**147.93**	**323**	PKPbc	**PKPbc**	**15 39 06.7**	**+0.7**
	1.6nm,0.9s,baz=14,slow=7.6,SNR=4.3						

IDC 08 15:25:20.7±1.5, 13°.22S×166°.33E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.7/19, mbtmp3.7/7, ML3.5/1, Error ellipse: s-maj=43.3km s-min=23.0km az=111.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.81**	**179**	Pn	Pn	15 27 30.9	+1.4
	0.6nm,0.3s,baz=125,slow=23,SNR=8.0						
DZM				Sn	Sn	15 29 08.6	-1.0
	0.1nm,0.3s,baz=25,slow=12,SNR=2.1						
STKA	**Stephens Creek**	**29.32**	**227**	P	P	15 31 24.5	-0.7
	1.2nm,0.7s,baz=98,slow=14,SNR=2.0						
WRA	**Warramunga Arr**	**31.35**	**253**	P	P	15 31 43.5	+0.3
	0.6nm,1.0s,baz=86,slow=9.9,SNR=4.5						
ASAR	**Alice Springs**	**32.40**	**247**	P	P	15 31 52.7	+0.2
	0.8nm,0.6s,baz=71,slow=9.8,SNR=14						
SONM	**Songino Array**	**80.75**	**324**	P	P	15 37 36.2	0.0
	0.4nm,0.8s,baz=98,slow=4.4,SNR=2.9						
ILAR	**Eielson Array**	**85.38**	**18**	P	P	15 37 59.5	-0.1
	0.4nm,0.5s,baz=242,slow=4.9,SNR=8.1						
MKAR	**Makanchi Array**	**95.49**	**317**	P	P	15 38 47.4	-0.2
	0.2nm,0.7s,baz=106,slow=5.1,SNR=2.4						

DJA 08 15:34:38.7±0.8, 8°S±3°×107°E±°, h7km±6km, M3.5/10, MLv3.5/10, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.82**	**42**	P	Pg	15 34 54.6	0.0
CISI				S	Sg	15 35 04.7	-0.7
SKJI	**Sukabumi**	**1.35**	**329**	P	Pn	15 35 02.3	-1.7
SKJI				S	Sb	15 35 19.8	-2.1
LEM	**Lembang**	**1.38**	**15**	P	Pn	15 35 03.8	-0.8
LEM				S	Sb	15 35 22.3	-0.8
DBJI	**Dramaga**	**1.68**	**342**	P	Pn	15 35 08.4	-0.2
DBJI				S	Sn	15 35 29.2	-1.3
CLJI	**Cilicap**	**1.79**	**76**	P	Pb	15 35 11.1	-0.8
CLJI				S	Sb	15 35 34.9	+0.2
KPJI	**Karang Pucung**	**1.85**	**63**	P	Pn	15 35 10.8	-0.1
UGM	**Wanagama**	**3.24**	**86**	P	Pn	15 35 27.9	-2.2

*ISCJB **08** 15:38:33.6±0.7, 12.19S±0.07×166.08E±0.09, h83km, mb3.9/7, Error ellipse: s-maj=13.7km s-min=8.5km az=146.6*

ISC 08 15:38:35.1±0.8, 12°21S±0.09×166°2E±0.1, h83km, n22, σ2§23/13, mb3.9/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
HNR	**Honiara**	**6.69**	**294**	Pn	**Pn**		**15 40 10.8**	**0.0**
	37nm,0.3s,baz=136,slow=6.1,SNR=16							
HNR				Sn	**Sn**		**15 41 23.7**	**-1.9**
	6.7nm,0.3s,baz=156,slow=19,SNR=2.8							
DZM	**Mont Dzumac**	**9.81**	**178**	*e*Pn	**Pn**		**15 40 51.1**	**-2.4**
	4.6nm,0.2s							
DZM				*e*LR	LR		15 42 53.8	
	417nm,25.9s							
DZM	**Mont Dzumac**	**9.81**	**178**	Pn	**Pn**		**15 40 51.1**	**-2.4**
	1.3nm,0.3s,baz=330,slow=21,SNR=9.5							
DZM				Sn	**Sn**		**15 42 43.8**	**+1.8**
	0.6nm,0.3s,baz=319,slow=19,SNR=2.7							
PMG	**Port Moresby**	**18.86**	**277**	LR	LR		15 48 24.1	
	comp=Z,126nm,19.1s,baz=279,slow=31							
AFI	**Afiamalu**	**21.57**	**97**	LR	LR		15 48 58.4	
	comp=Z,27nm,21.6s,baz=169,slow=30							
RAO	**Raoul Island**	**22.53**	**141**	LR	LR		15 50 09.5	
	comp=Z,113nm,20.5s,baz=316,slow=31							
URZ	**Urewera**	**27.73**	**161**	LR	LR		15 53 36.6	
	comp=Z,124nm,18.5s,baz=72,slow=33							
STKA	**Stephens Creek**	**29.89**	**225**	P	P		15 44 45.4	+10
	2.5nm,0.8s,baz=330,slow=10,SNR=3.2							
STKA				LR	LR		15 55 17.8	
	comp=Z,154nm,21.2s,baz=26,slow=33							
WRA	**Warramunga Arr**	**31.48**	**252**	PcP	**PcP**		**15 47 44.4**	**+3.7**
	0.3nm,0.5s,baz=76,slow=3.1,SNR=4.0							
ASAR	**Alice Springs**	**32.64**	**245**	P	P		15 45 03.9	+4.4
	1.1nm,0.7s,baz=72,slow=9.2,SNR=3.2							
ASAR				PcP	**PcP**		**15 47 47.3**	**+3.4**
	0.5nm,0.5s,baz=78,slow=2.2,SNR=3.8							
PPT	**Papeete**	**43.05**	**103**	LR	LR		15 59 55.4	
	comp=Z,110nm,21.2s,baz=333,slow=30							
PPT2	**Papeete2**	**43.05**	**103**	*e*LR	LR		15 58 39.0	
	131nm,26.2s							
TBI	**Tubuai**	**43.54**	**111**	*e*LR	LR		15 58 58.9	
	113nm,28.2s							
RKT	**Rikitea**	**56.82**	**110**	*e*LR	LR		16 05 03.6	
	192nm,34.5s							
FX1	**Attu Island--F**	**65.11**	**5**	LR	LR		16 10 32.6	
	comp=Z,94nm,19.9s,baz=196,slow=30							
PETK	**Petropavlovsk-**	**65.45**	**354**	LR	LR		16 19 00.1	
	comp=Z,38nm,18.0s,baz=287,slow=37							
SONM	**Songino Array**	**79.83**	**324**	P	**P**		**15 50 34.8**	**+0.2**
	0.3nm,0.4s,baz=156,slow=5.2,SNR=4.2							
ILAR	**Eielson Array**	**84.48**	**18**	P	**P**		**15 50 57.4**	**-1.1**
	0.7nm,0.6s,baz=255,slow=5.0,SNR=12							
NVAR	**Mina Array Bea**	**86.47**	**50**	P	**P**		**15 51 07.9**	**-1.3**
	0.8nm,0.6s,baz=238,slow=8.2,SNR=6.6							
MKAR	**Makanchi Array**	**94.63**	**317**	P	**P**		**15 51 48.1**	**+1.2**
	1.0nm,0.5s,baz=89,slow=5.5,SNR=21							
TXAR	**Lajitas Array**	**96.04**	**61**	P	**P**		**15 51 53.5**	**-0.4**
	0.2nm,0.5s,baz=319,slow=4.0,SNR=3.8							
ARCES	**ARCESS Array B**	**117.55**	**345**	PKP	**PKPdf**		**15 57 12.3**	**+1.4**
	5.2nm,1.0s,baz=46,slow=2.6,SNR=3.6							

IDC 08 15:43:57.3±2.4, 11°65S×166°09E, h0km, mb4.0/5, mb1 4.0/6, mb1mx3.8/20, mbtmp3.9/6, ML3.2/1, Error ellipse: s-maj=57.4km s-min=35.1km az=106.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.37**	**178**	Pn	Pn		15 46 28.0	+0.5
	0.2nm,0.3s,baz=348,slow=19,SNR=4.6							
WRA	**Warramunga Arr**	**31.60**	**251**	P	P		15 50 21.2	-0.8
	0.6nm,0.7s,baz=84,slow=9.4,SNR=4.9							
ASAR	**Alice Springs**	**32.83**	**244**	P	P		15 50 32.0	-0.9
	0.8nm,0.6s,baz=69,slow=9.4,SNR=11							
FITZ	**Fitzroy Crossi**	**39.55**	**256**	P	P		15 51 31.9	+1.4
	2.2nm,0.9s,baz=49,slow=9.3,SNR=3.1							
MKAR	**Makanchi Array**	**94.19**	**317**	P	P		15 57 17.3	-1.0
	0.5nm,0.7s,baz=102,slow=4.8,SNR=2.2							
ZALV	**Zalesovo Beam**	**94.24**	**324**	P	P		15 57 18.7	+0.4
	0.7nm,0.5s,baz=116,slow=3.4,SNR=3.6							

IDC 08 15:46:30.6±2.9, 15°62S×173°38W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/19, mbtmp3.8/3, MS3.7/2, Ms1 3.7/2, ms1mx3.2/30, Error ellipse: s-maj=341.1km s-min=33.8km az=157.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
AFI	**Afiamalu**	**2.30**	**43**	Pn	Pn		15 47 02.6	-7.3
	28nm,0.3s,baz=209,slow=5.7,SNR=44							
AFI				Sn	Sn		15 47 21.7	-17
	134nm,0.3s,baz=201,slow=14,SNR=18							
H11S2	**WAKE ISLAND Hy**	**39.16**	**329**	T	T		16 35 25.2	
	baz=152,slow=0.7,SNR=4.0							
H11S3	**WAKE ISLAND Hy**	**39.17**	**329**	T	T		16 35 26.8	
	baz=152,slow=0.7,SNR=9.4							
H11S1	**WAKE ISLAND Hy**	**39.18**	**329**	T	T		16 35 27.1	
	baz=152,slow=0.7,SNR=5.5							
H11N3	**WAKE ISLAND Hy**	**40.11**	**330**	T	T		16 36 35.5	
	baz=152,slow=0.7,SNR=4.1							
H11N1	**WAKE ISLAND Hy**	**40.12**	**330**	T	T		16 36 34.6	
	baz=152,slow=0.7,SNR=3.8							
H11N2	**WAKE ISLAND Hy**	**40.13**	**330**	T	T		16 36 37.1	
	baz=152,slow=0.7,SNR=4.3							
WRA	**Warramunga Arr**	**49.81**	**257**	P	P		15 55 25.7	0.0
	0.6nm,0.6s,baz=93,slow=6.7,SNR=15							
ASAR	**Alice Springs**	**50.06**	**252**	P	P		15 55 27.4	-0.2
	1.3nm,0.6s,baz=88,slow=7.8,SNR=21							
FITZ	**Fitzroy Crossi**	**58.18**	**258**	LR	LR		16 18 58.2	
	comp=Z,56nm,21.9s,baz=15,slow=34							
TXAR	**Lajitas Array**	**80.72**	**56**	P	P		15 58 46.3	+0.1
	0.3nm,0.7s,baz=243,slow=4.0,SNR=2.7							
TXAR				LR	LR		16 29 45.6	
	comp=Z,57nm,20.5s,baz=0.0,slow=32							

*NIED **08** 15:47:00, 37.40N×143.10E, h14km, Mw4.1 Best double couple: Mo1.55000×10^15 NP1:φs11.00000°, δ62.00000°, λ79.00000°. NP2:φs213.00000°, δ29.00000°, λ110.00000°.*

*IDC **08** 15:47:12.4±0.8, 37.38N×143.08E, h0km, mb4.0/15, mb1 4.2/19, mb1mx4.1/28, mbtmp4.0/19, ML3.7/3, MS3.4/1, Ms1 3.4/1, ms1mx2.7/41, Error ellipse: s-maj=19.8km s-min=18.1km az=71.0*

*JMA **08** 15:47:14.6±0.2, 37.43N×143.05E, h45km, M4.3*

*ISCJB **08** 15:47:14.1±1.7, 37.41N±0.04×143.01E±0.05, h23km±12km, mb4.2/24, Error ellipse: s-maj=7.8km s-min=5.7km az=34.7*

*NEIC **08** 15:47:17.8±0.5, 37.44N×143.00E, h35km, mb4.5/8, MW4.1(NIED), Error ellipse: s-maj=10.9km s-min=8.1km az=151.0*

*BJI **08** 15:47:26.0, 37.98N×141.50E, h30km, mB4.9/3, mb4.5/11*

ISC 08 15:47:16.8±0.8, 37.47N±0.05×142.99E±0.07, h27km±4km, n69, σ1§18/77, mb4.3/24, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JIO	**Ouri**	**1.63**	**308**	P	**Pn**		**15 47 42.7**	**-1.0**
JIO				*e*S	**Sn**		**15 48 03.4**	**-0.3**
JFK	**Kawauchi**	**1.69**	**267**	P	**Pn**		**15 47 43.2**	**-1.4**
JFK				*e*S	**Sn**		**15 48 03.6**	**-1.7**
ONAJ	**Iwakimizuishiy**	**1.79**	**259**	P	**Pn**		**15 47 44.5**	**-1.4**
ONAJ				*e*S	**Sn**		**15 48 06.4**	**-1.4**
JMM	**Marumori**	**1.79**	**283**	P	**Pn**		**15 47 44.5**	**-1.4**
JMK	**Ichinoseki**	**2.03**	**317**	P	**Pn**		**15 47 48.2**	**-1.0**
JFT	**Otama**	**2.11**	**272**	P	**Pn**		**15 47 50.1**	**-0.3**
JOM	**Ohasama**	**2.40**	**327**	P	**Pn**		**15 47 53.5**	**-0.8**
JOM				*e*S	**Sn**		**15 48 22.4**	**-0.5**
JYK	**Kaneyama**	**2.53**	**306**	P	**Pn**		**15 47 55.6**	**-0.4**
JAG	**Ashikaga**	**3.02**	**251**	P	**Pn**		**15 48 02.4**	**-0.4**
JAG				*e*S	**Sn**		**15 48 37.7**	**-0.4**
BSO1	**Boso 1**	**3.25**	**211**	P	**Pn**		**15 48 04.1**	**-1.4**
BSO1				*e*S	**Sn**		**15 48 40.7**	**-2.3**
JRY	**Ryogami san**	**3.59**	**247**	P	**Pn**		**15 48 10.3**	**-0.4**
JOD2	**Odawara 2**	**3.84**	**236**	P	**Pn**		**15 48 13.2**	**-1.0**
JOD2				*e*S	**Sn**		**15 48 56.8**	**-1.7**
MAJO	**Matsushiro**	**3.94**	**258**	*e*Pn	**Pn**		**15 48 16.1**	**+0.6**
MAT	**Matsushiro**	**3.94**	**258**	P	**Pn**		**15 48 15.6**	**+0.1**
MAT				*e*S	**Sn**		**15 49 02.2**	**+1.4**
ASAJ	**Asahikawa**	**6.64**	**358**	Pn	**Pn**		**15 48 51.4**	**-1.2**
ASAJ				Sn	**Sn**		**15 50 04.2**	**-3.2**
	2.7nm,0.3s,baz=154,slow=26,SNR=27							
ASAJ				Sn	**Sn**		**15 50 04.2**	**-3.2**
	0.6nm,0.3s,baz=104,slow=16,SNR=2.1							
USRK	**Ussuriysk Arra**	**10.70**	**312**	Pn	**Pn**		**15 49 48.4**	**+0.2**
	0.2nm,0.3s,baz=138,slow=12,SNR=2.8							
JNU	**Nakatsue**	**10.81**	**250**	Pn	**Pn**		**15 49 49.3**	**-0.4**
JNU	**Nakatsue**	**10.81**	**250**	Pn	**Pn**		**15 49 49.3**	**-0.4**
	0.3nm,0.3s,baz=80,slow=6.1,SNR=3.8							
KSRS	**Korea Array**	**11.98**	**274**	Pn	**Pn**		**15 50 06.9**	**+1.2**
	0.3nm,0.3s,baz=87,slow=14,SNR=6.4							
KSRS				LR	LR		15 54 26.4	
	comp=Z,166nm,18.9s,baz=80,slow=36							
KSAR	**Wonju Array Be**	**12.01**	**274**	Pn	**Pn**		**15 50 06.9**	**+0.8**
H11N2	**WAKE ISLAND Hy**	**27.32**	**124**	T	T		16 22 05.1	
	baz=318,slow=0.7,SNR=42							
H11N1	**WAKE ISLAND Hy**	**27.32**	**124**	T	T		16 22 06.0	
	baz=318,slow=0.7,SNR=22							
H11N3	**WAKE ISLAND Hy**	**27.33**	**124**	T	T		16 22 07.4	
	baz=318,slow=0.7,SNR=21							
XAN	**Xi'an**	**27.77**	**273**	P	**P**		**15 53 02.9**	**-0.5**
XAN				*p*P	***p*P**		**15 53 13.0**	**+1.6**
XAN				*s*P	***s*P**		**15 53 18.0**	**+3.2**
H11S1	**WAKE ISLAND Hy**	**28.07**	**126**	T	T		16 23 01.5	
	baz=320,slow=0.7,SNR=12							
H11S3	**WAKE ISLAND Hy**	**28.07**	**126**	T	T		16 23 00.7	
	baz=320,slow=0.7,SNR=4.3							
H11S2	**WAKE ISLAND Hy**	**28.08**	**126**	T	T		16 22 57.9	
	baz=320,slow=0.7,SNR=3.6							
ULN	**Ulaanbaatar**	**28.16**	**303**	*e*P	**P**		**15 53 07.0**	**+0.1**
	8.3nm,1.3s							
SONM	**Songino Array**	**28.59**	**303**	P	**P**		**15 53 11.8**	**+1.1**
SONM	**Songino Array**	**28.59**	**303**	P	**P**		**15 53 11.8**	**+1.1**
	5.5nm,0.9s,baz=91,slow=8.1,SNR=22							
GTA	**Gaotai**	**33.64**	**287**	*e*P	**P**		**15 53 56.2**	**+1.0**
GTA				*p*P	***p*P**		**15 54 00.8**	**-2.5**
GTA				*s*P	***s*P**		**15 54 04.4**	**-2.3**
GTA				AMB	AMB			
	comp=Z,5.0nm,0.7s							
ZALV	**Zalesovo Beam**	**42.55**	**312**	P	**P**		**15 55 10.6**	**+0.7**
ZALV	**Zalesovo Beam**	**42.55**	**312**	P	**P**		**15 55 10.6**	**+0.7**
	2.5nm,0.6s,baz=93,slow=7.7,SNR=17							
MK31	**Makanchi Array**	**44.95**	**302**	*e*P	**P**		**15 55 27.5**	**-1.9**
MKAR	**Makanchi Array**	**44.95**	**302**	P	**P**		**15 55 29.8**	**+0.4**
MKAR	**Makanchi Array**	**44.95**	**302**	P	**P**		**15 55 29.8**	**+0.4**
	2.3nm,0.7s,baz=87,slow=9.7,SNR=26							
KURK	**Kurchatov**	**46.66**	**308**	*e*P	**P**		**15 55 42.5**	**-0.2**
	5.8nm,0.8s							
KURK				*e*			15 55 52.1	
ILAR	**Eielson Array**	**48.45**	**33**	P	**P**		**15 55 56.5**	**+0.1**
ILAR	**Eielson Array**	**48.45**	**33**	P	**P**		**15 55 56.5**	**+0.1**
	0.4nm,0.5s,baz=270,slow=8.1,SNR=5.3							
TKM2	**Tokmak 2**	**50.53**	**299**	*e*P	**P**		**15 56 13.6**	**+0.7**
	7.5nm,0.9s							
BRVK	**Borovoye**	**51.26**	**312**	P	**P**		**15 56 18.3**	**+0.3**
	5.1nm,0.7s							
AAK	**Ala-Archa**	**51.39**	**299**	P	**P**		**15 56 19.6**	**+0.3**
	3.9nm,0.9s							
EKS2	**Erkin-Say**	**51.88**	**299**	P	**P**		**15 56 21.9**	**-1.0**
	3.0nm,0.9s							
KKAR	**Karatay Array**	**53.99**	**300**	*e*P	**P**		**15 56 37.8**	**-0.5**
	4.1nm,0.8s							
KKAR				*e*			15 56 48.0	
WRA	**Warramunga Arr**	**57.69**	**190**	P	**P**		**15 57 03.8**	**-1.1**
WRA	**Warramunga Arr**	**57.69**	**190**	P	**P**		**15 57 03.8**	**-1.1**
	2.0nm,0.8s,baz=8.6,slow=7.2,SNR=8.7							
ABKAR	**Akbulak array**	**58.62**	**310**	*e*P	**P**		**15 57 11.1**	**-0.1**
	2.5nm,0.6s							
ABKAR				*e*			15 57 20.8	
ASAR	**Alice Springs**	**61.41**	**189**	P	**P**		**15 57 29.9**	**-0.7**
ASAR	**Alice Springs**	**61.41**	**189**	P	**P**		**15 57 29.9**	**-0.7**
	0.5nm,0.6s,baz=1.7,slow=6.3,SNR=7.2							
ARCES	**ARCESS Array B**	**64.03**	**340**	P	**P**		**15 57 48.2**	**+0.7**
ARCES	**ARCESS Array B**	**64.03**	**340**	P	**P**		**15 57 48.2**	**+0.7**
	5.7nm,1.0s,baz=42,slow=8.2,SNR=4.1							
FINES	**FINESS Array B**	**69.01**	**333**	P	**P**		**15 58 19.9**	**+0.5**
FINES	**FINESS Array B**	**69.01**	**333**	P	**P**		**15 58 19.9**	**+0.5**
	2.8nm,0.7s,baz=32,slow=11,SNR=12							
KBZ	**Khabaz**	**71.57**	**311**	P	**P**		**15 58 36.5**	**+1.2**
KBZ	**Khabaz**	**71.57**	**311**	P	**P**		**15 58 36.5**	**+1.2**
	5.3nm,0.9s,baz=39,slow=2.2,SNR=11							
NVAR	**Mina Array Bea**	**73.72**	**54**	P	**P**		**15 58 49.7**	**+1.2**
NVAR	**Mina Array Bea**	**73.72**	**54**	P	**P**		**15 58 49.7**	**+1.2**
	0.6nm,0.8s,baz=316,slow=5.1,SNR=4.0							
NB2	**NORSAR Subarra**	**74.26**	**338**	P	**P**		**15 58 51.4**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=36,slow=6.2							
NOA	**NORSAR Array B**	**74.26**	**338**	P	**P**		**15 58 51.6**	**+0.5**
NOA	**NORSAR Array B**	**74.26**	**338**	P	**P**		**15 58 51.6**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=38,slow=5.9,SNR=5.8							
AKASG	**Malin Array Be**	**74.72**	**323**	P	**P**		**15 58 54.0**	**+0.1**
AKASG	**Malin Array Be**	**74.72**	**323**	P	**P**		**15 58 54.0**	**+0.1**
	comp=Z,1.3nm,0.4s,baz=44,slow=6.2,SNR=7.4							
PDAR	**Pinedale Array**	**76.46**	**46**	P	**P**		**15 59 04.8**	**+0.5**
PDAR	**Pinedale Array**	**76.46**	**46**	P	**P**		**15 59 04.8**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=28,slow=4.1,SNR=2.7							
BRTR	**Keskin Array B**	**79.50**	**312**	P	**P**		**15 59 21.5**	**+0.3**
BRTR	**Keskin Array B**	**79.50**	**312**	P	**P**		**15 59 21.5**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=349,slow=4.7,SNR=3.1							
TXAR	**Lajitas Array**	**88.85**	**53**	P	**P**		**16 00 07.7**	**-1.1**
TXAR	**Lajitas Array**	**88.85**	**53**	P	**P**		**16 00 07.7**	**-1.1**
	comp=Z,0.2nm,0.7s,baz=264,slow=6.3,SNR=2.1							

IDC 08 15:47:50.6±1.1, 13°51S×166°27E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.6/19, mbtmp3.7/6, ML3.3/1, Error ellipse: s-maj=41.2km s-min=27.0km az=118.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.52**	**179**	Pn	Pn		15 49 57.3	+1.9
	0.3nm,0.3s,baz=331,slow=19,SNR=4.2							
DZM				Sn	Sn		15 51 30.2	-2.2
	baz=307,slow=20,SNR=2.4							
STKA	**Stephens Creek**	**29.08**	**227**	P	P		15 53 54.0	+1.0
	1.7nm,0.7s,baz=47,slow=9.7,SNR=4.4							
WRA	**Warramunga Arr**	**31.20**	**254**	P	P		15 54 12.4	+0.4
	0.4nm,0.9s,baz=86,slow=9.7,SNR=3.1							
ASAR	**Alice Springs**	**32.23**	**247**	P	P		15 54 20.1	-0.9
	0.2nm,0.7s,baz=74,slow=9.8,SNR=3.0							
QSPA	**South Pole Qui**	**76.51**	**180**	P	P		15 59 41.7	-0.8
	1.8nm,0.9s,baz=0.0,slow=0.0							
ILAR	**Eielson Array**	**85.68**	**18**	P	P		16 00 32.1	+1.1
	0.3nm,0.4s,baz=235,slow=5.6,SNR=6.9							
ARCES	**ARCESS Array B**	**118.83**	**345**	PKP	PKPdf		16 06 39.5	-1.0
	4.2nm,0.9s,baz=46,slow=2.6,SNR=5.1							
KEST	**Kesra**	**149.66**	**321**	PKPbc	PKPbc		16 07 42.0	-0.9
	0.7nm,0.6s,baz=115,slow=10,SNR=2.7							

IDC 08 15:56:37.1±3.0, 11°49S×165°76E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/19, mbtmp3.7/4, Error ellipse: s-maj=64.8km s-min=42.2km az=88.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.54**	**177**	Pn	Pn		15 59 09.9	+0.2
	baz=0.0,slow=0.0							
WRA	**Warramunga Arr**	**31.35**	**251**	P	P		16 03 00.0	+0.2
	0.5nm,0.6s,baz=80,slow=8.8,SNR=7.8							
ASAR	**Alice Springs**	**32.61**	**244**	P	P		16 03 10.4	-0.4
	0.6nm,0.8s,baz=72,slow=9.2,SNR=14							
MKAR	**Makanchi Array**	**93.86**	**317**	P	P		16 09 56.6	0.0
	0.4nm,0.8s,baz=85,slow=4.8,SNR=3.0							

*IDC **08** 16:02:52.0±0.9, 12.04S×165.82E, h0km, mb4.0/11, mb1 4.1/13, mb1mx4.0/23, mbtmp4.1/13, ML4.1/2, Error ellipse: s-maj=26.4km s-min=20.2km az=86.0*

*ISCJB **08** 16:02:55.9±0.5, 12.14S±0.08×165.67E±0.09, h33km, mb4.2/13, Error ellipse: s-maj=13.0km s-min=11.3km az=142.2*

*NEIC **08** 16:02:57.6±0.5, 12.06S×165.71E, h35km, mb4.9/3, Error ellipse: s-maj=12.4km s-min=11.4km az=48.0*

ISC 08 16:02:57.7±0.7, 12.06S±0.10×165.7E±0.1, h35km, n34, σ1§06/34, mb4.0/13, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
HNR	**Honiara**	**6.27**	**294**	Pn	**Pn**		**16 04 28.3**	**+0.6**
HNR	**Honiara**	**6.27**	**294**	Pn	**Pn**		**16 04 28.3**	**+0.6**
	7.7nm,0.3s,baz=60,slow=20,SNR=3.7							
DZM	**Mont Dzumac**	**9.97**	**176**	Pn	**Pn**		**16 05 18.9**	**+0.2**
DZM	**Mont Dzumac**	**9.97**	**176**	Pn	**Pn**		**16 05 18.9**	**+0.2**
	0.9nm,0.3s,baz=52,slow=22,SNR=11							
CTA	**Charters Tower**	**20.34**	**244**	P	**P**		**16 07 31.2**	**0.0**
CTA	**Charters Tower**	**20.34**	**244**	P	**P**		**16 07 31.2**	**0.0**
	4.3nm,0.8s,baz=119,slow=7.8,SNR=3.6							
AFI	**Afiamalu**	**21.98**	**97**	*e*P	**P**		**16 07 49.9**	**+0.9**
	45nm,1.0s							
STKA	**Stephens Creek**	**29.71**	**225**	P	**P**		**16 09 01.1**	**+0.5**
STKA	**Stephens Creek**	**29.71**	**225**	P	**P**		**16 09 01.1**	**+0.5**
	1.7nm,0.7s,baz=47,slow=13,SNR=3.5							
WRAB	**Tennant Creek**	**31.13**	**251**	P	**P**		**16 09 10.3**	**-3.0**
WRA	**Warramunga Arr**	**31.14**	**251**	P	**P**		**16 09 13.3**	**-0.2**
WRA	**Warramunga Arr**	**31.14**	**251**	P	**P**		**16 09 13.3**	**-0.2**
	1.0nm,0.6s,baz=83,slow=9.4,SNR=13							
RPZ	**Rata Peaks**	**31.87**	**173**	P	**P**		**16 09 19.9**	**+0.3**
RPZ	**Rata Peaks**	**31.87**	**173**	P	**P**		**16 09 19.9**	**+0.3**
	15nm,0.8s,baz=344,slow=18,SNR=8.4							
ASAR	**Alice Springs**	**32.34**	**245**	P	**P**		**16 09 23.4**	**-0.6**
ASAR	**Alice Springs**	**32.34**	**245**	P	**P**		**16 09 23.4**	**-0.6**
	1.5nm,0.7s,baz=69,slow=9.5,SNR=20							
MBWA	**Marble Bar**	**44.88**	**252**	*e*P	**P**		**16 11 09.8**	**+0.7**
SBA	**Scott Base**	**65.79**	**180**	P	**P**		**16 13 39.2**	**+0.4**
	8.8nm,1.5s							
CMAR	**Chiang Mai Arr**	**72.52**	**294**	P	**P**		**16 14 22.3**	**+0.7**
CMAR	**Chiang Mai Arr**	**72.52**	**294**	P	**P**		**16 14 22.3**	**+0.7**
	0.4nm,0.5s,baz=129,slow=4.5,SNR=4.2							
QSPA	**South Pole Qui**	**77.95**	**180**	*e*P	**P**		**16 14 50.9**	**-1.2**
QSPA	**South Pole Qui**	**77.95**	**180**	P	**P**		**16 14 51.2**	**-1.0**
	1.4nm,0.7s,baz=82,slow=2.0,SNR=11							
SONM	**Songino Array**	**79.48**	**324**	P	**P**		**16 15 01.5**	**+0.7**
SONM	**Songino Array**	**79.48**	**324**	P	**P**		**16 15 01.5**	**+0.7**
	0.3nm,0.5s,baz=152,slow=6.5,SNR=2.7							
BPAW	**Bear Paw Mtn.**	**82.75**	**18**	P	**P**		**16 15 16.8**	**-0.9**
	25nm,0.8s							
ILAR	**Eielson Array**	**84.47**	**18**	P	**P**		**16 15 27.9**	**+1.4**
ILAR	**Eielson Array**	**84.47**	**18**	P	**P**		**16 15 27.9**	**+1.4**
	0.2nm,0.5s,baz=233,slow=5.7,SNR=5.2							
MK31	**Makanchi Array**	**94.26**	**317**	*e*P	**P**		**16 16 12.4**	**-1.0**
MKAR	**Makanchi Array**	**94.26**	**317**	P	**P**		**16 16 12.4**	**-1.0**
MKAR	**Makanchi Array**	**94.26**	**317**	P	**P**		**16 16 12.4**	**-1.0**
	1.0nm,0.7s,baz=104,slow=5.3,SNR=9.8							
ZALV	**Zalesovo Beam**	**94.37**	**324**	P	**P**		**16 16 12.9**	**-0.8**
ZALV	**Zalesovo Beam**	**94.37**	**324**	P	**P**		**16 16 12.9**	**-0.8**
	0.2nm,0.3s,baz=72,slow=4.7,SNR=2.4							
ARCES	**ARCESS Array B**	**117.31**	**345**	PKP	**PKPdf**		**16 21 36.8**	**-2.1**
ARCES	**ARCESS Array B**	**117.31**	**345**	PKP	**PKPdf**		**16 21 36.8**	**-2.1**
	7.5nm,1.2s,baz=90,slow=2.7,SNR=3.1							

*ISCJB **08** 16:08:07.6±1.3, 13.29N±0.04×120.19E±0.06, h23km±10km, mb4.0/6, Error ellipse: s-maj=9.7km s-min=5.9km az=16.3*

*MAN **08** 16:08:08, 13.27N×120.25E, h17km, mb4.7, ML3.6, MS3.6*

*IDC **08** 16:08:10.1±4.7, 13.10N×120.74E, h63km±23km, mb3.7/6, mb1 3.8/6, mb1mx3.5/24, mbtmp3.7/6, Error ellipse: s-maj=63.1km s-min=35.7km az=134.0*

ISC 08 16:08:07.7±1.9, 13°27N±0.04×120°26E±0.06, h16km±12km, n22, σ1§16/28, mb4.0/6, 3C-3D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.71**	**71**	*i*P	**Pb**		**16 08 21.0**	**-0.8**
PGP				*i* S	**Sg**		**16 08 30.5**	**-0.6**
TGY	**Tagaytay City**	**1.06**	**38**	P	**Pn**		**16 08 28.4**	**+0.4**
	5.0nm,0.3s,baz=180,slow=20,SNR=29							
TGY				S	**Sg**		**16 08 42.6**	**+0.5**
	5.9nm,0.3s,baz=180,slow=20,SNR=16							
TGY	**Tagaytay City**	**1.06**	**38**	*e*P	**Pb**		**16 08 27.6**	**-0.1**
TGY				*e*S	**Sg**		**16 08 42.8**	**+0.6**
SJMP	**San Jose**	**1.16**	**134**	*e*P	**Pn**		**16 08 29.4**

ILAR	**Eielson Array**	**83.94**	**18**	P		**P**	**16 22 23.5**	**-1.5**
	0.3nm,0.8s,baz=220,slow=6.9,SNR=2.7							
INK	**Inuvik**	**90.32**	**19**	LR		LR	16 59 11.6	
	comp=Z,42nm,21.1s,baz=116,slow=33							
MKAR	**Makanchi Array**	**94.17**	**317**	P		**P**	**16 23 14.8**	**+0.6**
MKAR	**Makanchi Array**	**94.17**	**317**	P		**P**	**16 23 14.8**	**+0.6**
	0.6nm,0.7s,baz=90,slow=5.4,SNR=7.3							

IDC 08 16:10:11.2±1.6, 4°.08N×122°.69E, h605km±20km, mb2.9/8, mb1 3.0/8, mb1mx2.8/24, mbtmp2.9/8, Error ellipse: s-maj=58.9km s-min=9.8km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**14.22**	**176**	P	P	16 13 11.5	-0.7
	7.8nm,0.3s,baz=344,slow=12,SNR=13						
FITZ	**Fitzroy Crossi**	**22.23**	**173**	P	P	16 14 24.8	+0.1
	0.6nm,0.4s,baz=0.2,slow=9.7,SNR=5.8						
WRA	**Warramunga Arr**	**26.47**	**155**	P	P	16 15 02.3	0.0
	3.3nm,0.3s,baz=337,slow=9.4,SNR=77						
WRA				ScP	ScP	16 20 50.1	+0.1
	0.5nm,0.6s,baz=340,slow=3.1,SNR=6.1						
CMAR	**Chiang Mai Arr**	**27.27**	**303**	P	P	16 15 09.4	+0.2
	0.4nm,0.6s,baz=116,slow=8.2,SNR=3.3						
ASAR	**Alice Springs**	**29.66**	**159**	P	P	16 15 30.8	+0.8
	3.1nm,0.6s,baz=336,slow=8.0,SNR=68						
ASAR				S	S	16 19 42.8	-1.9
	0.5nm,0.8s,baz=335,slow=14,SNR=4.9						
ASAR				ScP	ScP	16 21 01.1	+1.0
	0.5nm,0.8s,baz=343,slow=3.4,SNR=7.7						
STKA	**Stephens Creek**	**40.02**	**155**	P	P	16 16 55.9	+0.3
	1.0nm,0.3s,baz=348,slow=6.2,SNR=4.8						
SONM	**Songino Array**	**45.80**	**345**	P	P	16 17 39.9	-0.4
	0.7nm,0.8s,baz=160,slow=6.0,SNR=3.6						
MKAR	**Makanchi Array**	**55.02**	**327**	P	P	16 18 47.1	0.0
	1.3nm,0.3s,baz=121,slow=8.1,SNR=33						
MKAR				PcP	PcP	16 19 38.9	-0.4
	0.5nm,0.5s,baz=121,slow=4.5,SNR=4.0						
ZALV	**Zalesovo Beam**	**58.51**	**335**	P	P	16 19 09.6	-1.0
	0.3nm,0.4s,baz=133,slow=8.1,SNR=2.5						

*IDC **08** 16:19:06.5±0.9, 8°.57S×124°.73E, h0km, mb3.9/5, mb1 4.2/8, mb1mx4.0/18, mbtmp4.0/8, ML4.2/3, Error ellipse: s-maj=42.1km s-min=17.0km az=73.0*
*ISCJB **08** 16:19:14.1±0.4, 8°.88S±0°.05×124°.38E±0°.05, h74km, mb3.7/5, Error ellipse: s-maj=8.6km s-min=5.4km az=142.0*
*AUST **08** 16:19:18.2±0.0, 9°.34S×124°.07E, h56km, Error ellipse: s-maj=1.1km s-min=0.7km az=239.0*
*DJA **08** 16:19:21.0±1.0, 9°.S±2°×12°.4E±°, h13km±12km, M4.1/9, mb4.3/6, mB4.7/1, MLv4.0/9, Mw(mB)3.9/1*

ISC 08 16:19:16.5±0.7, 8°.92S±0°.06×124°.24E±0°.07, h74km, n46, σ1°40/40, mb3.9/5, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.83**	**178**	P	**Pn**	**16 19 35.3**	**+1.9**
SOEI				S	**Sn**	**16 19 49.1**	**+3.2**
SOEI	**Soe**	**0.83**	**178**	P	**Pn**	**16 19 35.4**	**+1.9**
	baz=0.5,SNR=1000						
BATI	**Baumata**	**1.40**	**204**	P	**Pn**	**16 19 41.7**	**+1.3**
BATI				S	**Sn**	**16 19 58.7**	**+0.4**
BATI	**Baumata**	**1.40**	**204**	Pn	**Pn**	**16 19 41.8**	**+1.4**
	294nm,0.3s,baz=49,slow=2.5,SNR=508						
BATI				Sn	**Sn**	**16 19 59.3**	**+1.0**
	374nm,0.3s,baz=108,slow=20,SNR=51						
MMRI	**Maumere**	**2.00**	**278**	P	**Pn**	**16 19 50.0**	**+1.8**
MMRI				S	**Sn**	**16 20 11.7**	**-0.7**
BBSI	**Bau Bau**	**3.79**	**334**	P	Pn	16 20 17.2	+4.7
WSI	**Waingapu**	**3.96**	**259**	P	**Pn**	**16 20 16.1**	**+1.2**
WSI	**Waingapu**	**3.96**	**259**	P	Pn	16 20 22.5	+7.6
	baz=3.7,SNR=3.8						
KKSI	**Kolaka, Sulawe**	**5.37**	**331**	P	Pn	16 20 39.6	+5.5
	34nm,0.6s,0.1nm						
BKSI	**Bulukumba**	**5.43**	**311**	P	**Pn**	**16 20 38.1**	**+3.2**
	17nm,0.8s,0.1nm						
KAPI	**Kappang**	**5.91**	**311**	P	**Pn**	**16 20 41.4**	**-0.1**
KAPI	**Kappang**	**5.91**	**311**	Pn	**Pn**	**16 20 41.5**	**+0.1**
	1.8nm,0.3s,baz=176,slow=3.9,SNR=9.0						
BNSI	**Bone**	**6.08**	**317**	P	Pn	16 20 48.4	+4.5
	52nm,1.0s,546nm0.2nm						
SPSI	**Sidrap Palu**	**6.63**	**318**	P	Pn	16 20 57.2	+5.9
	17nm,1.4s,0.1nm						
TTSI	**Tana Toraja**	**7.30**	**323**	P	Pn	16 21 06.4	+5.8
	17nm,1.9s						
LUWI	**Luwuk**	**7.96**	**349**	P	Pn	16 21 16.2	+6.7
LUWI	**Luwuk**	**7.96**	**349**	P	Pn	16 21 16.8	+7.3
	baz=8.4,SNR=5.0						
KNRA	**Kununurra**	**8.04**	**147**	P	**Pn**	**16 21 09.1**	**-1.5**
	baz=7.8,SNR=38						
KDU	**Kakadu**	**8.91**	**116**	P	**Pn**	**16 21 22.5**	**-0.1**
	baz=8.9,SNR=19						
FITZ	**Fitzroy Crossi**	**9.23**	**172**	P	**Pn**	**16 21 24.1**	**-2.8**
	baz=8.9,SNR=88						
FITZ	**Fitzroy Crossi**	**9.23**	**172**	Pn	**Pn**	**16 21 24.4**	**-2.5**
	3.6nm,0.3s,baz=3.6,slow=8.9,SNR=118						
FITZ				Sn	Sn	16 22 58.0	-11
	25nm,0.3s,baz=270,slow=20,SNR=23						
FAKI	**Fak Fak**	**9.95**	**54**	P	Pn	16 21 44.9	+8.2
	baz=10,SNR=4.1						
WRA	**Warramunga Arr**	**14.68**	**139**	Pn	Pn	16 22 36.3	-4.1
	0.8nm,0.3s,baz=309,slow=14,SNR=38						
WRA				Sn	Sn	16 25 08.7	-13
	3.7nm,0.3s,baz=311,slow=23,SNR=14						
CISI	**Cisompet, Garu**	**16.31**	**274**	P	**P**	**16 23 02.5**	**-0.4**
	baz=16,SNR=5.6						
ASAR	**Alice Springs**	**17.34**	**149**	P	**Pn**	**16 23 11.8**	**-2.0**
	0.7nm,0.3s,baz=318,slow=11,SNR=50						
ASAR				S	Sn	16 26 11.2	-15
	0.7nm,0.3s,baz=316,slow=20,SNR=8.8						
MEEK	**Meekatharra**	**18.41**	**196**	P	**Pn**	**16 23 25.8**	**-1.0**
	baz=18,SNR=11						
BLDU	**Ballidu**	**22.70**	**197**	P	**P**	**16 24 10.6**	**-1.6**
	baz=22,SNR=5.1						
BBOO	**Buckleboo**	**26.17**	**157**	P	**P**	**16 24 44.6**	**+0.5**
	baz=26,SNR=13						
STKA	**Stephens Creek**	**27.96**	**147**	P	**P**	**16 25 01.3**	**+1.1**
	baz=28,SNR=6.0						
STKA	**Stephens Creek**	**27.96**	**147**	P	**P**	**16 24 59.8**	**-0.4**
	1.2nm,0.4s,baz=330,slow=9.0,SNR=8.7						
CMSA	**Cobar Meteorol**	**30.07**	**141**	P	**P**	**16 25 20.8**	**+1.9**
	baz=30,SNR=12						
ODAN	**Odare**	**50.42**	**316**	*eP*	**P**	**16 28 07.0**	**-0.1**
TAPN	**Taplejung**	**50.52**	**317**	*eP*	**P**	**16 28 07.9**	**0.0**
	6.6nm,0.4s						
RAMN	**Ramite**	**51.02**	**315**	*eP*	**P**	**16 28 12.0**	**+0.4**
	17nm,0.5s						
JIRN	**Jiri**	**51.75**	**316**	*eP*	**P**	**16 28 17.2**	**0.0**
	7.5nm,0.5s						
GUN	**Gumba**	**52.12**	**316**	*eP*	**P**	**16 28 20.0**	**+0.1**
	11nm,0.5s						
PKI	**Pulchoki**	**52.24**	**315**	*eP*	**P**	**16 28 20.3**	**-0.5**
	9.7nm,0.4s						
KKN	**Kakani**	**52.46**	**315**	*eP*	**P**	**16 28 22.0**	**-0.3**
DMN	**Daman**	**52.47**	**315**	*eP*	**P**	**16 28 22.1**	**-0.3**
GKN	**Gorkha**	**53.04**	**315**	*eP*	**P**	**16 28 26.3**	**-0.2**
	11nm,0.5s						
KOLN	**Koldanda**	**53.63**	**314**	*eP*	**P**	**16 28 30.5**	**-0.4**
	6.9nm,0.5s						
DANN	**Dangsing**	**53.87**	**315**	*eP*	**P**	**16 28 32.6**	**-0.1**
	16nm,0.5s						
SONM	**Songino Array**	**58.67**	**346**	P	**P**	**16 29 05.4**	**-0.9**
	0.6nm,0.6s,baz=170,slow=8.0,SNR=4.5						
MKAR	**Makanchi Array**	**66.86**	**330**	P	**P**	**16 30 00.2**	**-0.5**
	0.9nm,0.6s,baz=132,slow=7.8,SNR=13						
ZALV	**Zalesovo Beam**	**70.92**	**337**	P	**P**	**16 30 23.9**	**-1.7**
	0.7nm,0.7s,baz=132,slow=6.2,SNR=3.7						
VNDA	**Vanda**	**71.30**	**172**	P	**P**	**16 30 27.8**	**+0.1**
	0.4nm,0.4s,baz=328,slow=8.5,SNR=6.5						

*ISCJB **08** 16:27:37.7±0.7, 17°.8S±0°.1×172°.20W±0°.09, h21km, mb4.3/9, MS4.1/1, Error ellipse: s-maj=14.4km s-min=12.3km az=172.6*
*NEIC **08** 16:27:39.1±1.2, 17°.90S×172°.37W, h10km, mb4.5/3, Error ellipse: s-maj=31.7km s-min=12.9km az=187.0*
*IDC **08** 16:27:40.9±1.3, 18°.16S×172°.72W, h0km, mb4.2/7, mb1 4.4/8, mb1mx4.0/24, mbtmp4.3/8, ML4.1/1, MS3.6/2, Ms1 3.6/2, ms1mx3.1/40, Error ellipse: s-maj=35.7km s-min=27.8km az=140.0*

ISC 08 16:27:40.8±0.7, 17°.92S±0°.08×172°.35W±0°.10, h21km, n40, σ1°13/24, mb4.4/9, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.03**	**8**	Pn	Pn	16 28 38.1	-3.3
AFI				*e*Sn	**Sb**	**16 29 38.9**	**-0.6**
AFI				Sn	Sn	16 29 40.1	+12
AFI				TT		16 33 43.3	
AFI	**Afiamalu**	**4.03**	**8**	Pn	Pn	16 28 38.1	-3.3
	0.9nm,0.3s,baz=197,slow=18,SNR=3.2						
AFI				Sn	**Sb**	**16 29 40.1**	**+0.6**
	29nm,0.3s,baz=226,slow=17,SNR=9.2						
AFI				T	T	16 33 43.3	
	30nm,0.3s,baz=147,slow=22,SNR=8.3						
MSVF	**Nonsavu**	**9.14**	**270**	*e*Pn	Pn	16 29 55.8	+4.1
	14nm,0.8s						
RAR	**Rarotonga**	**12.30**	**107**	Pn	**Pn**	**16 30 33.5**	**-1.3**
RAR	**Rarotonga**	**12.30**	**107**	Pn	**Pn**	**16 30 33.5**	**-1.3**
	3.1nm,0.3s,baz=270,slow=18,SNR=11						
RAR				LR	LR	16 33 51.5	
	comp=Z,109nm,21.6s,baz=267,slow=30						
DZM	**Mont Dzumac**	**20.34**	**255**	P	**P**	**16 32 15.4**	**-0.6**
DZM	**Mont Dzumac**	**20.34**	**255**	P	**P**	**16 32 15.4**	**-0.6**
	0.6nm,0.3s,baz=91,slow=19,SNR=8.5						
URZ	**Urewera**	**22.26**	**202**	P	**P**	**16 32 35.6**	**-0.8**
URZ	**Urewera**	**22.26**	**202**	P	**P**	**16 32 35.6**	**-0.8**
	3.4nm,0.3s,baz=293,slow=6.3,SNR=7.0						
RPZ	**Rata Peaks**	**29.28**	**205**	P	**P**	**16 33 43.4**	**+1.8**
RPZ	**Rata Peaks**	**29.28**	**205**	P	**P**	**16 33 43.4**	**+1.8**
	5.8nm,0.8s,baz=349,slow=16,SNR=2.1						
EIDS	**Eidsvold**	**34.70**	**251**	*e*P	P	16 34 22.9	-6.5
	9.8nm,1.1s						
CTA	**Charters Tower**	**39.13**	**260**	P	**P**	**16 35 06.7**	**-0.4**
CTA	**Charters Tower**	**39.13**	**260**	P	**P**	**16 35 06.7**	**-0.4**
	5.1nm,0.5s,baz=84,slow=9.9,SNR=11						
CTAO	**Charters Tower**	**39.13**	**260**	*e*P	**P**	**16 35 06.6**	**-0.6**
	13nm,0.9s						
H11S2	**WAKE ISLAND Hy**	**41.63**	**329**	T	T	17 20 52.8	
	baz=150						
H11S3	**WAKE ISLAND Hy**	**41.65**	**329**	T	T	17 20 53.2	
	baz=150						
H11S1	**WAKE ISLAND Hy**	**41.65**	**329**	T	T	17 20 53.5	
	baz=150						
H11N3	**WAKE ISLAND Hy**	**42.59**	**330**	T	T	17 22 03.9	
	baz=155						
H11N1	**WAKE ISLAND Hy**	**42.59**	**330**	T	T	17 22 04.6	
	baz=155						
H11N2	**WAKE ISLAND Hy**	**42.61**	**330**	T	T	17 22 05.8	
	baz=155						
STKA	**Stephens Creek**	**43.71**	**242**	P	**P**	**16 35 43.7**	**-0.9**
STKA	**Stephens Creek**	**43.71**	**242**	P	**P**	**16 35 43.7**	**-0.9**
	2.1nm,0.8s,baz=90,slow=12,SNR=3.0						
WRA	**Warramunga Arr**	**50.29**	**259**	P	**P**	**16 36 36.3**	**+0.1**
WRA	**Warramunga Arr**	**50.29**	**259**	P	**P**	**16 36 36.3**	**+0.1**
	1.4nm,0.3s,baz=93,slow=5.9,SNR=10.0						
ASAR	**Alice Springs**	**50.33**	**254**	P	**P**	**16 36 37.0**	**+0.5**
ASAR	**Alice Springs**	**50.33**	**254**	P	**P**	**16 36 37.0**	**+0.5**
	2.4nm,0.5s,baz=88,slow=8.8,SNR=20						
SBA	**Scott Base**	**60.83**	**185**	*e*P	**P**	**16 37 51.3**	**+0.2**
	1.4nm,0.7s						
H06S1	**SOCORRO T**	**70.47**	**62**	T	T	17 56 18.5	
H06E1	**SOCORRO T-PHAS**	**70.52**	**62**	T	T	17 56 19.9	
FX1	**Attu Island--F**	**71.62**	**351**	LR	LR	17 04 02.9	
	baz=Z,59nm,19.6s,baz=320,slow=30						
H03N2	**Juan Fernandez**	**83.09**	**123**	T	T	18 11 15.3	
	baz=253,slow=0.7,SNR=18						
H03N3	**Juan Fernandez**	**83.09**	**123**	T	T	18 11 14.0	
	baz=253,slow=0.7,SNR=17						
H03N1	**Juan Fernandez**	**83.11**	**123**	T	T	18 11 17.6	
	baz=253,slow=0.7,SNR=13						
ILAR	**Eielson Array**	**84.72**	**11**	P	P	16 40 18.4	+5.6
ILAR	**Eielson Array**	**84.72**	**11**	P	P	16 40 18.4	+5.6
	0.3nm,0.6s,baz=211,slow=4.1,SNR=3.3						
BRTR	**Keskin Array B**	**148.73**	**319**	PKPbc	**PKPab**	**16 47 30.7**	**-0.1**
BRTR	**Keskin Array B**	**148.73**	**319**	PKPbc	**PKPab**	**16 47 30.7**	**-0.1**
	0.2nm,0.6s,baz=67,slow=3.7,SNR=2.6						
TORD	**Torodi Ar. Bea**	**172.55**	**129**	PKPab	**PKPab**	**16 49 16.6**	**+2.4**
TORD	**Torodi Ar. Bea**	**172.55**	**129**	PKPab	**PKPab**	**16 49 16.6**	**+2.4**
	0.6nm,0.9s,baz=251,slow=4.4,SNR=2.8						

*IDC **08** 16:31:47.9±2.1, 5°.41S×130°.89E, h0km, mb3.6/1, mb1 4.2/4, mb1mx3.7/18, mbtmp4.1/4, ML4.3/3, Error ellipse: s-maj=54.3km s-min=30.7km az=78.0*
*AUST **08** 16:32:07.8, 6°.48S×130°.03E, h60km*
*ISCJB **08** 16:32:08.7±0.5, 6°.55S±0°.04×130°.12E±0°.07, h146km, mb3.4/1, Error ellipse: s-maj=9.9km s-min=5.6km az=172.5*
*DJA **08** 16:32:15.3±0.9, 6°.S±6°×13°.0E±°, h171km±19km, M3.8/8, MLv3.8/8*

ISC 08 16:32:07.8±0.9, 6°.54S±0°.06×130°.20E±0°.10, h146km, n20, σ2°11/18, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.81**	**143**	P	Sn	16 32 58.0	-7.6
BNDI	**Bandanaira**	**2.02**	**352**	P	**Pn**	**16 32 44.6**	**+1.6**
BNDI				S	**Sn**	**16 33 13.0**	**+3.0**
BNDI	**Bandanaira**	**2.02**	**352**	P	**Pn**	**16 32 44.1**	**+1.1**
	baz=2.0,SNR=3.6						
TLE	**Tual**	**2.68**	**71**	P	Pn	16 32 55.4	+4.4
TLE	**Tual**	**2.68**	**71**	P	Pn	16 32 55.8	+4.8
	baz=2.8,SNR=19						
MSAI	**Masohi**	**3.41**	**338**	P	**Pn**	**16 33 01.4**	**+1.1**
MSAI				S	**Sn**	**16 33 36.0**	**-5.0**
AAI	**Ambon**	**3.46**	**325**	P	**Pn**	**16 33 02.0**	**+1.0**
FAKI	**Fak Fak**	**4.13**	**30**	P	**Pn**	**16 33 08.5**	**-1.3**
FAKI	**Fak Fak**	**4.13**	**30**	P	**Pn**	**16 33 08.2**	**-1.6**
	baz=4.2,SNR=100						
KMPI	**Kaimana, Papua**	**4.51**	**51**	P	**Pn**	**16 33 15.0**	**+0.3**
SWI	**Sorong**	**5.73**	**11**	P	Pn	16 33 27.0	-4.0
	baz=5.7,SNR=42						
KDU	**Kakadu**	**6.51**	**160**	P	Pn	16 33 45.5	+4.1
	baz=6.7,SNR=84						
SOEI	**Soe**	**6.68**	**241**	P	**Pn**	**16 33 45.2**	**+1.4**
	baz=6.6,SNR=7.0						
BATI	**Baumata**	**7.42**	**240**	Pn	**Pn**	**16 33 54.0**	**+0.4**
	13nm,0.3s,baz=88,slow=3.6,SNR=22						
KNRA	**Kununurra**	**9.19**	**189**	P	**Pn**	**16 34 18.9**	**+1.8**
	baz=9.3,SNR=76						
FITZ	**Fitzroy Crossi**	**12.33**	**201**	P	**Pn**	**16 34 58.6**	**+0.1**
	baz=12,SNR=38						
WRA	**Warramunga Arr**	**13.92**	**164**	Pn	**Pn**	**16 35 20.0**	**+1.0**
	0.7nm,0.3s,baz=347,slow=10,SNR=22						
WRA				Sn	**Sn**	**16 37 50.1**	**-3.1**
	1.2nm,0.3s,baz=338,slow=27,SNR=8.6						
COEN	**Coen**	**14.74**	**121**	P	**P**	**16 35 32.3**	**+0.7**
	baz=15,SNR=7.5						
ASAR	**Alice Springs**	**17.40**	**169**	P	**Pn**	**16 36 03.7**	**+1.9**
	1.0nm,0.3s,baz=347,slow=9.6,SNR=111						
ASAR				S	**S**	**16 39 13.3**	**-1.5**
	0.2nm,0.3s,baz=347,slow=18,SNR=6.6						
MKAR	**Makanchi Array**	**67.95**	**327**	P	P	16 42 45.2	-5.7
	0.4nm,0.6s,baz=118,slow=5.4,SNR=5.0						

IDC 08 16:35:29.3±1.5, 11°.46S×165°.79E, h0km, mb3.9/6, mb1 4.1/8, mb1mx3.9/21, mbtmp4.0/8, ML4.2/2, MS2.8/1, Ms1 2.8/1, ms1mx2.5/36, Error ellipse: s-maj=34.4km s-min=27.0km az=126.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.09**	**289**	Pn	Pn	16 37 02.0	+1.3
	4.0nm,0.3s,baz=17,slow=16,SNR=4.5						
HNR				Sn	Sn	16 38 10.6	-0.6
	3.7nm,0.3s,baz=54,slow=23,SNR=4.0						
HNR				LR	LR	16 38 58.3	
	comp=Z,75nm,19.8s,baz=81,slow=34						
DZM	**Mont Dzumac**	**10.57**	**177**	Pn	Pn	16 38 03.5	+1.2
	3.1nm,0.3s,baz=345,slow=18,SNR=19						
DZM				Sn	Sn	16 39 56.8	-4.7
	0.2nm,0.3s,baz=63,slow=3.6,SNR=2.5						
CTA	**Charters Tower**	**20.65**	**243**	P	P	16 40 11.2	+0.4
	5.0nm,0.8s,baz=93,slow=12,SNR=5.1						
WRA	**Warramunga Arr**	**31.39**	**250**	P	P	16 41 51.7	-0.6
	1.4nm,0.8s,baz=81,slow=10,SNR=5.4						
ASAR	**Alice Springs**	**32.65**	**244**	P	P	16 42 02.6	-0.7
	0.8nm,0.7s,baz=72,slow=9.8,SNR=5.5						
SONM	**Songino Array**	**79.03**	**324**	P	P	16 47 36.2	+0.8
	0.6nm,0.7s,baz=131,slow=4.0,SNR=4.1						
ILAR	**Eielson Array**	**83.89**	**18**	P	P	16 47 59.8	-0.8
	0.3nm,0.6s,baz=236,slow=7.5,SNR=3.8						
MKAR	**Makanchi Array**	**93.85**	**317**	P	P	16 48 48.8	+0.1
	1.0nm,0.8s,baz=94,slow=7.3,SNR=7.8						

IDC 08 16:39:33.6±1.3, 15°.05S×172°.25W, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.9/20, mbtmp4.1/5, MS3.6/3, Ms1 3.6/3, ms1mx3.1/43, Error ellipse: s-maj=53.0km s-min=16.0km az=125.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.23**	**22**	Pn	Pn	16 39 58.6	+0.6
	66nm,0.3s,baz=186,slow=10,SNR=99						
AFI				Sn	Sn	16 40 15.2	-0.2
	843nm,0.3s,baz=282,slow=20,SNR=67						
RAR	**Rarotonga**	**13.35**	**119**	LR	LR	16 45 45.6	
	comp=Z,203nm,20.4s,baz=271,slow=28						
DZM	**Mont Dzumac**	**21.35**	**248**	*e*LR	LR	16 50 34.6	
	326nm,25.2s						
PPT	**Papeete**	**21.91**	**100**	LR	LR	16 50 07.4	
	comp=Z,124nm,19.6s,baz=350,slow=29						
PPT2	**Papeete2**	**21.91**	**100**	*e*LR	LR	16 49 00.7	
	245nm,26.0s						
TBI	**Tubuai**	**23.03**	**114**	*e*LR	LR	16 49 31.8	
	217nm,25.2s						
URZ	**Urewera**	**24.96**	**200**	P	P	16 44 59.0	+0.3
	2.6nm,0.4s,baz=21,slow=14,SNR=4.1						
H11S2	**WAKE ISLAND Hy**	**39.25**	**327**	T	T	17 28 28.0	
	baz=146						
H11S3	**WAKE ISLAND Hy**	**39.26**	**327**	T	T	17 28 29.6	
	baz=146						
H11S1	**WAKE ISLAND Hy**	**39.27**	**327**	T	T	17 28 28.7	
	baz=146						
STKA	**Stephens Creek**	**45.17**	**240**	P	P	16 47 51.5	-0.9
	3.2nm,0.9s,baz=86,slow=13,SNR=3.7						
WRA	**Warramunga Arr**	**51.00**	**256**	P	P	16 48 37.4	-0.3
	1.7nm,0.8s,baz=91,slow=6.7,SNR=13						
ASAR	**Alice Springs**	**51.27**	**252**	P	P	16 48 39.6	-0.1
	3.7nm,0.6s,baz=88,slow=7.7,SNR=98						
YBH	**Yreka Blue Hor**	**72.66**	**37**	LR	LR	17 19 13.7	
	comp=Z,42nm,18.3s,baz=179,slow=33						
NVAR	**Mina Array Bea**	**73.33**	**42**	P	P	16 51 06.8	-0.8
	0.5nm,0.8s,baz=243,slow=8.0,SNR=3.3						
BRTR	**Keskin Array B**	**146.57**	**322**	PKPbc	PKPab	16 59 18.0	-0.5
	0.4nm,0.6s,baz=79,slow=2.2,SNR=3.6						

MEX 08 16:39:42.1±0.6, 17°.05N×100°.21W, h41km±4km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.06**	**267**	*e*P	Pn	16 39 47.5	-1.2
CAIG				*i* S	Sn	16 39 51.5	-1.8
ACX	**Acapulco**	**0.38**	**118**	*i* P	Pn	16 39 48.9	-2.5
ACX				*i* S	Sn	16 39 55.0	-2.9
MEIG	**Mezcala**	**1.03**	**33**	*e*P	Pn	16 39 58.4	-1.9
MEIG				*i* S	Sn	16 40 11.7	-2.0
ARIG	**Puente Sto Nin**	**1.23**	**354**	*e*P	Pn	16 40 00.7	-2.2
ARIG				*i* S	Sn	16 40 16.2	-2.1
ZIIG	**Zihuatanejo**	**1.32**	**295**	*i* P	Pn	16 40 02.5	-1.6
ZIIG				*i* S	Sn	16 40 18.8	-1.7
PLIG	**Platanillo**	**1.49**	**27**	*e*P	Pn	16 40 05.1	-1.5
PLIG				*i* S	Sn	16 40 22.9	-2.0
PNIG	**Pinotepa**	**2.10**	**108**	*i* P	Pn	16 40 13.7	-1.1
PNIG				*i* S	Sn	16 40 38.2	-1.5
YAIG	**Yautepec**	**2.10**	**31**	*i* P	Pn	16 40 13.2	-1.8
YAIG				*i* S	Sn	16 40 37.5	-2.6
PPM	**Popocatepetl**	**2.50**	**37**	*e*P	Pn	16 40 19.3	-1.7
PPM				*i* S	Sn	16 40 48.2	-2.7

KRSC 08 16:40:11.7±5.8, 55°.48N×160°.46E, h189km±58km, ML3.5, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**0.27**	**222**	P	Pn	16 40 38.4	+1.4
TUMR				*i* S	Sn	16 40 57.6	+1.2
KMNR	**Kamenistaya**	**0.30**	**336**	P	Pn	16 40 38.3	+1.3
KMNR				*i* S	Sn	16 40 57.6	+0.9
BZMR	**Bezymyannaya**	**0.46**	**2**	P	Pn	16 40 38.2	+0.7
BZMR				*i* S	Sn	16 40 58.7	+1.1
KIRR	**Kirishev**	**0.48**	**352**	P	Pn	16 40 38.5	+0.9
KIRR				*i* S	Sn	16 40 58.1	+0.3
BZGR	**Bezymyannyi-Gr**	**0.48**	**16**	P	Pn	16 40 38.7	+1.2
BZGR				*i* S	Sn	16 40 59.2	+1.5
BZWR	**Bezymyannyi-We**	**0.49**	**2**	P	Pn	16 40 38.4	+0.8
BZWR				*i* S	Sn	16 40 58.6	+0.8
KPT	**Kopyto**	**0.51**	**345**	P	Pn	16 40 38.1	+0.5
KPT				*i* S	Sn	16 40 57.8	0.0
KOZ	**Kozyrevsk**	**0.67**	**330**	P	Pn	16 40 38.6	+0.3
KOZ				*i* S	Sn	16 40 59.1	+0.2
KRSR	**Krestovskiy**	**0.74**	**5**	P	Pn	16 40 39.8	+1.0
KRSR				*i* S	Sn	16 41 00.1	+0.2

0.4nm,0.6s,baz=72,slow=9.4,SNR=9.0
FITZ Fitzroy Crossi 39.37 257 LR LR 17 13 20.4
comp=Z,75nm,19.1s,baz=178,slow=34
ILAR Eielson Array 84.74 18 P P 17 03 32.9 -0.5
0.2nm,0.5s,baz=236,slow=5.1,SNR=3.8
MKAR Makanchi Array 94.79 317 P P 17 04 22.1 +0.7
0.2nm,0.6s,baz=104,slow=6.1,SNR=3.6

IDC 08 16:53:36.6±1.7, 11°39S×165°64E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/18, mbtmp3.8/6, ML4.0/1, Error ellipse: s-maj=52.3km s-min=28.9km az=118.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.65**	**176**	Pn	Pn	16 56 10.5	-0.2
	1.1nm,0.3s,baz=323,slow=19,SNR=7.2						
STKA	**Stephens Creek**	**30.12**	**224**	P	P	16 59 48.3	+0.1
	2.3nm,0.9s,baz=95,slow=12,SNR=2.9						
WRA	**Warramunga Arr**	**31.27**	**250**	P	P	16 59 58.7	+0.1
	0.5nm,0.8s,baz=79,slow=8.6,SNR=4.2						
ASAR	**Alice Springs**	**32.55**	**244**	P	P	17 00 08.9	-0.8
	0.4nm,0.8s,baz=64,slow=10,SNR=4.2						
ILAR	**Eielson Array**	**83.87**	**19**	P	P	17 06 07.3	-0.6
	0.3nm,0.7s,baz=239,slow=6.1,SNR=4.5						
MKAR	**Makanchi Array**	**93.70**	**317**	P	P	17 06 56.3	+0.9
	0.6nm,0.6s,baz=98,slow=5.2,SNR=7.8						

IDC 08 16:56:11.7±1.6, 13°22S×166°54E, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.6/21, mbtmp3.8/7, ML3.6/2, MS3.0/1, Ms1 3.0/1, ms1mx2.6/37, Error ellipse: s-maj=33.3km s-min=25.9km az=65.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.48**	**300**	Pn	Pn	16 58 02.8	+0.6
	3.1nm,0.3s,baz=24,slow=19,SNR=2.1						
HNR				Sn	Sn	16 59 29.1	+1.3
	3.7nm,0.3s,baz=162,slow=20,SNR=2.1						
DZM	**Mont Dzumac**	**8.81**	**181**	Pn	Pn	16 58 21.3	+0.8
	0.2nm,0.3s,baz=337,slow=15,SNR=4.9						
DZM				Sn	Sn	17 00 00.8	+0.2
	0.2nm,0.3s,baz=319,slow=20,SNR=2.2						
DZM				LR	LR	17 01 20.4	
	comp=Z,90nm,19.5s,baz=13,slow=35						
STKA	**Stephens Creek**	**29.47**	**227**	P	P	17 02 18.3	+0.8
	0.8nm,0.6s,baz=67,slow=13,SNR=4.0						
WRA	**Warramunga Arr**	**31.54**	**253**	P	P	17 02 35.6	-0.4
	0.2nm,0.5s,baz=80,slow=6.7,SNR=5.7						
ASAR	**Alice Springs**	**32.59**	**247**	P	P	17 02 44.8	-0.4
	0.2nm,0.5s,baz=73,slow=9.7,SNR=9.4						
QSPA	**South Pole Qui**	**76.80**	**180**	P	P	17 08 05.0	-0.2
	1.4nm,1.0s,baz=59,slow=0.2,SNR=5.1						
ILAR	**Eielson Array**	**85.32**	**18**	P	P	17 08 50.3	+0.1
	0.3nm,0.7s,baz=234,slow=7.7,SNR=2.9						

IDC 08 16:58:11.7±2.3, 15°24S×173°75W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/19, mbtmp3.7/3, Error ellipse: s-maj=63.5km s-min=49.2km az=28.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.32**	**56**	Pn	Pn	16 58 39.0	-12
	31nm,0.3s,baz=217,slow=5.1,SNR=19						
AFI				Sn	Sn	16 58 56.1	-25
	137nm,0.3s,baz=200,slow=7.6,SNR=20						
WRA	**Warramunga Arr**	**49.56**	**257**	P	P	17 07 04.4	-0.5
	0.3nm,0.5s,baz=94,slow=7.3,SNR=5.5						
ASAR	**Alice Springs**	**49.84**	**252**	P	P	17 07 07.3	+0.2
	0.9nm,0.6s,baz=86,slow=7.9,SNR=19						
QSPA	**South Pole Qui**	**74.81**	**180**	P	P	17 09 53.9	0.0
	1.4nm,1.1s,baz=332,slow=2.0,SNR=4.6						
BRTR	**Keskin Array B**	**145.82**	**321**	PKPbc	PKPdf	17 17 52.6	-0.4
	0.8nm,0.8s,baz=73,slow=2.0,SNR=6.2						

*ISCJB **08** 17:00:14.7±0.4, 67°10N±0°02×20°99E±0°08, h0km, Error ellipse: s-maj=4.7km s-min=3.3km az=178.2*
*UPP **08** 17:00:15.7, 67°08N×20°90E, h0km, ML2.0, Mining explosion.*
*CSEM **08** 17:00:15.7±0.2, 67°11N×20°91E, h2km, ML1.8, Error ellipse: s-maj=5.0km s-min=3.6km az=85.0, Mining explosion.*
*IDC **08** 17:00:16.0±0.9, 67°16N×21°40E, h0km, mb1 2.9/4, mb1mx2.8/28, mbtmp2.9/4, ML2.3/4, Error ellipse: s-maj=19.2km s-min=7.6km az=113.0*
*HEL **08** 17:00:16.4±0.0, 67°08N×20°92E, h0km, ML1.8, ML2.0(UPP), Explosion*

ISC 08 17:00:15.5±0.8, 67°08N±0°02×20°86E±0°03, h0km, n39, σ0§91/56, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASU	**Masugnsbyn**	**0.58**	**49**	*i* P	**Pg**	**17 00 26.6**	**-0.1**
MASU	**Masugnsbyn**	**0.58**	**49**	P	**Pg**	**17 00 26.5**	**-0.1**
ERTU	**Ertsjaerv**	**0.75**	**135**	*i* P	**Pg**	**17 00 29.3**	**-0.5**
ERTU				*i* S	**Sg**	**17 00 40.4**	**+0.9**
ERTU	**Ertsjaerv**	**0.75**	**135**	P	**Pg**	**17 00 29.3**	**-0.5**
ERTU				S	**Sg**	**17 00 40.4**	**+0.9**
KUA	**Kurravaara**	**0.90**	**347**	*e*P	**Pg**	**17 00 32.4**	**-0.3**
KUA	**Kurravaara**	**0.90**	**347**	P	**Pg**	**17 00 32.4**	**-0.3**
HARU	**Harads**	**0.93**	**177**	*e*P	**Pg**	**17 00 32.9**	**-0.3**
HARU	**Harads**	**0.93**	**177**	P	**Pg**	**17 00 32.9**	**-0.3**
SALU	**Saltoluokta**	**0.96**	**289**	*e*P	**Pg**	**17 00 34.1**	**+0.2**
SALU	**Saltoluokta**	**0.96**	**289**	P	**Pg**	**17 00 34.1**	**+0.2**
NIKU	**Nikkaluokta**	**1.05**	**319**	*e*P	**Pg**	**17 00 35.6**	**-0.2**
NIKU	**Nikkaluokta**	**1.05**	**319**	P	**Pg**	**17 00 35.5**	**-0.2**
LANU	**Lannavaara**	**1.06**	**24**	*e*P	**Pg**	**17 00 35.0**	**-0.9**
LANU				*e*SB	**Sg**	**17 00 49.8**	**+0.2**
LANU				*e*RG	Rg	17 00 51.0	
LANU	**Lannavaara**	**1.06**	**24**	P	**Pg**	**17 00 35.0**	**-0.9**
LANU				Sb	**Sg**	**17 00 49.8**	**+0.2**
SJUU	**Sjulsmark**	**1.61**	**169**	*e*P	**Pn**	**17 00 44.9**	**-0.2**
SJUU	**Sjulsmark**	**1.61**	**169**	P	**Pn**	**17 00 44.9**	**-0.2**
HEF	**Hetta**	**1.71**	**37**	*e*P	**Pn**	**17 00 46.1**	**-0.4**
	baz=215						
HEF				MSG	**Sn**	**17 01 08.5**	**-0.5**
	comp=Z,4.3nm,0.4s						
HEF				*e*SG	**Sn**	**17 01 08.5**	**-0.5**
HEF	**Hetta**	**1.71**	**37**	P	**Pn**	**17 00 46.1**	**-0.4**
HEF				Sg	**Sn**	**17 01 08.5**	**-0.5**
LILU	**Lilltraesk**	**1.85**	**193**	*e*P	**Pn**	**17 00 49.3**	**+0.9**
LILU	**Lilltraesk**	**1.85**	**193**	P	**Pn**	**17 00 49.3**	**+0.9**
KIF	**Kilpisjarvi**	**1.93**	**359**	*e*PB	**Pb**	**17 00 51.1**	**-0.5**
KIF				MSG	**Sg**	**17 01 18.1**	**+0.7**
	comp=Z,7.9nm,0.4s						
KIF				*e*SG	**Sg**	**17 01 18.1**	**+0.7**
KIF	**Kilpisjarvi**	**1.93**	**359**	Pb	**Pb**	**17 00 51.0**	**-0.5**
KIF				Sg	**Sg**	**17 01 18.1**	**+0.7**
RNF	**Rovaniemi**	**2.09**	**101**	*e*PB	**Pn**	**17 00 52.6**	**+0.8**
RNF				MSG	**Sb**	**17 01 20.8**	**0.0**
	comp=Z,4.3nm,0.4s						
RNF				*e*SG	**Sb**	**17 01 20.8**	**0.0**
SGF	**Sodankyl**	**2.23**	**78**	*e*P	**Pn**	**17 00 54.6**	**+0.9**
	baz=259						
SGF				MSG	**Sb**	**17 01 24.5**	**-0.3**
	comp=Z,4.3nm,0.4s						
SGF				*e*SG	**Sb**	**17 01 24.5**	**-0.3**
SGF	**Sodankyl**	**2.23**	**78**	P	**Pn**	**17 00 54.6**	**+0.9**
SGF				Sg	**Sb**	**17 01 24.5**	**-0.3**
BURU	**Burvik**	**2.52**	**175**	*e*P	**Pn**	**17 00 58.8**	**+1.1**
BURU	**Burvik**	**2.52**	**175**	P	**Pn**	**17 00 58.7**	**+1.1**
SVAU	**Svanoeiden**	**2.65**	**192**	*e*P	**Pn**	**17 01 00.5**	**+1.1**
SVAU	**Svanoeiden**	**2.65**	**192**	P	**Pn**	**17 01 00.5**	**+1.1**
OUL	**Oulu**	**2.87**	**132**	*e*PB	**Pn**	**17 01 05.2**	**+2.8**
	baz=324						
ARCES	**ARCESS Array B**	**3.01**	**33**	Pn	**Pn**	**17 01 04.7**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=210,slow=14,SNR=45						
ARCES				Lg	Lg	17 01 42.0	
	comp=Z,1.0nm,0.3s,baz=214,slow=30,SNR=9.2						
VRF	**Varrio**	**3.44**	**75**	*e*SG	**Sb**	**17 02 01.7**	**+2.1**
VRF				MSG		17 02 01.7	
	comp=Z,2.8nm,0.2s						
KU6	**Riekki**	**3.76**	**102**	*e*P	**Pn**	**17 01 16.2**	**+1.5**
	baz=289						
KU6	**Riekki**	**3.76**	**102**	P	**Pn**	**17 01 16.2**	**+1.5**
VAF	**Ylistaro**	**4.13**	**168**	*e*P	**Pn**	**17 01 20.5**	**+0.8**
VAF				*e*SG	**Sg**	**17 02 25.7**	**-2.3**
VAF				MSG		17 02 25.7	
	comp=Z,1.2nm,0.4s						
VAF	**Ylistaro**	**4.13**	**168**	P	**Pn**	**17 01 20.5**	**+0.8**
FINES	**FINESS Array B**	**6.10**	**156**	Pn	**Pn**	**17 01 48.1**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=348,slow=13,SNR=7.6						
FINES				Sn	**Sn**	**17 02 55.8**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=347,slow=25,SNR=3.5						
NOA	**NORSAR Array B**	**7.38**	**219**	Pn	**Pn**	**17 02 05.5**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=28,slow=12,SNR=2.5						
HFS	**Hagfors**	**7.67**	**208**	Pn	**Pn**	**17 02 08.3**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=26,slow=13,SNR=8.4						

*AUST **08** 17:13:23.1±0.0, 7°67S×128°64E, h108km, Error ellipse: s-maj=1.1km s-min=0.8km az=299.0*
*ISCJB **08** 17:13:24.3±0.6, 7°76S±0°05×128°46E±0°06, h200km, mb3.4/5, Error ellipse: s-maj=8.8km s-min=6.8km az=158.5*
*IDC **08** 17:13:24.6±4.8, 7°72S×128°39E, h179km±56km, mb3.4/5, mb1 3.4/9, mb1mx3.3/21, mbtmp3.4/9, MS2.9/1, Ms1 2.9/1, ms1mx2.5/21, Error ellipse: s-maj=50.5km s-min=21.9km az=36.0*

ISC 08 17:13:25.1±0.8, 7°90S±0°07×128°53E±0°08, h200km, n20, σ1§98/19, mb3.7/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**4.60**	**246**	P	**Pn**	**17 14 33.7**	**-0.9**
	baz=4.8,SNR=8.8						
TLE	**Tual**	**4.74**	**62**	P	**Pn**	**17 14 33.2**	**-3.1**
	baz=4.5,SNR=5.4						
BATI	**Baumata**	**5.33**	**244**	P	**Pn**	**17 14 43.4**	**-0.4**
	9.4nm,0.3s,baz=115,slow=1.3,SNR=16						
BATI				S	**Sn**	**17 15 43.2**	**-2.6**
	6.8nm,0.3s,baz=137,slow=23,SNR=6.0						
BATI				LR	LR	17 16 32.4	
	comp=Z,123nm,19.3s,baz=290,slow=36						
KDU	**Kakadu**	**6.13**	**141**	P	**Pn**	**17 14 56.0**	**+1.8**
	baz=6.3,SNR=170						
FAKI	**Fak Fak**	**6.18**	**37**	P	Pn	17 14 47.6	-7.2
	baz=6.0,SNR=3.2						
SWI	**Sorong**	**7.50**	**21**	P	Pn	17 15 05.5	-6.5
	baz=7.3,SNR=5.8						
KNRA	**Kununurra**	**7.73**	**178**	P	**Pn**	**17 15 17.2**	**+2.3**
	baz=8.0,SNR=24						
WSI	**Waingapu**	**8.33**	**257**	P	**Pn**	**17 15 24.8**	**+2.1**
	baz=8.5,SNR=3.9						
FITZ	**Fitzroy Crossi**	**10.52**	**195**	P	**Pn**	**17 15 53.3**	**+2.2**
	baz=11,SNR=5.0						
FITZ	**Fitzroy Crossi**	**10.52**	**195**	P	**Pn**	**17 15 51.8**	**+0.6**
	0.5nm,0.3s,baz=40,slow=7.3,SNR=20						
FITZ				S	**Sn**	**17 17 46.5**	**-2.2**
	0.5nm,0.3s,baz=131,slow=20,SNR=3.6						
WRA	**Warramunga Arr**	**13.22**	**155**	P	**P**	**17 16 27.8**	**-0.7**
	0.9nm,0.3s,baz=336,slow=13,SNR=45						
WRA				S	**S**	**17 18 51.3**	**-1.7**
	0.5nm,0.3s,baz=348,slow=19,SNR=4.3						
ASAR	**Alice Springs**	**16.50**	**162**	P	**Pn**	**17 17 09.3**	**+3.8**
	0.3nm,0.3s,baz=341,slow=9.2,SNR=28						
ASAR				S	**S**	**17 20 06.8**	**-0.4**
	0.0nm,0.3s,baz=208,slow=26,SNR=2.7						
MEEK	**Meekatharra**	**20.88**	**206**	P	Pn	17 17 59.0	+0.9
	baz=21,SNR=3.2						
MORW	**Morawa**	**24.12**	**208**	P	P	17 18 30.0	+7.3
	baz=24,SNR=3.4						
PMBI	**Palembang**	**24.16**	**281**	P	P	17 18 33.9	+11
	baz=24,SNR=5.6						
SONM	**Songino Array**	**58.85**	**343**	P	**P**	**17 23 02.7**	**-0.1**
	0.1nm,0.3s,baz=180,slow=5.9,SNR=3.9						
PETK	**Petropavlovsk-**	**65.64**	**19**	P	**P**	**17 23 48.6**	**+1.0**
	1.0nm,0.5s,baz=194,slow=4.7,SNR=7.7						
MKAR	**Makanchi Array**	**68.19**	**328**	P	**P**	**17 24 04.9**	**+1.0**
	0.4nm,0.5s,baz=127,slow=6.6,SNR=8.2						
ZALV	**Zalesovo Beam**	**71.75**	**335**	P	**P**	**17 24 24.1**	**-1.3**
	0.7nm,0.5s,baz=131,slow=3.8,SNR=4.4						
KURBB	**Kurchatov Arra**	**72.53**	**329**	P	**P**	**17 24 30.9**	**+0.9**
	0.9nm,0.5s,baz=125,slow=5.6,SNR=11						

*AUST **08** 17:16:31.1, 11°99S×167°98E, h35km*
*IDC **08** 17:16:40.9±0.6, 13°06S×166°44E, h0km, mb4.5/16, mb1 4.6/19, mb1mx4.5/23, mbtmp4.6/19, ML3.7/2, MS4.4/16, Ms1 4.4/16, ms1mx4.2/37, Error ellipse: s-maj=19.4km s-min=13.8km az=94.0*
*NEIC **08** 17:16:42.2±3.7, 13°09S×166°48E, h10km±22km, mb5.2/7, Error ellipse: s-maj=10.3km s-min=8.3km az=213.0*
*ISCJB **08** 17:16:46.1±0.4, 13°13S±0°05×166°26E±0°07, h44km, mb4.7/23, MS4.4/16, Error ellipse: s-maj=9.7km s-min=6.4km az=158.8*
*GCMT **08** 17:16:48.0±0.3, 12°98S×166°19E, h24km, MW5.2, Moment Tensor Solution. s24,c33; s61,c90; Moment tensor: Scale 10^16 Nm; Mrr=7.44±.48; Mθθ=0.69±.29; Mφφ=-6.75±.28; Mrθ=0.54±.45; Mrφ=0.71±.16; Mθφ=-1.97±.33; Best double couple: M0=7.40000×10^16 NP1:φ=171.00000°, δ=53.00000°, λ=87.00000°. NP2:φ=355.00000°, δ=37.00000°, λ=93.00000°. Principal axes: T 7.7300, Plg82.0000°, Azm68.0000°; N -0.6200, Plg2.0000°, Azm173.0000°; P -7.1100, Plg8.0000°, Azm263.0000°; Data Used: II IU G IC CN.*

ISC 08 17:16:47.5±0.5, 13°08S±0°06×166°35E±0°08, h44km, n90, σ1§02/91, mb4.6/23, MS4.5/16, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.25**	**299**	Pn	**Pn**	**17 18 29.9**	**-1.2**
HNR				Sn	**Sn**	**17 19 52.1**	**0.0**
HNR	**Honiara**	**7.25**	**299**	Pn	**Pn**	**17 18 29.9**	**-1.2**
	55nm,0.3s,baz=158,slow=5.9,SNR=40						
HNR				Sn	**Sn**	**17 19 52.1**	**0.0**
	11nm,0.3s,baz=30,slow=20,SNR=3.3						
DZM	**Mont Dzumac**	**8.94**	**179**	*e*Pn	**Pn**	**17 18 55.7**	**+1.4**
	24nm,0.3s						
DZM				*e*LR	LR	17 20 53.6	
	2µm,23.4s						
DZM	**Mont Dzumac**	**8.94**	**179**	Pn	**Pn**	**17 18 52.5**	**-1.8**
DZM				Sn	**Sn**	**17 20 34.0**	**+0.3**
DZM	**Mont Dzumac**	**8.94**	**179**	Pn	**Pn**	**17 18 52.5**	**-1.8**
	1.3nm,0.3s,baz=170,slow=17,SNR=14						
DZM				Sn	**Sn**	**17 20 34.0**	**+0.3**
	0.8nm,0.3s,baz=329,slow=18,SNR=2.4						
MSVF	**Nonsavu**	**12.19**	**114**	P	Pn	17 19 32.7	-6.0
	132nm,1.5s						
EIDS	**Eidsvold**	**18.88**	**227**	*e*P	**Pn**	**17 21 06.7**	**+1.5**
EIDS	**Eidsvold**	**18.88**	**227**	P	Pn	17 21 11.2	+5.9
	baz=21,SNR=5.5						
PMG	**Port Moresby**	**19.17**	**279**	P	**P**	**17 21 07.6**	**0.0**
PMG	**Port Moresby**	**19.17**	**279**	P	**P**	**17 21 07.6**	**0.0**
	0.5nm,0.3s,baz=105,slow=9.6,SNR=3.9						
CTA	**Charters Tower**	**20.47**	**247**	P	**P**	**17 21 22.3**	**+0.5**
CTA	**Charters Tower**	**20.47**	**247**	P	**P**	**17 21 22.3**	**+0.5**
	11nm,1.0s,baz=70,slow=14,SNR=7.4						
CTAO	**Charters Tower**	**20.47**	**247**	*e*P	**P**	**17 21 21.3**	**-0.4**
	13nm,0.9s						
RMQ	**Roma**	**21.22**	**228**	P	**P**	**17 21 32.4**	**+2.6**
	baz=23,SNR=7.6						
COEN	**Coen**	**22.55**	**265**	P	**P**	**17 21 45.0**	**+0.8**
	baz=24,SNR=3.9						
CMSA	**Cobar Meteorol**	**26.42**	**223**	P	**P**	**17 22 23.7**	**+3.5**
	baz=28,SNR=5.8						
URZ	**Urewera**	**26.84**	**161**	LR	LR	17 31 58.3	
	comp=Z,836nm,18.5s,baz=98,slow=34						
STKA	**Stephens Creek**	**29.43**	**226**	P	**P**	**17 22 47.0**	**-0.1**
STKA				PcP	**PcP**	**17 25 51.1**	**-1.1**
STKA	**Stephens Creek**	**29.43**	**226**	P	**P**	**17 22 48.4**	**+1.3**
	baz=31,SNR=5.4						
STKA	**Stephens Creek**	**29.43**	**226**	P	**P**	**17 22 47.0**	**-0.1**
	3.3nm,0.7s,baz=46,slow=7.1,SNR=9.6						
STKA				PcP	**PcP**	**17 25 51.1**	**-1.1**
	6.6nm,0.7s,baz=27,slow=2.1,SNR=8.4						
STKA				LR	LR	17 34 04.2	
	comp=Z,1µm,18.1s,baz=50,slow=35						
RPZ	**Rata Peaks**	**30.80**	**173**	P	**P**	**17 22 59.6**	**+0.6**
RPZ	**Rata Peaks**	**30.80**	**173**	P	**P**	**17 22 59.6**	**+0.6**
	9.4nm,0.8s,baz=148,slow=12,SNR=6.7						
WRAB	**Tennant Creek**	**31.39**	**253**	*e*P	**P**	**17 23 04.6**	**0.0**
WRA	**Warramunga Arr**	**31.40**	**253**	P	**P**	**17 23 03.9**	**-0.8**
WRA				PcP	**PcP**	**17 25 57.5**	**-0.2**
WRA	**Warramunga Arr**	**31.40**	**253**	P	**P**	**17 23 03.9**	**-0.8**
	2.9nm,0.9s,baz=84,slow=8.6,SNR=9.0						
WRA				PcP	**PcP**	**17 25 57.5**	**-0.2**
	3.2nm,1.0s,baz=82,slow=3.2,SNR=8.5						
WRA				LR	LR	17 34 58.0	
	comp=Z,862nm,18.2s,baz=85,slow=35						
AS31	**Alice Springs**	**32.47**	**246**	*e*P	**P**	**17 23 13.3**	**-0.7**
ASAR	**Alice Springs**	**32.47**	**246**	P	**P**	**17 23 13.1**	**-1.0**
ASAR				PcP	**PcP**	**17 26 00.8**	**+0.3**
ASAR	**Alice Springs**	**32.47**	**246**	P	**P**	**17 23 13.1**	**-1.0**
	2.5nm,0.6s,baz=73,slow=9.5,SNR=22						
ASAR				PcP	**PcP**	**17 26 00.8**	**+0.3**
	3.3nm,0.9s,baz=69,slow=3.8,SNR=10						
ASAR				LR	LR	17 35 57.3	
	comp=Z,2µm,18.6s,baz=73,slow=36						
RAR	**Rarotonga**	**33.31**	**109**	LR	LR	17 33 52.1	
	comp=Z,457nm,21.1s,baz=272,slow=31						
KNRA	**Kununurra**	**36.47**	**261**	P	P	17 23 53.6	+4.9
	baz=38,SNR=3.4						
FITZ	**Fitzroy Crossi**	**39.47**	**257**	P	**P**	**17 24 14.4**	**+0.4**
FITZ				PcP	**PcP**	**17 26 21.8**	**+0.5**
FITZ	**Fitzroy Crossi**	**39.47**	**257**	P	**P**	**17 24 14.4**	**+0.4**
	4.1nm,1.0s,baz=97,slow=9.3,SNR=4.1						
FITZ				PcP	**PcP**	**17 26 21.8**	**+0.5**
	2.6nm,0.7s,baz=131,slow=5.5,SNR=3.8						
FITZ				LR	LR	17 40 11.6	
	comp=Z,654nm,19.2s,baz=78,slow=36						
BATI	**Baumata**	**41.87**	**269**	LR	LR	17 38 23.5	
	comp=Z,256nm,21.8s,baz=298,slow=31						
PPT2	**Papeete2**	**42.67**	**102**	*e*S	S	17 31 14.6	+14
	388nm,26.2s						
PPT2				*e*LQ	LQ	17 34 50.4	
	519nm,25.8s						
PPT2				*e*LR	LR	17 36 37.7	
	743nm,27.0s						
PPT	**Papeete**	**42.67**	**102**	LR	LR	17 37 51.2	
	comp=Z,236nm,18.4s,baz=182,slow=30						
TBI	**Tubuai**	**43.05**	**110**	*e*S	S	17 31 17.8	+11
	312nm,25.2s						
TBI				*e*LQ	LQ	17 35 02.7	
	556nm,28.8s						
TBI				*e*LR	LR	17 36 53.4	
	453nm,24.5s						
MBWA	**Marble Bar**	**45.14**	**253**	*e*P	**P**	**17 25 00.0**	**-0.1**
MEEK	**Meekatharra**	**46.62**	**246**	P	**P**	**17 25 10.4**	**-1.4**
	baz=48,SNR=4.7						
MORW	**Morawa**	**49.20**	**243**	P	**P**	**17 25 32.4**	**+0.7**
	baz=51,SNR=5.1						
ASAJ	**Asahikawa**	**60.90**	**341**	P	**P**	**17 26 56.2**	**+0.4**
ASAJ	**Asahikawa**	**60.90**	**341**	P	**P**	**17 26 56.2**	**+0.4**
	14nm,1.0s,baz=121,slow=27,SNR=11						
ASAJ				LR	LR	17 51 02.7	
	comp=Z,477nm,18.6s,baz=180,slow=34						
KSRS	**Korea Array**	**61.88**	**326**	P	**P**	**17 27 04.0**	**+1.4**
	3.2nm,0.8s,baz=140,slow=7.0,SNR=9.6						
KSAR	**Wonju Array Be**	**61.90**	**326**	P	**P**	**17 27 04.0**	**+1.3**
VNDA	**Vanda**	**64.48**	**181**	*e*P	**P**	**17 27 20.0**	**+0.8**
	19nm,1.5s						
VNDA	**Vanda**	**64.48**	**181**	P	**P**	**17 27 19.4**	**+0.3**
	5.6nm,1.1s,baz=356,slow=7.1,SNR=10						
VNDA				LR	LR	17 52 04.7	
	comp=Z,230nm,18.7s,baz=4.6,slow=33						
SBA	**Scott Base**	**64.78**	**180**	*e*P	**P**	**17 27 19.9**	**-1.2**
	40nm,1.5s						
USRK	**Ussuriysk Arra**	**65.02**	**333**	P	**P**	**17 27 22.4**	**-0.7**
	19nm,1.0s,baz=144,slow=5.4,SNR=18						
FX1	**Attu Island--F**	**65.95**	**5**	LR	LR	17 50 24.1	
	comp=Z,272nm,20.4s,baz=236,slow=31						
PETK	**Petropavlovsk-**	**66.34**	**354**	LR	LR	17 50 25.4	
	comp=Z,214nm,21.7s,baz=79,slow=30						
CM31	**Chiang Mai Arr**	**73.47**	**294**	*e*P	**P**	**17 28 16.9**	**+0.9**
	1.5nm,0.7s						
CHTO	**Chiang Mai**	**73.59**	**294**	*e*P	**P**	**17 28 17.3**	**+0.6**
	44nm,1.3s						
QSPA	**South Pole Qui**	**76.94**	**180**	*e*P	**P**	**17 28 35.0**	**-0.3**
	39nm,1.2s						
QSPA	**South Pole Qui**	**76.94**	**180**	LR	LR	18 00 12.1	
	comp=Z,230nm,19.6s,baz=37,slow=34						
ULN	**Ulaanbaatar**	**80.29**	**324**	*e*P	**P**	**17 28 55.0**	**+1.1**
	32nm,1.4s						
SONM	**Songino Array**	**80.65**	**324**	P	**P**	**17 28 56.3**	**+0.4**
SONM	**Songino Array**	**80.65**	**324**	P	**P**	**17 28 56.3**	**+0.4**
	5.8nm,1.0s,baz=129,slow=3.8,SNR=23						
MAW	**Mawson**	**83.07**	**202**	P	**P**	**17 29 08.0**	**-0.2**
MAW	**Mawson**	**83.07**	**202**	P	**P**	**17 29 08.0**	**-0.2**
	1.3nm,0.7s,baz=85,slow=7.5,SNR=3.7						
TLY	**Talaya**	**84.13**	**326**	P	**P**	**17 29 14.2**	**+0.3**
	111nm,1.1s,SNR=5.1						
ILAR	**Eielson Array**	**85.25**	**18**	P	**P**	**17 29 17.2**	**-1.9**
ILAR	**Eielson Array**	**85.25**	**18**	P	**P**	**17 29 17.2**	**-1.9**
	3.3nm,0.8s,baz=235,slow=5.8,SNR=24						
NVAR	**Mina Array Bea**	**86.88**	**50**	P	**P**	**17 29 28.1**	**0.0**
NVAR	**Mina Array Bea**	**86.88**	**50**	P	**P**	**17 29 28.1**	**0.0**
	0.3nm,0.3s,baz=234,slow=7.4,SNR=4.5						
H06E1	**SOCORRO T-PHAS**	**87.42**	**70**	T	T	19 06 18.3	
	SNR=6.7						
PDAR	**Pinedale Array**	**94.49**	**47**	LR	LR	18 11 14.8	
	comp=Z,204nm,18.1s,baz=93,slow=35						
SNAA	**Sanae**	**95.13**	**183**	*e*P	**P**	**17 30 04.9**	**-0.9**
	14nm,1.2s						
MK31	**Makanchi Array**	**95.40**	**317**	*e*P	**P**	**17 30 07.9**	**

JOW	Kunigami	23.02	314	*e*P		P		17 28 15.9	-0.5
HNR	Honiara	24.70	147	P		P		17 28 33.1	+0.8
HNR	Honiara	24.70	147	P		P		17 28 33.1	+0.8
	14nm,0.5s,baz=254,slow=7.2,SNR=2.8								
HNR				LR		LR		17 37 04.5	
	comp=Z,463nm,18.8s,baz=284,slow=34								
JNU	Nakatsue	25.87	328	P		P		17 28 44.3	+1.4
JNU	Nakatsue	25.87	328	P		P		17 28 44.3	+1.4
	10nm,1.0s,baz=101,slow=16,SNR=2.7								
MAT	Matsushiro	25.99	344	P		P		17 28 52.3	+8.4
YULB	Yu-li	26.86	299	*e*P		P		17 28 52.2	+0.3
	42nm,0.9s								
SSLB	Suanglung	27.30	300	*e*P		P		17 28 55.6	-0.2
	99nm,1.2s								
KSRS	Korea Array	30.77	330	P		P		17 29 26.2	-0.2
	1.9nm,0.9s,baz=149,slow=10,SNR=4.4								
KSAR	Wonju Array Be	30.78	330	P		P		17 29 26.2	-0.3
WRAB	Tennant Creek	33.60	201	*e*P		P		17 29 50.7	-0.8
	10nm,0.9s								
WRA	Warramunga Arr	33.61	201	P		P		17 29 51.7	+0.1
WRA	Warramunga Arr	33.61	201	P		P		17 29 51.7	+0.1
	5.2nm,1.0s,baz=23,slow=9.7,SNR=9.3								
USRK	Ussuriysk Arra	34.87	341	LR		LR		17 43 29.6	
	comp=Z,197nm,18.2s,baz=265,slow=35								
FITZ	Fitzroy Crossi	36.09	215	P		P		17 30 14.2	+1.2
FITZ	Fitzroy Crossi	36.09	215	P		P		17 30 14.2	+1.2
	3.3nm,1.0s,baz=22,slow=5.4,SNR=3.4								
AS31	Alice Springs	37.20	200	*e*P		P		17 30 22.1	-0.4
ASAR	Alice Springs	37.21	200	P		P		17 30 22.6	0.0
ASAR				PP		PnPn		17 32 01.6	+13
ASAR	Alice Springs	37.21	200	P		P		17 30 22.6	0.0
	2.1nm,1.1s,baz=27,slow=7.0,SNR=13								
ASAR				PP		PnPn		17 32 01.6	+13
	2.6nm,0.9s,baz=27,slow=8.3,SNR=4.1								
DZM	Mont Dzumac	38.66	150	P		P		17 30 35.1	+0.2
DZM	Mont Dzumac	38.66	150	P		P		17 30 35.1	+0.2
	31nm,0.9s,baz=4.4,slow=8.9,SNR=13								
MBWA	Marble Bar	41.96	219	*e*P		P		17 31 01.3	-0.8
STKA	Stephens Creek	43.49	186	P		P		17 31 13.2	-1.2
STKA	Stephens Creek	43.49	186	P		P		17 31 13.5	-0.9
	1.5nm,0.7s,baz=7.6,slow=15,SNR=2.1								
STKA				LR		LR		17 49 03.2	
	comp=Z,213nm,19.0s,baz=18,slow=36								
ULN	Ulaanbaatar	49.02	325	P		P		17 31 58.8	+0.9
	5.2nm,1.0s								
SONM	Songino Array	49.38	325	P		P		17 32 00.9	+0.3
SONM	Songino Array	49.38	325	P		P		17 32 00.9	+0.3
	0.5nm,0.5s,baz=104,slow=4.6,SNR=3.4								
MK31	Makanchi Array	64.15	316	*e*P		P		17 33 45.3	-0.1
MKAR	Makanchi Array	64.15	316	P		P		17 33 45.6	+0.2
MKAR	Makanchi Array	64.15	316	P		P		17 33 45.6	+0.2
	2.2nm,0.8s,baz=96,slow=8.6,SNR=15								
ZALV	Zalesovo Beam	64.27	325	P		P		17 33 44.2	-1.8
ZALV	Zalesovo Beam	64.27	325	P		P		17 33 44.2	-1.8
	0.7nm,0.6s,baz=118,slow=6.1,SNR=3.8								
KURK	Kurchatov	67.25	320	*e*P		P		17 34 04.1	-1.1
	8.9nm,0.9s								
ILAR	Eielson Array	69.61	25	P		P		17 34 18.4	-1.4
ILAR	Eielson Array	69.61	25	P		P		17 34 18.4	-1.4
	1.8nm,0.6s,baz=247,slow=5.8,SNR=12								
EGAK	Eagle	72.00	25	*e*P		P		17 34 34.3	0.0
	49nm,1.9s								
KKAR	Karatay Array	72.10	312	*e*P		P		17 34 34.7	-0.6
	2.1nm,0.8s								
DAWY	Dawson	72.62	26	*e*P		P		17 34 38.5	+0.4
BRVK	Borovoye	72.65	322	P		P		17 34 38.5	+0.2
	8.1nm,0.9s								
INK	Inuvik	75.53	22	*e*P		P		17 34 53.7	-1.2
DLBC	Dease Lake	76.70	32	*e*P		P		17 35 02.0	+0.1
NVAR	Mina Array Bea	86.77	52	P		P		17 35 56.3	+0.8
NVAR	Mina Array Bea	86.77	52	P		P		17 35 56.3	+0.8
	1.4nm,0.7s,baz=264,slow=6.6,SNR=9.2								
BSMT	Bassoo Peak	87.15	42	*e*P		P		17 35 57.0	-0.2
	3.5nm,0.9s								
ELK	Elko	88.55	49	*e*P		P		17 36 04.0	0.0
	3.2nm,1.0s								
LVC	Limon Verde	144.35	113	*e*PKPdf		PKPbc		17 42 46.9	+0.5
LPAZ	La Paz	145.92	102	PKPbc		PKPdf		17 42 51.4	+0.1
LPAZ	La Paz	145.92	102	PKPbc		PKPdf		17 42 51.4	+0.1
	1.9nm,0.7s,baz=275,slow=4.0,SNR=9.3								
KIC	Kosan Boka	146.44	301	*e*P		PKPab		17 43 00.6	+6.9
	42nm,1.1s								
TIC	Toumodi	146.53	301	*e*P		PKPab		17 43 00.9	+6.8
	6.3nm,0.2s								
LIC	Lamto	146.76	301	*e*P		PKPab		17 42 59.0	+4.1
	22nm,0.9s								
CPUP	Villa Florida	153.04	126	PKPbc		PKPbc		17 43 07.5	-1.3
CPUP	Villa Florida	153.04	126	PKPbc		PKPbc		17 43 07.5	-1.3
	0.6nm,0.5s,baz=282,slow=14,SNR=3.3								

IDC 08 17:35:18.3±1.4, 12°73'S×166°63'E, h0km, mb4.1/7, mb1 4.1/8, mb1mx3.9/18, mbtmp4.0/8, ML3.5/1, Error ellipse: s-maj=45.8km s-min=24.0km az=119.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.33**	**296**	Pn	Pn	17 37 09.4	+2.7
	14nm,0.3s,baz=156,slow=4.8,SNR=14						
HNR				Sn	Sn	17 38 28.7	-2.1
	11nm,0.3s,baz=319,slow=20,SNR=3.0						
DZM	**Mont Dzumac**	**9.29**	**181**	Pn	Pn	17 37 35.7	+2.1
	0.5nm,0.3s,baz=62,slow=15,SNR=5.9						
DZM				Sn	Sn	17 39 26.2	+7.2
	baz=150,slow=20,SNR=2.7						
STKA	**Stephens Creek**	**29.86**	**226**	P	P	17 41 27.7	+0.1
	1.2nm,0.6s,baz=64,slow=16,SNR=4.7						
WRA	**Warramunga Arr**	**31.76**	**253**	P	P	17 41 43.8	-0.8
	0.4nm,0.7s,baz=86,slow=9.6,SNR=5.5						
ASAR	**Alice Springs**	**32.86**	**246**	P	P	17 41 53.2	-0.9
	1.4nm,0.7s,baz=71,slow=9.5,SNR=25						
CMAR	**Chiang Mai Arr**	**73.58**	**294**	P	P	17 46 55.1	+1.2
	baz=141,slow=5.1						
SONM	**Songino Array**	**80.53**	**324**	P	P	17 47 33.5	+1.0
	0.9nm,0.6s,baz=133,slow=5.7,SNR=6.5						
ILAR	**Eielson Array**	**84.83**	**18**	P	P	17 47 54.5	0.0
	0.4nm,0.5s,baz=242,slow=5.6,SNR=6.7						
MKAR	**Makanchi Array**	**95.34**	**317**	P	P	17 48 44.1	-0.4
	1.1nm,0.6s,baz=95,slow=6.5,SNR=15						
ZALV	**Zalesovo Beam**	**95.42**	**324**	P	P	17 48 44.0	-0.6
	0.5nm,0.3s,baz=138,slow=3.2,SNR=5.1						
ARCES	**ARCESS Array B**	**118.18**	**345**	PKP	PKPdf	17 54 04.8	-2.1
	3.8nm,1.0s,baz=70,slow=3.0,SNR=5.6						
TORD	**Torodi Ar. Bea**	**165.31**	**273**	PKPab	PKPab	17 56 23.6	+0.2
	0.5nm,0.5s,baz=83,slow=5.5,SNR=3.7						

*ISCJB **08** 17:47:55.1±0.3, 58°.93N±0°.03×154°.30W±0°.06, h129km±3km, mb3.5/5, Error ellipse: s-maj=5.5km s-min=3.7km az=40.4*
*NEIC **08** 17:47:57.2, 58°.91N×154°.32W, h120km, MG3.5(AEIC), After AEIC.*
*IDC **08** 17:47:58.8±5.0, 59°.39N×154°.39W, h135km±48km, mb3.3/5, mb1 3.6/7, mb1mx3.3/26, mbtmp3.3/7, Error ellipse: s-maj=42.1km s-min=16.6km az=24.0*

ISC 08 17:47:56.1±0.8, 58°.94N±0°.04×154°.31W±0°.05, h122km±6km, n94, o0°74/104, mb3.6/5, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCNL	**McNeil River**	**0.25**	**357**	P	P	17 48 13.3	+0.2
KAPH	**Katmai Pasha**	**0.34**	**183**	P	P	17 48 13.7	+0.1
KAPH				S	S	17 48 26.8	0.0
AUI	**Augustine Isla**	**0.61**	**48**	P	P	17 48 15.5	+0.5
AUI				S	S	17 48 29.8	+0.6
KAWH	**Katmai**	**0.61**	**205**	P	P	17 48 14.8	-0.2
KAKN	**Katmai Knife C**	**0.75**	**212**	P	P	17 48 16.0	-0.2
KAKN				S	S	17 48 31.0	-0.4
PDB	**Pedro Bay**	**0.85**	**4**	P	P	17 48 16.8	-0.1
PDB				S	S	17 48 32.7	-0.1
KABR	**Katmai Barrier**	**0.88**	**203**	P	P	17 48 17.0	-0.2
KELA	**Mount Kelaz**	**0.90**	**237**	P	P	17 48 17.2	-0.2
OPT	**Oil Point**	**0.91**	**37**	P	P	17 48 18.3	+0.8
CAHL	**Cahill**	**1.03**	**211**	P	P	17 48 18.9	+0.2
ILW	**Iliamna West**	**1.28**	**28**	P	P	17 48 21.7	+0.5
KDAK	**Kodiak Island**	**1.47**	**141**	P	P	17 48 23.2	-0.1
KDAK				S	S	17 48 43.5	-0.5
HOM	**Homer**	**1.55**	**61**	P	P	17 48 24.9	+0.8
PLK3	**Peulik 3**	**1.62**	**220**	P	P	17 48 25.7	+0.6
RED	**Redoubt Volcan**	**1.68**	**27**	P	P	17 48 26.3	+0.5
CNPM	**China Poot**	**1.69**	**68**	P	P	17 48 26.1	+0.3
CNPM				S	S	17 48 48.4	-0.1
RSO	**Redoubt South**	**1.72**	**27**	*e*Pn	Pn	17 48 26.8	+0.4
RDWB	**Redoubt West**	**1.73**	**25**	P	Pn	17 48 26.8	+0.4
RDWB				S	Sn	17 48 49.7	+0.2
NCT	**North Crescent**	**1.77**	**23**	P	Pn	17 48 27.4	+0.5
OHAK	**Old Harbor**	**1.80**	**162**	P	Pn	17 48 26.6	-0.6
OHAK				S	Sn	17 48 49.6	-1.3
DFR	**Drift River**	**1.85**	**26**	P	Pn	17 48 28.5	+0.7
RDT	**Redoubt**	**1.90**	**30**	P	Pn	17 48 29.0	+0.5
SVW2	**Sparrevohn**	**2.26**	**344**	P	Pn	17 48 33.0	+0.2
SVW2				S	Sn	17 49 01.0	0.0
CKL	**Chakachamna La**	**2.47**	**23**	P	Pn	17 48 36.2	+0.6
SPU	**Mount Spurr**	**2.52**	**26**	P	Pn	17 48 36.4	+0.3
BGL	**Barrier Glacie**	**2.52**	**22**	P	Pn	17 48 37.0	+0.7
SLKM	**Skilak Lake**	**2.60**	**51**	P	Pn	17 48 37.7	+0.5
SEW	**Seward**	**2.74**	**63**	P	Pn	17 48 39.2	+0.2
SEW				S	Sn	17 49 10.0	-2.0
STLK	**Strandline Lak**	**2.85**	**25**	P	Pn	17 48 41.3	+0.8
SUA	**Susitna One**	**3.10**	**34**	P	Pn	17 48 44.2	+0.4
PTE	**Portage**	**3.29**	**52**	P	Pn	17 48 46.0	-0.1
SKT	**Skwentna**	**3.35**	**23**	P	Pn	17 48 47.3	+0.3
PWL	**Port Wells**	**3.58**	**55**	P	Pn	17 48 49.4	-0.5
PMR	**Palmer**	**3.71**	**42**	P	Pn	17 48 51.5	-0.2
VNHG	**Veniaminof 1**	**3.77**	**226**	P	Pn	17 48 53.6	+1.0
PPLA	**Purkeypile**	**4.11**	**14**	P	Pn	17 48 58.2	+1.1
GLI	**Glacier Island**	**4.12**	**59**	P	Pn	17 48 56.6	-0.6
MID	**Middleton Isla**	**4.13**	**80**	P	Pn	17 48 57.4	+0.1
FID	**Port Fidalgo**	**4.35**	**62**	P	Pn	17 48 59.3	-0.9
SCM	**Sheep Creek Mo**	**4.52**	**47**	P	Pn	17 49 02.4	-0.2
VLZ	**Valdez**	**4.57**	**58**	P	Pn	17 49 03.4	+0.3
EYAK	**Cordova Ski Ar**	**4.62**	**66**	P	Pn	17 49 03.5	-0.3
DIV	**Divide**	**4.81**	**59**	P	Pn	17 49 06.4	-0.1
SGAM	**Sherman Glacie**	**4.87**	**67**	P	Pn	17 49 07.0	-0.1
KLU	**Klutina**	**4.91**	**55**	P	Pn	17 49 07.2	-0.6
KTH	**Kantishna Hill**	**4.91**	**18**	P	Pn	17 49 07.6	-0.2
SDPT	**Sand Point**	**4.92**	**226**	P	Pn	17 49 07.2	-0.6
TRF	**Thorofare Moun**	**4.93**	**22**	P	Pn	17 49 08.6	+0.4
RAGM	**Ragged Mountai**	**5.10**	**69**	P	Pn	17 49 10.4	+0.1
GOAT	**Goat Mountain**	**5.12**	**67**	P	Pn	17 49 10.7	+0.1
RND	**Reindeer**	**5.20**	**28**	P	Pn	17 49 10.9	-0.8
BMRM	**Bremner River**	**5.29**	**63**	P	Pn	17 49 12.6	-0.2
DHY	**Denali Highway**	**5.35**	**36**	P	Pn	17 49 12.8	-1.0
NICHA	**Nichawak Mount**	**5.42**	**72**	P	Pn	17 49 15.0	+0.5
MCK	**McKinley**	**5.46**	**26**	P	Pn	17 49 14.9	-0.2
BERG	**Berg Lake**	**5.57**	**70**	P	Pn	17 49 16.5	-0.1
HARP	**HAARP**	**5.69**	**48**	P	Pn	17 49 18.1	-0.1
BGLC	**Bering Glacier**	**5.74**	**73**	P	Pn	17 49 19.8	+1.0
GRIN	**Grindle Hills**	**5.74**	**72**	P	Pn	17 49 19.4	+0.4
DTNA	**Dutton South F**	**5.76**	**232**	P	Pn	17 49 19.3	+0.1
DT1	**Dutton Round H**	**5.80**	**232**	P	Pn	17 49 19.7	-0.1
KHIT	**Khitrov Hills**	**5.80**	**70**	P	Pn	17 49 19.7	-0.1
GLB	**Gilahina Butte**	**5.81**	**60**	P	Pn	17 49 20.1	+0.2
DRIA	**Deer Island**	**5.90**	**231**	P	Pn	17 49 20.8	-0.2
VRDI	**Verde Repeater**	**5.90**	**62**	P	Pn	17 49 21.2	0.0
PAX	**Paxson**	**5.91**	**43**	P	Pn	17 49 21.9	+0.7
KULT	**Kultieth River**	**6.03**	**72**	P	Pn	17 49 23.4	+0.5
MCARA	**McCarthy VSAT**	**6.15**	**62**	P	Pn	17 49 24.1	-0.2
BARK	**Barkley Ridge**	**6.17**	**71**	P	Pn	17 49 25.2	+0.5
ISLE	**Juniper Island**	**6.27**	**69**	P	Pn	17 49 26.3	+0.1
WRH	**Wood River Hil**	**6.29**	**25**	P	Pn	17 49 25.3	-1.0
KIAG	**Kiagna River**	**6.33**	**67**	P	Pn	17 49 27.0	0.0
PTPK	**Patty Peak**	**6.34**	**64**	P	Pn	17 49 27.8	+0.6
BALM	**Baldy**	**6.36**	**66**	P	Pn	17 49 27.6	+0.2
BAGL	**Bagley Icefiel**	**6.38**	**71**	P	Pn	17 49 28.3	+0.9
MESA	**MESA**	**6.41**	**74**	P	Pn	17 49 28.3	+0.3
CCB	**Clear Creek Bu**	**6.50**	**26**	P	Pn	17 49 27.7	-1.4
GRNC	**Granite Creek**	**6.58**	**69**	P	Pn	17 49 30.7	+0.3
BARN	**Barnard Glacie**	**6.69**	**66**	P	Pn	17 49 32.0	+0.1
RKAV	**Rock Avalanche**	**6.72**	**73**	P	Pn	17 49 33.3	+1.1
ILAR	**Eielson Array**	**6.82**	**28**	P	Pn	17 49 31.9	-1.6
	0.6nm,0.3s,baz=217,slow=14,SNR=22						
ILAR				S	Sn	17 50 42.4	-7.2
	2.0nm,0.3s,baz=215,slow=17,SNR=11						
IL1	**Eielson Array**	**6.82**	**28**	P	Pn	17 49 32.2	-1.2
TABL	**Table Mountain**	**6.83**	**72**	P	Pn	17 49 34.5	+0.7
SAMH	**Samovar Hills**	**6.99**	**74**	P	Pn	17 49 36.7	+0.9
BCA3	**Beaver Creek A**	**7.36**	**50**	P	Pn	17 49 40.2	-0.5
HYT	**Haines Junctio**	**8.66**	**70**	*e*P	Pn	17 49 59.1	+0.7
DAWY	**Dawson**	**8.78**	**48**	*e*P	Pn	17 50 00.1	+0.2
DLBC	**Dease Lake**	**12.62**	**82**	*e*P	Pn	17 50 50.4	-0.8
DLBC	**Dease Lake**	**12.62**	**82**	P	P	17 50 55.1	-2.5
	1.8nm,0.3s,baz=287,slow=5.9,SNR=27						
PETK	**Petropavlovsk-**	**26.95**	**279**	P	P	17 53 25.1	-0.6
	1.1nm,0.6s,baz=72,slow=14,SNR=6.7						
PDAR	**Pinedale Array**	**31.83**	**101**	P	P	17 54 11.5	+2.3
	0.6nm,0.5s,baz=309,slow=4.3,SNR=5.5						
TXAR	**Lajitas Array**	**45.26**	**108**	P	P	17 56 03.6	+2.4
	0.2nm,0.4s,baz=334,slow=6.0,SNR=2.5						
SONM	**Songino Array**	**54.87**	**306**	P	P	17 57 14.0	+0.6
	1.1nm,0.5s,baz=30,slow=6.8,SNR=8.2						
MKAR	**Makanchi Array**	**64.84**	**321**	P	P	17 58 19.8	-1.7
	0.2nm,0.5s,baz=23,slow=6.5,SNR=3.6						

*IDC **08** 17:54:56.1±0.5, 13°.03S×166°.14E, h0km, mb4.7/20, mb1 4.7/23, mb1mx4.7/27, mbtmp4.7/23, ML3.5/2, MS3.9/3, Ms1 3.9/3, ms1mx3.4/38, Error ellipse: s-maj=18.4km s-min=12.6km az=92.0*
*ISCJB **08** 17:54:57.7±0.3, 13°.04S±0°.05×166°.14E±0°.06, h20km, mb4.8/40, MS4.4/6, Error ellipse: s-maj=8.2km s-min=6.8km az=164.1*
*NEIC **08** 17:55:01.1±0.3, 13°.04S×166°.18E, h35km, mb4.8/16, Error ellipse: s-maj=8.6km s-min=8.3km az=116.0*
*BJI **08** 17:55:01.7, 12°.71S×166°.09E, h35km, mb5.2/25, mb4.9/39, Ms5.2/16, Ms7 4.9/11*
*DJA **08** 17:55:06.8±6.5, 13°S±20°×16°6E±3°6, h122km±51km, M4.6/8, mB5.2/1, mb4.6/8, Mw(mB)4.6/1*
*AUST **08** 17:55:08.2±2.3, 12°.86S×165°.71E, h70km, Error ellipse: s-maj=2.1km s-min=1.5km az=34.0*

ISC 08 17:55:00.3±0.4, 13°.13S±0°.05×166°.10E±0°.06, h20km, n160, σ1955/181, mb4.9/40, MS4.3/6, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.06**	**301**	Pn	Pn	17 56 41.3	-1.3
HNR				Sn	Sn	17 58 00.2	-2.1
HNR	**Honiara**	**7.06**	**301**	Pn	Pn	17 56 41.3	-1.3
	36nm,0.3s,baz=319,slow=0.7,SNR=53						
HNR				Sn	Sn	17 58 00.2	-2.1
	baz=30,slow=22,SNR=2.1						
DZM	**Mont Dzumac**	**8.90**	**178**	*e*Pn	Pn	17 57 11.8	+3.8
	155nm,1.2s						
DZM				*e*LR	LR	17 59 18.0	
	643nm,27.2s						
DZM	**Mont Dzumac**	**8.90**	**178**	Pn	Pn	17 57 08.7	+0.7
DZM				Sn	Sn	17 59 03.0	+15
DZM	**Mont Dzumac**	**8.90**	**178**	Pn	Pn	17 57 08.7	+0.7
	0.8nm,0.3s,baz=348,slow=20,SNR=9.4						
DZM				Sn	Sn	17 59 03.0	+15
	0.6nm,0.3s,baz=108,slow=22,SNR=2.2						
MSVF	**Nonsavu**	**12.40**	**113**	P	Pn	17 57 54.4	-1.5
	41nm,1.3s						
EIDS	**Eidsvold**	**18.66**	**227**	*e*P	Pn	17 59 19.7	+2.1
	64nm,1.3s						
EIDS	**Eidsvold**	**18.66**	**227**	P	Pn	17 59 19.7	+2.1
	baz=19,SNR=4.8						
PMG	**Port Moresby**	**18.93**	**279**	P	P	17 59 20.6	+0.4
	47nm,1.3s						
PMG	**Port Moresby**	**18.93**	**279**	*e*P	P	17 59 20.3	0.0
	26nm,1.0s						
PMG	**Port Moresby**	**18.93**	**279**	P	P	17 59 17.4	-2.8
	0.4nm,0.3s,baz=89,slow=6.1,SNR=5.5						
PMG				LR	LR	18 05 11.1	
	comp=Z,235nm,18.8s,baz=113,slow=32						
CTA	**Charters Tower**	**20.22**	**247**	P	P	17 59 33.3	-1.1
CTA	**Charters Tower**	**20.22**	**247**	P	P	17 59 33.3	-1.1
	27nm,1.1s,baz=74,slow=13,SNR=13						
CTAO	**Charters Tower**	**20.22**	**247**	*e*P	P	17 59 35.6	+1.3
	25nm,0.8s						
RMQ	**Roma**	**21.01**	**228**	P	P	17 59 44.8	+2.0
	baz=21,SNR=28						
MANU	**Manus Island**	**21.56**	**299**	P	P	17 59 48.4	-0.4
	baz=21,SNR=3.6						
COEN	**Coen**	**22.30**	**265**	*e*P	P	17 59 56.7	-0.1
	376nm,1.4s						
COEN	**Coen**	**22.30**	**265**	P	P	17 59 57.2	+0.4
	baz=22,SNR=6.3						
QLP	**Quilpie**	**24.48**	**234**	P	P	18 00 19.3	+1.0
	baz=24,SNR=14						
STKA	**Stephens Creek**	**29.22**	**226**	*e*P	P	18 01 00.3	-0.6
	3.7nm,0.9s						
STKA				PcP	PcP	18 04 07.5	-0.4
STKA	**Stephens Creek**	**29.22**	**226**	P	P	18 01 00.2	-0.6
	12nm,0.8s,baz=34,slow=8.1,SNR=19						
STKA				PcP	PcP	18 04 07.5	-0.4
	3.8nm,1.1s,baz=76,slow=4.2,SNR=3.1						
STKA				LR	LR	18 11 10.9	
	comp=Z,230nm,21.1s,baz=24,slow=33						
TOO	**Toolangi**	**30.51**	**213**	P	P	18 01 13.6	+1.4
	baz=31,SNR=4.6						
RPZ	**Rata Peaks**	**30.78**	**173**	P	P	18 01 14.9	+0.4
RPZ	**Rata Peaks**	**30.78**	**173**	P	P	18 01 14.9	+0.4
	30nm,0.7s,baz=152,slow=3.6,SNR=15						
WRAB	**Tennant Creek**	**31.14**	**253**	*e*P	P	18 01 16.8	-1.3
	18nm,1.4s						
WRA	**Warramunga Arr**	**31.15**	**253**	P	P	18 01 16.8	-1.3
WRA				PcP	PcP	18 04 13.0	-0.2
WRA	**Warramunga Arr**	**31.15**	**253**	P	P	18 01 16.8	-1.3
	5.0nm,0.8s,baz=83,slow=8.9,SNR=23						
WRA				PcP	PcP	18 04 13.0	-0.2
	1.9nm,0.8s,baz=85,slow=3.3,SNR=5.4						
AS31	**Alice Springs**	**32.22**	**246**	*e*P	P	18 01 26.3	-1.3
ASAR	**Alice Springs**	**32.22**	**246**	P	P	18 01 26.2	-1.3
ASAR				PcP	PcP	18 04 14.8	-1.2
ASAR				ScP	ScP	18 08 01.6	+2.7
ASAR	**Alice Springs**	**32.22**	**246**	P	P	18 01 26.2	-1.3
	34nm,0.8s,baz=72,slow=9.5,SNR=297						
ASAR				PcP	PcP	18 04 14.8	-1.2
	2.0nm,0.8s,baz=82,slow=2.4,SNR=5.9						
ASAR				ScP	ScP	18 08 01.6	+2.7
	1.0nm,0.9s,baz=99,slow=2.9,SNR=4.9						
ASAR				LR	LR	18 13 39.9	
	comp=Z,286nm,18.1s,baz=242,slow=35						
KDU	**Kakadu**	**32.76**	**267**	P	P	18 01 31.7	-0.6
	baz=32,SNR=8.9						
BBOO	**Buckleboo**	**33.70**	**229**	P	P	18 01 41.0	+0.7
	baz=34,SNR=8.5						
KNRA	**Kununurra**	**36.22**	**261**	P	P	18 02 01.5	-0.7
	baz=36,SNR=11						
FITZ	**Fitzroy Crossi**	**39.22**	**257**	*e*P	P	18 02 25.3	-2.3
	28nm,1.3s						
FITZ	**Fitzroy Crossi**	**39.22**	**257**	P	P	18 02 26.7	-0.9
	baz=39,SNR=6.9						
PPT2	**Papeete2**	**42.90**	**102**	*e*LR	LR	18 15 08.2	
	208nm,25.0s						
MEEK	**Meekatharra**	**46.38**	**246**	P	P	18 03 25.5	-0.1
	baz=46,SNR=10						
KLBR	**Kellerberrin**	**47.91**	**239**	P	P	18 03 37.3	-0.3
	baz=48,SNR=8.0						
NWAO	**Narrogin (SRO)**	**48.62**	**238**	P	P	18 03 41.5	-1.4
NWAO	**Narrogin (SRO)**	**48.62**	**238**	P	P	18 03 41.5	-1.4
	27nm,0.9s,baz=81,slow=8.1,SNR=9.0						
MORW	**Morawa**	**48.96**	**243**	P	P	18 03 45.8	+0.1
	baz=49,SNR=6.3						
JNU	**Nakatsue**	**56.96**	**325**	P	P	18 04 43.5	-1.1
JNU	**Nakatsue**	**56.96**	**325**	P	P	18 04 43.5	-1.1
	14nm,0.8s,baz=116,slow=4.9,SNR=4.9						
KSM	**Kuching**	**57.19**	**280**	*e*P	P	18 04 42.5	-4.1
	20nm,1.0s						
KSM	**Kuching**	**57.19**	**280**	P	P	18 04 46.3	-0.2
	baz=57,SNR=3.4						
LEM	**Lembang**	**57.83**	**270**	P	P	18 04 43.9	-7.4
	baz=57,SNR=3.1						
ASAJ	**Asahikawa**	**60.86**	**341**	P	P	18 05 11.2	-0.1
ASAJ	**Asahikawa**	**60.86**	**341**	P	P	18 05 11.2	-0.1
	11nm,0.6s,baz=276,slow=7.0,SNR=18						
KSRS	**Korea Array**	**61.78**	**326**	P	P	18 05 15.4	-2.3
	4.1nm,1.0s,baz=149,slow=7.0,SNR=7.3						
KSAR	**Wonju Array Be**	**61.79**	**326**	P	P	18 05 15.4	-2.4
QIZ	**Qiongzhong**	**63.97**	**299**	P	P	18 05 32.6	-0.1
QIZ				S	S	18 14 07.7	-0.4
QIZ				AMB	AMB		
	comp=Z,10.0nm,1.0s						
QIZ				AMB	AMB		
	comp=Z,150nm,6.5s						
VNDA	**Vanda**	**64.43**	**181**	*e*P	P	18 05 33.9	-0.9
	6.6nm,1.3s						
VNDA	**Vanda**	**64.43**	**181**	P	P	18 05 35.0	+0.2
	1.3nm,0.9s,baz=10,slow=7.1,SNR=5.5						
USRK	**Ussuriysk Arra**	**64.95**	**334**	P	P

CD2				S	**SKiKP**	**18 16 06.0**	**+3.1**
CD2				AMB	AMB		
	comp=Z,20nm,0.8s						
CD2				AMB	AMB		
	comp=Z,240nm,7.4s						
CD2				LR	LR		
	comp=N,500nm,6.5s						
CD2				LR	LR		
	comp=Z,340nm,7.7s						
QSPA	**South Pole Qui**	**76.89**	**180**	*eP*	**P**	**18 06 50.6**	**-0.4**
	19nm,1.2s						
QSPA	**South Pole Qui**	**76.89**	**180**	P	**P**	**18 06 50.8**	**-0.3**
	12nm,1.0s,baz=32,slow=1.0,SNR=28						
ULN	**Ulaanbaatar**	**80.18**	**324**	*eP*	**P**	**18 07 09.4**	**0.0**
	13nm,0.9s						
SONM	**Songino Array**	**80.54**	**324**	P	**P**	**18 07 10.5**	**-0.9**
SONM	**Songino Array**	**80.54**	**324**	P	**P**	**18 07 10.5**	**-0.9**
	4.1nm,1.1s,baz=129,slow=4.1,SNR=17						
GTA	**Gaotai**	**80.74**	**314**	P	**P**	**18 07 12.5**	**-0.1**
GTA				pP	**PcP**	**18 07 20.8**	**+1.5**
GTA				sP	**sP**	**18 07 24.6**	**+3.0**
GTA				S	**S**	**18 17 17.8**	**-1.9**
GTA				sS	**SKSac**	**18 17 31.1**	**+0.8**
GTA				AMB	AMB		
	comp=Z,14nm,1.6s						
GTA				AMB	AMB		
	comp=Z,120nm,5.5s						
GTA				LR	LR		
	comp=N,120nm,19.2s						
GTA				LR	LR		
	comp=E,160nm,18.5s						
MAW	**Mawson**	**82.93**	**202**	*eP*	**P**	**18 07 23.4**	**-0.1**
	0.7nm,0.3s						
MAW	**Mawson**	**82.93**	**202**	P	**P**	**18 07 23.3**	**-0.2**
	1.3nm,0.7s,baz=131,slow=6.2,SNR=2.7						
LSA	**Lhasa**	**83.75**	**302**	P	P	18 07 26.2	-2.8
ILAR	**Eielson Array**	**85.37**	**18**	P	P	18 07 32.5	-3.3
ILAR	**Eielson Array**	**85.37**	**18**	P	P	18 07 32.5	-3.3
	3.4nm,1.0s,baz=231,slow=6.1,SNR=15						
NVAR	**Mina Array Bea**	**87.10**	**50**	P	P	18 07 42.7	-2.6
NVAR	**Mina Array Bea**	**87.10**	**50**	P	P	18 07 42.7	-2.6
	0.3nm,0.4s,baz=232,slow=8.9,SNR=2.3						
EGAK	**Eagle**	**87.20**	**20**	*eP*	P	18 07 40.9	-3.9
	7.3nm,1.0s						
WMQ	**Urumqi**	**90.80**	**315**	*eP*	**P**	**18 08 02.2**	**-0.2**
SNAA	**Sanae**	**95.07**	**183**	*eP*	**P**	**18 08 20.1**	**-1.6**
	9.3nm,1.4s						
MK31	**Makanchi Array**	**95.26**	**317**	*eP*	**P**	**18 08 22.1**	**-0.8**
MK31				*e*		18 08 32.7	
MKAR	**Makanchi Array**	**95.26**	**317**	P	**P**	**18 08 22.2**	**-0.6**
MKAR				PP	**PP**	**18 12 10.1**	**-3.2**
MKAR	**Makanchi Array**	**95.26**	**317**	P	**P**	**18 08 22.2**	**-0.6**
	3.0nm,0.8s,baz=101,slow=5.5,SNR=30						
MKAR				PP	**PP**	**18 12 10.1**	**-3.2**
	1.2nm,1.1s,baz=94,slow=10,SNR=4.9						
ZAA0	**Zalesovo Array**	**95.43**	**324**	*eP*	**P**	**18 08 21.4**	**-2.0**
ZAA0				*e*		18 08 32.4	
ZALV	**Zalesovo Beam**	**95.43**	**324**	P	**P**	**18 08 21.7**	**-1.7**
ZALV	**Zalesovo Beam**	**95.43**	**324**	P	**P**	**18 08 21.7**	**-1.7**
	2.7nm,0.8s,baz=117,slow=5.2,SNR=14						
KSH	**Kashi**	**98.32**	**309**	P	Pdif	18 08 39.0	+2.0
KSH				pP	pP	18 08 47.5	+3.8
KSH				sP	sP	18 08 51.9	+5.8
ARCES	**ARCESS Array B**	**118.42**	**345**	PKP	**PKPdf**	**18 13 43.0**	**-3.0**
ARCES	**ARCESS Array B**	**118.42**	**345**	PKP	**PKPdf**	**18 13 43.0**	**-3.0**
	5.0nm,1.0s,baz=54,slow=3.2,SNR=8.3						
FINES	**FINESS Array B**	**123.82**	**338**	PKP	**PKPdf**	**18 13 53.5**	**-3.0**
FINES	**FINESS Array B**	**123.82**	**338**	PKP	**PKPdf**	**18 13 53.5**	**-3.0**
	3.4nm,0.9s,baz=112,slow=2.1,SNR=5.2						
AKASG	**Malin Array Be**	**128.78**	**326**	PKP	**PKPdf**	**18 14 05.1**	**-1.2**
AKASG	**Malin Array Be**	**128.78**	**326**	PKP	**PKPdf**	**18 14 05.1**	**-1.2**
	1.2nm,0.8s,baz=49,slow=1.8,SNR=8.9						
NOA	**NORSAR Array B**	**128.79**	**345**	PKP	**PKPdf**	**18 14 04.6**	**-1.6**
NOA	**NORSAR Array B**	**128.79**	**345**	PKP	**PKPdf**	**18 14 04.6**	**-1.6**
	0.7nm,0.7s,baz=30,slow=2.0,SNR=2.7						
BRTR	**Keskin Array B**	**130.60**	**311**	PKP	**PKPdf**	**18 14 08.8**	**-1.6**
BRTR	**Keskin Array B**	**130.60**	**311**	PKP	**PKPdf**	**18 14 08.8**	**-1.6**
	0.4nm,0.8s,baz=0.0,slow=2.5,SNR=3.7						
STHS	**Stebnicka Huta**	**133.72**	**329**	*e*PKP	**PKPdf**	**18 14 15.7**	**-0.1**
CLL	**Collm**	**136.13**	**336**	*e*(PKiKP)	**PKiKP**	**18 14 24.0**	**+2.2**
CLL				*ep*PKIKP		18 14 31.0	
GERES	**GERESS Array B**	**137.71**	**333**	PKP	**PKPdf**	**18 14 22.9**	**-0.4**
GERES	**GERESS Array B**	**137.71**	**333**	PKP	**PKPdf**	**18 14 22.9**	**-0.4**
	1.2nm,0.8s,baz=64,slow=3.1,SNR=9.2						
SOKA	**Soboth**	**138.65**	**330**	*i*PKiKP	**PKPdf**	**18 14 24.9**	**-0.2**
	6.7nm,1.6s						
FELD	**Feldberg im Sc**	**140.84**	**337**	PKP	**PKPdf**	**18 14 27.9**	**-1.2**
DAVOX	**Davos/Dischmat**	**140.95**	**334**	PKP	**PKPdf**	**18 14 32.4**	**+3.0**
DAVOX	**Davos/Dischmat**	**140.95**	**334**	PKP	**PKPdf**	**18 14 32.4**	**+3.0**
	4.4nm,0.6s,baz=345,slow=6.3,SNR=5.7						
CEL	**Celeste**	**143.58**	**319**	*e*PKPdf	PKPab	18 14 30.7	0.0
BNI	**Bardonecchia**	**143.67**	**335**	*e*PKPdf	PKPab	18 14 31.7	+0.8
PLDF	**La Plantade**	**144.06**	**339**	PKP	**PKPab**	**18 14 32.6**	**+0.3**
AGO	**Saint Agoulin**	**144.16**	**340**	PKP	**PKPab**	**18 14 32.8**	**+0.2**
SSB	**Saint Sauveur**	**144.32**	**337**	PKP	**PKPab**	**18 14 33.6**	**+0.4**
SSB	**Saint Sauveur**	**144.32**	**337**	*e*PKPdf	**PKPab**	**18 14 33.4**	**+0.2**
SSB				*e*		18 14 44.2	
PYM	**Petit Puy Mans**	**144.46**	**339**	PKP	**PKPab**	**18 14 33.9**	**+0.1**
OG25	**Le Caire**	**144.48**	**335**	PKP	**PKPab**	**18 14 33.7**	**-0.2**
LBL	**Lubilhac**	**144.83**	**339**	PKP	**PKPab**	**18 14 35.1**	**-0.1**
FRNF	**Fournols**	**144.93**	**340**	PKP	**PKPab**	**18 14 35.9**	**+0.4**
VSL	**Villasalto**	**146.66**	**326**	*e*PKPdf	**PKPdf**	**18 14 38.4**	**-1.0**
VSL				*e*		18 14 51.0	
LRDF	**Laroque-de-Fa**	**147.07**	**338**	PKP	**PKPdf**	**18 14 41.5**	**+1.5**
SJAF	**Saint Jean de**	**147.33**	**337**	PKP	**PKPdf**	**18 14 42.1**	**+1.6**
CARF	**Carcanieres**	**147.42**	**338**	PKP	**PKPdf**	**18 14 42.6**	**+1.9**
MLS	**Moulis**	**147.57**	**339**	PKP	**PKPdf**	**18 14 43.0**	**+2.2**
VALF	**Valcebollere**	**147.73**	**338**	PKP	**PKPdf**	**18 14 43.5**	**+2.2**
RESF	**Ens**	**147.96**	**340**	PKP	**PKPbc**	**18 14 44.9**	**+0.2**
VIEF	**Viey**	**148.00**	**340**	PKP	**PKPbc**	**18 14 44.6**	**-0.1**
LARF	**Larrau**	**148.17**	**342**	PKP	**PKPbc**	**18 14 45.1**	**0.0**
KEST	**Kesra**	**149.26**	**321**	PKPbc	**PKPbc**	**18 14 47.8**	**-0.4**
KEST				*e*PKPdf	**PKiKP**	**18 14 48.0**	**-1.4**
KEST				*e*		18 14 58.6	
KEST	**Kesra**	**149.26**	**321**	PKPbc	**PKPbc**	**18 14 47.8**	**-0.4**
	6.0nm,0.9s,baz=312,slow=2.2,SNR=18						
CMAH	**Djebel Manchou**	**149.78**	**324**	P	**PKPdf**	**18 14 44.0**	**-0.7**
ABSA	**Djebel Ababsia**	**150.00**	**324**	P	**PKPbc**	**18 14 49.0**	**-1.0**
CKFL	**Kef-Lekhel**	**150.34**	**325**	P	**PKPbc**	**18 14 50.6**	**-0.3**
CASM	**Ain Smara**	**150.56**	**325**	P	**PKPbc**	**18 14 51.0**	**-0.3**
DFRA	**Djebel Bou Aff**	**150.69**	**326**	P	**PKPbc**	**18 14 52.6**	**+0.9**
PBRG	**Braganca**	**150.75**	**349**	*e*PKPbc	**PKPbc**	**18 14 51.0**	**-0.6**
SET	**Setif**	**151.21**	**326**	P	**PKPbc**	**18 14 53.0**	**+0.1**
POLO	**Lamas de Olo**	**151.36**	**350**	*e*PKPbc	**PKPbc**	**18 14 52.5**	**-0.6**
MVO	**Moncorvo**	**151.43**	**349**	*e*PKPbc	**PKPbc**	**18 14 53.0**	**-0.2**
PVRL	**Vila Real**	**151.44**	**350**	*e*PKPbc	**PKPbc**	**18 14 52.7**	**-0.5**
PVIS	**Viseu**	**152.01**	**350**	*e*PKPbc	**PKPbc**	**18 14 53.2**	**-1.3**
ESDC	**Sonseca Array**	**152.14**	**343**	PKPbc	**PKPbc**	**18 14 53.7**	**-1.2**
ESDC	**Sonseca Array**	**152.14**	**343**	PKPbc	**PKPbc**	**18 14 53.7**	**-1.2**
	2.3nm,0.8s,baz=8.7,slow=2.4,SNR=14						
MTE	**Manteigas**	**152.26**	**350**	*e*PKPbc	**PKPbc**	**18 14 54.3**	**-0.8**
PAB	**San Pablo**	**152.37**	**344**	*e*PKPbc	**PKPbc**	**18 14 55.8**	**+0.4**
PCAS	**Casmilo, Conde**	**152.76**	**351**	*e*PKPbc	**PKPab**	**18 15 06.4**	**-0.4**
PCBR	**Castelo Branco**	**152.79**	**349**	*e*PKPbc	**PKPbc**	**18 14 55.0**	**-1.2**
PMRV	**Marv??o**	**153.18**	**349**	*e*PKPbc	**PKPbc**	**18 14 56.1**	**-1.0**
PBEJ	**Beja**	**154.62**	**349**	*e*PKPab	**PKPab**	**18 15 14.9**	**+0.1**
PNCL	**Nicolau / Gran**	**154.66**	**350**	*e*PKPab	**PKPab**	**18 15 15.1**	**+0.2**
MDT	**Midelt**	**158.64**	**338**	PKPab	**PKPab**	**18 15 32.4**	**0.0**
	2.0nm,0.8s,baz=22,slow=2.6,SNR=5.0						
TORD	**Torodi Ar. Bea**	**164.81**	**272**	PKP	**PKPdf**	**18 15 02.9**	**-1.0**
TORD				PKPab	**PKPab**	**18 15 58.9**	**-1.0**
TORD	**Torodi Ar. Bea**	**164.81**	**272**	PKP	**PKPdf**	**18 15 02.9**	**-1.0**
	0.9nm,1.0s,baz=354,slow=1.0,SNR=3.8						
TORD				PKPab	**PKPab**	**18 15 58.9**	**-1.0**
	3.4nm,1.0s,baz=77,slow=3.5,SNR=10.0						
DBIC	**Dimbokro**	**169.02**	**235**	PKP	**PKPdf**	**18 15 05.7**	**-1.5**
DBIC				PKPab	**PKPab**	**18 16 18.6**	**+0.3**
DBIC	**Dimbokro**	**169.02**	**235**	PKP	**PKPdf**	**18 15 05.7**	**-1.5**
	4.4nm,1.1s,baz=153,slow=2.3,SNR=2.9						
DBIC				PKPab	**PKPab**	**18 16 18.6**	**+0.3**
	4.5nm,0.9s,baz=276,slow=1.5,SNR=4.0						

*IDC **08** 18:10:15.7±0.7, 16°.06S×173°.32W, h0km, mb4.2/10, mb1 4.4/11, mb1mx4.3/23, mbtmp4.2/11, ML2.1/1, MS3.8/1, Ms1 3.8/1, ms1mx3.2/42, Error ellipse: s-maj=40.9km s-min=15.8km az=137.0*

*NEIC **08** 18:10:17.5±0.5, 15°.94S×173°.42W, h10km, mb4.8/1, Error ellipse: s-maj=31.8km s-min=11.4km az=140.0*

ISC 08 18:10:19.5±0.6, 16°.1S±0°.2×173°.3W±0°.2, h26km, n53, σ1§19/48, mb4.3/11, 2C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.59**	**35**	Pn	**Pn**	**18 10 57.4**	**-2.5**
AFI				Sn	Sn	18 11 24.2	-6.5
AFI	**Afiamalu**	**2.59**	**35**	Pn	**Pn**	**18 10 57.4**	**-2.5**
	20nm,0.3s,baz=116,slow=22,SNR=10.0						
AFI				Sn	Sn	18 11 24.2	-6.5
	105nm,0.3s,baz=216,slow=23,SNR=11						
RAR	**Rarotonga**	**13.82**	**114**	Pn	Pn	18 13 29.4	-4.4
RAR	**Rarotonga**	**13.82**	**114**	Pn	Pn	18 13 29.4	-4.4
	3.3nm,0.3s,baz=270,slow=17,SNR=3.7						
RAR				LR	LR	18 17 52.5	
	comp=Z,337nm,18.4s,baz=271,slow=33						
PPT2	**Papeete2**	**22.77**	**97**	*e*LR	LR	18 20 46.1	
	258nm,25.0s						
TBI	**Tubuai**	**23.58**	**112**	*e*LR	LR	18 21 14.3	
	348nm,24.8s						
URZ	**Urewera**	**23.68**	**199**	*eP*	**P**	**18 15 25.4**	**-3.6**
URZ	**Urewera**	**23.68**	**199**	P	**P**	**18 15 28.5**	**-0.6**
	comp=Z,8.9nm,20.3s,baz=102,slow=29						
STKA	**Stephens Creek**	**43.79**	**241**	*eP*	**P**	**18 18 23.0**	**-0.3**
STKA	**Stephens Creek**	**43.79**	**241**	P	**P**	**18 18 22.6**	**-0.7**
	2.9nm,0.5s,baz=103,slow=10,SNR=6.5						
WRA	**Warramunga Arr**	**49.78**	**257**	P	**P**	**18 19 09.9**	**-0.4**
WRA	**Warramunga Arr**	**49.78**	**257**	P	**P**	**18 19 09.9**	**-0.4**
	1.7nm,0.5s,baz=91,slow=6.6,SNR=9.8						
AS31	**Alice Springs**	**49.99**	**252**	*eP*	**P**	**18 19 11.6**	**-0.3**
ASAR	**Alice Springs**	**49.99**	**252**	P	**P**	**18 19 11.7**	**-0.3**
ASAR	**Alice Springs**	**49.99**	**252**	P	**P**	**18 19 11.7**	**-0.3**
	6.9nm,0.6s,baz=91,slow=7.8,SNR=27						
FITZ	**Fitzroy Crossi**	**58.16**	**258**	P	**P**	**18 20 12.5**	**+0.9**
FITZ	**Fitzroy Crossi**	**58.16**	**258**	P	**P**	**18 20 12.5**	**+0.9**
	3.9nm,1.0s,baz=122,slow=9.5,SNR=5.7						
MBWA	**Marble Bar**	**63.26**	**254**	*eP*	**P**	**18 20 44.2**	**-2.2**
QSPA	**South Pole Qui**	**74.00**	**180**	*eP*	**P**	**18 21 53.7**	**+0.9**
	16nm,1.5s						
NVAR	**Mina Array Bea**	**74.75**	**42**	P	**P**	**18 21 58.9**	**+1.2**
NVAR	**Mina Array Bea**	**74.75**	**42**	P	**P**	**18 21 58.9**	**+1.2**
	0.9nm,0.6s,baz=217,slow=8.6,SNR=5.4						
TXAR	**Lajitas Array**	**80.90**	**56**	P	**P**	**18 22 31.9**	**-0.1**
TXAR	**Lajitas Array**	**80.90**	**56**	P	**P**	**18 22 31.9**	**-0.1**
	0.2nm,0.7s,baz=260,slow=11,SNR=2.5						
PDAR	**Pinedale Array**	**82.69**	**42**	P	**P**	**18 22 42.1**	**+0.9**
PDAR	**Pinedale Array**	**82.69**	**42**	P	**P**	**18 22 42.1**	**+0.9**
	1.1nm,0.8s,baz=218,slow=3.7,SNR=10.0						
ILAR	**Eielson Array**	**83.06**	**11**	P	**P**	**18 22 41.9**	**-0.4**
ILAR	**Eielson Array**	**83.06**	**11**	P	**P**	**18 22 41.9**	**-0.4**
	0.9nm,0.5s,baz=233,slow=6.3,SNR=14						
MAW	**Mawson**	**87.21**	**199**	P	**P**	**18 23 03.5**	**+0.3**
MAW	**Mawson**	**87.21**	**199**	P	**P**	**18 23 03.5**	**+0.3**
	2.5nm,0.8s,baz=118,slow=7.9,SNR=6.6						
CFAA	**Coronel Fontan**	**94.02**	**124**	LR	LR	18 55 38.6	
	comp=Z,8.9nm,20.3s,baz=102,slow=29						
ARCES	**ARCESS Array B**	**125.26**	**352**	PKP	**PKPdf**	**18 29 18.5**	**+1.2**
ARCES	**ARCESS Array B**	**125.26**	**352**	PKP	**PKPdf**	**18 29 18.5**	**+1.2**
	2.1nm,0.7s,baz=35,slow=4.4,SNR=6.0						
FINES	**FINESS Array B**	**132.59**	**347**	PKP	**PKPdf**	**18 29 32.4**	**+1.0**
FINES	**FINESS Array B**	**132.59**	**347**	PKP	**PKPdf**	**18 29 32.4**	**+1.0**
	1.6nm,0.8s,baz=72,slow=6.2,SNR=4.0						
UPC	**Upice**	**144.81**	**350**	*e*PKP	**PKPdf**	**18 29 55.1**	**+1.0**
DPC	**Dobruska-Polom**	**144.91**	**349**	*e*PKP	**PKPdf**	**18 29 55.5**	**+1.2**
BUR08	**Bucovina Ar. S**	**144.98**	**338**	*e*PKPdf	**PKPdf**	**18 29 56.1**	**+1.5**
OKC	**Ostrava-Krasne**	**145.04**	**347**	*e*PKP	**PKPdf**	**18 29 55.8**	**+1.3**
OKC				*ex*	x	18 30 04.0	
PRU	**Pruhonice**	**145.55**	**351**	*e*PKP	**PKPab**	**18 29 56.8**	**+1.0**
PRU				*ex*	x	18 30 07.6	
TREC	**Trest**	**146.07**	**350**	*e*PKP	**PKPab**	**18 29 58.8**	**+1.0**
KHC	**Kasperske Hory**	**146.53**	**352**	*e*PKP	**PKPab**	**18 30 00.2**	**+0.7**
KHC				*ex*	x	18 30 08.4	
KHC	**Kasperske Hory**	**146.53**	**352**	*e*PKP	**PKPbc**	**18 29 59.1**	**+0.6**
BRTR	**Keskin Array B**	**146.71**	**320**	PKPbc	**PKPab**	**18 30 00.8**	**+0.1**
BRTR	**Keskin Array B**	**146.71**	**320**	PKPbc	**PKPab**	**18 30 00.8**	**+0.1**
	5.8nm,0.8s,baz=107,slow=2.1,SNR=17						
GERES	**GERESS Array B**	**146.79**	**352**	PKPbc	**PKPdf**	**18 29 57.5**	**-0.2**
GERES	**GERESS Array B**	**146.79**	**352**	PKPbc	**PKPdf**	**18 29 57.5**	**-0.2**
	1.7nm,0.9s,baz=33,slow=3.2,SNR=11						
ANTO	**Ankara**	**147.13**	**321**	*eP*	**PKPdf**	**18 29 57.8**	**-0.7**
CONA	**Conrad Observa**	**147.32**	**349**	⇓*i*PKiKP	**PKPab**	**18 30 02.9**	**+0.2**
	10nm,1.2s						
BFO	**Black Forest**	**147.78**	**358**	*e*PKPbc	**PKPbc**	**18 30 03.3**	**+1.2**
FETA	**Feichten**	**148.94**	**355**	⇑*i*PKiKP	**PKPbc**	**18 30 06.7**	**+1.3**
	7.3nm,0.8s						
ABTA	**Abfaltersbach**	**149.01**	**352**	*i*PKiKP	**PKPbc**	**18 30 06.1**	**+0.7**
	9.4nm,1.1s						
DAVOX	**Davos/Dischmat**	**149.24**	**356**	PKPbc	**PKPbc**	**18 30 07.9**	**+1.7**
DAVOX	**Davos/Dischmat**	**149.24**	**356**	PKPbc	**PKPbc**	**18 30 07.9**	**+1.7**
	2.2nm,0.6s,baz=90,slow=3.0,SNR=3.3						

*AUST **08** 18:10:42.7±7.1, 11°.97S×166°.42E, h0km, Error ellipse: s-maj=1.2km s-min=1.1km az=251.0*

*IDC **08** 18:10:44.2±0.4, 12°.05S×166°.03E, h0km, mb4.8/23, mb1 4.8/26, mb1mx4.8/30, mbtmp4.8/26, ML4.1/3, MS4.6/18, Ms1 4.6/18, ms1mx4.4/33, Error ellipse: s-maj=15.2km s-min=13.3km az=97.0*

*ISCJB **08** 18:10:47.4±0.3, 12°.05S±0°.04×166°.02E±0°.05, h30km, mb5.1/66, MS4.6/29, Error ellipse: s-maj=7.0km s-min=5.7km az=17.3*

*BJI **08** 18:10:48.3, 11°.64S×166°.53E, h34km, mB5.4/36, mb5.1/47, Ms5.2/34, Ms7 4.8/32*

*MOS **08** 18:10:48.9±1.1, 11°.98S×165°.85E, h33km, mb5.4/25, Error ellipse: s-maj=10.7km s-min=8.6km az=32.9*

*NEIC **08** 18:10:49.9±0.2, 12°.04S×165°.98E, h35km, mb5.3/26, Error ellipse: s-maj=7.1km s-min=5.5km az=121.0*

*GCMT **08** 18:10:52.4±0.2, 12°.02S×165°.87E, h18km, MW5.2, Moment Tensor Solution. s47,c63; s78,c122; Moment tensor: Scale 10^{16}Nm; M_{rr}6.73±.31; $M_{\theta\theta}$-0.69±.21; $M_{\phi\phi}$-6.04±.21; $M_{r\theta}$3.11±.51; $M_{\theta\phi}$1.85±.13; $M_{\phi r}$-4.35±.44; Best double couple: $M_0$8.60000×10^{16} NP1:ϕ_s152.00000°, δ64.00000°, λ,81.00000°. NP2:ϕ_s353.00000°, δ27.00000°, λ109.00000°. Principal axes: T 8.7300, Plg69.0000°, Azm43.0000°; N -0.3600, Plg8.0000°, Azm156.0000°; P -8.3700, Plg19.0000°, Azm249.0000°; Data Used: IU II G IC CN.*

*DJA **08** 18:10:58.1±2.7, 12°.5S±11°×16°.6E±°, h118km±39km, M4.8/11, mB5.3/5, mb4.8/11, Mw(mB)4.8/5*

ISC 08 18:10:49.6±0.3, 12°.09S±0°.04×166°.00E±0°.05, h30km, h30km:pP-P, n298, σ1§60/343, mb5.2/66, MS4.6/30, 15C-16D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.51**	**293**	Pn	**Pn**	**18 12 22.8**	**-0.7**
HNR				Sn	**Sn**	**18 13 34.0**	**-2.8**
HNR	**Honiara**	**6.51**	**293**	Pn	**Pn**	**18 12 22.8**	**-0.7**
	37nm,0.3s,baz=171,slow=1.6,SNR=55						
HNR				Sn	**Sn**	**18 13 34.0**	**-2.8**
	19nm,0.3s,baz=210,slow=23,SNR=8.0						
DZM	**Mont Dzumac**	**9.93**	**178**	*e*Pn	**Pn**	**18 13 11.5**	**+1.0**
	136nm,1.1s						
DZM				*e*LR	LR	18 15 31.6	
	3μm,23.9s						
DZM	**Mont Dzumac**	**9.93**	**178**	Pn	**Pn**	**18 13 10.9**	**+0.4**
DZM				Sn	**Sn**	**18 14 59.2**	**-1.8**
DZM	**Mont Dzumac**	**9.93**	**178**	Pn	**Pn**	**18 13 10.9**	**+0.4**
	2.1nm,0.3s,baz=8.5,slow=18,SNR=22						
DZM				Sn	**Sn**	**18 14 59.2**	**-1.8**
	baz=106,slow=19,SNR=2.1						
MSVF	**Nonsavu**	**12.92**	**117**	*eP*	Pn	18 13 56.3	+4.9
MSVF	**Nonsavu**	**12.92**	**117**	Pn	**P**	**18 14 03.7**	**+2.0**
	771nm,1.7s,SNR=5.2						
MSVF	**Nonsavu**	**12.92**	**117**	*e*Pn	Pn	18 13 56.2	+4.9
TARA	**Tarawa**	**15.03**	**28**	*e*Pn	**Pn**	**18 14 19.8**	**-0.2**
PMG	**Port Moresby**	**18.70**	**276**	P	**P**	**18 15 05.7**	**-0.1**
	78nm,1.6s,2μm						
PMG	**Port Moresby**	**18.70**	**276**	P	**P**	**18 15 05.5**	**-0.4**
PMG				*e*Pn	**Pn**	**18 15 07.0**	**+0.6**
PMG				S	**Sn**	**18 18 31.0**	**-3.9**
PMG	**Port Moresby**	**18.70**	**276**	P	**P**	**18 15 05.5**	**-0.4**
	0.3nm,0.3s,baz=113,slow=12,SNR=8.7						
PMG				S	**Sn**	**18 18 31.0**	**-3.9**
	0.3nm,0.3s,baz=216,slow=13,SNR=2.4						
EIDS	**Eidsvold**	**19.31**	**225**	*e*Pn	**Pn**	**18 15 14.4**	**+0.8**
	83nm,1.3s						
EIDS	**Eidsvold**	**19.31**	**225**	P	**Pn**	**18 15 14.4**	**+0.8**
	baz=20,SNR=6.2						
PATS	**Pohnpei**	**20.30**	**337**	P	**P**	**18 15 23.6**	**+0.3**
	baz=20,SNR=5.8						
CTA	**Charters Tower**	**20.56**	**245**	P	**P**	**18 15 25.5**	**-0.6**
CTA	**Charters Tower**	**20.56**	**245**	P	**P**	**18 15 25.5**	**-0.6**
	27nm,0.9s,baz=67,slow=13,SNR=22						

CTA				LR	LR	18 22 22.4	
	comp=Z,1μm,19.7s,baz=160,slow=34						
CTAO	**Charters Tower**	**20.56**	**245**	*eP*	**P**	**18 15 26.8**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,120nm,1.3s						
CTAO	**Charters Tower**	**20.56**	**245**	*eP*	**P**	**18 15 26.8**	**+0.7**
	comp=Z,120nm,1.3s						
KWAJ	**Kwajalein Atol**	**20.82**	**4**	*eP*	**P**	**18 15 29.0**	**+0.1**
KWAJ				pmax	pmax		
	comp=Z,117nm,0.9s						
KWAJ	**Kwajalein Atol**	**20.82**	**4**	*eP*	**P**	**18 15 29.0**	**+0.1**
	comp=Z,117nm,0.9s						
MANU	**Manus Island**	**21.00**	**297**	P	**P**	**18 15 31.3**	**+0.4**
	baz=21,SNR=3.0						
RMQ	**Roma**	**21.64**	**226**	P	**P**	**18 15 39.0**	**+1.4**
	baz=22,SNR=11						
AFI	**Afiamalu**	**21.73**	**97**	LR	LR	18 22 36.5	
	comp=Z,1μm,19.5s,baz=250,slow=33						
COEN	**Coen**	**22.32**	**263**	*eP*	**P**	**18 15 45.3**	**+0.2**
	comp=Z,978nm,1.6s						
COEN	**Coen**	**22.32**	**263**	P	**P**	**18 15 45.2**	**+0.2**
	baz=23,SNR=8.1						
ARMA	**Armidale**	**22.58**	**214**	*eP*	**P**	**18 15 49.4**	**+1.6**
	comp=Z,128nm,1.4s						
ARMA	**Armidale**	**22.58**	**214**	P	**P**	**18 15 49.3**	**+1.5**
	baz=23,SNR=6.9						
QLP	**Quilpie**	**25.03**	**232**	P	**P**	**18 16 11.7**	**+0.5**
	baz=26,SNR=4.4						
CMSA	**Cobar Meteorol**	**26.93**	**221**	P	**P**	**18 16 31.6**	**+3.2**
	baz=27,SNR=25						
STKA	**Stephens Creek**	**29.87**	**225**	*eP*	**P**	**18 16 55.5**	**+0.9**
	comp=Z,29nm,2.2s						
STKA	**Stephens Creek**	**29.87**	**225**	P	**P**	**18 16 55.5**	**+0.9**
	baz=30,SNR=4.8						
STKA	**Stephens Creek**	**29.87**	**225**	P	**P**	**18 16 54.9**	**+0.3**
	comp=Z,4.3nm,0.9s,baz=59,slow=10,SNR=4.9						
STKA				LR	LR	18 28 50.2	
	comp=Z,1μm,18.9s,baz=39,slow=36						
WRAB	**Tennant Creek**	**31.36**	**252**	*eP*	**P**	**18 17 07.2**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,39nm,1.4s						
WRAB	**Tennant Creek**	**31.36**	**252**	P	**P**	**18 17 07.9**	**-0.1**
	comp=Z,88nm,1.1s,SNR=5.7						
WRAB	**Tennant Creek**	**31.36**	**252**	*eP*	**P**	**18 17 07.2**	**-0.8**
	comp=Z,39nm,1.4s						
WRA	**Warramunga Arr**	**31.38**	**252**	P	**P**	**18 17 07.0**	**-1.1**
WRA				PKiKP	**PKiKP**	**18 27 29.7**	**-1.7**
WRA	**Warramunga Arr**	**31.38**	**252**	P	**P**	**18 17 07.0**	**-1.1**
	comp=

QIZ LR LR
comp=Z,270nm,10.0s
USRK Ussuriysk Arra 63.99 333 P **P** **18 21 20.5 +0.3**
comp=Z,33nm,1.0s,baz=137,slow=6.7,SNR=28
AMKA Amchitka 64.26 9 *e*P **P** **18 21 22.2 +0.4**
WHN Wuhan 65.28 312 P **P** **18 21 31.5 +2.6**
PETK Petropavlovsk- 65.33 355 P **P** **18 21 27.4 -1.4**
PETK Petropavlovsk- 65.33 355 P **P** **18 21 27.4 -1.4**
PETK Petropavlovsk- 65.33 355 P **P** **18 21 27.4 -1.4**
comp=Z,4.7nm,0.8s,baz=163,slow=11,SNR=6.1
PETK LR LR 18 45 03.5
comp=Z,184nm,20.3s,baz=164,slow=32
MDJ Mudanjiang 65.39 332 P **P** **18 21 29.3 0.0**
MDJ pP **pP** **18 21 38.6 -0.1**
MDJ sP **sP** **18 21 42.4 +0.2**
MDJ PcP **PcP** **18 22 01.4 +0.2**
MDJ PP **PP** **18 23 52.6 -1.0**
MDJ S **S** **18 30 12.6 +0.9**
MDJ ScS **SKSac** **18 31 22.0 -0.5**
MDJ SS **SS** **18 34 24.5 -1.1**
MDJ AMB AMB
comp=Z,29nm,1.2s
MDJ AMB AMB
comp=Z,280nm,4.5s
MDJ LR LR
comp=Z,45nm,17.9s
MDJ LR LR
comp=Z,110nm,16.0s
VNDA Vanda 65.45 181 *e*P **P** **18 21 30.1 +0.8**
comp=Z,28nm,1.2s
VNDA Vanda 65.45 181 P **P** **18 21 28.5 -0.9**
comp=Z,11nm,1.1s,baz=354,slow=7.3,SNR=20
CASY Casey 65.50 201 *e*P **P** **18 21 29.2 -0.5**
comp=Z,52nm,1.6s
CASY *e*pP **pP** **18 21 42.6 +3.5**
SBA Scott Base 65.76 180 *e*P **P** **18 21 33.0 +1.8**
SBA pmax pmax
comp=Z,51nm,1.1s
SBA Scott Base 65.76 180 *e*P **P** **18 21 33.0 +1.8**
comp=Z,50nm,1.1s
IPM Ipoh 66.65 280 *e*P **P** **18 21 38.5 +0.4**
comp=Z,87nm,1.3s
CN2 Changchun 66.77 329 *e*P **P** **18 21 37.7 -0.5**
CN2 *es*P **sP** **18 21 51.9 +0.8**
CN2 *e*S **S** **18 30 26.2 -2.2**
CN2 AMB AMB
comp=Z,50nm,1.1s
CN2 AMB AMB
comp=Z,20nm,4.0s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,400nm,14.0s
PANO Nakornpanom 67.25 294 P P 18 21 46.5 +4.7
comp=Z,145nm,1.8s,comp=Z,18µm
SKNT Sakolnakorn 67.75 294 P P 18 21 48.9 +3.9
comp=Z,31nm,1.3s
KLR Kul'dur 68.11 337 *e*P P 18 21 42.8 -3.8
KLR pmax pmax
comp=E,34nm,1.6s
KLR pmax pmax
comp=Z,90nm,1.6s
PSI Prapat 68.26 278 P **P** **18 21 48.5 0.0**
PSI Prapat 68.26 278 P **P** **18 21 48.5 0.0**
comp=Z,17nm,0.9s,baz=295,slow=3.4,SNR=7.9
GYA Guiyang 69.21 304 ⇑*i*P **P** **18 21 55.2 +1.1**
GYA pP **pP** **18 22 07.4 +3.9**
GYA sP **sP** **18 22 11.0 +3.9**
GYA PP **PP** **18 24 30.5 +3.0**
GYA ScP 18 26 18.1
GYA S **S** **18 30 57.3 -1.3**
GYA sS **sS** **18 31 16.0 +1.8**
GYA SKS **SKiKP** **18 31 47.8 +5.2**
GYA SS **SS** **18 35 26.2 +0.4**
GYA AMB AMB
comp=Z,20nm,1.0s
GYA AMB AMB
comp=Z,130nm,5.7s
GYA LR LR
comp=Z,620nm,18.1s
GYA LR LR
comp=Z,580nm,19.4s
GYA LR LR
comp=Z,590nm,18.7s
SURA Surathani 69.26 285 P P 18 22 01.0 +6.5
comp=Z,144nm,0.8s,comp=Z,7µm
BJI Beijing 69.45 321 P **P** **18 21 55.1 0.0**
BJI PP PP 18 24 34.5 +5.4
BJI SS SS 18 35 29.2 +0.5
BJI AMB AMB
comp=Z,18nm,1.3s
BJI AMB AMB
comp=Z,130nm,5.2s
BJI LR LR
comp=Z,340nm,16.1s
BJI LR LR
comp=Z,350nm,18.9s
XAN Xi'an 71.01 313 P **P** **18 22 06.3 +1.4**
XAN pP **pP** **18 22 16.8 +2.5**
XAN sP **sP** **18 22 22.1 +4.3**
XAN S S 18 31 25.5 +6.2
XAN AMB AMB
comp=Z,5.0nm,1.0s
XAN LR LR
comp=Z,140nm,10.2s
NANT Nan 71.31 295 P P 18 22 11.3 +4.3
comp=Z,30nm,1.2s
KMI Kunming 71.88 302 P P 18 22 14.7 +4.1
KMI pP pP 18 22 23.6 +3.6
KMI sP sP 18 22 27.9 +4.4
KMI PP **PP** **18 24 55.6 +5.0**
KMI S **S** **18 31 29.0 -1.0**
KMI sS **SKiKP** **18 31 47.3 +0.6**
KMI SS **SS** **18 36 13.9 +6.8**
KMI AMB AMB
comp=Z,19nm,1.1s
KMI AMB AMB
comp=Z,160nm,3.3s
KMI LR LR
comp=Z,210nm,19.4s
KMI LR LR
comp=Z,170nm,22.6s
KMI LR LR
comp=Z,260nm,19.0s
PAYA Payao 72.24 295 P P 18 22 17.5 +4.9
comp=Z,5.5nm,1.0s
CM31 Chiang Mai Arr 72.76 294 *e*P **P** **18 22 13.2 -2.4**
comp=Z,12nm,0.9s
HHC Hu-ho-hao-te 72.79 320 *e*P **P** **18 22 16.0 +0.5**
HHC pP **pP** **18 22 26.3 +1.3**
HHC sP **sP** **18 22 30.3 +1.8**
HHC PP **PP** **18 25 00.2 +2.3**
HHC S **S** **18 31 38.3 -1.3**
HHC sS **sS** **18 31 55.5 +0.3**
HHC SKS **SKSac** **18 32 14.0 -4.9**
HHC ScS **SKKSac** **18 32 17.4 -1.7**
HHC SS **SS** **18 36 20.8 +0.6**
HHC AMB AMB
comp=Z,36nm,1.0s
HHC AMB AMB
comp=Z,420nm,5.3s
HHC LR LR
comp=Z,720nm,15.9s
HHC LR LR
comp=Z,620nm,16.7s
HHC LR LR
comp=Z,620nm,18.0s
CHTO Chiang Mai 72.88 294 *e*P **P** **18 22 17.1 +0.7**
CHTO pmax pmax
comp=Z,73nm,1.2s
CHTO Chiang Mai 72.88 294 *e*P **P** **18 22 17.1 +0.7**
comp=Z,73nm,1.2s
CHTO Chiang Mai 72.88 294 P P 18 22 20.6 +4.2
comp=Z,53nm,1.4s
CD2 Chengdu 73.44 307 P **P** **18 22 21.7 +2.2**
CD2 pP **PcP** **18 22 33.3 -2.3**
CD2 sP sP 18 22 37.9 +5.4
CD2 PP **PP** **18 25 07.6 +4.0**
CD2 S **S** **18 31 47.0 -0.2**
CD2 sS **sS** **18 32 06.4 +3.6**
CD2 SS **SS** **18 36 32.2 +1.8**
CD2 AMB AMB
comp=Z,30nm,1.2s
CD2 AMB AMB
comp=Z,270nm,4.9s
CD2 LR LR
comp=Z,430nm,5.9s
CD2 LR LR
comp=Z,390nm,8.9s
BTO Baotou 73.64 319 *e*P P 18 22 11.9 -8.7
LZH Lanzhou 75.64 312 ⇑P **P** **18 22 35.4 +3.0**
LZH pP **PcP** **18 22 47.0 +1.9**
LZH sP sP 18 22 51.5 +6.2
LZH PP **PP** **18 25 27.5 +5.1**
LZH *e*S **S** **18 32 12.0 0.0**
LZH sS **sS** **18 32 30.3 +2.7**
LZH SS **SS** **18 37 07.6 +3.6**
LZH AMB AMB
comp=Z,35nm,1.3s
LZH AMB AMB
comp=Z,140nm,6.8s
LZH LR LR
comp=Z,510nm,17.0s
LZH LR LR
comp=Z,500nm,17.3s
LZH LR LR
comp=Z,700nm,19.2s
QSPA South Pole Qui 77.92 180 *e*P **P** **18 22 44.7 +0.1**
comp=Z,64nm,1.2s
CIT Chita 78.19 330 *e*P **P** **18 22 46.6 +0.4**
CIT *e* 18 22 58.2
CIT pmax pmax
comp=Z,231nm,1.3s
YAK Yakutsk 79.17 343 *e*P P 18 22 47.3 -3.9
YAK pmax pmax
comp=Z,23nm,1.1s
YAK pmax pmax
comp=N,7.0nm,1.3s
ULN Ulaanbaatar 79.29 324 *e*P **P** **18 22 52.8 +0.3**
comp=N,43nm,1.0s
SONM Songino Array 79.66 324 P **P** **18 22 55.0 +0.6**
SONM Songino Array 79.66 324 P **P** **18 22 55.0 +0.6**
comp=N,21nm,1.2s,baz=136,slow=4.6,SNR=64
SONM LR LR 18 58 29.2
comp=N,246nm,20.1s,baz=86,slow=36
GTA Gaotai 79.96 314 P **P** **18 22 57.0 +0.7**
GTA pP **PcP** **18 23 05.1 +1.4**
GTA sP **sP** **18 23 09.3 0.0**
GTA S **S** **18 32 58.3 -0.1**
GTA sS **SKSac** **18 33 11.6 -0.1**
GTA SS **SS** **18 38 11.1 +2.2**
GTA AMB AMB
comp=N,19nm,2.0s
GTA AMB AMB
comp=N,220nm,4.3s
GTA LR LR
comp=N,230nm,18.5s
GTA LR LR
comp=N,300nm,19.0s
GTA LR LR
comp=N,260nm,19.9s
ZAK Zakamensk 82.70 325 ⇓*i*P **P** **18 23 09.4 -1.1**
ZAK pmax pmax
comp=Z,22nm,1.4s
LSA Lhasa 83.12 302 P **P** **18 23 12.3 -1.3**
TLY Talaya 83.13 326 *e*P **P** **18 23 12.7 +0.1**
TLY pmax pmax
comp=Z,54nm,1.3s
MAW Mawson 83.85 202 P **P** **18 23 15.8 -0.2**
MAW Mawson 83.85 202 P **P** **18 23 17.3 +1.2**
baz=84,SNR=4.5
MAW Mawson 83.85 202 P **P** **18 23 15.8 -0.2**
comp=Z,4.7nm,0.8s,baz=100,slow=9.9,SNR=5.7
ILAR Eielson Array 84.42 18 P **P** **18 23 17.5 -1.4**
ILAR Eielson Array 84.42 18 P **P** **18 23 17.5 -1.4**
comp=Z,2.5nm,0.6s,baz=246,slow=5.3,SNR=7.4
MOY Mondy 84.58 325 *e*P **P** **18 23 19.5 -0.6**
MOY pmax pmax
comp=Z,52nm,3.1s
BBB Bella Bella 85.30 34 LR LR 18 57 40.8
comp=Z,681nm,18.2s,baz=261,slow=33
EGAK Eagle 86.27 20 *e*P **P** **18 23 27.6 -0.6**
comp=Z,7.8nm,0.7s
NVAR Mina Array Bea 86.50 50 P **P** **18 23 27.8 -2.4**
NVAR Mina Array Bea 86.50 50 P **P** **18 23 27.8 -2.4**
comp=Z,0.4nm,0.6s,baz=284,slow=3.6,SNR=3.1
NVAR LR LR 18 57 52.2
comp=Z,976nm,18.1s,baz=261,slow=33
TIXI Tiksi 87.16 349 *e*P **P** **18 23 30.4 -1.9**
TIXI pmax pmax
comp=Z,7.0nm,1.2s
HVS Khovu-Aksy 88.53 323 *c*P **P** **18 23 39.0 -0.4**
LPIG La Paz 89.22 65 LR LR 18 59 23.3
comp=Z,190nm,18.1s,baz=224,slow=33
WMQ Urumqi 90.01 315 P **P** **18 23 46.2 -0.3**
WMQ pP **pP** **18 23 56.8 +0.6**
WMQ sP **sP** **18 24 00.7 +1.0**
WMQ AMB AMB
comp=Z,31nm,0.6s
WMQ AMB AMB
comp=Z,130nm,3.8s
WMQ LR LR
comp=Z,270nm,5.6s
WMQ LR LR
comp=Z,250nm,6.4s
WMQ LR LR
comp=Z,170nm,20.2s
KRAR Krasnoyarsk 90.74 327 *e*P **P** **18 23 48.6 -0.9**
KRAR pmax pmax
comp=Z,11nm,1.4s
MK31 Makanchi Array 94.45 317 *e*P **P** **18 24 06.6 -0.4**
MK31 Makanchi Array 94.45 317 *e*P **P** **18 24 06.6 -0.4**
MKAR Makanchi Array 94.45 317 *e*P **P** **18 24 06.8 -0.2**
MKAR Makanchi Array 94.45 317 *e*P **P** **18 24 06.8 -0.2**
MKAR PKiKP **PKiKP** **18 28 48.8 -1.4**
MKAR Makanchi Array 94.45 317 P **P** **18 24 06.7 -0.3**
comp=Z,15nm,0.7s,baz=94,slow=6.4,SNR=160
MKAR PKiKP **PKiKP** **18 28 48.8 -1.4**
comp=Z,0.7nm,0.7s,baz=66,slow=2.9,SNR=4.7
ZAA0 Zalesovo Array 94.55 324 *e*P **P** **18 24 05.4 -1.8**
ZALV Zalesovo Beam 94.55 324 P **P** **18 24 06.1 -1.1**
ZALV Zalesovo Beam 94.55 324 P **P** **18 24 06.1 -1.1**
ZALV Zalesovo Beam 94.55 324 P **P** **18 24 06.1 -1.1**
comp=Z,15nm,0.8s,baz=108,slow=4.8,SNR=70
ZALV LR LR 19 04 55.5
comp=Z,172nm,19.4s,baz=69,slow=34
PMSA Palmer Station 94.65 161 LR LR 19 01 21.3
comp=Z,408nm,19.6s,baz=244,slow=32
MAIT Maitri 95.48 188 *e* P 18 24 08.6 -2.6
NVS Novosibirsk 95.66 325 *e*P P 18 24 08.0 -4.2
NVS pmax pmax
comp=N,6.0nm,1.3s
NVS pmax pmax
comp=E,11nm,1.3s
NVS pmax pmax
comp=Z,22nm,1.3s
SNAA Sanae 96.09 184 *e*P **P** **18 24 12.9 -1.2**
SNAA Sanae 96.09 184 *e*P **P** **18 24 12.7 -1.4**
comp=Z,15nm,1.2s
VNA2 Neumayer--Watz 97.06 182 *e*P **P** **18 24 17.4 -1.0**
KURK Kurchatov 97.60 320 *e*P **P** **18 24 19.9 -1.2**
KURK *i* 18 28 27.1
KURK pmax pmax
comp=Z,23nm,2.1s
KURK Kurchatov 97.60 320 P **P** **18 24 19.3 -1.8**
comp=Z,37nm,1.9s,SNR=5.2
KURK Kurchatov 97.60 320 *e*P **P** **18 24 19.9 -1.2**
comp=Z,24nm,2.1s
KURK PP PP 18 28 27.1 +8.0
KURK PKiKP **PKiKP** **18 28 54.1 -1.4**
KURBB Kurchatov Arra 97.64 320 P **P** **18 24 19.6 -1.7**
comp=Z,1.6nm,0.7s,baz=97,slow=3.5,SNR=18
KURBB PP PP 18 28 27.1 +7.7
comp=Z,0.3nm,0.3s,baz=98,slow=6.9,SNR=5.0
KURBB PKiKP **PKiKP** **18 28 54.1 -1.4**
comp=Z,0.4nm,0.3s,baz=94,slow=2.0,SNR=4.7
BVAR Borovoye Array 102.93 322 P **Pdif** **18 24 42.7 -2.1**
BVAR 18 29 04.7
BVAR Borovoye Array 102.93 322 P **Pdif** **18 24 42.7 -2.1**
BVAR PKiKP **PKiKP** **18 29 04.7 -0.3**
BVAR Borovoye Array 102.93 322 P **Pdif** **18 24 42.7 -2.1**
comp=Z,2.5nm,0.9s,baz=96,slow=6.0,SNR=13
BVAR PKiKP **PKiKP** **18 29 04.7 -0.3**
comp=Z,0.8nm,0.6s,baz=46,slow=4.3,SNR=4.6
ARCES ARCESS Array B 117.41 345 PKP **PKPdf** **18 29 30.4 -1.4**
ARCES ARCESS Array B 117.41 345 PKP **PKPdf** **18 29 30.4 -1.4**
comp=Z,4.7nm,0.6s,baz=89,slow=1.9,SNR=17
JOF Joensuu 120.00 338 *e*PKiKP **PKPdf** **18 29 34.6 -2.3**
JOF pmax pmax
comp=Z,3.0nm,0.7s
JOF Joensuu 120.00 338 *e*pkp **PKPdf** **18 29 34.6 -2.3**
comp=Z,3.4nm,0.7s
UMR Umm Al-Rimmam 120.40 297 *e*P **PKPdf** **18 29 37.9 -0.8**
UMR AMb AMB 18 29 40.1
comp=Z,30nm,1.2s
RDF Al-Radifah 120.58 296 *e*P **PKPdf** **18 29 38.1 -1.0**
RDF AMb AMB 18 29 41.4
comp=Z,34nm,1.7s
NAY Al-Naaiem 120.83 297 *e*P **PKPdf** **18 29 37.9 -1.6**
NAY AMb AMB 18 29 40.1
comp=Z,14nm,1.1s
MOS Moscow 121.00 329 *e*PKIKP **PKPdf** **18 29 40.8 +1.7**
ZEI Tsey 121.57 313 *i* PKIKP **PKPdf** **18 29 39.8 -1.1**
ZEI pmax pmax
comp=Z,7.0nm,1.0s
OBN Obninsk 121.83 329 ⇓*i*PKIKP **PKPdf** **18 29 39.7 -0.9**
OBN pmax pmax
comp=Z,9.0nm,0.6s
KBZ Khabaz 122.05 314 PKIKP **PKPdf** **18 29 41.7 +0.3**
KBZ Khabaz 122.05 314 PKP **PKPdf** **18 29 41.7 +0.3**
KBZ Khabaz 122.05 314 PKP **PKPdf** **18 29 41.7 +0.3**
comp=Z,3.2nm,0.7s,baz=114,slow=5.1,SNR=7.5
KIV Kislovodsk 122.14 315 ⇓*i*PKIKP **PKPdf** **18 29 41.4 -0.4**
KIV *e* 18 36 33.8
KIV pmax pmax
comp=Z,13nm,1.7s
KAF Kangasniemi 122.31 339 *e*PKIKP **PKPdf** **18 29 38.6 -2.8**
KAF pmax pmax
comp=Z,4.0nm,0.6s
KAF Kangasniemi 122.31 339 *e*pkp **PKPdf** **18 29 38.6 -2.8**
comp=Z,3.8nm,0.6s
RAYN Ar Rayn 122.56 290 *e*PKPdf **PKPdf** **18 29 43.4 +0.2**
FINES FINESS Array B 122.83 338 PKP **PKPdf** **18 29 41.1 -1.3**
FINES FINESS Array B 122.83 338 PKP **PKPdf** **18 29 41.1 -1.3**
comp=Z,5.5nm,0.9s,baz=94,slow=5.7,SNR=10.0
VSU Vasula 124.52 335 *i* PKIKP **PKPdf** **18 29 43.1 -2.6**
BOSA Boshof 124.52 222 PKP **PKPdf** **18 29 45.6 -1.3**
BOSA Boshof 124.52 222 PKP **PKPdf** **18 29 45.6 -1.3**
comp=Z,2.4nm,0.7s,baz=187,slow=2.4,SNR=5.0
LBTB Lobatse 126.60 226 *e*PKPdf **PKPdf** **18 29 51.3 +0.3**
MALT Malatya 126.71 309 ⇑PKIKP **PKPdf** **18 29 51.2 +0.5**
MALT Malatya 126.71 309 ⇑*i*P **PKPdf** **18 29 51.2 +0.5**
KMBO Kilima Mbogo 127.45 259 PKP **PKPdf** **18 29 53.8 +0.7**
KMBO *e*PKPdf **PKiKP** **18 29 54.6 +1.1**
KMBO Kilima Mbogo 127.45 259 PKP **PKPdf** **18 29 53.8 +0.7**
comp=Z,1.6nm,0.7s,baz=58,slow=23,SNR=4.2
NB2 NORSAR Subarra 127.77 345 PKPdf **PKPdf** **18 29 51.1 -0.9**
comp=Z,7.0nm,1.2s,baz=31,slow=1.9
NB2 NORSAR Subarra 127.77 345 PKPdf **PKPdf** **18 29 51.1 -0.9**
baz=31,slow=1.9
NOA NORSAR Array B 127.77 345 PKP **PKPdf** **18 29 50.9 -1.1**
NOA NORSAR Array B 127.77 345 PKP **PKPdf** **18 29 50.9 -1.1**
comp=Z,2.6nm,0.8s,baz=35,slow=2.0,SNR=6.6
HFS Hagfors 127.86 343 PKP **PKPdf** **18 29 51.6 -0.5**
HFS Hagfors 127.86 343 PKP **PKPdf** **18 29 51.6 -0.5**
comp=Z,4.9nm,0.9s,baz=270,slow=7.4,SNR=4.2
AKASG Malin Array Be 127.87 327 PKIKP **PKPdf** **18 29 50.5 -1.9**
AKASG Malin Array Be 127.87 327 PKP **PKPdf** **18 29 50.5 -1.9**
AKASG Malin Array Be 127.87 327 PKP **PKPdf** **18 29 50.5 -1.9**
comp=Z,3.6nm,0.9s,baz=59,slow=1.7,SNR=22
KIEV Kiev 127.89 327 *e*PKIKP **PKPdf** **18 29 51.5 -0.9**
KIEV Kiev 127.89 327 *e*PKPdf **PKPdf** **18 29 51.5 -0.9**
BR131 Keskin Array S 129.85 312 *e*PKPdf **PKPdf** **18 29 56.2 -0.6**
BRTR Keskin Array B 129.85 312 PKP **PKPdf** **18 29 56.1 -0.6**
BRTR Keskin Array B 129.85 312 PKP **PKPdf** **18 29 56.1 -0.6**
comp=Z,4.3nm,1.0s,baz=143,slow=4.3,SNR=20
TLCR 130.89 321 ⇑PKIKP **PKPdf** **18 29 57.1 -1.2**
TLCR 130.89 321 ⇑*i*P **PKPdf** **18 29 57.1 -1.2**
LVV L'vov 131.12 328 *e*PKIKP **PKPdf** **18 29 58.2 -0.4**
CSS Prodhromos 131.55 306 *e*PKPdf **PKPdf** **18 29 59.9 0.0**
TLB Topalu 131.66 320 ⇑PKIKP **PKPdf** **18 29 59.7 -0.1**
TLB Topalu 131.66 320 ⇑*i*P **PKPdf** **18 29 59.7 -0.1**
BURAR Bucovina Array 131.76 325 ⇑PKIKP **PKPdf** **18 29 56.1 -3.9**
BURAR Bucovina Array 131.76 325 ⇑*i*P **PKPdf** **18 29 56.1 -3.9**
VRI Vrincioaia 131.82 322 ⇑PKIKP **PKPdf** **18 29 58.7 -1.4**
VRI Vrincioaia 131.82 322 ⇑*i*P **PKPdf** **18 29 58.7 -1.4**
PLOR Plostina 131.88 322 ⇓PKIKP **PKPdf** **18 29 58.6 -1.6**
PLOR Plostina 131.88 322 ⇓*i*P **PKPdf** **18 29 58.6 -1.6**
MLR Muntele Rosu 132.49 322 ⇓*i*P **PKPdf** **18 30 00.9 -0.6**
DOPR Dopca 132.57 323 ⇓*i*P **PKPdf** **18 30 01.2 -0.3**
UZH Uzhgorod 132.75 328 *e*PKIKP PKPdf 18 29 56.0 -5.7
STHS Stebnicka Huta 132.79 329 *e*PKIKP PKPdf 18 29 55.1 -6.7
STHS Stebnicka Huta 132.79 329 *e*PKP PKPdf 18 29 55.1 -6.7
TRPA Tarpa 132.92 327 ⇑*i*P **PKPdf** **18 29 57.4 -4.7**
VOIR 133.05 323 ⇓PKIKP **PKPdf** **18 30 02.4 -0.1**
VOIR 133.05 323 ⇓*i*P **PKPdf** **18 30 02.4 -0.1**
ARR Arges 133.34 323 ⇓*i*P **PKPdf** **18 30 03.2 +0.2**
DRGR 133.63 325 ⇓PKIKP **PKPdf** **18 30 00.5 -3.1**
DRGR 133.63 325 ⇓*i*P **PKPdf** **18 30 00.5 -3.1**
MORC Moravsky Berou 134.34 332 *e*PKIKP **PKPdf** **18 30 04.5 -0.3**
MORC Moravsky Berou 134.34 332 ⇑*i*P PKPdf 18 29 57.0 -7.8
MORC Moravsky Berou 134.34 332 *e*PKPdf **PKPdf** **18 30 04.5 -0.3**
BZS Buzias 134.94 325 ⇓PKIKP **PKPdf** **18 30 04.4 -1.5**
BZS Buzias 134.94 325 ⇓*i*P **PKPdf** **18 30 04.4 -1.5**
BRG Berggiesshubel 135.12 335 *e*PKP **PKPdf** **18 30 05.4 -0.7**
comp=Z,4.2nm,1.2s
CLL Collm 135.16 336 *i* PKIKP **PKPdf** **18 30 05.5 -0.7**
CLL pmax pmax
comp=Z,14nm,0.9s
CLL Collm 135.16 336 *i* PKPdf **PKPdf** **18 30 05.5 -0.7**
comp=Z,7.0nm,0.9s
CLL LmV 19 34 00.0
comp=Z,200nm,19.2s
VTS Vitosha 135.70 320 P **PKPdf** **18 30 07.2 -0.5**
VTS Vitosha 135.70 320 ⇓PKIKP **PKPdf** **18 30 07.6 -0.1**
VTS Vitosha 135.70 320 ⇓*i*P **PKPdf** **18 30 07.6 -0.1**
GERES GERESS Array B 136.75 333 SKPbc **SKiKP** **18 33 43.4 -1.8**
comp=Z,1.7nm,1.0s,baz=64,slow=3.1,SNR=6.0
DIVS Divibare 136.77 324 P **PKPdf** **18 30 09.2 -0.3**
FNA Florina 137.82 319 P **PKPdf** **18 30 10.3 -1.2**
PHP Peshkopia 137.91 321 P **PKPdf** **18 30 10.5 -1.2**
NEST Nestorio 138.23 319 P **PKPdf** **18 30 11.4 -1.0**
MAKR Makrakomi, Fth 138.24 316 P **PKPdf** **18 30 11.1 -1.2**
MEM Membach 138.25 341 PKP **PKPdf** **18 30 11.6 -0.3**
EVR Evrytania 138.51 316 P **PKPdf** **18 30 12.4 -0.5**
GUR Goura 138.63 315 P **PKPdf** **18 30 12.6 -0.6**
PVO Paravola 138.85 316 P **PKPdf** **18 30 13.0 -0.4**
PDO Prodromos 139.09 316 P **PKPdf** **18 30 11.6 -2.3**
KEK Kerkira 139.42 319 P **PKPdf** **18 30 13.7 -0.7**
BNI Bardonecchia 142.70 336 *e*PKIKP **PKPdf** **18 30 16.5 -3.9**
BNI Bardonecchia 142.70 336 *e*PKPpre PKPpre 18 30 16.5
CEL Celeste 142.74 320 *e*PKPpre PKPpre 18 30 16.6
PLDF La Plantade 143.07 339 PKP **PKPdf** **18 30 20.6 -0.3**
SAOF Saorge 143.20 334 PKP PKPab 18 30 15.7 -1.1
AUTN L'Aution 143.25 334 PKP PKPab 18 30 16.2 -1.0
SSB Saint Sauveur 143.34 338 *e*PKHKP PKPpre 18 30 10.5
SSB Saint Sauveur 143.34 338 *e*PKPpre PKPpre 18 30 10.5
LUCF Luceram 143.37 334 PKP PKPab 18 30 16.6 -0.9
VSL Villasalto 145.75 327 *e*PKPdf **PKPdf** **18 30 25.4 -0.3**
CARF Carcanieres 146.44 338 PKP **PKPdf** **18 30 27.0 +0.1**
MLS Moulis 146.58 340 PKP **PKPdf** **18 30 27.1 +0.1**
VALF Valcebollere 146.74 338 PKP **PKPdf** **18 30 28.7 +1.2**
RESF Ens 146.96 340 PKP **PKPbc** **18 30 29.9 +0.2**
KEST Kesra 148.40 322 PKP **PKPdf** **18 30 29.1 -1.2**
KEST *e*PKPdf **PKPbc** **18 30 33.8 -0.1**
KEST Kesra 148.40 322 PKP **PKPdf** **18 30 29.1 -1.2**
comp=Z,7.6nm,1.0s,baz=207,slow=19,SNR=6.5
KEST PKPbc **PKPbc** **18 30 33.7 -0.1**
comp=Z,12nm,0.7s,baz=32,slow=0.4,SNR=35
CMAH Djebel Manchou 148.89 325 P **PKPdf** **18 30 33.0 +1.9**
ABSA Djebel Ababsia 149.11 325 P **PKPbc** **18 30 35.0 -0.6**
CKFL Kef-Lekhel 149.44 326 P **PKPbc** **18 30 36.0 -0.5**
CASM Ain Smara 149.67 326 P **PKPbc** **18 30 36.5 -0.4**
DFRA Djebel Bou Aff 149.79 327 P **PKPbc** **18 30 37.5 +0.2**
SET Setif 150.30 327 P **PKPbc** **18 30 38.0 -0.5**
POLO Lamas de Olo 150.33 351 *e*PKPbc **PKPbc** **18 30 37.9 -0.5**
MVO Moncorvo 150.40 349 *e*PKPbc **PKPbc** **18 30 38.6 0.0**
PVRL Vila Real 150.41 350 *e*PKPbc **PKPbc** **18 30 38.8 +0.2**
PVIS Viseu 150.99 350 *e*PKPbc **PKPbc** **18 30 40.0 0.0**
ESDC Sonseca Array 151.13 344 PKP **PKPdf** **18 30 33.8 -0.7**
ESDC PKPbc **PKPbc** **18 30 38.7 -1.6**
ESDC Sonseca Array 151.13 344 PKP **PKPdf** **18 30 33.8 -0.7**
comp=Z,0.2nm,0.4s,baz=42,slow=3.8,SNR=4.8
ESDC PKPbc **PKPbc** **18 30 38.7 -1.6**
comp=Z,4.9nm,0.9s,baz=19,slow=2.5,SNR=25
MTE Manteigas 151.24 350 *e*PKPbc **PKPbc** **18 30 40.7 +0.1**
PAB San Pablo 151.35 344 *e*PKIKP **PKPbc** **18 30 40.3 -0.6**
PAB San Pablo 151.35 344 *e*PKPbc **PKPbc** **18 30 40.3 -0.6**
PCAS Casmilo, Conde 151.73 351 *e*PKPbc **PKPbc** **18 30 41.2 -0.4**
PCBR Castelo Branco 151.77 349 *e*PKPbc **PKPbc** **18 30 41.5 -0.2**

PTOM	**Tomar**	**152.14 351**	*e*PKPbc	**PKPbc**	**18 30 42.0**	**-0.6**	
PMRV	**Marv??o**	**152.15 349**	*e*PKPbc	**PKPbc**	**18 30 42.6**	**0.0**	
PMTG	**Montargil**	**152.65 350**	*e*PKPbc	**PKPbc**	**18 30 43.3**	**-0.4**	
PACT	**Alcochete**	**153.04 351**	*e*PKPdf	**PKPdf**	**18 30 37.7**	**+0.5**	
EVO	**Evora**	**153.14 350**	*e*PKPbc	**PKPbc**	**18 30 44.7**	**-0.1**	
PNCL	**Nicolau / Gran**	**153.63 350**	*e*PKPbc	**PKPbc**	**18 30 45.3**	**-0.6**	
PVAQ	**Vaqueiros**	**154.18 348**	*e*PKPbc	**PKPbc**	**18 30 47.6**	**+0.5**	
MDT	**Midelt**	**157.65 339**	PKP	**PKPdf**	**18 30 41.9**	**-1.9**	
MDT			PKPab	**PKPab**	**18 31 15.5**	**-0.4**	
MDT	**Midelt**	**157.65 339**	PKP	**PKPdf**	**18 30 41.9**	**-1.9**	
	comp=Z,1.9nm,0.9s,baz=270,slow=4.0,SNR=5.2						
MDT			PKPab	**PKPab**	**18 31 15.5**	**-0.4**	
	comp=Z,4.7nm,1.0s,baz=74,slow=3.4,SNR=6.2						
TOA0	**Torodi Ar. Sit**	**164.65 276**	*e*PKPdf	**PKPdf**	**18 30 50.3**	**-1.3**	
TORD	**Torodi Ar. Bea**	**164.65 276**	PKP	**PKPdf**	**18 30 50.0**	**-1.6**	
TORD			PKPab	**PKPab**	**18 31 47.9**	**+0.9**	
TORD	**Torodi Ar. Bea**	**164.65 276**	PKP	**PKPdf**	**18 30 50.0**	**-1.6**	
	comp=Z,9.5nm,0.9s,baz=20,slow=0.9,SNR=41						
TORD			PKPab	**PKPab**	**18 31 47.9**	**+0.9**	
	comp=Z,4.5nm,1.1s,baz=79,slow=2.8,SNR=5.6						
KIC	**Kosan Boka**	**169.24 239**	*e*PKIKP	**PKPdf**	**18 30 54.1**	**-1.0**	
	comp=Z,69nm,1.3s						
KIC	**Kosan Boka**	**169.24 239**	*e*P	PKPab	18 32 19.9	+13	
	comp=Z,57nm,1.1s						
LIC	**Lamto**	**169.40 237**	*e*PKIKP	**PKPdf**	**18 30 53.9**	**-1.3**	
LIC	**Lamto**	**169.40 237**	*e*P	PKPab	18 32 18.6	+11	
	comp=Z,37nm,1.1s						
DBIC	**Dimbokro**	**169.50 240**	PKP	**PKPdf**	**18 30 53.8**	**-1.4**	
DBIC	**Dimbokro**	**169.50 240**	PKP	**PKPdf**	**18 30 53.8**	**-1.4**	
	comp=Z,9.6nm,1.1s,baz=167,slow=2.9,SNR=4.5						
TIC	**Toumodi**	**169.62 239**	*e*PKIKP	**PKPdf**	**18 30 54.3**	**-1.1**	
	comp=Z,5.9nm,0.2s						
TIC	**Toumodi**	**169.62 239**	*e*P	PKPab	18 32 21.4	+12	
	comp=Z,68nm,1.0s						

IDC 08 18:10:51.1±1.6, 24°.89N×141°.61E, h267km±48km, mb3.3/4, mb1 3.4/6, mb1mx3.1/26, mbtmp3.3/6, Error ellipse: s-maj=130.5km s-min=18.1km az=71.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.26**	**13**	P	Pn	18 11 38.6	+1.3
	57nm,0.3s,baz=300,slow=21,SNR=11						
JCJ				S	S	18 12 14.1	+0.1
	77nm,0.3s,baz=302,slow=23,SNR=18						
KSRS	**Korea Array**	**17.13**	**320**	P	P	18 14 33.2	+0.1
	0.1nm,0.3s,baz=133,slow=11,SNR=3.8						
SONM	**Songino Array**	**35.99**	**319**	P	P	18 17 26.6	-0.3
	0.3nm,0.5s,baz=133,slow=11,SNR=3.0						
WRA	**Warramunga Arr**	**45.12**	**190**	P	P	18 18 41.1	-0.3
	1.4nm,0.4s,baz=11,slow=8.8,SNR=9.2						
MKAR	**Makanchi Array**	**51.51**	**311**	P	P	18 19 29.9	+0.1
	1.2nm,0.4s,baz=87,slow=9.6,SNR=19						
KURBB	**Kurchatov Arra**	**54.23**	**316**	P	P	18 19 49.2	-0.2
	1.8nm,0.6s,baz=94,slow=8.0,SNR=16						

IDC 08 18:14:50.1±7.7, 16°.30S×173°.12W, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.7/21, mbtmp4.0/3, ML2.1/1, MS4.2/1, Ms1 4.2/1, ms1mx3.1/42, Error ellipse: s-maj=311.5km s-min=29.9km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.71**	**29**	Pn	Pn	18 15 33.4	-1.6
	20nm,0.3s,baz=228,slow=7.2,SNR=7.4						
AFI				Sn	Sn	18 16 01.2	-7.5
	69nm,0.3s,baz=214,slow=22,SNR=5.8						
HNR	**Honiara**	**27.11**	**281**	LR	LR	18 29 49.6	
	comp=Z,414nm,18.5s,baz=111,slow=33						
H11S2	**WAKE ISLAND Hy**	**39.88**	**329**	T	T	19 04 33.5	
	baz=151						
H11S3	**WAKE ISLAND Hy**	**39.89**	**329**	T	T	19 04 32.6	
	baz=151						
H11S1	**WAKE ISLAND Hy**	**39.89**	**329**	T	T	19 04 32.6	
	baz=151						
H11N3	**WAKE ISLAND Hy**	**40.83**	**331**	T	T	19 05 23.0	
	baz=156						
H11N1	**WAKE ISLAND Hy**	**40.83**	**330**	T	T	19 05 34.0	
	baz=156						
H11N2	**WAKE ISLAND Hy**	**40.84**	**331**	T	T	19 05 21.1	
	baz=156						
WRA	**Warramunga Arr**	**49.91**	**257**	P	P	18 23 45.8	-0.1
	0.5nm,0.6s,baz=97,slow=6.5,SNR=5.6						
ASAR	**Alice Springs**	**50.09**	**253**	P	P	18 23 46.4	-1.0
	1.8nm,0.5s,baz=90,slow=7.8,SNR=13						
JOW	**Kunigami**	**71.23**	**306**	LR	LR	18 49 48.4	
	comp=Z,18nm,21.8s,baz=104,slow=30						
BRTR	**Keskin Array B**	**147.03**	**320**	PKPbc	PKPab	18 34 36.5	-0.4
	1.2nm,0.8s,baz=129,slow=1.8,SNR=5.2						

IDC 08 18:16:32.0±1.5, 12°.97S×166°.69E, h0km, mb4.0/7, mb1 4.1/9, mb1mx4.0/20, mbtmp4.1/9, ML4.1/2, Error ellipse: s-maj=40.2km s-min=28.9km az=118.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.49**	**297**	Pn	Pn	18 18 23.1	+0.5
	9.9nm,0.3s,baz=19,slow=4.0,SNR=4.6						
HNR				Sn	Sn	18 19 44.4	-4.0
	19nm,0.3s,baz=216,slow=18,SNR=5.8						
DZM	**Mont Dzumac**	**9.06**	**181**	Pn	Pn	18 18 46.1	+1.8
	0.5nm,0.3s,baz=171,slow=21,SNR=8.6						
DZM				Sn	Sn	18 20 21.6	-5.5
	baz=270,slow=19,SNR=2.5						
WRA	**Warramunga Arr**	**31.75**	**253**	P	P	18 22 56.6	-1.6
	0.9nm,0.8s,baz=86,slow=9.4,SNR=3.8						
ASAR	**Alice Springs**	**32.82**	**246**	P	P	18 23 06.5	-1.0
	1.0nm,0.8s,baz=72,slow=9.6,SNR=4.4						
CMAR	**Chiang Mai Arr**	**73.73**	**294**	P	P	18 28 10.1	+1.6
	0.9nm,0.8s,baz=124,slow=6.1,SNR=8.2						
SONM	**Songino Array**	**80.76**	**324**	P	P	18 28 47.7	+0.2
	1.1nm,0.9s,baz=111,slow=6.5,SNR=4.7						
ILAR	**Eielson Array**	**85.04**	**18**	P	P	18 29 08.3	-0.9
	0.6nm,1.0s,baz=238,slow=5.2,SNR=3.1						
MKAR	**Makanchi Array**	**95.55**	**317**	P	P	18 29 60.0	+0.8
	2.2nm,0.9s,baz=94,slow=6.3,SNR=7.7						
ZALV	**Zalesovo Beam**	**95.65**	**324**	P	P	18 29 57.9	-1.5
	0.3nm,0.4s,baz=101,slow=4.7,SNR=3.4						

*IDC **08** 18:24:21.0±0.8, 12°.06S×165°.94E, h0km, mb4.2/12, mb1 4.3/14, mb1mx4.2/21, mbtmp4.2/14, ML3.9/2, MS3.8/3, Ms1 3.8/3, ms1mx3.4/28, Error ellipse: s-maj=24.1km s-min=18.0km az=106.0*

*ISCJB **08** 18:24:23.6±0.6, 12°.15S±0°.08×165°.90E±0°.08, h30km, mb4.3/15, MS3.7/3, Error ellipse: s-maj=12.9km s-min=9.4km az=141.6*

*NEIC **08** 18:24:26.1±0.5, 12°.08S×165°.95E, h35km, mb4.6/5, Error ellipse: s-maj=11.2km s-min=9.0km az=99.0*

ISC 08 18:24:25.5±0.7, 12°.11S±0°.09×165°.97E±0°.10, h30km, n44, σ0s75/47, mb4.2/15, MS3.8/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.49**	**294**	Pn	**Pn**	**18 25 58.5**	**-0.5**
HNR				Sn	**Sn**	**18 27 12.6**	**+0.6**
HNR	**Honiara**	**6.49**	**294**	Pn	**Pn**	**18 25 58.5**	**-0.5**
	10nm,0.3s,baz=213,slow=9.8,SNR=4.1						
HNR				Sn	**Sn**	**18 27 12.6**	**+0.6**
	5.6nm,0.3s,baz=342,slow=20,SNR=2.2						
DZM	**Mont Dzumac**	**9.92**	**177**	Pn	**Pn**	**18 26 45.4**	**-0.8**
DZM	**Mont Dzumac**	**9.92**	**177**	Pn	**Pn**	**18 26 45.4**	**-0.8**
	0.2nm,0.3s,baz=108,slow=9.6,SNR=5.1						
CTA	**Charters Tower**	**20.52**	**245**	P	**P**	**18 29 02.0**	**+0.4**
CTA	**Charters Tower**	**20.52**	**245**	P	**P**	**18 29 02.0**	**+0.4**
	7.1nm,0.7s,baz=73,slow=13,SNR=8.5						
CTAO	**Charters Tower**	**20.52**	**245**	*e*P	Pn	18 29 03.2	-0.7
	13nm,0.9s						
AFI	**Afiamalu**	**21.76**	**97**	LR	LR	18 35 18.7	
	comp=Z,178nm,21.8s,baz=212,slow=30						
STKA	**Stephens Creek**	**29.84**	**225**	*e*P	**P**	**18 30 30.9**	**+0.7**
STKA	**Stephens Creek**	**29.84**	**225**	P	**P**	**18 30 29.0**	**-1.2**
	3.3nm,0.8s,baz=222,slow=23,SNR=8.8						
STKA				LR	LR	18 41 10.5	
	comp=Z,246nm,21.6s,baz=30,slow=34						
WRAB	**Tennant Creek**	**31.33**	**252**	*e*P	**P**	**18 30 42.4**	**-1.2**
	2.8nm,0.8s						
WRA	**Warramunga Arr**	**31.34**	**252**	P	**P**	**18 30 43.0**	**-0.7**
WRA	**Warramunga Arr**	**31.34**	**252**	P	**P**	**18 30 43.0**	**-0.7**
	3.1nm,0.8s,baz=83,slow=8.9,SNR=20						

AS31	**Alice Springs**	**32.53 245**	*e*P	**P**	**18 30 52.9**	**-1.1**	
ASAR	**Alice Springs**	**32.53 245**	P	**P**	**18 30 53.1**	**-1.0**	
ASAR			PcP	**PcP**	**18 33 41.0**	**+0.5**	
ASAR	**Alice Springs**	**32.53 245**	P	**P**	**18 30 53.1**	**-1.0**	
	4.4nm,0.7s,baz=71,slow=9.5,SNR=58						
ASAR			PcP	**PcP**	**18 33 41.0**	**+0.5**	
	0.5nm,1.1s,baz=93,slow=3.7,SNR=3.1						
BATI	**Baumata**	**41.52 268**	P	**P**	**18 32 11.2**	**+0.6**	
BATI	**Baumata**	**41.52 268**	P	**P**	**18 32 11.2**	**+0.6**	
	10nm,0.6s,baz=93,slow=22,SNR=6.2						
PPT	**Papeete**	**43.24 103**	LR	LR	18 46 35.3		
	comp=Z,170nm,20.5s,baz=303,slow=31						
MBWA	**Marble Bar**	**45.07 252**	*e*P	**P**	**18 32 39.2**	**+0.1**	
	8.6nm,0.8s						
KSRS	**Korea Array**	**60.87 326**	P	**P**	**18 34 34.6**	**-0.7**	
	1.0nm,0.8s,baz=112,slow=5.4,SNR=2.9						
KSAR	**Wonju Array Be**	**60.88 326**	P	**P**	**18 34 34.6**	**-0.8**	
USRK	**Ussuriysk Arra**	**63.99 333**	P	**P**	**18 34 56.5**	**+0.5**	
	1.5nm,0.7s,baz=119,slow=12,SNR=2.8						
VNDA	**Vanda**	**65.44 181**	P	**P**	**18 35 06.2**	**+1.1**	
VNDA	**Vanda**	**65.44 181**	P	**P**	**18 35 06.2**	**+1.1**	
	0.3nm,0.4s,baz=13,slow=7.8,SNR=1.8						
QSPA	**South Pole Qui**	**77.91 180**	*e*P	**P**	**18 36 21.1**	**+0.7**	
	12nm,1.2s						
ULN	**Ulaanbaatar**	**79.28 324**	*e*P	**P**	**18 36 28.7**	**+0.4**	
	14nm,1.1s						
ULN			*e*		18 36 40.2		
SONM	**Songino Array**	**79.64 324**	P	**P**	**18 36 29.7**	**-0.5**	
SONM	**Songino Array**	**79.64 324**	P	**P**	**18 36 29.7**	**-0.5**	
	0.8nm,0.8s,baz=148,slow=6.1,SNR=4.9						
ILAR	**Eielson Array**	**84.44 18**	P	**P**	**18 36 55.1**	**+0.3**	
ILAR	**Eielson Array**	**84.44 18**	P	**P**	**18 36 55.1**	**+0.3**	
	0.6nm,0.5s,baz=252,slow=5.1,SNR=10						
MK31	**Makanchi Array**	**94.44 317**	*e*P	**P**	**18 37 42.2**	**-0.6**	
MK31			*e*		18 37 54.2		
MKAR	**Makanchi Array**	**94.44 317**	P	**P**	**18 37 42.8**	**0.0**	
MKAR	**Makanchi Array**	**94.44 317**	P	**P**	**18 37 42.8**	**0.0**	
	2.1nm,0.7s,baz=93,slow=6.5,SNR=22						
ZALV	**Zalesovo Beam**	**94.54 324**	P	**P**	**18 37 42.1**	**-0.8**	
ZALV	**Zalesovo Beam**	**94.54 324**	P	**P**	**18 37 42.1**	**-0.8**	
	1.3nm,0.8s,baz=115,slow=2.9,SNR=4.7						
ARCES	**ARCESS Array B**	**117.41 345**	PKP	**PKPdf**	**18 43 07.9**	**+0.2**	
ARCES	**ARCESS Array B**	**117.41 345**	PKP	**PKPdf**	**18 43 07.9**	**+0.2**	
	1.3nm,0.6s,baz=333,slow=1.6,SNR=6.0						
FINES	**FINESS Array B**	**122.83 338**	PKP	**PKPdf**	**18 43 17.8**	**-0.4**	
FINES	**FINESS Array B**	**122.83 338**	PKP	**PKPdf**	**18 43 17.8**	**-0.4**	
	1.5nm,0.9s,baz=25,slow=15,SNR=1.5						
KEST	**Kesra**	**148.38 322**	PKPbc	**PKPbc**	**18 44 08.7**	**-0.9**	
KEST	**Kesra**	**148.38 322**	PKPbc	**PKPbc**	**18 44 08.7**	**-0.9**	
	0.7nm,0.7s,baz=134,slow=2.9,SNR=4.6						
TORD	**Torodi Ar. Bea**	**164.62 276**	PKP	**PKPdf**	**18 44 27.2**	**-0.2**	
TORD			PKPab	**PKPab**	**18 45 24.1**	**+1.4**	
TORD	**Torodi Ar. Bea**	**164.62 276**	PKP	**PKPdf**	**18 44 27.2**	**-0.2**	
	0.6nm,0.9s,baz=359,slow=2.6,SNR=3.1						
TORD			PKPab	**PKPab**	**18 45 24.1**	**+1.4**	
	0.5nm,0.9s,baz=132,slow=2.1,SNR=2.2						

IDC 08 18:33:04.7±1.1, 17°.59N×145°.05E, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.5/24, mbtmp3.6/5, Error ellipse: s-maj=55.1km s-min=23.9km az=107.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**20.60**	**84**	T	T	18 59 18.5	
	baz=273,slow=0.6,SNR=43						
H11S1	**WAKE ISLAND Hy**	**20.61**	**84**	T	T	18 59 10.2	
	baz=273,slow=0.6,SNR=24						
H11S2	**WAKE ISLAND Hy**	**20.61**	**84**	T	T	18 59 11.2	
	baz=273,slow=0.6,SNR=48						
H11N1	**WAKE ISLAND Hy**	**20.80**	**81**	T	T	18 59 27.3	
	baz=270,slow=0.7,SNR=23						
H11N2	**WAKE ISLAND Hy**	**20.81**	**81**	T	T	18 59 29.0	
	baz=270,slow=0.7,SNR=27						
H11N3	**WAKE ISLAND Hy**	**20.82**	**81**	T	T	18 59 29.9	
	baz=270,slow=0.7,SNR=27						
WRA	**Warramunga Arr**	**38.75**	**196**	P	P	18 40 30.3	-0.7
	1.0nm,0.8s,baz=16,slow=9.5,SNR=5.1						
ASAR	**Alice Springs**	**42.42**	**195**	P	P	18 41 01.5	+0.2
	0.2nm,0.7s,baz=20,slow=8.6,SNR=4.7						
ILAR	**Eielson Array**	**64.91**	**26**	P	P	18 43 44.9	-0.8
	0.4nm,0.8s,baz=270,slow=5.4,SNR=3.6						
BVAR	**Borovoye Array**	**66.94**	**321**	P	P	18 43 59.4	+0.4
	0.4nm,0.5s,baz=92,slow=7.4,SNR=4.1						
NVAR	**Mina Array Bea**	**84.31**	**52**	P	P	18 45 40.0	+0.9
	0.6nm,0.7s,baz=256,slow=6.1,SNR=4.9						

*IDC **08** 18:47:53.4±0.8, 11°.01S×165°.61E, h0km, mb4.4/11, mb1 4.5/12, mb1mx4.3/22, mbtmp4.4/12, ML4.7/1, Error ellipse: s-maj=25.2km s-min=18.6km az=128.0*

*ISCJB **08** 18:47:57.0±0.6, 11°.21S±0°.08×165°.62E±0°.07, h30km, mb4.5/15, Error ellipse: s-maj=12.9km s-min=9.1km az=26.7*

*NEIC **08** 18:47:59.0±0.6, 11°.14S×165°.66E, h35km, mb4.8/7, Error ellipse: s-maj=14.7km s-min=13.6km az=148.0*

*AUST **08** 18:49:12.2±0.0, 12°.58S×161°.03E, h423km, Error ellipse: s-maj=2.5km s-min=1.6km az=8.0*

ISC 08 18:47:58.4±0.6, 11°.14S±0°.10×165°.70E±0°.08, h30km, n45, σ1s46/47, mb4.4/15, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.91**	**286**	Pn	**Pn**	**18 49 23.9**	**-0.2**
HNR				Sn	**Sn**	**18 50 31.1**	**+0.2**
HNR	**Honiara**	**5.91**	**286**	Pn	**Pn**	**18 49 23.8**	**-0.2**
	11nm,0.3s,baz=164,slow=3.0,SNR=12						
HNR				Sn	**Sn**	**18 50 31.0**	**+0.2**
	5.4nm,0.3s,baz=53,slow=20,SNR=2.8						
DZM	**Mont Dzumac**	**10.90**	**176**	*e*P	**Pn**	**18 50 31.5**	**-1.0**
	15nm,0.6s						
DZM	**Mont Dzumac**	**10.90**	**176**	Pn	**Pn**	**18 50 31.6**	**-1.0**
	5.3nm,0.3s,baz=334,slow=15,SNR=56						
CTA	**Charters Tower**	**20.72**	**242**	P	**P**	**18 52 36.5**	**-0.1**
CTA	**Charters Tower**	**20.72**	**242**	P	**P**	**18 52 36.5**	**-0.1**
	13nm,0.9s,baz=68,slow=15,SNR=8.1						
CTAO	**Charters Tower**	**20.72**	**242**	*e*P	**P**	**18 52 37.5**	**+0.9**
	19nm,0.9s						
RMQ	**Roma**	**22.10**	**224**	P	**P**	**18 52 52.1**	**+0.7**
	baz=18,SNR=6.5						
COEN	**Coen**	**22.17**	**260**	*e*P	**P**	**18 52 51.6**	**-0.7**
	273nm,1.5s						
URZ	**Urewera**	**28.88**	**161**	P	**P**	**18 53 56.7**	**+2.2**
URZ	**Urewera**	**28.88**	**161**	P	**P**	**18 53 56.7**	**+2.2**
	4.7nm,0.6s,baz=18,slow=9.6,SNR=2.4						
STKA	**Stephens Creek**	**30.35**	**223**	*e*P	**P**	**18 54 06.6**	**-1.1**
	2.0nm,1.2s						
STKA	**Stephens Creek**	**30.35**	**223**	P	**P**	**18 54 08.1**	**+0.5**
	baz=26,SNR=9.9						
STKA	**Stephens Creek**	**30.35**	**223**	P	**P**	**18 54 07.0**	**-0.7**
	3.3nm,0.7s,baz=36,slow=9.5,SNR=11						
WRAB	**Tennant Creek**	**31.40**	**250**	*e*P	**P**	**18 54 16.5**	**-0.6**
	9.9nm,0.8s						
WRA	**Warramunga Arr**	**31.41**	**250**	P	**P**	**18 54 15.9**	**-1.4**
WRA	**Warramunga Arr**	**31.41**	**250**	P	**P**	**18 54 15.9**	**-1.4**
	12nm,0.9s,baz=82,slow=9.2,SNR=47						
AS31	**Alice Springs**	**32.71**	**243**	*e*P	**P**	**18 54 26.4**	**-2.2**
ASAR	**Alice Springs**	**32.72**	**243**	P	**P**	**18 54 27.1**	**-1.6**
ASAR	**Alice Springs**	**32.72**	**243**	P	**P**	**18 54 27.1**	**-1.6**
	2.8nm,0.7s,baz=62,slow=10,SNR=25						
KNRA	**Kununurra**	**36.18**	**259**	P	**P**	**18 54 59.4**	**+0.7**
	baz=31,SNR=4.7						
FITZ	**Fitzroy Crossi**	**39.32**	**255**	P	**P**	**18 55 24.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**39.32**	**255**	P	**P**	**18 55 25.1**	**-0.1**
	baz=34,SNR=6.0						
FITZ	**Fitzroy Crossi**	**39.32**	**255**	P	**P**	**18 55 24.5**	**-0.7**
	3.8nm,0.7s,baz=99,slow=4.0,SNR=8.7						
MBWA	**Marble Bar**	**45.13**	**251**	*e*P	**P**	**18 56 12.8**	**+0.2**
	14nm,1.0s						
MEEK	**Meekatharra**	**46.87**	**244**	P	**P**	**18 56 26.5**	**+0.2**
	baz=42,SNR=4.4						
IPM	**Ipoh**	**66.20**	**280**	P	**P**	**18 58 45.9**	**+1.9**
CHTO	**Chiang Mai**	**72.22**	**294**	*e*P	**P**	**18 59 22.6**	**+1.4**
	9.6nm,0.8s						
QSPA	**South Pole Qui**	**78.87**	**180**	P	**P**	**18 59 58.2**	**-0.4**
QSPA	**South Pole Qui**	**78.87**	**180**	P	**P**	**18 59 58.2**	**-0.4**
	1.8nm,1.0s,baz=221,slow=9.3,SNR=5.2						
ILAR	**Eielson Array**	**83.61**	**19**	P	**P**	**19 00 23.8**	**+0.2**
ILAR	**Eielson Array**	**83.61**	**19**	P	**P**	**19 00 23.8**	**+0.2**
	1.4nm,0.6s,baz=228,slow=5.2,SNR=17						
MAW	**Mawson**	**84.62**	**202**	P	**P**	**19 00 29.3**	**+0.6**
MAW	**Mawson**	**84.62**	**202**	P	**P**	**19 00 29.3**	**+0.6**
	4.3nm,1.0s,baz=90,slow=5.1,SNR=5.9						
EGAK	**Eagle**	**85.48**	**20**	*e*P	**P**	**19 00 34.2**	**+1.2**
	8.7nm,1.1s						

NVAR	**Mina Array Bea**	**86.11**	**50**	P	**P**	**19 00 35.2**	**-1.9**
NVAR	**Mina Array Bea**	**86.11**	**50**	P	**P**	**19 00 35.2**	**-1.9**
	1.5nm,0.9s,baz=232,slow=8.5,SNR=6.4						
ZALV	**Zalesovo Beam**	**93.61**	**324**	P	**P**	**19 01 10.5**	**-1.2**
ZALV	**Zalesovo Beam**	**93.61**	**324**	P	**P**	**19 01 10.5**	**-1.2**
	0.2nm,0.3s,baz=124,slow=4.4,SNR=2.6						
LONY	**Lake Ozonia**	**118.80**	**45**	*e*P	**Pdif**	**19 02 59.7**	**-4.8**
NCB	**Newcomb**	**119.20**	**46**	*e*P	**Pdif**	**19 03 10.5**	**+4.2**
KEST	**Kesra**	**147.46 323**	PKPbc	**PKPdf**	**19 07 36.9**	**-0.7**	
KEST	**Kesra**	**147.46 323**	PKPbc	**PKPdf**	**19 07 36.9**	**-0.7**	
	0.6nm,0.7s,baz=39,slow=16,SNR=2.0						
ESDC	**Sonseca Array**	**150.13 344**	PKPbc	**PKPbc**	**19 07 48.1**	**+1.3**	
ESDC	**Sonseca Array**	**150.13 344**	PKPbc	**PKPbc**	**19 07 48.1**	**+1.3**	
	0.1nm,0.3s,baz=355,slow=3.2,SNR=3.2						

*IDC **08** 18:51:20.9±0.5, 11°.75S×166°.14E, h0km, mb4.6/19, mb1 4.7/22, mb1mx4.6/26, mbtmp4.6/22, ML4.3/3, MS4.6/22, Ms1 4.7/22, ms1mx4.5/31, Error ellipse: s-maj=16.3km s-min=14.2km az=116.0*

*BJI **08** 18:51:22.6, 12°.09S×166°.42E, h34km, mB5.3/23, mb4.8/36, Ms5.2/20, Ms7 4.7/20*

*ISCJB **08** 18:51:25.7±0.3, 11°.75S±0°.04×165°.97E±0°.05, h37km, mb4.8/35, MS4.7/27, Error ellipse: s-maj=7.2km s-min=6.0km az=146.1*

*NEIC **08** 18:51:26.4±0.3, 11°.64S×166°.07E, h35km, mb4.9/13, Error ellipse: s-maj=9.5km s-min=7.1km az=129.0*

*DJA **08** 18:51:27.8±0.4, 12°.S±7°×16°.6E±°, h10km, M5.0/12, mb5.0/12*

*GCMT **08** 18:51:29.7±0.3, 11°.59S×165°.81E, h29km, MW5.2, Moment Tensor Solution. s45,c64; s61,c84; Moment tensor: Scale 10^16 Nm; Mrr 7.42±.33; Mθθ -2.40±.25; Mφφ -5.02±.23; Mrθ 0.40±.40; Mrφ 2.83±.16; Mθφ 2.31±.31; Best double couple: M0 7.50000×10^16 NP1:φs 338.00000°, δ 53.00000°, λ 103.00000°. NP2:φs 138.00000°, δ 39.00000°, λ 74.00000°. Principal axes: T 7.9200, Plg 78.0000°, Azm 295.0000°; N -0.8800, Plg 10.0000°, Azm 150.0000°; P -7.0400, Plg 7.0000°, Azm 59.0000°; Data Used: II IU G CN IC.*

ISC 08 18:51:27.2±0.3, 11°.72S±0°.05×166°.04E±0°.06, h37km, n103, σ1s45/144, mb4.9/35, MS4.6/28, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.41**	**290**	Pn	**Pn**	**18 52 58.8**	**-0.2**
HNR				Sn	**Sn**	**18 54 09.8**	**-1.1**
HNR	**Honiara**	**6.41**	**290**	Pn	**Pn**	**18 52 58.8**	**-0.2**
	34nm,0.3s,baz=15,slow=6.0,SNR=13						
HNR				Sn	**Sn**	**18 54 09.8**	**-1.1**
	39nm,0.3s,baz=70,slow=22,SNR=7.3						
HNR				LR	LR	18 55 16.9	
	comp=Z,5μm,20.8s,baz=116,slow=36						
DZM	**Mont Dzumac**	**10.30**	**178**	*e*Pn	**Pn**	**18 53 53.6**	**+1.0**
	120nm,0.8s						
DZM				*e*LR	LR	18 56 12.4	
	4μm,23.4s						
DZM	**Mont Dzumac**	**10.30**	**178**	Pn	**Pn**	**18 53 54.0**	**+1.4**
DZM				Sn	**Sn**	**18 55 47.1**	**+0.2**
DZM	**Mont Dzumac**	**10.30**	**178**	Pn	**Pn**	**18 53 54.0**	**+1.4**
	5.3nm,0.3s,baz=22,slow=18,SNR=20						
DZM				Sn	**Sn**	**18 55 47.1**	**+0.2**
	0.3nm,0.3s,baz=37,slow=24,SNR=1.4						
DZM				LR	LR	18 57 10.0	
	comp=Z,1μm,21.7s,baz=12,slow=34						
MSVF	**Nonsavu**	**13.06**	**119**	*e*P	**Pn**	**18 54 32.4**	**+2.0**
	57nm,0.9s						
TARA	**Tarawa**	**14.68**	**28**	*e*P	**Pn**	**18 54 52.5**	**+0.2**
	150nm,0.8s						
PMG	**Port Moresby**	**18.70**	**275**	*e*P	**Pn**	**18 55 43.7**	**+0.5**
	24nm,0.9s						
PMG	**Port Moresby**	**18.70**	**275**	P	**P**	**18 55 42.2**	**-0.4**
	0.6nm,0.3s,baz=149,slow=4.9,SNR=4.8						
EIDS	**Eidsvold**	**19.60**	**224**	*

USRK	**Ussuriysk Arra**	**63.67**	**333**	P	**P**	**19 01 54.3**	**-0.4**
	2.0nm,0.6s,baz=147,slow=8.1,SNR=3.9							
USRK				LR	LR	19 24 39.9		
	comp=Z,180nm,19.4s,baz=312,slow=31							
PETK	**Petropavlovsk-**	**64.96**	**354**	LR	LR	19 26 46.3		
	comp=Z,274nm,18.8s,baz=180,slow=33							
VNDA	**Vanda**	**65.83**	**181**	*e*P	**P**	**19 02 08.3**	**0.0**
	18nm,1.3s							
VNDA	**Vanda**	**65.83**	**181**	P	**P**	**19 02 08.7**	**+0.3**
	5.5nm,0.7s,baz=3.4,slow=7.0,SNR=25							
SBA	**Scott Base**	**66.13**	**180**	*e*P	**P**	**19 02 11.4**	**+1.2**
	21nm,0.8s							
CN2	**Changchun**	**66.46**	**329**	*e*P	P	19 02 17.1	+4.3	
CN2				*es*P	sP	19 02 31.3	+2.9	
CN2				*e*S	**S**	**19 11 04.5**	**+3.8**	
CN2				AMB	AMB			
	comp=Z,10.0nm,0.7s							
CN2				AMB	AMB			
	comp=Z,200nm,3.0s							
CN2				LR	LR			
	comp=N,360nm,12.0s							
CN2				LR	LR			
	comp=E,400nm,12.0s							
CN2				LR	LR			
	comp=Z,380nm,16.0s							
GYA	**Guiyang**	**69.03**	**304**	P	**P**	**19 02 31.7**	**+2.1**	
GYA				pP	**pP**	**19 02 43.6**	**+2.7**	
GYA				sP	**sP**	**19 02 48.9**	**+3.7**	
GYA				PP	**PP**	**19 05 05.1**	**+2.6**	
GYA				S	**S**	**19 11 33.0**	**+0.6**	
GYA				sS	**sS**	**19 11 50.5**	**-0.6**	
GYA				SKS	**SKSac**	**19 12 24.0**	**-3.0**	
GYA				AMB	AMB			
	comp=Z,10.0nm,1.0s							
GYA				AMB	AMB			
	comp=Z,90nm,5.5s							
GYA				LR	LR			
	comp=N,490nm,18.6s							
GYA				LR	LR			
	comp=E,370nm,19.0s							
GYA				LR	LR			
	comp=Z,410nm,18.4s							
XAN	**Xi'an**	**70.78**	**312**	P	**P**	**19 02 39.7**	**-0.4**	
XAN				pP	**pP**	**19 02 51.3**	**-0.2**	
XAN				sP	**sP**	**19 02 57.0**	**+1.3**	
XAN				AMB	AMB			
	comp=Z,3.0nm,1.0s							
KMI	**Kunming**	**71.72**	**301**	P	**P**	**19 02 47.8**	**+1.7**	
KMI				pP	**pP**	**19 02 58.5**	**+1.0**	
KMI				sP	**sP**	**19 03 03.0**	**+1.2**	
KMI				PP	**PP**	**19 05 29.8**	**+4.0**	
KMI				S	**S**	**19 12 06.8**	**+2.8**	
KMI				sS	**SKiKP**	**19 12 22.4**	**+0.2**	
KMI				AMB	AMB			
	comp=Z,12nm,1.0s							
KMI				AMB	AMB			
	comp=Z,240nm,4.5s							
KMI				LR	LR			
	comp=N,210nm,21.5s							
KMI				LR	LR			
	comp=E,290nm,24.3s							
KMI				LR	LR			
	comp=Z,330nm,21.5s							
HHC	**Hu-ho-hao-te**	**72.53**	**320**	*e*P	**P**	**19 02 51.8**	**+1.3**	
HHC				pP	**pP**	**19 03 02.1**	**+0.2**	
HHC				sP	**sP**	**19 03 06.1**	**-0.1**	
HHC				PP	**PP**	**19 05 35.4**	**+3.1**	
HHC				S	**S**	**19 12 13.0**	**+0.5**	
HHC				sS	**sS**	**19 12 30.2**	**-1.2**	
HHC				SKS	**SKSac**	**19 12 49.6**	**-3.2**	
HHC				ScS	**SKKSac**	**19 12 52.8**	**-0.1**	
HHC				SS	**SS**	**19 16 54.6**	**+2.3**	
HHC				AMB	AMB			
	comp=Z,40nm,1.0s							
HHC				AMB	AMB			
	comp=Z,170nm,5.4s							
HHC				LR	LR			
	comp=N,740nm,17.5s							
HHC				LR	LR			
	comp=E,570nm,17.3s							
HHC				LR	LR			
	comp=Z,600nm,15.3s							
CMAR	**Chiang Mai Arr**	**72.64**	**294**	P	**P**	**19 02 51.9**	**+0.4**	
CMAR	**Chiang Mai Arr**	**72.64**	**294**	P	**P**	**19 02 51.9**	**+0.4**	
	baz=125,slow=4.7,SNR=3.5							
CD2	**Chengdu**	**73.24**	**307**	P	**P**	**19 02 55.6**	**+0.7**	
CD2				pP	**pP**	**19 03 06.4**	**+0.1**	
CD2				sP	**sP**	**19 03 10.6**	**+0.1**	
CD2				PP	**PP**	**19 05 41.0**	**+2.5**	
CD2				S	**S**	**19 12 20.2**	**-0.7**	
CD2				sS	**sS**	**19 12 38.2**	**-1.5**	
CD2				SS	**SS**	**19 17 04.6**	**+1.2**	
CD2				AMB	AMB			
	comp=Z,20nm,1.0s							
CD2				AMB	AMB			
	comp=Z,350nm,5.5s							
CD2				LR	LR			
	comp=N,450nm,6.5s							
CD2				LR	LR			
	comp=Z,310nm,8.3s							
LZH	**Lanzhou**	**75.42**	**312**	*e*P	**P**	**19 03 09.3**	**+1.7**	
LZH				pP	**PcP**	**19 03 20.0**	**-0.7**	
LZH				*e*PP	**PP**	**19 06 01.0**	**+3.9**	
LZH				*e*S	**S**	**19 12 45.6**	**+0.2**	
LZH				sS	**sS**	**19 13 03.5**	**-0.8**	
LZH				*e*SS	**SS**	**19 17 39.2**	**+2.6**	
LZH				AMB	AMB			
	comp=Z,21nm,1.5s							
LZH				AMB	AMB			
	comp=Z,100nm,8.6s							
LZH				LR	LR			
	comp=N,350nm,17.0s							
LZH				LR	LR			
	comp=E,320nm,17.3s							
LZH				LR	LR			
	comp=Z,500nm,19.5s							
QSPA	**South Pole Qui**	**78.29**	**180**	*e*P	**P**	**19 03 22.8**	**-0.4**	
	58nm,1.1s							
QSPA	**South Pole Qui**	**78.29**	**180**	P	**P**	**19 03 23.7**	**+0.5**	
	39nm,0.9s,baz=1.9,SNR=68							
SONM	**Songino Array**	**79.38**	**324**	P	**P**	**19 03 30.0**	**+0.5**	
SONM	**Songino Array**	**79.38**	**324**	P	**P**	**19 03 30.0**	**+0.5**	
	1.2nm,0.6s,baz=145,slow=8.5,SNR=3.7							
SONM				LR	LR	19 34 31.7		
	comp=Z,198nm,21.8s,baz=82,slow=33							
GTA	**Gaotai**	**79.73**	**314**	P	**P**	**19 03 32.3**	**+0.7**	
GTA				pP	**PcP**	**19 03 40.3**	**+1.1**	
GTA				sP	**sP**	**19 03 44.4**	**-2.9**	
GTA				S	**S**	**19 13 32.8**	**+1.0**	
GTA				SS	**SS**	**19 18 44.5**	**+3.1**	
GTA				AMB	AMB			
	comp=Z,12nm,0.9s							
GTA				AMB	AMB			
	comp=Z,210nm,7.1s							
GTA				LR	LR			
	comp=N,200nm,19.5s							
GTA				LR	LR			
	comp=E,250nm,20.0s							
GTA				LR	LR			
	comp=Z,320nm,20.9s							
LSA	**Lhasa**	**82.95**	**302**	P	**P**	**19 03 50.1**	**+0.8**	
ILAR	**Eielson Array**	**84.06**	**18**	P	**P**	**19 03 51.3**	**-2.3**	
ILAR	**Eielson Array**	**84.06**	**18**	P	**P**	**19 03 51.3**	**-2.3**	
	1.6nm,0.6s,baz=230,slow=6.6,SNR=12							
ILAR				LR	LR	19 42 23.2		
	comp=Z,296nm,18.3s,baz=208,slow=36							
MAW	**Mawson**	**84.21**	**202**	P	**P**	**19 03 54.3**	**-0.1**	
MAW	**Mawson**	**84.21**	**202**	P	**P**	**19 03 54.3**	**-0.1**	
	3.6nm,0.8s,baz=98,slow=8.9,SNR=6.2							
EGAK	**Eagle**	**85.91**	**20**	*e*P	**P**	**19 04 02.6**	**-0.2**	
	6.1nm,0.8s							
NVAR	**Mina Array Bea**	**86.24**	**50**	P	**P**	**19 04 04.7**	**-0.7**	
NVAR	**Mina Array Bea**	**86.24**	**50**	P	**P**	**19 04 04.7**	**-0.7**	
	1.1nm,0.7s,baz=234,slow=8.6,SNR=7.3							
NVAR				LR	LR	19 37 32.6		
	comp=Z,830nm,18.8s,baz=264,slow=32							
WMQ	**Urumqi**	**89.77**	**315**	P	**P**	**19 04 22.5**	**+0.5**	
WMQ				pP	**pP**	**19 04 33.1**	**-0.5**	
WMQ				sP	**sP**	**19 04 37.0**	**-0.8**	
WMQ				AMB	AMB			
	comp=Z,13nm,1.5s							
WMQ				AMB	AMB			
	comp=Z,360nm,5.4s							
WMQ				LR	LR			
	comp=N,120nm,16.6s							
WMQ				LR	LR			
	comp=E,130nm,23.4s							
WMQ				LR	LR			
	comp=Z,180nm,21.8s							
PDAR	**Pinedale Array**	**93.80**	**47**	P	**P**	**19 04 40.9**	**0.0**	
PDAR				PKKPbc	**PKKPbc**	**19 21 46.5**	**+0.3**	
PDAR	**Pinedale Array**	**93.80**	**47**	P	**P**	**19 04 40.9**	**0.0**	
	0.5nm,0.6s,baz=238,slow=5.2,SNR=2.6							
PDAR				PKKPbc	**PKKPbc**	**19 21 46.5**	**+0.3**	
	0.4nm,0.7s,baz=101,slow=4.9,SNR=3.7							
PDAR				LR	LR	19 42 23.4		
	comp=Z,268nm,18.6s,baz=82,slow=33							
MK31	**Makanchi Array**	**94.21**	**317**	*e*P	**P**	**19 04 41.4**	**-1.0**	
MKAR	**Makanchi Array**	**94.21**	**317**	P	**P**	**19 04 42.4**	**0.0**	
MKAR	**Makanchi Array**	**94.21**	**317**	P	**P**	**19 04 42.4**	**0.0**	
	13nm,0.6s,baz=32,slow=12,SNR=16							
MKAR				LR	LR	19 49 57.7		
	comp=Z,116nm,18.9s,baz=99,slow=37							
ZAA0	**Zalesovo Array**	**94.27**	**324**	*e*P	**P**	**19 04 41.2**	**-1.2**	
ZALV	**Zalesovo Beam**	**94.27**	**324**	P	**P**	**19 04 40.6**	**-1.8**	
ZALV	**Zalesovo Beam**	**94.27**	**324**	P	**P**	**19 04 40.6**	**-1.8**	
	2.3nm,0.8s,baz=99,slow=4.7,SNR=11							
TXAR	**Lajitas Array**	**95.90**	**61**	P	**P**	**19 04 48.9**	**-1.7**	
TXAR	**Lajitas Array**	**95.90**	**61**	P	**P**	**19 04 48.9**	**-1.7**	
	0.1nm,0.3s,baz=238,slow=5.2,SNR=2.5							
TXAR				LR	LR	19 42 11.7		
	comp=Z,562nm,18.2s,baz=300,slow=32							
SNAA	**Sanae**	**96.47**	**184**	*e*P	**P**	**19 04 50.2**	**-2.1**	
	2.6nm,0.8s							
SNAA	**Sanae**	**96.47**	**184**	P	**P**	**19 04 50.9**	**-1.4**	
	baz=178,slow=3.6,SNR=2.8							
BVAR	**Borovoye Array**	**102.65**	**322**	P	**Pdif**	**19 05 18.3**	**-1.9**	
BVAR	**Borovoye Array**	**102.65**	**322**	P	**Pdif**	**19 05 18.3**	**-1.9**	
	0.5nm,0.7s,baz=94,slow=8.0,SNR=3.6							
ARCES	**ARCESS Array B**	**117.05**	**345**	PKP	**PKPdf**	**19 10 05.6**	**-2.0**	
ARCES	**ARCESS Array B**	**117.05**	**345**	PKP	**PKPdf**	**19 10 05.6**	**-2.0**	
	0.7nm,0.5s,baz=80,slow=2.8,SNR=6.9							
JMIC	**Jan Mayen**	**120.68**	**358**	PKP	**PKPdf**	**19 10 12.9**	**-1.7**	
JMIC	**Jan Mayen**	**120.68**	**358**	PKP	**PKPdf**	**19 10 12.9**	**-1.7**	
	161nm,0.4s,baz=137,slow=3.2,SNR=6.3							
FINES	**FINESS Array B**	**122.50**	**338**	PKP	**PKPdf**	**19 10 17.1**	**-1.2**	
FINES	**FINESS Array B**	**122.50**	**338**	PKP	**PKPdf**	**19 10 17.1**	**-1.2**	
	2.1nm,0.9s,baz=66,slow=1.2,SNR=5.1							
BOSA	**Boshof**	**124.82**	**223**	PKP	**PKPdf**	**19 10 24.0**	**0.0**	
BOSA	**Boshof**	**124.82**	**223**	PKP	**PKPdf**	**19 10 24.0**	**0.0**	
	7.1nm,0.7s,baz=306,slow=0.1,SNR=10							
CLL	**Collm**	**134.83**	**336**	*e*PKPdf	**PKPdf**	**19 10 42.0**	**0.0**	
GERES	**GERESS Array B**	**136.43**	**334**	PKP	**PKPdf**	**19 10 45.1**	**-0.2**	
GERES				SKP		19 14 22.7		
GERES	**GERESS Array B**	**136.43**	**334**	PKP	**PKPdf**	**19 10 45.1**	**-0.2**	
	0.4nm,0.6s,baz=128,slow=2.2,SNR=3.6							
GERES				SKP		19 14 22.7		
	0.2nm,0.5s,baz=31,slow=3.1,SNR=5.6							
KEST	**Kesra**	**148.12**	**322**	*e*PKPbc	**PKPbc**	**19 11 08.7**	**-0.9**	
KEST	**Kesra**	**148.12**	**322**	PKPbc	**PKPbc**	**19 11 08.7**	**-0.9**	
	3.3nm,0.8s,baz=316,slow=1.8,SNR=11							
ESDC	**Sonseca Array**	**150.78**	**344**	PKPbc	**PKPbc**	**19 11 15.2**	**-0.9**	
ESDC	**Sonseca Array**	**150.78**	**344**	PKPbc	**PKPbc**	**19 11 15.2**	**-0.9**	
	2.3nm,0.9s,baz=10,slow=2.2,SNR=12							
TORD	**Torodi Ar. Bea**	**164.64**	**277**	PKP	**PKPdf**	**19 11 27.0**	**-1.1**	
TORD	**Torodi Ar. Bea**	**164.64**	**277**	PKP	**PKPdf**	**19 11 27.0**	**-1.1**	
	1.8nm,0.9s,baz=353,slow=1.7,SNR=8.4							

IDC ***08*** *18:56:22.2±0.4, 7.70S×107.31E, h0km, mb4.6/21, mb1 4.7/22, mb1mx4.6/26, mbtmp4.6/22, ML4.8/1, MS3.9/2, Ms1 3.9/2, ms1mx2.8/39, Error ellipse: s-maj=18.0km s-min=11.5km az=53.0*

MOS ***08*** *18:56:25.9±1.0, 7.67S×107.42E, h33km, mb5.0/19, Error ellipse: s-maj=16.8km s-min=7.5km az=124.5*

NEIC ***08*** *18:56:27.6±0.2, 7.82S×107.30E, h35km, mb4.7/12, Error ellipse: s-maj=8.8km s-min=5.6km az=50.0*

NEIC Felt [III] at Ciamis and Tasikmalaya; [II] at Cisarua.

ISCJB ***08*** *18:56:29.5±0.4, 8.06S±0.04×107.27E±0.02, h72km±3km, mb4.6/45, Error ellipse: s-maj=6.9km s-min=3.2km az=23.8*

AUST ***08*** *18:56:29.6±0.3, 8.18S×107.26E, h44km, Error ellipse: s-maj=6.3km s-min=5.4km az=68.0*

BJI ***08*** *18:56:29.7, 7.90S×107.20E, h67km, mB5.3/3, mb4.8/7, Ms4.9/2, Ms7 4.4/2*

DJA ***08*** *18:56:30.6±0.6, 8°S±3°×10°7E±°, h39km±6km, M4.9/34, mb4.9/24, mB5.4/14, MLv5.1/34, Mw(mB)4.8/14*

ISC 08 18:56:31.2±0.8, 7.96S±0.05×107.30E±0.04, h67km±6km, n284, σ1839/266, mb4.7/45, 35C-44D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.65**	**52**	P	**Pn**	**18 56 44.3**	**-1.1**
CISI				S	**Sn**	**18 56 54.5**	**-1.3**
CISI	**Cisompet, Garu**	**0.65**	**52**	⇑P	**Pn**	**18 56 44.1**	**-1.3**
	baz=0.8,SNR=1000						
LEM	**Lembang**	**1.17**	**16**	P	**Pn**	**18 56 53.0**	**+1.1**
LEM				S	**Sn**	**18 57 10.5**	**+3.2**
LEM	**Lembang**	**1.17**	**16**	⇓P	**Pn**	**18 56 52.9**	**+1.1**
	baz=1.4,SNR=606						
SKJI	**Sukabumi**	**1.20**	**322**	P	**Pn**	**18 56 50.9**	**-1.2**
SKJI				S	**Sn**	**18 57 09.0**	**+1.2**
DBJI	**Dramaga**	**1.50**	**339**	P	**Pn**	**18 56 57.0**	**+0.9**
CLJI	**Cilicap**	**1.72**	**82**	P	**Pn**	**18 57 00.6**	**+1.6**
CLJI				S	**Sn**	**18 57 24.7**	**+4.7**
KPJI	**Karang Pucung**	**1.73**	**69**	P	**Pn**	**18 56 59.7**	**+0.5**
KPJI				S	**Sn**	**18 57 24.3**	**+3.9**
TGJI	**Tegal**	**2.11**	**59**	P	**Pn**	**18 57 05.7**	**+1.4**
TGJI				S	**Sn**	**18 57 32.3**	**+2.8**
BJII	**Banjamegara**	**2.47**	**76**	P	**Pn**	**18 57 09.1**	**-0.1**
BJII				S	**Sn**	**18 57 39.2**	**+0.8**
XMI	**Christmas Isla**	**2.94**	**213**	⇑P	Pn	18 57 10.5	-5.0
	baz=2.8,SNR=49						
YOGI	**Yogyakarta**	**2.97**	**87**	P	**Pn**	**18 57 15.5**	**-0.5**
YOGI				S	**Sn**	**18 57 49.7**	**-0.9**
XMIS	**Christmas Isla**	**2.98**	**213**	*e*P	Pn	18 57 11.7	-4.5
XMIS	**Christmas Isla**	**2.98**	**213**	⇑P	Pn	18 57 11.8	-4.4
	baz=2.8,SNR=76						
UGM	**Wanagama**	**3.19**	**89**	P	**Pn**	**18 57 18.4**	**-0.7**
UGM				S	**Sn**	**18 57 56.0**	**0.0**
BLSI	**Bandar Lampung**	**3.29**	**322**	P	**Pn**	**18 57 20.3**	**0.0**
WOJI	**Wonogiri, Jawa**	**3.59**	**88**	P	**Pn**	**18 57 23.7**	**-0.8**
KASI	**Kota Agung**	**3.69**	**311**	P	**Pn**	**18 57 25.8**	**0.0**
PCJI	**Pacitan**	**3.85**	**94**	P	**Pn**	**18 57 27.6**	**-0.4**
PCJI				S	**Sn**	**18 58 12.0**	**0.0**
KLI	**Kotabumi**	**3.92**	**322**	P	**Pn**	**18 57 30.5**	**+1.6**
NGJI	**Ngawi**	**4.17**	**82**	P	**Pn**	**18 57 34.9**	**+2.6**
LWLI	**Liwa**	**4.35**	**312**	P	**Pn**	**18 57 36.0**	**+1.1**
SJI	**Sawahan**	**4.43**	**87**	P	**Pn**	**18 57 37.4**	**+1.4**
PWJI	**Pagerwojo**	**4.46**	**91**	P	**Pn**	**18 57 36.0**	**-0.4**
MDSI	**Maura Dua**	**4.64**	**318**	P	**Pn**	**18 57 39.5**	**+0.7**
KRKI	**Karangkates**	**5.11**	**93**	P	**Pn**	**18 57 46.2**	**+1.0**
TPI	**Tanjungpandan**	**5.18**	**4**	P	Pn	18 57 51.1	+4.9
	67nm,0.6s,608nm0.3nm						
GRJI	**Gresik**	**5.24**	**79**	P	**Pn**	**18 57 47.5**	**+0.5**
	141nm,0.6s,2μm0.7nm						
GRJI				S	**Sn**	**18 58 47.1**	**+0.9**
	141nm,0.6s,2μm0.7nm						
LHSI	**Lahat**	**5.56**	**317**	P	**Pn**	**18 57 52.9**	**+1.4**
	369nm,1.2s,3μm1.2nm						
PMBI	**Palembang**	**5.60**	**333**	P	**Pn**	**18 57 54.1**	**+2.2**
MNAI	**Manna**	**5.61**	**309**	P	**Pn**	**18 57 52.7**	**+0.7**
	378nm,0.8s,11μm1.8nm						
MNAI	**Manna**	**5.61**	**309**	⇓P	**Pn**	**18 57 52.2**	**+0.2**
	baz=5.7,SNR=20						
PPBI	**Pangkal Pinang**	**5.88**	**349**	P	**Pn**	**18 57 57.7**	**+2.0**
	74nm,0.9s,1μm0.5nm						
GMJI	**Gumukmas**	**6.09**	**93**	P	**Pn**	**18 57 58.6**	**-0.1**
	162nm,1.2s,3μm0.7nm						
BLJI	**Banyuglugur**	**6.24**	**88**	P	**Pn**	**18 58 01.7**	**+1.0**
	146nm,0.7s,4μm0.8nm						
KSI	**Kapahiang**	**6.34**	**312**	P	**Pn**	**18 58 03.1**	**+0.9**
	241nm,0.9s,3μm0.9nm						
KMMI	**Kaliangket**	**6.67**	**83**	P	**Pn**	**18 58 06.2**	**-0.4**
	72nm,1.6s,0.3nm						
ABJI	**Asem Bagus**	**6.87**	**89**	P	**Pn**	**18 58 10.0**	**+0.6**
	328nm,0.7s,4μm1.2nm						
BYJI	**Banyuwangi**	**6.99**	**93**	P	**Pn**	**18 58 11.8**	**+0.8**
SRBI	**Singaraja**	**7.84**	**91**	P	**Pn**	**18 58 23.2**	**+0.6**
	138nm,1.0s,3μm0.6nm						
SRBI				S	**Sn**	**18 59 50.0**	**+0.1**
	138nm,1.0s,3μm0.6nm						
MTNI	**Mataram**	**8.81**	**95**	P	**Pn**	**18 58 34.9**	**-0.9**
	56nm,1.0s,1μm						
STKI	**Sintang**	**9.00**	**28**	P	**Pn**	**18 58 41.6**	**+3.2**
	20nm,1.0s,2μm						
KSM	**Kuching**	**9.84**	**18**	P	**Pn**	**18 58 51.9**	**+1.9**
	15nm,0.9s						
KSM	**Kuching**	**9.84**	**18**	*e*P	**Pn**	**18 58 52.0**	**+2.0**
	11nm,0.8s						
PPI	**Padang Panjang**	**10.14**	**317**	P	**Pn**	**18 58 52.9**	**-1.2**
	33nm,1.4s						
MYKOM	**Kota Tinggi**	**10.28**	**340**	P	Pn	18 59 00.3	+4.3
MYKOM	**Kota Tinggi**	**10.28**	**340**	P	**Pn**	**18 58 55.8**	**-0.2**
	33nm,1.2s						
KGM	**Kluang**	**10.68**	**338**	P	Pn	18 59 06.0	+4.7
SBUM	**Sibu**	**11.45**	**26**	P	**Pn**	**18 59 14.3**	**+2.4**
	9.4nm,1.1s						
KAPI	**Kappang**	**12.71**	**77**	*e*P	**Pn**	**18 59 30.8**	**+1.5**
	26nm,1.0s						
KAPI	**Kappang**	**12.71**	**77**	Pn	**Pn**	**18 59 28.6**	**-0.6**
	0.9nm,0.3s,baz=226,slow=19,SNR=3.1						
KAPI				LR	LR	19 04 24.3		
	comp=Z,193nm,21.1s,baz=8.2,slow=38						
WSI	**Waingapu**	**12.96**	**98**	⇑P	**Pn**	**18 59 29.9**	**-2.6**
	baz=13						
BKSI	**Bulukumba**	**13.01**	**79**	P	**Pn**	**18 59 35.1**	**+1.9**
	31nm,1.3s						
BNSI	**Bone**	**13.21**	**75**	P	**Pn**	**18 59 38.4**	**+2.4**
	52nm,1.1s,771nm						
TTSI	**Tana Toraja**	**13.38**	**69**	P	P	18 59 41.9	-3.5
	25nm,1.1s						
KTGM	**Kuala Trenggan**	**13.84**	**342**	P	**P**	**18 59 49.5**	**-1.0**
MMRI	**Maumere**	**14.80**	**94**	P	**P**	**19 00 03.6**	**+2.4**
APSI	**Ampana**	**15.92**	**65**	P	**P**	**19 00 17.6**	**+3.9**
BATI	**Baumata**	**16.31**	**99**	P	**Pn**	**19 00 13.0**	**-3.2**
	48nm,0.8s						
BATI	**Baumata**	**16.31**	**99**	Pn	**Pn**	**19 00 13.0**	**-3.2**
BATI				Sn	Sn	19 03 07.6	-9.0
BATI	**Baumata**	**16.31**	**99**	Pn	**Pn**	**19 00 13.0**	**-3.2**
	3.6nm,0.3s,baz=48,slow=1.6,SNR=8.3						
BATI				Sn	Sn	19 03 07.6	-9.0
	3.2nm,0.3s,baz=78,slow=19,SNR=4.2						
SDKM	**Sandakan**	**16.73**	**36**	P	**P**	**19 00 22.8**	**+0.1**
MRSI	**Marisa**	**16.83**	**61**	P	**P**	**19 00 25.3**	**+1.5**
SOEI	**Soe**	**16.86**	**97**	P	**Pn**	**19 00 19.9**	**-3.2**
	102nm,1.1s						
SOEI	**Soe**	**16.86**	**97**	⇑P	**Pn**	**19 00 20.6**	**-2.5**
	baz=17,SNR=12						
MYLDM	**Lahad Datu**	**17.18**	**41**	P	P	19 00 33.8	+6.1
MBWA	**Marble Bar**	**17.79**	**139**	*e*P	**P**	**19 00 31.9**	**-2.3**
FITZ	**Fitzroy Crossi**	**20.50**	**121**	*e*P	**P**	**19 01 03.3**	**-0.6**
FITZ				S	S	19 04 39.7	-10
FITZ	**Fitzroy Crossi**	**20.50**	**121**	⇓P	**P**	**19 01 03.5**	**-0.4**
	baz=20,SNR=11						
FITZ	**Fitzroy Crossi**	**20.50**	**121**	P	**P**	**19 01 03.0**	**-0.8**
	11nm,0.6s,baz=251,slow=4.1,SNR=17						
FITZ				S	S	19 04 39.7	-10
	5.2nm,0.8s,baz=49,slow=18,SNR=5.2						
AAI	**Ambon**	**21.21**	**80**	P	**P**	**19 01 12.8**	**+1.2**
	baz=21,SNR=6.4						
KNRA	**Kununurra**	**22.35**	**112**	⇓P	**P**	**19 01 23.5**	**-0.3**
	baz=22,SNR=8.5						
KDU	**Kakadu**	**25.20**	**103**	P	**P**	**19 01 50.1**	**-0.7**
	baz=25,SNR=7.5						
QIZ	**Qiongzhong**	**26.94**	**5**	P	**P**	**19 02 07.3**	**+0.9**
QIZ				pP	**pP**	**19 02 23.4**	**+0.9**
QIZ				S	**S**	**19 06 41.9**	**+3.0**
QIZ				AMB	AMB		
	comp=Z,14nm,1.4s						
H01W3	**Cape Leeuwin H**	**27.52**	**168**	T	T	19 31 58.0	
	baz=346,slow=0.7,SNR=5.7						
H01W1	**Cape Leeuwin H**	**27.54**	**168**	T	T	19 31 55.8	
	baz=262,slow=0.7,SNR=6.9						
H01W2	**Cape Leeuwin H**	**27.54**	**168**	T	T	19 31 54.7	
WRA	**Warramunga Arr**	**28.77**	**117**	P	**P**	**19 02 22.8**	**-0.1**
WRA				PcP	**PcP**	**19 05 31.0**	**-0.7**
WRA	**Warramunga Arr**	**28.77**	**117**	P	**P**	**19 02 22.8**	**-0.1**
	3.0nm,0.8s,baz=291,slow=9.6,SNR=13						
WRA				PcP	**PcP**	**19 05 31.0**	**-0.7**
	0.7nm,0.7s,baz=300,slow=2.1,SNR=5.0						
WRAB	**Tennant Creek**	**28.77**	**117**	*e*P	**P**	**19 02 22.6**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.6s						
WRAB	**Tennant Creek**	**28.77**	**117**	*e*P	**P**	**19 02 22.6**	**-0.3**
	comp=Z,4.3nm,0.6s						
ASAR	**Alice Springs**	**29.90**	**125**	P	**P**	**19 02 33.1**	**+0.3**
ASAR				PcP	**PcP**	**19 05 35.1**	**+0.6**
ASAR	**Alice Springs**	**29.90**	**125**	P	**P**	**19 02 33.1**	**+0.3**
	comp=Z,3.0nm,0.8s,baz=302,slow=8.9,SNR=16						
ASAR				PcP	**PcP**	**19 05 35.1**	**+0.6**
	comp=Z,2.2nm,0.8s,baz=309,slow=2.3,SNR=6.7						
H08S2	**Diego Garcia H**	**34.48**	**268**	T	T	19 40 26.6	
	baz=92,slow=0.7,SNR=6.2						
H08S3	**Diego Garcia H**	**34.49**	**268**	T	T	19 40 28.7	
	baz=92,slow=0.7,SNR=59						
H08S1	**Diego Garcia H**	**34.50**	**268**	T	T	19 40 38.6	
	baz=92,slow=0.7,SNR=6.2						
COEN	**Coen**	**35.69**	**103**	⇑P	**P**	**19 03 23.0**	**-0.5**
	baz=36,SNR=5.4						
H08N1	**Diego Garcia H**	**36.03**	**270**	T	T	19 42 48.1	
	baz=134						
H08N2	**Diego Garcia H**	**36.05**	**270**	T	T	19 42 48.1	
	baz=134						
H08N3	**Diego Garcia H**	**36.05**	**270**	T	T	19 42 48.1	

ZALV Zalesovo Beam 64.53 346 P **P** 19 06 58.7 -2.2
ZALV Zalesovo Beam 64.53 346 P **P** 19 06 58.7 -2.2
ZALV Zalesovo Beam 64.53 346 P **P** 19 06 58.7 -2.2
comp=Z,1.3nm,0.4s,baz=151,slow=5.8,SNR=9.1
ISHV Shirvan 64.73 318 *e*P **P** 19 07 02.0 -0.9
MAW Mawson 66.54 197 P **P** 19 07 15.0 +1.3
MAW Mawson 66.54 197 P **P** 19 07 15.1 +1.3
baz=66,SNR=18
MAW Mawson 66.54 197 P **P** 19 07 15.0 +1.3
comp=Z,13nm,0.9s,baz=48,slow=6.7,SNR=27
IFIR Firoozkooh 67.16 314 *e*P **P** 19 07 17.8 -0.8
BVAR Borovoye Array 68.36 337 P **P** 19 07 23.2 -2.3
BVAR Borovoye Array 68.36 337 P **P** 19 07 23.2 -2.3
BVAR Borovoye Array 68.36 337 P **P** 19 07 23.2 -2.3
comp=Z,5.1nm,0.6s,baz=139,slow=8.4,SNR=35
BRVK Borovoye 68.43 337 *e*P **P** 19 07 25.2 -0.6
BRVK pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 68.43 337 *e*P **P** 19 07 25.2 -0.6
comp=Z,3.1nm,0.6s
IRAZ Razeghan 69.09 313 *e*P **P** 19 07 30.1 -0.5
KMBO Kilima Mbogo 70.08 272 P **P** 19 07 38.2 +1.0
KMBO Kilima Mbogo 70.08 272 P **P** 19 07 38.2 +1.0
comp=Z,1.5nm,0.4s,baz=77,slow=23,SNR=6.4
ABKAR Akbulak array 70.38 329 *e*P **P** 19 07 36.5 -1.5
comp=Z,17nm,0.5s
IVIS Veis 70.99 311 *e*P P 19 07 38.3 -3.9
ILIN Lien 71.07 311 *e*P **P** 19 07 41.0 -1.8
IGHG Ghaleghazi 71.12 310 *e*P **P** 19 07 41.0 -2.1
YAK Yakutsk 71.91 11 *e*P **P** 19 07 44.4 -2.5
YAK pmax pmax
comp=Z,13nm,1.0s
YAK pmax pmax
comp=N,7.0nm,1.3s
PETK Petropavlovsk- 74.28 29 P **P** 19 08 00.0 -1.2
PETK Petropavlovsk- 74.28 29 P **P** 19 08 00.0 -1.2
PETK Petropavlovsk- 74.28 29 P **P** 19 08 00.0 -1.2
comp=N,2.3nm,0.6s,baz=10,slow=10,SNR=4.9
SYO Syowa Base 74.71 200‖ *e*X **P** 19 08 02.9 -0.5
VNDA Vanda 74.97 169 P **P** 19 08 05.9 +1.1
VNDA Vanda 74.97 169 P **P** 19 08 05.9 +1.1
comp=N,3.1nm,0.9s,baz=287,slow=5.9,SNR=13
SVE Sverdlovsk 75.00 336‖ *e*P **P** 19 08 05.3 +0.1
SVE pmax pmax
comp=Z,16nm,0.9s
ARU Arti 75.61 334*c i*P **P** 19 08 08.1 -0.6
ARU S **S** 19 17 46.6 +2.2
ARU SS **SS** 19 22 30.9 -6.2
ARU pmax pmax
comp=Z,20nm,1.7s
SBA Scott Base 76.05 169 *e*P **P** 19 08 12.3 +1.3
SBA Scott Base 76.05 169 *e*P **P** 19 08 12.2 +1.3
ZEI Tsey 76.50 317 *e*P **P** 19 08 14.1 -0.3
ZEI pmax pmax
comp=Z,7.0nm,0.8s
KBZ Khabaz 77.56 318 P **P** 19 08 20.3 +0.3
KBZ Khabaz 77.56 318 P **P** 19 08 20.3 +0.3
KBZ Khabaz 77.56 318 P **P** 19 08 20.3 +0.3
comp=Z,8.2nm,0.9s,baz=120,slow=3.6,SNR=15
KIV Kislovodsk 77.79 318‖ *e*P **P** 19 08 21.0 -0.4
KIV *e*S **S** 19 18 11.5 +2.6
KIV pmax pmax
comp=Z,9.0nm,0.9s
MALT Malatya 78.70 312↑ *i*P **P** 19 08 27.4 +0.8
BOSA Boshof 79.27 242 P **P** 19 08 30.5 +0.4
BOSA Boshof 79.27 242 P **P** 19 08 30.5 +0.4
comp=Z,3.1nm,0.6s,baz=108,slow=7.2,SNR=3.9
TIXI Tiksi 80.72 7*c e*P **P** 19 08 34.8 -1.9
TIXI pmax pmax
comp=Z,10.0nm,0.7s
VRHR Novokhopersk 81.34 324 *e*P **P** 19 08 39.7 -0.7
VRHR pmax pmax
comp=E,9.0nm,0.7s
VRHR pmax pmax
comp=Z,20nm,0.7s
VRHR pmax pmax
comp=N,9.0nm,0.6s
CSS Prodhromos 81.59 307 *e*P **P** 19 08 42.6 +0.4
comp=N,32nm,0.8s
QSPA South Pole Qui 82.03 180 *e*P **P** 19 08 44.6 +0.5
comp=N,11nm,1.0s
VORD Divnogorie 82.65 324 *e*P **P** 19 08 46.0 -1.2
VORD pmax pmax
comp=Z,4.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.9s
BR131 Keskin Array S 82.68 312 *e*P **P** 19 08 47.4 -0.5
comp=E,4.8nm,0.7s
BRTR Keskin Array B 82.68 312 P **P** 19 08 47.6 -0.3
BRTR Keskin Array B 82.68 312 P **P** 19 08 47.6 -0.3
comp=E,6.0nm,0.7s,baz=131,slow=6.7,SNR=36
VSR Storozhevoye 82.81 324 *e*P **P** 19 08 47.3 -0.8
VSR pmax pmax
comp=N,4.0nm,0.5s
VSR pmax pmax
comp=E,8.0nm,0.5s
VSR pmax pmax
comp=Z,20nm,0.5s
SIM Simferopol' 83.88 317*c i*P **P** 19 08 56.9 +3.1
SIM pmax pmax
comp=Z,20nm,0.7s
OBN Obninsk 85.69 327‖ *e*P **P** 19 09 02.7 +0.1
OBN *e* 19 12 21.9
OBN *e*S S 19 19 22.8 -6.8
OBN pmax pmax
comp=Z,9.0nm,0.7s
KLMR Klimovskoe 86.36 333 *e*P **P** 19 09 04.2 -1.6
KLMR pmax pmax
comp=Z,36nm,1.6s
TLCR 87.56 316‖ P **P** 19 09 11.9 -0.1
TLCR 87.56 316‖ *i*P **P** 19 09 11.9 -0.1
TIRR Tirgusor 87.67 315‖ P **P** 19 09 11.6 -0.9
TIRR Tirgusor 87.67 315‖ *i*P **P** 19 09 11.6 -0.9
TLB Topalu 87.95 315‖ P **P** 19 09 14.2 +0.3
TLB Topalu 87.95 315‖ *i*P **P** 19 09 14.2 +0.3
AKASG Malin Array Be 88.63 322 P **P** 19 09 15.9 -1.0
AKASG Malin Array Be 88.63 322 P **P** 19 09 15.9 -1.0
AKASG Malin Array Be 88.63 322 P **P** 19 09 15.9 -1.0
comp=Z,4.3nm,1.0s,baz=84,slow=5.0,SNR=14
SNAA Sanae 88.70 197 *e*P **P** 19 09 18.5 +1.5
comp=Z,16nm,1.1s
VRI Vrincioaia 89.14 316‖ P **P** 19 09 20.3 +0.8
VRI Vrincioaia 89.14 316‖ *i*P **P** 19 09 20.3 +0.8
PLOR Plostina 89.19 316↑ P **P** 19 09 21.1 +1.3
PLOR Plostina 89.19 316↑ *i*P **P** 19 09 21.1 +1.3
MLR Muntele Rosu 89.60 316↑ *i*P **P** 19 09 22.1 +0.3
VOIR 90.21 316↑ P P 19 09 20.6 -4.0
VOIR 90.21 316↑ *i*P P 19 09 20.5 -4.0
BURAR Bucovina Array 90.52 318‖ P **P** 19 09 26.9 +0.9
BURAR Bucovina Array 90.52 318‖ *i*P **P** 19 09 26.9 +0.9
BUR08 Bucovina Ar. S 90.53 318 *e*P **P** 19 09 26.5 +0.5
BZS Buzias 92.62 316↑ P **P** 19 09 35.5 -0.1
BZS Buzias 92.62 316↑ *i*P **P** 19 09 35.5 -0.1
FINES FINESS Array B 92.75 332 P **P** 19 09 34.0 -1.8
FINES FINESS Array B 92.75 332 P **P** 19 09 34.0 -1.8
comp=Z,2.7nm,0.9s,baz=104,slow=6.1,SNR=5.5
STHS Stebnicka Huta 93.42 319 *e*P **P** 19 09 39.8 +0.5
STHS pmax pmax
comp=Z,5.0nm,1.5s
STHS Stebnicka Huta 93.42 319 *e*P **P** 19 09 39.8 +0.5
ARCES ARCESS Array B 94.53 340 P **P** 19 09 42.6 -1.3
ARCES ARCESS Array B 94.53 340 P **P** 19 09 42.6 -1.3
comp=Z,1.8nm,0.7s,baz=79,slow=6.3,SNR=6.0
ARCES LR LR 19 58 40.1
comp=Z,164nm,20.8s,baz=230,slow=40
C20A Veseth Ranch, 130.34 31 P **PKPdf** 19 15 35.6 +1.4
baz=130
MPMC Manual Prospec 130.56 49 P **PKPdf** 19 15 35.9 +0.7
baz=130
J22A Midwest 133.96 34 P **PKPdf** 19 15 41.9 +0.6
baz=134
H24A Dirks Ranch, A 134.11 32 P **PKPdf** 19 15 40.9 -0.6
baz=134
Z26A Caprock 141.66 45 P **PKPdf** 19 15 56.4 +0.7
baz=142
Z27A Tatum 142.16 44 P **PKPdf** 19 15 55.0 -1.7
baz=142
326A Caldwell Ranch 142.72 47‖ P **PKPdf** 19 15 54.5 -3.2
baz=143
CPUP Villa Florida 142.79 203 PKPpre PKPpre 19 15 54.9
CPUP Villa Florida 142.79 203 PKhKP PKPpre 19 15 54.9
comp=Z,1.3nm,0.5s,baz=109,slow=2.8,SNR=4.2
426A McDonald Obser 143.02 48‖ P PKPbc 19 15 56.2 +0.9
baz=143
W31A Holland Ranch, 143.15 39 P PKPbc 19 15 55.8 +0.5
baz=143
Z29A Hungry Hill Ra 143.22 43‖ P PKPbc 19 15 55.5 -0.1
baz=143
228A UT Block 9, Go 143.27 45↑ P PKPbc 19 15 55.7 0.0
baz=143
526A Mary Lane Ranc 143.28 49‖ P PKPbc 19 15 56.3 +0.4
baz=143
427A Hayter Ranch, 143.38 47‖ P PKPbc 19 15 56.8 +0.7
baz=143
129A Stewart Farms, 143.48 44↑ P PKPbc 19 15 56.0 -0.3
baz=143
X31A McDonald Ranch 143.49 39‖ P PKPbc 19 15 56.7 +0.5
baz=143
626A Big Bend Ranch 143.50 50‖ P PKPbc 19 15 57.3 +0.8
baz=143
328A Wristen Ranch, 143.53 46‖ P PKPbc 19 15 56.5 +0.1
baz=143,SNR=6.9
Z30A Sanderson Ranc 143.59 42‖ P PKPab 19 15 55.9 +0.3
baz=143,SNR=15
527A Woodward Ranch 143.60 49‖ P PKPbc 19 15 57.4 +0.6
baz=144,SNR=7.3
Y31A Rekieta Farm, 143.74 41 P PKPbc 19 15 57.9 +1.0
baz=144
229A Bryant Ranch, 143.90 45‖ P PKPbc 19 15 57.4 -0.1
baz=144
TXAR Lajitas Array 143.97 50 PKP PKPbc 19 15 58.8 +0.9
TXAR Lajitas Array 143.97 50 PKP PKPbc 19 15 58.8 +0.9
comp=Z,1.8nm,0.6s,baz=294,slow=1.2,SNR=19
428A Kincaid Ranch, 143.97 47‖ P PKPbc 19 15 58.7 +0.9
baz=144,SNR=9.9
329A Wagon Wheel Ra 144.06 45‖ P PKPbc 19 15 58.8 +0.7
baz=144
130A Snyder 144.11 43‖ P PKPbc 19 15 58.6 +0.5
baz=144,SNR=5.3
627A Terlingua Ranc 144.12 49 P PKPbc 19 15 58.8 +0.4
baz=144
WMOK Wichita Mounta 144.17 38 *e*PKIKP PKPbc 19 15 58.3 +0.1
WMOK Wichita Mounta 144.17 38 *e*PKPpre PKPpre 19 15 58.3
528A Cox Ranch, San 144.20 48↑ P **PKPdf** 19 15 59.5 -0.8
baz=144,SNR=11
Z31A Sharp Cattle R 144.22 41↑ P PKPbc 19 15 58.6 +0.2
baz=144,SNR=8.0
Y32A R-V Farms, Ver 144.24 40‖ P PKPbc 19 15 58.5 +0.1
baz=144,SNR=7.5
230A Sterling City 144.43 44↑ P PKPbc 19 15 59.3 +0.1
baz=144,SNR=12
131A Roby 144.45 42‖ P PKPbc 19 15 59.5 +0.3
baz=144,SNR=6.6
628A Black Gap, Mar 144.47 49↑ P **PKPdf** 19 16 00.3 -0.4
baz=144,SNR=16
429A Davenport Ranc 144.60 47↑ P PKPbc 19 16 00.2 +0.5
baz=144,SNR=13
529A Stev Forest Ra 144.63 48↑ P **PKPdf** 19 16 00.5 -0.5
baz=144,SNR=9.4
Z32A Haskell 144.66 41↑ P PKPbc 19 16 00.2 +0.4
baz=144,SNR=29
330A Mertzon 144.67 45↑ P PKPbc 19 16 00.0 +0.1
baz=144,SNR=10
231A Bronte 144.95 43↑ P PKPbc 19 16 01.1 +0.3
baz=145,SNR=18
430A Baggett Ranch, 144.98 46‖ P **PKPdf** 19 16 01.4 -0.1
baz=145,SNR=11
ABTX Abilene, Hawle 144.98 42 *e*PKPdf **PKPdf** 19 16 01.6 +0.2
ABTX Abilene, Hawle 144.98 42‖ P **PKPdf** 19 16 01.4 0.0
baz=145,SNR=5.5
TUL1 Tulsa 145.09 34 *e*PKPdf **PKPdf** 19 16 01.3 -0.2
TUL1 Tulsa 145.09 34‖ P **PKPbc** 19 16 00.8 -0.3
baz=145,SNR=9.1
331A San Angelo 145.25 44↑ P **PKPab** 19 16 01.8 -0.1
baz=145,SNR=12
SFIN Scholer Farm 145.25 19 *e*PKPdf **PKPbc** 19 16 01.3 -0.1
SFIN Scholer Farm 145.25 19‖ P **PKPab** 19 16 01.6 0.0
baz=145
530A J-C Ranch, Com 145.26 47↑ P **PKPdf** 19 16 02.9 +0.9
baz=145,SNR=71
232A Coleman 145.43 43↑ P **PKPab** 19 16 03.0 +0.5
baz=145,SNR=20
431A Sonora 145.48 45‖ P **PKPab** 19 16 03.1 +0.3
baz=145,SNR=15
332A Millersview 145.67 44‖ P **PKPab** 19 16 03.9 +0.4
baz=146,SNR=55
531A Rocksprings 145.82 46 P **PKPab** 19 16 04.5 +0.4
baz=146
432A Menard 145.94 44‖ P **PKPab** 19 16 04.3 -0.2
baz=146,SNR=7.4
BDFB Brasilia 146.12 226 PKPbc **PKPab** 19 16 05.5 -0.1
BDFB Brasilia 146.12 226 PKPbc **PKPab** 19 16 05.5 -0.1
comp=Z,6.8nm,0.5s,baz=118,slow=3.2,SNR=10
JCT Junction City 146.16 45 *e*PKP2 **PKPbc** 19 16 04.8 +0.1
JCT Junction City 146.16 45 *e*PKPdf **PKPbc** 19 16 04.8 +0.1
JCT Junction City 146.16 45‖ P **PKPab** 19 16 05.4 0.0
baz=146,SNR=33
631A Perdido Creek 146.22 47↑ P **PKPab** 19 16 05.4 -0.1
baz=146
532A Rocksprings 146.30 46↑ P **PKPbc** 19 16 05.4 +0.3
baz=146,SNR=9.5
OLIL Olney 146.37 22 *e*PKPdf **PKPbc** 19 16 04.8 -0.1
ACSO Alum Creek Sta 146.58 14 *e*PKPdf **PKPbc** 19 16 05.3 -0.2
632A Uvalde 146.74 46↑ P **PKPbc** 19 16 06.5 +0.2
baz=147
WHTX Lake Whitney 146.81 41 *e*PKPbc **PKPab** 19 16 08.0 +0.3
WHTX Lake Whitney 146.81 41‖ P **PKPdf** 19 16 05.2 +0.7
baz=147
732A Laxson Ranch, 147.04 48‖ P **PKPab** 19 16 08.2 -0.6
baz=147
MIAR Mount Ida 147.31 33 *e*PKP2 **PKPbc** 19 16 08.1 +0.3
MIAR Mount Ida 147.31 33 *e*PKPbc **PKPbc** 19 16 08.1 +0.3
LVC Limon Verde 149.39 187 *e*PKPbc **PKPbc** 19 16 15.5 +1.7
TZTN Tazewell 149.88 18 *e*PKPbc **PKPbc** 19 16 14.2 -0.1
CPCT Cooper Cave 150.57 20 *e*PKPbc **PKPbc** 19 16 15.9 -0.1
TKL Tuckaleechee C 150.63 19 PKPbc **PKPbc** 19 16 16.4 +0.3
TKL PKPab **PKPab** 19 16 23.0 0.0
TKL Tuckaleechee C 150.63 19 PKPbc **PKPbc** 19 16 16.4 +0.3
comp=Z,20nm,0.7s,baz=143,slow=1.2,SNR=17
TKL PKPab **PKPab** 19 16 23.0 0.0
comp=Z,9.4nm,0.8s,baz=103,slow=3.2,SNR=5.1
LRAL Lakeview Retre 151.75 26 *e*PKPbc **PKPbc** 19 16 18.6 -0.2
SIV San Ignacio 153.56 206 PKP **PKPdf** 19 16 16.1 +0.6
SIV PKPbc **PKiKP** 19 16 24.1 +0.7
SIV PKPab **PKPab** 19 16 37.2 +1.4
SIV San Ignacio 153.56 206 PKP **PKPdf** 19 16 16.1 +0.6
comp=Z,2.1nm,0.9s,baz=220,slow=3.7,SNR=4.4
SIV PKPbc **PKiKP** 19 16 24.1 +0.7
comp=Z,1.9nm,0.7s,baz=142,slow=2.3,SNR=5.1
SIV PKPab **PKPab** 19 16 37.2 +1.4
comp=Z,5.9nm,1.0s,baz=166,slow=5.4,SNR=7.0
LPAZ La Paz 155.49 191 PKP **PKPdf** 19 16 21.4 +2.5
LPAZ PKPab **PKPab** 19 16 45.8 +1.2
LPAZ La Paz 155.49 191 PKP **PKPdf** 19 16 21.4 +2.5
comp=Z,0.6nm,0.7s,baz=35,slow=3.5,SNR=3.6
LPAZ PKPab **PKPab** 19 16 45.8 +1.2
comp=Z,4.1nm,0.8s,baz=159,slow=3.8,SNR=12

MOS ***08*** *19:09:36.9₅0.8,4.˚81S×11.˚63W,h10km,mb5.3/41, Error ellipse: s-maj=16.0km s-min=4.9km az=69.5*
IDC ***08*** *19:09:37.2₅0.5,4.˚87S×11.˚59W,h0km,mb4.5/22, mb1 4.6/23,mb1mx4.5/31,mbtmp4.5/23,ML3.8/1,MS4.0/15, Ms1 3.9/15,ms1mx3.7/42,Error ellipse: s-maj=17.9km s-min=13.0km az=118.0*
ISCJB ***08*** *19:09:38.2₅0.3,4.˚86S±0.˚05×11.˚58W±0.˚05,h18km, mb4.8/104,MS4.0/16,Error ellipse: s-maj=8.9km s-min=4.6km az=140.7*
NEIC ***08*** *19:09:38.6₅0.2,4.˚88S×11.˚59W,h10km,mb5.1/50,Error ellipse: s-maj=8.2km s-min=5.1km az=121.0*

ISC 08 19:09:39.9₅0.4,4.˚87S±0.˚08×11.˚59W±0.˚08,h18km,n359, σ0°88/345,mb4.9/104,MS4.0/16,17C-26D,North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR 4.12 224** baz=46,slow=0.7,SNR=668			T	T	19 14 22.8	
H10N1	**ASCENSION HYDR 4.12 224** baz=46,slow=0.7,SNR=615			T	T	19 14 21.6	
H10N3	**ASCENSION HYDR 4.13 224** baz=46,slow=0.7,SNR=424			T	T	19 14 22.2	
H10S1	**ASCENSION HYDR 5.06 217** baz=37,slow=0.7,SNR=412			T	T	19 15 59.2	
H10S2	**ASCENSION HYDR 5.07 217** baz=37,slow=0.7,SNR=445			T	T	19 16 03.0	
H10S3	**ASCENSION HYDR 5.08 217** baz=37,slow=0.7,SNR=380			T	T	19 16 00.6	

LIC Lamto 12.82 31 *e*P **Pn** 19 12 42.1 +0.7
33nm,1.0s,baz=217
LIC *e*R
702nm,19.0s
LIC Lamto 12.82 31 *e*P **Pn** 19 12 43.1 +1.7
45nm,1.0s
LIC Lamto 12.82 31 *e*P **Pn** 19 12 42.1 +0.7
33nm,1.0s
KIC Kosan Boka 13.08 32 *e*P **Pn** 19 12 46.4 +1.4
75nm,1.1s
TIC Toumodi 13.18 30 *e*P **Pn** 19 12 46.8 +0.4
56nm,1.1s
DBIC Dimbokro 13.29 30 *e*P **Pn** 19 12 47.1 -0.6
23nm,1.2s
DBIC Pn **Pn** 19 12 47.5 -0.3
DBIC Dimbokro 13.29 30 Pn **Pn** 19 12 47.5 -0.3
0.5nm,0.3s,baz=188,slow=12,SNR=6.5
DBIC LR LR 19 16 53.9
comp=Z,437nm,19.8s,baz=186,slow=33
BBTS Babate 20.01 346 P **P** 19 14 11.0 -0.7
BBTS Babate 20.01 346 P **P** 19 14 11.0 -0.7
22nm,0.7s,baz=194,slow=8.3,SNR=3.5
BBTS LR LR 19 20 25.6
comp=Z,165nm,18.9s,baz=164,slow=32
TOA0 Torodi Ar. Sit 22.24 36 *e*P **P** 19 14 33.9 -1.9
TORD Torodi Ar. Bea 22.24 36 P **P** 19 14 34.4 -1.5
TORD Torodi Ar. Bea 22.24 36 P **P** 19 14 34.4 -1.5
16nm,0.7s,baz=224,slow=9.4,SNR=47
TORD LR LR 19 22 07.1
comp=Z,408nm,20.8s,baz=205,slow=34
BDFB Brasilia 37.34 251 P **P** 19 16 50.6 -1.2
BDFB Brasilia 37.34 251 P **P** 19 16 50.6 -1.2
5.0nm,0.6s,baz=35,slow=9.5,SNR=4.2
BDFB LR LR 19 30 01.7
comp=Z,232nm,18.2s,baz=287,slow=33
LSZ Lusaka 40.44 108 P **P** 19 17 17.8 0.0
LSZ Lusaka 40.44 108 P **P** 19 17 17.8 0.0
2.9nm,0.9s,baz=340,slow=11,SNR=5.9
MORF Marmelete 42.04 4 *e*P **P** 19 17 31.7 +1.1
34nm,1.3s
BOSA Boshof 42.17 128 P **P** 19 17 31.3 -0.6
BOSA Boshof 42.17 128 P **P** 19 17 31.3 -0.6
5.9nm,0.8s,baz=295,slow=6.4,SNR=5.2
BOSA LR LR 19 31 44.2
comp=Z,259nm,18.3s,baz=136,slow=32
PVAQ Vaqueiros 42.21 5 *e*LR LR 19 39 43.2
227nm,18.0s
PCVE Castro Verde 42.41 4 *e*P **P** 19 17 34.8 +1.3
28nm,1.9s
PNCL Nicolau / Gran 42.85 4 *e*P **P** 19 17 39.6 +2.6
20nm,1.7s
EVOP Sao Brissos 43.29 4 *e*P **P** 19 17 41.6 +1.0
EVOP pmax pmax
comp=Z,23nm,1.1s
EVOP Sao Brissos 43.29 4 *e*P **P** 19 17 41.6 +1.0
comp=Z,23nm,1.1s
EVO Evora 43.30 4 *e*P **P** 19 17 41.6 +0.9
comp=Z,23nm,1.1s
EVO Evora 43.30 4 *e*P **P** 19 17 42.3 +1.6
comp=Z,26nm,1.4s
PMRV Marv??o 44.24 5 *e*P **P** 19 17 50.0 +1.7
comp=Z,25nm,1.6s
PMRV Marv??o 44.24 5 *e*LR LR 19 37 58.7
comp=Z,283nm,18.0s
PCBR Castelo Branco 44.65 5 *e*P **P** 19 17 52.8 +1.3
comp=Z,15nm,1.9s
ESDC Sonseca Array 44.87 8 P **P** 19 17 54.1 +0.7
ESDC Sonseca Array 44.87 8 P **P** 19 17 54.1 +0.7
comp=Z,4.2nm,1.0s,baz=188,slow=7.3,SNR=16
KEST Kesra 44.91 24 *e*P **P** 19 17 55.0 +1.2
KEST Kesra 44.91 24 P **P** 19 17 54.4 +0.6
comp=Z,3.6nm,0.9s,baz=125,slow=4.1,SNR=11
MTE Manteigas 45.20 4 *e*P **P** 19 17 57.4 +1.5
comp=Z,30nm,1.6s
MTE Manteigas 45.20 4 *e*LR LR 19 38 07.8
comp=Z,266nm,18.0s
MVO Moncorvo 46.00 5 *e*P **P** 19 18 02.7 +0.4
comp=Z,37nm,1.6s
MVO Moncorvo 46.00 5 *e*LR LR 19 38 10.4
comp=Z,281nm,18.0s
PVRL Vila Real 46.05 4 *e*P **P** 19 18 03.9 +1.2
comp=Z,21nm,1.5s
POLO Lamas de Olo 46.15 4 *e*P **P** 19 18 04.6 +1.1
comp=Z,21nm,1.8s
PBRG Braganca 46.66 5 *e*P **P** 19 18 09.1 +1.7
comp=Z,26nm,1.8s
ETSF Etsaut 48.58 11 *e*P **P** 19 18 23.0 +0.6
comp=Z,28nm,1.2s
ETSF Etsaut 48.58 11 *e*P **P** 19 18 23.0 +0.6
ETSF pmax pmax
comp=Z,28nm,1.2s
ETSF Etsaut 48.58 11 *e*P **P** 19 18 23.0 +0.6
comp=Z,28nm,1.2s
CPUP Villa Florida 48.60 239 P **P** 19 18 24.3 +1.6
CPUP Villa Florida 48.60 239 P **P** 19 18 24.3 +1.6
comp=Z,0.6nm,0.4s,baz=83,slow=8.1,SNR=3.2
CPUP LR LR 19 35 03.4
comp=Z,163nm,20.6s,baz=352,slow=31
SJPF Ste Jean 48.67 10 *e*P **P** 19 18 23.7 +0.7
comp=Z,23nm,0.9s
SJPF Ste Jean 48.67 10 *e*P **P** 19 18 23.7 +0.7
SJPF pmax pmax
comp=Z,23nm,0.9s
SJPF Ste Jean 48.67 10 *e*P **P** 19 18 23.7 +0.7
comp=Z,23nm,0.9s
LABF Labassere 48.85 11 *e*P **P** 19 18 25.8 +1.4
EPF Esparros 48.88 12 *e*P **P** 19 18 25.4 +0.7
comp=Z,27nm,1.2s
EPF Esparros 48.88 12 *e*P **P** 19 18 25.4 +0.7
EPF pmax pmax
comp=Z,27nm,1.2s
EPF Esparros 48.88 12 *e*P **P** 19 18 25.4 +0.7
comp=Z,27nm,1.2s
CARF Carcanieres 48.96 13 *e*P **P** 19 18 26.4 +1.0
MTLF Montolieu 49.58 13 *e*P **P** 19 18 29.9 -0.1
comp=Z,28nm,1.4s
MTLF Montolieu 49.58 13 *e*P **P** 19 18 29.9 -0.1
MTLF pmax pmax
comp=Z,28nm,1.4s
MTLF Montolieu 49.58 13 *e*P **P** 19 18 29.9 -0.1
comp=Z,28nm,1.4s
SIV San Ignacio 49.78 253 P **P** 19 18 32.2 +0.2
SIV San Ignacio 49.78 253 P **P** 19 18 32.2 +0.2
comp=Z,1.1nm,0.4s,baz=102,slow=9.3,SNR=3.7
CEL Celeste 49.91 28 *e*P **P** 19 18 32.5 -0.2
comp=Z,8.5nm,1.0s
LASF Ste Croix 50.67 14 *e*P **P** 19 18 37.7 -0.5
comp=Z,11nm,1.0s
LASF Ste Croix 50.67 14 *e*P **P** 19 18 37.7 -0.5
comp=Z,11nm,1.0s
LMR La Mourre 50.69 17 *e*P **P** 19 18 38.7 +0.3
comp=Z,59nm,1.4s
LMR La Mourre 50.69 17 *e*P **P** 19 18 38.7 +0.3
LMR pmax pmax
comp=Z,59nm,1.4s
LMR La Mourre 50.69 17 *e*P **P** 19 18 38.7 +0.3
comp=Z,59nm,1.4s
LFF La Frestale 50.80 11 *e*P **P** 19 18 39.5 +0.4
comp=Z,15nm,0.9s
LFF La Frestale 50.80 11 *e*P **P** 19 18 39.5 +0.4
LFF pmax pmax
comp=Z,15nm,0.9s
LFF La Frestale 50.80 11 *e*P **P** 19 18 39.5 +0.4
comp=Z,15nm,0.9s
CAF Calviac 51.06 12 *e*P **P** 19 18 41.2 +0.1
comp=Z,48nm,1.4s
CAF Calviac 51.06 12 *e*P **P** 19 18 41.2 +0.1
CAF pmax pmax
comp=Z,49nm,1.4s
CAF Calviac 51.06 12 *e*P **P** 19 18 41.2 +0.1
comp=Z,48nm,1.4s
CUC Castrocucco 51.27 27 *e*P **P** 19 18 40.7 -2.1
comp=Z,10.0nm,1.4s
RJF Les Rejaudoux 51.30 12 *e*P **P** 19 18 42.9 -0.1
comp=Z,38nm,1.3s
RJF Les Rejaudoux 51.30 12 *e*P **P** 19 18 42.9 -0.1
RJF pmax pmax
comp=Z,38nm,1.3s
RJF Les Rejaudoux 51.30 12 *e*P **P** 19 18 42.9 -0.1
comp=Z,38nm,1.3s
SAML Samuel 51.34 262 *e*P **P** 19 18 43.3 -0.5
comp=Z,3.3nm,0.9s
VIVF Saint-Julien-l 51.60 15 *e*P **P** 19 18 45.7 +0.5
comp=Z,21nm,1.2s
VIVF Saint-Julien-l 51.60 15 *e*P **P** 19 18 45.7 +0.5
VIVF pmax pmax
comp=Z,21nm,1.2s
VIVF Saint-Julien-l 51.60 15 *e*P **P** 19 18 45.7 +0.5
comp=Z,21nm,1.2s

ORIF **Oris-en-Rattie** 51.98 16 *e*P P 19 18 49.0 +0.9
comp=Z,25nm,1.0s
ORIF **Oris-en-Rattie** 51.98 16 *e*P P 19 18 49.0 +0.9
ORIF pmax pmax
comp=Z,25nm,1.0s
ORIF **Oris-en-Rattie** 51.98 16 *e*P P 19 18 49.0 +0.9
comp=Z,25nm,1.0s
MBDF **Montbardon** 52.05 17 *e*P P 19 18 49.7 +1.0
comp=Z,24nm,1.1s
MBDF **Montbardon** 52.05 17 *e*P P 19 18 49.7 +1.0
MBDF pmax pmax
comp=Z,25nm,1.1s
MBDF **Montbardon** 52.05 17 *e*P P 19 18 49.7 +1.0
comp=Z,24nm,1.1s
PYM **Petit Puy Mans** 52.05 13 *e*P P 19 18 49.6 +1.0
MFF **Saint Martin d** 52.24 10 *e*P P 19 18 49.9 0.0
comp=Z,34nm,1.2s
MFF **Saint Martin d** 52.24 10 *e*P P 19 18 49.9 0.0
MFF pmax pmax
comp=Z,34nm,1.2s
MFF **Saint Martin d** 52.24 10 *e*P P 19 18 49.9 0.0
comp=Z,34nm,1.2s
AGO **Saint Agoulin** 52.36 13 *e*P P 19 18 51.0 +0.1
TCF **Toulx Ste Croi** 52.39 12 *e*P P 19 18 51.5 +0.5
comp=Z,59nm,1.1s
TCF **Toulx Ste Croi** 52.39 12 *e*P P 19 18 51.5 +0.5
TCF pmax pmax
comp=Z,59nm,1.1s
TCF **Toulx Ste Croi** 52.39 12 *e*P P 19 18 51.5 +0.5
comp=Z,59nm,1.1s
PLDF **La Plantade** 52.39 13 *e*P P 19 18 52.2 +1.0
IDI **Anoyia** 52.63 38 LR LR 19 41 40.6
comp=Z,102nm,21.7s,baz=258,slow=36
LPG **La Plagne** 52.75 16 *e*P P 19 18 55.0 +0.9
comp=Z,35nm,1.0s
LPG **La Plagne** 52.75 16 *e*P P 19 18 55.0 +0.9
LPG pmax pmax
comp=Z,35nm,1.0s
LPG **La Plagne** 52.75 16 *e*P P 19 18 55.0 +0.9
comp=Z,35nm,1.0s
LPL **La Plagne** 52.76 16 *e*P P 19 18 54.9 +0.8
comp=Z,34nm,0.9s
LPL **La Plagne** 52.76 16 *e*P P 19 18 54.9 +0.8
LPL pmax pmax
comp=Z,34nm,0.9s
LPL **La Plagne** 52.76 16 *e*P P 19 18 54.9 +0.8
comp=Z,34nm,0.9s
BGF **Bois d'Agland** 52.78 12 *e*P P 19 18 54.3 +0.4
comp=Z,42nm,1.2s
BGF **Bois d'Agland** 52.78 12 *e*P P 19 18 54.3 +0.4
BGF pmax pmax
comp=Z,42nm,1.2s
BGF **Bois d'Agland** 52.78 12 *e*P P 19 18 54.3 +0.4
comp=Z,42nm,1.2s
SMF **Signal de Mont** 53.08 13 *e*P P 19 18 56.2 0.0
comp=Z,21nm,1.0s
SMF **Signal de Mont** 53.08 13 *e*P P 19 18 56.2 0.0
SMF pmax pmax
comp=Z,21nm,1.0s
SMF **Signal de Mont** 53.08 13 *e*P P 19 18 56.2 0.0
comp=Z,21nm,1.0s
AVF **Avril sur Loir** 53.11 13 *e*P P 19 18 56.5 +0.2
comp=Z,21nm,1.0s
AVF **Avril sur Loir** 53.11 13 *e*P P 19 18 56.5 +0.2
AVF pmax pmax
comp=Z,21nm,1.0s
AVF **Avril sur Loir** 53.11 13 *e*P P 19 18 56.5 +0.2
comp=Z,21nm,1.0s
SSF **Saint Saulge** 53.40 13 *e*P P 19 18 58.7 +0.2
comp=Z,40nm,1.1s
SSF **Saint Saulge** 53.40 13 *e*P P 19 18 58.7 +0.2
SSF pmax pmax
comp=Z,40nm,1.1s
SSF **Saint Saulge** 53.40 13 *e*P P 19 18 58.7 +0.2
comp=Z,40nm,1.1s
ROSF **Rostrenen** 53.48 7 *e*P P 19 18 59.0 0.0
comp=Z,20nm,0.9s
ROSF **Rostrenen** 53.48 7 *e*P P 19 18 59.0 0.0
ROSF pmax pmax
comp=Z,20nm,0.9s
ROSF **Rostrenen** 53.48 7 *e*P P 19 18 59.0 0.0
comp=Z,20nm,0.9s
CABF **La Chapelle** 53.60 15 *e*P P 19 19 00.0 -0.1
comp=Z,42nm,0.9s
CABF **La Chapelle** 53.60 15 *e*P P 19 19 00.0 -0.1
CABF pmax pmax
comp=Z,43nm,0.9s
CABF **La Chapelle** 53.60 15 *e*P P 19 19 00.0 -0.1
comp=Z,42nm,0.9s
LOR **Lormes** 53.67 13 *e*P P 19 19 00.4 -0.1
comp=Z,39nm,1.1s
LOR **Lormes** 53.67 13 *e*P P 19 19 00.4 -0.1
comp=Z,39nm,1.1s
GRR **Gorron** 53.86 9 *e*P P 19 19 01.8 0.0
GRR **Gorron** 53.86 9 *e*P P 19 19 01.8 0.0
GRR **Gorron** 53.86 9 *e*P P 19 19 01.8 0.0
LDF **La Druitiere** 54.17 9 *e*P P 19 19 04.1 0.0
LDF **La Druitiere** 54.17 9 *e*P P 19 19 04.1 0.0
LDF **La Druitiere** 54.17 9 *e*P P 19 19 04.1 0.0
FLN **La Foliniere** 54.28 9 *e*P P 19 19 04.6 -0.3
comp=Z,34nm,1.0s
FLN **La Foliniere** 54.28 9 *e*P P 19 19 04.6 -0.3
FLN pmax pmax
comp=Z,34nm,1.0s
FLN **La Foliniere** 54.28 9 *e*P P 19 19 04.6 -0.3
comp=Z,34nm,1.0s
DAVOX **Davos/Dischmat** 54.83 18 LR LR 19 39 54.4
comp=Z,191nm,19.7s,baz=276,slow=33
SFTF **Sexfontaines** 54.83 14 *e*P P 19 19 08.9 0.0
comp=Z,57nm,1.2s
SFTF **Sexfontaines** 54.83 14 *e*P P 19 19 08.9 0.0
comp=Z,57nm,1.2s
HINF **Hinteralfeld** 54.91 15 *e*P P 19 19 08.8 -0.8
comp=Z,8.5nm,0.9s
HINF **Hinteralfeld** 54.91 15 *e*P P 19 19 08.8 -0.8
HINF pmax pmax
comp=Z,9.0nm,0.9s
HINF **Hinteralfeld** 54.91 15 *e*P P 19 19 08.8 -0.8
comp=Z,8.5nm,0.9s
HAU **Haudompre** 54.96 15 *e*P P 19 19 09.5 -0.4
comp=Z,63nm,1.3s
HAU **Haudompre** 54.96 15 *e*P P 19 19 09.5 -0.4
HAU pmax pmax
comp=Z,63nm,1.3s
HAU **Haudompre** 54.96 15 *e*P P 19 19 09.5 -0.4
comp=Z,63nm,1.3s
THEF **They Montfort** 55.07 14 *e*P P 19 19 11.1 +0.4
MEZF **Maizieres J'vi** 55.11 13 *e*P P 19 19 11.1 +0.2
comp=Z,51nm,1.0s
MEZF **Maizieres J'vi** 55.11 13 *e*P P 19 19 11.1 +0.2
comp=Z,51nm,1.0s
FELD **Feldberg im Sc** 55.27 16 *e*P P 19 19 12.2 -0.1
DAVA **Damuels** 55.28 18 *i* P P 19 19 12.2 -0.2
comp=Z,24nm,0.9s,SNR=10
FETA **Feichten** 55.30 18⇓*i*P P 19 19 12.4 -0.1
comp=Z,14nm,1.0s,SNR=5.9
PAGF **Fort de Pagny** 55.32 14 *e*P P 19 19 12.6 +0.2
comp=Z,17nm,1.0s
PAGF **Fort de Pagny** 55.32 14 *e*P P 19 19 12.6 +0.2
comp=Z,17nm,1.0s
ECH **Echery** 55.36 15 *e*P P 19 19 12.8 +0.1
ECH pmax pmax
comp=Z,11nm,1.1s
ECH **Echery** 55.36 15 *e*P P 19 19 13.1 +0.3
ECH **Echery** 55.36 15 *e*P P 19 19 12.8 +0.1
comp=Z,11nm,1.1s
JAVS **Javornik** 55.46 22 *i* P P 19 19 14.5 +0.9
CDF **Champ du Feu** 55.57 15 *e*P P 19 19 13.7 -0.7
comp=Z,23nm,0.9s
CDF **Champ du Feu** 55.57 15 *e*P P 19 19 13.7 -0.7
CDF pmax pmax
comp=Z,23nm,0.9s
CDF **Champ du Feu** 55.57 15 *e*P P 19 19 13.7 -0.7
comp=Z,23nm,0.9s
BOJS **Bojanci** 55.58 23 *i* P P 19 19 15.9 +1.6
ABTA **Abfaltersbach** 55.65 20⇓*i*P P 19 19 15.7 +0.8
comp=Z,7.8nm,0.7s,SNR=6.1
VISS **Visnje** 55.67 22 *i* P P 19 19 16.2 +1.2
BFO **Black Forest** 55.78 16 *e*P P 19 19 15.7 -0.1
BFO pmax pmax
comp=Z,11nm,0.9s
BFO **Black Forest** 55.78 16 *e*P P 19 19 15.7 -0.1
comp=Z,10nm,0.9s
KBA **Koelnbreinsper** 56.22 20⇓*i*P P 19 19 19.6 +0.5
comp=Z,7.5nm,0.9s
LANF **Langenberg** 56.23 15 *e*P P 19 19 19.3 +0.3

EIL **Elat** 56.29 49 LR LR 19 45 20.3
comp=Z,138nm,18.1s,baz=287,slow=38
BAIF **Baives** 56.39 12 *e*P P 19 19 19.5 -0.5
comp=Z,55nm,1.1s
BAIF **Baives** 56.39 12 *e*P P 19 19 19.5 -0.5
BAIF pmax pmax
comp=Z,55nm,1.1s
BAIF **Baives** 56.39 12 *e*P P 19 19 19.5 -0.5
comp=Z,55nm,1.1s
PERS **Pernice** 56.48 22 *i* P P 19 19 22.1 +1.3
SOKA **Soboth** 56.48 22 *i* P P 19 19 22.0 +1.1
comp=Z,11nm,0.9s,SNR=8.5
ATD **Arta Tunnel** 56.55 73 LR LR 19 40 48.5
comp=Z,100nm,21.3s,baz=183,slow=33
GIVF **Givet** 56.56 13 *e*P P 19 19 20.7 -0.6
comp=Z,44nm,1.0s
GIVF **Givet** 56.56 13 *e*P P 19 19 20.7 -0.6
GIVF pmax pmax
comp=Z,44nm,1.0s
GIVF **Givet** 56.56 13 *e*P P 19 19 20.7 -0.6
comp=Z,44nm,1.0s
VTS **Vitosha** 56.81 30⇓P P 19 19 25.2 +1.8
VTS **Vitosha** 56.81 30⇓*i*P P 19 19 25.2 +1.8
ARSA **Arzberg** 57.14 22⇓*i*P P 19 19 26.3 +0.8
comp=Z,6.0nm,0.8s
MOA **Molln** 57.20 20⇓*i*P P 19 19 25.6 -0.3
comp=Z,12nm,1.0s,SNR=6.1
CONA **Conrad Observa** 57.84 21⇓*i*P P 19 19 31.2 +0.7
comp=Z,15nm,1.2s,SNR=9.1
GERES **GERESS Array B** 57.87 19 P P 19 19 30.9 +0.3
GERES **GERESS Array B** 57.87 19 P P 19 19 30.9 +0.3
comp=Z,14nm,0.8s,baz=191,slow=6.5,SNR=116
KHC **Kasperske Hory** 58.07 19 *e*P P 19 19 32.2 +0.1
KHC *ex* x 19 19 45.7
MMAI **Mount Meron Ar** 58.31 46 LR LR 19 43 52.9
comp=Z,120nm,18.2s,baz=75,slow=35
BZS **Buzias** 58.32 27⇓P P 19 19 34.8 +1.0
BZS **Buzias** 58.32 27⇓*i*P P 19 19 34.8 +1.0
ZST **Bratislava** 58.52 22 *e*P P 19 19 36.2 +1.1
ZST **Bratislava** 58.52 22 *e*P P 19 19 36.2 +1.1
TREC **Trest** 58.86 20 *e*P P 19 19 37.7 +0.2
ASF **Jabal al Asfar** 58.98 48 LR LR 19 41 50.6
comp=Z,84nm,21.6s,baz=0.7,slow=33
HUMR **Humele** 59.10 30⇑*i*P P 19 19 40.2 +0.9
PRU **Pruhonice** 59.13 19 *e*P P 19 19 39.4 +0.1
PRA **Prague** 59.17 19 P P 19 19 40.0 +0.4
LOT **Lotru** 59.19 28⇓*i*P P 19 19 41.2 +1.2
VRAC **Vranov** 59.26 21⇑*i*P P 19 19 40.5 +0.2
PSZ **Piszkesteto** 59.39 24⇓P P 19 19 42.1 +0.8
PSZ **Piszkesteto** 59.39 24⇓*i*P P 19 19 42.1 +0.8
PSZ **Piszkesteto** 59.39 24 *e*P P 19 19 42.0 +0.8
comp=Z,19nm,1.0s
ARR **Arges** 59.54 29⇑*i*P P 19 19 43.5 +1.1
PVCC **Panska Ves** 59.60 19 *e*P P 19 19 42.7 +0.1
BRG **Berggiesshubel** 59.70 18 *e*P P 19 19 43.5 +0.3
comp=Z,8.6nm,1.1s
DRGR 59.71 27⇑P P 19 19 44.4 +0.9
DRGR 59.71 27⇑*i*P P 19 19 44.4 +0.9
CLL **Collm** 59.79 18 *i* P P 19 19 44.1 +0.2
CLL pmax pmax
comp=Z,7.0nm,1.3s
CLL **Collm** 59.79 18 *i* P P 19 19 44.1 +0.2
comp=Z,7.0nm,1.3s
CLL *e*PP PP 19 21 55.0 -1.0
VOIR 59.80 29⇑P P 19 19 44.7 +0.6
VOIR 59.80 29⇑*i*P P 19 19 44.7 +0.6
KRLC **Kraliky** 59.97 21 *e*P P 19 19 46.0 +0.8
MORC **Moravsky Berou** 59.99 21⇑P P 19 19 46.2 +0.8
MORC **Moravsky Berou** 59.99 21⇑*i*P P 19 19 46.2 +0.8
MORC **Moravsky Berou** 59.99 21 *e*P P 19 19 45.7 +0.4
comp=Z,27nm,1.4s
DPC **Dobruska-Polom** 60.04 20 *e*P P 19 19 46.3 +0.6
UPC **Upice** 60.07 20 *e*P P 19 19 46.0 +0.2
MSAB **Monastry St. A** 60.25 32⇑*i*P P 19 19 47.5 +0.4
OKC **Ostrava-Krasne** 60.27 22 *e*P P 19 19 47.8 +0.6
MLR **Muntele Rosu** 60.27 30⇓*i*P P 19 19 47.8 +0.3
TRPA **Tarpa** 60.66 26⇓*i*P P 19 19 50.7 +0.8
BMR **Baia Mare** 60.73 26⇓P P 19 19 51.4 +1.0
BMR **Baia Mare** 60.73 26⇓*i*P P 19 19 51.4 +1.0
NIE **Niedzica** 60.75 23 *e*P P 19 19 52.0 +1.4
NIE **Niedzica** 60.75 23 *e*P P 19 19 52.0 +1.4
BR131 **Keskin Array S** 60.82 39 *e*P P 19 19 52.9 +1.5
comp=Z,13nm,1.3s
BRTR **Keskin Array B** 60.82 39 P P 19 19 52.8 +1.5
BRTR **Keskin Array B** 60.82 39 P P 19 19 52.8 +1.5
comp=Z,5.3nm,0.9s,baz=212,slow=6.8,SNR=29
BRTR LR LR 19 48 32.9
comp=Z,107nm,18.4s,baz=283,slow=38
PLOR **Plostina** 60.87 30⇓P P 19 19 51.9 +0.4
PLOR **Plostina** 60.87 30⇓*i*P P 19 19 51.8 +0.3
VRI **Vrincioaia** 60.92 30⇑P P 19 19 52.4 +0.6
VRI **Vrincioaia** 60.92 30⇑*i*P P 19 19 52.4 +0.6
STHS **Stebnicka Huta** 61.12 24 *e*P P 19 19 54.1 +1.1
STHS pmax pmax
comp=Z,3.0nm,0.9s
STHS **Stebnicka Huta** 61.12 24 *e*P P 19 19 54.1 +1.1
OJC **Ojcow** 61.19 22 *e*P P 19 19 53.8 +0.3
OJC **Ojcow** 61.19 22 *e*P P 19 19 53.8 +0.3
BURAR **Bucovina Array** 61.46 27⇓P P 19 19 56.8 +1.3
BURAR **Bucovina Array** 61.46 27⇓*i*P P 19 19 56.8 +1.3
KWP **Kalwaria Pacla** 61.89 25⇓P P 19 19 59.2 +1.0
KWP **Kalwaria Pacla** 61.89 25⇓*i*P P 19 19 59.2 +1.0
KWP **Kalwaria Pacla** 61.89 25 *e*P P 19 19 59.2 +1.0
LVV **L'vov** 62.58 25 *e*P P 19 20 02.6 -0.3
GKP **Gorka Klasztor** 62.81 19 *e*P P 19 20 05.4 +1.2
MALT **Malatya** 63.15 43⇓P P 19 20 08.7 +1.7
MALT **Malatya** 63.15 43⇓*i*P P 19 20 08.7 +1.7
ROSC **El Rosal** 63.40 278 P P 19 20 10.9 +1.4
ROSC **El Rosal** 63.40 278 P P 19 20 10.9 +1.4
comp=Z,17nm,0.4s,baz=96,slow=17,SNR=4.4
ROSC LR LR 19 44 58.5
comp=Z,74nm,18.8s,baz=198,slow=34
PLCA **Paso Flores** 63.56 227 LR LR 19 44 26.8
comp=Z,182nm,18.3s,baz=318,slow=33
SUW **Suwalki** 65.48 22 *e*P P 19 20 22.0 +0.2
KIEV **Kiev** 65.50 27 *e*P P 19 20 21.4 -0.5
KIEV pmax pmax
comp=Z,29nm,0.9s
KIEV **Kiev** 65.50 27 *e*P P 19 20 21.4 -0.5
comp=Z,30nm,0.9s
AKASG **Malin Array Be** 65.51 27 P P 19 20 21.8 -0.3
AKASG **Malin Array Be** 65.51 27 P P 19 20 21.8 -0.3
AKASG **Malin Array Be** 65.51 27 P P 19 20 21.8 -0.3
comp=Z,13nm,0.8s,baz=227,slow=6.8,SNR=72
RST **Umm Al-Ruwaisa** 65.71 55 *e*P P 19 20 25.5 +1.7
RST AMb AMB 19 20 26.5
comp=Z,254nm,0.9s
NAY **Al-Naaiem** 65.82 55 *e*P P 19 20 26.0 +1.5
NAY AMb AMB 19 20 27.9
comp=Z,18nm,1.5s
RDF **Al-Radifah** 65.95 55 *e*P P 19 20 26.2 +0.9
RDF AMb AMB 19 20 28.6
comp=Z,31nm,1.2s
ANN **Anapa** 66.05 36 *e*P P 19 20 24.0 -1.6
ANN pmax pmax
comp=Z,45nm,1.3s
SNAA **Sanae** 66.95 177 *e*P P 19 20 30.1 -1.0
comp=Z,6.0nm,0.9s
SNAA **Sanae** 66.95 177 P P 19 20 30.8 -0.3
comp=Z,2.4nm,0.9s,baz=347,slow=6.1,SNR=23
ILIN **Lien** 67.72 49 *e*P P 19 20 38.4 +1.5
NOA **NORSAR Array B** 68.07 12 P P 19 20 37.8 -0.5
NOA **NORSAR Array B** 68.07 12 P P 19 20 37.8 -0.5
comp=Z,4.0nm,0.9s,baz=202,slow=6.9,SNR=6.8
KIV **Kislovodsk** 68.78 39⇑*e*P P 19 20 44.3 +1.1
KIV *e*S S 19 29 44.1 -2.0
KIV pmax pmax
comp=Z,20nm,1.0s
KIV MLR MLR
comp=Z,100nm,16.0s
KBZ **Khabaz** 68.81 39 P P 19 20 44.4 +1.3
KBZ **Khabaz** 68.81 39 P P 19 20 44.4 +1.3
KBZ **Khabaz** 68.81 39 P P 19 20 44.4 +1.3
comp=Z,14nm,0.9s,baz=224,slow=6.3,SNR=22
VSU **Vasula** 70.17 20 *e*P P 19 20 50.8 -0.4
VSU pmax pmax
comp=Z,41nm,1.5s
IZEF **Zefreh** 71.16 53 *e*P P 19 20 57.3 -0.9
OBN **Obninsk** 71.77 27⇑*e*P P 19 21 00.6 -0.4
OBN *e*S SKiKP 19 30 44.6 +5.8
OBN pmax pmax
comp=Z,37nm,2.5s
OBN MLR MLR
comp=Z,100nm,18.0s

FINES **FINESS Array B** 72.24 18 P P 19 21 03.8 +0.1
FINES **FINESS Array B** 72.24 18 P P 19 21 03.8 +0.1
comp=Z,3.7nm,0.6s,baz=236,slow=4.6,SNR=18
SYO **Syowa Base** 72.32 163⇑*e*P P 19 21 02.0 -2.1
KAF **Kangasniemi** 72.82 18 *e*P P 19 21 05.2 -2.0
KAF pmax pmax
comp=Z,3.0nm,0.8s
KAF **Kangasniemi** 72.82 18 *e*p P 19 21 05.2 -2.0
comp=Z,3.2nm,0.8s
JOF **Joensuu** 74.98 19 *e*P P 19 21 16.6 -3.2
JOF pmax pmax
comp=Z,3.0nm,0.7s
JOF **Joensuu** 74.98 19 *e*p P 19 21 16.6 -3.2
comp=Z,3.2nm,0.7s
KLMR **Klimovskoe** 76.54 23 *e*P P 19 21 27.0 -1.8
KLMR pmax pmax
comp=Z,13nm,0.9s
ARCES **ARCESS Array B** 78.42 13 P P 19 21 39.5 +0.3
ARCES **ARCESS Array B** 78.42 13 P P 19 21 39.5 +0.3
comp=Z,4.7nm,0.8s,baz=245,slow=5.2,SNR=5.9
TEIG **Tepich** 79.25 292 P P 19 21 44.2 -0.5
TEIG **Tepich** 79.25 292 P P 19 21 44.2 -0.5
comp=Z,21nm,1.2s,baz=88,slow=9.3,SNR=3.7
MAW **Mawson** 79.62 158 *e*P P 19 21 46.4 +0.6
comp=Z,1.5nm,0.9s
MAW **Mawson** 79.62 158 P P 19 21 46.7 +0.9
comp=Z,6.0nm,0.8s,baz=292,slow=8.4,SNR=18
LRAL **Lakeview Retre** 80.49 304 *e*P P 19 21 50.8 -0.4
comp=Z,7.0nm,0.6s
ABKAR **Akbulak array** 81.77 39 *e*P P 19 21 57.9 +0.2
comp=Z,8.4nm,1.3s
ARU **Arti** 83.23 32*d i*P P 19 22 04.8 -0.3
ARU 19 25 12.8
ARU S S 19 32 23.7 -0.9
ARU SS SS 19 37 48.1 -1.3
ARU pmax pmax
comp=Z,27nm,1.7s
QSPA **South Pole Qui** 85.23 180 *e*P P 19 22 14.9 -0.4
comp=Z,10.0nm,0.9s
KKAR **Karatay Array** 87.54 47 *e*P P 19 22 27.1 +0.1
KKAR pmax pmax
comp=Z,3.0nm,1.0s
KKAR **Karatay Array** 87.54 47 *e*P P 19 22 27.1 +0.1
comp=Z,3.0nm,1.0s
TUL1 **Tulsa** 88.13 306 P P 19 22 29.3 -0.6
baz=88
BRVK **Borovoye** 88.98 37⇑*e*P P 19 22 33.4 -0.1
BRVK pmax pmax
comp=Z,6.0nm,1.7s
EKS2 **Erkin-Say** 89.86 47 *e*P P 19 22 38.8 +0.7
EKS2 pmax pmax
comp=Z,5.0nm,1.3s
EKS2 **Erkin-Say** 89.86 47 *e*P P 19 22 38.8 +0.7
comp=Z,5.3nm,1.3s
AAK **Ala-Archa** 90.38 47 *ce*P P 19 22 40.8 +0.2
AAK pmax pmax
comp=Z,17nm,1.2s
AAK **Ala-Archa** 90.38 47 *e*P P 19 22 41.7 +1.1
comp=Z,9.3nm,1.1s
632A **Uvalde** 90.80 299 P P 19 22 42.4 -0.2
baz=91
Z32A **Haskell** 90.87 303 P P 19 22 42.6 -0.3
baz=91
232A **Coleman** 90.89 302 P P 19 22 42.6 -0.4
baz=91
732A **Laxson Ranch,** 90.89 299 P P 19 22 42.8 -0.3
baz=91
JCT **Junction City** 90.89 300 P P 19 22 42.7 -0.4
baz=91
Y32A **R-V Farms, Ver** 90.91 304 P P 19 22 42.1 -0.9
baz=91
432A **Menard** 90.92 301 P P 19 22 42.5 -0.7
baz=91
332A **Millersview** 90.92 301 P P 19 22 42.6 -0.6
baz=91
TKM2 **Tokmak 2** 91.22 47 *e*P P 19 22 45.1 +0.5
TKM2 pmax pmax
comp=Z,5.0nm,1.2s
TKM2 **Tokmak 2** 91.22 47 *e*P P 19 22 45.0 +0.5
comp=Z,5.1nm,1.2s
R31A **Burdett** 91.36 308 P P 19 22 44.7 -0.4
baz=91
T31A **Randall Ranch,** 91.37 307 P P 19 22 44.8 -0.3
baz=91
X31A **McDonald Ranch** 91.40 304 P P 19 22 44.6 -0.7
baz=91
Z31A **Sharp Cattle R** 91.43 303 P P 19 22 45.5 0.0
baz=92
231A **Bronte** 91.46 302 P P 19 22 45.4 -0.3
baz=92
631A **Perdido Creek** 91.47 299 P P 19 22 45.5 -0.3
baz=92
531A **Rocksprings** 91.51 300 P P 19 22 45.0 -1.0
baz=92
131A **Roby** 91.58 302 P P 19 22 45.7 -0.6
baz=92
Y31A **Rekieta Farm,** 91.58 304 P P 19 22 45.7 -0.5
baz=92
J30A **Dallas** 91.77 313 P P 19 22 46.6 -0.3
baz=92
130A **Snyder** 92.06 302 P P 19 22 48.2 -0.3
baz=92
A29A **Manning Farm,** 92.08 319 P P 19 22 47.3 -0.8
baz=92
X30A **Coker Ranch, T** 92.12 304 P P 19 22 48.0 -0.8
baz=92
230A **Sterling City** 92.13 302 P P 19 22 48.2 -0.6
baz=92
Z30A **Sanderson Ranc** 92.25 303 P P 19 22 48.5 -0.8
baz=92
Q29A **Oakley** 92.54 309 P P 19 22 50.5 -0.1
baz=93
429A **Davenport Ranc** 92.70 300 P P 19 22 50.4 -1.1
baz=93
Z29A **Hungry Hill Ra** 92.73 303 P P 19 22 51.2 -0.4
baz=93
X28A **Dimmitt** 93.22 304 P P 19 22 53.3 -0.5
baz=93
Z28A **Tucker Farm, M** 93.30 303 P P 19 22 53.8 -0.5
baz=93
428A **Kincaid Ranch,** 93.39 300 P P 19 22 54.5 -0.2
baz=93
628A **Black Gap, Mar** 93.49 299 P P 19 22 54.5 -0.6
baz=94
MSTX **Muleshoe** 93.66 304 *e*P P 19 22 55.4 -0.5
MSTX **Muleshoe** 93.66 304 P P 19 22 55.6 -0.3
baz=94
KURK **Kurchatov** 93.86 40 *e*P P 19 22 55.2 -1.1
KURK pmax pmax
comp=Z,4.0nm,1.6s
R27A **Eads** 93.92 308 P P 19 22 56.5 -0.5
baz=94
Y27A **Causey** 93.98 304 P P 19 22 57.2 -0.2
baz=94
Z27A **Tatum** 93.99 303 P P 19 22 57.3 -0.2
baz=94
527A **Woodward Ranch** 94.16 300 P P 19 22 57.9 -0.4
baz=94
TXAR **Lajitas Array** 94.16 299 P P 19 22 57.8 -0.5
TXAR **Lajitas Array** 94.16 299 P P 19 22 57.8 -0.5
comp=Z,0.7nm,0.7s,baz=116,slow=8.5,SNR=5.1
S26A **Kim** 94.42 307 P P 19 22 59.1 -0.2
baz=94
K26A **Motz Farm, Whi** 94.43 312 P P 19 22 59.1 -0.2
baz=94
Y26A **Elida** 94.53 304 P P 19 23 00.0 +0.1
baz=95
426A **McDonald Obser** 94.55 300 P P 19 22 60.0 -0.2
baz=95
X26A **CR and CF Fran** 94.55 304 P P 19 22 59.9 -0.1
baz=95
526A **Mary Lane Ranc** 94.57 300 P P 19 22 59.9 -0.3
baz=95
626A **Big Bend Ranch** 94.58 299 P P 19 22 59.8 -0.4
baz=95
V26A **Tequesquite Ra** 94.59 305 P P 19 22 59.4 -0.8
baz=95
226B **Tecolote Peak,** 94.73 302 P P 19 23 00.5 -0.3
baz=95
I25A **Rochford** 94.89 314 P P 19 23 00.9 -0.5
baz=95
S25A **Robets Cordova** 95.19 307 P P 19 23 03.4 +0.5
baz=95
Z25A **Roswell** 95.25 303 P P 19 23 02.8 -0.5
baz=95
425A **Indio Mountain** 95.37 300 P P 19 23 03.2 -0.6
baz=95

S24A	**Houchin Ranch,** baz=96	**95.81 307**	P	**P**	**19 23 05.6**	**-0.3**
124A	**Stringfield Ra** baz=96	**95.85 302**	P	**P**	**19 23 05.6**	**-0.5**
Y24A	**Capitan** baz=96	**95.87 303**	P	**P**	**19 23 05.7**	**-0.5**
224A	**Cornudas Mount** baz=96	**95.88 302**	P	**P**	**19 23 05.3**	**-0.9**
W24A	**Lazy 6 Ranch,** baz=96	**95.89 305**	P	**P**	**19 23 05.6**	**-0.6**
MKAR	**Makanchi Array**	**96.18 44**	P	**P**	**19 23 05.3**	**-1.7**
MKAR	**Makanchi Array**	**96.18 44**	P	**P**	**19 23 05.3**	**-1.7**
MKAR	**Makanchi Array** comp=Z,0.9nm,0.9s,baz=267,slow=4.4,SNR=5.5	**96.18 44**	P	**P**	**19 23 05.3**	**-1.7**
V22A	**San Miguel Ran** baz=97	**97.13 305**	P	**P**	**19 23 11.5**	**-0.3**
TMUT	**Trail Mountain**	**100.50 309**	*eP*	Pdif	19 23 38.2	+11
ASAR	**Alice Springs**	**136.00 132**	PKP	**PKPdf**	**19 29 01.2**	**+0.4**
ASAR	**Alice Springs** comp=Z,0.8nm,1.0s,baz=214,slow=2.8,SNR=3.9	**136.00 132**	PKP	**PKPdf**	**19 29 01.2**	**+0.4**

IDC 08 19:22:42.0±1.3, 12.87S×166.22E, h0km, mb3.9/8, mb1 4.1/10, mb1mx3.9/21, mbtmp4.0/10, ML3.9/2, Error ellipse: s-maj=36.4km s-min=24.1km az=124.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**7.04 298**		P		Pn	19 24 26.9	+0.6
	15nm,0.3s,baz=279,slow=1.0,SNR=10							
DZM	**Mont Dzumac**	**9.15 179**		Pn		Pn	19 24 57.6	+2.1
	0.2nm,0.3s,baz=52,slow=20,SNR=2.6							
STKA	**Stephens Creek**	**29.48 226**		P		P	19 28 48.7	+0.8
	2.2nm,0.7s,baz=38,slow=8.4,SNR=5.8							
WRA	**Warramunga Arr**	**31.34 253**		P		P	19 29 03.0	-1.5
	0.5nm,0.7s,baz=80,slow=9.0,SNR=6.3							
ASAR	**Alice Springs**	**32.43 246**		P		P	19 29 13.0	-1.2
	1.9nm,0.6s,baz=71,slow=9.1,SNR=4.1							
FITZ	**Fitzroy Crossi**	**39.39 257**		P		P	19 30 13.2	-0.6
	2.4nm,0.6s,baz=81,slow=7.7,SNR=9.9							
CMAR	**Chiang Mai Arr**	**73.27 294**		P		P	19 34 16.9	+1.2
	1.1nm,0.9s,baz=120,slow=4.9,SNR=7.5							
SONM	**Songino Array**	**80.40 324**		P		P	19 34 57.2	+1.6
	0.4nm,0.6s,baz=160,slow=4.6,SNR=3.4							
ILAR	**Eielson Array**	**85.09 18**		P		P	19 35 18.2	-1.2
	0.4nm,0.6s,baz=231,slow=5.7,SNR=4.2							
MKAR	**Makanchi Array**	**95.16 317**		P		P	19 36 07.5	+0.1
	0.2nm,0.5s,baz=94,slow=5.6,SNR=3.7							
KEST	**Kesra**	**149.13 321**		PKPbc		PKPbc	19 42 32.8	-0.1
	1.7nm,0.6s,baz=296,slow=2.7,SNR=8.2							
ESDC	**Sonseca Array**	**151.93 344**		PKPbc		PKPbc	19 42 38.1	-1.3
	0.1nm,0.4s,baz=36,slow=1.6,SNR=3.0							

*IDC **08** 19:24:00.9±1.2, 12.51S×166.46E, h0km, mb4.0/13, mb1 4.1/13, mb1mx4.1/20, mbtmp4.0/13, MS3.9/3, Ms1 3.9/3, ms1mx3.4/34, Error ellipse: s-maj=40.8km s-min=21.4km az=132.0*

*NEIC **08** 19:24:06.1±0.6, 12.54S×166.50E, h35km, mb4.6/2, Error ellipse: s-maj=15.0km s-min=11.9km az=93.0*

*ISCJB **08** 19:24:07.4±0.6, 12.62S±0.08×166.35E±0.08, h59km, mb4.0/14, MS3.9/2, Error ellipse: s-maj=13.3km s-min=9.6km az=136.9*

ISC 08 19:24:08.9±0.7, 12.59S±0.09×166.43E±0.10, h59km, n39, σ0.676/39, mb4.0/14, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**7.10 296**		Pn		**Pn**	**19 25 50.1**	**-0.1**
HNR				Sn		**Sn**	**19 27 09.9**	**+0.4**
HNR	**Honiara**	**7.10 296**		Pn		**Pn**	**19 25 50.1**	**-0.1**
	16nm,0.3s,baz=123,slow=0.5,SNR=16							
HNR				Sn		**Sn**	**19 27 09.9**	**+0.4**
	13nm,0.3s,baz=210,slow=20,SNR=3.0							
DZM	**Mont Dzumac**	**9.43 180**		*e*Pn		**Pn**	**19 26 22.8**	**+0.7**
	94nm,1.2s							
DZM				*e*LR		LR	19 28 39.2	
	932nm,24.6s							
DZM	**Mont Dzumac**	**9.43 180**		*e*P		**Pn**	**19 26 21.8**	**-0.4**
	12nm,0.6s							
DZM				Sn		Sn	19 28 20.5	+14
DZM	**Mont Dzumac**	**9.43 180**		Pn		**Pn**	**19 26 22.0**	**-0.2**
	1.3nm,0.3s,baz=246,slow=10.0,SNR=8.7							
DZM				Sn		Sn	19 28 20.5	+14
	1.1nm,0.3s,baz=336,slow=20,SNR=2.5							
DZM				LR		LR	19 29 33.0	
	comp=Z,712nm,21.0s,baz=8.9,slow=35							
CTA	**Charters Tower**	**20.73 246**		P		**P**	**19 28 44.7**	**-0.1**
CTA	**Charters Tower**	**20.73 246**		P		**P**	**19 28 44.7**	**-0.1**
	2.8nm,0.8s,baz=84,slow=10,SNR=2.6							
AFI	**Afiamalu**	**21.25 96**		LR		LR	19 35 28.0	
	comp=Z,268nm,18.2s,baz=238,slow=32							
STKA	**Stephens Creek**	**29.82 226**		P		**P**	**19 30 11.2**	**+0.7**
STKA	**Stephens Creek**	**29.82 226**		P		**P**	**19 30 11.2**	**+0.7**
	3.7nm,0.9s,baz=46,slow=9.5,SNR=4.6							
WRA	**Warramunga Arr**	**31.62 252**		P		**P**	**19 30 26.1**	**-0.5**
WRA	**Warramunga Arr**	**31.62 252**		P		**P**	**19 30 26.1**	**-0.5**
	0.3nm,0.5s,baz=84,slow=9.2,SNR=5.5							
ASAR	**Alice Springs**	**32.73 246**		P		**P**	**19 30 35.7**	**-0.6**
ASAR	**Alice Springs**	**32.73 246**		P		**P**	**19 30 35.7**	**-0.6**
	1.0nm,0.8s,baz=70,slow=9.6,SNR=3.9							
FITZ	**Fitzroy Crossi**	**39.66 257**		P		**P**	**19 31 34.8**	**-0.6**
FITZ	**Fitzroy Crossi**	**39.66 257**		P		**P**	**19 31 34.8**	**-0.6**
	4.4nm,1.1s,baz=91,slow=7.1,SNR=3.8							
FITZ				LR		LR	19 46 58.6	
	comp=Z,248nm,19.9s,baz=101,slow=35							
PPT2	**Papeete2**	**42.70 102**		*e*S		S	19 38 35.0	+15
	68nm,26.2s							
PPT2				*e*LR		LR	19 44 10.6	
	282nm,25.8s							
KSRS	**Korea Array**	**61.53 326**		P		**P**	**19 34 18.9**	**-0.9**
	1.1nm,0.9s,baz=213,slow=15,SNR=3.6							
KSAR	**Wonju Array Be**	**61.54 326**		P		**P**	**19 34 18.9**	**-1.0**
CMAR	**Chiang Mai Arr**	**73.34 294**		P		**P**	**19 35 36.3**	**+1.3**
CMAR	**Chiang Mai Arr**	**73.34 294**		P		**P**	**19 35 36.3**	**+1.3**
	2.2nm,1.0s,baz=116,slow=3.8,SNR=12							
QSPA	**South Pole Qui**	**77.42 180**		*e*P		**P**	**19 35 56.9**	**-0.8**
	9.8nm,1.0s							
ULN	**Ulaanbatar**	**79.94 324**		*e*P		**P**	**19 36 11.4**	**-0.4**
	7.4nm,1.4s							
SONM	**Songino Array**	**80.30 324**		P		**P**	**19 36 13.8**	**+0.1**
SONM	**Songino Array**	**80.30 324**		P		**P**	**19 36 13.8**	**+0.1**
	1.7nm,1.0s,baz=146,slow=6.7,SNR=6.3							
MAW	**Mawson**	**83.55 202**		P		**P**	**19 36 30.5**	**+0.3**
MAW	**Mawson**	**83.55 202**		P		**P**	**19 36 30.5**	**+0.3**
	0.4nm,0.3s,baz=127,slow=5.1,SNR=2.9							
ILAR	**Eielson Array**	**84.76 18**		P		**P**	**19 36 36.4**	**+0.1**
ILAR	**Eielson Array**	**84.76 18**		P		**P**	**19 36 36.4**	**+0.1**
	0.4nm,0.7s,baz=243,slow=4.8,SNR=3.2							
NVAR	**Mina Array Bea**	**86.51 50**		P		**P**	**19 36 47.3**	**+1.4**
NVAR	**Mina Array Bea**	**86.51 50**		P		**P**	**19 36 47.3**	**+1.4**
	0.5nm,0.7s,baz=242,slow=5.8,SNR=3.4							
MKAR	**Makanchi Array**	**95.10 317**		P		**P**	**19 37 25.4**	**-0.3**
MKAR	**Makanchi Array**	**95.10 317**		P		**P**	**19 37 25.4**	**-0.3**
	1.9nm,0.9s,baz=101,slow=6.3,SNR=9.9							
ZALV	**Zalesovo Beam**	**95.20 324**		P		**P**	**19 37 25.0**	**-0.8**
ZALV	**Zalesovo Beam**	**95.20 324**		P		**P**	**19 37 25.0**	**-0.8**
	0.4nm,0.5s,baz=93,slow=5.2,SNR=4.1							
ARCES	**ARCESS Array B**	**117.99 345**		PKP		**PKPdf**	**19 42 47.0**	**-1.5**
ARCES	**ARCESS Array B**	**117.99 345**		PKP		**PKPdf**	**19 42 46.9**	**-1.5**
	1.5nm,0.7s,baz=45,slow=1.4,SNR=5.7							
TORD	**Torodi Ar. Bea**	**165.11 274**		PKPab		**PKPab**	**19 45 05.2**	**+0.4**
TORD	**Torodi Ar. Bea**	**165.11 274**		PKPab		**PKPab**	**19 45 05.2**	**+0.4**
	2.4nm,1.0s,baz=95,slow=3.6,SNR=9.9							

IDC 08 19:25:02.4±0.9, 12.42S×165.99E, h0km, mb4.3/11, mb1 4.4/12, mb1mx4.3/19, mbtmp4.3/12, ML4.3/1, MS3.9/3, Ms1 3.9/3, ms1mx3.4/35, Error ellipse: s-maj=28.9km s-min=22.0km az=105.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**6.63 296**		Pn		Pn	19 26 43.4	+2.1
	6.6nm,0.3s,baz=113,slow=13,SNR=2.1							
HNR				Sn		Sn	19 27 57.7	+0.1
	3.5nm,0.3s,baz=163,slow=19,SNR=2.9							
PMG	**Port Moresby**	**18.73 277**		LR		LR	19 35 28.9	
	comp=Z,382nm,19.9s,baz=85,slow=33							
URZ	**Urewera**	**27.58 161**		LR		LR	19 38 58.7	
	comp=Z,245nm,19.4s,baz=348,slow=30							
STKA	**Stephens Creek**	**29.63 225**		P		P	19 31 11.0	+1.4
	4.6nm,0.8s,baz=41,slow=6.6,SNR=4.1							

WRA	**Warramunga Arr**	**31.26 252**	P	**P**	19 31 23.9	-0.3
	1.8nm,0.8s,baz=83,slow=8.8,SNR=5.0					
WRA			PcP	PcP	19 34 17.9	-1.0
	0.7nm,0.9s,baz=303,slow=3.6,SNR=3.3					
RPZ	**Rata Peaks**	**31.49 173**	LR	LR	19 40 46.3	
	comp=Z,223nm,18.4s,baz=170,slow=30					
ASAR	**Alice Springs**	**32.41 245**	P	P	19 31 34.1	-0.3
	3.1nm,0.8s,baz=77,slow=9.3,SNR=6.6					
ASAR			PcP	PcP	19 34 21.3	-0.8
	0.5nm,0.7s,baz=60,slow=3.4,SNR=4.6					
KSRS	**Korea Array**	**61.14 326**	P	P	19 35 18.8	+0.1
	1.9nm,0.8s,baz=134,slow=6.9,SNR=4.6					
USRK	**Ussuriysk Arra**	**64.28 333**	P	P	19 35 39.1	-0.4
	7.7nm,0.9s,baz=120,slow=6.8,SNR=7.2					
VNDA	**Vanda**	**65.13 181**	P	P	19 35 44.4	-0.3
	1.5nm,1.0s,baz=7.1,slow=7.0,SNR=3.4					
CMAR	**Chiang Mai Arr**	**72.88 294**	P	P	19 36 33.8	0.0
	0.7nm,0.7s,baz=111,slow=4.9,SNR=3.4					
SONM	**Songino Array**	**79.91 324**	P	P	19 37 13.4	+0.1
	0.8nm,0.4s,baz=139,slow=5.7,SNR=9.4					
ILAR	**Eielson Array**	**84.74 18**	P	P	19 37 40.0	+1.9
	0.7nm,0.6s,baz=242,slow=4.4,SNR=5.6					
MKAR	**Makanchi Array**	**94.68 317**	P	P	19 38 25.4	-0.2
	2.4nm,0.7s,baz=86,slow=5.2,SNR=11					
ZALV	**Zalesovo Beam**	**94.80 324**	P	P	19 38 24.6	-1.4
	2.0nm,0.9s,baz=111,slow=6.5,SNR=6.6					
AKASG	**Malin Array Be**	**128.13 326**	PKP	PKPdf	19 44 09.6	-1.0
	0.2nm,0.2s,baz=64,slow=3.3,SNR=4.1					
BRTR	**Keskin Array B**	**130.06 312**	PKP	PKPdf	19 44 14.7	-0.2
	0.5nm,0.7s,baz=48,slow=2.1,SNR=3.6					
KEST	**Kesra**	**148.64 322**	PKPbc	PKPbc	19 44 51.6	-0.5
	3.2nm,0.8s,baz=345,slow=4.3,SNR=7.2					
ESDC	**Sonseca Array**	**151.44 344**	PKPbc	PKPbc	19 44 57.9	-0.9
	0.8nm,0.8s,baz=11,slow=2.4,SNR=4.5					
TORD	**Torodi Ar. Bea**	**164.66 274**	PKPab	PKPab	19 46 05.0	+0.3
	0.7nm,0.9s,baz=85,slow=3.0,SNR=2.6					

*IDC **08** 19:27:31.2±5.9, 37.02N×71.56E, h88km±61km, mb3.4/4, mb1 3.4/9, mb1mx3.1/30, mbtmp3.3/9, ML3.6/5, Error ellipse: s-maj=70.0km s-min=39.8km az=111.0*

*ISCJB **08** 19:27:33.5±1.3, 37.3N±0.1×71.5E±0.1, h109km, mb3.7/4, Error ellipse: s-maj=20.5km s-min=9.6km az=140.5*

*NNC **08** 19:27:36.9±5.2, 37.46N×71.28E, h116km±79km, mb3.0, mpv3.5, Error ellipse: s-maj=42.1km s-min=26.0km az=4.0*

ISC 08 19:27:34.7±1.7, 37.3N±0.1×71.4E±0.1, h109km, n21, σ0.995/23, mb3.8/4, 4C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AML	**Almayashu**	**5.16 19**		P		**Pn**	**19 28 51.2**	**+1.3**
	SNR=43							
UCH	**Uchtor**	**5.49 25**		P		**Sn**	**19 29 56.5**	**-0.1**
	SNR=5.9							
KZA	**Kyzart**	**5.64 31**		P		**Pn**	**19 28 56.4**	**0.0**
	SNR=8.1							
EKS2	**Erkin-Say**	**5.67 18**		P		**Pn**	**19 28 58.0**	**+1.3**
	SNR=16							
AAK	**Ala-Archa**	**5.85 23**		P		**Pn**	**19 29 00.0**	**+0.9**
	SNR=8.7							
AAK	**Ala-Archa**	**5.85 23**		P		**Pn**	**19 28 59.8**	**+0.7**
	2.6nm,0.3s,baz=176,slow=5.9,SNR=17							
AAK				S		**Sn**	**19 30 04.7**	**-0.2**
	0.9nm,0.3s,baz=334,slow=22,SNR=10.0							
KK31	**Karatay Array**	**5.85 354**		P		**Pn**	**19 28 59.6**	**+0.6**
	1.4nm,0.3s,baz=180,slow=14,SNR=63							
KK31				S		**Sn**	**19 30 03.1**	**-1.7**
	5.3nm,0.3s,baz=175,slow=21,SNR=3.6							
THN	**Thein Dam**	**6.00 142**		*e*P		Pn	19 28 55.5	-5.5
CHMS	**Chumysh**	**6.26 23**		P		**Pn**	**19 29 05.1**	**+0.5**
	SNR=6.9							
TKM2	**Tokmak 2**	**6.49 28**		P		**Pn**	**19 29 08.2**	**+0.5**
	3.3nm,0.7s							
TKM2				S		**Sn**	**19 30 19.8**	**-0.6**
	4.1nm,0.7s							
MK31	**Makanchi Array**	**12.47 37**		P		**Pn**	**19 30 27.5**	**-0.8**
	1.3nm,0.8s,baz=222,slow=13,SNR=6.8							
MKAR	**Makanchi Array**	**12.47 37**		P		**Pn**	**19 30 27.3**	**-1.0**
	0.1nm,0.3s,baz=222,slow=13,SNR=8.8							
KURBB	**Kurchatov Arra**	**14.28 19**		P		**Pn**	**19 30 51.3**	**-0.3**
	0.1nm,0.3s,baz=206,slow=10,SNR=5.3							
AB31	**Akbulak array**	**14.57 329**		P		**Pn**	**19 30 54.5**	**-0.8**
	1.0nm,0.6s,baz=140,slow=12,SNR=27							
BVA0	**Borovoye Array**	**15.76 358**		P		**P**	**19 31 11.7**	**-0.3**
	0.8nm,0.6s,baz=160,slow=10,SNR=5.8							
BVAR	**Borovoye Array**	**15.76 358**		P		**P**	**19 31 12.4**	**+0.5**
	0.3nm,0.3s,baz=167,slow=13,SNR=6.2							
ZALV	**Zalesovo Beam**	**19.07 25**		P		**P**	**19 31 48.6**	**+0.3**
	0.2nm,0.3s,baz=216,slow=10.0,SNR=4.2							
FINES	**FINESS Array B**	**37.02 325**		P		**P**	**19 34 33.8**	**+0.4**
	1.0nm,0.8s,baz=101,slow=7.4,SNR=2.8							
ARCES	**ARCESS Array B**	**40.55 337**		P		**P**	**19 35 04.1**	**+1.3**
	3.5nm,1.0s,baz=116,slow=10.0,SNR=7.5							
NOA	**NORSAR Array B**	**43.95 323**		P		**P**	**19 35 32.4**	**+1.8**
	1.1nm,0.7s,baz=96,slow=7.9,SNR=3.4							
TORD	**Torodi Ar. Bea**	**66.05 269**		P		**P**	**19 38 09.0**	**-1.2**
	0.2nm,0.6s,baz=51,slow=5.1,SNR=2.7							

MAN 08 19:40:25, 11.44N×125.35E, h33km, mb4.8, ML3.7, MS3.8, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BESP	**Borongan**	**0.18 29**		*e*P		Pb	19 40 33.0	+1.6
BESP				*e*S		Sb	19 40 38.8	+3.0
PLP	**Palo**	**0.46 233**		*e*P		Pn	19 40 36.3	+1.0
PLP				*e*S		Sn	19 40 43.6	+1.3
OCLP	**Ormoc**	**0.82 242**		*e*P		Pb	19 40 42.8	+1.9
CNP	**Catarman**	**1.25 328**		*e*P		Pn	19 40 46.9	+0.7
TBP	**Tagbilaran**	**2.27 220**		*e*P		Pn	19 41 01.4	+1.1
PVCP	**Virac**	**2.44 332**		*e*P		Pn	19 41 03.4	+0.9
GUIM	**Jordan**	**2.83 254**		*e*P		Pn	19 41 10.3	+2.4

*ISCJB **08** 19:42:43.3±0.9, 15.95S±0.05×168.24E±0.04, h278km±9km, mb4.7/49, Error ellipse: s-maj=7.8km s-min=5.8km az=167.5*

*IDC **08** 19:42:43.7±0.5, 15.92S×168.17E, h267km±4km, mb4.5/21, mb1 4.6/24, mb1mx4.5/25, mbtmp4.5/24, Error ellipse: s-maj=7.7km s-min=6.1km az=13.0*

*NEIC **08** 19:42:43.0±0.2, 15.88S×168.25E, mb5.0/20, Error ellipse: s-maj=6.4km s-min=5.6km az=171.0*

*BJI **08** 19:42:44.9, 15.79S×168.31E, h287km, mB5.0/9, mb4.7/20*

*MOS **08** 19:42:44.1±1.0, 15.94S×168.22E, h285km, mb5.1/6, Error ellipse: s-maj=13.3km s-min=8.9km az=7.7*

*AUST **08** 19:42:46.4±0.9, 15.90S×168.35E, h302km±13km, Error ellipse: s-maj=8.7km s-min=5.7km az=60.0*

*DJA **08** 19:42:47.8±1.2, 16°S±5'×16°8E±', h317km±14km, M4.9/20, mB5.6/2, mb4.9/20, Mw(mB)5.0/2*

ISC 08 19:42:44.7±0.3, 15.95S±0.04×168.25E±0.04, h280km±2km, h281km; pP-P, n224, σ1.965/291, mb4.8/49, 19C-15D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.33 195**		*e*Pn		**Pn**	**19 44 16.4**	**-1.2**
	61nm,0.4s							
DZM				*e*Sn		**S**	**19 45 28.3**	**-4.0**
	23nm,0.2s							
DZM	**Mont Dzumac**	**6.33 195**		P		**Pn**	**19 44 16.3**	**-1.3**
DZM				S		**S**	**19 45 34.6**	**+2.3**
DZM	**Mont Dzumac**	**6.33 195**		P		**Pn**	**19 44 16.3**	**-1.3**
	47nm,0.3s,baz=43,slow=17,SNR=42							
DZM				S		**S**	**19 45 34.7**	**+2.3**
	9.3nm,0.3s,baz=129,slow=19,SNR=3.0							
MSVF	**Nonsavu**	**9.55 102**		*e*P		**Pn**	**19 44 58.0**	**+0.5**
MSVF				pmax		pmax		
	comp=Z,133nm,0.9s							
MSVF	**Nonsavu**	**9.55 102**		Pn		**Pn**	**19 44 58.0**	**+0.5**
	comp=Z,897nm,0.8s,SNR=15							
MSVF	**Nonsavu**	**9.55 102**		*e*P		**Pn**	**19 44 58.0**	**+0.5**
	comp=Z,133nm,0.9s							
HNR	**Honiara**	**10.37 308**		P		**Pn**	**19 45 06.7**	**-1.0**
HNR				S		**S**	**19 47 06.1**	**+1.8**
HNR	**Honiara**	**10.37 308**		P		**Pn**	**19 45 06.7**	**-1.0**
	comp=Z,4.8nm,0.3s,baz=181,slow=9.9,SNR=11							
HNR				S		**S**	**19 47 06.1**	**+1.8**
	comp=Z,13nm,0.3s,baz=135,slow=20,SNR=3.9							
TARA	**Tarawa**	**17.80 15**		*e*P		**P**	**19 46 32.4**	**-1.0**
	comp=Z,48nm,0.9s							
RAO	**Raoul Island**	**18.37 138**		*e*P		**P**	**19 46 41.0**	**+1.5**
RAO				S		**S**	**19 49 59.4**	**+4.9**

RAO	**Raoul Island**	**18.37 138**	P	**P**	**19 46 40.7**	**+1.2**
	comp=Z,80nm,0.3s,baz=302,slow=19,SNR=6.4					
RAO			S	**S**	**19 49 59.4**	**+4.9**
	comp=Z,34nm,0.3s,baz=90,slow=20,SNR=2.7					
EIDS	**Eidsvold**	**18.59 237**	*e*P	**P**	**19 46 42.4**	**+0.6**
	comp=Z,197nm,1.0s					
AFI	**Afiamalu**	**19.40 87**	P	**P**	**19 46 50.5**	**-0.2**
AFI			S	**S**	**19 50 19.0**	**+4.0**
AFI	**Afiamalu**	**19.40 87**	P	**P**	**19 46 50.5**	**-0.2**
	comp=Z,8.9nm,0.3s,baz=252,slow=20,SNR=5.6					
AFI			S	**S**	**19 50 19.0**	**+4.0**
	comp=Z,0.8nm,0.3s,baz=176,slow=19,SNR=1.7					
OUZ	**Omahuta**	**19.78 167**	*e*P	**P**	**19 46 55.3**	**+0.9**
	comp=Z,53nm,0.8s					
RMQ	**Roma**	**20.95 237**	⇓P	**P**	**19 47 07.3**	**+0.7**
	baz=21,SNR=52					
ARMA	**Armidale**	**20.96 224**	*e*P	**P**	**19 47 07.6**	**+0.8**
	comp=Z,157nm,0.8s					
ARMA	**Armidale**	**20.96 224**	⇓P	**P**	**19 47 07.7**	**+0.9**
	baz=21,SNR=81					
NIUE	**Niue**	**21.04 102**	⇑P	**P**	**19 47 03.7**	**-3.8**
	baz=21,SNR=3.5					
CTA	**Charters Tower**	**21.32 256**	P	**P**	**19 47 10.4**	**+0.2**
CTA	**Charters Tower**	**21.32 256**	⇑P	**P**	**19 47 10.6**	**+0.4**
	baz=21					
CTA	**Charters Tower**	**21.32 256**	P	**P**	**19 47 10.4**	**+0.2**
	comp=Z,67nm,1.0s,baz=79,slow=13,SNR=31					
CTAO	**Charters Tower**	**21.32 256**	*e*P	**P**	**19 47 10.1**	**-0.1**
CTAO			pmax	pmax		
	comp=Z,100nm,1.1s					
CTAO	**Charters Tower**	**21.32 256**	*e*P	**P**	**19 47 10.1**	**-0.1**
	comp=Z,100nm,1.1s					
PMG	**Port Moresby**	**21.57 285**	P	**P**	**19 47 11.9**	**-0.6**
	comp=Z,50nm,1.1s					
PMG	**Port Moresby**	**21.57 285**	*e*P	**P**	**19 47 12.7**	**+0.2**
	comp=Z,43nm,0.9s					
PMG	**Port Moresby**	**21.57 285**	P	**P**	**19 47 12.9**	**+0.4**
	comp=Z,48nm,1.0s,baz=142,slow=3.8,SNR=6.2					
MGCD	**Mangrove Creek**	**23.15 219**	⇓P	**P**	**19 47 28.0**	**+1.3**
	baz=23,SNR=16					
RIV	**Riverview**	**23.55 218**	⇑P	**P**	**19 47 31.9**	**+1.6**
	baz=24					
URZ	**Urewera**	**23.56 162**	*e*P	**P**	**19 47 30.1**	**-0.2**
	comp=Z,46nm,0.6s					
URZ			S	**S**	**19 51 26.6**	**+3.4**
URZ	**Urewera**	**23.56 162**	P	**P**	**19 47 30.8**	**+0.4**
	comp=Z,48nm,0.4s,baz=314,slow=3.4,SNR=42					
URZ			S	**S**	**19 51 26.6**	**+3.4**
	comp=Z,13nm,0.5s,baz=178,slow=16,SNR=7.3					
COEN	**Coen**	**24.30 271**	*e*P	**P**	**19 47 37.2**	**-0.2**
	comp=Z,225nm,1.1s					
COEN	**Coen**	**24.30 271**	⇓P	**P**	**19 47 37.4**	**0.0**
	baz=24,SNR=6.8					
QLP	**Quilpie**	**24.71 241**	P	**P**	**19 47 41.6**	**+0.6**
	baz=25,SNR=78					
YNG	**Young**	**25.55 221**	⇓P	**P**	**19 47 49.4**	**+1.0**
	baz=26,SNR=6.6					
CNB	**Canberra Magne**	**25.64 218**	⇑P	**P**	**19 47 50.4**	**+1.1**
	baz=26,SNR=8.4					
CMSA	**Cobar Meteorol**	**25.75 229**	⇑P	**P**	**19 47 50.8**	**+0.5**
	baz=26,SNR=35					
CAN	**Canberra**	**25.86 218**	⇑P	**P**	**19 47 52.3**	**+1.0**
	baz=26					
RPZ	**Rata Peaks**	**27.78 176**	*e*P	**P**	**19 48 08.4**	**+0.4**
RPZ	**Rata Peaks**	**27.78 176**	P	**P**	**19 48 08.5**	**+0.4**
	comp=Z,211nm,0.8s,baz=244,slow=3.1,SNR=6.7					
STKA	**Stephens Creek**	**28.96 232**	*e*P	**P**	**19 48 19.4**	**+0.7**
STKA	**Stephens Creek**	**28.96 232**	⇓P	**P**	**19 48 19.6**	**+0.9**
	baz=29,SNR=77					
STKA	**Stephens Creek**	**28.96 232**	P	**P**	**19 48 18.0**	**-0.7**
	comp=Z,66nm,0.8s,baz=53,slow=6.8,SNR=100					
TOO	**Toolangi**	**29.47 219**	⇑P	**P**	**19 48 24.0**	**+0.8**
	baz=30,SNR=4.7					
RAR	**Rarotonga**	**30.72 105**	P	**P**	**19 48 34.0**	**-0.3**
RAR	**Rarotonga**	**30.72 105**	P	**P**	**19 48 34.0**	**-0.3**
	comp=Z,15nm,0.5s,baz=270,slow=9.9,SNR=4.2					
ARPS	**Mount Arapiles**	**31.29 223**	⇑P	**P**	**19 48 39.9**	**+0.8**
	baz=31					
HTT	**Hallett**	**31.67 231**	⇓P	**P**

baz=50,SNR=12
GIRL Giralia 51.20 254 ⇓P P 19 51 21.0 +0.8
baz=51,SNR=3.9
KSM Kuching 59.77 281 ⇑P P 19 52 21.3 +0.1
baz=60,SNR=4.2
LEM Lembang 59.95 271 ⇑P P 19 52 22.8 +0.2
baz=60
JNU Nakatsue 60.46 324 pP pP 19 53 24.5 -2.9
JNU Nakatsue 60.46 324 pP pP 19 53 24.5 -2.9
comp=Z,13nm,0.8s,baz=268,slow=12,SNR=3.8
VNDA Vanda 61.68 182 P P 19 52 33.5 +0.6
VNDA Vanda 61.68 182 P P 19 52 33.5 +0.6
comp=Z,9.1nm,0.5s,baz=358,slow=7.2,SNR=111
SBA Scott Base 61.93 180 *eP* P 19 52 36.0 +1.5
SBA pmax pmax
comp=Z,62nm,0.9s
SBA Scott Base 61.93 180 *eP* P 19 52 36.0 +1.5
comp=Z,62nm,0.9s
ASAJ Asahikawa 64.20 340 pP pP 19 53 51.6 -1.0
ASAJ Asahikawa 64.20 340 pP pP 19 53 51.6 -1.0
comp=Z,19nm,0.8s,baz=271,slow=5.0,SNR=4.0
KSRS Korea Array 65.27 325 pP pP 19 53 57.1 -2.6
comp=Z,3.2nm,0.9s,baz=149,slow=7.5,SNR=4.3
KSAR Wonju Array Be 65.28 325 pP pP 19 53 57.1 -2.8
QIZ Qiongzhong 67.15 299 P P 19 53 09.4 +0.3
QIZ pP pP 19 54 14.8 +2.3
QIZ S S 20 01 41.1 +0.3
QIZ AMB AMB
comp=Z,9.0nm,1.3s
NJ2 Nanjing 67.20 316 *eP* P 19 53 10.2 +1.0
NJ2 AMB AMB
comp=Z,10.0nm,0.5s
USRK Ussuriysk Arra 68.39 333 P P 19 53 17.2 +0.9
comp=Z,1.6nm,0.8s,baz=133,slow=11,SNR=4.1
USRK pP pP 19 54 17.8 -2.1
comp=Z,8.0nm,1.1s,baz=124,slow=10,SNR=4.2
PETK Petropavlovsk- 69.37 353 P P 19 53 22.3 +0.2
PETK *PP pP 19 54 24.9 -1.0
PETK Petropavlovsk- 69.37 353 P P 19 53 22.2 +0.2
PETK pP pP 19 54 24.9 -1.0
PETK Petropavlovsk- 69.37 353 P P 19 53 22.2 +0.2
comp=Z,4.4nm,0.6s,baz=149,slow=9.6,SNR=7.6
PETK pP pP 19 54 24.9 -1.0
comp=Z,13nm,1.0s,baz=152,slow=6.7,SNR=7.4
CN2 Changchun 71.17 329 *eP* P 19 53 36.7 +3.5
SKNT Sakolnakorn 71.31 294 P P 19 53 36.0 +1.4
comp=Z,24nm,1.2s
KLR Kul'dur 72.50 336 *eP* P 19 53 36.9 -4.0
GYA Guiyang 73.18 305 ⇑*iP* P 19 53 47.3 +1.7
GYA pP pP 19 54 55.7 +5.6
GYA sP sP 19 55 24.5 +4.6
GYA PP PP 19 56 36.0 +3.0
GYA S S 20 02 50.8 +0.3
GYA SKS SKSac 20 03 20.5 -4.2
GYA sS sS 20 04 47.6 +3.5
GYA AMB AMB
comp=Z,20nm,1.0s
GYA AMB AMB
comp=Z,130nm,5.2s
QSPA South Pole Qui 74.09 180 P P 19 53 50.4 +0.2
QSPA South Pole Qui 74.09 180 P P 19 53 50.4 +0.2
comp=Z,32nm,0.8s,baz=10.0,slow=1.5,SNR=161
NANT Nan 74.90 295 P P 19 53 56.5 +1.0
comp=Z,29nm,0.7s
KMI Kunming 75.75 302 P P 19 54 01.4 +0.9
KMI AMB AMB
comp=Z,10.0nm,1.7s
CM31 Chiang Mai Arr 76.31 294 *eP* P 19 54 04.7 +1.2
comp=Z,3.1nm,0.8s
CMAR Chiang Mai Arr 76.31 294 P P 19 54 04.8 +1.3
CMAR pP pP 19 55 05.5 -3.0
CMAR Chiang Mai Arr 76.31 294 P P 19 54 04.8 +1.3
comp=Z,5.3nm,0.9s,baz=130,slow=4.6,SNR=31
CMAR pP pP 19 55 05.5 -3.0
comp=Z,1.6nm,0.8s,baz=120,slow=4.3,SNR=4.7
CHTO Chiang Mai 76.44 294 *eP* P 19 54 05.1 +0.9
CHTO pmax pmax
comp=Z,22nm,0.9s
CHTO Chiang Mai 76.44 294 P P 19 54 00.9 -3.3
CHTO Chiang Mai 76.44 294 *eP* P 19 54 05.1 +0.9
comp=Z,22nm,0.9s
CHTO Chiang Mai 76.44 294 P P 19 54 05.5 +1.3
comp=Z,36nm,0.9s
HHC Hu-ho-hao-te 77.12 319 *eP* P 19 54 08.5 +0.8
HHC pP pP 19 55 15.5 +2.7
HHC sP sP 19 55 45.5 +3.0
HHC PP PP 19 57 08.8 +2.9
HHC S S 20 03 33.2 0.0
HHC SKS SKSac 20 03 48.6 -4.6
HHC ScS SKSac 20 03 56.0 +1.9
HHC sS sS 20 05 30.2 +2.2
HHC SS SS 20 08 40.9 +3.1
HHC AMB AMB
comp=Z,24nm,1.1s
HHC AMB AMB
comp=Z,98nm,5.6s
HHC LR LR
comp=Z,320nm,18.2s
HHC LR LR
comp=Z,450nm,17.1s
HHC LR LR
comp=Z,290nm,18.8s
CD2 Chengdu 77.50 307 P P 19 54 12.0 +2.1
CD2 pP pP 19 55 20.0 +4.9
CD2 sP sP 19 55 50.3 +5.5
CD2 PP PP 19 57 13.5 +4.4
CD2 S S 20 03 38.2 +0.7
CD2 SKS SKSac 20 03 52.3 -3.9
CD2 sS sS 20 05 36.8 +4.4
CD2 SS SS 20 08 47.5 +3.8
CD2 AMB AMB
comp=Z,20nm,0.5s
CD2 AMB AMB
comp=Z,150nm,4.5s
SEY Seymchan 79.60 353 *iP* P 19 54 19.7 -0.8
MAW Mawson 81.12 202 P P 19 54 29.3 +0.7
MAW Mawson 81.12 202 ⇓P P 19 54 29.0 +0.3
baz=81,SNR=29
MAW Mawson 81.12 202 P P 19 54 29.3 +0.7
comp=Z,6.3nm,0.5s,baz=111,slow=5.7,SNR=48
ULN Ulaanbaatar 83.67 324 P P 19 54 41.8 -0.5
comp=Z,6.8nm,1.6s,comp=Z,1μm
ULN Ulaanbaatar 83.67 324 *eP* P 19 54 42.4 +0.1
comp=Z,2.3nm,0.8s
SONM Songino Array 84.03 323 P P 19 54 44.1 0.0
SONM pP pP 19 55 46.4 -4.0
SONM PKKPbc PKKPbc 20 12 56.7 -2.6
SONM Songino Array 84.03 323 P P 19 54 44.1 0.0
comp=Z,1.1nm,0.7s,baz=148,slow=5.7,SNR=9.4
SONM pP pP 19 55 46.4 -4.0
comp=Z,6.0nm,1.2s,baz=125,slow=2.6,SNR=6.3
SONM PKKPbc PKKPbc 20 12 56.7 -2.6
comp=Z,0.4nm,0.4s,baz=280,slow=3.5,SNR=3.9
GTA Gaotai 84.19 314 P P 19 54 45.8 +0.7
GTA pP pP 19 55 48.8 -2.6
GTA sP sP 19 56 19.9 -0.9
GTA S SKKSac 20 04 49.2 +1.6
GTA sS sS 20 06 49.2 +6.0
GTA AMB AMB
comp=Z,5.0nm,0.9s
GTA AMB AMB
comp=Z,97nm,6.4s
ISA Isabella 86.16 51 *eP* P 19 54 55.1 +0.3
ISA pmax pmax
comp=Z,4.0nm,0.9s
ISA Isabella 86.16 51 *eP* P 19 54 55.1 +0.3
comp=Z,3.6nm,0.9s
WAKR Walker 86.56 48 *eP* P 19 54 57.1 +0.3
comp=Z,14nm,1.4s
NVAR Mina Array Bea 87.35 49 P P 19 55 00.9 +0.3
NVAR pP pP 19 56 06.6 -0.9
NVAR Mina Array Bea 87.35 49 P P 19 55 00.9 +0.3
comp=Z,2.0nm,0.8s,baz=224,slow=7.9,SNR=12
NVAR pP pP 19 56 06.6 -0.9
comp=Z,1.8nm,1.0s,baz=226,slow=6.5,SNR=2.5
ILAR Eielson Array 87.39 18 P P 19 54 57.6 -2.3
ILAR pP pP 19 56 05.2 -1.6
ILAR Eielson Array 87.39 18 P P 19 54 57.6 -2.3
comp=Z,2.0nm,0.6s,baz=241,slow=4.9,SNR=38
ILAR pP pP 19 56 05.2 -1.6
comp=Z,2.9nm,0.8s,baz=236,slow=5.2,SNR=4.7
SHPR Sheep Range 88.96 52 *eP* P 19 55 08.6 +0.4
comp=Z,30nm,1.8s
MAIT Maitri 91.99 188 *eP* P 19 55 18.9 -2.5
SNAA Sanae 92.39 183 *eP* P 19 55 22.4 -0.9
SNAA Sanae 92.39 183 *eP* P 19 55 22.2 -1.1
comp=Z,18nm,1.2s
VNA2 Neumayer--Watz 93.30 181 *eP* P 19 55 26.9 -0.6
WMQ Urumqi 94.25 314 *eP* P 19 55 34.0 +1.7
PDAR Pinedale Array 95.07 47 P P 19 55 35.9 -0.5
PDAR Pinedale Array 95.07 47 P P 19 55 35.9 -0.5
comp=Z,0.3nm,0.3s,baz=224,slow=3.8,SNR=4.5
TXAR Lajitas Array 96.02 61 P P 19 55 41.2 +0.4
TXAR Lajitas Array 96.02 61 P P 19 55 41.2 +0.4
comp=Z,0.3nm,0.5s,baz=219,slow=5.2,SNR=8.9
MKAR Makanchi Array 98.73 316 P P 19 55 52.8 +0.3
MKAR *PP pP 19 56 56.8 -3.2
MKAR Makanchi Array 98.73 316 P P 19 55 52.8 +0.3
MKAR pP pP 19 56 56.8 -3.2
MKAR PKiKP PKiKP 20 00 19.2 -3.0
MKAR Makanchi Array 98.73 316 P P 19 55 52.8 +0.3
comp=Z,0.8nm,0.7s,baz=104,slow=5.1,SNR=6.8
MKAR pP pP 19 56 56.8 -3.2
comp=Z,1.4nm,0.7s,baz=114,slow=4.5,SNR=5.1
MKAR PKiKP PKiKP 20 00 19.2 -3.0
comp=Z,0.3nm,0.5s,baz=41,slow=1.7,SNR=7.5
ZALV Zalesovo Beam 98.93 324 pP pP 19 56 56.5 -4.1
comp=Z,2.6nm,0.8s,baz=119,slow=4.4,SNR=7.5
KURK Kurchatov 101.94 319 PKiKP **PKiKP** 20 00 27.2 -0.6
KURK PKKPbc **PKKPbc** 20 12 09.6 -2.7
KURBB Kurchatov Arra 101.97 319 PKiKP **PKiKP** 20 00 27.2 -0.7
comp=Z,0.2nm,0.5s,baz=122,slow=1.4,SNR=4.4
KURBB PKKPbc **PKKPbc** 20 12 09.6 -2.6
comp=Z,0.6nm,0.5s,baz=282,slow=3.3,SNR=10
BVAR Borovoye Array 107.28 321 PKiKP **PKiKP** 20 00 36.1 -1.5
BVAR PKKPbc **PKKPbc** 20 11 54.0 -2.4
BVAR Borovoye Array 107.28 321 PKiKP **PKiKP** 20 00 36.1 -1.5
comp=Z,0.5nm,0.5s,baz=82,slow=3.1,SNR=4.4
BVAR PKKPbc **PKKPbc** 20 11 54.0 -2.4
comp=Z,0.6nm,0.5s,baz=197,slow=1.5,SNR=4.4
LPAZ La Paz 115.81 117 PKP **PKPdf** 20 00 55.1 -0.5
LPAZ La Paz 115.81 117 PKP **PKPdf** 20 00 55.1 -0.5
comp=Z,1.0nm,0.4s,baz=344,slow=1.5,SNR=6.6
SPITS Spitsbergen Ar 116.24 354 PKP **PKPdf** 20 00 53.4 -0.6
SPITS Spitsbergen Ar 116.24 354 PKP **PKPdf** 20 00 53.4 -0.6
comp=Z,3.3nm,0.5s,baz=48,slow=2.1,SNR=12
CPUP Villa Florida 118.93 133 PKP **PKPdf** 20 00 59.4 -1.2
CPUP Villa Florida 118.93 133 PKP **PKPdf** 20 00 59.4 -1.2
comp=Z,1.0nm,0.4s,baz=269,slow=0.7,SNR=7.2
KEV Kevo 121.14 345 *e*PKIKP **PKPdf** 20 01 02.6 -0.9
KEV Kevo 121.14 345 *e*pkp **PKPdf** 20 01 02.6 -0.9
ARCES ARCESS Array B 121.66 346 PKP **PKPdf** 20 01 04.0 -0.6
ARCES PKKPbc **PKKPab** 20 11 04.3 -0.8
ARCES ARCESS Array B 121.66 346 PKP **PKPdf** 20 01 04.0 -0.6
comp=Z,5.8nm,0.5s,baz=65,slow=1.5,SNR=48
ARCES PKKPbc **PKKPab** 20 11 04.3 -0.8
comp=Z,0.9nm,0.4s,baz=234,slow=3.2,SNR=12
SIV San Ignacio 121.89 121 PKP **PKPdf** 20 01 05.6 -1.0
SIV San Ignacio 121.89 121 PKP **PKPdf** 20 01 05.6 -1.0
comp=Z,2.7nm,0.5s,baz=272,slow=3.0,SNR=11
SDV Santo Domingo 122.22 89 *eP* **PKPdf** 20 01 06.2 -1.3
BOSA Boshof 123.05 219 PKP **PKPdf** 20 01 10.4 +1.7
BOSA Boshof 123.05 219 PKP **PKPdf** 20 01 10.4 +1.7
comp=Z,3.2nm,1.0s,baz=184,slow=2.3,SNR=3.9
JOF Joensuu 124.36 338 *e*PKIKP **PKPdf** 20 01 08.9 -1.0
JOF Joensuu 124.36 338 *e*pkp **PKPdf** 20 01 08.9 -1.0
KAF Kangasniemi 126.67 339 *e*PKIKP **PKPdf** 20 01 13.0 -1.3
KAF pmax pmax
comp=Z,3.0nm,0.6s
KAF Kangasniemi 126.67 339 *e*pkp **PKPdf** 20 01 13.0 -1.3
comp=Z,2.6nm,0.6s
FINES FINESS Array B 127.20 338 PKP **PKPdf** 20 01 15.4 +0.1
FINES FINESS Array B 127.20 338 PKP **PKPdf** 20 01 15.4 +0.1
comp=Z,0.9nm,0.4s,baz=84,slow=2.5,SNR=13
SJG San Juan 128.09 79 PKP **PKPdf** 20 01 17.4 -1.0
SJG San Juan 128.09 79 PKP **PKPdf** 20 01 17.4 -1.0
comp=Z,32nm,0.6s,baz=0.0,slow=7.1,SNR=12
NB2 NORSAR Subarra132.04 345 PKPdf **PKPdf** 20 01 24.5 -0.2
comp=Z,3.9nm,1.2s,baz=31,slow=1.9
NB2 NORSAR Subarra132.04 345 PKPdf **PKPdf** 20 01 24.4 -0.2
comp=Z,1.0nm,0.6s,baz=31,slow=1.9
NOA NORSAR Array B 132.04 345 PKP **PKPdf** 20 01 25.0 +0.4
NOA SKPbc **SKPab** 20 04 25.5 +0.1
NOA NORSAR Array B 132.04 345 PKP **PKPdf** 20 01 25.0 +0.4
comp=Z,1.3nm,0.6s,baz=33,slow=2.0,SNR=6.4
NOA SKPbc **SKPab** 20 04 25.5 +0.1
comp=Z,2.1nm,0.8s,baz=31,slow=3.3,SNR=4.0
AKASG Malin Array Be 132.27 326 PKIKP **PKPdf** 20 01 24.8 -0.5
AKASG Malin Array Be 132.27 326 PKP **PKPdf** 20 01 24.8 -0.5
AKASG SKPbc **SKPab** 20 04 27.6 +1.0
AKASG Malin Array Be 132.27 326 PKP **PKPdf** 20 01 24.8 -0.5
comp=Z,1.4nm,0.5s,baz=57,slow=2.6,SNR=8.2
AKASG SKPbc **SKPab** 20 04 27.6 +1.0
comp=Z,1.9nm,0.6s,baz=47,slow=4.4,SNR=12
BDFB Brasilia 132.39 130 PKP **PKPdf** 20 01 26.3 -0.5
BDFB Brasilia 132.39 130 PKP **PKPdf** 20 01 26.3 -0.5
comp=Z,6.9nm,0.5s,baz=355,slow=1.5,SNR=7.8
BRTR Keskin Array B 134.02 310 PKP **PKPdf** 20 01 29.6 +0.4
BRTR SKPbc **SKPab** 20 04 33.6 -1.3
BRTR Keskin Array B 134.02 310 PKP **PKPdf** 20 01 29.6 +0.4
comp=Z,0.8nm,0.6s,baz=136,slow=5.1,SNR=5.8
BRTR SKPbc **SKPab** 20 04 33.6 -1.3
comp=Z,0.3nm,0.5s,baz=108,slow=4.0,SNR=4.4
CLL Collm 139.54 336 *e*PKIKP **PKPdf** 20 01 40.0 +1.2
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 139.54 336 *e*PKPdf **PKPdf** 20 01 40.0 +1.2
GERES GERESS Array B 141.15 333 PKPpre PKPpre 20 01 36.9
GERES PKP **PKPdf** 20 01 42.0 +0.1
GERES pPKP pPKPdf 20 02 48.1 -4.7
GERES SKPbc **SKiKP** 20 04 54.9 +1.0
GERES GERESS Array B 141.15 333 PKhKP PKPpre 20 01 36.9
comp=Z,1.0nm,0.6s,baz=40,slow=2.9,SNR=11
GERES PKP **PKPdf** 20 01 42.0 +0.1
comp=Z,0.7nm,0.5s,baz=39,slow=1.8,SNR=7.9
GERES pPKP pPKPdf 20 02 48.1 -4.7
comp=Z,0.6nm,0.7s,baz=48,slow=2.0,SNR=2.7
GERES SKPbc **SKiKP** 20 04 54.9 +1.0
comp=Z,0.6nm,0.6s,baz=79,slow=0.7,SNR=6.0
ABTA Abfaltersbach 143.26 332 ⇑*i*PKPdf PKPab 20 01 42.5 +0.3
comp=Z,12nm,0.6s,SNR=8.0
FETA Feichten 143.83 334 ⇑*i*PKPdf PKPbc 20 01 45.5 +0.1
comp=Z,20nm,1.1s,SNR=8.5
FELD Feldberg im Sc 144.23 337 PKP **PKPab** 20 01 45.3 -0.8
ECH Echery 144.26 338 *e*PKIKP **PKPab** 20 01 46.0 -0.1
ECH Echery 144.26 338 PKP **PKPab** 20 01 45.8 -0.3
ECH Echery 144.26 338 *e*PKPdf **PKPab** 20 01 46.0 -0.1
DAVOX Davos/Dischmat 144.38 334 PP PP 20 05 02.8 -3.1
DAVOX Davos/Dischmat 144.38 334 PP PP 20 05 02.7 -3.1
comp=Z,2.7nm,0.6s,baz=42,slow=9.9,SNR=3.7
MOF Molkenrain 144.58 338 PKP **PKPab** 20 01 47.1 -0.3
THEF They Montfort 144.66 339 PKP PKPbc 20 01 47.1 -0.5
TUE Stuetta 144.85 334 *e*PKPdf PKPbc 20 01 48.3 -0.1
LOMF Lomont 145.11 338 PKP **PKPbc** 20 01 49.2 +0.1
CUC Castrocucco 146.09 320 *e*PKPdf **PKPdf** 20 01 50.8 0.0
CEL Celeste 147.06 318 *e*PKPdf **PKPdf** 20 01 53.3 +0.8
BNI Bardonecchia 147.09 336 *e*PKP2 **PKPbc** 20 01 54.7 -0.3
BNI Bardonecchia 147.09 336 *e*PKPbc **PKPbc** 20 01 54.7 -0.3
PLDF La Plantade 147.42 340 PKP **PKPbc** 20 01 56.0 +0.2
AGO Saint Agoulin 147.50 341 PKP **PKPbc** 20 01 56.1 +0.2
PYM Petit Puy Mans 147.81 340 PKP **PKPbc** 20 01 57.1 +0.3
LBL Lubilhac 148.19 340 PKP **PKPbc** 20 01 58.9 +1.1
ATE Arette 151.35 343 PKP **PKPbc** 20 02 05.5 +0.1
LARF Larrau 151.47 343 PKP **PKPbc** 20 02 06.2 +0.5
KEST Kesra 152.75 320 *e*PKPbc **PKPbc** 20 02 08.7 -0.2
KEST Kesra 152.75 320 PKPbc **PKPbc** 20 02 09.1 +0.3
comp=Z,2.1nm,0.6s,baz=116,slow=1.6,SNR=17
ESDC Sonseca Array 155.40 345 PKPab **PKPab** 20 02 31.7 -0.2
ESDC Sonseca Array 155.40 345 PKPab **PKPab** 20 02 31.7 -0.2
comp=Z,1.0nm,0.7s,baz=17,slow=3.7,SNR=4.5
TORD Torodi Ar. Bea 166.69 260 PKP **PKPdf** 20 02 16.9 -0.7
TORD PKPab **PKPab** 20 03 21.8 -0.2
TORD Torodi Ar. Bea 166.69 260 PKP **PKPdf** 20 02 16.9 -0.7
comp=Z,1.2nm,0.8s,baz=6.1,slow=1.3,SNR=14
TORD PKPab **PKPab** 20 03 21.8 -0.2
comp=Z,2.6nm,0.7s,baz=98,slow=3.8,SNR=14
DBIC Dimbokro 168.57 217 PKPab **PKPab** 20 03 29.4 -0.7
DBIC Dimbokro 168.57 217 PKPab **PKPab** 20 03 29.4 -0.7
comp=Z,2.0nm,0.7s,baz=167,slow=4.6,SNR=3.6

*IDC **08** 19:55:55.6±0.7, 12.°32S×166.°17E, h0km, mb4.6/17, mb1 4.6/19, mb1mx4.5/26, mbtmp4.6/19, ML4.2/2, MS4.2/24, Ms1 4.2/24, ms1mx4.0/41, Error ellipse: s-maj=21.1km s-min=15.6km az=96.0*
*ISCJB **08** 19:56:00.0±0.4, 12.°30S±0.°05×166.°01E±0.°06, h40km, mb4.5/20, MS4.2/24, Error ellipse: s-maj=8.9km s-min=7.4km az=170.3*
*NEIC **08** 19:56:01.9±1.2, 12.°28S×166.°09E, h44km±10km, mb4.8/7, Error ellipse: s-maj=11.2km s-min=8.5km az=107.0*
*AUST **08** 19:56:05.9±3.5, 12.°39S×165.°92E, h59km±1km, Error ellipse: s-maj=3.4km s-min=1.3km az=357.0*

ISC 08 19:56:01.8±0.4, 12.°27S±0.°06×166.°03E±0.°07, h40km, n103, σ1§13/100, mb4.5/20, MS4.2/24, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.60**	**295**	Pn	**Pn**	**19 57 36.5**	**+0.1**
HNR				Sn	**Sn**	**19 58 49.0**	**-1.5**
HNR	**Honiara**	**6.60**	**295**	Pn	**Pn**	**19 57 36.5**	**+0.1**
	31nm,0.3s,baz=129,slow=13,SNR=24						
HNR				Sn	**Sn**	**19 58 49.0**	**-1.5**
	6.2nm,0.3s,baz=229,slow=20,SNR=3.9						
DZM	**Mont Dzumac**	**9.76**	**178**	*e*Pn	**Pn**	**19 58 19.9**	**+0.2**
	40nm,0.3s						
DZM				*e*LR	LR	20 00 37.7	
	924nm,24.0s						
DZM	**Mont Dzumac**	**9.76**	**178**	Pn	**Pn**	**19 58 19.8**	**+0.1**
DZM				Sn	**Sn**	**20 00 06.5**	**-1.6**
DZM	**Mont Dzumac**	**9.76**	**178**	Pn	**Pn**	**19 58 19.8**	**+0.1**
	1.9nm,0.3s,baz=348,slow=17,SNR=9.7						
DZM				Sn	**Sn**	**20 00 06.4**	**-1.6**
	1.4nm,0.3s,baz=288,slow=20,SNR=2.8						
TARA	**Tarawa**	**15.17**	**27**	*e*P	**Pn**	**19 59 33.4**	**0.0**
	128nm,0.8s						
PMG	**Port Moresby**	**18.75**	**277**	P	**Pn**	**20 00 19.3**	**+1.1**
PMG	**Port Moresby**	**18.75**	**277**	P	**Pn**	**20 00 19.3**	**+1.1**
	0.5nm,0.3s,baz=110,slow=8.2,SNR=3.8						
EIDS	**Eidsvold**	**19.20**	**225**	*e*P	**Pn**	**20 00 24.2**	**+0.5**
	12nm,0.8s						
EIDS	**Eidsvold**	**19.20**	**225**	P	**Pn**	**20 00 24.8**	**+1.2**
	baz=19,SNR=4.5						
CTA	**Charters Tower**	**20.50**	**245**	P	**P**	**20 00 37.0**	**+0.4**
CTA	**Charters Tower**	**20.50**	**245**	P	**P**	**20 00 37.0**	**+0.4**
	5.5nm,0.8s,baz=62,slow=14,SNR=6.6						
CTAO	**Charters Tower**	**20.50**	**245**	*e*P	**P**	**20 00 36.5**	**-0.1**
RMQ	**Roma**	**21.53**	**226**	P	**P**	**20 00 49.2**	**+1.6**
	baz=21,SNR=5.1						
AFI	**Afiamalu**	**21.68**	**97**	LR	LR	20 07 37.5	
	comp=Z,411nm,18.2s,baz=266,slow=33						
COEN	**Coen**	**22.32**	**263**	P	**P**	**20 00 58.0**	**+1.8**
	baz=22,SNR=6.6						
NIUE	**Niue**	**24.10**	**109**	P	**P**	**20 01 17.9**	**+4.0**
	baz=24,SNR=3.2						
CMSA	**Cobar Meteorol**	**26.81**	**221**	P	**P**	**20 01 39.0**	**+0.7**
	baz=27,SNR=16						
STKA	**Stephens Creek**	**29.76**	**225**	*e*P	**P**	**20 02 05.0**	**+0.3**
STKA	**Stephens Creek**	**29.76**	**225**	P	**P**	**20 02 05.2**	**+0.5**
	baz=30,SNR=5.7						
STKA	**Stephens Creek**	**29.76**	**225**	P	**P**	**20 02 05.2**	**+0.5**
	4.4nm,0.8s,baz=31,slow=9.2,SNR=6.7						
STKA				LR	LR	20 14 07.6	
	comp=Z,839nm,18.6s,baz=31,slow=37						
WRA	**Warramunga Arr**	**31.34**	**252**	P	**P**	**20 02 17.5**	**-1.3**
WRA				PcP	**PcP**	**20 05 12.8**	**+0.5**
WRA	**Warramunga Arr**	**31.34**	**252**	P	**P**	**20 02 17.5**	**-1.3**
	4.0nm,0.8s,baz=83,slow=8.9,SNR=16						
WRA				PcP	**PcP**	**20 05 12.8**	**+0.5**
	1.6nm,0.8s,baz=87,slow=3.2,SNR=6.0						
WRA				LR	LR	20 14 36.3	
	comp=Z,344nm,18.8s,baz=75,slow=36						
AS31	**Alice Springs**	**32.51**	**245**	*e*P	**P**	**20 02 27.5**	**-1.6**
ASAR	**Alice Springs**	**32.51**	**245**	P	**P**	**20 02 27.8**	**-1.3**
ASAR				PcP	**PcP**	**20 05 15.3**	**-0.1**
ASAR	**Alice Springs**	**32.51**	**245**	P	**P**	**20 02 27.8**	**-1.3**
	4.4nm,0.8s,baz=72,slow=9.5,SNR=10						
ASAR				PcP	**PcP**	**20 05 15.3**	**-0.1**
	2.3nm,0.7s,baz=68,slow=3.2,SNR=13						
ASAR				LR	LR	20 15 28.8	
	comp=Z,363nm,19.5s,baz=74,slow=36						
KDU	**Kakadu**	**32.75**	**266**	P	**P**	**20 02 30.4**	**-0.8**
	baz=33,SNR=4.1						
FITZ	**Fitzroy Crossi**	**39.35**	**256**	P	**P**	**20 03 27.7**	**+0.1**
FITZ	**Fitzroy Crossi**	**39.35**	**256**	P	**P**	**20 03 28.1**	**+0.5**
	baz=39,SNR=3.4						
FITZ	**Fitzroy Crossi**	**39.35**	**256**	P	**P**	**20 03 27.7**	**+0.1**
	3.2nm,0.8s,baz=93,slow=3.9,SNR=9.4						
FITZ				LR	LR	20 19 29.8	
	comp=Z,254nm,19.5s,baz=78,slow=36						
BATI	**Baumata**	**41.57**	**268**	LR	LR	20 21 29.6	
	comp=Z,203nm,19.3s,baz=271,slow=37						
PPT	**Papeete**	**43.15**	**103**	LR	LR	20 17 47.9	
	comp=Z,291nm,19.7s,baz=251,slow=30						
PPT2	**Papeete2**	**43.15**	**103**	*e*S	**S**	**20 10 23.2**	**+0.1**
	174nm,27.0s						
PPT2				*e*LQ	LQ	20 14 13.0	
	904nm,27.8s						
PPT2				*e*LR	LR	20 16 01.3	
	627nm,26.5s						
MBWA	**Marble Bar**	**45.08**	**252**	*e*P	**P**	**20 04 14.1**	**-0.2**
KAPI	**Kappang**	**46.26**	**275**	P	**P**	**20 04 24.4**	**+0.7**
KAPI	**Kappang**	**46.26**	**275**	P	**P**	**20 04 24.4**	**+0.7**
	5.8nm,0.7s,baz=71,slow=9.3,SNR=3.8						
MEEK	**Meekatharra**	**46.67**	**245**	P	**P**	**20 04 26.9**	**0.0**
	baz=46,SNR=5.2						
NWAO	**Narrogin (SRO)**	**49.02**	**237**	P	**P**	**20 04 46.3**	**+1.3**
NWAO	**Narrogin (SRO)**	**49.02**	**237**	P	**P**	**20 04 46.3**	**+1.3**
	5.1nm,0.9s,baz=59,slow=5.9,SNR=3.7						
JNU	**Nakatsue**	**56.23**	**324**	P	**P**	**20 05 39.0**	**+0.8**
JNU	**Nakatsue**	**56.23**	**324**	P	**P**	**20 05 38.9**	**+0.8**
	8.1nm,0.8s,baz=72,slow=3.2,SNR=3.2						
KSRS	**Korea Array**	**61.04**	**326**	P	**P**	**20 06 12.5**	**+1.0**
	2.9nm,0.7s,baz=136,slow=7.1,SNR=11						
KSRS				LR	LR	20 29 48.2	
	comp=Z,78nm,18.3s,baz=35,slow=33						
KSAR	**Wonju Array Be**	**61.05**	**326**	P	**P**	**20 06 12.5**	**+0.9**
USRK	**Ussuriysk Arra**	**64.16**	**333**	P	**P**	**20 06 33.0**	**+0.8**
	12nm,0.8s,baz=148,slow=6.3,SNR=17						
VNDA	**Vanda**	**65.28**	**181**	*e*P	**P**	**20 06 38.5**	**-0.6**
	2.2nm,0.8s						
VNDA	**Vanda**	**65.28**	**181**	P	**P**	**20 06 39.4**	**+0.3**
	2.1nm,0.8s,baz=347,slow=6.2,SNR=11						
VNDA				LR	LR	20 33 09.6	
	comp=Z,155nm,19.8s,baz=12,slow=34						
PETK	**Petropavlovsk-**	**65.51**	**354**	LR	LR	20 32 42.7	
	comp=Z,73nm,19.5s,baz=337,slow=34						
SBA	**Scott Base**	**65.58**	**180**	*e*P	**P**	**20 06 41.5**	**+0.5**
	6.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**72.85**	**294**	P	**P**	**20 07 27.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**72.85**	**294**	P	**P**	**20 07 27.0**	**-0.1**
	1.3nm,0.8s,baz=112,slow=4.9,SNR=2.7						
QSPA	**South Pole Qui**	**77.74**	**180**	*e*P	**P**	**20 07 54.1**	**-0.4**
	18nm,1.0s						
QSPA	**South Pole Qui**	**77.74**	**180**	P	**P**	**20 07 54.2**	**-0.3**
	14nm,0.9s,baz=9.6,slow=2.0,SNR=33						
ULN	**Ulaanbaatar**	**79.45**	**324**	*e*P	**P**	**20 08 04.5**	**+0.4**
	17nm,1.1s						
SONM	**Songino Array**	**79.81**	**324**	P	**P**	**20 08 07.0**	**+0.8**
SONM	**Songino Array**	**79.81**	**324**	P	**P**	**20 08 07.0**	**+0.8**
	2.5nm,0.7s,baz=138,slow=6.2,SNR=20						
SONM				LR	LR	20 44 15.3	
	comp=Z,109nm,18.4s,baz=105,slow=36						
MAW	**Mawson**	**83.70**	**202**	LR	LR	20 39 20.1	
	comp=Z,80nm,21.0s,baz=213,slow=31						
YBH	**Yreka Blue Hor**	**84.55**	**45**	LR	LR	20 43 01.3	
	comp=Z,108nm,18.2s,baz=9.1,slow=33						
ILAR	**Eielson Array**	**84.58**	**18**	P	**P**	**20 08 27.9**	**-2.7**
ILAR	**Eielson Array**	**84.58**	**18**	P	**P**	**20 08 27.9**	**-2.7**
	1.0nm,0.7s,baz=228,slow=5.3,SNR=10						
ILAR				LR	LR	20 46 14.0	
	comp=Z,58nm,18.6s,baz=142,slow=36						
BBB	**Bella Bella**	**85.43**	**34**	LR	LR	20 41 59.6	
	comp=Z,196nm,18.1s,baz=291,slow=32						
PFO	**Pinyon Flat Ob**	**86.56**	**55**	LR	LR	20 42

NVAR Mina Array Bea 86.60 50 LR LR 20 43 24.4
comp=Z,347nm,18.3s,baz=103,slow=33
DLBC Dease Lake 87.35 28 LR LR 20 39 32.5
comp=Z,100nm,21.4s,baz=145,slow=30
LPIG La Paz 89.27 65 LR LR 20 46 24.6
comp=Z,72nm,18.1s,baz=327,slow=34
NEW Newport 90.49 41 LR LR 20 42 38.2
comp=Z,95nm,20.3s,baz=164,slow=31
PDAR Pinedale Array 94.18 47 LR LR 20 48 16.5
comp=Z,122nm,18.1s,baz=42,slow=33
MK31 Makanchi Array 94.60 317 *eP* **P 20 09 18.4 -0.1**
MKAR Makanchi Array 94.60 317 P **P 20 09 18.7 +0.2**
MKAR Makanchi Array 94.60 317 P **P 20 09 18.7 +0.2**
5.7nm,0.6s,baz=92,slow=6.5,SNR=47
ZAA0 Zalesovo Array 94.70 324 *eP* **P 20 09 17.2 -1.5**
ZALV Zalesovo Beam 94.70 324 P **P 20 09 18.5 -0.2**
ZALV Zalesovo Beam 94.70 324 P **P 20 09 18.5 -0.2**
5.5nm,0.7s,baz=108,slow=4.8,SNR=13
ZALV LR LR 20 54 18.4
comp=Z,69nm,18.6s,baz=340,slow=37
ANMO Albuquerque 94.91 55 LR LR 20 49 49.9
comp=Z,143nm,18.3s,baz=308,slow=34
SNAA Sanae 95.92 184 *eP* **P 20 09 22.4 -1.7**
SNAA Sanae 95.92 184 *eP* **P 20 09 22.2 -2.0**
2.8nm,0.8s
TXAR Lajitas Array 96.17 61 LR LR 20 44 32.8
comp=Z,100nm,18.9s,baz=0.0,slow=30
VNA2 Neumayer--Watz 96.88 182 *eP* **P 20 09 27.4 -1.0**
KURK Kurchatov 97.79 320 *eP* **P 20 09 31.9 -0.7**
KURBB Kurchatov Arra 97.79 320 P **P 20 09 32.4 -0.4**
0.4nm,0.4s,baz=104,slow=3.4,SNR=4.8
BVAR Borovoye Array 103.08 322 Pdif **Pdif 20 09 54.4 -2.0**
BVAR Borovoye Array 103.08 322 Pdiff **Pdif 20 09 54.4 -2.0**
1.0nm,0.8s,baz=54,slow=3.8,SNR=4.2
ARCES ARCESS Array B 117.58 345 PKP **PKPdf 20 14 41.0 -1.9**
ARCES ARCESS Array B 117.58 345 PKP **PKPdf 20 14 41.0 -1.9**
2.1nm,0.6s,baz=69,slow=1.7,SNR=10
FINES FINESS Array B 123.00 338 PKP **PKPdf 20 14 51.8 -1.8**
FINES FINESS Array B 123.00 338 PKP **PKPdf 20 14 51.8 -1.8**
2.2nm,0.8s,baz=132,slow=2.8,SNR=4.6
BOSA Boshof 124.41 222 PKP **PKPdf 20 14 57.4 -0.1**
BOSA Boshof 124.41 222 PKP **PKPdf 20 14 57.4 -0.1**
1.6nm,0.6s,baz=120,slow=1.9,SNR=4.7
AKASG Malin Array Be 128.03 326 PKP **PKPdf 20 15 02.8 -0.7**
AKASG Malin Array Be 128.03 326 PKP **PKPdf 20 15 02.8 -0.7**
2.0nm,0.8s,baz=45,slow=2.7,SNR=4.7
BRTR Keskin Array B 129.99 312 PKP **PKPdf 20 15 07.5 -0.3**
BRTR Keskin Array B 129.99 312 PKP **PKPdf 20 15 07.5 -0.3**
1.0nm,0.8s,baz=130,slow=3.7,SNR=6.2
MMAI Mount Meron Ar 130.48 303 PKP **PKPdf 20 15 10.0 +1.2**
MMAI Mount Meron Ar 130.48 303 PKP **PKPdf 20 15 10.0 +1.2**
1.1nm,0.5s,baz=55,slow=7.2,SNR=5.2
BUR08 Bucovina Ar. S 131.91 325 *e*PKPdf **PKPdf 20 15 12.2 +1.1**
CLL Collm 135.33 336 *e*PKPdf **PKPdf 20 15 17.0 -0.2**
GERES GERESS Array B 136.92 333 PKP **PKPdf 20 15 22.1 +1.7**
GERES GERESS Array B 136.92 333 PKP **PKPdf 20 15 22.1 +1.7**
1.0nm,0.7s,baz=70,slow=1.6,SNR=7.8
KEST Kesra 148.55 322 *e*PKPbc **PKPbc 20 15 44.6 -0.3**
KEST Kesra 148.55 322 PKPbc **PKPbc 20 15 45.1 +0.1**
5.4nm,0.8s,baz=269,slow=1.5,SNR=21
ESDC Sonseca Array 151.30 344 PKPbc **PKPbc 20 15 51.8 +0.2**
ESDC PKPab **PKPab 20 15 59.3 -0.2**
ESDC Sonseca Array 151.30 344 PKPbc **PKPbc 20 15 51.8 +0.2**
1.9nm,0.7s,baz=22,slow=2.4,SNR=13
ESDC PKPab **PKPab 20 15 59.3 -0.2**
1.0nm,0.7s,baz=6.7,slow=3.7,SNR=5.2
TORD Torodi Ar. Bea 164.69 275 PKP **PKPdf 20 16 01.9 -0.5**
TORD PKPab **PKPab 20 16 60.0 +2.0**
TORD Torodi Ar. Bea 164.69 275 PKP **PKPdf 20 16 01.9 -0.5**
2.4nm,0.9s,baz=23,slow=0.9,SNR=12
TORD PKPab **PKPab 20 16 60.0 +2.0**
2.7nm,1.0s,baz=97,slow=2.2,SNR=6.8

IDC 08 19:58:39.5±4.3, 12°.04S×165°.21E, h0km, mb4.1/4, mb1 4.2/5, mb1mx3.9/19, mbtmp4.1/5, ML4.0/1, Error ellipse: s-maj=115.2km s-min=43.8km az=117.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**19.88**	**244**	P	Pn	20 03 14.6	+0.4
	0.3nm,0.3s,baz=75,slow=15,SNR=3.5						
STKA	**Stephens Creek**	**29.36**	**224**	P	P	20 04 45.2	+0.9
	2.9nm,0.9s,baz=76,slow=8.3,SNR=3.2						
WRA	**Warramunga Arr**	**30.66**	**251**	P	P	20 04 55.2	-0.9
	1.2nm,0.6s,baz=85,slow=9.1,SNR=5.6						
ASAR	**Alice Springs**	**31.89**	**244**	P	P	20 05 05.6	-1.2
	2.5nm,0.7s,baz=71,slow=9.2,SNR=7.3						
MKAR	**Makanchi Array**	**93.89**	**317**	P	P	20 11 59.2	+0.1
	0.4nm,0.5s,baz=108,slow=5.4,SNR=3.9						

IDC 08 20:01:58.9±3.9, 12°.42S×165°.62E, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.8/18, mbtmp4.2/4, ML4.3/1, Error ellipse: s-maj=76.4km s-min=51.5km az=108.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.31**	**298**	Pn	Pn	20 03 32.5	-0.7
	6.9nm,0.3s,baz=157,slow=13,SNR=2.7						
HNR				Sn	Sn	20 04 40.9	-5.2
	4.5nm,0.3s,baz=117,slow=18,SNR=3.1						
WRA	**Warramunga Arr**	**30.91**	**252**	P	P	20 08 17.8	+0.2
	1.4nm,0.7s,baz=85,slow=8.9,SNR=8.9						
ASAR	**Alice Springs**	**32.08**	**245**	P	P	20 08 27.9	0.0
	1.9nm,0.7s,baz=72,slow=9.2,SNR=15						
MKAR	**Makanchi Array**	**94.43**	**317**	P	P	20 15 20.9	-0.1
	0.7nm,0.7s,baz=94,slow=5.1,SNR=5.0						

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*ISCJB **08** 20:07:13.4±0.4, 45°.94N×0°.05×142°.5E±0°.1, h333km, mb3.3/13, Error ellipse: s-maj=10.2km s-min=6.1km az=164.8*
*IDC **08** 20:07:14.2±0.9, 46°.20N×142°.49E, h317km±23km, mb3.1/13, mb1 3.3/16, mb1mx3.2/31, mbtmp3.2/16, Error ellipse: s-maj=41.8km s-min=13.3km az=179.0*
*JMA **08** 20:07:14.1±0.3, 45°.81N×142°.61E, h342km±3km, M3.8*
ISC 08 20:07:13.9±0.7, 45°.80N±0°.08×142°.59E±0°.09, h333km, n35, σ1$31/40, mb3.4/13, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWK2	**Keihoku**	**0.68**	**225**	P	**Pn**	**20 07 58.1**	**+1.3**
JWK2				*eS*	**S**	**20 08 32.1**	**+1.1**
JSE	**Soyaes**	**0.84**	**180**	P	**Pn**	**20 07 58.2**	**+0.9**
JRR	**Rishiri**	**1.11**	**234**	P	**Pn**	**20 07 59.6**	**+1.3**
JSS	**Shosan**	**1.49**	**201**	P	**Pn**	**20 08 01.7**	**+1.3**
JYG	**Yagishiri**	**1.59**	**211**	P	**Pn**	**20 08 02.3**	**+1.3**
ASAJ	**Asahikawa**	**1.68**	**180**	P	**Pn**	**20 08 02.9**	**+1.4**
ASAJ	**Asahikawa**	**1.68**	**180**	P	**Pn**	**20 08 03.0**	**+1.4**
	8.5nm,0.3s,baz=330,slow=5.0,SNR=63						
ASAJ				S	**S**	**20 08 42.6**	**+2.9**
	baz=66,slow=19,SNR=2.6						
JMP	**Maruseppu**	**1.87**	**163**	P	**Pn**	**20 08 04.2**	**+1.3**
JKK2	**Kamakawa 2**	**1.93**	**176**	P	**Pn**	**20 08 04.7**	**+1.5**
JTKR	**Abashiri--Toko**	**2.05**	**152**	P	**Pn**	**20 08 05.5**	**+1.4**
JHR	**Hokuryu**	**2.14**	**197**	P	**Pn**	**20 08 06.4**	**+1.6**
JFR	**Furan**	**2.63**	**180**	P	**Pn**	**20 08 09.9**	**+1.1**
JAR	**Ashorobuto**	**2.64**	**161**	P	**Pn**	**20 08 10.3**	**+1.5**
JAR				*eS*	**S**	**20 08 54.0**	**+1.2**
JEW	**Eniwo**	**3.06**	**196**	P	**Pn**	**20 08 14.2**	**+1.5**
JAK	**Akkeshi**	**3.18**	**151**	*eS*	**S**	**20 09 00.7**	**-1.1**
JCH	**Churui**	**3.23**	**170**	P	**Pn**	**20 08 13.9**	**-0.3**
JCH				*eS*	**S**	**20 08 59.4**	**-3.3**
JNBK	**Urakawa-nobuka**	**3.52**	**178**	P	**Pn**	**20 08 17.9**	**+0.8**
JNBK				*eS*	**S**	**20 09 07.2**	**-0.6**
JKB	**Kayabe**	**4.06**	**197**	P	**Pn**	**20 08 22.9**	**+0.2**
JOSM	**Okushiri--Mats**	**4.34**	**212**	P	**Pn**	**20 08 26.1**	**+0.6**
USRK	**Ussuriysk Arra**	**7.68**	**262**	P	**Pn**	**20 09 04.5**	**+0.6**
	2.9nm,0.3s,baz=69,slow=12,SNR=48						
MAT	**Matsushiro**	**9.81**	**201**	P	**Pn**	**20 09 29.9**	**+0.2**
KSRS	**Korea Array**	**13.76**	**238**	P	**Pn**	**20 10 18.1**	**+1.4**
	0.2nm,0.3s,baz=46,slow=13,SNR=5.4						
SONM	**Songino Array**	**24.71**	**288**	P	**P**	**20 12 05.7**	**-0.1**
	2.5nm,0.7s,baz=83,slow=8.7,SNR=13						
ZALV	**Zalesovo Beam**	**37.16**	**304**	P	**P**	**20 13 53.6**	**-0.1**
	0.3nm,0.4s,baz=64,slow=9.8,SNR=2.9						
MKAR	**Makanchi Array**	**40.77**	**294**	P	**P**	**20 14 22.9**	**-0.5**
	0.5nm,0.6s,baz=83,slow=7.7,SNR=3.7						
KURBB	**Kurchatov Arra**	**41.77**	**301**	P	**P**	**20 14 30.3**	**-1.1**
	0.4nm,0.4s,baz=70,slow=8.4,SNR=4.0						
ILAR	**Eielson Array**	**41.80**	**37**	P	**P**	**20 14 30.8**	**-0.7**
	0.8nm,0.7s,baz=278,slow=8.7,SNR=10						
BVAR	**Borovoye Array**	**45.68**	**307**	P	**P**	**20 15 01.8**	**-0.4**
	0.3nm,0.5s,baz=31,slow=3.4,SNR=2.9						
SPITS	**Spitsbergen Ar**	**52.13**	**348**	P	**P**	**20 15 48.9**	**-1.5**
	4.4nm,0.8s,baz=24,slow=15,SNR=2.7						
FINES	**FINESS Array B**	**61.54**	**331**	P	**P**	**20 16 54.8**	**-1.2**
	0.9nm,0.7s,baz=50,slow=9.3,SNR=4.5						
NOA	**NORSAR Array B**	**66.48**	**337**	P	**P**	**20 17 26.9**	**-1.1**
	1.7nm,1.0s,baz=33,slow=7.5,SNR=3.1						
HFS	**Hagfors**	**66.50**	**335**	P	**P**	**20 17 26.8**	**-1.3**
	2.6nm,0.8s,baz=60,slow=8.8,SNR=5.2						
NVAR	**Mina Array Bea**	**69.19**	**56**	P	**P**	**20 17 46.6**	**+1.2**
	0.5nm,0.5s,baz=306,slow=6.1,SNR=4.0						
PDAR	**Pinedale Array**	**71.01**	**48**	P	**P**	**20 17 56.8**	**+0.5**
	0.6nm,0.8s,baz=318,slow=2.0,SNR=5.6						
TXAR	**Lajitas Array**	**84.13**	**53**	P	**P**	**20 19 09.4**	**+1.1**
	0.2nm,0.5s,baz=266,slow=4.8,SNR=4.0						

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*IDC **08** 20:14:30.9±1.7, 46°.25S×166°.04E, h0km, mb3.5/3, mb1 3.9/5, mb1mx3.7/15, mbtmp3.8/5, ML3.8/2, Error ellipse: s-maj=54.1km s-min=23.0km az=170.0*
*WEL **08** 20:14:33.6±0.8, 46°.18S×165°.96E, h26km±2km, ML4.5/14, Error ellipse: s-maj=7.1km s-min=3.6km az=90.0*
*NEIC **08** 20:14:34.9, 46°.10S×166°.13E, h12km, ML4.4(WEL), After WEL.*
ISC 08 20:14:30.8±2.1, 46°.32S±0°.07×166°.05E±0°.06, h1km±13km, n59, σ1$05/53, mb3.5/3, 4D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.46**	**71**	*eP**	**Pb**	**20 14 43.4**	**+1.6**
PYZ				S*	**Sb**	**20 14 50.4**	**+1.3**
PYZ	**Puysegur Point**	**0.46**	**71**	P*	**Pb**	**20 14 42.7**	**+0.9**
PYZ				S*	**Sb**	**20 14 49.9**	**+0.7**
DCZ	**Deep Cove**	**1.14**	**43**	⇓PN	**Pg**	**20 14 52.3**	**-0.4**
DCZ				SN	**Sg**	**20 15 06.7**	**-0.8**
DCZ				AML	AML	20 15 08.8	
DCZ				AML	AML	20 15 09.4	
DCZ				AML	AML	20 15 25.4	
DCZ	**Deep Cove**	**1.14**	**43**	P*	**Pg**	**20 14 52.0**	**-0.7**
WHZ	**Wether Hill Ro**	**1.39**	**73**	⇓PN	**Pn**	**20 14 57.6**	**+0.3**
WHZ				SN	**Sb**	**20 15 14.9**	**-0.9**
WHZ				AML	AML	20 15 20.1	
WHZ	**Wether Hill Ro**	**1.39**	**73**	Pn	**Pn**	**20 14 57.2**	**-0.1**
APZ	**The Paps**	**1.43**	**112**	⇓PN	**Pn**	**20 14 58.3**	**+0.4**
APZ	**The Paps**	**1.43**	**112**	Pn	**Pn**	**20 14 58.3**	**+0.4**
MLZ	**Mavora Lakes**	**1.77**	**58**	PN	**Pn**	**20 15 02.9**	**+0.3**
MLZ				AML	AML	20 15 30.2	
MLZ				AML	AML	20 15 34.7	
MLZ	**Mavora Lakes**	**1.77**	**58**	Pn	**Pn**	**20 15 03.2**	**+0.5**
MSZ	**Milford Sound**	**2.11**	**39**	PN	**Pn**	**20 15 07.1**	**-0.1**
MSZ				AML	AML	20 15 45.6	
MSZ				AML	AML	20 15 45.6	
MSZ				AML	AML	20 15 52.5	
MSZ				AML	AML	20 15 52.5	
MSZ	**Milford Sound**	**2.11**	**39**	Pn	**Pn**	**20 15 07.1**	**-0.1**
SYZ	**Scrubby Hill**	**2.15**	**97**	PN	**Pn**	**20 15 08.5**	**+0.8**
SYZ	**Scrubby Hill**	**2.15**	**97**	Pn	**Pn**	**20 15 08.5**	**+0.8**
TUZ	**Tuapeka**	**2.52**	**83**	PN	**Pn**	**20 15 13.5**	**+0.7**
TUZ				AML	AML	20 15 50.6	
TUZ				AML	AML	20 16 03.5	
TUZ	**Tuapeka**	**2.52**	**83**	Pn	**Pn**	**20 15 13.5**	**+0.7**
EAZ	**Earnscleugh**	**2.53**	**66**	⇓PN	**Pn**	**20 15 14.6**	**+1.6**
EAZ				AML	AML	20 15 47.4	
EAZ				AML	AML	20 15 47.4	
EAZ				AML	AML	20 15 50.3	
EAZ				AML	AML	20 15 50.4	
EAZ	**Earnscleugh**	**2.53**	**66**	Pn	**Pn**	**20 15 14.6**	**+1.6**
WKZ	**Wanaka**	**2.56**	**55**	PN	**Pn**	**20 15 15.6**	**+2.1**
WKZ				AML	AML	20 15 51.4	
WKZ				AML	AML	20 15 55.4	
WKZ				AML	AML	20 16 04.4	
WKZ				AML	AML	20 16 04.8	
WKZ	**Wanaka**	**2.56**	**55**	Pn	**Pn**	**20 15 15.4**	**+1.9**
JCZ	**Jackson Bay**	**2.95**	**41**	AML	AML	20 16 12.2	
JCZ				AML	AML	20 16 16.7	
JCZ	**Jackson Bay**	**2.95**	**41**	Pn	**Pn**	**20 15 20.7**	**+1.8**
HHSZ	**Highcliff Hill**	**3.19**	**84**	PN	**Pn**	**20 15 22.6**	**+0.5**
ODZ	**Otahua Downs**	**3.46**	**70**	PN	**Pn**	**20 15 25.6**	**-0.2**
ODZ	**Otahua Downs**	**3.46**	**70**	Pn	**Pn**	**20 15 24.8**	**-1.1**
LBZ	**Lake Benmore**	**3.50**	**58**	PN	**Pn**	**20 15 26.5**	**+0.2**
LBZ				AML	AML	20 16 12.8	
LBZ				AML	AML	20 16 32.4	
LBZ	**Lake Benmore**	**3.50**	**58**	Pn	**Pn**	**20 15 26.5**	**+0.2**
FOZ	**Fox Glacier**	**3.78**	**44**	PN	**Pn**	**20 15 31.5**	**+1.4**
FOZ				AML	AML	20 16 41.1	
FOZ				AML	AML	20 16 43.8	
FOZ	**Fox Glacier**	**3.78**	**44**	Pn	**Pn**	**20 15 32.5**	**+2.4**
RPZ	**Rata Peaks**	**4.40**	**56**	PN	**Pn**	**20 15 39.9**	**-0.8**
RPZ				AML	AML	20 16 34.2	
RPZ				AML	AML	20 16 49.1	
RPZ	**Rata Peaks**	**4.40**	**56**	Pn	**Pn**	**20 15 38.2**	**-0.5**
RPZ				Sn	**Sn**	**20 16 29.6**	**-1.0**
RPZ	**Rata Peaks**	**4.40**	**56**	Pn	**Pn**	**20 15 38.2**	**-0.5**
	7.2nm,0.3s,baz=222,slow=7.7,SNR=30						
RPZ				Sn	**Sn**	**20 16 29.6**	**-1.0**
	16nm,0.3s,baz=8.3,slow=16,SNR=7.5						
WVZ	**Waitaha Valley**	**4.66**	**48**	PN	**Pn**	**20 15 43.8**	**+1.6**
WVZ				AML	AML	20 16 41.3	
WVZ				AML	AML	20 16 43.0	
WVZ	**Waitaha Valley**	**4.66**	**48**	Pn	**Pn**	**20 15 42.9**	**+0.7**
URZ	**Urewera**	**11.48**	**49**	Pn	**Pn**	**20 17 15.8**	**+0.1**
URZ				Sn	Sn	20 19 12.3	-12
URZ	**Urewera**	**11.48**	**49**	Pn	**Pn**	**20 17 15.8**	**+0.1**
	0.6nm,0.3s,baz=154,slow=18,SNR=3.0						
URZ				Sn	Sn	20 19 12.4	-12
	0.4nm,0.3s,baz=11,slow=16,SNR=1.8						
STKA	**Stephens Creek**	**23.71**	**299**	P	**P**	**20 19 45.0**	**+0.8**
STKA	**Stephens Creek**	**23.71**	**299**	P	**P**	**20 19 45.0**	**+0.8**
	2.6nm,1.0s,baz=133,slow=19,SNR=2.3						
ASAR	**Alice Springs**	**34.33**	**300**	P	**P**	**20 21 18.9**	**-0.1**
ASAR	**Alice Springs**	**34.33**	**300**	P	**P**	**20 21 18.9**	**-0.1**
	0.4nm,0.5s,baz=131,slow=8.5,SNR=8.7						
WRA	**Warramunga Arr**	**36.96**	**305**	P	**P**	**20 21 39.4**	**-2.2**
WRA	**Warramunga Arr**	**36.96**	**305**	P	**P**	**20 21 39.4**	**-2.2**
	0.3nm,0.5s,baz=138,slow=7.8,SNR=7.7						
H01W1	**Cape Leeuwin H**	**40.35**	**267**	T	T	21 04 55.3	
	baz=121,slow=0.7,SNR=160						
H01W2	**Cape Leeuwin H**	**40.36**	**267**	T	T	21 04 57.1	
	baz=121,slow=0.7,SNR=169						
H01W3	**Cape Leeuwin H**	**40.37**	**267**	T	T	21 04 59.4	
	baz=121,slow=0.7,SNR=174						
H08S2	**Diego Garcia H**	**86.98**	**262**	T	T	22 03 03.7	
	baz=136,slow=0.7,SNR=69						
H08S1	**Diego Garcia H**	**86.99**	**262**	T	T	22 03 04.7	
	baz=136,slow=0.7,SNR=70						
H08S3	**Diego Garcia H**	**87.00**	**262**	T	T	22 03 05.2	
	baz=136,slow=0.7,SNR=86						
H08N1	**Diego Garcia H**	**88.93**	**262**	T	T	22 05 43.8	
	baz=128						
H08N3	**Diego Garcia H**	**88.94**	**262**	T	T	22 05 39.8	
	baz=128						
H08N2	**Diego Garcia H**	**88.95**	**262**	T	T	22 05 40.4	
	baz=128						
TORD	**Torodi Ar. Bea**	**144.39**	**207**	PKP	**PKPab**	**20 34 07.3**	**+0.2**
TORD	**Torodi Ar. Bea**	**144.39**	**207**	PKP	**PKPab**	**20 34 07.3**	**+0.2**
	0.3nm,0.4s,baz=157,slow=1.8,SNR=5.5						
BRTR	**Keskin Array B**	**145.02**	**277**	PKPbc	PKPbc	20 34 09.1	+0.1
BRTR	**Keskin Array B**	**145.02**	**277**	PKPbc	PKPbc	20 34 09.1	+0.1
	0.3nm,0.5s,baz=134,slow=3.6,SNR=4.0						
ARCES	**ARCESS Array B**	**149.66**	**334**	PKPbc	**PKPbc**	**20 34 21.1**	**+0.3**
ARCES	**ARCESS Array B**	**149.66**	**334**	PKPbc	**PKPbc**	**20 34 21.1**	**+0.3**
	1.5nm,0.8s,baz=62,slow=3.3,SNR=6.0						
FINES	**FINESS Array B**	**152.53**	**318**	PKPbc	**PKPbc**	**20 34 27.6**	**-0.1**
FINES	**FINESS Array B**	**152.53**	**318**	PKPbc	**PKPbc**	**20 34 27.6**	**-0.1**
	3.1nm,1.1s,baz=104,slow=5.9,SNR=3.1						

IDC 08 20:21:39.5±2.0, 13°.15S×166°.23E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.9/18, mbtmp3.9/7, MS3.5/2, Ms1 3.5/2, ms1mx3.0/31, Error ellipse: s-maj=76.9km s-min=27.0km az=134.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**19.07**	**279**	LR	LR	20 31 56.2	
	comp=Z,91nm,21.1s,baz=150,slow=32						
STKA	**Stephens Creek**	**29.30**	**226**	P	P	20 27 43.9	+0.1
	2.8nm,1.0s,baz=90,slow=7.1,SNR=2.8						
STKA				LR	LR	20 37 60.0	
	comp=Z,150nm,20.9s,baz=27,slow=34						
WRA	**Warramunga Arr**	**31.27**	**253**	P	P	20 28 01.7	+0.2
	0.5nm,0.8s,baz=90,slow=13,SNR=3.4						
ASAR	**Alice Springs**	**32.34**	**246**	P	P	20 28 11.0	+0.2
	1.4nm,0.7s,baz=73,slow=9.5,SNR=14						
CMAR	**Chiang Mai Arr**	**73.39**	**294**	P	P	20 33 14.2	+0.2
	0.4nm,0.8s,baz=132,slow=6.2,SNR=3.8						
ILAR	**Eielson Array**	**85.34**	**18**	P	P	20 34 19.7	+1.5
	0.4nm,0.6s,baz=225,slow=6.1,SNR=4.7						
MKAR	**Makanchi Array**	**95.37**	**317**	P	P	20 35 05.0	-0.9
	1.0nm,1.0s,baz=110,slow=6.3,SNR=3.9						
ZALV	**Zalesovo Beam**	**95.53**	**324**	P	P	20 35 05.8	-0.6
	0.5nm,0.5s,baz=116,slow=3.4,SNR=3.1						
ARCES	**ARCESS Array B**	**118.48**	**345**	PKP	PKPdf	20 40 26.9	-1.9
	2.1nm,0.8s,baz=90,slow=2.7,SNR=2.8						
KEST	**Kesra**	**149.35**	**321**	PKPbc	PKPbc	20 41 31.0	-0.1
	2.1nm,1.0s,baz=0.6,slow=4.0,SNR=4.6						

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*PGC **08** 20:23:18.6±8.2, 59°.90N×142°.24W, h5km, ML3.2/3, 169km Wnw of Yakutat, Ak Gulf Of Alaska*
NEIC 08 20:23:15.9, 59°.77N×142°.68W, h10km, ML3.2(OTT), ML3.2(AEIC), 3D, After AEIC., Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULT	**Kultieth River**	**0.48**	**358**	P	Pg	20 23 25.4	+0.1
MESA	**MESA**	**0.55**	**42**	P	Pg	20 23 26.9	0.0
GRIN	**Grindle Hills**	**0.60**	**328**	P	Pg	20 23 27.7	0.0
GRIN				S	Sb	20 23 37.7	+0.4
SUCK	**Suckling Hills**	**0.63**	**299**	P	Pg	20 23 28.1	0.0
BARK	**Barkley Ridge**	**0.64**	**9**	P	Pg	20 23 28.1	-0.4
KHIT	**Khitrov Hills**	**0.73**	**337**	P	Pg	20 23 29.4	-0.8
KHIT				S	Sg	20 23 39.6	-0.2
BAGL	**Bagley Icefiel**	**0.78**	**22**	P	Pg	20 23 30.1	-0.8
BAGL				S	Sg	20 23 41.5	+0.4
NICHA	**Nichawak Mount**	**0.80**	**306**	P	Pg	20 23 30.6	-0.7
NICHA				S	Sb	20 23 43.7	+0.9
BERG	**Berg Lake**	**0.81**	**321**	P	Pg	20 23 30.8	-0.7
BERG				S	Sb	20 23 42.9	-0.2
ISLE	**Juniper Island**	**0.85**	**12**	P	Pg	20 23 31.3	-1.3
RKAV	**Rock Avalanche**	**0.85**	**51**	P	Pg	20 23 31.9	-0.8
RKAV				S	Sb	20 23 44.5	-0.3
SAMH	**Samovar Hills**	**1.02**	**69**	P	Pg	20 23 34.7	-1.1
TABL	**Table Mountain**	**1.02**	**48**	P	Pg	20 23 34.5	-1.4
TABL				S	Sg	20 23 49.3	-0.1
GRNC	**Granite Creek**	**1.07**	**25**	P	Pg	20 23 34.8	-2.0
KIAG	**Kiagna River**	**1.17**	**8**	P	Pb	20 23 36.1	-2.3
RAGM	**Ragged Mountai**	**1.17**	**303**	P	Pb	20 23 36.6	-1.8
BALM	**Baldy**	**1.28**	**7**	P	Pn	20 23 37.9	-2.2
GOAT	**Goat Mountain**	**1.30**	**309**	P	Pn	20 23 37.4	-3.0
BARN	**Barnard Glacie**	**1.39**	**21**	P	Pn	20 23 39.8	-1.9
PTPK	**Patty Peak**	**1.42**	**4**	P	Pn	20 23 40.4	-1.8
VRDI	**Verde Repeater**	**1.51**	**346**	P	Pn	20 23 41.1	-2.3
BMRM	**Bremner River**	**1.53**	**322**	P	Pn	20 23 40.8	-2.7
MCARA	**McCarthy VSAT**	**1.62**	**354**	P	Pn	20 23 42.8	-1.9
EYAK	**Cordova Ski Ar**	**1.72**	**298**	P	Pn	20 23 43.8	-2.1
GLB	**Gilahina Butte**	**1.76**	**342**	P	Pn	20 23 44.6	-2.1
MID	**Middleton Isla**	**1.89**	**261**	P	Pn	20 23 46.7	-1.6
DIV	**Divide**	**2.05**	**313**	P	Pn	20 23 49.7	-0.8
FID	**Port Fidalgo**	**2.13**	**299**	P	Pn	20 23 50.1	-1.5
VLZ	**Valdez**	**2.26**	**309**	P	Pn	20 23 52.8	-0.5
KLU	**Klutina**	**2.35**	**319**	P	Pn	20 23 52.6	-2.1
GLI	**Glacier Island**	**2.46**	**299**	P	Pn	20 23 53.7	-2.4
HYT	**Haines Junctio**	**2.79**	**66**	⇑Pn	Pn	20 24 00.1	-0.7
HYT				⇓Pg	Pb	20 24 04.1	-1.9
HYT				⇓Sg	Sn	20 24 37.1	+2.5
HYT	**Haines Junctio**	**2.79**	**66**	*ePn*	Pn	20 23 59.9	-0.9
HARP	**HAARP**	**2.90**	**337**	P	Pn	20 24 00.6	-1.6
SCM	**Sheep Creek Mo**	**3.08**	**314**	P	Pn	20 24 03.5	-1.2
BCA3	**Beaver Creek A**	**3.33**	**7**	P	Pn	20 24 06.9	-1.3
SEW	**Seward**	**3.42**	**278**	P	Pn	20 24 06.3	-3.0
PAX	**Paxson**	**3.48**	**339**	P	Pn	20 24 08.4	-1.8
SLKM	**Skilak Lake**	**3.84**	**284**	P	Pn	20 24 11.5	-3.7
WHY	**Whitehorse**	**3.99**	**74**	⇓Pn	Pn	20 24 15.6	-1.8
WHY	**Whitehorse**	**3.

RAR	**Rarotonga**	**34.44**	**111**	LR	LR	21 05 59.5		
	comp=Z,142nm,22.0s,baz=274,slow=30							
ILAR	**Eielson Array**	**83.96**	**19**	P	P	21 01 11.3	+0.3	
	0.5nm,0.9s,baz=234,slow=6.2,SNR=3.6							
MKAR	**Makanchi Array**	**93.82**	**317**	P	P	21 01 57.7	-0.8	
	0.3nm,0.6s,baz=104,slow=5.7,SNR=3.5							

IDC 08 20:53:01.6±4.1, 19°.64S×169°.59E, h268km±32km, mb3.4/4, mb1 3.5/5, mb1mx3.2/18, mbtmp3.3/5, Error ellipse: s-maj=95.1km s-min=42.9km az=148.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.81**	**230**	P	Pn	20 54 05.7	+1.5
	0.7nm,0.3s,baz=58,slow=19,SNR=4.8						
DZM				S	S	20 54 53.3	-0.7
	3.2nm,0.3s,baz=108,slow=19,SNR=5.8						
STKA	**Stephens Creek**	**27.92**	**239**	P	P	20 58 27.3	0.0
	1.5nm,0.7s,baz=74,slow=12,SNR=4.1						
WRA	**Warramunga Arr**	**33.14**	**263**	P	P	20 59 12.5	-0.7
	1.6nm,1.2s,baz=91,slow=9.5,SNR=10						
ASAR	**Alice Springs**	**33.36**	**257**	P	P	20 59 15.4	+0.3
	2.6nm,0.5s,baz=82,slow=9.3,SNR=57						
FITZ	**Fitzroy Crossi**	**41.54**	**265**	P	P	21 00 24.3	+0.9
	0.9nm,0.5s,baz=135,slow=10.0,SNR=3.7						
GERES	**GERESS Array B**	**145.00**	**332**	PKPbc	PKPbc	21 12 05.3	-1.6
	0.3nm,0.5s,baz=38,slow=5.0,SNR=4.3						

IDC 08 21:06:56.1±17.0, 23°.73S×179°.88E, h539km±169km, mb3.1/5, mb1 3.2/5, mb1mx3.0/17, mbtmp3.1/5, Error ellipse: s-maj=107.2km s-min=97.9km az=121.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**31.36**	**270**	P	P	21 12 33.5	+0.4
	2.6nm,0.5s,baz=95,slow=11,SNR=3.3						
STKA	**Stephens Creek**	**34.69**	**248**	P	P	21 13 01.9	+0.8
	3.1nm,1.0s,baz=77,slow=14,SNR=2.8						
ASAR	**Alice Springs**	**41.95**	**260**	P	P	21 13 59.5	-0.6
	0.4nm,0.3s,baz=95,slow=7.4,SNR=12						
WRA	**Warramunga Arr**	**42.31**	**266**	P	P	21 14 02.1	-0.9
	1.2nm,0.4s,baz=97,slow=8.4,SNR=24						
FITZ	**Fitzroy Crossi**	**50.73**	**266**	P	P	21 15 06.9	+0.2
	0.6nm,0.3s,baz=111,slow=6.4						
KURBB	**Kurchatov Arra**	**115.04**	**316**	PKP	PKPdf	21 24 34.6	-1.1
	0.3nm,0.7s,baz=95,slow=1.6,SNR=5.4						
BVAR	**Borovoye Array**	**120.24**	**319**	PKP	PKPdf	21 24 45.0	-0.7
	0.4nm,0.4s,baz=298,slow=3.1,SNR=3.5						
ARCES	**ARCESS Array B**	**131.69**	**348**	PKP	PKPdf	21 25 06.1	-1.0
	3.1nm,0.9s,baz=75,slow=1.4,SNR=4.1						
FINES	**FINESS Array B**	**138.25**	**341**	PKP	PKPdf	21 25 20.6	+1.1
	2.3nm,1.0s,baz=132,slow=2.1,SNR=4.4						
AKASG	**Malin Array Be**	**144.76**	**327**	PKP	PKPdf	21 25 31.2	-0.2
	0.6nm,0.3s,baz=43,slow=4.3,SNR=7.2						
BRTR	**Keskin Array B**	**147.38**	**307**	PKPbc	PKPbc	21 25 39.5	-0.2
	0.7nm,0.5s,baz=108,slow=3.0,SNR=3.0						
BRTR				PKPab	PKPab	21 25 44.0	+0.4
	0.6nm,0.7s,baz=98,slow=3.0,SNR=4.8						
EKA	**Eskdalemuir Ar**	**148.35**	**3**	PKPbc	PKPbc	21 25 40.9	-0.6
	0.6nm,0.5s,baz=343,slow=2.7,SNR=6.6						

IDC 08 21:10:50.4±10.0, 15°.56S×172°.87W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/20, mbtmp3.7/2, Error ellipse: s-maj=459.1km s-min=28.4km az=138.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.96**	**33**	Pn	Pn	21 11 23.4	-1.5
	6.7nm,0.3s,baz=23,slow=9.6,SNR=4.3						
AFI				Sn	Sn	21 11 44.7	-5.6
	28nm,0.3s,baz=78,slow=23,SNR=11						
WRA	**Warramunga Arr**	**50.30**	**257**	P	P	21 19 48.7	-0.5
	0.8nm,0.9s,baz=97,slow=7.3,SNR=2.9						
ASAR	**Alice Springs**	**50.55**	**252**	P	P	21 19 50.3	-0.8
	0.6nm,0.4s,baz=88,slow=7.4,SNR=16						
BRTR	**Keskin Array B**	**146.60**	**321**	PKPbc	PKPab	21 30 35.4	-0.1
	0.5nm,0.6s,baz=92,slow=3.9,SNR=2.7						

*ISCJB **08** 21:16:08.5±1.5, 12°.92S±0°.03×166°.35E±0°.02, h7km±9km, mb5.6/177, MS5.8/210, Error ellipse: s-maj=4.6km s-min=3.8km az=165.9*

*BJI **08** 21:16:09.7, 12°.43S×166°.99E, h14km, mB6.1/59, mb5.5/57, Ms5.9/70, Ms7 5.5/64*

*IDC **08** 21:16:09.5±0.4, 12°.92S×166°.24E, h0km, mb5.3/28, mb1 5.4/30, mb1mx5.4/31, mbtmp5.3/30, ML5.0/2, MS5.8/17, Ms1 5.8/17, ms1mx5.6/26, Error ellipse: s-maj=13.6km s-min=11.9km az=103.0*

*NEIC **08** 21:16:13.8±0.1, 12°.91S×166°.31E, h35km, mb5.7/106, MS5.9/158, Error ellipse: s-maj=5.7km s-min=4.6km az=145.0*

*MOS **08** 21:16:13.1±1.4, 12°.81S×166°.20E, h33km, mb5.7/62, MS5.8/45, Error ellipse: s-maj=7.6km s-min=7.2km az=133.9*

*GCMT **08** 21:16:17.6±0.1, 12°.91S×166°.10E, h16km, MW6.0 Best double couple: NP1:φs163.00000°, δ74.00000°, λ85.00000°. NP2:φs1.00000°, δ16.00000°, λ108.00000°. Principal axes: T 1.0700, Plg60.0000°, Azm65.0000°; N 0.0500, Plg5.0000°, Azm164.0000°; P -1.1200, Plg29.0000°, Azm257.0000°; Data Used: II IU CN G IC. Surface waves: sta=115, comp=254, per= 50.*

*AUST **08** 21:16:17.0±1.4, 12°.81S×166°.16E, h43km±14km Error ellipse: s-maj=7.4km s-min=4.9km az=0.0*

*DJA **08** 21:16:53.6±1.0, 14°S±4'×16°5E±', h305km±10km, M5.3/38, mB5.8/28, mb5.2/38, Mw(mB)5.4/28, Mwp5.7/2*

ISC 08 21:16:12.3±0.3, 12°.92S±0°.04×166°.31E±0°.04, h18km±1km, h17km:pP-P,n1001,σ1°85/915, mb5.7/177, MS5.9/212, 49C-40D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.14**	**298**	*e*Pn	**Pn**	**21 17 55.6**	**-0.3**
HNR				*e*Sn	**Sn**	**21 19 16.1**	**-0.6**
HNR	**Honiara**	**7.14**	**298**	Pn	**Pn**	**21 17 56.0**	**+0.1**
	248nm,0.3s,baz=166,slow=4.2,SNR=71						
HNR				Sn	**Sn**	**21 19 14.2**	**-2.5**
	baz=115,slow=19,SNR=1.9						
DZM	**Mont Dzumac**	**9.10**	**179**	*e*Pn	**Pn**	**21 18 24.5**	**+1.5**
	1μm,1.1s						
DZM				*e*LR	LR	21 20 41.4	
	47μm,24.6s						
DZM	**Mont Dzumac**	**9.10**	**179**	Pn	Pn	21 18 27.2	+4.2
	4.8nm,0.3s,baz=7.2,slow=21,SNR=14						
DZM				Sn	**Sn**	**21 20 06.0**	**+0.9**
	baz=8.1,slow=14,SNR=1.5						
MSVF	**Nonsavu**	**12.30**	**114**	*e*P	Pn	21 19 11.6	+4.8
MSVF	**Nonsavu**	**12.30**	**114**	Pn	Pn	21 19 12.8	+6.0
	1μm,1.9s,SNR=16						
MSVF	**Nonsavu**	**12.30**	**114**	*e*Pn	Pn	21 19 11.6	+4.8
TARA	**Tarawa**	**15.63**	**25**	*e*Pn	**P**	**21 19 54.2**	**-1.8**
	698nm,1.0s						
EIDS	**Eidsvold**	**18.95**	**227**	*e*P	**Pn**	**21 20 33.2**	**-0.1**
	204nm,0.9s						
EIDS	**Eidsvold**	**18.95**	**227**	⇑P	**Pn**	**21 20 33.6**	**+0.2**
	baz=19,SNR=32						
PMG	**Port Moresby**	**19.10**	**279**	P	**Pn**	**21 20 35.3**	**0.0**
	389nm,1.0s,11μm						
PMG	**Port Moresby**	**19.10**	**279**	*e*P	**P**	**21 20 34.6**	**+0.2**
	463nm,1.1s						
PMG	**Port Moresby**	**19.10**	**279**	P	**Pn**	**21 20 35.3**	**0.0**
	2.9nm,0.3s,baz=89,slow=6.5,SNR=35						
CTA	**Charters Tower**	**20.49**	**247**	⇓P	**P**	**21 20 49.7**	**+0.2**
	baz=20						
CTA	**Charters Tower**	**20.49**	**247**	P	**P**	**21 20 50.0**	**+0.4**
	79nm,0.9s,baz=72,slow=13,SNR=44						
CTAO	**Charters Tower**	**20.49**	**247**	*e*P	**P**	**21 20 49.1**	**-0.4**
CTAO				pmax	pmax		
	comp=Z,306nm,1.0s						
CTAO				MLR	MLR		
	comp=Z,52μm,20.0s						
CTAO	**Charters Tower**	**20.49**	**247**	*e*P	**P**	**21 20 49.1**	**-0.4**
	comp=Z,306nm,1.0s						
CTAO				LR	LR		
	comp=Z,52μm,20.0s						
PATS	**Pohnpei**	**21.17**	**338**	⇓P	**P**	**21 20 57.0**	**+0.1**
	baz=21,SNR=8.9						
RMQ	**Roma**	**21.29**	**228**	⇓P	**P**	**21 20 59.3**	**+1.1**
	baz=21,SNR=131						

AFI	**Afiamalu**	**21.34**	**95**	*e*P	**P**	**21 21 00.5**	**+1.7**
	comp=Z,173nm,1.0s							
AFI				LR	LR			
	comp=Z,22μm,19.0s							
AFI	**Afiamalu**	**21.34**	**95**	P	**P**	**21 20 56.5**	**-2.4**
	comp=Z,17nm,0.6s,baz=60,slow=17,SNR=2.3							
AFI				LR	LR	21 27 52.1		
	comp=Z,18μm,18.9s,baz=273,slow=33							
KWAJ	**Kwajalein Atol**	**21.62**	**4**	*e*P	**P**	**21 21 00.2**	**-1.4**	
KWAJ				pmax	pmax			
	comp=Z,254nm,1.1s							
KWAJ	**Kwajalein Atol**	**21.62**	**4**	*e*P	**P**	**21 21 00.2**	**-1.4**	
	comp=Z,254nm,1.1s							
MANU	**Manus Island**	**21.64**	**298**	⇓P	**P**	**21 21 02.1**	**+0.2**	
	baz=22,SNR=6.4							
RAO	**Raoul Island**	**21.88**	**140**	*e*P	P	21 20 57.2	-7.2	
RAO				LR	LR			
	comp=Z,12μm,19.0s							
RAO	**Raoul Island**	**21.88**	**140**	P	P	21 20 57.2	-7.2	
	comp=Z,169nm,0.4s,baz=253,slow=19,SNR=1.5							
ARMA	**Armidale**	**22.07**	**216**	*e*P	**P**	**21 21 07.1**	**+0.5**	
	comp=Z,297nm,1.2s							
COEN	**Coen**	**22.52**	**265**	*e*P	**P**	**21 21 10.5**	**-1.0**	
	comp=Z,2μm,0.9s							
COEN	**Coen**	**22.52**	**265**	⇑P	**P**	**21 21 11.7**	**+0.2**	
	baz=22,SNR=43							
OUZ	**Omahuta**	**23.16**	**165**	*e*P	**P**	**21 21 18.7**	**+0.8**	
	comp=Z,141nm,1.1s							
KNTN	**Kanton**	**23.96**	**67**	*e*P	**P**	**21 21 27.3**	**+1.3**	
	comp=Z,598nm,1.4s							
MGCD	**Mangrove Creek**	**24.50**	**212**	⇓P	**P**	**21 21 31.5**	**+0.8**	
	baz=25,SNR=19							
QLP	**Quilpie**	**24.77**	**233**	⇓P	**P**	**21 21 32.9**	**-0.4**	
	baz=25,SNR=105							
RIV	**Riverview**	**24.97**	**211**	⇓P	**P**	**21 21 36.7**	**+1.7**	
	baz=25							
YNG	**Yong**	**26.79**	**214**	⇓P	**P**	**21 21 51.9**	**+0.5**	
	baz=27,SNR=17							
URZ	**Urewera**	**27.01**	**161**	*e*P	**P**	**21 21 56.5**	**+3.2**	
	comp=Z,509nm,2.5s							
URZ	**Urewera**	**27.01**	**161**	P	**P**	**21 21 54.5**	**+1.2**	
	comp=Z,10nm,0.6s,baz=124,slow=3.6,SNR=6.3							
CNB	**Canberra Magne**	**27.05**	**212**	⇓P	**P**	**21 21 55.1**	**+1.2**	
	baz=27,SNR=8.7							
CAN	**Canberra**	**27.24**	**212**	PFAKE		21 22 10.0	+14	
CAN				LR	LR			
	comp=Z,11μm,21.0s							
CAN	**Canberra**	**27.24**	**212**	⇑P	**P**	**21 21 57.1**	**+1.6**	
	baz=27							
JAY	**Jayapura**	**27.36**	**290**	P	**P**	**21 22 01.0**	**+4.2**	
JAY	**Jayapura**	**27.36**	**290**	⇓P	**P**	**21 21 57.0**	**+0.2**	
	baz=27							
MILA	**Mila**	**28.52**	**210**	P	**P**	**21 22 08.9**	**+1.9**	
	baz=29,SNR=5.8							
BFZ	**Birch Farm**	**29.00**	**164**	*e*P	**P**	**21 22 10.8**	**-0.4**	
	comp=Z,371nm,2.1s							
SNZO	**South Karori**	**29.22**	**167**	*e*P	**P**	**21 22 11.6**	**-1.5**	
SNZO				*e*pP	pP	21 22 11.9	-6.6	
SNZO				LR	LR			
	comp=Z,32μm,19.0s							
STKA	**Stephens Creek**	**29.50**	**226**	*e*P	**P**	**21 22 15.1**	**-0.7**	
	comp=Z,112nm,1.8s							
STKA	**Stephens Creek**	**29.50**	**226**	P	**P**	**21 22 15.9**	**+0.2**	
	baz=30,SNR=38							
STKA	**Stephens Creek**	**29.50**	**226**	P	**P**	**21 22 15.7**	**0.0**	
	comp=Z,63nm,0.7s,baz=44,slow=8.0,SNR=77							
STKA				LR	LR	21 33 43.1		
	comp=Z,27μm,19.8s,baz=52,slow=36							
KHZ	**Kahutara**	**30.05**	**169**	*e*P	**P**	**21 22 20.1**	**-0.4**	
	comp=Z,643nm,2.1s							
TOO	**Toolangi**	**30.79**	**213**	P	**P**	**21 22 27.7**	**+0.6**	
	baz=31,SNR=19							
RPZ	**Rata Peaks**	**30.96**	**173**	*e*P	**P**	**21 22 29.3**	**+0.8**	
	comp=Z,206nm,0.7s							
RPZ	**Rata Peaks**	**30.96**	**173**	P	**P**	**21 22 29.2**	**+0.7**	
	comp=Z,177nm,0.7s,baz=357,slow=1.9,SNR=53							
WRAB	**Tennant Creek**	**31.39**	**253**	*e*P	**P**	**21 22 30.6**	**-2.0**	
WRAB				pmax	pmax			
	comp=Z,61nm,1.1s							
WRAB				MLR	MLR			
	comp=Z,24μm,20.0s							
WRAB	**Tennant Creek**	**31.39**	**253**	P	**P**	**21 22 30.7**	**-1.9**	
	comp=Z,213nm,1.9s,SNR=6.3							
WRAB	**Tennant Creek**	**31.39**	**253**	*e*P	**P**	**21 22 30.6**	**-2.0**	
	comp=Z,61nm,1.1s							
WRAB				LR	LR			
	comp=Z,24μm,20.0s							
WRA	**Warramunga Arr**	**31.41**	**253**	P	**P**	**21 22 30.5**	**-2.2**	
	comp=Z,30nm,0.9s,baz=82,slow=8.9,SNR=66							
WRA				LR	LR	21 34 23.3		
	comp=Z,24μm,20.1s,baz=80,slow=35							
SRPI	**Serui, Papua**	**31.72**	**288**	P	**P**	**21 22 38.2**	**+2.7**	
WAKE	**Wake Island**	**32.00**	**1**	PFAKE		21 22 50.0	+12	
WAKE				LR	LR			
	comp=Z,19μm,19.0s							
BAKI	**Biak**	**32.10**	**289**	P	**P**	**21 22 39.7**	**+0.8**	
ODZ	**Otahua Downs**	**32.23**	**174**	*e*P	**P**	**21 22 38.6**	**-1.0**	
	comp=Z,128nm,1.3s							
HTT	**Hallett**	**32.24**	**226**	⇑P	**P**	**21 22 40.2**	**+0.3**	
	baz=32							
ARPS	**Mount Arapiles**	**32.33**	**218**	⇓P	**P**	**21 22 41.6**	**+1.1**	
	baz=32,SNR=9.1							
H11N1	**WAKE ISLAND Hy**	**32.43**	**1**	T	T	21 58 26.3		
	baz=187,slow=0.7,SNR=3.0							
H11N3	**WAKE ISLAND Hy**	**32.44**	**1**	T	T	21 58 28.1		
	baz=187,slow=0.7,SNR=1.1							
AS01	**Alice Springs**	**32.45**	**246**	*e*P	**P**	**21 22 39.0**	**-2.9**	
H11N2	**WAKE ISLAND Hy**	**32.45**	**1**	T	T	21 58 30.6		
	baz=187,slow=0.7,SNR=1.5							
DCZ	**Deep Cove**	**32.46**	**179**	*e*P	**P**	**21 22 39.9**	**-1.6**	
	comp=Z,231nm,1.1s							
AS12	**Alice Springs**	**32.49**	**246**	*e*P	**P**	**21 22 40.6**	**-1.6**	
ASAR	**Alice Springs**	**32.49**	**246**	P	**P**	**21 22 40.6**	**-1.6**	
	comp=Z,44nm,0.7s,baz=70,slow=8.8,SNR=131							
ASAR				LR	LR	21 35 33.9		
	comp=Z,37μm,19.2s,baz=73,slow=36							
WHZ	**Wether Hill Ro**	**32.90**	**178**	*e*P	**P**	**21 22 45.7**	**+0.3**	
	comp=Z,94nm,1.1s							
KDU	**Kakadu**	**32.98**	**267**	⇑P	**P**	**21 22 45.3**	**-1.2**	
	baz=33,SNR=17							
RAR	**Rarotonga**	**33.40**	**109**	PFAKE		21 23 00.0	+10	
RAR				LR	LR			
	comp=Z,12μm,20.0s							
RAR	**Rarotonga**	**33.40**	**109**	LR	LR	21 33 37.0		
	comp=Z,12μm,20.6s,baz=269,slow=31							
KMPI	**Kaimana, Papua**	**33.51**	**283**	P	**P**	**21 22 52.6**	**+1.5**	
MOO	**Moorlands**	**33.77**	**206**	P	**P**	**21 22 55.4**	**+2.3**	
	baz=34,SNR=5.0							
GUMO	**Guam**	**33.84**	**320**	PFAKE		21 23 10.0	+16	
GUMO				LR	LR			
	comp=Z,18μm,20.0s							
TLE	**Tual**	**33.88**	**279**	P	**P**	**21 22 53.2**	**-1.2**	
TLE	**Tual**	**33.88**	**279**	⇓P	**P**	**21 22 55.0**	**+0.6**	
	baz=34,SNR=4.5							
BBOO	**Buckleboo**	**33.99**	**229**	*e*P	**P**	**21 22 54.9**	**-0.2**	
	comp=Z,972nm,0.8s							
BBOO	**Buckleboo**	**33.99**	**229**	P	**P**	**21 22 55.0**	**-0.2**	
	baz=34,SNR=84							
TAU	**Tasmania Unive**	**34.10**	**205**	*e*P	**P**	**21 22 56.9**	**+1.0**	
TAU				pmax	pmax			
	comp=Z,136nm,1.3s							
TAU				MLR	MLR			
	comp=Z,10μm,21.0s							
TAU	**Tasmania Unive**	**34.10**	**205**	*e*P	**P**	**21 22 56.9**	**+1.0**	
	comp=Z,136nm,1.3s							
TAU				LR	LR			
	comp=Z,10μm,21.0s							
FAKI	**Fak Fak**	**35.12**	**284**	⇑P	**P**	**21 23 06.2**	**+1.1**	
	baz=35							
KNRA	**Kununurra**	**36.45**	**261**	⇑P	**P**	**21 23 15.4**	**-1.2**	
	baz=36,SNR=86							
SWI	**Sorong**	**36.73**	**286**	P	**P**	**21 23 19.2**	**+0.3**	
BNDI	**Bandanaira**	**36.89**	**280**	P	**P**	**21 23 20.7**	**+0.4**	
BNDI	**Bandanaira**	**36.89**	**280**	⇓P	**P**	**21 23 20.2**	**-0.1**	
	baz=37,SNR=3.9							
PALU	**Palau**	**37.49**	**301**	⇑P	**P**	**21 23 25.5**	**+0.2**	
	baz=37,SNR=8.0							
MSAI	**Masohi**	**38.15**	**281**	P	**P**	**21 23 33.0**	**+2.0**	
AAI	**Ambon**	**38.76**	**280**	P	**P**	**21 23 36.1**	**0.0**	
XMAS	**Kiritimati**	**38.93**	**70**	PFAKE		21 23 50.0	+12	
XMAS				LR	LR			
	comp=Z,17μm,20.0s							
FORT	**Forrest**	**39.45**	**237**	*e*P	**P**	**21 23 40.2**	**-1.5**	
	comp=Z,260nm,0.8s							
FORT	**Forrest**	**39.45**	**237**	⇓P	**P**	**21 23 41.3**	**-0.5**	
	baz=39,SNR=33							
FITZ	**Fitzroy Crossi**	**39.46**	**257**	*e*P	**P**	**21 23 40.2**	**-1.7**	
	comp=Z,151nm,1.3s							
FITZ	**Fitzroy Crossi**	**39.46**	**257**	P	**P**	**21 23 40.3**	**-1.7**	
	baz=39,SNR=72							
FITZ	**Fitzroy Crossi**	**39.46**	**257**	P	**P**	**21 23 40.5**	**-1.5**	
	comp=Z,75nm,1.0s,baz=87,slow=9.9,SNR=67							
FITZ				LR	LR	21 39 46.0		
	comp=Z,13μm,18.6s,baz=75,slow=36							
NLAI	**Namlea**	**39.93**	**281**	P	**P**	**21 23 46.3**	**+0.4**	
LBMI	**Labuha**	**40.34**	**285**	P	**P**	**21 23 49.9**	**+0.6**	
TNTI	**Ternate**	**40.95**	**286**	P	**P**	**21 23 56.6**	**+2.3**	
TNTI	**Ternate**	**40.95**	**286**	*e*P	**P**	**21 23 54.4**	**+0.1**	
	comp=Z,181nm,1.1s							
SOEI	**Soe**	**41.30**	**270**	P	**P**	**21 23 57.0**	**-0.4**	
BATI	**Baumata**	**41.83**	**269**	P	**P**	**21 24 00.4**	**-1.2**	
BATI	**Baumata**	**41.83**	**269**	P	**P**	**21 23 59.6**	**-2.0**	
	comp=Z,142nm,0.8s,baz=160,slow=1.8,SNR=34							
BATI				LR	LR	21 40 58.7		
	comp=Z,9μm,21.3s,baz=121,slow=36							
PPT	**Papeete**	**42.75**	**102**	LR	LR	21 37 37.3		
	comp=Z,10μm,21.1s,baz=268,slow=30							
PPT2	**Papeete2**	**42.75**	**102**	*e*S	**S**	**21 30 37.6**	**+5.1**	
	comp=Z,6μm,27.2s							
PPT2				*e*LQ	LQ	21 34 11.4		
	comp=Z,15μm,26.0s							
PPT2				*e*LR	LR	21 35 59.2		
	comp=Z,28μm,24.8s,baz=269							
TBI	**Tubuai**	**43.15**	**110**	*e*S	S	21 30 44.6	+6.5	
	comp=Z,6μm,26.5s							
TBI				*e*LQ	LQ	21 34 24.8		
	comp=Z,11μm,30.2s							
TBI				*e*LR	LR	21 36 12.0		
	comp=Z,13μm,24.2s,baz=286							
MMRI	**Maumere**	**43.46**	**271**	P	**P**	**21 24 14.5**	**-0.3**	
MMRI	**Maumere**	**43.46**	**271**	*e*P	**P**	**21 24 13.2**	**-1.7**	
	comp=Z,291nm,1.3s							
SGSI	**Sangihe**	**43.73**	**289**	P	**P**	**21 24 18.6**	**+1.6**	
BBSI	**Bau Bau**	**43.75**	**276**	P	**P**	**21 24 16.5**	**-0.7**	
MIDW	**Midway**	**43.84**	**21**	PFAKE		21 24 30.0	+12	
MIDW				LR	LR			
	comp=Z,11μm,19.0s							
KMSI	**Cibinong**	**44.06**	**284**	P	**P**	**21 24 21.0**	**+1.3**	
PMOR	**Pomariorio Ree**	**44.44**	**98**	*e*P	**P**	**21 24 25.1**	**+2.4**	
	comp=Z,200nm,1.1s							
VAH	**Vaihoa**	**44.68**	**99**	*e*P	**P**	**21 24 26.8**	**+2.2**	
	comp=Z,148nm,1.0s							
LUWI	**Luwuk**	**44.70**	**282**	P	**P**	**21 24 25.8**	**+1.0**	
LUWI	**Luwuk**	**44.70**	**282**	⇑P	**P**	**21 24 25.0**	**+0.2**	
	baz=45,SNR=10.0							
KKSI	**Kolaka, Sulawe**	**44.94**	**277**	P	**P**	**21 24 26.2**	**-0.5**	
DAV	**Davao City (W)**	**45.07**	**294**	PFAKE		21 24 40.0	+12	
DAV				LR	LR			
	comp=Z,5μm,20.0s							
MBWA	**Marble Bar**	**45.14**	**253**	P	**P**	**21 24 28.8**	**+0.6**	
	SNR=8.3							
MBWA	**Marble Bar**	**45.14**	**253**	*e*P	**P**	**21 24 28.5**	**+0.2**	
	comp=Z,72nm,1.1s							
MBWA				LR	LR			
	comp=Z,8μm,20.0s							
WSI	**Waingapu**	**45.19**	**269**	P	**P**	**21 24 27.6**	**-1.1**	
APSI	**Ampana**	**45.81**	**281**	P	**P**	**21 24 34.1**	**+0.4**	
MRSI	**Marisa**	**45.96**	**283**	P	**P**	**21 24 35.0**	**+0.2**	
CBI	**Chichi jima**	**46.15**	**330**	*e*P	**P**	**21 24 37.3**	**+1.3**	
BKSI	**Bulukumba**	**46.16**	**275**	P	**P**	**21 24 36.2**	**-0.2**	
JCJ	**Chichijima**	**46.16**	**330**	P	**P**	**21 24 37.3**	**+1.2**	
	comp=Z,74nm,0.8s,baz=282,slow=20,SNR=2.4							
BNSI	**Bone**	**46.38**	**276**	P	**P**	**21 24 37.8**	**-0.3**	
KAPI	**Kappang**	**46.59**	**275**	P	**P**	**21 24 40.5**	**+0.7**	
	SNR=7.0							
KAPI	**Kappang**	**46.59**	**275**	P	**P**	**21 24 40.6**	**+0.9**	
	comp=Z,318nm,1.1s,SNR=6.2							
KAPI	**Kappang**	**46.59**	**275**	P	**P**	**21 24 39.4**	**-0.3**	
	comp=Z,100nm,2.1s,comp=Z,2μm							
KAPI	**Kappang**	**46.59**	**275**	*e*P	**P**	**21 24 37.4**	**-2.4**	
KAPI				LR	LR			
	comp=Z,3μm,19.0s							
KAPI	**Kappang**	**46.59**	**275**	P	**P**	**21 24 37.6**	**-2.1**	
	comp=Z,36nm,1.0s,baz=131,slow=5.5,SNR=19							
MEEK	**Meekatharra**	**46.65**	**246**	⇓P	**P**	**21 24 39.7**	**-0.4**	
	baz=46,SNR=53							
SPSI	**Sidrap Palu**	**46.81**	**277**	P	**P**	**21 24 40.9**	**-0.6**	
TTSI	**Tana Toraja**	**46.99**	**278**	P	**P**	**21 24 43.7**	**+0.8**	
MJSI	**Majene**	**47.68**	**277**	P	**P**	**21 24 49.0**	**+0.7**	
KLBR	**Kelleberrin**	**48.20**	**239**	P	**P**	**21 24 50.9**	**-1.2**	
	baz=48,SNR=16							
BLDU	**Ballidu**	**48.90**	**241**	⇑P	**P**	**21 24 56.2**	**-1.3**	
	baz=49,SNR=11							
NWAO	**Narrogin (SRO)**	**48.90**	**237**	P	**P**	**21 24 59.1**	**+1.6**	
	SNR=12							
NWAO	**Narrogin (SRO)**	**48.90**	**237**	*e*P	**P**	**21 24 56.1**	**-1.3**	
	comp=Z,1μm,2.4s							
NWAO				LR	LR			
	comp=Z,16μm,20.0s							
NWAO	**Narrogin (SRO)**	**48.90**	**237**

RKT eLR LR 21 42 21.4
comp=Z,6μm,26.8s
DRV Dumont d'Urvil 56.50 192 P P 21 25 53.0 -0.1
DRV Dumont d'Urvil 56.50 192 PP PP 21 28 08.0 +9.2
DRV S S 21 33 29.0 -14
DRV L L 21 39 00.0
DRV R 21 42 00.0
CLJI Cilicap 56.51 269 P P 21 25 51.4 -2.6
TGJI Tegal 56.56 270 P P 21 25 54.4 0.0
KPJI Karang Pucung 56.66 270 P P 21 25 54.1 -1.0
TWG Pinlang 56.78 308 eP P 21 25 53.8 -1.9
comp=Z,291nm,1.2s
JNU Nakatsue 56.91 325 eP P 21 25 55.4 -1.2
comp=Z,82nm,1.0s
JNU Nakatsue 56.91 325 P P 21 25 57.0 +0.4
comp=Z,82nm,1.1s,baz=93,slow=2.5,SNR=10
JNU LR LR 21 49 53.1
comp=Z,3μm,18.9s,baz=207,slow=36
YULB Yu-li 56.93 309 eP P 21 25 56.2 -0.6
comp=Z,129nm,1.3s
NACB Ninganchiao 57.15 310 eP P 21 25 59.2 +0.8
comp=Z,199nm,1.4s
KSM Kuching 57.36 280 P P 21 26 00.9 +0.8
KSM Kuching 57.36 280 P P 21 26 00.0 -0.1
comp=Z,123nm,1.1s,comp=Z,2μm
KSM Kuching 57.36 280 eP P 21 25 59.8 -0.3
comp=Z,115nm,1.0s
KSM LR LR
comp=Z,2μm,21.0s
KSM Kuching 57.36 280 ⇓P P 21 26 00.3 +0.3
baz=57,SNR=41
TPUB Ta-pu 57.39 309 eP P 21 25 59.4 -0.7
comp=Z,162nm,1.2s
SSLB Suanglung 57.41 309 eP P 21 25 58.9 -1.4
comp=Z,52nm,1.1s
YHNB Yeheng 57.60 310 eP P 21 26 02.0 +0.4
comp=Z,121nm,1.0s
YHNB LR LR
comp=Z,5μm,22.0s
TATO Taipei 57.70 311 PFAKE 21 26 10.0 +7.8
TATO LR LR
comp=Z,5μm,20.0s
CISI Cisompet, Garu 57.71 269 P P 21 26 01.5 -1.1
CISI Cisompet, Garu 57.71 269 eP P 21 26 01.7 -1.0
comp=Z,886nm,1.9s
CISI Cisompet, Garu 57.71 269 ⇑P P 21 26 02.3 -0.3
baz=58,SNR=7.5
LEM Lembang 58.03 270 P P 21 26 03.3 -1.7
LEM Lembang 58.03 270 ⇓P P 21 26 05.9 +0.9
baz=58,SNR=11
TPI Tanjungpandan 58.85 275 P P 21 26 11.7 +1.2
comp=Z,30nm,1.3s,comp=Z,1μm
CBJI Citeko 58.86 270 P P 21 26 09.9 -0.7
DBJI Dramaga 58.93 270 P P 21 26 10.2 -0.9
SKJI Sukabumi 59.04 270 P P 21 26 11.4 -0.4
XMIS Christmas Isla 59.33 265 eP P 21 26 12.7 -1.2
comp=Z,1μm,1.6s
YUK Yuzh-Kuril'sk 59.67 343 c iP P 21 26 18.9 +3.4
YUK iS S 21 34 26.2 +1.0
YUK MLR MLR
comp=Z,6μm,19.0s
YUK MLR MLR
comp=E,7μm,19.0s
QZH Quanzhou 59.84 309 ⇓iP P 21 26 17.2 +0.1
QZH S S 21 34 25.0 -3.2
QZH AMB AMB
comp=E,4μm,11.6s
QZH LR LR
comp=E,3μm,14.6s
QZH LR LR
comp=E,3μm,15.3s
QZH LR LR
comp=E,5μm,14.2s
PPBI Pangkal Pinang 60.46 275 P P 21 26 22.2 +0.5
BLSI Bandar Lampung 60.63 271 P P 21 26 22.5 -0.3
ASAJ Asahikawa 60.73 341 eP P 21 26 21.9 -0.9
comp=E,115nm,0.8s
ASAJ Asahikawa 60.73 341 P P 21 26 22.9 +0.1
comp=E,78nm,0.8s,baz=218,slow=11,SNR=30
ASAJ LR LR 21 51 37.4
comp=E,10μm,20.2s,baz=191,slow=35
KLI Kotabumi 61.11 272 P P 21 26 25.5 -0.6
KASI Kota Agung 61.33 271 P P 21 26 27.9 +0.3
SSE Sheshan 61.57 316 P P 21 26 30.6 +1.8
SSE S S 21 34 52.1 +1.9
SSE sS sS 21 34 59.5 -0.1
SSE AMB AMB
comp=E,52nm,1.1s
SSE AMB AMB
comp=E,1μm,9.9s
SSE LR LR
comp=E,790nm,19.0s
SSE LR LR
comp=E,2μm,19.0s
SSE LR LR
comp=E,3μm,16.3s
PMBI Palembang 61.61 274 P P 21 26 31.6 +2.1
PMBI Palembang 61.61 274 eP P 21 26 27.4 -2.0
comp=E,218nm,0.3s
KSRS Korea Array 61.73 326 P P 21 26 29.9 +0.2
comp=E,23nm,1.0s,baz=144,slow=6.8,SNR=21
KS15 Wonju Array Si 61.74 326 eP P 21 26 29.9 +0.1
KS01 Wonju Array Si 61.76 326 eP P 21 26 28.9 -1.1
MDSI Maura Dua 61.85 272 P P 21 26 29.7 -1.4
LWLI Liwa 61.86 271 P P 21 26 30.7 -0.6
INCN Inchon 62.46 325 eP P 21 26 34.5 -0.2
comp=E,162nm,1.4s
INCN LR LR
comp=Z,3μm,20.0s
LHSI Lahat 62.63 272 P P 21 26 36.1 -0.2
GZH Guangzhou 62.99 304 P P 21 26 41.3 +2.9
GZH S S 21 35 11.4 +3.1
GZH LR LR
comp=Z,2μm,16.2s
GZH LR LR
comp=Z,3μm,19.0s
MNAI Manna 63.07 272 P P 21 26 38.2 -1.1
MNAI Manna 63.07 272 eP P 21 26 36.8 -2.5
comp=Z,334nm,1.4s
YSS Yuzh-Sakhalins 63.23 342 ⇓eP P 21 26 39.3 -0.3
YSS e 21 27 14.0
YSS eS S 21 35 09.0 -1.4
YSS pmax pmax
comp=Z,70nm,1.0s
YSS pmax pmax
comp=Z,2μm,8.0s
YSS MLR MLR
comp=Z,6μm,18.0s
YSS MLR MLR
comp=N,7μm,20.0s
YSS MLR MLR
comp=E,4μm,16.0s
KSI Kapahiang 63.58 272 P P 21 26 42.4 -0.3
MYKOM Kota Tinggi 63.66 279 P P 21 26 45.0 +1.9
MYKOM Kota Tinggi 63.66 279 P P 21 26 43.1 0.0
comp=E,42nm,2.0s,comp=E,2μm
MYKOM Kota Tinggi 63.66 279 eP P 21 26 43.2 +0.1
comp=E,254nm,2.3s
NJ2 Nanjing 63.73 316 eP P 21 26 44.5 +1.3
NJ2 pP pP 21 26 53.7 +4.7
NJ2 sP sP 21 26 57.6 +6.5
NJ2 S S 21 35 26.5 +9.2
NJ2 AMB AMB
comp=E,110nm,1.2s
NJ2 AMB AMB
comp=E,2μm,8.8s
NJ2 LR LR
comp=E,3μm,22.5s
NJ2 LR LR
comp=E,1μm,19.8s
NJ2 LR LR
comp=E,3μm,27.5s
SKR Severo-Kuril's 63.96 353 eP P 21 26 39.8 -4.5
SKR e 21 27 16.0
SKR eS S 21 35 08.6 -11
SKR pmax pmax
comp=Z,80nm,0.6s
SKR pmax pmax
comp=Z,3μm,10.0s
SKR smax smax
comp=N,3μm,14.0s
SKR smax smax
comp=E,5μm,14.0s
SKR MLR MLR
comp=N,7μm,18.0s
SKR MLR MLR
comp=E,4μm,18.0s
SKR MLR MLR
comp=Z,4μm,18.0s
QIZ Qiongzhong 64.05 299 P P 21 26 47.4 +1.8
QIZ S S 21 35 24.7 +3.0
QIZ AMB AMB
comp=Z,36nm,1.3s
QIZ LR LR
comp=Z,920nm,21.1s
QIZ LR LR
comp=Z,790nm,23.3s
QIZ LR LR
comp=Z,3μm,25.0s
VLA Vladivostok 64.05 333 ⇓iP P 21 26 43.0 -2.1
VLA e 21 27 18.5
VLA e 21 29 05.1
VLA pmax pmax
comp=Z,36nm,0.6s
KGM Kluang 64.23 279 P P 21 26 48.9 +2.1
RGRI Rengat 64.58 276 P P 21 26 50.9 +1.7
VNDA Vanda 64.64 181 eP P 21 26 49.5 +1.0
comp=Z,100nm,1.4s
VNDA Vanda 64.64 181 P P 21 26 48.6 +0.1
comp=Z,22nm,1.1s,baz=354,slow=6.7,SNR=48
VNDA LR LR 21 53 27.2
comp=Z,4μm,18.1s,baz=131,slow=35
CASY Casey 64.84 202 eP P 21 26 49.3 -0.6
comp=Z,107nm,1.2s
CASY LR LR
comp=Z,5μm,19.0s
USRK Ussuriysk Arra 64.86 333 P P 21 26 51.1 +0.8
comp=Z,48nm,1.0s,baz=126,slow=6.2,SNR=34
USRK LR LR 21 54 58.8
comp=Z,3μm,18.0s,baz=132,slow=36
SBA Scott Base 64.93 180 eP P 21 26 51.2 +0.8
SBA pmax pmax
comp=Z,414nm,2.0s
SBA MLR MLR
comp=Z,5μm,19.0s
SBA Scott Base 64.93 180 eP P 21 26 51.2 +0.8
comp=Z,414nm,2.0s
SBA LR LR
comp=Z,5μm,19.0s
KTGM Kuala Trenggan 65.31 282 P P 21 26 56.3 +2.3
FX1 Attu Island--F 65.80 5 eP P 21 26 55.4 -0.9
FX1 Attu Island--F 65.80 5 P P 21 26 53.5 -2.7
comp=Z,28nm,0.9s,baz=153,slow=4.5,SNR=2.9
FX1 LR LR 21 54 38.4
comp=Z,5μm,19.2s,baz=26,slow=35
PET Petropavlovsk 66.00 355 eP P 21 26 57.2 -0.4
PET eS S 21 35 43.7 -0.7
PET ePS PnS 21 36 06.4 +1.0
PET ePPS PPS 21 36 14.2
PET eSS SS 21 39 58.1 -2.2
PET pmax pmax
comp=Z,700nm,11.3s
PET pmax pmax
comp=Z,38nm,1.5s
WHN Wuhan 66.04 312 P P 21 27 00.2 +1.9
WHN S S 21 35 41.6 -4.2
WHN LR LR
comp=Z,4μm,14.1s
WHN LR LR
comp=Z,3μm,13.3s
WHN LR LR
comp=Z,6μm,17.7s
PEA0 Petropavlovsk- 66.17 354 eP P 21 26 58.3 -0.4
PETK Petropavlovsk- 66.17 354 P P 21 26 58.4 -0.3
PETK pmax pmax
comp=Z,16nm,0.7s
PETK MLR MLR
comp=Z,5μm,20.4s
PETK Petropavlovsk- 66.17 354 P P 21 26 58.4 -0.3
comp=Z,15nm,0.7s,baz=149,slow=8.4,SNR=17
PETK LR LR 21 52 40.9
comp=Z,5μm,20.4s,baz=151,slow=33
FRIM Kepong 66.18 279 P P 21 27 01.3 +1.7
ADK Adak 66.20 11 PFAKE 21 27 10.0 +11
ADK LR LR
comp=Z,10μm,21.0s
MDJ Mudanjiang 66.25 332 P P 21 27 00.6 +1.2
MDJ pP pP 21 27 03.7 -1.4
MDJ sP sP 21 27 05.1 -2.1
MDJ PcP PcP 21 27 30.1 +0.7
MDJ PP PP 21 29 26.2 +0.6
MDJ S S 21 35 50.9 +3.1
MDJ SS SS 21 40 07.4 +2.9
MDJ AMB AMB
comp=Z,90nm,1.2s
MDJ AMB AMB
comp=Z,2μm,8.2s
MDJ LR LR
comp=Z,2μm,16.5s
MDJ LR LR
comp=Z,2μm,15.8s
MDJ LR LR
comp=Z,2μm,19.3s
UBPT Khong Chiam 66.40 293 P P 21 27 03.3 +2.4
comp=Z,58nm,0.9s
PPI Padang Panjang 66.44 275 P P 21 27 01.8 +0.6
comp=Z,57nm,1.1s,comp=Z,2μm
IPM Ipoh 67.09 281 P P 21 27 07.3 +1.9
IPM Ipoh 67.09 281 P P 21 27 06.6 +1.2
comp=Z,96nm,1.1s,comp=Z,2μm
IPM Ipoh 67.09 281 eP P 21 27 05.0 -0.5
comp=Z,90nm,1.0s
SNY Shenyang 67.19 327 ⇓P P 21 27 05.4 0.0
SNY S S 21 36 00.9 +1.7
SNY AMB AMB
comp=Z,25nm,1.6s
SNY LR LR
comp=Z,3μm,16.8s
SNY LR LR
comp=Z,2μm,15.3s
SNY LR LR
comp=Z,2μm,20.1s
TIA Tai'an 67.37 318 ⇓P P 21 27 06.3 -0.4
TIA S S 21 36 04.1 +2.4
TIA AMB AMB
comp=Z,70nm,1.0s
TIA LR LR
comp=Z,3μm,16.7s
TIA LR LR
comp=Z,2μm,16.7s
TIA LR LR
comp=Z,5μm,16.7s
COCO West Island 67.61 262 PFAKE 21 27 20.0 +11
COCO LR LR
comp=Z,4μm,19.0s
CN2 Changchun 67.62 329 eP P 21 27 07.5 -0.6
CN2 esP sP 21 27 14.5 -1.5
CN2 eS S 21 36 03.6 -0.8
CN2 AMB AMB
comp=Z,10.0nm,0.7s
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,3μm,19.0s
CN2 LR LR
comp=Z,2μm,19.0s
CN2 LR LR
comp=Z,3μm,25.0s
KULM Kulim 67.67 281 P P 21 27 11.1 +2.0
KULM Kulim 67.67 281 P P 21 27 10.3 +1.2
comp=Z,56nm,1.9s,comp=Z,2μm
KULM Kulim 67.67 281 eP P 21 27 09.9 +0.9
comp=Z,255nm,2.0s
KULM LR LR
comp=Z,3μm,22.0s
PANO Nakornpanom 67.86 295 P P 21 27 11.8 +1.7
comp=Z,47nm,1.1s
SKLT Songkhla 68.23 283 P P 21 27 15.0 +2.4
comp=Z,43nm,2.0s,comp=Z,2μm
SKNT Sakolnakorn 68.35 294 P P 21 27 14.3 +1.1
comp=Z,112nm,1.0s,comp=Z,2μm
CHBT CHBT 68.37 289 P P 21 27 15.8 +2.4
comp=Z,33nm,0.8s,comp=Z,2μm
PSI Prapat 68.67 278 eP P 21 27 15.8 +0.3
PSI Prapat 68.67 278 ⇑P P 21 27 15.4 -0.1
baz=68,SNR=12
PSI Prapat 68.67 278 P P 21 27 15.8 +0.3
comp=Z,27nm,0.8s,baz=142,slow=4.1,SNR=18
KLR Kul'dur 68.98 337 ⇓iP P 21 27 13.4 -3.1
KLR eS S 21 36 18.0 -2.4
KLR pmax pmax
comp=N,80nm,2.0s
KLR pmax pmax
comp=E,130nm,2.0s
KLR pmax pmax
comp=Z,560nm,2.0s
KLR pmax pmax
comp=Z,4μm,10.0s
KLR smax smax
comp=N,2μm,12.0s
KLR smax smax
comp=E,2μm,12.0s
GSI Gunungsitoli 69.60 276 P P 21 27 20.9 -0.2
GSI Gunungsitoli 69.60 276 eP P 21 27 21.4 +0.2
comp=E,77nm,0.8s
GSI Gunungsitoli 69.60 276 ⇓P P 21 27 21.3 +0.2
baz=70
CHAI Chaiyaphum 69.75 292 P P 21 27 23.3 +1.3
comp=E,13nm,1.0s,comp=E,106nm
SURA Surathani 69.76 285 P P 21 27 24.9 +2.9
comp=E,80nm,1.1s,comp=E,6μm
KRAB Krabi 69.89 284 P P 21 27 26.6 +3.7
comp=E,42nm,0.8s
GYA Guiyang 69.92 305 ⇑iP P 21 27 24.0 +1.0
GYA PP PP 21 30 01.5 +3.5
GYA S S 21 36 32.4 -0.2
GYA SKS SKSac 21 37 22.4 -1.3
GYA SS SS 21 41 04.2 +2.0
GYA AMB AMB
comp=E,40nm,1.0s
GYA AMB AMB
comp=E,1μm,10.6s
GYA LR LR
comp=E,920nm,18.9s
GYA LR LR
comp=E,2μm,21.4s
GYA LR LR
comp=E,3μm,20.5s
KCSI Kotacane, Aceh 69.97 279 P P 21 27 22.7 -0.7
BJI Beijing 70.28 321 P P 21 27 24.9 +0.2
BJI S S 21 36 36.3 +0.3
BJI SS SS 21 41 08.0 +1.1
BJI AMB AMB
comp=E,61nm,1.1s
BJI AMB AMB
comp=E,2μm,8.8s
BJI LR LR
comp=E,4μm,19.5s
BJI LR LR
comp=E,2μm,26.0s
BJI LR LR
comp=E,4μm,24.3s
PHET Kaeng Krachan 70.91 289 P P 21 27 33.3 +4.2
comp=E,66nm,1.0s
LHMI Lhok Sumawe 71.20 280 P P 21 27 31.1 +0.2
TIY Taiyuan 71.30 317 P P 21 27 33.4 +2.3
TIY S S 21 36 49.7 +1.5
TIY AMB AMB
comp=E,130nm,1.1s
TIY AMB AMB
comp=E,2μm,4.7s
TIY LR LR
comp=E,3μm,15.6s
TIY LR LR
comp=E,2μm,14.3s
TIY LR LR
comp=E,3μm,18.4s
XAN Xi'an 71.78 313 P P 21 27 33.8 -0.3
XAN pP pP 21 27 40.3 +0.4
XAN S S 21 36 47.4 -6.5
XAN sS sS 21 37 02.7 -0.7
XAN SKS SKSac 21 37 28.2 -9.1
XAN AMB AMB
comp=E,15nm,1.1s
XAN AMB AMB
comp=E,420nm,7.6s
XAN LR LR
comp=E,2μm,14.3s
XAN LR LR
comp=E,760nm,20.4s
NANT Nan 71.92 295 P P 21 27 36.7 +1.6
comp=E,112nm,1.0s,comp=E,1μm
KMI Kunming 72.56 302 P P 21 27 41.6 +2.5
KMI pP PcP 21 27 51.0 -5.7
KMI sP sP 21 27 54.0 +6.9
KMI PP PP 21 30 24.0 +3.2
KMI S S 21 37 00.9 -2.6
KMI sS SKiKP 21 37 14.8 +1.2
KMI SS SS 21 41 42.3 -0.7
KMI AMB AMB
comp=E,84nm,1.2s
KMI AMB AMB
comp=E,1μm,5.5s
KMI LR LR
comp=E,1μm,19.5s
KMI LR LR
comp=E,2μm,19.0s
KMI LR LR
comp=E,3μm,18.5s
PAYA Payao 72.85 295 P P 21 27 42.5 +1.8
comp=E,19nm,1.0s,comp=E,162nm
CM01 Chiang Mai Arr 73.34 294 eP P 21 27 44.0 +0.5
CM31 Chiang Mai Arr 73.36 294 eP P 21 27 45.0 +1.2
CMAR Chiang Mai Arr 73.36 294 P P 21 27 45.0 +1.2
comp=E,55nm,1.0s,baz=120,slow=4.4,SNR=15
CHTO Chiang Mai 73.48 294 eP P 21 27 44.7 +0.2
CHTO pmax pmax
comp=Z,207nm,1.0s
CHTO MLR MLR
comp=Z,1μm,22.0s
CHTO Chiang Mai 73.48 294 P P 21 27 46.8 +2.3
SNR=27
CHTO Chiang Mai 73.48 294 P P 21 27 46.4 +2.0
comp=Z,264nm,1.1s,comp=Z,6μm
CHTO Chiang Mai 73.48 294 eP P 21 27 44.7 +0.2
comp=Z,207nm,1.0s
CHTO LR LR
comp=Z,1μm,22.0s
CHTO Chiang Mai 73.48 294 P P 21 27 46.2 +1.8
comp=Z,277nm,1.4s,comp=Z,6μm
HHC Hu-ho-hao-te 73.61 320 eP P 21 27 47.6 +2.8
HHC pP pP 21 27 52.2 +1.6
HHC sP sP 21 27 54.6 +1.8
HHC PP PP 21 30 33.6 +4.3
HHC S S 21 37 16.0 +1.4
HHC sS sS 21 37 23.8 -0.3
HHC SKS SKSac 21 37 48.9 -2.0
HHC ScS ScS 21 37 52.8 -0.7
HHC SS SS 21 42 01.4 +3.2
HHC AMB AMB
comp=Z,110nm,1.0s
HHC AMB AMB
comp=Z,3μm,5.3s
HHC LR LR
comp=Z,3μm,17.5s
HHC LR LR
comp=Z,4μm,17.5s
HHC LR LR
comp=Z,4μm,20.2s
CD2 Chengdu 74.17 308 P P 21 27 50.7 +2.4
CD2 pP pP 21 27 55.4 +1.3
CD2 sP sP 21 27 57.7 +1.5
CD2 PcP PcP 21 28 06.0 +2.7
CD2 PP PP 21 30 38.1 +3.9
CD2 S S 21 37 20.1 -1.1
CD2 sS sS 21 37 30.1 -0.6
CD2 SS SS 21 42 10.3 +3.3
CD2 AMB AMB
comp=Z,70nm,1.2s
CD2 AMB AMB
comp=Z,2μm,8.0s
CD2 LR LR
comp=Z,4μm,14.3s
CD2 LR LR
comp=Z,3μm,20.2s
BTO Baotou 74.45 319 eP P 21 27 51.2 +1.4
BTO AMB AMB
comp=Z,16nm,0.9s
SEY Seymchan 76.39 353 ceP P 21 27 58.9 -1.3
LZH Lanzhou 76.42 312 ⇑P P 21 28 02.4 +1.1
LZH pP pP 21 28 05.7 -1.4
LZH sP sP 21 28 07.0 -2.2
LZH PP PP 21 30 55.5 +2.2
LZH S S 21 37 46.3 +0.1
LZH SKS SKSac 21 38 08.3 -4.0
LZH SS SS 21 42 43.5 +2.3

LZH AMB AMB
comp=Z,120nm,1.0s
LZH AMB AMB
comp=Z,1μm,8.5s
LZH LR LR
comp=Z,1μm,14.0s
LZH LR LR
comp=Z,2μm,15.2s
LZH LR LR
comp=Z,2μm,17.3s
PBA Port Blair 76.96 285 *e*P P 21 28 04.9 +0.4
QSPA South Pole Qui 77.09 180 *e*P **P 21 28 03.8 -0.8**
QSPA LR LR
comp=Z,178nm,1.1s
comp=Z,5μm,19.0s
DGPR DIGLIPUR 77.21 287 *e*P P 21 28 02.3 -3.6
CLNS Chul'man 77.51 338 *e*P **P 21 28 07.3 +0.5**
CLNS *e* 21 28 17.2
CLNS *e* 21 31 06.5
CLNS *e*PPP PPP 21 32 44.6
CLNS *e*S **S 21 38 00.7 +3.7**
CLNS *e* 21 38 49.2
CLNS *e*SS **SS 21 43 01.2 +4.6**
CLNS pmax pmax
comp=Z,45nm,1.0s
CLNS pmax pmax
comp=N,28nm,1.1s
CLNS pmax pmax
comp=E,13nm,1.1s
CLNS pmax pmax
comp=Z,15nm,1.2s
CLNS pmax pmax
comp=N,13nm,1.1s
CLNS pmax pmax
comp=E,11nm,1.1s
CLNS smax smax
comp=N,2μm,10.9s
CLNS smax smax
comp=E,4μm,11.8s
CLNS MLR MLR
comp=E,874nm,15.0s
CLNS MLR MLR
comp=Z,2μm,17.0s
CLNS MLR MLR
comp=N,1μm,19.0s
KDAK Kodiak Island 78.12 21 PFAKE 21 28 20.0 +10
KDAK LR LR
comp=Z,12μm,20.0s
CIT Chita 79.05 330 *e*P **P 21 28 16.0 +0.6**
CIT *e* 21 28 27.4
CIT *e* 21 31 15.0
CIT pmax pmax
comp=Z,382nm,2.5s
RPN Rapa Nui 79.27 115 PFAKE 21 28 30.0 +13
RPN LR LR
comp=Z,6μm,21.0s
IMP Imphal 79.88 298 *ex* **P 21 28 20.0 -0.6**
IMP *ex* x 21 30 44.0
YAK Yakutsk 80.04 343*c i*P **P 21 28 19.8 -0.7**
YAK *e**PP **PcP 21 28 29.8 +2.0**
YAK *e* 21 31 20.5
YAK *e*PPP PPP 21 33 11.2
YAK *e*S **S 21 38 22.0 -1.6**
YAK *e**SS **SKKSac 21 38 37.7 -0.8**
YAK pmax pmax
comp=Z,148nm,1.1s
YAK pmax pmax
comp=N,35nm,1.0s
YAK pmax pmax
comp=E,20nm,1.0s
YAK pmax pmax
comp=Z,489nm,5.1s
YAK pmax pmax
comp=N,104nm,1.9s
YAK pmax pmax
comp=E,119nm,3.2s
YAK smax smax
comp=N,187nm,3.2s
YAK smax smax
comp=E,226nm,4.0s
YAK MLR MLR
comp=Z,7μm,20.0s
YAK MLR MLR
comp=N,4μm,18.0s
YAK MLR MLR
comp=E,2μm,19.0s
ULN Ulaanbaatar 80.13 324 P **P 21 28 22.1 +0.5**
SNR=58
ULN Ulaanbaatar 80.13 324 P **P 21 28 22.7 +1.2**
comp=E,94nm,1.4s,comp=E,2μm
ULN Ulaanbaatar 80.13 324 *e*P **P 21 28 21.5 0.0**
comp=E,120nm,1.2s
ULN LR LR
comp=Z,3μm,21.0s
SONA0 Songino Array 80.49 324 *e*PKKPdf PKKPdf 21 46 54.4 -2.4
SONA0 *e*PKKPbc **PKKPbc 21 47 05.9 -1.0**
SONM Songino Array 80.49 324 P **P 21 28 23.8 +0.3**
comp=Z,24nm,1.0s,baz=129,slow=2.8,SNR=34
SONM PKKP **PKKPdf 21 46 54.4 -2.4**
comp=Z,0.5nm,0.5s,baz=304,slow=1.5,SNR=2.6
SONM PKKPbc **PKKPbc 21 47 05.9 -1.0**
comp=Z,0.6nm,0.5s,baz=328,slow=5.1,SNR=3.5
SONA1 Songino Array 80.50 324 *e*P **P 21 28 22.6 -0.9**
GTA Gaotai 80.75 314 ⇑P **P 21 28 25.7 +0.7**
GTA pP **PcP 21 28 35.3 +3.6**
GTA sP sP 21 28 39.6 +6.6
GTA S **S 21 38 32.7 +0.3**
GTA SKS **SKSac 21 38 37.9 -5.1**
GTA sS **ScS 21 38 50.2 -1.2**
GTA SS **SS 21 43 53.3 +7.2**
GTA AMB AMB
comp=Z,11nm,1.1s
GTA AMB AMB
comp=Z,2μm,6.4s
GTA LR LR
comp=Z,2μm,17.8s
GTA LR LR
comp=Z,1μm,19.5s
GTA LR LR
comp=Z,1μm,19.5s
SHL Shillong 81.89 298 *e*P **P 21 28 30.8 -0.7**
CAST Castle Rocks 82.56 18 *e*P **P 21 28 33.7 -0.2**
comp=Z,27nm,0.8s
TRF Thorofare Moun 83.12 18 *e*P **P 21 28 36.9 -0.1**
comp=Z,23nm,0.9s
MAW Mawson 83.20 202 *e*P **P 21 28 36.7 -0.6**
comp=Z,44nm,2.3s
MAW Mawson 83.20 202 ⇑P **P 21 28 38.3 +1.0**
baz=83,SNR=21
MAW Mawson 83.20 202 P **P 21 28 36.9 -0.4**
comp=Z,9.8nm,0.9s,baz=106,slow=6.4,SNR=20
BPAW Bear Paw Mtn. 83.39 17 *e*P **P 21 28 38.4 +0.2**
comp=Z,33nm,1.3s
KIPM Iron Peak 83.54 47 *e*P **P 21 28 38.8 -0.9**
ZAK Zakamensk 83.54 325 ⇑/P **P 21 28 38.6 -0.8**
ZAK *e* 21 38 58.7
ZAK pmax pmax
comp=Z,540nm,1.3s
MCK McKinley 83.74 18 *e*P **P 21 28 38.6 -1.4**
MCK pmax pmax
comp=Z,51nm,1.3s
MCK McKinley 83.74 18 *e*P **P 21 28 38.6 -1.4**
comp=Z,51nm,1.3s
KHMM Horse Mountain 83.77 46 *e*P **P 21 28 39.8 -1.1**
comp=Z,46nm,1.3s
LSA Lhasa 83.81 302 P **P 21 28 42.2 +0.5**
LSA AMB AMB
comp=Z,1μm,10.3s
IRK Irkutsk 83.92 327 *e*P **P 21 28 39.2 -2.0**
IRK pmax pmax
comp=Z,173nm,1.8s
TLY Talaya 83.98 326*c i*P **P 21 28 40.9 -0.6**
TLY *e* 21 28 53.5
TLY *e*S **S 21 39 04.1 -0.6**
TLY pmax pmax
comp=Z,102nm,1.4s
TLY MLR MLR
comp=Z,2μm,17.0s
TLY Talaya 83.98 326 P **P 21 28 41.9 +0.4**
comp=Z,265nm,0.9s,SNR=10
H02S1 DAWSON INLET T 83.98 32 T T 23 01 28.6
PAF Port-aux-Franc 84.24 221 PFAKE 21 28 50.0 +7.1
PAF LR LR
comp=Z,6μm,20.0s
PAX Paxson 84.31 20 *e*P **P 21 28 42.7 -0.3**
PAX pmax pmax
comp=Z,25nm,1.2s
PAX Paxson 84.31 20 *e*P **P 21 28 42.7 -0.3**
comp=Z,25nm,1.2s
WDC Whiskeytown Da 84.50 46 *e*P **P 21 28 43.3 -1.1**
WDC pmax pmax
comp=Z,39nm,1.5s
WDC Whiskeytown Da 84.50 46 *e*P **P 21 28 43.3 -1.1**
comp=Z,39nm,1.5s
YBH Yreka Blue Hor 84.81 45 *e*P **P 21 28 44.7 -1.3**
comp=Z,76nm,2.0s
MENT Mentasta 84.88 21 *e*P **P 21 28 44.9 -1.0**
COLA College 84.89 18 *e*P **P 21 28 44.5 -1.2**
COLA pmax pmax
comp=Z,396nm,2.4s
COLA MLR MLR
comp=Z,5μm,20.0s
COLA College 84.89 18 *e*P **P 21 28 44.5 -1.2**
comp=Z,396nm,2.4s
COLA LR LR
comp=Z,5μm,20.0s
HUMO Hull Mountain 84.97 44 *e*P **P 21 28 45.9 -0.9**
comp=Z,17nm,0.9s
IL1 Eielson Array 85.11 18 *e*P **P 21 28 45.1 -1.8**
ILAR Eielson Array 85.11 18 P **P 21 28 45.9 -1.0**
comp=Z,5.6nm,0.7s,baz=244,slow=5.1,SNR=47
ILAR PKKPbc **PKKPdf 21 46 52.0 +2.7**
comp=Z,2.6nm,0.6s,baz=352,slow=2.2,SNR=27
ILAR PKPPKP **P'P'df 21 55 00.8 +3.9**
comp=Z,0.8nm,0.8s,baz=348,slow=2.6,SNR=6.9
ILB Eielson Array 85.11 18 *e*P **P 21 28 45.9 -1.0**
ILB *e*PKKPdf **PKKPdf 21 46 52.0 +2.7**
ILB *e*P'P'df **P'P'df 21 55 00.8 +3.9**
CMB Columbia Colle 85.14 49 *e*P **P 21 28 46.9 -0.8**
CMB pmax pmax
comp=Z,14nm,1.0s
CMB Columbia Colle 85.14 49 *e*P **P 21 28 46.9 -0.8**
comp=Z,14nm,1.0s
MOY Mondy 85.42 325 *e*P **P 21 28 48.7 -0.2**
MOY pmax pmax
comp=Z,208nm,2.6s
WRAK Wrangell Islan 85.69 29 *e*P **P 21 28 48.8 -1.1**
comp=Z,107nm,2.1s
WRAK LR LR
comp=Z,6μm,20.0s
ISA Isabella 85.78 52 *e*P **P 21 28 49.1 -1.9**
ISA pmax pmax
comp=Z,75nm,2.1s
ISA Isabella 85.78 52 *e*P **P 21 28 49.0 -1.9**
comp=Z,75nm,2.1s
ISA Isabella 85.78 52 P **P 21 28 50.0 -1.0**
baz=86
BEKR Beckworth 85.80 48 *e*P **P 21 28 49.1 -2.0**
comp=Z,10.0nm,1.2s
EDW2 Edwards Air Fo 85.90 53 P **P 21 28 50.7 -0.9**
baz=86
COLD Coldfoot 85.95 16 *e*P **P 21 28 51.0 0.0**
comp=Z,247nm,2.6s
BFSC Mount Baldy Ra 85.96 54 P **P 21 28 51.1 -0.9**
baz=86
TAPN Taplejung 85.99 299 *e*P **P 21 28 53.5 +1.0**
comp=Z,127nm,1.4s
WAKR Walker 86.00 49 *e*P **P 21 28 51.3 -0.9**
E03A Lebam 86.11 41 *e*P **P 21 28 53.2 +1.0**
comp=Z,30nm,0.9s
ODAN Odare 86.12 299 *e*P **P 21 28 52.7 -0.4**
comp=Z,191nm,1.2s
NLWA Neilton Lookou 86.25 40 PFAKE 21 29 00.0 +7.0
NLWA LR LR
comp=Z,6μm,20.0s
LRMC Laurel Mountai 86.33 53 P **P 21 28 52.4 -1.4**
baz=86
K05A Summer Lake 86.43 45 *e*P **P 21 28 53.2 -1.1**
comp=Z,312nm,2.6s
PAHR Pah Rah Range 86.44 48 *e*P **P 21 28 52.6 -1.7**
comp=Z,21nm,0.9s
MONP Monument Peak 86.53 55 P **P 21 28 53.2 -1.8**
baz=87
MOD Modoc 86.55 46 *e*P **P 21 28 54.3 -0.5**
comp=Z,202nm,1.8s
BOK Bokaro 86.59 295 *e*P **P 21 28 55.0 -0.2**
MPMC Manual Prospec 86.67 52 P **P 21 28 54.3 -1.3**
baz=87
PFO Pinyon Flat Ob 86.72 55 PFAKE 21 29 10.0 +14
PFO LR LR
comp=Z,8μm,20.0s
PFO Pinyon Flat Ob 86.72 55 P **P 21 28 54.1 -1.6**
baz=87
NV01 Mina Array Sit 86.81 50 *e*P **P 21 28 54.6 -1.6**
NV01 *e*PKKPdf **PKKPbc 21 46 52.2 +0.5**
NVAR Mina Array Bea 86.81 50 P **P 21 28 55.7 -0.5**
comp=Z,2.8nm,0.9s,baz=231,slow=8.2,SNR=9.6
NVAR PKKPbc **PKKPbc 21 46 52.2 +0.5**
comp=Z,0.4nm,0.4s,baz=64,slow=3.4,SNR=4.1
NVAR LR LR 22 00 14.3
comp=Z,11μm,20.4s,baz=146,slow=30
RAMN Ramite 86.83 298 *e*P **P 21 28 56.5 -0.1**
comp=Z,273nm,1.6s
PINOR Pinor Mountain 86.84 44 *e*P P 21 28 49.3 -6.6
comp=Z,62nm,1.8s
EGAK Eagle 86.94 20 *e*P **P 21 28 54.3 -1.6**
comp=Z,24nm,0.9s
EGAK LR LR
comp=Z,4μm,19.0s
GSC Goldstone 86.96 53 *e*P **P 21 28 54.3 -2.5**
GSC pmax pmax
comp=Z,168nm,2.8s
GSC Goldstone 86.96 53 *e*P **P 21 28 54.3 -2.5**
comp=Z,168nm,2.8s
GSC Goldstone 86.96 53 P **P 21 28 55.6 -1.2**
baz=87
BELC Belle Mtn. Jos 87.20 54 P **P 21 28 57.0 -1.1**
baz=87
FURC Furnace Creek, 87.28 52 P **P 21 28 57.7 -0.5**
baz=87
VIS Vishakhapatnam 87.34 289 *e*P **P 21 28 57.9 -1.0**
PALK Pallekele 87.35 278 P **P 21 28 59.2 +0.1**
comp=Z,37nm,1.1s,comp=Z,1μm
PALK Pallekele 87.35 278 *e*P P 21 28 55.6 -3.6
JIRN Jiri 87.37 299 *e*P **P 21 28 59.8 +0.4**
comp=Z,168nm,1.3s
TPH Tonopah 87.50 50 PFAKE 21 29 10.0 +10
TPH LR LR
comp=Z,9μm,20.0s
BC3 Big Chuckawall 87.53 55 P **P 21 28 58.7 -1.0**
baz=88
GMRC Granite Mounta 87.69 54 P **P 21 28 59.2 -1.3**
baz=88
GUN Gumba 87.70 299 *e*P **P 21 29 02.2 +1.3**
GLA Glamis 87.85 56 *e*P **P 21 28 58.8 -2.3**
GLA pmax pmax
comp=Z,21nm,0.9s
GLA Glamis 87.85 56 *e*P **P 21 28 58.8 -2.3**
comp=Z,22nm,0.9s
GLA Glamis 87.85 56 P **P 21 29 00.8 -0.3**
baz=88
I07A Izee 87.86 44 *e*P **P 21 28 58.4 -2.6**
comp=Z,33nm,1.4s
WVOR Wild Horse Val 87.89 46 *e*P **P 21 29 01.3 +0.1**
WVOR pmax pmax
comp=Z,57nm,1.6s
WVOR MLR MLR
comp=Z,5μm,19.0s
WVOR Wild Horse Val 87.89 46 *e*P **P 21 29 01.3 +0.1**
comp=Z,57nm,1.6s
WVOR LR LR
comp=Z,5μm,19.0s
IRM Iron Mountain 87.92 54 P **P 21 29 00.2 -1.2**
baz=88
PKI Pulchoki 88.01 299 *e*P **P 21 29 01.9 -0.5**
comp=Z,149nm,1.1s
TIXI Tiksi 88.02 349*ce*P **P 21 28 59.1 -1.9**
TIXI pmax pmax
comp=Z,61nm,2.5s
B06A Marblemount 88.16 39 *e*P **P 21 29 00.4 -1.7**
comp=Z,145nm,2.6s
KKN Kakani 88.18 299 *e*P **P 21 29 03.2 +0.1**
comp=Z,111nm,1.2s
LDFC Landfair 88.22 54 *e*P **P 21 29 02.1 -0.8**
comp=Z,30nm,0.6s
BMN Battle Mountai 88.25 48 *e*P **P 21 29 00.7 -2.3**
BMN pmax pmax
comp=Z,124nm,2.3s
BMN MLR MLR
comp=Z,4μm,20.0s
BMN Battle Mountai 88.25 48 *e*P **P 21 29 00.7 -2.3**
comp=Z,124nm,2.3s
BMN LR LR
comp=Z,4μm,20.0s
DMN Daman 88.28 299 *e*P **P 21 29 03.4 -0.2**
comp=Z,157nm,0.9s
Y12C Blythe 88.30 55 P **P 21 29 01.9 -1.2**
baz=88
J08A Circle Bar Ran 88.31 45 *e*P **P 21 29 01.5 -1.7**
comp=Z,140nm,2.3s
SHPR Sheep Range 88.59 52 *e*P **P 21 29 04.4 -0.3**
113A Mohawk Valley, 88.63 56 P **P 21 29 04.1 -0.6**
baz=89
G08A Pilot Rock 88.64 43 *e*P **P 21 29 03.9 -0.8**
comp=Z,49nm,1.5s
HAWA Hanford 88.64 42 *e*P **P 21 29 02.8 -1.7**
comp=Z,284nm,2.8s
HAWA LR LR
comp=Z,2μm,20.0s
PDMCI Parker Dam,Lak 88.76 55 P **P 21 29 05.0 -0.4**
baz=89
GKN Gorkha 88.79 299 *e*P **P 21 29 04.9 -0.9**
comp=Z,167nm,1.1s
R11A Troy Canyon, C 88.82 50 *e*P **P 21 29 03.9 -1.9**
comp=Z,50nm,2.0s
R11A Troy Canyon, C 88.82 50 P **P 21 29 05.1 -0.7**
baz=89
MDRS Chennai 89.12 284 *e*P **P 21 29 05.2 -2.2**
214A Organ Pipe Nat 89.18 57 P **P 21 29 06.2 -1.3**
baz=89
W13A Hualapai Mount 89.18 54 P **P 21 29 06.2 -1.4**
baz=89
HVS Khovu-Aksy 89.36 323*c i*P **P 21 29 07.4 -0.5**
HVS pmax pmax
comp=Z,185nm,1.2s
B08A Colville Reser 89.44 40 *e*P **P 21 29 06.4 -1.9**
comp=Z,130nm,2.5s
E09A Wood Farm, Sta 89.58 42 *e*P **P 21 29 08.1 -0.8**
comp=Z,35nm,1.5s
BMO Blue Mountains 89.60 44 *e*P **P 21 29 07.8 -1.3**
BMO pmax pmax
comp=Z,49nm,1.8s
BMO MLR MLR
comp=Z,5μm,19.0s
BMO Blue Mountains 89.60 44 *e*P **P 21 29 07.8 -1.3**
comp=Z,49nm,1.8s
BMO LR LR
comp=Z,5μm,19.0s
KOLN Koldanda 89.61 298 *e*P **P 21 29 09.4 -0.4**
comp=Z,79nm,1.4s
DANN Dangsing 89.62 299 *e*P **P 21 29 10.5 +0.6**
comp=Z,164nm,1.2s
ELK Elko 89.78 48 *e*P **P 21 29 07.5 -2.8**
comp=Z,73nm,2.3s
C09A Chrisman Ranch 89.92 41 *e*P **P 21 29 08.1 -2.4**
comp=Z,16nm,0.4s
F10A Beach Ranch, E 90.01 43 *e*P **P 21 29 10.1 -0.9**
comp=Z,332nm,2.7s
SYO Syowa Base 90.16 197‖*e*P **P 21 29 10.0 -1.2**
MFID Camas Ranch 90.16 45 P **P 21 29 11.0 -0.8**
baz=90
CCUT Cedar City 90.27 52 *e*P **P 21 29 10.2 -2.5**
comp=Z,128nm,2.5s
ARUT Antelope Range 90.28 51 *e*P **P 21 29 12.2 -0.4**
ARUT Antelope Range 90.28 51 *e*P **P 21 29 12.2 -0.4**
U15A North Rim 90.79 53 P **P 21 29 13.8 -1.4**
baz=91
WMQ Urumqi 90.80 315 P **P 21 29 15.9 +1.1**
WMQ pP **pP 21 29 20.7 0.0**
WMQ sP **sP 21 29 22.9 +0.1**
WMQ PP **PP 21 32 53.6 +2.9**
WMQ SKS **SKSac 21 39 45.1 -0.8**
WMQ S **S 21 40 08.9 -1.8**
WMQ SS **SS 21 46 14.5 +0.9**
WMQ AMB AMB
comp=Z,52nm,1.6s
WMQ AMB AMB
comp=Z,1μm,4.0s
WMQ LR LR
comp=Z,2μm,14.2s
WMQ LR LR
comp=Z,1μm,14.2s
WMQ LR LR
comp=Z,2μm,22.8s
NEW Newport 90.80 41 *e*P **P 21 29 12.8 -1.9**
comp=Z,8.4nm,0.9s
NEW LR LR
comp=Z,2μm,20.0s
NEW Newport 90.80 41 P **P 21 29 13.3 -1.3**
baz=91
NEW Newport 90.80 41 LR LR 22 02 28.2
comp=Z,2μm,21.0s,baz=246,slow=31
TUC Tucson 90.93 57 *e*P **P 21 29 14.0 -1.7**
TUC MLR MLR
comp=Z,12μm,19.0s
TUC Tucson 90.93 57 *e*P **P 21 29 14.0 -1.7**
TUC *e*PcP **PcP 21 29 14.6 -2.2**
TUC LR LR
comp=Z,12μm,19.0s
X16A Lo Mia Camp, P 90.94 55 P **P 21 29 14.1 -1.7**
baz=91
HLID Hailey 91.19 46 *e*P **P 21 29 15.7 -1.0**
comp=Z,47nm,1.9s
HLID LR LR
comp=Z,3μm,20.0s
HLID Hailey 91.19 46 P **P 21 29 15.3 -1.4**
baz=91
TRD Trivandrum 91.24 278⇑*ex* **pP 21 29 23.4 +0.1**
TRD *ex* **SKSac 21 39 55.4 +5.9**
WUAZ Wupatki 91.27 54 *e*P **P 21 29 16.1 -1.2**
comp=Z,13nm,0.9s
WUAZ LR LR
comp=Z,7μm,21.0s
WUAZ Wupatki 91.27 54 P **P 21 29 16.4 -0.8**
baz=91
MVU Marysvale 91.40 51 *e*P P 21 29 14.7 -3.2
comp=Z,120nm,2.6s
MVU LR LR
comp=Z,12μm,20.0s
DUG Dugway 91.40 49 *e*P **P 21 29 15.2 -2.6**
DUG pmax pmax
comp=Z,44nm,2.0s
DUG MLR MLR
comp=Z,6μm,20.0s
DUG Dugway 91.40 49 *e*P **P 21 29 15.2 -2.6**
comp=Z,44nm,2.0s
DUG LR LR
comp=Z,6μm,20.0s
DUG Dugway 91.40 49 P **P 21 29 16.7 -1.0**
baz=92
HYB Hyderabad 91.69 287 *i*P **P 21 29 22.0 +2.6**
HYB *e*SKS **SKSac 21 39 52.0 0.0**
HYB *e*S **SKKSac 21 40 12.0 +3.8**
HYB Hyderabad 91.69 287 *e*P **P 21 29 18.3 -1.1**
NLU North Lily Min 91.89 50 *e*P **P 21 29 18.0 -2.1**
comp=Z,24nm,1.5s
319A Douglas 91.94 58 P **P 21 29 19.4 -1.0**
baz=92
NGP Nagpur 92.07 291 *e*P **P 21 29 18.6 -2.5**
DGAR Diego Garcia 92.09 262 PFAKE 21 29 30.0 +8.7
DGAR LR LR
comp=Z,4μm,21.0s
X18A Snowflake 92.16 55 P **P 21 29 21.0 -0.5**
baz=92
BSMT Bassoo Peak 92.17 41 *e*P **P 21 29 20.1 -1.1**
Q16A Castle Valley 92.30 51 *e*P **P 21 29 20.2 -1.8**
comp=Z,31nm,1.5s
MCMT McKenzie Canyo 92.62 45 *e*P **P 21 29 21.1 -2.3**
AHID Auburn Hatcher 93.31 47 PFAKE 21 29 40.0 +13
AHID LR LR
comp=Z,4μm,20.0s
SNOW Snow King Moun 93.73 46 *e*P **P 21 29 27.9 -0.6**
comp=Z,59nm,1.9s
PMSA Palmer Station 93.78 161 *e*P **P 21 29 26.5 -1.5**
comp=Z,81nm,1.2s
PMSA LR LR
comp=Z,4μm,20.0s
AKL Akola 93.83 290 *e*P **P 21 29 29.6 +0.4**
Y21A Point of Rocks 93.87 56 P **P 21 29 28.0 -1.4**
baz=94
MVCO Mesa Verde 93.93 53 PFAKE 21 29 40.0 +10
MVCO LR LR
comp=Z,5μm,22.0s
BHPL Bhopal 93.99 293 *e*P **P 21 29 27.3 -2.7**
BHPL AMB AMB 21 29 35.3
comp=Z,27nm,0.6s
MNGI Mangalore 94.25 282 *ex* **S 21 40 46.2 +3.7**
Z22A Elephant Butte 94.28 57 P **P 21 29 29.8 -1.5**
baz=94
BW06 Boulder Array 94.42 47 PFAKE 21 29 40.0 +8.3

BW06 LR LR
comp=Z,3μm,20.0s
PD31 Pinedale Array 94.42 47 *e*P **P 21 29 31.4 -0.3**
PD31 *e*PKKPdf **PKKPbc 21 46 32.9 +0.3**
PDAR Pinedale Array 94.42 47 P **P 21 29 31.4 -0.3**
comp=Z,0.4nm,0.7s,baz=241,slow=1.9,SNR=1.6
PDAR PKKPbc **PKKPbc 21 46 32.9 +0.3**
comp=Z,1.1nm,0.9s,baz=98,slow=5.6,SNR=4.2
U21A Nageezi 94.42 54 P **P 21 29 30.3 -1.6**
baz=94
S21A Coal Bank Pass 94.58 53 P **P 21 29 30.8 -1.9**
baz=95
MAIT Maitri 94.70 188 *e*P **P 21 29 29.3 -2.9**
ANMO Albuquerque 95.05 55 PFAKE 21 29 40.0 +5.2
ANMO LR LR
comp=Z,8μm,20.0s
RLMT Red Lodge 95.16 45 PFAKE 21 29 40.0 +5.0
RLMT LR LR
comp=Z,3μm,19.0s
MK01 Makanchi Array 95.24 317 *e*P **P 21 29 33.7 -1.5**
MK32 Makanchi Array 95.25 317 *e*P **P 21 29 34.6 -0.5**
MK32 *e*PKKPdf **PKKPbc 21 46 29.6 -0.6**
MKAR Makanchi Array 95.25 317 P **P 21 29 34.7 -0.5**
MKAR pmax pmax
comp=Z,14nm,0.7s
MKAR Makanchi Array 95.25 317 *e*P **P 21 29 34.3 -0.9**
MKAR Makanchi Array 95.25 317 ⇑P **P 21 29 34.9 -0.3**
baz=95
MKAR Makanchi Array 95.25 317 P **P 21 29 34.6 -0.5**
comp=Z,14nm,0.7s,baz=91,slow=6.7,SNR=30
MKAR PKKPbc **PKKPbc 21 46 29.6 -0.6**
comp=Z,1.1nm,0.6s,baz=279,slow=3.6,SNR=9.6
MNTX Cornudas Mount 95.26 59 PFAKE 21 29 50.0 +14
MNTX LR LR
comp=Z,4μm,20.0s
SNAA Sanae 95.29 183 *e*P **P 21 29 34.0 -1.0**
SNAA Sanae 95.29 183 *e*P **P 21 29 32.5 -2.5**
comp=Z,42nm,1.1s
S22A 4UR Ranch, Cre 95.35 53 P **P 21 29 35.0 -1.2**
baz=95
ZAA0 Zalesovo Array 95.39 324 *e*P **P 21 29 33.3 -2.2**
ZALV Zalesovo Beam 95.39 324 P **P 21 29 34.1 -1.4**
ZALV pmax pmax
comp=Z,15nm,0.8s
ZALV Zalesovo Beam 95.39 324 P **P 21 29 34.1 -1.4**
comp=Z,15nm,0.8s,baz=115,slow=4.7,SNR=33
EGMT Eagleton 95.48 42 PFAKE 21 29 50.0 +14
EGMT LR LR
comp=Z,2μm,21.0s
Q22A Crested Butte, 95.52 52 P **P 21 29 35.3 -1.6**
baz=96
SMLA Simla 95.84 300 *e*P **P 21 29 37.3 -0.9**
SMLA AMB AMB 21 29 56.8
comp=Z,36nm,1.2s
W24A Lazy 6 Ranch, 95.95 55 P **P 21 29 37.1 -1.8**
baz=96
LTX Lajitas 96.24 61 *e*P **P 21 29 40.8 +0.6**
LTX Lajitas 96.24 61 *e*P **P 21 29 40.8 +0.6**
TXAR Lajitas Array 96.24 61 P **P 21 29 40.8 +0.6**
comp=Z,1.2nm,0.9s,baz=254,slow=3.3,SNR=2.9
TXAR LR LR 22 04 54.2
comp=Z,6μm,21.1s,baz=315,slow=30
VNA2 Neumayer--Watz 96.25 182 *e*P **P 21 29 40.8 +1.5**
POO Poona 96.31 288 *e*P **P 21 29 40.0 -0.6**
SDCO Great Sand Dun 96.38 53 PFAKE 21 29 50.0 +9.1
SDCO LR LR
comp=Z,7μm,20.0s
YKA Yellowknife Ar 96.38 27 P **P 21 29 40.4 +0.5**
comp=Z,2.1nm,0.8s,baz=253,slow=4.9,SNR=2.9
NVS Novosibirsk 96.50 325 *e*P P 21 29 36.3 -4.3
NVS *e* 21 33 36.7
NVS *e*S **SKSac 21 40 15.1 -1.3**
NVS *e*PS PS 21 42 11.8 -11
NVS pmax pmax
comp=N,19nm,2.2s
NVS pmax pmax
comp=E,53nm,2.2s
NVS pmax pmax
comp=Z,94nm,2.2s
NVS smax smax
comp=N,27nm,3.1s
NVS smax smax
comp=E,257nm,3.6s
VNA1 Neumayer--Stat 96.55 182 *e*P **P 21 29 42.5 +1.9**
ISCO Idaho Springs 96.69 51 PFAKE 21 29 50.0 +7.7
ISCO LR LR
comp=Z,9μm,20.0s
DHRM DHARAMSHALA 96.78 301 *e*P **P 21 29 41.1 -1.7**
LAO LASA Array 97.56 44 PFAKE 21 30 00.0 +14
LAO LR LR
comp=Z,3μm,21.0s
AAA Alma-Ata 98.27 312 *e*P Pdif 21 29 55.2 +6.2
AAA *e*S **S 21 41 19.4 +3.2**
AAA pmax pmax
comp=Z,600nm,9.9s
AAA smax smax
comp=N,2μm,14.8s
AAA MLR MLR
comp=Z,900nm,19.0s
KSH Kashi 98.35 309 P Pdif 21 29 51.0 +1.5
KSH pP pP 21 29 57.5 +2.1
KSH sP sP 21 30 00.0 +2.5
KSH PP **PP 21 33 52.5 +2.8**
KSH SKS **SKSac 21 40 29.0 +2.0**
KSH S **ScS 21 41 17.7 +0.4**
KSH sS sS 21 41 30.3 +3.2
KSH AMB AMB
comp=Z,140nm,4.2s
KSH LR LR
comp=Z,800nm,13.4s
KSH LR LR
comp=Z,830nm,15.0s
KSH LR LR
comp=Z,510nm,14.9s
KURK Kurchatov 98.42 320*c**e*P **P 21 29 48.7 -0.7**
KURK pmax pmax
comp=Z,23nm,2.5s
KURK Kurchatov 98.42 320 Pdiff Pdif 21 29 50.7 +1.3
SNR=11
KURK Kurchatov 98.42 320 *e*P **P 21 29 47.7 -1.6**
comp=Z,128nm,2.9s
KURK *e*PP **PP 21 33 49.9 +0.1**
KURK *e*PKKPdf **PKKPdf 21 46 25.4 +0.3**
KURK LR LR
comp=Z,1μm,19.0s
KURBB Kurchatov Arra 98.46 320 P **P 21 29 48.5 -1.0**
comp=Z,3.8nm,1.1s,baz=102,slow=3.3,SNR=19
KURBB PP **PP 21 33 49.9 -0.2**
comp=Z,3.7nm,1.2s,baz=108,slow=7.8,SNR=4.5
KURBB PKKPbc **PKKPbc 21 46 19.9 -1.7**
comp=Z,1.7nm,0.9s,baz=274,slow=3.4,SNR=7.1
KURBB PKKP **PKKPdf 21 46 25.4 +0.4**
comp=Z,1.5nm,0.8s,baz=279,slow=3.3,SNR=9.5
TKM2 Tokmak 2 99.18 312 PFAKE 21 30 00.0 +6.7
TKM2 LR LR
comp=Z,2μm,19.0s
DGMT Dagmar 99.22 42 PFAKE 21 30 00.0 +6.9
DGMT LR LR
comp=Z,3μm,19.0s
OGNE Ogallala 99.58 50 PFAKE 21 30 10.0 +15
OGNE LR LR
comp=Z,11μm,20.0s
JCT Junction City 99.75 61 PFAKE 21 30 10.0 +14
JCT LR LR
comp=Z,8μm,22.0s
FRU Bishkek 99.88 312 *e*P **Pdif 21 29 58.0 +1.8**
FRU *e* 21 40 35.5
AAK Ala-Archa 99.94 312 *e*P **Pdif 21 29 52.4 -4.2**
AAK pmax pmax
comp=Z,41nm,2.5s
AAK MLR MLR
comp=Z,2μm,20.0s
AAK Ala-Archa 99.94 312 *e*Pdif **Pdif 21 29 52.4 -4.2**
comp=Z,41nm,2.5s
AAK *e*PKKPbc **PKKPbc 21 46 17.2 -0.1**
AAK LR LR
comp=Z,2μm,20.0s
AAK Ala-Archa 99.94 312 PKKPbc PKKPbc 21 46 17.2 -0.1
comp=Z,0.5nm,0.3s,baz=69,slow=17,SNR=4.4
AAK PKKP **PKKPdf 21 46 22.8 +0.5**
comp=Z,1.0nm,0.4s,baz=216,slow=4.1,SNR=5.4
EKS2 Erkin-Say 100.47 311 PFAKE 21 30 10.0 +11
EKS2 LR LR
comp=Z,2μm,20.0s
KVTX Kingsville 100.94 64 PFAKE 21 30 10.0 +8.9
KVTX LR LR
comp=Z,3μm,19.0s
WMOK Wichita Mounta 101.23 57 PFAKE 21 30 10.0 +7.6
WMOK LR LR
comp=Z,9μm,20.0s
FFC Flin Flon 101.42 36 *i*P **Pdif 21 30 02.8 +0.2**
FFC Flin Flon 101.42 36 PFAKE 21 30 10.0 +7.4
FFC LR LR
comp=Z,4μm,20.0s
KKAR Karatay Array 102.91 312 *e*P **Pdif 21 30 05.4 -4.2**
KKAR Karatay Array 102.91 312 *e*Pdif **Pdif 21 30 05.4 -4.2**
PAYG Puerto Ayora 102.92 94 PFAKE 21 30 20.0 +10
PAYG LR LR
comp=Z,6μm,19.0s
VOSK Vostochnaya 103.38 322 *e*P **Pdif 21 30 08.8 -2.7**
VOSK Vostochnaya 103.38 322 *e*Pdif **Pdif 21 30 08.8 -2.7**
KSU1 Kansas State U 103.48 53 PFAKE 21 30 20.0 +7.8
KSU1 LR LR
comp=Z,5μm,20.0s
BVAR Borovoye Array 103.75 322 P **Pdif 21 30 11.8 -1.3**
BVAR 21 34 29.3
BVAR pmax pmax
comp=Z,3.0nm,0.9s
BVAR pmax pmax
comp=Z,3.0nm,1.1s
BVAR Borovoye Array 103.75 322 Pdiff **Pdif 21 30 11.8 -1.3**
comp=Z,3.2nm,0.9s,baz=88,slow=7.6,SNR=11
BVAR PP **PP 21 34 29.3 -0.8**
comp=Z,2.8nm,1.1s,baz=104,slow=6.3,SNR=3.3
BVAR PKKPbc **PKKPbc 21 46 06.2 -0.1**
comp=Z,0.7nm,0.8s,baz=316,slow=4.1,SNR=4.0
BRVK Borovoye 103.82 322 *e*P **Pdif 21 30 12.7 -0.7**
BRVK MLR MLR
comp=Z,2μm,22.0s
BRVK Borovoye 103.82 322 Pdiff **Pdif 21 30 15.0 +1.7**
SNR=6.0
BRVK Borovoye 103.82 322 *e*Pdif **Pdif 21 30 12.7 -0.7**
BRVK LR LR
comp=Z,2μm,22.0s
RER Riviere de l'E 103.88 244 PFAKE 21 30 20.0 +5.5
RER LR LR
comp=Z,5μm,20.0s
ECSD EROS Data Cent 103.90 48 PFAKE 21 30 20.0 +6.0
ECSD LR LR
comp=Z,4μm,19.0s
NATX Nacogdoches 104.29 60 PFAKE 21 30 30.0 +14
NATX LR LR
comp=Z,6μm,20.0s
AGMN Agassiz Nation 104.72 43 PFAKE 21 30 30.0 +12
AGMN LR LR
comp=Z,4μm,20.0s
EFI East Falkland 105.08 153 PFAKE 21 34 40.0
EFI LR LR
comp=Z,2μm,22.0s
MIAR Mount Ida 105.48 57 PFAKE 21 34 50.0
MIAR LR LR
comp=Z,6μm,20.0s
SCIA State Center 106.27 50 PFAKE 21 34 50.0
SCIA LR LR
comp=Z,10μm,20.0s
EYMN Ely 107.64 44 PFAKE 21 34 50.0
EYMN LR LR
comp=Z,3μm,20.0s
VBMS Vicksburg 107.84 60 PFAKE 21 34 50.0
VBMS LR LR
comp=Z,4μm,20.0s
JFWS Jewell Farm 108.50 49 PFAKE 21 34 50.0
JFWS LR LR
comp=Z,4μm,19.0s
TEIG Tepich 108.65 73 PFAKE 21 34 50.0
TEIG LR LR
comp=Z,5μm,22.0s
TGUH Tegucigalpa,Un 108.73 79 PFAKE 21 34 50.0
TGUH LR LR
comp=Z,5μm,21.0s
OXF Oxford 108.90 58 PFAKE 21 34 50.0
OXF LR LR
comp=Z,4μm,21.0s
MSEY Mahe Island 109.12 260 PFAKE 21 34 50.0
MSEY LR LR
comp=Z,5μm,20.0s
COWI Conover 109.28 46 PFAKE 21 34 50.0
COWI LR LR
comp=Z,4μm,20.0s
JTS JuntasAbangare 110.35 84 PFAKE 21 35 00.0
JTS LR LR
comp=Z,6μm,20.0s
ARU Arti 110.48 326 *i* PKIKP **PKiKP 21 34 47.4 +3.9**
ARU SP SP 21 44 46.5 +0.1
ARU SS **SS 21 50 40.9 -5.6**
BRAL Brewton 110.71 62 PFAKE 21 35 00.0
BRAL LR LR
comp=Z,4μm,19.0s
LRAL Lakeview Retre 110.85 59 PFAKE 21 35 00.0
LRAL LR LR
comp=Z,6μm,20.0s
LCO Las Campanas 110.97 128 PFAKE 21 35 00.0
LCO LR LR
comp=Z,3μm,20.0s
IKOO Kooshah 111.33 300 *e*P **PKiKP 21 34 46.8 +0.6**
TRQA Tornquist 112.07 141 PFAKE 21 35 00.0
TRQA LR LR
comp=Z,2μm,19.0s
ABPO Ambohimpanom 112.11 243 PFAKE 21 35 00.0
ABPO LR LR
comp=Z,5μm,20.0s
KBS Kingsbay 112.83 355 PFAKE 21 35 00.0
KBS LR LR
comp=Z,2μm,20.0s
TKL Tuckaleechee C 113.55 57 *e*PKKPbc PKKPbc 21 45 31.4 -3.1
TKL Tuckaleechee C 113.55 57 PKKPbc PKKPbc 21 45 31.4 -3.1
comp=Z,3.0nm,0.5s,baz=138,slow=12,SNR=7.1
ACSO Alum Creek Sta 114.01 52 PFAKE 21 35 00.0 +9.3
ACSO LR LR
comp=Z,7μm,20.0s
OTAV Otavalo 114.63 96 PFAKE 21 35 00.0 +6.7
OTAV LR LR
comp=Z,5μm,21.0s
BCIP Isla Barro Col 115.12 86 PFAKE 21 35 00.0 +6.4
BCIP LR LR
comp=Z,3μm,22.0s
LVC Limon Verde 115.41 123 PFAKE 21 35 00.0 +5.7
LVC LR LR
comp=Z,2μm,19.0s
ERPA Erie 116.11 49 PFAKE 21 35 10.0 +15
ERPA LR LR
comp=Z,9μm,20.0s
BLA Blacksburg 116.19 55 PFAKE 21 35 10.0 +15
BLA LR LR
comp=Z,7μm,20.0s
ISRV Sarvestan 116.33 296 *e*P **PKPdf 21 34 54.1 -1.8**
MCWV Mont Chateau 116.46 52 PFAKE 21 35 10.0 +15
MCWV LR LR
comp=Z,13μm,20.0s
IVRN Varamin 117.37 303 *e*P **PKPdf 21 34 56.4 -1.1**
KEV Kevo 117.75 345 *e*PKIKP **PKPdf 21 34 56.1 -0.9**
KEV Kevo 117.75 345 *e*pkp **PKPdf 21 34 56.1 -0.9**
KEV Kevo 117.75 345 PFAKE 21 35 10.0 +13
KEV LR LR
comp=Z,4μm,20.0s
ARA0 ARCESS Array S 118.28 345 *e*PKPdf **PKPdf 21 34 56.8 -1.3**
ARA0 *e*PKKPab **PKKPab 21 45 15.5 -3.2**
ARCES ARCESS Array B 118.28 345 PKP **PKPdf 21 34 56.6 -1.5**
comp=Z,6.5nm,0.7s,baz=57,slow=1.5,SNR=31
ARCES PKKPbc **PKKPab 21 45 15.5 -3.2**
comp=Z,3.5nm,0.7s,baz=233,slow=1.2,SNR=9.1
CNNC Cliffs of the 118.36 57 PFAKE 21 35 10.0 +11
CNNC LR LR
comp=Z,6μm,20.0s
CBN Corbin 118.52 53 PFAKE 21 35 10.0 +11
CBN LR LR
comp=Z,10μm,21.0s
KLMR Klimovskoe 118.66 333 *e*PKIKP **PKPdf 21 35 02.6 +3.6**
KLMR pmax pmax
comp=Z,44nm,1.5s
IRAZ Razeghan 118.82 303 *e*P **PKPdf 21 35 00.6 +0.2**
LPAZ La Paz 118.86 117 *e*PKPdf **PKPdf 21 34 58.0 -3.5**
LPAZ La Paz 118.86 117 PKP **PKPdf 21 35 02.0 +0.5**
comp=Z,1.8nm,0.8s,baz=302,slow=1.3,SNR=7.9
BINY Binghamton 119.05 49 PFAKE 21 35 10.0 +10
BINY LR LR
comp=Z,9μm,20.0s
LONY Lake Ozonia 119.62 46 PFAKE 21 35 10.0 +8.6
LONY LR LR
comp=Z,2μm,19.0s
MAK Makhachkala 119.72 312 *e*P **Pdif 21 31 25.6 +1.3**
MAK *i* 21 35 01.2
MAK *i* 21 36 20.9
MAK *e*PPP PPP 21 38 57.3
MAK *e* 21 42 05.3
MAK *e*PS **PS 21 46 09.0 -5.2**
MAK *e* 21 52 47.3
NCB Newcomb 120.00 47 PFAKE 21 35 10.0 +7.8
NCB LR LR
comp=Z,6μm,20.0s
SFJD Kangerlussuaq 120.71 16 PFAKE 21 35 10.0 +7.2
SFJD LR LR
comp=Z,5μm,20.0s
JOF Joensuu 120.87 338 *e*PKIKP **PKPdf 21 35 02.3 -0.9**
JOF Joensuu 120.87 338 *e*pkp **PKPdf 21 35 02.3 -0.9**
GTBY Guantanamo Bay 120.94 74 PFAKE 21 35 20.0 +15
GTBY LR LR
comp=Z,1μm,19.0s
UMR Umm Al-Rimmam 121.03 297 *e*P **PKPdf 21 35 03.7 -0.8**
UMR AMb AMB 21 35 11.5
comp=Z,69nm,1.1s
RDF Al-Radifah 121.20 296 *e*P **PKPdf 21 35 04.3 -0.6**
RDF AMb AMB 21 35 12.0
comp=Z,49nm,1.4s
IVIS Veis 121.41 303 *e*P **PKPdf 21 35 02.0 -3.3**
NAY Al-Naaiem 121.46 296 *e*P **PKPdf 21 35 04.1 -1.3**
NAY AMb AMB 21 35 12.0
comp=Z,18nm,1.2s
VRHR Novokhopersk 121.48 323 *e*PKIKP **PKPdf 21 35 09.0 +4.3**
VRHR pmax pmax
comp=Z,20nm,0.7s
VRHR pmax pmax
comp=N,30nm,0.6s
VRHR pmax pmax
comp=E,30nm,0.8s
DGRG David-gareji 121.55 311 P **PKPdf 21 35 06.9 +1.6**
LBNH Lisbon 121.56 46 PFAKE 21 35 20.0 +15
LBNH LR LR
comp=Z,5μm,20.0s
RST Umm Al-Ruwaisa 121.66 297 *e*P **PKPdf 21 35 04.6 -1.2**
RST AMb AMB 21 35 12.8
comp=Z,324nm,1.0s
MOS Moscow 121.86 329 *e*PKIKP **PKPdf 21 35 06.4 +1.1**
MOS *e* 21 36 38.1
MOS *e*PPP PPP 21 39 22.6
TBLG Delisi 121.96 311 P **PKPdf 21 35 06.2 +0.2**
GUDG Gudauri 122.00 312 P **PKPdf 21 35 16.2 +10**
GNI Garni 122.27 309 *e*P **PKPdf 21 35 10.6 +3.8**
GNI Garni 122.27 309 *e*PKPdf **PKPdf 21 35 06.7 -0.1**
GNI LR LR
comp=Z,1μm,19.0s
GNI Garni 122.27 309 PKP **PKPdf 21 35 07.1 +0.3**
comp=Z,6.5nm,0.7s,baz=315,slow=2.5,SNR=6.7
ZEI Tsey 122.34 313 *i* PKIKP **PKPdf 21 35 06.0 -0.9**
ZEI pmax pmax
comp=Z,16nm,1.0s
CPUP Villa Florida 122.36 133 *e*PKPdf **PKPdf 21 35 06.6 -0.7**
CPUP Villa Florida 122.36 133 PKP **PKPdf 21 35 08.4 +1.2**
comp=Z,0.7nm,0.3s,baz=22,slow=2.9,SNR=4.4
OBN Obninsk 122.68 328 ⇓*i* PKIKP **PKPdf 21 35 05.8 -1.1**
OBN *e* 21 36 48.8
OBN *e* 21 42 02.4
OBN *e*PS **PS 21 46 31.8 -8.2**
OBN *i* SS SS 21 53 24.7 -0.7
OBN pmax pmax
comp=Z,52nm,1.7s
ONI Oni 122.71 312 P **PKPdf 21 35 07.2 -0.3**
KBZ Khabaz 122.83 314 PKIKP **PKPdf 21 35 07.2 -0.3**
KBZ pmax pmax
comp=Z,4.0nm,0.8s
KBZ Khabaz 122.83 314 *e*PKPdf **PKPdf 21 35 07.2 -0.3**
KBZ Khabaz 122.83 314 PKP **PKPdf 21 35 07.2 -0.3**
comp=Z,3.5nm,0.8s,baz=118,slow=6.2,SNR=6.8
VSR Storozhevoye 122.89 323 *e*PKIKP **PKPdf 21 35 08.6 +1.2**
VSR pmax pmax
comp=Z,40nm,1.5s
VSR pmax pmax
comp=N,10.0nm,0.6s
VSR pmax pmax
comp=E,40nm,1.7s
VORD Divnogorie 122.91 323 *e*PKIKP **PKPdf 21 35 10.6 +3.2**
VORD pmax pmax
comp=Z,10.0nm,1.1s
VORD pmax pmax
comp=E,60nm,0.6s
KIV Kislovodsk 122.92 314 ⇓*i* PKIKP **PKPdf 21 35 05.2 -2.7**
KIV *i* 21 36 47.2
KIV *e* 21 42 17.9
KIV *e*PS **PS 21 46 47.2 +4.2**
KIV *i* SS SS 21 53 26.2 -3.5
KIV pmax pmax
comp=Z,12nm,1.0s
AKH Akhalkalaki 122.94 311 P **PKPdf 21 35 08.4 +0.3**
PKME Peaks-Kenny Pk 123.12 44 PFAKE 21 35 20.0 +12
PKME LR LR
comp=Z,4μm,20.0s
RAYN Ar Rayn 123.12 290 *e*PKPdf **PKPdf 21 35 06.8 -2.0**
KAF Kangasniemi 123.18 339 *e*PKIKP **PKPdf 21 35 07.4 -0.3**
KAF Kangasniemi 123.18 339 *e*pkp **PKPdf 21 35 07.4 -0.3**
CUKT Cukurca 123.66 306 *e*P **PKPdf 21 35 10.2 +0.7**
CHVG Ch'k'valeri 123.66 313 P **PKPdf 21 35 09.8 +0.6**
AGRB Hanur-Agry 123.70 309 *e*P **PKPdf 21 35 09.8 +0.2**
FIA0 FINESS Array S 123.71 338 *e*PKIKP **PKPdf 21 35 08.5 -0.2**
FIA0 FINESS Array S 123.71 338 *e*PKPdf **PKPdf 21 35 08.5 -0.2**
FIA0 *e*PKKPbc **PKKPbc 21 44 58.5 +0.4**
FINES FINESS Array B 123.71 338 PKP **PKPdf 21 35 08.5 -0.2**
comp=Z,4.7nm,0.8s,baz=52,slow=2.9,SNR=18
FINES PKKPbc **PKKPbc 21 44 58.5 +0.4**
comp=Z,2.2nm,0.9s,baz=99,slow=2.5,SNR=3.7
SDV Santo Domingo 124.03 88 *e*PKPpre PKPpre 21 35 06.7
SDV *e*PKPdf **PKPdf 21 35 07.3 -3.7**
SDV LR LR
comp=Z,1μm,21.0s
BOSA Boshof 124.11 222 *e*PKPpre PKPpre 21 34 59.4
BOSA *e*PKPdf **PKPdf 21 35 09.4 -1.3**
BOSA *e*Sdif Sdif 21 44 53.1 +0.2
BOSA Boshof 124.11 222 PKP **PKPdf 21 35 09.5 -1.2**
comp=Z,11nm,0.8s,baz=86,slow=3.4,SNR=11
BOSA PKKPbc **PKKPbc 21 44 53.1 -3.0**
comp=Z,4.3nm,0.9s,baz=18,slow=3.2,SNR=3.5
SUR Sutherland 124.15 215 *e*PKPpre PKPpre 21 35 09.3
SUR *e*PKPdf **PKPdf 21 35 10.5 -0.3**
SUR LR LR
comp=Z,3μm,21.0s
BCA Borcka 124.31 312 *e*P **PKPdf 21 35 10.6 +0.1**
SDDR Presa de Saban 124.49 76 PFAKE 21 35 20.0 +8.5
SDDR LR LR
comp=Z,3μm,20.0s
GRTK Grand Turk 124.73 73 PFAKE 21 35 20.0 +8.2
GRTK LR LR
comp=Z,3μm,19.0s
SIV San Ignacio 125.04 120 *e*PKPdf **PKPdf 21 35 13.6 +0.9**
SIV San Ignacio 125.04 120 PKP **PKPdf 21 35 13.6 +0.9**
comp=Z,5.4nm,1.0s,baz=271,slow=5.1
SOC Sochi 125.10 315 *i* PKIKP **PKPdf 21 35 10.9 -1.0**
SOC *e* 21 35 21.0
SOC *e* 21 36 59.3
SOC *e*PPP PPP 21 39 39.3
SOC *e*PS **PS 21 46 58.9 -3.1**
SOC *e*SS SS 21 53 53.8 -3.1
SOC pmax pmax
comp=Z,14nm,0.8s
BNGB Bing ¶‖ **125.58 309** *e*P **PKPdf 21 35 10.4 -2.8**
LBTB Lobatse 126.24 225 *e*PKPdf **PKPdf 21 35 11.4 -3.5**
SAML Samuel 126.26 111 *e*PKPdf **PKPdf 21 35 11.8 -3.2**
SAML LR LR
comp=Z,2μm,20.0s
ANN Anapa 126.27 317 *i* PKIKP **PKPdf 21 35 13.2 -0.9**
ANN *e* 21 37 06.7
ANN *e* 21 42 14.5
ANN pmax pmax
comp=Z,28nm,1.2s
ANN MLR MLR
comp=N,975nm,20.0s
ANN MLR MLR
comp=E,2μm,20.0s
ANN MLR MLR
comp=Z,2μm,20.0s
ESPY Espiye-Giresun 126.55 312 *e*P **PKPdf 21 35 11.5 -3.3**
PTK Pertek 126.58 309 *e*P **PKPdf 21 35 12.1 -3.1**
MICGM Minsk 127.29 331 *e* **PKPdf 21 35 14.0 -1.8**
MNK Minsk 127.32 331 *e*PKIKP **PKPdf 21 35 14.0 -1.8**
MALT Malatya 127.45 309 ⇑PKIKP **PKPdf 21 35 16.9 +0.2**
MALT Malatya 127.45 309 ⇑*i*P **PKPdf 21 35 16.9 +0.2**

ISAL Salakas 127.46 333 *e*P **PKPdf 21 35 17.6 +1.5**
ISAL AMB AMB 21 35 19.6
comp=Z,20nm,2.1s
IIGN Ignalina 127.55 332 *e*P **PKPdf 21 35 16.9 +0.7**
IIGN AMB AMB 21 35 22.4
comp=Z,17nm,1.1s
NACGM Naroch 127.57 332 *e* **PKPdf 21 35 14.0 -2.3**
KMBO Kilima Mbogo 127.58 258 *e*PKPpre PKPpre 21 35 12.4
KMBO *e*PKPdf **PKPdf 21 35 12.9 -5.0**
KMBO LR LR
comp=Z,4µm,20.0s
KMBO Kilima Mbogo 127.58 258 PKP **PKPdf 21 35 18.2 +0.3**
comp=Z,4.6nm,0.2s,baz=140,slow=5.4,SNR=6.2
SVSK Karacayir 128.10 311 *e*P **PKPdf 21 35 16.7 -1.0**
DARE Darende-Malaty 128.10 309 *e*P **PKPdf 21 35 15.6 -2.4**
SIM Simferopol' 128.42 318 *e*PKIKP **PKPdf 21 35 23.0 +4.8**
SIM pmax pmax
comp=Z,110nm,9.2s
NB2 NORSAR Subarra128.64 345 PKPdf **PKPdf 21 35 17.4 -0.8**
comp=Z,26nm,1.4s,baz=31,slow=1.9
NB2 NORSAR Subarra128.64 345 PKPdf **PKPdf 21 35 17.4 -0.8**
baz=31,slow=1.9
NB200 NORSAR Array S 128.64 345 *e*PKPdf **PKPdf 21 35 16.0 -2.2**
NB200 *e*PP **PP 21 37 23.4 -0.2**
NOA NORSAR Array B 128.64 345 PKP **PKPdf 21 35 16.0 -2.2**
comp=Z,3.1nm,0.7s,baz=31,slow=2.0,SNR=7.6
NOA PP **PP 21 37 23.4 -0.2**
comp=Z,2.2nm,0.8s,baz=33,slow=6.3,SNR=4.5
AKASG Malin Array Be 128.72 326 PKIKP **PKPdf 21 35 17.5 -1.1**
AKASG 21 37 26.1
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 128.72 326 PKP **PKPdf 21 35 17.5 -1.1**
comp=Z,0.4nm,0.2s,baz=63,slow=2.0,SNR=16
AKASG PP **PP 21 37 26.1 +1.6**
comp=Z,2.3nm,0.7s,baz=46,slow=6.6,SNR=4.9
AKBB Malin Array Si 128.72 326 *e*PKIKP **PKPdf 21 35 17.5 -1.1**
AKBB *e* 21 37 26.1
AKBB Malin Array Si 128.72 326 *e*PKPdf **PKPdf 21 35 17.5 -1.1**
AKBB *e*PP **PP 21 37 26.1 +1.6**
NBO02 NORSAR Array S 128.73 345 *e*PKPdf **PKPdf 21 35 17.4 -1.0**
HFS Hagfors 128.73 343 PKP **PKPdf 21 35 18.9 +0.6**
comp=Z,5.4nm,0.8s,baz=66,slow=3.5
KIEV Kiev 128.73 326 *e*PKIKP **PKPdf 21 35 16.6 -2.0**
KIEV MLR MLR
comp=Z,3µm,20.0s
KIEV Kiev 128.73 326 *e*PKPdf **PKPdf 21 35 16.6 -2.0**
KIEV LR LR
comp=Z,3µm,20.0s
SJG San Juan 129.33 77 *e*PKPdf **PKPdf 21 35 21.0 +0.3**
SJG LR LR
comp=Z,2µm,21.0s
SJG San Juan 129.33 77 PKP **PKPdf 21 35 21.0 +0.3**
comp=Z,12nm,0.5s,baz=153,slow=2.3,SNR=3.7
HUMP Col San Antoni 129.61 77 *e*PKPdf **PKPdf 21 35 18.5 -2.7**
BBSR BB Station 129.61 59 PFAKE 21 35 30.0 +9.1
BBSR LR LR
comp=Z,3µm,19.0s
CORM Corum 129.75 312 *e*P PKPdf 21 35 13.3 -7.8
SUW Suwalki 129.77 333 *e*PKPdf **PKPdf 21 35 22.9 +2.4**
LSZ Lusaka 129.97 237 *e*PKPpre PKPpre 21 35 16.9
LSZ *e*PKPdf **PKPdf 21 35 20.4 -1.8**
LSZ LR LR
comp=Z,5µm,21.0s
KONO Kongsberg 130.25 345 PFAKE 21 35 30.0 +8.8
KONO LR LR
comp=Z,2µm,22.0s
TRIS Tristan da Cun 130.26 181 PFAKE 21 35 30.0 +8.0
TRIS LR LR
comp=Z,2µm,20.0s
KARA Karaisali 130.31 308 *e*P **PKPdf 21 35 18.5 -3.6**
BR101 Keskin Array S 130.62 312 *e*PKPdf **PKPdf 21 35 21.8 -1.0**
BRTR Keskin Array B 130.62 312 PKP **PKPdf 21 35 21.8 -1.0**
comp=Z,2.1nm,0.7s,baz=145,slow=5.1,SNR=12
SAFT Safranbolu 130.78 314 *e*P **PKPdf 21 35 17.9 -5.0**
KIS Kishinev 130.84 322 *e*PKP **PKPdf 21 35 23.0 +0.3**
KIS Kishinev 130.84 322 *e*PP PP 21 37 40.0 +1.5
KIS Kishinev 130.84 322 *e*PKIKP **PKPdf 21 35 23.0 +0.3**
KIS *e* 21 37 40.0
SPB Sao Paulo 130.95 138 PFAKE 21 35 30.0 +6.3
SPB LR LR
comp=Z,3µm,20.0s
AFSR Af`ar-Bala (A 131.13 312 *e*P **PKPdf 21 35 23.6 0.0**
ANTO Ankara 131.19 312 PFAKE 21 35 30.0 +6.2
ANTO LR LR
comp=Z,2µm,20.0s
BR231 Keskin MP Arra 131.21 312 *e*PKPdf **PKPdf 21 35 22.5 -1.4**
LEOM Leova 131.44 322 ⇓PKIKP **PKPdf 21 35 22.8 -1.1**
LEOM Leova 131.44 322 ⇓*i*P **PKPdf 21 35 22.8 -1.1**
IKL Isikli 131.65 307 *e*P **PKPdf 21 35 21.9 -2.7**
LVV L'vov 131.97 328 *e*PKIKP **PKPdf 21 35 29.8 +5.0**
LVV *e* 21 37 50.4
LFK Lefkose 132.03 306 *e*P **PKPdf 21 35 21.4 -4.1**
CFR Carcaliu 132.14 320 ⇑PKIKP **PKPdf 21 35 23.9 -1.3**
CFR Carcaliu 132.14 320 ⇑*i*P **PKPdf 21 35 23.9 -1.3**
CSS Prodhromos 132.27 306 P **PKPdf 21 35 23.5 -2.4**
CSS Prodhromos 132.27 306 *e*P **PKPdf 21 35 24.8 -1.1**
CSS Prodhromos 132.27 306 *e*PKPdf **PKPdf 21 35 25.2 -0.7**
CSS LR LR
comp=Z,1µm,20.0s
BEL Belsk 132.29 332 *e*PKPdf **PKPdf 21 35 28.5 +3.2**
BSD Bornholm Skovb 132.35 338 *e*PKIKP **PKPdf 21 35 29.4 +4.1**
BSD MLR MLR
comp=Z,4µm,18.0s
BSD Bornholm Skovb 132.35 338 *i* P **PKPdf 21 35 29.4 +4.1**
BSD *i* 21 37 58.0
BSD
comp=Z,3µm,18.0s
HDMB Hadim 132.35 309 *e*P **PKPdf 21 35 23.6 -2.6**
TESR Tescani 132.37 323 ⇑*i*P **PKPdf 21 35 23.3 -2.4**
TLB Topalu 132.48 320 ⇓PKIKP **PKPdf 21 35 23.8 -2.1**
TLB Topalu 132.48 320 ⇓*i*P **PKPdf 21 35 23.8 -2.1**
BURAR Bucovina Array 132.60 325 ⇑PKIKP **PKPdf 21 35 27.2 +1.0**
BURAR Bucovina Array 132.60 325 ⇑*i*P **PKPdf 21 35 27.2 +1.0**
BUR04 Bucovina Ar. S 132.60 325 *e*PKPpre PKPpre 21 35 12.9
BUR04 *e*PKPdf **PKPdf 21 35 26.4 +0.1**
GULT Gulveren 132.61 314 *e*P **PKPdf 21 35 26.0 -0.5**
VRI Vrincioaia 132.66 322 ⇑PKIKP **PKPdf 21 35 28.0 +1.7**
VRI Vrincioaia 132.66 322 ⇑*i*P **PKPdf 21 35 28.0 +1.7**
PLOR Plostina 132.71 322 ⇓PKIKP **PKPdf 21 35 27.6 +1.2**
PLOR Plostina 132.71 322 ⇓*i*P **PKPdf 21 35 27.6 +1.2**
COP Copenhagen 132.75 340 *e*PKIKP **PKPdf 21 35 30.4 +4.3**
COP *i* 21 37 55.9
COP MLR MLR
comp=Z,2µm,23.0s
COP Copenhagen 132.75 340 *i* P **PKPdf 21 35 30.4 +4.3**
COP *i* 21 37 55.9
COP
comp=Z,2µm,22.0s
KWP Kalwaria Pacla 132.77 328 *e*PKIKP **PKPdf 21 35 25.8 -0.6**
KWP MLR MLR
comp=Z,4µm,20.0s
KWP Kalwaria Pacla 132.77 328 ⇑*i*P **PKPdf 21 35 26.9 +0.5**
KWP Kalwaria Pacla 132.77 328 *e*PKPdf **PKPdf 21 35 25.8 -0.6**
KWP LR LR
comp=Z,4µm,20.0s
KWP Kalwaria Pacla 132.77 328 *e*PKPdf **PKPdf 21 35 27.7 +1.3**
GKP Gorka Klasztor 132.84 335 *e*PKPdf **PKPdf 21 35 29.2 +2.9**
MSAB Monastry St. A 132.85 319 ⇑*i*P PKPdf 21 35 32.2 +5.6
GRGR Grenville 133.23 85 PFAKE 21 35 40.0 +12
GRGR LR LR
comp=Z,2µm,19.0s
MLR Muntele Rosu 133.32 322 ⇓*i*P **PKPdf 21 35 27.6 -0.1**
ISK Istanbul-Kandi 133.37 315 P **PKPdf 21 35 27.7 0.0**
ANWB Willy Bob 133.47 78 PFAKE 21 35 40.0 +11
ANWB LR LR
comp=Z,2µm,19.0s
SECR 133.48 321 ⇑*i*P PKPdf 21 35 33.6 +5.8
ISP Isparta 133.55 310 PFAKE 21 35 40.0 +12
ISP LR LR
comp=Z,1µm,19.0s
UZH Uzhgorod 133.60 327 *e*PKHKP PKPpre 21 35 10.2
UZH *e* 21 35 27.0
UZH *e* 21 37 52.8
STHS Stebnicka Huta 133.65 329 *e*PKIKP **PKPdf 21 35 28.8 +0.8**
STHS Stebnicka Huta 133.65 329 *e*PKP **PKPdf 21 35 28.8 +0.8**
TVSB Tavsanli 133.73 313 *e*P **PKPdf 21 35 24.8 -3.8**
TRPA Tarpa 133.77 327 *e* **PKPdf 21 35 25.4 -2.8**
OJC Ojcow 133.84 331 *e*PKIKP **PKPdf 21 35 25.7 -2.6**
OJC Ojcow 133.84 331 *e*PKPdf **PKPdf 21 35 25.7 -2.6**
VOIR 133.88 322 ⇑PKIKP **PKPdf 21 35 30.3 +1.6**
VOIR 133.88 322 ⇑*i*P **PKPdf 21 35 30.3 +1.6**
MBAR Mbarara 133.94 256 *e*PKPdf **PKPdf 21 35 26.8 -3.0**
MBAR LR LR
comp=Z,583nm,22.0s
NIE Niedzica 134.11 329 *e*PKIKP **PKPdf 21 35 29.6 +0.7**
NIE Niedzica 134.11 329 *e*PKPdf **PKPdf 21 35 29.6 +0.7**
ARR Arges 134.17 322 ⇓*i*P PKPdf 21 35 18.9 -10
ELL Elmali 134.38 309 *e*P **PKPdf 21 35 27.1 -2.8**
HUMR Humele 134.40 321 ⇓*i*P **PKPdf 21 35 29.1 -0.5**
JMB Yambol 134.41 318 P **PKPdf 21 35 30.6 +1.0**
JMB Yambol 134.41 318 *i* P **PKPdf 21 35 29.6 0.0**
DRGR 134.47 325 ⇓PKIKP **PKPdf 21 35 28.9 -0.8**
DRGR 134.47 325 ⇓*i*P **PKPdf 21 35 28.9 -0.8**
LOT Lotru 134.63 323 ⇑*i*P **PKPdf 21 35 31.1 +1.0**
KULA Kula-Manisa 134.67 312 P **PKPdf 21 35 30.8 +0.4**
PVL Pavlikeni 134.85 320 P **PKPdf 21 35 30.0 -0.4**
OKC Ostrava-Krasne 134.88 331 *e*PKP **PKPdf 21 35 26.0 -4.3**
OKC *ex* x 21 35 32.6
OKC *e*PP **PP 21 38 05.9 +1.9**
OKC *e*SKP 21 39 01.9
OKC AMS AMS 22 41 50.0
comp=Z,2µm,16.1s
KSP Ksiaz 135.01 333 *e*PKIKP **PKPdf 21 35 32.6 +2.1**
KSP *e* 21 38 03.6
KSP *e*SS SS 21 55 52.0 -5.5
KSP MLR MLR
comp=Z,8µm,19.8s
KSP Ksiaz 135.01 333 *e*PKPdf **PKPdf 21 35 32.9 +2.4**
FETY Fethiye 135.04 309 *e*P **PKPdf 21 35 26.5 -4.5**
MORC Moravsky Berou 135.20 332 *e*PKIKP **PKPdf 21 35 31.5 +0.5**
MORC Moravsky Berou 135.20 332 ⇑*i*P **PKPdf 21 35 33.2 +2.2**
MORC Moravsky Berou 135.20 332 *e*PKPdf **PKPdf 21 35 31.5 +0.5**
PSZ Piszkesteto 135.29 328 *e*PKIKP **PKPdf 21 35 28.8 -2.4**
PSZ MLR MLR
comp=Z,4µm,19.0s
PSZ Piszkesteto 135.29 328 ⇓*i*P PKPdf 21 35 36.6 +5.4
PSZ Piszkesteto 135.29 328 *e*PKPdf **PKPdf 21 35 28.8 -2.4**
PSZ LR LR
comp=Z,4µm,19.0s
PSZ Piszkesteto 135.29 328 *e* **PKPdf 21 35 33.3 +2.1**
KRLC Kraliky 135.34 332 *e*PKP **PKPdf 21 35 33.9 +2.7**
DPC Dobruska-Polom 135.35 333 *e*PKIKP **PKPdf 21 35 28.0 -3.3**
DPC Dobruska-Polom 135.35 333 *e*PKP **PKPdf 21 35 34.0 +2.8**
DPC *e*PP **PP 21 38 05.0 -2.1**
DPC *e*SS SS 21 56 02.7 +0.9
DPC AMS AMS 22 42 20.0
DPC Dobruska-Polom 135.35 333 *e*PKPdf **PKPdf 21 35 28.0 -3.3**
BBGH Gun Hill 135.37 84 PFAKE 21 35 40.0 +7.8
BBGH LR LR
comp=Z,4µm,20.0s
SIRR Siria 135.37 325 ⇓*i*P PKPdf 21 35 22.3 -9.1
UPC Upice 135.38 333 *e*PKP **PKPdf 21 35 35.0 +3.8**
ALN Alexandroupoli 135.50 316 P **PKPdf 21 35 32.6 +0.9**
TSUM Tsumeb 135.63 225 PFAKE 21 35 40.0 +7.2
TSUM LR LR
comp=Z,5µm,20.0s
BDFB Brasilia 135.75 129 PKhKP PKPpre 21 35 25.5
comp=Z,2.0nm,0.6s,baz=97,slow=8.1,SNR=2.1
BDFB PKP **PKPdf 21 35 33.7 +0.6**
comp=Z,4.9nm,0.7s,baz=219,slow=6.3,SNR=6.5
BZS Buzias 135.78 324 ⇑PKIKP **PKPdf 21 35 30.1 -2.0**
BZS Buzias 135.78 324 ⇑*i*P **PKPdf 21 35 30.1 -2.0**
MPEP Malo Peshtene 135.78 321 *i* P **PKPdf 21 35 32.2 0.0**
PKSN Nyarlorinc 135.96 327 *e* **PKPdf 21 35 31.5 -0.9**
VRAC Vranov 135.97 332 PKP **PKPdf 21 35 31.3 -1.1**
comp=Z,1.8nm,0.8s,baz=153,slow=2.3,SNR=3.4
PVCC Panska Ves 135.98 334 *e*PKP **PKPdf 21 35 35.7 +3.4**
PVCC *e*PP **PP 21 38 08.6 -2.3**
PVCC AMS AMS 22 41 00.0
comp=Z,4µm,18.1s
BRG Berggiesshubel 135.99 335 *e*PKP **PKPdf 21 35 34.9 +2.5**
comp=Z,32nm,1.3s
BRG PP **PP 21 38 10.0 -0.9**
BRG PKS **PKSdf 21 39 04.0 -4.4**
BRG SS SS 21 56 04.0 -5.1
BRG
comp=N,3µm,17.9s
BRG
comp=E,1µm,19.4s
BRG
comp=Z,4µm,19.9s
BUD Budapest 136.03 328 *e* **PKPdf 21 35 34.5 +2.0**
CLL Collm 136.03 336 *i* PKIKP **PKPdf 21 35 34.9 +2.5**
CLL pmax pmax
comp=Z,5.0nm,1.2s
CLL MLR MLR
comp=Z,3µm,19.3s
CLL Collm 136.03 336 *e*PKPpre PKPpre 21 35 27.0
CLL *i* PKIKP **PKPdf 21 35 34.9 +2.5**
comp=Z,22nm,1.2s
CLL *es*PKiKP sPKiKP 21 35 49.0 +6.9
CLL *e*PP **PP 21 38 12.0 +0.9**
CLL *e*SKPdf **SKPbc 21 39 01.0 -2.5**
CLL *e*PKSab **PKSab 21 39 09.0 -1.5**
comp=Z,166nm,2.8s
CLL *e*SS **SS 21 56 12.0 +2.5**
CLL LmH 22 41 00.0
comp=N,2µm,18.6s
CLL LmH 22 41 00.0
comp=E,900nm,18.7s
CLL LmV 22 42 00.0
comp=Z,3µm,19.3s
SMTH Samothraki Isl 136.04 316 *e*P **PKPdf 21 35 33.4 +0.6**
SMOL Smolenice 136.13 330 *e*PKIKP PKPdf 21 35 39.6 +6.9
SMOL Smolenice 136.13 330 *e*PKP PKPdf 21 35 39.6 +6.9
PKS7 Kunszentmiklos 136.24 328 *e* **PKPdf 21 35 34.3 +1.4**
PRA Prague 136.38 334 PKP **PKPdf 21 35 37.0 +3.9**
PRA PP PP 21 38 06.0 -7.4
PRA AMS AMS 22 42 00.0
PRU Pruhonice 136.40 334 *e*PKP **PKPdf 21 35 36.7 +3.6**
PRU *ep*PKP **pPKPdf 21 35 46.0 +6.8**
PRU *e*PP PP 21 38 05.9 -7.6
PRU *e*SKP 21 39 02.3
PRU *e*SS SS 21 56 12.3 -1.8
PRU AMS AMS 22 41 10.0
comp=Z,4µm,18.9s
TREC Trest 136.49 332 *e*PKP **PKPdf 21 35 38.4 +5.0**
TREC *e*PP **PP 21 38 15.6 +1.4**
TREC AMS AMS 22 40 10.0
comp=Z,4µm,19.0s
ZST Bratislava 136.51 330 *e*PKIKP PKPdf 21 35 40.5 +7.1
ZST Bratislava 136.51 330 *e*PKP PKPdf 21 35 40.5 +7.1
VTS Vitosha 136.52 320 P **PKPdf 21 35 29.8 -4.0**
VTS Vitosha 136.52 320 ⇑PKIKP **PKPdf 21 35 33.9 +0.1**
VTS Vitosha 136.52 320 ⇑*i*P **PKPdf 21 35 33.9 +0.1**
VTS Vitosha 136.52 320 *i* P **PKPdf 21 35 33.4 -0.4**
PKS2 Kecel 136.56 327 *ep* **PKPdf 21 35 37.9 +4.4**
PKST T"s 136.68 329 *e* **PKPdf 21 35 35.8 +2.0**
MMB Musomiste 136.70 318 *i* P **PKPdf 21 35 32.6 -1.4**
NVR Nevrokopi 136.73 318 P PKPdf 21 35 23.8 -10
NVR Nevrokopi 136.73 318 *e*P PKPdf 21 35 23.0 -11
ESK Eskdalemuir 136.91 351 PFAKE 21 35 40.0 +6.1
ESK LR LR
comp=Z,2µm,20.0s
KKB Krupnik 136.97 319 *i* P **PKPdf 21 35 33.9 -0.6**
PKS9 Tamasi 137.00 328 *e* **PKPdf 21 35 34.0 -0.3**
SOP Sopron 137.13 330 *e* **PKPdf 21 35 36.7 +2.2**
KHC Kasperske Hory 137.46 334 *e*PKHKP PKPpre 21 35 25.5
KHC *e* 21 35 34.2
KHC Kasperske Hory 137.46 334 *e*PKPpre PKPpre 21 35 27.9
KHC *e*PKPdf **PKPdf 21 35 35.8 +0.6**
KHC *e*PP PP 21 38 14.4 -5.8
KHC *e*SKP 21 39 06.5
KHC *ex* x 21 51 08.9
KHC *ex* x 21 54 11.1
KHC *e*SS SS 21 56 24.7 -2.1
KHC AMS AMS 22 42 20.0
comp=Z,4µm,19.7s
KHC Kasperske Hory 137.46 334 *e*PKPpre PKPpre 21 35 25.5
KHC *e*PKPdf **PKPdf 21 35 34.2 -0.9**
DIVS Divibare 137.61 324 P **PKPdf 21 35 34.6 -1.1**
GERES GERESS Array B 137.62 333 PKhKP PKPpre 21 35 23.6
comp=Z,0.7nm,0.6s,baz=64,slow=3.1,SNR=8.8
GERES PKP **PKPdf 21 35 35.6 0.0**
comp=Z,3.7nm,0.9s,baz=70,slow=1.1,SNR=9.1
BEHE Becsehely 137.85 329 *e* **PKPdf 21 35 37.9 +2.0**
SANT Santorini 137.85 311 PFAKE 21 35 50.0 +14
SANT LR LR
comp=Z,1µm,20.0s
GRG Griva 137.88 318 P PKPdf 21 35 24.5 -12
GRG Griva 137.88 318 *e*P PKPdf 21 35 24.6 -12
NPS Neapolis 138.16 309 *e*P PKPdf 21 35 27.9 -9.0
LIT Litokhoron 138.26 317 P PKPdf 21 35 26.1 -11
LIT Litokhoron 138.26 317 *e*P PKPdf 21 35 26.1 -11
PTL Penteli 138.29 314 *e*P **PKPdf 21 35 35.1 -1.9**
LAST Lasithi 138.30 309 *e*P PKPdf 21 35 27.6 -10
PERS Pernice 138.56 330 *i* PKPdf **PKPdf 21 35 36.6 -0.7**
PERS *i* 21 38 29.4
LKR Lokris 138.62 315 P **PKPdf 21 35 33.4 -4.2**
FNA Florina 138.63 319 P PKPdf 21 35 29.5 -8.1
FNA Florina 138.63 319 *e*P PKPdf 21 35 28.6 -9.0
IDI Anoyia 138.70 309 *e*P PKPdf 21 35 26.7 -11
IDI Anoyia 138.70 309 *e*P PKPdf 21 35 30.1 -7.8
IDI Anoyia 138.70 309 PKhKP PKPpre 21 35 29.6
comp=Z,8.3nm,1.0s,baz=146,slow=3.6,SNR=3.5
IDI PKP **PKiKP 21 35 39.7 -0.4**
comp=Z,9.6nm,0.7s,baz=77,slow=14,SNR=5.7
PHP Peshkopia 138.74 320 P PKPdf 21 35 27.4 -10
THL Klokotos Trika 138.84 317 P **PKPdf 21 35 34.1 -3.8**
THL Klokotos Trika 138.84 317 *e*P **PKPdf 21 35 36.1 -1.8**
AGG Agios Georgios 138.90 316 P **PKPdf 21 35 33.6 -4.5**
AGG Agios Georgios 138.90 316 *e*P PKPdf 21 35 29.1 -9.0
DID Didima 138.98 313 P PKPdf 21 35 32.7 -5.6
DID Didima 138.98 313 *e*P PKPdf 21 35 29.5 -8.8
DIDY Didyma 139.01 313 P **PKPdf 21 35 40.5 +2.0**
MAKR Makrakomi, Fth 139.04 316 P PKPdf 21 35 31.5 -6.9
NEST Nestorio 139.04 318 P PKPdf 21 35 29.6 -8.8
DSF Desfina 139.06 315 P **PKPdf 21 35 38.9 +0.4**
ACOR Acrocorinthos 139.07 314 P **PKPdf 21 35 34.2 -4.3**
MEM Membach 139.12 341 PKP **PKPdf 21 35 35.6 -2.5**
MEM Membach 139.12 341 *e*PKIKP **PKPdf 21 35 34.6 -3.5**
MEM Membach 139.12 341 *e*PKPdf **PKPdf 21 35 34.6 -3.5**
VAM Vamos 139.17 310 *e*P PKPdf 21 35 32.3 -6.4
TIR Tirane 139.28 320 *e*PKIKP **PKPdf 21 35 34.3 -4.4**
TIR MLR MLR
comp=Z,3µm,20.0s
TIR Tirane 139.28 320 *e*PKPdf **PKPdf 21 35 34.2 -4.4**
TIR LR LR
comp=Z,3µm,20.0s
BOJS Bojanci 139.28 329 *i* PKPdf **PKPdf 21 35 34.1 -4.5**
VISS Visnje 139.28 329 *i* PKPdf **PKPdf 21 35 38.9 +0.3**
EVR Evrytania 139.31 316 P PKPdf 21 35 31.6 -7.4
EVR Evrytania 139.31 316 *e*P PKPdf 21 35 32.9 -6.1
KARN Karanos 139.38 310 P **PKPdf 21 35 37.4 -1.7**
KARN Karanos 139.38 310 *e*P PKPdf 21 35 29.5 -10
GUR Goura 139.41 314 P PKPdf 21 35 31.2 -8.0
GUR Goura 139.41 314 *e*P PKPdf 21 35 30.8 -8.4
EFP Efpalio 139.48 315 P PKPdf 21 35 33.9 -5.2
EFP Efpalio 139.48 315 *e*P PKPdf 21 35 32.3 -6.8
KLV Kalavryta, Ach 139.50 315 P PKPdf 21 35 31.3 -8.0
KLV Kalavryta, Ach 139.50 315 *e*P PKPdf 21 35 30.1 -9.2
LAKA Lakka 139.52 315 P PKPdf 21 35 31.7 -7.6
LAKA Lakka 139.52 315 *e*P PKPdf 21 35 31.0 -8.3
STU Stuttgart 139.54 337 *e*PKHKP PKPpre 21 35 31.9
STU Stuttgart 139.54 337 *e*PKPpre PKPpre 21 35 31.9
JAVS Javornik 139.60 330 *i* PKPdf PKPdf 21 35 33.3 -5.9
VLX Vlachokerasia 139.65 314 P PKPdf 21 35 31.6 -8.0
VLX Vlachokerasia 139.65 314 *e*P PKPdf 21 35 30.5 -9.1
SNF Seneffe 139.74 342 PKP **PKPdf 21 35 39.5 +0.3**
DRO Drossia 139.84 315 P **PKPdf 21 35 35.4 -4.5**
PDO Prodromos 139.89 316 P PKPdf 21 35 30.8 -9.1
WLF Walferdange 139.89 340 *e*PKHKP PKPpre 21 35 32.4
WLF MLR MLR
comp=Z,6µm,19.0s
WLF Walferdange 139.89 340 *e*PKPpre PKPpre 21 35 32.4
WLF LR LR
comp=Z,6µm,19.0s
RLS Riolos of Patr 139.96 315 *e*P PKPdf 21 35 32.0 -8.0
IGT Igoumenitsa 139.97 318 P PKPdf 21 35 32.6 -7.4
DOU Dourbes 140.01 342 PKP **PKPdf 21 35 38.4 -1.3**
AMT Artemida-Makis 140.05 314 P **PKPdf 21 35 36.2 -4.1**
AMT Artemida-Makis 140.05 314 *e*P **PKPdf 21 35 35.9 -4.4**
ITM Ithomi 140.06 314 P PKPdf 21 35 32.8 -7.5
ITM Ithomi 140.06 314 *e*P PKPdf 21 35 32.3 -8.0
KEK Kerkira 140.23 318 P PKPdf 21 35 35.0 -5.5
BFO Black Forest 140.23 337 *e*PKPpre PKPpre 21 35 32.5
BFO LR LR
comp=Z,2µm,20.0s
PYL PYLOS 140.32 313 *e*P PKPdf 21 35 33.1 -7.6
VLS Valsamata 140.50 316 P PKPdf 21 35 34.4 -6.6
VLS Valsamata 140.50 316 *e*P PKPdf 21 35 33.0 -8.0
FELD Feldberg im Sc 140.73 337 PKP PKPdf 21 35 34.3 -7.0
ECH Echery 140.76 338 PFAKE 21 35 50.0 +8.8
ECH LR LR
comp=Z,3µm,21.0s
FUORN Ofenpass-Fuorn 140.81 334 *e*PKPpre PKPpre 21 35 34.9
DAVOX Davos/Dischmat 140.85 334 *e*PKPpre PKPpre 21 35 35.3
DAVOX *e*PKPdf **PKPdf 21 35 40.8 -0.8**
DAVOX Davos/Dischmat 140.85 334 PKhKP PKPpre 21 35 35.3
comp=Z,4.2nm,0.5s,baz=17,slow=2.3,SNR=11
DAVOX PKP **PKPdf 21 35 40.8 -0.8**
comp=Z,6.3nm,0.6s,baz=176,slow=3.9,SNR=11
MOF Molkenrain 141.08 338 PKP PKPdf 21 35 35.4 -6.5
TUE Stuetta 141.32 334 *e*PKPpre PKPpre 21 35 36.0
TUE LR LR
comp=Z,3µm,20.0s
LOMF Lomont 141.61 337 PKP PKPdf 21 35 35.2 -7.6
SENIN Lac Senin/Sane 142.25 336 *e*PKPpre PKPpre 21 35 38.6
CUC Castrocucco 142.57 321 *e*PKPpre PKPpre 21 35 39.8
CUC LR LR
comp=Z,2µm,20.0s
VLC Villacollemand 142.65 331 PFAKE 21 36 00.0 +15
VLC LR LR
comp=Z,3µm,20.0s
CEL Celeste 143.56 319 *e*PKPdf PKPbc 21 35 44.0 +0.1
CEL LR LR
comp=Z,2µm,21.0s
BNI Bardonecchia 143.57 335 *e*PKPdf PKPbc 21 35 44.4 +0.6
BNI LR LR
comp=Z,3µm,20.0s
GRN Grenoble 143.78 337 PKP PKPbc 21 35 44.3 0.0
PLDF La Plantade 143.94 339 PKP PKPbc 21 35 45.2 +0.4
SURF Saint Ours 143.98 335 PKP PKPbc 21 35 45.1 0.0
AGO Saint Agoulin 144.04 340 PKP PKPbc 21 35 45.1 +0.1
SAOF Saorge 144.07 334 PKP **PKPab 21 35 44.2 -0.5**
AUTN L'Aution 144.12 334 PKP **PKPab 21 35 44.7 -0.4**
TOUF Mont Tournerai 144.18 334 PKP **PKPab 21 35 45.3 0.0**
SSB Saint Sauveur 144.21 338 PFAKE 21 36 00.0 +13
SSB LR LR
comp=Z,2µm,20.0s
LUCF Luceram 144.23 334 PKP **PKPab 21 35 44.7 -0.7**
MVIF Mont Vial 144.31 334 PKP **PKPab 21 35 45.3 -0.5**
PYM Petit Puy Mans 144.34 340 PKP **PKPab 21 35 45.9 +0.2**
REVF Revere 144.34 333 PKP PKPbc 21 35 46.2 +0.1
CALN Calern 144.54 334 PKP **PKPab 21 35 46.0 -0.6**
LBL Lubilhac 144.71 339 PKP **PKPdf 21 35 48.0 -0.4**
VSL Villasalto 146.60 327 PFAKE 21 36 00.0 +5.8
VSL LR LR
comp=Z,2µm,20.0s
LRDF Laroque-de-Fa 146.96 338 PKP **PKPdf 21 35 53.2 +1.0**
SJAF Saint Jean de 147.22 337 PKP **PKPdf 21 35 53.8 +1.1**
CARF Carcanieres 147.31 338 PKP **PKPbc 21 35 54.5 -0.8**
MLS Moulis 147.45 340 PKP **PKPbc 21 35 54.5 -1.0**
SALF Salau 147.59 339 PKP **PKPbc 21 35 54.8 -1.2**
VALF Valcebollere 147.61 338 PKP **PKPbc 21 35 56.3 +0.1**
LABF Labassere 147.71 341 PKP **PKPbc 21 35 55.1 -1.2**
REYF Montagne du Re 147.83 342 PKP **PKPbc 21 35 55.6 -1.0**
RESF Ens 147.84 340 PKP **PKPbc 21 35 57.5 +0.8**
ORDF Ordiarp 147.87 342 PKP **PKPbc 21 35 56.1 -0.5**
VIEF Viey 147.87 341 PKP **PKPbc 21 35 56.6 -0.2**
ATE Arette 147.91 342 PKP **PKPbc 21 35 55.5 -1.3**
OSSF Osses 147.92 343 PKP **PKPbc 21 35 56.0 -0.8**
LARF Larrau 148.04 342 PKP **PKPbc 21 35 56.3 -0.9**
KEST Kesra 149.22 322 *e*PKPbc **PKPbc 21 35 59.7 -0.8**
KEST Kesra 149.22 322 PKPbc **PKPbc 21 36 00.5 0.0**
comp=Z,26nm,0.6s,baz=311,slow=0.8,SNR=108
MSKU Masuku 149.27 244 PFAKE 21 36 10.0 +4.3
MSKU LR LR
comp=Z,2.0nm,20.0s
CMAH Djebel Manchou 149.73 325 P **PKPbc 21 36 03.0 +1.3**
CAEH 'Ain El Ouahch 149.94 326 P **PKPbc 21 36 03.7 +1.6**
ABSA Djebel Ababsia 149.95 324 P **PKPbc 21 36 03.7 +1.4**
SHEL Horse Pasture 150.25 196 *e*PKIKP **PKPdf 21 35 58.5 +0.2**
SHEL MLR MLR
comp=Z,2µm,21.0s
SHEL Horse Pasture 150.25 196 *e*PKPdf **PKPdf 21 35 58.5 +0.2**
SHEL LR LR
comp=Z,2µm,21.0s
CKFL Kef-Lekhel 150.28 325 P **PKPbc 21 36 04.7 +1.6**
CASM Ain Smara 150.51 325 P **PKPbc 21 36 04.9 +1.3**
PBRG Braganca 150.59 349 *e*PKPbc **PKPbc 21 36 01.5 -2.1**
PBRG Braganca 150.59 349 *e*PP PP 21 38 38.3 -60
DFRA Djebel Bou Aff 150.64 327 P **PKPbc 21 36 06.0 +2.1**

PCAB	**Cabril**	**150.90**	**351**	*e*PKPbc	**PKPbc**	**21**	**36**	**06.0 +1.7**
RCBR	**Riachuelo**	**151.12**	**129**	*e*PKPdf	**PKPdf**	**21**	**35**	**58.5 -1.3**
RCBR				LR	LR			
	comp=Z,2μm,19.0s							
SET	**Setif**	**151.15**	**327**	P	**PKPbc**	**21**	**36**	**05.0 -0.1**
POLO	**Lamas de Olo**	**151.19**	**351**	*e*PKPbc	**PKPbc**	**21**	**36**	**04.7 -0.4**
POLO	**Lamas de Olo**	**151.19**	**351**	*e*PP	PP	21	38	49.8 -52
MVO	**Moncorvo**	**151.26**	**349**	*e*PKPbc	**PKPbc**	**21**	**36**	**05.0 -0.2**
MVO	**Moncorvo**	**151.26**	**349**	*e*PP	PP	21	38	48.6 -54
MVO	**Moncorvo**	**151.26**	**349**	*e*LR	LR	22	39	17.8
	comp=Z,2μm,18.0s							
PVRL	**Vila Real**	**151.27**	**351**	*e*PKPbc	**PKPbc**	**21**	**36**	**04.8 -0.4**
PVIS	**Viseu**	**151.85**	**351**	*e*PKPbc	**PKPbc**	**21**	**36**	**08.1 +1.6**
ES19	**SONSECA Array**	**151.96**	**344**	*e*PKPdf	**PKPdf**	**21**	**36**	**00.3 0.0**
ES19				*e*PKPbc	**PKPbc**	**21**	**36**	**06.2 -0.6**
ESDC	**Sonseca Array**	**152.00**	**344**	*e*PKPbc	**PKPbc**	**21**	**36**	**06.5 -0.4**
ESDC	**Sonseca Array**	**152.00**	**344**	PKPbc	**PKPbc**	**21**	**36**	**06.5 -0.4**
	comp=Z,10nm,0.9s,baz=16,slow=2.4,SNR=38							
MTE	**Manteigas**	**152.10**	**350**	*e*PKPbc	**PKPbc**	**21**	**36**	**06.5 -0.6**
MTE	**Manteigas**	**152.10**	**350**	*e*PP	PP	21	38	34.4 -73
MTE	**Manteigas**	**152.10**	**350**	*e*LR	LR	22	39	39.4
	comp=Z,2μm,16.0s							
MTE	**Manteigas**	**152.10**	**350**	*e*PKPdf	**PKPdf**	**21**	**36**	**01.0 +0.5**
MTE				LR	LR			
	comp=Z,2μm,20.0s							
PAB	**San Pablo**	**152.22**	**344**	*e*PKIKP	**PKPdf**	**21**	**35**	**57.7 -3.1**
PAB				*e*		21	36	06.1
PAB				MLR	MLR			
	comp=Z,5μm,19.0s							
PAB	**San Pablo**	**152.22**	**344**	*e*PKPdf	**PKPdf**	**21**	**35**	**57.7 -3.1**
PAB				*e*PKPbc	**PKPbc**	**21**	**36**	**06.1 -1.4**
PAB				LR	LR			
	comp=Z,5μm,19.0s							
EMHD	**Djebel Mahouad**	**152.40**	**330**	P	**PKPbc**	**21**	**36**	**08.0 0.0**
PCAS	**Casmilo, Conde**	**152.59**	**351**	*e*PKPbc	**PKPbc**	**21**	**36**	**09.3 +1.1**
PCAS	**Casmilo, Conde**	**152.59**	**351**	*e*PP	PP	21	39	20.1 -30
PCBR	**Castelo Branco**	**152.63**	**350**	*e*PKPbc	**PKPbc**	**21**	**36**	**07.7 -0.5**
PTOM	**Tomar**	**153.00**	**351**	*e*PKPbc	**PKPbc**	**21**	**36**	**09.4 +0.3**
PMRV	**Marv??o**	**153.01**	**349**	*e*PKPbc	**PKPbc**	**21**	**36**	**09.5 +0.4**
PMRV	**Marv??o**	**153.01**	**349**	*e*PP	PP	21	39	33.0 -19
PMRV	**Marv??o**	**153.01**	**349**	*e*LR	LR	22	41	19.1
	comp=Z,4μm,18.0s							
CMLA	**Cha da Macela**	**153.10**	**21**	PFAKE		21	36	10.0 +0.6
CMLA				LR	LR			
	comp=Z,4μm,20.0s							
ALMR	**Almeirim**	**153.48**	**351**	*e*P	**PKPdf**	**21**	**36**	**03.0 +0.5**
ALMR	**Almeirim**	**153.48**	**351**	*e*P	**PKPdf**	**21**	**36**	**03.0 +0.5**
PMTG	**Montargil**	**153.51**	**350**	*e*PKPbc	**PKPdf**	**21**	**36**	**05.5 +3.0**
PMTG	**Montargil**	**153.51**	**350**	*e*PP	PP	21	39	53.2 -1.9
PESTR	**Estremoz**	**153.60**	**349**	*e*PKPbc	**PKPbc**	**21**	**36**	**06.8 -3.6**
PESTR	**Estremoz**	**153.60**	**349**	*e*PP	PP	21	39	53.3 -2.3
PMAFR	**Mafra**	**153.78**	**352**	*e*PP	PP	21	39	30.5 -26
LIS	**Lisbon**	**153.99**	**352**	*e*P	**PKPdf**	**21**	**36**	**03.6 +0.4**
LIS	**Lisbon**	**153.99**	**352**	*e*P	**PKPdf**	**21**	**36**	**03.6 +0.4**
PNCL	**Nicolau / Gran**	**154.49**	**351**	*e*PKPbc	**PKPbc**	**21**	**36**	**09.6 -2.7**
PNCL	**Nicolau / Gran**	**154.49**	**351**	*e*PP	PP	21	40	04.9 +4.3
PCVE	**Castro Verde**	**154.88**	**349**	*e*PKPbc	**PKPbc**	**21**	**36**	**14.1 +0.9**
PCVE	**Castro Verde**	**154.88**	**349**	*e*PP	PP	21	40	10.1 +7.3
PVAQ	**Vaqueiros**	**155.04**	**349**	*e*PKPbc	PKPdf	21	36	14.8 +10
PVAQ	**Vaqueiros**	**155.04**	**349**	*e*PP	PP	21	40	11.6 +7.9
PVAQ	**Vaqueiros**	**155.04**	**349**	*e*LR	LR	22	42	18.1
	comp=Z,3μm,20.0s							
PTEO	**Sao Teotonio**	**155.08**	**351**	*e*PKPbc	PKPdf	21	36	16.5 +12
RTC	**Rabat Centre**	**158.12**	**345**	PFAKE		21	36	20.0 +11
RTC				LR	LR			
	comp=Z,3μm,20.0s							
MDT	**Midelt**	**158.52**	**339**	*e*PKPdf	**PKPdf**	**21**	**36**	**10.4 +0.9**
MDT				*e*PKPab	**PKPab**	**21**	**36**	**44.6 +0.3**
MDT	**Midelt**	**158.52**	**339**	PKP	**PKPdf**	**21**	**36**	**10.4 +0.9**
	comp=Z,2.2nm,1.1s,baz=67,slow=3.3,SNR=4.7							
MDT				PKPab	**PKPab**	**21**	**36**	**44.6 +0.3**
	comp=Z,7.1nm,1.0s,baz=27,slow=5.2,SNR=7.2							
TAM	**Tamanrasset**	**159.26**	**301**	PFAKE		21	36	20.0 +9.3
TAM				LR	LR			
	comp=Z,2μm,20.0s							
ASCN	**Ascension**	**159.27**	**178**	PFAKE		21	36	20.0 +9.2
ASCN				LR	LR			
	comp=Z,899nm,19.0s							
PMOZ	**Porto Moniz, M**	**159.93**	**9**	*e*PP	PP	21	40	33.5 +2.8
PMOZ	**Porto Moniz, M**	**159.93**	**9**	*e*LR	LR	22	38	24.6
	comp=Z,3μm,18.0s							
TOA0	**Torodi Ar. Sit**	**165.00**	**273**	*e*PKPdf	**PKPdf**	**21**	**36**	**13.5 -3.0**
TOA0				*e*PKPab	**PKPab**	**21**	**37**	**08.4 -4.8**
TORD	**Torodi Ar. Bea**	**165.00**	**273**	PKP	**PKPdf**	**21**	**36**	**15.4 -1.1**
	comp=Z,5.0nm,1.0s,baz=44,slow=1.2,SNR=13							
TORD				PKPab	**PKPab**	**21**	**37**	**13.9 +0.7**
	comp=Z,7.4nm,0.9s,baz=81,slow=3.4,SNR=6.3							
KIC	**Kosan Boka**	**169.03**	**234**	*e*P	**PKPdf**	**21**	**36**	**19.5 -0.1**
	comp=Z,82nm,1.3s							
KIC	**Kosan Boka**	**169.03**	**234**	*e*P	**PKPab**	**21**	**37**	**32.5 +1.7**
	comp=Z,200nm,1.5s							
LIC	**Lamto**	**169.17**	**233**	*e*P	**PKPdf**	**21**	**36**	**17.5 -2.2**
	comp=Z,24nm,1.0s							
LIC	**Lamto**	**169.17**	**233**	*e*P	**PKPab**	**21**	**37**	**34.3 +2.9**
	comp=Z,60nm,1.2s							
DBIC	**Dimbokro**	**169.31**	**235**	*e*PKPdf	**PKPdf**	**21**	**36**	**18.8 -1.0**
DBIC				*e*PKPab	**PKPab**	**21**	**37**	**30.4 -1.6**
DBIC	**Dimbokro**	**169.31**	**235**	PKP	**PKPdf**	**21**	**36**	**18.1 -1.6**
	comp=Z,15nm,1.1s,baz=249,slow=5.3,SNR=4.4							
DBIC				PKPab	**PKPab**	**21**	**37**	**32.9 +0.8**
	comp=Z,18nm,1.0s,baz=110,slow=3.6,SNR=7.6							
TIC	**Toumodi**	**169.42**	**235**	*e*P	**PKPdf**	**21**	**36**	**17.7 -2.1**
	comp=Z,143nm,1.9s							
TIC	**Toumodi**	**169.42**	**235**	*e*P	**PKPab**	**21**	**37**	**34.1 +1.5**
	comp=Z,59nm,1.0s							

*IDC **08** 21:18:34.2±0.6, 12°.99S×166°.20E, h0km, mb5.1/17, mb1 5.1/18, mb1mx5.0/24, mbtmp5.1/18, Error ellipse: s-maj=21.1km s-min=16.6km az=103.0*

*ISCJB **08** 21:18:35.7±0.5, 12°.97S±0°.07×166°.11E±0°.07, h20km, mb5.0/28, Error ellipse: s-maj=11.2km s-min=9.7km az=42.9*

*MOS **08** 21:18:38.1±0.8, 12°.92S×166°.04E, h33km, mb5.3/25, Error ellipse: s-maj=14.4km s-min=12.3km az=42.0*

*NEIC **08** 21:18:40.6±2.4, 12°.98S×166°.07E, h44km±19km, mb5.1/8, Error ellipse: s-maj=16.5km s-min=11.0km az=101.0*

ISC 08 21:18:37.2±0.4, 12°.95S±0°.09×166°.20E±0°.09, h20km, n106, σ1§00/108, mb5.1/28, 6C-4D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.06**	**299**			Pn	**Pn**	**21 20 19.4**	**-0.2**
HNR						Sn	**Sn**	**21 21 39.5**	**+0.2**
HNR	**Honiara**	**7.06**	**299**			Pn	**Pn**	**21 20 19.4**	**-0.2**
	baz=85,slow=19,SNR=1.5								
HNR						Sn	**Sn**	**21 21 39.5**	**+0.2**
	baz=198,slow=20,SNR=3.4								
STKA	**Stephens Creek**	**29.41**	**226**	*e*P		**P**	**P**	**21 24 39.4**	**-0.1**
	12nm,1.1s								
RPZ	**Rata Peaks**	**30.94**	**173**	P		**P**	**P**	**21 24 52.8**	**-0.1**
RPZ	**Rata Peaks**	**30.94**	**173**	P		**P**	**P**	**21 24 52.8**	**-0.1**
	59nm,0.9s,baz=164,slow=1.1,SNR=7.4								
WRAB	**Tennant Creek**	**31.29**	**253**	*e*P		**P**	**P**	**21 24 57.7**	**+1.5**
WRAB				pmax	pmax				
	comp=Z,38nm,1.0s								
WRAB	**Tennant Creek**	**31.29**	**253**	*e*P		**P**	**P**	**21 24 57.7**	**+1.5**
	comp=Z,38nm,1.0s								
WRA	**Warramunga Arr**	**31.30**	**253**	P		**P**	**P**	**21 24 55.7**	**-0.7**
WRA	**Warramunga Arr**	**31.30**	**253**	P		**P**	**P**	**21 24 55.7**	**-0.7**
	comp=Z,17nm,1.0s,baz=83,slow=8.9,SNR=3.6								
ASAR	**Alice Springs**	**32.38**	**246**	P		**P**	**P**	**21 25 05.3**	**-0.5**
ASAR				PcP		**PcP**	**PcP**	**21 27 54.5**	**+1.1**
ASAR	**Alice Springs**	**32.38**	**246**	P		**P**	**P**	**21 25 05.3**	**-0.5**
	comp=Z,52nm,0.9s,baz=76,slow=9.3,SNR=8.2								
ASAR				PcP		**PcP**	**PcP**	**21 27 54.5**	**+1.1**
	comp=Z,4.2nm,0.9s,baz=78,slow=3.1,SNR=4.1								
FITZ	**Fitzroy Crossi**	**39.36**	**257**	*e*P		**P**	**P**	**21 26 02.9**	**-2.8**
	comp=Z,76nm,1.2s								
FITZ	**Fitzroy Crossi**	**39.36**	**257**	P		**P**	**P**	**21 26 04.9**	**-0.7**
	comp=Z,28nm,1.1s,baz=77,slow=12,SNR=2.9								
BATI	**Baumata**	**41.73**	**269**	P		**P**	**P**	**21 26 26.3**	**+0.9**
BATI	**Baumata**	**41.73**	**269**	P		**P**	**P**	**21 26 26.3**	**+0.9**
	comp=Z,36nm,0.5s,baz=180,slow=1.0,SNR=4.1								
NWAO	**Narrogin (SRO)**	**48.80**	**237**	P		**P**	**P**	**21 27 21.4**	**+0.2**
NWAO	**Narrogin (SRO)**	**48.80**	**237**	P		**P**	**P**	**21 27 21.4**	**+0.2**
	comp=Z,32nm,1.0s,baz=85,slow=10,SNR=5.2								
JNU	**Nakatsue**	**56.88**	**325**	P		**P**	**P**	**21 28 21.2**	**+0.4**
JNU	**Nakatsue**	**56.88**	**325**	P		**P**	**P**	**21 28 21.2**	**+0.4**
	comp=Z,24nm,0.9s,baz=148,slow=5.7,SNR=4.3								
ASAJ	**Asahikawa**	**60.73**	**341**	*e*P		**P**	**P**	**21 28 48.2**	**+0.8**
	comp=Z,11nm,0.6s								
ASAJ	**Asahikawa**	**60.73**	**341**	P		**P**	**P**	**21 28 48.5**	**+1.1**
	comp=Z,34nm,0.7s,baz=208,slow=10,SNR=9.8								
YSS	**Yuzh-Sakhalins**	**63.23**	**342**	‖*e*P		**P**		**21 29 04.5**	**+0.4**
YSS				pmax	pmax				
	comp=Z,110nm,1.2s								
VLA	**Vladivostok**	**64.03**	**333**	*i* P		**P**	**P**	**21 29 07.3**	**-2.2**
VLA				pmax	pmax				
	comp=Z,52nm,1.6s								
VNDA	**Vanda**	**64.61**	**181**	P		**P**	**P**	**21 29 13.3**	**+0.5**
VNDA	**Vanda**	**64.61**	**181**	P		**P**	**P**	**21 29 13.3**	**+0.5**
	comp=Z,13nm,1.1s,baz=344,slow=10,SNR=3.8								
USRK	**Ussuriysk Arra**	**64.84**	**333**	P		**P**	**P**	**21 29 16.1**	**+1.3**
	comp=Z,14nm,0.8s,baz=131,slow=5.5,SNR=7.7								
PETK	**Petropavlovsk-**	**66.20**	**354**	P		**P**	**P**	**21 29 24.3**	**+0.9**
PETK				pmax	pmax				
	comp=Z,6.0nm,0.7s								
PETK	**Petropavlovsk-**	**66.20**	**354**	P		**P**	**P**	**21 29 24.3**	**+0.9**
PETK	**Petropavlovsk-**	**66.20**	**354**	P		**P**	**P**	**21 29 24.3**	**+0.9**
	comp=Z,5.9nm,0.7s,baz=153,slow=9.7,SNR=4.9								
CM31	**Chiang Mai Arr**	**73.28**	**294**	*e*P		**P**	**P**	**21 30 08.9**	**+1.1**
	comp=Z,7.7nm,0.6s								
CHTO	**Chiang Mai**	**73.40**	**294**	*e*P		**P**	**P**	**21 30 08.4**	**-0.1**
CHTO				pmax	pmax				
	comp=Z,68nm,1.0s								
CHTO	**Chiang Mai**	**73.40**	**294**	*e*P		**P**	**P**	**21 30 08.3**	**-0.1**
	comp=Z,68nm,1.0s								
SEY	**Seymchan**	**76.41**	**354**	*ce*P		**P**	**P**	**21 30 24.3**	**-0.6**
ULN	**Ulaanbaatar**	**80.10**	**324**	*e*P		**P**	**P**	**21 30 46.4**	**+0.5**
	comp=Z,15nm,0.7s								
SONM	**Songino Array**	**80.46**	**324**	P		**P**	**P**	**21 30 48.8**	**+1.0**
SONM	**Songino Array**	**80.46**	**324**	P		**P**	**P**	**21 30 48.8**	**+1.0**
	comp=Z,13nm,1.2s,baz=134,slow=4.3,SNR=4.7								
TLY	**Talaya**	**83.95**	**326**	*e*P		**P**	**P**	**21 31 06.6**	**+0.7**
TLY				*e*				21 31 16.8	
TLY				pmax	pmax				
	comp=Z,58nm,1.3s								
ILAR	**Eielson Array**	**85.17**	**18**	P		**P**	**P**	**21 31 10.7**	**-1.0**
ILAR	**Eielson Array**	**85.17**	**18**	P		**P**	**P**	**21 31 10.7**	**-1.0**
	comp=Z,5.2nm,0.7s,baz=246,slow=5.3,SNR=6.0								
NVAR	**Mina Array Bea**	**86.91**	**50**	P		P	P	21 31 24.7	+3.4
NVAR	**Mina Array Bea**	**86.91**	**50**	P		P	P	21 31 24.7	+3.4
	comp=Z,1.2nm,0.6s,baz=236,slow=6.4,SNR=3.2								
TIXI	**Tiksi**	**88.03**	**349**	*ce*P		**P**	**P**	**21 31 24.3**	**-1.3**
TIXI				pmax	pmax				
	comp=Z,22nm,1.7s								
HVS	**Khovu-Aksy**	**89.33**	**323**	*i* P		**P**	**P**	**21 31 32.5**	**+0.2**
MK31	**Makanchi Array**	**95.21**	**317**	*e*P		**P**	**P**	**21 31 59.2**	**-0.3**
MK31	**Makanchi Array**	**95.21**	**317**	*e*P		**P**	**P**	**21 31 59.2**	**-0.3**
MKAR	**Makanchi Array**	**95.21**	**317**	P		**P**	**P**	**21 31 59.5**	**0.0**
MKAR				pmax	pmax				
	comp=Z,10.0nm,0.8s								
MKAR	**Makanchi Array**	**95.21**	**317**	P		**P**	**P**	**21 31 59.5**	**0.0**
MKAR	**Makanchi Array**	**95.21**	**317**	P		**P**	**P**	**21 31 59.5**	**0.0**
	comp=Z,10nm,0.8s,baz=92,slow=5.7,SNR=6.9								
ZAA0	**Zalesovo Array**	**95.35**	**324**	*e*P		**P**	**P**	**21 31 58.8**	**-1.2**
ZALV	**Zalesovo Beam**	**95.35**	**324**	P		**P**	**P**	**21 31 59.2**	**-0.7**
ZALV				pmax	pmax				
	comp=Z,7.0nm,0.8s								
ZALV	**Zalesovo Beam**	**95.35**	**324**	P		**P**	**P**	**21 31 59.2**	**-0.7**
ZALV	**Zalesovo Beam**	**95.35**	**324**	P		**P**	**P**	**21 31 59.2**	**-0.7**
	comp=Z,6.9nm,0.8s,baz=118,slow=4.6,SNR=5.9								
TXAR	**Lajitas Array**	**96.34**	**61**	P		**P**	**P**	**21 32 07.2**	**+2.0**
TXAR	**Lajitas Array**	**96.34**	**61**	P		**P**	**P**	**21 32 07.2**	**+2.0**
	comp=Z,0.7nm,0.7s,baz=232,slow=6.1,SNR=4.4								
KURK	**Kurchatov**	**98.38**	**320**	*i* P		**P**	**P**	**21 32 13.1**	**-0.6**
KURK				pmax	pmax				
	comp=Z,3.0nm,1.4s								
KURK	**Kurchatov**	**98.38**	**320**	*e*P		**P**	**P**	**21 32 12.8**	**-0.9**
	comp=Z,1.3nm,0.7s								
KURBB	**Kurchatov Arra**	**98.42**	**320**	P		**P**	**P**	**21 32 13.3**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=98,slow=4.1,SNR=4.4								
BVAR	**Borovoye Array**	**103.72**	**322**	P		**Pdif**	**P**	**21 32 36.9**	**-0.6**
BVAR				pmax	pmax				
	comp=Z,1.0nm,0.5s								
BVAR	**Borovoye Array**	**103.72**	**322**	Pdif		**Pdif**	**P**	**21 32 36.9**	**-0.6**
BVAR	**Borovoye Array**	**103.72**	**322**	Pdiff		**Pdif**	**P**	**21 32 36.9**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=112,slow=6.4,SNR=3.8								
ARCES	**ARCESS Array B**	**118.28**	**345**	PKP		**PKPdf**		**21 37 21.8**	**-0.9**
ARCES	**ARCESS Array B**	**118.28**	**345**	PKP		**PKPdf**		**21 37 21.7**	**-0.9**
	comp=Z,2.2nm,0.5s,baz=58,slow=2.0,SNR=8.5								
JMIC	**Jan Mayen**	**121.91**	**358**	PKP		**PKPdf**		**21 37 29.4**	**-0.1**
JMIC	**Jan Mayen**	**121.91**	**358**	PKP		**PKPdf**		**21 37 29.4**	**-0.1**
	comp=Z,75nm,0.4s,baz=140,slow=11,SNR=3.1								
OBN	**Obninsk**	**122.65**	**328**	‖*i*PKIKP		**PKPdf**		**21 37 31.4**	**+0.1**
OBN				*e*				21 44 41.4	
OBN				*e*PS		**PS**		**21 49 02.3**	**-2.0**
OBN				pmax	pmax				
	comp=Z,22nm,1.5s								
KIV	**Kislovodsk**	**122.87**	**314**	‖*i*PKIKP		**PKPdf**		**21 37 30.6**	**-1.7**
KIV				pmax	pmax				
	comp=Z,16nm,1.7s								
FINES	**FINESS Array B**	**123.70**	**338**	PKP		**PKPdf**		**21 37 31.9**	**-1.3**
FINES	**FINESS Array B**	**123.70**	**338**	PKP		**PKPdf**		**21 37 31.9**	**-1.3**
	comp=Z,1.1nm,0.5s,baz=66,slow=2.2,SNR=5.0								
BOSA	**Boshof**	**124.02**	**222**	PKP		**PKPdf**		**21 37 34.7**	**-0.4**
BOSA	**Boshof**	**124.02**	**222**	PKP		**PKPdf**		**21 37 34.7**	**-0.4**
	comp=Z,5.6nm,0.9s,baz=335,slow=1.3,SNR=4.0								
LBTB	**Lobatse**	**126.15**	**225**	*e*PKPdf		**PKPdf**		**21 37 37.8**	**-1.4**
NOA	**NORSAR Array B**	**128.65**	**345**	PKP		**PKPdf**		**21 37 42.6**	**-0.2**
NOA	**NORSAR Array B**	**128.65**	**345**	PKP		**PKPdf**		**21 37 42.6**	**-0.2**
	comp=Z,2.9nm,1.1s,baz=62,slow=1.9,SNR=2.4								
AKASG	**Malin Array Be**	**128.69**	**326**	PKIKP		**PKPdf**		**21 37 42.6**	**-0.5**
AKASG				pmax	pmax				
	comp=Z,5.0nm,1.0s								
AKASG	**Malin Array Be**	**128.69**	**326**	PKP		**PKPdf**		**21 37 42.6**	**-0.5**
AKASG	**Malin Array Be**	**128.69**	**326**	PKP		**PKPdf**		**21 37 42.6**	**-0.5**
	comp=Z,5.0nm,1.0s,baz=52,slow=2.5,SNR=5.9								
HFS	**Hagfors**	**128.73**	**343**	PKP		**PKPdf**		**21 37 42.8**	**-0.1**
HFS	**Hagfors**	**128.73**	**343**	PKP		**PKPdf**		**21 37 42.8**	**-0.1**
	comp=Z,5.5nm,0.7s,baz=220,slow=13,SNR=3.6								
BR131	**Keskin Array S**	**130.56**	**312**	*e*PKPdf		PKPdf		21 37 40.4	-6.8
BRTR	**Keskin Array B**	**130.56**	**312**	PKPpre		PKPpre		21 37 35.5	
BRTR				PKP		**PKiKP**		**21 37 47.7**	**-0.4**
BRTR	**Keskin Array B**	**130.56**	**312**	PKhKP		PKPpre		21 37 35.5	
	comp=Z,0.6nm,0.6s,baz=74,slow=2.9,SNR=4.8								
BRTR				PKP		**PKiKP**		**21 37 47.7**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=127,slow=3.4,SNR=4.6								
MORC	**Moravsky Berou**	**135.18**	**331**	*e*PKIKP		**PKPdf**		**21 37 53.4**	**-2.0**
MORC	**Moravsky Berou**	**135.18**	**331**	*e*PKPdf		**PKPdf**		**21 37 53.4**	**-2.0**
CLL	**Collm**	**136.02**	**336**	*i* PKIKP		**PKPdf**		**21 37 54.7**	**-2.2**
CLL				pmax	pmax				
	comp=Z,22nm,1.6s								
CLL	**Collm**	**136.02**	**336**	*e*PKPdf		**PKPdf**		**21 37 55.0**	**-1.9**
	comp=Z,17nm,1.6s								
CLL				*es*PKiKP		sPKiKP		21 38 17.0	+9.3
CLL				*e*SKPab		**SKPbc**		**21 41 30.0**	**+2.3**
	comp=Z,39nm,2.0s								
CONA	**Conrad Observa**	**137.27**	**331**	⇑*i*Pdiff		pPdif		21 35 22.2	+8.6
	comp=Z,30nm,1.5s								
GERES	**GERESS Array B**	**137.60**	**333**	PKPpre		PKPpre		21 37 49.9	
GERES				PKP		**PKPdf**		**21 38 00.1**	**0.0**
GERES	**GERESS Array B**	**137.60**	**333**	PKhKP		PKPpre		21 37 49.9	
	comp=Z,1.5nm,0.9s,baz=198,slow=2.0,SNR=3.5								
GERES				PKP		**PKPdf**		**21 38 00.1**	**0.0**
	comp=Z,1.3nm,0.8s,baz=18,slow=1.7,SNR=3.6								
SOKA	**Soboth**	**138.55**	**330**	‖*i*pPdiff		pPdif		21 35 25.0	+5.7
	comp=Z,28nm,1.3s								
ABTA	**Abfaltersbach**	**139.69**	**332**	⇑*i*pPdiff		pPdif		21 35 29.2	+4.8
	comp=Z,10nm,0.9s								
FETA	**Feichten**	**140.28**	**334**	⇑*i*pPdiff		pPdif		21 35 25.9	-1.3
	comp=Z,18nm,1.2s								
DAVA	**Damuels**	**140.44**	**335**	⇑*i*Pdiff		**Pdif**		**21 35 24.6**	**+3.5**
	comp=Z,13nm,0.7s								
CEL	**Celeste**	**143.51**	**319**	*e*PKPdf		PKPab		21 38 07.7	+0.3
VSL	**Villasalto**	**146.57**	**326**	*e*PKPab		**PKPbc**		**21 38 17.7**	**0.0**
KEST	**Kesra**	**149.18**	**321**	PKPbc		**PKPbc**		**21 38 25.3**	**+0.4**
KEST	**Kesra**	**149.18**	**321**	PKPbc		**PKPbc**		**21 38 25.3**	**+0.4**
	comp=Z,28nm,0.9s,baz=288,slow=2.6,SNR=9.2								
SHEL	**Horse Pasture**	**150.19**	**196**	*e*PKIKP		**PKPbc**		**21 38 27.7**	**-0.1**
SHEL	**Horse Pasture**	**150.19**	**196**	*e*PKPbc		**PKPbc**		**21 38 27.7**	**-0.1**
ESDC	**Sonseca Array**	**152.00**	**344**	PKPbc		**PKPbc**		**21 38 31.6**	**+0.2**
ESDC				PKPab		**PKPab**		**21 38 40.8**	**+0.2**
ESDC	**Sonseca Array**	**152.00**	**344**	PKPbc		**PKPbc**		**21 38 31.6**	**+0.2**
	comp=Z,4.6nm,1.0s,baz=356,slow=2.9,SNR=3.7								
ESDC				PKPab		**PKPab**		**21 38 40.8**	**+0.2**
	comp=Z,2.8nm,0.5s,baz=11,slow=4.0,SNR=9.9								
MDT	**Midelt**	**158.51**	**338**	PKPab		**PKPab**		**21 39 09.7**	**+1.0**
MDT	**Midelt**	**158.51**	**338**	PKPab		**PKPab**		**21 39 09.7**	**+1.0**
	comp=Z,10nm,1.1s,baz=34,slow=6.4,SNR=3.6								
TORD	**Torodi Ar. Bea**	**164.90**	**272**	PKP		**PKPdf**		**21 38 40.3**	**-0.6**
TORD				PKPab		**PKPab**		**21 39 37.7**	**+0.4**
TORD	**Torodi Ar. Bea**	**164.90**	**272**	PKP		**PKPdf**		**21 38 40.3**	**-0.6**
	comp=Z,5.2nm,1.1s,baz=132,slow=2.1,SNR=2.4								
TORD				PKPab		**PKPab**		**21 39 37.7**	**+0.4**
	comp=Z,5.4nm,0.9s,baz=90,slow=5.8,SNR=5.1								
DBIC	**Dimbokro**	**169.20**	**236**	PKPab		**PKPab**		**21 39 56.5**	**+0.4**
	comp=Z,10nm,1.0s,baz=62,slow=4.8,SNR=4.5								

IDC 08 21:31:04.8±11.0, 15°.50S×173°.02W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/20, mbtmp3.7/2, Error ellipse: s-maj=524.3km s-min=26.8km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.99**	**38**			Pn	Pn	21 31 38.6	-1.2
	33nm,0.3s,baz=203,slow=4.1,SNR=13								
AFI						Sn	Sn	21 31 57.6	-7.9
	122nm,0.3s,baz=115,slow=17,SNR=14								
WRA	**Warramunga Arr**	**50.17**	**257**	P		P	P	21 40 02.0	-0.7
	0.8nm,0.8s,baz=92,slow=6.7,SNR=7.2								
ASAR	**Alice Springs**	**50.42**	**252**	P		P	P	21 40 03.9	-0.7
	0.5nm,0.4s,baz=88,slow=7.9,SNR=7.2								
BRTR	**Keskin Array B**	**146.46**	**321**	PKPbc		PKPab		21 50 49.3	0.0
	0.2nm,

baz=27,SNR=17
BFZ Birch Farm 29.52 164 *e*P P **21 43 17.4 -2.5**
comp=Z,217nm,2.0s
STKA Stephens Creek 29.79 225 *e*P P **21 43 23.4 +1.0**
comp=Z,25nm,1.5s
STKA Stephens Creek 29.79 225 P P **21 43 23.6 +1.2**
baz=30,SNR=15
STKA Stephens Creek 29.79 225 P P **21 43 23.7 +1.4**
comp=Z,12nm,0.8s,baz=28,slow=8.2,SNR=18
STKA LR LR 21 54 15.3
comp=Z,1µm,20.2s,baz=325,slow=34
KHZ Kahutara 30.58 169 *e*P P **21 43 26.9 -2.3**
comp=Z,88nm,1.2s
WRAB Tennant Creek 31.45 252 *e*P P **21 43 35.5 -1.7**
WRAB pmax pmax
comp=Z,62nm,2.0s
WRAB Tennant Creek 31.45 252 *e*P P **21 43 35.5 -1.7**
comp=Z,62nm,2.0s
WRA Warramunga Arr 31.46 252 *e*P P **21 43 36.0 -1.3**
WRA *e*PcP **PcP** **21 46 30.5 +0.9**
WRA Warramunga Arr 31.46 252 P P **21 43 36.0 -1.3**
comp=Z,3.1nm,0.9s,baz=84,slow=9.3,SNR=8.6
WRA PcP **PcP** **21 46 30.5 +0.9**
comp=Z,8.0nm,1.0s,baz=79,slow=2.7,SNR=11
RPZ Rata Peaks 31.48 173 *e*P P **21 43 36.9 -0.3**
comp=Z,704nm,2.6s
RPZ Rata Peaks 31.48 173 P P **21 43 36.4 -0.8**
comp=Z,34nm,0.8s,baz=143,slow=2.3,SNR=9.6
AS01 Alice Springs 32.56 245 *e*P P **21 43 44.5 -2.5**
AS12 Alice Springs 32.60 245 *e*P P **21 43 45.9 -1.4**
AS12 *e*PcP **PcP** **21 46 33.1 +0.5**
ASAR Alice Springs 32.60 245 P P **21 43 45.9 -1.4**
comp=Z,5.6nm,0.8s,baz=75,slow=9.4,SNR=32
ASAR PcP **PcP** **21 46 33.1 +0.5**
comp=Z,6.3nm,0.8s,baz=76,slow=2.7,SNR=12
ASAR LR LR 21 55 17.8
comp=Z,3µm,20.6s,baz=103,slow=33
DCZ Deep Cove 32.97 179 *e*P P **21 43 49.7 -0.5**
comp=Z,90nm,1.2s
WHZ Wether Hill Ro 33.41 178 *e*P P **21 43 53.4 -0.6**
comp=Z,139nm,1.8s
BBOO Buckleboo 34.25 229 *e*P P **21 44 00.8 -0.7**
comp=Z,161nm,0.9s
BBOO Buckleboo 34.25 229 P P **21 44 01.5 0.0**
baz=34,SNR=7.2
KNRA Kununurra 36.43 260 P P **21 44 22.4 +2.0**
baz=37,SNR=3.4
FITZ Fitzroy Crossi 39.48 257 *e*P P **21 44 44.1 -2.0**
comp=Z,51nm,1.5s
FITZ *e*PcP **PcP** **21 46 54.2 +1.1**
FITZ Fitzroy Crossi 39.48 257 P P 21 44 50.0 +3.9
baz=40,SNR=9.1
FITZ Fitzroy Crossi 39.48 257 P P **21 44 46.2 +0.1**
comp=Z,6.4nm,1.0s,baz=114,slow=7.6,SNR=3.7
FITZ PcP **PcP** **21 46 54.2 +1.1**
comp=Z,5.0nm,1.0s,baz=117,slow=4.5,SNR=3.1
FORT Forrest 39.65 236 *e*P P **21 44 44.5 -2.9**
comp=Z,52nm,0.9s
NLAI Namlea 39.74 280 P P 21 44 54.7 +6.4
LBMI Labuha 40.11 284 P P 21 44 58.1 +6.7
BATI Baumata 41.73 269 P P 21 45 09.1 +4.3
comp=Z,9.3nm,0.5s,baz=292,slow=15,SNR=2.2
PPT2 Papeete2 42.96 103 *e*LQ LQ 21 55 27.4
comp=Z,2µm,27.8s
PPT2 *e*LR LR 21 57 26.7
comp=Z,2µm,25.2s
TBI Tubuai 43.43 111 *e*LQ LQ 21 55 44.1
comp=Z,2µm,30.8s
SGSI Sangihe 43.46 289 P P 21 45 26.1 +7.3
KMSI Cibinong 43.83 284 P P 21 45 28.5 +6.7
LUWI Luwuk 44.50 281 P P 21 45 35.1 +8.0
MBWA Marble Bar 45.20 252 *e*P P **21 45 31.1 -1.5**
comp=Z,26nm,1.1s
CBI Chichi jima 45.66 330 *e*P P **21 45 36.5 +0.5**
JCJ Chichijima 45.66 330 P P **21 45 36.5 +0.5**
comp=Z,87nm,0.7s,baz=264,slow=17,SNR=3.4
BKSI Bulukumba 46.01 275 P P 21 45 45.2 +6.1
BNSI Bone 46.22 276 P P 21 45 45.8 +5.0
MEEK Meekatharra 46.76 245 P P **21 45 45.6 +0.7**
baz=47,SNR=6.3
KLBR Kellerberrin 48.37 239 P P **21 45 57.4 +0.1**
baz=48,SNR=4.4
MORW Morawa 49.37 242 P P **21 46 05.5 +0.5**
baz=50,SNR=4.7
MYLDM Lahad Datu 50.52 287 P P 21 46 21.6 +7.7
comp=Z,48nm,1.5s
MYLDM Lahad Datu 50.52 287 *e*P P **21 46 15.4 +1.5**
comp=Z,64nm,1.2s
PCJI Pacitan 54.22 269 P P 21 46 47.5 +6.2
YOGI Yogyakarta 55.14 269 P P 21 46 54.2 +6.2
MAJO Matsushiro 55.37 333 *e*P P **21 46 48.5 -0.8**
MAJO pmax pmax
comp=Z,65nm,1.0s
MAJO Matsushiro 55.37 333 *e*P P **21 46 48.5 -0.8**
comp=Z,64nm,1.0s
MAT Matsushiro 55.37 333 P P **21 46 48.8 -0.4**
SBUM Sibu 55.60 282 P P 21 46 58.5 +7.2
comp=Z,12nm,1.2s
SBUM Sibu 55.60 282 *e*P P **21 46 50.4 -0.9**
comp=Z,12nm,1.0s
STKI Sintang 55.66 279 P P 21 46 57.1 +5.3
CLJI Cilicap 56.41 269 P P 21 47 02.2 +5.1
JNU Nakatsue 56.43 324 *e*P P **21 46 55.2 -1.7**
comp=Z,74nm,1.1s
JNU Nakatsue 56.43 324 P P **21 46 58.3 +1.4**
comp=Z,36nm,0.9s,baz=116,slow=2.8,SNR=11
TGJI Tegal 56.45 270 P P 21 47 04.2 +6.8
KPJI Karang Pucung 56.56 269 P P 21 47 04.0 +5.9
KSM Kuching 57.16 280 P P 21 47 08.1 +5.7
comp=Z,24nm,1.2s
KSM Kuching 57.16 280 *e*P P **21 47 02.4 -0.1**
comp=Z,34nm,1.2s
KSM Kuching 57.16 280 P P 21 47 09.8 +7.3
baz=57,SNR=5.8
LEM Lembang 57.93 270 P P 21 47 13.7 +5.7
CBJI Citeko 58.75 270 P P 21 47 18.2 +4.6
DBJI Dramaga 58.83 270 P P 21 47 20.0 +5.9
ASAJ Asahikawa 60.21 341 *e*P P **21 47 24.0 +1.0**
comp=Z,240nm,1.8s
ASAJ Asahikawa 60.21 341 P P **21 47 24.1 +1.0**
comp=Z,139nm,0.7s,baz=164,slow=13,SNR=6.8
KASI Kota Agung 61.22 270 P P 21 47 36.4 +5.9
KSRS Korea Array 61.24 326 P P **21 47 31.4 +1.3**
comp=Z,8.1nm,0.8s,baz=146,slow=6.8,SNR=22
KS15 Wonju Array Si 61.25 326 *e*P P **21 47 31.4 +1.2**
KS01 Wonju Array Si 61.27 326 *e*P P **21 47 30.0 -0.4**
MDSI Maura Dua 61.73 272 P P 21 47 38.3 +4.3
NJ2 Nanjing 63.29 316 *e*P P **21 47 43.6 -0.4**
NJ2 pP **pP** **21 47 55.5 -4.0**
NJ2 AMB AMB
comp=Z,30nm,0.8s
USRK Ussuriysk Arra 64.35 333 P P **21 47 52.4 +1.7**
comp=Z,67nm,1.0s,baz=140,slow=6.0,SNR=73
VNDA Vanda 65.15 181 *e*P P **21 47 54.8 -0.6**
comp=Z,65nm,1.6s
VNDA Vanda 65.15 181 P P **21 47 55.2 -0.2**
comp=Z,12nm,1.1s,baz=357,slow=7.1,SNR=23
CASY Casey 65.28 202 *e*P P **21 47 56.1 -0.4**
comp=Z,249nm,2.7s
SBA Scott Base 65.45 180 *e*P P **21 47 57.9 +0.6**
SBA pmax pmax
comp=Z,50nm,1.1s
SBA Scott Base 65.45 180 *e*P P **21 47 57.9 +0.6**
comp=Z,50nm,1.1s
PETK Petropavlovsk- 65.65 354 P P **21 47 59.5 +0.5**
comp=Z,3.0nm,0.8s,baz=89,slow=7.5,SNR=3.2
MDJ Mudanjiang 65.75 332 P P **21 48 00.9 +1.1**
MDJ AMB AMB
comp=Z,82nm,1.3s
MDJ AMB AMB
comp=Z,670nm,13.0s
IPM Ipoh 66.89 280 *e*P P **21 48 05.6 -2.2**
comp=Z,44nm,1.1s
CN2 Changchun 67.13 329 *e*P P **21 48 10.0 +1.4**
CN2 *es*P **sP** **21 48 33.3 +2.7**
CN2 *e*S **S** **21 56 58.5 -0.1**
CN2 AMB AMB
comp=Z,90nm,0.9s
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,400nm,14.0s
CN2 LR LR
comp=Z,10µm,15.0s
PANO Nakornpanom 67.55 295 P P **21 48 13.9 +2.1**
comp=Z,249nm,1.2s,comp=Z,5µm
SKNT Sakolnakorn 68.04 294 P P **21 48 16.2 +1.3**
comp=Z,32nm,1.0s
KLR Kul'dur 68.47 337 *i* P P **21 48 14.8 -2.1**
KLR pmax pmax
comp=E,60nm,1.6s
KLR pmax pmax
comp=Z,220nm,1.6s
PSI Prapat 68.49 278 *e*P P **21 48 18.1 +0.1**
PSI Prapat 68.49 278 P P **21 48 18.1 +0.1**
comp=Z,7.1nm,0.8s,baz=144,slow=10,SNR=4.3
GSI Gunungsitoli 69.44 276 P P 21 48 32.5 +8.8
CHAI Chaiyaphum 69.46 292 P P 21 48 35.9 +12
BJI Beijing 69.81 321 P P **21 48 26.5 +1.1**
BJI AMB AMB
comp=Z,27nm,1.8s
XAN Xi'an 71.36 313 P P **21 48 35.9 +0.8**
XAN pP **pP** **21 48 47.3 -3.5**
XAN sP **sP** **21 48 53.0 -4.2**
NANT Nan 71.61 295 P P **21 48 39.2 +2.4**
comp=Z,35nm,1.2s
KMI Kunming 72.20 302 P P **21 48 42.6 +2.1**
KMI pP **PcP** **21 48 57.8 -0.7**
KMI sP **sP** **21 49 04.8 +2.1**
KMI S **S** **21 57 59.4 0.0**
KMI AMB AMB
comp=Z,23nm,1.4s
KMI AMB AMB
comp=Z,310nm,5.9s
KMI LR LR
comp=Z,600nm,21.4s
KMI LR LR
comp=Z,1µm,16.7s
KMI LR LR
comp=Z,1µm,17.8s
PAYA Payao 72.54 295 P P 21 48 55.6 +13
CM01 Chiang Mai Arr 73.03 294 *e*P P **21 48 46.1 +0.8**
HHC Hu-ho-hao-te 73.15 320 *e*P P **21 48 45.3 -0.4**
HHC pP **PcP** **21 49 01.9 -0.2**
HHC sP **sP** **21 49 08.8 +1.0**
HHC PP **PP** **21 51 31.1 +1.7**
HHC S **S** **21 58 07.4 -1.9**
HHC sS **sS** **21 58 35.7 -0.3**
HHC SKS **SKSac** **21 58 41.2 -5.7**
HHC ScS **SKKSac** **21 58 44.8 -2.3**
HHC SS **SS** **22 02 52.2 +0.2**
HHC AMB AMB
comp=Z,42nm,1.1s
HHC AMB AMB
comp=Z,860nm,5.1s
HHC LR LR
comp=Z,2µm,16.5s
HHC LR LR
comp=Z,2µm,16.7s
HHC LR LR
comp=Z,3µm,16.9s
CHTO Chiang Mai 73.18 294 *e*P P **21 48 46.5 +0.3**
CHTO pmax pmax
comp=Z,17nm,1.0s
CHTO Chiang Mai 73.18 294 P P **21 48 47.9 +1.7**
CHTO Chiang Mai 73.18 294 *e*P P **21 48 46.5 +0.3**
comp=Z,17nm,1.0s
CHTO Chiang Mai 73.18 294 P P **21 48 47.9 +1.7**
comp=Z,131nm,0.9s
CD2 Chengdu 73.77 307 P P **21 48 50.9 +1.4**
CD2 pP **pP** **21 49 06.2 +0.9**
CD2 sP **sP** **21 49 12.6 +0.9**
CD2 PP **PP** **21 51 38.0 +3.1**
CD2 S **S** **21 58 16.8 +0.1**
CD2 sS **sS** **21 58 42.9 -0.5**
CD2 SS **SS** **22 03 03.8 +2.0**
CD2 AMB AMB
comp=Z,30nm,1.2s
CD2 AMB AMB
comp=Z,510nm,8.8s
CD2 LR LR
comp=Z,2µm,20.2s
CD2 LR LR
comp=Z,1µm,16.6s
BTO Baotou 74.00 319 *e*P P **21 48 51.2 +0.5**
SEY Seymchan 75.86 354 *ce*P P **21 49 01.4 +0.6**
LZH Lanzhou 75.99 312 ||P P **21 49 05.1 +2.7**
LZH pP **pP** **21 49 21.5 +3.3**
LZH sP **sP** **21 49 28.7 +4.1**
LZH PP **PP** **21 51 58.2 +4.5**
LZH *e*S **S** **21 58 41.3 -0.1**
LZH sS **ScS** **21 59 11.2 -1.4**
LZH AMB AMB
comp=Z,35nm,1.3s
LZH AMB AMB
comp=Z,250nm,7.8s
LZH LR LR
comp=Z,510nm,17.0s
LZH LR LR
comp=Z,500nm,17.3s
LZH LR LR
comp=Z,700nm,19.2s
CLNS Chul'man 76.99 338 *e*P P **21 49 09.0 +1.6**
CLNS pmax pmax
comp=Z,19nm,1.0s
CLNS pmax pmax
comp=E,4.0nm,1.1s
CLNS pmax pmax
comp=N,11nm,1.2s
QSPA South Pole Qui 77.61 180 *e*P P **21 49 10.5 -0.4**
comp=N,99nm,1.1s
CIT Chita 78.55 330 *e*P P **21 49 17.1 +0.9**
CIT *e* 21 49 27.4
CIT *e* 21 49 30.6
CIT pmax pmax
comp=Z,223nm,1.4s
YAK Yakutsk 79.52 343 *e*P P **21 49 19.9 -1.2**
YAK pmax pmax
comp=Z,15nm,1.1s
ULN Ulaanbaatar 79.65 324 P P **21 49 23.9 +1.5**
ULN Ulaanbaatar 79.65 324 *e*P P **21 49 23.0 +0.6**
comp=Z,66nm,1.0s
SONM Songino Array 80.02 324 P P **21 49 25.8 +1.5**
comp=Z,9.9nm,0.7s,baz=136,slow=5.0,SNR=59
SONA1 Songino Array 80.02 324 *e*P P **21 49 24.8 +0.4**
GTA Gaotai 80.31 314 ||P P **21 49 28.1 +1.9**
GTA pP **pP** **21 49 39.5 -2.7**
GTA sP **sP** **21 49 44.3 -4.2**
GTA S **S** **21 59 32.6 +4.9**
GTA AMB AMB
comp=Z,32nm,1.2s
GTA AMB AMB
comp=Z,220nm,8.3s
GTA LR LR
comp=Z,1µm,17.1s
GTA LR LR
comp=Z,940nm,17.8s
GTA LR LR
comp=Z,750nm,18.5s
SHL Shillong 81.55 298 *e*P P **21 49 35.0 +1.9**
ZAK Zakamensk 83.06 325 *e*P P **21 49 39.6 -0.7**
ZAK *e* 21 54 48.5
ZAK pmax pmax
comp=Z,31nm,1.3s
IRK Irkutsk 83.43 327 *e*P P **21 49 41.6 -0.5**
IRK pmax pmax
comp=Z,80nm,2.0s
LSA Lhasa 83.45 302 P P **21 49 44.0 +0.7**
TLY Talaya 83.49 326 *ci*P P **21 49 43.1 +0.6**
TLY pmax pmax
comp=Z,77nm,1.2s
TLY Talaya 83.49 326 P P **21 49 43.0 +0.6**
comp=Z,259nm,1.1s,SNR=7.7
MAW Mawson 83.64 202 *e*P P **21 49 42.9 -0.1**
comp=Z,9.7nm,1.1s
MAW Mawson 83.64 202 P P **21 49 43.8 +0.9**
baz=84,SNR=13
MAW Mawson 83.64 202 P P **21 49 43.7 +0.8**
comp=Z,26nm,1.0s,baz=104,slow=5.9,SNR=37
IL1 Eielson Array 84.65 18 *e*P P **21 49 45.8 -2.3**
ILAR Eielson Array 84.65 18 P P **21 49 46.4 -1.7**
comp=Z,2.9nm,0.9s,baz=229,slow=6.6,SNR=11
ILB Eielson Array 84.65 18 *e*P P **21 49 46.4 -1.7**
MOY Mondy 84.94 325 *e*P P **21 49 50.7 +0.8**
MOY pmax pmax
comp=Z,62nm,2.4s
TAPN Taplejung 85.65 299 *e*P P **21 49 55.1 +0.9**
comp=Z,56nm,1.1s
ODAN Odare 85.78 299 *e*P P **21 49 55.8 +1.0**
comp=Z,85nm,1.0s
RAMN Ramite 86.49 298 *e*P P **21 49 58.7 +0.4**
NV01 Mina Array Sit 86.56 50 *e*P P **21 49 56.7 -1.7**
NV01 *e*SKSac **SKSac** **22 00 14.3 -6.3**
NVAR Mina Array Bea 86.56 50 P P **21 49 57.2 -1.2**
comp=Z,0.8nm,0.7s,baz=243,slow=5.5,SNR=4.1
JIRN Jiri 87.03 299 *e*P P **21 50 02.1 +1.0**
comp=Z,74nm,1.0s
PALK Pallekele 87.17 278 P P 21 50 10.1 +8.4
GUN Gumba 87.36 299 *e*P P **21 50 03.4 +0.7**
comp=Z,110nm,1.0s
TIXI Tiksi 87.50 349 *ce*P P **21 50 00.7 -1.2**
TIXI pmax pmax
comp=Z,20nm,2.5s
PKI Pulchoki 87.67 299 *e*P P **21 50 04.5 +0.3**
comp=Z,87nm,1.0s
KKN Kakani 87.84 299 *e*P P **21 50 05.4 +0.6**
comp=Z,53nm,0.9s
DMN Daman 87.94 299 *e*P P **21 50 06.0 +0.6**
comp=Z,141nm,0.9s
GKN Gorkha 88.45 299 *e*P P **21 50 07.9 +0.3**
comp=Z,124nm,0.9s
KOLN Koldanda 89.28 299 *e*P P **21 50 11.4 -0.2**
comp=Z,31nm,0.8s
DANN Dangsing 89.28 299 *e*P P **21 50 11.5 -0.2**
comp=Z,92nm,0.9s
ELK Elko 89.52 48 *e*P P **21 50 12.6 +0.2**
comp=Z,8.5nm,1.4s
WMQ Urumqi 90.36 315 P P **21 50 16.6 +0.5**
WMQ pP **pP** **21 50 33.7 +1.3**
WMQ sP **sP** **21 50 40.4 +1.8**
WMQ AMB AMB
comp=Z,30nm,1.6s
WMQ AMB AMB
comp=Z,510nm,5.0s
WMQ LR LR
comp=Z,1µm,16.0s
WMQ LR LR
comp=Z,680nm,16.0s
WMQ LR LR
comp=Z,410nm,17.6s
SYO Syowa Base 90.62 197 *i* P P **21 50 15.0 -1.8**
HYB Hyderabad 91.44 287 *i* P P **21 50 22.0 +0.4**
KAAM Kaadhehdhoo 93.23 270 P P 21 50 38.1 +8.1
PD31 Pinedale Array 94.14 47 *e*P P **21 50 32.2 -1.6**
PDAR Pinedale Array 94.14 47 P P **21 50 32.2 -1.6**
comp=Z,0.4nm,0.9s,baz=258,slow=1.8,SNR=2.5
MK01 Makanchi Array 94.80 317 *e*P P **21 50 34.7 -1.8**
MK32 Makanchi Array 94.81 317 *e*PKKPdf PKKPdf 22 07 31.1 -3.6
MKAR Makanchi Array 94.81 317 *e*P P **21 50 34.6 -1.9**
MKAR Makanchi Array 94.81 317 *e*P P **21 50 34.6 -1.9**
MKAR Makanchi Array 94.81 317 P P **21 50 37.3 +0.8**
comp=Z,21nm,1.0s,baz=99,slow=6.8,SNR=64
MKAR PKKPbc **PKKPdf** **22 07 31.1 -3.6**
comp=Z,0.4nm,0.6s,baz=284,slow=2.1,SNR=5.2
ZAA0 Zalesovo Array 94.91 324 *e*P P **21 50 34.9 -1.9**
ZALV Zalesovo Beam 94.91 324 P P **21 50 36.7 0.0**
comp=Z,19nm,0.8s,baz=108,slow=4.8,SNR=72
SNAA Sanae 95.80 183 *e*P P **21 50 39.5 -1.2**
SNAA Sanae 95.80 183 *e*P P **21 50 40.0 -0.7**
comp=Z,20nm,1.2s
NVS Novosibirsk 96.02 325 *e*P P **21 50 39.8 -2.0**
NVS *e* 21 54 31.4
NVS pmax pmax
comp=N,5.0nm,1.2s
NVS pmax pmax
comp=E,11nm,1.2s
NVS pmax pmax
comp=Z,20nm,1.2s
TX31 Lajitas Ar. Si 96.09 61 *e*P P **21 50 42.8 -0.1**
VNA2 Neumayer--Watz 96.75 182 *e*P P **21 50 44.5 -0.5**
VNA1 Neumayer--Stat 97.06 182 *e*P P **21 50 45.9 -0.4**
MSTX Muleshoe 97.66 57 *e*P P **21 50 47.4 -2.5**
comp=Z,74nm,2.4s
KSH Kashi 97.94 309 P Pdif 21 50 53.7 +2.6
KSH pP pP 21 51 10.6 +3.2
KSH sP sP 21 51 18.1 +4.5
KSH PP **PP** **21 54 58.8 +4.3**
KSH SKS **SKSac** **22 01 24.2 0.0**
KSH S **S** **22 02 08.8 -4.6**
KSH sS sS 22 02 40.7 -0.4
KSH AMB AMB
comp=Z,110nm,5.0s
KSH LR LR
comp=Z,720nm,14.9s
KSH LR LR
comp=Z,280nm,9.0s
KSH LR LR
comp=Z,970nm,16.9s
KURK Kurchatov 97.96 320 *ce*P P **21 50 50.5 -0.1**
KURK pmax pmax
comp=Z,11nm,1.9s
KURK Kurchatov 97.96 320 *e*P P **21 50 49.5 -1.1**
comp=Z,16nm,1.5s
KURK *e*PP **PP** **21 54 51.1 +1.1**
KURBB Kurchatov Arra 98.00 320 P P **21 50 50.5 -0.3**
comp=Z,1.4nm,0.6s,baz=101,slow=3.3,SNR=12
KURBB PP **PP** **21 54 51.1 +0.7**
comp=Z,0.3nm,0.4s,baz=97,slow=8.0,SNR=4.5
VOSK Vostochnaya 102.91 322 *e*P **Pdif** **21 51 10.4 -2.3**
VOSK Vostochnaya 102.91 322 *e*Pdif **Pdif** **21 51 10.4 -2.3**
BVAR Borovoye Array 103.28 322 Pdiff **Pdif** **21 51 12.8 -1.6**
comp=Z,3.2nm,1.0s,baz=101,slow=6.2,SNR=13
BVAR PKiKP **PKiKP** **21 55 34.2 +0.8**
comp=Z,1.4nm,0.9s,baz=87,slow=4.9,SNR=4.7
BRVK Borovoye 103.35 322 *e*P **Pdif** **21 51 13.8 -0.9**
BRVK Borovoye 103.35 322 *e*Pdif **Pdif** **21 51 13.8 -0.9**
IPAY Payeh 111.05 304 *e*P **PKiKP** **21 55 48.6 -0.1**
ICHK Chekchek 114.87 300 *e*P PKPdf 21 55 56.7 +0.6
ISRV Sarvestan 116.01 297 *e*P **PKPdf** **21 55 58.3 -0.2**
IVRN Varamin 117.00 303 *e*P **PKPdf** **21 55 59.3 -0.6**
KEV Kevo 117.22 345 *e*PKIKP **PKPdf** **21 56 03.2 +4.0**
KEV Kevo 117.22 345 *e*pkp **PKPdf** **21 56 03.2 +4.0**
ARA0 ARCESS Array S 117.75 345 *e*PKPdf **PKPdf** **21 55 60.0 -0.3**
ARCES ARCESS Array B 117.75 345 PKP **PKPdf** **21 55 60.0 -0.3**
comp=Z,3.7nm,0.8s,baz=65,slow=2.0,SNR=13
IGZV Ghazvin 118.12 305 *e*P **PKPdf** **21 56 01.4 -0.8**
IRAZ Razeghan 118.44 304 *e*P **PKPdf** **21 56 02.5 -0.3**
LPAZ La Paz 119.19 117 *e*PKPdf **PKPdf** **21 56 04.1 -1.2**
LPAZ La Paz 119.19 117 PKP **PKPdf** **21 56 04.1 -1.2**
comp=Z,0.4nm,0.4s,baz=241,slow=7.3,SNR=3.2
JOF Joensuu 120.35 338 *e*PKIKP **PKPdf** **21 56 04.3 -1.1**
JOF Joensuu 120.35 338 *e*pkp **PKPdf** **21 56 04.3 -1.1**
UMR Umm Al-Rimmam 120.71 297 *e*P **PKPdf** **21 56 07.5 +0.5**
UMR AMb AMB 21 56 09.3
comp=Z,91nm,1.4s
RDF Al-Radifah 120.88 296 *e*P **PKPdf** **21 56 08.1 +0.7**
RDF AMb AMB 21 56 09.4
comp=Z,69nm,1.0s
DGRG David-gareji 121.13 311 P **PKPdf** **21 56 09.5 +1.8**
NAY Al-Naaiem 121.14 297 *e*P **PKPdf** **21 56 08.1 +0.2**
NAY AMb AMB 21 56 09.9
comp=Z,31nm,1.2s
RST Umm Al-Ruwaisa 121.33 297 *e*P **PKPdf** **21 56 08.5 +0.2**
RST AMb AMB 21 56 10.2
comp=Z,717nm,0.9s
TBLG Delisi 121.54 311 P **PKPdf** **21 56 09.6 +1.3**
GUDG Gudauri 121.58 312 P **PKPdf** **21 56 10.5 +1.8**
KZR Kazreti 121.85 311 P **PKPdf** **21 56 10.8 +1.8**
GNI Garni 121.86 310 *e*PKPdf **PKPdf** **21 56 09.6 +0.3**
GNI Garni 121.86 310 PKP **PKPdf** **21 56 10.9 +1.7**
comp=Z,14nm,0.8s,baz=290,slow=2.5,SNR=11
ZEI Tsey 121.92 313 *i* PKIKP **PKPdf** **21 56 09.6 +0.3**
ZEI pmax pmax
comp=Z,19nm,1.3s
OBN Obninsk 122.19 328 ||*i* PKIKP **PKPdf** **21 56 09.2 +0.1**
OBN *e* 21 57 43.3
OBN *e* 22 03 16.9
OBN pmax pmax
comp=Z,55nm,2.5s
ONI Oni 122.28 313 P **PKPdf** **21 56 11.2 +1.4**
KBZ Khabaz 122.40 314 *e*PKIKP **PKPdf** **21 56 10.1 +0.2**
KBZ Khabaz 122.40 314 *e*PKPdf **PKPdf** **21 56 10.1 +0.2**
KBZ Khabaz 122.40 314 PKP **PKPdf** **21 56 10.1 +0.2**
comp=Z,6.1nm,1.0s,baz=129,slow=4.3,SNR=6.9
KIV Kislovodsk 122.49 314 ||*i* PKIKP **PKPdf** **21 56 11.0 +0.8**
KIV *e* 21 57 47.3
KIV pmax pmax
comp=Z,17nm,1.0s
AKH Akhalkalaki 122.53 311 P **PKPdf** **21 56 12.4 +1.9**
KAF Kangasniemi 122.66 339 *e*PKIKP **PKPdf** **21 56 08.8 -1.0**
KAF Kangasniemi 122.66 339 *e*pkp **PKPdf** **21 56 08.8 -1.0**
RAYN Ar Rayn 122.85 290 *e*PKPdf **PKPdf** **21 56 11.6 +0.2**
FIA0 FINESS Array S 123.19 338 *e*PKIKP **PKPdf** **21 56 11.4 +0.6**
FIA0 FINESS Array S 123.19 338 *e*PKPdf **PKPdf** **21 56 11.4 +0.6**
FINES FINESS Array B 123.19 338 PKP **PKPdf** **21 56 11.4 +0.6**

comp=Z,4.7nm,0.9s,baz=156,slow=10,SNR=7.5
CHVG Ch'k'valeri 123.23 313 P **PKPdf** 21 56 14.2 +2.7
BOSA Boshof 124.42 222 *e*PKPdf **PKPdf** 21 56 13.8 -0.7
BOSA Boshof 124.42 222 PKP **PKPdf** 21 56 13.8 -0.7
comp=Z,6.4nm,1.1s,baz=122,slow=4.8,SNR=3.9
ANN Anapa 125.83 317 *i* PKIKP **PKPdf** 21 56 15.3 -1.1
ANN pmax pmax
comp=Z,22nm,1.2s
MALT Malatya 127.05 309 ⇓PKIKP **PKPdf** 21 56 20.6 +1.5
MALT Malatya 127.05 309 ⇓*i*P **PKPdf** 21 56 20.6 +1.5
KMBO Kilima Mbogo 127.57 259 *e*PKPdf **PKPdf** 21 56 18.3 -2.8
KMBO Kilima Mbogo 127.57 259 PKP **PKPdf** 21 56 20.6 -0.4
comp=Z,2.4nm,1.1s,baz=280,slow=21,SNR=4.0
SIM Simferopol' 127.97 318 *e*PKIKP **PKPdf** 21 56 25.0 +4.5
SIM pmax pmax
comp=Z,13nm,0.8s
NB2 NORSAR Subarra128.12 345 PKPdf **PKPdf** 21 56 20.1 -0.3
comp=Z,14nm,1.4s,baz=31,slow=1.9
NB2 NORSAR Subarra128.12 345 PKPdf **PKPdf** 21 56 20.1 -0.3
baz=31,slow=1.9
AKASG Malin Array Be 128.23 326 PKP **PKPdf** 21 56 21.1 +0.2
comp=Z,6.1nm,0.9s,baz=57,slow=1.9,SNR=31
AKASG PP **PP** 21 58 25.5 +0.5
comp=Z,0.1nm,0.3s,baz=45,slow=6.3,SNR=7.1
AKBB Malin Array Si 128.23 326 *e*PKIKP **PKPdf** 21 56 21.1 +0.3
AKBB *e* 21 58 25.5
AKBB Malin Array Si 128.23 326 *e*PKPdf **PKPdf** 21 56 21.1 +0.3
AKBB *e*PP **PP** 21 58 25.4 +0.5
KIEV Kiev 128.25 326 *e*PKIKP **PKPdf** 21 56 19.9 -0.9
KIEV Kiev 128.25 326 *e*PKPdf **PKPdf** 21 56 19.9 -0.9
SUW Suwalki 129.26 333 *e*PKIKP **PKPdf** 21 56 20.3 -2.4
SUW Suwalki 129.26 333 *e*PKPdf **PKPdf** 21 56 20.2 -2.4
ASF Jabal al Asfar 129.63 302 *e*PKPdf **PKPdf** 21 56 25.9 +1.7
ASF Jabal al Asfar 129.63 302 PKP **PKPdf** 21 56 25.9 +1.7
comp=Z,5.0nm,0.9s,baz=90,slow=0.6,SNR=11
BR101 Keskin Array S 130.20 312 *e*PKPdf **PKPdf** 21 56 25.6 +0.4
BR101 *e*PP **PP** 21 58 40.1 +1.5
BRTR Keskin Array B 130.20 312 PKP **PKPdf** 21 56 25.6 +0.4
comp=Z,9.2nm,1.2s,baz=116,slow=2.9,SNR=25
BRTR PP **PP** 21 58 40.1 +1.5
comp=Z,1.3nm,0.9s,baz=94,slow=4.1,SNR=3.6
MMAI Mount Meron Ar 130.69 303 PKP **PKPdf** 21 56 28.6 +2.4
comp=Z,12nm,1.0s,baz=82,slow=6.0,SNR=11
BR231 Keskin MP Arra 130.78 312 *e*PKPdf **PKPdf** 21 56 25.6 -0.6
TLCR 131.25 320 ⇑PKIKP **PKPdf** 21 56 27.8 +1.1
TLCR 131.25 320 ⇑*i*P **PKPdf** 21 56 27.8 +1.1
CFR Carcaliu 131.67 321 ⇓PKIKP **PKPdf** 21 56 28.6 +1.1
CFR Carcaliu 131.67 321 ⇓*i*P **PKPdf** 21 56 28.6 +1.1
EIL Elat 131.73 299 *e*PKPdf **PKPdf** 21 56 29.3 +1.1
EIL Elat 131.73 299 PKP **PKPdf** 21 56 29.3 +1.1
comp=Z,9.9nm,0.8s,baz=300,slow=3.9,SNR=12
CSS Prodhromos 131.88 306 *e*PKPdf **PKPdf** 21 56 29.2 +0.9
TLB Topalu 132.02 320 ⇓PKIKP **PKPdf** 21 56 29.6 +1.4
TLB Topalu 132.02 320 ⇓*i*P **PKPdf** 21 56 29.6 +1.4
BURAR Bucovina Array 132.12 325 ⇑PKIKP **PKPdf** 21 56 30.2 +1.7
BURAR Bucovina Array 132.12 325 ⇑*i*P **PKPdf** 21 56 30.2 +1.7
BUR04 Bucovina Ar. S 132.12 325 *e*PKPdf **PKPdf** 21 56 29.4 +0.9
VRI Vrincioaia 132.18 322 ⇓PKIKP **PKPdf** 21 56 29.0 +0.5
VRI Vrincioaia 132.18 322 ⇓*i*P **PKPdf** 21 56 29.0 +0.5
KWP Kalwaria Pacla 132.28 328 ⇓PKIKP **PKPdf** 21 56 29.3 +0.7
KWP Kalwaria Pacla 132.28 328 ⇓*i*P **PKPdf** 21 56 29.3 +0.7
MSAB Monastry St. A 132.39 320 ⇑*i*P **PKPdf** 21 56 30.0 +1.1
MLR Muntele Rosu 132.85 322 ⇑*i*P **PKPdf** 21 56 30.8 +0.8
UZH Uzhgorod 133.11 328 *e*PKIKP PKPdf 21 56 23.0 -7.1
UZH *i* 21 56 30.2
STHS Stebnicka Huta 133.15 329 *e*PKIKP **PKPdf** 21 56 32.6 +2.3
STHS Stebnicka Huta 133.15 329 *e*PKP **PKPdf** 21 56 32.6 +2.3
TRPA Tarpa 133.28 327 ⇑*i*P **PKPdf** 21 56 32.4 +1.9
VOIR 133.41 323 ⇑PKIKP **PKPdf** 21 56 34.7 +3.7
VOIR 133.41 323 ⇑*i*P **PKPdf** 21 56 34.7 +3.7
ARR Arges 133.69 323 ⇓*i*P **PKPdf** 21 56 33.2 +1.7
DRGR 133.99 325 ⇑PKIKP **PKPdf** 21 56 33.0 +1.0
DRGR 133.99 325 ⇑*i*P **PKPdf** 21 56 33.0 +1.0
LOT Lotru 134.16 323 ⇑*i*P **PKPdf** 21 56 31.8 -0.6
OKC Ostrava-Krasne 134.38 331 *e*PKPdf **PKPdf** 21 56 34.4 +1.9
MORC Moravsky Berou 134.70 332 *e*PKIKP **PKPdf** 21 56 33.4 +0.2
MORC Moravsky Berou 134.70 332 ⇑*i*P **PKPdf** 21 56 32.7 +0.5
MORC Moravsky Berou 134.70 332 *e*PKPdf **PKPdf** 21 56 33.4 +0.2
KRLC Kraliky 134.84 332 *e*PKPdf **PKPdf** 21 56 34.8 +1.4
KRLC *e*SKP 22 00 05.7
DPC Dobruska-Polom 134.85 333 *e*PKPdf **PKPdf** 21 56 34.5 +1.1
DPC *ex* x 21 56 39.8
DPC *e*SKP 22 00 07.1
BZS Buzias 135.30 325 ⇑PKIKP **PKPdf** 21 56 35.0 +0.6
BZS Buzias 135.30 325 ⇑*i*P **PKPdf** 21 56 35.0 +0.6
VRAC Vranov 135.47 332 ⇑*i*P **PKPdf** 21 56 35.6 +1.0
VRAC Vranov 135.47 332 *e*PKPdf **PKPdf** 21 56 35.4 +0.8
VRAC Vranov 135.47 332 PKP **PKPdf** 21 56 35.4 +0.8
comp=Z,0.9nm,0.3s,baz=61,slow=11,SNR=3.2
BRG Berggiesshubel 135.47 335 *e*PKP **PKPdf** 21 56 35.1 +0.6
comp=Z,10.0nm,1.3s
PVCC Panska Ves 135.47 334 *e*PKPdf **PKPdf** 21 56 35.4 +0.9
CLL Collm 135.52 336 *i* PKIKP **PKPdf** 21 56 38.2 +3.6
CLL Collm 135.52 336 *i* PKiKP **PKiKP** 21 56 37.6 +1.5
CLL *i* SKPab **SKiKP** 22 00 08.2 +0.6
comp=Z,9.0nm,1.2s
PRA Prague 135.88 334 PKPdf **PKPdf** 21 56 36.0 +0.7
PRU Pruhonice 135.89 334 *e*PKPdf **PKPdf** 21 56 36.1 +0.8
PRU *ex* x 21 56 42.2
PRU *e*SKP 22 00 09.2
TREC Trest 135.98 333 *e*PKPdf **PKPdf** 21 56 36.3 +0.7
ZST Bratislava 136.01 330 *e*PKIKP **PKPdf** 21 56 37.5 +1.9
ZST Bratislava 136.01 330 *e*PKP **PKPdf** 21 56 37.5 +1.9
VTS Vitosha 136.05 320 ⇓PKIKP **PKPdf** 21 56 36.5 +0.4
VTS Vitosha 136.05 320 ⇓*i*P **PKPdf** 21 56 36.5 +0.4
KHC Kasperske Hory 136.95 334 *e*PKIKP **PKPdf** 21 56 37.2 -0.2
KHC Kasperske Hory 136.95 334 *e*PKPdf **PKPdf** 21 56 38.2 +0.8
KHC *ex* x 21 56 44.0
KHC *e*PP **PP** 21 59 20.8 +0.2
KHC *e*SKP 22 00 12.9
KHC Kasperske Hory 136.95 334 *e*PKPdf **PKPdf** 21 56 37.2 -0.2
GERES GERESS Array B 137.11 333 PKhKP PKPpre 21 56 26.7
comp=Z,0.7nm,0.9s,baz=7.6,slow=4.0,SNR=5.0
GERES PKP **PKPdf** 21 56 38.4 +0.6
comp=Z,2.5nm,1.0s,baz=48,slow=2.0,SNR=13
GERES SKPbc **SKPab** 22 00 13.6 +0.8
comp=Z,3.6nm,1.0s,baz=48,slow=2.0,SNR=9.3
DIVS Divibare 137.13 324 P **PKPdf** 21 56 38.5 +0.5
GRG Griva 137.43 319 P **PKPdf** 21 56 37.5 -1.0
SOKA Soboth 138.08 330 ⇑*i* PKPdf PKPdf 21 56 30.4 -9.2
comp=Z,11nm,1.3s
FNA Florina 138.18 319 P **PKPdf** 21 56 39.8 -0.1
PHP Peshkopia 138.27 321 P **PKPdf** 21 56 38.7 -1.4
IDI Anoyia 138.29 310 PKhKP PKPpre 21 56 30.4
comp=Z,5.9nm,0.9s,baz=22,slow=19,SNR=2.0
IDI PKP **PKPdf** 21 56 41.3 +0.9
comp=Z,16nm,0.9s,baz=106,slow=1.7,SNR=4.5
THL Klokotos Trika 138.40 317 P **PKPdf** 21 56 39.7 -0.6
NEST Nestorio 138.59 319 P **PKPdf** 21 56 40.9 +0.1
MAKR Makrakomi, Fth 138.59 316 P **PKPdf** 21 56 40.1 -0.6
TIR Tirane 138.82 321 *e*PKIKP **PKPdf** 21 56 39.7 -1.3
TIR Tirane 138.82 321 *e*PKPdf **PKPdf** 21 56 39.7 -1.3
EVR Evrytania 138.86 316 P **PKPdf** 21 56 42.0 +0.7
GUR Goura 138.98 315 P **PKPdf** 21 56 40.3 -1.3
STU Stuttgart 139.02 337 *e*PKIKP **PKPdf** 21 56 41.9 +0.7
STU Stuttgart 139.02 337 *e*PKPdf **PKPdf** 21 56 41.9 +0.7
KLV Kalavryta, Ach 139.06 315 P **PKPdf** 21 56 41.1 -0.5
LAKA Lakka 139.08 315 P PKPdf 21 56 34.6 -7.0
JAN Janina 139.12 318 P **PKPdf** 21 56 42.6 +0.9
ABTA Abfaltersbach 139.21 332 ⇑*i* PKPdf PKPdf 21 56 33.2 -8.5
comp=Z,13nm,1.2s
PDO Prodromos 139.44 316 P PKPdf 21 56 35.8 -6.4
ITM Ithomi 139.63 314 P PKPdf 21 56 34.4 -8.2
CEL Celeste 143.10 319 *e*PKPpre PKPpre 21 56 44.8
KEST Kesra 148.75 322 *e*PKPdf **PKPdf** 21 57 00.5 +1.9
KEST *e*PKPbc **PKPbc** 21 57 02.3 -0.2
KEST Kesra 148.75 322 PKP **PKPdf** 21 56 59.5 +0.9
comp=Z,18nm,0.8s,baz=270,slow=6.1,SNR=4.1
KEST PKPbc **PKiKP** 21 57 03.5 -0.4
comp=Z,18nm,0.8s,baz=208,slow=1.4,SNR=48
CMAH Djebel Manchou 149.25 325 P **PKPbc** 21 57 03.9 +0.2
ABSA Djebel Ababsia 149.47 325 P **PKPbc** 21 57 04.9 +0.6
CKFL Kef-Lekhel 149.80 326 P **PKPbc** 21 57 05.6 +0.5
CASM Ain Smara 150.03 326 P **PKPbc** 21 57 06.0 +0.4
PBRG Braganca 150.07 349 *e*PKPbc **PKPbc** 21 57 06.2 +0.7
DFRA Djebel Bou Afif 150.15 327 P **PKPbc** 21 57 07.4 +1.4
SET Setif 150.66 327 P **PKPbc** 21 57 08.0 +0.8
POLO Lamas de Olo 150.66 351 *e*PKPbc **PKPbc** 21 57 07.8 +0.8
MVO Moncorvo 150.74 350 *e*PKPbc **PKPbc** 21 57 07.4 +0.2
PVRL Vila Real 150.75 351 *e*PKPbc **PKPbc** 21 57 07.2 +0.1
PVIS Viseu 151.32 351 *e*PKPbc **PKPbc** 21 57 08.9 +0.4
ES19 SONSECA Array 151.44 344 *e*PKPbc **PKPbc** 21 57 09.0 +0.2
ESDC Sonseca Array 151.48 344 *e*PKPdf **PKPdf** 21 57 04.8 +2.0
ESDC *e*PKPbc **PKiKP** 21 57 09.7 +0.3
ESDC *e*PP **PP** 22 00 46.6 -0.6
ESDC Sonseca Array 151.48 344 PKP **PKPdf** 21 57 04.8 +2.0
comp=Z,3.0nm,1.0s,baz=346,slow=3.3,SNR=5.0
ESDC PKPbc **PKiKP** 21 57 09.7 +0.3
comp=Z,5.5nm,1.0s,baz=16,slow=2.8,SNR=27
ESDC PP **PP** 22 00 46.6 -0.6
comp=Z,0.4nm,0.4s,baz=32,slow=7.5,SNR=7.5
MTE Manteigas 151.57 350 *e*PKPbc **PKPbc** 21 57 09.5 +0.4
MTE Manteigas 151.57 350 *e*PKPbc **PKPbc** 21 57 09.7 +0.6
PAB San Pablo 151.70 344 *e*PKIKP **PKPbc** 21 57 09.0 -0.4
PAB San Pablo 151.70 344 *e*PKPbc **PKPbc** 21 57 09.0 -0.4
PCAS Casmilo, Conde 152.06 351 *e*PKPbc **PKPbc** 21 57 10.3 +0.1
PCBR Castelo Branco 152.10 350 *e*PKPbc **PKPbc** 21 57 10.9 +0.7
PTOM Tomar 152.48 351 *e*PKPbc **PKPbc** 21 57 12.9 +1.8
PMRV Marv??o 152.49 349 *e*PKPbc **PKPbc** 21 57 11.5 +0.3
PMTG Montargil 152.98 350 *e*PKPbc **PKPbc** 21 57 13.6 +1.4
PESTR Estremoz 153.07 349 *e*PKPbc **PKPbc** 21 57 13.3 +0.8
PCVE Castro Verde 154.35 349 *e*PKPbc **PKPbc** 21 57 13.9 -1.3
MDT Midelt 158.00 339 *e*PKPdf **PKPdf** 21 57 13.0 +1.0
MDT *e*PKPab **PKPab** 21 57 46.8 +1.4
MDT Midelt 158.00 339 PKP **PKPdf** 21 57 13.0 +1.0
comp=Z,1.4nm,0.7s,baz=84,slow=1.9,SNR=4.9
MDT PKPab **PKPab** 21 57 46.8 +1.4
comp=Z,4.4nm,1.1s,baz=59,slow=3.7,SNR=5.4
TOA0 Torodi Ar. Sit 164.86 274 *e*PKPdf **PKPdf** 21 57 18.9 -0.6
TOA0 *e*PKPab **PKPab** 21 58 16.9 +1.0
TORD Torodi Ar. Bea 164.86 274 PKP **PKPdf** 21 57 19.4 -0.1
comp=Z,2.0nm,0.9s,baz=32,slow=0.5,SNR=10
TORD PKPab **PKPab** 21 58 16.9 +1.0
comp=Z,6.1nm,1.0s,baz=77,slow=4.1,SNR=12
KIC Kosan Boka 169.23 237 *e*PKP1 PKPab 21 58 47.2 +12
comp=Z,28nm,0.9s
LIC Lamto 169.39 235 *e*PKP1 PKPab 21 58 47.5 +12
comp=Z,18nm,1.0s
DBIC Dimbokro 169.50 238 PKP **PKPdf** 21 57 22.4 -0.5
comp=Z,3.4nm,1.0s,baz=180,slow=4.0,SNR=2.6
TIC Toumodi 169.62 237 *e*PKP1 PKPab 21 58 48.6 +12
comp=Z,34nm,1.0s

*ISCJB **08** 21:43:53.1±0.3, 52.°86N±0.°07×153.°00E±0.°06, h487km, mb3.7/22, Error ellipse: s-maj=9.5km s-min=4.9km az=170.4*
*MOS **08** 21:43:53.4±0.9, 52.°94N×153.°74E, h522km, mb4.4/12, Error ellipse: s-maj=23.4km s-min=15.6km az=113.8*
*IDC **08** 21:43:54.5±1.4, 52.°88N×153.°17E, h497km±16km, mb3.3/21, mb1 3.5/22, mb1mx3.3/32, mbtmp3.3/22, Error ellipse: s-maj=12.9km s-min=10.8km az=164.0*
*KRSC **08** 21:43:54.8±8.1, 52.°29N×154.°62E, h538km±68km, ML4.7*
ISC 08 21:43:53.6±0.6, 52.°88N±0.°08×153.°27E±0.°07, h487km±11km, n62, σ1°43/69, mb3.8/22, 1C, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**2.21**	**104**	*i* P		**P**		**21 45 00.2**	**+1.6**
APC	**Apacha**	**2.36**	**87**	*e*P		**P**		**21 45 00.0**	**+0.7**
PAU	**Pauzhetka**	**2.60**	**122**	P		**P**		**21 45 02.2**	**+1.3**
PAU				S		**S**		**21 45 56.5**	**+0.9**
PAU	**Pauzhetka**	**2.60**	**122**	*e*P		**P**		**21 45 02.2**	**+1.3**
PAU				*i* S		**S**		**21 45 56.5**	**+0.9**
PETK	**Petropavlovsk-**	**2.69**	**83**	P		**P**		**21 45 02.8**	**+1.4**
PETK				pmax	pmax				
	comp=Z,11nm,0.3s								
PETK	**Petropavlovsk-**	**2.69**	**83**	P		**P**		**21 45 02.8**	**+1.4**
	comp=Z,11nm,0.3s,baz=213,slow=3.4,SNR=147								
SKR	**Severo-Kuril's**	**2.82**	**140**	*e*P		P		21 44 56.5	-5.8
SKR				*e*				21 45 52.5	
ASAK	**Asacha**	**2.87**	**98**	*i* P		**P**		**21 45 03.3**	**+0.6**
RUS	**Russkaya**	**3.23**	**96**	P		**P**		**21 45 05.0**	**0.0**
RUS	**Russkaya**	**3.23**	**96**	*i* P		**P**		**21 45 05.0**	**0.0**
PET	**Petropavlovsk**	**3.26**	**85**	*e*P		**P**		**21 45 06.6**	**+1.3**
PET				pmax	pmax				
	comp=Z,234nm,0.5s								
KOK	**Koryaka**	**3.27**	**81**	*i* P		**P**		**21 45 07.0**	**+1.6**
KRX	**Arik**	**3.28**	**79**	*i* P		**P**		**21 45 07.0**	**+1.4**
AVH	**Avacha**	**3.32**	**81**	*i* P		**P**		**21 45 07.5**	**+1.7**
KRER	**Koryakskii**	**3.33**	**80**	*i* P		**P**		**21 45 07.5**	**+1.5**
SMAR	**Somma**	**3.36**	**81**	*i* P		**P**		**21 45 07.8**	**+1.5**
UGLR	**Uglovaya**	**3.37**	**82**	*i* P		**P**		**21 45 07.8**	**+1.6**
SDLR	**Sedlovina**	**3.41**	**81**	*i* P		**P**		**21 45 07.5**	**+1.0**
TUMR	**Tumrok**	**4.71**	**57**	*i* P		P		21 45 20.8	+3.6
TUMR				*i* S		**S**		**21 45 28.5**	**+2.9**
KMNR	**Kamenistaya**	**5.00**	**52**	*i* P		**P**		**21 45 22.7**	**+3.0**
KMNR				*i* S		**S**		**21 46 32.1**	**+1.8**
SRDR	**Sredinnyy**	**5.09**	**45**	*i* P		**P**		**21 45 23.0**	**+2.4**
MKZ	**Mys Kozlova**	**5.30**	**68**	P		**P**		**21 45 22.6**	**+0.2**
MKZ				S		**S**		**21 46 30.7**	**-4.5**
MKZ	**Mys Kozlova**	**5.30**	**68**	*e*P		**P**		**21 45 22.6**	**+0.2**
MKZ				*i* S		**S**		**21 46 30.7**	**-4.5**
SMKR	**Semkarok**	**6.03**	**49**	*i* P		**P**		**21 45 32.6**	**+3.1**
SMKR				*i* S		**S**		**21 46 49.6**	**+1.5**
KBTR	**Krutoberegovo**	**6.48**	**55**	P		**P**		**21 45 33.8**	**-0.1**
KBTR				S		**S**		**21 46 53.5**	**-2.7**
KBTR	**Krutoberegovo**	**6.48**	**55**	*e*P		**P**		**21 45 33.8**	**-0.1**
KBTR				*i* S		**S**		**21 46 53.5**	**-2.7**
SONM	**Songino Array**	**29.90**	**279**	P		**P**		**21 49 21.3**	**+0.5**
	comp=Z,16nm,1.1s,baz=61,slow=8.8,SNR=3.8								
ILAR	**Eielson Array**	**31.88**	**45**	P		**P**		**21 49 38.2**	**+0.8**
	comp=Z,2.2nm,0.7s,baz=250,slow=5.3,SNR=26								
HVS	**Khovu-Aksy**	**35.80**	**292***c*	*i* P		**P**		**21 50 09.7**	**-1.0**
KURK	**Kurchatov**	**44.27**	**299**	P		**P**		**21 51 19.5**	**+0.8**
KURK				pmax	pmax				
	comp=Z,3.0nm,0.4s								
KURBB	**Kurchatov Arra**	**44.37**	**299**	P		**P**		**21 51 19.5**	**0.0**
	comp=Z,2.9nm,0.4s,baz=61,slow=7.5,SNR=14								
MKAR	**Makanchi Array**	**44.47**	**292**	P		**P**		**21 51 20.2**	**-0.1**
MKAR				pmax	pmax				
	comp=Z,2.0nm,0.5s								
MKAR	**Makanchi Array**	**44.47**	**292**	P		**P**		**21 51 20.2**	**-0.1**
	comp=Z,2.1nm,0.5s,baz=61,slow=6.7,SNR=12								
YKA	**Yellowknife Ar**	**46.05**	**40**	P		**P**		**21 51 33.0**	**+0.8**
	comp=Z,2.5nm,0.5s,baz=260,slow=4.6,SNR=7.1								
SPITS	**Spitsbergen Ar**	**46.60**	**349**	P		**P**		**21 51 35.1**	**-1.1**
	comp=Z,5.5nm,1.0s,baz=37,slow=9.8,SNR=8.8								
BVAR	**Borovoye Array**	**47.21**	**305**	P		**P**		**21 51 41.0**	**-0.2**
BVAR				pmax	pmax				
	comp=Z,2.0nm,0.5s								
BVAR	**Borovoye Array**	**47.21**	**305**	P		**P**		**21 51 41.0**	**-0.2**
	comp=Z,1.8nm,0.5s,baz=48,slow=6.2,SNR=13								
AAK	**Ala-Archa**	**51.40**	**292**	P		**P**		**21 52 12.9**	**+0.3**
AAK				pmax	pmax				
	comp=Z,3.0nm,0.4s								
AAK	**Ala-Archa**	**51.40**	**292**	P		**P**		**21 52 12.9**	**+0.3**
	comp=Z,3.0nm,0.4s,baz=115,slow=4.2,SNR=8.5								
ARCES	**ARCESS Array B**	**52.12**	**339**	P		**P**		**21 52 16.6**	**-0.5**
	comp=Z,4.1nm,1.0s,baz=41,slow=8.4,SNR=4.7								
TAPN	**Taplejung**	**54.09**	**269**	*e*P		**P**		**21 52 32.2**	**+0.1**
ODAN	**Odare**	**54.64**	**269**	*e*P		**P**		**21 52 36.3**	**+0.3**
	comp=Z,5.6nm,0.5s								
RAMN	**Ramite**	**55.05**	**269**	*e*P		**P**		**21 52 38.6**	**-0.3**
	comp=Z,27nm,0.5s								
KKN	**Kakani**	**55.24**	**271**	*e*P		**P**		**21 52 40.0**	**-0.1**
	comp=Z,12nm,0.5s								
PKI	**Pulchoki**	**55.32**	**271**	*e*P		**P**		**21 52 40.7**	**-0.2**
GKN	**Gorkha**	**55.47**	**272**	*e*P		**P**		**21 52 41.4**	**-0.3**
DMN	**Daman**	**55.48**	**271**	*e*P		**P**		**21 52 41.5**	**-0.4**
	comp=Z,20nm,0.8s								
DANN	**Dangsing**	**55.75**	**273**	*e*P		**P**		**21 52 43.9**	**+0.1**
KOLN	**Koldanda**	**56.27**	**272**	*e*P		**P**		**21 52 46.7**	**-0.6**
	comp=Z,6.2nm,0.4s								
FINES	**FINESS Array B**	**58.57**	**333**	P		**P**		**21 53 01.7**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=19,slow=6.7,SNR=7.3								
NVAR	**Mina Array Bea**	**59.64**	**65**	P		**P**		**21 53 11.7**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=335,slow=6.6,SNR=3.5								
PDAR	**Pinedale Array**	**61.16**	**57**	P		**P**		**21 53 20.9**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=339,slow=2.2,SNR=8.5								
NOA	**NORSAR Array B**	**62.47**	**340**	P		**P**		**21 53 27.7**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=28,slow=6.6,SNR=2.7								
AKASG	**Malin Array Be**	**66.54**	**325**	P		**P**		**21 53 53.1**	**-1.0**
AKASG	**Malin Array Be**	**66.54**	**325**	P		**P**		**21 53 53.1**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=30,slow=6.1,SNR=2.7								
SCHQ	**Schefferville**	**67.63**	**24**	P		**P**		**21 53 60.0**	**-0.8**
	comp=Z,1.6nm,0.3s,baz=229,slow=16,SNR=8.8								
BRTR	**Keskin Array B**	**74.02**	**316**	P		**P**		**21 54 39.0**	**0.0**
	comp=Z,0.7nm,0.8s,baz=53,slow=3.9,SNR=3.7								
WRA	**Warramunga Arr**	**74.36**	**198**	P		**P**		**21 54 40.2**	**-0.6**
	comp=Z,2.1nm,0.7s,baz=17,slow=6.0,SNR=12								
TXAR	**Lajitas Array**	**74.45**	**62**	P		**P**		**21 54 42.3**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=320,slow=5.3,SNR=4.6								
FITZ	**Fitzroy Crossi**	**74.63**	**207**	P		**P**		**21 54 41.6**	**-0.7**
	comp=Z,3.3nm,1.0s,baz=11,slow=5.2,SNR=3.3								
ASAR	**Alice Springs**	**78.06**	**198**	P		**P**		**21 55 01.1**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=11,slow=5.2,SNR=16								
MMAI	**Mount Meron Ar**	**78.85**	**311**	P		**P**		**21 55 05.6**	**0.0**
	comp=Z,1.3nm,0.5s,baz=41,slow=7.7,SNR=5.0								

*TIF **08** 22:02:58.6, 42.°57N×43.°47E, h16km±1km*
*CSEM **08** 22:02:59.7±0.2, 42.°57N×43.°41E, h2km, mb3.9, Error ellipse: s-maj=4.6km s-min=2.6km az=120.0*
*DDA **08** 22:02:59.9, 42.°40N×43.°44E, h6km, MD3.2*
*MOS **08** 22:03:01.7±1.5, 42.°68N×43.°56E, h9km, mb3.9/1, Error ellipse: s-maj=11.2km s-min=6.0km az=76.4*
ISC 08 22:02:59.4±1.1, 42.°56N±0.°01×43.°43E±0.°02, h1km±10km, n61, σ0°84/109, 5C-9D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DIGR	**Digorskoe uzhe**	**0.36**	**17**	⇓*i* PG		**Pg**		**22 03 06.1**	**-0.2**
DIGR				*i* S		**Sg**		**22 03 11.4**	**+0.4**
DIGR	**Digorskoe uzhe**	**0.36**	**17**	*i* Pg		**Pg**		**22 03 06.1**	**-0.2**
DIGR				*i* Sg		**Sg**		**22 03 11.4**	**+0.4**
ZEI	**Tsey**	**0.42**	**56**	⇓*i* PG		**Pg**		**22 03 07.2**	**-0.2**
ZEI				*i* S		**Sg**		**22 03 13.0**	**+0.2**
ZEI	**Tsey**	**0.42**	**56**	*i* Pg		**Pg**		**22 03 07.2**	**-0.2**
ZEI				*i* Sg		**Sg**		**22 03 13.0**	**+0.2**
LACR	**Lac**	**0.69**	**67**	⇓*i* PG		**Pg**		**22 03 12.0**	**-0.6**
LACR				*i* S		**Sg**		**22 03 21.4**	**-0.2**
LACR	**Lac**	**0.69**	**67**	*i* Pg		**Pg**		**22 03 12.0**	**-0.6**
LACR				*i* Sg		**Sg**		**22 03 21.4**	**-0.2**
KORR	**Kora**	**0.71**	**41**	⇓*i* PG		**Pg**		**22 03 13.0**	**+0.1**
KORR				*e*S		**Sg**		**22 03 22.7**	**+0.6**
KORR	**Kora**	**0.71**	**41**	*i* Pg		**Pg**		**22 03 13.0**	**+0.1**
KORR				*e*Sg		**Sg**		**22 03 22.7**	**+0.6**
GUDG	**Gudauri**	**0.78**	**96**	P		**Pg**		**22 03 13.5**	**-0.8**
GUDG				S		**Sg**		**22 03 24.2**	**-0.1**
LSNR	**Lesken**	**0.78**	**22**	⇓*i* PG		**Pg**		**22 03 14.3**	**0.0**
LSNR				*i* S		**Sg**		**22 03 25.0**	**+0.6**
LSNR	**Lesken**	**0.78**	**22**	*i* Pg		**Pg**		**22 03 14.3**	**0.0**
LSNR				*i* Sg		**Sg**		**22 03 25.0**	**+0.6**
NEY	**Neytrino**	**0.87**	**323**	⇑*e* PG		**Pg**		**22 03 15.7**	**-0.3**
NEY				*i* S		**Sg**		**22 03 27.5**	**+0.2**
NEY	**Neytrino**	**0.87**	**323**	*e*Pg		**Pg**		**22 03 15.7**	**-0.3**
NEY				*i* Sg		**Sg**		**22 03 27.5**	**+0.2**
STDR	**Stavd-Durt**	**0.94**	**29**	⇑*i* PG		**Pb**		**22 03 18.4**	**0.0**
STDR				*i* S		**Sb**		**22 03 31.3**	**-0.1**
STDR	**Stavd-Durt**	**0.94**	**29**	*i* Pg		**Pb**		**22 03 18.4**	**0.0**
STDR				*i* Sg		**Sb**		**22 03 31.3**	**-0.1**
NCK	**Nalchik**	**0.95**	**7**	⇓*i* PG		**Pg**		**22 03 17.9**	**+0.4**
NCK				*i* S		**Sg**		**22 03 31.8**	**0.0**
NCK	**Nalchik**	**0.95**	**7**	*i* Pg		**Pg**		**22 03 17.9**	**+0.4**
NCK				*i* Sg		**Sb**		**22 03 31.8**	**0.0**
CHVG	**Ch'k'valeri**	**1.01**	**280**	P		**Pg**		**22 03 18.7**	**-0.1**
CHVG				S		**Sb**		**22 03 33.5**	**0.0**
VLKR	**Vladikavkaz**	**1.04**	**61**	*e*PG		**Pg**		**22 03 18.8**	**-0.5**
VLKR				*e*S		**Sg**		**22 03 32.7**	**0.0**
VLKR	**Vladikavkaz**	**1.04**	**61**	*e*Pg		**Pg**		**22 03 18.8**	**-0.5**
VLKR				*e*Sg		**Sg**		**22 03 32.7**	**0.0**
AKH	**Akhalkalaki**	**1.15**	**178**	P		**Pg**		**22 03 21.0**	**-0.4**
AKH				S		**Sg**		**22 03 36.7**	**+0.5**
BTKR	**Batakoyurt**	**1

KYTH	Kithira	0.91	87	P	Pn	22 04 04.5	+1.7
KYTH	Kithira	0.91	87	*e*PN	Pn	22 04 04.6	+1.7
KYTH	Kithira	0.91	87	*e*Pn	Pn	22 04 04.6	+1.7
ITM	Ithomi	0.95	1	P	Pn	22 04 04.3	+0.9
ITM				S	Sn	22 04 17.0	+1.2
ITM	Ithomi	0.95	1	*e*PN	Pn	22 04 04.5	+1.1
ITM				*e*SN	Sn	22 04 16.5	+0.7
ITM	Ithomi	0.95	1	*e*Pn	Pn	22 04 04.5	+1.1
ITM				S	Sn	22 04 17.0	+1.2
VLI	Veliai	0.96	59	P	Pn	22 04 04.7	+1.3
VLI				S	Sn	22 04 17.5	+1.6
VLI	Veliai	0.96	59	*e*PN	Pn	22 04 04.8	+1.3
VLI				*e*SN	Sn	22 04 17.6	+1.6
VLI	Veliai	0.96	59	*e*Pn	Pn	22 04 04.8	+1.3
VLI				*e*Sn	Sn	22 04 17.6	+1.6
ANKY	Antikythira Is	1.18	108	P	Pn	22 04 08.7	+2.1
ANKY				S	Sn	22 04 23.9	+2.5
ANKY	Antikythira Is	1.18	108	*e*PN	Pn	22 04 09.0	+2.4
ANKY				*e*SN	Sn	22 04 24.0	+2.5
ANKY	Antikythira Is	1.18	108	P	Pn	22 04 08.7	+2.1
ANKY	Antikythira Is	1.18	108	*e*Pn	Pn	22 04 09.0	+2.4
ANKY				S	Sn	22 04 23.9	+2.5
VLX	Vlachokerasia	1.20	18	P	Pn	22 04 07.9	+1.0
VLX				S	Sn	22 04 23.6	+1.6
VLX	Vlachokerasia	1.20	18	*e*PN	Pn	22 04 08.2	+1.3
VLX				*e*SN	Sn	22 04 24.1	+2.1
VLX	Vlachokerasia	1.20	18	P	Pn	22 04 07.9	+1.0
VLX	Vlachokerasia	1.20	18	*e*Pn	Pn	22 04 08.2	+1.3
VLX				S	Sn	22 04 23.6	+1.6
VLX				*e*Sn	Sn	22 04 24.1	+2.0
SFD	Strofades	1.25	325	P	Pn	22 04 08.8	+1.3
SFD				S	Sn	22 04 25.4	+2.3
SFD	Strofades	1.25	325	*e*PB	Pn	22 04 08.9	+1.4
SFD				*e*SN	Sn	22 04 25.7	+2.6
SFD	Strofades	1.25	325	*e*Pb	Pn	22 04 08.9	+1.4
SFD				S	Sn	22 04 25.4	+2.3
AMT	Artemida-Makis	1.31	353	P	Pn	22 04 10.0	+1.6
AMT				S	Sn	22 04 26.4	+1.7
AMT	Artemida-Makis	1.31	353	*e*PN	Pn	22 04 10.3	+1.9
AMT	Artemida-Makis	1.31	353	P	Pn	22 04 10.0	+1.6
AMT	Artemida-Makis	1.31	353	*e*Pn	Pn	22 04 10.3	+1.9
AMT				S	Sn	22 04 26.4	+1.7
DIDY	Didyma	1.62	40	P	Pn	22 04 13.8	+1.1
DIDY				S	Sn	22 04 33.1	+0.7
DIDY	Didyma	1.62	40	P	Pn	22 04 13.8	+1.1
DIDY				S	Sn	22 04 33.1	+0.7
DID	Didima	1.66	39	P	Pn	22 04 14.2	+1.1
DID				S	Sn	22 04 34.1	+0.9
DID	Didima	1.66	39	*e*PN	Pn	22 04 14.3	+1.1
DID	Didima	1.66	39	*e*Pn	Pn	22 04 14.3	+1.1
DID				S	Sn	22 04 34.1	+0.9
DRO	Drossia	1.73	355	P	Pn	22 04 15.8	+1.7
DRO				S	Sn	22 04 36.4	+1.5
DRO	Drossia	1.73	355	P	Pn	22 04 15.8	+1.7
DRO				S	Sn	22 04 36.4	+1.5
GUR	Goura	1.74	11	P	Pn	22 04 16.1	+1.8
GUR				S	Sn	22 04 36.7	+1.4
GUR	Goura	1.74	11	*e*PB	Pn	22 04 16.7	+2.4
GUR	Goura	1.74	11	P	Pn	22 04 16.1	+1.8
GUR	Goura	1.74	11	*e*Pb	Pn	22 04 16.7	+2.4
GUR				S	Sn	22 04 36.7	+1.4
VTN	Vitineika	1.78	341	P	Pn	22 04 16.4	+1.6
VTN	Vitineika	1.78	341	P	Pn	22 04 16.4	+1.6
KLV	Kalavryta, Ach	1.82	6	P	Pn	22 04 16.7	+1.3
KLV				S	Sn	22 04 38.4	+1.1
KLV	Kalavryta, Ach	1.82	6	*e*PB	Pn	22 04 17.6	+2.2
KLV	Kalavryta, Ach	1.82	6	P	Pn	22 04 16.7	+1.3
KLV	Kalavryta, Ach	1.82	6	*e*Pb	Pn	22 04 17.6	+2.2
KLV				S	Sn	22 04 38.4	+1.1
ACOR	Acrocorinthos	1.82	24	P	Pn	22 04 16.8	+1.4
ACOR				S	Sn	22 04 38.9	+1.6
ACOR	Acrocorinthos	1.82	24	P	Pn	22 04 16.8	+1.4
ACOR				S	Sn	22 04 38.9	+1.6
KARN	Karanos	1.83	116	P	Pn	22 04 17.0	+1.5
KARN	Karanos	1.83	116	P	Pn	22 04 17.0	+1.5
RLS	Riolos of Patr	1.86	349	P	Pn	22 04 17.6	+1.7
RLS				S	Sn	22 04 40.5	+2.4
RLS	Riolos of Patr	1.86	349	*e*PB	Pn	22 04 18.3	+2.4
RLS	Riolos of Patr	1.86	349	P	Pn	22 04 17.6	+1.7
RLS	Riolos of Patr	1.86	349	*e*Pb	Pn	22 04 18.3	+2.4
RLS				S	Sn	22 04 40.5	+2.4
LTK	Loutraki	1.98	25	P	Pn	22 04 18.7	+1.2
LTK	Loutraki	1.98	25	*e*PN	Pn	22 04 19.5	+2.0
LTK	Loutraki	1.98	25	P	Pn	22 04 18.7	+1.2
LTK	Loutraki	1.98	25	*e*Pn	Pn	22 04 19.5	+2.0
NAIG	Nisos Aigina	1.98	39	*e*PN	Pn	22 04 19.1	+1.6
NAIG	Nisos Aigina	1.98	39	*e*Pn	Pn	22 04 19.1	+1.6
LAKA	Lakka	2.01	1	P	Pn	22 04 20.4	+2.5
LAKA				S	Sn	22 04 43.3	+1.5
LAKA	Lakka	2.01	1	*e*PB	Pn	22 04 20.6	+2.7
LAKA	Lakka	2.01	1	P	Pn	22 04 20.4	+2.5
LAKA				S	Sn	22 04 43.3	+1.5
AXS	Araxos	2.01	348	P	Pn	22 04 19.8	+1.9
AXS	Araxos	2.01	348	P	Pn	22 04 19.8	+1.9
VAM	Vamos	2.03	113	P	Pn	22 04 19.6	+1.4
VAM	Vamos	2.03	113	*e*PN	Pn	22 04 20.0	+1.8
VAM	Vamos	2.03	113	P	Pn	22 04 19.6	+1.4
VAM	Vamos	2.03	113	*e*Pn	Pn	22 04 20.0	+1.8
UPR	University Cam	2.05	357	P	Pn	22 04 20.2	+1.7
UPR	University Cam	2.05	357	P	Pn	22 04 20.2	+1.7
KFL	Anninata	2.08	335	P	Pn	22 04 21.0	+2.1
KFL	Anninata	2.08	335	P	Pn	22 04 21.0	+2.1
KALE	Kalithea	2.16	5	P	Pn	22 04 21.4	+1.3
KALE	Kalithea	2.16	5	*e*PN	Pn	22 04 21.8	+1.7
KALE	Kalithea	2.16	5	P	Pn	22 04 21.4	+1.3
KALE	Kalithea	2.16	5	*e*Pn	Pn	22 04 21.8	+1.7
EFP	Efpalio	2.19	360	P	Pn	22 04 23.2	+2.8
EFP	Efpalio	2.19	360	*e*PB	Pn	22 04 23.6	+3.1
EFP	Efpalio	2.19	360	P	Pn	22 04 23.2	+2.8
EFP	Efpalio	2.19	360	*e*Pb	Pn	22 04 23.6	+3.1
VLS	Valsamata	2.21	332	P	Pn	22 04 22.2	+1.4
VLS	Valsamata	2.21	332	*e*PN	Pn	22 04 22.4	+1.6
VLS	Valsamata	2.21	332	*e*Pn	Pn	22 04 22.4	+1.6
DSF	Desfina	2.23	12	P	Pn	22 04 21.9	+0.9
DSF				S	Sn	22 04 48.1	+0.7
DSF	Desfina	2.23	12	P	Pn	22 04 21.9	+0.9
DSF				S	Sn	22 04 48.1	+0.7
GVD	Gavdhos	2.25	127	P	Pn	22 04 23.5	+2.2
GVD	Gavdhos	2.25	127	*e*PN	Pn	22 04 23.4	+2.2
GVD	Gavdhos	2.25	127	*e*Pn	Pn	22 04 23.4	+2.2
ATH	Athens Observa	2.26	39	P	Pn	22 04 23.2	+1.9
ATH	Athens Observa	2.26	39	*e*PN	Pn	22 04 23.5	+2.2
ATH	Athens Observa	2.26	39	P	Pn	22 04 23.2	+1.9
ATH	Athens Observa	2.26	39	*e*Pn	Pn	22 04 23.5	+2.2
ATHU	Athens Univers	2.29	40	P	Pn	22 04 22.8	+1.0
ATHU	Athens Univers	2.29	40	P	Pn	22 04 22.8	+1.0
PTL	Penteli	2.39	40	P	Pn	22 04 24.2	+1.0
PTL	Penteli	2.39	40	*e*PN	Pn	22 04 24.0	+0.8
PTL	Penteli	2.39	40	P	Pn	22 04 24.2	+1.0
PVO	Paravola	2.40	353	P	Pn	22 04 27.0	+3.7
PVO	Paravola	2.40	353	P	Pn	22 04 27.0	+3.7
PDO	Prodromos	2.43	346	P	Pn	22 04 26.5	+2.7
PDO	Prodromos	2.43	346	P	Pn	22 04 26.5	+2.7
LKR	Lokris	2.56	19	P	Pn	22 04 26.5	+0.9
LKR				S	Sn	22 04 56.9	+1.4
LKR	Lokris	2.56	19	*e*PN	Pn	22 04 26.5	+0.9
LKR	Lokris	2.56	19	P	Pn	22 04 26.5	+0.9
LKR				S	Sn	22 04 56.9	+1.4
IDI	Anoyia	2.60	110	P	Pn	22 04 27.3	+1.2
IDI	Anoyia	2.60	110	*e*PN	Pn	22 04 27.5	+1.4
IDI	Anoyia	2.60	110	*e*Pn	Pn	22 04 27.5	+1.4
IDI	Anoyia	2.60	110	P	Pn	22 04 26.8	+0.7
	1.6nm,0.3s,baz=273,slow=18,SNR=23						
AXAR	Agios Charalam	2.60	13	P	Pn	22 04 27.3	+1.2
AXAR	Agios Charalam	2.60	13	P	Pn	22 04 27.3	+1.2
SIVA	Sivas	2.65	116	P	Pn	22 04 28.8	+2.0
SIVA	Sivas	2.65	116	P	Pn	22 04 28.8	+2.0
ERET	Eretria	2.67	34	P	Pn	22 04 28.5	+1.4
ERET	Eretria	2.67	34	P	Pn	22 04 28.5	+1.4
EVR	Evrytania	2.68	358	P	Pn	22 04 30.0	+2.7
EVR				S	Sn	22 05 00.3	+1.7
EVR	Evrytania	2.68	358	P	Pn	22 04 30.0	+2.7
EVR				S	Sn	22 05 00.3	+1.7
MAKR	Makrakomi, Fth	2.78	3	P	Pn	22 04 31.1	+2.5
MAKR	Makrakomi, Fth	2.78	3	P	Pn	22 04 31.1	+2.5
AGG	Agios Georgios	2.81	7	P	Pn	22 04 30.5	+1.6
AGG	Agios Georgios	2.81	7	*e*PN	Pn	22 04 30.1	+1.2
AGG	Agios Georgios	2.81	7	*e*Pn	Pn	22 04 30.1	+1.2
AGG	Agios Georgios	2.81	7	P	Pn	22 04 30.5	+1.6
MRKA	Markates	2.81	28	P	Pn	22 04 30.1	+1.2
MRKA	Markates	2.81	28	P	Pn	22 04 30.1	+1.2
THR3	Thira Island,	2.82	85	P	Pn	22 04 30.0	+0.9
THR3	Thira Island,	2.82	85	P	Pn	22 04 30.0	+0.9
SMIA	Simia	2.84	21	P	Pn	22 04 30.3	+1.0
SMIA	Simia	2.84	21	P	Pn	22 04 30.3	+1.0
SANT	Santorini	2.87	86	P	Pn	22 04 30.4	+0.6
SANT	Santorini	2.87	86	*e*PN	Pn	22 04 30.4	+0.6
SANT	Santorini	2.87	86	P	Pn	22 04 30.4	+0.6
THR1	Thera Island	2.87	86	P	Pn	22 04 30.4	+0.6
THR1	Thera Island	2.87	86	P	Pn	22 04 30.4	+0.6
APE	Apeiranthos	3.02	73	P	Pn	22 04 32.9	+0.9
APE	Apeiranthos	3.02	73	*e*PN	Pn	22 04 32.7	+0.7
APE	Apeiranthos	3.02	73	P	Pn	22 04 32.9	+0.9
LAST	Lasithi	3.09	109	P	Pn	22 04 35.3	+2.4
LAST	Lasithi	3.09	109	P	Pn	22 04 35.3	+2.4
NPS	Neapolis	3.16	107	P	Pn	22 04 35.6	+1.8
NPS	Neapolis	3.16	107	*e*PN	Pn	22 04 35.9	+2.1
NPS	Neapolis	3.16	107	P	Pn	22 04 35.6	+1.8
NPS	Neapolis	3.16	107	*e*Pn	Pn	22 04 35.9	+2.1
SKIA	Skiathos	3.18	22	P	Pn	22 04 34.9	+0.9
SKIA	Skiathos	3.18	22	P	Pn	22 04 34.9	+0.9
NEO	Neokhori	3.24	18	P	Pn	22 04 35.6	+0.7
NEO	Neokhori	3.24	18	*e*PN	Pn	22 04 35.6	+0.7
NEO	Neokhori	3.24	18	P	Pn	22 04 35.6	+0.7
XOR	Xorichti	3.29	18	P	Pn	22 04 36.6	+1.0
XOR	Xorichti	3.29	18	P	Pn	22 04 36.6	+1.0
AOS	Alonnisos	3.32	27	P	Pn	22 04 37.6	+1.6
AOS	Alonnisos	3.32	27	P	Pn	22 04 37.6	+1.6
THL	Klokotos Trika	3.33	1	P	Pn	22 04 38.0	+1.9
THL				S	Sn	22 05 16.6	+2.3
THL	Klokotos Trika	3.33	1	*e*PN	Pn	22 04 38.2	+2.1
THL	Klokotos Trika	3.33	1	P	Pn	22 04 38.0	+1.9
THL				S	Sn	22 05 16.6	+2.3
JAN	Janina	3.52	347	P	Pn	22 04 41.0	+2.2
JAN				S	Sn	22 05 21.6	+2.4
JAN	Janina	3.52	347	P	Pn	22 04 41.0	+2.2
JAN				S	Sn	22 05 21.6	+2.4
IGT	Igoumenitsa	3.52	340	P	Pn	22 04 40.1	+1.3
IGT	Igoumenitsa	3.52	340	P	Pn	22 04 40.1	+1.3
ZKR	Zakros	3.67	106	P	Pn	22 04 42.6	+1.8
ZKR	Zakros	3.67	106	*e*PN	Pn	22 04 42.9	+2.1
ZKR	Zakros	3.67	106	P	Pn	22 04 42.6	+1.8
ZKR	Zakros	3.67	106	*e*Pn	Pn	22 04 42.9	+2.1
KEK	Kerkira	3.86	335	P	Pn	22 04 44.4	+1.1
KEK	Kerkira	3.86	335	P	Pn	22 04 44.4	+1.1
LIT	Litokhoron	3.89	7	P	Pn	22 04 45.6	+1.8
LIT	Litokhoron	3.89	7	P	Pn	22 04 45.6	+1.8
PAIG	Paliouri	3.94	20	P	Pn	22 04 45.4	+0.9
PAIG	Paliouri	3.94	20	P	Pn	22 04 45.4	+0.9
SRN	Sarande	3.94	338	P	Pn	22 04 45.5	+1.0
SRN	Sarande	3.94	338	P	Pn	22 04 45.5	+1.0
KZN	Kozani	4.07	358	P	Pn	22 04 48.5	+2.2
KZN				S	Sn	22 05 34.4	+1.6
KZN	Kozani	4.07	358	P	Pn	22 04 48.5	+2.2
KZN				S	Sn	22 05 34.4	+1.6
NEST	Nestorio	4.23	351	P	Pn	22 04 51.2	+2.6
NEST	Nestorio	4.23	351	P	Pn	22 04 51.2	+2.6
PLG	Polygyros	4.31	16	P	Pn	22 04 51.9	+2.3
PLG	Polygyros	4.31	16	P	Pn	22 04 51.9	+2.3
KARP	Karpathos	4.31	98	P	Pn	22 04 49.7	+0.1
KARP	Karpathos	4.31	98	P	Pn	22 04 49.7	+0.1
OUR	Ouranopolis	4.41	21	P	Pn	22 04 51.5	+0.6
OUR	Ouranopolis	4.41	21	P	Pn	22 04 51.5	+0.6
HORT	Hortiatis	4.46	12	P	Pn	22 04 52.9	+1.2
HORT	Hortiatis	4.46	12	P	Pn	22 04 52.9	+1.2
LTBQ	Tobruq	4.49	158	*i* P	Pn	22 04 54.6	+2.6
	SNR=24						
FNA	Florina	4.56	355	P	Pn	22 04 54.3	+1.2
FNA	Florina	4.56	355	P	Pn	22 04 54.3	+1.2
PRK	Paraskevi	4.58	48	P	Pn	22 04 56.6	+3.4
PRK	Paraskevi	4.58	48	P	Pn	22 04 56.6	+3.4
SOH	Sokhos	4.72	13	P	Pn	22 04 57.1	+1.9
SOH	Sokhos	4.72	13	P	Pn	22 04 57.1	+1.9
GRG	Griva	4.73	4	P	Pn	22 04 56.3	+0.9
GRG	Griva	4.73	4	P	Pn	22 04 56.3	+0.9
BIA	Bitola	4.80	355	P	Pn	22 04 57.4	+1.0
BIA	Bitola	4.80	355	*i* Pn	Pn	22 04 57.7	+1.3
BIA	Bitola	4.80	355	P	Pn	22 04 57.4	+1.0
KNT	Kendrikon	4.98	9	P	Pn	22 05 00.5	+1.7
KNT	Kendrikon	4.98	9	P	Pn	22 05 00.5	+1.7
ARG	Arkhangelos	5.02	88	P	Pn	22 04 59.9	+0.6
ARG	Arkhangelos	5.02	88	P	Pn	22 04 59.9	+0.6
SRS	Serrai	5.05	15	P	Pn	22 05 00.9	+1.1
SRS	Serrai	5.05	15	P	Pn	22 05 00.9	+1.1
VAY	Valandovo	5.11	6	*i* Pn	Pn	22 05 01.4	+0.9
NVR	Nevrokopi	5.33	16	P	Pn	22 05 05.2	+1.6
NVR	Nevrokopi	5.33	16	P	Pn	22 05 05.2	+1.6
TURN	Turunc	5.42	81	*i* P	Pn	22 05 02.8	-2.0
TURN				*i* S	Sn	22 05 51.6	-14
TURN	Turunc	5.42	81	*i* P	Pn	22 05 02.8	-2.0
PHP	Peshkopia	5.56	349	P	Pn	22 05 07.4	+0.6
PHP				S	Sn	22 06 06.7	-2.8
PHP	Peshkopia	5.56	349	P	Pn	22 05 07.4	+0.6
TAR1	Taranto	5.62	321	*e*Pn	Pn	22 05 08.1	+0.6
PE1	Pezze di Greco	5.77	324	*e*Pn	Pn	22 05 09.7	+0.2
AKAS	Kas	6.22	88	*i* P	Pn	22 05 14.5	-1.3
AKAS				*i* S	Sn	22 06 21.9	-3.8
AKAS	Kas	6.22	88	*i* P	Pn	22 05 14.5	-1.3
GOLH	Golhisar	6.22	78	*i* P	Pn	22 05 19.3	+3.1
GOLH				*i* S	Px	22 05 47.2	
GOLH	Golhisar	6.22	78	*i* P	Pn	22 05 19.0	+3.1
BAI	Bari	6.26	323	*e*Pn	Pn	22 05 16.8	+0.5
CDT	Castel del Mon	6.55	319	*e*Pn	Pn	22 05 20.7	+0.4
MS1	Monte Sant'Ang	7.18	321	*e*Pn	Pn	22 05 28.8	-0.1
STON	Ston	7.39	335	*e*Pn	Pn	22 05 30.4	-1.3
STON				Sn	Sn	22 06 46.8	-7.4
IVAS	Ivanjica	7.46	350	*e*Pn	Pn	22 05 32.0	-0.8
BBLS	Lazići	7.86	347	⇑*i* Pn	Pn	22 05 37.1	-1.3
DIVS	Divibare	7.99	350	P	Pn	22 05 39.2	-1.0
DIVS	Divibare	7.99	350	⇑*i* Pn	Pn	22 05 38.9	-1.3
DIVS	Divibare	7.99	350	P	Pn	22 05 39.2	-1.0
ERMK	Ermenek	8.87	84	*i* P	Pn	22 05 51.6	-0.7
ERMK				*i* S	Px	22 06 01.5	
ERMK	Ermenek	8.87	84	*i* P	Pn	22 05 51.6	-0.7
UDBI	Udbina	9.52	332	*i* Pn	Pn	22 06 01.5	+0.4
UDBI				Sn	Sn	22 07 38.7	-8.0
UDBI	Udbina	9.52	332	*i* Pn	Pn	22 06 01.4	+0.4
BRTR	Keskin Array B	9.89	66	P	Pn	22 06 06.5	+0.3
	0.1nm,0.3s,baz=259,slow=12,SNR=5.9						
NVLJ	Novalja	9.90	329	*e*Pn	Pn	22 06 06.2	0.0
NVLJ				Sn	Sn	22 07 48.4	-7.6
NVLJ	Novalja	9.90	329	*e*Pn	Pn	22 06 06.2	0.0
KEST	Kesra	10.20	271	S	Sn	22 07 58.5	-4.9
	0.0nm,0.3s,baz=336,slow=20,SNR=2.3						
BOJS	Bojanci	10.54	334	*i* Pn	Pn	22 06 14.8	-0.2
BOJS				*i* Sn	Sn	22 08 04.4	-7.3
BOJS	Bojanci	10.54	334	Pn	Pn	22 06 14.8	-0.2
VISS	Visnje	10.95	333	*i* Pn	Pn	22 06 20.6	+0.1
VISS				*i* Sn	Sn	22 08 11.3	-10
VISS	Visnje	10.95	333	*i* Pn	Pn	22 06 20.6	+0.1
CRNS	Crni Vrh	11.40	332	*i* Pn	Pn	22 06 27.1	+0.4
CRNS				*i* Sn	Sn	22 08 25.6	-7.1
MMAI	Mount Meron Ar	11.57	102	P	Pn	22 06 26.3	-2.8
	0.3nm,0.3s,baz=283,slow=13,SNR=4.9						
EIL	Elat	12.75	117	P	Pn	22 06 44.3	-0.9
	baz=313,slow=18,SNR=3.2						
EIL				S	Sn	22 08 52.2	-14
	0.3nm,0.3s,baz=43,slow=19,SNR=2.5						
STHS	Stebnicka Huta	13.19	358	*e*	P	22 07 02.1	+1.8
DAVOX	Davos/Dischmat	13.85	323	S	Sn	22 09 19.8	-13
	0.1nm,0.3s,baz=158,slow=16,SNR=2.2						
GERES	GERESS Array B	13.97	337	P	Pn	22 07 02.2	+0.3
	0.1nm,0.3s,baz=159,slow=13,SNR=6.5						
AKASG	Malin Array Be	15.39	18	P	Pn	22 07 16.6	-4.1
	0.3nm,0.3s,baz=192,slow=14,SNR=2.9						
KBZ	Khabaz	17.71	59	P	Pn	22 07 49.6	-0.3
	0.1nm,0.3s,baz=230,slow=7,SNR=4.2						
ESDC	Sonseca Array	20.67	287	P	P	22 08 22.8	-0.1
	0.1nm,0.2s,baz=106,slow=11,SNR=3.1						
RST	Umm Al-Ruwaisa	22.08	101	*e*P	P	22 08 37.5	-0.5
RST				AMb	AMB	22 08 38.8	
	comp=Z,122nm,0.9s						
RST	Umm Al-Ruwaisa	22.08	101	*e*P	P	22 08 37.5	-0.5
	comp=Z,122nm,0.9s						
MIB	Mutribah	22.23	99	*e*P	P	22 08 38.8	-0.8
MIB	Mutribah	22.23	99	*e*P	P	22 08 38.8	-0.8
NAY	Al-Naaiem	22.38	101	*e*P	P	22 08 40.4	-0.8
NAY				AMb	AMB	22 08 44.1	
	comp=Z,8.7nm,1.5s						
NAY	Al-Naaiem	22.38	101	*e*P	P	22 08 40.4	-0.8
	comp=Z,8.7nm,1.5s						
HFS	Hagfors	24.50	350	P	P	22 09 00.7	-0.9
	comp=Z,3.3nm,0.9s,baz=130,slow=10,SNR=5.1						
FINES	FINESS Array B	25.37	5	P	P	22 09 09.1	-0.4
	comp=Z,2.4nm,0.7s,baz=181,slow=8.8,SNR=6.0						
EKA	Eskdalemuir Ar	25.66	326	P	P	22 09 12.9	+0.7
	comp=Z,3.3nm,0.9s,baz=129,slow=11,SNR=4.0						
NB2	NORSAR Subarra	25.75	348	P	P	22 09 15.1	+2.1
	comp=Z,2.3nm,0.9s,baz=159,slow=9.3						
NB2	NORSAR Subarra	25.75	348	P	P	22 09 15.1	+2.1
	comp=Z,2.3nm,0.9s,baz=159,slow=9.1,SNR=2.4						
NOA	NORSAR Array B	25.75	348	P	P	22 09 12.5	-0.5
	comp=Z,1.8nm,1.0s,baz=158,slow=8.1,SNR=3.2						
TORD	Torodi Ar. Bea	29.30	223	P	P	22 09 47.1	+1.9
	comp=Z,0.7nm,0.9s,baz=21,slow=9.2,SNR=3.5						
ARCES	ARCESS Array B	33.42	2	P	P	22 10 21.6	+0.7
	comp=Z,3.9nm,0.9s,baz=193,slow=9.4,SNR=7.5						
MKAR	Makanchi Array	45.40	57	P	P	22 12 00.0	-1.0
	comp=Z,0.7nm,0.3s,baz=275,slow=8.3,SNR=30						
ZALV	Zalesovo Beam	46.19	47	P	P	22 12 06.2	-0.9
	comp=Z,0.7nm,0.3s,baz=282,slow=7.1,SNR=6.3						

IDC 08 22:06:25.7±1.4, 46°38N×27°41W, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.4/32, mbtmp3.5/4, ML4.3/1, Error ellipse: s-maj=50.4km s-min=30.5km az=20.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
ESDC	**Sonseca Array**	**18.37**	**103**	P	P		P	22 10 42.4	+0.4
	0.2nm,0.3s,baz=299,slow=13,SNR=4.3								
TORD	**Torodi Ar. Bea**	**41.21**	**134**	P	P		P	22 14 11.8	-0.3
	0.7nm,0.9s,baz=330,slow=9.0,SNR=4.0								
H10S1	**ASCENSION HYDR**	**56.24**	**165**	T	T		T	23 16 36.9	
	baz=350,slow=0.7,SNR=6.3								
H10S3	**ASCENSION HYDR**	**56.25**	**165**	T	T		T	23 16 36.1	
	baz=350,slow=0.7,SNR=6.6								
H10S2	**ASCENSION HYDR**	**56.26**	**165**	T	T		T	23 16 39.5	
	baz=350,slow=0.7,SNR=6.7								
TXAR	**Lajitas Array**	**60.31**	**282**	P	P		P	22 16 36.4	0.0
	1.0nm,0.9s,baz=55,slow=6.7,SNR=3.7								
MKAR	**Makanchi Array**	**68.65**	**44**	P	P		P	22 17 30.5	-0.1
	0.8nm,0.8s,baz=327,slow=6.4,SNR=6.1								

IDC ***08*** *22:16:02.3±1.6, 16°.51S×168°.79E, h0km, mb4.3/9, mb1 4.4/9, mb1mx4.1/21, mbtmp4.3/9, Error ellipse: s-maj=48.3km s-min=26.8km az=140.0*

ISC 08 22:16:07.5±1.5, 16°.5S×168°.8E±0°.2, h35km, n15, σ0°.970/14, mb4.4/8, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
PMG	**Port Moresby**	**22.21**	**286**	P	P		P	22 21 02.1	+0.9
	14nm,0.7s,baz=91,slow=9.8,SNR=4.1								
WRA	**Warramunga Arr**	**32.85**	**259**	P	P		P	22 22 37.6	-0.7
	0.5nm,0.3s,baz=86,slow=8.5,SNR=6.9								

	139nm,1.8s								
QUIF	**Quistinic**	**16.55**	**76**	*e*P		**Pn**	**22 24 44.3**	**-4.5**	
	78nm,1.5s								
MORF	**Marmelete**	**16.62**	**116**	*e*P		Pn	22 24 43.0	-6.8	
	24nm,1.5s								
MORF	**Marmelete**	**16.62**	**116**	*e*P		Pn	22 24 43.0	-6.8	
	24nm,1.5s								
SGMF	**Saint Gilles**	**16.94**	**75**	*e*P		**Pn**	**22 24 51.4**	**-2.3**	
	103nm,1.6s								
GRR	**Gorron**	**18.06**	**74**	*e*P		**P**	**22 25 08.1**	**+0.1**	
	155nm,1.7s								
ESDC	**Sonseca Array**	**18.36**	**103**	Pn		**P**	**22 25 11.3**	**-0.2**	
	0.3nm,0.3s,baz=298,slow=11,SNR=6.1								
LDF	**La Druitiere**	**18.54**	**73**	*e*P		**Pn**	**22 25 14.6**	**+1.1**	
	28nm,1.2s								
MFF	**Saint Martin d**	**18.74**	**79**	*e*P		**P**	**22 25 15.7**	**+0.2**	
	89nm,1.7s								
SJPF	**Ste Jean**	**18.85**	**90**	*e*P		**Pn**	**22 25 17.8**	**+0.5**	
	28nm,1.3s								
ETSF	**Etsaut**	**19.38**	**91**	*e*P		**P**	**22 25 23.3**	**+0.6**	
LFF	**La Frestale**	**19.69**	**84**	*e*P		**P**	**22 25 25.7**	**-0.2**	
TCF	**Toulx Ste Croi**	**20.40**	**79**	*e*P		**P**	**22 25 34.6**	**+0.9**	
	29nm,1.2s								
CAF	**Calviac**	**20.60**	**83**	*e*P		**P**	**22 25 36.1**	**+0.2**	
AVF	**Avril sur Loir**	**21.09**	**78**	*e*P		**P**	**22 25 41.3**	**+0.3**	
	31nm,1.4s								
SSF	**Saint Saulge**	**21.14**	**77**	*e*P		**P**	**22 25 42.2**	**+0.6**	
	46nm,1.5s								
BAIF	**Baives**	**21.30**	**68**	*e*P		**P**	**22 25 45.4**	**+2.1**	
	47nm,1.6s								
LOR	**Lormes**	**21.35**	**76**	*e*P		**P**	**22 25 43.4**	**-0.5**	
	27nm,1.3s								
SMF	**Signal de Mont**	**21.44**	**78**	*e*P		**P**	**22 25 42.5**	**-2.4**	
	37nm,1.5s								
MEZF	**Maizieres J'vi**	**21.97**	**73**	*e*P		**P**	**22 25 49.8**	**-0.7**	
	74nm,1.5s								
SFTF	**Sexfontaines**	**22.00**	**73**	*e*P		**P**	**22 25 52.5**	**+1.7**	
	54nm,1.4s								
VIVF	**Saint-Julien-l**	**22.41**	**82**	*e*P		**P**	**22 25 56.8**	**+1.4**	
	146nm,1.8s								
HAU	**Haudompre**	**22.90**	**74**	*e*P		**P**	**22 26 00.0**	**-0.4**	
	21nm,1.2s								
CABF	**La Chapelle**	**22.97**	**77**	*e*P		**P**	**22 25 59.4**	**-1.8**	
	64nm,1.5s								
HINF	**Hinteralfeld**	**23.26**	**74**	*e*P		**P**	**22 26 03.6**	**-0.6**	
	42nm,1.5s								
CDF	**Champ du Feu**	**23.45**	**72**	*e*P		**P**	**22 26 05.9**	**-0.2**	
GERES	**GERESS Array B**	**27.59**	**70**	P		**P**	**22 26 44.9**	**+1.0**	
	0.7nm,0.8s,baz=269,slow=11,SNR=4.7								
FINES	**FINESS Array B**	**33.83**	**44**	P		**P**	**22 27 40.6**	**+2.0**	
	0.6nm,0.7s,baz=282,slow=6.8,SNR=2.9								
AKASG	**Malin Array Be**	**36.96**	**62**	P		**P**	**22 28 05.5**	**-0.2**	
	0.2nm,0.4s,baz=284,slow=8.5,SNR=3.6								
TORD	**Torodi Ar. Bea**	**41.20**	**134**	P		**P**	**22 28 41.8**	**+0.3**	
	2.9nm,1.0s,baz=329,slow=7.5,SNR=10.0								
BRTR	**Keskin Array B**	**44.13**	**76**	P		**P**	**22 29 06.5**	**+1.2**	
	0.8nm,0.8s,baz=308,slow=6.1,SNR=5.0								
H10N2	**ASCENSION HYDR**	**55.18**	**164**	T		T	23 29 53.2		
	baz=350,slow=0.7,SNR=5.0								
H10N3	**ASCENSION HYDR**	**55.19**	**164**	T		T	23 29 51.7		
	baz=350,slow=0.7,SNR=6.0								
H10N1	**ASCENSION HYDR**	**55.20**	**164**	T		T	23 29 52.5		
	baz=350,slow=0.7,SNR=6.0								
H10S1	**ASCENSION HYDR**	**56.23**	**165**	T		T	23 31 07.0		
	baz=350,slow=0.7,SNR=29								
H10S3	**ASCENSION HYDR**	**56.24**	**165**	T		T	23 31 08.5		
	baz=350,slow=0.7,SNR=26								
H10S2	**ASCENSION HYDR**	**56.25**	**165**	T		T	23 31 08.2		
	baz=350,slow=0.7,SNR=32								
ILAR	**Eielson Array**	**59.61**	**334**	P		**P**	**22 30 57.8**	**-2.3**	
	0.4nm,0.9s,baz=40,slow=9.9,SNR=2.7								
MKAR	**Makanchi Array**	**68.66**	**44**	P		**P**	**22 32 00.2**	**+0.3**	
	0.7nm,0.7s,baz=317,slow=5.3,SNR=5.1								

*IDC **08** 22:20:55.9±3.1,38˚.10N×71˚.40E,h0km,mb3.9/4, mb1 3.8/6,mb1mx3.4/30,mbtmp3.7/6,ML3.2/2,Error ellipse: s-maj=68.5km s-min=25.2km az=147.0*

*ISCJB **08** 22:20:57.4±1.2,38˚.27N±0˚.09×71˚.0E±0˚.1,h10km,mb3.8/4, Error ellipse: s-maj=13.4km s-min=10.5km az=145.3*

*NNC **08** 22:21:00.5±2.2,38˚.39N×71˚.06E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=16.5km s-min=11.4km az=8.0*

ISC 08 22:20:59.4±1.6,38˚.2N±0˚.1×70˚.98E±0˚.09,h10km,n9, σ0s97/12,mb3.9/4,5C-4D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.92**	**356**	Pn		**Pn**	**22 22 13.8**	**+0.5**
	0.9nm,0.3s,baz=184,slow=14,SNR=44							
KK31				⇑Pg		**Pb**	**22 22 27.5**	**+2.0**
	0.8nm,0.3s,baz=171,slow=14,SNR=4.9							
KK31				⇓Sn		**Sn**	**22 23 09.7**	**-0.6**
	2.2nm,0.5s,baz=170,slow=22,SNR=3.7							
KK31				⇓Lg		Lg	22 23 30.2	
	3.7nm,0.5s,baz=169,slow=30,SNR=4.5							
TKM2	**Tokmak 2**	**5.89**	**35**	⇑Pn		**Pn**	**22 22 26.5**	**-0.3**
	2.2nm,0.6s							
TKM2				⇓Pg		**Pb**	**22 22 43.1**	**+0.9**
	3.2nm,0.7s							
TKM2				⇑Sn		**Sn**	**22 23 33.8**	**-0.6**
	4.9nm,0.9s							
TKM2				⇓Lg		Lg	22 24 01.3	
	3.6nm,0.7s							
MKAR	**Makanchi Array**	**11.97**	**41**	Pn		Pn	22 23 47.0	-3.0
	0.1nm,0.3s,baz=228,slow=14,SNR=7.0							
AB31	**Akbulak array**	**13.62**	**328**	⇑Pn		**Pn**	**22 24 11.2**	**-1.3**
	0.8nm,0.8s,baz=152,slow=11,SNR=5.7							
AB31				⇑Sn		**Sn**	**22 26 42.9**	**-0.9**
	0.9nm,0.6s							
ZALV	**Zalesovo Beam**	**18.40**	**27**	P		Pn	22 25 11.2	-3.2
	0.2nm,0.3s,baz=222,slow=13,SNR=4.7							
FINES	**FINESS Array B**	**36.08**	**325**	P		**P**	**22 28 01.2**	**+0.3**
	2.1nm,0.9s,baz=107,slow=10,SNR=5.4							
ARCES	**ARCESS Array B**	**39.58**	**337**	P		**P**	**22 28 30.0**	**-0.4**
	3.3nm,1.0s,baz=90,slow=7.3,SNR=3.9							
HFS	**Hagfors**	**41.74**	**321**	P		**P**	**22 28 48.7**	**+0.4**
	1.3nm,0.5s,baz=94,slow=9.2,SNR=4.5							
TORD	**Torodi Ar. Bea**	**65.75**	**268**	P		**P**	**22 31 44.9**	**+0.2**
	0.2nm,0.5s,baz=49,slow=5.8,SNR=6.8							

*IDC **08** 22:30:11.4±2.5,7˚.20N×124˚.94E,h0km,mb3.9/4, mb1 4.1/4,mb1mx3.6/24,mbtmp3.9/4,Error ellipse: s-maj=264.1km s-min=22.4km az=64.0*

*ISCJB **08** 22:30:23.0±0.8,7˚.88N±0˚.06×126˚.4E±0˚.1,h134km±8km, mb3.8/4,Error ellipse: s-maj=19.3km s-min=7.5km az=155.7*

*MAN **08** 22:30:24,7˚.93N×126˚.40E,h115km,mb4.6,ML3.4,MS3.4*

ISC 08 22:30:23.1±1.1,7˚.97N±0˚.06×126˚.6E±0˚.1,h116km±10km, n15,σ1s57/20,mb3.9/4,3C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.05**	**196**	*e*P		**Pn**	**22 30 45.8**	**+0.5**
MATI				*e*S		**Sn**	**22 31 02.8**	**+0.6**
BUTP	**Butuan**	**1.35**	**318**	*e*P		**Pn**	**22 30 50.2**	**+1.6**
BUKP	**Musuan**	**1.47**	**267**	*e*P		**Pn**	**22 30 50.8**	**+0.7**
KCP	**Kidapawan**	**1.73**	**237**	⇑*e*P		**Pn**	**22 30 52.6**	**-0.5**
KCP				*e*S		**Sn**	**22 31 15.1**	**-0.9**
CGP	**Cagayan de Oro**	**1.90**	**285**	⇑*i*P		**Pn**	**22 30 56.6**	**+1.5**
CGP				*i* S		**Sn**	**22 31 19.2**	**-0.3**
SCPH	**Surigao**	**2.08**	**330**	*e*P		**Pn**	**22 30 58.9**	**+1.5**
SCPH				*e*S		**Sn**	**22 31 19.1**	**-4.7**
MSLP	**Maasin**	**2.72**	**322**	*e*P		**Pn**	**22 31 06.5**	**+0.8**
PAGZ	**Pagadian**	**3.14**	**268**	*e*P		**Pn**	**22 31 12.2**	**+1.1**
TBP	**Tagbilaran**	**3.16**	**303**	*e*P		**Pn**	**22 31 11.9**	**+0.5**
TBP				*e*S		**Sn**	**22 31 47.4**	**-1.2**
LLP	**Lapu-Lapu**	**3.46**	**313**	⇑*i*P		**Pn**	**22 31 16.7**	**+1.4**
LLP				*i* S		**Sn**	**22 31 56.0**	**+0.2**
WRA	**Warramunga Arr**	**28.77**	**165**	P		**P**	**22 36 08.7**	**-1.4**
	0.6nm,0.3s,baz=342,slow=8.6,SNR=4.6							
ASAR	**Alice Springs**	**32.25**	**167**	P		P	22 36 38.5	-2.3
	0.6nm,0.3s,baz=344,slow=7.3,SNR=10							
STKA	**Stephens Creek**	**42.15**	**161**	P		**P**	**22 38 05.2**	**+1.0**
	1.0nm,0.4s,baz=334,slow=9.7,SNR=5.1							
MKAR	**Makanchi Array**	**54.02**	**324**	P		**P**	**22 39 35.9**	**+0.4**
	1.7nm,0.6s,baz=117,slow=7.2,SNR=22							
TORD	**Torodi Ar. Bea**	**121.35**	**291**	PKP		**PKPdf**	**22 49 03.5**	**-0.2**
	0.4nm,0.6s,baz=63,slow=2.0,SNR=8.1							

*ISCJB **08** 22:32:52.6±0.6,19˚.64S±0˚.04×178˚.17W±0˚.04, h579km±8km,mb4.7/103,Error ellipse: s-maj=7.3km s-min=4.5km az=149.6*

*BJI **08** 22:32:53.9,19˚.60S×178˚.00W,h598km,mB5.2/15, mb4.8/24*

*AUST **08** 22:32:53.4±0.0,19˚.67S×177˚.94W,h577km,Error ellipse: s-maj=1.3km s-min=1.2km az=29.0*

*NEIC **08** 22:32:53.2±2.2,19˚.64S×178˚.00W,h584km±3km,mb4.7/86, Error ellipse: s-maj=14.9km s-min=10.3km az=124.0*

*IDC **08** 22:32:53.3±1.0,19˚.61S×178˚.06W,h576km±11km, mb4.0/22,mb1 4.2/24,mb1mx4.1/28,mbtmp4.0/24,Error ellipse: s-maj=11.5km s-min=9.1km az=135.0*

ISC 08 22:32:54.8±0.4,19˚.76S±0˚.05×178˚.04W±0˚.06, h599km±3km,h599km;pP-P,n451,σ1s13/504,mb4.7/103, 127C-97D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.22**	**298**	P		**P**	**22 34 21.7**	**-0.2**
	5µm,0.8s							
MSVF	**Nonsavu**	**4.22**	**298**	*e*P		**P**	**22 34 21.4**	**-0.4**
MSVF				*e*S		**S**	**22 35 32.6**	**-0.2**
NIUE	**Niue**	**7.68**	**86**	P		**P**	**22 34 50.3**	**-0.8**
	baz=7.6,SNR=3.4							
AFI	**Afiamalu**	**8.35**	**47**	*e*P		P	22 34 53.8	-3.8
AFI				*e*S		S	22 36 29.8	-8.4
AFI	**Afiamalu**	**8.35**	**47**	P		P	22 34 53.4	-4.2
	31nm,0.3s,baz=31,slow=2.6,SNR=20							
AFI				S		S	22 36 29.1	-9.2
	14nm,0.3s,baz=28,slow=21,SNR=7.2							
RAO	**Raoul Island**	**9.45**	**179**	*e*P		**P**	**22 35 06.8**	**-1.1**
RAO				*e*S		**S**	**22 36 55.4**	**-1.9**
RAO	**Raoul Island**	**9.45**	**179**	P		**P**	**22 35 06.8**	**-1.1**
	68nm,0.3s,baz=96,slow=22,SNR=6.1							
RAO				S		**S**	**22 36 55.3**	**-1.9**
	35nm,0.3s,baz=90,slow=20,SNR=5.4							
DZM	**Mont Dzumac**	**14.68**	**258**	P		**P**	**22 35 59.4**	**-0.9**
	7.6nm,0.3s,baz=80,slow=14,SNR=58							
OUZ	**Omahuta**	**17.08**	**204**	*e*P		**P**	**22 36 25.4**	**+3.4**
	303nm,1.9s							
KNTN	**Kanton**	**17.98**	**21**	*e*P		**P**	**22 36 27.9**	**-2.5**
	146nm,0.9s							
URZ	**Urewera**	**18.91**	**192**	*e*P		**P**	**22 36 37.9**	**-0.7**
	73nm,0.7s							
URZ				*e*S		**S**	**22 39 35.8**	**-4.1**
URZ	**Urewera**	**18.91**	**192**	P		**P**	**22 36 36.2**	**-2.4**
	8.2nm,0.3s,baz=357,slow=4.8,SNR=34							
URZ				S		**S**	**22 39 35.8**	**-4.1**
	0.4nm,0.3s,baz=31,slow=18,SNR=6.2							
BFZ	**Birch Farm**	**21.42**	**192**	*e*P		**P**	**22 37 00.7**	**-0.4**
	192nm,1.8s							
SNZO	**South Karori**	**22.35**	**194**	*e*P		**P**	**22 37 08.9**	**-0.5**
	310nm,1.5s							
TARA	**Tarawa**	**22.78**	**336**	*e*P		**P**	**22 37 11.1**	**-2.5**
	159nm,1.1s							
KHZ	**Kahutara**	**23.68**	**196**	*e*P		**P**	**22 37 20.7**	**-0.5**
	46nm,0.7s							
RPZ	**Rata Peaks**	**25.57**	**199**	*e*P		**P**	**22 37 38.1**	**+0.2**
	122nm,1.7s							
RPZ	**Rata Peaks**	**25.57**	**199**	P		**P**	**22 37 37.6**	**-0.3**
	17nm,0.6s,baz=29,slow=2.2,SNR=16							
ODZ	**Otahua Downs**	**26.91**	**198**	*e*P		**P**	**22 37 48.8**	**-0.7**
	444nm,2.8s							
DCZ	**Deep Cove**	**28.42**	**202**	*e*P		**P**	**22 38 03.1**	**+0.4**
	74nm,0.9s							
WHZ	**Wether Hill Ro**	**28.51**	**201**	*e*P		**P**	**22 38 04.3**	**+0.8**
	201nm,0.6s							
EIDS	**Eidsvold**	**29.02**	**253**	*e*P		**P**	**22 38 07.8**	**-0.5**
	26nm,1.4s							
EIDS	**Eidsvold**	**29.02**	**253**	P		**P**	**22 38 08.1**	**-0.1**
	baz=29,SNR=4.8							
ARMA	**Armidale**	**29.36**	**243**	*e*P		**P**	**22 38 12.5**	**+1.1**
	90nm,1.6s							
ARMA	**Armidale**	**29.36**	**243**	P		**P**	**22 38 12.4**	**+1.1**
	baz=30,SNR=8.6							
KWAJ	**Kwajalein Atol**	**31.71**	**332**	*e*P		**P**	**22 38 29.5**	**-1.8**
	125nm,1.1s							
CNB	**Canberra Magne**	**32.62**	**235**	P		**P**	**22 38 40.1**	**+1.2**
	baz=33,SNR=6.5							
CTA	**Charters Tower**	**33.53**	**263**	*e*P		**P**	**22 38 46.8**	**0.0**
CTA	**Charters Tower**	**33.53**	**263**	P		**P**	**22 38 46.8**	**0.0**
	33nm,0.3s,baz=87,slow=10.0,SNR=41							
CTAO	**Charters Tower**	**33.53**	**263**	*e*P		**P**	**22 38 46.8**	**0.0**
	45nm,0.4s							
CMSA	**Cobar Meteorol**	**34.58**	**243**	P		**P**	**22 38 56.0**	**+0.7**
	baz=35,SNR=21							
PMG	**Port Moresby**	**35.15**	**282**	*e*P		**P**	**22 38 59.5**	**-0.8**
	37nm,0.8s							
PMG	**Port Moresby**	**35.15**	**282**	P		**P**	**22 39 00.1**	**-0.2**
	37nm,0.8s,baz=102,slow=5.3,SNR=8.3							
QLP	**Quilpie**	**35.25**	**252**	P		**P**	**22 39 01.0**	**+0.1**
	baz=35,SNR=19							
TOO	**Toolangi**	**36.31**	**233**	P		**P**	**22 39 10.5**	**+1.0**
	baz=36,SNR=17							
TAU	**Tasmania Unive**	**37.13**	**224**	*e*P		**P**	**22 39 16.5**	**+0.5**
	184nm,1.9s							
COEN	**Coen**	**37.51**	**273**	P		**P**	**22 39 19.6**	**0.0**
	baz=38,SNR=25							
STKA	**Stephens Creek**	**38.08**	**243**	*e*P		**P**	**22 39 24.8**	**+0.8**
	4.5nm,1.2s							
STKA				*e*ScP		**ScP**	**22 44 17.9**	**+3.2**
STKA	**Stephens Creek**	**38.08**	**243**	P		**P**	**22 39 24.9**	**+0.8**
	baz=38,SNR=32							
STKA	**Stephens Creek**	**38.08**	**243**	P		**P**	**22 39 24.6**	**+0.8**
	7.5nm,0.3s,baz=93,slow=9.8,SNR=34							
STKA				ScP		**ScP**	**22 44 17.9**	**+3.2**
	4.8nm,0.9s,baz=140,slow=3.8,SNR=4.6							
ARPS	**Mount Arapiles**	**38.87**	**236**	P		**P**	**22 39 31.0**	**+0.8**
	baz=39,SNR=6.9							
BBOO	**Buckleboo**	**42.85**	**243**	*e*P		**P**	**22 40 02.1**	**+0.3**
	304nm,0.5s							
BBOO	**Buckleboo**	**42.85**	**243**	P		**P**	**22 40 02.1**	**+0.3**
	baz=43,SNR=87							
AS01	**Alice Springs**	**44.62**	**256**	*e*P		**P**	**22 40 15.3**	**-0.3**
AS12	**Alice Springs**	**44.66**	**256**	*e*P		**P**	**22 40 15.7**	**-0.2**
AS12				*e*PcP		**PcP**	**22 41 44.3**	**-1.1**
AS12				*e*S		**S**	**22 46 08.2**	**-1.8**
ASAR	**Alice Springs**	**44.66**	**256**	P		**P**	**22 40 15.7**	**-0.2**
	17nm,0.7s,baz=88,slow=8.2,SNR=157							
ASAR				PcP		**PcP**	**22 41 44.3**	**-1.1**
	3.2nm,0.8s,baz=95,slow=4.8,SNR=7.0							
ASAR				S		**S**	**22 46 08.2**	**-1.8**
	5.9nm,0.8s,baz=93,slow=15,SNR=30							
WRAB	**Tennant Creek**	**44.66**	**261**	P		**P**	**22 40 15.0**	**-1.0**
	117nm,0.3s,SNR=27							
WRAB	**Tennant Creek**	**44.66**	**261**	*e*P		**P**	**22 40 15.2**	**-0.8**
	14nm,1.0s							
WRA	**Warramunga Arr**	**44.67**	**261**	*e*P		**P**	**22 40 15.4**	**-0.7**
WRA				*e*S		S	22 46 03.8	-6.5
WRA	**Warramunga Arr**	**44.67**	**261**	P		**P**	**22 40 15.4**	**-0.7**
	9.5nm,0.3s,baz=98,slow=7.9,SNR=24							
WRA				S		S	22 46 03.8	-6.5
	0.7nm,0.3s,baz=89,slow=17,SNR=5.5							
KDU	**Kakadu**	**47.90**	**271**	P		**P**	**22 40 39.8**	**-0.6**
	baz=48,SNR=7.6							
KNRA	**Kununurra**	**50.68**	**266**	P		**P**	**22 41 00.3**	**-0.4**
	baz=51,SNR=4.8							
FITZ	**Fitzroy Crossi**	**53.09**	**262**	*e*P		**P**	**22 41 17.8**	**-0.2**
	6.0nm,0.6s							
FITZ	**Fitzroy Crossi**	**53.09**	**262**	P		**P**	**22 41 17.8**	**-0.2**
	baz=53,SNR=30							
FITZ	**Fitzroy Crossi**	**53.09**	**262**	P		**P**	**22 41 17.9**	**-0.2**
	5.1nm,0.5s,baz=100,slow=3.5,SNR=50							
SOEI	**Soe**	**56.45**	**271**	P		**P**	**22 41 42.5**	**+0.9**
	baz=56,SNR=4.2							
MEEK	**Meekatharra**	**58.13**	**250**	P		**P**	**22 41 52.1**	**-0.7**
	baz=58,SNR=7.3							
KLBR	**Kellerberrin**	**58.34**	**245**	P		**P**	**22 41 54.0**	**-0.1**
	baz=58,SNR=25							
SBA	**Scott Base**	**58.60**	**184**	*e*P		**P**	**22 41 57.8**	**+2.8**
	54nm,1.0s							
VNDA	**Vanda**	**58.64**	**185**	*e*P		**P**	**22 41 57.6**	**+2.4**
VNDA	**Vanda**	**58.64**	**185**	P		**P**	**22 41 57.6**	**+2.4**
	7.7nm,0.6s,baz=354,slow=7.0,SNR=36							
NWAO	**Narrogin (SRO)**	**58.67**	**243**	*e*P		**P**	**22 41 55.5**	**-0.7**
	165nm,2.4s							
NWAO	**Narrogin (SRO)**	**58.67**	**243**	P		**P**	**22 41 56.2**	**0.0**
	6.0nm,0.6s,baz=105,slow=11,SNR=5.0							
BLDU	**Ballidu**	**59.32**	**246**	P		**P**	**22 42 00.3**	**-0.3**
	baz=59,SNR=11							
MORW	**Morawa**	**60.08**	**247**	P		**P**	**22 42 05.4**	**-0.2**
	baz=60,SNR=7.4							
GIRL	**Giralia**	**62.72**	**254**	P		**P**	**22 42 23.9**	**+1.0**
	baz=63,SNR=3.8							
MJAR	**Matsushiro Arr**	**69.60**	**324**	P		**P**	**22 43 04.0**	**-1.1**
	8.4nm,0.5s,baz=165,slow=6.3,SNR=29							
MAJO	**Matsushiro**	**69.60**	**324**	*e*P		**P**	**22 43 04.1**	**-1.0**
	263nm,2.4s							
MAT	**Matsushiro**	**69.60**	**324**	P		**P**	**22 43 04.1**	**-1.0**
QSPA	**South Pole Qui**	**70.30**	**180**	*e*P		**P**	**22 43 10.8**	**+1.8**
	67nm,0.9s							
PEA0	**Petropavlovsk-**	**75.55**	**345**	*e*P		**P**	**22 43 38.1**	**-0.8**
PETK	**Petropavlovsk-**	**75.55**	**345**	P		**P**	**22 43 37.9**	**-1.0**
	24nm,0.9s,baz=145,slow=8.8,SNR=21							
KSRS	**Korea Array**	**76.31**	**318**	P		**P**	**22 43 43.4**	**0.0**
	2.3nm,0.6s,baz=141,slow=6.4,SNR=5.9							
KS15	**Wonju Array Si**	**76.33**	**318**	*e*P		**P**	**22 43 43.4**	**-0.1**
KS01	**Wonju Array Si**	**76.35**	**318**	*e*P		**P**	**22 43 42.9**	**-0.7**
PKM	**Peak Mountain**	**77.51**	**46**	⇑P		**P**	**22 43 51.3**	**+1.1**
	baz=78							
SAO	**San Andreas Ge**	**77.52**	**43**	*e*P		**P**	**22 43 50.1**	**+0.1**
	23nm,1.0s							
SMMC	**Simmler**	**77.62**	**45**	⇑P		**P**	**22 43 52.2**	**+1.6**
	baz=78							
MWC	**Mount Wilson**	**78.33**	**47**	*e*P		**P**	**22 43 53.5**	**-1.2**
	17nm,0.9s							
USRK	**Usuriysk Arra**	**78.34**	**326**	P		**P**	**22 43 54.9**	**+0.8**
	14nm,0.9s,baz=140,slow=3.5,SNR=24							
VES	**Vestal, Richgr**	**78.54**	**45**	⇓P		**P**	**22 43 56.3**	**+0.9**
	baz=79							
MURC	**Murrieta**	**78.58**	**48**	⇑P		**P**	**22 43 56.7**	**+0.9**
	baz=79							
BFSC	**Mount Baldy Ra**	**78.61**	**47**	⇓P		**P**	**22 43 56.5**	**+0.5**
	baz=79							
EDW2	**Edwards Air Fo**	**78.74**	**47**	⇓P		**P**	**22 43 57.2**	**+0.6**
	baz=79							
MONP	**Monument Peak**	**78.75**	**49**	⇑P		**P**	**22 43 58.2**	**+1.2**
	baz=79							
ISA	**Isabella**	**78.85**	**46**	*e*P		**P**	**22 43 56.9**	**-0.3**
	13nm,1.0s							
ISA	**Isabella**	**78.85**	**46**	⇑P		**P**	**22 43 58.0**	**+0.8**
	baz=79							
DVTC	**Desert V Tower**	**78.86**	**49**	⇑P		**P**	**22 43 58.3**	**+1.0**
	baz=79							
CMB	**Columbia Colle**	**78.95**	**43**	*e*P		**P**	**22 43 56.0**	**-1.6**
	15nm,0.9s							
PFO	**Pinyon Flat Ob**	**79.11**	**48**	*e*P		**P**	**22 43 57.1**	**-1.6**
	13nm,1.2s							
PFO	**Pinyon Flat Ob**	**79.11**	**48**	⇓P		**P**	**22 43 59.8**	**+1.1**
	baz=79							
PFO	**Pinyon Flat Ob**	**79.11**	**48**	P		**P**	**22 43 58.3**	**-0.4**
	4.0nm,0.8s,baz=292,slow=2.0,SNR=6.0							
WDC	**Whiskeytown Da**	**79.13**	**40**	*e*P		**P**	**22 43 57.6**	**-0.8**
	14nm,1.0s							
SWSC	**Sam W. Stewart**	**79.22**	**49**	⇓P		**P**	**22 43 60.0**	**+0.8**
	baz=79							
CWC	**Cottonwood Cre**	**79.55**	**45**	⇑P		**P**	**22 44 01.5**	**+0.5**
	baz=80							
BELC	**Belle Mtn. Jos**	**79.64**	**48**	⇓P		**P**	**22 44 02.4**	**+0.9**
	baz=80							
MPMC	**Manual Prospec**	**79.73**	**46**	⇑P		**P**	**22 44 03.4**	**+1.4**
	baz=80							
YBH	**Yreka Blue Hor**	**79.74**	**39**	*e*P		**P**	**22 43 59.8**	**-2.0**
	13nm,0.8s							
YBH	**Yreka Blue Hor**	**79.74**	**39**	P		**P**	**22 44 02.7**	**+0.9**
	15nm,0.8s,baz=249,slow=0.3,SNR=24							
GSC	**Goldstone**	**79.78**	**47**	⇑P		**P**	**22 44 02.8**	**+0.7**
	baz=80							
BC3	**Big Chuckawall**	**79.84**	**49**	⇓P		**P**	**22 44 03.5**	**+1.0**
	baz=80							
HEC	**Hector,Ludlow**	**79.86**	**47**	⇑P		**P**	**22 44 03.3**	**+0.8**
	baz=80							
MDJ	**Mudanjiang**	**79.90**	**325**	P		**P**	**22 44 03.2**	**+0.8**
MDJ					AMB	AMB		
	comp=Z,19nm,0.7s							
MDJ					AMB	AMB		
	comp=Z,440nm,7.0s							
GLA	**Glamis**	**79.98**	**50**	⇑P		**P**	**22 44 04.7**	**+1.6**
	baz=80							
BEKR	**Beckworth**	**80.04**	**41**	*e*P		**P**	**22 44 02.2**	**-1.3**
	13nm,1.3s							
HUMO	**Hull Mountain**	**80.14**	**38**

G08A	Pilot Rock	84.06	38	eP		P	22 44 23.2	-0.4
X18A	Snowflake	84.23	50	⇓P		P	22 44 25.9	+1.2
	baz=84							
LTY	Liberty	84.27	35	eP		P	22 44 23.2	-1.3
	10nm,0.4s							
120A	U Bar Ranch, L	84.27	53	⇑P		P	22 44 26.1	+1.1
	baz=84							
HAWA	Hanford	84.38	36	eP		P	22 44 24.2	-0.7
	16nm,1.1s							
Z20A	Nine Sixteen R	84.56	52	⇑P		P	22 44 27.8	+1.4
	baz=85,SNR=5.0							
BMO	Blue Mountains	84.76	39	eP		P	22 44 26.1	-0.9
	6.9nm,1.1s							
BMRM	Bremner River	84.84	16	eP		P	22 44 26.4	-0.5
	25nm,1.0s							
MFID	Camas Ranch	84.85	40	⇑P		P	22 44 27.8	+0.3
	baz=85							
121A	Cookes Peak, D	84.90	53	⇑P		P	22 44 29.4	+1.3
	baz=85,SNR=6.6							
WRAK	Wrangell Islan	85.06	24	eP		P	22 44 27.5	-0.5
	21nm,1.0s							
Y20A	Horse Springs,	85.09	52	⇓P		P	22 44 29.9	+0.8
	baz=85,SNR=7.2							
D08A	Wollman Farm,	85.11	36	eP		P	22 44 27.4	-1.1
	86nm,2.2s							
E09A	Wood Farm, Sta	85.23	37	eP		P	22 44 28.4	-0.7
X20A	Quemado	85.29	51	⇑P		P	22 44 31.1	+1.1
	baz=85							
Z21A	St. Cloud Mine	85.34	52	⇓P		P	22 44 31.7	+1.5
	baz=85,SNR=8.5							
BJI	Beijing	85.34	315	P		P	22 44 30.0	+0.2
BJI				AMB		AMB		
	comp=Z,16nm,0.6s							
CAST	Castle Rocks	85.37	11	eP		P	22 44 26.8	-2.5
	17nm,0.8s							
F10A	Beach Ranch, E	85.44	38	eP		P	22 44 29.2	-1.0
	27nm,0.9s							
Q16A	Castle Valley	85.50	46	⇑P		P	22 44 32.6	+1.7
	baz=86							
W20A	Ramah	85.56	50	⇑P		P	22 44 32.3	+1.1
	baz=86							
B08A	Colville Reser	85.65	35	eP		P	22 44 29.9	-1.2
	11nm,0.8s							
Y21A	Point of Rocks	85.65	52	⇓P		P	22 44 32.9	+1.1
	baz=86,SNR=6.8							
TRF	Thorofare Moun	85.74	12	eP		P	22 44 29.5	-1.9
	21nm,0.8s							
X21A	Alamocita Cree	85.77	51	⇓P		P	22 44 33.8	+1.5
	baz=86							
HLID	Hailey	85.79	41	eP		P	22 44 31.1	-1.0
	11nm,0.9s							
HLID	Hailey	85.79	41	⇓P		P	22 44 32.9	+0.8
	baz=86							
Z22A	Elephant Butte	85.84	53	⇓P		P	22 44 33.8	+1.2
	baz=86,SNR=5.4							
C09A	Chrisman Ranch	85.90	36	eP		P	22 44 30.3	-1.9
	17nm,0.3s							
SRU	San Rafael	86.04	46	eP		P	22 44 32.5	-0.9
	9.8nm,0.9s							
U20A	Newcomb	86.13	49	⇑P		P	22 44 34.6	+0.8
	baz=86							
Y22A	Socorro	86.14	52	⇑P		P	22 44 35.3	+1.3
	baz=86							
324A	Moseley Ranch,	86.17	55	⇑P		P	22 44 35.4	+1.3
	baz=86							
GYA	Guiyang	86.25	300	⇑P		P	22 44 36.2	+1.6
GYA				pP		pP	22 46 44.7	+1.9
GYA				sP		sP	22 47 44.2	+1.4
GYA				PP		PP	22 48 11.9	+4.7
GYA				SKS		SKSac	22 54 04.0	-0.7
GYA				S		S	22 54 21.4	+0.4
GYA				AMB		AMB		
	comp=Z,20nm,1.0s							
GYA				AMB		AMB		
	comp=Z,130nm,5.8s							
MCK	McKinley	86.26	13	eP		P	22 44 31.6	-2.0
	25nm,0.9s							
425A	Indio Mountain	86.27	56	⇓P		P	22 44 35.8	+1.2
	baz=86							
MNTX	Cornudas Mount	86.35	55	eP		P	22 44 34.7	-0.1
	7.2nm,1.0s							
Z23A	Rita Site, Whi	86.39	53	⇑P		P	22 44 36.2	+1.1
	baz=86							
224A	Cornudas Mount	86.41	54	⇑P		P	22 44 36.3	+1.1
	baz=86							
626A	Big Bend Ranch	86.41	57	⇑P		P	22 44 36.5	+1.3
	baz=86							
V21A	Milan	86.50	50	⇑P		P	22 44 36.8	+1.1
	baz=87							
325A	Bean Ranch, Si	86.53	55	⇑P		P	22 44 36.9	+1.0
	baz=87							
MVCO	Mesa Verde	86.53	49	⇑P		P	22 44 37.0	+1.2
	baz=87							
526A	Mary Lane Ranc	86.66	57	⇑P		P	22 44 37.8	+1.4
	baz=87							
LTX	Lajitas	86.69	57	eP		P	22 44 37.5	+0.9
TX31	Lajitas Ar. Si	86.69	57	eP		P	22 44 36.9	+0.3
TXAR	Lajitas Array	86.69	57	P		P	22 44 37.5	+0.9
	5.4nm,0.9s,baz=216,slow=7.0,SNR=26							
HYT	Haines Junctio	86.69	19	eP		P	22 44 34.7	-1.2
124A	Stringfield Ra	86.73	54	⇓P		P	22 44 37.8	+1.0
	baz=87							
U21A	Nageezi	86.77	50	⇑P		P	22 44 37.4	+0.5
	baz=87,SNR=10							
NEW	Newport	86.80	36	⇑P		P	22 44 36.9	+0.3
	baz=87							
S20A	Disappointment	86.92	48	⇓P		P	22 44 38.6	+1.0
	baz=87							
225A	Deer Hill, Car	86.96	54	⇓P		P	22 44 39.3	+1.4
	baz=87							
426A	McDonald Obser	86.96	56	⇑P		P	22 44 39.5	+1.5
	baz=87							
ANMO	Albuquerque	86.97	51	eP		P	22 44 37.6	-0.3
	8.2nm,1.2s							
527A	Woodward Ranch	87.07	57	⇓P		P	22 44 39.5	+1.1
	baz=87							
R20A	Redvale	87.07	48	⇓P		P	22 44 39.2	+0.9
	baz=87							
T21A	Navajo Lake	87.12	49	⇓P		P	22 44 39.4	+0.9
	baz=87							
S21A	Coal Bank Pass	87.24	48	⇑P		P	22 44 39.4	+0.2
	baz=87,SNR=6.0							
326A	Caldwell Ranch	87.27	55	⇑P		P	22 44 40.6	+1.3
	baz=87							
Y24A	Capitan	87.28	53	⇓P		P	22 44 39.9	+0.5
	baz=87,SNR=9.8							
125A	Gardner Draw,	87.32	54	⇑P		P	22 44 40.6	+1.1
	baz=87							
U22A	Llaves	87.32	50	⇓P		P	22 44 40.4	+0.8
	baz=87							
P19A	Cripple Cowboy	87.34	46	⇑P		P	22 44 40.2	+0.7
	baz=87							
628A	Black Gap, Mar	87.37	58	⇓P		P	22 44 40.7	+1.0
	baz=87							
DLBC	Dease Lake	87.39	23	eP		P	22 44 38.2	-0.9
MCMT	McKenzie Canyo	87.42	40	eP		P	22 44 40.0	+0.2
SYO	Syowa Base	87.44	193	⇓P		P	22 44 37.6	-1.6
226B	Tecolote Peak,	87.45	55	⇓P		P	22 44 41.2	+1.1
	baz=88							
AHID	Auburn Hatcher	87.46	43	eP		P	22 44 37.7	-2.3
	12nm,1.3s							
Q20A	Ridgley Place,	87.49	47	⇑P		P	22 44 41.0	+0.8
	baz=88							
COLA	College	87.50	12	eP		P	22 44 37.6	-1.7
	28nm,0.7s							
V23A	Ortiz Mt. (NFS	87.53	51	⇓P		P	22 44 41.7	+1.2
	baz=88							
427A	Hayter Ranch,	87.53	56	⇓P		P	22 44 41.6	+1.2
	baz=88							
Z25A	Roswell	87.54	53	⇑P		P	22 44 41.4	+0.9
	baz=88							
O19A	Miners Draw (B	87.56	46	⇑P		P	22 44 41.4	+0.9
	baz=88							
T22A	Edith	87.58	49	⇑P		P	22 44 41.5	+0.8
	baz=88							
IL1	Eielson Array	87.61	13	eP		P	22 44 37.9	-2.0
ILAR	Eielson Array	87.61	13	P		P	22 44 38.5	-1.4
	7.9nm,0.8s,baz=228,slow=5.5,SNR=60							
ILB	Eielson Array	87.61	13	eP		P	22 44 38.5	-1.4
RRI2	Red Ridge	87.61	42	eP		P	22 44 40.9	+0.1
	18nm,0.9s							
XAN	Xi'an	87.66	307	P		P	22 44 41.1	+0.2
XAN				AMB		AMB		
	comp=Z,4.0nm,0.8s							
P20A	De Beque	87.68	47	⇓P		P	22 44 42.0	+1.0
	baz=88							
528A	Cox Ranch, San	87.73	57	⇓P		P	22 44 42.3	+0.9
	baz=88							
L18A	Fontenelle, Gr	87.73	44	⇑P		P	22 44 42.3	+1.0
	baz=88							
R21A	Cimarron	87.73	48	⇑P		P	22 44 42.4	+1.0
	baz=88							
U23A	El Rito	87.78	50	⇑P		P	22 44 42.5	+0.8
	baz=88							
MSO	Missoula	87.81	38	⇓P		P	22 44 42.1	+0.7
	baz=88							
Y25A	Mesa, Roswell	87.84	53	⇑P		P	22 44 42.5	+0.6
	baz=88							
DLMT	Dillon	87.84	40	eP		P	22 44 41.6	-0.1
	18nm,1.1s							
W24A	Lazy 6 Ranch,	87.86	51	⇓P		P	22 44 42.7	+0.7
	baz=88							
BSMT	Bassoo Peak	87.88	37	eP		P	22 44 41.0	-0.8
REDW	Red Top Meadow	87.91	42	eP		P	22 44 42.1	0.0
	20nm,1.1s							
TPAW	Teton Pass	87.92	42	eP		P	22 44 41.2	-0.9
	8.6nm,1.0s							
Q21A	Lamborn Mesa,	87.93	47	⇓P		P	22 44 43.5	+1.2
	baz=88							
S22A	4UR Ranch, Cre	87.96	49	⇑P		P	22 44 43.4	+0.9
	baz=88,SNR=5.1							
SNOW	Snow King Moun	88.03	42	eP		P	22 44 42.8	+0.1
	15nm,0.9s							
428A	Kincaid Ranch,	88.04	56	⇑P		P	22 44 44.0	+1.2
	baz=88							
Z26A	Caprock	88.10	54	⇓P		P	22 44 43.9	+0.9
	baz=88							
M19A	Rock Springs	88.11	45	⇓P		P	22 44 44.2	+1.1
	baz=88							
X25A	Clemmons Ranch	88.12	52	⇓P		P	22 44 44.0	+0.8
	baz=88							
IMW	Indian Meadow	88.12	42	eP		P	22 44 43.1	-0.1
	14nm,0.9s							
529A	Stev Forest Ra	88.16	57	⇑P		P	22 44 44.7	+1.3
	baz=88							
LRM	Limekiln Ridge	88.17	40	eP		P	22 44 40.8	-2.4
MOOW	Moose Ponds	88.17	42	eP		P	22 44 41.0	-2.3
	4.8nm,0.9s							
V24A	Rampart Ranch,	88.19	51	⇓P		P	22 44 45.0	+1.4
	baz=88							
LOHW	Long Hollow	88.19	42	eP		P	22 44 41.1	-2.3
	25nm,1.5s							
328A	Wrisden Ranch,	88.21	56	⇓P		P	22 44 44.6	+1.0
	baz=88							
R22A	Saguache, Gunn	88.23	48	⇑P		P	22 44 45.3	+1.5
	baz=88							
CHMT	Chamberlain Mo	88.26	38	eP		P	22 44 40.9	-2.7
QLMT	Earthquake Lak	88.28	41	eP		P	22 44 44.2	+0.4
N20A	Spence Gulch,	88.39	45	⇑P		P	22 44 44.4	-0.1
	baz=88,SNR=6.5							
Q22A	Crested Butte,	88.41	48	⇑P		P	22 44 45.1	+0.5
	baz=88							
BW06	Boulder Array	88.45	43	eP		P	22 44 43.9	-0.7
PD31	Pinedale Array	88.45	43	eP		P	22 44 44.3	-0.4
PD31				ePP		PP	22 48 23.4	-0.9
PDAR	Pinedale Array	88.45	43	P		P	22 44 44.3	-0.4
	6.0nm,0.8s,baz=206,slow=2.9,SNR=46							
PDAR				PP		PP	22 48 23.4	-0.9
	0.4nm,0.8s,baz=216,slow=7.3,SNR=3.9							
SMCO	Snowmass	88.50	47	eP		P	22 44 43.3	-1.9
	20nm,1.3s							
W25A	X Bar L Ranch,	88.56	52	⇓P		P	22 44 45.6	+0.4
	baz=89							
H17A	Grant Village	88.60	41	⇓P		P	22 44 47.7	+2.4
	baz=89							
429A	Davenport Ranc	88.62	57	⇑P		P	22 44 46.1	+0.6
	baz=89							
228A	UT Block 9, Go	88.68	55	⇑P		P	22 44 46.6	+0.9
	baz=89							
T24B	San Luis	88.69	50	⇓P		P	22 44 46.8	+0.9
	baz=89							
Z27A	Tatum	88.70	54	⇑P		P	22 44 46.7	+0.8
	baz=89							
V25A	Rancho No Teng	88.71	51	⇑P		P	22 44 47.1	+1.1
	baz=89							
M20A	Sweetwater, Wa	88.75	45	⇑P		P	22 44 47.4	+1.3
	baz=89							
SNAA	Sanae	88.75	178	eP		P	22 44 45.2	-0.2
SNAA	Sanae	88.75	178	eP		P	22 44 44.3	-1.0
	13nm,1.1s							
DAWY	Dawson	88.76	16	eP		P	22 44 43.3	-2.0
HHC	Hu-ho-hao-te	88.81	314	eP		P	22 44 46.3	+0.1
HHC				pP		pP	22 46 56.6	+1.2
HHC				sP		sP	22 47 55.5	+0.5
HHC				PP		PP	22 48 29.4	+2.3
HHC				SKS		SKSac	22 54 18.4	-0.8
HHC				S		S	22 54 42.7	-1.4
HHC				SS		SS	23 00 58.0	+2.4
HHC				AMB		AMB		
	comp=Z,19nm,1.0s							
HHC				AMB		AMB		
	comp=Z,440nm,5.1s							
P22A	Eagle	88.84	47	⇓P		P	22 44 47.7	+1.1
	baz=89							
R23A	Moffat	88.87	49	⇓P		P	22 44 47.8	+1.0
	baz=89							
L20A	Wamsutter	88.89	44	⇓P		P	22 44 47.1	+0.4
	baz=89,SNR=8.2							
EGAK	Eagle	88.90	15	eP		P	22 44 45.0	-0.9
	17nm,0.8s							
128A	Castleberry Fa	88.97	55	⇓P		P	22 44 48.0	+0.9
	baz=89							
Y27A	Causey	88.97	53	⇓P		P	22 44 47.6	+0.5
	baz=89							
KMI	Kunming	88.98	297	P		P	22 44 48.8	+1.3
KMI				AMB		AMB		
	comp=Z,9.0nm,0.9s							
J19A	Crowheart	89.02	43	⇓P		P	22 44 47.4	+0.3
	baz=89,SNR=11							
S24A	Houchin Ranch,	89.06	49	⇓P		P	22 44 48.6	+0.9
	baz=89							
U25A	Circle Dot Ran	89.11	51	⇓P		P	22 44 48.5	+0.7
	baz=89							
COLD	Coldfoot	89.16	10	eP		P	22 44 45.7	-1.4
	14nm,0.8s							
631A	Perdido Creek	89.19	58	⇑P		P	22 44 48.8	+0.7
	baz=89							
O22A	Kremmling	89.24	47	⇑P		P	22 44 49.0	+0.6
	baz=89,SNR=7.3							
MSTX	Muleshoe	89.30	53	⇓P		P	22 44 49.4	+0.7
	baz=89							
V26A	Tequesquite Ra	89.31	51	⇑P		P	22 44 49.5	+0.9
	baz=89							
VNA2	Neumayer--Watz	89.32	177	eP		P	22 44 48.7	+0.8
M21A	Separation Pea	89.35	45	⇓P		P	22 44 49.0	+0.2
	baz=89,SNR=6.3							
732A	Laxson Ranch,	89.41	59	⇓P		P	22 44 49.7	+0.6
	baz=89							
I19A	Meeteetse	89.42	42	⇑P		P	22 44 49.7	+0.6
	baz=90,SNR=8.6							
T25A	Trinidad	89.42	50	⇑P		P	22 44 50.0	+0.7
	baz=90							
MAIT	Maitri	89.44	183	eP		P	22 44 46.6	-1.9
129A	Stewart Farms,	89.45	55	⇑P		P	22 44 50.1	+0.7
	baz=90							
L21A	Rawlins	89.51	45	⇑P		P	22 44 50.3	+0.7
	baz=90							
W27A	Bowe Ranch, En	89.54	52	⇑P		P	22 44 50.5	+0.8
	baz=90							
VNA1	Neumayer--Stat	89.55	177	eP		P	22 44 49.8	+0.9
U26A	Atchley Ranch,	89.59	51	⇓P		P	22 44 50.7	+0.7
	baz=90							
N22A	Wattenberg Ran	89.59	46	⇑P		P	22 44 51.0	+1.0
	baz=90,SNR=8.8							
S25A	Robets Cordova	89.63	50	⇓P		P	22 44 50.7	+0.5
	baz=90							
J20A	Shoshoni	89.68	43	⇑P		P	22 44 50.9	+0.7
	baz=90,SNR=11							
Q24A	Divide	89.68	48	⇓P		P	22 44 51.3	+0.7
	baz=90							
PLCA	Paso Flores	89.80	134	P		P	22 44 52.4	+1.4
	6.2nm,1.1s,baz=177,slow=2.2,SNR=5.2							
CM01	Chiang Mai Arr	89.81	290	eP		P	22 44 51.3	+0.1
Z29A	Hungry Hill Ra	89.83	55	⇑P		P	22 44 52.1	+1.0
	baz=90							
CM31	Chiang Mai Arr	89.84	290	eP		P	22 44 52.4	+1.1
CMAR	Chiang Mai Arr	89.84	290	P		P	22 44 52.4	+1.1
	2.7nm,0.8s,baz=123,slow=2.8,SNR=18							
632A	Uvalde	89.86	59	⇑P		P	22 44 52.2	+1.0
	baz=90							
I20A	Worland	89.93	43	⇑P		P	22 44 51.7	+0.4
	baz=90,SNR=5.2							
N23A	Red Feather La	89.98	46	⇓P		P	22 44 52.5	+0.7
	baz=90,SNR=5.5							
532A	Rocksprings	90.00	58	⇑P		P	22 44 52.7	+0.8
	baz=90							
331A	San Angelo	90.05	57	⇑P		P	22 44 52.7	+0.6
	baz=90							
L22A	Ellis Ranch, M	90.16	45	⇑P		P	22 44 53.4	+0.8
	baz=90,SNR=7.4							
CD2	Chengdu	90.36	303	P		P	22 44 54.6	+1.1
CD2				AMB		AMB		
	comp=Z,10.0nm,0.5s							
K22A	Casper	90.38	44	⇓P		P	22 44 54.0	+0.5
	baz=90							
231A	Bronte	90.38	56	⇑P		P	22 44 54.2	+0.6
	baz=90							
432A	Menard	90.38	57	⇑P		P	22 44 54.0	+0.3
	baz=90							
I21A	Big Trails, Te	90.40	43	⇓P		P	22 44 54.4	+0.8
	baz=90							
G20A	Bridger	90.47	42	⇓P		P	22 44 54.8	+1.0
	baz=90							
R26A	Arlington	90.60	49	⇓P		P	22 44 55.2	+0.6
	baz=91							
P25A	Willow Gulch B	90.61	48	⇑P		P	22 44 55.0	+0.4
	baz=91							
131A	Roby	90.61	55	⇓P		P	22 44 55.0	+0.4
	baz=91							
332A	Millersview	90.62	57	⇑P		P	22 44 55.3	+0.6
	baz=91							
L23A	Garrett	90.68	45	⇑P		P	22 44 55.5	+0.5
	baz=91							
E19A	Rath Farm, Rou	90.70	40	⇑P		P	22 44 56.0	+1.2
	baz=91							
J22A	Midwest	90.75	44	⇑P		P	22 44 55.8	+0.7
	baz=91							
232A	Coleman	90.89	56	⇑P		P	22 44 56.3	+0.4
	baz=91							
H21A	Big Horn, Sher	90.93	42	⇑P		P	22 44 56.6	+0.6
	baz=91							
I22A	9 Mile Ranch,	90.96	43	⇓P		P	22 44 56.7	+0.6
	baz=91							
D19A	Cripps Ranch,	90.98	40	⇑P		P	22 44 57.3	+1.2
	baz=91							
K23A	Bowen Ranch, D	91.02	45	⇓P		P	22 44 57.6	+1.1
	baz=91							
R27A	Eads	91.06	50	⇑P		P	22 44 57.4	+0.7
	baz=91							
E20A	Meyer Farm, Mu	91.12	40	⇑P		P	22 44 57.9	+1.2
	baz=91							
C19A	Slack Wire Ran	91.15	39	⇑P		P	22 44 57.5	+0.7
	baz=91,SNR=8.2							
ABTX	Abilene, Hawle	91.17	56	⇓P		P	22 44 57.7	+0.5
	baz=91							
S28A	Manter	91.43	50	⇑P		P	22 44 59.2	+0.8
	baz=92							
K24A	Anderson Ranch	91.54	45	⇓P		P	22 44 59.6	+0.7
	baz=92							
B19A	Brinkman Farms	91.55	38	⇑P		P	22 44 59.5	+0.9
	baz=92							
Z32A	Haskell	91.56	55	⇓P		P	22 44 59.6	+0.7
	baz=92							
V30A	Spur Ranch, Mi	91.59	53	⇑P		P	22 45 00.2	+1.0
	baz=92							
C20A	Veseth Ranch,	91.76	39	⇓P		P	22 45 00.0	+0.4
	baz=92,SNR=8.9							
R28A	Tribune	91.80	50	⇑P		P	22 45 01.1	+1.1
	baz=92							
A19A	Klindworth Far	91.89	38	⇑P		P	22 45 01.2	+1.0
	baz=92							
J24A	Dixon Ranch, L	91.90	44	⇑P		P	22 45 01.5	+1.0
	baz=92							
D21A	La Casta Ranch	92.07	40	⇓P		P	22 45 02.2	+1.1
	baz=92							
B20A	Solberg Farm,	92.09	39	⇑P		P	22 45 02.1	+1.0
	baz=92							
G23A	Biddle	92.24	42	⇓P		P	22 45 02.5	+0.6
	baz=92							
LZH	Lanzhou	92.30	308	⇓P		P	22 45 02.7	+0.2
LZH				pP		pP	22 47 13.5	+1.3
LZH				sP		sP	22 48 12.6	+1.0
LZH				SKS		SKSac	22 54 40.0	+0.8
LZH				S		S	22 55 13.1	-2.2
LZH				sS		sS	22 59 05.7	-2.3
LZH				AMB		AMB		
	comp=Z,39nm,1.1s							
LZH				AMB		AMB		
	comp=Z,460nm,9.8s							
C21A	Desert Coulee	92.36	40	⇑P		P	22 45 03.2	+0.9
	baz=92							
F23A	Volborg	92.46	42	⇑P		P	22 45 03.4	+0.5
	baz=92							
H24A	Dirks Ranch, A	92.58	43	⇑P		P	22 45 04.2	+0.7
	baz=93							
D22A	Cohagen	92.61	40	⇑P		P	22 45 04.6	+1.1
	baz=93							
Q29A	Oakley	92.61	50	⇓P		P	22 45 04.6	+0.8
	baz=93							
K26A	Motz Farm, Whi	92.62	45	⇓P		P	22 45 04.4	+0.7
	baz=93							
B21A	Ellsworth Farm	92.68	39	⇓P		P	22 45 04.9	+1.2
	baz=93							
I25A	Rochford	92.81	44	⇓P		P	22 45 05.1	+0.4
	baz=93							
P29A	Atwood	92.92	49	⇓P		P	22 45 05.9	+0.7
	baz=93							
J26A	Sides Ranch, S	92.94	45	⇑P		P	22 45 06.2	+1.1
	baz=93							
A21A	Bergtoll Ranch	92.98	39	⇓P		P	22 45 06.1	+0.9
	baz=93							
C22A	Vida	93.05	40	⇓P		P	22 45 06.7	+1.2
	baz=93							
Q30A	Quinter	93.19	50	⇓P		P	22 45 07.2	+0.8
	baz=93							
B22A	Reddig Ranch S	93.23	40	⇑P		P	22 45 07.3	+1.0
	baz=93							
P30A	Selden	93.39	49	⇓P		P	22 45 08.2	+1.0
	baz=93							
C23A	Lambert	93.50	40	⇑P		P	22 45 09.0	+1.5
	baz=94							
B23A	Brockton	93.90	40	⇓P		P	22 45 10.7	+1.3
	baz=94							
MK32	Makanchi Array	110.67	314	eP	KiKP	PKiKP	22 50 19.6	-0.8
MKAR	Makanchi Array	110.67	314	PKiKP		PKiKP	22 50 19.6	-0.8
	0.5nm,1.0s,baz=44,slow=0.7,SNR=4.3							
KSH	Kashi	114.44	305	eP	KP	PKPdf	22 50 24.5	-3.5
KSH				eP	P	PP	22 51 45.7	+9.4
BOSA	Boshof	126.90	206	eP	KPdf	PKPdf	22 50 52.1	-0.2
BOSA	Boshof	126.90	206	PKP		PKPdf	22 50 52.1	-0.2
	2.7nm,1.0s,baz=332,slow=21,SNR=3.6							
ARA0	ARCESS Array S	128.19	350	eP	KPdf	PKPdf	22 50 52.6	-0.7
ARCES	ARCESS Array B	128.19	350	PKP		PKPdf	22 50 52.6	-0.7
	1.7nm,0.6s,baz=82,slow=1.2,SNR=11							
JOF	Joensuu	132.42	342	epkp		SKPab	22 53 32.6	-2.6
KAF	Kangasniemi	134.44	344	epkp		SKPbc	22 53 36.8	-3.0

CFR	**Carcaliu**	**146.66 325**	⇓*i*P	**PKPbc**	**22 51 30.5**	**+0.2**		
BR231	**Keskin MP Arra**	**146.85 314**	*e*PKPdf	**PKPbc**	**22 51 30.0**	**-1.2**		
VRI	**Vrincioaia**	**146.93 328**	⇑*i*P	**PKPbc**	**22 51 30.8**	**-0.3**		
KSP	**Ksiaz**	**146.98 343**	*e*PKP	**PKPbc**	**22 51 31.5**	**+0.5**		
PLOR	**Plostina**	**146.98 328**	⇓*i*P	**PKPab**	**22 51 34.2**	**-0.5**		
TRPA	**Tarpa**	**147.16 334**	⇓*i*P	**PKPbc**	**22 51 31.4**	**-0.2**		
OKC	**Ostrava-Krasne**	**147.33 340**	⇑*e*PKP	**PKPbc**	**22 51 30.5**	**-1.5**		
CLL	**Collm**	**147.34 347**	*e*PKPdf	**PKPdf**	**22 51 28.0**	**-0.5**		
	comp=Z,9.0nm,1.5s							
CLL			⇓*i*PKPbc	**PKPbc**	**22 51 31.4**	**-0.5**		
	comp=Z,21nm,0.9s							
CLL			*i* PKPab	**PKPab**	**22 51 34.8**	**-1.1**		
	comp=Z,16nm,0.8s							
CLL			*i* pPKiKP	**pPKiKP**	**22 53 48.7**	**-2.9**		
CLL			*e*SKPbc	**SKiKP**	**22 54 16.0**	**+2.4**		
UPC	**Upice**	**147.36 343**	⇑*e*PKP	**PKPbc**	**22 51 32.2**	**+0.1**		
UPC			*e*PKPAB	**PKPab**	**22 51 36.0**	**0.0**		
UPC			*ep*PKP	**pPKPdf**	**22 53 49.0**	**+1.6**		
DPC	**Dobruska-Polom**	**147.41 343**	⇑*e*PKP	**PKPbc**	**22 51 32.5**	**+0.3**		
DPC			*e*PKPAB	**PKPab**	**22 51 36.3**	**0.0**		
DPC			*ep*PKP	**pPKPdf**	**22 53 48.7**	**+1.2**		
DPC	**Dobruska-Polom**	**147.41 343**	*e*PKPbc	**PKPbc**	**22 51 32.6**	**+0.3**		
KRLC	**Kraliky**	**147.53 342**	⇑*e*PKP	**PKPbc**	**22 51 32.7**	**+0.1**		
KRLC			*e*PKPAB	**PKPab**	**22 51 37.0**	**+0.2**		
KRLC			*ep*PKP	**pPKPdf**	**22 53 49.1**	**+1.4**		
BRG	**Berggiesshubel**	**147.54 346**	*i* PKP	**PKPbc**	**22 51 32.1**	**-0.3**		
	comp=Z,12nm,1.0s							
MLR	**Muntele Rosu**	**147.59 328**	⇑*i*P	**PKPbc**	**22 51 32.4**	**-0.6**		
PVCC	**Panska Ves**	**147.71 345**	⇑*e*PKP	**PKPbc**	**22 51 33.1**	**+0.2**		
PVCC			*e*PKPAB	**PKPab**	**22 51 37.1**	**-0.4**		
VOIR		**148.07 329**	⇓*i*P	**PKPbc**	**22 51 34.1**	**0.0**		
DRGR		**148.14 333**	⇓*i*P	**PKPbc**	**22 51 33.9**	**-0.4**		
PRA	**Prague**	**148.17 345**	⇑PKP	**PKPbc**	**22 51 34.0**	**-0.1**		
PRA			PKPAB	**PKPab**	**22 51 40.0**	**+0.7**		
PRA			pPKP	**pPKPdf**	**22 53 51.0**	**+2.3**		
PRU	**Pruhonice**	**148.22 345**	⇑*e*PKP	**PKPbc**	**22 51 33.8**	**-0.4**		
PRU			*e*PKPAB	**PKPab**	**22 51 39.3**	**-0.3**		
PRU			*ep*PKP	**pPKPdf**	**22 53 50.4**	**+1.6**		
VRAC	**Vranov**	**148.27 342**	⇓*i*P	**PKPbc**	**22 51 34.5**	**+0.1**		
ARR	**Arges**	**148.32 329**	⇓*i*P	**PKPbc**	**22 51 35.6**	**+0.9**		
PSZ	**Piszkesteto**	**148.37 337**	⇑*i*P	**PKPbc**	**22 51 35.6**	**+0.8**		
MEM	**Membach**	**149.05 355**	PKPbc	**PKPbc**	**22 51 35.9**	**-0.3**		
MEM			PKPab	**PKPab**	**22 51 42.6**	**-0.4**		
KHC	**Kasperske Hory**	**149.25 345**	⇑*e*PKP	**PKPbc**	**22 51 36.8**	**-0.1**		
KHC			*e*PKPAB	**PKPab**	**22 51 43.7**	**-0.2**		
KHC			*ep*PKP	**pPKPdf**	**22 53 53.1**	**+2.5**		
KHC	**Kasperske Hory**	**149.25 345**	*e*PKPbc	**PKPbc**	**22 51 36.8**	**-0.1**		
GERES	**GERESS Array B**	**149.48 345**	PKPbc	**PKPbc**	**22 51 37.1**	**-0.4**		
	comp=Z,3.9nm,0.7s,baz=25,slow=2.4,SNR=46							
DOU	**Dourbes**	**149.66 357**	PKPbc	**PKPbc**	**22 51 37.9**	**+0.2**		
DOU			PKPab	**PKPab**	**22 51 44.5**	**-1.1**		
CONA	**Conrad Observa**	**149.72 341**	⇑*i*PKiKP	**PKPbc**	**22 51 38.3**	**+0.3**		
	comp=Z,6.5nm,0.7s							
WLF	**Walferdange**	**149.98 355**	PKPbc	**PKPbc**	**22 51 39.1**	**+0.6**		
WLF			PKPab	**PKPab**	**22 51 46.2**	**-0.6**		
VTS	**Vitosha**	**151.03 326**	⇑*i*P	**PKPbc**	**22 51 41.2**	**-0.1**		
BFO	**Black Forest**	**151.04 351**	*e*PKPbc	**PKPbc**	**22 51 38.4**	**-2.6**		
SOKA	**Soboth**	**151.09 341**	⇑*i*PKPbc	**PKPbc**	**22 51 40.6**	**-0.6**		
	comp=Z,3.3nm,0.9s							
ABTA	**Abfaltersbach**	**151.73 345**	*i* PKPbc	**PKPbc**	**22 51 41.8**	**-0.9**		
	comp=Z,9.7nm,1.1s,SNR=6.6							
FETA	**Feichten**	**151.88 347**	⇑*i*PKPab	**PKPab**	**22 51 54.5**	**-0.7**		
	comp=Z,5.4nm,0.9s,SNR=4.1							
VISS	**Visnje**	**151.94 341**	*i* PKPbc	**PKPbc**	**22 51 42.4**	**-0.6**		
VISS			*i*		22 51 54.3			
BOJS	**Bojanci**	**152.07 340**	*i* PKPbc	**PKPbc**	**22 51 42.9**	**-0.4**		
BOJS			*i*		22 51 55.1			
JAVS	**Javornik**	**152.09 342**	*i* PKPbc	**PKPbc**	**22 51 43.3**	**-0.2**		
JAVS			*i*		22 51 54.7			
FUORN	**Ofenpass-Fuorn**	**152.36 348**	*e*PKPbc	**PKPbc**	**22 51 42.9**	**-1.4**		
FUORN			*e*PKPab	**PKPab**	**22 51 56.4**	**-0.9**		
PBRG	**Braganca**	**156.82 17**	*e*PKPab	**PKPab**	**22 52 16.2**	**-0.2**		
MVO	**Moncorvo**	**157.33 18**	*e*PKPab	**PKPab**	**22 52 18.8**	**+0.2**		
PTOM	**Tomar**	**158.29 22**	*e*PKPab	**PKPab**	**22 52 22.1**	**-0.7**		
PMRV	**Marv??o**	**158.81 20**	*e*PKPab	**PKPab**	**22 52 24.6**	**-0.5**		
PESTR	**Estremoz**	**159.24 21**	*e*PKPab	**PKPab**	**22 52 26.3**	**-0.7**		
ESDC	**Sonseca Array**	**159.51 13**	*e*PKPab	**PKPab**	**22 52 27.5**	**-0.7**		
ESDC	**Sonseca Array**	**159.51 13**	PKPab	**PKPab**	**22 52 27.5**	**-0.7**		
	comp=Z,2.3nm,0.9s,baz=343,slow=3.7,SNR=15							
PNCL	**Nicolau / Gran**	**159.57 24**	*e*PKPab	**PKPab**	**22 52 27.7**	**-0.7**		
DBIC	**Dimbokro**	**165.40 152**	PKPab	**PKPab**	**22 52 55.4**	**+0.8**		
	comp=Z,6.1nm,1.0s,baz=185,slow=11,SNR=4.6							
TOA0	**Torodi Ar. Sit**	**173.42 178**	*e*PKPdf	**PKPdf**	**22 51 56.0**	**-1.2**		
TOA0			*e*PKPab	**PKPab**	**22 53 29.8**	**-0.1**		
TORD	**Torodi Ar. Bea**	**173.42 178**	PKP	**PKPdf**	**22 51 56.4**	**-0.7**		
	comp=Z,2.2nm,1.0s,baz=300,slow=1.4,SNR=7.8							
TORD			PKPab	**PKPab**	**22 53 29.9**	**0.0**		
	comp=Z,2.6nm,0.9s,baz=174,slow=3.6,SNR=9.8							

*IDC **08** 22:43:29.4±0.5, 10°.89S×165°.48E, h0km, mb4.5/18, mb1 4.7/20, mb1mx4.7/22, mbtmp4.6/20, ML4.8/2, MS4.8/13, Ms1 4.8/13, ms1mx4.5/33, Error ellipse: s-maj=18.4km s-min=14.0km az=105.0*

*BJI **08** 22:43:30.0, 10°.54S×165°.88E, h10km, mB5.5/21, mb4.7/27, Ms5.2/24, Ms7 4.9/24*

*ISCJB **08** 22:43:32.2±0.2, 10°.92S±0°.04×165°.43E±0°.03, h30km, mb5.1/93, MS4.8/21, Error ellipse: s-maj=6.1km s-min=4.1km az=157.0*

*MOS **08** 22:43:32.8±0.9, 10°.84S×165°.38E, h33km, mb5.3/24, Error ellipse: s-maj=14.4km s-min=9.8km az=158.3*

*NEIC **08** 22:43:32.1±1.9, 10°.87S×165°.45E, h20km±3km, mb5.3/69, Error ellipse: s-maj=14.4km s-min=14.0km az=96.0*

*GCMT **08** 22:43:36.9±0.2, 10°.89S×165°.25E, h22km, MW5.3 Best double couple: NP1:φs160.00000°, δ67.00000°, λ102.00000°. NP2:φs312.00000°, δ26.00000°, λ65.00000°. Principal axes: T 1.2400, Plg66.0000°, Azm92.0000°; N -0.0700, Plg11.0000°, Azm335.0000°; P -1.1700, Plg21.0000°, Azm241.0000°; Data Used: II IU G CN IC.*

*AUST **08** 22:43:44.3, 11°.42S×164°.96E, h60km*

ISC 08 22:43:33.4±0.3, 10°.93S±0°.05×165°.53E±0°.05, h30km, n269, σ1§49/284, mb5.2/93, MS4.8/21, 1C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.69**	**285**	*e*Pn		**Pn**	**22 44 56.0**	**0.0**
HNR				*e*Sn		**Sn**	**22 46 00.7**	**+0.3**
HNR	**Honiara**	**5.69**	**285**	Pn		**Pn**	**22 44 56.2**	**+0.2**
	42nm,0.3s,baz=186,slow=0.9,SNR=46							
HNR				Sn		**Sn**	**22 46 00.7**	**+0.3**
	baz=180,slow=20,SNR=1.8							
DZM	**Mont Dzumac**	**11.12**	**176**	*e*LR		LR	22 48 43.1	
	4μm,24.5s							
DZM	**Mont Dzumac**	**11.12**	**176**	Pn		**Pn**	**22 46 12.1**	**+1.6**
	4.8nm,0.3s,baz=76,slow=16,SNR=38							
DZM				Sn		**Sn**	**22 48 10.7**	**-3.1**
	0.9nm,0.3s,baz=342,slow=20,SNR=3.2							
DZM				LR		LR	22 49 50.3	
	comp=Z,4μm,18.9s,baz=2.7,slow=34							
MSVF	**Nonsavu**	**13.88**	**121**	*e*P		**P**	**22 46 53.2**	**-3.0**
MSVF	**Nonsavu**	**13.88**	**121**	P		P	22 47 01.6	+5.4
	421nm,1.2s,SNR=5.6							
MSVF	**Nonsavu**	**13.88**	**121**	*e*Pn		**P**	**22 46 53.2**	**-3.0**
TARA	**Tarawa**	**14.24**	**32**	*e*Pn		**Pn**	**22 46 53.5**	**+0.3**
EIDS	**Eidsvold**	**19.84**	**222**	*e*P		**Pn**	**22 48 04.2**	**+0.5**
	43nm,1.0s							
EIDS	**Eidsvold**	**19.84**	**222**	P		**Pn**	**22 48 04.4**	**+0.7**
	baz=19,SNR=4.2							
CTA	**Charters Tower**	**20.67**	**242**	*e*P		Pn	22 48 12.4	-1.0
CTA	**Charters Tower**	**20.67**	**242**	P		Pn	22 48 12.4	-1.0
	43nm,0.8s,baz=63,slow=13,SNR=21							
CTA				LR		LR	22 55 22.1	
	comp=Z,3μm,18.2s,baz=354,slow=34							
CTAO	**Charters Tower**	**20.67**	**242**	*e*P		Pn	22 48 11.7	-1.8
CTAO				pmax		pmax		
	comp=Z,93nm,1.0s							
CTAO	**Charters Tower**	**20.67**	**242**	*e*P		Pn	22 48 11.7	-1.8
	comp=Z,93nm,1.0s							
COEN	**Coen**	**22.04**	**260**	*e*P		**P**	**22 48 24.4**	**-1.4**
	comp=Z,1μm,1.9s							
RMQ	**Roma**	**22.14**	**223**	P		**P**	**22 48 28.2**	**+1.5**
	baz=21,SNR=18							
AFI	**Afiamalu**	**22.36**	**100**	LR		LR	22 55 46.7	
	comp=Z,4μm,18.3s,baz=279,slow=33							
RAO	**Raoul Island**	**23.90**	**142**	LR		LR	22 56 12.6	
	comp=Z,904nm,18.4s,baz=336,slow=32							
QLP	**Quilpie**	**25.41**	**229**	P		**P**	**22 48 59.4**	**+0.9**
	baz=25,SNR=4.7							
JAY	**Jayapura**	**26.01**	**287**	P		**P**	**22 49 05.0**	**+0.9**
	baz=26,SNR=4.7							
URZ	**Urewera**	**29.13**	**161**	*e*P		**P**	**22 49 31.5**	**-0.2**
	comp=Z,112nm,1.4s							
URZ	**Urewera**	**29.13**	**161**	P		**P**	**22 49 31.8**	**+0.1**
	comp=Z,32nm,1.1s,baz=25,slow=8.4,SNR=5.4							
H11S2	**WAKE ISLAND Hy**	**29.25**	**2**	T		T	23 20 18.5	
	baz=182,slow=0.7,SNR=47							
H11S3	**WAKE ISLAND Hy**	**29.26**	**2**	T		T	23 20 08.4	
	baz=182,slow=0.7,SNR=35							
H11S1	**WAKE ISLAND Hy**	**29.27**	**2**	T		T	23 20 13.0	
	baz=182,slow=0.7,SNR=21							
STKA	**Stephens Creek**	**30.38**	**223**	*e*P		**P**	**22 49 44.1**	**+1.2**
	comp=Z,28nm,2.5s							
STKA	**Stephens Creek**	**30.38**	**223**	P		**P**	**22 49 44.2**	**+1.2**
	baz=30,SNR=4.7							
STKA	**Stephens Creek**	**30.38**	**223**	P		**P**	**22 49 43.4**	**+0.5**
	comp=Z,4.7nm,0.8s,baz=24,slow=10,SNR=7.1							
STKA				LR		LR	23 01 20.7	
	comp=Z,3μm,18.2s,baz=43,slow=35							
H11N1	**WAKE ISLAND Hy**	**30.48**	**3**	T		T	23 21 47.4	
	baz=184,slow=0.7,SNR=70							
H11N3	**WAKE ISLAND Hy**	**30.48**	**3**	T		T	23 21 37.0	
	baz=184,slow=0.7,SNR=26							
H11N2	**WAKE ISLAND Hy**	**30.49**	**3**	T		T	23 21 48.3	
	baz=184,slow=0.7,SNR=36							
BFZ	**Birch Farm**	**31.11**	**164**	*e*P		**P**	**22 49 50.0**	**+0.8**
	comp=Z,59nm,1.1s							
WRAB	**Tennant Creek**	**31.31**	**250**	*e*P		**P**	**22 49 49.1**	**-2.2**
WRAB				pmax		pmax		
	comp=Z,21nm,1.1s							
WRAB	**Tennant Creek**	**31.31**	**250**	*e*P		**P**	**22 49 49.1**	**-2.2**
	comp=Z,21nm,1.1s							
WRA	**Warramunga Arr**	**31.33**	**250**	*e*P		**P**	**22 49 50.3**	**-1.1**
WRA				*e*PcP		**PcP**	**22 52 46.5**	**+1.3**
WRA	**Warramunga Arr**	**31.33**	**250**	P		**P**	**22 49 50.3**	**-1.1**
	comp=Z,5.7nm,0.8s,baz=80,slow=9.1,SNR=12							
WRA				PcP		**PcP**	**22 52 46.5**	**+1.3**
	comp=Z,0.8nm,0.4s,baz=61,slow=3.8,SNR=2.9							
WRA				LR		LR	23 01 02.5	
	comp=Z,2μm,20.6s,baz=70,slow=34							
AS01	**Alice Springs**	**32.62**	**243**	*e*P		**P**	**22 50 02.0**	**-0.7**
AS12	**Alice Springs**	**32.66**	**243**	*e*P		**P**	**22 50 02.2**	**-0.9**
AS12				*e*PcP		**PcP**	**22 52 49.7**	**+0.9**
AS12				*e*ScP		**ScP**	**22 56 35.4**	**+4.6**
ASAR	**Alice Springs**	**32.66**	**243**	P		**P**	**22 50 02.2**	**-0.9**
	comp=Z,15nm,0.7s,baz=72,slow=9.7,SNR=98							
ASAR				PcP		**PcP**	**22 52 49.7**	**+0.9**
	comp=Z,2.6nm,0.9s,baz=84,slow=3.6,SNR=4.9							
ASAR				ScP		**ScP**	**22 56 35.4**	**+4.6**
	comp=Z,2.6nm,1.2s,baz=99,slow=5.2,SNR=4.7							
ASAR				LR		LR	23 02 28.3	
	comp=Z,2μm,19.4s,baz=64,slow=35							
RPZ	**Rata Peaks**	**33.02**	**173**	*e*P		**P**	**22 50 05.5**	**-0.4**
	comp=Z,53nm,0.9s							
RPZ	**Rata Peaks**	**33.02**	**173**	LR		LR	23 01 30.1	
	comp=Z,1μm,19.6s,baz=340,slow=33							
BBOO	**Buckleboo**	**34.76**	**227**	*e*P		**P**	**22 50 21.6**	**+0.4**
	comp=Z,177nm,1.1s							
KNRA	**Kunmunra**	**36.06**	**258**	P		**P**	**22 50 33.1**	**+0.5**
	baz=35,SNR=3.5							
FITZ	**Fitzroy Crossi**	**39.21**	**255**	*e*P		**P**	**22 50 58.3**	**-1.0**
	comp=Z,12nm,0.8s							
FITZ	**Fitzroy Crossi**	**39.21**	**255**	P		**P**	**22 50 58.8**	**-0.4**
	baz=38,SNR=5.7							
PPT	**Papeete**	**43.93**	**104**	LR		LR	23 06 43.4	
	comp=Z,1μm,18.6s,baz=227,slow=32							
PPT2	**Papeete2**	**43.93**	**104**	*e*S		**S**	**22 58 13.3**	**+5.2**
	comp=Z,586nm,26.5s							
PPT2				*e*LR		LR	23 03 55.2	
	comp=Z,2μm,22.0s,baz=274							
JCJ	**Chichijima**	**44.07**	**329**	LR		LR	23 05 53.9	
	comp=Z,531nm,19.6s,baz=116,slow=30							
TBI	**Tubuai**	**44.57**	**112**	*e*S		**S**	**22 58 18.6**	**+1.4**
	comp=Z,687nm,27.5s							
TBI				*e*LQ		LQ	23 02 19.4	
	comp=Z,2μm,29.5s							
TBI				*e*LR		LR	23 04 16.3	
	comp=Z,2μm,26.0s,baz=283							
MBWA	**Marble Bar**	**45.03**	**251**	*e*P		**P**	**22 51 45.4**	**-1.3**
	comp=Z,19nm,1.0s							
MEEK	**Meekatharra**	**46.81**	**244**	P		**P**	**22 52 01.4**	**+0.6**
	baz=46,SNR=12							
KLBR	**Kellerberrin**	**48.59**	**237**	P		**P**	**22 52 15.2**	**+0.7**
	baz=48,SNR=7.0							
POHA	**Pohakuloa**	**48.99**	**52**	*e*P		**P**	**22 52 18.5**	**+0.6**
	comp=Z,167nm,1.4s							
BLDU	**Balidu**	**49.24**	**239**	P		**P**	**22 52 20.1**	**+0.6**
	baz=48,SNR=4.6							
NWAO	**Narrogin (SRO)**	**49.35**	**236**	P		**P**	**22 52 20.2**	**-0.1**
	comp=Z,6.9nm,0.8s,baz=166,slow=4.2,SNR=3.1							
MORW	**Morawa**	**49.50**	**241**	P		**P**	**22 52 22.0**	**+0.6**
	baz=49,SNR=8.3							
MJAR	**Matsushiro Arr**	**53.77**	**333**	P		**P**	**22 52 52.8**	**-0.4**
	comp=Z,7.nm,0.8s,baz=171,slow=8.0,SNR=5.9							
RKT	**Rikitea**	**57.83**	**110**	*e*S		**S**	**23 01 20.6**	**+0.2**
	comp=Z,519nm,30.0s							
RKT				*e*LR		LR	23 10 20.6	
	comp=Z,2μm,25.8s,baz=283							
KSRS	**Korea Array**	**59.66**	**326**	P		**P**	**22 53 35.1**	**+0.2**
	comp=Z,6.6nm,1.2s,baz=167,slow=7.7,SNR=6.5							
KS15	**Wonju Array Si**	**59.67**	**326**	*e*P		**P**	**22 53 35.1**	**0.0**
KS01	**Wonju Array Si**	**59.69**	**326**	*e*P		**P**	**22 53 33.6**	**-1.6**
QIZ	**Qiongzhong**	**62.44**	**298**	P		**P**	**22 53 55.4**	**+1.2**
QIZ				S		**S**	**23 02 23.2**	**+3.5**
QIZ				AMB		AMB		
	comp=Z,10.0nm,1.5s							
QIZ				AMB		AMB		
	comp=Z,170nm,5.5s							
QIZ				LR		LR		
	comp=Z,310nm,21.2s							
QIZ				LR		LR		
	comp=Z,790nm,19.9s							
USRK	**Ussuriysk Arra**	**62.75**	**333**	P		**P**	**22 53 57.1**	**+1.4**
	comp=Z,6.2nm,1.0s,baz=150,slow=4.2,SNR=7.9							
PEA0	**Petropavlovsk-**	**64.13**	**355**	*e*P		**P**	**22 54 05.5**	**+0.7**
PETK	**Petropavlovsk-**	**64.13**	**355**	P		**P**	**22 54 04.8**	**+0.1**
	comp=Z,9.1nm,1.1s,baz=126,slow=7.5,SNR=5.6							
PETK				LR		LR	23 15 46.2	
	comp=Z,415nm,21.8s,baz=186,slow=30							
CN2	**Changchun**	**65.53**	**329**	*e*P		**P**	**22 54 14.7**	**+0.6**
CASY	**Casey**	**66.41**	**201**	*e*P		**P**	**22 54 18.4**	**-1.0**
	comp=Z,23nm,1.3s							
VNDA	**Vanda**	**66.61**	**181**	*e*P		**P**	**22 54 20.7**	**+0.2**
	comp=Z,13nm,1.3s							
VNDA	**Vanda**	**66.61**	**181**	P		**P**	**22 54 21.8**	**+1.3**
	comp=Z,4.6nm,1.1s,baz=354,slow=6.4,SNR=8.4							
VNDA				LR		LR	23 20 07.8	
	comp=Z,418nm,18.4s,baz=359,slow=33							
KLR	**Kul'dur**	**66.86**	**337**	*e*P		**P**	**22 54 19.8**	**-2.7**
KLR				pmax		pmax		
	comp=Z,50nm,1.6s							
SBA	**Scott Base**	**66.92**	**180**	*e*P		**P**	**22 54 23.7**	**+1.3**
SBA				pmax		pmax		
	comp=Z,15nm,1.0s							
SBA	**Scott Base**	**66.92**	**180**	*e*P		**P**	**22 54 23.7**	**+1.3**
	comp=Z,15nm,1.0s							
GYA	**Guiyang**	**68.18**	**304**	P		**P**	**22 54 33.8**	**+2.4**
GYA				ScP			22 59 01.4	
GYA				S		**S**	**23 03 30.8**	**+0.7**
GYA				SKS		**SKSac**	**23 04 27.5**	**-1.0**
GYA				SS		**SS**	**23 07 55.0**	**+1.4**
GYA				AMB		AMB		
	comp=Z,20nm,1.0s							
GYA				AMB		AMB		
	comp=Z,140nm,5.7s							
GYA				LR		LR		
	comp=Z,1μm,18.8s							
GYA				LR		LR		
	comp=Z,970nm,19.4s							
GYA				LR		LR		
	comp=Z,1μm,18.9s							
BJI	**Beijing**	**68.26**	**321**	P		**P**	**22 54 32.5**	**+1.0**
BJI				S		**S**	**23 03 29.5**	**-0.8**
BJI				LR		LR		
	comp=Z,690nm,20.1s							
BJI				LR		LR		
	comp=Z,390nm,21.0s							
XAN	**Xi'an**	**69.89**	**312**	P		P	22 54 49.5	+7.7
XAN				pP		pP	22 54 55.1	+3.9
XAN				AMB		AMB		
	comp=Z,2.0nm,1.1s							
KMI	**Kunming**	**70.88**	**301**	P		**P**	**22 54 50.1**	**+1.8**
KMI				pP		**pP**	**22 54 57.3**	**-0.4**
KMI				sP		**sP**	**22 55 00.9**	**-0.3**
KMI				S		**S**	**23 04 04.4**	**+2.2**
KMI				AMB		AMB		
	comp=Z,9.0nm,1.3s							
KMI				AMB		AMB		
	comp=Z,320nm,5.7s							
KMI				LR		LR		
	comp=Z,240nm,15.8s							
KMI				LR		LR		
	comp=Z,310nm,18.7s							
KMI				LR		LR		
	comp=Z,360nm,19.2s							
HHC	**Hu-ho-hao-te**	**71.61**	**320**	*e*P		**P**	**22 54 53.7**	**+1.5**
HHC				pP		**pP**	**22 54 58.4**	**-3.2**
HHC				sP		**sP**	**22 55 00.7**	**-4.5**
HHC				PP		PP	**22 57 34.5**	**+2.9**
HHC				S		**S**	**23 04 11.3**	**+1.5**
HHC				sS		sS	23 04 19.1	-6.3
HHC				SKS		**SKSac**	**23 04 52.1**	**-1.7**
HHC				ScS		**ScS**	**23 04 54.7**	**-0.8**
HHC				SS		**SS**	**23 08 48.4**	**+2.5**
HHC				AMB		AMB		
	comp=Z,12nm,1.1s							
HHC				AMB		AMB		
	comp=Z,560nm,5.2s							
HHC				LR		LR		
	comp=Z,1μm,17.5s							
HHC				LR		LR		
	comp=Z,770nm,16.5s							
HHC				LR		LR		
	comp=Z,430nm,16.7s							
CM01	**Chiang Mai Arr**	**71.85**	**294**	*e*P		**P**	**22 54 52.8**	**-1.2**
CHTO	**Chiang Mai**	**71.98**	**294**	*e*P		**P**	**22 54 54.7**	**-0.1**
CHTO				pmax		pmax		
	comp=Z,8.0nm,1.2s							
CHTO	**Chiang Mai**	**71.98**	**294**	*e*P		**P**	**22 54 54.6**	**-0.1**
	comp=Z,8.3nm,1.2s							
CD2	**Chengdu**	**72.36**	**307**	P		P	22 55 05.5	+8.6
CD2				pP		**PcP**	**22 55 11.4**	**-3.4**
CD2				sP		sP	22 55 14.4	+4.5
CD2				PcP		pP	22 55 23.7	+17
CD2				PP		PP	22 57 48.2	+10
CD2				S		**SKiKP**	**23 04 26.7**	**-4.1**
CD2				sS		sS	23 04 36.6	+2.2
CD2				SKS		**ScS**	**23 05 04.5**	**+2.6**
CD2	**Chengdu**	**72.36**	**307**	SS		SS	23 09 06.8	+9.1
CD2				AMB		AMB		
	comp=Z,30nm,0.9s							
CD2				AMB		AMB		
	comp=Z,420nm,8.3s							
CD2				LR		LR		
	comp=N,550nm,7.7s							
CD2				LR		LR		
	comp=Z,540nm,19.0s							
LZH	**Lanzhou**	**74.52**	**312**	*e*P		**P**	**22 55 11.5**	**+1.8**
LZH				pP		**pP**	**22 55 17.7**	**-1.4**
LZH				sP		**sP**	**22 55 20.6**	**-2.0**
LZH				PP		**PP**	**22 58 00.5**	**+3.9**
LZH				*e*S		**S**	**23 04 45.0**	**+1.7**
LZH				sS		**sS**	**23 04 54.5**	**-4.4**
LZH				SS		**SS**	**23 09 33.7**	**+3.0**
LZH				AMB		AMB		
	comp=Z,51nm,1.5s							
LZH				AMB		AMB		
	comp=Z,220nm,8.6s							
LZH				LR		LR		
	comp=Z,500nm,15.5s							
LZH				LR		LR		
	comp=Z,560nm,15.2s							
LZH				LR		LR		
	comp=Z,930nm,19.5s							
SVW2	**Sparrevohn**	**78.07**	**18**	*e*P		**P**	**22 55 29.4**	**+0.3**
	comp=Z,136nm,1.8s							
ULN	**Ulaanbaatar**	**78.08**	**324**	*e*P		**P**	**22 55 29.8**	**+0.2**
	comp=Z,8.4nm,1.0s							
SONM	**Songino Array**	**78.45**	**324**	P		**P**	**22 55 32.7**	**+1.1**
	comp=Z,1.4nm,0.8s,baz=138,slow=6.7,SNR=7.9							
SONA1	**Songino Array**	**78.45**	**324**	*e*P		**P**	**22 55 31.6**	**0.0**
GTA	**Gaotai**	**78.83**	**314**	P		**P**	**22 55 34.9**	**+1.0**
GTA				pP		**PcP**	**22 55 40.5**	**-2.0**
GTA				sP		**sP**	**22 55 43.2**	**-3.7**
GTA				S		**S**	**23 05 33.1**	**+3.0**
GTA				sS		**sS**	**23 05 44.0**	**-1.9**
GTA				AMB		AMB		
	comp=Z,6.0nm,1.2s							
GTA				AM

TIXI					pmax	pmax			
	comp=Z,22nm,2.7s								
PGC	Sidney	85.94	39	*e*P		P	22 56 10.1	-0.5	
PINOR	Pine Mountain	85.94	44	*e*P		P	22 56 10.6	-0.1	
	comp=Z,22nm,1.2s								
MONP	Monument Peak	86.03	56	P		P	22 56 12.9	+1.1	
	baz=86								
MPMC	Manual Prospec	86.05	52	P		P	22 56 12.9	+1.2	
	baz=86								
NVAR	Mina Array Bea	86.11	50	P		P	22 56 13.2	+1.1	
	comp=Z,12nm,1.0s,baz=234,slow=7.4,SNR=50								
NV01	Mina Array Sit	86.11	50	*e*P		P	22 56 12.2	+0.2	
PFO	Pinyon Flat Ob	86.19	55	P		P	22 56 13.9	+1.5	
	comp=Z,66nm,1.3s,SNR=5.4								
PFO	Pinyon Flat Ob	86.19	55	*e*P		P	22 56 12.8	+0.4	
	comp=Z,20nm,1.3s								
PFO	Pinyon Flat Ob	86.19	55	P		P	22 56 13.2	+0.8	
	baz=86								
DVTC	Desert V Tower	86.22	56	P		P	22 56 13.3	+0.8	
	baz=86								
LON	Longmire	86.30	41	*e*P		P	22 56 12.4	-0.2	
LON					pmax	pmax			
	comp=Z,14nm,1.4s								
LON	Longmire	86.30	41	*e*P		P	22 56 12.4	-0.2	
	comp=Z,14nm,1.4s								
D05A	Enumclaw	86.33	41	*e*P		P	22 56 13.6	+1.0	
	comp=Z,108nm,1.6s								
GSC	Goldstone	86.37	53	*e*P		P	22 56 13.4	+0.2	
GSC					pmax	pmax			
	comp=Z,28nm,1.5s								
GSC	Goldstone	86.37	53	*e*P		P	22 56 13.3	+0.2	
	comp=Z,28nm,1.5s								
GSC	Goldstone	86.37	53	P		P	22 56 14.1	+0.9	
	baz=86								
DLBC	Dease Lake	86.41	28	*e*P		P	22 56 12.1	-0.7	
SWSC	Sam W. Stewart	86.54	56	P		P	22 56 14.8	+0.8	
	baz=87								
G06A	Carlson Farm,	86.56	43	*e*P		P	22 56 13.9	0.0	
	comp=Z,36nm,1.7s								
HEC	Hector,Ludlow	86.62	54	P		P	22 56 15.3	+0.8	
	baz=87								
FURC	Furnace Creek,	86.65	52	P		P	22 56 15.7	+1.3	
	baz=87								
BELC	Belle Mtn. Jos	86.66	55	P		P	22 56 15.6	+0.9	
	baz=87								
SHOC	Shoshone	86.95	53	P		P	22 56 16.8	+0.9	
	baz=87								
I07A	Izee	86.96	44	*e*P		P	22 56 15.6	-0.3	
	comp=Z,27nm,1.4s								
BC3	Big Chuckawall	87.01	55	P		P	22 56 17.2	+0.8	
	baz=87								
TUQ	Turquoise Moun	87.10	53	P		P	22 56 17.7	+0.9	
	baz=87								
GMRC	Granite Mounta	87.14	54	P		P	22 56 18.0	+0.9	
	baz=87								
LTY	Liberty	87.20	41	*e*P		P	22 56 16.8	-0.2	
	comp=Z,20nm,1.4s								
HVS	Khovu-Aksy	87.32	323	*i* P		P	22 56 17.8	+0.3	
HVS					pmax	pmax			
	comp=Z,35nm,1.6s								
GLA	Glamis	87.36	56	*e*P		P	22 56 19.0	+1.0	
GLA					pmax	pmax			
	comp=Z,83nm,1.6s								
GLA	Glamis	87.36	56	*e*P		P	22 56 19.0	+1.0	
	comp=Z,83nm,1.6s								
GLA	Glamis	87.36	56	P		P	22 56 19.1	+1.0	
	baz=88								
IRM	Iron Mountain	87.38	55	P		P	22 56 19.1	+1.0	
	baz=88								
J08A	Circle Bar Ran	87.45	45	*e*P		P	22 56 18.7	+0.4	
	comp=Z,29nm,1.3s								
HAWA	Hanford	87.67	42	*e*P		P	22 56 20.1	+0.9	
	comp=Z,14nm,0.9s								
G08A	Pilot Rock	87.70	43	*e*P		P	22 56 19.6	+0.1	
	comp=Z,21nm,1.1s								
Y12C	Blythe	87.78	55	P		P	22 56 21.4	+1.4	
	baz=88								
SHPR	Sheep Range	87.98	52	*e*P		P	22 56 20.9	-0.1	
R11A	Troy Canyon, C	88.14	51	*e*P		P	22 56 21.5	-0.3	
	comp=Z,14nm,1.3s								
R11A	Troy Canyon, C	88.14	51	P		P	22 56 22.3	+0.5	
	baz=88								
113A	Mohawk Valley,	88.15	56	P		P	22 56 22.6	+0.9	
	baz=88								
PDMCI	Parker Dam,Lak	88.23	55	P		P	22 56 23.5	+1.4	
	baz=88								
D08A	Wollman Farm,	88.27	41	*e*P		P	22 56 22.6	+0.6	
	comp=Z,9.7nm,1.0s								
B08A	Colville Reser	88.41	40	*e*P		P	22 56 22.0	-0.7	
	comp=Z,19nm,1.4s								
E09A	Wood Farm, Sta	88.62	42	*e*P		P	22 56 23.0	-0.6	
	comp=Z,15nm,1.3s								
W13A	Hualapai Mount	88.63	54	P		P	22 56 25.4	+1.1	
	baz=89								
BMO	Blue Mountains	88.69	44	*e*P		P	22 56 23.5	-0.7	
BMO					pmax	pmax			
	comp=Z,44nm,1.8s								
BMO	Blue Mountains	88.69	44	*e*P		P	22 56 23.5	-0.7	
	comp=Z,44nm,1.8s								
214A	Organ Pipe Nat	88.74	57	P		P	22 56 26.1	+1.5	
	baz=89								
WMQ	Urumqi	88.86	315	*e*P		P	22 56 26.4	+1.5	
WMQ				pP		pP	22 56 31.2	-3.4	
WMQ				sP		sP	22 56 33.4	-4.7	
WMQ				AMB		AMB			
	comp=Z,10.0nm,0.7s								
WMQ				AMB		AMB			
	comp=Z,520nm,4.0s								
WMQ				LR		LR			
	comp=Z,630nm,16.0s								
WMQ				LR		LR			
	comp=Z,480nm,15.0s								
WMQ				LR		LR			
	comp=Z,290nm,19.8s								
Z14A	Wintersburg	88.96	56	P		P	22 56 27.1	+1.5	
	baz=89								
ELK	Elko	89.03	48	*e*P		P	22 56 26.0	0.0	
	comp=Z,20nm,1.5s								
Y14A	Wickenburg	89.05	55	P		P	22 56 27.3	+1.2	
	baz=89								
F10A	Beach Ranch, E	89.07	43	*e*P		P	22 56 25.8	-0.1	
	comp=Z,90nm,2.1s								
MFID	Camas Ranch	89.31	46	P		P	22 56 28.4	+1.3	
	baz=89								
CCUT	Cedar City	89.63	52	*e*P		P	22 56 29.8	+0.8	
	comp=Z,21nm,1.1s								
NEW	Newport	89.79	41	*e*P		P	22 56 29.0	-0.2	
	comp=Z,8.2nm,1.1s								
NEW	Newport	89.79	41	P		P	22 56 30.0	+0.9	
	baz=90								
U15A	North Rim	90.20	53	P		P	22 56 33.1	+1.4	
	baz=90								
HLID	Hailey	90.35	46	*e*P		P	22 56 32.8	+0.8	
	comp=Z,21nm,1.4s								
HLID	Hailey	90.35	46	P		P	22 56 33.5	+1.4	
	baz=90								
DUG	Dugway	90.68	49	*e*P		P	22 56 34.1	+0.4	
DUG					pmax	pmax			
	comp=Z,31nm,1.7s								
DUG	Dugway	90.68	49	*e*P		P	22 56 34.1	+0.4	
	comp=Z,30nm,1.7s								
DUG	Dugway	90.68	49	P		P	22 56 35.0	+1.4	
	baz=91								
BGU	Big Grassy Mou	90.69	49	*e*P		P	22 56 34.3	+0.6	
	comp=Z,21nm,1.4s								
MVU	Marysvale	90.74	51	*e*P		P	22 56 35.3	+1.2	
	comp=Z,22nm,1.1s								
HVU	Hansel Valley	91.08	48	*e*P		P	22 56 35.9	+0.4	
HVU					pmax	pmax			
	comp=Z,18nm,0.8s								
HVU	Hansel Valley	91.08	48	*e*P		P	22 56 35.9	+0.4	
	comp=Z,18nm,0.8s								
BSMT	Bassoo Peak	91.19	42	*e*P		P	22 56 36.2	+0.3	
JTMT	Jette	91.49	42	*e*P		P	22 56 36.9	-0.3	
MPU	Maple Canyon	91.52	50	*e*P		P	22 56 38.5	+0.9	
	comp=Z,15nm,1.0s								
SWMT	Swartz Lake	91.62	42	*e*P		P	22 56 37.0	-0.8	
Q16A	Castle Valley	91.63	51	*e*P		P	22 56 39.2	+1.0	
MCMT	McKenzie Canyo	91.75	45	*e*P		P	22 56 38.3	-0.3	
JLU	Jordanelle	91.79	49	*e*P		P	22 56 39.2	+0.3	
	comp=Z,12nm,0.7s								
CHMT	Chamberlain Mo	91.97	43	*e*P		P	22 56 38.2	-1.3	
DLMT	Dillon	92.05	44	*e*P		P	22 56 39.8	0.0	
	comp=Z,24nm,1.0s								
WALA	Waterton Lakes	92.06	40	*e*P		P	22 56 40.4	+0.6	
LRM	Limekiln Ridge	92.25	44	*e*P		P	22 56 41.1	+0.2	
RRI2	Red Ridge	92.48	46	*e*P		P	22 56 43.3	+1.2	
	comp=Z,31nm,0.6s								
AHID	Auburn Hatcher	92.52	47	*e*P		P	22 56 42.9	+0.7	
	comp=Z,27nm,0.6s								
QLMT	Earthquake Lak	92.73	45	*e*P		P	22 56 42.3	-0.8	
REDW	Red Top Meadow	92.82	47	*e*P		P	22 56 43.8	+0.2	
	comp=Z,40nm,1.0s								
MK01	Makanchi Array	93.28	317	*e*P		P	22 56 43.8	-1.6	
MK32	Makanchi Array	93.29	317	*e*P		P	22 56 45.8	+0.4	
MK32				*e*SS		SS	23 13 59.4	-8.1	
MKAR	Makanchi Array	93.29	317	*e*P		P	22 56 42.1	-3.3	
MKAR	Makanchi Array	93.29	317	*e*P		P	22 56 42.1	-3.3	
MKAR	Makanchi Array	93.29	317	P		P	22 56 45.8	+0.4	
	comp=Z,2.1nm,1.0s,baz=101,slow=6.3,SNR=11								
MKAR				PKKPbc		PKKPbc	23 13 59.4	+4.6	
	comp=Z,0.9nm,1.0s,baz=264,slow=2.3,SNR=3.9								
ZAA0	Zalesovo Array	93.34	324	*e*P		P	22 56 43.6	-1.8	
ZALV	Zalesovo Beam	93.34	324	P		P	22 56 44.3	-1.1	
	comp=Z,1.8nm,0.9s,baz=106,slow=4.8,SNR=8.2								
EDM	Edmonton	93.40	37	*e*P		P	22 56 45.0	-0.8	
EDM	Edmonton	93.40	37	*e*P		P	22 56 45.0	-0.8	
PD31	Pinedale Array	93.63	47	*e*PKKPdf		PKKPdf	23 13 53.0	+0.1	
PDAR	Pinedale Array	93.63	47	PKKPbc		PKKPbc	23 13 53.0	-0.9	
	comp=Z,0.2nm,0.5s,baz=132,slow=4.4,SNR=3.6								
C19A	Slack Wire Ran	94.93	42	P		P	22 56 54.0	+1.0	
	baz=95								
D19A	Cripps Ranch,	94.94	43	P		P	22 56 54.2	+1.1	
	baz=95								
325A	Bean Ranch, Si	95.17	59	P		P	22 56 54.8	+0.1	
	baz=95								
426A	McDonald Obser	95.86	60	P		P	22 56 58.5	+0.7	
	baz=96								
LTX	Lajitas	95.96	61	*e*P		P	22 56 59.1	+1.0	
LTX				*e*			23 00 51.9		
LTX	Lajitas	95.96	61	*e*P		P	22 56 59.1	+1.0	
LTX				*e*PP		PP	23 00 51.9	+1.0	
TXAR	Lajitas Array	95.96	61	P		P	22 56 59.1	+1.0	
	comp=Z,1.1nm,0.9s,baz=238,slow=7.2,SNR=5.3								
TXAR				PP		PP	23 00 51.9	+1.0	
	comp=Z,2.0nm,1.1s,baz=246,slow=9.4,SNR=7.1								
V25A	Rancho No Teng	96.18	55	P		P	22 56 59.1	0.0	
	baz=96								
KURK	Kurchatov	96.42	320	*i* P		P	22 56 59.4	-0.1	
KURK					pmax	pmax			
	comp=Z,3.0nm,2.3s								
LPAZ	La Paz	120.42	116	*e*PKPdf		PKPdf	23 02 24.0	+0.3	
LPAZ	La Paz	120.42	116	PKP		PKPdf	23 02 24.0	+0.3	
	comp=Z,1.1nm,0.8s,baz=316,slow=2.7,SNR=5.2								
FIA0	FINESS Array S	121.58	338	*e*PKIKP		PKPdf	23 02 26.0	+2.2	
FIA0	FINESS Array S	121.58	338	*e*PKPdf		PKPdf	23 02 26.0	+2.2	
FINES	FINESS Array B	121.58	338	PKP		PKPdf	23 02 26.0	+2.2	
	comp=Z,2.7nm,1.1s,baz=129,slow=3.3,SNR=3.0								
BOSA	Boshof	125.06	223	*e*PKPdf		PKPdf	23 02 32.2	+0.5	
BOSA	Boshof	125.06	223	PKP		PKPdf	23 02 32.2	+0.5	
	comp=Z,2.6nm,0.8s,baz=206,slow=16,SNR=4.2								
AKASG	Malin Array Be	126.65	327	PKP		PKPdf	23 02 34.0	+0.2	
	comp=Z,0.1nm,0.3s,baz=53,slow=1.6,SNR=7.8								
AKBB	Malin Array Si	126.65	327	*e*PKIKP		PKPdf	23 02 34.0	+0.2	
AKBB	Malin Array Si	126.65	327	*e*PKPdf		PKPdf	23 02 34.0	+0.2	
BR101	Keskin Array S	128.73	313	*e*PKPdf		PKPdf	23 02 38.6	+0.3	
BRTR	Keskin Array B	128.73	313	PKP		PKPdf	23 02 38.6	+0.3	
	comp=Z,0.5nm,0.9s,baz=107,slow=1.5,SNR=3.6								
HUMP	Col San Antoni	129.88	75	*e*PKPdf		PKPdf	23 02 40.7	-0.2	
STHS	Stebnicka Huta	131.56	329	*e*PKIKP		PKPdf	23 02 41.9	-1.4	
STHS	Stebnicka Huta	131.56	329	*e*PKP		PKPdf	23 02 41.9	-1.4	
CLL	Collm	133.91	336	*e*PKIKP		PKiKP	23 02 50.0	+1.1	
ZST	Bratislava	134.41	331	*e*PKIKP		PKPdf	23 02 44.2	-4.4	
ZST	Bratislava	134.41	331	*e*PKP		PKPdf	23 02 44.2	-4.4	
GERES	GERESS Array B	135.50	334	PKP		PKPdf	23 02 51.1	+0.3	
	comp=Z,1.1nm,1.1s,baz=90,slow=4.0,SNR=5.7								
KEST	Kesra	147.19	323	PKPbc		PKPab	23 03 15.0	-1.0	
	comp=Z,1.6nm,0.9s,baz=320,slow=4.9,SNR=3.8								
PBRG	Braganca	148.50	349	*e*PKPbc		PKPbc	23 03 18.2	+0.6	
POLO	Lamas de Olo	149.11	350	*e*PKPbc		PKPab	23 03 20.6	-2.8	
MVO	Moncorvo	149.18	349	*e*PKPbc		PKPab	23 03 20.8	-2.9	
PVRL	Vila Real	149.19	350	*e*PKPbc		PKPbc	23 03 20.7	+1.3	
PVIS	Viseu	149.77	350	*e*PKPbc		PKPbc	23 03 22.1	+1.3	
ES19	SONSECA Array	149.84	344	*e*PKPbc		PKPbc	23 03 20.7	-0.3	
ESDC	Sonseca Array	149.89	344	*e*PKPbc		PKPbc	23 03 21.1	-0.1	
ESDC	Sonseca Array	149.89	344	PKPbc		PKPbc	23 03 21.1	-0.1	
	comp=Z,0.8nm,0.6s,baz=2.1,slow=2.8,SNR=11								
MTE	Manteigas	150.01	349	*e*PKPbc		PKPbc	23 03 22.3	+0.9	
PCBR	Castelo Branco	150.54	349	*e*PKPbc		PKPbc	23 03 23.8	+1.2	
PTOM	Tomar	150.92	350	*e*PKPbc		PKPbc	23 03 24.8	+1.3	
PMRV	Marv??o	150.93	349	*e*PKPbc		PKPbc	23 03 24.5	+0.9	
PMTG	Montargil	151.43	350	*e*PKPbc		PKPbc	23 03 25.3	+0.6	
PESTR	Estremoz	151.51	349	*e*PKPbc		PKPab	23 03 34.4	+1.1	
PNCL	Nicolau / Gran	152.41	350	*e*PKPbc		PKPab	23 03 32.3	-4.7	
PCVE	Castro Verde	152.79	349	*e*PKPbc		PKPbc	23 03 29.3	+1.4	
PVAQ	Vaqueiros	152.95	348	*e*PKPbc		PKPbc	23 03 32.0	+3.8	
TOA0	Torodi Ar. Sit	164.04	280	*e*PKPdf		PKPdf	23 03 34.5	-0.3	
TORD	Torodi Ar. Bea	164.04	280	PKP		PKPdf	23 03 34.8	0.0	
	comp=Z,2.0nm,1.1s,baz=62,slow=0.4,SNR=7.9								

*CSEM **08** 23:00:53.1, 38°.69N×29°.36W, h2km, ML2.2, After PDA*
PDA 08 23:00:53.1±0.7, 38°.69N×29°.36W, h2km±10km, MD3.5, ML2.2, Error ellipse: s-maj=12.9km s-min=6.1km az=85.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCED	Cedros	0.52	97	*e*P	Pg	23 01 02.3	-0.8
PCED				*e*S	Sg	23 01 09.3	-0.6
PCED				A	A	23 01 10.1	
	45nm,0.3s						
PCED	Cedros	0.52	97	*e*P	Pg	23 01 02.3	-0.8
PCED				*e*S	Sg	23 01 09.3	-0.6
CALA	Caldeira	0.53	102	*e*S	Sg	23 01 09.5	-0.9
CALA	Caldeira	0.53	102	*e*S	Sg	23 01 09.5	-0.9
PCAN	Candelaria	0.72	108	*e*P	Pg	23 01 05.2	-1.9
PCAN				*e*S	Sg	23 01 14.5	-2.0
PCAN				A	A	23 01 17.5	
	51nm,0.2s						
PCAN	Candelaria	0.72	108	*e*P	Pg	23 01 05.2	-1.9
PCAN				*e*S	Sg	23 01 14.5	-2.0
PICO	Pico	0.76	104	*e*P	Pg	23 01 06.1	-1.7
PICO				*e*S	Sg	23 01 15.7	-2.0
PICO	Pico	0.76	104	*e*P	Pg	23 01 06.1	-1.7
PICO				*e*S	Sg	23 01 15.7	-2.0
PMAN	Manadas	1.00	93	*e*S	Sg	23 01 20.9	-4.3
PMAN				A	A	23 01 22.0	
	26nm,0.3s						
PMAN	Manadas	1.00	93	*e*S	Sg	23 01 20.9	-4.3
PGRA	Graciosa	1.13	72	*e*S	Sg	23 01 24.4	-5.1
PGRA				A	A	23 01 26.0	
	28nm,0.4s						
PGRA	Graciosa	1.13	72	*e*S	Sg	23 01 24.4	-5.1

IDC 08 23:02:42.2±3.0, 12°.84S×166°.02E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/19, mbtmp3.8/4, Error ellipse: s-maj=129.7km s-min=33.3km az=139.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	31.16	253	P	P	23 09 01.6	-1.5
	0.7nm,0.8s,baz=86,slow=5.7,SNR=3.2						
ASAR	Alice Springs	32.27	246	P	P	23 09 14.3	+1.5
	0.8nm,0.8s,baz=84,slow=8.8,SNR=5.5						
MKAR	Makanchi Array	95.01	317	P	P	23 16 07.5	+0.6
	0.5nm,0.6s,baz=78,slow=5.8,SNR=4.2						
ZALV	Zalesovo Beam	95.16	324	P	P	23 16 06.4	-0.9
	0.3nm,0.3s,baz=134,slow=6.2,SNR=3.5						
ARCES	ARCESS Array B	118.13	345	PKP	PKPdf	23 21 29.7	-1.0
	3.4nm,0.9s,baz=64,slow=2.8,SNR=6.5						
KEST	Kesra	148.99	321	PKPbc	PKPbc	23 22 33.3	+0.5
	2.0nm,0.7s,baz=277,slow=2.4,SNR=8.1						
ESDC	Sonseca Array	151.85	343	PKPbc	PKPbc	23 22 38.5	-0.9
	0.5nm,0.7s,baz=353,slow=1.5,SNR=4.9						
ESDC				PKPab	PKPab	23 22 48.5	+0.2
	0.2nm,0.5s,baz=6.2,slow=4.2,SNR=4.2						

ATH 08 23:02:50.2, 37°.50N×21°.96E, h20km±1km, MD2.3/3, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AMT	Artemida-Makis	0.20	279	*e*PB	Pb	23 02 55.3	-0.2
AMT				*e*SB	Sb	23 02 59.2	+0.2
ITM	Ithomi	0.32	185	*e*PB	Pb	23 02 57.3	0.0
ITM				*e*SB	Sb	23 03 02.3	+0.2
PYL	PYLOS	0.63	196	*e*PN	Pb	23 03 02.6	+0.1
PYL				*e*SN	Sb	23 03 11.5	+0.6

*CSEM **08** 23:03:30.9±0.3, 35°.45N×26°.32E, h17km±2km, MD2.8, Error ellipse: s-maj=9.5km s-min=5.6km az=157.0*
*ISK **08** 23:03:30.9, 35°.37N×26°.43E, h32km, MD2.8*
*ATH **08** 23:03:30.7, 35°.47N×26°.31E, h32km±1km, MD3.3/11*
*ISCJB **08** 23:03:31.3±0.5, 35°.47N±0°.05×26°.32E±0°.04, h28km, Error ellipse: s-maj=7.1km s-min=4.3km az=156.6*
ISC 08 23:03:31.2±0.9, 35°.45N±0°.04×26°.34E±0°.03, h28km, n33, σ0s86/45, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZKR	Zakros	0.35	197	*e*PG	Pb	23 03 38.9	-0.3
ZKR				*e*SG	Sb	23 03 45.3	+0.7
ZKR	Zakros	0.35	197	*e*PB	Pb	23 03 39.0	-0.2
ZKR				*e*SB	Sn	23 03 45.9	-0.5
ZKR	Zakros	0.35	197	*e*Pb	Pb	23 03 39.0	-0.2
ZKR				*e*Sg	Sb	23 03 45.3	+0.7
NPS	Neapolis	0.63	253	*e*PN	Pn	23 03 43.5	-0.7
NPS				*e*SN	Sb	23 03 52.0	-0.1
NPS	Neapolis	0.63	253	*e*Pn	Pn	23 03 43.5	-0.7
NPS				*e*Sn	Sb	23 03 52.0	-0.1
KARP	Karpathos	0.67	81	*e*PN	Pn	23 03 44.7	-0.2
KARP				*e*SN	Sn	23 03 55.7	+1.2
KARP	Karpathos	0.67	81	*e*Pn	Pn	23 03 44.7	-0.2
KARP				*e*Sn	Sn	23 03 55.7	+1.2
LAST	Lasithi	0.76	248	*e*PN	Pn	23 03 45.9	-0.3
LAST				*e*SN	Sn	23 03 56.5	-0.3
LAST	Lasithi	0.76	248	*e*Pn	Pn	23 03 45.9	-0.3
LAST				*e*Sn	Sn	23 03 56.5	-0.3
SANT	Santorini	1.17	322	*e*PN	Pb	23 03 52.9	+0.2
SANT	Santorini	1.17	322	*e*PN	Pb	23 03 52.1	-0.7
SANT	Santorini	1.17	322	*e*Pn	Pb	23 03 52.9	+0.2
IDI	Anoyia	1.20	263	*e*PN	Pb	23 03 52.8	-0.5
IDI				*e*SN	Sb	23 04 08.6	+0.2
IDI	Anoyia	1.20	263	*e*PN	Pb	23 03 53.1	-0.2
IDI				*e*SN	Sb	23 04 08.8	+0.4
IDI	Anoyia	1.20	263	*e*Pn	Pb	23 03 53.1	-0.2
IDI				*e*Sn	Sb	23 04 08.6	+0.2
DAT	Datca	1.62	38	*e*PN	Pn	23 03 58.0	0.0
DAT	Datca	1.62	38	*e*Pn	Pn	23 03 58.0	0.0
ARG	Arkhangelos	1.64	62	*e*PN	Pb	23 03 59.5	-1.2
ARG	Arkhangelos	1.64	62	*e*Pn	Pb	23 03 59.5	-1.2
APE	Apeiranthos	1.75	338	*e*PN	Pb	23 04 01.4	-1.2
APE	Apeiranthos	1.75	338	*e*PB	Pn	23 04 00.3	+0.6
APE	Apeiranthos	1.75	338	*e*Pb	Pn	23 04 00.3	+0.6
APE	Apeiranthos	1.75	338	*e*Pn	Pb	23 04 01.4	-1.2
GVD	Gavdhos	1.95	252	*e*PN	Pn	23 04 03.6	+1.2
GVD	Gavdhos	1.95	252	*e*Pn	Pn	23 04 03.6	+1.2
KARN	Karanos	1.98	269	*e*PB	Pb	23 04 04.5	-2.1
KARN	Karanos	1.98	269	*e*Pb	Pb	23 04 04.5	-2.1
DALY	Dalyan (Mu¨la	2.31	53	*e*PN	Pn	23 04 07.7	+0.3
DALY	Dalyan (Mu¨la	2.31	53	*e*Pn	Pn	23 04 07.7	+0.3
KYTH	Kithira	2.81	288	*e*PN	Pn	23 04 15.7	+1.4
KYTH	Kithira	2.81	288	*e*Pn	Pn	23 04 15.7	+1.4
VLI	Veliai	3.04	296	*e*PN	Pn	23 04 18.3	+0.9
VLI	Veliai	3.04	296	*e*Pn	Pn	23 04 18.3	+0.9

*BJI **08** 23:08:33.4, 46°.10N×27°.50W, h10km, mB5.1/5, mb5.0/10, Ms5.1/3, Ms7 4.7/3*
*IDC **08** 23:08:35.2±0.7, 46°.41N×27°.39W, h0km, mb3.9/15, mb1 4.0/17, mb1mx3.9/36, mbtmp3.9/17, ML4.6/2, MS4.4/8, Ms1 4.4/8, ms1mx3.9/52, Error ellipse: s-maj=20.9km s-min=15.1km az=14.0*
*CSEM **08** 23:08:35.8±0.2, 46°.32N×27°.41W, h10km, mb4.7/36, Error ellipse: s-maj=9.2km s-min=6.6km az=7.0*
*ISCJB **08** 23:08:35.1±0.3, 46°.25N±0°.04×27°.41W±0°.04, h16km, mb4.5/59, MS4.5/11, Error ellipse: s-maj=6.1km s-min=4.0km az=18.9*
*NEIC **08** 23:08:36.5±2.4, 46°.37N×27°.39W, h13km±4km, mb4.7/25, Error ellipse: s-maj=19.2km s-min=8.1km az=178.0*
*PDA **08** 23:08:36.4, 46°.14N×27°.51W, h10km, mb4.8*
ISC 08 23:08:37.1±0.5, 46°.28N±0°.07×27°.37W±0°.07, h16km, n302, σ1s45/296, mb4.6/59, MS4.6/11, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMLA	Cha da Macela	8.62	170	*e*P	Pn	23 10 43.5	+2.3
	67nm,0.6s						
CMLA	Cha da Macela	8.62	170	*e*Pn	Pn	23 10 41.4	+0.1
CMLA	Cha da Macela	8.62	170	*e*Pn

PBEJ **Beja** 16.62 113 *e*P Pn 23 12 28.8 -0.5
38nm,1.8s
PCVE **Castro Verde** 16.74 114 *e*P P 23 12 31.8 -1.3
36nm,1.6s
PCVE **Castro Verde** 16.74 114 *e*P P 23 12 31.8 -1.3
36nm,1.6s
SGMF **Saint Gilles** 16.93 74 *e*P Pn 23 12 31.7 -1.6
168nm,1.6s
SGMF **Saint Gilles** 16.93 74 *e*Pn Pn 23 12 31.7 -1.6
SGMF **Saint Gilles** 16.93 74 *e*Pn Pn 23 12 31.7 -1.6
PBDV **Barranco-do-Ve** 17.05 115 *e*P P 23 12 36.3 -0.2
66nm,2.0s
PVAQ **Vaqueiros** 17.08 114 *e*P Pn 23 12 35.2 0.0
26nm,1.6s
PVAQ **Vaqueiros** 17.08 114 *e*P Pn 23 12 35.2 0.0
26nm,1.6s
EKA **Eskdalemuir Ar** 17.70 50 *e*Pn Pn 23 12 42.1 -0.6
EKA **Eskdalemuir Ar** 17.70 50 *e*Pn Pn 23 12 42.1 -0.6
EKA **Eskdalemuir Ar** 17.70 50 P Pn 23 12 42.1 -0.6
baz=226,slow=7.8,SNR=4.4
GRR **Gorron** 18.06 74 *e*P Pn 23 12 47.0 -0.2
75nm,1.4s
GRR **Gorron** 18.06 74 *e*Pn Pn 23 12 47.0 -0.2
GRR **Gorron** 18.06 74 *e*P Pn 23 12 47.0 -0.2
37nm,1.4s
PAB **San Pablo** 18.12 104 *e*Pn Pn 23 12 45.5 -2.6
21nm,1.5s
PAB **San Pablo** 18.12 104 *e*Pn Pn 23 12 45.5 -2.6
21nm,1.5s
FLN **La Foliniere** 18.29 72 *e*P Pn 23 12 49.6 -0.5
FLN **La Foliniere** 18.29 72 *e*Pn Pn 23 12 49.6 -0.5
FLN **La Foliniere** 18.29 72 *e*P Pn 23 12 49.6 -0.5
ESDC **Sonseca Array** 18.32 103 *e*Pn P 23 12 51.7 +1.2
ESDC **Sonseca Array** 18.32 103 *e*Pn P 23 12 51.7 +1.2
ESDC **Sonseca Array** 18.32 103 P P 23 12 51.7 +1.2
3.2nm,0.3s,baz=299,slow=13,SNR=49
ES19 **SONSECA Array** 18.35 103 *e*P P 23 12 50.5 -0.4
ES19 **SONSECA Array** 18.35 103 *e*P P 23 12 50.5 -0.4
LDF **La Druitiere** 18.54 73 *e*P Pn 23 12 53.6 +0.5
LDF **La Druitiere** 18.54 73 *e*P Pn 23 12 53.6 +0.5
LDF **La Druitiere** 18.54 73 *e*P Pn 23 12 53.6 +0.5
MFF **Saint Martin d** 18.73 79 *e*P Pn 23 12 55.1 -0.3
MFF **Saint Martin d** 18.73 79 *e*P Pn 23 12 55.1 -0.3
MFF **Saint Martin d** 18.73 79 *e*P Pn 23 12 55.1 -0.3
OSSF **Osses** 18.75 90 *e*P P 23 12 52.8 -2.4
OSSF **Osses** 18.75 90 *e*P P 23 12 52.8 -2.4
SJPF **Ste Jean** 18.82 90 *e*P Pn 23 12 58.3 +1.7
5.4nm,0.3s
SJPF **Ste Jean** 18.82 90 *e*P Pn 23 12 58.3 +1.7
SJPF **Ste Jean** 18.82 90 *e*P Pn 23 12 58.3 +1.7
ETSF **Etsaut** 19.35 90 *e*P Pn 23 13 02.9 -0.1
22nm,0.7s
ETSF **Etsaut** 19.35 90 *e*P Pn 23 13 02.9 -0.1
ETSF **Etsaut** 19.35 90 *e*P Pn 23 13 02.9 -0.1
REYF **Montagne du Re** 19.41 90 *e*P P 23 13 00.8 -1.8
REYF **Montagne du Re** 19.41 90 *e*P P 23 13 00.8 -1.8
LFF **La Frestale** 19.67 84 *e*P Pn 23 13 06.1 -0.6
LFF **La Frestale** 19.67 84 *e*P Pn 23 13 06.1 -0.6
LFF **La Frestale** 19.67 84 *e*P Pn 23 13 06.1 -0.6
EPF **Esparros** 19.93 89 *e*P Pn 23 13 10.1 +0.2
EPF **Esparros** 19.93 89 *e*P Pn 23 13 10.1 +0.2
EPF **Esparros** 19.93 89 *e*P Pn 23 13 10.1 +0.2
RJF **Les Rejaudoux** 20.12 82 *e*P Pn 23 13 12.1 0.0
48nm,1.5s
RJF **Les Rejaudoux** 20.12 82 *e*P Pn 23 13 12.1 0.0
RJF **Les Rejaudoux** 20.12 82 *e*P Pn 23 13 12.1 0.0
TCF **Toulx Ste Croi** 20.39 79 *e*P P 23 13 13.7 +0.6
66nm,1.3s
TCF **Toulx Ste Croi** 20.39 79 *e*P P 23 13 13.7 +0.6
TCF **Toulx Ste Croi** 20.39 79 *e*P P 23 13 13.7 +0.6
33nm,1.3s
CAF **Calviac** 20.59 83 *e*P P 23 13 15.7 +0.4
CAF **Calviac** 20.59 83 *e*P P 23 13 15.7 +0.4
CAF **Calviac** 20.59 83 *e*P P 23 13 15.7 +0.4
VERF **Verneugheol** 20.68 81 *e*P Pn 23 13 17.4 -1.4
VERF **Verneugheol** 20.68 81 *e*P Pn 23 13 17.4 -1.4
BGF **Bois d'Agland** 20.77 78 *e*P P 23 13 17.9 +0.6
BGF **Bois d'Agland** 20.77 78 *e*P P 23 13 17.9 +0.6
BGF **Bois d'Agland** 20.77 78 *e*P P 23 13 17.9 +0.6
PYM **Petit Puy Mans** 21.04 80 *e*P P 23 13 21.2 +0.9
PYM **Petit Puy Mans** 21.04 80 *e*P P 23 13 21.2 +0.9
AGO **Saint Agoulin** 21.06 80 *e*P P 23 13 21.4 +1.0
AGO **Saint Agoulin** 21.06 80 *e*P P 23 13 21.4 +1.0
AVF **Avril sur Loir** 21.08 77 *e*P P 23 13 20.8 +0.3
42nm,1.3s
AVF **Avril sur Loir** 21.08 77 *e*P P 23 13 20.8 +0.3
AVF **Avril sur Loir** 21.08 77 *e*P P 23 13 20.8 +0.3
21nm,1.3s
SSF **Saint Saulge** 21.14 77 *e*P P 23 13 21.6 +0.4
85nm,1.5s
SSF **Saint Saulge** 21.14 77 *e*P P 23 13 21.6 +0.4
SSF **Saint Saulge** 21.14 77 *e*P P 23 13 21.6 +0.4
42nm,1.5s
MTLF **Montolieu** 21.14 87 *e*P P 23 13 23.4 +2.2
MTLF **Montolieu** 21.14 87 *e*P P 23 13 23.4 +2.2
MTLF **Montolieu** 21.14 87 *e*P P 23 13 23.4 +2.2
BAIF **Baives** 21.30 68 *e*P P 23 13 24.1 +1.2
53nm,1.4s
BAIF **Baives** 21.30 68 *e*P P 23 13 24.1 +1.2
BAIF **Baives** 21.30 68 *e*P P 23 13 24.1 +1.2
26nm,1.4s
LBL **Lubilhac** 21.32 82 *e*P P 23 13 24.2 +0.9
LBL **Lubilhac** 21.32 82 *e*P P 23 13 24.2 +0.9
LOR **Lormes** 21.34 76 *e*P P 23 13 22.9 -0.5
30nm,1.1s
LOR **Lormes** 21.34 76 *e*P P 23 13 22.9 -0.5
LOR **Lormes** 21.34 76 *e*P P 23 13 22.9 -0.5
15nm,1.1s
PLDF **La Plantade** 21.41 80 *e*P P 23 13 24.9 +0.6
PLDF **La Plantade** 21.41 80 *e*P P 23 13 24.9 +0.6
SMF **Signal de Mont** 21.43 78 *e*P P 23 13 23.1 -1.3
67nm,1.5s
SMF **Signal de Mont** 21.43 78 *e*P P 23 13 23.1 -1.3
SMF **Signal de Mont** 21.43 78 *e*P P 23 13 23.1 -1.3
34nm,1.5s
GIVF **Givet** 21.70 68 *e*P P 23 13 23.5 -3.7
105nm,1.4s
GIVF **Givet** 21.70 68 *e*P P 23 13 23.5 -3.7
MEZF **Maizieres J'vi** 21.97 72 *e*P P 23 13 29.6 -0.5
162nm,1.7s
MEZF **Maizieres J'vi** 21.97 72 *e*P P 23 13 29.6 -0.5
MEZF **Maizieres J'vi** 21.97 72 *e*P P 23 13 29.6 -0.5
81nm,1.7s
BCLA **Clavier** 22.00 67 P P 23 13 32.1 +1.8
comp=Z,14nm,1.5s
BCLA **Clavier** 22.00 67 P P 23 13 32.1 +1.8
comp=Z,14nm,1.5s
SFTF **Sexfontaines** 22.00 73 *e*P P 23 13 32.5 +2.1
comp=Z,135nm,1.5s
SFTF **Sexfontaines** 22.00 73 *e*P P 23 13 32.5 +2.1
SFTF **Sexfontaines** 22.00 73 *e*P P 23 13 32.5 +2.1
comp=Z,67nm,1.5s
MDT **Midelt** 22.01 120 *e*P P 23 13 33.3 +2.5
MDT **Midelt** 22.01 120 *e*P P 23 13 33.3 +2.5
MDT **Midelt** 22.01 120 P P 23 13 33.3 +2.5
comp=Z,0.9nm,0.8s,baz=301,slow=13,SNR=3.5
LASF **Ste Croix** 22.05 84 *e*P P 23 13 31.9 +0.9
LASF **Ste Croix** 22.05 84 *e*P P 23 13 31.9 +0.9
LASF **Ste Croix** 22.05 84 *e*P P 23 13 31.9 +0.9
VIVF **Saint-Julien-l** 22.40 82 *e*P P 23 13 35.9 +1.1
comp=Z,110nm,1.7s
VIVF **Saint-Julien-l** 22.40 82 *e*P P 23 13 35.9 +1.1
VIVF **Saint-Julien-l** 22.40 82 *e*P P 23 13 35.9 +1.1
comp=Z,55nm,1.7s
PAGF **Fort de Pagny** 22.41 72 *e*P P 23 13 34.3 -0.5
comp=Z,25nm,1.5s
PAGF **Fort de Pagny** 22.41 72 *e*P P 23 13 34.3 -0.5
comp=Z,12nm,1.5s
MEM **Membach** 22.44 67 P P 23 13 38.5 +3.4
comp=Z,14nm,1.8s
MEM **Membach** 22.44 67 *e*P P 23 13 33.6 -1.5
comp=Z,139nm,2.2s
MEM **Membach** 22.44 67 *e*P P 23 13 33.6 -1.5
comp=Z,139nm,2.2s
HAU **Haudompre** 22.89 73 *e*P P 23 13 39.7 -0.3
comp=Z,29nm,1.2s
HAU **Haudompre** 22.89 73 *e*P P 23 13 39.7 -0.3
HAU **Haudompre** 22.89 73 *e*P P 23 13 39.7 -0.3
comp=Z,14nm,1.2s
CABF **La Chapelle** 22.96 77 *e*P P 23 13 39.5 -1.2
CABF **La Chapelle** 22.96 77 *e*P P 23 13 39.5 -1.2
CABF **La Chapelle** 22.96 77 *e*P P 23 13 39.5 -1.2
ORIF **Oris-en-Rattie** 23.21 81 *e*P P 23 13 42.8 -0.5
comp=Z,139nm,1.8s

ORIF **Oris-en-Rattie** 23.21 81 *e*P P 23 13 42.8 -0.5
ORIF **Oris-en-Rattie** 23.21 81 *e*P P 23 13 42.8 -0.5
comp=Z,70nm,1.8s
HINF **Hinteralfeld** 23.26 74 *e*P P 23 13 43.4 -0.3
comp=Z,90nm,1.6s
HINF **Hinteralfeld** 23.26 74 *e*P P 23 13 43.4 -0.3
HINF **Hinteralfeld** 23.26 74 *e*P P 23 13 43.4 -0.3
comp=Z,45nm,1.6s
SMRF **Simiane la Rot** 23.26 84 *e*P P 23 13 42.8 -1.0
comp=Z,313nm,1.9s
SMRF **Simiane la Rot** 23.26 84 *e*P P 23 13 42.8 -1.0
SMRF **Simiane la Rot** 23.26 84 *e*P P 23 13 42.8 -1.0
comp=Z,156nm,1.9s
ECH **Echery** 23.40 73 *e*P P 23 13 45.9 +0.8
ECH **Echery** 23.40 73 *e*P P 23 13 45.9 +0.8
MOF **Molkenrain** 23.44 74 *e*P P 23 13 46.4 +0.8
MOF **Molkenrain** 23.44 74 *e*P P 23 13 46.4 +0.8
CDF **Champ du Feu** 23.45 72 *e*P P 23 13 45.6 -0.1
comp=Z,112nm,1.8s
CDF **Champ du Feu** 23.45 72 *e*P P 23 13 45.6 -0.1
CDF **Champ du Feu** 23.45 72 *e*P P 23 13 45.6 -0.1
comp=Z,56nm,1.8s
ABH **Alteburg** 23.47 68 *e*P P 23 13 46.2 +0.4
LPL **La Plagne** 23.64 79 *e*P P 23 13 48.2 +0.5
LPL **La Plagne** 23.64 79 *e*P P 23 13 48.2 +0.5
LPL **La Plagne** 23.64 79 *e*P P 23 13 48.2 +0.5
LPG **La Plagne** 23.66 79 *e*P P 23 13 48.6 +0.6
LPG **La Plagne** 23.66 79 *e*P P 23 13 48.6 +0.6
LPG **La Plagne** 23.66 79 *e*P P 23 13 48.6 +0.6
BNI **Bardonecchia** 23.72 81 *e*P P 23 13 47.6 -0.8
comp=Z,21nm,1.4s
BNI **Bardonecchia** 23.72 81 *e*P P 23 13 47.7 -0.8
comp=Z,21nm,1.4s
BBS **Basel-Blauen** 23.75 74 *e*P P 23 13 48.1 -0.5
SENIN **Lac Senin/Sane** 23.83 77 *e*P P 23 13 47.0 -2.5
comp=Z,94nm,2.3s
SENIN **Lac Senin/Sane** 23.83 77 *e*P P 23 13 47.0 -2.5
comp=Z,94nm,2.3s
MBDF **Montbardon** 23.87 81 *e*P P 23 13 51.6 +1.7
comp=Z,53nm,1.5s
MBDF **Montbardon** 23.87 81 *e*P P 23 13 51.6 +1.7
MBDF **Montbardon** 23.87 81 *e*P P 23 13 51.6 +1.7
comp=Z,27nm,1.5s
LMR **La Mourre** 24.11 85 *e*P P 23 13 51.7 -0.2
comp=Z,226nm,1.9s
LMR **La Mourre** 24.11 85 *e*P P 23 13 51.7 -0.2
LMR **La Mourre** 24.11 85 *e*P P 23 13 51.7 -0.2
comp=Z,113nm,1.9s
FRF **La Foret Royal** 24.13 84 *e*P P 23 13 52.1 0.0
comp=Z,60nm,1.4s
FRF **La Foret Royal** 24.13 84 *e*P P 23 13 52.1 0.0
FRF **La Foret Royal** 24.13 84 *e*P P 23 13 52.1 0.0
comp=Z,30nm,1.4s
BFO **Black Forest** 24.16 72 *e*P P 23 13 51.3 -1.1
comp=Z,26nm,1.8s
BFO **Black Forest** 24.16 72 *e*P P 23 13 51.3 -1.1
comp=Z,26nm,1.8s
SBF **Sospel** 24.58 83 *e*P P 23 13 55.8 -0.5
comp=Z,135nm,1.6s
SBF **Sospel** 24.58 83 *e*P P 23 13 55.8 -0.5
SBF **Sospel** 24.58 83 *e*P P 23 13 55.8 -0.5
comp=Z,67nm,1.6s
TUE **Stuetta** 25.19 76 *e*P P 23 14 02.2 +0.2
comp=Z,42nm,1.7s
TUE **Stuetta** 25.19 76 *e*P P 23 14 02.2 +0.2
comp=Z,42nm,1.7s
DAVOX **Davos/Dischmat** 25.48 75 *e*P P 23 14 06.3 +1.8
DAVOX **Davos/Dischmat** 25.48 75 *e*P P 23 14 06.3 +1.8
DAVOX **Davos/Dischmat** 25.48 75 P P 23 14 06.3 +1.8
comp=Z,3.9nm,0.9s,baz=260,slow=8.7,SNR=4.5
DAVOX LR LR 23 22 10.6
comp=Z,547nm,19.9s,baz=243,slow=32
GRFO **Grafenberg** 25.86 68 *e*P P 23 14 06.9 -0.9
comp=Z,43nm,1.6s
GRFO **Grafenberg** 25.86 68 *e*P P 23 14 06.9 -0.9
comp=Z,43nm,1.6s
NOA **NORSAR Array B** 26.72 42 LR LR 23 24 05.2
comp=Z,303nm,18.2s,baz=220,slow=35
GERES **GERESS Array B** 27.59 70 P P 23 14 24.0 +0.5
comp=Z,0.7nm,0.8s,baz=274,slow=6.8,SNR=5.2
GERES LR LR 23 24 15.1
comp=Z,659nm,18.2s,baz=253,slow=34
VRAC **Vranov** 29.37 68 LR LR 23 25 52.7
comp=Z,501nm,18.7s,baz=280,slow=35
KEST **Kesra** 29.40 98 P P 23 14 40.1 +0.4
comp=Z,1.3nm,0.8s,baz=270,slow=2.4,SNR=3.8
KEST LR LR 23 25 22.8
comp=Z,386nm,18.4s,baz=94,slow=34
CUC **Castrocucco** 31.82 86 *e*P P 23 14 59.8 -1.2
comp=Z,6.6nm,1.3s
CUC **Castrocucco** 31.82 86 *e*P P 23 14 59.8 -1.2
comp=Z,6.6nm,1.3s
STHS **Stebnicka Huta** 32.32 66 *e*P P 23 15 08.1 +2.8
STHS **Stebnicka Huta** 32.32 66 *e*P P 23 15 08.1 +2.8
FIA0 **FINESS Array S** 33.87 44 *e*P P 23 15 18.7 +0.1
FIA0 **FINESS Array S** 33.87 44 *e*P P 23 15 18.7 +0.1
FINES **FINESS Array B** 33.87 44 P P 23 15 18.7 +0.1
comp=Z,1.6nm,0.8s,baz=253,slow=7.1,SNR=3.7
BUR04 **Bucovina Ar. S** 35.35 68 *e*P P 23 15 31.3 -0.4
BUR04 **Bucovina Ar. S** 35.35 68 *e*P P 23 15 31.3 -0.4
AKASG **Malin Array Be** 36.98 62 P P 23 15 44.5 -1.0
comp=Z,0.5nm,0.4s,baz=282,slow=8.8,SNR=8.1
AKBB **Malin Array Si** 36.98 62 *e*P P 23 15 44.5 -1.0
AKBB **Malin Array Si** 36.98 62 *e*P P 23 15 44.5 -1.0
H05N1 **Guadeloupe/Mar** 40.95 234 T T 00 00 01.7
SNR=3.5
TOA0 **Torodi Ar. Sit** 41.12 134 *e*P P 23 16 20.9 +0.5
TOA0 **Torodi Ar. Sit** 41.12 134 *e*P P 23 16 20.9 +0.5
TORD **Torodi Ar. Bea** 41.12 134 P P 23 16 20.9 +0.5
comp=Z,1.9nm,0.8s,baz=328,slow=9.0,SNR=16
TORD LR LR 23 31 36.7
comp=Z,1μm,18.1s,baz=325,slow=34
DBIC **Dimbokro** 43.98 147 P P 23 16 43.7 0.0
comp=Z,3.7nm,0.9s,baz=114,slow=1.7,SNR=4.0
DBIC LR LR 23 32 31.5
comp=Z,664nm,18.1s,baz=354,slow=33
BR101 **Keskin Array S** 44.12 76 *e*P P 23 16 46.0 +1.2
BR101 **Keskin Array S** 44.12 76 *e*P P 23 16 46.0 +1.2
BRTR **Keskin Array B** 44.12 76 P P 23 16 46.0 +1.2
comp=Z,1.4nm,0.8s,baz=299,slow=7.7,SNR=8.4
H10N2 **ASCENSION HYDR** 55.08 164 T T 00 17 31.7
baz=350,slow=0.7,SNR=15
H10N3 **ASCENSION HYDR** 55.09 164 T T 00 17 33.4
baz=350,slow=0.7,SNR=13
H10N1 **ASCENSION HYDR** 55.10 164 T T 00 17 33.7
baz=350,slow=0.7,SNR=18
CHMT **Chamberlain Mo** 56.04 304 *e*P P 23 18 14.9 -0.3
CHMT **Chamberlain Mo** 56.04 304 *e*P P 23 18 14.9 -0.3
H10S1 **ASCENSION HYDR** 56.14 165 T T 00 18 50.0
baz=350,slow=0.7,SNR=128
H10S3 **ASCENSION HYDR** 56.15 165 T T 00 18 50.3
baz=350,slow=0.7,SNR=181
H10S2 **ASCENSION HYDR** 56.16 165 T T 00 18 51.4
baz=350,slow=0.7,SNR=157
REDW **Red Top Meadow** 56.61 300 *e*P P 23 18 18.4 -1.0
comp=Z,5.5nm,0.9s
REDW **Red Top Meadow** 56.61 300 *e*P P 23 18 18.4 -1.0
comp=Z,5.5nm,0.9s
MSTX **Muleshoe** 56.91 286 *e*P P 23 18 21.8 +0.3
comp=Z,14nm,1.3s
MSTX **Muleshoe** 56.91 286 *e*P P 23 18 21.8 +0.3
comp=Z,14nm,1.3s
NEW **Newport** 57.45 308 *e*P P 23 18 24.3 -0.7
comp=Z,25nm,1.8s
NEW **Newport** 57.45 308 *e*P P 23 18 24.3 -0.7
comp=Z,25nm,1.8s
B08A **Colville Reser** 58.61 309 *e*P P 23 18 31.6 -1.5
comp=Z,4.3nm,0.8s
B08A **Colville Reser** 58.61 309 *e*P P 23 18 31.6 -1.5
comp=Z,4.3nm,0.8s
HLID **Hailey** 58.62 302 *e*P P 23 18 33.2 -0.2
comp=Z,9.4nm,1.7s
HLID **Hailey** 58.62 302 *e*P P 23 18 33.2 -0.2
comp=Z,9.4nm,1.7s
ILAR **Eielson Array** 59.70 334 P P 23 18 40.1 -0.3
comp=Z,0.5nm,0.8s,baz=36,slow=6.1,SNR=4.9
ILB **Eielson Array** 59.70 334 *e*P P 23 18 40.1 -0.3
ILB **Eielson Array** 59.70 334 *e*P P 23 18 40.1 -0.3
LTY **Liberty** 59.98 308 *e*P P 23 18 41.4 -1.4
comp=Z,36nm,1.8s
LTY **Liberty** 59.98 308 *e*P P 23 18 41.3 -1.4
comp=Z,36nm,1.8s
LTX **Lajitas** 60.36 283 *e*P P 23 18 46.7 +1.1
LTX **Lajitas** 60.36 283 *e*P P 23 18 46.7 +1.1
TX31 **Lajitas Ar. Si** 60.36 283 *e*P P 23 18 44.2 -1.3
TX31 **Lajitas Ar. Si** 60.36 283 *e*P P 23 18 44.2 -1.3

TXAR **Lajitas Array** 60.36 283 P P 23 18 46.7 +1.1
comp=Z,1.6nm,0.7s,baz=62,slow=7.5,SNR=16
J08A **Circle Bar Ran** 61.11 304 *e*P P 23 18 50.5 0.0
comp=Z,7.1nm,1.1s
J08A **Circle Bar Ran** 61.11 304 *e*P P 23 18 50.5 0.0
comp=Z,7.1nm,1.1s
WUAZ **Wupatki** 61.59 293 *e*P P 23 18 52.5 -1.4
comp=Z,9.8nm,0.8s
WUAZ **Wupatki** 61.59 293 *e*P P 23 18 52.5 -1.4
comp=Z,9.8nm,0.8s
NV01 **Mina Array Sit** 64.09 299 *e*P P 23 19 09.7 -0.8
NV01 **Mina Array Sit** 64.09 299 *e*P P 23 19 09.7 -0.8
NVAR **Mina Array Bea** 64.09 299 P P 23 19 10.4 -0.2
comp=Z,0.5nm,0.7s,baz=34,slow=7.0,SNR=2.6
ZAA0 **Zalesovo Array** 64.77 37 *e*P P 23 19 14.0 -0.4
ZAA0 **Zalesovo Array** 64.77 37 *e*P P 23 19 14.0 -0.4
ZALV **Zalesovo Beam** 64.77 37 P P 23 19 14.9 +0.5
comp=Z,0.6nm,0.5s,baz=318,slow=6.8,SNR=3.2
ISA **Isabella** 65.97 297 *e*P P 23 19 22.7 +0.1
comp=Z,9.2nm,0.4s
ISA **Isabella** 65.97 297 *e*P P 23 19 22.7 +0.1
comp=Z,9.2nm,0.4s
EKS2 **Erkin-Say** 67.20 52 *e*P P 23 19 30.6 +0.2
comp=Z,6.0nm,1.1s
EKS2 **Erkin-Say** 67.20 52 *e*P P 23 19 30.6 +0.2
comp=Z,6.0nm,1.1s
LPIG **La Paz** 68.26 282 LR LR 23 50 10.9
comp=Z,612nm,18.8s,baz=288,slow=37
MK32 **Makanchi Array** 68.70 44 *e*P P 23 19 39.7 0.0
MK32 **Makanchi Array** 68.70 44 *e*P P 23 19 39.7 0.0
MKAR **Makanchi Array** 68.70 44 *e*P P 23 19 38.7 -1.0
MKAR **Makanchi Array** 68.70 44 *e*P P 23 19 38.7 -1.0
MKAR **Makanchi Array** 68.70 44 P P 23 19 39.7 0.0
comp=Z,1.4nm,0.6s,baz=319,slow=5.2,SNR=13
MK01 **Makanchi Array** 68.72 44 *e*P P 23 19 39.0 -0.9
MK01 **Makanchi Array** 68.72 44 *e*P P 23 19 39.0 -0.9
KSH **Kashi** 70.56 53 P P 23 19 54.0 +2.6
KSH PP PP 23 22 33.3 +6.1
KSH S S 23 29 06.7 +2.4
KSH SS SS 23 33 37.9 +3.0
KSH AMB AMB
comp=Z,47nm,2.4s
KSH LR LR
comp=Z,150nm,4.9s
KSH LR LR
comp=Z,100nm,5.1s
KSH LR LR
comp=Z,320nm,16.0s
WMQ **Urumqi** 73.47 43 *e*P P 23 20 11.3 +2.6
SONA0 **Songino Array** 77.92 30 *e*P P 23 20 33.2 -1.0
SONA0 **Songino Array** 77.92 30 *e*P P 23 20 33.2 -1.0
SONM **Songino Array** 77.92 30 P P 23 20 33.2 -1.0
comp=Z,0.6nm,0.6s,baz=335,slow=9.7,SNR=3.3
GTA **Gaotai** 82.48 39 *e*P P 23 21 01.7 +2.8
GTA pP pP 23 21 07.9 +3.7
GTA sP sP 23 21 10.7 +4.6
GTA AMB AMB
comp=Z,5.0nm,1.1s
HHC **Hu-ho-hao-te** 85.83 30 *e*P P 23 21 13.6 -2.3
HHC pP PcP 23 21 18.4 -0.3
HHC sP sP 23 21 20.6 -2.5
HHC PP PP 23 24 34.3 -0.2
HHC SKS SKSac 23 31 35.4 -5.6
HHC S SKKSac 23 31 44.1 -4.0
HHC SS SS 23 37 23.9 +0.1
HHC AMB AMB
comp=Z,30nm,1.0s
HHC AMB AMB
comp=Z,180nm,5.1s
HHC LR LR
comp=Z,380nm,18.6s
HHC LR LR
comp=Z,340nm,17.7s
HHC LR LR
comp=Z,630nm,17.5s
LZH **Lanzhou** 87.00 38 *e*P P 23 21 21.3 -0.5
LZH pP PcP 23 21 24.5 +0.5
LZH sP sP 23 21 26.0 -3.0
LZH PP PP 23 24 47.0 +2.8
LZH AMB AMB
comp=Z,18nm,1.5s
LZH AMB AMB
comp=Z,83nm,9.1s
LZH LR LR
comp=Z,200nm,18.0s
LZH LR LR
comp=Z,190nm,17.8s
LZH LR LR
comp=Z,250nm,19.7s
CN2 **Changchun** 87.12 19 *e*P P 23 21 22.0 0.0
CD2 **Chengdu** 91.36 40 P P 23 21 42.8 +0.5
CD2 AMB AMB
comp=Z,10.0nm,0.5s
KMI **Kunming** 95.78 44 P P 23 22 03.2 +0.2
KMI AMB AMB
comp=Z,6.0nm,1.6s
GYA **Guiyang** 96.48 40 *e*P P 23 22 05.4 -0.6
GYA AMB AMB
comp=Z,10.0nm,1.0s
PPT2 **Papeete2** 124.68 281 *e*LR LR 23 38 57.5
comp=Z,485nm,25.0s
TBI **Tubuai** 128.50 276 *e*LR LR 23 37 42.0
comp=Z,489nm,27.0s
QSPA **South Pole Qui** 136.16 180 PKP PKPdf 23 27 56.9 +0.6
comp=Z,0.4nm,0.5s,baz=240,slow=3.8,SNR=7.4
VNDA **Vanda** 148.44 184 PKPbc PKPab 23 28 23.1 -1.7
comp=Z,1.6nm,0.8s,baz=249,slow=4.5,SNR=4.7
WRA **Warramunga Arr** 149.74 36 PKPbc PKPbc 23 28 26.0 -0.3
comp=Z,0.8nm,0.6s,baz=326,slow=2.9,SNR=3.3
ASAR **Alice Springs** 152.84 40 PKPbc PKPbc 23 28 33.5 0.0
comp=Z,0.9nm,0.6s,baz=340,slow=1.9,SNR=12

IDC 08 23:13:43.2±1.2, 46.44N×27.32W, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.5/33, mbtmp3.6/6, ML4.6/1, Error ellipse: s-maj=39.0km s-min=24.6km az=8.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	18.32	103	P	P	P	23 17 59.9	+1.0
	0.4nm,0.3s,baz=298,slow=13,SNR=10							
AKASG	**Malin Array Be**	36.88	62	P	P	P	23 20 51.5	-1.6
	0.1nm,0.2s,baz=280,slow=9.4,SNR=4.8							
TORD	**Torodi Ar. Bea**	41.20	134	P	P	P	23 21 29.0	-0.6
	1.8nm,1.0s,baz=334,slow=6.9,SNR=9.6							
BRTR	**Keskin Array B**	44.05	76	P	P	P	23 21 53.7	+0.9
	0.5nm,0.7s,baz=339,slow=7.7,SNR=3.5							
H10S1	**ASCENSION HYDR**	56.28	165	T	T	T	00 23 52.5	
	baz=353							
H10S3	**ASCENSION HYDR**	56.29	165	T	T	T	00 23 52.3	
	baz=353							
H10S2	**ASCENSION HYDR**	56.30	165	T	T	T	00 23 53.0	
	baz=353							
TXAR	**Lajitas Array**	60.35	283	P	P	P	23 23 54.2	+0.1
	0.2nm,0.4s,baz=60,slow=7.6,SNR=3.3							
MKAR	**Makanchi Array**	68.57	44	P	P	P	23 24 47.6	+0.1
	0.4nm,0.5s,baz=307,slow=5.1,SNR=7.2							

*IDC **08** 23:18:50.8±0.6, 35.60S×104.71W, h0km, mb4.3/8, mb1 4.6/8, mb1mx4.4/16, mbtmp4.3/8, MS4.5/1, Ms1 4.5/1, ms1mx3.8/31, Error ellipse: s-maj=23.6km s-min=18.9km az=60.0*

*ISCJB **08** 23:18:51.7±0.4, 35.55S±0.07×104.5W±0.1, h10km, mb4.4/19, MS3.8/2, Error ellipse: s-maj=16.1km s-min=8.5km az=155.8*

*NEIC **08** 23:18:51.9±0.5, 35.55S×104.76W, h10km, mb4.7/9, Error ellipse: s-maj=17.2km s-min=13.3km az=65.0*

ISC 08 23:18:52.5±0.5, 35.6S±0.1×104.7W±0.1, h10km, n261, σ0s82/261, mb4.6/19, 95C-112D, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	27.25	111	P	P	P	23 24 37.3	+0.5
PLCA	**Paso Flores**	27.25	111	P	P	P	23 24 37.3	+0.5
	4.5nm,0.8s,baz=267,slow=13,SNR=7.2							
CFAA	**Coronel Fontan**	30.55	93	P	P	P	23 25 06.0	-0.3
CFAA	**Coronel Fontan**	30.55	93	P	P	P	23 25 06.0	-0.3
	0.1nm,0.4s,baz=240,slow=13,SNR=3.2							
CFAA				LR	LR	LR	23 35 27.3	
	comp=Z,42nm,18.2s,baz=348,slow=33							
LPAZ	**La Paz**	37.85	69	*e*P	P	P	23 26 09.1	-1.2
	8.1nm,1.5s							

LPAZ La Paz 37.85 69 P P 23 26 09.6 -0.7
0.8nm,0.4s,baz=282,slow=4.5,SNR=4.8
CPUP Villa Florida 41.36 91 LR LR 23 42 36.9
comp=Z,553nm,18.1s,baz=334,slow=34
SIV San Ignacio 43.49 75 P P 23 26 55.9 -0.3
SIV San Ignacio 43.49 75 P P 23 26 55.9 -0.3
1.3nm,0.7s,baz=261,slow=11,SNR=5.1
SAML Samuel 46.22 65 eP P 23 27 16.1 -1.9
2.8nm,1.1s
ROSC El Rosal 49.36 42 eP P 23 27 43.9 +1.2
ROSC El Rosal 49.36 42 P P 23 27 44.7 +2.0
7.5nm,0.4s,baz=93,slow=18,SNR=5.3
QSPA South Pole Qui 54.58 180 P P 23 28 22.4 +1.6
QSPA South Pole Qui 54.58 180 P P 23 28 22.4 +1.6
3.2nm,0.9s,baz=127,slow=7.9,SNR=7.8
VNA2 Neumayer--Watz 59.11 158 eP P 23 28 53.9 +1.2
SNAA Sanae 60.20 159 eP P 23 29 00.6 +0.3
SNAA Sanae 60.20 159 eP P 23 29 00.1 -0.2
7.4nm,1.2s
TXAR Lajitas Array 64.62 1 P P 23 29 30.5 +0.2
TXAR Lajitas Array 64.62 1 P P 23 29 30.5 +0.2
3.6nm,0.9s,baz=181,slow=9.8,SNR=22
628A Black Gap, Mar 64.79 2 ⇑P P 23 29 30.7 -0.6
baz=65
631A Perdido Creek 64.81 4 ⇑P P 23 29 31.3 -0.2
baz=65
626A Big Bend Ranch 64.84 1 ⇑P P 23 29 31.7 0.0
baz=65,SNR=6.5
632A Uvalde 64.96 5 ⇑P P 23 29 32.7 +0.4
baz=65,SNR=5.7
526A Mary Lane Ranc 65.34 1 ⇑P P 23 29 35.2 +0.1
baz=66
527A Woodward Ranch 65.43 1 ⇓P P 23 29 35.9 +0.3
baz=66,SNR=9.6
529A Stev Forest Ra 65.45 2 ⇓P P 23 29 35.6 0.0
baz=66
528A Cox Ranch, San 65.47 2 ⇑P P 23 29 35.2 -0.6
baz=66
530A J-O Ranch, Com 65.51 3 ⇓P P 23 29 36.4 +0.4
baz=66,SNR=11
532A Rocksprings 65.57 5 ⇑P P 23 29 36.6 +0.3
baz=66
JCT Junction City 65.92 5 eP P 23 29 37.4 -1.2
9.5nm,0.8s
JCT Junction City 65.92 5 ⇑P P 23 29 38.5 -0.2
baz=66
426A McDonald Obser 65.95 1 ⇑P P 23 29 38.5 -0.6
baz=66,SNR=6.3
429A Davenport Ranc 65.96 3 ⇓P P 23 29 38.7 -0.2
baz=66
428A Kincaid Ranch, 66.03 2 ⇓P P 23 29 39.8 +0.4
baz=66
425A Indio Mountain 66.06 360 ⇓P P 23 29 39.9 +0.2
baz=66
431A Sonora 66.08 4 ⇑P P 23 29 40.0 +0.4
baz=66,SNR=6.7
427A Hayter Ranch, 66.14 1 ⇓P P 23 29 40.6 +0.5
baz=66,SNR=8.8
430A Baggett Ranch, 66.15 3 ⇑P P 23 29 40.1 0.0
baz=66
432A Menard 66.32 5 ⇓P P 23 29 40.9 -0.3
baz=67
326A Caldwell Ranch 66.60 1 ⇓P P 23 29 42.6 -0.3
baz=67
325A Bean Ranch, Si 66.65 360 ⇑P P 23 29 43.3 -0.2
baz=67
328A Wristen Ranch, 66.68 2 ⇑P P 23 29 43.9 +0.4
baz=67
320A Kipp Ranch, An 66.71 356 ⇓P P 23 29 44.7 +0.9
baz=67,SNR=6.5
331A San Angelo 66.71 4 ⇑P P 23 29 43.6 -0.1
baz=67
324A Moseley Ranch, 66.72 359 ⇑P P 23 29 43.3 -0.5
baz=67,SNR=5.9
330A Mertzon 66.77 3 ⇓P P 23 29 43.8 -0.2
baz=67
329A Wagon Wheel Ra 66.81 3 ⇑P P 23 29 43.6 -0.8
baz=67
332A Millersview 66.82 5 ⇓P P 23 29 44.0 -0.4
baz=67,SNR=14
220A Playas Peak, P 67.27 357 ⇑P P 23 29 48.1 +0.8
baz=68,SNR=10
232A Coleman 67.33 5 ⇓P P 23 29 47.4 -0.2
baz=68
231A Bronte 67.34 4 ⇑P P 23 29 47.6 -0.1
baz=68
224A Cornudas Mount 67.35 359 ⇑P P 23 29 47.8 -0.1
baz=68,SNR=8.1
226B Tecolote Peak, 67.35 1 ⇑P P 23 29 47.6 -0.2
baz=68
225A Deer Hill, Car 67.38 360 ⇓P P 23 29 48.0 -0.1
baz=68
222A Williams Famil 67.42 358 ⇑P P 23 29 48.8 +0.6
baz=68
228A UT Block 9, Go 67.42 2 ⇑P P 23 29 48.4 +0.1
baz=68
WHTX Lake Whitney 67.61 7 ⇓P P 23 29 49.4 +0.1
baz=68
121A Cookes Peak, D 67.86 357 ⇓P P 23 29 52.1 +0.9
baz=68
120A U Bar Ranch, L 67.92 356 ⇓P P 23 29 52.2 +0.8
baz=68,SNR=6.9
126A Clayton Basin, 67.92 1 ⇓P P 23 29 51.5 +0.1
baz=68
128A Castleberry Fa 67.93 2 ⇑P P 23 29 51.7 +0.3
baz=68,SNR=5.4
125A Gardner Draw, 67.93 0 ⇑P P 23 29 50.9 -0.6
baz=68,SNR=7.0
129A Stewart Farms, 67.96 3 ⇓P P 23 29 52.0 +0.4
baz=68
127A Arkansas Junct 67.96 1 ⇑P P 23 29 51.6 -0.1
baz=68
124A Stringfield Ra 67.98 359 ⇓P P 23 29 51.6 -0.3
baz=68,SNR=6.0
ABTX Abilene, Hawle 68.06 5 ⇓P P 23 29 51.7 -0.5
baz=68
Z20A Nine Sixteen R 68.48 357 ⇑P P 23 29 55.1 +0.2
baz=69
Z26A Caprock 68.55 1 ⇑P P 23 29 54.9 -0.4
baz=69
Z23A Rita Site, Whi 68.55 359 ⇓P P 23 29 55.9 +0.6
baz=69
Z25A Roswell 68.55 0 ⇓P P 23 29 55.5 +0.1
baz=69
Z22A Elephant Butte 68.56 358 ⇑P P 23 29 56.1 +0.7
baz=69,SNR=6.4
113A Mohawk Valley, 68.56 352 ⇓P P 23 29 55.9 +0.7
baz=69
Z29A Hungry Hill Ra 68.59 3 ⇓P P 23 29 55.3 -0.2
baz=69
Z27A Tatum 68.60 1 ⇑P P 23 29 56.1 +0.4
baz=69
Z24A Sheeppen Canyo 68.60 359 ⇓P P 23 29 56.3 +0.6
baz=69
Z21A St. Cloud Mine 68.63 357 ⇓P P 23 29 56.8 +0.8
baz=69,SNR=8.1
Z30A Sanderson Ranc 68.64 3 ⇑P P 23 29 55.7 -0.1
baz=69
Z31A Sharp Cattle R 68.72 4 ⇑P P 23 29 56.3 0.0
baz=69
Z32A Haskell 68.75 5 ⇑P P 23 29 56.4 -0.1
baz=69
GLA Glamis 68.97 351 ⇓P P 23 29 58.5 +0.7
baz=69
SWSC Sam W. Stewart 68.99 350 ⇓P P 23 29 58.4 +0.4
baz=69
MONP Monument Peak 69.03 349 ⇑P P 23 29 59.8 +1.3
baz=69
Y27A Causey 69.17 1 ⇓P P 23 29 59.5 +0.3
baz=70
Y25A Mesa, Roswell 69.19 0 ⇓P P 23 29 59.9 +0.5
baz=70
Y24A Capitan 69.20 359 ⇑P P 23 30 00.2 +0.7
baz=70,SNR=8.9
Y22A Socorro 69.24 358 ⇑P P 23 30 00.3 +0.6
baz=70
Y20A Horse Springs, 69.26 357 ⇑P P 23 30 00.5 +0.6
baz=70
Y21A Point of Rocks 69.33 357 ⇑P P 23 30 01.0 +0.7
baz=70,SNR=5.8
Y31A Rekieta Farm, 69.36 4 ⇓P P 23 30 00.9 +0.7
baz=70
Y14A Wickenburg 69.64 353 ⇓P P 23 30 03.1 +1.1
baz=70
BC3 Big Chuckawall 69.65 350 ⇓P P 23 30 03.1 +1.0
baz=70
X21A Alamocita Cree 69.77 357 ⇑P P 23 30 03.9 +0.8
baz=70,SNR=6.5

X26A CR and CF Fran 69.82 1 ⇑P P 23 30 03.9 +0.6
baz=70
X18A Snowflake 69.97 355 ⇓P P 23 30 04.9 +0.7
baz=70,SNR=5.2
X31A McDonald Ranch 70.04 4 ⇓P P 23 30 05.0 +0.6
baz=70
BELC Belle Mtn. Jos 70.06 350 ⇓P P 23 30 05.6 +0.9
baz=70
IRM Iron Mountain 70.11 351 ⇓P P 23 30 05.8 +0.9
baz=70
PDMCI Parker Dam,Lak 70.12 352 ⇓P P 23 30 06.4 +1.5
baz=70
W27A Bowe Ranch, En 70.35 1 ⇓P P 23 30 07.3 +0.9
baz=71
W26A Owens Ranch, T 70.36 1 ⇓P P 23 30 07.5 +1.0
baz=71
W23A Werner Place, 70.44 359 ⇑P P 23 30 08.1 +1.0
baz=71
W20A Ramah 70.48 357 ⇓P P 23 30 08.2 +0.8
baz=71,SNR=5.9
W24A Lazy 6 Ranch, 70.48 359 ⇓P P 23 30 08.1 +0.8
baz=71,SNR=17
GMRC Granite Mounta 70.78 350 ⇑P P 23 30 10.3 +1.2
baz=71
HEC Hector,Ludlow 70.93 350 ⇓P P 23 30 12.1 +2.2
baz=71
V26A Tequesquite Ra 71.07 1 ⇓P P 23 30 11.1 +0.3
baz=71
V25A Rancho No Teng 71.10 0 ⇓P P 23 30 11.5 +0.4
baz=71,SNR=5.9
V20A Brimhall 71.15 357 ⇓P P 23 30 12.2 +0.8
baz=71
V31A Spring Creek L 71.19 4 ⇓P P 23 30 12.4 +1.0
baz=72
V22A San Miguel Ran 71.21 358 ⇑P P 23 30 12.4 +0.6
baz=72
EDW2 Edwards Air Fo 71.23 349 ⇑P P 23 30 12.6 +0.9
baz=72
GSC Goldstone 71.46 350 ⇓P P 23 30 14.4 +1.3
baz=72
PKM Peak Mountain 71.56 347 ⇓P P 23 30 15.1 +1.3
baz=72
U23A El Rito 71.61 359 ⇓P P 23 30 14.7 +0.6
baz=72
U25A Circle Dot Ran 71.66 0 ⇑P P 23 30 14.9 +0.4
baz=72
U26A Atchley Ranch, 71.66 1 ⇓P P 23 30 14.7 +0.3
baz=72
U27A Thompson Grove 71.71 2 ⇓P P 23 30 15.3 +0.7
baz=72
U21A Nageezi 71.74 358 ⇓P P 23 30 15.9 +0.9
baz=72
LRMC Laurel Mountai 71.77 349 ⇓P P 23 30 16.3 +1.3
baz=72
SHOC Shoshone 71.97 350 ⇓P P 23 30 17.5 +1.3
baz=72
U15A North Rim 72.03 354 ⇓P P 23 30 17.1 +0.3
baz=72
ISA Isabella 72.07 348 ⇓P P 23 30 18.3 +1.5
baz=72
T21A Navajo Lake 72.30 358 ⇓P P 23 30 18.5 +0.2
baz=73
MPMC Manual Prospec 72.31 349 ⇓P P 23 30 18.7 +0.3
baz=73
SYO Syowa Base 72.39 167 ⇓eP P 23 30 17.5 -0.8
T25A Trinidad 72.40 0 ⇑P P 23 30 19.5 +0.5
baz=73
SHPR Sheep Range 72.42 351 eP P 23 30 18.9 0.0
13nm,1.5s
T28A Walsh 72.42 2 ⇓P P 23 30 19.0 +0.1
baz=73
T26A Comanche Natio 72.44 1 ⇑P P 23 30 19.4 +0.3
baz=73
MVCO Mesa Verde 72.56 357 eP P 23 30 17.3 -2.5
6.2nm,0.8s
MVCO Mesa Verde 72.56 357 ⇑P P 23 30 20.5 +0.6
baz=73
CWC Cottonwood Cre 72.77 349 ⇑P P 23 30 22.3 +1.3
baz=73
S28A Manter 72.90 2 ⇑P P 23 30 22.5 +0.8
baz=73
S24A Houchin Ranch, 72.90 360 ⇑P P 23 30 22.5 +0.5
baz=73
S25A Robets Cordova 72.92 0 ⇓P P 23 30 22.5 +0.6
baz=73
S21A Coal Bank Pass 72.98 357 ⇓P P 23 30 22.5 +0.1
baz=73
S30A Montezuma 73.01 4 ⇓P P 23 30 23.2 +0.8
baz=73
S22A 4UR Ranch, Cre 73.03 358 ⇑P P 23 30 23.5 +0.7
baz=73
S20A Disappointment 73.17 357 ⇓P P 23 30 24.2 +0.7
baz=74
R25A Fountain Ranch 73.41 0 ⇓P P 23 30 25.1 +0.3
baz=74
R23A Moffat 73.46 359 ⇓P P 23 30 25.7 +0.4
baz=74
R24A Sanders Place, 73.49 360 ⇓P P 23 30 26.0 +0.6
baz=74
ARUT Antelope Range 73.49 353 eP P 23 30 21.6 -3.7
32nm,1.2s
R22A Saguache, Gunn 73.51 358 ⇓P P 23 30 26.6 +1.0
baz=74
R20A Redvale 73.53 357 ⇑P P 23 30 26.2 +0.6
baz=74
R27A Eads 73.57 2 ⇓P P 23 30 26.0 +0.4
baz=74
R26A Arlington 73.57 1 ⇑P P 23 30 26.7 +1.1
baz=74
R28A Tribune 73.65 2 ⇑P P 23 30 26.9 +0.8
baz=74
R30A Dighton 73.66 4 ⇑P P 23 30 27.1 +1.0
baz=74
R31A Burdett 73.71 4 ⇑P P 23 30 27.3 +0.9
baz=74
Q21A Lamborn Mesa, 74.14 358 ⇓P P 23 30 29.9 +0.8
baz=74
Q22A Crested Butte, 74.15 358 ⇑P P 23 30 29.9 +0.6
baz=74
Q25A Bedland, Calha 74.17 0 ⇑P P 23 30 30.0 +0.6
baz=74
Q26A Hugo 74.19 1 ⇓P P 23 30 30.0 +0.7
baz=74
Q24A Divide 74.22 360 ⇓P P 23 30 30.5 +0.8
baz=74
Q29A Oakley 74.23 3 ⇑P P 23 30 30.3 +0.8
baz=74
Q20A Ridgley Place, 74.29 357 ⇓P P 23 30 30.8 +0.9
baz=75
R11A Troy Canyon, C 74.29 351 ⇑P P 23 30 31.2 +1.2
baz=75
KSCO Kaye Shedlock' 74.30 2 ⇓P P 23 30 30.7 +0.8
baz=75
Q30A Quinter 74.35 4 ⇑P P 23 30 30.8 +0.7
baz=75
Q16A Castle Valley 74.41 355 ⇓P P 23 30 31.9 +1.2
baz=75
P23A Jefferson 74.64 359 ⇑P P 23 30 33.1 +0.9
baz=75
NVAR Mina Array Bea 74.75 349 P P 23 30 33.3 +0.6
NVAR Mina Array Bea 74.75 349 P P 23 30 33.3 +0.6
3.6nm,0.8s,baz=180,slow=8.4,SNR=18
P26A Davis Ranch, A 74.83 1 ⇑P P 23 30 34.0 +0.9
baz=75
P20A De Beque 74.83 357 ⇑P P 23 30 34.0 +0.9
baz=75
P22A Eagle 74.88 358 ⇓P P 23 30 34.7 +1.2
baz=75
P30A Selden 74.92 4 ⇑P P 23 30 33.8 +0.3
baz=75
P29A Atwood 74.94 3 ⇓P P 23 30 34.8 +1.2
baz=75
ISCO Idaho Springs 75.06 359 ⇓P P 23 30 35.4 +0.9
baz=75
O25A Wiggins 75.37 0 ⇓P P 23 30 36.9 +0.8
baz=76
O22A Kremmling 75.44 359 ⇑P P 23 30 37.3 +0.5
baz=76
O30A MW Ranch, Wils 75.56 4 ⇑P P 23 30 38.2 +1.1
baz=76
DUG Dugway 75.82 354 ⇓P P 23 30 39.7 +1.0
baz=76
N22A Wattenberg Ran 76.08 359 ⇓P P 23 30 41.2 +0.9
baz=76
N20A Spence Gulch, 76.16 357 ⇓P P 23 30 41.5 +0.7
baz=76
N23A Red Feather La 76.16 359 ⇑P P 23 30 41.6 +0.8
baz=76

OGNE Ogallala 76.24 2 ⇓P P 23 30 41.7 +0.7
baz=76
BEKR Beckworth 76.49 348 eP P 23 30 41.4 -1.3
3.3nm,1.2s
MAW Mawson 76.66 175 P P 23 30 42.9 -0.1
MAW Mawson 76.66 175 P P 23 30 42.9 -0.1
2.9nm,0.9s,baz=232,slow=4.9,SNR=7.7
M24A Cheyenne 76.72 360 ⇑P P 23 30 44.8 +0.9
baz=77
M20A Sweetwater, Wa 76.81 357 ⇓P P 23 30 45.3 +0.9
baz=77
M21A Separation Pea 76.90 358 ⇑P P 23 30 44.9 0.0
baz=77
L21A Rawlins 77.26 358 ⇑P P 23 30 47.9 +1.0
baz=78
L18A Fontenelle, Gr 77.33 356 ⇓P P 23 30 48.3 +1.0
baz=78
L20A Wamsutter 77.33 357 ⇓P P 23 30 48.4 +1.0
baz=78
K22A Casper 77.92 359 ⇑P P 23 30 51.4 +0.8
baz=78
K23A Bowen Ranch, D 78.01 359 ⇓P P 23 30 52.0 +0.9
baz=78
PDAR Pinedale Array 78.15 356 P P 23 30 51.8 -0.1
PDAR Pinedale Array 78.15 356 P P 23 30 51.8 -0.1
5.3nm,0.9s,baz=160,slow=6.6,SNR=30
MOD Modoc 78.47 348 eP P 23 30 53.4 -0.1
9.1nm,0.5s
J26A Sides Ranch, S 78.58 1 ⇓P P 23 30 55.4 +1.3
baz=79
J24A Dixon Ranch, L 78.58 0 ⇓P P 23 30 55.7 +1.6
baz=79
J19A Crowheart 78.62 357 ⇑P P 23 30 54.9 +0.5
baz=79
J20A Shoshoni 78.67 358 ⇑P P 23 30 55.7 +1.0
baz=79
J22A Midwest 78.68 359 ⇓P P 23 30 55.3 +0.6
baz=79
J30A Dallas 78.72 4 ⇓P P 23 30 55.4 +0.6
baz=79
J28A Allard Ranch, 78.74 3 ⇓P P 23 30 56.2 +1.3
baz=79
J29A Okreek 78.76 3 ⇓P P 23 30 56.0 +1.0
baz=79
I21A Big Trails, Te 79.10 358 ⇑P P 23 30 57.4 +0.4
baz=79
I22A 9 Mile Ranch, 79.16 359 ⇑P P 23 30 58.3 +1.0
baz=80
I20A Worland 79.26 358 ⇑P P 23 30 58.8 +0.9
baz=80
I25A Rochford 79.28 1 ⇓P P 23 30 59.0 +1.0
baz=80
HLID Hailey 79.31 353 ⇓P P 23 30 59.5 +1.3
baz=80
I28A Midland 79.32 3 ⇓P P 23 30 59.0 +1.0
baz=80
I19A Meeteetse 79.39 357 ⇓P P 23 30 59.4 +0.8
baz=80
H28A Mission Ridge 80.00 3 ⇑P P 23 31 02.2 +0.5
baz=80
H24A Dirks Ranch, A 80.00 0 ⇓P P 23 31 02.3 +0.5
baz=80
H19A Powell 80.02 357 ⇑P P 23 31 03.0 +1.0
baz=80
G23A Biddle 80.46 360 ⇑P P 23 31 04.2 0.0
baz=81
G20A Bridger 80.54 358 ⇓P P 23 31 05.5 +0.7
baz=81
G26A Maurine 80.57 2 ⇑P P 23 31 05.5 +0.6
baz=81
G24A Alzada 80.58 0 ⇓P P 23 31 05.6 +0.7
baz=81
G27A Dupree 80.65 1 ⇑P P 23 31 06.4 +1.1
baz=81
F23A Volborg 80.98 360 ⇓P P 23 31 08.2 +1.2
baz=81
F26A Lodgepole 81.13 1 ⇓P P 23 31 08.7 +0.9
baz=81
F28A McLaughlin 81.18 3 ⇓P P 23 31 08.9 +0.9
baz=82
F25A Bowman 81.19 1 ⇑P P 23 31 09.3 +1.2
baz=82
F19A Roth Farm, Mol 81.20 357 ⇓P P 23 31 09.2 +0.9
baz=82
E25A Miller Ranch, 81.77 1 ⇑P P 23 31 11.5 +0.3
baz=82
E19A Rath Farm, Rou 81.80 357 ⇑P P 23 31 11.7 +0.4
baz=82
E20A Meyer Farm, Mu 81.81 358 ⇑P P 23 31 12.2 +0.7
baz=82
D21A La Casta Ranch 82.35 358 ⇓P P 23 31 15.7 +1.5
baz=83
D22A Cohagen 82.42 359 ⇑P P 23 31 15.6 +1.1
baz=83
D25A Fairfield 82.42 1 ⇑P P 23 31 15.8 +1.2
baz=83
D23A Lindsay 82.43 360 ⇑P P 23 31 16.3 +1.7
baz=83
C22A Vida 83.01 359 ⇓P P 23 31 18.3 +0.7
baz=83
C20A Veseth Ranch, 83.02 358 ⇑P P 23 31 18.3 +0.7
baz=83
C27A Sayler Ranch, 83.02 2 ⇑P P 23 31 18.2 +0.6
baz=83
C23A Lambert 83.06 360 ⇓P P 23 31 18.8 +1.0
baz=83
C19A Slack Wire Ran 83.08 357 ⇓P P 23 31 19.3 +1.3
baz=83
A24A Westby 84.18 0 ⇑P P 23 31 24.4 +0.8
baz=84
A25A Svangstu Ranch 84.21 1 ⇑P P 23 31 24.5 +0.8
baz=84
NEW Newport 84.25 352 ⇑P P 23 31 24.9 +1.0
baz=84
A22A Carney Farms, 84.25 359 ⇓P P 23 31 24.7 +0.7
baz=84
A28A Rude Farm, Bot 84.26 3 ⇑P P 23 31 24.8 +0.8
baz=85
A29A Manning Farm, 84.32 4 ⇓P P 23 31 24.6 +0.4
baz=85
ULM Lac du Bonnet 85.87 6 eP P 23 31 30.4 -1.6
ULM Lac du Bonnet 85.87 6 P P 23 31 27.9 -4.1
5.0nm,0.9s,baz=191,slow=3.7,SNR=3.5
AKASG Malin Array Be 143.83 51 PKPpre PKPpre 23 38 23.1
AKASG Malin Array Be 143.83 51 PKhKP PKPpre 23 38 23.1
0.1nm,0.2s,baz=258,slow=4.6,SNR=7.3
EIL Elat 145.72 88 PKPbc PKPdf 23 38 31.6 +0.2
EIL Elat 145.72 88 PKPbc PKPdf 23 38 31.6 +0.2
5.5nm,1.0s,baz=144,slow=4.7,SNR=7.8
BR131 Keskin Array S 147.02 70 ePKPdf PKPdf 23 38 33.6 +0.1
BRTR Keskin Array B 147.02 70 PKPbc PKPbc 23 38 34.8 -0.8
BRTR Keskin Array B 147.02 70 PKPbc PKPbc 23 38 34.8 -0.8
3.6nm,0.9s,baz=197,slow=3.9,SNR=20
MMAI Mount Meron Ar 147.13 83 PKPbc PKPdf 23 38 33.2 -0.7
MMAI Mount Meron Ar 147.13 83 PKPbc PKPdf 23 38 33.2 -0.7
2.0nm,0.7s,baz=180,slow=0.7,SNR=5.0
ASF Jabal al Asfar 148.11 85 PKPbc PKPdf 23 38 36.1 +0.7
ASF Jabal al Asfar 148.11 85 PKPbc PKPdf 23 38 36.1 +0.7
5.0nm,0.9s,baz=198,slow=3.5,SNR=5.1
CMAR Chiang Mai Arr 152.95 237 PKPbc PKPbc 23 38 50.1 -0.4
CMAR Chiang Mai Arr 152.95 237 PKPbc PKPbc 23 38 50.1 -0.4
0.4nm,0.4s,baz=185,slow=3.3,SNR=3.8
ULN Ulaanbaatar 153.51 307 ePKPbc PKPbc 23 38 50.2 -0.9
SONM Songino Array 153.94 308 PKP PKPdf 23 38 43.7 -0.3
SONM PKPbc PKPbc 23 38 51.4 -0.6
SONM PKPab PKPab 23 39 05.0 -0.3
SONM Songino Array 153.94 308 PKP PKPdf 23 38 43.7 -0.3
1.4nm,0.9s,baz=122,slow=1.9,SNR=3.1
SONM PKPbc PKPbc 23 38 51.4 -0.6
2.7nm,0.9s,baz=59,slow=2.6,SNR=6.3
SONM PKPab PKPab 23 39 05.0 -0.3
1.9nm,1.0s,baz=151,slow=3.3,SNR=3.3
ZALV Zalesovo Beam 160.50 343 PKP PKPdf 23 38 49.9 -2.0
ZALV PKPab PKPab 23 39 32.7 -0.4
ZALV Zalesovo Beam 160.50 343 PKP PKPdf 23 38 49.9 -2.0
0.5nm,0.5s,baz=64,slow=3.4,SNR=4.0
ZALV PKPab PKPab 23 39 32.7 -0.4
0.5nm,0.5s,baz=56,slow=3.6,SNR=2.3
BVAR Borovoye Array 162.27 10 PKP PKPdf 23 38 51.8 -2.0
BVAR Borovoye Array 162.27 10 PKP PKPdf 23 38 51.8 -2.0
0.9nm,0.9s,baz=51,slow=3.0,SNR=2.7
MK31 Makanchi Array 167.66 337 ePKPdf PKPdf 23 38 57.3 -1.3

*ISCJB **08** 23:21:30.8±0.7, 46°.39N±0'.03×15°.11E±0'.06, h0km, Error ellipse: s-maj=5.6km s-min=4.2km az=11.7*
*CSEM **08** 23:21:30.6±0.3, 46°.35N×15°.13E, h2km, ML2.2/4, Error*

ellipse: s-maj=6.3km s-min=2.8km az=134.0, Suspected Mining induced.
*VIE **08** 23:21:31.4±0.2, 46°.39N×15°.07E, h0km, mb1.7/7, ML1.7/7, Error ellipse: s-maj=1.4km s-min=0.9km az=163.0 23 km NW of Celje Suspected Mining induced.*

ISC 08 23:21:31.4±0.9, 46°.38N±0°.03×15°.09E±0°.04, h0km, n18, σ0s45/29, 7C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOKA	**Soboth** SNR=86	**0.30**	**352**	*e*Pg	**Pg**	**23 21 37.4**	**+0.2**
SOKA	54nm,0.5s			↑*i*Sg	**Sg**	**23 21 40.8**	**-0.3**
SOKA	**Soboth** SNR=86	**0.30**	**352**	Pg	**Pg**	**23 21 37.4**	**+0.2**
SOKA	54nm,0.5s			Sg	**Sg**	**23 21 40.8**	**-0.3**
OBKA	**Obir** SNR=21	**0.40**	**289**	*e*Pg	**Pg**	**23 21 39.0**	**0.0**
OBKA	52nm,0.5s			↑*i*Sg	**Sg**	**23 21 44.6**	**+0.4**
OBKA	**Obir** SNR=21	**0.40**	**289**	Pg	**Pg**	**23 21 39.0**	**0.0**
OBKA	52nm,0.5s			Sg	**Sg**	**23 21 44.6**	**+0.4**
VOY	**Vojsko**	**0.90**	**248**	*e*Pg	**Pg**	**23 21 47.9**	**-0.8**
VOY				*e*		23 21 50.6	
VOY				*e*(Sg)	**Sb**	**23 22 02.6**	**0.0**
VOY				*e*		23 22 06.4	
VOY	**Vojsko**	**0.90**	**248**	Pg	**Pg**	**23 21 47.9**	**-0.8**
ARSA	**Arzberg** SNR=26	**0.92**	**19**	↓*e*Pg	**Pg**	**23 21 48.5**	**-0.6**
ARSA	10nm,0.5s			↑*i*Sg	**Sg**	**23 22 01.6**	**+0.6**
ARSA	**Arzberg** SNR=26	**0.92**	**19**	Pg	**Pg**	**23 21 48.5**	**-0.6**
ARSA	10nm,0.5s			Sg	**Sg**	**23 22 01.6**	**+0.6**
MYKA	**Terra Mystica**	**1.03**	**284**	↑*i*Pg	**Pg**	**23 21 51.3**	**+0.1**
MYKA	**Terra Mystica**	**1.03**	**284**	Pg	**Pg**	**23 21 51.3**	**+0.1**
KBA	**Koelnbreinsper** SNR=8.2	**1.39**	**301**	↑*e*Pg	**Pn**	**23 21 58.0**	**-0.3**
KBA	14nm,0.6s			↓*i*Sg	**Sb**	**23 22 16.8**	**+0.1**
KBA	**Koelnbreinsper** SNR=8.2	**1.39**	**301**	Pg	**Pn**	**23 21 58.0**	**-0.3**
KBA	14nm,0.6s			Sg	**Sb**	**23 22 16.8**	**+0.1**
MOA	**Molln** SNR=4.6	**1.57**	**339**	↑*e*Pg	**Pb**	**23 22 01.5**	**+0.1**
MOA	**Molln** SNR=4.6	**1.57**	**339**	Pg	**Pb**	**23 22 01.5**	**+0.1**
ABTA	**Abfaltersbach** SNR=8.4	**1.82**	**283**	↑*e*Pn	**Pn**	**23 22 04.1**	**+0.1**
ABTA	**Abfaltersbach** SNR=8.4	**1.82**	**283**	Pn	**Pn**	**23 22 04.1**	**+0.1**
NVLJ	**Novalja**	**1.82**	**185**	*e*Pn	**Pn**	**23 22 04.2**	**+0.1**
NVLJ				Sn	**Sn**	**23 22 27.8**	**0.0**
UDBI	**Udbina**	**1.91**	**165**	*i* Pn	**Pn**	**23 22 04.9**	**-0.4**
UDBI				Sn	**Sg**	**23 22 34.1**	**+1.2**

*IDC **08** 23:27:59.9±0.6, 8°.98S×125°.72E, h0km, mb4.1/9, mb1 4.2/10, mb1mx4.1/19, mbtmp4.1/10, ML4.6/1, Error ellipse: s-maj=32.9km s-min=16.5km az=94.0*
*DJA **08** 23:28:08.3±4.1, 9°.5±6°.6×12°.6E±1°.3, h32km±44km, M4.2/4, mb4.4/3, MLv4.1/4*

ISC 08 23:28:05.3±0.7, 9°.44S±0°.07×125°.98E±0°.08, h35km, n27, σ2s00/26, mb4.2/9, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.72**	**259**	P	**Pn**	**23 28 32.0**	**-0.9**
BATI	**Baumata**	**2.41**	**251**	P	**Pn**	**23 28 42.2**	**-0.1**
BATI	**Baumata** 147nm,0.3s,baz=90,slow=2.3,SNR=87	**2.41**	**251**	Pn	**Pn**	**23 28 42.1**	**-0.2**
BATI	122nm,0.3s,baz=51,slow=18,SNR=9.3			Sn	**Sn**	**23 29 09.5**	**-1.2**
MMRI	**Maumere**	**3.79**	**282**	P	**Pn**	**23 28 58.7**	**-2.5**
BBSI	**Bau Bau**	**5.18**	**319**	P	**Pn**	**23 29 18.4**	**-2.1**
KAPI	**Kappang** 0.3nm,0.3s,baz=122,slow=13,SNR=2.9	**7.59**	**305**	Pn	Pn	23 29 48.4	-5.1
BNSI	**Bone** 40nm,0.8s	**7.69**	**310**	P	**Pn**	**23 29 56.0**	**+1.1**
SPSI	**Sidrap Palu** 18nm,1.2s,0.1nm	**8.22**	**311**	P	**Pn**	**23 30 04.5**	**+2.2**
FITZ	**Fitzroy Crossi** 3.4nm,0.3s,baz=10,slow=8.5,SNR=73	**8.62**	**182**	Pn	**Pn**	**23 30 09.4**	**+1.8**
FITZ	9.5nm,0.3s,baz=222,slow=16,SNR=10			Sn	**Sn**	**23 31 41.9**	**-1.8**
TTSI	**Tana Toraja**	**8.82**	**316**	P	Pn	23 30 20.3	+10
WRA	**Warramunga Arr** 1.6nm,0.3s,baz=317,slow=12,SNR=17	**13.20**	**143**	Pn	**Pn**	**23 31 11.6**	**+1.2**
WRA	2.9nm,0.3s,baz=98,slow=19,SNR=8.3			Sn	**Sn**	**23 33 32.3**	**-3.7**
ASAR	**Alice Springs** 0.6nm,0.3s,baz=317,slow=11,SNR=37	**16.05**	**153**	Pn	**Pn**	**23 31 49.7**	**+1.2**
ASAR	1.4nm,0.3s,baz=314,slow=18,SNR=6.8			Sn	**Sn**	**23 34 41.6**	**-3.8**
KSRS	**Korea Array** 1.1nm,0.3s,baz=181,slow=8.6,SNR=5.4	**46.68**	**2**	P	**P**	**23 36 27.9**	**-2.8**
MJAR	**Matsushiro Arr** 1.8nm,0.5s,baz=190,slow=9.7,SNR=6.5	**47.16**	**13**	P	P	23 36 29.9	-4.5
USRK	**Ussuriysk Arra** 1.8nm,0.5s,baz=204,slow=5.8,SNR=4.5	**53.66**	**5**	P	**P**	**23 37 20.5**	**-3.0**
SONM	**Songino Array** 0.3nm,0.4s,baz=159,slow=6.2,SNR=2.5	**59.61**	**345**	P	P	23 38 02.1	-3.7
PETK	**Petropavlovsk-** 3.0nm,0.5s,baz=185,slow=6.0,SNR=20	**67.91**	**20**	P	**P**	**23 38 59.2**	**-1.1**
MKAR	**Makanchi Array** 1.1nm,0.4s,baz=127,slow=7.5,SNR=18	**68.18**	**329**	P	P	23 38 57.9	-4.2
VNDA	**Vanda** 0.5nm,0.5s,baz=323,slow=7.0,SNR=5.6	**70.55**	**172**	P	**P**	**23 39 18.6**	**+2.3**
ZALV	**Zalesovo Beam** 0.6nm,0.4s,baz=143,slow=7.3,SNR=3.3	**72.08**	**336**	P	P	23 39 21.2	-4.7
QSPA	**South Pole Qui** 1.8nm,0.7s,baz=314,slow=1.6,SNR=14	**80.55**	**180**	P	**P**	**23 40 16.2**	**+2.2**
PDAR	**Pinedale Array** 0.5nm,0.7s,baz=330,slow=2.1,SNR=4.0	**121.42**	**45**	PKP	**PKPdf**	**23 46 56.4**	**+0.8**
TORD	**Torodi Ar. Bea** 1.7nm,0.6s,baz=67,slow=1.6,SNR=23	**125.33**	**279**	PKP	**PKPdf**	**23 47 03.5**	**-0.1**
DBIC	**Dimbokro** 1.5nm,0.6s,baz=178,slow=19,SNR=4.6	**131.28**	**271**	PKP	**PKPdf**	**23 47 15.8**	**+0.9**
CPUP	**Villa Florida** 1.0nm,0.3s,baz=232,slow=2.1,SNR=5.9	**144.30**	**175**	PKP	**PKPdf**	**23 47 38.7**	**+0.2**
LPAZ	**La Paz**	**150.87**	**151**	*e*P	**PKPbc**	**23 47 57.0**	**+0.9**
LPAZ	**La Paz** 1.8nm,0.7s,baz=61,slow=1.7,SNR=5.6	**150.87**	**151**	PKPbc	**PKPbc**	**23 47 57.0**	**+0.9**
LPAZ	1.5nm,0.5s,baz=266,slow=1.3,SNR=3.7			PKPab	**PKPab**	**23 48 05.3**	**+2.1**

*ISCJB **08** 23:29:12.0±0.3, 38°.07N±0°.02×75°.47E±0°.05, h135km, mb3.9/10, Error ellipse: s-maj=5.4km s-min=2.7km az=177.1*
*IDC **08** 23:29:11.6±4.8, 38°.01N×75°.25E, h95km±38km, mb3.7/9, mb1 3.8/14, mb1mx3.5/34, mbtmp3.7/14, Error ellipse: s-maj=36.2km s-min=21.3km az=3.0*
*BJI **08** 23:29:15.3, 38°.18N×75°.45E, h121km, mB4.6/5, mb4.2/8*
*NNC **08** 23:29:16.4±8.3, 38°.36N×74°.94E, h180km±73km, mb3.7, mpv4.5, Error ellipse: s-maj=71.0km s-min=43.0km az=170.0*

ISC 08 23:29:13.8±0.5, 38°.08N±0°.05×75°.35E±0°.05, h135km, n60, σ1s96/73, mb4.0/10, 9C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.52**	**19**	P	Pn	23 29 37.8	-4.8
KSH				S	Sn	23 29 55.1	-9.4
KSH	comp=Z,10μm,0.4s			SMN			
KSH	comp=Z,8μm,0.5s			SME			
KZA	**Kyzart** SNR=121	**3.99**	**359**	P	**Pn**	**23 30 13.6**	**-0.3**
UCH	**Uchtor** SNR=56	**4.19**	**351**	P	**Pn**	**23 30 16.6**	**0.0**
ULHL	**Ulahol** SNR=76	**4.22**	**9**	P	**Pn**	**23 30 16.9**	**+0.2**
AML	**Almayashu** SNR=85	**4.24**	**343**	P	**Pn**	**23 30 16.3**	**-0.9**
KBK	**Karagaybulak** SNR=95	**4.58**	**356**	P	**Pn**	**23 30 21.7**	**+0.2**
AAK	**Ala-Archa** SNR=160	**4.59**	**352**	P	**Pn**	**23 30 21.9**	**+0.2**
AAK	**Ala-Archa** 19nm,0.3s,baz=158,slow=8.3,SNR=220	**4.59**	**352**	P	**Pn**	**23 30 21.7**	**0.0**
AAK	1.8nm,0.3s,baz=323,slow=20,SNR=3.1			S	**Sn**	**23 31 12.8**	**-1.7**
CHCP	**Chirah Chowk**	**4.73**	**202**	↑P	**Pn**	**23 30 25.1**	**+1.7**
EKS2	**Erkin-Say** SNR=76	**4.73**	**346**	P	**Pn**	**23 30 22.9**	**-0.5**
TKM2	**Tokmak 2** 114nm,0.6s	**4.84**	**2**	↑P	**Pn**	**23 30 25.3**	**+0.3**
TKM2	96nm,0.8s			↑S	**Sn**	**23 31 19.4**	**-0.9**
TKM2	**Tokmak 2** SNR=200	**4.84**	**2**	P	**Pn**	**23 30 25.4**	**+0.4**
CHMS	**Chumysh** SNR=36	**4.93**	**355**	P	**Pn**	**23 30 26.2**	**+0.1**
CEP	**Cherat**	**5.08**	**214**	↑P	**Pn**	**23 30 28.8**	**+0.6**
CEP				S	**Sn**	**23 31 24.0**	**-2.1**
USP	**Ospenovka** SNR=12	**5.22**	**353**	P	**Pn**	**23 30 29.6**	**-0.3**
THN	**Thein Dam**	**5.64**	**177**	*e*P	**Pn**	**23 30 35.6**	**0.0**
THN				*e*S	Sn	23 31 31.7	-7.7
THW	**Thamme Wali**	**6.04**	**210**	↑P	**Pn**	**23 30 40.7**	**-0.3**
KK31	**Karatay Array** 14nm,0.6s,baz=133,slow=11,SNR=256	**6.22**	**325**	P	**Pn**	**23 30 41.6**	**-1.6**
KK31	14nm,0.3s,baz=172,slow=25,SNR=14			↓S	**Sn**	**23 31 48.1**	**-5.1**
SARP	**Sargodha**	**6.53**	**200**	P	**Pn**	**23 30 48.3**	**+0.9**
SDNR	**Sundarnagar**	**6.70**	**168**	*e*P	**Pn**	**23 30 49.0**	**-0.8**
SDNR				*e*S	**Sn**	**23 32 01.0**	**-3.9**
SMLA	**Simla**	**7.10**	**167**	*i* P	**Pn**	**23 30 54.5**	**-0.6**
SMLA				*i* S	Sn	23 32 06.9	-7.4
SMLA				*i* S		23 32 08.6	
NDI	**New Delhi**	**9.50**	**170**	*ex*	Pn	23 31 22.5	-4.9
NDI				*e*S	Sn	23 33 01.0	-12
AYAN	**Aya Nagar**	**9.69**	**171**	*e*P	**Pn**	**23 31 27.1**	**-2.7**
SONA	**Sohna**	**9.91**	**171**	*e*P	**Pn**	**23 31 31.3**	**-1.6**
SONA				*e*S	Sn	23 33 11.3	-11
SONA	comp=E,48nm,0.3s			AML	AML	23 33 21.0	
SONA	comp=N,30nm,0.6s			AML	AML	23 33 21.6	
KUDL	**Kundal**	**9.96**	**174**	*e*P	**Pn**	**23 31 31.4**	**-2.0**
KUDL				*e*S	Sn	23 33 09.7	-14
KUDL	comp=E,28nm,0.1s			AML	AML	23 33 23.1	
KUDL	comp=N,37nm,0.6s			AML	AML	23 33 24.6	
MK31	**Makanchi Array** comp=N,3.1nm,0.5s,baz=206,slow=12,SNR=33	**10.10**	**28**	P	**Pn**	**23 31 35.3**	**0.0**
MK31	comp=N,9.9nm,1.2s			↓S	**Sn**	**23 33 24.7**	**-2.2**
MKAR	**Makanchi Array** comp=N,0.7nm,0.3s,baz=199,slow=15,SNR=40	**10.10**	**28**	P	**Pn**	**23 31 35.3**	**-0.1**
MKAR	comp=N,0.2nm,0.3s,baz=208,slow=23,SNR=5.1			S	**Sn**	**23 33 24.4**	**-2.5**
WMQ	**Urumqi**	**10.95**	**55**	P	**Pn**	**23 31 46.6**	**-0.1**
WMQ				S	**Sn**	**23 33 44.6**	**-2.9**
DANN	**Dangsing**	**11.98**	**142**	*e*P	**Pn**	**23 31 58.2**	**-2.4**
KOLN	**Koldanda**	**12.39**	**144**	*e*P	**Pn**	**23 32 03.7**	**-2.2**
KOLN				*e*S	Sn	23 34 13.2	-10
GKN	**Gorkha**	**12.71**	**140**	*e*P	**Pn**	**23 32 07.4**	**-2.5**
KURBB	**Kurchatov Arra** comp=N,7.8nm,0.7s	**12.74**	**9**	↓P	**Pn**	**23 32 08.1**	**-1.9**
KURBB	comp=N,34nm,1.4s			↑S	**Sn**	**23 34 28.0**	**-2.4**
KURBB	**Kurchatov Arra** comp=N,0.3nm,0.3s,baz=196,slow=12,SNR=20	**12.74**	**9**	P	**Pn**	**23 32 08.2**	**-1.8**
KURK	**Kurchatov** comp=N,6.6nm,0.9s	**12.85**	**9**	↑P	**Pn**	**23 32 09.3**	**-2.0**
KURK	comp=N,8.3nm,1.2s			↓S	**Sn**	**23 34 29.2**	**-3.8**
KKN	**Kakani** comp=N,31nm,0.6s	**13.21**	**138**	*e*P	**Pn**	**23 32 14.5**	**-2.0**
DMN	**Daman**	**13.27**	**139**	*e*P	**Pn**	**23 32 14.9**	**-2.4**
DMN				*e*S	Sn	23 34 33.0	-11
GUN	**Gumba** comp=N,13nm,0.3s	**13.44**	**136**	*e*P	Pn	23 32 16.3	-3.3
PKI	**Pulchoki**	**13.46**	**138**	*e*P	**Pn**	**23 32 17.2**	**-2.5**
JIRN	**Jiri**	**13.81**	**136**	*e*P	**Pn**	**23 32 21.8**	**-2.5**
RAMN	**Ramite**	**14.59**	**136**	*e*P	**Pn**	**23 32 31.1**	**-2.9**
TAPN	**Taplejung**	**14.91**	**132**	*e*P	**Pn**	**23 32 35.8**	**-2.3**
VOSK	**Vostochnaya** comp=N,11nm,0.8s	**14.96**	**350**	↑P	**Pn**	**23 32 35.3**	**-2.9**
VOSK				S	Sn	23 35 16.7	-7.0
ODAN	**Odare**	**15.10**	**134**	*e*P	**Pn**	**23 32 37.0**	**-3.4**
BVA0	**Borovoye Array** comp=N,34nm,1.2s,baz=177,slow=4.3,SNR=94	**15.34**	**349**	P	**Pn**	**23 32 40.4**	**-2.5**
BVAR	**Borovoye Array** comp=N,0.7nm,0.3s,baz=169,slow=11,SNR=18	**15.34**	**349**	P	**Pn**	**23 32 41.5**	**-1.4**
BRVK	**Borovoye** comp=N,58nm,1.0s	**15.39**	**348**	↓P	**Pn**	**23 32 41.8**	**-1.7**
AB31	**Akbulak array** comp=N,3.8nm,0.7s,baz=135,slow=12,SNR=62	**15.74**	**320**	↑P	**Pn**	**23 32 45.5**	**-2.5**
AB31	comp=N,2.0nm,0.7s,baz=145,slow=22,SNR=3.5			↓S	Sn	23 35 30.1	-13
ZALV	**Zalesovo Beam** comp=N,1.2nm,0.3s,baz=210,slow=12,SNR=28	**17.15**	**19**	P	**Pn**	**23 33 04.7**	**-0.4**
GTA	**Gaotai**	**19.12**	**78**	*e*P	**Pn**	**23 33 31.6**	**+2.9**
GTA				pP	**pP**	**23 33 51.6**	**+1.2**
GTA				sP	**sP**	**23 34 07.0**	**-0.4**
GTA				S	**Sn**	**23 37 03.4**	**-0.6**
GTA	comp=N,14nm,1.7s			AMB	AMB		
GTA	comp=N,290nm,6.4s			AMB	AMB		
GTA	comp=N,300nm,16.4s			LR	LR		
GTA	comp=N,290nm,16.6s			LR	LR		
GTA	comp=N,420nm,16.4s			LR	LR		
SONM	**Songino Array** comp=N,7.1nm,0.8s,baz=258,slow=9.4,SNR=22	**24.58**	**57**	P	**P**	**23 34 23.9**	**+2.6**
HHC	**Hu-ho-hao-te**	**27.97**	**73**	*e*P	**P**	**23 34 53.4**	**+1.6**
HHC				PP	**PnPn**	**23 35 47.0**	**+0.5**
HHC				S	**S**	**23 39 28.8**	**+2.8**
HHC				SS	**SnSn**	**23 40 58.0**	**+1.7**
HHC	comp=N,14nm,0.8s			AMB	AMB		
HHC	comp=N,650nm,6.0s			AMB	AMB		
HHC	comp=N,220nm,11.8s			LR	LR		
HHC	comp=N,240nm,10.8s			LR	LR		
HHC	comp=N,460nm,11.4s			LR	LR		
BRTR	**Keskin Array B** comp=N,0.4nm,0.6s,baz=107,slow=8.3,SNR=3.6	**32.29**	**286**	P	**P**	**23 35 31.4**	**+1.5**
AKASG	**Malin Array Be** comp=N,0.3nm,0.3s,baz=79,slow=7.9,SNR=4.3	**34.73**	**306**	P	**P**	**23 35 51.7**	**+1.0**
FINES	**FINESS Array B** comp=N,2.0nm,0.5s,baz=112,slow=9.0,SNR=25	**38.18**	**324**	P	**P**	**23 36 21.9**	**+2.1**
ARCES	**ARCESS Array B** comp=N,2.6nm,0.6s,baz=106,slow=8.5,SNR=17	**41.07**	**336**	P	**P**	**23 36 46.1**	**+2.5**
HFS	**Hagfors** comp=N,2.5nm,0.5s,baz=80,slow=7.9,SNR=14		**44.01**	**321**	P	**P**	**23 37 09.4**	**+2.0**
NB2	**NORSAR Subarra** comp=Z,1.0nm,0.5s,baz=90,slow=7.9	**45.24**	**322**	P	**P**	**23 37 18.5**	**+1.2**
NOA	**NORSAR Array B** comp=Z,1.6nm,0.5s,baz=90,slow=7.9,SNR=5.6	**45.24**	**322**	P	**P**	**23 37 18.8**	**+1.5**
EKA	**Eskdalemuir Ar** comp=Z,0.8nm,0.6s,baz=96,slow=8.5,SNR=4.4	**53.56**	**316**	P	**P**	**23 38 21.9**	**+1.4**
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,0.5s,baz=51,slow=5.9,SNR=13	**69.20**	**271**	P	**P**	**23 40 07.2**	**+1.1**

*ISCJB **08** 23:32:32.0±0.3, 13°.07S±0°.04×166°.00E±0°.05, h20km, mb4.8/47, MS5.0/6, Error ellipse: s-maj=6.4km s-min=6.3km az=168.2*
*MOS **08** 23:32:34.0±1.5, 13°.18S×165°.93E, h33km, mb5.1/9, Error ellipse: s-maj=15.2km s-min=10.6km az=13.5*
*NEIC **08** 23:32:35.2±0.3, 13°.01S×165°.99E, h35km, mb5.1/18, Error ellipse: s-maj=9.5km s-min=8.3km az=150.0*
*IDC **08** 23:32:37.6±2.5, 13°.07S×165°.97E, h51km±22km, mb4.3/26, mb1 4.4/29, mb1mx4.4/32, mbtmp4.3/29, ML3.8/2, Error ellipse: s-maj=14.1km s-min=12.8km az=72.0*
*BJI **08** 23:32:40.0, 12°.45S×165°.91E, h55km, mB5.3/17, mb4.8/29, Ms5.2/16, Ms7 5.0/16*
*BKK **08** 23:32:47.5±1.6, 13°.5±8°.×16°.6E±°, h118km±16km, M4.8/12, mB6.0/1, mb4.8/12, Mw(mB)5.6/1*
*AUST **08** 23:33:51.8±2.3, 15°.29S×161°.96E, h475km, Error ellipse: s-maj=2.0km s-min=1.5km az=7.0*

ISC 08 23:32:33.9±0.3, 13°.14S±0°.05×165°.96E±0°.06, h20km, n142, σ1s96/158, mb4.9/46, MS4.9/6, 2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.96**	**301**	*e*Pn	**Pn**	**23 34 14.8**	**0.0**
HNR				*e*Sn	**Sn**	**23 35 35.3**	**+1.9**
HNR	**Honiara** 95nm,0.3s,baz=156,slow=4.5,SNR=18	**6.96**	**301**	P	**Pn**	**23 34 15.2**	**+0.4**
HNR	baz=216,slow=19,SNR=1.3			S	**Sn**	**23 35 35.3**	**+1.9**
DZM	**Mont Dzumac** 1.9nm,0.3s,baz=2.4,slow=23,SNR=11	**8.90**	**177**	P	**Pn**	**23 34 43.6**	**+2.1**
DZM	1.4nm,0.3s,baz=103,slow=18,SNR=2.0			S	Sn	23 36 30.4	+9.2
MSVF	**Nonsavu**	**12.52**	**113**	*e*P	**Pn**	**23 35 31.5**	**+0.4**
MSVF	**Nonsavu**	**12.52**	**113**	*e*Pn	**Pn**	**23 35 31.5**	**+0.4**
TARA	**Tarawa** 128nm,1.1s	**15.97**	**26**	*e*Pn	**P**	**23 36 19.6**	**-1.4**
EIDS	**Eidsvold** 253nm,2.3s	**18.56**	**227**	*e*P	**Pn**	**23 36 51.0**	**+1.0**
EIDS				*e*Sn	**Sn**	**23 40 11.3**	**-5.8**
EIDS	**Eidsvold** baz=14,SNR=6.6	**18.56**	**227**	P	Pn	23 36 54.7	+4.7
PMG	**Port Moresby** 47nm,0.9s	**18.81**	**279**	*e*P	**P**	**23 36 49.9**	**-2.6**
PMG	**Port Moresby** 0.7nm,0.3s,baz=57,slow=23,SNR=3.3	**18.81**	**279**	P	**Pn**	**23 36 53.8**	**+0.8**
CTA	**Charters Tower**	**20.10**	**247**	*e*P	Pn	23 37 09.1	+0.6
CTA	**Charters Tower** 16nm,0.9s,baz=60,slow=14,SNR=7.0	**20.10**	**247**	P	Pn	23 37 09.1	+0.6
CTAO	**Charters Tower**	**20.10**	**247**	*e*P	**P**	**23 37 04.8**	**-1.8**
CTAO	comp=Z,98nm,1.6s			pmax	pmax		
CTAO	**Charters Tower** comp=Z,98nm,1.6s	**20.10**	**247**	*e*P	**P**	**23 37 04.8**	**-1.8**
RMQ	**Roma** baz=17,SNR=22	**20.90**	**228**	P	Pn	23 37 20.0	+2.2
AFI	**Afiamalu** comp=Z,15nm,0.5s,baz=331,slow=19,SNR=2.2	**21.66**	**95**	P	**P**	**23 37 25.7**	**+2.2**
ARMA	**Armidale** comp=Z,224nm,2.1s	**21.71**	**215**	*e*P	**P**	**23 37 25.6**	**+1.7**
COEN	**Coen** comp=Z,547nm,1.2s	**22.17**	**265**	*e*P	**P**	**23 37 29.2**	**+0.3**
COEN	**Coen** baz=18,SNR=5.3	**22.17**	**265**	P	**P**	**23 37 31.8**	**+2.8**
QLP	**Quilpie** baz=20,SNR=6.3	**24.37**	**233**	P	**P**	**23 37 52.4**	**+1.5**
MMPI	**Merauke** baz=22,SNR=3.4	**25.54**	**278**	P	P	23 38 13.5	+12
CMSA	**Cobar Meteorol** baz=22,SNR=6.7	**26.13**	**222**	P	**P**	**23 38 10.1**	**+3.3**
STKA	**Stephens Creek** comp=Z,12nm,1.5s	**29.12**	**226**	*e*P	**P**	**23 38 34.3**	**+0.7**
STKA	**Stephens Creek** baz=25,SNR=8.6	**29.12**	**226**	P	**P**	**23 38 35.0**	**+1.5**
STKA	**Stephens Creek** comp=Z,7.2nm,0.7s,baz=34,slow=7.0,SNR=11	**29.12**	**226**	P	**P**	**23 38 34.7**	**+1.1**
TOO	**Toolangi** baz=27,SNR=3.7	**30.43**	**213**	P	**P**	**23 38 47.5**	**+2.4**
RPZ	**Rata Peaks** comp=Z,768nm,2.7s	**30.79**	**173**	*e*P	**P**	**23 38 48.0**	**-0.2**
RPZ	**Rata Peaks** comp=Z,7.2nm,0.6s,baz=320,slow=7.7,SNR=7.5	**30.79**	**173**	P	**P**	**23 38 48.0**	**-0.2**
WRA	**Warramunga Arr**	**31.02**	**253**	*e*P	**P**	**23 38 51.0**	**+0.4**
WRA	**Warramunga Arr** comp=Z,2.5nm,0.7s,baz=83,slow=8.8,SNR=5.2	**31.02**	**253**	P	**P**	**23 38 51.0**	**+0.4**
AS01	**Alice Springs**	**32.06**	**246**	*e*P	**P**	**23 38 58.4**	**-1.4**
AS12	**Alice Springs**	**32.10**	**246**	*e*P	**P**	**23 38 59.5**	**-0.5**
ASAR	**Alice Springs** comp=Z,11nm,0.9s,baz=75,slow=9.3,SNR=20	**32.10**	**246**	P	**P**	**23 38 59.5**	**-0.5**
KDU	**Kakadu** baz=29,SNR=4.5	**32.63**	**267**	P	**P**	**23 39 05.1**	**+0.3**
BBOO	**Buckleboo** comp=Z,123nm,0.6s	**33.60**	**229**	*e*P	**P**	**23 39 13.9**	**+0.9**
BBOO	**Buckleboo** baz=29,SNR=7.3	**33.60**	**229**	P	**P**	**23 39 14.1**	**+1.1**
KNRA	**Kununurra** baz=32,SNR=4.9	**36.09**	**261**	P	**P**	**23 39 36.7**	**+2.0**
FITZ	**Fitzroy Crossi** comp=Z,28nm,1.3s	**39.09**	**257**	*e*P	**P**	**23 39 58.9**	**-1.2**
FITZ	**Fitzroy Crossi** baz=35,SNR=6.3	**39.09**	**257**	P	**P**	**23 40 03.1**	**+3.0**
FITZ	**Fitzroy Crossi** comp=Z,9.6nm,1.0s,baz=97,slow=7.9,SNR=6.7	**39.09**	**257**	P	**P**	**23 40 00.2**	**0.0**
BATI	**Baumata** comp=Z,13nm,0.5s,baz=135,slow=1.4,SNR=4.5	**41.49**	**269**	P	**P**	**23 40 20.7**	**+0.6**
MEEK	**Meekatharra** baz=42,SNR=7.7	**46.25**	**246**	P	**P**	**23 40 59.0**	**+0.7**
KAPI	**Kappang**	**46.28**	**276**	*e*P	**P**	**23 40 59.4**	**+0.8**
KAPI	**Kappang** comp=Z,6.9nm,0.3s,baz=65,slow=18,SNR=2.4	**46.28**	**276**	P	**P**	**23 40 59.4**	**+0.8**
NWAO	**Narrogin (SRO)** comp=Z,450nm,2.6s	**48.50**	**238**	*e*P	**P**	**23 41 14.8**	**-0.9**
NWAO	**Narrogin (SRO)** comp=Z,22nm,1.0s,baz=46,slow=4.9,SNR=5.0	**48.50**	**238**	P	**P**	**23 41 17.2**	**+1.5**
MORW	**Morawa** baz=44,SNR=4.6	**48.84**	**243**	P	**P**	**23 41 18.4**	**+0.1**
MJAR	**Matsushiro Arr** comp=Z,5.0nm,0.7s,baz=163,slow=7.9,SNR=8.7	**55.92**	**333**	P	**P**	**23 42 09.8**	**-0.9**
DRV	**Dumont d'Urvil**	**56.22**	**192**	S	**S**	**23 49 57.0**	**-3.6**
DRV				SS	**SS**	**23 53 50.0**	**+2.8**
DRV				L	L	23 56 00.0	
JNU	**Nakatsue** comp=Z,7.3nm,0.6s,baz=212,slow=19,SNR=3.2	**56.90**	**325**	P	**P**	**23 42 18.1**	**+0.3**
KSM	**Kuching** comp=Z,15nm,1.0s	**57.07**	**280**	*e*P	**P**	**23 42 18.9**	**-0.4**
ASAJ	**Asahikawa** comp=Z,629nm,2.2s	**60.83**	**341**	*e*P	**P**	**23 42 44.5**	**-0.2**
ASAJ	**Asahikawa** comp=Z,26nm,1.0s,baz=300,slow=26,SNR=4.9	**60.83**	**341**	P	**P**	**23 42 44.3**	**-0.4**
KSRS	**Korea Array** comp=Z,1.2nm,0.6s,baz=129,slow=7.1,SNR=5.1	**61.72**	**326**	P	**P**	**23 42 50.5**	**-0.4**
KS15	**Wonju Array Si**	**61.73**	**326**	*e*P	**P**	**23 42 50.5**	**-0.5**
KS01	**Wonju Array Si**	**61.75**	**326**	*e*P	**P**	**23 42 48.9**	**-2.3**
VNDA	**Vanda** comp=Z,10nm,1.3s	**64.42**	**181**	*e*P	**P**	**23 43 08.0**	**-0.3**
VNDA	**Vanda** comp=Z,1.5nm,0.8s,baz=343,slow=8.1,SNR=5.0	**64.42**	**181**	P	**P**	**23 43 07.8**	**-0.5**
SBA	**Scott Base**	**64.72**	**180**	*e*P	**P**	**23 43 10.5**	**+0.2**
SBA	comp=Z,15nm,1.1s			pmax	pmax		
SBA	**Scott Base** comp=Z,15nm,1.1s	**64.72**	**180**	*e*P	**P**	**23 43 10.5**	**+0.2**
USRK	**Ussuriysk Arra** comp=Z,9.0nm,0.9s,baz=148,slow=4.3,SNR=7.5	**64

CHTO pmax pmax
comp=Z,47nm,1.2s
CHTO Chiang Mai 73.27 294 *e*P **P 23 44 02.6 -1.8**
comp=Z,47nm,1.2s
CHTO Chiang Mai 73.27 294 P **P 23 44 06.3 +1.9**
comp=Z,50nm,1.3s
HHC Hu-ho-hao-te 73.56 320 *e*P **P 23 44 06.2 +0.4**
HHC pP **PcP 23 44 22.8 +1.1**
HHC sP sP 23 44 29.7 +15
HHC PP **PP 23 46 53.1 +3.0**
HHC S **S 23 53 31.0 -4.0**
HHC sS sS 23 53 59.3 +13
HHC SKS SKSac 23 54 02.9 -8.6
HHC ScS **SKKSac 23 54 06.8 -4.9**
HHC AMB AMB
comp=Z,24nm,1.0s
HHC AMB AMB
comp=Z,470nm,5.2s
HHC LR LR
comp=Z,780nm,17.6s
HHC LR LR
comp=Z,1μm,17.1s
HHC LR LR
comp=Z,2μm,17.1s
CD2 Chengdu 74.04 308 P **P 23 44 10.9 +2.1**
CD2 pP **PcP 23 44 27.2 +3.3**
CD2 sP sP 23 44 33.9 +16
CD2 PP **PP 23 46 58.9 +4.6**
CD2 S **SKiKP 23 53 38.1 +1.7**
CD2 AMB AMB
comp=Z,20nm,0.5s
CD2 AMB AMB
comp=Z,150nm,5.9s
CD2 LR LR
comp=Z,550nm,5.9s
CD2 LR LR
comp=Z,340nm,11.9s
LZH Lanzhou 76.32 313 *e*P **P 23 44 22.1 +0.2**
LZH pP **PcP 23 44 38.7 +4.9**
LZH sP sP 23 44 45.6 +15
LZH *e*PP **PP 23 47 16.3 +2.6**
LZH *e*S **S 23 54 01.1 -4.9**
LZH sS **SKSac 23 54 29.5 -3.0**
LZH AMB AMB
comp=Z,39nm,1.5s
LZH AMB AMB
comp=Z,130nm,5.6s
LZH LR LR
comp=Z,510nm,16.5s
LZH LR LR
comp=Z,440nm,17.0s
LZH LR LR
comp=Z,800nm,19.0s
SEY Seymchan 76.56 354 *e*P **P 23 44 23.2 +0.7**
QSPA South Pole Qui 76.88 180 *e*P **P 23 44 23.0 -1.6**
comp=Z,19nm,0.9s
ULN Ulaanbaatar 80.11 324 *e*P **P 23 44 41.6 -1.0**
comp=Z,16nm,0.9s
SONM Songino Array 80.47 324 P **P 23 44 44.2 -0.4**
comp=Z,2.2nm,0.8s,baz=131,slow=4.5,SNR=9.3
SONA1 Songino Array 80.47 324 *e*P **P 23 44 42.2 -2.4**
GTA Gaotai 80.66 314 *e*P **P 23 44 47.6 +1.8**
GTA pP **PcP 23 44 57.6 +5.1**
GTA S **S 23 54 53.2 +0.8**
GTA sS **ScS 23 55 10.5 -1.2**
GTA AMB AMB
comp=Z,8.0nm,1.0s
GTA AMB AMB
comp=Z,290nm,5.5s
GTA LR LR
comp=Z,380nm,19.5s
GTA LR LR
comp=Z,290nm,19.2s
GTA LR LR
comp=Z,480nm,19.7s
ZAK Zakamensk 83.53 325 *e*P **P 23 45 00.2 -0.4**
ZAK pmax pmax
comp=Z,9.0nm,1.2s
LSA Lhasa 83.64 302 P **P 23 44 59.6 -2.5**
TLY Talaya 83.97 326 *e*P **P 23 45 04.1 +1.4**
TLY pmax pmax
comp=Z,8.0nm,0.7s
YBH Yreka Blue Hor 85.20 45 P **P 23 45 09.7 +0.4**
comp=Z,2.1nm,0.6s,baz=218,slow=9.6,SNR=3.5
MOY Mondy 85.41 326 *e*P P 23 45 20.3 +10
ILAR Eielson Array 85.42 18 P **P 23 45 09.2 -0.5**
comp=Z,2.7nm,0.6s,baz=235,slow=5.7,SNR=14
ILB Eielson Array 85.42 18 *e*P **P 23 45 09.2 -0.5**
IL1 Eielson Array 85.42 18 *e*P P 23 45 06.3 -3.4
NV01 Mina Array Sit 87.20 50 *e*P **P 23 45 16.6 -2.7**
NVAR Mina Array Bea 87.20 50 P **P 23 45 18.8 -0.5**
comp=Z,1.0nm,0.9s,baz=243,slow=7.0,SNR=3.7
EGAK Eagle 87.26 20 *e*P **P 23 45 17.8 -0.9**
comp=Z,12nm,0.8s
TIXI Tiksi 88.17 349 *e*P **P 23 45 23.7 +0.8**
TIXI pmax pmax
comp=Z,5.0nm,1.3s
HVS Khovu-Aksy 89.33 323 *e*P **P 23 45 28.0 -1.0**
HVS pmax pmax
comp=Z,39nm,1.2s
WMQ Urumqi 90.71 315 P **P 23 45 37.4 +1.8**
WMQ pP pP 23 45 54.5 +12
WMQ sP sP 23 46 01.2 +17
WMQ AMB AMB
comp=Z,13nm,1.2s
WMQ LR LR
comp=Z,460nm,23.2s
WMQ LR LR
comp=Z,520nm,25.8s
WMQ LR LR
comp=Z,510nm,25.8s
PD31 Pinedale Array 94.81 47 *e*P **P 23 45 54.5 -0.3**
PDAR Pinedale Array 94.81 47 P **P 23 45 54.5 -0.3**
comp=Z,0.2nm,0.3s,baz=288,slow=6.6,SNR=2.0
MK01 Makanchi Array 95.17 317 *e*P **P 23 45 53.4 -2.6**
MK32 Makanchi Array 95.18 317 *e*P **P 23 45 54.4 -1.7**
MKAR Makanchi Array 95.18 317 *e*P **P 23 45 53.8 -2.3**
MKAR Makanchi Array 95.18 317 *e*P **P 23 45 53.8 -2.3**
MKAR Makanchi Array 95.18 317 P **P 23 45 54.4 -1.7**
comp=Z,2.0nm,0.7s,baz=93,slow=6.6,SNR=15
MKAR PKKPbc **PKKPbc 00 02 50.5 -1.2**
comp=Z,0.3nm,0.7s,baz=299,slow=3.5,SNR=3.9
ZAA0 Zalesovo Array 95.37 324 *e*P P 23 45 53.1 -3.6
ZALV Zalesovo Beam 95.37 324 P **P 23 45 54.3 -2.4**
comp=Z,4.0nm,0.8s,baz=116,slow=6.8,SNR=14
NVS Novosibirsk 96.48 325 *e*P **P 23 45 58.9 -2.8**
LTX Lajitas 96.64 62 *e*P **P 23 46 02.5 -0.7**
LTX Lajitas 96.64 62 *e*P **P 23 46 02.5 -0.7**
TXAR Lajitas Array 96.64 62 P **P 23 46 02.5 -0.8**
comp=Z,0.4nm,0.8s,baz=216,slow=6.2,SNR=3.9
KURK Kurchatov 98.37 320 *e*P Pdif 23 46 10.8 +0.4
KURK Kurchatov 98.37 320 *e*P Pdif 23 46 10.8 +0.4
KURBB Kurchatov Arra 98.41 320 P Pdif 23 46 10.8 +0.2
comp=Z,0.4nm,0.5s,baz=109,slow=2.2,SNR=4.1
BVAR Borovoye Array 103.72 322 Pdiff **Pdif 23 46 34.1 -0.1**
comp=Z,0.5nm,0.6s,baz=102,slow=6.5,SNR=2.8
BOSA Boshof 123.73 222 *e*PKPdf **PKPdf 23 51 31.0 -0.2**
BOSA Boshof 123.73 222 PKP **PKPdf 23 51 31.0 -0.2**
comp=Z,2.3nm,0.9s,baz=260,slow=6.1,SNR=3.1
FIA0 FINESS Array S 123.78 338 *e*PKIKP **PKPdf 23 51 28.2 -1.8**
FIA0 FINESS Array S 123.78 338 *e*PKPdf **PKPdf 23 51 28.2 -1.8**
FINES FINESS Array B 123.78 338 PKP **PKPdf 23 51 28.2 -1.8**
comp=Z,3.2nm,1.0s,baz=5.7,slow=1.9,SNR=3.7
AKASG Malin Array Be 128.71 326 PKP **PKPdf 23 51 39.5 -0.3**
comp=Z,0.2nm,0.3s,baz=89,slow=1.0,SNR=5.6
AKBB Malin Array Si 128.71 326 *e*PKIKP **PKPdf 23 51 39.5 -0.3**
AKBB Malin Array Si 128.71 326 *e*PKPdf **PKPdf 23 51 39.5 -0.3**
STHS Stebnicka Huta 133.66 329 *e*PKIKP **PKPdf 23 51 51.4 +2.1**
STHS Stebnicka Huta 133.66 329 *e*PKP **PKPdf 23 51 51.4 +2.1**
ARR Arges 134.13 322 ⇓*i*P **PKPdf 23 51 50.7 +0.3**
BZS Buzias 135.76 324 ⇓*i*P **PKPdf 23 51 56.4 +3.1**
GEC2 GERESS Array S 137.66 333 *e*PKPdf **PKPdf 23 51 58.0 +1.1**
GERES GERESS Array B 137.66 333 PKP **PKPdf 23 51 58.0 +1.1**
comp=Z,1.2nm,0.8s,baz=96,slow=2.7,SNR=8.3
CEL Celeste 143.50 319 *e*PKPpre PKPpre 23 52 03.6
KEST Kesra 149.18 321 *e*PKPbc **PKPdf 23 52 19.5 +2.1**
KEST Kesra 149.18 321 PKPbc **PKPbc 23 52 20.2 -1.4**
comp=Z,5.0nm,0.8s,baz=223,slow=2.8,SNR=11
POLO Lamas de Olo 151.34 350 *e*PKPbc **PKPbc 23 52 27.3 +0.7**
MVO Moncorvo 151.41 349 *e*PKPbc **PKPbc 23 52 25.9 -0.9**
PVRL Vila Real 151.43 350 *e*PKPbc **PKPbc 23 52 28.3 +1.5**
ESDC Sonseca Array 152.11 343 *e*PKPbc **PKPbc 23 52 27.1 -1.4**
ESDC *e*PKPab **PKPab 23 52 37.3 -0.5**
ESDC Sonseca Array 152.11 343 PKPbc **PKPbc 23 52 27.1 -1.4**
comp=Z,1.5nm,0.9s,baz=18,slow=1.7,SNR=7.5
ESDC PKPab **PKPab 23 52 37.3 -0.5**
comp=Z,1.2nm,0.5s,baz=13,slow=4.0,SNR=14
MTE Manteigas 152.25 349 *e*PKPbc **PKPbc 23 52 29.2 +0.5**
PTOM Tomar 153.16 350 *e*PKPbc **PKPbc 23 52 29.3 -1.3**
PMRV Marv??o 153.16 349 *e*PKPbc **PKPbc 23 52 31.3 +0.6**
MDT Midelt 158.60 338 *e*PKPab **PKPab 23 53 05.1 -0.7**
MDT Midelt 158.60 338 PKPab **PKPab 23 53 05.1 -0.7**
comp=Z,1.5nm,0.9s,baz=35,slow=5.5,SNR=4.6
TOA0 Torodi Ar. Sit 164.68 272 *e*PKPdf **PKPdf 23 52 36.5 -0.9**
TOA0 *e*PKPab **PKPab 23 53 31.8 -1.1**
TORD Torodi Ar. Bea 164.68 272 PKP **PKPdf 23 52 36.5 -0.9**
comp=Z,1.0nm,0.8s,baz=345,slow=0.6,SNR=5.0
TORD PKPab **PKPab 23 53 31.8 -1.1**
comp=Z,0.6nm,0.6s,baz=85,slow=4.7,SNR=3.4

IDC ***08*** *23:35:38.7±0.4, 12°.41S×166°.71E, h0km, mb5.4/32, mb1 5.5/33, mb1mx5.4/34, mbtmp5.4/33, ML3.9/1, MS5.0/24, Ms1 5.0/24, ms1mx4.9/25, Error ellipse: s-maj=13.2km s-min=11.2km az=115.0*

NEIC ***08*** *23:35:43.9±0.1, 12°.40S×166°.70E, h35km, mb5.5/121, MS5.2/89, MW5.7, Error ellipse: s-maj=5.0km s-min=3.7km az=151.0, Moment Tensor Solution. s11 Moment tensor: Scale 10^17Nm; Mrr4.18; Mθθ-1.20; Mφφ-2.98; Mrθ0.44; Mθφ0.74; Mrφ0.68; Best double couple: M◻3.90000×10^17 NP1:◻s154.00000°, δ42.00000°, λ.80.00000°. NP2: ◻s348.00000°, δ49.00000°, λ.99.00000°. Principal axes: T 4.2900, Plg82.0000°, Azm312.0000°; N -1.0100, Plg6.0000°, Azm161.0000°; P -3.2800, Plg3.0000°, Azm71.0000°;*

MOS ***08*** *23:35:43.0±1.2, 12°.40S×166°.59E, h33km, mb5.6/51, MS5.1/20 Error ellipse: s-maj=7.9km s-min=7.6km az=47.7*

ISCJB ***08*** *23:35:45.1±1.1, 12°.43S±0°.03×166°.62E±0°.02, h54km±9km, mb5.7/198, MS5.1/126, Error ellipse: s-maj=4.9km s-min=3.5km az=174.6*

BJI ***08*** *23:35:48.7, 11°.95S×166°.70E, h70km, mB5.7/42, mb5.7/64, Ms5.3/48, Ms7 5.0/47*

GCMT ***08*** *23:35:48.5±0.1, 12°.47S×166°.31E, h52km, MW5.6, Moment Tensor Solution. s100,c173; s1,c1; Moment tensor: Scale 10^17Nm; Mrr2.58±.04; Mθθ0.10±.04; Mφφ-2.68±.03; Mrθ-0.06±.04; Mrφ0.72±.03; Mθφ0.95±.04; Best double couple: M◻2.90000×10^17 NP1:◻s350.00000°, δ55.00000°, λ.95.00000°. NP2:◻s162.00000°, δ36.00000°, λ84.00000°. Principal axes: T 2.7500, Plg80.0000°, Azm278.0000°; N 0.2600, Plg4.0000°, Azm167.0000°; P -3.0100, Plg10.0000°, Azm77.0000°; Data Used: II IU CN G IC. Surface waves: sta=108, comp=196, per= 50.*

DJA ***08*** *23:35:53.6±1.0, 12°.5S×16°.7E, h108km±9km, M5.6/46, mB6.0/29, mb5.8/46, Mw(mB)5.6/29*

AUST ***08*** *23:36:01.9±0.3, 13°.02S×166°.71E, h180km, Error ellipse: s-maj=9.1km s-min=5.2km az=5.0*

ISC 08 23:35:49.3±0.4, 12°.49S±0°.04×166°.61E±0°.04, h80km±2km, n829, σ1$32/840, mb5.5/197, 42C-41D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.22**	**294**	*e*Pn	**Pn**	**23 37 30.1**		**-2.1**
HNR	**Honiara**	**7.22**	**294**	Pn	**Pn**	**23 37 30.4**		**-1.7**
	137nm,0.3s,baz=165,slow=4.5,SNR=51							
HNR				Sn	**Sn**	**23 38 47.9**		**-4.8**
	54nm,0.3s,baz=59,slow=19,SNR=2.5							
HNR				LR	LR	23 39 45.0		
	comp=Z,11μm,22.0s,baz=120,slow=34							
DZM	**Mont Dzumac**	**9.53**	**181**	*e*Pn	**Pn**	**23 38 04.4**		**+0.6**
	582nm,0.9s							
DZM				*e*LR	LR	23 40 07.1		
	22μm,25.8s							
DZM	**Mont Dzumac**	**9.53**	**181**	Pn	**Pn**	**23 38 03.4**		**-0.4**
	6.9nm,0.3s,baz=351,slow=14,SNR=28							
DZM				Sn	**Sn**	**23 39 48.6**		**-0.7**
	6.2nm,0.3s,baz=108,slow=20,SNR=2.2							
MSVF	**Nonsavu**	**12.21**	**117**	*e*P	**Pn**	**23 38 42.2**		**+1.9**
MSVF	**Nonsavu**	**12.21**	**117**	Pn	Pn	23 38 44.0		+3.7
	3μm,1.4s,SNR=14							
MSVF	**Nonsavu**	**12.21**	**117**	*e*Pn	**Pn**	**23 38 42.2**		**+1.9**
TARA	**Tarawa**	**15.11**	**25**	*e*Pn	**Pn**	**23 39 19.1**		**+0.6**
	663nm,0.9s							
PMG	**Port Moresby**	**19.34**	**277**	P	**Pn**	**23 40 10.0**		**-0.4**
	230nm,0.9s,4μm							
PMG	**Port Moresby**	**19.34**	**277**	*e*P	**Pn**	**23 40 09.7**		**-0.7**
	198nm,0.9s							
PMG	**Port Moresby**	**19.34**	**277**	P	**P**	**23 40 07.7**		**-0.8**
	1.0nm,0.3s,baz=140,slow=1.9,SNR=7.9							
PMG				LR	LR	23 46 41.5		
	comp=Z,8μm,19.2s,baz=117,slow=34							
EIDS	**Eidsvold**	**19.47**	**227**	*e*P	**P**	**23 40 10.3**		**+0.5**
	205nm,0.8s							
CTA	**Charters Tower**	**20.94**	**246**	*e*P	**P**	**23 40 26.0**		**+0.2**
CTA				*e*S	**S**	**23 44 13.3**		**-1.6**
CTA	**Charters Tower**	**20.94**	**246**	P	**P**	**23 40 26.0**		**+0.2**
	116nm,1.0s,baz=74,slow=12,SNR=30							
CTA				S	**S**	**23 44 13.3**		**-1.6**
	5.8nm,0.8s,baz=246,slow=20,SNR=2.1							
CTA				LR	LR	23 47 38.7		
	comp=Z,5μm,19.6s,baz=88,slow=34							
CTAO	**Charters Tower**	**20.94**	**246**	*e*P	**P**	**23 40 26.3**		**+0.5**
CTAO				pmax	pmax			
	comp=Z,145nm,1.0s							
CTAO				MLR	MLR			
	comp=Z,8μm,20.0s							
CTAO	**Charters Tower**	**20.94**	**246**	*e*P	**P**	**23 40 26.3**		**+0.5**
	comp=Z,145nm,1.0s							
CTAO				LR	LR			
	comp=Z,8μm,20.0s							
AFI	**Afiamalu**	**21.09**	**96**	*e*P	**P**	**23 40 29.2**		**+1.7**
	comp=Z,296nm,1.0s							
AFI				LR	LR			
	comp=Z,4μm,19.0s							
AFI	**Afiamalu**	**21.09**	**96**	P	**P**	**23 40 29.6**		**+2.1**
	comp=Z,230nm,1.0s,baz=279,slow=13,SNR=15							
AFI				LR	LR	23 47 07.0		
	comp=Z,3μm,21.5s,baz=268,slow=33							
KWAJ	**Kwajalein Atol**	**21.18**	**3**	*e*P	**P**	**23 40 27.9**		**-0.4**
KWAJ				pmax	pmax			
	comp=Z,385nm,1.5s							
KWAJ	**Kwajalein Atol**	**21.18**	**3**	*e*P	**P**	**23 40 27.9**		**-0.4**
	comp=Z,385nm,1.5s							
RMQ	**Roma**	**21.80**	**228**	⇓P	**P**	**23 40 36.7**		**+1.6**
	baz=22,SNR=72							
RAO	**Raoul Island**	**22.03**	**142**	*e*P	**P**	**23 40 36.7**		**-0.6**
	comp=Z,638nm,1.1s							
RAO				LR	LR			
	comp=Z,3μm,22.0s							
RAO	**Raoul Island**	**22.03**	**142**	LR	LR	23 47 18.2		
	comp=Z,4μm,20.3s,baz=172,slow=32							
ARMA	**Armidale**	**22.60**	**216**	*e*P	**P**	**23 40 43.4**		**-0.2**
	comp=Z,388nm,1.1s							
ARMA	**Armidale**	**22.60**	**216**	P	**P**	**23 40 44.3**		**+0.8**
	baz=22,SNR=32							
COEN	**Coen**	**22.86**	**264**	*e*P	**P**	**23 40 45.8**		**-0.6**
	comp=Z,1μm,0.9s							
NIUE	**Niue**	**23.49**	**109**	⇑P	**P**	**23 40 53.4**		**+1.2**
	baz=23,SNR=4.8							
KNTN	**Kanton**	**23.52**	**68**	*e*P	**P**	**23 40 53.1**		**+0.6**
	comp=Z,2μm,1.9s							
MGCD	**Mangrove Creek**	**25.03**	**212**	⇑P	**P**	**23 41 07.9**		**+1.9**
	baz=25,SNR=11							
QLP	**Quilpie**	**25.27**	**233**	P	**P**	**23 41 09.2**		**+0.9**
	baz=25,SNR=56							
RIV	**Riverview**	**25.49**	**211**	⇑P	**P**	**23 41 12.0**		**+1.8**
	baz=25							
CMSA	**Cobar Meteorol**	**27.03**	**222**	P	**P**	**23 41 24.9**		**+0.8**
	baz=27,SNR=42							
YNG	**Young**	**27.31**	**214**	⇓P	**P**	**23 41 27.8**		**+1.2**
	baz=27,SNR=23							
URZ	**Urewera**	**27.32**	**162**	*e*P	**P**	**23 41 25.6**		**-1.0**
	comp=Z,60nm,1.1s							
URZ	**Urewera**	**27.32**	**162**	P	**P**	**23 41 26.8**		**+0.2**
	comp=Z,12nm,0.4s,baz=297,slow=3.7,SNR=12							
URZ				LR	LR	23 50 19.9		
	comp=Z,4μm,21.4s,baz=164,slow=32							
JAY	**Jayapura**	**27.50**	**289**	P	**P**	**23 41 28.9**		**+0.3**
CNB	**Canberra Magne**	**27.57**	**212**	⇓P	**P**	**23 41 30.4**		**+1.4**
	baz=27,SNR=7.8							
CAN	**Canberra**	**27.76**	**212**	PFAKE		23 41 40.0		+9.3
CAN				LR	LR			
	comp=Z,3μm,21.0s							
MILA	**Mila**	**29.05**	**210**	⇓P	**P**	**23 41 43.5**		**+1.4**
	baz=29,SNR=10							
BFZ	**Birch Farm**	**29.33**	**165**	*e*P	**P**	**23 41 43.1**		**-1.4**
	comp=Z,218nm,1.9s							
SNZO	**South Karori**	**29.57**	**168**	*e*P	**P**	**23 41 47.8**		**+1.2**
	comp=Z,448nm,1.8s							
STKA	**Stephens Creek**	**30.02**	**226**	*e*P	**P**	**23 41 51.2**		**+0.4**
	comp=Z,28nm,0.9s							
STKA	**Stephens Creek**	**30.02**	**226**	P	**P**	**23 41 52.0**		**+1.3**
	baz=30,SNR=55							
STKA	**Stephens Creek**	**30.02**	**226**	P	**P**	**23 41 51.5**		**+0.7**
	comp=Z,100nm,0.8s,baz=43,slow=7.8,SNR=63							
STKA				LR	LR	23 53 06.1		
	comp=Z,5μm,20.3s,baz=56,slow=35							
KHZ	**Kahutara**	**30.42**	**170**	*e*P	**P**	**23 41 53.2**		**-0.9**
	comp=Z,810nm,2.8s							
TOO	**Toolangi**	**31.31**	**213**	⇓P	**P**	**23 42 03.4**		**+1.3**
	baz=31,SNR=29							
RPZ	**Rata Peaks**	**31.35**	**174**	*e*P	**P**	**23 42 02.3**		**0.0**
	comp=Z,116nm,1.0s							
RPZ	**Rata Peaks**	**31.35**	**174**	P	**P**	**23 42 02.1**		**-0.2**
	comp=Z,95nm,0.8s,baz=10,slow=4.4,SNR=20							
RPZ				LR	LR	23 53 15.6		
	comp=Z,4μm,21.2s,baz=337,slow=34							
WRAB	**Tennant Creek**	**31.81**	**252**	*e*P	**P**	**23 42 05.3**		**-1.4**
WRAB				pmax	pmax			
	comp=Z,39nm,0.8s							
WRAB	**Tennant Creek**	**31.81**	**252**	P	**P**	**23 42 06.0**		**-0.7**
	comp=Z,274nm,1.2s,SNR=8.6							
WRAB	**Tennant Creek**	**31.81**	**252**	*e*P	**P**	**23 42 05.3**		**-1.4**
	comp=Z,39nm,0.8s							
WRA	**Warramunga Arr**	**31.82**	**252**	*e*P	**P**	**23 42 06.3**		**-0.5**
WRA				*e*S	**S**	**23 47 11.1**		**-0.6**
WRA				*e*ScP	**ScP**	**23 48 36.4**		**+3.7**
WRA	**Warramunga Arr**	**31.82**	**252**	P	**P**	**23 42 06.3**		**-0.5**
	comp=Z,37nm,0.8s,baz=78,slow=8.9,SNR=38							
WRA				S	**S**	**23 47 11.1**		**-0.6**
	comp=Z,5.6nm,1.2s,baz=87,slow=16,SNR=4.3							
WRA				ScP	**ScP**	**23 48 36.4**		**+3.7**
	comp=Z,4.4nm,0.8s,baz=81,slow=3.8,SNR=5.8							
WRA				LR	LR	23 53 18.6		
	comp=Z,3μm,21.4s,baz=70,slow=33							
SRPI	**Serui, Papua**	**31.88**	**287**	P	**P**	**23 42 07.5**		**+0.2**
BAKI	**Biak**	**32.25**	**288**	P	**P**	**23 42 11.7**		**+1.1**
ODZ	**Otahua Downs**	**32.63**	**175**	*e*P	**P**	**23 42 13.8**		**+0.3**
	comp=Z,83nm,1.3s							
HTT	**Hallett**	**32.76**	**226**	⇓P	**P**	**23 42 15.9**		**+1.0**
	baz=32							
ARPS	**Mount Arapiles**	**32.85**	**218**	⇓P	**P**	**23 42 16.6**		**+1.1**
	baz=32,SNR=35							
DCZ	**Deep Cove**	**32.88**	**179**	*e*P	**P**	**23 42 16.0**		**+0.4**
	comp=Z,198nm,1.1s							
AS01	**Alice Springs**	**32.90**	**246**	*e*P	**P**	**23 42 15.4**		**-0.8**
AS12	**Alice Springs**	**32.94**	**246**	*e*P	**P**	**23 42 15.7**		**-0.9**
ASAR	**Alice Springs**	**32.94**	**246**	P	**P**	**23 42 15.7**		**-0.9**
	comp=Z,72nm,0.7s,baz=69,slow=9.7,SNR=107							
ASAR				LR	LR	23 54 46.0		
	comp=Z,4μm,21.7s,baz=71,slow=35							
RAR	**Rarotonga**	**33.26**	**110**	P	**P**	**23 42 20.3**		**+1.0**
	comp=Z,38nm,0.9s,baz=90,slow=20,SNR=4.2							
RAR				LR	LR	23 53 59.8		
	comp=Z,933nm,18.0s,baz=271,slow=33							
WHZ	**Wether Hill Ro**	**33.31**	**178**	*e*P	**P**	**23 42 19.1**		**-0.3**
	comp=Z,61nm,1.2s							
GUMO	**Guam**	**33.70**	**320**	*e*P	**P**	**23 42 21.1**		**-2.1**
	comp=Z,618nm,1.4s							
GUMO				LR	LR			
	comp=Z,3μm,22.0s							
KMPI	**Kaimana, Papua**	**33.70**	**282**	P	**P**	**23 42 24.5**		**+1.3**
TLE	**Tual**	**34.11**	**278**	P	**P**	**23 42 27.6**		**+0.8**
MOO	**Moorlands**	**34.28**	**206**	⇓P	**P**	**23 42 29.5**		**+1.6**
	baz=34,SNR=11							
BBOO	**Buckleboo**	**34.50**	**229**	*e*P	**P**	**23 42 30.5**		**+0.6**
	comp=Z,1μm,0.9s							
BBOO	**Buckleboo**	**34.50**	**229**	⇓P	**P**	**23 42 30.6**		**+0.6**
	baz=34,SNR=35							
TAU	**Tasmania Unive**	**34.61**	**205**	*e*P	**P**	**23 42 31.5**		**+0.8**
TAU				pmax	pmax			
	comp=Z,293nm,1.1s							
TAU	**Tasmania Unive**	**34.61**	**205**	P	**P**	**23 42 31.4**		**+0.8**
	comp=Z,1μm,1.1s,SNR=11							
TAU	**Tasmania Unive**	**34.61**	**205**	*e*P	**P**	**23 42 31.5**		**+0.8**
	comp=Z,293nm,1.1s							
SAUI	**Saumlaki**	**35.02**	**274**	P	**P**	**23 42 35.3**		**+0.7**
FAKI	**Fak Fak**	**35.31**	**283**	P	**P**	**23 42 38.2**		**+1.1**
SWI	**Sorong**	**36.90**	**286**	P	**P**	**23 42 50.6**		**-0.1**
BNDI	**Bandanaira**	**37.12**	**279**	P	**P**	**23 42 52.9**		**+0.4**
MSAI	**Masohi**	**38.37**	**281**	P	**P**	**23 43 02.7**		**-0.4**
AAI	**Ambon**	**38.98**	**280**	P	**P**	**23 43 08.3**		**+0.1**
FITZ	**Fitzroy Crossi**	**39.85**	**257**	*e*P	**P**	**23 43 14.8**		**-0.6**
	comp=Z,181nm,1.0s							
FITZ	**Fitzroy Crossi**	**39.85**	**257**	P	**P**	**23 43 15.5**		**+0.1**
	baz=40,SNR=67							
FITZ	**Fitzroy Crossi**	**39.85**	**257**	P	**P**	**23 43 15.6**		**+0.1**
	baz=92,slow=9.1							
FITZ				LR	LR	23 58 33.2		
	comp=Z,3μm,18.8s,baz=54,slow=34							
NLAI	**Namlea**	**40.15**	**280**	P	**P**	**23 43 18.8**		**+0.8**
LBMI	**Labuha**	**40.53**	**284**	P	**P**	**23 43 22.7**		**+1.7**
TNTI	**Ternate**	**41.12**	**286**	P	**P**	**23 43 27.1**		**+1.2**
TNTI	**Ternate**	**41.12**	**286**	*e*P	**P**	**23 43 25.9**		**+0.1**
	comp=Z,181nm,1.0s							
SOEI	**Soe**	**41.61**	**269**	P	**P**	**23 43 31.3**		**+1.2**
BATI	**Baumata**	**42.14**	**269**	P	**P**	**23 43 35.4**		**+1.1**
BATI	**Baumata**	**42.14**	**269**	P	**P**	**23 43 35.0**		**+0.7**
	comp=Z,78nm,0.7s,baz=151,slow=2.1							
BATI				LR	LR	00 00 35.6		
	comp=Z,3μm,21.1s,baz=335,slow=35							
PPT	**Papeete**	**42.54**	**102**	LR	LR	23 57 25.8		
	comp=Z,2μm,19.3s,baz=206,slow=31							
PPT2	**Papeete2**	**42.54**	**102**	*e*S	S	23 50 13.8		+19
	comp=Z,1μm,28.2s							
PPT2				*e*LQ	LQ	23 53 44.6		
	comp=Z,3μm,31.5s							
PPT2				*e*LR	LR	23 55 33.8		
	comp=Z,10μm,29.0s,baz=270							
TBI	**Tubuai**	**43.02**	**111**	*e*S	S	23 50 18.3		+17
	comp=Z,914nm,26.8s							
TBI				*e*LQ	LQ	23 53 56.0		
	comp=Z,2μm,31.5s							
TBI				*e*LR	LR	23 55 44.1		
	comp=Z,5μm,32.2s							
MIDW	**Midway**	**43.33**	**21**	PFAKE		23 43 50.0		+6.4
MIDW				LR	LR			
	comp=Z,3μm,21.0s							
MMRI	**Maumere**	**43.75**	**271**	P	**P**	**23 43 46.5**		**-0.8**
MMRI	**Maumere**	**43.75**	**271**	*e*P	**P**	**23 43 44.6**		**-2.7**
	comp=Z,213nm,1.1s							
SGSI	**Sangihe**	**43.87**	**289**	P	**P**	**23 43 49.0**		**+0.8**
BBSI	**Bau Bau**	**44.01**	**275**	P	**P**	**23 43 51.1**		**+1.8**
PMOR	**Pomariorio Ree**	**44.20**	**99**	*e*P	P	23 44 06.6		+16
	comp=Z,705nm,1.3s							
KMSI	**Cibinong**	**44.25**	**284**	P	**P**	**23 43 52.3**		**+1.1**
VAH	**Vaihoa**	**44.45**	**99**	*e*P	P	23 44 08.2		+15
	comp=Z,442nm,1.2s							
LUWI	**Luwuk**	**44.91**	**281**	P	**P**	**23 43 57.4**		**+0.8**
DAV	**Davao City (W)**	**45.18**	**293**	PFAKE		23 44 10.0		+11
DAV				LR	LR			
	comp=Z,2μm,21.0s							
KKSI	**Kolaka, Sulawe**	**45.19**	**277**	P	**P**	**23 43 59.7**		**+0.9**
MBWA	**Marble Bar**	**45.56**	**253**	P	**P**	**23 44 02.9**		**+1.3**
	SNR=26							
MBWA	**Marble Bar**

TTSI Tana Toraja 47.23 277 P P 23 44 15.5 +0.7
TOLI Toli-Toli 47.44 283 P P 23 44 17.0 +0.6
MJSI Majene 47.92 277 P P 23 44 21.9 +1.7
KIP Kipapa 48.40 46 iP P 23 44 26.0 +2.4
KLBR Kellerberrin 48.67 239 ⇓P P 23 44 25.6 -0.2
baz=48,SNR=42
HLK Haleakala 49.24 48 eP P 23 44 31.9 +1.6
BLDU Ballidu 49.37 240 P P 23 44 31.5 +0.4
baz=49,SNR=35
NWAO Narrogin (SRO) 49.38 237 P P 23 44 31.8 +0.7
SNR=12
NWAO Narrogin (SRO) 49.38 237 eP P 23 44 30.6 -0.5
comp=Z,224nm,1.1s
NWAO LR LR
comp=Z,4μm,19.0s
NWAO Narrogin (SRO) 49.38 237 P P 23 44 31.4 +0.2
comp=Z,159nm,0.9s,baz=76,slow=7.1,SNR=45
RCP Roxas 49.67 297⇑eP P 23 44 33.3 -0.1
MTNI Mataram 49.68 269 P P 23 44 34.3 +0.7
MORW Morawa 49.70 242 P P 23 44 34.3 +0.8
baz=50,SNR=82
RKGY Rocky Gully 49.97 235 P P 23 44 36.7 +1.2
baz=50,SNR=14
SGKI Sangatta, Kali 50.02 280 P P 23 44 37.3 +1.1
DNP Denpasar 50.61 269 P P 23 44 41.5 +0.9
SRBI Singaraja 50.70 270 P P 23 44 41.5 +0.2
MYLDM Lahad Datu 50.94 287 P P 23 44 45.8 +2.7
MYLDM Lahad Datu 50.94 287 P P 23 44 45.4 +2.3
comp=Z,229nm,1.4s,comp=Z,3μm
MYLDM Lahad Datu 50.94 287 eP P 23 44 42.7 -0.4
comp=Z,356nm,1.3s
TSM Tawau 51.22 286 P P 23 44 46.5 +1.2
BYJI Banyuwangi 51.52 269 P P 23 44 49.1 +1.6
ABJI Asem Bagus 51.71 270 P P 23 44 49.6 +0.7
KMMI Kalianget 52.10 271 P P 23 44 52.9 +1.1
SDKM Sandakan 52.31 287 P P 23 44 53.5 0.0
BLJI Banyuglugur 52.34 270 P P 23 44 53.9 +0.3
GMJI Gumukmas 52.40 269 P P 23 44 53.9 -0.1
MTKI Muara Teweh, K 52.52 278 P P 23 44 55.5 +0.6
KDM Kudat 53.10 289 P P 23 45 00.7 +1.6
KRKI Karangkates 53.39 269 P P 23 45 02.3 +1.0
comp=Z,500nm,0.8s,comp=Z,19μm
GRJI Gresik 53.57 271 P P 23 45 03.1 +0.5
JOW Kunigami 53.98 317 eP P 23 45 04.0 -1.3
comp=Z,594nm,1.4s
PWJI Pagerwojo 54.04 269 P P 23 45 06.4 +0.3
SJI Sawahan 54.13 269 P P 23 45 07.7 +0.9
NGJI Ngawi 54.49 270 P P 23 45 11.9 +2.6
PCJI Pacitan 54.63 269 P P 23 45 11.3 +1.0
WOJI Wonogiri, Jawa 54.93 269 P P 23 45 13.2 +0.7
PBKI Pangkalan Bun 55.22 275 P P 23 45 15.9 +1.3
UGM Wanagama 55.31 269 P P 23 45 16.3 +1.0
UGM Wanagama 55.31 269 eP P 23 45 14.7 -0.6
comp=Z,431nm,1.1s
BTM Bintulu 55.41 283 P P 23 45 17.6 +1.7
YOGI Yogyakarta 55.55 269 P P 23 45 18.0 +1.0
MJAR Matsushiro Arr 55.64 332 P P 23 45 15.9 -1.3
comp=Z,16nm,1.1s,baz=165,slow=6.9,SNR=14
MAJO Matsushiro 55.64 332 eP P 23 45 16.3 -0.9
MAJO pmax pmax
comp=Z,55nm,1.3s
MAJO Matsushiro 55.64 332 eP P 23 45 16.2 -0.9
comp=Z,55nm,1.3s
MAT Matsushiro 55.64 332 P P 23 45 16.4 -0.8
SBUM Sibu 56.02 282 P P 23 45 21.9 +1.7
SBUM Sibu 56.02 282 P P 23 45 21.3 +1.0
comp=Z,98nm,1.1s,comp=Z,2μm
SBUM Sibu 56.02 282 eP P 23 45 20.6 +0.3
comp=Z,93nm,1.1s
STKI Sintang 56.08 279 P P 23 45 22.2 +1.4
BJII Banjamegara 56.20 269 P P 23 45 22.3 +0.6
RKT Rikitea 56.30 109 eLR LR 00 01 53.7
comp=Z,3μm,28.2s
JNU Nakatsue 56.74 324 eP P 23 45 24.1 -1.1
comp=Z,287nm,1.4s
JNU Nakatsue 56.74 324 P P 23 45 25.0 -0.1
comp=Z,75nm,0.7s,baz=101,slow=3.1,SNR=27
TWG Pinlang 56.75 308 eP P 23 45 24.4 -1.0
comp=Z,245nm,0.9s
CLJI Cilicap 56.82 269 P P 23 45 25.2 -0.8
TGJI Tegal 56.86 270 P P 23 45 27.0 +0.7
YULB Yu-li 56.90 309 eP P 23 45 25.8 -0.6
comp=Z,163nm,1.1s
KPJI Karang Pucung 56.97 269 P P 23 45 27.5 +0.5
DRV Dumont d'Urvil 56.98 192 P P 23 45 15.0 -11
DRV Dumont d'Urvil 56.98 192 PP PP 23 47 24.0 -10
DRV S SS 23 57 22.0 +18
DRV R 00 01 00.0
NACB Ninganchiao 57.11 310 eP P 23 45 27.5 -0.4
comp=Z,172nm,1.1s
TPUB Ta-pu 57.36 308 eP P 23 45 28.7 -0.9
comp=Z,345nm,1.0s
SSLB Suanglung 57.38 309 eP P 23 45 29.2 -0.6
comp=Z,90nm,1.1s
YHNB Yeheng 57.55 310 eP P 23 45 30.6 -0.5
comp=Z,272nm,0.9s
KSM Kuching 57.58 280 P P 23 45 32.4 +1.0
KSM Kuching 57.58 280 P P 23 45 31.4 0.0
comp=Z,122nm,1.2s,comp=Z,2μm
KSM Kuching 57.58 280 eP P 23 45 30.4 -1.0
KSM LR LR
comp=Z,445nm,20.0s
KSM Kuching 57.58 280 ⇑P P 23 45 32.4 +1.0
baz=58,SNR=22
TATO Taipei 57.65 310 eP P 23 45 31.2 -0.4
comp=Z,2μm,1.4s
CISI Cisompet, Garu 58.02 269 P P 23 45 34.4 -0.1
CISI Cisompet, Garu 58.02 269 eP P 23 45 33.4 -1.2
comp=Z,346nm,1.0s
LEM Lembang 58.34 270 P P 23 45 37.8 +0.9
LEM Lembang 58.34 270 P P 23 45 38.1 +1.3
baz=58,SNR=18
TPI Tanjungpandan 59.12 274 P P 23 45 43.3 +1.2
comp=Z,90nm,1.1s,comp=Z,1μm
CBJI Citeko 59.16 270 P P 23 45 42.1 -0.3
comp=Z,629nm,0.9s,comp=Z,13μm
DBJI Dramaga 59.23 270 P P 23 45 43.2 +0.3
SKJI Sukabumi 59.34 269 P P 23 45 43.1 -0.6
comp=Z,613nm,1.0s,comp=Z,5μm
XMI Christmas Isla 59.63 265 ⇑P P 23 45 47.1 +1.4
baz=60,SNR=5.2
XMIS Christmas Isla 59.66 265 eP P 23 45 45.0 -0.9
comp=Z,1μm,1.0s
QZH Quanzhou 59.81 309⇑iP P 23 45 44.7 -1.9
QZH AMB AMB
comp=Z,360nm,1.0s
ASAJ Asahikawa 60.43 340 eP P 23 45 49.4 -1.1
comp=Z,462nm,2.0s
ASAJ Asahikawa 60.43 340 P P 23 45 51.0 +0.6
comp=Z,24nm,0.5s,baz=133,slow=4.4,SNR=15
ASAJ LR LR 00 07 57.8
comp=Z,2μm,19.8s,baz=15,slow=32
PPBI Pangkal Pinang 60.73 275 P P 23 45 54.3 +1.2
SSE Sheshan 61.47 316 P P 23 45 58.5 +0.7
SSE S S 23 54 14.2 +1.0
SSE AMB AMB
comp=Z,300nm,0.9s
SSE AMB AMB
comp=Z,320nm,4.4s
SSE LR LR
comp=Z,500nm,24.7s
SSE LR LR
comp=Z,260nm,25.3s
SSE LR LR
comp=Z,700nm,25.3s
KSRS Korea Array 61.54 326 P P 23 45 57.9 -0.3
comp=Z,17nm,0.8s,baz=139,slow=7.1,SNR=37
KSRS LR LR 00 11 06.7
comp=Z,329nm,19.6s,baz=143,slow=35
KS15 Wonju Array Si 61.55 326 eP P 23 45 57.9 -0.4
KS01 Wonju Array Si 61.57 326 eP P 23 45 57.9 -0.4
KASI Kota Agung 61.63 270 P P 23 45 58.4 -0.8
PMBI Palembang 61.89 273 P P 23 46 01.7 +0.7
PMBI Palembang 61.89 273 eP P 23 46 02.1 +1.1
comp=Z,314nm,0.5s
MDSI Maura Dua 62.14 272 P P 23 46 01.9 -0.8
LWLI Liwa 62.15 271 P P 23 46 02.6 -0.3
INCN Inchon 62.28 325 eP P 23 46 03.6 +0.5
comp=Z,533nm,2.4s
INCN LR LR
comp=Z,1μm,19.0s
YSS Yuzh-Sakhalins 62.91 342 eP P 23 46 10.0 +2.9
YSS e 23 46 21.5
YSS pmax pmax
comp=Z,30nm,1.0s

LHSI Lahat 62.92 272 P P 23 46 07.7 -0.1
MNAI Manna 63.36 271 P P 23 46 11.1 +0.3
MNAI Manna 63.36 271 eP P 23 46 10.3 -0.5
comp=Z,226nm,1.0s
NJ2 Nanjing 63.64 315 eP P 23 46 12.2 0.0
NJ2 S S 23 54 44.5 +4.1
NJ2 sS sS 23 55 12.5 -2.7
NJ2 AMB AMB
comp=Z,380nm,1.0s
NJ2 AMB AMB
comp=Z,130nm,9.0s
NJ2 LR LR
comp=Z,980nm,22.7s
NJ2 LR LR
comp=Z,700nm,20.8s
NJ2 LR LR
comp=Z,600nm,23.4s
VLA Vladivostok 63.81 332⇑iP P 23 46 12.6 -0.5
VLA e 23 46 47.5
VLA S S 23 54 43.7 +1.7
VLA pmax pmax
comp=Z,24nm,0.8s
KSI Kapahiang 63.86 272 P P 23 46 13.8 -0.4
MYKOM Kota Tinggi 63.89 278 P P 23 46 15.9 +1.6
MYKOM Kota Tinggi 63.89 278 P P 23 46 15.5 +1.2
comp=Z,114nm,1.2s,comp=Z,2μm
MYKOM Kota Tinggi 63.89 278 eP P 23 46 14.2 -0.1
comp=Z,80nm,1.0s
QIZ Qiongzhong 64.11 298 P P 23 46 16.1 +0.5
QIZ S S 23 54 38.8 -7.9
QIZ AMB AMB
comp=Z,130nm,1.0s
QIZ AMB AMB
comp=Z,320nm,8.3s
KGM Kluang 64.46 278 P P 23 46 19.8 +1.7
USRK Ussuriysk Arra 64.61 333 P P 23 46 18.7 +0.4
comp=Z,31nm,1.0s,baz=142,slow=5.8,SNR=25
USRK LR LR 00 10 50.7
comp=Z,713nm,20.3s,baz=294,slow=33
RGRI Rengat 64.84 276 P P 23 46 22.3 +1.8
VNDA Vanda 65.07 181 eP P 23 46 21.0 +0.5
comp=Z,109nm,1.4s
VNDA Vanda 65.07 181 P P 23 46 21.4 +0.5
comp=Z,46nm,1.1s,baz=358,slow=6.7,SNR=35
VNDA LR LR 00 11 37.2
comp=Z,791nm,19.7s,baz=173,slow=33
KRJI Kerinci 65.30 273 P P 23 46 23.9 +0.3
FX1 Attu Island--F 65.35 4 eP P 23 46 21.9 -1.1
CASY Casey 65.36 202 eP P 23 46 22.9 0.0
comp=Z,26nm,0.9s
CASY LR LR
comp=Z,1μm,20.0s
SBA Scott Base 65.36 180 eP P 23 46 24.1 +1.4
SBA pmax pmax
comp=Z,103nm,1.0s
SBA MLR MLR
comp=Z,796nm,22.0s
SBA Scott Base 65.36 180 eP P 23 46 24.1 +1.4
comp=Z,103nm,1.0s
SBA LR LR
comp=Z,796nm,22.0s
KTGM Kuala Trenggan 65.52 282 P P 23 46 26.8 +2.0
PET Petropavlovsk 65.61 355 eP P 23 46 17.8 -6.7
PET eS S 23 54 57.3 -6.4
PET pmax pmax
comp=Z,8.0nm,0.9s
ADK Adak 65.72 11 PFAKE 23 46 40.0 +15
ADK LR LR
comp=Z,2μm,21.0s
PEA0 Petropavlovsk- 65.78 354 eP P 23 46 25.3 -0.4
PETK Petropavlovsk- 65.78 354 P P 23 46 25.0 -0.7
comp=Z,10nm,0.8s,baz=159,slow=9.5,SNR=11
PETK LR LR 00 11 56.0
comp=Z,595nm,19.6s,baz=173,slow=33
WHN Wuhan 65.98 312⇑iP P 23 46 28.1 +0.6
WHN S S 23 55 12.1 +2.9
WHN LR LR
comp=Z,3μm,22.4s
MDJ Mudanjiang 66.02 332 P P 23 46 28.4 +1.0
MDJ pP pP 23 46 49.0 +1.0
MDJ sP sP 23 46 58.1 +1.3
MDJ PP PP 23 48 53.1 -0.7
MDJ S S 23 55 13.1 +4.0
MDJ ScS ScS 23 56 16.8 +0.4
MDJ AMB AMB
comp=Z,45nm,1.1s
MDJ AMB AMB
comp=Z,340nm,7.0s
MDJ LR LR
comp=Z,700nm,30.1s
MDJ LR LR
comp=Z,320nm,36.2s
MDJ LR LR
comp=Z,980nm,30.1s
FRIM Kepong 66.41 279 P P 23 46 31.4 +0.8
UBPT Khong Chiam 66.51 293 P P 23 46 32.4 +1.3
comp=Z,126nm,1.2s
PDSI Padang 66.53 274 P P 23 46 30.3 -1.1
PPI Padang Panjang 66.70 275 P P 23 46 32.3 -0.1
comp=Z,207nm,0.9s,comp=Z,2μm
PPI Padang Panjang 66.70 275 ⇓P P 23 46 32.6 +0.2
baz=67,SNR=15
IPM Ipoh 67.31 280 P P 23 46 37.9 +1.5
IPM Ipoh 67.31 280 P P 23 46 37.1 +0.8
comp=Z,325nm,1.2s,comp=Z,3μm
IPM Ipoh 67.31 280 eP P 23 46 36.0 -0.3
comp=Z,378nm,1.1s
CN2 Changchun 67.41 329 eP P 23 46 37.0 +0.7
CN2 eS S 23 55 24.7 -1.3
CN2 AMB AMB
comp=Z,110nm,1.2s
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,700nm,20.0s
CN2 LR LR
comp=Z,400nm,20.0s
CN2 LR LR
comp=Z,530nm,20.0s
KULM Kulim 67.89 281 P P 23 46 41.3 +1.3
KULM Kulim 67.89 281 P P 23 46 40.8 +0.9
comp=Z,137nm,1.4s,comp=Z,2μm
KULM Kulim 67.89 281 eP P 23 46 40.6 +0.7
comp=Z,261nm,1.4s
KULM LR LR
comp=Z,728nm,21.0s
PANO Nakornpanom 67.95 294 P P 23 46 41.1 +0.9
comp=Z,466nm,1.3s
COCO West Island 67.97 262 eP P 23 46 41.3 +0.9
COCO pmax pmax
comp=Z,282nm,1.0s
COCO MLR MLR
comp=Z,506nm,21.0s
COCO West Island 67.97 262 P P 23 46 41.0 +0.6
comp=Z,256nm,1.3s
COCO West Island 67.97 262 eP P 23 46 41.2 +0.9
comp=Z,282nm,1.0s
COCO LR LR
comp=Z,506nm,21.0s
SKLT Songkhla 68.43 283 P P 23 46 45.0 +1.7
comp=Z,104nm,1.2s,comp=Z,1μm
SKNT Sakolnakorn 68.45 294 P P 23 46 44.0 +0.6
comp=Z,417nm,0.9s,comp=Z,4μm
CHBT CHBT 68.51 289 P P 23 46 45.0 +1.2
comp=Z,96nm,1.2s,comp=Z,2μm
KLR Kul'dur 68.71 336⇓iP P 23 46 42.2 -2.1
KLR eS S 23 56 09.5 +28
KLR pmax pmax
comp=E,50nm,1.8s
KLR pmax pmax
comp=Z,170nm,1.8s
PSI Prapat 68.91 278 eP P 23 46 46.3 -0.1
PSI Prapat 68.91 278 P P 23 46 46.3 -0.1
comp=Z,120nm,0.9s,baz=115,slow=4.7,SNR=55
GSI Gunungsitoli 69.85 276 P P 23 46 53.0 +0.8
GSI Gunungsitoli 69.85 276 eP P 23 46 52.4 +0.2
comp=Z,275nm,0.9s
GSI Gunungsitoli 69.85 276 ⇓P P 23 46 52.8 +0.7
baz=70
CHAI Chaiyaphum 69.87 292 P P 23 46 52.6 +0.4
comp=Z,40nm,0.9s,comp=Z,355nm
GYA Guiyang 69.93 304⇑iP P 23 46 55.0 +2.5
GYA pP PcP 23 47 17.4 +3.0
GYA PP PP 23 49 31.2 +2.9
GYA S S 23 55 57.5 +0.7
GYA SKS SKSac 23 56 44.0 -2.9

GYA SS SS 00 00 30.2 +2.6
GYA AMB AMB
comp=Z,40nm,1.0s
GYA AMB AMB
comp=Z,170nm,5.9s
GYA LR LR
comp=Z,5μm,18.2s
GYA LR LR
comp=Z,5μm,19.0s
GYA LR LR
comp=Z,6μm,18.6s
SURA Surathani 69.94 285 P P 23 46 54.5 +1.9
comp=Z,196nm,1.1s
KRAB Krabi 70.08 284 P P 23 46 55.0 +1.5
comp=Z,103nm,1.0s,comp=Z,980nm
BJI Beijing 70.13 321 P P 23 46 54.1 +0.8
BJI PcP PcP 23 47 16.6 +1.8
BJI sP sP 23 47 25.5 +2.7
BJI S S 23 56 02.0 +3.7
BJI AMB AMB
comp=Z,99nm,1.0s
BJI AMB AMB
comp=Z,640nm,4.2s
BJI LR LR
comp=Z,870nm,26.4s
BJI LR LR
comp=Z,810nm,25.0s
BJI LR LR
comp=Z,2μm,27.1s
KCSI Kotacane, Aceh 70.20 278 P P 23 46 53.6 -0.7
PKDT Phuket 70.81 283 P P 23 46 59.9 +1.9
comp=Z,129nm,1.2s
PHET Kaeng Krachan 71.06 288 P P 23 47 00.0 +0.6
TIY Taiyuan 71.19 317 P P 23 47 01.3 +1.4
TIY AMB AMB
comp=Z,180nm,0.9s
SNSI Sinabang, Aceh 71.33 277 P P 23 47 02.2 +1.1
LHMI Lhok Sumawe 71.43 280 P P 23 47 03.0 +1.3
MLSI Meulaboh, Aceh 71.71 279 P P 23 47 03.9 +0.5
XAN Xi'an 71.72 312 P P 23 47 04.2 +1.1
XAN pP PcP 23 47 20.3 -1.5
XAN sP sP 23 47 28.3 -4.4
XAN AMB AMB
comp=Z,71nm,1.0s
XAN AMB AMB
comp=Z,110nm,5.3s
KMI Kunming 72.59 301 P P 23 47 10.8 +2.0
KMI pP PcP 23 47 24.1 -1.9
KMI PP PP 23 49 55.6 +4.2
KMI S S 23 56 29.8 +2.0
KMI sS sS 23 56 57.1 -6.3
KMI SS SS 00 01 10.9 +2.1
KMI AMB AMB
comp=Z,330nm,1.1s
KMI LR LR
comp=Z,330nm,20.8s
KMI LR LR
comp=Z,460nm,21.5s
KMI LR LR
comp=Z,580nm,18.5s
PAYA Payao 72.95 295 P P 23 47 11.9 +1.2
comp=Z,59nm,0.9s,comp=Z,523nm
CM01 Chiang Mai Arr 73.44 294 eP P 23 47 14.5 +0.9
CM31 Chiang Mai Arr 73.47 294 eP P 23 47 15.5 +1.7
CMAR Chiang Mai Arr 73.47 294 P P 23 47 15.5 +1.7
comp=Z,105nm,0.9s,baz=138,slow=5.6,SNR=354
HHC Hu-ho-hao-te 73.47 320 eP P 23 47 15.0 +1.5
HHC pP pP 23 47 35.1 +0.7
HHC sP sP 23 47 43.6 +0.5
HHC PP PP 23 50 01.9 +3.5
HHC S S 23 56 37.8 +0.8
HHC SKS SKSac 23 57 10.0 -3.0
HHC sS sS 23 57 12.4 -0.3
HHC ScS SKKSac 23 57 13.9 +0.7
HHC AMB AMB
comp=Z,140nm,1.0s
HHC AMB AMB
comp=Z,1μm,5.1s
HHC LR LR
comp=Z,1μm,24.1s
HHC LR LR
comp=Z,2μm,23.1s
HHC LR LR
comp=Z,3μm,22.4s
CHTO Chiang Mai 73.58 294 P P 23 47 16.1 +1.6
SNR=50
CHTO Chiang Mai 73.58 294 PFAKE 23 47 30.0 +16
CHTO LR LR
comp=Z,248nm,20.0s
CHTO Chiang Mai 73.58 294 P P 23 47 15.4 +0.9
comp=Z,660nm,1.1s,comp=Z,9μm
CD2 Chengdu 74.15 307 P P 23 47 18.7 +1.1
CD2 pP pP 23 47 40.3 +1.8
CD2 sP sP 23 47 49.5 +2.3
CD2 PP PP 23 50 07.2 +2.9
CD2 S S 23 56 44.1 -0.7
CD2 sS ScS 23 57 21.3 0.0
CD2 SS SS 00 01 33.2 +1.2
CD2 AMB AMB
comp=Z,280nm,1.0s
CD2 AMB AMB
comp=Z,560nm,3.9s
CD2 LR LR
comp=Z,410nm,17.8s
CD2 LR LR
comp=Z,780nm,20.2s
BTO Baotou 74.33 319 eP P 23 47 19.5 +1.0
BTO AMB AMB
comp=Z,26nm,1.1s
SEY Seymchan 76.00 353ceP P 23 47 27.2 -0.2
LZH Lanzhou 76.35 312 ⇑P P 23 47 32.3 +2.0
LZH pP pP 23 47 53.5 +2.2
LZH sP sP 23 48 02.0 +2.0
LZH PP PP 23 50 26.5 +3.6
LZH S S 23 57 10.0 +0.7
LZH SKS SKSac 23 57 32.5 -2.4
LZH sS sS 23 57 44.8 -0.4
LZH SS SS 00 02 08.4 +3.0
LZH AMB AMB
comp=Z,120nm,1.5s
LZH AMB AMB
comp=Z,580nm,8.0s
LZH LR LR
comp=Z,780nm,17.6s
LZH LR LR
comp=Z,560nm,15.0s
LZH LR LR
comp=Z,1μm,19.0s
QSPA South Pole Qui 77.53 180 PFAKE 23 47 50.0 +14
QSPA LR LR
comp=Z,822nm,20.0s
KDAK Kodiak Island 77.61 21 PFAKE 23 47 50.0 +13
KDAK LR LR
comp=Z,2μm,21.0s
CIT Chita 78.83 330 eP P 23 47 44.5 +1.0
CIT e 23 47 57.1
CIT e 23 48 03.0
CIT pmax pmax
comp=Z,188nm,1.9s
YAK Yakutsk 79.71 343 eP P 23 47 46.2 -1.8
YAK pmax pmax
comp=Z,25nm,0.9s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK pmax pmax
comp=N,11nm,1.6s
ULN Ulaanbaatar 79.96 324 P P 23 47 51.3 +1.4
SNR=25
ULN Ulaanbaatar 79.96 324 P P 23 47 50.7 +0.8
comp=N,133nm,1.1s,comp=N,2μm
ULN Ulaanbaatar 79.96 324 eP P 23 47 50.3 +0.4
ULN ePcP PcP 23 47 50.5 -6.7
SONA0 Songino Array 80.33 324 ePP PP 23 50 54.9 -1.0
SONM Songino Array 80.33 324 P P 23 47 52.4 +0.5
comp=N,24nm,0.7s,baz=143,slow=6.8,SNR=43
SONM PP PP 23 50 54.9 -1.0
comp=N,5.1nm,1.1s,baz=126,slow=9.3,SNR=3.6
SONM LR LR 00 21 30.1
comp=N,689nm,20.6s,baz=124,slow=34
SONA1 Songino Array 80.33 324 eP P 23 47 51.6 -0.3
GTA Gaotai 80.67 314 ⇑P P 23 47 55.6 +1.7
GTA S S 23 57 56.3 +1.1
GTA SKS SKSac 23 58 05.6 +0.2
GTA SS SS 00 03 08.9 -1.2
GTA AMB AMB

comp=N,120nm,1.0s
GTA AMB AMB
comp=N,530nm,7.1s
GTA LR LR
comp=N,370nm,21.8s
GTA LR LR
comp=N,610nm,23.3s
GTA LR LR
comp=N,840nm,23.3s
PPLA Purkeypile 81.63 18 *e*P **P 23 47 58.5 0.0**
comp=N,340nm,2.9s
SHL Shillong 81.95 298 *e*P **P 23 48 03.0 +2.0**
TRF Thorofare Moun 82.62 18 *e*P **P 23 48 02.9 -0.7**
comp=N,181nm,2.5s
BMRM Bremner River 82.74 22 *e*P **P 23 48 04.0 -0.2**
comp=N,107nm,1.7s
BPAW Bear Paw Mtn. 82.89 17 *e*P **P 23 48 05.3 +0.4**
comp=N,16nm,1.0s
KCPM Cahto Peak 82.91 47 *e*P **P 23 48 08.2 +2.6**
comp=N,17nm,0.7s
MCK McKinley 83.23 18 *e*P **P 23 48 07.2 +0.5**
MCK pmax pmax
comp=Z,20nm,1.0s
MCK McKinley 83.23 18 *e*P **P 23 48 07.2 +0.5**
comp=Z,20nm,1.0s
KHMM Horse Mountain 83.26 46 *e*P **P 23 48 09.9 +2.5**
comp=Z,25nm,0.9s
ZAK Zakamensk 83.36 325 ⇓*i*P **P 23 48 07.1 -0.6**
ZAK *e* 23 51 15.3
ZAK pmax pmax
comp=Z,42nm,1.2s
KRMB Red Mountain 83.39 45 *e*P **P 23 48 09.3 +1.2**
comp=Z,257nm,2.6s
SAO San Andreas Ge 83.39 50 *e*P **P 23 48 09.3 +1.2**
SAO pmax pmax
comp=Z,14nm,0.9s
SAO San Andreas Ge 83.39 50 *e*P **P 23 48 09.3 +1.2**
comp=Z,14nm,0.9s
KBO Bosley Butte 83.44 44 *e*P **P 23 48 08.0 -0.2**
comp=Z,122nm,1.4s
MAW Mawson 83.71 202 *e*P **P 23 48 09.7 +0.6**
comp=Z,17nm,1.0s
MAW Mawson 83.71 202 P **P 23 48 09.7 +0.6**
comp=Z,59nm,0.9s,baz=106,slow=6.5,SNR=101
MAW LR LR 00 19 13.5
comp=Z,631nm,20.0s,baz=97,slow=31
IRK Irkutsk 83.72 327 *e*P **P 23 48 07.4 -2.0**
IRK pmax pmax
comp=Z,81nm,1.7s
TLY Talaya 83.79 326⇓*e*P **P 23 48 10.1 +0.3**
TLY *e* 23 48 27.5
TLY pmax pmax
comp=Z,59nm,0.9s
TLY Talaya 83.79 326 P **P 23 48 10.1 +0.3**
comp=Z,567nm,1.0s,SNR=16
PAX Paxson 83.81 20 *e*P **P 23 48 09.4 -0.3**
PAX pmax pmax
comp=Z,60nm,1.9s
PAX Paxson 83.81 20 *e*P **P 23 48 09.4 -0.3**
comp=Z,60nm,1.9s
LSA Lhasa 83.84 302 P **P 23 48 12.5 +1.4**
LSA AMB AMB
comp=Z,120nm,0.8s
WDC Whiskeytown Da 83.98 46 *e*P **P 23 48 13.2 +2.2**
WDC pmax pmax
comp=Z,32nm,1.3s
WDC Whiskeytown Da 83.98 46 *e*P **P 23 48 13.2 +2.2**
comp=Z,32nm,1.3s
PKM Peak Mountain 83.99 52 P **P 23 48 12.1 +0.7**
baz=84
YBH Yreka Blue Hor 84.30 45 *e*P **P 23 48 12.0 -0.7**
comp=Z,24nm,0.9s
YBH Yreka Blue Hor 84.30 45 P **P 23 48 13.2 +0.5**
comp=Z,18nm,0.8s,baz=14,slow=0.9,SNR=20
MENT Mentasta 84.37 21 *e*P **P 23 48 10.5 -2.0**
COLA College 84.39 18 *e*P **P 23 48 11.0 -1.4**
COLA MLR MLR
comp=Z,1μm,20.0s
COLA College 84.39 18 *e*P **P 23 48 11.0 -1.4**
COLA *e*PcP **PcP 23 48 11.4 -4.5**
COLA LR LR
comp=Z,1μm,20.0s
HUMO Hull Mountain 84.46 44 *e*P **P 23 48 12.1 -1.3**
comp=Z,26nm,1.0s
IL1 Eielson Array 84.61 18 *e*P **P 23 48 12.1 -1.5**
ILAR Eielson Array 84.61 18 P **P 23 48 12.5 -1.1**
comp=Z,11nm,0.6s,baz=239,slow=4.4,SNR=67
ILAR LR LR 00 19 20.6
comp=Z,1μm,21.5s,baz=233,slow=31
ILB Eielson Array 84.61 18 *e*P **P 23 48 12.5 -1.1**
CMB Columbia Colle 84.63 49 *e*P **P 23 48 13.3 -1.1**
CMB pmax pmax
comp=Z,15nm,0.7s
CMB Columbia Colle 84.63 49 *e*P **P 23 48 13.3 -1.1**
comp=Z,15nm,0.7s
MWC Mount Wilson 85.14 54 *e*P **P 23 48 17.1 -0.1**
MWC pmax pmax
comp=Z,13nm,0.8s
MWC Mount Wilson 85.14 54 *e*P **P 23 48 17.1 -0.1**
comp=Z,14nm,0.8s
MOY Mondy 85.24 325 *e*P **P 23 48 17.4 +0.2**
MOY pmax pmax
comp=Z,85nm,3.6s
ISA Isabella 85.28 52 *e*P **P 23 48 17.1 -0.6**
ISA pmax pmax
comp=Z,10.0nm,0.8s
ISA Isabella 85.28 52 *e*P **P 23 48 17.1 -0.6**
comp=Z,9.9nm,0.8s
ISA Isabella 85.28 52 P **P 23 48 17.5 -0.3**
baz=85
BEKR Beckworth 85.28 48 *e*P **P 23 48 17.4 -0.3**
comp=Z,9.2nm,0.6s
HYT Haines Junctio 85.35 24 *e*P **P 23 48 16.9 -0.6**
EDW2 Edwards Air Fo 85.40 53 P **P 23 48 18.4 0.0**
baz=85
COLD Coldfoot 85.45 16 *e*P **P 23 48 17.7 0.0**
comp=Z,14nm,1.1s
BFSC Mount Baldy Ra 85.46 54 P **P 23 48 18.5 -0.3**
baz=85
E03A Lebam 85.58 41 *e*P **P 23 48 18.2 -0.6**
comp=Z,55nm,1.1s
NLWA Neilton Lookou 85.72 40 PFAKE 23 48 30.0 +10
NLWA LR LR
comp=Z,980nm,22.0s
H04A Detroit Lake 85.76 43 *e*P **P 23 48 18.4 -1.5**
comp=Z,50nm,1.5s
LRMC Laurel Mountai 85.83 52 P **P 23 48 21.0 +0.5**
baz=86
CWC Cottonwood Cre 85.83 51 P **P 23 48 20.7 +0.1**
baz=86
K05A Summer Lake 85.92 45 *e*P **P 23 48 20.1 -0.8**
comp=Z,39nm,1.0s
PAHR Pah Rah Range 85.93 48 *e*P **P 23 48 19.1 -1.9**
comp=Z,33nm,1.1s
MONP Monument Peak 86.03 55 P **P 23 48 21.7 0.0**
baz=86
MOD Modoc 86.03 46 *e*P **P 23 48 20.8 -0.6**
comp=Z,60nm,0.7s
TAPN Taplejung 86.04 299 *e*P **P 23 48 22.7 +0.7**
comp=Z,319nm,1.2s
F04A Amboy 86.08 41 *e*P **P 23 48 21.6 +0.3**
comp=Z,57nm,1.3s
MPMC Manual Prospec 86.16 52 P **P 23 48 22.2 0.0**
baz=86
ODAN Odare 86.18 298 *e*P **P 23 48 23.4 +0.8**
comp=Z,490nm,0.9s
DVTC Desert V Tower 86.22 56 P **P 23 48 23.2 +0.7**
baz=86
PFO Pinyon Flat Ob 86.22 55 *e*P **P 23 48 20.6 -2.0**
PFO *e*PcP **PcP 23 48 21.1 -3.8**
PFO LR LR
comp=Z,2μm,19.0s
PFO Pinyon Flat Ob 86.22 55 P **P 23 48 22.2 -0.3**
baz=86
PFO Pinyon Flat Ob 86.22 55 P **P 23 48 24.0 +1.5**
comp=Z,7.2nm,0.8s,baz=264,slow=4.0,SNR=7.9
NV01 Mina Array Sit 86.30 50 *e*P **P 23 48 22.4 -0.6**
NVAR Mina Array Bea 86.30 50 P **P 23 48 23.1 +0.1**
comp=Z,11nm,0.7s,baz=235,slow=8.0,SNR=52
PINOR Pine Mountain 86.32 44 *e*P **P 23 48 22.7 +0.2**
comp=Z,59nm,1.6s
EGAK Eagle 86.44 20 *e*P **P 23 48 21.0 -1.6**
comp=Z,20nm,0.8s
GSC Goldstone 86.46 53 *e*P **P 23 48 22.8 -0.8**
GSC pmax pmax
comp=Z,15nm,1.1s
GSC Goldstone 86.46 53 *e*P **P 23 48 22.8 -0.8**
comp=Z,15nm,1.1s
GSC Goldstone 86.46 53 P **P 23 48 23.6 0.0**
baz=86
PGC Sidney 86.48 39 *e*P **P 23 48 22.6 -0.6**
SWSC Sam W. Stewart 86.55 55 P **P 23 48 24.0 0.0**
baz=86
DAWY Dawson 86.59 21 *e*P **P 23 48 21.7 -1.8**
HEC Hector,Ludlow 86.69 53 P **P 23 48 24.5 -0.3**
baz=87
BELC Belle Mtn. Jos 86.70 54 P **P 23 48 24.4 -0.4**
baz=87
FURC Furnace Creek, 86.77 52 P **P 23 48 24.8 -0.1**
baz=87
LON Longmire 86.78 41 *e*P **P 23 48 24.0 -0.8**
LON pmax pmax
comp=Z,19nm,1.2s
LON Longmire 86.78 41 *e*P **P 23 48 24.0 -0.8**
comp=Z,19nm,1.2s
D05A Enumclaw 86.83 40 *e*P **P 23 48 24.3 -0.7**
comp=Z,132nm,1.4s
RAMN Ramite 86.89 298 *e*P **P 23 48 26.7 +0.6**
comp=Z,300nm,1.1s
BC3 Big Chuckawall 87.03 55 P **P 23 48 26.0 -0.4**
baz=87
SHOC Shoshone 87.05 52 P **P 23 48 26.2 -0.2**
baz=87
TUQ Turquoise Moun 87.19 53 P **P 23 48 27.1 -0.1**
baz=87
GMRC Granite Mounta 87.20 54 P **P 23 48 27.4 +0.1**
baz=87
I07A Izee 87.34 44 *e*P **P 23 48 26.9 -0.8**
comp=Z,18nm,1.0s
GLA Glamis 87.36 55 *e*P **P 23 48 28.7 +0.7**
GLA pmax pmax
comp=Z,62nm,1.4s
GLA Glamis 87.36 55 *e*P **P 23 48 28.7 +0.7**
comp=Z,62nm,1.4s
GLA Glamis 87.36 55 P **P 23 48 28.3 +0.3**
baz=87
WVOR Wild Horse Val 87.38 46 *e*P **P 23 48 27.5 -0.5**
WVOR pmax pmax
comp=Z,23nm,1.1s
WVOR Wild Horse Val 87.38 46 *e*P **P 23 48 27.5 -0.5**
comp=Z,22nm,1.1s
IRM Iron Mountain 87.42 54 P **P 23 48 28.4 +0.2**
baz=87
JIRN Jiri 87.43 299 *e*P **P 23 48 29.5 +0.7**
comp=Z,291nm,1.0s
PALK Pallekele 87.59 278 P **P 23 48 31.5 +2.1**
SNR=5.8
PALK Pallekele 87.59 278 P **P 23 48 30.0 +0.5**
comp=Z,863nm,1.2s,SNR=9.8
PALK Pallekele 87.59 278 P **P 23 48 30.7 +1.2**
comp=Z,119nm,1.1s,comp=Z,1μm
B06A Marblemount 87.64 39 *e*P **P 23 48 26.6 -2.2**
comp=Z,44nm,1.6s
TIXI Tiksi 87.66 349*c*e**P P 23 48 27.5 -0.9**
TIXI pmax pmax
comp=Z,24nm,1.7s
LTY Liberty 87.69 41 *e*P **P 23 48 27.7 -1.5**
comp=Z,14nm,1.0s
LDFC Landfair 87.72 53 *e*P **P 23 48 29.1 -0.6**
comp=Z,46nm,1.0s
BMN Battle Mountai 87.74 48 *e*P **P 23 48 29.0 -0.7**
BMN pmax pmax
comp=Z,18nm,1.1s
BMN MLR MLR
comp=Z,986nm,22.0s
BMN Battle Mountai 87.74 48 *e*P **P 23 48 29.0 -0.7**
comp=Z,18nm,1.1s
BMN LR LR
comp=Z,986nm,22.0s
GUN Gumba 87.76 299 *e*P **P 23 48 30.9 +0.5**
comp=Z,259nm,0.8s
J08A Circle Bar Ran 87.80 45 *e*P **P 23 48 29.1 -0.8**
comp=Z,21nm,0.8s
Y12C Blythe 87.80 55 P **P 23 48 30.2 +0.2**
baz=88
PKI Pulchoki 88.07 299 *e*P **P 23 48 32.3 +0.5**
SHPR Sheep Range 88.09 52 *e*P **P 23 48 31.1 -0.5**
G08A Pilot Rock 88.11 43 *e*P **P 23 48 31.1 -0.2**
comp=Z,20nm,1.1s
HAWA Hanford 88.11 42 *e*P **P 23 48 30.1 -1.1**
HAWA comp=Z,28nm,1.2s
comp=Z,541nm,20.0s
113A Mohawk Valley, 88.14 56 P **P 23 48 30.6 -1.0**
baz=88
KKN Kakani 88.24 299 *e*P **P 23 48 33.0 +0.5**
comp=Z,274nm,0.8s
PDMCI Parker Dam,Lak 88.26 54 P **P 23 48 32.2 0.0**
baz=88
R11A Troy Canyon, C 88.31 50 *e*P **P 23 48 31.6 -1.0**
R11A Troy Canyon, C 88.31 50 P **P 23 48 32.0 -0.6**
baz=88
DMN Daman 88.34 299 *e*P **P 23 48 33.8 +0.8**
comp=Z,748nm,0.9s
W13A Hualapai Mount 88.69 54 P **P 23 48 34.2 -0.3**
baz=89
214A Organ Pipe Nat 88.69 57 P **P 23 48 34.1 -0.2**
baz=89
D08A Wollman Farm, 88.74 41 *e*P **P 23 48 34.9 +0.8**
comp=Z,51nm,1.6s
GKN Gorkha 88.84 299 *e*P **P 23 48 35.4 +0.1**
comp=Z,488nm,0.8s
B08A Colville Reser 88.92 40 *e*P **P 23 48 33.9 -1.1**
comp=Z,41nm,1.7s
E09A Wood Farm, Sta 89.06 42 *e*P **P 23 48 34.9 -0.7**
comp=Z,47nm,1.5s
BMO Blue Mountains 89.08 44 *e*P **P 23 48 34.6 -1.3**
BMO pmax pmax
comp=Z,31nm,1.5s
BMO MLR MLR
comp=Z,809nm,19.0s
BMO Blue Mountains 89.08 44 *e*P **P 23 48 34.6 -1.3**
comp=Z,31nm,1.5s
BMO LR LR
comp=Z,809nm,19.0s
HVS Khovu-Aksy 89.20 323 *i*P **P 23 48 36.5 +0.2**
HVS pmax pmax
comp=Z,210nm,1.2s
ELK Elko 89.27 48 *e*P **P 23 48 36.6 -0.5**
comp=Z,8.5nm,0.8s
C09A Chrisman Ranch 89.40 41 *e*P **P 23 48 34.8 -2.4**
comp=Z,20nm,1.4s
F10A Beach Ranch, E 89.49 43 *e*P **P 23 48 37.1 -0.7**
comp=Z,50nm,1.4s
MFID Camas Ranch 89.65 45 P **P 23 48 38.7 +0.1**
baz=90
KOLN Koldanda 89.67 298 *e*P **P 23 48 39.1 -0.1**
comp=Z,165nm,0.9s
DANN Dangsing 89.68 299 *e*P **P 23 48 39.1 -0.2**
comp=Z,379nm,0.9s
CCUT Cedar City 89.77 52 *e*P **P 23 48 38.6 -0.9**
comp=Z,23nm,1.3s
ARUT Antelope Range 89.77 51 *e*P **P 23 48 39.7 +0.3**
ARUT Antelope Range 89.77 51 *e*P **P 23 48 39.7 +0.3**
NEW Newport 90.28 40 *e*P **P 23 48 41.1 -0.3**
comp=Z,15nm,1.2s
NEW Newport 90.28 40 P **P 23 48 42.6 +1.2**
baz=90
U15A North Rim 90.29 53 P **P 23 48 42.4 +0.4**
baz=90
X16A Lo Mia Camp, P 90.44 55 P **P 23 48 42.5 -0.1**
baz=90
TUC Tucson 90.45 57 *e*P **P 23 48 42.3 -0.3**
TUC pmax pmax
comp=Z,20nm,1.2s
TUC Tucson 90.45 57 *e*P **P 23 48 42.3 -0.3**
comp=Z,20nm,1.2s
SYO Syowa Base 90.66 197⇓*i*P **P 23 48 41.0 -1.7**
SYO Syowa Base 90.66 197⇓*i*PcP **PcP 23 48 45.9 +2.2**
HLID Hailey 90.67 46 *e*P **P 23 48 42.8 -0.7**
comp=Z,9.5nm,0.8s
HLID Hailey 90.67 46 P **P 23 48 43.3 -0.1**
baz=91
WMQ Urumqi 90.71 315 P **P 23 48 44.0 +0.5**
WMQ AMB AMB
comp=Z,89nm,1.1s
WMQ AMB AMB
comp=Z,520nm,5.2s
WMQ LR LR
comp=Z,480nm,23.2s
WMQ LR LR
comp=Z,540nm,25.8s
WMQ LR LR
comp=Z,520nm,25.8s
WUAZ Wupatki 90.78 54 *e*P **P 23 48 43.8 -0.3**
comp=Z,31nm,1.3s
DUG Dugway 90.89 49 *e*P **P 23 48 43.7 -0.9**
DUG pmax pmax
comp=Z,14nm,1.0s
DUG MLR MLR
comp=Z,2μm,22.0s
DUG Dugway 90.89 49 *e*P **P 23 48 43.6 -0.9**
comp=Z,14nm,1.0s
DUG LR LR
comp=Z,2μm,22.0s
DUG Dugway 90.89 49 P **P 23 48 44.6 +0.1**
baz=91
MVU Marysvale 90.90 51 *e*P **P 23 48 44.9 +0.2**
comp=Z,21nm,1.1s
MVU LR LR
comp=Z,2μm,21.0s
BGU Big Grassy Mou 90.93 48 *e*P **P 23 48 44.7 0.0**
comp=Z,22nm,1.1s
HVU Hansel Valley 91.34 48 *e*P **P 23 48 45.4 -1.2**
HVU pmax pmax
comp=Z,40nm,1.3s
HVU Hansel Valley 91.34 48 *e*P **P 23 48 45.4 -1.2**
comp=Z,40nm,1.3s
NLU North Lily Min 91.38 49 *e*P **P 23 48 46.2 -0.6**
comp=Z,14nm,1.1s
SPUT South Promonto 91.45 48 *e*P **P 23 48 46.8 -0.3**
comp=Z,24nm,1.1s
319A Douglas 91.46 58 P **P 23 48 47.5 +0.1**
baz=91
BSMT Bassoo Peak 91.65 41 *e*P **P 23 48 47.1 -0.8**
MPU Maple Canyon 91.72 49 *e*P **P 23 48 49.6 +1.1**
comp=Z,30nm,1.3s
Q16A Castle Valley 91.79 51 *e*P **P 23 48 48.7 -0.1**
comp=Z,38nm,1.4s
HYB Hyderabad 91.86 287 *i*P **P 23 48 49.0 -0.3**
MSO Missoula 91.91 42 P **P 23 48 49.2 +0.1**
baz=92
W18A Petrified Fore 91.98 55 *e*P **P 23 48 49.4 -0.3**
comp=Z,20nm,1.3s
JLU Jordanelle 92.00 49 *e*P **P 23 48 49.1 -0.7**
comp=Z,20nm,1.4s
320A Kipp Ranch, An 92.08 59 P **P 23 48 50.8 +0.6**
baz=92
DAU Daniels Canyon 92.10 49 *e*P **P 23 48 47.4 -3.0**
DAU Daniels Canyon 92.10 49 *e*P **P 23 48 47.4 -3.0**
MCMT McKenzie Canyo 92.10 45 *e*P **P 23 48 51.1 +1.0**
220A Playas Peak, P 92.21 58 P **P 23 48 51.1 +0.3**
baz=92
CHMT Chamberlain Mo 92.39 43 *e*P **P 23 48 50.5 -0.9**
DLMT Dillon 92.42 44 *e*P **P 23 48 51.1 -0.4**
comp=Z,14nm,1.0s
WALA Waterton Lakes 92.55 40 *e*P **P 23 48 49.6 -2.4**
LRM Limekiln Ridge 92.64 44 *e*P **P 23 48 52.4 -0.2**
RRI2 Red Ridge 92.79 46 *e*P **P 23 48 53.8 +0.4**
comp=Z,34nm,1.5s
Y20A Horse Springs, 92.79 56 P **P 23 48 52.7 -0.9**
baz=93
AHID Auburn Hatcher 92.80 47 PFAKE 23 49 00.0 +6.6
AHID LR LR
comp=Z,867nm,22.0s
121A Cookes Peak, D 92.97 57 P **P 23 48 53.8 -0.5**
baz=93
REDW Red Top Meadow 93.12 46 *e*P **P 23 48 52.9 -2.0**
comp=Z,39nm,1.8s
PV05 Paradox Valley 93.17 52 *e*P **P 23 48 52.7 -2.6**
IMW Indian Meadow 93.19 46 *e*P **P 23 48 53.6 -1.7**
comp=Z,41nm,1.8s
Z21A St. Cloud Mine 93.23 57 P **P 23 48 55.1 -0.5**
baz=93
MOOW Moose Ponds 93.29 46 *e*P **P 23 48 53.1 -2.5**
comp=Z,8.3nm,1.3s
Y21A Point of Rocks 93.38 56 P **P 23 48 55.8 -0.5**
baz=93
MVCO Mesa Verde 93.43 53 PFAKE 23 49 10.0 +14
MVCO LR LR
comp=Z,996nm,22.0s
KAAM Kaadhehdhoo 93.64 270 P **P 23 48 58.4 +0.8**
O19A Miners Draw (B 93.66 50 P **P 23 48 57.7 +0.4**
baz=94
LKWY Lake 93.73 45 PFAKE 23 49 10.0 +12
LKWY LR LR
comp=Z,454nm,19.0s
Z22A Elephant Butte 93.80 57 P **P 23 48 58.5 +0.4**
baz=94
BW06 Boulder Array 93.90 47 *e*P **P 23 48 56.0 -2.5**
BW06 LR LR
comp=Z,791nm,20.0s
PD31 Pinedale Array 93.90 47 *e*P **P 23 48 59.0 +0.4**
PDAR Pinedale Array 93.90 47 P **P 23 48 59.0 +0.4**
comp=Z,8.8nm,1.3s,baz=183,slow=1.9,SNR=8.6
U21A Nageezi 93.92 54 P **P 23 48 59.1 +0.4**
baz=94
Q20A Ridgley Place, 93.98 51 P **P 23 48 59.0 +0.1**
baz=94
S21A Coal Bank Pass 94.08 52 P **P 23 48 59.7 +0.2**
baz=94
BNM Barren Site 94.26 56 *e*P **P 23 48 58.0 -2.3**
ANMO Albuquerque 94.56 55 PFAKE 23 49 10.0 +8.3
ANMO LR LR
comp=Z,2μm,22.0s
RLMT Red Lodge 94.64 45 PFAKE 23 49 10.0 +8.2
RLMT LR LR
comp=Z,766nm,22.0s
324A Moseley Ranch, 94.65 59 P **P 23 49 01.8 -0.3**
baz=95
224A Cornudas Mount 94.74 58 P **P 23 49 02.7 +0.2**
baz=95
MNTX Cornudas Mount 94.78 59 PFAKE 23 49 10.0 +7.5
MNTX LR LR
comp=Z,804nm,22.0s
Q22A Crested Butte, 95.02 51 P **P 23 49 03.8 0.0**
baz=95
MK01 Makanchi Array 95.14 317 *e*P **P 23 49 03.9 +0.1**
MK32 Makanchi Array 95.15 317 *e*P **P 23 49 04.3 +0.4**
MK32 *e*PP **PP 23 52 52.3 -2.4**
MK32 *e*PKKPdf **PKKPbc 00 05 56.6 -3.0**
MKAR Makanchi Array 95.15 317 *e*P **P 23 49 03.8 -0.1**
MKAR Makanchi Array 95.15 317 *e*P **P 23 49 03.8 -0.1**
MKAR Makanchi Array 95.15 317 P **P 23 49 04.3 +0.4**
comp=Z,57nm,0.8s,baz=99,slow=6.4,SNR=202
MKAR PP **PP 23 52 52.3 -2.4**
comp=Z,9.6nm,1.1s,baz=106,slow=7.7,SNR=7.0
MKAR PKKPbc **PKKPbc 00 05 56.6 -3.0**
comp=Z,2.1nm,0.8s,baz=271,slow=4.0,SNR=11
MKAR LR LR 00 30 45.6
comp=Z,373nm,21.1s,baz=107,slow=35
MAIT Maitri 95.17 188 *e*P **P 23 49 00.6 -3.0**
ZAA0 Zalesovo Array 95.22 324 *e*P **P 23 49 02.4 -1.6**
ZALV Zalesovo Beam 95.22 324 P **P 23 49 03.1 -0.8**
comp=Z,14nm,0.7s,baz=114,slow=4.4,SNR=55
ZALV PP **PP 23 52 55.5 +0.6**
comp=Z,0.6nm,0.5s,baz=90,slow=5.9,SNR=4.1
ZALV PKKPbc **PKKPbc 00 05 57.6 -2.0**
comp=Z,0.7nm,0.4s,baz=345,slow=4.8,SNR=4.4
626A Big Bend Ranch 95.41 61 P **P 23 49 05.5 0.0**
baz=95
O22A Kremmling 95.55 50 P **P 23 49 07.0 +0.8**
baz=96
R23A Moffat 95.71 52 P **P 23 49 08.2 +1.3**
baz=96
SNAA Sanae 95.74 183 *e*P **P 23 49 04.3 -1.9**
comp=Z,12nm,0.9s
TX31 Lajitas Ar. Si 95.77 61 *e*P **P 23 49 06.0 -1.2**
LTX Lajitas 95.77 61 *e*P **P 23 49 07.5 +0.3**
LTX Lajitas 95.77 61 *e*P **P 23 49 07.5 +0.3**
TXAR Lajitas Array 95.77 61 P **P 23 49 07.5 +0.3**
comp=Z,2.1nm,0.7s,baz=228,slow=4.7,SNR=20
YKA Yellowknife Ar 95.86 27 P **P 23 49 05.7 -0.9**
comp=Z,0.9nm,0.4s,baz=259,slow=4.8,SNR=7.5
SDCO Great Sand Dun 95.88 53 PFAKE 23 49 20.0 +12
SDCO LR LR
comp=Z,1μm,22.0s
527A Woodward Ranch 95.97 61 P **P 23 49 09.2 +1.0**
baz=96
627A Terlingua Ranc 96.03 61 P **P 23 49 08.9 +0.5**
baz=96
N23A Red Feather La 96.15 50 P **P 23 49 09.5 +0.7**
baz=96
ISCO Idaho Springs 96.19 51 P **P 23 49 09.5 +0.4**
baz=96
Z26A Caprock 96.25 57 P **P 23 49 09.8 +0.5**
baz=96
NVS Novosibirsk 96.32 325 *e*P **P 23 49 05.9 -3.0**
NVS pmax pmax
comp=N,5.0nm,1.6s

NVS pmax pmax
comp=E,11nm,1.6s
NVS pmax pmax
comp=Z,23nm,1.6s
POO Poona 96.46 287 ⇓*iP* **P** **23 49 09.0 -1.5**
comp=Z,182nm,1.2s
628A Black Gap, Mar 96.47 61 P **P** **23 49 10.8 +0.5**
baz=96
528A Cox Ranch, San 96.67 61 P **P** **23 49 10.9 -0.4**
baz=97
S25A Robets Cordova 96.69 53 P **P** **23 49 11.8 +0.5**
baz=97
KURK Kurchatov 98.29 320 *ce*P **P** **23 49 17.0 -0.9**
KURK pmax pmax
comp=Z,10.0nm,1.5s
KURK Kurchatov 98.29 320 *e*P **P** **23 49 16.4 -1.5**
KURK
comp=Z,9.3nm,1.3s
LR LR
comp=Z,372nm,20.0s
KSH Kashi 98.31 309 P Pdif 23 49 20.3 +1.8
KSH pP pP 23 49 44.2 +4.1
KSH sP sP 23 49 52.8 +4.1
KSH PP PP 23 53 27.9 +8.5
KSH S **ScS** **00 00 41.7 +1.4**
KSH sS sS 00 01 16.8 -0.7
KSH SS **SS** **00 07 30.6 +4.8**
KSH AMB AMB
comp=Z,7.0nm,1.1s
KSH AMB AMB
comp=Z,80nm,4.6s
KSH LR LR
comp=Z,170nm,5.2s
KSH LR LR
comp=Z,120nm,5.4s
KSH LR LR
comp=Z,360nm,17.1s
KURBB Kurchatov Arra 98.33 320 P **P** **23 49 17.4 -0.7**
comp=Z,2.8nm,0.6s,baz=101,slow=3.4,SNR=24
KURBB PP **PP** **23 53 17.2 -1.8**
comp=Z,4.3nm,0.9s,baz=102,slow=7.7,SNR=8.7
OGNE Ogallala 99.08 50 PFAKE 23 49 30.0 +8.2
OGNE LR LR
comp=Z,2µm,22.0s
TKM2 Tokmak 2 99.12 312 *e*P **Pdif** **23 49 21.7 -0.4**
TKM2 pmax pmax
comp=Z,6.0nm,0.9s
TKM2 Tokmak 2 99.12 312 *e*P **Pdif** **23 49 21.7 -0.4**
comp=Z,6.3nm,0.9s
AAK Ala-Archa 99.88 312 *e*P **Pdif** **23 49 24.8 -0.6**
AAK MLR MLR
comp=Z,340nm,21.0s
AAK Ala-Archa 99.88 312 *e*Pdif **Pdif** **23 49 24.8 -0.6**
AAK LR LR
comp=Z,340nm,21.0s
AAK Ala-Archa 99.88 312 P **Pdif** **23 49 24.8 -0.6**
comp=Z,2.1nm,0.6s,baz=138,slow=2.6,SNR=8.2
EKS2 Erkin-Say 100.41 311 PFAKE 23 49 40.0 +12
EKS2 LR LR
comp=Z,363nm,20.0s
KVTX Kingsville 100.48 64 PFAKE 23 49 40.0 +12
KVTX LR LR
comp=Z,880nm,19.0s
FFC Flin Flon 100.89 36 PFAKE 23 49 40.0 +11
FFC LR LR
comp=Z,873nm,22.0s
PAYG Puerto Ayora 102.64 94 PFAKE 23 49 50.0 +12
PAYG LR LR
comp=Z,665nm,19.0s
KKAR Karatay Array 102.85 312 *e*P **Pdif** **23 49 37.6 -0.8**
KKAR Karatay Array 102.85 312 *e*Pdif **Pdif** **23 49 37.6 -0.8**
KSU1 Kansas State U 102.98 52 PFAKE 23 49 50.0 +11
KSU1 LR LR
comp=Z,926nm,19.0s
ECSD EROS Data Cent 103.39 48 PFAKE 23 49 50.0 +9.2
ECSD LR LR
comp=Z,570nm,19.0s
BVAR Borovoye Array 103.60 322 Pdiff **Pdif** **23 49 40.3 -1.2**
comp=Z,3.3nm,0.9s,baz=88,slow=4.9,SNR=11
BVAR PP PP 23 53 52.1 -6.7
comp=Z,4.0nm,1.0s,baz=100,slow=7.7,SNR=7.5
BVAR PKKPbc **PKKPbc** **00 05 35.7 -0.1**
comp=Z,0.4nm,0.4s,baz=271,slow=4.6,SNR=4.6
BRVK Borovoye 103.67 322 PFAKE 23 49 50.0 +8.2
BRVK LR LR
comp=Z,948nm,22.0s
AGMN Agassiz Nation 104.20 43 PFAKE 23 50 00.0 +16
AGMN LR LR
comp=Z,835nm,20.0s
SCIA State Center 105.77 50 PFAKE 23 54 20.0
SCIA LR LR
comp=Z,2µm,22.0s
EYMN Ely 107.12 44 PFAKE 23 54 20.0
EYMN LR LR
comp=Z,776nm,21.0s
OXF Oxford 108.42 58 PFAKE 23 54 20.0
OXF LR LR
comp=Z,911nm,22.0s
COWI Conover 108.76 45 PFAKE 23 54 20.0
COWI LR LR
comp=Z,659nm,21.0s
MSEY Mahe Island 109.49 260 PFAKE 23 54 20.0
MSEY LR LR
comp=Z,866nm,21.0s
JTS JuntasAbangare 110.00 83 PFAKE 23 54 20.0
JTS LR LR
comp=Z,732nm,20.0s
BRAL Brewton 110.24 61 *e*PKiKP **PKiKP** **23 54 09.4 -3.2**
ARU Arti 110.29 326 PKIKP PKiKP 23 54 24.0 +12
LRAL Lakeview Retre 110.37 59 PFAKE 23 54 20.0
LRAL LR LR
comp=Z,1µm,22.0s
IPAY Payeh 111.43 304 *e*P **PKiKP** **23 54 14.3 -0.7**
KBS Kingsbay 112.42 355 PFAKE 23 54 30.0
KBS LR LR
comp=Z,585nm,21.0s
ABPO Ambohimpanom 112.57 243 PFAKE 23 54 30.0
ABPO LR LR
comp=Z,832nm,21.0s
OTAV Otavalo 114.37 95 PFAKE 23 54 30.0 +8.4
OTAV LR LR
comp=Z,752nm,19.0s
LVC Limon Verde 115.38 123 PFAKE 23 54 30.0 +7.0
LVC LR LR
comp=Z,377nm,19.0s
ERPA Erie 115.60 49 PFAKE 23 54 30.0 +7.5
ERPA LR LR
comp=Z,2µm,22.0s
MCWV Mont Chateau 115.96 52 PFAKE 23 54 30.0 +6.7
MCWV LR LR
comp=Z,2µm,21.0s
ISRV Sarvestan 116.41 297 *e*P **PKPdf** **23 54 23.9 -1.0**
IGAR Gharneh 117.27 300 *e*P **PKPdf** **23 54 26.3 0.0**
IVRN Varamin 117.39 303 *e*P **PKPdf** **23 54 26.5 +0.2**
KEV Kevo 117.41 345 *e*PKIKP **PKPdf** **23 54 24.2 -0.9**
KEV Kevo 117.41 345 *e*pkp **PKPdf** **23 54 24.2 -0.9**
IKLH Kolahrood 117.61 301 *e*P **PKPdf** **23 54 26.7 -0.3**
ARA0 ARCESS Array S 117.94 346 *e*PKPdf **PKPdf** **23 54 25.6 -0.7**
ARA0 *e*PKKPab **PKKPbc** **00 04 45.5 -3.8**
ARCES ARCESS Array B 117.94 346 PKP **PKPdf** **23 54 25.6 -0.6**
comp=Z,8.4nm,0.5s,baz=85,slow=2.3,SNR=91
ARCES PKKPbc **PKKPbc** **00 04 45.5 -3.8**
comp=Z,5.4nm,0.7s,baz=206,slow=2.7,SNR=19
CBN Corbin 118.02 53 PFAKE 23 54 40.0 +13
CBN LR LR
comp=Z,2µm,22.0s
SUMG Summit 118.12 8 *e*PKIKP **PKPdf** **23 54 26.8 -0.2**
SUMG Summit 118.12 8 *e*PKPdf **PKPdf** **23 54 26.8 -0.2**
KLMR Klimovskoe 118.41 334 *e*PKIKP PKPdf 23 54 21.5 -5.8
KLMR pmax pmax
comp=Z,30nm,1.5s
BINY Binghamton 118.54 49 PFAKE 23 54 40.0 +12
BINY LR LR
comp=Z,2µm,21.0s
MVL Millersville 118.59 51 *e*PKPdf **PKPdf** **23 54 29.2 +0.9**
LPAZ La Paz 118.78 117 *e*PKPdf **PKPdf** **23 54 28.8 -1.3**
LPAZ La Paz 118.78 117 PKP **PKPdf** **23 54 29.3 -0.9**
comp=Z,2.2nm,0.9s,baz=31,slow=1.9,SNR=6.9
LPAZ PKKPbc **PKKPbc** **00 04 45.5 -0.1**
comp=Z,4.6nm,1.0s,baz=48,slow=2.6,SNR=11
IRAZ Razeghan 118.83 304 *e*P **PKPdf** **23 54 28.0 -1.2**
NCB Newcomb 119.49 46 *e*PKPdf **PKPdf** **23 54 29.1 -0.8**
NCB LR LR
comp=Z,1µm,20.0s
FRNY Flat Rock 119.76 45 *e*PKPdf **PKPdf** **23 54 30.5 +0.1**
SFJD Kangerlussuaq 120.21 16 PFAKE 23 54 40.0 +9.4
SFJD LR LR
comp=Z,735nm,20.0s
MDV Middlebury 120.22 46 *e*PKPdf **PKPdf** **23 54 30.8 -0.5**
JOF Joensuu 120.58 338 *e*PKIKP **PKPdf** **23 54 30.2 -1.2**
JOF Joensuu 120.58 338 *e*pkp **PKPdf** **23 54 30.2 -1.2**
SCHQ Schefferville 120.78 33 *e*PKPdf **PKPdf** **23 54 31.7 -0.4**
SCHQ Schefferville 120.78 33 PKP **PKPdf** **23 54 31.5 -0.6**
comp=Z,3.8nm,0.6s,baz=252,slow=5.2,SNR=7.7
UMR Umm Al-Rimmam 121.11 297 *e*P **PKPdf** **23 54 32.9 -0.5**
UMR AMb AMB 23 54 35.4
comp=Z,78nm,1.1s
RDF Al-Radifah 121.28 296 *e*P **PKPdf** **23 54 33.1 -0.8**
RDF AMb AMB 23 54 35.3
comp=Z,65nm,1.3s
VRHR Novokhopersk 121.33 323 *e*PKIKP **PKPdf** **23 54 32.9 -0.3**
VRHR pmax pmax
comp=Z,20nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,1.4s
VRHR pmax pmax
comp=E,10.0nm,1.4s
IVIS Veis 121.44 303 *e*P **PKPdf** **23 54 32.4 -1.7**
DGRG David-gareji 121.50 311 P **PKPdf** **23 54 35.3 +1.3**
RST Umm Al-Ruwaisa 121.74 297 *e*P **PKPdf** **23 54 34.2 -0.5**
RST AMb AMB 23 54 36.1
comp=Z,534nm,1.0s
IDHR Dehrash 121.79 303 *e*P **PKPdf** **23 54 33.0 -1.9**
TBLG Delisi 121.91 312 P **PKPdf** **23 54 35.6 +0.9**
GUDG Gudauri 121.93 312 P **PKPdf** **23 54 35.9 +1.0**
GNI Garni 122.23 310 *e*PKPdf **PKPdf** **23 54 35.8 +0.2**
GNI Garni 122.23 310 PKP **PKPdf** **23 54 36.4 +0.9**
comp=Z,14nm,0.9s,baz=323,slow=1.3,SNR=9.6
ZEI Tsey 122.27 313 *i*PKIKP **PKPdf** **23 54 35.3 -0.3**
ZEI pmax pmax
comp=Z,14nm,1.0s
CPUP Villa Florida 122.43 132 *e*PKPdf **PKPdf** **23 54 34.0 -2.1**
CPUP *e*PKKPab **PKKPbc** **00 04 31.9 +0.5**
CPUP Villa Florida 122.43 132 PKP **PKPdf** **23 54 35.2 -0.9**
comp=Z,3.1nm,0.7s,baz=271,slow=20,SNR=7.7
CPUP PKKPbc **PKKPbc** **00 04 31.9 +0.5**
comp=Z,2.6nm,0.9s,baz=24,slow=9.2,SNR=5.5
OBN Obninsk 122.47 329 ⇑*i*PKIKP **PKPdf** **23 54 34.6 -0.7**
OBN *e* 23 56 19.0
OBN pmax pmax
comp=Z,58nm,2.5s
ONI Oni 122.64 313 P **PKPdf** **23 54 36.9 +0.8**
VSR Storozhevoye 122.72 324 *e*PKIKP **PKPdf** **23 54 35.5 -0.4**
VSR pmax pmax
comp=Z,30nm,1.0s
VSR pmax pmax
comp=N,20nm,1.4s
VSR pmax pmax
comp=E,10.0nm,1.1s
VORD Divnogorie 122.74 323 *e*PKIKP **PKPdf** **23 54 35.8 -0.1**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD pmax pmax
comp=E,20nm,0.6s
KBZ Khabaz 122.75 314 *e*PKIKP **PKPdf** **23 54 34.8 -1.4**
KBZ Khabaz 122.75 314 *e*PKPdf **PKPdf** **23 54 34.8 -1.4**
KBZ Khabaz 122.75 314 PKP **PKPdf** **23 54 34.8 -1.4**
comp=E,7.6nm,0.9s,baz=126,slow=1.9,SNR=10
KIV Kislovodsk 122.84 315 ⇓*i*PKIKP **PKPdf** **23 54 37.1 +0.6**
KIV *e* 23 56 17.3
KIV *e* 00 01 40.1
KIV *e*SS SS 00 12 49.9 -3.1
KIV pmax pmax
comp=Z,14nm,1.0s
AKH Akhalkalaki 122.89 311 P **PKPdf** **23 54 37.9 +1.1**
KAF Kangasniemi 122.89 339 *e*PKIKP **PKPdf** **23 54 33.9 -2.0**
KAF Kangasniemi 122.89 339 *e*pkp **PKPdf** **23 54 33.9 -2.0**
RAYN Ar Rayn 123.26 290 *e*PKPdf **PKPdf** **23 54 37.3 -0.6**
FIA0 FINESS Array S 123.42 339 *e*PKIKP **PKPdf** **23 54 35.8 -1.1**
FIA0 FINESS Array S 123.42 339 *e*PKPdf **PKPdf** **23 54 35.8 -1.1**
FIA0 *e*PKKPab **PKKPbc** **00 04 27.6 -0.9**
FINES FINESS Array B 123.42 339 PKP **PKPdf** **23 54 35.8 -1.1**
comp=Z,9.7nm,0.9s,baz=60,slow=2.0,SNR=21
FINES PKKPbc **PKKPbc** **00 04 27.6 -0.9**
comp=Z,12nm,1.3s,baz=90,slow=0.2,SNR=5.3
CHVG Ch'k'valeri 123.59 313 P **PKPdf** **23 54 38.6 +0.7**
SDDR Presa de Saban 124.09 75 PFAKE 23 54 50.0 +10
SDDR LR LR
comp=Z,568nm,22.0s
GRTK Grand Turk 124.31 72 PFAKE 23 54 50.0 +10
GRTK LR LR
comp=Z,514nm,19.0s
BOSA Boshof 124.63 222 *e*PKPdf **PKPdf** **23 54 40.2 -0.3**
BOSA Boshof 124.63 222 PKP **PKPdf** **23 54 40.2 -0.3**
comp=Z,5.7nm,0.9s,baz=219,slow=2.4,SNR=5.6
SOC Sochi 125.01 315 *i*PKIKP **PKPdf** **23 54 40.4 -0.1**
SOC *e* 23 56 30.0
SOC *e* 00 01 48.9
SOC *e*PS PS **00 06 22.1 -9.5**
SOC pmax pmax
comp=Z,15nm,0.6s
SOC MLR MLR
comp=Z,526nm,21.0s
SAML Samuel 126.13 111 PFAKE 23 55 00.0 +16
SAML LR LR
comp=Z,368nm,19.0s
ANN Anapa 126.17 317 *i*PKIKP **PKPdf** **23 54 42.3 -0.4**
ANN *e* 23 56 36.3
ANN pmax pmax
comp=Z,26nm,1.4s
ANN MLR MLR
comp=Z,545nm,24.0s
ISAL Salakas 127.21 333 *e*P **PKPdf** **23 54 45.0 +0.6**
ISAL AMB AMB 23 55 06.9
comp=Z,16nm,2.8s
IIGN Ignalina 127.31 333 *e*P **PKPdf** **23 54 44.9 +0.3**
IIGN AMB AMB 23 55 03.1
comp=Z,15nm,1.1s
MALT Malatya 127.42 309 ⇓PKIKP **PKPdf** **23 54 46.1 +0.6**
MALT Malatya 127.42 309 ⇓*iP* **PKPdf** **23 54 46.1 +0.6**
KMBO Kilima Mbogo 127.96 259 PFAKE 23 55 00.0 +13
KMBO LR LR
comp=Z,486nm,20.0s
KMBO Kilima Mbogo 127.96 259 PKP **PKPdf** **23 54 47.7 +0.3**
comp=Z,0.7nm,0.3s,baz=233,slow=20,SNR=3.7
SIM Simferopol' 128.30 318 *e*PKIKP **PKPdf** **23 54 50.0 +3.2**
SIM pmax pmax
comp=Z,15nm,0.9s
NB2 NORSAR Subarra 128.31 345 PKPdf **PKPdf** **23 54 45.8 -0.6**
comp=Z,9.5nm,1.1s,baz=31,slow=1.9
NB2 NORSAR Subarra 128.31 345 PKPdf **PKPdf** **23 54 45.8 -0.6**
baz=31,slow=1.9
NOA NORSAR Array B 128.31 345 PKP **PKPdf** **23 54 46.1 -0.3**
comp=Z,6.7nm,1.0s,baz=30,slow=2.0,SNR=9.4
NOA SKKPbc SKKPbc 00 08 12.5 +17
comp=Z,1.0nm,0.8s,baz=229,slow=7.0,SNR=3.4
AKASG Malin Array Be 128.53 327 PKP **PKPdf** **23 54 46.0 -1.0**
comp=Z,7.8nm,0.9s,baz=56,slow=2.0,SNR=33
AKASG PP **PP** **23 56 52.5 -0.4**
comp=Z,1.2nm,0.6s,baz=52,slow=7.0,SNR=6.7
AKBB Malin Array Si 128.53 327 *e*PKIKP **PKPdf** **23 54 46.0 -1.0**
AKBB *e* 23 56 52.5
AKBB Malin Array Si 128.53 327 *e*PKPdf **PKPdf** **23 54 46.0 -1.0**
AKBB *e*PP **PP** **23 56 52.5 -0.4**
KIEV Kiev 128.54 327 *e*PKIKP **PKPdf** **23 54 46.1 -0.9**
KIEV MLR MLR
comp=Z,625nm,22.0s
KIEV Kiev 128.54 327 *e*PKPdf **PKPdf** **23 54 46.1 -0.9**
KIEV LR LR
comp=Z,625nm,22.0s
BBSR BB Station 129.13 58 PFAKE 23 55 00.0 +11
BBSR LR LR
comp=Z,395nm,20.0s
SUW Suwalki 129.52 333 *e*PKP **PKPdf** **23 54 49.4 +0.6**
KONO Kongsberg 129.92 345 PFAKE 23 55 00.0 +11
KONO LR LR
comp=Z,490nm,21.0s
ASF Jabal al Asfar 130.02 302 *e*PKPdf **PKPdf** **23 54 51.3 +0.7**
ASF Jabal al Asfar 130.02 302 PKP **PKPdf** **23 54 51.3 +0.7**
comp=Z,4.5nm,0.9s,baz=313,slow=1.4,SNR=8.0
BR101 Keskin Array S 130.56 312 *e*PKPdf **PKPdf** **23 54 51.5 +0.1**
BR101 *e*PP **PP** **23 57 06.0 -0.9**
BR101 *e*SKPbc **SKPab** **23 58 13.6 +5.3**
BRTR Keskin Array B 130.56 312 PKP **PKPdf** **23 54 51.5 +0.1**
comp=Z,2.8nm,0.9s,baz=59,slow=0.7,SNR=13
BRTR PP **PP** **23 57 06.0 -0.9**
comp=Z,6.3nm,1.0s,baz=98,slow=7.6,SNR=11
BRTR SKPbc **SKPab** **23 58 13.6 +5.3**
comp=Z,3.7nm,1.0s,baz=92,slow=3.7,SNR=6.7
MMAI Mount Meron Ar 131.08 303 PKP **PKPdf** **23 54 54.2 +1.7**
comp=Z,10nm,0.8s,baz=55,slow=4.4,SNR=11
ANTO Ankara 131.12 313 PFAKE 23 55 00.0 +7.6
ANTO LR LR
comp=Z,227nm,19.0s
BR231 Keskin MP Arra 131.14 312 *e*PKPdf **PKPdf** **23 54 51.3 -1.3**
TLCR 131.57 321 ⇓PKIKP **PKPdf** **23 54 53.9 +0.9**
TLCR 131.57 321 ⇓*iP* **PKPdf** **23 54 53.9 +0.9**
LVV L'vov 131.77 328 *e*PKIKP **PKPdf** **23 54 53.7 +0.5**
LVV *e* 23 55 10.5
LVV MLR MLR
comp=N,100nm,21.0s
LVV MLR MLR
comp=Z,600nm,21.0s
LVV MLR MLR
comp=E,300nm,20.0s
CFR Carcaliu 132.00 321 ⇑PKIKP **PKPdf** **23 54 54.0 +0.2**
CFR Carcaliu 132.00 321 ⇑*iP* **PKPdf** **23 54 54.0 +0.2**
EIL Elat 132.13 299 *e*PKPdf **PKPdf** **23 54 54.6 0.0**
EIL Elat 132.13 299 PKP **PKPdf** **23 54 54.6 0.0**
comp=E,10nm,0.8s,baz=309,slow=4.7,SNR=12
TIRR Tirgusor 132.17 320 ⇓PKIKP **PKPdf** **23 54 55.3 +1.2**
TIRR Tirgusor 132.17 320 ⇓*iP* **PKPdf** **23 54 55.3 +1.2**
TESR Tescani 132.21 323 ⇑*iP* **PKPdf** **23 54 54.8 +0.6**
CSS Prodhromos 132.26 306 *e*PKPdf **PKPdf** **23 54 54.8 +0.1**
CSS LR LR
comp=Z,347nm,22.0s
TLB Topalu 132.34 320 ⇓PKIKP **PKPdf** **23 54 55.1 +0.7**
TLB Topalu 132.34 320 ⇓*iP* **PKPdf** **23 54 55.1 +0.7**
BUR04 Bucovina Ar. S 132.42 325 *e*PKPdf **PKPdf** **23 54 55.3 +0.6**
BURAR Bucovina Array 132.42 325 ⇓PKIKP **PKPdf** **23 54 56.2 +1.5**
BURAR Bucovina Array 132.42 325 ⇓*iP* **Pdif** **23 51 51.4 +1.4**
BURAR Bucovina Array 132.42 325 ⇓*iP* **PKPdf** **23 54 56.2 +1.5**
VRI Vrincioaia 132.50 322 ⇓PKIKP **PKPdf** **23 54 54.7 -0.1**
VRI Vrincioaia 132.50 322 ⇓*iP* **PKPdf** **23 54 54.7 -0.1**
PLOR Plostina 132.56 322 ⇑PKIKP **PKPdf** **23 54 56.8 +1.9**
PLOR Plostina 132.56 322 ⇑*iP* **PKPdf** **23 54 56.8 +1.9**
KWP Kalwaria Pacla 132.56 329 ⇑PKIKP **PKPdf** **23 54 56.3 +1.5**
KWP Kalwaria Pacla 132.56 329 ⇑*iP* **PKPdf** **23 54 56.3 +1.5**
KWP Kalwaria Pacla 132.56 329 PFAKE 23 55 10.0 +15
KWP LR LR
comp=Z,827nm,21.0s
KWP Kalwaria Pacla 132.56 329 *e*PKP **PKPdf** **23 54 55.8 +1.0**
MSAB Monastry St. A 132.72 320 ⇓*iP* **PKPdf** **23 54 55.7 +0.5**
GRGR Grenville 132.89 85 PFAKE 23 55 10.0 +14
GRGR LR LR
comp=Z,255nm,20.0s
ANWB Willy Bob 133.08 77 PFAKE 23 55 10.0 +13
ANWB LR LR
comp=Z,319nm,22.0s
MLR Muntele Rosu 133.16 322 ⇓*iP* **Pdif** **23 51 57.4 +4.0**
MLR Muntele Rosu 133.16 322 ⇓*iP* **PKPdf** **23 54 57.1 +0.9**
SECR 133.33 322 ⇓*iP* **PKPdf** **23 54 57.2 +0.8**
UZH Uzhgorod 133.40 328 *e*PKIKP **PKPdf** **23 54 57.1 +0.8**
UZH *i* 23 55 07.1
STHS Stebnicka Huta 133.44 329 *e*PKIKP **PKPdf** **23 54 57.7 +1.3**
STHS Stebnicka Huta 133.44 329 *e*PKP **PKPdf** **23 54 57.7 +1.3**
ISP Isparta 133.50 311 PFAKE 23 55 10.0 +13
ISP LR LR
comp=Z,205nm,20.0s
TRPA Tarpa 133.58 327 ⇓*iP* **PKPdf** **23 54 57.7 +1.0**
OJC Ojcow 133.61 331 *e*PKIKP **PKPdf** **23 54 55.6 -1.1**
OJC Ojcow 133.61 331 *e*PKPdf **PKPdf** **23 54 55.6 -1.1**
VOIR 133.73 323 ⇑PKIKP **PKPdf** **23 54 58.7 +1.5**
VOIR 133.73 323 ⇑*iP* **PKPdf** **23 54 58.7 +1.5**
ARR Arges 134.01 323 ⇑*iP* **PKPdf** **23 54 59.2 +1.5**
HUMR Humele 134.26 322 ⇑*iP* **PKPdf** **23 54 58.0 -0.1**
DRGR 134.29 326 ⇑PKIKP **PKPdf** **23 54 58.6 +0.4**
DRGR 134.29 326 ⇓*iP* **Pdif** **23 51 55.0 -3.3**
DRGR 134.29 326 ⇑*iP* **PKPdf** **23 54 58.5 +0.4**
MBAR Mbarara 134.33 257 PFAKE 23 55 10.0 +11
MBAR LR LR
comp=Z,424nm,19.0s
ZIMR 134.48 320 ⇑PKIKP **PKPdf** **23 54 59.9 +1.4**
ZIMR 134.48 320 ⇑*iP* **PKPdf** **23 54 59.9 +1.4**
OKC Ostrava-Krasne 134.65 332 *e*PKPdf **PKPdf** **23 54 59.5 +0.9**
OKC *es*PKP 23 55 16.2
KSP Ksiaz 134.76 334 *e*PKP **PKPdf** **23 55 00.1 +1.3**
MORC Moravsky Berou 134.97 332 ⇑PKIKP **PKPdf** **23 55 00.8 +1.5**
MORC Moravsky Berou 134.97 332 ⇑*iP* **PKPdf** **23 55 00.8 +1.5**
MORC Moravsky Berou 134.97 332 *e*PKPdf **PKPdf** **23 54 58.8 -0.5**
PSZ Piszkesteto 135.09 328 ⇑PKIKP **PKPdf** **23 54 59.7 +0.1**
PSZ Piszkesteto 135.09 328 ⇑*iP* **PKPdf** **23 54 59.7 +0.1**
PSZ Piszkesteto 135.09 328 *e*PKPdf **PKPdf** **23 54 59.0 -0.6**
PSZ LR LR
comp=Z,539nm,20.0s
KRLC Kraliky 135.10 333 *e*PKPdf **PKPdf** **23 55 00.0 +0.4**
KRLC *es*PKP 23 55 15.4
DPC Dobruska-Polom 135.11 333 *e*PKIKP **PKPdf** **23 54 57.6 -2.0**
DPC Dobruska-Polom 135.11 333 *e*PKPdf **PKPdf** **23 54 59.9 +0.3**
DPC *es*PKP 23 55 16.1
DPC *e*SKP 23 58 28.5
DPC Dobruska-Polom 135.11 333 *e*PKPdf **PKPdf** **23 54 57.6 -2.0**
UPC Upice 135.13 334 *e*PKPdf **PKPdf** **23 55 00.2 +0.7**
SIRR Siria 135.19 326 ⇓*iP* **PKPdf** **23 55 00.9 +1.1**
BZS Buzias 135.60 325 ⇓PKIKP **PKPdf** **23 55 01.0 +0.4**
BZS Buzias 135.60 325 ⇓*iP* **PKPdf** **23 55 01.0 +0.4**
BRG Berggiesshubel 135.72 335 *e*PKP **PKPdf** **23 55 01.0 +0.4**
comp=Z,24nm,1.7s
BRG *e*PKp 23 58 31.2
comp=Z,27nm,1.6s
PVCC Panska Ves 135.73 335 *e*PKPdf **PKPdf** **23 55 01.6 +1.0**
PVCC *es*PKP 23 55 16.2
CLL Collm 135.76 336 *i* PKIKP **PKPdf** **23 55 01.0 +0.3**
CLL pmax pmax
comp=Z,16nm,1.5s
CLL MLR MLR
comp=Z,400nm,20.6s
CLL Collm 135.76 336 *i* PKPdf **PKPdf** **23 55 01.0 +0.3**
comp=Z,19nm,1.5s
CLL *i* sPKiKP sPKiKP 23 55 18.0 -15
comp=Z,17nm,1.4s
CLL *e*PP **PP** **23 57 39.0 +0.1**
CLL *e*(sPP) 23 57 51.0
CLL *e*PKSbc **PKSbc** **23 58 31.0 -2.4**
CLL L L 00 56 00.0
comp=Z,400nm,20.6s
BDFB Brasilia 135.78 128 PKP **PKPdf** **23 55 01.6 -0.3**
comp=Z,6.0nm,0.8s,baz=185,slow=5.2,SNR=7.9
BDFB SKPbc **SKPab** **23 58 31.4 -0.1**
comp=Z,4.9nm,1.0s,baz=318,slow=6.1,SNR=4.4
PRA Prague 136.13 334 PKPdf **PKPdf** **23 55 02.0 +0.6**
PRU Pruhonice 136.15 334 *e*PKPdf **PKPdf** **23 55 01.3 -0.1**
PRU *es*PKP 23 55 18.8
TREC Trest 136.25 333 *e*PKPdf **PKPdf** **23 55 02.2 +0.5**
ZST Bratislava 136.28 331 *e*PKIKP **PKPdf** **23 55 03.7 +2.0**
ZST Bratislava 136.28 331 *e*PKP **PKPdf** **23 55 03.7 +2.0**
VTS Vitosha 136.38 320 ⇑PKIKP **PKPdf** **23 55 02.8 +0.5**
VTS Vitosha 136.38 320 ⇑*iP* **PKPdf** **23 55 02.8 +0.5**
EKA Eskdalemuir Ar 136.51 352 *e*PKPpre PKPpre 23 54 53.1
EKA *e*SKPbc **SKPab** **23 58 34.4 +1.2**
EKA Eskdalemuir Ar 136.51 352 PKhKP PKPpre 23 54 53.1
comp=Z,1.2nm,0.6s,baz=14,slow=3.0,SNR=4.9
EKA PKP **PKiKP** **23 55 03.5 -0.2**
comp=Z,1.5nm,0.5s,baz=6.5,slow=2.1,SNR=14
EKA SKPbc **SKPab** **23 58 34.4 +1.2**
comp=Z,3.4nm,0.8s,baz=356,slow=2.5,SNR=5.7
ESK Eskdalemuir 136.53 352 PFAKE 23 55 10.0 +8.0
ESK LR LR
comp=Z,567nm,20.0s
NVR Nevrokopi 136.61 318 P **PKPdf** **23 55 02.3 -0.3**
CSNA Conrad Observa 137.06 331 ⇓*i*PKIKP **PKPdf** **23 55 04.0 +0.6**
comp=Z,12nm,1.0s
KHC Kasperske Hory 137.20 334 *e*PKIKP **PKPdf** **23 55 02.1 -1.4**
KHC Kasperske Hory 137.20 334 *e*PKPdf **PKPdf** **23 55 04.2 +0.7**
KHC *es*PKP 23 55 20.1
KHC *e*SKP 23 58 35.1
KHC Kasperske Hory 137.20 334 *e*PKPdf **PKPdf** **23 55 02.1 -1.4**
GERES GERESS Array B 137.37 334 PKhKP PKPpre 23 54 54.4
comp=Z,0.5nm,0.6s,baz=36,slow=5.0,SNR=4.2
GERES PKP **PKPdf** **23 55 04.3 +0.4**
comp=Z,2.8nm,0.8s,baz=50,slow=2.1,SNR=12
GERES SKPbc **SKPab** **23 58 38.4 +1.0**
comp=Z,1.7nm,0.7s,baz=29,slow=3.0,SNR=5.8
DIVS Divibare 137.44 324 P **PKPdf** **23 55 04.5 +0.3**
FNA Florina 138.51 319 P **PKPdf** **23 55 05.9 -0.3**
PHP Peshkopia 138.59 321 P **PKPdf** **23 55 06.2 -0.1**
AXAR Agios Charalam 138.70 316 P **PKPdf** **23 55 05.7 -0.8**
THL Klokotos Trika 138.74 317 P **PKPdf** **23 55 05.6 -0.9**
AGG Agios Georgios 138.80 316 P **PKPdf** **23 55 04.0 -2.7**
MEM Membach 138.81 341 PKP **PKPdf** **23 55 07.1 +0.8**
NEST Nestorio 138.92 319 P **PKPdf** **23 55 07.1 +0.1**
MAKR Makrakomi, Fth 138.94 316 P **PKPdf** **23 55 07.1 +0.1**
EVR Evrytania 139.20 317 P **PKPdf** **23 55 07.8 +0.2**

GUR	**Goura**	**139.33 315**	P		**PKPdf**	**23 55 06.9**	**-0.9**
JAN	**Janina**	**139.45 318**	P		**PKPdf**	**23 55 08.6**	**+0.7**
ABTA	**Abfaltersbach**	**139.48 332**	⇑*i*	PKPdf	PKPdf	23 54 59.0	-8.8
	comp=Z,5.3nm,0.8s						
DOU	**Dourbes**	**139.70 342**	PKP		**PKPdf**	**23 55 08.6**	**+0.7**
BFO	**Black Forest**	**139.95 337**	PFAKE			23 55 20.0	+11
BFO			LR	LR			
	comp=Z,340nm,19.0s						
ITM	**Ithomi**	**139.98 314**	P		PKPdf	23 55 00.9	-8.0
FETA	**Feichten**	**140.05 334**	⇑*i*	PKPdf	PKPdf	23 55 01.9	-7.1
	comp=Z,18nm,1.1s						
DAVA	**Damuels**	**140.19 335**	⇑*i*	PKPdf	PKPdf	23 55 01.5	-7.7
	comp=Z,6.7nm,1.0s						
FELD	**Feldberg im Sc**	**140.45 337**	PKP		**PKPdf**	**23 55 10.8**	**+1.2**
ECH	**Echery**	**140.48 338**	PKP		**PKPdf**	**23 55 13.3**	**+3.8**
ECH	**Echery**	**140.48 338**	PFAKE			23 55 20.0	+10
ECH			LR	LR			
	comp=Z,624nm,20.0s						
DAVOX	**Davos/Dischmat**	**140.60 335**	*e*SKPab		**SKPab**	**23 58 47.7**	**-4.2**
DAVOX	**Davos/Dischmat**	**140.60 335**	SKPbc		**SKPab**	**23 58 47.7**	**-4.2**
	comp=Z,3.9nm,0.8s,baz=99,slow=4.4,SNR=4.4						
MOF	**Molkenrain**	**140.79 338**	PKP		**PKPdf**	**23 55 10.2**	**0.0**
CUC	**Castrocucco**	**142.42 322**	PFAKE			23 55 30.0	+17
CUC			LR	LR			
	comp=Z,342nm,22.0s						
BNI	**Bardonecchia**	**143.30 336**	*e*PKIKP		PKPbc	23 55 12.5	+0.5
BNI			MLR	MLR			
	comp=Z,617nm,21.0s						
BNI	**Bardonecchia**	**143.30 336**	*e*PKPdf		PKPbc	23 55 12.5	+0.4
BNI			LR	LR			
	comp=Z,617nm,21.0s						
CEL	**Celeste**	**143.43 320**	*e*PKPdf		PKPbc	23 55 12.8	+0.3
CEL			LR	LR			
	comp=Z,427nm,22.0s						
PLDF	**La Plantade**	**143.64 340**	PKP		**PKPdf**	**23 55 14.5**	**-0.8**
AGO	**Saint Agoulin**	**143.73 340**	PKP		**PKPdf**	**23 55 15.0**	**-0.4**
SAOF	**Saorge**	**143.81 334**	PKP		PKPbc	23 55 13.2	-0.2
AUTN	**L'Aution**	**143.86 334**	PKP		PKPbc	23 55 13.5	-0.3
TOUF	**Mont Tournerai**	**143.92 334**	PKP		PKPbc	23 55 14.1	+0.2
SSB	**Saint Sauveur**	**143.92 338**	PKP		PKPbc	23 55 14.3	+0.6
LUCF	**Luceram**	**143.98 334**	PKP		PKPab	23 55 13.0	-0.4
PYM	**Petit Puy Mans**	**144.04 340**	PKP		**PKPdf**	**23 55 16.1**	**+0.1**
MVIF	**Mont Vial**	**144.06 334**	PKP		**PKPab**	**23 55 13.5**	**-0.3**
REVF	**Revere**	**144.09 334**	PKP		PKPbc	23 55 14.1	-0.2
CALN	**Calern**	**144.29 335**	PKP		**PKPab**	**23 55 13.9**	**-0.7**
LCHF	**La Chataignera**	**144.30 345**	PKP		PKPbc	23 55 14.8	+0.1
LBL	**Lubilhac**	**144.42 340**	PKP		**PKPdf**	**23 55 17.0**	**+0.3**
FRNF	**Fournols**	**144.51 341**	PKP		**PKPdf**	**23 55 16.5**	**-0.3**
MATF	**Mathat**	**144.96 344**	PKP		**PKPdf**	**23 55 17.4**	**0.0**
MLS	**Moulis**	**147.15 340**	PKP		**PKPbc**	**23 55 23.6**	**0.0**
VALF	**Valcebollere**	**147.33 339**	PKP		**PKPbc**	**23 55 24.9**	**+0.6**
VIEF	**Viey**	**147.56 341**	PKP		**PKPbc**	**23 55 25.9**	**+1.1**
LARF	**Larrau**	**147.72 343**	PKP		**PKPbc**	**23 55 25.9**	**+0.7**
KEST	**Kesra**	**149.07 322**	*e*PKPbc		**PKPbc**	**23 55 29.2**	**+0.2**
KEST	**Kesra**	**149.07 322**	PKPbc		**PKPbc**	**23 55 29.8**	**+0.8**
	comp=Z,29nm,0.9s,baz=294,slow=0.6,SNR=54						
CMAH	**Djebel Manchou**	**149.55 326**	P		**PKPbc**	**23 55 30.0**	**-0.1**
ABSA	**Djebel Ababsia**	**149.77 325**	P		**PKPbc**	**23 55 31.0**	**+0.3**
CKFL	**Kef-Lekhel**	**150.10 326**	P		**PKPbc**	**23 55 31.9**	**+0.4**
PBRG	**Braganca**	**150.22 350**	*e*PKPbc		**PKPbc**	**23 55 31.9**	**+0.4**
CASM	**Ain Smara**	**150.33 326**	P		**PKPbc**	**23 55 32.0**	**0.0**
DFRA	**Djebel Bou Aff**	**150.44 327**	P		**PKPbc**	**23 55 33.0**	**+0.7**
PCAB	**Cabril**	**150.51 352**	*e*PKPbc		**PKPbc**	**23 55 32.7**	**+0.5**
SHEL	**Horse Pasture**	**150.74 195**	*e*PKIKP		**PKPdf**	**23 55 29.9**	**+2.0**
SHEL	**Horse Pasture**	**150.74 195**	*e*PKPdf		**PKPdf**	**23 55 29.9**	**+2.0**
POLO	**Lamas de Olo**	**150.81 351**	*e*PKPbc		**PKPbc**	**23 55 33.7**	**+0.7**
MVO	**Moncorvo**	**150.90 350**	*e*PKPbc		**PKPbc**	**23 55 33.4**	**+0.2**
PVRL	**Vila Real**	**150.90 351**	*e*PKPbc		**PKPbc**	**23 55 33.9**	**+0.8**
SET	**Setif**	**150.95 328**	P		**PKPbc**	**23 55 35.0**	**+1.5**
PTO	**Porto**	**151.15 352**	*e*PKPbc		**PKPbc**	**23 55 34.3**	**+0.7**
RCBR	**Riachuelo**	**151.16 128**	PFAKE			23 55 40.0	-2.4
RCBR			LR	LR			
	comp=Z,423nm,19.0s						
PVIS	**Viseu**	**151.47 351**	*e*PKPbc		**PKPbc**	**23 55 35.1**	**+0.6**
ES19	**SONSECA Array**	**151.63 344**	*e*PKPdf		**PKPdf**	**23 55 28.1**	**-0.5**
ES19			*e*PKPbc		**PKPbc**	**23 55 34.6**	**-0.3**
ES19			*e*PKPab		**PKPab**	**23 55 43.4**	**-0.3**
ESDC	**Sonseca Array**	**151.67 345**	*e*PKPab		**PKPab**	**23 55 44.8**	**+1.0**
ESDC	**Sonseca Array**	**151.67 345**	PKP		**PKPdf**	**23 55 28.6**	**-0.1**
	comp=Z,4.0nm,0.8s,baz=360,slow=2.4,SNR=4.9						
ESDC			PKPbc		**PKPbc**	**23 55 35.2**	**+0.2**
	comp=Z,11nm,0.8s,baz=17,slow=2.1,SNR=34						
ESDC			PKPab		**PKPab**	**23 55 44.8**	**+1.0**
	comp=Z,5.7nm,0.6s,baz=16,slow=3.5,SNR=25						
MTE	**Manteigas**	**151.73 351**	*e*PKPbc		**PKPbc**	**23 55 35.8**	**+0.7**
MTE	**Manteigas**	**151.73 351**	*e*PKPbc		**PKPbc**	**23 55 34.4**	**-0.7**
MTE			LR	LR			
	comp=Z,641nm,21.0s						
PAB	**San Pablo**	**151.89 345**	*e*PKIKP		**PKPbc**	**23 55 33.6**	**-1.9**
PAB			MLR	MLR			
	comp=Z,850nm,19.0s						
PAB	**San Pablo**	**151.89 345**	*e*PKPbc		**PKPbc**	**23 55 33.6**	**-1.9**
PAB			LR	LR			
	comp=Z,850nm,19.0s						
PCAS	**Casmilo, Conde**	**152.21 352**	*e*PKPbc		**PKPbc**	**23 55 36.5**	**+0.4**
PCBR	**Castelo Branco**	**152.26 350**	*e*PKPbc		**PKPbc**	**23 55 36.8**	**+0.6**
PTOM	**Tomar**	**152.62 352**	*e*PKPbc		**PKPbc**	**23 55 37.6**	**+0.5**
PMRV	**Marv??o**	**152.65 350**	*e*PKPbc		**PKPbc**	**23 55 37.5**	**+0.3**
PMTG	**Montargil**	**153.13 351**	*e*PKPbc		**PKPbc**	**23 55 38.5**	**+0.3**
PESTR	**Estremoz**	**153.23 350**	*e*PKPbc		**PKPbc**	**23 55 38.6**	**+0.1**
EVO	**Evora**	**153.63 350**	*e*PKPbc		**PKPbc**	**23 55 39.7**	**+0.4**
PBEJ	**Beja**	**154.09 350**	*e*PKPbc		**PKPbc**	**23 55 41.0**	**+0.7**
PCVE	**Castro Verde**	**154.51 350**	*e*PKPbc		**PKPbc**	**23 55 42.3**	**+1.1**
RTC	**Rabat Centre**	**157.79 346**	PFAKE			23 55 50.0	+13
RTC			LR	LR			
	comp=Z,455nm,21.0s						
MDT	**Midelt**	**158.23 340**	*e*PKPdf		**PKPdf**	**23 55 38.3**	**+0.4**
MDT			*e*PKPab		**PKPab**	**23 56 11.4**	**-0.7**
MDT	**Midelt**	**158.23 340**	PKP		**PKPdf**	**23 55 38.3**	**+0.4**
	comp=Z,3.1nm,1.1s,baz=189,slow=6.0,SNR=4.0						
MDT			PKPab		**PKPab**	**23 56 11.4**	**-0.7**
	comp=Z,9.2nm,1.1s,baz=41,slow=5.6,SNR=8.0						
TOA0	**Torodi Ar. Sit**	**165.28 274**	*e*PKPdf		**PKPdf**	**23 55 44.5**	**-1.0**
TOA0			*e*PKPab		**PKPab**	**23 56 43.9**	**+0.4**
TOA0			*e*PP		**PP**	**00 00 28.4**	**-2.3**
TORD	**Torodi Ar. Bea**	**165.28 274**	PKP		**PKPdf**	**23 55 44.5**	**-1.0**
	comp=Z,2.2nm,1.0s,baz=30,slow=1.4,SNR=5.3						
TORD			PKPab		**PKPab**	**23 56 43.9**	**+0.4**
	comp=Z,68nm,1.0s,baz=79,slow=3.8,SNR=76						
TORD			PP		**PP**	**00 00 28.4**	**-2.3**
	comp=Z,2.6nm,1.0s,baz=82,slow=5.9,SNR=3.8						
KIC	**Kosan Boka**	**169.52 235**	*e*PKP2		**PKPab**	**23 57 02.8**	**+0.7**
	comp=Z,126nm,1.3s						
LIC	**Lamto**	**169.67 234**	*e*PKP2		**PKPab**	**23 57 03.4**	**+0.6**
	comp=Z,42nm,1.2s						
DBIC	**Dimbokro**	**169.80 236**	*e*PKPab		**PKPab**	**23 57 02.7**	**-0.7**
DBIC	**Dimbokro**	**169.80 236**	PKPab		**PKPab**	**23 57 03.5**	**+0.1**
	comp=Z,220nm,1.0s,baz=108,slow=3.7,SNR=10						
TIC	**Toumodi**	**169.91 236**	*e*PKP2		**PKPab**	**23 57 04.4**	**+0.5**
	comp=Z,119nm,1.3s						

*NNC **08** 23:40:43.4±3.2, 39°25N×71°41E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=24.3km s-min=15.4km az=10.0*

ISC 08 23:40:41.5±3.5, 39°0N±0°2×71°2E±0°1, h10km, n10, σ1ᵗ41/13, 4C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.65**	**31**	P		**Pn**	**Pn**	**23 41 39.6**	**+1.2**
	SNR=12								
KK31	**Karatay Array**	**4.12**	**353**	Pn		**Pn**	**Pn**	**23 41 45.0**	**+0.6**
	1.9nm,0.2s,baz=173,slow=13,SNR=209								
KK31				⇑Pg		**Pb**	**Pb**	**23 41 54.8**	**+0.7**
	4.5nm,0.3s,baz=169,slow=12,SNR=14								
KK31				⇓Sn		**Sn**	**Sn**	**23 42 33.3**	**+0.5**
	5.7nm,0.3s,baz=162,slow=29,SNR=4.1								
KK31				⇓Lg		Lg	Lg	23 42 45.5	
	16nm,0.4s,baz=177,slow=30,SNR=7.3								
EKS2	**Erkin-Say**	**4.14**	**27**	P		**Pn**	**Pn**	**23 41 46.0**	**+1.1**
	SNR=9.7								
KZA	**Kyzart**	**4.35**	**44**	P		**Pn**	**Pn**	**23 41 49.3**	**+1.2**
	SNR=23								
AAK	**Ala-Archa**	**4.40**	**34**	P		**Pn**	**Pn**	**23 41 49.5**	**+1.0**
	SNR=13								
KBK	**Karagaybulak**	**4.62**	**37**	P		**Pn**	**Pn**	**23 41 53.4**	**+1.8**
	SNR=8.0								
CHMS	**Chumysh**	**4.81**	**33**	P		**Pn**	**Pn**	**23 41 55.0**	**+1.0**
	SNR=6.8								
TKM2	**Tokmak 2**	**5.14**	**39**	⇑Pn		**Pn**	**Pn**	**23 41 58.6**	**0.0**
	2.6nm,0.5s								
TKM2				⇑Sn		**Sn**	**Sn**	**23 42 55.5**	**-2.6**
	11nm,0.8s								
TKM2				⇑Lg		Lg	Lg	23 43 14.9	
	12nm,0.7s								
TKM2	**Tokmak 2**	**5.14**	**39**	P		**Pn**	**Pn**	**23 41 59.5**	**+0.9**
	SNR=6.6								
AB31	**Akbulak array**	**13.03**	**325**	Pn		**Pn**	**Pn**	**23 43 45.1**	**-1.4**
	0.4nm,0.3s,baz=137,slow=14,SNR=26								

*IDC **08** 23:41:54.5±0.8, 12°47S×166°10E, h0km, mb4.2/12, mb1 4.3/14, mb1mx4.2/22, mbtmp4.2/14, ML4.1/2, Error ellipse: s-maj=28.0km s-min=18.0km az=94.0*
*ISCJB **08** 23:41:59.0±0.6, 12°56S±0°08×165°85E±0°09, h40km, mb4.3/16, Error ellipse: s-maj=14.1km s-min=9.0km az=146.1*
*NEIC **08** 23:42:00.4±1.7, 12°54S×165°99E, h40km±14km, mb4.6/5, Error ellipse: s-maj=17.9km s-min=10.2km az=71.0*

ISC 08 23:42:00.7±0.6, 12°52S±0°09×166°0E±0°1, h40km, n42, σ0ᵗ94/49, mb4.3/16, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.65**	**297**	Pn		**Pn**	**Pn**	**23 43 36.6**	**+0.8**
HNR				Sn		**Sn**	**Sn**	**23 44 49.1**	**-1.2**
HNR	**Honiara**	**6.65**	**297**	Pn		**Pn**	**Pn**	**23 43 36.6**	**+0.8**
	20nm,0.3s,baz=137,slow=4.7,SNR=4.2								
HNR				Sn		**Sn**	**Sn**	**23 44 49.1**	**-1.2**
	15nm,0.3s,baz=258,slow=20,SNR=2.1								
DZM	**Mont Dzumac**	**9.52**	**177**	Pn		**Pn**	**Pn**	**23 44 14.4**	**-0.9**
DZM	**Mont Dzumac**	**9.52**	**177**	Pn		**Pn**	**Pn**	**23 44 14.4**	**-0.9**
	0.4nm,0.3s,baz=342,slow=20,SNR=3.0								
STKA	**Stephens Creek**	**29.54**	**225**	*e*P		**P**	**P**	**23 48 01.7**	**+0.1**
	1.9nm,0.8s								
STKA	**Stephens Creek**	**29.54**	**225**	P		**P**	**P**	**23 48 01.9**	**+0.3**
	4.1nm,0.8s,baz=24,slow=10.0,SNR=3.4								
WRA	**Warramunga Arr**	**31.20**	**252**	P		**P**	**P**	**23 48 16.1**	**-0.3**
WRA	**Warramunga Arr**	**31.20**	**252**	P		**P**	**P**	**23 48 16.1**	**-0.3**
	0.9nm,0.4s,baz=84,slow=8.8,SNR=2.7								
RPZ	**Rata Peaks**	**31.40**	**173**	P		**P**	**P**	**23 48 18.0**	**+0.1**
RPZ	**Rata Peaks**	**31.40**	**173**	P		**P**	**P**	**23 48 18.0**	**+0.1**
	11nm,0.8s,baz=233,slow=5.1,SNR=4.3								
ASAR	**Alice Springs**	**32.34**	**245**	P		**P**	**P**	**23 48 25.9**	**-0.5**
ASAR				PcP		**PcP**	**PcP**	**23 51 15.4**	**+1.6**
ASAR	**Alice Springs**	**32.34**	**245**	P		**P**	**P**	**23 48 25.9**	**-0.5**
	1.6nm,0.7s,baz=67,slow=8.7,SNR=4.3								
ASAR				PcP		**PcP**	**PcP**	**23 51 15.4**	**+1.6**
	1.9nm,1.1s,baz=64,slow=2.3,SNR=3.3								
FITZ	**Fitzroy Crossi**	**39.22**	**257**	*e*P		**P**	**P**	**23 49 23.5**	**-1.9**
	11nm,1.1s								
MJAR	**Matsushiro Arr**	**55.36**	**333**	P		**P**	**P**	**23 51 30.3**	**-0.4**
MJAR	**Matsushiro Arr**	**55.36**	**333**	P		**P**	**P**	**23 51 30.3**	**-0.4**
	1.0nm,0.3s,baz=158,slow=7.3,SNR=4.6								
ASAJ	**Asahikawa**	**60.24**	**341**	*e*P		**P**	**P**	**23 52 04.2**	**-0.6**
	11nm,0.9s								
KSRS	**Korea Array**	**61.20**	**326**	P		**P**	**P**	**23 52 12.0**	**+0.5**
	1.2nm,0.6s,baz=133,slow=6.9,SNR=3.4								
KSAR	**Wonju Array Be**	**61.21**	**326**	P		**P**	**P**	**23 52 12.0**	**+0.4**
USRK	**Ussuriysk Arra**	**64.34**	**334**	P		**P**	**P**	**23 52 32.9**	**+0.6**
	9.4nm,1.1s,baz=150,slow=8.1,SNR=6.6								
CMAR	**Chiang Mai Arr**	**72.89**	**294**	P		**P**	**P**	**23 53 28.4**	**+2.2**
CMAR	**Chiang Mai Arr**	**72.89**	**294**	P		**P**	**P**	**23 53 28.4**	**+2.2**
	0.9nm,0.3s,baz=113,slow=3.7,SNR=6.4								
QSPA	**South Pole Qui**	**77.50**	**180**	*e*P		**P**	**P**	**23 53 52.5**	**+0.5**
	18nm,1.0s								
QSPA				*e*PcP		**PcP**	**PcP**	**23 54 02.4**	**+0.2**
ULN	**Ulaanbaatar**	**79.60**	**324**	*e*P		**P**	**P**	**23 54 05.2**	**+1.3**
	2.8nm,0.6s								
SONM	**Songino Array**	**79.97**	**324**	P		**P**	**P**	**23 54 04.2**	**-1.7**
SONM	**Songino Array**	**79.97**	**324**	P		**P**	**P**	**23 54 04.2**	**-1.7**
	0.4nm,0.3s,baz=125,slow=5.2,SNR=2.9								
ILAR	**Eielson Array**	**84.83**	**18**	P		**P**	**P**	**23 54 29.8**	**-0.9**
ILAR	**Eielson Array**	**84.83**	**18**	P		**P**	**P**	**23 54 29.8**	**-0.9**
	0.3nm,0.8s,baz=236,slow=5.4,SNR=2.7								
MK31	**Makanchi Array**	**94.73**	**317**	*e*P		**P**	**P**	**23 55 18.1**	**+0.2**
MKAR	**Makanchi Array**	**94.73**	**317**	P		**P**	**P**	**23 55 18.4**	**+0.4**
MKAR	**Makanchi Array**	**94.73**	**317**	P		**P**	**P**	**23 55 18.4**	**+0.4**
	1.0nm,0.7s,baz=88,slow=6.2,SNR=5.1								
ZALV	**Zalesovo Beam**	**94.86**	**324**	P		**P**	**P**	**23 55 18.2**	**-0.1**
ZALV	**Zalesovo Beam**	**94.86**	**324**	P		**P**	**P**	**23 55 18.2**	**-0.1**
	1.9nm,1.0s,baz=118,slow=3.9,SNR=3.9								
ARCES	**ARCESS Array B**	**117.80**	**345**	PKP		**PKPdf**	**PKPdf**	**00 00 41.6**	**-0.6**
ARCES	**ARCESS Array B**	**117.80**	**345**	PKP		**PKPdf**	**PKPdf**	**00 00 41.6**	**-0.6**
	2.3nm,0.8s,baz=69,slow=4.1,SNR=3.9								
FINES	**FINESS Array B**	**123.20**	**338**	PKP		**PKPdf**	**PKPdf**	**00 00 52.0**	**-0.8**
FINES	**FINESS Array B**	**123.20**	**338**	PKP		**PKPdf**	**PKPdf**	**00 00 52.0**	**-0.8**
	0.9nm,0.7s,baz=152,slow=2.5,SNR=2.5								
AKASG	**Malin Array Be**	**128.19**	**326**	PKP		**PKPdf**	**PKPdf**	**00 01 02.7**	**0.0**
AKASG	**Malin Array Be**	**128.19**	**326**	PKP		**PKPdf**	**PKPdf**	**00 01 02.7**	**0.0**
	0.2nm,0.3s,baz=49,slow=1.7,SNR=4.2								
KEST	**Kesra**	**148.69**	**322**	PKPbc		**PKPbc**	**PKPbc**	**00 01 44.8**	**+0.6**
KEST	**Kesra**	**148.69**	**322**	PKPbc		**PKPbc**	**PKPbc**	**00 01 44.8**	**+0.6**
	2.7nm,1.0s,baz=18,slow=4.0,SNR=5.3								
ESDC	**Sonseca Array**	**151.52**	**344**	PKPbc		**PKPbc**	**PKPbc**	**00 01 50.5**	**-0.4**
ESDC				PKPab		**PKPab**	**PKPab**	**00 01 58.9**	**-0.4**
ESDC	**Sonseca Array**	**151.52**	**344**	PKPbc		**PKPbc**	**PKPbc**	**00 01 50.5**	**-0.4**
	1.0nm,0.8s,baz=6.9,slow=2.5,SNR=4.5								
ESDC				PKPab		**PKPab**	**PKPab**	**00 01 58.9**	**-0.4**
	0.2nm,0.4s,baz=41,slow=2.7,SNR=3.4								

IDC 08 23:50:39.7±0.9, 16°45S×172°60W, h0km, mb3.9/6, mb1 4.3/6, mb1mx4.0/20, mbtmp3.9/6, Error ellipse: s-maj=47.8km s-min=22.8km az=139.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.65**	**18**	Pn		Pn	Pn	23 51 19.6	-4.2
	45nm,0.3s,baz=224,slow=21,SNR=16								
AFI				Sn		Sn	Sn	23 51 42.9	-14
	69nm,0.3s,baz=47,slow=20,SNR=8.7								
WRA	**Warramunga Arr**	**50.36**	**258**	P		P	P	23 59 38.4	-0.7
	0.8nm,0.8s,baz=94,slow=6.7,SNR=3.6								
ASAR	**Alice Springs**	**50.52**	**253**	P		P	P	23 59 40.1	-0.1
	5.1nm,0.9s,baz=86,slow=8.3,SNR=32								
VNDA	**Vanda**	**62.42**	**186**	P		P	P	00 01 04.0	-0.1
	1.0nm,0.9s,baz=352,slow=6.8,SNR=4.2								
NVAR	**Mina Array Bea**	**74.60**	**41**	P		P	P	00 02 21.2	+0.1
	1.1nm,0.8s,baz=226,slow=10,SNR=8.2								
PDAR	**Pinedale Array**	**82.53**	**41**	P		P	P	00 03 04.5	-0.4
	0.7nm,0.7s,baz=217,slow=2.8,SNR=5.9								
ILAR	**Eielson Array**	**83.33**	**11**	P		P	P	00 03 07.2	-0.8
	0.6nm,0.7s,baz=222,slow=6.9,SNR=6.4								
GERES	**GERESS Array B**	**147.28**	**352**	PKPbc		PKPbc	PKPbc	00 10 25.3	0.0
	0.4nm,0.8s,baz=25,slow=3.5,SNR=4.4								
BRTR	**Keskin Array B**	**147.45**	**321**	PKPbc		PKPbc	PKPbc	00 10 26.8	+0.6
	1.0nm,0.9s,baz=90,slow=3.0,SNR=6.1								

IDC 09 00:01:37.1±1.3, 14°62S×174°35W, h0km, mb4.1/7, mb1 4.4/7, mb1mx4.1/18, mbtmp4.1/7, Error ellipse: s-maj=66.4km s-min=22.1km az=148.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.60**	**75**	Pn		Pn	Pn	00 02 14.8	-5.7
	118nm,0.3s,baz=158,slow=1.3,SNR=72								
AFI				Sn		Sn	Sn	00 02 40.6	-12
	106nm,0.3s,baz=238,slow=23,SNR=9.1								
H11S2	**WAKE ISLAND Hy**	**37.83**	**330**	T		T	T	00 49 09.2	
	baz=152,slow=0.7,SNR=39								
H11S3	**WAKE ISLAND Hy**	**37.84**	**330**	T		T	T	00 49 10.0	
	baz=152,slow=0.7,SNR=119								
H11S1	**WAKE ISLAND Hy**	**37.84**	**330**	T		T	T	00 49 10.0	
	baz=152,slow=0.7,SNR=111								
H11N3	**WAKE ISLAND Hy**	**38.78**	**331**	T		T	T	00 50 21.2	
	baz=153,slow=0.7,SNR=139								
H11N1	**WAKE ISLAND Hy**	**38.79**	**331**	T		T	T	00 50 22.1	
	baz=153,slow=0.7,SNR=224								
H11N2	**WAKE ISLAND Hy**	**38.80**	**331**	T		T	T	00 50 23.2	
	baz=153,slow=0.7,SNR=160								
WRA	**Warramunga Arr**	**49.13**	**256**	P		P	P	00 10 25.9	-1.2
	1.4nm,0.8s,baz=93,slow=8.0,SNR=6.0								
ASAR	**Alice Springs**	**49.48**	**251**	P		P	P	00 10 29.4	-0.3
	14nm,0.7s,baz=84,slow=8.4,SNR=124								
PETK	**Petropavlovsk-**	**71.61**	**343**	P		P	P	00 13 00.7	+0.4
	3.1nm,0.8s,baz=125,slow=12,SNR=3.7								
NVAR	**Mina Array Bea**	**74.37**	**43**	P		P	P	00 13 17.8	+0.5
	1.0nm,0.9s,baz=231,slow=11,SNR=5.3								
TXAR	**Lajitas Array**	**80.95**	**57**	P		P	P	00 13 53.0	-1.1
	0.4nm,0.8s,baz=208,slow=8.7,SNR=3.3								
ILAR	**Eielson Array**	**81.86**	**12**	P		P	P	00 13 57.8	-0.1
	0.8nm,0.6s,baz=223,slow=5.5,SNR=12								
PDAR	**Pinedale Array**	**82.31**	**42**	P		P	P	00 14 01.4	+0.3
	0.6nm,0.8s,baz=42,slow=28,SNR=3.5								
BRTR	**Keskin Array B**	**144.97**	**321**	PKP		PKPbc	PKPbc	00 21 16.3	+0.2
	5.3nm,0.8s,baz=96,slow=2.9,SNR=41								
KMBO	**Kilima Mbogo**	**145.02**	**246**	PKPbc		PKPdf	PKPdf	00 21 18.3	+0.4
	0.5nm,0.3s,baz=90,slow=2.0,SNR=2.5								
GERES	**GERESS Array B**	**145.23**	**351**	PKPbc		PKPbc	PKPbc	00 21 15.6	-1.0
	0.5nm,0.7s,baz=42,slow=7.9,SNR=4.2								

*IDC **09** 00:04:09.7±0.7, 11°86S×165°43E, h0km, mb4.4/8, mb1 4.4/9, mb1mx4.2/19, mbtmp4.3/9, ML3.9/1, Error ellipse: s-maj=48.4km s-min=19.0km az=79.0*
*ISCJB **09** 00:04:13.6±0.6, 11°99S±0°10×165°2E±0°3, h33km, mb4.4/11, Error ellipse: s-maj=37.6km s-min=11.3km az=166.5*
*NEIC **09** 00:04:15.0±0.5, 11°87S×165°42E, h35km, mb4.6/3, Error ellipse: s-maj=34.5km s-min=10.9km az=78.0*

ISC 09 00:04:15.1±0.6, 12°03S±0°08×165°4E±0°3, h35km, n39, σ1ᵗ54/43, mb4.5/11, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.04**	**174**	*e*Pn		**Pn**	**Pn**	**00 06 39.1**	**+2.1**
DZM				Sn		**Sn**	**Sn**	**00 08 24.5**	**-4.1**
DZM	**Mont Dzumac**	**10.04**	**174**	Pn		**Pn**	**Pn**	**00 06 39.4**	**+2.4**
	1.1nm,0.3s,baz=22,slow=18,SNR=9.0								
DZM				Sn		**Sn**	**Sn**	**00 08 24.5**	**-4.1**
	1.1nm,0.3s,baz=328,slow=15,SNR=3.8								
RPZ	**Rata Peaks**	**31.95**	**172**	P		**P**	**P**	**00 10 39.3**	**+1.6**
RPZ	**Rata Peaks**	**31.95**	**172**	P		**P**	**P**	**00 10 39.3**	**+1.6**
	17nm,0.7s,baz=83,slow=13,SNR=11								
ASAR	**Alice Springs**	**32.03**	**244**	PcP		**PcP**	**PcP**	**00 13 29.4**	**+1.4**
ASAR	**Alice Springs**	**32.03**	**244**	PcP		**PcP**	**PcP**	**00 13 29.4**	**+1.4**
	1.6nm,0.7s,baz=76,slow=2.3,SNR=12								
KSRS	**Korea Array**	**60.48**	**326**	P		**P**	**P**	**00 14 21.2**	**-0.4**
	1.2nm,0.7s,baz=134,slow=7.

comp=Z,16nm,28.6s,baz=86,slow=36
KDU Kakadu 32.86 267 P P 00 14 33.2 -0.7
baz=33,SNR=3.3
BBOO Buckleboo 33.82 229 eP P 00 14 41.1 -1.1
133nm,0.8s
BBOO Buckleboo 33.82 229 P P 00 14 42.6 +0.4
baz=34,SNR=10
KNRA Kununurra 36.33 261 P P 00 15 03.5 -0.4
baz=36,SNR=5.3
FITZ Fitzroy Crossi 39.33 257 eP P 00 15 25.7 -3.6
25nm,1.4s
FITZ Fitzroy Crossi 39.33 257 P P 00 15 28.6 -0.6
baz=39,SNR=5.7
BATI Baumata 41.72 269 LR LR 00 32 05.7
comp=Z,16nm,28.6s,baz=126,slow=35
PPT Papeete 42.83 102 LR LR 00 31 47.0
comp=Z,107nm,19.9s,baz=228,slow=33
MEEK Meekatharra 46.49 246 P P 00 16 27.4 +0.1
baz=47,SNR=7.0
MORW Morawa 49.07 243 P P 00 16 47.1 -0.2
baz=49,SNR=5.4
MJAR Matsushiro Arr 55.95 333 P P 00 17 36.2 -1.8
3.8nm,1.0s,baz=174,slow=8.1,SNR=4.5
ASAJ Asahikawa 60.82 341 P P 00 18 10.7 -1.2
31nm,1.1s,baz=180,slow=7.1,SNR=2.2
KSRS Korea Array 61.77 326 P P 00 18 17.9 -0.6
1.8nm,0.7s,baz=151,slow=5.7,SNR=5.1
KS15 Wonju Array Si 61.79 326 eP P 00 18 17.9 -0.7
KS01 Wonju Array Si 61.81 326 eP P 00 18 17.0 -1.7
NJ2 Nanjing 63.75 316 eP P 00 18 32.6 +0.8
NJ2 AMB AMB
comp=Z,10.0nm,0.7s
VNDA Vanda 64.51 181 eP P 00 18 35.8 -0.2
VNDA Vanda 64.51 181 P P 00 18 35.8 -0.2
1.4nm,1.0s,baz=13,slow=9.1,SNR=3.6
USRK Ussuriysk Arra 64.93 333 P P 00 18 39.2 0.0
4.2nm,0.8s,baz=170,slow=8.8,SNR=5.4
GYA Guiyang 69.91 305 eP P 00 19 10.6 -0.7
GYA pP **pP 00 19 22.7 +4.9**
GYA sP sP 00 19 27.0 +6.7
GYA PP **PP 00 21 49.2 +2.9**
GYA S **S 00 28 17.4 -3.2**
GYA SKS **SKSac 00 29 06.8 -5.0**
GYA AMB AMB
comp=Z,10.0nm,1.0s
XAN Xi'an 71.79 313 P P 00 19 22.2 -0.3
XAN pP **pP 00 19 32.5 +3.4**
XAN sP sP 00 19 37.6 +6.1
XAN AMB AMB
comp=Z,2.0nm,0.8s
CM01 Chiang Mai Arr 73.29 294 eP P 00 19 30.7 -1.0
CHTO Chiang Mai 73.44 294 eP P 00 19 28.6 -4.0
10.0nm,1.1s
HHC Hu-ho-hao-te 73.64 320 eP P 00 19 35.7 +2.3
HHC pP **PcP 00 19 46.6 -2.6**
HHC sP sP 00 19 50.3 +7.9
HHC PP **PP 00 22 21.4 +3.4**
HHC S **SKiKP 00 29 02.3 -0.4**
HHC sS sS 00 29 20.6 +6.7
HHC ScS **SKSac 00 29 38.9 -0.4**
HHC SS **SS 00 33 48.7 +1.9**
HHC AMB AMB
comp=Z,37nm,0.7s
HHC AMB AMB
comp=Z,840nm,5.6s
HHC LR LR
comp=N,300nm,17.8s
HHC LR LR
comp=E,460nm,15.5s
HHC LR LR
comp=Z,360nm,17.8s
CD2 Chengdu 74.17 308 P **P 00 19 36.9 +0.2**
CD2 pP **pP 00 19 47.8 +4.6**
CD2 sP sP 00 19 52.1 +6.5
CD2 PP **PP 00 22 24.1 +1.5**
CD2 S **SKiKP 00 29 05.7 +2.0**
CD2 sS **sS 00 29 24.0 +3.9**
CD2 SS **SS 00 33 53.0 -2.1**
CD2 AMB AMB
comp=Z,20nm,0.6s
CD2 AMB AMB
comp=Z,440nm,5.4s
CD2 LR LR
comp=N,420nm,5.9s
CD2 LR LR
comp=Z,330nm,7.1s
LZH Lanzhou 76.42 312 eP P 00 19 50.5 +0.8
LZH pP **PcP 00 20 01.2 -0.2**
LZH sP sP 00 20 05.6 +6.9
LZH PP **PP 00 22 43.5 +1.7**
LZH AMB AMB
comp=Z,21nm,1.3s
LZH AMB AMB
comp=Z,78nm,8.4s
LZH LR LR
comp=N,380nm,17.6s
LZH LR LR
comp=E,310nm,17.8s
LZH LR LR
comp=Z,410nm,19.5s
ULN Ulaanbaatar 80.17 324 eP P 00 20 08.7 -1.5
12nm,1.2s
SONM Songino Array 80.53 324 P P 00 20 11.0 -1.1
2.9nm,0.9s,baz=142,slow=5.6,SNR=8.0
SONA1 Songino Array 80.54 324 eP P 00 20 10.1 -2.0
GTA Gaotai 80.76 314 P P 00 20 14.3 +0.8
GTA pP **PcP 00 20 24.2 +4.1**
GTA sP sP 00 20 28.3 +5.8
GTA S **S 00 30 21.1 +0.5**
GTA sS **SKKSac 00 30 37.5 +4.0**
GTA SS **SS 00 35 39.4 +4.9**
GTA AMB AMB
comp=Z,7.0nm,1.4s
GTA LR LR
comp=N,200nm,17.3s
GTA LR LR
comp=E,190nm,16.9s
GTA LR LR
comp=Z,150nm,17.3s
IL1 Eielson Array 85.27 18 eP P 00 20 34.2 -1.9
ILAR Eielson Array 85.27 18 P P 00 20 34.9 -1.2
0.6nm,0.7s,baz=255,slow=4.8,SNR=5.0
ILB Eielson Array 85.27 18 eP P 00 20 34.9 -1.2
NV01 Mina Array Sit 86.98 50 eP P 00 20 44.5 -1.0
NVAR Mina Array Bea 86.98 50 P P 00 20 45.8 +0.4
1.0nm,0.8s,baz=228,slow=6.1,SNR=5.4
DLBC Dease Lake 87.96 28 LR LR 00 53 47.4
comp=Z,16nm,28.6s,baz=255,slow=31
WMQ Urumqi 90.81 315 eP P 00 21 03.2 0.0
WMQ pP **pP 00 21 13.8 +3.9**
WMQ sP sP 00 21 17.7 +5.4
WMQ AMB AMB
comp=Z,8.0nm,0.5s
WMQ AMB AMB
comp=Z,130nm,3.8s
MK01 Makanchi Array 95.26 317 eP P 00 21 21.7 -2.0
MK32 Makanchi Array 95.28 317 eP P 00 21 22.8 -0.8
MKAR Makanchi Array 95.28 317 eP P 00 21 20.1 -3.5
MKAR Makanchi Array 95.28 317 P P 00 21 22.8 -0.9
2.4nm,0.7s,baz=98,slow=6.3,SNR=18
ZALV Zalesovo Beam 95.43 324 P P 00 21 22.6 -1.6
1.9nm,0.6s,baz=106,slow=4.8,SNR=11
LTX Lajitas 96.40 61 eP P 00 21 29.1 -0.2
TXAR Lajitas Array 96.40 61 P P 00 21 29.1 -0.2
0.5nm,0.8s,baz=263,slow=3.5,SNR=4.7
ARA0 ARCESS Array S 118.38 345 ePKPdf **PKPdf 00 26 43.5 -3.1**
ARCES ARCESS Array B 118.38 345 PKP **PKPdf 00 26 43.5 -3.1**
2.6nm,1.0s,baz=68,slow=2.0,SNR=5.7
GERES GERESS Array B 137.68 333 PKP **PKPdf 00 27 22.6 -1.4**
0.4nm,0.7s,baz=48,slow=1.5,SNR=3.2
KEST Kesra 149.26 321 PKPbc **PKPdf 00 27 48.6 +3.9**
3.1nm,0.7s,baz=69,slow=1.6,SNR=13
ESDC Sonseca Array 152.10 344 ePKPbc **PKPbc 00 27 54.8 -0.7**
ESDC ePKPab **PKPab 00 28 04.9 -0.1**
ESDC Sonseca Array 152.10 344 PKPbc **PKPbc 00 27 54.8 -0.7**
0.5nm,0.7s,baz=26,slow=2.2,SNR=3.6
ESDC PKPab **PKPab 00 28 04.9 -0.1**
0.8nm,0.6s,baz=17,slow=2.3,SNR=4.8
TOA0 Torodi Ar. Sit 164.90 272 ePKPdf **PKPdf 00 28 03.5 -1.4**
TOA0 ePKPab **PKPab 00 28 59.9 -1.2**
TORD Torodi Ar. Bea 164.90 272 PKP **PKPdf 00 28 03.4 -1.4**
0.5nm,1.0s,baz=300,slow=2.1,SNR=3.2
TORD PKPab **PKPab 00 28 59.8 -1.2**
1.1nm,0.9s,baz=87,slow=4.4,SNR=4.9

IDC 09 00:22:26.4±1.3, 11°68'×165°92'E, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.8/19, mbtmp4.0/6, ML3.3/1, Error ellipse: s-maj=39.0km s-min=27.9km az=111.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.35**	**177**	Pn	Pn	00 24 57.9	+1.6
	0.2nm,0.3s,baz=133,slow=18,SNR=3.5						
WRA	**Warramunga Arr**	**31.43**	**251**	P	P	00 28 50.1	+0.3
	1.6nm,0.9s,baz=84,slow=9.0,SNR=4.5						
ASAR	**Alice Springs**	**32.66**	**244**	P	P	00 29 00.5	-0.1
	1.9nm,0.7s,baz=72,slow=9.6,SNR=17						
VNDA	**Vanda**	**65.86**	**181**	P	P	00 33 12.8	-0.6
	0.7nm,0.7s,baz=23,slow=15,SNR=4.3						
ILAR	**Eielson Array**	**84.06**	**18**	P	P	00 34 59.1	+0.4
	0.2nm,0.5s,baz=235,slow=4.5,SNR=4.0						
MKAR	**Makanchi Array**	**94.10**	**317**	P	P	00 35 46.4	-0.6
	1.6nm,0.7s,baz=101,slow=6.1,SNR=12						

IDC 09 00:37:06.3±8.2, 18°01'S×173°31'W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.7/20, mbtmp3.9/2, MS4.0/2, Ms1 4.0/2, ms1mx3.2/35, Error ellipse: s-maj=398.4km s-min=66.4km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPT	**Papeete**	**22.60**	**93**	LR	LR	00 49 31.9	
	comp=Z,16nm,28.6s,baz=339,slow=33						
WRA	**Warramunga Arr**	**49.38**	**259**	P	P	00 45 57.3	-0.8
	0.4nm,0.3s,baz=97,slow=8.3,SNR=3.9						
ASAR	**Alice Springs**	**49.43**	**254**	P	P	00 45 58.9	+0.4
	2.3nm,0.9s,baz=89,slow=8.4,SNR=17						
ASAJ	**Asahikawa**	**73.79**	**329**	LR	LR	01 17 05.7	
	comp=Z,16nm,28.6s,baz=263,slow=32						
BRTR	**Keskin Array B**	**148.19**	**318**	PKPbc	PKPbc	00 56 53.9	-0.8
	1.3nm,0.9s,baz=63,slow=1.7,SNR=3.8						

*ISCJB **09** 00:38:29.5±1.1, 46°.4N±0°.1×27°.2W±0°.2, h10km, mb3.6/4, Error ellipse: s-maj=22.4km s-min=13.7km az=19.2*
*IDC **09** 00:38:30.1±1.3, 46°.48N×27°.29W, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.4/33, mbtmp3.6/4, ML4.7/1, Error ellipse: s-maj=48.2km s-min=27.6km az=20.0*
ISC 09 00:38:31.6±1.3, 46°.4N±0°.2×27°.2W±0°.1, h10km, n27, σ1°94/20, mb3.8/4, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCAB	**Cabril**	**14.53**	**102**	eP	Pn	**00 41 56.7**	**-0.5**
	27nm,2.0s						
PVRL	**Vila Real**	**14.93**	**103**	eP	Pn	**00 42 04.5**	**+1.9**
PVIS	**Viseu**	**15.07**	**105**	eP	Pn	**00 42 01.8**	**-2.7**
	19nm,1.8s						
PBRG	**Braganca**	**15.37**	**100**	eP	Pn	**00 42 08.3**	**-0.1**
	15nm,1.7s						
MVO	**Moncorvo**	**15.45**	**103**	eP	Pn	**00 42 08.6**	**-0.9**
	16nm,1.5s						
PMTG	**Montargil**	**15.71**	**111**	eP	Pn	**00 42 11.8**	**-1.0**
	9.5nm,1.5s						
PNCL	**Nicolau / Gran**	**16.07**	**114**	eP	Pn	**00 42 18.3**	**+0.8**
	26nm,2.4s						
EVO	**Evora**	**16.15**	**112**	eP	Pn	**00 42 14.1**	**-4.4**
QUIF	**Quistinic**	**16.38**	**76**	eP	Pn	**00 42 17.1**	**-4.3**
GRR	**Gorron**	**17.89**	**74**	eP	Pn	**00 42 40.8**	**+0.5**
	58nm,1.4s						
ESDC	**Sonseca Array**	**18.21**	**103**	P	P	**00 42 46.9**	**+2.3**
	0.5nm,0.3s,baz=298,slow=12,SNR=14						
SJPF	**Ste Jean**	**18.68**	**91**	eP	Pn	**00 42 52.1**	**+2.0**
	15nm,1.0s						
ETSF	**Etsaut**	**19.21**	**91**	eP	P	**00 42 56.1**	**+0.4**
	5.0nm,0.6s						
TCF	**Toulx Ste Croi**	**20.23**	**80**	eP	Pn	00 43 08.1	-0.5
	20nm,1.2s						
BGF	**Bois d'Agland**	**20.61**	**79**	eP	P	**00 43 11.4**	**+0.6**
AVF	**Avril sur Loir**	**20.91**	**78**	eP	P	**00 43 14.4**	**+0.4**
	23nm,1.4s						
BAIF	**Baives**	**21.13**	**69**	eP	P	**00 43 17.2**	**+0.9**
SMF	**Signal de Mont**	**21.27**	**78**	eP	P	**00 43 16.7**	**-1.2**
	8.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**41.11**	**134**	P	P	**00 46 16.0**	**+0.3**
	0.6nm,0.7s,baz=329,slow=8.3,SNR=6.7						
H10N2	**ASCENSION HYDR**	**55.17**	**165**	T	T	01 47 21.9	
	baz=350,slow=0.7,SNR=3.6						
H10N3	**ASCENSION HYDR**	**55.18**	**165**	T	T	01 47 22.4	
	baz=350,slow=0.7,SNR=5.6						
H10N1	**ASCENSION HYDR**	**55.19**	**165**	T	T	01 47 22.3	
	baz=350,slow=0.7,SNR=3.0						
H10S1	**ASCENSION HYDR**	**56.23**	**165**	T	T	01 48 39.3	
	baz=350,slow=0.7,SNR=9.9						
H10S3	**ASCENSION HYDR**	**56.24**	**165**	T	T	01 48 40.8	
	baz=350,slow=0.7,SNR=13						
H10S2	**ASCENSION HYDR**	**56.25**	**165**	T	T	01 48 40.7	
	baz=350,slow=0.7,SNR=12						
TXAR	**Lajitas Array**	**60.47**	**283**	P	P	**00 48 41.3**	**-0.4**
	0.6nm,0.8s,baz=73,slow=7.2,SNR=6.6						
MKAR	**Makanchi Array**	**68.51**	**44**	P	P	**00 49 33.8**	**-0.1**
	0.8nm,0.8s,baz=314,slow=6.4,SNR=6.1						

*AUST **09** 00:43:38.4±0.0, 3°.01N×121°.62E, h591km, Error ellipse: s-maj=2.0km s-min=1.8km az=225.0*
*ISCJB **09** 00:43:40.9±0.3, 2°.82N±0°.04×121°.85E±0°.06, h618km, mb4.2/17, Error ellipse: s-maj=8.8km s-min=4.3km az=153.0*
*IDC **09** 00:43:41.9±0.9, 2°.79N×121°.86E, h617km±12km, mb3.5/17, mb1 3.6/18, mb1mx3.5/28, mbtmp3.5/18, Error ellipse: s-maj=17.3km s-min=6.8km az=76.0*
*DJA **09** 00:43:43.0±0.5, 3°N±5°×12°2E±1°, h604km±5km, M4.5/15, mB4.8/9, mb4.6/15, MLv4.9/12, Mw(mB)4.1/9, Mwp5.7/1*
ISC 09 00:43:41.9±0.4, 2°.78N±0°.06×121°.87E±0°.09, h618km, n72, σ1°09/84, mb4.3/17, 1C, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**2.29**	**178**	P	P	**00 44 58.2**	**-0.9**
MRSI				S	S	**00 45 59.4**	**-2.4**
KMSI	**Cibinong**	**3.04**	**136**	P	P	**00 45 02.3**	**-0.5**
KMSI				S	S	**00 46 07.7**	**-0.9**
APSI	**Ampana**	**3.67**	**183**	P	P	**00 45 05.8**	**-0.8**
LUWI	**Luwuk**	**3.90**	**167**	P	P	**00 45 06.4**	**-1.7**
LUWI				S	S	**00 46 15.1**	**-3.1**
LUWI	**Luwuk**	**3.90**	**167**	P	P	**00 45 06.0**	**-2.1**
	baz=4.2,SNR=12						
MYLDM	**Lahad Datu**	**4.12**	**305**	P	P	**00 45 10.3**	**+0.8**
MYLDM	**Lahad Datu**	**4.12**	**305**	P	P	**00 45 10.3**	**+0.8**
TSM	**Tawau**	**4.26**	**291**	P	P	**00 45 09.9**	**-0.6**
SDKM	**Sandakan**	**5.46**	**302**	P	P	**00 45 18.3**	**-1.3**
TNTI	**Ternate**	**5.84**	**110**	P	P	**00 45 21.3**	**-1.5**
	105nm,1.2s,5μm1.9nm						
TTSI	**Tana Toraja**	**6.13**	**200**	P	P	**00 45 24.9**	**-0.3**
	141nm,0.9s,2μm0.5nm						
KDM	**Kudat**	**6.49**	**310**	P	P	**00 45 27.7**	**-0.5**
KKSI	**Kolaka, Sulawe**	**6.91**	**182**	P	P	**00 45 31.5**	**-0.4**
	148nm,0.5s,3μm0.6nm						
MJSI	**Majene**	**6.92**	**205**	P	P	**00 45 32.6**	**+0.6**
	129nm,0.7s,2μm0.6nm						
SPSI	**Sidrap Palu**	**7.02**	**197**	P	P	**00 45 32.6**	**-0.3**
	128nm,0.7s,1μm0.4nm						
TBP	**Tagbilaran**	**7.15**	**16**	eP	P	**00 45 33.0**	**-1.1**
BNSI	**Bone**	**7.34**	**194**	P	P	**00 45 35.7**	**-0.2**
	94nm,0.8s,1μm0.4nm						
NLAI	**Namlea**	**7.94**	**139**	P	P	**00 45 42.2**	**+0.8**
	87nm,0.9s,2μm23μm0.4nm						
KAPI	**Kappang**	**8.02**	**195**	P	P	**00 45 41.6**	**-0.5**
	32nm,1.0s						
KAPI	**Kappang**	**8.02**	**195**	P	P	**00 45 40.1**	**-2.0**
	4.9nm,0.3s,baz=21,slow=13,SNR=12						
BKSI	**Bulukumba**	**8.23**	**192**	P	P	**00 45 42.8**	**-1.3**
	31nm,0.8s						
BBSI	**Bau Bau**	**8.24**	**175**	P	P	**00 45 44.6**	**+0.4**
	128nm,0.8s						
MSAI	**Masohi**	**9.32**	**131**	P	P	**00 45 54.7**	**+0.2**
	26nm,0.6s,852nm						
BNDI	**Bandanaira**	**10.82**	**132**	P	P	**00 46 09.3**	**+0.1**
	baz=11,SNR=3.2						
MMRI	**Maumere**	**11.34**	**178**	P	P	**00 46 14.7**	**+0.4**
	70nm,0.6s						
FAKI	**Fak Fak**	**11.82**	**119**	P	P	**00 46 19.1**	**+0.1**
	baz=12,SNR=10						
SOEI	**Soe**	**12.68**	**169**	P	P	**00 46 27.6**	**+0.1**
	100nm,0.8s						
SOEI	**Soe**	**12.68**	**169**	P	P	**00 46 27.4**	**-0.1**
	baz=13,SNR=11						
BATI	**Baumata**	**13.02**	**172**	P	P	**00 46 30.0**	**-0.7**
	370nm,0.5s,4μm						
BATI	**Baumata**	**13.02**	**172**	P	P	**00 46 30.8**	**+0.1**
	160nm,0.3s,baz=354,slow=1.2,SNR=90						
BATI				S	S	**00 48 50.8**	**+1.6**
	9.7nm,0.3s,baz=20,slow=23,SNR=15						
JAY	**Jayapura**	**19.55**	**105**	P	P	00 47 44.4	+13
KNRA	**Kununurra**	**19.56**	**160**	P	P	**00 47 31.6**	**+0.7**
	baz=20,SNR=4.9						
FITZ	**Fitzroy Crossi**	**21.08**	**170**	P	P	00 47 49.5	+5.0
	baz=22,SNR=7.2						
FITZ	**Fitzroy Crossi**	**21.08**	**170**	P	P	**00 47 45.1**	**+0.6**
	1.1nm,0.3s,baz=2.9,slow=11,SNR=4.9						
FITZ				S	S	**00 50 56.8**	**-3.1**
	1.1nm,0.8s,baz=128,slow=18,SNR=3.2						
WRA	**Warramunga Arr**	**25.68**	**152**	P	P	**00 48 25.2**	**-0.2**
	12nm,0.4s,baz=336,slow=9.4,SNR=27						
WRA				PcP	PcP	**00 51 34.1**	**+0.1**
	1.5nm,0.5s,baz=317,slow=2.4,SNR=4.8						
WRA				S	S	**00 52 09.1**	**-3.3**
	6.1nm,0.7s,baz=334,slow=16,SNR=6.4						
CMAR	**Chiang Mai Arr**	**27.33**	**306**	P	P	**00 48 40.4**	**+0.5**
	1.1nm,0.3s,baz=140,slow=7.7,SNR=8.2						
CMAR				ScP	ScP	**00 54 21.4**	**+0.4**
	1.0nm,0.3s,baz=149,slow=2.9,SNR=5.8						
CHTO	**Chiang Mai**	**27.52**	**307**	P	P	**00 48 42.3**	**+0.8**
ASAR	**Alice Springs**	**28.78**	**157**	P	P	**00 48 53.0**	**+0.7**
	3.3nm,0.5s,baz=330,slow=6.8,SNR=51						
ASAR				PcP	PcP	**00 51 41.8**	**+0.2**
	1.5nm,0.4s,baz=347,slow=3.0,SNR=8.3						
ASAR				S	S	**00 52 58.9**	**-1.5**
	3.1nm,0.8s,baz=338,slow=16,SNR=12						
ASAR				ScP	ScP	**00 54 25.2**	**-0.2**
	1.2nm,0.5s,baz=348,slow=3.2,SNR=6.4						
MEEK	**Meekatharra**	**29.41**	**186**	P	P	**00 48 58.1**	**+0.4**
	baz=30,SNR=5.4						
MORW	**Morawa**	**32.15**	**190**	P	P	**00 49 21.7**	**+0.7**
	baz=32,SNR=7.4						
KLBR	**Kellerberrin**	**34.40**	**186**	P	P	**00 49 40.3**	**+0.5**
	baz=35,SNR=7.3						
KSRS	**Korea Array**	**34.96**	**8**	P	P	**00 49 44.5**	**+0.3**
	4.5nm,0.5s,baz=189,slow=9.5,SNR=16						
NWAO	**Narrogin (SRO)**	**35.78**	**187**	P	P	**00 49 51.2**	**+0.1**
	5.1nm,0.5s,baz=18,slow=6.8,SNR=6.3						
QLP	**Quilpie**	**36.32**	**145**	P	P	**00 49 57.1**	**+1.5**
	baz=37,SNR=5.0						
MJAR	**Matsushiro Arr**	**36.83**	**22**	P	P	**00 49 58.5**	**-1.2**
	7.2nm,0.6s,baz=190,slow=9.3,SNR=14						
MJAR				ScP	ScP	**00 54 53.0**	**-0.5**
	2.7nm,0.6s,baz=186,slow=4.7,SNR=4.7						
BBOO	**Buckleboo**	**37.86**	**160**	P	P	**00 50 09.0**	**+1.0**
	baz=38,SNR=6.1						
STKA	**Stephens Creek**	**39.23**	**153**	P	P	**00 50 20.4**	**+1.3**
	baz=40,SNR=38						
STKA	**Stephens Creek**	**39.23**	**153**	P	P	**00 50 20.4**	**+1.3**
	8.7nm,0.3s,baz=330,slow=8.0,SNR=45						
ODAN	**Odare**	**40.78**	**309**	eP	P	**00 50 32.0**	**+0.1**
	21nm,0.7s						
TAPN	**Taplejung**	**40.78**	**310**	eP	P	**00 50 32.2**	**+0.3**
	15nm,0.4s						
CMSA	**Cobar Meteorol**	**40.96**	**148**	P	P	**00 50 34.7**	**+1.8**
	baz=41,SNR=24						
RAMN	**Ramite**	**41.44**	**309**	eP	P	**00 50 37.6**	**+0.6**
	30nm,0.6s						
JIRN	**Jiri**	**42.11**	**310**	eP	P	**00 50 42.5**	**+0.1**
	29nm,0.6s						
USRK	**Ussuriysk Arra**	**42.21**	**11**	P	P	**00 50 42.2**	**-0.2**
	14nm,0.5s,baz=192,slow=6.8,SNR=34						
GUN	**Gumba**	**42.47**	**310**	eP	P	**00 50 45.2**	**0.0**
	26nm,0.3s						
PKI	**Pulchoki**	**42.67**	**309**	eP	P	**00 50 46.6**	**-0.1**
	9.5nm,0.3s						
KKN	**Kakani**	**42.87**	**309**	eP	P	**00 50 48.3**	**+0.1**
	11nm,0.4s						
DMN	**Daman**	**42.92**	**309**	eP	P	**00 50 49.1**	**+0.5**
GKN	**Gorkha**	**43.48**	**309**	eP	P	**00 50 52.8**	**+0.1**
	10nm,0.3s						
ARPS	**Mount Arapiles**	**43.52**	**157**	P	P	**00 50 53.8**	**+1.1**
	baz=44,SNR=6.6						
ARMA	**Armidale**	**43.55**	**142**	P	P	**00 50 56.1**	**+2.9**
	baz=44,SNR=8.9						
KOLN	**Koldanda**	**44.18**	**308**	eP	P	**00 50 58.7**	**+0.5**
	14nm,0.3s						
DANN	**Dangsing**	**44.32**	**309**	eP	P	**00 50 59.5**	**+0.1**
	40nm,0.5s						
SONM	**Songino Array**	**46.83**	**346**	P	P	**00 51 18.1**	**+0.2**
	10nm,0.6s,baz=164,slow=8.8,SNR=58						
SONM				ScP	ScP	**00 55 33.2**	**-0.5**
	1.4nm,0.9s,baz=163,slow=4.2,SNR=4.9						
MKAR	**Makanchi Array**	**55.67**	**328**	P	P	**00 52 21.6**	**+0.2**
	6.7nm,0.3s,baz=124,slow=8.4,SNR=155						
MKAR				ScP	ScP	**00 56 11.4**	**-0.5**
	0.4nm,0.5s,baz=119,slow=5.1,SNR=3.7						
PETK	**Petropavlovsk-**	**58.22**	**25**	P	P	**00 52 39.1**	**+0.6**
	3.7nm,0.7s,baz=193,slow=6.1,SNR=6.0						
ZALV	**Zalesovo Beam**	**59.33**	**336**	P	P	**00 52 44.9**	**-1.0**
	2.3nm,0.3s,baz=130,slow=6.6,SNR=16						
URZ	**Urewera**	**65.25**	**135**	P	P	**00 53 25.5**	**+1.3**
	7.5nm,0.6s,baz=176,slow=16,SNR=5.3						
MAW	**Mawson**	**81.22**	**199**	P	P	**00 54 54.3**	**+0.1**
	1.1nm,0.6s,baz=71,slow=3.3,SNR=6.8						
VNDA	**Vanda**	**83.14**	**172**	P	P	**00 55 04.0**	**+0.2**
	1.5nm,0.5s,baz=311,slow=5.7,SNR=13						
KMBO	**Kilima Mbogo**	**84.68**	**269**	P	P	**00 55 13.1**	**+0.1**
	0.4nm,0.2s,baz=229,slow=22.3,SNR=3.9						
TORD	**Torodi Ar. Bea**	**118.57**	**286**	PKP	**PKPdf**	**01 01 20.9**	**-0.9**
	0.4nm,0.4s,baz=85,slow=1.5,SNR=9.2						

*ISCJB **09** 00:44:46.4±0.2, 23°.93S±0°.04×66°.70W±0°.05, h195km, mb4.4/37, Error ellipse: s-maj=7.1km s-min=4.7km az=147.0*
*IDC **09** 00:44:47.7±1.4, 23°.90S×66°.74W, h191km±12km, mb4.0/14, mb1 4.1/18, mb1mx4.0/23, mbtmp3.9/18, Error ellipse: s-maj=15.7km s-min=11.5km az=50.0*
*NEIC **09** 00:44:47.3±2.6, 23°.96S×66°.75W, h196km±7km, mb4.6/29, Error ellipse: s-maj=17.6km s-min=7.0km az=93.0*
*BJI **09** 00:44:49.2, 23°.90S×66°.70W, h203km, mB5.3/2*
ISC 09 00:44:47.2±0.4, 23°.99S±0°.05×66°.76W±0°.07, h195km, n354, σ1°17/363, mb4.5/37, 158C-112D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.41**	**304**	ePn	Pn	**00 45 30.1**	**+0.1**
LVC				eSn	Sn	**00 46 02.8**	**-0.6**
LCO	**Las Campanas**	**6.12**	**214**	ePn	Pn	**00 46 15.2**	**-1.0**
LCO				eSn	Sn	00 47 16.9	-10
CFAA	**Coronel Fontan**	**7.70**	**189**	ePn	Pn	**00 46 37.0**	**+0.5**
CFAA				eSn	Sn	**00 47 59.3**	**-4.1**
CFAA	**Coronel Fontan**	**7.70**	**189**	P	Pn	**00 46 37.0**	**+0.5**
	0.3nm,0.3s,baz=16,slow=11,SNR=27						
CFAA				S	Sn	**00 47 59.3**	**-4.1**
	2.5nm,0.3s,baz=122,slow=22,SNR=26						
LPAZ	**La Paz**	**7.77**	**350**	ePn	Pn	**00 46 37.8**	**-0.4**
LPAZ				eSn	Sn	**00 48 04.4**	**-1.7**
LPAZ	**La Paz**	**7.77**	**350**	P	Pn	**00 46 37.6**	**-0.4**
	3.0nm,0.3s,baz=162,slow=5.8,SNR=64						
LPAZ				S	Sn	00 48 01.1	-5.1
	1.0nm,0.3s,baz=255,slow=20,SNR=2.9						
CPUP	**Villa Florida**	**8.86**	**107**	ePn	Pn	**00 46 51.6**	**0.0**
CPUP	**Villa Florida**	**8.86**	**107**	P	Pn	**00 46 52.1**	**+0.4**
	0.8nm,0.3s,baz=258,slow=10,SNR=9.9						
SIV	**San Ignacio**	**9.59**	**35**	ePn	Pn	**00 47 00.1**	**-1.2**
SIV				eSn	Sn	00 48 34.7	-14
SIV	**San Ignacio**	**9.59**	**35**	P	Pn	**00 47 00.1**	**-1.2**
	2.7nm,0.3s,baz=237,slow=11,SNR=32						
SIV				S	Sn	00 48 34.7	-14
	baz=266,slow=17,SNR=3.8						
TRQA	**Tornquist**	**14.61**	**165**	ePn	Pn	**00 48 04.5**	**-0.3**
SAML	**Samuel**	**15.34**	**13**	ePn	Pn	**00 48 12.6**	**-1.4**
	12nm

VNA2	Neumayer--Watz	57.65	160	eP	P	00 54 19.1 +2.4
SNAA	Sanae	59.29	161	eP	P	00 54 30.0 +2.0
SNAA	Sanae 19nm,1.6s	59.29	161	eP	P	00 54 29.8 +1.8
732A	Laxson Ranch, baz=62	61.40	327	⇓P	P	00 54 42.8 0.0
SWET	Sewanee 7.1nm,0.8s	61.62	342	eP	P	00 54 43.5 -0.7
632A	Uvalde baz=62	61.94	327	⇓P	P	00 54 46.2 -0.2
631A	Perdido Creek baz=62	62.26	327	⇓P	P	00 54 48.6 0.0
532A	Rocksprings baz=63,SNR=5.2	62.51	328	⇑P	P	00 54 50.1 -0.2
JCT	Junction City 11nm,0.7s	62.75	328	eP	P	00 54 51.5 -0.3
JCT	Junction City baz=63,SNR=6.2	62.75	328	⇑P	P	00 54 51.7 -0.2
531A	Rocksprings baz=63	62.86	327	⇓P	P	00 54 52.9 +0.4
WHTX	Lake Whitney baz=63	62.93	331	⇑P	P	00 54 52.3 -0.6
WVT	Waverly 10nm,0.8s	63.02	341	eP	P	00 54 51.8 -1.6
432A	Menard baz=63,SNR=6.1	63.08	328	⇑P	P	00 54 53.6 -0.3
530A	J-C Ranch, Com baz=64	63.24	327	⇓P	P	00 54 55.5 +0.4
431A	Sonora baz=64	63.31	328	⇑P	P	00 54 55.5 -0.1
332A	Millersview baz=64,SNR=9.1	63.47	329	⇓P	P	00 54 56.5 -0.1
628A	Black Gap, Mar baz=64,SNR=9.0	63.51	325	⇓P	P	00 54 57.2 +0.3
529A	Stev Forest Ra baz=64,SNR=8.1	63.67	326	⇓P	P	00 54 58.3 +0.4
430A	Baggett Ranch, baz=64,SNR=5.2	63.71	327	⇓P	P	00 54 57.9 -0.2
331A	San Angelo baz=64,SNR=6.6	63.74	328	⇓P	P	00 54 58.1 -0.2
627A	Terlingua Ranc baz=64	63.74	325	⇑P	P	00 54 58.8 +0.3
LTX	Lajitas	63.80	324	eP	P	00 54 59.0 +0.2
TXAR	Lajitas Array 1.5nm,0.7s,baz=151,slow=8.6,SNR=16	63.80	324	P	P	00 54 59.0 +0.2
TX31	Lajitas Ar. Si	63.80	324	eP	P	00 54 58.2 -0.6
232A	Coleman baz=64,SNR=7.3	63.84	329	⇓P	P	00 54 58.6 -0.4
429A	Davenport Ranc baz=64,SNR=6.6	63.91	326	⇑P	P	00 54 59.8 +0.4
528A	Cox Ranch, San baz=64,SNR=6.3	63.99	325	⇑P	P	00 55 00.1 +0.1
330A	Mertzon baz=64	64.18	328	⇓P	P	00 55 01.1 -0.1
231A	Bronte baz=64	64.20	329	⇓P	P	00 55 01.3 0.0
626A	Big Bend Ranch baz=64,SNR=18	64.22	324	⇓P	P	00 55 02.1 +0.6
428A	Kincaid Ranch, baz=65	64.39	326	⇓P	P	00 55 03.2 +0.6
527A	Woodward Ranch baz=65,SNR=6.3	64.41	325	⇓P	P	00 55 02.9 0.0
PBMO	Poplar Bluff 7.2nm,0.7s	64.44	339	eP	P	00 55 00.9 -1.8
ABTX	Abilene, Hawle baz=65	64.45	329	⇓P	P	00 55 03.3 +0.4
230A	Sterling City baz=65	64.55	328	⇓P	P	00 55 03.2 -0.3
526A	Mary Lane Ranc baz=65,SNR=13	64.59	324	⇓P	P	00 55 04.5 +0.5
329A	Wagon Wheel Ra baz=65,SNR=7.8	64.65	327	⇓P	P	00 55 04.2 -0.1
131A	Roby baz=65	64.84	329	⇓P	P	00 55 05.4 0.0
427A	Hayter Ranch, baz=65	64.86	325	⇓P	P	00 55 05.8 +0.2
Z32A	Haskell baz=65	64.95	330	⇑P	P	00 55 05.6 -0.5
229A	Bryant Ranch, baz=65	64.95	327	⇓P	P	00 55 06.3 +0.2
328A	Wristen Ranch, baz=65,SNR=7.0	64.98	326	⇓P	P	00 55 06.7 +0.3
426A	McDonald Obser baz=65,SNR=8.1	65.04	325	⇑P	P	00 55 07.5 +0.5
130A	Snyder baz=65	65.05	328	⇑P	P	00 55 06.6 -0.2
Z31A	Sharp Cattle R baz=66,SNR=6.8	65.26	330	⇓P	P	00 55 07.9 -0.2
327A	Balmorhea Ranc baz=66	65.32	326	⇓P	P	00 55 09.0 +0.4
228A	UT Block 9, Go baz=66	65.46	327	⇑P	P	00 55 09.6 +0.1
129A	Stewart Farms, baz=66	65.52	328	⇑P	P	00 55 10.0 +0.1
326A	Caldwell Ranch baz=66	65.53	325	⇓P	P	00 55 10.4 +0.5
TUL1	Tulsa baz=66	65.60	334	⇑P	P	00 55 10.7 +0.5
425A	Indio Mountain baz=66,SNR=6.3	65.64	324	⇑P	P	00 55 11.2 +0.5
Z30A	Sanderson Ranc baz=66	65.70	329	⇑P	P	00 55 10.7 -0.2
128A	Castleberry Fa baz=66,SNR=5.1	65.81	327	⇑P	P	00 55 11.7 0.0
Y31A	Rekieta Farm, baz=66	65.85	330	⇑P	P	00 55 12.2 +0.3
Z29A	Hungry Hill Ra baz=66	65.95	328	⇑P	P	00 55 12.7 +0.1
325A	Bean Ranch, Si baz=66,SNR=16	66.09	325	⇓P	P	00 55 13.8 +0.1
QSPA	South Pole Qui 72nm,2.8s	66.21	180	eP	P	00 55 13.3 -0.6
226B	Tecolote Peak, baz=66	66.23	326	⇑P	P	00 55 15.1 +0.7
X31A	McDonald Ranch baz=66	66.28	330	⇓P	P	00 55 14.5 -0.1
127A	Arkansas Junct baz=66	66.29	327	⇓P	P	00 55 15.2 +0.4
Z28A	Tucker Farm, M baz=66	66.31	328	⇑P	P	00 55 14.6 -0.2
324A	Moseley Ranch, baz=67,SNR=9.2	66.42	324	⇓P	P	00 55 15.4 -0.2
Y29A	Porterfield Fa baz=67	66.43	329	⇓P	P	00 55 15.8 +0.2
X30A	Coker Ranch, T baz=67	66.54	330	⇑P	P	00 55 16.1 -0.1
MNTX	Cornudas Mount 3.7nm,0.9s	66.56	325	eP	P	00 55 16.0 -0.4
225A	Deer Hill, Car baz=67,SNR=5.9	66.59	325	⇓P	P	00 55 17.0 +0.2
126A	Clayton Basin, baz=67	66.60	326	⇓P	P	00 55 17.3 +0.5
Z27A	Tatum baz=67,SNR=5.9	66.73	327	⇑P	P	00 55 17.2 -0.4
Y28A	McKinney Farm, baz=67	66.74	328	⇑P	P	00 55 17.0 -0.6
X29A	Tulia baz=67	66.92	329	⇑P	P	00 55 18.9 +0.2
224A	Cornudas Mount baz=67,SNR=14	66.93	325	⇓P	P	00 55 19.0 +0.1
125A	Gardner Draw, baz=67,SNR=5.2	66.94	326	⇑P	P	00 55 18.5 -0.4
MSTX	Muleshoe	67.05	328	eP	P	00 55 19.4 -0.2
MSTX	Muleshoe baz=67,SNR=6.6	67.05	328	⇓P	P	00 55 19.3 -0.2
Z26A	Caprock baz=67,SNR=8.5	67.08	327	⇑P	P	00 55 19.9 +0.1
Y27A	Causey baz=67,SNR=6.4	67.17	328	⇑P	P	00 55 19.9 -0.4
X28A	Dimmitt baz=68	67.22	329	⇑P	P	00 55 20.4 -0.2
LIC	Lamto 13nm,0.5s	67.23	72	eP	P	00 55 20.2 -0.8
124A	Stringfield Ra baz=68,SNR=8.4	67.39	325	⇑P	P	00 55 22.2 +0.3
TIC	Toumodi 3.7nm,0.2s	67.44	71	eP	P	00 55 21.6 -0.7
Z25A	Roswell baz=68,SNR=6.7	67.46	326	⇑P	P	00 55 22.4 +0.2
Y26A	Elida baz=68	67.53	327	⇓P	P	00 55 23.9 +1.3
KIC	Kosan Boka 168nm,1.8s	67.54	72	eP	P	00 55 22.5 -0.5
DBIC	Dimbokro	67.59	71	eP	P	00 55 22.8 -0.5
DBIC	Dimbokro 5.2nm,0.5s,baz=230,slow=7.2,SNR=27	67.59	71	P	P	00 55 23.0 -0.3
222A	Williams Famil baz=68	67.80	324	⇓P	P	00 55 25.5 +1.1
Z24A	Sheeppen Canyo baz=68,SNR=6.8	67.83	326	⇓P	P	00 55 24.8 +0.2
Y25A	Mesa, Roswell baz=68,SNR=7.0	67.96	327	⇓P	P	00 55 25.5 +0.2
320A	Kipp Ranch, An baz=68	68.01	322	⇓P	P	00 55 27.2 +1.5
X26A	CR and CF Fran baz=68	68.02	328	⇑P	P	00 55 25.7 0.0
W27A	Bowe Ranch, En baz=68	68.07	328	⇓P	P	00 55 26.2 +0.2
T31A	Randall Ranch, baz=68	68.22	332	⇑P	P	00 55 27.2 +0.4
Z23A	Rita Site, Whi baz=68,SNR=7.2	68.23	325	⇓P	P	00 55 27.8 +0.8
X25A	Clemmons Ranch baz=69	68.42	327	⇓P	P	00 55 28.4 +0.2
W26A	Owens Ranch, T baz=69	68.43	328	⇑P	P	00 55 28.8 +0.6
220A	Playas Peak, P baz=69,SNR=5.9	68.43	322	⇑P	P	00 55 29.6 +1.3
319A	Douglas baz=69	68.46	322	⇑P	P	00 55 30.2 +1.8
121A	Cookes Peak, D baz=69,SNR=6.0	68.50	323	⇑P	P	00 55 30.2 +1.5
S31A	Mullinville baz=69	68.58	333	⇑P	P	00 55 29.6 +0.7
Z22A	Elephant Butte baz=69,SNR=5.1	68.61	324	⇑P	P	00 55 30.8 +1.4
U28A	Mallet baz=69	68.75	330	⇓P	P	00 55 30.4 +0.3
X24A	Lazy VL Ranch, baz=69	68.84	326	⇑P	P	00 55 31.6 +0.8
W25A	X Bar L Ranch, baz=69,SNR=5.3	68.87	328	⇑P	P	00 55 31.3 +0.3
120A	U Bar Ranch, L baz=69	68.98	323	⇑P	P	00 55 33.1 +1.4
V26A	Tequesquite Ra baz=69	69.01	328	⇓P	P	00 55 32.4 +0.6
Z21A	St. Cloud Mine baz=69,SNR=5.7	69.03	324	⇓P	P	00 55 33.7 +1.6
U27A	Thompson Grove baz=69	69.06	329	⇑P	P	00 55 33.9 +1.8
Y22A	Socorro baz=69	69.14	325	⇓P	P	00 55 33.6 +0.9
R31A	Burdett baz=69	69.16	333	⇑P	P	00 55 32.5 0.0
X23A	Hourglass Bar baz=70,SNR=9.9	69.24	326	⇑P	P	00 55 34.3 +1.0
S29A	Ulysses baz=70	69.28	331	⇑P	P	00 55 34.2 +0.8
T28A	Walsh baz=70	69.31	330	⇓P	P	00 55 33.5 -0.1
W24A	Lazy 6 Ranch, baz=70	69.34	327	⇑P	P	00 55 34.5 +0.6
Z20A	Nine Sixteen R baz=70	69.38	323	⇑P	P	00 55 35.1 +1.0
V25A	Rancho No Teng baz=70	69.44	328	⇓P	P	00 55 35.2 +0.6
U26A	Atchley Ranch, baz=70	69.47	329	⇓P	P	00 55 35.3 +0.6
T27A	Campo baz=70	69.54	330	⇑P	P	00 55 35.7 +0.7
Y21A	Point of Rocks baz=70	69.57	325	⇑P	P	00 55 36.8 +1.4
S28A	Manter baz=70	69.60	331	⇓P	P	00 55 36.1 +0.8
X22A	Bernardo baz=70	69.60	325	⇑P	P	00 55 37.0 +1.5
W23A	Werner Place, baz=70	69.67	326	⇑P	P	00 55 36.7 +0.7
V24A	Rampart Ranch, baz=70	69.68	327	⇓P	P	00 55 36.9 +0.9
Q31A	Ellis baz=70	69.71	333	⇑P	P	00 55 36.5 +0.6
U25A	Circle Dot Ran baz=70	69.79	328	⇓P	P	00 55 37.5 +0.8
Y20A	Horse Springs, baz=70	69.87	324	⇓P	P	00 55 38.9 +1.7
X21A	Alamocita Cree baz=70,SNR=5.6	69.96	325	⇑P	P	00 55 39.2 +1.4
W22A	Albuquerque baz=70	69.97	326	⇓P	P	00 55 38.9 +1.2
Q30A	Quinter baz=70	70.03	333	⇓P	P	00 55 38.5 +0.7
T26A	Comanche Natio baz=70	70.03	329	⇑P	P	00 55 38.7 +0.6
V23A	Ortiz Mt. (NFS baz=70	70.15	327	⇑P	P	00 55 39.3 +0.4
U24A	Moreno Valley baz=70	70.22	328	⇑P	P	00 55 39.2 -0.1
Q29A	Oakley baz=70	70.28	332	⇑P	P	00 55 40.0 +0.6
S26A	Kim baz=71	70.34	330	⇑P	P	00 55 41.0 +1.1
T25A	Trinidad baz=71	70.39	329	⇓P	P	00 55 41.1 +0.8
W21A	San Fidel baz=71	70.41	325	⇓P	P	00 55 41.7 +1.3
P30A	Selden baz=71	70.52	333	⇑P	P	00 55 41.4 +0.6
U23A	El Rito baz=71	70.61	327	⇓P	P	00 55 42.7 +1.0
V22A	San Miguel Ran baz=71	70.64	326	⇑P	P	00 55 43.3 +1.4
Q28A	Sharon Springs baz=71	70.79	332	⇑P	P	00 55 44.0 +1.5
T24B	San Luis baz=71	70.79	328	⇑P	P	00 55 44.0 +1.2
S25A	Reis Cordova baz=71,SNR=7.8	70.82	329	⇑P	P	00 55 44.2 +1.3
W20A	Ramah baz=71	70.86	325	⇑P	P	00 55 44.6 +1.4
R26A	Arlington baz=71	70.88	330	⇓P	P	00 55 44.1 +1.0
V21A	Milan baz=71	70.93	326	⇑P	P	00 55 45.1 +1.5
214A	Organ Pipe Nat baz=71	70.94	320	⇑P	P	00 55 45.6 +2.1
O30A	MW Ranch, Wils baz=71	70.98	334	⇓P	P	00 55 44.8 +1.2
R25A	Fountain Ranch baz=71	71.14	330	⇓P	P	00 55 45.3 +0.6
S24A	Houchin Ranch, baz=71	71.17	329	⇑P	P	00 55 46.5 +1.4
X18A	Snowflake baz=71	71.19	323	⇓P	P	00 55 46.7 +1.5
BGNE	Belgrade	71.28	336	eP	P	00 55 45.6 +0.3
BGNE	Belgrade baz=72	71.28	336	⇑P	P	00 55 45.9 +0.6
V20A	Brimhall baz=72	71.36	325	⇑P	P	00 55 47.2 +1.1
SDCO	Great Sand Dun 52nm,2.8s	71.39	328	eP	P	00 55 46.2 -0.2
U21A	Nageezi baz=72	71.42	326	⇓P	P	00 55 48.0 +1.5
R24A	Sanders Place, baz=72	71.59	329	⇑P	P	00 55 48.9 +1.4
T21A	Navajo Lake baz=72	71.80	327	⇑P	P	00 55 49.7 +1.0
U20A	Newcomb baz=72	71.83	326	⇑P	P	00 55 50.0 +1.2
R23A	Moffat baz=72	71.90	329	⇑P	P	00 55 50.3 +0.9
X16A	Lo Mia Camp, P baz=72	71.93	322	⇑P	P	00 55 51.2 +1.7
S22A	4UR Ranch, Cre baz=72	72.04	328	⇑P	P	00 55 51.1 +0.9
113A	Mohawk Valley, baz=72	72.08	320	⇑P	P	00 55 51.5 +1.3
P25A	Willow Gulch B baz=72	72.19	330	⇓P	P	00 55 52.2 +1.2
Q24A	Divide baz=72	72.20	329	⇓P	P	00 55 52.2 +1.0
R22A	Saguache, Gunn baz=73	72.38	328	⇓P	P	00 55 53.6 +1.3
O26A	Horse Wrangler baz=73	72.41	331	⇑P	P	00 55 53.0 +0.8
S21A	Coal Bank Pass baz=73	72.45	327	⇓P	P	00 55 53.8 +1.1
MVCO	Mesa Verde 30nm,1.9s	72.46	326	eP	P	00 55 51.5 -1.2
MVCO	Mesa Verde baz=73	72.46	326	⇑P	P	00 55 53.6 +0.9
Y14A	Wickenburg baz=73	72.47	321	⇑P	P	00 55 53.8 +1.2
WUAZ	Wupatki 6.2nm,0.7s	72.70	323	eP	P	00 55 53.5 -0.6
WUAZ	Wupatki baz=73	72.70	323	⇓P	P	00 55 54.2 +0.1
ECSD	EROS Data Cent 133nm,2.7s	72.75	338	eP	P	00 55 53.4 -0.6
SPMN	St. Paul baz=73	72.86	341	⇑P	P	00 55 54.0 -0.5
S20A	Disappointment baz=73	72.86	327	⇓P	P	00 55 56.6 +1.5
R21A	Cimarron baz=73	72.88	327	⇑P	P	00 55 56.4 +1.3
Q22A	Crested Butte, baz=73	72.95	328	⇓P	P	00 55 56.0 +0.3
ISCO	Idaho Springs baz=73	73.08	330	⇑P	P	00 55 57.5 +1.1
R20A	Redvale baz=73,SNR=6.5	73.15	327	⇓P	P	00 55 58.2 +1.5
Y12C	Blythe baz=73	73.22	320	⇓P	P	00 55 59.0 +2.0
SMCO	Snowmass 3.7nm,0.7s	73.23	328	eP	P	00 55 57.4 +0.1
DVTC	Desert V Tower baz=74	73.41	318	⇑P	P	00 55 59.4 +1.3
J30A	Dallas baz=74	73.44	336	⇓P	P	00 55 58.8 +0.8
P22A	Eagle baz=74	73.46	329	⇓P	P	00 55 59.8 +1.3
SYO	Syowa Base	73.48	159	⇑eP	P	00 56 03.4 +5.5
O23A	Lake Granby, G baz=74	73.55	330	⇓P	P	00 55 60.0 +0.9
Q20A	Ridgley Place, baz=74	73.70	327	⇓P	P	00 56 00.9 +1.1
BC3	Big Chuckawall baz=74	73.71	319	⇑P	P	00 56 01.9 +2.0
P21A	Newcastle baz=74	73.73	328	⇑P	P	00 56 01.7 +1.6
MONP	Monument Peak baz=74	73.76	318	⇑P	P	00 56 02.5 +2.1
O22A	Kremmling baz=74	73.81	329	⇓P	P	00 56 01.6 +1.0
W13A	Hualapai Mount baz=74	73.81	321	⇓P	P	00 56 02.4 +1.8
J29A	Okreek baz=74	73.82	335	⇑P	P	00 56 01.3 +1.0
U15A	North Rim baz=74,SNR=5.8	73.88	323	⇑P	P	00 56 03.0 +1.9
IRM	Iron Mountain baz=74	73.88	320	⇑P	P	00 56 02.7 +1.9
I30A	Oacoma baz=74	73.92	336	⇑P	P	00 56 01.0 +0.2
M24A	Cheyenne baz=74	74.07	331	⇑P	P	00 56 02.5 +0.5
N23A	Red Feather La baz=74	74.11	330	⇑P	P	00 56 03.1 +0.8
P20A	De Beque baz=74	74.17	328	⇓P	P	00 56 03.7 +1.2
J28A	Allard Ranch, baz=74	74.19	335	⇓P	P	00 56 03.1 +0.6
BRSD	Miller baz=74	74.20	337	⇑P	P	00 56 02.5 +0.1
BELC	Belle Mtn. Jos baz=74	74.27	319	⇑P	P	00 56 04.5 +1.2
N22A	Wattenberg Ran baz=74	74.27	330	⇓P	P	00 56 04.3 +1.1
PFO	Pinyon Flat Ob baz=74	74.28	319	⇑P	P	00 56 05.4 +2.2
I29A	Vivian Onida baz=75	74.34	336	⇑P	P	00 56 03.7 +0.5
J27A	Elkhorn Farm, baz=75	74.35	334	⇑P	P	00 56 04.6 +1.2
P19A	Cripple Cowboy baz=75,SNR=5.8	74.56	327	⇑P	P	00 56 05.9 +1.1
O20A	White River Ci baz=75	74.59	328	⇓P	P	00 56 06.2 +1.3
GMRC	Granite Mounta baz=75,SNR=8.7	74.61	320	⇑P	P	00 56 06.6 +1.4
I28A	Midland baz=75	74.65	335	⇑P	P	00 56 05.5 +0.4
G30A	Faulkton baz=75	74.86	337	⇑P	P	00 56 07.2 +1.0
HEC	Hector,Ludlow baz=75	75.04	320	⇑P	P	00 56 09.5 +2.0
N20A	Spence Gulch, baz=75	75.14	329	⇑P	P	00 56 09.4 +1.2
H28A	Mission Ridge baz=75	75.17	335	⇑P	P	00 56 08.7 +0.7
J25A	Sunshine Ranch baz=76	75.20	333	⇓P	P	00 56 09.4 +1.1
TUQ	Turquoise Moun baz=75	75.22	320	⇑P	P	00 56 10.6 +1.9
L22A	Ellis Ranch, M baz=76	75.24	331	⇑P	P	00 56 09.2 +0.5
M21A	Separation Pea baz=76	75.33	330	⇑P	P	00 56 10.1 +0.8
I26A	New Underwood baz=76	75.34	334	⇓P	P	00 56 09.5 +0.4
K23A	Bowen Ranch, D baz=76	75.46	331	⇑P	P	00 56 10.8 +0.6
G28A	Parade baz=76	75.46	336	⇑P	P	00 56 10.3 +0.6
J24A	Dixon Ranch, L baz=76	75.51	332	⇓P	P	00 56 11.3 +1.3
H27A	Howes baz=76	75.54	335	⇑P	P	00 56 11.1 +1.0
L21A	Rawlins baz=76	75.61	330	⇓P	P	00 56 11.3 +0.5
M20A	Sweetwater, Wa baz=76	75.62	329	⇑P	P	00 56 11.3 +0.5
GSC	Goldstone baz=76	75.65	320	⇑P	P	00 56 13.0 +2.0
I25A	Rochford baz=76	75.69	333	⇑P	P	00 56 11.6 +0.5
F29A	Eureka baz=76	75.71	337	⇑P	P	00 56 11.2 +0.2
J23A	Dilts Ranch, B baz=76	75.95	332	⇓P	P	00 56 14.0 +1.4
EDW2	Edwards Air Fo baz=76	76.07	319	⇑P	P	00 56 14.9 +1.5
K21A	Alcova baz=76,SNR=5.9	76.08	330	⇑P	P	00 56 14.4 +0.9
L20A	Wamsutter baz=76	76.09	329	⇓P	P	00 56 14.7 +1.1
G27A	Dupree baz=76	76.11	335	⇓P	P	00 56 13.7 +0.4
BLG	Laguna Peak baz=76	76.21	317	⇓P	P	00 56 16.9 +2.8
G26A	Maurine baz=77	76.29	335	⇑P	P	00 56 14.8 +0.5
J22A	Midwest baz=77	76.36	331	⇑P	P	00 56 15.3 +0.4
TOA0	Torodi Ar. Sit	76.36	69	eP	P	00 56 14.1 -1.2
TORD	Torodi Ar. Bea 5.0nm,0.5s,baz=260,slow=5.7,SNR=102	76.36	69	P	P	00 56 15.1 -0.3
D30A	Buchanan baz=77	76.44	338	⇑P	P	00 56 15.4 +0.3
FURC	Furnace Creek, baz=77	76.49	321	⇓P	P	00 56 17.8 +2.2
G25A	Newell baz=77	76.53	334	⇑P	P	00 56 16.5 +0.8
MPMC	Manual Prospec baz=77	76.58	320	⇑P	P	00 56 18.0 +1.6
H24A	Dirks Ranch, A baz=77	76.62	333	⇑P	P	00 56 16.6 +0.3
L19A	Farson baz=77	76.64	329	⇑P	P	00 56 18.1 +1.4
I22A	9 Mile Ranch, baz=77,SNR=5.3	76.75	332	⇑P	P	00 56 17.5 +0.4
F26A	Lodgepole baz=77	76.78	335	⇓P	P	00 56 18.0 +0.9
L18A	Fontenelle, Gr baz=77,SNR=5.3	76.83	328	⇓P	P	00 56 18.5 +0.8
ISA	Isabella baz=77	76.89	319	⇓P	P	00 56 19.8 +1.8
DUG	Dugway 4.4nm,1.1s	76.92	326	eP	P	00 56 18.4 +0.2
DUG	Dugway baz=77	76.92	326	⇓P	P	00 56 19.5 +1.4
J20A	Shoshoni baz=77	77.03	330	⇓P	P	00 56 19.6 +0.9
I21A	Big Trails, Te baz=77,SNR=6.3	77.04	331	⇑P	P	00 56 19.3 +0.6
G24A	Alzada baz=77	77.04	334	⇑P	P	00 56 19.3 +0.7
R11A	Troy Canyon, C 4.7nm,1.3s	77.08	323	eP	P	00 56 19.9 +0.9
R11A	Troy Canyon, C baz=77,SNR=5.4	77.08	323	⇑P	P	00 56 20.7 +1.6
D28A	Regan baz=77	77.14	337	⇑P	P	00 56 19.5 +0.4
PKM	Peak Mountain	77.20	318	⇑P	P	00 56 21.5 +1.7

baz=77
PD31 Pinedale Array 77.25 329 eP P 00 56 20.8 +0.7
PDAR Pinedale Array 77.25 329 P P 00 56 20.8 +0.7
0.9nm,0.5s,baz=131,slow=7.8,SNR=5.2
G23A Biddle 77.34 333 ⇓P P 00 56 20.9 +0.7
baz=78
VES Vestal, Richgr 77.38 319 ⇑P P 00 56 23.0 +2.4
baz=78
J19A Crowheart 77.40 330 ⇑P P 00 56 22.2 +1.4
baz=78
B30A Myrvik Farm, E 77.46 339 ⇓P P 00 56 20.9 +0.1
baz=78
F24A Ekalaka 77.48 334 ⇓P P 00 56 21.6 +0.6
baz=78
I20A Worland 77.52 331 ⇑P P 00 56 22.3 +1.0
baz=78
H21A Big Horn, Sher 77.57 332 ⇑P P 00 56 22.4 +0.8
baz=78
SMMC Simmler 77.58 318 ⇑P P 00 56 24.4 +2.6
baz=78
F23A Volborg 77.76 333 ⇑P P 00 56 23.3 +0.7
baz=78
H20A Greybull 77.88 331 ⇓P P 00 56 24.2 +0.9
baz=78
I19A Meeteetse 77.97 330 ⇓P P 00 56 24.9 +1.0
baz=78
E24A Baker 78.01 335 ⇑P P 00 56 24.7 +0.8
baz=78
D25A Fairfield 78.12 335 ⇓P P 00 56 25.6 +1.1
baz=78
G21A Lodge Grass 78.12 332 ⇑P P 00 56 25.3 +0.7
baz=78
ULM Lac du Bonnet 78.29 341 eP P 00 56 25.2 0.0
ULM Lac du Bonnet 78.29 341 P P 00 56 25.2 0.0
2.0nm,0.5s,baz=108,slow=5.2,SNR=4.8
LOHW Long Hollow 78.39 329 eP P 00 56 26.3 0.0
2.5nm,0.6s
H19A Powell 78.46 331 ⇓P P 00 56 27.6 +1.1
baz=79
G20A Bridger 78.55 331 ⇑P P 00 56 27.3 +0.3
baz=79,SNR=5.5
NV01 Mina Array Sit 78.67 321 eP P 00 56 28.0 +0.1
NVAR Mina Array Bea 78.67 321 P P 00 56 28.6 +0.7
0.6nm,0.5s,baz=162,slow=4.8,SNR=7.5
H18A Shoshone NF, C 78.77 330 ⇓P P 00 56 28.9 +0.5
baz=79
D23A Lindsay 78.86 334 ⇑P P 00 56 29.2 +0.6
baz=79
D22A Cohagen 79.23 334 ⇑P P 00 56 31.7 +1.1
baz=80
F19A Roth Farm, Mol 79.37 331 ⇑P P 00 56 32.1 +0.7
baz=80
D21A La Casta Ranch 79.50 333 ⇑P P 00 56 33.0 +1.0
baz=80
E20A Meyer Farm, Mu 79.53 332 ⇑P P 00 56 33.2 +1.0
baz=80
C22A Vida 79.60 334 ⇑P P 00 56 33.5 +1.0
baz=80
E19A Rath Farm, Rou 79.77 332 ⇑P P 00 56 34.3 +0.8
baz=80,SNR=5.4
B23A Brockton 79.84 335 ⇓P P 00 56 35.3 +1.5
baz=80
A24A Westby 79.84 336 ⇑P P 00 56 35.3 +1.6
baz=80
D20A Manuel Ranch, 79.99 333 ⇓P P 00 56 35.3 +0.6
baz=80,SNR=5.1
B22A Reddig Ranch S 80.09 335 ⇑P P 00 56 36.3 +1.1
baz=80
C21A Desert Coulee 80.15 334 ⇑P P 00 56 36.8 +1.3
baz=80
PAHR Pah Rah Range 80.15 322 eP P 00 56 36.0 +0.2
7.1nm,0.9s
HLID Hailey 80.20 327 eP P 00 56 36.3 +0.2
5.9nm,0.9s
HLID Hailey 80.20 327 ⇑P P 00 56 37.6 +1.6
baz=80,SNR=9.6
D19A Cripps Ranch, 80.36 332 ⇑P P 00 56 37.7 +1.1
baz=81
MCMT McKenzie Canyo 80.37 329 eP P 00 56 37.3 +0.4
BOSA Boshof 80.54 117 eP P 00 56 39.1 +0.8
BOSA Boshof 80.54 117 P P 00 56 39.1 +0.8
4.3nm,0.3s,baz=260,slow=4.8,SNR=36
B21A Ellsworth Farm 80.60 334 ⇓P P 00 56 38.6 +0.8
baz=81
A22A Carney Farms, 80.62 335 ⇓P P 00 56 38.6 +0.7
baz=81
MFID Camas Ranch 80.81 326 ⇑P P 00 56 40.2 +1.1
baz=81
C19A Slack Wire Ran 80.88 333 ⇑P P 00 56 40.1 +0.7
baz=81
LRM Limekiln Ridge 80.92 330 eP P 00 56 40.5 +0.6
B20A Solberg Farm, 81.01 334 ⇓P P 00 56 41.0 +0.9
baz=81
A21A Bergtoll Ranch 81.01 335 ⇑P P 00 56 40.9 +0.9
baz=81
MAW Mawson 81.38 163 P P 00 56 43.9 +2.1
1.7nm,0.5s,baz=199,slow=6.7,SNR=8.2
B19A Brinkman Farms 81.40 333 ⇓P P 00 56 43.0 +0.9
baz=82
EGMT Eagleton 81.41 332 ⇑P P 00 56 43.1 +0.9
baz=82
MDT Midelt 81.85 49 eP P 00 56 46.8 +1.8
MDT Midelt 81.85 49 P P 00 56 46.8 +1.8
4.3nm,0.9s,baz=249,slow=4.9,SNR=10
J08A Circle Bar Ran 82.14 325 eP P 00 56 46.6 +0.5
3.6nm,0.6s
LBTB Lobatse 82.19 114 eP P 00 56 47.8 +0.8
227nm,3.0s
LBTB Lobatse 82.19 114 P P 00 56 48.0 +1.0
7.4nm,0.4s,baz=254,slow=7.6,SNR=12
MSO Missoula 82.36 329 ⇑P P 00 56 48.7 +1.5
baz=83
NEW Newport 84.89 329 ⇑P P 00 57 01.9 +2.0
baz=85
ESDC Sonseca Array 86.24 43 eP P 00 57 07.9 +1.0
ESDC Sonseca Array 86.24 43 P P 00 57 07.9 +1.0
1.3nm,0.7s,baz=241,slow=4.8,SNR=10
ES19 SONSECA Array 86.30 43 eP P 00 57 07.4 +0.3
LSZ Lusaka 88.30 106 eP P 00 57 17.5 +0.1
12nm,1.0s
LSZ Lusaka 88.30 106 P P 00 57 19.8 +2.5
5.9nm,0.9s,baz=233,slow=2.1,SNR=18
YKA Yellowknife Ar 94.19 340 P P 00 57 43.3 0.0
1.1nm,0.5s,baz=139,slow=4.9,SNR=5.9
WRA Warramunga Arr 131.73 207 eSKPbc SKPbc 01 06 45.3 +0.1
WRA Warramunga Arr 131.73 207 PKP PKPdf 01 03 38.4 +0.7
0.6nm,0.5s,baz=160,slow=1.8,SNR=2.7
WRA SKPbc SKPbc 01 06 45.3 +0.1
4.5nm,0.7s,baz=155,slow=3.6,SNR=17
KURBB Kurchatov Arra 142.24 36 PKhKP PKPpre 01 03 52.0
0.2nm,0.3s,baz=302,slow=3.1,SNR=5.2
ZALV Zalesovo Beam 143.28 28 PKP PKPbc 01 03 55.8 +0.3
1.9nm,0.5s,baz=302,slow=4.2,SNR=11
KSH Kashi 145.01 55 PKP PKPab 01 04 01.9 +0.4
KSH PP PP 01 07 24.6 +2.6
KSH SKS SKSdf 01 10 46.0 -6.4
KSH SKKS SKKSac 01 13 49.7 -5.2
KSH PPMZ
comp=Z,150nm,5.1s
KSH LR LR
comp=N,74nm,4.5s
KSH LR LR
comp=E,87nm,5.3s
KSH LR LR
comp=Z,160nm,5.4s
MKAR Makanchi Array 146.38 40 PKPbc PKPbc 01 04 04.9 -0.2
5.1nm,0.6s,baz=306,slow=3.1,SNR=61
WMQ Urumqi 151.20 40 ePKPbc PKPdf 01 04 09.3 -2.1
HHC Hu-ho-hao-te 163.13 4 ePKP PKPdf 01 04 23.8 -2.7
HHC pPKP PKPab 01 05 18.7 +1.3
HHC sPKP 01 05 40.8
HHC PP PP 01 09 03.5 +1.5
HHC SKKS 01 15 26.6
HHC SS SS 01 29 06.6 -3.3
HHC PPMZ
300nm,9.5s
HHC LR LR
comp=N,220nm,16.7s
HHC LR LR
comp=E,290nm,15.5s
HHC LR LR
comp=Z,230nm,17.8s
LZH Lanzhou 165.47 32 ePKP PKPdf 01 04 28.8 0.0
LZH pPKP PKPab 01 05 24.3 -3.7
LZH sPKP 01 05 42.9
CMAR Chiang Mai Arr 165.58 110 PKPab PKPab 01 05 30.2 +1.3
2.6nm,0.6s,baz=254,slow=5.4,SNR=9.5
CD2 Chengdu 169.12 49 PKP PKPdf 01 04 31.0 -0.4

*IDC **09** 00:46:00.1±1.5,20°.05N×64°.20W,h0km,mb3.7/5,*
mb1 4.1/6,mb1mx3.7/28,mbtmp3.7/6,ML3.5/1,Error
ellipse: s-maj=45.8km s-min=23.6km az=56.0
ISC 09 00:46:00.3±0.8,19.89N±0°.08×64.16W±0°.07,h10km,n22,
σ2s41/22,mb3.8/5,Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SABA	Saba	2.42	159	eP	Pg	00 46 47.6	+1.0
SJG	San Juan	2.58	227	Pn	Pb	00 46 45.4	-1.4
	0.2nm,0.3s,baz=45,slow=11,SNR=2.1						
SJG				Sn	Sn	00 47 14.5	+0.8
	0.5nm,0.3s,baz=303,slow=17,SNR=6.5						
SKI	Saint Kitts	2.87	152	eP	Pb	00 46 52.8	+1.1
ANWB	Willy Bob	3.15	134	eP	Pb	00 46 56.3	-0.1
SEG	Port Louis	4.29	144	eP	Pb	00 47 12.8	-3.0
LZG	Guadaloupe-1	4.36	148	eP	Pb	00 47 15.4	-1.7
SSG	Sans Toucher	4.45	148	eP	Pb	00 47 16.3	-2.5
MLG	Mont-d'or	4.46	148	eP	Pb	00 47 16.1	-2.7
FNG	Fond-Bernard	4.47	148	eP	Pb	00 47 16.3	-2.7
BCG	Bois Riant Cap	4.49	147	eP	Pb	00 47 16.3	-2.9
CRG	Carmichael	4.49	148	eP	Pb	00 47 16.9	-2.5
ECG	Echelle	4.50	148	eP	Pb	00 47 16.7	-2.9
H05N1	Guadeloupe/Mar	4.62	140	Pn	Pn	00 47 12.2	+2.0
	SNR=15						
H05N1				Sn	Sb	00 48 11.3	-5.9
TBG	Guadaloupe-3	4.67	149	eP	Pb	00 47 19.1	-3.3
MGG	Marie-Galante	4.78	145	eP	Pb	00 47 20.1	-4.1
TXAR	Lajitas Array	36.98	293	P	P	00 53 10.0	-0.3
	0.2nm,0.7s,baz=113,slow=8.9,SNR=2.6						
PDAR	Pinedale Array	44.33	311	P	P	00 54 10.2	-0.7
	0.7nm,0.7s,baz=106,slow=5.2,SNR=3.9						
NVAR	Mina Array Bea	50.04	304	P	P	00 54 56.0	+0.4
	0.7nm,0.7s,baz=95,slow=7.3,SNR=6.2						
NEW	Newport	50.93	317	P	P	00 55 01.5	-0.4
	1.2nm,0.7s,baz=86,slow=16,SNR=3.9						
DLBC	Dease Lake	60.66	327	P	P	00 56 13.7	+2.1
	1.6nm,0.7s,baz=137,slow=16,SNR=3.8						
HHC	Hu-ho-hao-te	119.45	4	ePKP	PKPdf	01 04 49.6	-1.0
HHC				sPKP		01 05 02.9	
HHC				PP	PP	01 06 12.0	+1.3
HHC				SKS	SKSdf	01 11 56.9	-6.2
HHC				SKKS	SKKSac	01 12 59.9	-13
HHC	Hu-ho-hao-te	119.45	4	SS	SS	01 22 23.6	-9.1
HHC				PPMZ			
	240nm,9.5s						
HHC				LR	LR		
	comp=N,360nm,16.7s						
HHC				LR	LR		
	comp=E,470nm,16.7s						
HHC				LR	LR		
	comp=Z,270nm,16.7s						

WEL 09 00:48:13.3±0.2,38°.86S×176°.40E,h69km±2km,ML3.5/12,
6C-15D,Error ellipse: s-maj=1.0km s-min=0.9km
az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATZ	Hinemaiaia	0.24	261	P*	Pn	00 48 23.5	-0.5
HATZ				S*	Sn	00 48 30.8	-1.1
ALRZ	Allen Road	0.29	352	P*	Pn	00 48 24.0	-0.4
BKZ	Black Stump Fm	0.32	167	P*	Pn	00 48 24.1	-0.5
BKZ				S*	Sn	00 48 32.3	-0.5
BKZ				AML	AML	00 48 33.2	
PRRZ	Plateau Road	0.36	359	P*	Pn	00 48 24.2	-0.6
NMHZ	Naumai	0.40	127	⇑PN	Pn	00 48 25.5	+0.3
NMHZ				SN	Sn	00 48 35.2	+1.3
RITZ	Rihia Road	0.44	254	⇓P*	Pn	00 48 25.5	0.0
RATZ	Rangitukua	0.49	268	⇓P*	Pn	00 48 25.6	-0.3
RRRZ	Republican Roa	0.52	10	P*	Pn	00 48 26.3	0.0
RRRZ				S*	Sn	00 48 35.3	-0.5
RAHZ	Arahi	0.54	97	PN	Pn	00 48 26.8	+0.3
RAHZ				SN	Sn	00 48 37.0	+0.9
WATZ	Wairara	0.54	286	P*	Pn	00 48 25.8	-0.6
KATZ	Kakaramea	0.56	257	P*	Pn	00 48 26.7	-0.1
MCHZ	McNeill Hill	0.63	158	⇑PN	Pn	00 48 28.0	+0.7
KRVZ	Karewarewa	0.64	248	P*	Pn	00 48 27.4	-0.2
OTVZ	Oturere	0.65	241	⇓P*	Pn	00 48 27.6	-0.1
OTVZ				S*	Sn	00 48 37.6	-0.8
WTVZ	West Tongariro	0.68	247	⇓P*	Pn	00 48 27.9	-0.1
BHHZ	Black Hill Sta	0.68	202	⇓P*	Pn	00 48 27.9	-0.1
BHHZ				S*	Sn	00 48 38.0	-1.0
NGZ	Ngauruhoe	0.70	242	P*	Pn	00 48 28.2	-0.1
TUVZ	Tukino	0.71	234	⇓P*	Pn	00 48 28.4	-0.1
MOVZ	Moawhango	0.74	222	⇓P*	Pn	00 48 28.4	-0.3
WPVZ	Whakapapa	0.75	242	P*	Pn	00 48 28.7	-0.1
WHVZ	Whangaehu Hut	0.76	236	⇑P*	Pn	00 48 28.8	-0.3
FWVZ	Far West T-bar	0.77	239	⇓P*	Pn	00 48 29.0	-0.2
DRZ	Dome Shelter	0.77	237	⇑P*	Pn	00 48 29.1	-0.2
TWVZ	Taurewa	0.78	254	P*	Pn	00 48 28.9	-0.3
WNVZ	Wahianoa	0.78	233	⇓P*	Pn	00 48 29.1	-0.1
TRVZ	Turoa	0.80	236	P*	Pn	00 48 29.3	-0.3
URZ	Urewera	0.82	43	⇓P*	Pn	00 48 29.0	-0.4
URZ				AML	AML	00 48 41.3	
URZ				AML	AML	00 48 41.5	
TLZ	Tolley Road	0.85	308	⇓P*	Pn	00 48 29.9	-0.1
MTVZ	Mangateitei	0.90	233	⇓P*	Pn	00 48 30.5	0.0
PKVZ	Pokaka	0.93	242	P*	Pn	00 48 30.8	-0.1
CKHZ	Cape Kidnapper	0.96	147	PN	Pn	00 48 31.3	+0.1
KNZ	Kokohu	1.01	100	ePN	Pn	00 48 31.3	-0.5
KAHZ	Kahuranaki	1.01	159	PN	Pn	00 48 31.9	0.0
MWZ	Matawai	1.03	60	⇓P*	Pn	00 48 31.9	-0.2
MWZ				AML	AML	00 48 51.0	
MWZ				AML	AML	00 48 51.8	
PNHZ	Pukenui	1.07	188	PN	Pn	00 48 32.4	-0.2
PRGZ	Paritu Road	1.16	94	PN	Pn	00 48 33.6	-0.2
WPHZ	Waipukurau	1.21	178	PN	Pn	00 48 33.7	-0.7
MHGZ	Mahia Peninsul	1.21	105	PN	Pn	00 48 34.6	+0.1
PXZ	Pawanui	1.23	163	⇑PN	Pn	00 48 34.0	-0.6
PXZ				AML	AML	00 48 51.7	
PXZ				AML	AML	00 48 51.7	
PXZ				AML	AML	00 48 51.8	
PXZ				AML	AML	00 48 51.9	
TSZ	Takapari Road	1.25	196	⇑PN	Pn	00 48 34.4	-0.6
TSZ				AML	AML	00 48 55.2	
TSZ				AML	AML	00 48 57.5	
HIZ	Hauiti	1.25	285	⇓PN	Pn	00 48 35.1	+0.3
VRZ	Vera Road	1.31	258	P*	Pn	00 48 35.8	+0.2
WAZ	Wanganui	1.42	230	⇓PN	Pn	00 48 37.9	+0.8
PRHZ	Porangahau	1.42	173	PN	Pn	00 48 36.2	-1.0
DVHZ	Dannevirke	1.45	187	PN	Pn	00 48 36.3	-1.3
CNGZ	Carnagh Statio	1.46	76	PN	Pn	00 48 38.1	+0.4
PUZ	Puketiti	1.66	62	PN	Pn	00 48 39.8	-0.5
PUZ				AML	AML	00 49 14.6	
BFZ	Birch Farm	1.83	184	PN	Pn	00 48 40.9	-1.7
MRZ	Mangatainoka R	1.91	199	PN	Pn	00 48 42.0	-1.7
MRZ				AML	AML	00 49 15.8	
MRZ				AML	AML	00 49 16.9	
CPWZ	Castlepoint	2.06	184	PN	Pn	00 48 44.2	-1.4
HOWZ	Holdsworth Sta	2.15	198	PN	Pn	00 48 44.7	-2.3
OGWZ	Otaki Gorge	2.18	205	PN	Pn	00 48 45.7	-1.5
TMWZ	Te Maipa	2.28	190	PN	Pn	00 48 46.7	-2.0
KIW	Kapiti Island	2.31	209	PN	Pn	00 48 47.6	-1.4
KIW				AML	AML	00 49 15.9	
KIW				AML	AML	00 49 25.7	
MTW	Mount Morrison	2.40	196	PN	Pn	00 48 45.6	-4.7
MTW				AML	AML	00 49 33.9	
CAW	Cannon Point	2.47	204	PN	Pn	00 48 48.9	-2.4
CAW				AML	AML	00 49 33.6	
CAW				AML	AML	00 49 41.3	
TRWZ	Traveller	2.60	192	PN	Pn	00 48 50.3	-2.6
TCW	Tory Channel	2.86	214	AML	AML	00 49 40.9	
TUWZ	Tuamarina	3.19	215	AML	AML	00 49 47.0	
MQZ	McQueen's Vall	5.61	209	SN	Sn	00 50 26.3	-11
CTZ	Chatham Island	7.17	135	PN	Pn	00 49 53.0	-2.3

IDC 09 00:54:27.2±0.6,25°.83S×69°.46E,h0km,mb4.0/15,
mb1 4.1/15,mb1mx4.0/27,mbtmp4.0/15,MS3.8/1,
Ms1 3.7/1,ms1mx3.1/37,Error ellipse: s-maj=23.3km
s-min=15.8km az=84.0,Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	Diego Carcia H	18.32	10	T	T	01 17 23.0	
	baz=190,slow=0.7,SNR=119						
H08S2	Diego Garcia H	18.32	10	T	T	01 17 25.0	
	baz=190,slow=0.7,SNR=93						
H08S3	Diego Garcia H	18.33	10	T	T	01 17 25.3	
	baz=190,slow=0.7,SNR=92						
H01W2	Cape Leeuwin H	39.32	114	T	T	01 43 53.4	
	baz=272,slow=0.7,SNR=38						
H01W3	Cape Leeuwin H	39.32	114	T	T	01 43 52.1	
	baz=272,slow=0.7,SNR=29						
H01W1	Cape Leeuwin H	39.34	114	T	T	01 43 54.7	
	baz=272,slow=0.7,SNR=32						
MAW	Mawson	41.98	184	P	P	01 02 17.8	-1.9
	0.7nm,0.3s,baz=315,slow=2.9,SNR=3.0						
MAW				LR	LR	01 14 20.4	
	comp=Z,126nm,21.4s,baz=186,slow=28						
CMAR	Chiang Mai Arr	52.53	36	P	P	01 03 43.2	+0.7
	1.4nm,0.3s,baz=231,slow=6.6,SNR=4.1						
ASAR	Alice Springs	58.03	103	P	P	01 04 23.1	+0.8
	1.7nm,0.6s,baz=248,slow=6.5,SNR=14						
WRA	Warramunga Arr	59.54	99	P	P	01 04 30.9	-2.0
	1.1nm,0.7s,baz=252,slow=6.3,SNR=3.6						
SNAA	Sanae	60.14	200	P	P	01 04 36.5	+0.2
	0.3nm,0.8s,baz=73,slow=8.8,SNR=5.3						
STKA	Stephens Creek	62.42	114	P	P	01 04 52.8	+0.6
	1.2nm,0.7s,baz=136,slow=22,SNR=3.0						
QSPA	South Pole Qui	64.30	180	P	P	01 05 05.0	+0.6
	3.0nm,0.8s,baz=257,slow=2.9,SNR=13						
VNDA	Vanda	65.49	166	P	P	01 05 12.7	+1.0
	1.9nm,0.9s,baz=277,slow=6.5,SNR=6.2						
MKAR	Makanchi Array	73.21	9	P	P	01 05 59.7	-0.1
	1.3nm,0.7s,baz=190,slow=6.0,SNR=4.9						
BRTR	Keskin Array B	73.28	332	P	P	01 06 01.0	+0.4
	0.5nm,0.7s,baz=169,slow=14,SNR=3.9						
TORD	Torodi Ar. Bea	76.46	292	P	P	01 06 19.1	-0.2
	1.0nm,1.1s,baz=126,slow=3.1,SNR=2.8						
KURBB	Kurchatov Arra	76.54	6	P	P	01 06 19.0	+0.1
	1.7nm,1.0s,baz=202,slow=6.5,SNR=7.6						
SONM	Songino Array	80.50	24	P	P	01 06 41.0	-0.1
	1.7nm,0.9s,baz=229,slow=5.9,SNR=6.8						
ZALV	Zalesovo Beam	80.56	9	P	P	01 06 40.9	-0.1
	1.7nm,0.7s,baz=198,slow=4.4,SNR=5.7						
AKASG	Malin Array Be	84.09	336	P	P	01 06 59.4	-0.2
	0.3nm,0.2s,baz=146,slow=3.3,SNR=3.6						

IDC 09 00:54:29.7±5.0,15°.60S×172°.92W,h0km,mb4.1/3,
mb1 4.3/4,mb1mx3.8/22,mbtmp4.1/4,ML2.1/1,Error
ellipse: s-maj=224.9km s-min=26.0km az=136.0,Samoa
Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	2.01	33	Pn	Pn	00 55 03.9	-1.2
	41nm,0.3s,baz=210,slow=14,SNR=14						
AFI				Sn	Sn	00 55 23.0	-8.0
	108nm,0.3s,baz=60,slow=23,SNR=14						
H11S2	WAKE ISLAND Hy	39.38	329	T	T	01 44 02.7	
	baz=145						
H11S3	WAKE ISLAND Hy	39.39	329	T	T	01 43 54.8	
	baz=145						
H11S1	WAKE ISLAND Hy	39.39	329	T	T	01 43 59.8	
	baz=145						
H11N3	WAKE ISLAND Hy	40.32	330	T	T	01 44 50.8	
	baz=152,slow=0.7,SNR=4.2						
H11N1	WAKE ISLAND Hy	40.32	330	T	T	01 44 51.1	
	baz=152,slow=0.7,SNR=3.8						
H11N2	WAKE ISLAND Hy	40.34	330	T	T	01 44 52.0	
	baz=152,slow=0.7,SNR=4.0						
STKA	Stephens Creek	44.34	240	P	P	01 02 40.1	-1.8
	3.6nm,1.0s,baz=90,slow=11,SNR=2.7						
WRA	Warramunga Arr	50.25	257	P	P	01 03 27.9	-0.3
	0.8nm,0.4s,baz=91,slow=6.8,SNR=5.1						
ASAR	Alice Springs	50.49	252	P	P	01 03 30.2	+0.2
	1.8nm,0.5s,baz=86,slow=8.2,SNR=21						
BRTR	Keskin Array B	146.61	321	PKPbc	PKPab	01 14 14.5	-0.3
	0.9nm,0.7s,baz=68,slow=4.2,SNR=7.4						

*ISCJB **09** 01:05:30.9±0.3,23°.77N×0°.02×121°.66E±0°.02,h34km±5km,*
Error ellipse: s-maj=3.3km s-min=2.4km az=141.1
*TAP **09** 01:05:30.5,23.80N×121.60E,h37km,ML4.1,B*
*JMA **09** 01:05:31.4±0.4,23.79N×121.70E,h71km,M3.4*
ISC 09 01:05:30.9±0.9,23.76N±0°.02×121.64E±0°.02,h34km±5km,
n61,σ1s17/103,12C-7D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	Jichi Village	0.11	240	iP	Pb	01 05 37.1	+0.2
	baz=209						
TEGC				S	Sb	01 05 42.4	+1.5
	baz=209						
ESF	Shoufeng Towns	0.16	312	⇓iP	Pb	01 05 37.0	-0.3
	baz=296						
ESF				eS	Sb	01 05 41.7	0.0
	baz=296						
ESL	Shilin	0.20	285	⇑iP	Pb	01 05 36.8	-0.8
	baz=275						
ESL				S	Sb	01 05 40.8	-1.4
	baz=275						
HWA	Hwalien	0.22	351	⇓iP	Pb	01 05 37.3	-0.5
	baz=8.0						
HWA				eS	Sn	01 05 44.1	+4.7
	baz=8.0						
TWD	Chiawan	0.32	353	⇓iP	Pb	01 05 38.2	-0.8
	baz=351						
TWD				S	Sb	01 05 45.0	+0.4
	baz=351						
EHY	Hungye	0.39	229	⇑P	Pb	01 05 39.0	-0.9
	baz=227						
WHF	Hehuan Shan	0.51	318	⇑iP	Pb	01 05 40.7	-1.4
	baz=312						
WHF				S	Sb	01 05 48.2	-1.7
	baz=312						
TWF1	Yuli	0.52	218	⇓iP	Pb	01 05 40.9	-0.9
	baz=222						
TWF1				eS	Sb	01 05 48.2	-1.1
	baz=222						
TWT	Tachien	0.65	319	⇑iP	Pb	01 05 43.2	-0.9
	baz=315						
TWT				iS	Sb	01 05 51.3	-1.8
	baz=315						
ENA	Nanau	0.67	8	⇑iP	Pb	01 05 43.0	-1.3
	baz=359						
ENA				eS	Sb	01 05 53.1	-0.3
	baz=359						
YUS	Yu-Shan	0.69	247	⇓iP	Pb	01 05 44.6	-0.4
	baz=243						
YUS				iS	Sb	01 05 53.1	-1.4
	baz=243						
SMLT	Sun Moon Lake	0.69	280	⇑iP	Pb	01 05 43.8	-0.9
	baz=279						
SMLT				S	Sb	01 05 52.5	-1.5
	baz=279						
CHKT	Chengkung	0.71	201	eP	Pn	01 05 44.3	-0.1
	baz=188						
CHKT				eS	Sn	01 05 55.6	+1.5
	baz=188						
NNS	Nan Shan	0.72	340	⇑iP	Pn	01 05 43.6	-1.1
	baz=348						
NNS				eS	Sb	01 05 53.1	-1.8
	baz=348						
TYC	Yuchr	0.73	281	⇑iP	Pn	01 05 44.2	-0.6
	baz=283						
TYC				S	Sb	01 05 53.3	-1.8
	baz=283						
ALS	Alishan	0.81	252	eP	Pn	01 05 46.1	0.0
	baz=249						
ALS				S	Sn	01 05 56.0	-1.0
	baz=249						
ELDTW	Lidau	0.81	225	⇓iP	Pn	01 05 45.0	-1.0
	baz=216						
TWC	Suao	0.86	13	P	Pn	01 05 46.0	-0.6
	baz=3.0						
TWC				S	Sn	01 05 58.7	+0.7
	baz=3.0						
ENTT	Nioudou	0.88	356	⇑iP	Pn	01 05 46.0	-0.8
	baz=357						
WNT	Mingjian	0.88	278	P	Pn	01 05 47.3	+0.4
	baz=275						
WNT				eS	Sn	01 05 59.2	+0.7
	baz=275						
CHN5	Tsauling	0.90	260	eP	Pn	01 05 47.3	+0.2
	baz=257						
CHN5				S	Sn	01 05 59.4	+0.4
	baz=257						
NSK	Sanguang	0.95	344	⇑iP	Pn	01 05 47.3	-0.5
	baz=352						
NSK				iS	Sn	01 05 58.7	-1.5
	baz=352						
TCU	Taichung	0.96	294	eP	Pn	01 05 48.6	+0.7

	baz=292							
TCU				*e*S		**Sb**	**01 06 02.3 +0.7**	
	baz=292							
TWQ1	**Liyutan**	**0.98**	**307**	⇑*i*P		**Pn**	**01 05 49.1 +0.8**	
	baz=305							
TWQ1				S		**Sn**	**01 06 01.2 +0.1**	
	baz=305							
WGK	**Gukeng**	**0.99**	**266**	*e*P		**Pn**	**01 05 49.0 +0.7**	
	baz=263							
WGK				*e*S		**Sn**	**01 06 02.2 +1.0**	
	baz=263							
ILA	**Ilan**	**1.00**	**6**	*e*P		**Pn**	**01 05 48.0 -0.6**	
	baz=357							
NSY	**Sanyi**	**1.03**	**309**	*e*P		**Pn**	**01 05 49.8 +0.8**	
	baz=308							
NSY				*e*S		**Sn**	**01 06 03.4 +1.1**	
	baz=308							
NSTT	**Nanjuang**	**1.04**	**326**	⇑*i*P		**Pn**	**01 05 49.7 +0.5**	
	baz=325							
NSTT				*e*S		**Sn**	**01 06 02.5 0.0**	
	baz=325							
TWG	**Pinlang**	**1.07**	**209**	*i* P		**Pn**	**01 05 48.0 -1.5**	
	baz=198							
TWG				*e*S		**Sn**	**01 06 01.0 -2.2**	
	baz=198							
CHY	**Chiayi**	**1.15**	**257**	*i* P		**Pn**	**01 05 51.7 +1.2**	
	baz=255							
CHY				*e*S		**Sn**	**01 06 05.7 +0.7**	
	baz=255							
CHN1	**Nanshi**	**1.17**	**241**	*e*P		**Pn**	**01 05 51.7 +0.8**	
	baz=240							
CHN1				*e*S		**Sn**	**01 06 07.7 +2.0**	
	baz=240							
SGST	**Jiashian**	**1.18**	**235**	*e*P		**Pn**	**01 05 52.2 +1.1**	
	baz=234							
SGST				*e*S		**Sb**	**01 06 08.6 +0.6**	
	baz=234							
HSN	**Hsinchu**	**1.20**	**330**	*e*P		**Pn**	**01 05 52.3 +1.0**	
	baz=318							
HSN				*e*S		**Sn**	**01 06 08.4 +2.0**	
	baz=318							
TWA	**Mucha**	**1.21**	**358**	*e*P		**Pn**	**01 05 51.2 -0.3**	
	baz=4.0							
WTCT	**Ta-ch'eng**	**1.25**	**275**	*e*P		**Pn**	**01 05 52.5 +0.6**	
	baz=273							
WTCT				*e*S		**Sb**	**01 06 09.8 0.0**	
	baz=273							
NCU	**National Centr**	**1.27**	**341**	*e*P		**Pn**	**01 05 53.3 +1.0**	
	baz=339							
NCU				*e*S		**Sn**	**01 06 10.1 +2.0**	
	baz=339							
TAP1	**Taipei**	**1.28**	**355**	*e*P		**Pn**	**01 05 52.9 +0.7**	
	baz=354							
TWB1	**Santiao Chiao**	**1.28**	**14**	*e*P		**Pn**	**01 05 54.2 +1.8**	
	baz=3.0							
TWB1				*e*S		**Sb**	**01 06 11.8 +1.1**	
	baz=3.0							
WSF	**Szhu**	**1.31**	**265**	*e*P		**Pn**	**01 05 53.7 +1.0**	
	baz=263							
WSF				*e*S		**Sn**	**01 06 10.8 +1.9**	
	baz=263							
NWF	**Wu-fen Shan**	**1.31**	**6**	*e*P		**Pn**	**01 05 52.8 -0.1**	
	baz=5.0							
ECL	**Taimali**	**1.32**	**209**	*e*P		**Pn**	**01 05 51.2 -1.7**	
	baz=199							
TWS1	**Kuangyinshan**	**1.35**	**351**	*e*P		**Pn**	**01 05 54.0 +0.7**	
TWS1				*e*S		**Sn**	**01 06 11.6 +1.5**	
CHN3	**Shinhua**	**1.36**	**240**	*e*P		**Pn**	**01 05 54.1 +0.7**	
	baz=252							
YOJ	**Yonaguni jima**	**1.43**	**61**	P		**Pn**	**01 05 55.0 +0.5**	
YOJ				S		**Sn**	**01 06 12.6 +0.5**	
YOJ	**Yonaguni jima**	**1.43**	**61**	*e*P		**Pn**	**01 05 54.4 -0.1**	
	baz=61							
YOJ				*e*S		**Sn**	**01 06 12.5 +0.4**	
	baz=61							
SCLT	**Jiali**	**1.45**	**247**	*e*P		**Pn**	**01 05 55.4 +0.7**	
	baz=246							
SCLT				*e*S		**Sn**	**01 06 14.6 +2.1**	
	baz=246							
TWM1	**Shoushan**	**1.46**	**230**	*e*P		**Pb**	**01 05 57.6 +0.1**	
	baz=230							
SGLT	**Jiouru**	**1.48**	**226**	*e*P		**Pn**	**01 05 57.3 +2.2**	
	baz=225							
TAI1	**Yung-k'ang**	**1.48**	**241**	*e*P		**Pn**	**01 05 56.8 +1.7**	
	baz=253							
TAI1				*e*S		**Sb**	**01 06 16.1 -0.3**	
	baz=253							
EAST	**Anshuo**	**1.55**	**208**	*e*P		**Pn**	**01 05 54.6 -1.6**	
	baz=201							
TAW	**Tawu**	**1.56**	**206**	*e*P		**Pn**	**01 05 57.0 +0.8**	
	baz=197							
WDGT	**Dungji**	**1.89**	**255**	⇓*e*P		**Pn**	**01 06 00.7 0.0**	
	baz=254							
WDGT				*e*S		**Sn**	**01 06 22.4 -0.9**	
	baz=254							
PNG	**Penghu**	**1.92**	**265**	*e*P		**Pn**	**01 06 01.1 -0.1**	
	baz=263							
HEN	**Hengchun**	**1.94**	**206**	*e*P		Pn	01 06 04.3 +2.9	
	baz=199							
TWK1	**Hengchun**	**1.97**	**203**	*e*P		**Pn**	**01 06 03.9 +2.1**	
	baz=194							
IRIF	**Iriomote-Funau**	**1.99**	**73**	*e*S		**Sn**	**01 06 26.4 +0.5**	
HATJ	**Hateruma jima**	**2.00**	**81**	P		**Pn**	**01 06 02.7 +0.4**	
HATJ				S		**Sn**	**01 06 26.1 -0.1**	
JKRS	**Kuro-shima**	**2.22**	**77**	P		**Pn**	**01 06 06.4 +1.2**	
JKRS				S		**Sn**	**01 06 32.2 +0.7**	
JIJ	**Ishigaki jima**	**2.37**	**75**	P		**Pn**	**01 06 07.4 +0.1**	
JIJ				S		**Sn**	**01 06 34.9 -0.2**	
JTJ	**Tarama**	**2.93**	**72**	P		**Pn**	**01 06 15.7 +0.7**	
JTJ				*e*S		**Sn**	**01 06 49.0 0.0**	
KNM	**Kinmen**	**3.00**	**283**	*e*P		**Pn**	**01 06 17.0 +0.9**	
	baz=281							

IDC 09 01:20:16.6±1.8, 15°.42S×173°.33W, h0km, mb3.7/6, mb1 4.1/6, mb1mx3.9/21, mbtmp3.7/6, Error ellipse: s-maj=112.9km s-min=22.4km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.13**	**45**	Pn	Pn	01 20 48.3	-5.2
	51nm,0.3s,baz=36,slow=5.8,SNR=15						
AFI				Sn	Sn	01 21 07.4	-13
	141nm,0.3s,baz=118,slow=21,SNR=14						
H11S2	**WAKE ISLAND Hy**	**39.02**	**329**	T	T	02 08 50.1	
	baz=152,slow=0.7,SNR=6.8						
H11S3	**WAKE ISLAND Hy**	**39.03**	**329**	T	T	02 09 05.5	
	baz=152,slow=0.7,SNR=6.3						
H11S1	**WAKE ISLAND Hy**	**39.03**	**329**	T	T	02 08 49.5	
	baz=152,slow=0.7,SNR=12						
H11N3	**WAKE ISLAND Hy**	**39.96**	**330**	T	T	02 10 20.7	
	baz=152,slow=0.7,SNR=5.9						
H11N1	**WAKE ISLAND Hy**	**39.97**	**330**	T	T	02 10 19.1	
	baz=152,slow=0.7,SNR=7.1						
H11N2	**WAKE ISLAND Hy**	**39.98**	**330**	T	T	02 10 22.4	
	baz=152,slow=0.7,SNR=6.0						
WRA	**Warramunga Arr**	**49.90**	**257**	P	P	01 29 12.6	+0.2
	0.3nm,0.3s,baz=90,slow=6.7,SNR=2.6						
ASAR	**Alice Springs**	**50.17**	**252**	P	P	01 29 13.6	-0.8
	1.0nm,0.5s,baz=88,slow=8.2,SNR=18						
NVAR	**Mina Array Bea**	**74.30**	**42**	P	P	01 31 56.1	-0.1
	0.3nm,0.6s,baz=235,slow=7.6,SNR=2.8						
TXAR	**Lajitas Array**	**80.57**	**56**	P	P	01 32 31.8	+0.4
	0.4nm,0.8s,baz=224,slow=5.2,SNR=5.9						
PDAR	**Pinedale Array**	**82.24**	**42**	P	P	01 32 39.6	-0.5
	0.6nm,0.8s,baz=249,slow=4.5,SNR=4.2						
ILAR	**Eielson Array**	**82.45**	**11**	P	P	01 32 39.8	-0.6
	0.4nm,0.9s,baz=226,slow=3.6,SNR=3.7						
GERES	**GERESS Array B**	**146.17**	**352**	PKPbc	PKPdf	01 39 58.4	+0.3
	0.9nm,1.1s,baz=18,slow=7.2,SNR=3.6						
BRTR	**Keskin Array B**	**146.22**	**321**	PKPbc	PKPab	01 40 00.3	+0.1
	0.7nm,0.8s,baz=85,slow=2.7,SNR=5.2						

*IDC **09** 01:27:17.1±2.2, 12°.81S×165°.92E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.7/20, mbtmp3.9/6, ML3.1/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/40, Error ellipse: s-maj=51.9km s-min=33.4km az=101.0*

*ISCJB **09** 01:27:18.2±0.8, 12°.9S±0°.1×165°.92E±0°.09, h20km, mb4.1/9, Error ellipse: s-maj=19.5km s-min=11.9km az=10.0*

*NEIC **09** 01:27:21.7±0.6, 12°.87S×165°.93E, h35km, mb4.3/4, Error ellipse: s-maj=16.6km s-min=10.9km az=190.0*

ISC 09 01:27:19.6±0.8, 12°.8S±0°.1×165°.9E±0°.1, h20km, n24, σ1°.30/22, mb4.0/9, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.76**	**299**	LR	LR	01 31 50.5	
	comp=Z,81nm,20.1s,baz=124,slow=40						
DZM	**Mont Dzumac**	**9.23**	**177**	Pn	**Pn**	**01 29 31.9**	**+0.2**
DZM	**Mont Dzumac**	**9.23**	**177**	Pn	**Pn**	**01 29 31.9**	**+0.2**
	0.2nm,0.3s,baz=144,slow=19,SNR=2.8						
MSVF	**Nonsavu**	**12.68**	**114**	*e*Pn	**Pn**	**01 30 19.7**	**+0.7**
AFI	**Afiamalu**	**21.72**	**95**	*e*P	**P**	**01 32 10.1**	**+0.3**
	28nm,0.9s						
STKA	**Stephens Creek**	**29.32**	**226**	*e*P	**P**	**01 33 19.8**	**-1.3**
	3.6nm,1.5s						
STKA	**Stephens Creek**	**29.32**	**226**	P	**P**	**01 33 22.1**	**+1.1**
	1.8nm,0.7s,baz=30,slow=8.1,SNR=4.2						
WRA	**Warramunga Arr**	**31.09**	**253**	P	**P**	**01 33 36.8**	**-0.1**
WRA	**Warramunga Arr**	**31.09**	**253**	P	**P**	**01 33 36.8**	**-0.1**
	0.3nm,0.6s,baz=80,slow=9.2,SNR=2.0						
AS31	**Alice Springs**	**32.20**	**246**	*e*P	**P**	**01 33 46.6**	**0.0**
ASAR	**Alice Springs**	**32.20**	**246**	P	**P**	**01 33 45.8**	**-0.9**
ASAR	**Alice Springs**	**32.20**	**246**	P	**P**	**01 33 45.8**	**-0.9**
	1.1nm,0.5s,baz=70,slow=9.5,SNR=18						
FITZ	**Fitzroy Crossi**	**39.13**	**257**	P	**P**	**01 34 47.5**	**+1.4**
FITZ	**Fitzroy Crossi**	**39.13**	**257**	P	**P**	**01 34 47.5**	**+1.4**
	1.3nm,0.6s,baz=85,slow=6.9,SNR=4.6						
CMAR	**Chiang Mai Arr**	**72.98**	**294**	P	**P**	**01 38 50.0**	**+1.6**
CMAR	**Chiang Mai Arr**	**72.98**	**294**	P	**P**	**01 38 50.0**	**+1.6**
	4.7nm,0.2s,baz=129,slow=5.7,SNR=3.8						
QSPA	**South Pole Qui**	**77.21**	**180**	*e*P	**P**	**01 39 10.8**	**-1.3**
	1.5nm,0.7s						
MKAR	**Makanchi Array**	**94.92**	**317**	P	**P**	**01 40 40.5**	**-0.1**
MKAR	**Makanchi Array**	**94.92**	**317**	P	**P**	**01 40 40.4**	**-0.1**
	0.3nm,0.6s,baz=87,slow=6.0,SNR=3.6						
SNAA	**Sanae**	**95.38**	**184**	*e*P	**P**	**01 40 42.8**	**+0.5**
	2.2nm,1.0s						
TUE	**Stuetta**	**141.06**	**334**	*e*PKPdf	**PKPdf**	**01 46 45.0**	**-4.0**
CEL	**Celeste**	**143.23**	**319**	*e*PKPdf	PKPbc	01 46 50.6	+0.8
KEST	**Kesra**	**148.91**	**321**	*e*PKPbc	**PKPbc**	**01 47 06.7**	**+0.1**
KEST	**Kesra**	**148.91**	**321**	PKPbc	**PKPbc**	**01 47 06.7**	**+0.1**
	0.4nm,0.6s,baz=82,slow=4.8,SNR=4.0						

IDC 09 01:34:27.2±3.3, 3°.56N×122°.32E, h652km±52km, mb3.0/6, mb1 3.2/6, mb1mx2.7/26, mbtmp3.0/6, Error ellipse: s-maj=93.8km s-min=12.7km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**13.74**	**174**	P	P	01 37 21.6	-0.3
	26nm,0.3s,baz=24,slow=1.4,SNR=17						
FITZ	**Fitzroy Crossi**	**21.77**	**171**	P	P	01 38 34.9	+0.3
	4.7nm,0.9s,baz=15,slow=3.0,SNR=7.8						
WRA	**Warramunga Arr**	**26.17**	**154**	P	P	01 39 12.8	-0.6
	5.3nm,0.3s,baz=335,slow=9.5,SNR=29						
ASAR	**Alice Springs**	**29.32**	**158**	P	P	01 39 41.2	+0.5
	3.1nm,0.6s,baz=334,slow=7.0,SNR=52						
ASAR				S	S	01 43 51.3	+0.3
	0.4nm,0.7s,baz=325,slow=12,SNR=4.6						
STKA	**Stephens Creek**	**39.72**	**154**	P	P	01 41 07.5	+1.1
	2.5nm,0.6s,baz=336,slow=11,SNR=7.7						
MKAR	**Makanchi Array**	**55.26**	**327**	P	P	01 43 01.8	+0.3
	0.5nm,0.3s,baz=125,slow=8.0,SNR=13						
KURBB	**Kurchatov Arra**	**59.57**	**329**	P	P	01 43 30.0	-0.3
	0.5nm,0.5s,baz=130,slow=6.0,SNR=9.0						

IDC 09 01:42:02.1±5.0, 13°.55N×143°.89E, h231km±50km, mb3.7/19, mb1 3.8/19, mb1mx3.7/30, mbtmp4.2/19, Error ellipse: s-maj=20.7km s-min=8.9km az=75.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**22.81**	**331**	P	P	01 46 45.5	+0.3
	8.4nm,0.5s,baz=161,slow=12,SNR=8.8						
MJAR	**Matsushiro Arr**	**23.46**	**348**	P	P	01 46 50.7	-0.2
	1.6nm,0.4s,baz=172,slow=9.8,SNR=4.2						
KSRS	**Korea Array**	**27.74**	**332**	P	P	01 47 29.0	-0.3
	0.9nm,0.4s,baz=142,slow=9.2,SNR=4.1						
CTA	**Charters Tower**	**33.51**	**176**	P	P	01 48 20.2	+0.2
	2.7nm,0.9s,baz=328,slow=9.0,SNR=4.1						
WRA	**Warramunga Arr**	**34.58**	**196**	P	P	01 48 29.1	-0.3
	5.2nm,0.6s,baz=13,slow=9.5,SNR=17						
FITZ	**Fitzroy Crossi**	**36.24**	**210**	P	P	01 48 43.1	-0.3
	1.5nm,0.3s,baz=16,slow=10,SNR=18						
ASAR	**Alice Springs**	**38.25**	**195**	P	P	01 48 59.7	-0.6
	0.9nm,0.3s,baz=15,slow=12,SNR=23						
DZM	**Mont Dzumac**	**41.74**	**148**	P	P	01 49 29.9	+0.8
	7.2nm,0.5s,baz=309,slow=6.5,SNR=16						
STKA	**Stephens Creek**	**45.22**	**183**	P	P	01 49 56.0	-0.5
	3.6nm,0.4s,baz=0.3,slow=7.0,SNR=20						
SONM	**Songino Array**	**46.22**	**325**	P	P	01 50 05.3	+0.9
	0.3nm,0.3s,baz=126,slow=7.3,SNR=2.5						
MKAR	**Makanchi Array**	**60.86**	**316**	P	P	01 51 51.0	+0.6
	1.0nm,0.5s,baz=89,slow=8.3,SNR=18						
ZALV	**Zalesovo Beam**	**61.10**	**325**	P	P	01 51 52.0	+0.2
	1.9nm,0.6s,baz=117,slow=7.1,SNR=7.2						
KURBB	**Kurchatov Arra**	**64.04**	**320**	P	P	01 52 11.2	0.0
	4.3nm,0.6s,baz=102,slow=6.5,SNR=43						
ILAR	**Eielson Array**	**69.01**	**25**	P	P	01 52 40.8	-1.6
	0.4nm,0.6s,baz=249,slow=5.8,SNR=6.1						
BVAR	**Borovoye Array**	**69.37**	**322**	P	P	01 52 44.1	-0.8
	3.2nm,0.3s,baz=99,slow=9.2,SNR=19						
YKA	**Yellowknife Ar**	**83.33**	**27**	P	P	01 54 02.5	-0.5
	1.3nm,0.6s,baz=284,slow=5.1,SNR=2.9						
NVAR	**Mina Array Bea**	**87.69**	**51**	P	P	01 54 25.9	+0.6
	1.8nm,0.7s,baz=261,slow=5.7,SNR=16						
FINES	**FINESS Array B**	**90.80**	**335**	P	P	01 54 40.2	+1.3
	1.3nm,0.9s,baz=46,slow=6.0,SNR=2.9						
PDAR	**Pinedale Array**	**92.67**	**45**	P	P	01 54 47.6	-0.7
	0.2nm,0.4s,baz=247,slow=3.6,SNR=3.0						
TORD	**Torodi Ar. Bea**	**134.10**	**304**	PKP	PKPdf	02 00 53.6	+0.5
	0.1nm,0.6s,baz=51,slow=2.5,SNR=2.7						
LPAZ	**La Paz**	**148.96**	**99**	PKPbc	PKPbc	02 01 24.1	-0.3
	0.9nm,0.6s,baz=192,slow=2.4,SNR=6.1						

*IDC **09** 01:48:28.8±1.1, 12°.03S×166°.64E, h0km, mb4.3/9, mb1 4.5/9, mb1mx4.1/21, mbtmp4.3/9, MS3.2/1, Ms1 3.2/1, ms1mx2.7/32, Error ellipse: s-maj=37.7km s-min=23.8km az=130.0*

*NEIC **09** 01:48:33.5±0.5, 12°.12S×166°.73E, h35km, mb4.4/9, Error ellipse: s-maj=13.3km s-min=9.4km az=182.0*

*ISCJB **09** 01:48:38.1±0.6, 12°.07S±0°.07×166°.41E±0°.07, h83km, mb4.2/14, Error ellipse: s-maj=10.6km s-min=9.6km az=31.7*

ISC 09 01:48:39.6±0.6, 12°.07S±0°.08×166°.45E±0°.08, h83km, n42, σ0°.93/43, mb4.3/14, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.90**	**292**	Pn	**Pn**	**01 50 16.7**	**-1.5**
HNR				Sn	**Sn**	**01 51 34.5**	**-0.8**
HNR	**Honiara**	**6.90**	**292**	Pn	**Pn**	**01 50 16.7**	**-1.5**
	21nm,0.3s,baz=156,slow=19,SNR=3.1						
HNR				Sn	**Sn**	**01 51 34.5**	**-0.8**
	15nm,0.3s,baz=4.4,slow=13,SNR=2.1						
DZM	**Mont Dzumac**	**9.95**	**180**	*e*Pn	**Pn**	**01 50 59.8**	**0.0**
DZM	**Mont Dzumac**	**9.95**	**180**	Pn	**Pn**	**01 50 58.7**	**-1.1**
	1.2nm,0.3s,baz=198,slow=22,SNR=14						
MSVF	**Nonsavu**	**12.54**	**118**	*e*Pn	Pn	01 51 25.7	-9.5
TARA	**Tarawa**	**14.81**	**26**	*e*Pn	**Pn**	**01 52 04.2**	**-0.5**
PMG	**Port Moresby**	**19.13**	**276**	*e*P	**P**	**01 52 56.3**	**-0.1**
	26nm,1.0s						
EIDS	**Eidsvold**	**19.64**	**226**	*e*P	**Pn**	**01 53 03.6**	**-0.3**
	8.9nm,0.6s						
AFI	**Afiamalu**	**21.30**	**97**	LR	LR	02 00 37.5	
	comp=Z,67nm,18.9s,baz=154,slow=34						
COEN	**Coen**	**22.75**	**263**	*e*P	**P**	**01 53 35.8**	**+0.6**
STKA	**Stephens Creek**	**30.20**	**225**	*e*P	**P**	**01 54 43.2**	**+1.0**
	3.6nm,0.9s						
STKA	**Stephens Creek**	**30.20**	**225**	P	**P**	**01 54 43.8**	**+1.5**
	8.5nm,0.7s,baz=46,slow=7.6,SNR=21						
WRAB	**Tennant Creek**	**31.79**	**252**	*e*P	**P**	**01 54 56.3**	**-0.2**
	11nm,1.3s						
WRA	**Warramunga Arr**	**31.80**	**252**	P	**P**	**01 54 56.1**	**-0.4**
WRA	**Warramunga Arr**	**31.80**	**252**	P	**P**	**01 54 56.1**	**-0.4**
	2.2nm,0.7s,baz=83,slow=9.1,SNR=8.2						
AS31	**Alice Springs**	**32.97**	**245**	*e*P	**P**	**01 55 06.3**	**-0.5**
ASAR	**Alice Springs**	**32.97**	**245**	P	**P**	**01 55 06.5**	**-0.2**
ASAR	**Alice Springs**	**32.97**	**245**	P	**P**	**01 55 06.5**	**-0.2**
	3.5nm,0.6s,baz=70,slow=9.5,SNR=39						
FITZ	**Fitzroy Crossi**	**39.79**	**256**	P	**P**	**01 56 05.5**	**+0.6**
FITZ	**Fitzroy Crossi**	**39.79**	**256**	P	**P**	**01 56 05.5**	**+0.6**
	3.1nm,0.8s,baz=103,slow=5.6,SNR=10						
MBWA	**Marble Bar**	**45.53**	**252**	*e*P	**P**	**01 56 52.3**	**+1.0**
	12nm,1.2s						
VNDA	**Vanda**	**65.49**	**181**	*e*P	**P**	**01 59 13.6**	**0.0**
	4.1nm,1.3s						
VNDA	**Vanda**	**65.49**	**181**	P	**P**	**01 59 13.5**	**0.0**
	1.2nm,0.8s,baz=352,slow=7.5,SNR=3.6						
SBA	**Scott Base**	**65.78**	**180**	*e*P	P	01 59 10.4	-5.0
	3.7nm,0.9s						
PSI	**Prapat**	**68.69**	**278**	P	**P**	**01 59 35.2**	**+0.2**
PSI	**Prapat**	**68.69**	**278**	P	**P**	**01 59 35.2**	**+0.2**
	3.1nm,0.4s,baz=166,slow=12,SNR=4.3						
CMAR	**Chiang Mai Arr**	**73.15**	**294**	P	**P**	**02 00 03.9**	**+2.1**
CMAR	**Chiang Mai Arr**	**73.15**	**294**	P	**P**	**02 00 03.9**	**+2.1**
	2.1nm,0.3s,baz=115,slow=5.9,SNR=7.3						
QSPA	**South Pole Qui**	**77.94**	**180**	*e*P	**P**	**02 00 26.2**	**-2.3**
	4.2nm,1.1s						
BMRM	**Bremner River**	**82.42**	**22**	*e*P	**P**	**02 00 51.9**	**-0.5**
	13nm,1.2s						
ILAR	**Eielson Array**	**84.26**	**18**	P	**P**	**02 01 02.1**	**+0.4**
ILAR	**Eielson Array**	**84.26**	**18**	P	**P**	**02 01 02.1**	**+0.4**
	0.5nm,0.6s,baz=236,slow=5.4,SNR=7.3						
MKAR	**Makanchi Array**	**94.73**	**317**	P	**P**	**02 01 52.1**	**+0.3**
MKAR	**Makanchi Array**	**94.73**	**317**	P	**P**	**02 01 52.1**	**+0.3**
	1.0nm,0.7s,baz=87,slow=7.5,SNR=9.1						
ARCES	**ARCESS Array B**	**117.49**	**346**	PKP	**PKPdf**	**02 07 14.5**	**-0.8**
ARCES	**ARCESS Array B**	**117.49**	**346**	PKP	**PKPdf**	**02 07 14.5**	**-0.8**
	1.2nm,0.7s,baz=54,slow=2.2,SNR=7.0						
BUR08	**Bucovina Ar. S**	**131.98**	**325**	*e*PKPdf	**PKPdf**	**02 07 44.4**	**+0.7**
BNI	**Bardonecchia**	**142.86**	**336**	*e*PKPdf	**PKPdf**	**02 08 03.6**	**-0.3**
KEST	**Kesra**	**148.64**	**323**	PKPbc	**PKPbc**	**02 08 19.1**	**+1.3**
KEST	**Kesra**	**148.64**	**323**	PKPbc	**PKPbc**	**02 08 19.1**	**+1.3**
	0.7nm,0.8s,baz=235,slow=18,SNR=2.6						
TORD	**Torodi Ar. Bea**	**165.08**	**276**	PKP	**PKPdf**	**02 08 34.7**	**-0.6**
TORD				PKPab	**PKPab**	**02 09 33.0**	**+0.5**
TORD	**Torodi Ar. Bea**	**165.08**	**276**	PKP	**PKPdf**	**02 08 34.7**	**-0.6**
	0.4nm,0.8s,baz=305,slow=1.6,SNR=2.5						
TORD				PKPab	**PKPab**	**02 09 33.1**	**+0.5**
	0.4nm,0.9s,baz=72,slow=3.4,SNR=2.1						

*IDC **09** 01:51:43.2±0.8, 12°.93S×166°.04E, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.1/19, mbtmp4.0/10, MS3.7/3, Ms1 3.7/3, ms1mx3.0/36, Error ellipse: s-maj=33.4km s-min=22.1km az=122.0*

*ISCJB **09** 01:51:45.0±0.4, 12°.84S±0°.07×165°.88E±0°.07, h20km, mb4.3/17, MS3.3/3, Error ellipse: s-maj=10.6km s-min=9.2km az=36.3*

*NEIC **09** 01:51:48.9±0.3, 12°.78S×165°.91E, h35km, mb4.4/12, Error ellipse: s-maj=8.6km s-min=7.2km az=123.0*

ISC 09 01:51:47.0±0.5, 12°.77S±0°.08×165°.88E±0°.10, h20km, n51, σ1°.06/48, mb4.3/18, MS3.6/3, 1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.27**	**177**	*e*Pn	**Pn**	**01 54 01.5**	**+1.8**
	10nm,0.3s						
MSVF	**Nonsavu**	**12.74**	**114**	*e*Pn	**Pn**	**01 54 47.5**	**+0.3**
TARA	**Tarawa**	**15.67**	**27**	*e*Pn	**Pn**	**01 55 27.0**	**+0.2**
PMG	**Port Moresby**	**18.67**	**278**	*e*P	**Pn**	**01 56 04.6**	**+0.2**
	32nm,1.1s						
EIDS	**Eidsvold**	**18.76**	**226**	*e*P	**P**	**01 56 04.9**	**0.0**
	4.5nm,0.7s						
CTAO	**Charters Tower**	**20.17**	**246**	*e*P	Pn	01 56 21.6	-0.7
	23nm,1.3s						
STKA	**Stephens Creek**	**29.32**	**226**	*e*P	**P**	**01 57 47.0**	**-1.3**
	1.9nm,1.3s						
STKA	**Stephens Creek**	**29.32**	**226**	P	**P**	**01 57 46.7**	**-1.6**
	1.6nm,0.7s,baz=63,slow=14,SNR=2.9						
STKA				LR	LR	02 09 33.5	
	comp=Z,16nm,28.6s,baz=64,slow=36						
WRAB	**Tennant Creek**	**31.05**	**253**	*e*P	**P**	**01 58 04.0**	**+0.2**
	4.0nm,0.8s						
WRA	**Warramunga Arr**	**31.06**	**253**	P	**P**	**01 58 04.0**	**0.0**
WRA	**Warramunga Arr**	**31.06**	**253**	P	**P**	**01 58 04.0**	**0.0**
	1.5nm,0.9s,baz=84,slow=9.1,SNR=3.7						
WRA				LR	LR	02 10 44.7	
	comp=Z,160nm,18.3s,baz=85,slow=37						
RPZ	**Rata Peaks**	**31.16**	**173**	*e*P	**P**	**01 58 04.6**	**+0.1**
	45nm,1.4s						
AS31	**Alice Springs**	**32.17**	**246**	*e*P	**P**	**01 58 12.7**	**-1.1**
ASAR	**Alice Springs**	**32.18**	**246**	P	**P**	**01 58 13.0**	**-0.8**
ASAR	**Alice Springs**	**32.18**	**246**	P	**P**	**01 58 13.0**	**-0.8**
	1.2nm,0.6s,baz=74,slow=9.5,SNR=13						
ASAR				LR	LR	02 09 47.8	
	comp=Z,139nm,20.5s,baz=86,slow=34						

2.9nm,0.9s,baz=64,slow=8.3,SNR=5.7
FINES **FINESS Array B** 76.20 333 P P 02 04 40.3 -0.1
1.4nm,0.3s,baz=71,slow=5.1,SNR=22
NVAR **Mina Array Bea** 81.64 51 P P 02 05 11.1 +0.7
0.2nm,0.6s,baz=297,slow=6.0,SNR=3.0
TORD **Torodi Ar. Bea** 122.39 310 PKP PKPdf 02 11 43.5 -0.8
0.9nm,1.1s,baz=34,slow=2.0,SNR=3.2

WEL 09 02:01:40.0±0.5, 37°04S×177°38E, h124km±4km, ML3.8/6, 1C-1D, Error ellipse: s-maj=4.8km s-min=4.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	0.91	126	PN	Pn	02 02 01.6	+0.2
MXZ				SN	Sn	02 02 17.5	-0.2
MXZ				AML	AML	02 02 23.8	
URZ	**Urewera**	1.24	190	⇓PN	Pn	02 02 05.3	+0.6
URZ				SN	Sn	02 02 24.2	+0.7
URZ				AML	AML	02 02 25.0	
PUZ	**Puketiti**	1.25	146	PN	Pn	02 02 04.6	-0.2
PUZ				AML	AML	02 02 30.2	
PUZ				AML	AML	02 02 32.8	
MWZ	**Matawai**	1.30	175	PN	Pn	02 02 05.7	+0.2
MWZ				SN	Sn	02 02 25.3	+0.4
MWZ				AML	AML	02 02 29.1	
MWZ				AML	AML	02 02 33.3	
MWZ				AML	AML	02 02 33.3	
PRGZ	**Paritu Road**	1.93	168	PN	Pn	02 02 12.6	-0.1
KNZ	**Kokohu**	2.00	173	PN	Pn	02 02 12.9	-0.6
NMHZ	**Naumai**	2.11	192	PN	Pn	02 02 15.4	+0.4
MHGZ	**Mahia Peninsul**	2.15	169	PN	Pn	02 02 15.6	+0.1
BKZ	**Black Stump Fm**	2.24	198	PN	Pn	02 02 16.6	-0.1
BKZ				SN	Sn	02 02 44.1	-0.7
BKZ				AML	AML	02 02 54.2	
MCHZ	**McNeill Hill**	2.46	192	PN	Pn	02 02 19.6	+0.1
FWVZ	**Far West T-bar**	2.64	212	PN	Pn	02 02 22.8	+0.8
WHVZ	**Whangaehu Hut**	2.65	212	PN	Pn	02 02 22.5	+0.4
BHHZ	**Black Hill Sta**	2.66	203	PN	Pn	02 02 21.4	-0.6
WNVZ	**Wahianoa**	2.69	211	ePN	Pn	02 02 22.5	+0.1
MOVZ	**Moawhango**	2.69	208	ePN	Pn	02 02 22.1	-0.3
KAHZ	**Kahuranaki**	2.78	188	PN	Pn	02 02 22.9	-0.7
PXZ	**Pawanui**	3.02	188	⇑PN	Pn	02 02 25.0	-1.6
PNHZ	**Pukenui**	3.02	198	PN	Pn	02 02 25.0	-1.6
TSZ	**Takapari Road**	3.22	200	PN	Pn	02 02 27.3	-2.0
PRHZ	**Porangahau**	3.28	190	PN	Pn	02 02 27.7	-2.3
PRHZ				SN	Sn	02 03 06.0	-2.7
WAZ	**Wanganui**	3.30	214	PN	Pn	02 02 30.8	+0.4
BFZ	**Birch Farm**	3.75	193	PN	Pn	02 02 33.5	-2.7
MRZ	**Mangatainoka R**	3.88	201	PN	Pn	02 02 35.0	-3.0
MRZ				SN	Sn	02 03 18.2	-4.8
MRZ				AML	AML	02 03 51.4	
HOWZ	**Holdsworth Sta**	4.12	200	PN	Pn	02 02 38.0	-3.2
MTW	**Mount Morrison**	4.37	199	PN	Pn	02 02 40.8	-3.7
NNZ	**Nelson**	5.21	215	SN	Sn	02 03 53.1	-1.5
CTZ	**Chatham Island**	8.11	147	ePN	Pn	02 03 36.0	+1.2

IDC 09 02:02:00.9±1.6, 11°53S×165°99E, h0km, mb4.1/6, mb1 4.2/7, mb1mx3.9/20, mbtmp4.0/7, ML3.3/1, Error ellipse: s-maj=48.6km s-min=26.6km az=118.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	10.49	178	Pn	Pn	02 04 33.6	+0.7
	0.2nm,0.3s,baz=350,slow=15,SNR=3.7						
STKA	**Stephens Creek**	30.26	224	P	P	02 08 13.1	-0.6
	2.8nm,0.7s,baz=67,slow=12,SNR=7.1						
WRA	**Warramunga Arr**	31.54	251	P	P	02 08 25.7	+0.5
	1.1nm,0.7s,baz=85,slow=9.2,SNR=3.9						
ASAR	**Alice Springs**	32.79	244	P	P	02 08 36.1	-0.1
	1.4nm,0.7s,baz=74,slow=9.3,SNR=14						
CMAR	**Chiang Mai Arr**	72.52	294	P	P	02 13 30.5	+0.2
	1.2nm,0.3s,baz=123,slow=4.4						
ILAR	**Eielson Array**	83.89	18	P	P	02 14 32.3	0.0
	0.7nm,1.0s,baz=229,slow=5.7,SNR=7.2						
MKAR	**Makanchi Array**	94.03	317	P	P	02 15 20.8	-0.4
	0.4nm,0.5s,baz=85,slow=5.5,SNR=4.2						

*IDC **09** 02:05:49.3±1.1, 11°94S×166°02E, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.1/19, mbtmp4.2/9, ML4.5/1, MS3.6/6, Ms1 3.6/6, ms1mx3.3/35, Error ellipse: s-maj=39.9km s-min=20.7km az=128.0*
*ISCJB **09** 02:05:52.4±0.4, 12°06S±0°08×165°94E±0°08, h30km, mb4.5/21, MS3.7/5, Error ellipse: s-maj=12.0km s-min=9.5km az=136.3*
*NEIC **09** 02:05:54.7±0.3, 11°97S×166°01E, h35km, mb4.4/16, Error ellipse: s-maj=10.1km s-min=7.7km az=142.0*
ISC 09 02:05:53.8±0.6, 11°99S±0°09×166°0E±0°1, h30km, n49, σ0s89/43, mb4.4/21, MS3.7/5, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	10.04	178	ePn	Pn	02 08 16.1	0.0
	33nm,0.5s						
DZM				eLR	LR	02 10 45.3	
	344nm,23.4s						
DZM	**Mont Dzumac**	10.04	178	ePn	Pn	02 08 17.3	+1.2
	14nm,0.4s						
DZM	**Mont Dzumac**	10.04	178	Pn	Pn	02 08 14.6	-1.5
	3.7nm,0.3s,baz=68,slow=14,SNR=11						
MSVF	**Nonsavu**	12.94	118	ePn	Pn	02 08 49.3	-6.5
PMG	**Port Moresby**	18.72	276	eP	P	02 10 08.8	-1.4
	19nm,0.9s						
PMG	**Port Moresby**	18.72	276	LR	LR	02 15 04.8	
	comp=Z,48nm,21.1s,baz=216,slow=30						
EIDS	**Eidsvold**	19.41	225	eP	P	02 10 16.1	-1.6
	22nm,1.4s						
CTA	**Charters Tower**	20.63	245	P	P	02 10 31.8	+0.8
CTA	**Charters Tower**	20.63	245	P	P	02 10 31.8	+0.8
	9.1nm,0.9s,baz=78,slow=12,SNR=5.9						
CTAO	**Charters Tower**	20.63	245	eP	Pn	02 10 32.9	-0.6
	15nm,1.0s						
AFI	**Afiamalu**	21.71	97	eP	P	02 10 41.3	-1.5
	66nm,1.1s						
AFI	**Afiamalu**	21.71	97	LR	LR	02 17 50.6	
	comp=Z,226nm,18.1s,baz=150,slow=33						
STKA	**Stephens Creek**	29.97	225	eP	P	02 12 01.0	+1.3
	1.2nm,1.0s						
STKA	**Stephens Creek**	29.97	225	P	P	02 12 00.2	+0.5
	2.1nm,0.8s,baz=48,slow=14,SNR=4.5						
STKA				LR	LR	02 23 45.2	
	comp=Z,151nm,20.3s,baz=26,slow=36						
WRAB	**Tennant Creek**	31.43	251	eP	P	02 12 12.4	-0.3
	8.4nm,1.0s						
WRA	**Warramunga Arr**	31.44	251	P	P	02 12 12.7	-0.2
WRA	**Warramunga Arr**	31.44	251	P	P	02 12 12.7	-0.2
	2.4nm,0.6s,baz=83,slow=8.9,SNR=11						
AS31	**Alice Springs**	32.63	245	eP	P	02 12 23.2	-0.2
ASAR	**Alice Springs**	32.64	245	P	P	02 12 22.8	-0.6
ASAR				PcP	PcP	02 15 08.8	-0.3
ASAR	**Alice Springs**	32.64	245	P	P	02 12 22.8	-0.6
	2.3nm,0.7s,baz=72,slow=9.4,SNR=20						
ASAR				PcP	PcP	02 15 08.8	-0.3
	1.1nm,0.9s,baz=79,slow=3.0,SNR=5.0						
PPT	**Papeete**	43.20	103	LR	LR	02 28 39.3	
	comp=Z,106nm,18.4s,baz=23,slow=32						
PPT2	**Papeete2**	43.20	103	eLR	LR	02 25 49.0	
	137nm,24.8s						
MBWA	**Marble Bar**	45.17	252	eP	P	02 14 07.8	-0.4
	12nm,1.1s						
TGY	**Tagaytay City**	51.67	299	LR	LR	02 35 48.6	
	comp=Z,66nm,20.1s,baz=358,slow=35						
JNU	**Nakatsue**	56.01	324	eP	P	02 15 29.9	0.0
	5.7nm,0.9s						
ASAJ	**Asahikawa**	59.77	341	LR	LR	02 37 17.9	
	comp=Z,60nm,21.2s,baz=176,slow=32						
VNDA	**Vanda**	65.56	181	eP	P	02 16 34.8	+0.5
	2.1nm,0.8s						
SBA	**Scott Base**	65.86	180	eP	P	02 16 37.5	+1.3
	76nm,2.3s						
QSPA	**South Pole Qui**	78.02	180	eP	P	02 17 49.4	0.0
	2.7nm,0.7s						
ULN	**Ulaanbaatar**	79.22	324	eP	P	02 17 57.3	+1.0
	2.1nm,0.4s						
SONM	**Songino Array**	79.59	324	P	P	02 17 58.7	+0.4
SONM	**Songino Array**	79.59	324	P	P	02 17 58.7	+0.4
	1.3nm,0.5s,baz=131,slow=5.9,SNR=8.7						
ILAR	**Eielson Array**	84.31	18	P	P	02 18 21.6	-1.0
ILAR	**Eielson Array**	84.31	18	P	P	02 18 21.6	-1.0
	0.3nm,0.6s,baz=225,slow=5.0,SNR=2.8						
YBH	**Yreka Blue Hor**	84.35	45	eP	P	02 18 24.4	+1.0
	1.8nm,0.7s						
ISA	**Isabella**	85.42	52	eP	P	02 18 28.5	-0.4
	1.6nm,0.7s						
NVAR	**Mina Array Bea**	86.41	50	P	P	02 18 35.8	+1.8
NVAR	**Mina Array Bea**	86.41	50	P	P	02 18 35.8	+1.8
	0.3nm,0.6s,baz=243,slow=6.2,SNR=3.8						
MVU	**Marysvale**	91.02	51	eP	P	02 18 56.4	+0.5
	0.9nm,0.5s						
MK31	**Makanchi Array**	94.40	317	eP	P	02 19 10.9	0.0
MKAR	**Makanchi Array**	94.40	317	P	P	02 19 11.2	+0.3
MKAR	**Makanchi Array**	94.40	317	P	P	02 19 11.2	+0.3
	6.0nm,0.6s,baz=92,slow=6.4,SNR=57						
ZAA0	**Zalesovo Array**	94.48	324	eP	P	02 19 10.5	-0.5
ZALV	**Zalesovo Beam**	94.48	324	P	P	02 19 10.2	-0.9
ZALV	**Zalesovo Beam**	94.48	324	P	P	02 19 10.2	-0.9
	1.4nm,0.7s,baz=111,slow=3.6,SNR=6.0						
RWWY	**Rawlins**	95.47	49	eP	P	02 19 16.6	+0.3
	10nm,0.5s						
SNAA	**Sanae**	96.20	184	eP	P	02 19 18.6	-0.2
	6.0nm,1.6s						
PSZ	**Piszkesteto**	134.37	328	ePKPdf	PKPdf	02 25 10.0	+0.9
TUE	**Stuetta**	140.37	335	ePKPdf	PKPdf	02 25 21.0	+0.5

*IDC **09** 02:15:08.3±0.9, 11°.90S×166°.03E, h0km, mb4.1/9, mb1 4.2/10, mb1mx4.0/20, mbtmp4.1/10, ML4.1/1, Error ellipse: s-maj=31.7km s-min=19.7km az=124.0*
*ISCJB **09** 02:15:11.4±0.5, 12°.08S±0°.08×166°.02E±0°.08, h30km, mb4.3/17, Error ellipse: s-maj=11.2km s-min=10.6km az=5.2*
*NEIC **09** 02:15:13.7±0.3, 11°.99S×166°.06E, h35km, mb4.5/13, Error ellipse: s-maj=9.0km s-min=8.1km az=154.0*
ISC 09 02:15:13.2±0.6, 12°.00S±0°.10×166°.02E±0°.10, h30km, n43, σ0s84/41, mb4.5/17, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	10.02	178	ePn	Pn	02 17 34.4	-0.9
DZM	**Mont Dzumac**	10.02	178	Pn	Pn	02 17 34.7	-0.5
	1.5nm,0.3s,baz=5.6,slow=20,SNR=7.2						
MSVF	**Nonsavu**	12.94	118	ePn	Pn	02 18 15.4	+0.1
PMG	**Port Moresby**	18.71	276	eP	Pn	02 19 30.1	0.0
	28nm,1.0s						
EIDS	**Eidsvold**	19.39	225	eP	P	02 19 36.4	-0.5
	47nm,1.6s						
CTA	**Charters Tower**	20.62	245	P	Pn	02 19 51.8	-0.8
CTA	**Charters Tower**	20.62	245	P	Pn	02 19 51.8	-0.8
	1.9nm,0.3s,baz=78,slow=19,SNR=2.3						
CTAO	**Charters Tower**	20.62	245	eP	Pn	02 19 51.4	-1.2
	17nm,1.2s						
COEN	**Coen**	22.35	262	eP	P	02 20 09.9	+1.0
STKA	**Stephens Creek**	29.95	225	eP	P	02 21 19.3	+0.5
	4.3nm,1.6s						
STKA	**Stephens Creek**	29.95	225	P	P	02 21 19.1	+0.2
	0.7nm,0.3s,baz=76,slow=16,SNR=2.4						
WRAB	**Tennant Creek**	31.41	251	eP	P	02 21 31.7	-0.3
	13nm,1.4s						
WRA	**Warramunga Arr**	31.43	251	P	P	02 21 31.4	-0.7
WRA	**Warramunga Arr**	31.43	251	P	P	02 21 31.4	-0.7
	1.3nm,0.6s,baz=84,slow=9.3,SNR=9.4						
AS31	**Alice Springs**	32.62	245	eP	P	02 21 42.2	-0.3
ASAR	**Alice Springs**	32.62	245	P	P	02 21 42.0	-0.6
ASAR				PcP	PcP	02 24 28.6	+0.1
ASAR	**Alice Springs**	32.62	245	P	P	02 21 42.0	-0.6
	1.3nm,0.6s,baz=68,slow=9.9,SNR=12						
ASAR				PcP	PcP	02 24 28.6	+0.1
	1.1nm,0.8s,baz=68,slow=2.5,SNR=6.3						
MBWA	**Marble Bar**	45.16	252	eP	P	02 23 28.0	+0.5
	21nm,1.4s						
VNDA	**Vanda**	65.55	181	eP	P	02 25 53.9	+0.4
	1.4nm,0.7s						
SBA	**Scott Base**	65.85	180	eP	P	02 25 56.0	+0.6
	4.6nm,0.9s						
QSPA	**South Pole Qui**	78.01	180	eP	P	02 27 08.2	-0.5
	7.1nm,1.3s						
QSPA	**South Pole Qui**	78.01	180	P	P	02 27 08.7	0.0
	2.2nm,0.8s,baz=58,slow=0.9,SNR=5.7						
ULN	**Ulaanbaatar**	79.23	324	eP	P	02 27 16.1	+0.4
	11nm,1.0s						
SONM	**Songino Array**	79.59	324	P	P	02 27 17.1	-0.5
SONM	**Songino Array**	79.59	324	P	P	02 27 17.1	-0.5
	2.3nm,0.7s,baz=131,slow=5.8,SNR=11						
ILAR	**Eielson Array**	84.33	18	P	P	02 27 39.6	-2.4
ILAR	**Eielson Array**	84.33	18	P	P	02 27 39.6	-2.4
	0.5nm,0.8s,baz=204,slow=7.9,SNR=4.7						
COLD	**Coldfoot**	85.14	16	eP	P	02 27 46.2	+0.2
	5.2nm,1.1s						
NVAR	**Mina Array Bea**	86.43	50	P	P	02 27 54.6	+1.3
NVAR	**Mina Array Bea**	86.43	50	P	P	02 27 54.6	+1.3
	0.2nm,0.6s,baz=270,slow=4.5,SNR=3.1						
MK31	**Makanchi Array**	94.40	317	eP	P	02 28 29.9	-0.4
MKAR	**Makanchi Array**	94.40	317	P	P	02 28 30.4	+0.1
MKAR	**Makanchi Array**	94.40	317	P	P	02 28 30.4	+0.1
	6.9nm,0.7s,baz=96,slow=6.4,SNR=49						
ZALV	**Zalesovo Beam**	94.49	324	P	P	02 28 29.2	-1.2
ZALV	**Zalesovo Beam**	94.49	324	P	P	02 28 29.2	-1.2
	1.2nm,0.6s,baz=90,slow=4.4,SNR=5.1						
SNAA	**Sanae**	96.19	184	eP	P	02 28 38.4	+0.3
	2.0nm,1.1s						
TKM2	**Tokmak 2**	98.37	312	eP	P	02 28 47.8	-0.9
	2.7nm,1.0s						
BRTR	**Keskin Array B**	129.81	312	PKP	PKPdf	02 34 20.6	+0.5
BRTR	**Keskin Array B**	129.81	312	PKP	PKPdf	02 34 20.6	+0.5
	0.2nm,0.4s,baz=217,slow=3.6,SNR=2.5						
BUR08	**Bucovina Ar. S**	131.69	325	ePKPdf	PKPdf	02 34 23.9	+0.5
CEL	**Celeste**	142.69	320	ePKPdf	PKPdf	02 34 45.0	+1.1
SSB	**Saint Sauveur**	143.26	338	ePKPdf	PKPbc	02 34 43.0	+1.3
KEST	**Kesra**	148.34	322	ePKPbc	PKPbc	02 34 56.6	-0.6

*IDC **09** 02:15:53.7±0.9, 11°.95S×165°.88E, h0km, mb4.1/9, mb1 4.2/10, mb1mx4.1/21, mbtmp4.1/10, ML4.3/1, MS4.0/4, Ms1 4.0/4, ms1mx3.4/32, Error ellipse: s-maj=33.1km s-min=21.3km az=124.0*
*ISCJB **09** 02:15:56.7±0.4, 12°.09S±0°.08×165°.77E±0°.10, h30km, mb4.4/20, MS4.4/2, Error ellipse: s-maj=14.3km s-min=10.3km az=24.2*
*NEIC **09** 02:15:58.8±0.4, 11°.98S×165°.81E, h35km, mb4.6/13, Error ellipse: s-maj=14.8km s-min=10.5km az=122.0*
ISC 09 02:15:58.1±0.6, 12°.00S±0°.10×165°.8E±0°.1, h30km, n46, σ1s08/40, mb4.5/20, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	6.27	293	LR	LR	02 19 38.0	
	comp=Z,610nm,18.3s,baz=141,slow=35						
DZM	**Mont Dzumac**	10.04	176	ePn	Pn	02 18 20.5	+0.2
DZM	**Mont Dzumac**	10.04	176	Pn	Pn	02 18 19.9	-0.5
	2.3nm,0.3s,baz=9.5,slow=18,SNR=6.5						
PMG	**Port Moresby**	18.47	276	LR	LR	02 26 16.4	
	comp=Z,256nm,20.2s,baz=236,slow=34						
CTA	**Charters Tower**	20.39	244	P	Pn	02 20 35.5	+0.6
CTA	**Charters Tower**	20.39	244	P	Pn	02 20 35.5	+0.6
	1.9nm,0.5s,baz=45,slow=19,SNR=2.0						
CTAO	**Charters Tower**	20.39	244	eP	Pn	02 20 34.8	-0.1
	13nm,1.0s						
COEN	**Coen**	22.10	262	eP	P	02 20 48.7	-2.5
	275nm,1.3s						
STKA	**Stephens Creek**	29.77	225	P	P	02 22 03.0	+0.8
STKA	**Stephens Creek**	29.77	225	P	P	02 22 03.0	+0.8
	3.4nm,0.8s,baz=7.1,slow=8.1,SNR=3.1						
STKA				LR	LR	02 34 04.8	
	comp=Z,171nm,19.1s,baz=29,slow=36						
WRA	**Warramunga Arr**	31.19	251	P	P	02 22 15.4	+0.5
WRA	**Warramunga Arr**	31.19	251	P	P	02 22 15.4	+0.5
	2.3nm,0.6s,baz=83,slow=8.8,SNR=4.5						
AS31	**Alice Springs**	32.40	245	eP	P	02 22 26.2	+0.8
ASAR	**Alice Springs**	32.40	245	P	P	02 22 26.6	+1.2
ASAR	**Alice Springs**	32.40	245	P	P	02 22 26.6	+1.2
	1.9nm,0.7s,baz=70,slow=10,SNR=3.6						
MBWA	**Marble Bar**	44.92	252	eP	P	02 24 11.9	+1.4
	13nm,1.2s						
CASY	**Casey**	65.50	201	eP	P	02 26 38.1	-0.1
	7.4nm,1.1s						
VNDA	**Vanda**	65.55	181	eP	P	02 26 38.4	+0.1
	6.2nm,1.3s						
SBA	**Scott Base**	65.85	180	eP	P	02 26 41.0	+0.8
	4.3nm,0.9s						
QSPA	**South Pole Qui**	78.01	180	eP	P	02 27 53.1	-0.4
	4.8nm,1.0s						
QSPA	**South Pole Qui**	78.01	180	P	P	02 27 53.7	+0.2
	1.6nm,0.7s,baz=356,slow=3.0,SNR=5.1						
ULN	**Ulaanbaatar**	79.08	324	eP	P	02 28 00.5	+0.7
	2.0nm,0.4s						
SONM	**Songino Array**	79.45	324	P	P	02 28 02.6	+0.8
SONM	**Songino Array**	79.45	324	P	P	02 28 02.6	+0.8
	1.6nm,0.6s,baz=131,slow=5.0,SNR=4.7						
BMRM	**Bremner River**	82.60	22	eP	P	02 28 19.8	+1.7
	9.0nm,0.8s						
ILAR	**Eielson Array**	84.41	18	P	P	02 28 26.8	-0.4
ILAR	**Eielson Array**	84.41	18	P	P	02 28 26.8	-0.4
	0.4nm,0.5s,baz=228,slow=5.8,SNR=5.6						
COLD	**Coldfoot**	85.21	16	eP	P	02 28 32.6	+1.4
	4.7nm,0.9s						
ISA	**Isabella**	85.63	52	eP	P	02 28 34.0	-0.2
NVAR	**Mina Array Bea**	86.62	50	P	P	02 28 40.2	+1.0
NVAR	**Mina Array Bea**	86.62	50	P	P	02 28 40.2	+1.0
	0.4nm,0.7s,baz=247,slow=4.6,SNR=2.9						
TUC	**Tucson**	90.88	57	eP	P	02 29 00.3	+1.0
	1.6nm,0.9s						
MK31	**Makanchi Array**	94.23	317	eP	P	02 29 14.4	+0.1
MKAR	**Makanchi Array**	94.23	317	P	P	02 29 14.7	+0.3
MKAR	**Makanchi Array**	94.23	317	P	P	02 29 14.7	+0.3
	5.1nm,0.6s,baz=93,slow=6.2,SNR=12						
ZAA0	**Zalesovo Array**	94.34	324	eP	P	02 29 13.9	-0.7
ZALV	**Zalesovo Beam**	94.34	324	P	P	02 29 14.0	-0.7
ZALV	**Zalesovo Beam**	94.34	324	P	P	02 29 14.0	-0.7
	2.2nm,0.9s,baz=108,slow=4.7,SNR=2.3						
ANMO	**Albuquerque**	94.97	55	LR	LR	03 02 20.9	
	comp=Z,635nm,21.1s,baz=121,slow=29						
SNAA	**Sanae**	96.17	184	eP	P	02 29 21.1	-1.8
	2.2nm,1.2s						
KURK	**Kurchatov**	97.39	320	eP	P	02 29 25.9	-2.7
	1.9nm,1.3s						
TKM2	**Tokmak 2**	98.18	312	eP	P	02 29 32.3	-0.3
PSZ	**Piszkesteto**	134.24	328	ePKPdf	PKPdf	02 35 12.6	-0.5
TRI	**Trieste**	138.83	330	ePKPdf	PKPdf	02 35 21.4	-0.1
TUE	**Stuetta**	140.27	334	ePKPdf	PKPdf	02 35 22.6	-1.9
MTE	**Manteigas**	151.10	349	ePKPbc	PKPbc	02 35 47.2	-1.5

IDC 09 02:22:09.0±6.8, 2°19S×100°55E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/23, mbtmp3.5/3, Error ellipse: s-maj=371.4km s-min=29.2km az=52.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	28.47	258	T	T	02 57 11.7	
	baz=85,slow=0.7,SNR=3.2						
H08S3	**Diego Garcia H**	28.47	258	T	T	02 57 27.2	
	baz=85						
H08S1	**Diego Garcia H**	28.48	258	T	T	02 57 15.3	
	baz=85,slow=0.7,SNR=3.3						
WRA	**Warramunga Arr**	37.42	121	P	P	02 29 24.1	-0.2
	0.3nm,0.3s,baz=306,slow=9.1,SNR=2.6						
ASAR	**Alice Springs**	38.70	126	P	P	02 29 35.0	0.0
	0.7nm,0.7s,baz=302,slow=8.1,SNR=6.0						
MKAR	**Makanchi Array**	51.36	344	P	P	02 31 15.4	0.0
	0.3nm,0.6s,baz=151,slow=8.3,SNR=4.0						
TXAR	**Lajitas Array**	144.51	38	PKP	PKPbc	02 41 47.2	+0.4
	0.1nm,0.4s,baz=113,slow=2.1,SNR=3.7						

IDC 09 02:40:37.2±4.5, 18°83S×68°27W, h165km±24km, mb3.2/1, mb1 3.4/4, mb1mx3.1/20, mbtmp3.3/4, Error ellipse: s-maj=69.0km s-min=27.8km az=60.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	2.53	3	P	Pn	02 41 20.0	-0.4
	14nm,0.3s,baz=186,slow=6.8,SNR=454						
LPAZ				S	Sn	02 41 53.9	+0.2
	3.3nm,0.3s,baz=214,slow=18,SNR=10						
SIV	**San Ignacio**	7.43	69	P	Pn	02 42 22.8	-0.3
	2.0nm,0.3s,baz=266,slow=12,SNR=22						
CPUP	**Villa Florida**	12.55	128	P	Pn	02 43 30.5	+0.2
	0.3nm,0.3s,baz=291,slow=17,SNR=2.9						
TORD	**Torodi Ar. Bea**	75.90	71	P	P	02 52 06.2	+0.1
	0.3nm,0.5s,baz=249,slow=5.5,SNR=9.0						

IDC 09 02:51:01.4±1.6, 12°85S×166°51E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/18, mbtmp3.8/5, ML3.4/1, MS2.8/1, Ms1 2.8/1, ms1mx2.6/28, Error ellipse: s-maj=45.8km s-min=27.8km az=111.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	7.28	297	LR	LR	02 55 13.7	
	comp=Z,82nm,20.6s,baz=131,slow=35						
DZM	**Mont Dzumac**	9.17	180	Pn	Pn	02 53 14.3	-0.9
	0.4nm,0.3s,baz=0.0,slow=19,SNR=3.9						
DZM				Sn	Sn	02 55 01.2	+1.9
	0.5nm,0.3s,baz=354,slow=19,SNR=1.9						
WRA	**Warramunga Arr**	31.61	253	P	P	02 57 26.7	+0.4
	0.3nm,0.5s,baz=84,slow=8.2,SNR=5.3						
ASAR	**Alice Springs**	32.70	246	P	P	02 57 36.0	+0.2
	1.3nm,0.9s,baz=75,slow=9.5,SNR=8.7						
ILAR	**Eielson Array**	84.98	18	P	P	03 03 39.0	+0.8
	0.4nm,0.8s,baz=237,slow=5.2,SNR=5.9						
MKAR	**Makanchi Array**	95.34	317	P	P	03 04 26.1	-1.5
	0.3nm,0.7s,baz=106,slow=4.7,SNR=3.2		

comp=Z,14nm,28.6s,baz=120,slow=36
JTS JuntasAbangare 39.88 327 *e*P **P 03 07 14.8 +1.2**
TORD Torodi Ar. Bea 74.05 67 P **P 03 11 16.0 +0.3**
TORD Torodi Ar. Bea 74.05 67 P **P 03 11 16.0 +0.3**
1.0nm,0.7s,baz=258,slow=6.5,SNR=13
BW06 Boulder Array 78.71 328 *e*P **P 03 11 42.2 +0.4**
2.9nm,1.3s
FITZ Fitzroy Crossi 136.99 193 *e*PKPdf **PKPdf 03 19 00.8 -2.1**
MK31 Makanchi Array 144.82 41 *e*PKPdf **PKPdf 03 19 16.5 +0.4**
MKAR Makanchi Array 144.82 41 PKP **PKPdf 03 19 16.2 +0.1**
MKAR Makanchi Array 144.82 41 PKP **PKPdf 03 19 16.2 +0.1**
0.4nm,0.7s,baz=321,slow=3.1,SNR=3.7

*IDC **09** 03:11:28.2±0.6, 12°.94S×166°.27E, h0km, mb4.4/17, mb1 4.5/20, mb1mx4.4/24, mbtmp4.4/20, ML4.1/3, MS3.7/6, Ms1 3.7/6, ms1mx3.4/33, Error ellipse: s-maj=19.6km s-min=13.8km az=95.0*
*ISCJB **09** 03:11:29.6±0.3, 12°.91S±0°.05×166°.21E±0°.05, h20km, mb4.5/26, MS3.7/4, Error ellipse: s-maj=8.0km s-min=6.6km az=140.4*
*NEIC **09** 03:11:33.5±0.2, 12°.88S×166°.27E, h35km, mb4.7/15, Error ellipse: s-maj=6.6km s-min=6.4km az=125.0*

ISC 09 03:11:31.6±0.4, 12°.91S±0°.06×166°.25E±0°.07, h20km, n78, σ0s93/85, mb4.6/26, MS3.7/4, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.08**	**299**	Pn	**Pn**	**03 13 15.0**	**+0.7**
HNR				Sn	**Sn**	**03 14 33.8**	**-0.5**
HNR	**Honiara**	**7.08**	**299**	Pn	**Pn**	**03 13 15.0**	**+0.7**
	30nm,0.3s,baz=177,slow=9.6,SNR=3.7						
HNR				Sn	**Sn**	**03 14 33.7**	**-0.5**
	19nm,0.3s,baz=195,slow=20,SNR=4.0						
DZM	**Mont Dzumac**	**9.11**	**179**	*e*Pn	**Pn**	**03 13 45.1**	**+2.9**
	42nm,0.5s						
DZM				*e*LR	LR	03 16 01.6	
	269nm,22.4s						
DZM	**Mont Dzumac**	**9.11**	**179**	*e*Pn	**Pn**	**03 13 44.0**	**+1.9**
DZM				Sn	**Sn**	**03 15 22.7**	**-1.6**
DZM	**Mont Dzumac**	**9.11**	**179**	Pn	**Pn**	**03 13 42.4**	**+0.3**
	0.6nm,0.3s,baz=18,slow=22,SNR=6.2						
DZM				Sn	**Sn**	**03 15 22.7**	**-1.6**
	0.1nm,0.3s,baz=270,slow=20,SNR=1.9						
DZM				LR	LR	03 16 51.3	
	comp=Z,338nm,19.5s,baz=19,slow=36						
MSVF	**Nonsavu**	**12.35**	**114**	*e*Pn	**Pn**	**03 14 27.9**	**+1.4**
TARA	**Tarawa**	**15.64**	**26**	*e*Pn	**Pn**	**03 15 11.5**	**+0.4**
EIDS	**Eidsvold**	**18.92**	**227**	*e*P	**Pn**	**03 15 53.8**	**+1.8**
	16nm,0.8s						
PMG	**Port Moresby**	**19.05**	**279**	*e*P	**Pn**	**03 15 53.9**	**+0.2**
	36nm,1.0s						
PMG	**Port Moresby**	**19.05**	**279**	P	**P**	**03 15 52.9**	**+0.1**
	0.9nm,0.3s,baz=180,slow=2.7,SNR=3.5						
PMG				LR	LR	03 22 24.0	
	comp=Z,133nm,19.4s,baz=197,slow=34						
CTA	**Charters Tower**	**20.45**	**247**	P	**P**	**03 16 08.3**	**+0.3**
CTA	**Charters Tower**	**20.45**	**247**	P	**P**	**03 16 08.3**	**+0.3**
	9.9nm,1.0s,baz=59,slow=13,SNR=4.3						
CTAO	**Charters Tower**	**20.45**	**247**	*e*P	**P**	**03 16 08.4**	**+0.4**
	15nm,1.1s						
AFI	**Afiamalu**	**21.40**	**95**	*e*P	**P**	**03 16 17.8**	**-0.6**
	57nm,1.0s						
AFI	**Afiamalu**	**21.40**	**95**	LR	LR	03 23 29.0	
	comp=Z,183nm,18.4s,baz=125,slow=34						
COEN	**Coen**	**22.47**	**265**	*e*P	**P**	**03 16 31.1**	**+1.2**
	101nm,1.1s						
STKA	**Stephens Creek**	**29.47**	**226**	*e*P	**P**	**03 17 34.9**	**+0.4**
	5.0nm,1.4s						
STKA				PcP	**PcP**	**03 20 40.1**	**+0.3**
STKA	**Stephens Creek**	**29.47**	**226**	P	**P**	**03 17 34.0**	**-0.4**
	5.5nm,0.8s,baz=33,slow=7.7,SNR=12						
STKA				PcP	**PcP**	**03 20 40.1**	**+0.3**
	1.7nm,0.6s,baz=39,slow=2.2,SNR=4.0						
STKA				LR	LR	03 29 26.2	
	comp=Z,216nm,18.2s,baz=28,slow=37						
RPZ	**Rata Peaks**	**30.98**	**173**	*e*P	**P**	**03 17 48.2**	**+0.6**
	13nm,0.5s						
RPZ	**Rata Peaks**	**30.98**	**173**	P	**P**	**03 17 47.5**	**-0.1**
	12nm,0.6s,baz=75,slow=10.0,SNR=10						
WRAB	**Tennant Creek**	**31.35**	**253**	*e*P	**P**	**03 17 51.0**	**-0.1**
	9.7nm,1.3s						
WRA	**Warramunga Arr**	**31.36**	**253**	P	**P**	**03 17 49.6**	**-1.7**
WRA				PcP	**PcP**	**03 20 44.1**	**-0.9**
WRA	**Warramunga Arr**	**31.36**	**253**	P	**P**	**03 17 49.6**	**-1.7**
	2.3nm,0.9s,baz=80,slow=9.7,SNR=6.9						
WRA				PcP	**PcP**	**03 20 44.1**	**-0.9**
	1.1nm,0.8s,baz=78,slow=3.0,SNR=3.9						
WRA				LR	LR	03 29 07.8	
	comp=Z,147nm,18.6s,baz=85,slow=34						
AS31	**Alice Springs**	**32.45**	**246**	*e*P	**P**	**03 17 59.8**	**-1.0**
ASAR	**Alice Springs**	**32.45**	**246**	P	**P**	**03 17 59.5**	**-1.4**
ASAR				PcP	**PcP**	**03 20 46.8**	**-1.1**
ASAR	**Alice Springs**	**32.45**	**246**	P	**P**	**03 17 59.5**	**-1.4**
	3.9nm,0.7s,baz=71,slow=9.5,SNR=45						
ASAR				PcP	**PcP**	**03 20 46.8**	**-1.1**
	1.7nm,0.9s,baz=65,slow=3.0,SNR=6.0						
ASAR				LR	LR	03 30 29.1	
	comp=Z,204nm,20.5s,baz=86,slow=35						
PPT2	**Papeete2**	**42.80**	**102**	*e*LR	LR	03 31 51.8	
	137nm,24.0s						
MJAR	**Matsushiro Arr**	**55.84**	**333**	P	**P**	**03 21 06.9**	**-0.9**
MJAR	**Matsushiro Arr**	**55.84**	**333**	P	**P**	**03 21 06.9**	**-0.9**
	2.3nm,0.7s,baz=174,slow=8.5,SNR=8.8						
MAJO	**Matsushiro**	**55.84**	**333**	*e*P	**P**	**03 21 07.3**	**-0.5**
	7.7nm,0.7s						
JNU	**Nakatsue**	**56.87**	**325**	*e*P	**P**	**03 21 15.7**	**+0.4**
	19nm,1.5s						
ASAJ	**Asahikawa**	**60.71**	**341**	P	**P**	**03 21 42.2**	**+0.7**
ASAJ	**Asahikawa**	**60.71**	**341**	P	**P**	**03 21 42.2**	**+0.7**
	11nm,0.7s,baz=88,slow=14.5,SNR=7.8						
KSRS	**Korea Array**	**61.69**	**326**	P	**P**	**03 21 46.9**	**-1.4**
	0.9nm,0.5s,baz=145,slow=6.9,SNR=3.6						
KSAR	**Wonju Array Be**	**61.70**	**326**	P	**P**	**03 21 46.9**	**-1.5**
VNDA	**Vanda**	**64.65**	**181**	P	**P**	**03 22 07.0**	**-0.5**
VNDA	**Vanda**	**64.65**	**181**	P	**P**	**03 22 07.0**	**-0.5**
	1.0nm,0.6s,baz=332,slow=6.8,SNR=6.0						
USRK	**Ussuriysk Arra**	**64.83**	**333**	P	**P**	**03 22 09.8**	**+0.8**
	3.3nm,0.6s,baz=129,slow=5.4,SNR=6.9						
SBA	**Scott Base**	**64.95**	**180**	*e*P	**P**	**03 22 10.7**	**+1.3**
	6.3nm,0.9s						
PETK	**Petropavlovsk-**	**66.16**	**354**	P	**P**	**03 22 18.1**	**+0.6**
PETK	**Petropavlovsk-**	**66.16**	**354**	P	**P**	**03 22 18.1**	**+0.6**
	1.7nm,0.4s,baz=165,slow=6.9,SNR=3.9						
CMAR	**Chiang Mai Arr**	**73.31**	**294**	P	**P**	**03 23 03.8**	**+1.4**
CMAR	**Chiang Mai Arr**	**73.31**	**294**	P	**P**	**03 23 03.7**	**+1.4**
	2.7nm,0.8s,baz=115,slow=4.3,SNR=2.2						
CHTO	**Chiang Mai**	**73.43**	**294**	*e*P	**P**	**03 23 02.7**	**-0.4**
	36nm,1.0s						
QSPA	**South Pole Qui**	**77.11**	**180**	*e*P	**P**	**03 23 23.4**	**-0.1**
	16nm,1.0s						
ULN	**Ulaanbaatar**	**80.09**	**324**	*e*P	**P**	**03 23 41.0**	**+0.7**
	2.2nm,0.5s						
SONM	**Songino Array**	**80.45**	**324**	P	**P**	**03 23 42.9**	**+0.8**
SONM	**Songino Array**	**80.45**	**324**	P	**P**	**03 23 42.9**	**+0.8**
	1.2nm,0.6s,baz=147,slow=8.9,SNR=4.6						
ILAR	**Eielson Array**	**85.11**	**18**	P	**P**	**03 24 05.2**	**-0.6**
ILAR	**Eielson Array**	**85.11**	**18**	P	**P**	**03 24 05.2**	**-0.6**
	0.9nm,0.6s,baz=250,slow=5.4,SNR=17						
NVAR	**Mina Array Bea**	**86.84**	**50**	P	**P**	**03 24 14.6**	**-0.7**
NVAR	**Mina Array Bea**	**86.84**	**50**	P	**P**	**03 24 14.6**	**-0.7**
	0.5nm,0.9s,baz=227,slow=6.0,SNR=2.1						
MK31	**Makanchi Array**	**95.21**	**317**	*e*P	**P**	**03 24 54.1**	**+0.2**
MKAR	**Makanchi Array**	**95.21**	**317**	P	**P**	**03 24 53.8**	**-0.1**
MKAR	**Makanchi Array**	**95.21**	**317**	P	**P**	**03 24 53.8**	**-0.1**
	1.7nm,0.6s,baz=95,slow=6.2,SNR=21						
SNAA	**Sanae**	**95.30**	**183**	*e*P	**P**	**03 24 52.5**	**-1.5**
	4.2nm,1.3s						
ZAA0	**Zalesovo Array**	**95.35**	**324**	*e*P	**P**	**03 24 53.6**	**-0.7**
ZALV	**Zalesovo Beam**	**95.35**	**324**	P	**P**	**03 24 53.5**	**-0.8**
ZALV	**Zalesovo Beam**	**95.35**	**324**	P	**P**	**03 24 53.5**	**-0.8**
	2.2nm,0.7s,baz=112,slow=4.0,SNR=7.0						
ARCES	**ARCESS Array B**	**118.25**	**345**	PKP	**PKPdf**	**03 30 15.8**	**-1.1**
ARCES	**ARCESS Array B**	**118.25**	**345**	PKP	**PKPdf**	**03 30 15.8**	**-1.1**
	2.5nm,0.8s,baz=68,slow=2.4,SNR=10						
FINES	**FINESS Array B**	**123.68**	**338**	PKP	**PKPdf**	**03 30 27.1**	**-0.4**
FINES	**FINESS Array B**	**123.68**	**338**	PKP	**PKPdf**	**03 30 27.1**	**-0.4**
	2.2nm,0.9s,baz=299,slow=5.7,SNR=5.0						
BRTR	**Keskin Array B**	**130.57**	**312**	PKP	**PKPdf**	**03 30 41.5**	**-0.1**
BRTR	**Keskin Array B**	**130.57**	**312**	PKP	**PKPdf**	**03 30 41.5**	**-0.1**
	0.3nm,0.5s,baz=0.0,slow=0.1,SNR=3.5						
BUR08	**Bucovina Ar. S**	**132.56**	**325**	*e*PKPdf	**PKPdf**	**03 30 44.3**	**-0.7**
MORC	**Moravsky Berou**	**135.17**	**331**	*e*PKPdf	**PKPdf**	**03 30 48.9**	**-0.9**
TUE	**Stuetta**	**141.29**	**334**	*e*PKPdf	**PKPdf**	**03 31 00.4**	**-1.0**
CEL	**Celeste**	**143.52**	**319**	*e*PKPdf	PKPbc	03 31 03.7	+1.1
BNI	**Bardonecchia**	**143.54**	**335**	*e*PKPdf	PKPbc	03 31 03.2	+0.6
SSB	**Saint Sauveur**	**144.18**	**338**	*e*PKPdf	PKPbc	03 31 05.1	+0.7
KEST	**Kesra**	**149.18**	**321**	*e*PKPbc	**PKPbc**	**03 31 19.5**	**+0.2**
KEST	**Kesra**	**149.18**	**321**	PKPbc	**PKPbc**	**03 31 19.8**	**+0.5**
	6.4nm,0.7s,baz=343,slow=1.2,SNR=47						
ESDC	**Sonseca Array**	**151.97**	**344**	PKPbc	**PKPbc**	**03 31 25.4**	**-0.4**
ESDC				PKPab	**PKPab**	**03 31 35.4**	**+0.4**
ESDC	**Sonseca Array**	**151.97**	**344**	PKPbc	**PKPbc**	**03 31 25.4**	**-0.4**
	0.4nm,0.6s,baz=7.4,slow=3.3,SNR=6.4						
ESDC				PKPab	**PKPab**	**03 31 35.4**	**+0.4**
	1.1nm,0.6s,baz=11,slow=4.2,SNR=11						
MTE	**Manteigas**	**152.08**	**350**	*e*PKPbc	**PKPbc**	**03 31 25.6**	**-0.4**
TORD	**Torodi Ar. Bea**	**164.95**	**273**	PKPab	**PKPab**	**03 32 31.9**	**+0.1**
TORD	**Torodi Ar. Bea**	**164.95**	**273**	PKPab	**PKPab**	**03 32 31.9**	**+0.1**
	0.4nm,0.5s,baz=94,slow=3.4,SNR=5.1						

IDC 09 03:17:44.5±1.6, 11°.40S×165°.99E, h0km, mb3.9/5, mb1 4.2/6, mb1mx3.9/19, mbtmp3.9/6, ML3.8/1, MS2.3/1, Ms1 2.3/1, ms1mx2.3/28, Error ellipse: s-maj=47.6km s-min=30.7km az=119.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.26**	**288**	LR	LR	03 20 55.8	
	comp=Z,15nm,28.6s,baz=336,slow=30						
DZM	**Mont Dzumac**	**10.62**	**178**	Pn	Pn	03 20 19.3	+1.2
	0.7nm,0.3s,baz=11,slow=16,SNR=6.5						
WRA	**Warramunga Arr**	**31.59**	**250**	P	P	03 24 08.8	-0.5
	2.0nm,1.1s,baz=87,slow=12,SNR=4.5						
ASAR	**Alice Springs**	**32.85**	**244**	P	P	03 24 19.8	-0.6
	1.7nm,0.7s,baz=71,slow=9.5,SNR=15						
ASAR				PcP	PcP	03 27 05.0	-0.4
	0.5nm,0.8s,baz=64,slow=2.2,SNR=4.2						
CMAR	**Chiang Mai Arr**	**72.48**	**294**	P	P	03 29 14.6	+1.0
	0.7nm,0.3s,baz=111,slow=5.1,SNR=4.1						
ILAR	**Eielson Array**	**83.78**	**18**	P	P	03 30 14.8	-0.6
	0.4nm,0.8s,baz=236,slow=5.4,SNR=4.5						
MKAR	**Makanchi Array**	**93.95**	**317**	P	P	03 31 04.2	-0.2
	0.2nm,0.6s,baz=91,slow=6.3,SNR=3.6						

IDC 09 03:26:45.4±1.5, 11°.41S×165°.83E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.8/19, mbtmp3.8/6, ML4.0/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/37, Error ellipse: s-maj=44.3km s-min=25.7km az=108.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.62**	**177**	Pn	Pn	03 29 20.2	+1.2
	1.2nm,0.3s,baz=354,slow=18,SNR=7.9						
DZM				Sn	Sn	03 31 18.7	-0.2
	0.1nm,0.3s,baz=90,slow=20,SNR=2.1						
DZM				LR	LR	03 33 03.8	
	comp=Z,118nm,18.8s,baz=214,slow=36						
WRA	**Warramunga Arr**	**31.44**	**250**	P	P	03 33 08.7	-0.1
	0.5nm,0.8s,baz=84,slow=9.5,SNR=5.4						
ASAR	**Alice Springs**	**32.71**	**244**	P	P	03 33 19.7	-0.3
	0.3nm,0.6s,baz=74,slow=9.9,SNR=3.1						
SONM	**Songino Array**	**79.01**	**324**	P	P	03 38 51.4	0.0
	0.5nm,0.3s,baz=123,slow=6.7,SNR=3.3						
ILAR	**Eielson Array**	**83.83**	**18**	P	P	03 39 16.1	-0.4
	0.3nm,0.5s,baz=238,slow=5.4,SNR=6.7						
MKAR	**Makanchi Array**	**93.84**	**317**	P	P	03 40 05.3	+0.5
	0.7nm,0.8s,baz=107,slow=6.5,SNR=6.9						

*STR **09** 03:27:20.2±0.3, 42°.80N×1°.10W, h5km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*CSEM **09** 03:27:20.3±0.1, 42°.86N×1°.04W, h5km, ML2.3/11, Error ellipse: s-maj=2.9km s-min=2.1km az=7.0*
*MDD **09** 03:27:21.2±0.2, 42°.84N×1°.08W, h4km±3km, mbLg1.9/15, Error ellipse: s-maj=2.1km s-min=1.5km az=170.0, PRXIMO*
*LDG **09** 03:27:21.1±0.1, 42°.85N×1°.08W, h3km, Md2.5/3, Ml2.4/18, Error ellipse: s-maj=1.1km s-min=0.9km az=4.0*

ISC 09 03:27:21.3±0.8, 42°.89N±0°.02×1°.06W±0°.02, h14km±5km, n98, σ1s33/150, 2C-4D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IELO	**Elcoad**	**0.14**	**252**	⇓Pg	**Pg**	**03 27 23.2**	**-1.8**
	49nm,0.0s,SNR=18						
IELO				Lg	Lg	03 27 25.3	
	271nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.14**	**252**	Pg	**Pg**	**03 27 23.2**	**-1.8**
	49nm,0.0s,SNR=18						
IELO				Lg	Lg	03 27 25.3	
	271nm,0.1s,SNR=7.9						
LARF	**Larrau**	**0.16**	**19**	Pg	**Pg**	**03 27 25.5**	**+0.2**
LARF				Sg	**Sg**	**03 27 29.1**	**+1.1**
LARF	**Larrau**	**0.16**	**19**	Pg	**Pg**	**03 27 25.5**	**+0.2**
LARF				Sg	**Sg**	**03 27 29.1**	**+1.1**
IEPA	**Eparoz**	**0.19**	**235**	⇓Pg	**Pg**	**03 27 23.9**	**-1.9**
	35nm,0.0s,SNR=18						
IEPA				Lg	Lg	03 27 26.0	
	89nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.19**	**235**	Pg	**Pg**	**03 27 23.9**	**-1.9**
	35nm,0.0s,SNR=18						
IEPA				Lg	Lg	03 27 26.0	
	89nm,0.1s,SNR=7.9						
IPRE	**Itoiz**	**0.23**	**250**	⇓Pg	**Pg**	**03 27 25.0**	**-1.5**
	15nm,0.1s,SNR=18						
IPRE				Lg	Lg	03 27 28.6	
	48nm,0.2s,SNR=7.9						
IPRE	**Itoiz**	**0.23**	**250**	Pg	**Pg**	**03 27 25.0**	**-1.5**
	15nm,0.1s,SNR=18						
IPRE				Lg	Lg	03 27 28.6	
	48nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**0.26**	**332**	*e*Pg	**Pg**	**03 27 26.8**	**-0.1**
SJPF				*e*Sg	**Sg**	**03 27 30.2**	**-0.4**
	96nm,0.3s						
SJPF	**Ste Jean**	**0.26**	**332**	Pg	**Pg**	**03 27 26.8**	**-0.1**
SJPF				*e*Sg	**Sg**	**03 27 30.2**	**-0.4**
	48nm,0.3s						
ATE	**Arette**	**0.33**	**53**	Pg	**Pg**	**03 27 28.4**	**+0.3**
ATE				Sg	**Sg**	**03 27 34.3**	**+1.6**
ATE	**Arette**	**0.33**	**53**	Pg	**Pg**	**03 27 28.4**	**+0.3**
ATE				Sg	**Sg**	**03 27 34.3**	**+1.6**
ORDF	**Ordiarp**	**0.34**	**15**	Pg	**Pg**	**03 27 28.7**	**+0.4**
ORDF				Sg	**Sb**	**03 27 35.3**	**+1.0**
ORDF	**Ordiarp**	**0.34**	**15**	Pg	**Pg**	**03 27 28.7**	**+0.4**
ORDF				Lg	Lg	03 27 34.1	
ORDF				Sg	**Sb**	**03 27 35.3**	**+1.0**
IUNC	**Unciti**	**0.35**	**248**	Pg	**Pg**	**03 27 27.7**	**-0.8**
	2.5nm,0.1s,SNR=7.9						
IUNC				Lg	Lg	03 27 33.4	
	39nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.35**	**248**	Pg	**Pg**	**03 27 27.7**	**-0.8**
	2.5nm,0.1s,SNR=7.9						
IUNC				Lg	Lg	03 27 33.4	
	39nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.36**	**280**	Pg	**Pg**	**03 27 28.1**	**-0.6**
	4.1nm,0.1s,SNR=7.9						
IUSE				Lg	Lg	03 27 33.3	
	14nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.36**	**280**	Pg	**Pg**	**03 27 28.1**	**-0.6**
	4.1nm,0.1s,SNR=7.9						
IUSE				Lg	Lg	03 27 33.3	
	14nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**0.37**	**88**	*e*Pg	**Pg**	**03 27 28.1**	**-0.7**
ETSF				*e*Sg	**Sg**	**03 27 33.5**	**-0.4**
	49nm,0.2s						
ETSF	**Etsaut**	**0.37**	**88**	Pg	**Pg**	**03 27 28.1**	**-0.7**
ETSF				*e*Sg	**Sg**	**03 27 33.5**	**-0.4**
	25nm,0.2s						
OSSF	**Osses**	**0.40**	**338**	Pg	**Pg**	**03 27 29.5**	**+0.2**
OSSF				Sg	**Sg**	**03 27 35.1**	**+0.3**
OSSF	**Osses**	**0.40**	**338**	Pg	**Pg**	**03 27 29.5**	**+0.2**
OSSF				Sg	**Sg**	**03 27 35.1**	**+0.3**
EARA	**Aranguren**	**0.40**	**254**	⇓Pg	**Pg**	**03 27 28.7**	**-0.7**
	1.4nm,0.1s,SNR=18						
EARA				Lg	Lg	03 27 35.0	
	11nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.40**	**254**	Pg	**Pg**	**03 27 28.7**	**-0.7**
	1.4nm,0.1s,SNR=18						
EARA				Lg	Lg	03 27 35.0	
	11nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.44**	**309**	⇑Pg	**Pg**	**03 27 29.9**	**-0.2**
	24nm,0.2s,SNR=18						
ELIZ				Lg	Lg	03 27 36.8	
	22nm,0.2s,SNR=13						
ELIZ	**Elizondo**	**0.44**	**309**	Pg	**Pg**	**03 27 29.9**	**-0.2**
	24nm,0.2s,SNR=18						
ELIZ				Lg	Lg	03 27 36.8	
	22nm,0.2s,SNR=13						
EALK	**Alkurruntz**	**0.47**	**315**	⇑Pg	**Pg**	**03 27 30.5**	**-0.1**
	3.4nm,0.1s,SNR=18						
EALK				Lg	Lg	03 27 37.5	
	21nm,0.1s,SNR=36						
EALK	**Alkurruntz**	**0.47**	**315**	Pg	**Pg**	**03 27 30.5**	**-0.1**
	3.4nm,0.1s,SNR=18						
EALK				Lg	Lg	03 27 37.5	
	21nm,0.1s,SNR=36						
REYF	**Montagne du Re**	**0.52**	**69**	Pg	**Pg**	**03 27 31.4**	**-0.2**
REYF				Sg	**Sg**	**03 27 39.4**	**+0.8**
REYF	**Montagne du Re**	**0.52**	**69**	Pg	**Pg**	**03 27 31.3**	**-0.3**
REYF				Lg	Lg	03 27 39.2	
VIEF	**Viey**	**0.80**	**90**	Pg	**Pg**	**03 27 35.6**	**-1.1**
VIEF				Sg	**Sg**	**03 27 47.4**	**+0.2**
VIEF	**Viey**	**0.80**	**90**	Pg	**Pg**	**03 27 35.6**	**-1.1**
VIEF				Lg	Lg	03 27 46.6	
VIEF				Sg	**Sg**	**03 27 47.4**	**+0.2**
LABF	**Labassere**	**0.85**	**79**	Pg	**Pg**	**03 27 37.1**	**-0.6**
LABF				Sg	**Sg**	**03 27 49.1**	**+0.3**
LABF	**Labassere**	**0.85**	**79**	Pg	**Pg**	**03 27 37.1**	**-0.6**
LABF				Lg	Lg	03 27 48.8	
LABF				Sg	**Sg**	**03 27 49.1**	**+0.3**
EBIE	**Bielsa**	**0.91**	**102**	Pg	**Pg**	**03 27 37.8**	**-1.1**
	0.1nm,0.1s,SNR=16						
EBIE				Lg	Lg	03 27 52.6	
	2.0nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.91**	**102**	Pg	**Pg**	**03 27 37.8**	**-1.1**
	0.1nm,0.1s,SNR=16						
EBIE				Lg	Lg	03 27 52.6	
	2.0nm,0.1s,SNR=7.9						
EPF	**Esparros**	**1.04**	**82**	*e*Pg	**Pg**	**03 27 40.2**	**-1.1**
EPF				*e*Sg	**Sb**	**03 27 56.1**	**+1.6**
	16nm,0.2s						
EPF	**Esparros**	**1.04**	**82**	Pg	**Pg**	**03 27 40.2**	**-1.1**
EPF				*e*Sg	**Sb**	**03 27 56.1**	**+1.6**
	7.8nm,0.2s						
ESAC	**San Caprasio**	**1.24**	**159**	Pg	**Pb**	**03 27 44.6**	**+0.1**
	2.1nm,0.1s,SNR=12						
ESAC				Lg	Lg	03 28 01.5	
	12nm,0.1s,SNR=6.8						
ESAC	**San Caprasio**	**1.24**	**159**	Pg	**Pb**	**03 27 44.6**	**+0.1**
	2.1nm,0.1s,SNR=12						
ESAC				Lg	Lg	03 28 01.5	
	12nm,0.1s,SNR=6.8						
MELF	**Melles**	**1.34**	**90**	Lg	Lg	03 28 04.2	
SALF	**Salau**	**1.66**	**94**	Pg	**Pb**	**03 27 52.1**	**+0.5**
SALF				Lg	Lg	03 28 13.4	
CSOR	**Sort**	**1.70**	**107**	Pg	**Pb**	**03 27 53.1**	**+0.8**
	0.3nm,0.1s,SNR=24						
CSOR				Lg	Lg	03 28 17.0	
	3.2nm,0.1s,SNR=7.8						
CSOR	**Sort**	**1.70**	**107**	Pg	**Pb**	**03 27 53.1**	**+0.8**
	0.3nm,0.1s,SNR=24						
CSOR				Lg	Lg	03 28 17.0	
	3.2nm,0.1s,SNR=7.8						
ELAN	**Lanestosa**	**1.77**	**282**	Pg	**Pb**	**03 27 53.9**	**+0.3**
	0.1nm,0.1s,SNR=15						
ELAN				Lg	Lg	03 28 17.8	
	1.1nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.77**	**282**	Pg	**Pb**	**03 27 53.9**	**+0.3**
	0.1nm,0.1s,SNR=15						
ELAN				Lg	Lg	03 28 17.8	
	1.1nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**2.15**	**116**	Pg	**Pb**	**03 28 00.4**	**+0.5**
	0.1nm,0.0s,SNR=8.2						
EMIR				Lg	Lg	03 28 31.0	
	SNR=7.9						
EMIR	**Miracle**	**2.15**	**116**	Pg	**Pb**	**03 28 00.4**	**+0.5**
	0.1nm,0.0s,SNR=8.2						
EMIR				Lg	Lg	03 28 31.0	
	SNR=7.9						
ERTA	**Horta de San J**	**2.19**	**151**	Pg	**Pb**	**03 28 00.5**	**-0.2**
	0.2nm,0.1s,SNR=6.8						
ERTA				Lg	Lg	03 28 29.9	
	1.3nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.19**	**151**	Pg	**Pb**	**03 28 00.5**	**-0.2**
	0.2nm,0.1s,SNR=6.8						
ERTA				Lg	Lg	03 28 29.9	
	1.3

TCF	**Toulx Ste Croi**	**4.12**	**33**	*e*Pn	**Pn**	**03 28 24.0**	**+0.2**
TCF				*e*Sn	**Sn**	**03 29 09.8**	**-2.0**
	1.3nm,0.2s						
TCF	**Toulx Ste Croi**	**4.12**	**33**	Pn	**Pn**	**03 28 24.0**	**+0.2**
TCF				*e*Sn	**Sn**	**03 29 09.8**	**-2.0**
	0.6nm,0.2s						
ECAL	**Calabor**	**4.31**	**259**	Pn	**Pn**	**03 28 27.0**	**+0.6**
	0.0nm,0.1s,SNR=4.0						
ECAL				Sn	**Sn**	**03 29 16.8**	**+0.3**
	0.2nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**4.31**	**259**	Pn	**Pn**	**03 28 27.0**	**+0.6**
	SNR=4.0						
ECAL				Sn	**Sn**	**03 29 16.8**	**+0.3**
	0.2nm,0.1s,SNR=7.9						
VIVF	**Saint-Julien-l**	**4.59**	**63**	*e*Pn	**Pn**	**03 28 30.0**	**-0.2**
VIVF				*e*Sn	**Sn**	**03 29 20.7**	**-2.5**
	1.4nm,0.4s						
VIVF	**Saint-Julien-l**	**4.59**	**63**	Pn	**Pn**	**03 28 30.0**	**-0.2**
VIVF				*e*Sn	**Sn**	**03 29 20.7**	**-2.5**
	0.7nm,0.4s						
BGF	**Bois d'Agland**	**4.61**	**36**	*e*Pn	**Pn**	**03 28 30.0**	**-0.4**
BGF				*e*Sn	**Sn**	**03 29 21.2**	**-2.4**
	7.1nm,0.5s						
BGF	**Bois d'Agland**	**4.61**	**36**	Pn	**Pn**	**03 28 30.0**	**-0.4**
BGF				*e*Sn	**Sn**	**03 29 21.2**	**-2.4**
	3.5nm,0.5s						
AVF	**Avril sur Loir**	**5.01**	**37**	*e*Pn	**Pn**	**03 28 35.5**	**-0.4**
AVF				*e*Sn	**Sn**	**03 29 30.6**	**-2.9**
	0.3nm,0.2s						
AVF	**Avril sur Loir**	**5.01**	**37**	Pn	**Pn**	**03 28 35.5**	**-0.4**
AVF				*e*Sn	**Sn**	**03 29 30.6**	**-2.9**
	0.2nm,0.2s						
QUIF	**Quistinic**	**5.24**	**344**	*e*Pn	**Pn**	**03 28 38.4**	**-0.7**
QUIF				*e*Sn	**Sn**	**03 29 36.3**	**-3.0**
	0.5nm,0.3s						
QUIF	**Quistinic**	**5.24**	**344**	*e*Pn	**Pn**	**03 28 38.4**	**-0.7**
QUIF				*e*Sn	**Sn**	**03 29 36.3**	**-3.0**
	0.2nm,0.3s						
SGMF	**Saint Gilles**	**5.47**	**349**	*e*Pn	**Pn**	**03 28 41.8**	**-0.5**
SGMF				*e*Sn	**Sn**	**03 29 41.7**	**-3.2**
	0.7nm,0.2s						
GRR	**Gorron**	**5.50**	**1**	*e*Pn	**Pn**	**03 28 41.9**	**-0.8**
GRR				*e*Sn	**Sn**	**03 29 42.6**	**-3.1**
	0.8nm,0.3s						
GRR	**Gorron**	**5.50**	**1**	*e*Pn	**Pn**	**03 28 41.9**	**-0.8**
ROSF	**Rostrenen**	**5.67**	**345**	*e*Pn	**Pn**	**03 28 44.7**	**-0.3**
ROSF				*e*Sn	**Sn**	**03 29 46.5**	**-3.3**
	0.3nm,0.2s						
LDF	**La Druitiere**	**5.75**	**6**	*e*Pn	**Pn**	**03 28 45.5**	**-0.5**
LDF				*e*Sn	**Sn**	**03 29 48.5**	**-3.2**
	0.5nm,0.3s						
LDF	**La Druitiere**	**5.75**	**6**	*e*Pn	**Pn**	**03 28 45.5**	**-0.5**
FLN	**La Foliniere**	**5.89**	**4**	*e*Pn	**Pn**	**03 28 47.4**	**-0.6**
FLN				*e*Sn	**Sn**	**03 29 51.9**	**-3.4**
	0.5nm,0.2s						
FLN	**La Foliniere**	**5.89**	**4**	*e*Pn	**Pn**	**03 28 47.4**	**-0.6**

IDC 09 03:35:14.9±3.5, 12°.69S×165°.97E, h0km, mb3.9/4, mb1 3.9/5, mb1mx3.9/18, mbtmp3.8/5, ML2.7/1, Error ellipse: s-maj=70.4km s-min=43.0km az=84.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.34**	**177**	Pn	Pn	03 37 30.3	-0.8
	0.1nm,0.3s,baz=319,slow=20,SNR=2.2						
STKA	**Stephens Creek**	**29.43**	**226**	P	P	03 41 19.8	-0.6
	2.3nm,0.8s,baz=43,slow=7.5,SNR=4.5						
WRA	**Warramunga Arr**	**31.17**	**252**	P	P	03 41 37.7	+1.8
	0.6nm,1.0s,baz=76,slow=9.3,SNR=2.9						
ASAR	**Alice Springs**	**32.29**	**246**	P	P	03 41 45.0	-0.8
	0.9nm,0.6s,baz=70,slow=9.7,SNR=16						
MKAR	**Makanchi Array**	**94.86**	**317**	P	P	03 48 39.1	+0.1
	0.3nm,0.6s,baz=98,slow=4.2,SNR=2.7						

IDC 09 03:35:21.9±3.0, 15°.08S×173°.69W, h0km, mb3.8/4, mb1 4.2/4, mb1mx3.9/18, mbtmp3.8/4, MS3.5/4, Ms1 3.5/4, ms1mx3.2/47, Error ellipse: s-maj=160.6km s-min=25.9km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.19**	**58**	Pn	Pn	03 35 54.2	-5.4
	22nm,0.3s,baz=238,slow=2.2,SNR=8.1						
AFI				Sn	Sn	03 36 13.8	-14
	91nm,0.3s,baz=24,slow=22,SNR=8.1						
AFI				LR	LR	03 36 28.4	
	comp=Z,465nm,19.1s,baz=256,slow=30						
PPT	**Papeete**	**23.27**	**99**	LR	LR	03 46 49.0	
	comp=Z,124nm,18.9s,baz=359,slow=30						
URZ	**Urewera**	**24.48**	**198**	LR	LR	03 49 20.7	
	comp=Z,148nm,20.5s,baz=24,slow=34						
WRA	**Warramunga Arr**	**49.65**	**257**	P	P	03 44 15.4	-0.3
	0.4nm,0.6s,baz=90,slow=6.9,SNR=2.8						
ASAR	**Alice Springs**	**49.95**	**252**	P	P	03 44 17.7	-0.3
	3.4nm,0.6s,baz=86,slow=8.0,SNR=23						
NVAR	**Mina Array Bea**	**74.28**	**42**	P	P	03 47 01.2	-0.2
	0.3nm,0.7s,baz=220,slow=8.2,SNR=2.5						
ILAR	**Eielson Array**	**82.19**	**11**	P	P	03 47 44.2	-0.1
	1.6nm,1.1s,baz=217,slow=7.0,SNR=6.1						
SNAA	**Sanae**	**93.24**	**177**	LR	LR	04 26 43.1	
	comp=Z,50nm,21.5s,baz=345,slow=33						
BRTR	**Keskin Array B**	**145.74**	**321**	PKPbc	PKPbc	03 55 03.5	+0.1
	1.8nm,0.9s,baz=111,slow=2.8,SNR=9.3						

*IDC **09** 03:47:23.4±0.6, 12°.92S×166°.75E, h0km, mb4.7/18, mb1 4.7/21, mb1mx4.7/24, mbtmp4.6/21, ML3.7/2, MS4.0/20, Ms1 4.0/20, ms1mx3.9/42, Error ellipse: s-maj=20.7km s-min=14.1km az=94.0*

*AUST **09** 03:47:28.9±8.7, 12°.78S×166°.07E, h0km, Error ellipse: s-maj=1.6km s-min=1.1km az=313.0*

*BJI **09** 03:47:28.2, 12°.69S×166°.85E, h35km, mB5.3/28, mb5.1/44, Ms5.1/14, Ms7 4.7/15*

*NEIC **09** 03:47:29.7±0.3, 12°.85S×166°.56E, h35km, mb4.8/27, Error ellipse: s-maj=9.5km s-min=7.7km az=129.0*

*ISCJB **09** 03:47:30.0±0.3, 12°.86S±0°.05×166°.42E±0°.05, h44km, mb4.8/50, MS3.8/25, Error ellipse: s-maj=6.9km s-min=6.7km az=41.7*

*GCMT **09** 03:47:32.4±0.3, 12°.93S×166°.28E, h33km, MW5.1, Moment Tensor Solution. s45,c56; s54,c66; Moment tensor: Scale 10^{16}Nm; M_{rr}4.59±.24; $M_{\theta\theta}$-0.15±.19; $M_{\phi\phi}$-4.44±.17; $M_{r\theta}$1.37±.21; $M_{\theta\phi}$1.37±.15; $M_{\phi r}$-0.14±.18; Best double couple: M_o4.90000×10^{16} NP1:ϕ_s149.00000°, δ50.00000°, λ70.00000°. NP2:ϕ_s358.00000°, δ44.00000°, λ112.00000°. Principal axes: T 4.9600, Plg75.0000°, Azm355.0000°; N -0.1000, Plg15.0000°, Azm162.0000°; P -4.8700, Plg3.0000°, Azm253.0000°; Data Used: II IU G CN IC. Surface wave period40 sec.*

ISC 09 03:47:30.7±0.4, 12°.92S±0°.06×166°.51E±0°.06, h44km, n150, σ1§61/170, mb4.9/50, MS4.0/25, 2C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.31**	**298**	Pn	**Pn**	**03 49 12.6**	**-2.5**
HNR				Sn	**Sn**	**03 50 35.5**	**-1.4**
HNR	**Honiara**	**7.31**	**298**	Pn	**Pn**	**03 49 12.6**	**-2.5**
	39nm,0.3s,baz=201,slow=2.8,SNR=6.0						
HNR				Sn	**Sn**	**03 50 35.5**	**-1.4**
	46nm,0.3s,baz=198,slow=16,SNR=4.2						
HNR				LR	LR	03 51 41.9	
	comp=Z,1μm,21.2s,baz=135,slow=34						
DZM	**Mont Dzumac**	**9.11**	**180**	*e*Pn	Pn	03 49 43.1	+3.4
	73nm,0.5s						
DZM				*e*LR	LR	03 51 44.9	
	3μm,23.9s						
DZM	**Mont Dzumac**	**9.11**	**180**	Pn	**Pn**	**03 49 38.1**	**-1.6**
DZM	**Mont Dzumac**	**9.11**	**180**	Pn	**Pn**	**03 49 38.1**	**-1.6**
	1.3nm,0.3s,baz=169,slow=20,SNR=14						
MSVF	**Nonsavu**	**12.11**	**115**	*e*Pn	P	03 50 27.1	-5.5
TARA	**Tarawa**	**15.54**	**25**	*e*Pn	**P**	**03 51 10.9**	**+0.3**
	112nm,1.1s						
EIDS	**Eidsvold**	**19.11**	**227**	*e*P	**Pn**	**03 51 52.4**	**+1.3**
	35nm,1.1s						
EIDS	**Eidsvold**	**19.11**	**227**	P	**Pn**	**03 51 52.5**	**+1.3**
	baz=19,SNR=5.7						
PMG	**Port Moresby**	**19.30**	**278**	*e*P	**Pn**	**03 51 53.0**	**-0.6**
	24nm,1.0s						
PMG	**Port Moresby**	**19.30**	**278**	P	**Pn**	**03 51 53.0**	**-0.6**
	0.5nm,0.3s,baz=72,slow=3.2,SNR=2.8						
PMG				LR	LR	03 58 10.0	
	comp=Z,16nm,28.6s,baz=130,slow=33						
CTA	**Charters Tower**	**20.68**	**247**	P	Pn	03 52 08.1	-1.8
CTA	**Charters Tower**	**20.68**	**247**	P	Pn	03 52 08.1	-1.8
	7.9nm,0.7s,baz=78,slow=14,SNR=7.0						
CTAO	**Charters Tower**	**20.68**	**247**	*e*P	Pn	03 52 08.7	-1.2
	27nm,1.1s						
AFI	**Afiamalu**	**21.14**	**95**	*e*P	**P**	**03 52 14.9**	**+2.7**
	50nm,0.9s						
AFI	**Afiamalu**	**21.14**	**95**	LR	LR	03 59 06.0	
	comp=Z,16nm,28.6s,baz=260,slow=34						
PATS	**Pohnpei**	**21.25**	**337**	P	**P**	**03 52 14.5**	**+1.2**
	baz=21,SNR=5.8						
RMQ	**Roma**	**21.45**	**228**	P	**P**	**03 52 17.7**	**+2.3**
	baz=21,SNR=17						
RAO	**Raoul Island**	**21.76**	**141**	LR	LR	03 59 02.2	
	comp=Z,378nm,18.4s,baz=350,slow=32						
COEN	**Coen**	**22.72**	**265**	*e*P	**P**	**03 52 29.4**	**+0.2**
	279nm,1.4s						
QLP	**Quilpie**	**24.93**	**234**	P	**P**	**03 52 51.0**	**+1.0**
	baz=25,SNR=5.8						
CMSA	**Cobar Meteorol**	**26.65**	**223**	P	**P**	**03 53 08.2**	**+2.7**
	baz=26,SNR=7.0						
URZ	**Urewera**	**26.95**	**161**	LR	LR	04 02 11.7	
	comp=Z,661nm,20.9s,baz=322,slow=33						
STKA	**Stephens Creek**	**29.65**	**226**	*e*P	**P**	**03 53 33.5**	**+1.2**
	2.0nm,0.9s						
STKA				PcP	**PcP**	**03 56 35.2**	**-0.8**
STKA	**Stephens Creek**	**29.65**	**226**	P	**P**	**03 53 33.5**	**+1.2**
	baz=30,SNR=9.5						
STKA	**Stephens Creek**	**29.65**	**226**	P	**P**	**03 53 33.4**	**+1.1**
	3.3nm,0.6s,baz=47,slow=8.9,SNR=13						
STKA				PcP	**PcP**	**03 56 35.2**	**-0.8**
	7.1nm,1.0s,baz=32,slow=4.4,SNR=4.8						
STKA				LR	LR	04 05 04.9	
	comp=Z,16nm,28.6s,baz=50,slow=36						
RPZ	**Rata Peaks**	**30.94**	**174**	*e*P	**P**	**03 53 45.1**	**+1.6**
	32nm,1.1s						
RPZ	**Rata Peaks**	**30.94**	**174**	LR	LR	04 06 01.1	
	comp=Z,406nm,18.5s,baz=352,slow=36						
WRAB	**Tennant Creek**	**31.59**	**253**	*e*P	**P**	**03 53 50.4**	**+0.8**
	5.2nm,0.8s						
WRA	**Warramunga Arr**	**31.60**	**253**	P	**P**	**03 53 48.5**	**-1.2**
WRA	**Warramunga Arr**	**31.60**	**253**	P	**P**	**03 53 48.5**	**-1.2**
	3.1nm,0.8s,baz=84,slow=8.7,SNR=11						
WRA				LR	LR	04 05 39.4	
	comp=Z,727nm,19.9s,baz=80,slow=34						
AS31	**Alice Springs**	**32.68**	**246**	*e*P	**P**	**03 53 57.9**	**-1.3**
ASAR	**Alice Springs**	**32.68**	**246**	P	**P**	**03 53 58.4**	**-0.8**
ASAR				PcP	**PcP**	**03 56 43.7**	**-0.6**
ASAR	**Alice Springs**	**32.68**	**246**	P	**P**	**03 53 58.4**	**-0.8**
	4.0nm,0.6s,baz=70,slow=9.5,SNR=69						
ASAR				PcP	**PcP**	**03 56 43.7**	**-0.6**
	1.4nm,0.9s,baz=98,slow=5.2,SNR=4.4						
ASAR				LR	LR	04 06 49.2	
	comp=Z,958nm,19.0s,baz=72,slow=35						
KDU	**Kakadu**	**33.18**	**267**	P	P	03 54 17.0	+14
	baz=33,SNR=3.3						
RAR	**Rarotonga**	**33.21**	**109**	LR	LR	04 05 01.1	
	comp=Z,151nm,19.1s,baz=310,slow=32						
BBOO	**Buckleboo**	**34.15**	**229**	P	**P**	**03 54 12.2**	**+0.4**
	baz=34,SNR=6.0						
FAKI	**Fak Fak**	**35.31**	**283**	P	P	03 54 29.3	+7.3
	baz=35,SNR=3.7						
FITZ	**Fitzroy Crossi**	**39.66**	**257**	P	P	03 55 14.6	+16
	baz=39,SNR=3.4						
PPT2	**Papeete2**	**42.55**	**102**	*e*LR	LR	04 07 31.6	
	537nm,25.8s						
PPT	**Papeete**	**42.55**	**102**	LR	LR	04 08 51.9	
	comp=Z,16nm,28.6s,baz=278,slow=30						
MBWA	**Marble Bar**	**45.34**	**253**	*e*P	**P**	**03 55 45.9**	**+0.9**
	13nm,0.9s						
MEEK	**Meekatharra**	**46.83**	**246**	P	**P**	**03 55 57.4**	**+0.7**
	baz=46,SNR=13						
NWAO	**Narrogin (SRO)**	**49.07**	**238**	LR	LR	04 17 36.0	
	comp=Z,341nm,18.6s,baz=49,slow=37						
MORW	**Morawa**	**49.41**	**243**	P	**P**	**03 56 17.1**	**+0.6**
	baz=49,SNR=4.4						
MJAR	**Matsushiro Arr**	**55.97**	**333**	P	**P**	**03 57 04.4**	**-0.3**
MJAR	**Matsushiro Arr**	**55.97**	**333**	P	**P**	**03 57 04.4**	**-0.3**
	11nm,0.9s,baz=168,slow=8.5,SNR=18						
MJAR				LR	LR	04 19 51.7	
	comp=Z,16nm,28.6s,baz=145,slow=35						
MAJO	**Matsushiro**	**55.97**	**333**	*e*P	**P**	**03 57 04.6**	**-0.1**
	24nm,1.0s						
MAT	**Matsushiro**	**55.97**	**333**	P	**P**	**03 57 04.3**	**-0.5**
RKT	**Rikitea**	**56.25**	**109**	*e*LR	LR	04 13 48.3	
	524nm,32.0s						
JNU	**Nakatsue**	**57.03**	**324**	*e*P	**P**	**03 57 13.5**	**+1.1**
	17nm,0.9s						
KSRS	**Korea Array**	**61.84**	**326**	P	**P**	**03 57 46.4**	**+0.9**
	11nm,0.9s,baz=140,slow=7.2,SNR=33						
KSRS				LR	LR	04 24 00.2	
	comp=Z,44nm,19.3s,baz=126,slow=35						
KSAR	**Wonju Array Be**	**61.85**	**326**	P	**P**	**03 57 46.4**	**+0.8**
NJ2	**Nanjing**	**63.87**	**316**	*e*P	**P**	**03 57 59.6**	**+0.5**
NJ2				AMB	AMB		
	comp=Z,40nm,1.0s						
QIZ	**Qiongzhong**	**64.22**	**299**	P	**P**	**03 58 02.8**	**+1.1**
QIZ				S	**S**	**04 06 41.6**	**+5.2**
QIZ				LR	LR		
	comp=Z,180nm,13.2s						
VNDA	**Vanda**	**64.65**	**181**	*e*P	**P**	**03 58 03.7**	**+0.2**
	11nm,1.4s						
VNDA	**Vanda**	**64.65**	**181**	P	**P**	**03 58 02.1**	**-1.4**
	5.2nm,1.2s,baz=357,slow=6.0,SNR=7.4						
SBA	**Scott Base**	**64.94**	**180**	*e*P	**P**	**03 58 07.0**	**+1.6**
	14nm,1.2s						
USRK	**Ussuriysk Arra**	**64.95**	**333**	P	**P**	**03 58 06.6**	**+0.8**
	19nm,0.9s,baz=140,slow=5.9,SNR=18						
PETK	**Petropavlovsk-**	**66.19**	**354**	P	**P**	**03 58 13.1**	**-0.6**
PETK	**Petropavlovsk-**	**66.19**	**354**	P	**P**	**03 58 13.1**	**-0.6**
	1.2nm,0.7s,baz=190,slow=6.6,SNR=2.8						
PETK				LR	LR	04 22 12.4	
	comp=Z,16nm,28.6s,baz=160,slow=32						
WHN	**Wuhan**	**66.19**	**312**	*e*P	P	03 58 20.3	+6.1
MDJ	**Mudanjiang**	**66.34**	**332**	P	**P**	**03 58 15.8**	**+0.9**
MDJ				AMB	AMB		
	comp=Z,26nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,140nm,4.4s						
CN2	**Changchun**	**67.72**	**329**	⇑P	**P**	**03 58 24.6**	**+0.9**
CN2				AMB	AMB		
	comp=Z,50nm,0.9s						
CN2				AMB	AMB		
	comp=Z,140nm,5.0s						
GYA	**Guiyang**	**70.09**	**304**	P	**P**	**03 58 39.8**	**+0.9**
GYA				pP	**pP**	**03 58 50.1**	**-1.7**
GYA				PP	**PP**	**04 01 16.6**	**+2.0**
GYA				S	**S**	**04 07 42.9**	**-4.2**
GYA				sS	**sS**	**04 08 03.7**	**-4.8**
GYA				SKS	**SKSac**	**04 08 34.0**	**-3.1**
GYA				SS	**SS**	**04 12 17.6**	**-0.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
GYA				AMB	AMB		
	comp=Z,90nm,5.8s						
GYA				LR	LR		
	comp=N,470nm,19.4s						
GYA				LR	LR		
	comp=E,380nm,20.0s						
GYA				LR	LR		
	comp=Z,440nm,18.5s						
BJI	**Beijing**	**70.40**	**321**	P	**P**	**03 58 41.4**	**+1.1**
BJI				S	S	04 07 56.4	+6.5
BJI				AMB	AMB		
	comp=Z,27nm,1.0s						
BJI				AMB	AMB		
	comp=Z,150nm,5.0s						
BJI				LR	LR		
	comp=Z,120nm,26.4s						
XAN	**Xi'an**	**71.93**	**312**	P	**P**	**03 58 50.5**	**+0.7**
XAN				pP	**pP**	**03 59 01.6**	**-1.1**
XAN				sP	**sP**	**03 59 07.0**	**-0.7**
XAN				AMB	AMB		
	comp=Z,5.0nm,1.0s						
KMI	**Kunming**	**72.73**	**302**	P	**P**	**03 58 57.0**	**+2.0**
KMI				AMB	AMB		
	comp=Z,23nm,0.9s						
CMAR	**Chiang Mai Arr**	**73.55**	**294**	P	**P**	**03 59 01.2**	**+1.5**
CMAR	**Chiang Mai Arr**	**73.55**	**294**	P	**P**	**03 59 01.2**	**+1.5**
	4.7nm,0.7s,baz=126,slow=4.5,SNR=28						
CMAR				LR	LR	04 31 57.8	
	comp=Z,16nm,28.6s,baz=125,slow=36						
CHTO	**Chiang Mai**	**73.67**	**294**	*e*P	**P**	**03 59 01.2**	**+0.9**
	42nm,1.2s						
HHC	**Hu-ho-hao-te**	**73.74**	**320**	*e*P	**P**	**03 59 02.2**	**+1.7**
HHC				pP	**pP**	**03 59 12.5**	**-0.9**
HHC				sP	**sP**	**03 59 17.2**	**-1.2**
HHC				PP	**PP**	**04 01 48.3**	**+2.7**
HHC				S	**S**	**04 08 29.1**	**+0.7**
HHC				sS	**sS**	**04 08 47.2**	**-2.8**
HHC				SKS	**SKSac**	**04 09 01.7**	**-2.3**
HHC				SS	**SS**	**04 13 16.1**	**+3.0**
HHC				AMB	AMB		
	comp=Z,75nm,1.0s						
HHC				AMB	AMB		
	comp=Z,520nm,4.8s						
HHC				LR	LR		
	comp=N,320nm,17.8s						
HHC				LR	LR		
	comp=E,570nm,15.5s						
HHC				LR	LR		
	comp=Z,340nm,16.7s						
CD2	**Chengdu**	**74.33**	**307**	P	**P**	**03 59 05.8**	**+1.7**
CD2				pP	**pP**	**03 59 16.6**	**-0.4**
CD2				sP	**sP**	**03 59 20.8**	**-1.2**
CD2				PP	**PP**	**04 01 54.3**	**+3.6**
CD2				S	**S**	**04 08 36.9**	**+1.5**
CD2				sS	**sS**	**04 08 54.9**	**-2.1**
CD2				SS	**SS**	**04 13 26.0**	**+3.6**
CD2				AMB	AMB		
	comp=Z,20nm,0.5s						
CD2				AMB	AMB		
	comp=Z,490nm,4.7s						
CD2				LR	LR		
	comp=N,530nm,5.9s						
CD2				LR	LR		
	comp=Z,230nm,8.3s						
LZH	**Lanzhou**	**76.56**	**312**	*e*P	**P**	**03 59 19.1**	**+2.2**
LZH				pP	**pP**	**03 59 29.6**	**-0.3**
LZH				sP	**sP**	**03 59 34.2**	**-0.7**
LZH				*e*PP	**PP**	**04 02 13.3**	**+3.6**
LZH				*e*S	**S**	**04 09 02.2**	**+2.0**
LZH				sS	**sS**	**04 09 19.5**	**-2.4**
LZH				*e*SS	**SS**	**04 14 01.6**	**+5.2**
LZH				AMB	AMB		
	comp=Z,23nm,1.5s						
LZH				AMB	AMB		
	comp=Z,100nm,8.0s						
LZH				LR	LR		
	comp=N,370nm,16.7s						
LZH				LR	LR		
	comp=E,370nm,17.2s						
LZH				LR	LR		
	comp=Z,500nm,19.5s						
QSPA	**South Pole Qui**	**77.10**	**180**	P	**P**	**03 59 19.3**	**-0.1**
QSPA	**South Pole Qui**	**77.10**	**180**	P	**P**	**03 59 19.3**	**-0.1**
	22nm,1.0s,baz=10,slow=2.2,SNR=43						
ULN	**Ulaanbaatar**	**80.25**	**324**	*e*P	**P**	**03 59 38.1**	**+1.1**
	26nm,0.9s						
SONM	**Songino Array**	**80.61**	**324**	P	**P**	**03 59 37.4**	**-1.5**
SONM	**Songino Array**	**80.61**	**324**	P	**P**	**03 59 37.4**	**-1.5**
	12nm,1.1s,baz=133,slow=6.2,SNR=17						
SONM				LR	LR	04 34 31.9	
	comp=Z,16nm,28.6s,baz=91,slow=35						
GTA	**Gaotai**	**80.89**	**314**	⇑P	**P**	**03 59 42.2**	**+1.6**
GTA				pP	**pP**	**03 59 52.4**	**-1.3**
GTA				sP	**sP**	**03 59 56.2**	**-2.4**
GTA				S	**S**	**04 09 48.1**	**+1.9**
GTA				sS	**ScS**	**04 10 04.7**	**-0.1**
GTA				SS	**SS**	**04 15 06.6**	**+5.4**
GTA				AMB	AMB		
	comp=Z,23nm,1.1s						
GTA				AMB	AMB		
	comp=Z,190nm,4.7s						
GTA				LR	LR		
	comp=N,110nm,14.0s						
GTA				LR	LR		
	comp=E,120nm,15.7s						
GTA				LR	LR		
	comp=Z,120nm,17.1s						
SHL	**Shillong**	**82.06**	**298**	*ex*	**P**	**03 59 48.5**	**+1.3**
BMRM	**Bremner River**	**83.17**	**22**	*e*P	**P**	**03 59 53.4**	**+1.4**
	70nm,1.8s						
MAW	**Mawson**	**83.28**	**202**	P	**P**	**03 59 52.9**	**+0.4**
MAW	**Mawson**	**83.28**	**202**	P	**P**	**03 59 52.9**	**+0.4**
	2.2nm,0.8s,baz=328,slow=12,SNR=5.4						
YBH	**Yreka Blue Hor**	**84.66**	**45**	*e*P	**P**	**03 59 58.0**	**-2.0**
	9.0nm,1.2s						
CMB	**Columbia Colle**	**84.98**	**49**	*e*P	**P**	**04 00 02.2**	**+0.5**
	2.4nm,1.0s						
ILAR	**Eielson Array**	**85.04**	**18**	P	**P**	**03 59 59.9**	**-1.4**
ILAR	**Eielson Array**	**85.04**	**18**	P	**P**	**03 59 59.9**	**-1.4**
	2.4nm,0.6s,baz=246,slow=4.8,SNR=17						
ILAR				LR	LR	04 31 41.7	
	comp=Z,16nm,28.6s,baz=228,slow=31						
ISA	**Isabella**	**85.62**	**52**	*e*P	**P**	**04 00 06.0**	**+1.0**
	5.0nm,1.3s						
COLD	**Coldfoot**	**85.89**	**16**	*e*P	P	04 00 08.6	+3.1
	7.7nm,1.0s						
TAPN	**Taplejung**	**86.16**	**299**	*e*P	**P**	**04 00 08.8**	**+0.6**
	69nm,1.4s						
ODAN	**Odare**	**86.30**	**298**	*e*P	**P**	**04 00 09.7**	**+0.9**
	63nm,1.1s						
NVAR	**Mina Array Bea**	**86.66**	**50**	P	**P**	**04 00 07.5**	**-2.7**
NVAR	**Mina Array Bea**	**86.66**	**50**	P	**P**	**04 00 07.5**	**-2.7**
	0.8nm,1.0s,baz=229,slow=8.2,SNR=2.6						
RAMN	**Ramite**	**87.00**	**298**	*e*P	**P**	**04 00 12.7**	**+0.5**
JIRN	**Jiri**	**87.55**	**299**	*e*P	**P**	**04 00 15.5**	**+0.5**
	52nm,1.2s						
WVOR	**Wild Horse Val**	**87.75**	**46**	*e*P	**P**	**04 00 14.9**	**-0.4**
	6.4nm,1.5s						
GUN	**Gumba**	**87.88**	**299**	*e*P	**P**	**04 00 17.0**	**+0.5**
PKI	**Pulchoki**	**88.19**	**299**	*e*P	**P**	**04 00 18.3**	**+0.3**
KKN	**Kakani**	**88.36**	**299**	*e*P	**P**	**04 00 19.3**	**+0.6**
DMN	**Daman**	**88.46**	**299**	*e*P	**P**	**04 00 19.8**	**+0.6**
	109nm,1.1s						
GKN	**Gorkha**	**88.96**	**299**	*e*P	**P**	**04 00 21.4**	**0.0**
	66nm,1.0s						
KOLN	**Koldanda**	**89.79**	**298**	*e*P	**P**	**04 00 25.1**	**-0.3**
	20nm,1.0s						
DANN	**Dangsing**	**89.80**	**299**	*e*P	**P**	**04 00 25.2**	**-0.3**
	40nm,0.9s		

PSZ	**Piszkesteto**	**135.40 328**	*e*PKPdf	**PKPdf**	**04 06 47.3**	**+1.2**		
TRI	**Trieste**	**139.98 330**	*e*PKPdf	**PKPdf**	**04 06 52.9**	**-1.6**		
ECH	**Echery**	**140.84 338**	*e*PKPdf	**PKPdf**	**04 06 54.3**	**-1.7**		
TUE	**Stuetta**	**141.41 335**	*e*PKPdf	PKPdf	04 06 51.7	-5.6		
BNI	**Bardonecchia**	**143.65 336**	*e*PKPdf	PKPbc	04 06 58.5	-0.2		
CEL	**Celeste**	**143.69 319**	*e*PKPdf	PKPbc	04 06 58.7	-0.2		
SSB	**Saint Sauveur**	**144.28 338**	*e*PKPdf	**PKPdf**	**04 07 01.1**	**-1.2**		
KEST	**Kesra**	**149.35 322**	*e*PKPbc	**PKPbc**	**04 07 15.5**	**0.0**		
KEST			*e*PKPab	**PKPab**	**04 07 21.2**	**+1.1**		
KEST	**Kesra**	**149.35 322**	PKPbc	**PKPbc**	**04 07 15.4**	**0.0**		
	1.6nm,0.6s,baz=255,slow=2.0,SNR=6.8							
PBRG	**Braganca**	**150.62 351**	*e*PKPbc	**PKPbc**	**04 07 17.3**	**-1.0**		
POLO	**Lamas de Olo**	**151.22 351**	*e*PKPbc	**PKPbc**	**04 07 19.7**	**-0.1**		
MVO	**Moncorvo**	**151.30 350**	*e*PKPbc	**PKPbc**	**04 07 21.0**	**+1.1**		
PVRL	**Vila Real**	**151.30 351**	*e*PKPbc	**PKPbc**	**04 07 20.4**	**+0.5**		
PVIS	**Viseu**	**151.88 351**	*e*PKPbc	**PKPbc**	**04 07 22.2**	**+1.0**		
ESDC	**Sonseca Array**	**152.05 344**	PKPbc	**PKPbc**	**04 07 21.4**	**-0.3**		
ESDC			PKPab	**PKPab**	**04 07 30.8**	**-0.3**		
ESDC	**Sonseca Array**	**152.05 344**	PKPbc	**PKPbc**	**04 07 21.4**	**-0.3**		
	0.7nm,0.6s,baz=19,slow=1.8,SNR=7.8							
ESDC			PKPab	**PKPab**	**04 07 30.8**	**-0.3**		
	2.3nm,0.7s,baz=15,slow=0.6,SNR=4.4							
MTE	**Manteigas**	**152.13 350**	*e*PKPdf	**PKPdf**	**04 07 16.0**	**+0.8**		
MTE			*e*PKPbc	**PKiKP**	**04 07 22.2**	**+0.1**		
PMRV	**Marv??o**	**153.05 350**	*e*PKPbc	**PKPbc**	**04 07 23.6**	**-0.3**		
PNCL	**Nicolau / Gran**	**154.52 351**	*e*PKPbc	**PKPbc**	**04 07 26.5**	**-0.5**		
PVAQ	**Vaqueiros**	**155.07 349**	*e*PKPbc	PKPdf	04 07 28.5	+9.1		
TORD	**Torodi Ar. Bea**	**165.21 273**	PKPab	**PKPab**	**04 08 28.7**	**-0.1**		
TORD	**Torodi Ar. Bea**	**165.21 273**	PKPab	**PKPab**	**04 08 28.7**	**-0.1**		
	3.5nm,0.9s,baz=78,slow=4.7,SNR=14							

IDC 09 03:53:06.8±9.7, 12°.93S×167°.80E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/18, mbtmp3.7/3, Error ellipse: s-maj=298.2km s-min=54.7km az=128.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.80**	**253**	P	P	03 59 41.4	-0.7
	0.9nm,1.0s,baz=86,slow=9.2,SNR=3.5						
ASAR	**Alice Springs**	**33.82**	**247**	P	P	03 59 51.8	+0.7
	0.6nm,0.7s,baz=74,slow=9.3,SNR=5.6						
MKAR	**Makanchi Array**	**96.27**	**316**	P	P	04 06 37.0	-0.2
	0.3nm,0.6s,baz=99,slow=3.6,SNR=3.4						

IDC 09 03:54:10.0±1.1, 13°.73S×166°.50E, h0km, mb4.1/8, mb1 4.1/8, mb1mx4.0/19, mbtmp4.0/8, Error ellipse: s-maj=38.1km s-min=24.9km az=109.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**29.09**	**227**	P	P	04 00 13.1	+0.6
	1.2nm,0.5s,baz=69,slow=10,SNR=4.0						
WRA	**Warramunga Arr**	**31.36**	**254**	P	P	04 00 32.7	0.0
	1.1nm,0.8s,baz=89,slow=8.3,SNR=7.6						
ASAR	**Alice Springs**	**32.34**	**247**	P	P	04 00 40.2	-1.2
	0.8nm,0.8s,baz=77,slow=8.2,SNR=4.6						
USRK	**Ussuriysk Arra**	**65.66**	**333**	P	P	04 04 56.9	+0.8
	1.7nm,0.6s,baz=134,slow=8.2,SNR=4.0						
QSPA	**South Pole Qui**	**76.29**	**180**	P	P	04 06 01.4	+0.8
	1.9nm,0.7s,baz=37,slow=4.9,SNR=9.4						
MAW	**Mawson**	**82.52**	**202**	P	P	04 06 33.6	-0.8
	1.0nm,0.3s,baz=84,slow=19,SNR=6.6						
ILAR	**Eielson Array**	**85.81**	**18**	P	P	04 06 49.8	-1.3
	0.3nm,0.4s,baz=236,slow=5.3,SNR=5.2						
MKAR	**Makanchi Array**	**95.97**	**317**	P	P	04 07 39.3	+0.2
	0.3nm,0.6s,baz=91,slow=6.0,SNR=3.5						
KEST	**Kesra**	**149.97**	**321**	PKPbc	PKPbc	04 14 03.2	+0.1
	1.1nm,0.7s,baz=108,slow=1.2,SNR=6.4						

IDC 09 03:56:03.6±2.4, 13°.38S×166°.21E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/18, mbtmp3.9/5, Error ellipse: s-maj=101.5km s-min=28.1km az=133.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**29.12**	**227**	P	P	04 02 06.7	+0.3
	1.7nm,0.8s,baz=42,slow=12,SNR=4.4						
WRA	**Warramunga Arr**	**31.19**	**254**	P	P	04 02 24.8	0.0
	0.6nm,0.5s,baz=86,slow=9.5,SNR=5.7						
ASAR	**Alice Springs**	**32.22**	**247**	P	P	04 02 33.5	-0.4
	0.6nm,0.8s,baz=74,slow=9.2,SNR=4.5						
ILAR	**Eielson Array**	**85.57**	**18**	P	P	04 08 43.2	-0.2
	0.7nm,0.4s,baz=234,slow=5.1,SNR=18						
MKAR	**Makanchi Array**	**95.52**	**317**	P	P	04 09 30.8	+0.1
	0.4nm,0.8s,baz=96,slow=6.5,SNR=3.1						

*IDC **09** 04:08:21.7±1.2, 40°.90S×176°.20E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.7/16, mbtmp3.7/4, ML3.6/2, Error ellipse: s-maj=35.2km s-min=29.1km az=121.0*

*WEL **09** 04:08:26.0±0.1, 40°.92S×176°.23E, h33km, ML4.3/49, Error ellipse: s-maj=1.4km s-min=1.0km az=90.0, intensity MM 5.*

WEL Felt between King Country, Wellington and Hawke''s Bay, maximum reported.

*NEIC **09** 04:08:25.8, 40°.96S×176°.27E, h32km, ML4.3(WEL), After WEL.*

NEIC Felt in the Palmerston North area.

ISC 09 04:08:24.9±1.0, 40°.98S±0°.03×176°.36E±0°.04, h30km±6km, n167, σ0.96/160, 16C-8D, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPWZ	**Castlepoint**	**0.14**	**300**	⇓P*	**Pn**	**04 08 31.3**	**+0.2**
CPWZ				S*	**Sb**	**04 08 35.4**	**+0.9**
BFZ	**Birch Farm**	**0.31**	**344**	⇑P*	**Pb**	**04 08 32.5**	**-0.1**
BFZ	**Birch Farm**	**0.31**	**344**	P*	**Pb**	**04 08 31.8**	**-0.8**
TMWZ	**Te Maipa**	**0.38**	**250**	⇑P*	**Pn**	**04 08 34.4**	**0.0**
TMWZ	**Te Maipa**	**0.38**	**250**	P*	**Pn**	**04 08 34.4**	**0.0**
TIWZ	**Tintock**	**0.41**	**299**	⇑P*	**Pb**	**04 08 33.2**	**-0.8**
TIWZ	**Tintock**	**0.41**	**299**	P*	**Pb**	**04 08 33.3**	**-0.8**
PRWZ	**Pori Road**	**0.52**	**325**	⇑P*	**Pb**	**04 08 35.2**	**-0.5**
HOWZ	**Holdsworth Sta**	**0.65**	**277**	⇑P*	**Pb**	**04 08 37.0**	**-0.8**
HOWZ	**Holdsworth Sta**	**0.65**	**277**	P*	**Pb**	**04 08 37.0**	**-0.8**
TRWZ	**Traveller**	**0.66**	**230**	P*	**Pb**	**04 08 38.1**	**+0.1**
TRWZ				AML	AML	04 08 51.9	
TRWZ				AML	AML	04 08 52.9	
TRWZ	**Traveller**	**0.66**	**230**	P*	**Pn**	**04 08 38.4**	**+0.2**
MRZ	**Mangatainoka R**	**0.67**	**298**	⇑P*	**Pb**	**04 08 37.0**	**-1.3**
MRZ				AML	AML	04 08 45.2	
MRZ				AML	AML	04 08 45.9	
MRZ	**Mangatainoka R**	**0.67**	**298**	P*	**Pb**	**04 08 36.2**	**-2.0**
MTW	**Mount Morrison**	**0.67**	**254**	P*	**Pb**	**04 08 37.8**	**-0.4**
MTW				AML	AML	04 08 50.7	
MTW				AML	AML	04 09 03.9	
MTW	**Mount Morrison**	**0.67**	**254**	P*	**Pb**	**04 08 37.9**	**-0.4**
DVHZ	**Dannevirke**	**0.69**	**348**	⇑P*	**Pn**	**04 08 38.0**	**-0.7**
DVHZ	**Dannevirke**	**0.69**	**348**	P*	**Pn**	**04 08 38.1**	**-0.7**
POWZ	**Post Office Ro**	**0.74**	**322**	⇑P*	**Pn**	**04 08 38.4**	**-0.9**
POWZ	**Post Office Ro**	**0.74**	**322**	P*	**Pn**	**04 08 38.5**	**-0.9**
PRHZ	**Porangahau**	**0.74**	**16**	⇑P*	**Pn**	**04 08 39.3**	**0.0**
PRHZ	**Porangahau**	**0.74**	**16**	P*	**Pn**	**04 08 39.4**	**0.0**
PAWZ	**Paruwai Farm**	**0.81**	**240**	⇓P*	**Pn**	**04 08 40.2**	**-0.1**
PAWZ				AML	AML	04 08 51.9	
PAWZ				AML	AML	04 09 05.7	
PAWZ	**Paruwai Farm**	**0.81**	**240**	P*	**Pn**	**04 08 40.2**	**-0.1**
WPHZ	**Waipukurau**	**0.92**	**4**	⇑P*	**Pn**	**04 08 41.9**	**+0.2**
WPHZ	**Waipukurau**	**0.92**	**4**	P*	**Pn**	**04 08 42.0**	**+0.2**
OGWZ	**Otaki Gorge**	**0.92**	**280**	⇑P*	**Pn**	**04 08 41.0**	**-0.7**
OGWZ	**Otaki Gorge**	**0.92**	**280**	P*	**Pn**	**04 08 41.0**	**-0.7**
MSWZ	**Moikau Station**	**0.94**	**242**	P*	**Pn**	**04 08 41.6**	**-0.5**
MSWZ				AML	AML	04 08 54.5	
MSWZ				AML	AML	04 08 58.9	
MSWZ	**Moikau Station**	**0.94**	**242**	P*	**Pn**	**04 08 41.7**	**-0.4**
TSZ	**Takapari Road**	**0.97**	**342**	⇓P*	**Pn**	**04 08 41.9**	**-0.6**
TSZ				AML	AML	04 08 54.5	
TSZ				AML	AML	04 08 55.0	
TSZ	**Takapari Road**	**0.97**	**342**	P*	**Pn**	**04 08 41.6**	**-0.9**
CAW	**Cannon Point**	**0.99**	**262**	P*	**Pn**	**04 08 42.1**	**-0.5**
CAW				AML	AML	04 08 54.7	
CAW				AML	AML	04 08 57.3	
CAW	**Cannon Point**	**0.99**	**262**	P*	**Pn**	**04 08 42.2**	**-0.5**
PLWZ	**Palliser**	**1.02**	**234**	⇓P*	**Pn**	**04 08 42.7**	**-0.6**
PLWZ	**Palliser**	**1.02**	**234**	P*	**Pn**	**04 08 42.7**	**-0.6**
PXZ	**Pawanui**	**1.02**	**22**	P*	**Pn**	**04 08 43.0**	**-0.2**
PXZ				AML	AML	04 09 08.2	
PXZ				AML	AML	04 09 08.2	
PXZ				AML	AML	04 09 12.3	
PXZ				AML	AML	04 09 12.4	
PXZ	**Pawanui**	**1.02**	**22**	P*	**Pn**	**04 08 43.2**	**0.0**
PNHZ	**Pukenui**	**1.07**	**353**	⇑P*	**Pn**	**04 08 43.8**	**-0.1**
PNHZ	**Pukenui**	**1.07**	**353**	P*	**Pn**	**04 08 43.8**	**-0.1**
KIW	**Kapiti Island**	**1.11**	**276**	⇑P*	**Pn**	**04 08 43.9**	**-0.4**
KIW				AML	AML	04 08 57.4	
KIW				AML	AML	04 08 58.4	
KIW	**Kapiti Island**	**1.11**	**276**	P*	**Pn**	**04 08 44.0**	**-0.4**
BHW	**Baring Head**	**1.20**	**249**	P*	**Pn**	**04 08 45.1**	**-0.5**
BHW				AML	AML	04 08 59.9	
BHW				AML	AML	04 09 00.0	
BHW	**Baring Head**	**1.20**	**249**	P*	**Pn**	**04 08 45.1**	**-0.5**
WEL	**Wellington**	**1.24**	**255**	P*	**Pn**	**04 08 45.8**	**-0.4**
KAHZ	**Kahuranaki**	**1.25**	**19**	⇓PN	**Pn**	**04 08 46.3**	**0.0**
KAHZ	**Kahuranaki**	**1.25**	**19**	Pn	**Pn**	**04 08 46.3**	**0.0**
SNZO	**South Karori**	**1.29**	**255**	P*	**Pn**	**04 08 46.4**	**-0.5**
SNZO				AML	AML	04 09 04.9	
SNZO				AML	AML	04 09 15.4	
SNZO	**South Karori**	**1.29**	**255**	P*	**Pn**	**04 08 46.4**	**-0.5**
CKHZ	**Cape Kidnapper**	**1.43**	**23**	PN	**Pn**	**04 08 48.5**	**-0.2**
CKHZ	**Cape Kidnapper**	**1.43**	**23**	Pn	**Pn**	**04 08 48.5**	**-0.2**
BHHZ	**Black Hill Sta**	**1.51**	**351**	⇓PN	**Pn**	**04 08 50.3**	**+0.4**
BHHZ	**Black Hill Sta**	**1.51**	**351**	Pn	**Pn**	**04 08 50.3**	**+0.4**
MCHZ	**McNeill Hill**	**1.56**	**10**	⇓PN	**Pn**	**04 08 51.0**	**+0.5**
MCHZ	**McNeill Hill**	**1.56**	**10**	Pn	**Pn**	**04 08 51.0**	**+0.5**
TCW	**Tory Channel**	**1.59**	**261**	PN	**Pn**	**04 08 50.7**	**-0.4**
TCW				AML	AML	04 09 16.3	
TCW				AML	AML	04 09 17.4	
TCW	**Tory Channel**	**1.59**	**261**	Pn	**Pn**	**04 08 50.7**	**-0.4**
WAZ	**Wanganui**	**1.61**	**319**	PN	**Pn**	**04 08 52.0**	**+0.7**
WAZ				AML	AML	04 09 23.3	
WAZ				AML	AML	04 09 30.2	
WAZ	**Wanganui**	**1.61**	**319**	Pn	**Pn**	**04 08 52.7**	**+1.4**
MOVZ	**Moawhango**	**1.64**	**343**	PN	**Pn**	**04 08 52.0**	**+0.3**
MOVZ				AML	AML	04 09 12.4	
MOVZ				AML	AML	04 09 12.4	
MOVZ	**Moawhango**	**1.64**	**343**	Pn	**Pn**	**04 08 52.0**	**+0.3**
MTVZ	**Mangateitei**	**1.73**	**337**	PN	**Pn**	**04 08 54.0**	**+1.0**
MTVZ				AML	AML	04 09 15.9	
MTVZ				AML	AML	04 09 17.3	
MTVZ	**Mangateitei**	**1.73**	**337**	Pn	**Pn**	**04 08 54.1**	**+1.1**
WNVZ	**Wahianoa**	**1.75**	**340**	PN	**Pn**	**04 08 54.4**	**+1.0**
WNVZ				AML	AML	04 09 16.8	
WNVZ				AML	AML	04 09 28.9	
WNVZ	**Wahianoa**	**1.75**	**340**	Pn	**Pn**	**04 08 54.4**	**+1.0**
TRVZ	**Turoa**	**1.79**	**339**	PN	**Pn**	**04 08 54.6**	**+0.7**
TRVZ				AML	AML	04 09 16.5	
TRVZ				AML	AML	04 09 16.7	
TRVZ	**Turoa**	**1.79**	**339**	Pn	**Pn**	**04 08 54.6**	**+0.7**
TUVZ	**Tukino**	**1.79**	**342**	PN	**Pn**	**04 08 54.8**	**+0.9**
TUVZ				AML	AML	04 09 27.3	
TUVZ				AML	AML	04 09 35.5	
TUVZ	**Tukino**	**1.79**	**342**	Pn	**Pn**	**04 08 54.8**	**+0.9**
WHVZ	**Whangaehu Hut**	**1.80**	**341**	⇓PN	**Pn**	**04 08 54.6**	**+0.5**
DRZ	**Dome Shelter**	**1.81**	**340**	AML	AML	04 09 22.8	
DRZ				AML	AML	04 09 34.0	
DRZ	**Dome Shelter**	**1.81**	**340**	Pn	**Pn**	**04 08 54.4**	**+1.1**
BKZ	**Black Stump Fm**	**1.81**	**3**	⇑PN	**Pn**	**04 08 54.1**	**0.0**
BKZ				AML	AML	04 09 15.7	
BKZ				AML	AML	04 09 16.2	
BKZ	**Black Stump Fm**	**1.81**	**3**	Pn	**Pn**	**04 08 54.1**	**0.0**
FWVZ	**Far West T-bar**	**1.83**	**340**	PN	**Pn**	**04 08 55.2**	**+0.7**
FWVZ				AML	AML	04 09 02.0	
FWVZ				AML	AML	04 09 20.6	
FWVZ	**Far West T-bar**	**1.83**	**340**	Pn	**Pn**	**04 08 55.2**	**+0.7**
DUWZ	**D'Urville Isla**	**1.86**	**275**	PN	**Pn**	**04 08 54.8**	**+0.1**
DUWZ				AML	AML	04 09 31.6	
DUWZ				AML	AML	04 09 32.4	
DUWZ	**D'Urville Isla**	**1.86**	**275**	Pn	**Pn**	**04 08 54.8**	**+0.1**
PKVZ	**Pokaka**	**1.86**	**335**	PN	**Pn**	**04 08 55.9**	**+1.1**
PKVZ				AML	AML	04 09 22.8	
PKVZ				AML	AML	04 09 38.1	
PKVZ	**Pokaka**	**1.86**	**335**	Pn	**Pn**	**04 08 55.9**	**+1.1**
TUWZ	**Tuamarina**	**1.88**	**255**	PN	**Pn**	**04 08 53.7**	**-1.2**
TUWZ				AML	AML	04 09 31.9	
TUWZ				AML	AML	04 09 33.0	
TUWZ	**Tuamarina**	**1.88**	**255**	Pn	**Pn**	**04 08 53.7**	**-1.2**
WPVZ	**Whakapapa**	**1.88**	**340**	PN	**Pn**	**04 08 55.9**	**+0.8**
WPVZ				AML	AML	04 09 18.8	
WPVZ				AML	AML	04 09 20.9	
WPVZ	**Whakapapa**	**1.88**	**340**	Pn	**Pn**	**04 08 55.9**	**+0.8**
OTVZ	**Oturere**	**1.89**	**343**	PN	**Pn**	**04 08 56.2**	**+0.9**
OTVZ				AML	AML	04 09 33.4	
OTVZ				AML	AML	04 09 34.2	
OTVZ	**Oturere**	**1.89**	**343**	Pn	**Pn**	**04 08 56.2**	**+0.9**
NGZ	**Ngauruhoe**	**1.89**	**342**	AML	AML	04 09 36.4	
NGZ				AML	AML	04 09 37.6	
NGZ	**Ngauruhoe**	**1.89**	**342**	Pn	**Pn**	**04 08 56.3**	**+1.0**
NMHZ	**Naumai**	**1.91**	**10**	PN	**Pn**	**04 08 55.9**	**+0.4**
NMHZ	**Naumai**	**1.91**	**10**	Pn	**Pn**	**04 08 55.9**	**+0.4**
WTVZ	**West Tongariro**	**1.95**	**342**	PN	**Pn**	**04 08 56.9**	**+0.8**
WTVZ				AML	AML	04 09 28.3	
WTVZ				AML	AML	04 09 37.9	
WTVZ	**West Tongariro**	**1.95**	**342**	Pn	**Pn**	**04 08 57.0**	**+0.9**
KRVZ	**Karewarewa**	**1.96**	**343**	AML	AML	04 09 27.7	
KRVZ				AML	AML	04 09 44.1	
KRVZ	**Karewarewa**	**1.96**	**343**	Pn	**Pn**	**04 08 57.4**	**+1.2**
BSWZ	**Blackbirch Sta**	**2.01**	**248**	PN	**Pn**	**04 08 56.0**	**-0.8**
BSWZ				AML	AML	04 09 20.9	
BSWZ				AML	AML	04 09 28.6	
BSWZ	**Blackbirch Sta**	**2.01**	**248**	Pn	**Pn**	**04 08 56.0**	**-0.8**
TWZ	**Taurewa**	**2.03**	**339**	PN	**Pn**	**04 08 58.2**	**+1.0**
TWVZ				AML	AML	04 09 39.9	
TWVZ				AML	AML	04 09 40.2	
TWVZ	**Taurewa**	**2.03**	**339**	Pn	**Pn**	**04 08 58.2**	**+1.0**
RITZ	**Rihia Road**	**2.04**	**349**	⇑PN	**Pn**	**04 08 58.1**	**+0.9**
RITZ				AML	AML	04 09 40.9	
RITZ				AML	AML	04 09 44.0	
RITZ	**Rihia Road**	**2.04**	**349**	Pn	**Pn**	**04 08 58.1**	**+0.9**
KATZ	**Kakaramea**	**2.07**	**345**	AML	AML	04 09 42.8	
KATZ				AML	AML	04 09 43.7	
KATZ	**Kakaramea**	**2.07**	**345**	Pn	**Pn**	**04 08 58.5**	**+0.8**
HATZ	**Hinemaiaia**	**2.10**	**354**	AML	AML	04 09 25.4	
HATZ				AML	AML	04 09 35.7	
HATZ	**Hinemaiaia**	**2.10**	**354**	Pn	Pb	04 09 05.9	+3.6
RAHZ	**Arahi**	**2.13**	**15**	PN	**Pn**	**04 08 58.4**	**-0.1**
RAHZ	**Arahi**	**2.13**	**15**	Pn	**Pn**	**04 08 58.4**	**-0.1**
RATZ	**Rangitukua**	**2.16**	**348**	AML	AML	04 09 17.0	
RATZ				AML	AML	04 09 41.1	
RATZ	**Rangitukua**	**2.16**	**348**	Pn	**Pn**	**04 08 59.4**	**+0.5**
MHGZ	**Mahia Peninsul**	**2.18**	**34**	PN	**Pn**	**04 08 58.5**	**-0.5**
MHGZ	**Mahia Peninsul**	**2.18**	**34**	Pn	**Pn**	**04 08 58.5**	**-0.5**
KNZ	**Kokohu**	**2.20**	**28**	PN	**Pn**	**04 08 58.6**	**-0.8**
KNZ	**Kokohu**	**2.20**	**28**	Pn	**Pn**	**04 08 58.6**	**-0.8**
VRZ	**Vera Road**	**2.22**	**326**	AML	AML	04 09 14.1	
VRZ				AML	AML	04 09 49.7	
VRZ	**Vera Road**	**2.22**	**326**	Pn	**Pn**	**04 09 00.6**	**+0.9**
NNZ	**Nelson**	**2.27**	**263**	PN	**Pn**	**04 09 00.2**	**-0.1**
NNZ				AML	AML	04 09 40.3	
NNZ				AML	AML	04 09 40.4	
NNZ	**Nelson**	**2.27**	**263**	Pn	**Pn**	**04 09 00.2**	**-0.1**
WATZ	**Wairara**	**2.32**	**348**	PN	**Pn**	**04 09 01.3**	**+0.2**
WATZ				AML	AML	04 09 35.2	
WATZ				AML	AML	04 09 49.8	
WATZ	**Wairara**	**2.32**	**348**	Pn	**Pn**	**04 09 01.3**	**+0.2**
WHTZ	**Whakaora**	**2.33**	**352**	Pn	Pb	04 09 12.2	+5.9
PRGZ	**Paritu Road**	**2.36**	**30**	PN	**Pn**	**04 08 59.8**	**-0.9**
DFE	**Dawson Falls**	**2.39**	**313**	Pn	**Pb**	**04 09 05.2**	**-2.2**
ALRZ	**Allen Road**	**2.41**	**360**	PN	**Pn**	**04 09 02.3**	**-0.1**
ALRZ	**Allen Road**	**2.41**	**360**	Pn	**Pn**	**04 09 02.3**	**-0.1**
NEZ	**North Egmont**	**2.43**	**314**	Pn	**Pn**	**04 09 05.2**	**+2.5**
DREZ	**Durham Road**	**2.44**	**316**	Pn	**Pb**	**04 09 06.5**	**-1.6**
MHEZ	**Mangahewa**	**2.46**	**320**	Pn	**Pb**	**04 09 06.2**	**-2.3**
KHZ	**Kahutara**	**2.55**	**235**	PN	**Pn**	**04 09 03.1**	**-1.2**
KHZ				AML	AML	04 09 33.6	
KHZ				AML	AML	04 09 35.2	
KHZ	**Kahutara**	**2.55**	**235**	Pn	**Pn**	**04 09 03.1**	**-1.2**
HRRZ	**Handcock Road**	**2.59**	**359**	Pn	**Pn**	**04 09 02.8**	**-1.9**
THZ	**Tophouse**	**2.72**	**252**	AML	AML	04 09 38.7	
THZ				AML	AML	04 09 59.8	
THZ	**Tophouse**	**2.72**	**252**	Pn	**Pn**	**04 09 05.3**	**-1.2**
HIZ	**Hauiti**	**2.72**	**334**	PN	**Pn**	**04 09 07.8**	**+1.2**
HIZ				AML	AML	04 09 56.6	
HIZ				AML	AML	04 09 59.6	
HIZ	**Hauiti**	**2.72**	**334**	Pn	**Pn**	**04 09 07.8**	**+1.2**
TLZ	**Tolley Road**	**2.72**	**346**	PN	**Pn**	**04 09 06.3**	**-0.4**
TARZ	**Mount Tarawera**	**2.74**	**2**	PN	**Pn**	**04 09 06.6**	**-0.4**
TARZ	**Mount Tarawera**	**2.74**	**2**	Pn	**Pn**	**04 09 06.6**	**-0.4**
URZ	**Urewera**	**2.78**	**12**	⇑PN	**Pn**	**04 09 06.3**	**-1.0**
URZ				AML	AML	04 09 39.0	
URZ				AML	AML	04 09 39.5	
URZ	**Urewera**	**2.78**	**12**	Pn	**Pn**	**04 09 06.3**	**-1.0**
URZ	**Urewera**	**2.78**	**12**	Pn	**Pn**	**04 09 06.4**	**-1.0**
	16nm,0.3s,baz=235,slow=6.8,SNR=49						
URZ				Sn	**Sn**	**04 09 36.4**	**-3.4**
	27nm,0.3s,baz=63,slow=7.3,SNR=7.1						
MWZ	**Matawai**	**2.79**	**19**	PN	**Pn**	**04 09 06.4**	**-1.2**
MWZ				AML	AML	04 09 42.0	
MWZ				AML	AML	04 09 42.0	
MWZ				AML	AML	04 09 43.2	
MWZ				AML	AML	04 09 43.2	
MWZ	**Matawai**	**2.79**	**19**	Pn	**Pn**	**04 09 06.6**	**-1.0**
CNGZ	**Carnagh Statio**	**2.87**	**30**	PN	**Pn**	**04 09 07.8**	**-0.8**
CNGZ	**Carnagh Statio**	**2.87**	**30**	Pn	**Pn**	**04 09 08.0**	**-0.6**
PUZ	**Puketiti**	**3.25**	**27**	AML	AML	04 09 51.9	
PUZ				AML	AML	04 09 52.3	
PUZ	**Puketiti**	**3.25**	**27**	Pn	**Pn**	**04 09 12.7**	**-1.2**
LTZ	**Lake Taylor**	**3.55**	**238**	PN	**Pn**	**04 09 16.2**	**-1.7**
LTZ				AML	AML	04 09 56.8	
LTZ				AML	AML	04 09 57.4	
LTZ	**Lake Taylor**	**3.55**	**238**	Pn	**Pn**	**04 09 16.3**	**-1.7**
MQZ	**McQueen's Vall**	**3.87**	**224**	PN	**Pn**	**04 09 20.3**	**-2.1**
MKAZ	**Moumakai**	**3.97**	**346**	PN	**Pn**	**04 09 24.1**	**+0.3**
MKAZ				AML	AML	04 09 48.3	
MKAZ	**Moumakai**	**3.97**	**346**	Pn	**Pn**	**04 09 24.3**	**+0.5**
WVZ	**Waitaha Valley**	**4.68**	**242**	*e*PN	**Pn**	**04 09 31.2**	**-2.3**
WVZ				AML	AML	04 10 29.7	
WVZ	**Waitaha Valley**	**4.68**	**242**	Pn	**Pn**	**04 09 32.4**	**-1.1**
RPZ	**Rata Peaks**	**4.79**	**233**	PN	**Pn**	**04 09 33.4**	**-1.5**
RPZ				AML	AML	04 10 26.8	
RPZ				AML	AML	04 10 29.1	
RPZ	**Rata Peaks**	**4.79**	**233**	Pn	**Pn**	**04 09 33.5**	**-1.5**
RPZ	**Rata Peaks**	**4.79**	**233**	Pn	**Pn**	**04 09 33.4**	**-1.5**
	2.0nm,0.3s,baz=189,slow=24,SNR=8.5						
RPZ				Sn	Sn	04 10 23.4	-6.1
	28nm,0.3s,baz=19,slow=5.0,SNR=22						
LBZ	**Lake Benmore**	**5.68**	**231**	PN	**Pn**	**04 09 46.7**	**-0.6**
LBZ				AML	AML	04 12 17.9	
LBZ				AML	AML	04 13 10.8	
LBZ	**Lake Benmore**	**5.68**	**231**	Pn	**Pn**	**04 09 46.7**	**-0.6**
ODZ	**Otahua Downs**	**5.84**	**224**	PN	**Pn**	**04 09 47.9**	**-1.4**
ODZ	**Otahua Downs**	**5.84**	**224**	Pn	**Pn**	**04 09 47.9**	**-1.4**
CTZ	**Chatham Island**	**5.89**	**120**	PN	**Pn**	**04 09 51.8**	**+1.8**
EAZ	**Earnscleugh**	**6.68**	**228**	Pn	**Pn**	**04 10 00.1**	**-0.9**
TUZ	**Tuapeka**	**6.98**	**222**	Pn	**Pn**	**04 10 04.6**	**-0.3**
ASAR	**Alice Springs**	**39.38**	**283**	P	**P**	**04 15 52.2**	**+0.3**
	0.4nm,0.5s,baz=124,slow=7.1,SNR=9.0

H11N1	**WAKE ISLAND Hyl**	**19.98**	**284**	T	T	06 47 09.4		
	baz=100							
PMG	**Port Moresby**	**130.88**	**243**	*e*PKPdf	**PKPdf**	**04 36 09.9**	**-0.1**	
ASAR	**Alice Springs**	**131.84**	**218**	PKP	**PKPdf**	**04 36 11.3**	**-0.3**	
ASAR	**Alice Springs**	**131.84**	**218**	PKP	**PKPdf**	**04 36 11.3**	**-0.3**	
	0.4nm,0.6s,baz=87,slow=3.9,SNR=3.9							
WRA	**Warramunga Arr**	**134.34**	**222**	PKP	**PKPdf**	**04 36 17.1**	**+0.6**	
WRA	**Warramunga Arr**	**134.34**	**222**	PKP	**PKPdf**	**04 36 17.1**	**+0.6**	
	0.7nm,0.6s,baz=138,slow=2.1,SNR=7.2							
ZAA0	**Zalesovo Array**	**138.15**	**17**	*e*PKPdf	**PKPdf**	**04 36 20.0**	**-2.4**	
AAK	**Ala-Archa**	**142.45**	**37**	*e*PKPdf	**PKPdf**	**04 36 29.4**	**-1.4**	
MKAR	**Makanchi Array**	**143.32**	**25**	PKP	**PKPdf**	**04 36 30.6**	**-1.4**	
MKAR	**Makanchi Array**	**143.32**	**25**	PKP	**PKPdf**	**04 36 30.6**	**-1.4**	
	0.6nm,1.0s,baz=304,slow=2.8,SNR=2.4							

*IDC **09** 04:24:05.8±1.0, 12°.68S×166°.06E, h0km, mb4.1/8, mb1 4.2/10, mb1mx4.0/22, mbtmp4.1/10, ML3.8/2, MS2.8/1, Ms1 2.8/1, ms1mx2.4/26, Error ellipse: s-maj=29.0km s-min=22.9km az=114.0*

*ISCJB **09** 04:24:09.5±0.6, 12°.67S±0°.10×166°.05E±0°.07, h40km, mb4.0/10, Error ellipse: s-maj=14.4km s-min=9.9km az=12.4*

*NEIC **09** 04:24:10.7±0.4, 12°.55S×166°.07E, h35km, mb4.4/6, Error ellipse: s-maj=12.0km s-min=9.5km az=183.0*

ISC 09 04:24:11.4±0.5, 12°.63S±0°.10×166°.07E±0°.09, h40km, n40, σ1§02/41, mb4.0/10, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.79**	**297**	Pn	**Pn**	**04 25 48.6**	**-0.1**
HNR	**Honiara**	**6.79**	**297**	Pn	**Pn**	**04 25 48.6**	**-0.1**
	11nm,0.3s,baz=198,slow=16,SNR=2.7						
HNR				LR	LR	04 27 57.6	
	comp=Z,72nm,20.4s,baz=58,slow=34						
DZM	**Mont Dzumac**	**9.40**	**178**	*e*Pn	**Pn**	**04 26 26.9**	**+2.4**
DZM	**Mont Dzumac**	**9.40**	**178**	Pn	**Pn**	**04 26 23.9**	**-0.5**
	0.1nm,0.3s,baz=72,slow=20,SNR=4.3						
MSVF	**Nonsavu**	**12.63**	**115**	*e*Pn	**Pn**	**04 27 08.6**	**0.0**
EIDS	**Eidsvold**	**18.99**	**226**	*e*P	**P**	**04 28 29.1**	**-0.6**
	9.3nm,1.1s						
CTAO	**Charters Tower**	**20.39**	**246**	*e*P	Pn	04 28 46.3	-1.1
	40nm,1.6s						
AFI	**Afiamalu**	**21.60**	**96**	*e*P	**P**	**04 28 57.6**	**-0.6**
STKA	**Stephens Creek**	**29.54**	**226**	*e*P	**P**	**04 30 13.6**	**+1.3**
	1.9nm,1.0s						
STKA	**Stephens Creek**	**29.54**	**226**	P	**P**	**04 30 11.5**	**-0.8**
	4.9nm,0.9s,baz=41,slow=7.7,SNR=5.8						
WRA	**Warramunga Arr**	**31.27**	**252**	P	**P**	**04 30 26.7**	**-1.1**
WRA	**Warramunga Arr**	**31.27**	**252**	P	**P**	**04 30 26.7**	**-1.1**
	1.3nm,0.9s,baz=79,slow=9.2,SNR=3.8						
AS31	**Alice Springs**	**32.40**	**246**	*e*P	**P**	**04 30 37.0**	**-0.7**
ASAR	**Alice Springs**	**32.40**	**246**	P	**P**	**04 30 37.1**	**-0.5**
ASAR	**Alice Springs**	**32.40**	**246**	P	**P**	**04 30 37.1**	**-0.5**
	1.5nm,0.7s,baz=69,slow=9.7,SNR=16						
FITZ	**Fitzroy Crossi**	**39.30**	**257**	P	**P**	**04 31 35.9**	**-1.0**
FITZ	**Fitzroy Crossi**	**39.30**	**257**	P	**P**	**04 31 35.9**	**-1.0**
	3.0nm,0.8s,baz=96,slow=10,SNR=5.7						
MBWA	**Marble Bar**	**45.01**	**253**	*e*P	**P**	**04 32 22.8**	**-0.5**
	7.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**73.03**	**294**	P	**P**	**04 35 38.9**	**+1.2**
CMAR	**Chiang Mai Arr**	**73.03**	**294**	P	**P**	**04 35 38.9**	**+1.2**
	0.7nm,0.5s,baz=123,slow=4.8,SNR=3.6						
QSPA	**South Pole Qui**	**77.39**	**180**	*e*P	**P**	**04 36 02.2**	**+0.1**
	4.0nm,0.9s						
QSPA	**South Pole Qui**	**77.39**	**180**	P	**P**	**04 36 02.4**	**+0.3**
	3.1nm,0.8s,baz=347,slow=3.1,SNR=9.9						
ILAR	**Eielson Array**	**84.91**	**18**	P	**P**	**04 36 41.0**	**-0.8**
ILAR	**Eielson Array**	**84.91**	**18**	P	**P**	**04 36 41.0**	**-0.8**
	0.5nm,1.0s,baz=243,slow=5.1,SNR=4.0						
MKAR	**Makanchi Array**	**94.88**	**317**	P	**P**	**04 37 30.5**	**+1.2**
MKAR	**Makanchi Array**	**94.88**	**317**	P	**P**	**04 37 30.5**	**+1.2**
	0.4nm,0.7s,baz=105,slow=4.9,SNR=3.7						
SNAA	**Sanae**	**95.57**	**184**	*e*P	**P**	**04 37 31.3**	**-0.8**
	1.8nm,1.0s						
ABKAR	**Akbulak array**	**109.98**	**318**	*e*PKP	**PKiKP**	**04 42 37.2**	**-1.3**
ARCES	**ARCESS Array B**	**117.93**	**345**	PKP	**PKPdf**	**04 42 53.3**	**+0.1**
ARCES	**ARCESS Array B**	**117.93**	**345**	PKP	**PKPdf**	**04 42 53.3**	**+0.1**
	1.0nm,0.6s,baz=70,slow=1.1,SNR=7.2						
CSS	**Prodhromos**	**131.91**	**306**	*e*PKPdf	**PKPdf**	**04 43 19.7**	**-1.3**
MORC	**Moravsky Berou**	**134.84**	**331**	*e*PKPdf	**PKPdf**	**04 43 24.0**	**-2.0**
ECH	**Echery**	**140.41**	**338**	*e*PKPdf	**PKPdf**	**04 43 36.0**	**-0.4**
TUE	**Stuetta**	**140.96**	**334**	*e*PKPdf	**PKPdf**	**04 43 37.2**	**-0.4**
BNI	**Bardonecchia**	**143.21**	**335**	*e*PKPdf	**PKPdf**	**04 43 43.2**	**+1.6**
SSB	**Saint Sauveur**	**143.85**	**338**	*e*PKPdf	**PKPdf**	**04 43 41.9**	**-0.7**
KEST	**Kesra**	**148.85**	**322**	*e*PKPbc	**PKPbc**	**04 43 56.4**	**+1.1**
KEST	**Kesra**	**148.85**	**322**	PKPbc	**PKPbc**	**04 43 56.6**	**+1.3**
	1.5nm,0.8s,baz=41,slow=9.3,SNR=5.5						
ESDC	**Sonseca Array**	**151.65**	**344**	PKPbc	**PKPbc**	**04 44 02.8**	**+0.9**
ESDC				PKPab	**PKPab**	**04 44 11.5**	**+1.0**
ESDC	**Sonseca Array**	**151.65**	**344**	PKPbc	**PKPbc**	**04 44 02.8**	**+0.9**
	0.2nm,0.4s,baz=22,slow=2.7,SNR=3.1						
ESDC				PKPab	**PKPab**	**04 44 11.5**	**+1.0**
	0.4nm,0.5s,baz=18,slow=3.7,SNR=3.6						

*BJI **09** 04:25:01.0, 36°.40N×117°.90W, h6km, mB5.5/2, mb5.1/2, Ms5.0/2, Ms7 4.7/2*

*NEIC **09** 04:25:05.3, 36°.40N×117°.86W, h9km, mb4.0/9, ML4.3(PAS), After PAS.*

NEIC Felt [III] at Lone Pine, Trona and Visalia; [II] at Inyokern and Three Rivers. Also felt at Altadena, Bakersfield, Bradley, Death Valley, Delano, Exeter, Fresno, Los Angeles, Ridgecrest, San Luis Obispo, Santa Clarita, Santa Monica, Squaw Valley and Studio City.

ISC 09 04:25:04.1±0.6, 36°.41N±0°.02×117°.83W±0°.02, h5km±3km, n74, σ1§90/147, mb4.2/9, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISA	**Isabella**	**0.91**	**215**	*e*Pg	**Pg**	**04 25 21.1**	**-0.4**
ISA				*e*Pn	**Pn**	**04 25 23.5**	**-0.1**
ISA				*e*Sg	**Sg**	**04 25 32.9**	**-0.4**
MTUM	**Tungston Hills**	**1.11**	**328**	*e*Pg	**Pg**	**04 25 25.2**	**-0.2**
GSC	**Goldstone**	**1.38**	**143**	*e*Pn	**Pn**	**04 25 30.0**	**-0.2**
GSC				*e*Sg	**Sn**	**04 25 50.1**	**+1.3**
OSI	**Osito Adit**	**1.93**	**202**	*e*Pn	**Pb**	**04 25 39.3**	**-0.5**
OSI				*e*Sg	**Sb**	**04 26 04.3**	**0.0**
NV11	**Mina Array Sit**	**2.04**	**353**	*e*Pn	**Pn**	**04 25 39.6**	**+0.4**
NV11				*e*Pg	**Pg**	**04 25 42.9**	**-0.3**
NV11				*e*Sn	**Sn**	**04 26 05.4**	**+0.3**
NV11				*e*Sg	**Sg**	**04 26 10.5**	**+1.0**
PTRM	**Twissleman Ran**	**2.07**	**249**	*e*Pg	**Pn**	**04 25 39.8**	**+0.2**
SHPR	**Sheep Range**	**2.15**	**87**	*e*Pn	**Pn**	**04 25 41.8**	**+0.9**
SHPR				*e*Pg	**Pg**	**04 25 46.2**	**+0.9**
SHPR				*e*Sg	**Sg**	**04 26 13.5**	**+0.2**
MWC	**Mount Wilson**	**2.19**	**185**	*e*Pn	**Pn**	**04 25 41.4**	**+0.1**
MWC				*e*Pg	**Pb**	**04 25 45.2**	**+0.9**
MWC				*e*Sn	**Sn**	**04 26 09.1**	**+0.2**
MWC				*e*Sg	**Sg**	**04 26 14.0**	**-0.3**
PASC	**Pasadena Art C**	**2.25**	**188**	*e*Pn	**Pn**	**04 25 41.9**	**-0.2**
PASC				*e*Pg	**Pg**	**04 25 46.6**	**-0.6**
PASC				*e*Sg	**Sb**	**04 26 15.0**	**+1.6**
LDFC	**Landfair**	**2.58**	**120**	*e*Pn	**Pn**	**04 25 45.6**	**-1.0**
LDFC				*e*Pg	**Pb**	**04 25 50.6**	**-0.3**
LDFC				*e*Sn	**Sn**	**04 26 19.4**	**+0.9**
LDFC				*e*Sg	**Sg**	**04 26 26.2**	**-0.8**
CMB	**Columbia Colle**	**2.61**	**309**	*e*Pn	**Pn**	**04 25 48.3**	**+1.3**
CMB				*e*Pg	**Pb**	**04 25 50.9**	**-0.4**
CMB				*e*Sg	**Sb**	**04 26 24.6**	**+0.9**
R11A	**Troy Canyon, C**	**2.63**	**42**	*e*Pn	**Pn**	**04 25 47.6**	**+0.1**
R11A				*e*Pg	**Pg**	**04 25 53.3**	**-1.2**
R11A				*e*Sn	**Sn**	**04 26 20.9**	**+1.0**
R11A				*e*Sg	**Sg**	**04 26 28.3**	**-0.4**
SAO	**San Andreas Ge**	**2.93**	**278**	*e*Pn	**Pn**	**04 25 51.4**	**0.0**
SAO				*e*Pg	**Pg**	**04 25 58.6**	**-1.6**
SAO				*e*Sn	**Sn**	**04 26 26.7**	**-0.3**
SAO				*e*Sg	**Sb**	**04 26 34.3**	**+1.3**
PFO	**Pinyon Flat Ob**	**3.01**	**158**	*e*Pn	**Pn**	**04 25 52.5**	**-0.1**
PFO				*e*Pg	**Pg**	**04 26 00.5**	**-1.4**
PFO				*e*Sn	**Sn**	**04 26 29.5**	**+0.4**
PFO				*e*Sg	**Sg**	**04 26 39.5**	**-1.4**
PAHR	**Pah Rah Range**	**3.51**	**340**	*e*Pn	**Pn**	**04 26 00.6**	**+1.1**
PAHR				*e*Pg	**Pg**	**04 26 10.0**	**-1.3**
CCUT	**Cedar City**	**3.75**	**71**	*e*Pn	**Pn**	**04 26 04.7**	**+1.8**
CCUT				*e*Pg	**Pg**	**04 26 15.0**	**-1.0**
CCUT				*e*Sg	**Sg**	**04 27 02.1**	**-2.6**
ARUT	**Antelope Range**	**3.77**	**67**	*e*Pn	**Pn**	**04 26 04.5**	**+1.5**
ARUT				*e*Pg	**Pg**	**04 26 16.4**	**+0.1**
ARUT				*e*Sn	**Sn**	**04 26 48.3**	**+0.5**
ARUT				*e*Sg	**Sg**	**04 27 05.7**	**+0.5**
BAR	**Barrett**	**3.84**	**165**	*e*Pn	**Pn**	**04 26 04.0**	**+0.1**
BAR				*e*Pg	**Pb**	**04 26 14.1**	**+1.7**
BAR				*e*Sn	**Sn**	**04 26 50.0**	**+0.6**
BAR				*e*Sg	**Sb**	**04 27 02.4**	**+3.2**
SAC	**San Andreas**	**3.85**	**289**	*e*Pn	**Pn**	**04 26 05.2**	**+1.2**
SAC				*e*Pg	**Pg**	**04 26 15.5**	**-2.4**
BEKR	**Beckworth**	**3.99**	**331**	*e*Pn	Pb	04 26 11.6	-3.3
BEKR				*e*Pg	**Pg**	**04 26 17.5**	**-2.9**
BEKR				*e*Sg	**Sg**	**04 27 11.3**	**-0.8**
BMN	**Battle Mountai**	**4.04**	**7**	*e*Pn	**Pn**	**04 26 08.0**	**+1.2**
BMN				*e*Pg	**Pb**	**04 26 17.9**	**+2.0**
BMN				*e*Sg	**Sg**	**04 27 09.6**	**-4.3**
GLA	**Glamis**	**4.16**	**143**	*e*Pn	**Pn**	**04 26 07.5**	**-0.8**
GLA				*e*Pg	**Pg**	**04 26 21.1**	**-2.8**
GLA				*e*Sg	**Sg**	**04 27 15.9**	**-1.9**
MCCM	**Marconi Confer**	**4.38**	**295**	*e*Pn	**Pn**	**04 26 12.4**	**+1.1**
MCCM				*e*Sn	**Sn**	**04 27 02.6**	**-0.2**
MCCM				*e*Sg	**Sb**	**04 27 18.4**	**+3.7**
ELK	**Elko**	**4.78**	**24**	*e*Pn	**Pn**	**04 26 18.9**	**+1.9**
ELK				*e*Pg	**Pg**	**04 26 33.0**	**-2.6**
ELK				*e*Sg	**Sg**	**04 27 34.4**	**-3.2**
MVU	**Marysvale**	**4.93**	**63**	*e*Pn	**Pn**	**04 26 21.4**	**+2.3**
MVU				*e*Pg	**Pg**	**04 26 36.1**	**-2.5**
MVU				*e*Sg	**Sg**	**04 27 41.4**	**-1.2**
WUAZ	**Wupatki**	**5.31**	**98**	*e*Pn	**Pn**	**04 26 26.2**	**+2.0**
	66nm,0.7s						
WUAZ				*e*Pg	Pg	04 26 42.2	-3.7
WUAZ				*e*Sg	**Sg**	**04 27 52.2**	**-2.5**
DUG	**Dugway**	**5.46**	**45**	*e*Pn	**Pn**	**04 26 28.6**	**+2.3**
DUG				*e*Pg	**Pg**	**04 26 46.6**	**-2.1**
DUG				*e*Sn	**Sn**	**04 27 30.0**	**+0.4**
DUG				*e*Sg	**Sg**	**04 27 57.7**	**-1.8**
WDC	**Whiskeytown Da**	**5.57**	**320**	*e*Pn	**Pn**	**04 26 27.3**	**-0.3**
	16nm,0.6s						
WDC				*e*Pg	**Pb**	**04 26 44.2**	**+2.5**
WDC				*e*Sg	Sb	04 27 55.5	+6.7
NLU	**North Lily Min**	**5.75**	**50**	*e*Pn	**Pn**	**04 26 32.3**	**+2.0**
NLU				*e*Pg	**Pg**	**04 26 53.1**	**-1.2**
NLU				*e*Sg	**Sg**	**04 28 06.4**	**-2.4**
MOD	**Modoc**	**5.81**	**341**	*e*Pn	Pn	04 26 36.1	+5.0
	108nm,0.7s						
MOD				*e*Pg	**Pg**	**04 26 54.7**	**-0.7**
MOD				*e*Sg	Sb	04 28 02.3	+6.3
Q16A	**Castle Valley**	**5.84**	**63**	*e*Pn	**Pn**	**04 26 32.2**	**+0.6**
Q16A				*e*Pg	**Pg**	**04 26 53.5**	**-2.5**
Q16A				*e*Sg	**Sg**	**04 28 09.4**	**-2.4**
BGU	**Big Grassy Mou**	**5.87**	**38**	*e*Pn	Pn	04 26 36.0	+4.2
BGU				*e*Pg	Pg	04 26 52.3	-4.2
BGU				*e*Sg	**Sg**	**04 28 11.0**	**-1.5**
TMUT	**Trail Mountain**	**5.98**	**59**	*e*Pn	Pn	04 26 38.2	+4.7
TMUT				*e*Pg	Pg	04 26 55.3	-3.4
TMUT				*e*Sg	Sg	04 28 09.3	-6.8
WVOR	**Wild Horse Val**	**6.05**	**354**	*e*Pn	**Pn**	**04 26 35.2**	**+0.9**
	24nm,1.0s						
WVOR				*e*Pg	**Pg**	**04 26 56.8**	**-3.1**
WVOR				*e*Sg	**Sg**	**04 28 15.7**	**-2.6**
MPU	**Maple Canyon**	**6.06**	**52**	*e*Pg	**Pg**	**04 27 00.7**	**+0.5**
MPU				*e*Sg	**Sg**	**04 28 15.2**	**-3.6**
SRU	**San Rafael**	**6.38**	**63**	*e*Pn	Pn	04 26 43.5	+4.5
SRU				*e*Pg	Pg	04 27 01.7	-4.7
SRU				*e*Sg	**Sg**	**04 28 27.3**	**-1.8**
SPUT	**South Promonto**	**6.45**	**39**	*e*Pn	Pn	04 26 43.7	+3.9
	33nm,0.7s						
SPUT				*e*Pg	**Pg**	**04 27 05.4**	**-2.1**
SPUT				*e*Sg	**Sg**	**04 28 29.4**	**-1.6**
JLU	**Jordanelle**	**6.52**	**48**	*e*Pn	Pn	04 26 45.7	+4.8
JLU				*e*Pg	**Pg**	**04 27 07.8**	**-1.2**
JLU				*e*Sg	**Sg**	**04 28 31.5**	**-2.0**
DAU	**Daniels Canyon**	**6.53**	**50**	*e*Pn	**Pn**	**04 26 43.9**	**+2.8**
	14nm,0.7s						
DAU				*e*Pg	**Pg**	**04 27 09.8**	**+0.6**
DAU				*e*Sg	**Sg**	**04 28 32.2**	**-1.4**
YBH	**Yreka Blue Hor**	**6.53**	**326**	*e*Pn	Pn	04 26 47.4	+6.5
	7.3nm,0.8s						
YBH				*e*Pg	Pg	04 27 04.0	-5.1
YBH				*e*Sg	**Sg**	**04 28 30.7**	**-3.1**
HVU	**Hansel Valley**	**6.65**	**35**	*e*Pn	Pn	04 26 46.2	+3.7
HVU				*e*Pg	Pg	04 27 08.0	-3.4
HVU				*e*Sn	**Sn**	**04 28 00.1**	**+1.3**
HVU				*e*Sg	**Sg**	**04 28 31.5**	**-6.0**
W18A	**Petrified Fore**	**6.71**	**99**	*e*Pn	**Pn**	**04 26 42.0**	**-1.4**
W18A				*e*Pg	**Pg**	**04 27 11.5**	**-1.1**
W18A				*e*Sg	**Sg**	**04 28 38.2**	**-1.2**
K05A	**Summer Lake**	**6.74**	**340**	*e*Pn	Pb	04 26 53.0	-8.8
K05A				*e*Pb	Pg	04 27 01.1	-12
J08A	**Circle Bar Ran**	**6.96**	**356**	*e*Pg	Pg	04 27 12.9	-4.4
TUC	**Tucson**	**7.12**	**123**	*e*Pn	**Pn**	**04 26 49.4**	**+0.4**
TUC				*e*Pg	Pg	04 27 14.6	-5.8
TUC				*e*Sg	**Sg**	**04 28 47.1**	**-5.4**
PV05	**Paradox Valley**	**7.16**	**74**	*e*Pg	**Pg**	**04 27 21.4**	**+0.1**
MVCO	**Mesa Verde**	**7.53**	**81**	*e*Pn	Pn	04 26 59.5	+4.8
MVCO				*e*Pg	**Pg**	**04 27 27.6**	**-0.6**
MVCO				*e*Sg	**Sg**	**04 29 00.9**	**-4.8**
PV01	**Paradox Valley**	**7.58**	**74**	*e*Pn	**Pn**	**04 26 58.2**	**+2.7**
	2μm,0.8s						
PV01				*e*Pg	Pg	04 27 25.4	-3.9
PV01				*e*Sg	**Sg**	**04 29 03.7**	**-3.8**
HLID	**Hailey**	**7.61**	**19**	*e*Pn	**Pn**	**04 26 57.9**	**+2.1**
HLID				*e*Pg	Pg	04 27 25.5	-4.3
HLID				*e*Sg	**Sg**	**04 29 04.6**	**-3.8**
PV15	**Paradox Valley**	**7.69**	**73**	*e*Pg	**Pg**	**04 27 29.0**	**-2.4**
O20A	**White River Ci**	**8.41**	**61**	*e*Pn	Pn	04 27 12.8	+6.0
O20A				*e*Lg	Lg	04 29 33.4	
RRI2	**Red Ridge**	**8.54**	**34**	*e*Pn	**Pn**	**04 27 10.6**	**+1.9**
REDW	**Red Top Meadow**	**8.77**	**36**	*e*Pn	**Pn**	**04 27 11.1**	**-0.7**
SNOW	**Snow King Moun**	**8.89**	**35**	*e*Pn	Pn	04 27 17.7	+4.2
BW06	**Boulder Array**	**9.00**	**43**	*e*Pn	**Pn**	**04 27 16.3**	**+1.4**
SMCO	**Snowmass**	**9.03**	**69**	*e*Pn	Pn	04 27 21.6	+6.2
LOHW	**Long Hollow**	**9.08**	**35**	*e*Pn	**Pn**	**04 27 16.1**	**+0.1**
	4.3nm,1.1s						
IMW	**Indian Meadow**	**9.15**	**33**	*e*Pn	**Pn**	**04 27 18.4**	**+1.4**
	4.6nm,0.5s						
MCMT	**McKenzie Canyo**	**9.22**	**23**	*e*Pn	Pn	04 27 21.9	+3.9
	3.9nm,0.8s						
MNTX	**Cornudas Mount**	**11.34**	**111**	*e*Pn	**Pn**	**04 27 45.7**	**-1.1**
	4.1nm,1.4s						
HKT	**Hockley**	**19.49**	**103**	*e*P	**Pn**	**04 29 33.2**	**+0.2**
	6.3nm,1.1s						
ULM	**Lac du Bonnet**	**21.02**	**42**	*e*P	**P**	**04 29 49.5**	**+1.0**
	5.7nm,1.0s						
FFC	**Flin Flon**	**21.32**	**26**	*e*P	**P**	**04 29 51.7**	**0.0**
	12nm,0.8s						
TKL	**Tuckaleechee C**	**27.47**	**81**	*e*P	**P**	**04 30 54.4**	**+3.2**
SCHQ	**Schefferville**	**39.13**	**45**	*e*P	**P**	**04 32 33.3**	**+1.0**
	22nm,1.4s						
LPAZ	**La Paz**	**70.34**	**129**	*e*P	**P**	**04 36 18.1**	**-1.6**
	0.8nm,0.9s						
LVC	**Limon Verde**	**74.70**	**134**	*e*P	**P**	**04 36 46.2**	**+1.1**
	2.8nm,1.0s						
MORC	**Moravsky Berou**	**85.54**	**27**	*e*P	**P**	**04 37 42.8**	**-0.4**
	1.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**90.76**	**325**	*e*P	**P**	**04 38 07.0**	**-1.4**
HHC				sP	**sP**	**04 38 12.9**	**+2.3**
HHC				PP	**PP**	**04 41 44.2**	**+1.2**
HHC				SKS	**SKSac**	**04 48 36.1**	**-4.9**
HHC				S	**SKKSac**	**04 48 59.9**	**+4.4**
HHC				SS	**SS**	**04 55 06.6**	**+0.6**
HHC				AMB	AMB		
	comp=Z,270nm,4.9s						
HHC				LR	LR		
	comp=N,220nm,19.0s						
HHC				LR	LR		
	comp=E,370nm,19.0s						
HHC				LR	LR		
	comp=Z,340nm,17.8s						
KURK	**Kurchatov**	**92.04**	**350**	*e*P	**P**	**04 38 11.8**	**-2.2**
	0.4nm,0.7s						
ABKAR	**Akbulak array**	**94.69**	**1**	*e*P	**P**	**04 38 24.3**	**-1.9**
	0.3nm,0.6s						
WMQ	**Urumqi**	**96.84**	**342**	*e*P	**P**	**04 38 37.9**	**+1.7**
LZH	**Lanzhou**	**98.14**	**327**	*e*P	**P**	**04 38 40.9**	**-1.4**
LZH				pP	**pP**	**04 38 44.1**	**+0.1**
LZH				sP	**sP**	**04 38 45.5**	**+1.0**
LZH				*e*PP	**PP**	**04 42 42.3**	**+1.7**
LZH				AMB	AMB		
	comp=Z,16nm,1.5s						
LZH				AMB	AMB		
	comp=Z,49nm,8.9s						
LZH				LR	LR		
	comp=N,140nm,18.0s						
LZH				LR	LR		
	comp=E,120nm,17.6s						
LZH				LR	LR		
	comp=Z,150nm,19.8s						
CD2	**Chengdu**	**102.50**	**324**	P	**Pdif**	**04 39 02.3**	**+0.5**

*IDC **09** 04:38:18.6±2.7, 45°.81N×26°.31E, h50km±32km, mb3.3/3, mb1 3.5/7, mb1mx3.3/26, mbtmp3.7/7, ML3.8/4, Error ellipse: s-maj=30.0km s-min=22.9km az=85.0*

*ISCJB **09** 04:38:20.0±0.2, 45°.72N±0°.02×26°.65E±0°.02, h97km±2km, mb3.6/4, Error ellipse: s-maj=2.9km s-min=2.4km az=139.5*

*MOS **09** 04:38:20.4±0.5, 45°.72N×26°.66E, h89km, mb4.3/4, Error ellipse: s-maj=8.5km s-min=5.8km az=110.2*

*SOF **09** 04:38:21.9, 45°.63N×26°.47E, h73km, MD3.4*

*CSEM **09** 04:38:21.3±0.1, 45°.72N×26°.63E, h88km±1km, mb3.8/4, Error ellipse: s-maj=2.9km s-min=2.5km az=48.0*

*BUC **09** 04:38:21.6±0.8, 45°.72N×26°.63E, h81km±9km, MD4.3/3, Error ellipse: s-maj=7.8km s-min=7.2km az=22.0*

ISC 09 04:38:21.6±0.7, 45°.73N±0°.02×26°.65E±0°.02, h88km±4km, n288, σ1§15/371, mb3.8/5, 66C-66D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.12**	**2**	⇑P	**Pn**	**04 38 33.4**	**-0.8**
PLOR				S	**Sn**	**04 38 42.2**	**-1.4**
PLOR	**Plostina**	**0.12**	**2**	⇑*i*P	**Pn**	**04 38 33.4**	**-0.8**
PLOR	**Plostina**	**0.12**	**2**	⇑*i*P	**Pn**	**04 38 33.4**	**-0.8**
PLOR				*i* S	**Sn**	**04 38 42.2**	**-1.4**
PLOR	**Plostina**	**0.12**	**2**	⇑*i*P	**Pn**	**04 38 33.4**	**-0.8**
PLOR				*i* S	**Sn**	**04 38 42.2**	**-1.4**
VRI	**Vrincioaia**	**0.14**	**23**	⇑P	**Pn**	**04 38 33.6**	**-0.7**
VRI				S	**Sn**	**04 38 42.1**	**-1.6**
VRI	**Vrincioaia**	**0.14**	**23**	⇑*i*P	**Pn**	**04 38 33.6**	**-0.7**
VRI	**Vrincioaia**	**0.14**	**23**	⇑*i*P	**Pn**	**04 38 33.6**	**-0.7**
VRI				*i* S	**Sn**	**04 38 42.1**	**-1.6**
VRI	**Vrincioaia**	**0.14**	**23**	⇑*i*P	**Pn**	**04 38 33.6**	**-0.7**
VRI				*i* S	**Sn**	**04 38 42.1**	**-1.6**
ODBI	**Odobesti**	**0.29**	**84**	⇓*i*P	**Pn**	**04 38 35.3**	**+0.5**
ODBI	**Odobesti**	**0.29**	**84**	⇓*i*P	**Pn**	**04 38 35.3**	**+0.5**
PETR	**Petresti**	**0.41**	**91**	⇓*i*P	**Pn**	**04 38 35.7**	**+0.2**
PETR	**Petresti**	**0.41**	**91**	⇓*i*P	**Pn**	**04 38 35.7**	**+0.2**
PETR				*i* S	**Sn**	**04 38 46.0**	**+0.2**
PETR	**Petresti**	**0.41**	**91**	⇓*i*P	**Pn**	**04 38 35.7**	**+0.2**
PETR				*i* S	**Sn**	**04 38 46.0**	**+0.2**
GRER		**0.42**	**147**	⇓*i*P	**Pn**	**04 38 36.4**	**+0.8**
GRER		**0.42**	**147**	⇓*i*P	**Pn**	**04 38 36.4**	**+0.8**
GRER		**0.42**	**147**	⇓*i*P	**Pn**	**04 38 36.4**	**+0.8**
MLR	**Muntele Rosu**	**0.55**	**244**	⇑*i*P	**Pn**	**04 38 36.4**	**-0.3**
MLR	**Muntele Rosu**	**0.55**	**244**	⇑*i*P	**Pn**	**04 38 36.4**	**-0.3**
MLR				*i* S	**Sn**	**04 38 46.7**	**-1.3**
MLR	**Muntele Rosu**	**0.55**	**244**	⇑*i*P	**Pn**	**04 38 36.4**	**-0.3**
MLR				*i* S	**Sn**	**04 38 46.7**	**-1.3**
ISR	**Istrita**	**0.62**	**187**	⇓P	**Pn**	**04 38 37.6**	**+0.3**
ISR	**Istrita**	**0.62**	**187**	⇓*i*P	**Pn**	**04 38 37.6**	**+0.3**
ISR	**Istrita**	**0.62**	**187**	⇓*i*P	**Pn**	**04 38 37.6**	**+0.3**
ISR				*i* S	**Sn**	**04 38 50.2**	**+1.3**
ISR	**Istrita**	**0.62**	**187**

CVD	**Cernavoda**	**1.73 145**	⇑	*i*	P	**Pn**	**04 38 49.9**	**-0.2**
CVD	**Cernavoda**	**1.73 145**	⇑	*i*	P	**Pn**	**04 38 49.9**	**-0.2**
CVD				*i*	S	**Sn**	**04 39 09.9**	**-1.9**
CVD	**Cernavoda**	**1.73 145**	⇑	*i*	P	**Pn**	**04 38 49.9**	**-0.2**
CVD				*i*	S	**Sn**	**04 39 09.9**	**-1.9**
TIRR	**Tirgusor**	**1.79 135**	⇓		P	**Pn**	**04 38 51.0**	**+0.1**
TIRR					S	**Sn**	**04 39 11.4**	**-1.8**
TIRR	**Tirgusor**	**1.79 135**	⇓	*i*	P	**Pn**	**04 38 51.0**	**+0.1**
TIRR	**Tirgusor**	**1.79 135**	⇓	*i*	P	**Pn**	**04 38 51.0**	**+0.1**
TIRR				*i*	S	**Sn**	**04 39 11.4**	**-1.8**
TIRR	**Tirgusor**	**1.79 135**	⇓	*i*	P	**Pn**	**04 38 51.0**	**+0.1**
TIRR				*i*	S	**Sn**	**04 39 11.4**	**-1.8**
MSAB	**Monastry St. A**	**1.84 153**	⇓	*i*	P	**Pn**	**04 38 51.9**	**+0.2**
MSAB	**Monastry St. A**	**1.84 153**	⇓	*i*	P	**Pn**	**04 38 51.9**	**+0.2**
MSAB				*i*	S	**Sn**	**04 39 13.3**	**-1.2**
MSAB	**Monastry St. A**	**1.84 153**	⇓	*i*	P	**Pn**	**04 38 51.9**	**+0.2**
MSAB				*i*	S	**Sn**	**04 39 13.3**	**-1.2**
KIS	**Kishinev**	**1.97 49**		*e*	P	**Pn**	**04 38 54.0**	**+0.8**
KIS				*i*	S	**Sn**	**04 39 17.0**	**-0.4**
	1µm,0.5s							
KIS	**Kishinev**	**1.97 49**		*e*	P	**Pn**	**04 38 54.0**	**+0.8**
KIS				*i*	S	**Sn**	**04 39 17.0**	**-0.4**
KIS					smax	smax		
	comp=E,1µm,0.5s							
KIS					smax	smax		
	comp=N,1µm,0.5s							
KIS	**Kishinev**	**1.97 49**	⇓	*i*	P	**Pn**	**04 38 54.1**	**+0.8**
KIS	**Kishinev**	**1.97 49**	⇓	*i*	P	**Pn**	**04 38 54.1**	**+0.8**
KIS				*i*	S	**Sn**	**04 39 16.8**	**-0.6**
KIS	**Kishinev**	**1.97 49**		*e*	P	**Pn**	**04 38 54.0**	**+0.8**
KIS				*i*	S	**Sn**	**04 39 17.0**	**-0.4**
	comp=N,1µm,0.5s							
LOT	**Lotru**	**2.04 263**	⇑	*i*	P	**Pn**	**04 38 53.9**	**-0.4**
LOT	**Lotru**	**2.04 263**	⇑	*i*	P	**Pn**	**04 38 53.9**	**-0.4**
LOT	**Lotru**	**2.04 263**	⇑	*i*	P	**Pn**	**04 38 53.9**	**-0.4**
BURAR	**Bucovina Array**	**2.12 333**	⇓		P	**Pn**	**04 38 56.4**	**+1.0**
BURAR					S	**Sn**	**04 39 23.2**	**+1.9**
BURAR	**Bucovina Array**	**2.12 333**	⇓	*i*	P	**Pn**	**04 38 56.4**	**+1.0**
BURAR	**Bucovina Array**	**2.12 333**	⇓	*i*	P	**Pn**	**04 38 56.4**	**+1.0**
BURAR				*i*	S	**Sn**	**04 39 21.9**	**+0.6**
BURAR	**Bucovina Array**	**2.12 333**	⇓	*i*	P	**Pn**	**04 38 56.4**	**+1.0**
BURAR				*i*	S	**Sn**	**04 39 21.9**	**+0.6**
EFOR	**EFORIE**	**2.17 139**	⇓	*i*	P	**Pn**	**04 38 56.4**	**+0.4**
EFOR	**EFORIE**	**2.17 139**	⇓	*i*	P	**Pn**	**04 38 56.4**	**+0.4**
EFOR				*i*	S	**Sn**	**04 39 21.3**	**-1.0**
EFOR	**EFORIE**	**2.17 139**	⇓	*i*	P	**Pn**	**04 38 56.4**	**+0.4**
EFOR				*i*	S	**Sn**	**04 39 21.3**	**-1.0**
ZIMR		**2.27 204**	⇑		P	**Pn**	**04 38 56.9**	**-0.4**
ZIMR		**2.27 204**	⇑	*i*	P	**Pn**	**04 38 56.9**	**-0.4**
ZIMR		**2.27 204**	⇑	*i*	P	**Pn**	**04 38 56.9**	**-0.4**
ZIMR				*i*	S	**Sn**	**04 39 22.6**	**-1.9**
PSN	**Preselentsi**	**2.33 151**		*i*	P	**Pn**	**04 38 58.7**	**+0.7**
PSN	**Preselentsi**	**2.33 151**		*i*	P	**Pn**	**04 38 58.7**	**+0.7**
MANR	**Mangalia**	**2.36 143**	⇑	*i*	P	**Pn**	**04 38 58.7**	**+0.2**
MANR	**Mangalia**	**2.36 143**	⇑	*i*	P	**Pn**	**04 38 58.7**	**+0.2**
MANR				*i*	S	**Sn**	**04 39 26.2**	**-0.6**
MANR	**Mangalia**	**2.36 143**	⇑	*i*	P	**Pn**	**04 38 58.7**	**+0.2**
MANR				*i*	S	**Sn**	**04 39 26.2**	**-0.6**
SZH	**Strazhica**	**2.52 192**			P	**Pn**	**04 38 59.9**	**-0.7**
SZH	**Strazhica**	**2.52 192**			P	**Pn**	**04 38 59.9**	**-0.7**
PRD	**Provadia**	**2.59 168**			P	**Pn**	**04 39 02.4**	**+0.9**
PRD	**Provadia**	**2.59 168**			P	**Pn**	**04 39 02.4**	**+0.9**
DEV	**Deva**	**2.62 275**	⇑		P	**Pn**	**04 39 02.6**	**+0.6**
DEV					S	**Sn**	**04 39 32.8**	**-0.2**
DEV	**Deva**	**2.62 275**	⇓	*i*	P	**Pn**	**04 39 02.6**	**+0.6**
DEV	**Deva**	**2.62 275**	⇓	*i*	P	**Pn**	**04 39 02.6**	**+0.6**
DEV				*i*	S	**Sn**	**04 39 32.8**	**-0.2**
DEV	**Deva**	**2.62 275**	⇓	*i*	P	**Pn**	**04 39 02.6**	**+0.6**
DEV				*i*	S	**Sn**	**04 39 32.8**	**-0.2**
PVL	**Pavlikeni**	**2.69 201**		*i*	P	**Pn**	**04 39 04.1**	**+1.3**
PVL	**Pavlikeni**	**2.69 201**		*i*	P	**Pn**	**04 39 04.1**	**+1.3**
ROIA	**ROIAK**	**2.69 168**			P	**Pn**	**04 39 03.4**	**+0.5**
DRGR		**2.93 293**	⇑		P	**Pn**	**04 39 06.0**	**-0.1**
DRGR					S	**Sn**	**04 39 39.9**	**-0.5**
DRGR		**2.93 293**	⇑	*i*	P	**Pn**	**04 39 06.0**	**-0.1**
DRGR		**2.93 293**	⇑	*i*	P	**Pn**	**04 39 06.0**	**-0.1**
DRGR				*i*	S	**Sn**	**04 39 39.9**	**-0.5**
DRGR		**2.93 293**	⇑	*i*	P	**Pn**	**04 39 06.0**	**-0.1**
DRGR				*i*	S	**Sn**	**04 39 39.9**	**-0.5**
DJES	**Djerdap**	**3.10 251**		*e*	Pn	Pn	04 39 12.1	+3.6
DJES				*e*	Sn	**Sn**	**04 39 40.7**	**-3.9**
MPEP	**Malo Peshtene**	**3.16 222**		*i*	P	**Pn**	**04 39 08.6**	**-0.6**
JMB	**Yambol**	**3.27 181**			P	**Pn**	**04 39 10.6**	**-0.1**
JMB	**Yambol**	**3.27 181**		*e*	P	**Pn**	**04 39 10.0**	**-0.7**
JMB	**Yambol**	**3.27 181**		*i*	P	**Pn**	**04 39 10.7**	**0.0**
JMB	**Yambol**	**3.27 181**		*i*	P	**Pn**	**04 39 10.7**	**0.0**
BZS	**Buzias**	**3.53 270**	⇑		P	**Pn**	**04 39 13.6**	**-0.6**
BZS	**Buzias**	**3.53 270**	⇑	*i*	P	**Pn**	**04 39 13.6**	**-0.6**
BZS	**Buzias**	**3.53 270**	⇑	*i*	P	**Pn**	**04 39 13.6**	**-0.6**
BZS	**Buzias**	**3.53 270**	⇑	*i*	P	**Pn**	**04 39 13.6**	**-0.6**
PGB	**Panagyurishte**	**3.65 210**			P	**Pn**	**04 39 16.2**	**+0.3**
PGB	**Panagyurishte**	**3.65 210**			P	**Pn**	**04 39 16.2**	**+0.3**
TRPA	**Tarpa**	**3.70 312**	⇓	*e*		**Pn**	**04 39 16.1**	**-0.3**
ZAPS	**Zavoj**	**3.78 231**	⇑	*i*	Pn	**Pn**	**04 39 16.9**	**-0.7**
BOLS	**Boljevac**	**3.84 242**		*e*	Pn	Pn	04 39 15.4	-3.1
PLD	**Plovdiv**	**3.89 202**		*e*	P	**Pn**	**04 39 17.6**	**-1.5**
PLD	**Plovdiv**	**3.89 202**		*e*	P	**Pn**	**04 39 17.6**	**-1.5**
VTS	**Vitosha**	**4.00 219**			P	**Pn**	**04 39 20.5**	**-0.3**
VTS	**Vitosha**	**4.00 219**	⇑		P	**Pn**	**04 39 20.7**	**0.0**
VTS	**Vitosha**	**4.00 219**	⇑	*i*	P	**Pn**	**04 39 20.7**	**0.0**
VTS	**Vitosha**	**4.00 219**	⇑	*i*	P	**Pn**	**04 39 20.7**	**0.0**
VTS				*i*	S	**Sn**	**04 40 01.7**	**-4.8**
VTS	**Vitosha**	**4.00 219**			P	**Pn**	**04 39 20.4**	**-0.3**
VTS	**Vitosha**	**4.00 219**	⇑	*i*	P	**Pn**	**04 39 20.7**	**0.0**
UZH	**Uzhgorod**	**4.15 316**		*e*	P	**Pn**	**04 39 23.0**	**+0.5**
UZH				*e*			04 40 10.0	
UZH	**Uzhgorod**	**4.15 316**		*e*	P	**Pn**	**04 39 23.0**	**+0.5**
UZH				*e*	S	**Sn**	**04 40 10.0**	**+0.2**
PHSR	**Pinarhisar**	**4.15 171**		*e*	P	**Pn**	**04 39 22.5**	**-0.1**
PHSR	**Pinarhisar**	**4.15 171**		*e*	P	**Pn**	**04 39 22.5**	**-0.1**
KDZ	**Kurdzhali**	**4.18 193**			P	**Pn**	**04 39 23.2**	**+0.2**
KDZ	**Kurdzhali**	**4.18 193**			P	**Pn**	**04 39 23.2**	**+0.2**
RZN	**Rozhen**	**4.28 200**			P	**Pn**	**04 39 24.6**	**0.0**
RZN	**Rozhen**	**4.28 200**			P	**Pn**	**04 39 24.6**	**0.0**
CTYL	**Yal??k??y-??at**	**4.42 164**		*e*	P	**Pn**	**04 39 25.8**	**-0.5**
CTYL	**Yal??k??y-??at**	**4.42 164**		*e*	P	**Pn**	**04 39 25.8**	**-0.5**
LVV	**L'vov**	**4.45 338**		*e*	P	**Pn**	**04 39 27.0**	**+0.3**
LVV				*e*	S	**Sn**	**04 40 17.2**	**0.0**
LVV	**L'vov**	**4.45 338**		*e*	P	**Pn**	**04 39 27.0**	**+0.3**
LVV				*e*	S	**Sn**	**04 40 17.2**	**0.0**
GRUS	**Gruza**	**4.61 248**		*e*	Pn	**Pn**	**04 39 27.9**	**-0.9**
SLVT	**Silivri**	**4.64 165**		*e*	P	**Pn**	**04 39 28.5**	**-0.8**
SLVT	**Silivri**	**4.64 165**		*e*	P	**Pn**	**04 39 28.5**	**-0.8**
KKB	**Krupnik**	**4.65 215**			P	**Pn**	**04 39 29.9**	**+0.5**
KKB	**Krupnik**	**4.65 215**			P	**Pn**	**04 39 29.9**	**+0.5**
MMB	**Musomiste**	**4.65 208**			P	**Pn**	**04 39 30.0**	**+0.5**
MMB	**Musomiste**	**4.65 208**			P	**Pn**	**04 39 30.0**	**+0.5**
RDO	**Rodhopi**	**4.66 190**			P	**Pn**	**04 39 29.0**	**-0.5**
RDO	**Rodhopi**	**4.66 190**			P	**Pn**	**04 39 29.0**	**-0.5**
TRUS	**Trudelj**	**4.68 253**		*e*	Pn	**Pn**	**04 39 32.7**	**-2.1**
CTKS	**Kestanelik-??a**	**4.70 163**		*e*	P	**Pn**	**04 39 29.2**	**-0.8**
CTKS	**Kestanelik-??a**	**4.70 163**		*e*	P	**Pn**	**04 39 29.2**	**-0.8**
KLYT	**Kilyos**	**4.81 158**		*e*	P	**Pn**	**04 39 29.6**	**-1.9**
KLYT	**Kilyos**	**4.81 158**		*e*	P	**Pn**	**04 39 29.6**	**-1.9**
BGKT	**Bogazkoy**	**4.81 160**		*e*	P	**Pn**	**04 39 29.4**	**-2.1**
BGKT	**Bogazkoy**	**4.81 160**		*e*	P	**Pn**	**04 39 29.4**	**-2.1**
NVR	**Nevrokopi**	**4.83 206**			P	**Pn**	**04 39 31.8**	**-0.1**
NVR	**Nevrokopi**	**4.83 206**			P	**Pn**	**04 39 31.8**	**-0.1**
ALN	**Alexandroupoli**	**4.85 185**			P	**Pn**	**04 39 31.9**	**-0.3**
ALN	**Alexandroupoli**	**4.85 185**		*e*	P	**Pn**	**04 39 31.7**	**-0.5**
ALN	**Alexandroupoli**	**4.85 185**			P	**Pn**	**04 39 31.9**	**-0.3**
KAVA	**Kavala**	**4.98 199**			P	**Pn**	**04 39 34.5**	**+0.6**
KAVA	**Kavala**	**4.98 199**			P	**Pn**	**04 39 34.5**	**+0.6**
ISK	**Istanbul-Kandi**	**4.99 159**		*e*	P	**Pn**	**04 39 33.5**	**-0.5**
ISK	**Istanbul-Kandi**	**4.99 159**		*e*	P	**Pn**	**04 39 33.5**	**-0.5**
DIVS	**Divibare**	**5.00 253**			P	**Pn**	**04 39 33.0**	**-1.2**
DIVS	**Divibare**	**5.00 253**		*e*	Pn	**Pn**	**04 39 32.6**	**-1.6**
DIVS	**Divibare**	**5.00 253**			P	**Pn**	**04 39 33.0**	**-1.2**
RKY	**Sarkoy-Tekirda**	**5.06 175**		*e*	P	**Pn**	**04 39 33.8**	**-1.2**
RKY	**Sarkoy-Tekirda**	**5.06 175**		*e*	P	**Pn**	**04 39 33.8**	**-1.2**
SILT	**Sile**	**5.07 153**		*e*	P	**Pn**	**04 39 32.8**	**-2.3**
SILT	**Sile**	**5.07 153**		*e*	P	**Pn**	**04 39 32.8**	**-2.3**
IVAS	**Ivanjica**	**5.11 247**	⇑	*i*	Pn	**Pn**	**04 39 34.5**	**-1.2**
SEV	**Sevastopol'**	**5.11 101**		*e*	P	**Pn**	**04 39 34.7**	**-0.9**
SEV				*e*	S	**Sn**	**04 40 29.3**	**-3.9**
SEV					pmax	pmax		
	comp=Z,50nm,0.2s							
SEV					smax	smax		
	comp=N,120nm,0.3s							
SEV					smax	smax		
	comp=E,28nm,0.3s							
SEV	**Sevastopol'**	**5.11 101**		*e*	P	**Pn**	**04 39 34.7**	**-0.9**
	comp=E,50nm,0.2s							
SEV				*e*	S	**Sn**	**04 40 29.3**	**-3.9**
	comp=E,120nm,0.3s							
PSZ	**Piszkesteto**	**5.12 298**	⇓	*e*		**Pn**	**04 39 35.7**	**-0.2**
PSZ	**Piszkesteto**	**5.12 298**	⇓	*e*	P	**Pn**	**04 39 35.7**	**-0.2**
SRS	**Serrai**	**5.12 207**			P	**Pn**	**04 39 36.2**	**+0.3**
SRS	**Serrai**	**5.12 207**			P	**Pn**	**04 39 36.2**	**+0.3**
STHS	**Stebnicka Huta**	**5.19 317**		*e*	P	**Pn**	**04 39 37.6**	**+0.9**
STHS	**Stebnicka Huta**	**5.19 317**		*e*	P	**Pn**	**04 39 37.6**	**+0.9**
STHS	**Stebnicka Huta**	**5.19 317**		*e*	P	**Pn**	**04 39 37.6**	**+0.9**
AKASG	**Malin Array Be**	**5.26 18**			P	**Pn**	**04 39 36.2**	**-1.5**
AKASG					S	**Sn**	**04 40 32.0**	**-4.9**
AKASG					pmax	pmax		
	comp=Z,12nm,0.3s							
AKASG					smax	smax		
	comp=N,39nm,0.3s							
AKASG	**Malin Array Be**	**5.26 18**			P	**Pn**	**04 39 36.2**	**-1.5**
	comp=N,12nm,0.3s							
AKASG	**Malin Array Be**	**5.26 18**			P	**Pn**	**04 39 36.2**	**-1.5**
	comp=N,12nm,0.3s,baz=207,slow=12,SNR=46							
AKASG					S	**Sn**	**04 40 32.0**	**-4.9**
	comp=N,39nm,0.3s,baz=203,slow=22,SNR=27							
KNT	**Kendrikon**	**5.32 212**			P	**Pn**	**04 39 39.0**	**+0.4**
KNT	**Kendrikon**	**5.32 212**			P	**Pn**	**04 39 39.0**	**+0.4**
SMTH	**Samothraki Isl**	**5.32 189**			P	**Pn**	**04 39 38.3**	**-0.3**
SMTH	**Samothraki Isl**	**5.32 189**			P	**Pn**	**04 39 38.3**	**-0.3**
SIM	**Simferopol'**	**5.33 96**			P	**Pn**	**04 39 37.8**	**-0.8**
SIM				*e*	S	**Sn**	**04 40 38.0**	**-0.6**
SIM					pmax	pmax		
	comp=Z,9µm,0.9s							
SIM					smax	smax		
	comp=E,87µm,0.8s							
SIM	**Simferopol'**	**5.33 96**			P	**Pn**	**04 39 37.8**	**-0.8**
	comp=E,9µm,0.9s							
SIM				*e*	S	**Sn**	**04 40 38.0**	**-0.6**
KRBG	**Karabiga-Canak**	**5.36 175**		*e*	P	**Pn**	**04 39 38.2**	**-0.9**
KRBG	**Karabiga-Canak**	**5.36 175**		*e*	P	**Pn**	**04 39 38.2**	**-0.9**
LPK	**Lapseki**	**5.36 179**		*e*	P	**Pn**	**04 39 38.6**	**-0.5**
LPK	**Lapseki**	**5.36 179**		*e*	P	**Pn**	**04 39 38.6**	**-0.5**
HRT	**Hereke**	**5.38 155**		*e*	P	**Pn**	**04 39 37.9**	**-1.5**
HRT	**Hereke**	**5.38 155**		*e*	P	**Pn**	**04 39 37.9**	**-1.5**
ARMT	**Armutlu**	**5.41 162**		*e*	P	**Pn**	**04 39 38.8**	**-1.0**
ALU	**Alushta**	**5.58 98**		*e*	P	**Pn**	**04 39 40.9**	**-1.1**
ALU				*i*	S	**Sn**	**04 40 40.6**	**-4.2**
ALU					pmax	pmax		
	comp=Z,19nm,0.3s							
ALU					smax	smax		
	comp=E,27nm,0.3s							
ALU					smax	smax		
	comp=N,270nm,0.4s							
ALU	**Alushta**	**5.58 98**		*e*	P	**Pn**	**04 39 40.9**	**-1.1**
	comp=N,19nm,0.3s							
KCTX	**Karacabey (Bur**	**5.61 166**		*e*	P	**Pn**	**04 39 41.2**	**-1.2**
GEMT	**Gemlik**	**5.61 160**		*e*	P	**Pn**	**04 39 40.7**	**-1.8**
KDZE	**Karadeniz Ereo**	**5.63 140**		*e*	P	**Pn**	**04 39 41.2**	**-1.6**
NIE	**Niedzica**	**5.65 313**		*e*	P	**Pn**	**04 39 44.5**	**+1.5**
NIE	**Niedzica**	**5.65 313**		*e*	Pn	**Pn**	**04 39 44.5**	**+1.5**
NIE	**Niedzica**	**5.65 313**		*e*	P	**Pn**	**04 39 44.5**	**+1.5**
SPNC	**Sapanca-Adapaz**	**5.71 151**		*e*	P	**Pn**	**04 39 45.0**	**+1.1**
GONE	**Gonen-Balikesi**	**5.74 172**		*e*	P	**Pn**	**04 39 43.2**	**-1.0**
OUR	**Ouranopolis**	**5.74 201**			P	**Pn**	**04 39 44.0**	**-0.2**
OUR	**Ouranopolis**	**5.74 201**		*e*	P	**Pn**	**04 39 43.8**	**-0.4**
OUR	**Ouranopolis**	**5.74 201**			P	**Pn**	**04 39 44.0**	**-0.2**
ADVT	**Abdulvahap**	**5.76 156**		*e*	P	**Pn**	**04 39 44.0**	**-0.5**
PLG	**Polygyros**	**5.85 205**			P	**Pn**	**04 39 46.1**	**+0.4**
LIA	**Limnos Island**	**5.93 191**			P	**Pn**	**04 39 46.6**	**-0.2**
SUDU	**Sudak**	**5.95 95**		*e*	P	**Pn**	**04 39 46.9**	**-0.2**
SUDU				*i*	S	**Sn**	**04 40 50.2**	**-3.6**
SUDU					pmax	pmax		
	comp=Z,17nm,0.4s							
SUDU					smax	smax		
	comp=N,210nm,0.6s							
SUDU					smax	smax		
	comp=E,90nm,0.4s							
SUDU	**Sudak**	**5.95 95**		*e*	P	**Pn**	**04 39 46.9**	**-0.2**
	comp=E,17nm,0.4s							
GULT	**Gulveren**	**6.01 151**		*e*	P	**Pn**	**04 39 49.0**	**+1.0**
GPA	**Golpazari**	**6.07 152**		*e*	P	**Pn**	**04 39 48.4**	**-0.3**
PAIG	**Paliouri**	**6.20 202**			P	**Pn**	**04 39 50.0**	**-0.5**
MDUB	**Mudurnu**	**6.22 146**		*e*	P	**Pn**	**04 39 51.0**	**0.0**
SAFT	**Safranbolu**	**6.28 134**		*e*	P	**Pn**	**04 39 50.6**	**-1.1**
OJC	**Ojcow**	**6.42 317**		*e*	P	**Pn**	**04 39 54.0**	**+0.5**
OJC	**Ojcow**	**6.42 317**		*e*	Pn	**Pn**	**04 39 54.0**	**+0.5**
OJC	**Ojcow**	**6.42 317**		*e*	P	**Pn**	**04 39 54.0**	**+0.5**
BZK	**Bozkurt**	**6.52 123**		*e*	P	**Pn**	**04 39 52.3**	**-2.6**
TVSB	**Tavsanli**	**6.61 161**		*e*	P	**Pn**	**04 39 56.3**	**+0.1**
XOR	**Xorichti**	**6.85 203**			P	**Pn**	**04 39 59.3**	**-0.2**
AOS	**Alonnisos**	**6.87 198**			P	**Pn**	**04 39 59.1**	**-0.5**
NEO	**Neokhori**	**6.90 203**			P	**Pn**	**04 39 59.6**	**-0.5**
ESKT	**Eskisehir**	**6.94 152**		*e*	P	**Pn**	**04 40 00.9**	**+0.2**
TOS	**Tosya**	**7.13 129**		*e*	P	**Pn**	**04 40 01.8**	**-1.5**
SVRH	**Sivrihisar-ESK**	**7.24 148**		*e*	P	**Pn**	**04 40 02.5**	**-2.3**
CHOS	**Chios island**	**7.36 184**		*e*	P	**Pn**	**04 40 04.7**	**-1.6**
CHOS	**Chios island**	**7.36 184**		*e*	P	**Pn**	**04 40 04.7**	**-1.6**
KULA	**Kula-Manisa**	**7.37 168**		*e*	P	**Pn**	**04 40 04.5**	**-2.0**
KULA	**Kula-Manisa**	**7.37 168**		*e*	P	**Pn**	**04 40 04.5**	**-2.0**
DIKM	**Dikmen**	**7.46 120**		*e*	P	Pn	04 40 03.2	-4.5
KIZT	**Kizilcal**	**7.87 149**		*e*	P	**Pn**	**04 40 12.8**	**-0.6**
KIZT	**Kizilcal**	**7.87 149**		*e*	P	**Pn**	**04 40 12.8**	**-0.6**
BRTR	**Keskin Array B**	**7.91 137**			P	**Pn**	**04 40 13.2**	**-0.7**
BRTR	**Keskin Array B**	**7.91 137**			P	**Pn**	**04 40 13.2**	**-0.7**
	comp=E,0.3nm,0.3s,baz=325,slow=10,SNR=14							
DPC	**Dobruska-Polom**	**8.31 307**		*e*	PN	Pn	04 40 24.7	+5.4
APE	**Apeiranthos**	**8.70 186**		*i*	P	**Pn**	**04 40 24.1**	**-0.5**
APE	**Apeiranthos**	**8.70 186**		*i*	P	**Pn**	**04 40 24.1**	**-0.5**
MEM	**Membach**	**14.59 297**			P	P	04 42 08.3	+21
FINES	**FINESS Array B**	**15.74 359**			P	Pn	04 41 52.3	-5.6
	comp=E,0.4nm,0.3s,baz=170,slow=12,SNR=9.5							
HFS	**Hagfors**	**16.35 337**			P	Pn	04 42 01.2	-4.3
	comp=E,0.3nm,0.3s,baz=148,slow=12,SNR=8.3							
NB2	**NORSAR Subarra**	**17.80 335**			P	**P**	**04 42 21.3**	**-1.6**
	comp=Z,0.6nm,0.4s,baz=142,slow=12							
NB2	**NORSAR Subarra**	**17.80 335**			P	**P**	**04 42 21.3**	**-1.6**
	comp=Z,0.6nm,0.4s,SNR=3.4							
NOA	**NORSAR Array B**	**17.80 335**			P	**P**	**04 42 19.7**	**-3.2**
	comp=Z,0.4nm,0.3s,baz=142,slow=11,SNR=7.9							
ARU	**Arti**	**22.52 50**		*d*	*i* P	**P**	**04 43 14.3**	**+0.6**
ARU							04 43 44.9	
ARU					S	**S**	**04 47 17.3**	**+3.0**
ARU					SS	**SnSn**	**04 47 55.2**	**+3.6**
ARU					pmax	pmax		
	comp=Z,6.0nm,1.0s							
ARU	**Arti**	**22.52 50**		*i*	P	**P**	**04 43 14.3**	**+0.6**
	comp=Z,6.0nm,1.0s							
ARU					S	**S**	**04 47 17.3**	**+3.0**
ARCES	**ARCESS Array B**	**23.87 359**			P	**P**	**04 43 26.3**	**-0.2**
	comp=Z,1.0nm,0.5s							
ARCES	**ARCESS Array B**	**23.87 359**			P	**P**	**04 43 26.3**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=184,slow=12,SNR=3.4							
KURK	**Kurchatov**	**34.39 62**		*i*	P	**P**	**04 45 00.3**	**+0.4**
KURK					pmax	pmax		
	comp=Z,4.0nm,3.0s							
KURK	**Kurchatov**	**34.39 62**		*i*	P	**P**	**04 45 00.3**	**+0.4**
	comp=Z,4.0nm,3.0s							
MKAR	**Makanchi Array**	**37.80 68**			P	**P**	**04 45 31.4**	**+2.3**
MKAR					pmax	pmax		
	comp=Z,1.0nm,0.4s							
MKAR	**Makanchi Array**	**37.80 68**			P	**P**	**04 45 31.4**	**+2.3**
	comp=Z,1.0nm,0.4s							
MKAR	**Makanchi Array**	**37.80 68**			P	**P**	**04 45 31.4**	**+2.3**
	comp=Z,0.6nm,0.4s,baz=279,slow=7.6,SNR=7.2							
TORD	**Torodi Ar. Bea**	**38.75 221**			P	**P**	**04 45 37.7**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=21,slow=8.3,SNR=3.5							

*ECX **09** 04:40:01.0±0.3, 30°.48N×114°.06W, h5km, MD4.2, ML4.3*
*IDC **09** 04:40:02.7±4.0, 30°.58N×114°.14W, h0km, mb3.4/1, mb1 3.4/4, mb1mx3.4/26, mbtmp3.0/4, ML3.0/3, MS3.4/7, Ms1 3.4/7, ms1mx3.2/20, Error ellipse: s-maj=75.7km s-min=16.5km az=29.0*
*MEX **09** 04:40:02.3±0.3, 30°.21N×114°.17W, h10km±5km, MD4.5*
ISC 09 04:39:59.4±2.0, 30°.20N±0°.07×114°.26W±0°.07, h16km±15km, n22, σ1°53/22, 2C-4D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
SPX	**San Pedro Mart**	**1.34 310**	⇓	*e*	P	**Pn**	**Pn**	**04 40 24.1**	**+0.5**
SPX				*e*	S	**Sb**	**Sb**	**04 40 42.2**	**+0.9**
SPX			⇑	*e*				04 40 56.0	
	comp=E,2µm,0.9s								
SPX			⇓	*e*				04 41 01.1	
	comp=E,3µm,1.1s								
SPIG	**San Pedro Mart**	**1.34 310**		*e*	P	**Pn**	**Pn**	**04 40 24.5**	**+0.8**
SPIG				*i*	S	**Sb**	**Sb**	**04 40 41.7**	**+0.4**
ECBX	**El Chinero**	**1.44 332**	⇓	*e*	P	**Pn**	**Pn**	**04 40 23.2**	**-1.6**
ECBX				*e*	S	**Sn**	**Sn**	**04 40 41.0**	**-2.3**
EMX	**El Mayor**	**1.97 335**		*e*	P	**Pg**	**Pg**	**04 40 37.3**	**+0.1**
EMX				*e*	S	**Sb**	**Sb**	**04 41 01.4**	**+2.1**
EMX			⇓	*e*				04 41 18.0	
	comp=N,2µm,1.0s								
ZAX	**El Zacaton**	**2.17 308**		*e*	P	**Pb**	**Pb**	**04 40 37.5**	**-0.8**
RDX	**Rancho Dawling**	**2.25 321**		*e*	PN	**Pn**	**Pn**	**04 40 37.9**	**+1.8**
RDX			⇑	*e*				04 41 25.2	
	comp=N,1µm,0.9s								
ECNX	**Esteban Cantu**	**2.48 307**		*e*	PN2			04 40 41.9	
CBX	**Cerro Bola**	**2.94 316**		*e*	P	**Pn**	**Pn**	**04 40 47.6**	**+2.0**
HSIG		**3.12 111**		*i*	P	**Pn**	**Pn**	**04 40 47.1**	**-0.8**
HSIG				*i*	S	**Sn**	**Sn**	**04 41 23.0**	**-1.8**
SRIG	**Santa Rosalia**	**3.37 148**		*i*	P	**Pn**	**Pn**	**04 40 51.4**	**0.0**
SRIG				*i*	S	**Sn**	**Sn**	**04 41 30.9**	**-0.1**
PFO	**Pinyon Flat Ob**	**3.88 332**			Pn	**Pb**

KIEV	**Kiev**	**143.21**	**334**	*e*PKPdf	**PKPdf**	**05 04 26.6**	**-0.2**
BRTR	**Keskin Array B**	**147.79**	**315**	PKPbc	**PKPbc**	**05 04 38.5**	**0.0**
BRTR	**Keskin Array B**	**147.79**	**315**	PKPbc	**PKPbc**	**05 04 38.5**	**0.0**
	1.4nm,0.8s,baz=33,slow=3.4,SNR=6.0						
KHC	**Kasperske Hory**	**149.55**	**348**	*e*PKPdf	**PKPdf**	**05 04 36.8**	**-0.9**
KHC				*e*PKPbc	**PKPbc**	**05 04 42.5**	**0.0**
GERES	**GERESS Array B**	**149.80**	**348**	PKPbc	**PKPbc**	**05 04 41.2**	**-1.9**
GERES	**GERESS Array B**	**149.80**	**348**	PKPbc	**PKPbc**	**05 04 41.2**	**-1.9**
	1.0nm,0.7s,baz=11,slow=2.0,SNR=8.4						
TORD	**Torodi Ar. Bea**	**173.15**	**157**	PKP	**PKPdf**	**05 05 01.8**	**-1.1**
TORD				PKPab	**PKPab**	**05 06 33.3**	**+1.8**
TORD	**Torodi Ar. Bea**	**173.15**	**157**	PKP	**PKPdf**	**05 05 01.7**	**-1.1**
	0.2nm,0.8s,baz=271,slow=1.3,SNR=2.1						
TORD				PKPab	**PKPab**	**05 06 33.3**	**+1.8**
	0.5nm,0.8s,baz=211,slow=5.1,SNR=2.5						

DJA 09 04:54:28.0±1.1, 8°S±8′×107°E±°, h29km±8km, M3.5/8, MLv3.5/8, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.64**	**51**	P	Pb	04 54 40.9	+0.1
CISI				S	Sn	04 54 50.4	-0.1
LEM	**Lembang**	**1.17**	**15**	P	Pb	04 54 49.3	-0.5
SKJI	**Sukabumi**	**1.21**	**322**	P	Pn	04 54 48.0	-1.0
SKJI				S	Sn	04 55 03.9	-0.5
DBJI	**Dramaga**	**1.50**	**338**	P	Pn	04 54 53.3	+0.2
DBJI				S	Sn	04 55 12.2	+0.5
CLJI	**Cilicap**	**1.71**	**82**	P	Pn	04 54 56.6	+0.8
KPJI	**Karang Pucung**	**1.72**	**69**	P	Pn	04 54 55.7	-0.3
UGM	**Wanagama**	**3.18**	**89**	P	Pn	04 55 15.8	-0.4
PCJI	**Pacitan**	**3.84**	**94**	P	Pn	04 55 21.5	-3.6

IDC 09 05:02:00.4±1.4, 13°97S×167°14E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.9/18, mbtmp3.9/7, MS3.2/1, Ms1 3.2/1, ms1mx2.7/29, Error ellipse: s-maj=56.7km s-min=27.1km az=126.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**8.36**	**302**	LR	LR	05 06 49.6	
	comp=Z,15nm,28.6s,baz=202,slow=35						
STKA	**Stephens Creek**	**29.39**	**228**	P	P	05 08 05.9	+0.4
	1.5nm,0.7s,baz=56,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**31.89**	**255**	P	P	05 08 27.2	-0.6
	0.5nm,0.8s,baz=85,slow=9.2,SNR=3.8						
ASAR	**Alice Springs**	**32.83**	**248**	P	P	05 08 37.2	+1.2
	1.0nm,0.8s,baz=77,slow=9.6,SNR=5.6						
SONM	**Songino Array**	**81.81**	**324**	P	P	05 14 20.3	-1.2
	0.2nm,0.4s,baz=131,slow=5.9,SNR=2.3						
MAW	**Mawson**	**82.54**	**202**	P	P	05 14 24.0	-0.8
	2.7nm,0.8s,baz=153,slow=4.5,SNR=8.2						
ILAR	**Eielson Array**	**85.85**	**18**	P	P	05 14 42.1	+0.6
	0.5nm,0.6s,baz=231,slow=5.7,SNR=11						
MKAR	**Makanchi Array**	**96.57**	**316**	P	P	05 15 31.3	-0.9
	0.2nm,0.6s,baz=102,slow=6.5,SNR=3.6						
KEST	**Kesra**	**150.54**	**321**	PKPbc	PKPbc	05 21 55.5	+0.7
	0.5nm,0.6s,baz=56,slow=3.6,SNR=4.1						

IDC 09 05:10:43.8±2.4, 11°72S×165°60E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.8/18, mbtmp3.9/5, Error ellipse: s-maj=95.2km s-min=29.4km az=129.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**29.86**	**224**	P	P	05 16 53.2	+0.1
	2.2nm,0.8s,baz=45,slow=13,SNR=2.9						
WRA	**Warramunga Arr**	**31.12**	**251**	P	P	05 17 04.7	+0.3
	0.8nm,0.6s,baz=82,slow=9.0,SNR=4.5						
ASAR	**Alice Springs**	**32.37**	**244**	P	P	05 17 14.9	-0.5
	1.1nm,0.7s,baz=71,slow=9.3,SNR=8.4						
ILAR	**Eielson Array**	**84.19**	**19**	P	P	05 23 16.9	+0.3
	0.3nm,0.6s,baz=225,slow=5.8,SNR=4.3						
MKAR	**Makanchi Array**	**93.91**	**317**	P	P	05 24 03.0	-0.5
	0.6nm,0.6s,baz=100,slow=6.7,SNR=7.2						

*IDC **09** 05:11:11.2±0.8, 12°.76S×166°.22E, h0km, mb4.3/14, mb1 4.5/15, mb1mx4.4/20, mbtmp4.4/15, ML5.1/1, MS3.9/1, Ms1 3.9/1, ms1mx3.3/18, Error ellipse: s-maj=26.4km s-min=18.6km az=123.0*

*ISCJB **09** 05:11:16.1±0.5, 12°.67S±0°.07×166°.06E±0°.07, h40km, mb4.5/21, Error ellipse: s-maj=11.0km s-min=9.4km az=137.2*

*NEIC **09** 05:11:18.1±2.5, 12°.66S×166°.14E, h44km±20km, mb4.6/12, Error ellipse: s-maj=17.8km s-min=9.5km az=100.0*

*GCMT **09** 05:11:19.2±0.3, 12°.59S×166°.04E, h20km±1km, MW4.9, Moment Tensor Solution. s27,c29; s47,c69; Moment tensor: Scale 10¹⁶Nm; Mrr=2.78±.22; Mθθ=-0.42±.14; Mφφ=-2.36±.14; Mrθ=0.34±.29; Mrφ=0.45±.08; Mθφ=-0.61±.20; Best double couple: M₀2.70000×10¹⁶ NP1:φs164.00000°, δ52.00000°, λ86.00000°. NP2:φs351.00000°, δ38.00000°, λ96.00000°. Principal axes: T 2.8800, Plg82.0000°, Azm51.0000°; N -0.3400, Plg4.0000°, Azm167.0000°; P -2.5400, Plg7.0000°, Azm257.0000°; Data Used: II IU G IC CN. Surface wave period40 sec.*

ISC 09 05:11:17.5±0.5, 12°.67S±0°.09×166°.14E±0°.09, h40km, n68, σ0s78/70, mb4.6/21, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.88**	**297**	Pn	**Pn**	**05 12 55.9**	**0.0**
HNR				Sn	**Sn**	**05 14 12.7**	**-0.2**
HNR	**Honiara**	**6.88**	**297**	Pn	**Pn**	**05 12 55.8**	**0.0**
	32nm,0.3s,baz=191,slow=7.4,SNR=3.8						
HNR				Sn	**Sn**	**05 14 12.7**	**-0.2**
	20nm,0.3s,baz=192,slow=19,SNR=2.5						
HNR				LR	LR	05 15 45.7	
	comp=Z,1μm,21.4s,baz=124,slow=39						
DZM	**Mont Dzumac**	**9.36**	**178**	*e*Pn	Pn	05 13 38.8	+8.8
	66nm,0.9s						
DZM				*e*LR	LR	05 15 52.0	
	854nm,24.4s						
DZM	**Mont Dzumac**	**9.36**	**178**	*e*Pn	Pn	05 13 19.4	-11
DZM				*e*Sn	Sn	05 15 39.2	+25
MSVF	**Nonsavu**	**12.55**	**115**	*e*Pn	P	05 14 20.5	-4.1
	35nm,1.1s						
EIDS	**Eidsvold**	**19.01**	**226**	*e*P	**Pn**	**05 15 37.9**	**+0.9**
	16nm,1.0s						
CTA	**Charters Tower**	**20.44**	**246**	P	**P**	**05 15 52.5**	**+0.8**
CTA	**Charters Tower**	**20.44**	**246**	P	**P**	**05 15 52.5**	**+0.8**
	11nm,0.9s,baz=58,slow=13,SNR=6.1						
CTAO	**Charters Tower**	**20.44**	**246**	*e*P	**P**	**05 15 52.8**	**+1.1**
	26nm,1.3s						
COEN	**Coen**	**22.38**	**264**	*e*P	**P**	**05 16 12.6**	**0.0**
	168nm,1.3s						
STKA	**Stephens Creek**	**29.56**	**226**	*e*P	**P**	**05 17 18.7**	**0.0**
	2.4nm,1.1s						
STKA	**Stephens Creek**	**29.56**	**226**	P	**P**	**05 17 18.6**	**0.0**
	3.8nm,0.7s,baz=36,slow=9.1,SNR=5.1						
WRA	**Warramunga Arr**	**31.32**	**252**	P	**P**	**05 17 32.8**	**-1.6**
WRA	**Warramunga Arr**	**31.32**	**252**	P	**P**	**05 17 32.8**	**-1.6**
	2.5nm,0.9s,baz=82,slow=8.6,SNR=6.2						
ASAR	**Alice Springs**	**32.44**	**246**	P	**P**	**05 17 42.0**	**-2.3**
ASAR	**Alice Springs**	**32.44**	**246**	P	**P**	**05 17 42.0**	**-2.3**
	3.2nm,0.9s,baz=73,slow=9.5,SNR=13						
FITZ	**Fitzroy Crossi**	**39.36**	**257**	*e*P	**P**	**05 18 43.0**	**-0.5**
	11nm,1.1s						
PPT2	**Papeete2**	**42.96**	**102**	*e*S	S	05 25 48.2	+12
	121nm,27.2s						
PPT2				*e*LR	LR	05 31 19.2	
	582nm,26.8s						
MJAR	**Matsushiro Arr**	**55.58**	**333**	P	**P**	**05 20 49.0**	**-0.2**
MJAR	**Matsushiro Arr**	**55.58**	**333**	P	**P**	**05 20 49.0**	**-0.2**
	5.3nm,0.9s,baz=162,slow=7.5,SNR=7.5						
MAJO	**Matsushiro**	**55.58**	**333**	*e*P	**P**	**05 20 49.5**	**+0.4**
	24nm,1.1s						
KSRS	**Korea Array**	**61.43**	**326**	P	**P**	**05 21 30.6**	**+0.8**
	1.5nm,0.8s,baz=124,slow=6.0,SNR=5.4						
KSAR	**Wonju Array Be**	**61.44**	**326**	P	**P**	**05 21 30.6**	**+0.7**
USRK	**Ussuriysk Arra**	**64.56**	**333**	P	**P**	**05 21 50.7**	**+0.1**
	13nm,1.1s,baz=131,slow=5.9,SNR=11						
VNDA	**Vanda**	**64.89**	**181**	*e*P	**P**	**05 21 52.4**	**+0.2**
	2.7nm,1.0s						
VNDA	**Vanda**	**64.89**	**181**	P	**P**	**05 21 51.7**	**-0.5**
	0.8nm,0.8s,baz=354,slow=4.3,SNR=3.8						
SBA	**Scott Base**	**65.19**	**180**	*e*P	**P**	**05 21 54.9**	**+0.7**
	8.5nm,1.2s						
CMAR	**Chiang Mai Arr**	**73.11**	**294**	P	**P**	**05 22 46.0**	**+1.7**
	3.0nm,1.1s,baz=114,slow=4.8,SNR=6.8						
QSPA	**South Pole Qui**	**77.35**	**180**	*e*P	**P**	**05 23 07.5**	**-0.5**
	29nm,1.0s						
ULN	**Ulaanbaatar**	**79.83**	**324**	*e*P	**P**	**05 23 22.9**	**+0.9**
	7.7nm,0.9s						
SONM	**Songino Array**	**80.19**	**324**	P	**P**	**05 23 24.8**	**+0.8**
SONM	**Songino Array**	**80.19**	**324**	P	**P**	**05 23 24.8**	**+0.8**
	2.0nm,0.7s,baz=132,slow=6.0,SNR=12						
MAW	**Mawson**	**83.37**	**202**	*e*P	**P**	**05 23 40.7**	**+0.6**
	1.1nm,0.9s						
COLA	**College**	**84.70**	**18**	*e*P	**P**	**05 23 45.8**	**-1.1**
	16nm,0.8s						
ILAR	**Eielson Array**	**84.92**	**18**	P	**P**	**05 23 47.0**	**-1.0**
ILAR	**Eielson Array**	**84.92**	**18**	P	**P**	**05 23 47.0**	**-1.0**
	2.1nm,0.8s,baz=234,slow=5.8,SNR=14						
NVAR	**Mina Array Bea**	**86.77**	**50**	P	**P**	**05 23 58.9**	**+0.8**
NVAR	**Mina Array Bea**	**86.77**	**50**	P	**P**	**05 23 58.9**	**+0.8**
	0.2nm,0.4s,baz=242,slow=5.8,SNR=4.4						
MK31	**Makanchi Array**	**94.96**	**317**	*e*P	**P**	**05 24 36.4**	**+0.5**
MKAR	**Makanchi Array**	**94.96**	**317**	P	**P**	**05 24 36.1**	**+0.3**
MKAR	**Makanchi Array**	**94.96**	**317**	P	**P**	**05 24 36.1**	**+0.3**
	2.6nm,1.0s,baz=101,slow=5.1,SNR=9.2						
ZALV	**Zalesovo Beam**	**95.09**	**324**	P	**P**	**05 24 35.6**	**-0.6**
ZALV	**Zalesovo Beam**	**95.09**	**324**	P	**P**	**05 24 35.6**	**-0.6**
	5.8nm,1.1s,baz=108,slow=3.3,SNR=7.5						
ARCES	**ARCESS Array B**	**117.99**	**345**	PKP	**PKPdf**	**05 29 58.5**	**-0.9**
ARCES	**ARCESS Array B**	**117.99**	**345**	PKP	**PKPdf**	**05 29 58.5**	**-0.9**
	1.9nm,0.7s,baz=29,slow=2.1,SNR=7.5						
FINES	**FINESS Array B**	**123.41**	**338**	PKP	**PKPdf**	**05 30 09.9**	**-0.1**
FINES	**FINESS Array B**	**123.41**	**338**	PKP	**PKPdf**	**05 30 09.9**	**-0.1**
	3.6nm,0.9s,baz=36,slow=2.9,SNR=3.4						
AKASG	**Malin Array Be**	**128.42**	**326**	PKP	**PKPdf**	**05 30 19.1**	**-0.8**
AKASG	**Malin Array Be**	**128.42**	**326**	PKP	**PKPdf**	**05 30 19.1**	**-0.8**
	2.8nm,0.9s,baz=49,slow=2.5,SNR=7.9						
BRTR	**Keskin Array B**	**130.33**	**312**	PKP	**PKPdf**	**05 30 24.4**	**+0.3**
BRTR	**Keskin Array B**	**130.33**	**312**	PKP	**PKPdf**	**05 30 24.4**	**+0.3**
	0.4nm,0.4s,baz=225,slow=1.2,SNR=4.3						
GERES	**GERESS Array B**	**137.32**	**333**	PKP	**PKPdf**	**05 30 37.6**	**+0.7**
GERES	**GERESS Array B**	**137.32**	**333**	PKP	**PKPdf**	**05 30 37.6**	**+0.7**
	0.6nm,0.6s,baz=44,slow=3.0,SNR=5.3						
KEST	**Kesra**	**148.93**	**322**	*e*PKPbc	**PKPbc**	**05 31 01.9**	**+0.3**
KEST	**Kesra**	**148.93**	**322**	PKPbc	**PKPbc**	**05 31 02.1**	**+0.5**
	8.4nm,0.9s,baz=93,slow=2.0,SNR=26						
PBRG	**Braganca**	**150.31**	**349**	*e*PKPbc	**PKPbc**	**05 31 04.6**	**-0.2**
POLO	**Lamas de Olo**	**150.91**	**351**	*e*PKPbc	**PKPbc**	**05 31 06.6**	**+0.3**
MVO	**Moncorvo**	**150.99**	**349**	*e*PKPbc	**PKPbc**	**05 31 06.5**	**0.0**
PVRL	**Vila Real**	**151.00**	**350**	*e*PKPbc	**PKPbc**	**05 31 06.4**	**-0.1**
ESDC	**Sonseca Array**	**151.71**	**344**	PKPbc	**PKPbc**	**05 31 08.0**	**-0.2**
ESDC				PKPab	**PKPab**	**05 31 16.9**	**-0.1**
ESDC	**Sonseca Array**	**151.71**	**344**	PKPbc	**PKPbc**	**05 31 08.0**	**-0.2**
	4.0nm,0.9s,baz=20,slow=2.6,SNR=16						
ESDC				PKPab	**PKPab**	**05 31 16.9**	**-0.1**
	0.3nm,0.3s,baz=0.1,slow=1.6,SNR=6.0						
MTE	**Manteigas**	**151.82**	**350**	*e*PKPbc	**PKPbc**	**05 31 08.4**	**0.0**
PCBR	**Castelo Branco**	**152.35**	**349**	*e*PKPbc	**PKPbc**	**05 31 09.6**	**+0.1**
PTOM	**Tomar**	**152.73**	**351**	*e*PKPbc	**PKPbc**	**05 31 10.4**	**0.0**
PMRV	**Marv??o**	**152.74**	**349**	*e*PKPbc	**PKPbc**	**05 31 10.1**	**-0.3**
TORD	**Torodi Ar. Bea**	**164.82**	**274**	PKP	**PKPdf**	**05 31 17.5**	**-0.7**
TORD				PKPab	**PKPab**	**05 32 13.7**	**-0.7**
TORD	**Torodi Ar. Bea**	**164.82**	**274**	PKP	**PKPdf**	**05 31 17.5**	**-0.7**
	0.3nm,0.7s,baz=115,slow=2.1,SNR=2.7						
TORD				PKPab	**PKPab**	**05 32 13.7**	**-0.7**
	1.0nm,1.1s,baz=75,slow=2.5,SNR=3.8						

IDC 09 05:16:24.7±3.6, 12°.25S×165°.69E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/18, mbtmp3.9/4, Error ellipse: s-maj=118.7km s-min=41.2km az=124.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**29.55**	**225**	P	P	05 22 31.7	+0.5
	2.2nm,0.7s,baz=30,slow=9.9,SNR=4.5						
WRA	**Warramunga Arr**	**31.04**	**252**	P	P	05 22 44.4	-0.2
	0.7nm,0.7s,baz=86,slow=8.0,SNR=4.7						
ASAR	**Alice Springs**	**32.23**	**245**	P	P	05 22 54.8	-0.3
	1.3nm,0.8s,baz=70,slow=9.7,SNR=9.0						
MKAR	**Makanchi Array**	**94.36**	**317**	P	P	05 29 46.3	-0.2
	0.4nm,0.6s,baz=113,slow=3.3,SNR=3.3						
KEST	**Kesra**	**148.33**	**322**	PKPbc	PKPbc	05 36 13.0	-0.6
	0.8nm,0.8s,baz=68,slow=5.4,SNR=3.1						

*ISCJB **09** 05:18:36.9±0.6, 14°.9S±0°.1×174°.6W±0°.2, h10km, mb4.3/14, MS3.5/9, Error ellipse: s-maj=25.5km s-min=14.3km az=41.6*

*IDC **09** 05:18:37.2±1.0, 14°.96S×174°.67W, h0km, mb4.2/8, mb1 4.4/8, mb1mx4.2/19, mbtmp4.2/8, MS3.9/12, Ms1 3.9/12, ms1mx3.7/26, Error ellipse: s-maj=49.9km s-min=21.2km az=145.0*

*NEIC **09** 05:18:38.7±0.5, 14°.91S×174°.53W, h10km, mb4.6/7, Error ellipse: s-maj=22.6km s-min=12.7km az=131.0*

ISC 09 05:18:38.5±0.7, 14°.9S±0°.2×174°.6W±0°.2, h10km, n47, σ0s60/26, mb4.4/14, MS3.3/9, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.95**	**71**	*e*Pn	Pn	05 19 16.4	-9.2
AFI				*e*Sn	Sn	05 19 47.2	-14
AFI	**Afiamalu**	**2.95**	**71**	Pn	Pn	05 19 16.8	-8.7
	130nm,0.3s,baz=38,slow=3.5,SNR=95						
AFI				Sn	Sn	05 19 46.1	-15
	229nm,0.3s,baz=263,slow=24,SNR=11						
AFI				LR	LR	05 20 18.1	
	comp=Z,16nm,28.6s,baz=266,slow=34						
RAO	**Raoul Island**	**14.60**	**191**	LR	LR	05 26 53.1	
	comp=Z,493nm,20.3s,baz=342,slow=34						
DZM	**Mont Dzumac**	**19.29**	**246**	LR	LR	05 29 24.3	
	comp=Z,281nm,21.0s,baz=44,slow=34						
URZ	**Urewera**	**24.38**	**196**	LR	LR	05 31 41.4	
	comp=Z,557nm,18.5s,baz=17,slow=32						
HNR	**Honiara**	**25.41**	**279**	LR	LR	05 31 07.7	
	comp=Z,91nm,21.9s,baz=122,slow=30						
H11S2	**WAKE ISLAND Hy**	**37.93**	**330**	T	T	06 06 09.9	
	baz=152,slow=0.7,SNR=66						
H11S3	**WAKE ISLAND Hy**	**37.94**	**330**	T	T	06 06 15.6	
	baz=152,slow=0.7,SNR=56						
H11S1	**WAKE ISLAND Hy**	**37.95**	**330**	T	T	06 06 14.5	
	baz=152,slow=0.7,SNR=57						
H11N3	**WAKE ISLAND Hy**	**38.90**	**332**	T	T	06 07 32.6	
	baz=153,slow=0.7,SNR=52						
H11N1	**WAKE ISLAND Hy**	**38.90**	**332**	T	T	06 07 37.6	
	baz=153,slow=0.7,SNR=86						
H11N2	**WAKE ISLAND Hy**	**38.91**	**332**	T	T	06 07 35.4	
	baz=153,slow=0.7,SNR=58						
STKA	**Stephens Creek**	**43.25**	**239**	LR	LR	05 42 55.3	
	comp=Z,16nm,28.6s,baz=30,slow=34						
WRAB	**Tennant Creek**	**48.78**	**256**	*e*P	P	05 27 28.0	+3.8
	8.3nm,1.2s						
WRA	**Warramunga Arr**	**48.79**	**256**	P	**P**	**05 27 23.6**	**-0.7**
WRA	**Warramunga Arr**	**48.79**	**256**	P	**P**	**05 27 23.6**	**-0.7**
	1.9nm,1.0s,baz=93,slow=8.2,SNR=6.5						
WRA				LR	LR	05 45 32.9	
	comp=Z,16nm,28.6s,baz=110,slow=33						
AS31	**Alice Springs**	**49.12**	**252**	*e*P	**P**	**05 27 27.0**	**+0.2**
ASAR	**Alice Springs**	**49.12**	**252**	P	**P**	**05 27 27.2**	**+0.4**
ASAR	**Alice Springs**	**49.12**	**252**	P	**P**	**05 27 27.2**	**+0.4**
	5.7nm,0.7s,baz=85,slow=8.3,SNR=27						
ASAR				LR	LR	05 46 28.5	
	comp=Z,16nm,28.6s,baz=88,slow=34						
FITZ	**Fitzroy Crossi**	**57.14**	**258**	*e*P	P	05 28 34.0	+8.1
	5.8nm,1.0s						
SBA	**Scott Base**	**63.65**	**184**	*e*P	**P**	**05 29 10.2**	**+0.7**
	2.4nm,0.9s						
PETK	**Petropavlovsk-**	**71.80**	**343**	P	**P**	**05 30 00.7**	**-0.4**
PETK	**Petropavlovsk-**	**71.80**	**343**	P	**P**	**05 30 00.7**	**-0.4**
	1.6nm,0.7s,baz=152,slow=6.7,SNR=3.6						
CMB	**Columbia Colle**	**73.19**	**42**	*e*P	**P**	**05 30 09.0**	**-0.8**
	7.5nm,1.4s						
YBH	**Yreka Blue Hor**	**73.94**	**38**	P	**P**	**05 30 13.9**	**-0.3**
YBH	**Yreka Blue Hor**	**73.94**	**38**	P	**P**	**05 30 13.9**	**-0.3**
	3.1nm,0.9s,baz=319,slow=0.8,SNR=4.8						
NVAR	**Mina Array Bea**	**74.77**	**43**	P	**P**	**05 30 19.1**	**-0.3**
NVAR	**Mina Array Bea**	**74.77**	**43**	P	**P**	**05 30 19.1**	**-0.3**
	1.6nm,0.7s,baz=224,slow=8.7,SNR=10						
KSRS	**Korea Array**	**74.97**	**316**	LR	LR	05 57 44.8	
	comp=Z,45nm,21.0s,baz=138,slow=31						
QSPA	**South Pole Qui**	**75.14**	**180**	*e*P	**P**	**05 30 20.4**	**-0.6**
	9.4nm,1.0s						
USRK	**Ussuriysk Arra**	**76.27**	**324**	LR	LR	05 57 20.3	
	comp=Z,92nm,20.8s,baz=114,slow=30						
MCK	**McKinley**	**80.87**	**11**	*e*P	**P**	**05 30 52.7**	**+0.2**
	11nm,1.0s						
TXAR	**Lajitas Array**	**81.34**	**57**	P	P	05 30 58.5	+2.6
TXAR	**Lajitas Array**	**81.34**	**57**	P	P	05 30 58.4	+2.6
	1.8nm,1.0s,baz=225,slow=6.7,SNR=8.0						
ILAR	**Eielson Array**	**82.20**	**12**	P	**P**	**05 31 00.0**	**+0.6**
ILAR	**Eielson Array**	**82.20**	**12**	P	**P**	**05 31 00.0**	**+0.6**
	0.7nm,0.8s,baz=221,slow=5.1,SNR=4.5						
MAW	**Mawson**	**87.88**	**199**	*e*P	**P**	**05 31 28.5**	**+0.5**
	1.3nm,1.0s						
MAW	**Mawson**	**87.88**	**199**	P	**P**	**05 31 26.5**	**-1.6**
	2.7nm,0.8s,baz=137,slow=7.3,SNR=4.5						
PLCA	**Paso Flores**	**90.73**	**133**	LR	LR	06 03 57.3	
	comp=Z,77nm,18.9s,baz=315,slow=30						
ULM	**Lac du Bonnet**	**94.31**	**39**	LR	LR	06 06 35.5	
	comp=Z,16nm,28.6s,baz=276,slow=30						
KMBO	**Kilima Mbogo**	**144.65**	**246**	*e*PKPdf	**PKPdf**	**05 38 17.3**	**+0.3**
KMBO	**Kilima Mbogo**	**144.65**	**246**	PKP	**PKPdf**	**05 38 17.9**	**+0.9**
	2.7nm,0.9s,baz=54,slow=6.7,SNR=6.6						
BR131	**Keskin Array S**	**145.01**	**320**	*e*PKPdf	**PKPdf**	**05 38 16.9**	**+0.1**
BRTR	**Keskin Array B**	**145.01**	**320**	PKPbc	**PKPdf**	**05 38 16.8**	**+0.1**
BRTR	**Keskin Array B**	**145.01**	**320**	PKPbc	**PKPdf**	**05 38 16.8**	**+0.1**
	4.5nm,0.8s,baz=79,slow=1.9,SNR=18						
GERES	**GERESS Array B**	**145.46**	**350**	PKPbc	**PKPab**	**05 38 17.8**	**+0.5**
GERES	**GERESS Array B**	**145.46**	**350**	PKPbc	**PKPab**	**05 38 17.8**	**+0.5**
	0.4nm,0.3s,baz=28,slow=4.4,SNR=6.6						

ECX 09 05:27:27.5±0.9, 29°.85N×113°.72W, h10km±24km, ML3.9, 3C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPX	**San Pedro Mart**	**1.92**	**309**	*e*P	Pn	05 28 00.2	-0.4
SPX				*e*S	Sn	05 28 25.3	+0.1
SPX				↑*e*		05 28 36.4	
	comp=E,483nm,1.1s						
ECBX	**El Chinero**	**1.98**	**325**	*e*P	Pn	05 28 00.2	-0.9
ECBX				*e*S	Sb	05 28 27.3	-1.1
ECBX				↑*e*		05 28 31.4	
	comp=N,830nm,0.9s						
EMX	**El Mayor**	**2.50**	**329**	*e*P	Pb	05 28 13.3	+0.8
EMX				*e*S	Sb	05 28 44.4	+1.1
EMX				↑*e*		05 28 50.0	
	comp=E,291nm,0.7s						
CBX	**Cerro Bola**	**3.52**	**315**	*e*P	Pn	05 28 22.7	+0.2
CBX				*e*S	Sn	05 29 05.2	+0.9

MAN 09 05:35:53, 9°.04N×122°.32E, h63km, mb4.2, ML3.1, MS2.8, 2D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.96**	**72**	↓*i*P	Pn	05 35 55.4	-15
SNPH				*i* S	Sn	05 36 07.9	-16
DCPH	**Dipolog City**	**1.12**	**114**	↓*e*P	Pn	05 36 13.3	+0.6
DCPH				*e*S	Sn	05 36 28.0	+0.6
IPIL	**Ipil**	**1.27**	**169**	*e*P	Pn	05 36 16.8	+2.1
IPIL				*e*S	Sn	05 36 32.6	+1.6
GUIM	**Jordan**	**1.59**	**10**	*e*P	Pn	05 36 20.6	+1.5
TBP	**Tagbilaran**	**1.66**	**67**	*e*P	Pn	05 36 21.1	+1.3
TBP				*e*S	Sn	05 36 42.2	+2.0
ENPP	**El Nido**	**3.57**	**307**	*e*P	Pn	05 36 47.5	+1.6

IDC 09 05:35:56.4±1.4, 12°.92S×166°.40E, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.8/19, mbtmp3.8/6, ML3.9/1, MS3.4/2, Ms1 3.4/2, ms1mx2.9/28, Error ellipse: s-maj=47.9km s-min=27.5km az=135.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.22**	**298**	LR	LR	05 40 27.2	
	comp=Z,15nm,28.6s,baz=152,slow=38						
DZM	**Mont Dzumac**	**9.10**	**180**	Pn	Pn	05 38 09.7	+0.5
	1.1nm,0.3s,baz=104,slow=23,SNR=9.9						
DZM				Sn	Sn	05 39 47.7	-4.8
	0.1nm,0.3s,baz=151,slow=

FINES	**FINES Array B**	**69.75**	**332**	P		**P**	**06 22 22.8**	**+0.4**
	4.4nm,1.1s,baz=46,slow=9.9,SNR=3.3								
AKASG	**Malin Array Be**	**75.04**	**322**	P		**P**	**06 22 53.9**	**-0.2**
AKASG	**Malin Array Be**	**75.04**	**322**	P		**P**	**06 22 53.8**	**-0.2**
	0.4nm,0.4s,baz=51,slow=5.0,SNR=3.5								
NOA	**NORSAR Array B**	**75.21**	**337**	P		**P**	**06 22 54.7**	**-0.2**
NOA	**NORSAR Array B**	**75.21**	**337**	P		**P**	**06 22 54.7**	**-0.2**
	1.6nm,0.8s,baz=38,slow=5.7,SNR=3.2								
QSPA	**South Pole Qui**	**125.46**	**180**	*e*PKPdf		**PKPdf**	**06 30 12.1**	**-0.3**

*IDC **09** 06:17:50.4±1.8,51°.74N×171°.25W,h0km,mb4.0/9, mb1 4.1/11,mb1mx3.8/31,mbtmp3.9/11,ML3.7/1, Error ellipse: s-maj=48.7km s-min=19.3km az=2.0*
*ISCJB **09** 06:17:54.1±1.2,51°.7N±0°.2×171°.3W±0°.1,h44km,mb4.0/9, Error ellipse: s-maj=24.8km s-min=5.3km az=161.9*
*NEIC **09** 06:17:54.9,51°.85N×171°.34W,h10km,ML3.2(AECI),After AEIC.*

ISC 09 06:17:56.6±1.3,51°.8N±0°.2×171°.29W±0°.08,h44km,n28, σ1§03/31,mb4.0/9,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**1.91**	**51**	P	**Pn**	**06 18 25.2**	**-1.4**
NIKH				S	**Sn**	**06 18 49.2**	**-0.2**
OKAK	**Okmok**	**2.53**	**44**	P	**Pn**	**06 18 32.9**	**-2.2**
OKFG	**Magazine Ridge**	**2.62**	**50**	P	**Pn**	**06 18 35.5**	**-0.9**
OKFG				S	**Sn**	**06 19 08.2**	**+1.3**
MSOM	**Makushin Julie**	**3.33**	**51**	P	**Pn**	**06 18 45.3**	**-0.7**
ADK	**Adak**	**3.35**	**274**	P	**Pn**	**06 18 45.2**	**-1.1**
ADK				S	**Sn**	**06 19 25.0**	**+0.1**
MREP	**Makushin Rep't**	**3.42**	**52**	P	**Pn**	**06 18 47.6**	**+0.2**
ILAR	**Eielson Array**	**18.10**	**35**	P	**P**	**06 22 03.5**	**-0.9**
ILAR	**Eielson Array**	**18.10**	**35**	P	**P**	**06 22 03.5**	**-0.9**
	0.1nm,0.3s,baz=236,slow=9.4,SNR=8.4						
PETK	**Petropavlovsk-**	**18.88**	**286**	P	**P**	**06 22 12.3**	**-0.7**
PETK	**Petropavlovsk-**	**18.88**	**286**	P	**P**	**06 22 12.3**	**-0.7**
	baz=75,slow=14,SNR=2.7						
DLBC	**Dease Lake**	**24.20**	**58**	P	**P**	**06 23 10.3**	**+1.6**
DLBC	**Dease Lake**	**24.20**	**58**	P	**P**	**06 23 10.3**	**+1.6**
	2.6nm,0.8s,baz=298,slow=10,SNR=6.6						
INK	**Inuvik**	**24.48**	**33**	P	**P**	**06 23 10.7**	**-0.4**
INK	**Inuvik**	**24.48**	**33**	P	**P**	**06 23 10.7**	**-0.4**
	2.8nm,0.5s,baz=104,slow=12						
SONM	**Songino Array**	**50.58**	**300**	P	**P**	**06 26 51.7**	**+1.0**
SONM	**Songino Array**	**50.58**	**300**	P	**P**	**06 26 51.7**	**+1.0**
	0.4nm,0.6s,baz=55,slow=7.6,SNR=3.9						
TXAR	**Lajitas Array**	**53.95**	**87**	P	**P**	**06 27 15.1**	**-0.8**
TXAR	**Lajitas Array**	**53.95**	**87**	P	**P**	**06 27 15.1**	**-0.8**
	0.8nm,0.5s,baz=303,slow=5.4,SNR=12						
ZALV	**Zalesovo Beam**	**57.05**	**317**	P	**P**	**06 27 39.5**	**+1.8**
ZALV	**Zalesovo Beam**	**57.05**	**317**	P	**P**	**06 27 39.4**	**+1.8**
	0.6nm,0.5s,baz=24,slow=7.9,SNR=2.9						
ARCES	**ARCESS Array B**	**58.37**	**353**	P	**P**	**06 27 46.6**	**-0.1**
ARCES	**ARCESS Array B**	**58.37**	**353**	P	**P**	**06 27 46.6**	**-0.1**
	2.0nm,0.7s,baz=31,slow=7.6,SNR=2.7						
KURK	**Kurchatov**	**62.01**	**317**	P	**P**	**06 28 12.5**	**+0.6**
KURBB	**Kurchatov Arra**	**62.12**	**317**	P	**P**	**06 28 12.5**	**-0.1**
	1.7nm,0.7s,baz=43,slow=7.0,SNR=7.0						
MKAR	**Makanchi Array**	**63.34**	**312**	P	**P**	**06 28 21.1**	**+0.2**
MKAR	**Makanchi Array**	**63.34**	**312**	P	**P**	**06 28 21.1**	**+0.2**
	1.1nm,0.5s,baz=47,slow=6.2,SNR=14						
FINES	**FINESS Array B**	**66.27**	**351**	P	**P**	**06 28 39.3**	**-0.3**
FINES	**FINESS Array B**	**66.27**	**351**	P	**P**	**06 28 39.3**	**-0.3**
	1.3nm,0.7s,baz=12,slow=7.1,SNR=3.4						

*IDC **09** 06:18:21.1±1.1,13°.71S×166°.49E,h0km,mb4.1/7, mb1 4.3/8,mb1mx4.0/19,mbtmp4.1/8,ML3.7/1,MS3.7/13, Ms1 3.7/13,ms1mx3.5/29,Error ellipse: s-maj=36.5km s-min=23.0km az=113.0*
*ISCJB **09** 06:18:26.7±0.8,13°.93S±0°.07×166°.3E±0°.1,h43km, mb4.3/10,MS3.4/10,Error ellipse: s-maj=15.6km s-min=9.9km az=161.9*
*NEIC **09** 06:18:26.6±0.7,13°.78S×166°.47E,h35km,mb4.6/6,Error ellipse: s-maj=19.2km s-min=15.1km az=98.0*

ISC 09 06:18:27.6±0.7,13°.82S±0°.08×166°.4E±0°.1,h43km,n33, σ1§18/28,mb4.3/10,MS3.4/10,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.71**	**304**	LR	LR	06 23 14.4	
	comp=Z,320nm,19.4s,baz=108,slow=38						
DZM	**Mont Dzumac**	**8.21**	**180**	*e*Pn	**Pn**	**06 20 23.6**	**-0.6**
	7.1nm,0.3s						
DZM				*e*LR	LR	06 22 25.5	
	536nm,26.4s						
DZM	**Mont Dzumac**	**8.21**	**180**	*e*Pn	**Pn**	**06 20 23.6**	**-0.6**
DZM				Sn	**Sn**	**06 21 55.9**	**+0.2**
DZM	**Mont Dzumac**	**8.21**	**180**	Pn	**Pn**	**06 20 22.4**	**-1.9**
	1.0nm,0.3s,baz=135,slow=17,SNR=9.8						
DZM				Sn	**Sn**	**06 21 55.9**	**+0.2**
	0.2nm,0.3s,baz=210,slow=17,SNR=2.0						
DZM				LR	LR	06 22 26.5	
	comp=Z,16nm,28.6s,baz=5.5,slow=30						
PMG	**Port Moresby**	**19.38**	**281**	LR	LR	06 29 25.4	
	comp=Z,16nm,28.6s,baz=58,slow=34						
CTAO	**Charters Tower**	**20.28**	**249**	*e*P	**P**	**06 22 59.6**	**-0.2**
	20nm,1.3s						
AFI	**Afiamalu**	**21.15**	**93**	LR	LR	06 29 18.0	
	comp=Z,16nm,28.6s,baz=255,slow=31						
STKA	**Stephens Creek**	**28.99**	**228**	*e*P	**P**	**06 24 24.1**	**+0.8**
	1.9nm,1.1s						
STKA	**Stephens Creek**	**28.99**	**228**	P	**P**	**06 24 24.6**	**+1.3**
	4.6nm,1.0s,baz=33,slow=11,SNR=5.4						
STKA				LR	LR	06 35 45.9	
	comp=Z,363nm,18.1s,baz=44,slow=36						
RPZ	**Rata Peaks**	**30.06**	**173**	LR	LR	06 36 29.1	
	comp=Z,263nm,18.0s,baz=348,slow=36						
WRA	**Warramunga Arr**	**31.28**	**254**	P	**P**	**06 24 42.9**	**-0.9**
WRA	**Warramunga Arr**	**31.28**	**254**	P	**P**	**06 24 42.9**	**-0.9**
	3.1nm,1.1s,baz=84,slow=8.3,SNR=6.0						
WRA				LR	LR	06 36 21.0	
	comp=Z,295nm,21.0s,baz=85,slow=34						
ASAR	**Alice Springs**	**32.26**	**247**	P	**P**	**06 24 51.2**	**-1.2**
ASAR	**Alice Springs**	**32.26**	**247**	P	**P**	**06 24 51.2**	**-1.2**
	0.7nm,0.6s,baz=76,slow=9.4,SNR=16						
ASAR				LR	LR	06 36 56.6	
	comp=Z,16nm,28.6s,baz=73,slow=34						
FITZ	**Fitzroy Crossi**	**39.40**	**258**	*e*P	**P**	**06 25 54.9**	**+1.3**
	27nm,1.8s						
PPT	**Papeete**	**42.44**	**101**	LR	LR	06 39 39.3	
	comp=Z,66nm,21.3s,baz=294,slow=30						
PPT2	**Papeete2**	**42.44**	**101**	*e*S	**S**	**06 32 38.8**	**+0.9**
	58nm,25.8s						
PPT2				*e*LQ	LQ	06 35 57.8	
	706nm,30.8s						
PPT2				*e*LR	LR	06 38 04.0	
	333nm,27.5s						
KAPI	**Kappang**	**46.81**	**276**	*e*P	**P**	**06 26 52.8**	**-0.7**
	12nm,0.7s						
VNDA	**Vanda**	**63.75**	**181**	*e*P	**P**	**06 28 55.9**	**+1.3**
	23nm,1.9s						
VNDA	**Vanda**	**63.75**	**181**	P	**P**	**06 28 55.7**	**+1.2**
	3.6nm,1.2s,baz=11,slow=6.4,SNR=5.1						
VNDA				LR	LR	06 53 05.1	
	comp=Z,15nm,28.6s,baz=327,slow=33						
SONM	**Songino Array**	**81.29**	**324**	P	**P**	**06 30 41.1**	**+1.6**
SONM	**Songino Array**	**81.29**	**324**	P	**P**	**06 30 41.1**	**+1.6**
	0.3nm,0.3s,baz=108,slow=4.8,SNR=3.7						
MAW	**Mawson**	**82.42**	**202**	LR	LR	07 04 31.9	
	comp=Z,16nm,28.6s,baz=67,slow=34						
ILAR	**Eielson Array**	**85.92**	**18**	P	**P**	**06 31 00.5**	**-2.2**
ILAR	**Eielson Array**	**85.92**	**18**	P	**P**	**06 31 00.5**	**-2.2**
	0.8nm,0.6s,baz=238,slow=5.0,SNR=9.5						
ILAR				LR	LR	07 07 00.7	
	comp=Z,78nm,18.6s,baz=232,slow=34						
SNAA	**Sanae**	**94.41**	**183**	*e*P	**P**	**06 31 42.5**	**-0.1**
	2.5nm,1.0s						
MKAR	**Makanchi Array**	**95.99**	**317**	P	**P**	**06 31 51.1**	**+0.8**
MKAR	**Makanchi Array**	**95.99**	**317**	P	**P**	**06 31 51.1**	**+0.8**
	1.2nm,0.9s,baz=88,slow=6.6,SNR=6.4						
TXAR	**Lajitas Array**	**96.55**	**62**	LR	LR	07 06 07.7	
	comp=Z,16nm,28.6s,baz=0.0,slow=30						
ARCES	**ARCESS Array B**	**119.17**	**345**	PKP	**PKPdf**	**06 37 10.6**	**-0.8**
ARCES	**ARCESS Array B**	**119.17**	**345**	PKP	**PKPdf**	**06 37 10.6**	**-0.8**
	2.5nm,0.8s,baz=64,slow=2.8,SNR=5.0						
ESDC	**Sonseca Array**	**152.89**	**344**	PKPbc	**PKPbc**	**06 38 20.7**	**+0.2**
ESDC	**Sonseca Array**	**152.89**	**344**	PKPbc	**PKPbc**	**06 38 20.7**	**+0.2**
	0.3nm,0.2s,baz=15,slow=5.3,SNR=4.5						

*IDC **09** 06:25:54.1±1.0,55°.56N×162°.26E,h0km,mb3.6/6,*

mb1 3.9/7,mb1mx3.6/27,mbtmp3.5/7,ML3.3/1,Error ellipse: s-maj=48.2km s-min=20.6km az=142.0
*KRSC **09** 06:25:54.5±4.2,55°.28N×162°.68E,h5km±5km,ML4.1*
*MOS **09** 06:25:55.5±1.1,55°.30N×162°.75E,h12km,mb4.0/2,Error ellipse: s-maj=16.9km s-min=10.0km az=73.2*
*ISCJB **09** 06:25:56.4±1.0,55°.24N±0°.02×162°.71E±0°.05,h13km±7km, mb3.4/6,Error ellipse: s-maj=4.6km s-min=3.4km az=167.9*

ISC 09 06:25:54.9±1.3,55°.30N±0°.03×162°.68E±0°.03,h8km±9km, n56,σ1§27/80,mb3.7/6,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.91**	**5**	PN	**Pn**	**06 26 13.9**	**-0.1**
KBTR				S	**Sn**	**06 26 28.4**	**+1.0**
KBTR	**Krutoberegovo**	**0.91**	**5**	*e*P	**Pn**	**06 26 13.9**	**-0.1**
KBTR				*i* S	**Sn**	**06 26 28.4**	**+1.0**
MKZ	**Mys Kozlova**	**0.93**	**217**	PN	**Pn**	**06 26 12.8**	**-1.3**
MKZ				S	**Sb**	**06 26 25.4**	**-0.1**
MKZ	**Mys Kozlova**	**0.93**	**217**	*i* P	**Pn**	**06 26 12.8**	**-1.3**
MKZ				*i* S	**Sb**	**06 26 25.4**	**-0.1**
ZLN	**Zelenaya**	**1.28**	**305**	*e*P	**Pg**	**06 26 20.3**	**+0.9**
ZLN				*i* S	**Sn**	**06 26 37.5**	**+0.9**
BZGR	**Bezymyannyi-Gr**	**1.29**	**301**	*e*P	**Pg**	**06 26 20.1**	**+0.4**
BZGR				*i* S	**Sn**	**06 26 37.9**	**+1.0**
CIRR	**Tsirk**	**1.36**	**308**	P	**Pg**	**06 26 20.7**	**-0.3**
CIRR				*i* S	**Sn**	**06 26 42.0**	**+3.3**
BZMR	**Bezymyannaya**	**1.39**	**298**	*e*P	**Pg**	**06 26 21.9**	**+0.3**
BZMR				*i* S	**Sg**	**06 26 40.7**	**+1.0**
BZWR	**Bezymyannyi-We**	**1.40**	**299**	*e*P	**Pg**	**06 26 22.6**	**+0.8**
BZWR				*i* S	**Sg**	**06 26 40.8**	**+0.8**
TUMR	**Tumrok**	**1.45**	**270**	*e*P	**Pg**	**06 26 22.4**	**-0.2**
TUMR				*i* S	**Sg**	**06 26 41.8**	**+0.4**
SMKR	**Semkarok**	**1.45**	**333**	*e*P	**Pg**	**06 26 24.7**	**+2.0**
KMNR	**Kamenistaya**	**1.46**	**289**	*i* P	**Pg**	**06 26 23.1**	**+0.2**
KMNR				*i* S	**Sg**	**06 26 43.1**	**+1.3**
KIRR	**Kirishev**	**1.48**	**297**	*e*P	**Pg**	**06 26 23.1**	**-0.1**
KIRR				*i* S	**Sg**	**06 26 43.1**	**+0.8**
KRSR	**Krestovskiy**	**1.51**	**308**	*e*P	**Pg**	**06 26 23.7**	**0.0**
KRSR				*i* S	**Sg**	**06 26 43.5**	**+0.2**
BDR	**Baidarnaya**	**1.52**	**328**	*e*P	**Pb**	**06 26 23.2**	**-0.1**
KLY	**Klyuchi**	**1.53**	**312**	PN	**Pn**	**06 26 21.4**	**-1.1**
KLY				S	**Sn**	**06 26 41.7**	**-0.8**
KLY	**Klyuchi**	**1.53**	**312**	P	**Pn**	**06 26 21.4**	**-1.1**
KLY				*i* S	**Sn**	**06 26 41.7**	**-0.8**
KPT	**Kopyto**	**1.54**	**297**	*e*P	**Pg**	**06 26 23.8**	**-0.7**
KPT				*i* S	**Sg**	**06 26 44.6**	**+0.1**
SRKR	**Sorokina**	**1.60**	**329**	*e*P	**Pb**	**06 26 24.2**	**-0.5**
KOZR	**Kozyr**	**1.75**	**297**	PN	**Pg**	**06 26 28.1**	**-0.3**
KOZR				S	**Sg**	**06 26 50.6**	**-0.5**
KOZ	**Kozyrevsk**	**1.76**	**297**	*e*P	**Pg**	**06 26 28.1**	**-0.5**
KOZ				*i* S	**Sg**	**06 26 50.6**	**-0.8**
BKI	**Bering**	**1.89**	**92**	PN	**Pb**	**06 26 28.9**	**-0.7**
BKI				S	**Sb**	**06 26 52.9**	**-0.4**
BKI	**Bering**	**1.89**	**92**	*e*P	**Pb**	**06 26 28.9**	**-0.7**
BKI				*i* S	**Sb**	**06 26 52.9**	**-0.4**
SRDR	**Sredinnyy**	**1.96**	**303**	*e*P	**Pb**	**06 26 30.4**	**-0.4**
SRDR				*i* S	**Sb**	**06 26 55.9**	**+0.6**
KII	**Karymskiy**	**2.26**	**237**	*e*P	**Pn**	**06 26 33.3**	**+0.7**
ESO	**Esso**	**2.34**	**287**	PN	**Pn**	**06 26 34.9**	**+1.2**
ESO				S	**Sb**	**06 27 04.9**	**-1.4**
ESO	**Esso**	**2.34**	**287**	P	**Pn**	**06 26 34.9**	**+1.2**
ESO				*i* S	**Sb**	**06 27 04.9**	**-1.4**
NLC	**Nalytchevo**	**2.89**	**224**	PN	**Pn**	**06 26 41.7**	**+0.5**
NLC				S	**Sn**	**06 27 17.4**	**+1.3**
NLC	**Nalytchevo**	**2.89**	**224**	*e*P	**Pn**	**06 26 41.7**	**+0.5**
NLC				*i* S	**Sn**	**06 27 17.4**	**+1.3**
SDLR	**Sedlovina**	**3.01**	**229**	*e*P	**Pn**	**06 26 43.9**	**+1.0**
KRER	**Koryakskii**	**3.05**	**231**	*e*P	**Pn**	**06 26 45.0**	**+1.4**
KRER				*i* S	**Sn**	**06 27 21.1**	**+0.8**
SMAR	**Somma**	**3.05**	**230**	*e*P	**Pn**	**06 26 44.6**	**+1.0**
KRX	**Arik**	**3.06**	**232**	*e*P	**Pn**	**06 26 45.8**	**+2.2**
AVH	**Avacha**	**3.08**	**230**	*e*P	**Pn**	**06 26 45.7**	**+1.8**
UGLR	**Uglovaya**	**3.08**	**229**	*e*P	**Pb**	**06 26 46.9**	**-3.1**
KOK	**Koryaka**	**3.11**	**231**	*e*P	**Pn**	**06 26 46.2**	**+1.9**
KOK				*i* S	**Sn**	**06 27 22.3**	**+0.7**
GNL	**Ganaly**	**3.19**	**242**	*e*P	**Pn**	**06 26 47.0**	**+1.5**
PET	**Petropavlovsk**	**3.29**	**228**	*e*PN	Pb	06 26 49.3	-4.1
PET				*e*S	**Sb**	**06 27 32.6**	**-0.9**
PET				pmax	pmax		
	comp=Z,53nm,0.5s						
PET				smax	smax		
	comp=E,154nm,0.6s						
PET				smax	smax		
	comp=N,91nm,0.8s						
PET	**Petropavlovsk**	**3.29**	**228**	*e*P	**Pn**	**06 26 48.2**	**+1.6**
PET				*i* S	**Sn**	**06 27 27.9**	**+2.1**
PETK	**Petropavlovsk-**	**3.66**	**235**	*e*PN	Pb	06 26 55.8	-3.9
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PETK	**Petropavlovsk-**	**3.66**	**235**	Pn	**Pn**	**06 26 52.5**	**+0.8**
	comp=Z,2.6nm,0.3s,baz=95,slow=19,SNR=22						
RUS	**Russkaya**	**3.79**	**222**	PN	Pb	06 26 57.3	-4.6
RUS				S	**Sn**	**06 27 40.5**	**+2.4**
RUS	**Russkaya**	**3.79**	**222**	*e*P	Pb	06 26 57.3	-4.6
RUS				*i* S	**Sn**	**06 27 40.5**	**+2.4**
MTVR	**Mutnovka**	**3.88**	**225**	*e*P	**Pn**	**06 26 57.3**	**+2.4**
MTVR				*i* S	**Sn**	**06 27 40.9**	**+0.3**
APC	**Apacha**	**4.03**	**236**	*e*P	Pn	06 26 59.5	+2.7
APC				*i* S	**Sn**	**06 27 45.2**	**+1.1**
ASAK	**Asacha**	**4.07**	**226**	*e*P	**Pn**	**06 26 59.7**	**+2.3**
MJAR	**Matsushiro Arr**	**25.11**	**232**	P	**P**	**06 31 21.7**	**+1.7**
	comp=Z,1.1nm,0.6s,baz=1.8,slow=15,SNR=3.0						
ILAR	**Eielson Array**	**26.20**	**48**	P	**P**	**06 31 28.9**	**-0.7**
	comp=Z,0.9nm,1.0s,baz=243,slow=5.6,SNR=6.1						
H11N2	**WAKE ISLAND Hy**	**35.66**	**173**	T	T	07 10 20.5	
	baz=357,slow=0.7,SNR=13						
H11N3	**WAKE ISLAND Hy**	**35.67**	**173**	T	T	07 10 41.6	
	baz=357,slow=0.7,SNR=9.1						
H11N1	**WAKE ISLAND Hy**	**35.67**	**173**	T	T	07 10 23.3	
	baz=357,slow=0.7,SNR=12						
MKAR	**Makanchi Array**	**48.57**	**295**	P	**P**	**06 34 36.2**	**-2.2**
MKAR	**Makanchi Array**	**48.57**	**295**	P	**P**	**06 34 36.2**	**-2.2**
	comp=Z,0.1nm,0.4s,baz=52,slow=7.4,SNR=2.7						
TXAR	**Lajitas Array**	**68.41**	**70**	P	P	06 37 00.1	+3.0
	comp=Z,0.3nm,0.5s,baz=316,slow=5.1,SNR=5.7						
WRA	**Warramunga Arr**	**78.73**	**207**	P	**P**	**06 37 57.7**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=16,slow=5.8,SNR=5.8						
ASAR	**Alice Springs**	**82.41**	**206**	P	**P**	**06 38 18.1**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=14,slow=5.8,SNR=4.9						

KRSC 09 06:36:59.9±4.7,55°.21N×162°.62E,h20km±20km,ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.83**	**218**	*e*P	Pn	06 37 16.6	+0.2
MKZ				*i* S	Sn	06 37 27.5	-0.6
ZLN	**Zelenaya**	**1.31**	**309**	*e*P	Pb	06 37 26.3	+2.3
ZLN				*i* S	Sb	06 37 41.8	+1.4
BZGR	**Bezymyannyi-Gr**	**1.31**	**305**	*e*P	Pb	06 37 26.3	+2.2
BZGR				*i* S	Sb	06 37 42.0	+1.4
CIRR	**Tsirk**	**1.40**	**311**	*e*P	Pb	06 37 26.0	+0.5
CIRR				*i* S	Sn	06 37 42.2	-0.2
BZMR	**Bezymyannaya**	**1.41**	**302**	*e*P	Pb	06 37 25.8	+0.1
BZMR				*i* S	Sb	06 37 44.2	+0.8
TUMR	**Tumrok**	**1.42**	**274**	*e*P	Pb	06 37 26.3	+0.5
TUMR				*i* S	Sn	06 37 42.7	-0.2
BZWR	**Bezymyannyi-We**	**1.42**	**303**	*e*P	Pn	06 37 25.0	+0.2
BZWR				*i* S	Sb	06 37 45.4	+1.6
KMNR	**Kamenistaya**	**1.46**	**293**	*e*P	Pb	06 37 27.1	+0.5
KMNR				*i* S	Sb	06 37 45.2	+0.4
KIRR	**Kirishev**	**1.49**	**301**	*e*P	Pb	06 37 27.1	0.0
KIRR				*i* S	Sb	06 37 47.6	+1.8
KRSR	**Krestovskiy**	**1.54**	**312**	*e*P	Pb	06 37 28.3	+0.4
KPT	**Kopyto**	**1.56**	**300**	*e*P	Pb	06 37 27.9	-0.3
KPT				*i* S	Sb	06 37 49.1	+1.6
KLY	**Klyuchi**	**1.57**	**316**	*e*P	Pn	06 37 25.9	-0.7
KLY				*i* S	Sn	06 37 45.0	-1.3
BDR	**Baidarnaya**	**1.58**	**330**	*e*P	Pn	06 37 27.2	+0.4
BDR				*i* S	Sb	06 37 48.9	+0.8
KOZ	**Kozyrevsk**	**1.77**	**300**	*e*P	Pb	06 37 31.4	-0.4
KOZ				*i* S	Sb	06 37 54.6	+1.0
BKI	**Bering**	**1.92**	**89**	P	Pb	06 37 33.0	-1.2
BKI				*i* S	Sb	06 37 57.6	-0.1
SRDR	**Sredinnyy**	**1.98**	**305**	*e*P	Pn	06 37 33.8	+1.4
SRDR				*i* S	Sn	06 37 58.0	+1.4
KII	**Karymskiy**	**2.19**	**239**	*e*P	Pn	06 37 36.5	+1.3
NLC	**Nalytchevo**	**2.81**	**225**	*e*P	Pn	06 37 46.2	+2.6
NLC				*i* S	Sn	06 38 17.8	+1.0
SDLR	**Sedlovina**	**2.92**	**230**	*e*P	Pn	06 37 47.6	+2.2
KRER	**Koryakskii**	**2.97**	**232**	*e*P	Pn	06 37 48.5	+2.4
SMAR	**Somma**	**2.97**	**231**	*e*P	Pn	06 37 47.6	+1.4
KRX	**Arik**	**2.98**	**233**	*e*P	Pn	06 37 48.5	+2.4
AVH	**Avacha**	**3.00**	**231**	*e*P	Pn	06 37 49.4	+3.1
UGLR	**Uglovaya**	**3.00**	**230**	*e*P	Pn	06 37 48.2	+1.8
KOK	**Koryaka**	**3.03**	**232**	*e*P	Pn	06 37 49.2	+2.4
GNL	**Ganaly**	**3.12**	**243**	*e*P	Pn	06 37 50.2	+2.1
RUS	**Russkaya**	**3.70**	**223**	*e*P	Pn	06 37 58.7	+2.9
RUS				*i* S	Sn	06 38 38.9	+0.2
MTVR	**Mutnovka**	**3.79**	**226**	*e*P	Pn	06 38 00.3	+3.0
MTVR				*i* S	Sn	06 38 43.0	+1.6
ASAK	**Asacha**	**3.98**	**227**	*e*P	Pn	06 38 03.6	+3.7

IDC 09 06:42:53.5±1.2,12°.23S×166°.38E,h0km,mb3.8/8, mb1 4.1/10,mb1mx3.9/21,mbtmp3.9/10,ML4.3/2, MS3.1/1,Ms1 3.1/1,ms1mx2.6/32,Error ellipse: s-maj=35.7km s-min=24.3km az=139.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.90**	**293**	Pn	Pn	06 44 35.5	-0.5
	14nm,0.3s,baz=185,slow=12,SNR=2.5						
HNR				LR	LR	06 47 20.2	
	comp=Z,173nm,21.5s,baz=16,slow=39						
DZM	**Mont Dzumac**	**9.79**	**180**	Pn	Pn	06 45 15.8	+0.1
	1.1nm,0.3s,baz=6.8,slow=22,SNR=17						
WRA	**Warramunga Arr**	**31.68**	**252**	P	P	06 49 19.1	+0.1
	0.7nm,0.8s,baz=83,slow=9.4,SNR=3.4						
ASAR	**Alice Springs**	**32.84**	**245**	P	P	06 49 28.6	-0.6
	0.8nm,0.6s,baz=70,slow=9.1,SNR=16						
FITZ	**Fitzroy Crossi**	**39.69**	**256**	P	P	06 50 28.1	+0.3
	1.2nm,0.7s,baz=117,slow=4.5,SNR=5.3						
CMAR	**Chiang Mai Arr**	**73.15**	**294**	P	P	06 54 26.4	-0.1
	0.9nm,0.6s,baz=124,slow=5.2,SNR=4.4						
SONM	**Songino Array**	**79.98**	**324**	P	P	06 55 05.2	+0.3
	0.3nm,0.4s,baz=160,slow=4.6,SNR=3.2						
ILAR	**Eielson Array**	**84.44**	**18**	P	P	06 55 27.0	-0.6
	0.3nm,0.5s,baz=230,slow=7.0,SNR=6.2						
NVAR	**Mina Array Bea**	**86.31**	**50**	P	P	06 55 38.1	+0.2
	0.2nm,0.5s,baz=238,slow=8.4,SNR=3.0						
MKAR	**Makanchi Array**	**94.81**	**317**	P	P	06 56 17.9	+0.6
	0.8nm,0.6s,baz=103,slow=5.6,SNR=7.3						

IDC 09 06:46:36.1±7.7,4°.13N×95°.65E,h57km±59km,mb3.5/6, mb1 3.6/8,mb1mx3.4/28,mbtmp3.7/8,ML3.9/2,MS3.3/1, Ms1 3.3/1,ms1mx2.6/29,Error ellipse: s-maj=86.6km s-min=17.3km az=59.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.52**	**112**	P	Pn	06 47 28.2	-0.4
	2.2nm,0.3s,baz=306,slow=15,SNR=6.8						
PSI				S	Sn	06 48 11.1	+1.9
	1.9nm,0.3s,baz=45,slow=17,SNR=3.8						
CMAR	**Chiang Mai Arr**	**14.60**	**12**	P	Pn	06 50 00.2	+0.5
	0.5nm,0.3s,baz=198,slow=11,SNR=3.5						
MKAR	**Makanchi Array**	**44.05**	**347**	P	P	06 54 38.5	+0.1
	0.5nm,0.5s,baz=148,slow=7.9,SNR=4.1						
SONM	**Songino Array**	**44.51**	**10**	P	P	06 54 41.4	-0.8
	1.2nm,0.8s,baz=197,slow=8.7,SNR=4.7						
WRA	**Warramunga Arr**

STDR					*e*Sg	**Sb**	**07 19 03.1**	**0.0**
CHVG	**Ch'k'valeri**	**0.97**	**281**		P	**Pn**	**07 18 50.3**	**-0.8**
CHVG					S	**Sn**	**07 19 04.5**	**-0.7**
VLKR	**Vladikavkaz**	**1.08**	**62**	*i*	PG	**Pn**	**07 18 52.2**	**-0.5**
VLKR	**Vladikavkaz**	**1.08**	**62**	*i*	Pg	**Pn**	**07 18 52.2**	**-0.5**
AKH	**Akhalkalaki**	**1.14**	**176**		P	**Pb**	**07 18 52.5**	**-0.6**
AKH					S	**Sn**	**07 19 09.1**	**-0.7**
EPOS	**Posof**	**1.15**	**205**	*i*	P	Pb	07 18 46.9	-6.3
EPOS				*i*	S	**Sb**	**07 19 03.4**	**-5.1**
BTKR	**Batakoyurt**	**1.19**	**46**	*e*	PG	**Pg**	**07 18 53.6**	**+0.1**
BTKR				*e*	S	**Sg**	**07 19 09.3**	**+0.3**
BTKR	**Batakoyurt**	**1.19**	**46**	*e*	Pg	**Pg**	**07 18 53.6**	**+0.1**
BTKR				*e*	Sg	**Sg**	**07 19 09.3**	**+0.3**
KUBR	**Kubataba**	**1.25**	**1**	⇑*i*	PG	**Pg**	**07 18 55.0**	**+0.3**
KUBR				*e*	S	**Sn**	**07 19 12.9**	**+0.5**
KUBR	**Kubataba**	**1.25**	**1**	*i*	Pg	**Pg**	**07 18 55.0**	**+0.3**
KUBR				*e*	Sg	**Sn**	**07 19 12.9**	**+0.5**
SHAR	**Shatzhatmas**	**1.30**	**337**	⇑*i*	PG	**Pb**	**07 18 55.4**	**-0.5**
SHAR				*i*	S	**Sb**	**07 19 12.7**	**-0.3**
SHAR	**Shatzhatmas**	**1.30**	**337**	*i*	Pg	**Pb**	**07 18 55.4**	**-0.5**
SHAR				*i*	Sg	**Sb**	**07 19 12.7**	**-0.3**
TBLG	**Delisi**	**1.30**	**128**		P	**Pn**	**07 18 54.9**	**-0.8**
TBLG					S	**Sg**	**07 19 12.7**	**+0.2**
PRTR	**Priterechnaya**	**1.37**	**29**	*e*	PG	**Pg**	**07 18 56.8**	**-0.3**
PRTR				*e*	S	**Sg**	**07 19 15.2**	**+0.3**
PRTR	**Priterechnaya**	**1.37**	**29**	*e*	Pg	**Pg**	**07 18 56.8**	**-0.3**
PRTR				*e*	Sg	**Sg**	**07 19 15.2**	**+0.3**
KZR	**Kazreti**	**1.40**	**146**		P	**Pn**	**07 18 56.1**	**-1.0**
KZR					S	**Sn**	**07 19 14.8**	**-1.2**
KIV	**Kislovodsk**	**1.49**	**341**	*e*	PG	**Pb**	**07 18 58.6**	**-0.5**
KIV				*i*	S	**Sb**	**07 19 18.1**	**-0.3**
KIV	comp=Z,102nm,1.1s				pmax	pmax		
KIV	comp=N,164nm,0.8s				smax	smax		
KIV	**Kislovodsk** comp=N,102nm,1.1s	**1.49**	**341**	*e*	Pg	**Pb**	**07 18 58.6**	**-0.5**
KIV	comp=N,164nm,0.8s			*i*	Sg	**Sb**	**07 19 18.1**	**-0.3**
PYA	**Pyatigorsk**	**1.50**	**351**	⇑*i*	PG	**Pb**	**07 18 59.1**	**-0.1**
PYA				*e*	S	**Sg**	**07 19 19.0**	**0.0**
PYA	**Pyatigorsk**	**1.50**	**351**	*i*	Pg	**Pb**	**07 18 59.1**	**-0.1**
PYA				*e*	Sg	**Sg**	**07 19 19.0**	**0.0**
TRKR	**Terskaya**	**1.54**	**40**	*i*	PG	**Pg**	**07 19 00.2**	**0.0**
TRKR	**Terskaya**	**1.54**	**40**	*i*	Pg	**Pg**	**07 19 00.2**	**0.0**
BCA	**Borcka**	**1.71**	**230**	*e*	Pn	**Pn**	**07 19 01.3**	**0.0**
ARTV	**Artvin**	**1.74**	**219**	*i*	P	**Pb**	**07 19 02.9**	**-0.4**
ARTV				*i*	S	**Sb**	**07 19 25.1**	**-0.6**
ARTV	**Artvin**	**1.74**	**219**	*i*	P	**Pb**	**07 19 02.9**	**-0.4**
ARTV				*i*	S	**Sb**	**07 19 25.0**	**-0.6**
DBOC	**Borcka**	**1.75**	**227**	*i*	P	**Pb**	**07 19 02.7**	**-0.7**
DBOC				*i*	S	**Sg**	**07 19 26.1**	**-0.9**
DBOC	**Borcka**	**1.75**	**227**	*i*	P	**Pb**	**07 19 02.7**	**-0.7**
DBOC				*i*	S	**Sg**	**07 19 26.1**	**-0.9**
DAGI	**Agillar**	**1.83**	**217**	*i*	P	**Pb**	**07 19 04.5**	**-0.3**
DAGI				*i*	S	**Sg**	**07 19 28.8**	**-0.8**
DGRG	**David-gareji**	**1.85**	**126**		P	**Pb**	**07 19 04.8**	**-0.3**
DGRG					S	**Sg**	**07 19 32.2**	**+2.1**
EAK	**Akyaka**	**1.87**	**175**	*i*	P	**Pb**	**07 19 04.3**	**-1.2**
EAK				*i*	S	**Sb**	**07 19 28.8**	**-0.5**
EAK	**Akyaka**	**1.87**	**175**	*i*	P	**Pb**	**07 19 04.3**	**-1.2**
EAK				*i*	S	**Sb**	**07 19 28.8**	**-0.5**
KARS	**Kars**	**1.93**	**187**	*e*	PN	**Pb**	**07 19 06.5**	**-0.1**
KARS				*e*	SN	**Sg**	**07 19 32.8**	**0.0**
KARS	**Kars**	**1.93**	**187**	*e*	Pn	**Pb**	**07 19 06.5**	**-0.1**
KARS				*e*	Sn	**Sg**	**07 19 32.8**	**0.0**
DBAD	**Bademkaya**	**1.98**	**220**	*i*	P	**Pb**	**07 19 06.6**	**-0.8**
DBAD				*i*	S	**Sb**	**07 19 32.7**	**+0.3**
DBAD	**Bademkaya**	**1.98**	**220**	*i*	P	**Pb**	**07 19 06.6**	**-0.8**
DBAD				*i*	S	**Sb**	**07 19 32.7**	**+0.3**
DDEM	**Demirkent**	**2.05**	**217**	*i*	P	**Pb**	**07 19 08.1**	**-0.5**
DDEM				*i*	S	**Sb**	**07 19 34.2**	**-0.3**
DDEM	**Demirkent**	**2.05**	**217**	*i*	P	**Pb**	**07 19 08.1**	**-0.5**
DDEM				*i*	S	**Sb**	**07 19 34.2**	**-0.3**
DIGO	**Kars**	**2.13**	**180**	*i*	P	**Pg**	**07 19 12.1**	**+0.5**
DIGO				*i*	S	**Sb**	**07 19 37.0**	**+0.1**
DIGO	**Kars**	**2.13**	**180**	*i*	P	**Pg**	**07 19 12.1**	**+0.5**
DIGO				*i*	S	**Sb**	**07 19 37.0**	**+0.1**
GOF	**Gofitskoye**	**2.52**	**355**	*e*	PN	Pn	07 19 02.6	-10
GOF				*e*	S	**Sb**	**07 19 46.5**	**-1.4**
GOF	comp=Z,10.0nm,0.7s				pmax	pmax		
GOF	comp=E,320nm,1.1s				smax	smax		
GOF	comp=N,100nm,1.3s				smax	smax		
GNI	**Garni**	**2.61**	**156**	*e*	PN	**Pb**	**07 19 17.5**	**-0.6**
GNI				*e*	SN	**Sb**	**07 19 51.1**	**+0.5**
GNI	**Garni**	**2.61**	**156**	*e*	Pn	**Pb**	**07 19 17.5**	**-0.6**
GNI				*e*	Sn	**Sb**	**07 19 51.1**	**+0.5**
EATA	**Eleskirt**	**2.77**	**194**	*i*	P	**Pn**	**07 19 17.8**	**+1.7**
EATA	**Eleskirt**	**2.77**	**194**	*i*	P	**Pn**	**07 19 17.8**	**+1.7**
EZM	**Erzurum**	**3.04**	**211**	*e*	PN	**Pn**	**07 19 21.1**	**+1.2**
TUTA	**Tutak**	**3.17**	**188**	*i*	P	**Pn**	**07 19 22.0**	**+0.4**
TUTA	**Tutak**	**3.17**	**188**	*i*	P	**Pn**	**07 19 22.0**	**+0.4**
GUMT	**Gumushane**	**3.59**	**236**	*e*	PN	**Pn**	**07 19 28.0**	**+0.7**
GUMT	**Gumushane**	**3.59**	**236**	*e*	Pn	**Pn**	**07 19 27.4**	**+0.1**
ESPY	**Espiye-Giresun**	**3.84**	**246**	*e*	PN	**Pn**	**07 19 30.2**	**-0.4**
ESPY	**Espiye-Giresun**	**3.84**	**246**	*e*	Pn	**Pn**	**07 19 30.2**	**-0.4**
KELT	**Kelkit**	**3.92**	**234**	*i*	P	**Pn**	**07 19 31.8**	**-0.1**
KELT	**Kelkit**	**3.92**	**234**	*i*	P	**Pn**	**07 19 31.8**	**-0.1**
SUSE	**Susehri**	**4.54**	**241**	*i*	P	**Pn**	**07 19 41.5**	**+1.2**
SUSE				*i*	S	**Sn**	**07 20 33.2**	**-0.4**
SUSE	**Susehri**	**4.54**	**241**	*i*	P	**Pn**	**07 19 41.5**	**+1.2**
SUSE				*i*	S	**Sn**	**07 20 33.2**	**-0.4**
ANN	**Anapa**	**4.86**	**300**	*e*	PN	**Pn**	**07 19 46.3**	**+1.7**
ANN				*e*			07 20 44.8	
ANN	comp=Z,3.0nm,0.5s				pmax	pmax		
ANN	comp=N,9.0nm,0.4s				smax	smax		
ANN	**Anapa** comp=N,9.0nm,0.4s	**4.86**	**300**	*e*	Pn	**Pn**	**07 19 46.3**	**+1.7**
SIM	**Simferopol'**	**7.12**	**293**		P	**Pn**	**07 20 16.7**	**+1.1**
SIM				*e*	S	**Sn**	**07 21 32.0**	**-4.9**
SIM	comp=Z,6.0nm,0.6s				pmax	pmax		
SIM	comp=E,9µm,0.8s				smax	smax		
SIM	**Simferopol'** comp=E,6.0nm,0.6s	**7.12**	**293**		P	**Pn**	**07 20 16.7**	**+1.1**
ARU	**Arti**	**16.98**	**30**	*d*	iP	**P**	**07 22 31.1**	**+0.2**
ARU					S	**Sn**	**07 25 39.3**	**+1.4**
ARU	comp=Z,2.0nm,0.5s				pmax	pmax		
ARU	**Arti** comp=Z,2.0nm,0.5s	**16.98**	**30**	*i*	P	**P**	**07 22 31.1**	**+0.2**
AAK	**Ala-Archa**	**22.85**	**79**	*i*	P	**P**	**07 23 37.6**	**+2.5**
AAK	comp=Z,4.0nm,1.1s				pmax	pmax		
AAK	**Ala-Archa** comp=Z,4.0nm,1.1s	**22.85**	**79**	*i*	P	**P**	**07 23 37.6**	**+2.5**

IDC 09 07:19:34.3±4.4, 12°.66S×165°.83E, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.7/17, mbtmp3.8/3, Error ellipse: s-maj=197.8km s-min=36.1km az=138.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs** 1.1nm,0.7s,baz=72,slow=9.6,SNR=15	**32.18**	**246**	P	P	07 26 04.1	-0.1
ILAR	**Eielson Array** 0.7nm,0.7s,baz=238,slow=5.6,SNR=8.8	**85.01**	**18**	P	P	07 32 11.2	0.0
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=102,slow=6.1,SNR=3.7	**94.75**	**317**	P	P	07 32 57.8	-0.1

*ISCJB **09** 07:22:22.1±0.4, 37°.48N±0°.02×21°.95E±0°.04, h26km±3km, Error ellipse: s-maj=5.4km s-min=3.4km az=1.1*
*THE **09** 07:22:22.7, 37°.50N×21°.97E, h6km±3km, ML2.2/8, Error ellipse: s-maj=3.0km s-min=0.5km az=218.0*
*ATH **09** 07:22:22.1, 37°.49N×21°.95E, h16km±2km, MD3.0/14*
*CSEM **09** 07:22:22.2±0.1, 37°.50N×21°.94E, h15km, MD3.0, Error ellipse: s-maj=3.4km s-min=2.4km az=92.0*

ISC 09 07:22:22.3±0.8, 37°.50N±0°.02×21°.95E±0°.02, h15km±6km, n48, σ0°45/82, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMT	**Artemida-Makis**	**0.20**	**281**	P	**Pg**	**07 22 27.1**	**+0.2**
AMT				S	**Sg**	**07 22 29.6**	**-0.4**
AMT	**Artemida-Makis**	**0.20**	**281**	*e*PB	**Pg**	**07 22 26.6**	**-0.3**
AMT				*e*SB	**Sg**	**07 22 30.4**	**+0.4**
AMT	**Artemida-Makis**	**0.20**	**281**	*e*Pb	**Pg**	**07 22 26.6**	**-0.3**
AMT	**Artemida-Makis**	**0.20**	**281**	P	**Pg**	**07 22 27.1**	**+0.2**
AMT				S	**Sg**	**07 22 29.6**	**-0.4**
AMT				*e*Sb	**Sg**	**07 22 30.4**	**+0.4**
ITM	**Ithomi**	**0.32**	**183**	P	**Pg**	**07 22 28.7**	**-0.2**
ITM				S	**Sg**	**07 22 33.8**	**+0.4**
ITM	**Ithomi**	**0.32**	**183**	*e*PB	**Pg**	**07 22 28.7**	**-0.2**
ITM				*e*SB	**Sg**	**07 22 32.8**	**-0.6**
ITM	**Ithomi**	**0.32**	**183**	P	**Pg**	**07 22 28.7**	**-0.2**
ITM				*e*Sb	**Sg**	**07 22 32.8**	**-0.6**
ITM				S	**Sg**	**07 22 33.8**	**+0.4**
VLX	**Vlachokerasia**	**0.36**	**110**	P	**Pg**	**07 22 29.4**	**-0.4**
VLX				S	**Sg**	**07 22 35.3**	**+0.4**
VLX	**Vlachokerasia**	**0.36**	**110**	*e*PB	**Pg**	**07 22 29.6**	**-0.2**
VLX				*e*SB	**Sg**	**07 22 35.2**	**+0.4**
VLX	**Vlachokerasia**	**0.36**	**110**	*e*Pb	**Pg**	**07 22 29.6**	**-0.2**
VLX				S	**Sg**	**07 22 35.3**	**+0.4**
DRO	**Drossia**	**0.49**	**337**	P	**Pb**	**07 22 32.4**	**-0.3**
DRO				S	**Sb**	**07 22 39.5**	**-0.2**
DRO	**Drossia**	**0.49**	**337**	P	**Pb**	**07 22 32.4**	**-0.3**
GUR	**Goura**	**0.54**	**35**	P	**Pg**	**07 22 32.5**	**-0.5**
GUR				S	**Sg**	**07 22 40.7**	**+0.5**
GUR	**Goura**	**0.54**	**35**	*e*PN	**Sg**	**07 22 32.4**	**-0.5**
GUR				*e*SN	**Sg**	**07 22 40.3**	**+0.1**
GUR	**Goura**	**0.54**	**35**	P	**Sg**	**07 22 32.5**	**-0.5**
GUR				*e*Sn	**Sg**	**07 22 40.3**	**+0.1**
KLV	**Kalavryta, Ach**	**0.57**	**16**	P	**Pg**	**07 22 33.1**	**-0.5**
KLV				S	**Sb**	**07 22 41.7**	**-0.2**
KLV	**Kalavryta, Ach**	**0.57**	**16**	*e*PN	**Pg**	**07 22 33.2**	**-0.4**
KLV				*e*SN	**Sb**	**07 22 42.2**	**+0.3**
KLV	**Kalavryta, Ach**	**0.57**	**16**	*e*Pn	**Pg**	**07 22 33.2**	**-0.4**
KLV				S	**Sb**	**07 22 41.7**	**-0.2**
KLV				*e*Sn	**Sb**	**07 22 42.2**	**+0.3**
PYL	**PYLOS**	**0.62**	**196**	P	**Pg**	**07 22 33.9**	**-0.6**
PYL				S	**Sb**	**07 22 43.8**	**+0.5**
PYL	**PYLOS**	**0.62**	**196**	*e*PB	**Pg**	**07 22 33.8**	**-0.7**
PYL				*e*SN	**Sb**	**07 22 43.5**	**+0.2**
PYL	**PYLOS**	**0.62**	**196**	P	**Pg**	**07 22 33.9**	**-0.6**
PYL				*e*Sn	**Sb**	**07 22 43.5**	**+0.2**
RLS	**Riolos of Patr**	**0.68**	**326**	P	**Pg**	**07 22 35.5**	**0.0**
RLS				S	**Sb**	**07 22 46.3**	**+1.3**
RLS	**Riolos of Patr**	**0.68**	**326**	*e*PN	**Pg**	**07 22 35.6**	**0.0**
RLS	**Riolos of Patr**	**0.68**	**326**	*e*Pn	**Pg**	**07 22 35.6**	**0.0**
RLS				S	**Sb**	**07 22 46.3**	**+1.3**
LAKA	**Lakka**	**0.74**	**2**	P	**Pg**	**07 22 36.3**	**-0.5**
LAKA				S	**Sb**	**07 22 48.1**	**+1.2**
KALE	**Kalithea**	**0.91**	**9**	P	**Pb**	**07 22 39.2**	**-0.5**
KALE				S	**Sg**	**07 22 52.2**	**+0.4**
KALE	**Kalithea**	**0.91**	**9**	*e*PN	**Pb**	**07 22 39.2**	**-0.5**
KALE	**Kalithea**	**0.91**	**9**	P	**Pb**	**07 22 39.2**	**-0.5**
KALE				S	**Sg**	**07 22 52.2**	**+0.4**
EFP	**Efpalio**	**0.93**	**358**	P	**Pb**	**07 22 40.0**	**-0.1**
EFP				S	**Sn**	**07 22 53.6**	**-0.2**
EFP	**Efpalio**	**0.93**	**358**	*e*PN	**Pb**	**07 22 39.9**	**-0.1**
EFP	**Efpalio**	**0.93**	**358**	P	**Pb**	**07 22 40.0**	**-0.1**
EFP				S	**Sn**	**07 22 53.6**	**-0.2**
LTK	**Loutraki**	**0.96**	**57**	P	**Pb**	**07 22 40.7**	**+0.1**
LTK				S	**Sg**	**07 22 53.4**	**-0.1**
LTK	**Loutraki**	**0.96**	**57**	P	**Pb**	**07 22 40.7**	**+0.1**
LTK				S	**Sg**	**07 22 53.4**	**-0.1**
DID	**Didima**	**1.02**	**89**	P	**Pb**	**07 22 41.8**	**+0.1**
DID	**Didima**	**1.02**	**89**	*e*PN	**Pg**	**07 22 41.9**	**-0.2**
DID	**Didima**	**1.02**	**89**	P	**Pb**	**07 22 41.8**	**+0.1**
VLI	**Veliai**	**1.11**	**134**	P	**Pb**	**07 22 43.0**	**-0.1**
VLI	**Veliai**	**1.11**	**134**	P	**Pb**	**07 22 43.0**	**-0.1**
NAIG	**Nisos Aigina**	**1.25**	**77**	*e*PN	**Pn**	**07 22 45.0**	**-0.2**
NAIG	**Nisos Aigina**	**1.25**	**77**	*e*Pn	**Pn**	**07 22 45.0**	**-0.2**
PDO	**Prodromos**	**1.26**	**331**	P	**Pg**	**07 22 46.1**	**-0.4**
PDO	**Prodromos**	**1.26**	**331**	P	**Pg**	**07 22 46.1**	**-0.4**
LKR	**Lokris**	**1.42**	**35**	*e*PB	**Pn**	**07 22 47.5**	**0.0**
LKR	**Lokris**	**1.42**	**35**	*e*Pb	**Pn**	**07 22 47.5**	**0.0**
KYTH	**Kithira**	**1.49**	**144**	*e*PN	**Pb**	**07 22 50.3**	**+0.6**
KYTH	**Kithira**	**1.49**	**144**	*e*Pn	**Pb**	**07 22 50.3**	**+0.6**

*NAO **09** 07:23:03.5±2.0, 67°.62N×34°.20E, ML2.1*
*HEL **09** 07:23:09.4±0.1, 67°.63N×33°.92E, h0km, ML1.8, Explosion*

CSEM 09 07:23:10.7±1.1, 67°.57N×33°.57E, h1km, ML2.1, Error ellipse: s-maj=21.2km s-min=10.3km az=85.0, Mining explosion., Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array** baz=87,slow=16	**0.22**	**279**	Pg	Pg	07 23 13.3	-1.7
APA0	baz=83,slow=37			Lg	Lg	07 23 18.7	
APA0	baz=83,slow=37			Rg	Rg	07 23 21.1	
APA0	**Apatity Array** baz=87,slow=16	**0.22**	**279**	Pg	Pg	07 23 13.3	-1.7
APA0	baz=83,slow=37			Lg	Lg	07 23 18.7	
APA0	baz=83,slow=37			Rg	Rg	07 23 21.1	
APA0	**Apatity Array** SNR=90	**0.22**	**279**	Pg	Pg	07 23 13.3	-1.7
APA0	baz=83,slow=34			Lg	Lg	07 23 18.7	
VRF	**Varrio**	**1.52**	**279**	*e*P	Pb	07 23 39.4	-0.3
VRF				*e*S	Sg	07 23 59.9	+0.3
VRF	comp=Z,10nm,0.1s			MSG		07 24 03.0	
VRF	**Varrio**	**1.52**	**279**	P	Pb	07 23 39.4	-0.3
VRF				S	Sg	07 23 59.8	+0.2
KU6	**Riekki**	**2.13**	**225**	*e*P	Pn	07 23 48.1	+0.8
KU6				*e*S	Sb	07 24 16.5	-0.4
KU6	comp=Z,3.7nm,0.1s			MSG		07 24 22.9	
KU6	**Riekki**	**2.13**	**225**	P	Pn	07 23 48.1	+0.8
KU6				S	Sb	07 24 16.4	-0.5
MSF	**Maaselka**	**2.45**	**229**	*e*P	Pn	07 23 52.4	+0.6
MSF				*e*S	Sn	07 24 24.0	+1.7
MSF	**Maaselka**	**2.45**	**229**	P	Pn	07 23 52.3	+0.5
SGF	**Sodankyl**	**2.71**	**270**	*e*P	Pn	07 23 56.4	+1.1
SGF				*e*S	Sn	07 24 29.9	+1.2
SGF	**Sodankyl**	**2.71**	**270**	P	Pn	07 23 56.4	+1.1
SGF				S	Sn	07 24 29.9	+1.2
RNF	**Rovaniemi**	**3.11**	**255**	*e*P	Pn	07 24 01.7	+1.0
RNF				*e*S	Sn	07 24 40.2	+1.7
RNF	**Rovaniemi**	**3.11**	**255**	P	Pn	07 24 01.7	+0.9
RNF				S	Sn	07 24 40.2	+1.7
KEV	**Kevo**	**3.25**	**315**	*e*P	Pn	07 24 02.3	-0.4
KEV				*e*S	Sn	07 24 41.1	-0.8
KEV	**Kevo**	**3.25**	**315**	P	Pn	07 24 02.3	-0.4
KEV				S	Sn	07 24 41.1	-0.8
ARA0	**ARCESS Array S** baz=121,slow=16	**3.56**	**307**	Pn	Pn	07 24 02.6	-4.3
ARA0	baz=108,slow=28			Sn	Sn	07 24 45.1	-4.5
ARA0	baz=110,slow=37			Lg	Lg	07 24 57.5	
ARA0	**ARCESS Array S** baz=121,slow=16	**3.56**	**307**	Pn	Pn	07 24 02.6	-4.3
ARA0	baz=108,slow=28			Sn	Sn	07 24 45.1	-4.5
ARA0	baz=110,slow=37			Lg	Lg	07 24 57.5	
ARA0	**ARCESS Array S**	**3.56**	**307**	*e*P	Pn	07 24 06.8	-0.1
ARA0				*e*S	Sn	07 24 48.1	-1.5
ARA0	**ARCESS Array S** baz=121,slow=15,SNR=9.1	**3.56**	**307**	Pn	Pn	07 24 02.6	-4.4
ARA0	**ARCESS Array S**	**3.56**	**307**	P	Pn	07 24 06.8	-0.2
ARA0	baz=108,slow=23			Sn	Sn	07 24 45.1	-4.5
ARA0	baz=110,slow=35,SNR=2.7			S	Sb	07 24 48.0	-10
ARA0				Lg	Lg	07 24 57.5	
KJN	**Kajaani**	**4.25**	**217**	*e*P	Pn	07 24 17.0	+0.6
KJN				*e*S	Sn	07 25 06.3	-0.3
KJN	**Kajaani**	**4.25**	**217**	P	Pn	07 24 17.0	+0.6
KJN				S	Sn	07 25 06.3	-0.3
FIA0	**FINESS Array S** baz=33,slow=28	**6.94**	**211**	Sn	Sn	07 26 04.4	-8.6
FIA0				Lg	Lg	07 26 44.2	
FIA0	**FINESS Array S** baz=33,slow=28	**6.94**	**211**	Sn	Sn	07 26 04.4	-8.6
FIA0				Lg	Lg	07 26 44.2	
FIA0	**FINESS Array S** SNR=50	**6.94**	**211**	Sn	Sn	07 26 04.4	-8.5
FIA0	baz=33,slow=23			Lg	Lg	07 26 44.2	

*IDC **09** 07:28:43.8±0.9, 12°.11S×165°.47E, h0km, mb4.2/8, mb1 4.3/10, mb1mx4.1/21, mbtmp4.2/10, ML3.9/2, Error ellipse: s-maj=26.4km s-min=18.8km az=169.0*
*ISCJB **09** 07:28:47.2±0.7, 12°.2S±0°.1×165°.37E±0°.08, h33km, mb4.2/9, Error ellipse: s-maj=16.4km s-min=9.3km az=32.1*
*NEIC **09** 07:28:49.0±0.6, 12°.14S×165°.46E, h35km, mb4.0/3, Error ellipse: s-maj=14.3km s-min=12.1km az=211.0*

ISC 09 07:28:49.0±0.7, 12°.1S±0°.1×165°.44E±0°.09, h35km, n21, σ0°77/23, mb4.0/9, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.03**	**296**	Pn	**Pn**	**07 30 14.7**	**-1.0**
HNR				Sn	**Sn**	**07 31 23.1**	**-0.4**
HNR	**Honiara** 5.9nm,0.3s,baz=198,slow=16,SNR=2.4	**6.03**	**296**	Pn	**Pn**	**07 30 14.7**	**-1.0**
HNR	7.5nm,0.3s,baz=221,slow=20,SNR=3.6			Sn	**Sn**	**07 31 23.1**	**-0.4**
DZM	**Mont Dzumac**	**9.93**	**175**	Pn	**Pn**	**07 31 08.3**	**-1.0**
DZM	**Mont Dzumac** 0.6nm,0.3s,baz=64,slow=17,SNR=6.0	**9.93**	**175**	Pn	**Pn**	**07 31 08.3**	**-1.0**
STKA	**Stephens Creek** 2.0nm,1.4s	**29.45**	**224**	*e*P	**P**	**07 34 51.2**	**+1.6**
STKA	**Stephens Creek** 1.9nm,0.8s,baz=14,slow=7.6,SNR=3.3	**29.45**	**224**	P	**P**	**07 34 50.0**	**+0.5**
WRA	**Warramunga Arr**	**30.84**	**251**	P	**P**	**07 35 02.2**	**+0.2**
WRA	**Warramunga Arr** 1.5nm,0.9s,baz=81,slow=9.1,SNR=6.1	**30.84**	**251**	P	**P**	**07 35 02.2**	**+0.2**
ASAR	**Alice Springs**	**32.04**	**245**	P	**P**	**07 35 12.4**	**-0.3**
ASAR	**Alice Springs** 1.3nm,0.8s,baz=72,slow=9.4,SNR=9.8	**32.04**	**245**	P	**P**	**07 35 12.4**	**-0.3**
RAR	**Rarotonga**	**34.46**	**110**	P	**P**	**07 35 33.0**	**-0.6**
RAR	**Rarotonga** 15nm,0.5s,baz=90,slow=4.5,SNR=3.8	**34.46**	**110**	P	**P**	**07 35 33.0**	**-0.6**
FITZ	**Fitzroy Crossi** 2.7nm,0.9s	**38.82**	**256**	*e*P	**P**	**07 36 11.6**	**+0.7**
FITZ	**Fitzroy Crossi** 2.9nm,1.0s,baz=66,slow=12,SNR=4.3	**38.82**	**256**	P	**P**	**07 36 11.2**	**+0.3**
QSPA	**South Pole Qui** 1.7nm,0.9s	**77.87**	**180**	*e*P	**P**	**07 40 43.8**	**+0.8**
ILAR	**Eielson Array**	**84.64**	**19**	P	**P**	**07 41 18.6**	**0.0**
ILAR	**Eielson Array** 1.5nm,0.6s,baz=275,slow=5.8,SNR=23	**84.64**	**19**	P	**P**	**07 41 18.6**	**0.0**
NVAR	**Mina Array Bea**	**86.96**	**50**	P	**P**	**07 41 30.9**	**-0.1**
NVAR	**Mina Array Bea** 0.9nm,0.8s,baz=229,slow=8.0,SNR=4.9	**86.96**	**50**	P	**P**	**07 41 30.9**	**-0.1**
MKAR	**Makanchi Array**	**94.11**	**317**	P	**P**	**07 42 05.1**	**+1.1**
MKAR	**Makanchi Array** 1.4nm,0.8s,baz=100,slow=6.1,SNR=11	**94.11**	**317**	P	**P**	**07 42 05.1**	**+1.1**

*NEIC **09** 07:32:50.6, 17°.02N×90°.81W, h75km, MD4.2(MEX), After MEX.*

MEX 09 07:32:50.6±0.8, 17°.02N×90°.81W, h75km±26km, MD4.2, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.47**	**240**	*e*P	Pn	07 33 13.8	-1.8
CCIG				*i*S	Sn	07 33 33.0	-1.4
CCIG	**Comitan**	**1.47**	**240**	*e*P	Pn	07 33 13.8	-1.8
CCIG				*i*S	Sn	07 33 33.0	-1.4
SCIG	**Sabancuy**	**1.97**	**350**	*e*P	Pn	07 33 21.0	-1.1
SCIG				*i*S	Sn	07 33 43.8	-2.1
SCIG	**Sabancuy**	**1.97**	**350**	*e*P	Pn	07 33 21.0	-1.1
SCIG				*i*S	Sn	07 33 43.8	-2.1
TGIG		**2.23**	**264**	*e*P	Pn	07 33 24.8	-0.7
TGIG				*i*S	Sn	07 33 50.2	-2.0
TGIG		**2.23**	**264**	*e*P	Pn	07 33 24.8	-0.7
TGIG				*i*S	Sn	07 33 50.2	-2.0
PCIG		**2.66**	**241**	*e*P	Pn	07 33 29.6	-1.6
PCIG				*i*S	Sn	07 34 00.4	-2.0
PCIG		**2.66**	**241**	*e*P	Pn	07 33 29.6	-1.6
PCIG				*i*S	Sn	07 34 00.4	-2.0
TEIG	**Tepich**	**4.00**	**37**	*e*P	Pn	07 33 50.3	+0.9
TEIG				*i*S	Sn	07 34 33.8	-1.3
TEIG	**Tepich**	**4.00**	**37**	*e*Pn	Pn	07 33 51.4	+1.9
TEIG				*e*Sn	Sn	07 34 38.9	+3.8
TGUH	**Tegucigalpa,Un**	**4.50**	**130**	*e*Pn	Pn	07 34 02.3	+6.0

*IDC **09** 07:33:22.0±0.5, 13°.28S×166°.40E, h0km, mb4.8/22, mb1 4.9/25, mb1mx4.8/27, mbtmp4.8/25, ML4.2/2, MS5.0/29, Ms1 5.0/29, ms1mx4.9/32, Error ellipse: s-maj=16.4km s-min=12.5km az=102.0*
*MOS **09** 07:33:26.0±1.1, 13°.21S×166°.24E, h33km

PMG **Port Moresby** **19.16 279** *e*P **Pn** **07 37 49.8 +0.1**
82nm,1.0s
PMG **Port Moresby** **19.16 279** P **Pn** **07 37 50.2 +0.5**
1.1nm,0.3s,baz=72,slow=7.2,SNR=9.9
PMG LR LR 07 44 34.8
comp=Z,5μm,19.1s,baz=131,slow=35
CTA **Charters Tower** **20.37 248** P Pn 07 38 03.2 -1.0
CTA **Charters Tower** **20.37 248** ⇑P Pn 07 38 03.6 -0.6
baz=20
CTA **Charters Tower** **20.37 248** P Pn 07 38 03.2 -1.0
19nm,0.8s,baz=83,slow=11,SNR=12
CTA LR LR 07 45 20.8
comp=Z,13μm,18.6s,baz=80,slow=35
CTAO **Charters Tower** **20.37 248** *e*P Pn 07 38 03.4 -0.8
CTAO pmax pmax
comp=Z,277nm,2.0s
CTAO **Charters Tower** **20.37 248** *e*P Pn 07 38 03.4 -0.8
comp=Z,277nm,2.0s
RMQ **Roma** **21.08 229** ⇑P **P** **07 38 11.7 +2.1**
baz=21
AFI **Afiamalu** **21.31 94** LR LR 07 44 29.0
comp=Z,3μm,18.8s,baz=270,slow=31
PATS **Pohnpei** **21.47 338** ⇓P **P** **07 38 13.7 -0.1**
baz=21
ARMA **Armidale** **21.82 216** *e*P **P** **07 38 18.8 +1.3**
comp=Z,165nm,1.4s
ARMA **Armidale** **21.82 216** ⇑P **P** **07 38 19.3 +1.7**
baz=22
ARMA ⇑P **P** **07 38 19.3 +1.7**
baz=22,SNR=8.5
COEN **Coen** **22.50 265** *e*P **P** **07 38 24.9 0.0**
comp=Z,354nm,1.1s
COEN **Coen** **22.50 265** ⇓P **P** **07 38 25.7 +0.8**
baz=22,SNR=9.3
QLP **Quilpie** **24.58 234** ⇑P **P** **07 38 45.6 +0.5**
baz=25,SNR=10
CMSA **Cobar Meteorol** **26.28 223** ⇓P **P** **07 39 01.2 +0.8**
baz=26,SNR=22
URZ **Urewera** **26.70 161** LR LR 07 48 27.1
comp=Z,17nm,28.6s,baz=338,slow=34
STKA **Stephens Creek** **29.29 227** *e*P **P** **07 39 28.3 +0.9**
comp=Z,19nm,1.6s
STKA ScP **ScP** **07 46 15.4 +2.5**
STKA **Stephens Creek** **29.29 227** P **P** **07 39 28.0 +0.6**
baz=29,SNR=10.0
STKA ⇓P pP 07 39 28.9 -8.2
baz=29
STKA **Stephens Creek** **29.29 227** P **P** **07 39 27.6 +0.2**
comp=Z,5.5nm,0.8s,baz=31,slow=9.2,SNR=12
STKA ScP **ScP** **07 46 15.4 +2.5**
comp=Z,3.2nm,0.8s,baz=148,slow=3.2,SNR=4.6
STKA LR LR 07 51 27.4
comp=Z,17nm,28.6s,baz=55,slow=37
RPZ **Rata Peaks** **30.64 173** LR LR 07 51 56.6
comp=Z,4μm,18.4s,baz=348,slow=36
WRAB **Tennant Creek** **31.30 253** *e*P **P** **07 39 43.9 -1.4**
WRAB pmax pmax
comp=Z,14nm,1.0s
WRAB **Tennant Creek** **31.30 253** P **P** **07 39 44.2 -1.1**
comp=Z,72nm,1.7s,SNR=5.4
WRAB **Tennant Creek** **31.30 253** *e*P **P** **07 39 43.9 -1.4**
comp=Z,14nm,1.0s
WRA **Warramunga Arr** **31.32 253** P **P** **07 39 43.7 -1.7**
WRA **Warramunga Arr** **31.32 253** P **P** **07 39 43.7 -1.7**
comp=Z,5.3nm,0.8s,baz=90,slow=12,SNR=32
WRA LR LR 07 52 18.0
comp=Z,17nm,28.6s,baz=80,slow=36
HTT **Hallett** **32.02 227** ⇓P **P** **07 39 52.5 +0.9**
baz=32
AS31 **Alice Springs** **32.36 247** *e*P **P** **07 39 53.7 -1.0**
ASAR **Alice Springs** **32.37 247** P **P** **07 39 53.4 -1.3**
ASAR ScP **ScP** **07 46 24.9 +1.5**
ASAR **Alice Springs** **32.37 247** P **P** **07 39 53.4 -1.3**
comp=Z,26nm,0.8s,baz=72,slow=9.3,SNR=213
ASAR ScP **ScP** **07 46 24.9 +1.5**
comp=Z,1.7nm,0.8s,baz=88,slow=3.8,SNR=6.3
ASAR LR LR 07 52 38.5
comp=Z,11μm,19.2s,baz=77,slow=36
ASPA **Alice Springs** **32.37 247** ⇑P **P** **07 39 53.4 -1.2**
baz=32
KDU **Kakadu** **32.96 267** ⇓P **P** **07 39 59.2 -0.7**
baz=33
RAR **Rarotonga** **33.30 108** LR LR 07 50 51.8
comp=Z,17nm,28.6s,baz=290,slow=32
BBOO **Buckleboo** **33.79 230** *e*P **P** **07 40 07.3 +0.3**
comp=Z,360nm,0.9s
KNRA **Kununurra** **36.41 262** ⇓P **P** **07 40 29.4 -0.2**
baz=36,SNR=10
SWI **Sorong** **36.82 287** P **P** **07 40 33.4 +0.2**
comp=Z,47nm,0.8s
FITZ **Fitzroy Crossi** **39.40 258** *e*P **P** **07 40 54.1 -0.8**
comp=Z,20nm,1.3s
FITZ **Fitzroy Crossi** **39.40 258** ⇑P **P** **07 40 54.5 -0.4**
baz=39,SNR=5.3
FITZ **Fitzroy Crossi** **39.40 258** P **P** **07 40 53.4 -1.5**
comp=Z,6.0nm,0.8s,baz=103,slow=5.3,SNR=11
FITZ LR LR 07 56 34.0
comp=Z,4μm,19.4s,baz=76,slow=35
BATI **Baumata** **41.83 269** LR LR 07 58 15.5
comp=Z,4μm,20.2s,baz=152,slow=36
PPT2 **Papeete2** **42.68 102** *e*S **S** **07 47 48.6 +5.1**
comp=Z,2μm,26.0s
PPT2 *e*LQ LQ 07 51 34.8
comp=Z,2μm,25.8s
PPT2 *e*LR LR 07 53 23.9
comp=Z,6μm,27.0s,baz=268
PPT **Papeete** **42.68 102** LR LR 07 54 42.6
comp=Z,17nm,28.6s,baz=222,slow=30
PMOR **Pomariorio Ree** **44.39 98** *e*P **P** **07 41 37.1 +1.4**
comp=Z,110nm,0.9s
VAH **Vaihoa** **44.63 98** *e*P **P** **07 41 38.6 +0.9**
comp=Z,77nm,1.0s
MBWA **Marble Bar** **45.05 253** *e*P **P** **07 41 41.4 +0.4**
comp=Z,23nm,0.9s
JCJ **Chichijima** **46.44 330** LR LR 08 01 59.6
comp=Z,17nm,28.6s,baz=140,slow=37
MEEK **Meekatharra** **46.52 246** ⇑P **P** **07 41 52.5 0.0**
baz=46,SNR=31
KLBR **Kellerberrin** **48.03 239** ⇓P **P** **07 42 03.8 -0.5**
baz=48,SNR=9.2
NWAO **Narrogin (SRO)** **48.73 238** *e*P **P** **07 42 09.2 -0.4**
comp=Z,18nm,1.0s
NWAO **Narrogin (SRO)** **48.73 238** P **P** **07 42 09.3 -0.2**
comp=Z,18nm,0.8s,baz=80,slow=8.6,SNR=10.0
MORW **Morawa** **49.09 243** P **P** **07 42 12.4 0.0**
baz=49,SNR=12
KKM **Kota Kinabalu** **53.31 288** *e*P **P** **07 42 44.4 0.0**
comp=Z,31nm,0.9s
MJAR **Matsushiro Arr** **56.16 333** P **P** **07 43 03.1 -1.4**
MJAR **Matsushiro Arr** **56.16 333** P **P** **07 43 03.1 -1.4**
comp=Z,4.3nm,0.7s,baz=170,slow=8.9,SNR=12
MJAR LR LR 08 02 54.3
comp=Z,17nm,28.6s,baz=170,slow=32
MAJO **Matsushiro** **56.16 333** *e*P **P** **07 43 03.8 -0.7**
MAJO pmax pmax
comp=Z,21nm,1.0s
MAJO **Matsushiro** **56.16 333** *e*P **P** **07 43 03.8 -0.7**
comp=Z,21nm,1.0s
MAT **Matsushiro** **56.16 333** P **P** **07 43 03.5 -1.0**
MAT S **S** **07 50 47.8 -3.8**
DRV **Dumont d'Urvil** **56.19 192** P P 07 42 51.0 -13
DRV **Dumont d'Urvil** **56.19 192** PP PP 07 45 04.0 -5.5
DRV S S 07 50 40.0 -11
DRV SS SS 07 54 23.0 -15
DRV L L 07 57 00.0
DRV R 07 59 00.0
RKT **Rikitea** **56.34 109** *e*S **S** **07 50 59.4 +4.9**
comp=Z,1μm,27.0s
RKT *e*SS **SS** **07 54 46.0 +4.3**
comp=Z,800nm,26.5s
RKT *e*LQ LQ 07 57 22.8
comp=Z,1μm,29.8s
RKT *e*LR LR 07 59 42.6
comp=Z,2μm,29.0s
JNU **Nakatsue** **57.18 325** P **P** **07 43 11.7 -0.1**
JNU **Nakatsue** **57.18 325** P **P** **07 43 11.7 -0.1**
comp=Z,8.9nm,0.8s,baz=173,slow=11,SNR=6.1
JNU LR LR 08 03 58.7
comp=Z,17nm,28.6s,baz=106,slow=32
KSM **Kuching** **57.42 280** *e*P **P** **07 43 14.3 +0.4**
comp=Z,23nm,0.8s
ASAJ **Asahikawa** **61.04 341** P **P** **07 43 38.2 -0.1**
ASAJ **Asahikawa** **61.04 341** P **P** **07 43 38.2 -0.1**
comp=Z,17nm,0.8s,baz=184,slow=13,SNR=9.2
ASAJ LR LR 08 05 07.9
comp=Z,17nm,28.6s,baz=162,slow=31
SSE **Sheshan** **61.81 316** P **P** **07 43 45.6 +1.8**

SSE S **S** **07 52 07.5 +2.5**
SSE AMB AMB
comp=Z,41nm,0.7s
SSE AMB AMB
comp=Z,210nm,4.6s
SSE LR LR
comp=Z,200nm,23.4s
SSE LR LR
comp=Z,420nm,23.0s
SSE LR LR
comp=Z,520nm,24.4s
KSRS **Korea Array** **61.99 326** P **P** **07 43 44.9 +0.1**
comp=Z,3.1nm,0.9s,baz=142,slow=6.9,SNR=8.3
KSAR **Wonju Array Be** **62.00 326** P **P** **07 43 44.9 -0.1**
YSS **Yuzh-Sakhalins** **63.53 342** *e*P **P** **07 43 56.0 +1.1**
YSS MLR MLR
comp=Z,2μm,19.0s
NJ2 **Nanjing** **63.97 316** *e*P **P** **07 44 00.4 +2.3**
NJ2 pP **pP** **07 44 10.2 +1.7**
NJ2 sP **sP** **07 44 13.3 +0.8**
NJ2 S **S** **07 52 36.5 +4.5**
NJ2 sS **sS** **07 52 52.5 +3.3**
NJ2 AMB AMB
comp=Z,20nm,0.9s
NJ2 AMB AMB
comp=Z,320nm,8.9s
NJ2 LR LR
comp=Z,2μm,28.1s
NJ2 LR LR
comp=Z,1μm,29.0s
NJ2 LR LR
comp=Z,2μm,25.0s
QIZ **Qiongzhong** **64.20 299** P **P** **07 44 01.4 +1.4**
QIZ sP **sP** **07 44 14.8 +0.5**
QIZ S **S** **07 52 38.5 +3.1**
QIZ sS **sS** **07 52 52.9 +0.3**
QIZ SS **SS** **07 56 45.9 +0.4**
QIZ AMB AMB
comp=Z,330nm,6.6s
QIZ LR LR
comp=Z,220nm,24.1s
QIZ LR LR
comp=Z,750nm,24.1s
VNDA **Vanda** **64.32 181** *e*P **P** **07 43 58.7 -1.1**
comp=Z,46nm,1.4s
VNDA **Vanda** **64.32 181** P **P** **07 43 59.2 -0.6**
comp=Z,10nm,1.1s,baz=355,slow=7.4,SNR=17
VNDA LR LR 08 08 33.1
comp=Z,992nm,20.3s,baz=18,slow=33
SBA **Scott Base** **64.61 180** *e*P **P** **07 44 02.4 +0.7**
SBA pmax pmax
comp=Z,54nm,1.4s
SBA **Scott Base** **64.61 180** *e*P **P** **07 44 02.4 +0.7**
comp=Z,54nm,1.4s
USRK **Ussuriysk Arra** **65.14 333** P **P** **07 44 06.3 +0.7**
comp=Z,13nm,0.8s,baz=132,slow=5.9,SNR=23
USRK LR LR 08 11 29.1
comp=Z,346nm,19.9s,baz=133,slow=35
PET **Petropavlovsk** **66.32 355** *e*P **P** **07 44 10.1 -2.8**
PET *e* 07 46 37.9
PET *e*S **S** **07 52 58.4 -1.7**
PET *e*SS **SS** **07 57 16.2 -1.1**
PET pmax pmax
comp=Z,200nm,15.4s
PETK **Petropavlovsk-** **66.49 354** P **P** **07 44 13.4 -0.7**
PETK **Petropavlovsk-** **66.49 354** P **P** **07 44 13.4 -0.7**
PETK **Petropavlovsk-** **66.49 354** P **P** **07 44 13.4 -0.7**
comp=Z,5.1nm,0.8s,baz=148,slow=9.0,SNR=8.4
PETK LR LR 08 09 40.5
comp=Z,17nm,28.6s,baz=174,slow=33
MDJ **Mudanjiang** **66.54 332** P **P** **07 44 15.1 +0.6**
MDJ pP **pP** **07 44 24.4 -0.6**
MDJ sP **sP** **07 44 28.2 -0.8**
MDJ PP **PP** **07 46 39.6 -1.9**
MDJ S **S** **07 53 08.3 +5.2**
MDJ sS **sS** **07 53 19.1 -1.2**
MDJ ScS **ScS** **07 54 08.8 -0.1**
MDJ SS **SS** **07 57 20.5 -0.5**
MDJ AMB AMB
comp=Z,24nm,1.1s
MDJ AMB AMB
comp=Z,320nm,5.3s
MDJ LR LR
comp=Z,670nm,17.8s
MDJ LR LR
comp=Z,140nm,6.5s
MDJ LR LR
comp=Z,790nm,17.8s
IPM **Ipoh** **67.15 281** *e*P **P** **07 44 19.7 +0.6**
comp=Z,22nm,0.9s
SNY **Shenyang** **67.46 327** ⇓P P 07 44 23.8 +3.4
SNY S **S** **07 53 15.4 +1.2**
SNY AMB AMB
comp=Z,310nm,7.2s
SNY LR LR
comp=Z,640nm,16.8s
SNY LR LR
comp=Z,540nm,18.3s
SNY LR LR
comp=Z,780nm,15.9s
CN2 **Changchun** **67.90 329** *e*P **P** **07 44 23.2 0.0**
CN2 *e*S S 07 53 26.3 +6.8
CN2 AMB AMB
comp=Z,20nm,0.9s
CN2 AMB AMB
comp=Z,320nm,4.0s
CN2 LR LR
comp=Z,700nm,19.0s
CN2 LR LR
comp=Z,700nm,19.0s
CN2 LR LR
comp=Z,700nm,19.0s
KLR **Kul'dur** **69.28 337** *e*P P 07 44 27.8 -3.9
KLR *e*S **S** **07 53 34.5 -1.2**
KLR pmax pmax
comp=Z,150nm,1.8s
GYA **Guiyang** **70.11 305** P P 07 44 42.3 +4.9
GYA pP pP 07 44 52.6 +4.6
GYA S **S** **07 53 47.4 +0.8**
GYA SKS **SKKSac** **07 54 37.3 +0.6**
GYA AMB AMB
comp=Z,30nm,1.0s
GYA AMB AMB
comp=Z,220nm,5.7s
GYA LR LR
comp=Z,410nm,18.6s
GYA LR LR
comp=Z,420nm,19.8s
GYA LR LR
comp=Z,580nm,19.9s
BJI **Beijing** **70.53 321** P **P** **07 44 41.6 +2.1**
BJI PP **PP** **07 47 17.2 +1.0**
BJI S **S** **07 53 52.3 +1.6**
BJI sS **sS** **07 54 06.6 -1.5**
BJI AMB AMB
comp=Z,14nm,1.3s
BJI AMB AMB
comp=Z,360nm,5.8s
BJI LR LR
comp=Z,1μm,23.3s
BJI LR LR
comp=Z,660nm,22.1s
BJI LR LR
comp=Z,1μm,25.3s
XAN **Xi'an** **72.00 313** P **P** **07 44 48.8 +0.1**
XAN pP **pP** **07 44 58.3 -1.0**
XAN sP **sP** **07 45 03.1 -0.1**
XAN S **S** **07 54 07.9 -0.2**
XAN SS **SS** **07 58 46.9 +1.1**
XAN AMB AMB
comp=Z,96nm,7.7s
XAN LR LR
comp=Z,420nm,18.4s
XAN LR LR
comp=Z,220nm,19.4s
KMI **Kunming** **72.73 302** P **P** **07 44 54.5 +1.0**
KMI pP **pP** **07 45 01.9 -2.1**
KMI PP **PP** **07 47 35.9 +0.2**
KMI S **S** **07 54 13.4 -3.8**
KMI AMB AMB
comp=Z,22nm,1.4s
KMI AMB AMB
comp=Z,400nm,5.2s
KMI LR LR
comp=Z,370nm,16.8s

KMI LR LR
comp=Z,450nm,21.0s
KMI LR LR
comp=Z,780nm,20.1s
CMAR **Chiang Mai Arr** **73.50 294** P **P** **07 44 58.5 +0.7**
CMAR **Chiang Mai Arr** **73.50 294** P **P** **07 44 58.5 +0.7**
comp=Z,2.1nm,0.6s,baz=115,slow=4.9,SNR=12
CHTO **Chiang Mai** **73.62 294** *e*P **P** **07 44 59.3 +0.7**
CHTO pmax pmax
comp=Z,56nm,1.2s
CHTO **Chiang Mai** **73.62 294** *e*P **P** **07 44 59.2 +0.7**
comp=Z,56nm,1.2s
CHTO **Chiang Mai** **73.62 294** P P 07 45 03.2 +4.7
comp=Z,60nm,0.8s
HHC **Hu-ho-hao-te** **73.85 320** *e*P **P** **07 45 02.4 +2.8**
HHC pP **PcP** **07 45 12.9 -2.1**
HHC sP **sP** **07 45 16.8 +2.7**
HHC PP **PP** **07 47 49.5 +4.6**
HHC S **S** **07 54 30.3 +1.2**
HHC sS **sS** **07 54 48.8 +2.2**
HHC SKS **SKSac** **07 55 03.1 -1.2**
HHC SS **SS** **07 59 18.8 +4.8**
HHC AMB AMB
comp=Z,69nm,0.7s
HHC AMB AMB
comp=Z,800nm,5.7s
HHC LR LR
comp=Z,2μm,17.5s
HHC LR LR
comp=Z,1μm,19.7s
HHC LR LR
comp=Z,2μm,21.6s
CD2 **Chengdu** **74.37 308** P **P** **07 45 04.7 +2.0**
CD2 pP **PcP** **07 45 15.5 -1.8**
CD2 sP **sP** **07 45 19.7 +2.4**
CD2 PP **PP** **07 47 53.3 +3.9**
CD2 S **S** **07 54 36.0 +0.9**
CD2 sS **sS** **07 54 54.0 +1.4**
CD2 SS **SS** **07 59 25.1 +3.0**
CD2 AMB AMB
comp=Z,30nm,0.5s
CD2 AMB AMB
comp=Z,410nm,6.5s
CD2 LR LR
comp=Z,720nm,17.2s
CD2 LR LR
comp=Z,670nm,20.8s
LZH **Lanzhou** **76.63 312** *e*P **P** **07 45 16.9 +1.1**
LZH pP **PcP** **07 45 27.5 +0.3**
LZH sP **sP** **07 45 32.0 +1.7**
LZH PP **PP** **07 48 11.5 +2.9**
LZH S **S** **07 55 01.3 +1.0**
LZH sS **sS** **07 55 18.0 +0.2**
LZH SS **SS** **08 00 00.0 +3.5**
LZH AMB AMB
comp=Z,64nm,1.5s
LZH AMB AMB
comp=Z,420nm,9.4s
LZH LR LR
comp=Z,500nm,15.5s
LZH LR LR
comp=Z,560nm,15.2s
LZH LR LR
comp=Z,930nm,19.5s
SEY **Seymchan** **76.70 354** *i* P **P** **07 45 15.2 -0.1**
QSPA **South Pole Qui** **76.78 180** *e*P **P** **07 45 14.5 -1.5**
comp=Z,124nm,1.7s
QSPA **South Pole Qui** **76.78 180** P **P** **07 45 15.1 -0.9**
comp=Z,21nm,1.1s,baz=4.5,slow=1.8,SNR=24
CIT **Chita** **79.33 330** *e*P **P** **07 45 30.1 -0.1**
CIT *e* 07 45 42.7
YAK **Yakutsk** **80.34 343** *e*P **P** **07 45 32.6 -2.8**
YAK *e* 07 48 34.8
YAK *e*S S 07 55 30.4 -8.1
YAK *e* 07 55 52.4
YAK pmax pmax
comp=Z,16nm,0.8s
YAK pmax pmax
comp=Z,8.0nm,0.7s
YAK smax smax
comp=N,292nm,15.3s
YAK smax smax
comp=E,187nm,15.3s
YAK MLR MLR
comp=N,965nm,20.0s
YAK MLR MLR
comp=Z,1μm,18.0s
YAK MLR MLR
comp=E,735nm,18.0s
ULN **Ulaanbaatar** **80.39 324** *e*P **P** **07 45 36.5 +0.3**
comp=E,18nm,1.0s
SONM **Songino Array** **80.75 324** P **P** **07 45 38.5 +0.4**
SONM **Songino Array** **80.75 324** P **P** **07 45 38.5 +0.4**
comp=E,4.7nm,0.8s,baz=132,slow=5.0,SNR=19
SONM LR LR 08 19 43.9
comp=E,617nm,21.8s,baz=118,slow=34
GTA **Gaotai** **80.97 314** ⇑P **P** **07 45 40.5 +1.0**
GTA S **S** **07 55 50.2 +3.8**
GTA SKS **SKSac** **07 55 52.3 -3.7**
GTA AMB AMB
comp=E,10.0nm,1.0s
GTA AMB AMB
comp=E,470nm,7.8s
GTA LR LR
comp=E,450nm,18.5s
GTA LR LR
comp=E,350nm,19.5s
GTA LR LR
comp=E,500nm,18.1s
PMR **Palmer** **82.42 20** *e*P **P** **07 45 46.6 +0.2**
PMR pmax pmax
comp=Z,131nm,2.2s
PMR **Palmer** **82.42 20** *e*P **P** **07 45 46.6 +0.2**
comp=Z,131nm,2.2s
MAW **Mawson** **82.90 202** LR LR 08 18 49.7
comp=Z,17nm,28.6s,baz=97,slow=33
ZAK **Zakamensk** **83.81 325** *e*P **P** **07 45 53.4 -0.6**
ZAK pmax pmax
comp=Z,13nm,1.4s
IRK **Irkutsk** **84.19 327** *e*P **P** **07 45 54.4 -1.4**
IRK pmax pmax
comp=Z,48nm,1.7s
TLY **Talaya** **84.24 326** *e*P **P** **07 45 55.8 -0.3**
TLY pmax pmax
comp=Z,22nm,1.0s
TLY MLR MLR
comp=Z,570nm,21.0s
TLY **Talaya** **84.24 326** P **P** **07 45 55.5 -0.6**
comp=Z,132nm,0.8s,SNR=5.8
H02S1 **DAWSON INLET T** **84.25 32** T T 09 18 40.6
SNR=34
IM04 **Indian Mountai** **84.37 15** *e*P **P** **07 45 57.4 +1.0**
YBH **Yreka Blue Hor** **85.03 45** P **P** **07 46 01.2 +0.8**
YBH **Yreka Blue Hor** **85.03 45** P **P** **07 46 01.2 +0.8**
comp=Z,8.8nm,0.9s,baz=255,slow=2.5,SNR=12
COLA **College** **85.19 18** *e*P **P** **07 45 59.8 -0.7**
COLA pmax pmax
comp=Z,34nm,1.2s
COLA **College** **85.19 18** *e*P **P** **07 45 59.8 -0.7**
comp=Z,34nm,1.2s
HUMO **Hull Mountain** **85.20 44** *e*P **P** **07 46 02.0 +0.8**
comp=Z,12nm,0.9s
CMB **Columbia Colle** **85.34 49** *e*P **P** **07 46 01.9 -0.1**
CMB pmax pmax
comp=Z,9.0nm,0.9s
CMB **Columbia Colle** **85.34 49** *e*P **P** **07 46 01.9 -0.1**
comp=Z,9.2nm,0.9s
ILAR **Eielson Array** **85.41 18** P P 07 45 58.5 -3.2
ILAR **Eielson Array** **85.41 18** P P 07 45 58.5 -3.2
comp=Z,6.6nm,0.7s,baz=245,slow=4.8,SNR=25
ILAR LR LR 08 18 20.8
comp=Z,17nm,28.6s,baz=238,slow=32
MWC **Mount Wilson** **85.83 54** *e*P **P** **07 46 05.5 +0.8**
MWC pmax pmax
comp=Z,40nm,1.8s
MWC **Mount Wilson** **85.83 54** *e*P **P** **07 46 05.5 +0.8**
comp=Z,40nm,1.8s
WRAK **Wrangell Islan** **85.97 29** *e*P **P** **07 46 04.2 -0.4**
comp=Z,7.3nm,0.8s
ISA **Isabella** **85.97 52** *e*P **P** **07 46 05.5 +0.2**
ISA pmax pmax
comp=Z,6.0nm,0.9s
ISA **Isabella** **85.97 52** *e*P **P** **07 46 05.5 +0.2**
comp=Z,5.7nm,0.9s
BEKR **Beckworth** **86.01 48** *e*P **P** **07 46 05.3 -0.1**
comp=Z,3.2nm,0.8s

COLD	**Coldfoot**	**86.25**	**16**	*e*P		**P**	**07 46 07.1**	**+1.4**
	comp=Z,11nm,1.0s								
MTUM	**Tungsten Hills**	**86.47**	**51**	*e*P		**P**	**07 46 08.7**	**+1.0**
K05A	**Summer Lake**	**86.66**	**45**	*e*P		**P**	**07 46 09.3**	**+0.7**
	comp=Z,22nm,1.1s								
MOD	**Modoc**	**86.77**	**46**	*e*P		**P**	**07 46 09.1**	**-0.1**
	comp=Z,100nm,1.1s								
NVAR	**Mina Array Bea**	**87.02**	**50**	P		**P**	**07 46 10.4**	**0.0**
NVAR	**Mina Array Bea**	**87.02**	**50**	P		**P**	**07 46 10.4**	**0.0**
	comp=Z,4.5nm,0.8s,baz=229,slow=8.2,SNR=17								
NVAR				LR		LR	08 20 18.5		
	comp=Z,3µm,18.4s,baz=100,slow=32								
PINOR	**Pine Mountain**	**87.06**	**44**	*e*P		**P**	**07 46 11.1**	**+0.9**
	comp=Z,15nm,0.9s								
EGAK	**Eagle**	**87.24**	**20**	*e*P		**P**	**07 46 11.3**	**+0.7**
	comp=Z,9.0nm,0.8s								
PGC	**Sidney**	**87.25**	**39**	*e*P		**P**	**07 46 09.4**	**-1.7**
	comp=Z,1.2nm,1.4s								
I07A	**Izee**	**88.08**	**44**	*e*P		**P**	**07 46 15.6**	**+0.2**
	comp=Z,11nm,0.8s								
WVOR	**Wild Horse Val**	**88.11**	**46**	*e*P		**P**	**07 46 15.7**	**+0.2**
WVOR				pmax		pmax			
	comp=Z,4.0nm,1.0s								
WVOR	**Wild Horse Val**	**88.11**	**46**	*e*P		**P**	**07 46 15.7**	**+0.2**
	comp=Z,3.7nm,1.0s								
LDFC	**Landfair**	**88.40**	**54**	*e*P		**P**	**07 46 18.3**	**+1.2**
	comp=Z,30nm,0.9s								
LTY	**Liberty**	**88.45**	**41**	*e*P		**P**	**07 46 17.2**	**+0.2**
	comp=Z,11nm,1.2s								
J08A	**Circle Bar Ran**	**88.54**	**45**	*e*P		**P**	**07 46 18.0**	**+0.5**
	comp=Z,34nm,1.4s								
G08A	**Pilot Rock**	**88.87**	**43**	*e*P		**P**	**07 46 19.4**	**+0.4**
	comp=Z,25nm,1.2s								
HAWA	**Hanford**	**88.87**	**42**	*e*P		**P**	**07 46 19.7**	**+0.8**
	comp=Z,59nm,2.2s								
LPIG	**La Paz**	**89.42**	**65**	LR		LR	08 21 12.0		
	comp=Z,365nm,18.4s,baz=254,slow=32								
HVS	**Khovu-Aksy**	**89.62**	**323**	*c i*P		**P**	**07 46 21.9**	**-0.4**
BMO	**Blue Mountains**	**89.83**	**44**	*e*P		**P**	**07 46 22.8**	**-0.7**
	comp=Z,40nm,1.5s								
SYO	**Syowa Base**	**89.85**	**197**↑	*e*P		**P**	**07 46 20.5**	**-2.6**
SYO	**Syowa Base**	**89.85**	**197**↑	*e*PcP		**PcP**	**07 46 26.2**	**+1.9**
F10A	**Beach Ranch, E**	**90.24**	**43**	*e*P		**P**	**07 46 25.1**	**-0.3**
	comp=Z,11nm,1.0s								
WMQ	**Urumqi**	**91.02**	**315**	P		**P**	**07 46 29.1**	**0.0**
WMQ				pP		**pP**	**07 46 39.7**	**-0.2**
WMQ				sP		**sP**	**07 46 43.6**	**-0.2**
WMQ				SKS		**SKSac**	**07 56 56.6**	**-2.1**
WMQ				S		**S**	**07 57 21.6**	**-2.8**
WMQ				SS		**SS**	**08 03 29.0**	**+0.2**
WMQ				AMB		AMB			
	comp=Z,15nm,0.5s								
WMQ				AMB		AMB			
	comp=Z,290nm,4.4s								
WMQ				LR		LR			
	comp=Z,550nm,18.6s								
WMQ				LR		LR			
	comp=Z,490nm,17.6s								
WMQ				LR		LR			
	comp=Z,460nm,24.0s								
NEW	**Newport**	**91.04**	**41**	*e*P		**P**	**07 46 29.3**	**+0.2**
	comp=Z,16nm,1.2s								
HLID	**Hailey**	**91.41**	**46**	*e*P		**P**	**07 46 31.8**	**+0.8**
	comp=Z,18nm,1.0s								
MCMT	**McKenzie Canyo**	**92.85**	**45**	*e*P		**P**	**07 46 39.0**	**+1.3**
	comp=Z,14nm,1.2s								
MAIT	**Maitri**	**94.39**	**188**	*e*P		P	07 46 40.5	-3.6	
SNAA	**Sanae**	**94.97**	**183**	*e*P		**P**	**07 46 44.9**	**-1.9**
SNAA	**Sanae**	**94.97**	**183**	*e*P		**P**	**07 46 44.5**	**-2.3**
	comp=Z,19nm,1.3s								
MKAR	**Makanchi Array**	**95.49**	**317**	*e*P		**P**	**07 46 49.6**	**+0.1**
MKAR	**Makanchi Array**	**95.49**	**317**	*e*P		**P**	**07 46 49.5**	**+0.1**
MKAR	**Makanchi Array**	**95.49**	**317**	P		**P**	**07 46 49.5**	**-0.1**
	comp=Z,5.9nm,0.8s,baz=98,slow=6.2,SNR=42								
MKAR				LR		LR	08 31 58.2		
	comp=Z,247nm,19.7s,baz=90,slow=37								
ZAA0	**Zalesovo Array**	**95.65**	**324**	*e*P		**P**	**07 46 48.5**	**-1.5**
ZALV	**Zalesovo Beam**	**95.65**	**324**	P		**P**	**07 46 48.8**	**-1.2**
ZALV	**Zalesovo Beam**	**95.65**	**324**	P		**P**	**07 46 48.8**	**-1.2**
ZALV	**Zalesovo Beam**	**95.65**	**324**	P		**P**	**07 46 48.8**	**-1.2**
	comp=Z,6.3nm,0.8s,baz=114,slow=4.4,SNR=21								
ZALV				LR		LR	08 28 57.8		
	comp=Z,17nm,28.6s,baz=70,slow=35								
VNA2	**Neumayer--Watz**	**95.93**	**182**	*e*P		**P**	**07 46 49.6**	**-1.5**
TXAR	**Lajitas Array**	**96.39**	**61**	P		**P**	**07 46 52.5**	**-1.6**
TXAR	**Lajitas Array**	**96.39**	**61**	P		**P**	**07 46 52.5**	**-1.6**
	comp=Z,0.6nm,0.8s,baz=238,slow=4.8,SNR=3.5								
TXAR				LR		LR	08 24 27.7		
	comp=Z,965nm,19.1s,baz=0.0,slow=32								
NVS	**Novosibirsk**	**96.76**	**325**	*e*P		**P**	**07 46 52.2**	**-2.8**
NVS				*e*S		**SKSac**	**07 57 26.0**	**-3.2**
NVS				pmax		pmax			
	comp=N,9.0nm,2.0s								
NVS				pmax		pmax			
	comp=Z,20nm,2.0s								
NVS				smax		smax			
	comp=E,45nm,2.3s								
KSH	**Kashi**	**98.55**	**309**	*e*P		Pdif	07 47 11.2	+7.5	
KSH				pP		pP	07 47 17.5	+3.0	
KSH				sP		sP	07 47 21.1	+2.7	
KSH				PP		PP	07 51 11.2	+6.5	
KSH				SKS		**SKSac**	**07 57 43.2**	**+3.8**
KSH				S		**ScS**	**07 58 31.2**	**+0.6**
KSH				sS		sS	07 58 47.7	-0.9	
KSH				AMB		AMB			
	comp=E,210nm,4.4s								
KSH				LR		LR			
	comp=E,400nm,14.8s								
KSH				LR		LR			
	comp=E,86nm,7.9s								
KSH				LR		LR			
	comp=E,260nm,7.8s								
KURK	**Kurchatov**	**98.67**	**320**	P		**P**	**07 47 02.0**	**-1.7**
KURK	**Kurchatov**	**98.67**	**320**	P		**P**	**07 47 02.0**	**-1.7**
KURBB	**Kurchatov Arra**	**98.71**	**320**	P		**P**	**07 47 02.0**	**-1.9**
	comp=E,0.5nm,0.2s,baz=97,slow=3.5,SNR=7.4								
ARCES	**ARCESS Array B**	**118.58**	**345**	PKP		**PKPdf**	**07 52 09.7**	**-2.1**
ARCES	**ARCESS Array B**	**118.58**	**345**	PKP		**PKPdf**	**07 52 09.7**	**-2.1**
	comp=E,2.9nm,0.6s,baz=83,slow=1.9,SNR=16								
MAK	**Makhachkala**	**119.93**	**312**	*i* PKIKP		**PKPdf**	**07 52 14.9**	**-0.3**
MAK				*e*			07 53 38.8		
MAK				*e*PPP		PPP	07 56 12.5		
MAK				*e*SS		SS	08 10 04.2	+1.0	
BOSA	**Boshof**	**123.88**	**222**	PKP		**PKPdf**	**07 52 22.1**	**-1.3**
BOSA	**Boshof**	**123.88**	**222**	PKP		**PKPdf**	**07 52 22.1**	**-1.3**
	comp=E,3.3nm,0.8s,baz=113,slow=7.9,SNR=4.9								
NB2	**NORSAR Subarra**	**128.95**	**345**	PKPdf		**PKPdf**	**07 52 31.6**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=31,slow=1.9								
NOA	**NORSAR Array B**	**128.95**	**345**	PKP		**PKPdf**	**07 52 29.6**	**-2.4**
NOA	**NORSAR Array B**	**128.95**	**345**	PKP		**PKPdf**	**07 52 29.6**	**-2.4**
	comp=Z,1.4nm,0.8s,baz=31,slow=1.9,SNR=4.1								
LSZ	**Lusaka**	**129.80**	**237**	PKP		**PKPdf**	**07 52 34.2**	**-0.8**
LSZ	**Lusaka**	**129.80**	**237**	PKP		**PKPdf**	**07 52 34.2**	**-0.8**
	comp=Z,2.0nm,0.5s,baz=97,slow=3.8,SNR=5.0								
BDFB	**Brasilia**	**135.55**	**129**	PKP		**PKPdf**	**07 52 44.4**	**-1.5**
BDFB	**Brasilia**	**135.55**	**129**	PKP		**PKPdf**	**07 52 44.4**	**-1.5**
	comp=Z,2.6nm,0.7s,baz=153,slow=2.3,SNR=3.1								
CLL	**Collm**	**136.32**	**336**	*i* PKIKP		PKPdf	07 52 40.9	-5.2	
CLL	**Collm**	**136.32**	**336**	*e*PP		PP	07 55 28.0	+1.7	
CLL				*e*PKSbc		**PKSbc**	**07 56 17.0**	**-2.4**
CLL				*e*SS		SS	08 13 30.0	+5.2	
CLL				*e*SSS		SSS	08 18 24.0		
CLL				Lm		MLR	08 59 00.0		
	comp=N,400nm,19.3s								
CLL				Lm		MLR	08 59 00.0		
	comp=E,200nm,21.8s								
CLL				Lm		MLR	08 59 00.0		
	comp=Z,500nm,18.5s								
CONA	**Conrad Observa**	**137.57**	**331**↓	*i* PKPdf		**PKPdf**	**07 52 45.9**	**-2.7**
	comp=Z,3.5nm,0.8s								
CEL	**Celeste**	**143.80**	**319**	*e*PKPdf		PKPab	07 52 56.8	-0.3	
BNI	**Bardonecchia**	**143.86**	**335**	*e*PKIKP		PKPbc	07 52 57.7	-0.2	
BNI	**Bardonecchia**	**143.86**	**335**	*e*PKPdf		PKPbc	07 52 57.6	-0.2	
SSB	**Saint Sauveur**	**144.50**	**338**	*e*PKIKP		**PKPab**	**07 52 59.1**	**-0.4**
SSB	**Saint Sauveur**	**144.50**	**338**	*e*PKPdf		**PKPab**	**07 52 59.1**	**-0.4**
KEST	**Kesra**	**149.47**	**321**	*e*PKPbc		**PKPbc**	**07 53 13.5**	**-0.8**
KEST	**Kesra**	**149.47**	**321**	PKPbc		**PKPbc**	**07 53 13.8**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=349,slow=2.4,SNR=6.2								
POLO	**Lamas de Olo**	**151.50**	**351**	*e*PKPbc		**PKPbc**	**07 53 18.1**	**-0.9**
MVO	**Moncorvo**	**151.58**	**349**	*e*PKPbc		**PKPbc**	**07 53 18.1**	**-1.0**
PVRL	**Vila Real**	**151.59**	**351**	*e*PKPbc		**PKPbc**	**07 53 18.5**	**-0.6**
PVIS	**Viseu**	**152.16**	**351**	*e*PKPbc		**PKPbc**	**07 53 22.5**	**+2.1**
ESDC	**Sonseca Array**	**152.31**	**344**	PKPbc		**PKPbc**	**07 53 20.0**	**-0.8**
ESDC				PKPab		**PKPab**	**07 53 29.6**	**-1.0**
ESDC	**Sonseca Array**	**152.31**	**344**	PKPbc		**PKPbc**	**07 53 20.0**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=20,slow=2.4,SNR=8.3								
ESDC				PKPab		**PKPab**	**07 53 29.6**	**-1.0**
	comp=Z,6.0nm,0.7s,baz=11,slow=3.7,SNR=13								
MTE	**Manteigas**	**152.41**	**350**	*e*PKPbc		**PKPbc**	**07 53 19.9**	**-1.1**
PMRV	**Marv??o**	**153.33**	**349**	*e*PKPbc		**PKPbc**	**07 53 21.5**	**-1.5**
MDT	**Midelt**	**158.82**	**338**	PKPab		**PKPab**	**07 53 56.8**	**-1.9**
MDT	**Midelt**	**158.82**	**338**	PKPab		**PKPab**	**07 53 56.8**	**-1.9**
	comp=Z,1.8nm,0.8s,baz=107,slow=4.5,SNR=4.4								
TORD	**Torodi Ar. Bea**	**165.02**	**271**	PKP		**PKPdf**	**07 53 27.7**	**-2.0**
TORD				PKPab		**PKPab**	**07 54 25.5**	**-0.9**
TORD	**Torodi Ar. Bea**	**165.02**	**271**	PKP		**PKPdf**	**07 53 27.7**	**-2.0**
	comp=Z,1.6nm,0.9s,baz=12,slow=1.5,SNR=7.2								
TORD				PKPab		**PKPab**	**07 54 25.5**	**-0.9**
	comp=Z,3.1nm,0.9s,baz=64,slow=3.2,SNR=5.4								
DBIC	**Dimbokro**	**169.12**	**234**	PKPab		**PKPab**	**07 54 44.0**	**-0.4**
DBIC	**Dimbokro**	**169.12**	**234**	PKPab		**PKPab**	**07 54 44.0**	**-0.4**
	comp=Z,5.3nm,0.9s,baz=159,slow=7.4,SNR=4.7								

ISCJB ***09*** *07:36:17.1±0.7, 17.91S±0.09×115.8W±0.1, h8km, mb5.0/72, MS4.3/20, Error ellipse: s-maj=16.2km s-min=10.7km az=147.4*

IDC ***09*** *07:36:18.0±0.8, 17.86S×115.97W, h0km, mb4.3/10, mb1 4.5/10, mb1mx4.3/18, mbtmp4.3/10, MS4.2/13, Ms1 4.2/13, ms1mx4.0/30, Error ellipse: s-maj=30.0km s-min=18.8km az=62.0*

NEIC ***09*** *07:36:19.6±0.4, 17.92S×115.93W, h10km, mb5.1/62, Error ellipse: s-maj=11.8km s-min=6.9km az=68.0*

MOS ***09*** *07:36:20.3±1.1, 17.52S×115.58W, h10km, mb5.2/26, Error ellipse: s-maj=22.3km s-min=8.3km az=87.7*

BJI ***09*** *07:36:20.1, 17.90S×115.90W, h10km, mB5.3/9, Ms5.5/8, Ms7 5.2/8*

ISC 09 07:36:19.2±0.5, 17.9S±0.1×116.00W±0.09, h8km, n538, σ0=0.81/525, mb5.1/72, MS4.5/20, 165C-192D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**18.52**	**250**	*e*LR	LR	07 44 51.3	
	2µm,27.2s						
RKT	**Rikitea**	**18.52**	**250**	*e*T	T	07 59 31.0	
	27nm,0.3s						
PPT2	**Papeete2**	**31.96**	**265**	*e*LR	LR	07 50 59.7	
	3µm,26.5s						
H03N2	**Juan Fernandez**	**36.61**	**122**	T	T	08 22 06.9	
	baz=287,slow=0.7,SNR=511						
H03N3	**Juan Fernandez**	**36.62**	**122**	T	T	08 22 07.9	
	baz=287,slow=0.7,SNR=453						
H03N1	**Juan Fernandez**	**36.63**	**122**	T	T	08 22 08.9	
	baz=287,slow=0.7,SNR=549						
H06S1	**SOCORRO T**	**36.71**	**8**	T	T	08 21 56.0	
	SNR=527						
H06E1	**SOCORRO T-PHAS**	**36.76**	**8**	T	T	08 22 01.9	
	SNR=177						
OTAV	**Otavalo**	**41.08**	**68**	*e*P	**P**	**07 44 05.6**	**+1.3**
	24nm,1.4s						
APG	**El Apazote**	**41.24**	**39**	P	**P**	**07 44 05.0**	**-0.3**
APG	**El Apazote**	**41.24**	**39**	P	**P**	**07 44 05.0**	**-0.3**
	6.1nm,1.0s,baz=171,slow=21,SNR=6.9						
APG				LR	LR	07 57 42.9	
	comp=Z,220nm,18.6s,baz=214,slow=31						
PLCA	**Paso Flores**	**45.09**	**130**	*e*P	**P**	**07 44 37.7**	**+1.7**
	18nm,1.7s						
PLCA	**Paso Flores**	**45.09**	**130**	LR	LR	07 58 50.2	
	comp=Z,16nm,28.6s,baz=317,slow=30						
CFAA	**Coronel Fontan**	**45.15**	**117**	P	**P**	**07 44 36.2**	**-0.4**
CFAA	**Coronel Fontan**	**45.15**	**117**	P	**P**	**07 44 36.2**	**-0.4**
	0.2nm,0.4s,baz=264,slow=8.3,SNR=7.5						
CFAA				LR	LR	07 58 42.4	
	comp=Z,29nm,19.3s,baz=292,slow=30						
LPAZ	**La Paz**	**45.69**	**96**	*e*P	**P**	**07 44 42.4**	**+0.6**
	11nm,1.3s						
LPAZ	**La Paz**	**45.69**	**96**	P	**P**	**07 44 42.6**	**+0.8**
	2.8nm,1.1s,baz=275,slow=7.2,SNR=9.2						
LPAZ				LR	LR	07 59 16.0	
	comp=Z,578nm,21.1s,baz=292,slow=30						
TEIG	**Tepich**	**46.62**	**37**	*e*P	**P**	**07 44 48.2**	**0.0**
	42nm,1.4s						
TXAR	**Lajitas Array**	**48.42**	**14**	P	**P**	**07 45 02.2**	**+0.1**
TXAR	**Lajitas Array**	**48.42**	**14**	P	**P**	**07 45 02.2**	**+0.1**
	2.7nm,1.1s,baz=185,slow=8.8,SNR=20						
626A	**Big Bend Ranch**	**48.52**	**14**	↓P	**P**	**07 45 04.0**	**+1.1**
	baz=49,SNR=21						
627A	**Terlingua Ranc**	**48.60**	**15**	↓P	**P**	**07 45 04.8**	**+1.3**
	baz=49,SNR=9.0						
628A	**Black Gap, Mar**	**48.75**	**15**	↓P	**P**	**07 45 05.6**	**+1.0**
	baz=49,SNR=15						
732A	**Laxson Ranch,**	**48.85**	**19**	↓P	**P**	**07 45 05.2**	**-0.2**
	baz=49						
526A	**Mary Lane Ranc**	**49.02**	**14**	↓P	**P**	**07 45 07.8**	**+1.0**
	baz=49,SNR=14						
527A	**Woodward Ranch**	**49.21**	**14**	↓P	**P**	**07 45 09.0**	**+0.8**
	baz=50,SNR=15						
631A	**Perdido Creek**	**49.31**	**18**	↑P	**P**	**07 45 09.2**	**+0.3**
	baz=50						
319A	**Douglas**	**49.39**	**8**	↓P	**P**	**07 45 11.0**	**+1.4**
	baz=50						
528A	**Cox Ranch, San**	**49.42**	**15**	↑P	**P**	**07 45 10.3**	**+0.4**
	baz=50,SNR=9.4						
320A	**Kipp Ranch, An**	**49.45**	**8**	↓P	**P**	**07 45 11.2**	**+1.1**
	baz=50,SNR=14						
425A	**Indio Mountain**	**49.52**	**12**	↑P	**P**	**07 45 11.3**	**+0.6**
	baz=50,SNR=12						
529A	**Stev Forest Ra**	**49.53**	**16**	↑P	**P**	**07 45 11.2**	**+0.6**
	baz=50,SNR=14						
426A	**McDonald Obser**	**49.62**	**14**	↓P	**P**	**07 45 12.0**	**+0.6**
	baz=50,SNR=15						
632A	**Uvalde**	**49.63**	**19**	↓P	**P**	**07 45 12.0**	**+0.6**
	baz=50						
214A	**Organ Pipe Nat**	**49.64**	**4**	↓P	**P**	**07 45 12.5**	**+1.1**
	baz=50						
530A	**J-C Ranch, Com**	**49.79**	**17**	↓P	**P**	**07 45 13.1**	**+0.6**
	baz=50,SNR=5.6						
427A	**Hayter Ranch,**	**49.93**	**14**	↓P	**P**	**07 45 14.4**	**+0.7**
	baz=50,SNR=8.6						
428A	**Kincaid Ranch,**	**49.99**	**15**	↓P	**P**	**07 45 15.0**	**+0.8**
	baz=50,SNR=14						
220A	**Playas Peak, P**	**50.01**	**8**	↓P	**P**	**07 45 15.3**	**+1.0**
	baz=50,SNR=13						
324A	**Moseley Ranch,**	**50.06**	**12**	↓P	**P**	**07 45 15.0**	**+0.2**
	baz=50,SNR=20						
429A	**Davenport Ranc**	**50.09**	**16**	↓P	**P**	**07 45 15.1**	**+0.2**
	baz=50,SNR=8.4						
325A	**Bean Ranch, Si**	**50.09**	**12**	↑P	**P**	**07 45 15.3**	**+0.3**
	baz=50,SNR=23						
TUC	**Tucson**	**50.15**	**6**	*e*P	**P**	**07 45 16.0**	**+0.7**
TUC				pmax	pmax		
	comp=Z,15nm,1.3s						
TUC	**Tucson**	**50.15**	**6**	*e*P	**P**	**07 45 16.0**	**+0.7**
	comp=Z,15nm,1.3s						
532A	**Rocksprings**	**50.18**	**18**	↑P	**P**	**07 45 15.7**	**+0.1**
	baz=50,SNR=7.0						
221A	**Mequite Ranch**	**50.22**	**9**	↓P	**P**	**07 45 16.8**	**+0.8**
	baz=50						
326A	**Caldwell Ranch**	**50.25**	**13**	↓P	**P**	**07 45 16.3**	**+0.1**
	baz=51						
BAR	**Barrett**	**50.27**	**359**	*e*P	**P**	**07 45 16.4**	**+0.3**
	comp=Z,19nm,1.3s						
MNTX	**Cornudas Mount**	**50.33**	**12**	*e*P	**P**	**07 45 16.8**	**+0.2**
	comp=Z,15nm,1.0s						
113A	**Mohawk Valley,**	**50.40**	**2**	↓P	**P**	**07 45 18.0**	**+0.9**
	baz=51						
430A	**Baggett Ranch,**	**50.42**	**17**	↓P	**P**	**07 45 17.6**	**+0.2**
	baz=51,SNR=8.7						
MONP	**Monument Peak**	**50.48**	**360**	↓P	**P**	**07 45 18.3**	**+0.3**
	baz=51						
431A	**Sonora**	**50.50**	**17**	↑P	**P**	**07 45 17.9**	**-0.1**
	baz=51,SNR=22						
SWSC	**Sam W. Stewart**	**50.53**	**0**	↓P	**P**	**07 45 18.9**	**+0.8**
	baz=51						
JCT	**Junction City**	**50.54**	**18**	*e*P	**P**	**07 45 18.1**	**-0.1**
JCT				pmax	pmax		
	comp=Z,70nm,1.5s						
JCT	**Junction City**	**50.54**	**18**	*e*P	**P**	**07 45 18.1**	**-0.1**
	comp=Z,70nm,1.5s						
JCT	**Junction City**	**50.54**	**18**	↑P	**P**	**07 45 18.5**	**+0.3**
	baz=51,SNR=12						
328A	**Wristen Ranch,**	**50.58**	**15**	↑P	**P**	**07 45 19.0**	**+0.4**
	baz=51,SNR=5.9						
120A	**U Bar Ranch, L**	**50.63**	**8**	↓P	**P**	**07 45 20.0**	**+1.0**
	baz=51,SNR=12						
GLA	**Glamis**	**50.65**	**1**	*e*P	**P**	**07 45 20.2**	**+1.1**
GLA				pmax	pmax		
	comp=Z,40nm,1.5s						
GLA	**Glamis**	**50.65**	**1**	*e*P	**P**	**07 45 20.2**	**+1.1**
	comp=Z,40nm,1.5s						
GLA	**Glamis**	**50.65**	**1**	↓P	**P**	**07 45 20.2**	**+1.1**
	baz=51						
224A	**Cornudas Mount**	**50.67**	**12**	↓P	**P**	**07 45 19.8**	**+0.5**
	baz=51,SNR=35						
121A	**Cookes Peak, D**	**50.73**	**9**	↑P	**P**	**07 45 21.1**	**+1.3**
	baz=51,SNR=12						
225A	**Deer Hill, Car**	**50.84**	**12**	↓P	**P**	**07 45 20.9**	**+0.2**
	baz=51,SNR=6.8						
329A	**Wagon Wheel Ra**	**50.89**	**15**	↑P	**P**	**07 45 21.3**	**+0.3**
	baz=51,SNR=11						
432A	**Menard**	**50.91**	**18**	↑P	**P**	**07 45 20.9**	**-0.2**
	baz=51,SNR=6.1						
226B	**Tecolote Peak,**	**50.95**	**13**	↓P	**P**	**07 45 21.5**	**+0.2**
	baz=51,SNR=12						
122A	**Conniff Cattle**	**51.02**	**10**	↑P	**P**	**07 45 22.8**	**+0.8**
	baz=51						
330A	**Mertzon**	**51.02**	**16**	↑P	**P**	**07 45 21.8**	**-0.2**
	baz=51,SNR=15						
Z14A	**Wintersburg**	**51.03**	**3**	↓P	**P**	**07 45 23.0**	**+1.1**
	baz=51						
227A	**Bennet, Jal**	**51.08**	**14**	↑P	**P**	**07 45 23.0**	**+0.6**
	baz=51						
331A	**San Angelo**	**51.14**	**17**	↓P	**P**	**07 45 22.6**	**-0.2**
	baz=51,SNR=7.5						
Z20A	**Nine Sixteen R**	**51.19**	**8**	↓P	**P**	**07 45 24.2**	**+1.0**
	baz=52,SNR=11						
PFO	**Pinyon Flat Ob**	**51.19**	**360**	*e*P	**P**	**07 45 24.1**	**+0.8**
	comp=Z,19nm,1.6s						
PFO	**Pinyon Flat Ob**	**51.19**	**360**	P	**P**	**07 45 23.8**	**+0.5**
	comp=Z,1.9nm,0.9s,baz=194,slow=13,SNR=4.5						
BC3	**Big Chuckawall**	**51.24**	**1**	↓P	**P**	**07 45 24.5**	**+0.9**
	baz=52,SNR=8.8						
124A	**Stringfield Ra**	**51.29**	**11**	↑P	**P**	**07 45 24.6**	**+0.5**
	baz=52,SNR=22						
228A	**UT Block 9, Go**	**51.34**	**15**	↑P	**P**	**07 45 24.2**	**-0.1**
	baz=52						
Y12C	**Blythe**	**51.35**	**2**	↑P	**P**	**07 45 25.1**	**+0.8**
	baz=52						
HKT	**Hockley**	**51.37**	**23**	*e*P	**P**	**07 45 25.2**	**+0.9**
HKT				pmax	pmax		
	comp=Z,109nm,1.8s						
HKT	**Hockley**	**51.37**	**23**	*e*P	**P**	**07 45 25.2**	**+0.9**
	comp=Z,110nm,1.8s						
229A	**Bryant Ranch,**	**51.39**	**15**	↓P	**P**	**07 45 24.7**	**0.0**
	baz=52						
332A	**Millersview**	**51.40**	**18**	↑P	**P**	**07 45 24.9**	**+0.2**
	baz=52						
125A	**Gardner Draw,**	**51.40**	**12**	↓P	**P**	**07 45 25.1**	**+0.3**
	baz=52,SNR=21						
230A	**Sterling City**	**51.50**	**16**	↑P	**P**	**07 45 25.3**	**-0.1**
	baz=52						
Z21A	**St. Cloud Mine**	**51.51**	**9**	↓P	**P**	**07 45 26.5**	**+0.8**
	baz=52,SNR=13						
126A	**Clayton Basin,**	**51.52**	**13**	↓P	**P**	**07 45 25.4**	**-0.3**
	baz=52,SNR=7.9						
Z22A	**Elephant Butte**	**51.57**	**10**	↑P	**P**	**07 45 26.9**	**+0.8**
	baz=52,SNR=8.6						
BELC	**Belle Mtn. Jos**	**51.58**	**0**	↓P	**P**	**07 45 27.2**	**+1.0**
	baz=52,SNR=13						
Y14A	**Wickenburg**	**51.60**	**3**	↓P	**P**	**07 45 27.2**	**+1.0**
	baz=52,SNR=14						
Z23A	**Rita Site, Whi**	**51.70**	**10**	↓P	**P**	**07 45 27.6**	**+0.6**
	baz=52,SNR=13						
127A	**Arkansas Junct**	**51.70**	**14**	↓P	**P**	**07 45 26.4**	**-0.6**
	baz=52,SNR=5.3						
IRM	**Iron Mountain**	**51.75**	**1**	↑P	**P**	**07 45 27.8**	**+0.5**
	baz=52,SNR=10						
231A	**Bronte**	**51.76**	**17**	↑P	**P**	**07 45 27.1**	**-0.3**
	baz=52						
PASC	**Pasadena Art C**	**51.80**	**358**	*e*P	**P**	**07 45 29.4**	**+1.8**
	comp=Z,32nm,1.4s						
MWC	**Mount Wilson**	**51.84**	**358**	*e*P	**P**	**07 45 29.1**	**+0.9**
MWC				pmax	pmax		
	comp=Z,27nm,1.3s						
MWC	**Mount Wilson**	**51.84**	**358**	*e*P	**P**	**07 45 29.

baz=54,SNR=9.1
ISA **Isabella** 53.29 357 eP P 07 45 38.8 +0.1
ISA pmax pmax
comp=Z,24nm,1.7s
ISA **Isabella** 53.29 357 eP P 07 45 38.8 +0.1
comp=Z,24nm,1.7s
ISA **Isabella** 53.29 357 ⇓P P 07 45 39.2 +0.4
baz=54
ANMO **Albuquerque** 53.30 10 eP P 07 45 39.3 +0.3
comp=Z,25nm,1.5s
W22A **Albuquerque** 53.36 9 ⇑P P 07 45 40.5 +1.1
baz=54,SNR=6.1
X26A **CR and CF Fran** 53.41 13 ⇓P P 07 45 40.1 +0.4
baz=54
VES **Vestal, Richgr** 53.50 357 ⇓P P 07 45 40.8 +0.7
baz=54
W23A **Werner Place,** 53.56 10 ⇓P P 07 45 41.1 +0.1
baz=54,SNR=8.8
AFI **Afiamalu** 53.63 266 LR LR 08 02 29.3
comp=Z,17nm,28.6s,baz=72,slow=29
X27A **F and S Farms,** 53.65 13 ⇓P P 07 45 41.3 -0.2
baz=54
MPMC **Manual Prospec** 53.66 359 ⇑P P 07 45 41.7 +0.1
baz=54
Y31A **Rekieta Farm,** 53.68 16 ⇑P P 07 45 41.5 -0.1
baz=54,SNR=9.5
X28A **Dimmitt** 53.73 14 ⇑P P 07 45 42.1 0.0
baz=54
W24A **Lazy 6 Ranch,** 53.74 11 ⇓P P 07 45 42.1 -0.1
baz=54,SNR=21
X29A **Tulia** 53.78 15 ⇑P P 07 45 41.8 -0.6
baz=54,SNR=7.4
V20A **Brimhall** 53.85 8 ⇑P P 07 45 43.5 +0.5
baz=54,SNR=9.7
W25A **X Bar L Ranch,** 53.92 12 ⇑P P 07 45 43.4 -0.1
baz=54,SNR=18
W26A **Owens Ranch, T** 53.94 12 ⇓P P 07 45 43.6 +0.1
baz=54
Y32A **R-V Farms, Ver** 53.95 17 ⇑P P 07 45 43.6 0.0
baz=54
V21A **Milan** 53.97 8 ⇑P P 07 45 44.8 +0.9
baz=54
X30A **Coker Ranch, T** 53.98 15 ⇓P P 07 45 43.5 -0.3
baz=54
CWC **Cottonwood Cre** 54.05 358 ⇑P P 07 45 45.0 +0.6
baz=54
FURC **Furnace Creek,** 54.05 359 ⇑P P 07 45 45.2 +1.1
baz=54
W27A **Bowe Ranch, En** 54.06 13 ⇑P P 07 45 44.2 -0.2
baz=54,SNR=18
SHPR **Sheep Range** 54.09 1 eP P 07 45 45.3 +0.6
comp=Z,52nm,1.6s
U15A **North Rim** 54.12 4 ⇑P P 07 45 45.3 +0.2
baz=54,SNR=16
V23A **Ortiz Mt. (NFS** 54.13 10 ⇓P P 07 45 45.3 +0.3
baz=54
V22A **San Miguel Ran** 54.18 9 ⇑P P 07 45 46.2 +0.8
baz=54,SNR=8.4
V24A **Rampart Ranch,** 54.27 11 ⇓P P 07 45 46.1 0.0
baz=55
X31A **McDonald Ranch** 54.39 16 ⇓P P 07 45 46.8 +0.1
baz=55
W28A **Vega** 54.44 14 ⇑P P 07 45 47.2 0.0
baz=55
W29A **Amraillo** 54.44 14 ⇑P P 07 45 47.3 +0.2
baz=55
V25A **Rancho No Teng** 54.49 11 ⇑P P 07 45 47.5 -0.2
baz=55,SNR=7.7
U21A **Nageezi** 54.58 8 ⇓P P 07 45 48.6 +0.3
baz=55,SNR=12
SAO **San Andreas Ge** 54.58 355 eP P 07 45 49.2 +1.1
comp=Z,36nm,1.5s
V26A **Tequesquite Ra** 54.62 12 ⇑P P 07 45 48.4 -0.1
baz=55,SNR=14
CPUP **Villa Florida** 54.62 110 eP P 07 45 47.4 -1.3
comp=Z,32nm,1.5s
CPUP **Villa Florida** 54.62 110 P P 07 45 47.5 -1.2
comp=Z,0.3nm,0.3s,baz=253,slow=7.3,SNR=4.4
CPUP LR LR 08 04 57.7
comp=Z,226nm,18.6s,baz=287,slow=32
U22A **Llaves** 54.64 9 ⇓P P 07 45 49.0 +0.2
baz=55,SNR=12
U23A **El Rito** 54.70 10 ⇓P P 07 45 49.6 +0.4
baz=55,SNR=18
V27A **Dan Oppiter Fa** 54.77 13 ⇑P P 07 45 49.6 -0.1
baz=55,SNR=8.5
V28A **Channing** 54.90 14 ⇓P P 07 45 51.0 +0.4
baz=55
W31A **Holland Ranch,** 54.92 16 ⇑P P 07 45 50.2 -0.4
baz=55,SNR=6.3
U25A **Circle Dot Ran** 55.08 11 ⇑P P 07 45 52.1 +0.1
baz=55,SNR=19
T21A **Navajo Lake** 55.15 8 ⇑P P 07 45 52.5 +0.1
baz=56,SNR=7.4
CCUT **Cedar City** 55.18 3 eP P 07 45 53.2 +0.5
comp=Z,49nm,1.6s
V29A **Stinnett** 55.18 14 ⇑P P 07 45 52.6 +0.1
baz=56
U26A **Atchley Ranch,** 55.20 12 ⇑P P 07 45 52.4 -0.4
baz=56,SNR=11
MVCO **Mesa Verde** 55.24 7 eP P 07 45 53.6 +0.4
comp=Z,24nm,1.2s
MVCO **Mesa Verde** 55.24 7 ⇓P P 07 45 53.1 0.0
baz=56,SNR=9.6
T22A **Edith** 55.26 9 ⇓P P 07 45 53.6 +0.3
baz=56,SNR=24
ARUT **Antelope Range** 55.41 2 eP P 07 45 55.8 +1.5
ARUT **Antelope Range** 55.41 2 eP P 07 45 55.8 +1.5
comp=Z,930nm,1.9s
T23A **Casias Ranch,** 55.41 10 ⇓P P 07 45 54.8 +0.4
baz=56
U27A **Thompson Grove** 55.42 13 ⇓P P 07 45 54.0 -0.3
baz=56,SNR=11
U28A **Mallet** 55.51 13 ⇑P P 07 45 54.9 -0.1
baz=56,SNR=6.6
V31A **Spring Creek L** 55.51 16 ⇑P P 07 45 55.5 +0.7
baz=56
T24B **San Luis** 55.55 10 ⇑P P 07 45 55.9 +0.4
baz=56,SNR=13
CMB **Columbia Colle** 55.76 356 eP P 07 45 57.3 +0.7
CMB pmax pmax
comp=Z,26nm,1.7s
CMB **Columbia Colle** 55.76 356 eP P 07 45 57.3 +0.7
comp=Z,26nm,1.7s
S21A **Coal Bank Pass** 55.77 8 ⇑P P 07 45 57.3 +0.2
baz=56,SNR=12
T25A **Trinidad** 55.80 11 ⇑P P 07 45 57.2 +0.1
baz=56,SNR=15
S20A **Disappointment** 55.87 7 ⇓P P 07 45 58.3 +0.7
baz=56,SNR=20
R11A **Troy Canyon, C** 55.92 0 eP P 07 45 59.0 +1.0
R11A **Troy Canyon, C** 55.92 0 ⇑P P 07 45 59.1 +1.2
baz=56,SNR=17
S22A **4UR Ranch, Cre** 55.99 9 ⇑P P 07 45 58.9 +0.4
baz=56,SNR=13
U30A **WK&E Inc. Balk** 56.02 15 ⇑P P 07 45 58.7 +0.2
baz=56
NV11 **Mina Array Sit** 56.04 358 eP P 07 45 60.0 +1.2
NVAR **Mina Array Bea** 56.04 358 P P 07 46 00.2 +1.4
NVAR **Mina Array Bea** 56.04 358 P P 07 46 00.2 +1.4
comp=Z,8.0nm,1.0s,baz=182,slow=9.1,SNR=54
T27A **Campo** 56.05 13 ⇓P P 07 45 58.6 -0.3
baz=56,SNR=9.6
S24A **Houchin Ranch,** 56.14 10 ⇓P P 07 45 59.7 +0.1
baz=56,SNR=10
PV01 **Paradox Valley** 56.14 7 eP P 07 46 00.2 +0.6
comp=Z,2µm,1.4s
MVU **Marysvale** 56.19 4 eP P 07 46 00.8 +0.8
comp=Z,37nm,1.6s
SDCO **Great Sand Dun** 56.20 10 eP P 07 46 00.4 +0.4
comp=Z,24nm,1.0s
R20A **Redvale** 56.22 7 ⇓P P 07 46 00.2 +0.1
baz=57,SNR=15
T28A **Walsh** 56.24 13 ⇓P P 07 45 59.1 -1.0
baz=57,SNR=16
S25A **Robets Cordova** 56.30 11 ⇑P P 07 46 00.6 -0.1
baz=57,SNR=11
MIAR **Mount Ida** 56.33 22 eP P 07 45 59.9 -0.8
MIAR pmax pmax
comp=Z,23nm,1.5s
MIAR **Mount Ida** 56.33 22 eP P 07 45 59.9 -0.8
comp=Z,23nm,1.5s
PV10 **Paradox Valley** 56.33 7 eP P 07 46 01.5 +0.6
comp=Z,392nm,1.3s
T29A **Hugoton** 56.46 14 ⇑P P 07 46 00.9 -0.8
baz=57
R22A **Saguache, Gunn** 56.47 9 ⇑P P 07 46 02.4 +0.3
baz=57,SNR=8.5

R21A **Cimarron** 56.50 8 ⇑P P 07 46 02.6 +0.4
baz=57,SNR=17
R23A **Moffat** 56.58 10 ⇓P P 07 46 02.9 +0.1
baz=57,SNR=8.7
Q16A **Castle Valley** 56.67 5 eP P 07 46 04.0 +0.6
Q16A **Castle Valley** 56.67 5 ⇓P P 07 46 03.9 +0.6
baz=57,SNR=16
R24A **Sanders Place,** 56.74 10 ⇑P P 07 46 04.2 +0.4
baz=57,SNR=7.4
S28A **Manter** 56.74 13 ⇓P P 07 46 03.6 -0.1
baz=57,SNR=5.6
R25A **Fountain Ranch** 56.80 11 ⇑P P 07 46 04.3 +0.1
baz=57
T31A **Randall Ranch,** 56.80 16 ⇓P P 07 46 03.8 -0.3
baz=57
TUL1 **Tulsa** 56.81 20 ⇓P P 07 46 03.6 -0.5
baz=57
SRU **San Rafael** 56.91 5 eP P 07 46 05.6 +0.6
SRU pmax pmax
comp=Z,25nm,1.3s
SRU **San Rafael** 56.91 5 eP P 07 46 05.6 +0.6
comp=Z,25nm,1.3s
S29A **Ulysses** 56.95 14 ⇓P P 07 46 05.1 0.0
baz=57
Q21A **Lamborn Mesa,** 56.96 8 ⇓P P 07 46 05.6 +0.3
baz=57
Q20A **Ridgley Place,** 56.98 7 ⇓P P 07 46 05.6 +0.1
baz=57,SNR=8.2
Q22A **Crested Butte,** 57.08 8 ⇑P P 07 46 06.2 -0.1
baz=57,SNR=9.8
R26A **Arlington** 57.10 12 ⇓P P 07 46 05.9 -0.4
baz=57,SNR=11
S30A **Montezuma** 57.12 15 ⇓P P 07 46 05.8 -0.5
baz=57
R27A **Eads** 57.22 12 ⇑P P 07 46 06.7 -0.4
baz=58,SNR=10.0
S31A **Mullinville** 57.34 16 ⇓P P 07 46 07.9 0.0
baz=58
Q24A **Divide** 57.44 10 ⇓P P 07 46 08.5 -0.4
baz=58
R28A **Tribune** 57.48 13 ⇑P P 07 46 08.8 -0.1
baz=58,SNR=13
P20A **De Beque** 57.51 7 ⇑P P 07 46 09.4 +0.2
baz=58,SNR=9.2
Q25A **Bedland, Calha** 57.55 11 ⇓P P 07 46 09.2 -0.3
baz=58,SNR=11
P19A **Cripple Cowboy** 57.58 6 ⇓P P 07 46 09.5 -0.2
baz=58,SNR=11
NLU **North Lily Min** 57.64 4 eP P 07 46 11.3 +1.1
comp=Z,26nm,1.4s
P21A **Newcastle** 57.65 8 ⇓P P 07 46 10.1 -0.1
baz=58
Q26A **Hugo** 57.69 12 ⇑P P 07 46 10.2 -0.3
baz=58
R29A **Marienthal** 57.71 14 ⇓P P 07 46 10.1 -0.4
baz=58,SNR=11
MPU **Maple Canyon** 57.73 4 eP P 07 46 11.8 +1.0
comp=Z,50nm,1.5s
P23A **Jefferson** 57.73 9 ⇑P P 07 46 11.0 +0.1
baz=58,SNR=9.1
R30A **Dighton** 57.78 15 ⇑P P 07 46 10.6 -0.4
baz=58,SNR=11
P22A **Eagle** 57.81 8 ⇑P P 07 46 11.1 -0.3
baz=58,SNR=7.7
DUG **Dugway** 57.84 3 eP P 07 46 12.5 +1.0
DUG pmax pmax
comp=Z,53nm,1.6s
DUG **Dugway** 57.84 3 eP P 07 46 12.5 +1.0
comp=Z,53nm,1.6s
DUG **Dugway** 57.84 3 ⇓P P 07 46 11.9 +0.4
baz=58,SNR=18
KSCO **Kaye Shedlock'** 57.95 12 eP P 07 46 12.6 +0.3
KSCO **Kaye Shedlock'** 57.95 12 ⇑P P 07 46 12.4 +0.1
baz=58
R31A **Burdett** 57.97 15 ⇓P P 07 46 12.3 0.0
baz=58
P24A **Kohler Place,** 58.02 10 ⇑P P 07 46 13.2 +0.3
baz=58
TIGA **Tifton** 58.07 33 eP P 07 46 12.8 -0.2
P25A **Willow Gulch B** 58.15 11 ⇓P P 07 46 13.5 -0.2
baz=58,SNR=9.9
DAU **Daniels Canyon** 58.15 4 eP P 07 46 14.7 +0.9
DAU pmax pmax
comp=Z,42nm,1.6s
DAU **Daniels Canyon** 58.15 4 eP P 07 46 14.7 +0.9
comp=Z,42nm,1.6s
Q20A **White River Ci** 58.16 7 eP P 07 46 14.3 +0.5
Q20A **White River Ci** 58.16 7 ⇓P P 07 46 14.2 +0.4
baz=58
Q28A **Sharon Springs** 58.17 13 ⇑P P 07 46 14.0 +0.3
baz=58
ISCO **Idaho Springs** 58.19 9 eP P 07 46 14.7 +0.6
ISCO pmax pmax
comp=Z,28nm,1.3s
ISCO **Idaho Springs** 58.19 9 eP P 07 46 14.7 +0.6
comp=Z,28nm,1.3s
ISCO **Idaho Springs** 58.19 9 ⇓P P 07 46 14.0 -0.1
baz=58,SNR=14
PMSA **Palmer Station** 58.19 157 LR LR 08 05 14.2
comp=Z,85nm,21.8s,baz=68,slow=30
O19A **Miners Draw (B** 58.22 6 ⇓P P 07 46 14.3 +0.1
baz=59,SNR=6.2
ELK **Elko** 58.32 1 eP P 07 46 15.6 +0.7
comp=Z,58nm,1.8s
JLU **Jordanelle** 58.33 4 eP P 07 46 16.3 +1.3
comp=Z,13nm,0.9s
O21A **Pagoda** 58.33 8 ⇑P P 07 46 15.1 +0.1
baz=59
P26A **Davis Ranch, A** 58.34 11 ⇓P P 07 46 14.6 -0.4
baz=59,SNR=10.0
O22A **Kremmling** 58.40 8 ⇑P P 07 46 15.7 +0.1
baz=59,SNR=17
Q30A **Quinter** 58.45 14 ⇑P P 07 46 15.2 -0.5
baz=59,SNR=11
WDC **Whiskeytown Da** 58.47 354 eP P 07 46 16.1 +0.5
WDC pmax pmax
comp=Z,16nm,1.1s
WDC **Whiskeytown Da** 58.47 354 eP P 07 46 16.1 +0.5
comp=Z,16nm,1.1s
P27A **Ficken Ranch,** 58.49 12 ⇑P P 07 46 16.0 0.0
baz=59
O23A **Lake Granby, G** 58.54 9 ⇓P P 07 46 16.4 -0.1
baz=59,SNR=5.2
BGU **Big Grassy Mou** 58.56 3 eP P 07 46 17.7 +1.2
comp=Z,53nm,1.7s
O24A **Longmont** 58.59 10 ⇓P P 07 46 16.7 0.0
baz=59
P28A **Saint Francis** 58.67 13 ⇓P P 07 46 17.0 -0.2
baz=59,SNR=6.1
N20A **Spence Gulch,** 58.84 7 ⇓P P 07 46 18.7 +0.1
baz=59,SNR=18
P29A **Atwood** 58.88 14 ⇓P P 07 46 18.7 0.0
baz=59
SPUT **South Promonto** 58.97 3 eP P 07 46 20.2 +0.8
comp=Z,36nm,1.3s
P30A **Selden** 58.98 14 ⇑P P 07 46 19.4 0.0
baz=59
O26A **Horse Wrangler** 59.01 11 ⇓P P 07 46 19.7 0.0
baz=59
N22A **Wattenberg Ran** 59.04 8 ⇓P P 07 46 20.3 +0.3
baz=59,SNR=11
O27A **Beecher Island** 59.12 12 ⇓P P 07 46 20.4 0.0
baz=59
P31A **Stockton** 59.17 15 ⇑P P 07 46 20.2 -0.5
baz=60,SNR=9.7
N23A **Red Feather La** 59.21 9 ⇑P P 07 46 20.8 -0.3
baz=60,SNR=7.7
M17A **Scullys Gap (B** 59.25 5 ⇓P P 07 46 21.5 +0.1
baz=60
N24A **Carr** 59.30 10 ⇓P P 07 46 21.4 -0.4
baz=60
O29A **4D Ranch, Culb** 59.41 14 ⇑P P 07 46 22.1 -0.2
baz=60
M19A **Rock Springs** 59.41 6 ⇑P P 07 46 22.4 -0.1
baz=60
P32A **Huiting Farm,** 59.46 16 ⇑P P 07 46 22.5 -0.1
baz=60
M20A **Sweetwater, Wa** 59.50 7 ⇓P P 07 46 23.0 -0.1
baz=60
P33A **Williams Farm,** 59.52 16 ⇓P P 07 46 23.1 0.0
baz=60
N26A **Koester Ranch,** 59.59 11 ⇓P P 07 46 23.6 -0.1
baz=60
MOD **Modoc** 59.60 356 eP P 07 46 24.5 +0.8
comp=Z,95nm,1.1s
M22A **Cedar Creek Ra** 59.61 8 ⇓P P 07 46 24.2 +0.2
baz=60
O30A **MW Ranch, Wils** 59.63 14 ⇓P P 07 46 23.6 -0.2

baz=60,SNR=5.9
PHWY **Pilot Hill** 59.68 9 eP P 07 46 22.5 -1.9
comp=Z,28nm,1.3s
N27A **Anderson Farm,** 59.70 12 ⇓P P 07 46 24.3 -0.1
baz=60,SNR=5.5
M21A **Separation Pea** 59.72 7 ⇑P P 07 46 24.7 +0.1
baz=60
L18A **Fontenelle, Gr** 59.75 5 ⇑P P 07 46 25.0 +0.2
baz=60
O31A **Woolen Ranch,** 59.78 15 ⇑P P 07 46 24.6 -0.2
baz=60,SNR=5.6
OGNE **Ogallala** 59.94 12 ⇓P P 07 46 26.0 +0.1
baz=60
M24A **Cheyenne** 59.94 10 ⇑P P 07 46 26.4 +0.3
baz=60
WVT **Waverly** 59.96 26 eP P 07 46 25.5 -0.6
WVT pmax pmax
comp=Z,17nm,1.6s
WVT **Waverly** 59.96 26 eP P 07 46 25.5 -0.6
comp=Z,17nm,1.6s
L20A **Wamsutter** 60.00 7 ⇑P P 07 46 26.7 +0.2
baz=60,SNR=7.5
SWET **Sewanee** 60.02 28 eP P 07 46 25.6 -1.0
comp=Z,43nm,1.4s
WVOR **Wild Horse Val** 60.05 358 eP P 07 46 27.4 +0.6
WVOR pmax pmax
comp=Z,24nm,1.4s
WVOR **Wild Horse Val** 60.05 358 eP P 07 46 27.4 +0.6
comp=Z,24nm,1.4s
L21A **Rawlins** 60.07 7 ⇓P P 07 46 26.9 -0.1
baz=60
N29A **Votaw Ranch, W** 60.11 13 ⇑P P 07 46 27.3 +0.2
baz=60
O32A **Brockman Farm,** 60.14 16 ⇓P P 07 46 27.6 +0.3
baz=60
L22A **Ellis Ranch, M** 60.25 8 ⇑P P 07 46 28.5 +0.3
baz=61
M27A **Reverse DX Ran** 60.43 12 ⇑P P 07 46 29.5 +0.2
baz=61
L23A **Garrett** 60.44 9 ⇓P P 07 46 29.8 +0.2
baz=61
L24A **Wheatland** 60.48 9 ⇓P P 07 46 30.2 +0.5
baz=61
BW06 **Boulder Array** 60.63 5 eP P 07 46 29.8 -1.1
comp=Z,8.0nm,1.0s
K21A **Alcova** 60.74 7 ⇑P P 07 46 31.3 -0.3
baz=61,SNR=10.0
L25A **Engebretsen Ra** 60.75 10 ⇓P P 07 46 31.6 +0.1
baz=61
SIUC **Southern Illin** 60.76 24 eP P 07 46 31.7 +0.1
comp=Z,9.4nm,1.0s
K22A **Casper** 60.85 8 ⇑P P 07 46 31.7 -0.5
baz=61,SNR=16
MFID **Camas Ranch** 60.98 0 ⇓P P 07 46 33.7 +0.6
baz=61
M31A **Lambtecht Ranc** 60.99 15 ⇑P P 07 46 33.4 +0.3
baz=61
RRI2 **Red Ridge** 61.07 4 eP P 07 46 33.8 -0.1
comp=Z,20nm,1.0s
K23A **Bowen Ranch, D** 61.08 9 ⇑P P 07 46 33.5 -0.3
baz=61,SNR=14
HLID **Hailey** 61.15 1 eP P 07 46 35.9 +1.6
comp=Z,14nm,1.0s
HLID **Hailey** 61.15 1 ⇓P P 07 46 34.3 0.0
baz=62,SNR=24
URZ **Urewera** 61.16 236 LR LR 08 07 55.1
comp=Z,16nm,28.6s,baz=30,slow=31
K24A **Anderson Ranch** 61.17 9 ⇑P P 07 46 34.4 -0.1
baz=62
J19A **Crowheart** 61.17 6 ⇑P P 07 46 33.7 -0.7
baz=62,SNR=8.2
TPAW **Teton Pass** 61.23 4 eP P 07 46 34.6 -0.4
comp=Z,8.6nm,0.8s
BGNE **Belgrade** 61.26 15 eP P 07 46 34.8 -0.2
BGNE **Belgrade** 61.26 15 ⇓P P 07 46 34.7 -0.2
baz=62
L29A **Maesberg Ranch** 61.34 13 ⇓P P 07 46 35.5 +0.1
baz=62
J20A **Shoshoni** 61.35 7 ⇑P P 07 46 35.2 -0.5
baz=62,SNR=13
J21A **Lysite** 61.42 7 ⇑P P 07 46 36.4 +0.2
baz=62
K26A **Motz Farm, Whi** 61.42 11 ⇑P P 07 46 36.2 +0.1
baz=62
MOOW **Moose Ponds** 61.51 4 eP P 07 46 36.6 -0.2
comp=Z,15nm,1.3s
K27A **Flueckinger Fa** 61.59 12 ⇓P P 07 46 37.3 +0.1
baz=62
J22A **Midwest** 61.60 8 ⇑P P 07 46 36.7 -0.6
baz=62,SNR=7.5
IMW **Indian Meadow** 61.64 4 eP P 07 46 37.1 -0.6
comp=Z,15nm,1.0s
J24A **Dixon Ranch, L** 61.78 9 ⇑P P 07 46 38.7 +0.1
baz=62
L31A **Butterfield Fa** 61.81 14 ⇓P P 07 46 38.6 -0.1
baz=62
FLWY **Flagg Ranch** 61.84 4 eP P 07 46 39.5 +0.4
comp=Z,18nm,1.1s
I21A **Big Trails, Te** 61.90 7 ⇓P P 07 46 38.5 -0.9
baz=62,SNR=19
I19A **Meeteetse** 61.94 6 ⇓P P 07 46 39.3 -0.4
baz=62,SNR=11
I20A **Worland** 61.94 6 ⇑P P 07 46 39.3 -0.3
baz=62,SNR=9.1
J25A **Sunshine Ranch** 61.98 10 ⇓P P 07 46 39.3 -0.5
baz=62,SNR=6.3
J26A **Sides Ranch, S** 62.03 11 ⇑P P 07 46 40.1 0.0
baz=62
K29A **Lazy Trails An** 62.04 13 ⇓P P 07 46 39.8 -0.4
baz=62,SNR=5.3
I22A **9 Mile Ranch,** 62.08 8 ⇑P P 07 46 39.9 -0.6
baz=62,SNR=6.8
K30A **Basset** 62.11 14 ⇑P P 07 46 40.6 0.0
baz=62
J27A **Elkhorn Farm,** 62.17 12 ⇓P P 07 46 40.9 -0.1
baz=62,SNR=5.2
YMR **Madison River** 62.41 4 eP P 07 46 43.5 +0.7
comp=Z,16nm,1.1s
BMO **Blue Mountains** 62.43 359 eP P 07 46 43.6 +0.7
comp=Z,36nm,1.4s
MCMT **McKenzie Canyo** 62.46 3 eP P 07 46 43.5 +0.3
J28A **Allard Ranch,** 62.48 12 ⇑P P 07 46 43.0 -0.1
baz=63,SNR=12
H20A **Greybull** 62.48 6 ⇑P P 07 46 42.5 -0.7
baz=63,SNR=8.3
H18A **Shoshone NF, C** 62.51 5 ⇓P P 07 46 43.1 -0.4
baz=63
QLMT **Earthquake Lak** 62.54 4 eP P 07 46 45.0 +1.4
comp=Z,3.3nm,1.4s
H19A **Powell** 62.57 6 ⇓P P 07 46 43.6 -0.2
baz=63
I25A **Rochford** 62.60 10 ⇑P P 07 46 43.9 -0.2
baz=63,SNR=8.7
J29A **Okreek** 62.65 13 ⇑P P 07 46 43.8 -0.5
baz=63,SNR=10
RSSD **Black Hills** 62.65 10 eP P 07 46 44.1 -0.4
RSSD pmax pmax
comp=Z,62nm,1.2s
RSSD **Black Hills** 62.65 10 eP P 07 46 44.1 -0.4
comp=Z,62nm,1.2s
H21A **Big Horn, Sher** 62.73 7 ⇓P P 07 46 44.8 -0.1
baz=63
J30A **Dallas** 62.76 13 ⇓P P 07 46 44.4 -0.5
baz=63,SNR=6.4
I26A **New Underwood** 62.76 11 ⇓P P 07 46 44.9 -0.1
baz=63,SNR=5.5
I27A **Quinn** 62.95 11 ⇑P P 07 46 45.9 -0.3
baz=63,SNR=6.4
I28A **Midland** 63.05 12 ⇓P P 07 46 46.4 -0.5
baz=63
H24A **Dirks Ranch, A** 63.19 9 ⇑P P 07 46 46.8 -1.1
baz=64,SNR=7.9
G20A **Bridger** 63.19 6 ⇓P P 07 46 47.1 -0.8
baz=64,SNR=7.5
H25A **Fruitdale** 63.21 10 ⇑P P 07 46 47.9 -0.1
baz=64
I29A **Vivian Onida** 63.25 13 ⇓P P 07 46 47.6 -0.6
baz=64,SNR=5.1
G21A **Lodge Grass** 63.30 7 ⇓P P 07 46 48.0 -0.7
baz=64,SNR=6.2
I30A **Oacoma** 63.33 13 ⇓P P 07 46 48.5 -0.2
baz=64
H26A **Fairpoint** 63.35 11 ⇑P P 07 46 48.7 -0.2
baz=64,SNR=7.5
G22A **Birney** 63.41 8 ⇑P P 07 46 48.5 -0.8
baz=64,SNR=7.2
H27A **Howes** 63.49 11 ⇓P P 07 46 49.6 -0.2
baz=64

G23A	**Biddle** baz=64,SNR=7.7	63.51	8	⇑P	P	07 46 49.2	-0.8
H28A	**Mission Ridge** baz=64,SNR=6.2	63.73	12	⇓P	P	07 46 50.8	-0.6
F19A	**Roth Farm, Mol** baz=64	63.74	5	⇑P	P	07 46 51.1	-0.4
F20A	**Billings** baz=64	63.77	6	⇓P	P	07 46 51.4	-0.3
G24A	**Alzada** baz=64,SNR=5.4	63.77	9	⇓P	P	07 46 51.6	-0.1
G25A	**Newell** baz=64	63.80	10	⇑P	P	07 46 51.7	-0.2
H29A	**Onida** baz=64	63.84	13	⇓P	P	07 46 52.3	+0.2
BRSD	**Miller** baz=64	63.94	14	⇑P	P	07 46 52.5	-0.2
F22A	**Rosebud** baz=64	63.96	8	⇓P	P	07 46 52.8	-0.1
F23A	**Volborg** baz=64,SNR=13	64.02	8	⇓P	P	07 46 52.9	-0.4
G26A	**Maurine** baz=64,SNR=10	64.03	10	⇑P	P	07 46 52.8	-0.6
G27A	**Dupree** baz=65,SNR=7.6	64.06	10	⇑P	P	07 46 54.1	+0.6
G28A	**Parade** baz=64	64.13	12	⇓P	P	07 46 53.8	-0.2
F24A	**Ekalaka** baz=65	64.27	9	⇓P	P	07 46 54.3	-0.7
E19A	**Rath Farm, Rou** baz=65,SNR=6.5	64.36	6	⇓P	P	07 46 55.4	-0.1
MSO	**Missoula** baz=65,SNR=5.6	64.42	2	⇑P	P	07 46 55.8	-0.2
E20A	**Meyer Farm, Mu** baz=65,SNR=6.2	64.47	6	⇑P	P	07 46 55.7	-0.5
F25A	**Bowman** baz=65	64.50	10	⇑P	P	07 46 56.2	-0.3
CHMT	**Chamberlain Mo** comp=Z,20nm,1.4s	64.53	2	*e*P	P	07 46 57.4	+0.6
G30A	**Faulkton** baz=65	64.55	13	⇑P	P	07 46 56.3	-0.5
F26A	**Lodgepole** baz=65,SNR=8.3	64.56	10	⇑P	P	07 46 56.0	-0.8
E21A	**Keefer Ranch,** baz=65	64.61	7	⇓P	P	07 46 57.2	0.0
E22A	**Miles City** baz=65,SNR=5.8	64.65	8	⇑P	P	07 46 56.4	-1.0
F27A	**Lemmon** baz=65,SNR=12	64.70	11	⇓P	P	07 46 57.0	-0.7
BDFB	**Brasilia** comp=Z,88nm,20.3s,baz=237,slow=33	64.81	99	LR	LR	08 11 59.0	
SLMT	**Seeley Lake** comp=Z,32nm,1.5s	64.85	2	*e*P	P	07 46 58.8	0.0
F28A	**McLaughlin** baz=65,SNR=5.6	64.90	12	⇓P	P	07 46 58.2	-0.8
E24A	**Baker** baz=65	64.99	9	⇓P	P	07 46 59.3	-0.4
D20A	**Manuel Ranch,** baz=65	65.05	6	⇑P	P	07 46 59.5	-0.5
D19A	**Cripps Ranch,** baz=65,SNR=5.5	65.05	5	⇑P	P	07 46 59.3	-0.7
E25A	**Miller Ranch,** baz=65	65.07	10	⇓P	P	07 47 00.5	+0.3
F29A	**Eureka** baz=65,SNR=5.9	65.08	12	⇓P	P	07 46 59.3	-0.8
D21A	**La Casta Ranch** baz=66	65.14	7	⇑P	P	07 47 01.0	+0.4
E26A	**Carlson Angus** baz=66	65.20	10	⇑P	P	07 47 01.3	+0.3
F30A	**Leola** baz=66	65.25	13	⇓P	P	07 47 01.4	+0.2
E27A	**Carson** baz=66,SNR=6.1	65.32	11	⇓P	P	07 47 01.0	-0.7
D22A	**Cohagen** baz=66	65.32	7	⇓P	P	07 47 02.4	+0.6
D23A	**Lindsay** baz=66	65.47	8	⇓P	P	07 47 03.0	+0.2
D24A	**Glendive** baz=66	65.53	9	⇓P	P	07 47 03.5	+0.4
C19A	**Slack Wire Ran** baz=66,SNR=5.6	65.60	5	⇑P	P	07 47 03.4	-0.2
E28A	**Huff** baz=66	65.62	12	⇓P	P	07 47 04.0	+0.3
RPZ	**Rata Peaks** comp=Z,437nm,20.8s,baz=32,slow=30	65.63	230	LR	LR	08 09 15.4	
C20A	**Veseth Ranch,** baz=66	65.68	6	⇓P	P	07 47 04.6	+0.6
D25A	**Fairfield** baz=66	65.72	9	⇑P	P	07 47 04.8	+0.5
D26A	**Manning** baz=66,SNR=7.3	65.75	10	⇓P	P	07 47 04.2	-0.3
E29A	**Napoleon** baz=66,SNR=6.6	65.82	12	⇓P	P	07 47 04.6	-0.3
EGMT	**Eagleton** baz=66,SNR=5.9	65.83	5	⇓P	P	07 47 05.1	0.0
NEW	**Newport** comp=Z,18nm,1.3s	65.84	359	*e*P	P	07 47 05.4	+0.4
NEW	**Newport** baz=66	65.84	359	⇑P	P	07 47 05.7	+0.7
E30A	**Jud** baz=66,SNR=5.3	65.91	13	⇑P	P	07 47 04.8	-0.7
C24A	**Savage** baz=66	65.92	9	⇑P	P	07 47 05.9	+0.3
C22A	**Vida** baz=66	65.94	7	⇑P	P	07 47 06.1	+0.4
C23A	**Lambert** baz=66,SNR=6.6	66.09	8	⇑P	P	07 47 06.2	-0.5
D28A	**Regan** baz=67	66.23	11	⇓P	P	07 47 07.7	+0.1
SPMN	**St. Paul** baz=67	66.25	18	⇑P	P	07 47 07.5	-0.2
C25A	**Freed Ranch, W** baz=67	66.28	9	⇓P	P	07 47 08.4	+0.5
B19A	**Brinkman Farms** baz=67	66.33	5	⇓P	P	07 47 08.8	+0.6
B20A	**Solberg Farm,** baz=67	66.39	6	⇓P	P	07 47 09.2	+0.6
B22A	**Reddig Ranch S** baz=67	66.47	7	⇓P	P	07 47 09.9	+0.8
B21A	**Ellsworth Farm** baz=67	66.48	7	⇑P	P	07 47 09.8	+0.6
D30A	**Buchanan** baz=67,SNR=5.6	66.52	13	⇓P	P	07 47 09.0	-0.4
C28A	**Hausauer Farms** baz=67	66.77	11	⇑P	P	07 47 11.6	+0.6
A19A	**Klindworth Far** baz=67,SNR=6.0	66.81	5	⇓P	P	07 47 11.4	0.0
B25A	**Knox Farm, Ray** baz=67	66.84	9	⇓P	P	07 47 11.8	+0.4
A20A	**Cobblestone Ra** baz=67,SNR=5.6	66.84	6	⇑P	P	07 47 11.7	+0.2
DGMT	**Dagmar** baz=67	66.88	9	⇑P	P	07 47 12.0	+0.3
A21A	**Bergtoll Ranch** baz=67	67.05	6	⇑P	P	07 47 13.4	+0.5
MDND	**Maddock** baz=67	67.05	12	⇓P	P	07 47 13.1	+0.3
C30A	**Mose, Pekin** baz=68,SNR=5.1	67.14	13	⇓P	P	07 47 12.9	-0.4
A22A	**Carney Farms,** baz=68	67.17	7	⇓P	P	07 47 13.8	+0.3
B28A	**Dugan Ranch, T** baz=68	67.48	11	⇓P	P	07 47 16.1	+0.6
A25A	**Svangstu Ranch** baz=68	67.49	9	⇓P	P	07 47 16.4	+0.8
A26A	**Wade Farm, Ken** baz=68	67.62	10	⇓P	P	07 47 16.8	+0.4
B29A	**Wagenman Farm,** baz=68	67.69	12	⇓P	P	07 47 16.9	+0.1
A27A	**Ledoux Ranch,** baz=68	67.81	10	⇑P	P	07 47 17.8	+0.2
B30A	**Myrvik Farm, E** baz=68,SNR=5.7	67.88	13	⇑P	P	07 47 17.6	-0.4
A28A	**Rude Farm, Bot** baz=68,SNR=6.4	67.94	11	⇓P	P	07 47 18.1	-0.3
A29A	**Manning Farm,** baz=68,SNR=5.0	68.15	12	⇑P	P	07 47 18.7	-1.0
ULM	**Lac du Bonnet**	70.11	14	P	P	07 47 30.2	-1.6
ULM	**Lac du Bonnet** comp=Z,5.1nm,1.0s,baz=156,slow=7.2,SNR=3.4	70.11	14	P	P	07 47 30.2	-1.6
QSPA	**South Pole Qui** comp=Z,30nm,1.4s	72.25	180	*e*P	P	07 47 46.2	+1.3
QSPA	**South Pole Qui** comp=Z,8.2nm,1.1s,baz=103,slow=2.0,SNR=3.6	72.25	180	P	P	07 47 45.7	+0.8
DLBC	**Dease Lake**	76.91	352	*e*P	P	07 48 12.9	+1.1
DLBC	**Dease Lake** comp=Z,8.9nm,1.0s,baz=182,slow=6.6,SNR=7.5	76.91	352	P	P	07 48 12.5	+0.7
HYT	**Haines Junctio**	80.31	350	*e*P	P	07 48 30.4	-0.2
DAWY	**Dawson**	83.66	350	*e*P	P	07 48 48.2	+0.1

H11S2	**WAKE ISLAND Hy** baz=113,slow=0.7,SNR=430	84.11	291		T	T	09 21 37.9	
H11S1	**WAKE ISLAND Hy** baz=113,slow=0.7,SNR=290	84.12	291		T	T	09 21 37.9	
H11S3	**WAKE ISLAND Hy** baz=113,slow=0.7,SNR=345	84.13	291		T	T	09 21 39.2	
H11N3	**WAKE ISLAND Hy** baz=116,slow=0.7,SNR=14	84.37	293		T	T	09 21 55.3	
H11N1	**WAKE ISLAND Hy** baz=116,slow=0.7,SNR=6.2	84.38	293		T	T	09 21 56.2	
H11N2	**WAKE ISLAND Hy** baz=116,slow=0.7,SNR=33	84.38	293		T	T	09 21 56.4	
ILAR	**Eielson Array**	85.72	347		P	**P**	**07 48 58.3**	**0.0**
ILAR	**Eielson Array** comp=Z,2.4nm,1.1s,baz=183,slow=3.2,SNR=4.4	85.72	347		P	**P**	**07 48 58.3**	**0.0**
COLA	**College**	86.01	347	*e*P		**P**	**07 48 59.8**	**+0.1**
COLA	comp=Z,67nm,1.3s				pmax	pmax		
COLA	**College** comp=Z,67nm,1.3s	86.01	347	*e*P		**P**	**07 48 59.8**	**+0.1**
STKA	**Stephens Creek** comp=Z,206nm,18.1s,baz=11,slow=35	90.79	236		LR	LR	08 29 46.4	
PMG	**Port Moresby** comp=Z,336nm,18.1s,baz=126,slow=32	93.58	259		LR	LR	08 25 26.4	
CN2	**Changchun**	122.68	311	*e*PKP		**PKPdf**	**07 55 13.7**	**-2.0**
CLL	**Collm**	127.86	38	*e*PS		PS	08 07 36.0	+1.8
CLL				*e*SS		SS	08 14 42.0	+1.7
CLL				*e*SSS		SSS	08 19 24.0	
BRG	**Berggiesshubel**	128.56	38	PKP		PKPdf	07 55 40.0	+13
BRG	comp=N,740nm,16.2s							
BRG	comp=E,290nm,25.6s							
BRG	comp=Z,695nm,15.8s							
HHC	**Hu-ho-hao-te**	133.33	310	*e*PKP		**PKPdf**	**07 55 38.4**	**+2.1**
HHC				PP		PP	07 58 11.4	+7.8
HHC				SKS		**SKSdf**	**08 02 44.5**	**-3.6**
HHC				SKKS		**SKKSac**	**08 04 56.5**	**-3.5**
HHC				SS		**SS**	**08 15 49.5**	**+1.0**
HHC				PPMZ				
HHC	comp=Z,200nm,11.9s				LR	LR		
HHC	comp=Z,440nm,16.7s				LR	LR		
HHC	comp=Z,610nm,17.8s				LR	LR		
HHC	comp=Z,420nm,17.8s				LR	LR		
UZH	**Uzhgorod**	134.42	38	*e*PKHKP		PKPpre	07 55 26.5	
MOS	**Moscow**	137.23	22	*e*PKIKP		PKPdf	07 55 48.5	+5.6
OBN	**Obninsk**	137.33	23	*e*PKIKP		**PKPdf**	**07 55 45.1**	**+2.0**
OBN	comp=Z,6.0nm,1.0s				pmax	pmax		
OBN	comp=Z,400nm,18.0s				MLR	MLR		
GYA	**Guiyang**	139.72	290	*e*Pdif		**Pdif**	**07 53 02.0**	**-0.2**
GYA				PKP		**PKPdf**	**07 55 48.4**	**-0.2**
GYA				PP		**PP**	**07 58 47.0**	**+2.7**
GYA				PKS		**PKSdf**	**07 59 23.8**	**-1.0**
GYA				SKKS			08 05 37.4	
GYA				PPMZ				
GYA	comp=Z,120nm,8.8s				LR	LR		
GYA	comp=Z,140nm,22.6s				LR	LR		
GYA	comp=Z,120nm,24.8s				LR	LR		
GYA	comp=Z,120nm,22.9s				LR	LR		
LZH	**Lanzhou**	140.46	305	*e*PKP		**PKPdf**	**07 55 48.5**	**-1.2**
LZH				sPKP			07 55 53.0	
LZH				SKKS			08 05 40.7	
LZH				*e*SS		**SS**	**08 17 13.6**	**-0.2**
LZH				PPMZ				
LZH	comp=Z,190nm,9.5s				LR	LR		
LZH	comp=Z,170nm,19.0s				LR	LR		
LZH	comp=Z,180nm,18.5s				LR	LR		
LZH	comp=Z,200nm,20.3s				LR	LR		
CD2	**Chengdu**	141.73	297	PKP		**PKPdf**	**07 55 51.1**	**-0.9**
CD2				PP		**PP**	**07 58 59.5**	**+3.1**
CD2				SKS		**SKSdf**	**08 02 58.3**	**-4.3**
CD2				SKKS		**SKKSac**	**08 05 48.3**	**-2.0**
CD2				SS		**SS**	**08 17 29.4**	**+0.5**
CD2				PPMZ				
CD2	comp=Z,150nm,8.3s				LR	LR		
CD2	comp=Z,380nm,9.5s				LR	LR		
CD2	comp=Z,290nm,10.7s				LR	LR		
GTA	**Gaotai**	142.29	312	PP		PP	07 59 01.4	+2.1
GTA				SKS		**SKSdf**	**08 02 58.1**	**-5.2**
GTA				SKKS		**SKKSac**	**08 05 51.5**	**-1.8**
GTA				SS		**SS**	**08 17 34.4**	**-0.2**
GTA				PPMZ				
GTA	comp=Z,87nm,6.4s				LR	LR		
GTA	comp=Z,280nm,17.3s				LR	LR		
GTA	comp=Z,200nm,16.9s				LR	LR		
GTA	comp=Z,280nm,16.6s				LR	LR		
BVAR	**Borovoye Array**	144.56	353	PKIKP		PKPbc	07 55 55.0	+0.2
BVAR	**Borovoye Array**	144.56	353	PKP		PKPbc	07 55 55.0	+0.1
BVAR	**Borovoye Array** comp=Z,1.6nm,0.6s,baz=135,slow=0.2,SNR=9.2	144.56	353	PKP		PKPbc	07 55 55.0	+0.1
VOSK	**Vostochnaya**	144.79	353	PKIKP		**PKPab**	**07 55 54.9**	**-0.6**
VOSK	comp=Z,2.0nm,0.9s				pmax	pmax		
ANN	**Anapa**	145.15	34	*i* PKHKP		**PKPbc**	**07 55 54.1**	**-2.8**
KURK	**Kurchatov**	145.21	344	*e*PKIKP		**PKPbc**	**07 55 56.1**	**-0.9**
KURK							07 55 56.3	
KURK	**Kurchatov**	145.21	344	*e*PKPdf		**PKPbc**	**07 55 56.0**	**-0.9**
KURK				PKPbc		**PKPab**	**07 55 56.2**	**-0.8**
KURBB	**Kurchatov Arra** comp=Z,3.5nm,0.8s,baz=15,slow=3.3,SNR=30	145.32	344	PKPbc		**PKPbc**	**07 55 56.2**	**-1.1**
BR131	**Keskin Array S**	145.89	44	*e*PKPbc		**PKPdf**	**07 55 59.2**	**+0.1**
BRTR	**Keskin Array B**	145.89	44	PKPbc		**PKPdf**	**07 55 59.1**	**+0.1**
BRTR	**Keskin Array B** comp=Z,1.3nm,0.5s,baz=325,slow=1.5,SNR=15	145.89	44	PKPbc		**PKPdf**	**07 55 59.1**	**+0.1**
CMAR	**Chiang Mai Arr**	146.82	277	PKPbc		**PKPbc**	**07 56 03.2**	**+0.3**
CMAR	**Chiang Mai Arr** comp=Z,5.3nm,1.0s,baz=51,slow=1.7,SNR=6.8	146.82	277	PKPbc		**PKPbc**	**07 56 03.2**	**+0.3**
CHTO	**Chiang Mai**	146.85	277	*e*PKP2		**PKPab**	**07 56 04.4**	**+0.1**
CHTO	**Chiang Mai**	146.85	277	*e*PKPbc		**PKPab**	**07 56 04.4**	**+0.1**
AKTO	**Aktyubinsk**	147.16	7	PKIKP		**PKPdf**	**07 56 00.5**	**-0.2**
AKTO	**Aktyubinsk**	147.16	7	PKPbc		**PKPdf**	**07 56 00.5**	**-0.2**
AKTO	**Aktyubinsk** comp=Z,8.6nm,1.1s,baz=12,slow=4.1,SNR=14	147.16	7	PKPbc		**PKPdf**	**07 56 00.5**	**-0.2**
WMQ	**Urumqi**	147.32	327	PKPbc		**PKPbc**	**07 56 02.5**	**-1.1**
MK31	**Makanchi Array**	147.45	336	*i* PKIKP		**PKPdf**	**07 56 01.4**	**0.0**
MK31	comp=Z,7.0nm,1.0s				pmax	pmax		
MK31	**Makanchi Array**	147.45	336	*e*PKPbc		**PKPbc**	**07 56 03.5**	**-0.4**
MKAR	**Makanchi Array**	147.45	336	PKIKP		**PKPdf**	**07 56 02.4**	**+1.0**
MKAR	**Makanchi Array**	147.45	336	PKPbc		**PKPdf**	**07 56 02.4**	**+1.0**
MKAR	**Makanchi Array** comp=Z,3.2nm,1.0s,baz=28,slow=3.4,SNR=14	147.45	336	PKPbc		**PKPdf**	**07 56 02.4**	**+1.0**
KMBO	**Kilima Mbogo**	147.60	123	*e*PKPbc		**PKPbc**	**07 56 05.6**	**+0.1**
KMBO	**Kilima Mbogo** comp=Z,3.5nm,0.7s,baz=220,slow=23,SNR=8.1	147.60	123	PKPbc		**PKPbc**	**07 56 06.5**	**+0.9**
KIV	**Kislovodsk**	148.40	30	*e*PKIKP		**PKPdf**	**07 56 03.0**	**-0.1**
KIV	comp=Z,10.0nm,1.2s				pmax	pmax		
KIV	comp=Z,300nm,17.0s				MLR	MLR		
AB31	**Akbulak array**	148.52	5	*i* PKIKP		**PKPdf**	**07 56 03.8**	**+0.8**
AB31	comp=Z,5.0nm,0.6s				pmax	pmax		
ABKAR	**Akbulak array**	148.52	5	*e*PKPdf		**PKPdf**	**07 56 03.9**	**+0.9**
ABKAR				*e*PKPbc		**PKPbc**	**07 56 06.9**	**+0.3**
KBZ	**Khabaz**	148.67	30	PKIKP		**PKPdf**	**07 56 04.9**	**+1.5**
KBZ	**Khabaz**	148.67	30	PKPbc		**PKPdf**	**07 56 04.8**	**+1.5**
KBZ	**Khabaz** comp=Z,2.8nm,0.9s,baz=170,slow=6.1,SNR=5.6	148.67	30	PKPbc		**PKPdf**	**07 56 04.8**	**+1.5**
KSH	**Kashi**	156.06	337	*e*PKP		**PKPdf**	**07 56 17.6**	**+2.9**
KSH				*e*PP		PP	08 00 25.0	+6.7
KSH				SKS		**SKSdf**	**08 03 22.2**	**+0.6**
KSH				SKKS		**SKKSac**	**08 07 14.7**	**+5.4**
KSH				SS		SS	08 20 18.3	+11
KSH				PPMZ				
KSH	comp=Z,110nm,4.9s							

*ISCJB **09** 07:55:04.6±0.9, 34°46'N±0'06×23°93'E±0'08, h29km, mb3.6/5, Error ellipse: s-maj=9.9km s-min=8.9km az=32.6*
*ATH **09** 07:55:06.0, 34°58'N×24°02'E, h30km=1km, MD3.3/10*
*CSEM **09** 07:55:06.0, 34°58'N×24°02'E, h30km, MD3.3, After ATH*
*IDC **09** 07:55:08.2±2.1, 34°56'N×24°04'E, h59km±16km, mb3.5/5, mb1 3.6/5, mb1mx3.3/26, mbtmp3.5/5, Error ellipse: s-maj=34.1km s-min=21.0km az=133.0*

ISC 09 07:55:05.6±1.2, 34°55'N±0'08×23°93'E±0'06, h29km, n26, σ092/31, mb3.6/5, Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.32**	**24**	*e*PB		**Pb**		**07 55 13.1**	**-0.1**
GVD				*e*SB		**Sb**		**07 55 18.7**	**+0.3**
GVD	**Gavdhos**	**0.32**	**24**	*e*Pb		**Pb**		**07 55 13.1**	**-0.1**
GVD				*e*Sb		**Sb**		**07 55 18.7**	**+0.3**
KARN	**Karanos**	**0.85**	**359**	*e*PN		**Pb**		**07 55 22.0**	**+0.1**
KARN				*e*SN		**Sn**		**07 55 34.5**	**+1.3**
KARN	**Karanos**	**0.85**	**359**	*e*Pn		**Pb**		**07 55 22.0**	**+0.1**
KARN				*e*Sn		**Sn**		**07 55 34.5**	**+1.3**
SIVA	**Sivas**	**0.86**	**57**	*e*PN		**Pn**		**07 55 21.9**	**+0.1**
SIVA	**Sivas**	**0.86**	**57**	*e*Pn		**Pn**		**07 55 21.9**	**+0.1**
VAM	**Vamos**	**0.89**	**14**	*e*PB		**Pn**		**07 55 22.1**	**0.0**
VAM	**Vamos**	**0.89**	**14**	*e*Pb		**Pn**		**07 55 22.1**	**0.0**
IDI	**Anoyia**	**1.08**	**47**	*e*PB		**Pn**		**07 55 24.8**	**-0.1**
IDI	**Anoyia**	**1.08**	**47**	*e*Pb		**Pn**		**07 55 24.8**	**-0.1**
IDI	**Anoyia** 24nm,0.3s,baz=216,slow=13,SNR=47	**1.08**	**47**	P		**Pn**		**07 55 24.9**	**+0.1**
IDI	27nm,0.3s,baz=311,slow=21,SNR=12			S		**Sb**		**07 55 40.5**	**+1.0**
ANKY	**Antikythira Is**	**1.41**	**339**	*e*PN		**Pb**		**07 55 32.0**	**+0.7**
ANKY	**Antikythira Is**	**1.41**	**339**	*e*Pn		**Pb**		**07 55 32.0**	**+0.7**
LAST	**Lasithi**	**1.41**	**64**	*e*PN		**Pb**		**07 55 30.7**	**-0.7**
LAST	**Lasithi**	**1.41**	**64**	*e*Pn		**Pb**		**07 55 30.7**	**-0.7**
NPS	**Neapolis**	**1.56**	**62**	*e*PN		**Pn**		**07 55 32.6**	**+1.3**
NPS	**Neapolis**	**1.56**	**62**	*e*Pn		**Pn**		**07 55 32.6**	**+1.3**
KYTH	**Kithira**	**1.88**	**337**	*e*PN		**Pb**		**07 55 38.2**	**-1.0**
KYTH	**Kithira**	**1.88**	**337**	*e*Pn		**Pb**		**07 55 38.2**	**-1.0**
KARP	**Karpathos**	**2.83**	**68**	*e*PN		**Pn**		**07 55 50.3**	**+1.4**
KARP	**Karpathos**	**2.83**	**68**	*e*Pn		**Pn**		**07 55 50.3**	**+1.4**
FINES	**FINESS Array B** 1.8nm,0.7s,baz=180,slow=14,SNR=2.9	**26.95**	**2**	P		**P**		**08 00 44.0**	**-0.2**
TORD	**Torodi Ar. Bea** 0.5nm,0.5s,baz=39,slow=8.8,SNR=5.5	**29.32**	**229**	P		**P**		**08 01 07.0**	**+1.1**
ARCES	**ARCESS Array B** 3.4nm,0.9s,baz=191,slow=9.1,SNR=3.5	**35.05**	**1**	P		**P**		**08 01 53.7**	**-1.8**
KURBB	**Kurchatov Arra** 0.2nm,0.3s,baz=276,slow=8.2,SNR=2.9	**42.29**	**50**	P		**P**		**08 02 54.9**	**-1.5**
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=267,slow=7.5,SNR=8.9	**44.96**	**56**	P		**P**		**08 03 16.9**	**-1.0**

IDC 09 07:59:48.2±2.3, 15°53S×173°53W, h0km, mb3.9/4, mb1 4.3/4, mb1mx3.9/19, mbtmp3.9/4, MS4.2/1, Ms1 4.2/1, ms1mx3.5/27, Error ellipse: s-maj=185.3km s-min=24.5km az=154.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 6.1nm,0.3s,baz=247,slow=20,SNR=6.3	**2.34**	**47**	Pn		Pn		08 00 21.6	-6.5
AFI	22nm,0.3s,baz=227,slow=23,SNR=6.9			Sn		Sn		08 00 45.2	-12
H11S2	**WAKE ISLAND Hy** baz=152,slow=0.7,SNR=11	**39.01**	**329**	T		T		08 48 49.5	
H11S3	**WAKE ISLAND Hy** baz=152,slow=0.7,SNR=17	**39.02**	**329**	T		T		08 48 50.0	
H11S1	**WAKE ISLAND Hy** baz=152,slow=0.7,SNR=13	**39.03**	**329**	T		T		08 48 53.4	
H11N3	**WAKE ISLAND Hy** baz=156	**39.96**	**331**	T		T		08 49 58.8	
H11N1	**WAKE ISLAND Hy** baz=156,SNR=5.5	**39.97**	**331**	T		T		08 49 58.4	
H11N2	**WAKE ISLAND Hy** baz=156	**39.98**	**331**	T		T		08 50 00.0	
WRA	**Warramunga Arr** 0.8nm,0.9s,baz=89,slow=6.4,SNR=2.0	**49.69**	**257**	P		P		08 08 43.1	+0.6
WRA	comp=Z,267nm,20.0s,baz=65,slow=35			LR		LR		08 28 34.3	
ASAR	**Alice Springs** 4.8nm,0.7s,baz=86,slow=8.3,SNR=29	**49.95**	**252**	P		P		08 08 43.8	-0.7
NVAR	**Mina Array Bea** 1.2nm,1.0s,baz=233,slow=8.2,SNR=5.7	**74.51**	**42**	P		P		08 11 29.1	0.0
TXAR	**Lajitas Array** 0.4nm,0.9s,baz=215,slow=7.7,SNR=3.5	**80.79**	**56**	P		P		08 12 04.3	+0.1
BRTR	**Keskin Array B** 0.7nm,0.7s,baz=221,slow=1.5,SNR=4.0	**146.18**	**321**	PKPbc		PKPdf		08 19 29.9	-0.1

IDC 09 08:01:58.9±7.1, 0°50S×132°89E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.2/21, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=432.6km s-min=30.3km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=353,slow=14,SNR=4.5	**19.37**	**176**	P		P		08 06 25.3	-1.1
ASAR	**Alice Springs** 0.2nm,0.5s,baz=6.7,slow=10,SNR=4.1	**23.05**	**178**	P		P		08 07 06.9	+0.8
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=123,slow=7.6,SNR=2.7	**64.55**	**324**	P		P		08 12 37.9	0.0

IDC 09 08:08:46.2±1.7, 12°72S×164°90E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/18, mbtmp3.6/5, ML2.8/1, Error ellipse: s-maj=48.9km s-min=31.3km az=126.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 0.1nm,0.3s,baz=335,slow=19,SNR=2.3	**9.42**	**171**	Pn		Pn		08 11 02.2	-1.2
WRA	**Warramunga Arr** 0.2nm,0.7s,baz=77,slow=9.6,SNR=3.0	**30.16**	**252**	P		P		08 14 57.7	-0.6
ASAR	**Alice Springs** 0.4nm,0.7s,baz=70,slow=9.4,SNR=7.9	**31.33**	**245**	P		P		08 15 09.0	+0.4
ILAR	**Eielson Array** 0.4nm,0.6s,baz=234,slow=3.8,SNR=5.7	**85.35**	**19**	P		P		08 21 24.6	-0.3
MKAR	**Makanchi Array** 0.7nm,0.8s,baz=101,slow=5.3,SNR=6.6	**94.17**	**317**	P		P		08 22 07.8	+0.8

IDC 09 08:10:53.9±1.6, 13°63S×166°03E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/19, mbtmp3.7/5, ML3.2/1, Error ellipse: s-maj=42.7km s-min=28.0km az=110.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 0.3nm,0.3s,baz=78,slow=20,SNR=5.3	**8.40**	**177**	Pn		Pn		08 12 56.1	-0.9
DZM	baz=299,slow=24,SNR=1.8			Sn		Sn		08 14 36.0	+3.2
WRA	**Warramunga Arr** 1.1nm,1.1s,baz=86,slow=9.4,SNR=3.1	**30.95**	**254**	P		P		08 17 13.2	+0.3
ASAR	**Alice Springs** 0.2nm,0.7s,baz=77,slow=8.8,SNR=2.8	**31.96**	**247**	P		P		08 17 21.7	-0.2
ILAR	**Eielson Array** 0.7nm,0.7s,baz=234,slow=5.8,SNR=6.6	**85.87**	**18**	P		P		08 23 35.4	+0.3
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=90,slow=4.3,SNR=2.7	**95.59**	**317**	P		P		08 24 20.6	-0.6

**IDC 09 08:14:48.9±2.7, 17°

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.54**	**251**	P	P	08 25 33.5	-0.4
	0.8nm,0.8s,baz=84,slow=9.5,SNR=4.7						
ASAR	**Alice Springs**	**32.78**	**244**	P	P	08 25 44.9	+0.1
	0.8nm,0.6s,baz=67,slow=9.9,SNR=9.9						
ILAR	**Eielson Array**	**83.96**	**18**	P	P	08 31 41.0	-0.4
	0.4nm,0.9s,baz=263,slow=6.3,SNR=3.6						
MKAR	**Makanchi Array**	**94.11**	**317**	P	P	08 32 31.0	+0.8
	0.6nm,0.6s,baz=101,slow=5.7,SNR=4.5						

IDC 09 08:29:38.8±4.9, 31.92S×179.92E, h326km±37km, mb3.6/5, mb1 3.7/6, mb1mx3.3/18, mbtmp3.6/6, Error ellipse: s-maj=51.0km s-min=17.1km az=46.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.73**	**199**	P	Pn	08 31 18.6	+1.3
	3.0nm,0.3s,baz=70,slow=17,SNR=37						
URZ				S	S	08 32 35.0	-2.1
	5.4nm,0.3s,baz=72,slow=21,SNR=20						
CTA	**Charters Tower**	**32.34**	**283**	P	P	08 35 39.8	+1.0
	2.4nm,0.5s,baz=91,slow=11,SNR=3.4						
STKA	**Stephens Creek**	**32.42**	**260**	P	P	08 35 40.5	+1.1
	1.8nm,0.5s,baz=119,slow=10,SNR=5.1						
ASAR	**Alice Springs**	**41.28**	**270**	P	P	08 36 52.9	-0.6
	1.1nm,0.3s,baz=106,slow=7.4,SNR=26						
WRA	**Warramunga Arr**	**42.41**	**275**	P	P	08 37 01.7	-0.9
	1.9nm,0.3s,baz=111,slow=8.2,SNR=56						
QSPA	**South Pole Qui**	**58.19**	**180**	P	P	08 38 59.9	+0.6
	5.2nm,0.7s,baz=341,slow=2.0,SNR=34						
FINES	**FINESS Array B**	**145.92**	**338**	PKPbc	PKPdf	08 48 38.2	0.0
	1.6nm,0.7s,baz=101,slow=2.8,SNR=4.8						
TORD	**Torodi Ar. Bea**	**161.24**	**185**	PKPab	PKPab	08 49 45.1	-1.5
	0.2nm,0.4s,baz=173,slow=3.7,SNR=3.4						

MEX 09 08:33:49.4±0.6, 29.97N×114.58W, h12km±16km, MD4.3, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**1.31**	**325**	*eP*	Pn	08 34 10.3	-3.8
SPIG				*i* S	Sb	08 34 26.4	-5.3
HSIG		**3.30**	**106**	*i* P	Pn	08 34 37.4	-3.6
HSIG				*i* S	Sn	08 35 17.2	-3.1
CGIG		**5.73**	**84**	*i* P	Pn	08 35 12.8	-1.8
CGIG				*i* S	Sn	08 36 16.4	-4.1

*ISCJB **09** 08:35:25.6±0.7, 24.82N±0.03×122.18E±0.02, h99km±5km, Error ellipse: s-maj=5.7km s-min=3.5km az=168.7*
*TAP **09** 08:35:25.5, 24.83N×122.14E, h101km, ML3.6, C*
*JMA **09** 08:35:26.2±0.1, 25.01N×122.26E, h91km*
ISC 09 08:35:25.7±1.6, 24.83N±0.06×122.17E±0.03, h100km±10km, n40, σ0.65/76, 1C-4D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.24**	**317**	⇓*i* P	**Pn**	**08 35 40.2**	**+0.1**
	baz=314						
TWB1				*i* S	**Sn**	**08 35 50.4**	**-0.4**
	baz=314						
TWC	**Suao**	**0.36**	**234**	⇓*i* P	**Pn**	**08 35 40.6**	**-0.1**
	baz=230						
TWC				S	**Sn**	**08 35 51.2**	**-0.5**
	baz=230						
ILA	**Ilan**	**0.39**	**261**	*e*P	**Pn**	**08 35 40.9**	**+0.1**
	baz=252						
ILA				*e*S	**Sn**	**08 35 52.1**	**+0.1**
	baz=252						
NWF	**Wu-fen Shan**	**0.43**	**304**	⇓*i* P	**Pn**	**08 35 41.1**	**0.0**
	baz=298						
NWF				*i* S	**Sn**	**08 35 52.4**	**-0.3**
	baz=298						
TWE	**Neicheng**	**0.47**	**257**	*i* P	**Pn**	**08 35 41.3**	**0.0**
	baz=257						
TWE				*e*S	**Sn**	**08 35 52.9**	**-0.1**
	baz=257						
TWA	**Mucha**	**0.56**	**286**	P	**Pn**	**08 35 41.6**	**-0.4**
	baz=286						
TWA				*e*S	**Sn**	**08 35 53.2**	**-0.9**
	baz=286						
ENA	**Nanau**	**0.56**	**225**	*e*P	**Pn**	**08 35 42.3**	**+0.3**
	baz=215						
ENA				*e*S	**Sn**	**08 35 54.3**	**+0.2**
	baz=215						
ENTT	**Nioudou**	**0.58**	**251**	*i* P	**Pn**	**08 35 42.4**	**+0.3**
	baz=246						
ENTT				*e*S	**Sn**	**08 35 55.4**	**+0.9**
	baz=246						
TWY	**Chenhua**	**0.68**	**311**	*i* P	**Pn**	**08 35 42.7**	**-0.2**
	baz=307						
TWY				*e*S	**Sn**	**08 35 56.1**	**+0.2**
	baz=307						
TWS1	**Kuangyinshan**	**0.74**	**292**	P	**Pn**	**08 35 43.5**	**+0.1**
	baz=297						
TWS1				*e*S	**Sn**	**08 35 58.1**	**+1.3**
	baz=297						
NSK	**Sanguang**	**0.76**	**259**	⇓*i* P	**Pn**	**08 35 43.7**	**0.0**
	baz=257						
NSK				S	**Sn**	**08 35 56.7**	**-0.6**
	baz=257						
NNS	**Nan Shan**	**0.82**	**242**	*e*P	**Pn**	**08 35 44.8**	**+0.3**
	baz=245						
NNS				S	**Sn**	**08 35 58.6**	**0.0**
	baz=245						
YOJ	**Yonaguni jima**	**0.85**	**115**	P	**Pn**	**08 35 44.7**	**+0.2**
YOJ				*e*S	**Sn**	**08 35 58.4**	**-0.2**
NCU	**National Centr**	**0.91**	**279**	*i* P	**Pn**	**08 35 45.4**	**+0.2**
	baz=285						
NCU				*e*S	**Sn**	**08 35 59.8**	**+0.1**
	baz=285						
TWD	**Chiawan**	**0.91**	**215**	*e*P	**Pn**	**08 35 44.8**	**-0.3**
	baz=223						
TWD				*e*S	**Sn**	**08 35 59.1**	**-0.7**
	baz=223						
HWA	**Hwalien**	**0.99**	**212**	*e*P	**Pn**	**08 35 48.4**	**+2.4**
	baz=199						
HWA				*e*S	**Sn**	**08 36 01.8**	**+0.5**
	baz=199						
TWT	**Tachien**	**1.07**	**238**	*e*P	**Pn**	**08 35 47.5**	**+0.4**
	baz=229						
TWT				*e*S	**Sn**	**08 36 03.6**	**+0.4**
	baz=229						
NSTT	**Nanjuang**	**1.08**	**260**	*i* P	**Pn**	**08 35 46.9**	**-0.1**
	baz=258						
NSTT				S	**Sn**	**08 36 02.4**	**-0.7**
	baz=258						
HSN	**Hsinchu**	**1.09**	**269**	*e*P	**Pn**	**08 35 47.0**	**-0.2**
	baz=260						
HSN				*e*S	**Sn**	**08 36 02.5**	**-0.9**
	baz=260						
ESL	**Shilin**	**1.21**	**214**	*e*P	**Pn**	**08 35 47.5**	**-1.1**
	baz=215						
ESL				*e*S	**Sn**	**08 36 04.3**	**-1.5**
	baz=215						
NSY	**Sanyi**	**1.35**	**253**	*e*P	**Pn**	**08 35 50.1**	**0.0**
	baz=252						
NSY				*e*S	**Sn**	**08 36 08.7**	**+0.1**
	baz=252						
TWQ1	**Liyutan**	**1.36**	**250**	*e*P	**Pn**	**08 35 50.3**	**0.0**
	baz=249						
TWQ1				*e*S	**Sn**	**08 36 08.4**	**-0.5**
	baz=249						
SMLT	**Sun Moon Lake**	**1.49**	**231**	*e*P	**Pn**	**08 35 52.7**	**+0.7**
	baz=223						
SMLT				*e*S	**Sn**	**08 36 12.5**	**+0.6**
	baz=223						
IRIF	**Iriomote-Funau**	**1.50**	**109**	*e*S	**Sn**	**08 36 11.8**	**-0.1**
TYC	**Yuchr**	**1.51**	**233**	*e*P	**Pn**	**08 35 52.6**	**+0.5**
	baz=238						
TYC				*e*S	**Sn**	**08 36 12.5**	**+0.4**
	baz=238						
EHY	**Hungye**	**1.53**	**211**	*e*P	**Pn**	**08 35 52.9**	**+0.6**
	baz=205						
EHY				*e*S	**Sn**	**08 36 12.3**	**-0.2**
	baz=205						
TWF1	**Yuli**	**1.67**	**209**	*e*P	**Pn**	**08 35 53.5**	**-0.7**
	baz=205						
HATJ	**Hateruma jima**	**1.68**	**117**	*e*S	**Sn**	**08 36 16.4**	**+0.7**
YUS	**Yu-Shan**	**1.74**	**220**	*e*P	**Pn**	**08 35 56.5**	**+1.1**
	baz=206						
YUS				*e*S	**Sn**	**08 36 18.4**	**+0.5**
	baz=206						
JKRS	**Kuro-shima**	**1.77**	**109**	P	**Pn**	**08 35 55.8**	**+0.4**
JKRS				*e*S	**Sn**	**08 36 17.9**	**-0.1**
ALS	**Alishan**	**1.81**	**224**	⇑P	**Pn**	**08 35 56.9**	**+0.7**
	baz=231						
ALS				*e*S	**Sn**	**08 36 19.8**	**+0.5**
	baz=231						
CHN5	**Tsauling**	**1.83**	**228**	*e*P	**Pn**	**08 35 57.3**	**+1.0**
	baz=226						
CHN5				*e*S	**Sn**	**08 36 20.1**	**+0.7**
	baz=226						
JIJ	**Ishigaki jima**	**1.85**	**104**	P	**Pn**	**08 35 56.4**	**0.0**
JIJ				*e*S	**Sn**	**08 36 19.1**	**-0.7**
ELDTW	**Lidau**	**1.94**	**213**	*e*P	**Pn**	**08 35 57.9**	**+0.2**
	baz=202						
ELDTW				*e*S	**Sn**	**08 36 21.1**	**-0.9**
	baz=202						
CHN4	**Tsaushan**	**2.06**	**225**	*e*P	**Pn**	**08 35 59.7**	**+0.6**
	baz=222						
CHN4				*e*S	**Sn**	**08 36 24.7**	**+0.1**
	baz=222						
CHY	**Chiayi**	**2.07**	**231**	*e*P	**Pn**	**08 35 59.3**	**0.0**
	baz=227						
CHY				*e*S	**Sn**	**08 36 25.4**	**+0.6**
	baz=227						
WTP	**Ta-pu**	**2.12**	**222**	*e*P	**Pn**	**08 35 59.6**	**-0.3**
	baz=231						
WTP				*e*S	**Sn**	**08 36 26.3**	**+0.2**
	baz=231						
CHN1	**Nanshi**	**2.22**	**223**	*e*P	**Pn**	**08 36 00.8**	**-0.4**
	baz=231						
CHN1				*e*S	**Sn**	**08 36 28.3**	**-0.1**
	baz=231						
TWG	**Pinlang**	**2.24**	**207**	*e*P	**Pn**	**08 36 00.2**	**-1.2**
	baz=195						
TWG				*e*S	**Sn**	**08 36 26.8**	**-1.9**
	baz=195						
JTJ	**Tarama**	**2.31**	**94**	*e*S	**Sn**	**08 36 30.5**	**+0.2**

MEX 09 08:41:26.1±0.8, 16.63N×93.89W, h137km±9km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**0.75**	**79**	*e*P	Pn	08 41 46.7	-0.9
TGIG				*i* S	Sn	08 42 01.7	-2.2
PCIG		**1.12**	**145**	*e*P	Pn	08 41 49.7	-1.2
PCIG				*e*S	Sn	08 42 07.6	-2.0
CCIG	**Comitan**	**1.71**	**101**	*e*P	Pn	08 41 56.1	-1.2
CCIG				*i* S	Sn	08 42 19.2	-2.0
HUIG	**Huatulco**	**2.30**	**248**	*i* P	Pn	08 42 02.1	-2.0
HUIG				*i* S	Sn	08 42 32.0	-1.3
VHO	**Vista Hermosa**	**2.76**	**280**	*i* P	Pn	08 42 09.1	-1.1
VHO				*i* S	Sn	08 42 43.1	-1.0

*ISCJB **09** 08:54:58.1±0.6, 5.61N±0.06×126.84E±0.08, h66km, mb3.9/13, Error ellipse: s-maj=13.6km s-min=6.6km az=147.3*
*IDC **09** 08:55:01.9±5.8, 5.51N×126.44E, h84km±54km, mb3.7/13, mb1 3.8/13, mb1mx3.7/25, mbtmp3.7/13, Error ellipse: s-maj=54.1km s-min=12.1km az=73.0*
*MAN **09** 08:55:02, 5.94N×126.79E, h10km, mb4.7, ML3.6, MS3.6*
ISC 09 08:54:59.6±0.7, 5.59N±0.08×126.8E±0.1, h66km, n17, σ1s04/22, mb3.9/13, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.44**	**339**	*e*P	**Pn**	**08 55 23.2**	**-0.5**
MATI				*e*S	**Sn**	**08 55 40.6**	**-1.2**
GSPH	**General Santos**	**1.89**	**285**	*e*P	**Pn**	**08 55 30.1**	**+0.3**
GSPH				*e*S	**Sn**	**08 55 52.3**	**-0.5**
BUKP	**Musuan**	**2.84**	**323**	*e*P	Pn	08 55 47.0	+4.4
BUKP				*e*S	**Sn**	**08 56 17.3**	**+1.5**
FITZ	**Fitzroy Crossi**	**23.57**	**183**	P	**P**	**09 00 05.4**	**+0.9**
	1.2nm,0.4s,baz=343,slow=5.9,SNR=4.0						
WRA	**Warramunga Arr**	**26.44**	**164**	P	**P**	**09 00 31.7**	**+1.2**
	2.7nm,0.7s,baz=343,slow=10,SNR=25						
WRA				PcP	**PcP**	**09 03 54.8**	**+0.3**
	0.3nm,0.7s,baz=336,slow=2.5,SNR=3.6						
ASAR	**Alice Springs**	**29.90**	**167**	P	**P**	**09 01 01.0**	**-0.3**
	0.4nm,0.4s,baz=343,slow=6.7,SNR=10						
ASAR				PcP	**PcP**	**09 04 03.4**	**+0.4**
	0.7nm,0.4s,baz=345,slow=2.6,SNR=13						
USRK	**Ussuriysk Arra**	**38.72**	**6**	P	**P**	**09 02 18.6**	**+1.4**
	0.7nm,0.5s,baz=210,slow=6.1,SNR=3.3						
STKA	**Stephens Creek**	**39.85**	**160**	P	**P**	**09 02 27.8**	**+1.0**
	3.3nm,0.6s,baz=338,slow=8.8,SNR=10						
SONM	**Songino Array**	**45.56**	**341**	P	**P**	**09 03 14.7**	**+1.7**
	0.3nm,0.4s,baz=153,slow=9.7,SNR=2.6						
MKAR	**Makanchi Array**	**56.07**	**325**	P	**P**	**09 04 31.4**	**-0.6**
	1.0nm,0.5s,baz=115,slow=7.3,SNR=12						
MKAR				PcP	**PcP**	**09 05 29.6**	**+0.1**
	1.2nm,0.7s,baz=125,slow=3.7,SNR=6.3						
ZALV	**Zalesovo Beam**	**58.97**	**333**	P	**P**	**09 04 50.7**	**-1.4**
	1.2nm,0.3s,baz=100,slow=5.0,SNR=3.3						
KURBB	**Kurchatov Arra**	**60.21**	**327**	P	**P**	**09 05 00.3**	**-0.4**
	1.5nm,0.6s,baz=119,slow=7.6,SNR=10						
VNDA	**Vanda**	**85.26**	**173**	P	**P**	**09 07 26.6**	**-1.9**
	0.9nm,0.8s,baz=297,slow=4.3,SNR=5.3						
ARCES	**ARCESS Array B**	**88.73**	**340**	P	**P**	**09 07 44.8**	**-0.8**
	1.8nm,0.8s,baz=88,slow=6.4,SNR=4.0						
BRTR	**Keskin Array B**	**88.88**	**310**	P	**P**	**09 07 46.3**	**-0.8**
	0.4nm,0.7s,baz=74,slow=7.8,SNR=3.6						
FINES	**FINESS Array B**	**90.22**	**332**	P	**P**	**09 07 52.8**	**0.0**
	1.1nm,0.6s,baz=80,slow=4.5,SNR=3.9						
TORD	**Torodi Ar. Bea**	**122.38**	**289**	PKP	**PKPdf**	**09 13 47.8**	**-0.5**
	0.5nm,0.7s,baz=52,slow=1.0,SNR=3.7						

*IDC **09** 08:56:43.2±1.1, 14.17N×93.14E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/29, mbtmp3.6/7, Error ellipse: s-maj=41.2km s-min=19.4km az=56.0*
*ISCJB **09** 08:56:46.1±0.8, 14.3N±0.1×93.2E±0.1, h33km, mb3.6/6, Error ellipse: s-maj=21.4km s-min=9.0km az=141.3*
ISC 09 08:56:48.3±1.1, 14.3N±0.1×93.2E±0.2, h35km, n16, σ0.80/16, mb3.6/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.94**	**52**	Pn	**Pn**	**08 58 27.5**	**0.0**
	baz=241,slow=14						
ODAN	**Odare**	**13.64**	**338**	*e*P	**Pn**	**08 59 59.5**	**0.0**
	9.7nm,0.2s						
TAPN	**Taplejung**	**13.98**	**340**	*e*P	**Pn**	**09 00 03.4**	**-0.8**
	7.4nm,0.3s						
RAMN	**Ramite**	**14.03**	**335**	*e*P	**Pn**	**09 00 04.4**	**-0.4**
	7.7nm,0.3s						
JIRN	**Jiri**	**14.83**	**335**	*e*P	**Pn**	**09 00 15.3**	**-0.5**
	9.5nm,0.3s						
PKI	**Pulchoki**	**15.08**	**333**	*e*P	**Pn**	**09 00 18.1**	**-1.0**
	9.1nm,0.2s						
DMN	**Daman**	**15.25**	**332**	*e*P	**Pn**	**09 00 20.1**	**-1.2**
	7.0nm,0.3s						
GKN	**Gorkha**	**15.80**	**331**	*e*P	**Pn**	**09 00 27.5**	**-0.9**
	14nm,0.3s						
KOLN	**Koldanda**	**16.12**	**328**	*e*P	**Pn**	**09 00 31.8**	**-0.7**
DANN	**Dangsing**	**16.51**	**330**	*e*P	**Pn**	**09 00 36.3**	**-1.3**
MKAR	**Makanchi Array**	**33.68**	**346**	P	**P**	**09 03 27.0**	**+1.1**
	0.2nm,0.5s,baz=170,slow=8.8,SNR=3.0						
KURBB	**Kurchatov Arra**	**38.16**	**345**	P	**P**	**09 04 04.6**	**+0.5**
	0.5nm,0.7s,baz=160,slow=8.2,SNR=3.5						
FITZ	**Fitzroy Crossi**	**45.38**	**134**	P	**P**	**09 05 03.3**	**-0.4**
	1.0nm,0.5s,baz=314,slow=6.2,SNR=7.3						
WRA	**Warramunga Arr**	**52.88**	**129**	P	**P**	**09 06 00.7**	**-0.3**
	0.6nm,0.8s,baz=308,slow=7.9,SNR=4.2						
ASAR	**Alice Springs**	**54.84**	**133**	P	**P**	**09 06 15.3**	**0.0**
	0.4nm,0.6s,baz=311,slow=7.1,SNR=7.4						
TORD	**Torodi Ar. Bea**	**88.22**	**283**	P	**P**	**09 09 37.1**	**+0.5**
	0.9nm,1.2s,baz=101,slow=4.3,SNR=2.3						

*IDC **09** 09:06:14.9±0.7, 16.73S×172.34W, h0km, mb4.2/8, mb1 4.5/8, mb1mx4.2/20, mbtmp4.2/8, MS5.3/4, Ms1 5.3/4, ms1mx4.0/24, Error ellipse: s-maj=32.7km s-min=18.0km az=136.0*
*ISCJB **09** 09:06:16.8±0.7, 16.48S±0.09×172.6W±0.1, h24km, mb4.3/12, MS5.3/4, Error ellipse: s-maj=19.6km s-min=7.3km az=34.5*
*NEIC **09** 09:06:16.1±0.6, 16.62S×172.40W, h10km, mb4.2/3, Error ellipse: s-maj=18.7km s-min=10.0km az=137.0*
ISC 09 09:06:18.0±0.7, 16.53S±0.09×172.4W±0.1, h24km, n36, σ1s08/33, mb4.3/12, MS5.3/4, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.68**	**14**	Pn	**Pn**	**09 06 58.6**	**-1.2**
AFI				Sn	**Sn**	**09 07 30.8**	**-0.7**
AFI	**Afiamalu**	**2.68**	**14**	Pn	**Pn**	**09 06 58.6**	**-1.2**
	19nm,0.3s,baz=258,slow=20,SNR=11						
AFI				Sn	**Sn**	**09 07 30.8**	**-0.7**
	45nm,0.3s,baz=191,slow=23,SNR=11						
MSVF	**Nonsavu**	**9.18**	**261**	Pn	**Pn**	**09 08 30.4**	**+1.3**
	22nm,1.0s						
RAR	**Rarotonga**	**12.85**	**113**	LR	LR	09 12 20.1	
	comp=Z,163nm,19.5s,baz=271,slow=29						
DZM	**Mont Dzumac**	**20.68**	**251**	P	**P**	**09 10 54.9**	**-1.6**
	5.7nm,0.8s						
URZ	**Urewera**	**23.52**	**201**	P	**P**	**09 11 26.6**	**+0.3**
URZ	**Urewera**	**23.52**	**201**	P	**P**	**09 11 26.6**	**+0.3**
	41nm,1.1s,baz=352,slow=2.0,SNR=3.4						
ARMA	**Armidale**	**35.58**	**241**	P	**P**	**09 13 13.3**	**-0.6**
	38nm,1.4s						
CTA	**Charters Tower**	**39.31**	**258**	LR	LR	09 26 37.3	
	comp=Z,7μm,19.6s,baz=67,slow=31						
CTAO	**Charters Tower**	**39.31**	**258**	*e*P	**P**	**09 13 44.9**	**-0.6**
	10nm,1.1s						
PMG	**Port Moresby**	**39.95**	**275**	LR	LR	09 26 05.1	
	comp=Z,10μm,19.5s,baz=103,slow=30						
STKA	**Stephens Creek**	**44.30**	**241**	P	**P**	**09 14 26.5**	**+0.4**
STKA	**Stephens Creek**	**44.30**	**241**	P	**P**	**09 14 26.5**	**+0.4**
	1.9nm,0.6s,baz=142,slow=8.2,SNR=5.5						
WRAB	**Tennant Creek**	**50.49**	**258**	*e*P	**P**	**09 15 14.6**	**0.0**
	7nm,0.6s						
WRA	**Warramunga Arr**	**50.50**	**258**	P	**P**	**09 15 14.7**	**+0.1**
WRA	**Warramunga Arr**	**50.50**	**258**	P	**P**	**09 15 14.7**	**+0.1**
	3.7nm,1.0s,baz=94,slow=6.9,SNR=28						
AS31	**Alice Springs**	**50.66**	**253**	*e*P	**P**	**09 15 15.3**	**-0.5**
ASAR	**Alice Springs**	**50.66**	**253**	P	**P**	**09 15 15.9**	**+0.2**
ASAR	**Alice Springs**	**50.66**	**253**	P	**P**	**09 15 15.9**	**+0.2**
	12nm,0.6s,baz=87,slow=8.6,SNR=184						
JCJ	**Chichijima**	**61.80**	**314**	LR	LR	09 39 59.1	
	comp=Z,1μm,20.2s,baz=126,slow=33						
VNDA	**Vanda**	**62.36**	**186**	P	**P**	**09 16 37.3**	**-0.9**
VNDA	**Vanda**	**62.36**	**186**	P	**P**	**09 16 37.3**	**-0.9**
	0.7nm,1.0s,baz=8.6,slow=7.7,SNR=4.2						
NVAR	**Mina Array Bea**	**74.55**	**41**	P	**P**	**09 17 56.1**	**+0.9**
NVAR	**Mina Array Bea**	**74.55**	**41**	P	**P**	**09 17 56.1**	**+0.9**
	1.9nm,0.8s,baz=224,slow=8.8,SNR=13						
KSRS	**Korea Array**	**77.61**	**315**	LR	LR	09 51 51.5	
	comp=Z,696nm,18.1s,baz=150,slow=35						
TXAR	**Lajitas Array**	**80.47**	**56**	P	**P**	**09 18 29.7**	**+1.3**
TXAR	**Lajitas Array**	**80.47**	**56**	P	**P**	**09 18 29.7**	**+1.3**
	1.2nm,0.9s,baz=216,slow=7.8,SNR=9.2						
COLA	**College**	**83.30**	**10**	P	**P**	**09 18 43.6**	**+1.4**
	15nm,0.9s						
ILAR	**Eielson Array**	**83.37**	**11**	P	**P**	**09 18 44.3**	**+1.6**
ILAR	**Eielson Array**	**83.37**	**11**	P	**P**	**09 18 44.3**	**+1.6**
	0.5nm,0.8s,baz=188,slow=6.0,SNR=3.5						
GERES	**GERESS Array B**	**147.38**	**352**	PKPbc	**PKPab**	**09 26 02.7**	**+1.0**
GERES	**GERESS Array B**	**147.38**	**352**	PKPbc	**PKPab**	**09 26 02.7**	**+1.0**
	0.2nm,0.3s,baz=280,slow=0.6,SNR=4.1						
BRTR	**Keskin Array B**	**147.62**	**321**	PKPbc	**PKPab**	**09 26 02.1**	**-0.9**
BRTR	**Keskin Array B**	**147.62**	**321**	PKPbc	**PKPab**	**09 26 02.1**	**-0.9**
	1.4nm,0.8s,baz=147,slow=2.5,SNR=6.9						
TORD	**Torodi Ar. Bea**	**173.40**	**120**	PKPab	**PKPab**	**09 27 52.9**	**-1.9**
TORD	**Torodi Ar. Bea**	**173.40**	**120**	PKPab	**PKPab**	**09 27 52.9**	**-1.9**
	0.8nm,0.7s,baz=255,slow=3.5,SNR=4.7						

*BJI **09** 09:14:33.3, 12.35S×166.42E, h5km, mB5.6/48, mb5.1/53, Ms5.3/49, Ms7 5.0/49*
*IDC **09** 09:14:36.6±0.5, 11.72S×166.03E, h0km, mb4.8/21, mb1 4.8/24, mb1mx4.8/26, mbtmp4.8/24, ML4.3/3, MS5.0/16, Ms1 5.1/16, ms1mx4.9/27, Error ellipse: s-maj=17.1km s-min=13.3km az=93.0*
*ISCJB **09** 09:14:37.3±0.2, 11.76S±0.03×165.97E±0.03, h10km, mb5.2/84, MS5.3/176, Error ellipse: s-maj=5.0km s-min=4.3km az=137.2*
*MOS **09** 09:14:40.8±1.2, 11.70S×165.86E, h33km, mb5.5/22, MS5.1/21, Error ellipse: s-maj=10.0km s-min=8.3km az=34.3*
*NEIC **09** 09:14:42.3±0.2, 11.72S×165.98E, h35km, mb5.4/29, MS5.4/140, MW5.5, Error ellipse: s-maj=7.3km s-min=6.1km az=148.0, Moment Tensor Solution. s23 Moment tensor: Scale 10^17 Nm; Mrr=0.63; Mθθ=0.96; Mφφ=1.59; Mrθ=0.15; Mθφ=-0.25; Mφr=1.45; Best double couple: M=2.00000×10^17 NP1:φs=163.00000°, δ75.00000°, λ64.00000°. NP2:φs=46.00000°, δ29.00000°, λ149.00000°. Principal axes: T 1.4700, Plg52.0000°, Azm42.0000°; N 0.8500, Plg24.0000°, Azm170.0000°; P -2.3100, Plg26.0000°, Azm273.0000°;*
*DJA **09** 09:14:43.6±1.3, 12.2S±4.4×166.6E±1.1, h36km±10km, M5.3/40, mB5.8/17, mb5.3/40, Mw(mB)5.3/17*
*GCMT **09** 09:14:44.5±0.1, 11.79S×165.82E, h18km, MW5.6, Moment Tensor Solution. s102,c169; s14,c15; Moment tensor: Scale 10^17 Nm; Mrr=2.19±.04; Mθθ=-0.13±.03; Mφφ=-2.07±.03; Mrθ=0.98±.08; Mθφ=0.58±.02; Mφr=-1.77±.08; Best double couple: M=3.00000×10^17 NP1:φs=156.00000°, δ66.00000°, λ83.00000°. NP2:φs=353.00000°, δ25.00000°, λ106.00000°. Principal axes: T 3.0000, Plg68.0000°, Azm52.0000°; N -0.0200, Plg7.0000°, Azm158.0000°; P -2.9900, Plg21.0000°, Azm251.0000°; Data Used: II IU G CN IC. Surface waves: sta=103, comp=195, per= 50.*
*AUST **09** 09:14:45.6±1.3, 11.80S×165.83E, h51km±16km Error ellipse: s-maj=10.8km s-min=9.6km az=85.0*
ISC 09 09:14:40.2±0.4, 11.72S±0.04×165.98E±0.05, h17km±2km, n459, σ1s54/387, mb5.3/84, MS5.3/178, 17C-16D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.36**	**290**	Pn	**Pn**	**09 16 13.1**	**0.0**
HNR				Sn	**Sn**	**09 17 22.2**	**-3.1**
HNR	**Honiara**	**6.36**	**290**	Pn	**Pn**	**09 16 13.1**	**0.0**
	31nm,0.3s,baz=113,slow=15,SNR=12						
HNR				Sn	**Sn**	**09 17 22.2**	**-3.1**
	25nm,0.3s,baz=186,slow=23,SNR=7.3						
DZM	**Mont Dzumac**	**10.30**	**178**	*e*Pn	**Pn**	**09 17 06.6**	**-0.7**
	369nm,1.4s						
DZM				*e*LR	LR	09 19 23.2	
	11μm,23.7s						
DZM	**Mont Dzumac**	**10.30**	**178**	*e*Pn	**Pn**	**09 17 07.2**	**-0.1**
	45nm,0.6s						
DZM				*e*Sn

RMQ Roma 21.88 225 P P 09 19 33.0 +0.6
baz=22,SNR=42
COEN Coen 22.35 262 eP P 09 19 37.4 0.0
comp=Z,2μm,1.8s
COEN Coen 22.35 262 ⇑P P 09 19 37.7 +0.2
baz=22,SNR=16
ARMA Armidale 22.88 213 eP P 09 19 43.5 +0.4
comp=Z,184nm,1.1s
ARMA Armidale 22.88 213 ⇓P P 09 19 43.4 +0.4
baz=23,SNR=19
RAO Raoul Island 23.01 142 PFAKE 09 20 00.0 +16
RAO LR LR
comp=Z,5μm,19.0s
KNTN Kanton 23.82 70 eP P 09 19 55.2 +2.7
comp=Z,208nm,1.3s
QLP Quilpie 25.25 231 ⇑P P 09 20 05.1 -0.4
baz=25,SNR=3.1
CMSA Cobar Meteorol 27.20 220 ⇓P P 09 20 25.4 +2.3
baz=27,SNR=18
YNG Young 27.61 213 ⇓P P 09 20 29.2 +2.5
baz=28
CAN Canberra 28.09 210 PFAKE 09 20 40.0 +8.9
CAN LR LR
comp=Z,3μm,20.0s
H11S2 WAKE ISLAND Hy 30.03 1 T T 09 51 25.8
baz=179
H11S3 WAKE ISLAND Hy 30.03 1 T T 09 51 22.9
baz=179
H11S1 WAKE ISLAND Hy 30.05 1 T T 09 51 19.8
baz=179
STKA Stephens Creek 30.12 224 eP P 09 20 48.9 -0.2
comp=Z,4.6nm,1.0s
STKA Stephens Creek 30.12 224 ⇓P P 09 20 49.0 -0.2
baz=30,SNR=6.1
STKA Stephens Creek 30.12 224 P P 09 20 48.2 -0.9
comp=Z,11nm,1.0s,baz=7.9,slow=11,SNR=8.6
STKA LR LR 09 32 46.5
comp=Z,7μm,18.7s,baz=46,slow=36
SNZO South Karori 30.45 167 PFAKE 09 21 00.0 +8.2
SNZO LR LR
comp=Z,5μm,21.0s
WAKE Wake Island 30.82 1 PFAKE 09 21 10.0 +15
WAKE LR LR
comp=Z,3μm,19.0s
H11N1 WAKE ISLAND Hy 31.25 2 T T 09 52 54.5
baz=182
H11N3 WAKE ISLAND Hy 31.26 2 T T 09 52 53.2
baz=182
H11N2 WAKE ISLAND Hy 31.27 2 T T 09 52 51.9
baz=182
BAKI Biak 31.43 287 P P 09 21 01.6 +0.7
comp=Z,109nm,1.3s
WRAB Tennant Creek 31.46 251 eP P 09 20 59.4 -1.7
WRAB pmax pmax
comp=Z,35nm,1.2s
WRAB MLR MLR
comp=Z,3μm,19.0s
WRAB Tennant Creek 31.46 251 eP P 09 20 59.4 -1.7
comp=Z,35nm,1.2s
WRAB LR LR
comp=Z,3μm,19.0s
WRA Warramunga Arr 31.48 251 P P 09 20 59.5 -1.7
WRA PcP PcP 09 23 54.2 -0.1
WRA ScP ScP 09 27 37.8 +0.9
WRA Warramunga Arr 31.48 251 P P 09 20 59.5 -1.7
comp=Z,18nm,0.9s,baz=84,slow=9.2,SNR=44
WRA PcP PcP 09 23 54.2 -0.1
comp=Z,3.7nm,0.9s,baz=76,slow=3.1,SNR=6.5
WRA ScP ScP 09 27 37.8 +0.9
comp=Z,4.1nm,1.1s,baz=86,slow=3.5,SNR=7.2
RPZ Rata Peaks 32.18 173 P P 09 21 07.3 +0.2
RPZ Rata Peaks 32.18 173 P P 09 21 07.3 +0.2
comp=Z,32nm,0.8s,baz=18,slow=1.1,SNR=9.5
AS17 Alice Springs 32.63 244 ⇓P P 09 21 10.0 -1.4
baz=32
AS01 Alice Springs 32.66 244 ⇑P P 09 21 10.1 -1.5
baz=32
AS02 Alice Springs 32.68 244 ⇑P P 09 21 10.5 -1.3
baz=32
AS14 Alice Springs 32.70 244 ⇑P P 09 21 10.6 -1.3
baz=32
AS31 Alice Springs 32.70 244 eP P 09 21 10.4 -1.6
ASAR Alice Springs 32.70 244 P P 09 21 09.5 -2.5
ASAR PcP PcP 09 23 57.5 -0.1
ASAR ScP ScP 09 27 42.1 +1.1
ASAR Alice Springs 32.70 244 P P 09 21 09.5 -2.5
comp=Z,16nm,0.9s,baz=76,slow=9.4,SNR=86
ASAR PcP PcP 09 23 57.5 -0.1
comp=Z,7.0nm,0.9s,baz=92,slow=2.7,SNR=12
ASAR ScP ScP 09 27 42.1 +1.1
comp=Z,7.6nm,1.2s,baz=86,slow=3.0,SNR=13
GUMO Guam 32.73 320 PFAKE 09 21 20.0 +7.9
GUMO LR LR
comp=Z,4μm,19.0s
KDU Kakadu 32.76 265 P P 09 21 11.5 -0.9
baz=33,SNR=4.2
HTT Hallett 32.85 225 ⇑P P 09 21 13.1 -0.1
baz=33
RAR Rarotonga 34.10 111 LR LR 09 32 40.2
comp=Z,3μm,20.4s,baz=271,slow=32
BBOO Buckleboo 34.54 228 eP P 09 21 28.6 +0.7
comp=Z,377nm,1.0s
TAU Tasmania Unive 35.05 204 eP P 09 21 36.5 +4.5
TAU pmax pmax
comp=Z,77nm,1.3s
TAU MLR MLR
comp=Z,2μm,20.0s
TAU Tasmania Unive 35.05 204 eP P 09 21 36.5 +4.5
comp=Z,77nm,1.3s
TAU LR LR
comp=Z,2μm,20.0s
KNRA Kununurra 36.34 259 ⇓P P 09 21 42.6 -0.9
baz=36,SNR=14
XMAS Kiritimati 38.84 72 PFAKE 09 22 20.0 +15
XMAS LR LR
comp=Z,4μm,19.0s
NLAI Namlea 39.42 279 P P 09 22 10.3 +0.8
FITZ Fitzroy Crossi 39.44 256 eP P 09 22 08.8 -0.9
comp=Z,48nm,1.3s
FITZ Fitzroy Crossi 39.44 256 ⇓P P 09 22 08.4 -1.2
baz=39,SNR=20
FITZ Fitzroy Crossi 39.44 256 LR LR 09 38 38.7
comp=Z,5μm,18.4s,baz=86,slow=36
LBMI Labuha 39.75 283 P P 09 22 13.5 +1.2
SOEI Soe 41.01 269 P P 09 22 24.0 +1.1
BATI Baumata 41.55 268 P P 09 22 25.9 -1.3
MIDW Midway 42.85 22 PFAKE 09 22 50.0 +13
MIDW LR LR
comp=Z,4μm,21.0s
MMRI Maumere 43.13 270 P P 09 22 39.9 -0.2
MMRI Maumere 43.13 270 eP P 09 22 39.7 -0.4
comp=Z,108nm,1.3s
PPT Papeete 43.31 103 LR LR 09 38 04.7
comp=Z,3μm,18.1s,baz=98,slow=32
PPT2 Papeete2 43.31 103 eS S 09 29 12.6 +3.9
comp=Z,2μm,25.5s
PPT2 eLQ LQ 09 32 52.5
comp=Z,6μm,27.2s
PPT2 eLR LR 09 34 41.5
comp=Z,5μm,26.2s,baz=281
KMSI Cibinong 43.47 283 P P 09 22 43.5 +0.7
LUWI Luwuk 44.16 281 P P 09 22 48.8 +0.4
DAV Davao City (W) 44.31 293 P P 09 22 49.1 -0.5
comp=Z,336nm,1.3s
DAV Davao City (W) 44.31 293 PFAKE 09 23 00.0 +10
DAV LR LR
comp=Z,2μm,22.0s
KKSI Kolaka, Sulawe 44.49 276 P P 09 22 51.5 +0.4
MBWA Marble Bar 45.20 252 eP P 09 22 56.2 -0.4
comp=Z,37nm,1.0s
MBWA LR LR
comp=Z,4μm,20.0s
APSI Ampana 45.28 280 P P 09 22 57.7 +0.4
BKSI Bulukumba 45.75 274 P P 09 23 00.6 -0.5
BNSI Bone 45.95 275 P P 09 23 02.9 +0.3
KAPI Kappang 46.17 274 P P 09 23 04.0 -0.4
comp=Z,90nm,1.5s,comp=Z,1μm
KAPI Kappang 46.17 274 eP P 09 23 03.9 -0.5
comp=Z,145nm,1.3s
KAPI LR LR
comp=Z,864nm,21.0s
SPSI Sidrap Palu 46.37 276 P P 09 23 05.5 -0.4
TTSI Tana Toraja 46.52 277 P P 09 23 07.9 +0.8
MEEK Meekatharra 46.86 244 P P 09 23 09.6 -0.1
baz=47,SNR=7.5
KLBR Kellerberrin 48.55 238 P P 09 23 21.8 -0.9
baz=48,SNR=6.2

NWAO Narrogin (SRO) 49.28 237 eP P 09 23 27.7 -0.6
comp=Z,52nm,1.3s
NWAO LR LR
comp=Z,4μm,20.0s
MORW Morawa 49.51 242 P P 09 23 29.8 -0.3
baz=49,SNR=6.8
SMKI Samarinda 49.68 279 P P 09 23 27.1 -4.5
MYLDM Lahad Datu 50.12 287 P P 09 23 37.7 +2.8
MYLDM Lahad Datu 50.12 287 P P 09 23 35.6 +0.7
comp=Z,92nm,1.4s,comp=Z,2μm
TSM Tawau 50.42 286 P P 09 23 39.2 +2.0
BYJI Banyuwangi 50.91 269 P P 09 23 41.7 +0.8
ABJI Asem Bagus 51.09 269 P P 09 23 43.1 +0.8
KMMI Kalianget 51.47 270 P P 09 23 42.2 -2.9
BLJI Banyuglugur 51.73 269 P P 09 23 48.0 +1.0
GMJI Gumukmas 51.80 269 P P 09 23 48.4 +0.9
KKM Kota Kinabalu 52.55 287 P P 09 23 55.6 +2.4
KKM Kota Kinabalu 52.55 287 P P 09 23 54.8 +1.4
comp=Z,88nm,1.2s,comp=Z,1μm
KKM Kota Kinabalu 52.55 287 eP P 09 23 54.7 +1.4
KKM Kota Kinabalu 52.55 287 ⇑P P 09 23 54.7 +1.4
baz=52,SNR=5.2
PWJI Pagerwojo 53.44 269 P P 09 23 59.1 -0.6
SJI Sawahan 53.52 269 P P 09 24 00.8 +0.4
NGJI Ngawi 53.88 269 P P 09 24 05.4 +2.5
PCJI Pacitan 54.03 268 P P 09 24 04.3 +0.3
WOJI Wonogiri, Jawa 54.33 269 P P 09 24 06.5 +0.3
PBKI Pangkalan Bun 54.54 275 P P 09 24 07.9 +0.1
MJAR Matsushiro Arr 54.68 333 P P 09 24 06.7 -1.7
MJAR Matsushiro Arr 54.68 333 P P 09 24 06.7 -1.7
comp=Z,6.0nm,0.9s,baz=168,slow=8.7,SNR=13
MAJO Matsushiro 54.68 333 eP P 09 24 07.9 -0.4
MAJO pmax pmax
comp=Z,98nm,1.8s
MAJO MLR MLR
comp=Z,1μm,20.0s
MAJO Matsushiro 54.68 333 eP P 09 24 07.9 -0.4
comp=Z,98nm,1.8s
MAJO LR LR
comp=Z,1μm,20.0s
MAT Matsushiro 54.68 333 P P 09 24 06.9 -1.4
MAT S S 09 31 51.2 +3.4
SBUM Sibu 55.26 281 P P 09 24 15.2 +2.2
SBUM Sibu 55.26 281 P P 09 24 14.3 +1.3
comp=Z,23nm,1.2s,comp=Z,665nm
SBUM Sibu 55.26 281 eP P 09 24 14.8 +1.8
STKI Sintang 55.36 278 P P 09 24 14.1 +0.4
BJII Banjamegara 55.60 269 P P 09 24 14.4 -1.1
comp=Z,63nm,1.4s,comp=Z,2μm
JNU Nakatsue 55.76 324 P P 09 24 16.5 +0.2
JNU Nakatsue 55.76 324 P P 09 24 16.5 +0.2
comp=Z,14nm,0.8s,baz=124,slow=8.3,SNR=6.5
TGJI Tegal 56.25 270 P P 09 24 20.8 +0.7
KPJI Karang Pucung 56.36 269 P P 09 24 21.9 +1.0
YHNB Yeheng 56.59 310 PFAKE 09 24 30.0 +7.6
YHNB LR LR
comp=Z,2μm,19.0s
TATO Taipei 56.68 310 PFAKE 09 24 30.0 +7.1
TATO LR LR
comp=Z,2μm,20.0s
KSM Kuching 56.84 280 P P 09 24 26.1 +1.7
KSM Kuching 56.84 280 P P 09 24 24.6 +0.3
comp=Z,40nm,1.2s,comp=Z,624nm
KSM Kuching 56.84 280 eP P 09 24 25.0 +0.7
comp=Z,59nm,1.4s
KSM LR LR
comp=Z,440nm,20.0s
KSM Kuching 56.84 280 ⇑P P 09 24 25.9 +1.5
baz=57,SNR=7.0
RKT Rikitea 57.14 110 eS S 09 32 24.8 +3.7
comp=Z,934nm,31.5s
RKT eLQ LQ 09 38 40.8
comp=Z,2μm,28.5s
RKT eLR LR 09 41 03.9
comp=Z,3μm,29.5s,baz=283
CISI Cisompet, Garu 57.42 268 P P 09 24 28.9 +0.4
DRV Dumont d'Urvil 57.59 192 P P 09 24 20.0 -8.7
DRV Dumont d'Urvil 57.59 192 PP PP 09 26 43.0 +6.6
DRV S S 09 32 08.0 -18
DRV SS SS 09 36 05.0 -11
DRV L L 09 38 00.0
DRV R 09 41 00.0
LEM Lembang 57.73 269 P P 09 24 31.5 +0.7
comp=Z,125nm,1.0s
DBJI Dramaga 58.62 269 P P 09 24 37.2 +0.3
SKJI Sukabumi 58.74 269 P P 09 24 37.6 -0.1
SBJI Serang 59.30 270 P P 09 24 42.5 +0.9
PPBI Pangkal Pinang 60.05 274 P P 09 24 48.3 +1.5
SSE Sheshan 60.50 316 P P 09 24 56.4 +7.0
SSE S S 09 33 01.2 -3.2
SSE AMB AMB
comp=Z,48nm,0.8s
SSE AMB AMB
comp=Z,140nm,5.0s
SSE LR LR
comp=Z,380nm,18.6s
SSE LR LR
comp=Z,390nm,19.4s
SSE LR LR
comp=Z,750nm,21.8s
KSRS Korea Array 60.56 326 P P 09 24 49.2 -0.5
comp=Z,2.9nm,0.8s,baz=137,slow=7.4,SNR=11
KSRS PcP PcP 09 25 35.3 +1.2
comp=Z,7.6nm,1.0s,baz=134,slow=4.9,SNR=7.5
KSAR Wonju Array Be 60.58 326 P P 09 24 49.2 -0.6
KSAR PcP PcP 09 25 35.3 +1.1
INCN Inchon 61.30 325 PFAKE 09 25 10.0 +15
INCN LR LR
comp=Z,1μm,21.0s
MDSI Maura Dua 61.51 271 P P 09 24 56.8 +0.1
YSS Yuzh-Sakhalins 62.00 342 eP P 09 24 59.5 +0.3
LHSI Lahat 62.27 272 P P 09 25 02.3 +0.5
NJ2 Nanjing 62.66 316 eP P 09 25 03.8 -0.2
NJ2 pP pP 09 25 08.4 -1.3
NJ2 PP PP 09 27 23.2 +1.1
NJ2 S S 09 33 38.0 +6.2
NJ2 sS sS 09 33 44.5 +3.4
NJ2 AMB AMB
comp=Z,30nm,1.1s
NJ2 AMB AMB
comp=Z,250nm,6.8s
NJ2 LR LR
comp=Z,2μm,22.5s
NJ2 LR LR
comp=Z,1μm,20.5s
NJ2 LR LR
comp=Z,1μm,19.3s
MYKOM Kota Tinggi 63.17 278 P P 09 25 09.9 +2.1
MYKOM Kota Tinggi 63.17 278 P P 09 25 08.8 +1.0
comp=Z,18nm,1.9s,comp=Z,661nm
QIZ Qiongzhong 63.20 298 P P 09 25 08.2 +0.3
QIZ PP PP 09 27 26.7 -0.4
QIZ S S 09 33 40.3 +1.2
QIZ AMB AMB
comp=Z,14nm,1.4s
QIZ AMB AMB
comp=Z,390nm,8.6s
QIZ LR LR
comp=Z,310nm,17.0s
QIZ LR LR
comp=Z,850nm,26.0s
USRK Ussuriysk Arra 63.65 333 P P 09 25 09.9 -0.5
comp=Z,12nm,1.0s,baz=144,slow=6.4,SNR=18
KGM Kluang 63.74 278 P P 09 25 13.7 +2.2
FX1 Attu Island--F 64.64 5 eP P 09 25 16.6 0.0
KTGM Kuala Trenggan 64.76 282 P P 09 25 20.7 +2.5
PET Petropavlovsk 64.79 355 eP P 09 25 19.1 +1.5
PET e 09 27 46.6
PET eS S 09 33 58.9 +1.4
PET pmax pmax
comp=Z,200nm,16.3s
PET pmax pmax
comp=Z,200nm,19.5s
PET MLR MLR
comp=Z,900nm,18.0s
PETK Petropavlovsk- 64.96 354 P P 09 25 18.3 -0.4
PETK Petropavlovsk- 64.96 354 P P 09 25 18.3 -0.4
PETK Petropavlovsk- 64.96 354 P P 09 25 18.3 -0.4
comp=Z,7.0nm,1.0s,baz=134,slow=8.3,SNR=7.9
PETK LR LR 09 48 38.7
comp=Z,861nm,20.4s,baz=174,slow=31
WHN Wuhan 65.02 312 ⇑P P 09 25 20.9 +1.3
WHN S S 09 34 01.7 +0.6
WHN LR LR
comp=Z,2μm,24.5s

MDJ Mudanjiang 65.05 332 P P 09 25 20.0 +0.5
MDJ pP pP 09 25 23.4 -1.8
MDJ PcP PcP 09 25 51.8 -0.5
MDJ S S 09 34 03.0 +1.9
MDJ AMB AMB
comp=Z,16nm,0.9s
MDJ AMB AMB
comp=Z,360nm,5.0s
MDJ LR LR
comp=Z,190nm,14.5s
MDJ LR LR
comp=Z,720nm,12.4s
MDJ LR LR
comp=Z,880nm,16.6s
ADK Adak 65.10 12 PFAKE 09 25 30.0 +10
ADK LR LR
comp=Z,2μm,19.0s
FRIM Kepong 65.68 279 P P 09 25 25.8 +1.6
VNDA Vanda 65.82 181 eP P 09 25 23.7 -0.4
comp=Z,23nm,1.3s
VNDA Vanda 65.82 181 P P 09 25 23.0 -1.1
comp=Z,10nm,1.1s,baz=352,slow=7.3,SNR=25
VNDA LR LR 09 52 57.9
comp=Z,946nm,18.4s,baz=360,slow=35
CASY Casey 65.84 201 PFAKE 09 25 40.0 +16
CASY LR LR
comp=Z,1μm,21.0s
PPI Padang Panjang 66.02 275 P P 09 25 26.9 +0.5
comp=Z,39nm,1.0s,comp=Z,890nm
SNY Shenyang 66.02 327 ⇑P P 09 25 23.3 -2.5
SNY S S 09 34 19.0 +6.0
SNY AMB AMB
comp=Z,310nm,10.8s
SNY LR LR
comp=N,1μm,17.4s
SNY LR LR
comp=E,700nm,18.3s
SNY LR LR
comp=Z,800nm,20.4s
SBA Scott Base 66.12 180 eP P 09 25 26.4 +0.4
SBA pmax pmax
comp=Z,26nm,1.0s
SBA MLR MLR
comp=Z,1μm,19.0s
SBA Scott Base 66.12 180 eP P 09 25 26.4 +0.4
comp=Z,26nm,1.0s
SBA LR LR
comp=Z,1μm,19.0s
CN2 Changchun 66.44 329 eP P 09 25 28.1 -0.4
CN2 eS S 09 34 22.7 +4.6
CN2 AMB AMB
comp=Z,30nm,1.0s
CN2 AMB AMB
comp=Z,330nm,7.0s
CN2 LR LR
comp=Z,700nm,16.0s
CN2 LR LR
comp=Z,600nm,16.0s
CN2 LR LR
comp=Z,800nm,18.0s
IPM Ipoh 66.57 280 P P 09 25 31.8 +1.9
IPM Ipoh 66.57 280 P P 09 25 30.4 +0.5
comp=Z,67nm,1.3s,comp=Z,1μm
IPM Ipoh 66.57 280 eP P 09 25 30.5 +0.5
comp=Z,189nm,1.5s
KULM Kulim 67.14 281 P P 09 25 36.1 +2.6
KULM Kulim 67.14 281 P P 09 25 33.5 -0.1
comp=Z,40nm,1.5s
KULM Kulim 67.14 281 eP P 09 25 36.2 +2.7
comp=Z,68nm,1.4s
KULM LR LR
comp=Z,572nm,20.0s
COCO West Island 67.47 262 PFAKE 09 25 50.0 +14
COCO LR LR
comp=Z,1μm,21.0s
SKNT Sakolnakorn 67.58 294 P P 09 25 37.7 +1.4
comp=Z,56nm,1.2s,comp=Z,6μm
KLR Kul'dur 67.77 337 eP P 09 25 32.2 -4.6
KLR pmax pmax
comp=Z,57nm,1.6s
PSI Prapat 68.19 278 P P 09 25 40.9 +0.5
baz=68,SNR=5.8
GYA Guiyang 68.99 304 P P 09 25 45.4 +0.3
GYA S S 09 34 50.0 +0.4
GYA SKS SKSac 09 35 43.0 -1.6
GYA AMB AMB
comp=Z,30nm,1.0s
GYA AMB AMB
comp=Z,210nm,5.2s
GYA LR LR
comp=Z,430nm,17.1s
GYA LR LR
comp=Z,490nm,17.7s
GYA LR LR
comp=Z,600nm,18.6s
CHAI Chaiyaphum 69.01 292 P P 09 25 46.9 +1.6
comp=Z,4.5nm,1.1s,comp=Z,284nm
BJI Beijing 69.15 321 P P 09 25 45.3 -0.3
BJI S S 09 34 51.4 +0.7
BJI AMB AMB
comp=Z,21nm,1.1s
BJI AMB AMB
comp=Z,460nm,6.2s
BJI LR LR
comp=Z,950nm,23.3s
BJI LR LR
comp=Z,760nm,23.8s
BJI LR LR
comp=Z,1μm,23.3s
GSI Gunungsitoli 69.16 276 P P 09 25 46.7 +0.4
comp=Z,58nm,1.3s
KCSI Kotacane, Aceh 69.48 278 P P 09 25 48.3 0.0
XAN Xi'an 70.75 312 P P 09 25 55.6 -0.1
XAN pP pP 09 26 06.1 +4.7
XAN S S 09 35 09.8 0.0
XAN SS SS 09 39 51.9 +9.5
XAN AMB AMB
comp=Z,5.0nm,0.9s
XAN AMB AMB
comp=Z,97nm,8.0s
XAN LR LR
comp=Z,400nm,21.5s
XAN LR LR
comp=Z,220nm,20.4s
NANT Nan 71.14 295 P P 09 26 00.5 +2.2
comp=Z,45nm,1.2s
KMI Kunming 71.67 301 P P 09 26 03.0 +1.3
KMI pP pP 09 26 08.1 +0.7
KMI S S 09 35 23.4 +2.2
KMI SKS SKSac 09 36 01.6 -3.6
KMI SS SS 09 40 01.9 +4.7
KMI AMB AMB
comp=Z,32nm,1.1s
KMI AMB AMB
comp=Z,380nm,3.9s
KMI LR LR
comp=Z,530nm,19.5s
KMI LR LR
comp=Z,650nm,19.1s
KMI LR LR
comp=Z,750nm,22.7s
HHC Hu-ho-hao-te 72.50 320 eP P 09 26 06.7 +0.5
HHC sP sP 09 26 12.6 -1.4
HHC PP PP 09 28 50.7 +3.0
HHC S S 09 35 30.3 +0.4
HHC SKS SKSac 09 36 07.2 -3.3
HHC ScS SKKSac 09 36 10.6 0.0
HHC AMB AMB
comp=Z,54nm,1.1s
HHC AMB AMB
comp=Z,720nm,6.9s
HHC LR LR
comp=Z,1μm,19.0s
HHC LR LR
comp=Z,1μm,18.2s
HHC LR LR
comp=Z,2μm,21.4s
CHTO Chiang Mai 72.71 294 eP P 09 26 09.7 +2.0
CHTO pmax pmax
comp=Z,111nm,1.3s
CHTO MLR MLR
comp=Z,356nm,20.0s
CHTO Chiang Mai 72.71 294 P P 09 26 08.4 +0.6
comp=Z,89nm,1.9s,comp=Z,2μm
CHTO Chiang Mai 72.71 294 eP P 09 26 09.7 +2.0
comp=Z,111nm,1.3s

CHTO LR LR
comp=Z,356nm,20.0s
CHTO Chiang Mai 72.71 294 P P 09 26 09.7 +2.0
comp=Z,136nm,1.1s,comp=Z,2µm
CD2 Chengdu 73.20 307 P P 09 26 12.5 +2.0
CD2 pP **pP 09 26 17.2 +1.0**
CD2 sP **sP 09 26 19.5 +1.2**
CD2 PP **PP 09 28 57.6 +3.8**
CD2 S **S 09 35 39.4 +1.3**
CD2 SS **SS 09 40 23.2 +3.1**
CD2 AMB AMB
comp=Z,50nm,1.4s
CD2 AMB AMB
comp=Z,530nm,6.4s
CD2 LR LR
comp=Z,750nm,16.1s
CD2 LR LR
comp=Z,600nm,14.3s
BTO Baotou 73.35 319 *e*P **P 09 26 11.4 +0.2**
SEY Seymchan 75.17 354 ⇓*i*P **P 09 26 20.1 -1.1**
LZH Lanzhou 75.38 312 ⇑P **P 09 26 24.3 +1.1**
LZH pP **pP 09 26 27.5 -1.5**
LZH sP **sP 09 26 29.1 -2.0**
LZH PP **PP 09 29 15.4 +3.0**
LZH S **S 09 36 03.1 +0.4**
LZH AMB AMB
comp=Z,97nm,1.5s
LZH AMB AMB
comp=Z,560nm,8.2s
LZH LR LR
comp=Z,1µm,17.4s
LZH LR LR
comp=Z,720nm,15.2s
LZH LR LR
comp=Z,1µm,19.3s
KDAK Kodiak Island 77.12 21 PFAKE 09 26 40.0 +7.6
KDAK LR LR
comp=Z,2µm,19.0s
CIT Chita 77.86 330 *e*P **P 09 26 37.2 +0.4**
CIT *e* 09 26 44.3
CIT *e* 09 26 52.3
CIT pmax pmax
comp=Z,162nm,1.9s
QSPA South Pole Qui 78.29 180 *e*P **P 09 26 38.0 -1.0**
comp=Z,75nm,1.3s
QSPA LR LR
comp=Z,916nm,19.0s
YAK Yakutsk 78.81 343 *e*P **P 09 26 39.4 -2.3**
YAK *e* 09 26 47.2
YAK *e**PP **PcP 09 26 52.0 +1.6**
YAK *e* 09 29 35.2
YAK *e*S **S 09 36 33.5 -5.0**
YAK *e* 09 36 58.4
YAK pmax pmax
comp=Z,40nm,1.1s
YAK pmax pmax
comp=E,10.0nm,1.2s
YAK pmax pmax
comp=N,17nm,1.4s
YAK pmax pmax
comp=Z,8.0nm,0.5s
YAK pmax pmax
comp=N,62nm,2.7s
YAK pmax pmax
comp=E,57nm,2.0s
YAK smax smax
comp=E,317nm,18.8s
YAK smax smax
comp=N,114nm,10.7s
YAK MLR MLR
comp=Z,2µm,19.0s
YAK MLR MLR
comp=E,750nm,20.0s
YAK MLR MLR
comp=N,1µm,20.0s
ULN Ulaanbaatar 78.98 324 P **P 09 26 43.6 +0.4**
comp=N,39nm,1.7s,comp=N,731nm
ULN Ulaanbaatar 78.98 324 *e*P **P 09 26 43.4 +0.2**
comp=N,65nm,1.5s
ULN LR LR
comp=Z,577nm,19.0s
SONM Songino Array 79.35 324 P **P 09 26 45.0 -0.1**
SONM Songino Array 79.35 324 P **P 09 26 45.1 -0.1**
comp=Z,8.1nm,1.0s,baz=136,slow=6.8,SNR=45
GTA Gaotai 79.69 314 ⇑P **P 09 26 48.4 +1.2**
GTA pP **PcP 09 26 59.2 +4.2**
GTA S **S 09 36 50.8 +1.6**
GTA SKS **SKSac 09 36 59.0 -4.6**
GTA sS **SKKSac 09 37 08.0 +2.7**
GTA SS SS 09 42 05.9 +7.6
GTA AMB AMB
comp=Z,30nm,1.8s
GTA AMB AMB
comp=Z,520nm,6.7s
GTA LR LR
comp=Z,630nm,18.0s
GTA LR LR
comp=Z,870nm,19.5s
GTA LR LR
comp=Z,1µm,20.4s
ZAK Zakamensk 82.39 325 ⇑*i*P **P 09 27 00.8 -0.5**
ZAK pmax pmax
comp=Z,17nm,1.0s
IRK Irkutsk 82.75 327 *e*P **P 09 27 01.2 -1.8**
IRK pmax pmax
comp=Z,63nm,2.1s
TLY Talaya 82.81 326 *c i*P **P 09 27 02.8 -0.6**
TLY *e*S **S 09 37 19.2 -1.7**
TLY pmax pmax
comp=Z,21nm,0.8s
TLY MLR MLR
comp=Z,372nm,18.0s
TLY Talaya 82.81 326 P **P 09 27 03.0 -0.4**
comp=Z,132nm,1.1s,SNR=7.0
COLA College 83.85 18 PFAKE 09 27 20.0 +12
COLA LR LR
comp=Z,1µm,20.0s
ILAR Eielson Array 84.08 18 P **P 09 27 07.2 -2.4**
ILAR Eielson Array 84.08 18 P **P 09 27 07.2 -2.4**
comp=Z,1.7nm,0.7s,baz=216,slow=5.1,SNR=4.2
ILAR LR LR 10 05 47.5
comp=Z,1µm,18.2s,baz=61,slow=36
MAW Mawson 84.19 202 P **P 09 27 09.2 -1.0**
MAW Mawson 84.19 202 ⇓P **P 09 27 09.9 -0.3**
baz=84,SNR=13
MAW Mawson 84.19 202 P **P 09 27 09.2 -1.0**
comp=Z,5.4nm,1.1s,baz=88,slow=6.0,SNR=8.8
MAW LR LR 10 03 30.2
comp=Z,569nm,18.2s,baz=93,slow=35
YBH Yreka Blue Hor 84.20 45 LR LR 09 58 27.7
comp=Z,963nm,19.8s,baz=180,slow=31
MOY Mondy 84.26 325 *e*P **P 09 27 10.9 -0.1**
MOY pmax pmax
comp=Z,65nm,2.7s
CMB Columbia Colle 84.60 50 *e*P **P 09 27 15.6 +2.7**
CMB pmax pmax
comp=Z,5.0nm,1.0s
CMB Columbia Colle 84.60 50 *e*P **P 09 27 15.6 +2.7**
comp=Z,5.1nm,1.0s
WRAK Wrangell Islan 84.81 29 PFAKE 09 27 20.0 +6.6
WRAK LR LR
comp=Z,2µm,19.0s
TAPN Taplejung 85.14 299 *e*P **P 09 27 16.0 -0.2**
comp=Z,140nm,1.5s
ODAN Odare 85.28 299 *e*P **P 09 27 16.6 -0.2**
comp=Z,109nm,1.1s
ISA Isabella 85.30 52 P **P 09 27 16.9 +0.4**
baz=85
BFSC Mount Baldy Ra 85.51 54 P **P 09 27 17.7 0.0**
baz=86
NLWA Neilton Lookou 85.53 40 PFAKE 09 27 30.0 +13
NLWA LR LR
comp=Z,2µm,19.0s
LRMC Laurel Mountai 85.85 53 P **P 09 27 21.2 +1.8**
baz=86
EGAK Eagle 85.93 20 PFAKE 09 27 30.0 +11
EGAK LR LR
comp=Z,799nm,20.0s
RAMN Ramite 85.98 298 *e*P **P 09 27 20.1 -0.2**
comp=Z,137nm,1.5s
MPMC Manual Prospec 86.18 52 P **P 09 27 22.3 +1.2**
baz=86
NVAR Mina Array Bea 86.28 50 P **P 09 27 19.7 -1.8**
NVAR Mina Array Bea 86.28 50 P **P 09 27 19.7 -1.8**
comp=Z,3.3nm,0.9s,baz=244,slow=4.6,SNR=7.9
NVAR LR LR 10 00 37.8
comp=Z,4µm,18.9s,baz=104,slow=32
PFO Pinyon Flat Ob 86.28 55 LR LR 09 59 07.5
comp=Z,2µm,19.3s,baz=185,slow=31
NV11 Mina Array Sit 86.39 50 *e*P **P 09 27 24.1 +2.1**
JIRN Jiri 86.52 299 *e*P **P 09 27 22.9 -0.2**
comp=Z,213nm,1.7s
FURC Furnace Creek, 86.79 52 P **P 09 27 25.3 +1.6**
baz=87
TIXI Tiksi 86.80 349 ⇓*e*P **P 09 27 21.7 -1.3**
TIXI pmax pmax
comp=Z,8.0nm,1.2s
TIXI MLR MLR
comp=Z,674nm,18.0s
GUN Gumba 86.85 299 *e*P **P 09 27 24.5 -0.2**
comp=Z,175nm,1.5s
PALK Pallekele 86.87 278 P **P 09 27 25.1 +0.4**
comp=Z,21nm,1.3s
TPH Tonopah 86.98 50 PFAKE 09 27 40.0 +15
TPH LR LR
comp=Z,3µm,19.0s
SHOC Shoshone 87.07 53 P **P 09 27 26.7 +1.5**
baz=87
PKI Pulchoki 87.17 299 *e*P **P 09 27 25.5 -0.7**
comp=Z,116nm,1.3s
TUQ Turquoise Moun 87.22 53 P **P 09 27 27.6 +1.5**
baz=87
GMRC Granite Mounta 87.25 54 P **P 09 27 26.9 +0.7**
baz=87
WVOR Wild Horse Val 87.29 46 *e*P **P 09 27 29.1 +2.9**
WVOR pmax pmax
comp=Z,7.0nm,1.3s
WVOR MLR MLR
comp=Z,2µm,20.0s
WVOR Wild Horse Val 87.29 46 *e*P **P 09 27 29.1 +2.9**
comp=Z,7.3nm,1.3s
WVOR LR LR
comp=Z,2µm,20.0s
KKN Kakani 87.33 299 *e*P **P 09 27 26.2 -0.7**
comp=Z,118nm,1.3s
DMN Daman 87.44 299 *e*P **P 09 27 27.0 -0.4**
comp=Z,162nm,1.2s
GLA Glamis 87.44 56 P **P 09 27 27.7 +0.6**
baz=88
IRM Iron Mountain 87.48 55 P **P 09 27 27.0 -0.2**
baz=88
BMN Battle Mountai 87.69 48 PFAKE 09 27 40.0 +12
BMN LR LR
comp=Z,1µm,19.0s
GKN Gorkha 87.94 299 *e*P **P 09 27 28.6 -1.1**
comp=Z,131nm,1.3s
HAWA Hanford 87.96 42 PFAKE 09 27 40.0 +11
HAWA LR LR
comp=Z,1µm,20.0s
HVS Khovu-Aksy 88.22 323 ⇓*i*P **P 09 27 30.5 +0.1**
HVS MLR MLR
comp=Z,2µm,18.0s
W13A Hualapai Mount 88.73 54 P **P 09 27 32.3 -1.1**
baz=89
KOLN Koldanda 88.77 299 *e*P **P 09 27 32.8 -0.9**
comp=Z,48nm,1.1s
DANN Dangsing 88.77 299 *e*P **P 09 27 32.7 -1.1**
comp=Z,238nm,1.7s
BMO Blue Mountains 88.95 44 PFAKE 09 27 40.0 +5.9
BMO LR LR
comp=Z,2µm,19.0s
WMQ Urumqi 89.74 315 P **P 09 27 37.5 -0.2**
WMQ pP **pP 09 27 42.3 -1.2**
WMQ sP **sP 09 27 44.5 -1.1**
WMQ PP **PP 09 31 11.6 +1.5**
WMQ SKS **SKSac 09 38 05.3 -2.4**
WMQ S **S 09 38 25.9 -3.0**
WMQ AMB AMB
comp=Z,31nm,1.8s
WMQ AMB AMB
comp=Z,420nm,4.8s
WMQ LR LR
comp=Z,500nm,13.6s
WMQ LR LR
comp=Z,600nm,16.2s
WMQ LR LR
comp=Z,500nm,21.6s
ARUT Antelope Range 89.78 51 *e*P **P 09 27 37.2 -1.0**
ARUT Antelope Range 89.78 51 *e*P **P 09 27 37.2 -1.0**
comp=Z,156nm,1.3s
NEW Newport 90.10 41 PFAKE 09 27 50.0 +11
NEW LR LR
comp=Z,1µm,22.0s
NEW Newport 90.10 41 P **P 09 27 39.6 +0.3**
baz=90
U15A North Rim 90.33 53 P **P 09 27 40.0 -0.9**
baz=90
X16A Lo Mia Camp, P 90.51 55 P **P 09 27 40.9 -0.9**
baz=91
TUC Tucson 90.55 57 PFAKE 09 27 50.0 +8.2
TUC LR LR
comp=Z,4µm,19.0s
HLID Hailey 90.58 46 PFAKE 09 27 50.0 +8.2
HLID LR LR
comp=Z,976nm,19.0s
HLID Hailey 90.58 46 P **P 09 27 40.5 -1.3**
baz=91
WUAZ Wupatki 90.83 54 PFAKE 09 27 50.0 +6.9
WUAZ LR LR
comp=Z,1µm,19.0s
WUAZ Wupatki 90.83 54 P **P 09 27 42.0 -1.2**
baz=91
DUG Dugway 90.86 49 PFAKE 09 27 50.0 +6.8
DUG LR LR
comp=Z,3µm,19.0s
MVU Marysvale 90.89 51 *e*P **P 09 27 42.9 -0.5**
comp=Z,7.8nm,1.2s
MVU LR LR
comp=Z,3µm,19.0s
SYO Syowa Base 91.21 197 ⇑*e*P **P 09 27 41.3 -2.7**
DGAR Diego Garcia 91.94 262 PFAKE 09 28 00.0 +11
DGAR LR LR
comp=Z,1µm,19.0s
MCMT McKenzie Canyo 92.00 45 *e*P **P 09 27 48.7 +0.3**
comp=Z,1.8nm,1.1s
AHID Auburn Hatcher 92.73 47 PFAKE 09 28 00.0 +8.2
AHID LR LR
comp=Z,1µm,20.0s
MVCO Mesa Verde 93.47 53 PFAKE 09 28 10.0 +15
MVCO LR LR
comp=Z,2µm,19.0s
LKWY Lake 93.63 45 PFAKE 09 28 10.0 +14
LKWY LR LR
comp=Z,1µm,19.0s
BW06 Boulder Array 93.84 47 PFAKE 09 28 10.0 +13
BW06 LR LR
comp=Z,1µm,20.0s
U21A Nageezi 93.97 54 P **P 09 27 56.8 -1.0**
baz=94
MK31 Makanchi Array 94.17 317 *e*P **P 09 27 57.9 -0.2**
MK31 Makanchi Array 94.17 317 *e*P **P 09 27 57.9 -0.2**
MKAR Makanchi Array 94.17 317 P **P 09 27 57.6 -0.5**
MKAR Makanchi Array 94.17 317 P **P 09 27 57.6 -0.5**
MKAR Makanchi Array 94.17 317 ⇓P **P 09 27 58.7 +0.6**
baz=94
MKAR Makanchi Array 94.17 317 P **P 09 27 57.6 -0.5**
comp=Z,12nm,0.9s,baz=87,slow=5.7,SNR=77
MKAR LR LR 10 08 59.3
comp=Z,479nm,20.8s,baz=94,slow=35
ZAA0 Zalesovo Array 94.24 324 *e*P **P 09 27 57.0 -1.2**
ZALV Zalesovo Beam 94.24 324 P **P 09 27 56.4 -1.8**
ZALV Zalesovo Beam 94.24 324 P **P 09 27 56.4 -1.8**
ZALV Zalesovo Beam 94.24 324 P **P 09 27 56.4 -1.8**
comp=Z,16nm,0.9s,baz=108,slow=4.8,SNR=44
ZALV LR LR 10 08 31.7
comp=Z,531nm,21.6s,baz=70,slow=34
RLMT Red Lodge 94.54 45 PFAKE 09 28 10.0 +10
RLMT LR LR
comp=Z,1µm,20.0s
ANMO Albuquerque 94.64 55 PFAKE 09 28 10.0 +9.2
ANMO LR LR
comp=Z,1µm,20.0s
EGMT Eagleton 94.81 42 PFAKE 09 28 10.0 +8.9
EGMT LR LR
comp=Z,841nm,19.0s
MNTX Cornudas Mount 94.92 59 PFAKE 09 28 10.0 +8.1
MNTX LR LR
comp=Z,2µm,19.0s
NVS Novosibirsk 95.35 325 *e*P P 09 27 57.3 -5.9
NVS pmax pmax
comp=E,15nm,1.6s
NVS pmax pmax
comp=Z,25nm,1.6s
NVS pmax pmax
comp=N,5.0nm,1.2s
MAIT Maitri 95.84 188 *e*P P 09 28 01.9 -3.4
SDCO Great Sand Dun 95.91 53 PFAKE 09 28 20.0 +13
SDCO LR LR
comp=Z,1µm,21.0s
TXAR Lajitas Array 95.95 61 P **P 09 28 06.7 0.0**
TXAR Lajitas Array 95.95 61 P **P 09 28 06.7 0.0**
comp=Z,0.2nm,0.7s,baz=216,slow=6.2,SNR=3.8
ISCO Idaho Springs 96.18 51 PFAKE 09 28 20.0 +12
ISCO LR LR
comp=Z,3µm,20.0s
SNAA Sanae 96.46 184 *e*P **P 09 28 05.9 -2.3**
comp=Z,13nm,1.4s
SNAA Sanae 96.46 184 LR LR 10 12 47.0
comp=Z,459nm,18.2s,baz=152,slow=36
LAO LASA Array 96.92 44 PFAKE 09 28 20.0 +9.3
LAO LR LR
comp=Z,990nm,20.0s
KURK Kurchatov 97.31 320 ⇓*e*P **P 09 28 11.2 -1.1**
KURK pmax pmax
comp=Z,8.0nm,1.2s
KURK MLR MLR
comp=Z,380nm,18.0s
KURK Kurchatov 97.31 320 P **P 09 28 10.9 -1.4**
KURK PP PP 09 31 59.6 -10
KURK LR LR
comp=Z,354nm,20.0s
KURBB Kurchatov Arra 97.35 320 P **P 09 28 10.9 -1.6**
comp=Z,1.3nm,0.8s,baz=105,slow=3.6,SNR=12
KURBB PP PP 09 31 59.6 -10
comp=Z,0.9nm,1.1s,baz=93,slow=7.1,SNR=2.9
KSH Kashi 97.36 309 *e*P Pdif 09 28 15.5 +2.5
KSH pP pP 09 28 20.4 +1.6
KSH sP sP 09 28 22.4 +1.5
KSH PP PP 09 32 18.0 +8.0
KSH SKS **SKSac 09 38 51.9 +2.0**
KSH S **ScS 09 39 37.0 0.0**
KSH AMB AMB
comp=Z,8.0nm,1.1s
KSH AMB AMB
comp=Z,110nm,3.8s
KSH LR LR
comp=Z,100nm,7.6s
KSH LR LR
comp=Z,230nm,11.2s
DGMT Dagmar 98.55 42 PFAKE 09 28 30.0 +12
DGMT LR LR
comp=Z,865nm,20.0s
AAK Ala-Archa 98.92 312 *i*P **P 09 28 19.4 -0.5**
AAK pmax pmax
comp=Z,19nm,1.9s
AAK Ala-Archa 98.92 312 P **P 09 28 19.2 -0.7**
AAK Ala-Archa 98.92 312 P **P 09 28 19.2 -0.7**
comp=Z,1.2nm,0.5s,baz=225,slow=1.4,SNR=3.7
AAK LR LR 10 12 04.4
comp=Z,393nm,20.6s,baz=311,slow=35
OGNE Ogallala 99.06 50 PFAKE 09 28 30.0 +9.5
OGNE LR LR
comp=Z,3µm,20.0s
JCT Junction City 99.44 61 PFAKE 09 28 30.0 +7.6
JCT LR LR
comp=Z,3µm,19.0s
EKS2 Erkin-Say 99.45 312 PFAKE 09 28 30.0 +7.7
EKS2 LR LR
comp=Z,471nm,19.0s
FFC Flin Flon 100.64 36 PFAKE 09 28 40.0 +13
FFC LR LR
comp=Z,1µm,19.0s
KVTX Kingsville 100.70 64 PFAKE 09 28 40.0 +12
KVTX LR LR
comp=Z,860nm,19.0s
WMOK Wichita Mounta 100.84 57 PFAKE 09 28 40.0 +11
WMOK LR LR
comp=Z,4µm,19.0s
KK31 Karatay Array 101.88 312 *i*P **Pdif 09 28 31.9 -1.0**
KK31 pmax pmax
comp=Z,1.0nm,0.5s
VOSK Vostochnaya 102.25 322 P **Pdif 09 28 32.0 -2.3**
VOSK pmax pmax
comp=Z,7.0nm,1.3s
BVA0 Borovoye Array 102.62 322 *i*P **Pdif 09 28 33.0 -3.0**
BVA0 pmax pmax
comp=Z,7.0nm,1.2s
BVAR Borovoye Array 102.62 322 P **Pdif 09 28 34.8 -1.2**
BVAR Borovoye Array 102.62 322 P **Pdif 09 28 34.8 -1.2**
BVAR Borovoye Array 102.62 322 P **Pdif 09 28 34.8 -1.2**
comp=Z,2.7nm,0.9s,baz=101,slow=6.2,SNR=8.2
BRVK Borovoye 102.69 322 PFAKE 09 28 50.0 +14
BRVK LR LR
comp=Z,915nm,20.0s
KSU1 Kansas State U 103.01 52 PFAKE 09 28 50.0 +12
KSU1 LR LR
comp=Z,2µm,20.0s
PAYG Puerto Ayora 103.30 93 PFAKE 09 28 50.0 +10
PAYG LR LR
comp=Z,1µm,19.0s
ECSD EROS Data Cent 103.33 48 PFAKE 09 28 50.0 +11
ECSD LR LR
comp=Z,2µm,19.0s
NATX Nacogdoches 103.97 60 PFAKE 09 28 50.0 +7.6
NATX LR LR
comp=Z,3µm,20.0s
AGMN Agassiz Nation 104.07 43 PFAKE 09 28 50.0 +7.5
AGMN LR LR
comp=Z,1µm,20.0s
MIAR Mount Ida 105.10 57 PFAKE 09 33 10.0
MIAR LR LR
comp=Z,3µm,19.0s
SCIA State Center 105.74 50 PFAKE 09 33 10.0
SCIA LR LR
comp=Z,3µm,20.0s
EFI East Falkland 106.28 153 PFAKE 09 33 10.0
EFI LR LR
comp=Z,459nm,22.0s
EYMN Ely 106.99 43 PFAKE 09 33 20.0
EYMN LR LR
comp=Z,1µm,19.0s
VBMS Vicksburg 107.51 60 PFAKE 09 33 20.0
VBMS LR LR
comp=Z,1µm,19.0s
JFWS Jewell Farm 107.95 49 PFAKE 09 33 20.0
JFWS LR LR
comp=Z,2µm,21.0s
OXF Oxford 108.53 57 PFAKE 09 33 20.0
OXF LR LR
comp=Z,2µm,19.0s
TEIG Tepich 108.60 72 PFAKE 09 33 20.0
TEIG LR LR
comp=Z,827nm,19.0s
TGUH Tegucigalpa,Un 108.82 79 PFAKE 09 33 20.0
TGUH LR LR
comp=Z,939nm,21.0s
MSEY Mahe Island 109.00 261 PFAKE 09 33 20.0
MSEY LR LR
comp=Z,616nm,19.0s
BRAL Brewton 110.41 61 PFAKE 09 33 20.0
BRAL LR LR
comp=Z,1µm,20.0s
LRAL Lakeview Retre 110.51 59 PFAKE 09 33 20.0
LRAL LR LR
comp=Z,3µm,20.0s
JTS JuntasAbangare 110.53 83 PFAKE 09 33 20.0
JTS LR LR
comp=Z,1µm,19.0s
KBS Kingsbay 111.61 355 PFAKE 09 33 20.0
KBS LR LR
comp=Z,389nm,20.0s
LCO Las Campanas 111.95 128 PFAKE 09 33 30.0
LCO LR LR
comp=Z,748nm,20.0s
ABPO Ambohimpanom 112.36 244 PFAKE 09 33 30.0
ABPO LR LR
comp=Z,774nm,20.0s
TRQA Tornquist 113.19 140 PFAKE 09 33 30.0
TRQA LR LR
comp=Z,1µm,19.0s
ACSO Alum Creek Sta 113.52 51 PFAKE 09 33 30.0
ACSO LR LR
comp=Z,3µm,20.0s
OTAV Otavalo 115.06 95 PFAKE 09 33 30.0 +8.0
OTAV LR LR
comp=Z,665nm,19.0s
BCIP Isla Barro Col 115.34 85 PFAKE 09 33 30.0 +8.1

BCIP LR LR
comp=Z,498nm,20.0s
ERPA Erie 115.57 49 PFAKE 09 33 30.0 +8.4
ERPA LR LR
comp=Z,2µm,19.0s
BLA Blacksburg 115.76 54 PFAKE 09 33 30.0 +7.9
BLA LR LR
comp=Z,3µm,19.0s
MCWV Mont Chateau 115.97 52 PFAKE 09 33 30.0 +7.6
MCWV LR LR
comp=Z,4µm,19.0s
LVC Limon Verde 116.31 123 PFAKE 09 33 40.0 +16
LVC LR LR
comp=Z,817nm,19.0s
KEV Kevo 116.52 345 PFAKE 09 33 30.0 +7.5
KEV LR LR
comp=Z,1µm,20.0s
ARCES ARCESS Array B 117.05 345 PKP **PKPdf 09 33 22.6 -1.0**
ARCES ARCESS Array B 117.05 345 PKP **PKPdf 09 33 22.6 -1.0**
comp=Z,9.7nm,1.0s,baz=31,slow=3.1,SNR=7.7
CNNC Cliffs of the 117.97 56 PFAKE 09 33 40.0 +14
CNNC LR LR
comp=Z,2µm,19.0s
BINY Binghamton 118.50 48 PFAKE 09 33 40.0 +13
BINY LR LR
comp=Z,2µm,20.0s
MAK Makhachkala 118.68 313 *i* PKIKP **PKPdf 09 33 26.8 -0.7**
MAK *e* 09 34 40.5
MAK *e*SS 09 50 57.9 -5.2
LONY Lake Ozonia 119.02 45 PFAKE 09 33 40.0 +12
LONY LR LR
comp=Z,1µm,20.0s
NCB Newcomb 119.41 46 PFAKE 09 33 40.0 +11
NCB LR LR
comp=Z,1µm,21.0s
SFJD Kangerlussuaq 119.65 16 PFAKE 09 33 40.0 +11
SFJD LR LR
comp=Z,2µm,19.0s
GTBY Guantanamo Bay 120.92 74 PFAKE 09 33 40.0 +7.5
GTBY LR LR
comp=Z,385nm,20.0s
LBNH Lisbon 120.95 45 PFAKE 09 33 40.0 +8.1
LBNH LR LR
comp=Z,2µm,19.0s
GNI Garni 121.27 310 PFAKE 09 33 40.0 +7.2
GNI LR LR
comp=Z,556nm,19.0s
OBN Obninsk 121.50 329 ||*i* PKIKP **PKPdf 09 33 31.6 -0.9**
OBN *i* SS SS 09 51 29.1 -9.1
OBN pmax pmax
comp=Z,10.0nm,1.4s
KIV Kislovodsk 121.87 315 *e*PKIKP **PKPdf 09 33 32.6 -1.1**
KIV *e* 09 35 11.9
KIV *e*SS SS 09 51 34.3 -10
KIV pmax pmax
comp=Z,7.0nm,1.0s
PKME Peaks-Kenny Pk 122.47 43 PFAKE 09 33 50.0 +15
PKME LR LR
comp=Z,980nm,19.0s
FINES FINESS Array B 122.48 338 PKP **PKPdf 09 33 33.2 -1.0**
FINES FINESS Array B 122.48 338 PKP **PKPdf 09 33 33.2 -1.0**
comp=Z,3.1nm,0.9s,baz=116,slow=3.2,SNR=4.7
SDDR Presa de Saban 124.50 75 PFAKE 09 33 50.0 +11
SDDR LR LR
comp=Z,912nm,19.0s
GRTK Grand Turk 124.66 72 PFAKE 09 33 50.0 +10
GRTK LR LR
comp=Z,799nm,20.0s
BOSA Boshof 124.78 223 PKP **PKPdf 09 33 39.0 -1.0**
BOSA Boshof 124.78 223 PKP **PKPdf 09 33 39.0 -1.0**
comp=Z,8.8nm,0.9s,baz=59,slow=2.8,SNR=8.7
SUR Sutherland 124.94 216 PFAKE 09 33 50.0 +10
SUR LR LR
comp=Z,669nm,20.0s
ANN Anapa 125.19 317 *e*PKIKP PKPdf 09 33 32.3 -7.6
ANN pmax pmax
comp=Z,7.0nm,1.0s
ANN MLR MLR
comp=N,790nm,23.0s
ANN MLR MLR
comp=E,502nm,23.0s
ANN MLR MLR
comp=Z,504nm,23.0s
SAML Samuel 126.98 111 PFAKE 09 34 00.0 +16
SAML LR LR
comp=Z,639nm,19.0s
NB2 NORSAR Subarra127.41 345 PKPdf **PKPdf 09 33 45.2 +1.4**
comp=Z,16nm,1.7s,baz=31,slow=1.9
NB2 NORSAR Subarra127.41 345 PKPdf **PKPdf 09 33 45.2 +1.4**
baz=31,slow=1.9
KMBO Kilima Mbogo 127.50 259 PKP **PKPdf 09 33 46.0 +0.4**
KMBO LR LR
comp=Z,561nm,21.0s
KMBO Kilima Mbogo 127.50 259 PKP **PKPdf 09 33 46.0 +0.4**
comp=Z,0.7nm,0.4s,baz=146,slow=3.0,SNR=4.8
AKASG Malin Array Be 127.55 327 PKIKP **PKPdf 09 33 43.1 -1.2**
AKASG Malin Array Be 127.55 327 PKP **PKPdf 09 33 43.1 -1.2**
AKASG Malin Array Be 127.55 327 PKP **PKPdf 09 33 43.1 -1.2**
comp=Z,0.4nm,0.3s,baz=61,slow=1.7,SNR=14
KIEV Kiev 127.57 327 PFAKE 09 34 00.0 +16
KIEV LR LR
comp=Z,712nm,20.0s
KONO Kongsberg 129.02 345 PFAKE 09 34 00.0 +13
KONO LR LR
comp=Z,553nm,21.0s
SJG San Juan 129.36 76 PFAKE 09 34 00.0 +11
SJG LR LR
comp=Z,447nm,21.0s
BR131 Keskin Array S 129.59 312 *e*PKPdf **PKPdf 09 33 48.5 -0.3**
BRTR Keskin Array B 129.59 312 PKP **PKPdf 09 33 47.4 -1.4**
BRTR SKPbc SKPbc 09 37 12.3 +2.3
BRTR Keskin Array B 129.59 312 PKP **PKPdf 09 33 47.4 -1.4**
comp=Z,3.7nm,1.0s,baz=130,slow=1.9,SNR=15
BRTR SKPbc SKPbc 09 37 12.3 +2.3
comp=Z,0.2nm,0.3s,baz=146,slow=2.4,SNR=3.9
ANTO Ankara 130.15 313 PFAKE 09 34 00.0 +10
ANTO LR LR
comp=Z,339nm,19.0s
LSZ Lusaka 130.34 238 *e*PKPdf **PKPdf 09 33 50.1 -0.6**
LSZ LR LR
comp=Z,1µm,19.0s
CSS Prodhromos 131.31 306 PFAKE 09 34 00.0 +8.0
CSS LR LR
comp=Z,406nm,21.0s
TRIS Tristan da Cun 131.44 182 PFAKE 09 34 00.0 +7.8
TRIS LR LR
comp=Z,1µm,19.0s
KWP Kalwaria Pacla 131.59 329 PFAKE 09 34 00.0 +8.0
KWP LR LR
comp=Z,719nm,19.0s
SPB Sao Paulo 132.04 137 PFAKE 09 34 00.0 +6.3
SPB LR LR
comp=Z,664nm,21.0s
UZH Uzhgorod 132.43 328 *e*PKHKP PKPpre 09 33 43.5
UZH *e* 09 33 52.3
STHS Stebnicka Huta 132.47 329 *e*PKP **PKPdf 09 33 54.2 +0.5**
ISP Isparta 132.54 311 PFAKE 09 34 10.0 +16
ISP LR LR
comp=Z,381nm,22.0s
GRGR Grenville 133.44 84 PFAKE 09 34 10.0 +14
GRGR LR LR
comp=Z,535nm,19.0s
ANWB Willy Bob 133.51 77 PFAKE 09 34 10.0 +13
ANWB LR LR
comp=Z,569nm,20.0s
MBAR Mbarara 133.90 258 PFAKE 09 34 10.0 +12
MBAR LR LR
comp=Z,679nm,20.0s
PSZ Piszkesteto 134.12 328 PFAKE 09 34 10.0 +13
PSZ LR LR
comp=Z,923nm,19.0s
BRG Berggiesshubel 134.77 335 *e*P PP 09 36 18.9 -12
comp=Z,10.0nm,1.4s
CLL Collm 134.81 336 *e*PKPdf **PKPdf 09 33 58.0 0.0**
CLL *e*PP **PP 09 36 34.0 +2.7**
CLL *e*SKPab **SKPbc 09 37 29.0 +1.3**
CLL *e*SS **SS 09 54 24.0 +1.1**
CLL *e*SSS SSS 09 59 30.0
ZST Bratislava 135.32 331 *e*PKP **PKPdf 09 34 00.3 +1.2**
TSUM Tsumeb 136.25 226 PFAKE 09 34 10.0 +8.1
TSUM LR LR
comp=Z,2µm,19.0s
GERES GERESS Array B 136.41 334 PKP **PKPdf 09 33 59.8 -1.4**
GERES SKPbc **SKiKP 09 37 35.7 -2.7**
GERES GERESS Array B 136.41 334 PKP **PKPdf 09 33 59.8 -1.4**
comp=Z,2.0nm,0.9s,baz=70,slow=1.6,SNR=11
GERES SKPbc **SKiKP 09 37 35.7 -2.7**
comp=Z,0.9nm,0.9s,baz=330,slow=1.9,SNR=4.2
TIR Tirane 138.16 321 PFAKE 09 34 20.0 +15
TIR LR LR
comp=Z,682nm,22.0s
WLF Walferdange 138.66 340 PFAKE 09 34 20.0 +15
WLF LR LR
comp=Z,1µm,19.0s
BFO Black Forest 139.01 337 PFAKE 09 34 20.0 +14
BFO LR LR
comp=Z,482nm,19.0s
FETA Feichten 139.09 334 ||*i* PKPdf **PKPdf 09 34 04.3 -2.0**
comp=Z,5.5nm,0.9s
ECH Echery 139.54 338 PFAKE 09 34 20.0 +13
ECH LR LR
comp=Z,689nm,21.0s
TUE Stuetta 140.11 335 PFAKE 09 34 20.0 +12
TUE LR LR
comp=Z,717nm,21.0s
CUC Castrocucco 141.44 322 PFAKE 09 34 20.0 +9.4
CUC LR LR
comp=Z,521nm,19.0s
VLC Villacollemand 141.45 331 PFAKE 09 34 20.0 +9.5
VLC LR LR
comp=Z,817nm,22.0s
BNI Bardonecchia 142.36 336 *e*PKIKP **PKPdf 09 34 08.5 -3.8**
BNI MLR MLR
comp=Z,1µm,19.0s
BNI Bardonecchia 142.36 336 *e*PKPdf **PKPdf 09 34 08.5 -3.8**
BNI LR LR
comp=Z,1µm,19.0s
CEL Celeste 142.45 320 PFAKE 09 34 20.0 +7.5
CEL LR LR
comp=Z,312nm,19.0s
VSL Villasalto 145.43 327 *e*PKPbc **PKPbc 09 34 17.2 -0.4**
VSL LR LR
comp=Z,563nm,20.0s
KEST Kesra 148.09 322 *e*PKPbc **PKPbc 09 34 25.5 0.0**
KEST Kesra 148.09 322 PKPbc **PKPbc 09 34 25.0 -0.5**
comp=Z,15nm,0.9s,baz=319,slow=2.1,SNR=23
CMAH Djebel Manchou 148.57 326 P **PKPbc 09 34 25.5 -1.2**
ABSA Djebel Ababsia 148.80 325 P **PKPbc 09 34 27.1 -0.2**
CKFL Kef-Lekhel 149.12 326 P **PKPbc 09 34 28.1 -0.1**
CASM Ain Smara 149.35 326 P **PKPbc 09 34 28.3 -0.3**
PBRG Braganca 149.36 349 *e*PKPbc **PKPbc 09 34 28.0 -0.5**
DFRA Djebel Bou Aff 149.47 327 P **PKPbc 09 34 29.5 +0.5**
CTEI Djebel Teioual 149.54 326 P **PKPbc 09 34 29.1 -0.1**
POLO Lamas de Olo 149.96 351 *e*PKPbc **PKPbc 09 34 29.1 -1.0**
SET Setif 149.98 327 P **PKPbc 09 34 30.0 -0.3**
MVO Moncorvo 150.04 349 *e*PKPbc **PKPbc 09 34 28.9 -1.3**
CKHR Kef el Ahmar 150.06 327 P **PKPbc 09 34 30.6 +0.1**
PVIS Viseu 150.62 350 *e*PKPbc **PKPbc 09 34 30.2 -1.4**
ESDC Sonseca Array 150.77 344 PKPbc **PKPbc 09 34 31.1 -0.9**
ESDC Sonseca Array 150.77 344 PKPbc **PKPbc 09 34 31.1 -0.9**
comp=Z,0.9nm,0.4s,baz=20,slow=2.4,SNR=12
MTE Manteigas 150.87 350 *e*PKPbc **PKPbc 09 34 32.1 -0.1**
MTE LR LR
comp=Z,985nm,19.0s
PAB San Pablo 150.99 344 *e*PKIKP **PKPdf 09 34 26.6 -0.2**
PAB *e* 09 34 31.5
PAB *e* 09 34 39.7
PAB MLR MLR
comp=Z,1µm,19.0s
PAB San Pablo 150.99 344 *e*PKPdf **PKPdf 09 34 26.6 -0.2**
PAB *e*PKPbc **PKPbc 09 34 31.4 -1.1**
PAB *e*PKPab **PKPab 09 34 39.7 -0.1**
PAB LR LR
comp=Z,1µm,19.0s
SHEL Horse Pasture 151.30 197 PFAKE 09 34 40.0 -1.7
SHEL LR LR
comp=Z,823nm,19.0s
PMRV Marv??o 151.79 349 *e*PKPbc **PKPbc 09 34 32.1 -2.2**
RCBR Riachuelo 152.11 128 PFAKE 09 34 40.0 +4.2
RCBR LR LR
comp=Z,903nm,19.0s
PMTG Montargil 152.28 350 *e*PKPbc **PKPbc 09 34 32.3 -3.1**
RTC Rabat Centre 156.89 345 PFAKE 09 34 50.0 +15
RTC LR LR
comp=Z,854nm,20.0s
TAM Tamanrasset 158.36 303 *e*PKIKP **PKPdf 09 34 37.5 0.0**
TAM MLR MLR
comp=Z,650nm,19.0s
TAM Tamanrasset 158.36 303 *e*PKPdf **PKPdf 09 34 37.5 0.0**
TAM LR LR
comp=Z,650nm,19.0s
ASCN Ascension 160.47 179 PFAKE 09 34 50.0 +10
ASCN LR LR
comp=Z,267nm,19.0s
TOAO Torodi Ar. Sit 164.59 277 *e*PKPdf **PKPdf 09 34 43.1 -1.0**
TORD Torodi Ar. Bea 164.59 277 PKP **PKPdf 09 34 42.5 -1.5**
TORD Torodi Ar. Bea 164.59 277 PKP **PKPdf 09 34 42.5 -1.5**
comp=Z,4.4nm,0.9s,baz=6.6,slow=1.2,SNR=17
KIC Kosan Boka 169.40 241 *e*PKP1 **PKPab 09 36 01.4 +1.0**
comp=Z,25nm,0.8s
LIC Lamto 169.58 239 *e*PKP1 **PKPab 09 36 02.1 +0.9**
comp=Z,53nm,1.5s
TIC Toumodi 169.79 241 *e*PKP1 **PKPab 09 36 02.8 +0.6**
comp=Z,64nm,1.3s

DDA 09 09:23:02.6, 37.63N×34.77E, *h*7km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GULE	**Gulek**	**0.35**	**178**	*e*P	Pg	09 23 09.9	+0.3
GULE				*e*S	Sb	09 23 16.1	-1.2
AVNT	**Avonos**	**1.15**	**4**	*e*P	Pg	09 23 24.6	-0.3
AVNT				*e*S	Sb	09 23 40.6	+0.3

IDC 09 09:23:10.3±0.7, 15.46S×173.16W, *h*0km, mb4.1/10, mb1 4.3/10, mb1mx4.1/21, mbtmp4.1/10, MS4.7/4, Ms1 4.7/4, ms1mx4.1/36, Error ellipse: s-maj=32.8km s-min=18.4km az=127.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.04**	**41**	Pn	Pn	09 23 40.1	-6.0
AFI	12nm,0.3s,baz=264,slow=5.2,SNR=8.7			Sn	Sn	09 23 60.0	-12
URZ	70nm,0.3s,baz=224,slow=23,SNR=24 **Urewera**	**24.28**	**199**	P	P	09 28 29.5	+0.1
H11S2	28nm,1.2s,baz=117,slow=4.5,SNR=2.5 **WAKE ISLAND Hy**	**39.13**	**329**	T	T	10 12 52.3	
H11S3	baz=156,slow=0.7,SNR=2.6 **WAKE ISLAND Hy**	**39.15**	**329**	T	T	10 12 51.1	
H11S1	baz=156 **WAKE ISLAND Hy**	**39.15**	**329**	T	T	10 12 53.6	
PMG	baz=156,slow=0.7,SNR=6.3 **Port Moresby**	**39.17**	**274**	LR	LR	09 43 56.1	
STKA	comp=Z,607nm,18.4s,baz=53,slow=32 **Stephens Creek**	**44.20**	**240**	P	P	09 31 20.7	-0.8
WRA	2.1nm,0.5s,baz=83,slow=8.8,SNR=3.9 **Warramunga Arr**	**50.05**	**257**	P	P	09 32 06.6	-0.7
ASAR	1.6nm,1.1s,baz=91,slow=7.4,SNR=3.9 **Alice Springs**	**50.31**	**252**	P	P	09 32 08.3	-0.9
VNDA	4.4nm,0.6s,baz=86,slow=7.9,SNR=99 **Vanda**	**63.34**	**186**	P	P	09 33 41.0	+0.1
PETK	0.9nm,1.0s,baz=356,slow=2.5,SNR=3.6 **Petropavlovsk-**	**72.76**	**342**	P	P	09 34 40.6	+0.3
NVAR	1.8nm,0.7s,baz=133,slow=8.5,SNR=2.6 **Mina Array Bea**	**74.22**	**42**	P	P	09 34 49.1	-0.4
TXAR	0.5nm,0.8s,baz=209,slow=7.2,SNR=4.4 **Lajitas Array**	**80.46**	**56**	P	P	09 35 24.2	-0.3
ILAR	0.6nm,1.0s,baz=236,slow=6.4,SNR=2.7 **Eielson Array**	**82.46**	**11**	P	P	09 35 32.9	-1.4
MAW	0.6nm,0.8s,baz=213,slow=6.8,SNR=4.9 **Mawson**	**87.81**	**199**	P	P	09 36 01.5	+0.3
PLCA	1.0nm,0.5s,baz=143,slow=5.0,SNR=4.3 **Paso Flores**	**89.30**	**132**	LR	LR	10 06 49.7	
LPAZ	comp=Z,308nm,22.0s,baz=315,slow=29 **La Paz**	**99.58**	**110**	LR	LR	10 17 07.2	
ROSC	comp=Z,656nm,18.2s,baz=248,slow=32 **El Rosal**	**99.78**	**88**	LR	LR	10 13 32.5	
BRTR	comp=Z,242nm,21.4s,baz=234,slow=30 **Keskin Array B**	**146.35**	**321**	PKPbc	PKPab	09 42 54.4	-0.1
MMAI	1.9nm,0.6s,baz=92,slow=2.5,SNR=13 **Mount Meron Ar**	**148.78**	**309**	PKPbc	PKPbc	09 43 01.9	+1.4
	2.3nm,0.7s,baz=82,slow=3.1,SNR=3.7						

*AUST **09** 09:27:19.9±1.8, 6.46S×153.08E, h36km, Error ellipse: s-maj=1.7km s-min=1.2km az=331.0*
*IDC **09** 09:27:22.5±1.3, 5.46S×151.39E, h0km, mb4.0/5, mb1 4.3/6, mb1mx3.8/19, mbtmp4.0/6, ML3.3/1, Error ellipse: s-maj=86.5km s-min=21.0km az=133.0*

ISC 09 09:27:28.6±1.2, 5.38S×151.5E±0.3, h41km, n12, σ1ᵖ69/13, mb4.0/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.74**	**21**	P	**Pn**	**09 27 57.4**	**+1.0**
	baz=2.4,SNR=32						
PMG	**Port Moresby**	**5.61**	**230**	Pn	**Pn**	**09 28 51.1**	**+1.6**
	5.6nm,0.3s,baz=23,slow=8.9,SNR=13						
PMG				Sn	**Sn**	**09 29 50.3**	**-2.4**
	6.4nm,0.3s,baz=229,slow=16,SNR=2.5						
KDU	**Kakadu**	**20.00**	**249**	P	**P**	**09 31 57.7**	**-0.2**
	baz=21,SNR=5.4						
WRA	**Warramunga Arr**	**21.83**	**228**	P	**P**	**09 32 17.3**	**-0.4**
	1.3nm,0.5s,baz=53,slow=10,SNR=7.1						
KNRA	**Kununurra**	**24.39**	**245**	P	**P**	**09 32 47.0**	**+3.7**
	baz=26,SNR=3.3						
ASAR	**Alice Springs**	**24.55**	**222**	P	**P**	**09 32 45.5**	**+0.8**
	4.6nm,0.9s,baz=59,slow=9.2,SNR=10.0						
FITZ	**Fitzroy Crossi**	**28.07**	**242**	P	**P**	**09 33 16.3**	**-0.2**
	baz=29,SNR=10.0						
FITZ	**Fitzroy Crossi**	**28.07**	**242**	P	**P**	**09 33 16.1**	**-0.4**
	1.9nm,0.3s,baz=50,slow=9.5,SNR=8.0						
MEEK	**Meekatharra**	**37.58**	**233**	P	**P**	**09 34 39.5**	**0.0**
	baz=38,SNR=3.4						
ILAR	**Eielson Array**	**83.58**	**22**	P	**P**	**09 39 50.1**	**-2.1**
	0.8nm,0.6s,baz=247,slow=4.7,SNR=11						
NVAR	**Mina Array Bea**	**93.70**	**52**	P	**P**	**09 40 41.9**	**+0.3**
	0.4nm,0.8s,baz=243,slow=4.0,SNR=3.4						
TORD	**Torodi Ar. Bea**	**149.40**	**286**	PKPbc	**PKPbc**	**09 47 14.3**	**0.0**
	0.7nm,0.5s,baz=76,slow=2.0,SNR=12						

IDC 09 09:36:15.5±1.7, 15.41S×173.59W, *h*0km, mb3.9/6, mb1 4.2/6, mb1mx3.9/19, mbtmp3.9/6, Error ellipse: s-maj=107.5km s-min=22.5km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.31**	**50**	Pn	Pn	09 36 49.0	-5.9
	10.0nm,0.3s,baz=342,slow=3.8,SNR=8.1						
AFI				Sn	Sn	09 37 13.9	-10
	59nm,0.3s,baz=220,slow=22,SNR=8.2						
H11S2	**WAKE ISLAND Hy**	**38.88**	**329**	T	T	10 25 16.3	
	baz=152,slow=0.7,SNR=76						
H11S3	**WAKE ISLAND Hy**	**38.90**	**329**	T	T	10 25 17.2	
	baz=152,slow=0.7,SNR=72						
H11S1	**WAKE ISLAND Hy**	**38.90**	**329**	T	T	10 25 19.2	
	baz=152,slow=0.7,SNR=69						
H11N3	**WAKE ISLAND Hy**	**39.83**	**331**	T	T	10 26 28.8	
	baz=152,slow=0.7,SNR=93						
H11N1	**WAKE ISLAND Hy**	**39.84**	**331**	T	T	10 26 29.1	
	baz=152,slow=0.7,SNR=6.8						
H11N2	**WAKE ISLAND Hy**	**39.85**	**331**	T	T	10 26 30.2	
	baz=152,slow=0.7,SNR=71						
STKA	**Stephens Creek**	**43.87**	**240**	P	P	09 44 24.6	+0.6
	4.0nm,0.9s,baz=101,slow=13,SNR=4.2						
WRA	**Warramunga Arr**	**49.66**	**257**	P	P	09 45 08.4	-1.1
	0.7nm,0.7s,baz=90,slow=7.2,SNR=6.6						
ASAR	**Alice Springs**	**49.93**	**252**	P	P	09 45 11.1	-0.4
	5.4nm,0.6s,baz=86,slow=8.2,SNR=86						
NVAR	**Mina Array Bea**	**74.46**	**42**	P	P	09 47 54.9	-1.2
	0.4nm,0.7s,baz=229,slow=6.8,SNR=3.7						
TXAR	**Lajitas Array**	**80.77**	**56**	P	P	09 48 31.9	+0.4
	0.4nm,0.8s,baz=223,slow=6.6,SNR=4.1						
ILAR	**Eielson Array**	**82.49**	**11**	P	P	09 48 39.9	+0.3
	0.4nm,0.7s,baz=229,slow=7.1,SNR=5.1						
BRTR	**Keskin Array B**	**146.05**	**321**	PKPbc	PKPab	09 55 58.6	+0.1
	0.4nm,0.4s,baz=77,slow=2.7,SNR=4.2						

IDC 09 09:42:51.8±1.1, 13.87N×92.94E, *h*26km±5km, mb3.6/8, mb1 3.7/9, mb1mx3.5/29, mbtmp3.6/9, ML3.9/1, Error ellipse: s-maj=37.6km s-min=14.0km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.36**	**51**	Pn	Pn	09 44 37.7	+0.1
	0.5nm,0.3s,baz=242,slow=15,SNR=3.5						
CMAR				Sn	Sn	09 45 55.2	-5.0
	0.3nm,0.3s,baz=103,slow=21,SNR=1.6						
H08S3	**Diego Garcia H**	**29.47**	**225**	T	T	10 19 48.1	
	baz=42,slow=0.7,SNR=3.8						
H08S2	**Diego Garcia H**	**29.47**	**225**	T	T	10 19 48.0	
	baz=42,slow=0.7,SNR=5.1						
H08S1	**Diego Carcia H**	**29.49**	**225**	T	T	10 19 46.3	
	baz=42,slow=0.7,SNR=3.6						
MKAR	**Makanchi Array**	**34.02**	**347**	P	P	09 49 32.6	-1.0
	0.7nm,0.6s,baz=175,slow=7.8,SNR=4.8						
MKAR				pP	pP	09 49 42.0	+0.5
	0.6nm,0.6s,baz=162,slow=9.7,SNR=4.6						
SONM	**Songino Array**	**35.67**	**16**	P	P	09 49 48.0	+0.1
	0.4nm,0.5s,baz=212,slow=5.1,SNR=2.9						
KURBB	**Kurchatov Arra**	**38.48**	**345**	P	P	09 50 11.7	+0.1
	0.9nm,0.7s,baz=160,slow=8.1,SNR=7.7						
KURBB				pP	pP	09 50 19.4	-0.1
	0.4nm,0.6s,baz=163,slow=8.5,SNR=2.5						
ZALV	**Zalesovo Beam**	**40.50**	**353**	P	P	09 50 28.0	-0.3
	0.8nm,0.3s,baz=193,slow=5.9,SNR=3.4						
ZALV				pP	pP	09 50 35.9	-0.4
	0.8nm,0.5s,baz=162,slow=5.5,SNR=2.0						
FITZ	**Fitzroy Crossi**	**45.27**	**134**	P	P	09 51 07.1	-0.3
	1.1nm,0.7s,baz=267,slow=3.1,SNR=4.1						
WRA	**Warramunga Arr**	**52.80**	**129**	P	P	09 52 05.2	-0.1
	0.2nm,0.6s,baz=311,slow=10,SNR=6.5						
ASAR	**Alice Springs**	**54.73**	**133**	P	P	09 52 19.3	-0.1
	0.7nm,0.5s,baz=306,slow=6.7,SNR=20						
ASAR				pP	pP	09 52 27.4	-0.1
	0.5nm,0.5s,baz=306,slow=6.7,SNR=4.0						
BRTR	**Keskin Array B**	**57.72**	**308**	P	P	09 52 40.8	+0.1
	0.3nm,0.4s,baz=152,slow=13,SNR=3.5						

*DJA **09** 09:48:26.9±3.8, 0.7N±10.9E±1.4, h10km, M4.3/5, mb4.5/1, mB4.7/1, MLv4.2/5, Mw(mB)3.9/1*
*ISCJB **09** 09:48:32.8±0.8, 0.47N±0.07×99.8E±0.1, h33km, mb3.7/6, Error ellipse: s-maj=17.6km s-min=7.2km az=157.4*
*IDC **09** 09:48:39.1±3.2, 0.96N×100.69E, h61km±37km, mb3.4/6, mb1 3.6/7, mb1mx3.3/26, mbtmp3.7/7, ML3.5/1, Error ellipse: s-maj=100.9km s-min=17.6km az=53.0*

ISC 09 09:48:34.1±1.0, 0.44N±0.06×99.6E±0.1, h35km, n21, σ1ᵖ48/20, mb3.9/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**0.35**	**5**	P	**Pn**	**09 48 42.1**	**-0.6**
MNSI				S	**Sn**	**09 48 48.3**	**-0.3**
PPI	**Padang Panjang**	**1.23**	**137**	P	**Pn**	**09 48 53.1**	**-1.8**
PDSI	**Padang**	**1.63**	**146**	P	**Pn**	**09 48 58.6**	**-1.7**
PDSI				S	**Sn**	**09 49 22.3**	**+2.2**
PSI	**Prapat**	**2.42**	**345**	P	Pn	09 49 16.1	+4.7
	11nm,0.3s,baz=133,slow=12,SNR=30						
PSI				S	Sn	09 49 47.2	+7.3
	17nm,0.3s,baz=249,slow=20,SNR=3.8						
RGRI	**Rengat**	**2.89**	**106**	P	**Pn**	**09 49 18.8**	**+1.1**
FRIM	**Kepong**	**3.46**	**37**	P	**Pn**	**09 49 23.5**	**-2.1**
KCSI	**Kotacane, Aceh**	**3.54**	**330**	P	Pn	09 49 37.2	+11
KGM	**Kluang**	**4.08**	**67**	P	Pn	09 49 42.0	+8.0
IPM	**Ipoh**	**4.27**	**20**	P	**Pn**	**09 49 37.5**	**+0.8**
IPM	**Ipoh**	**4.27**	**20**	P	**Pn**	**09 49 38.1**	**+1.4**
MYKOM	**Kota Tinggi**	**4.50**	**73**	P	Pn	09 49 45.8	+5.9
KULM	**Kulim**	**4.94**	**13**	P	**Pn**	**09 49 43.9**	**-2.0**
KULM	**Kulim**	**4.94**	**13**	P	**Pn**	**09 49 44.3**	**-1.6**
KTGM	**Kuala Trenggan**	**6.03**	**36**	P	**Pn**	**09 49 59.2**	**-1.6**
WRA	**Warramunga Arr**	**39.65**	**123**	P	P	09 55 59.4	-3.6
	0.4nm,0.8s,baz=302,slow=9.1,SNR=4.0						
WRA				PcP	**PcP**	**09 58 09.0**	**-0.6**
	0.4nm,0.5s,baz=314,slow=2.7,SNR=7.3						
ASAR	**Alice Springs**	**41.08**	**128**	P	**P**	**09 56 13.0**	**-1.7**
	0.3nm,0.8s,baz=298,slow=7.8,SNR=3.9						
ASAR				PcP	**PcP**	**09 58 13.9**	**-0.2**
	0.6nm,0.7s,baz=306,slow=2.6,SNR=11						
MKAR	**Makanchi Array**	**48.57**	**344**	P	**P**	**09 57 15.1**	**+1.0**
	0.7nm,0.5s,baz=144,slow=7.4,SNR=10						
KURBB	**Kurchatov Arra**	**53.09**	**343**	P	**P**	**09 57 49.0**	**+1.0**
	0.8nm,0.7s,baz=160,slow=7.2,SNR=6.4						
ZALV	**Zalesovo Beam**	**54.70**	**349**	P	**P**	**09 57 59.9**	**+0.3**
	0.7nm,0.4s,baz=183,slow=5.6,SNR=4.9						
ARCES	**ARCESS Array B**	**84.04**	**340**	P	**P**	**10 01 01.5**	**+0.7**
	3.3nm,0.9s,baz=108,slow=4.9,SNR=4.9						
TXAR	**Lajitas Array**	**143.00**	**35**	PKP	**PKPdf**	**10 08 06.7**	**+1.5**
	0.2nm,0.7s,baz=220,slow=0.7,SNR=2.2						

IDC 09 09:53:04.3±1.1, 12°14S×165°87E, h0km, mb4.0/7, mb1 4.1/9, mb1mx3.9/20, mbtmp4.0/9, ML4.2/2, MS3.6/1, Ms1 3.6/1, ms1mx3.1/26, Error ellipse: s-maj=33.6km s-min=24.7km az=93.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.41**	**294**	Pn	Pn	09 54 42.2	+2.2
	20nm,0.3s,baz=197,slow=8.4,SNR=5.6						
HNR				Sn	Sn	09 55 54.6	+0.6
	5.1nm,0.3s,baz=24,slow=22,SNR=1.7						
HNR				LR	LR	09 57 16.9	
	comp=Z,455nm,18.9s,baz=185,slow=39						
DZM	**Mont Dzumac**	**9.89**	**177**	Pn	Pn	09 55 28.8	+0.8
	0.5nm,0.3s,baz=38,slow=20,SNR=13						
DZM				Sn	Sn	09 57 16.6	-3.3
	baz=112,slow=23,SNR=1.0						
WRA	**Warramunga Arr**	**31.24**	**252**	P	P	09 59 26.0	+0.1
	1.8nm,1.2s,baz=83,slow=9.2,SNR=3.2						
ASAR	**Alice Springs**	**32.42**	**245**	P	P	09 59 36.2	-0.1
	0.8nm,1.0s,baz=71,slow=9.1,SNR=7.8						
ASAR				PcP	PcP	10 02 23.2	-0.8
	0.7nm,1.0s,baz=57,slow=3.4,SNR=3.7						
VNDA	**Vanda**	**65.41**	**181**	P	P	10 03 48.3	0.0
	0.7nm,0.7s,baz=310,slow=11,SNR=4.5						
SONM	**Songino Array**	**79.61**	**324**	P	P	10 05 13.4	-0.2
	0.4nm,0.3s,baz=148,slow=5.5,SNR=6.3						
ILAR	**Eielson Array**	**84.51**	**18**	P	P	10 05 39.7	+0.9
	0.4nm,0.5s,baz=244,slow=5.0,SNR=8.9						
MKAR	**Makanchi Array**	**94.40**	**317**	P	P	10 06 25.7	-0.6
	2.1nm,0.6s,baz=91,slow=6.1,SNR=19						
ZALV	**Zalesovo Beam**	**94.51**	**324**	P	P	10 06 25.2	-1.3
	0.7nm,0.6s,baz=137,slow=3.0,SNR=3.5						

*ISCJB **09** 09:58:24.9±0.4, 19°.56S±0°.09×177°.60W±0°.08, h550km, mb4.0/15, Error ellipse: s-maj=14.2km s-min=6.8km az=146.7*

*IDC **09** 09:58:26.1±1.4, 19°.58S×177°.63W, h550km±15km, mb3.6/15, mb1 3.8/18, mb1mx3.7/24, mbtmp3.6/18, Error ellipse: s-maj=16.7km s-min=10.6km az=142.0*

*AUST **09** 09:58:26.6±0.0, 19°.44S×177°.42W, h570km, Error ellipse: s-maj=2.1km s-min=1.6km az=350.0*

ISC 09 09:58:25.8±0.5, 19°.5S±0°.1×177°.59W±0°.09, h550km, n66, σ0s95/70, mb4.1/15, 7C-10D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.25**	**88**	P	P	10 00 16.6	+0.3
	baz=7.1,SNR=3.3						
AFI	**Afiamalu**	**7.87**	**46**	P	P	10 00 22.2	-0.4
	9.9nm,0.3s,baz=109,slow=23,SNR=9.6						
AFI				S	S	10 01 54.8	-3.3
	11nm,0.3s,baz=41,slow=23,SNR=9.1						
DZM	**Mont Dzumac**	**15.14**	**258**	P	P	10 01 36.0	-0.9
	1.3nm,0.3s,baz=80,slow=8.1,SNR=13						
URZ	**Urewera**	**19.25**	**193**	P	P	10 02 12.9	-2.1
	1.7nm,0.3s,baz=351,slow=14,SNR=8.1						
RMQ	**Roma**	**31.68**	**251**	P	P	10 04 05.5	+0.7
	baz=32,SNR=5.9						
CNB	**Canberra Magne**	**33.10**	**235**	P	P	10 04 17.4	+0.6
	baz=33,SNR=8.9						
CTA	**Charters Tower**	**33.98**	**263**	P	P	10 04 24.8	+0.4
	24nm,0.5s,baz=95,slow=11,SNR=38						
CMSA	**Cobar Meteorol**	**35.07**	**243**	P	P	10 04 33.5	+0.2
	baz=35,SNR=13						
PMG	**Port Moresby**	**35.51**	**281**	P	P	10 04 37.5	+0.4
	24nm,0.8s,baz=118,slow=6.3,SNR=5.1						
QLP	**Quilpie**	**35.73**	**251**	P	P	10 04 38.9	+0.1
	baz=36,SNR=13						
TOO	**Toolangi**	**36.80**	**233**	P	P	10 04 47.8	+0.4
	baz=37,SNR=18						
COEN	**Coen**	**37.91**	**272**	P	P	10 04 57.5	+0.6
	baz=38,SNR=11						
STKA	**Stephens Creek**	**38.57**	**243**	P	P	10 05 02.4	+0.4
	baz=39,SNR=7.4						
STKA	**Stephens Creek**	**38.57**	**243**	P	P	10 05 02.2	+0.2
	6.3nm,0.8s,baz=72,slow=11,SNR=8.1						
ARPS	**Mount Arapiles**	**39.36**	**235**	P	P	10 05 08.4	+0.2
	baz=40,SNR=10						
BBOO	**Buckleboo**	**43.34**	**243**	P	P	10 05 39.8	0.0
	baz=44,SNR=37						
JAY	**Jayapura**	**44.10**	**287**	P	P	10 05 47.1	+1.0
	baz=44,SNR=8.7						
WRA	**Warramunga Arr**	**45.12**	**261**	P	P	10 05 53.1	-0.7
	5.8nm,0.3s,baz=98,slow=7.8,SNR=199						
WRA				PcP	PcP	10 07 22.4	-0.2
	1.3nm,0.5s,baz=94,slow=3.6,SNR=4.9						
ASAR	**Alice Springs**	**45.13**	**256**	P	P	10 05 53.6	-0.2
	14nm,0.7s,baz=89,slow=7.8,SNR=188						
ASAR				PcP	PcP	10 07 22.2	-0.4
	2.9nm,0.8s,baz=110,slow=3.9,SNR=8.7						
ASAR				ScP	ScP	10 10 24.4	+1.4
	0.3nm,0.6s,baz=111,slow=5.1,SNR=4.0						
ASAR				S	S	10 11 51.1	-2.4
	1.0nm,0.8s,baz=91,slow=16,SNR=6.5						
KDU	**Kakadu**	**48.32**	**270**	P	P	10 06 17.7	-0.2
	baz=48,SNR=10						
KNRA	**Kununurra**	**51.11**	**265**	P	P	10 06 38.1	-0.3
	baz=51,SNR=4.0						
FITZ	**Fitzroy Crossi**	**53.55**	**262**	P	P	10 06 55.8	0.0
	baz=54,SNR=23						
FITZ	**Fitzroy Crossi**	**53.55**	**262**	P	P	10 06 55.7	-0.1
	5.4nm,0.5s,baz=106,slow=3.6,SNR=43						
MEEK	**Meekatharra**	**58.61**	**250**	P	P	10 07 29.8	-0.9
	baz=59,SNR=14						
KLBR	**Kellerberrin**	**58.83**	**244**	P	P	10 07 31.6	-0.5
	baz=59,SNR=12						
VNDA	**Vanda**	**58.93**	**185**	P	P	10 07 33.1	+1.2
	0.6nm,0.7s,baz=347,slow=6.6,SNR=5.0						
BLDU	**Ballidu**	**59.81**	**245**	P	P	10 07 38.1	-0.5
	baz=60,SNR=15						
MJAR	**Matsushiro Arr**	**69.64**	**323**	P	P	10 08 40.4	0.0
	4.1nm,0.6s,baz=165,slow=6.4,SNR=11						
UGM	**Wanagama**	**70.37**	**268**	P	P	10 08 45.2	-0.1
	baz=70,SNR=3.4						
PETK	**Petropavlovsk-**	**75.41**	**345**	P	P	10 09 13.5	+0.2
	6.1nm,0.8s,baz=132,slow=9.7,SNR=13						
KSRS	**Korea Array**	**76.40**	**318**	P	P	10 09 20.3	+1.3
	0.8nm,0.5s,baz=134,slow=7.0,SNR=4.1						
USRK	**Ussuriysk Arra**	**78.36**	**326**	P	P	10 09 31.2	+1.7
	4.0nm,0.9s,baz=181,slow=5.2,SNR=5.9						
NVAR	**Mina Array Bea**	**80.04**	**43**	P	P	10 09 40.2	+1.3
	0.9nm,0.8s,baz=224,slow=8.0,SNR=6.3						
TXAR	**Lajitas Array**	**86.20**	**57**	P	P	10 10 11.5	+1.9
	0.4nm,0.6s,baz=228,slow=7.1,SNR=6.5						
ILAR	**Eielson Array**	**87.26**	**13**	P	P	10 10 13.2	-0.5
	1.9nm,0.8s,baz=228,slow=5.5,SNR=29						
CMAR	**Chiang Mai Arr**	**90.14**	**289**	P	P	10 10 29.4	+1.2
	3.2nm,0.8s,baz=130,slow=2.6,SNR=15						
ZALV	**Zalesovo Beam**	**109.96**	**321**	PKiKP	**PKiKP**	10 15 52.9	-1.7
	0.8nm,0.5s,baz=128,slow=2.4,SNR=3.5						
MKAR	**Makanchi Array**	**110.79**	**314**	PKiKP	**PKiKP**	10 15 55.3	-1.2
	0.5nm,0.5s,baz=219,slow=1.5,SNR=6.9						
KURBB	**Kurchatov Arra**	**113.58**	**318**	PKiKP	**PKiKP**	10 16 00.3	-1.3
	1.4nm,0.9s,baz=87,slow=1.8,SNR=12						
AKTO	**Aktyubinsk**	**126.58**	**319**	PKP	**PKPdf**	10 16 25.5	-1.2
	0.6nm,0.3s,baz=117,slow=4.5,SNR=2.7						
ARCES	**ARCESS Array B**	**128.01**	**350**	PKP	**PKPdf**	10 16 28.7	-0.1
	2.2nm,0.6s,baz=37,slow=1.4,SNR=12						
FINES	**FINESS Array B**	**134.93**	**344**	PKP	**PKPdf**	10 16 40.4	-1.7
	3.1nm,0.9s,baz=63,slow=3.7,SNR=5.0						
AKASG	**Malin Array Be**	**142.33**	**332**	PKhKP	PKPpre	10 16 51.8	
	2.1nm,0.4s,baz=42,slow=3.9,SNR=11						
MALT	**Malatya**	**143.62**	**309**	∥iP	**PKPdf**	10 16 58.3	-0.4
KWP	**Kalwaria Pacla**	**145.84**	**336**	⇑iP	**PKPbc**	10 17 03.3	-0.5
BURAR	**Bucovina Array**	**146.38**	**332**	⇑iP	**PKPbc**	10 17 05.0	-0.5
BRTR	**Keskin Array B**	**146.44**	**314**	PKPbc	**PKPbc**	10 17 05.4	-0.5
	4.0nm,0.6s,baz=135,slow=4.4,SNR=18						
TESR	**Tescani**	**146.52**	**329**	∥iP	**PKPdf**	10 17 04.2	+0.9
CFR	**Carcaliu**	**146.69**	**326**	∥iP	**PKPbc**	10 17 06.1	-0.1
VRI	**Vrincioaia**	**146.94**	**328**	∥iP	**PKPbc**	10 17 06.3	-0.6
TIRR	**Tirgusor**	**147.01**	**325**	∥iP	**PKPdf**	10 17 04.9	+0.8
TLB	**Topalu**	**147.13**	**325**	⇑iP	**PKPbc**	10 17 07.8	+0.4
CLL	**Collm**	**147.18**	**348**	*i* PKPbc	**PKPbc**	10 17 07.4	+0.1
	comp=Z,111nm,0.7s						
BRG	**Berggiesshubel**	**147.39**	**346**	*e*P	**PKPbc**	10 17 08.2	+0.3
	comp=Z,7.0nm,0.7s						
BRG							
	comp=N,421nm,16.5s						
BRG							
	comp=E,298nm,18.9s						
BRG							
	comp=Z,704nm,15.6s						
DOPR	**Dopca**	**147.52**	**330**	⇑iP	**PKPbc**	10 17 09.2	+0.8
MLR	**Muntele Rosu**	**147.59**	**328**	∥iP	**PKPbc**	10 17 09.7	+0.9
VOIR		**148.07**	**329**	∥iP	**PKPbc**	10 17 10.0	+0.1
DRGR		**148.10**	**333**	∥iP	**PKPbc**	10 17 10.8	+0.8
ARR	**Arges**	**148.32**	**329**	∥iP	**PKPbc**	10 17 11.8	+1.3
SIRR	**Siria**	**148.96**	**334**	∥iP	**PKPbc**	10 17 12.1	+0.1
GERES	**GERESS Array B**	**149.34**	**345**	PKPbc	**PKPbc**	10 17 12.9	-0.1
	comp=Z,4.8nm,0.8s,baz=16,slow=1.9,SNR=21						
CSNA	**Conrad Observa**	**149.61**	**342**	⇑*i*PKiKP	**PKPbc**	10 17 14.1	+0.4
	comp=Z,6.6nm,0.6s						
ABTA	**Abfaltersbach**	**151.59**	**345**	⇑*i*PKPbc	**PKPbc**	10 17 17.7	-0.5
	comp=Z,7.6nm,0.5s						
FETA	**Feichten**	**151.72**	**348**	⇑*i*PKPbc	**PKPbc**	10 17 18.6	0.0
	comp=Z,3.3nm,0.6s						
CRNS	**Crni Vrh**	**151.75**	**342**	*i* PKPbc	**PKPbc**	10 17 17.8	-0.7
VISS	**Visnje**	**151.83**	**341**	*i* PKPbc	**PKPbc**	10 17 18.3	-0.4

IDC 09 10:17:24.1±0.9, 11°.70S×165°.98E, h0km, mb4.0/9, mb1 4.3/11, mb1mx4.1/21, mbtmp4.1/11, ML4.1/2, Error ellipse: s-maj=25.6km s-min=22.7km az=136.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.35**	**290**	Pn	Pn	10 19 00.0	+1.0
	8.6nm,0.3s,baz=115,slow=14,SNR=3.2						
HNR				Sn	Sn	10 20 12.7	+0.4
	7.9nm,0.3s,baz=180,slow=20,SNR=3.1						
DZM	**Mont Dzumac**	**10.32**	**178**	Pn	Pn	10 19 55.6	+1.9
	0.6nm,0.3s,baz=353,slow=19,SNR=8.2						
CTA	**Charters Tower**	**20.71**	**244**	P	Pn	10 22 07.5	-1.1
	2.5nm,0.7s,baz=67,slow=14,SNR=2.5						
H11S2	**WAKE ISLAND Hy**	**30.01**	**1**	T	T	10 54 01.6	
	baz=186,SNR=4.4						
H11S3	**WAKE ISLAND Hy**	**30.01**	**1**	T	T	10 54 01.0	
	baz=186,slow=0.7,SNR=3.7						
H11S1	**WAKE ISLAND Hy**	**30.03**	**1**	T	T	10 54 02.9	
	baz=186,slow=0.7,SNR=3.3						
WRA	**Warramunga Arr**	**31.48**	**251**	P	P	10 23 47.6	-0.4
	3.7nm,0.9s,baz=84,slow=9.3,SNR=13						
WRA				PcP	PcP	10 26 40.2	-1.1
	1.1nm,0.8s,baz=86,slow=3.4,SNR=5.6						
ASAR	**Alice Springs**	**32.71**	**244**	P	P	10 23 58.5	-0.3
	4.1nm,0.8s,baz=70,slow=9.5,SNR=37						
ASAR				PcP	PcP	10 26 43.6	-1.0
	0.3nm,0.5s,baz=71,slow=4.0,SNR=5.1						
VNDA	**Vanda**	**65.84**	**181**	P	P	10 28 10.5	-0.5
	2.2nm,1.1s,baz=5.7,slow=7.1,SNR=3.9						
CMAR	**Chiang Mai Arr**	**72.59**	**294**	P	P	10 28 54.7	+0.8
	1.2nm,0.3s,baz=128,slow=4.8,SNR=9.4						
SONM	**Songino Array**	**79.33**	**324**	P	P	10 29 31.6	-0.3
	0.4nm,0.6s,baz=131,slow=4.4,SNR=2.6						
ILAR	**Eielson Array**	**84.06**	**18**	P	P	10 29 56.4	0.0
	0.5nm,0.9s,baz=218,slow=5.5,SNR=6.2						
NVAR	**Mina Array Bea**	**86.27**	**50**	P	P	10 30 09.2	+0.9
	0.4nm,0.7s,baz=226,slow=7.2,SNR=3.6						
MKAR	**Makanchi Array**	**94.16**	**317**	P	P	10 30 44.3	-0.7
	1.0nm,0.6s,baz=94,slow=6.8,SNR=7.6						

*IDC **09** 10:23:24.9±1.1, 12°.22S×165°.92E, h0km, mb4.3/9, mb1 4.5/11, mb1mx4.2/21, mbtmp4.4/11, ML4.9/2, MS4.2/1, Ms1 4.2/1, ms1mx3.0/33, Error ellipse: s-maj=34.2km s-min=22.1km az=124.0*

*AUST **09** 10:23:27.4±20.0, 11°.82S×166°.03E, h23km±1km, Error ellipse: s-maj=2.6km s-min=1.4km az=1.0*

*ISCJB **09** 10:23:28.5±0.9, 12°.25S±0°.09×165°.8E±0°.1, h30km, mb4.2/10, MS2.9/1, Error ellipse: s-maj=18.0km s-min=12.4km az=179.5*

*NEIC **09** 10:23:30.3±0.5, 12°.25S×165°.86E, h35km, mb4.1/2, Error ellipse: s-maj=12.4km s-min=10.1km az=101.0*

ISC 09 10:23:29.7±0.8, 12°.2S±0°.1×165°.9E±0°.1, h30km, n42, σ0s82/41, mb4.2/10, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.49**	**295**	Pn	**Pn**	10 25 02.8	-0.4
HNR	**Honiara**	**6.49**	**295**	Pn	**Pn**	10 25 02.8	-0.4
	77nm,0.3s,baz=132,slow=7.2,SNR=30						
DZM	**Mont Dzumac**	**9.80**	**177**	Pn	**Pn**	10 25 48.8	0.0
DZM	**Mont Dzumac**	**9.80**	**177**	Pn	**Pn**	10 25 48.8	0.0
	2.9nm,0.3s,baz=185,slow=20,SNR=29						
CTA	**Charters Tower**	**20.43**	**245**	P	**P**	10 28 04.2	-0.4
CTA	**Charters Tower**	**20.43**	**245**	P	**P**	10 28 04.2	-0.4
	7.2nm,0.7s,baz=84,slow=11,SNR=8.1						
RMQ	**Roma**	**21.48**	**226**	P	**P**	10 28 17.6	+1.5
	baz=22,SNR=6.0						
COEN	**Coen**	**22.22**	**263**	P	**P**	10 28 25.9	+2.0
	baz=22,SNR=6.5						
ARMA	**Armidale**	**22.43**	**214**	P	**P**	10 28 27.5	+1.3
	baz=23,SNR=4.5						
CMSA	**Cobar Meteorol**	**26.77**	**221**	P	**P**	10 29 08.0	+1.0
	baz=27,SNR=7.0						
STKA	**Stephens Creek**	**29.72**	**225**	P	**P**	10 29 34.0	+0.7
STKA	**Stephens Creek**	**29.72**	**225**	P	**P**	10 29 34.0	+0.7
	2.1nm,0.6s,baz=61,slow=10,SNR=4.4						
WRAB	**Tennant Creek**	**31.24**	**252**	*e*P	**P**	10 29 46.0	-0.9
	2.8nm,0.7s						
WRA	**Warramunga Arr**	**31.25**	**252**	P	**P**	10 29 46.0	-1.0
WRA	**Warramunga Arr**	**31.25**	**252**	P	**P**	10 29 46.0	-1.0
	3.4nm,0.7s,baz=83,slow=8.9,SNR=28						
AS31	**Alice Springs**	**32.43**	**245**	*e*P	**P**	10 29 56.3	-1.1
ASAR	**Alice Springs**	**32.43**	**245**	P	**P**	10 29 56.2	-1.2
ASAR	**Alice Springs**	**32.43**	**245**	P	**P**	10 29 56.2	-1.2
	6.9nm,0.7s,baz=70,slow=9.4,SNR=79						
KDU	**Kakadu**	**32.65**	**266**	P	**P**	10 29 58.6	-0.7
	baz=33,SNR=3.9						
BBOO	**Buckleboo**	**34.16**	**228**	P	**P**	10 30 12.4	+0.1
	baz=34,SNR=5.3						
KNRA	**Kununurra**	**36.19**	**260**	P	**P**	10 30 29.6	-0.4
	baz=36,SNR=3.5						
FITZ	**Fitzroy Crossi**	**39.25**	**256**	*e*P	**P**	10 30 55.8	0.0
	2.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**39.25**	**256**	P	**P**	10 30 56.2	+0.3
	baz=39,SNR=5.1						
MEEK	**Meekatharra**	**46.59**	**245**	P	**P**	10 31 55.5	+0.2
	baz=47,SNR=5.8						
NWAO	**Narrogin (SRO)**	**48.95**	**237**	LR	LR	10 52 40.6	
	comp=Z,16nm,28.6s,baz=99,slow=36						
MORW	**Morawa**	**49.21**	**242**	P	**P**	10 32 15.6	0.0
	baz=50,SNR=3.3						
CMAR	**Chiang Mai Arr**	**72.74**	**294**	P	**P**	10 34 56.1	+0.6
CMAR	**Chiang Mai Arr**	**72.74**	**294**	P	**P**	10 34 56.1	+0.6
	1.0nm,0.3s,baz=130,slow=5.4,SNR=5.0						
SONM	**Songino Array**	**79.71**	**324**	P	**P**	10 35 35.6	+0.9
SONM	**Songino Array**	**79.71**	**324**	P	**P**	10 35 35.6	+0.9
	0.7nm,0.7s,baz=121,slow=4.0,SNR=4.7						
ILAR	**Eielson Array**	**84.57**	**18**	P	**P**	10 36 00.3	+0.6
ILAR	**Eielson Array**	**84.57**	**18**	P	**P**	10 36 00.3	+0.6
	0.5nm,0.5s,baz=255,slow=5.8,SNR=4.2						
MKAR	**Makanchi Array**	**94.49**	**317**	P	**P**	10 36 47.2	+0.1
MKAR	**Makanchi Array**	**94.49**	**317**	P	**P**	10 36 47.2	+0.1
	1.8nm,0.7s,baz=94,slow=6.2,SNR=20						
ZALV	**Zalesovo Beam**	**94.61**	**324**	P	**P**	10 36 46.7	-0.7
ZALV	**Zalesovo Beam**	**94.61**	**324**	P	**P**	10 36 46.7	-0.7
	0.5nm,0.4s,baz=122,slow=5.2,SNR=3.8						
ARCES	**ARCESS Array B**	**117.51**	**345**	PKP	**PKPdf**	10 42 11.0	-1.0
ARCES	**ARCESS Array B**	**117.51**	**345**	PKP	**PKPdf**	10 42 11.0	-1.0
	2.0nm,0.5s,baz=64,slow=2.8,SNR=8.6						
ESDC	**Sonseca Array**	**151.23**	**344**	PKPbc	**PKPbc**	10 43 19.9	-0.7
ESDC	**Sonseca Array**	**151.23**	**344**	PKPbc	**PKPbc**	10 43 19.9	-0.7
	0.4nm,0.4s,baz=16,slow=2.8,SNR=4.9						
TORD	**Torodi Ar. Bea**	**164.58**	**275**	PKP	**PKPdf**	10 43 31.3	-0.3
TORD	**Torodi Ar. Bea**	**164.58**	**275**	PKP	**PKPdf**	10 43 31.3	-0.3
	1.2nm,0.8s,baz=1.2,slow=1.4,SNR=7.5						

*IDC **09** 10:25:01.0±0.7, 10°.92S×165°.39E, h0km, mb4.3/15, mb1 4.5/17, mb1mx4.4/23, mbtmp4.4/17, ML4.8/2, MS3.8/3, Ms1 3.8/3, ms1mx3.2/31, Error ellipse: s-maj=22.1km s-min=16.4km az=119.0*

*ISCJB **09** 10:25:04.2±0.4, 10°.89S±0°.07×165°.37E±0°.06, h30km, mb4.4/21, MS3.1/2, Error ellipse: s-maj=10.2km s-min=7.2km az=153.9*

*NEIC **09** 10:25:06.4±0.3, 10°.89S×165°.37E, h35km, mb4.6/8, Error ellipse: s-maj=8.7km s-min=6.0km az=141.0*

*AUST **09** 10:25:25.6, 11°.43S×165°.47E, h200km*

ISC 09 10:25:05.6±0.6, 10°.92S±0°.09×165°.43E±0°.08, h30km, n59, σ0s88/61, mb4.4/21, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.60**	**285**	Pn	**Pn**	10 26 24.9	-2.1
HNR				Sn	**Sn**	10 27 31.9	+1.6
HNR	**Honiara**	**5.60**	**285**	Pn	**Pn**	10 26 24.8	-2.1
	40nm,0.3s,baz=160,slow=5.3,SNR=6.8						
HNR				Sn	**Sn**	10 27 31.9	+1.6
	baz=195,slow=20,SNR=2.1						
HNR				LR	LR	10 28 28.0	
	comp=Z,866nm,19.7s,baz=144,slow=37						
DZM	**Mont Dzumac**	**11.13**	**175**	*e*Pn	**Pn**	10 27 42.7	-0.2
DZM	**Mont Dzumac**	**11.13**	**175**	Pn	**Pn**	10 27 41.2	-1.7
	4.0nm,0.3s,baz=32,slow=19,SNR=20						
EIDS	**Eidsvold**	**19.78**	**221**	P	**Pn**	10 29 35.6	+0.4
	baz=20,SNR=3.2						
CTA	**Charters Tower**	**20.59**	**241**	P	**P**	10 29 42.9	+0.6
CTA	**Charters Tower**	**20.59**	**241**	P	**P**	10 29 42.9	+0.6
	14nm,0.9s,baz=67,slow=13,SNR=4.8						
CTAO	**Charters Tower**	**20.59**	**241**	*e*P	Pn	10 29 44.1	-0.7
	28nm,0.8s						
RMQ	**Roma**	**22.07**	**223**	P	**P**	10 30 00.0	+1.7
	baz=22,SNR=3.9						
AFI	**Afiamalu**	**22.45**	**100**	LR	LR	10 36 24.2	
	comp=Z,16nm,28.6s,baz=306,slow=30						
QLP	**Quilpie**	**25.34**	**229**	P	**P**	10 30 30.9	+0.8
	baz=25,SNR=3.7						
CMSA	**Cobar Meteorol**	**27.47**	**219**	P	**P**	10 30 52.7	+3.5
	baz=27,SNR=4.6						
STKA	**Stephens Creek**	**30.32**	**223**	*e*P	**P**	10 31 14.8	+0.2
STKA				PcP	**PcP**	10 34 14.4	-0.1
STKA	**Stephens Creek**	**30.32**	**223**	P	**P**	10 31 13.4	-1.2
	5.3nm,0.8s,baz=45,slow=8.3,SNR=6.2						
STKA				PcP	**PcP**	10 34 14.4	-0.1
	1.0nm,0.3s,baz=210,slow=2.3,SNR=3.1						
H11N1	**WAKE ISLAND Hy**	**30.48**	**3**	T	T	11 03 11.7	
	baz=184,slow=0.7,SNR=16						
H11N3	**WAKE ISLAND Hy**	**30.48**	**3**	T	T	11 03 17.8	
	baz=184,slow=0.7,SNR=22						
H11N2	**WAKE ISLAND Hy**	**30.49**	**3**	T	T	11 03 20.0	
	baz=184,slow=0.7,SNR=34						
WRAB	**Tennant Creek**	**31.23**	**250**	*e*P	**P**	10 31 22.7	-0.1
WRA	**Warramunga Arr**	**31.24**	**250**	P	**P**	10 31 22.1	-0.8
WRA				PcP	**PcP**	10 34 17.2	+0.1
WRA	**Warramunga Arr**	**31.24**	**250**	P	**P**	10 31 22.1	-0.8
	2.9nm,0.5s,baz=83,slow=9.1,SNR=16						
WRA				PcP	**PcP**	10 34 17.2	+0.1
	2.6nm,1.0s,baz=76,slow=3.1,SNR=5.7						
AS31	**Alice Springs**	**32.57**	**243**	*e*P	**P**	10 31 33.7	-0.9
ASAR	**Alice Springs**	**32.57**	**243**	P	**P**	10 31 33.6	-1.0
ASAR				PcP	**PcP**	10 34 20.9	+0.1
ASAR	**Alice Springs**	**32.57**	**243**	P	**P**	10 31 33.6	-1.0
	13nm,0.8s,baz=66,slow=10,SNR=31						
ASAR				PcP	**PcP**	10 34 20.9	+0.1
	2.4nm,0.7s,baz=67,slow=2.5,SNR=12						
KNRA	**Kununurra**	**35.97**	**258**	P	**P**	10 32 05.1	+1.1
	baz=36,SNR=3.5						
FITZ	**Fitzroy Crossi**	**39.12**	**255**	*e*P	**P**	10 32 30.4	-0.2
	4.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**39.12**	**255**	P	**P**	10 32 31.0	+0.4
	baz=39,SNR=4.4						
FITZ	**Fitzroy Crossi**	**39.12**	**255**	LR	LR	10 47 49.2	
	comp=Z,161nm,18.1s,baz=107,slow=35						
MEEK	**Meekatharra**	**46.73**	**244**	P	**P**	10 33 32.7	+0.4
	baz=46,SNR=7.1						
KLBR	**Kellerberrin**	**48.52**	**237**	P	**P**	10 33 46.4	+0.3
	baz=48,SNR=5.6						
MORW	**Morawa**	**49.41**	**241**	P	**P**	10 33 53.6	+0.6
	baz=49,SNR=4.0						
MJAR	**Matsushiro Arr**	**53.72**	**333**	P	**P**	10 34 24.4	-0.6
MJAR	**Matsushiro Arr**	**53.72**	**333**	P	**P**	10 34 24.4	-0.6
	2.5nm,0.8s,baz=171,slow=9.2,SNR=5.8						
JNU	**Nakatsue**	**54.80**	**324**	P	**P**	10 34 32.5	-0.5
JNU	**Nakatsue**	**54.80**	**324**	P	**P**	10 34 32.5	-0.5
	8.1nm,0.8s,baz=81,slow=6.9,SNR=5.4						
KSRS	**Korea Array**	**59.60**	**326**	P

MYLDM	**Lahad Datu** 139nm,1.0s,2µm	**7.86**	**288**	P	**Pn**	**10 39 32.9**	**+1.2**
KKSI	**Kolaka, Sulawe** 89nm,0.4s,0.5nm	**8.11**	**212**	P	**Pn**	**10 39 33.8**	**-1.2**
TSM	**Tawau**	**8.25**	**281**	P	**Pn**	**10 39 35.7**	**-1.3**
FAKI	**Fak Fak** baz=8.3,SNR=4.1	**8.40**	**132**	P	**Pn**	**10 39 39.2**	**+0.1**
SDKM	**Sandakan**	**9.23**	**289**	P	**Pn**	**10 39 50.2**	**-0.3**
PALU	**Palau** baz=9.6,SNR=3.3	**9.62**	**61**	P	**Pn**	**10 39 55.8**	**+0.2**
KAPI	**Kappang** comp=Z,156nm,20.6s,baz=43,slow=39	**9.89**	**219**	LR	LR	10 43 42.7	
KKM	**Kota Kinabalu**	**10.29**	**289**	P	**Pn**	**10 40 05.8**	**+1.1**
KKM	**Kota Kinabalu** 65nm,1.2s,991nm	**10.29**	**289**	P	**Pn**	**10 40 05.7**	**+0.9**
KKM	**Kota Kinabalu** baz=10,SNR=10	**10.29**	**289**	P	**Pn**	**10 40 05.4**	**+0.6**
WSI	**Waingapu** baz=14,SNR=3.4	**13.55**	**205**	P	P	10 40 58.4	+4.9
SBUM	**Sibu**	**13.76**	**269**	P	**Pn**	**10 40 53.1**	**+2.4**
SBUM	**Sibu**	**13.76**	**269**	P	**P**	**10 40 53.9**	**-1.8**
JAY	**Jayapura** baz=16,SNR=4.7	**15.61**	**109**	P	**P**	**10 41 17.8**	**+1.4**
KSM	**Kuching**	**15.72**	**266**	P	**Pn**	**10 41 16.7**	**+1.0**
KSM	**Kuching** baz=16,SNR=3.8	**15.72**	**266**	P	**P**	**10 41 20.6**	**+3.0**
KDU	**Kakadu** baz=17,SNR=4.6	**16.61**	**157**	P	**Pn**	**10 41 23.3**	**-3.4**
KNRA	**Kununurra** baz=18,SNR=4.3	**18.49**	**172**	P	**P**	**10 41 47.7**	**-0.3**
FITZ	**Fitzroy Crossi** baz=21,SNR=12	**20.70**	**181**	P	**P**	**10 42 10.8**	**-1.2**
FITZ	**Fitzroy Crossi** 3.3nm,0.9s,baz=10,slow=11,SNR=6.2	**20.70**	**181**	P	**P**	**10 42 08.4**	**-3.5**
CISI	**Cisompet, Garu** baz=21,SNR=3.3	**20.81**	**240**	P	Pn	10 42 25.4	+8.6
WRA	**Warramunga Arr** 4.3nm,0.5s,baz=342,slow=10,SNR=178	**23.97**	**160**	P	**P**	**10 42 44.2**	**-0.8**
WRA	0.8nm,0.8s,baz=326,slow=2.1,SNR=3.7			PcP	**PcP**	**10 46 25.7**	**+1.0**
WRA	4.5nm,0.8s,baz=340,slow=18,SNR=12			S	**S**	**10 46 56.9**	**+2.6**
ASAR	**Alice Springs** 0.5nm,0.3s,baz=337,slow=7.1,SNR=32	**27.34**	**164**	P	**P**	**10 43 14.8**	**-0.6**
ASAR	2.0nm,0.7s,baz=349,slow=2.4,SNR=9.6			PcP	**PcP**	**10 46 33.5**	**+1.1**
ASAR	1.5nm,0.8s,baz=351,slow=17,SNR=6.1			S	S	10 47 58.7	+11
JCJ	**Chichijima** comp=Z,16nm,28.6s,baz=114,slow=36	**28.77**	**31**	LR	LR	10 54 41.4	
MEEK	**Meekatharra** baz=30,SNR=4.3	**30.05**	**193**	P	**P**	**10 43 38.6**	**-0.8**
CMAR	**Chiang Mai Arr** 0.4nm,0.3s,baz=119,slow=7.3,SNR=3.1	**30.76**	**302**	P	P	10 43 41.7	-4.0
KSRS	**Korea Array** 3.7nm,0.6s,baz=180,slow=9.9,SNR=24	**34.61**	**3**	P	**P**	**10 44 19.4**	**+0.4**
KSRS	1.8nm,0.8s,baz=188,slow=3.1,SNR=5.9			PcP	**PcP**	**10 46 52.8**	**+1.5**
MJAR	**Matsushiro Arr** 4.2nm,0.8s,baz=197,slow=9.5,SNR=12	**35.49**	**17**	P	**P**	**10 44 26.9**	**+0.2**
STKA	**Stephens Creek** baz=38,SNR=6.4	**37.47**	**158**	P	**P**	**10 44 44.1**	**+0.6**
STKA	**Stephens Creek** 1.8nm,0.3s,baz=343,slow=9.2,SNR=7.4	**37.47**	**158**	P	**P**	**10 44 43.1**	**-0.4**
USRK	**Ussuriysk Arra** 5.8nm,0.9s,baz=191,slow=8.0,SNR=7.1	**41.64**	**6**	P	**P**	**10 45 17.6**	**-0.3**
H11S3	**WAKE ISLAND Hy** baz=254,slow=0.7,SNR=8.9	**42.81**	**66**	T	T	11 31 55.5	
H11S2	**WAKE ISLAND Hy** baz=254,slow=0.7,SNR=9.7	**42.83**	**66**	T	T	11 31 55.5	
H11S1	**WAKE ISLAND Hy** baz=254,slow=0.7,SNR=6.0	**42.83**	**66**	T	T	11 31 55.1	
ASAJ	**Asahikawa** 13nm,0.6s,baz=219,slow=6.5,SNR=11	**43.77**	**17**	P	**P**	**10 45 36.6**	**+1.4**
SONM	**Songino Array** 0.6nm,0.6s,baz=162,slow=8.4,SNR=5.2	**48.02**	**342**	P	**P**	**10 46 08.4**	**-0.3**
SONM	0.9nm,0.7s,baz=149,slow=3.4,SNR=3.7			PcP	**PcP**	**10 47 35.8**	**+0.7**
PETK	**Petropavlovsk-** 3.6nm,0.7s,baz=189,slow=4.4,SNR=9.1	**56.63**	**22**	P	**P**	**10 47 14.3**	**+2.2**
MKAR	**Makanchi Array** 1.9nm,0.3s,baz=119,slow=7.6,SNR=53	**57.96**	**326**	P	**P**	**10 47 20.7**	**-0.9**
MKAR	2.5nm,0.7s,baz=120,slow=3.7,SNR=12			PcP	**PcP**	**10 48 12.8**	**+0.2**
ZALV	**Zalesovo Beam** 0.7nm,0.3s,baz=134,slow=4.2,SNR=3.2	**61.15**	**334**	P	**P**	**10 47 41.8**	**-1.5**
KURBB	**Kurchatov Arra** 2.6nm,0.4s,baz=130,slow=6.2,SNR=40	**62.19**	**328**	P	**P**	**10 47 49.3**	**-1.0**
KURBB	1.3nm,0.9s,baz=120,slow=4.4,SNR=4.3			PcP	**PcP**	**10 48 30.0**	**+0.6**
BVAR	**Borovoye Array** 0.7nm,0.3s,baz=101,slow=6.0,SNR=4.4	**67.76**	**327**	P	**P**	**10 48 25.5**	**-0.9**
BVAR	comp=Z,64nm,18.0s,baz=299,slow=38			LR	LR	11 19 54.9	
VNDA	**Vanda** 2.4nm,0.8s,baz=314,slow=6.1,SNR=11	**82.53**	**173**	P	**P**	**10 49 51.7**	**+1.0**
MAW	**Mawson** 2.3nm,1.0s,baz=89,slow=10,SNR=4.2	**82.56**	**200**	P	**P**	**10 49 51.0**	**+0.1**
ILAR	**Eielson Array** 0.5nm,0.9s,baz=234,slow=5.7,SNR=6.9	**86.32**	**25**	P	**P**	**10 50 10.1**	**0.0**
ARCES	**ARCESS Array B** 3.9nm,0.9s,baz=55,slow=6.4,SNR=5.1	**91.13**	**340**	P	**P**	**10 50 32.3**	**-0.4**
FINES	**FINESS Array B** 3.5nm,0.7s,baz=76,slow=5.9,SNR=6.2	**92.36**	**332**	P	**P**	**10 50 38.0**	**-0.5**
NOA	**NORSAR Array B** 1.3nm,0.8s,baz=68,slow=4.6,SNR=4.1	**99.35**	**333**	P	**Pdif**	**10 51 09.7**	**-0.7**
TORD	**Torodi Ar. Bea** 1.0nm,0.6s,baz=48,slow=2.1,SNR=6.3	**122.52**	**287**	PKP	**PKPdf**	**10 56 24.1**	**-0.2**

WEL 09 10:53:54.6±0.6, 37.00S×177.43E, h169km±4km, ML3.7/10, 2C, Error ellipse: s-maj=6.8km s-min=5.3km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**1.26**	**149**	PN	Pn	10 54 22.9	-0.4
PUZ				SN	Sn	10 54 44.5	-1.2
URZ	**Urewera**	**1.29**	**191**	⇑PN	Pn	10 54 23.9	+0.4
URZ				SN	Sn	10 54 46.2	+0.2
URZ				AML	AML	10 54 47.0	
MWZ	**Matawai**	**1.34**	**177**	PN	Pn	10 54 24.1	0.0
MWZ				AML	AML	10 54 56.3	
MWZ				AML	AML	10 54 57.2	
CNGZ	**Carnagh Statio**	**1.61**	**158**	PN	Pn	10 54 27.2	+0.6
RAHZ	**Arahi**	**1.94**	**188**	PN	Pn	10 54 30.6	+0.4
KNZ	**Kokohu**	**2.03**	**175**	PN	Pn	10 54 31.4	+0.3
MHGZ	**Mahia Peninsul**	**2.19**	**170**	PN	Pn	10 54 33.5	+0.6
BKZ	**Black Stump Fm**	**2.29**	**199**	PN	Pn	10 54 34.4	+0.2
BKZ				AML	AML	10 54 48.5	
BKZ				AML	AML	10 55 11.8	
FWVZ	**Far West T-bar**	**2.70**	**213**	*e*PN	Pn	10 54 39.8	+0.5
WHVZ	**Whangaehu Hut**	**2.71**	**212**	PN	Pn	10 54 39.8	+0.5
BHHZ	**Black Hill Sta**	**2.71**	**203**	PN	Pn	10 54 39.3	0.0
WNVZ	**Wahianoa**	**2.74**	**211**	PN	Pn	10 54 40.3	+0.6
MOVZ	**Moawhango**	**2.75**	**208**	PN	Pn	10 54 39.5	-0.1
KAHZ	**Kahuranaki**	**2.83**	**189**	PN	Pn	10 54 40.6	0.0
PNHZ	**Pukenui**	**3.07**	**198**	PN	Pn	10 54 43.0	-0.6
TSZ	**Takapari Road**	**3.27**	**200**	⇑PN	Pn	10 54 45.3	-0.8
DVHZ	**Dannevirke**	**3.44**	**196**	PN	Pn	10 54 47.5	-0.8
MRZ	**Mangatainoka R**	**3.94**	**201**	PN	Pn	10 54 52.9	-1.6
KIW	**Kapiti Island**	**4.33**	**206**	PN	Pn	10 54 57.7	-1.9
MTW	**Mount Morrison**	**4.42**	**199**	PN	Pn	10 54 58.5	-2.2
CAW	**Cannon Point**	**4.50**	**203**	PN	Pn	10 54 59.5	-2.2
MSWZ	**Moikau Station**	**4.73**	**200**	PN	Pn	10 55 02.1	-2.6
TUWZ	**Tuamarina**	**5.19**	**210**	PN	Pn	10 55 08.2	-2.5
NNZ	**Nelson**	**5.26**	**216**	PN	Pn	10 55 09.4	-2.3
LTZ	**Lake Taylor**	**7.01**	**213**	*e*PN	Pn	10 55 31.3	-3.5
OXZ	**Oxford**	**7.55**	**211**	PN	Pn	10 55 37.7	-4.1
MQZ	**McQueen's Vall**	**7.63**	**207**	PN	Pn	10 55 38.4	-4.5
ODZ	**Otahua Downs**	**9.53**	**210**	PN	Pn	10 56 04.4	-3.6

IDC 09 11:06:01.9±2.3, 5.91S×151.85E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/19, mbtmp3.5/5, ML2.3/1, Error ellipse: s-maj=125.7km s-min=28.2km az=131.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby** 0.6nm,0.3s,baz=102,slow=19,SNR=2.0	**5.80**	**233**	Pn	Pn	11 07 31.0	+1.7
PMG	1.0nm,0.3s,baz=126,slow=16,SNR=3.6			Sn	Sn	11 08 33.1	-3.4
WRA	**Warramunga Arr** 0.5nm,0.9s,baz=55,slow=10.0,SNR=4.7	**22.00**	**229**	P	P	11 10 58.4	+0.5
ASAR	**Alice Springs** 0.2nm,0.5s,baz=55,slow=7.9,SNR=4.5	**24.69**	**223**	P	P	11 11 24.9	-0.1
FITZ	**Fitzroy Crossi** 2.7nm,1.1s,baz=53,slow=12,SNR=2.8	**28.30**	**242**	P	P	11 11 56.3	-1.2
ILAR	**Eielson Array** 0.6nm,1.1s,baz=243,slow=6.0,SNR=3.1	**83.54**	**22**	P	P	11 18 31.5	0.0
TORD	**Torodi Ar. Bea** 0.4nm,0.9s,baz=90,slow=2.9,SNR=3.4	**149.72**	**286**	PKPbc	PKPbc	11 25 54.9	0.0

IDC 09 11:09:28.6±0.8, 15.45S×173.66W, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.1/18, mbtmp4.0/9, Error ellipse: s-maj=35.3km s-min=19.6km az=137.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu** 16nm,0.3s,baz=228,slow=12,SNR=17	**2.38**	**50**	Pn	Pn	11 10 01.7	-7.2
AFI	40nm,0.3s,baz=232,slow=20,SNR=8.0			Sn	Sn	11 10 25.8	-13
H11S2	**WAKE ISLAND Hy** baz=152,slow=0.7,SNR=70	**38.88**	**329**	T	T	11 58 26.2	
H11S3	**WAKE ISLAND Hy** baz=152,slow=0.7,SNR=55	**38.89**	**329**	T	T	11 58 32.0	
H11S1	**WAKE ISLAND Hy** baz=152,slow=0.7,SNR=40	**38.90**	**329**	T	T	11 58 28.7	
H11N3	**WAKE ISLAND Hy** baz=152,slow=0.7,SNR=63	**39.83**	**331**	T	T	11 59 34.3	
H11N1	**WAKE ISLAND Hy** baz=152,slow=0.7,SNR=89	**39.84**	**331**	T	T	11 59 34.6	
H11N2	**WAKE ISLAND Hy** baz=152,slow=0.7,SNR=70	**39.85**	**331**	T	T	11 59 35.7	
STKA	**Stephens Creek** 4.2nm,1.0s,baz=60,slow=8.1,SNR=3.2	**43.80**	**240**	P	P	11 17 35.7	-0.8
WRA	**Warramunga Arr** 2.0nm,1.0s,baz=95,slow=6.3,SNR=8.2	**49.59**	**257**	P	P	11 18 21.5	-0.6
ASAR	**Alice Springs** 10nm,0.7s,baz=86,slow=8.1,SNR=103	**49.86**	**252**	P	P	11 18 23.5	-0.7
VNDA	**Vanda** 0.6nm,0.7s,baz=10,slow=5.9,SNR=2.5	**63.30**	**186**	P	P	11 19 59.4	+0.5
PETK	**Petropavlovsk-** 1.9nm,0.8s,baz=142,slow=4.9,SNR=3.7	**72.60**	**342**	P	P	11 20 58.1	+0.5
NVAR	**Mina Array Bea** 2.2nm,1.0s,baz=229,slow=7.9,SNR=14	**74.53**	**42**	P	P	11 21 09.1	-0.6
TXAR	**Lajitas Array** 0.8nm,0.9s,baz=212,slow=5.9,SNR=6.3	**80.84**	**56**	P	P	11 21 44.9	0.0
ILAR	**Eielson Array** 0.3nm,0.6s,baz=228,slow=6.3,SNR=6.1	**82.54**	**11**	P	P	11 21 52.7	-0.3
CMAR	**Chiang Mai Arr** 0.3nm,0.4s,baz=116,slow=4.1,SNR=3.0	**92.40**	**288**	P	P	11 22 42.9	+1.0
BRTR	**Keskin Array B** 1.9nm,0.8s,baz=87,slow=2.7,SNR=10	**146.04**	**321**	PKPbc	PKPdf	11 29 10.5	+0.3
GERES	**GERESS Array B** 0.6nm,0.7s,baz=357,slow=2.7,SNR=6.5	**146.15**	**351**	PKPbc	PKPdf	11 29 10.3	+0.2

IDC 09 11:23:49.2±1.2, 11.01S×165.51E, h0km, mb3.9/5, mb1 4.2/7, mb1mx3.9/20, mbtmp4.0/7, ML4.3/2, MS3.3/4, Ms1 3.3/4, ms1mx3.0/24, Error ellipse: s-maj=39.3km s-min=23.8km az=139.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara** 7.5nm,0.3s,baz=158,slow=11,SNR=8.8	**5.69**	**286**	Pn	Pn	11 25 14.6	-0.5
HNR	comp=Z,15nm,28.6s,baz=92,slow=38			LR	LR	11 27 23.9	
DZM	**Mont Dzumac** 2.0nm,0.3s,baz=289,slow=19,SNR=19	**11.03**	**175**	Pn	Pn	11 26 27.8	-0.8
PMG	**Port Moresby** comp=Z,171nm,18.8s,baz=106,slow=37	**18.13**	**273**	LR	LR	11 35 01.0	
AFI	**Afiamalu** comp=Z,15nm,28.6s,baz=266,slow=30	**22.37**	**100**	LR	LR	11 35 00.8	
STKA	**Stephens Creek** 2.9nm,0.9s,baz=41,slow=9.3,SNR=3.8	**30.34**	**226**	P	P	11 30 02.9	+0.5
STKA	comp=Z,15nm,28.6s,baz=22,slow=36			LR	LR	11 41 46.2	
WRA	**Warramunga Arr** 1.5nm,0.8s,baz=78,slow=8.9,SNR=6.2	**31.27**	**250**	P	P	11 30 10.9	-0.2
ASAR	**Alice Springs** 0.7nm,0.7s,baz=72,slow=9.2,SNR=3.7	**32.60**	**243**	P	P	11 30 22.8	0.0
ILAR	**Eielson Array** 0.5nm,0.7s,baz=241,slow=5.0,SNR=6.3	**83.56**	**19**	P	P	11 36 19.0	+0.1
NVAR	**Mina Array Bea** 1.1nm,0.9s,baz=243,slow=6.0,SNR=6.1	**86.18**	**50**	P	P	11 36 32.9	-0.1
TORD	**Torodi Ar. Bea** 0.8nm,1.0s,baz=110,slow=2.1,SNR=2.7	**164.03**	**279**	PKP	PKPdf	11 43 54.9	-0.6

IDC 09 11:25:25.6±1.2, 19.95N×146.56E, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.6/24, mbtmp3.5/7, Error ellipse: s-maj=42.7km s-min=20.4km az=86.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy** baz=280,slow=0.7,SNR=4.8	**19.06**	**91**	T	T	11 49 27.6	
H11S1	**WAKE ISLAND Hy** baz=280	**19.07**	**91**	T	T	11 49 28.5	
H11S2	**WAKE ISLAND Hy** baz=280,slow=0.7,SNR=3.8	**19.08**	**91**	T	T	11 49 29.5	
H11N1	**WAKE ISLAND Hy** baz=277,slow=0.7,SNR=9.6	**19.13**	**87**	T	T	11 49 26.7	
H11N2	**WAKE ISLAND Hy** baz=277,slow=0.7,SNR=7.0	**19.13**	**87**	T	T	11 49 28.5	
H11N3	**WAKE ISLAND Hy** baz=277,slow=0.7,SNR=5.8	**19.14**	**87**	T	T	11 49 29.7	
KSRS	**Korea Array** 0.8nm,0.4s,baz=146,slow=9.2,SNR=4.6	**23.83**	**321**	P	P	11 30 40.8	+0.4
WRA	**Warramunga Arr** 0.4nm,0.6s,baz=95,slow=7.5,SNR=8.9	**41.42**	**198**	P	P	11 33 13.9	-0.1
SONM	**Songino Array** 0.3nm,0.4s,baz=120,slow=8.5,SNR=4.9	**42.70**	**320**	P	P	11 33 24.3	-0.2
ASAR	**Alice Springs** 0.4nm,0.7s,baz=19,slow=8.8,SNR=3.1	**45.08**	**196**	P	P	11 33 43.5	-0.1
ZALV	**Zalesovo Beam** 0.8nm,0.6s,baz=99,slow=8.9,SNR=3.2	**57.53**	**322**	P	P	11 35 16.6	-0.1
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=98,slow=7.6,SNR=4.1	**58.20**	**313**	P	P	11 35 21.4	-0.2
ILAR	**Eielson Array** 0.3nm,0.7s,baz=260,slow=5.3,SNR=4.0	**62.17**	**26**	P	P	11 35 48.5	0.0

IDC 09 11:40:20.8±1.4, 23.30S×171.62E, h52km±9km, mb3.7/8, mb1 4.0/9, mb1mx3.8/17, mbtmp3.8/9, MS3.1/1, Ms1 3.1/1, ms1mx2.7/27, Error ellipse: s-maj=26.6km s-min=24.0km az=146.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac** 2.2nm,0.3s,baz=90,slow=20,SNR=7.6	**4.93**	**283**	P	Pn	11 41 31.1	-1.4
DZM	6.4nm,0.3s,baz=100,slow=21,SNR=5.7			S	Sn	11 42 25.8	-2.6
URZ	**Urewera** comp=Z,74nm,19.6s,baz=248,slow=34	**15.64**	**164**	LR	LR	11 49 12.1	
STKA	**Stephens Creek** 1.9nm,0.6s,baz=89,slow=11,SNR=9.0	**27.88**	**246**	P	P	11 46 06.2	+0.5
ASAR	**Alice Springs** 1.7nm,0.7s,baz=89,slow=8.9,SNR=14	**34.53**	**262**	P	P	11 47 04.4	0.0
ASAR	1.1nm,0.7s,baz=81,slow=9.2,SNR=3.9			pP	pP	11 47 18.3	+0.4
WRA	**Warramunga Arr** 0.6nm,0.4s,baz=96,slow=8.5,SNR=28	**34.76**	**268**	P	P	11 47 05.5	-0.9
WRA	0.4nm,0.4s,baz=95,slow=8.5,SNR=2.9			pP	pP	11 47 19.3	-0.6
VNDA	**Vanda** 0.4nm,0.4s,baz=4.7,slow=8.5,SNR=9.1	**54.48**	**183**	P	P	11 49 42.2	-0.4
MAW	**Mawson** 1.7nm,0.8s,baz=112,slow=5.4,SNR=7.3	**75.52**	**200**	P	P	11 51 59.5	+0.2
CMAR	**Chiang Mai Arr** 1.1nm,0.6s,baz=124,slow=3.5,SNR=6.6	**82.18**	**294**	P	P	11 52 37.7	+1.1
CMAR	0.9nm,0.6s,baz=126,slow=3.6,SNR=2.5			pP	pP	11 52 51.9	+0.3
NVAR	**Mina Array Bea** 1.6nm,0.9s,baz=240,slow=7.1,SNR=5.3	**89.85**	**48**	P	P	11 53 13.8	-0.6
SONM	**Songino Array** 0.3nm,0.6s,baz=134,slow=6.2,SNR=3.1	**91.78**	**322**	P	P	11 53 22.5	-0.5
ARCES	**ARCESS Array B** 2.4nm,0.9s,baz=43,slow=4.1,SNR=4.5	**129.54**	**345**	PKP	PKPdf	11 59 22.4	-0.7
GERES	**GERESS Array B** 1.2nm,0.7s,baz=46,slow=2.8,SNR=8.9	**149.10**	**331**	PKPbc	PKPbc	12 00 03.1	-0.1
DAVOX	**Davos/Dischmat** 4.4nm,0.6s,baz=9.5,slow=6.1,SNR=5.5	**152.34**	**332**	PKPbc	PKPbc	12 00 11.0	-0.1

IDC 09 11:55:39.0±2.0, 6.51S×130.20E, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.6/19, mbtmp3.7/4, ML3.7/2, Error ellipse: s-maj=134.5km s-min=28.6km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=346,slow=13,SNR=23	**13.94**	**164**	Pn	Pn	11 58 58.6	+0.5
WRA	1.3nm,0.3s,baz=331,slow=24,SNR=9.3			Sn	Sn	12 01 22.0	-12
ASAR	**Alice Springs** 0.3nm,0.3s,baz=342,slow=9.1,SNR=19	**17.43**	**169**	P	P	11 59 45.1	0.0
ASAR	0.3nm,0.3s,baz=355,slow=27,SNR=5.8			S	Sn	12 02 43.9	-15
STKA	**Stephens Creek** 1.2nm,0.7s,baz=340,slow=14,SNR=3.4	**27.39**	**159**	P	P	12 01 25.4	-0.9
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=110,slow=8.2,SNR=3.2	**67.93**	**327**	P	P	12 06 39.8	+0.1

*IDC **09** 11:59:42.5±1.2, 15.35S×173.33W, h0km, mb4.1/6, mb1 4.4/6, mb1mx4.1/20, mbtmp4.1/6, Error ellipse: s-maj=83.4km s-min=19.9km az=146.0*
*NEIC **09** 11:59:44.0±0.4, 15.35S×173.37W, h10km, mb4.5/8, Error ellipse: s-maj=21.8km s-min=8.3km az=142.0*
*ISCJB **09** 11:59:46.8±0.4, 15.5S±0.2×173.4W±0.1, h42km, mb4.5/16, Error ellipse: s-maj=24.9km s-min=9.9km az=148.8*

ISC 09 11:59:48.8±1.1, 15.3S±0.4×173.4W±0.3, h42km, n205, σ0.46/197, mb4.4/16, 85C-82D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.11**	**48**	Pn	Pn	12 00 10.8	-11
AFI				Sn	Sn	12 00 31.8	-15
AFI	**Afiamalu** 19nm,0.3s,baz=234,slow=0.8,SNR=19	**2.11**	**48**	Pn	Pn	12 00 10.8	-11
AFI	62nm,0.3s,baz=41,slow=20,SNR=16			Sn	Sn	12 00 31.8	-15
H11S2	**WAKE ISLAND Hy** baz=150,slow=0.7,SNR=11	**38.91**	**329**	T	T	12 49 00.2	
H11S3	**WAKE ISLAND Hy** baz=150,slow=0.7,SNR=12	**38.93**	**329**	T	T	12 49 02.3	
H11S1	**WAKE ISLAND Hy** baz=150,slow=0.7,SNR=11	**38.93**	**329**	T	T	12 48 59.8	
H11N3	**WAKE ISLAND Hy** baz=151,slow=0.7,SNR=4.6	**39.86**	**330**	T	T	12 50 11.5	
H11N1	**WAKE ISLAND Hy** baz=151,slow=0.7,SNR=4.0	**39.87**	**330**	T	T	12 50 19.5	
H11N2	**WAKE ISLAND Hy** baz=151,slow=0.7,SNR=3.7	**39.88**	**330**	T	T	12 50 11.3	
STKA	**Stephens Creek**	**44.08**	**240**	P	P	12 07 52.5	-0.5
STKA	**Stephens Creek** 1.8nm,0.7s,baz=104,slow=12,SNR=2.7	**44.08**	**240**	P	P	12 07 52.5	-0.5
WRAB	**Tennant Creek** 1.7nm,0.5s	**49.86**	**257**	P	**P**	**12 08 37.9**	**-0.4**
WRA	**Warramunga Arr**	**49.87**	**257**	P	**P**	**12 08 37.8**	**-0.6**
WRA				PcP	**PcP**	**12 09 59.0**	**+0.5**
WRA	**Warramunga Arr** 1.5nm,0.7s,baz=92,slow=7.3,SNR=11	**49.87**	**257**	P	**P**	**12 08 37.8**	**-0.6**
WRA	0.6nm,0.7s,baz=88,slow=3.5,SNR=3.1			PcP	**PcP**	**12 09 59.0**	**+0.5**
ASAR	**Alice Springs**	**50.14**	**252**	P	**P**	**12 08 39.8**	**-0.7**
ASAR				PcP	**PcP**	**12 10 00.5**	**+0.9**
ASAR	**Alice Springs** 4.2nm,0.7s,baz=89,slow=8.4,SNR=25	**50.14**	**252**	P	**P**	**12 08 39.8**	**-0.7**
ASAR	0.5nm,0.7s,baz=79,slow=5.8,SNR=2.3			PcP	**PcP**	**12 10 00.5**	**+0.9**
VNDA	**Vanda** 6.2nm,1.5s	**63.44**	**186**	*e*P	P	12 10 13.6	-0.3
BFSC	**Mount Baldy Ra** baz=72	**72.37**	**46**	⇓P	**P**	**12 11 12.3**	**+1.5**
EDW2	**Edwards Air Fo** baz=73	**72.49**	**45**	⇓P	**P**	**12 11 12.9**	**+1.4**
ISA	**Isabella** baz=73	**72.60**	**44**	⇑P	**P**	**12 11 12.6**	**+0.6**
LRMC	**Laurel Mountai** baz=73	**73.03**	**45**	⇑P	**P**	**12 11 15.6**	**+1.0**
MPMC	**Manual Prospec** baz=74	**73.48**	**44**	⇓P	**P**	**12 11 18.5**	**+1.0**
IRM	**Iron Mountain** baz=74	**74.08**	**47**	⇓P	**P**	**12 11 21.7**	**+0.9**
NVAR	**Mina Array Bea**	**74.27**	**42**	P	**P**	**12 11 20.9**	**-1.2**
NVAR	**Mina Array Bea** 0.7nm,0.7s,baz=228,slow=9.5,SNR=7.7	**74.27**	**42**	P	**P**	**12 11 20.9**	**-1.2**
Y12C	**Blythe** baz=74	**74.32**	**48**	⇓P	**P**	**12 11 23.2**	**+1.1**
QSPA	**South Pole Qui** 6.5nm,1.0s	**74.71**	**180**	*e*P	P	12 11 30.7	+6.7
R11A	**Troy Canyon, C** baz=76	**76.00**	**43**	⇑P	**P**	**12 11 32.4**	**+0.4**
319A	**Douglas** baz=77	**77.04**	**52**	⇑P	**P**	**12 11 38.5**	**+0.6**
U15A	**North Rim** baz=77	**77.25**	**46**	⇓P	**P**	**12 11 39.2**	**+0.1**
WUAZ	**Wupatki** baz=78	**77.45**	**48**	⇑P	**P**	**12 11 40.6**	**+0.4**
220A	**Playas Peak, P** baz=78	**77.86**	**52**	⇓P	**P**	**12 11 42.9**	**+0.4**
Z20A	**Nine Sixteen R** baz=78	**78.35**	**51**	⇑P	**P**	**12 11 45.6**	**+0.4**
MFID	**Camas Ranch** baz=79	**78.63**	**39**	⇑P	**P**	**12 11 47.1**	**+0.6**
121A	**Cookes Peak, D** baz=79	**78.70**	**52**	⇓P	**P**	**12 11 47.6**	**+0.4**
DUG	**Dugway** baz=79	**78.81**	**43**	⇑P	**P**	**12 11 48.4**	**+0.9**
Y20A	**Horse Springs,** baz=79	**78.87**	**50**	⇑P	**P**	**12 11 48.9**	**+0.7**
Z21A	**St. Cloud Mine** baz=79	**79.13**	**51**	⇓P	**P**	**12 11 50.1**	**+0.6**
W20A	**Ramah** baz=80	**79.33**	**49**	⇑P	**P**	**12 11 51.0**	**+0.3**
Y21A	**Point of Rocks** baz=80	**79.44**	**50**	⇑P	**P**	**12 11 51.9**	**+0.6**
X21A	**Alamocita Cree** baz=80	**79.55**	**50**	⇓P	**P**	**12 11 51.8**	**-0.1**
HLID	**Hailey** baz=80	**79.57**	**39**	⇓P	**P**	**12 11 52

baz=81
U22A Llaves 81.09 49 ⇑P P 12 12 00.5 +0.3
baz=81
125A Gardner Draw, 81.14 53 ⇓P P 12 12 00.2 -0.1
baz=81
MCMT McKenzie Canyo 81.20 39 *e*P P 12 12 00.1 -0.5
2.9nm,1.2s
Q20A Ridgley Place, 81.24 46 ⇓P P 12 12 00.8 0.0
baz=81
628A Black Gap, Mar 81.25 56 ⇓P P 12 12 01.3 +0.4
baz=81
226B Tecolote Peak, 81.28 53 ⇑P P 12 12 01.0 0.0
baz=81
V23A Ortiz Mt. (NFS 81.30 49 ⇓P P 12 12 01.4 +0.2
baz=81
T22A Edith 81.34 48 ⇓P P 12 12 01.3 -0.2
baz=82
Z25A Roswell 81.35 52 ⇑P P 12 12 01.7 +0.3
baz=82
427A Hayter Ranch, 81.38 55 ⇓P P 12 12 01.8 +0.2
baz=82
P20A De Beque 81.43 45 ⇑P P 12 12 02.0 +0.2
baz=82
R21A Cimarron 81.49 46 ⇓P P 12 12 02.0 -0.2
baz=82
U23A El Rito 81.55 49 ⇓P P 12 12 02.6 0.0
baz=82
528A Cox Ranch, San 81.59 56 ⇑P P 12 12 02.9 +0.1
baz=82
126A Clayton Basin, 81.62 53 ⇑P P 12 12 02.8 -0.1
baz=82
MSO Missoula 81.62 37 ⇑P P 12 12 03.0 +0.5
baz=82
Y25A Mesa, Roswell 81.63 52 ⇓P P 12 12 02.6 -0.4
baz=82
W24A Lazy 6 Ranch, 81.64 50 ⇓P P 12 12 02.8 -0.2
baz=82
TPAW Teton Pass 81.68 41 *e*P P 12 12 03.6 +0.5
4.2nm,1.0s
Q21A Lamborn Mesa, 81.69 46 ⇓P P 12 12 03.4 +0.3
baz=82
S22A 4UR Ranch, Cre 81.72 47 ⇑P P 12 12 03.5 0.0
baz=82
Z26A Caprock 81.91 52 ⇑P P 12 12 04.5 +0.1
baz=82
LOHW Long Hollow 81.96 41 *e*P P 12 12 04.8 +0.2
34nm,2.4s
R22A Saguache, Gunn 81.98 47 ⇑P P 12 12 05.0 +0.1
baz=82
529A Stev Forest Ra 82.03 56 ⇓P P 12 12 04.9 -0.1
baz=82
328A Wristen Ranch, 82.06 55 ⇑P P 12 12 05.0 -0.1
baz=82
CHMT Chamberlain Mo 82.07 37 *e*P P 12 12 04.2 -0.8
3.1nm,1.0s
P21A Newcastle 82.09 45 ⇓P P 12 12 05.2 -0.1
baz=82
N20A Spence Gulch, 82.14 44 ⇓P P 12 12 05.7 +0.1
baz=82
Q22A Crested Butte, 82.16 46 ⇑P P 12 12 05.7 -0.1
baz=82
Y26A Elida 82.29 52 ⇑P P 12 12 06.3 -0.1
baz=82
COLA College 82.30 11 *e*P P 12 12 05.1 -0.4
54nm,0.8s
W25A X Bar L Ranch, 82.35 50 ⇓P P 12 12 06.2 -0.5
baz=82
ILAR Eielson Array 82.38 11 P P 12 12 05.3 -0.6
ILAR Eielson Array 82.38 11 P P 12 12 05.3 -0.6
1.1nm,0.8s,baz=223,slow=5.6,SNR=14
T24B San Luis 82.45 48 ⇑P P 12 12 07.1 -0.3
baz=83
429A Davenport Ranc 82.49 56 ⇑P P 12 12 07.2 -0.2
baz=83
V25A Rancho No Teng 82.49 50 ⇓P P 12 12 06.9 -0.6
baz=83,SNR=6.0
M20A Sweetwater, Wa 82.50 43 ⇓P P 12 12 07.5 +0.1
baz=83
Z27A Tatum 82.51 53 ⇓P P 12 12 07.2 -0.3
baz=83
228A UT Block 9, Go 82.52 54 ⇓P P 12 12 07.1 -0.4
baz=83
X26A CR and CF Fran 82.56 51 ⇑P P 12 12 07.3 -0.5
baz=83
P22A Eagle 82.59 46 ⇑P P 12 12 07.9 0.0
baz=83
R23A Moffat 82.62 47 ⇓P P 12 12 08.0 -0.2
baz=83
L20A Wamsutter 82.64 43 ⇑P P 12 12 07.8 -0.4
baz=83,SNR=7.7
329A Wagon Wheel Ra 82.75 55 ⇓P P 12 12 08.8 0.0
baz=83
530A J-C Ranch, Com 82.75 56 ⇑P P 12 12 08.8 +0.1
baz=83
J19A Crowheart 82.78 42 ⇑P P 12 12 08.8 0.0
baz=83
Y27A Causey 82.78 52 ⇑P P 12 12 08.5 -0.4
baz=83
128A Castleberry Fa 82.80 53 ⇓P P 12 12 08.8 -0.2
baz=83
W26A Owens Ranch, T 82.81 51 ⇑P P 12 12 08.3 -0.7
baz=83
S24A Houchin Ranch, 82.82 48 ⇑P P 12 12 08.7 -0.5
baz=83
U25A Circle Dot Ran 82.88 49 ⇓P P 12 12 08.9 -0.6
baz=83,SNR=5.1
O22A Kremmling 83.00 45 ⇓P P 12 12 09.6 -0.6
baz=83,SNR=6.4
H18A Shoshone NF, C 83.08 40 ⇑P P 12 12 10.5 +0.1
baz=83
631A Perdido Creek 83.09 57 ⇓P P 12 12 10.2 -0.3
baz=83
V26A Tequesquite Ra 83.09 50 ⇓P P 12 12 10.2 -0.3
baz=83
M21A Separation Pea 83.10 44 ⇓P P 12 12 10.4 -0.2
baz=83
MSTX Muleshoe 83.11 52 ⇑P P 12 12 10.5 -0.2
baz=83
P23A Jefferson 83.13 46 ⇑P P 12 12 10.9 0.0
baz=83
X27A F and S Farms, 83.14 51 ⇑P P 12 12 10.8 +0.1
baz=83
Z28A Tucker Farm, M 83.14 53 ⇑P P 12 12 10.7 0.0
baz=83
R24A Sanders Place, 83.15 47 ⇓P P 12 12 10.9 0.0
baz=83
I19A Meeteetse 83.18 41 ⇓P P 12 12 11.0 +0.1
baz=83
T25A Trinidad 83.19 49 ⇓P P 12 12 10.8 -0.2
baz=83
L21A Rawlins 83.26 43 ⇓P P 12 12 11.2 -0.1
baz=83
W27A Bowe Ranch, En 83.33 51 ⇑P P 12 12 10.9 -0.9
baz=84,SNR=6.6
N22A Wattenberg Ran 83.34 45 ⇑P P 12 12 11.5 -0.4
baz=84
330A Mertzon 83.35 55 ⇑P P 12 12 11.2 -0.6
baz=84
DAWY Dawson 83.36 14 *e*P P 12 12 11.3 +0.2
U26A Atchley Ranch, 83.37 50 ⇑P P 12 12 11.4 -0.6
baz=84,SNR=6.1
S25A Robets Cordova 83.39 48 ⇑P P 12 12 11.7 -0.4
baz=84,SNR=5.9
J20A Shoshoni 83.44 42 ⇑P P 12 12 12.4 +0.2
baz=84
Q24A Divide 83.44 47 ⇓P P 12 12 12.2 -0.2
baz=84
H19A Powell 83.50 40 ⇑P P 12 12 12.4 +0.1
baz=84
M22A Cedar Creek Ra 83.52 44 ⇓P P 12 12 12.1 -0.6
baz=84
431A Sonora 83.53 56 ⇓P P 12 12 12.7 -0.1
baz=84
K21A Alcova 83.64 43 ⇓P P 12 12 13.3 0.0
baz=84
I20A Worland 83.69 41 ⇑P P 12 12 12.4 -1.0
baz=84,SNR=7.2
R25A Fountain Ranch 83.70 48 ⇓P P 12 12 13.5 -0.1
baz=84
N23A Red Feather La 83.73 45 ⇑P P 12 12 13.7 -0.2
baz=84
632A Uvalde 83.76 57 ⇑P P 12 12 14.0 0.0
baz=84
X28A Dimmitt 83.77 52 ⇑P P 12 12 13.9 -0.1
baz=84
V27A Dan Oppiter Fa 83.78 50 ⇑P P 12 12 13.9 -0.1
baz=84
J21A Lysite 83.85 42 ⇓P P 12 12 14.2 -0.1
baz=84
532A Rocksprings 83.89 57 ⇓P P 12 12 14.5 -0.2
baz=84
Y29A Porterfield Fa 83.91 53 ⇑P P 12 12 14.5 -0.2
baz=84
L22A Ellis Ranch, M 83.91 44 ⇑P P 12 12 14.6 -0.1
baz=84
H20A Greybull 84.03 41 ⇓P P 12 12 15.0 -0.1
baz=84
W28A Vega 84.05 51 ⇑P P 12 12 15.3 -0.1
baz=84
U27A Thompson Grove 84.05 50 ⇑P P 12 12 14.9 -0.5
baz=84
F19A Roth Farm, Mol 84.09 39 ⇓P P 12 12 15.4 +0.1
baz=84
Z30A Sanderson Ranc 84.11 53 ⇑P P 12 12 15.1 -0.6
baz=84
X29A Tulia 84.11 52 ⇓P P 12 12 15.5 -0.2
baz=84
K22A Casper 84.13 43 ⇓P P 12 12 15.7 0.0
baz=84
I21A Big Trails, Te 84.16 42 ⇓P P 12 12 15.0 -0.8
baz=84,SNR=6.6
231A Bronte 84.23 55 ⇓P P 12 12 15.6 -0.7
baz=84
G20A Bridger 84.24 40 ⇓P P 12 12 16.4 +0.2
baz=84
432A Menard 84.26 56 ⇑P P 12 12 15.9 -0.6
baz=84
P25A Willow Gulch B 84.36 47 ⇓P P 12 12 16.8 -0.2
baz=84
R26A Arlington 84.37 48 ⇓P P 12 12 16.5 -0.5
baz=84
T27A Campo 84.39 49 ⇑P P 12 12 16.9 -0.2
baz=84
L23A Garrett 84.44 44 ⇓P P 12 12 16.4 -0.9
baz=85,SNR=6.2
131A Roby 84.45 54 ⇑P P 12 12 17.6 +0.1
baz=85
332A Millersview 84.48 56 ⇑P P 12 12 17.5 -0.1
baz=85
E19A Rath Farm, Rou 84.48 39 ⇑P P 12 12 17.6 +0.3
baz=85
J22A Midwest 84.50 42 ⇓P P 12 12 16.7 -0.8
baz=85,SNR=5.9
Y30A Stafford Cattl 84.51 53 ⇓P P 12 12 17.3 -0.4
baz=85
EGMT Eagleton 84.67 37 ⇓P P 12 12 18.3 +0.1
baz=85
H21A Big Horn, Sher 84.70 41 ⇓P P 12 12 18.5 0.0
baz=85
I22A 9 Mile Ranch, 84.72 42 ⇑P P 12 12 18.6 0.0
baz=85
M24A Cheyenne 84.74 45 ⇓P P 12 12 18.8 0.0
baz=85
X30A Coker Ranch, T 84.74 52 ⇓P P 12 12 18.5 -0.4
baz=85
D19A Cripps Ranch, 84.77 38 ⇓P P 12 12 19.0 +0.3
baz=85
K23A Bowen Ranch, D 84.77 43 ⇑P P 12 12 18.7 -0.2
baz=85
R27A Eads 84.83 48 ⇓P P 12 12 18.6 -0.7
baz=85
Z31A Sharp Cattle R 84.88 54 ⇑P P 12 12 18.9 -0.6
baz=85
E20A Meyer Farm, Mu 84.90 39 ⇓P P 12 12 19.4 0.0
baz=85
C19A Slack Wire Ran 84.94 38 ⇓P P 12 12 20.0 +0.5
baz=85
ABTX Abilene, Hawle 85.02 54 *e*P P 12 12 19.6 -0.6
ABTX Abilene, Hawle 85.02 54 ⇑P P 12 12 19.9 -0.4
baz=85
Y31A Rekieta Farm, 85.03 53 ⇑P P 12 12 20.0 -0.3
baz=85
D20A Manuel Ranch, 85.18 39 ⇑P P 12 12 20.9 +0.2
baz=85
K24A Anderson Ranch 85.29 43 ⇓P P 12 12 21.9 +0.4
baz=85
Z32A Haskell 85.39 54 ⇑P P 12 12 22.0 -0.2
baz=86
C20A Veseth Ranch, 85.55 38 ⇑P P 12 12 22.8 +0.2
baz=86
R28A Tribune 85.56 48 ⇑P P 12 12 22.8 -0.1
baz=86
Y32A R-V Farms, Ver 85.68 53 ⇓P P 12 12 23.3 -0.2
baz=86
W31A Holland Ranch, 85.73 52 ⇑P P 12 12 23.6 -0.2
baz=86
A20A Cobblestone Ra 86.15 37 ⇓P P 12 12 25.3 -0.2
baz=86
H24A Dirks Ranch, A 86.34 42 ⇑P P 12 12 26.0 -0.6
baz=86
B21A Ellsworth Farm 86.47 38 ⇑P P 12 12 27.1 0.0
baz=87
R30A Dighton 86.65 49 ⇑P P 12 12 28.1 -0.2
baz=87
KMBO Kilima Mbogo 145.57 244 PKPbc **PKPdf** 12 19 24.1 +0.2
KMBO Kilima Mbogo 145.57 244 PKPbc **PKPdf** 12 19 24.1 +0.2
0.5nm,0.2s,baz=79,slow=5.2,SNR=2.7
GERES GERESS Array 146.08 252 PKPbc **PKPbc** 12 19 24.4 0.0
GERES GERESS Array B 146.08 352 PKPbc **PKPbc** 12 19 24.4 0.0
0.8nm,0.8s,baz=8.7,slow=1.8,SNR=6.8
BRTR Keskin Array B 146.11 321 PKPbc **PKPab** 12 19 26.6 +1.1
BRTR Keskin Array B 146.11 321 PKPbc **PKPab** 12 19 26.6 +1.1
2.7nm,0.8s,baz=98,slow=2.5,SNR=15

IDC 09 12:03:42.3±2.1, 15°21'S×173°23'W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.8/20, mbtmp3.7/5, Error ellipse: s-maj=126.4km s-min=25.1km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.91**	**47**	Pn	Pn	12 04 09.4	-6.9
	28nm,0.3s,baz=49,slow=20,SNR=7.1						
AFI				Sn	Sn	12 04 27.5	-14
	239nm,0.3s,baz=59,slow=23,SNR=12						
WRA	**Warramunga Arr**	**50.05**	**257**	P	P	12 12 39.0	-0.2
	0.6nm,0.8s,baz=93,slow=6.9,SNR=8.0						
ASAR	**Alice Springs**	**50.33**	**252**	P	P	12 12 41.1	-0.2
	2.4nm,0.6s,baz=88,slow=7.6,SNR=17						
NVAR	**Mina Array Bea**	**74.08**	**42**	P	P	12 15 20.3	-0.4
	0.2nm,0.5s,baz=243,slow=11,SNR=3.0						
TXAR	**Lajitas Array**	**80.37**	**56**	P	P	12 15 56.3	+0.3
	0.7nm,1.1s,baz=210,slow=7.1,SNR=3.4						
ILAR	**Eielson Array**	**82.23**	**11**	P	P	12 16 04.9	-0.1
	0.3nm,0.7s,baz=224,slow=5.0,SNR=5.1						
BRTR	**Keskin Array B**	**146.12**	**321**	PKPbc	PKPbc	12 23 24.6	-0.3
	1.2nm,0.7s,baz=86,slow=2.8,SNR=5.5						

IDC 09 12:12:36.0±3.5, 15°58'S×173°21'W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.8/20, mbtmp3.7/4, Error ellipse: s-maj=189.3km s-min=28.4km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.16**	**40**	Pn	Pn	12 13 05.6	-7.8
	5.1nm,0.3s,baz=55,slow=22,SNR=5.6						
AFI				Sn	Sn	12 13 24.9	-16
	37nm,0.3s,baz=73,slow=13,SNR=15						
H11S2	**WAKE ISLAND Hy**	**39.21**	**329**	T	T	13 01 54.4	
	baz=158,slow=0.7,SNR=4.3						
H11S3	**WAKE ISLAND Hy**	**39.23**	**329**	T	T	13 01 56.0	
	baz=158,slow=0.7,SNR=4.4						
H11S1	**WAKE ISLAND Hy**	**39.23**	**329**	T	T	13 01 55.1	
	baz=158						
WRA	**Warramunga Arr**	**49.98**	**257**	P	P	12 21 31.8	-0.6
	0.4nm,0.7s,baz=95,slow=7.7,SNR=5.6						
ASAR	**Alice Springs**	**50.23**	**252**	P	P	12 21 34.0	-0.3
	1.3nm,0.7s,baz=87,slow=8.6,SNR=18						
NVAR	**Mina Array Bea**	**74.34**	**42**	P	P	12 24 15.7	-0.1
	0.4nm,0.8s,baz=228,slow=8.0,SNR=3.5						
ILAR	**Eielson Array**	**82.58**	**11**	P	P	12 24 59.4	-1.1
	0.7nm,0.9s,baz=201,slow=4.8,SNR=4.0						
BRTR	**Keskin Array B**	**146.41**	**321**	PKPbc	PKPab	12 32 21.1	+0.7
	0.4nm,0.4s,baz=132,slow=2.1,SNR=3.9						

*IDC **09** 12:25:23.5±1.9, 51°.74N×155°.78E, h191km±19km, mb2.8/5, mb1 3.1/5, mb1mx2.9/24, mbtmp2.8/5, Error ellipse: s-maj=38.5km s-min=23.4km az=140.0*
*KRSC **09** 12:25:23.7±5.3, 51°.38N×156°.63E, h265km±35km, ML3.8*
*ISCJB **09** 12:25:26.4±0.7, 51°.7N±0°.1×156°.0E±0°.2, h237km±6km, mb3.0/5, Error ellipse: s-maj=28.6km s-min=12.2km az=37.3*
ISC 09 12:25:27.4±1.0, **51°.7N**±0°.1×**156°.1E**±0°.1, **h233**km±8km, **n22, σ1$28/28, mb3.2/5, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.52**	**118**	*e*P	Pn	12 25 57.9	-0.5
SKR	**Severo-Kuril's**	**1.03**	**178**	*e*P	Pn	12 25 59.9	-0.9
ASAK	**Asacha**	**1.32**	**59**	*e*P	Pn	12 26 04.3	+1.5
APC	**Apacha**	**1.39**	**28**	*e*P	Pn	12 26 03.2	+0.1
MTVR	**Mutnovka**	**1.52**	**59**	*e*P	Pn	12 26 04.6	+0.2
MTVR				*i* S	S	12 26 34.6	+1.3
RUS	**Russkaya**	**1.67**	**63**	*i* P	Pn	12 26 05.3	-0.2
RUS				*i* S	S	12 26 34.6	-0.7
PETK	**Petropavlovsk-**	**1.72**	**35**	P	Pn	12 25 59.2	-6.6
	0.5nm,0.3s,baz=240,slow=11,SNR=5.2						
PET	**Petropavlovsk**	**2.06**	**49**	*e*P	Pn	12 26 08.7	-0.2
PET				*i* S	S	12 26 42.4	+0.9
KOK	**Koryaka**	**2.23**	**44**	*e*P	Pn	12 26 11.3	+0.6
AVH	**Avacha**	**2.25**	**45**	*e*P	Pn	12 26 12.4	+1.4
AVH				*i* S	S	12 26 45.4	+0.2
KRX	**Arik**	**2.28**	**43**	*e*P	Pn	12 26 11.5	+0.2
SMAR	**Somma**	**2.28**	**46**	*e*P	Pn	12 26 10.9	-0.5
KRER	**Koryakskii**	**2.29**	**45**	*e*P	Pn	12 26 11.5	+0.1
GNL	**Ganaly**	**2.29**	**29**	*e*P	Pn	12 26 11.8	+0.4
SDLR	**Sedlovina**	**2.33**	**47**	*e*P	Pn	12 26 11.3	-0.5
SDLR				*i* S	S	12 26 47.3	+0.7
NLC	**Nalytchevo**	**2.48**	**53**	*e*P	Pn	12 26 12.4	-0.7
NLC				*i* S	S	12 26 46.9	-2.2
MKZ	**Mys Kozlova**	**4.44**	**48**	*i* P	Pn	12 26 35.1	-0.5
MKZ				*i* S	S	12 27 25.4	-4.3
ILAR	**Eielson Array**	**31.53**	**43**	P	P	12 31 27.9	+0.6
	0.4nm,0.6s,baz=250,slow=6.7,SNR=5.7						
MKAR	**Makanchi Array**	**46.51**	**295**	P	P	12 33 29.9	-1.4
	0.2nm,0.7s,baz=60,slow=7.8,SNR=2.9						
NVAR	**Mina Array Bea**	**58.54**	**67**	P	P	12 35 01.1	+1.4
	0.2nm,0.5s,baz=308,slow=9.0,SNR=2.6						
WRA	**Warramunga Arr**	**73.84**	**201**	P	P	12 36 36.1	-0.2
	0.7nm,1.1s,baz=15,slow=6.7,SNR=3.2						
ASAR	**Alice Springs**	**77.53**	**201**	P	P	12 36 58.2	+1.0
	0.2nm,0.4s,baz=22,slow=4.7,SNR=4.5						

*ISCJB **09** 12:26:17.3±0.4, 23°.32S±0°.04×68°.89W±0°.05, h109km±4km, mb4.2/8, Error ellipse: s-maj=8.3km s-min=6.1km az=23.5*
*IDC **09** 12:26:18.2±0.7, 23°.25S×68°.81W, h100km±5km, mb4.0/8, mb1 4.0/10, mb1mx3.8/17, mbtmp4.3/10, Error ellipse: s-maj=23.6km s-min=15.7km az=74.0*
*GUC **09** 12:26:18.4±0.6, 23°.24S×68°.95W, h96km±5km, ML4.5*
*NEIC **09** 12:26:18.4, 23°.24S×68°.95W, h96km, MG4.5(GUC), After GUC.*
ISC 09 12:26:18.1±0.5, **23°.33S**±0°.04×**68°.85W**±0°.04, **h102**km±4km, **n63, σ1$38/77, mb4.3/8, 11C-2D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.72**	**355**	*e*Pn	Pn	12 26 35.6	-0.6
LVC				*e*Sn	Sn	12 26 48.7	-1.0
SPCH	**San Pedro de A**	**0.73**	**55**	*i* P	Pn	12 26 37.2	+0.9
SPCH				*i* S	Sn	12 26 50.9	+1.0
SPCH	**San Pedro de A**	**0.73**	**55**	*i* P	Pn	12 26 37.2	+0.9
SPCH				*i* S	Sn	12 26 50.9	+1.0
SPCH				AML	AML	12 26 51.4	
	comp=N,24μm,0.6s						
PB04	**Plate Boundary**	**1.22**	**331**	⇑*i*P	Pn	12 26 44.7	+3.6
PB04				*i* S	Sn	12 27 04.1	+5.7
PB04	**Plate Boundary**	**1.22**	**331**	⇑*i*P	Pn	12 26 44.7	+3.6
PB04				*i* S	Sn	12 27 04.1	+5.7
PB04				AML	AML	12 27 06.6	
	comp=N,7μm,0.3s						
CEN1	**Los Morros**	**1.25**	**267**	⇓*i*P	Pn	12 26 43.5	+1.9
CEN1				*i* S	Sn	12 27 02.2	+2.9
CEN1	**Los Morros**	**1.25**	**267**	⇓*i*P	Pn	12 26 43.5	+1.9
CEN1				*i* S	Sn	12 27 02.2	+2.9
ANCH	**Antofagasta**	**1.48**	**256**	⇑*i*P	Pn	12 26 43.6	-0.5
ANCH				*i* S	Sn	12 27 03.0	-0.9
ANCH	**Antofagasta**	**1.48**	**256**	⇑*i*P	Pn	12 26 43.6	-0.5
ANCH				*i* S	Sn	12 27 03.0	-0.9
ANCH				AML	AML	12 27 05.1	
	comp=N,9μm,0.3s						
PB09	**Plate Boundary**	**1.57**	**346**	⇑*i*P	Pn	12 26 46.0	+0.5
PB09				*i* S	Sn	12 27 06.3	0.0
PB09	**Plate Boundary**	**1.57**	**346**	⇑*i*P	Pn	12 26 46.0	+0.5
PB09				*i* S	Sn	12 27 06.3	0.0
PB10	**Plate Boundary**	**1.58**	**263**	⇑*i*P	Pn	12 26 44.7	-0.7
PB10				*i* S	Sn	12 27 05.3	-0.9
PB10				AML	AML	12 27 10.6	
	comp=N,16μm,0.5s						
PB07	**Plate Boundary**	**1.87**	**329**	⇑*i*P	Pn	12 26 48.8	-0.4
PB07				*i* S	Sn	12 27 11.6	-1.3
PB07	**Plate Boundary**	**1.87**	**329**	⇑*i*P	Pn	12 26 48.8	-0.4
PB07				*i* S	Sn	12 27 11.6	-1.3
PB07				AML	AML	12 27 14.1	
	comp=E,4μm,0.5s						
PB01	**Plate Boundary**	**2.35**	**345**	⇑*i*P	Pn	12 26 55.1	-0.4
PB01				*i* S	Sn	12 27 23.0	-1.1
PB01	**Plate Boundary**	**2.35**	**345**	⇑*i*P	Pn	12 26 55.1	-0.4
PB01				*i* S	Sn	12 27 23.0	-1.1
PB01				AML	AML	12 27 30.9	
	comp=E,2μm,0.2s						
PSGC	**Pisagua**	**3.90**	**342**	AML	AML	12 28 29.2	
	comp=E,547nm,0.3s						
LCO	**Las Campanas**	**5.90**	**196**	*e*Pn	Pn	12 27 39.4	-3.8
	comp=E,113nm,0.4s						
LCO				*e*Sn	Sn	12 28 50.6	+1.0
LPAZ	**La Paz**	**7.04**	**6**	*e*Pn	Pn	12 27 59.1	0.0
	comp=E,15nm,0.6s						
LPAZ	**La Paz**	**7.04**	**6**	P	Pn	12 27 59.2	0.0
	comp=E,2.3nm,0.3s,baz=184,slow=9.0,SNR=19						
CFAA	**Coronel Fontan**	**8.26**	**176**	P	Pn	12 28 12.6	-2.6
CFAA				S	Sn	12 29 38.9	-7.9
CFAA	**Coronel Fontan**	**8.26**	**176**	P	Pn	12 28 12.6	-2.6
	comp=E,1.2nm,0.3s,baz=351,slow=14,SNR=61						
CFAA				S	Sn	12 29 38.9	-7.9
	comp=E,0.1nm,0.3s,baz=285,slow=20,SNR=2.1						
SIV	**San Ignacio**	**10.34**	**46**	P	Pn	12 28 39.4	-4.1
SIV				S	Sn	12 30 27.5	-10
SIV	**San Ignacio**	**10.34**	**46**	P	Pn	12 28 39.4	-4.1
	comp=E,6.1nm,0.3s,baz=248,slow=13,SNR=57						
SIV				S	Sn	12 30 27.5	-10
	comp=E,0.6nm,0.3s,baz=162,slow=20,SNR=3.1						
CPUP	**Villa Florida**	**10.88**	**108**	*e*Pn	Pn	12 28 51.7	+1.0
CPUP	**Villa Florida**	**10.88**	**108**	P	Pn	12 28 50.2	-0.5
	comp=E,0.5nm,0.3s,baz=282,slow=14,SNR=5.5						
H03N1	**Juan Fernandez**	**13.40**	**219**	T	T	12 41 43.5	
	baz=42,slow=0.7,SNR=8.1						
H03N2	**Juan Fernandez**	**13.42**	**219**	T	T	12 41 44.3	
	baz=42,slow=0.7,SNR=7.8						
H03N3	**Juan Fernandez**	**13.42**	**219**	T	T	12 41 44.3	
	baz=42,SNR=13						
PLCA	**Paso Flores**	**17.41**	**184**	P	P	12 30 13.2	-1.2
PLCA	**Paso Flores**	**17.41**	**184**	P	P	12 30 13.2	-1.2
	comp=E,0.1nm,0.3s,baz=7.0,slow=10,SNR=5.2						
SNAA	**Sanae**	**60.54**	**161**	P	P	12 36 17.8	+0.5
SNAA	**Sanae**	**60.54**	**161**	P	P	12 36 17.8	+0.5
	comp=E,1.3nm,0.6s,baz=286,slow=6.6,SNR=22						
TXAR	**Lajitas Array**	**62.16**	**326**	P	P	12 36 28.6	-0.2
TXAR	**Lajitas Array**	**62.16**	**326**	P	P	12 36 28.6	-0.2
	comp=E,0.3nm,0.6s,baz=147,slow=8.6,SNR=4.2						
QSPA	**South Pole Qui**	**66.87**	**180**	P	P	12 37 00.4	+1.4
QSPA	**South Pole Qui**	**66.87**	**180**	P	P	12 37 00.4	+1.4
DBIC	**Dimbokro**	**69.21**	**73**	P	P	12 37 14.6	+0.3
DBIC	**Dimbokro**	**69.21**	**73**	P	P	12 37 14.6	+0.3
	comp=E,3.4nm,0.6s,baz=221,slow=4.5,SNR=3.9						
NVAR	**Mina Array Bea**	**76.97**	**322**	P	P	12 37 59.8	-0.1
NVAR	**Mina Array Bea**	**76.97**	**322**	P	P	12 37 59.8	-0.1
	comp=E,0.9nm,0.9s,baz=153,slow=6.9,SNR=5.3						
ULM	**Lac du Bonnet**	**77.07**	**343**	P	P	12 37 59.7	-0.1
ULM	**Lac du Bonnet**	**77.07**	**343**	P	P	12 37 59.7	-0.1
	comp=E,3.7nm,0.5s,baz=161,slow=6.8,SNR=5.6						
TORD	**Torodi Ar. Bea**	**77.92**	**70**	P	P	12 38 05.5	+0.2
TORD				pP	pP	12 38 30.9	-0.7
TORD	**Torodi Ar. Bea**	**77.92**	**70**	P	P	12 38 05.5	+0.2
	comp=E,19nm,0.7s,baz=254,slow=5.3,SNR=199						
TORD				pP	pP	12 38 30.9	-0.7
	comp=E,3.2nm,0.7s,baz=249,slow=5.5,SNR=4.8						
BOSA	**Boshof**	**82.54**	**118**	P	P	12 38 30.5	+0.3
BOSA	**Boshof**	**82.54**	**118**	P	P	12 38 30.5	+0.3
	comp=E,1.9nm,0.5s,baz=268,slow=4.5,SNR=6.0						
MAW	**Mawson**	**82.57**	**163**	*e*P	P	12 38 30.3	+0.9
MAW				pP	pP	12 38 56.0	+0.2
MAW	**Mawson**	**82.57**	**163**	P	P	12 38 30.3	+0.9
	comp=E,3.5nm,0.8s,baz=207,slow=6.8,SNR=10						
MAW				pP	pP	12 38 56.0	+0.2
	comp=E,0.8nm,0.6s,baz=223,slow=7.7,SNR=2.6						
H11S2	**WAKE ISLAND Hy**	**128.14**	**276**	T	T	15 05 36.4	

baz=108,slow=0.7,SNR=13
H11S1 WAKE ISLAND Hyl 28.15 276 T T 15 05 35.8
baz=108,slow=0.7,SNR=5.5
H11S3 WAKE ISLAND Hyl 28.16 276 T T 15 05 38.4
baz=108,slow=0.7,SNR=4.0
H11N3 WAKE ISLAND Hyl 28.27 277 T T 15 05 50.7
baz=101,slow=0.7,SNR=3.2
H11N2 WAKE ISLAND Hyl 28.29 277 T T 15 05 52.1
baz=101,slow=0.7,SNR=2.7
H11N1 WAKE ISLAND Hyl 28.29 277 T T 15 05 51.0
baz=101
ASAR Alice Springs 128.32 207 PKP **PKPdf** **12 45 13.9 +0.4**
ASAR pPKP **pPKPdf** **12 45 40.5 -0.8**
ASAR Alice Springs 128.32 207 PKP **PKPdf** **12 45 13.9 +0.4**
comp=E,0.7nm,0.6s,baz=128,slow=1.8,SNR=14
ASAR pPKP **pPKPdf** **12 45 40.5 -0.8**
comp=E,0.5nm,0.7s,baz=128,slow=1.2,SNR=3.1
WRA Warramunga Arr 131.41 210 PKP **PKPdf** **12 45 19.5 +0.1**
WRA pPKP **pPKPdf** **12 45 47.5 +0.2**
WRA Warramunga Arr 131.41 210 PKP **PKPdf** **12 45 19.5 +0.1**
comp=E,0.8nm,0.5s,baz=159,slow=1.8,SNR=19
WRA pPKP **pPKPdf** **12 45 47.5 +0.2**
comp=E,0.4nm,0.5s,baz=155,slow=1.6,SNR=2.3
ZALV Zalesovo Beam 143.57 26 PKP **PKPdf** **12 45 39.4 -1.1**
ZALV pPKP **pPKPdf** **12 46 07.8 -0.8**
ZALV Zalesovo Beam 143.57 26 PKP **PKPdf** **12 45 39.4 -1.1**
comp=E,2.2nm,0.8s,baz=270,slow=2.6,SNR=6.5
ZALV pPKP **pPKPdf** **12 46 07.8 -0.8**
comp=E,1.3nm,0.5s,baz=289,slow=2.6,SNR=2.8
MKAR Makanchi Array 147.06 38 PKPbc **PKPbc** **12 45 48.3 -0.7**
MKAR pPKPbc **pPKPbc** **12 46 15.5 -1.3**
MKAR Makanchi Array 147.06 38 PKPbc **PKPbc** **12 45 48.3 -0.7**
comp=E,2.8nm,0.7s,baz=318,slow=3.0,SNR=16
MKAR pPKPbc **pPKPbc** **12 46 15.5 -1.3**
comp=E,2.0nm,0.8s,baz=314,slow=2.9,SNR=5.8

IDC 09 13:07:39.0±1.6, 12°.89S×165°.56E, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.7/20, mbtmp3.8/5, ML3.9/2, MS4.6/1, Ms1 4.6/1, ms1mx3.4/34, Error ellipse: s-maj=32.7km s-min=30.8km az=119.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.50**	**301**	Pn	Pn	13 09 17.8	+1.9
	9.9nm,0.3s,baz=140,slow=5.7,SNR=5.8						
HNR				Sn	Sn	13 10 29.7	-1.0
	baz=319,slow=20,SNR=1.6						
DZM	**Mont Dzumac**	**9.17**	**175**	Pn	Pn	13 09 53.1	+0.4
	0.3nm,0.3s,baz=198,slow=20,SNR=4.9						
DZM				Sn	Sn	13 11 32.2	-4.6
	0.1nm,0.3s,baz=22,slow=19,SNR=2.0						
WRA	**Warramunga Arr**	**30.73**	**253**	P	P	13 13 54.5	-1.6
	0.3nm,0.8s,baz=85,slow=9.1,SNR=2.8						
ASAR	**Alice Springs**	**31.84**	**246**	P	P	13 14 07.2	+1.3
	0.7nm,0.7s,baz=73,slow=9.4,SNR=6.7						
BATI	**Baumata**	**41.11**	**269**	LR	LR	13 30 28.1	
	comp=Z,710nm,19.7s,baz=172,slow=33						
ILAR	**Eielson Array**	**85.31**	**18**	P	P	13 20 17.4	-0.1
	0.7nm,0.6s,baz=236,slow=5.6,SNR=11						

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*IDC **09** 13:12:26.6±0.4, 13°.39S×166°.66E, h0km, mb5.0/27, mb1 5.1/30, mb1mx5.1/30, mbtmp5.1/30, ML5.0/1, MS4.9/30, Ms1 5.0/30, ms1mx4.9/34, Error ellipse: s-maj=12.4km s-min=11.2km az=131.0*

*ISCJB **09** 13:12:29.8±1.5, 13°.40S±0°.03×166°.63E±0°.03, h25km±10km, mb5.5/181, MS5.0/158, Error ellipse: s-maj=5.4km s-min=4.1km az=167.9*

*BJI **09** 13:12:30.7, 13°.16S×166°.84E, h32km, mB5.6/40, mb5.4/55, Ms5.2/53, Ms7 5.0/53*

*MOS **09** 13:12:30.8±1.1, 13°.42S×166°.49E, h33km, mb5.4/45, MS5.0/14, Error ellipse: s-maj=9.1km s-min=7.6km az=40.2*

*NEIC **09** 13:12:32.2±0.2, 13°.36S×166°.50E, h35km, mb5.5/54, MS5.2/106, MW5.5, Error ellipse: s-maj=6.1km s-min=5.0km az=146.0, Moment Tensor Solution. s22 Moment tensor: Scale 10^17 Nm; Mrr=1.43; Mθθ=0.24; Mφφ=1.67; Mrθ=1.12; Mθφ=0.88; Mφr=0.03; Best double couple: M=2.10000×10^17 NP1:φ=231.00000°, δ=60.00000°, λ=-51.00000°. NP2:φ=353.00000°, δ=48.00000°, λ=-137.00000°. Principal axes: T 2.0600, Plg7.0000°, Azm294.0000°; N 0.1100, Plg32.0000°, Azm28.0000°; P -2.1700, Plg56.0000°, Azm193.0000°;*

*GCMT **09** 13:12:35.4±0.1, 13°.37S×166°.44E, h36km, MW5.6, Moment Tensor Solution. s97,c174; s20,c20; Moment tensor: Scale 10^17 Nm; Mrr=1.81±.04; Mθθ=1.01±.03; Mφφ=2.82±.03; Mrθ=1.54±.05; Mθφ=1.25±.03; Mφr=0.24±.05; Best double couple: M=3.20000×10^17 NP1:φ=229.00000°, δ=64.00000°, λ=-45.00000°. NP2:φ=343.00000°, δ=50.00000°, λ=-145.00000°. Principal axes: T 3.2900, Plg8.0000°, Azm289.0000°; N -0.2300, Plg39.0000°, Azm26.0000°; P -3.0600, Plg50.0000°, Azm189.0000°; Data Used: ll IU G CN IC. Surface waves: sta=110, comp=209, per= 50.*

*AUST **09** 13:12:37.7±1.1, 13°.39S×166°.56E, h76km±12km Error ellipse: s-maj=8.4km s-min=6.3km az=87.0*

*DJA **09** 13:12:39.7±1.0, 14°.5S×16°.7E±°, h90km±10km, M5.5/109, mb5.5/109, mB5.9/54, Mw(mB)5.5/54*

ISC 09 13:12:32.1±0.3, 13°.42S±0°.04×166°.61E±0°.04, h31km±1km, h31km:pP-P, n596, σ1s55/589, mb5.5/181, MS5.2/162, 16C-13D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.64**	**301**	Pn	**Pn**	**13 14 21.3**	**-0.1**
HNR				Sn	**Sn**	**13 15 45.9**	**-1.1**
HNR	**Honiara**	**7.64**	**301**	Pn	**Pn**	**13 14 21.3**	**-0.1**
	468nm,0.3s,baz=196,slow=2.3,SNR=205						
HNR				Sn	**Sn**	**13 15 45.8**	**-1.1**
	362nm,0.3s,baz=132,slow=21,SNR=7.2						
HNR				LR	LR	13 17 14.2	
	comp=Z,17nm,28.6s,baz=144,slow=38						
DZM	**Mont Dzumac**	**8.61**	**181**	*e*Pn	**Pn**	**13 14 35.4**	**+0.7**
	664nm,0.7s						
DZM				*e*LR	LR	13 16 36.2	
	41μm,25.7s						
DZM	**Mont Dzumac**	**8.61**	**181**	*e*Pn	**Pn**	**13 14 35.4**	**+0.7**
	239nm,0.5s						
DZM				*e*Sn	**Sn**	**13 16 14.0**	**+3.3**
DZM	**Mont Dzumac**	**8.61**	**181**	Pn	**Pn**	**13 14 34.7**	**0.0**
	17nm,0.3s,baz=38,slow=14,SNR=69						
DZM				Sn	Sn	13 16 18.9	+8.1
	6.7nm,0.3s,baz=328,slow=19,SNR=2.3						
MSVF	**Nonsavu**	**11.82**	**113**	*e*P	Pn	13 15 22.7	+4.0
MSVF	**Nonsavu**	**11.82**	**113**	Pn	Pn	13 15 24.6	+5.8
	2μm,1.4s,SNR=10						
MSVF	**Nonsavu**	**11.82**	**113**	*e*Pn	Pn	13 15 22.7	+4.0
TARA	**Tarawa**	**15.96**	**24**	*e*Pn	**Pn**	**13 16 14.3**	**-0.2**
	3μm,1.4s						
EIDS	**Eidsvold**	**18.84**	**229**	*e*Pn	**Pn**	**13 16 51.6**	**+1.3**
	362nm,1.4s						
EIDS	**Eidsvold**	**18.84**	**229**	⇓P	**Pn**	**13 16 52.1**	**+1.8**
	baz=19,SNR=15						
PMG	**Port Moresby**	**19.48**	**280**	P	**Pn**	**13 16 58.2**	**+0.2**
	308nm,1.2s,4μm						
PMG	**Port Moresby**	**19.48**	**280**	P	**P**	**13 16 57.2**	**+0.5**
	20nm,1.1s						
PMG				S	**Sn**	**13 20 37.4**	**+1.5**
PMG	**Port Moresby**	**19.48**	**280**	P	**P**	**13 16 57.2**	**+0.5**
	1.1nm,0.3s,baz=107,slow=7.4,SNR=29						
PMG				S	**Sn**	**13 20 37.4**	**+1.5**
	0.3nm,0.3s,baz=221,slow=19,SNR=1.9						
CTA	**Charters Tower**	**20.58**	**248**	P	**P**	**13 17 09.2**	**+0.6**
CTA				S	**S**	**13 20 59.6**	**+2.2**
CTA	**Charters Tower**	**20.58**	**248**	⇑P	Pn	13 17 10.3	-0.7
	baz=20						
CTA	**Charters Tower**	**20.58**	**248**	P	**P**	**13 17 09.2**	**+0.6**
	36nm,0.9s,baz=79,slow=12,SNR=22						
CTA				S	**S**	**13 20 59.6**	**+2.2**
	9.4nm,0.9s,baz=151,slow=19,SNR=1.9						
CTA				LR	LR	13 24 17.8	
	comp=Z,17nm,28.6s,baz=72,slow=34						
CTAO	**Charters Tower**	**20.58**	**248**	*e*P	**P**	**13 17 07.5**	**-1.2**
CTAO				pmax	pmax		
	comp=Z,197nm,1.1s						
CTAO				MLR	MLR		
	comp=Z,7μm,19.0s						
CTAO	**Charters Tower**	**20.58**	**248**	*e*P	**P**	**13 17 07.5**	**-1.2**
	comp=Z,197nm,1.1s						
CTAO				LR	LR		
	comp=Z,7μm,19.0s						

AFI	**Afiamalu**	**21.00**	**94**	*e*P	**P**	**13 17 14.9**	**+1.6**
	comp=Z,158nm,1.2s						
AFI	**Afiamalu**	**21.00**	**94**	P	**P**	**13 17 12.9**	**-0.4**
	comp=Z,55nm,1.1s,baz=66,slow=20,SNR=3.2						
AFI				LR	LR	13 24 05.6	
	comp=Z,17nm,28.6s,baz=267,slow=33						
RMQ	**Roma**	**21.19**	**229**	P	**P**	**13 17 17.4**	**+2.2**
	baz=21,SNR=107						
PATS	**Pohnpei**	**21.75**	**337**	P	**P**	**13 17 22.0**	**+0.9**
	baz=22,SNR=15						
ARMA	**Armidale**	**21.85**	**217**	*e*P	**P**	**13 17 22.8**	**+0.5**
	comp=Z,273nm,1.2s						
ARMA	**Armidale**	**21.85**	**217**	P	**P**	**13 17 24.2**	**+1.9**
	baz=22,SNR=26						
OUZ	**Omahuta**	**22.61**	**165**	*e*P	**P**	**13 17 30.4**	**+0.1**
	comp=Z,564nm,2.0s						
COEN	**Coen**	**22.78**	**266**	*e*P	P	13 17 25.0	-7.3
	comp=Z,1μm,1.5s						
COEN	**Coen**	**22.78**	**266**	⇑P	**P**	**13 17 33.1**	**+0.8**
	baz=23,SNR=8.7						
KNTN	**Kanton**	**23.89**	**66**	*e*P	**P**	**13 17 43.8**	**+0.6**
	comp=Z,245nm,1.3s						
MGCD	**Mangrove Creek**	**24.25**	**213**	P	**P**	**13 17 48.0**	**+1.6**
	baz=24,SNR=10						
RIV	**Riverview**	**24.70**	**212**	⇓P	**P**	**13 17 52.3**	**+1.8**
	baz=25						
QLP	**Quilpie**	**24.72**	**235**	P	**P**	**13 17 51.6**	**+0.8**
	baz=25,SNR=11						
CMSA	**Cobar Meteorol**	**26.35**	**223**	P	**P**	**13 18 06.7**	**+1.2**
	baz=26,SNR=80						
URZ	**Urewera**	**26.44**	**161**	P	**P**	**13 18 07.2**	**+1.0**
URZ	**Urewera**	**26.44**	**161**	P	**P**	**13 18 07.3**	**+1.0**
	comp=Z,10nm,0.9s,baz=153,slow=4.5,SNR=2.4						
URZ				LR	LR	13 27 06.0	
	comp=Z,6μm,20.3s,baz=339,slow=33						
YNG	**Young**	**26.55**	**215**	P	**P**	**13 18 08.6**	**+1.3**
	baz=27,SNR=17						
CNB	**Canberra Magne**	**26.79**	**213**	P	**P**	**13 18 10.8**	**+1.4**
	baz=27,SNR=11						
CAN	**Canberra**	**26.98**	**213**	PFAKE		13 18 20.0	+8.8
CAN				LR	LR		
	comp=Z,3μm,22.0s						
CAN	**Canberra**	**26.98**	**213**	⇓P	**P**	**13 18 13.1**	**+1.9**
	baz=27						
JAY	**Jayapura**	**27.81**	**291**	P	**P**	**13 18 21.9**	**+3.0**
	comp=Z,28nm,1.6s,comp=Z,3μm						
MILA	**Mila**	**28.24**	**210**	P	**P**	**13 18 24.7**	**+2.2**
	baz=28,SNR=4.7						
STKA	**Stephens Creek**	**29.38**	**227**	*e*P	**P**	**13 18 32.7**	**+0.1**
	comp=Z,109nm,2.0s						
STKA				PcP	**PcP**	**13 21 37.6**	**-0.7**
STKA				ScP	**ScP**	**13 25 19.0**	**+0.9**
STKA	**Stephens Creek**	**29.38**	**227**	P	**P**	**13 18 33.5**	**+0.8**
	baz=29,SNR=48						
STKA	**Stephens Creek**	**29.38**	**227**	P	**P**	**13 18 33.7**	**+1.0**
	comp=Z,24nm,0.7s,baz=54,slow=6.9,SNR=43						
STKA				PcP	**PcP**	**13 21 37.6**	**-0.7**
	comp=Z,13nm,0.7s,baz=349,slow=1.5,SNR=3.0						
STKA				ScP	**ScP**	**13 25 19.0**	**+0.9**
	comp=Z,7.9nm,1.1s,baz=96,slow=8.1,SNR=4.6						
STKA				LR	LR	13 29 35.4	
	comp=Z,5μm,19.5s,baz=53,slow=35						
RPZ	**Rata Peaks**	**30.43**	**174**	*e*P	**P**	**13 18 42.4**	**+0.6**
	comp=Z,716nm,2.4s						
RPZ	**Rata Peaks**	**30.43**	**174**	P	**P**	**13 18 42.0**	**+0.3**
	comp=Z,40nm,0.8s,baz=30,slow=3.8,SNR=6.7						
RPZ				LR	LR	13 29 39.4	
	comp=Z,6μm,21.4s,baz=350,slow=34						
TOO	**Toolangi**	**30.55**	**214**	P	**P**	**13 18 44.0**	**+1.1**
	baz=31,SNR=17						
WRAB	**Tennant Creek**	**31.54**	**254**	*e*P	P	13 18 48.2	-3.6
WRAB				pmax	pmax		
	comp=Z,36nm,0.8s						
WRAB				MLR	MLR		
	comp=Z,5μm,19.0s						
WRAB	**Tennant Creek**	**31.54**	**254**	P	**P**	**13 18 50.4**	**-1.4**
	comp=Z,257nm,0.8s,SNR=11						
WRAB	**Tennant Creek**	**31.54**	**254**	*e*P	P	13 18 48.2	-3.6
	comp=Z,36nm,0.8s						
WRAB				LR	LR		
	comp=Z,5μm,19.0s						
WRA	**Warramunga Arr**	**31.55**	**254**	P	**P**	**13 18 50.8**	**-1.2**
WRA				PcP	**PcP**	**13 21 44.2**	**-0.1**
WRA				ScP	**ScP**	**13 25 26.0**	**+0.6**
WRA	**Warramunga Arr**	**31.55**	**254**	P	**P**	**13 18 50.8**	**-1.2**
	comp=Z,28nm,0.7s,baz=85,slow=9.4,SNR=136						
WRA				PcP	**PcP**	**13 21 44.2**	**-0.1**
	comp=Z,15nm,0.9s,baz=84,slow=3.0,SNR=7.7						
WRA				ScP	**ScP**	**13 25 26.0**	**+0.6**
	comp=Z,4.6nm,1.0s,baz=88,slow=3.2,SNR=5.5						
WRA				LR	LR	13 31 34.3	
	comp=Z,17nm,28.6s,baz=80,slow=36						
ARPS	**Mount Arapiles**	**32.13**	**219**	⇑P	**P**	**13 18 58.5**	**+1.7**
	baz=32						
SRPI	**Serui, Papua**	**32.16**	**288**	P	**P**	**13 19 00.1**	**+2.8**
	comp=Z,79nm,0.7s						
AS19	**Alice Springs**	**32.52**	**247**	⇓P	**P**	**13 18 59.7**	**-0.8**
	baz=32						
BAKI	**Biak**	**32.55**	**289**	P	**P**	**13 19 01.4**	**+0.7**
	comp=Z,183nm,1.9s						
AS10	**Alice Springs**	**32.57**	**247**	⇑P	**P**	**13 18 59.9**	**-1.0**
	baz=32						
AS31	**Alice Springs**	**32.57**	**247**	*e*P	**P**	**13 18 59.4**	**-1.5**
ASAR	**Alice Springs**	**32.57**	**247**	P	**P**	**13 18 59.6**	**-1.3**
ASAR				PcP	**PcP**	**13 21 46.5**	**-0.6**
ASAR				ScP	**ScP**	**13 25 29.1**	**+0.2**
ASAR	**Alice Springs**	**32.57**	**247**	P	**P**	**13 18 59.6**	**-1.3**
	comp=Z,14nm,0.6s,baz=73,slow=9.5,SNR=136						
ASAR				PcP	**PcP**	**13 21 46.5**	**-0.6**
	comp=Z,24nm,1.0s,baz=75,slow=2.0,SNR=11						
ASAR				ScP	**ScP**	**13 25 29.1**	**+0.2**
	comp=Z,5.8nm,1.2s,baz=76,slow=2.5,SNR=5.6						
ASAR				LR	LR	13 31 35.2	
	comp=Z,17nm,28.6s,baz=76,slow=35						
KDU	**Kadadu**	**33.25**	**267**	⇑P	**P**	**13 19 06.9**	**+0.1**
	baz=33,SNR=12						
MOO	**Moorlands**	**33.45**	**207**	⇓P	**P**	**13 19 10.0**	**+1.7**
	baz=34,SNR=12						
TAU	**Tasmania Unive**	**33.78**	**206**	*e*P	**P**	**13 19 10.9**	**-0.2**
TAU				MLR	MLR		
	comp=Z,1μm,19.0s						
TAU	**Tasmania Unive**	**33.78**	**206**	P	**P**	**13 19 12.2**	**+1.1**
	comp=Z,528nm,1.1s,SNR=8.6						
TAU	**Tasmania Unive**	**33.78**	**206**	*e*P	**P**	**13 19 10.8**	**-0.2**
TAU				LR	LR		
	comp=Z,1μm,19.0s						
BBOO	**Buckleboo**	**33.90**	**230**	*e*P	**P**	**13 19 10.5**	**-1.8**
BBOO	**Buckleboo**	**33.90**	**230**	P	**P**	**13 19 13.4**	**+1.1**
	baz=34,SNR=18						
TLE	**Tual**	**34.26**	**280**	P	**P**	**13 19 18.1**	**+2.5**
	comp=Z,98nm,1.4s						
GUMO	**Guam**	**34.41**	**320**	PFAKE		13 19 30.0	+13
GUMO				LR	LR		
	comp=Z,4μm,22.0s						
KNRA	**Kununurra**	**36.67**	**262**	P	**P**	**13 19 36.0**	**-0.4**
	baz=37,SNR=70						
SWI	**Sorong**	**37.16**	**287**	P	**P**	**13 19 40.7**	**+0.2**
	comp=Z,139nm,1.5s,comp=Z,1μm						
SWI	**Sorong**	**37.16**	**287**	⇑P	**P**	**13 19 41.7**	**+1.2**
	baz=37						
BNDI	**Bandanaira**	**37.27**	**280**	P	**P**	**13 19 43.9**	**+2.4**
	comp=Z,450nm,1.1s,comp=Z,6μm						
MSAI	**Masohi**	**38.54**	**282**	P	**P**	**13 19 54.5**	**+2.2**
	comp=Z,15nm,1.0s,comp=Z,1μm						
AAI	**Ambon**	**39.15**	**281**	P	**P**	**13 19 59.6**	**+2.3**
	comp=Z,56nm,1.0s						
FITZ	**Fitzroy Crossi**	**39.65**	**258**	*e*P	**P**	**13 20 00.5**	**-1.0**
	comp=Z,41nm,1.0s						
FITZ	**Fitzroy Crossi**	**39.65**	**258**	P	**P**	**13 20 01.0**	**-0.5**
	baz=40,SNR=29						
FITZ	**Fitzroy Crossi**	**39.65**	**258**	P	**P**	**13 20 00.7**	**-0.7**
	comp=Z,29nm,0.9s,baz=93,slow=7.9,SNR=39						
NLAI	**Namlea**	**40.32**	**281**	P	**P**	**13 20 08.9**	**+1.8**
	comp=Z,210nm,1.4s,comp=Z,5μm						
LBMI	**Labuha**	**40.76**	**285**	P	**P**	**13 20 12.1**	**+1.4**
	comp=Z,245nm,1.5s,comp=Z,3μm						
TNTI	**Ternate**	**41.37**	**287**	P	**P**	**13 20 18.2**	**+2.4**
	comp=Z,119nm,1.6s						
SOEI	**Soe**	**41.61**	**270**	P	**P**	**13 20 19.6**	**+1.8**
	comp=Z,88nm,1.2s,comp=Z,1μm						
BATI	**Baumata**	**42.12**	**270**	P	**P**	**13 20 23.9**	**+2.0**
	comp=Z,80nm,1.1s,comp=Z,923nm						
BATI	**Baumata**	**42.12**	**270**	P	**P**	**13 20 23.1**	**+1.1**
BATI	**Baumata**	**42.12**	**270**	P	**P**	**13 20 23.1**	**+1.1**
	comp=Z,66nm,0.6s,baz=140,slow=3.4,SNR=18						
PPT2	**Papeete2**	**42.35**	**101**	*e*S	**S**	**13 26 47.4**	**+4.0**
	comp=Z,1μm,27.0s						
PPT2				*e*SS	**SS**	**13 29 58.9**	**+6.1**
	comp=Z,2μm,28.2s						
PPT2				*e*LQ	LQ	13 30 23.4	
	comp=Z,6μm,29.0s						
PPT2				*e*LR	LR	13 32 17.8	
	comp=Z,3μm,24.2s,baz=270						
PPT	**Papeete**	**42.35**	**101**	P	**P**	**13 20 24.0**	**+0.3**
PPT	**Papeete**	**42.35**	**101**	P	**P**	**13 20 24.0**	**+0.3**
	comp=Z,28nm,0.9s,baz=270,slow=20,SNR=3.3						
PPT				LR	LR	13 33 58.9	
	comp=Z,17nm,28.6s,baz=267,slow=30						
MMRI	**Maumere**	**43.77**	**271**	P	**P**	**13 20 35.7**	**+0.4**
	comp=Z,123nm,1.1s,comp=Z,1μm						
MMRI	**Maumere**	**43.77**	**271**	*e*P	**P**	**13 20 33.9**	**-1.4**
	comp=Z,109nm,1.0s						
PMOR	**Pomariorio Ree**	**44.07**	**98**	*e*P	**P**	**13 20 39.4**	**+1.8**
	comp=Z,274nm,1.1s						
BBSI	**Bau Bau**	**44.09**	**276**	P	**P**	**13 20 39.7**	**+1.8**
	comp=Z,116nm,1.3s,comp=Z,2μm						
SGSI	**Sangihe**	**44.18**	**290**	P	**P**	**13 20 40.7**	**+2.2**
	comp=Z,433nm,1.1s,comp=Z,5μm						
MIDW	**Midway**	**44.20**	**20**	PFAKE		13 20 50.0	+12
MIDW				LR	LR		
	comp=Z,4μm,19.0s						
VAH	**Vaihoa**	**44.31**	**98**	*e*P	**P**	**13 20 41.0**	**+1.4**
	comp=Z,148nm,1.1s						
KMSI	**Cibinong**	**44.48**	**285**	P	**P**	**13 20 42.2**	**+1.3**
	comp=Z,398nm,1.1s,comp=Z,5μm						
LUWI	**Luwuk**	**45.10**	**282**	P	**P**	**13 20 47.5**	**+1.6**
	comp=Z,123nm,1.1s,comp=Z,2μm						
MBWA	**Marble Bar**	**45.29**	**253**	*e*P	**P**	**13 20 45.2**	**-2.2**
	comp=Z,71nm,1.0s						
MBWA				*e*ScP	**ScP**	**13 26 18.3**	**+0.8**
MBWA				LR	LR		
	comp=Z,4μm,19.0s						
KKSI	**Kolaka, Sulawe**	**45.30**	**277**	P	**P**	**13 20 49.5**	**+2.0**
	comp=Z,52nm,1.1s						
DAV	**Davao City (W)**	**45.55**	**294**	PFAKE		13 21 00.0	+11
DAV				LR	LR		
	comp=Z,1μm,20.0s						
APSI	**Ampana**	**46.21**	**282**	P	P	13 21 02.4	+7.7
BKSI	**Bulukumba**	**46.50**	**275**	P	**P**	**13 20 59.6**	**+2.6**
	comp=Z,32nm,1.1s,comp=Z,434nm						
MEEK	**Meekatharra**	**46.72**	**246**	P	**P**	**13 20 58.5**	**-0.1**
	baz=47,SNR=95						
BNSI	**Bone**	**46.74**	**277**	P	**P**	**13 20 59.7**	**+0.9**
	comp=Z,75nm,1.2s,comp=Z,1μm						
JCJ	**Chichijima**	**46.74**	**330**	LR	LR	13 38 08.4	
	comp=Z,1μm,21.6s,baz=126,slow=33						
KAPI	**Kappang**	**46.93**	**276**	P	**P**	**13 21 02.1**	**+1.8**
	comp=Z,75nm,1.2s						
KAPI	**Kappang**	**46.93**	**276**	P	**P**	**13 21 00.1**	**-0.2**
KAPI				LR	LR		
	comp=Z,730nm,21.0s						
KAPI	**Kappang**	**46.93**	**276**	P	**P**	**13 21 00.1**	**-0.2**
	comp=Z,55nm,1.1s,baz=171,slow=4.1,SNR=5.7						
SPSI	**Sidrap Palu**	**47.17**	**277**	P	**P**	**13 21 04.2**	**+2.0**
	comp=Z,39nm,1.1s						
TTSI	**Tana Toraja**	**47.36**	**278**	P	**P**	**13 21 05.8**	**+2.1**
	comp=Z,34nm,1.3s,comp=Z,750nm						
MJSI	**Majene**	**48.04**	**277**	P	**P**	**13 21 11.6**	**+2.7**
	comp=Z,110nm,1.4s						
KLBR	**Kellerberrin**	**48.20**	**240**	P	**P**	**13 21 09.7**	**-0.3**
	baz=48,SNR=10						
NWAO	**Narrogin (SRO)**	**48.89**	**238**	*e*P	**P**	**13 21 14.0**	**-1.2**
	comp=Z,45nm,0.9s						
NWAO				LR	LR		
	comp=Z,2μm,21.0s						
BLDU	**Ballidu**	**48.92**	**241**	P	**P**	**13 21 15.6**	**+0.1**
	baz=49,SNR=5.4						
MORW	**Morawa**	**49.27**	**243**	⇓P	**P**	**13 21 18.1**	**-0.2**
	baz=49,SNR=22						
RKGY	**Rocky Gully**	**49.45**	**236**	⇑P	**P**	**13 21 20.7**	**+1.2**
	baz=49,SNR=5.8						
MTNI	**Mataram**	**49.67**	**270**	P	**P**	**13 21 22.6**	**+1.1**
	comp=Z,62nm,2.4s,comp=Z,1μm						
SGKI	**Sangatta, Kali**	**50.18**	**281**	P	**P**	**13 21 27.0**	**+1.6**
	comp=Z,284nm,1.3s						
BKB	**Balikpapan**	**50.65**	**280**	P	P	13 21 33.2	+4.3
	comp=Z,208nm,1.3s						
SRBI	**Singaraja**	**50.70**	**270**	P	P	13 21 33.2	+3.9
	comp=Z,104nm,1.6s						
MYLDM	**Lahad Datu**	**51.22**	**288**	P	**P**	**13 21 36.1**	**+2.9**
MYLDM	**Lahad Datu**	**51.22**	**288**	P	P	13 21 37.4	+4.3
	comp=Z,91nm,1.2s						
TSM	**Tawau**	**51.48**	**287**	P	**P**	**13 21 35.9**	**+0.8**
ABJI	**Asem Bagus**	**51.71**	**271**	P	**P**	**13 21 38.3**	**+1.4**
	comp=Z,179nm,1.4s						
KMMI	**Kalianget**	**52.11**	**271**	P	**P**	**13 21 41.8**	**+1.9**
	comp=Z,66nm,1.6s,comp=Z,3μm						
BLJI	**Banyuglugur**	**52.34**	**271**	P	**P**	**13 21 42.5**	**+0.9**
	comp=Z,160nm,1.3s,comp=Z,2μm						
GMJI	**Gumukmas**	**52.39**	**270**	P	**P**	**13 21 42.1**	**+0.2**
	comp=Z,83nm,1.2s						
SDKM	**Sandakan**	**52.59**	**288**	P	**P**	**13 21 45.5**	**+2.0**
MTKI	**Muara Teweh, K**	**52.66**	**279**	P	**P**	**13 21 46.4**	**+2.4**
	comp=Z,96nm,0.3s,comp=Z,12μm						
KRKI	**Karangkates**	**53.38**	**270**	P	**P**	**13 21 50.6**	**+1.4**
	comp=Z,345nm,1.1s,comp=Z,18μm						
KDM	**Kudat**	**53.40**	**289**	P	**P**	**13 21 50.4**	**+1.0**
KKM	**Kota Kinabalu**	**53.65**	**288**	P	**P**	**13 21 51.4**	**+0.1**
KKM	**Kota Kinabalu**	**53.65**	**288**	P	**P**	**13 21 52.1**	**+0.8**
	comp=Z,94nm,1.1s,comp=Z,1μm						
KKM	**Kota Kinabalu**	**53.65**	**288**	*e*P	**P**	**13 21 50.1**	**-1.2**
	comp=Z,114nm,1.2s						

YULB Yu-li 57.48 309 *e*P P 13 22 15.1 -3.4
comp=Z,293nm,1.9s
JNU Nakatsue 57.49 324 *e*P **P** **13 22 18.2 -0.3**
comp=Z,42nm,0.7s
JNU Nakatsue 57.49 324 P **P** **13 22 18.3 -0.3**
comp=Z,18nm,0.8s,baz=111,slow=4.2,SNR=12
JNU LR LR 13 43 10.9
comp=Z,740nm,21.8s,baz=118,slow=32
KSM Kuching 57.74 280 P **P** **13 22 20.4 -0.2**
KSM Kuching 57.74 280 P **P** **13 22 21.8 +1.2**
comp=Z,90nm,1.5s,comp=Z,1μm
KSM Kuching 57.74 280 *e*P **P** **13 22 19.3 -1.3**
comp=Z,112nm,1.2s
KSM LR LR
comp=Z,471nm,19.0s
KSM Kuching 57.74 280 P **P** **13 22 21.8 +1.2**
baz=58,SNR=11
CISI Cisompet, Garu 58.00 269 P **P** **13 22 22.7 +0.2**
comp=Z,163nm,1.7s,comp=Z,2μm
CISI Cisompet, Garu 58.00 269 P **P** **13 22 22.7 +0.2**
baz=58,SNR=5.7
YHNB Yeheng 58.15 310 *e*P **P** **13 22 22.3 -1.0**
comp=Z,116nm,1.2s
YHNB LR LR
comp=Z,1μm,21.0s
LEM Lembang 58.34 270 P **P** **13 22 25.8 +0.8**
comp=Z,218nm,1.0s,comp=Z,3μm
LEM Lembang 58.34 270 ⇑P **P** **13 22 25.6 +0.6**
baz=58,SNR=6.4
CBJI Citeko 59.16 270 P **P** **13 22 30.8 +0.3**
comp=Z,287nm,1.3s
TPI Tanjungpandan 59.19 275 P **P** **13 22 32.1 +1.4**
comp=Z,31nm,1.5s,comp=Z,437nm
DBJI Dramaga 59.23 270 P **P** **13 22 31.8 +0.7**
comp=Z,190nm,1.7s,comp=Z,3μm
SKJI Sukabumi 59.33 270 P **P** **13 22 33.3 +1.6**
comp=Z,249nm,1.0s
YUK Yuzh-Kuril'sk 60.23 343 *ce*P **P** **13 22 39.4 +2.2**
YUK *e*S **S** **13 30 44.6 -4.4**
PPBI Pangkal Pinang 60.80 275 P **P** **13 22 43.2 +1.4**
comp=Z,34nm,1.8s
ASAJ Asahikawa 61.30 340 P **P** **13 22 45.0 +0.5**
ASAJ Asahikawa 61.30 340 P **P** **13 22 45.0 +0.5**
comp=Z,21nm,0.8s,baz=234,slow=7.9,SNR=11
ASAJ LR LR 13 45 26.6
comp=Z,17nm,28.6s,baz=174,slow=32
KASI Kota Agung 61.64 271 P **P** **13 22 47.3 -0.2**
comp=Z,184nm,1.1s
SSE Sheshan 62.14 316 P **P** **13 22 51.1 +0.7**
SSE pP **pP** **13 23 01.1 +1.0**
SSE S **S** **13 31 14.8 +0.9**
SSE AMB AMB
comp=Z,39nm,0.7s
SSE LR LR
comp=Z,320nm,27.6s
SSE LR LR
comp=Z,250nm,28.1s
SSE LR LR
comp=Z,360nm,21.8s
MDSI Maura Dua 62.17 272 P **P** **13 22 50.3 -0.7**
comp=Z,51nm,1.6s,comp=Z,731nm
LWLI Liwa 62.17 271 P **P** **13 22 51.0 -0.2**
comp=Z,154nm,1.2s
KSRS Korea Array 62.30 326 P **P** **13 22 51.6 +0.2**
comp=Z,6.0nm,0.8s,baz=138,slow=7.4,SNR=22
KSRS LR LR 13 49 21.4
comp=Z,17nm,28.6s,baz=141,slow=36
KSAR Wonju Array Be 62.32 326 P **P** **13 22 51.6 +0.1**
LHSI Lahat 62.95 273 P **P** **13 22 56.2 -0.1**
comp=Z,64nm,1.5s,comp=Z,2μm
INCN Inchon 63.04 325 *e*P **P** **13 22 54.6 -1.7**
comp=Z,41nm,0.7s
INCN LR LR
comp=Z,1μm,22.0s
MNAI Manna 63.39 272 P **P** **13 23 00.7 +1.5**
comp=Z,386nm,1.2s
YSS Yuzh-Sakhalins 63.79 342 *e*P **P** **13 23 02.2 +1.1**
YSS *e* 13 23 13.0
YSS *e* 13 23 31.0
YSS *e*S **S** **13 31 36.0 +2.0**
YSS *e*PS **PnS** **13 31 52.0 -1.8**
YSS pmax pmax
comp=Z,30nm,0.9s
YSS MLR MLR
comp=N,2μm,18.0s
YSS MLR MLR
comp=Z,2μm,18.0s
MYKOM **Kota Tinggi 64.03 279** P **P** **13 23 05.4 +2.0**
MYKOM **Kota Tinggi 64.03 279** P **P** **13 23 04.8 +1.4**
comp=Z,28nm,1.7s
VNDA Vanda 64.15 181 *e*P **P** **13 23 02.4 -0.7**
comp=Z,52nm,1.1s
VNDA Vanda 64.15 181 P **P** **13 23 02.9 -0.2**
comp=Z,15nm,0.8s,baz=352,slow=7.4,SNR=52
VNDA LR LR 13 47 41.1
comp=Z,943nm,20.8s,baz=11,slow=33
NJ2 Nanjing 64.30 316 *e*P **P** **13 23 05.3 +0.6**
NJ2 pP **pP** **13 23 12.1 -2.3**
NJ2 sP **sP** **13 23 15.1 -3.0**
NJ2 PP **PP** **13 25 27.4 +0.8**
NJ2 S **S** **13 31 44.0 +3.2**
NJ2 AMB AMB
comp=Z,50nm,0.8s
NJ2 AMB AMB
comp=Z,420nm,8.7s
NJ2 LR LR
comp=Z,580nm,18.1s
NJ2 LR LR
comp=Z,1μm,21.3s
NJ2 LR LR
comp=Z,480nm,22.1s
SBA Scott Base 64.44 180 *e*P **P** **13 23 04.7 -0.3**
SBA pmax pmax
comp=Z,104nm,1.2s
SBA Scott Base 64.44 180 *e*P **P** **13 23 04.7 -0.3**
comp=Z,104nm,1.2s
CASY Casey 64.50 202 *e*P **P** **13 23 04.9 -0.6**
comp=Z,124nm,1.0s
CASY LR LR
comp=Z,1μm,21.0s
QIZ Qiongzhong 64.55 299 P **P** **13 23 07.2 +0.5**
QIZ pP **pP** **13 23 13.4 -2.9**
QIZ S **S** **13 31 45.6 +1.2**
QIZ LR LR
comp=Z,200nm,19.4s
QIZ LR LR
comp=Z,430nm,22.9s
KGM Kluang 64.60 279 P **P** **13 23 08.6 +1.5**
VLA Vladivostok 64.63 333 *i* P **P** **13 23 05.8 -0.8**
VLA pmax pmax
comp=Z,55nm,1.3s
USRK Ussuriysk Arra 65.44 333 P **P** **13 23 12.3 +0.4**
comp=Z,24nm,1.0s,baz=139,slow=6.1,SNR=26
USRK LR LR 13 49 31.5
comp=Z,503nm,20.4s,baz=134,slow=34
KTGM Kuala Trenggan 65.71 282 P **P** **13 23 15.9 +1.5**
FX1 Attu Island--F 66.27 4 LR LR 13 46 19.0
comp=Z,1μm,21.5s,baz=174,slow=31
PET Petropavlovsk 66.53 355 *e*P **P** **13 23 21.5 +2.8**
PET *e*S **S** **13 32 10.1 +2.9**
PET *e*SS **SS** **13 36 30.0 +4.9**
PET pmax pmax
comp=Z,200nm,16.9s
PET pmax pmax
comp=Z,15nm,0.8s
FRIM Kepong 66.56 280 P **P** **13 23 20.8 +1.0**
WHN Wuhan 66.60 312 P P 13 23 28.4 +8.7
WHN S S 13 32 22.3 +13
WHN LR LR
comp=Z,2μm,19.4s
PDSI Padang 66.61 275 P **P** **13 23 20.8 +0.6**
comp=Z,58nm,0.9s
ADK Adak 66.63 11 PFAKE 13 23 30.0 +11
ADK LR LR
comp=Z,3μm,19.0s
PETK Petropavlovsk- 66.70 354 P **P** **13 23 20.8 +0.9**
PETK pmax pmax
comp=Z,2.0nm,0.5s
PETK Petropavlovsk- 66.70 354 P **P** **13 23 20.8 +0.9**
PETK Petropavlovsk- 66.70 354 P **P** **13 23 20.8 +0.9**
comp=Z,1.6nm,0.5s,baz=176,slow=8.9,SNR=3.6
PETK LR LR 13 47 11.6
comp=Z,725nm,20.5s,baz=172,slow=31
PPI Padang Panjang 66.78 275 P **P** **13 23 21.3 +0.1**
comp=Z,43nm,1.4s,comp=Z,872nm
PPI Padang Panjang 66.78 275 ⇓P **P** **13 23 21.3 +0.1**
baz=67
MDJ Mudanjiang 66.83 332 P **P** **13 23 21.9 +1.0**
MDJ pP **pP** **13 23 28.3 -2.3**
MDJ sP **sP** **13 23 30.4 -3.8**
MDJ S **S** **13 32 15.4 +4.1**
MDJ ScS **ScS** **13 33 17.0 +1.1**
MDJ AMB AMB
comp=Z,28nm,0.9s
MDJ AMB AMB
comp=Z,480nm,4.9s
MDJ LR LR
comp=Z,450nm,11.0s
MDJ LR LR
comp=Z,300nm,8.1s
MDJ LR LR
comp=Z,840nm,15.7s
UBPT Khong Chiam 66.87 293 P **P** **13 23 22.8 +1.1**
comp=Z,22nm,1.3s
DL2 Dalian 66.88 323 P **P** **13 23 22.2 +1.0**
DL2 S **S** **13 32 12.7 +0.6**
DL2 AMB AMB
comp=Z,81nm,0.8s
DL2 AMB AMB
comp=Z,560nm,5.3s
DL2 LR LR
comp=Z,440nm,24.6s
DL2 LR LR
comp=Z,600nm,30.6s
IPM Ipoh 67.48 281 P **P** **13 23 26.7 +1.0**
IPM Ipoh 67.48 281 P **P** **13 23 25.8 +0.1**
comp=Z,70nm,1.4s,comp=Z,1μm
IPM Ipoh 67.48 281 *e*P **P** **13 23 22.6 -3.1**
comp=Z,65nm,1.0s
SNY Shenyang 67.77 327 ⇑P P 13 23 35.1 +8.3
SNY S **S** **13 32 23.5 +0.8**
SNY AMB AMB
comp=Z,33nm,0.7s
SNY LR LR
comp=N,710nm,16.2s
SNY LR LR
comp=E,500nm,23.7s
SNY LR LR
comp=Z,810nm,23.1s
COCO West Island 67.84 262 *i* P **P** **13 23 26.8 -1.1**
COCO West Island 67.84 262 PFAKE 13 23 40.0 +12
COCO LR LR
comp=Z,697nm,19.0s
KULM Kulim 68.06 281 P **P** **13 23 31.0 +1.7**
KULM Kulim 68.06 281 P **P** **13 23 28.7 -0.6**
comp=Z,53nm,1.3s
KULM Kulim 68.06 281 *e*P P 13 23 25.6 -3.7
comp=Z,74nm,1.2s
KULM LR LR
comp=Z,308nm,19.0s
CN2 Changchun 68.20 329 *e*P **P** **13 23 30.4 +0.9**
CN2 *ep*P **pP** **13 23 38.5 -0.8**
CN2 AMB AMB
comp=Z,50nm,0.8s
CN2 AMB AMB
comp=Z,150nm,4.0s
CN2 LR LR
comp=Z,1μm,21.0s
CN2 LR LR
comp=Z,700nm,21.0s
CN2 LR LR
comp=Z,1μm,23.0s
PANO Nakornpanom 68.33 295 P **P** **13 23 32.2 +1.3**
comp=Z,67nm,0.9s
SKLT Songkhla 68.64 283 P **P** **13 23 33.9 +1.0**
comp=Z,50nm,1.4s,comp=Z,801nm
CHBT CHBT 68.82 289 P **P** **13 23 35.5 +1.5**
comp=Z,19nm,0.9s,comp=Z,908nm
CHBT CHBT 68.82 289 P P 13 23 40.7 +6.7
comp=Z,32nm,1.4s
SKNT Sakolnakorn 68.83 294 P **P** **13 23 34.7 +0.7**
comp=Z,68nm,1.4s,comp=Z,3μm
PSI Prapat 69.04 278 P **P** **13 23 35.4 -0.2**
baz=69,SNR=16
KLR Kul'dur 69.56 336 *e*P **P** **13 23 34.8 -3.1**
KLR *e* 13 23 42.8
KLR *e*S **S** **13 32 39.0 -4.7**
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,92nm,1.8s
KLR MLR MLR
comp=E,900nm,19.0s
GSI Gunungsitoli 69.95 276 P **P** **13 23 41.2 +0.1**
comp=E,81nm,1.2s
CHAI Chaiyaphum 70.22 292 P **P** **13 23 43.7 +1.1**
comp=E,5.1nm,1.0s
NAYO Nakonayok 70.27 291 P **P** **13 23 44.9 +2.0**
comp=E,43nm,0.9s
KCSI Kotacane, Aceh 70.34 279 P **P** **13 23 42.7 -0.8**
comp=E,48nm,0.8s
GYA Guiyang 70.45 305 P **P** **13 23 44.8 +0.8**
GYA pP **pP** **13 23 55.1 +1.3**
GYA PP **PP** **13 26 23.9 +3.5**
GYA S **S** **13 32 56.7 +1.4**
GYA sS **sS** **13 33 13.1 +1.7**
GYA SKS **SKSac** **13 33 40.0 -4.0**
GYA SS **SS** **13 37 30.5 +3.4**
GYA AMB AMB
comp=E,30nm,0.8s
GYA AMB AMB
comp=E,150nm,5.2s
GYA LR LR
comp=E,650nm,18.6s
GYA LR LR
comp=E,580nm,18.6s
GYA LR LR
comp=E,950nm,21.4s
BJI Beijing 70.85 321 P **P** **13 23 47.0 +1.0**
BJI sP **sP** **13 23 55.9 -3.5**
BJI S **S** **13 33 00.4 +1.3**
BJI SS **SS** **13 37 36.2 +3.8**
BJI AMB AMB
comp=E,52nm,1.3s
BJI LR LR
comp=E,1μm,21.7s
BJI LR LR
comp=E,890nm,24.7s
BJI LR LR
comp=E,2μm,27.0s
PHET Kaeng Krachan 71.35 289 P **P** **13 23 50.4 +0.9**
comp=E,59nm,1.1s
LHMI Lhok Sumawe 71.59 280 P **P** **13 23 51.2 +0.2**
comp=E,103nm,1.0s
XAN Xi'an 72.34 313 P **P** **13 23 55.4 +0.2**
XAN pP **pP** **13 24 03.8 -1.2**
XAN sP **sP** **13 24 08.0 -0.6**
XAN SS **SS** **13 37 58.8 +3.1**
XAN AMB AMB
comp=E,14nm,0.9s
XAN AMB AMB
comp=E,120nm,5.0s
XAN LR LR
comp=E,170nm,14.3s
XAN LR LR
comp=E,180nm,22.5s
XAN LR LR
comp=E,220nm,22.5s
NANT Nan 72.40 295 P **P** **13 23 56.8 +1.0**
comp=E,60nm,1.2s
KMI Kunming 73.08 302 P **P** **13 24 01.1 +1.1**
KMI pP **pP** **13 24 09.6 -0.2**
KMI S **S** **13 33 26.5 +0.6**
KMI AMB AMB
comp=E,100nm,1.3s
KMI LR LR
comp=E,280nm,17.9s
KMI LR LR
comp=E,450nm,22.4s
KMI LR LR
comp=E,690nm,20.6s
PAYA Payao 73.34 295 P **P** **13 24 03.1 +1.7**
comp=E,8.5nm,1.1s,comp=E,117nm
CMAR Chiang Mai Arr 73.84 294 P **P** **13 24 04.5 +0.2**
CMAR Chiang Mai Arr 73.84 294 P **P** **13 24 04.5 +0.2**
comp=E,17nm,0.9s,baz=122,slow=4.3,SNR=86
CHTO Chiang Mai 73.96 294 *e*P **P** **13 24 02.3 -2.7**
CHTO MLR MLR
comp=Z,368nm,20.0s
CHTO Chiang Mai 73.96 294 P **P** **13 24 05.9 +0.9**
comp=Z,197nm,1.4s,comp=Z,4μm
CHTO Chiang Mai 73.96 294 *e*P **P** **13 24 02.3 -2.7**
comp=Z,323nm,1.4s
CHTO LR LR
comp=Z,368nm,20.0s
CHTO Chiang Mai 73.96 294 P **P** **13 24 06.1 +1.1**
comp=Z,197nm,1.4s,comp=Z,4μm
HHC Hu-ho-hao-te 74.18 320 *e*P **P** **13 24 07.5 +1.5**
HHC pP **pP** **13 24 17.7 +1.9**
HHC sP **sP** **13 24 21.5 +2.1**
HHC PP **PP** **13 26 54.3 +2.2**
HHC S **S** **13 33 36.3 -1.2**
HHC sS **sS** **13 33 52.2 -1.5**
HHC SKS **SKSac** **13 34 07.7 -3.8**
HHC SS **SS** **13 38 25.8 +2.2**
HHC AMB AMB
comp=Z,120nm,1.0s
HHC AMB AMB
comp=Z,1μm,5.7s
HHC LR LR
comp=Z,1μm,19.0s
HHC LR LR
comp=Z,2μm,20.2s
HHC LR LR
comp=Z,2μm,20.2s
CD2 Chengdu 74.71 308 P **P** **13 24 10.4 +1.2**
CD2 pP **pP** **13 24 19.7 +0.7**
CD2 sP **sP** **13 24 23.4 +0.8**
CD2 PP **PP** **13 26 59.5 +2.8**
CD2 S **S** **13 33 43.1 -0.6**
CD2 AMB AMB
comp=Z,40nm,0.7s
CD2 AMB AMB
comp=Z,550nm,6.7s
CD2 LR LR
comp=Z,670nm,15.5s
CD2 LR LR
comp=Z,660nm,20.2s
BTO Baotou 75.03 319 *e*P **P** **13 24 11.4 +0.5**
QSPA South Pole Qui 76.60 180 *e*P **P** **13 24 19.2 -0.3**
comp=Z,91nm,0.9s
SEY Seymchan 76.91 353 ⇑*e*P **P** **13 24 22.4 +1.4**
LZH Lanzhou 76.97 312 ⇓P **P** **13 24 23.8 +1.6**
LZH pP **PcP** **13 24 33.7 +0.6**
LZH PP **PP** **13 27 18.0 +2.1**
LZH S **S** **13 34 08.3 -0.4**
LZH sS **sS** **13 34 25.5 +0.6**
LZH SS **SS** **13 39 08.0 +1.7**
LZH AMB AMB
comp=Z,92nm,1.5s
LZH AMB AMB
comp=Z,520nm,8.8s
LZH LR LR
comp=Z,540nm,15.3s
LZH LR LR
comp=Z,710nm,16.2s
LZH LR LR
comp=Z,1μm,19.3s
PBA Port Blair 77.38 285 *e*P P 13 24 22.7 -2.0
CLNS Chul'man 78.08 338 *e*P P 13 24 34.8 +7.1
CLNS pmax pmax
comp=Z,17nm,1.1s
CLNS pmax pmax
comp=N,14nm,1.2s
CLNS pmax pmax
comp=E,7.0nm,1.4s
KDAK Kodiak Island 78.47 21 PFAKE 13 24 40.0 +10
KDAK LR LR
comp=Z,3μm,20.0s
CIT Chita 79.63 330 *e*P **P** **13 24 36.6 +0.3**
CIT *e* 13 24 43.8
CIT *e* 13 24 52.5
CIT *e* 13 27 36.3
CIT pmax pmax
comp=Z,190nm,2.4s
YAK Yakutsk 80.60 343 *e*P **P** **13 24 40.8 -0.4**
YAK *e**PP **pP** **13 24 52.1 +1.0**
YAK *e* 13 27 48.3
YAK *e*S **S** **13 34 45.2 -0.7**
YAK *e*SS **SS** **13 39 57.0 -2.3**
YAK pmax pmax
comp=N,6.0nm,1.4s
YAK pmax pmax
comp=Z,11nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=N,33nm,1.5s
YAK pmax pmax
comp=E,47nm,2.0s
YAK pmax pmax
comp=Z,138nm,3.6s
YAK smax smax
comp=E,96nm,13.7s
YAK smax smax
comp=N,303nm,15.5s
YAK MLR MLR
comp=Z,2μm,17.0s
YAK MLR MLR
comp=E,909nm,19.0s
YAK MLR MLR
comp=N,1μm,19.0s
ULN Ulaanbaatar 80.71 324 P **P** **13 24 42.4 0.0**
comp=N,73nm,1.3s,comp=N,889nm
ULN Ulaanbaatar 80.71 324 *e*P **P** **13 24 42.6 +0.2**
comp=N,53nm,0.8s
SONM Songino Array 81.07 324 P **P** **13 24 44.5 +0.2**
SONM Songino Array 81.07 324 P **P** **13 24 44.5 +0.2**
comp=N,17nm,1.0s,baz=141,slow=4.8,SNR=82
SONM LR LR 14 00 03.7
comp=N,560nm,20.1s,baz=117,slow=35
GTA Gaotai 81.31 314 ⇓P **P** **13 24 46.7 +0.9**
GTA pP **pP** **13 24 56.6 +0.9**
GTA sP **sP** **13 25 00.8 +1.5**
GTA S **S** **13 34 55.6 +1.0**
GTA SKS **SKSac** **13 34 59.4 -3.7**
GTA sS **ScS** **13 35 12.2 -0.1**
GTA SS **SS** **13 40 16.4 +5.2**
GTA AMB AMB
comp=N,73nm,1.1s
GTA AMB AMB
comp=N,160nm,6.2s
GTA LR LR
comp=N,350nm,18.5s
GTA LR LR
comp=N,270nm,18.1s
GTA LR LR
comp=N,430nm,17.6s
SHL Shillong 82.39 298 *e*P **P** **13 24 51.9 +0.1**
SHL *ex* x 13 34 45.5
PMR Palmer 82.49 20 *e*P **P** **13 24 50.3 -0.9**
PMR pmax pmax
comp=Z,29nm,1.0s
PMR Palmer 82.49 20 *e*P **P** **13 24 50.3 -0.9**
comp=Z,29nm,1.0s
MAW Mawson 82.85 202 P **P** **13 24 52.7 -0.5**
MAW Mawson 82.85 202 P **P** **13 24 52.8 -0.5**
baz=83,SNR=21
MAW Mawson 82.85 202 P **P** **13 24 52.7 -0.5**
comp=Z,11nm,0.6s,baz=105,slow=6.8,SNR=36
MAW LR LR 13 56 34.0
comp=Z,262nm,21.3s,baz=98,slow=32
CAST Castle Rocks 82.94 17 *e*P **P** **13 24 52.2 -1.5**
TRF Thorofare Moun 83.50 18 *e*P P 13 24 53.1 -3.6
BMRM Bremner River 83.60 22 *e*P **P** **13 24 56.4 -0.7**
comp=Z,36nm,1.0s
MCK McKinley 84.11 18 *e*P **P** **13 24 57.5 -2.1**
MCK pmax pmax
comp=Z,32nm,1.0s
MCK McKinley 84.11 18 *e*P **P** **13 24 57.5 -2.1**
comp=Z,32nm,1.0s
ZAK Zakamensk 84.12 325 ⇓*i*P **P** **13 24 59.5 -0.6**
ZAK *e* 13 25 08.2
ZAK *e* 13 35 17.6
ZAK pmax pmax
comp=Z,32nm,1.2s
LSA Lhasa 84.33 302 P **P** **13 25 02.9 +0.8**
IRK Irkutsk 84.50 327 *e*P **P** **13 24 58.8 -3.0**
IRK pmax pmax
comp=Z,95nm,1.8s
TLY Talaya 84.56 326 *e*P **P** **13 25 02.6 +0.4**
TLY *e* 13 25 11.6
TLY *e*S S 13 35 13.7 -13
TLY *e* 13 36 22.9
TLY pmax pmax
comp=Z,66nm,1.5s
TLY Talaya 84.56 326 P **P** **13 25 02.8 +0.6**

comp=Z,288nm,0.9s,SNR=13
PAX Paxson 84.67 20 *e*P **P 13 25 02.2 -0.4**
PAX pmax pmax
comp=Z,48nm,1.4s
PAX Paxson 84.67 20 *e*P **P 13 25 02.1 -0.4**
comp=Z,48nm,1.4s
YBH Yreka Blue Hor 84.95 45 LR LR 13 53 54.0
comp=Z,313nm,21.6s,baz=271,slow=29
HUMO Hull Mountain 85.12 44 *e*P **P 13 25 04.7 -0.5**
comp=Z,18nm,1.1s
CMB Columbia Colle 85.23 49 *e*P **P 13 25 06.5 +0.6**
CMB pmax pmax
comp=Z,15nm,1.3s
CMB Columbia Colle 85.23 49 *e*P **P 13 25 06.5 +0.6**
comp=Z,15nm,1.3s
COLA College 85.27 18 *e*P **P 13 25 03.1 -2.3**
COLA pmax pmax
comp=Z,73nm,0.9s
COLA MLR MLR
comp=Z,910nm,20.0s
COLA College 85.27 18 *e*P **P 13 25 03.1 -2.3**
comp=Z,73nm,0.9s
COLA LR LR
comp=Z,910nm,20.0s
ILAR Eielson Array 85.48 18 P **P 13 25 04.5 -2.0**
ILAR Eielson Array 85.48 18 P **P 13 25 04.5 -2.0**
comp=Z,15nm,0.8s,baz=235,slow=4.7,SNR=70
ILAR LR LR 13 57 10.9
comp=Z,17nm,28.6s,baz=239,slow=31
ISA Isabella 85.85 52 *e*P **P 13 25 08.2 -0.9**
ISA Isabella 85.85 52 *e*P **P 13 25 08.2 -0.9**
ISA Isabella 85.85 52 P **P 13 25 08.8 -0.3**
baz=86
BEKR Beckworth 85.91 48 *e*P **P 13 25 08.6 -0.9**
comp=Z,7.9nm,1.2s
EDW2 Edwards Air Fo 85.96 53 P **P 13 25 09.0 -0.7**
baz=86
BFSC Mount Baldy Ra 86.01 54 P **P 13 25 09.2 -0.8**
baz=86
BBB Bella Bella 86.05 34 LR LR 13 56 30.2
comp=Z,17nm,28.6s,baz=254,slow=31
MLAC Mammoth Lakes 86.24 50 P **P 13 25 11.6 +0.4**
baz=86
COLD Coldfoot 86.34 15 *e*P **P 13 25 09.3 -1.4**
comp=Z,49nm,1.1s
MTUM Tungsten Hills 86.35 50 *e*P **P 13 25 12.9 +1.3**
LRMC Laurel Mountai 86.39 52 P **P 13 25 11.6 -0.2**
baz=87
CWC Cottonwood Cre 86.41 51 P **P 13 25 12.4 +0.5**
baz=87
NLWA Neilton Lookou 86.44 40 PFAKE 13 25 20.0 +8.3
NLWA LR LR
comp=Z,860nm,19.0s
TAPN Taplejung 86.49 299 *e*P **P 13 25 12.9 +0.2**
comp=Z,188nm,1.4s
PAHR Pah Rah Range 86.55 48 *e*P **P 13 25 12.5 0.0**
comp=Z,17nm,1.1s
PAHR *e*pP **pP 13 25 23.1 +0.6**
MONP Monument Peak 86.56 55 P **P 13 25 13.2 +0.3**
baz=87
K05A Summer Lake 86.57 45 *e*P **P 13 25 12.7 0.0**
comp=Z,48nm,1.4s
ODAN Odare 86.62 298 *e*P **P 13 25 13.7 +0.4**
comp=Z,196nm,1.0s
MOD Modoc 86.68 46 *e*P **P 13 25 14.0 +0.9**
comp=Z,64nm,1.3s
MPMC Manual Prospec 86.73 52 P **P 13 25 14.0 +0.4**
baz=87
PFO Pinyon Flat Ob 86.76 55 PFAKE 13 25 20.0 +6.3
PFO LR LR
comp=Z,981nm,19.0s
NVAR Mina Array Bea 86.91 49 P **P 13 25 13.3 -1.1**
NVAR PKKPbc **PKKPbc 13 43 08.6 -0.6**
NVAR P'P' 13 51 15.6
NVAR Mina Array Bea 86.91 49 P **P 13 25 13.3 -1.1**
comp=Z,1.9nm,0.8s,baz=232,slow=8.8,SNR=12
NVAR PKKPbc **PKKPbc 13 43 08.6 -0.6**
comp=Z,0.5nm,0.7s,baz=105,slow=4.7,SNR=4.2
NVAR PKPPKP **P'P'df 13 51 15.6 +1.4**
comp=Z,1.7nm,1.0s,baz=122,slow=3.4,SNR=8.1
NVAR LR LR 13 55 43.5
comp=Z,17nm,28.6s,baz=98,slow=30
GSC Goldstone 87.02 53 P **P 13 25 14.4 -0.4**
baz=87
BOK Bokaro 87.07 295 *e*P **P 13 25 14.0 -1.3**
HEC Hector,Ludlow 87.24 53 P **P 13 25 15.9 0.0**
baz=87
BELC Belle Mtn. Jos 87.24 54 P **P 13 25 16.1 +0.1**
baz=87
EGAK Eagle 87.31 20 *e*P **P 13 25 14.1 -1.3**
comp=Z,25nm,0.8s
EGAK LR LR
comp=Z,978nm,21.0s
RAMN Ramite 87.33 298 *e*P **P 13 25 16.5 -0.2**
comp=Z,56nm,0.9s
DAWY Dawson 87.45 21 *e*P **P 13 25 15.2 -1.0**
BC3 Big Chuckawall 87.57 55 P **P 13 25 17.4 -0.2**
baz=88
TPH Tonopah 87.59 50 PFAKE 13 25 30.0 +12
TPH LR LR
comp=Z,706nm,20.0s
PALK Pallekele 87.72 278 P **P 13 25 19.8 +1.2**
comp=Z,59nm,1.3s,comp=Z,992nm
TUQ Turquoise Moun 87.74 53 P **P 13 25 18.5 +0.1**
baz=88
GMRC Granite Mounta 87.75 54 P **P 13 25 18.4 -0.1**
baz=88
JIRN Jiri 87.87 299 *e*P **P 13 25 19.2 -0.3**
comp=Z,91nm,1.0s
GLA Glamis 87.88 55 *e*P **P 13 25 19.6 +0.6**
GLA Glamis 87.88 55 *e*P **P 13 25 19.6 +0.6**
GLA Glamis 87.88 55 P **P 13 25 18.9 -0.2**
baz=88
IRM Iron Mountain 87.96 54 P **P 13 25 19.2 -0.1**
baz=88
I07A Izee 88.00 44 *e*P **P 13 25 19.4 -0.1**
comp=Z,28nm,1.4s
DLBC Dease Lake 88.09 28 LR LR 13 57 35.1
comp=Z,17nm,28.6s,baz=260,slow=31
GUN Gumba 88.21 299 *e*P **P 13 25 20.7 -0.4**
comp=Z,91nm,0.9s
Y12C Blythe 88.33 55 P **P 13 25 20.7 -0.4**
baz=88
BMN Battle Mountai 88.36 48 PFAKE 13 25 30.0 +8.7
BMN LR LR
comp=Z,679nm,20.0s
J08A Circle Bar Ran 88.45 45 *e*P **P 13 25 20.9 -0.6**
comp=Z,8.7nm,0.9s
PKI Pulchoki 88.52 299 *e*P **P 13 25 22.0 -0.5**
comp=Z,142nm,1.0s
113A Mohawk Valley, 88.65 56 P **P 13 25 22.3 -0.3**
baz=89
SHPR Sheep Range 88.66 52 *e*P **P 13 25 22.1 -0.7**
KKN Kakani 88.69 299 *e*P **P 13 25 23.2 0.0**
comp=Z,106nm,0.9s
DMN Daman 88.78 299 *e*P **P 13 25 23.8 +0.1**
comp=Z,213nm,1.0s
G08A Pilot Rock 88.79 43 *e*P **P 13 25 23.1 0.0**
comp=Z,16nm,1.3s
HAWA Hanford 88.81 42 *e*P **P 13 25 22.9 -0.1**
comp=Z,96nm,2.1s
HAWA LR LR
comp=Z,597nm,20.0s
R11A Troy Canyon, C 88.90 50 *e*P **P 13 25 23.4 -0.5**
R11A Troy Canyon, C 88.90 50 P **P 13 25 23.5 -0.4**
baz=89
214A Organ Pipe Nat 89.20 57 P **P 13 25 25.3 +0.1**
baz=89
W13A Hualapai Mount 89.23 54 P **P 13 25 25.7 +0.1**
baz=89
GKN Gorkha 89.29 299 *e*P **P 13 25 25.4 -0.5**
comp=Z,132nm,1.0s
B08A Colville Reser 89.63 40 *e*P **P 13 25 27.6 +0.7**
comp=Z,16nm,1.1s
BMO Blue Mountains 89.75 44 PFAKE 13 25 40.0 +12
BMO LR LR
comp=Z,848nm,19.0s
E09A Wood Farm, Sta 89.75 42 *e*P **P 13 25 28.3 +0.9**
comp=Z,11nm,1.0s
SYO Syowa Base 89.77 197 ⇓ *i*P **P 13 25 25.0 -2.2**
ELK Elko 89.89 48 *e*P **P 13 25 30.2 +1.7**
HVS Khovu-Aksy 89.94 323 *c i*P **P 13 25 28.6 +0.3**
HVS pmax pmax
comp=Z,146nm,1.4s
KOLN Koldanda 90.11 298 *e*P **P 13 25 29.1 -0.7**
comp=Z,43nm,1.0s
DANN Dangsing 90.13 299 *e*P **P 13 25 29.2 -0.8**
comp=Z,101nm,1.0s
F10A Beach Ranch, E 90.17 43 *e*P **P 13 25 30.1 +0.5**
comp=Z,25nm,1.3s
MFID Camas Ranch 90.30 45 P **P 13 25 30.8 +0.6**
baz=90
U15A North Rim 90.85 53 P **P 13 25 33.2 0.0**
baz=91
X16A Lo Mia Camp, P 90.98 55 P **P 13 25 34.7 +1.0**
baz=91
NEW Newport 90.98 40 P **P 13 25 33.8 +0.6**
baz=91
NEW Newport 90.98 40 LR LR 14 04 55.5
comp=Z,246nm,18.3s,baz=254,slow=35
HLID Hailey 91.32 46 *e*P **P 13 25 34.7 -0.4**
comp=Z,5.3nm,1.0s
HLID LR LR
comp=Z,622nm,21.0s
HLID Hailey 91.32 46 P **P 13 25 35.1 0.0**
baz=92
WUAZ Wupatki 91.32 54 P **P 13 25 35.0 -0.2**
baz=92
WMQ Urumqi 91.36 315 P **P 13 25 35.5 +0.4**
WMQ pP **pP 13 25 46.1 +1.0**
WMQ sP **sP 13 25 50.0 +1.3**
WMQ PP **PP 13 29 15.1 +2.1**
WMQ SKS **SKSac 13 36 03.2 -2.2**
WMQ S **S 13 36 28.4 -3.8**
WMQ AMB AMB
comp=Z,43nm,1.2s
WMQ AMB AMB
comp=Z,460nm,4.6s
WMQ LR LR
comp=Z,320nm,14.0s
WMQ LR LR
comp=Z,440nm,16.8s
WMQ LR LR
comp=Z,650nm,25.0s
MVU Marysvale 91.48 51 PFAKE 13 25 50.0 +14
MVU LR LR
comp=Z,976nm,22.0s
DUG Dugway 91.50 49 PFAKE 13 25 50.0 +14
DUG LR LR
comp=Z,946nm,21.0s
DUG Dugway 91.50 49 P **P 13 25 35.7 -0.2**
baz=92
INK Inuvik 91.86 19 LR LR 14 03 01.3
comp=Z,2μm,20.0s,baz=230,slow=33
319A Douglas 91.95 58 P **P 13 25 37.8 -0.4**
baz=92
HYB Hyderabad 92.13 287 *i* P **P 13 25 38.0 -1.2**
HYB *e*SKS **SKSac 13 36 06.0 -4.7**
HYB *e* 13 36 40.0
JBP Jabalpur 92.15 293 ⇑ *i*P **P 13 25 39.5 +0.4**
JBP *i* x x 13 25 41.4
comp=Z,38nm,1.6s
JBP *ex* x 13 28 13.3
DGAR Diego Garcia 92.32 262 PFAKE 13 25 50.0 +10
DGAR LR LR
comp=Z,873nm,19.0s
NGP Nagpur 92.53 291 *e*P **P 13 25 38.8 -2.1**
NGP AMB AMB 13 25 39.3
comp=Z,46nm,2.4s
320A Kipp Ranch, An 92.56 59 P **P 13 25 41.7 +0.6**
baz=93
Z20A Nine Sixteen R 92.94 57 P **P 13 25 43.1 +0.3**
baz=93
Y20A Horse Springs, 93.31 56 P **P 13 25 44.6 +0.1**
baz=94
AHID Auburn Hatcher 93.43 47 PFAKE 13 26 00.0 +15
AHID LR LR
comp=Z,982nm,21.0s
121A Cookes Peak, D 93.46 58 P **P 13 25 46.4 +1.2**
baz=94
KAAM Kaadhehdhoo 93.63 270 P **P 13 25 46.6 +0.4**
comp=Z,103nm,2.5s
MVCO Mesa Verde 93.99 53 PFAKE 13 26 00.0 +12
MVCO LR LR
comp=Z,724nm,22.0s
LATR Latur 94.20 288 *ex* x 13 25 38.0
LATR *ex* x 13 25 40.5
comp=Z,58nm,1.7s
LATR *ex* x 13 27 56.0
MAIT Maitri 94.26 188 *e*P P 13 25 44.7 -3.2
AKL Akola 94.28 290 *e*P **P 13 25 48.0 -1.0**
AKL AMB AMB 13 25 49.1
comp=Z,46nm,1.2s
BHPL Bhopal 94.46 293 *e*P **P 13 25 47.6 -2.3**
BHPL AMB AMB 13 25 50.1
comp=Z,15nm,0.8s
U21A Nageezi 94.47 54 P **P 13 25 49.8 -0.1**
baz=95
BW06 Boulder Array 94.53 47 PFAKE 13 26 00.0 +10
BW06 LR LR
comp=Z,775nm,20.0s
SNAA Sanae 94.81 183 *e*P **P 13 25 48.9 -1.7**
SNAA Sanae 94.81 183 *e*P **P 13 25 49.2 -1.4**
comp=Z,70nm,1.3s
ANMO Albuquerque 95.09 55 PFAKE 13 26 00.0 +7.3
ANMO LR LR
comp=Z,981nm,19.0s
MNTX Cornudas Mount 95.26 59 PFAKE 13 26 00.0 +6.7
MNTX LR LR
comp=Z,349nm,20.0s
RLMT Red Lodge 95.29 45 PFAKE 13 26 00.0 +6.6
RLMT LR LR
comp=Z,884nm,19.0s
EGMT Eagleton 95.65 42 PFAKE 13 26 10.0 +15
EGMT LR LR
comp=Z,607nm,20.0s
VNA2 Neumayer--Watz 95.76 182 *e*P **P 13 25 53.5 -1.3**
MK31 Makanchi Array 95.82 317 *i* P **P 13 25 55.2 -0.3**
MK31 pmax pmax
comp=Z,28nm,0.7s
MK31 Makanchi Array 95.82 317 *e*P **P 13 25 54.4 -1.1**
MKAR Makanchi Array 95.82 317 P **P 13 25 55.7 +0.2**
MKAR pmax pmax
comp=Z,13nm,0.8s
MKAR Makanchi Array 95.82 317 P **P 13 25 55.6 +0.2**
MKAR Makanchi Array 95.82 317 ⇑ P **P 13 25 55.9 +0.4**
baz=96
MKAR Makanchi Array 95.82 317 P **P 13 25 55.6 +0.2**
comp=Z,13nm,0.8s,baz=99,slow=6.1,SNR=49
MKAR LR LR 14 08 23.6
comp=Z,17nm,28.6s,baz=92,slow=35
ZAA0 Zalesovo Array 95.96 324 *e*P P 13 25 52.6 -3.3
ZALV Zalesovo Beam 95.96 324 P **P 13 25 54.8 -1.1**
ZALV pmax pmax
comp=Z,10.0nm,0.9s
ZALV Zalesovo Beam 95.96 324 P **P 13 25 54.8 -1.1**
ZALV Zalesovo Beam 95.96 324 P **P 13 25 54.8 -1.1**
comp=Z,10nm,0.9s,baz=110,slow=4.5,SNR=31
ZALV LR LR 14 07 52.0
comp=Z,770nm,21.1s,baz=70,slow=35
VNA1 Neumayer--Stat 96.06 182 *e*P **P 13 25 54.8 -1.3**
TXAR Lajitas Array 96.21 61 PKKPbc PKKPbc 13 42 45.0 +0.2
TXAR Lajitas Array 96.21 61 PKKPbc PKKPbc 13 42 45.0 +0.2
comp=Z,0.6nm,0.6s,baz=97,slow=4.3,SNR=6.7
TXAR LR LR 14 01 10.9
comp=Z,17nm,28.6s,baz=0.0,slow=30
SMLA Simla 96.35 300 *e*P **P 13 25 56.8 -1.4**
SDCO Great Sand Dun 96.44 53 PFAKE 13 26 10.0 +11
SDCO LR LR
comp=Z,984nm,21.0s
YKA Yellowknife Ar 96.68 27 P **P 13 25 58.9 -0.1**
YKA Yellowknife Ar 96.68 27 P **P 13 25 58.9 -0.1**
comp=Z,2.1nm,0.9s,baz=257,slow=5.6,SNR=3.0
POO Poona 96.74 287 *e*P **P 13 25 58.7 -1.6**
ISCO Idaho Springs 96.77 51 PFAKE 13 26 10.0 +10
ISCO LR LR
comp=Z,1μm,20.0s
NVS Novosibirsk 97.08 325 *e*P **P 13 25 58.8 -2.1**
NVS *e* 13 36 32.7
NVS pmax pmax
comp=Z,41nm,1.7s
NVS pmax pmax
comp=E,25nm,1.8s
DHRM DHARAMSHALA 97.29 301 *e*P **P 13 26 02.6 -0.2**
DHRM AMB AMB 13 28 27.9
comp=Z,52nm,1.0s
LAO LASA Array 97.71 44 PFAKE 13 26 20.0 +16
LAO LR LR
comp=Z,568nm,21.0s
THN Thein Dam 97.81 301 *ex* pP 13 26 11.5 -3.3
KSH Kashi 98.89 308 *e*P Pdif 13 26 13.8 +4.1
KSH pP pP 13 26 22.5 +2.8
KSH sP sP 13 26 29.1 +5.8
KURK Kurchatov 98.99 320 P **P 13 26 08.9 -0.8**
KURK pmax pmax
comp=Z,1.0nm,0.7s
KURK Kurchatov 98.99 320 P **P 13 26 08.9 -0.8**
KURK LR LR
comp=Z,345nm,19.0s
KURBB Kurchatov Arra 99.03 320 P **Pdif 13 26 08.9 -1.0**
comp=Z,1.2nm,0.8s,baz=104,slow=3.1,SNR=12
DGMT Dagmar 99.38 42 PFAKE 13 26 20.0 +8.5
DGMT LR LR
comp=Z,562nm,19.0s
OGNE Ogallala 99.67 50 PFAKE 13 26 20.0 +6.9
OGNE LR LR
comp=Z,1μm,22.0s
JCT Junction City 99.72 61 PFAKE 13 26 20.0 +6.5
JCT LR LR
comp=Z,615nm,19.0s
AAK Ala-Archa 100.50 311 PFAKE 13 26 30.0 +13
AAK LR LR
comp=Z,553nm,22.0s
EKS2 Erkin-Say 101.02 311 PFAKE 13 26 30.0 +11
EKS2 LR LR
comp=Z,544nm,20.0s
FFC Flin Flon 101.64 36 PFAKE 13 26 30.0 +8.7
FFC LR LR
comp=Z,892nm,21.0s
KSU1 Kansas State U 103.54 53 PFAKE 13 26 40.0 +10
KSU1 LR LR
comp=Z,1μm,19.0s
VOSK Vostochnaya 103.95 321 P **Pdif 13 26 26.1 -5.6**
VOSK pmax pmax
comp=Z,6.0nm,1.4s
ECSD EROS Data Cent 104.01 48 PFAKE 13 26 40.0 +7.8
ECSD LR LR
comp=Z,497nm,19.0s
NATX Nacogdoches 104.27 60 PFAKE 13 26 40.0 +6.4
NATX LR LR
comp=Z,1μm,22.0s
BVA0 Borovoye Array 104.33 322 *i* P **Pdif 13 26 32.3 -1.1**
BVA0 pmax pmax
comp=Z,7.0nm,1.1s
BVAR Borovoye Array 104.33 322 P **Pdif 13 26 32.9 -0.5**
BVAR pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 104.33 322 Pdif **Pdif 13 26 32.9 -0.5**
BVAR Borovoye Array 104.33 322 Pdiff **Pdif 13 26 32.9 -0.5**
comp=Z,0.7nm,0.7s,baz=96,slow=7.4,SNR=4.1
BRVK Borovoye 104.39 322 PFAKE 13 26 40.0 +6.4
BRVK LR LR
comp=Z,659nm,22.0s
AGMN Agassiz Nation 104.88 43 PFAKE 13 26 50.0 +14
AGMN LR LR
comp=Z,691nm,21.0s
MIAR Mount Ida 105.49 58 PFAKE 13 31 00.0
MIAR LR LR
comp=Z,610nm,19.0s
EYMN Ely 107.79 44 PFAKE 13 31 10.0
EYMN LR LR
comp=Z,568nm,22.0s
VBMS Vicksburg 107.82 60 PFAKE 13 31 10.0
VBMS LR LR
comp=Z,735nm,20.0s
JFWS Jewell Farm 108.60 49 PFAKE 13 31 10.0
JFWS LR LR
comp=Z,1μm,20.0s
OXF Oxford 108.91 58 PFAKE 13 31 10.0
OXF LR LR
comp=Z,616nm,22.0s
MSEY Mahe Island 109.33 260 PFAKE 13 31 10.0
MSEY LR LR
comp=Z,812nm,19.0s
JTS JuntasAbangare 110.11 84 PFAKE 13 31 10.0
JTS LR LR
comp=Z,658nm,20.0s
LCO Las Campanas 110.43 128 PFAKE 13 31 10.0
LCO LR LR
comp=Z,815nm,21.0s
LRAL Lakeview Retre 110.84 60 PFAKE 13 31 10.0
LRAL LR LR
comp=Z,558nm,19.0s
ABPO Ambohimpanom 112.15 243 PFAKE 13 31 20.0
ABPO LR LR
comp=Z,1μm,20.0s
KBS Kingsbay 113.35 355 PFAKE 13 31 20.0
KBS LR LR
comp=Z,793nm,22.0s
ACSO Alum Creek Sta 114.08 52 PFAKE 13 31 20.0 +11
ACSO LR LR
comp=Z,1μm,20.0s
BCIP Isla Barro Col 114.86 86 PFAKE 13 31 20.0 +9.3
BCIP LR LR
comp=Z,423nm,22.0s
LVC Limon Verde 114.89 123 PFAKE 13 31 20.0 +9.1
LVC LR LR
comp=Z,471nm,21.0s
ERPA Erie 116.20 50 PFAKE 13 31 20.0 +7.5
ERPA LR LR
comp=Z,1μm,19.0s
BLA Blacksburg 116.23 55 PFAKE 13 31 20.0 +7.2
BLA LR LR
comp=Z,1μm,19.0s
MCWV Mont Chateau 116.53 52 PFAKE 13 31 20.0 +6.8
MCWV LR LR
comp=Z,1μm,19.0s
KEV Kevo 118.30 345 PFAKE 13 31 30.0 +14
KEV LR LR
comp=Z,1μm,21.0s
LPAZ La Paz 118.37 117 PKP **PKPdf 13 31 19.8 +1.6**
LPAZ La Paz 118.37 117 PKP **PKPdf 13 31 19.8 +1.6**
comp=Z,0.6nm,0.5s,baz=174,slow=2.1,SNR=3.2
CNNC Cliffs of the 118.38 57 PFAKE 13 31 30.0 +13
CNNC LR LR
comp=Z,820nm,20.0s
CBN Corbin 118.57 54 PFAKE 13 31 30.0 +13
CBN LR LR
comp=Z,1μm,21.0s
ARCES ARCESS Array B 118.83 345 PKP **PKPdf 13 31 15.0 -1.8**
ARCES PKKPbc **PKKPab 13 41 31.6 -2.3**
ARCES ARCESS Array B 118.83 345 PKP **PKPdf 13 31 15.0 -1.8**
comp=Z,4.1nm,0.6s,baz=48,slow=1.8,SNR=16
ARCES PKKPbc **PKKPab 13 41 31.6 -2.3**
comp=Z,2.3nm,0.6s,baz=202,slow=1.3,SNR=11
BINY Binghamton 119.15 49 PFAKE 13 31 30.0 +12
BINY LR LR
comp=Z,1μm,19.0s
KLMR Klimovskoe 119.23 333 *e*PKIKP **PKPdf 13 31 15.7 -2.1**
KLMR pmax pmax
comp=Z,28nm,1.5s
KLMR MLR MLR
comp=Z,1μm,23.0s
NCB Newcomb 120.13 47 PFAKE 13 31 30.0 +10
NCB LR LR
comp=Z,366nm,20.0s
MAK Makhachkala 120.27 312 *i* PKIKP **PKPdf 13 31 17.5 -2.8**
MAK *e* 13 32 45.8
MAK *e*PPP PPP 13 35 17.2
MAK *e*SS SS 13 49 14.2 +2.0
MAK *e*SSS SSS 13 53 34.0
GTBY Guantanamo Bay 120.78 75 PFAKE 13 31 30.0 +8.0
GTBY LR LR
comp=Z,372nm,22.0s
QRN Al-Qurain 121.37 296 *e*P **PKPdf 13 31 17.8 -5.0**
QRN AMb AMB 13 31 23.2
comp=Z,84nm,0.8s
RDF Al-Radifah 121.69 296 *e*P PKPdf 13 31 17.9 -5.5
RDF AMb AMB 13 31 24.0
comp=Z,52nm,0.7s
NAY Al-Naaiem 121.95 296 *e*P **PKPdf 13 31 18.8 -5.1**
NAY AMb AMB 13 31 32.9
comp=Z,18nm,0.9s
GNI Garni 122.81 309 PKP **PKPdf 13 31 24.6 -0.9**
GNI LR LR
comp=Z,416nm,22.0s
GNI Garni 122.81 309 PKP **PKPdf 13 31 24.6 -0.9**
comp=Z,4.5nm,0.4s,baz=348,slow=20,SNR=4.4
ZEI Tsey 122.90 312 *i* PKIKP **PKPdf 13 31 23.3 -2.4**
ZEI pmax pmax
comp=Z,8.0nm,1.0s
OBN Obninsk 123.26 328 ⇓ *i*PKIKP **PKPdf 13 31 25.0 -0.6**
OBN *i* 13 31 37.8
OBN *e* 13 33 01.7
OBN *i* PS **PS 13 42 55.3 -7.8**
OBN *i* SS SS 13 49 49.4 +0.1
OBN pmax pmax
comp=Z,10.0nm,1.1s

KBZ	**Khabaz**	**123.39**	**314**	PKIKP	**PKPdf**	13 31 25.8	-0.4
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KBZ	**Khabaz**	**123.39**	**314**	PKP	**PKPdf**	13 31 25.8	-0.4
KBZ	**Khabaz**	**123.39**	**314**	PKP	**PKPdf**	13 31 25.8	-0.4
	comp=Z,1.2nm,0.3s,baz=21,slow=4.4,SNR=4.6						
KIV	**Kislovodsk**	**123.48**	**314**	*i* PKIKP	**PKPdf**	13 31 25.1	-1.5
KIV				*i*		13 33 06.8	
KIV				*i* PS	**PS**	13 43 09.0	+3.1
KIV				*i* SS	SS	13 49 54.5	+1.1
KIV				pmax	pmax		
	comp=Z,8.0nm,1.6s						
SUR	**Sutherland**	**123.92**	**215**	PFAKE		13 31 40.0	+12
SUR				LR	LR		
	comp=Z,602nm,19.0s						
BOSA	**Boshof**	**123.94**	**221**	PKP	**PKPdf**	13 31 26.9	-1.1
BOSA	**Boshof**	**123.94**	**221**	PKP	**PKPdf**	13 31 26.9	-1.1
	comp=Z,16nm,1.1s,baz=142,slow=3.2,SNR=9.7						
FINES	**FINESS Array B**	**124.28**	**338**	PKP	**PKPdf**	13 31 27.0	-0.4
FINES	**FINESS Array B**	**124.28**	**338**	PKP	**PKPdf**	13 31 27.0	-0.4
	comp=Z,5.0nm,1.0s,baz=9.1,slow=2.6,SNR=9.7						
ANN	**Anapa**	**126.84**	**316**	*i* PKIKP	PKPdf	13 31 26.3	-6.5
ANN				pmax	pmax		
	comp=Z,12nm,0.9s						
ANN				MLR	MLR		
	comp=N,611nm,25.0s						
ANN				MLR	MLR		
	comp=E,684nm,25.0s						
ANN				MLR	MLR		
	comp=Z,716nm,25.0s						
KMBO	**Kilima Mbogo**	**127.77**	**258**	*e*PKPdf	**PKPdf**	13 31 35.1	-0.8
KMBO				PKP	**PKPdf**	13 31 35.2	-0.7
KMBO				LR	LR		
	comp=Z,517nm,19.0s						
KMBO	**Kilima Mbogo**	**127.77**	**258**	PKP	**PKPdf**	13 31 35.2	-0.7
	comp=Z,3.4nm,0.7s,baz=247,slow=24,SNR=10						
NB2	**NORSAR Subarra**	**129.20**	**345**	PKPdf	**PKPdf**	13 31 36.5	-0.4
	comp=Z,19nm,2.0s,baz=31,slow=1.9						
NB2	**NORSAR Subarra**	**129.20**	**345**	PKPdf	**PKPdf**	13 31 36.5	-0.4
	baz=31,slow=1.9						
NOA	**NORSAR Array B**	**129.20**	**345**	PKP	**PKPdf**	13 31 36.3	-0.7
NOA				SKPbc	SKPbc	13 34 57.8	+1.6
NOA	**NORSAR Array B**	**129.20**	**345**	PKP	**PKPdf**	13 31 36.3	-0.7
	comp=Z,2.8nm,0.9s,baz=33,slow=2.0,SNR=5.3						
NOA				SKPbc	SKPbc	13 34 57.8	+1.6
	comp=Z,3.5nm,0.9s,baz=30,slow=2.8,SNR=2.9						
AKASG	**Malin Array Be**	**129.30**	**326**	PKIKP	**PKPdf**	13 31 34.7	-2.7
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**129.30**	**326**	PKP	**PKPdf**	13 31 34.7	-2.7
AKASG	**Malin Array Be**	**129.30**	**326**	PKP	**PKPdf**	13 31 34.7	-2.7
	comp=Z,1.1nm,0.5s,baz=55,slow=1.7,SNR=17						
KIEV	**Kiev**	**129.31**	**326**	*e*PKIKP	**PKPdf**	13 31 36.5	-0.9
KIEV				MLR	MLR		
	comp=Z,768nm,20.0s						
KIEV	**Kiev**	**129.31**	**326**	*e*PKPdf	**PKPdf**	13 31 36.5	-0.9
KIEV				LR	LR		
	comp=Z,768nm,20.0s						
LSZ	**Lusaka**	**129.95**	**237**	PFAKE		13 31 50.0	+10
LSZ				LR	LR		
	comp=Z,996nm,21.0s						
SPB	**Sao Paulo**	**130.38**	**138**	PFAKE		13 31 50.0	+10
SPB				LR	LR		
	comp=Z,686nm,21.0s						
ASF	**Jabal al Asfar**	**130.50**	**301**	PKP	**PKPdf**	13 31 40.3	-0.1
ASF	**Jabal al Asfar**	**130.50**	**301**	PKP	**PKPdf**	13 31 40.3	-0.1
	comp=Z,3.2nm,0.6s,baz=348,slow=2.3,SNR=7.8						
KONO	**Kongsberg**	**130.81**	**345**	PFAKE		13 31 50.0	+10
KONO				LR	LR		
	comp=Z,1μm,22.0s						
BRTR	**Keskin Array B**	**131.17**	**311**	PKP	**PKPdf**	13 31 39.6	-1.9
BRTR				SKPbc	**SKPab**	13 35 04.9	+0.5
BRTR	**Keskin Array B**	**131.17**	**311**	PKP	**PKPdf**	13 31 39.6	-1.9
	comp=Z,1.6nm,0.8s,baz=119,slow=1.5,SNR=9.8						
BRTR				SKPbc	**SKPab**	13 35 04.9	+0.5
	comp=Z,1.0nm,0.7s,baz=99,slow=4.6,SNR=4.3						
MMAI	**Mount Meron Ar**	**131.58**	**302**	PKP	**PKPdf**	13 31 40.8	-1.6
MMAI				SKPbc	**SKPab**	13 35 06.9	+0.6
MMAI	**Mount Meron Ar**	**131.58**	**302**	PKP	**PKPdf**	13 31 40.8	-1.6
	comp=Z,7.0nm,0.9s,baz=46,slow=7.1,SNR=7.9						
MMAI				SKPbc	**SKPab**	13 35 06.9	+0.6
	comp=Z,11nm,0.9s,baz=79,slow=4.3,SNR=8.4						
ANTO	**Ankara**	**131.74**	**312**	PFAKE		13 31 50.0	+7.5
ANTO				LR	LR		
	comp=Z,351nm,19.0s						
EIL	**Elat**	**132.57**	**298**	PKP	**PKPdf**	13 31 41.3	-2.9
EIL	**Elat**	**132.57**	**298**	PKP	**PKPdf**	13 31 41.3	-2.9
	comp=Z,7.8nm,0.8s,baz=315,slow=4.0,SNR=6.1						
CSS	**Prodhromos**	**132.80**	**305**	PFAKE		13 32 00.0	+15
CSS				LR	LR		
	comp=Z,420nm,19.0s						
GRGR	**Grenville**	**132.97**	**86**	PFAKE		13 32 00.0	+15
GRGR				LR	LR		
	comp=Z,417nm,19.0s						
BUR08	**Bucovina Ar. S**	**133.17**	**325**	*e*PKPdf	**PKPdf**	13 31 44.8	-0.1
ANWB	**Willy Bob**	**133.28**	**78**	PFAKE		13 32 00.0	+14
ANWB				LR	LR		
	comp=Z,259nm,20.0s						
KWP	**Kalwaria Pacla**	**133.35**	**328**	PFAKE		13 32 00.0	+15
KWP				LR	LR		
	comp=Z,1μm,20.0s						
ISP	**Isparta**	**134.10**	**310**	PFAKE		13 32 00.0	+13
ISP				LR	LR		
	comp=Z,447nm,21.0s						
MBAR	**Mbarara**	**134.11**	**256**	PFAKE		13 32 00.0	+12
MBAR				LR	LR		
	comp=Z,644nm,20.0s						
UZH	**Uzhgorod**	**134.18**	**327**	*e*PKHKP	PKPpre	13 31 29.0	
STHS	**Stebnicka Huta**	**134.23**	**329**	*e*PKP	**PKPdf**	13 31 45.5	-1.3
STHS				*e*		13 42 42.7	
OKC	**Ostrava-Krasne**	**135.46**	**331**	AMS	AMS	14 28 30.0	
	comp=Z,1μm,23.8s						
PSZ	**Piszkesteto**	**135.87**	**328**	PFAKE		13 32 00.0	+10
PSZ				LR	LR		
	comp=Z,1μm,19.0s						
DPC	**Dobruska-Polom**	**135.93**	**333**	*e*pPKP	**pPKPdf**	13 31 56.7	-3.6
DPC				*ex*	x	13 32 10.6	
DPC				*e*PP	**PP**	13 34 29.1	+0.6
DPC				*e*SKP		13 35 19.9	
DPC				AMS	AMS	14 31 00.0	
PVCC	**Panska Ves**	**136.56**	**334**	*e*PKPdf	**PKPdf**	13 31 51.5	+0.4
PVCC				*ep*PKP	**pPKPdf**	13 32 04.8	+3.5
PVCC				*e*SKP		13 35 22.5	
PVCC				AMS	AMS	14 31 00.0	
	comp=Z,900nm,20.6s						
CLL	**Collm**	**136.60**	**336**	*i* PKIKP	**PKPdf**	13 31 51.8	+0.7
CLL				pmax	pmax		
	comp=Z,11nm,1.0s						
CLL				MLR	MLR		
	comp=Z,800nm,18.6s						
CLL	**Collm**	**136.60**	**336**	*e*PKPpre	PKPpre	13 31 47.0	
CLL				*i* PKPdf	**PKPdf**	13 31 51.8	+0.7
	comp=Z,7.0nm,1.0s						
CLL				*i* SKPdf	**SKPbc**	13 35 22.2	+0.7
	comp=Z,47nm,1.9s						
CLL				*i* SKPab	**SKiKP**	13 35 25.6	-1.3
	comp=Z,31nm,1.7s						
CLL				*e*PPlp		13 35 31.0	
	comp=Z,200nm,22.8s						
CLL				*e*PPS	PPS	13 46 42.0	
CLL				*e*SS	**SS**	13 52 30.0	-2.9
CLL				L	L	14 38 00.0	
	comp=Z,800nm,18.6s						
PRU	**Pruhonice**	**136.97**	**334**	*e*SKP	**SKPbc**	13 35 23.5	+0.8
PRU				AMS	AMS	14 31 00.0	
	comp=Z,1μm,24.9s						
TREC	**Trest**	**137.07**	**332**	AMS	AMS	14 32 30.0	
	comp=Z,2μm,19.8s						
ZST	**Bratislava**	**137.09**	**330**	*e*PKP	PKPdf	13 32 04.0	+12
CONA	**Conrad Observa**	**137.87**	**331** ‖	*i* PKPdf	**PKPdf**	13 31 53.0	-0.7
	comp=Z,10nm,1.0s						
KHC	**Kasperske Hory**	**138.03**	**334**	*e*PKPdf	**PKPdf**	13 31 53.6	-0.3
KHC				*ep*PKP	**pPKPdf**	13 32 05.6	+1.4
KHC				*ex*	x	13 35 16.5	
KHC				*e*SKP		13 35 26.0	
KHC				AMS	AMS	14 38 20.0	
	comp=Z,1μm,19.2s						
GERES	**GERESS Array B**	**138.19**	**333**	PKP	**PKPdf**	13 31 52.8	-1.4
GERES				SKPbc	**SKPbc**	13 35 27.2	+0.8
GERES	**GERESS Array B**	**138.19**	**333**	PKP	**PKPdf**	13 31 52.8	-1.4
	comp=Z,2.0nm,0.9s,baz=143,slow=0.7,SNR=11						
GERES				SKPbc	**SKPbc**	13 35 27.2	+0.8
	comp=Z,2.1nm,1.0s,baz=29,slow=3.0,SNR=6.9						
SOKA	**Soboth**	**139.15**	**330** ‖	*i* PKPdf	**PKPdf**	13 31 55.4	-0.7
	comp=Z,8.3nm,1.2s						

IDI	**Anoyia**	**139.25**	**309**	PKP	**PKPdf**	13 31 55.7	-0.9
IDI	**Anoyia**	**139.25**	**309**	PKP	**PKPdf**	13 31 55.7	-0.9
	comp=Z,7.0nm,0.9s,baz=306,slow=8.7,SNR=2.9						
DOBS	**Dobrina**	**139.31**	**329**	*e*PKPdf	**PKPdf**	13 31 55.4	-0.9
DOBS				*e*PP	PP	13 34 56.7	+7.1
GOLS	**Golise**	**139.33**	**329**	*i* PKPdf	**PKPdf**	13 31 55.7	-0.6
GOLS				*e*		13 35 29.1	
TIR	**Tirane**	**139.86**	**320**	PFAKE		13 32 10.0	+13
TIR				LR	LR		
	comp=Z,1μm,22.0s						
BOJS	**Bojanci**	**139.86**	**328**	*i* PKPdf	**PKPdf**	13 31 56.6	-0.6
BOJS				*e*		13 35 30.1	
BFO	**Black Forest**	**140.81**	**337**	PFAKE		13 32 10.0	+11
BFO				LR	LR		
	comp=Z,630nm,20.0s						
FETA	**Feichten**	**140.88**	**334** ‖	*i* PKPdf	PKPdf	13 31 53.8	-5.5
	comp=Z,11nm,1.4s						
ECH	**Echery**	**141.34**	**338**	PFAKE		13 32 10.0	+10
ECH				LR	LR		
	comp=Z,761nm,20.0s						
DAVOX	**Davos/Dischmat**	**141.43**	**334**	PKP	**PKPdf**	13 31 59.4	-0.9
DAVOX	**Davos/Dischmat**	**141.43**	**334**	PKP	**PKPdf**	13 31 59.4	-0.9
	comp=Z,1.9nm,0.4s,baz=8.5,slow=10,SNR=4.1						
TUE	**Stuetta**	**141.90**	**334**	*e*PKPdf	**PKPdf**	13 32 00.8	-0.4
TUE				LR	LR		
	comp=Z,853nm,19.0s						
CUC	**Castrocucco**	**143.14**	**321**	PFAKE		13 32 10.0	+6.6
CUC				LR	LR		
	comp=Z,587nm,21.0s						
VLC	**Villacollemand**	**143.23**	**331**	PFAKE		13 32 10.0	+6.6
VLC				LR	LR		
	comp=Z,810nm,19.0s						
CEL	**Celeste**	**144.13**	**319**	*e*PKPdf	PKPbc	13 32 03.2	-0.1
CEL				LR	LR		
	comp=Z,520nm,22.0s						
BNI	**Bardonecchia**	**144.15**	**335**	*e*PKIKP	**PKPab**	13 32 03.0	+0.2
BNI				MLR	MLR		
	comp=Z,1μm,22.0s						
BNI	**Bardonecchia**	**144.15**	**335**	*e*PKPdf	PKPbc	13 32 03.0	-0.2
BNI				LR	LR		
	comp=Z,1μm,22.0s						
SSB	**Saint Sauveur**	**144.78**	**338**	*e*PKIKP	**PKPab**	13 32 05.0	0.0
SSB				MLR	MLR		
	comp=Z,621nm,22.0s						
SSB	**Saint Sauveur**	**144.78**	**338**	*e*PKPdf	**PKPab**	13 32 05.0	0.0
SSB				LR	LR		
	comp=Z,621nm,22.0s						
VSL	**Villasalto**	**147.18**	**326**	*e*PKPdf	**PKPdf**	13 32 09.8	-0.5
VSL				*e*PKPbc	**PKPbc**	13 32 12.3	-0.2
VSL				LR	LR		
	comp=Z,512nm,22.0s						
KEST	**Kesra**	**149.80**	**321**	*e*PKPdf	**PKPdf**	13 32 14.9	+0.1
KEST				PKPbc	**PKPbc**	13 32 17.6	-1.9
KEST				*e*PKPbc	**PKiKP**	13 32 19.4	-1.1
KEST	**Kesra**	**149.80**	**321**	PKPbc	**PKPbc**	13 32 17.6	-1.9
	comp=Z,8.8nm,1.0s,baz=271,slow=1.0,SNR=18						
CMAH	**Djebel Manchou**	**150.31**	**325**	P	**PKPbc**	13 32 20.1	-0.7
ABSA	**Djebel Ababsia**	**150.53**	**324**	P	**PKPbc**	13 32 20.9	-0.4
CKFL	**Kef-Lekhel**	**150.86**	**325**	P	**PKPbc**	13 32 21.9	-0.3
CASM	**Ain Smara**	**151.09**	**325**	P	**PKPbc**	13 32 22.1	-0.5
PBRG	**Braganca**	**151.13**	**350**	*e*PKPbc	**PKPbc**	13 32 21.9	-0.6
DFRA	**Djebel Bou Aff**	**151.22**	**327**	P	**PKPbc**	13 32 23.2	+0.2
CTEI	**Djebel Teioual**	**151.28**	**325**	P	**PKPbc**	13 32 22.8	-0.4
POLO	**Lamas de Olo**	**151.72**	**351**	*e*PKPbc	**PKPbc**	13 32 23.2	-0.8
SET	**Setif**	**151.73**	**327**	P	**PKPdf**	13 32 20.0	+2.2
MVO	**Moncorvo**	**151.81**	**350**	*e*PKPbc	**PKPbc**	13 32 24.0	-0.1
MVO	**Moncorvo**	**151.81**	**350**	*e*LR	LR	14 27 52.9	
	comp=Z,864nm,22.0s						
PVRL	**Vila Real**	**151.81**	**351**	*e*PKPbc	**PKPbc**	13 32 23.5	-0.6
PVIS	**Viseu**	**152.38**	**351**	*e*PKPbc	**PKPbc**	13 32 24.6	-0.8
ESDC	**Sonseca Array**	**152.56**	**344**	PKPbc	**PKPbc**	13 32 25.4	-0.4
ESDC				PKPab	**PKPab**	13 32 33.9	-2.3
ESDC	**Sonseca Array**	**152.56**	**344**	PKPbc	**PKPbc**	13 32 25.4	-0.4
	comp=Z,0.5nm,0.3s,baz=5.2,slow=2.0,SNR=10						
ESDC				PKPab	**PKPab**	13 32 33.9	-2.3
	comp=Z,3.8nm,0.8s,baz=20,slow=1.6,SNR=5.2						
ESLA	**Sonseca Array**	**152.56**	**344**	*e*PKPbc	**PKPbc**	13 32 25.3	-0.5
MTE	**Manteigas**	**152.64**	**350**	*e*PKPbc	**PKPbc**	13 32 26.0	0.0
MTE	**Manteigas**	**152.64**	**350**	*e*LR	LR	14 28 00.9	
	comp=Z,747nm,22.0s						
MTE	**Manteigas**	**152.64**	**350**	*e*PKPbc	**PKPbc**	13 32 25.5	-0.5
MTE				LR	LR		
	comp=Z,956nm,21.0s						
PAB	**San Pablo**	**152.78**	**345**	*e*PKIKP	**PKPdf**	13 32 18.5	-0.7
PAB				*e*		13 32 25.8	
PAB	**San Pablo**	**152.78**	**345**	*e*PKPdf	**PKPdf**	13 32 18.5	-0.7
PAB				*e*PKPbc	**PKPbc**	13 32 25.8	-0.6
PCBR	**Castelo Branco**	**153.17**	**350**	*e*PKPbc	**PKPbc**	13 32 26.2	-0.9
PMRV	**Marv??o**	**153.56**	**350**	*e*PKPbc	**PKPbc**	13 32 27.5	-0.5
PMRV	**Marv??o**	**153.56**	**350**	*e*LR	LR	14 28 56.4	
	comp=Z,589nm,20.0s						
PVAQ	**Vaqueiros**	**155.58**	**349**	*e*PKPdf	**PKPdf**	13 32 23.3	+0.2
PVAQ	**Vaqueiros**	**155.58**	**349**	*e*PKPab	**PKPab**	13 32 51.0	+2.0
PVAQ	**Vaqueiros**	**155.58**	**349**	*e*PP	PP	13 36 29.1	+4.6
PVAQ	**Vaqueiros**	**155.58**	**349**	*e*LR	LR	14 29 51.0	
	comp=Z,742nm,22.0s						
MORF	**Manelete**	**155.84**	**351**	*e*PKPab	**PKPab**	13 32 50.3	+0.2
RTC	**Rabat Centre**	**158.68**	**345**	PFAKE		13 32 40.0	+13
RTC				LR	LR		
	comp=Z,644nm,19.0s						
TAM	**Tamanrasset**	**159.77**	**300**	*e*PKIKP	**PKPdf**	13 32 28.8	-0.2
TAM				MLR	MLR		
	comp=Z,448nm,21.0s						
TAM	**Tamanrasset**	**159.77**	**300**	*e*PKPdf	**PKPdf**	13 32 28.8	-0.2
TAM				LR	LR		
	comp=Z,448nm,21.0s						
PMOZ	**Porto Moniz, M**	**160.37**	**10**	*e*PP	PP	13 36 48.1	-2.8
PMOZ	**Porto Moniz, M**	**160.37**	**10**	*e*LR	LR	14 28 21.4	
	comp=Z,338nm,20.0s						
TORD	**Torodi Ar. Bea**	**165.32**	**271**	PKP	**PKPdf**	13 32 32.6	-1.8
TORD				PKPab	**PKPab**	13 33 32.5	+0.2
TORD	**Torodi Ar. Bea**	**165.32**	**271**	PKP	**PKPdf**	13 32 32.6	-1.8
	comp=Z,6.1nm,1.1s,baz=77,slow=1.1,SNR=20						
TORD				PKPab	**PKPab**	13 33 32.5	+0.2
	comp=Z,19nm,1.1s,baz=82,slow=4.3,SNR=16						
KIC	**Kosan Boka**	**168.97**	**231**	*e*PKP1	**PKPab**	13 33 48.9	+0.6
	comp=Z,66nm,1.2s						
LIC	**Lamto**	**169.10**	**230**	*e*PKP1	**PKPab**	13 33 48.8	0.0
	comp=Z,22nm,0.8s						
DBIC	**Dimbokro**	**169.25**	**232**	PKP	**PKPdf**	13 32 35.3	-2.1
DBIC				PKPab	**PKPab**	13 33 48.9	-0.6
DBIC	**Dimbokro**	**169.25**	**232**	PKP	**PKPdf**	13 32 35.3	-2.1
	comp=Z,5.6nm,1.0s,baz=160,slow=5.1,SNR=4.5						
DBIC				PKPab	**PKPab**	13 33 48.9	-0.6
	comp=Z,6.3nm,0.7s,baz=108,slow=4.1,SNR=7.7						
TIC	**Toumodi**	**169.36**	**232**	*e*PKP1	**PKPab**	13 33 49.9	-0.1
	comp=Z,34nm,0.9s						

IDC 09 13:42:02.4±3.5, 12°.94S×166°.57E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.7/18, mbtmp3.6/6, Error ellipse: s-maj=117.2km s-min=31.1km az=137.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.64**	**253**	P	P	13 48 26.8	-0.7
	0.2nm,0.7s,baz=76,slow=6.8,SNR=3.9						
ASAR	**Alice Springs**	**32.72**	**246**	P	P	13 48 37.4	+0.4
	0.7nm,1.0s,baz=71,slow=10,SNR=5.2						
CMAR	**Chiang Mai Arr**	**73.61**	**294**	P	P	13 53 39.1	+1.0
	0.6nm,0.6s,baz=123,slow=5.1,SNR=5.6						
SONM	**Songino Array**	**80.66**	**324**	P	P	13 54 16.9	-0.4
	0.3nm,0.7s,baz=144,slow=4.3,SNR=3.1						
ILAR	**Eielson Array**	**85.05**	**18**	P	P	13 54 39.7	+0.1
	0.3nm,0.6s,baz=244,slow=4.3,SNR=3.6						
MKAR	**Makanchi Array**	**95.44**	**317**	P	P	13 55 28.4	-0.7
	0.3nm,0.5s,baz=99,slow=7.8,SNR=4.3						

JMA 09 13:49:52.3±0.2, 25°.47N×123°.39E, h191km±4km, M3.6, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**1.06**	**199**	P	Pn	13 50 21.7	+0.1
YOJ				*e*S	Sn	13 50 44.4	+0.1
IRIF	**Iriomote-Funau**	**1.17**	**165**	P	Pn	13 50 22.2	-0.2
IRIF				*e*S	Sn	13 50 46.0	+0.2
JIJ	**Ishigaki jima**	**1.30**	**148**	P	Pn	13 50 23.3	-0.2
JIJ				*e*S	Sn	13 50 47.3	-0.3
JKRS	**Kuro-shima**	**1.35**	**155**	P	Pn	13 50 24.2	+0.3
JKRS				*e*S	Sn	13 50 48.6	+0.2
JTJ	**Tarama**	**1.45**	**124**	P	Pn	13 50 25.0	+0.3
JTJ				*e*S	Sn	13 50 50.0	+0.2
HATJ	**Hateruma jima**	**1.46**	**165**	P	Pn	13 50 25.0	+0.2
HATJ				*e*S	Sn	13 50 50.2	+0.1
JMJ	**Miyako jima 2**	**1.84**	**110**	*e*S	Sn	13 50 56.3	-0.3
JOGS	**Gusukube**	**1.96**	**111**	P	Pn	13 50 30.1	+0.4
JOGS				*e*S	Sn	13 50 58.8	0.0
JKE	**Kume jima 2**	**3.17**	**74**	P	Pn	13 50 41.5	-2.1
JAGN	**Aguni-jima**	**3.64**	**71**	P	Pn	13 50 46.7	-2.5
JJT2	**Tamagusuku 2**	**3.98**	**79**	P	Pn	13 50 51.3	-2.3
JIH	**Iheya**	**4.39**	**68**	P	Pn	13 50 55.5	-3.2
JIH				*e*S	Sn	13 51 44.4	-6.5
JOW	**Kunigami**	**4.59**	**72**	P	Pn	13 50 57.7	-3.6
JOW				*e*S	Sn	13 51 47.4	-8.1

IDC 09 14:02:09.7±1.7, 12°.76S×165°.82E, h0km, mb3.8/6, mb1 4.0/8, mb1mx3.8/20, mbtmp3.9/8, ML3.7/2, Error ellipse: s-maj=38.7km s-min=26.8km az=88.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.65**	**299**	Pn	Pn	14 03 49.4	+0.7
	4.0nm,0.3s,baz=219,slow=14,SNR=1.9						
HNR				Sn	Sn	14 05 08.3	+3.1
	3.4nm,0.3s,baz=180,slow=17,SNR=1.9						
DZM	**Mont Dzumac**	**9.28**	**176**	Pn	Pn	14 04 26.5	+1.5
	0.4nm,0.3s,baz=333,slow=18,SNR=6.0						
STKA	**Stephens Creek**	**29.28**	**226**	P	P	14 08 13.9	+0.1
	1.5nm,0.7s,baz=305,slow=21,SNR=4.2						
WRA	**Warramunga Arr**	**31.00**	**253**	P	P	14 08 28.7	-0.5
	0.5nm,0.8s,baz=78,slow=9.7,SNR=5.2						
ASAR	**Alice Springs**	**32.12**	**246**	P	P	14 08 38.5	-0.6
	0.9nm,0.6s,baz=70,slow=9.5,SNR=22						
CMAR	**Chiang Mai Arr**	**72.87**	**294**	P	P	14 13 41.6	+0.5
	0.9nm,0.8s,baz=128,slow=4.0,SNR=6.3						
SONM	**Songino Array**	**80.09**	**324**	P	P	14 14 21.7	+0.1
	0.3nm,0.7s,baz=88,slow=4.7,SNR=2.8						
MKAR	**Makanchi Array**	**94.82**	**317**	P	P	14 15 33.0	-0.5
	0.7nm,0.8s,baz=122,slow=6.3,SNR=3.6						
KEST	**Kesra**	**148.81**	**321**	PKPbc	PKPbc	14 21 58.9	-1.0
	0.9nm,0.8s,baz=169,slow=2.6,SNR=5.0						

*IDC **09** 14:14:35.3±12.0, 51°.71N×173°.60W, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.4/28, mbtmp3.6/4, ML3.6/2, Error ellipse: s-maj=294.9km s-min=36.7km az=160.0*
*NEIC **09** 14:14:38.4, 51°.59N×173°.40W, h7km, ML3.4(AEIC), After AEIC.*

ISC 09 14:14:41.7±1.2, 52°.5N±0°.2×173°.80W±0°.08, h10km, n10, σ1§22/13, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ADK	**Adak**	**1.89**	**251**	P	**Pn**	14 15 12.9	-1.0
ADK				S	**Sb**	14 15 40.3	+0.5
NIKH	**Nikolski High**	**3.04**	**79**	P	**Pn**	14 15 28.9	-0.9
NIKH				S	**Sn**	14 16 06.7	+0.5
OKTU	**Okmok Mt. Tuli**	**3.59**	**74**	P	**Pn**	14 15 37.8	+0.5
AMKA	**Amchitka**	**4.42**	**258**	P	**Pn**	14 15 49.0	+0.4
AMKA				S	**Sn**	14 16 42.8	+2.7
MREP	**Makushin Rep't**	**4.44**	**70**	P	**Pn**	14 15 50.0	+1.0
PETK	**Petropavlovsk-**	**17.20**	**283**	P	**Pn**	14 18 40.6	-1.2
	0.0nm,0.3s,baz=90,slow=12,SNR=2.4						
ILAR	**Eielson Array**	**18.43**	**38**	P	**P**	14 18 58.2	+1.3
	0.3nm,0.3s,baz=230,slow=9.0,SNR=21						
EGAK	**Eagle**	**20.66**	**41**	*e*P	**P**	14 19 20.9	-0.3
SONM	**Songino Array**	**48.87**	**298**	P	**P**	14 23 26.7	-0.6
	0.4nm,0.6s,baz=54,slow=8.3,SNR=3.8						
MKAR	**Makanchi Array**	**61.69**	**311**	P	**P**	14 24 58.9	-0.7
	0.2nm,0.4s,baz=43,slow=5.5,SNR=4.4						

*IDC **09** 14:17:29.3±0.8, 11°.97S×165°.97E, h0km, mb4.2/12, mb1 4.4/14, mb1mx4.2/21, mbtmp4.3/14, ML4.5/2, MS4.0/9, Ms1 4.0/9, ms1mx3.6/38, Error ellipse: s-maj=22.9km s-min=18.5km az=119.0*
*ISCJB **09** 14:17:31.8±0.5, 12°.06S±0°.06×165°.98E±0°.07, h30km, mb4.3/13, MS4.0/8, Error ellipse: s-maj=10.5km s-min=7.1km az=147.1*
*NEIC **09** 14:17:34.2±0.4, 12°.02S×166

VNDA	**Vanda**	**65.54 181**	P	**P**	**14 28 13.9**	**0.0**
VNDA	**Vanda**	**65.54 181**	P	**P**	**14 28 13.9**	**0.0**
	1.1nm,0.9s,baz=27,slow=6.2,SNR=5.1					
CMAR	**Chiang Mai Arr**	**72.74 294**	P	**P**	**14 29 00.8**	**+1.3**
CMAR	**Chiang Mai Arr**	**72.74 294**	P	**P**	**14 29 00.8**	**+1.3**
	1.3nm,0.6s,baz=123,slow=4.7,SNR=9.7					
QSPA	**South Pole Qui**	**78.00 180**	*eP*	**P**	**14 29 28.1**	**-1.0**
	5.1nm,1.0s					
ULN	**Ulaanbaatar**	**79.23 324**	*eP*	**P**	**14 29 35.1**	**-1.1**
	11nm,1.1s					
SONM	**Songino Array**	**79.60 324**	P	**P**	**14 29 37.9**	**-0.2**
SONM	**Songino Array**	**79.60 324**	P	**P**	**14 29 37.9**	**-0.2**
	2.8nm,0.9s,baz=135,slow=6.1,SNR=16					
ILAR	**Eielson Array**	**84.34 18**	P	**P**	**14 30 03.7**	**+1.2**
ILAR	**Eielson Array**	**84.34 18**	P	**P**	**14 30 03.7**	**+1.2**
	1.0nm,0.6s,baz=245,slow=5.3,SNR=23					
NVAR	**Mina Array Bea**	**86.44 50**	P	**P**	**14 30 15.4**	**+1.5**
NVAR	**Mina Array Bea**	**86.44 50**	P	**P**	**14 30 15.4**	**+1.5**
	0.3nm,0.6s,baz=234,slow=7.6,SNR=2.6					
MKAR	**Makanchi Array**	**94.40 317**	P	**P**	**14 30 50.1**	**-0.6**
MKAR	**Makanchi Array**	**94.40 317**	P	**P**	**14 30 50.1**	**-0.6**
	3.2nm,0.6s,baz=88,slow=6.1,SNR=30					
ZALV	**Zalesovo Beam**	**94.49 324**	P	**P**	**14 30 50.4**	**-0.5**
ZALV	**Zalesovo Beam**	**94.49 324**	P	**P**	**14 30 50.4**	**-0.5**
	0.4nm,0.3s,baz=129,slow=4.0,SNR=6.2					
USHA	**Ushuaia**	**99.23 152**	LR	LR	15 08 39.0	
	comp=Z,171nm,19.4s,baz=324,slow=31					
BOSA	**Boshof**	**124.59 222**	PKP	**PKPdf**	**14 36 30.2**	**-0.9**
BOSA	**Boshof**	**124.59 222**	PKP	**PKPdf**	**14 36 30.2**	**-0.9**
	2.2nm,0.9s,baz=291,slow=14,SNR=4.1					
KEST	**Kesra**	**148.34 322**	PKPbc	**PKPbc**	**14 37 18.1**	**+0.4**
KEST	**Kesra**	**148.34 322**	PKPbc	**PKPbc**	**14 37 18.1**	**+0.4**
	1.0nm,0.5s,baz=273,slow=2.9,SNR=4.5					
ESDC	**Sonseca Array**	**151.05 344**	PKPbc	**PKPbc**	**14 37 23.7**	**-0.5**
ESDC	**Sonseca Array**	**151.05 344**	PKPbc	**PKPbc**	**14 37 23.7**	**-0.5**
	0.5nm,0.3s,baz=328,slow=4.6,SNR=6.4					

PRE 09 14:26:06.0±4.2, 0°.49N×30°.31E, h10km, ML3.6, 1D, Uganda

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBAR	**Mbarara**	**1.16**	**158**	⇓*iP*	Pg	14 26 29.7	+1.0
MBAR				*eS*	Sn	14 26 46.0	+1.3
KIG	**Kigali**	**2.44**	**186**	*eP*	Pb	14 26 48.4	-1.9
KIG				*eS*	Sn	14 27 15.3	-1.1
KIG				AML	AML	14 27 27.8	
	comp=Z,292nm,0.4s						
KMBO	**Kilima Mbogo**	**7.13**	**103**	*eP*	Pn	14 27 52.6	+1.8
KMBO				*eS*	Sn	14 29 06.2	-5.9
LSZ	**Lusaka**	**15.80**	**188**	*eS*	Sn	14 32 33.1	-11

IDC 09 14:40:17.8±4.5, 22°.48S×177°.24W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/17, mbtmp3.9/4, Error ellipse: s-maj=189.6km s-min=44.6km az=145.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.61**	**247**	P	P	14 47 33.1	-1.3
	1.1nm,0.5s,baz=100,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**44.79**	**259**	P	P	14 48 33.0	-0.6
	0.5nm,0.5s,baz=93,slow=7.4,SNR=18						
WRA	**Warramunga Arr**	**45.06**	**264**	P	P	14 48 35.6	-0.2
	0.8nm,0.5s,baz=97,slow=8.5,SNR=42						
FITZ	**Fitzroy Crossi**	**53.49**	**264**	P	P	14 49 41.8	+1.5
	1.5nm,0.9s,baz=100,slow=11,SNR=4.9						
AKASG	**Malin Array Be**	**145.08**	**330**	PKPbc	PKPbc	14 59 55.7	-0.7
	0.4nm,0.3s,baz=43,slow=4.1,SNR=5						
BRTR	**Keskin Array B**	**148.67**	**310**	PKPbc	PKPbc	15 00 06.3	-1.0
	0.5nm,0.6s,baz=97,slow=5.5,SNR=3.6						

IDC 09 14:52:34.1±1.3, 13°.95S×166°.25E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.9/18, mbtmp3.9/7, ML3.5/1, Error ellipse: s-maj=35.3km s-min=24.8km az=102.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.08**	**179**	Pn	Pn	14 54 34.6	+1.7
	0.6nm,0.3s,baz=284,slow=22,SNR=6.8						
DZM				Sn	Sn	14 56 08.6	+3.4
	1.3nm,0.3s,baz=102,slow=19,SNR=3.6						
STKA	**Stephens Creek**	**28.77**	**228**	P	P	14 58 35.0	+1.3
	2.5nm,0.7s,baz=35,slow=9.8,SNR=5.5						
WRA	**Warramunga Arr**	**31.07**	**254**	P	P	14 58 54.0	-0.3
	0.6nm,0.5s,baz=85,slow=9.6,SNR=7.2						
ASAR	**Alice Springs**	**32.04**	**249**	P	P	14 59 02.8	0.0
	0.8nm,0.6s,baz=77,slow=9.3,SNR=13						
VNDA	**Vanda**	**63.62**	**181**	P	P	15 03 04.8	-1.6
	0.7nm,0.5s,baz=0.0,slow=3.0,SNR=6.1						
ILAR	**Eielson Array**	**86.09**	**18**	P	P	15 05 17.6	+1.1
	0.5nm,0.6s,baz=240,slow=5.4,SNR=7.8						
MKAR	**Makanchi Array**	**95.96**	**317**	P	P	15 06 02.1	-1.0
	0.6nm,0.9s,baz=99,slow=4.5,SNR=2.5						

PLV 09 14:56:13.5±1.3, 20°.81N×101°.95E, h5km±13km, MD3.3, Laos

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBV	**Dienbien**	**1.15**	**60**	*ePg*	Pg	14 56 35.9	+0.1
DBV				*eSg*	Sg	14 56 49.6	-1.3
TGV	**Tuan Giao**	**1.57**	**60**	*ePn*	Pn	14 56 41.7	-0.3
TGV				*ePg*	Pg	14 56 43.8	+0.2
TGV				*eSg*	Sg	14 57 04.7	+0.6
SLVN	**Son La**	**1.90**	**74**	*ePg*	Pb	14 56 49.3	+0.6
SLVN				*eSg*	Sg	14 57 14.9	+0.2
KMI	**Kunming**	**4.35**	**9**	Pg	Pg	14 57 40.3	+3.1
KMI				Sg	Sg	14 58 39.4	+5.5
KMI				SMN			
	32nm,1.3s						
KMI				SME			
	37nm,1.4s						

*IDC **09** 15:09:35.6±1.7, 6°.04S×151°.66E, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.7/19, mbtmp3.9/6, ML2.4/1, Error ellipse: s-maj=64.8km s-min=20.0km az=126.0*
ISC 09 15:09:41.4±1.8, 6°.2S±0°.3×151°.7E±0°.3, h41km, n11, σ0°.72/11, mb3.9/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.55**	**234**	Pn	**Pn**	**15 11 01.9**	**+0.4**
	0.8nm,0.3s,baz=35,slow=13,SNR=4.0						
PMG				Sn	**Sn**	**15 12 03.6**	**-0.5**
	1.2nm,0.3s,baz=326,slow=18,SNR=2.2						
KDU	**Kakadu**	**20.05**	**250**	P	**P**	**15 14 10.4**	**-0.9**
	baz=34,SNR=3.6						
WRA	**Warramunga Arr**	**21.74**	**229**	P	**P**	**15 14 28.9**	**-0.6**
	1.1nm,0.5s,baz=54,slow=10,SNR=18						
KNRA	**Kununurra**	**24.42**	**245**	P	P	15 15 04.6	+8.3
	baz=38,SNR=3.6						
ASAR	**Alice Springs**	**24.42**	**223**	P	**P**	**15 14 56.9**	**+0.5**
	2.9nm,0.8s,baz=57,slow=8.7,SNR=39						
FITZ	**Fitzroy Crossi**	**28.07**	**243**	P	**P**	**15 15 28.8**	**-0.6**
	baz=42,SNR=8.6						
FITZ	**Fitzroy Crossi**	**28.07**	**243**	P	**P**	**15 15 28.7**	**-0.6**
	1.8nm,0.6s,baz=87,slow=8.6,SNR=13						
WSI	**Waingapu**	**31.31**	**262**	P	**P**	**15 15 59.3**	**+1.3**
	baz=46,SNR=3.3						
SONM	**Songino Array**	**66.91**	**329**	P	**P**	**15 20 29.3**	**-0.4**
	0.4nm,0.9s,baz=145,slow=5.3,SNR=2.7						
ILAR	**Eielson Array**	**83.82**	**22**	P	**P**	**15 22 06.1**	**-0.2**
	0.9nm,0.7s,baz=247,slow=5.4,SNR=17						
TORD	**Torodi Ar. Bea**	**149.67**	**285**	PKPbc	**PKPbc**	**15 29 27.9**	**+0.1**
	1.4nm,0.7s,baz=66,slow=2.9,SNR=9.3						

IGQ 09 15:10:48.7, 1°.04N×79°.74W, h6km±64km, Mb4.0, Ms3.8, 4C-6D, Error ellipse: s-maj=3.6km s-min=1.9km az=2.5, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GOLV	**Golondrinas**	**1.02**	**144**	⇓S	Sb	15 11 22.2	-0.4
GOLV	**Golondrinas**	**1.02**	**144**	⇓P	Pb	15 11 08.7	-0.2
MAG1	**Magdalena**	**1.11**	**182**	⇑P	Pb	15 11 10.4	+0.2
JAMA	**Jama**	**1.38**	**200**	S	Sb	15 11 32.0	-0.8
JAMA	**Jama**	**1.38**	**200**	P	Pn	15 11 14.4	-0.1
OTAV	**Otavalo**	**1.52**	**122**	⇓P	Pb	15 11 17.5	-0.3
COTA	**Cotacachi**	**1.57**	**117**	⇓P	Pb	15 11 18.7	0.0
PINO	**Pino**	**1.64**	**137**	⇓P	Pn	15 11 19.4	+0.5
TERV	**Terraza Guagua**	**1.66**	**137**	P	Pn	15 11 19.6	+0.6
GGP	**Refugio Guagua**	**1.66**	**137**	⇓P	Pn	15 11 19.7	+0.5
JUA2	**San Juan 2**	**1.69**	**138**	P	Pb	15 11 20.0	-0.7
ANGU	**Angureal**	**1.99**	**120**	P	Pb	15 11 26.9	+0.7
CAYA	**Cayambe**	**2.00**	**119**	P	Pb	15 11 26.2	+0.1
CAYR	**Refugio Cayamb**	**2.01**	**120**	P	Pb	15 11 27.1	+0.6
CAYR	**Refugio Cayamb**	**2.01**	**120**	S	Sg	15 11 54.2	-0.6
PITA	**Cotopaxi Volc**	**2.06**	**141**	P	Pb	15 11 26.3	-0.8
VC1	**Cotopaxi 1**	**2.14**	**141**	P	Pb	15 11 27.8	-0.7
ANTI	**Antisana**	**2.16**	**133**	⇑S	Sb	15 11 57.1	+0.5
ANTI	**Antisana**	**2.16**	**133**	⇑P	Pb	15 11 28.5	-0.5
COV1	**Cotopaxi Volc**	**2.19**	**141**	P	Pn	15 11 27.9	+1.4
CHAR	**Charly**	**2.35**	**118**	P	Pg	15 11 33.6	-0.8
CONE	**Cono NE Rev Vo**	**2.37**	**118**	P	Pg	15 11 33.9	-0.7
LAV4	**Lava4-Reventad**	**2.39**	**118**	P	Pb	15 11 33.6	+1.1
PISA	**Pisayambo**	**2.49**	**147**	P	Pb	15 11 33.2	-1.3
IGUA	**Igualata**	**2.75**	**156**	P	Pb	15 11 38.5	-0.5
BULB	**Ulba Tungurahu**	**2.80**	**152**	P	Pb	15 11 38.5	-1.1
BMAS	**Trigal station**	**2.83**	**154**	P	Pb	15 11 38.5	-1.5
ARRY	**Arrayan**	**2.84**	**153**	⇑P	Pb	15 11 39.0	-1.2
BPAT	**Tungurahua Vol**	**2.85**	**153**	P	Pb	15 11 39.7	-0.9
PAT1	**Patacocha**	**2.85**	**153**	S	Sb	15 12 16.0	-0.1
PAT1	**Patacocha**	**2.85**	**153**	P	Pb	15 11 39.8	-0.7

*IDC **09** 15:12:07.1±0.8, 28°.45N×87°.26E, h0km, mb3.9/13, mb1 4.1/15, mb1mx3.9/31, mbtmp3.9/15, ML4.0/2, Error ellipse: s-maj=27.2km s-min=14.0km az=53.0*
*DMN **09** 15:12:11.7±0.7, 28°.30N×87°.27E, h2km, Ml4.9/9, Error ellipse: s-maj=14.8km s-min=6.7km az=37.0*
*ISCJB **09** 15:12:12.6±0.5, 28°.36N±0°.05×87°.26E±0°.04, h60km±7km, mb3.9/13, Error ellipse: s-maj=8.1km s-min=5.2km az=178.7*
ISC 09 15:12:12.6±1.2, 28°.35N±0°.06×87°.29E±0°.04, h42km±14km, n29, σ1°.32/39, mb3.9/13, 1D, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAPN	**Taplejung**	**1.06**	**159**	*ePg*	**Pn**	**15 12 30.1**	**-1.2**
TAPN				*eSg*	**Sn**	**15 12 44.8**	**-0.3**
	1μm,0.2s						
JIRN	**Jiri**	**1.19**	**235**	*ePg*	**Pn**	**15 12 32.0**	**-1.1**
JIRN				*eSg*	**Sn**	**15 12 47.7**	**-0.6**
	2μm,0.2s						
GUN	**Gumba**	**1.32**	**251**	*ePn*	**Pn**	**15 12 34.0**	**-0.8**
GUN				*eSn*	**Sn**	**15 12 51.7**	**+0.3**
	4μm,0.3s						
ODAN	**Odare**	**1.49**	**176**	*ePn*	**Pn**	**15 12 37.9**	**+0.8**
ODAN				*eSg*	**Sn**	**15 12 58.1**	**+2.7**
	5μm,0.4s						
RAMN	**Ramite**	**1.52**	**204**	*ePn*	**Pn**	**15 12 38.4**	**+0.8**
RAMN				*eSn*	**Sn**	**15 12 56.6**	**+0.3**
	5μm,0.4s						
PKI	**Pulchoki**	**1.83**	**245**	*ePn*	**Pn**	**15 12 42.6**	**+0.7**
PKI				*eSn*	**Sn**	**15 13 05.3**	**+1.2**
	1μm,0.3s						
KKN	**Kakani**	**1.86**	**253**	*ePn*	**Pn**	**15 12 43.4**	**+1.2**
KKN				*eSn*	**Sn**	**15 13 05.6**	**+1.1**
	1μm,0.2s						
SLGI	**Shiliguri**	**1.93**	**148**	*ex*	Pn	15 12 46.5	+3.6
DMN	**Daman**	**2.06**	**250**	*ePn*	**Pn**	**15 12 47.1**	**+2.1**
DMN				*eSn*	**Sn**	**15 13 10.9**	**+1.2**
	966nm,0.2s						
GKN	**Gorkha**	**2.36**	**262**	*ePn*	**Pn**	**15 12 50.1**	**+1.0**
GKN				*eSn*	**Sn**	**15 13 17.7**	**+0.8**
	2μm,0.4s						
DANN	**Dangsing**	**3.11**	**271**	*ePn*	**Pn**	**15 12 59.2**	**-0.2**
KOLN	**Koldanda**	**3.31**	**261**	*ePn*	**Pn**	**15 13 02.4**	**+0.3**
LSA	**Lhasa**	**3.64**	**67**	P	**Pn**	**15 13 09.8**	**+2.9**
LSA				S	**Sn**	**15 13 51.5**	**+2.7**
LSA				LR	LR		
	comp=N,230nm,8.6s						
LSA				LR	LR		
	comp=E,610nm,7.2s						
LSA				LR	LR		
	comp=Z,800nm,8.1s						
JBP	**Jabalpur**	**8.36**	**234**	⇓*iP*	**Pn**	**15 14 13.3**	**+2.0**
JBP				*i* x	x	15 14 14.0	
	comp=Z,16nm,0.7s						
JBP				*eS*	**Sn**	**15 15 44.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**14.53**	**130**	Pn	**Pn**	**15 15 33.4**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=311,slow=12,SNR=5.8						
MKAR	**Makanchi Array**	**18.82**	**349**	P	**P**	**15 16 27.9**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=179,slow=9.9,SNR=8.1						
KURBB	**Kurchatov Arra**	**23.21**	**346**	P	**P**	**15 17 15.5**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=169,slow=9.6,SNR=11						
SONM	**Songino Array**	**24.47**	**32**	P	**P**	**15 17 27.9**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=218,slow=11,SNR=8.0						
ZALV	**Zalesovo Beam**	**25.64**	**357**	P	**P**	**15 17 36.9**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=181,slow=10,SNR=4.4						
AKTO	**Aktyubinsk**	**31.26**	**323**	P	**P**	**15 18 27.3**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=135,slow=5.7,SNR=3.8						
KSRS	**Korea Array**	**35.08**	**64**	P	**P**	**15 19 01.1**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=260,slow=8.1,SNR=3.8						
FINES	**FINESS Array B**	**51.81**	**328**	P	**P**	**15 21 15.9**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=116,slow=8.7,SNR=4.0						
ARCES	**ARCESS Array B**	**53.93**	**337**	P	**P**	**15 21 31.9**	**+0.4**
	comp=Z,8.0nm,1.1s,baz=101,slow=7.4,SNR=3.7						
GERES	**GERESS Array B**	**58.72**	**312**	P	**P**	**15 22 05.6**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=72,slow=7.3,SNR=2.3						
FITZ	**Fitzroy Crossi**	**59.23**	**137**	P	**P**	**15 22 11.0**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=343,slow=7.3,SNR=7.4						
WRA	**Warramunga Arr**	**66.12**	**131**	P	**P**	**15 22 57.3**	**+1.5**
	comp=Z,2.1nm,0.4s,baz=326,slow=6.6,SNR=74						
ASAR	**Alice Springs**	**68.50**	**134**	P	**P**	**15 23 12.4**	**+1.6**
	comp=Z,1.2nm,0.5s,baz=317,slow=5.9,SNR=36						
ILAR	**Eielson Array**	**78.13**	**21**	P	**P**	**15 24 06.2**	**-0.8**
	comp=Z,0.2nm,0.8s,baz=326,slow=6.3,SNR=3.4						
TORD	**Torodi Ar. Bea**	**80.05**	**280**	P	**P**	**15 24 18.8**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=67,slow=4.0,SNR=5.3						

TAP 09 15:18:32.9, 24°.84N×121°.87E, h100km, ML3.6, 1C-7D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILA	**Ilan**	**0.13**	**236**	P	Pn	15 18 47.5	+0.6
	baz=219						
ILA				S	Sn	15 18 58.4	+1.1
	baz=219						
TWB1	**Santiao Chiao**	**0.20**	**33**	⇑*iP*	Pn	15 18 47.3	+0.2
	baz=43						
TWB1				*i* S	Sn	15 18 57.4	-0.2
	baz=43						
TWE	**Neicheng**	**0.21**	**237**	*i* P	Pn	15 18 47.9	+0.8
	baz=233						
TWE				*i* S	Sn	15 18 58.6	+0.9
	baz=233						
TWC	**Suao**	**0.23**	**184**	*i* P	Pn	15 18 48.0	+0.8
	baz=175						
TWC				S	Sn	15 18 58.9	+1.1
	baz=175						
NWF	**Wu-fen Shan**	**0.24**	**342**	P	Pn	15 18 47.4	0.0
	baz=350						
NWF				*i* S	Sn	15 18 57.9	-0.2
	baz=350						
TWA	**Mucha**	**0.29**	**299**	⇓*iP*	Pn	15 18 47.9	+0.4
	baz=299						
TWA				*i* S	Sn	15 18 58.6	+0.3
	baz=299						
ENTT	**Nioudou**	**0.34**	**234**	⇓*iP*	Pn	15 18 48.3	+0.7
	baz=241						
ENTT				S	Sn	15 19 00.3	+1.6
	baz=241						
TAP1	**Taipei**	**0.37**	**303**	*i* P	Pn	15 18 48.1	+0.3
	baz=306						
TAP1				*i* S	Sn	15 18 59.4	+0.5
	baz=306						
TAP	**Taipei**	**0.38**	**302**	*i* P	Pn	15 18 48.2	+0.3
	baz=306						
TAP				*i* S	Sn	15 18 59.6	+0.6
	baz=306						
ENA	**Nanau**	**0.42**	**196**	*eP*	Pn	15 18 49.1	+0.9
	baz=185						
ENA				S	Sn	15 19 00.8	+1.3
	baz=185						
TWS1	**Kuangyinshan**	**0.48**	**303**	⇓*iP*	Pn	15 18 49.0	+0.5
	baz=291						
TWS1				*eS*	Sn	15 19 00.6	+0.3
	baz=291						
NSK	**Sanguang**	**0.49**	**251**	⇓*iP*	Pn	15 18 48.8	+0.1
	baz=240						
NSK				*eS*	Sn	15 19 00.0	-0.5
	baz=240						
TWY	**Chenhua**	**0.50**	**331**	*eP*	Pn	15 18 48.3	-0.3
	baz=333						
TWY				*eS*	Sn	15 19 00.3	-0.1
	baz=333						
NNS	**Nan Shan**	**0.60**	**229**	⇓P	Pn	15 18 50.1	+0.5
	baz=229						
NNS				S	Sn	15 19 02.6	+0.6
	baz=229						
NCU	**National Centr**	**0.63**	**282**	⇓*iP*	Pn	15 18 49.9	+0.2
	baz=281						
NCU				*i* S	Sn	15 19 02.8	+0.5
	baz=281						
TWD	**Chiawan**	**0.79**	**198**	*eP*	Pn	15 18 51.0	-0.2
	baz=202						
TWD				*eS*	Sn	15 19 04.7	-0.2
	baz=202						
NSTT	**Nanjuang**	**0.81**	**256**	⇓*iP*	Pn	15 18 51.7	+0.3
	baz=246						
NSTT				S	Sn	15 19 05.0	-0.2
	baz=246						
HSN	**Hsinchu**	**0.81**	**268**	*eP*	Pn	15 18 51.2	-0.2
	baz=268						
HSN				*eS*	Sn	15 19 04.9	-0.4
	baz=268						
TWT	**Tachien**	**0.85**	**227**	P	Pn	15 18 53.1	+1.0
	baz=218						
TWT				S	Sn	15 19 07.4	+1.0
	baz=218						
WHF	**Hehuan Shan**	**0.88**	**219**	P	Pn	15 18 53.0	+0.3
	baz=208						
WHF				S	Sn	15 19 07.8	+0.4
	baz=208						
NSY	**Sanyi**	**1.09**	**248**	*eP*	Pn	15 18 55.1	+0.8
	baz=244						
NSY				S	Sn	15 19 11.2	+0.7
	baz=244						
ESL	**Shilin**	**1.09**	**201**	*eP*	Pn	15 18 53.5	-0.9
	baz=195						
TWQ1	**Liyutan**	**1.11**	**244**	*i* P	Pn	15 18 55.0	+0.4
	baz=232						
TWQ1				*i* S	Sn	15 19 11.2	+0.4
	baz=232						
SMLT	**Sun Moon Lake**	**1.29**	**223**	P	Pn	15 18 57.3	+0.4
	baz=225						
SMLT				S	Sn	15 19 15.7	+0.8
	baz=225						
TYC	**Yuchr**	**1.31**	**225**	*i* P	Pn	15 18 57.4	+0.6
	baz=229						
TYC				S	Sn	15 19 16.0	+1.1
	baz=229						
EHY	**Hungye**	**1.42**	**201**	*eP*	Pn	15 18 57.4	-0.8
	baz=188						
EHY				*eS*	Sn	15 19 16.9	-0.4
	baz=188						
WNT	**Mingjian**	**1.44**	**229**	*eP*	Pn	15 18 58.0	-0.5
	baz=227						
TWF1	**Yuli**	**1.57**	**199**	*eP*	Pn	15 19 01.1	+1.1
	baz=195						
TWF1				*eS*	Sn	15 19 19.7	-0.9
	baz=195						
YUS	**Yu-Shan**	**1.58**	**212**	*eP*	Pn	15 19 01.8	+0.9
	baz=217						
YUS				*eS*	Sn	15 19 23.3	+1.4
	baz=217						
ALS	**Alishan**	**1.64**	**216**	*eP*	Pn	15 19 02.3	+1.0
	baz=220						
ALS				*eS*	Sn	15 19 23.7	+0.9
	baz=220						
CHN5	**Tsauling**	**1.64**	**222**	*eP*	Pn	15 19 01.8	+0.7
	baz=217						
CHN5				*eS*	Sn	15 19 23.7	+1.3
	baz=217						
CHKT	**Chengkung**	**1.79**	**195**	*eP*	Pn	15 19 04.0	+1.1
	baz=183						
CHKT				*eS*	Sn	15 19 24.9	-0.6
	baz=183						
ELDTW	**Lidau**	**1.81**	**205**	*eP*	Pn	15 19 03.9	+0.6
	baz=192						
ELDTW				*eS*	Sn	15 19 27.7	+1.3
	baz=192						
CHN4	**Tsaushan**	**1.88**	**218**	*eP*	Pn	15 19 04.5	+0.4
	baz=213						
CHN4				*eS*	Sn	15 19 28.8	+1.2
	baz=213						
WTP	**Ta-pu**	**1.95**	**216**	*eP*	Pn	15 19 05.6	+0.6
	baz=212						
WTP				S	Sn	15 19 30.1	+0.7
	baz=212						
CHN1	**Nanshi**	**2.05**	**217**	*eP*	Pn	15 19 06.9	+0.7
	baz=212						
CHN1				*eS*	Sn	15 19 32.1	+0.5
	baz=212						
SGST	**Jiashian**	**2.10**	**214**	*eP*	Pn	15 19 08.6	+1.6
	baz=217						
SGST				S	Sn	15 19 33.5	+0.7
	baz=217						
TWG	**Pinlang**	**2.13**	**200**	*eP*	Pn	15 19 05.5	-1.7
	baz=186						
TWG				*eS*	Sn	15 19 33.2	-0.3
	baz=186						

IDC 09 15:24:09.7±2.3, 33°.32S×178°.40W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/18, mbtmp4.0/4, ML3.7/1, MS4.1/4, Ms1 4.1/4, ms1mx3.5/22, Error ellipse: s-maj=58.7km s-min=34.0km az=128.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.07**	**6**	LR	LR	15 26 36.3	
	comp=Z,397nm,18.2s,baz=298,slow=36						
URZ	**Urewera**	**6.14**	**215**	Pn	Pn	15 25 42.1	+0.6
	1.8nm,0.3s,baz=216,slow=17,SNR=9.2						
URZ				Sn	Sn	15 26 50.9	-1.6
	16nm,0.3s,baz=149,slow=23,SNR=22						
ASAR	**Alice Springs**	**42.70**	**270**	P	P	15 32 08.3	-0.2
	2.9nm,0.7s,baz=110,slow=7.9,SNR=38						
WRA	**Warramunga Arr**	**43.95**	**275**	P	P	15 32 18.4	-0.3
	1.2nm,0.5s,baz=117,slow=7.6,SNR=26						
FITZ	**F

STKA	Stephens Creek	43.52	240	P		P		15 44 22.0	+0.2
	2.0nm,0.9s,baz=91,slow=8.8,SNR=3.4								
WRA	Warramunga Arr	49.37	257	P		P		15 45 07.1	-0.9
	0.8nm,1.0s,baz=92,slow=8.3,SNR=6.4								
ASAR	Alice Springs	49.62	252	P		P		15 45 10.2	+0.3
	2.0nm,0.6s,baz=86,slow=7.8,SNR=38								
NVAR	Mina Array Bea	74.84	42	P		P		15 47 59.1	0.0
	0.7nm,0.8s,baz=230,slow=7.0,SNR=2.2								
TXAR	Lajitas Array	81.14	56	P		P		15 48 34.5	+0.3
	1.3nm,1.0s,baz=224,slow=7.0,SNR=6.9								
ILAR	Eielson Array	82.84	11	P		P		15 48 41.8	-0.4
	0.3nm,0.6s,baz=224,slow=6.6,SNR=7.3								
ARCES	ARCESS Array B	124.87	352	PKP		PKPdf		15 55 16.8	-0.9
	1.8nm,0.7s,baz=64,slow=4.1,SNR=3.7								
BRTR	Keskin Array B	146.14	320	PKPbc		PKPbc		15 55 59.0	0.0
	1.3nm,0.8s,baz=98,slow=2.3,SNR=8.0								

TIR ***09*** *15:47:06.5±7.5, 39.97N×20.61E, h0km±999km, ML3.9*
BEO ***09*** *15:47:16.8±1.0, 39.78N×20.60E, h4km±4km, ML3.7/9*
PDG ***09*** *15:47:17.7±0.6, 39.95N×20.56E, h9km±1km, ML3.5/11, Error ellipse: s-maj=1.4km s-min=1.2km az=90.0*
ISCJB ***09*** *15:47:18.2±0.4, 40.03N±0.01×20.52E±0.02, h2km±2km, mb3.8/12, MS3.1/4, Error ellipse: s-maj=2.6km s-min=1.9km az=149.9*
ATH ***09*** *15:47:18.3, 40.05N×20.55E, h9km±1km, MD3.8/33, ML3.8*
THE ***09*** *15:47:19.4, 40.02N×20.58E, h0km±2km, ML3.6/12, Error ellipse: s-maj=2.0km s-min=0.6km az=263.0*
CSEM ***09*** *15:47:21.2±0.1, 40.00N×20.47E, h20km, mb3.8/7, Error ellipse: s-maj=3.4km s-min=2.4km az=59.0*
MOS ***09*** *15:47:21.5±1.4, 40.10N×20.46E, h33km, mb4.0/9, Error ellipse: s-maj=10.6km s-min=5.4km az=69.9*
IDC ***09*** *15:47:24.1±1.5, 40.06N×20.59E, h47km±17km, mb3.6/12, mb1 3.6/21,mb1mx3.6/36, mbtmp3.6/21, ML3.5/7, MS3.1/9, Ms1 3.1/9,ms1mx2.9/32, Error ellipse: s-maj=15.8km s-min=14.1km az=39.0*

ISC 09 15:47:19.7±1.0, 40.01N±0.02×20.56E±0.02, h8km±7km, n309,σ1§36/381, mb4.0/12, MS3.1/4, 35C-29D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JAN	Janina	0.42	148	P		Pg	15 47 26.8	-1.0
JAN				S		Sg	15 47 33.2	0.0
JAN	Janina	0.42	148	*e*PB		Pg	15 47 26.8	-1.0
JAN				*e*SB		Sg	15 47 33.3	0.0
JAN	Janina	0.42	148	*e*Pb		Pg	15 47 26.8	-1.0
JAN				*e*Sb		Sg	15 47 33.3	0.0
SRN	Sarande	0.45	253	*e*PG		Pg	15 47 26.6	-1.8
SRN				*e*SG		Sg	15 47 34.8	+0.4
SRN	Sarande	0.45	253	P		Pg	15 47 27.3	-1.1
SRN				S		Sb	15 47 35.5	-1.3
SRN	Sarande	0.45	253	*e*Pg		Pg	15 47 26.6	-1.8
	SNR=90							
SRN	Sarande	0.45	253	P		Pg	15 47 27.3	-1.1
SRN				*e*Sg		Sg	15 47 34.8	+0.4
	SNR=90							
SRN				S		Sb	15 47 35.5	-1.3
IGT	Igoumenitsa	0.51	201	P		Pg	15 47 29.5	0.0
IGT				S		Sb	15 47 37.9	-0.5
IGT	Igoumenitsa	0.51	201	P		Pg	15 47 29.5	0.0
IGT				S		Sb	15 47 37.9	-0.5
NEST	Nestorio	0.55	42	P		Pg	15 47 28.8	-1.5
NEST				S		Sg	15 47 37.0	-0.5
KEK	Kerkira	0.66	243	P		Pg	15 47 31.1	-1.3
KEK				S		Sb	15 47 43.5	+0.8
KEK	Kerkira	0.66	243	*e*PB		Pg	15 47 31.0	-1.3
KEK	Kerkira	0.66	243	P		Pg	15 47 31.1	-1.3
KEK				S		Sb	15 47 43.5	+0.8
KZN	Kozani	0.97	72	P		Pg	15 47 36.8	-1.5
KZN				S		Sb	15 47 52.2	+0.4
KZN	Kozani	0.97	72	*e*PB		Pg	15 47 36.8	-1.5
KZN	Kozani	0.97	72	*e*Pb		Pg	15 47 36.8	-1.5
KZN				S		Sb	15 47 52.2	+0.4
FNA	Florina	0.99	39	P		Pg	15 47 36.7	-2.0
FNA				S		Sb	15 47 52.5	-0.1
FNA	Florina	0.99	39	*e*PB		Pg	15 47 36.7	-2.0
FNA	Florina	0.99	39	*e*Pb		Pg	15 47 36.7	-2.0
FNA				S		Sb	15 47 52.5	+0.1
BIA	Bitola	1.16	30	P		Pg	15 47 40.4	-1.6
BIA				S		Sn	15 47 58.6	+0.2
BIA	Bitola	1.16	30	*e*Pn		Pg	15 47 40.1	-1.9
THL	Klokotos Trika	1.20	111	P		Pg	15 47 41.2	-1.5
THL				S		Sn	15 48 00.1	+0.8
THL	Klokotos Trika	1.20	111	*e*PG		Pg	15 47 41.2	-1.5
THL	Klokotos Trika	1.20	111	*e*Pg		Pg	15 47 41.2	-1.5
THL				S		Sn	15 48 00.1	+0.8
TIR	Tirane	1.44	339	*e*PG		Pg	15 47 47.2	0.0
TIR				*e*SG		Sn	15 48 12.2	+7.1
TIR	Tirane	1.44	339	P		Pn	15 47 46.4	+0.4
TIR	Tirane	1.44	339	*i*Pg		Pg	15 47 47.5	+0.3
TIR				*e*Sg		Sn	15 48 11.4	+6.3
TIR	Tirane	1.44	339	P		Pn	15 47 46.4	+0.4
TIR	Tirane	1.44	339	*e*Pg		Pg	15 47 47.2	0.0
	SNR=90							
EVR	Evrytania	1.46	138	P		Pn	15 47 45.8	-0.6
EVR	Evrytania	1.46	138	*e*PG		Pn	15 47 45.8	-0.6
EVR	Evrytania	1.46	138	P		Pn	15 47 45.8	-0.6
LIT	Litokhoron	1.48	86	P		Pn	15 47 46.1	-0.6
LIT				S		Sg	15 48 07.7	+0.4
LIT	Litokhoron	1.48	86	*e*PB		Pn	15 47 46.3	-0.4
LIT	Litokhoron	1.48	86	*e*Pb		Pn	15 47 46.3	-0.4
LIT				S		Sg	15 48 07.7	+0.4
PDO	Prodromos	1.49	161	P		Pn	15 47 47.0	+0.3
PDO	Prodromos	1.49	161	P		Pn	15 47 47.0	+0.3
MAKR	Makrakomi, Fth	1.57	129	P		Pn	15 47 47.9	0.0
MAKR	Makrakomi, Fth	1.57	129	P		Pn	15 47 47.9	0.0
PHP	Peshkopia	1.68	357	*e*PG		Pb	15 47 50.3	-0.5
PHP				*e*SG		Sg	15 48 17.3	+3.8
PHP	Peshkopia	1.68	357	P		Pn	15 47 49.5	+0.1
PHP	Peshkopia	1.68	357	P		Pn	15 47 49.5	+0.1
PHP	Peshkopia	1.68	357	*e*Pg		Pb	15 47 50.3	-0.5
	SNR=90							
AGG	Agios Georgios	1.69	125	P		Pn	15 47 50.0	+0.5
AGG	Agios Georgios	1.69	125	*e*PG		Pn	15 47 50.0	+0.5
AGG	Agios Georgios	1.69	125	P		Pn	15 47 50.0	+0.5
GRG	Griva	1.69	55	P		Pn	15 47 49.5	0.0
GRG				S		Sn	15 48 12.3	+0.9
GRG	Griva	1.69	55	*e*PG		Pn	15 47 49.6	0.0
GRG	Griva	1.69	55	*e*Pg		Pn	15 47 49.6	0.0
GRG				S		Sn	15 48 12.3	+0.9
VLS	Valsamata	1.83	179	P		Pn	15 47 51.5	+0.1
VLS	Valsamata	1.83	179	*e*PN		Pn	15 47 51.9	+0.5
VLS	Valsamata	1.83	179	P		Pn	15 47 51.5	+0.1
VLS	Valsamata	1.83	179	*e*Pn		Pn	15 47 51.9	+0.5
EFP	Efpalio	1.89	146	*e*PG		Pb	15 47 54.0	-0.5
EFP	Efpalio	1.89	146	*e*Pg		Pb	15 47 54.0	-0.5
KFL	Anninata	1.91	175	P		Pn	15 47 53.0	+0.5
KFL	Anninata	1.91	175	P		Pn	15 47 53.0	+0.5
PSA1	Psathopyrgos	1.97	148	*e*PN		Pb	15 47 54.7	-1.1
VAY	Valandovo	2.01	49	P		Pn	15 47 52.9	-1.0
VAY	Valandovo	2.01	49	*e*Pn		Pn	15 47 52.6	-1.3
VAY				*e*Sg		Sg	15 48 24.7	+0.4
VAY	Valandovo	2.01	49	*i* Pn		Pn	15 47 53.2	-0.7
VAY	Valandovo	2.01	49	*e*Pn		Pn	15 47 52.6	-1.3
VAY	Valandovo	2.01	49	P		Pn	15 47 52.9	-1.0
VAY				*e*Sg		Sg	15 48 24.7	+0.4
HORT	Hortiatis	2.03	72	P		Pn	15 47 53.9	-0.3
HORT				S		Sb	15 48 21.5	-0.7
HORT	Hortiatis	2.03	72	P		Pn	15 47 53.9	-0.3
HORT				S		Sb	15 48 21.5	-0.7
KALE	Kalithea	2.03	142	*e*PG		Pb	15 47 56.1	-0.7
KALE	Kalithea	2.03	142	*e*Pg		Pb	15 47 56.1	-0.7
SKO	Skopje	2.07	18	P		Pn	15 47 55.6	+0.9
SKO	Skopje	2.07	18	*e*Pn		Pb	15 47 56.3	-1.2
SKO				*e*Sg		Sg	15 48 27.7	+1.6
SKO	Skopje	2.07	18	*i* Pn		Pb	15 47 57.9	+0.4
SKO	Skopje	2.07	18	P		Pn	15 47 55.6	+0.9
SKO	Skopje	2.07	18	*e*Pn		Pb	15 47 56.3	-1.2
RLS	Riolos of Patr	2.07	160	*e*PN		Pb	15 47 56.6	-0.9
RLS	Riolos of Patr	2.07	160	*e*Pn		Pb	15 47 56.6	-0.9
LAKA	Lakka	2.08	148	*e*PG		Pb	15 47 57.0	-0.7
LAKA	Lakka	2.08	148	*e*Pg		Pb	15 47 57.0	-0.7
PUK	Puka	2.09	346	*e*PG		Pn	15 47 55.4	+0.3
PUK				*e*SG		Sn	15 48 08.8	-13
PUK	Puka	2.09	346	*e*Pg		Pn	15 47 55.4	+0.3
	SNR=90							
KNT	Kendrikon	2.12	56	P		Pn	15 47 55.4	0.0
KNT				S		Sn	15 48 23.2	+1.3
KNT	Kendrikon	2.12	56	P		Pn	15 47 55.4	0.0
KNT				S		Sn	15 48 23.2	+1.3
XOR	Xorichti	2.13	107	P		Pn	15 47 55.6	+0.1
XOR	Xorichti	2.13	107	P		Pn	15 47 55.6	+0.1
NEO	Neokhori	2.17	108	P		Pn	15 47 56.5	+0.4
NEO	Neokhori	2.17	108	*e*PN		Pn	15 47 56.5	+0.4
NEO	Neokhori	2.17	108	P		Pn	15 47 56.5	+0.4
ULC	Ulcinj	2.19	333	⇑*i*Pn		Pn	15 47 56.4	0.0
ULC				*e*Sn		Sb	15 48 26.3	-0.6
ULC	Ulcinj	2.19	333	⇑*i*Pn		Pn	15 47 56.4	0.0
ULC				*e*Sn		Sb	15 48 26.3	-0.6
PLG	Polygyros	2.24	80	P		Pn	15 47 57.3	+0.2
PLG	Polygyros	2.24	80	*e*PN		Pn	15 47 57.3	+0.2
PLG	Polygyros	2.24	80	P		Pn	15 47 57.3	+0.2
SOH	Sokhos	2.28	68	P		Pn	15 47 58.1	+0.5
SOH				S		Sn	15 48 27.8	+1.9
SOH	Sokhos	2.28	68	*e*PN		Pn	15 47 58.3	+0.7
SOH	Sokhos	2.28	68	*e*Pn		Pn	15 47 58.3	+0.7
SOH				S		Sn	15 48 27.8	+1.9
KLV	Kalavryta, Ach	2.32	147	*e*PG		Pb	15 48 00.5	-1.3
KLV	Kalavryta, Ach	2.32	147	*e*Pn		Pb	15 48 00.5	-1.3
BCI	Bajram Curri	2.38	351	*e*PG		Pn	15 48 00.2	+1.1
BCI				*e*SG		Sg	15 48 36.3	+0.1
BCI	Bajram Curri	2.38	351	*e*Pg		Pn	15 48 00.2	+1.1
	SNR=90							
PAIG	Paliouri	2.40	91	P		Pn	15 47 58.6	-0.6
PAIG	Paliouri	2.40	91	*e*PB		Pn	15 47 58.7	-0.5
PAIG				*e*SN		Sn	15 48 30.2	+1.5
PAIG	Paliouri	2.40	91	*e*Pb		Pn	15 47 58.7	-0.5
PAIG				*e*Sn		Sn	15 48 30.2	+1.5
SKIA	Skiathos	2.40	110	P		Pn	15 47 59.9	+0.7
SKIA	Skiathos	2.40	110	P		Pn	15 47 59.9	+0.7
DRME	Dracevica, Mon	2.41	335	⇓*i*Pn		Pn	15 47 59.5	+0.1
DRME				*e*Sn		Sn	15 48 30.9	+1.8
DRME	Dracevica, Mon	2.41	335	⇓*i*Pn		Pn	15 47 59.5	+0.1
DRME				*e*Sn		Sn	15 48 30.9	+1.8
GUR	Goura	2.49	146	*e*PN		Pb	15 48 02.6	-2.1
GUR	Goura	2.49	146	*e*Pn		Pb	15 48 02.6	-2.1
PE1	Pezze di Greco	2.53	289	*e*Pn		Pn	15 48 00.1	-0.9
SRS	Serrai	2.56	63	P		Pn	15 48 01.8	+0.3
SRS	Serrai	2.56	63	P		Pn	15 48 01.8	+0.3
TAR1	Taranto	2.56	283	*e*Pn		Pn	15 48 00.1	-1.4
PDG	Podgorica	2.61	338	⇑*i*Pn		Pn	15 48 01.7	-0.4
PDG				*e*Sn		Sn	15 48 36.6	+2.6
TTG	Podgorica	2.61	338	⇑*i*Pn		Pn	15 48 01.7	-0.4
TTG				*e*Sn		Sn	15 48 36.6	+2.6
BUM	Brajici-Budva	2.61	332	⇓*i*Pn		Pn	15 48 02.2	0.0
BUM				*e*Sn		Sn	15 48 36.9	+2.7
BUM	Brajici-Budva	2.61	332	⇓*i*Pn		Pn	15 48 02.2	0.0
BUM				*e*Sn		Sn	15 48 36.9	+2.7
PVY	Plav	2.62	350	⇑*i*Pn		Pn	15 48 03.1	+0.7
PVY				*e*Sn		Sn	15 48 36.7	+2.2
PVY	Plav	2.62	350	⇑*i*Pn		Pn	15 48 03.1	+0.7
PVY				*e*Sn		Sn	15 48 36.7	+2.2
AMT	Artemida-Makis	2.63	160	*e*PN		Pn	15 48 04.3	+1.8
AMT	Artemida-Makis	2.63	160	*e*Pn		Pn	15 48 04.3	+1.8
OUR	Ouranopolis	2.64	82	P		Pn	15 48 03.2	+0.7
OUR	Ouranopolis	2.64	82	P		Pn	15 48 03.2	+0.7
AOS	Alonnisos	2.70	107	P		Pn	15 48 03.2	-0.1
AOS	Alonnisos	2.70	107	*e*PB		Pn	15 48 03.2	-0.1
AOS	Alonnisos	2.70	107	P		Pn	15 48 03.2	-0.1
LTK	Loutraki	2.73	136	*e*PN		Pb	15 48 06.3	-2.4
LTK	Loutraki	2.73	136	*e*Pn		Pb	15 48 06.3	-2.4
NVR	Nevrokopi	2.84	61	*e*PB		Pn	15 48 06.1	+0.7
NVR	Nevrokopi	2.84	61	*e*Pb		Pn	15 48 06.1	+0.7
HCY	Herceg Novi	2.89	328	⇓*i*Pn		Pn	15 48 06.4	+0.4
HCY				*e*Sn		Sn	15 48 42.0	+1.0
HCY	Herceg Novi	2.89	328	⇓*i*Pn		Pn	15 48 06.4	+0.4
HCY				*e*Sn		Sn	15 48 42.0	+1.0
BEY	Berane	2.90	350	⇓*i*Pn		Pn	15 48 07.0	+0.7
BEY				*e*Sn		Sn	15 48 43.3	+1.9
IVA	Berane	2.90	350	⇓*i*Pn		Pn	15 48 07.0	+0.7
IVA				*e*Sn		Sn	15 48 43.3	+1.9
VLX	Vlachokerasia	3.00	151	*e*PB		Pn	15 48 10.2	+2.7
VLX	Vlachokerasia	3.00	151	*e*Pb		Pn	15 48 10.2	+2.7
NKME	Niksic	3.01	337	⇓*i*Pn		Pn	15 48 08.0	+0.3
NKME				*e*Sn		Sn	15 48 45.3	+1.4
NKME	Niksic	3.01	337	⇓*i*Pn		Pn	15 48 08.0	+0.3
NKME				*e*Sn		Sn	15 48 45.3	+1.4
BAI	Bari	3.01	293	*e*Pn		Pn	15 48 06.9	-0.8
ITM	Ithomi	3.02	159	*e*PB		Pn	15 48 09.6	+1.8
ITM	Ithomi	3.02	159	*e*Pb		Pn	15 48 09.6	+1.8
NKY	Niksic	3.04	338	⇑*i*Pn		Pn	15 48 07.7	-0.4
NKY				*e*Sn		Sn	15 48 46.4	+1.6
NKY	Niksic	3.04	338	⇑*i*Pn		Pn	15 48 07.7	-0.4
NKY				*e*Sn		Sn	15 48 46.4	+1.6
KAVA	Kavala	3.17	71	P		Pn	15 48 09.4	-0.4
KAVA	Kavala	3.17	71	P		Pn	15 48 09.4	-0.4
TREB	Trebinje	3.18	329	*e*Pn		Pn	15 48 09.4	-0.5
TREB				*e*Sn		Sn	15 48 50.5	+2.5
TREB	Trebinje	3.18	329	*e*Pn		Pn	15 48 09.4	-0.5
TREB				*e*Sn		Sn	15 48 50.5	+2.5
ATH	Athens Observa	3.19	129	*e*PN		Pn	15 48 10.9	+0.8
ATH				*e*SN		Sn	15 48 51.4	+3.1
ATH	Athens Observa	3.19	129	*e*Pn		Pn	15 48 10.9	+0.8
ATH				*e*Sn		Sn	15 48 51.4	+3.1
NAIG	Nisos Aigina	3.20	134	*e*PB		Pn	15 48 12.8	+2.5
NAIG	Nisos Aigina	3.20	134	*e*Pb		Pn	15 48 12.8	+2.5
PTL	Penteli	3.23	126	*e*PN		Pn	15 48 12.1	+1.4
PTL	Penteli	3.23	126	*e*Pn		Pn	15 48 12.1	+1.4
SELS	Selova	3.23	7	⇓*i*Pn		Pn	15 48 11.3	+0.6
PYL	PYLOS	3.25	163	*e*PN		Pn	15 48 11.5	+0.6
PYL				*e*SN		Sn	15 48 51.9	+2.2
PYL	PYLOS	3.25	163	*e*Pn		Pn	15 48 11.5	+0.6
PYL				*e*Sn		Sn	15 48 51.9	+2.2
DID	Didima	3.26	139	*e*PN		Pn	15 48 12.8	+1.7
DID	Didima	3.26	139	*e*Pn		Pn	15 48 12.8	+1.7
VTS	Vitosha	3.26	37	⇑P		Pn	15 48 12.6	+1.4
VTS				S		Sn	15 48 52.5	+2.2
VTS	Vitosha	3.26	37	*e*Pn		Pn	15 48 12.7	+1.5
VTS	Vitosha	3.26	37	⇑*i*P		Pn	15 48 12.6	+1.4
VTS	Vitosha	3.26	37	P		Pn	15 48 12.6	+1.4
VTS				S		Sn	15 48 52.5	+2.2
BRY	Bratogost	3.27	333	⇓*i*Pn		Pn	15 48 11.1	-0.2
BRY				*e*Sn		Sn	15 48 51.9	+1.5
BRY	Bratogost	3.27	333	⇓*i*Pn		Pn	15 48 11.1	-0.2
BRY				*e*Sn		Sn	15 48 51.9	+1.5
SJES	Sjenica	3.28	352	⇑*i*Pn		Pn	15 48 11.5	+0.1
SJES	Sjenica	3.28	352	⇑*i*Pn		Pn	15 48 11.5	+0.1
UPM	Unac-Piva	3.42	339	⇓*i*Pn		Pn	15 48 13.4	-0.1
UPM				*e*Sn		Sn	15 48 55.5	+1.1
UPM	Unac-Piva	3.42	339	⇓*i*Pn		Pn	15 48 13.4	-0.1
UPM				*e*Sn		Sn	15 48 55.5	+1.1
PLE	Pljevlja	3.43	346	*e*Pn		Pn	15 48 13.1	-0.5
PLE				*e*Sn		Sn	15 48 55.5	+1.0
PLE	Pljevlja	3.43	346	*e*Pn		Pn	15 48 13.1	-0.5
PLE				*e*Sn		Sn	15 48 55.5	+1.0
IVAS	Ivanjica	3.58	355	⇑*i*Pn		Pn	15 48 16.0	+0.5
IVAS	Ivanjica	3.58	355	⇑*i*Pn		Pn	15 48 16.0	+0.5
VLI	Veliai	3.78	150	P		Pn	15 48 19.3	+1.1
VLI	Veliai	3.78	150	*e*PN		Pn	15 48 19.5	+1.3
VLI	Veliai	3.78	150	P		Pn	15 48 19.3	+1.1
SMTH	Samothraki Isl	3.83	82	*e*PN		Pn	15 48 19.1	+0.2
SMTH	Samothraki Isl	3.83	82	*e*Pn		Pn	15 48 19.1	+0.2
GRUS	Gruza	3.88	2	*e*Pn		Pn	15 48 19.9	+0.3
GRUS	Gruza	3.88	2	*e*Pn		Pn	15 48 19.9	+0.3
MS1	Monte Sant'Ang	3.89	297	*e*Pn		Pn	15 48 19.5	-0.3
BBLS	Lazići	3.95	348	⇓*i*Pn		Pn	15 48 20.6	0.0
BBLS	Lazići	3.95	348	⇓*i*Pn		Pn	15 48 20.6	0.0
BOLS	Boljevac	3.95	15	*e*Pn		Pn	15 48 21.9	+1.3
BOLS	Boljevac	3.95	15	*e*Pn		Pn	15 48 21.9	+1.3
DIVS	Divibare	4.11	354	⇓*i*Pn		Pn	15 48 22.7	-0.1
DIVS				*e*Sn		Sn	15 49 12.1	+1.0
DIVS	Divibare	4.11	354	⇓*i*Pn		Pn	15 48 22.7	-0.1
DIVS				*e*Sn		Sn	15 49 12.1	+1.0
KYTH	Kithira	4.20	152	*e*PN		Pn	15 48 26.1	+2.0
KYTH	Kithira	4.20	152	*e*Pn		Pn	15 48 26.1	+2.0
TRUS	Trudelj	4.21	358	⇑*i*Pn		Pn	15 48 23.6	-0.6
TRUS	Trudelj	4.21	358	⇑*i*Pn		Pn	15 48 23.6	-0.6
ALN	Alexandroupoli	4.28	76	P		Pn	15 48 25.1	+0.1
ALN	Alexandroupoli	4.28	76	*e*PN		Pn	15 48 25.2	+0.2
ALN	Alexandroupoli	4.28	76	*e*Pn		Pn	15 48 25.2	+0.2
CHOS	Chios island	4.56	109	*e*PN		Pn	15 48 30.5	+1.4
CHOS	Chios island	4.56	109	*e*Pn		Pn	15 48 30.5	+1.4
ANKY	Antikythira Is	4.67	152	*e*PN		Pn	15 48 31.7	+1.3
ANKY	Antikythira Is	4.67	152	*e*Pn		Pn	15 48 31.7	+1.3
APE	Apeiranthos	4.88	125	⇓P		Pn	15 48 37.6	+4.2
APE	Apeiranthos	4.88	125	*e*PN		Pn	15 48 34.6	+1.2
APE	Apeiranthos	4.88	125	⇓*i*P		Pn	15 48 37.6	+4.2
APE	Apeiranthos	4.88	125	*e*PN		Pn	15 48 34.6	+1.2
APE	Apeiranthos	4.88	125	⇓*i*Pn		Pn	15 48 37.6	+4.2
FGSL	Fruska Gora	5.17	354	⇓*i*Pn		Pn	15 48 36.7	-0.7
FRGS	Fruska Gora	5.17	354	⇓*i*Pn		Pn	15 48 36.7	-0.7
SMG	Samos	5.41	113	*e*PN		Pn	15 48 41.6	+1.0
SMG	Samos	5.41	113	*e*Pn		Pn	15 48 41.6	+1.0
BZS	Buzias	5.66	8	⇑P		Pn	15 48 45.6	+1.6
BZS	Buzias	5.66	8	⇑*i*P		Pn	15 48 45.6	+1.6
BZS	Buzias	5.66	8	P		Pn	15 48 45.6	+1.6
UDBI	Udbina	5.75	323	*e*Pn		Pn	15 48 43.7	-1.6
UDBI				Sn		Sn	15 49 50.7	-0.8
UDBI	Udbina	5.75	323	*e*Pn		Pn	15 48 43.7	-1.6
UDBI				Sn		Sn	15 49 50.7	-0.8
IDI	Anoyia	5.83	143	*e*PN		Pn	15 48 45.2	-1.3
IDI	Anoyia	5.83	143	*e*Pn		Pn	15 48 45.2	-1.3
IDI	Anoyia	5.83	143	P		Pn	15 48 48.6	+2.1
	1.2nm,0.3s,baz=311,slow=15,SNR=9.3							
IDI				S		Sn	15 49 53.3	-0.2
	2.9nm,0.3s,baz=94,slow=19,SNR=5.7							
LOT	Lotru	5.92	22	⇑*i*P		Pn	15 48 49.1	+1.3
LOT	Lotru	5.92	22	S		Sn	15 49 57.0	+1.1
LOT	Lotru	5.92	22	S		Sn	15 49 57.0	+1.1
SIVA	Sivas	6.02	145	*e*PN		Pn	15 48 50.7	+1.7
SIVA	Sivas	6.02	145	*e*Pn		Pn	15 48 50.7	+1.7
NVLJ	Novalja	6.21	319	*e*Pn		Pn	15 48 50.5	-1.0
NVLJ				Sn		Sn	15 49 58.9	-3.8
NVLJ	Novalja	6.21	319	*e*Pn		Pn	15 48 50.5	-1.0
NVLJ				Sn		Sn	15 49 58.8	-3.8
VOIR		6.35	30	⇑P		Pn	15 48 55.1	+1.5
VOIR				S		Sn	15 50 08.6	+2.3
VOIR		6.35	30	⇑*i*P		Pn	15 48 55.1	+1.5
VOIR		6.35	30	P		Pn	15 48 55.1	+1.5
VOIR				S		Sn	15 50 08.6	+2.3
MLR	Muntele Rosu	6.76	34	⇓*i*P		Pn	15 49 01.8	+2.6
MLR	Muntele Rosu	6.76	34	P		Pn	15 49 01.8	+2.6
MLR				S		Sn	15 50 17.0	+0.6
TLB	Topalu	7.18	48	⇓P		Pn	15 49 06.0	+1.1
TLB	Topalu	7.18	48	⇓*i*P		Pn	15 49 06.0	+1.1
TLB	Topalu	7.18	48	P		Pn	15 49 06.0	+1.1
HARR	Harsova	7.18	47	⇓P		Pn	15 49 06.3	+1.3
HARR	Harsova	7.18	47	⇓*i*P		Pn	15 49 06.3	+1.3
HARR	Harsova	7.18	47	P		Pn	15 49 06.

comp=Z,1.5nm,0.4s,baz=23,slow=9.7,SNR=28
MKAR Makanchi Array 44.34 60 P **P** **15 55 29.2 -0.9**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR MLR MLR
comp=Z,55nm,18.6s
MKAR Makanchi Array 44.34 60 P **P** **15 55 29.2 -0.9**
comp=Z,55nm,18.6s
MKAR Makanchi Array 44.34 60 P **P** **15 55 29.2 -0.9**
comp=Z,0.9nm,0.4s,baz=285,slow=6.9,SNR=12
MKAR LR LR 16 15 53.1
comp=Z,55nm,18.6s,baz=348,slow=39
ZALV Zalesovo Beam 44.46 49 P **P** **15 55 29.9 -1.1**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 44.46 49 P **P** **15 55 29.9 -1.1**
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 44.46 49 P **P** **15 55 29.9 -1.1**
comp=Z,0.9nm,0.4s,baz=282,slow=7.9,SNR=5.6
SONM Songino Array 59.28 51 P **P** **15 57 21.2 -0.6**
comp=Z,1.0nm,1.0s
SONM Songino Array 59.28 51 P **P** **15 57 21.2 -0.6**
comp=Z,1.3nm,1.0s,baz=283,slow=7.4,SNR=7.8
CMAR Chiang Mai Arr 69.61 83 P **P** **15 58 27.9 -1.8**
CMAR Chiang Mai Arr 69.61 83 P **P** **15 58 27.9 -1.8**
comp=Z,0.3nm,0.5s,baz=297,slow=7.6,SNR=3.6
ILAR Eielson Array 75.09 354 P **P** **15 59 01.9 +0.2**
ILAR Eielson Array 75.09 354 P **P** **15 59 01.9 +0.2**
comp=Z,0.3nm,0.7s,baz=6.7,slow=9.3,SNR=3.8
COCO West Island 87.49 108 *i* P **P** **16 00 08.6 +0.5**
COCO West Island 87.49 108 *i* P **P** **16 00 08.6 +0.5**
ASAR Alice Springs 122.32 95 PKP **PKPdf** **16 06 13.7 -1.9**
comp=Z,0.2nm,0.6s,baz=303,slow=1.5,SNR=5.2

IDC 09 15:48:51.6±5.1, 2.81S×99.61E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/23, mbtmp3.3/3, Error ellipse: s-maj=245.0km s-min=28.6km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.93**	**119**	P	P	15 56 10.0	-1.2
	0.4nm,0.9s,baz=294,slow=8.8,SNR=3.1						
ASAR	**Alice Springs**	**39.10**	**125**	P	P	15 56 22.1	+1.0
	0.2nm,0.6s,baz=302,slow=8.2,SNR=3.7						
MKAR	**Makanchi Array**	**51.70**	**345**	P	P	15 58 00.5	-0.1
	0.4nm,0.4s,baz=160,slow=8.3,SNR=5.5						

IDC 09 16:34:38.7±19.0, 26.60S×178.02W, h299km±190km, mb3.2/2, mb1 3.5/3, mb1mx3.2/15, mbtmp3.4/3, Error ellipse: s-maj=161.9km s-min=41.8km az=8.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**12.33**	**198**	P	Pn	16 37 24.6	-0.5
	1.7nm,0.3s,baz=48,slow=9.6,SNR=6.1						
URZ				S	S	16 39 27.7	-14
	0.5nm,0.3s,baz=179,slow=18,SNR=3.0						
ASAR	**Alice Springs**	**43.43**	**263**	P	P	16 42 13.4	+0.4
	0.5nm,0.4s,baz=92,slow=7.2,SNR=29						
WRA	**Warramunga Arr**	**44.07**	**268**	P	P	16 42 17.5	-0.5
	0.8nm,0.3s,baz=105,slow=7.7,SNR=34						
MKAR	**Makanchi Array**	**115.29**	**311**	PKiKP	PKPdf	16 52 43.0	-1.6
	0.4nm,0.8s,baz=78,slow=3.4,SNR=2.8						
NOA	**NORSAR Array B**	**145.00**	**352**	PKPbc	PKPab	16 53 41.0	+0.7
	0.6nm,0.8s,baz=22,slow=4.9,SNR=2.7						
AKASG	**Malin Array Be**	**148.20**	**326**	PKPbc	PKPbc	16 53 47.7	-1.5
	0.2nm,0.4s,baz=42,slow=4.5,SNR=3.9						

IDC 09 16:39:11.4±7.2, 15.98S×173.16W, h0km, mb4.0/2, mb1 4.1/3, mb1mx3.7/20, mbtmp3.9/3, ML1.5/1, Error ellipse: s-maj=308.3km s-min=28.3km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.46**	**33**	Pn	Pn	16 39 52.4	-0.5
	6.4nm,0.3s,baz=233,slow=23,SNR=6.6						
AFI				Sn	Sn	16 40 12.0	-12
	25nm,0.3s,baz=76,slow=21,SNR=10						
H11S2	**WAKE ISLAND Hy**	**39.58**	**329**	T	T	17 28 32.1	
	baz=151,slow=0.7,SNR=7.2						
H11S3	**WAKE ISLAND Hy**	**39.59**	**329**	T	T	17 28 36.0	
	baz=151,slow=0.7,SNR=4.2						
H11S1	**WAKE ISLAND Hy**	**39.59**	**329**	T	T	17 28 34.4	
	baz=151,slow=0.7,SNR=6.8						
WRA	**Warramunga Arr**	**49.94**	**257**	P	P	16 48 07.3	-0.2
	0.4nm,0.5s,baz=95,slow=6.8,SNR=18						
ASAR	**Alice Springs**	**50.15**	**252**	P	P	16 48 08.8	-0.3
	2.9nm,0.6s,baz=86,slow=8.9,SNR=102						
BRTR	**Keskin Array B**	**146.75**	**321**	PKPbc	PKPbc	16 58 55.6	-0.3
	0.2nm,0.4s,baz=27,slow=0.6,SNR=2.4						

KRSC 09 16:45:19.7±1.7, 55.16N×160.32E, h5km±5km, ML3.7, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**0.16**	**321**	P	Pg	16 45 24.6	+1.5
KMNR	**Kamenistaya**	**0.60**	**356**	P	Pb	16 45 32.9	+0.1
KMNR				*i* S	Sb	16 45 43.0	+1.3
BZMR	**Bezymyannaya**	**0.78**	**7**	P	Pb	16 45 35.8	-0.2
KIRR	**Kirishev**	**0.80**	**1**	P	Pb	16 45 35.9	-0.3
KIRR				*i* S	Sb	16 45 48.7	+1.2
KPT	**Kopyto**	**0.81**	**356**	P	Pn	16 45 37.4	-0.5
BZGR	**Bezymyannyi-Gr**	**0.81**	**15**	P	Pb	16 45 36.5	+0.1
BZWR	**Bezymyannyi-We**	**0.81**	**7**	P	Pb	16 45 36.8	+0.2
ZLN	**Zelenaya**	**0.90**	**18**	P	Pb	16 45 37.8	-0.2
KOZ	**Kozyrevsk**	**0.94**	**344**	P	Pn	16 45 40.0	+0.5
KOZ				*i* S	Sn	16 45 54.3	+1.0
MKZ	**Mys Kozlova**	**1.01**	**126**	P	Pb	16 45 39.5	-0.2
MKZ				*i* S	Sn	16 45 54.9	-0.3
KRSR	**Krestovskiy**	**1.07**	**7**	P	Pn	16 45 42.0	+0.5
KRSR				*i* S	Sn	16 45 57.7	+0.9
KLY	**Klyuchi**	**1.17**	**9**	P	Pn	16 45 43.3	+0.6
KLY				*i* S	Sn	16 46 01.5	+2.4
ESO	**Esso**	**1.20**	**310**	P	Pg	16 45 42.1	-0.6
ESO				*i* S	Sb	16 45 59.2	+0.4
SRDR	**Sredinnyy**	**1.21**	**344**	P	Pn	16 45 43.6	+0.2
SRDR				*i* S	Sn	16 46 01.6	+1.4
BDR	**Baidarnaya**	**1.50**	**19**	P	Pg	16 45 49.3	+0.8
SMKR	**Semkarok**	**1.56**	**24**	P	Pg	16 45 49.6	-0.2
SMKR				*i* S	Sg	16 46 11.7	+1.5
KBTR	**Krutoberegovo**	**1.76**	**52**	P	Pb	16 45 52.0	-0.5
KBTR				*i* S	Sg	16 46 16.3	0.0
GNL	**Ganaly**	**2.02**	**224**	P	Pn	16 45 55.3	+0.7
GNL				*i* S	Sb	16 46 22.4	-0.2
KRX	**Arik**	**2.05**	**209**	P	Pb	16 45 56.4	-1.3
SDLR	**Sedlovina**	**2.07**	**205**	P	Pb	16 45 56.6	-1.2
SDLR				*i* S	Sb	16 46 24.5	+0.6
KRER	**Koryakskii**	**2.08**	**207**	P	Pb	16 45 57.1	-1.0
KRER				*i* S	Sb	16 46 24.1	-0.3
SMAR	**Somma**	**2.10**	**206**	P	Pn	16 45 57.0	+1.2
SMAR				*i* S	Sb	16 46 25.0	-0.1
AVH	**Avacha**	**2.11**	**207**	P	Pn	16 45 56.7	+0.9
KOK	**Koryaka**	**2.12**	**209**	P	Pb	16 45 57.3	-1.4
UGLR	**Uglovaya**	**2.14**	**205**	P	Pb	16 45 58.2	-0.9
PET	**Petropavlovsk**	**2.35**	**205**	P	Pb	16 46 01.0	-1.6
PET				*i* S	Sb	16 46 30.2	-1.7
APC	**Apacha**	**2.91**	**221**	P	Pn	16 46 08.4	+1.7
RUS	**Russkaya**	**2.94**	**202**	P	Pn	16 46 08.5	+1.6
RUS				*i* S	Sn	16 46 44.9	+2.4
MTVR	**Mutnovka**	**2.97**	**206**	P	Pn	16 46 10.2	+2.6
MTVR				*i* S	Sn	16 46 45.9	+2.2
ASAK	**Asacha**	**3.13**	**208**	P	Pn	16 46 12.2	+2.4

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*KRSC **09** 16:48:38.4±1.8, 55.15N×160.36E, h5km±5km, ML3.9*
*ISCJB **09** 16:48:39.4±0.7, 55.13N±0.02×160.37E±0.05, h6km±4km, mb3.7/14, Error ellipse: s-maj=4.7km s-min=2.4km az=17.1*
*IDC **09** 16:48:39.0±0.7, 54.96N×160.20E, h0km, mb3.7/12, mb1 3.9/14, mb1mx3.7/29, mbtmp3.7/14, ML3.5/2, Error ellipse: s-maj=22.4km s-min=13.8km az=13.0*
*MOS **09** 16:48:39.1±1.6, 55.07N×160.32E, h7km, mb4.0/10, Error ellipse: s-maj=22.9km s-min=13.2km az=97.8*
ISC 09 16:48:38.7±1.3, 55.14N±0.02×160.37E±0.03, h8km±9km, n62, σ1s36/70, mb3.9/14, 1C, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**0.20**	**318**	P	**Pg**	**16 48 43.3**	**+0.6**
KMNR	**Kamenistaya**	**0.62**	**353**	P	**Pb**	**16 48 51.6**	**-0.3**
KMNR				S	**Sb**	**16 49 01.2**	**+0.3**
BZMR	**Bezymyannaya**	**0.80**	**5**	P	**Pn**	**16 48 55.0**	**-1.4**
BZMR				S	**Sn**	**16 49 06.6**	**-2.0**
KIRR	**Kirishev**	**0.82**	**359**	P	**Pn**	**16 48 55.5**	**-1.1**
KIRR				S	**Sn**	**16 49 07.3**	**-1.7**
BZGR	**Bezymyannyi-Gr**	**0.82**	**13**	P	**Pn**	**16 48 55.2**	**-1.5**
BZGR				S	**Sn**	**16 49 06.8**	**-2.3**
BZWR	**Bezymyannyi-We**	**0.83**	**5**	P	**Pn**	**16 48 55.6**	**-1.2**
KPT	**Kopyto**	**0.83**	**354**	P	**Pn**	**16 48 56.1**	**-0.7**
KPT				S	**Sn**	**16 49 08.3**	**-1.0**
ZLN	**Zelenaya**	**0.91**	**15**	P	**Pn**	**16 48 57.3**	**-0.6**
ZLN				S	**Sn**	**16 49 10.4**	**-0.9**
LGNR	**Loginova**	**0.96**	**11**	P	**Pn**	**16 48 57.5**	**-1.3**
KOZ	**Kozyrevsk**	**0.96**	**343**	P	**Pn**	**16 48 57.5**	**-1.0**
KOZ				S	**Sn**	**16 49 10.8**	**-1.6**
MKZ	**Mys Kozlova**	**0.98**	**126**	P	**Pn**	**16 48 58.0**	**-0.6**
MKZ				S	**Sn**	**16 49 11.9**	**-0.7**
CIRR	**Tsirk**	**1.00**	**12**	P	**Pn**	**16 48 59.5**	**+0.3**
KRSR	**Krestovskiy**	**1.09**	**6**	P	**Pn**	**16 49 00.6**	**+0.3**
KRSR				S	**Sn**	**16 49 16.2**	**+0.6**
KLY	**Klyuchi**	**1.19**	**8**	P	**Pg**	**16 49 01.9**	**+0.4**
KLY				S	**Sn**	**16 49 18.2**	**+0.3**
ESO	**Esso**	**1.24**	**310**	P	**Pn**	**16 49 01.2**	**-1.1**
ESO				S	**Sn**	**16 49 18.6**	**-0.5**
SRDR	**Sredinnyy**	**1.24**	**343**	P	**Pg**	**16 49 02.6**	**+0.2**
SRDR				S	**Sn**	**16 49 20.1**	**+0.8**
BDR	**Baidarnaya**	**1.51**	**18**	P	**Pg**	**16 49 07.8**	**+0.2**
SMKR	**Semkarok**	**1.57**	**23**	P	**Pg**	**16 49 08.0**	**+0.2**
SMKR				S	**Sg**	**16 49 30.1**	**+0.9**
SRKR	**Sorokina**	**1.58**	**16**	P	**Pb**	**16 49 07.8**	**-0.4**
KBTR	**Krutoberegovo**	**1.75**	**51**	P	**Pb**	**16 49 10.3**	**-0.7**
KBTR				S	**Sb**	**16 49 32.7**	**-0.5**
GNL	**Ganaly**	**2.03**	**225**	P	**Pb**	**16 49 14.3**	**-1.5**
GNL				S	**Sb**	**16 49 40.4**	**-0.8**
KRX	**Arik**	**2.05**	**210**	P	**Pb**	**16 49 15.0**	**-1.2**
KRX				S	**Sb**	**16 49 40.9**	**-1.0**
SDLR	**Sedlovina**	**2.06**	**206**	P	**Pb**	**16 49 15.3**	**-1.0**
SDLR				S	**Sb**	**16 49 41.4**	**-0.7**
KRER	**Koryakskii**	**2.07**	**208**	P	**Pb**	**16 49 15.8**	**-0.8**
SMAR	**Somma**	**2.09**	**207**	P	**Pb**	**16 49 15.9**	**-1.1**
SMAR				S	**Sb**	**16 49 42.8**	**-0.4**
AVH	**Avacha**	**2.11**	**208**	P	**Pb**	**16 49 16.5**	**-0.7**
AVH				S	**Sb**	**16 49 42.7**	**-0.8**
KOK	**Koryaka**	**2.11**	**210**	P	**Pb**	**16 49 16.3**	**-0.9**
UGLR	**Uglovaya**	**2.14**	**206**	P	**Pb**	**16 49 16.0**	**-1.7**
UGLR				S	**Sb**	**16 49 43.1**	**-1.2**
PET	**Petropavlovsk**	**2.35**	**206**	*e*PN	**Pb**	**16 49 19.7**	**-1.5**
PET				pmax	pmax		
	comp=Z,127nm,0.6s						
PET	**Petropavlovsk**	**2.35**	**206**	P	**Pb**	**16 49 19.5**	**-1.7**
PET				S	**Sb**	**16 49 48.7**	**-1.6**
PETK	**Petropavlovsk-**	**2.57**	**219**	*e*PN	**Pn**	**16 49 21.5**	**+0.9**
PETK				pmax	pmax		
	comp=Z,8.0nm,0.3s						
PETK	**Petropavlovsk-**	**2.57**	**219**	Pn	**Pn**	**16 49 21.3**	**+0.7**
	comp=Z,7.5nm,0.3s,baz=59,slow=15,SNR=38						
PETK				Sn	**Sb**	**16 49 57.9**	**+1.1**
	comp=Z,2.6nm,0.3s,baz=62,slow=22,SNR=3.3						
APC	**Apacha**	**2.92**	**222**	P	**Pn**	**16 49 27.1**	**+1.8**
APC				S	**Sn**	**16 50 02.1**	**+1.6**
RUS	**Russkaya**	**2.93**	**203**	P	**Pn**	**16 49 27.0**	**+1.6**
RUS				S	**Sb**	**16 50 03.9**	**-3.0**
MTVR	**Mutnovka**	**2.96**	**207**	P	**Pb**	**16 49 28.7**	**-3.0**
MTVR				S	**Sb**	**16 50 04.7**	**-3.3**
ASAK	**Asacha**	**3.13**	**209**	P	Pb	16 49 31.0	-3.5
BKI	**Bering**	**3.21**	**87**	S	**Sn**	**16 50 10.4**	**+2.7**
PALN	**Palana**	**3.97**	**357**	P	Pn	16 49 42.4	+2.7
FX1	**Attu Island--F**	**7.87**	**101**	Pn	Pn	16 50 36.7	+3.4
	comp=Z,3.0nm,0.3s,baz=344,slow=7.4,SNR=6.5						
FX1				Sn	**Sn**	**16 51 59.6**	**-2.8**
	comp=Z,0.7nm,0.3s,baz=130,slow=18,SNR=1.9						
YAK	**Yakutsk**	**17.29**	**306**	*i* P	P	16 52 47.8	+6.2
TIXI	**Tiksi**	**21.31**	**333**	*i* P	P	16 53 30.7	+5.3
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SONM	**Songino Array**	**33.64**	**280**	P	P	16 55 22.6	+2.9
	comp=Z,0.3nm,0.6s,baz=58,slow=6.8,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**35.69**	**169**	T	T	17 32 57.2	
	baz=356,slow=0.7,SNR=12						
H11N3	**WAKE ISLAND Hy**	**35.71**	**169**	T	T	17 33 02.8	
	baz=356,slow=0.7,SNR=12						
H11N1	**WAKE ISLAND Hy**	**35.71**	**169**	T	T	17 32 46.1	
	baz=356,slow=0.7,SNR=10						
KURK	**Kurchatov**	**46.82**	**300**	*e*P	P	16 57 13.0	+4.6
KURK				pmax	pmax		
	comp=Z,4.0nm,2.9s						
KURBB	**Kurchatov Arra**	**46.92**	**300**	P	**P**	**16 57 09.4**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=56,slow=7.7,SNR=9.7						
MKAR	**Makanchi Array**	**47.44**	**294**	P	**P**	**16 57 13.8**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**47.44**	**294**	P	**P**	**16 57 13.8**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=64,slow=6.6,SNR=3.8						
BVAR	**Borovoye Array**	**49.26**	**307**	P	**P**	**16 57 29.2**	**+1.8**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**49.26**	**307**	P	**P**	**16 57 29.2**	**+1.8**
	comp=Z,1.1nm,0.8s,baz=46,slow=6.2,SNR=3.8						
NVAR	**Mina Array Bea**	**54.91**	**72**	P	P	16 58 12.8	+2.9
	comp=Z,0.3nm,0.6s,baz=317,slow=6.5,SNR=4.0						
AKTO	**Aktyubinsk**	**56.58**	**312**	P	P	16 58 23.7	+2.3
AKTO	**Aktyubinsk**	**56.58**	**312**	P	P	16 58 23.7	+2.3
	comp=Z,0.4nm,0.3s,baz=16,slow=7.4,SNR=3.5						
FINES	**FINESS Array B**	**58.31**	**336**	P	P	16 58 35.8	+2.4
	comp=Z,1.1nm,0.7s,baz=28,slow=6.3,SNR=3.1						
OBN	**Obninsk**	**60.88**	**327**	*i* P	P	16 58 54.8	+3.6
AKASG	**Malin Array Be**	**66.95**	**329**	P	P	16 59 33.8	+2.6
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**66.95**	**329**	P	P	16 59 33.8	+2.6
	comp=Z,1.0nm,0.7s,baz=27,slow=6.2,SNR=2.6						
TXAR	**Lajitas Array**	**69.70**	**68**	P	**P**	**16 59 50.6**	**+1.7**
	comp=Z,0.6nm,0.7s,baz=316,slow=5.0,SNR=4.3						
BRTR	**Keskin Array B**	**75.15**	**320**	P	P	17 00 25.1	+3.8
	comp=Z,0.6nm,0.8s,baz=29,slow=3.3,SNR=3.4						
WRA	**Warramunga Arr**	**78.01**	**205**	P	**P**	**17 00 37.2**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=16,slow=6.0,SNR=7.0						
ASAR	**Alice Springs**	**81.69**	**204**	P	**P**	**17 00 57.0**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=12,slow=5.2,SNR=6.6						

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*JMA **09** 17:00:02.9±0.1, 33.54N×137.12E, h396km, M3.1*
*ISCJB **09** 17:00:04.6±0.6, 33.9N±0.1×137.17E±0.09, h388km±9km, mb2.8/3, Error ellipse: s-maj=21.9km s-min=11.0km az=164.7*
*IDC **09** 17:00:07.2±4.9, 33.58N×136.82E, h373km±162km, mb2.6/3, mb1 2.8/4, mb1mx2.5/26, mbtmp2.6/4, Error ellipse: s-maj=321.1km s-min=43.0km az=29.0*
ISC 09 17:00:05.3±0.9, 33.9N±0.1×137.10E±0.08, h378km±10km, n20, σ1s27/25, mb2.8/3, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.63**	**329**	P	**Pn**	**17 00 53.6**	**+0.8**
JKN2	**Miekihoku**	**0.79**	**300**	P	**Pn**	**17 00 53.6**	**+0.4**
JHMK	**Hamakita**	**1.11**	**29**	P	**Pn**	**17 00 55.5**	**+1.3**
HMMJ	**Hamamatsu 2**	**1.13**	**27**	P	**Pn**	**17 00 55.8**	**+1.4**
JWY	**Kouya**	**1.31**	**287**	P	**Pn**	**17 00 55.6**	**+0.3**
JNY	**Yasuok**	**1.63**	**22**	P	**Pn**	**17 00 58.5**	**+1.6**
JWT	**Wachi**	**2.00**	**316**	P	**Pn**	**17 00 59.7**	**+0.6**
JAI	**Aioi**	**2.21**	**269**	P	**Pn**	**17 01 00.2**	**-0.3**
JRY	**Ryogami san**	**2.62**	**34**	P	**Pn**	**17 01 05.8**	**+2.2**
JHU	**Hanno**	**2.68**	**41**	P	**Pn**	**17 01 05.7**	**+1.7**
JHU				*e*S	**S**	**17 01 52.2**	**+0.7**
BSO4	**Boso 4**	**2.91**	**66**	P	**Pn**	**17 01 07.0**	**+1.3**
BSO3	**Boso 3**	**2.98**	**70**	P	**Pn**	**17 01 06.3**	**+0.2**
BSO3				*e*S	**S**	**17 01 55.2**	**-0.2**
JAG	**Ashikaga**	**3.21**	**36**	P	**Pn**	**17 01 09.0**	**+0.5**
JAG				*e*S	**S**	**17 01 57.9**	**-1.7**
BSO1	**Boso 1**	**3.31**	**75**	P	**Pn**	**17 01 08.5**	**-0.2**
JYT	**Yasato**	**3.47**	**46**	P	**Pn**	**17 01 11.1**	**+0.3**
JYT				*e*S	**S**	**17 02 01.9**	**-2.0**
JHO	**Hitachi**	**3.95**	**45**	P	**Pn**	**17 01 16.1**	**+0.7**
JHO				*e*S	**S**	**17 02 09.4**	**-2.8**
KSRS	**Korea Array**	**8.29**	**298**	P	**P**	**17 02 04.5**	**+0.1**
	0.1nm,0.3s,baz=114,slow=12,SNR=5.7						
CMAR	**Chiang Mai Arr**	**37.29**	**255**	P	**P**	**17 06 42.6**	**-0.3**
	0.2nm,0.4s,baz=58,slow=7.5,SNR=3.5						
WRA	**Warramunga Arr**	**53.56**	**183**	P	**P**	**17 08 49.0**	**+0.2**
	0.3nm,0.3s,baz=360,slow=7.5,SNR=15						
ASAR	**Alice Springs**	**57.28**	**183**	P	**P**	**17 09 15.4**	**+0.5**
	0.3nm,0.9s,baz=0.8,slow=6.1,SNR=4.2						

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*IDC **09** 17:07:12.4±0.6, 13.08S×166.16E, h0km, mb4.6/20, mb1 4.6/23, mb1mx4.6/26, mbtmp4.6/23, ML3.6/2, MS4.4/24, Ms1 4.4/24, ms1mx4.3/38, Error ellipse: s-maj=18.7km s-min=14.0km az=94.0*
*ISCJB **09** 17:07:15.1±0.2, 13.05S±0.04×166.02E±0.03, h20km, mb5.0/78, MS4.5/33, Error ellipse: s-maj=5.2km s-min=4.2km az=174.3*
*BJI **09** 17:07:15.5, 12.75S×166.35E, h23km, mB5.3/29, mb4.9/47, Ms5.1/27, Ms7 4.7/26*
*MOS **09** 17:07:16.5±1.2, 13.03S×165.97E, h33km, mb5.2/14, Error ellipse: s-maj=11.1km s-min=8.7km az=19.7*
*AUST **09** 17:07:17.6, 12.95S×165.94E, h10km*
*NEIC **09** 17:07:17.6±0.3, 13.13S×166.15E, h35km, mb5.1/18, Error ellipse: s-maj=8.6km s-min=7.7km az=138.0*
*DJA **09** 17:07:24.3±2.2, 13.3S±7.1×166.6E±1.1, 0, h78km±17km, M4.9/47, mB5.5/7, mb4.9/47, Mw(mB)4.9/7*
ISC 09 17:07:16.9±0.3, 13.08S±0.05×166.13E±0.05, h20km, n237, σ1s74/256, mb5.0/78, MS4.5/33, 2C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.07**	**300**	Pn	**Pn**	**17 08 59.0**	**-0.3**
HNR				Sn	**Sn**	**17 10 18.6**	**-0.4**
HNR	**Honiara**	**7.07**	**300**	Pn	**Pn**	**17 08 58.9**	**-0.3**
	25nm,0.3s,baz=327,slow=1.0,SNR=51						
HNR				Sn	**Sn**	**17 10 18.6**	**-0.4**
	8.5nm,0.3s,baz=193,slow=18,SNR=3.0						
DZM	**Mont Dzumac**	**8.94**	**178**	*e*Pn	**Pn**	**17 09 24.7**	**-0.4**
	207nm,1.4s						
DZM				*e*LR	LR	17 11 25.3	
	3μm,24.5s						
DZM	**Mont Dzumac**	**8.94**	**178**	*e*Pn	**Pn**	**17 09 24.4**	**-0.7**
	67nm,0.9s						
DZM				Sn	**Sn**	**17 11 09.7**	**+4.4**
DZM				*e*S	Sx	17 11 21.2	
DZM	**Mont Dzumac**	**8.94**	**178**	Pn	**Pn**	**17 09 24.5**	**-0.5**
	1.9nm,0.3s,baz=188,slow=22,SNR=14						
DZM				Sn	**Sn**	**17 11 09.7**	**+4.4**
	1.3nm,0.3s,baz=319,slow=19,SNR=3.2						
DZM				LR	LR	17 11 49.5	
	comp=Z,492nm,21.4s,baz=23,slow=31						
MSVF	**Nonsavu**	**12.39**	**113**	*e*P	Pn	17 10 16.7	+4.4
MSVF				pmax	pmax		
	comp=Z,221nm,1.5s						
MSVF	**Nonsavu**	**12.39**	**113**	*e*Pn	Pn	17 10 16.7	+4.4
	comp=Z,221nm,1.5s						
TARA	**Tarawa**	**15.85**	**26**	*e*Pn	**Pn**	**17 11 00.3**	**+1.4**
EIDS	**Eidsvold**	**18.72**	**227**	*e*Pn	**P**	**17 11 36.0**	**+1.7**
	comp=Z,50nm,1.2s						
EIDS	**Eidsvold**	**18.72**	**227**	P	**Pn**	**17 11 36.8**	**+2.0**
	baz=19,SNR=3.2						
PMG	**Port Moresby**	**18.96**	**279**	P	**P**	**17 11 37.7**	**+0.7**
	comp=Z,50nm,1.3s,comp=Z,2μm						
PMG	**Port Moresby**	**18.96**	**279**	*e*P	**P**	**17 11 35.0**	**-2.0**
	comp=Z,55nm,1.1s						
PMG	**Port Moresby**	**18.96**	**279**	P	**P**	**17 11 35.9**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=264,slow=3.1,SNR=5.6						
CTA	**Charters Tower**	**20.27**	**247**	P	**P**	**17 11 50.2**	**-1.2**
CTA	**Charters Tower**	**20.27**	**247**	P	**P**	**17 11 50.2**	**-1.2**
	comp=Z,32nm,1.2s,baz=74,slow=14,SNR=7.7						
CTA				LR	LR	17 18 23.3	
	comp=Z,1μm,21.3s,baz=343,slow=33						
CTAO	**Charters Tower**	**20.27**	**247**	*e*P	**P**	**17 11 52.2**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,83nm,1.4s						
CTAO	**Charters Tower**	**20.27**	**247**	*e*P	**P**	**17 11 52.1**	**+0.8**
	comp=Z,83nm,1.4s						
RMQ	**Roma**	**21.06**	**228**	P	**P**	**17 12 01.8**	**+1.9**
	baz=21,SNR=24						
AFI	**Afiamalu**	**21.50**	**95**	*e*P	**P**	**17 12 01.2**	**-3.5**
	comp=Z,70nm,1.2s						
AFI	**Afiamalu**	**21.50**	**95**	LR	LR	17 18 14.5	
	comp=Z,922nm,21.2s,baz=278,slow=31						
MANU	**Manus Island**	**21.57**	**299**	P	**P**	**17 12 06.0**	**+0.6**
	baz=21,SNR=4.5						
ARMA	**Armidale**	**21.84**	**216**	P	**P**	**17 12 10.2**	**+1.9**
	baz=22,SNR=4.0						
COEN	**Coen**	**22.34**	**265**	*e*P	**P**	**17 12 14.0**	**+0.4**
	comp=Z,730nm,1.5s						
COEN	**Coen**	**22.34**	**265**	P	**P**	**17 12 14.7**	**+1.0**
	baz=22,SNR=5.1						
QLP	**Quilpie**	**24.53**	**234**	P	**P**	**17 12 35.8**	**+0.5**
	baz=24,SNR=12						
MMPI	**Merauke**	**25.70**	**278**	P	P	17 12 34.4	-12
	baz=26,SNR=3.2						
CMSA	**

comp=Z,58nm,1.0s
VAH Vaihoa 44.83 99 *e*P **P** **17 15 30.4 +0.5**
comp=Z,77nm,1.1s
MBWA Marble Bar 44.93 253 *e*P **P** **17 15 29.2 -1.5**
BKSI Bulukumba 46.00 275 P P 17 15 37.1 -2.2
comp=Z,15nm,1.1s
MEEK Meekatharra 46.42 246 P **P** **17 15 42.4 -0.1**
baz=46,SNR=8.2
KAPI Kappang 46.43 276 P **P** **17 15 42.7 0.0**
comp=Z,30nm,1.6s
KLBR Kellerberrin 47.97 239 P **P** **17 15 53.8 -0.7**
baz=48,SNR=6.1
NWAO Narrogin (SRO) 48.67 238 *e*P P 17 15 57.8 -2.1
comp=Z,82nm,1.7s
MORW Morawa 49.01 243 P **P** **17 16 02.3 -0.2**
baz=49,SNR=5.4
KKM Kota Kinabalu 53.10 288 *e*P **P** **17 16 33.3 -0.3**
comp=Z,92nm,1.4s
SJI Sawahan 53.65 270 P **P** **17 16 37.4 -0.3**
comp=Z,47nm,2.6s
SBUM Sibu 55.67 282 P **P** **17 16 52.7 +0.5**
comp=Z,15nm,1.6s
STKI Sintang 55.70 279 P **P** **17 16 53.0 +0.5**
comp=Z,22nm,1.4s,comp=Z,3µm
BJII Banjamegara 55.73 270 P **P** **17 16 53.3 +0.6**
comp=Z,45nm,1.9s
MAJO Matsushiro 55.95 333 *e*P **P** **17 16 52.1 -1.6**
MAJO pmax pmax
comp=Z,34nm,1.3s
MAJO Matsushiro 55.95 333 *e*P **P** **17 16 52.1 -1.6**
comp=Z,34nm,1.3s
MAT Matsushiro 55.95 333 P **P** **17 16 52.2 -1.6**
MAT S **S** **17 24 37.8 -3.0**
TGJI Tegal 56.39 270 P **P** **17 16 58.0 +0.6**
comp=Z,39nm,1.5s
KPJI Karang Pucung 56.49 270 P **P** **17 16 57.2 -0.9**
comp=Z,46nm,2.0s
RKT Rikitea 56.55 109 *e*LR LR 17 33 15.4
comp=Z,420nm,25.5s
JNU Nakatsue 56.95 325 P **P** **17 16 59.4 -1.6**
JNU Nakatsue 56.95 325 P **P** **17 16 59.4 -1.6**
comp=Z,12nm,0.9s,baz=168,slow=9.3,SNR=5.5
KSM Kuching 57.22 280 P **P** **17 17 02.9 -0.4**
comp=Z,23nm,1.4s
KSM Kuching 57.22 280 *e*P **P** **17 17 01.8 -1.4**
comp=Z,26nm,1.2s
KSM Kuching 57.22 280 P **P** **17 17 03.1 -0.1**
baz=57,SNR=7.4
CISI Cisompet, Garu 57.53 269 P **P** **17 17 03.7 -1.9**
comp=Z,62nm,1.4s
LEM Lembang 57.86 270 P **P** **17 17 08.5 +0.5**
comp=Z,58nm,1.6s
CBJI Citeko 58.69 270 P **P** **17 17 13.5 -0.1**
comp=Z,94nm,1.4s
DBJI Dramaga 58.76 270 P **P** **17 17 13.8 -0.3**
comp=Z,58nm,1.6s
PPBI Pangkal Pinang 60.31 275 P **P** **17 17 25.0 +0.2**
comp=Z,20nm,1.7s
ASAJ Asahikawa 60.83 341 *e*P **P** **17 17 27.2 -0.5**
comp=Z,40nm,1.5s
ASAJ Asahikawa 60.83 341 P **P** **17 17 27.4 -0.3**
comp=Z,12nm,0.6s,baz=203,slow=7.7,SNR=11
KSRS Korea Array 61.77 326 P **P** **17 17 33.2 -0.9**
comp=Z,2.8nm,0.8s,baz=140,slow=7.2,SNR=11
KSRS LR LR 17 39 29.7
comp=Z,74nm,21.5s,baz=145,slow=31
KSAR Wonju Array Be 61.78 326 P **P** **17 17 33.2 -1.0**
YSS Yuzh-Sakhalins 63.33 342⇑ *e*P **P** **17 17 44.0 -0.4**
NJ2 Nanjing 63.73 316 *e*P **P** **17 17 46.6 -0.8**
NJ2 AMB AMB
comp=Z,10.0nm,0.9s
QIZ Qiongzhong 63.98 299 P **P** **17 17 47.7 -1.6**
QIZ S **S** **17 26 22.1 -2.6**
QIZ AMB AMB
comp=Z,14nm,1.5s
QIZ LR LR
comp=Z,250nm,8.8s
VNDA Vanda 64.47 181 *e*P **P** **17 17 50.1 -1.5**
comp=Z,12nm,1.4s
VNDA Vanda 64.47 181 P **P** **17 17 50.7 -0.9**
comp=Z,1.3nm,0.7s,baz=357,slow=6.6,SNR=7.9
CASY Casey 64.63 202 *e*P **P** **17 17 51.1 -1.6**
comp=Z,51nm,1.7s
SBA Scott Base 64.77 180 *e*P **P** **17 17 53.2 -0.3**
SBA pmax pmax
comp=Z,16nm,1.3s
SBA Scott Base 64.77 180 *e*P **P** **17 17 53.2 -0.3**
comp=Z,16nm,1.3s
USRK Ussuriysk Arra 64.93 334 P **P** **17 17 54.2 -0.8**
comp=Z,11nm,1.0s,baz=133,slow=6.3,SNR=14
FX1 Attu Island--F 65.97 5 LR LR 17 47 18.7
comp=Z,278nm,18.4s,baz=21,slow=36
MDJ Mudanjiang 66.32 332 P **P** **17 18 03.6 -0.3**
MDJ pP **pP** **17 18 13.1 +2.6**
MDJ sP **sP** **17 18 16.9 +4.0**
MDJ PP **PP** **17 20 29.7 -0.6**
MDJ S **S** **17 26 51.9 -0.6**
MDJ sS **sS** **17 27 07.2 +4.0**
MDJ ScS **SKSac** **17 27 57.1 -2.1**
MDJ AMB AMB
comp=Z,18nm,1.2s
MDJ LR LR
comp=Z,210nm,5.9s
MDJ LR LR
comp=Z,100nm,5.1s
MDJ LR LR
comp=Z,240nm,6.8s
PETK Petropavlovsk- 66.32 354 P **P** **17 18 04.5 +0.7**
PETK Petropavlovsk- 66.32 354 P **P** **17 18 04.5 +0.7**
PETK Petropavlovsk- 66.32 354 P **P** **17 18 04.5 +0.7**
comp=Z,2.8nm,0.8s,baz=161,slow=9.2,SNR=3.3
PETK LR LR 17 44 02.8
comp=Z,197nm,18.5s,baz=307,slow=33
IPM Ipoh 66.95 281 P **P** **17 18 09.1 +0.4**
comp=Z,37nm,1.5s
KULM Kulim 67.54 281 P **P** **17 18 12.4 0.0**
comp=Z,16nm,2.4s
KULM Kulim 67.54 281 *e*P **P** **17 18 12.0 -0.4**
comp=Z,18nm,1.4s
CN2 Changchun 67.67 329 P **P** **17 18 12.3 -0.3**
CN2 *ep*P **pP** **17 18 20.2 +1.1**
CN2 AMB AMB
comp=Z,20nm,0.8s
CN2 AMB AMB
comp=Z,170nm,4.0s
CN2 LR LR
comp=Z,160nm,17.0s
CN2 LR LR
comp=Z,110nm,17.0s
CN2 LR LR
comp=Z,280nm,18.0s
PANO Nakornpanom 67.77 295 P **P** **17 18 14.5 +0.8**
comp=Z,188nm,1.8s
SKNT Sakolnakorn 68.26 294 P **P** **17 18 16.8 0.0**
comp=Z,26nm,1.3s
PSI Prapat 68.52 278 P P 17 18 16.7 -2.1
PSI Prapat 68.52 278 P P 17 18 16.7 -2.1
comp=Z,2.3nm,0.4s,baz=169,slow=5.2,SNR=5.3
PSI LR LR 17 50 56.2
comp=Z,285nm,19.0s,baz=296,slow=38
KLR Kul'dur 69.07 337 *e*P P 17 18 17.8 -3.4
KLR *e*S **S** **17 27 25.5 +0.2**
KLR pmax pmax
comp=Z,92nm,1.8s
GYA Guiyang 69.87 305 P **P** **17 18 26.4 -0.5**
GYA pP **pP** **17 18 36.7 +3.3**
GYA PP **PP** **17 21 02.8 +1.1**
GYA S **S** **17 27 31.7 -4.3**
GYA sS **sS** **17 27 49.2 +2.4**
GYA SKS **SKiKP** **17 28 20.0 +6.7**
GYA SS **SS** **17 32 02.4 -3.0**
GYA AMB AMB
comp=Z,10.0nm,1.0s
GYA AMB AMB
comp=Z,50nm,5.3s
GYA LR LR
comp=Z,520nm,19.3s
GYA LR LR
comp=Z,410nm,20.3s
GYA LR LR
comp=Z,530nm,18.6s
BJI Beijing 70.30 321 P **P** **17 18 28.8 -0.2**
BJI PP **PP** **17 21 01.5 -3.4**
BJI S **S** **17 27 41.1 +1.0**
BJI SS **SS** **17 32 08.9 -2.2**
BJI AMB AMB
comp=Z,20nm,0.9s
BJI LR LR
comp=Z,220nm,12.4s
BJI LR LR
comp=Z,200nm,17.4s
XAN Xi'an 71.77 313 P **P** **17 18 37.3 -0.8**
XAN pP **pP** **17 18 48.7 +4.0**
XAN sP sP 17 18 54.4 +7.3
XAN AMB AMB
comp=Z,3.0nm,1.5s
NANT Nan 71.83 295 P **P** **17 18 39.5 +0.7**
comp=Z,23nm,1.4s
KMI Kunming 72.50 302 P **P** **17 18 43.1 +0.2**
KMI S **S** **17 28 04.8 -1.9**
KMI AMB AMB
comp=Z,23nm,1.5s
KMI LR LR
comp=Z,67nm,17.9s
CM31 Chiang Mai Arr 73.27 294 *e*P **P** **17 18 47.5 +0.1**
comp=Z,12nm,1.1s
CMAR Chiang Mai Arr 73.27 294 P **P** **17 18 47.5 +0.1**
CMAR Chiang Mai Arr 73.27 294 P **P** **17 18 47.5 +0.1**
comp=Z,7.6nm,1.0s,baz=125,slow=5.3,SNR=38
CHTO Chiang Mai 73.40 294 *e*P **P** **17 18 47.8 -0.3**
CHTO pmax pmax
comp=Z,97nm,1.4s
CHTO Chiang Mai 73.40 294 P **P** **17 18 47.9 -0.2**
comp=Z,56nm,1.5s
CHTO Chiang Mai 73.40 294 *e*P **P** **17 18 47.8 -0.3**
comp=Z,97nm,1.4s
CHTO Chiang Mai 73.40 294 P **P** **17 18 48.1 0.0**
HHC Hu-ho-hao-te 73.62 320 *e*P **P** **17 18 49.8 +0.7**
HHC pP **PcP** **17 19 01.4 -3.5**
HHC sP sP 17 19 04.4 +6.3
HHC PP **PP** **17 21 36.7 +3.1**
HHC S **S** **17 28 16.3 -2.3**
HHC sS **sS** **17 28 34.4 +4.9**
HHC SKS **SKSac** **17 28 49.8 -5.1**
HHC SS **SS** **17 33 01.7 -0.6**
HHC AMB AMB
comp=Z,41nm,0.7s
HHC AMB AMB
comp=Z,510nm,6.4s
HHC LR LR
comp=Z,680nm,16.7s
HHC LR LR
comp=Z,390nm,16.3s
HHC LR LR
comp=Z,510nm,16.7s
CD2 Chengdu 74.13 308 P **P** **17 18 52.2 0.0**
CD2 pP **pP** **17 19 03.0 +4.2**
CD2 sP sP 17 19 07.2 +6.0
CD2 PP **PP** **17 21 39.4 +1.3**
CD2 S **SKiKP** **17 28 21.2 +1.7**
CD2 sS **sS** **17 28 39.2 +3.7**
CD2 SS **SS** **17 33 08.6 -1.8**
CD2 AMB AMB
comp=Z,20nm,0.9s
CD2 AMB AMB
comp=Z,190nm,5.4s
CD2 LR LR
comp=Z,270nm,8.9s
CD2 LR LR
comp=Z,280nm,11.9s
LZH Lanzhou 76.40 312 *e*P **P** **17 19 06.0 +0.7**
LZH pP **PcP** **17 19 16.5 -0.6**
LZH sP sP 17 19 21.1 +6.8
LZH *e*PP **PP** **17 21 59.2 +1.9**
LZH *e*S **S** **17 28 47.1 -2.8**
LZH sS **sS** **17 29 04.3 +3.5**
LZH *e*SS **SS** **17 33 44.2 -0.7**
LZH AMB AMB
comp=Z,47nm,1.5s
LZH AMB AMB
comp=Z,130nm,7.0s
LZH LR LR
comp=Z,470nm,16.0s
LZH LR LR
comp=Z,440nm,16.3s
LZH LR LR
comp=Z,620nm,19.0s
QSPA South Pole Qui 76.93 180 *e*P **P** **17 19 06.1 -1.7**
comp=Z,19nm,1.1s
CIT Chita 79.10 330 *e*P **P** **17 19 19.0 -0.9**
CIT *e* 17 19 36.5
CIT pmax pmax
comp=Z,71nm,3.1s
YAK Yakutsk 80.15 343 *e*P P 17 19 22.7 -2.5
YAK *e**PP pP 17 19 28.6 -3.2
YAK *e*S S 17 29 22.5 -6.1
YAK *e*SS SS 17 34 31.1 -8.7
YAK pmax pmax
comp=Z,12nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=N,383nm,7.1s
YAK smax smax
comp=E,149nm,14.9s
YAK smax smax
comp=N,36nm,6.6s
YAK MLR MLR
comp=N,335nm,17.0s
YAK MLR MLR
comp=Z,479nm,19.0s
YAK MLR MLR
comp=E,218nm,17.0s
SONM Songino Array 80.52 324 P **P** **17 19 26.7 -1.1**
SONM Songino Array 80.52 324 P **P** **17 19 26.7 -1.1**
comp=E,1.0nm,0.5s,baz=130,slow=4.5,SNR=18
SONM LR LR 17 54 16.1
comp=E,163nm,18.6s,baz=120,slow=35
GTA Gaotai 80.74 314 ⇓P **P** **17 19 29.2 +0.1**
GTA pP **PcP** **17 19 38.9 +3.1**
GTA sP **sP** **17 19 42.8 +4.7**
GTA S **S** **17 29 37.8 +1.7**
GTA AMB AMB
comp=E,11nm,1.4s
GTA AMB AMB
comp=E,180nm,7.6s
GTA LR LR
comp=E,160nm,16.6s
GTA LR LR
comp=E,140nm,16.2s
GTA LR LR
comp=E,130nm,16.4s
MAW Mawson 82.98 202 P **P** **17 19 38.8 -1.5**
MAW Mawson 82.98 202 P **P** **17 19 38.8 -1.5**
comp=E,0.3nm,0.3s,baz=71,slow=6.5,SNR=2.5
MAW LR LR 17 50 34.2
comp=E,180nm,18.0s,baz=118,slow=31
ZAK Zakamensk 83.58 325 *e*P **P** **17 19 42.5 -1.2**
ZAK pmax pmax
comp=Z,9.0nm,1.4s
IRK Irkutsk 83.96 327 *e*P P 17 19 43.0 -2.5
IRK pmax pmax
comp=Z,24nm,1.7s
TLY Talaya 84.02 326 *e*P **P** **17 19 45.8 0.0**
TLY *e* 17 19 54.5
TLY *e*S S 17 30 00.2 -8.8
TLY pmax pmax
comp=Z,9.0nm,0.7s
TLY MLR MLR
comp=Z,104nm,16.0s
YBH Yreka Blue Hor 85.05 45 LR LR 17 51 11.3
comp=Z,134nm,18.3s,baz=262,slow=31
ILAR Eielson Array 85.32 18 P P 17 19 49.1 -2.9
ILAR Eielson Array 85.32 18 P P 17 19 49.1 -2.9
comp=Z,3.5nm,0.8s,baz=238,slow=4.3,SNR=21
ILAR LR LR 17 54 00.4
comp=Z,275nm,18.5s,baz=294,slow=33
CMB Columbia Colle 85.37 49 P **P** **17 19 53.2 +0.2**
CMB Columbia Colle 85.37 49 P **P** **17 19 53.2 +0.2**
MOY Mondy 85.46 325 *e*P **P** **17 19 52.4 -0.8**
ISA Isabella 86.02 52 *e*P **P** **17 19 56.0 -0.3**
ISA Isabella 86.02 52 *e*P **P** **17 19 56.0 -0.3**
ISA Isabella 86.02 52 P **P** **17 19 56.1 -0.3**
baz=86
BBB Bella Bella 86.04 34 LR LR 17 52 28.3
comp=Z,471nm,18.8s,baz=261,slow=32
EDW2 Edwards Air Fo 86.14 53 P **P** **17 19 56.7 -0.3**
baz=86
LRMC Laurel Mountai 86.56 53 P **P** **17 19 58.8 -0.3**
baz=87
MPMC Manual Prospec 86.90 52 P **P** **17 20 00.9 +0.1**
baz=87
PFO Pinyon Flat Ob 86.95 55 P **P** **17 20 01.5 +0.4**
baz=87
PFO Pinyon Flat Ob 86.95 55 LR LR 17 53 05.6
comp=Z,574nm,18.4s,baz=84,slow=32
NVAR Mina Array Bea 87.05 50 LR LR 17 51 46.7
comp=Z,706nm,19.6s,baz=0.4,slow=31
PALK Pallekele 87.20 278 P **P** **17 20 01.8 -0.8**
comp=Z,18nm,2.3s
BELC Belle Mtn. Jos 87.43 54 P **P** **17 20 02.5 -0.8**
baz=88
BC3 Big Chuckawall 87.76 55 P **P** **17 20 04.1 -0.8**
baz=88
TUQ Turquoise Moun 87.92 53 P **P** **17 20 04.9 -0.8**
baz=88
GMRC Granite Mounta 87.93 54 P **P** **17 20 05.5 -0.3**
baz=88
GLA Glamis 88.08 56 P **P** **17 20 06.2 -0.2**
baz=88
IRM Iron Mountain 88.15 54 P **P** **17 20 06.7 0.0**
baz=88
113A Mohawk Valley, 88.86 56 P **P** **17 20 10.2 +0.2**
baz=89
PDMCI Parker Dam,Lak 88.99 55 P **P** **17 20 10.8 +0.2**
baz=89
HVS Khovu-Aksy 89.39 323⇑ *e*P **P** **17 20 11.0 -1.2**
HVS pmax pmax
comp=Z,45nm,1.4s
214A Organ Pipe Nat 89.41 57 P **P** **17 20 12.7 +0.1**
baz=90
W13A Hualapai Mount 89.42 54 P **P** **17 20 13.1 +0.3**
baz=90
Y14A Wickenburg 89.79 55 P **P** **17 20 14.5 +0.1**
baz=90
MFID Camas Ranch 90.40 45 P **P** **17 20 17.5 +0.4**
baz=90
WMQ Urumqi 90.79 315 P **P** **17 20 18.2 -0.7**
WMQ pP **pP** **17 20 28.8 +3.2**
WMQ sP **sP** **17 20 32.7 +4.8**
WMQ PP **PP** **17 23 55.8 +1.0**
WMQ SKS **SKSac** **17 30 44.7 -5.0**
WMQ S **SKKSac** **17 31 09.0 +4.7**
WMQ AMB AMB
comp=Z,15nm,1.2s
WMQ AMB AMB
comp=Z,240nm,4.2s
WMQ LR LR
comp=Z,250nm,6.0s
WMQ LR LR
comp=Z,200nm,6.0s
U15A North Rim 91.03 53 P **P** **17 20 20.5 0.0**
baz=91
NEW Newport 91.04 41 LR LR 17 53 31.2
comp=Z,151nm,19.2s,baz=128,slow=30
X16A Lo Mia Camp, P 91.17 55 P **P** **17 20 21.4 +0.4**
baz=91
WUAZ Wupatki 91.51 54 P **P** **17 20 22.7 +0.1**
baz=92
319A Douglas 92.17 58 P **P** **17 20 26.2 +0.5**
baz=92
X18A Snowflake 92.39 55 P **P** **17 20 26.5 -0.1**
baz=92
320A Kipp Ranch, An 92.79 59 P **P** **17 20 29.4 +0.8**
baz=93
220A Playas Peak, P 92.92 58 P **P** **17 20 30.0 +0.9**
baz=93
Z20A Nine Sixteen R 93.15 57 P **P** **17 20 31.4 +1.2**
baz=93
Y20A Horse Springs, 93.51 56 P **P** **17 20 32.4 +0.4**
baz=94
PV01 Paradox Valley 94.32 52 P **P** **17 20 33.8 -1.7**
Z22A Elephant Butte 94.51 57 P **P** **17 20 35.7 -0.7**
baz=95
S21A Coal Bank Pass 94.82 53 P **P** **17 20 37.7 -0.3**
baz=95
SNAA Sanae 95.12 183 *e*P **P** **17 20 40.1 +1.7**
comp=Z,10nm,1.3s
R21A Cimarron 95.16 52 P **P** **17 20 39.9 +0.5**
baz=95
MK31 Makanchi Array 95.25 317 *e*P **P** **17 20 38.4 -1.0**
MK31 Makanchi Array 95.25 317 *e*P **P** **17 20 38.4 -1.0**
MKAR Makanchi Array 95.25 317 P **P** **17 20 37.8 -1.5**
MKAR Makanchi Array 95.25 317 P **P** **17 20 37.8 -1.5**
MKAR Makanchi Array 95.25 317 P **P** **17 20 37.8 -1.5**
comp=Z,2.6nm,0.8s,baz=98,slow=6.0,SNR=12
ZAA0 Zalesovo Array 95.42 324 *e*P **P** **17 20 37.7 -2.2**
ZALV Zalesovo Beam 95.42 324 P P 17 20 37.5 -2.4
ZALV Zalesovo Beam 95.42 324 P P 17 20 37.5 -2.4
ZALV Zalesovo Beam 95.42 324 P P 17 20 37.5 -2.4
comp=Z,2.9nm,0.9s,baz=106,slow=4.7,SNR=13
ZALV LR LR 18 02 04.4
comp=Z,99nm,19.2s,baz=70,slow=34
S22A 4UR Ranch, Cre 95.58 53 P **P** **17 20 41.8 +0.4**
baz=96
EGMT Eagleton 95.72 42 P **P** **17 20 42.2 +0.7**
baz=96
R22A Saguache, Gunn 95.74 52 P **P** **17 20 42.5 +0.4**
baz=96
Q22A Crested Butte, 95.75 52 P **P** **17 20 42.2 +0.1**
baz=96
TXAR Lajitas Array 96.47 61 P **P** **17 20 45.4 0.0**
TXAR Lajitas Array 96.47 61 P **P** **17 20 45.4 0.0**
comp=Z,0.6nm,0.9s,baz=242,slow=5.8,SNR=4.0
NVS Novosibirsk 96.53 325 *e*P P 17 20 41.1 -3.8
NVS *e* 17 31 09.0
NVS pmax pmax
comp=Z,14nm,1.9s
NVS pmax pmax
comp=E,11nm,2.1s
KSH Kashi 98.31 309 *e*P **P** **17 20 53.1 -0.4**
KSH *ep*P pP 17 21 06.7 +6.5
KSH sP sP 17 21 10.5 +7.9
KSH *e*PP **PP** **17 24 54.8 +1.1**
ARCES ARCESS Array B 118.39 345 PKP **PKPdf** **17 26 00.2 -2.2**
ARCES ARCESS Array B 118.39 345 PKP **PKPdf** **17 26 00.2 -2.2**
comp=E,1.4nm,0.7s,baz=90,slow=2.9,SNR=3.2
BOSA Boshof 123.88 222 PKP **PKPdf** **17 26 12.6 -1.9**
BOSA Boshof 123.88 222 PKP **PKPdf** **17 26 12.6 -1.9**
comp=E,3.3nm,1.0s,baz=7.1,slow=8.1,SNR=3.7
AKASG Malin Array Be 128.76 326 PKIKP **PKPdf** **17 26 21.4 -1.4**
AKASG Malin Array Be 128.76 326 PKP **PKPdf** **17 26 21.4 -1.4**
AKASG Malin Array Be 128.76 326 PKP **PKPdf** **17 26 21.4 -1.4**
comp=E,0.3nm,0.4s,baz=35,slow=2.4,SNR=4.2
BRTR Keskin Array B 130.60 311 PKP **PKPdf** **17 26 25.8 -1.0**
BRTR Keskin Array B 130.60 311 PKP **PKPdf** **17 26 25.8 -1.0**
comp=E,0.4nm,0.9s,baz=42,slow=2.3,SNR=2.8
STHS Stebnicka Huta 133.70 329 *e*PKP **PKPdf** **17 26 34.8 +2.5**
CEL Celeste 143.57 319 *e*PKPdf PKPab 17 26 45.9 -1.2
BNI Bardonecchia 143.65 335 *e*PKIKP PKPab 17 26 46.5 -0.9
BNI Bardonecchia 143.65 335 *e*PKPdf PKPab 17 26 46.5 -0.9
SSB Saint Sauveur 144.29 338 *e*PKIKP **PKPab** **17 26 49.2 -0.5**
SSB Saint Sauveur 144.29 338 *e*PKPdf **PKPab** **17 26 49.1 -0.5**
VSL Villasalto 146.64 326 *e*PKPbc **PKPdf** **17 26 56.1 +0.2**
KEST Kesra 149.24 321 PKPbc **PKPdf** **17 27 03.5 +3.1**
KEST Kesra 149.24 321 PKPbc **PKPdf** **17 27 03.5 +3.1**
comp=E,6.0nm,1.0s,baz=4.4,slow=3.9,SNR=15
CMAH Djebel Manchou 149.76 325 P **PKPdf** **17 27 04.5 +3.3**
ABSA Djebel Ababsia 149.98 324 P **PKPbc** **17 27 05.6 -0.9**
CKFL Kef-Lekhel 150.32 325 P **PKPbc** **17 27 06.0 -1.3**
CASM Ain Smara 150.55 325 P **PKPbc** **17 27 07.0 -0.8**
DFRA Djebel Bou Aff 150.68 326 P **PKPbc** **17 27 08.0 -0.2**
RCBR Riachuelo 151.16 129 *e*PKPbc **PKPbc** **17 27 09.8 -0.1**
SET Setif 151.19 326 P **PKPbc** **17 27 09.0 -0.4**
POLO Lamas de Olo 151.32 350 *e*PKPab **PKPbc** **17 27 12.6 +3.1**
MVO Moncorvo 151.39 349 *e*PKPab **PKPbc** **17 27 13.1 +3.5**
ESDC Sonseca Array 152.11 344 PKPbc **PKPbc** **17 27 09.2 -2.1**
ESDC PKPab **PKPab** **17 27 20.0 -0.8**
ESDC Sonseca Array 152.11 344 PKPbc **PKPbc** **17 27 09.2 -2.1**
comp=E,1.5nm,0.8s,baz=10,slow=1.6,SNR=5.8
ESDC PKPab **PKPab** **17 27 20.0 -0.8**
comp=E,0.8nm,0.6s,baz=360,slow=2.3,SNR=9.5
ESLA Sonseca Array 152.11 344 PKPbc **PKPbc** **17 27 12.4 +1.1**
PMRV Marv??o 153.14 349 *e*PKPab **PKPbc** **17 27 16.7 +3.1**
TOA0 Torodi Ar. Sit 164.84 272 *e*PKPab **PKPab** **17 28 15.4 -1.2**
TORD Torodi Ar. Bea 164.84 272 PKP **PKPdf** **17 27 17.7 -2.9**
TORD PKPab **PKPab** **17 28 15.5 -1.1**
TORD Torodi Ar. Bea 164.84 272 PKP **PKPdf** **17 27 17.7 -2.9**
comp=E,0.8nm,0.9s,baz=160,slow=1.9,SNR=3.3
TORD PKPab **PKPab** **17 28 15.5 -1.1**
comp=E,3.4nm,1.1s,baz=97,slow=4.7,SNR=8.3

*MAN **09** 17:13:35, 8.6°64N×128.1°11E, h73km, mb4.8, ML3.8, MS3.8*
*IDC **09** 17:13:44.6±2.9, 8.6°56N×126.9°96E, h0km, mb3.5/4,*
mb1 3.7/4, mb1mx3.4/24, mbtmp3.5/4, Error ellipse:

s-maj=170.5km s-min=28.9km az=69.0

ISC 09 17:13:49.1±1.4, 8°49.N±0.08×127.1E±0.1, h39km, n11, σ2.58/11, mb3.6/4, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BIPH	**Bislig**	**0.83**	**249**	*eP*		Pn	17 14 00.4	-3.9
BIPH				*i*	S	**Sn**	**17 14 10.7**	**-4.8**
BUTP	**Butuan**	**1.58**	**288**	*eP*		**Pn**	**17 14 14.2**	**-0.4**
BUTP				*eS*		Sn	17 14 44.5	+11
MATI	**Mati**	**1.77**	**210**	*eP*		**Pn**	**17 14 15.2**	**-2.0**
SCPH	**Surigao**	**2.08**	**308**	*eP*		**Pn**	**17 14 20.2**	**-1.3**
SCPH				*eS*		**Sn**	**17 14 43.8**	**-2.4**
BUKP	**Musuan**	**2.15**	**254**	*eP*		**Pn**	**17 14 23.5**	**+1.0**
CGP	**Cagayan de Oro**	**2.42**	**269**	*eP*		**Pn**	**17 14 26.8**	**+0.5**
CGP				*eS*		**Sn**	**17 14 58.5**	**+3.8**
PAGZ	**Pagadian**	**3.78**	**261**	*eP*		Pn	17 14 47.2	+2.3
FITZ	**Fitzroy Crossi**	**26.46**	**183**	P		**P**	**17 19 23.5**	**+0.8**
	1.4nm,0.8s,baz=14,slow=12,SNR=2.9							
WRA	**Warramunga Arr**	**29.13**	**166**	P		P	17 19 49.2	+2.7
	0.2nm,0.5s,baz=348,slow=10,SNR=3.3							
ASAR	**Alice Springs**	**32.63**	**168**	P		**P**	**17 20 19.0**	**+1.5**
	1.1nm,1.0s,baz=348,slow=7.4,SNR=4.1							
MKAR	**Makanchi Array**	**53.96**	**323**	P		**P**	**17 23 09.0**	**-0.1**
	0.5nm,0.6s,baz=125,slow=8.4,SNR=3.2							

IDC 09 17:15:16.1±1.6, 13.12S×166.03E, h0km, mb3.8/5, mb1 4.0/7, mb1mx3.9/18, mbtmp3.9/7, ML4.1/2, Error ellipse: s-maj=34.4km s-min=26.9km az=102.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**7.00**	**301**	Pn		Pn	17 17 01.1	+1.1
	7.8nm,0.3s,baz=132,slow=4.8,SNR=7.4							
HNR				Sn		Sn	17 18 21.1	+0.7
	2.3nm,0.3s,baz=203,slow=15,SNR=2.6							
DZM	**Mont Dzumac**	**8.91**	**178**	Pn		Pn	17 17 26.8	+0.5
	0.8nm,0.3s,baz=354,slow=21,SNR=6.2							
STKA	**Stephens Creek**	**29.18**	**226**	P		P	17 21 20.1	+0.8
	1.5nm,0.6s,baz=58,slow=8.5,SNR=7.0							
WRA	**Warramunga Arr**	**31.09**	**253**	P		P	17 21 35.4	-1.1
	0.8nm,0.8s,baz=84,slow=9.2,SNR=4.0							
ASAR	**Alice Springs**	**32.17**	**246**	P		P	17 21 45.5	-0.5
	2.6nm,0.7s,baz=75,slow=9.4,SNR=30							
SONM	**Songino Array**	**80.50**	**324**	P		P	17 27 30.8	+0.6
	0.3nm,0.9s,baz=131,slow=5.9,SNR=2.5							
ILAR	**Eielson Array**	**85.38**	**18**	P		P	17 27 54.5	-0.4
	0.4nm,0.7s,baz=236,slow=6.1,SNR=4.6							

*ISCJB **09** 17:31:29.3±0.6, 23.2N±0.1×94.35E±0.10, h58km, mb3.9/9, MS2.9/1, Error ellipse: s-maj=19.0km s-min=6.8km az=37.0*

*IDC **09** 17:31:34.4±3.9, 23.29N×94.30E, h92km±36km, mb3.6/9, mb1 3.7/10, mb1mx3.4/28, mbtmp3.6/10, MS3.0/1, Ms1 3.0/1, ms1mx2.5/39, Error ellipse: s-maj=57.1km s-min=12.7km az=58.0*

ISC 09 17:31:31.4±0.8, 23.2N±0.1×94.2E±0.1, h58km, n27, σ1.9/37/26, mb4.0/9, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IMP	**Imphal**	**1.56**	**351**	*ex*		**Pn**	**17 31 59.0**	**+2.1**
IMP	**Imphal**	**1.56**	**351**	*eP*		**Pn**	**17 31 59.0**	**+2.1**
SHL	**Shillong**	**3.14**	**318**	*ePN*		Pn	17 32 23.0	+4.4
SHL				*eSN*		**Sn**	**17 32 55.0**	**0.0**
SLGI	**Shiliguri**	**6.29**	**304**	*ex*		**Sn**	**17 34 11.4**	**-0.6**
SLGI	**Shiliguri**	**6.29**	**304**	*ex*		**Sn**	**17 34 11.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**6.50**	**136**	P		**Pn**	**17 33 06.7**	**+2.2**
	0.5nm,0.3s,baz=313,slow=13,SNR=7.6							
CMAR				S		Sn	17 34 38.0	+21
	0.1nm,0.3s,baz=306,slow=31,SNR=2.0							
ODAN	**Odare**	**7.16**	**302**	*ePn*		**Pn**	**17 33 15.3**	**+1.6**
ODAN				*eSn*		Sn	17 34 22.8	-11
	374nm,0.4s							
TAPN	**Taplejung**	**7.17**	**306**	*ePn*		**Pn**	**17 33 15.9**	**+2.0**
TAPN				*eSn*		Sn	17 34 23.8	-10
	188nm,0.5s							
RAMN	**Ramite**	**7.83**	**300**	*ePn*		**Pn**	**17 33 24.6**	**+1.7**
JIRN	**Jiri**	**8.48**	**303**	*ePn*		**Pn**	**17 33 33.2**	**+1.3**
JIRN				*eSn*		Sn	17 34 55.5	-11
	168nm,0.3s							
GUN	**Gumba**	**8.84**	**303**	*ePn*		**Pn**	**17 33 38.2**	**+1.3**
GUN				*eSn*		Sn	17 35 03.8	-12
	214nm,0.5s							
PKI	**Pulchoki**	**9.05**	**300**	*ePn*		**Pn**	**17 33 41.3**	**+1.6**
KKN	**Kakani**	**9.25**	**301**	*ePn*		**Pn**	**17 33 43.8**	**+1.4**
KKN				*eSn*		Sn	17 35 12.5	-13
	102nm,0.5s							
DMN	**Daman**	**9.31**	**300**	*ePn*		**Pn**	**17 33 44.8**	**+1.6**
GKN	**Gorkha**	**9.86**	**301**	*ePn*		**Pn**	**17 33 51.2**	**+0.6**
GKN				*eSn*		Sn	17 35 27.1	-13
	118nm,0.3s							
KOLN	**Koldanda**	**10.59**	**297**	*ePn*		**Pn**	**17 34 00.8**	**+0.1**
KOLN				*eSn*		Sn	17 35 44.9	-13
	84nm,0.4s							
DANN	**Dangsing**	**10.70**	**301**	*ePn*		**Pn**	**17 34 03.0**	**+0.7**
DANN				*eSn*		Sn	17 35 47.9	-13
	50nm,0.4s							
AAK	**Ala-Archa**	**25.34**	**324**	P		**P**	**17 36 54.2**	**+1.1**
	1.1nm,0.4s,baz=156,slow=10.0,SNR=5.7							
MKAR	**Makanchi Array**	**25.39**	**341**	P		**P**	**17 36 53.2**	**0.0**
	6.5nm,0.5s,baz=150,slow=9.8,SNR=92							
SONM	**Songino Array**	**26.40**	**19**	P		**P**	**17 37 02.1**	**-0.5**
	0.3nm,0.7s,baz=198,slow=9.1,SNR=2.9							
SONM				sP		sP	17 37 36.1	+12
	0.6nm,0.7s,baz=206,slow=12,SNR=3.7							
TGY	**Tagaytay City**	**26.86**	**105**	LR		LR	17 49 31.2	
	comp=Z,31nm,19.8s,baz=78,slow=40							
ZALV	**Zalesovo Beam**	**31.47**	**349**	P		**P**	**17 37 46.2**	**-1.2**
	0.6nm,0.5s,baz=132,slow=8.6,SNR=5.1							
FITZ	**Fitzroy Crossi**	**51.29**	**141**	P		**P**	**17 40 29.0**	**-0.8**
	1.3nm,0.8s,baz=332,slow=7.6,SNR=6.2							
WRA	**Warramunga Arr**	**58.09**	**134**	P		**P**	**17 41 18.1**	**-1.0**
	0.9nm,0.4s,baz=324,slow=7.4,SNR=42							
FINES	**FINESS Array B**	**59.42**	**329**	P		**P**	**17 41 26.9**	**-0.9**
	2.7nm,0.9s,baz=74,slow=6.1,SNR=3.4							
ASAR	**Alice Springs**	**60.51**	**138**	P		**P**	**17 41 35.4**	**-0.4**
	1.6nm,0.5s,baz=320,slow=6.8,SNR=86							
NOA	**NORSAR Array B**	**66.59**	**328**	P		**P**	**17 42 13.8**	**-1.6**
	0.7nm,0.7s,baz=95,slow=5.4,SNR=2.4							

IDC 09 17:45:14.8±1.7, 11.43S×165.52E, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.7/19, mbtmp3.7/7, ML3.7/2, Error ellipse: s-maj=40.1km s-min=30.6km az=117.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**5.83**	**289**	Pn		Pn	17 46 44.4	+1.8
	1.5nm,0.3s,baz=258,slow=9.3,SNR=2.6							
DZM	**Mont Dzumac**	**10.62**	**175**	Pn		Pn	17 47 50.2	+1.8
	0.7nm,0.3s,baz=319,slow=19,SNR=7.2							
DZM				Sn		Sn	17 49 48.6	+0.3
	0.1nm,0.3s,baz=294,slow=20,SNR=2.9							
WRA	**Warramunga Arr**	**31.15**	**250**	P		P	17 51 34.9	-0.8
	1.6nm,0.8s,baz=82,slow=9.9,SNR=9.0							
ASAR	**Alice Springs**	**32.42**	**244**	P		P	17 51 46.2	-0.7
	0.3nm,0.9s,baz=73,slow=8.6,SNR=4.1							
CMAR	**Chiang Mai Arr**	**72.06**	**294**	P		P	17 56 42.0	+0.6
	0.4nm,0.5s,baz=115,slow=4.1,SNR=3.5							
SONM	**Songino Array**	**78.85**	**324**	P		P	17 57 19.9	0.0
	0.1nm,0.5s,baz=124,slow=7.2,SNR=2.2							
ILAR	**Eielson Array**	**83.94**	**19**	P		P	17 57 46.1	-0.3
	0.4nm,0.9s,baz=223,slow=5.0,SNR=4.2							

*IDC **09** 17:58:33.8±0.7, 13.24S×166.22E, h0km, mb4.3/15, mb1 4.4/17, mb1mx4.4/21, mbtmp4.3/17, ML4.4/2, MS2.9/3, Ms1 2.9/3, ms1mx2.8/24, Error ellipse: s-maj=23.9km s-min=16.3km az=111.0*

*ISCJB **09** 17:58:35.5±0.4, 13.21S±0.06×166.06E±0.06, h20km, mb4.5/23, MS3.4/1, Error ellipse: s-maj=10.1km s-min=7.6km az=138.6*

*NEIC **09** 17:58:40.0±1.1, 13.21S×166.11E, h41km±10km, mb4.7/10, Error ellipse: s-maj=9.8km s-min=9.2km az=195.0*

ISC 09 17:58:36.9±0.5, 13.25S±0.06×166.17E±0.09, h20km, n58, σ1.9/04/68, mb4.5/23, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**7.18**	**301**	Pn		**Pn**	**18 00 21.6**	**+0.7**
HNR				Sn		**Sn**	**18 01 40.7**	**-1.2**
HNR	**Honiara**	**7.18**	**301**	Pn		**Pn**	**18 00 21.5**	**+0.7**
	8.5nm,0.3s,baz=150,slow=4.6,SNR=21							
HNR				Sn		**Sn**	**18 01 40.7**	**-1.2**
	2.0nm,0.3s,baz=198,slow=19,SNR=2.2							
HNR				LR		LR	18 01 47.7	
	comp=Z,48nm,21.4s,baz=266,slow=27							
DZM	**Mont Dzumac**	**8.78**	**178**	*ePn*		**Pn**	**18 00 43.5**	**+0.7**
	16nm,0.4s							
DZM				Sn		**Sn**	**18 02 18.9**	**-2.4**
DZM	**Mont Dzumac**	**8.78**	**178**	Pn		**Pn**	**18 00 43.6**	**+0.7**
	2.9nm,0.3s,baz=11,slow=23,SNR=20							
DZM				Sn		**Sn**	**18 02 18.9**	**-2.4**
	baz=90,slow=20,SNR=1.8							
DZM				LR		LR	18 03 32.9	
	comp=Z,45nm,19.4s,baz=204,slow=34							
MSVF	**Nonsavu**	**12.29**	**113**	Pn		Pn	18 01 34.5	+3.5
EIDS	**Eidsvold**	**18.63**	**227**	P		**Pn**	**18 02 55.3**	**+1.5**
CTA	**Charters Tower**	**20.24**	**248**	P		**P**	**18 03 11.3**	**+0.3**
CTA	**Charters Tower**	**20.24**	**248**	P		**P**	**18 03 11.3**	**+0.3**
	7.7nm,0.8s,baz=88,slow=14,SNR=4.0							
CTAO	**Charters Tower**	**20.24**	**248**	*ePn*		Pn	18 03 12.7	-0.4
	9.3nm,0.8s							
STKA	**Stephens Creek**	**29.18**	**227**	*eP*		**P**	**18 04 38.3**	**+1.2**
	0.8nm,0.8s							
STKA	**Stephens Creek**	**29.18**	**227**	P		**P**	**18 04 38.5**	**+1.3**
	3.2nm,0.7s,baz=50,slow=10,SNR=10							
WRAB	**Tennant Creek**	**31.17**	**253**	*eP*		**P**	**18 04 54.4**	**-0.4**
	18nm,1.4s							
WRA	**Warramunga Arr**	**31.18**	**253**	P		**P**	**18 04 54.5**	**-0.5**
WRA				PcP		**PcP**	**18 07 49.3**	**-0.5**
WRA	**Warramunga Arr**	**31.18**	**253**	P		**P**	**18 04 54.5**	**-0.5**
	2.1nm,0.7s,baz=85,slow=9.0,SNR=20							
WRA				PcP		**PcP**	**18 07 49.3**	**-0.5**
	1.4nm,0.9s,baz=81,slow=2.6,SNR=4.4							
AS31	**Alice Springs**	**32.24**	**247**	*eP*		**P**	**18 05 03.8**	**-0.5**
ASAR	**Alice Springs**	**32.24**	**247**	P		**P**	**18 05 04.2**	**-0.1**
ASAR				PcP		**PcP**	**18 07 51.9**	**-0.8**
ASAR	**Alice Springs**	**32.24**	**247**	P		**P**	**18 05 04.2**	**-0.1**
	11nm,0.7s,baz=72,slow=9.5,SNR=168							
ASAR				PcP		**PcP**	**18 07 51.9**	**-0.8**
	0.9nm,0.8s,baz=69,slow=2.4,SNR=6.5							
ASAR				LR		LR	18 15 50.0	
	comp=Z,80nm,19.7s,baz=84,slow=32							
NWAO	**Narrogin (SRO)**	**48.61**	**238**	*eP*		**P**	**18 07 19.7**	**+0.2**
	14nm,1.0s							
KKM	**Kota Kinabalu**	**53.18**	**288**	*eP*		**P**	**18 07 52.8**	**-1.5**
	35nm,1.2s							
MAJO	**Matsushiro**	**56.11**	**333**	P		**P**	**18 08 14.0**	**-1.0**
	13nm,1.1s							
KSM	**Kuching**	**57.28**	**280**	*eP*		**P**	**18 08 22.8**	**-1.0**
	9.4nm,1.1s							
ASAJ	**Asahikawa**	**60.99**	**341**	P		**P**	**18 08 49.0**	**+0.1**
ASAJ	**Asahikawa**	**60.99**	**341**	P		**P**	**18 08 49.0**	**+0.1**
	28nm,1.1s,baz=204,slow=12,SNR=4.0							
KSRS	**Korea Array**	**61.92**	**326**	P		**P**	**18 08 55.9**	**+0.7**
	1.6nm,0.8s,baz=128,slow=7.8,SNR=6.7							
KSAR	**Wonju Array Be**	**61.93**	**326**	P		**P**	**18 08 55.9**	**+0.6**
VNDA	**Vanda**	**64.31**	**181**	P		**P**	**18 09 10.5**	**-0.1**
VNDA	**Vanda**	**64.31**	**181**	P		**P**	**18 09 10.5**	**-0.1**
	1.4nm,0.8s,baz=352,slow=6.2,SNR=5.3							
SBA	**Scott Base**	**64.61**	**180**	*eP*		**P**	**18 09 14.7**	**+2.1**
	5.1nm,0.9s							
USRK	**Ussuriysk Arra**	**65.09**	**334**	P		**P**	**18 09 16.9**	**+0.9**
	5.0nm,0.8s,baz=117,slow=5.0,SNR=8.8							
PETK	**Petropavlovsk-**	**66.48**	**354**	P		**P**	**18 09 24.6**	**-0.3**
PETK	**Petropavlovsk-**	**66.48**	**354**	P		**P**	**18 09 24.6**	**-0.3**
	2.7nm,0.7s,baz=181,slow=7.2,SNR=4.6							
CM31	**Chiang Mai Arr**	**73.37**	**294**	*eP*		**P**	**18 10 09.7**	**+1.7**
	5.9nm,1.0s							
CMAR	**Chiang Mai Arr**	**73.37**	**294**	P		**P**	**18 10 09.8**	**+1.8**
CMAR	**Chiang Mai Arr**	**73.37**	**294**	P		**P**	**18 10 09.8**	**+1.8**
	4.0nm,0.8s,baz=127,slow=4.8,SNR=36							
CHTO	**Chiang Mai**	**73.49**	**294**	*eP*		**P**	**18 10 09.4**	**+0.7**
	11nm,0.7s							
QSPA	**South Pole Qui**	**76.77**	**180**	*eP*		**P**	**18 10 26.9**	**-0.1**
	3.0nm,0.8s							
SONM	**Songino Array**	**80.67**	**324**	P		**P**	**18 10 49.2**	**+0.6**
SONM	**Songino Array**	**80.67**	**324**	P		**P**	**18 10 49.2**	**+0.6**
	1.3nm,0.9s,baz=121,slow=4.0,SNR=4.7							
ILAR	**Eielson Array**	**85.46**	**18**	P		**P**	**18 11 11.3**	**-1.5**
ILAR	**Eielson Array**	**85.46**	**18**	P		**P**	**18 11 11.3**	**-1.5**
	1.4nm,0.8s,baz=238,slow=5.2,SNR=6.0							
NVAR	**Mina Array Bea**	**87.12**	**50**	P		**P**	**18 11 23.9**	**+1.9**
NVAR	**Mina Array Bea**	**87.12**	**50**	P		**P**	**18 11 23.9**	**+1.9**
	0.3nm,0.6s,baz=236,slow=7.4,SNR=3.5							
MKAR	**Makanchi Array**	**95.40**	**317**	P		**P**	**18 12 00.1**	**+0.1**
MKAR	**Makanchi Array**	**95.40**	**317**	P		**P**	**18 12 00.1**	**+0.1**
	1.3nm,0.6s,baz=96,slow=6.9,SNR=8.8							
ZALV	**Zalesovo Beam**	**95.57**	**324**	P		**P**	**18 11 58.8**	**-1.8**
ZALV	**Zalesovo Beam**	**95.57**	**324**	P		**P**	**18 11 58.8**	**-1.8**
	1.4nm,0.8s,baz=123,slow=5.3,SNR=5.2							
ARCES	**ARCESS Array B**	**118.56**	**345**	PKP		**PKPdf**	**18 17 22.3**	**-0.5**
ARCES	**ARCESS Array B**	**118.56**	**345**	PKP		**PKPdf**	**18 17 22.3**	**-0.5**
	1.3nm,0.9s,baz=21,slow=3.1,SNR=4.2							
AKASG	**Malin Array Be**	**128.91**	**326**	PKP		**PKPdf**	**18 17 43.8**	**+0.6**
AKASG	**Malin Array Be**	**128.91**	**326**	PKP		**PKPdf**	**18 17 43.8**	**+0.6**
	0.8nm,0.7s,baz=76,slow=3.1,SNR=4.0							
BNI	**Bardonecchia**	**143.81**	**335**	*eP*		**PKPdf**	**18 18 10.1**	**-1.0**
SSB	**Saint Sauveur**	**144.46**	**337**	*eP*		**PKPdf**	**18 18 11.3**	**-0.8**
KEST	**Kesra**	**149.39**	**321**	*e*	PKPbc	**PKPbc**	**18 18 23.8**	**-1.3**
KEST	**Kesra**	**149.39**	**321**	*e*	PKPbc	**PKPbc**	**18 18 24.1**	**-1.0**
	2.4nm,0.9s,baz=92,slow=3.6,SNR=7.2							
ESDC	**Sonseca Array**	**152.27**	**343**	PKPbc		**PKPbc**	**18 18 32.0**	**+0.3**
ESDC				PKPab		**PKPab**	**18 18 41.3**	**-0.2**
ESDC	**Sonseca Array**	**152.27**	**343**	PKPbc		**PKPbc**	**18 18 32.0**	**+0.3**
	0.2nm,0.4s,baz=52,slow=1.2,SNR=5.4							
ESDC				PKPab		**PKPab**	**18 18 41.3**	**-0.2**
	0.1nm,0.3s,baz=10,slow=5.2,SNR=6.9							
TORD	**Torodi Ar. Bea**	**164.88**	**271**	PKP		**PKPdf**	**18 18 40.2**	**-0.3**
TORD				PKPab		**PKPab**	**18 19 36.8**	**0.0**
TORD	**Torodi Ar. Bea**	**164.88**	**271**	PKP		**PKPdf**	**18 18 40.2**	**-0.3**
	0.8nm,0.8s,baz=96,slow=1.7,SNR=4.3							
TORD				PKPab		**PKPab**	**18 19 36.8**	**0.0**
	0.9nm,0.9s,baz=99,slow=4.3,SNR=3.1							

*ATH **09** 17:59:50.2, 38.42N×24.14E, h41km±1km, MD2.9/5, ML1.9*

*CSEM **09** 17:59:51.9±0.3, 38.46N×23.92E, h5km, ML1.9/4, Error ellipse: s-maj=6.3km s-min=2.7km az=90.0*

*THE **09** 17:59:52.6, 38.45N×23.87E, h6km±2km, ML1.9/4, Error ellipse: s-maj=2.3km s-min=0.7km az=267.0*

ISC 09 17:59:51.8±1.1, 38.46N±0.02×23.91E±0.04, h6km±7km, n39, σ0.62/60, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ERET	**Eretria**	**0.09**	**258**	P		**Pg**	**17 59 53.9**	**0.0**
ERET				S		**Sg**	**17 59 54.8**	**0.5**
ERET	**Eretria**	**0.09**	**258**	P		**Pg**	**17 59 53.9**	**0.0**
ERET				S		**Sg**	**17 59 54.8**	**-0.5**
MRKA	**Markates**	**0.35**	**314**	P		**Pg**	**17 59 59.0**	**+0.3**
MRKA				S		**Sg**	**18 00 05.1**	**+1.7**
MRKA	**Markates**	**0.35**	**314**	P		**Pg**	**17 59 59.0**	**+0.3**
MRKA				S		**Sg**	**18 00 05.1**	**+1.7**
PTL	**Penteli**	**0.41**	**185**	P		**Pg**	**18 00 00.3**	**+0.5**
PTL	**Penteli**	**0.41**	**185**	*eP*		**Pg**	**18 00 00.0**	**+0.2**
PTL	**Penteli**	**0.41**	**185**	*eP*		**Pg**	**18 00 00.0**	**+0.2**
ATH	**Athens Observa**	**0.51**	**198**	*eP*		**Pg**	**18 00 02.0**	**+0.3**
ATH				*eS*		**Sb**	**18 00 11.2**	**+0.4**
ATH	**Athens Observa**	**0.51**	**198**	*eP*		**Pg**	**18 00 02.0**	**+0.3**
ATH				*eS*		**Sb**	**18 00 11.2**	**+0.4**
SMIA	**Simia**	**0.69**	**307**	P		**Pg**	**18 00 05.4**	**+0.2**
SMIA	**Simia**	**0.69**	**307**	P		**Pg**	**18 00 05.4**	**+0.2**
AOS	**Alonnisos**	**0.71**	**358**	P		**Pg**	**18 00 05.4**	**-0.1**
AOS				S		**Sb**	**18 00 16.5**	**-0.1**
AOS	**Alonnisos**	**0.71**	**358**	*eP*		**Pg**	**18 00 05.6**	**+0.1**
AOS				*eS*		**Sb**	**18 00 17.2**	**+0.6**
AOS	**Alonnisos**	**0.71**	**358**	*eP*		**Pg**	**18 00 05.6**	**+0.1**
AOS				S		**Sb**	**18 00 16.5**	**-0.1**
LKR	**Lokris**	**0.74**	**285**	P		**Pg**	**18 00 05.5**	**-0.6**
LKR				S		**Sg**	**18 00 16.0**	**+0.3**
LKR	**Lokris**	**0.74**	**285**	P		**Pg**	**18 00 05.5**	**-0.6**
LKR				S		**Sg**	**18 00 16.0**	**+0.3**
NAIG	**Nisos Aigina**	**0.78**	**206**	*eP*		**Pg**	**18 00 07.1**	**+0.4**
NAIG	**Nisos Aigina**	**0.78**	**206**	*eP*		**Pg**	**18 00 07.1**	**+0.4**
SKIA	**Skiathos**	**0.79**	**334**	P		**Pb**	**18 00 07.8**	**-0.1**
SKIA				S		**Sb**	**18 00 19.3**	**+0.4**
SKIA	**Skiathos**	**0.79**	**334**	P		**Pb**	**18 00 07.8**	**-0.1**
SKIA				S		**Sb**	**18 00 19.3**	**+0.4**
LTK	**Loutraki**	**0.86**	**240**	P		**Pg**	**18 00 08.4**	**0.0**
LTK				S		**Sg**	**18 00 20.4**	**+0.8**
LTK	**Loutraki**	**0.86**	**240**	*eP*		**Pb**	**18 00 09.2**	**0.0**
LTK				*eS*		**Sn**	**18 00 22.7**	**-0.7**
LTK	**Loutraki**	**0.86**	**240**	P		**Pg**	**18 00 08.4**	**0.0**
LTK				S		**Sg**	**18 00 20.4**	**+0.8**
NEO	**Neokhori**	**1.00**	**328**	*eP*		**Pg**	**18 00 11.1**	**0.0**
NEO				*eS*		**Sb**	**18 00 26.2**	**+1.1**
NEO	**Neokhori**	**1.00**	**328**	*eP*		**Pg**	**18 00 11.1**	**0.0**
NEO				*eS*		**Sb**	**18 00 26.2**	**+1.1**
XOR	**Xorichti**	**1.06**	**328**	P		**Pb**	**18 00 12.9**	**+0.2**
XOR				S		**Sb**	**18 00 27.2**	**+0.3**
XOR	**Xorichti**	**1.06**	**328**	P		**Pb**	**18 00 12.9**	**+0.2**
XOR				S		**Sb**	**18 00 27.2**	**+0.3**
DSF	**Desfina**	**1.09**	**268**	P		**Pg**	**18 00 12.2**	**-0.5**
DSF	**Desfina**	**1.09**	**268**	P		**Pg**	**18 00 12.2**	**-0.5**
DID	**Didima**	**1.09**	**210**	P		**Pg**	**18 00 13.0**	**+0.2**
DID				S		**Sn**	**18 00 28.8**	**-0.3**
DID	**Didima**	**1.09**	**210**	*eP*		**Pg**	**18 00 11.5**	**-1.3**
DID				*eS*		**Sg**	**18 00 27.4**	**+0.5**
DID	**Didima**	**1.09**	**210**	P		**Pg**	**18 00 13.0**	**+0.2**
DID				*eS*		**Sg**	**18 00 27.4**	**+0.5**
KLV	**Kalavryta, Ach**	**1.45**	**254**	*eP*		**Pn**	**18 00 18.6**	**0.0**
KLV	**Kalavryta, Ach**	**1.45**	**254**	*eP*		**Pn**	**18 00 18.6**	**0.0**
PAIG	**Paliouri**	**1.48**	**353**	P		**Pn**	**18 00 18.2**	**-0.7**
PAIG	**Paliouri**	**1.48**	**353**	*eP*		**Pn**	**18 00 17.0**	**-1.9**
PAIG	**Paliouri**	**1.48**	**353**	P		**Pn**	**18 00 18.2**	**-0.7**
SMTH	**Samothraki Isl**	**2.37**	**31**	*eP*		Pn	18 00 26.4	-4.8
SMTH	**Samothraki Isl**	**2.37**	**31**	*eP*		Pn	18 00 26.4	-4.8

IDC 09 18:03:36.9±2.2, 13.03S×166.16E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.7/18, mbtmp3.7/7, ML4.4/1, Error ellipse: s-maj=63.8km s-min=31.0km az=140.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**7.07**	**300**	Pn		Pn	18 05 22.8	+1.2
	6.4nm,0.3s,baz=181,slow=14,SNR=5.0							
HNR				Sn		Sn	18 06 40.2	-2.5
	7.4nm,0.3s,baz=163,slow=19,SNR=4.3							
DZM	**Mont Dzumac**	**9.00**	**178**	Pn		Pn	18 05 53.5	+5.2
	baz=121,slow=16,SNR=1.9							
WRA	**Warramunga Arr**	**31.24**	**253**	P		P	18 09 58.6	0.0
	0.3nm,0.6s,baz=83,slow=9.1,SNR=5.5							
ASAR	**Alice Springs**	**32.32**	**246**	P		P	18 10 08.2	+0.1
	0.5nm,0.7s,baz=74,slow=9.7,SNR=6.7							
CMAR	**Chiang Mai Arr**	**73.28**	**294**	P		P	18 15 11.2	+0.5
	0.5nm,0.7s,baz=128,slow=5.8,SNR=5.0							
SONM	**Songino Array**	**80.50**	**324**	P		P	18 15 50.2	-0.8
	0.9nm,1.1s,baz=130,slow=2.3,SNR=3.6							
ILAR	**Eielson Array**	**85.25**	**18**	P		P	18 16 15.9	+0.8
	0.3nm,0.6s,baz=242,slow=4.6,SNR=3.0							
MKAR	**Makanchi Array**	**95.23**	**317**	P		P	18 17 01.5	-1.2
	0.4nm,0.4s,baz=108,slow=4.7,SNR=3.8							

*ISCJB **09** 18:11:34.9±0.1, 1.03S±0.02×77.88W±0.02, h12km, mb5.3/212, MS4.4/22, Error ellipse: s-maj=2.5km s-min=2.3km az=27.1*

*IDC **09** 18:11:34.4±0.5, 0.89S×77.69W, h0km, mb4.9

PAYG **Puerto Ayora** 12.39 271 *e*Pn **Pn** 18 14 34.7 +2.2
190nm,1.1s
JTS **JuntasAbangare** 13.23 328 Pn **Pn** 18 14 46.4 +2.5
JTS *e*Pn P 18 14 47.7 -6.2
JTS **JuntasAbangare** 13.23 328 Pn **Pn** 18 14 46.4 +2.5
0.3nm,0.3s,baz=140,slow=15,SNR=4.6
SAML **Samuel** 16.64 119 *e*Pn **Pn** 18 15 24.7 -4.6
113nm,0.9s
TGUH **Tegucigalpa,Un** 17.61 328 *e*Pn **P** 18 15 45.7 +3.2
111nm,1.0s
LPAZ **La Paz** 17.98 148 *e*Pn **Pn** 18 15 44.5 -2.1
158nm,1.1s
LPAZ P **Pn** 18 15 45.0 -1.7
LPAZ *e*Sn Sn 18 18 59.5 -8.1
LPAZ S Sn 18 18 59.6 -8.0
LPAZ Lg Lg 18 21 15.2
LPAZ **La Paz** 17.98 148 P **Pn** 18 15 45.0 -1.7
0.7nm,0.3s,baz=339,slow=9.3,SNR=26
LPAZ S Sn 18 18 59.6 -8.0
0.8nm,0.3s,baz=174,slow=12,SNR=5.6
LPAZ Lg Lg 18 21 15.2
1.2nm,0.3s,baz=163,slow=17,SNR=1.8
MTDJ **Mount Denham** 19.11 1 *e*P **Pn** 18 16 01.6 +1.7
126nm,0.9s
APG **El Apazote** 20.18 322 P Pn 18 16 13.4 +0.4
APG **El Apazote** 20.18 322 P Pn 18 16 13.4 +0.4
51nm,0.9s,baz=153,slow=9.3,SNR=54
GRGR **Grenville** 20.75 51 *e*P Pn 18 16 20.5 +1.2
546nm,1.1s
SDDR **Presa de Saban** 20.89 18 *e*P Pn 18 16 20.5 -0.5
94nm,1.0s
GTBY **Guantanamo Bay** 20.98 7 *e*P Pn 18 16 21.2 -0.7
322nm,1.1s
CRPR **Cabo Rojo, PR** 21.67 29 *e*P **P** 18 16 27.1 +0.4
99nm,0.9s
LSP **Las Mesas** 21.82 29 *e*P **P** 18 16 29.9 +1.5
OBIP **Obispado Ponce** 21.94 30 *e*P **P** 18 16 30.6 +0.9
214nm,1.2s
CELP **Cerrillos** 21.98 30 *e*P **P** 18 16 31.3 +1.2
LRS **Lares** 22.04 29 *e*P **P** 18 16 31.8 +1.0
AGPR **Aguadilla, PR** 22.06 28 *e*P **P** 18 16 32.3 +1.3
324nm,1.2s
SJG **San Juan** 22.23 31 *e*P **P** 18 16 33.5 +0.7
361nm,1.2s
SJG **San Juan** 22.23 31 P **P** 18 16 33.5 +0.7
251nm,1.1s,baz=220,slow=6.0,SNR=35
SJG LR LR 18 25 48.9
comp=Z,952nm,20.3s,baz=218,slow=39
SIV **San Ignacio** 22.30 133 P **P** 18 16 33.9 +0.3
SIV S **S** 18 20 36.1 -2.8
SIV Lg Lg 18 23 20.2
SIV **San Ignacio** 22.30 133 P **P** 18 16 33.9 +0.3
287nm,1.1s,baz=323,slow=11,SNR=68
SIV S **S** 18 20 36.1 -2.8
21nm,1.0s,baz=233,slow=20,SNR=3.2
SIV Lg Lg 18 23 20.2
88nm,0.9s,baz=263,slow=21,SNR=3.0
SIV LR LR 18 26 52.7
comp=Z,944nm,21.1s,slow=41
CBYP **Canovanas** 22.52 31 *e*P **P** 18 16 36.0 +0.1
346nm,1.3s
MTP **Monte Pirata** 22.53 32 *e*P **P** 18 16 35.9 -0.1
84nm,1.2s
CDVI **St. Croix** 22.68 34 P **P** 18 16 37.1 -0.4
STVI **Saint Thomas** 23.06 33 *e*P **P** 18 16 40.8 -0.8
72nm,1.2s
LVC **Limon Verde** 23.19 159 *e*P **P** 18 16 44.2 +1.0
488nm,1.1s
LVC *e* 18 16 56.1
FNG **Fond-Bernard** 23.32 43 *e*P **P** 18 17 44.6 +0.3
SSG **Sans Toucher** 23.34 43 *e*P **P** 18 16 42.0 -2.6
TEIG **Tepich** 23.42 335 *e*P **P** 18 16 46.0 +0.9
71nm,1.1s
TEIG P **P** 18 16 46.2 +1.1
TEIG **Tepich** 23.42 335 P **P** 18 16 46.2 +1.1
39nm,0.9s,baz=155,slow=11,SNR=9.1
CEN1 **Los Morros** 23.48 162 *i* P **P** 18 16 49.2 +3.3
CEN1 **Los Morros** 23.48 162 *i* P **P** 18 16 49.2 +3.3
ANWB **Willy Bob** 24.41 40 *e*P **P** 18 16 53.4 -1.3
94nm,0.9s
LCO **Las Campanas** 28.69 167 *i* P **P** 18 17 34.8 +1.3
LCO **Las Campanas** 28.69 167 *i* P **P** 18 17 34.8 +1.3
TLL **Tololo Astrono** 29.78 168 ⇑*i*P **P** 18 17 44.8 +1.7
TLL **Tololo Astrono** 29.78 168 ⇑*i*P **P** 18 17 44.8 +1.7
TLL **Tololo Astrono** 29.78 168 ⇑*i*P **P** 18 17 44.8 +1.7
CFAA **Coronel Fontan** 31.78 164 LR LR 18 32 03.7
comp=Z,71nm,18.8s,baz=16,slow=39
CPUP **Villa Florida** 32.03 144 *e*P **P** 18 18 01.9 -0.8
41nm,0.9s
CPUP P **P** 18 18 02.2 -0.5
CPUP **Villa Florida** 32.03 144 P **P** 18 18 02.2 -0.5
9.7nm,1.0s,baz=333,slow=9.0,SNR=13
CPUP LR LR 18 32 53.9
comp=Z,912nm,18.3s,baz=289,slow=40
TIGA **Tifton** 32.71 351 *e*P **P** 18 18 08.6 0.0
TIGA **Tifton** 32.71 351 ⇓P **P** 18 18 09.4 +0.8
baz=33
BDFB **Brasilia** 32.87 118 P **P** 18 18 09.9 -0.5
BDFB **Brasilia** 32.87 118 P **P** 18 18 09.9 -0.5
23nm,1.1s,baz=283,slow=9.1,SNR=11
BDFB LR LR 18 33 36.8
comp=Z,313nm,20.7s,baz=266,slow=40
LRAL **Lakeview Retre** 34.92 347 *e*P **P** 18 18 27.8 0.0
45nm,0.9s
NATX **Nacogdoches** 36.25 335 *e*P **P** 18 18 39.5 +0.3
92nm,1.1s
732A **Laxson Ranch,** 36.34 326 ⇑P **P** 18 18 41.1 +1.0
baz=36,SNR=16
CPCT **Cooper Cave** 36.79 351 *e*P **P** 18 18 43.9 +0.1
CPCT *e*PcP **PcP** 18 21 05.6 -0.3
SWET **Sewanee** 36.80 349 *e*P **P** 18 18 43.0 -1.0
32nm,1.0s
632A **Uvalde** 36.85 327 ⇓P **P** 18 18 45.5 +1.1
baz=37,SNR=12
TKL **Tuckaleechee C** 36.88 352 LR LR 18 35 00.0
comp=Z,448nm,18.6s,baz=339,slow=38
SPB **Sao Paulo** 37.10 130 *e*P **P** 18 18 45.1 -1.5
27nm,0.9s
631A **Perdido Creek** 37.21 326 ⇑P **P** 18 18 48.3 +0.9
baz=37,SNR=23
532A **Rocksprings** 37.40 328 ⇓P **P** 18 18 51.0 +1.9
baz=38,SNR=68
JCT **Junction City** 37.62 328 *e*P **P** 18 18 51.5 +0.5
JCT *e* 18 21 08.6
JCT pmax pmax
comp=Z,234nm,1.8s
JCT **Junction City** 37.62 328 *e*P **P** 18 18 51.5 +0.5
comp=Z,234nm,1.8s
JCT *e*PcP **PcP** 18 21 08.6 -0.1
JCT **Junction City** 37.62 328 ⇓P **P** 18 18 52.3 +1.4
baz=38,SNR=10
WHTX **Lake Whitney** 37.68 332 *e*P **P** 18 18 50.7 -0.7
WHTX **Lake Whitney** 37.68 332 ⇓P **P** 18 18 52.0 +0.6
baz=38,SNR=5.8
531A **Rocksprings** 37.77 327 ⇑P **P** 18 18 54.0 +1.7
baz=38,SNR=28
432A **Menard** 37.93 329 ⇑P **P** 18 18 54.6 +1.0
baz=38,SNR=19
WVT **Waverly** 38.08 347 *e*P **P** 18 18 53.3 -1.4
WVT *e* 18 21 08.8
WVT pmax pmax
comp=Z,16nm,1.1s
WVT **Waverly** 38.08 347 *e*P **P** 18 18 53.3 -1.4
comp=Z,16nm,1.1s
WVT *e*PcP **PcP** 18 21 08.8 -1.0
BLA **Blacksburg** 38.09 357 *e*P **P** 18 18 55.6 +0.8
BLA pmax pmax
comp=Z,31nm,1.0s
BLA **Blacksburg** 38.09 357 *e*P **P** 18 18 55.6 +0.8
comp=Z,31nm,1.0s
VWCC **Virginia Weste** 38.10 357 *e*P **P** 18 18 55.8 +0.9
530A **J-C Ranch, Com** 38.20 326 ⇓P **P** 18 18 57.5 +1.7
baz=38,SNR=51
431A **Sonora** 38.21 327 ⇑P **P** 18 18 57.3 +1.3
baz=38,SNR=19
MIAR **Mount Ida** 38.29 339 *e*P **P** 18 18 55.9 -0.6
MIAR *e* 18 21 10.9
MIAR pmax pmax
comp=Z,29nm,1.1s
MIAR **Mount Ida** 38.29 339 *e*P **P** 18 18 55.9 -0.6
comp=Z,30nm,1.1s
MIAR *e*PcP **PcP** 18 21 10.8 +0.3
332A **Millersview** 38.30 329 ⇑P **P** 18 18 57.9 +1.2
baz=38,SNR=37
JSRW **J. Sargeant Re** 38.50 0 *e*P **P** 18 18 59.0 +0.8
628A **Black Gap, Mar** 38.59 324 ⇑P **P** 18 19 00.5 +1.4
baz=39,SNR=13
331A **San Angelo** 38.60 328 ⇓P **P** 18 19 00.4 +1.1
baz=39,SNR=14
430A **Baggett Ranch,** 38.63 327 ⇑P **P** 18 19 01.1 +1.6
baz=39
232A **Coleman** 38.66 330 ⇓P **P** 18 19 00.3 +0.5
baz=39,SNR=26
529A **Stev Forest Ra** 38.67 325 ⇓P **P** 18 19 01.3 +1.4
baz=39,SNR=16
627A **Terlingua Ranc** 38.86 323 ⇑P **P** 18 19 02.9 +1.4
baz=39,SNR=29
429A **Davenport Ranc** 38.87 326 ⇓P **P** 18 19 03.0 +1.5
baz=39,SNR=10
TXAR **Lajitas Array** 38.94 323 P **P** 18 19 03.1 +0.9
TXAR PcP **PcP** 18 21 13.6 +0.7
TXAR **Lajitas Array** 38.94 323 P **P** 18 19 03.1 +0.9
comp=Z,10nm,1.0s,baz=147,slow=8.4,SNR=40
TXAR PcP **PcP** 18 21 13.6 +0.7
comp=Z,14nm,0.8s,baz=144,slow=6.3,SNR=12
528A **Cox Ranch, San** 39.03 325 ⇑P **P** 18 19 04.2 +1.3
baz=39,SNR=10
231A **Bronte** 39.04 329 ⇑P **P** 18 19 03.6 +0.7
baz=39,SNR=8.4
330A **Mertzon** 39.07 328 ⇑P **P** 18 19 04.2 +1.0
baz=39,SNR=10.0
ABTX **Abilene, Hawle** 39.25 330 *e*P **P** 18 19 05.2 +0.6
ABTX **Abilene, Hawle** 39.25 330 ⇑P **P** 18 19 05.4 +0.7
baz=39,SNR=22
626A **Big Bend Ranch** 39.38 323 ⇑P **P** 18 19 07.0 +1.1
baz=40,SNR=31
428A **Kincaid Ranch,** 39.39 325 ⇓P **P** 18 19 08.0 +2.1
baz=40,SNR=18
230A **Sterling City** 39.42 328 ⇓P **P** 18 19 07.1 +1.0
baz=40,SNR=11
329A **Wagon Wheel Ra** 39.57 327 ⇓P **P** 18 19 08.7 +1.3
baz=40,SNR=15
131A **Roby** 39.66 330 ⇓P **P** 18 19 09.3 +1.2
baz=40,SNR=29
TRQA **Tornquist** 39.68 160 *e*P **P** 18 19 08.1 -0.1
comp=Z,93nm,1.9s
526A **Mary Lane Ranc** 39.72 323 ⇓P **P** 18 19 10.3 +1.6
baz=40,SNR=35
Z32A **Haskell** 39.72 331 ⇓P **P** 18 19 09.8 +1.2
baz=40,SNR=54
WCI **Wyandotte Cave** 39.80 350 *e*P **P** 18 19 06.6 -2.5
WCI pmax pmax
comp=Z,55nm,1.4s
WCI **Wyandotte Cave** 39.80 350 *e*P **P** 18 19 06.6 -2.5
comp=Z,55nm,1.4s
USIN **University of** 39.81 348 *e*P **P** 18 19 07.7 -1.5
comp=Z,111nm,1.2s
229A **Bryant Ranch,** 39.85 327 ⇑P **P** 18 19 10.6 +0.9
baz=40,SNR=14
427A **Hayter Ranch,** 39.89 325 ⇑P **P** 18 19 11.6 +1.4
baz=40,SNR=13
130A **Snyder** 39.90 329 ⇑P **P** 18 19 11.4 +1.4
baz=40,SNR=15
SIUC **Southern Illin** 39.92 346 *e*P **P** 18 19 09.1 -1.0
comp=Z,98nm,1.2s
328A **Wristen Ranch,** 39.95 326 ⇑P **P** 18 19 11.6 +1.0
baz=40,SNR=23
Z31A **Sharp Cattle R** 40.06 330 ⇑P **P** 18 19 12.6 +1.2
baz=40,SNR=42
PLCA **Paso Flores** 40.11 171 *e*P **P** 18 19 12.9 +1.2
comp=Z,95nm,1.3s
PLCA P **P** 18 19 13.1 +1.3
PLCA **Paso Flores** 40.11 171 P **P** 18 19 13.1 +1.3
comp=Z,26nm,0.7s,baz=340,slow=10,SNR=40
426A **McDonald Obser** 40.13 324 ⇓P **P** 18 19 13.8 +1.6
baz=40,SNR=20
Y32A **R-V Farms, Ver** 40.28 332 ⇑P **P** 18 19 14.3 +1.1
baz=40,SNR=26
327A **Balmorhea Ranc** 40.33 325 ⇑P **P** 18 19 15.1 +1.4
baz=40
TUL1 **Tulsa** 40.33 337 *e*P **P** 18 19 13.1 -0.5
TUL1 **Tulsa** 40.33 337 ⇑P **P** 18 19 13.6 0.0
baz=40,SNR=8.4
228A **UT Block 9, Go** 40.39 327 ⇓P **P** 18 19 14.7 +0.5
baz=40,SNR=9.2
129A **Stewart Farms,** 40.39 328 ⇓P **P** 18 19 15.4 +1.2
baz=40,SNR=7.3
Z30A **Sanderson Ranc** 40.52 329 ⇓P **P** 18 19 16.5 +1.3
baz=41,SNR=54
326A **Odell Ranch** 40.57 325 ⇑P **P** 18 19 17.2 +1.4
baz=41,SNR=32
WMOK **Wichita Mounta** 40.58 333 *e*P **P** 18 19 15.6 -0.1
WMOK *e* 18 21 18.1
WMOK pmax pmax
comp=Z,49nm,1.1s
WMOK **Wichita Mounta** 40.58 333 *e*P **P** 18 19 15.6 -0.1
comp=Z,49nm,1.1s
WMOK *e*PcP **PcP** 18 21 18.1 +0.2
Y31A **Rekieta Farm,** 40.64 331 ⇑P **P** 18 19 17.2 +1.1
baz=41,SNR=14
OLIL **Olney** 40.64 348 *e*P **P** 18 19 14.8 -1.2
comp=Z,88nm,1.3s
OLIL *e*PcP **PcP** 18 21 18.1 +0.1
227A **Bennet, Jal** 40.70 326 ⇑P **P** 18 19 18.2 +1.5
baz=41
128A **Castleberry Fa** 40.72 327 ⇓P **P** 18 19 17.8 +0.9
baz=41,SNR=7.6
BLO **Bloomington** 40.75 350 *e*P **P** 18 19 15.3 -1.7
BLO pmax pmax
comp=Z,20nm,0.6s
BLO **Bloomington** 40.75 350 *e*P **P** 18 19 15.3 -1.7
comp=Z,20nm,0.6s
425A **Indio Mountain** 40.78 323 ⇑P **P** 18 19 18.8 +1.3
baz=41,SNR=34
Z29A **Hungry Hill Ra** 40.80 329 ⇑P **P** 18 19 18.5 +0.9
baz=41,SNR=23
Y30A **Stafford Cattl** 40.88 330 ⇑P **P** 18 19 19.6 +1.4
baz=41,SNR=38
X31A **McDonald Ranch** 41.05 332 ⇑P **P** 18 19 20.9 +1.4
baz=41,SNR=38
SLM **Saint Louis** 41.05 345 P **P** 18 19 17.8 -1.6
SLM **Saint Louis** 41.05 345 P **P** 18 19 17.8 -1.6
Z28A **Tucker Farm, M** 41.18 328 ⇑P **P** 18 19 21.5 +0.8
baz=41
325A **Bean Ranch, Si** 41.19 324 ⇓P **P** 18 19 21.7 +0.8
baz=41,SNR=17
CLNB **Carlsbad** 41.21 326 *e*P **P** 18 19 22.2 +1.1
comp=Z,1.4nm,0.2s
127A **Arkansas Junct** 41.23 327 ⇑P **P** 18 19 22.0 +0.8
baz=41,SNR=6.9
226B **Tecolote Peak,** 41.24 325 ⇑P **P** 18 19 22.8 +1.6
baz=41,SNR=31
Y29A **Porterfield Fa** 41.26 329 ⇑P **P** 18 19 22.4 +1.1
baz=41,SNR=7.9
ACSO **Alum Creek Sta** 41.30 354 *e*P **P** 18 19 20.8 -0.7
comp=Z,36nm,1.0s
X30A **Coker Ranch, T** 41.33 331 ⇑P **P** 18 19 22.8 +0.9
baz=42,SNR=54
SSPA **Standing Stone** 41.44 0 *e*P **P** 18 19 23.3 +0.7
comp=Z,42nm,1.3s
W31A **Holland Ranch,** 41.48 332 ⇑P **P** 18 19 23.4 +0.2
baz=42,SNR=15
324A **Moseley Ranch,** 41.55 323 ⇑P **P** 18 19 24.4 +0.6
baz=42,SNR=45
126A **Clayton Basin,** 41.58 326 ⇓P **P** 18 19 25.1 +1.1
baz=42,SNR=12
Y28A **McKinney Farm,** 41.59 329 ⇓P **P** 18 19 25.1 +1.0
baz=42,SNR=26
225A **Deer Hill, Car** 41.64 325 ⇓P **P** 18 19 25.8 +1.2
baz=42,SNR=24
Z27A **Tatum** 41.64 327 ⇑P **P** 18 19 25.4 +0.9
baz=42,SNR=27
MNTX **Cornudas Mount** 41.67 324 *e*P **P** 18 19 25.2 +0.5
comp=Z,31nm,1.1s
X29A **Tulia** 41.73 330 ⇓P **P** 18 19 26.3 +1.1
baz=42,SNR=10
W30A **Crocket Farms** 41.78 332 ⇑P **P** 18 19 26.9 +1.3
baz=42,SNR=7.5
MSTX **Muleshoe** 41.91 328 *e*P **P** 18 19 27.6 +1.0
MSTX **Muleshoe** 41.91 328 ⇓P **P** 18 19 27.7 +1.0
baz=42,SNR=40
V31A **Spring Creek L** 41.92 333 ⇑P **P** 18 19 28.4 +1.7
baz=42,SNR=20
125A **Gardner Draw,** 41.95 325 ⇓P **P** 18 19 28.6 +1.5
baz=42,SNR=39
224A **Cornudas Mount** 42.02 324 ⇓P **P** 18 19 28.7 +0.9
baz=42,SNR=15
Z26A **Caprock** 42.02 327 ⇑P **P** 18 19 29.1 +1.5
baz=42,SNR=54
X28A **Dimmitt** 42.04 330 ⇑P **P** 18 19 28.8 +1.0
baz=42,SNR=13
Y27A **Causey** 42.05 328 ⇓P **P** 18 19 29.2 +1.4
baz=42,SNR=37
V30A **Spur Ranch, Mi** 42.30 332 ⇑P **P** 18 19 31.4 +1.5
baz=42
U31A **Nine Bar Ranch** 42.42 333 ⇑P **P** 18 19 32.0 +1.2
baz=43
Y26A **Elida** 42.43 327 ⇓P **P** 18 19 32.2 +1.2
baz=43,SNR=32
124A **Stringfield Ra** 42.43 325 ⇓P **P** 18 19 32.9 +1.7
baz=43,SNR=38
Z25A **Roswell** 42.44 326 ⇓P **P** 18 19 32.9 +1.8
baz=43,SNR=55
223A **Chaparral, Ant** 42.51 323 ⇑P **P** 18 19 32.7 +1.1
baz=43
X27A **F and S Farms,** 42.60 329 ⇑P **P** 18 19 33.5 +1.1
baz=43,SNR=16
W28A **Vega** 42.63 330 ⇓P **P** 18 19 33.5 +0.9
baz=43,SNR=9.7
V29A **Stinnett** 42.79 331 ⇓P **P** 18 19 35.2 +1.4
baz=43
Z24A **Sheeppen Canyo** 42.84 325 ⇑P **P** 18 19 36.4 +1.9
baz=43,SNR=36
123A **Bell Site, Whi** 42.86 324 ⇑P **P** 18 19 36.5 +2.0
baz=43
X26A **CR and CF Fran** 42.90 328 ⇑P **P** 18 19 36.1 +1.2
baz=43,SNR=14
Y25A **Mesa, Roswell** 42.91 327 ⇑P **P** 18 19 36.4 +1.5
baz=43,SNR=24
W27A **Bowe Ranch, En** 42.91 329 ⇓P **P** 18 19 36.0 +1.1
baz=43,SNR=27
U30A **WK&E Inc. Balk** 42.91 333 ⇓P **P** 18 19 36.2 +1.4
baz=43,SNR=32
T31A **Randall Ranch,** 42.95 334 ⇑P **P** 18 19 35.8 +0.8
baz=43,SNR=11
222A **Williams Famil** 42.99 323 ⇑P **P** 18 19 37.3 +1.8
baz=43,SNR=24
V28A **Channing** 43.03 331 ⇓P **P** 18 19 36.8 +0.9
baz=43
BINY **Binghamton** 43.04 2 *e*P **P** 18 19 36.6 +1.0
comp=Z,118nm,1.5s
U29A **Oasis Ranch, S** 43.14 332 ⇓P **P** 18 19 38.2 +1.5
baz=43,SNR=5.5
T30A **Plains** 43.29 333 ⇑P **P** 18 19 39.0 +1.2
baz=43,SNR=8.8
Z23A **Rita Site, Whi** 43.29 325 ⇑P **P** 18 19 40.0 +2.0
baz=43,SNR=18
W26A **Owens Ranch, T** 43.29 329 ⇓P **P** 18 19 39.6 +1.6
baz=43,SNR=11
S31A **Mullinville** 43.30 335 ⇓P **P** 18 19 38.8 +0.9
baz=44,SNR=5.0
Y24A **Capitan** 43.32 326 ⇓P **P** 18 19 40.0 +1.7
baz=44,SNR=33
221A **Mesquite Ranch** 43.34 322 ⇓P **P** 18 19 38.9 +0.5
baz=44
V27A **Dan Oppiter Fa** 43.34 330 ⇑P **P** 18 19 39.9 +1.5
baz=44
X25A **Clemmons Ranch** 43.34 327 ⇑P **P** 18 19 39.8 +1.4
baz=44,SNR=9.7
122A **Conniff Cattle** 43.34 323 ⇑P **P** 18 19 40.8 +2.4
baz=44,SNR=6.4
320A **Kipp Ranch, An** 43.35 321 ⇓P **P** 18 19 40.8 +2.3
baz=44,SNR=15
KSU1 **Kansas State U** 43.45 339 *e*P **P** 18 19 38.4 -0.6
comp=Z,58nm,0.9s
U28A **Mallet** 43.53 331 ⇓P **P** 18 19 40.8 +1.0
baz=44
Y23A **Lovelace Mesa,** 43.67 325 ⇑P **P** 18 19 43.2 +2.0
baz=44,SNR=20
121A **Cookes Peak, D** 43.70 322 ⇓P **P** 18 19 43.7 +2.3
baz=44,SNR=47
Z22A **Elephant Butte** 43.71 324 ⇑P **P** 18 19 43.3 +1.9
baz=44,SNR=40
T29A **Hugoton** 43.72 333 ⇑P **P** 18 19 42.9 +1.5
baz=44,SNR=9.2
220A **Playas Peak, P** 43.73 321 ⇑P **P** 18 19 43.3 +1.7
baz=44,SNR=45
S30A **Montezuma** 43.75 334 ⇓P **P** 18 19 42.7 +1.2
baz=44,SNR=18
W25A **X Bar L Ranch,** 43.76 328 ⇑P **P** 18 19 43.4 +1.7
baz=44,SNR=36
X24A **Lazy VL Ranch,** 43.79 327 ⇓P **P** 18 19 43.5 +1.4
baz=44,SNR=8.7
V26A **Tequesquite Ra** 43.85 329 ⇑P **P** 18 19 44.0 +1.5
baz=44,SNR=90
319A **Douglas** 43.86 320 ⇑P **P** 18 19 44.1 +1.6
baz=44,SNR=24
U27A **Thompson Grove** 43.86 331 ⇓P **P** 18 19 43.9 +1.4
baz=44,SNR=9.5
R31A **Burdett** 43.89 335 ⇓P **P** 18 19 43.3 +0.6
baz=44,SNR=13
S29A **Ulysses** 44.02 333 ⇓P **P** 18 19 45.2 +1.4
baz=44,SNR=33
T28A **Walsh** 44.07 332 ⇑P **P** 18 19 45.1 +0.8
baz=44,SNR=21
P33A **Williams Farm,** 44.15 338 ⇓P **P** 18 19 45.0 +0.4
baz=44
BNM **Barren Site** 44.16 325 *e*P **P** 18 19 46.5 +1.4
comp=Z,39nm,1.2s
BNM *e*PcP **PcP** 18 21 30.0 -0.1
Z21A **St. Cloud Mine** 44.17 323 ⇑P **P** 18 19 47.0 +1.8
baz=44,SNR=9.0
Y22A **Socorro** 44.20 325 ⇑P **P** 18 19 47.1 +1.8
baz=44,SNR=6.3
R30A **Dighton** 44.20 335 ⇓P **P** 18 19 46.9 +1.7
baz=44,SNR=31
X23A **Hourglass Bar** 44.22 326 ⇓P **P** 18 19 47.4 +1.8
baz=44,SNR=26
120A **U Bar Ranch, L** 44.23 322 ⇑P **P** 18 19 47.7 +2.1
baz=44,SNR=16
W24A **Lazy 6 Ranch,** 44.26 327 ⇓P **P** 18 19 47.2 +1.3
baz=44,SNR=16
LPM **Los Pinos Moun** 44.28 325 *e*P **P** 18 19 47.4 +1.4
comp=Z,30nm,1.2s
U26A **Atchley Ranch,** 44.29 330 ⇑P **P** 18 19 47.8 +1.7
baz=44,SNR=33
V25A **Rancho No Teng** 44.31 328 ⇑P **P** 18 19 47.9 +1.6
baz=44,SNR=56
T27A **Campo** 44.32 331 ⇓P **P** 18 19 47.5 +1.3
baz=44,SNR=17
ACCN **Adirondack Com** 44.35 4 *e*P **P** 18 19 47.3 +1.1
comp=Z,39nm,1.1s
S28A **Manter** 44.35 332 ⇓P **P** 18 19 47.6 +1.1
baz=44,SNR=34
LENM **Lemitar** 44.37 325 *e*P **P** 18 19 48.0 +1.3
comp=Z,95nm,1.9s
Q31A **Ellis** 44.44 336 ⇓P **P** 18 19 47.7 +0.7
baz=45,SNR=9.2
V24A **Rampart Ranch,** 44.57 328 ⇓P **P** 18 19 49.8 +1.4
baz=45
Z20A **Nine Sixteen R** 44.59 322 ⇓P **P** 18 19 50.8 +2.3
baz=45,SNR=37
W23A **Werner Place,** 44.63 326 ⇓P **P** 18 19 50.5 +1.7
baz=45,SNR=15
LAZ **Ladron** 44.63 325 *e*P **P** 18 19 50.1 +1.2
comp=Z,30nm,1.5s
X22A **Bernardo** 44.63 325 ⇑P **P** 18 19 51.4 +2.5
baz=45,SNR=10
U25A **Circle Dot Ran** 44.63 329 ⇓P **P** 18 19 50.5 +1.6
baz=45,SNR=24
ANMO **Albuquerque** 44.64 326 *e*P **P** 18 19 50.3 +1.4
comp=Z,84nm,1.1s
P32A **Huiting Farm,** 44.65 337 ⇓P **P** 18 19 48.8 +0.1
baz=45
Y21A **Point of Rocks** 44.66 324 ⇑P **P** 18 19 51.6 +2.4
baz=45,SNR=11
R29A **Marienthal** 44.69 334 ⇓P **P** 18 19 50.4 +1.3
baz=45,SNR=14
Q30A **Quinter** 44.76 335 ⇑P **P** 18 19 50.9 +1.2
baz=45,SNR=17
P31A **Stockton** 44.87 336 ⇓P **P** 18 19 51.4 +0.9
baz=45
S27A **Las Animas** 44.90 332 ⇓P **P** 18 19 51.9 +1.0
baz=45,SNR=19
SCIA **State Center** 44.90 344 *e*P **P** 18 19 49.3 -1.3
comp=Z,71nm,0.9s
R28A **Tribune** 44.93 333 ⇑P **P** 18 19 52.3 +1.3
baz=45,SNR=53
W22A **Albuquerque** 44.96 326 ⇓P **P** 18 19 53.2 +1.8
baz=45
Y20A **Horse Springs,** 45.01 323 ⇑P **P** 18 19 53.9 +2.0
baz=45,SNR=32
X21A **Alamocita Cree** 45.04 324 ⇓P **P** 18 19 54.6 +2.4
baz=45,SNR=44
V23A **Ortiz Mt. (NFS** 45.08 327 ⇑P **P** 18 19 54.3 +1.9
baz=45,SNR=24
U24A **Moreno Valley** 45.09 328 ⇑P **P** 18 19 54.8 +2.2
baz=45
JFWS **Jewell Farm** 45.11 347 *e*P **P** 18 19 50.5 -1.7
JFWS *e* 18 21 32.8
JFWS pmax pmax
comp=Z,103nm,1.4s

JFWS **Jewell Farm** 45.11 347 *e*P P 18 19 50.5 -1.7
comp=Z,103nm,1.4s
JFWS *e*PcP PcP 18 21 32.8 0.0
S26A Kim 45.12 331 ⇑P P 18 19 54.6 +2.0
baz=45,SNR=40
T25A Trinidad 45.21 330 ⇓P P 18 19 55.3 +1.9
baz=45,SNR=41
P30A Selden 45.25 336 ⇓P P 18 19 54.5 +1.0
baz=45,SNR=7.9
R27A Eads 45.33 332 ⇑P P 18 19 55.5 +1.2
baz=46,SNR=50
TUC Tucson 45.43 320 *e*P P 18 19 56.1 +1.0
TUC pmax pmax
comp=Z,32nm,1.0s
TUC Tucson 45.43 320 *e*P P 18 19 56.1 +1.0
comp=Z,32nm,1.0s
W21A San Fidel 45.44 325 ⇓P P 18 19 57.2 +2.0
baz=46
LONY Lake Ozonia 45.52 3 *e*P P 18 19 55.8 +0.3
comp=Z,39nm,1.4s
U23A El Rito 45.52 328 ⇑P P 18 19 57.7 +1.8
baz=46,SNR=25
X20A Quemado 45.52 324 ⇓P P 18 19 58.0 +2.0
baz=46,SNR=17
Q28A Sharon Springs 45.52 334 ⇓P P 18 19 56.6 +0.9
baz=46,SNR=13
P29A Atwood 45.58 335 ⇓P P 18 19 57.1 +1.0
baz=46,SNR=7.1
V22A San Miguel Ran 45.60 327 ⇑P P 18 19 58.7 +2.1
baz=46,SNR=25
T24B San Luis 45.64 329 ⇑P P 18 19 59.1 +2.1
baz=46,SNR=11
R26A Arlington 45.65 332 ⇓P P 18 19 58.2 +1.4
baz=46,SNR=36
O30A MW Ranch, Wils 45.71 336 ⇑P P 18 19 57.6 +0.5
baz=46,SNR=6.6
FRNY Flat Rock 45.80 4 *e*P P 18 19 58.4 +0.8
comp=Z,63nm,1.3s
N31A Bailey Ranch, 45.83 338 ⇑P P 18 19 58.0 -0.1
baz=46
KSCO Kaye Shedlock' 45.84 333 *e*P P 18 19 59.4 +1.2
KSCO Kaye Shedlock' 45.84 333 ⇑P P 18 19 59.5 +1.2
baz=46,SNR=8.7
U22A Llaves 45.91 327 ⇑P P 18 20 00.9 +1.9
baz=46,SNR=12
P28A Saint Francis 45.91 334 ⇓P P 18 20 00.1 +1.3
baz=46,SNR=13
V21A Milan 45.93 326 ⇓P P 18 20 00.9 +1.7
baz=46,SNR=11
R25A Fountain Ranch 45.93 331 ⇑P P 18 20 00.7 +1.6
baz=46,SNR=17
W20A Ramah 45.93 324 ⇓P P 18 20 01.1 +1.9
baz=46,SNR=36
T23A Casias Ranch, 45.97 328 ⇓P P 18 20 01.0 +1.5
baz=46,SNR=7.0
S24A Houchin Ranch, 46.00 330 ⇓P P 18 20 01.8 +2.0
baz=46,SNR=32
BGNE Belgrade 46.04 339 *e*P P 18 19 58.9 -0.8
BGNE Belgrade 46.04 339 ⇓P P 18 19 59.3 -0.4
baz=46
Q26A Hugo 46.18 332 ⇑P P 18 20 02.8 +1.8
baz=46,SNR=10
SDCO Great Sand Dun 46.23 329 *e*P P 18 20 02.9 +1.4
comp=Z,82nm,1.1s
N30A Hueftle Ranch, 46.25 337 ⇓P P 18 20 01.8 +0.4
baz=46
P27A Ficken Ranch, 46.26 333 ⇓P P 18 20 02.6 +1.0
baz=46
M31A Lambtecht Ranc 46.29 338 ⇓P P 18 20 01.7 +0.1
baz=46,SNR=5.9
O28A Krutsinger Ran 46.38 335 ⇓P P 18 20 03.7 +1.3
baz=46,SNR=15
X18A Snowflake 46.38 323 ⇑P P 18 20 04.4 +1.7
baz=46,SNR=5.6
U21A Nageezi 46.39 326 ⇑P P 18 20 04.3 +1.5
baz=46,SNR=33
V20A Brimhall 46.39 325 ⇓P P 18 20 04.5 +1.7
baz=46,SNR=8.8
R24A Sanders Place, 46.40 330 ⇓P P 18 20 04.2 +1.4
baz=47,SNR=16
T22A Edith 46.41 328 ⇑P P 18 20 04.2 +1.3
baz=47,SNR=15
N29A Votaw Ranch, W 46.48 336 ⇓P P 18 20 03.5 +0.2
baz=47
Q25A Bedland, Calha 46.52 331 ⇓P P 18 20 04.9 +1.2
baz=47
214A Organ Pipe Nat 46.54 318 ⇑P P 18 20 05.8 +1.9
baz=47,SNR=36
P26A Davis Ranch, A 46.61 333 ⇓P P 18 20 05.8 +1.4
baz=47,SNR=8.2
W18A Petrified Fore 46.66 324 *e*P P 18 20 06.6 +1.8
W18A Petrified Fore 46.66 324 ⇓P P 18 20 06.9 +2.1
baz=47,SNR=18
T21A Navajo Lake 46.73 327 ⇓P P 18 20 07.1 +1.6
baz=47,SNR=12
R23A Moffat 46.73 330 ⇑P P 18 20 07.3 +1.8
baz=47,SNR=22
O27A Beecher Island 46.74 334 ⇓P P 18 20 06.4 +1.1
baz=47,SNR=8.3
N28A Pribbeno Ranch 46.74 335 ⇑P P 18 20 06.3 +0.9
baz=47,SNR=9.5
M30A Dale-Ortello V 46.79 337 ⇑P P 18 20 07.4 +1.8
baz=47
U20A Newcomb 46.83 326 ⇓P P 18 20 07.6 +1.4
baz=47,SNR=21
S22A 4UR Ranch, Cre 46.91 328 ⇑P P 18 20 08.3 +1.3
baz=47,SNR=64
P25A Willow Gulch B 46.95 332 ⇑P P 18 20 08.2 +1.1
baz=47,SNR=15
L31A Butterfield Fa 46.96 339 ⇓P P 18 20 06.9 0.0
baz=47,SNR=14
Q24A Divide 46.99 331 ⇓P P 18 20 08.5 +0.9
baz=47,SNR=12
M29A Burnside Ranch 47.03 337 ⇑P P 18 20 07.9 +0.4
baz=47
L30A Spencer Herefo 47.09 338 ⇑P P 18 20 08.0 0.0
baz=47
O26A Horse Wrangler 47.15 333 ⇑P P 18 20 09.6 +1.1
baz=47,SNR=7.8
OGNE Ogallala 47.17 335 *e*P P 18 20 09.5 +0.9
comp=Z,121nm,0.9s
OGNE Ogallala 47.17 335 ⇓P P 18 20 09.9 +1.3
baz=47,SNR=15
X16A Lo Mia Camp, P 47.22 322 ⇑P P 18 20 10.9 +1.6
baz=47,SNR=21
R22A Saguache, Gunn 47.24 329 ⇓P P 18 20 11.1 +1.6
baz=47,SNR=31
N27A Anderson Farm, 47.27 334 ⇓P P 18 20 10.3 +0.9
baz=47,SNR=5.1
M28A Bar X Bar Ranc 47.27 336 ⇑P P 18 20 10.5 +1.1
baz=47,SNR=6.7
Q23A Hartsel 47.28 330 ⇓P P 18 20 11.0 +1.1
baz=47
P24A Kohler Place, 47.31 331 ⇑P P 18 20 11.2 +1.3
baz=48
S21A Coal Bank Pass 47.36 327 ⇑P P 18 20 11.1 +0.7
baz=48,SNR=20
O25A Wiggins 47.41 333 ⇑P P 18 20 11.9 +1.3
baz=48,SNR=5.6
MVCO Mesa Verde 47.42 326 *e*P P 18 20 11.8 +1.0
comp=Z,98nm,1.5s
MVCO *e*PcP PcP 18 21 41.7 +0.3
MVCO Mesa Verde 47.42 326 ⇓P P 18 20 11.9 +1.1
baz=48,SNR=19
L29A Maesberg Ranch 47.48 337 ⇓P P 18 20 11.1 +0.1
baz=48,SNR=6.3
Z14A Wintersburg 47.50 319 ⇓P P 18 20 12.8 +1.5
baz=48,SNR=7.8
N26A Koester Ranch, 47.58 334 ⇑P P 18 20 12.9 +1.0
baz=48,SNR=5.2
ECSD EROS Data Cent 47.59 342 *e*P P 18 20 09.7 -2.1
comp=Z,33nm,1.2s
ECSD *e*PcP PcP 18 21 41.2 -0.3
P23A Jefferson 47.65 331 ⇓P P 18 20 14.4 +1.7
baz=48,SNR=14
K30A Basset 47.67 338 ⇓P P 18 20 12.4 -0.1
baz=48,SNR=13
113A Mohawk Valley, 47.68 318 ⇓P P 18 20 14.0 +1.4
baz=48,SNR=8.8
R21A Cimarron 47.76 328 ⇓P P 18 20 15.0 +1.5
baz=48,SNR=33
S20A Disappointment 47.79 327 ⇓P P 18 20 15.2 +1.5
baz=48,SNR=24
Q22A Crested Butte, 47.79 329 ⇓P P 18 20 15.2 +1.3
baz=48,SNR=68
M27A Reverse DX Ran 47.80 335 ⇑P P 18 20 14.4 +0.9
baz=48
L28A Connealy Angus 47.84 336 ⇓P P 18 20 14.8 +0.9
baz=48
O24A Longmont 47.86 332 ⇑P P 18 20 15.6 +1.5
baz=48,SNR=6.0
ISCO Idaho Springs 47.87 331 *e*P P 18 20 15.4 +1.0
ISCO *e* 18 21 41.4
ISCO pmax pmax
comp=Z,17nm,0.9s
ISCO Idaho Springs 47.87 331 *e*P P 18 20 15.4 +1.0
comp=Z,17nm,0.9s
ISCO *e*PcP PcP 18 21 41.4 -1.6
ISCO Idaho Springs 47.87 331 ⇑P P 18 20 15.8 +1.4
baz=48,SNR=16
SPMN St. Paul 47.89 346 *e*P P 18 20 12.0 -2.0
SPMN *e*PcP PcP 18 21 42.4 -0.2
SPMN St. Paul 47.89 346 ⇓P P 18 20 12.6 -1.5
baz=48
Y14A Wickenburg 47.90 320 ⇓P P 18 20 16.0 +1.6
baz=48,SNR=15
WUAZ Wupatki 47.91 323 *e*P P 18 20 16.4 +1.8
comp=Z,101nm,1.1s
WUAZ Wupatki 47.91 323 ⇑P P 18 20 16.4 +1.8
baz=48,SNR=48
N25A Grover 47.96 333 ⇑P P 18 20 16.2 +1.4
baz=48
K29A Lazy Trails An 48.01 338 ⇑P P 18 20 15.4 +0.3
baz=48
R20A Redvale 48.06 327 ⇑P P 18 20 17.4 +1.6
baz=48,SNR=13
SMCO Snowmass 48.06 329 *e*P P 18 20 17.2 +1.2
comp=Z,71nm,1.3s
M26A McRoberts Ranc 48.07 334 ⇓P P 18 20 16.6 +1.0
baz=48
Q21A Lamborn Mesa, 48.12 329 ⇓P P 18 20 17.6 +1.5
baz=48
PV01 Paradox Valley 48.13 327 *e*P P 18 20 17.7 +1.4
comp=Z,4µm,1.2s
J30A Dallas 48.20 339 ⇓P P 18 20 15.8 -0.7
baz=48,SNR=13
P22A Eagle 48.27 330 ⇑P P 18 20 18.9 +1.5
baz=48,SNR=13
N24A Carr 48.33 333 ⇑P P 18 20 19.5 +1.7
baz=48,SNR=6.0
O23A Lake Granby, G 48.33 331 ⇑P P 18 20 19.2 +1.3
baz=48,SNR=23
K28A Ten Mile Ranch 48.38 337 ⇓P P 18 20 18.8 +0.8
baz=48,SNR=14
M25A Palm-Egli Farm 48.44 334 ⇑P P 18 20 20.0 +1.4
baz=49,SNR=6.0
L26A Underwood Farm 48.51 335 ⇑P P 18 20 20.4 +1.4
baz=49
GLA Glamis 48.56 318 *e*P P 18 20 21.0 +1.5
GLA pmax pmax
comp=Z,68nm,1.5s
GLA Glamis 48.56 318 *e*P P 18 20 21.0 +1.5
comp=Z,68nm,1.5s
GLA Glamis 48.56 318 ⇓P P 18 20 20.8 +1.3
baz=49,SNR=11
P21A Newcastle 48.57 329 ⇑P P 18 20 21.4 +1.7
baz=49,SNR=20
J29A Okreek 48.57 338 ⇑P P 18 20 19.3 -0.1
baz=49,SNR=15
Q20A Ridgley Place, 48.58 328 ⇓P P 18 20 20.7 +1.0
baz=49,SNR=7.4
O22A Kremmling 48.60 331 ⇓P P 18 20 20.8 +0.8
baz=49,SNR=39
K27A Fluecking Fa 48.72 336 ⇑P P 18 20 21.6 +1.0
baz=49,SNR=6.3
Y12C Blythe 48.78 319 ⇑P P 18 20 22.2 +1.1
baz=49
M24A Cheyenne 48.81 333 ⇓P P 18 20 23.3 +1.8
baz=49,SNR=6.5
PDMCI Parker Dam,Lak 48.86 319 ⇓P P 18 20 23.0 +1.3
baz=49
N23A Red Feather La 48.88 332 ⇑P P 18 20 23.2 +1.1
baz=49,SNR=18
J28A Allard Ranch, 48.93 337 ⇓P P 18 20 22.4 +0.3
baz=49,SNR=9.2
PHWY Pilot Hill 48.97 332 *e*P P 18 20 23.5 +0.6
comp=Z,48nm,1.3s
PHWY *e*PcP PcP 18 21 46.4 -0.5
BRSD Miller 48.98 340 *e*P P 18 20 21.3 -1.2
BRSD Miller 48.98 340 ⇓P P 18 20 21.9 -0.6
baz=49,SNR=6.4
L25A Engebretsen Ra 48.99 334 ⇓P P 18 20 24.2 +1.4
baz=49,SNR=6.8
P20A De Je 49.03 329 ⇑P P 18 20 24.3 +1.1
baz=49,SNR=10
N22A Wattenberg Ran 49.05 331 ⇓P P 18 20 25.0 +1.6
baz=49,SNR=15
U15A North Rim 49.07 323 ⇓P P 18 20 25.6 +1.9
baz=49,SNR=22
J27A Elkhorn Farm, 49.08 337 ⇓P P 18 20 24.3 +0.9
baz=49,SNR=12
I29A Vivian Onida 49.09 339 ⇓P P 18 20 23.1 -0.3
baz=49
K26A Motz Farm, Whi 49.10 335 ⇑P P 18 20 24.8 +1.3
baz=49
O21A Pagoda 49.10 330 ⇓P P 18 20 25.1 +1.3
baz=49,SNR=12
SWSC Sam W. Stewart 49.15 317 ⇓P P 18 20 25.7 +1.7
baz=49,SNR=6.9
DVTC Desert V Tower 49.20 316 ⇓P P 18 20 25.7 +1.3
baz=49,SNR=10
W13A Hualapai Mount 49.20 320 ⇑P P 18 20 26.6 +2.0
baz=49
L24A Wheatland 49.32 333 ⇓P P 18 20 26.5 +1.2
baz=50
BC3 Big Chuckawall 49.34 318 ⇓P P 18 20 27.1 +1.5
baz=50,SNR=16
I28A Midland 49.39 338 ⇑P P 18 20 25.9 +0.2
baz=50,SNR=13
O20A White River Ci 49.43 329 *e*P P 18 20 27.3 +1.1
O20A White River Ci 49.43 329 ⇓P P 18 20 27.7 +1.5
baz=50
IRM Iron Mountain 49.44 319 ⇓P P 18 20 27.5 +1.3
baz=50,SNR=32
P19A Cripple Cowboy 49.44 328 ⇓P P 18 20 27.6 +1.3
baz=50
MONP Monument Peak 49.55 316 ⇓P P 18 20 28.7 +1.4
baz=50,SNR=10
J26A Sides Ranch, S 49.56 336 ⇑P P 18 20 28.2 +1.2
baz=50,SNR=12
H29A Onida 49.58 339 ⇓P P 18 20 26.1 -1.0
baz=50
M22A Cedar Creek Ra 49.58 332 ⇓P P 18 20 28.6 +1.1
baz=50
BAR Barrett 49.60 316 *e*P P 18 20 28.7 +1.2
comp=Z,26nm,1.1s
BAR *e*PcP PcP 18 21 49.3 +0.2
G30A Faulkton 49.65 340 ⇑P P 18 20 26.9 -0.8
baz=50,SNR=17
L23A Garrett 49.73 333 ⇑P P 18 20 29.7 +1.2
baz=50,SNR=24
I27A Quinn 49.79 337 ⇓P P 18 20 29.5 +0.7
baz=50,SNR=11
K24A Anderson Ranch 49.81 334 ⇑P P 18 20 30.2 +1.1
baz=50
SRU San Rafael 49.89 327 *e*P P 18 20 30.5 +0.7
SRU *e* 18 21 50.8
SRU pmax pmax
comp=Z,84nm,1.2s
SRU San Rafael 49.89 327 *e*P P 18 20 30.5 +0.7
comp=Z,84nm,1.2s
SRU *e*PcP PcP 18 21 50.8 +0.6
BELC Belle Mtn. Jos 49.91 318 ⇑P P 18 20 31.7 +1.8
baz=50,SNR=14
H28A Mission Ridge 49.92 339 ⇓P P 18 20 31.1 +1.4
baz=50
J25A Sunshine Ranch 49.93 335 ⇓P P 18 20 30.9 +1.0
baz=50,SNR=18
N20A Spence Gulch, 49.96 330 ⇑P P 18 20 31.4 +1.1
baz=50,SNR=39
LDFC Landfair 49.97 320 *e*P P 18 20 32.3 +2.0
comp=Z,63nm,1.1s
G29A Hoven 49.97 340 ⇑P P 18 20 29.1 -1.0
baz=50
PFO Pinyon Flat Ob 49.99 317 P P 18 20 32.8 +2.3
comp=Z,87nm,1.2s,SNR=7.0
PFO Pinyon Flat Ob 49.99 317 *e*P P 18 20 29.0 -1.5
comp=Z,14nm,1.0s
PFO *e*PcP PcP 18 21 50.8 +0.2
PFO Pinyon Flat Ob 49.99 317 ⇑P P 18 20 32.3 +1.8
baz=50,SNR=8.1
L22A Ellis Ranch, M 50.00 332 ⇓P P 18 20 32.1 +1.5
baz=50,SNR=16
109C Camp Elliot, M 50.02 316 ⇓P P 18 20 31.9 +1.3
baz=50
RWWY Rawlins 50.10 331 *e*P P 18 20 38.1 +6.7
comp=Z,91nm,1.3s
Q16A Castle Valley 50.11 326 *e*P P 18 20 32.5 +1.0
Q16A Castle Valley 50.11 326 ⇓P P 18 20 33.0 +1.5
baz=50
GMRC Granite Mounta 50.15 319 ⇑P P 18 20 33.6 +1.8
baz=50,SNR=32
EYMN Ely 50.17 348 *e*P P 18 20 29.8 -1.7
comp=Z,36nm,1.3s
EYMN *e*PcP PcP 18 21 50.3 -0.5
K23A Bowen Ranch, D 50.20 334 ⇓P P 18 20 33.3 +1.2
baz=50,SNR=14
G28A Parade 50.22 339 ⇓P P 18 20 33.2 +1.2
baz=50
J24A Dixon Ranch, L 50.24 335 ⇓P P 18 20 33.6 +1.3
baz=50,SNR=6.4
H27A Howes 50.28 338 ⇓P P 18 20 32.7 +0.3
baz=50,SNR=9.5
L21A Rawlins 50.38 332 ⇑P P 18 20 34.2 +0.7
baz=50,SNR=10
TMUT Trail Mountain 50.40 326 *e*P P 18 20 34.9 +1.1
comp=Z,28nm,1.2s
TMUT *e*PcP PcP 18 21 51.9 -0.3
I25A Rochford 50.41 336 ⇑P P 18 20 35.4 +1.8
baz=51,SNR=70
MVU Marysvale 50.42 325 *e*P P 18 20 35.2 +1.4
comp=Z,41nm,1.1s
MVU *e*PcP PcP 18 21 53.2 +1.0
M20A Sweetwater, Wa 50.42 331 ⇑P P 18 20 34.7 +1.0
baz=51,SNR=22
CCUT Cedar City 50.45 323 *e*P P 18 20 35.8 +1.6
comp=Z,29nm,1.2s
CCUT *e*PcP PcP 18 21 53.5 +1.2
MURC Murrieta 50.49 317 ⇑P P 18 20 35.5 +1.3
baz=51,SNR=8.4
F29A Eureka 50.50 340 ⇓P P 18 20 33.3 -0.8
baz=51
K22A Casper 50.52 333 ⇓P P 18 20 35.3 +0.8
baz=51,SNR=10
H26A Fairpoint 50.53 337 ⇓P P 18 20 34.6 +0.2
baz=51,SNR=5.4
HEC Hector,Ludlow 50.62 319 ⇓P P 18 20 37.2 +2.0
baz=51,SNR=24
RSSD Black Hills 50.62 336 *e*P P 18 20 36.5 +1.2
RSSD *e* 18 21 52.7
RSSD pmax pmax
comp=Z,257nm,1.2s
RSSD Black Hills 50.62 336 *e*P P 18 20 36.5 +1.2
comp=Z,256nm,1.2s
RSSD *e*PcP PcP 18 21 52.7 -0.1
I24A Kuemmerle Ranc 50.65 335 ⇑P P 18 20 36.5 +1.1
baz=51
BBRC Big Bear Solar 50.68 318 ⇓P P 18 20 37.3 +1.4
baz=51
TUQ Turquoise Moun 50.72 319 ⇓P P 18 20 37.7 +1.7
baz=51,SNR=25
E30A Jud 50.79 341 ⇑P P 18 20 35.6 -0.6
baz=51
K21A Alcova 50.84 332 ⇑P P 18 20 38.1 +1.1
baz=51,SNR=11
F28A McLaughlin 50.85 339 ⇓P P 18 20 36.6 -0.1
baz=51
G27A Dupree 50.85 338 ⇑P P 18 20 36.9 +0.1
baz=51,SNR=13
H25A Fruitdale 50.86 336 ⇑P P 18 20 37.7 +0.8
baz=51,SNR=12
L20A Wamsutter 50.88 331 ⇓P P 18 20 37.9 +0.6
baz=51,SNR=11
SHPR Sheep Range 50.89 321 *e*P P 18 20 38.8 +1.4
comp=Z,43nm,1.3s
SHPR *e*PcP PcP 18 21 54.3 +0.4
G26A Maurine 51.03 338 ⇑P P 18 20 38.2 +0.1
baz=51,SNR=10.0
SCI San Clemente I 51.08 315 ⇑P P 18 20 38.6 0.0
baz=51
E29A Napoleon 51.08 341 ⇑P P 18 20 37.9 -0.5
baz=51
I23A Meade Ranch, G 51.09 335 ⇓P P 18 20 39.5 +0.8
baz=51
J22A Midwest 51.10 333 ⇓P P 18 20 39.7 +0.9
baz=51,SNR=30
MPU Maple Canyon 51.14 327 *e*P P 18 20 39.9 +0.7
comp=Z,126nm,1.8s
MPU *e*PcP PcP 18 21 54.6 -0.2
BFSC Mount Baldy Ra 51.17 317 ⇓P P 18 20 40.9 +1.5
baz=51,SNR=7.6
DAU Daniels Canyon 51.21 327 *e*P P 18 20 40.8 +0.9
DAU *e* 18 21 55.7
DAU pmax pmax
comp=Z,96nm,1.2s
DAU Daniels Canyon 51.21 327 *e*P P 18 20 40.8 +0.9
comp=Z,96nm,1.2s
DAU *e*PcP PcP 18 21 55.7 +0.5
CIS Catalina Islan 51.22 316 ⇓P P 18 20 41.0 +1.3
baz=51
GSC Goldstone 51.22 319 *e*P P 18 20 41.3 +1.6
GSC pmax pmax
comp=Z,147nm,1.8s
GSC Goldstone 51.22 319 *e*P P 18 20 41.3 +1.6
comp=Z,147nm,1.8s
GSC Goldstone 51.22 319 ⇓P P 18 20 41.7 +2.0
baz=51,SNR=20
SHOC Shoshone 51.23 320 ⇓P P 18 20 41.3 +1.6
baz=51,SNR=11
G25A Newell 51.26 337 ⇓P P 18 20 40.3 +0.5
baz=51
D30A Buchanan 51.28 342 ⇓P P 18 20 39.6 -0.2
baz=51
F27A Lemmon 51.31 339 ⇑P P 18 20 40.1 -0.1
baz=52
NLU North Lily Min 51.34 326 *e*P P 18 20 41.7 +1.0
comp=Z,69nm,1.7s
H24A Dirks Ranch, A 51.35 336 ⇓P P 18 20 41.3 +0.7
baz=52,SNR=14
MWC Mount Wilson 51.43 317 *e*P P 18 20 42.4 +0.9
MWC pmax pmax
comp=Z,123nm,1.5s
MWC Mount Wilson 51.43 317 *e*P P 18 20 42.4 +0.9
comp=Z,123nm,1.5s
E28A Huff 51.44 340 ⇓P P 18 20 41.3 +0.2
baz=52,SNR=8.3
JLU Jordanelle 51.45 327 *e*P P 18 20 42.5 +0.9
comp=Z,47nm,1.2s
JLU *e*PcP PcP 18 21 56.4 +0.4
I22A 9 Mile Ranch, 51.48 334 ⇓P P 18 20 42.7 +1.0
baz=52,SNR=16
J21A Lysite 51.49 333 ⇓P P 18 20 42.7 +0.9
baz=52,SNR=8.8
PASC Pasadena Art C 51.49 317 *e*P P 18 20 43.5 +1.8
comp=Z,173nm,1.6s
D29A Pettibone, Tap 51.50 341 ⇓P P 18 20 41.4 -0.1
baz=52
AGMN Agassiz Nation 51.52 345 *e*P P 18 20 40.4 -1.3
comp=Z,60nm,1.3s
AGMN *e*PcP PcP 18 21 55.4 -0.3
F26A Lodgepole 51.53 338 ⇓P P 18 20 42.1 +0.2
baz=52,SNR=15
H23A Clabaugh Cattl 51.55 335 ⇓P P 18 20 42.7 +0.6
baz=52
E27A Carson 51.62 339 ⇑P P 18 20 43.4 +0.9
baz=52,SNR=9.2
DECC Green Verdugo 51.63 317 ⇓P P 18 20 44.3 +1.5
baz=52
M17A Scullys Gap (B 51.66 329 ⇑P P 18 20 43.4 +0.3
baz=52
L18A Fontenelle, Gr 51.66 330 ⇑P P 18 20 43.9 +0.8
baz=52
C30A Mose, Pekin 51.72 342 ⇓P P 18 20 43.7 +0.5
baz=52
EDW2 Edwards Air Fo 51.76 318 ⇑P P 18 20 45.1 +1.3
baz=52,SNR=34
G24A Alzada 51.77 336 ⇑P P 18 20 44.7 +1.0
baz=52
I21A Big Trails, Te 51.78 333 ⇓P P 18 20 44.5 +0.6
baz=52,SNR=13
J20A Shoshoni 51.79 332 ⇓P P 18 20 45.4 +1.5
baz=52,SNR=8.2
F25A Bowman 51.89 337 ⇑P P 18 20 45.1 +0.6
baz=52,SNR=6.1
LRMC Laurel Mountai 51.90 318 ⇓P P 18 20 46.4 +1.5
baz=52,SNR=5.5
DUG Dugway 51.91 326 *e*P P 18 20 46.3 +1.4
DUG pmax pmax
comp=Z,114nm,1.4s
DUG Dugway 51.91 326 *e*P P 18 20 46.3 +1.4
comp=Z,114nm,1.4s
DUG Dugway 51.91 326 ⇑P P 18 20 46.8 +1.9
baz=52,SNR=37

D28A **Regan** 51.94 340 ⇑P P 18 20 45.3 +0.4
baz=52
FURC **Furnace Creek,** 51.95 320 ⇑P P 18 20 46.9 +1.9
baz=52,SNR=19
E26A **Carlson Angus** 51.98 339 ⇓P P 18 20 45.9 +0.7
baz=52,SNR=15
H22A **Clearmont** 51.98 334 ⇑P P 18 20 45.9 +0.6
baz=52,SNR=10
BW06 **Boulder Array** 52.05 331 *e*P P 18 20 46.1 +0.1
comp=Z,36nm,1.4s
BW06 *e*PcP PcP 18 21 58.2 0.0
BLG **Laguna Peak** 52.06 316 ⇓P P 18 20 47.2 +1.2
baz=52
G23A **Biddle** 52.06 336 ⇓P P 18 20 46.5 +0.6
baz=52,SNR=13
OSI **Osito Adit** 52.11 317 ⇓P P 18 20 47.4 +1.0
baz=52
MPMC **Manual Prospec** 52.11 319 ⇓P P 18 20 47.5 +0.9
baz=52,SNR=16
J19A **Crowheart** 52.18 331 ⇓P P 18 20 47.4 +0.5
baz=52,SNR=26
D27A **Center** 52.19 340 ⇑P P 18 20 47.1 +0.4
baz=52
MDND **Maddock** 52.20 342 *e*P P 18 20 46.0 -0.8
MDND *e*PcP PcP 18 21 58.5 +0.2
MDND **Maddock** 52.20 342 ⇑P P 18 20 46.7 0.0
baz=52,SNR=5.5
F24A **Ekalaka** 52.21 337 ⇑P P 18 20 47.3 +0.4
baz=52,SNR=11
H21A **Big Horn, Sher** 52.31 334 ⇓P P 18 20 48.1 +0.3
baz=52,SNR=5.7
R11A **Troy Canyon, C** 52.31 323 *e*P P 18 20 49.3 +1.3
R11A **Troy Canyon, C** 52.31 323 ⇑P P 18 20 49.7 +1.7
baz=52,SNR=44
C28A **Hausauer Farms** 52.34 341 ⇓P P 18 20 47.9 +0.1
baz=52
B30A **Myrvik Farm, E** 52.35 343 ⇑P P 18 20 47.6 -0.2
baz=52
E25A **Miller Ranch,** 52.35 338 ⇑P P 18 20 48.6 +0.6
baz=52,SNR=8.4
D26A **Manning** 52.44 339 ⇑P P 18 20 48.9 +0.3
baz=53,SNR=12
G22A **Birney** 52.45 335 ⇑P P 18 20 49.3 +0.5
baz=53,SNR=20
ARVC **Arvin** 52.47 317 ⇓P P 18 20 50.8 +1.9
baz=53,SNR=7.7
SPUT **South Promonto** 52.48 327 *e*P P 18 20 50.2 +1.0
comp=Z,112nm,1.1s
F23A **Volborg** 52.49 336 ⇓P P 18 20 49.7 +0.6
baz=53,SNR=28
ISA **Isabella** 52.53 318 *e*P P 18 20 50.9 +1.3
ISA pmax pmax
comp=Z,30nm,1.1s
ISA **Isabella** 52.53 318 *e*P P 18 20 50.9 +1.3
comp=Z,30nm,1.1s
ISA **Isabella** 52.53 318 ⇑P P 18 20 51.2 +1.7
baz=53,SNR=14
BGU **Big Grassy Mou** 52.53 327 *e*P P 18 20 50.4 +0.9
comp=Z,60nm,1.1s
H20A **Greybull** 52.62 333 ⇑P P 18 20 50.3 +0.1
baz=53,SNR=7.3
B29A **Wagenman Farm,** 52.67 342 ⇓P P 18 20 50.3 +0.1
baz=53
SBC **Santa Barbara** 52.69 316 ⇓P P 18 20 51.7 +1.1
baz=53
C27A **Sayler Ranch,** 52.70 340 ⇑P P 18 20 51.2 +0.7
baz=53
CWC **Cottonwood Cre** 52.72 319 ⇑P P 18 20 52.0 +1.0
baz=53
I19A **Meeteetse** 52.74 332 ⇓P P 18 20 51.7 +0.6
baz=53,SNR=14
E24A **Baker** 52.74 337 ⇑P P 18 20 51.5 +0.6
baz=53,SNR=10
A30A **Hoffart Farm,** 52.78 343 ⇑P P 18 20 50.7 -0.4
baz=53
G21A **Lodge Grass** 52.85 334 ⇑P P 18 20 52.1 +0.3
baz=53
D25A **Fairfield** 52.87 338 ⇓P P 18 20 52.5 +0.7
baz=53,SNR=6.0
F22A **Rosebud** 52.89 335 ⇓P P 18 20 52.4 +0.4
baz=53,SNR=8.2
B28A **Dugan Ranch, T** 52.97 341 ⇑P P 18 20 52.8 +0.3
baz=53
HVU **Hansel Valley** 52.99 328 *e*P P 18 20 53.5 +0.6
HVU pmax pmax
comp=Z,56nm,1.3s
HVU **Hansel Valley** 52.99 328 *e*P P 18 20 53.5 +0.6
comp=Z,56nm,1.3s
C26A **Wahner Farm, P** 53.01 340 ⇑P P 18 20 53.0 +0.3
baz=53
PKM **Peak Mountain** 53.01 317 ⇓P P 18 20 54.5 +1.3
baz=53,SNR=35
A29A **Manning Farm,** 53.04 343 ⇓P P 18 20 52.8 -0.1
baz=53,SNR=24
VES **Vestal, Richgr** 53.04 318 ⇑P P 18 20 55.1 +1.9
baz=53,SNR=14
REDW **Red Top Meadow** 53.13 330 *e*P P 18 20 54.5 +0.5
comp=Z,114nm,1.5s
REDW *e*PcP PcP 18 22 04.5 +2.3
SNOW **Snow King Moun** 53.15 330 *e*P P 18 20 54.8 +0.6
comp=Z,46nm,1.1s
TIN **Tinemaha** 53.18 320 ⇓P P 18 20 55.8 +1.4
baz=53
EFI **East Falkland** 53.19 165 *e*P P 18 20 53.4 -0.5
EFI pmax pmax
comp=Z,168nm,1.1s
EFI **East Falkland** 53.19 165 *e*P P 18 20 53.4 -0.5
comp=Z,168nm,1.1s
LOHW **Long Hollow** 53.19 331 *e*P P 18 20 54.5 +0.1
comp=Z,33nm,1.2s
LOHW *e*PcP PcP 18 22 01.4 -1.0
D24A **Glendive** 53.21 338 ⇑P P 18 20 55.4 +1.1
baz=53,SNR=13
H19A **Powell** 53.22 333 ⇓P P 18 20 55.5 +1.0
baz=53
B27A **Peters Farms,** 53.22 341 ⇑P P 18 20 54.9 +0.6
baz=53
TPAW **Teton Pass** 53.27 330 *e*P P 18 20 55.6 +0.5
comp=Z,44nm,1.3s
F21A **Absaloka Mine,** 53.29 335 ⇓P P 18 20 55.0 +0.1
baz=53,SNR=6.4
G20A **Bridger** 53.29 334 ⇑P P 18 20 55.2 +0.1
baz=53,SNR=19
E22A **Miles City** 53.30 336 ⇓P P 18 20 54.9 -0.1
baz=54,SNR=11
C25A **Freed Ranch, W** 53.32 339 ⇓P P 18 20 55.8 +0.7
baz=54,SNR=9.1
ULM **Lac du Bonnet** 53.33 346 *e*P P 18 20 53.5 -1.5
comp=Z,45nm,1.2s
ULM P P 18 20 53.7 -1.3
ULM *e*PcP PcP 18 22 01.6 -0.9
ULM **Lac du Bonnet** 53.33 346 P P 18 20 53.7 -1.3
comp=Z,31nm,0.9s,baz=157,slow=8.7,SNR=21
ULM PcP PcP 18 22 01.6 -0.9
comp=Z,17nm,0.9s,baz=153,slow=5.8,SNR=5.7
ULM LR LR 18 44 57.5
comp=Z,253nm,19.2s,baz=69,slow=38
A28A **Rude Farm, Bot** 53.35 342 ⇓P P 18 20 55.1 -0.2
baz=54
RRI2 **Red Ridge** 53.35 330 *e*P P 18 20 56.2 +0.5
comp=Z,59nm,1.2s
MOOW **Moose Ponds** 53.36 331 *e*P P 18 20 55.8 +0.1
comp=Z,31nm,1.1s
SMMC **Simmler** 53.36 317 ⇓P P 18 20 57.3 +1.7
baz=54
I17A **Pilgrim Ck.** 53.40 331 ⇓P P 18 20 57.3 +1.3
baz=54
B26A **Jensen Ranch,** 53.52 340 ⇑P P 18 20 57.3 +0.8
baz=54
H18A **Shoshone NF, C** 53.54 332 ⇓P P 18 20 57.0 +0.1
baz=54
IMW **Indian Meadow** 53.56 331 *e*P P 18 20 57.7 +0.4
comp=Z,27nm,1.2s
IMW *e*PcP PcP 18 22 00.2 -3.8
FLWY **Flagg Ranch** 53.58 331 *e*P P 18 20 57.7 +0.4
C24A **Savage** 53.60 338 ⇑P P 18 20 58.0 +0.8
baz=54
ELK **Elko** 53.65 325 *e*P P 18 20 58.7 +0.8
comp=Z,27nm,1.3s
ELK *e*PcP PcP 18 22 04.3 0.0
A27A **Ledoux Ranch,** 53.69 341 ⇓P P 18 20 58.5 +0.7
baz=54
F20A **Billings** 53.71 334 ⇓P P 18 20 58.4 +0.3
baz=54,SNR=15
H17A **Grant Village** 53.76 331 ⇑P P 18 20 59.3 +0.6
baz=54
B25A **Knox Farm, Ray** 53.76 339 ⇑P P 18 20 59.3 +1.0
baz=54
E21A **Keefer Ranch,** 53.84 335 ⇑P P 18 20 59.7 +0.8
baz=54
MLAC **Mammoth Lakes** 53.91 320 ⇓P P 18 21 00.8 +1.0
baz=54
YFT **Old Faithful** 53.92 331 *e*P P 18 21 01.5 +1.7
comp=Z,99nm,1.2s
NV11 **Mina Array Sit** 53.95 321 *e*P P 18 21 01.1 +1.1
NV11 *e*PcP PcP 18 22 04.9 -0.5
D22A **Cohagen** 53.96 336 ⇑P P 18 21 00.7 +0.9
baz=54,SNR=11
NVAR **Mina Array Bea** 54.04 321 P P 18 21 02.4 +1.6
NVAR PcP PcP 18 22 06.4 +0.7
NVAR **Mina Array Bea** 54.04 321 P P 18 21 02.4 +1.6
comp=Z,38nm,0.9s,baz=137,slow=6.6,SNR=185
NVAR PcP PcP 18 22 06.4 +0.7
comp=Z,6.2nm,0.9s,baz=149,slow=4.2,SNR=2.6
YNR **Norris Junctio** 54.04 332 *e*P P 18 21 01.4 +0.6
comp=Z,32nm,1.1s
F19A **Roth Farm, Mol** 54.11 334 ⇓P P 18 21 01.5 +0.5
baz=54,SNR=24
C23A **Lambert** 54.11 338 ⇓P P 18 21 01.7 +0.8
baz=54,SNR=11
YMR **Madison River** 54.15 331 *e*P P 18 21 02.8 +1.3
comp=Z,45nm,1.0s
D21A **La Casta Ranch** 54.23 336 ⇑P P 18 21 02.5 +0.7
baz=54,SNR=11
E20A **Meyer Farm, Mu** 54.26 335 ⇓P P 18 21 03.2 +1.2
baz=54,SNR=38
DGMT **Dagmar** 54.30 339 ⇑P P 18 21 03.1 +0.9
baz=54
A25A **Svangstu Ranch** 54.31 340 ⇑P P 18 21 03.2 +0.9
baz=54,SNR=9.4
C22A **Vida** 54.33 337 ⇑P P 18 21 03.4 +0.9
baz=54,SNR=6.4
GCMT **Greycliff** 54.38 333 *e*P P 18 21 03.6 +0.5
comp=Z,76nm,1.2s
QLMT **Earthquake Lak** 54.49 331 *e*P P 18 21 05.3 +1.4
comp=Z,13nm,1.3s
E19A **Rath Farm, Rou** 54.51 334 ⇑P P 18 21 04.9 +1.0
baz=55,SNR=22
B23A **Brockton** 54.58 338 ⇑P P 18 21 05.4 +1.1
baz=55,SNR=11
BMN **Battle Mountai** 54.61 324 *e*P P 18 21 05.6 +0.8
BMN pmax pmax
comp=Z,63nm,1.1s
BMN **Battle Mountai** 54.61 324 *e*P P 18 21 05.6 +0.8
comp=Z,63nm,1.1s
D20A **Manuel Ranch,** 54.72 335 ⇑P P 18 21 06.2 +0.8
baz=55,SNR=26
WAKR **Walker** 54.80 320 *e*P P 18 21 07.8 +1.5
comp=Z,35nm,1.2s
B22A **Reddig Ranch S** 54.83 337 ⇓P P 18 21 07.0 +0.9
baz=55
C21A **Desert Coulee** 54.88 336 ⇑P P 18 21 07.2 +0.8
baz=55,SNR=12
A23A **Redstone** 54.95 339 ⇑P P 18 21 08.2 +1.2
baz=55
D19A **Cripps Ranch,** 55.09 335 ⇓P P 18 21 09.1 +1.0
baz=55
HLID **Hailey** 55.09 328 *e*P P 18 21 09.3 +1.0
comp=Z,30nm,1.0s
HLID *e*PcP PcP 18 22 10.9 +1.3
HLID **Hailey** 55.09 328 ⇓P P 18 21 09.3 +1.0
baz=55
SAO **San Andreas Ge** 55.14 318 *e*P P 18 21 09.3 +0.8
SAO pmax pmax
comp=Z,73nm,1.7s
SAO **San Andreas Ge** 55.14 318 *e*P P 18 21 09.3 +0.8
comp=Z,73nm,1.7s
CMB **Columbia Colle** 55.14 319 *e*P P 18 21 09.4 +0.8
CMB pmax pmax
comp=Z,28nm,1.4s
CMB **Columbia Colle** 55.14 319 *e*P P 18 21 09.4 +0.8
comp=Z,28nm,1.4s
C20A **Veseth Ranch,** 55.16 336 ⇓P P 18 21 09.1 +0.6
baz=55
MCMT **McKenzie Canyo** 55.18 330 *e*P P 18 21 10.0 +1.0
comp=Z,15nm,1.1s
MCMT *e*PP PP 18 23 11.3 -1.2
B21A **Ellsworth Farm** 55.33 337 ⇑P P 18 21 10.7 +1.0
baz=56
A22A **Carney Farms,** 55.37 338 ⇓P P 18 21 11.1 +1.2
baz=56
DLMT **Dillon** 55.44 331 *e*P P 18 21 11.5 +0.8
comp=Z,31nm,1.2s
PAHR **Pah Rah Range** 55.48 322 *e*P P 18 21 12.3 +1.2
comp=Z,99nm,1.7s
C19A **Slack Wire Ran** 55.61 335 ⇑P P 18 21 12.6 +0.8
baz=56
LRM **Limekiln Ridge** 55.70 331 *e*P P 18 21 13.1 +0.3
comp=Z,244nm,1.2s
B20A **Solberg Farm,** 55.74 336 ⇑P P 18 21 13.4 +0.7
baz=56
A21A **Bergtoll Ranch** 55.75 337 ⇓P P 18 21 13.6 +0.9
baz=56
A20A **Cobblestone Ra** 56.05 337 ⇑P P 18 21 15.2 +0.2
baz=56
EGMT **Eagleton** 56.13 335 *e*P P 18 21 15.7 +0.1
comp=Z,40nm,1.2s
EGMT **Eagleton** 56.13 335 ⇓P P 18 21 16.2 +0.7
baz=56
BEKR **Beckworth** 56.18 321 *e*P P 18 21 17.3 +1.2
comp=Z,16nm,0.9s
BEKR *e*PcP PcP 18 22 12.1 -1.9
SCHQ **Schefferville** 56.39 8 P P 18 21 16.4 -0.7
SCHQ **Schefferville** 56.39 8 P P 18 21 16.4 -0.7
comp=Z,11nm,1.0s,baz=192,slow=8.1,SNR=4.3
A19A **Klindworth Far** 56.42 336 ⇑P P 18 21 18.1 +0.6
baz=57
WVOR **Wild Horse Val** 56.69 325 *e*P P 18 21 20.3 +0.6
WVOR pmax pmax
comp=Z,119nm,1.1s
WVOR **Wild Horse Val** 56.69 325 *e*P P 18 21 20.2 +0.6
comp=Z,119nm,1.1s
MCCM **Maroni Confer** 56.84 318 *e*P P 18 21 21.6 +1.0
comp=Z,52nm,0.9s
CHMT **Chamberlain Mo** 56.88 332 *e*P P 18 21 21.1 0.0
comp=Z,8.7nm,1.3s
MSO **Missoula** 57.15 331 ⇓P P 18 21 23.7 +0.9
baz=57
SLMT **Seeley Lake** 57.23 332 *e*P P 18 21 23.7 +0.3
comp=Z,15nm,1.3s
SLMT *e*PcP PcP 18 22 17.6 -0.2
MOD **Modoc** 57.34 323 *e*P P 18 21 24.7 +0.3
comp=Z,172nm,1.3s
BMO **Blue Mountains** 57.50 328 *e*P P 18 21 25.1 -0.3
comp=Z,16nm,1.1s
SWMT **Swartz Lake** 57.66 332 *e*P P 18 21 27.2 +0.7
comp=Z,9.2nm,0.9s
SWMT *e*PcP PcP 18 22 19.6 +0.1
YBMT **Yellow Bay** 57.92 332 *e*P P 18 21 29.1 +0.8
comp=Z,58nm,1.5s
YBMT *e*PcP PcP 18 22 21.8 +1.2
WDC **Whiskeytown Da** 57.95 321 *e*P P 18 21 27.2 -1.3
WDC pmax pmax
comp=Z,35nm,1.3s
WDC **Whiskeytown Da** 57.95 321 *e*P P 18 21 27.2 -1.3
comp=Z,35nm,1.3s
JTMT **Jette** 57.97 332 *e*P P 18 21 29.1 +0.5
comp=Z,26nm,1.3s
JTMT *e*PcP PcP 18 22 20.8 +0.1
KCPM **Cahto Peak** 58.13 319 *e*P P 18 21 31.7 +1.8
comp=Z,32nm,1.1s
KIPM **Iron Peak** 58.13 320 *e*P P 18 21 31.1 +1.2
comp=Z,125nm,1.2s
BLMT **Blacktail Moun** 58.19 332 *e*P P 18 21 31.2 +0.9
comp=Z,42nm,1.1s
BSMT **Bassoo Peak** 58.28 332 *e*P P 18 21 31.6 +0.7
comp=Z,41nm,1.4s
BSMT *e*PcP PcP 18 22 21.9 -0.1
YBH **Yreka Blue Hor** 58.71 322 *e*P P 18 21 33.4 -0.4
comp=Z,33nm,0.9s
YBH **Yreka Blue Hor** 58.71 322 LR LR 18 46 09.7
comp=Z,136nm,21.1s,baz=129,slow=35
WALA **Waterton Lakes** 58.74 333 *e*P P 18 21 34.2 +0.2
comp=Z,0.7nm,1.0s
WALA *e*PcP PcP 18 22 24.1 +0.4
KHMM **Horse Mountain** 58.87 321 *e*P P 18 21 36.2 +1.1
comp=Z,106nm,1.0s
FFC **Flin Flon** 58.98 344 *i*P P 18 21 35.4 +0.1
FFC **Flin Flon** 58.98 344 P P 18 21 35.8 +0.5
comp=Z,204nm,1.0s,SNR=10
FFC **Flin Flon** 58.98 344 *e*P P 18 21 34.6 -0.7
comp=Z,106nm,1.1s
KRMB **Red Mountain** 59.34 321 *e*P P 18 21 39.6 +1.3
comp=Z,115nm,1.6s
HUMO **Hull Mountain** 59.35 323 *e*P P 18 21 37.8 -0.5
comp=Z,22nm,1.2s
HAWA **Hanford** 59.69 328 *e*P P 18 21 41.0 +0.6
comp=Z,16nm,0.8s
HAWA *e*PcP PcP 18 22 27.4 0.0
NEW **Newport** 59.69 331 *e*P P 18 21 40.9 +0.4
comp=Z,29nm,1.0s
NEW **Newport** 59.69 331 ⇓P P 18 21 41.1 +0.6
baz=60
OD2 **Odessa Site #2** 59.91 329 P P 18 21 42.8 +0.9
KBO **Bosley Butte** 59.91 322 *e*P P 18 21 43.7 +1.5
comp=Z,90nm,1.2s
VFP **Flag Point** 60.08 326 P P 18 21 45.1 +1.8
KEBM **Edson Butte** 60.34 322 *e*P P 18 21 46.7 +1.6
comp=Z,124nm,1.2s
RNO **Roman Nose** 60.57 323 P P 18 21 48.1 +1.5
ASR **Mount Adams--S** 60.65 327 P P 18 21 48.8 +1.6
COR **Corvallis** 60.70 324 *e*P P 18 21 48.6 +1.3
COR **Corvallis** 60.70 324 *e*P P 18 21 48.6 +1.3
comp=Z,943nm,1.3s
MPOR **Mary's Peak** 60.79 324 P P 18 21 49.9 +1.7
ETW **Entiat** 60.88 328 P P 18 21 50.0 +1.3
WPW **White Pass** 60.96 327 P P 18 21 50.7 +1.4
LON **Longmire** 61.14 327 *e*P P 18 21 51.0 +0.6
LON pmax pmax
comp=Z,32nm,0.8s
LON **Longmire** 61.14 327 *e*P P 18 21 51.0 +0.6
comp=Z,32nm,0.8s
GSM **Grass Mountain** 61.41 327 P P 18 21 53.2 +0.9
GSM **Grass Mountain** 61.41 327 P P 18 21 53.2 +0.9
EDM **Edmonton** 61.58 337 *e*P P 18 21 52.7 -0.6
EDM *e* 18 22 33.5
EDM **Edmonton** 61.58 337 *e*P P 18 21 52.7 -0.6
EDM *e*PcP PcP 18 22 33.5 -1.4
BBTS **Babate** 62.65 73 LR LR 18 45 24.5
comp=Z,366nm,21.0s,baz=164,slow=32
NLWA **Neilton Lookou** 62.65 327 *e*P P 18 22 01.7 +1.2
comp=Z,62nm,1.0s
PGC **Sidney** 63.17 328 *e*P P 18 22 05.1 +1.2
comp=Z,2.6nm,1.0s
YKA **Yellowknife Ar** 69.10 343 P P 18 22 40.5 -1.3
YKA **Yellowknife Ar** 69.10 343 P P 18 22 40.4 -1.3
comp=Z,6.4nm,0.8s,baz=134,slow=6.2,SNR=9.0
SFJD **Kangerlussuaq** 70.53 11 P P 18 22 49.3 -1.1
SFJD **Kangerlussuaq** 70.53 11 P P 18 22 49.3 -1.1
comp=Z,15nm,1.0s,baz=203,slow=7.7,SNR=3.2
DLBC **Dease Lake** 72.06 334 *e*P P 18 23 00.9 +0.9
ILULI **Ilulissat** 72.40 10 *e*P P 18 23 02.3 +0.6
ILULI pmax pmax
comp=Z,34nm,1.0s
LIC **Lamto** 73.08 83 *e*P P 18 23 06.1 -0.8
comp=Z,26nm,0.8s,baz=266
LIC *e*R
comp=Z,466nm,22.0s
LIC **Lamto** 73.08 83 *e*P P 18 23 05.9 -1.0
comp=Z,74nm,1.2s
LIC **Lamto** 73.08 83 *e*P P 18 23 06.1 -0.8
comp=Z,26nm,0.8s
TIC **Toumodi** 73.11 83 *e*P P 18 23 06.1 -1.0
comp=Z,181nm,1.3s
DBIC **Dimbokro** 73.28 83 P P 18 23 07.1 -1.0
DBIC *e*P P 18 23 07.2 -0.8
DBIC **Dimbokro** 73.28 83 P P 18 23 07.1 -1.0
comp=Z,36nm,1.1s,baz=260,slow=6.1,SNR=13
KIC **Kosan Boka** 73.38 83 *e*P P 18 23 07.5 -1.2
comp=Z,183nm,1.2s
PNCL **Nicolau / Gran** 74.50 50 *e*P P 18 23 20.0 +5.3
PCVE **Castro Verde** 74.76 51 *e*P P 18 23 20.0 +3.7
comp=Z,27nm,1.6s
EVOP **Sao Brissos** 74.91 50⇑ *i*P P 18 23 17.2 +0.1
EVOP pmax pmax
comp=Z,37nm,1.5s
EVOP **Sao Brissos** 74.91 50⇑ *i*P P 18 23 17.2 +0.1
comp=Z,37nm,1.5s
PMTG **Montargil** 74.96 49 *e*P P 18 23 17.6 +0.2
EVO **Evora** 74.99 50⇑ *i*P P 18 23 17.2 -0.4
comp=Z,37nm,1.5s
EVO *e*R
comp=Z,292nm,17.5s
EVO **Evora** 74.99 50 *e*P P 18 23 20.5 +2.9
comp=Z,22nm,1.7s
PVIS **Viseu** 75.60 48 *e*P P 18 23 21.4 +0.3
MDT **Midelt** 76.54 56 LR LR 18 50 27.6
comp=Z,142nm,21.8s,baz=69,slow=31
SUMG **Summit** 77.52 11 *i*P P 18 23 32.8 +1.0
SUMG pmax pmax
comp=Z,52nm,0.9s
SUMG **Summit** 77.52 11 *i*P P 18 23 32.8 +1.0
comp=Z,52nm,0.9s
SUMG **Summit** 77.52 11 *e*P P 18 23 32.0 +0.2
comp=Z,85nm,1.0s
PAB **San Pablo** 78.00 49 *e*P P 18 23 34.5 -0.2
PAB pmax pmax
comp=Z,122nm,1.4s
PAB **San Pablo** 78.00 49 *e*P P 18 23 34.5 -0.2
comp=Z,122nm,1.4s
ESDC **Sonseca Array** 78.31 49 P P 18 23 36.3 -0.2
ESDC **Sonseca Array** 78.31 49 P P 18 23 36.3 -0.2
comp=Z,0.7nm,0.5s,baz=251,slow=6.2,SNR=8.3
ESLA **Sonseca Array** 78.31 49 *e*P P 18 23 37.6 +1.2
comp=Z,3.3nm,1.3s
DAWY **Dawson** 78.80 337 *e*P P 18 23 37.5 -1.1
INK **Inuvik** 78.83 342 *e*P P 18 23 39.0 +0.4
comp=Z,74nm,1.4s
TOA0 **Torodi Ar. Sit** 80.09 77 *e*P P 18 23 44.8 -1.8
TORD **Torodi Ar. Bea** 80.09 77 P P 18 23 45.0 -1.6
TORD **Torodi Ar. Bea** 80.09 77 P P 18 23 45.0 -1.6
comp=Z,2.4nm,0.9s,baz=270,slow=2.9,SNR=9.6
QUIF **Quistinic** 80.54 41 *e*P P 18 23 48.7 +0.4
comp=Z,214nm,1.7s
QUIF **Quistinic** 80.54 41 *e*P P 18 23 48.7 +0.4
QUIF pmax pmax
comp=Z,215nm,1.7s
QUIF **Quistinic** 80.54 41 *e*P P 18 23 48.7 +0.4
comp=Z,214nm,1.7s
ROSF **Rostrenen** 80.56 41 *e*P P 18 23 48.9 +0.5
ROSF **Rostrenen** 80.56 41 *e*P P 18 23 48.9 +0.5
ROSF **Rostrenen** 80.56 41 *e*P P 18 23 48.9 +0.5
PAX **Paxson** 80.86 335 *e*P P 18 23 49.7 -0.1
PAX pmax pmax
comp=Z,31nm,1.3s
PAX **Paxson** 80.86 335 *e*P P 18 23 49.7 -0.1
comp=Z,31nm,1.3s
SJPF **Ste Jean** 80.97 46 *e*P P 18 23 51.7 +0.9
comp=Z,33nm,1.3s
SJPF **Ste Jean** 80.97 46 *e*P P 18 23 51.7 +0.9
SJPF pmax pmax
comp=Z,33nm,1.3s
SJPF **Ste Jean** 80.97 46 *e*P P 18 23 51.7 +0.9
comp=Z,33nm,1.3s
SGMF **Saint Gilles** 81.01 41 *e*P P 18 23 51.4 +0.6
comp=Z,78nm,1.2s
SGMF **Saint Gilles** 81.01 41 *e*P P 18 23 51.4 +0.6
SGMF pmax pmax
comp=Z,78nm,1.3s
SGMF **Saint Gilles** 81.01 41 *e*P P 18 23 51.4 +0.6
comp=Z,78nm,1.3s
ETSF **Etsaut** 81.41 46 *e*P P 18 23 53.2 0.0
comp=Z,32nm,1.4s
ETSF **Etsaut** 81.41 46 *e*P P 18 23 53.2 0.0
ETSF pmax pmax
comp=Z,32nm,1.4s
ETSF **Etsaut** 81.41 46 *e*P P 18 23 53.2 0.0
comp=Z,32nm,1.4s
ILAR **Eielson Array** 82.07 336 P P 18 23 55.9 -0.2
ILAR PP PP 18 27 04.5 +0.5
ILAR **Eielson Array** 82.07 336 P P 18 23 55.9 -0.2
comp=Z,13nm,0.9s,baz=118,slow=4.1,SNR=77
ILAR PP PP 18 27 04.5 +0.5
comp=Z,3.1nm,1.0s,baz=104,slow=6.7,SNR=7.9
ILAR LR LR 19 04 20.9
comp=Z,153nm,19.0s,baz=128,slow=39
EPF **Esparros** 82.09 46 *e*P P 18 23 57.7 +1.0
comp=Z,43nm,1.6s
EPF **Esparros** 82.09 46 *e*P P 18 23 57.7 +1.0
EPF pmax pmax
comp=Z,43nm,1.6s
EPF **Esparros** 82.09 46 *e*P P 18 23 57.7 +1.0
comp=Z,43nm,1.6s
ESK **Eskdalemuir** 82.14 34 P P 18 23 56.9 +0.2
ESK pmax pmax
comp=Z,40nm,1.2s
ESK **Eskdalemuir** 82.14 34 P P 18 23 56.9 +0.2
comp=Z,40nm,1.2s
GRR **Gorron** 82.15 41 *e*P P 18 23 57.3 +0.5
GRR **Gorron** 82.15 41 *e*P P 18 23 57.3 +0.5
GRR **Gorron** 82.15 41 *e*P P 18 23 57.3 +0.5

EKA Eskdalemuir Ar 82.17 34 P **P 18 23 56.0 -0.8**
EKA Eskdalemuir Ar 82.17 34 P **P 18 23 56.0 -0.8**
comp=Z,12nm,1.0s,baz=245,slow=3.6,SNR=7.8
MFF Saint Martin d 82.31 43 *e*P **P 18 23 58.3 +0.5**
comp=Z,97nm,1.6s
MFF Saint Martin d 82.31 43 *e*P **P 18 23 58.3 +0.5**
MFF pmax pmax
comp=Z,97nm,1.6s
MFF Saint Martin d 82.31 43 *e*P **P 18 23 58.3 +0.5**
comp=Z,97nm,1.6s
VNA1 Neumayer--Stat 82.40 162 *e*P **P 18 23 59.1 +1.4**
FLN La Foliniere 82.46 41 *e*P **P 18 23 59.4 +0.9**
comp=Z,141nm,1.5s
FLN *e*R
comp=Z,167nm,18.0s
FLN La Foliniere 82.46 41 *e*P **P 18 23 59.4 +0.9**
FLN pmax pmax
comp=Z,141nm,1.5s
FLN La Foliniere 82.46 41 *e*P **P 18 23 59.4 +0.9**
comp=Z,141nm,1.5s
COLA College 82.49 336 *e*P **P 18 23 58.2 -0.1**
COLA pmax pmax
comp=Z,85nm,1.0s
COLA College 82.49 336 *e*P **P 18 23 58.1 -0.1**
comp=Z,85nm,1.0s
MCK McKinley 82.59 335 *e*P **P 18 23 58.6 -0.2**
MCK pmax pmax
comp=Z,19nm,1.0s
MCK McKinley 82.59 335 *e*P **P 18 23 58.6 -0.2**
comp=Z,19nm,1.0s
LFF La Frestale 82.66 45 *e*P **P 18 24 00.2 +0.6**
comp=Z,106nm,1.5s
LFF La Frestale 82.66 45 *e*P **P 18 24 00.2 +0.6**
LFF pmax pmax
comp=Z,106nm,1.5s
LFF La Frestale 82.66 45 *e*P **P 18 24 00.2 +0.6**
comp=Z,106nm,1.5s
LDF La Druitiere 82.67 41 *e*P **P 18 24 00.1 +0.5**
comp=Z,60nm,1.3s
LDF La Druitiere 82.67 41 *e*P **P 18 24 00.1 +0.5**
LDF pmax pmax
comp=Z,60nm,1.3s
LDF La Druitiere 82.67 41 *e*P **P 18 24 00.1 +0.5**
comp=Z,60nm,1.3s
VNA2 Neumayer--Watz 82.76 162 *e*P **P 18 24 00.2 +0.6**
TRF Thorofare Moun 83.08 334 *e*P **P 18 24 00.7 -0.9**
comp=Z,22nm,1.1s
RJF Les Rejaudoux 83.26 44 *e*P **P 18 24 03.4 +0.7**
comp=Z,114nm,1.8s
RJF *e*R
comp=Z,239nm,22.8s
RJF Les Rejaudoux 83.26 44 *e*P **P 18 24 03.4 +0.7**
RJF pmax pmax
comp=Z,114nm,1.8s
RJF Les Rejaudoux 83.26 44 *e*P **P 18 24 03.4 +0.7**
comp=Z,114nm,1.8s
RSO Redoubt South 83.43 331 *e*P **P 18 24 02.9 -0.6**
comp=Z,76nm,0.9s
MTLF Montolieu 83.49 46 *e*P **P 18 24 04.5 +0.5**
comp=Z,44nm,1.4s
MTLF Montolieu 83.49 46 *e*P **P 18 24 04.5 +0.5**
MTLF pmax pmax
comp=Z,44nm,1.4s
MTLF Montolieu 83.49 46 *e*P **P 18 24 04.5 +0.5**
comp=Z,44nm,1.4s
BPAW Bear Paw Mtn. 83.56 335 *e*P **P 18 24 03.7 -0.2**
comp=Z,41nm,0.9s
CAF Calviac 83.59 45 *e*P **P 18 24 05.0 +0.5**
comp=Z,82nm,1.6s
CAF Calviac 83.59 45 *e*P **P 18 24 05.0 +0.5**
CAF pmax pmax
comp=Z,82nm,1.6s
CAF Calviac 83.59 45 *e*P **P 18 24 05.0 +0.5**
comp=Z,82nm,1.6s
ALE Alert 83.72 2 P **P 18 24 04.2 -0.2**
comp=Z,122nm,1.1s,SNR=6.9
PPLA Purkeypile 83.77 334 *e*P **P 18 24 05.1 -0.1**
comp=Z,122nm,1.4s
PPLA *e*PP **PP 18 27 19.7 +1.6**
TCF Toulx Ste Croi 83.88 43 *e*P **P 18 24 06.2 +0.3**
comp=Z,30nm,1.3s
TCF Toulx Ste Croi 83.88 43 *e*P **P 18 24 06.2 +0.3**
TCF pmax pmax
comp=Z,30nm,1.3s
TCF Toulx Ste Croi 83.88 43 *e*P **P 18 24 06.2 +0.3**
comp=Z,30nm,1.3s
COLD Coldfoot 84.13 338 *e*P **P 18 24 07.7 +1.0**
comp=Z,32nm,1.3s
DAG Danmarks Havn 84.21 11 *i* P **P 18 24 07.1 +0.2**
DAG pmax pmax
comp=Z,30nm,1.0s
DAG Danmarks Havn 84.21 11 *i* P **P 18 24 07.1 +0.2**
comp=Z,30nm,1.0s
TAM Tamanrasset 84.31 67 *e*P **P 18 24 09.5 +0.7**
TAM pmax pmax
comp=Z,10.0nm,1.1s
TAM Tamanrasset 84.31 67 *e*P **P 18 24 09.5 +0.7**
comp=Z,10nm,1.1s
BGF Bois d'Agland 84.35 43 *e*P **P 18 24 08.8 +0.5**
comp=Z,131nm,1.5s
BGF Bois d'Agland 84.35 43 *e*P **P 18 24 08.8 +0.5**
BGF pmax pmax
comp=Z,131nm,1.5s
BGF Bois d'Agland 84.35 43 *e*P **P 18 24 08.8 +0.5**
comp=Z,131nm,1.5s
SNAA Sanae 84.38 162 *e*P **P 18 24 08.2 +0.2**
SNAA Sanae 84.38 162 *e*P **P 18 24 08.1 +0.1**
comp=Z,41nm,1.5s
AVF Avril sur Loir 84.72 43 *e*P **P 18 24 10.3 +0.2**
comp=Z,101nm,1.7s
AVF Avril sur Loir 84.72 43 *e*P **P 18 24 10.3 +0.2**
AVF pmax pmax
comp=Z,101nm,1.7s
AVF Avril sur Loir 84.72 43 *e*P **P 18 24 10.3 +0.2**
comp=Z,101nm,1.7s
LASF Ste Croix 84.76 46 *e*P **P 18 24 10.6 +0.2**
comp=Z,69nm,1.6s
LASF Ste Croix 84.76 46 *e*P **P 18 24 10.6 +0.2**
comp=Z,69nm,1.6s
SSF Saint Saulge 84.86 43 *e*P **P 18 24 11.0 +0.1**
comp=Z,41nm,1.4s
SSF Saint Saulge 84.86 43 *e*P **P 18 24 11.0 +0.1**
SSF pmax pmax
comp=Z,41nm,1.4s
SSF Saint Saulge 84.86 43 *e*P **P 18 24 11.0 +0.1**
comp=Z,41nm,1.4s
SMF Signal de Mont 85.04 43 *e*P **P 18 24 11.9 +0.1**
comp=Z,56nm,1.4s
SMF Signal de Mont 85.04 43 *e*P **P 18 24 11.9 +0.1**
SMF pmax pmax
comp=Z,56nm,1.4s
SMF Signal de Mont 85.04 43 *e*P **P 18 24 11.9 +0.1**
comp=Z,56nm,1.4s
LOR Lormes 85.13 43 *e*P **P 18 24 12.3 +0.1**
comp=Z,49nm,1.4s
LOR *e*R
comp=Z,162nm,20.0s
LOR Lormes 85.13 43 *e*P **P 18 24 12.3 +0.1**
comp=Z,49nm,1.4s
IM04 Indian Mountai 85.18 337 *e*P **P 18 24 11.8 -0.3**
VIVF Saint-Julien-l 85.42 45 *e*P **P 18 24 13.2 -0.6**
comp=Z,22nm,1.2s
VIVF Saint-Julien-l 85.42 45 *e*P **P 18 24 13.2 -0.6**
VIVF pmax pmax
comp=Z,22nm,1.2s
VIVF Saint-Julien-l 85.42 45 *e*P **P 18 24 13.2 -0.6**
comp=Z,22nm,1.2s
BAIF Baives 85.68 40 *e*P **P 18 24 15.2 +0.3**
BAIF Baives 85.68 40 *e*P **P 18 24 15.2 +0.3**
BAIF Baives 85.68 40 *e*P **P 18 24 15.2 +0.3**
DOU Dourbes 85.94 40 P P 18 24 20.0 +3.9
comp=Z,8.2nm,1.1s
SMRF Simiane la Rot 85.98 46 *e*P **P 18 24 16.4 -0.2**
SMRF Simiane la Rot 85.98 46 *e*P **P 18 24 16.4 -0.2**
SFTF Sexfontaines 86.02 42 *e*P **P 18 24 16.9 +0.3**
comp=Z,92nm,1.4s
SFTF Sexfontaines 86.02 42 *e*P **P 18 24 16.9 +0.3**
comp=Z,92nm,1.4s
MEZF Maizieres J'vi 86.06 41 *e*P **P 18 24 17.3 +0.5**
MEZF Maizieres J'vi 86.06 41 *e*P **P 18 24 17.3 +0.5**
GIVF Givet 86.08 40 *e*P **P 18 24 17.6 +0.8**
comp=Z,140nm,1.5s
GIVF Givet 86.08 40 *e*P **P 18 24 17.6 +0.8**
GIVF pmax pmax
comp=Z,140nm,1.5s
GIVF Givet 86.08 40 *e*P **P 18 24 17.6 +0.8**
comp=Z,140nm,1.5s

ORIF Oris-en-Rattie 86.28 45 *e*P **P 18 24 19.1 +1.0**
comp=Z,62nm,1.6s
ORIF *e*R
comp=Z,182nm,20.0s
ORIF Oris-en-Rattie 86.28 45 *e*P **P 18 24 19.1 +1.0**
ORIF pmax pmax
comp=Z,62nm,1.6s
ORIF Oris-en-Rattie 86.28 45 *e*P **P 18 24 19.1 +1.0**
comp=Z,62nm,1.6s
PAGF Fort de Pagny 86.51 41 *e*P **P 18 24 19.7 +0.7**
comp=Z,23nm,1.4s
PAGF Fort de Pagny 86.51 41 *e*P **P 18 24 19.7 +0.7**
comp=Z,23nm,1.4s
CABF La Chapelle 86.58 43 *e*P **P 18 24 19.9 +0.4**
CABF La Chapelle 86.58 43 *e*P **P 18 24 19.9 +0.4**
CABF La Chapelle 86.58 43 *e*P **P 18 24 19.9 +0.4**
BEBN Eben Emael 86.70 39 P P 18 24 23.9 +4.1
HAU Haudompre 86.88 42 *e*P **P 18 24 21.1 +0.2**
HAU *e*R
comp=Z,139nm,20.0s
HAU Haudompre 86.88 42 *e*P **P 18 24 21.1 +0.2**
HAU Haudompre 86.88 42 *e*P **P 18 24 21.1 +0.2**
MEM Membach 86.89 39 P **P 18 24 20.9 +0.1**
comp=Z,19nm,1.5s
WLF Walferdange 86.89 40 P **P 18 24 21.7 +0.9**
comp=Z,31nm,1.5s
MBDF Montbardon 86.90 45 *e*P **P 18 24 21.9 +0.7**
MBDF Montbardon 86.90 45 *e*P **P 18 24 21.9 +0.7**
MBDF Montbardon 86.90 45 *e*P **P 18 24 21.9 +0.7**
LPL La Plagne 86.93 45 *e*P **P 18 24 22.3 +0.9**
comp=Z,33nm,1.4s
LPL La Plagne 86.93 45 *e*P **P 18 24 22.3 +0.9**
LPL pmax pmax
comp=Z,33nm,1.4s
LPL La Plagne 86.93 45 *e*P **P 18 24 22.3 +0.9**
comp=Z,33nm,1.4s
LPG La Plagne 86.95 45 *e*P **P 18 24 21.3 -0.3**
comp=Z,28nm,1.3s
LPG La Plagne 86.95 45 *e*P **P 18 24 21.3 -0.3**
LPG pmax pmax
comp=Z,28nm,1.3s
LPG La Plagne 86.95 45 *e*P **P 18 24 21.3 -0.3**
comp=Z,28nm,1.3s
HINF Hinteralfeld 87.20 42 *e*P **P 18 24 22.6 +0.1**
comp=Z,24nm,1.3s
HINF Hinteralfeld 87.20 42 *e*P **P 18 24 22.6 +0.1**
HINF pmax pmax
comp=Z,24nm,1.3s
HINF Hinteralfeld 87.20 42 *e*P **P 18 24 22.6 +0.1**
comp=Z,24nm,1.3s
ECH Echery 87.43 42 *e*P **P 18 24 23.7 +0.1**
ECH pmax pmax
comp=Z,30nm,1.5s
ECH Echery 87.43 42 *e*P **P 18 24 23.7 +0.1**
comp=Z,30nm,1.5s
CDF Champ du Feu 87.53 42 *e*P **P 18 24 24.4 +0.3**
comp=Z,34nm,1.2s
CDF Champ du Feu 87.53 42 *e*P **P 18 24 24.4 +0.3**
CDF pmax pmax
comp=Z,34nm,1.3s
CDF Champ du Feu 87.53 42 *e*P **P 18 24 24.4 +0.3**
comp=Z,34nm,1.3s
KEST Kesra 88.33 54 LR LR 19 03 12.9
comp=Z,64nm,18.7s,baz=228,slow=35
MAIT Maitri 88.94 161 *e*P **P 18 24 28.7 -1.4**
QSPA South Pole Qui 89.06 180 *e*P **P 18 24 32.0 +1.0**
comp=Z,84nm,1.1s
DAVOX Davos/Dischmat 89.19 43 P **P 18 24 32.2 +0.1**
DAVOX Davos/Dischmat 89.19 43 P **P 18 24 32.2 +0.1**
comp=Z,2.7nm,0.6s,baz=278,slow=7.1,SNR=3.0
NB2 NORSAR Subarra 90.44 29 P **P 18 24 38.0 +0.6**
comp=Z,6.6nm,0.8s,baz=268,slow=4.8
NOA NORSAR Array B 90.44 29 P **P 18 24 38.0 +0.6**
NOA NORSAR Array B 90.44 29 P **P 18 24 38.0 +0.6**
comp=Z,7.3nm,1.0s,baz=270,slow=4.6,SNR=9.8
NOA LR LR 19 01 15.9
comp=Z,131nm,18.6s,baz=265,slow=33
CLL Collm 91.34 39⇓ *i*P **P 18 24 43.0 +1.2**
CLL pmax pmax
comp=Z,10.0nm,1.7s
CLL Collm 91.34 39⇓ *i*P **P 18 24 43.0 +1.2**
comp=Z,21nm,1.7s
CLL *e*PP **PP 18 28 17.0 -2.1**
CLL *e*S **S 18 35 36.0 -4.6**
CLL L L 19 02 00.0
comp=Z,200nm,19.2s
HFS Hagfors 91.66 30 P **P 18 24 42.7 -0.4**
HFS Hagfors 91.66 30 P **P 18 24 42.7 -0.4**
comp=Z,5.6nm,1.0s,baz=264,slow=4.1,SNR=4.1
KHC Kasperske Hory 91.72 41 *e*P **P 18 24 43.8 +0.1**
KHC *e*pP pP 18 24 56.8 +9.1
GERES GERESS Array B 91.80 41 P **P 18 24 44.2 +0.1**
GERES PP **PP 18 28 25.4 +2.4**
GERES GERESS Array B 91.80 41 P **P 18 24 44.2 +0.1**
comp=Z,0.3nm,0.5s,baz=275,slow=4.8,SNR=4.4
GERES PP **PP 18 28 25.4 +2.4**
comp=Z,0.4nm,0.8s,baz=280,slow=11,SNR=3.5
GERES LR LR 18 59 57.5
comp=Z,126nm,18.4s,baz=31,slow=32
BRG Berggiesshubel 91.93 39 *e*P **P 18 24 45.7 +1.1**
comp=Z,22nm,1.5s
PRU Pruhonice 92.33 40 *e*P **P 18 24 47.6 +1.2**
DPC Dobruska-Polom 93.46 40 *e*P **P 18 24 53.4 +1.7**
DPC *e*pP pP 18 25 01.3 +5.6
VRAC Vranov 93.69 41 P **P 18 24 53.6 +0.8**
VRAC Vranov 93.69 41 P **P 18 24 53.6 +0.8**
comp=Z,1.5nm,0.5s,baz=347,slow=6.6,SNR=4.3
VRAC LR LR 19 01 34.0
comp=Z,152nm,18.3s,baz=267,slow=32
KRLC Kraliky 93.77 40 *e*P **P 18 24 54.8 +1.7**
SBA Scott Base 94.23 191 *e*P **P 18 24 55.5 +0.9**
SBA pmax pmax
comp=Z,11nm,1.3s
SBA Scott Base 94.23 191 *e*P **P 18 24 55.5 +0.9**
comp=Z,11nm,1.3s
TSUM Tsumeb 94.85 109 P **P 18 24 58.9 +0.1**
VNDA Vanda 95.32 191 P **P 18 25 00.1 +0.5**
VNDA *e*P **PcP 18 25 00.2 +0.4**
VNDA Vanda 95.32 191 P **P 18 25 00.1 +0.5**
comp=Z,3.5nm,0.9s,baz=224,slow=1.8,SNR=12
ARCES ARCESS Array B 95.61 20 LR LR 19 03 47.3
comp=Z,96nm,19.5s,baz=54,slow=33
STHS Stebnicka Huta 96.71 40 *e*P **P 18 25 07.9 +1.4**
CRVS Cervenica-Dubn 96.91 41 *e*P **P 18 25 08.1 +0.7**
FINES FINESS Array B 97.54 28 P **P 18 25 09.4 -0.5**
FINES FINESS Array B 97.54 28 P **P 18 25 09.4 -0.5**
comp=Z,5.7nm,1.0s,baz=306,slow=3.3,SNR=6.8
APA Apatity 98.94 21⇓ *i*P P 18 25 11.0 -5.1
APA MLR MLR
comp=Z,1μm,26.0s
BRTR Keskin Array B 107.10 49 PKiKP **PKiKP 18 30 03.3 +0.6**
BRTR PP **PP 18 30 18.2 -1.6**
BRTR PKKP **PKKPab 18 41 34.0 -0.8**
BRTR Keskin Array B 107.10 49 PKiKP **PKiKP 18 30 03.3 +0.6**
comp=Z,0.4nm,0.6s,baz=252,slow=4.2,SNR=2.7
BRTR PP **PP 18 30 18.2 -1.6**
comp=Z,0.7nm,1.0s,baz=308,slow=6.1,SNR=3.6
BRTR PKKP **PKKPab 18 41 34.0 -0.8**
comp=Z,1.4nm,1.0s,baz=123,slow=5.3,SNR=5.7
ABKAR Akbulak array 119.91 30 *e*P **PKPdf 18 30 26.3 -0.3**
BVAR Borovoye Array 121.84 22 PKiKP **PKPdf 18 30 29.7 -0.5**
BVAR Borovoye Array 121.84 22 PKP **PKPdf 18 30 29.7 -0.5**
BVAR Borovoye Array 121.84 22 PKP **PKPdf 18 30 29.7 -0.5**
comp=Z,1.2nm,0.8s,baz=323,slow=2.2,SNR=7.3
NVS Novosibirsk 124.15 13 *e*PKiKP **PKPdf 18 30 33.1 -1.5**
NVS pmax pmax
comp=Z,13nm,1.8s
ZAA0 Zalesovo Array 125.33 12 *e*P **PKPdf 18 30 36.3 -0.5**
ZALV Zalesovo Beam 125.33 12 PKiKP **PKPdf 18 30 36.5 -0.4**
ZALV Zalesovo Beam 125.33 12 PKP **PKPdf 18 30 36.5 -0.4**
ZALV Zalesovo Beam 125.33 12 PKP **PKPdf 18 30 36.5 -0.4**
comp=Z,15nm,0.9s,baz=299,slow=3.0,SNR=56
IKRD Kardeh 126.28 43 *e*P **PKPdf 18 30 40.2 +0.6**
KURK Kurchatov 126.61 18*c i*PKiKP **PKPdf 18 30 39.6 +0.2**
KURK Kurchatov 126.61 18 *e*P **PKPdf 18 30 39.4 0.0**
KURBB Kurchatov Arra 126.66 19 PKP **PKPdf 18 30 39.3 -0.2**
comp=Z,7.3nm,0.8s,baz=324,slow=2.3,SNR=44
IMYA Miami 127.60 43 *e*P **PKPdf 18 30 41.9 -0.1**
IRK Irkutsk 128.90 358 *e*PKiKP **PKPdf 18 30 43.4 -0.4**
IRK pmax pmax
comp=Z,30nm,2.1s
USRK Ussuriysk Arra 129.46 332 PKP **PKPdf 18 30 44.8 -0.3**
comp=Z,8.5nm,0.8s,baz=19,slow=1.0,SNR=13
TLY Talaya 129.48 359 *e*PKiKP **PKPdf 18 30 45.6 +0.7**
TLY pmax pmax
comp=Z,5.0nm,0.6s
TLY MLR MLR
comp=Z,105nm,21.0s
MOY Mondy 129.50 1 *e*PKiKP **PKPdf 18 30 45.9 +0.8**
MDJ Mudanjiang 130.21 334 PKP **PKPdf 18 30 46.0 -0.5**
STKA Stephens Creek 130.34 225 PKP **PKPdf 18 30 46.8 -0.4**
STKA *e*P **PKiKP 18 30 47.2 -0.8**
STKA Stephens Creek 130.34 225 PKP **PKPdf 18 30 46.8 -0.4**
comp=Z,18nm,0.9s,baz=116,slow=1.9,SNR=18
ZAK Zakamensk 130.79 359 *e*PKiKP **PKPdf 18 30 47.5 -0.1**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
MK31 Makanchi Array 131.22 18 *e*PKiKP **PKPdf 18 30 47.6 -0.8**
MK31 Makanchi Array 131.22 18 *e*P **PKPdf 18 30 47.6 -0.8**
MKAR Makanchi Array 131.22 18 PKiKP **PKPdf 18 30 47.8 -0.6**
MKAR Makanchi Array 131.22 18 PKP **PKPdf 18 30 47.8 -0.6**
MKAR SKPbc **SKPab 18 34 14.6 +1.2**
MKAR Makanchi Array 131.22 18 PKP **PKPdf 18 30 47.7 -0.6**
comp=Z,7.2nm,1.0s,baz=320,slow=2.0,SNR=21
MKAR SKPbc **SKPab 18 34 14.6 +1.2**
comp=Z,2.6nm,1.1s,baz=335,slow=6.4,SNR=4.0
MAT Matsushiro 131.36 321 PKP **PKPdf 18 30 48.4 -0.5**
EKS2 Erkin-Say 131.37 28 *e*PKiKP **PKPdf 18 30 49.8 +0.9**
EKS2 Erkin-Say 131.37 28 *e*PKPdf **PKPdf 18 30 49.8 +0.9**
AAK Ala-Archa 131.72 27 *e*PKiKP **PKPdf 18 30 49.9 +0.2**
AAK Ala-Archa 131.72 27 *e*PKPdf **PKPdf 18 30 49.9 +0.2**
AAK SKP 18 34 16.7
AAK *e*SKP 18 34 17.2
AAK Ala-Archa 131.72 27 PKP **PKPdf 18 30 49.9 +0.2**
comp=Z,11nm,1.1s,baz=135,slow=1.4,SNR=8.0
AAK SKP 18 34 16.7
comp=Z,3.1nm,1.0s,baz=30,slow=17,SNR=5.3
TKM2 Tokmak 2 131.99 26 *e*PKiKP **PKPdf 18 30 51.0 +0.8**
TKM2 Tokmak 2 131.99 26 *e*PKPdf **PKPdf 18 30 51.0 +0.8**
SONM Songino Array 133.20 356 PKPpre PKPpre 18 30 39.3
SONM PKP **PKPdf 18 30 52.4 +0.2**
SONM PP **PP 18 33 17.4 -0.2**
SONM Songino Array 133.20 356 PKhKP PKPpre 18 30 39.3
comp=Z,0.8nm,1.1s,baz=344,slow=1.4,SNR=4.1
SONM PKP **PKPdf 18 30 52.4 +0.2**
comp=Z,3.2nm,0.7s,baz=338,slow=1.0,SNR=17
SONM PP **PP 18 33 17.4 -0.2**
comp=Z,0.9nm,0.9s,baz=2.8,slow=9.1,SNR=3.8
KSH Kashi 134.86 29 PKP **PKPdf 18 30 57.6 +2.0**
KSH sPKP 18 31 12.7
KSH PP PP 18 33 35.0 +6.3
KSH SKKS 18 40 21.9
KSH SS **SS 18 51 21.4 +0.2**
KSH PPMZ
comp=Z,140nm,4.5s
KSH LR LR
comp=Z,130nm,5.2s
KSH LR LR
comp=Z,140nm,8.1s
KSH LR LR
comp=Z,230nm,5.4s
WMQ Urumqi 135.47 15 PKP **PKPdf 18 30 56.7 +0.2**
WMQ PP PP 18 33 37.8 +5.7
WMQ SS SS 18 51 29.2 +1.4
WMQ PPMZ
comp=Z,29nm,12.0s
WMQ LR LR
comp=Z,69nm,23.8s
WMQ LR LR
comp=Z,120nm,25.0s
WMQ LR LR
comp=Z,91nm,18.2s
KSRS Korea Array 136.62 330 PKhKP PKPpre 18 30 47.2
comp=Z,1.1nm,0.8s,baz=70,slow=0.6,SNR=6.6
KSRS PKP **PKPdf 18 30 58.4 -0.3**
comp=Z,14nm,0.9s,baz=26,slow=1.6,SNR=32
KSAR Wonju Array Be 136.64 330 PKPpre PKPpre 18 30 47.2
KSAR PKP **PKPdf 18 30 58.4 -0.4**
BJI Beijing 139.08 343 PKP **PKPdf 18 31 03.3 +0.1**
AS31 Alice Springs 140.55 230 *e*PKPpre PKPpre 18 30 57.5
AS31 *e*PKPdf **PKPdf 18 31 05.8 -0.6**
ASAR Alice Springs 140.55 230 PKPpre PKPpre 18 30 57.8
ASAR PKP **PKPdf 18 31 05.8 -0.7**
ASAR Alice Springs 140.55 230 PKhKP PKPpre 18 30 57.8
comp=Z,2.2nm,0.7s,baz=129,slow=3.6,SNR=26
ASAR PKP **PKPdf 18 31 05.7 -0.7**
comp=Z,8.9nm,0.8s,baz=130,slow=2.2,SNR=32
GTA Gaotai 141.71 3 *e*PKP **PKPdf 18 31 06.1 -2.1**
GTA sPKP 18 31 20.5
GTA PP **PP 18 34 13.8 +3.1**
GTA SKS SKSdf 18 38 10.3 -8.2
GTA SKKS **SKKSac 18 40 59.3 -6.3**
GTA SS **SS 18 52 39.7 -1.6**
GTA PPMZ
comp=Z,91nm,6.2s
GTA LR LR
comp=Z,180nm,18.0s
GTA LR LR
comp=Z,140nm,18.8s
GTA LR LR
comp=Z,130nm,20.4s
WRAB Tennant Creek 142.16 235 *e*PKPpre PKPpre 18 31 04.1
WRA Warramunga Arr 142.16 235 PKPpre PKPpre 18 31 04.2
WRA PKP **PKPdf 18 31 08.9 -0.5**
WRA Warramunga Arr 142.16 235 PKhKP PKPpre 18 31 04.2
comp=Z,6.8nm,0.8s,baz=118,slow=2.9,SNR=38
WRA PKP **PKPdf 18 31 08.9 -0.5**
comp=Z,17nm,0.9s,baz=117,slow=1.9,SNR=40
LZH Lanzhou 145.05 358⇑ PKPbc **PKPdf 18 31 14.0 -0.2**
LZH pPKP **pPKPdf 18 31 24.9 +6.6**
LZH sPKP 18 31 28.5
LZH SKKS 18 41 21.3
LZH *e*SS **SS 18 53 20.5 +0.6**
LZH PPMZ
comp=Z,210nm,8.1s
LZH LR LR
comp=Z,170nm,18.0s
LZH LR LR
comp=Z,170nm,18.2s
LZH LR LR
comp=Z,220nm,20.1s
NJ2 Nanjing 145.30 335 *e*PKPbc PKPbc **18 31 12.3 -1.9**
XAN Xi'an 146.52 350 PKPbc **PKPdf 18 31 16.9 +0.3**
DANN Dangsing 147.64 31 *e*P **PKPdf 18 31 19.4 +0.4**
comp=Z,225nm,1.0s
KOLN Koldanda 148.02 32 *e*P **PKPdf 18 31 19.6 +0.1**
comp=Z,75nm,1.3s
GKN Gorkha 148.37 30 *e*P **PKPdf 18 31 20.3 +0.3**
comp=Z,129nm,1.2s
WHN Wuhan 148.40 340 PKPbc **PKPbc 18 31 22.9 -0.3**
KKN Kakani 148.86 30 *e*P **PKPdf 18 31 21.1 +0.2**
comp=Z,139nm,1.2s
DMN Daman 148.93 30 *e*P **PKPdf 18 31 21.1 +0.1**
comp=Z,131nm,1.2s
GUN Gumba 149.06 29 *e*P **PKPdf 18 31 21.4 0.0**
comp=Z,320nm,1.3s
PKI Pulchoki 149.11 30 *e*P **PKPdf 18 31 21.2 -0.2**
comp=Z,79nm,1.0s
JIRN Jiri 149.41 29 *e*P **PKPdf 18 31 22.0 0.0**
comp=Z,64nm,1.1s
LSA Lhasa 149.61 19 PKPbc **PKPdf 18 31 22.4 0.0**
RAMN Ramite 150.21 29 *e*P **PKPdf 18 31 23.2 +0.1**
comp=Z,155nm,1.2s
CD2 Chengdu 150.21 357 PKPbc **PKPbc 18 31 26.5 -1.3**
CD2 pPKP **PKPab 18 31 35.1 +1.4**
CD2 sPKP 18 31 38.8
CD2 PP PP 18 35 07.4 +6.5
CD2 SKS **SKSdf 18 38 26.5 -4.4**
CD2 SKKS **SKKSac 18 41 51.2 -2.5**
CD2 SS **SS 18 54 17.9 +0.1**
CD2 PPMZ
comp=Z,210nm,5.4s
CD2 LR LR
comp=Z,400nm,5.4s
CD2 LR LR
comp=Z,200nm,8.9s
TAPN Taplejung 150.38 27 *e*P **PKPdf 18 31 23.7 +0.3**
comp=Z,63nm,0.9s
ODAN Odare 150.66 28 *e*P **PKPdf 18 31 23.6 -0.2**
comp=Z,128nm,1.2s
SSLB Suanglung 150.90 323 *e*PKPdf **PKPdf 18 31 24.4 +0.5**
MBWA Marble Bar 152.03 217 *e*PKPbc **PKPbc 18 31 31.6 -0.6**
SHL Shillong 153.66 21 *e*P **PKPdf 18 31 30.0 +1.8**
SHL *ex* x 18 34 26.0
GYA Guiyang 154.31 351 PKPbc **PKPdf 18 31 29.3 +0.3**
GYA pPKP **PKiKP 18 31 40.1 +2.8**
GYA PKPab **PKPab 18 31 54.1 +3.1**
GYA PKS **PKSdf 18 35 01.2 -2.3**
GYA PP **PP 18 35 27.7 +3.3**

GYA				SKKS			18 42 11.8		
GYA				SS	**SS**		**18 55 04.9**	**+1.7**	
GYA				PPMZ					
	comp=Z,150nm,8.2s								
GYA				LR	LR				
	comp=Z,200nm,23.2s								
GYA				LR	LR				
	comp=Z,140nm,24.3s								
GYA				LR	LR				
	comp=Z,220nm,22.7s								
CHTO	**Chiang Mai**	**162.03**	**10**	*e*PKIKP	**PKPdf**		**18 31 37.6**	**-0.9**	
CHTO				*e*			18 32 23.5		
CHTO	**Chiang Mai**	**162.03**	**10**	*e*PKPdf	**PKPdf**		**18 31 37.6**	**-0.9**	
CHTO				*e*PKPab	**PKPab**		**18 32 23.5**	**-0.8**	
CMAR	**Chiang Mai Arr**	**162.38**	**10**	PKP	**PKPdf**		**18 31 38.5**	**-0.3**	
CMAR				PKPab	**PKPab**		**18 32 25.0**	**-0.9**	
CMAR				PP	**PP**		**18 36 07.5**	**-0.9**	
CMAR	**Chiang Mai Arr**	**162.38**	**10**	PKP	**PKPdf**		**18 31 38.5**	**-0.3**	
	comp=Z,2.9nm,1.0s,baz=310,slow=2.1								
CMAR				PKPab	**PKPab**		**18 32 25.0**	**-0.9**	
	comp=Z,5.0nm,0.8s,baz=330,slow=5.4,SNR=13								
CMAR				PP	**PP**		**18 36 07.5**	**-0.9**	
	comp=Z,2.8nm,1.1s,baz=340,slow=5.9,SNR=8.9								
KSM	**Kuching**	**171.78**	**273**	*e*PKPdf	**PKPdf**		**18 31 45.0**	**-0.9**	

DDA ***09*** *18:19:45.7, 40.41N×34.83E, h4km, MD3.6*
ISK ***09*** *18:19:45.6, 40.40N×34.85E, h5km, MD3.6*
CSEM ***09*** *18:19:46.7±0.1, 40.43N×34.84E, h2km, MD3.6, Error ellipse: s-maj=3.9km s-min=3.1km az=164.0*

ISC 09 18:19:44.8±0.9, 40.41N±0.02×34.86E±0.02, h12km±8km, n61, σ1§15/70, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CTKT	**Corum**	**0.22**	**345**	*i* Pg		**Sg**	18 19 51.2	+1.5
CTKT				*i* S		**Sg**	**18 19 53.6**	**+0.5**
CTKT	**Corum**	**0.22**	**345**	*i* P		Pg	18 19 51.2	+1.5
CTKT				*i* S		**Sg**	**18 19 53.6**	**+0.5**
CORM	**Corum**	**0.29**	**218**	*e*PG		**Pb**	**18 19 52.1**	**+0.1**
CORM				*e*SG		**Sb**	**18 19 57.6**	**+0.8**
CORM	**Corum**	**0.29**	**218**	*e*Pg		**Pb**	**18 19 52.1**	**+0.1**
CORM				*e*Sg		**Sb**	**18 19 57.6**	**+0.8**
YOZ	**Yozgat**	**0.84**	**155**	*e*PG		**Pn**	**18 20 02.3**	**-0.3**
YOZ				*e*SG		**Sn**	**18 20 14.8**	**-0.2**
YOZ	**Yozgat**	**0.84**	**155**	*e*Pg		**Pn**	**18 20 02.3**	**-0.3**
YOZ				*e*Sg		**Sn**	**18 20 14.8**	**-0.2**
CDAG	**Cicekdag**	**0.87**	**206**	*i* P		**Pn**	**18 20 02.4**	**-0.5**
CDAG				*i* S		**Sn**	**18 20 14.9**	**-0.7**
CDAG	**Cicekdag**	**0.87**	**206**	*i* P		**Pn**	**18 20 02.4**	**-0.5**
CDAG				*i* S		**Sn**	**18 20 14.9**	**-0.7**
TOS	**Tosya**	**0.90**	**315**	*e*PG		**Pn**	**18 20 03.6**	**+0.3**
TOS	**Tosya**	**0.90**	**315**	*e*Pg		**Pn**	**18 20 03.6**	**+0.3**
HAVZ	**Havza**	**0.93**	**44**	*i* P		**Pn**	**18 20 03.7**	**0.0**
HAVZ				*i* S		**Sn**	**18 20 18.0**	**+1.0**
HAVZ	**Havza**	**0.93**	**44**	*i* P		**Pn**	**18 20 03.7**	**0.0**
HAVZ				*i* S		**Sn**	**18 20 18.0**	**+1.0**
CANT	**Cankiri**	**0.97**	**282**	*e*PG		**Pn**	**18 20 05.1**	**+0.8**
ELDT	**Eldivan**	**1.10**	**275**	*i* P		**Pn**	**18 20 06.3**	**+0.2**
ELDT				*i* S		**Sn**	**18 20 21.9**	**+0.6**
ELDT	**Eldivan**	**1.10**	**275**	*i* P		**Pn**	**18 20 06.3**	**+0.2**
ELDT				*i* S		**Sn**	**18 20 21.9**	**+0.6**
KVT	**Kavak**	**1.12**	**53**	*e*PN		**Pn**	**18 20 08.1**	**+1.7**
KVT	**Kavak**	**1.12**	**53**	*e*Pn		**Pn**	**18 20 08.1**	**+1.7**
DIKM	**Dikmen**	**1.28**	**13**	*e*PN		Pn	18 20 11.2	+2.8
DIKM	**Dikmen**	**1.28**	**13**	*e*Pn		Pn	18 20 11.2	+2.8
TOKT	**Tokat**	**1.29**	**93**	*e*PN		Pb	18 20 11.7	+2.7
TOKT	**Tokat**	**1.29**	**93**	*e*Pn		Pb	18 20 11.7	+2.7
ERBA	**Erbaa**	**1.47**	**79**	*i* P		**Pg**	**18 20 12.6**	**-0.4**
ERBA				*i* S		**Sg**	**18 20 33.4**	**+1.4**
ERBA	**Erbaa**	**1.47**	**79**	*i* P		**Pg**	**18 20 12.6**	**-0.4**
ERBA				*i* S		**Sg**	**18 20 33.4**	**+1.4**
BBAL	**Bala**	**1.59**	**238**	*i* P		**Pg**	**18 20 15.2**	**-0.2**
BBAL				*i* S		**Sg**	**18 20 37.4**	**+1.3**
BBAL	**Bala**	**1.59**	**238**	*i* P		**Pg**	**18 20 15.2**	**-0.2**
BBAL				*i* S		**Sg**	**18 20 37.4**	**+1.3**
ANTO	**Ankara**	**1.68**	**252**	*e*PN		**Pg**	**18 20 17.0**	**0.0**
ANTO	**Ankara**	**1.68**	**252**	*e*Pn		**Pg**	**18 20 17.0**	**0.0**
AFSR	**Af ar-Bala (A**	**1.68**	**236**	*e*PN		**Pg**	**18 20 17.3**	**+0.2**
AFSR	**Af ar-Bala (A**	**1.68**	**236**	*e*Pn		**Pg**	**18 20 17.3**	**+0.2**
BZK	**Bozkurt**	**1.68**	**338**	*e*PN		**Pg**	**18 20 17.3**	**+0.2**
BZK	**Bozkurt**	**1.68**	**338**	*e*Pn		**Pg**	**18 20 17.3**	**+0.2**
SVSK	**Karacayir**	**1.71**	**106**	*e*PN		**Pg**	**18 20 18.0**	**+0.4**
SVSK	**Karacayir**	**1.71**	**106**	*e*Pn		**Pg**	**18 20 18.0**	**+0.4**
BNN	**Bunyan**	**1.73**	**154**	*e*PN		**Pg**	**18 20 18.4**	**+0.4**
BNN	**Bunyan**	**1.73**	**154**	*e*Pn		**Pg**	**18 20 18.4**	**+0.4**
SAFT	**Safranbolu**	**1.85**	**297**	*e*PN		**Pg**	**18 20 19.8**	**-0.5**
SAFT	**Safranbolu**	**1.85**	**297**	*e*Pn		**Pg**	**18 20 19.8**	**-0.5**
RSDY	**Resadiye-TOKAT**	**1.88**	**90**	*e*PN		**Pg**	**18 20 20.4**	**-0.5**
RSDY	**Resadiye-TOKAT**	**1.88**	**90**	*e*Pn		**Pg**	**18 20 20.4**	**-0.5**
PINB	**Pinarbasi**	**2.10**	**145**	*i* P		**Pg**	**18 20 24.5**	**-0.6**
PINB				*i* S		**Sg**	**18 20 54.9**	**+2.6**
PINB	**Pinarbasi**	**2.10**	**145**	*i* P		**Pg**	**18 20 24.5**	**-0.6**
NIG	**Nigde**	**2.30**	**185**	*e*PN		**Pb**	**18 20 25.9**	**-0.5**
NIG	**Nigde**	**2.30**	**185**	*e*Pn		**Pb**	**18 20 25.9**	**-0.5**
SULT	**Sultanhani-AKS**	**2.44**	**206**	*e*PN		**Pb**	**18 20 28.3**	**-0.4**
SULT	**Sultanhani-AKS**	**2.44**	**206**	*e*Pn		**Pb**	**18 20 28.3**	**-0.4**
SVRH	**Sivrihisar-ESK**	**2.74**	**251**	*e*PN		**Pb**	**18 20 31.9**	**-1.9**
SVRH	**Sivrihisar-ESK**	**2.74**	**251**	*e*Pn		**Pb**	**18 20 31.9**	**-1.9**
KIZT	**Kizilcal**	**2.76**	**237**	*e*PN		**Pb**	**18 20 32.4**	**-1.8**
KIZT	**Kizilcal**	**2.76**	**237**	*e*Pn		**Pb**	**18 20 32.4**	**-1.8**
MDUB	**Mudurnu**	**2.80**	**272**	*e*PN		**Pb**	**18 20 33.0**	**-1.8**
MDUB	**Mudurnu**	**2.80**	**272**	*e*Pn		**Pb**	**18 20 33.0**	**-1.8**
ESPY	**Espiye-Giresun**	**2.98**	**79**	*e*PN		**Pb**	**18 20 36.2**	**-1.6**
ESPY	**Espiye-Giresun**	**2.98**	**79**	*e*Pn		**Pb**	**18 20 36.2**	**-1.6**
ILIC	**ilic-Erzincan**	**3.00**	**107**	*e*PN		**Pb**	**18 20 36.2**	**-2.1**
ILIC	**ilic-Erzincan**	**3.00**	**107**	*e*Pn		**Pb**	**18 20 36.2**	**-2.1**
KONT	**Konya--Tatoy**	**3.13**	**219**	*e*PN		**Pb**	**18 20 38.2**	**-2.3**
KONT	**Konya--Tatoy**	**3.13**	**219**	*e*Pn		**Pb**	**18 20 38.2**	**-2.3**
MALT	**Malatya**	**3.46**	**126**	*e*PN		**Pb**	**18 20 43.5**	**-2.5**
MALT	**Malatya**	**3.46**	**126**	*e*Pn		**Pb**	**18 20 43.6**	**-2.5**
PTK	**Pertek**	**3.81**	**112**	*e*PN		Pb	18 20 48.5	-3.6
PTK	**Pertek**	**3.81**	**112**	*e*Pn		Pb	18 20 48.5	-3.6

MAN 09 18:25:30, 18.11N×119.94E, h12km, mb4.9, ML3.8, MS3.9, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**0.52**	**110**	*i* P		Pb	18 25 41.4	+0.3
SIPP				*i* S		Sn	18 25 53.5	+1.5
ABRA	**Dolores**	**0.86**	**122**	*e*P		Pg	18 25 46.5	-0.1
APYP	**Conner**	**1.26**	**101**	*e*P		Pn	18 25 52.9	-0.5
PALP	**Palanan**	**2.58**	**113**	*e*P		Pn	18 26 12.9	+1.3
BALP	**Baler**	**2.82**	**146**	*e*P		Pn	18 26 16.2	+1.3

IDC 09 18:30:31.4±9.1, 15.61S×173.10W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/18, mbtmp3.4/3, MS3.9/1, Ms1 3.9/1, ms1mx3.3/10, Error ellipse: s-maj=415.4km s-min=37.6km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**20.38**	**249**	LR		LR	18 41 08.2	
	comp=Z,328nm,18.0s,baz=21,slow=31							
WRA	**Warramunga Arr**	**50.07**	**257**	P		P	18 39 27.9	-0.7
	0.3nm,0.8s,baz=94,slow=6.8,SNR=3.6							
ASAR	**Alice Springs**	**50.32**	**252**	P		P	18 39 30.1	-0.3
	0.5nm,0.7s,baz=88,slow=8.1,SNR=9.3							
ILAR	**Eielson Array**	**82.60**	**11**	P		P	18 42 54.8	-1.2
	0.4nm,0.9s,baz=222,slow=4.9,SNR=4.0							
BRTR	**Keskin Array B**	**146.50**	**321**	PKPbc		PKPab	18 50 16.2	0.0
	0.3nm,0.6s,baz=64,slow=3.4,SNR=2.1							

ISN ***09*** *18:32:34.8±1.4, 32.25N×47.40E, h0km±19km, ML3.5*
IDC ***09*** *18:32:39.5±1.8, 32.42N×47.47E, h0km, mb4.0/12, mb1 4.0/15, mb1mx3.8/32, mbtmp4.0/15, ML3.5/3, Error ellipse: s-maj=37.5km s-min=15.5km az=163.0*
CSEM ***09*** *18:32:43.9±0.1, 32.38N×47.43E, h15km, ML3.9, Error ellipse: s-maj=3.5km s-min=2.2km az=91.0*
KISR ***09*** *18:32:43.4±0.6, 32.17N×47.67E, h13km±339km, ML3.5*
THR ***09*** *18:32:43.0±0.5, 32.31N×47.28E, h39km±6km, ML3.9*
TEH ***09*** *18:32:44.5, 32.34N×47.36E, h23km, ML3.8*

ISC 09 18:32:44.3±1.2, 32.38N±0.03×47.31E±0.03, h32km±10km, n85, σ1§60/103, mb4.0/12, 1D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.23**	**21**	*e*Sg		**Sb**	**18 33 21.2**	**-1.3**
IKFM				*e*Pg		**Pn**	**18 33 05.0**	**-0.3**
SHGR	**Shooshtar-Gavs**	**1.29**	**102**	*e*Pg		**Pb**	**18 33 06.9**	**-1.1**
SHGR				*e*Sg		**Sb**	**18 33 24.8**	**+0.6**
SHGR				AML	AML		18 33 27.8	
	comp=E,2μm,0.4s							
SHGR				AML	AML		18 33 32.8	
	comp=N,3μm,0.9s							
SHGR	**Shooshtar-Gavs**	**1.29**	**102**	*e*Pg		**Pb**	**18 33 06.9**	**-1.1**
SHGR				*e*Sg		**Sb**	**18 33 24.8**	**+0.6**
IBDR	**Badra**	**1.38**	**302**	*e*PG		**Pn**	**18 33 08.1**	**+0.8**
IKMR	**Kamar-syah**	**1.45**	**38**	*e*SG		**Sb**	**18 33 28.6**	**-0.1**
IKMR				*e*Pn		**Pn**	**18 33 08.5**	**+0.2**
IKMR	**Kamar-syah**	**1.45**	**38**	*e*Pn		**Pn**	**18 33 08.5**	**+0.2**
IKMR				*e*Sg		**Sb**	**18 33 28.6**	**-0.1**
IDOB	**Doab**	**1.58**	**27**	*e*Pn		**Pn**	**18 33 10.5**	**+0.1**
IDOB	**Doab**	**1.58**	**27**	*e*Pn		**Pn**	**18 33 10.5**	**+0.1**
NSR	**Nassriya**	**1.69**	**217**	*e*PG		**Pn**	**18 33 09.5**	**-2.1**
NSR	**Nassriya** SNR=90	**1.69**	**217**	*e*Pg		**Pn**	**18 33 09.5**	**-2.1**
IKOM	**Komasi**	**1.80**	**5**	*e*Pn		**Pn**	**18 33 14.6**	**+1.3**
IKOM				*e*			18 33 47.9	
	comp=Z,13μm,0.5s							
IKOM	**Komasi**	**1.80**	**5**	*e*Pn		**Pn**	**18 33 14.6**	**+1.3**
IGHG	**Ghaleghazi**	**2.04**	**342**	*e*Pn		**Pb**	**18 33 18.8**	**-2.1**
IGHG				*e*Sg		**Sb**	**18 33 50.1**	**+4.0**
IGHG				*e*			18 33 53.8	
	comp=Z,6μm,0.4s							
IGHG	**Ghaleghazi**	**2.04**	**342**	*e*Pn		**Pb**	**18 33 18.8**	**-2.1**
IGHG				*e*Sg		**Sb**	**18 33 50.1**	**+4.0**
IVIS	**Veis**	**2.18**	**350**	*e*Pn		**Pn**	**18 33 20.0**	**+1.5**
IVIS				*e*			18 33 57.3	
	comp=Z,3μm,0.2s							
IVIS	**Veis**	**2.18**	**350**	*e*Pn		**Pn**	**18 33 20.0**	**+1.5**
IDHR	**Dehrash**	**2.44**	**342**	*e*Pn		**Pn**	**18 33 23.3**	**+1.1**
IDHR				*e*			18 34 08.5	
	comp=Z,5μm,0.3s							
IDHR	**Dehrash**	**2.44**	**342**	*e*Pn		**Pn**	**18 33 23.3**	**+1.1**
ILIN	**Lien**	**2.55**	**354**	*e*Pn		**Pn**	**18 33 25.1**	**+1.4**
ILIN				*e*			18 34 14.1	
	comp=Z,2μm,0.3s							
ILIN	**Lien**	**2.55**	**354**	*e*Pn		**Pn**	**18 33 25.1**	**+1.4**
MIB	**Mutribah**	**2.57**	**179**	*e*P		**Pn**	**18 33 25.4**	**+1.7**
MIB	**Mutribah**	**2.57**	**179**	*e*P		**Pn**	**18 33 25.4**	**+1.7**
KHMZ	**Khomeyn**	**2.60**	**58**	*e*Pn		**Pn**	**18 33 25.4**	**+1.1**
KHMZ				*e*Sg		**Sb**	**18 34 05.0**	**+2.9**
KHMZ				AML	AML		18 34 11.5	
	comp=N,363nm,0.7s							
KHMZ	**Khomeyn**	**2.60**	**58**	*e*Pn		**Pn**	**18 33 25.5**	**+1.1**
KHMZ				*e*Sg		**Sb**	**18 34 05.0**	**+2.9**
BHD	**Baghdad**	**2.62**	**291**	*e*PN4		**Pn**	**18 33 21.4**	**-3.0**
BHD	**Baghdad** SNR=39	**2.62**	**291**	*e*Pn		**Pn**	**18 33 21.4**	**-3.0**
SNGE	**Sanandaj**	**2.71**	**1**	*e*Pn		**Pn**	**18 33 27.2**	**+1.3**
SNGE	**Sanandaj**	**2.71**	**1**	*e*Pn		**Pn**	**18 33 27.2**	**+1.3**
UMR	**Umm Al-Rimmam**	**2.84**	**173**	*e*P		**Pn**	**18 33 28.5**	**+1.1**
UMR				*e*S		**Sn**	**18 34 01.9**	**+1.5**
UMR				AML	AML		18 34 12.9	
	comp=Z,105nm,0.5s							
UMR	**Umm Al-Rimmam**	**2.84**	**173**	*e*P		**Pn**	**18 33 28.5**	**+1.1**
UMR				*e*S		**Sn**	**18 34 02.0**	**+1.5**
	comp=Z,105nm,0.5s							
RST	**Umm Al-Ruwaisa**	**2.88**	**185**	*e*P		**Pn**	**18 33 29.6**	**+1.6**
RST				*e*S		**Sn**	**18 34 05.1**	**+3.5**
RST				AML	AML		18 34 08.6	
	comp=Z,1μm,0.8s							
RST	**Umm Al-Ruwaisa**	**2.88**	**185**	*e*P		**Pn**	**18 33 29.6**	**+1.6**
RST				*e*S		**Sn**	**18 34 05.1**	**+3.5**
	comp=Z,1μm,0.8s							
ASAO	**Ashtian**	**3.13**	**46**	*e*Pn		**Pn**	**18 33 32.9**	**+1.1**
ASAO				AML	AML		18 34 32.7	
	comp=N,249nm,0.7s							
ASAO	**Ashtian**	**3.13**	**46**	*e*Pn		**Pn**	**18 33 32.9**	**+1.1**
KBD	**Kabd**	**3.21**	**174**	*e*P		**Pn**	**18 33 33.6**	**+1.1**
KBD				*e*S		**Sn**	**18 34 11.3**	**+1.6**
KBD				AML	AML		18 34 25.9	
	comp=Z,35nm,0.6s							
KBD	**Kabd**	**3.21**	**174**	*e*P		**Pn**	**18 33 33.6**	**+1.1**
KBD				*e*S		**Sn**	**18 34 11.3**	**+1.6**
	comp=Z,35nm,0.6s							
RDF	**Al-Radifah**	**3.45**	**177**	*e*P		**Pn**	**18 33 37.2**	**+1.4**
RDF				*e*S		**Sn**	**18 34 17.7**	**+2.2**
RDF				AML	AML		18 34 22.2	
	comp=Z,95nm,0.6s							
RDF	**Al-Radifah**	**3.45**	**177**	*e*P		**Pn**	**18 33 37.2**	**+1.4**
RDF				*e*S		**Sn**	**18 34 17.7**	**+2.2**
QRN	**Al-Qurain**	**3.66**	**172**	*e*P		**Pn**	**18 33 39.9**	**+1.2**
QRN				⇓*e*S		**Sn**	**18 34 22.4**	**+1.6**
QRN				AML	AML		18 34 27.7	
	comp=Z,111nm,0.6s							
IKLH	**Kolahrood**	**3.71**	**74**	*e*Pn		**Pn**	**18 33 40.0**	**+0.3**
IKLH				*e*			18 34 50.6	
	comp=Z,2μm,0.3s							
IKLH	**Kolahrood**	**3.71**	**74**	*e*Pn		**Pn**	**18 33 40.0**	**+0.3**
IRAZ	**Razeghan**	**3.72**	**35**	*e*Pn		**Pn**	**18 33 41.2**	**+1.4**
IRAZ				*e*			18 34 53.5	
	comp=Z,2μm,0.4s							
IRAZ	**Razeghan**	**3.72**	**35**	*e*Pn		**Pn**	**18 33 41.2**	**+1.4**
IKHK	**Kirkuk**	**3.90**	**321**	*e*PN4		**Pn**	**18 33 38.4**	**-0.6**
GHVR	**GHOM**	**3.94**	**57**	*e*Pn		**Pn**	**18 33 43.3**	**+0.7**
GHVR	**GHOM**	**3.94**	**57**	*e*Pn		**Pn**	**18 33 43.3**	**+0.7**
IGAR	**Gharneh**	**4.00**	**88**	*e*Pn		**Pn**	**18 33 43.8**	**+0.2**
IGAR				*e*			18 34 33.2	
	comp=Z,1μm,0.1s							
IZEF	**Zefreh**	**4.26**	**82**	*e*Pn		**Pn**	**18 33 47.4**	**+0.1**
IZEF				*e*			18 35 10.9	
	comp=Z,678nm,0.3s							
IZEF	**Zefreh**	**4.26**	**82**	*e*Pn		**Pn**	**18 33 47.4**	**+0.1**
ZNJK	**Zanjan**	**4.43**	**14**	*e*Pn		**Pn**	**18 33 50.8**	**+1.3**
ZNJK	**Zanjan**	**4.43**	**14**	*e*Pn		**Pn**	**18 33 50.8**	**+1.3**
IVRN	**Varamin**	**4.51**	**53**	*e*Pn		**Pn**	**18 33 51.0**	**+0.5**
IVRN				*e*			18 34 09.3	
	comp=Z,708nm,0.3s							
IVRN	**Varamin**	**4.51**	**53**	*e*Pn		**Pn**	**18 33 51.0**	**+0.5**
ISFB	**Sefidab**	**4.57**	**63**	*e*Pn		**Pn**	**18 33 51.4**	**+0.1**
ISFB				*e*			18 35 21.9	
	comp=Z,466nm,0.3s							
ISFB	**Sefidab**	**4.57**	**63**	*e*Pn		**Pn**	**18 33 51.4**	**+0.1**
IGZV	**Ghazvin**	**4.67**	**30**	*e*Pn		**Pn**	**18 33 53.5**	**+0.7**
IGZV				*e*			18 34 15.1	
	comp=Z,548nm,0.3s							
IGZV	**Ghazvin**	**4.67**	**30**	*e*Pn		**Pn**	**18 33 53.5**	**+0.7**
IKAZ	**Kazeroun**	**4.67**	**123**	*e*Pn		**Pn**	**18 33 52.5**	**-0.4**
IKAZ				*e*			18 34 49.5	
	comp=Z,2μm,0.3s							
IKAZ	**Kazeroun**	**4.67**	**123**	*e*Pn		**Pn**	**18 33 52.5**	**-0.4**
CHTH	**Charan**	**4.73**	**41**	*e*Pn		**Pn**	**18 33 54.7**	**+1.0**
CHTH	**Charan**	**4.73**	**41**	*e*Pn		**Pn**	**18 33 54.7**	**+1.0**
IDMV	**Damavand**	**5.06**	**50**	*e*Pn		**Pn**	**18 33 57.9**	**-0.3**
IDMV				*e*			18 35 42.0	
	comp=Z,716nm,0.5s							
IDMV	**Damavand**	**5.06**	**50**	*e*Pn		**Pn**	**18 33 57.9**	**-0.3**
IPAR	**Pars**	**5.53**	**116**	*e*Pn		**Pn**	**18 34 04.4**	**-0.3**
IPAR				*e*			18 35 23.6	
	comp=Z,747nm,0.5s							
IPAR	**Pars**	**5.53**	**116**	*e*Pn		**Pn**	**18 34 04.4**	**-0.3**
IFIR	**Firoozkooh**	**5.57**	**53**	*e*		**Pb**	**18 34 20.3**	**-0.7**
	comp=Z,165nm,0.1s							
IFIR				*e*Pn		**Pn**	**18 34 05.5**	**+0.3**
ISRV	**Sarvestan**	**5.81**	**119**	*e*Pn		**Pn**	**18 34 08.2**	**-0.4**
ISRV				*e*			18 35 22.0	
	comp=Z,361nm,0.2s							
ISRV	**Sarvestan**	**5.81**	**119**	*e*Pn		**Pn**	**18 34 08.2**	**-0.4**
ASF	**Jabal al Asfar**	**8.82**	**271**	Pn		**Pn**	**18 34 48.6**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=267,slow=2.8,SNR=6.2							
ASF				Sn		**Sn**	**18 36 22.9**	**-5.2**
	comp=Z,0.2nm,0.3s,baz=41,slow=20,SNR=3.7							
ASF				Lg	Lg		18 37 25.9	
	comp=Z,0.2nm,0.3s,baz=281,slow=16,SNR=3.1							
MMAI	**Mount Meron Ar**	**10.06**	**277**	Pg		Pn	18 35 46.8	+40
	comp=Z,0.5nm,0.3s,baz=91,slow=18,SNR=4.4							
MMAI				Lg	Lg		18 37 56.0	
	comp=Z,0.4nm,0.3s,baz=84,slow=28,SNR=2.8							
EIL	**Elat**	**10.94**	**259**	Pn		**Pn**	**18 35 21.1**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=70,slow=12,SNR=2.5							
EIL				Lg	Lg		18 38 35.5	
	comp=Z,0.3nm,0.3s,baz=45,slow=20,SNR=4.3							
IDI	**Anoyia**	**18.85**	**285**	P		**Pn**	**18 37 05.6**	**+3.1**
	comp=Z,0.4nm,0.3s,baz=102,slow=9.3,SNR=5.3							
AKTO	**Aktyubinsk**	**19.71**	**21**	P		**P**	**18 37 10.4**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=206,slow=13,SNR=3.9							
AKASG	**Malin Array Be**	**22.66**	**329**	P		**P**	**18 37 42.6**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=137,slow=10,SNR=3.7							
BVAR	**Borovoye Array**	**26.50**	**32**	P		**P**	**18 38 17.7**	**-0.9**
	comp=Z,3.5nm,0.8s,baz=233,slow=8.6,SNR=21							
KURBB	**Kurchatov Arra**	**29.34**	**42**	P		**P**	**18 38 44.2**	**+0.2**
	comp=Z,1.8nm,0.2s,baz=245,slow=9.6,SNR=16							
MKAR	**Makanchi Array**	**30.28**	**51**	P		**P**	**18 38 49.5**	**-2.9**
	comp=Z,1.6nm,0.8s,baz=228,slow=6.4,SNR=6.2							
FINES	**FINESS Array B**	**32.18**	**341**	P		**P**	**18 39 08.1**	**-0.8**
	comp=Z,1.9nm,0.8s,baz=138,slow=7.1,SNR=3.7							
ZALV	**Zalesovo Beam**	**34.25**	**40**	P		**P**	**18 39 25.6**	**-1.5**
	comp=Z,3.3nm,0.7s,baz=258,slow=7.2,SNR=14							
HFS	**Hagfors**	**35.51**	**332**	P		**P**	**18 39 37.5**	**-0.4**
	comp=Z,2.0nm,0.5s,baz=132,slow=8.0,SNR=12							
NOA	**NORSAR Array B**	**37.03**	**332**	P		**P**	**18 39 50.1**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=128,slow=8.6,SNR=3.1							
ARCES	**ARCESS Array B**	**39.18**	**348**	P		**P**	**18 40 08.4**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=158,slow=9.7,SNR=9.3							
EKA	**Eskdalemuir Ar**	**41.83**	**319**	P		**P**	**18 40 31.4**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=108,slow=6.8,SNR=3.5							
TORD	**Torodi Ar. Bea**	**45.81**	**256**	P		**P**	**18 41 04.3**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=61,slow=0.7,SNR=5.6							
SPITS	**Spitsbergen Ar**	**47.85**	**352**	P		**P**	**18 41 18.6**	**0.0**
	comp=Z,3.3nm,0.8s,baz=115,slow=13,SNR=3.4							

IDC 09 18:34:12.5±13.0, 56.16S×27.59W, h137km±117km, mb3.4/1, mb1 3.3/2, mb1mx3.1/17, mbtmp3.3/2, ML3.7/1, Error ellipse: s-maj=89.3km s-min=46.0km az=100.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**18.74**	**156**	P		P	18 38 20.3	0.0
	0.2nm,0.3s,baz=298,slow=13,SNR=76							
TORD	**Torodi Ar. Bea**	**73.26**	**30**	P		P	18 45 28.5	0.0
	0.4nm,0.5s,baz=195,slow=6.5,SNR=7.2							
ILAR	**Eielson Array**	**150.02**	**312**	PKPbc		PKPbc	18 53 44.8	-0.4
	0.5nm,0.7s,baz=93,slow=1.9,SNR=4.7							
SONM	**Songino Array**	**150.96**	**87**	PKPbc		PKPbc	18 53 47.8	-0.3
	0.6nm,0.4s,baz=226,slow=3.6,SNR=8.5							

IDC 09 18:34:21.9±2.2, 12.74S×166.69E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/18, mbtmp3.8/6, ML4.4/1, Error ellipse: s-maj=62.4km s-min=40.7km az=138.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.39**	**296**	Pn		Pn	18 36 10

1.0nm,0.5s,baz=242,slow=5.4,SNR=5.6
MK31 Makanchi Array 94.52 317 *e*P **P 18 48 48.3 +0.7**
MKAR Makanchi Array 94.52 317 P **P 18 48 48.4 +0.8**
MKAR Makanchi Array 94.52 317 P **P 18 48 48.4 +0.8**
7.2nm,0.6s,baz=84,slow=6.6,SNR=54
ZALV Zalesovo Beam 94.61 324 P **P 18 48 47.3 -0.4**
ZALV Zalesovo Beam 94.61 324 P **P 18 48 47.3 -0.4**
2.6nm,0.7s,baz=99,slow=3.7,SNR=11
SNAA Sanae 96.06 184 *e*P **P 18 48 53.0 -1.2**
6.8nm,1.4s
BVAR Borovoye Array 102.99 322 Pdif **Pdif 18 49 25.0 -0.5**
BVAR Borovoye Array 102.99 322 Pdiff **Pdif 18 49 25.0 -0.5**
0.3nm,0.5s,baz=81,slow=1.9,SNR=3.5
ARCES ARCESS Array B 117.45 345 PKP **PKPdf 18 54 10.9 -1.3**
ARCES ARCESS Array B 117.45 345 PKP **PKPdf 18 54 10.9 -1.3**
2.5nm,0.8s,baz=64,slow=2.1,SNR=6.8
FINES FINESS Array B 122.89 338 PKP **PKPdf 18 54 22.5 -0.3**
FINES FINESS Array B 122.89 338 PKP **PKPdf 18 54 22.5 -0.3**
5.6nm,1.1s,baz=166,slow=0.6,SNR=6.2
AKASG Malin Array Be 127.94 327 PKP **PKPdf 18 54 32.2 -0.6**
AKASG Malin Array Be 127.94 327 PKP **PKPdf 18 54 32.2 -0.6**
0.1nm,0.3s,baz=29,slow=2.1,SNR=2.9
KEST Kesra 148.46 322 PKPbc **PKPbc 18 55 14.3 0.0**
KEST Kesra 148.46 322 PKPbc **PKPbc 18 55 14.3 0.0**
1.5nm,0.8s,baz=337,slow=4.9,SNR=6.3
ESDC Sonseca Array 151.18 344 PKPbc **PKPbc 18 55 19.1 -1.7**
ESDC Sonseca Array 151.18 344 PKPbc **PKPbc 18 55 19.1 -1.7**
0.1nm,0.3s,baz=354,slow=1.5,SNR=3.3
TORD Torodi Ar. Bea 164.72 275 PKPab **PKPab 18 56 27.7 0.0**
TORD Torodi Ar. Bea 164.72 275 PKPab **PKPab 18 56 27.7 0.0**
0.6nm,0.8s,baz=76,slow=2.2,SNR=3.8

IDC 09 18:39:12.8±0.9, 30.85N×83.19E, h0km, mb3.6/10, mb1 3.8/12, mb1mx3.6/30, mbtmp3.6/12, ML3.1/2, Error ellipse: s-maj=31.7km s-min=16.7km az=58.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**13.66**	**332**	Pn	Pn	18 42 27.4	-0.6
	0.1nm,0.3s,baz=173,slow=16,SNR=1.9						
MKAR	**Makanchi Array**	**15.94**	**358**	Pn	Pn	18 42 56.5	-2.0
	0.1nm,0.3s,baz=178,slow=14,SNR=3.1						
CMAR	**Chiang Mai Arr**	**18.87**	**127**	P	Pn	18 43 35.5	+0.4
	baz=312,slow=9.5						
KURBB	**Kurchatov Arra**	**20.06**	**351**	P	P	18 43 47.4	-0.1
	1.5nm,0.3s,baz=175,slow=11,SNR=9.9						
ZALV	**Zalesovo Beam**	**23.11**	**2**	P	P	18 44 20.3	+0.1
	0.3nm,0.4s,baz=180,slow=8.6,SNR=2.7						
BVAR	**Borovoye Array**	**24.05**	**341**	P	P	18 44 30.1	+0.6
	0.3nm,0.4s,baz=162,slow=10,SNR=2.8						
SONM	**Songino Array**	**24.55**	**40**	P	P	18 44 34.7	+0.4
	0.8nm,0.8s,baz=228,slow=9.0,SNR=6.1						
FINES	**FINESS Array B**	**47.79**	**327**	P	P	18 47 51.6	0.0
	0.8nm,0.5s,baz=108,slow=8.9,SNR=2.6						
ARCES	**ARCESS Array B**	**50.26**	**337**	P	P	18 48 10.9	+0.5
	3.1nm,0.8s,baz=91,slow=6.3,SNR=4.3						
WRA	**Warramunga Arr**	**70.45**	**129**	P	P	18 50 29.3	0.0
	0.7nm,0.5s,baz=323,slow=6.5,SNR=16						
ASAR	**Alice Springs**	**72.80**	**132**	P	P	18 50 43.3	-0.2
	0.4nm,0.7s,baz=318,slow=5.9,SNR=5.9						
TORD	**Torodi Ar. Bea**	**76.16**	**277**	P	P	18 51 03.2	0.0
	0.3nm,0.7s,baz=45,slow=6.2,SNR=2.6						
ILAR	**Eielson Array**	**77.03**	**20**	P	P	18 51 06.1	-1.2
	0.5nm,0.8s,baz=310,slow=4.2,SNR=3.8						

IDC 09 19:00:24.3±1.1, 11.90S×165.77E, h0km, mb4.0/9, mb1 4.2/11, mb1mx4.0/19, mbtmp4.0/11, ML4.1/2, Error ellipse: s-maj=30.1km s-min=22.3km az=134.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.23**	**293**	Pn	Pn	19 01 59.2	+1.8
	9.9nm,0.3s,baz=137,slow=18,SNR=9.2						
HNR				Sn	Sn	19 03 10.8	+1.4
	3.6nm,0.3s,baz=55,slow=19,SNR=2.9						
DZM	**Mont Dzumac**	**10.13**	**176**	Pn	Pn	19 02 52.1	+0.8
	0.6nm,0.3s,baz=324,slow=17,SNR=3.7						
STKA	**Stephens Creek**	**29.84**	**224**	P	P	19 06 33.6	+0.2
	2.7nm,0.8s,baz=58,slow=9.5,SNR=4.2						
WRA	**Warramunga Arr**	**31.22**	**251**	P	P	19 06 45.5	-0.3
	1.0nm,0.6s,baz=84,slow=9.4,SNR=18						
ASAR	**Alice Springs**	**32.44**	**244**	P	P	19 06 55.5	-0.9
	1.3nm,0.7s,baz=69,slow=9.3,SNR=18						
CMAR	**Chiang Mai Arr**	**72.47**	**294**	P	P	19 11 54.5	+1.1
	0.8nm,0.6s,baz=130,slow=5.1,SNR=5.7						
SONM	**Songino Array**	**79.37**	**324**	P	P	19 12 31.6	-0.7
	1.1nm,0.9s,baz=133,slow=6.3,SNR=2.7						
ILAR	**Eielson Array**	**84.31**	**18**	P	P	19 12 56.4	-1.4
	0.3nm,0.7s,baz=224,slow=6.2,SNR=2.5						
NVAR	**Mina Array Bea**	**86.56**	**50**	P	P	19 13 11.0	+1.1
	0.3nm,0.6s,baz=225,slow=5.4,SNR=3.9						
MKAR	**Makanchi Array**	**94.16**	**317**	P	P	19 13 44.6	-0.5
	1.5nm,0.8s,baz=93,slow=6.7,SNR=7.7						
ZALV	**Zalesovo Beam**	**94.26**	**324**	P	P	19 13 44.5	-0.8
	0.5nm,0.5s,baz=122,slow=1.9,SNR=3.4						
KEST	**Kesra**	**148.10**	**322**	PKPbc	PKPbc	19 20 11.8	-0.8
	1.0nm,0.9s,baz=345,slow=0.8,SNR=4.0						
ESDC	**Sonseca Array**	**150.88**	**344**	PKPab	PKPab	19 20 27.0	+0.5
	0.1nm,0.3s,baz=21,slow=3.3,SNR=2.6						

IDC 09 19:02:39.7±2.1, 16.45S×173.45W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.8/19, mbtmp4.2/4, MS3.6/1, Ms1 3.6/1, ms1mx3.1/23, Error ellipse: s-maj=64.6km s-min=36.5km az=121.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.00**	**33**	Pn	Pn	19 03 22.4	-6.2
	9.9nm,0.3s,baz=169,slow=5.2,SNR=6.5						
AFI				Sn	Sn	19 03 50.6	-15
	76nm,0.3s,baz=59,slow=22,SNR=5.2						
URZ	**Urewera**	**23.26**	**199**	P	P	19 07 48.9	+0.2
	31nm,1.1s,baz=332,slow=15,SNR=2.6						
HNR	**Honiara**	**26.83**	**282**	LR	LR	19 15 56.2	
	comp=Z,121nm,18.4s,baz=192,slow=30						
H11S2	**WAKE ISLAND Hy**	**39.84**	**330**	T	T	19 52 21.3	
	baz=151						
H11S3	**WAKE ISLAND Hy**	**39.85**	**330**	T	T	19 52 24.2	
	baz=151,slow=0.7						
H11S1	**WAKE ISLAND Hy**	**39.86**	**330**	T	T	19 52 18.6	
	baz=151,slow=0.7						
STKA	**Stephens Creek**	**43.48**	**241**	P	P	19 10 44.8	-0.1
	4.6nm,0.9s,baz=108,slow=6.4,SNR=5.0						
WRA	**Warramunga Arr**	**49.56**	**258**	P	P	19 11 32.7	-0.2
	0.3nm,0.4s,baz=95,slow=8.0,SNR=7.1						
ASAR	**Alice Springs**	**49.75**	**253**	P	P	19 11 34.1	-0.2
	4.1nm,0.8s,baz=89,slow=8.3,SNR=46						
BRTR	**Keskin Array B**	**146.93**	**320**	PKPbc	PKPbc	19 22 24.2	-0.5
	1.1nm,0.8s,baz=90,slow=4.3,SNR=9.0						
GERES	**GERESS Array B**	**147.17**	**351**	PKPbc	PKPdf	19 22 23.7	+0.9
	0.1nm,0.3s,baz=61,slow=4.6,SNR=3.9						

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*ISCJB **09** 19:10:36.2±0.7, 6.91N±0.07×73.07W×0.08, h157km±9km, mb3.2/2, Error ellipse: s-maj=15.8km s-min=7.3km az=37.0*

*FUNV **09** 19:10:39.6, 6.90N×72.97W, h156km, MW3.2*

*IDC **09** 19:10:45.8±2.6, 5.38N×75.71W, h170km±35km, mb3.0/2, mb1 3.5/2, mb1mx2.9/20, mbtmp3.0/2, Error ellipse: s-maj=93.9km s-min=33.0km az=68.0*

ISC 09 19:10:37.2±1.0, 6.88N±0.07×73.04W±0.08, h150km±10km, n19, σ1§36/23, 3C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.21**	**36**	⇑*iP*	**Pn**	**19 11 05.8**	**+1.6**
CAPV				*eS*	**Sn**	**19 11 26.0**	**+1.2**
ROSC	**El Rosal**	**2.39**	**213**	P	**Pn**	**19 11 17.1**	**-0.3**
	11nm,0.3s,baz=90,slow=22,SNR=5.6						
ROSC				S	**Sn**	**19 11 47.1**	**-1.2**
	32nm,0.3s,baz=105,slow=17,SNR=15						
VIGV	**El Vigia**	**2.56**	**40**	*eP*	**Pn**	**19 11 19.6**	**+0.5**
VIGV				*eS*	**Sn**	**19 11 49.7**	**-1.7**
SOCV	**Socops**	**2.57**	**57**	*eP*	**Pn**	**19 11 19.9**	**+0.6**
SOCV				*eS*	**Sn**	**19 11 49.6**	**-2.1**
ELOV	**Elorza**	**3.53**	**88**	*eP*	**Pn**	**19 11 31.2**	**-0.2**
VIRV	**Villa del Rosa**	**3.65**	**10**	⇑*iP*	**Pn**	**19 11 32.9**	**-0.1**
VIRV				*eS*	**Sn**	**19 12 13.8**	**-2.4**
QARV	**Quebrada Arrib**	**4.13**	**37**	⇑*iP*	**Pn**	**19 11 40.2**	**+0.9**
SANV	**Sanarito**	**4.33**	**53**	*eP*	**Pn**	**19 11 42.5**	**+0.5**
CURV	**Curarigua**	**4.35**	**44**	*eP*	**Pn**	**19 11 42.5**	**+0.4**
DABV	**Dabajuro**	**4.66**	**30**	*eP*	**Pn**	**19 11 47.0**	**+0.8**
TEPV	**Terepaima**	**4.88**	**51**	*eP*	**Pn**	**19 11 49.5**	**+0.3**
BAUV	**El Baul**	**5.36**	**67**	*eP*	**Pn**	**19 11 55.0**	**-0.4**
MAPV	**Macapo**	**5.40**	**57**	*eP*	**Pn**	**19 11 56.0**	**+0.1**
MONV	**Montecano**	**5.88**	**31**	*eP*	**Pn**	**19 12 02.0**	**-0.3**
TURV	**Turiamo**	**6.24**	**55**	*eP*	**Pn**	**19 12 07.1**	**-0.1**
TXAR	**Lajitas Array**	**36.48**	**312**	P	**P**	**19 17 27.0**	**-1.1**
	0.5nm,0.7s,baz=150,slow=10,SNR=4.7						
ILAR	**Eielson Array**	**76.94**	**335**	P	P	19 22 20.6	+7.8
	0.3nm,0.5s,baz=90,slow=4.5,SNR=3.5						
ASAR	**Alice Springs**	**149.21**	**234**	PKPbc	**PKPdf**	**19 30 06.3**	**+1.8**
	0.4nm,0.5s,baz=116,slow=3.5,SNR=11						
WRA	**Warramunga Arr**	**150.44**	**241**	PKPbc	**PKPdf**	**19 30 09.5**	**+3.0**
	0.5nm,0.4s,baz=109,slow=2.4,SNR=17						

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*NIED **09** 19:14:00, 34.80N×137.86E, h47km, Mw3.7 Best double couple: M0 3.61000×10^14 NP1: φs150.00000°, δ83.00000°, λ-17.00000°. NP2: φs242.00000°, δ73.00000°, λ-173.00000°.*

JMA 09 19:14:49.9, 34.76N×137.86E, h11km±1km, M3.6, 3C-3D Broadband fault plane solution: P waves. NP1: φs255.00000°, δ80.00000°, λ-163.00000°. **NP2:** φs162.00000°, δ73.00000°, λ-10.00000°. **Principal axes:** T Plg5.0000°, Azm28.0000°; N Plg70.0000°, Azm284.0000°; P Plg19.0000°, Azm120.0000°; **Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKKG	**Kakegawa**	**0.10**	**75**	P	Pg	19 14 52.3	-0.2
JKKG				S	Sg	19 14 54.3	-0.1
JHMK	**Hamakita**	**0.10**	**304**	P	Pg	19 14 52.6	+0.1
JHMK				S	Sg	19 14 54.6	+0.2
HMMJ	**Hamamatsu 2**	**0.15**	**310**	⇓P	Pg	19 14 53.4	+0.1
HMMJ				S	Sg	19 14 55.9	+0.1
JYZW	**Yoshizawa**	**0.26**	**336**	P	Pg	19 14 55.2	0.0
TK04	**Tokai 4**	**0.37**	**178**	P	Pg	19 14 57.8	+0.6
TK04				S	Sg	19 15 02.3	+0.2
SHZ3	**Shizuoka 3**	**0.42**	**43**	⇑P	Pg	19 14 58.0	-0.3
TTO5	**TONANKAI O.B.S**	**0.52**	**193**	⇑P	Pb	19 15 00.6	-0.3
JNY	**Yasuok**	**0.60**	**0**	⇑P	Pg	19 15 01.3	-0.4
TK03	**Tokai 3**	**0.60**	**172**	P	Pb	19 15 02.2	0.0
JAA	**Atsumi**	**0.60**	**258**	⇓P	Pg	19 15 01.1	-0.5
TK02	**Tokai 2**	**0.82**	**186**	P	Pg	19 15 04.6	-0.8
JIZS	**Izushimoda**	**0.84**	**93**	⇓P	Pg	19 15 04.3	-1.8
MAT	**Matsushiro**	**1.80**	**9**	P	Pn	19 15 21.2	+0.2
MAT				S	Sn	19 15 44.4	+0.6

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*CSEM **09** 19:27:48.9, 41.74N×13.72E, h10km, MD1.9/10, After ROM*

ROM 09 19:27:48.9±0.1, 41.74N×13.72E, h10km, Md1.9/10, MI1.2/5, Error ellipse: s-maj=1.1km s-min=0.8km az=38.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
POFI	**Posta Fibreno**	**0.02**	**191**	Pg	Pg	19 27 51.3	+0.4
POFI				Sg	Sg	19 27 52.7	+0.4
	202nm,0.2s						
POFI	**Posta Fibreno**	**0.02**	**191**	Pg	Pg	19 27 51.3	+0.4
POFI				Sg	Sg	19 27 52.7	+0.4
	202nm,0.2s						
SDI	**San Donato**	**0.08**	**115**	Pg	Pg	19 27 51.8	+0.5
SDI				Sg	Sg	19 27 53.5	+0.4
	106nm,0.2s						
SDI	**San Donato**	**0.08**	**115**	Pg	Pg	19 27 51.8	+0.5
SDI				Sg	Sg	19 27 53.5	+0.4
	106nm,0.2s						
VVLD	**Villa Vallelon**	**0.15**	**331**	Pg	Pg	19 27 52.8	+0.4
VVLD				Sg	Sg	19 27 55.5	+0.6
	68nm,0.3s						
VVLD	**Villa Vallelon**	**0.15**	**331**	Pg	Pg	19 27 52.8	+0.4
VVLD				Sg	Sg	19 27 55.5	+0.6
	68nm,0.3s						
CERA	**Filignano**	**0.27**	**122**	Pg	Pg	19 27 54.8	+0.3
CERA				Sg	Sg	19 27 59.2	+1.0
	30nm,0.5s						
CERA	**Filignano**	**0.27**	**122**	Pg	Pg	19 27 54.8	+0.3
CERA				Sg	Sg	19 27 59.2	+1.0
	30nm,0.5s						
INTR	**Introdacqua**	**0.30**	**27**	Pg	Pg	19 27 55.6	+0.4
INTR				Sg	Sb	19 28 00.7	-1.0
	32nm,0.2s						
INTR	**Introdacqua**	**0.30**	**27**	Pg	Pg	19 27 55.6	+0.4
INTR				Sg	Sb	19 28 00.7	-1.0
	32nm,0.2s						
RNI2	**Rionero Sannit**	**0.33**	**97**	Pg	Pb	19 27 56.6	-0.3
RNI2	**Rionero Sannit**	**0.33**	**97**	Pg	Pb	19 27 56.6	-0.3
PTQR	**Pietraquaria**	**0.37**	**320**	Pg	Pg	19 27 56.9	+0.5
PTQR				Sg	Sb	19 28 02.6	-0.9
	5.0nm,0.4s						
PTQR	**Pietraquaria**	**0.37**	**320**	Pg	Pg	19 27 56.9	+0.5
PTQR				Sg	Sb	19 28 02.6	-0.9
	5.0nm,0.4s						
GIUL	**Giuliano Di Ro**	**0.39**	**242**	Pg	Pg	19 27 56.8	+0.1
GIUL				Sg	Sb	19 28 03.2	-0.9
	12nm,0.2s						
GIUL	**Giuliano Di Ro**	**0.39**	**242**	Pg	Pg	19 27 56.8	+0.1
GIUL				Sg	Sb	19 28 03.2	-0.9
	12nm,0.2s						
MIDA	**Miranda**	**0.41**	**104**	Pg	Pg	19 27 57.5	+0.3
	191nm,3.1s						
MIDA	**Miranda**	**0.41**	**104**	Pg	Pg	19 27 57.5	+0.3
	191nm,3.1s						
LPEL	**Lama dei Pelig**	**0.46**	**49**	Pg	Pg	19 27 58.0	-0.1
LPEL				Sg	Sg	19 28 05.2	+0.9
LPEL	**Lama dei Pelig**	**0.46**	**49**	Pg	Pg	19 27 58.0	-0.1
LPEL				Sg	Sg	19 28 05.2	+0.9
VCEL	**Villa Celiera**	**0.66**	**8**	Pg	Pg	19 28 01.8	-0.1
VCEL	**Villa Celiera**	**0.66**	**8**	Pg	Pg	19 28 01.8	-0.1

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*ISCJB **09** 19:27:56.2±0.6, 26.39S±0.02×27.36E±0.03, h0km±3km, mb4.5/39, MS3.5/1, Error ellipse: s-maj=5.1km s-min=3.4km az=39.4*

*PRE **09** 19:27:57.1±3.4, 26.44S×27.44E, h2km, ML4.3*

*NEIC **09** 19:27:57.1, 26.44S×27.44E, h2km, mb4.7/27, ML4.3(PRE), After PRE.*

*IDC **09** 19:27:58.2±0.6, 26.42S×27.38E, h0km, mb4.2/16, mb1 4.4/20, mb1mx4.2/29, mbtmp4.3/20, ML4.1/4, MS3.3/2, Ms1 3.3/2, ms1mx2.8/31, Error ellipse: s-maj=13.9km s-min=10.9km az=85.0*

ISC 09 19:27:57.3±1.1, 26.40S±0.02×27.39E±0.02, h2km±7km, n161, σ1§72/212, mb4.5/39, 13C-10D, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLOF	**Kloof**	**0.21**	**76**	⇓*iP*	**Pg**	**19 28 01.2**	**-0.1**
KLOF				*eS*	**Sg**	**19 28 02.7**	**-1.3**
KLOF				AML	AML	19 28 03.1	
	comp=Z,40μm,0.3s						
KLOF	**Kloof**	**0.21**	**76**	⇓*iP*	**Pg**	**19 28 01.2**	**-0.1**
KLOF				*eS*	**Sg**	**19 28 02.7**	**-1.3**
PRYS	**Parys**	**0.52**	**183**	*eP*	**Pg**	**19 28 08.2**	**+0.8**
PRYS				*eS*	**Sg**	**19 28 15.1**	**+1.0**
PRYS				AML	AML	19 28 20.4	
	comp=Z,2μm,0.5s						
PRYS	**Parys**	**0.52**	**183**	*eP*	**Pg**	**19 28 08.2**	**+0.8**
PRYS				*eS*	**Sg**	**19 28 15.1**	**+1.0**
BFSD	**Buffelsfontein**	**0.71**	**229**	*eP*	**Pg**	**19 28 10.2**	**-0.8**
BFSD				*eS*	**Sg**	**19 28 20.4**	**+0.2**
BFSD				AML	AML	19 28 22.9	
	comp=Z,1μm,0.3s						
BFSD	**Buffelsfontein**	**0.71**	**229**	*eP*	**Pg**	**19 28 10.2**	**-0.8**
BFSD				*eS*	**Sg**	**19 28 20.4**	**+0.2**
MOAB	**Moab Khotsong**	**0.79**	**222**	*eP*	**Pg**	**19 28 10.9**	**-1.5**
MOAB				*eS*	**Sg**	**19 28 22.5**	**-0.1**
MOAB				AML	AML	19 28 23.2	
	comp=Z,789nm,0.3s						
MOAB	**Moab Khotsong**	**0.79**	**222**	*eP*	**Pg**	**19 28 10.9**	**-1.5**
MOAB				*eS*	**Sg**	**19 28 22.5**	**-0.1**
TLEK	**Tau Lekoa**	**0.85**	**229**	*eP*	**Pg**	**19 28 12.8**	**-0.8**
TLEK				*eS*	**Sb**	**19 28 26.5**	**-0.4**
TLEK				AML	AML	19 28 32.8	
	comp=Z,2μm,0.4s						
SLR	**Silverton**	**1.04**	**51**	⇑*iP*	**Pg**	**19 28 16.7**	**-0.5**
SLR				*eS*	**Sg**	**19 28 31.2**	**+0.4**
SLR				AML	AML	19 28 37.1	
	comp=Z,2μm,0.7s						
SLR	**Silverton**	**1.04**	**51**	⇑*iP*	**Pg**	**19 28 16.7**	**-0.5**
SLR				*eS*	**Sg**	**19 28 31.2**	**+0.4**
SEK	**Senekal**	**1.93**	**174**	⇓*iP*	**Pb**	**19 28 32.9**	**-0.3**
SEK				*eS*	**Sn**	**19 28 56.6**	**+0.4**
SEK				AML	AML	19 28 59.9	
	comp=Z,1μm,0.7s						
SEK	**Senekal**	**1.93**	**174**	⇓*iP*	**Pb**	**19 28 32.9**	**-0.3**
SEK				*eS*	**Sn**	**19 28 56.6**	**+0.4**
SWZ	**Schweizer**	**2.00**	**247**	*eP*	**Pb**	**19 28 33.8**	**-0.7**
SWZ				*eS*	**Sg**	**19 29 01.9**	**+0.4**
SWZ				AML	AML	19 29 03.1	
	comp=Z,3μm,0.5s						
SWZ	**Schweizer**	**2.00**	**247**	*eP*	**Pb**	**19 28 33.8**	**-0.7**
SWZ				*eS*	**Sg**	**19 29 01.9**	**+0.4**
LBTB	**Lobatse**	**2.13**	**310**	⇓*iP*	**Pb**	**19 28 36.6**	**-0.1**
LBTB				*eS*	**Sb**	**19 29 04.9**	**+1.4**
LBTB				AML	AML	19 29 08.1	
	comp=Z,3μm,0.6s						
LBTB	**Lobatse**	**2.13**	**310**	*ePn*	**Pb**	**19 28 36.2**	**-0.4**
LBTB				⇓*iP*	**Pb**	**19 28 36.6**	**-0.1**
LBTB				Pg	**Pg**	**19 28 37.8**	**-0.3**
LBTB				*eSn*	**Sb**	**19 29 03.9**	**+0.4**
LBTB				*eS*	**Sb**	**19 29 04.9**	**+1.4**
LBTB				Lg	Lg	19 29 06.0	
LBTB	**Lobatse**	**2.13**	**310**	Pn	**Pb**	**19 28 36.5**	**-0.1**
	comp=Z,340nm,0.3s,baz=142,slow=16,SNR=1367						
LBTB				Pg	**Pg**	**19 28 37.8**	**-0.3**
	comp=Z,334nm,0.3s,baz=145,slow=17,SNR=1304						
LBTB				Lg	Lg	19 29 06.0	
	comp=Z,814nm,0.3s,baz=235,slow=15,SNR=62						
BOSA	**Boshof**	**2.91**	**220**	⇓*iP*	**Pn**	**19 28 45.7**	**+1.0**
BOSA				*eS*	**Sn**	**19 29 19.8**	**-0.6**
BOSA				AML	AML	19 29 40.5	
	comp=Z,264nm,0.7s						
BOSA	**Boshof**	**2.91**	**220**	*ePn*	**Pn**	**19 28 45.6**	**+0.8**
BOSA				⇓*iP*	**Pn**	**19 28 45.7**	**+1.0**
BOSA				Pg	**Pg**	**19 28 52.6**	**-0.4**
BOSA				*eSn*	**Sn**	**19 29 19.2**	**-1.1**
BOSA				*eS*	**Sn**	**19 29 19.8**	**-0.6**
BOSA				Lg	Lg	19 29 28.1	
BOSA	**Boshof**	**2.91**	**220**	Pn	**Pn**	**19 28 45.7**	**+1.0**
	comp=Z,30nm,0.3s,baz=46,slow=13,SNR=722						
BOSA				Pg	**Pg**	**19 28 52.6**	**-0.4**
	comp=Z,34nm,0.3s,baz=43,slow=17,SNR=21						
BOSA				Lg	Lg	19 29 28.1	
	comp=Z,78nm,0.3s,baz=314,slow=17,SNR=11						
POGA	**Pongola**	**3.89**	**105**	*eS*	**Sn**	**19 29 43.2**	**-1.4**
POGA				AML	AML	19 30 00.6	
	comp=Z,552nm,0.6s						
KSD	**Kokstad**	**4.49**	**157**	*eP*	**Pn**	**19 29 07.9**	**+1.3**
KSD				*eS*	**Sn**	**19 29 54.6**	**-4.9**
KSD				AML	AML	19 30 21.6	
	comp=Z,630nm,0.6s						
KSD	**Kokstad**	**4.49**	**157**	*eP*	**Pn**	**19 29 07.9**	**+1.3**
KSD				*eS*	**Sn**	**19 29 54.6**	**-4.9**
HVD	**Gariep Dam**	**4.51**	**201**	*eP*	**Pn**	**19 29 06.7**	**-0.1**
HVD				*eS*	**Sn**	**19 29 57.8**	**-2.1**
HVD				AML	AML	19 30 28.8	
	comp=Z,178nm,0.4s						
HVD	**Gariep Dam**	**4.51**	**201**	*eP*	**Pn**	**19 29 06.7**	**-0.1**
HVD				*eS*	**Sn**	**19 29 57.8**	**-2.1**
MSNA	**Messina**	**4.70**	**31**	⇑*iP*	**Pn**	**19 29 09.2**	**-0.2**
MSNA				*eS*	**Sn**	**19 30 01.6**	**-2.9**
MSNA				AML	AML	19 30 25.9	
	comp=Z,171nm,0.3s						
MSNA	**Messina**	**4.70**	**31**	⇑*iP*	**Pn**	**19 29 09.2**	**-0.2**
MSNA				*eS*	**Sn**	**19 30 01.6**	**-2.9**
UPI	**Upington**	**5.79**	**249**	*eP*	**Pn**	**19 29 25.2**	**+0.8**
UPI				*eS*	**Sn**	**19 30 29.0**	**-2.5**
UPI				AML	AML	19 31 07.9	
	comp=Z,190nm,0.7s						
UPI	**Upington**	**5.79**	**249**	*eP*	**Pn**	**19 29 25.2**	**+0.8**
UPI				*eS*	**Sn**	**19 30 29.0**	**-2.5**
GRM	**Grahamstown**	**6.93**	**186**	*eP*	**Pn**	**19 29 39.9**	**-0.1**
GRM				*eS*	**Sn**	**19 30 55.2**	**-4.3**
GRM				AML	AML	19 31 41.5	
	comp=Z,98nm,0.5s						
GRM	**Grahamstown**	**6.93**	**186**	*eP*	**Pn**	**19 29 39.9**	**-0.1**
GRM				*eS*	**Sn**	**19 30 55.2**	**-4.3**
BUFB	**Buffelsbos**	**8.05**	**196**	*eP*	**Pn**	**19 29 55.2**	**-0.1**
BUFB				*eS*	**Sn**	**19 31 21.8**	**-5.3**
BUFB				AML	AML	19 32 15.1	
	comp=Z,24nm,0.3s						
BUFB	**Buffelsbos**	**8.05**	**196**	*eP*	**Pn**	**19 29 55.2**	**-0.1**
BUFB				*eS*	**Sn**	**19 31 21.8**	**-5.3**
SUR	**Sutherland**	**8.27**	**222**	⇑*iP*	**Pn**	**19 29 59.1**	**+0.6**
SUR				*eS*	**Sn**	**19 31 28.7**	**-3.9**
SUR				AML	AML	19 32 20.3	
	comp=Z,62nm,0.6s						
SUR	**Sutherland**	**8.27**	**222**	*ePn*	**Pn**	**19 29 59.1**	**+0.6**
	comp=Z,29nm,0.5s						
SUR				*eSn*	**Sn**	**19 31 27.2**	**-5.4**
SUR				*eS*	**Sn**	**19 31 28.7**	**-3.9**
SUR				Sn	**Sn**	**19 31 28.9**	**-3.7**
SUR				*eSg*	**Sg**	**19 32 18.0**	**-4.8**
SUR				Lg	Lg	19 32 20.1

LIC	**Lamto**	**45.16**	**311**	*eP*	**P**	**19 36 16.1**	**+0.3**
	comp=Z,4.5nm,0.4s						
DBIC	**Dimbokro**	**45.37**	**312**	*eP*	**P**	**19 36 17.5**	**+0.1**
	comp=Z,8.6nm,1.0s						
DBIC	**Dimbokro**	**45.37**	**312**	P	**P**	**19 36 18.1**	**+0.6**
	comp=Z,2.6nm,0.6s,baz=129,slow=8.3,SNR=7.6						
MAW	**Mawson**	**46.50**	**162**	LR	LR	19 51 53.5	
	comp=Z,52nm,21.5s,baz=282,slow=31						
TOA0	**Torodi Ar. Sit**	**46.58**	**324**	*eP*	**P**	**19 36 27.2**	**+0.3**
TORD	**Torodi Ar. Bea**	**46.58**	**324**	P	**P**	**19 36 27.4**	**+0.5**
TORD	**Torodi Ar. Bea**	**46.58**	**324**	P	**P**	**19 36 27.4**	**+0.5**
	comp=Z,6.0nm,0.7s,baz=144,slow=6.8,SNR=69						
SNAA	**Sanae**	**48.34**	**192**	*eP*	**P**	**19 36 41.1**	**+1.0**
	comp=Z,8.6nm,0.9s						
TAM	**Tamanrasset**	**53.29**	**335**	P	**P**	**19 37 19.0**	**+1.0**
	comp=Z,1.3nm,0.7s						
CSS	**Prodhromos**	**61.29**	**6**	P	**P**	**19 38 14.6**	**+0.4**
	comp=Z,11nm,0.9s						
QSPA	**South Pole Qui**	**63.78**	**180**	P	**P**	**19 38 31.2**	**+0.5**
QSPA	**South Pole Qui**	**63.78**	**180**	P	**P**	**19 38 31.2**	**+0.5**
	comp=Z,2.2nm,0.5s						
KEST	**Kesra**	**64.11**	**344**	P	**P**	**19 38 34.8**	**+1.7**
KEST	**Kesra**	**64.11**	**344**	P	**P**	**19 38 34.8**	**+1.7**
	comp=Z,0.8nm,0.7s,baz=292,slow=5.7,SNR=4.0						
BRTR	**Keskin Array B**	**66.04**	**5**	P	**P**	**19 38 46.6**	**+1.0**
BRTR	**Keskin Array B**	**66.04**	**5**	P	**P**	**19 38 46.6**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=166,slow=11,SNR=4.9						
VSL	**Villasalto**	**67.68**	**345**	P	**P**	**19 38 57.3**	**+1.4**
	comp=Z,7.1nm,0.8s						
GNI	**Garni**	**68.15**	**14**	P	**P**	**19 38 58.7**	**-0.4**
BDFB	**Brasilia**	**70.35**	**262**	P	**P**	**19 39 14.2**	**+0.9**
BDFB	**Brasilia**	**70.35**	**262**	P	**P**	**19 39 14.2**	**+0.9**
	comp=Z,2.8nm,0.7s,baz=117,slow=9.0,SNR=3.1						
VOIR		**71.53**	**358**	⇑*i*P	**P**	**19 39 21.1**	**+1.5**
MLR	**Muntele Rosu**	**71.56**	**359**	⇑*i*P	**P**	**19 39 21.9**	**+2.0**
BZS	**Buzias**	**71.86**	**356**	⇑*i*P	**P**	**19 39 23.7**	**+2.1**
PLOR	**Plostina**	**71.91**	**359**	⇑*i*P	**P**	**19 39 23.5**	**+1.6**
VRI	**Vrincioaia**	**71.92**	**360**	⇑*i*P	**P**	**19 39 23.7**	**+1.8**
ESDC	**Sonseca Array**	**71.95**	**335**	P	**P**	**19 39 23.4**	**+1.1**
ESDC	**Sonseca Array**	**71.95**	**335**	P	**P**	**19 39 23.4**	**+1.1**
	comp=Z,1.6nm,0.4s,baz=153,slow=6.0,SNR=22						
ESLA	**Sonseca Array**	**71.95**	**335**	*eP*	**P**	**19 39 22.8**	**+0.5**
	comp=Z,0.5nm,0.6s						
EVO	**Evora**	**72.60**	**332**	*eP*	**P**	**19 39 24.5**	**-1.6**
	comp=Z,6.4nm,0.8s						
EVOP	**Sao Brissos**	**72.65**	**331**	*eP*	**P**	**19 39 24.5**	**-1.9**
	comp=Z,6.4nm,0.8s						
SMRF	**Simiane la Rot**	**72.83**	**344**	*eP*	**P**	**19 39 29.6**	**+2.1**
SMRF	**Simiane la Rot**	**72.83**	**344**	*eP*	**P**	**19 39 29.6**	**+2.1**
VNDA	**Vanda**	**72.84**	**171**	*eP*	**P**	**19 39 27.5**	**+0.4**
	comp=Z,1.3nm,0.6s						
VNDA	**Vanda**	**72.84**	**171**	P	**P**	**19 39 28.2**	**+1.1**
	comp=Z,1.3nm,0.6s,baz=279,slow=6.2,SNR=11						
MTLF	**Montolieu**	**73.16**	**341**	*eP*	**P**	**19 39 30.4**	**+1.1**
MTLF	**Montolieu**	**73.16**	**341**	*eP*	**P**	**19 39 30.4**	**+1.1**
MBDF	**Montbardon**	**73.25**	**345**	*eP*	**P**	**19 39 32.0**	**+2.0**
	comp=Z,3.7nm,0.6s						
MBDF	**Montbardon**	**73.25**	**345**	*eP*	**P**	**19 39 32.0**	**+2.0**
	comp=Z,3.7nm,0.6s						
LASF	**Ste Croix**	**73.38**	**343**	*eP*	**P**	**19 39 32.1**	**+1.5**
	comp=Z,7.8nm,0.8s						
LASF	**Ste Croix**	**73.38**	**343**	*eP*	**P**	**19 39 32.1**	**+1.5**
	comp=Z,7.8nm,0.8s						
EPF	**Esparros**	**73.44**	**340**	*eP*	**P**	**19 39 32.3**	**+1.2**
	comp=Z,4.1nm,0.7s						
EPF	**Esparros**	**73.44**	**340**	*eP*	**P**	**19 39 32.3**	**+1.2**
	comp=Z,4.1nm,0.7s						
BNI	**Bardonecchia**	**73.58**	**345**	P	**P**	**19 39 33.8**	**+1.9**
	comp=Z,2.6nm,0.7s						
ETSF	**Etsaut**	**73.61**	**339**	*eP*	**P**	**19 39 33.2**	**+1.1**
	comp=Z,6.3nm,0.7s						
ETSF	**Etsaut**	**73.61**	**339**	*eP*	**P**	**19 39 33.2**	**+1.1**
	comp=Z,6.3nm,0.7s						
ORIF	**Oris-en-Rattie**	**73.64**	**344**	*eP*	**P**	**19 39 33.9**	**+1.6**
ORIF	**Oris-en-Rattie**	**73.64**	**344**	*eP*	**P**	**19 39 33.9**	**+1.6**
BURAR	**Bucovina Array**	**73.70**	**358**	⇑*i*P	**P**	**19 39 35.4**	**+2.9**
TRQA	**Tornquist**	**73.78**	**235**	*eP*	**P**	**19 39 34.3**	**+0.9**
	comp=Z,3.6nm,0.6s						
LPG	**La Plagne**	**73.98**	**345**	*eP*	**P**	**19 39 35.7**	**+1.2**
LPG	**La Plagne**	**73.98**	**345**	*eP*	**P**	**19 39 35.7**	**+1.2**
LPL	**La Plagne**	**74.00**	**345**	*eP*	**P**	**19 39 35.5**	**+1.0**
	comp=Z,8.0nm,0.9s						
LPL	**La Plagne**	**74.00**	**345**	*eP*	**P**	**19 39 35.5**	**+1.0**
	comp=Z,8.0nm,0.9s						
SJPF	**Ste Jean**	**74.02**	**339**	*eP*	**P**	**19 39 35.6**	**+1.2**
	comp=Z,5.7nm,0.5s						
SJPF	**Ste Jean**	**74.02**	**339**	*eP*	**P**	**19 39 35.6**	**+1.2**
	comp=Z,5.7nm,0.5s						
CAF	**Calviac**	**74.65**	**342**	*eP*	**P**	**19 39 39.5**	**+1.4**
CAF	**Calviac**	**74.65**	**342**	*eP*	**P**	**19 39 39.5**	**+1.4**
LFF	**La Frestale**	**75.05**	**341**	*eP*	**P**	**19 39 41.4**	**+1.1**
LFF	**La Frestale**	**75.05**	**341**	*eP*	**P**	**19 39 41.4**	**+1.1**
RJF	**Les Rejaudoux**	**75.16**	**341**	*eP*	**P**	**19 39 42.0**	**+1.0**
	comp=Z,3.8nm,0.6s						
RJF	**Les Rejaudoux**	**75.16**	**341**	*eP*	**P**	**19 39 42.0**	**+1.0**
	comp=Z,3.8nm,0.6s						
CABF	**La Chapelle**	**75.19**	**345**	*eP*	**P**	**19 39 42.3**	**+1.1**
	comp=Z,5.8nm,0.7s						
CABF	**La Chapelle**	**75.19**	**345**	*eP*	**P**	**19 39 42.3**	**+1.1**
	comp=Z,5.8nm,0.7s						
SMF	**Signal de Mont**	**75.77**	**344**	*eP*	**P**	**19 39 45.5**	**+1.1**
SMF	**Signal de Mont**	**75.77**	**344**	*eP*	**P**	**19 39 45.5**	**+1.1**
GERES	**GERESS Array B**	**75.90**	**351**	P	**P**	**19 39 46.4**	**+1.2**
GERES	**GERESS Array B**	**75.90**	**351**	P	**P**	**19 39 46.4**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=163,slow=4.9,SNR=8.6						
BGF	**Bois d'Agland**	**75.94**	**343**	*eP*	**P**	**19 39 43.1**	**-2.4**
BGF	**Bois d'Agland**	**75.94**	**343**	*eP*	**P**	**19 39 43.1**	**-2.4**
AVF	**Avril sur Loir**	**76.03**	**343**	*eP*	**P**	**19 39 47.1**	**+1.2**
	comp=Z,4.5nm,0.5s						
AVF	**Avril sur Loir**	**76.03**	**343**	*eP*	**P**	**19 39 47.1**	**+1.2**
	comp=Z,4.5nm,0.5s						
HINF	**Hinteralfeld**	**76.15**	**346**	*eP*	**P**	**19 39 47.8**	**+1.1**
	comp=Z,3.9nm,0.6s						
HINF	**Hinteralfeld**	**76.15**	**346**	*eP*	**P**	**19 39 47.8**	**+1.1**
	comp=Z,3.9nm,0.6s						
SSF	**Saint Saulge**	**76.24**	**343**	*eP*	**P**	**19 39 47.9**	**+0.8**
SSF	**Saint Saulge**	**76.24**	**343**	*eP*	**P**	**19 39 47.9**	**+0.8**
LOR	**Lormes**	**76.34**	**344**	*eP*	**P**	**19 39 48.6**	**+0.9**
LOR	**Lormes**	**76.34**	**344**	*eP*	**P**	**19 39 48.6**	**+0.9**
HAU	**Haudompre**	**76.44**	**346**	*eP*	**P**	**19 39 49.2**	**+0.9**
HAU	**Haudompre**	**76.44**	**346**	*eP*	**P**	**19 39 49.2**	**+0.9**
CDF	**Champ du Feu**	**76.63**	**346**	*eP*	**P**	**19 39 50.0**	**+0.6**
CDF	**Champ du Feu**	**76.63**	**346**	*eP*	**P**	**19 39 50.0**	**+0.6**
AKASG	**Malin Array Be**	**76.78**	**1**	P	**P**	**19 39 50.8**	**+0.8**
AKASG	**Malin Array Be**	**76.78**	**1**	P	**P**	**19 39 50.8**	**+0.8**
	comp=Z,2.0nm,0.6s,baz=186,slow=5.9,SNR=6.1						
MFF	**Saint Martin d**	**76.82**	**341**	*eP*	**P**	**19 39 51.7**	**+1.3**
	comp=Z,22nm,1.0s						
MFF	**Saint Martin d**	**76.82**	**341**	*eP*	**P**	**19 39 51.7**	**+1.3**
	comp=Z,22nm,1.0s						
AAK	**Ala-Archa**	**81.25**	**33**	P	**P**	**19 40 16.0**	**+0.9**
TKM2	**Tokmak 2**	**82.01**	**34**	P	**P**	**19 40 19.6**	**+0.5**
	comp=Z,2.0nm,0.7s						
CHTO	**Chiang Mai**	**82.70**	**65**	*eP*	**P**	**19 40 21.8**	**-1.2**
FINES	**FINESS Array B**	**87.54**	**359**	P	**P**	**19 40 47.4**	**+1.2**
FINES	**FINESS Array B**	**87.54**	**359**	P	**P**	**19 40 47.4**	**+1.2**
	comp=Z,1.9nm,0.6s,baz=157,slow=6.1,SNR=11						
LPAZ	**La Paz**	**87.68**	**253**	*eP*	**P**	**19 40 48.0**	**-0.9**
	comp=Z,1.6nm,0.9s						
LPAZ	**La Paz**	**87.68**	**253**	P	**P**	**19 40 49.6**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=135,slow=7.1,SNR=4.1						
MK31	**Makanchi Array**	**88.11**	**34**	*eP*	**P**	**19 40 49.6**	**+0.2**
MKAR	**Makanchi Array**	**88.11**	**34**	P	**P**	**19 40 50.0**	**+0.6**
MKAR	**Makanchi Array**	**88.11**	**34**	P	**P**	**19 40 50.0**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=227,slow=4.9,SNR=13						
NOA	**NORSAR Array B**	**88.11**	**352**	P	**P**	**19 40 49.7**	**+0.6**
NOA	**NORSAR Array B**	**88.11**	**352**	P	**P**	**19 40 49.7**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=144,slow=5.5,SNR=3.7						
ASAR	**Alice Springs**	**93.28**	**118**	P	**P**	**19 41 16.5**	**+2.2**
ASAR	**Alice Springs**	**93.28**	**118**	P	**P**	**19 41 16.5**	**+2.2**
	comp=Z,0.2nm,0.6s,baz=234,slow=3.7,SNR=5.9						
STKA	**Stephens Creek**	**94.61**	**129**	P	**P**	**19 41 21.6**	**+1.4**
	comp=Z,0.4nm,0.7s						
STKA	**Stephens Creek**	**94.61**	**129**	P	**P**	**19 41 22.1**	**+1.9**
	comp=Z,1.7nm,0.6s,baz=277,slow=8.1,SNR=5.0						
WRAB	**Tennant Creek**	**95.53**	**115**	P	P	19 41 27.7	+3.1
	comp=Z,6.3nm,1.1s						
ILAR	**Eielson Array**	**141.45**	**356**	PKP	**PKPdf**	**19 47 27.9**	**-1.4**
ILAR	**Eielson Array**	**141.45**	**356**	PKP	**PKPdf**	**19 47 27.9**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=342,slow=0.3,SNR=3.9						
NVAR	**Mina Array Bea**	**148.83**	**301**	PKPbc	**PKPab**	**19 47 49.2**	**-1.6**
NVAR	**Mina Array Bea**	**148.83**	**301**	PKPbc	**PKPab**	**19 47 49.2**	**-1.6**
	comp=Z,1.3nm,0.6s,baz=58,slow=5.5,SNR=17						

*ZUR **09** 19:29:08.5, 46°.56N× 10°.40E, h1km± 2km, ML1.9/3*
*VIE **09** 19:29:08.5± 0.2, 46°.57N× 10°.39E, h8km± 2km, mb1.1/3, ML2.1/4, Error ellipse: s-maj=1.9km s-min=0.8km az=162.0 12 km N of Bormio*
*CSEM **09** 19:29:08.8± 0.1, 46°.58N× 10°.39E, h5km, MD1.9/5, Error ellipse: s-maj=1.7km s-min=1.4km az=158.0*
ROM 09 19:29:07.9± 0.1, 46°.56N× 10°.40E, h10km± 1km, Md1.9/5, 1C-6D, Error ellipse: s-maj=1.4km s-min=1.3km az=114.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BRMO	**Bormio**	**0.09**	**192**	Pg	Pg		19 29 10.9	+0.4
BRMO				Sg	Sg		19 29 12.5	+0.2
	96nm,0.5s							
BRMO	**Bormio**	**0.09**	**192**	Pg	Pg		19 29 10.9	+0.4
BRMO				Sg	Sg		19 29 12.5	+0.2
	96nm,0.5s							
FUORN	**Ofenpass-Fuorn**	**0.11**	**302**	⇓*i*Pg	Pg		19 29 11.1	+0.1
	531nm,0.6s							
FUORN	**Ofenpass-Fuorn**	**0.11**	**302**	Pg	Pg		19 29 11.1	+0.1
FUORN				Sg	Sg		19 29 13.3	+0.1
FUORN	**Ofenpass-Fuorn**	**0.11**	**302**	⇓*i*Pg	Pg		19 29 11.1	+0.1
	531nm,0.6s							
FUORN				Sg	Sg		19 29 13.3	+0.1
MOSI	**Grossmontoni**	**0.12**	**62**	Pg	Pg		19 29 11.4	+0.4
MOSI				Sg	Sg		19 29 13.2	0.0
MOSI	**Grossmontoni**	**0.12**	**62**	Pg	Pg		19 29 11.4	+0.4
MOSI				Sg	Sg		19 29 13.2	0.0
BERNI	**Berninapass**	**0.30**	**241**	*i* Pg	Pg		19 29 14.9	+0.6
	94nm,0.5s							
BERNI	**Berninapass**	**0.30**	**241**	Pg	Pg		19 29 14.9	+0.6
BERNI				Sg	Sg		19 29 19.2	+0.6
BERNI	**Berninapass**	**0.30**	**241**	*i* Pg	Pg		19 29 14.9	+0.6
	94nm,0.5s							
BERNI				Sg	Sg		19 29 19.2	+0.6
DAVOX	**Davos/Dischmat**	**0.42**	**302**	⇓*i*Pg	Pg		19 29 16.8	+0.4
	177nm,0.5s							
DAVOX	**Davos/Dischmat**	**0.42**	**302**	Pg	Pg		19 29 16.8	+0.4
DAVOX				Sg	Sg		19 29 23.0	+0.8
DAVOX	**Davos/Dischmat**	**0.42**	**302**	⇓*i*Pg	Pg		19 29 16.8	+0.4
	177nm,0.5s							
DAVOX				Sg	Sg		19 29 23.0	+0.8
FETA	**Feichten**	**0.51**	**26**	*e*Pg	Pg		19 29 18.6	+0.4
	SNR=10							
FETA				⇑*i*Sg	Sg		19 29 25.2	+0.1
	3.4nm,0.2s							
FETA	**Feichten**	**0.51**	**26**	*e*Pg	Pg		19 29 18.6	+0.4
FETA				Sg	Sg		19 29 25.2	+0.1
	3.4nm,0.2s							
RNI	**Roncone**	**0.60**	**164**	*e*Pg	Pb		19 29 20.6	-0.2
RNI	**Roncone**	**0.60**	**164**	*e*Pg	Pb		19 29 20.6	-0.2
ABSI	**Aberstueckl**	**0.66**	**75**	⇓*e*Pg	Pb		19 29 21.6	-0.2
ROSI	**Rosskopf**	**0.79**	**62**	⇓*e*Pg	Pb		19 29 24.2	+0.2
DDS	**Dosso del Somm**	**0.87**	**141**	*e*Pg	Pn		19 29 26.7	+0.1
DDS	**Dosso del Somm**	**0.87**	**141**	*e*Pg	Pn		19 29 26.7	+0.2

*IDC **09** 19:41:26.7± 0.6, 12°.26S× 165°.93E, h0km, mb4.7/16, mb1 4.8/17, mb1mx4.7/21, mbtmp4.7/17, ML5.5/1, MS4.2/11, Ms1 4.2/11, ms1mx3.9/34, Error ellipse: s-maj=21.9km s-min=15.7km az=106.0*
*MOS **09** 19:41:30.8± 1.3, 12°.32S× 165°.77E, h33km, mb5.0/27, MS4.4/4, Error ellipse: s-maj=11.9km s-min=9.6km az=10.3*
*BJI **09** 19:41:30.4, 12°.20S× 166°.69E, h53km, mB5.3/26, mb4.8/41, Ms5.1/22, Ms7 4.7/24*
*ISCJB **09** 19:41:31.3± 0.3, 12°.26S± 0°.04× 165°.72E± 0°.05, h40km, mb5.0/69, MS4.3/20, Error ellipse: s-maj=7.6km s-min=6.4km az=8.3*
*NEIC **09** 19:41:32.5± 1.3, 12°.24S× 165°.87E, h41km± 11km, mb5.0/20, Error ellipse: s-maj=10.4km s-min=8.4km az=110.0*
*GCMT **09** 19:41:32.1± 0.3, 12°.14S× 165°.73E, h21km± 1km, MW5.0, Moment Tensor Solution. s30,c35; s52,c77; Moment tensor: Scale 10^16 Nm; Mrr 3.10±.21; Mθθ -0.14±.15; Mφφ -2.96±.14; Mrθ 0.90±.33; Mrφ 1.29±.10; Mθφ -2.30±.23; Best double couple: M0 4.10000× 10^16 NP1: φs 159.00000°, δ 63.00000°, λ 90.00000°. NP2: φs 339.00000°, δ 27.00000°, λ 90.00000°. Principal axes: T 3.9300, Plg 72.0000°, Azm 68.0000°; N 0.3700, Plg 0.0000°, Azm 159.0000°; P -4.2900, Plg 18.0000°, Azm 249.0000°; Data Used: II G IU CN IC.*
*DJA **09** 19:41:35.9± 2.6, 12°.5± 7'× 16°.6E± 1°.2, h95km± 19km, M5.1/38, mB5.8/3, mb5.1/38, Mw(mB) 5.3/3*
*AUST **09** 19:41:42.7± 48.0, 12°.38S× 165°.49E, h104km± 2km, Error ellipse: s-maj=10.2km s-min=2.2km az=243.0*
ISC 09 19:41:33.1± 0.3, 12°.31S± 0°.05× 165°.89E± 0°.06, h40km, n197, σ 1.8 73/209, mb5.1/69, MS4.3/20, 1C-1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.50**	**296**	Pn	**Pn**		**19 43 05.0**	**-1.3**
HNR				Sn	**Sn**		**19 44 15.9**	**-3.4**
HNR	**Honiara**	**6.50**	**296**	Pn	**Pn**		**19 43 05.0**	**-1.3**
	104nm,0.3s,baz=138,slow=6.3,SNR=45							
HNR				Sn	**Sn**		**19 44 15.9**	**-3.4**
	26nm,0.3s,baz=273,slow=18,SNR=2.9							
DZM	**Mont Dzumac**	**9.72**	**177**	*e*Pn	**Pn**		**19 43 50.0**	**-0.5**
	164nm,1.4s							
DZM				*e*LR	LR		19 46 02.9	
	1μm,21.6s							
DZM	**Mont Dzumac**	**9.72**	**177**	Pn	**Pn**		**19 43 49.8**	**-0.7**
DZM	**Mont Dzumac**	**9.72**	**177**	Pn	**Pn**		**19 43 49.8**	**-0.7**
	2.3nm,0.3s,baz=23,slow=18,SNR=18							
DZM				LR	LR		19 46 36.4	
	comp=Z,454nm,20.0s,baz=26,slow=32							
TARA	**Tarawa**	**15.27**	**28**	*e*Pn	**Pn**		**19 45 04.5**	**-1.4**
	137nm,0.8s							
PMG	**Port Moresby**	**18.62**	**277**	P	**P**		**19 45 46.2**	**-1.2**
	56nm,1.1s							
PMG	**Port Moresby**	**18.62**	**277**	*e*P	**P**		**19 45 46.1**	**-1.3**
	50nm,1.0s							
PMG	**Port Moresby**	**18.62**	**277**	P	**Pn**		**19 45 48.2**	**+0.2**
	0.6nm,0.3s,baz=83,slow=9.8,SNR=4.3							
EIDS	**Eidsvold**	**19.08**	**225**	*e*P	**Pn**		**19 45 54.9**	**+1.5**
	32nm,1.0s							
EIDS	**Eidsvold**	**19.08**	**225**	P	**Pn**		**19 45 55.1**	**+1.6**
	baz=19,SNR=5.4							
CTA	**Charters Tower**	**20.37**	**245**	P	**P**		**19 46 07.2**	**+0.7**
CTA	**Charters Tower**	**20.37**	**245**	P	**P**		**19 46 07.2**	**+0.7**
	22nm,0.7s,baz=77,slow=12,SNR=31							
CTA				LR	LR		19 52 34.9	
	comp=Z,470nm,20.8s,baz=107,slow=33							
CTAO	**Charters Tower**	**20.37**	**245**	*e*P	**P**		**19 46 07.1**	**+0.6**
CTAO				pmax	pmax			
	comp=Z,21nm,0.6s							
CTAO	**Charters Tower**	**20.37**	**245**	*e*P	**P**		**19 46 07.1**	**+0.6**
	comp=Z,21nm,0.6s							
RMQ	**Roma**	**21.41**	**226**	P	**P**		**19 46 19.5**	**+1.9**
	baz=21,SNR=25							
AFI	**Afiamalu**	**21.81**	**97**	LR	LR		19 53 28.8	
	comp=Z,990nm,18.2s,baz=261,slow=33							
COEN	**Coen**	**22.18**	**263**	*e*P	**P**		**19 46 25.1**	**-0.9**
	comp=Z,183nm,0.7s							
COEN	**Coen**	**22.18**	**263**	P	**P**		**19 46 26.0**	**0.0**
	baz=22,SNR=12							
ARMA	**Armidale**	**22.34**	**214**	*e*P	**P**		**19 46 29.2**	**+1.4**
	comp=Z,80nm,1.4s							
ARMA	**Armidale**	**22.34**	**214**	P	**P**		**19 46 29.3**	**+1.6**
	baz=22,SNR=14							
QLP	**Quilpie**	**24.81**	**232**	P	**P**		**19 46 51.5**	**-0.1**
	baz=24,SNR=6.7							
CMSA	**Cobar Meteorol**	**26.69**	**221**	P	**P**		**19 47 09.3**	**+0.7**
	baz=26,SNR=22							
STKA	**Stephens Creek**	**29.64**	**225**	P	**P**		**19 47 34.6**	**-0.3**
STKA	**Stephens Creek**	**29.64**	**225**	P	**P**		**19 47 35.3**	**+0.5**
	baz=29,SNR=11							
STKA	**Stephens Creek**	**29.64**	**225**	P	**P**		**19 47 34.6**	**-0.3**
	comp=Z,6.1nm,0.7s,baz=34,slow=9.6,SNR=20							
STKA				LR	LR		19 59 38.1	
	comp=Z,2μm,18.1s,baz=36,slow=37							
TOO	**Toolangi**	**31.08**	**212**	P	**P**		**19 47 50.0**	**+2.5**
	baz=31,SNR=4.4							
WRAB	**Tennant Creek**	**31.19**	**252**	*e*P	**P**		**19 47 47.1**	**-1.6**
WRAB				*e*			19 48 01.5	
WRAB				pmax	pmax			
	comp=Z,12nm,0.8s							
WRAB	**Tennant Creek**	**31.19**	**252**	P	**P**		**19 47 48.0**	**-0.8**
	comp=Z,101nm,0.6s,SNR=12							
WRAB	**Tennant Creek**	**31.19**	**252**	*e*P	**P**		**19 47 47.1**	**-1.6**
	comp=Z,12nm,0.8s							
WRAB				*e*			19 48 01.5	
WRA	**Warramunga Arr**	**31.21**	**252**	P	**P**		**19 47 47.2**	**-1.7**
WRA				PcP	**PcP**		**19 50 42.8**	**-0.4**
WRA				ScP	**ScP**		**19 54 27.3**	**+4.1**
WRA	**Warramunga Arr**	**31.21**	**252**	P	**P**		**19 47 47.2**	**-1.7**
	comp=Z,13nm,0.7s,baz=84,slow=8.9,SNR=105							
WRA				PcP	**PcP**		**19 50 42.8**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=64,slow=3.2,SNR=3.0							
WRA				ScP	**ScP**		**19 54 27.3**	**+4.1**
	comp=Z,3.8nm,1.3s,baz=88,slow=4.3,SNR=5.3							
WRA				LR	LR		19 57 54.7	
	comp=Z,93nm,20.5s,baz=80,slow=32							
RPZ	**Rata Peaks**	**31.61**	**173**	P	**P**		**19 47 51.3**	**-0.8**
RPZ	**Rata Peaks**	**31.61**	**173**	P	**P**		**19 47 51.3**	**-0.8**
	comp=Z,20nm,0.9s,baz=0.0,slow=6.1,SNR=4.8							
AS31	**Alice Springs**	**32.37**	**245**	*e*P	**P**		**19 47 56.9**	**-2.3**
ASAR	**Alice Springs**	**32.37**	**245**	P	**P**		**19 47 57.2**	**-1.9**
ASAR				PcP	**PcP**		**19 50 46.4**	**+0.1**
ASAR	**Alice Springs**	**32.37**	**245**	P	**P**		**19 47 57.2**	**-1.9**
	comp=Z,19nm,0.7s,baz=69,slow=9.5,SNR=203							
ASAR				PcP	**PcP**		**19 50 46.4**	**+0.1**
	comp=Z,2.5nm,1.0s,baz=77,slow=3.1,SNR=5.8							
ASAR				LR	LR		19 59 39.6	
	comp=Z,556nm,19.7s,baz=78,slow=34							
KDU	**Kakadu**	**32.62**	**266**	P	**P**		**19 47 59.8**	**-1.5**
	baz=32,SNR=38							
RAR	**Rarotonga**	**33.98**	**110**	LR	LR		20 00 00.2	
	comp=Z,188nm,19.5s,baz=276,slow=33							
BBOO	**Buckleboo**	**34.09**	**228**	P	**P**		**19 48 14.4**	**+0.4**
	baz=34,SNR=10.0							
SAUI	**Saumlaki**	**34.30**	**274**	P	P		19 48 12.7	-3.3
	comp=Z,323nm,1.2s							
KNRA	**Kununurra**	**36.15**	**260**	P	**P**		**19 48 30.9**	**-1.0**
	baz=36,SNR=27							
FITZ	**Fitzroy Crossi**	**39.21**	**256**	*e*P	**P**		**19 48 56.5**	**-1.1**
	comp=Z,14nm,0.8s							
FITZ	**Fitzroy Crossi**	**39.21**	**256**	P	**P**		**19 48 56.6**	**-1.1**
	baz=39,SNR=30							
FITZ	**Fitzroy Crossi**	**39.21**	**256**	LR	LR		20 05 09.7	
	comp=Z,411nm,19.2s,baz=0.4,slow=36							
NLAI	**Namlea**	**39.43**	**280**	P	P		19 48 56.1	-3.5
	comp=Z,38nm,1.6s,comp=Z,607nm							
SOEI	**Soe**	**40.91**	**269**	P	**P**		**19 49 09.6**	**-2.4**
	comp=Z,36nm,1.2s							
SOEI	**Soe**	**40.91**	**269**	P	**P**		**19 49 12.3**	**+0.3**
	baz=40,SNR=3.2							
BATI	**Baumata**	**41.44**	**268**	P	**P**		**19 49 16.0**	**-0.3**
	comp=Z,41nm,0.8s							
BATI	**Baumata**	**41.44**	**268**	LR	LR		20 06 28.8	
	comp=Z,472nm,20.6s,baz=248,slow=36							
MMRI	**Maumere**	**43.05**	**270**	P	P		19 49 26.1	-3.3
	comp=Z,45nm,1.7s							
SGSI	**Sangihe**	**43.15**	**289**	P	P		19 49 25.8	-4.4
	comp=Z,80nm,1.0s,comp=Z,2μm							
PPT	**Papeete**	**43.27**	**103**	LR	LR		20 04 10.6	
	comp=Z,481nm,18.4s,baz=5.0,slow=32							
PPT2	**Papeete2**	**43.27**	**103**	*e*S	**S**		**19 55 53.1**	**-2.9**
	comp=Z,216nm,27.5s							
PPT2				*e*LQ	LQ		19 59 26

BJI	**Beijing**	**69.55**	**321**	P	**P**	**19 52 38.2**	**+0.3**
BJI				S	**S**	**20 01 38.5**	**-4.5**
BJI				AMB	AMB		
	comp=Z,12nm,1.0s						
BJI				LR	LR		
	comp=Z,130nm,29.1s						
XAN	**Xi'an**	**71.08**	**313**	P	**P**	**19 52 48.7**	**+1.3**
XAN				pP	**pP**	**19 52 59.8**	**+0.4**
XAN				sP	**sP**	**19 53 05.3**	**+1.3**
XAN				AMB	AMB		
	comp=Z,2.0nm,0.9s						
XAN				LR	LR		
	comp=Z,100nm,13.3s						
XAN				LR	LR		
	comp=Z,69nm,17.4s						
NANT	**Nan**	**71.30**	**295**	P	**P**	**19 52 52.0**	**+3.0**
	comp=Z,21nm,1.0s						
KMI	**Kunming**	**71.90**	**302**	P	**P**	**19 52 55.2**	**+2.4**
KMI				AMB	AMB		
	comp=Z,10.0nm,0.9s						
PAYA	**Payao**	**72.23**	**295**	P	P	19 52 58.7	+4.0
	comp=Z,3.1nm,0.9s						
CM31	**Chiang Mai Arr**	**72.75**	**294**	*e*P	**P**	**19 52 57.6**	**-0.1**
	comp=Z,8.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**72.75**	**294**	P	**P**	**19 52 58.2**	**+0.5**
CMAR	**Chiang Mai Arr**	**72.75**	**294**	P	**P**	**19 52 58.2**	**+0.5**
	comp=Z,7.2nm,0.8s,baz=126,slow=5.2,SNR=22						
CHTO	**Chiang Mai**	**72.87**	**294**	*e*P	**P**	**19 52 58.9**	**+0.4**
CHTO				pmax	pmax		
	comp=Z,24nm,0.9s						
CHTO	**Chiang Mai**	**72.87**	**294**	P	P	19 52 55.0	-3.4
	comp=Z,44nm,1.0s						
CHTO	**Chiang Mai**	**72.87**	**294**	*e*P	**P**	**19 52 58.9**	**+0.4**
	comp=Z,24nm,0.9s						
CHTO	**Chiang Mai**	**72.87**	**294**	P	**P**	**19 53 01.3**	**+2.9**
	comp=Z,44nm,1.0s						
HHC	**Hu-ho-hao-te**	**72.89**	**320**	*e*P	**P**	**19 52 59.3**	**+1.1**
HHC				pP	**pP**	**19 53 12.3**	**+2.1**
HHC				sP	**sP**	**19 53 17.3**	**+2.5**
HHC				PP	**PP**	**19 55 44.5**	**+3.5**
HHC				S	**S**	**20 02 21.7**	**-0.2**
HHC				sS	**sS**	**20 02 44.3**	**+2.4**
HHC				SKS	**SKSac**	**20 02 57.2**	**-3.5**
HHC				SS	**SS**	**20 07 05.4**	**+2.3**
HHC				AMB	AMB		
	comp=Z,28nm,0.8s						
HHC				AMB	AMB		
	comp=Z,440nm,10.7s						
HHC				LR	LR		
	comp=Z,440nm,16.7s						
HHC				LR	LR		
	comp=Z,480nm,17.8s						
HHC				LR	LR		
	comp=Z,580nm,17.8s						
CD2	**Chengdu**	**73.48**	**308**	P	**P**	**19 53 02.6**	**+0.7**
CD2				pP	**PcP**	**19 53 17.7**	**-0.1**
CD2				sP	sP	19 53 23.9	+5.4
CD2				PP	**PP**	**19 55 49.0**	**+2.8**
CD2				S	**S**	**20 02 27.1**	**-1.8**
CD2				sS	**sS**	**20 02 52.7**	**+3.8**
CD2				SS	**SS**	**20 07 13.1**	**+0.6**
CD2				AMB	AMB		
	comp=Z,20nm,0.5s						
CD2				AMB	AMB		
	comp=Z,210nm,5.3s						
CD2				LR	LR		
	comp=Z,420nm,9.5s						
CD2				LR	LR		
	comp=Z,210nm,9.5s						
LZH	**Lanzhou**	**75.71**	**312**	*e*P	**P**	**19 53 17.3**	**+2.4**
LZH				pP	PcP	19 53 32.8	+5.3
LZH				sP	sP	19 53 40.7	+9.2
LZH				*e*PP	**PP**	**19 56 09.5**	**+4.3**
LZH				*e*S	**S**	**20 02 53.5**	**-0.4**
LZH				*e*SS	**SS**	**20 07 48.5**	**+2.1**
LZH				AMB	AMB		
	comp=Z,21nm,1.3s						
LZH				AMB	AMB		
	comp=Z,99nm,8.5s						
LZH				LR	LR		
	comp=Z,370nm,16.7s						
LZH				LR	LR		
	comp=Z,370nm,17.2s						
LZH				LR	LR		
	comp=Z,500nm,19.5s						
QSPA	**South Pole Qui**	**77.70**	**180**	*e*P	**P**	**19 53 23.9**	**-1.6**
	comp=Z,19nm,1.0s						
CIT	**Chita**	**78.32**	**330**	*e*P	**P**	**19 53 28.3**	**-0.7**
CIT				*e*		19 53 35.4	
CIT				*e*		19 53 39.7	
CIT				pmax	pmax		
	comp=Z,56nm,2.0s						
YAK	**Yakutsk**	**79.34**	**344**	*e*P	**P**	**19 53 32.8**	**-1.5**
YAK				pmax	pmax		
	comp=Z,24nm,0.9s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.2s						
YAK				MLR	MLR		
	comp=Z,328nm,19.0s						
YAK				MLR	MLR		
	comp=N,264nm,19.0s						
SONM	**Songino Array**	**79.77**	**324**	P	**P**	**19 53 37.2**	**0.0**
SONM	**Songino Array**	**79.77**	**324**	P	**P**	**19 53 37.2**	**0.0**
	comp=N,3.1nm,0.9s,baz=135,slow=4.8,SNR=18						
GTA	**Gaotai**	**80.04**	**314**	*e*P	**P**	**19 53 39.7**	**+0.9**
GTA				pP	**pP**	**19 53 50.0**	**-0.9**
GTA				sP	**sP**	**19 53 54.1**	**-1.4**
GTA				S	**S**	**20 03 42.7**	**+2.3**
GTA				SS	SS	20 08 59.4	+8.0
GTA				AMB	AMB		
	comp=N,4.0nm,1.2s						
GTA				AMB	AMB		
	comp=N,190nm,6.2s						
GTA				LR	LR		
	comp=N,170nm,17.3s						
GTA				LR	LR		
	comp=N,150nm,16.2s						
GTA				LR	LR		
	comp=N,130nm,17.6s						
ZAK	**Zakamensk**	**82.82**	**325**	*e*P	**P**	**19 53 52.3**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.9s						
LSA	**Lhasa**	**83.15**	**302**	P	**P**	**19 53 55.7**	**-0.2**
IRK	**Irkutsk**	**83.19**	**327**	*e*P	**P**	**19 53 53.4**	**-1.6**
IRK				pmax	pmax		
	comp=Z,26nm,2.7s						
TLY	**Talaya**	**83.25**	**326**	*e*P	**P**	**19 53 55.9**	**+0.6**
TLY				*e*		19 54 11.9	
TLY				*e*S	S	20 04 05.6	-7.2
TLY				pmax	pmax		
	comp=Z,15nm,1.4s						
TLY				MLR	MLR		
	comp=Z,89nm,18.0s						
MAW	**Mawson**	**83.61**	**202**	P	**P**	**19 53 57.8**	**+0.9**
MAW	**Mawson**	**83.61**	**202**	P	**P**	**19 53 57.8**	**+0.9**
	comp=Z,2.3nm,0.7s,baz=104,slow=7.5,SNR=6.0						
ILAR	**Eielson Array**	**84.66**	**18**	P	**P**	**19 54 01.4**	**-0.8**
ILAR	**Eielson Array**	**84.66**	**18**	P	**P**	**19 54 01.4**	**-0.8**
	comp=Z,2.2nm,0.7s,baz=225,slow=5.6,SNR=14						
MOY	**Mondy**	**84.70**	**326**	*e*P	**P**	**19 54 05.1**	**+2.3**
CMB	**Columbia Colle**	**85.05**	**50**	P	**P**	**19 54 04.5**	**-0.4**
CMB	**Columbia Colle**	**85.05**	**50**	P	**P**	**19 54 04.5**	**-0.4**
NVAR	**Mina Array Bea**	**86.73**	**50**	P	**P**	**19 54 14.2**	**+0.8**
NVAR	**Mina Array Bea**	**86.73**	**50**	P	**P**	**19 54 14.2**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=231,slow=8.2,SNR=6.0						
TIXI	**Tiksi**	**87.35**	**349**	*i* P	**P**	**19 54 18.0**	**+2.7**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.5s						
HVS	**Khovu-Aksy**	**88.64**	**323**	*e*P	**P**	**19 54 23.7**	**+1.7**
HVS				pmax	pmax		
	comp=Z,23nm,1.0s						
WMQ	**Urumqi**	**90.09**	**315**	P	**P**	**19 54 27.7**	**-1.3**
WMQ				pP	**pP**	**19 54 44.8**	**+3.5**
WMQ				sP	sP	19 54 51.5	+5.7
WMQ				PP	**PP**	**19 58 03.6**	**+0.7**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.6s						
WMQ				AMB	AMB		
	comp=Z,240nm,5.2s						
WMQ				LR	LR		
	comp=Z,100nm,16.2s						
WMQ				LR	LR		
	comp=Z,77nm,16.8s						
WMQ				LR	LR		
	comp=Z,80nm,20.2s						
SYO	**Syowa Base**	**90.62**	**197**	*e*PcP	**PcP**	**19 54 33.0**	**+1.0**
MK31	**Makanchi Array**	**94.54**	**317**	*e*P	**P**	**19 54 49.4**	**0.0**
MK31	**Makanchi Array**	**94.54**	**317**	*e*P	**P**	**19 54 49.4**	**0.0**
MKAR	**Makanchi Array**	**94.54**	**317**	P	**P**	**19 54 49.1**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MKAR	**Makanchi Array**	**94.54**	**317**	P	**P**	**19 54 49.0**	**-0.4**
MKAR	**Makanchi Array**	**94.54**	**317**	P	**P**	**19 54 49.0**	**-0.4**
	comp=Z,5.4nm,0.6s,baz=85,slow=6.5,SNR=44						
ZAA0	**Zalesovo Array**	**94.66**	**324**	*e*P	**P**	**19 54 47.8**	**-2.0**
ZALV	**Zalesovo Beam**	**94.66**	**324**	P	**P**	**19 54 48.1**	**-1.7**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ZALV	**Zalesovo Beam**	**94.66**	**324**	P	**P**	**19 54 48.0**	**-1.7**
ZALV	**Zalesovo Beam**	**94.66**	**324**	P	**P**	**19 54 48.0**	**-1.7**
	comp=Z,3.7nm,0.8s,baz=96,slow=4.2,SNR=12						
NVS	**Novosibirsk**	**95.77**	**325**	*e*P	P	19 54 50.3	-4.5
NVS				pmax	pmax		
	comp=Z,31nm,2.4s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.9s						
KSH	**Kashi**	**97.66**	**309**	*e*P	Pdif	19 55 05.0	+1.0
KSH				pP	pP	19 55 23.6	+7.3
KSH				*e*sP	sP	19 55 29.8	+9.0
ARCES	**ARCESS Array B**	**117.59**	**345**	PKP	**PKPdf**	**20 00 12.6**	**-1.6**
ARCES	**ARCESS Array B**	**117.59**	**345**	PKP	**PKPdf**	**20 00 12.6**	**-1.6**
	comp=E,2.4nm,0.5s,baz=81,slow=1.9,SNR=21						
JOF	**Joensuu**	**120.16**	**338**	*e*p	PKPdf	20 00 11.4	-7.8
	comp=E,2.0nm,0.7s						
MOS	**Moscow**	**121.13**	**329**	*i* PKIKP	PKPdf	20 00 33.1	+12
OBN	**Obninsk**	**121.95**	**328**	*i* PKIKP	**PKPdf**	**20 00 25.7**	**+2.8**
OBN				pmax	pmax		
	comp=Z,7.0nm,1.4s						
KIV	**Kislovodsk**	**122.21**	**314**	*e*PKIKP	**PKPdf**	**20 00 28.1**	**+4.2**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.4s						
KAF	**Kangasniemi**	**122.47**	**339**	*e*p	**PKPdf**	**20 00 19.5**	**-4.2**
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**123.00**	**338**	PKP	**PKPdf**	**20 00 23.5**	**-1.2**
FINES	**FINESS Array B**	**123.00**	**338**	PKP	**PKPdf**	**20 00 23.5**	**-1.2**
	comp=Z,1.4nm,0.5s,baz=33,slow=2.0,SNR=11						
NB2	**NORSAR Subarra**	**127.95**	**345**	PKPdf	**PKPdf**	**20 00 33.7**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=24,slow=1.8						
NOA	**NORSAR Array B**	**127.95**	**345**	PKP	**PKPdf**	**20 00 33.2**	**-1.2**
NOA	**NORSAR Array B**	**127.95**	**345**	PKP	**PKPdf**	**20 00 33.2**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=29,slow=1.9,SNR=4.9						
AKASG	**Malin Array Be**	**127.99**	**326**	PKIKP	**PKPdf**	**20 00 34.0**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**127.99**	**326**	PKP	**PKPdf**	**20 00 34.0**	**-0.6**
AKASG	**Malin Array Be**	**127.99**	**326**	PKP	**PKPdf**	**20 00 34.0**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=48,slow=3.1,SNR=5.0						
BRTR	**Keskin Array B**	**129.92**	**312**	PKP	**PKPdf**	**20 00 37.2**	**-1.7**
BRTR	**Keskin Array B**	**129.92**	**312**	PKP	**PKPdf**	**20 00 37.2**	**-1.7**
	comp=Z,0.4nm,0.6s,baz=108,slow=3.2,SNR=2.9						
BUR08	**Bucovina Ar. S**	**131.87**	**325**	*e*PKPdf	**PKPdf**	**20 00 38.8**	**-3.5**
STHS	**Stebnicka Huta**	**132.92**	**329**	*e*PKP	**PKPdf**	**20 00 44.1**	**0.0**
CRVS	**Cervenica-Dubn**	**133.14**	**328**	*e*PKP	PKPdf	20 00 50.0	+5.5
BRG	**Berggiesshubel**	**135.27**	**335**	*e*(P)	**PKPdf**	**20 00 49.4**	**+1.0**
	comp=Z,42nm,2.3s						
CLL	**Collm**	**135.31**	**336**	*e*PKIKP	**PKPdf**	**20 00 49.0**	**+0.5**
CLL				pmax	pmax		
	comp=Z,21nm,0.8s						
CLL	**Collm**	**135.31**	**336**	*e*PKPdf	**PKPdf**	**20 00 49.0**	**+0.5**
	comp=Z,4.0nm,0.8s						
CLL				*i* SKPbc	**SKPbc**	**20 04 16.2**	**-0.2**
GERES	**GERESS Array B**	**136.89**	**333**	PKP	**PKPdf**	**20 00 52.5**	**+0.9**
GERES				SKPbc	**SKiKP**	**20 04 25.8**	**-0.8**
GERES	**GERESS Array B**	**136.89**	**333**	PKP	**PKPdf**	**20 00 52.5**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=66,slow=2.5,SNR=6.0						
GERES				SKPbc	**SKiKP**	**20 04 25.8**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=83,slow=3.1,SNR=5.1						
KEST	**Kesra**	**148.50**	**322**	*e*PKPbc	**PKPdf**	**20 01 13.9**	**+1.4**
KEST	**Kesra**	**148.50**	**322**	PKPbc	**PKPbc**	**20 01 16.1**	**0.0**
	comp=Z,3.7nm,0.8s,baz=295,slow=2.2,SNR=14						
CMAH	**Djebel Manchou**	**149.00**	**325**	P	**PKPab**	**20 01 19.7**	**-1.8**
ABSA	**Djebel Ababsia**	**149.22**	**324**	P	**PKPbc**	**20 01 18.7**	**+0.8**
CASM	**Ain Smara**	**149.79**	**326**	P	**PKPbc**	**20 01 21.2**	**+1.9**
DFRA	**Djebel Bou Aff**	**149.91**	**327**	P	**PKPbc**	**20 01 21.5**	**+1.9**
SET	**Setif**	**150.42**	**327**	P	**PKPbc**	**20 01 22.0**	**+1.1**
POLO	**Lamas de Olo**	**150.53**	**350**	*e*PKPab	**PKPab**	**20 01 27.1**	**-0.4**
MVO	**Moncorvo**	**150.59**	**349**	*e*PKPab	**PKPab**	**20 01 27.4**	**-0.4**
PVRL	**Vila Real**	**150.61**	**350**	*e*PKPbc	**PKPbc**	**20 01 21.7**	**+0.6**
PVIS	**Viseu**	**151.18**	**350**	*e*PKPbc	**PKPbc**	**20 01 22.4**	**-0.1**
PVIS	**Viseu**	**151.18**	**350**	*e*PKPab	**PKPab**	**20 01 28.1**	**-2.1**
ESDC	**Sonseca Array**	**151.31**	**344**	PKPbc	**PKPbc**	**20 01 22.1**	**-0.6**
ESDC	**Sonseca Array**	**151.31**	**344**	PKPbc	**PKPbc**	**20 01 22.1**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=18,slow=2.5,SNR=7.0						
MTE	**Manteigas**	**151.43**	**349**	*e*PKPbc	**PKPbc**	**20 01 23.1**	**0.0**
PAB	**San Pablo**	**151.53**	**349**	*e*PKiKP	**PKPbc**	**20 01 22.4**	**-0.9**
PAB	**San Pablo**	**151.53**	**344**	*e*PKPbc	**PKPbc**	**20 01 22.4**	**-0.9**
PTOM	**Tomar**	**152.34**	**350**	*e*PKPbc	**PKPbc**	**20 01 25.1**	**+0.1**
PMRV	**Marv??o**	**152.34**	**349**	*e*PKPbc	**PKPbc**	**20 01 22.3**	**-2.8**
PMTG	**Montargil**	**152.84**	**350**	*e*PKPbc	**PKPbc**	**20 01 25.0**	**-1.2**
TOA0	**Torodi Ar. Sit**	**164.56**	**275**	*e*PKPdf	**PKPdf**	**20 01 32.0**	**-1.5**
TORD	**Torodi Ar. Bea**	**164.56**	**275**	PKP	**PKPdf**	**20 01 32.9**	**-0.6**
TORD				PKPab	**PKPab**	**20 02 28.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**164.56**	**275**	PKP	**PKPdf**	**20 01 32.9**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=347,slow=1.5,SNR=9.7						
TORD				PKPab	**PKPab**	**20 02 28.6**	**-0.2**
	comp=Z,3.3nm,0.9s,baz=74,slow=4.2,SNR=8.2						
DBIC	**Dimbokro**	**169.29**	**239**	PKPab	**PKPab**	**20 02 51.6**	**+2.1**
DBIC	**Dimbokro**	**169.29**	**239**	PKPab	**PKPab**	**20 02 51.6**	**+2.1**
	comp=Z,4.8nm,1.0s,baz=135,slow=5.0,SNR=3.4						

*TIR **09** 19:48:16.8, 40˚.87N×20˚.78E, h9km, ML3.1*
*SKO **09** 19:48:19.3, 40˚.85N×20˚.70E, h15km, M2.1, ML2.6*
*ATH **09** 19:48:19.6, 40.97N×20˚.78E, h22km, MD3.5/13*
*CSEM **09** 19:48:20.3±0.1, 40˚.88N×20˚.79E, h5km, ML2.5/8, Error ellipse: s-maj=3.7km s-min=2.7km az=49.0*
*THE **09** 19:48:20.1, 40˚.91N×20˚.74E, h0km±2km, ML2.5/8, Error ellipse: s-maj=2.2km s-min=0.9km az=316.0*
*BEO **09** 19:48:20.0±0.8, 40˚.78N×20˚.80E, h12km±4km, ML2.4/7*
*ISCJB **09** 19:48:20.1±0.4, 40˚.91N±0˚.02×20˚.75E±0˚.02, h9km±3km, Error ellipse: s-maj=3.3km s-min=2.3km az=136.3*

ISC 09 19:48:20.2±1.0, 40˚.89N±0˚.01×20˚.79E±0˚.02, h8km±9km, n100, σ1°05/158, 1C, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BIA	**Bitola**	**0.42**	**72**	P		**Pg**		**19 48 28.6**	**+0.1**
BIA				S		**Sb**		**19 48 36.4**	**-0.1**
BIA	**Bitola**	**0.42**	**72**	*i* Pg		**Pb**		**19 48 29.4**	**-0.6**
BIA				*i* Sg		**Sb**		**19 48 37.1**	**+0.5**
BIA	**Bitola**	**0.42**	**72**	P		**Pg**		**19 48 28.6**	**+0.1**
FNA	**Florina**	**0.45**	**103**	P		**Pb**		**19 48 29.9**	**-0.6**
FNA				S		**Sb**		**19 48 37.5**	**+0.1**
FNA	**Florina**	**0.45**	**103**	*i* PB		**Pb**		**19 48 29.8**	**-0.7**
FNA				*e*SB		**Sb**		**19 48 37.0**	**-0.4**
FNA	**Florina**	**0.45**	**103**	P		**Pb**		**19 48 29.9**	**-0.6**
FNA				*e*Sb		**Sb**		**19 48 37.0**	**-0.4**
NEST	**Nestorio**	**0.51**	**158**	P		**Pg**		**19 48 29.6**	**-0.5**
NEST				S		**Sb**		**19 48 38.4**	**-0.7**
NEST	**Nestorio**	**0.51**	**158**	P		**Pg**		**19 48 29.6**	**-0.5**
NEST				S		**Sb**		**19 48 38.4**	**-0.7**
TIR	**Tirane**	**0.84**	**304**	*e*PG		**Pg**		**19 48 35.4**	**-1.1**
TIR				*e*SG		**Sn**		**19 48 51.2**	**+0.4**
TIR	**Tirane**	**0.84**	**304**	*e*Pg		**Pg**		**19 48 35.0**	**-1.4**
TIR	**Tirane**	**0.84**	**304**	*e*Pg		**Pg**		**19 48 35.3**	**-1.1**
TIR	**Tirane**	**0.84**	**304**	P		**Pg**		**19 48 35.0**	**-1.4**
TIR	**Tirane**	**0.84**	**304**	*e*Pg		**Pg**		**19 48 35.3**	**-1.1**
TIR	**Tirane**	**0.84**	**304**	*e*Pn		**Pg**		**19 48 35.6**	**-0.8**
TIR				*e*Sn		**Sg**		**19 48 47.4**	**+0.1**
PHP	**Peshkopia**	**0.84**	**342**	*e*PG		**Pg**		**19 48 35.3**	**-1.1**
PHP				*e*SG		**Sb**		**19 48 47.8**	**-0.8**
PHP	**Peshkopia**	**0.84**	**342**	P		**Pg**		**19 48 35.2**	**-1.2**
PHP				S		**Sg**		**19 48 47.2**	**-0.2**
PHP	**Peshkopia**	**0.84**	**342**	*e*Pg		**Pg**		**19 48 35.3**	**-1.1**
PHP				S		**Sg**		**19 48 47.2**	**-0.2**
KZN	**Kozani**	**0.94**	**128**	P		**Pg**		**19 48 37.9**	**-0.4**
KZN				S		**Sn**		**19 48 53.1**	**-0.4**
KZN	**Kozani**	**0.94**	**128**	*e*PN		**Pb**		**19 48 38.5**	**-0.3**
KZN				*e*SN		**Sn**		**19 48 52.8**	**-0.7**
KZN	**Kozani**	**0.94**	**128**	P		**Pg**		**19 48 37.9**	**-0.4**
KZN	**Kozani**	**0.94**	**128**	*e*Pn		**Pb**		**19 48 38.5**	**-0.3**
KZN				*e*Sn		**Sn**		**19 48 52.8**	**-0.7**
KZN				S		**Sn**		**19 48 53.1**	**-0.4**
SRN	**Sarande**	**1.17**	**211**	*e*PG		**Pg**		**19 48 43.0**	**+0.2**
SRN				*e*SG		**Sn**		**19 49 00.8**	**+1.7**
SRN	**Sarande**	**1.17**	**211**	*e*Pg		**Pg**		**19 48 43.0**	**+0.2**
SRN				S		**Sn**		**19 49 00.0**	**+0.9**
SRN	**Sarande**	**1.17**	**211**	P		**Pb**		**19 48 42.2**	**-0.5**
SRN				S		**Sn**		**19 49 00.0**	**+0.9**
SRN	**Sarande**	**1.17**	**211**	*e*Pg		**Pg**		**19 48 43.0**	**+0.2**
SRN				S		**Sn**		**19 49 00.0**	**+0.9**
SKO	**Skopje**	**1.19**	**24**	*e*Pg		**Pg**		**19 48 44.2**	**+1.2**
SKO				*e*Sg		**Sn**		**19 49 00.1**	**+0.6**
SKO	**Skopje**	**1.19**	**24**	*e*Pg		**Pg**		**19 48 44.2**	**+1.2**
SKO				*i* Sg		**Sn**		**19 49 01.0**	**+1.5**
SKO				*e*Lg		Lg		19 49 01.9	
	comp=E,45nm,0.4s								
SKO				*e*Lg		Lg		19 49 01.9	
	comp=N,188nm,0.7s								
SKO	**Skopje**	**1.19**	**24**	*e*Pg		**Pg**		**19 48 44.2**	**+1.2**
SKO				*e*Sg		**Sn**		**19 49 00.1**	**+0.6**
GRG	**Griva**	**1.22**	**86**	P		**Pg**		**19 48 43.4**	**-0.2**
GRG				S		**Sn**		**19 49 02.7**	**+2.4**
GRG	**Griva**	**1.22**	**86**	*e*PN		**Pg**		**19 48 43.3**	**-0.3**
GRG				*e*SN		**Sn**		**19 49 00.1**	**-0.2**
GRG	**Griva**	**1.22**	**86**	P		**Pg**		**19 48 43.4**	**-0.2**
GRG				*e*Sn		**Sn**		**19 49 00.1**	**-0.2**
JAN	**Janina**	**1.23**	**178**	*e*PN		**Pg**		**19 48 44.3**	**+0.5**
JAN				*e*SN		**Sn**		**19 49 02.8**	**+2.3**
JAN	**Janina**	**1.23**	**178**	*e*Pn		**Pg**		**19 48 44.3**	**+0.5**
JAN				*e*Sn		**Sn**		**19 49 02.8**	**+2.3**
PUK	**Puka**	**1.34**	**330**	*e*PG		**Pg**		**19 48 45.7**	**-0.2**
PUK				*e*SG		**Sg**		**19 49 06.8**	**+3.4**
PUK	**Puka**	**1.34**	**330**	*e*Pg		**Pg**		**19 48 45.7**	**-0.2**
KEK	**Kerkira**	**1.40**	**213**	P		**Pg**		**19 48 46.7**	**-0.3**
KEK				S		**Sg**		**19 49 06.4**	**+1.2**
KEK	**Kerkira**	**1.40**	**213**	*e*PN		**Pg**		**19 48 46.6**	**-0.4**
KEK				*e*SN		**Sg**		**19 49 06.4**	**+1.2**
KEK	**Kerkira**	**1.40**	**213**	*e*Pn		**Pg**		**19 48 46.6**	**-0.4**
KEK				S		**Sg**		**19 49 06.4**	**+1.2**
VAY	**Valandovo**	**1.41**	**71**	*e*Pg		**Pn**		**19 48 45.6**	**-0.6**
VAY				*e*Sg		**Sg**		**19 49 05.9**	**+0.3**
VAY	**Valandovo**	**1.41**	**71**	*e*Pg		**Pb**		**19 48 46.6**	**-0.2**
VAY				*i* Sg		**Sn**		**19 49 01.4**	**-3.5**
VAY				*e*Lg		Lg		19 49 01.9	
	comp=N,86nm,1.0s								
VAY	**Valandovo**	**1.41**	**71**	*e*Pg		**Pn**		**19 48 45.6**	**-0.6**
VAY				*e*Sg		**Sg**		**19 49 05.9**	**+0.3**
LIT	**Litokhoron**	**1.51**	**121**	P		**Pb**		**19 48 48.5**	**-0.1**
LIT				S		**Sg**		**19 49 11.1**	**+2.2**
LIT	**Litokhoron**	**1.51**	**121**	*e*PN		**Pb**		**19 48 48.4**	**-0.1**
LIT				*e*SN		**Sg**		**19 49 09.4**	**+0.5**
LIT	**Litokhoron**	**1.51**	**121**	*e*Pn		**Pb**		**19 48 48.4**	**-0.1**
LIT				*e*Sn		**Sg**		**19 49 09.4**	**+0.5**
LIT				S		**Sg**		**19 49 11.1**	**+2.2**
BCI	**Bajram Curri**	**1.58**	**340**	*e*PG		**Pg**		**19 48 51.7**	**+1.2**
BCI				*e*SG		**Sg**		**19 49 13.6**	**+2.7**
BCI	**Bajram Curri**	**1.58**	**340**	*e*Pg		**Pg**		**19 48 51.7**	**+1.2**
BCI				*e*Sg		**Sg**		**19 49 13.6**	**+2.7**
KNT	**Kendrikon**	**1.61**	**80**	P		**Pb**		**19 48 49.8**	**-0.5**
KNT				S		**Sg**		**19 49 12.1**	**-0.1**
KNT	**Kendrikon**	**1.61**	**80**	P		**Pb**		**19 48 49.8**	**-0.5**
KNT				S		**Sg**		**19 49 12.1**	**-0.1**
THL	**Klokotos Trika**	**1.62**	**144**	P		**Pn**		**19 48 49.1**	**+0.1**
THL	**Klokotos Trika**	**1.62**	**144**	*e*PB		**Pb**		**19 48 49.3**	**-1.0**
THL				*e*SN		**Sg**		**19 49 12.2**	**0.0**
THL	**Klokotos Trika**	**1.62**	**144**	P		**Pn**		**19 48 49.1**	**+0.1**
THL				*e*Sn		**Sg**		**19 49 12.2**	**0.0**
HORT	**Hortiatis**	**1.77**	**99**	P		**Pb**		**19 48 52.3**	**-0.7**
HORT	**Hortiatis**	**1.77**	**99**	P		**Pb**		**19 48 52.3**	**-0.7**
SOH	**Sokhos**	**1.94**	**91**	*e*PN		**Pn**		**19 48 53.9**	**+0.4**
SOH				*e*SN		**Sb**		**19 49 18.7**	**-1.6**
SOH	**Sokhos**	**1.94**	**91**	*e*Pn		**Pn**		**19 48 53.9**	**+0.4**
SOH				*e*Sn		**Sb**		**19 49 18.7**	**-1.6**
PLG	**Polygyros**	**2.08**	**103**	P		**Pb**		**19 48 57.1**	**-1.1**
PLG	**Polygyros**	**2.08**	**103**	*e*PN		**Pn**		**19 48 55.4**	**-0.1**
PLG				*e

CMAR	**Chiang Mai Arr**	**72.65**	**294**	P		**P**	**20 03 21.6**	**+1.0**
	0.6nm,0.8s,baz=132,slow=5.0							
QSPA	**South Pole Qui**	**77.57**	**180**	P		**P**	**20 03 48.9**	**+0.7**
	6.4nm,1.2s							
SONM	**Songino Array**	**79.78**	**324**	P		**P**	**20 04 00.3**	**-0.3**
SONM	**Songino Array**	**79.78**	**324**	P		**P**	**20 04 00.3**	**-0.3**
	0.8nm,1.1s,baz=127,slow=3.8,SNR=4.3							
MKAR	**Makanchi Array**	**94.52**	**317**	P		**P**	**20 05 12.8**	**0.0**
MKAR	**Makanchi Array**	**94.52**	**317**	P		**P**	**20 05 12.8**	**0.0**
	0.7nm,0.8s,baz=101,slow=6.3,SNR=4.4							
KEST	**Kesra**	**148.50**	**321**	PKPbc		**PKPbc**	**20 11 38.5**	**-1.1**
KEST	**Kesra**	**148.50**	**321**	PKPbc		**PKPbc**	**20 11 38.5**	**-1.1**
	0.9nm,0.9s,baz=337,slow=7.7,SNR=3.3							
ESDC	**Sonseca Array**	**151.39**	**343**	PKPbc		**PKPbc**	**20 11 43.1**	**-3.3**
ESDC	**Sonseca Array**	**151.39**	**343**	PKPbc		**PKPbc**	**20 11 43.1**	**-3.3**
	0.2nm,0.4s,baz=54,slow=1.0,SNR=4.3							
TORD	**Torodi Ar. Bea**	**164.41**	**274**	PKP		**PKPdf**	**20 11 55.9**	**-0.9**
TORD	**Torodi Ar. Bea**	**164.41**	**274**	PKP		**PKPdf**	**20 11 55.9**	**-0.9**
	0.5nm,0.8s,baz=90,slow=1.4,SNR=2.6							

PGC 09 20:03:21.6, 61°.88N × 126°.32W, h5 km, ML3.5/5, 11D, 237km northeast of Watson Lk., Yt Northwest Territories, Canada, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FNBB	**Fort Nelson**	**3.42**	**150**	⇓Pn	Pn	20 04 13.8	-1.8
FNBB				⇓Pg	Pb	20 04 23.0	+0.3
FNBB				⇓Sn	Sn	20 04 55.2	-1.3
FNBB				⇓Sg	Sg	20 05 08.2	-3.3
DLBC	**Dease Lake**	**3.92**	**210**	⇑Pn	Pn	20 04 21.5	-1.0
DLBC				⇓Sg	Sb	20 05 21.6	+2.6
WHY	**Whitehorse**	**4.31**	**257**	⇓Pn	Pn	20 04 27.5	-0.5
WHY				⇑Sg	Sb	20 05 35.3	+4.9
ROMN	**Roman Lake**	**4.50**	**53**	⇓Pn	Pn	20 04 29.2	-1.1
GALN	**Gameti Lake**	**4.68**	**57**	⇑Pn	Pn	20 04 31.4	-1.5
YKW3	**Yellowknife Ar**	**5.52**	**78**	⇓Pn	Pn	20 04 42.4	-1.9
YKW3				⇑Sg	Sb	20 06 09.2	+4.4
DAWY	**Dawson**	**6.35**	**296**	⇓Pn	Pn	20 04 55.5	-0.3
DAWY				⇑Sg	Sg	20 06 37.3	-8.1
INK	**Inuvik**	**7.13**	**338**	⇓Pn	Pn	20 05 04.8	-1.6
INK				⇓Sn	Sn	20 06 22.1	-5.5

IDC 09 20:07:46.4±2.3, 18°.99S × 69°.20W, h126 km ± 18 km, mb4.0/11, mb1 4.1/15, mb1mx4.0/23, mbtmp4.0/15, MS3.5/1, Ms1 3.5/1, ms1mx2.5/28, Error ellipse: s-maj=25.7km s-min=14.6km az=33.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.87**	**21**	P	Pn	20 08 33.4	+1.4
	46nm,0.3s,baz=216,slow=5.9,SNR=329						
LPAZ				S	Sn	20 09 05.4	-1.7
	5.1nm,0.3s,baz=256,slow=19,SNR=4.9						
SIV	**San Ignacio**	**8.31**	**70**	P	Pn	20 09 42.6	-1.5
	11nm,0.3s,baz=269,slow=11,SNR=60						
SIV				S	Sn	20 11 26.2	+10
	baz=199,slow=24,SNR=3.2						
CFAA	**Coronel Fontan**	**12.59**	**176**	S	Sn	20 12 47.0	-13
	0.0nm,0.3s,baz=241,slow=19,SNR=3.3						
CPUP	**Villa Florida**	**13.16**	**126**	P	Pn	20 10 47.0	-1.5
	1.1nm,0.3s,baz=280,slow=6.1,SNR=3.8						
ATAH	**Atahualpa**	**14.79**	**322**	P	Pn	20 11 08.9	-1.1
	0.4nm,0.3s,baz=113,slow=15,SNR=2.5						
H03N1	**Juan Fernandez**	**16.81**	**209**	T	T	20 27 58.0	
	baz=32,slow=0.7,SNR=25						
H03N2	**Juan Fernandez**	**16.82**	**209**	T	T	20 28 04.4	
	baz=32,slow=0.7,SNR=7.0						
H03N3	**Juan Fernandez**	**16.83**	**209**	T	T	20 28 06.9	
	baz=32,slow=0.7,SNR=25						
BDFB	**Brasilia**	**20.49**	**84**	P	P	20 12 15.2	+0.5
	23nm,0.4s,baz=250,slow=8.6,SNR=36						
PLCA	**Paso Flores**	**21.70**	**183**	P	P	20 12 28.0	+0.6
	3.4nm,1.0s,baz=342,slow=8.8,SNR=2.8						
PLCA				LR	LR	20 21 45.5	
	comp=Z,119nm,19.2s,baz=149,slow=39						
APG	**El Apazote**	**39.74**	**327**	P	P	20 15 07.6	+0.3
	3.2nm,0.6s,baz=135,slow=14,SNR=7.3						
TEIG	**Tepich**	**43.23**	**333**	P	P	20 15 35.2	-0.1
	4.9nm,0.5s,baz=109,slow=13,SNR=3.2						
TXAR	**Lajitas Array**	**58.43**	**325**	P	P	20 17 27.6	-1.7
	1.0nm,0.8s,baz=148,slow=7.4,SNR=6.4						
DBIC	**Dimbokro**	**68.31**	**74**	P	P	20 18 34.4	-0.1
	7.2nm,0.5s,baz=227,slow=6.5,SNR=21						
ULM	**Lac du Bonnet**	**72.85**	**342**	P	P	20 19 00.7	-0.6
	2.0nm,0.5s,baz=82,slow=2.8,SNR=4.5						
NVAR	**Mina Array Bea**	**73.36**	**322**	P	P	20 19 05.0	+0.1
	1.0nm,0.8s,baz=152,slow=6.8,SNR=7.3						
TORD	**Torodi Ar. Bea**	**76.78**	**71**	P	P	20 19 24.1	-0.6
	2.5nm,0.5s,baz=251,slow=5.4,SNR=35						
ESDC	**Sonseca Array**	**84.25**	**45**	P	P	20 20 04.9	+0.8
	1.0nm,0.8s,baz=249,slow=5.6,SNR=7.0						
YKA	**Yellowknife Ar**	**88.74**	**341**	P	P	20 20 25.6	+0.3
	4.4nm,0.7s,baz=133,slow=4.9,SNR=12						
H11S2	**WAKE ISLAND Hy**	**27.26**	**279**	T	T	22 46 13.6	
	baz=103						
H11S1	**WAKE ISLAND Hy**	**27.26**	**279**	T	T	22 46 26.1	
	baz=103						
H11N3	**WAKE ISLAND Hy**	**27.27**	**281**	T	T	22 46 19.8	
	baz=110						
H11S3	**WAKE ISLAND Hy**	**27.27**	**279**	T	T	22 46 23.1	
	baz=103						
H11N2	**WAKE ISLAND Hy**	**27.28**	**281**	T	T	22 46 18.2	
	baz=110						
H11N1	**WAKE ISLAND Hy**	**27.29**	**281**	T	T	22 46 08.0	
	baz=110						
SONM	**Songino Array**	**151.00**	**6**	PKPbc	PKPbc	20 27 25.8	+1.1
	1.0nm,0.7s,baz=297,slow=1.6,SNR=9.9						

*IDC **09** 20:18:13.5±2.0, 11°.66S × 166°.05E, h11 km ± 11 km, mb4.8/18, mb1 4.9/20, mb1mx4.9/22, mbtmp4.8/20, ML4.9/2, MS4.8/25, Ms1 4.8/25, ms1mx4.7/30, Error ellipse: s-maj=17.8km s-min=12.8km az=93.0*

*ISCJB **09** 20:18:13.3±1.4, 11°.66S ± 0°.04 × 165°.89E ± 0°.03, h11 km ± 8 km, mb5.2/128, MS4.8/37, Error ellipse: s-maj=6.3km s-min=4.3km az=171.4*

*BJI **09** 20:18:15.2, 11°.345S × 166°.12E, h23 km, mB5.3/37, mb5.1/52, Ms5.1/39, Ms7 4.8/40*

*MOS **09** 20:18:15.7±1.1, 11°.67S × 165°.94E, h33 km, mb5.3/21, MS4.7/4, Error ellipse: s-maj=10.4km s-min=8.8km az=164.6*

*BKK **09** 20:18:15.2±0.4, 12°S ± 6°× 16°6E ± °, h10 km, M5.5/32, mB6.0/9, mb5.4/32, Mw(mB)5.6/9*

*AUST **09** 20:18:17.3±2.0, 11°.70S × 166°.19E, h37 km ± 14 km, Error ellipse: s-maj=16.5km s-min=6.8km az=85.0*

*NEIC **09** 20:18:17.5±0.2, 11°.66S × 165°.98E, h35 km, mb5.2/38, Error ellipse: s-maj=7.7km s-min=5.5km az=139.0*

*GCMT **09** 20:18:18.0±0.2, 11°.59S × 166°.00E, h13 km ± 1 km, MW5.3, Moment Tensor Solution. s51,c77; s81,c127; Moment tensor: Scale 10^16 Nm; Mrr-2.74±.18; Mθθ-0.92±.13; Mφφ3.65±.14; Mrθ-6.03±.68; Mrφ-2.34±.10; Mθφ6.30±.68; Best double couple: M0 9.60000×10^16 NP1:φs136.00000°, δ80.00000°, λ-103.00000°. NP2:φs9.00000°, δ16.00000°, λ-39.00000°. Principal axes: T 10.1000, Plg34.0000°, Azm237.0000°; N -1.2000, Plg13.0000°, Azm139.0000°; P -9.0000, Plg53.0000°, Azm31.0000°; Data Used: IU II G CN IC.*

*DJA **09** 20:18:20.5±1.0, 12°S ± 4°× 16°6E ± °, h56 km ± 10 km, M5.5/81, mB5.9/26, mb5.5/81, Mw(mB)5.5/26*

ISC 09 20:18:17.4±0.4, 11°.69S ± 0°.04 × 166°.01E ± 0°.05, h33 km ± 1 km, n378, σ1°.31/435, mb5.3/128, MS4.7/40, 11C-5D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.37**	**290**	Pn	**Pn**	**20 19 49.2**	**+0.2**
HNR				Sn	**Sn**	**20 20 59.2**	**-1.5**
HNR	**Honiara**	**6.37**	**290**	Pn	**Pn**	**20 19 49.2**	**+0.2**
	40nm,0.3s,baz=185,slow=1.5,SNR=43						
HNR				Sn	**Sn**	**20 20 59.2**	**-1.5**
	71nm,0.3s,baz=322,slow=23,SNR=6.9						
DZM	**Mont Dzumac**	**10.33**	**178**	*e*Pn	**Pn**	**20 20 43.9**	**+0.5**
	154nm,0.7s						
DZM				*e*LR	LR	20 23 07.8	
	10μm,24.6s						
DZM	**Mont Dzumac**	**10.33**	**178**	*e*Pn	**Pn**	**20 20 43.8**	**+0.4**
	75nm,0.8s						
DZM				*e*Sn	**Sn**	**20 22 35.5**	**-2.6**
DZM				Sn	Sn	20 22 37.5	-0.7
DZM	**Mont Dzumac**	**10.33**	**178**	Pn	**Pn**	**20 20 43.9**	**+0.5**
	7.5nm,0.3s,baz=15,slow=16,SNR=37						
DZM				Sn	**Sn**	**20 22 37.5**	**-0.6**
	0.9nm,0.3s,baz=189,slow=19,SNR=2.6						
TARA	**Tarawa**	**14.67**	**28**	*e*P	**Pn**	**20 21 41.1**	**-1.6**
	279nm,0.8s						
PMG	**Port Moresby**	**18.67**	**275**	P	**Pn**	**20 22 34.6**	**+1.2**
	153nm,1.2s,2μm						
PMG	**Port Moresby**	**18.67**	**275**	*e*P	**Pn**	**20 22 33.9**	**+0.5**
	189nm,1.1s						
PMG	**Port Moresby**	**18.67**	**275**	P	**Pn**	**20 22 34.0**	**+0.5**
	0.8nm,0.3s,baz=106,slow=5.4,SNR=13						
EIDS	**Eidsvold**	**19.60**	**224**	*e*P	**Pn**	**20 22 45.1**	**+0.6**
	196nm,1.2s						
EIDS	**Eidsvold**	**19.60**	**224**	⇑P	**Pn**	**20 22 45.1**	**+0.6**
	baz=20,SNR=14						
PATS	**Pohnpei**	**19.94**	**337**	⇓P	**P**	**20 22 47.3**	**+0.6**
	baz=20,SNR=11						
CTA	**Charters Tower**	**20.74**	**244**	P	Pn	20 22 56.9	-1.0
CTA	**Charters Tower**	**20.74**	**244**	P	Pn	20 22 56.9	-1.0
	102nm,1.1s,baz=69,slow=13,SNR=36						
CTA				LR	LR	20 30 03.3	
	comp=Z,4μm,19.6s,baz=49,slow=34						
CTAO	**Charters Tower**	**20.74**	**244**	*e*P	**P**	**20 22 56.4**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,271nm,1.3s						
CTAO	**Charters Tower**	**20.74**	**244**	*e*P	**P**	**20 22 56.4**	**+1.0**
	comp=Z,271nm,1.3s						
MANU	**Manus Island**	**20.83**	**296**	⇓P	**P**	**20 22 57.4**	**+1.0**
	baz=21,SNR=5.8						
AFI	**Afiamalu**	**21.77**	**98**	*e*P	**P**	**20 23 06.3**	**-0.3**
	comp=Z,175nm,1.3s						
AFI	**Afiamalu**	**21.77**	**98**	P	**P**	**20 23 08.0**	**+1.4**
	comp=Z,22nm,0.7s,baz=306,slow=19,SNR=3.5						
AFI				LR	LR	20 30 03.7	
	comp=Z,2μm,18.8s,baz=279,slow=33						
RMQ	**Roma**	**21.92**	**225**	⇑P	**P**	**20 23 09.4**	**+1.3**
	baz=22,SNR=46						
COEN	**Coen**	**22.38**	**262**	*e*P	**P**	**20 23 12.7**	**-0.4**
	comp=Z,1μm,1.3s						
COEN	**Coen**	**22.38**	**262**	⇑P	**P**	**20 23 13.0**	**-0.1**
	baz=22,SNR=13						
ARMA	**Armidale**	**22.92**	**213**	*e*P	**P**	**20 23 19.5**	**+0.8**
	comp=Z,144nm,1.1s						
ARMA	**Armidale**	**22.92**	**213**	⇑P	**P**	**20 23 19.5**	**+0.8**
	baz=23,SNR=11						
RAO	**Raoul Island**	**23.01**	**142**	LR	LR	20 30 20.1	
	comp=Z,1μm,18.5s,baz=306,slow=32						
QLP	**Quilpie**	**25.29**	**231**	P	**P**	**20 23 41.6**	**+0.7**
	baz=26,SNR=7.6						
CMSA	**Cobar Meteorol**	**27.23**	**220**	⇓P	**P**	**20 23 59.1**	**+0.6**
	baz=27,SNR=20						
URZ	**Urewera**	**28.25**	**161**	LR	LR	20 33 20.5	
	comp=Z,2μm,20.1s,baz=203,slow=32						
H11S2	**WAKE ISLAND Hy**	**30.00**	**1**	T	T	20 55 00.7	
	baz=183,slow=0.7,SNR=42						
H11S3	**WAKE ISLAND Hy**	**30.00**	**1**	T	T	20 54 53.8	
	baz=183,slow=0.7,SNR=22						
H11S1	**WAKE ISLAND Hy**	**30.02**	**1**	T	T	20 55 06.8	
	baz=183,slow=0.7,SNR=26						
STKA	**Stephens Creek**	**30.16**	**224**	P	**P**	**20 24 24.2**	**-0.3**
STKA				PcP	**PcP**	**20 27 25.1**	**-0.2**
STKA	**Stephens Creek**	**30.16**	**224**	P	**P**	**20 24 25.1**	**+0.6**
	baz=30,SNR=6.1						
STKA	**Stephens Creek**	**30.16**	**224**	P	**P**	**20 24 24.2**	**-0.3**
	comp=Z,5.8nm,0.8s,baz=36,slow=9.3,SNR=7.7						
STKA				PcP	**PcP**	**20 27 25.1**	**-0.2**
	comp=Z,8.8nm,0.7s,baz=23,slow=4.6,SNR=4.4						
STKA				LR	LR	20 36 03.0	
	comp=Z,4μm,19.4s,baz=31,slow=35						
H11N1	**WAKE ISLAND Hy**	**31.22**	**2**	T	T	20 56 34.9	
	baz=184,slow=0.7,SNR=31						
H11N3	**WAKE ISLAND Hy**	**31.23**	**2**	T	T	20 56 33.2	
	baz=184,slow=0.7,SNR=14						
H11N2	**WAKE ISLAND Hy**	**31.24**	**2**	T	T	20 56 36.3	
	baz=184,slow=0.7,SNR=17						
WRAB	**Tennant Creek**	**31.50**	**251**	*e*P	**P**	**20 24 35.7**	**-0.9**
WRAB				*e*		20 24 46.9	
WRAB				pmax	pmax		
	comp=Z,104nm,1.3s						
WRAB	**Tennant Creek**	**31.50**	**251**	P	**P**	**20 24 36.0**	**-0.5**
	comp=Z,314nm,1.3s,SNR=25						
WRAB	**Tennant Creek**	**31.50**	**251**	*e*P	**P**	**20 24 35.6**	**-0.9**
	comp=Z,104nm,1.3s						
WRAB				*e*		20 24 46.9	
WRA	**Warramunga Arr**	**31.51**	**251**	P	**P**	**20 24 36.0**	**-0.6**
WRA				PcP	**PcP**	**20 27 29.5**	**+0.3**
WRA				ScP	**ScP**	**20 31 10.7**	**+0.6**
WRA	**Warramunga Arr**	**31.51**	**251**	P	**P**	**20 24 36.0**	**-0.6**
	comp=Z,50nm,1.1s,baz=84,slow=9.6,SNR=95						
WRA				PcP	**PcP**	**20 27 29.5**	**+0.3**
	comp=Z,5.6nm,0.9s,baz=71,slow=3.0,SNR=5.3						
WRA				ScP	**ScP**	**20 31 10.7**	**+0.6**
	comp=Z,2.1nm,0.9s,baz=94,slow=3.7,SNR=5.6						
WRA				LR	LR	20 36 35.1	
	comp=Z,2μm,18.1s,baz=70,slow=35						
TOO	**Toolangi**	**31.66**	**212**	P	**P**	**20 24 39.0**	**+1.2**
	baz=32,SNR=6.3						
RPZ	**Rata Peaks**	**32.20**	**173**	P	**P**	**20 24 42.9**	**+0.5**
RPZ	**Rata Peaks**	**32.20**	**173**	P	**P**	**20 24 42.9**	**+0.5**
	comp=Z,47nm,0.8s,baz=98,slow=2.5,SNR=13						
RPZ				LR	LR	20 35 38.1	
	comp=Z,2μm,21.5s,baz=343,slow=32						
AS31	**Alice Springs**	**32.74**	**244**	*e*P	**P**	**20 24 46.0**	**-1.4**
ASAR	**Alice Springs**	**32.74**	**244**	P	**P**	**20 24 46.5**	**-0.9**
ASAR				PcP	**PcP**	**20 27 32.0**	**-0.5**
ASAR				ScP	**ScP**	**20 31 16.7**	**+2.4**
ASAR	**Alice Springs**	**32.74**	**244**	P	**P**	**20 24 46.5**	**-0.9**
	comp=Z,30nm,0.8s,baz=69,slow=9.5,SNR=286						
ASAR				PcP	**PcP**	**20 27 32.0**	**-0.5**
	comp=Z,5.0nm,0.8s,baz=65,slow=2.2,SNR=9.8						
ASAR				ScP	**ScP**	**20 31 16.7**	**+2.4**
	comp=Z,2.5nm,1.1s,baz=83,slow=3.9,SNR=6.4						
ASAR				LR	LR	20 37 17.8	
	comp=Z,2μm,19.6s,baz=75,slow=35						
KDU	**Kakadu**	**32.78**	**265**	P	**P**	**20 24 47.3**	**-0.5**
	baz=33,SNR=13						
FAKI	**Fak Fak**	**34.57**	**282**	P	**P**	**20 25 05.1**	**+1.7**
	comp=Z,37nm,1.7s						
BBOO	**Buckleboo**	**34.58**	**228**	P	**P**	**20 25 03.2**	**-0.1**
	baz=35,SNR=11						
MOO	**Moorlands**	**34.75**	**205**	P	**P**	**20 25 06.0**	**+1.5**
	baz=35,SNR=3.4						
TAU	**Tasmania Unive**	**35.08**	**204**	*e*P	**P**	**20 25 08.0**	**+0.6**
TAU				pmax	pmax		
	comp=Z,27nm,1.1s						
TAU	**Tasmania Unive**	**35.08**	**204**	*e*P	**P**	**20 25 08.0**	**+0.6**
	comp=Z,27nm,1.1s						
SWI	**Sorong**	**36.13**	**285**	P	**P**	**20 25 16.1**	**-0.7**
	comp=Z,38nm,1.2s						
SWI	**Sorong**	**36.13**	**285**	⇓P	**P**	**20 25 17.5**	**+0.7**
	baz=36,SNR=3.7						
KNRA	**Kununurra**	**36.38**	**259**	P	**P**	**20 25 18.6**	**-0.2**
	baz=36,SNR=13						
PALU	**Palau**	**36.63**	**300**	P	**P**	**20 25 22.1**	**+1.1**
	baz=37,SNR=6.9						
AAI	**Ambon**	**38.27**	**279**	P	**P**	**20 25 35.4**	**+0.4**
	comp=Z,60nm,1.5s,comp=Z,2μm						
NLAI	**Namlea**	**39.44**	**279**	P	**P**	**20 25 45.1**	**+0.3**
	comp=Z,99nm,1.9s,comp=Z,2μm						
FITZ	**Fitzroy Crossi**	**39.47**	**256**	*e*P	**P**	**20 25 44.5**	**-0.5**
	comp=Z,127nm,1.6s						
FITZ				*e*PcP	**PcP**	**20 27 52.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**39.47**	**256**	P	**P**	**20 25 44.7**	**-0.3**
	baz=40,SNR=24						
LBMI	**Labuha**	**39.77**	**283**	P	**P**	**20 25 47.8**	**+0.3**
	comp=Z,159nm,1.7s						
TNTI	**Ternate**	**40.34**	**285**	P	**P**	**20 25 51.8**	**-0.4**
	comp=Z,74nm,1.5s						
SOEI	**Soe**	**41.03**	**269**	P	**P**	**20 25 58.7**	**+0.5**
	comp=Z,72nm,1.3s						
BATI	**Baumata**	**41.58**	**268**	P	**P**	**20 26 03.2**	**+0.7**
	comp=Z,77nm,1.4s,comp=Z,843nm						
BATI	**Baumata**	**41.58**	**268**	LR	LR	20 43 06.6	
	comp=Z,2μm,21.2s,baz=318,slow=36						
SGSI	**Sangihe**	**43.06**	**288**	P	**P**	**20 26 15.5**	**+0.9**
	comp=Z,235nm,1.1s,comp=Z,3μm						
MMRI	**Maumere**	**43.16**	**270**	P	**P**	**20 26 15.0**	**-0.4**
	comp=Z,208nm,1.2s,comp=Z,3μm						
PPT	**Papeete**	**43.29**	**103**	LR	LR	20 40 33.2	
	comp=Z,843nm,18.5s,baz=6.2,slow=31						
PPT2	**Papeete2**	**43.29**	**103**	*e*S	**S**	**20 32 47.0**	**+5.0**
	comp=Z,457nm,26.0s						
PPT2				*e*LQ	LQ	20 36 30.2	
	comp=Z,3μm,27.0s						
PPT2				*e*LR	LR	20 38 19.0	
	comp=Z,2μm,24.5s,baz=282						
BBSI	**Bau Bau**	**43.35**	**274**	P	**P**	**20 26 18.3**	**+1.4**
	comp=Z,182nm,1.2s,comp=Z,3μm						
KMSI	**Cibinong**	**43.49**	**283**	P	**P**	**20 26 18.7**	**+0.7**
	comp=Z,339nm,1.3s,comp=Z,5μm						
TBI	**Tubuai**	**43.85**	**112**	*e*S	S	20 32 55.6	+5.7
	comp=Z,366nm,30.5s						
TBI				*e*LQ	LQ	20 36 42.7	
	comp=Z,1μm,30.0s						
TBI				*e*LR	LR	20 38 34.8	
	comp=Z,1μm,26.0s,baz=283						
LUWI	**Luwuk**	**44.19**	**281**	P	**P**	**20 26 24.4**	**+0.8**
	comp=Z,213nm,1.4s,comp=Z,3μm						
KKSI	**Kolaka, Sulawe**	**44.52**	**276**	P	**P**	**20 26 27.1**	**+0.8**
	comp=Z,169nm,1.2s,comp=Z,2μm						
JCJ	**Chichijima**	**44.96**	**329**	LR	LR	20 42 56.4	
	comp=Z,429nm,18.2s,baz=110,slow=33						
MBWA	**Marble Bar**	**45.24**	**252**	*e*P	**P**	**20 26 32.1**	**+0.2**
	comp=Z,95nm,1.1s						
MRSI	**Marisa**	**45.41**	**282**	P	**P**	**20 26 34.6**	**+1.3**
	comp=Z,37nm,1.0s						
BKSI	**Bulukumba**	**45.78**	**274**	P	**P**	**20 26 36.3**	**0.0**
	comp=Z,48nm,1.5s,comp=Z,782nm						
BNSI	**Bone**	**45.98**	**275**	P	**P**	**20 26 38.9**	**+1.0**
	comp=Z,257nm,1.1s,comp=Z,3μm						
KAPI	**Kappang**	**46.20**	**274**	P	**P**	**20 26 39.3**	**-0.3**
	comp=Z,681nm,1.0s,SNR=9.1						
KAPI	**Kappang**	**46.20**	**274**	P	**P**	**20 26 39.5**	**-0.1**
	comp=Z,152nm,1.4s,comp=Z,2μm						
KAPI	**Kappang**	**46.20**	**274**	*e*P	**P**	**20 26 38.5**	**-1.1**
	comp=Z,344nm,1.5s						
KAPI				*e*PP	PP	20 28 23.5	-4.9
KAPI	**Kappang**	**46.20**	**274**	LR	LR	20 44 56.7	
	comp=Z,414nm,21.7s,baz=110,slow=35						
SPSI	**Sidrap Palu**	**46.40**	**276**	P	**P**	**20 26 41.2**	**0.0**
	comp=Z,71nm,1.0s,comp=Z,1μm						
TTSI	**Tana Toraja**	**46.55**	**277**	P	**P**	**20 26 43.2**	**+0.8**
	comp=Z,62nm,1.1s,comp=Z,642nm						
MEEK	**Meekatharra**	**46.90**	**244**	P	**P**	**20 26 45.2**	**+0.2**
	baz=47,SNR=48						
MJSI	**Majene**	**47.25**	**276**	P	**P**	**20 26 49.4**	**+1.5**
	comp=Z,151nm,1.7s,comp=Z,2μm						
KLBR	**Kellerberrin**	**48.58**	**238**	P	**P**	**20 26 57.5**	**-0.4**
	baz=49,SNR=5.7						
MTNI	**Mataram**	**49.10**	**269**	P	**P**	**20 27 02.9**	**+0.7**
	comp=Z,60nm,1.4s						
BLDU	**Balidiu**	**49.26**	**240**	P	**P**	**20 27 02.9**	**-0.2**
	baz=49,SNR=5.7						
NWAO	**Narrogin (SRO)**	**49.32**	**237**	*e*P	**P**	**20 27 03.2**	**-0.4**
	comp=Z,37nm,1.0s						
NWAO	**Narrogin (SRO)**	**49.32**	**237**	LR	LR	20 47 58.5	
	comp=Z,4μm,19.3s,baz=15,slow=36						
MORW	**Morawa**	**49.54**	**242**	P	**P**	**20 27 05.5**	**+0.1**
	baz=50,SNR=10						
RKGY	**Rocky Gully**	**49.94**	**234**	⇑P	**P**	**20 27 08.6**	**+0.3**
	baz=50,SNR=5.1						
MYLDM	**Lahad Datu**	**50.14**	**287**	P	**P**	**20 27 10.8**	**+0.7**
TSM	**Tawau**	**50.44**	**286**	P	**P**	**20 27 13.3**	**+1.0**
BYJI	**Banyuwangi**	**50.94**	**269**	P	**P**	**20 27 17.2**	**+1.1**
	comp=Z,225nm,1.1s,comp=Z,13μm						
KMMI	**Kalianget**	**51.50**	**270**	P	**P**	**20 27 21.2**	**+0.9**
	comp=Z,82nm,1.6s						
SDKM	**Sandakan**	**51.52**	**287**	P	**P**	**20 27 21.2**	**+0.6**
BLJI	**Banyuglugur**	**51.76**	**269**	P	**P**	**20 27 22.4**	**+0.2**
	comp=Z,99nm,1.2s						
KDM	**Kudat**	**52.29**	**288**	P	**P**	**20 27 26.4**	**+0.2**
KKM	**Kota Kinabalu**	**52.57**	**287**	P	**P**	**20 27 29.7**	**+1.2**
KKM	**Kota Kinabalu**	**52.57**	**287**	P	**P**	**20 27 28.8**	**+0.4**
	comp=Z,52nm,1.4s,comp=Z,753nm						
KKM	**Kota Kinabalu**	**52.57**	**287**	*e*P	**P**	**20 27 28.5**	**0.0**
	comp=Z,46nm,1.1s						
KKM	**Kota Kinabalu**	**52.57**	**287**	P	**P**	**20 27 29.1**	**+0.7**
	baz=53,SNR=6.4						
KRKI	**Karangkates**	**52.81**	**269**	P	**P**	**20 27 30.2**	**+0.1**
	comp=Z,300nm,0.8s,comp=Z,18μm						
PWJI	**Pagerwojo**	**53.47**	**269**	P	**P**	**20 27 34.9**	**0.0**
	comp=Z,117nm,0.9s						
SJI	**Sawahan**	**53.55**	**269**	P	**P**	**20 27 36.3**	**+0.7**
	comp=Z,137nm,2.0s						
PCJI	**Pacitan**	**54.06**	**268**	P	**P**	**20 27 39.8**	**+0.6**
	comp=Z,247nm,0.9s						
WOJI	**Wonogiri, Jawa**	**54.36**	**269**	P	**P**	**20 27 41.9**	**+0.5**
	comp=Z,138nm,2.1s						
PBKI	**Pangkalan Bun**	**54.56**	**275**	P	**P**	**20 27 44.2**	**+1.3**
	comp=Z,107nm,0.9s

QIZ sS **sS** **20 37 28.5 -1.1**
QIZ AMB AMB
comp=Z,14nm,1.7s
QIZ LR LR
comp=Z,180nm,18.8s
QIZ LR LR
comp=Z,610nm,17.4s
USRK Ussuriysk Arra 63.64 333 P **P** **20 28 45.1 -0.1**
comp=Z,5.8nm,0.8s,baz=113,slow=6.2,SNR=10
USRK LR LR 20 54 30.9
comp=Z,292nm,18.6s,baz=240,slow=34
KGM Kluang 63.76 278 P **P** **20 28 47.9 +1.2**
FX1 Attu Island--F 64.61 5 P **P** **20 28 50.4 -1.0**
FX1 Attu Island--F 64.61 5 P **P** **20 28 50.4 -1.0**
comp=Z,31nm,0.7s,baz=266,slow=2.5,SNR=7.9
FX1 LR LR 20 50 20.5
comp=Z,540nm,21.9s,baz=202,slow=30
KTGM Kuala Trenggan 64.78 282 P **P** **20 28 53.5 +0.1**
PETK Petropavlovsk- 64.93 354 P **P** **20 28 52.8 -0.7**
PETK Petropavlovsk- 64.93 354 P **P** **20 28 52.8 -0.7**
PETK Petropavlovsk- 64.93 354 P **P** **20 28 52.8 -0.7**
comp=Z,4.3nm,0.8s,baz=165,slow=12,SNR=4.0
PETK LR LR 20 52 02.7
comp=Z,561nm,21.1s,baz=169,slow=31
WHN Wuhan 65.02 312 P **P** **20 28 54.3 -0.2**
MDJ Mudanjiang 65.04 332 P **P** **20 28 54.1 -0.3**
MDJ pP **pP** **20 29 03.9 -0.8**
MDJ sP **sP** **20 29 07.2 -1.4**
MDJ PP **PP** **20 31 16.0 -1.9**
MDJ S **S** **20 37 33.9 -0.5**
MDJ sS **sS** **20 37 48.5 -2.9**
MDJ ScS **SKSac** **20 38 46.4 -0.4**
MDJ SS **SS** **20 41 46.1 -1.1**
MDJ AMB AMB
comp=Z,7.0nm,1.0s
MDJ AMB AMB
comp=Z,120nm,4.9s
MDJ LR LR
comp=Z,330nm,11.2s
MDJ LR LR
comp=Z,340nm,7.2s
UBPT Khong Chiam 65.66 293 P **P** **20 29 00.0 +1.1**
FRIM Kepong 65.70 279 P **P** **20 29 00.2 +0.9**
VNDA Vanda 65.85 181 P **P** **20 28 58.9 -0.3**
VNDA Vanda 65.85 181 P **P** **20 28 58.9 -0.3**
comp=Z,6.9nm,0.8s,baz=1.5,slow=6.7,SNR=22
VNDA LR LR 20 53 14.7
comp=Z,319nm,21.3s,baz=356,slow=32
CASY Casey 65.87 201 *e*P **P** **20 28 59.2 -0.3**
comp=Z,40nm,0.9s
PPI Padang Panjang 66.05 275 P **P** **20 29 01.9 +0.4**
comp=Z,35nm,0.9s,comp=Z,8μm
SBA Scott Base 66.15 180 *e*P **P** **20 29 01.6 +0.5**
SBA pmax pmax
comp=Z,32nm,0.9s
SBA Scott Base 66.15 180 *e*P **P** **20 29 01.6 +0.5**
comp=Z,32nm,0.9s
CN2 Changchun 66.43 329 *e*P **P** **20 29 02.8 -0.6**
CN2 AMB AMB
comp=Z,10.0nm,0.9s
CN2 AMB AMB
comp=Z,170nm,6.0s
CN2 LR LR
comp=Z,400nm,16.0s
CN2 LR LR
comp=Z,400nm,16.0s
CN2 LR LR
comp=Z,490nm,17.0s
IPM Ipoh 66.59 280 P **P** **20 29 06.3 +1.3**
IPM Ipoh 66.59 280 P **P** **20 29 05.8 +0.8**
comp=Z,48nm,1.4s
IPM Ipoh 66.59 280 *e*P **P** **20 29 05.0 0.0**
comp=Z,60nm,1.1s
PANO Nakornpanom 67.09 294 P **P** **20 29 09.2 +1.1**
comp=Z,429nm,1.0s,comp=Z,11μm
KULM Kulim 67.16 281 P **P** **20 29 09.8 +1.1**
KULM Kulim 67.16 281 P **P** **20 29 09.0 +0.4**
comp=Z,21nm,1.4s,comp=Z,1μm
KULM Kulim 67.16 281 *e*P **P** **20 29 09.1 +0.5**
comp=Z,31nm,1.4s
SKNT Sakolnakorn 67.59 294 P **P** **20 29 11.7 +0.4**
comp=Z,37nm,0.8s
PSI Prapat 68.22 278 P **P** **20 29 15.1 -0.4**
baz=68,SNR=7.2
GYA Guiyang 69.00 304⇑ *i*P **P** **20 29 20.5 +0.4**
GYA pP **pP** **20 29 30.8 +0.4**
GYA PP **PP** **20 31 54.8 +1.9**
GYA S **S** **20 38 21.2 -1.9**
GYA sS **sS** **20 38 37.5 -2.6**
GYA SKS **SKSac** **20 39 14.2 -3.7**
GYA SS **SS** **20 42 47.4 -2.1**
GYA AMB AMB
comp=Z,20nm,1.0s
GYA AMB AMB
comp=Z,100nm,5.8s
GYA LR LR
comp=Z,530nm,19.1s
GYA LR LR
comp=Z,430nm,20.1s
GYA LR LR
comp=Z,570nm,19.7s
CHAI Chaiyaphum 69.03 292 P **P** **20 29 21.1 +0.8**
comp=Z,3.5nm,1.0s
NAYO Nakonayok 69.12 290 P **P** **20 29 22.4 +1.5**
comp=Z,37nm,0.8s,comp=Z,8μm
BJI Beijing 69.15 321 P **P** **20 29 20.3 -0.2**
BJI sP **sP** **20 29 35.3 +0.5**
BJI S **S** **20 38 24.9 +0.9**
BJI sS **sS** **20 38 40.2 -0.9**
BJI SS **SS** **20 42 52.7 +1.6**
BJI AMB AMB
comp=Z,13nm,1.3s
BJI AMB AMB
comp=Z,300nm,4.9s
BJI LR LR
comp=Z,390nm,17.9s
BJI LR LR
comp=Z,380nm,16.4s
BJI LR LR
comp=Z,300nm,22.6s
GSI Gunungsitoli 69.18 276 P **P** **20 29 21.4 0.0**
comp=Z,41nm,1.0s
PHET Kaeng Krachan 70.25 288 P **P** **20 29 27.6 -0.3**
comp=Z,39nm,1.1s
XAN Xi'an 70.75 312 P **P** **20 29 30.7 +0.1**
XAN pP **pP** **20 29 40.8 -0.2**
XAN sP **sP** **20 29 45.8 +0.9**
XAN S **S** **20 38 44.1 +0.9**
XAN SS **SS** **20 43 20.0 +3.9**
XAN AMB AMB
comp=Z,7.0nm,0.8s
XAN AMB AMB
comp=Z,35nm,7.2s
XAN LR LR
comp=Z,220nm,18.4s
XAN LR LR
comp=Z,120nm,27.6s
NANT Nan 71.15 295 P **P** **20 29 34.1 +0.8**
comp=Z,37nm,1.2s
KMI Kunming 71.68 301 P **P** **20 29 38.3 +1.6**
KMI pP **pP** **20 29 47.3 +0.2**
KMI sP **sP** **20 29 51.2 +0.3**
KMI S **S** **20 38 53.4 -1.3**
KMI AMB AMB
comp=Z,31nm,1.3s
KMI AMB AMB
comp=Z,170nm,4.1s
KMI LR LR
comp=Z,230nm,14.8s
KMI LR LR
comp=Z,220nm,18.7s
KMI LR LR
comp=Z,400nm,24.6s
PAYA Payao 72.08 295 P **P** **20 29 40.2 +1.3**
comp=Z,5.3nm,1.3s
HHC Hu-ho-hao-te 72.49 320 *e*P **P** **20 29 43.3 +2.2**
HHC pP **pP** **20 29 54.2 +2.7**
HHC sP **sP** **20 29 57.8 +2.5**
HHC PP **PP** **20 32 26.4 +3.7**
HHC S **S** **20 39 03.6 +0.4**
HHC sS **sS** **20 39 20.7 +0.3**
HHC SKS **SKSac** **20 39 40.9 -2.7**
HHC SS **SS** **20 43 43.5 +0.8**
HHC AMB AMB
comp=Z,35nm,1.1s
HHC AMB AMB
comp=Z,310nm,6.1s
HHC LR LR
comp=Z,730nm,19.0s
HHC LR LR
comp=Z,730nm,19.0s
HHC LR LR
comp=Z,990nm,17.8s
CM31 Chiang Mai Arr 72.61 294 *e*P **P** **20 29 43.2 +1.1**
comp=Z,7.4nm,1.0s
CHTO Chiang Mai 72.72 294 *e*P **P** **20 29 42.1 -0.6**
CHTO pmax pmax
comp=Z,113nm,1.4s
CHTO Chiang Mai 72.72 294 P **P** **20 29 43.2 +0.4**
comp=Z,65nm,1.6s
CHTO Chiang Mai 72.72 294 *e*P **P** **20 29 42.1 -0.6**
comp=Z,113nm,1.4s
CHTO Chiang Mai 72.72 294 P **P** **20 29 43.5 +0.7**
comp=Z,67nm,1.4s
CD2 Chengdu 73.20 307 P **P** **20 29 46.3 +0.9**
CD2 pP **pP** **20 29 57.1 +1.3**
CD2 sP **sP** **20 30 01.3 +1.6**
CD2 PP **PP** **20 32 31.6 +2.7**
CD2 S **S** **20 39 10.6 -0.9**
CD2 sS **sS** **20 39 28.5 -0.2**
CD2 SS **SS** **20 43 54.8 +1.0**
CD2 AMB AMB
comp=Z,50nm,0.9s
CD2 AMB AMB
comp=Z,220nm,6.5s
CD2 LR LR
comp=Z,280nm,8.9s
CD2 LR LR
comp=Z,320nm,9.5s
BTO Baotou 73.35 319 *e*P **P** **20 29 45.4 -0.7**
LZH Lanzhou 75.38 312⇑ P **P** **20 29 59.5 +1.3**
LZH pP **pP** **20 30 10.0 +1.4**
LZH sP **sP** **20 30 14.6 +2.1**
LZH PP **PP** **20 32 51.0 +3.5**
LZH S **S** **20 39 35.6 -0.5**
LZH sS **sS** **20 39 53.5 +0.2**
LZH SS **SS** **20 44 31.2 +4.1**
LZH AMB AMB
comp=Z,39nm,1.0s
LZH AMB AMB
comp=Z,250nm,5.7s
LZH LR LR
comp=Z,1μm,17.4s
LZH LR LR
comp=Z,720nm,15.2s
LZH LR LR
comp=Z,1μm,19.3s
CIT Chita 77.85 330 *e*P **P** **20 30 11.4 -0.2**
CIT *e* 20 30 22.1
CIT pmax pmax
comp=Z,41nm,1.6s
QSPA South Pole Qui 78.31 180 *e*P **P** **20 30 13.4 -0.7**
comp=Z,59nm,1.1s
YAK Yakutsk 78.79 343 *e*P P 20 30 12.7 -3.7
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=Z,14nm,1.1s
SONM Songino Array 79.34 324 P **P** **20 30 20.0 0.0**
SONM Songino Array 79.34 324 P **P** **20 30 20.0 0.0**
comp=Z,4.9nm,0.8s,baz=141,slow=5.8,SNR=23
SONM LR LR 21 05 21.7
comp=Z,277nm,19.9s,baz=114,slow=36
GTA Gaotai 79.69 314⇑ P **P** **20 30 23.3 +1.2**
GTA pP **pP** **20 30 33.7 +1.1**
GTA sP **sP** **20 30 37.5 +1.0**
GTA S **S** **20 40 25.2 +2.7**
GTA SKS **SKSac** **20 40 34.1 -2.7**
GTA sS **sS** **20 40 41.7 +1.8**
GTA AMB AMB
comp=Z,26nm,1.0s
GTA AMB AMB
comp=Z,93nm,6.2s
GTA LR LR
comp=Z,340nm,17.6s
GTA LR LR
comp=Z,280nm,17.6s
GTA LR LR
comp=Z,280nm,19.0s
RPN Rapa Nui 80.06 116 P **P** **20 30 23.2 -1.1**
RPN Rapa Nui 80.06 116 P **P** **20 30 23.2 -1.1**
comp=Z,0.7nm,0.3s,baz=225,slow=1.4
SHL Shillong 81.05 298 *e*P **P** **20 30 32.0 +2.2**
DIV Divide 81.91 21 *e*P **P** **20 30 33.2 -0.2**
comp=Z,22nm,0.9s
ZAK Zakamensk 82.38 325 *e*P **P** **20 30 35.2 -0.9**
ZAK *e* 20 33 44.8
ZAK pmax pmax
comp=Z,7.0nm,0.9s
MCK McKinley 82.67 19 *e*P **P** **20 30 37.7 +0.4**
MCK pmax pmax
comp=Z,16nm,1.1s
MCK McKinley 82.67 19 *e*P **P** **20 30 37.6 +0.4**
comp=Z,16nm,1.1s
IRK Irkutsk 82.74 327 *e*P **P** **20 30 36.7 -1.2**
IRK pmax pmax
comp=Z,32nm,2.2s
TLY Talaya 82.80 326 *e*P **P** **20 30 37.9 -0.3**
TLY pmax pmax
comp=Z,12nm,1.1s
TLY MLR MLR
comp=Z,221nm,18.0s
LSA Lhasa 82.92 302 P **P** **20 30 37.5 -2.4**
COLA College 83.82 18 *e*P **P** **20 30 41.3 -1.8**
COLA pmax pmax
comp=Z,63nm,0.8s
COLA College 83.82 18 *e*P **P** **20 30 41.3 -1.8**
comp=Z,63nm,0.8s
MENT Mentasta 83.84 21 *e*P **P** **20 30 44.9 +1.6**
PKM Peak Mountain 83.98 53 P **P** **20 30 46.3 +1.4**
baz=84
ILAR Eielson Array 84.04 18 P **P** **20 30 42.6 -1.6**
ILAR Eielson Array 84.04 18 P **P** **20 30 42.6 -1.6**
comp=Z,3.6nm,0.7s,baz=265,slow=5.0,SNR=27
ILAR LR LR 21 09 02.5
comp=Z,568nm,18.2s,baz=84,slow=36
YBH Yreka Blue Hor 84.16 45 *e*P **P** **20 30 47.4 +1.9**
comp=Z,13nm,1.1s
YBH Yreka Blue Hor 84.16 45 P **P** **20 30 47.5 +2.0**
comp=Z,7.4nm,0.9s,baz=301,slow=2.7,SNR=10
MAW Mawson 84.22 202 P **P** **20 30 43.4 -1.8**
MAW Mawson 84.22 202 P **P** **20 30 45.5 +0.2**
baz=84,SNR=7.4
MAW Mawson 84.22 202 P **P** **20 30 43.4 -1.8**
comp=Z,5.5nm,0.9s,baz=121,slow=7.3,SNR=9.3
MAW LR LR 21 01 60.0
comp=Z,533nm,19.6s,baz=100,slow=31
MOY Mondy 84.26 325 *e*P **P** **20 30 46.0 +0.2**
CMB Columbia Colle 84.56 50 *e*P **P** **20 30 48.5 +0.9**
CMB pmax pmax
comp=Z,4.0nm,0.8s
CMB Columbia Colle 84.56 50 *e*P **P** **20 30 48.5 +0.9**
comp=Z,4.5nm,0.8s
TAPN Taplejung 85.14 299 *e*P **P** **20 30 51.3 +0.2**
BEKR Beckworth 85.19 48 *e*P **P** **20 30 52.3 +1.5**
comp=Z,4.2nm,1.0s
ISA Isabella 85.26 52 *e*P **P** **20 30 52.7 +1.5**
ISA pmax pmax
comp=Z,1.0nm,0.6s
ISA Isabella 85.26 52 *e*P **P** **20 30 52.6 +1.5**
comp=Z,1.5nm,0.6s
ISA Isabella 85.26 52 P **P** **20 30 52.0 +0.8**
baz=85
ODAN Odare 85.29 299 *e*P **P** **20 30 52.1 +0.4**
comp=Z,42nm,0.8s
EDW2 Edwards Air Fo 85.40 53 P **P** **20 30 52.4 +0.5**
baz=86
BFSC Mount Baldy Ra 85.47 54 P **P** **20 30 53.1 +0.7**
baz=86
CWC Cottonwood Cre 85.80 52 P **P** **20 30 55.0 +1.0**
baz=86
LRMC Laurel Mountai 85.81 53 P **P** **20 30 55.1 +1.1**
baz=86
EGAK Eagle 85.89 20 *e*P **P** **20 30 52.0 -1.5**
comp=Z,13nm,0.7s
MOD Modoc 85.91 46 *e*P **P** **20 30 54.9 +0.6**
comp=Z,14nm,0.6s
RAMN Ramite 85.99 298 *e*P **P** **20 30 55.3 +0.1**
DAWY Dawson 86.06 21 *e*P **P** **20 30 53.1 -1.3**
MONP Monument Peak 86.07 55 P **P** **20 30 56.5 +1.1**
baz=86
MPMC Manual Prospec 86.14 52 P **P** **20 30 57.2 +1.5**
baz=86
NVAR Mina Array Bea 86.24 50 P **P** **20 30 54.9 -1.3**
NVAR Mina Array Bea 86.24 50 P **P** **20 30 54.9 -1.3**
comp=Z,3.4nm,0.8s,baz=234,slow=8.3,SNR=22
NVAR LR LR 21 01 55.7
comp=Z,2μm,20.4s,baz=105,slow=30
PFO Pinyon Flat Ob 86.24 55 P **P** **20 30 57.7 +1.5**
baz=86
DVTC Desert V Tower 86.26 56 P **P** **20 30 57.9 +1.7**
baz=86
NV11 Mina Array Sit 86.35 50 *e*P **P** **20 30 58.1 +1.5**
GSC Goldstone 86.45 53 *e*P **P** **20 30 58.7 +1.5**
GSC pmax pmax
comp=Z,9.0nm,1.1s
GSC Goldstone 86.45 53 *e*P **P** **20 30 58.7 +1.5**
comp=Z,8.9nm,1.1s
GSC Goldstone 86.45 53 P **P** **20 30 58.9 +1.7**
baz=87
JIRN Jiri 86.53 299 *e*P **P** **20 30 58.1 +0.1**
comp=Z,43nm,1.1s
SWSC Sam W. Stewart 86.59 56 P **P** **20 30 59.4 +1.7**
baz=87
HEC Hector,Ludlow 86.69 54 P **P** **20 30 59.9 +1.6**
baz=87
BELC Belle Mtn. Jos 86.72 54 P **P** **20 31 00.2 +1.6**
baz=87
FURC Furnace Creek, 86.75 52 P **P** **20 31 00.3 +1.9**
baz=87
DLBC Dease Lake 86.85 28 P **P** **20 31 01.2 +2.7**
DLBC Dease Lake 86.85 28 P **P** **20 31 01.2 +2.7**
comp=Z,1.7nm,0.7s,baz=300,slow=12,SNR=3.6
GUN Gumba 86.86 299 *e*P **P** **20 30 59.6 0.0**
comp=Z,40nm,1.0s
SHOC Shoshone 87.03 53 P **P** **20 31 01.7 +1.8**
baz=87
BC3 Big Chuckawall 87.06 55 P **P** **20 31 01.9 +1.8**
baz=87
PKI Pulchoki 87.18 299 *e*P **P** **20 31 01.1 0.0**
comp=Z,72nm,1.2s
GMRC Granite Mounta 87.21 54 P **P** **20 31 02.5 +1.6**
baz=87
WVOR Wild Horse Val 87.25 46 *e*P **P** **20 31 00.2 -0.7**
WVOR pmax pmax
comp=Z,2.0nm,0.6s
WVOR Wild Horse Val 87.25 46 *e*P **P** **20 31 00.2 -0.7**
comp=Z,2.1nm,0.6s
KKN Kakani 87.34 299 *e*P **P** **20 31 01.8 0.0**
comp=Z,37nm,1.1s
GLA Glamis 87.40 56 P **P** **20 31 03.6 +1.8**
baz=88
IRM Iron Mountain 87.44 55 P **P** **20 31 03.8 +1.9**
baz=88
DMN Daman 87.45 299 *e*P **P** **20 31 02.5 +0.2**
comp=Z,86nm,1.1s
GKN Gorkha 87.95 299 *e*P **P** **20 31 04.1 -0.5**
comp=Z,55nm,1.0s
SHPR Sheep Range 88.07 52 *e*P **P** **20 31 06.6 +1.6**
comp=Z,10nm,1.2s
HVS Khovu-Aksy 88.22 323 *c i*P **P** **20 31 04.8 -0.5**
HVS pmax pmax
comp=Z,48nm,1.2s
R11A Troy Canyon, C 88.26 50 P **P** **20 31 07.8 +1.9**
baz=88
PDMCI Parker Dam,Lak 88.28 55 P **P** **20 31 07.4 +1.5**
baz=88
W13A Hualapai Mount 88.70 54 P **P** **20 31 09.3 +1.2**
baz=89
214A Organ Pipe Nat 88.76 57 P **P** **20 31 09.7 +1.5**
baz=89
KOLN Koldanda 88.78 299 *e*P **P** **20 31 07.8 -0.8**
comp=Z,24nm,0.9s
DANN Dangsing 88.78 299 *e*P **P** **20 31 07.9 -0.8**
comp=Z,48nm,0.9s
Z14A Wintersburg 89.00 56 P **P** **20 31 10.8 +1.6**
baz=89
WMQ Urumqi 89.73 315 P **P** **20 31 12.0 -0.6**
WMQ pP **pP** **20 31 22.6 -0.6**
WMQ sP **sP** **20 31 26.5 -0.5**
WMQ PP **PP** **20 34 46.3 +1.1**
WMQ SKS **SKSac** **20 41 37.7 -3.1**
WMQ S **SKKSac** **20 41 58.5 +4.8**
WMQ SS **SS** **20 47 58.5 -1.2**
WMQ AMB AMB
comp=Z,14nm,1.0s
WMQ AMB AMB
comp=Z,200nm,5.0s
WMQ LR LR
comp=Z,180nm,19.0s
WMQ LR LR
comp=Z,140nm,22.0s
WMQ LR LR
comp=Z,240nm,22.0s
NEW Newport 90.06 41 *e*P **P** **20 31 13.3 -0.6**
comp=Z,5.5nm,0.7s
NEW Newport 90.06 41 P **P** **20 31 14.6 +0.7**
comp=Z,4.6nm,0.8s,baz=234,slow=6.0,SNR=5.0
U15A North Rim 90.29 53 P **P** **20 31 17.1 +1.5**
baz=90
X16A Lo Mia Camp, P 90.47 55 P **P** **20 31 18.3 +1.9**
baz=91
HLID Hailey 90.54 46 P **P** **20 31 18.2 +1.7**
baz=91
WUAZ Wupatki 90.79 54 P **P** **20 31 19.6 +1.8**
baz=91
DUG Dugway 90.82 49 P **P** **20 31 20.0 +2.2**
baz=91
SYO Syowa Base 91.24 197⇑ *e*P **P** **20 31 17.0 -2.0**
SYO Syowa Base 91.24 197‖ *e*PcP **P** **20 31 18.8 -0.2**
BSMT Bassoo Peak 91.45 41 *e*P **P** **20 31 20.4 -0.2**
319A Douglas 91.55 58 P **P** **20 31 23.8 +2.4**
baz=92
X18A Snowflake 91.70 55 P **P** **20 31 24.1 +2.0**
baz=92
W18A Petrified Fore 92.00 55 P **P** **20 31 25.6 +2.1**
baz=92
320A Kipp Ranch, An 92.17 59 P **P** **20 31 26.4 +2.1**
baz=92
DLMT Dillon 92.26 44 *e*P **P** **20 31 26.2 +1.8**
comp=Z,3.3nm,0.7s
WALA Waterton Lakes 92.33 40 *e*P **P** **20 31 25.1 +0.6**
Z20A Nine Sixteen R 92.49 57 P **P** **20 31 27.6 +1.8**
baz=93
121A Cookes Peak, D 93.04 58 P **P** **20 31 30.1 +1.8**
baz=93
Z22A Elephant Butte 93.86 57 P **P** **20 31 33.0 +1.0**
baz=94
U21A Nageezi 93.93 54 P **P** **20 31 33.6 +1.2**
baz=94
S21A Coal Bank Pass 94.07 53 P **P** **20 31 34.7 +1.6**
baz=94
MK31 Makanchi Array 94.17 317 *e*P **P** **20 31 32.3 -0.7**
MK31 Makanchi Array 94.17 317 *e*P **P** **20 31 32.3 -0.7**
MKAR Makanchi Array 94.17 317 P **P** **20 31 32.8 -0.2**
MKAR Makanchi Array 94.17 317 P **P** **20 31 32.8 -0.2**
MKAR Makanchi Array 94.17 317 P **P** **20 31 32.8 -0.2**
comp=Z,12nm,0.8s,baz=94,slow=6.4,SNR=75
ZAA0 Zalesovo Array 94.23 324 *e*P **P** **20 31 31.1 -1.9**
ZALV Zalesovo Beam 94.23 324 P **P** **20 31 31.6 -1.4**
ZALV Zalesovo Beam 94.23 324 P **P** **20 31 31.6 -1.4**
ZALV Zalesovo Beam 94.23 324 P **P** **20 31 31.6 -1.4**
comp=Z,6.3nm,0.8s,baz=109,slow=4.4,SNR=21
ZALV LR LR 21 17 08.2
comp=Z,214nm,18.1s,baz=69,slow=38
ANMO Albuquerque 94.60 55 P **P** **20 31 36.5 +1.0**
NVS Novosibirsk 95.34 325 *e*P **P** **20 31 35.5 -2.5**
NVS *e* 20 42 12.6
NVS pmax pmax
comp=Z,32nm,2.1s
NVS pmax pmax
comp=E,19nm,2.2s
MAIT Maitri 95.87 188 *e*P **P** **20 31 37.1 -3.2**
TXAR Lajitas Array 95.91 61 P **P** **20 31 42.1 +0.6**
TXAR Lajitas Array 95.91 61 P **P** **20 31 42.1 +0.6**
comp=E,0.7nm,0.7s,baz=231,slow=5.3,SNR=7.2
TXAR LR LR 21 07 32.8
comp=E,944nm,19.5s,baz=335,slow=31
SNAA Sanae 96.49 184 *e*P **P** **20 31 41.7 -1.5**
SNAA Sanae 96.49 184 *e*P **P** **20 31 41.1 -2.1**
comp=E,5.3nm,0.9s
KURK Kurchatov 97.30 320 *i* P Pdif 20 31 49.2 +2.0
KURK pmax pmax
comp=Z,4.0nm,1.3s
KURK MLR MLR
comp=Z,160nm,17.0s
KURK Kurchatov 97.30 320 *e*P P 20 31 43.6 -3.5
KURK *e*P Pdif 20 31 48.0 +0.9

KSH	**Kashi**	**97.36**	**309**	P	Pdif	20 31 49.3	+1.4	
KSH				pP	pP	20 32 02.2	+3.7	
KSH				sP	sP	20 32 06.6	+4.3	
KSH				PP	PP	20 35 51.2	+6.1	
KSH				SKS	**SKSac**	**20 42 26.4**	**+3.4**	
KSH				S	**S**	**20 43 08.9**	**-1.1**	
KSH				sS	sS	20 43 27.5	-0.3	
KSH				AMB	AMB			
	comp=Z,3.0nm,0.8s							
KSH				AMB	AMB			
	comp=Z,68nm,3.9s							
KSH				LR	LR			
	comp=Z,170nm,5.0s							
KSH				LR	LR			
	comp=Z,150nm,5.5s							
KSH				LR	LR			
	comp=Z,160nm,4.8s							
VNA2	**Neumayer--Watz**	**97.45**	**182**	*e*P	**P**	**20 31 46.3**	**-1.2**	
ARCES	**ARCESS Array B**	**117.02**	**345**	PKP	**PKPdf**	**20 36 57.1**	**-1.2**	
ARCES	**ARCESS Array B**	**117.02**	**345**	PKP	**PKPdf**	**20 36 57.1**	**-1.2**	
	comp=Z,4.8nm,0.9s,baz=356,slow=3.6,SNR=8.6							
LPAZ	**La Paz**	**119.66**	**116**	PKP	**PKPdf**	**20 37 05.0**	**-0.7**	
LPAZ	**La Paz**	**119.66**	**116**	PKP	**PKPdf**	**20 37 05.0**	**-0.7**	
	comp=Z,0.7nm,0.6s,baz=284,slow=3.0,SNR=2.0							
OBN	**Obninsk**	**121.49**	**329**	*e*PKIKP	**PKPdf**	**20 37 11.6**	**+4.3**	
OBN				pmax	pmax			
	comp=Z,6.0nm,1.0s							
FINES	**FINESS Array B**	**122.47**	**338**	PKP	**PKPdf**	**20 37 07.2**	**-1.8**	
FINES	**FINESS Array B**	**122.47**	**338**	PKP	**PKPdf**	**20 37 07.2**	**-1.8**	
	comp=Z,2.6nm,0.9s,baz=20,slow=6.1,SNR=4.5							
BOSA	**Boshof**	**124.82**	**223**	PKP	**PKPdf**	**20 37 14.7**	**-0.1**	
BOSA	**Boshof**	**124.82**	**223**	PKP	**PKPdf**	**20 37 14.7**	**-0.1**	
	comp=Z,8.2nm,0.8s,baz=156,slow=3.0,SNR=20							
NB2	**NORSAR Subarra**	**127.39**	**345**	PKPdf	**PKPdf**	**20 37 17.8**	**-0.7**	
	comp=Z,17nm,2.0s,baz=31,slow=1.9							
NB2	**NORSAR Subarra**	**127.39**	**345**	PKPdf	**PKPdf**	**20 37 17.8**	**-0.7**	
	baz=31,slow=1.9							
NOA	**NORSAR Array B**	**127.39**	**345**	PKP	**PKPdf**	**20 37 17.4**	**-1.1**	
NOA	**NORSAR Array B**	**127.39**	**345**	PKP	**PKPdf**	**20 37 17.4**	**-1.1**	
	comp=Z,1.3nm,0.8s,baz=33,slow=1.9,SNR=5.5							
KMBO	**Kilima Mbogo**	**127.53**	**259**	PKP	**PKPdf**	**20 37 20.5**	**0.0**	
KMBO	**Kilima Mbogo**	**127.53**	**259**	PKP	**PKPdf**	**20 37 20.5**	**0.0**	
	comp=Z,0.7nm,0.3s,baz=38,slow=9.6,SNR=6.8							
AKASG	**Malin Array Be**	**127.55**	**327**	PKIKP	**PKPdf**	**20 37 18.0**	**-1.0**	
AKASG	**Malin Array Be**	**127.55**	**327**	PKP	**PKPdf**	**20 37 18.0**	**-1.0**	
AKASG	**Malin Array Be**	**127.55**	**327**	PKP	**PKPdf**	**20 37 18.0**	**-1.0**	
	comp=Z,0.3nm,0.4s,baz=19,slow=1.9,SNR=3.5							
BRTR	**Keskin Array B**	**129.59**	**312**	PKPpre	PKPpre	20 37 11.5		
BRTR				PKP	**PKPdf**	**20 37 23.1**	**-0.5**	
BRTR				SKP		20 40 58.0		
BRTR	**Keskin Array B**	**129.59**	**312**	PKhKP	PKPpre	20 37 11.5		
	comp=Z,0.3nm,0.8s,baz=132,slow=2.1,SNR=2.5							
BRTR				PKP	**PKPdf**	**20 37 23.1**	**-0.5**	
	comp=Z,0.6nm,0.6s,baz=187,slow=3.2,SNR=5.0							
BRTR				SKP		20 40 58.0		
	comp=Z,2.4nm,1.1s,baz=63,slow=0.3,SNR=5.9							
UZH	**Uzhgorod**	**132.42**	**328**	*e*PKIKP	**PKPdf**	**20 37 31.0**	**+2.6**	
STHS	**Stebnicka Huta**	**132.46**	**329**	*e*PKP	**PKPdf**	**20 37 30.8**	**+2.3**	
CLL	**Collm**	**134.80**	**336**	*e*PKIKP	PKPdf	20 37 44.0	+11	
CLL				pmax	pmax			
	comp=Z,4.0nm,1.6s							
CLL	**Collm**	**134.80**	**336**	*e*PKPdf	**PKPdf**	**20 37 33.0**	**+0.2**	
	comp=Z,17nm,1.6s							
CLL				*ep*PKiKP	PKPdf	20 37 44.0	+11	
CLL				*e*SKPdc	**SKPdc**	**20 41 01.0**	**+0.3**	
CLL				*e*PSKS		20 50 18.0		
CLL				Lm	MLR	21 36 00.0		
	comp=Z,300nm,21.7s							
GERES	**GERESS Array B**	**136.40**	**334**	PKPpre	PKPpre	20 37 29.8		
GERES				PKP	**PKPdf**	**20 37 35.8**	**-0.1**	
GERES				SKPbc	**SKPbc**	**20 41 08.7**	**+2.7**	
GERES	**GERESS Array B**	**136.40**	**334**	PKhKP	PKPpre	20 37 29.8		
	comp=Z,0.2nm,0.5s,baz=330,slow=5.0,SNR=3.2							
GERES				PKP	**PKPdf**	**20 37 35.8**	**-0.1**	
	comp=Z,0.8nm,0.8s,baz=48,slow=2.0,SNR=7.7							
GERES				SKPbc	**SKPbc**	**20 41 08.7**	**+2.7**	
	comp=Z,1.7nm,0.9s,baz=46,slow=2.8,SNR=3.8							
VSL	**Villasalto**	**145.42**	**327**	*e*PKPdf	**PKPdf**	**20 37 51.5**	**-0.9**	
KEST	**Kesra**	**148.09**	**322**	*e*PKPbc	**PKPbc**	**20 37 59.8**	**-0.5**	
KEST	**Kesra**	**148.09**	**322**	PKPbc	**PKPbc**	**20 38 00.1**	**-0.1**	
	comp=Z,3.9nm,0.7s,baz=302,slow=0.5,SNR=24							
CMAH	**Djebel Manchou**	**148.57**	**326**	P	**PKPbc**	**20 38 01.0**	**-0.5**	
ABSA	**Djebel Ababsia**	**148.79**	**325**	P	**PKPbc**	**20 38 01.5**	**-0.6**	
CKFL	**Kef-Lekhel**	**149.11**	**326**	P	**PKPbc**	**20 38 02.5**	**-0.4**	
CASM	**Ain Smara**	**149.34**	**326**	P	**PKPbc**	**20 38 03.0**	**-0.4**	
DFRA	**Djebel Bou Aff**	**149.46**	**327**	P	**PKPbc**	**20 38 04.3**	**+0.5**	
CTEI	**Djebel Teioual**	**149.53**	**326**	P	**PKPbc**	**20 38 04.7**	**+0.7**	
POLO	**Lamas de Olo**	**149.94**	**351**	*e*PKPbc	**PKPbc**	**20 38 04.5**	**-0.3**	
POLO	**Lamas de Olo**	**149.94**	**351**	*e*PKPab	**PKPab**	**20 38 09.0**	**-1.3**	
SET	**Setif**	**149.97**	**328**	P	**PKPbc**	**20 38 05.0**	**0.0**	
MVO	**Moncorvo**	**150.01**	**349**	*e*PKPbc	**PKPbc**	**20 38 03.9**	**-1.0**	
MVO	**Moncorvo**	**150.01**	**349**	*e*PKPab	**PKPab**	**20 38 08.7**	**-1.9**	
PVRL	**Vila Real**	**150.02**	**351**	*e*PKPbc	**PKPbc**	**20 38 04.7**	**-0.2**	
PVRL	**Vila Real**	**150.02**	**351**	*e*PKPab	**PKPab**	**20 38 09.4**	**-1.2**	
PVIS	**Viseu**	**150.60**	**351**	*e*PKPbc	**PKPbc**	**20 38 06.4**	**+0.1**	
ESDC	**Sonseca Array**	**150.75**	**344**	PKPbc	**PKPbc**	**20 38 05.1**	**-1.6**	
ESDC	**Sonseca Array**	**150.75**	**344**	PKPbc	**PKPbc**	**20 38 05.1**	**-1.6**	
	comp=Z,1.5nm,0.7s,baz=6.5,slow=3.3,SNR=11							
MTE	**Manteigas**	**150.85**	**350**	*e*PKPbc	**PKPbc**	**20 38 06.6**	**-0.3**	
PAB	**San Pablo**	**150.97**	**345**	*e*PKIKP	**PKPbc**	**20 38 06.9**	**-0.4**	
PAB	**San Pablo**	**150.97**	**345**	*e*PKPbc	**PKPbc**	**20 38 06.8**	**-0.4**	
PCAS	**Casmilo, Conde**	**151.34**	**351**	*e*PKPbc	**PKPbc**	**20 38 05.7**	**-2.3**	
PCBR	**Castelo Branco**	**151.38**	**349**	*e*PKPbc	**PKPbc**	**20 38 07.7**	**-0.4**	
PTOM	**Tomar**	**151.75**	**351**	*e*PKPbc	**PKPbc**	**20 38 08.2**	**-0.8**	
PMRV	**Marv??o**	**151.76**	**349**	*e*PKPbc	**PKPbc**	**20 38 08.4**	**-0.6**	
PMTG	**Montargil**	**152.26**	**350**	*e*PKPbc	**PKPbc**	**20 38 09.5**	**-0.6**	
TOAG	**Torodi Ar. Sit**	**164.61**	**277**	*e*PKPdf	**PKPdf**	**20 38 17.5**	**-1.4**	
TORD	**Torodi Ar. Bea**	**164.61**	**277**	PKP	**PKPdf**	**20 38 18.4**	**-0.4**	
TORD	**Torodi Ar. Bea**	**164.61**	**277**	PKP	**PKPdf**	**20 38 18.4**	**-0.4**	
	comp=Z,1.7nm,0.9s,baz=1.5,slow=1.7,SNR=9.5							
DBIC	**Dimbokro**	**169.70**	**242**	PKPab	**PKPab**	**20 39 35.0**	**-1.6**	
DBIC	**Dimbokro**	**169.70**	**242**	PKPab	**PKPab**	**20 39 35.0**	**-1.6**	
	comp=Z,8.1nm,0.9s,baz=88,slow=7.2,SNR=5.4							

*IDC **09** 20:23:49.2±1.7, 12.°90S×166.°17E, h0km, mb4.0/7, mb1 4.1/8, mb1mx4.0/17, mbtmp4.0/8, ML5.2/1, Error ellipse: s-maj=53.3km s-min=26.7km az=131.0*
*ISCJB **09** 20:23:51.8±0.8, 12.°84S±0.°10×165.°9E±0.°1, h20km, mb3.9/8, Error ellipse: s-maj=18.5km s-min=10.0km az=138.9*
*NEIC **09** 20:23:54.5±0.8, 13.°01S×166.°03E, h35km, mb4.6/1, Error ellipse: s-maj=20.4km s-min=17.6km az=103.0*

ISC 09 20:23:53.2±0.9, 12.°8S±0.°1×166.°0E±0.°1, h20km, n23, σ1°33/24, mb4.0/8, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.81**	**299**	Pn		**Pn**	**Pn**	**20 25 33.7**	**+1.7**
HNR				Sn		**Sn**	**Sn**	**20 26 48.2**	**-0.8**
HNR	**Honiara**	**6.81**	**299**	Pn		**Pn**	**Pn**	**20 25 33.7**	**+1.7**
	43nm,0.3s,baz=104,slow=17,SNR=12								
HNR				Sn		**Sn**	**Sn**	**20 26 48.2**	**-0.8**
	5.4nm,0.3s,baz=138,slow=15,SNR=1.7								
DZM	**Mont Dzumac**	**9.24**	**177**	Pn		**Pn**	**Pn**	**20 26 07.1**	**+1.6**
DZM	**Mont Dzumac**	**9.24**	**177**	Pn		**Pn**	**Pn**	**20 26 07.1**	**+1.6**
	0.2nm,0.3s,baz=62,slow=19,SNR=2.6								
STKA	**Stephens Creek**	**29.38**	**226**	*e*P		**P**	**P**	**20 29 52.0**	**-3.1**
STKA	**Stephens Creek**	**29.38**	**226**	P		**P**	**P**	**20 29 56.1**	**+0.9**
	1.3nm,0.3s,baz=61,slow=10,SNR=3.0								
WRA	**Warramunga Arr**	**31.16**	**253**	P		**P**	**P**	**20 30 10.5**	**-0.5**
WRA	**Warramunga Arr**	**31.16**	**253**	P		**P**	**P**	**20 30 10.5**	**-0.5**
	1.6nm,1.0s,baz=83,slow=8.9,SNR=2.9								
ASAR	**Alice Springs**	**32.27**	**246**	P		**P**	**P**	**20 30 19.9**	**-0.8**
ASAR	**Alice Springs**	**32.27**	**246**	P		**P**	**P**	**20 30 19.9**	**-0.8**
	1.3nm,0.7s,baz=72,slow=9.0,SNR=11								
QSPA	**South Pole Qui**	**77.23**	**180**	*e*P		**P**	**P**	**20 35 44.5**	**-1.2**
	6.9nm,1.0s								
SONM	**Songino Array**	**80.21**	**324**	P		**P**	**P**	**20 36 04.2**	**+1.8**
SONM	**Songino Array**	**80.21**	**324**	P		**P**	**P**	**20 36 04.2**	**+1.8**
	0.2nm,0.6s,baz=116,slow=6.6,SNR=2.5								
ILAR	**Eielson Array**	**85.08**	**18**	P		**P**	**P**	**20 36 26.5**	**-0.7**
ILAR	**Eielson Array**	**85.08**	**18**	P		**P**	**P**	**20 36 26.5**	**-0.7**
	0.3nm,0.7s,baz=236,slow=6.4,SNR=3.1								
MK31	**Makanchi Array**	**94.95**	**317**	P		**P**	**P**	**20 37 14.6**	**+0.4**
MKAR	**Makanchi Array**	**94.95**	**317**	P		**P**	**P**	**20 37 14.0**	**-0.2**
MKAR	**Makanchi Array**	**94.95**	**317**	P		**P**	**P**	**20 37 14.0**	**-0.2**
	0.5nm,0.7s,baz=96,slow=7.2,SNR=3.6								
ZAA0	**Zalesovo Array**	**95.10**	**324**	P		P		20 37 23.0	+8.3
ZALV	**Zalesovo Beam**	**95.10**	**324**	P		**P**		**20 37 13.4**	**-1.3**
ZALV	**Zalesovo Beam**	**95.10**	**324**	P		**P**		**20 37 13.4**	**-1.3**
	0.4nm,0.4s,baz=90,slow=4.5,SNR=2.2								
KEST	**Kesra**	**148.93**	**321**	PKPbc		**PKPbc**	**PKPbc**	**20 43 40.0**	**-0.2**
	0.8nm,0.7s,baz=339,slow=1.9,SNR=4.0								

*IDC **09** 20:34:51.8±1.1, 12.°28S×166.°06E, h0km, mb4.3/11, mb1 4.4/13, mb1mx4.2/21, mbtmp4.3/13, ML4.3/2, Error ellipse: s-maj=29.3km s-min=21.3km az=104.0*
*ISCJB **09** 20:34:57.0±0.7, 12.°32S±0.°08×165.°81E±0.°09, h40km, mb4.5/18, Error ellipse: s-maj=13.9km s-min=8.8km az=143.6*
*NEIC **09** 20:34:57.4±0.5, 12.°28S×166.°00E, h35km, mb4.8/10, Error ellipse: s-maj=12.5km s-min=9.6km az=74.0*
*AUST **09** 20:36:27.7±0.1, 14.°78S×159.°50E, h412km, Error ellipse: s-maj=4.5km s-min=1.3km az=287.0*

ISC 09 20:34:58.1±0.7, 12.°26S±0.°09×165.°92E±0.°10, h40km, n54, σ1°16/56, mb4.5/17, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.50**	**295**	Pn		**Pn**	**Pn**	**20 36 31.0**	**-0.4**
HNR				Sn		**Sn**	**Sn**	**20 37 42.5**	**-1.9**
HNR	**Honiara**	**6.50**	**295**	Pn		**Pn**	**Pn**	**20 36 31.0**	**-0.4**
	17nm,0.3s,baz=117,slow=2.7,SNR=12								
HNR				Sn		**Sn**	**Sn**	**20 37 42.4**	**-1.9**
	8.1nm,0.3s,baz=143,slow=20,SNR=2.0								
DZM	**Mont Dzumac**	**9.77**	**177**	Pn		**Pn**	**Pn**	**20 37 15.2**	**-1.1**
DZM	**Mont Dzumac**	**9.77**	**177**	Pn		**Pn**	**Pn**	**20 37 15.2**	**-1.1**
	1.1nm,0.3s,baz=99,slow=20,SNR=10								
PMG	**Port Moresby**	**18.64**	**277**	P		**Pn**	**Pn**	**20 39 14.6**	**+1.3**
EIDS	**Eidsvold**	**19.14**	**225**	*e*P		**Pn**	**Pn**	**20 39 19.9**	**+0.7**
	14nm,1.0s								
EIDS	**Eidsvold**	**19.14**	**225**	P		**Pn**	**Pn**	**20 39 21.3**	**+2.1**
	baz=13,SNR=5.0								
CTA	**Charters Tower**	**20.42**	**245**	P		Pn		20 39 33.2	-1.2
CTA	**Charters Tower**	**20.42**	**245**	P		Pn		20 39 33.2	-1.1
	9.3nm,0.8s,baz=72,slow=12,SNR=6.1								
CTAO	**Charters Tower**	**20.42**	**245**	*e*P		**P**	**P**	**20 39 32.4**	**+0.4**
	32nm,1.4s								
RMQ	**Roma**	**21.47**	**226**	P		**P**	**P**	**20 39 45.6**	**+2.3**
	baz=15,SNR=12								
CMSA	**Cobar Meteorol**	**26.75**	**221**	P		**P**	**P**	**20 40 38.2**	**+4.0**
	baz=21,SNR=14								
STKA	**Stephens Creek**	**29.70**	**225**	P		**P**	**P**	**20 41 01.2**	**+0.7**
STKA	**Stephens Creek**	**29.70**	**225**	P		**P**	**P**	**20 41 01.2**	**+0.7**
	2.9nm,0.7s,baz=64,slow=12,SNR=4.0								
WRAB	**Tennant Creek**	**31.24**	**252**	*e*P		**P**	**P**	**20 41 12.7**	**-1.6**
	11nm,1.3s								
WRA	**Warramunga Arr**	**31.25**	**252**	P		**P**	**P**	**20 41 13.6**	**-0.7**
WRA	**Warramunga Arr**	**31.25**	**252**	P		**P**	**P**	**20 41 13.6**	**-0.7**
	5.2nm,0.8s,baz=84,slow=9.0,SNR=27								
AS31	**Alice Springs**	**32.42**	**245**	*e*P		**P**	**P**	**20 41 23.4**	**-1.2**
ASAR	**Alice Springs**	**32.42**	**245**	P		**P**	**P**	**20 41 23.9**	**-0.8**
ASAR	**Alice Springs**	**32.42**	**245**	P		**P**	**P**	**20 41 23.9**	**-0.8**
	6.4nm,0.7s,baz=71,slow=9.5,SNR=68								
KDU	**Kakadu**	**32.65**	**266**	P		**P**	**P**	**20 41 26.0**	**-0.7**
	baz=26,SNR=5.9								
TAU	**Tasmania Unive**	**34.54**	**204**	P		**P**	**P**	**20 41 40.8**	**-1.9**
	42nm,1.4s								
KNRA	**Kununurra**	**36.19**	**260**	P		**P**	**P**	**20 41 57.4**	**+0.1**
	baz=30,SNR=4.8								
FITZ	**Fitzroy Crossi**	**39.25**	**256**	P		**P**	**P**	**20 42 22.9**	**-0.3**
	baz=33,SNR=3.4								
BATI	**Baumata**	**41.47**	**268**	P		**P**	**P**	**20 42 42.5**	**+0.9**
BATI	**Baumata**	**41.47**	**268**	P		**P**	**P**	**20 42 42.5**	**+0.9**
	17nm,0.7s,baz=119,slow=11,SNR=4.2								
MEEK	**Meekatharra**	**46.58**	**245**	P		**P**	**P**	**20 43 23.0**	**+0.5**
	baz=40,SNR=5.1								
USRK	**Ussuriysk Arra**	**64.10**	**333**	P		**P**	**P**	**20 45 28.9**	**+0.7**
	2.5nm,0.9s,baz=148,slow=12,SNR=3.6								
VNDA	**Vanda**	**65.29**	**181**	P		**P**	**P**	**20 45 34.8**	**-0.8**
VNDA	**Vanda**	**65.29**	**181**	P		**P**	**P**	**20 45 34.8**	**-0.8**
	0.3nm,0.6s,baz=344,slow=7.4,SNR=2.2								
SBA	**Scott Base**	**65.60**	**180**	P		**P**	**P**	**20 45 38.5**	**+1.0**
	7.0nm,1.0s								
KULM	**Kulim**	**67.18**	**281**	P		**P**	**P**	**20 45 49.4**	**+0.7**
	16nm,1.1s								
CM31	**Chiang Mai Arr**	**72.75**	**294**	P		**P**	**P**	**20 46 23.6**	**+0.8**
CMAR	**Chiang Mai Arr**	**72.75**	**294**	P		**P**	**P**	**20 46 24.2**	**+1.4**
CMAR	**Chiang Mai Arr**	**72.75**	**294**	P		**P**	**P**	**20 46 24.2**	**+1.4**
	1.4nm,0.8s,baz=117,slow=4.4,SNR=11								
CHTO	**Chiang Mai**	**72.87**	**294**	P		**P**	**P**	**20 46 23.8**	**+0.2**
	40nm,1.7s								
QSPA	**South Pole Qui**	**77.76**	**180**	*e*P		**P**	**P**	**20 46 49.5**	**-1.4**
	12nm,1.2s								
SONM	**Songino Array**	**79.74**	**324**	P		**P**	**P**	**20 47 02.9**	**+0.8**
SONM	**Songino Array**	**79.74**	**324**	P		**P**	**P**	**20 47 02.8**	**+0.8**
	1.5nm,1.1s,baz=146,slow=4.7,SNR=6.7								
MK31	**Makanchi Array**	**94.52**	**317**	*e*P		**P**	**P**	**20 48 14.9**	**+0.5**
MKAR	**Makanchi Array**	**94.52**	**317**	P		**P**	**P**	**20 48 14.7**	**+0.3**
MKAR	**Makanchi Array**	**94.52**	**317**	P		**P**	**P**	**20 48 14.7**	**+0.3**
	0.7nm,0.6s,baz=92,slow=5.4,SNR=8.8								
ZALV	**Zalesovo Beam**	**94.63**	**324**	P		**P**	**P**	**20 48 13.7**	**-1.0**
ZALV	**Zalesovo Beam**	**94.63**	**324**	P		**P**	**P**	**20 48 13.7**	**-1.0**
	0.3nm,0.3s,baz=98,slow=6.1,SNR=5.6								
SNAA	**Sanae**	**95.93**	**184**	P		**P**	**P**	**20 48 21.7**	**+1.2**
	3.8nm,1.2s								
EKS2	**Erkin-Say**	**99.75**	**312**	P		**Pdif**	**P**	**20 48 38.0**	**-0.3**
	6.5nm,1.3s								
ARCES	**ARCESS Array B**	**117.54**	**345**	PKP		**PKPdf**	**PKPdf**	**20 53 38.7**	**-0.5**
ARCES	**ARCESS Array B**	**117.54**	**345**	PKP		**PKPdf**	**PKPdf**	**20 53 38.7**	**-0.5**
	4.1nm,1.0s,baz=59,slow=4.4,SNR=4.2								
KEST	**Kesra**	**148.47**	**322**	PKPbc		**PKPbc**	**PKPbc**	**20 54 41.6**	**+0.5**
KEST	**Kesra**	**148.47**	**322**	PKPbc		**PKPbc**	**PKPbc**	**20 54 41.6**	**+0.5**
	1.0nm,0.9s,baz=269,slow=6.2,SNR=3.9								
ESDC	**Sonseca Array**	**151.26**	**344**	PKPbc		**PKPbc**	**PKPbc**	**20 54 47.3**	**-0.5**
ESDC	**Sonseca Array**	**151.26**	**344**	PKPbc		**PKPbc**	**PKPbc**	**20 54 47.3**	**-0.5**
	0.2nm,0.5s,baz=86,slow=1.7,SNR=3.1								
TORD	**Torodi Ar. Bea**	**164.58**	**275**	PKP		**PKPdf**	**PKPdf**	**20 54 58.2**	**-0.4**
TORD				PKPab		**PKPab**	**PKPab**	**20 55 52.5**	**-1.5**
TORD	**Torodi Ar. Bea**	**164.58**	**275**	PKP		**PKPdf**	**PKPdf**	**20 54 58.2**	**-0.4**
	1.7nm,1.2s,baz=180,slow=0.7,SNR=3.2								
TORD				PKPab		**PKPab**	**PKPab**	**20 55 52.5**	**-1.5**
	2.2nm,1.1s,baz=108,slow=2.5,SNR=7.2								

*IDC **09** 20:35:10.3±1.0, 15.°22S×172.°76W, h0km, mb4.2/7, mb1 4.5/7, mb1mx4.2/19, mbtmp4.2/7, MS4.2/4, Ms1 4.2/4, ms1mx3.7/33, Error ellipse: s-maj=49.9km s-min=17.1km az=137.0*
*NEIC **09** 20:35:11.7±0.6, 15.°35S×172.°67W, h10km, mb4.7/3, Error ellipse: s-maj=27.2km s-min=15.0km az=135.0*
*ISCJB **09** 20:35:13.2±0.6, 15.°3S±0.°1×172.°7W±0.°2, h35km, mb4.2/11, MS4.2/4, Error ellipse: s-maj=26.9km s-min=7.6km az=39.4*

ISC 09 20:35:15.0±0.7, 15.°3S±0.°1×172.°6W±0.°2, h35km, n38, σ1°14/27, mb4.3/11, MS4.1/4, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.57**	**32**	Pn		**Pn**	**Pn**	**20 35 39.5**	**-1.0**
AFI				Sn		**Sn**	**Sn**	**20 35 58.9**	**-0.8**
AFI	**Afiamalu**	**1.57**	**32**	Pn		**Pn**	**Pn**	**20 35 39.5**	**-1.0**
	107nm,0.3s,baz=204,slow=1.6,SNR=57								
AFI				Sn		**Sn**	**Sn**	**20 35 58.9**	**-0.8**
	351nm,0.3s,baz=180,slow=20,SNR=14								
DZM	**Mont Dzumac**	**20.94**	**248**	LR		LR		20 46 19.7	
	comp=Z,516nm,19.8s,baz=210,slow=32								
URZ	**Urewera**	**24.64**	**200**	P		**P**	**P**	**20 40 32.5**	**+0.2**
URZ	**Urewera**	**24.64**	**200**	P		**P**	**P**	**20 40 32.5**	**+0.2**
	6.9nm,0.5s,baz=287,slow=20,SNR=5.2								
H11S2	**WAKE ISLAND Hy**	**39.23**	**328**	T		T		21 25 23.0	
	baz=148,slow=0.7,SNR=21								
H11S3	**WAKE ISLAND Hy**	**39.24**	**328**	T		T		21 25 24.0	
	baz=148,slow=0.7,SNR=14								
H11S1	**WAKE ISLAND Hy**	**39.25**	**328**	T		T		21 25 24.4	
	baz=148,slow=0.7,SNR=7.8								
PMG	**Port Moresby**	**39.67**	**274**	LR		LR		20 56 04.9	
	comp=Z,171nm,20.6s,baz=66,slow=32								
H11N3	**WAKE ISLAND Hy**	**40.16**	**329**	T		T		21 26 30.1	
	baz=148,slow=0.7,SNR=5.0								
H11N1	**WAKE ISLAND Hy**	**40.17**	**329**	T		T		21 26 29.6	
	baz=148,slow=0.7,SNR=6.2								
H11N2	**WAKE ISLAND Hy**	**40.18**	**329**	T		T		21 26 31.0	
	baz=148,slow=0.7,SNR=6.3								
STKA	**Stephens Creek**	**44.75**	**240**	P		**P**	**P**	**20 43 24.2**	**-1.0**
STKA	**Stephens Creek**	**44.75**	**240**	P		**P**	**P**	**20 43 24.2**	**-1.0**
	2.5nm,0.7s,baz=100,slow=14,SNR=3.4								
WRAB	**Tennant Creek**	**50.59**	**257**	*e*P		**P**	**P**	**20 44 12.2**	**+1.4**
	11nm,1.1s								
WRA	**Warramunga Arr**	**50.60**	**257**	P		**P**	**P**	**20 44 10.2**	**-0.7**
WRA	**Warramunga Arr**	**50.60**	**257**	P		**P**	**P**	**20 44 10.2**	**-0.7**
	3.8nm,1.0s,baz=97,slow=7.7,SNR=15								
AS31	**Alice Springs**	**50.86**	**252**	*e*P		**P**	**P**	**20 44 11.5**	**-1.3**
ASAR	**Alice Springs**	**50.86**	**252**	P		**P**	**P**	**20 44 12.1**	**-0.7**
ASAR	**Alice Springs**	**50.86**	**252**	P		**P**	**P**	**20 44 12.1**	**-0.7**
	8.0nm,0.8s,baz=84,slow=8.7,SNR=29								
FITZ	**Fitzroy Crossi**	**58.97**	**258**	LR		LR		21 06 04.0	
	comp=Z,284nm,21.4s,baz=111,slow=32								
DRV	**Dumont d'Urvil**	**59.98**	**200**	R				20 45 00.0	
BATI	**Baumata**	**62.17**	**266**	LR		LR		21 12 02.2	
	comp=Z,361nm,19.2s,baz=237,slow=36								
VNDA	**Vanda**	**63.59**	**186**	P		**P**	**P**	**20 45 40.3**	**-1.5**
	10nm,1.4s								
MBWA	**Marble Bar**	**64.12**	**254**	P		**P**	**P**	**20 45 46.7**	**+0.5**
CASY	**Casey**	**70.85**	**205**	*e*P		**P**	**P**	**20 46 28.1**	**+0.2**
	4.8nm,1.0s								
NVAR	**Mina Array Bea**	**73.73**	**42**	P		**P**	**P**	**20 46 45.1**	**-0.7**
NVAR	**Mina Array Bea**	**73.73**	**42**	P		**P**	**P**	**20 46 45.1**	**-0.7**
	0.4nm,0.4s,baz=249,slow=4.7,SNR=3.5								
TXAR	**Lajitas Array**	**79.92**	**56**	P		**P**	**P**	**20 47 23.1**	**+2.3**
TXAR	**Lajitas Array**	**79.92**	**56**	P		**P**	**P**	**20 47 23.1**	**+2.3**
	2.2nm,1.2s,baz=216,slow=6.2,SNR=5.8								
ILAR	**Eielson Array**	**82.16**	**11**	P		**P**	**P**	**20 47 32.1**	**+0.3**
ILAR	**Eielson Array**	**82.16**	**11**	P		**P**	**P**	**20 47 32.1**	**+0.3**
	0.5nm,0.6s,baz=243,slow=5.5,SNR=6.2								
CMAR	**Chiang Mai Arr**	**93.28**	**288**	P		P		20 48 32.0	+5.3
CMAR	**Chiang Mai Arr**	**93.28**	**288**	P		P		20 48 32.0	+5.3
	1.0nm,1.

PMBI	**Palembang**	**2.86**	**45**	P		**Pn**	**20 56 06.8 +1.9**
	baz=3.4,SNR=3.8						
DBJI	**Dramaga**	**4.30**	**112**	P		**Pn**	**20 56 27.0 +2.3**
RGRI	**Rengat**	**4.59**	**355**	P		**Pn**	**20 56 31.7 +3.1**
PDSI	**Padang**	**4.61**	**331**	P		**Pn**	**20 56 30.6 +1.7**
PPI	**Padang Panjang**	**5.04**	**332**	P		Pn	20 56 40.3 +5.5
PPI	**Padang Panjang**	**5.04**	**332**	P		**Pn**	**20 56 37.1 +2.4**
	baz=5.3,SNR=5.3						
LEM	**Lembang**	**5.21**	**111**	P		Pn	20 56 40.8 +3.6
CISI	**Cisompet, Garu**	**5.68**	**117**	P		**Pn**	**20 56 43.4 -0.2**
CISI	**Cisompet, Garu**	**5.68**	**117**	P		**Pn**	**20 56 43.2 -0.4**
	baz=5.8,SNR=40						
XMI	**Christmas Isla**	**6.20**	**152**	P		Pn	20 56 45.7 -5.1
	baz=6.0,SNR=3.2						
XMIS	**Christmas Isla**	**6.21**	**152**	P		Pn	20 56 45.4 -5.5
	baz=6.0,SNR=10						
UGM	**Wanagama**	**8.28**	**111**	P		**Pn**	**20 57 20.5 +1.2**
	baz=8.4,SNR=3.4						
KULM	**Kulim**	**10.38**	**348**	*e*P		Pn	20 57 51.5 +3.4
	10nm,1.0s						
BATI	**Baumata**	**21.39**	**105**	P		**P**	**21 00 04.1 -1.2**
BATI				S		S	21 03 51.4 -8.8
BATI	**Baumata**	**21.39**	**105**	P		**P**	**21 00 04.1 -1.2**
	3.6nm,0.3s,baz=343,slow=11,SNR=1.7						
BATI				S		S	21 03 51.4 -8.8
	4.6nm,0.3s,baz=270,slow=20,SNR=2.5						
CM31	**Chiang Mai Arr**	**23.56**	**351**	*e*P		**P**	**21 00 26.7 -1.0**
	2.7nm,0.4s						
CMAR	**Chiang Mai Arr**	**23.56**	**351**	P		**P**	**21 00 27.1 -0.6**
CMAR	**Chiang Mai Arr**	**23.56**	**351**	P		**P**	**21 00 27.1 -0.6**
	3.5nm,0.5s,baz=182,slow=8.8,SNR=55						
CHTO	**Chiang Mai**	**23.91**	**351**	*e*P		**P**	**21 00 29.2 -1.7**
	5.5nm,0.5s						
FITZ	**Fitzroy Crossi**	**25.93**	**122**	P		**P**	**21 00 49.2 -0.1**
FITZ	**Fitzroy Crossi**	**25.93**	**122**	P		**P**	**21 00 49.2 -0.1**
	3.6nm,1.0s,baz=311,slow=6.9,SNR=4.6						
KNRA	**Kununurra**	**27.70**	**115**	P		P	21 01 00.2 -5.1
	baz=28,SNR=4.7						
H08S2	**Diego Garcia H**	**30.17**	**263**	T		T	21 33 48.7
	baz=88						
H08S3	**Diego Garcia H**	**30.18**	**263**	T		T	21 33 52.0
	baz=88						
H08S1	**Diego Garcia H**	**30.19**	**263**	T		T	21 33 50.6
	baz=88						
H01W3	**Cape Leeuwin H**	**31.60**	**162**	T		T	21 35 12.7
	baz=340,slow=0.7,SNR=5.3						
H01W2	**Cape Leeuwin H**	**31.61**	**162**	T		T	21 35 08.5
	baz=340,slow=0.7,SNR=4.2						
H01W1	**Cape Leeuwin H**	**31.61**	**162**	T		T	21 35 14.6
	baz=340,slow=0.7,SNR=3.9						
WRA	**Warramunga Arr**	**34.18**	**119**	P		**P**	**21 02 02.7 +0.3**
WRA				PcP		**PcP**	**21 04 38.6 +0.1**
WRA	**Warramunga Arr**	**34.18**	**119**	P		**P**	**21 02 02.7 +0.3**
	0.3nm,0.3s,baz=302,slow=9.7,SNR=21						
WRA				PcP		**PcP**	**21 04 38.7 +0.1**
	0.3nm,0.4s,baz=304,slow=2.1,SNR=3.9						
WRAB	**Tennant Creek**	**34.18**	**119**	*e*P		**P**	**21 02 01.0 -1.4**
	6.8nm,1.2s						
ODAN	**Odare**	**34.94**	**336**	*e*P		**P**	**21 02 09.5 +0.5**
	6.4nm,0.6s						
TAPN	**Taplejung**	**35.24**	**336**	*e*P		**P**	**21 02 12.2 +0.5**
	8.5nm,0.7s						
ASAR	**Alice Springs**	**35.33**	**125**	P		**P**	**21 02 12.6 +0.2**
ASAR				PcP		**PcP**	**21 04 42.7 +0.8**
ASAR	**Alice Springs**	**35.33**	**125**	P		**P**	**21 02 12.6 +0.2**
	0.7nm,0.4s,baz=298,slow=8.0,SNR=15						
ASAR				PcP		**PcP**	**21 04 42.7 +0.8**
	0.5nm,0.5s,baz=306,slow=2.6,SNR=6.4						
JIRN	**Jiri**	**36.14**	**335**	*e*P		**P**	**21 02 20.1 +0.6**
GUN	**Gumba**	**36.49**	**334**	*e*P		**P**	**21 02 23.0 +0.5**
	13nm,0.5s						
DMN	**Daman**	**36.57**	**333**	*e*P		**P**	**21 02 23.4 +0.3**
KKN	**Kakani**	**36.65**	**334**	*e*P		**P**	**21 02 23.9 +0.2**
GKN	**Gorkha**	**37.12**	**333**	*e*P		**P**	**21 02 28.1 +0.5**
KOLN	**Koldanda**	**37.41**	**331**	*e*P		**P**	**21 02 30.9 +0.8**
	12nm,0.8s						
DANN	**Dangsing**	**37.82**	**332**	*e*P		**P**	**21 02 34.2 +0.5**
STKA	**Stephens Creek**	**45.17**	**131**	*e*P		**P**	**21 03 34.4 +0.9**
	1.7nm,1.0s						
STKA				pP		**pP**	**21 03 47.4 0.0**
STKA	**Stephens Creek**	**45.17**	**131**	P		**P**	**21 03 34.8 +1.2**
	baz=45,SNR=8.2						
STKA	**Stephens Creek**	**45.17**	**131**	P		**P**	**21 03 34.5 +0.9**
	3.5nm,0.6s,baz=300,slow=5.1,SNR=9.9						
STKA				pP		**pP**	**21 03 47.4 0.0**
	2.8nm,0.5s,baz=318,slow=6.2,SNR=3.2						
KSAR	**Wonju Array Be**	**48.25**	**27**	P		**P**	**21 03 57.5 0.0**
KSRS	**Korea Array**	**48.28**	**27**	P		**P**	**21 03 57.5 -0.2**
	0.6nm,0.4s,baz=234,slow=6.8,SNR=3.8						
SONM	**Songino Array**	**52.66**	**3**	P		**P**	**21 04 30.8 0.0**
SONM				PcP		**PcP**	**21 05 39.7 -0.4**
SONM	**Songino Array**	**52.66**	**3**	P		**P**	**21 04 30.8 0.0**
	2.0nm,0.7s,baz=185,slow=8.6,SNR=15						
SONM				PcP		**PcP**	**21 05 39.7 -0.4**
	0.4nm,0.4s,baz=185,slow=3.9,SNR=3.3						
TKM2	**Tokmak 2**	**53.62**	**335**	*e*P		**P**	**21 04 37.8 -0.2**
	1.9nm,0.4s						
MK31	**Makanchi Array**	**54.61**	**343**	*e*P		**P**	**21 04 44.4 -0.6**
MKAR	**Makanchi Array**	**54.61**	**343**	P		**P**	**21 04 44.7 -0.3**
MKAR	**Makanchi Array**	**54.61**	**343**	P		**P**	**21 04 44.7 -0.3**
	4.9nm,0.5s,baz=151,slow=8.8,SNR=84						
USRK	**Ussuriysk Arra**	**55.56**	**25**	P		**P**	**21 04 50.2 -1.6**
	1.6nm,0.5s,baz=225,slow=5.4,SNR=4.7						
KURK	**Kurchatov**	**59.21**	**342**	*e*P		**P**	**21 05 16.6 -0.8**
	1.9nm,0.7s						
ASAJ	**Asahikawa**	**60.57**	**32**	P		**P**	**21 05 26.0 -1.0**
ASAJ	**Asahikawa**	**60.57**	**32**	P		**P**	**21 05 26.0 -1.0**
	21nm,1.2s,baz=209,slow=19,SNR=2.8						
ZAA0	**Zalesovo Array**	**60.58**	**348**	*e*P		**P**	**21 05 25.5 -1.2**
ZALV	**Zalesovo Beam**	**60.58**	**348**	P		**P**	**21 05 26.1 -0.6**
ZALV				pP		**pP**	**21 05 40.7 -0.4**
ZALV	**Zalesovo Beam**	**60.58**	**348**	P		**P**	**21 05 26.1 -0.6**
	3.9nm,0.4s,baz=165,slow=5.7,SNR=20						
ZALV				pP		**pP**	**21 05 40.7 -0.4**
	1.2nm,0.5s,baz=182,slow=4.0,SNR=3.4						
ABKAR	**Akbulak array**	**65.53**	**331**	*e*P		**P**	**21 05 59.3 -0.4**
	1.7nm,0.5s						
KBZ	**Khabaz**	**72.31**	**319**	P		**P**	**21 06 41.0 -0.9**
KBZ	**Khabaz**	**72.31**	**319**	P		**P**	**21 06 41.0 -0.9**
	1.9nm,0.7s,baz=142,slow=5.5,SNR=3.8						
BR131	**Keskin Array S**	**77.31**	**312**	*e*P		**P**	**21 07 11.5 +0.4**
	0.9nm,0.6s						
BRTR	**Keskin Array B**	**77.31**	**312**	P		**P**	**21 07 11.4 +0.2**
BRTR				pP		**pP**	**21 07 26.1 0.0**
BRTR	**Keskin Array B**	**77.31**	**312**	P		**P**	**21 07 11.4 +0.2**
	1.5nm,0.7s,baz=141,slow=6.3,SNR=11						
BRTR				pP		**pP**	**21 07 26.1 0.0**
	0.4nm,0.5s,baz=127,slow=6.7,SNR=3.1						
FINES	**FINESS Array B**	**87.98**	**332**	P		**P**	**21 08 06.4 +0.5**
FINES	**FINESS Array B**	**87.98**	**332**	P		**P**	**21 08 06.4 +0.5**
	2.9nm,1.0s,baz=130,slow=7.0,SNR=8.3						
ARCES	**ARCESS Array B**	**90.16**	**340**	P		**P**	**21 08 16.3 +0.3**
ARCES	**ARCESS Array B**	**90.16**	**340**	P		**P**	**21 08 16.3 +0.3**
	2.1nm,0.8s,baz=66,slow=2.9,SNR=4.5						
TXAR	**Lajitas Array**	**145.19**	**43**	PKPbc		**PKPdf**	**21 14 54.4 0.0**
TXAR	**Lajitas Array**	**145.19**	**43**	PKPbc		**PKPdf**	**21 14 54.4 0.0**
	1.2nm,0.6s,baz=212,slow=0.8,SNR=12						

IDC 09 20:55:28.4±9.5, 4.°46S×153.°08E, h164km±63km, mb3.2/2, mb1 3.5/3, mb1mx3.0/17, mbtmp3.4/3, Error ellipse: s-maj=135.8km s-min=56.4km az=117.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.66**	**230**	P	Pn	20 57 17.5	+0.2
	5.3nm,0.3s,baz=37,slow=6.4,SNR=12						
PMG				S	Sn	20 58 43.4	+0.3
	1.2nm,0.3s,baz=338,slow=19,SNR=2.3						
WRA	**Warramunga Arr**	**23.88**	**228**	P	P	21 00 27.8	+0.7
	1.7nm,0.7s,baz=53,slow=9.7,SNR=12						
ASAR	**Alice Springs**	**26.59**	**222**	P	P	21 00 51.0	-0.6
	0.3nm,0.5s,baz=55,slow=8.4,SNR=9.1						
TORD	**Torodi Ar. Bea**	**150.46**	**289**	PKPbc	PKPbc	21 15 01.2	-0.4
	0.3nm,0.7s,baz=57,slow=1.5,SNR=6.1						

IDC 09 21:17:51.8±1.7, 6.°80S×129.°57E, h0km, mb3.6/2, mb1 3.7/5, mb1mx3.5/19, mbtmp3.5/5, ML3.6/3, Error ellipse: s-maj=85.0km s-min=24.4km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.75**	**240**	Sn	Sn	21 20 55.6	+5.7
	2.4nm,0.3s,baz=353,slow=19,SNR=4.5						
FITZ	**Fitzroy Crossi**	**11.87**	**198**	Pn	Pn	21 20 44.5	+2.0
	0.3nm,0.3s,baz=22,slow=13,SNR=28						
FITZ				Sn	Sn	21 22 45.4	-10
	0.4nm,0.3s,baz=273,slow=21,SNR=5.4						
WRA	**Warramunga Arr**	**13.86**	**161**	Pn	Pn	21 21 08.2	-1.5
	0.3nm,0.3s,baz=340,slow=14,SNR=12						
WRA				Sn	Sn	21 23 29.8	-15
	0.5nm,0.3s,baz=336,slow=22,SNR=11						
ASAR	**Alice Springs**	**17.28**	**167**	P	Pn	21 21 54.0	-0.7
	0.3nm,0.3s,baz=344,slow=9.1,SNR=21						
ASAR				S	Sn	21 24 54.0	-14
	0.2nm,0.3s,baz=340,slow=24,SNR=5.5						
SONM	**Songino Array**	**58.12**	**342**	P	P	21 27 47.3	0.0
	0.2nm,0.6s,baz=163,slow=5.6,SNR=2.8						
MKAR	**Makanchi Array**	**67.83**	**327**	P	P	21 28 51.8	-0.1
	0.6nm,0.4s,baz=124,slow=7.2,SNR=17						

MEX 09 21:21:47.3±0.4, 16.°88N×95.°36W, h8km±6km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.32**	**213**	*e*P	Pn	21 22 08.3	-3.7
HUIG				*i* S	Sb	21 22 24.4	-5.0
VHO	**Vista Hermosa**	**1.32**	**278**	*e*P	Pn	21 22 07.9	-4.5
VHO				*i* S	Sb	21 22 25.2	-4.8
TGIG		**2.15**	**92**	*i* P	Pn	21 22 20.4	-3.1
TGIG				*i* S	Sn	21 22 46.0	-4.5
PCIG		**2.37**	**119**	*i* P	Pn	21 22 23.3	-3.2
PCIG				*i* S	Sn	21 22 51.7	-4.0
TPIG	**Tehuac#an**	**2.44**	**309**	*i* P	Pn	21 22 23.9	-3.8
TPIG				*i* S	Sn	21 22 52.6	-5.3
PNIG	**Pinotepa**	**2.69**	**260**	*i* P	Pn	21 22 28.3	-2.7
PNIG				*i* S	Sn	21 23 00.3	-3.5

IDC 09 21:32:29.7±6.9, 21.°94S×179.°31W, h556km±60km, mb3.5/7, mb1 3.6/8, mb1mx3.3/18, mbtmp3.5/8, Error ellipse: s-maj=79.8km s-min=30.8km az=129.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.21**	**267**	P	P	21 35 21.9	+1.0
	0.5nm,0.3s,baz=97,slow=18,SNR=3.6						
CTA	**Charters Tower**	**32.16**	**267**	P	P	21 38 12.3	-0.1
	5.4nm,0.4s,baz=96,slow=11,SNR=9.1						
STKA	**Stephens Creek**	**36.07**	**246**	P	P	21 38 45.4	+0.4
	4.1nm,0.5s,baz=92,slow=11,SNR=13						
ASAR	**Alice Springs**	**43.01**	**258**	P	P	21 39 40.4	-0.5
	5.4nm,0.6s,baz=100,slow=8.1,SNR=92						
ASAR				PcP	PcP	21 41 17.8	-0.7
	0.8nm,0.5s,baz=105,slow=3.6,SNR=6.5						
WRA	**Warramunga Arr**	**43.21**	**264**	P	P	21 39 41.3	-1.1
	2.3nm,0.3s,baz=96,slow=7.8,SNR=61						
PETK	**Petropavlovsk-**	**77.36**	**346**	P	P	21 43 27.1	-0.1
	2.5nm,0.6s,baz=145,slow=5.3,SNR=3.7						
CMAR	**Chiang Mai Arr**	**89.45**	**290**	P	P	21 44 29.2	+1.1
	2.4nm,0.8s,baz=134,slow=3.0,SNR=17						
ILAR	**Eielson Array**	**89.99**	**13**	P	P	21 44 29.5	-0.1
	0.3nm,0.5s,baz=222,slow=4.3,SNR=4.0						
MKAR	**Makanchi Array**	**111.29**	**313**	PKiKP	PKiKP	21 49 58.9	-1.7
	0.1nm,0.4s,baz=93,slow=1.6,SNR=4.4						
ARCES	**ARCESS Array B**	**130.10**	**349**	PKP	PKPdf	21 50 35.2	-0.7
	1.9nm,0.7s,baz=5.7,slow=0.9,SNR=3.1						
FINES	**FINESS Array B**	**136.79**	**342**	PKP	PKPdf	21 50 47.5	-1.1
	0.9nm,0.7s,baz=131,slow=4.2,SNR=4.6						
HFS	**Hagfors**	**140.75**	**350**	PKhKP	PKPpre	21 50 49.3	
	1.0nm,0.5s,baz=64,slow=3.4,SNR=12						
AKASG	**Malin Array Be**	**143.65**	**329**	PKhKP	PKPpre	21 50 58.9	
	1.7nm,0.3s,baz=41,slow=4.1,SNR=16						
ASF	**Jabal al Asfar**	**146.32**	**295**	PKPbc	PKPbc	21 51 08.9	0.0
	1.0nm,0.7s,baz=46,slow=6.5,SNR=3.6						
BRTR	**Keskin Array B**	**146.86**	**310**	PKPbc	PKPbc	21 51 09.3	-0.9
	1.4nm,0.7s,baz=156,slow=4.2,SNR=10						
MMAI	**Mount Meron Ar**	**147.42**	**297**	PKPbc	PKPbc	21 51 11.5	-0.3
	1.8nm,0.4s,baz=78,slow=7.8,SNR=13						
EIL	**Elat**	**148.29**	**291**	PKPbc	PKPbc	21 51 13.9	-0.1
	1.8nm,0.7s,baz=180,slow=1.0,SNR=2.8						
CLL	**Collm**	**149.16**	**345**	*i* PKP	PKPbc	21 51 15.0	-0.4
	comp=Z,8.0nm,1.0s						
BRG	**Berggiesshubel**	**149.32**	**343**	*e*PKP	PKPbc	21 51 15.8	0.0
	comp=Z,4.6nm,1.0s						
GERES	**GERESS Array B**	**151.22**	**342**	PKPbc	PKPbc	21 51 20.0	-0.5
	comp=Z,0.5nm,0.4s,baz=12,slow=1.9,SNR=6.9						

IDC 09 21:41:19.3±8.9, 32.°00S×179.°77W, h320km±99km, mb3.0/2, mb1 3.3/3, mb1mx3.0/15, mbtmp3.1/3, Error ellipse: s-maj=108.8km s-min=43.1km az=0.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.74**	**201**	P	Pn	21 42 58.1	+0.2
	2.4nm,0.3s,baz=93,slow=14,SNR=30						
URZ				S	S	21 44 17.7	+0.1
	2.3nm,0.3s,baz=41,slow=20,SNR=5.8						
ASAR	**Alice Springs**	**41.54**	**270**	P	P	21 48 36.5	-0.1
	0.3nm,0.3s,baz=107,slow=7.4,SNR=9.3						
WRA	**Warramunga Arr**	**42.68**	**275**	P	P	21 48 45.4	-0.3
	0.4nm,0.3s,baz=112,slow=8.0,SNR=5.9						
FINES	**FINESS Array B**	**146.09**	**338**	PKPbc	PKPdf	22 00 20.4	+0.7
	1.8nm,0.9s,baz=16,slow=7.2,SNR=4.5						

IDC 09 21:46:22.2±1.7, 11.°02S×165.°39E, h0km, mb4.0/4, mb1 4.3/6, mb1mx3.9/18, mbtmp4.2/6, ML4.6/2, MS3.6/4, Ms1 3.6/4, ms1mx3.2/29, Error ellipse: s-maj=39.6km s-min=29.5km az=125.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.58**	**286**	Pn	Pn	21 47 48.8	+2.1
	18nm,0.3s,baz=152,slow=8.2,SNR=5.7						
HNR				Sn	Sn	21 48 52.2	+0.6
	7.1nm,0.3s,baz=126,slow=18,SNR=2.6						
HNR				LR	LR	21 49 26.6	
	comp=Z,146nm,18.7s,baz=127,slow=33						
DZM	**Mont Dzumac**	**11.04**	**175**	Pn	Pn	21 49 01.6	-0.1
	3.9nm,0.3s,baz=0.8,slow=17,SNR=22						
DZM				Sn	Sn	21 50 59.4	-6.7
	0.3nm,0.3s,baz=162,slow=20,SNR=2.9						
AFI	**Afiamalu**	**22.48**	**100**	LR	LR	21 57 32.7	
	comp=Z,145nm,19.4s,baz=15,slow=30						
H11S2	**WAKE ISLAND Hy**	**29.35**	**3**	T	T	22 22 58.0	
	baz=183						
H11S3	**WAKE ISLAND Hy**	**29.35**	**3**	T	T	22 23 00.9	
	baz=183						
H11S1	**WAKE ISLAND Hy**	**29.36**	**3**	T	T	22 23 00.2	
	baz=183						
STKA	**Stephens Creek**	**30.23**	**223**	P	P	21 52 35.2	+0.4
	1.5nm,0.7s,baz=63,slow=11,SNR=3.8						
STKA				LR	LR	22 04 17.3	
	comp=Z,261nm,18.2s,baz=28,slow=36						
H11N1	**WAKE ISLAND Hy**	**30.57**	**3**	T	T	22 24 44.5	
	baz=184,slow=0.7,SNR=4.4						
H11N3	**WAKE ISLAND Hy**	**30.58**	**3**	T	T	22 24 42.6	
	baz=184,slow=0.7,SNR=4.8						
H11N2	**WAKE ISLAND Hy**	**30.59**	**3**	T	T	22 24 43.4	
	baz=184,slow=0.7,SNR=3.9						
WRA	**Warramunga Arr**	**31.17**	**250**	P	P	21 52 42.8	-0.5
	2.8nm,0.8s,baz=80,slow=9.4,SNR=13						
ASAR	**Alice Springs**	**32.49**	**243**	P	P	21 52 54.4	-0.5
	1.7nm,0.8s,baz=63,slow=10.0,SNR=27						
ASAR				LR	LR	22 05 14.2	
	comp=Z,133nm,20.2s,baz=90,slow=35						
ILAR	**Eielson Array**	**83.59**	**19**	P	P	21 58 52.1	0.0
	0.3nm,0.5s,baz=237,slow=4.3,SNR=6.0						

IDC 09 22:03:14.9±1.5, 12.°21S×166.°23E, h0km, mb4.3/9, mb1 4.4/10, mb1mx4.1/22, mbtmp4.3/10, MS3.4/2, Ms1 3.4/2, ms1mx2.9/32, Error ellipse: s-maj=31.3km s-min=27.4km az=83.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.76**	**293**	Pn	Pn	22 04 54.3	-1.2
	20nm,0.3s,baz=137,slow=7.9,SNR=9.5						
HNR				Sn	Sn	22 06 03.8	-10
	15nm,0.3s,baz=146,slow=19,SNR=3.2						
PMG	**Port Moresby**	**18.94**	**277**	LR	LR	22 13 56.7	
	comp=Z,103nm,20.6s,baz=261,slow=34						
CTA	**Charters Tower**	**20.71**	**245**	P	P	22 07 58.1	+1.0
	3.8nm,0.6s,baz=68,slow=13,SNR=5.4						
STKA	**Stephens Creek**	**29.95**	**225**	P	P	22 09 25.7	+0.7
	3.4nm,0.7s,baz=42,slow=9.1,SNR=6.1						
WRA	**Warramunga Arr**	**31.56**	**252**	P	P	22 09 38.8	-0.6
	1.6nm,0.6s,baz=84,slow=9.0,SNR=8.7						
RPZ	**Rata Peaks**	**31.67**	**173**	P	P	22 09 39.6	-0.5
	17nm,1.0s,baz=338,slow=11,SNR=2.5						
ASAR	**Alice Springs**	**32.72**	**245**	P	P	22 09 49.1	-0.5
	3.0nm,0.7s,baz=73,slow=9.5,SNR=30						
FITZ	**Fitzroy Crossi**	**39.56**	**256**	P	P	22 10 48.1	0.0
	3.7nm,1.0s,baz=95,slow=6.1						
FITZ				LR	LR	22 24 24.8	
	comp=Z,51nm,20.8s,baz=19,slow=32						
BATI	**Baumata**	**41.78**	**268**	P	P	22 11 06.8	+0.2
	7.8nm,0.3s,baz=76,slow=4.2,SNR=2.7						
SONM	**Songino Array**	**79.88**	**324**	P	P	22 15 26.4	+0.6
	0.4nm,0.8s,baz=143,slow=5.0,SNR=3.8						
MKAR	**Makanchi Array**	**94.69**	**317**	P	P	22 16 37.4	-0.8
	0.4nm,0.6s,baz=98,slow=4.5,SNR=4.0						
ARCES	**ARCESS Array B**	**117.57**	**345**	PKP	PKPdf	22 22 02.6	+0.2
	1.5nm,0.7s,baz=24,slow=4.2,SNR=4.3						

IDC 09 22:13:42.5±2.1, 8.°13S×118.°79E, h186km±17km, mb3.1/3, mb1 3.5/7, mb1mx3.2/23, mbtmp3.3/7, Error ellipse: s-maj=33.8km s-min=8.6km az=56.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**3.24**	**17**	P	Pn	22 14 34.4	0.0
	5.9nm,0.3s,baz=191,slow=5.2,SNR=11						
KAPI				S	Sn	22 15 15.8	+0.9
	baz=189,slow=19,SNR=2.3						
BATI	**Baumata**	**5.23**	**114**	P	Pn	22 15 00.2	+0.6
	13nm,0.3s,baz=294,slow=2.9,SNR=10						
BATI				S	Sn	22 15 58.8	-1.5
	7.4nm,0.3s,baz=270,slow=20,SNR=4.4						
FITZ	**Fitzroy Crossi**	**11.94**	**147**	P	Pn	22 16 27.5	+0.5
	0.7nm,0.3s,baz=331,slow=11,SNR=20						
FITZ				S	Sn	22 18 35.8	-4.2
	0.4nm,0.3s,baz=299,slow=19,SNR=7.6						
WRA	**Warramunga Arr**	**19.09**	**130**	P	P	22 17 52.2	+0.9
	1.0nm,0.3s,baz=300,slow=12,SNR=23						
WRA				S	S	22 21 18.8	+0.8
	0.1nm,0.3s,baz=316,slow=19,SNR=2.4						
ASAR	**Alice Springs**	**21.18**	**139**	P	P	22 18 13.8	+0.2
	0.7nm,0.4s,baz=315,slow=8.9,SNR=20						
ASAR				S	S	22 21 59.5	+1.4
	0.4nm,0.6s,baz=322,slow=24,SNR=3.8						
MKAR	**Makanchi Array**	**63.60**	**333**	P	P	22 23 53.5	0.0
	0.2nm,0.5s,baz=138,slow=8.1,SNR=3.4						
ZALV	**Zalesovo Beam**	**68.16**	**339**	P	P	22 24 21.7	-0.8
	0.5nm,0.3s,baz=163,slow=6.0,SNR=2.6						

NEIC 09 22:13:54.2, 35.°96N×114.°55W, h11km, ML3.8(REN), MW3.5(USGS), After REN., California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHPR	**Sheep Range**	**0.73**	**318**	*e*Pg	Pg	22 14 07.2	-1.4
SHPR				*e*Sg	Sg	22 14 17.7	-0.7
LDFC	**Landfair**	**1.00**	**208**	*e*Pg	Pg	22 14 12.5	-1.1
LDFC				*e*Sg	Sg	22 14 25.0	-1.7
CCUT	**Cedar City**	**1.85**	**31**	*e*Pn	Pb	22 14 27.5	-0.8
CCUT				*e*Sn	Sb	22 14 50.9	-0.8
GSC	**Goldstone**	**1.96**	**251**	*e*Pn	Pn	22 14 27.0	-0.5
GSC				*e*Pg	Pb	22 14 30.1	+0.1
GSC				*e*Sg	Sg	22 14 56.0	-1.3
ARUT	**Antelope Range**	**2.03**	**26**	*e*Pn	Pn	22 14 29.4	+0.9
ARUT				*e*Sn	Sn	22 14 54.6	+0.6
R11A	**Troy Canyon, C**	**2.52**	**341**	*e*Pn	Pn	22 14 35.6	+0.2
WUAZ	**Wupatki**	**2.62**	**99**	*e*Pn	Pn	22 14 34.4	-2.3
WUAZ				*e*Pg	Pb	22 14 42.7	+1.4
WUAZ				*e*Sn	Sn	22 15 08.8	+0.2
WUAZ				*e*Sg	Sb	22 15 15.9	+2.2
PFO	**Pinyon Flat Ob**	**2.83**	**214**	*e*Pn	Pn	22 14 38.8	-0.7
PFO				*e*Pg	Pb	22 14 46.2	+1.4
GLA	**Glamis**	**2.91**	**185**	*e*Pn	Pn	22 14 40.5	0.0
GLA				*e*Pg	Pg	22 14 48.5	-1.7
MVU	**Marysvale**	**3.15**	**36**	*e*Pn	Pn	22 14 35.8	-8.2
MVU				*e*Pg	Pb	22 14 50.9	+0.4
ISA	**Isabella**	**3.21**	**266**	*e*Pn	Pn	22 14 44.5	-0.1

1.0nm,0.3s,baz=330,slow=15,SNR=7.8
URZ S **Sn** **22 46 09.1 -2.9**
4.0nm,0.3s,baz=307,slow=20,SNR=8.5
RPZ **Rata Peaks** **15.96 211** P **Pn** **22 46 07.8 -1.0**
RPZ S Sn 22 48 46.2 -19
RPZ **Rata Peaks** **15.96 211** P **Pn** **22 46 07.9 -1.0**
0.8nm,0.3s,baz=61,slow=10,SNR=5.2
RPZ S Sn 22 48 46.2 -19
0.6nm,0.3s,baz=150,slow=18,SNR=3.5
DZM **Mont Dzumac** **16.36 297** P **Pn** **22 46 14.1 0.0**
DZM **Mont Dzumac** **16.36 297** P **Pn** **22 46 14.1 0.0**
0.3nm,0.3s,baz=111,slow=19,SNR=2.6
MGCD **Mangrove Creek** **26.50 256** P **P** **22 48 04.5 +3.8**
baz=27,SNR=5.1
RMQ **Roma** **29.58 269** P **P** **22 48 31.2 +3.0**
baz=30,SNR=5.4
CMSA **Cobar Meteorol** **31.21 258** P **P** **22 48 44.8 +2.2**
baz=32,SNR=6.9
QLP **Quilpie** **33.46 267** P **P** **22 49 03.9 +1.6**
baz=34,SNR=8.7
CTA **Charters Tower** **33.95 279** P **P** **22 49 08.8 +2.2**
CTA **Charters Tower** **33.95 279** P **P** **22 49 08.8 +2.2**
18nm,0.5s,baz=107,slow=11,SNR=29
STKA **Stephens Creek** **34.62 257** *e*P **P** **22 49 13.3 +0.9**
5.4nm,0.8s
STKA **Stephens Creek** **34.62 257** P **P** **22 49 14.4 +2.0**
baz=35,SNR=18
STKA **Stephens Creek** **34.62 257** P **P** **22 49 14.3 +1.9**
19nm,0.5s,baz=90,slow=9.8,SNR=38
BBOO **Buckleboo** **39.11 254** P **P** **22 49 50.9 +0.4**
baz=40,SNR=12
COEN **Coen** **39.42 286** P **P** **22 49 55.2 +1.9**
baz=40,SNR=5.4
AS31 **Alice Springs** **43.26 267** *e*P **P** **22 50 23.1 -1.6**
ASAR **Alice Springs** **43.26 267** P **P** **22 50 24.8 0.0**
ASAR **Alice Springs** **43.26 267** P **P** **22 50 24.8 0.0**
5.3nm,0.5s,baz=104,slow=7.7,SNR=99
WRAB **Tennant Creek** **44.24 272** *e*P **P** **22 50 32.3 -0.4**
11nm,0.6s
WRA **Warramunga Arr** **44.25 272** P **P** **22 50 32.7 0.0**
WRA S **S** **22 57 03.1 -0.3**
WRA **Warramunga Arr** **44.25 272** P **P** **22 50 32.7 0.0**
12nm,0.3s,baz=110,slow=8.2,SNR=96
WRA S **S** **22 57 03.1 -0.3**
4.5nm,0.8s,baz=160,slow=24,SNR=6.3
KNRA **Kununurra** **50.86 274** P **P** **22 51 25.1 +1.1**
baz=51,SNR=5.1
FITZ **Fitzroy Crossi** **52.51 270** *e*P **P** **22 51 35.1 -1.2**
11nm,1.3s
FITZ **Fitzroy Crossi** **52.51 270** P **P** **22 51 36.9 +0.6**
baz=53,SNR=6.7
CASY **Casey** **55.21 208** *e*P **P** **22 51 54.8 -0.6**
11nm,0.9s
QSPA **South Pole Qui** **59.71 180** *e*P **P** **22 52 29.0 +1.8**
17nm,0.7s
QSPA **South Pole Qui** **59.71 180** P **P** **22 52 28.8 +1.6**
3.6nm,0.8s
MAW **Mawson** **72.36 201** P **P** **22 53 48.7 +0.5**
MAW **Mawson** **72.36 201** P **P** **22 53 48.7 +0.5**
2.4nm,0.8s,baz=130,slow=1.3,SNR=6.6
SYO **Syowa Base** **77.15 193**⇑ *e*P **P** **22 54 15.0 -0.8**
H03N3 **Juan Fernandez** **80.53 123** T T 00 23 59.4
baz=248,slow=0.3,SNR=37
H03N2 **Juan Fernandez** **80.53 123** T T 00 24 02.7
baz=248,slow=0.3,SNR=15
H03N1 **Juan Fernandez** **80.55 123** T T 00 24 03.0
baz=248,slow=0.3,SNR=35
PETK **Petropavlovsk-** **85.85 345** P **P** **22 55 02.3 +0.5**
PETK **Petropavlovsk-** **85.85 345** P **P** **22 55 02.3 +0.5**
3.1nm,0.9s,baz=176,slow=10,SNR=2.7
NVAR **Mina Array Bea** **88.14 43** P **P** **22 55 14.4 +0.8**
NVAR **Mina Array Bea** **88.14 43** P **P** **22 55 14.4 +0.8**
0.1nm,0.3s,baz=243,slow=9.0,SNR=3.2
MKAR **Makanchi Array** **117.89 310** PKP **PKPdf** **23 01 08.3 -0.4**
MKAR **Makanchi Array** **117.89 310** PKP **PKPdf** **23 01 08.3 -0.4**
0.3nm,0.6s,baz=95,slow=0.7,SNR=5.2
ZALV **Zalesovo Beam** **118.13 318** PKP **PKPdf** **23 01 08.2 -0.8**
ZALV **Zalesovo Beam** **118.13 318** PKP **PKPdf** **23 01 08.2 -0.8**
0.4nm,0.4s,baz=80,slow=1.6,SNR=2.9
KURK **Kurchatov** **121.16 314** *e*PKPdf **PKPdf** **23 01 13.8 -1.0**
KURK PKP **PKiKP** **23 01 14.2 -0.7**
KURBB **Kurchatov Arra** **121.20 314** PKP **PKPdf** **23 01 14.2 -0.7**
1.4nm,0.7s,baz=102,slow=1.9,SNR=18
KKAR **Karatay Array** **125.20 304** *e*PKPdf **PKPdf** **23 01 22.6 -0.3**
BVAR **Borovoye Array** **126.51 316** PKP **PKPdf** **23 01 25.4 +0.3**
BVAR **Borovoye Array** **126.51 316** PKP **PKPdf** **23 01 25.4 +0.3**
1.3nm,0.6s,baz=116,slow=2.5,SNR=8.6
ARCES **ARCESS Array B** **138.62 348** PKPpre PKPpre 23 01 42.5
ARCES **ARCESS Array B** **138.62 348** PKhKP PKPpre 23 01 42.5
5.2nm,1.0s,baz=15,slow=0.9,SNR=5.2
JOF **Joensuu** **142.47 339** *e*pkp **PKPdf** **23 01 56.7 +2.2**
KAF **Kangasniemi** **144.60 341** *e*pkp **PKPab** **23 01 55.6 -1.3**
FINES **FINESS Array B** **145.20 340** PKPbc **PKPab** **23 01 59.1 0.0**
FINES **FINESS Array B** **145.20 340** PKPbc **PKPab** **23 01 59.1 0.0**
12nm,0.8s,baz=45,slow=3.2,SNR=31
KBZ **Khabaz** **145.24 304** PKPbc **PKPdf** **23 02 00.5 +0.6**
KBZ **Khabaz** **145.24 304** PKPbc **PKPdf** **23 02 00.5 +0.6**
2.1nm,0.8s,baz=90,slow=3.0,SNR=2.5
NB2 **NORSAR Subarra** **148.78 352** PKP **PKPbc** **23 02 09.1 -0.2**
comp=Z,1.8nm,0.6s,baz=12,slow=2.7
NOA **NORSAR Array B** **148.78 352** PKPbc **PKPbc** **23 02 09.3 +0.1**
NOA PKPab **PKPab** **23 02 12.8 -0.3**
NOA **NORSAR Array B** **148.78 352** PKPbc **PKPbc** **23 02 09.3 +0.1**
comp=Z,4.0nm,0.9s,baz=14,slow=4.3,SNR=9.1
NOA PKPab **PKPab** **23 02 12.8 -0.3**
comp=Z,1.2nm,0.6s,baz=16,slow=4.3,SNR=6.0
AKASG **Malin Array Be** **151.39 323** PKPbc **PKPbc** **23 02 15.8 -0.1**
AKASG PKPab **PKPab** **23 02 21.3 -2.9**
AKASG **Malin Array Be** **151.39 323** PKPbc **PKPbc** **23 02 15.8 -0.1**
comp=Z,3.8nm,0.5s,baz=48,slow=2.8,SNR=30
AKASG PKPab **PKPab** **23 02 21.3 -2.9**
comp=Z,2.7nm,0.6s,baz=49,slow=2.7,SNR=10
EIL **Elat** **151.67 277** PKPbc **PKPbc** **23 02 17.5 +0.4**
EIL PKPab **PKPab** **23 02 26.4 +0.3**
EIL **Elat** **151.67 277** PKPbc **PKPbc** **23 02 17.5 +0.4**
comp=Z,3.4nm,0.7s,baz=294,slow=6.1,SNR=3.7
EIL PKPab **PKPab** **23 02 26.4 +0.3**
comp=Z,2.5nm,0.7s,baz=83,slow=3.5,SNR=4.2
MMAI **Mount Meron Ar** **151.68 284** PKPbc **PKPbc** **23 02 18.0 +0.8**
MMAI PKPab **PKPab** **23 02 25.0 -1.1**
MMAI **Mount Meron Ar** **151.68 284** PKPbc **PKPbc** **23 02 18.0 +0.8**
comp=Z,3.4nm,0.6s,baz=77,slow=7.2,SNR=11
MMAI PKPab **PKPab** **23 02 25.0 -1.1**
comp=Z,1.0nm,0.5s,baz=77,slow=7.8,SNR=4.3
BRTR **Keskin Array B** **152.73 299** PKPbc **PKPbc** **23 02 19.1 -0.4**
BRTR PKPab **PKPab** **23 02 29.9 -0.5**
BRTR **Keskin Array B** **152.73 299** PKPbc **PKPbc** **23 02 19.1 -0.4**
comp=Z,0.6nm,0.6s,baz=108,slow=4.0,SNR=5.1
BRTR PKPab **PKPab** **23 02 29.9 -0.5**
comp=Z,0.6nm,0.7s,baz=325,slow=36,SNR=5.1
CLL **Collm** **157.61 342** *e*PKPab **PKPab** **23 02 49.0 -1.6**
TORD **Torodi Ar. Bea** **162.82 178** PKPab **PKPab** **23 03 14.9 +0.9**
TORD **Torodi Ar. Bea** **162.82 178** PKPab **PKPab** **23 03 14.9 +0.9**
comp=Z,0.5nm,0.3s,baz=166,slow=4.2,SNR=8.5

AUST ***09*** *22:49:52.5±2.3,9.˚43S×158.˚47E, h2km±17km, Error ellipse: s-maj=10.1km s-min=3.8km az=171.0*
ISCJB ***09*** *22:49:53.0±1.0, 8.˚96S±0.˚03×157.˚93E±0.˚02, h5km±6km, mb5.6/259, MS5.1/41, Error ellipse: s-maj=5.0km s-min=3.1km az=178.2*
IDC ***09*** *22:49:53.4±0.4, 8.˚93S×157.˚88E, h0km, mb5.1/29, mb1 5.2/33, mb1mx5.2/34, mbtmp5.1/33, ML3.9/4, MS5.0/19, Ms1 5.0/19, ms1mx4.8/30, Error ellipse: s-maj=12.7km s-min=12.1km az=92.0*
NEIC ***09*** *22:49:54.1±0.1, 9.˚03S×157.˚96E, h10km, mb5.7/142, MW5.6, Error ellipse: s-maj=5.7km s-min=4.0km az=156.0, Moment Tensor Solution. s23 Moment tensor: Scale 10¹⁷Nm; Mrr=0.19; Mθθ=0.11; Mϕϕ=0.08; Mrθ=1.81; Mθϕ=1.62; Mϕr=2.10; Best double couple: Mw=3.20000×10¹⁷ NP1: ϕs=153.00000°, δ86.00000°, λ108.00000°. NP2: ϕs=256.00000°, δ18.00000°, λ14.00000°. Principal axes: T 2.0600, Plg46.0000°, Azm81.0000°; N 1.6500, Plg17.0000°, Azm331.0000°; P -3.7000, Plg38.0000°, Azm226.0000°;*
NEIC Felt at Honiara.
BJI ***09*** *22:49:56.0, 8.˚77S×158.˚12E, h32km, mB5.7/42, mb5.3/51, Ms5.4/55, Ms7 5.1/53*
MOS ***09*** *22:49:57.0±1.1, 8.˚96S×157.˚89E, h33km, mb5.9/46, MS5.0/7, Error ellipse: s-maj=7.4km s-min=7.0km az=136.1*
GCMT ***09*** *22:49:58.3±0.1, 9.˚13S×157.˚90E, h14km, MW5.6, Moment Tensor Solution. s85,c142; s20,c20; Moment tensor: Scale 10¹⁷Nm; Mrr=1.73±.04; Mθθ=1.42±.04; Mϕϕ=0.30±.03; Mrθ=0.41±.08; Mθϕ=1.81±.03; Mϕr=1.19±.10; Best double couple: Mw=2.70000×10¹⁷ NP1:ϕs=151.00000°, δ63.00000°, λ121.00000°. NP2:ϕs=278.00000°, δ40.00000°, λ45.00000°. Principal axes: T 2.3400, Plg60.0000°, Azm106.0000°; N 0.6600, Plg27.0000°, Azm315.0000°; P -2.9900, Plg13.0000°, Azm219.0000°; Data Used: II IU CN G IC. Surface waves: sta= 99, comp=185, per= 50.*
DJA ***09*** *22:50:03.0±0.8, 9.˚5±3.˚1×15.˚8E±.˚1, h55km±7km, M5.8/101, mb5.6/101, mB6.2/75, Mw(mB)5.8/75, Mwp5.8/1*

ISC 09 22:49:57.7±0.3, 9.˚07S±0.˚04×157.˚95E±0.˚03, h28km±1km, h28km:pP-P, n786, σ1≒54/809, mb5.6/263, MS5.0/44, 36C-10D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
HNR	**Honiara**	**2.01**	**101**		*e*Pn		**Pn**	**22 50 28.4**	**-1.4**
HNR					*e*Sn		**Sb**	**22 50 58.8**	**+0.6**
HNR					*e*Sn		**Sb**	**22 51 00.2**	**+2.0**
HNR	**Honiara**	**2.01**	**101**		Pn		**Pn**	**22 50 28.9**	**-0.9**
	212nm,0.3s,baz=226,slow=3.8,SNR=66								
HNR					LR		LR	22 50 58.8	
	comp=Z,28µm,18.0s,baz=39,slow=31								
HNR					Sn		**Sb**	**22 51 00.2**	**+2.0**
	3µm,0.3s,baz=63,slow=22,SNR=9.6								
PMG	**Port Moresby**	**10.65**	**267**	P			Pn	22 52 32.9	+4.2
	497nm,1.2s,6µm								
PMG	**Port Moresby**	**10.65**	**267**		*e*Pn		**Pn**	**22 52 28.2**	**-0.4**
PMG					*e*Sn		**Sn**	**22 54 29.6**	**+2.4**
PMG	**Port Moresby**	**10.65**	**267**		Pn		**Pn**	**22 52 28.2**	**-0.4**
	0.5nm,0.3s,baz=72,slow=6.4,SNR=2.3								
PMG					Sn		**Sn**	**22 54 29.5**	**+2.4**
	0.8nm,0.3s,baz=43,slow=19,SNR=2.1								
PMG					LR		LR	22 56 11.5	
	comp=Z,17µm,20.2s,baz=75,slow=36								
COEN	**Coen**	**15.27**	**250**		*e*Pn		**Pn**	**22 53 33.5**	**+1.9**
	14µm,2.4s								
COEN	**Coen**	**15.27**	**250**	P			**P**	**22 53 33.9**	**-2.2**
	baz=16,SNR=25								
DZM	**Mont Dzumac**	**15.29**	**149**		*e*Pn		**Pn**	**22 53 33.0**	**+1.1**
	304nm,1.4s								
DZM					*e*LR		LR	22 56 59.9	
	4µm,21.9s								
DZM	**Mont Dzumac**	**15.29**	**149**	P	n		**Pn**	**22 53 34.1**	**+2.2**
	0.3nm,0.3s,baz=328,slow=11,SNR=5.7								
DZM					Sn		**Sn**	**22 56 23.5**	**+2.9**
	0.3nm,0.3s,baz=317,slow=17,SNR=1.9								
DZM					LR		LR	22 57 49.1	
	comp=Z,4µm,19.0s,baz=348,slow=31								
CTA	**Charters Tower**	**15.74**	**225**		*e*Pn		**Pn**	**22 53 36.4**	**-1.3**
CTA					*e*Sn		Sn	22 56 23.0	-8.4
CTA	**Charters Tower**	**15.74**	**225**	⇑	P		**Pn**	**22 53 36.8**	**-0.8**
	baz=16								
CTA	**Charters Tower**	**15.74**	**225**	P	n		**Pn**	**22 53 36.4**	**-1.3**
	1.3nm,0.3s,baz=49,slow=15,SNR=28								
CTA					Sn		Sn	22 56 23.0	-8.4
	0.3nm,0.3s,baz=311,slow=20,SNR=7.8								
CTAO	**Charters Tower**	**15.74**	**225**		*e*P		**Pn**	**22 53 36.5**	**-1.1**
CTAO					pmax		pmax		
	comp=Z,730nm,1.6s								
CTAO	**Charters Tower**	**15.74**	**225**		*e*Pn		**Pn**	**22 53 36.5**	**-1.1**
	comp=Z,730nm,1.6s								
EIDS	**Eidsvold**	**17.48**	**201**		*e*Pn		**Pn**	**22 54 00.1**	**+0.4**
	comp=Z,376nm,1.4s								
TARA	**Tarawa**	**18.16**	**56**		*e*Pn		**P**	**22 54 09.8**	**+1.6**
	comp=Z,269nm,0.9s								
JAY	**Jayapura**	**18.34**	**290**	P			**Pn**	**22 54 11.5**	**+1.2**
	comp=Z,183nm,1.1s,comp=Z,7µm								
KWAJ	**Kwajalein Atol**	**20.19**	**29**		*e*P		**P**	**22 54 29.5**	**-1.0**
KWAJ					pmax		pmax		
	comp=Z,286nm,1.0s								
KWAJ	**Kwajalein Atol**	**20.19**	**29**		*e*P		**P**	**22 54 29.4**	**-1.0**
	comp=Z,286nm,1.0s								
MSVF	**Nonsavu**	**21.35**	**116**		*e*P		**P**	**22 54 45.2**	**+2.1**
MSVF					pmax		pmax		
	comp=Z,293nm,1.4s								
MSVF	**Nonsavu**	**21.35**	**116**	P			**P**	**22 54 46.0**	**+2.9**
	comp=Z,783nm,1.1s,SNR=22								
MSVF	**Nonsavu**	**21.35**	**116**		*e*P		**P**	**22 54 45.2**	**+2.1**
	comp=Z,292nm,1.4s								
ARMA	**Armidale**	**22.05**	**195**		*e*P		**P**	**22 54 51.2**	**+0.7**
	comp=Z,967nm,2.5s								
SRPI	**Serui, Papua**	**22.75**	**287**	P			**P**	**22 55 02.5**	**+4.5**
	comp=Z,267nm,1.1s,comp=Z,12µm								
BAKI	**Biak**	**23.10**	**289**	P			**P**	**22 55 04.6**	**+2.9**
	comp=Z,390nm,1.2s,comp=Z,6µm								
KMPI	**Kaimana, Papua**	**24.68**	**281**	P			**P**	**22 55 18.2**	**+1.6**
	comp=Z,865nm,1.9s,comp=Z,15µm								
TLE	**Tual**	**25.23**	**276**	P			**P**	**22 55 22.8**	**+1.2**
	comp=Z,675nm,1.9s,comp=Z,16µm								
TLE	**Tual**	**25.23**	**276**	⇓	P		**P**	**22 55 22.9**	**+1.2**
	baz=26,SNR=11								
WRAB	**Tennant Creek**	**25.23**	**242**		*e*P		**P**	**22 55 20.7**	**-0.9**
WRAB					pmax		pmax		
	comp=Z,187nm,1.1s								
WRAB	**Tennant Creek**	**25.23**	**242**	P			**P**	**22 55 21.0**	**-0.6**
	comp=Z,731nm,1.4s,SNR=54								
WRAB	**Tennant Creek**	**25.23**	**242**		*e*P		**P**	**22 55 20.6**	**-0.9**
	comp=Z,187nm,1.1s								
WRA	**Warramunga Arr**	**25.25**	**242**		*e*P		**P**	**22 55 21.5**	**-0.2**
WRA	**Warramunga Arr**	**25.25**	**242**	P			**P**	**22 55 21.5**	**-0.2**
	comp=Z,92nm,1.1s,baz=67,slow=9.0,SNR=85								
WRA					LR		LR	23 04 45.2	
	comp=Z,7µm,21.1s,baz=75,slow=35								
GUMO	**Guam**	**25.98**	**330**		*e*P		**P**	**22 55 26.6**	**-1.7**
	comp=Z,536nm,1.3s								
FAKI	**Fak Fak**	**26.26**	**282**	P			**P**	**22 55 33.0**	**+2.0**
	comp=Z,166nm,1.0s,comp=Z,2µm								
FAKI	**Fak Fak**	**26.26**	**282**	⇑	P		**P**	**22 55 33.0**	**+2.0**
	baz=27,SNR=14								
SAUI	**Saumlaki**	**26.37**	**270**	P			**P**	**22 55 35.8**	**+3.8**
	comp=Z,1µm,1.4s,comp=Z,20µm								
AS17	**Alice Springs**	**27.12**	**235**	⇑	P		**P**	**22 55 38.3**	**-0.3**
	baz=27								
AS01	**Alice Springs**	**27.15**	**235**		*e*P		**P**	**22 55 37.5**	**-1.4**
AS12	**Alice Springs**	**27.19**	**235**		*e*P		**P**	**22 55 38.4**	**-0.9**
ASAR	**Alice Springs**	**27.19**	**235**	P			**P**	**22 55 38.4**	**-0.9**
	comp=Z,31nm,1.0s,baz=63,slow=9.2,SNR=103								
ASAR					LR		LR	23 06 05.1	
	comp=Z,4µm,19.0s,baz=60,slow=36								
CNB	**Canberra Magne**	**27.28**	**195**	⇑	P		**P**	**22 55 39.4**	**-0.6**
	baz=27,SNR=7.0								
STKA	**Stephens Creek**	**27.31**	**211**		*e*P		**P**	**22 55 39.9**	**-0.3**
STKA	**Stephens Creek**	**27.31**	**211**	P			**P**	**22 55 39.9**	**-0.3**
	comp=Z,49nm,0.9s,baz=40,slow=13,SNR=30								
STKA					LR		LR	23 05 52.4	
	comp=Z,7µm,19.7s,baz=33,slow=35								
SWI	**Sorong**	**27.79**	**286**	P			**P**	**22 55 44.9**	**+0.2**
	comp=Z,98nm,1.3s,comp=Z,µm								
BNDI	**Bandanaira**	**28.20**	**277**	P			P	22 56 00.5	+12
H11S3	**WAKE ISLAND Hy**	**28.71**	**17**	T			T	23 24 41.8	
	baz=199,slow=0.7,SNR=108								
H11S2	**WAKE ISLAND Hy**	**28.71**	**18**	T			T	23 24 27.7	
	baz=199,slow=0.7,SNR=1469								
H11S1	**WAKE ISLAND Hy**	**28.73**	**17**	T			T	23 24 29.6	
	baz=199,slow=0.7,SNR=220								
KNRA	**Kununurra**	**29.23**	**254**	P			**P**	**22 55 57.8**	**+0.3**
	baz=30,SNR=16								
MSAI	**Masohi**	**29.39**	**279**	P			P	22 56 03.9	+4.9
	comp=Z,27nm,1.6s,comp=Z,2µm								
H11N1	**WAKE ISLAND Hy**	**29.93**	**17**	T			T	23 26 19.9	
	baz=198,slow=0.7,SNR=72								
HTT	**Hallett**	**29.93**	**213**	⇓	P		**P**	**22 56 04.7**	**+1.1**
	baz=30								
H11N3	**WAKE ISLAND Hy**	**29.93**	**17**	T			T	23 26 10.2	
	baz=198,slow=0.7,SNR=19								
H11N2	**WAKE ISLAND Hy**	**29.94**	**17**	T			T	23 26 19.4	
	baz=198,slow=0.7,SNR=82								
AAI	**Ambon**	**30.04**	**278**	P			P	22 56 08.2	+3.5
	comp=Z,83nm,1.5s,comp=Z,3µm								
AFI	**Afiamalu**	**30.04**	**102**		*e*P		**P**	**22 56 04.6**	**-0.2**
	comp=Z,246nm,1.5s								
AFI	**Afiamalu**	**30.04**	**102**	P			**P**	**22 56 05.3**	**+0.5**
	comp=Z,52nm,0.9s,baz=270,slow=13,SNR=5.9								
KNTN	**Kanton**	**30.80**	**80**		*e*P		**P**	**22 56 10.7**	**-0.7**
	comp=Z,190nm,1.6s								
BBOO	**Buckleboo**	**31.11**	**217**		*e*P		**P**	**22 56 13.8**	**-0.2**
	comp=Z,733nm,1.1s								
BBOO	**Buckleboo**	**31.11**	**217**	⇓	P		**P**	**22 56 14.4**	**+0.5**
	baz=31,SNR=13								
NLAI	**Namlea**	**31.20**	**279**	P			P	22 56 18.4	+3.5
	comp=Z,96nm,2.1s,comp=Z,2µm								
LBMI	**Labuha**	**31.44**	**284**	P			P	22 56 21.3	+4.2
	comp=Z,306nm,1.8s,comp=Z,7µm								
TNTI	**Ternate**	**31.99**	**286**	P			P	22 56 26.8	+4.9
	comp=Z,175nm,1.4s,comp=Z,3µm								
TNTI	**Ternate**	**31.99**	**286**		*e*P		**P**	**22 56 22.0**	**+0.1**
	comp=Z,272nm,1.3s								
SOEI	**Soe**	**33.23**	**266**	P			**P**	**22 56 34.0**	**+1.1**
	comp=Z,154nm,1.4s,comp=Z,2µm								
URZ	**Urewera**	**33.80**	**152**		*e*P		**P**	**22 56 38.3**	**+0.9**
URZ	**Urewera**	**33.80**	**152**	P			**P**	**22 56 38.3**	**+0.9**
	comp=Z,19nm,1.0s,baz=188,slow=7.1,SNR=2.7								
BATI	**Baumata**	**33.81**	**265**	P			**P**	**22 56 39.5**	**+1.6**
	comp=Z,118nm,1.4s,comp=Z,2µm								
BKZ	**Black Stump Fm**	**34.27**	**154**		*e*P		**P**	**22 56 41.7**	**+0.1**
	comp=Z,193nm,1.8s								
SGSI	**Sangihe**	**34.71**	**290**	P			P	22 56 48.9	+3.2
	comp=Z,517nm,2.4s,comp=Z,13µm								
TAU	**Tasmania Unive**	**34.98**	**194**		*e*P		**P**	**22 56 45.4**	**-2.2**
TAU					pmax		pmax		
	comp=Z,80nm,1.3s								
TAU	**Tasmania Unive**	**34.98**	**194**		*e*P		**P**	**22 56 45.4**	**-2.2**
	comp=Z,80nm,1.3s								
KMSI	**Cibinong**	**35.16**	**284**	P			P	22 56 56.4	+6.9
	comp=Z,619nm,1.2s,comp=Z,7µm								
BBSI	**Bau Bau**	**35.26**	**273**	P			**P**	**22 56 53.1**	**+2.7**
	comp=Z,301nm,1.1s,comp=Z,5µm								
MMRI	**Maumere**	**35.28**	**268**	P			**P**	**22 56 50.1**	**-0.5**
	comp=Z,510nm,1.3s,comp=Z,7µm								
MMRI	**Maumere**	**35.28**	**268**		*e*P		**P**	**22 56 49.3**	**-1.3**
	comp=Z,732nm,1.3s								
LUWI	**Luwuk**	**35.90**	**281**	P			P	22 56 59.6	+3.7
	comp=Z,179nm,1.3s,comp=Z,4µm								
DAV	**Davao City (W)**	**36.02**	**295**		*e*P		**P**	**22 56 57.3**	**+0.3**
	comp=Z,151nm,0.5s								
RPZ	**Rata Peaks**	**36.36**	**164**		*e*P		**P**	**22 56 57.8**	**-1.7**
	comp=Z,103nm,1.3s								
KKSI	**Kolaka, Sulawe**	**36.36**	**275**	P			**P**	**22 57 00.7**	**+0.8**
	comp=Z,181nm,2.2s,comp=Z,4µm								
APSI	**Ampana**	**37.02**	**281**	P			**P**	**22 57 06.5**	**+1.0**
	comp=Z,174nm,1.4s,comp=Z,3µm								
MRSI	**Marisa**	**37.09**	**283**	P			P	22 57 12.0	+5.9
	comp=Z,69nm,1.3s,comp=Z,2µm								
WSI	**Waingapu**	**37.14**	**266**	P			P	22 57 10.8	+4.3
	comp=Z,447nm,1.2s								
BKSI	**Bulukumba**	**37.70**	**273**	P			**P**	**22 57 13.8**	**+2.6**
	comp=Z,81nm,1.4s,comp=Z,2µm								
BNSI	**Bone**	**37.85**	**274**	P			**P**	**22 57 13.3**	**+0.8**
	comp=Z,183nm,2.3s,comp=Z,3µm								
KAPI	**Kappang**	**38.10**	**273**	P			**P**	**22 57 14.8**	**+0.2**
	SNR=11								
KAPI	**Kappang**	**38.10**	**273**	P			**P**	**22 57 14.6**	**-0.1**
	comp=Z,753nm,1.1s,SNR=12								
KAPI	**Kappang**	**38.10**	**273**	P			**P**	**22 57 14.5**	**-0.1**
	comp=Z,185nm,1.3s,comp=Z,3µm								
KAPI	**Kappang**	**38.10**	**273**		*e*P		**P**	**22 57 13.5**	**-1.2**
	comp=Z,209nm,1.1s								
SPSI	**Sidrap Palu**	**38.25**	**275**	P			**P**	**22 57 15.6**	**-0.3**
	comp=Z,77nm,1.5s,comp=Z,2µm								
TTSI	**Tana Toraja**	**38.36**	**277**	P			P	22 57 20.5	+3.7
	comp=Z,89nm,0.9s,comp=Z,2µm								
MBWA	**Marble Bar**	**38.69**	**247**	P			**P**	**22 57 19.3**	**-0.3**
	SNR=7.1								
MBWA	**Marble Bar**	**38.69**	**247**		*e*P		**P**	**22 57 17.1**	**-2.4**
	comp=Z,125nm,1.3s								
RCP	**Roxas**	**40.56**	**300**⇑		*e*P		**P**	**22 57 35.4**	**+0.3**
MEEK	**Meekatharra**	**41.10**	**240**	P			P	**22 57 39.5**	**0.0**
	baz=41,SNR=14								
MTNI	**Mataram**	**41.27**	**267**	P			**P**	**22 57 40.6**	**-0.4**
	comp=Z,129nm,1.8s,comp=Z,2µm								
BKB	**Balikpapan**	**41.58**	**278**	P			**P**	**22 57 45.9**	**+2.4**
	comp=Z,366nm,1.1s,comp=Z,4µm								
MYLDM	**Lahad Datu**	**41.79**	**288**	P			**P**	**22 57 47.8**	**+2.5**
MYLDM	**Lahad Datu**	**41.79**	**288**	P			**P**	**22 57 47.2**	**+1.9**
	comp=Z,110nm,1.8s,comp=Z,3µm								
MYLDM	**Lahad Datu**	**41.79**	**288**		*e*P		**P**	**22 57 46.1**	**+0.8**
	comp=Z,252nm,1.5s								
TSM	**Tawau**	**42.09**	**287**	P			**P**	**22 57 50.8**	**+3.0**
DNP	**Denpasar**	**42.21**	**267**	P			P	22 57 55.4	+6.7
SRBI	**Singaraja**	**42.25**	**268**	P			**P**	**22 57 51.8**	**+2.7**
	comp=Z,140nm,1.2s								
RAR	**Rarotonga**	**42.43**	**111**		*e*P		**P**	**22 57 52.3**	**+1.9**
	comp=Z,135nm,1.2s								
RAR	**Rarotonga**	**42.43**	**111**	P			**P**	**22 57 52.3**	**+1.9**
	comp=Z,56nm,1.1s,baz=270,slow=3.3,SNR=6.6								
BYJI	**Banyuwangi**	**43.09**	**268**	P			**P**	**22 57 56.5**	**+0.7**
	comp=Z,800nm,1.1s,comp=Z,13µm								
ABJI	**Asem Bagus**	**43.24**	**268**	P			**P**	**22 57 59.7**	**+2.6**
	comp=Z,175nm,1.4s,comp=Z,4µm								
KLBR	**Kellerberrin**	**43.49**	**233**	P

JNU Nakatsue 49.24 330 eP P 22 58 43.0 -1.0
comp=Z,87nm,1.0s
CISI Cisompet, Garu 49.60 268 P P 22 58 49.1 +2.0
comp=Z,174nm,1.7s,comp=Z,3µm
CISI Cisompet, Garu 49.60 268 eP P 22 58 45.8 -1.4
comp=Z,120nm,0.8s
LEM Lembang 49.87 269 P P 22 58 51.5 +2.2
comp=Z,294nm,1.0s,comp=Z,4µm
LEM Lembang 49.87 269 ⇓P P 22 58 50.1 +0.8
baz=50,SNR=5.8
TPI Tanjungpandan 50.38 274 P P 22 58 58.7 +5.7
comp=Z,43nm,1.9s,comp=Z,829nm
CBJI Citeko 50.67 269 P P 22 58 58.4 +3.2
comp=Z,330nm,1.2s
DBJI Dramaga 50.75 269 P P 22 58 57.6 +1.8
comp=Z,168nm,1.1s,comp=Z,3µm
QZH Quanzhou 51.12 312 ⇑iP P 22 58 55.4 -3.0
QZH S S 23 06 13.0 -1.8
QZH AMB AMB
comp=Z,540nm,1.5s
QZH LR LR
comp=Z,3µm,23.3s
PAE Paea 51.62 105 eP P 22 59 03.5 +1.2
comp=Z,14nm,1.0s
PPT Papeete 51.62 105 LR LR 23 15 40.8
comp=Z,1µm,21.9s,baz=200,slow=30
PPT2 Papeete2 51.62 105 eP P 22 59 04.1 +1.7
comp=Z,64nm,1.1s
PPT2 eS S 23 06 24.2 +2.0
comp=Z,882nm,29.0s
PPT2 eLQ LQ 23 11 50.0
comp=Z,4µm,29.5s
PPT2 eLR LR 23 14 01.2
comp=Z,3µm,22.8s,baz=268
TIAR Tiarei 51.84 105 eP P 22 59 05.5 +1.5
comp=Z,83nm,0.9s
TVO Taravao 51.94 105 eP P 22 59 06.5 +1.8
comp=Z,30nm,1.1s
TBI Tubuai 52.18 112 eP P 22 59 08.3 +1.9
comp=Z,258nm,1.1s
TBI eS S 23 06 31.8 +2.2
comp=Z,655nm,28.0s
TBI eLQ LQ 23 12 05.0
comp=Z,6µm,30.5s
TBI eLR LR 23 14 13.2
comp=Z,2µm,25.2s,baz=290
OPA Opana 52.93 54 eP P 22 59 12.1 +0.2
OPA Opana 52.93 54 eP P 22 59 12.1 +0.2
KASI Kota Agung 53.10 270 P P 22 59 11.6 -1.7
comp=Z,109nm,1.0s
PMBI Palembang 53.19 273 eP P 22 59 14.2 +0.2
comp=Z,139nm,0.5s
PMOR Pomariorio Ree 53.19 102 eP P 22 59 15.7 +1.8
comp=Z,306nm,1.1s
SSE Sheshan 53.25 320 P P 22 59 14.2 +0.1
SSE S S 23 06 44.6 +0.8
SSE AMB AMB
comp=Z,42nm,0.7s
SSE AMB AMB
comp=Z,240nm,3.6s
SSE LR LR
comp=Z,410nm,19.8s
SSE LR LR
comp=Z,420nm,20.0s
SSE LR LR
comp=Z,590nm,23.2s
VAH Vaihoa 53.45 102 eP P 22 59 17.3 +1.5
comp=Z,110nm,1.1s
MDSI Maura Dua 53.55 271 P P 22 59 11.0 -5.6
LWLI Liwa 53.59 270 P P 22 59 22.4 +5.3
comp=Z,136nm,1.1s
HLK Haleakala 53.90 56 eP P 22 59 18.9 -0.4
YUK Yuzh-Kuril'sk 53.98 349⇑eP P 22 59 24.7 +5.6
YUK eS S 23 06 54.0 +0.9
POHA Pohakuloa 54.02 58 eP P 22 59 20.0 -0.3
comp=Z,216nm,1.3s
KSRS Korea Array 54.15 331 P P 22 59 19.8 -0.7
comp=Z,31nm,1.2s,baz=144,slow=8.2,SNR=20
KSRS LR LR 23 19 56.6
comp=Z,1µm,18.2s,baz=133,slow=33
KS15 Wonju Array Si 54.16 331 eP P 22 59 19.8 -0.8
KS01 Wonju Array Si 54.18 331 eP P 22 59 19.8 -0.9
INCN Inchon 54.80 330 eP P 22 59 24.2 -1.1
comp=Z,89nm,1.2s
INCN ePcP PcP 23 00 23.8 -3.7
MYKOM Kota Tinggi 54.97 279 P P 22 59 29.1 +2.1
comp=Z,33nm,1.9s,comp=Z,747nm
MYKOM Kota Tinggi 54.97 279 eP P 22 59 26.1 -0.8
comp=Z,84nm,1.6s
QIZ Qiongzhong 55.03 301 P P 22 59 28.1 +0.8
QIZ pP pP 22 59 34.6 -1.3
QIZ PP PP 23 01 31.4 +0.7
QIZ S S 23 07 10.2 +2.0
QIZ sS sS 23 07 20.8 -1.5
QIZ AMB AMB
comp=Z,79nm,1.6s
QIZ AMB AMB
comp=Z,510nm,5.0s
QIZ LR LR
comp=Z,470nm,18.2s
QIZ LR LR
comp=Z,1µm,24.6s
NJ2 Nanjing 55.37 319 eP P 22 59 31.2 +1.7
NJ2 pP pP 22 59 40.4 +2.3
NJ2 sP sP 22 59 44.1 +2.7
NJ2 PP PP 23 01 36.1 +2.5
NJ2 AMB AMB
comp=Z,30nm,1.0s
NJ2 AMB AMB
comp=Z,220nm,7.6s
NJ2 LR LR
comp=Z,1µm,19.4s
NJ2 LR LR
comp=Z,780nm,27.0s
NJ2 LR LR
comp=Z,1µm,18.6s
KGM Kluang 55.53 279 P P 22 59 34.2 +3.2
KTGM Kuala Trenggan 56.48 283 P P 22 59 39.5 +1.7
VLA Vladivostok 57.11 337 iP P 22 59 40.8 -0.9
VLA pmax pmax
comp=Z,41nm,1.1s
UBPT Khong Chiam 57.34 295 P P 22 59 47.1 +3.2
comp=Z,65nm,1.7s,comp=Z,2µm
UBPT Khong Chiam 57.34 295 P P 22 59 47.4 +3.5
comp=Z,87nm,1.5s,comp=Z,2µm
YSS Yuzh-Sakhalins 57.39 348 eP P 22 59 42.5 -1.1
YSS eS S 23 07 40.0 +1.4
YSS ePS PnS 23 07 50.0 -2.0
YSS MLR MLR
comp=N,1µm,16.0s
YSS MLR MLR
comp=E,700nm,16.0s
YSS MLR MLR
comp=Z,2µm,16.0s
FRIM Kepong 57.45 280 P P 22 59 44.3 -0.4
WHN Wuhan 57.46 315 ⇑P P 22 59 47.6 +3.2
WHN S S 23 07 42.4 +2.3
WHN LR LR
comp=Z,3µm,21.1s
PDSI Padang 57.77 275 P P 22 59 48.4 +1.4
comp=Z,72nm,2.4s,comp=Z,2µm
PPI Padang Panjang 57.91 275 P P 22 59 49.5 +1.5
comp=Z,80nm,1.0s,comp=Z,2µm
PPI Padang Panjang 57.91 275 ⇑P P 22 59 50.3 +2.3
baz=58,SNR=4.3
USRK Ussuriysk Arra 58.00 338 P P 22 59 46.7 -1.2
comp=Z,53nm,1.2s,baz=142,slow=6.5,SNR=20
USRK LR LR 23 23 46.5
comp=Z,540nm,18.5s,baz=132,slow=35
IPM Ipoh 58.31 281 P P 22 59 52.5 +1.7
IPM Ipoh 58.31 281 P P 22 59 51.5 +0.7
comp=Z,57nm,1.4s,comp=Z,1µm
IPM Ipoh 58.31 281 eP P 22 59 49.2 -1.6
comp=Z,104nm,1.4s
DL2 Dalian 58.47 327 P P 22 59 52.7 +1.4
DL2 AMB AMB
comp=Z,39nm,1.5s
DL2 AMB AMB
comp=Z,300nm,5.1s
DL2 LR LR
comp=Z,830nm,15.9s
DL2 LR LR
comp=Z,580nm,17.1s
DL2 LR LR
comp=Z,470nm,16.1s
PANO Nakornpanom 58.80 296 P P 22 59 55.0 +0.9
comp=Z,181nm,1.2s,comp=Z,13µm
DRV Dumont d'Urvil 58.81 188 S S 23 07 52.0 -4.6
DRV L L 23 14 00.0
DRV R R 23 17 00.0
KULM Kulim 58.87 282 P P 22 59 57.2 +2.5
KULM Kulim 58.87 282 P P 22 59 57.4 +2.7
KULM Kulim 58.87 282 P P 22 59 54.3 -0.3
comp=Z,41nm,1.7s,comp=Z,930nm
KULM Kulim 58.87 282 eP P 22 59 53.0 -1.6
comp=Z,67nm,1.3s
MDJ Mudanjiang 59.26 337 P P 22 59 55.7 -1.0
MDJ pP pP 23 00 02.0 -3.4
MDJ sP sP 23 00 04.8 -3.9
MDJ PcP PcP 23 00 44.6 -0.2
MDJ PP PP 23 02 06.9 -1.1
MDJ ScP ScP 23 04 43.0 -0.8
MDJ S S 23 08 07.9 +4.8
MDJ sS sS 23 08 11.5 -5.8
MDJ ScS ScS 23 09 43.1 -1.8
MDJ AMB AMB
comp=Z,39nm,1.2s
MDJ AMB AMB
comp=Z,280nm,5.3s
MDJ LR LR
comp=Z,2µm,20.3s
MDJ LR LR
comp=Z,960nm,18.0s
MDJ LR LR
comp=Z,840nm,15.8s
SKNT Sakolnakorn 59.30 296 P P 22 59 57.7 +0.2
comp=Z,112nm,1.6s,comp=Z,3µm
CHBT CHBT 59.35 291 P P 22 59 58.7 +0.8
CHBT CHBT 59.35 291 P P 22 59 59.1 +1.2
comp=Z,53nm,1.5s,comp=Z,1µm
SKLT Songkhla 59.36 284 P P 22 59 56.4 -1.6
comp=Z,48nm,1.6s,comp=Z,946nm
SKLT Songkhla 59.36 284 P P 23 00 01.3 +3.3
comp=Z,47nm,1.6s,comp=Z,952nm
PSI Prapat 59.99 279 ⇑P P 23 00 03.0 +0.5
baz=60,SNR=7.6
CN2 Changchun 60.32 333 eP P 23 00 04.1 +0.1
CN2 epP pP 23 00 11.8 -0.9
CN2 esP sP 23 00 14.9 -1.1
CN2 PcP PcP 23 00 49.6 +0.6
CN2 eS S 23 08 16.7 -0.1
CN2 AMB AMB
comp=Z,30nm,1.5s
CN2 LR LR
comp=Z,500nm,14.0s
CN2 LR LR
comp=Z,800nm,14.0s
CN2 LR LR
comp=Z,500nm,14.0s
CHAI Chaiyaphum 60.70 294 P P 23 00 07.2 0.0
comp=Z,14nm,1.0s,comp=Z,304nm
NAYO Nakonayok 60.78 292 P P 23 00 08.9 +1.2
comp=Z,287nm,0.9s
KRAB Krabi 60.99 285 P P 23 00 11.9 +2.7
comp=Z,20nm,1.3s,comp=Z,376nm
GSI Gunungsitoli 61.01 277 P P 23 00 08.3 -1.1
comp=Z,148nm,1.4s,comp=Z,3µm
GSI Gunungsitoli 61.01 277 eP P 23 00 07.9 -1.5
comp=Z,141nm,1.1s
GYA Guiyang 61.03 307⇑iP P 23 00 09.0 -0.4
GYA pP pP 23 00 18.9 +0.8
GYA PP PP 23 02 27.3 +3.2
GYA ScP ScP 23 04 52.0 -0.3
GYA S S 23 08 28.4 +1.7
GYA sS sS 23 08 42.5 +1.5
GYA AMB AMB
comp=Z,60nm,1.0s
GYA AMB AMB
comp=Z,280nm,3.8s
GYA LR LR
comp=Z,990nm,17.2s
GYA LR LR
comp=Z,1µm,23.0s
GYA LR LR
comp=Z,2µm,21.6s
KCSI Kotacane, Aceh 61.27 279 P P 23 00 09.0 -2.1
comp=Z,44nm,1.0s
PKDT Phuket 61.73 284 P P 23 00 17.2 +3.0
comp=Z,51nm,1.2s,comp=Z,1µm
PET Petropavlovsk 61.85 0 eP P 23 00 13.4 -0.8
PET eS S 23 08 34.6 -1.3
PET eSS SS 23 12 39.2 +0.7
PET pmax pmax
comp=Z,1µm,5.9s
PET pmax pmax
comp=Z,89nm,1.4s
PET pmax pmax
comp=Z,500nm,6.2s
PHET Kaeng Krachan 61.90 290 P P 23 00 19.3 +4.0
comp=Z,163nm,1.1s
PHET Kaeng Krachan 61.90 290 P P 23 00 19.1 +3.8
comp=Z,163nm,1.1s
PEA0 Petropavlovsk- 61.93 360 eP P 23 00 13.9 -0.9
PETK Petropavlovsk- 61.93 360 P P 23 00 14.2 -0.5
comp=Z,149nm,1.1s,baz=157,slow=6.8,SNR=46
PETK LR LR 23 22 59.8
comp=Z,907nm,21.1s,baz=172,slow=32
BJI Beijing 62.28 325 P P 23 00 19.3 +1.9
BJI PP PP 23 02 35.0 +0.3
BJI S S 23 08 39.0 -2.8
BJI sS sS 23 08 58.0 +1.9
BJI SS SS 23 12 41.5 -4.2
BJI AMB AMB
comp=Z,380nm,3.5s
BJI LR LR
comp=Z,1µm,14.8s
BJI LR LR
comp=Z,720nm,17.1s
BJI LR LR
comp=Z,710nm,25.4s
KLR Kul'dur 62.44 341 eP P 23 00 13.7 -4.6
KLR eS S 23 08 42.0 -1.5
KLR pmax pmax
comp=Z,140nm,1.6s
KLR smax smax
comp=E,1µm,9.0s
KLR smax smax
comp=N,1.0nm,9.0s
LHMI Lhok Sumawe 62.44 281 P P 23 00 21.1 +2.1
comp=N,116nm,1.3s
SNSI Sinabang, Aceh 62.45 277 P P 23 00 18.2 -0.9
comp=N,81nm,1.2s
NANT Nan 62.87 296 P P 23 00 21.9 +0.1
comp=N,233nm,1.1s,comp=N,88µm
FX1 Attu Island--F 63.06 10 eP P 23 00 21.6 -0.7
FX1 Attu Island--F 63.06 10 P P 23 00 21.7 -0.6
comp=N,59nm,0.9s,baz=261,slow=12,SNR=6.3
XAN Xi'an 63.22 315 P P 23 00 22.5 -1.4
XAN pP pP 23 00 30.1 -2.5
XAN sP sP 23 00 33.9 -2.0
XAN S S 23 08 46.0 -8.0
XAN ScS SKSac 23 10 08.8 -6.5
XAN AMB AMB
comp=N,68nm,5.1s
XAN LR LR
comp=N,630nm,22.5s
KMI Kunming 63.59 304 P P 23 00 27.8 +1.1
KMI pP pP 23 00 38.7 +3.3
KMI sP sP 23 00 43.7 +5.0
KMI S S 23 09 02.1 +2.8
KMI AMB AMB
comp=N,98nm,1.5s
KMI AMB AMB
comp=N,720nm,4.4s
KMI LR LR
comp=N,610nm,17.0s
KMI LR LR
comp=N,690nm,20.9s
KMI LR LR
comp=N,980nm,17.5s
PAYA Payao 63.80 297 P P 23 00 28.7 +0.7
comp=N,24nm,1.1s,comp=N,295nm
CM01 Chiang Mai Arr 64.28 295 eP P 23 00 30.8 -0.3
CM31 Chiang Mai Arr 64.31 295 eP P 23 00 31.2 0.0
CM31 ⇑e 23 29 27.8
CMAR Chiang Mai Arr 64.31 295 P P 23 00 31.2 0.0
comp=N,46nm,1.1s
CMAR PKPPKP P'P'df 23 29 19.1 -2.6
comp=N,0.5nm,0.3s,baz=288,slow=5.4,SNR=4.3
CMAR PKP2bc 23 29 27.8
comp=N,0.4nm,0.3s,baz=290,slow=3.8,SNR=7.7
CHTO Chiang Mai 64.43 296 eP P 23 00 31.8 -0.3
CHTO pmax pmax
comp=Z,406nm,1.2s
CHTO Chiang Mai 64.43 296 P P 23 00 32.8 +0.7
SNR=32
CHTO Chiang Mai 64.43 296 P P 23 00 32.7 +0.6
comp=Z,352nm,1.3s,comp=Z,6µm
CHTO Chiang Mai 64.43 296 eP P 23 00 31.8 -0.3
comp=Z,406nm,1.2s
CHTO Chiang Mai 64.43 296 P P 23 00 32.4 +0.3
comp=Z,352nm,1.3s,comp=Z,6µm
CD2 Chengdu 65.38 310 P P 23 00 37.6 -0.5
CD2 pP pP 23 00 52.2 +5.4
CD2 sP sP 23 00 55.6 +5.5
CD2 S S 23 09 21.6 +0.8
CD2 sS sS 23 09 38.9 +3.7
CD2 AMB AMB
comp=Z,100nm,1.3s
CD2 AMB AMB
comp=Z,840nm,3.5s
CD2 LR LR
comp=Z,1µm,16.1s
CD2 LR LR
comp=Z,1µm,17.2s
RKT Rikitea 65.47 111 eP P 23 00 39.8 +1.0
comp=Z,150nm,1.2s
RKT eS S 23 09 24.1 +2.0
comp=Z,334nm,28.5s
RKT eLQ LQ 23 17 27.8
comp=Z,1µm,28.8s
RKT eLR LR 23 20 27.8
comp=Z,2µm,27.8s,baz=280
HHC Hu-ho-hao-te 65.49 323 eP P 23 00 42.0 +3.3
HHC pP pP 23 00 50.0 +2.6
HHC sP sP 23 00 53.3 +2.6
HHC S S 23 09 24.9 +2.9
HHC sS sS 23 09 38.0 +1.6
HHC AMB AMB
comp=Z,49nm,1.0s
HHC AMB AMB
comp=Z,890nm,5.7s
HHC LR LR
comp=Z,1µm,15.5s
HHC LR LR
comp=Z,1µm,15.5s
HHC LR LR
comp=Z,1µm,17.8s
CASY Casey 65.57 199 eP P 23 00 38.2 -0.4
comp=Z,53nm,1.2s
LZH Lanzhou 67.84 315 ⇑P P 23 00 54.2 +0.4
LZH pP pP 23 01 02.5 -0.1
LZH sP sP 23 01 05.7 -0.2
LZH PP PP 23 03 26.5 +2.7
LZH S S 23 09 51.3 +0.6
LZH sS sS 23 10 03.5 -1.6
LZH AMB AMB
comp=Z,93nm,1.1s
LZH AMB AMB
comp=Z,490nm,8.2s
LZH LR LR
comp=Z,1µm,16.3s
LZH LR LR
comp=Z,1µm,15.0s
LZH LR LR
comp=Z,1µm,18.3s
VNDA Vanda 68.46 179 eP P 23 00 57.2 +0.4
comp=Z,24nm,1.3s
VNDA Vanda 68.46 179 P P 23 00 58.1 +1.3
comp=Z,5.1nm,0.9s,baz=341,slow=7.5,SNR=9.5
VNDA LR LR 23 25 22.0
comp=Z,1µm,19.2s,baz=356,slow=31
CLNS Chul'man 71.08 342 eP P 23 01 13.2 -0.1
CLNS e*PP pP 23 01 22.1 0.0
CLNS e 23 01 34.9
CLNS e 23 03 50.9
CLNS ePPP PPP 23 05 38.7
CLNS eS S 23 10 30.9 +3.0
CLNS e 23 11 13.4
CLNS pmax pmax
comp=Z,64nm,1.3s
CLNS pmax pmax
comp=N,22nm,1.1s
CLNS pmax pmax
comp=E,18nm,0.8s
CLNS pmax pmax
comp=Z,8.0nm,0.9s
CLNS pmax pmax
comp=E,3.0nm,0.9s
CLNS pmax pmax
comp=N,10.0nm,1.0s
CLNS smax smax
comp=N,205nm,10.8s
CLNS smax smax
comp=E,315nm,12.7s
CLNS MLR MLR
comp=E,370nm,15.0s
CLNS MLR MLR
comp=N,426nm,15.0s
CLNS MLR MLR
comp=Z,278nm,15.0s
CIT Chita 71.76 333 eP P 23 01 16.8 -0.7
CIT e 23 01 31.0
CIT pmax pmax
comp=Z,208nm,3.2s
SEY Seymchan 71.91 357⇑eP P 23 01 17.5 -0.6
GTA Gaotai 72.24 316 ⇑P P 23 01 20.9 +0.1
GTA pP pP 23 01 28.8 -0.8
GTA sP sP 23 01 32.3 -0.6
GTA S S 23 10 44.2 +2.0
GTA sS sS 23 10 57.1 +0.4
GTA AMB AMB
comp=Z,500nm,5.2s
GTA LR LR
comp=Z,590nm,20.0s
GTA LR LR
comp=Z,600nm,20.9s
GTA LR LR
comp=Z,720nm,20.9s
SONA0 Songino Array 72.66 326 eP P 23 01 22.9 -0.2
SONA0 eP'P'df P'P'df 23 29 13.6 +8.6
SONM Songino Array 72.66 326 P P 23 01 22.8 -0.2
comp=Z,12nm,0.9s,baz=135,slow=4.8,SNR=50
SONM PKPPKP P'P'df 23 29 13.6 +8.6
comp=Z,0.9nm,1.0s,baz=184,slow=2.2,SNR=4.5
SONM LR LR 23 32 23.6
comp=Z,725nm,19.3s,baz=123,slow=35
SONA1 Songino Array 72.66 326 eP P 23 01 22.9 -0.2
YAK Yakutsk 74.21 347c iP P 23 01 30.9 -0.8
YAK e 23 01 37.9
YAK e 23 04 23.7
YAK eS S 23 11 02.3 -0.9
YAK e 23 11 44.1
YAK eSS SS 23 15 53.2 +3.8
YAK eSSS SSS 23 19 06.0
YAK pmax pmax
comp=Z,104nm,1.3s
YAK pmax pmax
comp=N,36nm,1.4s
YAK pmax pmax
comp=E,20nm,1.4s
YAK pmax pmax
comp=Z,188nm,3.4s
YAK pmax pmax
comp=N,290nm,3.6s
YAK pmax pmax
comp=E,376nm,4.4s
YAK smax smax
comp=N,438nm,3.7s
YAK smax smax
comp=E,386nm,5.1s
YAK MLR MLR
comp=Z,604nm,25.0s
YAK MLR MLR
comp=E,354nm,25.0s
YAK MLR MLR
comp=N,554nm,23.0s
LSA Lhasa 74.85 304 P P 23 01 36.9 +0.2
LSA LR LR
comp=N,930nm,26.6s
ZAK Zakamensk 75.79 327 eP P 23 01 40.5 -0.8
ZAK e 23 06 19.6
ZAK pmax pmax
comp=Z,14nm,1.5s
TLY Talaya 76.33 329c iP P 23 01 43.5 -0.7
TLY e 23 04 29.6
TLY eS S 23 11 29.3 +2.0
TLY eSS SS 23 16 23.9 +1.8

TLY pmax pmax
comp=Z,33nm,1.9s
TLY MLR MLR
comp=Z,632nm,17.0s
TLY Talaya 76.33 329 P **P 23 01 44.6 +0.4**
comp=Z,52nm,1.4s,SNR=6.2
IRK Irkutsk 76.33 329 *e*P **P 23 01 41.7 -2.5**
IRK pmax pmax
comp=Z,62nm,2.3s
TAPN Taplejung 76.97 301 *e*P **P 23 01 48.6 -0.1**
comp=Z,173nm,1.4s
ODAN Odare 77.09 300 *e*P **P 23 01 49.2 -0.1**
comp=Z,143nm,1.0s
MOY Mondy 77.70 328 *e*P **P 23 01 52.1 +0.1**
MOY pmax pmax
comp=Z,109nm,3.2s
RAMN Ramite 77.80 300 *e*P **P 23 01 52.8 -0.5**
comp=Z,53nm,1.1s
JIRN Jiri 78.35 301 *e*P **P 23 01 56.2 -0.3**
comp=Z,86nm,1.3s
PALK Pallekele 78.66 279 P P 23 02 02.6 +4.6
SNR=6.9
PALK Pallekele 78.66 279 P **P 23 01 59.5 +1.5**
comp=Z,533nm,1.1s,SNR=5.6
PALK Pallekele 78.66 279 *e*P **P 23 01 59.1 +1.1**
GUN Gumba 78.68 301 *e*P **P 23 01 58.1 -0.2**
comp=Z,117nm,1.0s
SVW2 Sparrevohn 78.84 21 *e*P **P 23 01 57.9 0.0**
comp=Z,532nm,2.3s
PKI Pulchoki 78.99 300 *e*P **P 23 01 59.4 -0.5**
comp=Z,302nm,1.8s
KKN Kakani 79.16 301 *e*P **P 23 02 00.4 -0.3**
comp=Z,75nm,1.2s
DMN Daman 79.26 300 *e*P **P 23 02 00.9 -0.4**
comp=Z,227nm,1.2s
GKN Gorkha 79.77 301 *e*P **P 23 02 03.4 -0.6**
comp=Z,381nm,1.5s
SPU Mount Spurr 80.17 22 *e*P **P 23 02 03.9 -1.4**
SEW Seward 80.50 24 *e*P **P 23 02 06.7 -0.3**
comp=Z,67nm,1.1s
KOLN Koldanda 80.59 300 *e*P **P 23 02 07.7 -0.8**
comp=Z,52nm,0.8s
DANN Dangsing 80.60 301 *e*P **P 23 02 07.9 -0.8**
comp=Z,217nm,1.4s
QSPA South Pole Qui 80.92 180 *e*P **P 23 02 09.2 -0.2**
comp=Z,30nm,1.1s
QSPA South Pole Qui 80.92 180 P **P 23 02 09.9 +0.5**
comp=Z,8.4nm,0.8s
PPLA Purkeypile 81.23 21 *e*P **P 23 02 10.6 -0.5**
comp=Z,173nm,1.7s
HVS Khovu-Aksy 81.44 325*c i*P **P 23 02 11.6 -0.7**
HVS pmax pmax
comp=Z,93nm,1.6s
PMR Palmer 81.53 23 *e*P **P 23 02 11.8 -0.6**
PMR pmax pmax
comp=Z,171nm,1.6s
PMR Palmer 81.53 23 *e*P **P 23 02 11.8 -0.6**
comp=Z,171nm,1.6s
CAST Castle Rocks 81.61 20 *e*P **P 23 02 11.8 -1.0**
comp=Z,45nm,0.9s
TRF Thorofare Moun 82.25 21 *e*P **P 23 02 15.2 -1.2**
comp=Z,73nm,1.3s
WMQ Urumqi 82.33 317 P **P 23 02 16.2 -0.9**
WMQ pP **PcP 23 02 24.1 +1.8**
WMQ sP **sP 23 02 27.3 -2.0**
WMQ PP **PP 23 05 26.9 +0.7**
WMQ S **S 23 12 29.0 -2.4**
WMQ sS **SKKSac 23 12 42.2 +2.4**
WMQ SS **SS 23 17 52.8 +0.4**
WMQ AMB AMB
comp=Z,42nm,1.8s
WMQ AMB AMB
comp=Z,620nm,3.6s
WMQ LR LR
comp=Z,740nm,20.8s
WMQ LR LR
comp=Z,770nm,17.6s
WMQ LR LR
comp=Z,790nm,23.0s
BPAW Bear Paw Mtn. 82.42 20 *e*P **P 23 02 16.0 -1.2**
comp=Z,77nm,1.5s
DIV Divide 82.58 24 *e*P **P 23 02 17.3 -0.8**
comp=Z,46nm,1.2s
HYB Hyderabad 82.70 289 *i* P **P 23 02 21.0 +1.4**
HYB *e*S **S 23 12 36.0 -0.2**
TIXI Tiksi 82.83 351*c i*P **P 23 02 17.9 -1.1**
TIXI pmax pmax
comp=Z,72nm,1.7s
MCK McKinley 82.90 21 *e*P **P 23 02 19.0 -0.7**
MCK pmax pmax
comp=Z,167nm,1.1s
MCK McKinley 82.90 21 *e*P **P 23 02 19.0 -0.7**
comp=Z,167nm,1.1s
BMRM Bremner River 82.96 24 *e*P **P 23 02 20.5 +0.5**
comp=Z,389nm,2.8s
NGP Nagpur 83.03 293 *e*P **P 23 02 18.1 -3.1**
MAW Mawson 83.62 203 *e*P **P 23 02 23.3 0.0**
MAW Mawson 83.62 203 P **P 23 02 23.9 +0.6**
comp=Z,23nm,1.0s,baz=92,slow=6.2,SNR=26
MAW LR LR 23 35 09.4
comp=Z,732nm,19.9s,baz=90,slow=32
PAX Paxson 83.73 23 *e*P **P 23 02 23.0 -1.0**
PAX pmax pmax
comp=Z,378nm,3.0s
PAX Paxson 83.73 23 *e*P **P 23 02 23.0 -1.0**
comp=Z,378nm,3.0s
IL1 Eielson Array 84.24 21 *e*P **P 23 02 24.4 -2.0**
ILAR Eielson Array 84.24 21 P **P 23 02 25.0 -1.4**
comp=Z,30nm,1.1s,baz=256,slow=4.9,SNR=67
ILAR LR LR 23 36 56.8
comp=Z,893nm,18.3s,baz=41,slow=34
ILB Eielson Array 84.24 21 *e*P **P 23 02 25.1 -1.4**
MENT Mentasta 84.38 23 *e*P **P 23 02 26.1 -1.2**
DOT Dot Lake 84.63 22 *e*P **P 23 02 28.2 -0.3**
comp=Z,53nm,1.0s
COLD Coldfoot 84.65 18 *e*P **P 23 02 28.4 -0.1**
comp=Z,107nm,1.8s
AKL Akola 84.80 292 *i* x **P 23 02 29.3 -1.0**
AKL AMP 23 02 34.9
comp=Z,167nm,1.4s
AKL *i* x x 23 12 53.4
HYT Haines Junctio 85.90 26 *e*P **P 23 02 35.2 +0.2**
SKAG Skagway 86.29 28 *e*P **P 23 02 35.7 -1.1**
comp=Z,85nm,1.5s
EGAK Eagle 86.31 22 *e*P **P 23 02 36.5 -0.3**
comp=Z,174nm,1.6s
WRAK Wrangell Islan 86.55 31 *e*P **P 23 02 37.9 -0.2**
comp=Z,46nm,1.4s
DAWY Dawson 86.63 23 *e*P **P 23 02 38.1 -0.4**
MK01 Makanchi Array 86.87 318 *e*P **P 23 02 38.0 -2.0**
MK31 Makanchi Array 86.88 318 *i* P **P 23 02 39.1 -1.0**
MK31 pmax pmax
comp=Z,60nm,1.2s
MK32 Makanchi Array 86.88 318 *e*P **P 23 02 39.3 -0.7**
MKAR Makanchi Array 86.88 318 *e*P **P 23 02 38.9 -1.2**
MKAR Makanchi Array 86.88 318 *e*P **P 23 02 38.9 -1.2**
MKAR Makanchi Array 86.88 318 ⇓P **P 23 02 40.4 +0.3**
baz=88
MKAR Makanchi Array 86.88 318 P **P 23 02 39.3 -0.7**
comp=Z,19nm,1.1s,baz=101,slow=6.0,SNR=48
MKAR LR LR 23 42 19.8
comp=Z,396nm,20.1s,baz=271,slow=36
KCPM Cahto Peak 86.98 49 *e*P **P 23 02 39.4 -1.4**
comp=Z,24nm,1.0s
KIPM Iron Peak 87.08 49 *e*P **P 23 02 42.1 +0.7**
MCCM Marconi Confer 87.14 51 *e*P **P 23 02 42.9 +1.5**
comp=Z,28nm,0.7s
KHMM Horse Mountain 87.16 48 *e*P **P 23 02 39.1 -2.6**
comp=Z,56nm,1.3s
HOPS Hopland 87.19 50 *e*P **P 23 02 41.9 +0.2**
comp=Z,40nm,1.1s
KRMB Red Mountain 87.19 47 *e*P **P 23 02 43.2 +1.4**
comp=Z,346nm,2.8s
BBB Bella Bella 87.43 36 *e*P **P 23 02 41.7 -0.8**
BBB Bella Bella 87.43 36 P **P 23 02 41.7 -0.8**
comp=Z,3.9nm,0.8s,baz=187,slow=4.6,SNR=2.3
ZAA0 Zalesovo Array 87.53 326 *e*P **P 23 02 41.5 -1.5**
ZALV Zalesovo Beam 87.53 326 P **P 23 02 41.5 -1.4**
comp=Z,2.6nm,0.5s,baz=119,slow=5.9,SNR=16
ZALV LR LR 23 42 20.9
comp=Z,479nm,18.1s,baz=251,slow=36
SAO San Andreas Ge 87.93 52 *e*P **P 23 02 45.8 +0.5**
SAO pmax pmax
comp=Z,382nm,2.7s
SAO San Andreas Ge 87.93 52 *e*P **P 23 02 45.8 +0.5**
comp=Z,382nm,2.7s

WDC Whiskeytown Da 87.97 49 *e*P **P 23 02 45.6 +0.2**
WDC pmax pmax
comp=Z,41nm,1.4s
WDC Whiskeytown Da 87.97 49 *e*P **P 23 02 45.6 +0.2**
comp=Z,41nm,1.4s
YBH Yreka Blue Hor 88.11 47 *e*P **P 23 02 46.0 -0.2**
comp=Z,180nm,2.8s
YBH Yreka Blue Hor 88.11 47 P **P 23 02 46.3 +0.1**
comp=Z,6.7nm,0.8s,baz=270,slow=2.0,SNR=5.9
HUMO Hull Mountain 88.15 46 *e*P **P 23 02 46.1 -0.1**
comp=Z,163nm,2.6s
RPN Rapa Nui 88.32 117 *e*P **P 23 02 45.3 -2.1**
comp=Z,376nm,1.4s
DLBC Dease Lake 88.44 30 *e*P **P 23 02 45.8 -1.6**
DLBC Dease Lake 88.44 30 P **P 23 02 47.5 +0.2**
comp=Z,6.1nm,0.9s,baz=247,slow=4.6,SNR=7.9
DLBC LR LR 23 34 36.5
comp=Z,2µm,21.7s,baz=319,slow=30
NVS Novosibirsk 88.69 326⇑ *i*P P 23 02 44.8 -3.6
NVS *e*S **S 23 13 36.4 +3.1**
NVS pmax pmax
comp=Z,101nm,2.8s
NVS pmax pmax
comp=E,87nm,3.0s
NVS smax smax
comp=E,48nm,3.0s
E03A Lebam 88.70 43 *e*P **P 23 02 46.8 -1.9**
comp=E,33nm,0.9s
NLWA Neilton Lookou 88.71 42 *e*P **P 23 02 47.5 -1.2**
comp=E,52nm,1.8s
SMMC Simmler 88.76 54 P **P 23 02 50.9 +1.6**
baz=89
PKM Peak Mountain 88.82 55 P **P 23 02 51.5 +1.7**
baz=89
CMB Columbia Colle 89.03 51 *e*P **P 23 02 50.6 +0.1**
CMB pmax pmax
comp=Z,109nm,1.9s
CMB Columbia Colle 89.03 51 *e*P **P 23 02 50.6 +0.1**
comp=Z,110nm,1.9s
H04A Detroit Lake 89.18 45 *e*P **P 23 02 50.0 -1.1**
comp=Z,8.8nm,0.9s
PGC Sidney 89.30 41 *e*P **P 23 02 49.2 -2.3**
F04A Amboy 89.32 43 *e*P **P 23 02 49.8 -1.8**
comp=Z,33nm,1.4s
BEKR Beckworth 89.44 50 *e*P **P 23 02 51.9 -0.6**
comp=Z,114nm,2.2s
KSH Kashi 89.57 310 P **P 23 02 55.0 +1.8**
KSH pP **pP 23 03 04.0 +1.8**
KSH sP **sP 23 03 07.2 +1.8**
KSH PP PP 23 06 31.7 +6.6
KSH S **S 23 13 44.7 +2.0**
KSH sS **sS 23 13 57.2 -0.4**
KSH AMB AMB
comp=Z,41nm,1.3s
KSH LR LR
comp=Z,160nm,8.3s
KSH LR LR
comp=Z,470nm,14.4s
KSH LR LR
comp=Z,280nm,8.6s
VES Vestal, Richgr 89.60 54 P **P 23 02 54.3 +1.1**
baz=90
K05A Summer Lake 89.66 47 *e*P **P 23 02 53.6 +0.1**
comp=Z,329nm,2.5s
ARVC Arvin 89.67 54 P **P 23 02 54.9 +1.3**
baz=90
CIS Catalina Islan 89.68 56 P **P 23 02 54.9 +1.2**
baz=90
DECC Green Verdugo 89.90 55 P **P 23 02 55.7 +1.0**
baz=90
D05A Enumclaw 89.90 42 *e*P **P 23 02 54.2 -0.1**
comp=Z,22nm,0.9s
MOD Modoc 89.91 48 *e*P **P 23 02 55.1 +0.5**
comp=Z,243nm,1.6s
PINOR Pine Mountain 89.91 46 *e*P **P 23 02 52.0 -2.4**
comp=Z,21nm,1.1s
LON Longmire 89.92 43 *e*P **P 23 02 53.6 -0.9**
LON pmax pmax
comp=Z,63nm,2.6s
LON Longmire 89.92 43 *e*P **P 23 02 53.6 -0.9**
comp=Z,63nm,2.6s
PASC Pasadena Art C 90.00 56 *e*P **P 23 02 55.6 +0.5**
comp=Z,179nm,1.8s
ISA Isabella 90.05 54 *e*P **P 23 02 55.3 -0.1**
ISA pmax pmax
comp=Z,64nm,1.5s
ISA Isabella 90.05 54 *e*P **P 23 02 55.3 -0.1**
comp=Z,64nm,1.5s
ISA Isabella 90.05 54 P **P 23 02 55.6 +0.2**
baz=90
MWC Mount Wilson 90.12 55 *e*P **P 23 02 54.9 -1.0**
MWC pmax pmax
comp=Z,165nm,1.4s
MWC Mount Wilson 90.12 55 *e*P **P 23 02 54.9 -1.0**
comp=Z,165nm,1.4s
PAHR Pah Rah Range 90.14 50 *e*P **P 23 02 55.0 -0.8**
comp=Z,108nm,1.5s
A05A Maple Falls 90.26 40 *e*P **P 23 02 54.3 -1.6**
comp=Z,48nm,1.9s
KURK Kurchatov 90.26 321*c i*P **P 23 02 54.2 -1.7**
KURK pmax pmax
comp=Z,11nm,1.5s
KURK Kurchatov 90.26 321 P **P 23 02 54.5 -1.4**
SNR=15
KURK Kurchatov 90.26 321 P **P 23 02 54.1 -1.8**
comp=Z,112nm,1.5s,SNR=11
KURK Kurchatov 90.26 321 *e*P **P 23 02 53.9 -2.0**
comp=Z,27nm,1.5s
EDW2 Edwards Air Fo 90.29 55 P **P 23 02 57.4 +0.8**
baz=90
KURBB Kurchatov Arra 90.30 321 P **P 23 02 54.7 -1.3**
comp=Z,2.1nm,0.8s,baz=110,slow=2.9,SNR=4.1
G06A Carlson Farm, 90.38 44 *e*P **P 23 02 55.8 -0.9**
comp=Z,110nm,2.3s
BFSC Mount Baldy Ra 90.44 56 P **P 23 02 58.0 +0.6**
baz=90
TIN Tinemaha 90.51 53 P **P 23 02 58.8 +1.2**
baz=90
CWC Cottonwood Cre 90.51 53 P **P 23 02 58.4 +0.8**
baz=90
B06A Marblemount 90.53 41 *e*P **P 23 02 56.1 -1.1**
comp=Z,19nm,1.4s
TKM2 Tokmak 2 90.55 313 *i* P **P 23 02 55.8 -2.0**
TKM2 pmax pmax
comp=Z,24nm,1.4s
TKM2 Tokmak 2 90.55 313 *e*P **P 23 02 56.7 -1.1**
comp=Z,20nm,1.1s
INK Inuvik 90.63 20 *e*P **P 23 02 56.2 -1.0**
comp=Z,55nm,1.4s
INK Inuvik 90.63 20 P **P 23 02 56.4 -0.8**
comp=Z,22nm,1.3s,baz=243,slow=6.4,SNR=10
LRMC Laurel Mountai 90.65 54 P **P 23 02 59.3 +1.1**
baz=91
109C Camp Elliot, M 90.66 57 P **P 23 02 59.6 +1.4**
baz=91
MURC Murrieta 90.70 56 P **P 23 02 59.6 +1.1**
baz=91
NV01 Mina Array Sit 90.71 51 *e*P **P 23 02 59.1 +0.5**
NVAR Mina Array Bea 90.71 51 P **P 23 02 59.9 +1.3**
comp=Z,42nm,1.0s,baz=243,slow=6.7,SNR=133
NVAR LR LR 23 39 00.3
comp=Z,584nm,18.5s,baz=256,slow=32
LTY Liberty 90.79 42 *e*P **P 23 02 57.7 -0.9**
comp=Z,10nm,0.5s
MPMC Manual Prospec 90.91 54 P **P 23 03 00.5 +0.9**
baz=91
I07A Izee 90.93 46 *e*P **P 23 02 59.2 -0.1**
comp=Z,33nm,1.1s
BAR Barrett 90.98 57 *e*P **P 23 03 00.2 +0.4**
comp=Z,51nm,1.5s
MONP Monument Peak 91.22 57 P **P 23 03 01.9 +0.8**
baz=91
WVOR Wild Horse Val 91.23 47 *e*P **P 23 03 01.0 +0.2**
WVOR pmax pmax
comp=Z,62nm,1.4s
WVOR Wild Horse Val 91.23 47 *e*P **P 23 03 01.0 +0.2**
comp=Z,62nm,1.4s
FRU Bishkek 91.24 313 *e*P **P 23 03 00.0 -0.7**
FRU pmax pmax
comp=Z,60nm,1.6s
AAK Ala-Archa 91.29 313*c i*P **P 23 03 00.5 -0.6**
AAK pmax pmax
comp=Z,71nm,2.5s
AAK Ala-Archa 91.29 313 P **P 23 03 01.4 +0.2**
SNR=6.3
AAK Ala-Archa 91.29 313 *e*P **P 23 02 59.2 -2.0**
AAK Ala-Archa 91.29 313 P **P 23 02 59.2 -2.0**

comp=Z,2.2nm,0.6s,baz=106,slow=4.9,SNR=8.2
SYO Syowa Base 91.32 198⇑ *e*P **P 23 03 00.2 -0.3**
PFO Pinyon Flat Ob 91.32 56 *e*P **P 23 03 00.5 -0.9**
PFO *e*PcP **PcP 23 03 00.9 -1.5**
PFO Pinyon Flat Ob 91.32 56 P **P 23 03 01.7 +0.3**
baz=91
PFO Pinyon Flat Ob 91.32 56 P **P 23 03 00.1 -1.3**
comp=Z,6.3nm,0.9s,baz=252,slow=5.3,SNR=12
GSC Goldstone 91.33 55 *e*P **P 23 03 00.9 -0.5**
GSC pmax pmax
comp=Z,303nm,2.6s
GSC Goldstone 91.33 55 *e*P **P 23 03 00.9 -0.5**
comp=Z,303nm,2.6s
GSC Goldstone 91.33 55 P **P 23 03 02.6 +1.2**
baz=91
HAWA Hanford 91.38 43 *e*P **P 23 02 59.2 -2.0**
comp=Z,14nm,1.1s
DVTC Desert V Tower 91.45 57 P **P 23 03 03.0 +1.0**
baz=92
FURC Furnace Creek, 91.49 53 P **P 23 03 03.2 +1.2**
baz=92
J08A Circle Bar Ran 91.52 46 *e*P **P 23 03 01.4 -0.7**
comp=Z,31nm,1.0s
G08A Pilot Rock 91.55 45 *e*P **P 23 03 02.1 -0.1**
comp=Z,38nm,1.4s
HEC Hector,Ludlow 91.63 55 P **P 23 03 03.4 +0.6**
baz=92
SWSC Sam W. Stewart 91.75 57 P **P 23 03 03.5 +0.2**
baz=92
BELC Belle Mtn. Jos 91.76 56 P **P 23 03 04.3 +0.8**
baz=92
EKS2 Erkin-Say 91.82 313 *e*P **P 23 03 01.7 -1.8**
EKS2 pmax pmax
comp=Z,20nm,1.2s
EKS2 Erkin-Say 91.82 313 *e*P **P 23 03 01.7 -1.8**
comp=Z,20nm,1.2s
SHOC Shoshone 91.85 54 P **P 23 03 04.9 +1.2**
baz=92
B08A Colville Reser 91.90 41 *e*P **P 23 03 02.5 -1.2**
comp=Z,81nm,2.2s
BMN Battle Mountai 91.90 50 *e*P **P 23 03 04.6 +0.6**
BMN pmax pmax
comp=Z,67nm,1.5s
BMN Battle Mountai 91.90 50 *e*P **P 23 03 04.6 +0.6**
comp=Z,67nm,1.5s
D08A Wollman Farm, 91.92 43 *e*P **P 23 03 02.4 -1.3**
comp=Z,132nm,2.6s
TUQ Turquoise Moun 92.06 55 P **P 23 03 06.2 +1.4**
baz=92
BC3 Big Chuckawall 92.15 56 P **P 23 03 06.6 +1.4**
baz=92
GMRC Granite Mounta 92.16 55 P **P 23 03 06.7 +1.4**
baz=92
E09A Wood Farm, Sta 92.34 43 *e*P **P 23 03 03.8 -1.8**
comp=Z,29nm,1.4s
IRM Iron Mountain 92.48 56 P **P 23 03 08.1 +1.5**
baz=92
C09A Chrisman Ranch 92.49 42 *e*P **P 23 03 05.9 -0.5**
comp=Z,16nm,1.1s
GLA Glamis 92.57 57 *e*P **P 23 03 08.0 +0.9**
GLA pmax pmax
comp=Z,55nm,1.7s
GLA Glamis 92.57 57 *e*P **P 23 03 08.0 +0.9**
comp=Z,55nm,1.7s
GLA Glamis 92.57 57 P **P 23 03 08.3 +1.2**
baz=93
BMO Blue Mountains 92.62 45 *e*P **P 23 03 07.2 +0.1**
BMO pmax pmax
comp=Z,70nm,1.6s
BMO Blue Mountains 92.62 45 *e*P **P 23 03 07.2 +0.1**
comp=Z,70nm,1.6s
LDFC Landfair 92.66 55 *e*P **P 23 03 08.7 +1.1**
comp=Z,133nm,1.5s
R11A Troy Canyon, C 92.80 52 *e*P **P 23 03 08.6 +0.3**
R11A Troy Canyon, C 92.80 52 P **P 23 03 09.4 +1.1**
baz=93
SHPR Sheep Range 92.84 54 *e*P **P 23 03 09.1 +0.7**
F10A Beach Ranch, E 92.87 44 *e*P **P 23 03 07.3 -0.9**
comp=Z,117nm,2.0s
Y12C Blythe 92.93 56 P **P 23 03 10.5 +1.8**
baz=93
PDMCI Parker Dam,Lak 93.33 56 P **P 23 03 12.4 +1.9**
baz=93
NEW Newport 93.33 42 *e*P **P 23 03 08.8 -1.5**
comp=Z,60nm,2.1s
NEW Newport 93.33 42 P **P 23 03 10.6 +0.3**
baz=93
NEW Newport 93.33 42 P **P 23 03 09.4 -0.9**
comp=Z,4.4nm,0.8s,baz=243,slow=2.3,SNR=6.1
113A Mohawk Valley, 93.41 58 P **P 23 03 12.1 +1.2**
baz=93
MFID Camas Ranch 93.43 47 P **P 23 03 12.0 +1.0**
baz=94
ELK Elko 93.44 49 *e*P **P 23 03 10.8 -0.4**
comp=Z,149nm,2.5s
W13A Hualapai Mount 93.65 55 P **P 23 03 13.2 +0.9**
baz=94
214A Organ Pipe Nat 94.09 58 P **P 23 03 15.1 +1.0**
baz=94
KBL Kabul 94.17 304 *e*P **P 23 03 12.4 -2.3**
KBL pmax pmax
comp=Z,12nm,1.1s
KBL Kabul 94.17 304 *e*P **P 23 03 12.4 -2.3**
comp=Z,12nm,1.1s
KKAR Karatay Array 94.26 313 *e*P **P 23 03 13.3 -1.3**
KKAR Karatay Array 94.26 313 *e*P **P 23 03 13.3 -1.3**
ARUT Antelope Range 94.39 53 *e*P **P 23 03 17.1 +1.5**
ARUT Antelope Range 94.39 53 *e*P **P 23 03 17.1 +1.5**
CCUT Cedar City 94.42 53 *e*P **P 23 03 16.9 +1.1**
comp=Z,29nm,1.3s
HLID Hailey 94.47 47 *e*P **P 23 03 16.4 +0.6**
comp=Z,36nm,1.4s
HLID Hailey 94.47 47 P **P 23 03 16.6 +0.8**
baz=94
BSMT Bassoo Peak 94.82 42 *e*P **P 23 03 16.4 -0.9**
U15A North Rim 95.12 54 P **P 23 03 21.0 +1.9**
baz=95
BGU Big Grassy Mou 95.13 50 *e*P **P 23 03 17.4 -1.5**
comp=Z,18nm,1.2s
DUG Dugway 95.20 50 *e*P **P 23 03 18.9 -0.3**
DUG pmax pmax
comp=Z,171nm,3.0s
DUG Dugway 95.20 50 *e*P **P 23 03 18.9 -0.3**
comp=Z,171nm,3.0s
DUG Dugway 95.20 50 P **P 23 03 20.3 +1.1**
baz=95
VOSK Vostochnaya 95.31 322 *e*P **P 23 03 16.3 -2.9**
VOSK pmax pmax
comp=Z,19nm,1.3s
VOSK Vostochnaya 95.31 322 *e*P **P 23 03 16.3 -2.9**
comp=Z,19nm,1.3s
HVU Hansel Valley 95.43 49 *e*P **P 23 03 18.0 -2.2**
HVU pmax pmax
comp=Z,45nm,1.4s
HVU Hansel Valley 95.43 49 *e*P **P 23 03 18.0 -2.2**
comp=Z,45nm,1.4s
MVU Marysvale 95.45 52 *e*P **P 23 03 18.3 -2.2**
comp=Z,71nm,1.9s
X16A Lo Mia Camp, P 95.56 56 P **P 23 02 22.4 +1.4**
baz=96
WALA Waterton Lakes 95.56 41 *e*P **P 23 03 21.2 +0.6**
SPUT South Promonto 95.61 49 *e*P **P 23 03 18.3 -2.8**
comp=Z,18nm,1.2s
BVAR Borovoye Array 95.70 323 P **P 23 03 18.4 -2.6**
comp=Z,7.6nm,1.0s,baz=104,slow=4.7,SNR=18
BVAR LR LR 23 50 13.9
comp=Z,428nm,18.6s,baz=94,slow=38
NLU North Lily Min 95.73 51 *e*P **P 23 03 20.6 -1.1**
comp=Z,18nm,1.1s
WUAZ Wupatki 95.75 55 *e*P **P 23 03 19.1 -2.7**
comp=Z,92nm,2.8s
WUAZ Wupatki 95.75 55 P **P 23 03 24.3 +2.5**
baz=96
MCMT McKenzie Canyo 95.75 46 *e*P P 23 03 18.4 -3.3
BRVK Borovoye 95.77 323 *e*P **P 23 03 19.2 -2.1**
BRVK pmax pmax
comp=Z,24nm,1.3s
BRVK Borovoye 95.77 323 P **P 23 03 20.2 -1.0**
SNR=8.3
BRVK Borovoye 95.77 323 P **P 23 03 19.0 -2.3**
comp=Z,78nm,1.2s,SNR=9.1
BRVK Borovoye 95.77 323 *e*P **P 23 03 19.1 -2.1**
comp=Z,24nm,1.3s
DLMT Dillon 95.99 45 *e*P **P 23 03 20.2 -2.4**
comp=Z,6.9nm,0.9s
MPU Maple Canyon 96.08 51 *e*P **P 23 03 20.8 -2.5**
comp=Z,156nm,2.5s

JLU	Jordanelle	96.28	50	*e*P		P		23 03 21.0	-3.2
	comp=Z,20nm,1.2s								
Q16A	Castle Valley	96.30	52	*e*P		P		23 03 21.5	-2.8
	comp=Z,56nm,1.9s								
TMUT	Trail Mountain	96.32	51	*e*P		P		23 03 22.8	-1.8
	comp=Z,20nm,1.1s								
DAU	Daniels Canyon	96.41	50	*e*P		P		23 03 21.6	-3.3
DAU	Daniels Canyon	96.41	50	*e*P		P		23 03 21.6	-3.3
EDM	Edmonton	96.41	37	*e*P		P		23 03 21.8	-2.5
EDM	Edmonton	96.41	37	*e*P		P		23 03 21.8	-2.5
RRI2	Red Ridge	96.68	47	*e*P		P		23 03 23.7	-2.3
	comp=Z,161nm,3.0s								
QLMT	Earthquake Lak	96.76	46	*e*P		P		23 03 24.6	-1.7
YKA	Yellowknife Ar	96.79	28	P		P		23 03 24.7	-1.0
	comp=Z,3.8nm,0.9s,baz=258,slow=4.9,SNR=6.0								
YKB5	Yellowknife Ar	96.79	28	*e*P		P		23 03 24.7	-1.0
TPAW	Teton Pass	96.96	47	*e*P		P		23 03 24.1	-3.2
	comp=Z,16nm,1.4s								
319A	Douglas	97.01	59	P		Pdif		23 03 29.2	+1.5
	baz=97								
IMW	Indian Meadow	97.01	47	*e*P		P		23 03 27.1	-0.4
	comp=Z,16nm,1.4s								
REDW	Red Top Meadow	97.02	47	*e*P		P		23 03 26.3	-1.2
	comp=Z,23nm,1.5s								
W18A	Petrified Fore	97.03	56	*e*P		P		23 03 24.9	-2.7
	comp=Z,6.2nm,0.7s								
YMR	Madison River	97.07	46	*e*P		P		23 03 25.6	-2.0
SNOW	Snow King Moun	97.10	47	*e*P		P		23 03 24.0	-3.9
	comp=Z,155nm,3.0s								
MOOW	Moose Ponds	97.14	47	*e*P		P		23 03 24.4	-3.6
	comp=Z,61nm,2.8s								
YFT	Old Faithful	97.14	46	*e*P		P		23 03 24.6	-3.5
	comp=Z,11nm,1.0s								
FLWY	Flagg Ranch	97.20	47	*e*P		P		23 03 25.9	-2.4
	comp=Z,56nm,2.2s								
LOHW	Long Hollow	97.22	47	*e*P		P		23 03 26.0	-2.4
	comp=Z,21nm,1.8s								
I17A	Pilgrim Ck.	97.27	47	P		Pdif		23 03 29.3	+0.6
	baz=97								
120A	U Bar Ranch, L	97.68	58	P		Pdif		23 03 31.8	+1.1
	baz=98								
220A	Playas Peak, P	97.70	59	P		Pdif		23 03 31.9	+1.1
	baz=98								
Z20A	Nine Sixteen R	97.77	58	P		Pdif		23 03 32.2	+1.1
	baz=98								
PV05	Paradox Valley	97.83	53	*e*P		P		23 03 29.8	-1.5
BW06	Boulder Array	97.91	48	*e*P		P		23 03 30.0	-1.6
X20A	Quemado	97.99	56	P		Pdif		23 03 33.2	+1.1
	baz=98								
H18A	Shoshone NF, C	97.99	46	P		Pdif		23 03 32.3	+0.3
	baz=98								
L19A	Farson	98.00	49	P		Pdif		23 03 32.3	+0.3
	baz=98								
O19A	Miners Draw (B	98.02	50	P		Pdif		23 03 32.6	+0.6
	baz=98								
P19A	Cripple Cowboy	98.07	51	P		Pdif		23 03 33.7	+1.3
	baz=98								
GCMT	Greycliff	98.08	45	*e*P		Pdif		23 03 32.8	+0.6
J19A	Crowheart	98.32	47	P		Pdif		23 03 33.8	+0.5
	baz=98								
121A	Cookes Peak, D	98.39	58	P		Pdif		23 03 34.3	+0.4
	baz=98								
I19A	Meeteetse	98.42	47	P		Pdif		23 03 34.4	+0.6
	baz=98								
Q20A	Ridgley Place,	98.54	52	P		Pdif		23 03 36.1	+1.7
	baz=99								
Z21A	St. Cloud Mine	98.56	58	P		Pdif		23 03 36.2	+1.6
	baz=99								
F19A	Roth Farm, Mol	98.59	45	P		Pdif		23 03 35.2	+0.8
	baz=99								
O20A	White River Ci	98.68	51	*e*P		P		23 03 33.4	-1.6
O20A	White River Ci	98.68	51	P		Pdif		23 03 36.7	+1.7
	baz=99								
N20A	Spence Gulch,	98.72	50	P		Pdif		23 03 36.6	+1.4
	baz=99								
D19A	Cripps Ranch,	98.73	44	P		Pdif		23 03 35.1	+0.2
	baz=99								
E19A	Rath Farm, Rou	98.75	44	P		Pdif		23 03 35.7	+0.7
	baz=99								
L20A	Wamsutter	98.75	49	P		Pdif		23 03 35.7	+0.4
	baz=99								
S21A	Coal Bank Pass	98.83	53	P		Pdif		23 03 37.6	+1.7
	baz=99								
Z22A	Elephant Butte	99.14	58	P		Pdif		23 03 37.8	+0.6
	baz=99								
H20A	Greybull	99.17	46	P		Pdif		23 03 37.3	+0.4
	baz=99								
E20A	Meyer Farm, Mu	99.20	44	P		Pdif		23 03 37.7	+0.7
	baz=99								
I21A	Big Trails, Te	99.63	47	P		Pdif		23 03 39.1	0.0
	baz=100								
O22A	Kremmling	99.97	51	P		Pdif		23 03 41.2	+0.3
	baz=100								
K22A	Casper	100.13	48	P		Pdif		23 03 41.9	+0.5
	baz=100								
J22A	Midwest	100.20	47	P		Pdif		23 03 41.9	+0.3
	baz=100								
I22A	9 Mile Ranch,	100.22	47	P		Pdif		23 03 42.4	+0.7
	baz=100								
324A	Moseley Ranch,	100.25	60	P		Pdif		23 03 42.5	+0.4
	baz=100								
224A	Cornudas Mount	100.26	59	P		Pdif		23 03 42.3	+0.2
	baz=100								
H22A	Clearmont	100.35	46	P		Pdif		23 03 42.7	+0.5
	baz=100								
F22A	Rosebud	100.47	45	P		Pdif		23 03 43.5	+0.8
	baz=100								
N23A	Red Feather La	100.47	50	P		Pdif		23 03 44.8	+1.7
	baz=100								
W24A	Lazy 6 Ranch,	100.57	56	P		Pdif		23 03 44.4	+0.8
	baz=101								
425A	Indio Mountain	100.62	60	P		Pdif		23 03 45.4	+1.6
	baz=101								
325A	Bean Ranch, Si	100.68	60	P		Pdif		23 03 45.5	+1.4
	baz=101								
L23A	Garrett	100.71	49	P		Pdif		23 03 44.7	+0.6
	baz=101								
G23A	Biddle	101.05	46	P		Pdif		23 03 46.1	+0.8
	baz=101								
Y25A	Mesa, Roswell	101.08	57	P		Pdif		23 03 47.0	+1.2
	baz=101								
426A	McDonald Obser	101.44	61	P		Pdif		23 03 47.3	-0.2
	baz=101								
IMYA	Miami	101.61	305	*e*P		PKiKP		23 08 05.2	-6.6
H24A	Dirks Ranch, A	101.64	46	P		Pdif		23 03 48.1	+0.2
	baz=102								
TX31	Lajitas Ar. Si	101.66	62	*e*Pdif		Pdif		23 03 50.3	+1.9
LTX	Lajitas	101.66	62	*e*P		Pdif		23 03 48.4	0.0
LTX				*e*				23 07 58.3	
LTX	Lajitas	101.66	62	*e*Pdif		Pdif		23 03 48.4	0.0
LTX				*e*PP		PP		23 07 58.3	-0.8
TXAR	Lajitas Array	101.66	62	P		Pdif		23 03 48.4	0.0
	comp=Z,0.4nm,0.8s,baz=232,slow=5.6,SNR=8.7								
TXAR				PP		PP		23 07 58.3	-0.8
	comp=Z,2.1nm,1.0s,baz=268,slow=8.8,SNR=9.4								
AB31	Akbulak array	102.03	318	*i* P		Pdif		23 03 45.6	-3.8
ABKAR	Akbulak array	102.03	318	*e*Pdif		Pdif		23 03 46.6	-2.8
IMOG	Moghan	102.21	305	*e*P		PP		23 08 01.4	-1.9
ARU	Arti	102.69	326	*d* /P		Pdif		23 03 53.0	+0.8
ARU								23 08 07.4	
ARU					PPP	PPP		23 10 16.3	
ARU					S	SKSac		23 14 30.1	+0.2
ARU					SS	SS		23 22 44.7	+1.1
ARU					pmax	pmax			
	comp=Z,7.0nm,1.2s								
ARU					MLR	MLR			
	comp=Z,543nm,19.0s								
APA	Apatity	111.07	340	⇓/P		Pdif		23 04 31.0	+1.8
APA				*i*				23 09 13.0	
APA				*i* SS		SS		23 24 32.0	-4.5
FIA0	FINESS Array S	117.00	336	*e*PKIKP		PKPdf		23 08 39.5	-0.2
FIA0	FINESS Array S	117.00	336	*e*PKPdf		PKPdf		23 08 39.5	-0.2
FINES	FINESS Array B	117.00	336	PKP		PKPdf		23 08 39.5	-0.2
	comp=Z,4.1nm,0.9s,baz=94,slow=2.7,SNR=6.4								
AKASG	Malin Array Be	120.91	325	PKP		PKPdf		23 08 47.5	0.0
	comp=Z,1.8nm,0.6s,baz=57,slow=2.4,SNR=16								
AKBB	Malin Array Si	120.91	325	*e*PKIKP		PKPdf		23 08 47.5	0.0
AKBB	Malin Array Si	120.91	325	*e*PKPdf		PKPdf		23 08 47.5	0.0
KIEV	Kiev	120.92	325	*e*PKIKP		PKPdf		23 08 45.9	-1.6
KIEV	Kiev	120.92	325	*e*PKPdf		PKPdf		23 08 45.9	-1.6
BOSA	Boshof	120.94	229	*e*PKPdf		PKPdf		23 08 49.6	+1.1
BOSA	Boshof	120.94	229	PKP		PKPdf		23 08 49.6	+1.1
	comp=Z,4.8nm,1.0s,baz=76,slow=3.6,SNR=3.6								
BR101	Keskin Array S	121.94	311	*e*PKPdf		PKPdf		23 08 48.9	-1.2
BRTR	Keskin Array B	121.94	311	PKP		PKPdf		23 08 48.9	-1.2
	comp=Z,2.1nm,1.0s,baz=247,slow=1.1,SNR=7.7								
SUW	Suwalki	122.47	330	*e*PKP		PKPdf		23 08 50.3	-0.1
ANTO	Ankara	122.52	312	*e*PKIKP		PKPdf		23 08 50.3	-0.8
ANTO	Ankara	122.52	312	*e*PKPdf		PKPdf		23 08 50.3	-0.8
BR231	Keskin MP Arra	122.54	312	*e*PKPdf		PKPdf		23 08 49.0	-2.2
NB2	NORSAR Subarra	122.59	342	PKPdf		PKPdf		23 08 49.8	-0.7
	comp=Z,2.4nm,0.8s,baz=39,slow=1.9								
NB200	NORSAR Array S	122.59	342	*e*PKPdf		PKPdf		23 08 50.3	-0.2
NOA	NORSAR Array B	122.59	342	PKP		PKPdf		23 08 50.3	-0.2
	comp=Z,2.8nm,0.8s,baz=42,slow=1.9,SNR=9.5								
NBO02	NORSAR Array S	122.70	342	*e*PKPdf		PKPdf		23 08 48.5	-2.2
LSZ	Lusaka	124.66	244	*e*PKPdf		PKPdf		23 08 53.9	-2.0
BURAR	Bucovina Array	124.66	323	⇑PKIKP		PKPdf		23 08 56.7	+1.7
BURAR	Bucovina Array	124.66	323	⇑*i*P		PKPdf		23 08 56.7	+1.7
BUR04	Bucovina Ar. S	124.66	323	*e*PKPdf		PKPdf		23 08 55.0	0.0
BEL	Belsk	124.90	329	*e*PKP		PKPdf		23 08 59.0	+3.9
KWP	Kalwaria Pacla	125.10	326	*e*PKIKP		PKPdf		23 08 55.8	+0.1
KWP	Kalwaria Pacla	125.10	326	⇑*i*P		PKPdf		23 08 55.8	+0.1
KWP	Kalwaria Pacla	125.10	326	*e*PKPdf		PKPdf		23 08 55.8	+0.1
KWP	Kalwaria Pacla	125.10	326	*e*PKP		PKPdf		23 08 56.1	+0.5
MLR	Muntele Rosu	125.18	320	⇓*i*P		PKPdf		23 08 54.9	-1.2
GKP	Gorka Klasztor	125.75	332	*e*PKP		PKPdf		23 08 57.3	+0.6
VOIR		125.77	321	⇑PKIKP		PKPdf		23 09 01.2	+4.0
VOIR		125.77	321	⇑*i*P		PKPdf		23 09 01.2	+4.0
UZH	Uzhgorod	125.85	325	*e*PKIKP		PKPdf		23 08 55.0	-2.1
UZH				*i*				23 09 05.5	
STHS	Stebnicka Huta	126.02	326	*e*PKP		PKPdf		23 08 58.6	+1.2
ARR	Arges	126.06	321	⇑*i*P		PKPdf		23 08 58.9	+1.2
OJC	Ojcow	126.34	328	*e*PKIKP		PKPdf		23 08 56.7	-1.3
OJC	Ojcow	126.34	328	*e*PKPdf		PKPdf		23 08 56.7	-1.3
MBAR	Mbarara	126.56	262	*e*PKPdf		PKPdf		23 08 57.5	-2.2
OKC	Ostrava-Krasne	127.43	328	*e*PKPdf		PKPdf		23 09 00.1	0.0
OKC				*ep*PKP		PKiKP		23 09 04.0	+3.4
PSZ	Piszkesteto	127.59	325	*e*PKIKP		PKPdf		23 08 59.9	-0.6
PSZ	Piszkesteto	127.59	325	*e*PKPdf		PKPdf		23 08 59.9	-0.6
KSP	Ksiaz	127.75	330	*e*PKP		PKPdf		23 09 01.0	+0.3
BZS	Buzias	127.80	322	⇑PKIKP		PKPdf		23 09 00.5	-0.4
BZS	Buzias	127.80	322	⇑*i*P		PKPdf		23 09 00.5	-0.4
LPAZ	La Paz	127.90	119	*e*PKPdf		PKPdf		23 09 01.4	-1.3
LPAZ	La Paz	127.90	119	PKP		PKPdf		23 09 03.8	+1.1
	comp=Z,9.0nm,1.0s,baz=321,slow=1.2,SNR=17								
ROSC	El Rosal	127.98	91	*e*PKPdf		PKPdf		23 08 59.0	-3.7
DPC	Dobruska-Polom	128.04	330	*e*PKIKP		PKPdf		23 08 57.6	-3.7
DPC	Dobruska-Polom	128.04	330	*e*PKPdf		PKPdf		23 09 02.0	+0.7
DPC				*ep*PKP		PKiKP		23 09 05.4	+3.5
DPC	Dobruska-Polom	128.04	330	*e*PKPdf		PKPdf		23 08 57.6	-3.7
UPC	Upice	128.10	330	*e*PKPdf		PKPdf		23 09 02.3	+0.9
UPC				*ep*PKP		PKiKP		23 09 05.8	+3.9
VTS	Vitosha	128.24	318	⇑PKIKP		PKPdf		23 09 01.7	-0.4
VTS	Vitosha	128.24	318	⇑*i*P		PKPdf		23 09 01.7	-0.4
BSEG	Bad Segeberg	128.28	336	*e*PKIKP		PKPdf		23 09 02.4	+0.9
VRAC	Vranov	128.55	328	⇓*i*P		PKPdf		23 09 01.5	-0.8
PVCC	Panska Ves	128.79	331	*e*PKPdf		PKPdf		23 09 02.4	-0.2
PVCC				*ep*PKP		PKiKP		23 09 06.7	+3.4
BRG	Berggiesshubel	128.86	331	*e*PKP		PKPdf		23 09 03.9	+1.1
	comp=Z,30nm,1.6s								
BRG				SS		SS		23 28 31.0	+5.4
CLL	Collm	129.00	332	*i* PKIKP		PKPdf		23 09 02.9	-0.1
CLL				pmax		pmax			
	comp=Z,8.0nm,1.3s								
CLL				MLR		MLR			
	comp=Z,500nm,18.7s								
CLL	Collm	129.00	332	*i* PKPdf		PKPdf		23 09 02.9	-0.1
	comp=Z,13nm,1.3s								
CLL				*i* pPKPdf		PKiKP		23 09 06.6	+2.9
	comp=Z,25nm,1.4s								
CLL				*e*PP		PP		23 11 12.0	+1.9
CLL				*e*SS		SS		23 28 30.0	+2.7
CLL				LmV				00 06 00.0	
	comp=Z,500nm,18.7s								
TREC	Trest	129.13	329	*e*PKPdf		PKPdf		23 09 03.7	+0.3
TREC				*ep*PKP		PKiKP		23 09 07.0	+2.9
PRA	Prague	129.16	330	PKPdf		PKPdf		23 09 04.0	+0.7
PRU	Pruhonice	129.16	330	*e*PKPdf		PKPdf		23 09 03.7	+0.3
PRU				*ep*PKP		PKiKP		23 09 07.2	+3.1
PRU				AMS		AMS		00 08 20.0	
	comp=Z,600nm,17.7s								
CONA	Conrad Observa	129.78	327	⇑*i*pPKPdf		PKPdf		23 09 05.7	+0.9
	comp=Z,21nm,1.6s								
CLZ	Clausthal	129.79	334	*e*PKIKP		PKPdf		23 09 05.6	+1.0
MOX	Moxa	130.10	333	*e*PKIKP		PKPdf		23 09 05.9	+0.7
MOX				MLR		MLR			
	comp=Z,500nm,20.1s								
KHC	Kasperske Hory	130.19	330	*e*PKIKP		PKPdf		23 09 04.5	-0.9
KHC	Kasperske Hory	130.19	330	*e*PKPdf		PKPdf		23 09 05.7	+0.3
KHC				*ep*PKP		PKiKP		23 09 09.7	+3.5
KHC				AMS		AMS		00 10 30.0	
	comp=Z,600nm,17.5s								
KHC	Kasperske Hory	130.19	330	*e*PKPdf		PKPdf		23 09 04.5	-0.9
GEC2	GERESS Array S	130.32	330	*e*PKIKP		PKPdf		23 09 05.3	-0.5
GEC2	GERESS Array S	130.32	330	*e*PKPdf		PKPdf		23 09 05.3	-0.5
GERES	GERESS Array B	130.32	330	PKP		PKPdf		23 09 06.4	+0.7
	comp=Z,2.3nm,0.8s,baz=96,slow=1.3,SNR=19								
CPUP	Villa Florida	130.88	137	*e*PKPdf		PKPdf		23 09 07.0	-0.4
CPUP	Villa Florida	130.88	137	PKP		PKPdf		23 09 08.5	+1.1
	comp=Z,12nm,1.2s,baz=339,slow=1.6,SNR=4.6								
GRF	Grafenberg Arr	130.94	332	*e*PKIKP		PKPdf		23 09 07.8	+1.0
PERS	Pernice	130.98	327	*e*PKPdf		PKPdf		23 09 05.9	-1.1
SOKA	Soboth	131.00	327	⇑*i*PKPdf		PKPdf		23 09 04.4	-2.7
	comp=Z,13nm,1.5s								
TIR	Tirane	131.02	318	*e*PKIKP		PKPdf		23 09 06.2	-1.0
TIR	Tirane	131.02	318	*e*PKPdf		PKPdf		23 09 06.2	-1.0
BOJS	Bojanci	131.59	325	*e*PKPdf		PKPdf		23 09 07.9	-0.2
BOJS				*e*				23 12 36.2	
LJU	Ljubljana	131.66	326	*e*PKPdf		PKPdf		23 09 07.7	-0.6
LJU				*e*				23 12 36.3	
FUR	Furstenfeldbru	131.97	330	*e*PKIKP		PKPdf		23 09 09.6	+0.8
SDV	Santo Domingo	132.04	86	*e*PKPdf		PKPdf		23 09 08.1	-2.0
ABTA	Ahfaltersbach	132.29	328	⇑*i*PKPdf		PKPdf		23 09 07.6	-2.0
	comp=Z,7.9nm,1.3s								
MEM	Membach	132.53	336	PKP		PKPdf		23 09 11.2	+1.5
STU	Stuttgart	132.53	332	*e*PKIKP		PKPdf		23 09 07.7	-2.1
STU	Stuttgart	132.53	332	*e*PKPdf		PKPdf		23 09 07.7	-2.1
WLF	Walferdange	133.20	335	PKP		PKPdf		23 09 13.4	+2.4
FUORN	Ofenpass-Fuorn	133.53	329	*e*PKPdf		PKPdf		23 09 11.0	-1.1
CDF	Champ du Feu	133.66	333	*e*PKIKP		PKPdf		23 09 10.1	-2.0
	comp=Z,27nm,1.3s								
CDF	Champ du Feu	133.66	333	*e*PKIKP		PKPdf		23 09 10.1	-2.0
CDF	Champ du Feu	133.66	333	*e*PKPdf		PKPdf		23 09 10.1	-2.0
BAIF	Baives	133.68	337	*e*PKIKP		PKPdf		23 09 11.0	-0.9
	comp=Z,36nm,1.3s								
BAIF	Baives	133.68	337	*e*PKIKP		PKPdf		23 09 11.0	-0.9
BAIF	Baives	133.68	337	*e*PKPdf		PKPdf		23 09 11.0	-0.9
TUE	Stuetta	134.09	330	*e*PKPdf		PKPdf		23 09 11.7	-1.4
HINF	Hinteralfeld	134.30	333	*e*PKIKP		PKPdf		23 09 12.1	-1.1
HINF	Hinteralfeld	134.30	333	*e*PKIKP		PKPdf		23 09 12.1	-1.1
HINF	Hinteralfeld	134.30	333	*e*PKPdf		PKPdf		23 09 12.1	-1.1
HAU	Haudompre	134.38	333	*e*PKIKP		PKPdf		23 09 12.1	-1.3
	comp=Z,38nm,1.4s								
HAU				*e*R					
	comp=Z,454nm,18.8s								
HAU	Haudompre	134.38	333	*e*PKIKP		PKPdf		23 09 12.1	-1.3
HAU	Haudompre	134.38	333	*e*PKPdf		PKPdf		23 09 12.1	-1.3
MEZF	Maizieres J'vi	134.56	335	*e*PKIKP		PKPdf		23 09 12.9	-0.7
MEZF	Maizieres J'vi	134.56	335	*e*PKPdf		PKPdf		23 09 12.9	-0.7
SAML	Samuel	135.30	112	*e*PKPdf		PKPdf		23 09 15.1	-0.9
CABF	La Chapelle	135.54	332	*e*PKIKP		PKPdf		23 09 15.1	-0.6
	comp=Z,216nm,1.9s								
CABF	La Chapelle	135.54	332	*e*PKIKP		PKPdf		23 09 15.1	-0.6
CABF	La Chapelle	135.54	332	*e*PKPdf		PKPdf		23 09 15.1	-0.6
LOR	Lormes	136.03	335	*e*PKIKP		PKPdf		23 09 14.5	-1.9
	comp=Z,26nm,1.2s								
LOR				*e*R					
	comp=Z,413nm,19.0s								
LOR	Lormes	136.03	335	*e*PKPdf		PKPdf		23 09 14.5	-1.9
LPL	La Plagne	136.05	331	*e*PKIKP		PKPdf		23 09 15.8	-1.0
	comp=Z,24nm,1.4s								
LPL	La Plagne	136.05	331	*e*PKIKP		PKPdf		23 09 15.8	-1.0
LPL	La Plagne	136.05	331	*e*PKPdf		PKPdf		23 09 15.8	-1.0
LPG	La Plagne	136.05	331	*e*PKIKP		PKPdf		23 09 15.3	-1.6
	comp=Z,30nm,1.2s								
LPG	La Plagne	136.05	331	*e*PKIKP		PKPdf		23 09 15.3	-1.6
LPG	La Plagne	136.05	331	*e*PKPdf		PKPdf		23 09 15.3	-1.6
SJG	San Juan	136.30	73	*e*PKPdf		PKPdf		23 09 16.6	-1.1
SSF	Saint Saulge	136.34	335	*e*PKIKP		PKPdf		23 09 15.4	-1.6
	comp=Z,41nm,1.4s								
SSF	Saint Saulge	136.34	335	*e*PKIKP		PKPdf		23 09 15.4	-1.6
SSF	Saint Saulge	136.34	335	*e*PKPdf		PKPdf		23 09 15.4	-1.6
BNI	Bardonecchia	136.41	330	*e*PKIKP		PKPdf		23 09 15.0	-2.4
BNI	Bardonecchia	136.41	330	*e*PKPdf		PKPdf		23 09 15.0	-2.4
FLN	La Foliniere	136.48	339	*e*PKIKP		PKPdf		23 09 15.4	-1.8
	comp=Z,76nm,1.4s								
FLN				*e*R					
	comp=Z,474nm,20.2s								
FLN	La Foliniere	136.48	339	*e*PKIKP		PKPdf		23 09 15.4	-1.8
FLN	La Foliniere	136.48	339	*e*PKPdf		PKPdf		23 09 15.4	-1.8
SMF	Signal de Mont	136.52	334	*e*PKIKP		PKPdf		23 09 16.2	-1.2
	comp=Z,41nm,1.4s								
SMF	Signal de Mont	136.52	334	*e*PKIKP		PKPdf		23 09 16.2	-1.2
SMF	Signal de Mont	136.52	334	*e*PKPdf		PKPdf		23 09 16.2	-1.2
HUMP	Col San Antoni	136.58	73	*e*PKPdf		PKPdf		23 09 15.7	-2.5
MBDF	Montbardon	136.60	330	*e*PKIKP		PKPdf		23 09 16.1	-1.7
MBDF	Montbardon	136.60	330	*e*PKPdf		PKPdf		23 09 16.1	-1.7
MBDF	Montbardon	136.60	330	*e*PKPdf		PKPdf		23 09 16.1	-1.7
AVF	Avril sur Loir	136.62	335	*e*PKIKP		PKPdf		23 09 16.3	-1.2
	comp=Z,17nm,1.2s								
AVF	Avril sur Loir	136.62	335	*e*PKIKP		PKPdf		23 09 16.3	-1.2
AVF	Avril sur Loir	136.62	335	*e*PKPdf		PKPdf		23 09 16.3	-1.2
ORIF	Oris-en-Rattie	136.90	331	*e*PKIKP		PKPdf		23 09 17.0	-1.2
	comp=Z,31nm,1.4s								
ORIF				*e*R					
	comp=Z,506nm,21.0s								
ORIF	Oris-en-Rattie	136.90	331	*e*PKIKP		PKPdf		23 09 17.0	-1.2
ORIF	Oris-en-Rattie	136.90	331	*e*PKPdf		PKPdf		23 09 17.0	-1.2
BGF	Bois d'Agland	137.01	335	*e*PKIKP		PKPdf		23 09 17.4	-0.9
BGF	Bois d'Agland	137.01	335	*e*PKIKP		PKPdf		23 09 17.4	-0.9
BGF	Bois d'Agland	137.01	335	*e*PKPdf		PKPdf		23 09 17.4	-0.9
TCF	Toulx Ste Croi	137.49	335	*e*PKIKP		PKPdf		23 09 18.2	-1.0
	comp=Z,37nm,1.3s								
TCF	Toulx Ste Croi	137.49	335	*e*PKIKP		PKPdf		23 09 18.2	-1.0
TCF	Toulx Ste Croi	137.49	335	*e*PKPdf		PKPdf		23 09 18.2	-1.0
VIVF	Saint-Julien-l	137.52	332	*e*PKIKP		PKPdf		23 09 18.4	-0.9
	comp=Z,48nm,1.3s								
VIVF	Saint-Julien-l	137.52	332	*e*PKIKP		PKPdf		23 09 18.4	-0.9
VIVF	Saint-Julien-l	137.52	332	*e*PKPdf		PKPdf		23 09 18.4	-0.9
LMR	La Mourre	137.73	329	*e*PKIKP		PKPdf		23 09 18.4	-1.3
	comp=Z,122nm,1.6s								
LMR	La Mourre	137.73	329	*e*PKIKP		PKPdf		23 09 18.4	-1.3
LMR	La Mourre	137.73	329	*e*PKPdf		PKPdf		23 09 18.4	-1.3
SM

KRER	Koryakskii	3.45	16	eP	Pn	22 53 03.8	+2.0
SDLR	Sedlovina	3.45	17	eP	Pn	22 53 04.3	+2.6
NLC	Nalytchevo	3.45	22	PN	Pn	22 53 02.4	+0.9
NLC	Nalytchevo	3.45	22	eP	Pn	22 53 02.4	+0.9
NLC				i S	Sn	22 53 43.5	+0.7
KRX	Arik	3.49	15	eP	Pn	22 53 05.1	+2.9
KRX				i S	Sn	22 53 45.1	+1.0
GNL	Ganaly	3.73	7	eP	Pn	22 53 07.8	+2.3
MKZ	Mys Kozlova	5.35	30	PN	Pn	22 53 29.0	+1.5
MKZ	Mys Kozlova	5.35	30	eP	Pn	22 53 29.0	+1.5

MOS ***09*** *23:18:06.3±0.7, 29.°15N×139.°27E, h407km, mb4.5/20, Error ellipse: s-maj=20.6km s-min=8.8km az=122.1*
JMA ***09*** *23:18:07.7±0.2, 29.°30N×140.°00E, h465km±4km, M4.0*
ISCJB ***09*** *23:18:08.1±0.3, 29.°19N±0.°03×139.°31E±0.°05, h423km, mb4.1/37, Error ellipse: s-maj=5.6km s-min=4.2km az=161.8*
IDC ***09*** *23:18:09.4±1.3, 29.°19N×139.°23E, h424km±13km, mb3.6/19, mb1 3.8/23, mb1mx3.7/27, mbtmp3.6/23, Error ellipse: s-maj=14.2km s-min=9.5km az=72.0*

ISC 09 23:18:09.2±0.5, 29°23N±0'.06×139°33E±0'.07, h423km, n90, σ1s08/104, mb4.2/37, 14C-3D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	Chichi jima	3.29	129	P	P	23 19 15.7	-0.8
CBIJ				eS	S	23 20 09.7	-1.4
JCJ	Chichijima	3.29	129	P	P	23 19 15.8	-0.6
	124nm,0.3s,baz=331,slow=2.7,SNR=93						
JCJ				S	S	23 20 09.9	-1.2
	577nm,0.3s,baz=285,slow=20,SNR=34						
JHHJ	Haha-jima-NKT	3.61	135	P	P	23 19 18.4	-0.7
JHHJ				S	S	23 20 14.1	-1.9
JHCJ	Hachijojimakas	3.86	6	P	P	23 19 22.6	+1.5
JHJ2	Mitsune	3.90	6	P	P	23 19 22.8	+1.3
JHJ2				eS	S	23 20 21.3	+0.8
BSO1	Boso 1	5.59	14	P	P	23 19 38.4	+1.0
BSO1				eS	S	23 20 47.4	-2.4
JIE	Ise	5.62	337	P	P	23 19 41.7	+3.5
JKN2	Miekihoku	5.64	333	P	P	23 19 42.0	+3.5
BSO3	Boso 3	5.65	10	P	P	23 19 39.0	+0.7
BSO3				eS	S	23 20 48.7	-2.7
HMMJ	Hamamatsu 2	5.78	347	P	P	23 19 42.1	+2.2
BSO4	Boso 4	5.81	8	P	P	23 19 40.8	+0.6
BSO4				eS	S	23 20 53.4	-1.4
JNY	Yasuok	6.24	349	P	P	23 19 46.7	+1.8
JHU	Hanno	6.61	360	P	P	23 19 48.5	-0.7
JHU				eS	S	23 21 07.6	-2.9
JTO	Tosashimizu	6.67	305	P	P	23 19 52.2	+2.3
JRY	Ryogami san	6.78	357	P	P	23 19 51.3	+0.2
JRY				eS	S	23 21 12.0	-2.0
JAG	Ashikaga	7.18	1	P	P	23 19 54.3	-1.1
MAT	Matsushiro	7.36	353	P	P	23 19 57.4	+0.1
MAT				S	S	23 21 24.0	-1.6
JNU	Nakatsue	8.22	300	P	P	23 20 08.3	+1.6
	1.5nm,0.3s,baz=77,slow=12,SNR=9.5						
JNU				S	S	23 21 39.1	-4.1
	0.1nm,0.3s,baz=208,slow=16,SNR=1.3						
KSRS	Korea Array	12.58	314	P	P	23 20 55.8	+1.3
	0.6nm,0.3s,baz=127,slow=11,SNR=25						
KSRS				S	S	23 23 11.6	+0.5
	baz=111,slow=20,SNR=3.9						
USRK	Ussuriysk Arra	16.05	341	P	P	23 21 32.9	+0.9
	3.3nm,0.3s,baz=162,slow=11,SNR=51						
SONM	Songino Array	31.44	315	P	P	23 23 54.3	+0.5
	3.8nm,0.8s,baz=122,slow=7.6,SNR=22						
SONM				PcP	PcP	23 26 35.1	+0.1
	0.8nm,0.7s,baz=130,slow=2.6,SNR=5.0						
ZAK	Zakamensk	34.35	318	eP	P	23 24 18.2	-0.4
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
TLY	Talaya	34.70	320	eP	P	23 24 22.7	+1.3
TLY				pmax	pmax		
	comp=Z,6.0nm,0.6s						
CMAR	Chiang Mai Arr	38.30	263	P	P	23 24 51.0	-0.8
	comp=Z,1.1nm,0.4s,baz=58,slow=6.8,SNR=5.5						
HVS	Khovu-Aksy	40.33	316	c iP	P	23 25 08.8	+0.8
HVS				pmax	pmax		
	comp=Z,41nm,0.9s						
HVS				MLR	MLR		
	comp=Z,6μm,26.0s						
TAPN	Taplejung	45.20	281	eP	P	23 25 47.2	+0.1
	comp=Z,9.0nm,0.5s						
ODAN	Odare	45.60	280	eP	P	23 25 50.2	+0.1
	comp=Z,21nm,0.6s						
ZALV	Zalesovo Beam	46.23	318	P	P	23 25 53.8	-0.4
ZALV						23 27 20.9	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV	Zalesovo Beam	46.23	318	P	P	23 25 53.8	-0.4
	comp=Z,1.5nm,0.4s,baz=98,slow=7.6,SNR=13						
ZALV				PcP	PcP	23 27 20.9	-0.7
	comp=Z,2.4nm,0.6s,baz=104,slow=3.8,SNR=8.9						
RAMN	Ramite	46.26	280	eP	P	23 25 55.2	0.0
	comp=Z,17nm,0.6s						
JIRN	Jiri	46.42	282	eP	P	23 25 57.2	+0.7
	comp=Z,58nm,0.7s						
GUN	Gumba	46.62	282	eP	P	23 25 58.5	+0.4
	comp=Z,65nm,0.8s						
PKI	Pulchoki	47.11	282	eP	P	23 26 01.7	-0.1
	comp=Z,25nm,1.0s						
KKN	Kakani	47.17	282	eP	P	23 26 02.2	+0.2
MKAR	Makanchi Array	47.18	308	P	P	23 26 01.4	-0.2
MKAR						23 27 24.8	
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR	Makanchi Array	47.18	308	P	P	23 26 01.4	-0.2
	comp=Z,2.6nm,0.6s,baz=92,slow=9.2,SNR=30						
MKAR				PcP	pP	23 27 24.8	+0.1
	comp=Z,1.6nm,0.8s,baz=79,slow=6.4,SNR=7.2						
NVS	Novosibirsk	47.29	319	eP	P	23 25 57.1	-5.2
DMN	Daman	47.36	282	eP	P	23 26 03.7	+0.1
	comp=Z,15nm,0.7s						
GKN	Gorkha	47.66	283	eP	P	23 26 05.9	+0.2
DANN	Dangsing	48.32	283	eP	P	23 26 11.4	+0.6
KOLN	Koldanda	48.61	283	eP	P	23 26 13.2	+0.3
	comp=Z,31nm,0.7s						
WRA	Warramunga Arr	49.12	186	P	P	23 26 16.0	-0.5
	comp=Z,2.5nm,0.4s,baz=6.0,slow=7.7,SNR=10.0						
WRA				PcP	PcP	23 27 32.9	+0.4
	comp=Z,1.3nm,0.5s,baz=356,slow=4.0,SNR=5.7						
KURK	Kurchatov	49.70	313	d iP	P	23 26 19.9	-0.5
KURK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ASAR	Alice Springs	52.84	186	P	P	23 26 43.5	-0.2
	comp=Z,1.0nm,0.6s,baz=15,slow=13,SNR=20						
ASAR				PcP	PcP	23 27 47.2	+0.8
	comp=Z,1.0nm,0.8s,baz=19,slow=3.5,SNR=4.9						
AAK	Ala-Archa	52.98	303	eP	P	23 26 44.9	+0.1
AAK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
AAK				MLR	MLR		
	comp=Z,838nm,17.0s						
BRVK	Borovoye	54.84	316	c eP	P	23 26 57.8	+0.2
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BRVK				MLR	MLR		
	comp=Z,370nm,20.0s						
ILAR	Eielson Array	57.08	29	P	P	23 27 13.3	+0.3
	comp=Z,0.6nm,0.6s,baz=262,slow=5.1,SNR=6.7						
SVE	Sverdlovsk	60.00	322	eP	P	23 27 33.0	0.0
SVE				pmax	pmax		
	comp=Z,9.0nm,0.7s						
STKA	Stephens Creek	60.80	178	P	P	23 27 38.6	0.0
	comp=Z,1.7nm,0.5s,baz=328,slow=9.5,SNR=5.0						
ARU	Arti	61.20	321	d iP	P	23 27 40.6	-0.4
ARU				pmax	pmax		
	comp=Z,15nm,1.0s						
INK	Inuvik	62.15	25	P	P	23 27 47.9	+0.8
	comp=Z,2.2nm,0.6s,baz=308,slow=5.1,SNR=4.4						
KEV	Kevo	70.14	340	ep	P	23 28 36.8	-0.2
	comp=Z,1.5nm,0.4s						
ARCES	ARCESS Array B	70.70	340	P	P	23 28 41.0	+0.6
	comp=Z,6.4nm,0.5s,baz=68,slow=8.6,SNR=40						
YKA	Yellowknife Ar	71.46	28	P	P	23 28 46.1	+1.1
	comp=Z,2.0nm,0.7s,baz=306,slow=5.9,SNR=3.2						
JOF	Joensuu	72.06	333	ep	P	23 28 47.8	-0.7
	comp=Z,11nm,0.6s						
OBN	Obninsk	73.34	324	eP	P	23 28 55.8	-0.3
OBN				e		23 31 46.3	
OBN				pmax	pmax		
	comp=Z,23nm,2.5s						
OBN				MLR	MLR		
	comp=Z,300nm,19.0s						
KAF	Kangasniemi	74.46	333	ep	P	23 29 00.7	-1.7
	comp=Z,6.1nm,0.6s						
KBZ	Khabaz	74.72	312	P	P	23 29 04.8	+0.6
KBZ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KBZ	Khabaz	74.72	312	P	P	23 29 04.8	+0.6
	comp=Z,9.3nm,0.8s,baz=75,slow=4.5,SNR=20						
KIV	Kislovodsk	74.76	312	eP	P	23 29 04.9	+0.3
KIV				e		23 29 18.8	
KIV				pmax	pmax		
	comp=Z,12nm,1.0s						
FINES	FINESS Array B	74.92	333	P	P	23 29 04.8	-0.1
	comp=Z,5.0nm,0.5s,baz=59,slow=5.4,SNR=46						
UMR	Umm Al-Rimmam	77.48	297	eP	P	23 29 19.2	-0.6
UMR				AMb	AMB	23 29 19.9	
	comp=Z,26nm,0.6s						
RDF	Al-Radifah	77.89	296	eP	P	23 29 21.6	-0.5
RDF				AMb	AMB	23 29 22.3	
	comp=Z,38nm,0.8s						
NAY	Al-Naaiem	77.98	297	eP	P	23 29 21.9	-0.7
NAY				AMb	AMB	23 29 23.0	
	comp=Z,21nm,1.1s						
RST	Umm Al-Ruwaisa	78.06	297	eP	P	23 29 21.9	-1.1
RST				AMb	AMB	23 29 23.6	
	comp=Z,226nm,0.9s						
AKASG	Malin Array Be	79.41	323	P	P	23 29 29.4	-0.4
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AKASG	Malin Array Be	79.41	323	P	P	23 29 29.4	-0.4
	comp=Z,3.3nm,0.6s,baz=50,slow=5.3,SNR=28						
SIM	Simferopol'	79.68	316	eP	P	23 29 34.8	+3.4
SIM				pmax	pmax		
	comp=Z,70nm,0.9s						
MALT	Malatya	80.22	308	⇑P	P	23 29 34.3	-0.3
MALT	Malatya	80.22	308	⇑iP	P	23 29 34.3	-0.3
NB2	NORSAR Subarra	80.69	337	P	P	23 29 35.5	-1.0
	comp=Z,3.9nm,0.6s,baz=45,slow=4.8						
NOA	NORSAR Array B	80.69	337	P	P	23 29 35.8	-0.7
	comp=Z,4.5nm,0.7s,baz=44,slow=5.2,SNR=19						
NOA				PP	PP	23 32 46.8	+0.1
	comp=Z,0.8nm,0.8s,baz=44,slow=8.2,SNR=4.0						
NVAR	Mina Array Bea	81.16	51	P	P	23 29 41.2	+1.6
	comp=Z,1.0nm,0.6s,baz=285,slow=5.0,SNR=6.8						
LVV	L'vov	82.64	324	eP	P	23 29 47.6	+0.9
BRTR	Keskin Array B	82.71	312	P	P	23 29 47.5	0.0
	comp=Z,4.6nm,0.8s,baz=93,slow=4.2,SNR=34						
CFR	Carcaliu	83.12	318	⇑P	P	23 29 48.0	-1.2
CFR	Carcaliu	83.12	318	⇑iP	P	23 29 48.0	-1.2
TESR	Tescani	83.20	320	⇓iP	P	23 29 49.8	+0.2
BURAR	Bucovina Array	83.34	322	⇑P	P	23 29 50.6	+0.2
BURAR	Bucovina Array	83.34	322	⇑iP	P	23 29 50.6	+0.2
KWP	Kalwaria Pacla	83.44	324	⇑P	P	23 29 49.6	-1.1
KWP	Kalwaria Pacla	83.44	324	⇑iP	P	23 29 49.6	-1.1
VRI	Vrincioaia	83.53	320	⇑P	P	23 29 50.8	-0.5
VRI	Vrincioaia	83.53	320	⇑iP	P	23 29 50.8	-0.5
ARR	Arges	85.01	320	⇑iP	P	23 29 59.0	+0.3
GERES	GERESS Array B	88.38	328	P	P	23 30 13.8	-0.9
	comp=Z,1.0nm,0.8s,baz=46,slow=5.8,SNR=10						
TXAR	Lajitas Array	96.30	52	P	P	23 30 52.4	+0.9
	comp=Z,0.3nm,0.8s,baz=336,slow=5.2,SNR=4.0						
KEST	Kesra	100.06	321	P	Pdif	23 31 10.2	+2.1
	comp=Z,0.7nm,1.1s,baz=45,slow=7.1,SNR=1.8						
TORD	Torodi Ar. Bea	121.29	310	PKP	PKPdf	23 36 12.6	-1.1
	comp=Z,0.3nm,0.5s,baz=57,slow=1.6,SNR=7.7						
LPAZ	La Paz	151.67	69	PKPbc	PKPbc	23 37 17.0	+1.1
	comp=Z,2.0nm,0.7s,baz=236,slow=2.3,SNR=11						

IDC 09 23:20:21.9±1.4, 12°.87S×166°.32E, h0km, mb3.9/7, mb1 4.1/9, mb1mx3.9/19, mbtmp4.0/9, ML4.1/2, Error ellipse: s-maj=33.1km s-min=23.6km az=99.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	7.13	298	Pn	Pn	23 22 08.2	+0.6
	15nm,0.3s,baz=195,slow=16,SNR=3.2						
HNR				Sn	Sn	23 23 30.8	+1.5
	8.7nm,0.3s,baz=70,slow=18,SNR=2.6						
DZM	Mont Dzumac	9.15	179	Pn	Pn	23 22 36.9	+1.4
	0.4nm,0.3s,baz=357,slow=19,SNR=3.6						
DZM				Sn	Sn	23 24 20.9	+1.5
	baz=336,slow=20,SNR=2.0						
STKA	Stephens Creek	29.55	226	P	P	23 26 28.0	-0.5
	1.6nm,0.6s,baz=65,slow=7.5,SNR=5.0						
WRA	Warramunga Arr	31.44	253	P	P	23 26 44.9	-0.4
	0.5nm,0.6s,baz=91,slow=7.0,SNR=3.0						
ASAR	Alice Springs	32.53	246	P	P	23 26 54.5	-0.5
	1.0nm,0.7s,baz=72,slow=9.5,SNR=17						
CMAR	Chiang Mai Arr	73.36	294	P	P	23 31 57.0	+0.8
	0.5nm,0.3s,baz=112,slow=6.2						
SONM	Songino Array	80.46	324	P	P	23 32 35.9	0.0
	0.3nm,0.7s,baz=133,slow=6.2,SNR=3.6						
ILAR	Eielson Array	85.06	18	P	P	23 32 58.8	-0.4
	0.4nm,0.6s,baz=241,slow=5.5,SNR=5.9						
MKAR	Makanchi Array	95.23	317	P	P	23 33 47.2	-0.4
	0.5nm,0.7s,baz=88,slow=6.9,SNR=4.8						
TORD	Torodi Ar. Bea	165.02	273	PKPab	PKPab	23 41 25.6	-0.2
	0.5nm,0.9s,baz=67,slow=5.0,SNR=3.1						

MEX 09 23:26:02.2±0.3, 17°.35N×101°.38W, h14km±3km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	Zihuatanejo	0.27	343	i P	Pg	23 26 07.4	-0.5
ZIIG				i S	Sg	23 26 11.6	-0.1
CAIG	El Cayaco	1.11	106	i P	Pb	23 26 19.5	-3.6
CAIG				i S	Sb	23 26 33.1	-4.3
ARIG	Puente Sto Nin	1.35	47	i P	Pn	23 26 23.0	-3.7
ARIG				i S	Sn	23 26 39.2	-5.2
PLIG	Platanillo	2.07	60	eP	Pn	23 26 33.3	-3.3
PLIG				i S	Sn	23 26 57.8	-4.5
MMIG	Aquila	2.09	297	i P	Pn	23 26 34.4	-2.4
MMIG				i S	Sn	23 26 57.8	-4.9
YAIG	Yautepec	2.67	55	i P	Pn	23 26 42.0	-2.9
YAIG				i S	Sn	23 27 13.3	-3.9

IDC 09 23:30:42.5±0.9, 9°.04S×157°.94E, h0km, mb4.0/8, mb1 4.1/9, mb1mx4.0/17, mbtmp4.0/9, ML3.9/1, MS3.7/2, Ms1 3.7/2, ms1mx3.8/27, Error ellipse: s-maj=29.1km s-min=19.4km az=135.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	2.02	101	Pn	Pn	23 31 18.5	+0.6
	43nm,0.3s,baz=245,slow=9.3,SNR=5.3						
HNR				Sn	Sg	23 31 53.4	+5.9
	522nm,0.3s,baz=349,slow=8.3,SNR=14						
HNR				LR	LR	23 32 10.0	
	comp=Z,893nm,18.6s,baz=182,slow=43						
WRA	Warramunga Arr	25.25	242	P	P	23 36 10.3	-0.3
	2.5nm,0.7s,baz=67,slow=8.9,SNR=7.0						
ASAR	Alice Springs	27.20	235	P	P	23 36 27.4	-0.9
	1.3nm,0.8s,baz=68,slow=10,SNR=11						
STKA	Stephens Creek	27.32	211	P	P	23 36 30.0	+0.8
	5.0nm,0.7s,baz=36,slow=11,SNR=12						
H11S3	WAKE ISLAND Hy	28.69	17	T	T	00 05 17.7	
	baz=199,slow=0.7,SNR=31						
H11S2	WAKE ISLAND Hy	28.69	18	T	T	00 05 21.7	
	baz=199,slow=0.7,SNR=55						
H11S1	WAKE ISLAND Hy	28.71	18	T	T	00 05 22.8	
	baz=199,slow=0.7,SNR=29						
AFI	Afiamalu	30.05	102	LR	LR	23 45 51.6	
	comp=Z,272nm,18.2s,baz=296,slow=30						
PETK	Petropavlovsk-	61.91	360	P	P	23 41 03.3	-0.4
	2.9nm,0.8s,baz=160,slow=8.4,SNR=6.0						
SONM	Songino Array	72.63	326	P	P	23 42 14.1	+2.0
	0.3nm,0.4s,baz=120,slow=12,SNR=4.7						
ILAR	Eielson Array	84.22	21	P	P	23 43 15.1	-0.6
	0.2nm,0.5s,baz=259,slow=5.4,SNR=3.3						
MKAR	Makanchi Array	86.86	318	P	P	23 43 28.8	-0.5
	0.5nm,0.7s,baz=90,slow=6.8,SNR=5.5						
NVAR	Mina Array Bea	90.70	51	P	P	23 43 47.3	-0.6
	0.6nm,0.8s,baz=231,slow=7.1,SNR=4.1						
BDFB	Brasilia	144.47	133	PKP	PKPdf	23 50 21.7	-0.5
	5.5nm,0.8s,baz=195,slow=7.8,SNR=7.0						

WEL 09 23:43:16.0±0.2, 35°.91S×178°.07E, h334km±3km, ML3.6/4, 1D, Error ellipse: s-maj=9.0km s-min=5.4km az=90.0,

Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	Puketiti	2.16	176	PN	Pn	23 44 07.0	0.0
MWZ	Matawai	2.46	190	PN	Pn	23 44 09.8	+0.4
MWZ				SN	S	23 44 51.3	-0.8
MWZ				AML	AML	23 44 52.9	
URZ	Urewera	2.46	198	⇓PN	Pn	23 44 09.6	+0.3
URZ				SN	S	23 44 50.3	-1.8
BKZ	Black Stump Fm	3.48	201	PN	Pn	23 44 19.1	+0.3
PNHZ	Pukenui	4.26	200	SN	S	23 45 22.3	-1.4
MRZ	Mangatainoka R	5.13	202	PN	Pn	23 44 36.3	0.0
MRZ				SN	S	23 45 39.4	-1.7
MQZ	McQueen's Vall	8.83	206	SN	S	23 46 59.2	-1.4

IDC 09 23:44:35.0±2.5, 30°.69S×177°.39W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/15, mbtmp3.8/3, Error ellipse: s-maj=54.3km s-min=26.6km az=104.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	1.50	342	Pn	Pg	23 45 04.7	+0.9
	154nm,0.3s,baz=107,slow=23,SNR=4.0						
RAO				Sn	Sg	23 45 22.6	-0.8
	182nm,0.3s,baz=112,slow=21,SNR=3.0						
STKA	Stephens Creek	34.92	257	P	P	23 51 29.5	+0.9
	1.8nm,0.8s,baz=98,slow=15,SNR=2.7						
ASAR	Alice Springs	43.62	267	P	P	23 52 41.1	-0.3
	0.3nm,0.6s,baz=103,slow=7.4,SNR=5.4						
WRA	Warramunga Arr	44.63	272	P	P	23 52 48.4	-1.2
	0.6nm,0.5s,baz=112,slow=8.1,SNR=4.2						
FINES	FINESS Array B	145.59	340	PKPbc	PKPdf	00 04 13.5	-1.0
	0.7nm,0.4s,baz=20,slow=4.4,SNR=8.1						
AKASG	Malin Array Be	151.85	323	PKPab	PKPab	00 04 40.1	-0.4
	0.8nm,0.7s,baz=50,slow=2.9,SNR=4.1						
KIS	Kishinev	154.06	316	LRM	MLR	00 04 00.0	
	300nm,19.0s						

CSEM ***09*** *23:58:11.9, 37.°98N×23.°28E, h5km, ML1.3/4, After THE*
THE 09 23:58:11.9, 37°.98N×23°.28E, h5km±1km, ML1.3/4, Error ellipse: s-maj=1.8km s-min=0.8km az=256.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LTK	Loutraki	0.25	279	P	Pg	23 58 16.0	-0.8
LTK				S	Sg	23 58 20.2	0.0
LTK	Loutraki	0.25	279	P	Pg	23 58 16.0	-0.8
LTK				S	Sg	23 58 20.2	0.0
PTL	Penteli	0.47	82	P	Pg	23 58 21.0	0.0
PTL				S	Sg	23 58 27.9	+0.8
PTL	Penteli	0.47	82	P	Pg	23 58 21.0	0.0
PTL				S	Sg	23 58 27.9	+0.8
DID	Didima	0.48	184	P	Pg	23 58 20.7	-0.5
DID				S	Sg	23 58 28.3	+0.9
DID	Didima	0.48	184	P	Pg	23 58 20.7	-0.5
DID				S	Sg	23 58 28.3	+0.9
LKR	Lokris	0.70	342	P	Pg	23 58 24.5	-0.9
LKR	Lokris	0.70	342	P	Pg	23 58 24.5	-0.9
GUR	Goura	0.74	267	P	Pg	23 58 25.1	-1.2
GUR				S	Sg	23 58 36.7	+0.6
GUR	Goura	0.74	267	P	Pg	23 58 25.1	-1.2
GUR				S	Sg	23 58 36.7	+0.6
KLV	Kalavryta, Ach	0.89	274	P	Pg	23 58 28.3	-0.9
KLV				S	Sb	23 58 42.8	+0.5
KLV	Kalavryta, Ach	0.89	274	P	Pg	23 58 28.3	-0.9
KLV				S	Sb	23 58 42.8	+0.5
KALE	Kalithea	0.99	295	P	Pg	23 58 30.9	0.0
KALE	Kalithea	0.99	295	P	Pg	23 58 30.9	0.0
DRO	Drossia	1.24	269	P	Pg	23 58 35.6	-0.1
DRO	Drossia	1.24	269	P	Pg	23 58 35.6	-0.1
AOS	Alonnisos	1.28	21	P	Pg	23 58 35.3	-1.1
AOS				S	Sb	23 58 53.2	0.0
AOS	Alonnisos	1.28	21	P	Pg	23 58 35.3	-1.1
AOS				S	Sb	23 58 53.2	0.0
AGG	Agios Georgios	1.28	325	P	Pg	23 58 36.2	-0.3
AGG	Agios Georgios	1.28	325	P	Pg	23 58 36.2	-0.3
VLI	Veliai	1.29	192	P	Pn	23 58 35.7	-0.9
VLI				S	Sb	23 58 53.6	0.0
VLI	Veliai	1.29	192	P	Pn	23 58 35.7	-0.9
VLI				S	Sb	23 58 53.6	0.0

NIED ***10*** *00:04:00, 37.°10N×141.°60E, h59km, Mw3.6 Best double couple: M0 2.82000×10^14 NP1:φ=28.00000°, δ=78.00000°, λ=82.00000°. NP2:φ=244.00000°, δ=14.00000°, λ=125.00000°.*
JMA 10 00:04:08.9±0.2, 37.°07N×141.°64E, h46km±2km, M3.5, 5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	Iwakimizuishiy	0.67	273	⇓P	Pn	00 04 22.2	0.0
ONAJ				S	Sn	00 04 31.4	-0.4
JFK	Kawauchi	0.68	296	⇓P	Pn	00 04 22.2	-0.1
JFK				S	Sn	00 04 31.5	-0.4
JHO	Hitachi	0.97	242	P	Pn	00 04 26.1	-0.1
JHO				S	Sn	00 04 38.6	-0.3
JMM	Marumori	1.04	320	⇓P	Pn	00 04 27.2	+0.1
JMM				S	Sn	00 04 40.5	0.0
JFT	Otama	1.13	294	⇓P	Pn	00 04 29.5	+1.1
JFT				S	Sn	00 04 43.9	+1.1
JIO	Ouri	1.40	351	⇓P	Pn	00 04 31.8	-0.2
JIO				S	Sn	00 04 48.0	-1.3
JOU	Okura	1.51	329	P	Pn	00 04 34.1	+0.6
JFY	Yanaizu	1.58	283	P	Pn	00 04 35.7	+1.2
MAT	Matsushiro	2.81	260	P	Pn	00 04 53.5	+2.2
MAT				S	Sn	00 05 23.8	-0.1

WEL 10 00:15:58.0±0.8, 42°.92S×175°.68E, h5km, ML3.5/2, Error ellipse: s-maj=7.4km s-min=7.2km az=90.0, Off east coast of South Island

| Code | Station Name | Δ

s-maj=99.7km s-min=29.8km az=140.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.49**	**253**	P	P	00 29 39.3	0.0
	0.2nm,0.3s,baz=80,slow=8.2,SNR=2.5						
ASAR	**Alice Springs**	**32.59**	**246**	P	P	00 29 49.0	-0.1
	0.6nm,0.8s,baz=74,slow=7.8,SNR=4.8						
SONM	**Songino Aimag**	**80.38**	**324**	P	P	00 35 29.5	+0.6
	0.5nm,0.7s,baz=135,slow=4.8,SNR=4.1						
ILAR	**Eielson Array**	**84.94**	**18**	P	P	00 35 52.2	+0.1
	0.3nm,0.6s,baz=235,slow=5.9,SNR=3.1						
MKAR	**Makanchi Array**	**95.16**	**317**	P	P	00 36 40.2	-0.7
	0.6nm,0.7s,baz=96,slow=5.7,SNR=7.0						
ZALV	**Zalesovo Beam**	**95.27**	**324**	P	P	00 36 40.4	-0.8
	0.3nm,0.3s,baz=96,slow=1.4,SNR=2.6						
ARCES	**ARCESS Array B**	**118.12**	**345**	PKP	PKPdf	00 42 03.1	-0.8
	2.2nm,0.8s,baz=52,slow=2.0,SNR=6.4						
KEST	**Kesra**	**149.12**	**322**	PKPbc	PKPbc	00 43 06.8	+0.4
	1.0nm,0.9s,baz=27,slow=2.3,SNR=4.4						
ESDC	**Sonseca Array**	**151.85**	**344**	PKPbc	PKPbc	00 43 12.6	-0.2
	0.1nm,0.4s,baz=46,slow=2.7,SNR=5.4						

IDC 10 00:28:12.4±2.3, 4.16N×127.07E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/22, mbtmp3.6/4, Error ellipse: s-maj=194.6km s-min=28.3km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.00**	**164**	P	P	00 33 38.8	+0.7
	0.6nm,0.5s,baz=344,slow=10,SNR=4.2						
ASAR	**Alice Springs**	**28.45**	**167**	P	P	00 34 08.8	-0.5
	0.2nm,0.4s,baz=347,slow=7.6,SNR=4.4						
STKA	**Stephens Creek**	**38.41**	**160**	P	P	00 35 35.5	-0.3
	2.7nm,0.9s,baz=321,slow=6.5,SNR=4.0						
MKAR	**Makanchi Array**	**57.40**	**325**	P	P	00 38 02.8	0.0
	0.2nm,0.6s,baz=122,slow=5.4,SNR=2.2						

TIR **10** *00:28:36.5±1.7, 40.88N×20.75E, h19km±69km, ML4.1*
PRU **10** *00:28:37.3, 40.69N×20.64E, h0km*
MOS **10** *00:28:38.7±0.9, 40.92N×20.59E, h16km, mb4.4/9, Error ellipse: s-maj=8.9km s-min=5.0km az=70.0*
IDC **10** *00:28:38.2±0.6, 40.89N×20.67E, h0km, mb4.0/15, mb1 4.0/29, mb1mx4.0/40, mbtmp3.9/29, ML3.9/11, MS3.2/1, Ms1 3.2/1, ms1mx2.6/44, Error ellipse: s-maj=11.6km s-min=9.7km az=48.0*
BEO **10** *00:28:38.6±0.8, 40.81N×20.74E, h2km±3km, ML4.1/1*
SKO **10** *00:28:38.8, 40.90N×20.69E, h15km, M4.0, ML4.4*
LDG **10** *00:28:38.4±0.1, 40.82N×20.69E, h10km, Ml4.2/19, Error ellipse: s-maj=2.7km s-min=1.6km az=8.0*
THE **10** *00:28:39.7, 40.90N×20.72E, h6km, ML4.2/33, Error ellipse: s-maj=1.0km s-min=0.5km az=296.0*
ATH **10** *00:28:39.1, 40.88N×20.70E, h21km, MD4.1/26, ML4.2*
CSEM **10** *00:28:39.5±0.1, 40.87N×20.69E, h5km, mb4.2/12, Ms4.0, Mw4.3, Error ellipse: s-maj=2.2km s-min=1.3km az=55.0*
ISCJB **10** *00:28:39.6±0.3, 40.90N±0.01×20.63E±0.02, h20km±3km, mb4.0/23, Error ellipse: s-maj=2.3km s-min=1.3km az=142.4*
PDG **10** *00:28:39.0±0.8, 40.82N×20.70E, h15km±1km, MD4.2/8, ML4.1/11, Error ellipse: s-maj=0.8km s-min=0.7km az=90.0*
VIE **10** *00:28:40.9±0.7, 40.87N×20.52E, h10km, mb3.8/13, Ms4.0/13, Error ellipse: s-maj=10.9km s-min=4.8km az=36.0*

ISC 10 00:28:39.5±0.9, 40.87N±0.01×20.71E±0.01, h11km±6km, n496, σ1s39/698, mb4.1/24, 61C-47D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIA	**Bitola**	**0.49**	**72**	P	**Pg**	**00 28 48.4**	**-0.7**
BIA				S	**Sg**	**00 28 55.8**	**+0.3**
BIA	**Bitola**	**0.49**	**72**	*i* Pg	**Pg**	**00 28 49.1**	**0.0**
BIA				*i* Sg	**Sb**	**00 28 57.0**	**-0.3**
BIA	**Bitola**	**0.49**	**72**	P	**Pg**	**00 28 48.4**	**-0.7**
BIA				S	**Sg**	**00 28 55.8**	**+0.3**
FNA	**Florina**	**0.51**	**99**	P	**Pg**	**00 28 49.8**	**+0.3**
FNA				S	**Sb**	**00 28 57.9**	**-0.1**
FNA	**Florina**	**0.51**	**99**	*e*PN	**Pg**	**00 28 49.9**	**+0.4**
FNA				*e*SN	**Sb**	**00 28 57.3**	**-0.7**
FNA	**Florina**	**0.51**	**99**	P	**Pg**	**00 28 49.8**	**+0.3**
FNA				*e*Sn	**Sb**	**00 28 57.3**	**-0.7**
NEST	**Nestorio**	**0.52**	**150**	P	**Pg**	**00 28 49.4**	**-0.3**
NEST				S	**Sb**	**00 28 58.0**	**-0.3**
NEST	**Nestorio**	**0.52**	**150**	P	**Pg**	**00 28 49.4**	**-0.3**
NEST				S	**Sb**	**00 28 58.0**	**-0.3**
TIR	**Tirane**	**0.80**	**307**	*i* PG	**Pg**	**00 28 54.2**	**-0.7**
TIR				*i* SG	**Sn**	**00 29 10.6**	**+1.9**
TIR	**Tirane**	**0.80**	**307**	P	**Pg**	**00 28 54.1**	**-0.7**
TIR				S	**Sb**	**00 29 06.0**	**-0.2**
TIR	**Tirane**	**0.80**	**307**	⇑*i* Pg	**Pg**	**00 28 53.9**	**-1.0**
TIR	**Tirane**	**0.80**	**307**	*i* Pg	**Pg**	**00 28 54.2**	**-0.7**
	SNR=99						
TIR				*e*Sn	**Sg**	**00 29 04.7**	**-0.6**
TIR				S	**Sb**	**00 29 06.0**	**-0.2**
PHP	**Peshkopia**	**0.84**	**346**	*i* PG	**Pg**	**00 28 55.1**	**-0.6**
PHP				*i* SG	**Sb**	**00 29 08.5**	**+1.0**
PHP	**Peshkopia**	**0.84**	**346**	P	**Pg**	**00 28 54.9**	**-0.8**
PHP				S	**Sg**	**00 29 06.8**	**+0.1**
PHP	**Peshkopia**	**0.84**	**346**	*i* Pg	**Pg**	**00 28 55.1**	**-0.6**
	SNR=100						
PHP				S	**Sg**	**00 29 06.8**	**+0.1**
PHP				*i* Sg	**Sb**	**00 29 08.5**	**+1.0**
	SNR=100						
KZN	**Kozani**	**0.98**	**124**	P	**Pg**	**00 28 57.5**	**-0.9**
KZN				S	**Sn**	**00 29 13.2**	**-0.1**
KZN	**Kozani**	**0.98**	**124**	*e*PN	**Pg**	**00 28 58.1**	**-0.3**
KZN				*e*SN	**Sn**	**00 29 12.8**	**-0.5**
KZN	**Kozani**	**0.98**	**124**	P	**Pg**	**00 28 57.5**	**-0.9**
KZN	**Kozani**	**0.98**	**124**	*e*Pn	**Pg**	**00 28 58.1**	**-0.3**
KZN				*e*Sn	**Sn**	**00 29 12.8**	**-0.5**
KZN				S	**Sn**	**00 29 13.2**	**-0.1**
SRN	**Sarande**	**1.13**	**209**	*i* PG	**Pb**	**00 29 00.7**	**-0.2**
SRN				*i* SG	**Sn**	**00 29 19.4**	**+2.8**
SRN	**Sarande**	**1.13**	**209**	P	**Pb**	**00 29 00.4**	**-0.6**
SRN				S	**Sn**	**00 29 18.0**	**+1.4**
SRN	**Sarande**	**1.13**	**209**	P	**Pb**	**00 29 00.4**	**-0.6**
SRN	**Sarande**	**1.13**	**209**	*i* Pg	**Pb**	**00 29 00.7**	**-0.2**
	SNR=96						
SRN				S	**Sn**	**00 29 18.0**	**+1.4**
SRN				*i* Sg	**Sn**	**00 29 19.4**	**+2.8**
	SNR=96						
JAN	**Janina**	**1.22**	**175**	P	**Pn**	**00 29 01.7**	**-0.7**
JAN				S	**Sn**	**00 29 20.8**	**+1.9**
JAN	**Janina**	**1.22**	**175**	*e*PN	**Pn**	**00 29 01.8**	**-0.7**
JAN				*e*SN	**Sn**	**00 29 19.2**	**+0.3**
JAN	**Janina**	**1.22**	**175**	P	**Pn**	**00 29 01.7**	**-0.7**
JAN				*e*Sn	**Sn**	**00 29 19.2**	**+0.3**
JAN				S	**Sn**	**00 29 20.8**	**+1.9**
SKO	**Skopje**	**1.23**	**26**	P	**Pn**	**00 29 02.6**	**-0.1**
SKO				S	**Sn**	**00 29 20.2**	**+0.9**
SKO	**Skopje**	**1.23**	**26**	⇓*i* Pg	**Pn**	**00 29 02.6**	**-0.1**
SKO				*e*Sg	**Sn**	**00 29 20.2**	**+0.9**
SKO	**Skopje**	**1.23**	**26**	*i* Pg	**Pn**	**00 29 01.1**	**-1.6**
SKO				*i* Sg	**Sn**	**00 29 21.2**	**+1.9**
SKO				*e*Lg	Lg	00 29 23.8	
	comp=N,7μm,0.6s						
SKO				*e*Lg	Lg	00 29 24.1	
	comp=E,3μm,0.5s						
SKO	**Skopje**	**1.23**	**26**	P	**Pn**	**00 29 02.6**	**-0.1**
SKO				S	**Sn**	**00 29 20.2**	**+0.9**
PUK	**Puka**	**1.32**	**333**	*i* PG	**Pb**	**00 29 04.1**	**-0.3**
PUK				*i* SG	**Sg**	**00 29 24.5**	**+2.4**
PUK	**Puka**	**1.32**	**333**	*i* Pg	**Pb**	**00 29 04.1**	**-0.3**
	SNR=95						
PUK				*i* Sg	**Sg**	**00 29 24.5**	**+2.4**
	SNR=95						
KEK	**Kerkira**	**1.35**	**211**	P	**Pb**	**00 29 04.5**	**-0.3**
KEK				S	**Sg**	**00 29 24.2**	**+1.3**
KEK	**Kerkira**	**1.35**	**211**	*e*PN	**Pg**	**00 29 04.9**	**-0.5**
KEK				*e*SN	**Sg**	**00 29 23.1**	**+0.2**
KEK	**Kerkira**	**1.35**	**211**	P	**Pb**	**00 29 04.5**	**-0.3**
KEK	**Kerkira**	**1.35**	**211**	*e*Pn	**Pg**	**00 29 04.9**	**-0.5**
KEK				*e*Sn	**Sg**	**00 29 23.1**	**+0.2**
KEK				S	**Sg**	**00 29 24.2**	**+1.3**
IGT	**Igoumenitsa**	**1.37**	**192**	P	**Pb**	**00 29 05.2**	**+0.1**
IGT				S	**Sg**	**00 29 23.9**	**+0.5**
IGT	**Igoumenitsa**	**1.37**	**192**	P	**Pb**	**00 29 05.2**	**+0.1**
IGT				S	**Sg**	**00 29 23.9**	**+0.5**
VAY	**Valandovo**	**1.48**	**72**	P	**Pn**	**00 29 05.4**	**-0.6**
VAY				S	**Sg**	**00 29 26.9**	**-0.1**
VAY	**Valandovo**	**1.48**	**72**	⇓*i* Pg	**Pn**	**00 29 05.3**	**-0.7**
VAY				*e*Sg	**Sn**	**00 29 25.3**	**0.0**
VAY	**Valandovo**	**1.48**	**72**	*i* Pg	Pn	00 29 01.9	-4.1
VAY				*i* Sg	**Sg**	**00 29 27.5**	**+0.5**
VAY				*e*Lg	Lg	00 29 28.8	
	comp=E,3μm,0.5s						
VAY				*e*Lg	Lg	00 29 29.9	
	comp=N,9μm,1.1s						
VAY	**Valandovo**	**1.48**	**72**	P	**Pn**	**00 29 05.4**	**-0.6**
VAY				*e*Sg	**Sn**	**00 29 25.3**	**0.0**
VAY				S	**Sg**	**00 29 26.9**	**-0.1**
ULC	**Ulcinj**	**1.55**	**315**	⇓*i* PN	**Pb**	**00 29 07.7**	**-0.6**
ULC				*e*Sn	**Sg**	**00 29 30.3**	**+0.9**
ULC	**Ulcinj**	**1.55**	**315**	⇓*i* Pn	**Pb**	**00 29 07.7**	**-0.6**
ULC				*e*Sn	**Sg**	**00 29 30.3**	**+0.9**
LIT	**Litokhoron**	**1.56**	**119**	P	**Pn**	**00 29 07.5**	**+0.3**
LIT				S	**Sb**	**00 29 28.5**	**+0.4**
LIT	**Litokhoron**	**1.56**	**119**	*e*PN	**Pb**	**00 29 08.0**	**-0.4**
LIT				*e*SN	**Sb**	**00 29 28.8**	**+0.7**
LIT	**Litokhoron**	**1.56**	**119**	P	**Pn**	**00 29 07.5**	**+0.3**
LIT	**Litokhoron**	**1.56**	**119**	*e*Pn	**Pb**	**00 29 08.0**	**-0.4**
LIT				S	**Sb**	**00 29 28.5**	**+0.4**
BCI	**Bajram Curri**	**1.57**	**342**	*i* PG	**Pb**	**00 29 08.8**	**+0.2**
BCI				*i* SG	**Sg**	**00 29 31.3**	**+1.2**
BCI	**Bajram Curri**	**1.57**	**342**	*i* Pg	**Pb**	**00 29 08.8**	**+0.2**
	SNR=94						
BCI				*i* Sg	**Sg**	**00 29 31.3**	**+1.2**
	SNR=94						
THL	**Klokotos Trika**	**1.64**	**142**	P	**Pn**	**00 29 08.8**	**+0.5**
THL				S	**Sb**	**00 29 31.3**	**+0.8**
THL	**Klokotos Trika**	**1.64**	**142**	*e*PN	**Pb**	**00 29 09.0**	**-0.7**
THL				*e*SN	**Sb**	**00 29 31.2**	**+0.8**
THL	**Klokotos Trika**	**1.64**	**142**	*e*Pn	**Pb**	**00 29 09.0**	**-0.7**
THL				*e*Sn	**Sb**	**00 29 31.2**	**+0.8**
KNT	**Kendrikon**	**1.68**	**79**	P	**Pn**	**00 29 09.6**	**+0.7**
KNT				S	**Sb**	**00 29 31.2**	**-0.4**
KNT	**Kendrikon**	**1.68**	**79**	P	**Pn**	**00 29 09.6**	**+0.7**
KNT				S	**Sb**	**00 29 31.2**	**-0.4**
THE	**Thessaloniki**	**1.73**	**97**	P	**Pn**	**00 29 09.6**	**+0.1**
THE				S	**Sb**	**00 29 32.7**	**-0.3**
THE	**Thessaloniki**	**1.73**	**97**	P	**Pn**	**00 29 09.6**	**+0.1**
THE				S	**Sb**	**00 29 32.7**	**-0.3**
DRME	**Dracevica, Mon**	**1.75**	**319**	⇑*i* PN	**Pb**	**00 29 10.5**	**-1.0**
DRME				*e*Sn	**Sg**	**00 29 35.2**	**-0.4**
DRME	**Dracevica, Mon**	**1.75**	**319**	⇑*i* PN	**Pb**	**00 29 10.5**	**-1.0**
DRME				*e*Sn	**Sg**	**00 29 35.2**	**-0.4**
PVY	**Plav**	**1.81**	**342**	⇓*i* PN	**Pb**	**00 29 12.3**	**-0.5**
PVY				*e*Sn	**Sg**	**00 29 36.7**	**-1.1**
PVY	**Plav**	**1.81**	**342**	⇓*i* PN	**Pb**	**00 29 12.3**	**-0.5**
PVY				*e*Sn	**Sg**	**00 29 36.7**	**-1.1**
HORT	**Hortiatis**	**1.84**	**98**	P	**Pn**	**00 29 11.2**	**+0.2**
HORT				S	**Sb**	**00 29 35.6**	**-0.6**
HORT	**Hortiatis**	**1.84**	**98**	P	**Pn**	**00 29 11.2**	**+0.2**
HORT				S	**Sb**	**00 29 35.6**	**-0.6**
PDG	**Podgorica**	**1.90**	**326**	⇑*i* PN	**Pb**	**00 29 13.0**	**-1.2**
PDG				*e*Sn	**Sb**	**00 29 38.4**	**+0.4**
TTG	**Podgorica**	**1.90**	**326**	⇑*i* PN	**Pb**	**00 29 13.0**	**-1.2**
TTG				*e*Sn	**Sb**	**00 29 38.4**	**+0.4**
BUM	**Brajici-Budva**	**1.98**	**317**	⇓*i* PN	**Pb**	**00 29 14.4**	**-1.1**
BUM				*e*Sn	**Sb**	**00 29 39.7**	**-0.5**
BUM	**Brajici-Budva**	**1.98**	**317**	⇓*i* PN	**Pb**	**00 29 14.4**	**-1.1**
BUM				*e*Sn	**Sb**	**00 29 39.7**	**-0.5**
SOH	**Sokhos**	**2.01**	**90**	P	**Pn**	**00 29 13.8**	**+0.4**
SOH				S	**Sn**	**00 29 39.2**	**+0.7**
SOH	**Sokhos**	**2.01**	**90**	*e*PN	**Pn**	**00 29 14.1**	**+0.7**
SOH				*e*SN	**Sn**	**00 29 39.5**	**+1.0**
SOH	**Sokhos**	**2.01**	**90**	P	**Pn**	**00 29 13.8**	**+0.4**
SOH	**Sokhos**	**2.01**	**90**	*e*Pn	**Pn**	**00 29 14.1**	**+0.7**
SOH				S	**Sn**	**00 29 39.2**	**+0.7**
BEY	**Berane**	**2.09**	**343**	⇑*i* PN	**Pn**	**00 29 15.9**	**+1.3**
BEY				*e*Sn	**Sb**	**00 29 43.8**	**+0.2**
IVA	**Berane**	**2.09**	**343**	⇑*i* PN	**Pn**	**00 29 15.9**	**+1.3**
IVA				*e*Sn	**Sb**	**00 29 43.8**	**+0.2**
EVR	**Evrytania**	**2.12**	**156**	P	**Pn**	**00 29 15.5**	**+0.5**
EVR				S	**Sb**	**00 29 43.5**	**-1.0**
EVR	**Evrytania**	**2.12**	**156**	P	**Pn**	**00 29 15.5**	**+0.5**
EVR				S	**Sb**	**00 29 43.5**	**-1.0**
PLG	**Polygyros**	**2.14**	**102**	P	**Pn**	**00 29 15.7**	**+0.5**
PLG				S	**Sb**	**00 29 43.6**	**-1.3**
PLG	**Polygyros**	**2.14**	**102**	*e*PN	**Pn**	**00 29 15.7**	**+0.5**
PLG				*e*SN	**Sn**	**00 29 42.7**	**+0.9**
PLG	**Polygyros**	**2.14**	**102**	P	**Pn**	**00 29 15.7**	**+0.5**
PLG				*e*Sn	**Sn**	**00 29 42.7**	**+0.9**
PLG				S	**Sb**	**00 29 43.6**	**-1.3**
MAKR	**Makrakomi, Fth**	**2.15**	**149**	P	**Pn**	**00 29 16.6**	**+1.3**
MAKR				S	**Sb**	**00 29 44.4**	**-0.8**
MAKR	**Makrakomi, Fth**	**2.15**	**149**	P	**Pn**	**00 29 16.6**	**+1.3**
MAKR				S	**Sb**	**00 29 44.4**	**-0.8**
SRS	**Serrai**	**2.20**	**83**	P	**Pn**	**00 29 16.4**	**+0.5**
SRS				S	**Sn**	**00 29 43.1**	**0.0**
SRS	**Serrai**	**2.20**	**83**	P	**Pn**	**00 29 16.4**	**+0.5**
SRS				S	**Sn**	**00 29 43.1**	**0.0**
AGG	**Agios Georgios**	**2.23**	**145**	P	**Pn**	**00 29 17.2**	**+0.9**
AGG				S	**Sb**	**00 29 46.6**	**-0.7**
AGG	**Agios Georgios**	**2.23**	**145**	*e*PB	**Pn**	**00 29 17.3**	**+0.9**
AGG	**Agios Georgios**	**2.23**	**145**	P	**Pn**	**00 29 17.2**	**+0.9**
AGG				S	**Sb**	**00 29 46.6**	**-0.7**
HCY	**Herceg Novi**	**2.29**	**314**	⇑*i* PN	**Pn**	**00 29 17.8**	**+0.6**
HCY				*e*Sn	**Sb**	**00 29 48.0**	**-1.2**
HCY	**Herceg Novi**	**2.29**	**314**	⇑*i* PN	**Pn**	**00 29 17.8**	**+0.6**
HCY				*e*Sn	**Sb**	**00 29 48.0**	**-1.2**
NKME	**Niksic**	**2.31**	**326**	⇑*i* PN	**Pn**	**00 29 18.9**	**+1.4**
NKME				*e*Sn	**Sb**	**00 29 48.3**	**-1.4**
NKME	**Niksic**	**2.31**	**326**	⇑*i* PN	**Pn**	**00 29 18.9**	**+1.4**
NKME				*e*Sn	**Sb**	**00 29 48.3**	**-1.4**
NKY	**Niksic**	**2.33**	**327**	⇑*i* PN	**Pn**	**00 29 19.2**	**+1.4**
NKY				*e*Sn	**Sb**	**00 29 48.8**	**-1.5**
NKY	**Niksic**	**2.33**	**327**	⇑*i* PN	**Pn**	**00 29 19.2**	**+1.4**
NKY				*e*Sn	**Sb**	**00 29 48.8**	**-1.5**
SELS	**Selova**	**2.37**	**7**	⇑*i* PN	**Pn**	**00 29 18.4**	**+0.1**
XOR	**Xorichti**	**2.42**	**127**	P	**Pn**	**00 29 19.3**	**+0.2**
XOR				S	**Sn**	**00 29 49.1**	**+0.3**
XOR	**Xorichti**	**2.42**	**127**	P	**Pn**	**00 29 19.3**	**+0.2**
XOR				S	**Sn**	**00 29 49.1**	**+0.3**
NVR	**Nevrokopi**	**2.43**	**78**	P	**Pn**	**00 29 20.1**	**+0.9**
NVR				S	**Sn**	**00 29 50.2**	**+1.3**
NVR	**Nevrokopi**	**2.43**	**78**	*e*PN	**Pn**	**00 29 20.1**	**+0.9**
NVR				*e*SN	**Sn**	**00 29 49.9**	**+1.0**
NVR	**Nevrokopi**	**2.43**	**78**	P	**Pn**	**00 29 20.1**	**+0.9**
NVR				*e*Sn	**Sn**	**00 29 49.9**	**+1.0**
NVR				S	**Sn**	**00 29 50.2**	**+1.3**
SJES	**Sjenica**	**2.45**	**347**	⇑*i* PN	**Pn**	**00 29 20.0**	**+0.4**
SJES				*e*Sg	**Sg**	**00 29 57.6**	**-0.7**
PAIG	**Paliouri**	**2.46**	**112**	P	**Pn**	**00 29 19.6**	**+0.1**
PAIG	**Paliouri**	**2.46**	**112**	*e*PN	**Pn**	**00 29 19.9**	**+0.4**
PAIG				*e*SN	**Sn**	**00 29 50.2**	**+0.7**
PAIG	**Paliouri**	**2.46**	**112**	P	**Pn**	**00 29 19.6**	**+0.1**
PAIG	**Paliouri**	**2.46**	**112**	*e*Pn	**Pn**	**00 29 19.9**	**+0.4**
PAIG				*e*Sn	**Sn**	**00 29 50.2**	**+0.7**
NEO	**Neokhori**	**2.48**	**128**	P	**Pn**	**00 29 20.1**	**+0.2**
NEO				S	**Sn**	**00 29 50.9**	**+0.8**
NEO	**Neokhori**	**2.48**	**128**	*e*PN	**Pn**	**00 29 20.2**	**+0.3**
NEO				*e*SN	**Sn**	**00 29 51.1**	**+0.9**
NEO	**Neokhori**	**2.48**	**128**	*e*Pn	**Pn**	**00 29 20.2**	**+0.3**
NEO				*e*Sn	**Sn**	**00 29 51.1**	**+0.9**
PE1	**Pezze di Greco**	**2.50**	**270**	*e*Pn	**Pn**	**00 29 19.9**	**-0.1**
PE1				*e*Sn	**Sb**	**00 29 56.1**	**+1.1**
VTS	**Vitosha**	**2.54**	**47**	P	**Pn**	**00 29 22.0**	**+1.2**
VTS				S	**Sn**	**00 29 53.3**	**+1.5**
VTS	**Vitosha**	**2.54**	**47**	⇓*i* Pn	**Pn**	**00 29 22.3**	**+1.5**
VTS				*e*Sn	**Sn**	**00 29 53.9**	**+2.1**
VTS	**Vitosha**	**2.54**	**47**	S	**Sg**	**00 29 59.7**	**-1.4**
VTS	**Vitosha**	**2.54**	**47**	⇓*i* Pn	**Pn**	**00 29 22.3**	**+1.5**
VTS				S	**Sn**	**00 29 53.3**	**+1.5**
OUR	**Ouranopolis**	**2.55**	**101**	P	**Pn**	**00 29 21.3**	**+0.6**
OUR				S	**Sn**	**00 29 52.4**	**+0.7**
OUR	**Ouranopolis**	**2.55**	**101**	P	**Pn**	**00 29 21.3**	**+0.6**
OUR				S	**Sn**	**00 29 52.4**	**+0.7**
TREB	**Trebinje**	**2.55**	**317**	⇑*i* PN	**Pn**	**00 29 22.0**	**+1.2**
TREB				*e*Sn	**Sb**	**00 29 55.1**	**-1.6**
TREB	**Trebinje**	**2.55**	**317**	⇑*i* PN	**Pn**	**00 29 22.0**	**+1.2**
TREB				*e*Sn	**Sb**	**00 29 55.1**	**-1.6**
AXAR	**Agios Charalam**	**2.58**	**144**	P	**Pn**	**00 29 22.1**	**+0.9**
AXAR				S	**Sn**	**00 29 54.4**	**+1.8**
AXAR	**Agios Charalam**	**2.58**	**144**	P	**Pn**	**00 29 22.1**	**+0.9**
AXAR				S	**Sn**	**00 29 54.4**	**+1.8**
BRY	**Bratogost**	**2.60**	**322**	⇓*i* PN	**Pn**	**00 29 22.8**	**+1.2**
BRY				*e*Sn	**Sb**	**00 29 55.8**	**-2.4**
BRY	**Bratogost**	**2.60**	**322**	⇓*i* PN	**Pn**	**00 29 22.8**	**+1.2**
BRY				*e*Sn	**Sb**	**00 29 55.8**	**-2.4**
EFP	**Efpalio**	**2.61**	**159**	P	**Pn**	**00 29 22.4**	**+0.8**
EFP				S	**Sb**	**00 29 56.0**	**-2.3**
EFP	**Efpalio**	**2.61**	**159**	P	**Pn**	**00 29 22.4**	**+0.8**
EFP				S	**Sb**	**00 29 56.0**	**-2.3**
TAR1	**Taranto**	**2.63**	**264**	*e*PN	**Pn**	**00 29 21.7**	**-0.1**
TAR1				*e*Sn	**Sb**	**00 29 57.8**	**-1.0**
PLE	**Pljevlja**	**2.65**	**339**	⇑*i* PN	**Pn**	**00 29 23.9**	**+1.6**
PLE				*e*Sn	**Sn**	**00 29 56.6**	**+2.2**
PLE	**Pljevlja**	**2.65**	**339**	⇑*i* PN	**Pn**	**00 29 23.9**	**+1.6**
PLE				*e*Sn	**Sn**	**00 29 56.6**	**+2.2**
VLS	**Valsamata**	**2.69**	**182**	P	**Pn**	**00 29 22.9**	**+0.2**
VLS	**Valsamata**	**2.69**	**182**	P	**Pn**	**00 29 22.9**	**+0.2**
UPM	**Unac-Piva**	**2.69**	**331**	⇓*i* PN	**Pn**	**00 29 24.3**	**+1.4**
UPM				*e*Sn	**Sn**	**00 29 57.2**	**+1.6**
UPM	**Unac-Piva**	**2.69**	**331**	⇓*i* PN	**Pn**	**00 29 24.3**	**+1.4**
UPM				*e*Sn	**Sn**	**00 29 57.2**	**+1.6**
KALE	**Kalithea**	**2.71**	**155**	P	**Pn**	**00 29 24.5**	**+1.5**
KALE				S	**Sb**	**00 29 58.8**	**-2.5**
KALE	**Kalithea**	**2.71**	**155**	*e*PN	**Pn**	**00 29 24.6**	**+1.5**
KALE	**Kalithea**	**2.71**	**155**	P	**Pn**	**00 29 24.5**	**+1.5**
KALE				S	**Sb**	**00 29 58.8**	**-2.5**
UPR	**University Cam**	**2.71**	**162**	P	**Pn**	**00 29 24.1**	**+1.1**
UPR	**University Cam**	**2.71**	**162**	P	**Pn**	**00 29 24.1**	**+1.1**
SKIA	**Skiathos**	**2.71**	**128**	P	**Pn**	**00 29 23.3**	**+0.2**
SKIA	**Skiathos**	**2.71**	**128**	P	**Pn**	**00 29 23.3**	**+0.2**
AXS	**Araxos**	**2.72**	**169**	P	**Pn**	**00 29 24.1**	**+1.0**
AXS	**Araxos**	**2.72**	**169**	P	**Pn**	**00 29 24.1**	**+1.0**
IVAS	**Ivanjica**	**2.74**	**351**	⇑*i* PN	**Pn**	**00 29 24.0**	**+0.6**
IVAS	**Ivanjica**	**2.74**	**351**	⇑*i* PN	**Pn**	**00 29 24.0**	**+0.6**
KFL	**Anninata**	**2.76**	**179**	P	**Pn**	**00 29 23.8**	**+0.2**
KFL	**Anninata**	**2.76**	**179**	P	**Pn**	**00 29 23.8**	**+0.2**
SMIA	**Simia**	**2.77**	**135**	P	**Pn**	**00 29 24.4**	**+0.6**
SMIA	**Simia**	**2.77**	**135**	P	**Pn**	**00 29 24.4**	**+0.6**
LAKA	**Lakka**	**2.80**	**159**	P	**Pn**	**00 29 25.5**	**+1.2**
LAKA				S	**Sn**	**00 29 59.9**	**+1.8**
LAKA	**Lakka**	**2.80**	**159**	*e*PN	**Pn**	**00 29 25.9**	**+1.6**
LAKA	**Lakka**	**2.80**	**159**	P	**Pn**	**00 29 25.5**	**+1.2**
LAKA	**Lakka**	**2.80**	**159**	*e*Pn	**Pn**	**00 29 25.9**	**+1.6**
LAKA				S	**Sn**	**00 29 59.9**	**+1.8**
DSF	**Desfina**	**2.83**	**150**	P	**Pn**	**00 29 26.0**	**+1.4**
DSF				S	**Sb**	**00 30 02.1**	**-2.5**
DSF	**Desfina**	**2.83**	**150**	P	**Pn**	**00 29 26.0**	**+1.4**
DSF				S	**Sb**	**00 30 02.1**	**-2.5**
LKR	**Lokris**	**2.83**	**141**	P	**Pn**	**00 29 25.1**	**+0.4**
LKR				S	**Sn**	**00 29 59.5**	**+0.7**
LKR	**Lokris**	**2.83**	**141**	*e*PN	**Pn**	**00 29 25.4**	**+0.7**
LKR	**Lokris**	**2.83**	**141**	P	**Pn**	**00 29 25.1**	**+0.4**
LKR	**Lokris**	**2.83**	**141**	*e*Pn	**Pn**	**00 29 25.4**	**+0.7**
LKR				S	**Sn**	**00 29 59.5**	**+0.7**
RLS	**Riolos of Patr**	**2.87**	**168**

BZS S Sn 00 30 49.8 +2.7
CHOS Chios island 4.81 119 *e*PN Pn 00 29 53.7 +1.7
CHOS Chios island 4.81 119 *e*Pn Pn 00 29 53.7 +1.7
HUMR Humele 4.82 39⇑*i*P Pn 00 29 53.0 +1.0
HUMR Humele 4.82 39⇑*i*P Pn 00 29 53.0 +1.0
KYTH Kithira 4.93 158 P Pn 00 29 55.0 +1.5
KYTH Kithira 4.93 158 P Pn 00 29 55.0 +1.5
UDBI Udbina 5.16 317 *e*Pn Pn 00 29 59.1 +2.3
UDBI Sn Sn 00 30 58.4 +2.0
UDBI Udbina 5.16 317 *e*Pn Pn 00 29 59.0 +2.3
UDBI Sn Sn 00 30 58.3 +2.0
DEV Deva 5.26 17⇑*i*P Pn 00 30 04.5 +6.5
ARR Arges 5.33 31⇓*i*P Pn 00 30 00.3 +1.2
ARR Arges 5.33 31⇓*i*P Pn 00 30 00.3 +1.2
APE Apeiranthos 5.34 134⇑P Pn 00 30 01.7 +2.5
APE Apeiranthos 5.34 134 *e*PN Pn 00 30 01.9 +2.7
APE Apeiranthos 5.34 134⇑*i*P Pn 00 30 01.7 +2.5
APE Apeiranthos 5.34 134 P Pn 00 30 01.7 +2.5
ANKY Antikythira Is 5.39 157 P Pn 00 30 01.2 +1.3
ANKY Antikythira Is 5.39 157 *e*PN Pn 00 30 02.1 +2.2
ANKY Antikythira Is 5.39 157 P Pn 00 30 01.2 +1.3
ANKY Antikythira Is 5.39 157 *e*Pn Pn 00 30 02.1 +2.2
VOIR 5.56 33⇑P Pn 00 30 03.6 +1.4
VOIR 5.56 33⇑*i*P Pn 00 30 03.6 +1.4
VOIR 5.56 33 P Pn 00 30 03.6 +1.4
SISC Sisak 5.59 327 *e*Pn Pn 00 30 04.2 +1.7
SISC Sisak 5.59 327 *e*Pn Pn 00 30 04.2 +1.7
NVLJ Novalja 5.67 313 *i* Pn Pn 00 30 04.4 +0.8
NVLJ Sn Sn 00 31 08.6 -0.1
NVLJ Novalja 5.67 313 *i* Pn Pn 00 30 04.4 +0.8
NVLJ Sn Sn 00 31 08.5 -0.1
SMG Samos 5.71 122 *e*PN Pn 00 30 06.7 +2.5
SMG Samos 5.71 122 *e*Pn Pn 00 30 06.7 +2.5
PKS2 Kecel 5.72 350 *e*pn Pn 00 30 06.2 +1.8
PKS2 *e*sn Sn 00 31 12.8 +2.8
PKS9 Tamasi 5.98 344 *e*pn Pn 00 30 08.7 +0.8
PKS9 Tamasi 5.98 344 *e*Pn Pn 00 30 08.7 +0.8
MLR Muntele Rosu 6.00 38⇓*i*P Pn 00 30 10.4 +2.2
MLR Muntele Rosu 6.00 38 P Pn 00 30 10.5 +2.2
KARN Karanos 6.01 154 P Pn 00 30 09.7 +1.3
KARN Karanos 6.01 154 P Pn 00 30 09.7 +1.3
PKSN Nyarlorinc 6.06 355 *e*pn Pn 00 30 08.6 -0.3
PKSN Nyarlorinc 6.06 355 *e*Pn Pn 00 30 08.6 -0.3
DRGR 6.09 13⇑P Pn 00 30 09.8 +0.2
DRGR 6.09 13⇑*i*P Pn 00 30 09.8 +0.2
DRGR 6.09 13 P Pn 00 30 09.8 +0.2
VAM Vamos 6.11 152 *e*PN Pn 00 30 12.0 +2.3
VAM Vamos 6.11 152 *e*Pn Pn 00 30 12.0 +2.3
BOJS Bojanci 6.11 321 *e*Pn Pn 00 30 10.8 +1.1
BOJS *e*Sn Sn 00 31 18.4 -1.2
BOJS Bojanci 6.11 321 *e*Pn Pn 00 30 10.8 +1.1
BOJS *e*Sn Sn 00 31 18.5 -1.2
DOPR Dopca 6.13 32⇑*i*P Pn 00 30 12.4 +2.4
DOPR Dopca 6.13 32⇑*i*P Pn 00 30 12.4 +2.4
AMRR Amara 6.15 50⇑P Pn 00 30 12.3 +2.1
AMRR Amara 6.15 50⇑*i*P Pn 00 30 12.3 +2.1
AMRR Amara 6.15 50 P Pn 00 30 12.3 +2.1
PKS7 Kunszentmiklos 6.28 350 *e*pn Pn 00 30 12.9 +0.9
PKS7 Kunszentmiklos 6.28 350 *e*Pn Pn 00 30 12.9 +0.9
BEHE Becsehely 6.28 334⇓*e*pn Pn 00 30 14.1 +2.0
BEHE *e*sn Sn 00 31 23.7 -0.1
BEHE Becsehely 6.28 334⇓*e*Pn Pn 00 30 14.1 +2.0
BEHE *e*Sn Sn 00 31 23.7 -0.1
GBRS Gornja Briga 6.35 319 *e*Pn Pn 00 30 14.3 +1.3
GBRS *e*Sn Sn 00 31 25.9 +0.4
IDI Anoyia 6.47 148 *e*PN Pn 00 30 16.8 +2.0
IDI Anoyia 6.47 148 *e*Pn Pn 00 30 16.8 +2.0
IDI Anoyia 6.47 148 Pn Pn 00 30 15.3 +0.5
comp=N,2.4nm,0.3s,baz=356,slow=11,SNR=19
IDI Sn Sn 00 31 25.2 -3.5
comp=N,2.0nm,0.3s,baz=282,slow=20,SNR=3.1
VISS Visnje 6.53 321 *e*Pn Pn 00 30 16.4 +0.9
VISS *e*Sn Sn 00 31 29.7 -0.2
VISS Visnje 6.53 321 *e*Pn Pn 00 30 16.4 +0.9
VISS *e*Sn Sn 00 31 29.7 -0.2
TLB Topalu 6.55 53⇑P Pn 00 30 17.5 +1.8
TLB Topalu 6.55 53⇑*i*P Pn 00 30 17.5 +1.8
TLB Topalu 6.55 53 P Pn 00 30 17.5 +1.8
PLOR Plostina 6.60 39⇑P Pn 00 30 18.7 +2.3
PLOR Plostina 6.60 39⇑*i*P Pn 00 30 18.7 +2.3
PLOR Plostina 6.60 39 P Pn 00 30 18.7 +2.3
VRI Vrincioaia 6.65 39⇑P Pn 00 30 19.3 +2.2
VRI Vrincioaia 6.65 39⇑*i*P Pn 00 30 19.3 +2.2
VRI Vrincioaia 6.65 39 P Pn 00 30 19.3 +2.2
PKST T"s 6.67 344 *e*pn Pn 00 30 19.1 +1.7
PKST *e*sn Sn 00 31 36.6 +3.2
PKST T"s 6.67 344 *e*Pn Pn 00 30 19.1 +1.7
PKST *e*Sn Sn 00 31 36.6 +3.2
BUD Budapest 6.72 350⇓*e*pn Pn 00 30 20.1 +2.0
BUD *e*sn Sn 00 31 36.0 +1.4
BUD Budapest 6.72 350⇓*e*Pn Pn 00 30 20.1 +2.0
BUD *e*Sn Sn 00 31 36.0 +1.4
PKSG 6.73 346⇓*e*pn Pn 00 30 21.0 +2.8
PKSG *e*sn Sn 00 31 36.8 +2.0
PKSG 6.73 346⇓*e*Pn Pn 00 30 21.0 +2.8
PKSG *e*Sn Sn 00 31 36.8 +2.0
PETR Petresti 6.79 42⇑*i*P Pn 00 30 22.0 +3.0
PETR Petresti 6.79 42⇑*i*P Pn 00 30 22.0 +3.0
NPS Neapolis 6.80 144 *e*PN Pn 00 30 21.3 +2.1
NPS Neapolis 6.80 144 *e*Pn Pn 00 30 21.3 +2.1
LJU Ljubljana 6.85 321 *i* Pn Pn 00 30 20.9 +1.0
LJU *i* Sn Sn 00 31 37.9 0.0
LJU Ljubljana 6.85 321 *i* Pn Pn 00 30 20.9 +1.0
LJU *i* Sn Sn 00 31 37.9 0.0
CFR Carcaliu 6.94 49⇓P Pn 00 30 23.2 +2.2
CFR Carcaliu 6.94 49⇓*i*P Pn 00 30 23.2 +2.2
CFR Carcaliu 6.94 49 P Pn 00 30 23.2 +2.2
JAVS Javornik 6.97 318 *i* Pn Pn 00 30 21.9 +0.2
JAVS *i* Sn Sn 00 31 39.8 -1.2
JAVS Javornik 6.97 318 *i* Pn Pn 00 30 21.9 +0.2
JAVS *i* Sn Sn 00 31 39.8 -1.2
PERS Pernice 7.04 327 *i* Pn Pn 00 30 23.8 +1.2
PERS *i* Sn Sn 00 31 42.4 -0.2
PERS Pernice 7.04 327 *i* Pn Pn 00 30 23.8 +1.2
PERS *i* Sn Sn 00 31 42.4 -0.2
PSZ Piszkesteto 7.07 356 *e*pn Pn 00 30 23.5 +0.5
PSZ *e*sn Sn 00 31 39.2 -4.2
PSZ Piszkesteto 7.07 356 *e*Pn Pn 00 30 23.5 +0.5
TESR Tescani 7.09 35⇓*i*P Pn 00 30 25.1 +1.9
TESR Tescani 7.09 35⇓*i*P Pn 00 30 25.1 +1.9
SOKA Soboth 7.11 327⇓*i*Pn Pn 00 30 24.4 +0.9
SNR=26
SOKA Soboth 7.11 327 Pn Pn 00 30 24.4 +0.9
SNR=26
VOY Vojsko 7.16 318 *e*Pn Pn 00 30 24.5 +0.4
VOY *e*Sn Sn 00 31 43.9 -1.6
VOY Vojsko 7.16 318 *e*Pn Pn 00 30 24.5 +0.4
OBKA Obir 7.19 324⇑*i*Pn Pn 00 30 25.1 +0.5
SNR=14
OBKA ⇑*i*Sn Sn 00 31 46.5 +0.2
OBKA Obir 7.19 324 Pn Pn 00 30 25.1 +0.5
SNR=14
OBKA Sn Sn 00 31 46.5 +0.2
KARP Karpathos 7.35 134 *e*PN Pn 00 30 29.2 +2.4
KARP Karpathos 7.35 134 *e*Pn Pn 00 30 29.2 +2.4
TRPA Tarpa 7.38 10⇓*i*P Pn 00 30 27.8 +0.7
TRPA Tarpa 7.38 10⇓*i*P Pn 00 30 27.8 +0.7
ARSA Arzberg 7.39 331⇓*i*Pn Pn 00 30 28.5 +1.2
SNR=27
ARSA ⇓*i*Sn Sn 00 31 51.9 +0.8
ARSA Arzberg 7.39 331 Pn Pn 00 30 28.5 +1.2
SNR=27
ARSA Sn Sn 00 31 51.9 +0.8
SOP Sopron 7.43 338 *e*pn Pn 00 30 30.8 +2.9
SOP Sopron 7.43 338⇓*e*Pn Pn 00 30 30.8 +2.9
ARG Arkhangelos 7.44 126 *e*PN Pn 00 30 31.3 +3.4
BURAR Bucovina Array 7.48 24⇑P Pn 00 30 30.6 +2.0
BURAR Bucovina Array 7.48 24⇑*i*P Pn 00 30 30.6 +2.0
BURAR Bucovina Array 7.48 24⇑*i*P Pn 00 30 30.6 +2.0
MYKA Terra Mystica 7.70 321⇑*i*Pn Pn 00 30 32.3 +0.7
MYKA ⇓*i*Sn Sn 00 32 00.2 +1.4
MYKA Terra Mystica 7.70 321 Pn Pn 00 30 32.3 +0.7
MYKA Sn Sn 00 32 00.2 +1.4
ZST Bratislava 7.76 342 *e*PN Pn 00 30 34.9 +2.5
LEOM Leova 7.82 42⇑P Pn 00 30 36.1 +2.9
LEOM Leova 7.82 42⇑*i*P Pn 00 30 36.1 +2.9
LEOM Leova 7.82 42 P Pn 00 30 36.1 +2.9
UZH Uzhgorod 7.84 8 *e*P Pn 00 30 33.9 +0.5
UZH *e*S Sn 00 32 04.3 +2.1
UZH MLR MLR
comp=N,600nm,6.0s
UZH MLR MLR
comp=E,600nm,6.0s
UZH MLR MLR
comp=Z,400nm,6.0s
UZH Uzhgorod 7.84 8 *e*P Pn 00 30 33.9 +0.5
UZH *e*S Sn 00 32 04.3 +2.1
CONA Conrad Observa 7.86 335⇑*i*Pn Pn 00 30 35.5 +1.7
CONA ⇓*i*Sn Sn 00 32 05.1 +2.2
CONA Conrad Observa 7.86 335 Pn Pn 00 30 35.5 +1.7
CONA Sn Sn 00 32 05.1 +2.2
KBA Koelnbreinsper 8.17 322⇓*i*Pn Pn 00 30 38.6 +0.5
SNR=11
KBA ⇑*i*Sn Sn 00 32 08.8 -1.6
KBA Koelnbreinsper 8.17 322 Pn Pn 00 30 38.6 +0.5
SNR=11
ABTA Abfaltersbach 8.34 317 *i* Pn Pn 00 30 40.7 +0.3
SNR=18
ABTA ⇓*i*Sn Sn 00 32 15.6 +0.9
ABTA Abfaltersbach 8.34 317 Pn Pn 00 30 40.7 +0.3
SNR=18
ABTA Sn Sn 00 32 15.6 +0.9
MOA Molln 8.37 329⇑*i*Pn Pn 00 30 42.2 +1.5
SNR=11
MOA ⇑*i*Sn Sn 00 32 17.6 +2.5
MOA Molln 8.37 329 Pn Pn 00 30 42.2 +1.5
SNR=11
MOA Sn Sn 00 32 17.6 +2.5
KIS Kishinev 8.47 41 *e* Sb 00 32 39.0 -7.8
STHS Stebnicka Huta 8.56 2 *e*PN Pn 00 30 45.4 +2.1
STHS *e*SN Sn 00 32 22.3 +2.5
STHS Stebnicka Huta 8.56 2 *e*Pn Pn 00 30 45.4 +2.1
STHS *e*Sn Sn 00 32 22.3 +2.5
KWP Kalwaria Pacla 8.88 8 *e*P Pn 00 30 51.1 +3.5
VRAC Vranov 8.93 342 P Pn 00 30 48.3 0.0
comp=Z,1.0nm,0.3s
VRAC Vranov 8.93 342 Pn Pn 00 30 48.3 0.0
comp=Z,0.7nm,0.3s,baz=180,slow=13,SNR=9.7
LTBQ Tobruq 9.17 163 *i* P Pn 00 30 53.4 +1.7
SNR=34
TREC Trest 9.20 338 *e*PN Pn 00 30 54.4 +2.3
TREC Trest 9.20 338 *e*Pn Pn 00 30 54.4 +2.3
WATA Walderalm 9.21 318⇑*i*Pn Pn 00 30 53.1 +0.7
SNR=14
WATA ⇓*i*Sn Sn 00 32 37.0 +0.9
WATA Walderalm 9.21 318 Pn Pn 00 30 53.1 +0.7
SNR=14
WATA Sn Sn 00 32 37.0 +0.9
GERES GERESS Array B 9.40 330 P Pn 00 30 56.1 +1.2
comp=Z,1.0nm,0.3s
GERES GERESS Array B 9.40 330 Pn Pn 00 30 56.0 +1.2
comp=Z,1.4nm,0.3s,baz=151,slow=14,SNR=68
GERES Sn Sn 00 32 38.1 -2.4
comp=Z,0.4nm,0.3s,baz=144,slow=22,SNR=3.4
FETA Feichten 9.46 314⇑*i*Pn Pn 00 30 56.0 +0.1
FETA ⇑*i*Sn Sn 00 32 42.5 +0.3
FETA Feichten 9.46 314 Pn Pn 00 30 56.0 +0.1
FETA Sn Sn 00 32 42.5 +0.3
KHC Kasperske Hory 9.68 331 *e*PN Pn 00 30 59.5 +0.8
KHC *e*SN Sn 00 32 47.2 -0.1
KHC AMS AMS 00 36 00.0
comp=Z,300nm,13.8s
DAVOX Davos/Dischmat 9.80 311 P Pn 00 31 01.2 +0.7
comp=Z,2.0nm,0.3s
DAVOX Davos/Dischmat 9.80 311 Pn Pn 00 31 01.2 +0.7
comp=Z,2.0nm,0.3s,baz=144,slow=18,SNR=21
DAVOX Sn Sn 00 32 47.4 -3.2
comp=Z,1.0nm,0.3s,baz=36,slow=18,SNR=3.1
DAVOX LR LR 00 34 34.7
comp=Z,152nm,20.6s,baz=286,slow=36
BRTR Keskin Array B 9.95 92 *e*P Pn 00 31 03.9 +1.5
BRTR Keskin Array B 9.95 92 Pn Pn 00 31 04.0 +1.5
comp=Z,0.3nm,0.3s,baz=272,slow=13,SNR=12
BRTR Sn Sn 00 32 51.0 -3.2
comp=Z,0.1nm,0.3s,baz=263,slow=24,SNR=2.8
DPC Dobruska-Polom 9.97 344 *e*PN Pn 00 31 06.8 +4.2
DAVA Damuels 10.09 313⇑*i*Pn Pn 00 31 04.9 +0.5
DAVA ⇓*i*Sn Sn 00 32 55.8 -1.7
DAVA Damuels 10.09 313 Pn Pn 00 31 04.9 +0.5
PRU Pruhonice 10.09 337 *e*PN Pn 00 31 06.3 +2.0
PRU AMS AMS 00 35 20.0
comp=Z,800nm,6.5s
PRU Pruhonice 10.09 337 Pn Pn 00 31 06.3 +2.0
SBF Sospel 10.27 291 *e*Pn Pn 00 31 05.1 -1.7
SBF *e*Sn Sn 00 32 52.1 -10
comp=Z,48nm,1.1s
SBF Sospel 10.27 291 *e*Pn Pn 00 31 05.1 -1.7
KEST Kesra 10.29 244 Pn Pn 00 31 07.9 +0.7
comp=Z,0.0nm,0.3s,baz=342,slow=20,SNR=7.3
PVCC Panska Ves 10.57 338 *e*PN Pn 00 31 13.1 +2.3
PVCC Panska Ves 10.57 338 Pn Pn 00 31 13.1 +2.3
LMR La Mourre 10.84 288 *e*Pn Pn 00 31 12.3 -2.2
LMR *e*Sn Sn 00 33 06.6 -9.1
comp=Z,9.0nm,0.9s
MBDF Montbardon 10.94 295 *e*Pn Pn 00 31 14.0 -2.1
MBDF *e*Sn Sn 00 33 08.4 -10
comp=Z,17nm,0.8s
BRG Berggiesshubel 11.06 337 *e*P Pn 00 31 19.8 +2.4
comp=Z,2.5nm,0.6s
SPAK Spaichingen-Ko 11.16 314 *e*P Pn 00 31 17.5 -1.5
LPG La Plagne 11.19 299 *e*Pn Pn 00 31 17.7 -1.9
LPG *e*Sn Sn 00 33 14.6 -10
comp=Z,23nm,0.7s
LPL La Plagne 11.21 299 *e*Pn Pn 00 31 17.9 -1.9
LPL *e*Sn Sn 00 33 14.8 -11
comp=Z,15nm,0.6s
RSL Roselend 11.34 300 *e*P Pn 00 31 22.0 +0.5
RSL Roselend 11.34 300 *e*P Pn 00 31 22.0 +0.5
FELD Feldberg im Sc 11.47 312 *e*P Pn 00 31 22.5 -0.8
FELD Feldberg im Sc 11.47 312 *e*P Pn 00 31 22.5 -0.8
AKASG Malin Array Be 11.48 28 *e*P Pn 00 31 24.2 +0.9
AKASG Malin Array Be 11.48 28 *e*P Pn 00 31 24.2 +0.9
AKASG Malin Array Be 11.48 28 Pn Pn 00 31 23.9 +0.7
baz=212,slow=12,SNR=8.6
ORIF Oris-en-Rattie 11.61 295 *e*Pn Pn 00 31 23.8 -1.3
ORIF *e*Sn Sn 00 33 24.3 -10
comp=Z,20nm,0.9s
ORIF Oris-en-Rattie 11.61 295 *e*Pn Pn 00 31 23.8 -1.3
SMRF Simiane la Rot 11.61 291 *e*Pn Pn 00 31 23.5 -1.6
SMRF *e*Sn Sn 00 33 24.9 -10
comp=Z,5.1nm,0.8s
SMRF Simiane la Rot 11.61 291 *e*Pn Pn 00 31 23.5 -1.6
CLL Colim 11.72 336 *e*P Pn 00 31 31.0 +4.4
CLL Colim 11.72 336 *e*Pn Pn 00 31 28.0 +1.4
comp=Z,10.0nm,1.4s
CLL *e*(Sb) Sn 00 34 02.0 +25
CLL *e*Sg 00 35 13.0
comp=N,200nm,23.5s
CLL *e*Sg 00 35 13.0
comp=E,400nm,25.6s
MOF Molkenrain 11.96 310 *e*P Pn 00 31 29.6 -0.3
MOF Molkenrain 11.96 310 *e*P Pn 00 31 29.6 -0.3
CABF La Chapelle 12.03 303 *e*Pn Pn 00 31 29.3 -1.6
CABF *e*Sn Sn 00 33 34.5 -11
comp=E,9.6nm,0.6s
CABF La Chapelle 12.03 303 *e*Pn Pn 00 31 29.3 -1.6
HINF Hinteralfeld 12.10 310 *e*Pn Pn 00 31 29.5 -2.3
HINF *e*Sn Sn 00 33 36.4 -10
comp=E,20nm,0.8s
CDF Champ du Feu 12.17 313 *e*Pn Pn 00 31 31.1 -1.7
CDF Champ du Feu 12.17 313 *e*Pn Pn 00 31 31.1 -1.7
VIVF Saint-Julien-l 12.42 294 *e*Pn Pn 00 31 33.7 -2.5
VIVF *e*Sn Sn 00 33 43.5 -11
comp=E,3.1nm,0.7s
HAU Haudompre 12.49 310 *e*Pn Pn 00 31 34.6 -2.5
HAU *e*Sn Sn 00 33 45.3 -11
comp=E,22nm,0.6s
SFTF Sexfontaines 13.36 309 *e*Pn Pn 00 31 47.3 -1.6
SFTF Sexfontaines 13.36 309 *e*Pn Pn 00 31 47.3 -1.6
PLDF La Plantade 13.42 298 *e*P Pn 00 31 46.8 -3.1
SMF Signal de Mont 13.48 301 *e*Pn Pn 00 31 48.6 -2.0
SMF *e*Sn Sn 00 34 09.3 -11
comp=E,14nm,0.7s
MEZF Maizieres J'vi 13.49 310 *e*Pn Pn 00 31 48.5 -2.2
LOR Lormes 13.69 303 *e*Pn Pn 00 31 51.2 -2.3
LOR *e*Sn Sn 00 34 14.8 -11
comp=E,15nm,0.6s
SSF Saint Saulge 13.84 302 *e*Pn Pn 00 31 53.3 -2.2
SSF *e*Sn Sn 00 34 18.3 -11
comp=E,3.0nm,0.5s
AVF Avril sur Loir 13.85 301 *e*Pn Pn 00 31 53.0 -2.6
AVF *e*Sn Sn 00 34 17.8 -12
comp=E,7.2nm,0.7s
BGF Bois d'Agland 14.11 300 *e*Pn Pn 00 31 56.9 -2.3
BGF *e*Sn Sn 00 34 23.9 -12
comp=E,8.5nm,0.6s
MMAI Mount Meron Ar 14.11 119 Pn Pn 00 32 00.2 +0.8
comp=E,0.5nm,0.3s,baz=311,slow=11,SNR=6.0
MMAI Sn Sn 00 34 33.8 -2.2
comp=E,0.2nm,0.3s,baz=310,slow=24,SNR=2.6
GIVF Givet 14.45 315 *e*Pn Pn 00 32 00.9 -2.9
GIVF *e*Sn Sn 00 34 32.6 -11
comp=E,2.0nm,0.2s
TCF Toulx Ste Croi 14.45 298 *e*Pn Pn 00 32 00.9 -3.0
TCF *e*Sn Sn 00 34 32.8 -11
comp=E,5.0nm,0.8s
HYF Humbligny 14.47 302 *e*Pn Pn 00 32 01.4 -2.7
HYF *e*Sn Sn 00 34 32.3 -12
ASF Jabal al Asfar 15.62 119 Pn Pn 00 32 20.1 +0.4
comp=E,0.1nm,0.3s,baz=280,slow=18,SNR=2.0
EIL Elat 16.10 129 Pn Pn 00 32 26.4 +0.6
comp=E,0.2nm,0.3s,baz=7.5,slow=7.8,SNR=3.2
EIL Sn Sn 00 35 15.0 -9.4
comp=E,0.2nm,0.3s,baz=252,slow=20,SNR=2.6
KIV Kislovodsk 16.51 72 *e*P Pn 00 32 32.4 +1.3
KIV Kislovodsk 16.51 72 *e*P Pn 00 32 32.4 +1.3
KBZ Khabaz 16.66 73 P P 00 32 34.1 -1.0
KBZ Khabaz 16.66 73 P P 00 32 34.1 -1.0
KBZ Khabaz 16.66 73 Pn P 00 32 34.1 -1.0
comp=E,0.1nm,0.3s,baz=180,slow=4.0,SNR=2.2
LKFR Kufra 16.79 172 *i* P P 00 32 36.8 0.0
SNR=43
ZEI Tsey 17.38 76 *e*P P 00 32 45.1 +1.6
ZEI pmax pmax
comp=Z,10.0nm,1.4s
ZEI Tsey 17.38 76 *e*P P 00 32 45.1 +1.6
comp=Z,10.0nm,1.4s
OBN Obninsk 17.71 31⇑*e*P Pn 00 32 45.4 -0.4
OBN *e*S Sn 00 36 02.8 -0.1
OBN pmax pmax
comp=E,19nm,1.2s
OBN Obninsk 17.71 31 *e*P Pn 00 32 45.4 -0.4
comp=E,19nm,1.2s
GNI Garni 18.28 84 P P 00 32 54.2 +0.8
GNI Garni 18.28 84 P P 00 32 54.2 +0.8
comp=Z,0.2nm,0.3s,baz=353,slow=16,SNR=2.5
ESDC Sonseca Array 18.85 274 P P 00 32 59.3 -0.2
comp=Z,0.1nm,0.3s,baz=74,slow=11,SNR=8.3
HFS Hagfors 19.78 350 P P 00 33 09.1 -0.3
comp=Z,1.0nm,0.3s
HFS Hagfors 19.78 350 P P 00 33 09.1 -0.3
comp=Z,0.7nm,0.3s,baz=165,slow=12,SNR=21
FINES FINESS Array B 20.86 7 P P 00 33 20.8 -0.4
comp=Z,2.0nm,0.4s
FINES FINESS Array B 20.86 7 P P 00 33 20.8 -0.4
comp=Z,2.3nm,0.4s,baz=170,slow=11,SNR=19
NB2 NORSAR Subarra 21.02 347 P P 00 33 22.0 -1.0
comp=Z,3.9nm,0.6s,baz=155,slow=11
NB2 NORSAR Subarra 21.02 347 P P 00 33 22.0 -1.0
comp=Z,3.9nm,0.6s,SNR=4.2
NOA NORSAR Array B 21.02 347 P P 00 33 22.5 -0.5
comp=Z,3.0nm,0.6s
NOA NORSAR Array B 21.02 347 P P 00 33 22.5 -0.5
comp=Z,2.2nm,0.7s,baz=152,slow=9.6,SNR=13
EKA Eskdalemuir Ar 21.38 321 P P 00 33 27.2 +0.4
comp=Z,4.0nm,0.5s
EKA Eskdalemuir Ar 21.38 321 P P 00 33 27.2 +0.4
comp=Z,3.9nm,0.5s,baz=114,slow=9.3,SNR=14
KAF Kangasniemi 21.54 7 *e*p P 00 33 26.5 -2.0
comp=Z,3.4nm,0.6s
MDT Midelt 21.75 256 P P 00 33 31.6 +0.5
comp=Z,3.0nm,0.9s,baz=88,slow=8.6,SNR=6.3
JOF Joensuu 22.97 12 *e*p P 00 33 42.2 -1.5
comp=Z,1.0nm,0.4s
KLMR Klimovskoe 23.10 24 *e*P P 00 33 42.8 -2.3
KLMR pmax pmax
comp=Z,23nm,1.3s
RST Umm Al-Ruwaisa 24.20 110 *e*P P 00 33 55.4 -0.7
RST AMb AMB 00 34 02.0
comp=Z,97nm,0.7s
RST Umm Al-Ruwaisa 24.20 110 *e*P P 00 33 55.4 -0.7
comp=Z,97nm,0.7s
MIB Mutribah 24.28 109 *e*P P 00 33 55.7 -1.0
MIB AMb AMB 00 33 57.3
comp=Z,0.4nm,0.5s
MIB Mutribah 24.28 109 *e*P P 00 33 55.7 -1.0
comp=Z,0.4nm,0.5s
NAY Al-Naaiem 24.52 110 *e*P P 00 33 58.6 -0.4
NAY AMb AMB 00 34 02.2
comp=Z,8.6nm,0.9s
NAY Al-Naaiem 24.52 110 *e*P P 00 33 58.6 -0.4
comp=Z,8.6nm,0.9s
TMCR Tamitsa 25.43 18 *e*P P 00 34 06.9 +0.1
TMCR pmax pmax
comp=Z,81nm,1.4s
TMCR Tamitsa 25.43 18 *e*P P 00 34 06.9 +0.1
comp=Z,81nm,1.4s
AKTK Aktyubinsk 27.52 57 P P 00 34 27.5 +1.6
comp=Z,1.0nm,0.6s
AKTO Aktyubinsk 27.52 57 P P 00 34 27.5 +1.6
AKTO pmax pmax
comp=Z,1.0nm,0.6s
AKTO Aktyubinsk 27.52 57 P P 00 34 27.4 +1.6
comp=Z,1.1nm,0.6s,baz=235,slow=12,SNR=3.0
ARCES ARCESS Array B 28.84 3 P P 00 34 36.6 -0.9
comp=Z,6.0nm,1.0s
ARCES ARCESS Array B 28.84 3 P P 00 34 36.6 -0.9
comp=Z,6.4nm,1.0s,baz=190,slow=11,SNR=15
KEV Kevo 29.14 4 *e*p P 00 34 37.5 -2.6
comp=Z,6.6nm,0.8s
TORD Torodi Ar. Bea 32.25 217 P P 00 35 08.4 +0.4
comp=Z,1.9nm,0.8s,baz=31,slow=9.2,SNR=14
BRVK Borovoye 35.26 53 *i* P P 00 35 35.8 +1.9
BRVK pmax pmax
comp=Z,3.0nm,0.9s
BRVK Borovoye 35.26 53 *i* P P 00 35 35.8 +1.9
comp=Z,3.0nm,0.9s
DBIC Dimbokro 40.99 221 P P 00 36 23.0 +0.4
comp=Z,8.0nm,0.8s
DBIC Dimbokro 40.99 221 P P 00 36 23.0 +0.4
comp=Z,8.4nm,0.8s,baz=11,slow=12,SNR=13
MKAR Makanchi Array 43.81 61 P P 00 36 45.0 -0.3
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 43.81 61 P P 00 36 45.0 -0.3
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 43.81 61 P P 00 36 45.0 -0.3
comp=Z,0.5nm,0.6s,baz=274,slow=7.1,SNR=7.2
ZALV Zalesovo Beam 43.82 50 P P 00 36 44.8 -0.4
ZALV pmax pmax
comp=Z,4.0nm,0.5s
ZALV Zalesovo Beam 43.82 50 P P 00 36 44.8 -0.4
comp=Z,4.0nm,0.5s
ZALV Zalesovo Beam 43.82 50 P P 00 36 44.8 -0.4
comp=Z,3.0nm,0.4s,baz=278,slow=9.0,SNR=15
SCHQ Schefferville 56.60 316 P P 00 38 21.1 -0.9
comp=Z,1.9nm,0.6s,baz=54,slow=6.9,SNR=5.2
SONM Songino Array 58.66 52 P P 00 38 37.0 +0.1
SONM Songino Array 58.66 52 P P 00 38 37.0 +0.1
comp=Z,0.3nm,0.4s,baz=318,slow=8.6,SNR=3.8
ILAR Eielson Array 74.25 355 P P 00 40 17.0 +0.9
ILAR Eielson Array 74.25 355 P P 00 40 17.0 +0.9
comp=Z,0.2nm,0.5s,baz=23,slow=4.9,SNR=3.1
KSRS Korea Array 77.52 51 *e*P P 00 40 34.9 -0.3
comp=Z,2.0nm,0.7s
KSRS Korea Array 77.52 51 P P 00 40 35.1 -0.1
comp=Z,1.7nm,0.7s,baz=295,slow=4.3,SNR=5.0
TXAR Lajitas Array 93.22 314 P P 00 41 54.3 0.0
TXAR Lajitas Array 93.22 314 P P 00 41 54.3 0.0
comp=Z,0.1nm,0.4s,baz=57,slow=4.6,SNR=4.6
ASAR Alice Springs 122.28 95 PKP PKPdf 00 47 35.0 +0.2
comp=Z,0.3nm,0.5s,baz=341,slow=2.0,SNR=2.9

IDC 10 00:34:00.5±3.3, 12°.70S×165°.93E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/17, mbtmp3.8/4, Error ellipse: s-maj=121.9km s-min=29.8km az=139.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**20.25**	**246**	P	P			00 38 38.5	+0.9
	8.0nm,1.0s,baz=98,slow=15,SNR=3.8								
WRA	**Warramunga Arr**	**31.13**	**252**	P	P			00 40 20.7	-0.5
	0.7nm,0.7s,baz=83,slow=9.1,SNR=4.7								
ASAR	**Alice Springs**	**32.25**	**246**	P	P			00 40 30.9	-0.2
	1.4nm,0.7s,baz=71,slow=9.0,SNR=13								
CMAR	**Chiang Mai Arr**	**72.94**	**294**	P	P			00 45 32.6	+0.2
	baz=137,slow=4.6								
ILAR	**Eielson Array**	**85.01**	**18**	P	P			00 46 37.5	0.0
	0.4nm,1.0s,baz=240,slow=7.2,SNR=2.5								

NIED ***10*** *00:39:00.4, 45°.80N×142°.60E, h320km, Mw4.3 Best double couple: M0 3.32000×10^15 NP1:φ=316.00000°, δ=78.00000°, λ=-31.00000°. NP2:φ=53.00000°, δ=59.00000°, λ=-166.00000°.*
ISCJB ***10*** *00:39:53.9±0.2, 45°.83N±0°.03×142°.51E±0°.05, h328km±2km, mb3.9/43, Error ellipse: s-maj=5.9km s-min=4.3km az=178.1*
JMA ***10*** *00:39:54.7±0.2, 45°.76N×142°.57E, h329km±2km, M3.9*
SKHL ***10*** *00:39:54.6±0.9, 45°.86N×142°.37E, h333km±18km, mb4.7/7, msh5.0/4*
IDC ***10*** *00:39:54.7±0.5, 45°.95N×142°.47E, h317km±6km, mb3.6/30, mb1 3.7/34, mb1mx3.6/37, mbtmp3.6/34, Error ellipse: s-maj=12.3km s-min=8.7km az=166.0*
MOS ***10*** *00:39:54.2±1.0, 45°.94N×142°.36E, h330km, mb4.1/25, Error ellipse: s-maj=13.1km s-min=9.1km az=111.8*

ISC 10 00:39:54.4±0.5, 45°.81N±0°.04×142°.48E±0°.05, h323km±5km, n106, σ1$22/135, mb3.9/43, 2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**0.64**	**220**	P			**Pn**	**00 40 37.2**	**+1.2**
JWK2				*e*S			**S**	**00 41 10.0**	**+0.8**
JSE	**Soyaes**	**0.85**	**175**	P			**Pn**	**00 40 37.4**	**+0.7**
JSE				*e*S			**S**	**00 41 09.8**	**-0.6**
JRR	**Rishiri**	**1.06**	**231**	*e*S			**S**	**00 41 13.3**	**+1.4**
YSS	**Yuzh-Sakhalins**	**1.16**	**9**				*i*PN	**Pn**	**00 40 38.5**	**+0.7**
YSS				*i*S			**S**	**00 41 12.0**	**-0.5**
YSS	comp=Z,230nm,0.5s			pmax	pmax				
YSS	comp=N,1μm,1.0s			smax	smax				
YSS	**Yuzh-Sakhalins**	**1.16**	**9**				*i*P	**Pn**	**00 40 38.5**	**+0.7**
YSS				AMB	AMB			00 40 39.0	
YSS	comp=N,230nm,0.5s			*i*S			**S**	**00 41 12.0**	**-0.5**
YSS	comp=N,1μm,1.1s			A			A	00 41 12.7	
JSS	**Shosan**	**1.48**	**198**	P			**Pn**	**00 40 40.9**	**+1.2**
JSS				*e*S			**S**	**00 41 16.9**	**+0.9**
JYG	**Yagishiri**	**1.57**	**209**	P			**Pn**	**00 40 41.5**	**+1.2**
JYG				*e*S			**S**	**00 41 17.8**	**+0.8**
ASAJ	**Asahikawa**	**1.70**	**177**	P			**Pn**	**00 40 41.9**	**+0.8**
ASAJ				*e*S			**S**	**00 41 19.5**	**+1.0**
ASAJ	**Asahikawa**	**1.70**	**177**	P			**Pn**	**00 40 42.1**	**+1.0**
ASAJ	comp=N,15nm,0.3s,baz=330,slow=6.5,SNR=63			S			**S**	**00 41 19.7**	**+1.3**
JMP	**Maruseppu**	**1.91**	**161**	P			**Pn**	**00 40 43.2**	**+0.6**
JMP				*e*S			**S**	**00 41 21.0**	**-0.2**
JKK2	**Kamakawa 2**	**1.95**	**174**	P			**Pn**	**00 40 43.7**	**+0.8**
JTKR	**Abashiri--Toko**	**2.10**	**151**	P			**Pn**	**00 40 44.8**	**+0.8**
JTKR				*e*S			**S**	**00 41 23.7**	**+0.1**
JHR	**Hokuryu**	**2.14**	**195**	P			**Pn**	**00 40 45.4**	**+1.1**
JFR	**Furan**	**2.65**	**178**	P			**Pn**	**00 40 49.0**	**+0.4**
JRA	**Rausu**	**2.65**	**134**	P			**Pn**	**00 40 49.5**	**+1.0**
JAR	**Ashorobuto**	**2.68**	**159**	P			**Pn**	**00 40 49.6**	**+0.8**
JAR				*e*S			**S**	**00 41 31.9**	**-0.5**
JSK	**Shakotan**	**2.85**	**211**	P			**Pn**	**00 40 51.5**	**+1.2**
JEW	**Eniwo**	**3.06**	**194**	P			**Pn**	**00 40 53.4**	**+1.0**
JEW				*e*S			**S**	**00 41 38.5**	**-0.3**
JAK	**Akkeshi**	**3.23**	**150**	*e*S			**S**	**00 41 39.0**	**-2.7**
JCH	**Churui**	**3.26**	**169**	P			**Pn**	**00 40 53.2**	**-1.1**
JCH				*e*S			**S**	**00 41 38.2**	**-4.1**
UGL	**Uglegorsk**	**3.28**	**355**	PN			**Pn**	**00 40 55.5**	**+1.2**
UGL				*e*S			**S**	**00 41 43.0**	**+0.6**
UGL	comp=N,162nm,0.5s			pmax	pmax				
UGL	comp=E,354nm,0.5s			pmax	pmax				
UGL	comp=Z,308nm,0.5s			pmax	pmax				
UGL	comp=N,225nm,1.0s			smax	smax				
UGL	comp=E,404nm,1.0s			smax	smax				
UGL	**Uglegorsk**	**3.28**	**355**	*e*P			**Pn**	**00 40 55.0**	**+0.7**
UGL				AMB	AMB			00 40 56.5	
UGL	comp=E,162nm,0.5s			AMB	AMB			00 40 56.5	
UGL	comp=E,254nm,0.5s			AMB	AMB			00 40 56.5	
UGL	comp=E,308nm,0.5s			AMB	AMB			00 41 01.6	
UGL	comp=E,220nm,0.5s			*e*S			**S**	**00 41 43.0**	**+0.6**
UGL				A			A	00 41 44.0	
UGL	comp=E,225nm,1.0s			A			A	00 41 44.0	
NEM2	**Nemuro 2**	**3.38**	**135**	P			**Pn**	**00 40 54.8**	**-0.6**
NEM2				*e*S			**S**	**00 41 39.8**	**-4.5**
JNBK	**Urakawa-nobuka**	**3.54**	**177**	P			**Pn**	**00 40 57.1**	**+0.1**
JNBK				*e*S			**S**	**00 41 45.5**	**-1.8**
JKB	**Kayabe**	**4.06**	**195**	P			**Pn**	**00 41 02.0**	**-0.5**
JKB				*e*S			**S**	**00 41 53.0**	**-4.2**
TEY	**Ternei**	**4.21**	**262**	*e*P			**Pn**	**00 41 04.3**	**+0.3**
TEY	comp=E,16nm,0.4s			AMB	AMB			00 41 05.0	
TEY				*e*S			**S**	**00 41 59.0**	**-1.0**
JOSM	**Okushiri--Mats**	**4.31**	**211**	P			**Pn**	**00 41 05.0**	**-0.2**
TYV	**Tymovskoe**	**5.06**	**1**	*e*P			**Pn**	**00 41 14.0**	**+0.7**
TYV	comp=E,182nm,0.8s			AMB	AMB			00 41 15.0	
TYV				*e*S			**S**	**00 42 16.0**	**-0.9**
TYV	comp=E,48nm,1.2s			A	A			00 42 18.0	
GRNR	**Gornyy**	**6.40**	**323**	*e*P			**Pn**	**00 41 29.0**	**+0.1**
GRNR	comp=E,25nm,0.8s			AMB	AMB			00 41 29.4	
GRNR				*e*S			**S**	**00 42 42.0**	**-3.4**
GRNR	comp=E,69nm,0.9s			A	A			00 42 44.0	
NKL	**Nikolayevsk**	**7.44**	**352**	*e*P			**Pn**	**00 41 41.3**	**+0.1**
NKL	comp=E,30nm,0.8s			AMB	AMB			00 41 42.1	
NKL				*e*S			**S**	**00 43 07.7**	**-0.2**
USRK	**Ussuriysk Arra**	**7.61**	**262**	P			**Pn**	**00 41 44.8**	**+1.3**
USRK	comp=E,5.5nm,0.3s,baz=69,slow=12,SNR=107 baz=74,slow=22,SNR=4.9			S			**S**	**00 43 12.5**	**+0.5**
OKH	**Okha**	**7.75**	**2**	*e*S			**S**	**00 43 15.0**	**+0.2**
KLR	**Kul'dur**	**8.03**	**299**	*e*PN			**Pn**	**00 41 46.3**	**-2.1**
PETK	**Petropavlovsk-**	**12.29**	**48**	PN			**P**	**00 42 40.0**	**-0.1**
PETK	**Petropavlovsk-** comp=E,0.4nm,0.3s,baz=213,slow=8.8,SNR=10	**12.29**	**48**	P			**P**	**00 42 40.0**	**-0.1**
BMKR	**Bomnak**	**12.45**	**321**	*e*P			**Pn**	**00 42 40.0**	**-1.7**
BMKR	comp=E,2.0nm,0.6s			AMB	AMB			00 42 41.0	
ZEA	**Zeya**	**12.62**	**314**	*e*P			**P**	**00 42 44.0**	**+0.1**
ZEA	comp=E,29nm,1.0s			AMB	AMB			00 42 46.1	
KROS	**Kirovskiy**	**13.15**	**317**	*e*P			**P**	**00 42 47.8**	**-1.9**
KROS	comp=E,11nm,0.4s			AMB	AMB			00 42 48.0	
KSRS	**Korea Array** comp=E,0.4nm,0.3s,baz=51,slow=10,SNR=12	**13.71**	**238**	P			**Pn**	**00 42 58.2**	**+1.4**
JNU	**Nakatsue** comp=E,0.3nm,0.3s,baz=354,slow=12,SNR=4.1	**15.50**	**219**	P			**Pn**	**00 43 19.3**	**+1.4**
FX1	**Attu Island--F** comp=E,7.2nm,0.5s,baz=309,slow=14,SNR=4.6	**21.09**	**59**	P			**P**	**00 44 14.9**	**+0.9**
SONM	**Songino Array** comp=E,13nm,0.6s,baz=81,slow=8.7,SNR=101	**24.64**	**288**	P		ScP	**P** **ScP**	**00 44 47.1** **00 51 21.8**	**+0.6** **+0.5**
SONM	comp=E,0.5nm,0.7s,baz=64,slow=3.4,SNR=3.3								
ZAK	**Zakamensk**	**26.36**	**294**	*e*P			**P**	**00 45 00.9**	**-0.8**
ZAK	comp=Z,3.0nm,1.0s			pmax	pmax				
ZALV	**Zalesovo Beam**	**37.10**	**304**	P			**P**	**00 46 33.1**	**-1.3**
ZALV	comp=Z,2.0nm,0.5s			pmax	pmax			00 48 47.9	
ZALV	**Zalesovo Beam** comp=Z,2.4nm,0.5s,baz=92,slow=10,SNR=7.9	**37.10**	**304**	P			**P**	**00 46 33.1**	**-1.3**
ZALV				PcP			**PcP**	**00 48 47.9**	**+0.9**
MK31	**Makanchi Array**	**40.70**	**294**	*i*P			**P**	**00 47 04.2**	**+0.1**
MK31	comp=Z,4.0nm,0.6s			pmax	pmax				
MKAR	**Makanchi Array**	**40.70**	**294**	P			**P**	**00 47 04.4**	**+0.3**
MKAR	comp=Z,3.0nm,0.6s			pmax	pmax			00 48 59.3	
MKAR	**Makanchi Array** comp=Z,3.0nm,0.6s,baz=81,slow=8.6,SNR=34	**40.70**	**294**	P			**P**	**00 47 04.4**	**+0.3**
MKAR				PcP			**PcP**	**00 48 59.3**	**+0.7**
MKAR	comp=Z,0.7nm,0.7s,baz=70,slow=4.4,SNR=3.6			ScP			**ScP**	**00 52 16.5**	**-0.1**
KURK	**Kurchatov** comp=Z,0.4nm,0.8s,baz=55,slow=5.8,SNR=2.7	**41.62**	**301**	P			**P**	**00 47 10.4**	**-1.1**
KURK	comp=Z,2.0nm,0.6s			pmax	pmax				
ILAR	**Eielson Array** comp=Z,4.6nm,0.8s,baz=282,slow=7.6,SNR=38	**41.83**	**37**	P			**P**	**00 47 12.6**	**-0.4**
VOSK	**Vostochnaya**	**45.39**	**306**	P			**P**	**00 47 38.4**	**-2.9**
VOSK	comp=Z,5.0nm,1.3s			pmax	pmax				
BVA0	**Borovoye Array**	**45.62**	**306**	*i*P			**P**	**00 47 42.1**	**-0.9**
BVA0	comp=Z,2.0nm,0.6s			pmax	pmax				
BVAR	**Borovoye Array**	**45.62**	**306**	P			**P**	**00 47 42.8**	**-0.2**
BVAR	comp=Z,1.0nm,0.5s			pmax	pmax			00 49 16.2	
BVAR	**Borovoye Array** comp=Z,1.3nm,0.5s,baz=77,slow=8.4,SNR=10.0	**45.62**	**306**	P			**P**	**00 47 42.8**	**-0.2**
BVAR				PcP			**PcP**	**00 49 16.2**	**+1.1**
INK	**Inuvik** comp=Z,5.5nm,0.4s,baz=303,slow=6.7,SNR=32	**46.32**	**31**	P			**P**	**00 47 47.7**	**-0.4**
TKM2	**Tokmak 2**	**46.64**	**292**	P			**P**	**00 47 50.8**	**-0.5**
TKM2	comp=Z,8.0nm,1.0s			pmax	pmax				
TAPN	**Taplejung** comp=Z,14nm,0.7s	**46.73**	**266**	*e*P			**P**	**00 47 53.4**	**+1.1**
AAK	**Ala-Archa**	**47.49**	**292**	P			**P**	**00 47 58.2**	**+0.4**
AAK	comp=Z,1.0nm,0.3s			pmax	pmax				
AAK	**Ala-Archa** comp=Z,0.9nm,0.3s,baz=154,slow=4.6,SNR=6.3	**47.49**	**292**	P			**P**	**00 47 58.2**	**+0.4**
JIRN	**Jiri**	**47.60**	**268**	*e*P			**P**	**00 48 00.2**	**+1.1**
GUN	**Gunnba** comp=Z,19nm,0.6s	**47.66**	**268**	*e*P			**P**	**00 48 00.3**	**+0.8**
RAMN	**Ramite** comp=Z,36nm,0.8s	**47.75**	**267**	*e*P			**P**	**00 48 01.0**	**+0.9**
KKN	**Kakani**	**48.16**	**269**	*e*P			**P**	**00 48 04.6**	**+1.5**
PKI	**Pulchoki**	**48.20**	**268**	*e*P			**P**	**00 48 04.4**	**+0.8**
DMN	**Daman**	**48.39**	**269**	*e*P			**P**	**00 48 05.6**	**+0.7**
GKN	**Gorkha** comp=Z,28nm,0.9s	**48.48**	**269**	*e*P			**P**	**00 48 06.1**	**+0.6**
DANN	**Dangsing** comp=Z,43nm,0.8s	**48.88**	**270**	*e*P			**P**	**00 48 10.1**	**+1.4**
KOLN	**Koldanda**	**49.34**	**270**	*e*P			**P**	**00 48 13.0**	**+0.9**
KK31	**Karatay Array**	**49.82**	**294**	*i*P			**P**	**00 48 15.5**	**+0.3**
KK31	comp=Z,5.0nm,0.8s			pmax	pmax				
AKTO	**Aktyubinsk**	**53.66**	**308**	P			**P**	**00 48 41.3**	**-1.9**
AKTO								00 49 43.9	
AKTO	comp=Z,1.0nm,0.4s			pmax	pmax				
AKTO	**Aktyubinsk** comp=Z,0.9nm,0.5s,baz=46,slow=6.8,SNR=4.1	**53.66**	**308**	P			**P**	**00 48 41.3**	**-1.9**
AKTO				PcP			**PcP**	**00 49 43.9**	**-0.9**
YKA	**Yellowknife Ar** comp=Z,5.0nm,0.6s,baz=307,slow=6.9,SNR=12	**55.91**	**33**	P			**P**	**00 48 59.2**	**+0.2**
ARCES	**ARCESS Array B** comp=Z,2.8nm,0.8s,baz=48,slow=7.2,SNR=3.5	**56.12**	**338**	P			**P**	**00 49 00.4**	**0.0**
JOF	**Joensuu** comp=Z,2.1nm,0.6s	**58.68**	**330**	*e*p			**P**	**00 49 16.9**	**-1.3**
KAF	**Kangasniemi** comp=Z,1.7nm,0.7s	**60.94**	**331**	*e*p			**P**	**00 49 32.3**	**-1.2**
FINES	**FINESS Array B** comp=Z,2.2nm,0.6s,baz=46,slow=10,SNR=12	**61.49**	**331**	P			**P**	**00 49 36.6**	**-0.5**
IFIR	**Firoozkooh**	**65.34**	**296**	*e*P			**P**	**00 50 03.5**	**+0.6**
IDMV	**Damavand**	**65.83**	**297**	*e*P			**P**	**00 50 07.0**	**+0.9**
WRA	**Warramunga Arr** comp=Z,0.3nm,0.6s,baz=7.1,slow=6.8,SNR=4.3	**65.86**	**188**	P			**P**	**00 50 06.5**	**+0.6**
KBZ	**Khabaz**	**65.93**	**308**	P			**P**	**00 50 07.5**	**+1.3**
KBZ	comp=Z,4.0nm,0.8s			pmax	pmax				
KBZ	**Khabaz** comp=Z,4.1nm,0.8s,baz=61,slow=2.7,SNR=9.6	**65.93**	**308**	P			**P**	**00 50 07.5**	**+1.3**
IGZV	**Ghazvin**	**66.43**	**298**	*e*P			**P**	**00 50 11.2**	**+1.4**
NB2	**NORSAR Subarra** comp=Z,0.6nm,0.5s,baz=37,slow=6.2	**66.43**	**336**	P			**P**	**00 50 08.6**	**-0.5**
NOA	**NORSAR Array B** comp=Z,0.7nm,0.6s,baz=36,slow=6.4,SNR=9.3	**66.43**	**336**	P			**P**	**00 50 08.7**	**-0.5**
HFS	**Hagfors** comp=Z,1.9nm,0.5s,baz=48,slow=6.6,SNR=21	**66.46**	**335**	P			**P**	**00 50 08.9**	**-0.3**
GNI	**Garni** comp=Z,2.8nm,0.6s,baz=333,slow=2.3,SNR=3.5	**67.25**	**305**	P			**P**	**00 50 16.6**	**+1.9**
AKASG	**Malin Array Be**	**67.92**	**321**	P			**P**	**00 50 16.5**	**-2.0**
AKASG	**Malin Array Be** comp=Z,0.6nm,0.5s,baz=39,slow=5.9,SNR=5.2	**67.92**	**321**	P			**P**	**00 50 16.5**	**-2.0**
IPAR	**Pars**	**68.91**	**291**	*e*P			**P**	**00 50 26.1**	**+0.7**
ISRV	**Sarvestan**	**69.17**	**291**	*e*P			**P**	**00 50 27.6**	**+0.6**
NVAR	**Mina Array Bea** comp=Z,1.6nm,0.7s,baz=292,slow=6.2,SNR=9.7	**69.24**	**56**	P			**P**	**00 50 28.2**	**+1.1**
ASAR	**Alice Springs** comp=Z,0.9nm,0.8s,baz=19,slow=6.0,SNR=7.0	**69.58**	**188**	P			**P**	**00 50 30.9**	**+1.9**
ULM	**Lac du Bonnet** comp=Z,3.2nm,0.7s,baz=315,slow=4.3,SNR=3.0	**71.80**	**35**	P			**P**	**00 50 41.9**	**0.0**
RST	**Umm Al-Ruwaisa**	**73.03**	**295**	*e*P			**P**	**00 50 49.2**	**-0.4**
RST	comp=Z,141nm,0.9s			AMb	AMb			00 50 50.3	
NAY	**Al-Naaiem** comp=Z,8.5nm,1.4s	**73.05**	**295**	*e*P			**P**	**00 50 49.4**	**-0.3**
NAY				AMb	AMb			00 50 50.5	
RDF	**Al-Radifah** comp=Z,11nm,0.8s	**73.07**	**294**	*e*P			**P**	**00 50 49.7**	**-0.1**
RDF				AMb	AMb			00 50 51.1	
BRTR	**Keskin Array B** comp=Z,1.8nm,0.7s,baz=69,slow=3.9,SNR=14	**73.70**	**310**	P			**P**	**00 50 54.3**	**+0.9**
EKA	**Eskdalemuir Ar** comp=Z,2.6nm,0.9s,baz=22,slow=4.8,SNR=4.8	**75.13**	**341**	P			**P**	**00 51 01.3**	**+0.2**
GERES	**GERESS Array B** comp=Z,0.2nm,0.4s,baz=31,slow=5.4,SNR=4.6	**75.69**	**328**	P			**P**	**00 51 04.0**	**-0.5**
SCHQ	**Schefferville** comp=Z,4.0nm,0.7s,baz=27,slow=9.6,SNR=4.4	**76.70**	**17**	P			**P**	**00 51 09.9**	**0.0**
ASF	**Jabal al Asfar** comp=Z,1.7nm,0.6s,baz=324,slow=4.8,SNR=4.4	**77.33**	**303**	P			**P**	**00 51 14.1**	**+0.1**
MMAI	**Mount Meron Ar** comp=Z,2.2nm,0.5s,baz=39,slow=5.5,SNR=16	**77.59**	**305**	P			**P**	**00 51 16.9**	**+1.5**
EIL	**Elat** comp=Z,2.5nm,0.7s,baz=16,slow=7.4,SNR=3.7	**80.29**	**303**	P			**P**	**00 51 31.0**	**+1.1**
IDI	**Anoyia** comp=Z,4.1nm,0.7s,baz=113,slow=10,SNR=7.5	**81.61**	**313**	P			**P**	**00 51 36.1**	**-0.7**
TXAR	**Lajitas Array** comp=Z,0.5nm,0.8s,baz=276,slow=3.2,SNR=6.6	**84.18**	**53**	P			**P**	**00 51 50.0**	**0.0**
ESDC	**Sonseca Array** comp=Z,0.2nm,0.6s,baz=11,slow=4.4,SNR=4.1	**89.74**	**335**	P			**P**	**00 52 17.1**	**+0.7**

DDA ***10*** *00:40:44.0, 39°.45N×36°.71E, h1km, MD3.7*
ISK ***10*** *00:40:44.2, 39°.49N×36°.69E, h5km, ML3.9*
CSEM ***10*** *00:40:45.9±0.1, 39°.49N×36°.70E, h2km, ML3.9, Error ellipse: s-maj=3.1km s-min=2.6km az=139.0*

ISC 10 00:40:45.0±1.1, 39°.48N±0°.01×36°.72E±0°.01, h5km±10km, n121, σ1$46/168, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SVSK	**Karacayir**	**0.48**	**27**	*e*PG			**Pg**	**00 40 54.5**	**+0.2**
SVSK				*e*SG			**Sb**	**00 41 02.6**	**-0.7**
SVSK	**Karacayir**	**0.48**	**27**	*e*Pg			**Pg**	**00 40 54.5**	**+0.2**
SVSK				*e*Sg			**Sb**	**00 41 02.6**	**-0.7**
SCER	**sogukcermik**	**0.49**	**40**	*i*P			**Pg**	**00 40 54.4**	**-0.1**
SCER				*i*S			**Sb**	**00 41 02.9**	**-0.9**
SCER	**sogukcermik**	**0.49**	**40**	*i*P			**Pg**	**00 40 54.4**	**-0.1**
SCER				*i*S			**Sb**	**00 41 02.9**	**-0.9**
PINB	**Pinarbasi**	**0.84**	**197**	*i*P			**Pg**	**00 41 00.7**	**-0.4**
PINB				*i*S			**Sg**	**00 41 11.3**	**-0.7**
PINB	**Pinarbasi**	**0.84**	**197**	*i*P			**Pg**	**00 41 00.7**	**-0.4**
PINB				*i*S			**Sg**	**00 41 11.3**	**-0.7**
TOKT	**Tokat**	**0.85**	**351**	*e*PG			**Pg**	**00 41 00.8**	**-0.4**
TOKT				*e*SG			**Sn**	**00 41 14.4**	**-1.9**
TOKT	**Tokat**	**0.85**	**351**	*e*Pg			**Pg**	**00 41 00.8**	**-0.4**
TOKT				*e*Sg			**Sn**	**00 41 14.5**	**-1.9**
TOKA	**Tokat**	**0.86**	**348**	*i*P			**Pg**	**00 41 01.1**	**-0.4**
TOKA				*i*S			**Sg**	**00 41 12.4**	**-0.2**
TOKA	**Tokat**	**0.86**	**348**	*i*P			**Pg**	**00 41 01.1**	**-0.4**
TOKA				*i*S			**Sg**	**00 41 12.4**	**-0.2**
BNN	**Bunyan**	**0.93**	**227**	*e*PG			**Pg**	**00 41 02.1**	**-0.6**
BNN	**Bunyan**	**0.93**	**227**	*e*Pg			**Pg**	**00 41 02.1**	**-0.6**
RSDY	**Resadiye-TOKAT**	**1.03**	**27**	*e*PG			**Pg**	**00 41 04.3**	**-0.4**
RSDY	**Resadiye-TOKAT**	**1.03**	**27**	*e*Pg			**Pg**	**00 41 04.3**	**-0.4**
DARE	**Darende-Malaty**	**1.09**	**146**	*e*PN			**Pb**	**00 41 05.5**	**-0.8**
YOZ	**Yozgat**	**1.09**	**279**	*e*PG			**Pb**	**00 41 05.1**	**-1.3**
YOZ	**Yozgat**	**1.09**	**279**	*e*Pg			**Pb**	**00 41 05.1**	**-1.3**
ERBA	**Erbaa**	**1.20**	**1**	*i*P			**Pg**	**00 41 08.2**	**+0.2**
ERBA				*i*S			**Sn**	**00 41 26.6**	**+1.6**
ERBA	**Erbaa**	**1.20**	**1**	*i*P			**Pg**	**00 41 08.2**	**+0.2**
ERBA				*i*S			**Sn**	**00 41 26.6**	**+1.6**
SUSE	**Susehri**	**1.35**	**57**	*i*P			**Pb**	**00 41 10.5**	**-0.4**
SUSE				*i*S			**Sg**	**00 41 29.9**	**+1.4**
SUSE	**Susehri**	**1.35**	**57**	*i*P			**Pb**	**00 41 10.5**	**-0.4**
SUSE				*i*S			**Sg**	**00 41 29.9**	**+1.4**
KEMA	**Kemaliye**	**1.39**	**98**	*i*P			**Pn**	**00 41 10.7**	**-0.4**
KEMA				*i*S			**Sg**	**00 41 31.0**	**+1.2**
KEMA	**Kemaliye**	**1.39**	**98**	*i*P			**Pn**	**00 41 10.7**	**-0.4**
KEMA				*i*S			**Sg**	**00 41 31.0**	**+1.2**
ILIC	**ilic-Erzincan**	**1.43**	**91**	*e*PN			**Pg**	**00 41 12.6**	**+0.2**
ILIC	**ilic-Erzincan**	**1.43**	**91**	*e*Pn			**Pg**	**00 41 12.6**	**+0.2**
AVNT	**Avonos**	**1.61**	**245**	*i*P			**Pb**	**00 41 14.7**	**-0.5**
AVNT				*i*S			**Sg**	**00 41 38.3**	**+1.6**
AVNT	**Avonos**	**1.61**	**245**	*i*P			**Pb**	**00 41 14.7**	**-0.5**
AVNT				*i*S			**Sg**	**00 41 38.3**	**+1.6**
KVT	**Kavak**	**1.68**	**342**	*e*PN			**Pb**	**00 41 15.6**	**-0.7**
KVT	**Kavak**	**1.68**	**342**	*e*Pn			**Pb**	**00 41 15.6**	**-0.7**
CORM	**Corum**	**1.75**	**294**	*e*PN			**Pb**	**00 41 16.8**	**-0.8**
CORM	**Corum**	**1.75**	**294**	*e*Pn			**Pb**	**00 41 16.8**	**-0.8**
HAVZ	**Havza**	**1.76**	**335**	*i*P			**Pb**	**00 41 17.5**	**-0.2**
HAVZ				*i*S			**Sg**	**00 41 44.9**	**+3.3**
HAVZ	**Havza**	**1.76**	**335**	*i*P			**Pb**	**00 41 17.5**	**-0.2**
HAVZ				*i*S			**Sg**	**00 41 44.9**	**+3.3**
MALT	**Malatya**	**1.77**	**131**	*e*PN			**Pb**	**00 41 17.6**	**-0.4**
MALT	**Malatya**	**1.77**	**131**	*e*Pn			**Pb**	**00 41 17.6**	**-0.4**
CDAG	**Cicekdag**	**1.82**	**275**	*i*P			**Pb**	**00 41 17.9**	**-0.8**
CDAG				*i*S			**Sg**	**00 41 43.8**	**+0.5**
CDAG	**Cicekdag**	**1.82**	**275**	*i*P			**Pb**	**00 41 17.9**	**-0.8**
CDAG				*i*S			**Sg**	**00 41 43.8**	**+0.5**
CTKT	**Corum**	**1.87**	**308**	*i*P			**Pb**	**00 41 19.7**	**+0.1**
CTKT				*i*S			**Sg**	**00 41 45.5**	**+0.6**
CTKT	**Corum**	**1.87**	**308**	*i*P			**Pb**	**00 41 19.7**	**+0.1**
CTKT				*i*S			**Sg**	**00 41 45.5**	**+0.6**
GRSN	**GIRESUNGRSN**	**1.87**	**39**	*i*P			**Pb**	**00 41 18.0**	**-1.5**
GRSN				*i*S			**Sg**	**00 41 45.3**	**+0.3**
GRSN	**GIRESUNGRSN**	**1.87**	**39**	*i*P			**Pb**	**00 41 18.0**	**-1.5**
GRSN				*i*S			**Sg**	**00 41 45.3**	**+0.3**
ANDN	**Andirin**	**1.92**	**189**	*i*P			**Pb**	**00 41 20.2**	**-0.3**
ANDN				*i*S			**Sg**	**00 41 46.1**	**-0.6**
ANDN	**Andirin**	**1.92**	**189**	*i*P			**Pb**	**00 41 20.2**	**-0.3**
ANDN				*i*S			**Sg**	**00 41 46.1**	**-0.6**
KMRS	**Kahramanmaras**	**1.98**	**176**	*e*PN			**Pb**	**00 41 20.2**	**-1.3**
KMRS	**Kahramanmaras**	**1.98**	**176**	*e*Pn			**Pb**	**00 41 20.2**	**-1.3**
KELT	**Kelkit**	**2.07**	**70**	*i*P			**Pb**	**00 41 22.3**	**-0.7**
KELT				*i*S			**Sg**	**00 41 52.3**	**+1.0**
KELT	**Kelkit**	**2.07**	**70**	*i*P			**Pb**	**00 41 22.3**	**-0.7**
KELT				*i*S			**Sg**	**00 41 52.3**	**+1.0**
AYKD	**Aykdinkavak**	**2.07**	**178**	*i*P			**Pb**	**00 41 23.5**	**+0.5**
AYKD				*i*S			**Sb**	**00 41 49.6**	**+0.6**
ESPY	**Espiye-Giresun**	**2.10**	**46**	*e*PN			**Pb**	**00 41 22.0**	**-1.6**
ESPY	**Espiye-Giresun**	**2.10**	**46**	*e*Pn			**Pb**	**00 41 22.0**	**-1.6**
KOZT	**Kozan**	**2.12**	**200**	*e*PN			**Pb**	**00 41 22.2**	**-1.6**
KOZT	**Kozan**	**2.12**	**200**	*e*Pn			**Pb**	**00 41 22.2**	**-1.6**
NIG	**Nigde**	**2.14**	**231**	*e*PN			**Pn**	**00 41 22.4**	**+0.9**
NIG	**Nigde**	**2.14**	**231**	*e*Pn			**Pn**	**00 41 22.4**	**+0.9**
PTK	**Pertek**	**2.16**	**105**	*e*PN			**Pn**	**00 41 22.6**	**+0.8**
PTK	**Pertek**	**2.16**	**105**	*e*Pn			**Pn**	**00 41 22.6**	**+0.8**
GZT	**Gaziantep**	**2.23**	**162**	*i*P			**Pb**	**00 41 26.2**	**+0.5**
GZT				*i*S			Sg	00 42 02.8	+6.3
EUZM	**Uzumlu**	**2.31**	**84**	*i*P			**Pb**	**00 41 25.7**	**-1.5**
EUZM				*i*S			**Sg**	**00 41 59.2**	**-0.1**
EUZM	**Uzumlu**	**2.31**	**84**	*i*P			**Pb**	**00 41 25.7**	**-1.5**
EUZM				*i*S			**Sg**	**00 41 59.2**	**-0.1**
ERZN	**Erzincan**	**2.33**	**87**	*e*PN			**Pb**	**00 41 25.3**	**-2.2**
GUMT	**Gumushane**	**2.34**	**64**	*e*PN			**Pb**	**00 41 26.3**	**-1.3**
GUMT	**Gumushane**	**2.34**	**64**	*e*Pn			**Pb**	**00 41

baz=71
WRA **Warramunga Arr** **39.06** **120** P P 00 58 21.3 -0.1
0.2nm,0.3s,baz=301,slow=9.0,SNR=2.9
MKAR **Makanchi Array** **50.40** **345** P P 00 59 51.6 +0.1
0.7nm,0.4s,baz=158,slow=8.7,SNR=25
KURBB **Kurchatov Arra** **54.91** **344** P P 01 00 24.5 -0.3
0.5nm,0.6s,baz=158,slow=7.9,SNR=5.6
TXAR **Lajitas Array** **145.00** **36** PKPbc PKPab 01 10 30.9 -0.9
0.1nm,0.5s,baz=243,slow=0.6,SNR=3.1

IDC 10 01:14:16.6±4.0, 15°78S×173°66W, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.8/18, mbtmp3.8/4, ML1.8/1, MS4.1/1, Ms1 4.1/1, ms1mx3.0/28, Error ellipse: s-maj=268.4km s-min=23.1km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.61**	**45**	Pn	Pn	01 14 59.4	-0.7
	9.4nm,0.3s,baz=176,slow=13,SNR=5.0						
AFI				Sn	Sn	01 15 17.2	-15
	4.7nm,0.3s,baz=231,slow=14,SNR=3.6						
RAO	**Raoul Island**	**13.97**	**196**	LR	LR	01 22 17.4	
	comp=Z,804nm,20.4s,baz=241,slow=34						
H11S2	**WAKE ISLAND Hy**	**39.16**	**330**	T	T	02 03 21.3	
	baz=152,slow=0.7,SNR=9.4						
H11S3	**WAKE ISLAND Hy**	**39.17**	**330**	T	T	02 03 22.3	
	baz=152,slow=0.7,SNR=7.7						
H11S1	**WAKE ISLAND Hy**	**39.18**	**330**	T	T	02 03 22.6	
	baz=152,slow=0.7,SNR=6.1						
H11N3	**WAKE ISLAND Hy**	**40.12**	**331**	T	T	02 04 29.0	
	baz=152,slow=0.7,SNR=6.9						
H11N1	**WAKE ISLAND Hy**	**40.12**	**331**	T	T	02 04 29.4	
	baz=152,slow=0.7,SNR=7.6						
H11N2	**WAKE ISLAND Hy**	**40.13**	**331**	T	T	02 04 30.3	
	baz=152,slow=0.7,SNR=7.8						
WRA	**Warramunga Arr**	**49.51**	**257**	P	P	01 23 09.5	+0.1
	0.6nm,0.7s,baz=95,slow=6.6,SNR=6.6						
ASAR	**Alice Springs**	**49.75**	**252**	P	P	01 23 10.8	-0.4
	3.1nm,0.6s,baz=85,slow=8.1,SNR=43						
NVAR	**Mina Array Bea**	**74.78**	**42**	P	P	01 25 59.4	+0.4
	0.3nm,0.7s,baz=237,slow=8.4,SNR=2.2						

*IDC **10** 01:25:30.3±3.1, 27°.50N×55°.66E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.2/26, mbtmp3.5/4, Error ellipse: s-maj=70.7km s-min=30.3km az=142.0*
*ISCJB **10** 01:25:32.0±0.7, 27°.70N±0°.06×55°.72E±0°.07, h15km, mb3.5/4, Error ellipse: s-maj=10.8km s-min=6.0km az=138.0*
*CSEM **10** 01:25:33.7±0.3, 27°.55N×55°.78E, h2km, ML3.8/4, Error ellipse: s-maj=9.1km s-min=6.8km az=53.0*
ISC 10 01:25:32.0±0.8, 27°.51N±0°.04×55°.73E±0°.06, h15km, n13, σ1s11/15, mb3.5/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**0.40**	**105**	*e*Pg	**Pg**	**01 25 40.2**	**0.0**
BANOM	**Banah**	**1.66**	**162**	P	**Pg**	**01 26 03.6**	**-0.2**
	SNR=18						
BANOM				S	**Sg**	**01 26 26.7**	**+1.4**
NAZ	**Nazwa, Dubai**	**2.51**	**181**	P	**Pb**	**01 26 16.6**	**-0.1**
GHIR	**Ghir-Karzin**	**2.55**	**288**	*e*Pn	**Pb**	**01 26 16.7**	**-0.8**
GHIR				*e*Sg	**Sg**	**01 26 54.3**	**+0.3**
KRBR	**Kerman**	**2.63**	**20**	*e*Pn	**Pb**	**01 26 17.5**	**-1.4**
HATD	**Hatta, Dubai**	**2.69**	**172**	P	**Pb**	**01 26 18.3**	**-1.6**
FAQ	**Al Faqa, Dubai**	**2.75**	**183**	P	**Pb**	**01 26 19.5**	**-1.4**
ASHO	**Ashiyiah**	**2.83**	**174**	P	**Pb**	**01 26 20.5**	**-1.7**
	SNR=20						
ASUD	**Al Ashush, Dub**	**2.89**	**187**	P	**Pb**	**01 26 22.0**	**-1.2**
BRTR	**Keskin Array B**	**22.00**	**309**	P	**P**	**01 30 25.9**	**+0.1**
	0.6nm,0.8s,baz=128,slow=11,SNR=5.0						
AKTO	**Aktyubinsk**	**22.96**	**4**	P	**P**	**01 30 36.1**	**+0.4**
	1.0nm,0.8s,baz=192,slow=14,SNR=3.4						
ZALV	**Zalesovo Beam**	**33.97**	**31**	P	**P**	**01 32 15.6**	**+1.0**
	0.5nm,0.4s,baz=238,slow=8.3,SNR=3.3						
TORD	**Torodi Ar. Bea**	**52.27**	**266**	P	**P**	**01 34 43.2**	**+0.1**
	0.4nm,0.5s,baz=62,slow=7.3,SNR=11						

*IDC **10** 01:28:05.3±2.0, 27°.38N×55°.77E, h0km, mb3.8/12, mb1 3.9/17, mb1mx3.8/34, mbtmp3.8/17, ML3.6/4, MS3.0/6, Ms1 3.0/6, ms1mx2.8/37, Error ellipse: s-maj=38.6km s-min=16.9km az=164.0*
*TEH **10** 01:28:08.8, 27°.57N×55°.75E, h19km, ML4.0*
*KISR **10** 01:28:08.9±0.8, 29°.10N×55°.43E, h8km±999km, ML3.9*
*ISCJB **10** 01:28:08.5±0.3, 27°.63N±0°.03×55°.68E±0°.04, h15km, mb3.7/12, MS3.0/3, Error ellipse: s-maj=5.3km s-min=4.0km az=41.6*
*CSEM **10** 01:28:09.1±0.2, 27°.56N×55°.67E, h2km, ML4.0, Error ellipse: s-maj=8.1km s-min=6.1km az=64.0*
*THR **10** 01:28:09.9±0.7, 27°.48N×55°.85E, h18km±6km, ML3.8*
ISC 10 01:28:08.2±0.5, 27°.48N±0°.03×55°.70E±0°.03, h15km, n55, σ1s99/67, mb3.8/12, MS3.0/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**0.43**	**100**	*e*Pg	**Pg**	**01 28 16.7**	**-0.2**
BNDS	**Bandar-Abbas**	**0.43**	**100**	*e*Pg	**Pg**	**01 28 16.7**	**-0.2**
IBND	**Bandar-abas**	**0.75**	**92**	*e*Pg	**Pb**	**01 28 23.3**	**+0.3**
IBND				*e*Sg	**Sn**	**01 28 34.7**	**-0.7**
IBND				*e*		01 29 02.6	
	comp=Z,7μm,0.3s						
IBND	**Bandar-abas**	**0.75**	**92**	*e*Pg	**Pb**	**01 28 23.3**	**+0.3**
IBND				*e*Sg	**Sn**	**01 28 34.7**	**-0.7**
BANOM	**Banah**	**1.64**	**161**	P	**Pg**	**01 28 39.8**	**+0.1**
	SNR=24						
BANOM				S	**Sg**	**01 29 03.8**	**+2.8**
NAZ	**Nazwa, Dubai**	**2.48**	**181**	P	**Pb**	**01 28 52.6**	**+0.2**
GHIR	**Ghir-Karzin**	**2.53**	**289**	*e*Pn	**Pb**	**01 28 53.7**	**+0.3**
GHIR				*e*Sg	**Sg**	**01 29 33.3**	**+3.7**
GHIR				AML	AML	01 29 49.2	
	comp=E,323nm,0.7s						
GHIR				AML	AML	01 29 59.9	
	comp=N,372nm,0.8s						
GHIR	**Ghir-Karzin**	**2.53**	**289**	*e*Pn	**Pb**	**01 28 53.7**	**+0.3**
GHIR				*e*Sg	**Sg**	**01 29 33.3**	**+3.7**
HATD	**Hatta, Dubai**	**2.67**	**171**	P	**Pb**	**01 28 54.5**	**-1.2**
KRBR	**Kerman**	**2.67**	**20**	*e*Pn	**Pb**	**01 28 53.7**	**-2.2**
KRBR				AML	AML	01 29 30.3	
	comp=E,506nm,0.3s						
KRBR				AML	AML	01 29 30.6	
	comp=N,532nm,0.5s						
KRBR	**Kerman**	**2.67**	**20**	*e*Pn	**Pb**	**01 28 53.7**	**-2.2**
FAQ	**Al Faqa, Dubai**	**2.72**	**182**	P	**Pb**	**01 28 55.8**	**-0.8**
ASHO	**Ashiyiah**	**2.80**	**173**	P	**Pb**	**01 28 56.7**	**-1.3**
	SNR=21						
ASUD	**Al Ashush, Dub**	**2.86**	**187**	P	**Pb**	**01 28 57.8**	**-1.1**
ISRV	**Sarvestan**	**2.96**	**310**	*e*Pn	**Pn**	**01 28 57.8**	**+2.8**
ISRV				*e*		01 30 06.5	
	comp=Z,8μm,0.5s						
ISRV	**Sarvestan**	**2.96**	**310**	*e*Pn	**Pn**	**01 28 57.8**	**+2.8**
IPAR	**Pars**	**3.31**	**316**	*e*Pn	**Pn**	**01 29 02.5**	**+2.7**
IPAR				*e*		01 30 12.8	
	comp=Z,3μm,0.5s						
IPAR	**Pars**	**3.31**	**316**	*e*Pn	**Pn**	**01 29 02.5**	**+2.7**
IMEH	**Mehriz**	**4.01**	**347**	*e*Pn	**Pn**	**01 29 11.5**	**+2.1**
IMEH				*e*		01 29 12.5	
	comp=Z,860nm,0.2s						
IMEH	**Mehriz**	**4.01**	**347**	*e*Pn	**Pn**	**01 29 11.5**	**+2.1**
IBAF	**Bafgh**	**4.10**	**358**	*e*Pn	**Pn**	**01 29 12.2**	**+1.6**
IBAF				*e*		01 29 12.9	
	comp=Z,3μm,0.2s						
IBAF	**Bafgh**	**4.10**	**358**	*e*Pn	**Pn**	**01 29 12.2**	**+1.6**
ISAD	**Sadrabad**	**4.76**	**339**	*e*Pn	**Pn**	**01 29 21.9**	**+2.2**
ISAD				*e*		01 31 00.2	
	comp=Z,766nm,0.4s						
ISAD	**Sadrabad**	**4.76**	**339**	*e*Pn	**Pn**	**01 29 21.9**	**+2.2**
ICHK	**Chekchek**	**4.88**	**347**	*e*Pn	**Pn**	**01 29 23.3**	**+2.0**
ICHK				*e*		01 31 01.2	
	comp=Z,812nm,0.4s						
ICHK	**Chekchek**	**4.88**	**347**	*e*Pn	**Pn**	**01 29 23.3**	**+2.0**
IKOO	**Kooshah**	**5.71**	**29**	*e*Pn	**Pn**	**01 29 34.1**	**+1.4**
IKOO	**Kooshah**	**5.71**	**29**	*e*Pn	**Pn**	**01 29 34.1**	**+1.4**
ITEG	**Tejag**	**6.01**	**25**	*e*Pn	**Pn**	**01 29 38.1**	**+1.2**
ITEG	**Tejag**	**6.01**	**25**	*e*Pn	**Pn**	**01 29 38.1**	**+1.2**
IDAH	**Dahanechah**	**6.37**	**34**	*e*Pn	**Pn**	**01 29 43.6**	**+1.8**
IDAH	**Dahanechah**	**6.37**	**34**	*e*Pn	**Pn**	**01 29 43.6**	**+1.8**
RDF	**Al-Radifah**	**7.33**	**283**	*e*P	**Pn**	**01 29 55.0**	**+0.2**
RDF				*e*S	**Sn**	**01 31 15.3**	**-2.5**
RDF				AML	AML	01 31 17.4	
	comp=Z,18nm,0.5s						
RDF	**Al-Radifah**	**7.33**	**283**	*e*P	**Pn**	**01 29 55.0**	**+0.2**
RDF				*e*S	**Sn**	**01 31 15.3**	**-2.5**
NAY	**Al-Naaiem**	**7.66**	**285**	*e*P	**Pn**	**01 29 59.7**	**+0.5**
NAY				*e*S	**Sn**	**01 31 21.6**	**-4.1**
NAY				AML	AML	01 31 22.1	
	comp=Z,5.9nm,0.6s						
NAY	**Al-Naaiem**	**7.66**	**285**	*e*P	**Pn**	**01 29 59.7**	**+0.5**
NAY				*e*S	**Sn**	**01 31 21.6**	**-4.1**
RST	**Umm Al-Ruwaisa**	**7.92**	**287**	*e*P	**Pn**	**01 30 01.7**	**-1.1**
RST				*e*S	**Sn**	**01 31 27.0**	**-5.2**
RST				AML	AML	01 31 27.4	
	comp=Z,78nm,0.8s						
RST	**Umm Al-Ruwaisa**	**7.92**	**287**	*e*P	**Pn**	**01 30 01.7**	**-1.1**
RST				*e*S	**Sn**	**01 31 27.0**	**-5.2**
	comp=Z,78nm,0.8s						
GNI	**Garni**	**15.56**	**327**	Pn	**P**	**01 31 51.6**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=211,slow=19,SNR=4.9						
ASF	**Jabal al Asfar**	**16.97**	**291**	P	**Pn**	**01 32 05.4**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=61,slow=10,SNR=4.9						
ASF				S	**Sn**	**01 35 17.9**	**+4.4**
	comp=Z,0.1nm,0.3s,baz=31,slow=5.9,SNR=2.8						
ASF				LR	LR	01 39 55.6	
	comp=Z,45nm,20.1s,baz=276,slow=42						
EIL	**Elat**	**18.35**	**282**	P	**P**	**01 32 23.1**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=45,slow=8.6,SNR=3.4						
EIL				LR	LR	01 40 19.7	
	comp=Z,29nm,18.2s,baz=92,slow=40						
MMAI	**Mount Meron Ar**	**18.37**	**292**	P	**P**	**01 32 21.2**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=102,slow=14,SNR=5.0						
MMAI				LR	LR	01 41 16.2	
	comp=Z,41nm,19.9s,baz=250,slow=43						
KBZ	**Khabaz**	**19.23**	**331**	P	**Pn**	**01 32 34.1**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=127,slow=16,SNR=2.5						
AAK	**Ala-Archa**	**21.50**	**40**	P	**P**	**01 32 57.4**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=221,slow=11,SNR=3.3						
AAK				LR	LR	01 41 44.5	
	comp=Z,65nm,19.3s,baz=222,slow=38						
BRTR	**Keskin Array B**	**22.00**	**309**	P	**P**	**01 33 02.5**	**+0.6**
	comp=Z,2.4nm,0.7s,baz=131,slow=13,SNR=13						
AKTO	**Aktyubinsk**	**23.00**	**4**	P	**P**	**01 33 11.8**	**-0.5**
	comp=Z,5.8nm,1.0s,baz=218,slow=7.9,SNR=9.4						
AKTO				LR	LR	01 43 23.0	
	comp=Z,51nm,18.2s,baz=205,slow=40						
BVAR	**Borovoye Array**	**27.77**	**19**	P	**P**	**01 33 55.6**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=200,slow=11,SNR=3.3						
BVAR				LR	LR	01 44 39.8	
	comp=Z,39nm,20.0s,baz=204,slow=36						
MKAR	**Makanchi Array**	**28.44**	**40**	P	**P**	**01 34 02.5**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=243,slow=6.3,SNR=3.3						
AKASG	**Malin Array Be**	**30.69**	**326**	P	**P**	**01 34 22.2**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=135,slow=8.4,SNR=5.8						
ZALV	**Zalesovo Beam**	**34.01**	**31**	P	**P**	**01 34 51.2**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=236,slow=7.3,SNR=7.3						
GERES	**GERESS Array B**	**38.67**	**315**	P	**P**	**01 35 31.2**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=101,slow=10,SNR=3.3						
FINES	**FINESS Array B**	**39.32**	**338**	P	**P**	**01 35 36.2**	**-0.3**
	comp=Z,2.9nm,0.9s,baz=149,slow=7.8,SNR=4.9						
ARCES	**ARCESS Array B**	**45.60**	**346**	P	**P**	**01 36 27.5**	**+0.1**
	comp=Z,2.2nm,0.9s,baz=144,slow=7.8,SNR=2.5						
ESDC	**Sonseca Array**	**50.34**	**300**	P	**P**	**01 37 04.9**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=72,slow=7.8,SNR=5.4						
TORD	**Torodi Ar. Bea**	**52.23**	**266**	P	**P**	**01 37 18.9**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=60,slow=7.4,SNR=16						

*BJI **10** 01:40:38.9, 28°.80N×43°.40W, h10km, mB5.6/4, Ms4.7/1, Ms7 4.3/2*
*IDC **10** 01:40:38.7±0.4, 28°.80N×43°.44W, h0km, mb4.4/31, mb1 4.6/31, mb1mx4.5/36, mbtmp4.4/31, MS4.1/27, Ms1 4.1/27, ms1mx4.1/31, Error ellipse: s-maj=13.7km s-min=11.4km az=156.0*
*MOS **10** 01:40:39.3±0.9, 28°.92N×43°.40W, h10km, mb5.0/43, Error ellipse: s-maj=9.9km s-min=6.4km az=49.6*
*ISCJB **10** 01:40:39.5±0.2, 28°.85N±0°.04×43°.43W±0°.02, h14km, mb4.7/135, MS4.2/30, Error ellipse: s-maj=6.3km s-min=2.8km az=176.1*
*NEIC **10** 01:40:40.7±0.1, 28°.82N×43°.36W, h10km, mb4.8/93, Error ellipse: s-maj=4.9km s-min=3.1km az=174.0*
*GCMT **10** 01:40:43.8±0.3, 28°.90N×43°.46W, h12km, MW5.0, Moment Tensor Solution. s38,c44; s81,c119; Moment tensor: Scale 10^16 Nm; Mrr~4.05±.10; Mθθ 0.92±.11; Mφφ 3.13±.10; Mrθ 0.36±.37; Mrφ 1.48±.09; Mθφ~0.31±.29; Best double couple: M0 4.00000×10^16 NP1: φ21.00000°, δ46.00000°, λ-98.00000°. NP2: φ213.00000°, δ44.00000°, λ-81.00000°. Principal axes: T 3.8700, Plg1.0000°, Azm116.0000°; N 0.2200, Plg6.0000°, Azm26.0000°; P -4.1000, Plg84.0000°, Azm215.0000°; Data Used: ll lU G CN IC.*
ISC 10 01:40:41.2±0.3, 28°.82N±0°.06×43°.46W±0°.06, h14km, n491, σ0s80/491, mb4.8/135, MS4.2/30, 122C-87D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSET	**Sete Cidades**	**17.31**	**54**	*e*P	P	01 44 50.6	+6.7
	195nm,1.4s						
PSMA	**Santa Maria**	**17.40**	**57**	*e*P	**P**	**01 44 48.3**	**+3.5**
	76nm,1.4s						
MTP	**Monte Pirata**	**22.87**	**247**	*e*P	**P**	**01 45 44.9**	**+0.5**
	65nm,1.4s						
HUMP	**Col San Antoni**	**23.08**	**248**	*e*P	**P**	**01 45 48.7**	**+2.1**
	48nm,1.5s						
SJG	**San Juan**	**23.34**	**248**	LR	LR	01 53 02.2	
	comp=Z,472nm,20.7s,baz=79,slow=32						
MPR	**Mayaguez**	**24.10**	**249**	*e*P	**P**	**01 45 57.2**	**+0.6**
	36nm,1.0s						
BBTS	**Babate**	**28.61**	**114**	LR	LR	01 55 16.8	
	comp=Z,841nm,19.6s,baz=332,slow=31						
PBEJ	**Beja**	**30.94**	**63**	*e*P	**P**	**01 46 57.8**	**0.0**
	14nm,1.1s						
PVAQ	**Vaqueiros**	**30.99**	**65**	*e*LR	LR	01 54 54.4	
	667nm,18.0s						
SCHQ	**Schefferville**	**31.00**	**334**	LR	LR	01 58 32.9	
	comp=Z,375nm,18.9s,baz=139,slow=35						
PVIS	**Viseu**	**31.33**	**58**	*e*P	**P**	**01 47 00.9**	**-0.3**
	16nm,1.5s						
PMRV	**Marv??o**	**31.49**	**61**	*e*P	**P**	**01 47 01.9**	**-0.7**
	20nm,1.8s						
PMRV				*e*LR	LR	01 55 11.9	
	338nm,22.0s						
MTE	**Manteigas**	**31.53**	**59**	*e*P	**P**	**01 47 03.1**	**0.0**
	21nm,1.7s						
MTE				*e*LR	LR	01 55 18.7	
	566nm,20.0s						
POLO	**Lamas de Olo**	**31.53**	**57**	*e*P	**P**	**01 47 02.6**	**-0.5**
	12nm,1.4s						
PVRL	**Vila Real**	**31.57**	**57**	*e*P	**P**	**01 47 03.3**	**-0.1**
	27nm,1.2s						
MVO	**Moncorvo**	**32.06**	**58**	*e*P	**P**	**01 47 07.8**	**+0.1**
	16nm,1.8s						
MVO				*e*LR	LR	01 55 38.8	
	341nm,22.0s						
SDV	**Santo Domingo**	**32.33**	**238**	*e*P	**P**	**01 47 11.7**	**+1.3**
	16nm,1.0s						
PAB	**San Pablo**	**33.84**	**61**	*e*P	**P**	**01 47 22.5**	**-0.8**
PAB				pmax	pmax		
	comp=Z,45nm,1.1s						
PAB	**San Pablo**	**33.84**	**61**	*e*P	**P**	**01 47 22.5**	**-0.8**
	comp=Z,46nm,1.1s						
ESDC	**Sonseca Array**	**34.15**	**61**	P	**P**	**01 47 24.8**	**-1.2**
ESDC				PcP	**PcP**	**01 50 03.2**	**+0.2**
ESDC	**Sonseca Array**	**34.15**	**61**	P	**P**	**01 47 24.8**	**-1.2**
	comp=Z,1.8nm,0.9s,baz=267,slow=8.4,SNR=10						
ESDC				PcP	**PcP**	**01 50 03.2**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=289,slow=3.3,SNR=9.5						
TKL	**Tuckaleechee C**	**34.60**	**292**	*e*P	**P**	**01 47 32.8**	**+2.9**
TKL	**Tuckaleechee C**	**34.60**	**292**	P	**P**	**01 47 29.4**	**-0.5**
	comp=Z,5.2nm,1.0s,baz=91,slow=11,SNR=5.0						
RCBR	**Riachuelo**	**35.20**	**167**	*e*P	**P**	**01 47 34.6**	**-0.5**
	comp=Z,62nm,1.0s						
ETSF	**Etsaut**	**37.10**	**56**	*e*P	**P**	**01 47 50.6**	**-0.6**
ETSF	**Etsaut**	**37.10**	**56**	*e*P	**P**	**01 47 50.6**	**-0.6**
ETSF	**Etsaut**	**37.10**	**56**	*e*P	**P**	**01 47 50.6**	**-0.6**
ROSC	**El Rosal**	**37.73**	**237**	LR	LR	01 59 25.1	
	comp=Z,80nm,21.2s,baz=27,slow=30						
MFF	**Saint Martin d**	**38.04**	**50**	*e*P	**P**	**01 47 58.3**	**-0.8**
MFF	**Saint Martin d**	**38.04**	**50**	*e*P	**P**	**01 47 58.3**	**-0.8**
MFF	**Saint Martin d**	**38.04**	**50**	*e*P	**P**	**01 47 58.3**	**-0.8**
LFF	**La Frestale**	**38.34**	**53**	*e*P	**P**	**01 48 00.8**	**-0.8**
	comp=Z,25nm,0.9s						
LFF	**La Frestale**	**38.34**	**53**	*e*P	**P**	**01 48 00.8**	**-0.8**
LFF				pmax	pmax		
	comp=Z,25nm,0.9s						
LFF	**La Frestale**	**38.34**	**53**	*e*P	**P**	**01 48 00.8**	**-0.8**
	comp=Z,25nm,0.9s						
ESK	**Eskdalemuir**	**39.08**	**36**	*e*P	**P**	**01 48 08.2**	**+0.5**
ESK				pmax	pmax		
	comp=Z,30nm,1.2s						
ESK	**Eskdalemuir**	**39.08**	**36**	*e*P	**P**	**01 48 08.2**	**+0.5**
	comp=Z,30nm,1.2s						
MTLF	**Montolieu**	**39.17**	**56**	*e*P	**P**	**01 48 07.7**	**-0.9**
	comp=Z,15nm,1.1s						
MTLF	**Montolieu**	**39.17**	**56**	*e*P	**P**	**01 48 07.7**	**-0.9**
MTLF				pmax	pmax		
	comp=Z,15nm,1.1s						
MTLF	**Montolieu**	**39.17**	**56**	*e*P	**P**	**01 48 07.7**	**-0.9**
	comp=Z,15nm,1.1s						
TCF	**Toulx Ste Croi**	**39.58**	**51**	*e*P	**P**	**01 48 11.2**	**-0.8**
TCF	**Toulx Ste Croi**	**39.58**	**51**	*e*P	**P**	**01 48 11.2**	**-0.8**
TCF	**Toulx Ste Croi**	**39.58**	**51**	*e*P	**P**	**01 48 11.2**	**-0.8**
BGF	**Bois d'Agland**	**40.06**	**51**	*e*P	**P**	**01 48 14.6**	**-1.4**
BGF	**Bois d'Agland**	**40.06**	**51**	*e*P	**P**	**01 48 14.6**	**-1.4**
BGF	**Bois d'Agland**	**40.06**	**51**	*e*P	**P**	**01 48 14.6**	**-1.4**
SSF	**Saint Saulge**	**40.59**	**50**	*e*P	**P**	**01 48 19.4**	**-1.0**
SSF	**Saint Saulge**	**40.59**	**50**	*e*P	**P**	**01 48 19.4**	**-1.0**
SSF	**Saint Saulge**	**40.59**	**50**	*e*P	**P**	**01 48 19.4**	**-1.0**
SMF	**Signal de Mont**	**40.75**	**51**	*e*P	**P**	**01 48 21.0**	**-0.7**
	comp=Z,21nm,1.0s						
SMF	**Signal de Mont**	**40.75**	**51**	*e*P	**P**	**01 48 21.0**	**-0.7**
SMF				pmax	pmax		
	comp=Z,21nm,1.0s						
SMF	**Signal de Mont**	**40.75**	**51**	*e*P	**P**	**01 48 21.0**	**-0.7**
	comp=Z,21nm,1.0s						
LOR	**Lormes**	**40.86**	**50**	*e*P	**P**	**01 48 21.6**	**-1.1**
LOR				*e*R			
	comp=Z,235nm,19.5s						
LOR	**Lormes**	**40.86**	**50**	*e*P	**P**	**01 48 21.6**	**-1.1**
EYMN	**Ely**	**41.46**	**311**	*e*P	**P**	**01 48 26.4**	**-1.1**
	comp=Z,11nm,1.2s						
SFTF	**Sexfontaines**	**41.80**	**49**	*e*P	**P**	**01 48 27.9**	**-2.5**
	comp=Z,19nm,0.9s						
SFTF	**Sexfontaines**	**41.80**	**49**	*e*P	**P**	**01 48 27.9**	**-2.5**
	comp=Z,19nm,0.9s						
MEZF	**Maizieres J'vi**	**41.86**	**48**	*e*P	**P**	**01 48 30.0**	**-0.8**
	comp=Z,26nm,0.9s						
MEZF	**Maizieres J'vi**	**41.86**	**48**	*e*P	**P**	**01 48 30.0**	**-0.8**
	comp=Z,26nm,0.9s						
SAML	**Samuel**	**42.10**	**210**	*e*P	**P**	**01 48 32.5**	**-0.5**
	comp=Z,26nm,0.9s						
PAGF	**Fort de Pagny**	**42.31**	**48**	*e*P	**P**	**01 48 33.5**	**-1.0**
	comp=Z,3.1nm,0.7s						
PAGF	**Fort de Pagny**	**42.31**	**48**	*e*P	**P**	**01 48 33.5**	**-1.0**
	comp=Z,3.1nm,0.7s						
BNI	**Bardonecchia**	**42.53**	**54**	*e*P	**P**	**01 48 37.1**	**+0.6**
BNI				pmax	pmax		
	comp=Z,12nm,1.4s						
BNI	**Bardonecchia**	**42.53**	**54**	*e*P	**P**	**01 48 37.1**	**+0.6**
	comp=Z,12nm,1.4s						
DBIC	**Dimbokro**	**42.56**	**114**	*e*P	**P**	**01 48 36.4**	**-0.5**
	comp=Z,17nm,1.2s						
DBIC	**Dimbokro**	**42.56**	**114**	P	**P**	**01 48 36.8**	**-0.1**
	comp=Z,4.4nm,0.7s,baz=296,slow=12,SNR=5.3						
DBIC				LR	LR	02 04 28.1	
	comp=Z,744nm,18.1s,baz=272,slow=34						
HAU	**Haudompre**	**42.64**	**49**	*e*P	**P**	**01 48 36.1**	**-1.1**
HAU				*e*R			
	comp=Z,308nm,21.8s						
HAU	**Haudompre**	**42.64**	**49**	*e*P	**P**	**01 48 36.1**	**-1.1**
HAU	**Haudompre**	**42.64**	**49**	*e*P	**P**	**01 48 36.1**	**-1.1**
LIC	**Lamto**	**42.68**	**114**	⇑*i*P	**P**	**01 48 37.5**	**-0.4**
	comp=Z,12nm,0.7s,baz=280						
LIC				*e*R			
	comp=Z,833nm,21.0s						
LIC	**Lamto**	**42.68**	**114**	⇑*i*P	**P**	**01 48 37.5**	**-0.4**
	comp=Z,12nm,0.7s						
HINF	**Hinteralfeld**	**42.95**	**50**	*e*P	**P**	**01 48 38.6**	**-1.1**
HINF	**Hinteralfeld**	**42.95**	**50**	*e*P	**P**	**01 48 38.6**	**-1.1**
HINF	**Hinteralfeld**	**42.95**	**50**	*e*P	**P**	**01 48 38.6**	**-1.1**
CDF	**Champ du Feu**	**43.31**	**49**	*e*P	**P**	**01 48 41.7**	**-1.0**
	comp=Z,4.8nm,0.7s						
CDF	**Champ du Feu**	**43.31**	**49**	*e*P	**P**	**01 48 41.7**	**-1.0**
CDF				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CDF	**Champ du Feu**	**43.31**	**49**	*e*P	**P**	**01 48 41.7**	**-1.0**
	comp=Z,4.8nm,0.7s						
OTAV	**Otavalo**	**43.88**	**236**	*e*P	**P**	**01 48 47.6**	**-0.4**
	comp=Z,11nm,1.1s						
TAM	**Tamanrasset**	**44.26**	**86**	*e*P	**P**	**01 48 52.6**	**

NAO01 **NORSAR Array S** 48.04 32 *e*P P 01 49 20.6 +0.8
comp=Z,18nm,1.3s
232A **Coleman** 48.13 288 ⇓P P 01 49 20.4 -0.6
baz=48,SNR=7.4
U30A **WK&E Inc. Balk** 48.16 295 ⇑P P 01 49 21.1 -0.1
baz=48
NB2 **NORSAR Subarra** 48.25 32 P P 01 49 21.4 -0.1
comp=Z,5.3nm,0.9s,baz=254,slow=7.9
NOA **NORSAR Array B** 48.25 32 P P 01 49 21.2 -0.3
NOA **NORSAR Array B** 48.25 32 P P 01 49 21.2 -0.3
comp=Z,2.7nm,0.8s,baz=255,slow=7.8,SNR=7.6
NOA LR LR 02 05 09.9
comp=Z,131nm,21.4s,baz=245,slow=30
Z31A **Sharp Cattle R** 48.27 290 ⇑P P 01 49 22.5 +0.5
baz=48
V30A **Spur Ranch, Mi** 48.30 294 ⇑P P 01 49 22.7 +0.4
baz=48
332A **Millersview** 48.31 288 ⇓P P 01 49 22.0 -0.4
baz=48,SNR=5.9
G27A **Dupree** 48.43 307 ⇑P P 01 49 22.5 -0.6
baz=48
432A **Menard** 48.47 287 ⇓P P 01 49 22.8 -0.8
baz=48,SNR=7.0
JCT **Junction City** 48.56 287 *e*P P 01 49 24.5 +0.2
JCT pmax pmax
comp=Z,22nm,1.1s
JCT **Junction City** 48.56 287 *e*P P 01 49 24.5 +0.2
comp=Z,22nm,1.1s
JCT **Junction City** 48.56 287 ⇓P P 01 49 24.4 +0.1
baz=49
131A **Roby** 48.59 290 ⇓P P 01 49 24.5 -0.1
baz=49
O28A **Krutsinger Ran** 48.61 300 ⇑P P 01 49 24.7 0.0
baz=49
X30A **Coker Ranch, T** 48.66 292 ⇑P P 01 49 24.6 -0.4
baz=49,SNR=8.4
231A **Bronte** 48.68 289 ⇑P P 01 49 24.5 -0.7
baz=49,SNR=6.2
532A **Rocksprings** 48.73 286 ⇑P P 01 49 25.7 0.0
baz=49
OGNE **Ogallala** 48.73 301 ⇓P P 01 49 25.4 -0.2
baz=49
632A **Uvalde** 48.77 285 ⇓P P 01 49 26.2 +0.2
baz=49
R28A **Tribune** 48.83 297 ⇓P P 01 49 26.4 0.0
baz=49
331A **San Angelo** 48.90 288 ⇑P P 01 49 27.3 +0.3
baz=49
G26A **Maurine** 48.90 306 ⇓P P 01 49 27.1 +0.4
baz=49
732A **Laxson Ranch,** 49.12 284 ⇓P P 01 49 28.3 -0.2
baz=49
N27A **Anderson Farm,** 49.12 301 ⇑P P 01 49 28.7 +0.1
baz=49
431A **Sonora** 49.19 287 ⇓P P 01 49 29.4 +0.2
baz=49
T28A **Walsh** 49.23 296 ⇓P P 01 49 29.6 +0.1
baz=49
531A **Rocksprings** 49.26 286 ⇓P P 01 49 29.4 -0.3
baz=49
B25A **Knox Farm, Ray** 49.27 310 ⇑P P 01 49 29.8 +0.3
baz=49
C25A **Freed Ranch, W** 49.33 310 ⇑P P 01 49 30.1 +0.2
baz=49
X29A **Tulia** 49.33 292 ⇑P P 01 49 29.9 -0.4
baz=49,SNR=5.8
230A **Sterling City** 49.35 289 ⇓P P 01 49 30.4 0.0
baz=49
CUC **Castrocucco** 49.35 61 *e*P P 01 49 29.8 -0.5
comp=Z,11nm,1.2s
Y29A **Porterfield Fa** 49.42 291 ⇑P P 01 49 31.0 +0.1
baz=49
U28A **Mallet** 49.43 295 ⇑P P 01 49 31.1 +0.1
baz=49
631A **Perdido Creek** 49.46 285 ⇓P P 01 49 30.6 -0.6
baz=50
330A **Mertzon** 49.51 288 ⇓P P 01 49 31.1 -0.5
baz=50,SNR=9.9
Z29A **Hungry Hill Ra** 49.56 291 ⇓P P 01 49 31.9 -0.1
baz=50
R27A **Eads** 49.61 297 ⇓P P 01 49 32.5 +0.1
baz=50
430A **Baggett Ranch,** 49.70 287 ⇑P P 01 49 32.8 -0.2
baz=50
530A **J-C Ranch, Com** 49.93 287 ⇓P P 01 49 34.4 -0.4
baz=50,SNR=7.2
Q26A **Hugo** 50.09 298 ⇑P P 01 49 35.6 -0.4
baz=50
R26A **Arlington** 50.11 297 ⇓P P 01 49 36.3 +0.1
baz=50
Z28A **Tucker Farm, M** 50.11 291 ⇓P P 01 49 36.5 +0.2
baz=50
C24A **Savage** 50.12 309 ⇑P P 01 49 36.2 +0.2
baz=50
329A **Wagon Wheel Ra** 50.16 288 ⇑P P 01 49 36.0 -0.6
baz=50,SNR=9.3
S26A **Kim** 50.23 297 ⇓P P 01 49 37.2 +0.1
baz=50
429A **Davenport Ranc** 50.28 287 ⇑P P 01 49 37.2 -0.4
baz=50
MSTX **Muleshoe** 50.30 292 *e*P P 01 49 38.5 +0.9
comp=Z,18nm,1.2s
MSTX **Muleshoe** 50.30 292 ⇑P P 01 49 37.1 -0.5
baz=50
H24A **Dirks Ranch, A** 50.31 306 ⇓P P 01 49 37.1 -0.5
baz=50
W27A **Bowe Ranch, En** 50.33 293 ⇑P P 01 49 37.7 -0.2
baz=50
128A **Castleberry Fa** 50.33 290 ⇓P P 01 49 37.5 -0.4
baz=50
P25A **Willow Gulch B** 50.51 299 ⇑P P 01 49 39.4 +0.1
baz=50
Y27A **Causey** 50.63 292 ⇑P P 01 49 40.0 -0.2
baz=51,SNR=7.6
U26A **Atchley Ranch,** 50.64 295 ⇑P P 01 49 40.0 -0.3
baz=51
D23A **Lindsay** 50.66 309 ⇑P P 01 49 39.7 -0.4
baz=51
529A **Stev Forest Ra** 50.68 287 ⇑P P 01 49 40.1 -0.4
baz=51
V26A **Tequesquite Ra** 50.78 294 ⇑P P 01 49 40.7 -0.6
baz=51,SNR=12
R25A **Fountain Ranch** 50.79 297 ⇑P P 01 49 41.3 -0.1
baz=51
LPAZ **La Paz** 50.79 211 *e*P P 01 49 41.7 -0.3
comp=Z,18nm,1.1s
LPAZ *e*PcP PcP 01 51 00.7 +1.8
LPAZ **La Paz** 50.79 211 P P 01 49 41.5 -0.5
comp=Z,11nm,1.0s,baz=13,slow=7.7,SNR=24
LPAZ LR LR 02 09 59.6
comp=Z,206nm,19.9s,baz=351,slow=35
328A **Wristen Ranch,** 50.87 288 ⇑P P 01 49 41.5 -0.5
baz=51
428A **Kincaid Ranch,** 50.92 288 ⇓P P 01 49 42.5 +0.1
baz=51
S25A **Robets Cordova** 50.98 297 ⇓P P 01 49 43.0 +0.1
baz=51
T25A **Trinidad** 51.04 296 ⇑P P 01 49 42.1 -1.3
baz=51
528A **Cox Ranch, San** 51.14 287 ⇑P P 01 49 44.0 0.0
baz=51
U25A **Circle Dot Ran** 51.17 295 ⇑P P 01 49 44.2 0.0
baz=51
Q24A **Divide** 51.34 298 ⇑P P 01 49 45.8 +0.1
baz=51
L23A **Garrett** 51.36 303 ⇑P P 01 49 45.6 0.0
baz=51
628A **Black Gap, Mar** 51.40 286 ⇓P P 01 49 45.5 -0.5
baz=51,SNR=7.9
R24A **Sanders Place,** 51.42 298 ⇓P P 01 49 46.5 +0.3
baz=51
Z26A **Caprock** 51.42 291 ⇓P P 01 49 46.2 +0.1
baz=51
V25A **Rancho No Teng** 51.43 294 ⇑P P 01 49 45.9 -0.4
baz=51
427A **Hayter Ranch,** 51.49 288 ⇑P P 01 49 46.3 -0.4
baz=52
ISCO **Idaho Springs** 51.58 300 ⇑P P 01 49 47.8 +0.3
baz=52
126A **Clayton Basin,** 51.59 290 ⇓P P 01 49 47.5 +0.1
baz=52
H22A **Clearmont** 51.60 306 ⇓P P 01 49 47.7 +0.4
baz=52
N23A **Red Feather La** 51.68 301 ⇓P P 01 49 47.9 -0.2
baz=52
I22A **9 Mile Ranch,** 51.76 305 ⇓P P 01 49 48.6 +0.1
baz=52
J22A **Midwest** 51.80 304 ⇑P P 01 49 48.3 -0.6
baz=52
SDCO **Great Sand Dun** 51.80 297 *e*P P 01 49 51.2 +2.1
comp=Z,7.4nm,1.4s
P23A **Jefferson** 51.81 299 ⇑P P 01 49 49.3 0.0
baz=52
T24B **San Luis** 51.82 296 ⇓P P 01 49 49.3 0.0
baz=52
627A **Terlingua Ranc** 51.83 286 ⇑P P 01 49 49.0 -0.2
baz=52
226B **Tecolote Peak,** 51.84 290 ⇑P P 01 49 49.3 +0.1
baz=52
527A **Woodward Ranch** 51.84 287 ⇑P P 01 49 49.4 0.0
baz=52
326A **Caldwell Ranch** 51.86 289 ⇑P P 01 49 49.5 +0.1
baz=52
Y25A **Mesa, Roswell** 51.87 292 ⇓P P 01 49 49.5 0.0
baz=52
D21A **La Casta Ranch** 51.88 309 ⇑P P 01 49 49.3 0.0
baz=52
L22A **Ellis Ranch, M** 51.91 303 ⇑P P 01 49 50.7 +1.0
baz=52
C21A **Desert Coulee** 51.91 310 ⇑P P 01 49 50.5 +1.0
baz=52
R23A **Moffat** 51.98 298 ⇓P P 01 49 51.2 +0.7
baz=52
Z25A **Roswell** 52.02 291 ⇑P P 01 49 51.6 +0.9
baz=52
426A **McDonald Obser** 52.06 288 ⇓P P 01 49 51.5 +0.4
baz=52
N22A **Wattenberg Ran** 52.08 301 ⇓P P 01 49 51.5 +0.4
baz=52
H21A **Big Horn, Sher** 52.09 306 ⇑P P 01 49 51.7 +0.7
baz=52
TXAR **Lajitas Array** 52.09 286 P P 01 49 50.9 -0.3
TXAR PcP PcP 01 51 02.5 -0.6
TXAR **Lajitas Array** 52.09 286 P P 01 49 50.9 -0.3
comp=Z,4.0nm,1.0s,baz=94,slow=6.8,SNR=17
TXAR PcP PcP 01 51 02.5 -0.6
comp=Z,1.4nm,0.9s,baz=105,slow=5.7,SNR=2.6
TXAR LR LR 02 12 17.1
comp=Z,231nm,19.7s,baz=80,slow=36
M22A **Cedar Creek Ra** 52.11 302 ⇑P P 01 49 51.8 +0.5
baz=52
125A **Gardner Draw,** 52.11 291 ⇑P P 01 49 50.7 -0.6
baz=52,SNR=6.9
W24A **Lazy 6 Ranch,** 52.19 294 ⇑P P 01 49 52.2 +0.3
baz=52
O22A **Kremmling** 52.24 300 ⇑P P 01 49 52.1 -0.3
baz=52
526A **Mary Lane Ranc** 52.26 287 ⇓P P 01 49 52.4 -0.1
baz=52
T23A **Casias Ranch,** 52.34 296 ⇑P P 01 49 53.5 +0.4
baz=52
I21A **Big Trails, Te** 52.34 305 ⇓P P 01 49 53.1 +0.2
baz=52
225A **Deer Hill, Car** 52.37 290 ⇑P P 01 49 53.9 +0.6
baz=52
A20A **Cobblestone Ra** 52.42 311 ⇓P P 01 49 53.3 0.0
baz=52
626A **Big Bend Ranch** 52.43 287 ⇑P P 01 49 53.4 -0.3
baz=52,SNR=7.2
K21A **Alcova** 52.44 303 ⇑P P 01 49 53.5 -0.3
baz=52
Y24A **Capitan** 52.47 292 ⇑P P 01 49 53.6 -0.4
baz=52
J21A **Lysite** 52.51 304 ⇓P P 01 49 54.3 +0.1
baz=52
C20A **Veseth Ranch,** 52.53 310 ⇑P P 01 49 54.1 0.0
baz=52
STHS **Stebnicka Huta** 52.55 48 *e*P P 01 49 58.8 +4.6
RES **Resolute Bay** 52.58 345 *e*P P 01 49 54.4 +0.4
comp=Z,12nm,1.0s
U23A **El Rito** 52.59 295 ⇓P P 01 49 55.4 +0.4
baz=53
D20A **Manuel Ranch,** 52.66 309 ⇓P P 01 49 55.3 +0.2
baz=53
325A **Bean Ranch, Si** 52.67 289 ⇓P P 01 49 55.3 -0.3
baz=53,SNR=9.3
E20A **Meyer Farm, Mu** 52.70 308 ⇓P P 01 49 55.4 +0.1
baz=53
V23A **Ortiz Mt. (NFS** 52.70 295 ⇓P P 01 49 55.7 -0.1
baz=53
Q22A **Crested Butte,** 52.71 299 ⇓P P 01 49 55.7 -0.2
baz=53
124A **Stringfield Ra** 52.76 291 ⇓P P 01 49 56.1 -0.1
baz=53
H20A **Greybull** 52.78 306 ⇑P P 01 49 56.3 +0.2
baz=53
425A **Indio Mountain** 52.83 288 ⇑P P 01 49 56.3 -0.3
baz=53
S22A **4UR Ranch, Cre** 52.84 297 ⇑P P 01 49 56.2 -0.7
baz=53
G20A **Bridger** 52.87 307 ⇑P P 01 49 56.5 -0.2
baz=53
I20A **Worland** 52.93 305 ⇑P P 01 49 57.2 0.0
baz=53
X23A **Hourglass Bar** 52.94 293 ⇓P P 01 49 58.2 +0.7
baz=53
224A **Cornudas Mount** 52.96 290 ⇓P P 01 49 57.5 -0.1
baz=53
A19A **Kilndworth Far** 52.96 311 ⇓P P 01 49 57.6 +0.3
baz=53
J20A **Shoshoni** 52.97 304 ⇑P P 01 49 57.4 -0.1
baz=53
P21A **Newcastle** 53.02 300 ⇓P P 01 49 58.0 -0.1
baz=53
T22A **Edith** 53.03 296 ⇓P P 01 49 59.1 +0.9
baz=53,SNR=10
BZS **Buzias** 53.05 53 ⇑*i*P P 01 49 57.9 0.0
324A **Moseley Ranch,** 53.08 289 ⇑P P 01 49 58.3 -0.2
baz=53
ANMO **Albuquerque** 53.08 294 *e*P P 01 49 59.5 +0.9
comp=Z,9.5nm,1.2s
B19A **Brinkman Farms** 53.12 311 ⇓P P 01 49 58.4 0.0
baz=53
E19A **Rath Farm, Rou** 53.15 308 ⇓P P 01 49 58.3 -0.5
baz=53
D19A **Cripps Ranch,** 53.16 309 ⇑P P 01 49 58.4 -0.5
baz=53,SNR=8.0
C19A **Slack Wire Ran** 53.23 310 ⇑P P 01 49 58.8 -0.6
baz=53
V22A **San Miguel Ran** 53.25 295 ⇓P P 01 50 00.4 +0.6
baz=53
Z23A **Rita Site, Whi** 53.27 292 ⇑P P 01 50 00.4 +0.5
baz=53,SNR=7.2
M20A **Sweetwater, Wa** 53.28 302 ⇓P P 01 49 59.9 -0.1
baz=53
F19A **Roth Farm, Mol** 53.32 308 ⇑P P 01 50 00.4 +0.4
baz=53
L20A **Wamsutter** 53.32 303 ⇓P P 01 50 00.3 +0.1
baz=53
BNM **Barren Site** 53.39 293 *e*P P 01 50 01.6 +0.7
comp=Z,12nm,1.2s
N20A **Spence Gulch,** 53.43 301 ⇑P P 01 50 01.3 +0.2
baz=53
H19A **Powell** 53.47 306 ⇑P P 01 50 01.2 +0.1
baz=53
O20A **White River Ci** 53.52 300 ⇑P P 01 50 01.7 0.0
baz=54
T21A **Navajo Lake** 53.53 296 ⇓P P 01 50 02.0 +0.2
baz=54
I19A **Meeteetse** 53.54 305 ⇓P P 01 50 01.8 0.0
baz=54
S21A **Coal Bank Pass** 53.60 297 ⇓P P 01 50 02.3 -0.2
baz=54
J19A **Crowheart** 53.68 304 ⇑P P 01 50 02.5 -0.2
baz=54,SNR=5.6
EGMT **Eagleton** 53.69 310 *e*P P 01 50 03.2 +0.6
comp=Z,32nm,1.3s
EGMT **Eagleton** 53.69 310 ⇑P P 01 50 02.7 0.0
baz=54,SNR=7.0
DRGR 53.70 51 ⇑*i*P P 01 50 02.7 0.0
U21A **Nageezi** 53.74 296 ⇑P P 01 50 03.2 -0.2
baz=54
LAZ **Ladron** 53.75 293 *e*P P 01 50 04.8 +1.3
comp=Z,4.2nm,1.2s
Q20A **Ridgley Place,** 53.76 299 ⇑P P 01 50 03.8 +0.3
baz=54
Z22A **Elephant Butte** 53.86 292 ⇑P P 01 50 04.8 +0.5
baz=54
H18A **Shoshone NF, C** 53.95 306 ⇑P P 01 50 04.7 -0.1
baz=54
R20A **Redvale** 53.96 298 ⇑P P 01 50 05.2 +0.2
baz=54
S20A **Disappointment** 54.02 298 ⇑P P 01 50 06.2 +0.7
baz=54
L19A **Farson** 54.06 303 P P 01 50 05.5 -0.2
baz=54
BW06 **Boulder Array** 54.11 304 *e*P P 01 50 05.4 -0.7
comp=Z,20nm,1.2s
PV01 **Paradox Valley** 54.12 298 *e*P P 01 50 07.3 +1.2
O19A **Miners Draw (B** 54.16 301 ⇑P P 01 50 06.2 -0.1
baz=54
P19A **Cripple Cowboy** 54.17 300 ⇑P P 01 50 06.7 +0.2
baz=54
MVCO **Mesa Verde** 54.24 297 *e*P P 01 50 08.5 +1.4
comp=Z,14nm,1.3s
MVCO **Mesa Verde** 54.24 297 ⇓P P 01 50 06.8 -0.2
baz=54
X21A **Alamocita Cree** 54.26 293 ⇑P P 01 50 07.9 +0.6
baz=54,SNR=5.9
Y21A **Point of Rocks** 54.27 293 ⇑P P 01 50 08.1 +0.8
baz=54,SNR=12
Z21A **St. Cloud Mine** 54.43 292 ⇓P P 01 50 09.0 +0.5
baz=54,SNR=7.3
L18A **Fontenelle, Gr** 54.59 303 ⇑P P 01 50 09.4 -0.1
baz=54,SNR=6.6
W20A **Ramah** 54.68 294 ⇑P P 01 50 10.4 +0.1
baz=55
I17A **Pilgrim Ck.** 54.69 305 ⇑P P 01 50 10.4 +0.2
baz=55
LOHW **Long Hollow** 54.75 305 *e*P P 01 50 11.1 +0.4
comp=Z,12nm,1.4s
FLWY **Flagg Ranch** 54.76 306 *e*P P 01 50 11.9 +1.3
comp=Z,20nm,1.4s
X20A **Quemado** 54.81 294 ⇓P P 01 50 12.0 +0.8
baz=55
MOOW **Moose Ponds** 54.84 305 *e*P P 01 50 11.1 -0.2
comp=Z,12nm,1.4s
Y20A **Horse Springs,** 54.86 293 ⇑P P 01 50 12.7 +1.1
baz=55,SNR=9.1
SNOW **Snow King Moun** 54.88 305 *e*P P 01 50 12.5 +0.8
IMW **Indian Meadow** 54.95 305 *e*P P 01 50 12.8 +0.6
comp=Z,16nm,1.1s
TPAW **Teton Pass** 55.02 305 *e*P P 01 50 13.0 +0.4
comp=Z,19nm,1.3s
M17A **Scullys Gap (B** 55.12 302 ⇓P P 01 50 13.4 0.0
baz=55
Z20A **Nine Sixteen R** 55.22 292 ⇑P P 01 50 14.4 +0.2
baz=55
BUR08 **Bucovina Ar. S** 55.30 50 *e*P P 01 50 14.6 +0.2
RRI2 **Red Ridge** 55.31 305 *e*P P 01 50 15.3 +0.5
comp=Z,32nm,1.7s
FINES **FINESS Array B** 55.39 33 P P 01 50 14.1 -0.6
FINES **FINESS Array B** 55.39 33 P P 01 50 14.1 -0.6
comp=Z,7.9nm,0.9s,baz=232,slow=4.6,SNR=15
120A **U Bar Ranch, L** 55.40 291 ⇓P P 01 50 16.1 +0.7
baz=55,SNR=6.2
SRU **San Rafael** 55.44 300 *e*P P 01 50 16.6 +0.9
SRU pmax pmax
comp=Z,11nm,1.0s
SRU **San Rafael** 55.44 300 *e*P P 01 50 16.6 +0.9
comp=Z,11nm,1.0s
220A **Playas Peak, P** 55.47 291 ⇑P P 01 50 16.6 +0.6
baz=55
320A **Kipp Ranch, An** 55.62 290 ⇑P P 01 50 17.7 +0.6
baz=56
EDM **Edmonton** 55.63 317 *e*P P 01 50 16.7 +0.1
EDM **Edmonton** 55.63 317 *e*P P 01 50 16.7 +0.1
W18A **Petrified Fore** 55.67 295 *e*P P 01 50 17.8 +0.4
W18A **Petrified Fore** 55.67 295 ⇓P P 01 50 17.9 +0.6
baz=56
JLU **Jordanelle** 55.86 301 *e*P P 01 50 19.4 +0.7
comp=Z,18nm,1.3s
DLMT **Dillon** 55.92 307 *e*P P 01 50 20.2 +1.3
comp=Z,13nm,1.2s
ARCES **ARCESS Array B** 55.97 23 P P 01 50 19.2 +0.5
ARCES **ARCESS Array B** 55.97 23 P P 01 50 19.2 +0.5
comp=Z,9.6nm,0.9s,baz=297,slow=5.3,SNR=7.6
ARCES LR LR 02 09 20.7
comp=Z,56nm,20.3s,baz=29,slow=31
Q16A **Castle Valley** 55.97 299 ⇓P P 01 50 20.0 +0.5
baz=56
MLR **Muntele Rosu** 56.08 53 ⇑*i*P P 01 50 20.7 +0.6
MPU **Maple Canyon** 56.11 301 *e*P P 01 50 21.6 +1.1
comp=Z,11nm,1.1s
YKA **Yellowknife Ar** 56.20 328 P P 01 50 19.9 -0.5
YKA **Yellowknife Ar** 56.20 328 P P 01 50 19.9 -0.5
comp=Z,5.1nm,0.9s,baz=89,slow=7.9,SNR=5.1
YKW3 **Yellowknife Ar** 56.21 328 *e*P P 01 50 19.9 -0.6
319A **Douglas** 56.23 290 ⇓P P 01 50 21.8 +0.4
baz=56
SLMT **Seeley Lake** 56.28 310 *e*P P 01 50 21.2 -0.3
WALA **Waterton Lakes** 56.34 312 *e*P P 01 50 21.2 -0.6
comp=Z,0.3nm,1.0s
CPUP **Villa Florida** 56.42 195 *e*P P 01 50 21.5 -0.9
comp=Z,17nm,1.0s
CPUP **Villa Florida** 56.42 195 P P 01 50 21.4 -1.0
comp=Z,3.6nm,0.9s,baz=14,slow=6.8,SNR=6.5
CPUP LR LR 02 12 31.0
comp=Z,67nm,19.0s,baz=353,slow=34
NLU **North Lily Min** 56.45 301 *e*P P 01 50 24.1 +1.1
comp=Z,12nm,1.3s
SWMT **Swartz Lake** 56.59 310 *e*P P 01 50 23.9 +0.2
MSO **Missoula** 56.64 309 *e*P P 01 50 27.3 +3.3
comp=Z,11nm,1.4s
MSO **Missoula** 56.64 309 ⇑P P 01 50 24.7 +0.7
baz=57
LVC **Limon Verde** 56.71 208 *e*P P 01 50 24.4 -0.5
comp=Z,28nm,1.6s
MVU **Marysvale** 56.85 299 *e*P P 01 50 27.3 +1.4
comp=Z,9.0nm,1.3s
WUAZ **Wupatki** 56.88 295 *e*P P 01 50 27.0 +1.0
comp=Z,10nm,1.1s
WUAZ **Wupatki** 56.88 295 ⇓P P 01 50 26.8 +0.8
baz=57
DUG **Dugway** 56.96 301 *e*P P 01 50 27.3 +0.8
DUG pmax pmax
comp=Z,13nm,1.1s
DUG **Dugway** 56.96 301 *e*P P 01 50 27.3 +0.8
comp=Z,12nm,1.1s
DUG **Dugway** 56.96 301 ⇑P P 01 50 26.3 -0.1
baz=57,SNR=9.7
BGU **Big Grassy Mou** 56.98 302 *e*P P 01 50 26.7 +0.1
comp=Z,16nm,1.4s
BSMT **Bassoo Peak** 57.07 311 *e*P P 01 50 27.1 -0.1
X16A **Lo Mia Camp, P** 57.20 294 ⇑P P 01 50 28.7 +0.4
baz=57
IDI **Anoyia** 57.27 65 *e*P P 01 50 29.4 +0.8
comp=Z,17nm,1.1s
IDI **Anoyia** 57.27 65 P P 01 50 29.5 +0.8
comp=Z,13nm,1.0s,baz=311,slow=9.2,SNR=7.3
U15A **North Rim** 57.38 297 ⇑P P 01 50 30.0 +0.3
baz=57
HLID **Hailey** 57.49 305 *e*P P 01 50 30.9 +0.6
comp=Z,26nm,2.3s
HLID **Hailey** 57.49 305 ⇑P P 01 50 30.8 +0.6
baz=57
KIEV **Kiev** 57.57 46 *e*P P 01 50 29.5 -0.8
KIEV pmax pmax
comp=Z,6.0nm,0.9s
KIEV **Kiev** 57.57 46 *e*P P 01 50 29.5 -0.8
comp=Z,5.9nm,0.9s
AKASG **Malin Array Be** 57.58 46 P P 01 50 29.0 -1.4
AKASG **Malin Array Be** 57.58 46 P P 01 50 29.0 -1.4
AKASG **Malin Array Be** 57.58 46 P P 01 50 29.0 -1.4
comp=Z,3.6nm,0.9s,baz=275,slow=6.1,SNR=12
AKASG LR LR 02 13 30.6
comp=Z,221nm,18.7s,baz=285,slow=34
CCUT **Cedar City** 57.95 298 *e*P P 01 50 34.8 +1.1
comp=Z,14nm,1.3s
MFID **Camas Ranch** 58.53 305 ⇑P P 01 50 37.6 +0.1
baz=58
NEW **Newport** 58.56 311 *e*P P 01 50 37.8 +0.3
comp=Z,24nm,1.3s
NEW **Newport** 58.56 311 ⇓P P 01 50 37.6 +0.2
baz=58
NEW **Newport** 58.56 311 P P 01 50 37.6 +0.2
comp=Z,15nm,1.0s,baz=84,slow=5.4,SNR=16
Y14A **Wickenburg** 58.58 294 ⇑P P 01 50 38.2 +0.5
baz=58
ELK **Elko** 58.66 302 *e*P P 01 50 38.8 +0.3
Z14A **Wintersburg** 58.68 293 ⇓P P 01 50 38.9 +0.4
baz=59
214A **Organ Pipe Nat** 58.97 292 ⇓P P 01 50 40.7 +0.2
baz=59
W13A **Hualapai Mount** 58.97 296 ⇓P P 01 50 40.7 0.0
baz=59
F10A **Beach Ranch, E** 59.02 309 *e*P P 01 50 41.2 +0.5
comp=Z,80nm,2.7s
LPIG **La Paz** 59.34 282 LR LR 02 15 38.9
comp=Z,168nm,18.9s,baz=62,slow=35
PDMCI **Parker Dam,Lak** 59.38 295 ⇓P P 01 50 43.7 +0.4
baz=59
R11A **Troy Canyon, C** 59.47 300 *e*P P 01 50 44.8 +0.7

comp=Z,7.0nm,1.4s
R11A Troy Canyon, C 59.47 300 ⇓P P P 01 50 44.2 +0.2
baz=59
113A Mohawk Valley, 59.51 293 ⇑P P P 01 50 44.1 -0.1
baz=60
E09A Wood Farm, Sta 59.55 309 *e*P P P 01 50 47.3 +3.0
comp=Z,82nm,2.7s
Y12C Blythe 59.84 294 ⇑P P P 01 50 46.6 +0.2
baz=60
LDFC Landfair 59.94 296 *e*P P 01 50 55.9 +8.5
IRM Iron Mountain 60.23 295 ⇑P P P 01 50 49.0 -0.2
baz=60
GLA Glamis 60.28 294 ⇑P P P 01 50 49.4 -0.2
baz=60
G08A Pilot Rock 60.35 308 *e*P P P 01 50 49.9 -0.1
comp=Z,8.6nm,1.1s
J08A Circle Bar Ran 60.43 306 *e*P P P 01 50 51.4 +0.9
comp=Z,18nm,1.2s
GMRC Granite Mounta 60.46 296 ⇑P P P 01 50 51.2 +0.3
baz=60
TUQ Turquoise Moun 60.49 297 ⇑P P P 01 50 51.5 +0.5
baz=60
HAWA Hanford 60.51 309 *e*P P P 01 50 50.7 -0.2
comp=Z,11nm,1.0s
BC3 Big Chuckawall 60.61 294 ⇓P P P 01 50 52.4 +0.5
baz=61
BELC Belle Mtn. Jos 60.95 295 ⇑P P P 01 50 54.4 +0.2
baz=61
I07A Izee 60.99 307 *e*P P P 01 50 54.8 +0.5
comp=Z,16nm,1.7s
LTY Liberty 61.10 311 *e*P P P 01 50 54.8 -0.1
comp=Z,18nm,1.3s
OBN Obninsk 61.33 40⇑ *i*P P P 01 50 56.3 +0.1
OBN *i* 01 51 03.5
OBN pmax pmax
comp=Z,14nm,1.0s
OBN MLR MLR
comp=Z,100nm,15.0s
NV11 Mina Array Sit 61.40 300 *e*P P P 01 50 57.2 -0.1
PFO Pinyon Flat Ob 61.42 295 ⇑P P P 01 50 58.1 +0.6
baz=61
PFO Pinyon Flat Ob 61.42 295 LR LR 02 15 34.6
comp=Z,294nm,19.9s,baz=310,slow=34
NVAR Mina Array Bea 61.51 300 P P P 01 50 58.1 0.0
NVAR Mina Array Bea 61.51 300 P P P 01 50 58.1 0.0
comp=Z,3.4nm,1.0s,baz=74,slow=6.2,SNR=12
G06A Carlson Farm, 61.52 308 *e*P P P 01 50 58.8 +1.0
comp=Z,56nm,1.6s
MPMC Manual Prospec 61.54 298 ⇑P P P 01 50 58.6 +0.4
baz=62
MONP Monument Peak 61.61 294 ⇓P P P 01 50 59.3 +0.5
baz=62
KLMR Klimovskoe 61.92 33 *e*P P P 01 50 58.6 -1.5
KLMR pmax pmax
comp=Z,23nm,1.3s
PAHR Pah Rah Range 61.98 302 *e*P P P 01 51 01.1 0.0
comp=Z,28nm,1.3s
MOD Modoc 62.09 305 *e*P P P 01 51 02.6 +0.8
comp=Z,55nm,1.1s
EDW2 Edwards Air Fo 62.27 296 ⇑P P P 01 51 03.1 +0.1
baz=62
K05A Summer Lake 62.30 306 *e*P P P 01 51 04.2 +0.9
comp=Z,54nm,1.4s
ISA Isabella 62.42 297 *e*P P P 01 51 05.8 +1.8
ISA pmax pmax
comp=Z,15nm,1.8s
ISA Isabella 62.42 297 *e*P P P 01 51 05.8 +1.8
comp=Z,15nm,1.8s
ISA Isabella 62.42 297 ⇓P P P 01 51 04.3 +0.3
baz=62
H04A Detroit Lake 62.72 308 *e*P P P 01 51 06.3 +0.4
comp=Z,13nm,1.0s
BR131 Keskin Array S 62.85 58 *e*P P P 01 51 06.5 -0.4
comp=Z,5.2nm,0.8s
BRTR Keskin Array B 62.85 58 P P P 01 51 06.7 -0.3
BRTR Keskin Array B 62.85 58 P P P 01 51 06.7 -0.3
comp=Z,5.9nm,0.8s,baz=269,slow=5.3,SNR=38
BRTR LR LR 02 16 11.0
comp=Z,104nm,18.6s,baz=289,slow=34
LCO Las Campanas 63.13 207 *e*P P P 01 51 08.4 -0.5
NLWA Neilton Lookou 63.19 311 *e*P P P 01 51 09.8 +0.9
comp=Z,31nm,1.1s
CMB Columbia Colle 63.20 300 *e*P P P 01 51 10.3 +1.1
CMB pmax pmax
comp=Z,6.0nm,1.1s
CMB Columbia Colle 63.20 300 *e*P P P 01 51 10.3 +1.1
comp=Z,6.1nm,1.1s
INK Inuvik 63.59 335 *e*P P P 01 51 10.9 -0.2
comp=Z,18nm,1.2s
INK Inuvik 63.59 335 P P P 01 51 11.1 -0.1
comp=Z,7.2nm,1.0s,baz=89,slow=9.3,SNR=4.8
OHCM Honcut 63.65 302 *e*P P P 01 51 12.8 +0.7
VSR Storozhevoye 63.66 44 *e*P P P 01 51 10.5 -1.4
VSR pmax pmax
comp=Z,8.0nm,0.5s
VSR pmax pmax
comp=N,5.0nm,0.6s
VSR pmax pmax
comp=E,4.0nm,0.4s
VORD Divnogorie 63.80 44 *e*P P P 01 51 12.0 -0.8
VORD pmax pmax
comp=Z,10.0nm,1.1s
VORD pmax pmax
comp=E,9.0nm,0.8s
YBH Yreka Blue Hor 63.87 305 LR LR 02 17 32.8
comp=E,336nm,19.6s,baz=81,slow=35
CSS Prodhromos 64.01 63 *e*P P P 01 51 14.5 0.0
comp=E,7.9nm,0.9s
VRHR Novokhopersk 65.19 44 *e*P P P 01 51 21.8 -0.1
VRHR pmax pmax
comp=N,8.0nm,0.7s
VRHR pmax pmax
comp=Z,9.0nm,0.7s
VRHR pmax pmax
comp=E,3.0nm,0.4s
KIV Kislovodsk 68.02 51⇓ *i*P P P 01 51 41.8 +1.5
KIV pmax pmax
comp=Z,10.0nm,1.2s
KBZ Khabaz 68.24 51 P P P 01 51 42.2 +0.7
KBZ Khabaz 68.24 51 P P P 01 51 42.2 +0.7
KBZ Khabaz 68.24 51 P P P 01 51 42.2 +0.7
comp=Z,4.6nm,0.8s,baz=318,slow=3.9,SNR=7.5
KBZ LR LR 02 22 15.8
comp=Z,79nm,18.7s,baz=144,slow=37
TRQA Tornquist 68.75 196 *e*P P P 01 51 45.7 +1.2
comp=Z,3.8nm,0.8s
ZEI Tsey 69.25 52 *e*P P P 01 51 47.7 -0.4
ZEI pmax pmax
comp=Z,10.0nm,1.1s
ILAR Eielson Array 69.77 334 P P P 01 51 50.9 +0.2
ILAR Eielson Array 69.77 334 P P P 01 51 50.9 +0.2
comp=Z,5.4nm,1.0s,baz=69,slow=4.5,SNR=31
COLD Coldfoot 69.93 337 *e*P P P 01 51 52.3 +0.7
comp=Z,8.7nm,1.1s
COLA College 70.10 334 *e*P P P 01 51 52.8 +0.2
COLA pmax pmax
comp=Z,16nm,0.8s
COLA College 70.10 334 *e*P P P 01 51 52.8 +0.2
comp=Z,16nm,0.8s
GNI Garni 70.78 54 *e*P P P 01 51 58.3 +0.7
comp=Z,17nm,1.1s
MCK McKinley 71.02 333 *e*P P P 01 51 58.1 -0.3
MCK pmax pmax
comp=Z,8.0nm,1.2s
MCK McKinley 71.02 333 *e*P P P 01 51 58.1 -0.3
comp=Z,8.4nm,1.2s
H09W1 TRISTAN DA CUN 71.78 154 T T 03 10 19.7
SNR=20
ARU Arti 72.71 35*c* *i*P P P 01 52 08.9 +0.3
ARU 01 54 49.0
ARU S S 02 01 36.0 +2.6
ARU SS SS 02 06 07.8 -4.4
ARU pmax pmax
comp=Z,5.0nm,0.7s
SVE Sverdlovsk 73.56 34 *e*P P P 01 52 13.9 +0.3
SVE pmax pmax
comp=Z,12nm,1.2s
PLCA Paso Flores 73.62 201 *e*P P P 01 52 13.8 -0.3
comp=Z,8.5nm,1.0s
PLCA Paso Flores 73.62 201 P P P 01 52 14.3 +0.3
comp=Z,6.5nm,1.0s,baz=17,slow=5.2,SNR=7.2
PLCA LR LR 02 23 13.5
comp=Z,130nm,18.8s,baz=136,slow=35
AKTO Aktyubinsk 75.11 40 P P P 01 52 21.5 -1.2
AKTO Aktyubinsk 75.11 40 P P P 01 52 21.5 -1.2
AKTO Aktyubinsk 75.11 40 P P P 01 52 21.5 -1.2
comp=Z,4.5nm,0.8s,baz=306,slow=5.2,SNR=17

TSUM Tsumeb 75.83 121 *e*P P 01 52 28.0 +0.6
comp=Z,8.0nm,1.2s
ABKAR Akbulak array 76.76 41 *e*P P 01 52 32.3 +0.1
comp=Z,5.4nm,1.0s
RST Umm Al-Ruwaisa 76.77 64 *e*P P 01 52 32.8 +0.2
RST AMb AMB 01 52 34.9
comp=Z,186nm,1.0s
NAY Al-Naaiem 77.07 64 *e*P P 01 52 33.8 -0.6
NAY AMb AMB 01 52 35.6
comp=Z,21nm,1.0s
RDF Al-Radifah 77.45 64 *e*P P 01 52 34.0 -2.5
RDF AMb AMB 01 52 38.1
comp=Z,29nm,1.2s
BRVK Borovoye 80.27 34 *e*P P 01 52 52.0 +0.5
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BRVK Borovoye 80.27 34 *e*P P 01 52 52.0 +0.5
comp=Z,5.7nm,1.0s
BVAR Borovoye Array 80.34 34 P P 01 52 50.9 -1.0
BVAR Borovoye Array 80.34 34 P P 01 52 50.9 -1.0
BVAR Borovoye Array 80.34 34 P P 01 52 50.9 -1.0
comp=Z,2.8nm,0.7s,baz=298,slow=3.2,SNR=15
LSZ Lusaka 81.89 112 *e*P P 01 53 01.8 +1.1
comp=Z,33nm,1.9s
IKRD Kardeh 81.97 52 *e*P P 01 53 05.0 +3.8
KMBO Kilima Mbogo 82.40 95 *e*P P 01 53 06.1 +2.3
comp=Z,5.2nm,1.2s
KMBO Kilima Mbogo 82.40 95 P P 01 53 04.3 +0.6
comp=Z,0.6nm,0.3s,baz=226,slow=23,SNR=3.6
KMBO LR LR 02 28 00.7
comp=Z,544nm,21.2s,baz=279,slow=34
IMYA Miami 83.29 52 *e*P P 01 53 08.2 +0.2
LBTB Lobatse 85.24 122 *e*P P 01 53 17.9 0.0
comp=Z,5.9nm,0.9s
KURK Kurchatov 85.76 33*de*P P 01 53 20.0 0.0
KURK pmax pmax
comp=Z,9.0nm,2.5s
KURK Kurchatov 85.76 33 *e*P P 01 53 19.5 -0.5
comp=Z,7.1nm,1.3s
KURBB Kurchatov Arra 85.78 33 P P 01 53 19.6 -0.5
comp=Z,1.7nm,0.3s,baz=312,slow=5.6,SNR=9.0
ZALV Zalesovo Beam 86.25 28 P P 01 53 22.5 +0.2
ZALV Zalesovo Beam 86.25 28 P P 01 53 22.5 +0.2
ZALV Zalesovo Beam 86.25 28 P P 01 53 22.5 +0.2
comp=Z,0.7nm,0.6s,baz=284,slow=7.5,SNR=6.6
ZALV LR LR 02 30 58.5
comp=Z,56nm,20.0s,baz=251,slow=35
BOSA Boshof 87.04 125 LR LR 02 25 46.4
comp=Z,131nm,19.2s,baz=334,slow=31
EKS2 Erkin-Say 88.42 41 *e*P P 01 53 33.8 +0.6
EKS2 pmax pmax
comp=Z,5.0nm,1.2s
EKS2 Erkin-Say 88.42 41 *e*P P 01 53 33.8 +0.6
comp=Z,5.1nm,1.2s
AAK Ala-Archa 88.85 41 *e*P P 01 53 36.2 +0.9
AAK pmax pmax
comp=Z,2.0nm,0.7s
AAK Ala-Archa 88.85 41 *e*P P 01 53 36.1 +0.9
comp=Z,1.7nm,0.7s
AAK Ala-Archa 88.85 41 P P 01 53 35.2 -0.1
comp=Z,0.8nm,0.3s,baz=213,slow=6.1,SNR=4.2
TKM2 Tokmak 2 89.29 40 *e*P P 01 53 37.8 +0.4
TKM2 pmax pmax
comp=Z,2.0nm,0.7s
TKM2 Tokmak 2 89.29 40 *e*P P 01 53 37.8 +0.4
comp=Z,2.4nm,0.7s
MK31 Makanchi Array 90.22 34 *e*P P 01 53 41.7 +0.3
MK31 Makanchi Array 90.22 34 *e*P P 01 53 41.7 +0.3
MKAR Makanchi Array 90.22 34 P P 01 53 41.5 +0.1
MKAR Makanchi Array 90.22 34 P P 01 53 41.5 +0.1
MKAR Makanchi Array 90.22 34 P P 01 53 41.5 +0.1
comp=Z,2.8nm,1.0s,baz=319,slow=4.8,SNR=9.6
MKAR LR LR 02 32 23.6
comp=Z,109nm,20.2s,baz=354,slow=34
KSH Kashi 91.70 42 P P 01 53 48.1 -0.5
KSH pP pP 01 53 52.9 -0.4
WMQ Urumqi 95.00 33 *e*P P 01 54 05.1 +1.5
WMQ LR LR
comp=Z,150nm,20.8s
WMQ LR LR
comp=Z,82nm,23.8s
WMQ LR LR
comp=Z,88nm,23.8s
PETK Petropavlovsk- 96.36 347 LR LR 02 36 16.0
comp=Z,146nm,21.4s,baz=218,slow=35
HHC Hu-ho-hao-te 106.92 20 Pdif **Pdif** 01 54 56.5 -0.6
HHC PP **PP** 01 59 22.6 +0.7
HHC S **Sdif** 02 06 54.4 -4.1
HHC SS **SS** 02 14 27.8 +0.9
HHC PPMZ
comp=Z,66nm,7.8s
HHC LR LR
comp=Z,120nm,18.4s
CD2 Chengdu 112.89 30 PKP **PKiKP** 01 59 17.7 -0.6
GYA Guiyang 118.01 30 *e*Pdif **Pdif** 01 55 45.4 -1.3
GYA PKP **PKPdf** 01 59 27.6 -0.7
GYA PP **PP** 02 00 44.2 +2.7
GYA PPMZ
comp=Z,120nm,8.0s
CHTO Chiang Mai 120.32 42 *e*PKIKP **PKPdf** 01 59 32.7 -0.1
CHTO Chiang Mai 120.32 42 *e*PKPdf **PKPdf** 01 59 32.6 -0.1
CMAR Chiang Mai Arr 120.60 42 PKP **PKPdf** 01 59 33.0 -0.3
CMAR Chiang Mai Arr 120.60 42 PKP **PKPdf** 01 59 33.0 -0.3
comp=Z,3.1nm,0.8s,baz=294,slow=3.2,SNR=10
MAW Mawson 122.51 154 PKP **PKPdf** 01 59 34.3 -1.1
MAW Mawson 122.51 154 PKP **PKPdf** 01 59 34.3 -1.1
comp=Z,1.4nm,0.6s,baz=294,slow=10.0,SNR=3.4
VNDA Vanda 129.84 187 PKP **PKPdf** 01 59 49.2 +0.1
VNDA *e*PKPdf **PKiKP** 01 59 49.5 -0.5
VNDA Vanda 129.84 187 PKP **PKPdf** 01 59 49.2 +0.1
comp=Z,4.3nm,0.9s,baz=280,slow=1.3,SNR=12
PSI Prapat 132.14 55 PKP **PKPdf** 01 59 55.2 -0.4
PSI Prapat 132.14 55 PKP **PKPdf** 01 59 55.2 -0.4
comp=Z,4.4nm,0.7s,baz=301,slow=12,SNR=2.8
DZM Mont Dzumac 152.23 277 PKP **PKPdf** 02 00 29.4 -1.1
DZM PKPbc **PKPbc** 02 00 36.6 -0.5
DZM Mont Dzumac 152.23 277 PKP **PKPdf** 02 00 29.4 -1.1
comp=Z,10nm,1.1s,baz=133,slow=10,SNR=3.0
DZM PKPbc **PKPbc** 02 00 36.6 -0.5
comp=Z,10nm,0.7s,baz=101,slow=5.2,SNR=5.6
WRA Warramunga Arr 170.94 13 PKP **PKPdf** 02 00 48.8 -1.0
WRA Warramunga Arr 170.94 13 PKP **PKPdf** 02 00 48.8 -1.0
comp=Z,1.2nm,0.9s,baz=326,slow=1.2,SNR=5.4
ASAR Alice Springs 174.35 25 PKP **PKPdf** 02 00 50.3 -0.8
ASAR Alice Springs 174.35 25 PKP **PKPdf** 02 00 50.3 -0.8
comp=Z,1.3nm,1.0s,baz=40,slow=2.1,SNR=8.4

IDC ***10*** *01:42:13.2±0.8, 47.42N×154.24E, h0km, mb3.9/14, mb1 4.1/16, mb1mx4.0/27, mbtmp3.9/16, ML4.0/2, MS3.2/6, Ms1 3.2/6, ms1mx3.0/41, Error ellipse: s-maj=20.5km s-min=15.6km az=138.0*
ISCJB ***10*** *01:42:15.8±0.4, 47.30N±0.06×154.39E±0.08, h31km, mb4.2/31, MS3.1/4, Error ellipse: s-maj=11.4km s-min=4.0km az=138.3*
NEIC ***10*** *01:42:16.7±2.6, 47.42N×154.36E, h24km±19km, mb4.5/12, Error ellipse: s-maj=12.3km s-min=6.9km az=151.0*
MOS ***10*** *01:42:16.8±1.2, 47.46N×154.46E, h41km, mb4.5/20, Error ellipse: s-maj=12.7km s-min=9.3km az=60.5*
ISC 10 01:42:17.1±0.6, 47.30N±0.09×154.43E±0.07, h31km, n126, σ1 s40/112, mb4.2/31, MS3.1/4, 6C-8D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	h m s	ISC Res
SKR	**Severo-Kuril's**	**3.57**	**18**	*e*PN		Pn		01 43 02.6	-7.7
SKR	comp=N,60nm,0.5s			pmax	pmax				
SKR	comp=Z,80nm,0.5s			pmax	pmax				
KUR	**Kuril'sk**	**5.00**	**248**	⇓ *i*PN		Pn		01 43 35.2	+5.3
PETK	**Petropavlovsk-**	**6.18**	**19**	PN		**Pn**		**01 43 45.9**	**-0.3**
PETK								01 44 55.1	
PETK	comp=Z,1.0nm,0.3s			pmax	pmax				
PETK	**Petropavlovsk-**	**6.18**	**19**	Pn		**Pn**		**01 43 45.9**	**-0.3**
PETK				Sn		**Sn**		**01 44 55.1**	**-0.7**
PETK	**Petropavlovsk-**	**6.18**	**19**	Pn		**Pn**		**01 43 45.9**	**-0.3**
PETK	comp=Z,1.3nm,0.3s,baz=178,slow=16,SNR=3.9			Sn		**Sn**		**01 44 55.1**	**-0.7**
PETK	comp=Z,0.4nm,0.3s,baz=216,slow=26,SNR=2.7			LR		LR		01 46 19.4	
YUK	**Yuzh-Kuril'sk**	**6.83**	**245**	*d* iPN		Pn		01 43 58.7	+3.6
YUK	comp=N,40nm,0.2s			pmax	pmax				
YUK	comp=E,24nm,0.2s			pmax	pmax				
YUK	comp=Z,153nm,0.2s			pmax	pmax				
YUK	comp=N,988nm,2.1s			pmax	pmax				
YUK	comp=E,824nm,2.1s			pmax	pmax				
NEM2	**Nemuro 2**	**7.28**	**240**	P		**Pn**		**01 44 02.6**	**+1.4**
NEM2				*e*S		**Sn**		**01 45 21.0**	**-1.7**
JRA	**Rausu**	**7.34**	**246**	P		Pn		01 44 06.0	+3.9
JNK	**Nakash**	**7.77**	**245**	P		Pn		01 44 11.3	+3.2
YSS	**Yuzh-Sakhalins**	**7.97**	**272**	⇑ *e*PN		Pn		01 44 18.0	+7.2
JTKR	**Abashiri--Toko**	**8.09**	**250**	P		Pn		01 44 16.4	+4.0
JAK	**Akkeshi**	**8.11**	**242**	P		**Pn**		**01 44 14.1**	**+1.4**
JAK				*e*S		**Sn**		**01 45 41.1**	**-2.2**
JMP	**Maruseppu**	**8.42**	**251**	P		Pn		01 44 21.9	+4.9
JAR	**Ashorobuto**	**8.51**	**246**	P		Pn		01 44 21.4	+3.2
JAR				*e*S		**Sn**		**01 45 54.4**	**+1.3**
JOB	**Onbets**	**8.69**	**243**	P		**Pn**		**01 44 22.8**	**+2.2**
ASAJ	**Asahikawa**	**8.87**	**253**	P		Pn		01 44 28.4	+5.3
ASAJ	**Asahikawa**	**8.87**	**253**	Pn		**Pn**		**01 44 25.6**	**+2.5**
ASAJ	**Asahikawa**	**8.87**	**253**	Pn		**Pn**		**01 44 25.6**	**+2.5**
	comp=E,3.4nm,0.3s,baz=99,slow=12,SNR=9.7								
ASAJ				LR		LR		01 47 30.9	
	comp=E,125nm,21.2s,baz=0.7,slow=36								
JKK2	**Kamakawa 2**	**8.88**	**252**	P		Pn		01 44 27.9	+4.7
JCH	**Churui**	**9.13**	**243**	P		**Pn**		**01 44 28.1**	**+1.4**
JCH				*e*S		**Sn**		**01 46 04.2**	**-4.2**
JBT2	**Biratori 2**	**9.66**	**247**	P		**Pn**		**01 44 36.2**	**+2.3**
JNBK	**Urakawa-nobuka**	**9.70**	**243**	P		**Pn**		**01 44 34.9**	**+0.5**
JNBK				*e*S		**Sn**		**01 46 17.2**	**-5.0**
JNB	**Noboribetsu**	**10.65**	**248**	P		**Pn**		**01 44 49.2**	**+1.7**
JSH	**Shimam**	**11.20**	**251**	P		**Pn**		**01 44 57.8**	**+2.8**
JYM2	**Yakumo 2**	**11.26**	**248**	P		**Pn**		**01 44 57.5**	**+1.7**
JSR	**Shiriuchi**	**11.55**	**245**	P		**Pn**		**01 44 59.7**	**-0.1**
JTM	**Tenmabayashi**	**11.60**	**241**	P		**Pn**		**01 45 00.4**	**-0.1**
JTM				*e*S		Sn		01 47 01.3	-7.6
JANG	**Nango**	**11.61**	**238**	P		**Pn**		**01 44 59.3**	**-1.3**
JANG				*e*S		Sn		01 46 59.6	-9.4
OFUJ	**Ofunato**	**12.40**	**233**	P		**Pn**		**01 45 10.0**	**-1.5**
JRG	**Rokugo**	**12.76**	**237**	P		**Pn**		**01 45 15.9**	**-0.5**
JRG				*e*S		Sn		01 47 31.3	-6.0
JIO	**Ouri**	**13.03**	**232**	P		**Pn**		**01 45 18.7**	**-1.3**
JIO				*e*S		Sn		01 47 35.1	-8.7
FX1	**Attu Island--F**	**13.25**	**58**	Pn		**Pn**		**01 45 20.9**	**-2.0**
FX1				Sn		Sn		01 47 33.8	-15
FX1	**Attu Island--F**	**13.25**	**58**	Pn		**Pn**		**01 45 20.9**	**-2.0**
	comp=E,3.8nm,0.3s,baz=175,slow=2.0,SNR=6.5								
FX1				Sn		Sn		01 47 33.8	-15
	comp=E,3.7nm,0.3s,baz=246,slow=20,SNR=5.4								
USRK	**Ussuriysk Arra**	**15.96**	**267**	Pn		**Pn**		**01 46 00.5**	**+1.3**
	comp=E,0.3nm,0.3s,baz=70,slow=12,SNR=8.2								
MAJO	**Matsushiro**	**16.13**	**234**	*e*P		**Pn**		**01 46 01.3**	**-0.2**
MAJO				pmax	pmax				
	comp=Z,13nm,1.0s								
MAJO	**Matsushiro**	**16.13**	**234**	*e*Pn		**Pn**		**01 46 01.3**	**-0.2**
	comp=Z,13nm,1.0s								
KSRS	**Korea Array**	**21.82**	**253**	P		**P**		**01 47 07.9**	**+1.2**
	comp=Z,5.7nm,0.8s,baz=51,slow=11,SNR=13								
KSRS				LR		LR		01 54 24.1	
	comp=Z,29nm,19.5s,baz=158,slow=34								
KSAR	**Wonju Array Be**	**21.85**	**253**	P		**P**		**01 47 07.9**	**+0.9**
JNU	**Nakatsue**	**22.77**	**240**	LR		LR		01 55 43.3	
	comp=Z,68nm,21.4s,baz=58,slow=36								
H11N2	**WAKE ISLAND Hy**	**29.32**	**155**	T		T		02 20 16.4	
	baz=344,slow=0.7,SNR=133								
H11N1	**WAKE ISLAND Hy**	**29.33**	**155**	T		T		02 20 16.9	
	baz=344,slow=0.7,SNR=128								
H11N3	**WAKE ISLAND Hy**	**29.33**	**155**	T		T		02 20 20.4	
	baz=344,slow=0.7,SNR=96								
H11S1	**WAKE ISLAND Hy**	**30.43**	**157**	T		T		02 21 25.7	
	baz=347,slow=0.7,SNR=293								
H11S3	**WAKE ISLAND Hy**	**30.45**	**157**	T		T		02 21 29.4	
	baz=347,slow=0.7,SNR=201								
H11S2	**WAKE ISLAND Hy**	**30.45**	**157**	T		T		02 21 26.5	
	baz=347,slow=0.7,SNR=238								
SONM	**Songino Array**	**32.00**	**289**	P		**P**		**01 48 39.6**	**-1.0**
SONM	**Songino Array**	**32.00**	**289**	P		**P**		**01 48 39.6**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=64,slow=9.8,SNR=4.6								
SONM				LR		LR		02 02 28.0	
	comp=Z,65nm,18.9s,baz=161,slow=38								
COLA	**College**	**35.15**	**39**	*e*P		**P**		**01 49 07.2**	**-0.3**
COLA				pmax	pmax				
	comp=Z,19nm,0.9s								
COLA	**College**	**35.15**	**39**	*e*P		**P**		**01 49 07.2**	**-0.3**
	comp=Z,19nm,0.9s								
ILAR	**Eielson Array**	**35.56**	**39**	P		**P**		**01 49 11.2**	**+0.1**
ILAR	**Eielson Array**	**35.56**	**39**	P		**P**		**01 49 11.2**	**+0.1**
	comp=Z,0.2nm,0.9s,baz=282,slow=6.3,SNR=2.9								
ZALV	**Zalesovo Beam**	**43.02**	**306**	*e*P		**P**		**01 50 12.5**	**-0.9**
ZALV				pmax	pmax				
	comp=Z,1.0nm,0.6s								
ZALV	**Zalesovo Beam**	**43.02**	**306**	P		**P**		**01 50 11.8**	**-1.6**
ZALV	**Zalesovo Beam**	**43.02**	**306**	P		**P**		**01 50 11.8**	**-1.6**
	comp=Z,1.0nm,0.6s,baz=60,slow=8.8,SNR=6.5								
ZALV				LR		LR		02 08 19.0	
	comp=Z,32nm,19.6s,baz=70,slow=36								
MK31	**Makanchi Array**	**47.49**	**297**	*e*P		**P**		**01 50 48.0**	**-1.0**
MK31	**Makanchi Array**	**47.49**	**297**	*e*P		**P**		**01 50 48.0**	**-1.0**
MKAR	**Makanchi Array**	**47.49**	**297**	*e*P		**P**		**01 50 48.2**	**-0.8**
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
MKAR	**Makanchi Array**	**47.49**	**297**	P		**P**		**01 50 48.3**	**-0.8**
MKAR	**Makanchi Array**	**47.49**	**297**	P		**P**		**01 50 48.3**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=68,slow=9.7,SNR=5.7								
KURK	**Kurchatov**	**47.81**	**304**	⇓ *i*P		**P**		**01 50 51.2**	**-0.2**
KURK				pmax	pmax				
	comp=Z,2.0nm,0.8s								
YKW3	**Yellowknife Ar**	**49.91**	**37**	*e*P		**P**		**01 51 08.9**	**+1.7**
RES	**Resolute Bay**	**50.03**	**19**	*e*P		**P**		**01 51 07.3**	**-0.7**
	comp=Z,14nm,1.2s								
BVAR	**Borovoye Array**	**51.20**	**310**	P		**P**		**01 51 16.1**	**-1.1**
BVAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
BVAR	**Borovoye Array**	**51.20**	**310**	P		**P**		**01 51 16.1**	**-1.1**
BVAR	**Borovoye Array**	**51.20**	**310**	P		**P**		**01 51 16.1**	**-1.1**
	comp=Z,1.4nm,0.6s,baz=46,slow=8.5,SNR=9.4								
BRVK	**Borovoye**	**51.24**	**310**	*e*P		**P**		**01 51 16.7**	**-0.8**
BRVK				pmax	pmax				
	comp=Z,9.0nm,1.1s								
BRVK	**Borovoye**	**51.24**	**310**	*e*P		**P**		**01 51 16.7**	**-0.8**
	comp=Z,9.2nm,1.1s								
TKM2	**Tokmak 2**	**53.56**	**296**	*e*P		**P**		**01 51 35.3**	**+0.1**
TKM2				pmax	pmax				
	comp=Z,5.0nm,1.1s								
TKM2	**Tokmak 2**	**53.56**	**296**	*e*P		**P**		**01 51 35.3**	**+0.1**
	comp=Z,4.7nm,1.1s								
AAK	**Ala-Archa**	**54.40**	**297**	*e*P		**P**		**01 51 41.4**	**+0.2**
AAK				pmax	pmax				
	comp=Z,11nm,1.5s								
AAK	**Ala-Archa**	**54.40**	**297**	*e*P		**P**		**01 51 41.4**	**+0.2**
	comp=Z,12nm,1.5s								
KEV	**Kevo**	**57.12**	**341**	*e*p		P		01 52 12.3	+12
	comp=Z,20nm,1.2s								
WVOR	**Wild Horse Val**	**58.70**	**60**	*e*P		**P**		**01 52 11.4**	**-0.3**
WVOR				pmax	pmax				
	comp=Z,8.0nm,1.4s								
WVOR	**Wild Horse Val**	**58.70**	**60**	*e*P		**P**		**01 52 11.4**	**-0.3**
	comp=Z,8.5nm,1.4s								
ABKAR	**Akbulak array**	**58.76**	**310**	*e*P		**P**		**01 52 11.3**	**-0.6**
	comp=Z,4.6nm,0.9s								
SUMG	**Summit**	**60.09**	**4**	*i* P		**P**		**01 52 22.8**	**+1.6**
SUMG				pmax	pmax				
	comp=Z,8.0nm,0.8s								
SUMG	**Summit**	**60.09**	**4**	*i* P		**P**		**01 52 22.8**	**+1.6**
	comp=Z,7.7nm,0.8s								
JOF	**Joensuu**	**61.24**	**334**	*e*p		**P**		**01 52 27.8**	**-0.8**
	comp=Z,0.4nm,0.3s								
DUG	**Dugway**	**63.52**	**59**	*e*P		**P**		**01 52 45.0**	**+0.5**
DUG				pmax	pmax				
	comp=Z,3.0nm,1.1s								
DUG	**Dugway**	**63.52**	**59**	*e*P		**P**		**01 52 45.0**	**+0.5**
	comp=Z,3.4nm,1.1s								
BW06	**Boulder Array**	**63.69**	**55**	*e*P		**P**		**01 52 46.3**	**+0.6**
	comp=Z,3.6nm,1.2s								
FINES	**FINESS Array B**	**63.92**	**335**	P		**P**		**01 52 45.7**	**-0.9**
FINES	**FINESS Array B**	**63.92**	**335**	P		**P**		**01 52 45.7**	**-0.9**
	comp=Z,2.1nm,0.6s,baz=38,slow=7.5,SNR=15								
NB2	**NORSAR Subarra**	**68.00**	**342**	P		**P**		**01 53 13.3**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=26,slow=6.5								
NOA	**NORSAR Array B**	**68.00**	**342**	P		**P**		**01 53 12.9**	**+0.1**
NOA	**NORSA

WRAB	**Tennant Creek**	**69.32 200**	*e*P		**P**	**01 53 22.2**	**+0.8**
WRAB			pmax	pmax			
	comp=Z,11nm,1.3s						
WRAB	**Tennant Creek**	**69.32 200**	*e*P		**P**	**01 53 22.2**	**+0.8**
	comp=Z,11nm,1.3s						
WRA	**Warramunga Arr**	**69.33 200**	P		**P**	**01 53 22.1**	**+0.6**
WRA	**Warramunga Arr**	**69.33 200**	P		**P**	**01 53 22.1**	**+0.6**
	comp=Z,1.8nm,0.9s,baz=17,slow=6.6,SNR=8.9						
TUC	**Tucson**	**70.02 64**	*e*P		**P**	**01 53 26.6**	**+0.6**
TUC			pmax	pmax			
	comp=Z,1.0nm,0.6s						
TUC	**Tucson**	**70.02 64**	*e*P		**P**	**01 53 26.6**	**+0.6**
	comp=Z,0.7nm,0.6s						
AKASG	**Malin Array Be**	**71.59 327**	*e*P		**P**	**01 53 33.6**	**-1.4**
AKASG			pmax	pmax			
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**71.59 327**	P		**P**	**01 53 34.0**	**-1.0**
AKASG	**Malin Array Be**	**71.59 327**	P		**P**	**01 53 34.0**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=34,slow=6.2,SNR=8.3						
ASAR	**Alice Springs**	**73.02 200**	P		**P**	**01 53 45.0**	**+1.3**
ASAR	**Alice Springs**	**73.02 200**	P		**P**	**01 53 45.0**	**+1.3**
	comp=Z,1.8nm,0.9s,baz=13,slow=5.0,SNR=9.7						
BUR08	**Bucovina Ar. S**	**75.60 327**	*e*P		**P**	**01 53 59.5**	**+0.7**
BURAR	**Bucovina Array**	**75.62 327**	*i*P		**P**	**01 53 58.2**	**-0.7**
TESR	**Tescani**	**76.00 326**	*i*P		**P**	**01 54 01.9**	**+0.9**
TRPA	**Tarpa**	**76.15 329**	*i*P		**P**	**01 54 02.9**	**+1.2**
UPC	**Upice**	**76.19 334**	*e*P		**P**	**01 54 02.9**	**+0.9**
DPC	**Dobruska-Polom**	**76.23 334**	*e*P		**P**	**01 54 03.6**	**+1.3**
CLL	**Collm**	**76.33 336**	*e*P		**P**	**01 54 03.0**	**+0.3**
CLL	**Collm**	**76.33 336**	*e*P		**P**	**01 54 03.0**	**+0.3**
	comp=Z,9.0nm,1.0s						
CLL			*es*P		**sP**	**01 54 13.0**	**-3.1**
CLL			*i* pPcP			01 54 21.8	
	comp=Z,11nm,1.3s						
TXAR	**Lajitas Array**	**76.44 62**	P		**P**	**01 54 06.8**	**+2.9**
TXAR	**Lajitas Array**	**76.44 62**	P		**P**	**01 54 06.8**	**+2.9**
	comp=Z,0.2nm,0.8s,baz=338,slow=6.8,SNR=2.6						
BRG	**Berggiesshubel**	**76.46 336**	*e*P		**P**	**01 54 04.4**	**+0.9**
	comp=Z,9.4nm,1.4s						
BRG	**Berggiesshubel**	**76.46 336**	*e*P		**P**	**01 54 04.4**	**+0.9**
BRG			pmax	pmax			
	comp=Z,9.0nm,1.4s						
VRAC	**Vranov**	**77.07 333**	*i*P		**P**	**01 54 08.7**	**+1.7**
PRU	**Pruhonice**	**77.08 335**	*e*P		**P**	**01 54 08.3**	**+1.3**
MLR	**Muntele Rosu**	**77.13 326**	*i*P		**P**	**01 54 09.1**	**+1.6**
DRGR		**77.23 328**	*i*P		**P**	**01 54 09.0**	**+1.0**
TREC	**Trest**	**77.42 334**	*e*P		**P**	**01 54 10.2**	**+1.2**
VOIR		**77.52 326**	*i*P		**P**	**01 54 11.2**	**+1.6**
ARR	**Arges**	**77.73 326**	*i*P		**P**	**01 54 13.4**	**+2.6**
KHC	**Kasperske Hory**	**78.13 335**	*e*P		**P**	**01 54 13.9**	**+1.0**
GERES	**GERESS Array B**	**78.35 335**	P		**P**	**01 54 15.3**	**+1.1**
GERES	**GERESS Array B**	**78.35 335**	P		**P**	**01 54 15.3**	**+1.1**
	comp=Z,1.2nm,0.8s,baz=28,slow=6.0,SNR=11						
BRTR	**Keskin Array B**	**78.60 317**	P		**P**	**01 54 16.8**	**+0.9**
BRTR	**Keskin Array B**	**78.60 317**	P		**P**	**01 54 16.8**	**+0.9**
	comp=Z,1.2nm,0.9s,baz=82,slow=2.6,SNR=5.5						
BZS	**Buzias**	**78.63 328**	*i*P		**P**	**01 54 16.3**	**+0.6**
VTS	**Vitosha**	**80.63 326**	*i*P		**P**	**01 54 28.3**	**+1.5**
H03N2	**Juan Fernandez**	**137.85 91**	T		T	04 35 12.6	
	baz=307,slow=0.7,SNR=12						
H03N1	**Juan Fernandez**	**137.87 91**	T		T	04 35 13.8	
	baz=307,slow=0.7,SNR=18						
H03N3	**Juan Fernandez**	**137.87 91**	T		T	04 35 14.1	
	baz=307,slow=0.7,SNR=14						

IDC 10 01:51:38.6±1.6, 11°72S×165°08E, h0km, mb3.7/4, mb1 4.1/5, mb1mx3.7/18, mbtmp3.9/5, ML4.3/1, Error ellipse: s-maj=48.0km s-min=29.8km az=133.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.38**	**173**	Pn	Pn	01 54 08.5	-0.4
	2.2nm,0.3s,baz=343,slow=15,SNR=18						
WRA	**Warramunga Arr**	**30.64**	**251**	P	P	01 57 55.5	+0.6
	1.2nm,0.9s,baz=78,slow=9.1,SNR=5.1						
ASAR	**Alice Springs**	**31.93**	**244**	P	P	01 58 05.8	-0.3
	0.5nm,0.7s,baz=72,slow=9.5,SNR=7.9						
FITZ	**Fitzroy Crossi**	**38.58**	**256**	P	P	01 59 03.2	-0.4
	1.4nm,0.9s,baz=68,slow=11,SNR=2.3						
ILAR	**Eielson Array**	**84.36**	**19**	P	P	02 04 12.4	+0.1
	0.6nm,0.6s,baz=242,slow=5.2,SNR=9.6						

IDC 10 02:03:10.3±2.7, 17°21S×173°26W, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.8/19, mbtmp3.7/5, ML2.3/1, Error ellipse: s-maj=120.8km s-min=24.9km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.58**	**24**	Pn	Pn	02 04 07.7	+0.5
	16nm,0.3s,baz=222,slow=14,SNR=11						
AFI				Sn	Sn	02 04 41.1	-9.1
	57nm,0.3s,baz=264,slow=18,SNR=12						
WRA	**Warramunga Arr**	**49.58**	**258**	P	P	02 12 02.9	-0.8
	0.5nm,0.9s,baz=95,slow=8.4,SNR=5.1						
ASAR	**Alice Springs**	**49.70**	**253**	P	P	02 12 05.1	+0.5
	2.6nm,0.6s,baz=88,slow=8.5,SNR=48						
NVAR	**Mina Array Bea**	**75.58**	**42**	P	P	02 14 57.4	0.0
	0.2nm,0.5s,baz=219,slow=5.6,SNR=2.6						
ILAR	**Eielson Array**	**84.18**	**11**	P	P	02 15 42.7	-0.4
	0.3nm,0.6s,baz=190,slow=4.6,SNR=2.8						

IDC 10 02:07:49.5±0.8, 28°86S×178°88W, h420km±9km, mb3.0/2, mb1 3.2/3, mb1mx2.9/15, mbtmp3.0/3, Error ellipse: s-maj=39.4km s-min=27.3km az=166.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.93**	**115**	P	P	02 08 43.4	+0.9
	132nm,0.3s,baz=16,slow=20,SNR=9.5						
RAO				S	S	02 09 25.0	-0.3
	130nm,0.3s,baz=307,slow=20,SNR=2.5						
URZ	**Urewera**	**9.96**	**199**	P	P	02 10 05.6	-0.5
	0.6nm,0.3s,baz=14,slow=15,SNR=2.1						
URZ				S	S	02 12 11.7	+13
	2.1nm,0.3s,baz=316,slow=6.8,SNR=8.1						
ASAR	**Alice Springs**	**42.45**	**266**	P	P	02 15 06.3	+0.5
	0.5nm,0.6s,baz=96,slow=8.1,SNR=5.1						
WRA	**Warramunga Arr**	**43.29**	**271**	P	P	02 15 11.9	-0.6
	1.2nm,0.5s,baz=109,slow=8.1,SNR=39						
FINES	**FINESS Array B**	**143.44**	**340**	PKP	PKPab	02 26 32.0	-0.1
	1.8nm,0.9s,baz=3.3,slow=4.9,SNR=3.2						
NOA	**NORSAR Array B**	**147.11**	**351**	PKPbc	PKPbc	02 26 42.5	-1.0
	0.7nm,0.8s,baz=16,slow=4.6,SNR=2.9						
AKASG	**Malin Array Be**	**149.61**	**324**	PKPbc	PKPbc	02 26 49.7	-0.3
	0.6nm,0.5s,baz=47,slow=4.8,SNR=4.2						
BRTR	**Keskin Array B**	**151.17**	**301**	PKPbc	PKPbc	02 26 54.7	+0.5
	0.2nm,0.4s,baz=59,slow=0.8,SNR=3.2						
TORD	**Torodi Ar. Bea**	**164.36**	**182**	PKPab	PKPab	02 28 01.1	-0.1
	0.3nm,0.9s,baz=183,slow=2.5,SNR=2.5						

IDC 10 02:16:09.2±1.3, 13°77S×166°42E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.8/17, mbtmp3.8/7, ML3.4/1, Error ellipse: s-maj=48.1km s-min=25.4km az=123.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.25**	**180**	*e*LR	LR	02 32 24.2	
	368nm,25.9s						
DZM	**Mont Dzumac**	**8.25**	**180**	Pn	Pn	02 18 11.5	+1.1
	0.5nm,0.3s,baz=308,slow=18,SNR=4.6						
DZM				Sn	Sn	02 19 41.2	-3.3
	0.3nm,0.3s,baz=352,slow=15,SNR=1.9						
STKA	**Stephens Creek**	**29.01**	**227**	P	P	02 22 11.3	+0.4
	1.4nm,0.7s,baz=70,slow=12,SNR=2.6						
WRA	**Warramunga Arr**	**31.28**	**254**	P	P	02 22 30.7	-0.4
	0.5nm,0.8s,baz=83,slow=8.3,SNR=3.9						
ASAR	**Alice Springs**	**32.26**	**247**	P	P	02 22 39.5	-0.4
	0.7nm,0.8s,baz=74,slow=9.6,SNR=3.7						
SONM	**Songino Array**	**81.25**	**324**	P	P	02 28 28.7	+1.4
	0.2nm,0.6s,baz=155,slow=10,SNR=2.4						
ILAR	**Eielson Array**	**85.88**	**18**	P	P	02 28 50.7	+0.2
	0.6nm,0.5s,baz=232,slow=5.5,SNR=12						
MKAR	**Makanchi Array**	**95.95**	**317**	P	P	02 29 38.1	-0.1
	0.2nm,0.6s,baz=90,slow=6.3,SNR=3.4						
ARCES	**ARCESS Array B**	**119.12**	**345**	PKP	PKPdf	02 34 57.5	-2.1
	5.4nm,0.9s,baz=20,slow=2.9,SNR=5.8						
KEST	**Kesra**	**149.96**	**321**	PKPbc	PKPbc	02 36 02.4	+0.2
	0.7nm,0.8s,baz=74,slow=7.4,SNR=3.4						
TORD	**Torodi Ar. Bea**	**165.13**	**269**	PKP	PKPdf	02 36 15.4	-1.1
	0.3nm,0.7s,baz=62,slow=1.0,SNR=3.4						

IDC 10 02:17:04.7±4.5, 46°31N×27°86W, h0km, mb3.5/2, mb1 3.4/3, mb1mx3.2/31, mbtmp3.3/3, ML4.4/1, Error ellipse: s-maj=108.9km s-min=44.7km az=75.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**18.66**	**102**	P	Pn	02 21 24.2	-0.1
	0.3nm,0.3s,baz=300,slow=13,SNR=6.0						
TORD	**Torodi Ar. Bea**	**41.39**	**133**	P	P	02 24 52.5	-0.2
	0.5nm,0.8s,baz=324,slow=8.6,SNR=4.0						
H10N2	**ASCENSION HYDR**	**55.20**	**164**	T	T	03 26 00.3	
	baz=323						
H10N3	**ASCENSION HYDR**	**55.22**	**164**	T	T	03 26 00.4	
	baz=323						
H10N1	**ASCENSION HYDR**	**55.22**	**164**	T	T	03 26 01.6	
	baz=323						
H10S1	**ASCENSION HYDR**	**56.26**	**164**	T	T	03 27 00.8	
	baz=322						
H10S3	**ASCENSION HYDR**	**56.27**	**164**	T	T	03 27 02.4	
	baz=322						
H10S2	**ASCENSION HYDR**	**56.28**	**164**	T	T	03 27 01.8	
	baz=322						
MKAR	**Makanchi Array**	**68.92**	**44**	P	P	02 28 11.2	0.0
	0.4nm,0.7s,baz=331,slow=7.3,SNR=4.4						

IDC 10 02:23:44.6±5.5, 10°34S×160°86E, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.5/17, mbtmp3.7/2, Error ellipse: s-maj=103.0km s-min=34.1km az=83.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.27**	**315**	Pn	Pn	02 24 09.7	0.0
	39nm,0.3s,baz=172,slow=14,SNR=10						
HNR				Sn	Sn	02 24 35.1	+7.6
	65nm,0.3s,baz=144,slow=22,SNR=5.3						
WRA	**Warramunga Arr**	**27.28**	**246**	P	P	02 29 31.5	+0.4
	0.4nm,0.3s,baz=75,slow=9.3,SNR=21						
ASAR	**Alice Springs**	**28.91**	**239**	P	P	02 29 45.0	-0.6
	0.3nm,0.6s,baz=64,slow=10,SNR=4.7						
H11S2	**WAKE ISLAND Hy**	**29.22**	**11**	T	T	02 58 34.7	
	baz=196						
H11S3	**WAKE ISLAND Hy**	**29.22**	**11**	T	T	02 58 32.9	
	baz=196						
H11S1	**WAKE ISLAND Hy**	**29.24**	**11**	T	T	02 58 39.9	
	baz=196						
H11N1	**WAKE ISLAND Hy**	**30.45**	**11**	T	T	03 00 00.8	
	baz=194,slow=0.7,SNR=4.9						
H11N3	**WAKE ISLAND Hy**	**30.46**	**11**	T	T	03 00 01.5	
	baz=194,slow=0.7,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**30.47**	**11**	T	T	03 00 02.2	
	baz=194,slow=0.7,SNR=6.6						
TORD	**Torodi Ar. Bea**	**159.41**	**280**	PKPab	PKPab	02 44 23.6	-0.4
	0.2nm,0.4s,baz=83,slow=3.0,SNR=4.4						

IDC ***10*** *02:27:08.7±1.7, 12°05S×166°77E, h0km, mb4.2/6, mb1 4.4/7, mb1mx4.0/18, mbtmp4.3/7, ML4.8/1, MS3.5/6, Ms1 3.5/6, ms1mx3.3/26, Error ellipse: s-maj=50.7km s-min=27.4km az=132.0*

NEIC ***10*** *02:27:15.7±0.6, 11°79S×166°57E, h35km, mb4.4/6, Error ellipse: s-maj=14.0km s-min=12.6km az=112.0*

ISCJB ***10*** *02:27:19.7±0.7, 11°91S±0°09×166°33E±0°09, h83km, mb4.1/10, Error ellipse: s-maj=14.4km s-min=10.1km az=38.4*

ISC 10 02:27:20.9±0.7, 11°97S±0°08×166°37E±0°09, h83km, n29, σ1°19/32, mb4.2/10, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.80**	**291**	Pn	**Pn**	**02 28 56.3**	**-1.8**
HNR				Sn	**Sn**	**02 30 13.2**	**-0.9**
HNR	**Honiara**	**6.80**	**291**	Pn	**Pn**	**02 28 56.3**	**-1.8**
	14nm,0.3s,baz=149,slow=12,SNR=3.0						
HNR				Sn	**Sn**	**02 30 13.2**	**-0.9**
	15nm,0.3s,baz=198,slow=20,SNR=3.0						
DZM	**Mont Dzumac**	**10.04**	**180**	*e*Pn	**Pn**	**02 29 40.8**	**-1.6**
DZM				Sn	**Sn**	**02 31 31.5**	**-2.0**
DZM	**Mont Dzumac**	**10.04**	**180**	Pn	**Pn**	**02 29 43.3**	**+0.8**
	0.4nm,0.3s,baz=87,slow=17,SNR=8.6						
DZM				Sn	**Sn**	**02 31 31.5**	**-2.0**
	0.3nm,0.3s,baz=94,slow=19,SNR=2.9						
PMG	**Port Moresby**	**19.05**	**276**	LR	LR	02 37 59.1	
	comp=Z,176nm,19.8s,baz=149,slow=33						
EIDS	**Eidsvold**	**19.66**	**225**	*e*P	**Pn**	**02 31 46.3**	**+0.9**
	11nm,0.9s						
AFI	**Afiamalu**	**21.38**	**98**	LR	LR	02 38 12.5	
	comp=Z,172nm,19.6s,baz=12,slow=32						
COEN	**Coen**	**22.69**	**262**	*e*P	**P**	**02 32 17.4**	**+1.5**
STKA	**Stephens Creek**	**30.21**	**225**	*e*P	**P**	**02 33 25.0**	**+1.3**
	1.4nm,0.9s						
STKA	**Stephens Creek**	**30.21**	**225**	P	**P**	**02 33 24.4**	**+0.7**
	4.7nm,0.8s,baz=38,slow=6.7,SNR=7.1						
STKA				LR	LR	02 44 48.2	
	comp=Z,159nm,20.3s,baz=205,slow=35						
WRAB	**Tennant Creek**	**31.75**	**251**	*e*P	**P**	**02 33 37.7**	**+0.3**
	4.3nm,1.0s						
WRA	**Warramunga Arr**	**31.76**	**251**	P	**P**	**02 33 37.4**	**-0.2**
WRA	**Warramunga Arr**	**31.76**	**251**	P	**P**	**02 33 37.4**	**-0.2**
	1.3nm,0.7s,baz=84,slow=8.9,SNR=8.8						
WRA				LR	LR	02 43 28.1	
	comp=Z,120nm,19.5s,baz=265,slow=30						
RPZ	**Rata Peaks**	**31.89**	**174**	LR	LR	02 44 50.5	
	comp=Z,119nm,18.8s,baz=9.6,slow=33						
ASAR	**Alice Springs**	**32.94**	**245**	P	**P**	**02 33 47.6**	**-0.2**
ASAR				PcP	**PcP**	**02 36 29.1**	**-1.4**
ASAR	**Alice Springs**	**32.94**	**245**	P	**P**	**02 33 47.6**	**-0.2**
	2.0nm,0.9s,baz=77,slow=9.4,SNR=14						
ASAR				PcP	**PcP**	**02 36 29.1**	**-1.4**
	0.8nm,0.9s,baz=101,slow=4.9,SNR=4.2						
PPT	**Papeete**	**42.88**	**103**	LR	LR	02 49 18.2	
	comp=Z,6.1nm,21.4s,baz=310,slow=31						
MBWA	**Male Bar**	**45.49**	**252**	*e*P	**P**	**02 35 34.0**	**+1.7**
	14nm,1.1s						
CMAR	**Chiang Mai Arr**	**73.04**	**294**	P	**P**	**02 38 43.5**	**+1.0**
CMAR	**Chiang Mai Arr**	**73.04**	**294**	P	**P**	**02 38 43.5**	**+1.0**
	5.6nm,0.4s,baz=110,slow=8.0,SNR=5.7						
CHTO	**Chiang Mai**	**73.16**	**294**	*e*P	**P**	**02 38 43.9**	**+0.7**
	11nm,0.6s						
QSPA	**South Pole Qui**	**78.04**	**180**	*e*P	**P**	**02 39 11.9**	**+1.5**
	3.6nm,1.1s						
ILAR	**Eielson Array**	**84.19**	**18**	P	**P**	**02 39 41.9**	**-0.8**
ILAR	**Eielson Array**	**84.19**	**18**	P	**P**	**02 39 41.9**	**-0.8**
	0.2nm,0.6s,baz=215,slow=7.6,SNR=4.2						
CMB	**Columbia Colle**	**84.47**	**49**	*e*P	**P**	**02 39 44.0**	**-0.9**
MKAR	**Makanchi Array**	**94.61**	**317**	P	**P**	**02 40 32.5**	**-0.1**
MKAR	**Makanchi Array**	**94.61**	**317**	P	**P**	**02 40 32.5**	**-0.1**
	0.6nm,0.5s,baz=87,slow=6.2,SNR=7.9						
CEL	**Celeste**	**142.88**	**320**	*e*PKPdf	**PKPdf**	**02 46 46.8**	**+1.4**
MTE	**Manteigas**	**151.18**	**350**	*e*PKPdf	**PKPdf**	**02 46 59.5**	**+0.3**
MTE				*e*PKPbc	**PKPbc**	**02 47 05.0**	**0.0**

IDC ***10*** *02:43:03.9±1.4, 12°89S×166°40E, h0km, mb4.3/8, mb1 4.3/9, mb1mx4.1/17, mbtmp4.3/9, ML5.0/1, MS3.6/7, Ms1 3.6/7, ms1mx3.4/36, Error ellipse: s-maj=44.2km s-min=22.6km az=128.0*

NEIC ***10*** *02:43:09.4±0.4, 12°75S×166°38E, h35km, mb4.7/13, Error ellipse: s-maj=9.8km s-min=8.1km az=131.0*

ISCJB ***10*** *02:43:11.0±0.6, 12°81S±0°07×166°17E±0°10, h59km, mb4.4/18, MS3.7/5, Error ellipse: s-maj=13.4km s-min=9.9km az=12.2*

ISC 10 02:43:11.9±0.5, 12°77S±0°08×166°32E±0°09, h59km, n53, σ1°27/49, mb4.3/18, MS3.8/5, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.08**	**297**	Pn	**Pn**	**02 44 50.4**	**-2.7**
HNR	**Honiara**	**7.08**	**297**	Pn	**Pn**	**02 44 50.3**	**-2.7**
	24nm,0.3s,baz=202,slow=3.6,SNR=8.0						
HNR				LR	LR	02 47 09.9	
	comp=Z,414nm,18.2s,baz=305,slow=34						
DZM	**Mont Dzumac**	**9.25**	**179**	*e*Pn	**Pn**	**02 45 22.8**	**+0.1**
	15nm,0.5s						
DZM	**Mont Dzumac**	**9.25**	**179**	Pn	**Pn**	**02 45 21.4**	**-1.3**
	0.3nm,0.3s,baz=29,slow=19,SNR=3.2						
DZM				LR	LR	02 47 40.8	
	comp=Z,174nm,19.6s,baz=204,slow=30						
TARA	**Tarawa**	**15.49**	**25**	*e*Pn	**Pn**	**02 46 44.7**	**-2.2**
EIDS	**Eidsvold**	**19.07**	**227**	*e*P	**Pn**	**02 47 30.4**	**-0.6**
	30nm,1.2s						
PMG	**Port Moresby**	**19.10**	**278**	*e*P	**P**	**02 47 29.7**	**-0.3**
	54nm,1.1s						
CTAO	**Charters Tower**	**20.57**	**247**	*e*P	**P**	**02 47 45.8**	**-0.2**
	29nm,1.3s						
AFI	**Afiamalu**	**21.34**	**96**	*e*P	**P**	**02 47 50.7**	**-3.7**
	96nm,1.4s						
AFI	**Afiamalu**	**21.34**	**96**	LR	LR	02 53 17.0	
	comp=Z,141nm,20.0s,baz=248,slow=29						
COEN	**Coen**	**22.55**	**264**	*e*P	**P**	**02 48 06.9**	**-0.5**
STKA	**Stephens Creek**	**29.62**	**226**	*e*P	**P**	**02 49 10.2**	**-1.5**
	3.0nm,1.2s						
STKA	**Stephens Creek**	**29.62**	**226**	P	**P**	**02 49 12.2**	**+0.4**
	2.6nm,0.8s,baz=74,slow=8.3,SNR=5.9						
WRAB	**Tennant Creek**	**31.45**	**253**	*e*P	**P**	**02 49 29.2**	**+1.0**
	6.4nm,1.2s						
WRA	**Warramunga Arr**	**31.47**	**253**	P	**P**	**02 49 26.9**	**-1.4**
WRA	**Warramunga Arr**	**31.47**	**253**	P	**P**	**02 49 26.9**	**-1.4**
	0.8nm,0.7s,baz=62,slow=7.7,SNR=6.9						
AS31	**Alice Springs**	**32.56**	**246**	*e*P	**P**	**02 49 37.4**	**-0.5**
ASAR	**Alice Springs**	**32.57**	**246**	P	**P**	**02 49 36.7**	**-1.2**
ASAR	**Alice Springs**	**32.57**	**246**	P	**P**	**02 49 36.7**	**-1.2**
	1.8nm,0.6s,baz=74,slow=9.2,SNR=29						
MAJO	**Matsushiro**	**55.76**	**333**	*e*P	**P**	**02 52 43.5**	**+0.7**
	7.7nm,0.7s						
MAT	**Matsushiro**	**55.76**	**333**	P	**P**	**02 52 42.9**	**+0.1**
JNU	**Nakatsue**	**56.81**	**324**	LR	LR	03 16 09.2	
	comp=Z,58nm,18.5s,baz=241,slow=35						
ASAJ	**Asahikawa**	**60.60**	**341**	P	**P**	**02 53 17.9**	**+1.4**
ASAJ	**Asahikawa**	**60.60**	**341**	P	**P**	**02 53 17.9**	**+1.4**
	9.6nm,0.7s,baz=123,slow=8.9,SNR=5.7						
ASAJ				LR	LR	03 16 59.9	
	comp=Z,84nm,18.1s,baz=156,slow=34						
KSRS	**Korea Array**	**61.62**	**326**	LR	LR	03 17 45.9	
	comp=Z,62nm,19.5s,baz=356,slow=34						
USRK	**Ussuriysk Arra**	**64.74**	**333**	P	**P**	**02 53 45.0**	**+0.9**
	1.9nm,0.7s,baz=107,slow=6.6,SNR=4.5						
VNDA	**Vanda**	**64.78**	**181**	*e*P	**P**	**02 53 44.9**	**+1.0**
	2.6nm,1.3s						
PETK	**Petropavlovsk-**	**66.03**	**354**	LR	LR	03 18 58.4	
	comp=Z,76nm,19.9s,baz=291,slow=33						
ENH	**Enshi**	**69.42**	**309**	*e*P	**P**	**02 54 14.8**	**+0.6**
	9.5nm,0.9s						
CHTO	**Chiang Mai**	**73.44**	**294**	*e*P	**P**	**02 54 39.5**	**+0.9**
	19nm,0.9s						
QSPA	**South Pole Qui**	**77.24**	**180**	*e*P	**P**	**02 55 00.8**	**+1.1**
	11nm,1.0s						
SONM	**Songino Array**	**80.39**	**324**	P	**P**	**02 55 18.8**	**+1.6**
SONM	**Songino Array**	**80.39**	**324**	P	**P**	**02 55 18.8**	**+1.6**
	0.7nm,0.7s,baz=120,slow=5.5,SNR=4.6						
ILAR	**Eielson Array**	**84.97**	**18**	P	**P**	**02 55 40.3**	**-0.1**
ILAR	**Eielson Array**	**84.97**	**18**	P	**P**	**02 55 40.3**	**-0.1**
	1.1nm,0.7s,baz=239,slow=5.5,SNR=7.8						
TMUT	**Trail Mountain**	**92.26**	**50**	*e*P	**P**	**02 56 15.8**	**-0.3**
	6.9nm,1.2s						
MK31	**Makanchi Array**	**95.16**	**317**	*e*P	**P**	**02 56 30.2**	**+1.3**
MKAR	**Makanchi Array**	**95.16**	**317**	P	**P**	**02 56 30.2**	**+1.2**
MKAR	**Makanchi Array**	**95.16**	**317**	P	**P**	**02 56 30.2**	**+1.2**
	0.9nm,0.7s,baz=85,slow=7.3,SNR=8.6						
ZAA0	**Zalesovo Array**	**95.28**	**324**	*e*P	**P**	**02 56 29.9**	**+0.7**
ZALV	**Zalesovo Beam**	**95.28**	**324**	P	**P**	**02 56 29.9**	**+0.6**
ZALV	**Zalesovo Beam**	**95.28**	**324**	P	**P**	**02 56 29.9**	**+0.6**
	0.7nm,0.5s,baz=114,slow=7.0,SNR=3.2						
SNAA	**Sanae**	**95.44**	**183**	*e*P	**P**	**02 56 30.6**	**+0.7**
	4.4nm,1.4s						
ARCES	**ARCESS Array B**	**118.14**	**345**	PKP	**PKPdf**	**03 01 52.0**	**+0.2**
ARCES	**ARCESS Array B**	**118.14**	**345**	PKP	**PKPdf**	**03 01 52.0**	**+0.2**
	2.0nm,0.9s,baz=60,slow=3.6,SNR=4.6						
TRI	**Trieste**	**139.77**	**330**	*e*PKPdf	**PKPdf**	**03 02 33.3**	**0.0**
TUE	**Stuetta**	**141.20**	**334**	*e*PKPdf	**PKPdf**	**03 02 35.3**	**-1.0**
CEL	**Celeste**	**143.46**	**319**	*e*PKPdf	**PKPdf**	**03 02 40.8**	**+0.5**
SSB	**Saint Sauveur**	**144.08**	**338**	*e*PKPdf	**PKPdf**	**03 02 42.1**	**+0.9**
KEST	**Kesra**	**149.12**	**322**	PKPbc	**PKPbc**	**03 02 56.0**	**+1.7**
KEST	**Kesra**	**149.12**	**322**	PKPbc	**PKPbc**	**03 02 56.0**	**+1.7**
	1.4nm,0.6s,baz=331,slow=1.5,SNR=16						
ESDC	**Sonseca Array**	**151.87**	**344**	PKPbc	**PKPbc**	**03 03 00.7**	**+0.1**
ESDC	**

*MOS **10** 03:02:38.8±1.7,47.15N×152.78E,h153km,mb4.4/7, Error ellipse: s-maj=14.8km s-min=9.9km az=56.8*
*IDC **10** 03:02:41.0±2.6,46.96N×152.84E,h64km±23km,mb3.6/15, mb1 3.9/19,mb1mx3.8/28,mbtmp3.7/19,MS3.0/1, Ms1 3.0/1,ms1mx2.5/44,Error ellipse: s-maj=21.1km s-min=14.3km az=153.0*

ISC 10 03:02:37.9±0.8,46.7N±0.1×152.88E±0.10,h40km,n74, σ1°67/60,mb3.9/16,7C-3D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.78**	**249**	*e*PN	**Pn**	**03 03 36.7**	**+3.0**
KUR				S	**Sn**	**03 04 21.0**	**+4.1**
KUR	comp=E,47nm,0.1s			pmax	pmax		
KUR	comp=N,50nm,0.1s			pmax	pmax		
KUR	comp=Z,65nm,0.3s			pmax	pmax		
KUR	comp=N,89nm,0.6s			smax	smax		
KUR	comp=E,173nm,0.6s			smax	smax		
SKR	**Severo-Kuril's**	**4.54**	**27**	*e*PN	Pn	03 03 39.0	-5.1
SKR				*e*S	Sn	03 04 25.5	-10
SKR	comp=Z,80nm,0.5s			pmax	pmax		
SKR	comp=E,110nm,0.5s			smax	smax		
YUK	**Yuzh-Kuril'sk**	**5.61**	**244**	*c i*PN	Pn	03 04 10.5	+12
YUK				*i* S	Sn	03 05 14.4	+13
YUK	comp=N,35nm,0.5s			pmax	pmax		
YUK	comp=Z,61nm,0.5s			pmax	pmax		
YUK	comp=E,22nm,0.3s			pmax	pmax		
YUK	comp=N,135nm,0.5s			smax	smax		
YUK	comp=E,195nm,0.5s			smax	smax		
YUK	comp=E,185nm,0.5s			smax	smax		
YUK	comp=N,1μm,6.0s			MLR	MLR		
YUK	comp=Z,880nm,6.0s			MLR	MLR		
NEM2	**Nemuro 2**	**6.05**	**239**	P	**Pn**	**03 04 05.4**	**+0.7**
NEM2				*e*S	**Sn**	**03 05 10.7**	**-1.9**
JRA	**Rausu**	**6.12**	**246**	P	Pn	03 04 09.7	+4.0
JNK	**Nakash**	**6.55**	**245**	P	**Pn**	**03 04 14.1**	**+2.4**
JNK				*e*S	**Sn**	**03 05 25.5**	**+0.5**
JTKR	**Abashiri--Toko**	**6.88**	**250**	P	Pn	03 04 19.6	+3.4
YSS	**Yuzh-Sakhalins**	**6.95**	**276**	*e*PN	Pn	03 04 21.0	+3.8
YSS	comp=Z,50nm,1.0s			pmax	pmax		
PETK	**Petropavlovsk-**	**7.14**	**24**	PN	**Pn**	**03 04 20.8**	**+1.0**
PETK	**Petropavlovsk-** comp=Z,0.4nm,0.3s,baz=195,slow=13,SNR=3.2	**7.14**	**24**	P	**Pn**	**03 04 20.8**	**+1.0**
PETK	baz=148,slow=14,SNR=1.9			S	Sn	03 05 47.8	+8.2
JMP	**Maruseppu**	**7.22**	**252**	P	Pn	03 04 24.8	+3.9
JAR	**Ashorobuto**	**7.29**	**246**	P	**Pn**	**03 04 24.5**	**+2.7**
JAR				*e*S	**Sn**	**03 05 45.6**	**+2.4**
PET	**Petropavlovsk**	**7.36**	**28**	*e*PN	Pn	03 04 31.3	+8.6
JOB	**Onbets**	**7.46**	**243**	P	**Pn**	**03 04 26.3**	**+2.2**
JOB				*e*S	**Sn**	**03 05 46.9**	**-0.5**
JKK2	**Kamakawa 2**	**7.68**	**252**	P	Pn	03 04 31.1	+4.0
ASAJ	**Asahikawa**	**7.68**	**254**	P	Pn	03 04 31.2	+4.1
ASAJ	**Asahikawa** comp=Z,2.4nm,0.3s,baz=77,slow=13,SNR=12	**7.68**	**254**	P	Pn	03 04 31.1	+3.9
ASAJ	comp=Z,103nm,19.5s,baz=173,slow=36			LR	LR	03 07 18.7	
JCH	**Churui**	**7.91**	**242**	P	**Pn**	**03 04 31.3**	**+1.0**
JCH				*e*S	**Sn**	**03 05 56.1**	**-2.3**
JNBK	**Urakawa-nobuka**	**8.47**	**242**	P	**Pn**	**03 04 38.7**	**+0.7**
JNBK				*e*S	**Sn**	**03 06 09.4**	**-2.8**
JNB	**Noboribetsu**	**9.44**	**248**	P	**Pn**	**03 04 52.7**	**+1.4**
JNB				*e*S	**Sn**	**03 06 35.4**	**-0.6**
JKB	**Kayabe**	**9.75**	**245**	P	**Pn**	**03 04 56.0**	**+0.5**
JKB				*e*S	**Sn**	**03 06 38.7**	**-4.9**
JYM2	**Yakumo 2**	**10.04**	**247**	P	**Pn**	**03 05 00.6**	**+1.0**
JSR	**Shiriuchi**	**10.33**	**245**	P	**Pn**	**03 05 03.8**	**+0.3**
JTM	**Tenmabayashi**	**10.38**	**240**	P	**Pn**	**03 05 03.3**	**-0.8**
JTM				*e*S	Sn	03 06 51.1	-7.9
JANG	**Nango**	**10.38**	**237**	P	**Pn**	**03 05 02.3**	**-1.9**
JANG				*e*S	Sn	03 06 49.8	-9.3
JTH	**Tanohata**	**10.47**	**234**	*e*S	Sn	03 06 52.8	-8.6
JRG	**Rokugo**	**11.54**	**235**	P	**Pn**	**03 05 19.2**	**-0.8**
JRG				*e*S	Sn	03 07 19.5	-7.9
FX1	**Attu Island--F** comp=Z,2.3nm,0.3s,baz=258,slow=20,SNR=4.7	**14.47**	**57**	P	Pn	03 05 58.7	-1.3
FX1	comp=Z,2.8nm,0.3s,baz=54,slow=19,SNR=4.9			S	Sn	03 08 28.8	-10
USRK	**Ussuriysk Arra** comp=Z,0.4nm,0.3s,baz=71,slow=14,SNR=3.7	**14.87**	**269**	P	**Pn**	**03 06 07.2**	**+2.0**
MAJO	**Matsushiro**	**14.91**	**232**	*e*P	**P**	**03 06 11.5**	**+0.6**
KSRS	**Korea Array** comp=Z,2.2nm,0.7s,baz=59,slow=9.4,SNR=5.4	**20.62**	**252**	P	Pn	03 07 15.6	-0.6
H11N2	**WAKE ISLAND Hy** baz=342,slow=0.7,SNR=634	**29.23**	**152**	T	T	03 40 02.2	
H11N1	**WAKE ISLAND Hy** baz=342,slow=0.7,SNR=513	**29.25**	**152**	T	T	03 40 03.4	
H11N3	**WAKE ISLAND Hy** baz=342,slow=0.7,SNR=368	**29.25**	**152**	T	T	03 40 04.8	
H11S1	**WAKE ISLAND Hy** baz=343,slow=0.7,SNR=578	**30.32**	**153**	T	T	03 41 18.8	
H11S3	**WAKE ISLAND Hy** baz=343,slow=0.7,SNR=452	**30.33**	**153**	T	T	03 41 28.0	
H11S2	**WAKE ISLAND Hy** baz=343,slow=0.7,SNR=471	**30.34**	**153**	T	T	03 41 20.2	
SONM	**Songino Array** comp=Z,0.3nm,0.5s,baz=86,slow=8.8,SNR=2.5	**31.20**	**289**	P	**P**	**03 08 54.7**	**+1.4**
XAN	**Xi'an**	**35.35**	**265**	P	**P**	**03 09 29.6**	**+0.1**
XAN				pP	**pP**	**03 09 40.2**	**-0.4**
XAN	comp=Z,2.0nm,0.7s			AMB	AMB		
ILAR	**Eielson Array** comp=Z,0.8nm,1.0s,baz=300,slow=6.2,SNR=4.3	**36.70**	**38**	P	P	03 09 37.8	-2.9
KWAJ	**Kwajalein Atol**	**39.80**	**157**	*i* P	P	03 10 15.0	+7.9
ZALV	**Zalesovo Beam**	**42.52**	**306**	P	**P**	**03 10 26.7**	**-2.4**
ZALV	comp=Z,1.0nm,0.4s			pmax	pmax		
ZALV	**Zalesovo Beam** comp=Z,0.5nm,0.4s,baz=61,slow=12,SNR=3.4	**42.52**	**306**	P	**P**	**03 10 26.7**	**-2.4**
MKAR	**Makanchi Array**	**46.83**	**297**	P	**P**	**03 11 02.0**	**-1.6**
MKAR						03 12 35.6	
MKAR	comp=Z,1.0nm,0.6s			pmax	pmax		
MKAR	**Makanchi Array** comp=Z,0.4nm,0.5s,baz=66,slow=10,SNR=6.3	**46.83**	**297**	P	**P**	**03 11 02.0**	**-1.6**
MKAR				PcP	**PcP**	**03 12 35.6**	**-0.4**
CMAR	**Chiang Mai Arr** comp=Z,1.4nm,0.5s,baz=40,slow=7.3,SNR=6.4	**52.20**	**256**	P	**P**	**03 11 46.1**	**+1.3**
NVAR	**Mina Array Bea** comp=Z,0.6nm,0.8s,baz=286,slow=6.4,SNR=4.4	**62.61**	**62**	P	**P**	**03 12 59.1**	**+0.9**
FINES	**FINESS Array B** comp=Z,2.8nm,0.4s,baz=35,slow=7.2,SNR=36	**64.03**	**335**	P	**P**	**03 13 05.7**	**-1.3**
NB2	**NORSAR Subarra** comp=Z,1.9nm,0.6s,baz=28,slow=6.2	**68.24**	**341**	P	**P**	**03 13 32.7**	**-1.3**
NOA	**NORSAR Array B** comp=Z,2.9nm,0.7s,baz=27,slow=6.3,SNR=13	**68.24**	**341**	P	**P**	**03 13 33.0**	**-1.1**
KBZ	**Khabaz**	**70.79**	**314**	P	**P**	**03 13 49.8**	**-0.2**
KBZ	comp=Z,1.0nm,0.6s			pmax	pmax		
KBZ	**Khabaz** comp=Z,1.3nm,0.6s,baz=72,slow=20,SNR=3.7	**70.79**	**314**	P	**P**	**03 13 49.8**	**-0.2**
AKASG	**Malin Array Be**	**71.51**	**326**	*e*P	**P**	**03 13 52.8**	**-1.4**
AKASG	comp=Z,2.0nm,0.3s			pmax	pmax		
AKASG	**Malin Array Be** comp=Z,1.7nm,0.3s,baz=33,slow=6.2,SNR=8.2	**71.51**	**326**	P	**P**	**03 13 52.7**	**-1.5**
ASAR	**Alice Springs** comp=Z,1.0nm,0.7s,baz=10,slow=5.7,SNR=11	**72.09**	**198**	P	**P**	**03 13 59.4**	**+1.5**
BURAR	**Bucovina Array**	**75.55**	**326**	⇑*i*P	**P**	**03 14 17.4**	**-0.8**
TESR	**Tescani**	**75.91**	**325**	⇓*i*P	**P**	**03 14 18.7**	**-1.4**
TRPA	**Tarpa**	**76.12**	**328**	⇑*i*P	**P**	**03 14 20.8**	**-0.4**
CFR	**Carcaliu**	**76.39**	**323**	⇑*i*P	**P**	**03 14 22.5**	**-0.3**
CLL	**Collm**	**76.46**	**335**	*e*P	**P**	**03 14 21.0**	**-2.1**
CLL	comp=Z,9.0nm,1.4s			pmax	pmax		
CLL	**Collm** comp=Z,9.0nm,1.4s	**76.46**	**335**	*e*P	**P**	**03 14 21.0**	**-2.1**
MLR	**Muntele Rosu**	**77.03**	**325**	⇑*i*P	**P**	**03 14 25.0**	**-1.6**
VOIR		**77.42**	**325**	⇓*i*P	**P**	**03 14 28.9**	**+0.1**
ARR	**Arges**	**77.64**	**325**	⇑*i*P	**P**	**03 14 29.9**	**-0.1**
TXAR	**Lajitas Array** comp=Z,0.3nm,0.5s,baz=290,slow=4.8,SNR=9.8	**77.67**	**60**	P	**P**	**03 14 30.8**	**+0.3**
BRTR	**Keskin Array B** comp=Z,0.8nm,0.8s,baz=64,slow=5.6,SNR=5.9	**78.33**	**317**	P	**P**	**03 14 33.9**	**-0.1**
GERES	**GERESS Array B** comp=Z,0.3nm,0.6s,baz=44,slow=4.2,SNR=4.3	**78.44**	**334**	P	**P**	**03 14 33.4**	**-1.0**
BZS	**Buzias**	**78.58**	**327**	⇓*i*P	**P**	**03 14 33.8**	**-1.3**
VTS	**Vitosha**	**80.53**	**325**	⇑*i*P	**P**	**03 14 45.2**	**-0.7**
TORD	**Torodi Ar. Bea** comp=Z,0.3nm,0.8s,baz=352,slow=3.6,SNR=2.0	**115.07**	**329**	PKP	PKPdf	03 21 13.8	-1.2
QSPA	**South Pole Qui** comp=Z,1.5nm,1.1s	**136.42**	**180**	PKP	**PKPdf**	**03 21 54.5**	**+0.4**
H03N2	**Juan Fernandez** baz=306,slow=0.7,SNR=23	**138.91**	**90**	T	T	05 56 54.4	
H03N1	**Juan Fernandez** baz=306,slow=0.7,SNR=30	**138.93**	**90**	T	T	05 57 24.2	
H03N3	**Juan Fernandez** baz=306,slow=0.7,SNR=5.4	**138.93**	**90**	T	T	05 57 21.5	

*NEIC **10** 03:07:15.7±0.6,11.56S×166.49E,h35km,mb4.4/8, Error ellipse: s-maj=13.8km s-min=11.2km az=121.0*
*ISCJB **10** 03:07:17.3±0.6,11.55S±0.06×166.27E±0.08,h59km, mb4.3/15,MS3.4/1, Error ellipse: s-maj=11.3km s-min=7.9km az=152.2*
*IDC **10** 03:07:20.8±3.1,11.58S×166.24E,h77km±25km,mb3.9/11, mb1 4.1/13,mb1mx4.0/20,mbtmp4.0/13,MS3.6/2, Ms1 3.6/2,ms1mx3.1/24,Error ellipse: s-maj=21.0km s-min=16.6km az=72.0*

ISC 10 03:07:18.7±0.6,11.52S±0.07×166.35E±0.08,h59km,n45, σ1°09/52,mb4.2/15,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.63**	**288**	P	**Pn**	**03 08 55.9**	**+2.3**
HNR				S	**Sn**	**03 10 06.8**	**-0.9**
HNR	**Honiara** 24nm,0.3s,baz=163,slow=3.7,SNR=6.9	**6.63**	**288**	P	**Pn**	**03 08 55.9**	**+2.3**
HNR	7.2nm,0.3s,baz=143,slow=20,SNR=3.3			S	**Sn**	**03 10 06.8**	**-0.9**
DZM	**Mont Dzumac** 311nm,26.3s	**10.49**	**180**	*e*LR	LR	03 12 17.1	
DZM	**Mont Dzumac**	**10.49**	**180**	*e*Pn	**Pn**	**03 09 44.6**	**-1.9**
DZM				S	**Sn**	**03 11 45.4**	**+2.8**
DZM	**Mont Dzumac** 0.9nm,0.3s,baz=286,slow=20,SNR=5.6	**10.49**	**180**	P	**Pn**	**03 09 46.3**	**-0.2**
DZM	0.3nm,0.3s,baz=100,slow=18,SNR=2.2			S	**Sn**	**03 11 45.4**	**+2.8**
PMG	**Port Moresby** comp=Z,182nm,18.1s,baz=169,slow=32	**18.99**	**275**	LR	LR	03 17 27.8	
EIDS	**Eidsvold** 40nm,1.4s	**19.96**	**224**	*e*P	**Pn**	**03 11 47.5**	**-0.8**
CTA	**Charters Tower**	**21.11**	**244**	P	**P**	**03 11 59.7**	**+1.1**
CTA	**Charters Tower** 4.5nm,0.6s,baz=68,slow=11,SNR=3.6	**21.11**	**244**	P	**P**	**03 11 59.7**	**+1.1**
CTAO	**Charters Tower** 6.9nm,0.7s	**21.11**	**244**	*e*P	**P**	**03 11 59.4**	**+0.8**
AFI	**Afiamalu** comp=Z,138nm,19.2s,baz=281,slow=30	**21.47**	**99**	LR	LR	03 18 03.9	
COEN	**Coen**	**22.73**	**261**	*e*P	**P**	**03 12 15.8**	**-0.2**
STKA	**Stephens Creek** 1.1nm,0.6s	**30.51**	**225**	*e*P	**P**	**03 13 26.3**	**-0.1**
STKA	**Stephens Creek** 5.2nm,0.7s,baz=49,slow=8.7,SNR=16	**30.51**	**225**	P	**P**	**03 13 26.4**	**-0.1**
WRAB	**Tennant Creek** 3.3nm,0.9s	**31.87**	**251**	*e*P	**P**	**03 13 37.7**	**-0.8**
WRA	**Warramunga Arr**	**31.88**	**251**	P	**P**	**03 13 38.0**	**-0.6**
WRA				PcP	**PcP**	**03 16 27.1**	**-1.2**
WRA	**Warramunga Arr** 2.6nm,0.6s,baz=85,slow=9.4,SNR=31	**31.88**	**251**	P	**P**	**03 13 38.0**	**-0.6**
WRA	0.5nm,0.5s,baz=73,slow=3.2,SNR=5.4			PcP	**PcP**	**03 16 27.1**	**-1.2**
AS31	**Alice Springs**	**33.11**	**244**	*e*P	**P**	**03 13 48.2**	**-1.2**
ASAR	**Alice Springs**	**33.11**	**244**	P	**P**	**03 13 47.9**	**-1.5**
ASAR				PcP	**PcP**	**03 16 30.8**	**-0.9**
ASAR	**Alice Springs** 2.6nm,0.7s,baz=69,slow=9.5,SNR=32	**33.11**	**244**	P	**P**	**03 13 47.9**	**-1.5**
ASAR	0.8nm,0.8s,baz=63,slow=3.8,SNR=5.5			PcP	**PcP**	**03 16 30.8**	**-0.9**
FITZ	**Fitzroy Crossi**	**39.83**	**256**	P	**P**	**03 14 46.0**	**-0.7**
FITZ				PcP	**PcP**	**03 16 51.3**	**-0.6**
FITZ	**Fitzroy Crossi** 5.6nm,0.8s,baz=98,slow=6.6,SNR=16	**39.83**	**256**	P	**P**	**03 14 46.0**	**-0.7**
FITZ	1.0nm,0.5s,baz=202,slow=19,SNR=4.3			PcP	**PcP**	**03 16 51.3**	**-0.6**
MBWA	**Marble Bar** 12nm,0.9s	**45.61**	**252**	*e*P	**P**	**03 15 33.7**	**+0.3**
JNU	**Nakatsue**	**55.81**	**324**	*e*P	**P**	**03 16 49.9**	**-0.1**
VNDA	**Vanda** 1.4nm,0.8s	**66.03**	**181**	*e*P	**P**	**03 17 58.1**	**-0.6**
VNDA	**Vanda** 1.0nm,0.6s,baz=343,slow=8.2,SNR=6.8	**66.03**	**181**	P	**P**	**03 17 57.7**	**-1.0**
CHTO	**Chiang Mai** 33nm,1.1s	**72.96**	**294**	*e*P	**P**	**03 18 43.5**	**+1.1**
QSPA	**South Pole Qui** 7.7nm,1.0s	**78.49**	**180**	*e*P	**P**	**03 19 11.9**	**-1.5**
SONM	**Songino Array**	**79.40**	**324**	P	**P**	**03 19 18.5**	**-0.1**
SONM	**Songino Array** 0.6nm,0.5s,baz=139,slow=5.3,SNR=4.5	**79.40**	**324**	P	**P**	**03 19 18.5**	**-0.1**
ILAR	**Eielson Array**	**83.77**	**18**	P	**P**	**03 19 41.4**	**+0.2**
ILAR	**Eielson Array** 0.8nm,0.5s,baz=244,slow=5.0,SNR=22	**83.77**	**18**	P	**P**	**03 19 41.4**	**+0.2**
NVAR	**Mina Array Bea**	**85.88**	**50**	P	**P**	**03 19 54.1**	**+1.5**
NVAR	**Mina Array Bea** 0.4nm,0.6s,baz=232,slow=6.6,SNR=4.7	**85.88**	**50**	P	**P**	**03 19 54.1**	**+1.5**
MKAR	**Makanchi Array**	**94.27**	**317**	P	**P**	**03 20 31.7**	**0.0**
MKAR	**Makanchi Array** 2.2nm,0.8s,baz=96,slow=5.6,SNR=13	**94.27**	**317**	P	**P**	**03 20 31.7**	**0.0**
ZALV	**Zalesovo Beam**	**94.28**	**324**	P	**P**	**03 20 31.2**	**-0.2**
ZALV	**Zalesovo Beam** 0.9nm,0.7s,baz=106,slow=4.7,SNR=3.2	**94.28**	**324**	P	**P**	**03 20 31.3**	**-0.2**
ARCES	**ARCESS Array B**	**116.94**	**346**	PKP	**PKPdf**	**03 25 56.0**	**-0.2**
ARCES	**ARCESS Array B** 2.7nm,0.8s,baz=4.0,slow=3.9,SNR=4.7	**116.94**	**346**	PKP	**PKPdf**	**03 25 56.0**	**-0.2**
BUR08	**Bucovina Ar. S**	**131.48**	**326**	*e*PKPdf	**PKPdf**	**03 26 24.4**	**-0.4**
CSS	**Prodhromos**	**131.48**	**307**	*e*PKPdf	**PKPdf**	**03 26 25.4**	**+0.3**
SSB	**Saint Sauveur**	**142.93**	**339**	*e*PKPdf	**PKPdf**	**03 26 46.3**	**+0.3**
TORD	**Torodi Ar. Bea**	**164.92**	**278**	PKPab	**PKPab**	**03 28 13.7**	**-0.1**
TORD	**Torodi Ar. Bea** 0.8nm,1.0s,baz=153,slow=0.6,SNR=3.5	**164.92**	**278**	PKPab	**PKPab**	**03 28 13.7**	**-0.1**

WEL 10 03:16:41.2±0.4,37.49S×176.34E,h201km±3km,ML4.1/20, 3C,Error ellipse: s-maj=4.7km s-min=4.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.98**	**142**	⇑PN	Pn	03 17 10.9	+0.1
URZ				SN	S	03 17 34.1	+0.3
URZ				AML	AML	03 17 38.0	
MWZ	**Matawai**	**1.26**	**132**	PN	Pn	03 17 12.7	-0.3
MWZ				SN	S	03 17 37.3	-0.1
MWZ				AML	AML	03 17 44.7	
MWZ				AML	AML	03 17 44.8	
MWZ				AML	AML	03 17 46.9	
RAHZ	**Arahi**	**1.54**	**158**	PN	Pn	03 17 15.6	+0.3
MXZ	**Matakaoa Point**	**1.56**	**93**	PN	Pn	03 17 16.0	+0.5
MXZ				SN	S	03 17 42.9	+1.2
MXZ				AML	AML	03 17 46.1	
MXZ				AML	AML	03 17 53.1	
PUZ	**Puketiti**	**1.62**	**111**	PN	Pn	03 17 16.1	0.0
PUZ				SN	S	03 17 42.3	-0.5
PUZ				AML	AML	03 17 43.8	
NMHZ	**Naumai**	**1.65**	**167**	PN	Pn	03 17 16.9	+0.5
BKZ	**Black Stump Fm**	**1.68**	**176**	PN	Pn	03 17 16.2	-0.5
BKZ				SN	S	03 17 43.7	-0.2
BKZ				AML	AML	03 17 47.1	
TWVZ	**Taurewa**	**1.73**	**204**	PN	Pn	03 17 17.7	+0.5
OTVZ	**Oturere**	**1.75**	**197**	PN	Pn	03 17 18.0	+0.5
CNGZ	**Carnagh Statio**	**1.78**	**124**	PN	Pn	03 17 18.1	+0.6
WPVZ	**Whakapapa**	**1.82**	**200**	PN	Pn	03 17 18.4	+0.2
KNZ	**Kokohu**	**1.85**	**146**	PN	Pn	03 17 18.1	-0.1
TUVZ	**Tukino**	**1.85**	**197**	PN	Pn	03 17 18.7	+0.3
FWVZ	**Far West T-bar**	**1.87**	**199**	PN	Pn	03 17 18.6	-0.1
PRGZ	**Paritu Road**	**1.88**	**140**	PN	Pn	03 17 18.7	+0.2
DRZ	**Dome Shelter**	**1.88**	**199**	PN	Pn	03 17 19.6	+0.6
WHVZ	**Whangaehu Hut**	**1.88**	**198**	⇑PN	Pn	03 17 18.9	0.0
TRVZ	**Turoa**	**1.91**	**199**	PN	Pn	03 17 19.1	0.0
WNVZ	**Wahianoa**	**1.92**	**197**	PN	Pn	03 17 19.1	-0.1
MOVZ	**Moawhango**	**1.97**	**193**	PN	Pn	03 17 18.9	-0.6
MCHZ	**McNeill Hill**	**1.97**	**172**	PN	Pn	03 17 19.6	+0.1
BHHZ	**Black Hill Sta**	**2.00**	**186**	PN	Pn	03 17 19.2	-0.7
VRZ	**Vera Road**	**2.05**	**217**	PN	Pn	03 17 21.3	+1.1
MHGZ	**Mahia Peninsul**	**2.07**	**144**	PN	Pn	03 17 20.2	-0.2
CKHZ	**Cape Kidnapper**	**2.24**	**165**	PN	Pn	03 17 22.0	-0.2
KAHZ	**Kahuranaki**	**2.34**	**170**	PN	Pn	03 17 22.8	-0.6
PNHZ	**Pukenui**	**2.42**	**183**	PN	Pn	03 17 23.4	-0.9
WAZ	**Wanganui**	**2.50**	**205**	PN	Pn	03 17 24.8	-0.3
PXZ	**Pawanui**	**2.57**	**171**	PN	Pn	03 17 25.0	-0.9
PXZ				AML	AML	03 18 01.6	
PXZ				AML	AML	03 18 02.0	
PXZ				AML	AML	03 18 02.7	
PXZ				AML	AML	03 18 02.7	
WPHZ	**Waipukurau**	**2.57**	**178**	PN	Pn	03 17 24.9	-1.0
TSZ	**Takapari Road**	**2.58**	**186**	PN	Pn	03 17 24.8	-1.3
TSZ				AML	AML	03 18 03.2	
TSZ				AML	AML	03 18 03.2	
PRHZ	**Porangahau**	**2.78**	**175**	PN	Pn	03 17 27.0	-1.3
DVHZ	**Dannevirke**	**2.81**	**183**	PN	Pn	03 17 26.9	-1.7
POWZ	**Post Office Ro**	**2.93**	**189**	PN	Pn	03 17 28.3	-1.8
PRWZ	**Pori Road**	**3.07**	**185**	PN	Pn	03 17 30.1	-1.6
BFZ	**Birch Farm**	**3.19**	**181**	PN	Pn	03 17 31.1	-2.0
MRZ	**Mangatainoka R**	**3.22**	**190**	⇑PN	Pn	03 17 31.2	-2.3
MRZ				AML	AML	03 18 15.1	
MRZ				AML	AML	03 18 15.4	
TIWZ	**Tintock**	**3.30**	**186**	PN	Pn	03 17 32.3	-2.2
OGWZ	**Otaki Gorge**	**3.44**	**195**	PN	Pn	03 17 33.7	-2.4
HOWZ	**Holdsworth Sta**	**3.46**	**190**	PN	Pn	03 17 33.5	-2.9
KIW	**Kapiti Island**	**3.54**	**198**	PN	Pn	03 17 34.7	-2.7
KIW				AML	AML	03 18 18.8	
KIW				AML	AML	03 18 19.4	
MTW	**Mount Morrison**	**3.72**	**190**	PN	Pn	03 17 36.8	-3.2
MTW				AML	AML	03 18 22.9	
MTW				AML	AML	03 18 23.0	
CAW	**Cannon Point**	**3.74**	**195**	PN	Pn	03 17 36.8	-3.0
CAW				AML	AML	03 18 24.2	
CAW				AML	AML	03 18 24.9	
DUWZ	**D'Urville Isla**	**3.80**	**209**	PN	Pn	03 17 38.1	-2.4
TRWZ	**Traveller**	**3.93**	**187**	PN	Pn	03 17 39.1	-3.0
TRWZ				AML	AML	03 18 29.6	
PAWZ	**Paruwai Farm**	**3.95**	**190**	PN	Pn	03 17 39.2	-3.2
PAWZ				AML	AML	03 18 27.0	
PAWZ				AML	AML	03 18 27.3	
MSWZ	**Moikau Station**	**4.01**	**192**	PN	Pn	03 17 39.8	-3.3
MSWZ				AML	AML	03 18 28.7	
MSWZ				AML	AML	03 18 28.8	
SNZO	**South Karori**	**4.02**	**198**	PN	Pn	03 17 40.0	-3.2
SNZO				AML	AML	03 18 29.3	
SNZO				AML	AML	03 18 31.1	
TCW	**Tory Channel**	**4.04**	**203**	PN	Pn	03 17 40.6	-2.9
TCW				AML	AML	03 18 30.1	
TCW				AML	AML	03 18 32.3	
BHW	**Baring Head**	**4.07**	**196**	PN	Pn	03 17 40.6	-3.3
BHW				AML	AML	03 18 31.0	
BHW				AML	AML	03 18 31.0	
PLWZ	**Palliser**	**4.16**	**191**	PN	Pn	03 17 41.6	-3.4
TUWZ	**Tuamarina**	**4.35**	**205**	PN	Pn	03 17 44.0	-3.3
TUWZ				AML	AML	03 18 36.0	
TUWZ				AML	AML	03 18 37.4	
NNZ	**Nelson**	**4.37**	**211**	PN	Pn	03 17 44.4	-3.2
BSWZ	**Blackbirch Sta**	**4.63**	**204**	PN	Pn	03 17 47.9	-2.9
BSWZ				AML	AML	03 18 44.8	
THZ	**Tophouse**	**5.02**	**211**	PN	Pn	03 17 52.5	-3.5
KHZ	**Kahutara**	**5.37**	**203**	PN	Pn	03 17 56.7	-3.6
KHZ				AML	AML	03 18 58.5	
DSZ	**Denniston Nort**	**5.51**	**218**	PN	Pn	03 17 57.7	-4.4
LTZ	**Lake Taylor**	**6.13**	**209**	PN	Pn	03 18 05.9	-4.3
OXZ	**Oxford**	**6.69**	**208**	PN	Pn	03 18 12.2	-5.1
MQZ	**McQueen's Vall**	**6.81**	**203**	PN	Pn	03 18 13.6	-5.3
WVZ	**Waitaha Valley**	**7.03**	**216**	PN	Pn	03 18 19.1	-2.7
RPZ	**Rata Peaks**	**7.40**	**211**	PN	Pn	03 18 22.3	-4.3
LBZ	**Lake Benmore**	**8.31**	**212**	PN	Pn	03 18 33.2	-5.3
ODZ	**Otahua Downs**	**8.68**	**208**	PN	Pn	03 18 38.5	-4.7
JCZ	**Jackson Bay**	**8.73**	**219**	PN	Pn	03 18 39.0	-5.0

IDC 10 03:18:47.2±5.4,30.25S×177.96W,h51km±40km,mb3.7/3, mb1 3.9/3,mb1mx3.5/14,mbtmp3.7/3,Error ellipse: s-maj=71.0km s-min=35.0km az=125.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** 32nm,0.3s,baz=73,slow=20,SNR=3.9	**0.99**	**2**	P	Pn	03 19 04.5	-0.4
RAO	604nm,0.3s,baz=79,slow=21,SNR=12			S	Sn	03 19 18.4	+0.5
STKA	**Stephens Creek** 1.2nm,0.7s,baz=79,slow=10,SNR=4.9	**34.55**	**257**	P	P	03 25 31.9	+1.0
ASAR	**Alice Springs** 0.5nm,0.5s,baz=105,slow=7.6,SNR=10	**43.15**	**267**	P	P	03 26 42.6	-0.4
WRA	**Warramunga Arr** 0.9nm,0.3s,baz=110,slow=8.1,SNR=37	**44.13**	**272**	P	P	03 26 50.2	-0.7
FINES	**FINESS Array B** 0.9nm,0.5s,baz=40,slow=3.2,SNR=5.2	**145.02**	**340**	PKPbc	PKPbc	03 38 16.7	-0.7

**IDC 10 03:22:41.0±6.6,22.09S×171.46E,h79km±48km,mb3.7/4, mb1 3.9/5,mb1mx

IKLH *e* 03 33 24.0
comp=Z,6µm,0.2s
IKLH *eSg* **Sg** **03 33 52.9 -0.6**
IKLH Kolahrood 2.23 50 *ePn* **Pb** **03 33 21.6 -0.2**
IZEF Zefreh 2.56 66 *ePn* **Pb** **03 33 25.7 -1.8**
IZEF *e* 03 33 30.7
comp=Z,2µm,0.2s
IZEF Zefreh 2.56 66 *ePn* **Pb** **03 33 25.7 -1.8**
ASAO Ashtian 2.67 9 *ePn* **Pb** **03 33 27.7 -1.6**
ASAO AML AML 03 34 09.0
comp=N,502nm,0.6s
ASAO AML AML 03 34 19.5
comp=E,464nm,0.5s
ASAO Ashtian 2.67 9 *ePn* **Pb** **03 33 27.7 -1.6**
UMR Umm Al-Rimmam 2.82 214 *eP* **Pn** **03 33 28.6 +2.6**
UMR Umm Al-Rimmam 2.82 214 *eP* **Pn** **03 33 28.6 +2.6**
IKOM Komasi 2.84 324 *ePn* **Pb** **03 33 29.8 -2.2**
IKOM Komasi 2.84 324 *ePn* **Pb** **03 33 29.8 -2.2**
NASN Na'in 2.91 71 *ePn* **Pn** **03 33 30.3 +2.6**
NASN Na'in 2.91 71 *ePn* **Pn** **03 33 30.3 +2.6**
NSR Nassriya 3.03 254 *ePn* **Pb** **03 33 34.4 -0.9**
baz=99,slow=16
NSR *i* Sn **Sn** **03 34 07.8 +2.8**
NSR Nassriya 3.03 254 *ePn* **Pb** **03 33 34.4 -0.9**
baz=99,slow=16,SNR=39
NSR *i* Sn **Sn** **03 34 07.8 +2.8**
SNR=39
KBD Kabd 3.15 211 *eP* **Pn** **03 33 33.3 +2.7**
KBD *eS* **Sn** **03 34 10.9 +3.1**
KBD AML AML 03 34 19.1
comp=Z,70nm,0.3s
KBD Kabd 3.15 211 *eP* **Pn** **03 33 33.3 +2.7**
KBD *eS* **Sn** **03 34 10.9 +3.1**
comp=Z,70nm,0.3s
RST Umm Al-Ruwaisa 3.24 223 *eP* **Pn** **03 33 34.9 +3.0**
RST Umm Al-Ruwaisa 3.24 223 *eP* **Pn** **03 33 34.9 +3.0**
NAY Al-Naaiem 3.30 217 *eP* **Pn** **03 33 35.6 +2.9**
NAY *eS* **Sb** **03 34 16.1 -3.7**
NAY AML AML 03 34 27.8
comp=Z,99nm,0.7s
NAY Al-Naaiem 3.30 217 *eP* **Pn** **03 33 35.6 +2.9**
NAY *eS* **Sb** **03 34 16.1 -3.7**
ISFB Sefidab 3.34 42 *ePn* **Pn** **03 33 35.9 +2.6**
ISFB *e* 03 34 31.9
comp=Z,3µm,0.4s
ISFB Sefidab 3.34 42 *ePn* **Pn** **03 33 35.9 +2.6**
IR5 Iran Long-Peri 3.42 15 *ePn* **Pn** **03 33 37.4 +2.9**
IR5 Iran Long-Peri 3.42 15 *ePn* **Pn** **03 33 37.4 +2.9**
RDF Al-Radifah 3.42 211 *eP* **Pn** **03 33 37.6 +3.2**
RDF *eS* **Sn** **03 34 18.0 +3.3**
RDF AML AML 03 34 20.8
comp=Z,110nm,0.3s
RDF Al-Radifah 3.42 211 *eP* **Pn** **03 33 37.6 +3.2**
RDF *eS* **Sn** **03 34 18.0 +3.3**
comp=Z,110nm,0.3s
QRN Al-Qurain 3.44 204 *eP* **Pn** **03 33 37.1 +2.5**
IVIS Veis 3.45 320 *ePn* **Pn** **03 33 38.1 +3.2**
IVIS *e* 03 34 51.6
comp=Z,3µm,0.2s
IVIS Veis 3.45 320 *ePn* **Pn** **03 33 38.1 +3.2**
IGHG Ghaleghazi 3.47 315 *ePn* **Pn** **03 33 38.4 +3.1**
IGHG Ghaleghazi 3.47 315 *ePn* **Pn** **03 33 38.4 +3.1**
IRAZ Razeghan 3.51 5 *ePn* **Pn** **03 33 39.0 +3.2**
IRAZ *e* 03 34 56.9
comp=Z,4µm,0.4s
IRAZ Razeghan 3.51 5 *ePn* **Pn** **03 33 39.0 +3.2**
ISAD Sadrabad 3.53 89 *ePn* **Pn** **03 33 38.8 +2.7**
ISAD *e* 03 34 46.7
comp=Z,3µm,0.6s
ISAD Sadrabad 3.53 89 *ePn* **Pn** **03 33 38.8 +2.7**
IVRN Varamin 3.59 30 *ePn* **Pn** **03 33 39.6 +2.8**
IVRN *e* 03 33 56.0
comp=Z,2µm,0.2s
IVRN Varamin 3.59 30 *ePn* **Pn** **03 33 39.6 +2.8**
IPAR Pars 3.65 123 *ePn* **Pn** **03 33 40.3 +2.5**
IPAR *e* 03 34 58.4
comp=Z,2µm,0.6s
IPAR Pars 3.65 123 *ePn* **Pn** **03 33 40.3 +2.5**
SNGE Sanandaj 3.67 331 *ePn* **Pn** **03 33 40.2 +2.2**
SNGE AML AML 03 34 28.6
comp=N,211nm,0.6s
SNGE AML AML 03 34 47.4
comp=E,248nm,0.7s
SNGE Sanandaj 3.67 331 *ePn* **Pn** **03 33 40.2 +2.2**
ILIN Lien 3.70 325 *ePn* **Pn** **03 33 40.8 +2.4**
ILIN *e* 03 34 28.3
comp=Z,7µm,0.2s
ILIN Lien 3.70 325 *ePn* **Pn** **03 33 40.8 +2.4**
IR3 Iran Long-Peri 3.78 19 *ePn* **Pn** **03 33 42.3 +3.0**
IR3 Iran Long-Peri 3.78 19 *ePn* **Pn** **03 33 42.3 +3.0**
IDHR Dehrash 3.84 317 *ePn* **Pn** **03 33 43.2 +2.9**
IDHR *e* 03 34 31.1
comp=Z,12µm,0.1s
IDHR Dehrash 3.84 317 *ePn* **Pn** **03 33 43.2 +2.9**
IMHD Mahdasht 3.89 14 *ePn* **Pn** **03 33 43.8 +2.9**
IMHD *e* 03 33 56.5
comp=Z,2µm,0.3s
IMHD Mahdasht 3.89 14 *ePn* **Pn** **03 33 43.8 +2.9**
ICHK Chekchek 4.15 84 *ePn* **Pn** **03 33 47.0 +2.4**
ICHK *e* 03 35 05.1
comp=Z,1µm,0.4s
ICHK Chekchek 4.15 84 *ePn* **Pn** **03 33 47.0 +2.4**
THKV Tehran--Karaj 4.16 15 *ePn* **Pn** **03 33 47.5 +2.8**
THKV AML AML 03 35 01.9
comp=N,102nm,0.5s
THKV AML AML 03 35 12.3
comp=E,99nm,0.6s
THKV Tehran--Karaj 4.16 15 *ePn* **Pn** **03 33 47.5 +2.8**
IDMV Damavand 4.22 29 *ePn* **Pn** **03 33 48.2 +2.6**
IDMV *e* 03 35 04.1
comp=Z,1µm,0.3s
IDMV Damavand 4.22 29 *ePn* **Pn** **03 33 48.2 +2.6**
DAMV Damavand 4.24 28 *ePn* **Pn** **03 33 48.4 +2.5**
DAMV Damavand 4.24 28 *ePn* **Pn** **03 33 48.4 +2.5**
IMEH Mehriz 4.36 95 *ePn* **Pn** **03 33 49.9 +2.4**
IMEH *e* 03 35 09.2
comp=Z,606nm,0.5s
IMEH Mehriz 4.36 95 *ePn* **Pn** **03 33 49.9 +2.4**
IGZV Ghazvin 4.51 7 *ePn* **Pn** **03 33 51.4 +1.8**
IFIR Firoozkooh 4.59 35 *ePn* **Pn** **03 33 53.4 +2.6**
IFIR *e* 03 33 55.0
comp=Z,911nm,0.2s
IFIR Firoozkooh 4.59 35 *ePn* **Pn** **03 33 53.4 +2.6**
IBAF Bafgh 5.15 92 *ePn* **Pn** **03 34 00.4 +2.1**
IBAF *e* 03 34 01.2
comp=Z,351nm,0.1s
IBAF Bafgh 5.15 92 *ePn* **Pn** **03 34 00.4 +2.1**
GNI Garni 9.10 336 LR LR 03 38 10.1
comp=Z,29nm,19.9s,baz=286,slow=36
ASF Jabal al Asfar 10.73 275 Pn **Pn** **03 35 14.3 -0.5**
comp=Z,1.5nm,0.3s,baz=38,slow=7.6,SNR=12
ASF Sn Sn 03 37 06.9 -7.7
comp=Z,0.3nm,0.3s,baz=229,slow=19,SNR=3.4
ASF Lg Lg 03 38 24.8
comp=Z,0.4nm,0.3s,baz=72,slow=20,SNR=1.8
ASF LR LR 03 40 17.3
comp=Z,48nm,20.1s,baz=233,slow=43
MMAI Mount Meron Ar 11.99 279 Pn **Pn** **03 35 30.9 -1.1**
comp=Z,0.2nm,0.3s,baz=95,slow=16,SNR=2.5
MMAI Sn **Sn** **03 37 44.2 -1.3**
comp=Z,0.7nm,0.3s,baz=104,slow=18,SNR=3.3
MMAI Lg Lg 03 39 00.6
baz=123,slow=42,SNR=2.1
EIL Elat 12.74 264 Pn **Pn** **03 35 40.5 -1.7**
comp=Z,0.4nm,0.3s,baz=12,slow=6.5,SNR=6.6
EIL Lg Lg 03 39 34.0
baz=14,slow=19,SNR=1.8
KBZ Khabaz 12.92 338 Pn Pn 03 35 48.6 +4.1
comp=Z,0.0nm,0.3s,baz=299,slow=19,SNR=2.1
BRTR Keskin Array B 15.06 306 Pn **Pn** **03 36 14.4 +0.4**
comp=Z,0.0nm,0.3s,baz=139,slow=13,SNR=2.4
AKTO Aktyubinsk 19.56 16 P **P** **03 37 08.0 -0.7**
comp=Z,0.4nm,0.3s,baz=215,slow=12,SNR=10
IDI Anoyia 20.79 286 P **P** **03 37 23.6 +1.3**
comp=Z,3.8nm,0.4s,baz=99,slow=10,SNR=9.5
ATD Arta Tunnel 21.19 198 LR LR 03 46 09.9
comp=Z,73nm,21.3s,baz=211,slow=38
CFR Carcaliu 21.27 315 ⇑*iP* **P** **03 37 27.3 +0.1**
AAK Ala-Archa 22.49 54 P **P** **03 37 40.6 +0.1**
comp=Z,0.5nm,0.3s,baz=176,slow=16,SNR=2.5
AAK LR LR 03 47 50.5
comp=Z,112nm,19.5s,baz=240,slow=40
MLR Muntele Rosu 22.77 313 ⇑*iP* **P** **03 37 46.3 +2.9**
VOIR 23.30 312 ⇓*iP* **P** **03 37 48.5 -0.4**
ARR Arges 23.53 312 ⇑*iP* **P** **03 37 50.7 -0.4**
AKASG Malin Array Be 24.06 327 P **P** **03 37 55.9 -0.2**
comp=Z,0.8nm,0.3s,baz=136,slow=8.0,SNR=3.5
BURAR Bucovina Array 24.27 317 ⇑*iP* **P** **03 37 59.8 +1.7**
DRGR 25.36 314 ⇑*iP* **P** **03 38 06.6 -1.4**
BVAR Borovoye Array 25.94 29 P **P** **03 38 13.9 +0.7**
comp=Z,2.2nm,0.7s,baz=232,slow=7.3,SNR=9.5
BVAR LR LR 03 50 46.1
comp=E,38nm,20.8s,baz=257,slow=42
KURBB Kurchatov Arra 28.45 40 P **P** **03 38 36.7 +1.1**
comp=Z,0.7nm,0.3s,baz=242,slow=9.8,SNR=4.1
MKAR Makanchi Array 29.12 50 P **P** **03 38 42.4 +0.6**
comp=Z,0.7nm,0.5s,baz=239,slow=8.4,SNR=6.6
GERES GERESS Array B 31.75 313 P **P** **03 39 04.7 -0.3**
comp=Z,0.2nm,0.6s,baz=104,slow=8.2,SNR=2.8
JOF Joensuu 33.14 345 *ep* **P** **03 39 15.8 -1.1**
comp=Z,2.5nm,0.7s
FINES FINESS Array B 33.27 340 P **P** **03 39 17.8 -0.2**
comp=Z,1.4nm,0.4s,baz=147,slow=9.8,SNR=19
ZALV Zalesovo Beam 33.43 38 P **P** **03 39 19.8 +0.3**
comp=Z,0.8nm,0.3s,baz=242,slow=8.9,SNR=6.1
KAF Kangasniemi 33.73 340 *ep* **P** **03 39 21.0 -1.1**
comp=Z,0.4nm,0.4s
MBDF Montbardon 35.52 304 *eP* **P** **03 39 37.4 -0.5**
comp=Z,8.4nm,0.8s
LPL La Plagne 35.64 305 *eP* **P** **03 39 38.5 -0.5**
comp=Z,9.4nm,0.9s
CABF La Chapelle 36.23 307 *eP* **P** **03 39 43.0 -0.9**
comp=Z,17nm,1.0s
SMF Signal de Mont 37.77 306 *eP* **P** **03 39 55.8 -1.1**
comp=Z,4.6nm,0.6s
LOR Lormes 37.83 307 *eP* **P** **03 39 56.3 -1.2**
comp=Z,12nm,1.1s
NB2 NORSAR Subarra 38.36 331 P **P** **03 40 00.7 -1.0**
comp=Z,1.4nm,0.6s,baz=123,slow=8.6
NOA NORSAR Array B 38.36 331 P **P** **03 40 00.9 -0.8**
comp=Z,1.6nm,0.6s,baz=122,slow=8.3,SNR=9.2
ARCES ARCESS Array B 40.05 347 P **P** **03 40 16.1 +0.4**
comp=Z,4.0nm,1.0s,baz=163,slow=9.4,SNR=4.3
ESDC Sonseca Array 43.54 296 P **P** **03 40 44.4 -0.4**
comp=Z,0.1nm,0.4s,baz=130,slow=8.2,SNR=3.3
SONM Songino Array 45.42 52 P **P** **03 40 59.8 +0.1**
comp=Z,0.3nm,0.6s,baz=262,slow=8.3,SNR=2.1
CMAR Chiang Mai Arr 46.31 95 P **P** **03 41 07.5 +0.6**
comp=Z,0.8nm,0.3s,baz=295,slow=8.6,SNR=2.8
TORD Torodi Ar. Bea 47.55 259 P **P** **03 41 16.7 0.0**
comp=Z,4.3nm,0.7s,baz=57,slow=8.4,SNR=38
DBIC Dimbokro 56.45 256 P **P** **03 42 23.1 +0.1**
comp=Z,1.8nm,0.8s,baz=27,slow=9.0,SNR=2.9
KSRS Korea Array 62.95 61 P **P** **03 43 04.5 -3.0**
comp=Z,0.9nm,0.8s,baz=280,slow=7.3,SNR=4.4
KSRS LR LR 04 13 34.5
comp=Z,25nm,19.7s,baz=175,slow=39
PETK Petropavlovsk- 74.95 36 P **P** **03 44 23.2 +1.4**
comp=Z,2.4nm,1.0s,baz=303,slow=6.6,SNR=3.0
SCHQ Schleville 77.86 328 P **P** **03 44 37.8 -0.6**
comp=Z,4.4nm,1.0s,baz=72,slow=3.2,SNR=2.9
ILAR Eielson Array 82.79 7 P **P** **03 45 04.1 -0.5**
comp=Z,0.2nm,0.6s,baz=308,slow=4.8,SNR=3.8

*NEIC **10** 03:41:23.8≈0.4, 12.°49S×166.°43E, h35km, mb4.4/10, Error ellipse: s-maj=9.8km s-min=9.7km az=186.0*
*ISCJB **10** 03:41:24.5±0.5, 12.°61S±0.°07×166.°36E±0.°07, h59km, mb4.2/16, MS3.6/3, Error ellipse: s-maj=10.6km s-min=9.1km az=148.6*
*IDC **10** 03:41:25.8±3.5, 12.°50S×166.°32E, h51km×29km, mb4.0/9, mb1 4.2/11, mb1mx4.0/19, mbtmp4.1/11, ML4.3/2, MS3.6/5, Ms1 3.6/5, ms1mx3.4/24, Error ellipse: s-maj=24.0km s-min=21.2km az=89.0*
ISC 10 03:41:26.2±0.5, 12.60S±0.°07×166.°35E±0.°08, h59km, n43, σ0s99/43, mb4.2/16, MS3.7/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.04**	**296**	P	**Pn**	**03 43 06.1**	**-0.5**
HNR				S	**Sn**	**03 44 23.5**	**-1.7**
HNR	**Honiara**	**7.04**	**296**	P	**Pn**	**03 43 06.1**	**-0.5**
	19nm,0.3s,baz=161,slow=2.5,SNR=4.8						
HNR				S	**Sn**	**03 44 23.5**	**-1.7**
	18nm,0.3s,baz=156,slow=20,SNR=5.3						
DZM	**Mont Dzumac**	**9.42**	**179**	*ePn*	**Pn**	**03 43 39.9**	**+0.6**
	9.5nm,0.3s						
DZM				*e*LR	LR	03 45 58.2	
	429nm,24.6s						
DZM	**Mont Dzumac**	**9.42**	**179**	*ePn*	**Pn**	**03 43 39.8**	**+0.5**
	18nm,0.8s						
DZM				S	**Sn**	**03 45 21.9**	**-1.9**
DZM	**Mont Dzumac**	**9.42**	**179**	P	**Pn**	**03 43 40.2**	**+0.9**
	0.8nm,0.3s,baz=341,slow=23,SNR=11						
DZM				S	**Sn**	**03 45 21.9**	**-1.9**
	baz=315,slow=20,SNR=1.6						
DZM				LR	LR	03 47 01.2	
	comp=Z,404nm,21.7s,baz=30,slow=35						
MSVF	**Nonsavu**	**12.39**	**116**	*ePn*	**Pn**	**03 44 18.9**	**-0.9**
PMG	**Port Moresby**	**19.11**	**279**	LR	LR	03 51 23.9	
	comp=Z,133nm,21.4s,baz=178,slow=31						
EIDS	**Eidsvold**	**19.20**	**226**	*eP*	**Pn**	**03 45 47.0**	**+0.1**
	9.7nm,0.8s						
CTAO	**Charters Tower**	**20.66**	**246**	*eP*	Pn	03 46 03.3	-0.8
	10nm,1.0s						
AFI	**Afiamalu**	**21.33**	**96**	LR	LR	03 53 39.1	
	comp=Z,65nm,18.3s,baz=303,slow=34						
STKA	**Stephens Creek**	**29.76**	**226**	*eP*	**P**	**03 47 28.6**	**+1.4**
	0.6nm,0.5s						
STKA	**Stephens Creek**	**29.76**	**226**	P	**P**	**03 47 28.8**	**+1.6**
	1.9nm,0.3s,baz=26,slow=12,SNR=4.5						
WRAB	**Tennant Creek**	**31.53**	**252**	*eP*	**P**	**03 47 43.6**	**+0.6**
	8.2nm,1.3s						
WRA	**Warramunga Arr**	**31.55**	**252**	P	**P**	**03 47 42.9**	**-0.2**
WRA	**Warramunga Arr**	**31.55**	**252**	P	**P**	**03 47 42.9**	**-0.2**
	0.6nm,0.5s,baz=84,slow=9.2,SNR=7.0						
AS31	**Alice Springs**	**32.66**	**246**	*eP*	**P**	**03 47 53.7**	**+0.8**
ASAR	**Alice Springs**	**32.66**	**246**	P	**P**	**03 47 52.8**	**-0.2**
ASAR	**Alice Springs**	**32.66**	**246**	P	**P**	**03 47 52.8**	**-0.2**
	1.1nm,0.7s,baz=75,slow=9.4,SNR=12						
PPT2	**Papeete2**	**42.77**	**102**	*e*LR	LR	04 01 27.2	
	154nm,25.8s						
PPT	**Papeete**	**42.77**	**102**	LR	LR	04 03 45.1	
	comp=Z,94nm,18.9s,baz=159,slow=31						
MBWA	**Marble Bar**	**45.28**	**253**	*eP*	**P**	**03 49 39.2**	**+0.8**
	29nm,1.4s						
JNU	**Nakatsue**	**56.69**	**324**	*eP*	**P**	**03 51 04.0**	**+0.2**
	5.4nm,1.0s						
VNDA	**Vanda**	**64.95**	**181**	*eP*	**P**	**03 51 58.7**	**-0.5**
	7.1nm,1.0s						
PETK	**Petropavlovsk-**	**65.87**	**354**	P	**P**	**03 52 04.6**	**-0.8**
PETK	**Petropavlovsk-**	**65.87**	**354**	P	**P**	**03 52 04.6**	**-0.8**
	1.5nm,0.5s,baz=141,slow=2.8,SNR=4.5						
CMAR	**Chiang Mai Arr**	**73.28**	**294**	P	**P**	**03 52 53.4**	**+1.6**
CMAR	**Chiang Mai Arr**	**73.28**	**294**	P	**P**	**03 52 53.4**	**+1.6**
	1.1nm,0.3s,baz=121,slow=5.0,SNR=7.6						
CHTO	**Chiang Mai**	**73.40**	**294**	*eP*	**P**	**03 52 53.6**	**+1.1**
	8.2nm,0.6s						
QSPA	**South Pole Qui**	**77.41**	**180**	*eP*	**P**	**03 53 14.7**	**-0.2**
	5.1nm,0.9s						
SONM	**Songino Array**	**80.27**	**324**	P	**P**	**03 53 30.7**	**-0.1**
SONM	**Songino Array**	**80.27**	**324**	P	**P**	**03 53 30.7**	**-0.1**
	0.6nm,0.3s,baz=134,slow=6.6,SNR=8.1						
ILAR	**Eielson Array**	**84.79**	**18**	P	**P**	**03 53 54.3**	**+0.5**
ILAR	**Eielson Array**	**84.79**	**18**	P	**P**	**03 53 54.3**	**+0.5**
	0.2nm,0.5s,baz=240,slow=5.3,SNR=4.4						
ILAR				LR	LR	04 28 14.7	
	comp=Z,49nm,18.7s,baz=221,slow=33						
COLD	**Coldfoot**	**85.63**	**16**	*eP*	**P**	**03 53 57.0**	**-0.9**
	13nm,1.5s						
NVAR	**Mina Array Bea**	**86.57**	**50**	P	**P**	**03 54 04.5**	**+1.0**
NVAR	**Mina Array Bea**	**86.57**	**50**	P	**P**	**03 54 04.5**	**+1.0**
	0.2nm,0.7s,baz=234,slow=5.0,SNR=4.4						
MKAR	**Makanchi Array**	**95.06**	**317**	P	**P**	**03 54 42.4**	**-0.3**
MKAR	**Makanchi Array**	**95.06**	**317**	P	**P**	**03 54 42.4**	**-0.3**
	1.8nm,0.7s,baz=92,slow=6.9,SNR=13						
ARCES	**ARCESS Array B**	**117.98**	**345**	PKP	**PKPdf**	**04 00 04.2**	**-1.5**
ARCES	**ARCESS Array B**	**117.98**	**345**	PKP	**PKPdf**	**04 00 04.2**	**-1.5**
	2.5nm,0.9s,baz=11,slow=2.6,SNR=5.3						
KEST	**Kesra**	**149.01**	**322**	*e*PKPdf	**PKPdf**	**04 01 04.2**	**+0.2**
KEST				*e*PKPbc	**PKPbc**	**04 01 08.3**	**+0.1**
TORD	**Torodi Ar. Bea**	**165.03**	**274**	PKPab	**PKPab**	**04 02 22.5**	**+0.8**
TORD	**Torodi Ar. Bea**	**165.03**	**274**	PKPab	**PKPab**	**04 02 22.5**	**+0.8**
	1.7nm,0.9s,baz=78,slow=5.2,SNR=8.9						

*CSEM **10** 03:43:32.9±0.1, 40.°41N×27.°43E, h5km, MD2.8, Error ellipse: s-maj=2.3km s-min=2.1km az=177.0*
*DDA **10** 03:43:32.4, 40.°39N×27.°44E, h17km, MD2.8*

*ISK **10** 03:43:32.4, 40.°40N×27.°43E, h6km, MD2.8*
*THE **10** 03:43:35.3, 40.°45N×27.°51E, h31km±30km, ML2.4/5, Error ellipse: s-maj=30.3km s-min=1.2km az=306.0*
ISC 10 03:43:32.7±0.9, 40.40N±0.°02×27.42E±0.°02, h7km±7km, n83, σ0s54/115, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRBG	**Karabiga-Canak**	**0.09**	**269**	*ePG*	**Pg**	**03 43 34.5**	**-0.3**
KRBG	**Karabiga-Canak**	**0.09**	**269**	*ePg*	**Pg**	**03 43 34.5**	**-0.3**
RKY	**Sarkoy-Tekirda**	**0.34**	**328**	*ePG*	**Pg**	**03 43 39.7**	**+0.3**
RKY	**Sarkoy-Tekirda**	**0.34**	**328**	*ePg*	**Pg**	**03 43 39.7**	**+0.3**
SART	**Tekirdag**	**0.34**	**328**	*i* P	**Pg**	**03 43 39.7**	**+0.2**
SART				*i* S	**Sg**	**03 43 45.1**	**+1.1**
SART	**Tekirdag**	**0.34**	**328**	*i* P	**Pg**	**03 43 39.7**	**+0.2**
SART				*i* S	**Sg**	**03 43 45.1**	**+1.1**
BNT	**Bandirma**	**0.39**	**96**	*ePG*	**Pg**	**03 43 40.0**	**-0.2**
BNT				*e*SG	**Sg**	**03 43 45.8**	**+0.6**
BNT	**Bandirma**	**0.39**	**96**	*ePg*	**Pg**	**03 43 40.0**	**-0.2**
BNT				*e*Sg	**Sg**	**03 43 45.8**	**+0.6**
GONE	**Gonen-Balikesi**	**0.40**	**150**	*ePG*	**Pg**	**03 43 41.0**	**+0.5**
GONE	**Gonen-Balikesi**	**0.40**	**150**	*ePg*	**Pg**	**03 43 41.0**	**+0.5**
LPK	**Lapseki**	**0.50**	**268**	*ePG*	**Pg**	**03 43 42.9**	**+0.5**
LPK				*e*SG	**Sb**	**03 43 50.7**	**-0.7**
LPK	**Lapseki**	**0.50**	**268**	*ePg*	**Pg**	**03 43 42.9**	**+0.5**
LPK				*e*Sg	**Sb**	**03 43 50.7**	**-0.7**
TKR	**Tekirdag**	**0.60**	**8**	*ePG*	**Pb**	**03 43 45.3**	**-0.2**
TKR	**Tekirdag**	**0.60**	**8**	*ePg*	**Pb**	**03 43 45.3**	**-0.2**
BALY	**Balya**	**0.67**	**167**	*i* P	**Pg**	**03 43 45.8**	**+0.2**
BALY				*i* S	**Sg**	**03 43 54.7**	**+0.4**
BALY	**Balya**	**0.67**	**167**	*i* P	**Pg**	**03 43 45.8**	**+0.2**
BALY				*i* S	**Sg**	**03 43 54.7**	**+0.4**
KCTX	**Karacabey (Bur**	**0.73**	**100**	*ePG*	**Pg**	**03 43 46.1**	**-0.6**
KCTX	**Karacabey (Bur**	**0.73**	**100**	*ePg*	**Pg**	**03 43 46.1**	**-0.6**
CRLT	**Corlu**	**0.77**	**18**	*ePG*	**Pg**	**03 43 47.9**	**+0.4**
CRLT	**Corlu**	**0.77**	**18**	*ePg*	**Pg**	**03 43 47.9**	**+0.4**
BALB	**Balikesir**	**0.83**	**155**	*ePG*	**Pg**	**03 43 48.7**	**+0.1**
BALB	**Balikesir**	**0.83**	**155**	*ePg*	**Pg**	**03 43 48.7**	**+0.1**
SLVT	**Silivri**	**1.03**	**36**	*ePG*	**Pn**	**03 43 53.1**	**-0.4**
SLVT	**Silivri**	**1.03**	**36**	*ePg*	**Pn**	**03 43 53.1**	**-0.4**
ARMT	**Armutlu**	**1.11**	**81**	*ePN*	**Pn**	**03 43 54.2**	**-0.5**
ARMT	**Armutlu**	**1.11**	**81**	*ePn*	**Pn**	**03 43 54.2**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.12**	**91**	*ePN*	**Pn**	**03 43 54.5**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.12**	**91**	*ePn*	**Pn**	**03 43 54.5**	**-0.3**
DURS	**Dursunbey**	**1.13**	**134**	*i* P	**Pb**	**03 43 53.8**	**-0.9**
DURS				*i* S	**Sn**	**03 44 11.6**	**+0.7**
DURS	**Dursunbey**	**1.13**	**134**	*i* P	**Pb**	**03 43 53.8**	**-0.9**
DURS				*i* S	**Sn**	**03 44 11.6**	**+0.7**
ALN	**Alexandroupoli**	**1.16**	**296**	P	**Pb**	**03 43 54.9**	**-0.1**
ALN				S	**Sg**	**03 44 10.3**	**+0.4**
ALN	**Alexandroupoli**	**1.16**	**296**	*ePN*	**Pb**	**03 43 54.8**	**-0.3**
ALN	**Alexandroupoli**	**1.16**	**296**	P	**Pb**	**03 43 54.9**	**-0.1**
ALN				S	**Sg**	**03 44 10.3**	**+0.4**
CTKS	**Kestanelik-??a**	**1.18**	**44**	*ePN*	**Pb**	**03 43 55.1**	**-0.2**
CTKS	**Kestanelik-??a**	**1.18**	**44**	*ePn*	**Pb**	**03 43 55.1**	**-0.2**
BOZC	**Bozcaada**	**1.19**	**243**	*i* P	**Pg**	**03 43 55.9**	**+0.5**
BOZC				*i* S	**Sn**	**03 44 11.5**	**-0.5**
BOZC				*i* S	**Sg**	**03 44 11.8**	**+1.1**
AYVA	**Ayvalik**	**1.22**	**208**	*i* P	**Pg**	**03 43 56.6**	**+0.6**
AYVA				*i* S	**Sn**	**03 43 56.6**	**+0.1**
AYVA	**Ayvalik**	**1.22**	**208**	*i* P	**Pg**	**03 43 56.7**	**+0.6**
AYVA				*i* S	**Sn**	**03 44 13.0**	**+0.1**
PHSR	**Pinarhisar**	**1.24**	**4**	*ePN*	**Pn**	**03 43 55.9**	**-0.5**
PHSR	**Pinarhisar**	**1.24**	**4**	*ePn*	**Pn**	**03 43 55.9**	**-0.5**
CTYL	**Yal??k??y-??at**	**1.26**	**31**	*ePN*	**Pn**	**03 43 56.2**	**-0.5**
CTYL	**Yal??k??y-??at**	**1.26**	**31**	*ePn*	**Pn**	**03 43 56.3**	**-0.5**
BGKT	**Bogazkoy**	**1.29**	**52**	*ePN*	**Pn**	**03 43 56.6**	**-0.6**
BGKT	**Bogazkoy**	**1.29**	**52**	*ePn*	**Pn**	**03 43 56.6**	**-0.6**
GEMT	**Gemlik**	**1.35**	**88**	*ePN*	**Pg**	**03 43 58.5**	**-0.1**
GEMT	**Gemlik**	**1.35**	**88**	*ePn*	**Pg**	**03 43 58.5**	**-0.1**
BUY	**Buyukada**	**1.37**	**70**	*i* P	**Pn**	**03 43 57.8**	**-0.4**
BUY				*i* S	**Sg**	**03 44 17.1**	**+0.3**
BUY	**Buyukada**	**1.37**	**70**	*i* P	**Pn**	**03 43 57.8**	**-0.4**
BUY				*i* S	**Sg**	**03 44 17.1**	**+0.3**
ISK	**Istanbul-Kandi**	**1.42**	**61**	*ePN*	**Pb**	**03 43 59.0**	**-0.4**
ISK	**Istanbul-Kandi**	**1.42**	**61**	*ePn*	**Pb**	**03 43 59.0**	**-0.4**
SMTH	**Samothraki Isl**	**1.44**	**274**	P	**Pn**	**03 43 59.0**	**-0.2**
SMTH				S	**Sn**	**03 44 17.8**	**-0.6**
SMTH	**Samothraki Isl**	**1.44**	**274**	P	**Pn**	**03 43 59.0**	**-0.2**
SMTH				S	**Sn**	**03 44 17.8**	**-0.6**
PRK	**Paraskevi**	**1.45**	**218**	P	**Pn**	**03 43 59.4**	**+0.1**
PRK				S	**Sb**	**03 44 18.8**	**+0.2**
PRK	**Paraskevi**	**1.45**	**218**	P	**Pn**	**03 43 59.4**	**+0.1**
PRK				S	**Sb**	**03 44 18.8**	**+0.2**
KLYT	**Kilyos**	**1.50**	**55**	*ePN*	**Pb**	**03 44 00.5**	**-0.3**
KLYT	**Kilyos**	**1.50**	**55**	*ePn*	**Pb**	**03 44 00.5**	**-0.3**
AKHS	**Akhisar**	**1.54**	**168**	*i* P	**Pn**	**03 44 00.5**	**-0.1**
AKHS				*i* S	**Sg**	**03 44 22.4**	**+0.1**
AKHS	**Akhisar**	**1.54**	**168**	*i* P	**Pn**	**03 44 00.5**	**-0.1**
AKHS				*i* S	**Sg**	**03 44 22.4**	**+0.1**
AKS	**Akhisar**	**1.54**	**169**	*ePN*	**Pb**	**03 44 01.2**	**-0.4**
AKS	**Akhisar**	**1.54**	**169**	*ePn*	**Pb**	**03 44 01.2**	**-0.4**
RDO	**Rodhopi**	**1.61**	**298**	P	**Pn**	**03 44 01.9**	**+0.3**
RDO	**Rodhopi**	**1.61**	**298**	P	**Pn**	**03 44 01.9**	**+0.3**
DEMI	**Demirci**	**1.68**	**143**	*i* P	**Pn**	**03 44 02.7**	**+0.1**
DEMI				*i* S	**Sg**	**03 44 27.5**	**+0.8**
DEMI	**Demirci**	**1.68**	**143**	*i* P	**Pn**	**03 44 02.7**	**+0.1**
DEMI				*i* S	**Sg**	**03 44 27.5**	**+0.8**
HRT	**Hereke**	**1.76

	9.4nm,0.9s								
PMG	**Port Moresby**	**18.96**	**279**	*e*P		**Pn**	**03 58 02.4**	**+0.2**
	21nm,1.0s								
PMG	**Port Moresby**	**18.96**	**279**	LR		LR	04 04 16.2		
	comp=Z,114nm,18.1s,baz=136,slow=34								
CTA	**Charters Tower**	**20.28**	**247**	P		**P**	**03 58 15.8**	**-0.2**
CTA	**Charters Tower**	**20.28**	**247**	P		**P**	**03 58 15.8**	**-0.2**
	3.1nm,0.8s,baz=30,slow=8.1,SNR=2.1								
CTAO	**Charters Tower**	**20.28**	**247**	*e*P		**P**	**03 58 16.0**	**+0.1**
	26nm,1.4s								
RMQ	**Roma**	**21.07**	**228**	P		**P**	**03 58 26.9**	**+2.5**
	baz=18,SNR=11								
AFI	**Afiamalu**	**21.50**	**95**	LR		LR	04 04 29.0		
	comp=Z,125nm,18.3s,baz=272,slow=30								
COEN	**Coen**	**22.34**	**265**	*e*P		**P**	**03 58 38.4**	**+0.2**
QLP	**Quilpie**	**24.55**	**234**	P		**P**	**03 59 00.4**	**+0.6**
	baz=21,SNR=5.4								
STKA	**Stephens Creek**	**29.28**	**226**	*e*P		**P**	**03 59 42.6**	**+0.2**
	1.2nm,0.9s								
STKA	**Stephens Creek**	**29.28**	**226**	P		**P**	**03 59 43.4**	**+0.9**
	baz=26,SNR=4.7								
STKA	**Stephens Creek**	**29.28**	**226**	P		**P**	**03 59 43.0**	**+0.6**
	2.6nm,0.6s,baz=12,slow=9.4,SNR=5.9								
STKA				LR		LR	04 10 53.0		
	comp=Z,105nm,18.4s,baz=25,slow=35								
WRA	**Warramunga Arr**	**31.20**	**253**	P		**P**	**03 59 58.0**	**-1.6**
WRA	**Warramunga Arr**	**31.20**	**253**	P		**P**	**03 59 58.0**	**-1.6**
	0.8nm,0.8s,baz=84,slow=9.6,SNR=5.9								
AS31	**Alice Springs**	**32.28**	**246**	*e*P		**P**	**04 00 07.8**	**-1.2**
ASAR	**Alice Springs**	**32.28**	**246**	P		**P**	**04 00 07.7**	**-1.4**
ASAR	**Alice Springs**	**32.28**	**246**	P		**P**	**04 00 07.7**	**-1.4**
	4.6nm,0.8s,baz=75,slow=9.4,SNR=33								
ASAR				LR		LR	04 13 08.2		
	comp=Z,178nm,22.0s,baz=97,slow=36								
BBOO	**Buckleboo**	**33.77**	**229**	P		**P**	**04 00 22.3**	**+0.4**
	baz=31,SNR=8.3								
FAKI	**Fak Fak**	**34.99**	**284**	P		P	04 00 23.7	-9.0	
	baz=30,SNR=4.0								
KNRA	**Kununurra**	**36.27**	**261**	P		P	04 00 34.6	-9.0	
	baz=32,SNR=3.3								
FITZ	**Fitzroy Crossi**	**39.27**	**257**	P		P	04 01 14.0	+5.0	
	baz=35,SNR=7.5								
PPT2	**Papeete2**	**42.88**	**102**	*e*LR		LR	04 13 27.1		
	115nm,28.0s								
MEEK	**Meekatharra**	**46.43**	**246**	P		**P**	**04 02 07.2**	**+0.1**
	baz=42,SNR=4.3								
VNDA	**Vanda**	**64.49**	**181**	*e*P		**P**	**04 04 16.0**	**-0.1**
	3.3nm,1.3s								
SBA	**Scott Base**	**64.79**	**180**	*e*P		**P**	**04 04 17.2**	**-0.9**
	6.4nm,1.2s								
USRK	**Ussuriysk Arra**	**64.92**	**334**	P		**P**	**04 04 20.1**	**+0.8**
	1.9nm,0.8s,baz=74,slow=8.0,SNR=4.1								
QSPA	**South Pole Qui**	**76.95**	**180**	*e*P		**P**	**04 05 31.8**	**-0.6**
	9.9nm,1.1s								
SONM	**Songino Array**	**80.51**	**324**	P		**P**	**04 05 53.6**	**+1.4**
SONM	**Songino Array**	**80.51**	**324**	P		**P**	**04 05 53.6**	**+1.4**
	0.6nm,0.8s,baz=128,slow=6.3,SNR=4.2								
ILAR	**Eielson Array**	**85.30**	**18**	P		**P**	**04 06 17.9**	**+1.5**
ILAR	**Eielson Array**	**85.30**	**18**	P		**P**	**04 06 17.9**	**+1.5**
	0.6nm,0.6s,baz=242,slow=5.2,SNR=12								
PFO	**Pinyon Flat Ob**	**86.94**	**55**	LR		LR	04 37 52.9		
	comp=Z,93nm,18.8s,baz=4.3,slow=30								
TMUT	**Trail Mountain**	**92.58**	**50**	*e*P		**P**	**04 06 51.8**	**-0.3**
	3.6nm,0.9s								
SNAA	**Sanae**	**95.13**	**183**	*e*P		**P**	**04 07 02.2**	**-0.7**
	3.4nm,1.2s								
MKAR	**Makanchi Array**	**95.25**	**317**	P		**P**	**04 07 02.7**	**-1.1**
MKAR	**Makanchi Array**	**95.25**	**317**	P		**P**	**04 07 02.7**	**-1.1**
	0.7nm,0.7s,baz=94,slow=7.1,SNR=8.9								
ANMO	**Albuquerque**	**95.27**	**56**	LR		LR	04 46 34.9		
	comp=Z,84nm,18.2s,baz=344,slow=33								
ZALV	**Zalesovo Beam**	**95.41**	**324**	P		**P**	**04 07 03.2**	**-1.0**
ZALV	**Zalesovo Beam**	**95.41**	**324**	P		**P**	**04 07 03.2**	**-1.0**
	0.8nm,0.5s,baz=122,slow=7.0,SNR=3.3								
BUR08	**Bucovina Ar. S**	**132.62**	**325**	*e*PKPdf		**PKPdf**	**04 12 53.6**	**-1.3**
ECH	**Echery**	**140.84**	**338**	*e*PKPdf		**PKPdf**	**04 13 10.1**	**+0.2**
TUE	**Stuetta**	**141.38**	**334**	*e*PKPdf		**PKPdf**	**04 13 10.3**	**-0.9**
CEL	**Celeste**	**143.56**	**319**	*e*PKPdf		PKPab	04 13 11.8	+0.3	
BNI	**Bardonecchia**	**143.64**	**335**	*e*PKPdf		PKPbc	04 13 12.6	0.0	
SSB	**Saint Sauveur**	**144.28**	**338**	*e*PKPdf		**PKPab**	**04 13 14.0**	**-0.1**
KEST	**Kesra**	**149.24**	**321**	PKPbc		**PKPbc**	**04 13 28.9**	**-0.2**
KEST	**Kesra**	**149.24**	**321**	PKPbc		**PKPbc**	**04 13 28.9**	**-0.2**
	2.3nm,0.8s,baz=316,slow=4.0,SNR=10								
TORD	**Torodi Ar. Bea**	**164.84**	**272**	PKP		**PKPdf**	**04 13 43.6**	**-1.4**
TORD				PKPab		**PKPab**	**04 14 40.2**	**-0.9**
TORD	**Torodi Ar. Bea**	**164.84**	**272**	PKP		**PKPdf**	**04 13 43.6**	**-1.4**
	0.7nm,1.1s,baz=209,slow=2.6,SNR=3.7								
TORD				PKPab		**PKPab**	**04 14 40.2**	**-0.9**
	0.3nm,0.7s,baz=78,slow=4.8,SNR=3.1								

IDC 10 04:22:07.4±4.5, 15°39S×173°43W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/17, mbtmp3.9/4, MS3.4/4, Ms1 3.4/4, ms1mx3.2/23, Error ellipse: s-maj=198.7km s-min=32.2km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.17**	**48**	Pn	Pn	04 22 39.4	-5.5
	90nm,0.3s,baz=51,slow=1.9,SNR=18						
AFI				Sn	Sn	04 22 59.3	-13
	524nm,0.3s,baz=72,slow=19,SNR=36						
AFI				LR	LR	04 23 14.3	
	comp=Z,737nm,20.9s,baz=130,slow=31						
RAR	**Rarotonga**	**14.20**	**116**	LR	LR	04 29 00.6	
	comp=Z,137nm,19.6s,baz=270,slow=29						
HNR	**Honiara**	**26.65**	**280**	LR	LR	04 37 05.0	
	comp=Z,61nm,19.1s,baz=45,slow=34						
H11S2	**WAKE ISLAND Hy**	**38.94**	**329**	T	T	05 11 22.7	
	baz=152,slow=0.7,SNR=21						
H11S3	**WAKE ISLAND Hy**	**38.95**	**329**	T	T	05 11 17.3	
	baz=152,slow=0.7,SNR=19						
H11S1	**WAKE ISLAND Hy**	**38.96**	**329**	T	T	05 11 25.0	
	baz=152,slow=0.7,SNR=19						
H11N3	**WAKE ISLAND Hy**	**39.89**	**330**	T	T	05 12 23.2	
	baz=153,slow=0.7,SNR=15						
H11N1	**WAKE ISLAND Hy**	**39.89**	**330**	T	T	05 12 25.7	
	baz=153,slow=0.7,SNR=8.6						
H11N2	**WAKE ISLAND Hy**	**39.90**	**330**	T	T	05 12 30.6	
	baz=153,slow=0.7,SNR=16						
STKA	**Stephens Creek**	**44.02**	**240**	P	P	04 30 16.1	-0.9
	2.3nm,1.0s,baz=54,slow=8.7,SNR=2.8						
WRA	**Warramunga Arr**	**49.82**	**257**	P	P	04 31 02.4	-0.2
	0.6nm,0.7s,baz=91,slow=6.9,SNR=19						
ASAR	**Alice Springs**	**50.09**	**252**	P	P	04 31 04.7	+0.1
	2.0nm,0.6s,baz=88,slow=8.0,SNR=22						
USRK	**Ussuriysk Arra**	**77.36**	**323**	LR	LR	05 06 18.7	
	comp=Z,55nm,19.0s,baz=312,slow=34						
ILAR	**Eielson Array**	**82.44**	**11**	P	P	04 34 30.4	-0.8
	0.4nm,0.7s,baz=226,slow=7.2,SNR=4.2						
BRTR	**Keskin Array B**	**146.13**	**321**	PKPbc	PKPab	04 41 50.6	0.0
	1.0nm,0.7s,baz=107,slow=1.4,SNR=6.0						

WEL 10 04:26:34.0±0.7, 46°04S×165°92E, h28km±2km, ML3.8/10, Error ellipse: s-maj=7.0km s-min=2.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.55**	**104**	P*	Pb	04 26 43.4	-1.8
PYZ				S*	Sb	04 26 49.6	-3.2
DCZ	**Deep Cove**	**1.03**	**58**	PN	Pn	04 26 52.0	-0.5
DCZ				AML	AML	04 27 06.5	
DCZ				AML	AML	04 27 07.0	
WHZ	**Wether Hill Ro**	**1.42**	**85**	PN	Pn	04 26 57.5	-0.5
WHZ				AML	AML	04 27 18.2	
WHZ				AML	AML	04 27 22.4	
APZ	**The Paps**	**1.64**	**120**	PN	Pn	04 26 58.9	-2.1
MLZ	**Mavora Lakes**	**1.73**	**67**	PN	Pn	04 27 03.1	+1.0
MLZ				AML	AML	04 27 29.1	
MLZ				AML	AML	04 27 37.9	
MSZ	**Milford Sound**	**1.97**	**47**	PN	Pn	04 27 07.2	+1.8
MSZ				AML	AML	04 27 43.0	
MSZ				AML	AML	04 27 49.5	
SYZ	**Scrubby Hill**	**2.29**	**104**	PN	Pn	04 27 09.1	-0.8
SYZ				SN	Sn	04 27 36.3	-0.8
WKZ	**Wanaka**	**2.50**	**62**	PN	Pb	04 27 15.7	-2.4
WKZ				AML	AML	04 27 54.4	
WKZ				AML	AML	04 27 54.5	
EAZ	**Earnscleugh**	**2.51**	**73**	PN	Pn	04 27 15.2	+2.3
EAZ				AML	AML	04 27 47.6	
EAZ				AML	AML	04 27 48.6	
TUZ	**Tuapeka**	**2.59**	**90**	PN	Pn	04 27 14.3	+0.3
TUZ				AML	AML	04 27 48.6	
TUZ				AML	AML	04 27 52.4	
JCZ	**Jackson Bay**	**2.81**	**47**	PN	Pn	04 27 20.4	+3.2
JCZ				AML	AML	04 28 11.7	
JCZ				AML	AML	04 28 11.7	
ODZ	**Otahua Downs**	**3.47**	**75**	PN	Pn	04 27 26.2	+0.1
FOZ	**Fox Glacier**	**3.65**	**49**	PN	Pb	04 27 33.3	-4.4
LTZ	**Lake Taylor**	**5.59**	**57**	PN	Pn	04 27 58.2	+2.8

CASC 10 04:36:10.2±1.4, 13°03N×91°02W, h0km±7km, MD3.6, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**1.41**	**16**	*e*P	Pn	04 36 36.6	-0.9
JAT	**Jato**	**1.42**	**335**	*e*P	Pn	04 36 36.6	-0.6
FUG	**Fuego 3**	**1.42**	**7**	*e*P	Pn	04 36 36.3	-1.2
SBLS	**San Blas**	**1.58**	**59**	*i* P	Pn	04 36 38.6	-1.2
RTR	**El Retiro**	**1.59**	**57**	*i* P	Pn	04 36 38.8	-1.0
NBG	**Las Nubes**	**1.68**	**23**	*e*P	Pn	04 36 41.2	-0.1
RBDL	**Robledal**	**1.68**	**50**	*i* P	Pn	04 36 40.2	-1.0
LFRS	**El Faro**	**1.99**	**73**	*i* P	Pn	04 36 45.5	+0.2
LBRS	**Las Brisas**	**2.05**	**70**	*i* P	Pn	04 36 46.0	0.0
SNVI	**San Vicente**	**2.20**	**74**	*i* P	Pn	04 36 47.1	-1.2
SNVI				*e*S	Sb	04 37 18.2	-0.8
MRL	**Marmol**	**2.40**	**32**	*e*P	Pn	04 36 51.9	+0.9

IDC 10 04:54:37.0±57.0, 11°15S×166°98E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/16, mbtmp3.8/3, MS2.7/1, Ms1 2.7/1, ms1mx2.6/21, Error ellipse: s-maj=973.3km s-min=117.3km az=60.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.12**	**283**	LR	LR	04 58 53.0	
	comp=Z,59nm,19.1s,baz=203,slow=36						
STKA	**Stephens Creek**	**31.21**	**225**	P	P	05 00 58.8	+0.6
	1.0nm,0.7s,baz=36,slow=8.7,SNR=3.6						
WRA	**Warramunga Arr**	**32.58**	**250**	P	P	05 01 10.4	0.0
	0.7nm,0.6s,baz=82,slow=8.6,SNR=17						
ASAR	**Alice Springs**	**33.83**	**244**	P	P	05 01 20.9	-0.5
	1.1nm,0.8s,baz=71,slow=9.4,SNR=12						

IDC 10 05:00:04.1±6.8, 15°62S×172°91W, h0km, mb4.1/2, mb1 4.3/2, mb1mx3.7/19, mbtmp4.1/2, Error ellipse: s-maj=279.5km s-min=22.4km az=136.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.03**	**33**	Pn	Pn	05 00 39.5	-0.2
	12nm,0.3s,baz=47,slow=1.3,SNR=6.4						
AFI				Sn	Sn	05 01 05.9	+0.1
	83nm,0.3s,baz=23,slow=23,SNR=15						
WRA	**Warramunga Arr**	**50.25**	**257**	P	P	05 09 02.3	-0.2
	0.8nm,0.6s,baz=94,slow=7.4,SNR=8.2						
ASAR	**Alice Springs**	**50.49**	**252**	P	P	05 09 04.0	-0.4
	3.9nm,0.8s,baz=89,slow=8.1,SNR=33						
BRTR	**Keskin Array B**	**146.62**	**321**	PKPbc	PKPbc	05 19 47.9	-0.3
	1.2nm,0.9s,baz=126,slow=1.7,SNR=6.7						

*ISCJB **10** 05:02:33.8±0.2, 41°26S×0°02×174°63E±0°04, h60km±3km, mb4.4/9, MS3.5/1, Error ellipse: s-maj=5.3km s-min=3.1km az=37.7*
*NEIC **10** 05:02:35.6, 41°17S×174°61E, h42km, mb4.5/5, ML4.8(WEL), After WEL.*
NEIC Felt in the Wellington area.
*WEL **10** 05:02:35.5±0.0, 41°16S×174°60E, h42km, ML4.8/21, Error ellipse: s-maj=0.5km s-min=0.5km az=0.0, reported intensity MM 6.*
WEL Felt from King Country to Marlborough, and from Nelson to Wairarapa, maximum.
*IDC **10** 05:02:36.6±2.1, 40°89S×174°58E, h63km±19km, mb4.1/5, mb1 4.2/6, mb1mx3.9/16, mbtmp4.0/6, MS3.4/2, Ms1 3.4/2, ms1mx3.1/18, Error ellipse: s-maj=22.2km s-min=16.6km az=120.0*

ISC 10 05:02:35.1±0.7, 41°22S±0°03×174°62E±0°03, h53km±4km, n134, σ1°28/146, mb4.5/9, 7C-10D, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNZO	**South Karori**	**0.11**	**145**	⇓P*	**Pn**	**05 02 42.6**	**-0.7**
SNZO				S*	**Sn**	**05 02 48.1**	**-1.0**
SNZO				AML	AML	05 02 49.1	
SNZO	**South Karori**	**0.11**	**145**	*e*Pg	**Pn**	**05 02 42.5**	**-0.8**
SNZO				*e*Sg	**Sn**	**05 02 47.9**	**-1.2**
WEL	**Wellington**	**0.13**	**120**	P*	**Pn**	**05 02 42.7**	**-0.7**
BHW	**Baring Head**	**0.26**	**135**	⇑P*	**Pn**	**05 02 44.1**	**0.0**
BHW				S*	**Sn**	**05 02 50.2**	**-0.5**
BHW				AML	AML	05 02 51.9	
TCW	**Tory Channel**	**0.26**	**272**	⇓P*	**Pn**	**05 02 43.1**	**-1.1**
TCW				AML	AML	05 02 49.3	
TCW				AML	AML	05 02 49.4	
CAW	**Cannon Point**	**0.35**	**71**	P*	**Pn**	**05 02 44.5**	**-0.5**
CAW				AML	AML	05 02 53.1	
CAW				AML	AML	05 02 53.2	
KIW	**Kapiti Island**	**0.42**	**31**	⇓P*	**Pn**	**05 02 44.7**	**-0.9**
KIW				AML	AML	05 02 51.8	
KIW				AML	AML	05 02 51.8	
MSWZ	**Moikau Station**	**0.51**	**112**	⇑P*	**Pn**	**05 02 46.8**	**+0.2**
MSWZ				AML	AML	05 02 57.6	
MSWZ				AML	AML	05 03 00.1	
TUWZ	**Tuamarina**	**0.55**	**248**	P*	**Pn**	**05 02 46.8**	**-0.3**
TUWZ				S*	**Sn**	**05 02 55.0**	**-0.8**
TUWZ				AML	AML	05 02 58.0	
OGWZ	**Otaki Gorge**	**0.58**	**46**	P*	**Pn**	**05 02 47.0**	**-0.4**
PLWZ	**Palliser**	**0.59**	**126**	⇑P*	**Pn**	**05 02 47.8**	**+0.2**
CMWZ	**Cape Campbell**	**0.61**	**210**	P*	**Pn**	**05 02 48.9**	**+1.1**
CMWZ				AML	AML	05 03 01.3	
CMWZ				AML	AML	05 03 07.8	
PAWZ	**Paruwai Farm**	**0.62**	**105**	⇑P*	**Pn**	**05 02 48.1**	**+0.1**
PAWZ				AML	AML	05 03 02.3	
PAWZ				AML	AML	05 03 02.6	
MTW	**Mount Morrison**	**0.67**	**85**	P*	**Pn**	**05 02 48.5**	**0.0**
MTW				S*	**Sn**	**05 02 58.6**	**+0.4**
MTW				AML	AML	05 03 00.9	
DUWZ	**D'Urville Isla**	**0.68**	**308**	⇑P*	**Pn**	**05 02 47.9**	**-0.8**
BSWZ	**Blackbirch Sta**	**0.75**	**229**	⇓P*	**Pn**	**05 02 50.0**	**+0.4**
BSWZ				AML	AML	05 03 01.9	
BSWZ				AML	AML	05 03 02.9	
HOWZ	**Holdsworth Sta**	**0.75**	**65**	⇓P*	**Pn**	**05 02 49.4**	**-0.2**
TRWZ	**Traveller**	**0.82**	**103**	⇑P*	**Pn**	**05 02 50.5**	**0.0**
TRWZ				AML	AML	05 03 09.5	
TRWZ				AML	AML	05 03 09.8	
MRZ	**Mangatainoka R**	**0.92**	**53**	⇓PN	**Pn**	**05 02 51.5**	**-0.3**
MRZ				AML	AML	05 03 08.8	
MRZ				AML	AML	05 03 08.8	
NNZ	**Nelson**	**0.94**	**270**	PN	**Pn**	**05 02 51.8**	**-0.2**
TIWZ	**Tintock**	**1.05**	**65**	⇓PN	**Pn**	**05 02 53.2**	**-0.4**
POWZ	**Post Office Ro**	**1.20**	**47**	PN	**Pn**	**05 02 55.0**	**-0.5**
PRWZ	**Pori Road**	**1.22**	**57**	⇓PN	**Pn**	**05 02 55.5**	**-0.3**
CPWZ	**Castlepoint**	**1.23**	**76**	PN	**Pn**	**05 02 56.4**	**+0.5**
BFZ	**Birch Farm**	**1.34**	**67**	PN	**Pn**	**05 02 56.6**	**-0.9**
THZ	**Tophouse**	**1.40**	**247**	PN	**Pn**	**05 02 58.5**	**+0.1**
KHZ	**Kahutara**	**1.44**	**214**	PN	**Pn**	**05 02 59.3**	**+0.5**
KHZ				AML	AML	05 03 36.7	
KHZ				AML	AML	05 03 37.5	
KHZ	**Kahutara**	**1.44**	**214**	*e*Pn	**Pn**	**05 02 59.0**	**+0.2**
DVHZ	**Dannevirke**	**1.49**	**52**	PN	**Pn**	**05 02 58.4**	**-1.1**
WAZ	**Wanganui**	**1.49**	**11**	PN	**Pn**	**05 03 00.4**	**+0.9**
TSZ	**Takapari Road**	**1.54**	**42**	PN	**Pn**	**05 02 59.5**	**-0.7**
TSZ				AML	AML	05 03 26.8	
TSZ				AML	AML	05 03 31.6	
PNHZ	**Pukenui**	**1.77**	**43**	PN	**Pn**	**05 03 02.3**	**-1.0**
PRHZ	**Porangahau**	**1.80**	**59**	PN	**Pn**	**05 03 02.2**	**-1.5**
WPHZ	**Waipukurau**	**1.80**	**51**	PN	**Pn**	**05 03 02.6**	**-1.1**
NMEZ	**Namu Road**	**1.90**	**342**	PN	**Pn**	**05 03 05.9**	**+0.9**
DFE	**Dawson Falls**	**1.93**	**348**	PN	**Pn**	**05 03 06.6**	**+1.0**
KHEZ	**Kahui Hut**	**1.98**	**346**	PN	**Pn**	**05 03 07.1**	**+0.8**
NEZ	**North Egmont**	**1.99**	**348**	PN	**Pn**	**05 03 07.4**	**+1.0**
MOVZ	**Moawhango**	**2.01**	**26**	PN	**Pn**	**05 03 06.0**	**-0.6**
PKVZ	**Pokaka**	**2.01**	**16**	PN	**Pn**	**05 03 07.3**	**+0.8**
NWEZ	**Newall Road**	**2.03**	**343**	PN	**Pn**	**05 03 07.7**	**+0.9**
WNVZ	**Wahianoa**	**2.03**	**22**	PN	**Pn**	**05 03 07.1**	**0.0**
TRVZ	**Turoa**	**2.05**	**21**	PN	**Pn**	**05 03 07.5**	**+0.2**
BHHZ	**Black Hill Sta**	**2.05**	**33**	PN	**Pn**	**05 03 06.7**	**-0.5**
DREZ	**Durham Road**	**2.06**	**351**	PN	**Pn**	**05 03 08.4**	**+1.2**
DRZ	**Dome Shelter**	**2.07**	**21**	PN	**Pn**	**05 03 08.2**	**+0.5**
WHVZ	**Whangaehu Hut**	**2.07**	**21**	PN	**Pn**	**05 03 07.5**	**-0.2**
PXZ	**Pawanui**	**2.08**	**56**	PN	**Pn**	**05 03 05.7**	**-1.7**
PXZ				AML	AML	05 03 56.1	
PXZ				AML	AML	05 03 56.2	
PXZ				AML	AML	05 04 15.8	
PXZ				AML	AML	05 04 16.1	
PKE	**Pukeiti**	**2.08**	**346**	PN	**Pn**	**05 03 08.3**	**+0.7**
FWVZ	**Far West T-bar**	**2.09**	**20**	PN	**Pn**	**05 03 07.6**	**-0.3**
VRZ	**Vera Road**	**2.10**	**3**	PN	**Pn**	**05 03 07.9**	**+0.1**
TUVZ	**Tukino**	**2.10**	**22**	PN	**Pn**	**05 03 08.1**	**+0.1**
WPVZ	**Whakapapa**	**2.13**	**20**	PN	**Pn**	**05 03 08.5**	**+0.1**
MHEZ	**Mangahewa**	**2.15**	**354**	*e*PN	**Pn**	**05 03 09.9**	**+1.4**
NGZ	**Ngauruhoe**	**2.18**	**20**	*e*PN	**Pn**	**05 03 09.2**	**+0.2**
DSZ	**Denniston Nort**	**2.18**	**255**	PN	**Pn**	**05 03 09.0**	**+0.1**
OTVZ	**Oturere**	**2.20**	**22**	PN	**Pn**	**05 03 09.4**	**0.0**
WTVZ	**West Tongariro**	**2.23**	**20**	*e*PN	**Pn**	**05 03 09.7**	**0.0**
KAHZ	**Kahuranaki**	**2.23**	**51**	PN	**Pn**	**05 03 07.9**	**-1.7**
TWVZ	**Taurewa**	**2.24**	**16**	*e*PN	**Pn**	**05 03 09.6**	**-0.1**
KRVZ	**Karewarewa**	**2.26**	**20**	PN	**Pn**	**05 03 10.3**	**+0.2**
LTZ	**Lake Taylor**	**2.35**	**228**	⇓PN	**Pn**	**05 03 11.0**	**-0.2**
MCHZ	**McNeill Hill**	**2.38**	**42**	PN	**Pn**	**05 03 10.2**	**-1.4**
RITZ	**Rihia Road**	**2.43**	**23**	PN	Pn	05 03 16.0	+3.6
BKZ	**Black Stump Fm**	**2.50**	**35**	PN	**Pn**	**05 03 11.7**	**-1.6**
BKZ				AML	AML	05 04 09.0	
BKZ				AML	AML	05 04 11.1	
HATZ	**Hinemaiaia**	**2.59**	**26**	PN	**Pn**	**05 03 17.5**	**+3.0**
NMHZ	**Naumai**	**2.70**	**39**	*e*PN	**Pn**	**05 03 14.4**	**-1.7**
HIZ	**Hauiti**	**2.71**	**4**	PN	**Pn**	**05 03 16.7**	**+0.6**
CRLZ	**Canterbury Las**	**2.78**	**212**	*e*PN	**Pn**	**05 03 16.1**	**-1.0**
OXZ	**Oxford**	**2.85**	**222**	PN	**Pn**	**05 03 16.4**	**-1.6**
MQZ	**McQueen's Vall**	**2.88**	**210**	PN	**Pn**	**05 03 16.5**	**-1.9**
ALRZ	**Allen Road**	**2.97**	**27**	*e*PN	**Pn**	**05 03 18.5**	**-1.7**
WVZ	**Waitahaa Valley**	**3.43**	**236**	PN	**Pn**	**05 03 25.0**	**+1.0**
URZ	**Urewera**	**3.52**	**34**	PN	**Pn**	**05 03 24.2**	**-3.1**
URZ				AML	AML	05 04 30.4	
URZ				AML	AML	05 04 31.5	
URZ	**Urewera**	**3.52**	**34**	*e*Pn	**Pn**	**05 03 25.2**	**-2.1**
URZ	**Urewera**	**3.52**	**34**	P	**Pn**	**05 03 24.5**	**-2.8**
	2.2nm,0.3s,baz=215,slow=7.4,SNR=20						
URZ				S	**Sn**	**05 04 03.5**	**-4.2**
	24nm,0.3s,baz=96,slow=22,SNR=5.9						
TOZ	**Tahuroa Road**	**3.55**	**11**	*e*PN	**Pn**	**05 03 27.2**	**-0.5**
RPZ	**Rata Peaks**	**3.63**	**225**	*e*PN	Pn	05 03 24.7	-4.0
RPZ	**Rata Peaks**	**3.63**	**225**	*e*Pn	**Pn**	**05 03 28.8**	**0.0**
RPZ				S	**Sn**	**05 04 06.9**	**-3.4**
RPZ	**Rata Peaks**	**3.63**	**225**	P	**Pn**	**05 03 28.0**	**-0.8**
	5.6nm,0.3s,baz=30,slow=3.7,SNR=19						
RPZ				S	**Sn**	**05 04 06.9**	**-3.4**
	27nm,0.3s,baz=304,slow=15,SNR=15						
RPZ				LR	LR	05 05 17.6	
	comp=Z,500nm,19.3s,baz=74,slow=42						
MWZ	**Matawai**	**3.65**	**39**	*e*PN	Pn	05 03 25.7	-3.3
MWZ				AML	AML	05 04 50.0	
MWZ				AML	AML	05 04 50.1	
MWZ				AML	AML	05 04 51.5	
MWZ				AML	AML	05 04 51.5	
KBAZ	**Karaka Road Bo**	**4.12**	**3**	*e*PN	**Pn**	**05 03 36.1**	**+0.5**
MKAZ	**Moumakai**	**4.13**	**6**	PN	**Pn**	**05 03 35.3**	**-0.3**
PUZ	**Puketiti**	**4.21**	**43**	AML	AML	05 04 24.2	
PUZ				AML	AML	05 05 07.7	
OTAZ	**Otara**	**4.27**	**3**	*e*PN	**Pn**	**05 03 38.8**	**+1.2**
FOZ	**Fox Glacier**	**4.34**	**236**	*e*PN	**Pn**	**05 03 35.5**	**-2.9**
RVAZ	**Riverhead Bore**	**4.45**	**360**	*e*PN	**Pn**	**05 03 40.4**	**+0.5**
LBZ	**Lake Benmore**	**4.55**	**224**	*e*PN	**Pn**	**05 03 40.0**	**-1.3**
KUZ	**Kuaotunu**	**4.55**	**11**	*e*PN	**Pn**	**05 03 42.6**	**+1.3**
MXZ	**Matakaoa Point**	**4.63**	**39**	AML	AML	05 05 00.2	
MXZ				AML	AML	05 05 12.1	
ODZ	**

18nm,0.3s,baz=236,slow=11,SNR=8.0
HNR Sn Sb 05 13 29.7 +1.5
167nm,0.3s,baz=253,slow=19,SNR=10.0
HNR LR LR 05 13 56.2
comp=Z,274nm,21.7s,baz=312,slow=42
WRA Warramunga Arr 26.02 240 P P 05 17 44.3 +0.6
1.3nm,0.8s,baz=67,slow=9.4,SNR=10
ASAR Alice Springs 28.10 239 P P 05 18 00.7 -1.8
0.4nm,0.8s,baz=68,slow=10,SNR=3.4
STKA Stephens Creek 28.57 210 P P 05 18 08.0 +1.5
2.8nm,0.8s,baz=24,slow=11,SNR=5.1
RAR Rarotonga 42.87 113 LR LR 05 36 41.3
comp=Z,139nm,18.1s,baz=273,slow=34

GUC 10 05:16:00.4±0.6, 32°51'S×71°43'W, h18km±6km, MD3.7, ML3.0, 4C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.54**	**199**↑	*iP*	Pg	05 16 11.1	-0.2
IHA				*i* S	Sg	05 16 18.6	0.0
CHNG	**Los Chungos**	**0.63**	**354**↓	*iP*	Pb	05 16 12.7	-0.1
CHNG				*i* S	Sg	05 16 21.6	+0.3
CHNG				AML	AML	05 16 21.9	
	comp=N,918nm,0.2s						
JACH	**Jahuel**	**0.72**	**104**↑	*iP*	Pg	05 16 15.0	+0.2
LCCH	**Las Cruces**	**0.97**	**187**	*eP*	Pb	05 16 17.6	-1.1
LCCH				*eS*	Sb	05 16 29.9	-1.3
STL	**Santa Lucia**	**1.13**	**145**	AML	AML	05 16 36.9	
	comp=N,147nm,0.3s						
CLCH	**Cerro Calan**	**1.16**	**140**↑	*iP*	Pn	05 16 21.0	-0.9
CLCH				*eS*	Sb	05 16 36.3	-0.5
CLCH				AML	AML	05 16 38.7	
	comp=N,594nm,0.4s						
TACH	**Talagante**	**1.21**	**160**	*eP*	Pn	05 16 21.6	-0.9
TACH				*eS*	Sb	05 16 37.6	-0.6
ANTU	**Antumapu**	**1.25**	**148**	*eP*	Pn	05 16 22.3	-0.8
ANTU				*eS*	Sb	05 16 38.2	-1.1
ANTU				AML	AML	05 16 42.3	
	comp=E,600nm,0.3s						
PCH	**Pirque**	**1.35**	**146**	*eP*	Pn	05 16 23.6	-0.8
PCH				*i* S	Sn	05 16 41.8	-0.2
CMCH	**Combarbala**	**1.38**	**15**↓	*iP*	Pn	05 16 24.0	-1.0
CMCH				*i* S	Sn	05 16 42.7	-0.2
LNV	**Longovilo**	**1.44**	**179**↑	*iP*	Pn	05 16 23.9	-1.7
LNV				*i* S	Sn	05 16 43.5	-0.6
CHCH	**Chadas Angostu**	**1.56**	**156**	*eP*	Pn	05 16 27.2	-0.1
LMEL	**Las Melosas**	**1.68**	**143**↓	*iP*	Pn	05 16 29.2	0.0
LMEL				*i* S	Sn	05 16 50.9	+0.5
LMEL				AML	AML	05 16 56.6	
	comp=N,886nm,0.2s						
CACH	**El Canelo**	**1.74**	**157**↓	*iP*	Pn	05 16 30.7	+0.7
CACH				*i* S	Sb	05 16 54.0	+0.2
TLL	**Tololo Astrono**	**2.40**	**13**	*eP*	Pn	05 16 40.6	+1.5
TLL				*eS*	Sb	05 17 10.7	-2.2
TLL				AML	AML	05 17 19.0	
	comp=N,264nm,0.6s						

WEL 10 05:17:24.6±0.7, 36°64'S×177°38'E, h236km±6km, ML3.7/6, Error ellipse: s-maj=8.3km s-min=6.9km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**1.59**	**154**	PN	Pn	05 18 02.0	-0.3
PUZ				AML	AML	05 18 06.0	
PUZ				AML	AML	05 18 55.6	
URZ	**Urewera**	**1.63**	**188**	PN	Pn	05 18 02.7	+0.1
URZ				SN	S	05 18 31.9	-0.6
URZ				AML	AML	05 20 34.1	
MWZ	**Matawai**	**1.69**	**176**	PN	Pn	05 18 03.4	+0.2
MWZ				SN	S	05 18 34.2	+0.6
MWZ				AML	AML	05 18 37.6	
CNGZ	**Carnagh Statio**	**1.95**	**161**	PN	Pn	05 18 05.9	+0.5
KNZ	**Kokohu**	**2.39**	**175**	PN	Pn	05 18 09.5	0.0
NMHZ	**Naumai**	**2.50**	**190**	PN	Pn	05 18 11.4	+0.5
BKZ	**Black Stump Fm**	**2.62**	**195**	PN	Pn	05 18 11.9	-0.2
BKZ				SN	S	05 18 48.6	-1.0
MCHZ	**McNeill Hill**	**2.85**	**191**	PN	Pn	05 18 15.2	+0.6
FWVZ	**Far West T-bar**	**2.98**	**208**	PN	Pn	05 18 16.6	+0.3
WHVZ	**Whangaehu Hut**	**2.99**	**208**	PN	Pn	05 18 15.9	-0.5
BHHZ	**Black Hill Sta**	**3.03**	**200**	PN	Pn	05 18 16.3	-0.3
WNVZ	**Wahianoa**	**3.03**	**207**	PN	Pn	05 18 16.7	0.0
PNHZ	**Pukenui**	**3.40**	**196**	PN	Pn	05 18 20.1	-0.6
BFZ	**Birch Farm**	**4.13**	**192**	PN	Pn	05 18 28.2	-1.0
MRZ	**Mangatainoka R**	**4.25**	**199**	PN	Pn	05 18 29.2	-1.5
HOWZ	**Holdsworth Sta**	**4.49**	**198**	PN	Pn	05 18 32.2	-1.5
OGWZ	**Otaki Gorge**	**4.51**	**202**	PN	Pn	05 18 32.1	-1.8
CAW	**Cannon Point**	**4.81**	**201**	PN	Pn	05 18 35.9	-1.6

IDC 10 05:25:18.7±3.4, 15°66S×173°53W, h0km, mb3.8/4, mb1 4.2/5, mb1mx3.9/19, mbtmp3.8/5, ML1.6/1, MS3.7/5, Ms1 3.7/5, ms1mx3.5/20, Error ellipse: s-maj=181.3km s-min=22.5km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.43**	**44**	Pn	Pn	05 25 58.4	-1.4
	8.6nm,0.3s,baz=256,slow=15,SNR=6.2						
AFI				SN	Sn	05 26 22.6	-7.8
	18nm,0.3s,baz=86,slow=21,SNR=5.9						
DZM	**Mont Dzumac**	**19.98**	**248**	*eLR*	LR	05 34 57.1	
	196nm,25.3s						
PAE	**Paea**	**23.03**	**98**	*eT*	T	05 54 42.6	
	1.7nm,0.2s						
PPT2	**Papeete2**	**23.03**	**98**	*eLR*	LR	05 36 10.9	
	262nm,25.8s						
PPT2	**Papeete2**	**23.03**	**98**	*eT*	T	05 54 43.4	
	2.5nm,0.3s						
TBI	**Tubuai**	**23.92**	**112**	*eT*	T	05 56 09.2	
	13nm,0.3s						
HNR	**Honiara**	**26.60**	**280**	LR	LR	05 39 10.2	
	comp=Z,136nm,19.0s,baz=161,slow=31						
RKT	**Rikitea**	**37.03**	**108**	*eT*	T	06 12 24.9	
	1.9nm,0.3s						
WRA	**Warramunga Arr**	**49.66**	**257**	P	P	05 34 11.8	-0.9
	1.1nm,0.9s,baz=89,slow=7.4,SNR=5.7						
WRA				LR	LR	05 53 44.8	
	comp=Z,72nm,19.3s,baz=330,slow=34						
ASAR	**Alice Springs**	**49.91**	**252**	P	P	05 34 14.7	+0.1
	3.4nm,0.7s,baz=86,slow=8.0,SNR=28						
QSPA	**South Pole Qui**	**74.38**	**180**	LR	LR	06 01 29.9	
	comp=Z,72nm,20.8s,baz=157,slow=29						
NVAR	**Mina Array Bea**	**74.61**	**42**	P	P	05 37 00.5	+0.3
	0.4nm,0.6s,baz=219,slow=5.6,SNR=4.1						
KSRS	**Korea Array**	**76.26**	**316**	LR	LR	06 05 12.0	
	comp=Z,24nm,21.0s,baz=130,slow=31						
ILAR	**Eielson Array**	**82.72**	**11**	P	P	05 37 44.6	+0.6
	0.5nm,0.9s,baz=226,slow=4.9,SNR=2.3						
MAW	**Mawson**	**LR**	**199**	LR	LR	06 18 00.4	
	comp=Z,95nm,18.5s,baz=200,slow=36						
BRTR	**Keskin Array B**	**146.28**	**321**	PKPbc	PKPdf	05 45 00.9	+0.2
	0.7nm,0.9s,baz=118,slow=2.5,SNR=2.8						

IDC 10 05:39:41.2±2.3, 6°65S×129°20E, h0km, mb3.7/1, mb1 3.7/3, mb1mx3.5/18, mbtmp3.5/3, ML3.5/2, MS3.7/1, Ms1 3.7/1, ms1mx2.9/23, Error ellipse: s-maj=147.2km s-min=32.3km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TLE	**Tual**	**3.66**	**74**	P	Sn	05 41 27.3	+4.4
	baz=9.7,SNR=6.4						
KNRA	**Kununurra**	**8.98**	**183**	P	Pn	05 41 58.2	+6.0
	baz=12,SNR=7.8						
FITZ	**Fitzroy Crossi**	**11.90**	**197**	P	Pn	05 42 36.7	+4.5
	baz=15,SNR=11						
WRA	**Warramunga Arr**	**14.12**	**160**	Pn	Pn	05 43 02.0	-0.7
	0.3nm,0.3s,baz=342,slow=14,SNR=17						
WRA				SN	Sn	05 45 26.8	-13
	0.8nm,0.3s,baz=338,slow=23,SNR=11						
ASAR	**Alice Springs**	**17.51**	**166**	P	Pn	05 43 47.3	+0.3
	0.1nm,0.3s,baz=348,slow=11,SNR=9.5						
ASAR				S	Sn	05 46 51.2	-12
	0.2nm,0.3s,baz=331,slow=21,SNR=5.7						
SONM	**Songino Array**	**57.87**	**342**	LR	LR	06 14 42.4	
	comp=Z,60nm,18.7s,baz=5.4,slow=36						
MKAR	**Makanchi Array**	**67.50**	**327**	P	P	05 50 39.2	0.0
	0.5nm,0.5s,baz=120,slow=8.0,SNR=4.1						

IDC 10 06:06:05.4±3.6, 12°10S×165°83E, h0km, mb4.1/5, mb1 4.1/5, mb1mx3.8/15, mbtmp4.0/5, Error ellipse: s-maj=125.7km s-min=29.9km az=134.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.21**	**251**	P	P	06 12 26.7	-0.1
	0.6nm,0.7s,baz=82,slow=9.3,SNR=4.5						
ASAR	**Alice Springs**	**32.41**	**245**	P	P	06 12 37.4	0.0
	1.0nm,0.8s,baz=66,slow=10,SNR=12						
SONM	**Songino Array**	**79.56**	**324**	P	P	06 18 14.7	+0.2
	2.1nm,1.1s,baz=137,slow=7.0,SNR=7.2						
ILAR	**Eielson Array**	**84.48**	**18**	P	P	06 18 39.8	+0.1
	23nm,0.7s,baz=235,slow=3.2,SNR=2.8						
MKAR	**Makanchi Array**	**94.34**	**317**	P	P	06 19 27.4	+0.3
	1.1nm,0.7s,baz=104,slow=6.1,SNR=8.1						
ZALV	**Zalesovo Beam**	**94.45**	**324**	P	P	06 19 26.3	-1.1
	0.3nm,0.4s,baz=91,slow=5.9,SNR=3.9						

IDC 10 06:06:16.8±2.7, 12°16S×165°96E, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.9/16, mbtmp4.1/5, MS3.2/1, Ms1 3.2/1, ms1mx2.7/27, Error ellipse: s-maj=93.1km s-min=38.0km az=124.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**18.67**	**277**	LR	LR	06 15 36.8	
	comp=Z,72nm,21.3s,baz=84,slow=30						
WRA	**Warramunga Arr**	**31.32**	**252**	P	P	06 12 39.0	-0.1
	0.8nm,0.7s,baz=83,slow=9.1,SNR=6.3						
WRA				PcP	PcP	06 15 33.4	-0.1
	0.5nm,1.0s,baz=95,slow=3.3,SNR=4.8						
ASAR	**Alice Springs**	**32.50**	**245**	P	P	06 12 49.4	-0.1
	1.7nm,0.6s,baz=69,slow=10,SNR=6.2						
ASAR				PcP	PcP	06 15 36.6	-0.1
	0.6nm,0.9s,baz=90,slow=5.0,SNR=4.8						
SONM	**Songino Array**	**79.69**	**324**	P	P	06 18 27.3	+0.8
	0.6nm,0.9s,baz=116,slow=6.8,SNR=3.5						
MKAR	**Makanchi Array**	**94.48**	**317**	P	P	06 19 39.0	-0.1
	1.6nm,0.6s,baz=100,slow=4.4,SNR=9.7						
ZALV	**Zalesovo Beam**	**94.58**	**324**	P	P	06 19 38.0	-1.3
	0.4nm,0.4s,baz=131,slow=4.6,SNR=2.7						

*IDC **10** 06:33:25.9±0.9, 3°37N×96°36E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.8/25, mbtmp3.9/9, Error ellipse: s-maj=41.3km s-min=18.2km az=55.0*
*ISCJB **10** 06:33:30.6±1.0, 3°24N±0°05×96°17E±0°08, h53km±10km, mb4.1/12, Error ellipse: s-maj=12.8km s-min=8.4km az=10.4*
*NEIC **10** 06:33:31.0±0.5, 3°31N×96°18E, h35km, mb4.5/3, Error ellipse: s-maj=13.4km s-min=8.4km az=216.0*
*DJA **10** 06:33:34.1±0.5, 3°N±2°×96°6E±°, h21km±7km, M4.4/4, mb4.8/4, mB5.3/1, MLv4.2/4, Mw(mB)4.8/1*

ISC 10 06:33:32.0±1.8, 3°18N±0°07×96°2E±0°1, h45km±18km, n44, σ1°13/40, mb4.0/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.79**	**167**	P	**Pn**	**06 33 45.3**	**-1.4**
SNSI				S	**Sn**	**06 33 59.3**	**+1.9**
KCSI	**Kotacane, Aceh**	**1.65**	**78**	P	**Pn**	**06 33 57.5**	**-1.0**
KCSI				S	**Sn**	**06 34 18.3**	**-0.2**
LHMI	**Lhok Sumawe**	**2.18**	**21**	P	Pn	06 34 10.9	+5.1
LHMI				S	Sn	06 34 38.0	+6.4
GSI	**Gunungsitoli**	**2.34**	**143**	P	**Pn**	**06 34 07.1**	**-1.0**
GSI				S	**Sn**	**06 34 36.5**	**+0.8**
PSI	**Prapat**	**2.79**	**98**	Pn	**Pn**	**06 34 15.2**	**+0.9**
PSI				Sn	Sn	06 34 54.0	+7.2
PSI	**Prapat**	**2.79**	**98**	Pn	**Pn**	**06 34 15.2**	**+0.9**
	10.0nm,0.3s,baz=300,slow=9.2,SNR=30						
PSI				Sn	Sn	06 34 54.0	+7.2
	26nm,0.3s,baz=149,slow=11,SNR=5.9						
KULM	**Kulim**	**4.95**	**65**	P	**Pn**	**06 34 44.9**	**+1.1**
KULM	**Kulim**	**4.95**	**65**	*ePn*	**Pn**	**06 34 42.3**	**-1.5**
IPM	**Ipoh**	**5.03**	**75**	P	**Pn**	**06 34 45.4**	**+0.5**
IPM	**Ipoh**	**5.03**	**75**	*ePn*	**Pn**	**06 34 43.6**	**-1.4**
	24nm,0.5s						
PPI	**Padang Panjang**	**5.57**	**130**	P	**Pn**	**06 34 53.2**	**+0.8**
	28nm,0.4s						
SKLT	**Songkhla**	**5.96**	**48**	P	**Pn**	**06 34 58.6**	**+1.0**
	25nm,0.7s						
LHSI	**Lahat**	**10.13**	**133**	P	**Pn**	**06 35 54.5**	**-0.5**
	70nm,0.8s						
MDSI	**Maura Dua**	**11.06**	**133**	P	**Pn**	**06 36 05.9**	**-1.7**
H08S2	**Diego Garcia H**	**25.94**	**245**	T	T	07 05 09.7	
	baz=66,slow=0.7,SNR=150						
H08S3	**Diego Garcia H**	**25.95**	**245**	T	T	07 05 09.8	
	baz=66,slow=0.7,SNR=177						
H08S1	**Diego Garcia H**	**25.96**	**245**	T	T	07 05 16.2	
	baz=66,slow=0.7,SNR=133						
NWAO	**Narrogin (SRO)**	**41.09**	**153**	*eP*	**P**	**06 41 12.7**	**+1.2**
	70nm,1.6s						
H01W3	**Cape Leeuwin H**	**41.46**	**157**	T	T	07 24 57.9	
	baz=333,slow=0.7,SNR=20						
H01W2	**Cape Leeuwin H**	**41.48**	**157**	T	T	07 24 58.8	
	baz=333,slow=0.7,SNR=20						
H01W1	**Cape Leeuwin H**	**41.48**	**157**	T	T	07 24 59.0	
	baz=333,slow=0.7,SNR=20						
WRA	**Warramunga Arr**	**43.98**	**123**	P	**P**	**06 41 34.9**	**-0.4**
WRA	**Warramunga Arr**	**43.98**	**123**	P	**P**	**06 41 34.9**	**-0.4**
	2.4nm,0.7s,baz=301,slow=9.0,SNR=64						
WRAB	**Tennant Creek**	**43.98**	**123**	*eP*	**P**	**06 41 34.7**	**-0.6**
	3.6nm,0.4s						
MK31	**Makanchi Array**	**45.08**	**347**	*eP*	**P**	**06 41 41.9**	**-1.7**
MKAR	**Makanchi Array**	**45.08**	**347**	P	**P**	**06 41 42.4**	**-1.2**
MKAR	**Makanchi Array**	**45.08**	**347**	P	**P**	**06 41 42.4**	**-1.2**
	0.8nm,0.3s,baz=158,slow=8.7,SNR=22						
SONM	**Songino Array**	**45.35**	**10**	P	**P**	**06 41 44.5**	**-1.4**
SONM	**Songino Array**	**45.35**	**10**	P	**P**	**06 41 44.5**	**-1.4**
	0.5nm,0.4s,baz=182,slow=9.1,SNR=4.7						
ASAR	**Alice Springs**	**45.42**	**128**	P	**P**	**06 41 46.2**	**-0.5**
ASAR	**Alice Springs**	**45.42**	**128**	P	**P**	**06 41 46.2**	**-0.5**
	0.7nm,0.6s,baz=300,slow=7.7,SNR=11						
KURK	**Kurchatov**	**49.62**	**345**	*eP*	**P**	**06 42 17.9**	**-1.0**
	1.2nm,0.8s						
ZALV	**Zalesovo Beam**	**51.45**	**351**	P	**P**	**06 42 31.3**	**-1.3**
ZALV	**Zalesovo Beam**	**51.45**	**351**	P	**P**	**06 42 31.3**	**-1.3**
	0.8nm,0.4s,baz=167,slow=7.4,SNR=4.3						
BVAR	**Borovoye Array**	**54.05**	**341**	P	**P**	**06 42 50.6**	**-1.2**
BVAR	**Borovoye Array**	**54.05**	**341**	P	**P**	**06 42 50.7**	**-1.2**
	0.5nm,0.4s,baz=132,slow=6.2,SNR=3.0						
BRTR	**Keskin Array B**	**67.01**	**312**	P	**P**	**06 44 22.4**	**+1.6**
BRTR	**Keskin Array B**	**67.01**	**312**	P	**P**	**06 44 22.4**	**+1.6**
	0.3nm,0.3s,baz=134,slow=6.2,SNR=2.5						
ARCES	**ARCESS Array B**	**80.33**	**340**	P	**P**	**06 45 38.0**	**0.0**
ARCES	**ARCESS Array B**	**80.33**	**340**	P	**P**	**06 45 38.0**	**0.0**
	2.9nm,0.9s,baz=90,slow=6.3,SNR=2.9						
TORD	**Torodi Ar. Bea**	**93.62**	**283**	P	**P**	**06 46 45.2**	**+0.8**
TORD	**Torodi Ar. Bea**	**93.62**	**283**	P	**P**	**06 46 45.2**	**+0.8**
	0.8nm,1.1s,baz=91,slow=5.7,SNR=2.5						
CFAA	**Coronel Fontan**	**148.13**	**206**	PKPbc	**PKPbc**	**06 53 14.1**	**+0.4**
CFAA	**Coronel Fontan**	**148.13**	**206**	PKPbc	**PKPbc**	**06 53 14.1**	**+0.4**
	0.1nm,0.7s,baz=18,slow=20,SNR=3.9						

*NEIC **10** 06:38:47.6, 33°00N×115°58W, h13km, ML3.5(PAS), After PAS.*
NEIC Felt [IV] at Brawley and [II] at Imperial. Also felt at Calexico, Calipatria, Holtville and Westmorland.
*ECX **10** 06:38:49.0±0.6, 32°92N×115°60W, h10km, MD3.4, ML3.5*

ISC 10 06:38:47.3±1.2, 32°92N±0°02×115°58W±0°02, h3km±12km, n27, σ1°39/37, 3C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RMX	**La Rumorosa**	**0.53**	**233**	*eP*	**Pg**	**06 38 58.3**	**+0.8**
RMX				*i* S	**Sg**	**06 39 05.7**	**+1.4**
RMX				⇑*e*		06 39 06.9	
	comp=E,2μm,0.2s						
CPBX	**Cerro Prieto**	**0.56**	**155**↑	*eP*	**Pg**	**06 38 58.9**	**+1.0**
CPBX				*eS*	**Sg**	**06 39 06.7**	**+1.6**
CPBX				⇓*e*		06 39 18.4	
	comp=N,8μm,0.5s						
CPBX				⇑*e*		06 39 20.9	
	comp=E,11μm,0.3s						
GLA	**Glamis**	**0.65**	**78**	*ePg*	**Pg**	**06 38 59.2**	**-0.5**
GLA				*eSg*	**Sg**	**06 39 08.3**	**+0.2**
BAR	**Barrett**	**0.95**	**255**	*ePn*	**Pg**	**06 39 04.6**	**-0.9**
BAR				*eSg*	**Sg**	**06 39 17.6**	**-0.2**
EMX	**El Mayor**	**0.98**	**163**	*eP*	**Pg**	**06 39 04.7**	**-1.3**
EMX				*eS*	**Sg**	**06 39 17.6**	**-1.1**
PFO	**Pinyon Flat Ob**	**1.00**	**313**	*ePg*	Pg	06 39 04.0	-2.5
PFO				*eSg*	**Sg**	**06 39 17.1**	**-2.4**
RDX	**Rancho Dawling**	**1.04**	**197**	*eP*	**Pg**	**06 39 06.7**	**-0.5**
ECBX	**El Chinero**	**1.52**	**163**	*eP*	**Pn**	**06 39 15.3**	**0.0**
ZAX	**El Zacaton**	**1.52**	**203**	*eP*	**Pn**	**06 39 14.7**	**-0.9**
PBX	**Punta Banda**	**1.53**	**220**	*eP*	**Pn**	**06 39 14.6**	**-0.9**
PBX				*eS*	**Sn**	**06 39 35.5**	**-0.4**
ECNX	**Esteban Cantu**	**1.53**	**215**	*eP*	**Pn**	**06 39 14.9**	**-0.7**
LDFC	**Landfair**	**2.18**	**10**	*ePg*	**Pn**	**06 39 26.9**	**+2.3**
MWC	**Mount Wilson**	**2.44**	**303**	*ePg*	**Pn**	**06 39 29.9**	**+1.6**
MWC				*eSg*	**Sb**	**06 40 01.9**	**-0.6**
PASC	**Pasadena Art C**	**2.51**	**300**	*ePg*	**Pn**	**06 39 31.5**	**+2.5**
PASC				*eSg*	**Sb**	**06 40 02.9**	**-1.3**
GSC	**Goldstone**	**2.58**	**337**	*ePn*	**Pn**	**06 39 28.9**	**-1.2**
GSC				*ePg*	**Pb**	**06 39 35.1**	**+0.9**
GSC				*eSg*	**Sb**	**06 40 05.4**	**-1.1**
OSI	**Osito Adit**	**3.11**	**304**	*ePg*	**Pb**	**06 39 45.2**	**+1.8**
SHPR	**Sheep Range**	**3.59**	**5**	*ePn*	Pn	06 39 41.7	-2.3
SHPR				*ePg*	**Pg**	**06 39 55.5**	**-0.6**
SHPR				*eSg*	**Sg**	**06 40 41.6**	**-1.0**
ISA	**Isabella**	**3.63**	**320**	*ePg*	**Pb**	**06 39 52.2**	**0.0**
TUC	**Tucson**	**4.09**	**97**	*ePn*	**Pn**	**06 39 48.8**	**-2.1**
TUC				*ePg*	Pb	06 40 04.6	+4.5
TUC				*eSg*	**Sg**	**06 40 56.9**	**-1.8**
WUAZ	**Wupatki**	**4.34**	**52**	*ePg*	**Pb**	**06 40 07.3**	**+3.0**
CCUT	**Cedar City**	**4.96**	**21**	*ePn*	**Pn**	**06 40 04.1**	**+1.2**
CCUT				*ePg*	Pb	06 40 19.7	+4.8
ARUT	**Antelope Range**	**5.16**	**19**	*ePg*	Pg	06 40 24.5	-1.7
	comp=E,321nm,0.6s						
R11A	**Troy Canyon, C**	**5.41**	**360**	*ePg*	Pb	06 40 27.9	+5.3
NV11	**Mina Array Sit**	**5.88**	**340**	*ePg*	**Pg**	**06 40 38.9**	**-1.1**
MVU	**Marysvale**	**6.20**	**25**	*ePn*	**Pn**	**06 40 20.9**	**+0.8**
	comp=E,15nm,0.8s						
MVU				*ePg*	Pg	06 40 44.6	-1.5
Q16A	**Castle Valley**	**6.97**	**30**	*ePg*	**Pg**	**06 40 59.7**	**-1.0**
Q16A				*eSg*	**Sg**	**06 42 31.2**	**+0.2**
MVCO	**Mesa Verde**	**7.21**	**52**	*ePg*	Pg	06 41 03.4	-2.0
	comp=E,8.5nm,0.6s						

IDC 10 06:50:01.0±1.7, 16°24S×172°47W, h0km, mb3.9/6, mb1 4.2/6, mb1mx4.0/19, mbtmp3.9/6, MS3.6/6, Ms1 3.7/6, ms1mx3.4/29, Error ellipse: s-maj=111.9km s-min=21.4km az=147.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.41**	**16**	Pn	Pn	06 50 34.2	-7.6
	58nm,0.3s,baz=39,slow=1.6,SNR=64						
AFI				Sn	Sn	06 50 58.8	-13
	359nm,0.3s,baz=49,slow=20,SNR=18						
AFI				LR	LR	06 51 27.5	
	comp=Z,666nm,21.7s,baz=219,slow=36						
PPT	**Papeete**	**21.94**	**97**	LR	LR	07 00 52.4	
	comp=Z,101nm,18.2s,baz=353,slow=30						
PPT2	**Papeete2**	**21.94**	**97**	*eLQ*	LQ	06 58 46.2	
	229nm,28.2s						
PPT2				*eLR*	LR	06 59 48.8	
	206nm,25.8s						
URZ	**Urewera**	**23.78**	**201**	LR	LR	07 03 14.0	
	comp=Z,264nm,18.8s,baz=22,slow=33						
HNR	**Honiara**	**27.71**	**281**	LR	LR	07 05 05.3	
	comp=Z,103nm,19.9s,baz=117,slow=33						
H11S2	**WAKE ISLAND Hy**	**40.14**	**328**	T	T	07 40 21.4	
	baz=150,slow=0.7,SNR=9.4						
H11S3	**WAKE ISLAND Hy**	**40.15**	**328**	T	T	07 40 21.6	
	baz=150,slow=0.7,SNR=9.6						
H11S1	**WAKE ISLAND Hy**	**40.16**	**328**	T	T	07 40 19.6	
	baz=150,slow=0.7,SNR=3.4						
STKA	**Stephens Creek**	**44.41**	**241**	P	P	06 58 14.8	+1.2
	3.5nm,0.7s,baz=115,slow=10,SNR=5.7						
WRA	**Warramunga Arr**	**50.53**	**257**	P	P	06 59 00.6	-1.0
	1.0nm,0.7s,baz=92,slow=6.8,SNR=12						
ASAR	**Alice Springs**	**50.71**	**253**	P	P	06 59 01.9	-1.0
	2.7nm,0.5s,baz=89,slow=7.4,SNR=25						
VNDA	**Vanda**	**62.64**	**186**	LR	LR	07 21 07.8	
	comp=Z,62nm,20.0s,baz=241,slow=30						
NVAR	**Mina Array Bea**	**74.35**	**41**	P	P	07 01 41.3	+0.4
	0.6nm,0.7s,baz=238,slow=8.4,SNR=1.3						
TXAR	**Lajitas Array**	**80.34**	**56**	P	P	07 02 13.5	-1.1
	0.7nm,1.0s,baz=212,slow=4.4,SNR=3.6						
ILAR	**Eielson Array**	**83.09**	**11**	P	P	07 02 27.6	-0.6
	0.2nm,0.6s,baz=230,slow=5.3,SNR=4.6						
ILAR				LR	LR	07 39 51.8	
	comp=Z,73nm,18.6s,baz=279,slow=36						
BRTR	**Keskin Array B**	**147.37**	**321**	PKPbc	PKPab	07 09 48.9	-0.2
	1.2nm,0.8s,baz=169,slow=0.6,SNR=4.9						

*IDC **10** 06:54:15.5±0.5, 25°09S×70°83W, h0km, mb4.6/12, mb1 4.6/16, mb1mx4.6/19, mbtmp4.5/16, ML4.3/4, MS4.1/11, Ms1 4.1/11, ms1mx3.9/20, Error ellipse: s-maj=18.5km s-min=14.3km az=74.0*
*GUC **10** 06:54:18.9±0.6, 25°18S×70°70W, h20km, ML4.9*
*ISCJB **10** 06:

CPUP Villa Florida 12.32 99 *e*Pn **Pn** 06 57 13.8 +0.9
comp=E,38nm,0.6s
CPUP Sn **Sn** 06 59 34.0 +3.5
CPUP Lg Lg 07 00 43.1
CPUP Villa Florida 12.32 99 Pn **Pn** 06 57 12.6 -0.3
comp=E,0.4nm,0.3s,baz=246,slow=11,SNR=6.9
CPUP Sn **Sn** 06 59 34.0 +3.5
baz=273,slow=14,SNR=1.7
CPUP Lg Lg 07 00 43.1
comp=E,0.2nm,0.3s,baz=351,slow=19,SNR=1.9
CPUP LR LR 07 02 22.8
comp=E,1µm,19.3s,baz=260,slow=40
SIV San Ignacio 12.87 48 Pn **Pn** 06 57 18.0 -2.4
SIV Sn **Sn** 06 59 44.2 +0.3
SIV San Ignacio 12.87 48 Pn **Pn** 06 57 18.0 -2.4
comp=E,0.9nm,0.3s,baz=251,slow=9.8,SNR=26
SIV Sn **Sn** 06 59 44.2 +0.3
comp=E,0.3nm,0.3s,baz=247,slow=18,SNR=1.8
SIV LR LR 07 03 05.2
comp=E,741nm,19.8s,slow=41
TRQA Tornquist 15.05 152 *e*P **Pn** 06 57 50.8 +0.6
PLCA Paso Flores 15.67 179 *e*P **P** 06 58 02.8 +0.3
comp=E,31nm,1.0s
PLCA Lg Lg 07 02 19.9
PLCA Paso Flores 15.67 179 Pn **P** 06 58 02.5 0.0
comp=E,0.2nm,0.3s,baz=356,slow=12,SNR=9.8
PLCA Lg Lg 07 02 19.9
comp=E,0.0nm,0.3s,baz=221,slow=19,SNR=2.3
PLCA LR LR 07 03 56.6
comp=E,860nm,21.4s,baz=139,slow=37
SAML Samuel 17.60 26 *e*P **P** 06 58 23.8 -0.1
comp=E,30nm,0.8s
ATAH Atahualpa 19.17 337 P **P** 06 58 42.7 +1.1
ATAH Atahualpa 19.17 337 P **P** 06 58 42.7 +1.1
comp=E,0.2nm,0.3s,baz=143,slow=20,SNR=2.3
SPB Sao Paulo 21.45 91 *e*P **P** 06 59 08.2 +2.3
comp=E,46nm,0.8s
BDFB Brasilia 23.39 71 *e*P **P** 06 59 25.1 -1.4
BDFB Brasilia 23.39 71 P **P** 06 59 24.6 -1.9
comp=E,14nm,0.8s,baz=246,slow=10,SNR=20
OTAV Otavalo 26.15 343 *e*P **P** 06 59 54.4 +1.9
comp=E,41nm,1.6s
ROSC El Rosal 29.88 353 P **P** 07 00 25.8 +0.1
ROSC El Rosal 29.88 353 P **P** 07 00 25.8 +0.1
comp=E,3.3nm,0.8s,baz=107,slow=19,SNR=1.8
ROSC LR LR 07 12 20.6
comp=E,251nm,19.9s,baz=356,slow=36
SDV Santo Domingo 33.70 1 *e*P **P** 07 00 57.5 -1.5
comp=E,6.7nm,0.8s
RCBR Riachuelo 38.59 66 *e*P **P** 07 01 39.6 -1.3
comp=E,166nm,1.3s
TGUH Tegucigalpa,Un 41.99 336 *e*P **P** 07 02 10.0 +1.2
comp=E,28nm,1.1s
CRPR Cabo Rojo, PR 42.93 5 *e*P **P** 07 02 15.2 -1.3
comp=E,30nm,0.7s
OBIP Obispado Ponce 43.01 6 *e*P **P** 07 02 15.5 -1.6
comp=E,34nm,0.8s
CELP Cerrillos 43.04 6 *e*P **P** 07 02 15.8 -1.6
LSP Las Mesas 43.10 5 *e*P **P** 07 02 15.6 -2.3
SJG San Juan 43.12 7 *e*P **P** 07 02 15.7 -2.3
comp=E,27nm,0.9s
MPR Mayaguez 43.13 5 *e*P **P** 07 02 16.6 -1.5
comp=E,35nm,1.0s
TIGA Tifton 57.44 347 ⇑P **P** 07 04 05.5 -0.8
baz=58
VNA1 Neumayer--Stat 57.62 159 *e*P **P** 07 04 07.7 +0.5
VNA1 Neumayer--Stat 57.62 159 *e*pP P 07 04 11.0 +3.8
VNA2 Neumayer--Watz 57.98 160 *e*P **P** 07 04 09.5 -0.3
VNA2 Neumayer--Watz 57.98 160 *e*pP **P** 07 04 12.5 +2.7
RKT Rikitea 58.02 257 *e*S **S** 07 12 15.6 +3.8
comp=E,184nm,28.6s
RKT eLR LR 07 21 35.6
comp=E,222nm,29.5s
SNAA Sanae 59.59 160 *e*P **P** 07 04 20.4 -0.6
SNAA Sanae 59.59 160 *e*P **P** 07 04 20.5 -0.6
comp=E,31nm,1.2s
CNNC Cliffs of the 60.29 353 *e*P **P** 07 04 26.5 +0.4
comp=E,31nm,0.8s
732A Laxson Ranch, 60.30 331 ⇓P **P** 07 04 26.3 0.0
baz=61,SNR=7.6
632A Uvalde 60.89 331 ⇑P **P** 07 04 30.7 +0.4
baz=61,SNR=7.7
631A Perdido Creek 61.16 330 ⇑P **P** 07 04 32.2 0.0
baz=62,SNR=12
532A Rocksprings 61.48 331 ⇓P **P** 07 04 35.2 +0.8
baz=62
CPCT Cooper Cave 61.51 347 *e*P **P** 07 04 33.7 -0.6
TKL Tuckaleechee C 61.56 348 *e*P **P** 07 04 33.8 -1.0
SWET Sewanee 61.57 346 *e*P **P** 07 04 33.9 -1.0
comp=E,28nm,0.9s
JCT Junction City 61.74 332 *e*P **P** 07 04 36.6 +0.5
JCT pmax pmax
comp=Z,14nm,0.8s
JCT Junction City 61.74 332 *e*P **P** 07 04 36.6 +0.5
comp=Z,14nm,0.8s
JCT Junction City 61.74 332 ⇓P **P** 07 04 36.2 +0.1
baz=62,SNR=8.2
531A Rocksprings 61.79 331 ⇓P **P** 07 04 36.9 +0.4
baz=62,SNR=9.0
432A Menard 62.08 332 ⇓P **P** 07 04 38.5 +0.1
baz=62,SNR=13
WHTX Lake Whitney 62.10 335 ⇑P **P** 07 04 38.5 0.0
baz=62
530A J-C Ranch, Com 62.13 330 ⇓P **P** 07 04 39.3 +0.6
baz=62,SNR=6.1
431A Sonora 62.26 331 ⇑P **P** 07 04 39.8 +0.2
baz=63,SNR=6.3
628A Black Gap, Mar 62.29 329 ⇓P **P** 07 04 40.4 +0.6
baz=63,SNR=6.6
332A Millersview 62.49 332 ⇓P **P** 07 04 41.4 +0.2
baz=63
627A Terlingua Ranc 62.50 328 ⇑P **P** 07 04 42.2 +0.8
baz=63,SNR=7.7
529A Stev Forest Ra 62.51 330 ⇑P **P** 07 04 41.8 +0.4
baz=63,SNR=13
TXAR Lajitas Array 62.53 328 P **P** 07 04 41.6 +0.1
TXAR Lajitas Array 62.53 328 P **P** 07 04 41.6 +0.1
comp=Z,2.9nm,0.8s,baz=144,slow=7.8,SNR=22
TXAR LR LR 07 28 17.9
comp=Z,77nm,20.5s,baz=5.0,slow=33
430A Baggett Ranch, 62.63 331 ⇑P **P** 07 04 42.0 -0.1
baz=63
331A San Angelo 62.72 332 ⇑P **P** 07 04 42.9 +0.2
baz=63,SNR=8.0
JSRW J. Sargeant Re 62.72 354 *e*P **P** 07 04 43.3 +0.8
429A Davenport Ranc 62.79 330 ⇑P **P** 07 04 43.6 +0.4
baz=63,SNR=7.4
528A Cox Ranch, San 62.81 329 ⇑P **P** 07 04 43.6 +0.2
baz=63,SNR=9.0
WVT Waverly 62.88 345 *e*P **P** 07 04 42.2 -1.4
WVT pmax pmax
comp=Z,9.0nm,0.8s
WVT Waverly 62.88 345 *e*P **P** 07 04 42.2 -1.4
comp=Z,8.8nm,0.8s
232A Coleman 62.89 333 ⇓P **P** 07 04 43.9 +0.1
baz=63,SNR=9.7
626A Big Bend Ranch 62.94 328 ⇓P **P** 07 04 44.6 +0.4
baz=63,SNR=34
MIAR Mount Ida 63.02 339 *e*P **P** 07 04 44.5 -0.1
MIAR pmax pmax
comp=Z,6.0nm,0.8s
MIAR Mount Ida 63.02 339 *e*P **P** 07 04 44.5 -0.1
comp=Z,5.5nm,0.8s
330A Mertzon 63.13 331 ⇑P **P** 07 04 45.5 +0.1
baz=64,SNR=6.2
527A Woodward Ranch 63.18 328 ⇑P **P** 07 04 46.3 +0.4
baz=64
231A Bronte 63.22 332 ⇑P **P** 07 04 46.2 +0.2
baz=64
428A Kincaid Ranch, 63.23 329 ⇑P **P** 07 04 46.9 +0.8
baz=64
526A Mary Lane Ranc 63.34 328 ⇓P **P** 07 04 47.2 +0.3
baz=64,SNR=16
230A Sterling City 63.52 331 ⇓P **P** 07 04 48.2 +0.2
baz=64
ABTX Abilene, Hawle 63.53 333 *e*P **P** 07 04 48.1 +0.1
ABTX Abilene, Hawle 63.53 333 ⇑P **P** 07 04 48.1 +0.1
baz=64,SNR=10
329A Wagon Wheel Ra 63.56 331 ⇑P **P** 07 04 48.3 0.0
baz=64,SNR=12
427A Hayter Ranch, 63.67 329 ⇓P **P** 07 04 49.1 0.0
baz=64
426A McDonald Obser 63.81 328 ⇓P **P** 07 04 50.9 +0.7
baz=64
328A Wristen Ranch, 63.84 330 ⇑P **P** 07 04 50.3 +0.2
baz=64,SNR=6.3
131A Roby 63.88 332 ⇑P **P** 07 04 50.7 +0.3
baz=64
229A Bryant Ranch, 63.89 331 ⇓P **P** 07 04 50.8 +0.3
baz=64
Z32A Haskell 64.06 334 ⇓P **P** 07 04 51.7 +0.3
baz=64
130A Snyder 64.06 332 ⇓P **P** 07 04 51.6 +0.1
baz=64,SNR=6.2
327A Balmorhea Ranc 64.15 329 ⇑P **P** 07 04 52.6 +0.4
baz=64
326A Caldwell Ranch 64.33 329 ⇑P **P** 07 04 53.8 +0.4
baz=65
Z31A Sharp Cattle R 64.34 333 ⇓P **P** 07 04 53.3 0.0
baz=65,SNR=11
228A UT Block 9, Go 64.37 330 ⇓P **P** 07 04 53.6 0.0
baz=65,SNR=6.5
425A Indio Mountain 64.37 328 ⇑P **P** 07 04 54.0 +0.3
baz=65,SNR=13
227A Bennet, Jal 64.59 330 ⇑P **P** 07 04 55.6 +0.5
baz=65,SNR=5.4
USIN University of 64.60 345 *e*P **P** 07 04 54.1 -0.7
comp=Z,61nm,1.2s
Y32A R-V Farms, Ver 64.66 334 ⇑P **P** 07 04 55.5 +0.1
baz=65,SNR=5.2
Z30A Sanderson Ranc 64.72 332 ⇑P **P** 07 04 55.8 -0.1
baz=65,SNR=7.3
SIUC Southern Illin 64.73 344 *e*P **P** 07 04 55.4 -0.4
comp=Z,23nm,0.9s
128A Castleberry Fa 64.75 331 ⇑P **P** 07 04 56.3 +0.3
baz=65,SNR=7.0
325A Bean Ranch, Si 64.85 328 ⇑P **P** 07 04 57.1 +0.3
baz=65,SNR=25
Z29A Hungry Hill Ra 64.95 332 ⇓P **P** 07 04 57.0 -0.3
baz=65
Y31A Rekieta Farm, 64.95 333 ⇓P **P** 07 04 57.7 +0.4
baz=65,SNR=5.5
226B Tecolote Peak, 65.05 329 ⇑P **P** 07 04 58.7 +0.6
baz=65,SNR=11
Y30A Stafford Cattl 65.14 333 ⇓P **P** 07 04 58.5 -0.1
baz=66
324A Moseley Ranch, 65.15 328 ⇓P **P** 07 04 58.6 -0.2
baz=66,SNR=10
127A Arkansas Junct 65.18 330 ⇑P **P** 07 04 59.2 +0.2
baz=66,SNR=5.8
QSPA South Pole Qui 65.19 180 *e*P **P** 07 04 58.7 0.0
comp=Z,22nm,1.2s
GDL2 Guadalupe Moun 65.25 329 *e*P **P** 07 05 00.6 +1.2
Z28A Tucker Farm, M 65.27 331 ⇑P **P** 07 04 59.4 -0.1
baz=66,SNR=6.5
MNTX Cornudas Mount 65.31 328 *e*P **P** 07 04 59.4 -0.4
comp=Z,9.7nm,1.2s
225A Deer Hill, Car 65.39 329 ⇓P **P** 07 05 00.5 +0.1
baz=66,SNR=6.1
X31A McDonald Ranch 65.42 334 ⇑P **P** 07 05 00.7 +0.4
baz=66,SNR=8.1
OLIL Olney 65.43 345 *e*P **P** 07 04 59.3 -1.0
comp=Z,15nm,0.8s
Y29A Porterfield Fa 65.45 332 ⇑P **P** 07 05 00.5 -0.1
baz=66,SNR=5.4
126A Clayton Basin, 65.46 330 ⇓P **P** 07 05 00.7 0.0
baz=66,SNR=5.5
BLO Bloomington 65.50 347 *e*P **P** 07 04 59.7 -1.0
BLO Bloomington 65.50 347 *e*P **P** 07 04 59.7 -1.0
X30A Coker Ranch, T 65.62 333 ⇓P **P** 07 05 01.5 -0.2
baz=66
SSPA Standing Stone 65.64 354 *e*P **P** 07 05 01.6 0.0
comp=Z,11nm,0.9s
Z27A Tatum 65.66 331 ⇓P **P** 07 05 01.9 -0.1
baz=66,SNR=7.9
224A Cornudas Mount 65.69 328 ⇑P **P** 07 05 02.5 +0.2
baz=66,SNR=8.4
Y28A McKinney Farm, 65.74 332 ⇑P **P** 07 05 02.1 -0.4
baz=66
125A Garner Draw, 65.76 329 ⇓P **P** 07 05 02.7 0.0
baz=66,SNR=8.6
ACSO Alum Creek Sta 65.88 350 *e*P **P** 07 05 02.2 -0.9
comp=Z,41nm,0.8s
W31A Holland Ranch, 65.89 334 ⇑P **P** 07 05 03.1 -0.3
baz=66
X29A Tulia 65.96 332 ⇑P **P** 07 05 04.1 +0.1
baz=66,SNR=5.3
Z26A Caprock 65.96 330 ⇓P **P** 07 05 04.2 +0.2
baz=66,SNR=11
MSTX Muleshoe 66.02 331 *e*P **P** 07 05 04.5 +0.1
MSTX Muleshoe 66.02 331 ⇑P **P** 07 05 04.4 +0.1
baz=66,SNR=12
223A Chaparral, Ant 66.07 327 ⇑P **P** 07 05 05.3 +0.6
baz=66
Y27A Causey 66.11 331 ⇓P **P** 07 05 04.9 0.0
baz=66,SNR=9.1
124A Stringfield Ra 66.17 328 ⇓P **P** 07 05 05.9 +0.4
baz=66,SNR=10
X28A Dimmitt 66.24 332 ⇓P **P** 07 05 06.1 +0.4
baz=67
Z25A Roswell 66.31 329 ⇑P **P** 07 05 06.6 +0.3
baz=67,SNR=8.4
V31A Spring Creek L 66.36 335 ⇑P **P** 07 05 06.8 +0.3
baz=67
222A Williams Famil 66.48 327 ⇑P **P** 07 05 08.3 +0.9
baz=67,SNR=8.4
W29A Amraillo 66.52 333 ⇓P **P** 07 05 07.9 +0.4
baz=67
320A Kipp Ranch, An 66.59 325 ⇑P **P** 07 05 09.0 +0.9
baz=67,SNR=8.3
Z24A Sheeppen Canyo 66.65 329 ⇑P **P** 07 05 09.1 +0.6
baz=67,SNR=13
221A Mesquite Ranch 66.75 326 ⇑P **P** 07 05 10.5 +1.4
baz=67
SFIN Scholer Farm 66.78 347 ⇑P **P** 07 05 07.6 -1.3
baz=67
Y25A Mesa, Roswell 66.83 330 ⇑P **P** 07 05 09.9 +0.3
baz=67,SNR=5.2
W28A Vega 66.87 332 ⇓P **P** 07 05 10.3 +0.5
baz=67
X26A CR and CF Fran 66.96 331 ⇑P **P** 07 05 11.1 +0.7
baz=67,SNR=5.9
Z23A Rita Site, Whi 67.00 328 ⇓P **P** 07 05 11.5 +0.8
baz=67,SNR=5.2
319A Douglas 67.01 325 ⇓P **P** 07 05 11.9 +1.2
baz=67,SNR=7.8
220A Playas Peak, P 67.04 326 ⇓P **P** 07 05 12.1 +1.1
baz=67,SNR=9.9
W27A Bowe Ranch, En 67.07 332 ⇑P **P** 07 05 11.2 +0.1
baz=67
121A Cookes Peak, D 67.17 327 ⇓P **P** 07 05 13.2 +1.3
baz=68,SNR=7.2
Y24A Capitan 67.18 329 ⇓P **P** 07 05 12.7 +0.9
baz=68,SNR=5.3
V28A Channing 67.30 333 ⇓P **P** 07 05 12.9 +0.4
baz=68,SNR=7.6
X25A Clemmons Ranch 67.32 330 ⇑P **P** 07 05 13.0 +0.3
baz=68
Z22A Elephant Butte 67.35 328 ⇑P **P** 07 05 14.1 +1.1
baz=68,SNR=21
W26A Owens Ranch, T 67.40 331 ⇑P **P** 07 05 14.0 +0.8
baz=68,SNR=6.1
TRY Troy 67.46 358 *e*P **P** 07 05 13.8 +0.6
comp=Z,37nm,0.9s
T31A Randall Ranch, 67.46 335 ⇓P **P** 07 05 13.9 +0.5
baz=68
Y23A Lovelace Mesa, 67.47 329 ⇑P **P** 07 05 14.7 +1.0
baz=68
120A U Bar Ranch, L 67.61 326 ⇑P **P** 07 05 15.5 +1.0
baz=68
Z21A St. Cloud Mine 67.74 327 ⇑P **P** 07 05 16.5 +1.1
baz=68,SNR=8.5
W25A X Bar L Ranch, 67.81 331 ⇑P **P** 07 05 16.1 +0.3
baz=68,SNR=6.0
S31A Mullinville 67.85 336 ⇑P **P** 07 05 16.4 +0.6
baz=68
Y22A Socorro 67.91 328 ⇓P **P** 07 05 17.7 +1.2
baz=68,SNR=6.8
BNM Barren Site 67.92 329 *e*P **P** 07 05 17.7 +1.1
comp=Z,18nm,1.5s
V26A Tequesquite Ra 68.00 332 ⇑P **P** 07 05 17.8 +0.8
baz=68,SNR=9.4
Z20A Nine Sixteen R 68.04 326 ⇓P **P** 07 05 18.9 +1.6
baz=68,SNR=8.8
LPM Los Pinos Moun 68.06 329 *e*P **P** 07 05 19.1 +1.8
X23A Hourglass Bar 68.07 329 ⇓P **P** 07 05 18.4 +0.9
baz=68,SNR=14
U27A Thompson Grove 68.13 333 ⇓P **P** 07 05 17.4 -0.3
baz=68
W24A Lazy 6 Ranch, 68.23 330 ⇓P **P** 07 05 18.6 +0.1
baz=69
S30A Montezuma 68.24 335 ⇓P **P** 07 05 18.8 +0.5
baz=69
Y21A Point of Rocks 68.31 328 ⇑P **P** 07 05 20.2 +1.1
baz=69,SNR=8.7
LAZ Ladron 68.37 328 *e*P **P** 07 05 21.1 +1.7
comp=Z,5.9nm,1.1s
X22A Bernardo 68.39 328 ⇓P **P** 07 05 20.0 +0.5
baz=69
HNH Hanover 68.40 359 *e*P **P** 07 05 20.1 +1.0
comp=Z,92nm,1.2s
V25A Rancho No Teng 68.40 331 ⇓P **P** 07 05 20.3 +0.7
baz=69
T28A Walsh 68.44 334 ⇓P **P** 07 05 20.1 +0.5
baz=69
R31A Burdett 68.46 336 ⇑P **P** 07 05 20.1 +0.5
baz=69
S29A Ulysses 68.47 335 ⇑P **P** 07 05 20.4 +0.7
baz=69
U26A Atchley Ranch, 68.49 332 ⇑P **P** 07 05 20.8 +0.7
baz=69,SNR=7.5
ANMO Albuquerque 68.49 329 *e*P **P** 07 05 21.5 +1.4
comp=Z,26nm,1.7s
W23A Werner Place, 68.53 329 ⇓P **P** 07 05 21.2 +0.8
baz=69,SNR=8.7
TUC Tucson 68.54 324 *e*P **P** 07 05 21.9 +1.6
TUC pmax pmax
comp=Z,9.0nm,1.2s
TUC Tucson 68.54 324 *e*P **P** 07 05 21.9 +1.6
comp=Z,9.4nm,1.2s
Y20A Horse Springs, 68.57 327 ⇓P **P** 07 05 21.7 +1.0
baz=69,SNR=11
V24A Rampart Ranch, 68.60 330 ⇑P **P** 07 05 21.5 +0.7
baz=69,SNR=8.4
T27A Campo 68.63 333 ⇓P **P** 07 05 21.2 +0.3
baz=69,SNR=7.4
MDV Middlebury 68.71 358 *e*P **P** 07 05 21.4 +0.4
X21A Alamocita Cree 68.72 328 ⇓P **P** 07 05 22.2 +0.7
baz=69,SNR=9.4
R30A Dighton 68.73 336 ⇓P **P** 07 05 21.9 +0.6
baz=69
S28A Manter 68.75 334 ⇓P **P** 07 05 22.1 +0.5
baz=69,SNR=7.3
U25A Circle Dot Ran 68.78 331 ⇑P **P** 07 05 22.9 +1.0
baz=69,SNR=9.0
W22A Albuquerque 68.79 329 ⇓P **P** 07 05 23.3 +1.3
baz=69
V23A Ortiz Mt. (NFS 69.03 330 ⇑P **P** 07 05 24.5 +1.1
baz=69,SNR=7.9
Q31A Ellis 69.04 337 ⇑P **P** 07 05 23.8 +0.6
baz=69
T26A Comanche Natio 69.09 333 ⇑P **P** 07 05 24.9 +1.1
baz=69,SNR=8.0
X20A Quemado 69.14 327 ⇓P **P** 07 05 25.6 +1.4
baz=70,SNR=8.6
U24A Moreno Valley 69.17 331 ⇑P **P** 07 05 25.7 +1.2
baz=70
R29A Marienthal 69.18 335 ⇑P **P** 07 05 25.6 +1.4
baz=70
W21A San Fidel 69.19 328 ⇑P **P** 07 05 26.2 +1.7
baz=70
Q30A Quinter 69.32 336 ⇓P **P** 07 05 25.4 +0.4
baz=70,SNR=6.0
214A Organ Pipe Nat 69.36 323 ⇓P **P** 07 05 26.9 +1.6
baz=70,SNR=7.3
R28A Tribune 69.37 334 ⇑P **P** 07 05 26.5 +1.1
baz=70
T25A Trinidad 69.41 332 ⇑P **P** 07 05 26.6 +0.8
baz=70,SNR=5.6
S26A Kim 69.42 333 ⇓P **P** 07 05 26.6 +0.8
baz=70,SNR=8.4
P31A Stockton 69.49 337 ⇑P **P** 07 05 26.9 +0.8
baz=70
V22A San Miguel Ran 69.50 329 ⇑P **P** 07 05 27.8 +1.4
baz=70,SNR=8.7
U23A El Rito 69.51 330 ⇓P **P** 07 05 27.6 +1.2
baz=70,SNR=7.5
W20A Ramah 69.61 328 ⇓P **P** 07 05 28.2 +1.1
baz=70,SNR=8.1
T24B San Luis 69.76 331 ⇑P **P** 07 05 29.3 +1.2
baz=70,SNR=6.9
X18A Snowflake 69.85 326 ⇑P **P** 07 05 29.8 +1.3
baz=70
U22A Llaves 69.85 330 ⇓P **P** 07 05 29.9 +1.3
baz=70,SNR=7.0
S25A Robets Cordova 69.86 332 ⇓P **P** 07 05 29.4 +0.9
baz=70,SNR=6.6
JFWS Jewell Farm 69.91 345 *e*P **P** 07 05 28.3 -0.2
JFWS pmax pmax
comp=Z,14nm,0.8s
JFWS Jewell Farm 69.91 345 *e*P **P** 07 05 28.3 -0.2
comp=Z,14nm,0.8s
T23A Casias Ranch, 70.03 331 ⇓P **P** 07 05 30.9 +1.2
baz=70
V20A Brimhall 70.14 328 ⇑P **P** 07 05 31.2 +0.9
baz=70,SNR=6.4
S24A Houchin Ranch, 70.17 332 ⇓P **P** 07 05 31.8 +1.2
baz=70,SNR=11
U21A Nageezi 70.27 329 ⇓P **P** 07 05 32.3 +1.1
baz=71,SNR=7.7
KSCO Kaye Shedlock' 70.27 334 ⇑P **P** 07 05 32.1 +1.2
baz=71
SDCO Great Sand Dun 70.38 331 *e*P **P** 07 05 32.9 +1.0
comp=Z,8.3nm,1.0s
T22A Edith 70.40 330 ⇓P **P** 07 05 33.3 +1.4
baz=71,SNR=9.9
113A Mohawk Valley, 70.50 323 ⇓P **P** 07 05 33.6 +1.3
baz=71
X16A Lo Mia Camp, P 70.52 325 ⇓P **P** 07 05 33.9 +1.3
baz=71,SNR=9.5
R24A Sanders Place, 70.62 332 ⇑P **P** 07 05 34.4 +1.2
baz=71
T21A Navajo Lake 70.67 330 ⇑P **P** 07 05 35.0 +1.4
baz=71
BGNE Belgrade 70.75 339 ⇓P **P** 07 05 34.5 +0.8
baz=71
R23A Moffat 70.90 331 ⇓P **P** 07 05 35.7 +0.7
baz=71,SNR=7.0
O28A Krutsinger Ran 70.90 335 ⇑P **P** 07 05 36.1 +1.4
baz=71
S22A 4UR Ranch, Cre 70.97 331 ⇑P **P** 07 05 36.2 +0.7
baz=71
Y14A Wickenburg 70.97 324 ⇓P **P** 07 05 36.1 +0.8
baz=71
P26A Davis Ranch, A 71.03 334 ⇓P **P** 07 05 36.4 +0.8
baz=71
LIC Lamto 71.15 74 *e*P **P** 07 05 35.9 -0.8
comp=Z,26nm,0.7s
O27A Beecher Island 71.23 335 ⇑P **P** 07 05 37.6 +0.8
baz=72
MVCO Mesa Verde 71.29 329 *e*P **P** 07 05 38.5 +1.2
comp=Z,13nm,1.1s
MVCO Mesa Verde 71.29 329 ⇑P **P** 07 05 38.1 +0.8
baz=71,SNR=6.7
P25A Willow Gulch B 71.31 333 ⇓P **P** 07 05 38.2 +0.9
baz=72,SNR=7.1
S21A Coal Bank Pass 71.33 330 ⇑P **P** 07 05 38.6 +0.9
baz=72,SNR=8.4
WUAZ Wupatki 71.34 326 *e*P **P** 07 05 39.2 +1.6
comp=Z,20nm,1.2s
WUAZ Wupatki 71.34 326 ⇑P **P** 07 05 38.9 +1.3
baz=72,SNR=7.3
TIC Tumodi 71.36 73 *e*P **P** 07 05 37.6 -0.4
comp=Z,6.4nm,0.2s
KIC Kosan Boka 71.46 74 *e*P **P** 07 05 38.2 -0.4
comp=Z,55nm,0.9s
DBIC Dimbokro 71.51 73 *e*P **P** 07 05 38.8 -0.1
comp=Z,23nm,0.8s
DBIC Dimbokro 71.51 73 P **P** 07 05 38.5 -0.4
comp=Z,19nm,0.7s,baz=234,slow=4.2,SNR=3.1
DBIC LR LR 07 35 00.4
comp=Z,206nm,20.7s,baz=221,slow=34
Y12C Blythe 71.66 323 ⇑P **P** 07 05 40.8 +1.5
baz=72
L31A Butterfield Fa 71.67 338 ⇑P **P** 07 05 40.6 +1.3
baz=72
S20A Disappointment 71.73 330 ⇓P **P** 07 05 41.5 +1.5
baz=72,SNR=6.4
L30A Spencer Herefo 71.76 338 ⇑P **P** 07 05 41.0 +1.2
baz=72
R21A Cimarron 71.80 330 ⇑P **P** 07 05 41.1 +0.6
baz=72,SNR=6.8
P23A Jefferson 71.89 332 ⇑P **P** 07 05 42.4 +1.4
baz=72
Q22A Crested Butte, 71.93 331 ⇓P **P** 07 05 42.7 +1.4
baz=72
R20A Redvale 72.03 330 ⇓P **P** 07 05 42.5 +0.8
baz=72,SNR=12
PV01 Paradox Valley 72.08 330 *e*P **P** 07 05 43.7 +1.6
comp=Z,791nm,1.2s
BC3 Big Chuckawall 72.10 322 ⇓P **P** 07 05 43.3 +1.2
baz=72
ISCO Idaho Springs 72.15 333 *e*P **P** 07 05 43.5 +0.9

ISCO pmax pmax
comp=Z,5.0nm,1.0s
ISCO Idaho Springs 72.15 333 *e*P **P 07 05 43.5 +0.9**
comp=Z,5.3nm,1.0s
ISCO Idaho Springs 72.15 333 ⇑P **P 07 05 43.9 +1.3**
baz=72
Q21A Lamborn Mesa, 72.20 331 ⇑P **P 07 05 44.3 +1.6**
baz=72
PV15 Paradox Valley 72.20 330 *e*P **P 07 05 44.7 +1.9**
PV05 Paradox Valley 72.27 329 *e*P **P 07 05 44.7 +1.5**
IRM Iron Mountain 72.31 323 ⇑P **P 07 05 44.6 +1.4**
baz=73
W13A Hualapai Mount 72.33 324 ⇑P **P 07 05 45.2 +1.6**
baz=73
ECSD EROS Data Cent 72.37 341 *e*P **P 07 05 43.2 -0.2**
comp=Z,27nm,1.3s
K30A Basset 72.37 338 ⇑P **P 07 05 44.8 +1.3**
baz=73
P22A Eagle 72.47 332 ⇓P **P 07 05 44.9 +0.5**
baz=73,SNR=5.5
PV10 Paradox Valley 72.49 329 *e*P **P 07 05 45.7 +1.2**
comp=Z,120nm,0.9s
U15A North Rim 72.52 326 ⇓P **P 07 05 45.8 +1.0**
baz=73,SNR=7.8
Q20A Ridgley Place, 72.62 330 ⇑P **P 07 05 46.5 +1.3**
baz=73
O23A Lake Granby, G 72.62 333 ⇑P **P 07 05 46.5 +1.2**
baz=73
K29A Lazy Trails An 72.69 338 ⇓P **P 07 05 47.0 +1.6**
baz=73
SPMN St. Paul 72.70 344 *e*P **P 07 05 44.6 -0.7**
SPMN St. Paul 72.70 344 ⇓P **P 07 05 44.8 -0.5**
baz=73
P21A Newcastle 72.71 331 ⇑P **P 07 05 47.2 +1.4**
baz=73
PPT2 Papeete2 72.75 258 *e*S **S 07 15 14.5 +1.9**
comp=Z,137nm,25.0s
PPT2 Papeete2 72.75 258 *e*LR LR 07 28 17.3
comp=Z,250nm,29.5s
PPT Papeete 72.76 258 LR LR 07 27 32.8
comp=Z,94nm,20.8s,baz=183,slow=27
O22A Kremmling 72.85 332 ⇓P **P 07 05 47.0 +0.3**
baz=73,SNR=6.0
J30A Dallas 72.91 339 ⇓P **P 07 05 47.3 +0.7**
baz=73
K28A Ten Mile Ranch 73.01 337 ⇑P **P 07 05 48.8 +1.5**
baz=73
MURC Murrieta 73.05 321 ⇑P **P 07 05 48.8 +1.1**
baz=73
GMRC Granite Mounta 73.05 323 ⇓P **P 07 05 49.0 +1.2**
baz=73
VNDA Vanda 73.07 190 *e*P **P 07 05 47.7 +0.5**
comp=Z,9.0nm,1.4s
VNDA Vanda 73.07 190 P **P 07 05 47.1 -0.1**
comp=Z,2.7nm,1.0s,baz=160,slow=3.7,SNR=9.9
P20A De Beque 73.11 331 ⇑P **P 07 05 49.1 +1.1**
baz=73
N23A Red Feather La 73.21 333 ⇑P **P 07 05 50.1 +1.3**
baz=74
M24A Cheyenne 73.24 334 ⇓P **P 07 05 50.0 +1.2**
baz=74
J29A Okreek 73.26 338 ⇓P **P 07 05 49.6 +0.9**
baz=74
K27A Flueckinger Fa 73.32 336 ⇓P **P 07 05 50.6 +1.5**
baz=74
N22A Wattenberg Ran 73.34 333 ⇑P **P 07 05 50.8 +1.2**
baz=74
PHWY Pilot Hill 73.35 334 *e*P **P 07 05 50.3 +0.6**
comp=Z,15nm,1.4s
HEC Hector,Ludlow 73.45 322 ⇑P **P 07 05 51.3 +1.2**
baz=74
P19A Cripple Cowboy 73.48 330 ⇓P **P 07 05 51.3 +1.0**
baz=74,SNR=11
O20A White River Ci 73.56 331 *e*P **P 07 05 52.0 +1.3**
O20A White River Ci 73.56 331 ⇑P **P 07 05 51.6 +0.8**
baz=74,SNR=8.8
J28A Allard Ranch, 73.59 337 ⇑P **P 07 05 51.5 +0.8**
baz=74
TUQ Turquoise Moun 73.68 323 ⇓P **P 07 05 52.3 +0.8**
baz=74
J27A Elkhorn Farm, 73.71 337 ⇓P **P 07 05 52.5 +1.1**
baz=74,SNR=5.6
BRSD Miller 73.73 339 ⇑P **P 07 05 51.8 +0.3**
baz=74
SRU San Rafael 73.77 329 *e*P **P 07 05 53.4 +1.4**
SRU pmax pmax
comp=Z,19nm,1.4s
SRU San Rafael 73.77 329 *e*P **P 07 05 53.4 +1.4**
comp=Z,19nm,1.4s
BFSC Mount Baldy Ra 73.77 321 ⇓P **P 07 05 53.2 +1.1**
baz=74
SYO Syowa Base 73.87 159 ⇓*e*P **P 07 05 50.3 -1.7**
M22A Cedar Creek Ra 73.90 333 ⇑P **P 07 05 54.4 +1.6**
baz=74
Q16A Castle Valley 73.92 328 ⇓P **P 07 05 54.4 +1.5**
baz=74
CCUT Cedar City 73.93 326 *e*P **P 07 05 55.1 +2.1**
comp=Z,12nm,1.0s
GSC Goldstone 74.06 322 *e*P **P 07 05 54.9 +1.2**
GSC pmax pmax
comp=Z,5.0nm,1.1s
GSC Goldstone 74.06 322 *e*P **P 07 05 54.9 +1.2**
comp=Z,5.4nm,1.1s
GSC Goldstone 74.06 322 ⇓P **P 07 05 55.1 +1.4**
baz=74
SHPR Sheep Range 74.07 324 *e*P **P 07 05 55.2 +1.4**
I28A Midland 74.07 338 ⇓P **P 07 05 54.8 +1.3**
baz=74
O19A Miners Draw (B 74.08 331 ⇓P **P 07 05 54.4 +0.6**
baz=74,SNR=6.6
MVU Marysvale 74.10 327 *e*P **P 07 05 55.5 +1.5**
comp=Z,7.5nm,1.0s
N20A Spence Gulch, 74.14 331 ⇑P **P 07 05 55.3 +1.1**
baz=74
J26A Sides Ranch, S 74.15 336 ⇓P **P 07 05 55.2 +1.2**
baz=74
G30A Faulkton 74.41 340 ⇓P **P 07 05 56.6 +1.2**
baz=75
EDW2 Edwards Air Fo 74.42 321 ⇑P **P 07 05 57.0 +1.2**
baz=75
J25A Sunshine Ranch 74.49 336 ⇑P **P 07 05 57.0 +1.0**
baz=75
K23A Bowen Ranch, D 74.64 334 ⇑P **P 07 05 58.0 +1.0**
baz=75
M20A Sweetwater, Wa 74.64 332 ⇑P **P 07 05 57.9 +0.7**
baz=75
L21A Rawlins 74.69 333 ⇑P **P 07 05 58.0 +0.6**
baz=75,SNR=6.3
I26A New Underwood 74.69 337 ⇑P **P 07 05 57.9 +0.7**
baz=75
G29A Hoven 74.71 339 ⇓P **P 07 05 58.0 +0.8**
baz=75
J24A Dixon Ranch, L 74.76 335 ⇑P **P 07 05 58.9 +1.3**
baz=75
K22A Casper 74.92 334 ⇓P **P 07 05 59.8 +1.2**
baz=75
G28A Parade 74.94 338 ⇑P **P 07 05 59.7 +1.3**
baz=75
H27A Howes 74.94 338 ⇑P **P 07 05 59.5 +1.0**
baz=75
FURC Furnace Creek, 74.95 323 ⇓P **P 07 06 00.2 +1.5**
baz=75
I25A Rochford 75.00 336 ⇑P **P 07 06 00.0 +0.9**
baz=75,SNR=8.3
MPU Maple Canyon 75.01 329 *e*P **P 07 06 00.7 +1.5**
comp=Z,14nm,1.2s
L20A Wamsutter 75.14 332 ⇑P **P 07 06 00.9 +1.0**
baz=76
H26A Fairpoint 75.17 337 ⇑P **P 07 06 00.5 +0.6**
baz=76
K21A Alcova 75.20 333 ⇓P **P 07 06 00.7 +0.4**
baz=76,SNR=8.1
RSSD Black Hills 75.20 336 *e*P **P 07 06 01.1 +0.8**
RSSD pmax pmax
comp=Z,10.0nm,0.8s
RSSD Black Hills 75.20 336 *e*P **P 07 06 01.1 +0.8**
comp=Z,9.9nm,0.8s
F29A Eureka 75.25 340 ⇑P **P 07 06 01.3 +1.0**
baz=76
ISA Isabella 75.26 322 *e*P **P 07 06 02.3 +1.7**
ISA pmax pmax
comp=Z,5.0nm,1.0s
ISA Isabella 75.26 322 *e*P **P 07 06 02.3 +1.7**
comp=Z,5.1nm,1.0s
ISA Isabella 75.26 322 ⇑P **P 07 06 02.2 +1.5**
baz=76
JLU Jordanelle 75.38 329 *e*P **P 07 06 03.0 +1.5**
comp=Z,43nm,2.0s
H25A Fruitdale 75.47 337 ⇑P **P 07 06 02.6 +1.0**
baz=76
PKM Peak Mountain 75.48 320 ⇑P **P 07 06 03.0 +1.0**
baz=76
J22A Midwest 75.53 334 ⇑P **P 07 06 02.2 +0.1**
baz=76,SNR=5.9
F28A McLaughlin 75.58 339 ⇑P **P 07 06 03.2 +1.0**
baz=76
R11A Troy Canyon, C 75.67 325 *e*P **P 07 06 04.7 +1.6**
R11A Troy Canyon, C 75.67 325 ⇓P **P 07 06 04.3 +1.2**
baz=76,SNR=7.7
DUG Dugway 75.71 328 *e*P **P 07 06 04.2 +1.0**
DUG pmax pmax
comp=Z,10.0nm,1.1s
DUG Dugway 75.71 328 *e*P **P 07 06 04.2 +1.0**
comp=Z,9.6nm,1.1s
DUG Dugway 75.71 328 ⇓P **P 07 06 04.0 +0.8**
baz=76,SNR=7.4
VES Vestal, Richgr 75.73 321 ⇓P **P 07 06 04.2 +1.0**
baz=76
L18A Fontenelle, Gr 75.80 331 ⇓P **P 07 06 04.5 +0.7**
baz=76
J21A Lysite 75.87 333 ⇑P **P 07 06 05.1 +1.0**
baz=76
G27A Dupree 75.89 337 ⇑P **P 07 06 02.2 -1.7**
baz=76,SNR=5.5
G25A Newell 75.90 337 ⇓P **P 07 06 04.9 +0.8**
baz=76
H24A Dirks Ranch, A 75.93 336 ⇓P **P 07 06 04.8 +0.5**
baz=76
I22A 9 Mile Ranch, 75.94 334 ⇓P **P 07 06 04.9 +0.5**
baz=76
F27A Lemmon 76.01 338 ⇑P **P 07 06 04.9 +0.2**
baz=76,SNR=5.6
D30A Buchanan 76.07 341 ⇓P **P 07 06 05.2 +0.3**
baz=76
I21A Big Trails, Te 76.19 334 ⇓P **P 07 06 06.2 +0.3**
baz=76,SNR=7.1
F26A Lodgepole 76.21 338 ⇑P **P 07 06 06.4 +0.6**
baz=76,SNR=7.5
AGMN Agassiz Nation 76.34 343 *e*P **P 07 06 06.3 -0.1**
comp=Z,13nm,0.9s
E27A Carson 76.34 339 ⇑P **P 07 06 07.4 +0.9**
baz=77
G24A Alzada 76.38 336 ⇓P **P 07 06 07.3 +0.5**
baz=77
BGU Big Grassy Mou 76.38 328 *e*P **P 07 06 08.0 +1.0**
comp=Z,12nm,1.3s
J19A Crowheart 76.47 332 ⇑P **P 07 06 08.1 +0.7**
baz=77,SNR=5.7
H22A Clearmont 76.48 335 ⇓P **P 07 06 08.0 +0.6**
baz=77
C30A Mose, Pekin 76.52 341 ⇓P **P 07 06 08.5 +1.0**
baz=77
MTUM Tungsten Hills 76.53 323 *e*P **P 07 06 09.7 +1.7**
F25A Bowman 76.55 337 ⇑P **P 07 06 08.0 +0.3**
baz=77
G23A Biddle 76.62 336 ⇓P **P 07 06 08.6 +0.4**
baz=77,SNR=6.5
I20A Worland 76.64 333 ⇓P **P 07 06 08.6 +0.2**
baz=77
E26A Carlson Angus 76.68 338 ⇓P **P 07 06 08.9 +0.5**
baz=77
D28A Regan 76.70 340 ⇓P **P 07 06 08.6 +0.1**
baz=77
H21A Big Horn, Sher 76.77 334 ⇓P **P 07 06 09.6 +0.5**
baz=77
F24A Ekalaka 76.83 337 ⇓P **P 07 06 09.8 +0.4**
baz=77,SNR=8.2
G22A Birney 76.98 335 ⇑P **P 07 06 10.6 +0.4**
baz=77
MDND Maddock 76.98 341 ⇑P **P 07 06 11.0 +0.9**
baz=77
H20A Greybull 77.04 334 ⇑P **P 07 06 10.7 +0.1**
baz=77,SNR=8.2
I19A Meeteetse 77.07 333 ⇑P **P 07 06 11.5 +0.6**
baz=77,SNR=5.7
F23A Volborg 77.07 336 ⇑P **P 07 06 11.0 +0.3**
baz=77,SNR=6.2
B30A Myrvik Farm, E 77.15 342 ⇑P **P 07 06 11.4 +0.4**
baz=78
D26A Manning 77.16 338 ⇓P **P 07 06 11.7 +0.6**
baz=78
NVAR Mina Array Bea 77.17 324 P **P 07 06 11.9 +0.3**
NVAR Mina Array Bea 77.17 324 P **P 07 06 11.9 +0.3**
comp=Z,2.1nm,0.9s,baz=146,slow=6.1,SNR=9.1
ELK Elko 77.31 327 *e*P **P 07 06 13.6 +1.2**
comp=Z,16nm,1.7s
G21A Lodge Grass 77.34 335 ⇑P **P 07 06 12.6 +0.4**
baz=78,SNR=6.0
SNOW Snow King Moun 77.35 331 *e*P **P 07 06 13.2 +0.6**
comp=Z,7.6nm,1.1s
E24A Baker 77.39 337 ⇓P **P 07 06 13.2 +0.7**
baz=78,SNR=6.6
LOHW Long Hollow 77.41 332 *e*P **P 07 06 13.4 +0.6**
comp=Z,9.0nm,1.4s
F22A Rosebud 77.44 335 ⇓P **P 07 06 13.2 +0.4**
baz=78,SNR=5.5
TPAW Teton Pass 77.46 331 *e*P **P 07 06 14.0 +0.8**
comp=Z,7.5nm,1.0s
B29A Wagenman Farm, 77.46 341 ⇑P **P 07 06 13.3 +0.5**
baz=78
RRI2 Red Ridge 77.51 331 *e*P **P 07 06 14.8 +1.3**
comp=Z,11nm,1.1s
D25A Fairfield 77.56 338 ⇓P **P 07 06 14.3 +0.9**
baz=78
H19A Powell 77.59 333 ⇑P **P 07 06 14.4 +0.7**
baz=78
I17A Pilgrim Ck. 77.64 332 ⇑P **P 07 06 15.2 +1.1**
baz=78
G20A Brrger 77.73 334 ⇑P **P 07 06 15.0 +0.6**
baz=78,SNR=9.1
B28A Dugan Ranch, T 77.75 340 ⇑P **P 07 06 15.2 +0.9**
baz=78
IMW Indian Meadow 77.78 332 *e*P **P 07 06 15.7 +0.7**
comp=Z,9.9nm,1.3s
FLWY Flagg Ranch 77.83 332 *e*P **P 07 06 16.4 +1.3**
comp=Z,18nm,1.2s
A29A Manning Farm, 77.84 341 ⇓P **P 07 06 14.8 0.0**
baz=78,SNR=8.8
H18A Shoshone NF, C 77.87 333 ⇑P **P 07 06 16.0 +0.6**
baz=78,SNR=10
D24A Glendive 77.88 337 ⇑P **P 07 06 15.7 +0.6**
baz=78
CMB Columbia Colle 78.03 322 *e*P **P 07 06 17.6 +1.4**
CMB pmax pmax
comp=Z,3.0nm,1.1s
CMB Columbia Colle 78.03 322 *e*P **P 07 06 17.6 +1.4**
comp=Z,2.8nm,1.1s
C25A Freed Ranch, W 78.03 338 ⇓P **P 07 06 17.1 +1.2**
baz=78
F20A Billings 78.18 334 ⇓P **P 07 06 17.5 +0.6**
baz=78
D23A Lindsay 78.24 337 ⇓P **P 07 06 18.2 +1.0**
baz=79,SNR=5.5
C24A Savage 78.27 338 ⇑P **P 07 06 18.1 +0.8**
baz=79
F19A Roth Farm, Mol 78.54 334 ⇓P **P 07 06 19.4 +0.5**
baz=79,SNR=6.0
D22A Cohagen 78.57 336 ⇑P **P 07 06 20.0 +1.0**
baz=79
PAHR Pah Rah Range 78.67 324 *e*P **P 07 06 21.5 +1.6**
comp=Z,12nm,1.0s
E20A Meyer Farm, Mu 78.76 335 ⇓P **P 07 06 20.9 +0.9**
baz=79,SNR=9.5
C23A Lambert 78.77 337 ⇓P **P 07 06 21.2 +1.2**
baz=79
GCMT Greycliff 78.78 333 *e*P **P 07 06 20.9 +0.6**
comp=Z,11nm,1.3s
C22A Vida 78.97 337 ⇓P **P 07 06 22.2 +1.0**
baz=79
E19A Rath Farm, Rou 78.98 334 ⇑P **P 07 06 22.0 +0.7**
baz=79,SNR=16
DGMT Dagmar 79.00 338 *e*P **P 07 06 20.8 -0.5**
comp=Z,10nm,0.8s
DGMT Dagmar 79.00 338 ⇑P **P 07 06 22.2 +0.9**
baz=79
A25A Svangstu Ranch 79.05 339 ⇑P **P 07 06 22.8 +1.3**
baz=79
HLID Hailey 79.07 329 *e*P **P 07 06 23.5 +1.5**
comp=Z,14nm,1.3s
HLID Hailey 79.07 329 ⇑P **P 07 06 23.1 +1.1**
baz=79,SNR=9.8
D20A Manuel Ranch, 79.25 335 ⇓P **P 07 06 23.2 +0.5**
baz=80,SNR=6.0
B23A Brockton 79.27 338 ⇑P **P 07 06 23.5 +0.8**
baz=80
BEKR Beckworth 79.31 323 *e*P **P 07 06 24.7 +1.3**
comp=Z,7.4nm,1.5s
A24A Westby 79.33 339 ⇓P **P 07 06 23.6 +0.6**
baz=80
MCMT McKenzie Canyo 79.35 331 *e*P **P 07 06 25.0 +1.4**
comp=Z,4.7nm,1.2s
C21A Desert Coulee 79.47 336 ⇑P **P 07 06 24.6 +0.6**
baz=80
B22A Reddig Ranch S 79.48 337 ⇑P **P 07 06 24.6 +0.6**
baz=80
D19A Cripps Ranch, 79.60 335 ⇓P **P 07 06 25.0 +0.3**
baz=80,SNR=7.8
SCHQ Schefferville 79.60 2 P **P 07 06 24.4 0.0**
SCHQ Schefferville 79.60 2 P **P 07 06 24.4 0.0**
comp=Z,4.4nm,0.9s,baz=160,slow=6.6,SNR=4.5
MFID Camas Ranch 79.62 328 ⇓P **P 07 06 25.5 +0.6**
baz=80
DLMT Dillon 79.66 332 *e*P **P 07 06 26.6 +1.5**
comp=Z,6.3nm,1.1s
LRM Limekiln Ridge 79.97 332 *e*P **P 07 06 27.4 +0.5**
A22A Carney Farms, 80.04 337 ⇓P **P 07 06 27.8 +0.9**
baz=80
C19A Slack Wire Ran 80.13 335 ⇑P **P 07 06 28.4 +0.8**
baz=80
WVOR Wild Horse Val 80.27 326 *e*P **P 07 06 29.3 +0.8**
WVOR pmax pmax
comp=Z,31nm,1.9s
WVOR Wild Horse Val 80.27 326 *e*P **P 07 06 29.3 +0.8**
comp=Z,31nm,1.9s
TOA0 Torodi Ar. Sit 80.27 71 *e*P **P 07 06 28.7 -0.2**
TORD Torodi Ar. Bea 80.27 71 P **P 07 06 28.8 -0.2**
TORD Torodi Ar. Bea 80.27 71 P **P 07 06 28.8 -0.2**
comp=Z,37nm,0.7s,baz=254,slow=5.0,SNR=168
TORD LR LR 07 41 33.0
comp=Z,161nm,18.5s,baz=225,slow=35
B20A Solberg Farm, 80.33 336 ⇓P **P 07 06 29.5 +1.0**
baz=81
EGMT Eagleton 80.64 335 ⇑P **P 07 06 31.2 +0.9**
baz=81
A20A Cobblestone Ra 80.66 336 ⇑P **P 07 06 30.7 +0.3**
baz=81,SNR=5.6
B19A Brinkman Farms 80.68 335 ⇑P **P 07 06 31.1 +0.6**
baz=81
MOD Modoc 80.73 325 *e*P **P 07 06 31.7 +0.7**
comp=Z,37nm,1.1s
TSUM Tsumeb 80.80 107 *e*P **P 07 06 31.7 -0.2**
comp=Z,6.7nm,0.8s
J08A Circle Bar Ran 80.86 327 *e*P **P 07 06 33.0 +1.3**
comp=Z,73nm,2.4s
A19A Klindworth Far 81.00 336 ⇑P **P 07 06 33.0 +0.8**
baz=81
CHMT Chamberlain Mo 81.17 332 *e*P **P 07 06 34.5 +1.2**
comp=Z,6.5nm,1.5s
MSO Missoula 81.40 332 ⇓P **P 07 06 35.2 +0.8**
baz=82
MAW Mawson 81.49 164 *e*P **P 07 06 34.1 -0.4**
comp=Z,2.8nm,1.0s
MAW Mawson 81.49 164 P **P 07 06 32.4 -2.1**
comp=Z,7.1nm,0.7s,baz=237,slow=1.6,SNR=22
MAW LR LR 07 46 07.2
comp=Z,127nm,18.1s,baz=354,slow=38
SLMT Seeley Lake 81.53 332 *e*P **P 07 06 36.2 +1.1**
SWMT Swartz Lake 81.95 332 *e*P **P 07 06 38.5 +1.2**
WALA Waterton Lakes 83.13 333 *e*P **P 07 06 43.8 +0.4**
comp=Z,0.4nm,1.0s
BOSA Boshof 83.42 118 *e*P **P 07 06 44.9 -0.7**
comp=Z,16nm,0.9s
BOSA Boshof 83.42 118 P **P 07 06 44.7 -0.9**
comp=Z,16nm,0.8s,baz=250,slow=4.6,SNR=21
MORF Marmelete 85.25 45 *e*P **P 07 06 56.1 +1.7**
PBDV Barranco-do-Ve 85.68 45 *e*P **P 07 06 57.6 +1.1**
comp=Z,70nm,1.2s
PNCL Nicolau / Gran 85.80 44 *e*P **P 07 06 57.9 +0.9**
PCVE Castro Verde 85.83 45 *e*P **P 07 06 58.2 +1.0**
comp=Z,25nm,1.0s
PVAQ Vaqueiros 85.91 45 *e*P **P 07 06 58.6 +1.0**
comp=Z,33nm,1.4s
EDM Edmonton 86.18 336 *e*P **P 07 06 58.1 -0.5**
EDM Edmonton 86.18 336 *e*P **P 07 06 58.1 -0.5**
CASY Casey 88.98 181 *e*P **P 07 07 12.7 +0.6**
comp=Z,7.7nm,0.9s
ESDC Sonseca Array 89.62 45 P **P 07 07 15.9 +0.5**
ESDC Sonseca Array 89.62 45 P **P 07 07 15.9 +0.5**
comp=Z,0.2nm,0.3s,baz=248,slow=3.7,SNR=5.6
ESDC LR LR 07 44 21.7
comp=Z,81nm,18.9s,baz=315,slow=34
YKA Yellowknife Ar 93.89 341 P **P 07 07 34.2 -0.3**
YKA Yellowknife Ar 93.89 341 P **P 07 07 34.2 -0.3**
comp=Z,3.6nm,0.8s,baz=133,slow=4.6,SNR=7.1
DLBC Dease Lake 96.47 333 *e*P **P 07 07 46.5 -0.1**
BRTR Keskin Array B 116.33 56 PKP **PKPdf 07 13 00.8 -0.7**
BRTR Keskin Array B 116.33 56 PKP **PKPdf 07 13 00.8 -0.7**
comp=Z,1.1nm,0.8s,baz=184,slow=3.5,SNR=5.7
KBZ Khabaz 123.73 53 PKIKP **PKPdf 07 13 15.2 -0.2**
KBZ Khabaz 123.73 53 PKP **PKPdf 07 13 15.2 -0.2**
KBZ Khabaz 123.73 53 PKP **PKPdf 07 13 15.2 -0.2**
comp=Z,4.4nm,0.9s,baz=250,slow=4.3,SNR=7.1
ASAR Alice Springs 125.95 208 PKP **PKPdf 07 13 19.6 -0.9**
ASAR Alice Springs 125.95 208 PKP **PKPdf 07 13 19.6 -0.9**
comp=Z,3.1nm,0.8s,baz=136,slow=1.9,SNR=33
H11S2 WAKE ISLAND Hyt 126.42 275 T T 09 32 32.8
baz=110,slow=0.7,SNR=98
H11S1 WAKE ISLAND Hyt 126.43 275 T T 09 32 37.6
baz=110,slow=0.7,SNR=99
H11S3 WAKE ISLAND Hyt 126.43 275 T T 09 32 30.5
baz=110,slow=0.7,SNR=84
WRA Warramunga Arr 129.00 211 PKP **PKPdf 07 13 25.6 -0.6**
WRA Warramunga Arr 129.00 211 PKP **PKPdf 07 13 25.6 -0.6**
comp=Z,4.8nm,0.8s,baz=164,slow=1.8,SNR=38
ARU Arti 132.08 35 *i* PKIKP **PKPdf 07 13 31.7 +0.8**
ARU 07 15 53.9
ARU SS SS 07 33 26.4 -3.4
FITZ Fitzroy Crossi 134.21 202 *e*PKPdf **PKPdf 07 13 36.2 +0.1**
ABKAR Akbulak array 134.96 44 *e*PKPdf **PKPdf 07 13 37.2 +0.7**
BRVK Borovoye 139.65 36 ⇓*i*PKIKP **PKPdf 07 13 45.5 +0.4**
NVS Novosibirsk 144.62 26 *e*PKIKP **PKPab 07 13 51.3 -1.1**
KURK Kurchatov 145.27 34 *e*PKIKP **PKPab 07 13 55.0 +0.1**
KURK Kurchatov 145.27 34 *e*PKPdf **PKPab 07 13 55.0 +0.1**
ZAA0 Zalesovo Array 145.91 26 *e*PKPdf **PKPbc 07 13 56.5 -0.2**
ZALV Zalesovo Beam 145.91 26 PKP2 **PKPbc 07 13 56.9 +0.1**
ZALV Zalesovo Beam 145.91 26 PKPbc **PKPbc 07 13 56.9 +0.1**
ZALV Zalesovo Beam 145.91 26 PKPbc **PKPbc 07 13 56.9 +0.1**
comp=Z,22nm,0.7s,baz=305,slow=3.4,SNR=27
EKS2 Erkin-Say 146.11 50 *e*PKP2 **PKPab 07 13 58.2 -0.4**
EKS2 Erkin-Say 146.11 50 P **PKPab 07 13 58.5 -0.1**
SNR=10
EKS2 Erkin-Say 146.11 50 *e*PKPbc **PKPab 07 13 58.2 -0.4**
AML Almayashu 146.23 51 P **PKPbc 07 13 58.8 +0.1**
SNR=14
USP Ospenovka 146.39 49 P **PKPbc 07 13 58.4 -0.3**
SNR=7.3
AAK Ala-Archa 146.62 50 *d i* PKP2 **PKPbc 07 13 59.5 0.0**
AAK Ala-Archa 146.62 50 P **PKPbc 07 13 59.3 -0.3**
SNR=14
AAK Ala-Archa 146.62 50 *e*PKPbc **PKPbc 07 13 58.8 -0.7**
CHMS Chumysh 146.66 49 *i* PKP2 **PKPab 07 14 00.3 -0.3**
CHMS Chumysh 146.66 49 P **PKPab 07 14 00.3 -0.3**
SNR=8.4
KBK Karagaybulak 146.92 49 *i* PKP2 **PKPab 07 14 01.9 +0.1**
KBK Karagaybulak 146.92 49 P **PKPab 07 14 01.9 +0.1**
SNR=9.5
TKM2 Tokmak 2 147.27 49 *e*PKP2 **PKPdf 07 13 59.7 +0.6**
TKM2 Tokmak 2 147.27 49 P **PKPdf 07 14 00.2 +1.1**
SNR=14
TKM2 Tokmak 2 147.27 49 *e*PKPbc **PKPdf 07 13 59.7 +0.6**
ULHL Ulahol 147.96 49 P **PKPbc 07 14 01.9 -1.4**
SNR=5.6
KSH Kashi 148.69 54 PKPbc **PKPbc 07 14 05.9 +0.7**
KSH pPKP PKPab 07 14 14.4 +5.5
KSH PP **PP 07 17 38.3 +3.0**
KSH PPMZ
comp=Z,180nm,5.8s
KSH LR LR
comp=Z,320nm,7.3s
KSH LR LR
comp=Z,130nm,10.0s
KSH LR LR
comp=Z,130nm,8.8s
MKAR Makanchi Array 149.54 38 PKP2 **PKPbc 07 14 06.9 -0.1**
MKAR Makanchi Array 149.54 38 PKPbc **PKPbc 07 14 06.9 -0.1**
MKAR Makanchi Array 149.54 38 PKPbc **PKPbc 07 14 06.9 -0.1**
comp=Z,15nm,0.7s,baz=343,slow=2.5,SNR=93
TLY Talaya 153.06 7 *e*PKIKP **PKPbc 07 14 16.1 +1.1**
TLY *e* 07 14 28.1
TLY pmax pmax
comp=Z,2.0nm,0.6s
ZAK Zakamensk 154.28 9 *e*PKP2 **PKPab 07 14 31.3 -0.3**

ZAK					pmax	pmax			
	comp=Z,4.0nm,1.2s								
WMQ	**Urumqi**	**154.38**	**38**	*e*PKPbc	**PKPdf**	**07 14 08.0**	**-1.8**
CN2	**Changchun**	**156.98**	**329**	*e*PKP	**PKPdf**	**07 14 10.4**	**-2.8**
CN2				PP	**PP**	**07 18 22.7**	**+1.4**
CN2				LR	LR		
	comp=Z,200nm,19.0s						
CN2				LR	LR		
	comp=Z,200nm,19.0s						
CN2				LR	LR		
	comp=Z,200nm,21.0s						
SONM	**Songino Array**	**157.13**	**5**	PKP	**PKPdf**	**07 14 13.5**	**0.0**
SONM				PKPbc	PKPab	07 14 23.3	-21
SONM				PKPab	PKPab	07 14 44.7	+0.7
SONM	**Songino Array**	**157.13**	**5**	PKP	**PKPdf**	**07 14 13.5**	**0.0**
	comp=Z,1.4nm,0.8s,baz=349,slow=1.0,SNR=7.8						
SONM				PKPbc	PKPab	07 14 23.3	-21
	comp=Z,0.4nm,0.4s,baz=190,slow=1.3,SNR=4.2						
SONM				PKPab	PKPab	07 14 44.7	+0.7
	comp=Z,3.0nm,0.8s,baz=4.2,slow=1.7,SNR=9.9						
HHC	**Hu-ho-hao-te**	**164.08**	**353**	*e*PKP	**PKPdf**	07 14 12.7	-8.5
HHC				pPKP	pPKPdf	07 14 39.6	+15
HHC				sPKP		07 14 50.2	
HHC				PP	PP	07 18 52.9	-6.3
HHC				SKS	SKSdf	07 21 04.9	-21
LZH	**Lanzhou**	**168.09**	**21**	*e*PKP	PKPdf	07 14 17.7	-6.9
LZH				pPKP	pPKPdf	07 14 29.4	+1.6
LZH				sPKP		07 14 34.5	
LZH				LR	LR		
	comp=N,98nm,18.0s						
LZH				LR	LR		
	comp=E,110nm,19.1s						
LZH				LR	LR		
	comp=Z,140nm,20.3s						
NJ2	**Nanjing**	**168.92**	**311**	*e*PKP	**PKPdf**	**07 14 24.0**	**-1.1**
CD2	**Chengdu**	**172.48**	**38**	PKP	**PKPdf**	**07 14 25.9**	**-1.2**
GYA	**Guiyang**	**177.39**	**56**	PKP	**PKPdf**	**07 14 27.3**	**-1.5**
GYA				sPKP		07 14 50.0	
GYA				PKPab	PKPab	07 16 12.6	-1.4
GYA				PKS	**PKSdf**	**07 17 58.4**	**-2.7**
GYA				PP	**PP**	**07 20 06.5**	**-0.6**
GYA				PPMZ			
	comp=Z,90nm,8.2s						

KRSC 10 07:03:33.3±1.6, 55°.18N×160°.43E, h3km±2km, ML3.5, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**0.19**	**303**	*i* P	Pg	07 03 38.1	+0.9
TUMR				*i* S	Sg	07 03 41.2	+1.3
KMNR	**Kamenistaya**	**0.59**	**349**	*e*P	Pb	07 03 45.8	-0.6
KMNR				*e*S	Sb	07 03 56.4	+1.2
BZMR	**Bezymyannaya**	**0.76**	**3**	*e*P	Pb	07 03 49.7	+0.3
KIRR	**Kirishev**	**0.78**	**356**	*e*P	Pb	07 03 49.9	+0.2
KIRR				*e*S	Sn	07 04 02.6	-1.1
BZGR	**Bezymyannyi-Gr**	**0.78**	**11**	*e*P	Pb	07 03 49.1	-0.5
BZGR				*e*S	Sb	07 04 01.5	+0.8
BZWR	**Bezymyannyi-We**	**0.79**	**3**	*e*P	Pb	07 03 50.0	+0.1
BZWR				*e*S	Sn	07 04 02.9	-1.1
KPT	**Kopyto**	**0.80**	**352**	*e*P	Pg	07 03 49.2	+0.5
KPT				*e*S	Sb	07 04 01.9	+0.7
KOZ	**Kozyrevsk**	**0.94**	**340**	*e*P	Pn	07 03 52.9	-0.5
KOZ				*e*S	Sn	07 04 07.2	-0.1
MKZ	**Mys Kozlova**	**0.98**	**129**	*e*P	Pg	07 03 52.4	+0.4
MKZ				*i* S	Sb	07 04 06.8	+0.7
KRSR	**Krestovskiy**	**1.04**	**4**	*e*P	Pn	07 03 55.1	+0.1
KRSR				*e*S	Sn	07 04 09.7	-0.4
KLY	**Klyuchi**	**1.14**	**6**	*e*P	Pn	07 03 56.2	0.0
KLY				*e*S	Sn	07 04 12.8	+0.5
SRDR	**Sredinnyy**	**1.21**	**341**	*i* P	Pb	07 03 56.9	0.0
SRDR				*e*S	Sn	07 04 15.1	+0.9
ESO	**Esso**	**1.23**	**308**	*e*P	Pg	07 03 56.1	-0.9
ESO				*e*S	Sn	07 04 14.5	-0.2
KII	**Karymskiy**	**1.28**	**207**	*i* P	Pb	07 03 58.1	0.0
BDR	**Baidarnaya**	**1.46**	**17**	*e*P	Pg	07 04 02.1	+0.7
SMKR	**Semkarok**	**1.52**	**22**	*e*P	Pb	07 04 02.4	+0.1
SMKR				*e*S	Sg	07 04 23.4	+1.0
KBTR	**Krutoberegovo**	**1.70**	**52**	*e*P	Pn	07 04 04.2	+0.4
KBTR				*e*S	Sb	07 04 27.2	+0.2
GNL	**Ganaly**	**2.08**	**225**	*e*P	Pn	07 04 10.4	+1.2
GNL				*e*S	Sb	07 04 38.6	+0.4
KRX	**Arik**	**2.10**	**211**	*i* P	Pb	07 04 11.1	-1.1
SDLR	**Sedlovina**	**2.11**	**206**	*i* P	Pn	07 04 10.9	+1.2
SDLR				*e*S	Sn	07 04 37.1	+0.6
NLC	**Nalytchevo**	**2.11**	**198**	*i* P	Pn	07 04 09.9	+0.4
NLC				*i* S	Sg	07 04 40.3	-0.8
KRER	**Koryakskii**	**2.12**	**208**	*e*P	Pn	07 04 11.1	+1.2
SMAR	**Somma**	**2.15**	**207**	*i* P	Pn	07 04 11.5	+1.2
AVH	**Avacha**	**2.16**	**208**	*e*P	Pn	07 04 11.7	+1.4
KOK	**Koryaka**	**2.17**	**210**	*e*P	Pb	07 04 11.9	-1.3
UGLR	**Uglovaya**	**2.19**	**206**	*e*P	Pb	07 04 12.7	-1.0
PET	**Petropavlovsk**	**2.40**	**207**	*i* P	Pn	07 04 15.2	+1.8
PET				*i* S	Sb	07 04 47.6	+0.5
APC	**Apacha**	**2.97**	**222**	*e*P	Pn	07 04 21.7	+0.4
RUS	**Russkaya**	**2.98**	**203**	*i* P	Pn	07 04 24.0	+2.6
MTVR	**Mutnovka**	**3.01**	**207**	*i* P	Pn	07 04 24.9	+2.8
BKI	**Bering**	**3.18**	**87**	*e*S	Sb	07 05 06.4	-3.0
ASAK	**Asacha**	**3.18**	**209**	*e*P	Pn	07 04 27.2	+2.9

GUC 10 07:24:46.6±0.6, 23°.89S×67°.39W, h215km, ML4.1, 5C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**2.62**	**280**	⇓*i* P	Pn	07 25 32.0	-0.9
CEN1				*i* S	S	07 26 08.6	-0.2
CEN1				AML	AML	07 26 12.0	
	comp=E,82nm,0.3s						
PB09	**Plate Boundary**	**2.69**	**320**	⇑*i* P	Pn	07 25 35.9	+2.0
PB09				AML	AML	07 26 18.1	
	comp=N,500nm,0.2s						
ANCH	**Antofagasta**	**2.77**	**274**	⇑*i* P	Pn	07 25 36.1	+1.6
ANCH				*e*S	S	07 26 13.8	+2.2
PB10	**Plate Boundary**	**2.92**	**277**	⇑*i* P	Pn	07 25 37.8	+1.6
PB10				*i* S	S	07 26 17.1	+2.4
PB10				AML	AML	07 26 21.6	
	comp=E,279nm,0.2s						
PB07	**Plate Boundary**	**3.15**	**313**	⇑*i* P	Pn	07 25 40.7	+1.6
PB07				*i* S	S	07 26 22.6	+2.7
PB07				AML	AML	07 26 25.8	
	comp=E,274nm,0.2s						
PB01	**Plate Boundary**	**3.43**	**325**	⇑*i* P	Pn	07 25 43.5	+1.2
PB01				AML	AML	07 26 30.1	
	comp=E,195nm,0.3s						

MAN 10 07:26:46, 4°.92N×126°.75E, h95km, mb4.8, ML3.8, MS3.8, Talaud Islands

IDC ***10*** *07:32:12.3±2.7, 9°.26N×126°.70E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/24, mbtmp3.6/4, Error ellipse: s-maj=166.1km s-min=25.6km az=68.0*
MAN ***10*** *07:32:21, 8°.98N×126°.26E, h31km, mb4.5, ML3.4, MS3.3*

ISC 10 07:32:17.1±1.7, 9°.15N±0°.06×126°.49E±0°.09, h28km±12km, n19, σ1§36/17, mb3.6/4, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.88**	**258**	*e*P	**Pn**	**07 32 34.2**	**+0.6**
BUTP				*e*S	**Sb**	**07 32 44.8**	**-0.4**
BIPH	**Bislig**	**0.97**	**188**	⇓*i* P	**Pn**	**07 32 36.0**	**+1.1**
BIPH				*i* S	**Sb**	**07 32 47.0**	**-0.9**
SCPH	**Surigao**	**1.17**	**302**	⇓*e*P	**Pb**	**07 32 39.7**	**+1.0**
MSLP	**Maasin**	**1.88**	**301**	*e*P	**Pb**	**07 32 51.3**	**+0.4**
BUKP	**Musuan**	**1.90**	**228**	*e*P	**Pn**	**07 32 49.4**	**+1.7**
CGP	**Cagayan de Oro**	**1.91**	**249**	⇑*e*P	**Pn**	**07 32 48.4**	**+0.6**
CGP				*e*S	**Sn**	**07 33 08.0**	**-2.9**
PLP	**Palo**	**2.49**	**323**	⇓*e*P	**Pb**	**07 33 00.2**	**-1.1**
PLP				*e*S	**Sb**	**07 33 30.2**	**-1.3**
TBP	**Tagbilaran**	**2.65**	**282**	*e*P	**Pn**	**07 33 00.3**	**+2.3**
TBP				*e*S	**Sn**	**07 33 29.7**	**+0.4**
PAGZ	**Pagadian**	**3.34**	**247**	*e*P	Pn	07 33 11.2	+3.7
FITZ	**Fitzroy Crossi**	**27.09**	**182**	P	**P**	**07 37 58.1**	**+0.4**
	0.4nm,0.3s,baz=360,slow=11,SNR=5.1						
WRA	**Warramunga Arr**	**29.93**	**165**	P	**P**	**07 38 22.4**	**-0.5**
	0.2nm,0.4s,baz=345,slow=7.9,SNR=12						
ASAR	**Alice Springs**	**33.41**	**168**	P	**P**	**07 38 53.5**	**-0.1**
	0.3nm,0.3s,baz=347,slow=7.2,SNR=10						
H11S3	**WAKE ISLAND Hy 40.04**	**72**		T	T	08 22 58.4	
	baz=263,slow=0.6,SNR=16						
H11S1	**WAKE ISLAND Hy 40.05**	**72**		T	T	08 22 58.0	
	baz=263,slow=0.6,SNR=13						
H11S2	**WAKE ISLAND Hy 40.06**	**72**		T	T	08 22 59.8	
	baz=263,slow=0.6,SNR=11						
H11N1	**WAKE ISLAND Hy 40.41**	**70**		T	T	08 23 36.9	
	baz=266						
H11N2	**WAKE ISLAND Hy 40.42**	**70**		T	T	08 23 38.4	
	baz=266						
H11N3	**WAKE ISLAND Hy 40.43**	**70**		T	T	08 23 36.7	
	baz=266						
MKAR	**Makanchi Array**	**53.05**	**323**	P	**P**	**07 41 31.6**	**-0.2**
	0.5nm,0.7s,baz=116,slow=8.2,SNR=5.6						

AUST ***10*** *07:40:09.9±1.0, 6°.70N×125°.98E, h184km, Error ellipse: s-maj=2.3km s-min=1.1km az=44.0*
MAN ***10*** *07:40:10, 6°.66N×125°.91E, h172km, mb4.8, ML3.7, MS3.7*
IDC ***10*** *07:40:11.3±3.4, 6°.59N×125°.66E, h182km±33km, mb3.7/13, mb1 3.8/15, mb1mx3.7/27, mbtmp3.8/15, MS3.5/2, Ms1 3.5/2, ms1mx2.9/34, Error ellipse: s-maj=21.9km s-min=10.2km az=81.0*
DJA ***10*** *07:40:14.9±1.1, 6°.1N±10°.1×12°.6E±°, h119km±12km, M4.9/10, mB5.5/7, mb5.1/10, MLv4.9/4, Mw(mB)4.9/7*

ISC 10 07:40:08.8±0.5, 6°.57N±0°.05×125°.80E±0°.09, h150km, n49, σ1§84/42, mb4.0/13, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.54**	**336**	P	Pn	07 40 35.4	+5.0
MATI	**Mati**	**0.59**	**51**	*e*P	Pn	07 40 35.6	+5.0
MATI				*e*S	**Sn**	**07 40 46.1**	**-1.2**
BUKP	**Musuan**	**1.49**	**331**	*e*P	Pn	07 40 42.4	+4.0
CTBH	**Cotabato--PC H**	**1.67**	**293**	⇓*i*P	Pn	07 40 43.9	+3.7
BIPH	**Bislig**	**1.70**	**19**	⇑*i*P	**Pn**	**07 40 43.3**	**+2.8**
BIPH				*i* S	**Sn**	**07 41 07.8**	**+3.0**
CGP	**Cagayan de Oro**	**2.17**	**330**	⇑*i*P	**Pn**	**07 40 49.0**	**+3.1**
CGP				*i* S	**Sn**	**07 41 19.0**	**+4.5**
BUTP	**Butuan**	**2.39**	**356**	*e*P	Pn	07 40 52.6	+4.0
PAGZ	**Pagadian**	**2.71**	**298**	*e*P	Pn	07 40 56.4	+3.9
SGSI	**Sangihe**	**2.88**	**185**	P	Pn	07 40 57.8	+3.1
SCPH	**Surigao**	**3.21**	**355**	⇓*e*P	**Pn**	**07 41 00.6**	**+1.8**
TNTI	**Ternate**	**5.97**	**165**	P	**Pn**	**07 41 36.6**	**+1.5**
	890nm,1.1s,11μm						
MRSI	**Marisa**	**7.17**	**213**	P	**Pn**	**07 41 54.3**	**+3.1**
	115nm,1.1s,4μm						
LBMI	**Labuha**	**7.36**	**167**	P	**Pn**	**07 41 55.9**	**+2.2**
	270nm,0.9s,6μm						
MYLDM	**Lahad Datu**	**7.39**	**260**	P	Pn	07 42 03.6	+9.5
	32nm,1.4s,0.1nm						
LUWI	**Luwuk**	**8.14**	**202**	P	Pn	07 42 13.7	+10
	190nm,0.9s,2μm0.7nm						
SWI	**Sorong**	**9.18**	**143**	P	Pn	07 42 20.9	+2.9
	56nm,0.6s						
SWI	**Sorong**	**9.18**	**143**	P	Pn	07 42 21.5	+3.6
	baz=9.2,SNR=3.3						
NLAI	**Namlea**	**9.83**	**172**	P	**Pn**	**07 42 26.2**	**-0.4**
	467nm,0.6s,11μm						
AAI	**Ambon**	**10.47**	**167**	P	**Pn**	**07 42 37.4**	**+2.3**
	146nm,0.7s,2μm						
AAI	**Ambon**	**10.47**	**167**	P	**Pn**	**07 42 37.4**	**+2.3**
	baz=11,SNR=3.7						
TTSI	**Tana Toraja**	**11.26**	**212**	P	**P**	**07 42 50.8**	**-2.8**
	71nm,0.8s,926nm						
KAPI	**Kappang**	**12.99**	**208**	P	**Pn**	**07 43 07.8**	**-0.2**
	0.9nm,0.3s,baz=0.0,slow=12,SNR=4.0						
BKSI	**Bulukumba**	**13.10**	**206**	P	**P**	**07 43 12.4**	**-1.6**
KSM	**Kuching**	**16.26**	**253**	P	**P**	**07 43 51.7**	**+2.7**
	baz=16,SNR=7.6						
SOEI	**Soe**	**16.29**	**185**	P	**P**	**07 43 51.9**	**+2.4**
	baz=16,SNR=6.0						
BATI	**Baumata**	**16.80**	**187**	P	**Pn**	**07 43 56.1**	**+0.7**
	13nm,0.3s,baz=328,slow=1.3,SNR=7.2						
BATI				S	**S**	**07 47 02.0**	**-0.4**
	4.1nm,0.3s,baz=107,slow=19,SNR=3.0						
BATI				LR	LR	07 52 30.1	
	comp=Z,198nm,18.5s,baz=116,slow=44						
KDU	**Kakadu**	**20.25**	**161**	P	**P**	**07 44 33.3**	**+0.8**
	baz=20,SNR=7.7						
KNRA	**Kununurra**	**22.30**	**172**	P	**P**	**07 44 54.6**	**+0.6**
	baz=23,SNR=8.0						
FITZ	**Fitzroy Crossi**	**24.52**	**180**	P	**P**	**07 45 14.4**	**-0.1**
	baz=25,SNR=26						
FITZ	**Fitzroy Crossi**	**24.52**	**180**	P	**P**	**07 45 14.3**	**-0.1**
	4.5nm,0.6s,baz=15,slow=8.1,SNR=33						
JCJ	**Chichijima**	**25.68**	**35**	LR	LR	07 54 12.3	
	comp=Z,72nm,19.5s,baz=81,slow=33						
JNU	**Nakatsue**	**26.84**	**9**	P	**P**	**07 45 34.4**	**-0.9**
	8.5nm,0.8s,baz=156,slow=4.1,SNR=6.2						
PSI	**Prapat**	**27.04**	**263**	P	**P**	**07 45 38.1**	**+0.6**
	baz=27,SNR=4.8						
PSI	**Prapat**	**27.04**	**263**	P	**P**	**07 45 37.4**	**-0.1**
	6.9nm,0.8s,baz=114,slow=3.9,SNR=7.3						
WRA	**Warramunga Arr**	**27.66**	**162**	P	**P**	**07 45 41.8**	**-1.0**
	0.7nm,0.6s,baz=330,slow=11,SNR=17						
KSRS	**Korea Array**	**30.80**	**3**	P	**P**	**07 46 09.3**	**-1.0**
	1.0nm,0.5s,baz=183,slow=9.4,SNR=6.3						
ASAR	**Alice Springs**	**31.08**	**165**	P	**P**	**07 46 12.7**	**-0.3**
	1.2nm,0.4s,baz=339,slow=7.1,SNR=36						
MEEK	**Meekatharra**	**33.74**	**192**	P	**P**	**07 46 35.4**	**-0.7**
	baz=34,SNR=4.5						
USRK	**Ussuriysk Arra**	**37.87**	**7**	P	**P**	**07 47 11.7**	**+0.6**
	2.3nm,0.6s,baz=196,slow=8.0,SNR=4.7						
KLBR	**Kellerberrin**	**38.72**	**191**	P	**P**	**07 47 17.9**	**-0.5**
	baz=39,SNR=9.9						
BBOO	**Buckleboo**	**40.36**	**167**	P	**P**	**07 47 32.2**	**+0.3**
	baz=41,SNR=9.1						
STKA	**Stephens Creek**	**41.10**	**159**	P	**P**	**07 47 38.9**	**+0.9**
	1.2nm,0.3s,baz=336,slow=9.7,SNR=5.4						
SONM	**Songino Array**	**44.33**	**341**	P	**P**	**07 48 02.4**	**-1.6**
	0.8nm,0.6s,baz=149,slow=7.9,SNR=6.2						
SONM				PcP	**PcP**	**07 49 43.5**	**-2.0**
	1.6nm,0.8s,baz=174,slow=3.0,SNR=7.4						
MKAR	**Makanchi Array**	**54.71**	**325**	P	**P**	**07 49 20.6**	**-2.0**
	1.2nm,0.5s,baz=124,slow=7.8,SNR=17						
MKAR				PcP	**PcP**	**07 50 21.1**	**-2.2**
	1.6nm,0.6s,baz=112,slow=4.6,SNR=6.8						
ILAR	**Eielson Array**	**82.95**	**26**	P	**P**	**07 52 16.4**	**-0.3**
	0.5nm,0.8s,baz=257,slow=5.7,SNR=4.6						
ARCES	**ARCESS Array B**	**87.48**	**340**	P	**P**	**07 52 37.5**	**-1.6**
	5.6nm,1.0s,baz=73,slow=8.1,SNR=3.7						
BRTR	**Keskin Array B**	**87.51**	**310**	P	P	07 52 37.0	-3.1
	0.7nm,0.3s,baz=111,slow=7.9,SNR=7.3						
TXAR	**Lajitas Array**	**120.56**	**50**	PKP	**PKPdf**	**07 58 43.0**	**-0.6**
	0.3nm,0.7s,baz=234,slow=3.0,SNR=3.2						
TORD	**Torodi Ar. Bea**	**121.13**	**290**	PKP	**PKPdf**	**07 58 42.5**	**-2.3**
	1.8nm,0.7s,baz=48,slow=1.5,SNR=12						

ISCJB ***10*** *07:52:11.4±0.7, 20°.61S±0°.06×66°.80W±0°.09, h234km±9km, mb3.2/3, Error ellipse: s-maj=14.4km s-min=8.5km az=15.8*
IDC ***10*** *07:52:12.2±1.9, 20°.66S×66°.71W, h229km±17km, mb3.1/3, mb1 3.3/7, mb1mx3.2/20, mbtmp3.0/7, Error ellipse: s-maj=23.5km s-min=19.8km az=23.0*
GUC ***10*** *07:52:14.5±0.6, 20°.63S×67°.21W, h225km, ML4.2*

ISC 10 07:52:12.2±1.0, 20°.57S±0°.07×66°.8W±0°.1, h225km±11km, n16, σ1§36/22, mb3.1/3, 4C-2D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**Plate Boundary**	**2.52**	**259**	⇑*i*P	**Pn**	**07 52 58.4**	**+0.3**
PB01				AML	AML	07 53 34.6	
	comp=N,409nm,0.5s						
PB09	**Plate Boundary**	**2.56**	**241**	⇑*i*P	**Pn**	**07 52 59.4**	**+1.0**
PB09				AML	AML	07 53 36.7	
	comp=N,563nm,0.2s						
MNMC	**Minimini**	**2.96**	**298**	⇑*i*P	**Pn**	**07 53 04.2**	**+1.1**
MNMC				*i* S	**S**	**07 53 43.8**	**+1.0**
MNMC				AML	AML	07 53 50.1	
	comp=E,369nm,0.2s						
PB07	**Plate Boundary**	**3.07**	**247**	*e*P	**Pn**	**07 53 04.2**	**+0.1**
PB07				*e*S	**S**	**07 53 42.7**	**-2.1**
PB07				AML	AML	07 53 43.4	
	comp=N,563nm,0.2s						
MACH	**Maria Elena**	**3.17**	**239**	⇓*i*P	**Pn**	**07 53 05.8**	**+0.5**
MACH				*i* S	**S**	**07 53 45.2**	**-1.7**
PSGC	**Pisagua**	**3.24**	**287**	⇑*i*P	**Pn**	**07 53 05.9**	**-0.1**
PSGC				*i* S	**S**	**07 53 45.9**	**-2.2**
PSGC				AML	AML	07 53 46.6	
	comp=N,163nm,0.4s						
CEN1	**Los Morros**	**4.20**	**227**	⇓*i*P	**Pn**	**07 53 19.5**	**+2.1**
CEN1				*i* S	**S**	**07 54 11.0**	**+2.2**
CEN1				AML	AML	07 54 13.8	
	comp=N,101nm,0.2s						
LPAZ	**La Paz**	**4.43**	**344**	P	**Pn**	**07 53 22.7**	**+1.9**
	comp=N,1.7nm,0.3s,baz=147,slow=7.5,SNR=71						
LPAZ				S	**S**	**07 54 14.5**	**-0.4**
	comp=N,0.3nm,0.3s,baz=340,slow=19,SNR=7.1						
SIV	**San Ignacio**	**7.12**	**51**	P	**Pn**	**07 53 53.7**	**-0.6**
	comp=N,2.7nm,0.3s,baz=250,slow=9.7,SNR=52						
SIV				S	S	07 55 08.3	-7.4
	baz=275,slow=22,SNR=3.1						
CFAA	**Coronel Fontan**	**11.06**	**186**	P	**Pn**	**07 54 43.2**	**-1.4**
	comp=N,0.1nm,0.3s,baz=14,slow=15,SNR=15						
CFAA				S	S	07 56 38.1	-8.8
	comp=N,0.2nm,0.3s,baz=250,slow=15,SNR=8.0						
BDFB	**Brasilia**	**18.55**	**78**	P	**P**	**07 56 12.2**	**-0.4**
	comp=N,0.4nm,0.3s,baz=228,slow=12,SNR=4.1						
TXAR	**Lajitas Array**	**61.01**	**323**	P	**P**	**08 02 02.4**	**+0.2**
	comp=N,0.2nm,0.6s,baz=123,slow=6.6,SNR=2.7						
TORD	**Torodi Ar. Bea**	**75.22**	**70**	P	**P**	**08 03 29.5**	**-1.2**
	comp=N,0.8nm,0.5s,baz=252,slow=5.9,SNR=15						
NVAR	**Mina Array Bea**	**75.98**	**321**	P	**P**	**08 03 35.6**	**+0.9**
	comp=N,0.3nm,0.7s,baz=143,slow=5.3,SNR=4.0						
ASAR	**Alice Springs**	**131.61**	**206**	PKP	**PKPdf**	**08 10 58.7**	**-0.2**
	comp=N,0.5nm,0.9s,baz=132,slow=2.8,SNR=4.3						
WRA	**Warramunga Arr**	**134.71**	**209**	PKP	**PKPdf**	**08 11 05.0**	**+0.2**
	comp=N,0.2nm,0.4s,baz=155,slow=1.8,SNR=7.0						

NEIC ***10*** *07:56:27.2, 55°.26N×134°.85W, h18km, ML2.8(AEIC), ML3.2(OTT), After AEIC.*

PGC 10 07:56:23.2±4.0, 55°.48N×134°.66W, h1km, ML3.2/7, 5D, 180km Sse of Sitka, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAG	**Craig**	**0.88**	**90**	P	Pn	07 56 43.9	+1.2
CRAG				S	Sn	07 56 56.9	+0.8
WRAK	**Wrangell Islan**	**1.61**	**53**	P	Pg	07 56 56.7	+2.6
WRAK				S	Sg	07 57 18.7	+3.8
SIT	**Sitka**	**1.63**	**347**	P	Pg	07 56 55.5	+1.1
SIT				S	Sg	07 57 17.9	+2.4
NDB	**Naden**	**1.82**	**146**	⇑Pn	Pn	07 56 54.6	-1.1
NDB				⇓Sn	Sn	07 57 19.5	0.0
NDB	**Naden**	**1.82**	**146**	Pn	Pn	07 56 54.6	-1.1
NDB				Sn	Sn	07 57 19.5	0.0
DIB	**Dawson Inlet,**	**2.61**	**150**	⇓Pn	Pn	07 57 05.4	-1.1
DIB				⇓Sn	Sn	07 57 38.5	-0.3
DIB	**Dawson Inlet,**	**2.61**	**150**	Pn	Pn	07 57 05.4	-1.1
DIB				Sn	Sn	07 57 38.5	-0.3
RUBB	**Prince Rupert**	**2.79**	**113**	⇑Pn	Pn	07 57 09.2	+0.2
RUBB				⇓Sn	Sn	07 57 41.8	-1.5
RUBB				⇑Sg	Sb	07 57 49.2	+0.7
RUBB	**Prince Rupert**	**2.79**	**113**	Pn	Pn	07 57 09.2	+0.2
RUBB				Sn	Sb	07 57 49.2	+0.7
MOBC	**Moresby Island**	**2.82**	**145**	⇑Pn	Pn	07 57 08.5	-0.9
MOBC				⇑Sn	Sn	07 57 43.5	-0.6
MOBC				⇓Sg	Sb	07 57 49.2	-0.2
MOBC	**Moresby Island**	**2.82**	**145**	Pn	Pn	07 57 08.5	-0.9
MOBC				Sn	Sn	07 57 43.5	-0.6
MOBC				Sg	Sb	07 57 49.2	-0.2
BNAB	**Bonilla**	**3.08**	**129**	Pn	Pn	07 57 11.9	-0.9
BNAB	**Bonilla**	**3.08**	**129**	Pn	Pn	07 57 11.9	-0.9
BNB	**Barry Inlet**	**3.37**	**148**	⇑Pn	Pn	07 57 16.0	-1.1
BNB	**Barry Inlet**	**3.37**	**148**	Pn	Pn	07 57 16.0	-1.1
DLBC	**Dease Lake**	**3.91**	**39**	⇑Pg	Pb	07 57 33.3	+0.3
DLBC				⇑Sg	Sg	07 58 26.4	-2.5
DLBC	**Dease Lake**	**3.91**	**39**	Pg	Pb	07 57 33.3	+0.3
DLBC				Sg	Sg	07 58 26.4	-2.5

IDC 10 08:15:59.3±1.3, 12°.89S×166°.47E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.8/17, mbtmp3.8/7, ML3.2/1, MS3.2/2, Ms1 3.2/2, ms1mx3.0/24, Error ellipse: s-maj=45.9km s-min=26.8km az=131.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.26**	**298**	LR	LR	08 20 18.1	
	comp=Z,119nm,18.9s,baz=156,slow=36						
DZM	**Mont Dzumac**	**9.13**	**180**	Pn	Pn	08 18 13.1	+0.6
	0.3nm,0.3s,baz=348,slow=20,SNR=3.8						
DZM				LR	LR	08 21 23.3	
	comp=Z,178nm,20.1s,baz=236,slow=36						
WRA	**Warramunga Arr**	**31.56**	**253**	P	P	08 22 23.0	-0.8
	0.3nm,0.7s,baz=86,slow=9.0,SNR=3.3						
ASAR	**Alice Springs**	**32.65**	**246**	P	P	08 22 33.1	-0.2
	0.8nm,0.6s,baz=72,slow=9.5,SNR=12						

BODT	**Bodrum**	**1.46**	**165**	*e*PN	**Pg**	**08 37 16.2**	**-0.7**
BODT	**Bodrum**	**1.46**	**165**	*e*Pn	**Pg**	**08 37 16.2**	**-0.7**
BDRM	**Kayabasi**	**1.48**	**161**	*i* P	**Pg**	**08 37 16.7**	**-0.8**
BDRM				*i* S	**Sg**	**08 37 37.4**	**+0.6**
BDRM	**Kayabasi**	**1.48**	**161**	*i* P	**Pg**	**08 37 16.7**	**-0.8**
BDRM				*i* S	**Sg**	**08 37 37.4**	**+0.6**
BOZC	**Bozcaada**	**1.50**	**336**	*i* P	**Pn**	**08 37 15.5**	**+0.6**
BOZC				*i* S	**Sb**	**08 37 35.0**	**0.0**
DEMI	**Demirci**	**1.58**	**68**	*e*P	**Pb**	**08 37 17.3**	**-0.3**
DEMI				*i* S	**Sb**	**08 37 37.1**	**-0.2**
DEMI	**Demirci**	**1.58**	**68**	*e*P	**Pb**	**08 37 17.3**	**-0.3**
DEMI				*i* S	**Sb**	**08 37 37.1**	**-0.2**
DURS	**Dursunbey**	**1.70**	**48**	*i* P	**Pn**	**08 37 18.4**	**+0.5**
DURS				*i* S	**Sn**	**08 37 39.5**	**+0.3**
DURS	**Dursunbey**	**1.70**	**48**	*i* P	**Pn**	**08 37 18.4**	**+0.5**
DURS				*i* S	**Sn**	**08 37 39.5**	**+0.3**
GONE	**Gonen-Balikesi**	**1.71**	**22**	*e*PN	**Pg**	**08 37 20.8**	**-0.9**
GONE	**Gonen-Balikesi**	**1.71**	**22**	*e*Pn	**Pg**	**08 37 20.8**	**-0.9**
APE	**Apeiranthos**	**1.74**	**217**	P	**Pn**	**08 37 18.0**	**-0.3**
APE				S	**Sn**	**08 37 40.4**	**+0.3**
APE	**Apeiranthos**	**1.74**	**217**	*e*PN	**Pb**	**08 37 20.8**	**+0.4**
APE	**Apeiranthos**	**1.74**	**217**	P	**Pn**	**08 37 18.0**	**-0.3**
APE	**Apeiranthos**	**1.74**	**217**	*e*Pn	**Pb**	**08 37 20.8**	**+0.4**
APE				S	**Sn**	**08 37 40.4**	**+0.3**
YER	**Yerkesik**	**1.76**	**139**	*e*PN	**Pb**	**08 37 20.0**	**-0.7**
YER	**Yerkesik**	**1.76**	**139**	*e*Pn	**Pb**	**08 37 20.0**	**-0.7**
DAT	**Datca**	**1.84**	**161**	*e*PN	**Pb**	**08 37 21.7**	**-0.4**
DAT	**Datca**	**1.84**	**161**	*e*Pn	**Pb**	**08 37 21.7**	**-0.4**
LPK	**Lapseki**	**1.90**	**358**	*e*PN	**Pb**	**08 37 22.8**	**-0.2**
LPK	**Lapseki**	**1.90**	**358**	*e*Pn	**Pb**	**08 37 22.8**	**-0.2**
DNZL	**Cakiroluk**	**1.91**	**113**	*i* P	**Pb**	**08 37 22.5**	**-0.8**
DNZL				*i* S	**Sg**	**08 37 50.7**	**+0.3**
DNZL	**Cakiroluk**	**1.91**	**113**	*i* P	**Pb**	**08 37 22.5**	**-0.8**
DNZL				*i* S	**Sg**	**08 37 50.7**	**+0.3**
KRBG	**Karabiga-Canak**	**1.95**	**10**	*e*PN	**Pb**	**08 37 24.0**	**0.0**
KRBG	**Karabiga-Canak**	**1.95**	**10**	*e*Pn	**Pb**	**08 37 24.0**	**0.0**
KHAL	**Karahalli**	**2.09**	**92**	*i* P	**Pg**	**08 37 28.0**	**-1.0**
KHAL				*i* S	**Sg**	**08 37 55.4**	**-0.7**
KHAL	**Karahalli**	**2.09**	**92**	*i* P	**Pg**	**08 37 28.0**	**-1.0**
KHAL				*i* S	**Sg**	**08 37 55.4**	**-0.7**
KCTX	**Karacabey (Bur**	**2.14**	**33**	*e*PN	**Pb**	**08 37 26.7**	**-0.5**
KCTX	**Karacabey (Bur**	**2.14**	**33**	*e*Pn	**Pb**	**08 37 26.7**	**-0.5**
GDZ	**Gediz**	**2.16**	**73**	*e*P	**Pg**	**08 37 29.8**	**-0.5**
GDZ				*i* S	**Sg**	**08 38 00.4**	**+2.1**
GDZ	**Gediz**	**2.16**	**73**	*e*P	**Pg**	**08 37 29.8**	**-0.5**
RKY	**Sarkoy-Tekirda**	**2.23**	**7**	*e*PN	**Pb**	**08 37 28.7**	**0.0**
RKY	**Sarkoy-Tekirda**	**2.23**	**7**	*e*Pn	**Pb**	**08 37 28.7**	**0.0**
SMTH	**Samothraki Isl**	**2.24**	**334**	P	**Pn**	**08 37 25.1**	**0.0**
SMTH				S	**Sn**	**08 37 51.8**	**-0.6**
SMTH	**Samothraki Isl**	**2.24**	**334**	P	**Pn**	**08 37 25.1**	**0.0**
SMTH				S	**Sn**	**08 37 51.8**	**-0.6**
TVSB	**Tavsanli**	**2.27**	**64**	*e*PN	**Pb**	**08 37 28.7**	**-0.7**
TVSB	**Tavsanli**	**2.27**	**64**	*e*Pn	**Pb**	**08 37 28.7**	**-0.7**
AOS	**Alonnisos**	**2.41**	**288**	*e*PN	**Pb**	**08 37 31.1**	**-0.7**
AOS	**Alonnisos**	**2.41**	**288**	*e*Pn	**Pb**	**08 37 31.1**	**-0.7**
ALN	**Alexandroupoli**	**2.50**	**346**	P	**Pn**	**08 37 28.8**	**+0.1**
ALN				S	**Sn**	**08 38 00.0**	**+1.3**
ALN	**Alexandroupoli**	**2.50**	**346**	*e*PN	**Pb**	**08 37 32.1**	**-1.2**
ALN	**Alexandroupoli**	**2.50**	**346**	P	**Pn**	**08 37 28.8**	**+0.1**
ALN	**Alexandroupoli**	**2.50**	**346**	*e*Pn	**Pb**	**08 37 32.1**	**-1.2**
ALN				S	**Sn**	**08 38 00.0**	**+1.3**
ARMT	**Armutlu**	**2.61**	**36**	*e*PN	**Pb**	**08 37 34.1**	**-1.1**
ARMT	**Armutlu**	**2.61**	**36**	*e*Pn	**Pb**	**08 37 34.1**	**-1.1**

DJA ***10*** *08:42:39.3±1.0, 42°N±8°×14°3E±2°0, h10km, M5.2/13, mB5.4/1, mb5.2/13, Mw(mB)4.9/1*

MOS ***10*** *08:42:40.0±0.8, 41°.72N×142°.11E, h23km, mb5.5/120, Error ellipse: s-maj=9.7km s-min=5.3km az=102.8*

BJI ***10*** *08:42:45.9, 41°.75N×142°.60E, h96km, mB5.0/34, mb4.8/50*

JMA ***10*** *08:42:48.4±0.2, 41°.72N×142°.23E, h92km±3km, M5.1*

JMA Felt IV J1.

ISCJB ***10*** *08:42:48.2±0.2, 41°.78N±0°.02×142°.17E±0°.02, h87km±1km, mb5.1/325, Error ellipse: s-maj=2.8km s-min=1.8km az=147.4*

IDC ***10*** *08:42:50.0±0.5, 41°.74N×142°.18E, h94km±3km, mb4.7/23, mb1 4.9/27, mb1mx4.9/28, mbtmp4.7/27, MS4.0/21, Ms1 4.0/21, ms1mx3.8/53, Error ellipse: s-maj=11.2km s-min=11.0km az=6.0*

SZGRF ***10*** *08:42:50.6, 42°.47N×143°.05E, h82km, mb4.9, Hokkaido, Japan, region*

AUST ***10*** *08:42:51.7±3.2, 41°.57N×142°.25E, h104km±29km, Error ellipse: s-maj=9.2km s-min=6.0km az=71.0*

NEIC ***10*** *08:42:51.0±0.5, 41°.81N×142°.08E, h100km±4km, mb5.2/208, MW5.0(NIED), Error ellipse: s-maj=3.5km s-min=2.1km az=154.0*

NEIC Felt [III] at Misawa, Honshu. Also felt at Aomori. Felt at Obihiro and Sapporo, Hokkaido. Recorded [4 JMA] in Aomori, [2 JMA] in Iwate and [1 JMA] in Miyagi, Honshu. Recorded [3 JMA] in southern Hokkaido and [2 JMA] in central, eastern and western Hokkaido.

GCMT ***10*** *08:42:52.6±0.2, 41°.73N×142°.22E, h90km±2km, MW5.1, Moment Tensor Solution. s47,c65; s86,c136; Moment tensor: Scale 10^16Nm; Mrr=2.54±.15; Mθθ 5.38±.14; Mϕϕ=2.84±.15; Mrθ=1.78±.10; Mθϕ=1.39±.15; Mϕr 2.15±.09; Best double couple: M0 5.50000×10^16 NP1:φ=134.00000°, δ72.00000°, λ=-44.00000°. NP2:φ=241.00000°, δ49.00000°, λ=-155.00000°. Principal axes: T 6.1400, Plg14.0000°, Azm192.0000°; N -1.2900, Plg43.0000°, Azm296.0000°; P -4.8500, Plg44.0000°, Azm88.0000°; Data Used: II IU IC G CN.*

NIED ***10*** *08:43:00, 41°.80N×142°.20E, h86km, Mw5.0 Best double couple: M0 4.07000×10^16 NP1:φ=130.00000°, δ78.00000°, λ=-52.00000°. NP2:φ=235.00000°, δ40.00000°, λ=-160.00000°.*

ISC **10 08:42:50.0**±0.3, **41°.76N**±0°.03×**142°.26E**±0°.03, **h94**km±2km, **h93**km:**pP-P, n1314,** σ1**09**/1426, **mb5.2**/326, **305C-256D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.64**	**35**	⇑P			**Pn**	**08 43 04.8**	**-1.4**
JNBK				eS			**Sn**	**08 43 17.2**	**-1.1**
JEM	**Erimo**	**0.72**	**69**	⇑P			**Pn**	**08 43 05.7**	**-1.3**
JEM				eS			**Sn**	**08 43 17.7**	**-2.0**
JKB	**Kayabe**	**0.92**	**278**	⇓P			**Pn**	**08 43 06.9**	**-2.1**
JKB				eS			**Sn**	**08 43 20.6**	**-2.8**
JOT	**Ohata**	**0.98**	**248**	⇓P			**Pn**	**08 43 07.8**	**-1.9**
JOT				eS			**Sn**	**08 43 21.5**	**-3.0**
JBT2	**Biratori 2**	**1.02**	**4**	⇑P			**Pn**	**08 43 08.9**	**-1.2**
JCH	**Churui**	**1.18**	**44**	⇑P			**Pn**	**08 43 11.0**	**-1.0**
JCH				eS			**Sn**	**08 43 27.0**	**-1.6**
JEW	**Eniwo**	**1.23**	**331**	⇑P			**Pn**	**08 43 11.2**	**-1.4**
JEW				eS			**Sn**	**08 43 28.2**	**-1.5**
JTM	**Tenmabayashi**	**1.32**	**223**	⇑P			**Pn**	**08 43 12.3**	**-1.4**
JTM				S			**Sn**	**08 43 29.3**	**-2.3**
JSR	**Shiriuchi**	**1.40**	**261**	⇓P			**Pn**	**08 43 12.8**	**-1.8**
JFR	**Furan**	**1.42**	**10**	⇑P			**Pn**	**08 43 13.6**	**-1.3**
JANG	**Nango**	**1.50**	**202**	⇑P			**Pn**	**08 43 14.0**	**-1.9**
JANG				eS			**Sn**	**08 43 32.4**	**-3.1**
JSI2	**Shiura 2**	**1.56**	**244**	⇓P			**Pn**	**08 43 15.4**	**-1.2**
JSI2				S			**Sn**	**08 43 35.5**	**-1.2**
JOB	**Onbets**	**1.63**	**45**	⇑P			**Pn**	**08 43 16.8**	**-0.8**
JTH	**Tanohata**	**1.85**	**189**	⇑P			**Pn**	**08 43 17.8**	**-2.5**
JTH				S			**Sn**	**08 43 39.0**	**-4.4**
JAR	**Ashorobuto**	**1.90**	**36**	⇑P			**Pn**	**08 43 19.5**	**-1.5**
JAR				eS			**Sn**	**08 43 42.1**	**-2.5**
JKZ	**Kuzumaki**	**1.91**	**202**	⇑P			**Pn**	**08 43 19.9**	**-1.3**
JAH	**Hinai**	**1.99**	**218**	⇑P			**Pn**	**08 43 21.3**	**-0.9**
JHR	**Hokuryu**	**2.02**	**349**	⇑P			**Pn**	**08 43 22.0**	**-0.5**
JHR				eS			**Sn**	**08 43 46.8**	**-0.5**
JIW	**Iwasaki**	**2.06**	**236**	⇑P			**Pn**	**08 43 21.9**	**-1.2**
JSK	**Shakotan**	**2.06**	**321**	⇑P			**Pn**	**08 43 21.9**	**-1.2**
JOSM	**Okushiri--Mats**	**2.10**	**280**	⇓P			**Pn**	**08 43 22.1**	**-1.5**
JOSM				eS			**Sn**	**08 43 47.7**	**-1.5**
JKK2	**Kamakawa 2**	**2.14**	**10**	⇑P			**Pn**	**08 43 23.3**	**-0.8**
JAK	**Akkeshi**	**2.19**	**55**	⇑P			**Pn**	**08 43 22.8**	**-1.9**
JAK				eS			**Sn**	**08 43 47.8**	**-3.5**
MIYJ	**Miyakonagasawa**	**2.21**	**189**	⇑P			**Pn**	**08 43 23.0**	**-2.1**
MIYJ				S			**Sn**	**08 43 48.2**	**-3.6**
ASAJ	**Asahikawa**	**2.37**	**6**	*e*Pn			**Pn**	**08 43 26.1**	**-1.0**
ASAJ	**Asahikawa**	**2.37**	**6**	P			**Pn**	**08 43 26.4**	**-0.7**
	1μm,0.3s,baz=212,slow=9.3,SNR=7819								
JOM	**Ohasama**	**2.40**	**198**	⇑P			**Pn**	**08 43 26.1**	**-1.5**
JTKR	**Abashiri--Toko**	**2.52**	**28**	⇑P			**Pn**	**08 43 28.0**	**-1.1**
JSS	**Shosan**	**2.65**	**354**	⇑P			**Pn**	**08 43 30.4**	**-0.5**
JRG	**Rokugo**	**2.67**	**208**	⇑P			**Pn**	**08 43 30.4**	**-0.7**
JYW	**Yuwa**	**2.71**	**216**	⇑P			**Pn**	**08 43 31.6**	**-0.1**
OFUJ	**Ofunato**	**2.72**	**190**	⇑P			**Pn**	**08 43 29.9**	**-1.9**
JMK	**Ichinoseki**	**2.92**	**196**	⇑P			**Pn**	**08 43 32.6**	**-1.9**
JRA	**Rausu**	**3.03**	**43**	⇑P			**Pn**	**08 43 34.8**	**-1.1**
NEM2	**Nemuro 2**	**3.03**	**57**	P			**Pn**	**08 43 33.1**	**-2.9**
JYK	**Kaneyama**	**3.19**	**208**	⇑P			**Pn**	**08 43 37.3**	**-0.8**
JTB	**Tobi-shima**	**3.29**	**220**	⇑P			**Pn**	**08 43 38.9**	**-0.5**
JIO	**Ouri**	**3.38**	**192**	⇑P			**Pn**	**08 43 38.4**	**-2.2**
YUK	**Yuzh-Kuril'sk**	**3.49**	**48**	*d* iP			**Pn**	**08 43 41.3**	**-0.8**
YUK				*i* S			**Sn**	**08 44 19.1**	**-3.3**
YUK					pmax	pmax			
	comp=E,338nm,0.4s								
YUK					pmax	pmax			
	comp=N,332nm,0.2s								
YUK					pmax	pmax			
	comp=Z,3μm,0.4s								
YUK					smax	smax			
	comp=N,10μm,0.3s								
YUK					smax	smax			
	comp=E,14μm,0.3s								
JOU	**Okura**	**3.61**	**200**	⇑P			**Pn**	**08 43 42.6**	**-1.2**
JYA	**Atsumi**	**3.72**	**212**	⇑P			**Pn**	**08 43 44.9**	**-0.3**
JYS	**Shirataka**	**3.92**	**206**	⇑P			**Pn**	**08 43 47.4**	**-0.5**
JAW	**Awa shima**	**4.03**	**216**	⇑P			**Pn**	**08 43 49.1**	**-0.3**
JMM	**Marumori**	**4.05**	**197**	⇑P			**Pn**	**08 43 47.5**	**-2.2**
JFT	**Otama**	**4.49**	**200**	⇑P			**Pn**	**08 43 54.4**	**-1.3**
JFK	**Kawauchi**	**4.52**	**194**	⇑P			**Pn**	**08 43 53.4**	**-2.7**
JFY	**Yanaizu**	**4.78**	**205**	P			**Pn**	**08 43 58.8**	**-0.8**
ONAJ	**Iwakimizuishiy**	**4.79**	**194**	⇑P			**Pn**	**08 43 57.0**	**-2.8**
JIZZ	**Izumozaki**	**5.03**	**214**	⇑P			**Pn**	**08 44 03.5**	**+0.4**
YSS	**Yuzh-Sakhalins**	**5.20**	**4**	⇑*i*P			**Pn**	**08 44 04.8**	**-0.5**
YSS				*i* S			**Sn**	**08 45 04.0**	**+0.1**
YSS					pmax	pmax			
	comp=N,2μm,1.0s								
YSS					pmax	pmax			
	comp=Z,2μm,1.0s								
YSS					pmax	pmax			
	comp=E,270nm,0.9s								
KUR	**Kuril'sk**	**5.36**	**48**	*e*P			**Pn**	**08 44 06.3**	**-1.1**
KUR				*i* S			**Sn**	**08 45 05.5**	**-2.2**
KUR					pmax	pmax			
	comp=N,206nm,0.8s								
KUR					pmax	pmax			
	comp=Z,684nm,0.8s								
KUR					pmax	pmax			
	comp=E,365nm,0.4s								
KUR					smax	smax			
	comp=E,2μm,0.5s								
KUR					smax	smax			
	comp=N,1μm,0.4s								
JJN	**Nakama**	**5.63**	**216**	⇑P			**Pn**	**08 44 11.3**	**+0.1**
MAJO	**Matsushiro**	**6.09**	**212**	*e*P			**Pn**	**08 44 17.1**	**-0.4**
MAJO	**Matsushiro**	**6.09**	**212**	*e*Pn			**Pn**	**08 44 17.1**	**-0.4**
MAT	**Matsushiro**	**6.09**	**212**	P			**Pn**	**08 44 16.9**	**-0.5**
MAT				S			**Sn**	**08 45 26.7**	**+1.0**
JTT	**Ttatey**	**6.41**	**218**	P			**Pn**	**08 44 22.2**	**+0.4**
JKG	**Kaga**	**7.16**	**222**	P			**Pn**	**08 44 32.2**	**+0.2**
JGF	**Kuroka**	**7.25**	**213**	P			**Pn**	**08 44 32.6**	**-0.6**
UGL	**Uglegorsk**	**7.32**	**359**	*e*P			**Pn**	**08 44 32.5**	**-1.5**
UGL					pmax	pmax			
	comp=Z,314nm,1.0s								
VLA	**Vladivostok**	**7.79**	**283**	⇓*i*P			**Pn**	**08 44 41.3**	**+0.8**
VLA				*e*S			**Sn**	**08 46 10.4**	**+3.4**
VLA					pmax	pmax			
	comp=Z,188nm,0.7s								
USRK	**Ussuriysk Arra**	**7.91**	**291**	P			**Pn**	**08 44 41.4**	**-0.8**
	comp=Z,2.6nm,0.3s,baz=98,slow=15,SNR=47								
USRK					LR	LR		08 47 30.7	
	comp=Z,829nm,21.9s,baz=103,slow=36								
JWY	**Kouya**	**9.18**	**217**	P			**Pn**	**08 44 57.5**	**-2.1**
MDJ	**Mudanjiang**	**9.68**	**291**	P			**Pn**	**08 45 07.1**	**+0.9**
MDJ				S			**Sn**	**08 46 52.2**	**-0.9**
MDJ				PcP			**PcP**	**08 51 12.3**	**-0.6**
MDJ				PcS			**PcS**	**08 54 44.7**	**-1.4**
MDJ				ScS			**ScS**	**08 58 07.8**	**-3.0**
MDJ				AMB	AMB				
	comp=Z,14nm,0.8s								
MDJ				AMB	AMB				
	comp=Z,58nm,3.7s								
MDJ				LR	LR				
	comp=Z,480nm,11.3s								
MDJ				LR	LR				
	comp=Z,420nm,16.5s								
MDJ				LR	LR				
	comp=Z,660nm,19.3s								
MDJ	**Mudanjiang**	**9.68**	**291**	*e*Pn			**Pn**	**08 45 07.2**	**+1.0**
	comp=Z,27nm,0.7s								
JJG	**Jouge**	**10.09**	**228**	P			**Pn**	**08 45 11.6**	**-0.3**
KLR	**Kul'dur**	**10.49**	**319**	*e*P			Pn	08 45 12.3	-4.9
KLR				*e*				08 47 13.5	
KLR					pmax	pmax			
	comp=N,48nm,1.4s								
KLR					pmax	pmax			
	comp=E,55nm,1.4s								
KLR					pmax	pmax			
	comp=Z,100nm,1.4s								
KLR					MLR	MLR			
	comp=E,600nm,12.0s								
KLR					MLR	MLR			
	comp=Z,3μm,12.0s								
KSRS	**Korea Array**	**11.86**	**253**	P			**Pn**	**08 45 35.8**	**0.0**
	comp=Z,9.7nm,0.3s,baz=63,slow=13,SNR=77								
KSRS					S		Sn	08 47 52.0	+5.8
	comp=Z,4.3nm,0.3s,baz=65,slow=24,SNR=18								
KSRS					PcP		**PcP**	**08 51 15.9**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=47,slow=1.8,SNR=4.4								
KSAR	**Wonju Array Be**	**11.89**	**253**	P			**Pn**	**08 45 35.8**	**-0.4**
KSAR				S			Sn	08 47 52.0	+5.0
KSAR				PcP			**PcP**	**08 51 15.9**	**+0.6**
JNU	**Nakatsue**	**12.48**	**230**	*e*Pn			**Pn**	**08 45 42.0**	**-2.2**
	comp=Z,69nm,1.0s								
JNU	**Nakatsue**	**12.48**	**230**	P			**Pn**	**08 45 42.2**	**-2.0**
	comp=Z,1.3nm,0.3s,baz=48,slow=8.5,SNR=50								
JNU					LR	LR		08 50 24.9	
	comp=Z,471nm,19.6s,baz=45,slow=37								
CN2	**Changchun**	**12.52**	**285**	*e*P			Pn	08 45 40.0	-4.6
CN2				*e*sP				08 46 15.1	
CN2				*e*S			**Sn**	**08 48 01.1**	**-1.0**
CN2					AMB	AMB			
	comp=Z,10.0nm,0.7s								
CN2					AMB	AMB			
	comp=Z,200nm,5.0s								
CN2					LR	LR			
	comp=N,600nm,8.0s								
CN2					LR	LR			
	comp=E,600nm,8.0s								
CN2					LR	LR			
	comp=Z,600nm,12.0s								
INCN	**Inchon**	**12.78**	**256**	*e*Pn			**Pn**	**08 45 50.1**	**+2.0**
INCN				*e*Sn			Sn	08 48 14.8	+6.3
SKR	**Severo-Kuril's**	**13.08**	**42**	*e*P			Pn	08 45 41.5	-10
SKR					pmax	pmax			
	comp=N,60nm,0.5s								
SKR					pmax	pmax			
	comp=Z,80nm,0.5s								
SNY	**Shenyang**	**13.94**	**276**	⇓P			P	08 46 10.8	+2.6
SNY				pP			pP	08 46 42.6	
SNY				S			S	08 48 45.2	-6.8
SNY					AMB	AMB			
	comp=Z,15nm,1.5s								
SNY					AMB	AMB			
	comp=Z,230nm,5.9s								
SNY					LR	LR			
	comp=E,340nm,18.4s								
SNY					LR	LR			
	comp=Z,350nm,15.1s								
CBIJ	**Chichi jima**	**14.63**	**180**	P			Pn	08 46 06.8	-5.5
JCJ	**Chichijima**	**14.63**	**180**	P			Pn	08 46 06.8	-5.5
	comp=Z,84nm,0.3s,baz=289,slow=14,SNR=23								
PEA0B	**Petropavlovsk-**	**15.39**	**37**	*e*P			**Pn**	**08 46 17.5**	**-4.2**
PETK	**Petropavlovsk-**	**15.39**	**37**	P			**Pn**	**08 46 17.6**	**-4.1**
PETK					pmax	pmax			
	comp=Z,3.0nm,0.3s								
PETK	**Petropavlovsk-**	**15.39**	**37**	P			**Pn**	**08 46 17.6**	**-4.1**
PETK	**Petropavlovsk-**	**15.39**	**37**	P			**Pn**	**08 46 17.6**	**-4.1**
	comp=Z,3.1nm,0.3s,baz=214,slow=10,SNR=20								
PET	**Petropavlovsk**	**15.77**	**39**	*e*P			**Pn**	**08 46 24.3**	**-2.2**
PET				*e*S			Sn	08 49 13.1	-7.5
DL2	**Dalian**	**15.98**	**267**	P			**P**	**08 46 33.3**	**+2.4**
DL2				S			**Sn**	**08 49 28.8**	**+2.8**
DL2					AMB	AMB			
	comp=Z,51nm,1.0s								
DL2					AMB	AMB			
	comp=Z,320nm,5.4s								
DL2					LR	LR			
	comp=Z,310nm,10.8s								
DL2					LR	LR			
	comp=Z,190nm,10.3s								
CLNS	**Chul'man**	**18.77**	**329**	*e*P			**P**	**08 47 00.5**	**-1.1**
CLNS				*e*S			**S**	**08 50 29.2**	**-0.8**
CLNS					pmax	pmax			
	comp=N,34nm,1.0s								
CLNS					pmax	pmax			
	comp=Z,59nm,0.9s								
CLNS					pmax	pmax			
	comp=E,26nm,0.8s								
CLNS					smax	smax			
	comp=N,25nm,7.9s								
CLNS					smax	smax			
	comp=E,118nm,12.8s								
CLNS					MLR	MLR			
	comp=E,376nm,11.0s								
CLNS					MLR	MLR			
	comp=N,246nm,14.0s								
JOW	**Kunigami**	**18.81**	**222**	*e*P			**P**	**08 46 60.0**	**-2.2**
	comp=N,37nm,1.1s								
BJI	**Beijing**	**19.77**	**274**	P			**P**	**08 47 12.1**	**-0.4**
BJI				pP			**pP**	**08 47 31.4**	**+0.9**
BJI				S			S	08 50 42.1	-8.0
BJI				sS			**sS**	**08 51 18.0**	**-1.8**
BJI				AMB	AMB				
	comp=N,26nm,0.8s								
BJI					LR	LR			
	comp=N,200nm,5.3s								
BJI					LR	LR			
	comp=N,550nm,14.2s								
BJI					LR	LR			
	comp=N,390nm,34.6s								
BJT	**Baijiatuao**	**19.78**	**274**	*e*P			**P**	**08 47 11.8**	**-0.8**
	comp=N,29nm,0.4s								
BJT				*e*				08 47 28.8	
SSE	**Sheshan**	**19.97**	**245**	P			**Pn**	**08 47 15.5**	**-1.7**
SSE				pP			**pP**	**08 47 35.6**	**+2.9**
SSE				S			**S**	**08 50 52.6**	**-1.5**
SSE				AMB	AMB				
	comp=N,62nm,0.8s								
SSE				AMB	AMB				
	comp=N,140nm,5.7s								
SSE				LR	LR				
	comp=N,280nm,12.3s								
SSE				LR	LR				
	comp=N,270nm,12.3s								
SSE				LR	LR				
	comp=N,310nm,13.8s								
NJ2	**Nanjing**	**21.02**	**250**	*e*P			**P**	**08 47 26.1**	**+0.1**
NJ2				S			**S**	**08 51 14.5**	**-0.3**
NJ2				AMB	AMB				
	comp=N,30nm,0.6s								
YAK	**Yakutsk**	**21.65**	**344**	*e*P			**P**	**08 47 28.0**	**-4.5**
YAK				*e*PP			**pP**	**08 47 54.0**	**+3.2**
YAK				*e*				08 48 09.2	
YAK				*e*S			S	08 51 18.8	-7.8
YAK					pmax	pmax			
	comp=Z,103nm,0.9s								
YAK					pmax	pmax			
	comp=N,98nm,1.3s								
YAK					pmax	pmax			
	comp=E,54nm,1.2s								
YAK					smax	smax			
	comp=E,742nm,2.0s								
YAK					smax	smax			
	comp=N,1μm,2.8s								
YAK					MLR	MLR			
	comp=E,191nm,13.0s								
YAK					MLR	MLR			
	comp=Z,369nm,13.0s								
YAK					MLR	MLR			
	comp=N,330nm,14.0s								
SEY	**Seymchan**	**22.03**	**12**	*c*e*P*			**P**	**08 47 34.6**	**-1.9**
HHC	**Hu-ho-hao-te**	**23.02**	**278**	*e*P			**P**	**08 47 44.9**	**-2.1**
HHC				pP			**pP**	**08 48 08.0**	**+2.1**
HHC				PP			**PnPn**	**08 48 19.4**	**+2.5**
HHC				S			S	08 51 41.8	-8.5
HHC				sS			**sS**	**08 52 21.7**	**-2.9**
HHC				AMB	AMB				
	comp=N,34nm,1.0s								
HHC				AMB	AMB				
	comp=N,150nm,5.2s								
HHC				LR	LR				
	comp=N,550nm,8.2s								
HHC				LR	LR				
	comp=N,630nm,8.2s								
HHC				LR	LR				
	comp=N,680nm,10.2s								
FX1	**Attu Island--F**	**23.53**	**51**	*e*P			**P**	**08 47 53.0**	**+1.4**
FX1	**Attu Island--F**	**23.53**	**51**	P			**P**	**08 47 52.1**	**+0.6**
	comp=N,81nm,0.8s,baz=273,slow=3.6,SNR=16								
FX1					LR	LR		08 56 05.9	
	comp=N,170nm,21.1s,baz=255,slow=34								
TATO	**Taipei**	**24.01**	**232**	*e*P			**P**	**08 47 55.7**	**-0.3**
	comp=N,1μm,1.2s								
YHNB	**Yeheng**	**24.31**

H11S3 WAKE ISLAND Hy 31.17 131 T T 09 21 46.7
baz=332,slow=0.6,SNR=371
H11S2 WAKE ISLAND Hy 31.19 131 T T 09 21 47.8
baz=332,slow=0.6,SNR=296
GTA Gaotai 32.08 280 *e*P **P** **08 49 10.1 +2.0**
GTA pP pP 08 49 35.3 +5.9
GTA PcP **PcP** **08 51 56.8 +1.5**
GTA S **S** **08 54 14.6 +1.1**
GTA sS sS 08 54 57.1 +6.8
GTA ScP **ScP** **08 55 32.1 +1.8**
GTA PcS **PcS** **08 55 41.8 +1.5**
GTA SS **SnSn** **08 56 16.7 +3.8**
GTA ScS **ScS** **08 59 29.7 +0.5**
GTA AMB AMB
comp=Z,7.0nm,1.1s
GTA AMB AMB
comp=Z,150nm,6.4s
GTA LR LR
comp=Z,160nm,15.7s
GTA LR LR
comp=Z,160nm,15.4s
GTA LR LR
comp=Z,220nm,15.4s
CD2 Chengdu 32.60 263 P **P** **08 49 14.2 +1.5**
CD2 pP pP 08 49 39.6 +5.7
CD2 PP **PP** **08 50 26.6 -1.3**
CD2 S **S** **08 54 19.2 -2.4**
CD2 sS sS 08 55 03.8 +5.4
CD2 SS **SnSn** **08 56 22.8 -2.9**
CD2 AMB AMB
comp=Z,20nm,0.5s
CD2 AMB AMB
comp=Z,230nm,4.3s
CD2 LR LR
comp=Z,380nm,5.4s
CD2 LR LR
comp=Z,180nm,8.9s
GYA Guiyang 32.92 254 P **P** **08 49 14.8 -0.7**
GYA pP **pP** **08 49 39.4 +2.6**
GYA PP **PnPn** **08 50 26.9 -0.9**
GYA PcP **PcP** **08 51 59.8 +2.0**
GYA S S 08 54 19.2 -7.5
GYA sS **sS** **08 55 03.0 -0.6**
GYA ScP **ScP** **08 55 32.2 -1.1**
GYA PcS **PcS** **08 55 45.5 +2.0**
GYA ScS **ScS** **08 59 30.1 -3.8**
GYA AMB AMB
comp=Z,30nm,1.0s
GYA AMB AMB
comp=Z,180nm,5.5s
HVS Khovu-Aksy 34.18 303 *e*P **P** **08 49 26.5 +0.3**
HVS pmax pmax
comp=Z,27nm,0.7s
PALU Palau 34.97 194 ⇓P **P** **08 49 32.9 -0.2**
baz=35,SNR=5.9
QIZ Qiongzhong 35.66 240 P **P** **08 49 39.8 +0.7**
QIZ sP sP 08 50 17.4 +6.1
QIZ S **S** **08 55 07.4 -1.3**
QIZ sS sS 08 55 52.0 +6.2
QIZ AMB AMB
comp=Z,9.0nm,1.8s
QIZ AMB AMB
comp=Z,230nm,6.0s
KMI Kunming 36.55 256 P **P** **08 49 48.4 +1.5**
KMI pP **pP** **08 50 10.7 +2.2**
KMI S **S** **08 55 19.3 -3.4**
KMI AMB AMB
comp=Z,24nm,1.0s
KMI LR LR
comp=Z,380nm,17.8s
KMI LR LR
comp=Z,190nm,17.4s
KMI LR LR
comp=Z,210nm,19.2s
ZAA0 Zalesovo Array 39.35 308 *e*P **P** **08 50 09.6 -0.3**
ZAA0 *e* 08 50 36.8
ZAA0 *e*PcP **PcP** **08 52 17.3 +0.9**
ZALV Zalesovo Beam 39.35 308 P **P** **08 50 09.8 -0.1**
ZALV 08 52 16.8
ZALV 08 55 57.7
ZALV pmax pmax
comp=Z,64nm,0.8s
ZALV Zalesovo Beam 39.35 308 P **P** **08 50 09.8 -0.1**
ZALV PcP **PcP** **08 52 16.8 +0.4**
ZALV ScP **ScP** **08 55 57.6 +1.3**
ZALV Zalesovo Beam 39.35 308 P **P** **08 50 09.8 -0.1**
comp=Z,64nm,0.8s,baz=89,slow=7.7,SNR=51
ZALV PcP **PcP** **08 52 16.8 +0.4**
comp=Z,24nm,0.7s,baz=85,slow=3.0,SNR=9.7
ZALV ScP **ScP** **08 55 57.6 +1.3**
comp=Z,2.2nm,0.8s,baz=90,slow=3.0,SNR=3.6
ZALV LR LR 09 05 58.4
comp=Z,107nm,18.9s,baz=70,slow=35
WMQ Urumqi 39.48 292 P **P** **08 50 11.5 +0.3**
WMQ pP **pP** **08 50 36.8 +3.8**
WMQ sP sP 08 50 49.9 +6.2
WMQ PP **PnPn** **08 51 48.0 +0.8**
WMQ S **S** **08 56 03.8 -2.5**
WMQ sS sS 08 56 49.9 +6.1
WMQ SS **SS** **08 58 55.2 -8.7**
WMQ AMB AMB
comp=Z,35nm,0.8s
WMQ AMB AMB
comp=Z,260nm,5.2s
WMQ LR LR
comp=Z,200nm,7.4s
WMQ LR LR
comp=Z,370nm,7.6s
WMQ LR LR
comp=Z,140nm,21.2s
NVS Novosibirsk 40.18 310 *e*P **P** **08 50 14.9 -1.8**
NVS *e*S **S** **08 56 14.1 -2.2**
NVS pmax pmax
comp=N,7.0nm,0.9s
NVS pmax pmax
comp=Z,20nm,0.9s
NVS pmax pmax
comp=E,22nm,1.3s
NVS smax smax
comp=E,108nm,2.9s
NVS smax smax
comp=N,11nm,1.2s
PANO Nakornpanom 40.46 244 P **P** **08 50 20.7 +1.3**
comp=N,17nm,1.1s
SKNT Sakolnakorn 41.01 245 P **P** **08 50 24.3 +0.3**
comp=N,28nm,1.2s
SVW2 Sparrevohn 41.44 40 *e*P **P** **08 50 28.3 +1.4**
MYLDM Lahad Datu 42.14 217 P P 08 50 37.7 +4.5
comp=N,48nm,1.6s
PAYA Payao 42.24 251 P P 08 50 38.7 +4.7
comp=N,10.0nm,0.9s,comp=N,2µm
IM04 Indian Mountai 42.28 33 *e*P **P** **08 50 34.3 +0.5**
IM04 *e* 08 50 55.7
IM04 *e*PcP **PcP** **08 52 26.9 +1.1**
MK31 Makanchi Array 42.32 298 *i*P **P** **08 50 33.7 -0.7**
MK31 pmax pmax
comp=Z,66nm,1.0s
MK31 Makanchi Array 42.32 298 *e*P **P** **08 50 34.1 -0.2**
MK31 *e* 08 50 55.1
MKAR Makanchi Array 42.32 298 P **P** **08 50 34.0 -0.4**
MKAR *PP **pP** **08 50 55.0 -1.4**
MKAR 08 52 26.5
MKAR pmax pmax
comp=Z,11nm,1.0s
MKAR Makanchi Array 42.32 298 *e*P **P** **08 50 34.4 -0.1**
MKAR pP **pP** **08 50 55.0 -1.4**
MKAR PcP **PcP** **08 52 26.5 +0.2**
MKAR ScP **ScP** **08 56 08.7 +0.4**
MKAR Makanchi Array 42.32 298 ⇑P **P** **08 50 34.3 -0.1**
baz=42
MKAR Makanchi Array 42.32 298 P **P** **08 50 34.0 -0.4**
comp=Z,10nm,1.0s,baz=81,slow=9.1,SNR=41
MKAR pP **pP** **08 50 55.0 -1.4**
comp=Z,27nm,0.8s,baz=81,slow=9.1,SNR=15
MKAR PcP **PcP** **08 52 26.5 +0.2**
comp=Z,6.8nm,0.5s,baz=73,slow=5.2,SNR=13
MKAR ScP **ScP** **08 56 08.7 +0.4**
comp=Z,2.3nm,0.8s,baz=64,slow=5.5,SNR=4.5
KKM Kota Kinabalu 42.45 220 P **P** **08 50 33.9 -1.9**
KKM Kota Kinabalu 42.45 220 P **P** **08 50 38.6 +2.8**
comp=Z,30nm,1.2s
KKM Kota Kinabalu 42.45 220 *e*P **P** **08 50 36.1 +0.4**
comp=Z,44nm,1.4s
KKM Kota Kinabalu 42.45 220 ⇑P **P** **08 50 35.9 +0.1**
baz=42

LSA Lhasa 42.62 271 P **P** 08 50 32.7 -4.9
LSA Lhasa 42.62 271 *e*P **P** **08 50 36.3 -1.3**
LSA *e* 08 51 02.4
LSA pmax pmax
comp=Z,39nm,1.1s
LSA Lhasa 42.62 271 *e*P **P** **08 50 36.3 -1.3**
comp=Z,39nm,1.1s
LSA *e* 08 51 02.4
OHAK Old Harbor 42.92 46 *e*P **P** **08 50 39.1 +0.1**
comp=Z,871nm,1.9s
PPLA Purkeypile 42.98 38 *e*P **P** **08 50 41.4 +1.7**
comp=Z,148nm,1.3s
CAST Castle Rocks 43.00 37 *e*P **P** **08 50 41.7 +2.0**
comp=Z,73nm,1.0s
SPU Mount Spurr 43.14 40 *e*P **P** **08 50 42.1 +1.3**
KDAK Kodiak Island 43.23 45 P **P** **08 50 41.6 +0.1**
comp=Z,804nm,0.8s,SNR=5.7
CHTO Chiang Mai 43.25 251 *e*P **P** **08 50 42.7 +0.5**
CHTO pmax pmax
comp=Z,77nm,0.9s
CHTO Chiang Mai 43.25 251 P **P** **08 50 43.0 +0.8**
comp=Z,68nm,0.8s
CHTO Chiang Mai 43.25 251 *e*P **P** **08 50 42.6 +0.5**
comp=Z,78nm,0.9s
CHTO Chiang Mai 43.25 251 P **P** **08 50 43.0 +0.8**
comp=Z,68nm,0.8s
CM31 Chiang Mai Arr 43.49 251 *e*P **P** **08 50 44.9 +0.8**
SWI Sorong 43.58 196 ⇓P **P** **08 50 45.3 +0.5**
baz=44
KURK Kurchatov 43.66 304*d* *i*P **P** **08 50 44.5 -0.6**
KURK pmax pmax
comp=Z,19nm,1.2s
KURK Kurchatov 43.66 304 P **P** **08 50 45.0 -0.2**
SNR=16
KURK Kurchatov 43.66 304 P **P** **08 50 44.9 -0.2**
comp=Z,495nm,0.6s,SNR=17
KURK Kurchatov 43.66 304 *e*P **P** **08 50 44.6 -0.5**
comp=Z,26nm,0.6s
KURBB Kurchatov Arra 43.74 304 P **P** **08 50 45.4 -0.4**
comp=Z,36nm,0.6s,baz=314,slow=8.4,SNR=87
COLD Coldfoot 43.74 31 *e*P **P** **08 50 46.1 +0.5**
comp=Z,11nm,0.7s
COLD *e*PcP **PcP** **08 52 32.0 +1.3**
MCK McKinley 44.39 36 *e*P **P** **08 50 51.8 +1.0**
MCK *e* 08 52 33.0
MCK pmax pmax
comp=Z,57nm,0.9s
MCK McKinley 44.39 36 *e*P **P** **08 50 51.8 +1.0**
comp=Z,57nm,0.9s
MCK *e*PcP **PcP** **08 52 33.0 +0.1**
PMR Palmer 44.50 39 *e*P **P** **08 50 51.9 +0.3**
PMR pmax pmax
comp=Z,57nm,0.8s
PMR Palmer 44.50 39 *e*P **P** **08 50 51.9 +0.3**
comp=Z,57nm,0.8s
SEW Seward 44.53 42 *e*P **P** **08 50 52.1 +0.3**
comp=Z,102nm,1.1s
NAYO Nakonayok 44.69 245 P P 08 50 57.2 +3.5
comp=Z,111nm,0.9s
COLA College 44.78 35 *e*P **P** **08 50 54.9 +1.1**
COLA pmax pmax
comp=Z,66nm,0.8s
COLA College 44.78 35 *e*P **P** **08 50 54.9 +1.1**
comp=Z,66nm,0.8s
CHBT CHBT 45.15 242 P P 08 51 01.5 +4.2
comp=Z,30nm,1.1s
CHBT CHBT 45.15 242 P P 08 51 01.5 +4.2
comp=Z,30nm,1.1s
ILAR Eielson Array 45.20 35 P **P** **08 50 57.3 +0.2**
ILAR Eielson Array 45.20 35 P **P** **08 50 57.3 +0.2**
comp=Z,46nm,0.9s,baz=266,slow=5.8,SNR=209
ILAR LR LR 09 11 10.4
comp=Z,131nm,18.3s,baz=130,slow=38
FAKI Fak Fak 45.39 194 P **P** **08 50 59.4 +0.2**
baz=45,SNR=8.0
PAX Paxson 46.03 37 *e*P **P** **08 51 05.6 +1.8**
PAX *e* 08 52 39.6
PAX pmax pmax
comp=Z,13nm,0.7s
PAX Paxson 46.03 37 *e*P **P** **08 51 05.6 +1.8**
comp=Z,13nm,0.7s
PAX *e*PcP **PcP** **08 52 39.6 +0.9**
DIV Divide 46.17 40 *e*P **P** **08 51 06.1 +1.1**
comp=Z,127nm,0.8s
TAPN Taplejung 46.43 270 *e*P **P** **08 51 08.8 +1.1**
comp=Z,88nm,0.9s
DOT Dot Lake 46.56 36 *e*P **P** **08 51 08.0 +0.2**
comp=Z,26nm,0.7s
BMRM Bremner River 46.76 40 *e*P **P** **08 51 10.8 +1.3**
comp=Z,96nm,0.8s
MENT Mentasta 46.82 37 *e*P **P** **08 51 11.2 +1.2**
ODAN Odare 46.94 270 *e*P **P** **08 51 12.1 +0.5**
JIRN Jiri 47.40 271 *e*P **P** **08 51 15.6 +0.3**
RAMN Ramnte 47.48 270 *e*P **P** **08 51 15.8 0.0**
comp=Z,120nm,0.8s
GUN Gumba 47.50 272 *e*P **P** **08 51 16.3 +0.2**
SBUM Sibu 47.53 223 P **P** **08 51 17.6 +1.7**
comp=Z,17nm,1.2s
SBUM Sibu 47.53 223 *e*P **P** **08 51 16.3 +0.4**
EGAK Eagle 47.63 34 *e*P **P** **08 51 16.6 +0.4**
comp=Z,80nm,1.3s
VOSK Vostochnaya 47.72 309 *e*P **P** **08 51 16.6 -0.4**
VOSK pmax pmax
comp=Z,49nm,0.8s
VOSK Vostochnaya 47.72 309 *e*P **P** **08 51 16.6 -0.4**
comp=Z,49nm,0.8s
BVA0 Borovoye Array 47.98 309 *e*P **P** **08 51 18.4 -0.6**
BVA0 pmax pmax
comp=Z,34nm,0.5s
KKN Kakani 48.01 272 *e*P **P** **08 51 19.7 -0.2**
BRVK Borovoye 48.03 309*d* *i*P **P** **08 51 19.3 0.0**
BRVK pmax pmax
comp=Z,41nm,0.8s
BRVK Borovoye 48.03 309 P P 08 51 24.2 +4.9
SNR=15
BRVK Borovoye 48.03 309 P **P** **08 51 19.9 +0.5**
comp=Z,310nm,0.5s,SNR=8.5
BRVK Borovoye 48.03 309 *e*P **P** **08 51 19.4 0.0**
comp=Z,93nm,1.3s
PKI Pulchoki 48.03 272 *e*P **P** **08 51 20.4 +0.2**
TKM2 Tokmak 2 48.09 295 *e*P **P** **08 51 20.6 +0.3**
TKM2 pmax pmax
comp=Z,43nm,0.8s
TKM2 Tokmak 2 48.09 295 *e*P **P** **08 51 20.6 +0.3**
comp=Z,43nm,0.8s
DMN Daman 48.24 272 *e*P **P** **08 51 22.0 +0.3**
GKN Gorkha 48.38 273 *e*P **P** **08 51 23.4 +0.8**
FRU Bishkek 48.79 295 *e*P pP 08 51 44.0 -3.9
DANN Dangsing 48.85 274 *e*P **P** **08 51 27.0 +0.6**
comp=Z,215nm,0.7s
AAK Ala-Archa 48.95 295 *e*P **P** **08 51 26.5 -0.3**
AAK pmax pmax
comp=Z,13nm,1.2s
AAK Ala-Archa 48.95 295 *e*P **P** **08 51 26.6 -0.2**
comp=Z,19nm,1.0s
KSH Kashi 49.21 291 P P 08 51 33.4 +4.6
KSH pP pP 08 51 57.9 +6.6
KSH PP PP 08 53 33.0 +10
KSH S **S** **08 58 32.8 +5.3**
KSH sS sS 08 59 15.0 +8.9
KSH ScS **ScS** **09 01 12.9 +1.3**
KSH AMB AMB
comp=Z,6.0nm,0.7s
KSH AMB AMB
comp=Z,63nm,3.2s
KSH LR LR
comp=Z,230nm,5.0s
KSH LR LR
comp=Z,140nm,4.8s
KSH LR LR
comp=Z,330nm,5.2s
KOLN Koldanda 49.28 273 *e*P **P** **08 51 29.7 +0.1**
comp=Z,36nm,0.6s
KSM Kuching 49.34 224 P **P** **08 51 31.2 +1.4**
KSM Kuching 49.34 224 P **P** **08 51 30.8 +1.0**
comp=Z,63nm,1.1s
KSM Kuching 49.34 224 *e*P **P** **08 51 31.1 +1.2**
comp=Z,42nm,0.8s
KSM Kuching 49.34 224 ⇓P **P** **08 51 31.0 +1.2**
baz=49,SNR=8.1
EKS2 Erkin-Say 49.42 295 *e*P **P** **08 51 30.5 +0.1**
EKS2 pmax pmax
comp=Z,16nm,0.7s
EKS2 Erkin-Say 49.42 295 *e*P **P** **08 51 30.5 +0.1**
comp=Z,16nm,0.7s
INK Inuvik 49.91 29 *e*P **P** **08 51 34.0 +0.5**

comp=Z,32nm,0.9s
KRAB Krabi 50.55 241 P **P** **08 51 40.5 +1.4**
comp=Z,49nm,0.8s
KAPI Kappang 50.88 209 *e*P P 08 51 44.3 +2.9
comp=Z,56nm,1.2s
KK31 Karatay Array 51.43 297 *i*P **P** **08 51 44.1 -1.3**
KK31 pmax pmax
comp=Z,17nm,0.7s
KKAR Karatay Array 51.43 297 *e*P **P** **08 51 44.9 -0.5**
KKAR *e* 08 52 06.0
KKAR pmax pmax
comp=Z,14nm,1.0s
KKAR Karatay Array 51.43 297 *e*P **P** **08 51 44.9 -0.5**
comp=Z,14nm,1.0s
KKAR *e* 08 52 06.0
SKAG Skagway 51.62 40 *e*P **P** **08 51 48.2 +1.8**
comp=Z,23nm,0.9s
KULM Kulim 51.84 237 P **P** **08 51 47.1 -1.6**
KULM Kulim 51.84 237 P **P** **08 51 49.8 +1.1**
comp=Z,49nm,0.9s
KULM Kulim 51.84 237 *e*P **P** **08 51 49.6 +0.9**
comp=Z,32nm,0.8s
SVE Sverdlovsk 52.10 316 ⇓*i*P **P** **08 51 50.8 +0.7**
SVE pmax pmax
comp=Z,106nm,1.0s
IPM Ipoh 52.23 236 P **P** **08 51 49.6 -2.0**
IPM Ipoh 52.23 236 *e*P **P** **08 51 51.0 -0.6**
comp=Z,16nm,0.7s
SMLA Simla 52.30 281 *i*P **P** **08 51 52.1 +0.2**
SMLA *i*S **pP** **08 52 10.6 -4.1**
SMLA *i*S **pP** **08 52 11.0 -3.6**
SMLA AML AML 08 52 15.7
comp=N,311nm,0.5s
SMLA AML AML 08 52 17.2
comp=E,471nm,0.7s
SIT Sitka 52.43 43 *e*P **P** **08 51 54.9 +2.4**
SIT pmax pmax
comp=Z,73nm,1.2s
SIT Sitka 52.43 43 *e*P **P** **08 51 54.9 +2.4**
comp=Z,73nm,1.2s
SOKR Solikamsk 53.03 321*c* *i*P **P** **08 51 57.3 +0.5**
SOKR pmax pmax
comp=Z,100nm,1.4s
ARU Arti 53.32 316*d* *i*P **P** **08 51 58.8 -0.2**
ARU *PP **pP** **08 52 19.7 -2.2**
ARU 08 53 05.2
ARU 08 53 56.5
ARU S **S** **08 59 25.4 +2.1**
ARU SS **SS** **09 03 00.7 -2.9**
ARU pmax pmax
comp=Z,29nm,1.0s
ARU Arti 53.32 316 P **P** **08 51 58.1 -0.9**
comp=Z,224nm,1.2s,SNR=6.9
HNR Honiara 53.47 158 LR LR 09 10 09.9
comp=Z,155nm,21.0s,baz=346,slow=31
KIP Kipapa 53.68 93*ce*P **P** **08 52 04.0 +1.8**
KIP pmax pmax
comp=Z,139nm,1.7s
KIP Kipapa 53.68 93 *e*P **P** **08 52 03.8 +1.7**
comp=Z,60nm,0.8s
CRAG Craig 54.17 44 *e*P **P** **08 52 07.0 +1.8**
comp=Z,76nm,1.5s
WRAK Wrangell Islan 54.20 43 *e*P **P** **08 52 07.2 +1.8**
comp=Z,52nm,1.4s
DLBC Dease Lake 54.55 40 *e*P **P** **08 52 10.1 +2.0**
PSI Prapat 54.85 237 ⇓P **P** **08 52 11.6 +0.8**
baz=55
KDU Kakadu 54.92 192 ⇓P **P** **08 52 11.3 +0.3**
baz=55,SNR=5.1
BSI Banda Aceh 55.15 242 ⇑P **P** **08 52 14.8 +1.9**
baz=55
ALE Alert 55.36 4 P **P** **08 52 13.8 +0.3**
comp=Z,210nm,1.3s,SNR=10
COEN Coen 55.45 179 *e*P **P** **08 52 16.3 +1.4**
comp=Z,213nm,1.0s
AB31 Akbulak array 55.47 308 *i*P **P** **08 52 14.2 -0.5**
AB31 pmax pmax
comp=Z,20nm,0.5s
ABKAR Akbulak array 55.47 308 *e*P **P** **08 52 14.6 -0.2**
comp=Z,58nm,0.8s
ABKAR Akbulak array 55.47 308 ⇑P **P** **08 52 14.8 0.0**
baz=55
SPA0 Spitsbergen Ar 56.02 348 *e*P **P** **08 52 18.2 -0.1**
AKTO Aktyubinsk 56.07 310 P **P** **08 52 18.7 -0.4**
AKTO pmax pmax
comp=Z,32nm,1.0s
KBS Kingsbay 56.12 350 *e*P **P** **08 52 18.8 -0.2**
KBS pmax pmax
comp=Z,61nm,1.5s
KBS Kingsbay 56.12 350 *e*P **P** **08 52 18.8 -0.2**
comp=Z,61nm,1.5s
KBL Kabul 56.44 288 *e*P **P** **08 52 21.0 -1.1**
KBL pmax pmax
comp=Z,16nm,0.8s
KBL Kabul 56.44 288 *e*P **P** **08 52 21.0 -1.1**
comp=Z,16nm,0.8s
KBL Kabul 56.44 288 ⇑P **P** **08 52 22.1 -0.1**
baz=56
POHA Pohakuloa 56.53 93 *e*P **P** **08 52 24.9 +1.9**
comp=Z,134nm,1.0s
RES Resolute Bay 57.87 15 *e*P **P** **08 52 30.9 -0.4**
comp=Z,45nm,0.7s
RES Resolute Bay 57.87 15 LR LR 09 22 34.1
comp=Z,92nm,18.8s,baz=345,slow=41
KNRA Kununurra 58.49 195 P **P** **08 52 36.4 +0.1**
baz=59,SNR=32
APA Apatity 58.67 335 ⇓*i*P **P** **08 52 39.2 +2.2**
APA *i* 08 53 33.0
APA pmax pmax
comp=Z,44nm,0.9s
APA MLR MLR
comp=Z,1µm,16.0s
TMCR Tamitsa 58.94 330 *e*P P 08 52 42.0 +3.1
TMCR *e* 08 53 28.5
TMCR *e* 08 54 56.2
TMCR pmax pmax
comp=Z,114nm,0.8s
KEV Kevo 59.27 339 *ep* **P** **08 52 40.2 -0.9**
comp=Z,24nm,0.6s
YKW3 Yellowknife Ar 59.38 32 *e*P **P** **08 52 42.4 +0.4**
comp=Z,1.5nm,1.4s
YKA Yellowknife Ar 59.42 32 P **P** **08 52 42.5 +0.3**
YKA Yellowknife Ar 59.42 32 P **P** **08 52 42.5 +0.3**
comp=Z,20nm,0.8s,baz=305,slow=6.4,SNR=34
ARCES ARCESS Array B 59.82 339 P **P** **08 52 44.5 -0.4**
ARCES ARCESS Array B 59.82 339 P **P** **08 52 44.5 -0.4**
comp=Z,7.5nm,0.5s,baz=50,slow=7.5,SNR=24
ARCES LR LR 09 22 14.0
comp=Z,86nm,19.8s,baz=42,slow=40
KLMR Klimovskoe 60.14 327 *e*P **P** **08 52 45.6 -1.6**
KLMR pmax pmax
comp=Z,86nm,1.2s
DAG Danmarks Havn 61.12 355 *i*P **P** **08 52 53.5 -0.2**
DAG pmax pmax
comp=Z,18nm,0.8s
DAG Danmarks Havn 61.12 355 *i*P **P** **08 52 53.5 -0.2**
comp=Z,24nm,0.8s
DAG *i* 08 53 19.3
TRO Tromso 61.47 341 *e*P **P** **08 52 55.8 -0.3**
TRO AMB AMB 08 52 57.5
comp=Z,83nm,1.5s
TRO IAmb IAmb 08 52 59.6
comp=Z,60nm,0.9s
FITZ Fitzroy Crossi 61.52 198 *e*P **P** **08 52 57.9 +1.0**
comp=Z,60nm,2.0s
FITZ *e* 08 53 21.0
FITZ Fitzroy Crossi 61.52 198 ⇑P **P** **08 52 57.8 +0.8**
baz=62,SNR=4.6
WRAB Tennant Creek 61.82 188 *e*P **P** **08 52 58.3 -0.7**
WRAB pmax pmax
comp=Z,32nm,0.9s
WRAB Tennant Creek 61.82 188 P **P** **08 52 58.0 -1.0**
comp=Z,205nm,0.8s,SNR=11
WRAB Tennant Creek 61.82 188 *e*P **P** **08 52 58.3 -0.7**
comp=Z,32nm,0.9s
WRA Warramunga Arr 61.83 188 P **P** **08 52 58.1 -0.9**
WRA P'P' 09 22 09.6
WRA Warramunga Arr 61.83 188 P **P** **08 52 58.1 -0.9**
comp=Z,11nm,0.7s,baz=6.5,slow=6.7,SNR=84
WRA PKPPKP **P'P'df** **09 22 09.6 +4.0**
comp=Z,0.9nm,1.0s,baz=185,slow=2.2,SNR=3.8
IEMG Emamgholi 62.11 296 *e*P **P** **08 53 01.0 -0.3**
JOF Joensuu 62.12 331 *ep* **P** **08 52 59.1 -1.5**
comp=Z,38nm,0.5s
IAKL Akhelmad 62.48 296 *e*P **P** **08 53 03.4 -0.4**
IKRD Kardeh 62.55 296 *e*P P 08 52 58.9 -5.3

PGC Sidney 62.64 48 eP P 08 53 05.4 +1.1
comp=Z,1.3nm,0.8s
ISHV Shirvan 62.68 297 eP P 08 53 01.4 -3.6
NLWA Neilton Lookou 63.09 49 eP P 08 53 08.9 +1.5
comp=Z,45nm,1.0s
A05A Maple Falls 63.21 47 eP P 08 53 08.5 +0.5
HDW Hoodsport 63.41 49 P P 08 53 10.9 +1.4
MBW Mount Baker 63.43 47 P P 08 53 10.4 +0.7
CMW Cultus Mountai 63.51 48 P P 08 53 11.3 +1.1
E03A Lebam 63.74 50 eP P 08 53 13.1 +1.5
comp=Z,74nm,0.9s
RPW Rockport 63.83 48 P P 08 53 12.8 +0.6
IDAH Dahanechah 63.85 291 eP P 08 53 12.4 -0.5
MOS Moscow 63.87 322 eP P 08 53 07.8 -4.5
MOS e 08 53 48.5
MOS pmax pmax
comp=Z,64nm,1.4s
F03A Seaside 64.08 51 eP P 08 53 15.7 +1.9
comp=Z,60nm,1.0s
F03A epP PcP 08 53 45.2 -3.1
D05A Enumclaw 64.27 49 eP P 08 53 16.9 +1.8
comp=Z,51nm,1.1s
KAF Kangasniemi 64.42 332 ep P 08 53 14.4 -1.4
comp=Z,20nm,0.5s
TDL Tradedollar La 64.62 50 P P 08 53 18.8 +1.3
LON Longmire 64.62 49 eP P 08 53 18.3 +0.8
LON pmax pmax
comp=Z,12nm,1.0s
LON Longmire 64.62 49 eP P 08 53 18.2 +0.8
comp=Z,12nm,1.0s
VRHR Novokhopersk 64.66 317 eP P 08 53 15.4 -2.1
VRHR pmax pmax
comp=Z,20nm,0.9s
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,20nm,0.6s
NLW Nelson Butte 64.69 47 P P 08 53 18.7 +0.8
OBN Obninsk 64.73 322 ⇓iP P 08 53 17.2 -0.6
OBN e 08 55 38.8
OBN eS S 09 01 55.1 +4.5
OBN eSS SS 09 06 03.5 +1.2
OBN pmax pmax
comp=Z,36nm,1.2s
OBN MLR MLR
comp=Z,100nm,16.0s
WPW White Pass 64.80 49 P P 08 53 19.6 +1.0
FIA1 FINESS Array S 64.95 332 eP P 08 53 18.6 -0.6
FINES FINESS Array B 64.95 332 P P 08 53 18.8 -0.5
FINES FINESS Array B 64.95 332 P P 08 53 18.8 -0.5
comp=Z,48nm,0.6s,baz=50,slow=7.4,SNR=108
FINES LR LR 09 23 53.6
comp=Z,162nm,18.8s,baz=206,slow=38
ETW Entiat 64.96 48 P P 08 53 20.4 +0.6
LTY Liberty 64.97 48 eP P 08 53 20.4 +0.7
comp=Z,13nm,0.8s
COR Corvallis 64.99 52 eP P 08 53 22.0 +2.3
COR Corvallis 64.99 52 eP P 08 53 21.9 +2.3
comp=Z,400nm,1.1s
WTV Waterville 65.12 48 P P 08 53 21.1 +0.5
MOR8 Moi Rana 65.17 339 eP P 08 53 18.9 -1.7
MOR8 IAmb IAmb 08 53 23.9
comp=Z,85nm,0.7s
MOR8 AMB AMB 08 53 24.5
comp=Z,95nm,1.0s
EDM Edmonton 65.27 40 eP P 08 53 21.9 +0.4
EDM Edmonton 65.27 40 eP P 08 53 21.9 +0.4
EDM e 08 53 43.9
KEBM Edson Butte 65.35 54 eP P 08 53 22.9 +0.7
comp=Z,54nm,1.0s
VLL Laurance Lake 65.43 50 P P 08 53 24.2 +1.4
AS05 Alice Springs 65.53 188 ⇑P P 08 53 25.0 +1.5
baz=66
AS01 Alice Springs 65.55 188 ⇑P P 08 53 25.1 +1.6
baz=66
AS31 Alice Springs 65.55 188 eP P 08 53 23.6 +0.1
AS31 e 08 53 46.4
ASAR Alice Springs 65.56 188 P P 08 53 23.4 -0.2
ASAR P'P' 09 21 59.0
ASAR Alice Springs 65.56 188 P P 08 53 23.4 -0.2
comp=Z,6.0nm,0.8s,baz=9.1,slow=6.4,SNR=25
ASAR PKPPKP P'P'df 09 21 59.0 -0.6
comp=Z,1.4nm,1.0s,baz=144,slow=2.6,SNR=7.2
H04A Detroit Lake 65.59 51 eP P 08 53 24.6 +0.9
comp=Z,39nm,1.0s
VSR Storozhevoye 65.84 318 eP P 08 53 23.7 -1.4
VSR pmax pmax
comp=Z,20nm,0.9s
VSR pmax pmax
comp=N,20nm,0.8s
VSR pmax pmax
comp=E,30nm,1.2s
VORD Divnogorie 65.92 318 eP P 08 53 24.6 -1.0
VORD pmax pmax
comp=Z,10.0nm,1.0s
VORD pmax pmax
comp=E,20nm,0.6s
SUMG Summit 65.96 0 iP P 08 53 26.9 +0.8
SUMG pmax pmax
comp=Z,42nm,0.7s
SUMG Summit 65.96 0 iP P 08 53 26.9 +0.8
comp=Z,42nm,0.7s
SUMG Summit 65.96 0 eP P 08 53 26.6 +0.6
comp=Z,46nm,0.8s
C09A Chrisman Ranch 65.98 47 eP P 08 53 26.8 +0.7
comp=Z,27nm,0.8s
HAWA Hanford 66.11 49 eP P 08 53 27.9 +0.9
comp=Z,20nm,0.8s
HAWA ePcP PcP 08 53 57.8 +1.2
G06A Carlson Farm, 66.16 50 eP P 08 53 28.4 +1.0
comp=Z,32nm,1.3s
NEW Newport 66.33 46 eP P 08 53 28.9 +0.5
comp=Z,18nm,0.9s
NEW Newport 66.33 46 ⇑P P 08 53 28.7 +0.4
baz=66,SNR=14
HUMO Hull Mountain 66.33 53 eP P 08 53 29.9 +1.5
VIPM Ingram Point 66.60 51 P P 08 53 31.3 +1.0
VIPM Ingram Point 66.60 51 P P 08 53 31.3 +1.0
VSU Vasula 66.73 329 ciP P 08 53 30.5 -0.1
VSU pmax pmax
comp=Z,88nm,0.8s
E09A Wood Farm, Sta 66.81 48 eP P 08 53 32.3 +0.9
comp=Z,52nm,1.1s
KHMM Horse Mountain 66.87 55 eP P 08 53 33.8 +1.7
comp=Z,81nm,1.2s
YBH Yreka Blue Hor 66.99 54 eP P 08 53 33.9 +1.1
comp=Z,58nm,1.6s
G08A Pilot Rock 67.09 49 eP P 08 53 34.1 +0.7
comp=Z,11nm,1.1s
EIDS Eidsvold 67.29 171 eP P 08 53 35.4 +0.9
comp=Z,7.6nm,0.7s
EIDS Eidsvold 67.29 171 ⇓P P 08 53 35.9 +1.4
baz=67,SNR=3.2
GOF Gofitskoye 67.47 311 eP P 08 53 36.5 +0.9
K05A Summer Lake 67.49 52 eP P 08 53 37.5 +1.5
comp=Z,35nm,0.8s
IBAF Bafgh 67.49 293 eP P 08 53 34.9 -1.3
I07A Izee 67.50 51 eP P 08 53 36.9 +1.0
comp=Z,16nm,1.1s
WALA Waterton Lakes 67.53 44 eP P 08 53 36.4 +0.3
comp=Z,0.5nm,0.9s
WALA e 08 54 03.8
F10A Beach Ranch, E 67.65 48 eP P 08 53 37.6 +0.8
comp=Z,14nm,1.1s
KIPM Iron Peak 67.65 56 eP P 08 53 38.0 +1.0
comp=Z,65nm,1.1s
KCPM Cahto Peak 67.66 56 eP P 08 53 38.4 +1.4
comp=Z,45nm,1.2s
WDC Whiskeytown Da 67.77 55 eP P 08 53 38.5 +0.9
WDC pmax pmax
comp=Z,28nm,1.0s
WDC Whiskeytown Da 67.77 55 eP P 08 53 38.5 +0.9
comp=Z,28nm,1.0s
BSMT Bassoo Peak 67.82 45 eP P 08 53 39.0 +1.0
BLMT Blacktail Moun 67.95 45 eP P 08 53 40.3 +1.5
BLMT e 08 54 08.4
QLP Quilpie 68.03 178 ⇑P P 08 53 40.9 +1.8
baz=68,SNR=4.4
JTMT Jette 68.15 45 eP P 08 53 40.9 +0.9
JTMT e 08 54 11.0
BMO Blue Mountains 68.28 49 eP P 08 53 41.4 +0.5
comp=Z,23nm,1.1s
MOD Modoc 68.33 53 eP P 08 53 42.1 +0.8
comp=Z,45nm,0.8s
KIV Kislovodsk 68.34 310 ⇑iP P 08 53 41.9 +0.7
KIV i 08 53 49.6
KIV e 08 54 06.4
KIV eS S 09 02 39.0 +4.2
KIV pmax pmax
comp=Z,84nm,1.0s
KIV MLR MLR
comp=Z,100nm,16.0s
KIV Kislovodsk 68.34 310 P P 08 53 42.3 +1.1
comp=Z,462nm,0.9s,SNR=6.5
ZEI Tsey 68.34 308 eP P 08 53 40.3 -1.1
ZEI pmax pmax
comp=Z,16nm,0.9s
LBCM Butte Creek Ri 68.34 54 P P 08 53 42.3 +0.9
KBZ Khabaz 68.35 310 P P 08 53 42.1 +1.0
KBZ pmax pmax
comp=Z,23nm,0.8s
KBZ Khabaz 68.35 310 P P 08 53 42.1 +1.0
KBZ Khabaz 68.35 310 P P 08 53 42.1 +1.0
comp=Z,23nm,0.8s,baz=50,slow=5.2,SNR=43
HOPS Hopland 68.39 57 eP P 08 53 42.1 +0.7
comp=Z,40nm,1.2s
SWMT Swartz Lake 68.45 45 eP P 08 53 42.6 +0.8
J08A Circle Bar Ran 68.53 51 eP P 08 53 43.6 +1.2
comp=Z,28nm,1.0s
ISAD Sadrabad 68.59 294 eP P 08 53 42.1 -1.1
SLMT Seeley Lake 68.89 45 eP P 08 53 45.2 +0.5
MSO Missoula 68.91 46 eP P 08 53 45.1 +0.4
comp=Z,31nm,1.3s
MSO Missoula 68.91 46 ⇓P P 08 53 45.0 +0.2
baz=69,SNR=16
ISAL Salakas 68.96 327 eP P 08 53 44.4 -0.3
ISAL AMB AMB 08 53 51.4
comp=Z,24nm,0.6s
MICGM Minsk 68.97 325 e P 08 53 44.0 -0.8
MNK Minsk 68.99 325 eP P 08 53 44.0 -0.9
WVOR Wild Horse Val 69.00 52 eP P 08 53 46.0 +0.6
WVOR pmax pmax
comp=Z,16nm,1.0s
WVOR Wild Horse Val 69.00 52 eP P 08 53 46.0 +0.6
comp=Z,16nm,1.0s
MCCM Marconi Confer 69.02 57 eP P 08 53 45.6 +0.3
comp=Z,32nm,0.8s
IIGN Ignalina 69.08 327 eP P 08 53 44.9 -0.6
IIGN AMB AMB 08 53 51.6
comp=Z,36nm,0.6s
NACGM Naroch 69.16 326 e P 08 53 42.0 -3.9
OHCM Honcut 69.17 56 eP P 08 53 46.7 +0.4
CHMT Chamberlain Mo 69.22 45 eP P 08 53 46.9 +0.2
FFC Flin Flon 69.40 34 iP P 08 53 48.0 +0.6
FFC Flin Flon 69.40 34 P P 08 53 47.0 -0.4
comp=Z,325nm,0.9s,SNR=9.3
FFC Flin Flon 69.40 34 eP P 08 53 47.4 -0.1
comp=Z,108nm,0.9s
GNI Garni 69.44 306 LR LR 09 25 48.5
comp=Z,71nm,20.5s,baz=279,slow=37
FCC Fort Churchill 69.50 28 eP P 08 53 47.7 -0.2
FCC Fort Churchill 69.50 28 eP P 08 53 47.7 -0.2
comp=Z,2.4nm,1.2s
BEKR Beckworth 69.53 55 eP P 08 53 49.3 +0.5
comp=Z,30nm,1.0s
MFID Camas Ranch 70.01 49 ⇓P P 08 53 52.2 +0.7
baz=70
HFS Hagfors 70.06 335 LR LR 09 26 39.5
comp=Z,103nm,20.1s,baz=61,slow=38
NB2 NORSAR Subarra 70.09 337 P P 08 53 51.2 -0.4
comp=Z,19nm,0.7s,baz=37,slow=6.5
NB2 NORSAR Subarra 70.09 337 P P 08 53 51.2 -0.4
baz=37,slow=6.5
NOA NORSAR Array B 70.09 337 P P 08 53 51.2 -0.4
NOA pP pP 08 54 15.3 -0.2
NOA NORSAR Array B 70.09 337 P P 08 53 51.2 -0.4
comp=Z,26nm,0.7s,baz=37,slow=6.2,SNR=73
NOA pP pP 08 54 15.3 -0.2
comp=Z,20nm,0.7s,baz=36,slow=6.1,SNR=5.9
NOA LR LR 09 27 12.2
comp=Z,111nm,19.2s,baz=25,slow=38
PAHR Pah Rah Range 70.22 54 eP P 08 53 53.9 +1.0
comp=Z,56nm,1.0s
NC602 NORSAR Array S 70.23 337 eP P 08 53 51.6 -0.9
A19A Klindworth Far 70.24 41 ⇑P P 08 53 53.3 +0.5
baz=70,SNR=24
SOC Sochi 70.26 311 eP P 08 53 51.9 -1.0
SOC e 08 56 29.5
SOC eS S 09 02 58.3 +1.1
SOC e*SS sS 09 03 38.3 +0.3
SOC pmax pmax
comp=Z,22nm,0.8s
IPAR Pars 70.28 293 eP P 08 53 53.6 0.0
EGMT Eagleton 70.32 43 eP P 08 53 53.9 +0.6
comp=Z,46nm,1.0s
EGMT Eagleton 70.32 43 ⇑P P 08 53 53.7 +0.3
baz=70,SNR=13
NAO01 NORSAR Array S 70.34 337 eP P 08 53 52.5 -0.7
comp=Z,11nm,0.6s
LRM Limekiln Ridge 70.34 46 eP P 08 53 54.5 +0.7
BANOM Banah 70.37 287 P P 08 53 54.8 +0.9
SNR=5.1
B19A Brinkman Farms 70.45 42 ⇓P P 08 53 54.7 +0.6
baz=70
WBK Wadi Bani Khal 70.46 283 P P 08 53 55.6 +1.1
SNR=5.6
ISRV Sarvestan 70.51 292 eP P 08 53 53.7 -1.4
DLMT Dillon 70.56 46 eP P 08 53 55.5 +0.6
comp=Z,90nm,1.3s
CMB Columbia Colle 70.64 56 eP P 08 53 56.3 +0.9
CMB pmax pmax
comp=Z,42nm,0.8s
CMB Columbia Colle 70.64 56 eP P 08 53 56.3 +0.9
comp=Z,42nm,0.8s
A20A Cobblestone Ra 70.67 41 ⇑P P 08 53 55.7 +0.2
baz=70,SNR=8.5
HLID Hailey 70.71 49 eP P 08 53 56.8 +0.8
comp=Z,19nm,0.9s
HLID Hailey 70.71 49 ⇓P P 08 53 56.6 +0.7
baz=70,SNR=36
ANN Anapa 70.75 313 eP P 08 53 54.7 -1.1
ANN e 08 54 04.3
ANN e*PP PcP 08 54 16.3 +0.2
ANN eS S 09 02 58.5 -4.3
ANN pmax pmax
comp=Z,33nm,1.6s
SAO San Andreas Ge 70.76 58 eP P 08 53 56.8 +0.7
SAO pmax pmax
comp=Z,21nm,1.1s
SAO San Andreas Ge 70.76 58 eP P 08 53 56.8 +0.7
comp=Z,21nm,1.1s
MCMT McKenzie Canyo 70.77 47 eP P 08 53 56.1 -0.2
comp=Z,4.5nm,1.0s
SMDO Samad 70.85 284 P P 08 53 58.5 +1.5
SNR=5.2
C19A Slack Wire Ran 70.87 43 ⇑P P 08 53 57.4 +0.7
baz=71,SNR=27
B20A Solberg Farm, 70.92 42 ⇓P P 08 53 56.9 0.0
baz=71
AKASG Malin Array Be 70.97 322 P P 08 53 56.7 -0.4
AKASG *PP pP 08 54 20.8 -0.3
AKASG pmax pmax
comp=Z,19nm,0.7s
AKASG Malin Array Be 70.97 322 P P 08 53 56.6 -0.4
AKASG pP pP 08 54 20.8 -0.3
AKASG Malin Array Be 70.97 322 P P 08 53 56.6 -0.4
comp=Z,18nm,0.7s,baz=44,slow=6.0,SNR=59
AKASG pP pP 08 54 20.8 -0.3
comp=Z,11nm,0.6s,baz=44,slow=5.9,SNR=4.0
KIEV Kiev 70.99 322 eP P 08 53 56.7 -0.5
KIEV pmax pmax
comp=Z,32nm,0.8s
KIEV Kiev 70.99 322 eP P 08 53 56.7 -0.5
comp=Z,32nm,0.8s
UOSS Wadi Hilu 71.03 287 P P 08 53 57.9 0.0
comp=Z,266nm,0.7s,SNR=8.5
HOQ Hoqain 71.07 285 P P 08 53 58.6 +0.5
SNR=12
BMN Battle Mountai 71.07 53 eP P 08 53 59.4 +1.3
BMN pmax pmax
comp=Z,59nm,1.3s
BMN Battle Mountai 71.07 53 eP P 08 53 59.4 +1.3
comp=Z,59nm,1.3s
A21A Bergtoll Ranch 71.09 41 ⇓P P 08 53 58.5 +0.6
baz=71,SNR=8.4
OSL Oslo 71.12 337 eP P 08 53 57.8 0.0
SFJD Kangerlussuaq 71.12 5 iP P 08 53 57.6 -0.1
comp=Z,18nm,0.9s
SFJD Kangerlussuaq 71.12 5 LR LR 09 26 15.7
comp=Z,269nm,21.1s,baz=285,slow=37
SUW Suwalki 71.27 327 eP P 08 53 58.7 -0.1
SUW e 08 54 04.8
ASHO Ashiyiah 71.29 287 P P 08 53 60.0 +0.4
SNR=8.2
D19A Cripps Ranch, 71.33 43 ⇓P P 08 54 00.1 +0.6
baz=71,SNR=23
C20A Veseth Ranch, 71.41 42 ⇓P P 08 54 00.5 +0.6
baz=71,SNR=21
B21A Ellsworth Farm 71.42 41 ⇓P P 08 54 00.4 +0.5
baz=71,SNR=8.0
QLMT Earthquake Lak 71.54 46 eP P 08 54 01.8 +0.9
A22A Carney Farms, 71.58 40 ⇑P P 08 54 01.0 +0.1
baz=71,SNR=26
BSY Bisya 71.66 284 P P 08 54 02.3 +0.5
SNR=11
NVAR Mina Array Bea 71.68 55 P P 08 54 03.0 +1.1
NVAR Mina Array Bea 71.68 55 P P 08 54 03.0 +1.1
comp=Z,29nm,0.8s,baz=292,slow=5.9,SNR=199
D20A Manuel Ranch, 71.76 43 ⇓P P 08 54 02.8 +0.7
baz=72,SNR=19
NV11 Mina Array Sit 71.77 55 eP P 08 54 03.2 +0.9
ARQ Araqi 71.79 285 P P 08 54 03.4 +0.9
SNR=9.2
C21A Desert Coulee 71.79 42 ⇓P P 08 54 02.3 +0.1
baz=72
GCMT Greycliff 71.84 44 eP P 08 54 03.3 +0.6
comp=Z,19nm,0.9s
E19A Rath Farm, Rou 71.85 43 ⇑P P 08 54 03.2 +0.6
baz=72,SNR=23
SUE Sulen 71.85 340 eP P 08 54 02.2 0.0
MLAC Mammoth Lakes 71.85 56 ⇑P P 08 54 04.5 +1.5
baz=72,SNR=20
YMR Madison River 71.89 46 eP P 08 54 04.0 +1.0
comp=Z,26nm,0.8s
B22A Reddig Ranch S 72.01 41 ⇓P P 08 53 03.8 +0.3
baz=72
ELK Elko 72.04 51 eP P 08 54 05.2 +1.2
comp=Z,14nm,1.0s
A23A Redstone 72.10 40 ⇓P P 08 54 04.1 +0.1
baz=72
YFT Old Faithful 72.11 46 eP P 08 54 06.9 +2.6
comp=Z,34nm,0.8s
E20A Meyer Farm, Mu 72.16 43 ⇓P P 08 54 05.2 +0.7
baz=72,SNR=15
F19A Roth Farm, Mol 72.18 44 ⇓P P 08 54 05.2 +0.6
baz=72,SNR=30
MTUM Tungsten Hills 72.19 56 eP P 08 54 06.0 +1.1
ASK Askoy 72.22 339 eP P 08 54 03.5 -0.9
PTRM Twissleman Ran 72.23 58 eP P 08 54 06.3 +1.3
RUND Rundenannen 72.24 339 eP P 08 54 03.9 -0.7
BER Bergen 72.27 339 eP P 08 54 05.0 +0.3
H17A Grant Village 72.28 46 eP P 08 54 08.0 +2.6
H17A Grant Village 72.28 46 ⇓P P 08 54 08.1 +2.6
baz=72,SNR=29
D21A La Casta Ranch 72.36 42 ⇓P P 08 54 06.1 +0.5
baz=72,SNR=8.2
B23A Brockton 72.38 40 ⇓P P 08 54 05.7 0.0
baz=72,SNR=24
IMW Indian Meadow 72.42 47 eP P 08 54 07.9 +1.6
comp=Z,37nm,0.8s
IMW e 08 54 38.1
FLWY Flagg Ranch 72.42 46 eP P 08 54 07.9 +1.6
comp=Z,162nm,2.0s
A24A Westby 72.54 39 ⇓P P 08 54 07.1 +0.5
baz=72
RRI2 Red Ridge 72.57 47 eP P 08 54 08.5 +1.3
comp=Z,60nm,0.9s
SMMC Simmler 72.58 58 ⇑P P 08 54 07.8 +0.7
baz=72,SNR=12
H18A Shoshone NF, C 72.58 45 ⇓P P 08 54 07.6 +0.4
baz=72,SNR=13
I17A Pilgrim Ck. 72.60 46 ⇑P P 08 54 08.9 +1.6
baz=72,SNR=43
MOOW Moose Ponds 72.62 47 eP P 08 54 08.6 +1.2
comp=Z,33nm,1.0s
MOOW e 08 54 38.7
F20A Billings 72.62 44 ⇓P P 08 54 07.5 +0.2
baz=72,SNR=9.6
E21A Keefer Ranch, 72.67 43 ⇑P P 08 54 08.1 +0.6
baz=72
TPAW Teton Pass 72.68 47 eP P 08 54 09.3 +1.5
comp=Z,59nm,1.3s
D22A Cohagen 72.70 42 ⇓P P 08 54 07.9 +0.2
baz=72,SNR=9.3
C23A Lambert 72.75 41 ⇑P P 08 54 08.1 +0.2
baz=72,SNR=9.5
DGMT Dagmar 72.76 40 eP P 08 54 08.2 +0.3
comp=Z,41nm,0.9s
DGMT Dagmar 72.76 40 ⇑P P 08 54 08.0 +0.1
baz=72,SNR=8.3
LOHW Long Hollow 72.78 47 eP P 08 54 09.5 +1.1
comp=Z,29nm,1.2s
HVU Hansel Valley 72.79 49 eP P 08 54 09.5 +1.1
HVU pmax pmax
comp=Z,33nm,0.9s
HVU Hansel Valley 72.79 49 eP P 08 54 09.5 +1.1
comp=Z,33nm,0.9s
SNOW Snow King Moun 72.80 47 eP P 08 54 10.1 +1.5
comp=Z,22nm,0.8s
VES Vestal, Richgr 72.82 57 ⇓P P 08 54 08.6 +0.1
baz=73,SNR=11
A25A Svangstu Ranch 72.95 39 ⇓P P 08 54 09.5 +0.5
baz=73
H19A Powell 72.95 45 ⇓P P 08 54 10.0 +0.8
baz=73,SNR=10
PKM Peak Mountain 72.96 58 ⇑P P 08 54 10.6 +1.1
baz=73,SNR=15
G20A Bridger 72.98 44 ⇑P P 08 54 09.2 -0.2
baz=73,SNR=9.5
LAO LASA Array 73.00 42 eP P 08 54 10.1 +0.7
comp=Z,9.7nm,0.6s
LAO e 08 54 39.3
CWC Cottonwood Cre 73.07 56 ⇓P P 08 54 10.6 +0.5
baz=73
AHID Auburn Hatcher 73.08 48 eP P 08 54 11.0 +0.9
comp=Z,18nm,0.6s
F21A Absaloka Mine, 73.14 43 ⇑P P 08 54 10.7 +0.5
baz=73
D23A Lindsay 73.17 41 ⇑P P 08 54 11.1 +0.7
baz=73,SNR=15
BGU Big Grassy Mou 73.20 50 eP P 08 54 12.2 +1.4
comp=Z,15nm,1.1s
STKA Stephens Creek 73.28 181 eP P 08 54 11.5 +0.6
comp=Z,2.0nm,0.8s
STKA Stephens Creek 73.28 181 ⇓P P 08 54 11.7 +0.8
baz=73,SNR=6.4
STKA Stephens Creek 73.28 181 P P 08 54 10.2 -0.7
comp=Z,3.7nm,0.7s,baz=329,slow=9.0,SNR=8.4
C24A Savage 73.31 41 ⇑P P 08 54 11.5 +0.4
baz=73,SNR=8.2
E22A Miles City 73.31 42 ⇑P P 08 54 11.5 +0.2
baz=73,SNR=9.5
SBC Santa Barbara 73.31 59 ⇓P P 08 54 12.6 +1.3
baz=73
ISA Isabella 73.32 57 eP P 08 54 11.4 -0.1
ISA pmax pmax
comp=Z,30nm,1.3s
ISA Isabella 73.32 57 eP P 08 54 11.4 -0.1
comp=Z,30nm,1.3s
ISA Isabella 73.32 57 ⇑P P 08 54 11.6 +0.1
baz=73,SNR=14
I19A Meeteetse 73.37 45 ⇑P P 08 54 12.5 +0.7
baz=73,SNR=9.3
R11A Troy Canyon, C 73.38 53 eP P 08 54 12.7 +0.8
R11A Troy Canyon, C 73.38 53 ⇑P P 08 54 12.7 +0.8
baz=73,SNR=34
B25A Knox Farm, Ray 73.39 39 ⇓P P 08 54 11.9 +0.2
baz=73
ARVC Arvin 73.44 58 ⇓P P 08 54 12.7 +0.6
baz=73,SNR=7.7
A26A Wade Farm, Ken 73.48 38 ⇓P P 08 54 12.6 +0.5
baz=73
G21A Lodge Grass 73.50 44 ⇑P P 08 54 12.5 +0.1
baz=73,SNR=9.7
H20A Greybull 73.59 45 ⇓P P 08 54 13.2 +0.2
baz=73,SNR=14
BSD Bornholm Skovb 73.60 332 iP P 08 54 17.7 +5.1
BSD pmax pmax
comp=Z,30nm,0.8s
BSD Bornholm Skovb 73.60 332 iP P 08 54 17.7 +5.1
comp=Z,30nm,0.8s
F22A Rosebud 73.61 43 ⇓P P 08 54 13.2 +0.2
baz=73,SNR=9.0
D24A Glendive 73.64 41 ⇓P P 08 54 14.0 +0.8
baz=73
MPMC Manual Prospec 73.68 56 ⇑P P 08 54 14.5 +0.7
baz=74,SNR=32
C25A Freed Ranch, W 73.74 40 ⇑P P 08 54 14.4 +0.7

baz=74
B26A **Jensen Ranch,** 73.76 39 ⇓P P 08 54 14.5 +0.7
baz=74,SNR=6.4
DUG **Dugway** 73.80 50 eP P 08 54 15.5 +1.2
DUG pmax pmax
comp=Z,40nm,0.9s
DUG **Dugway** 73.80 50 eP P 08 54 15.5 +1.2
comp=Z,40nm,0.9s
DUG **Dugway** 73.80 50 ⇑P P 08 54 15.4 +1.0
baz=74,SNR=44
A27A **Ledoux Ranch,** 73.81 38 ⇑P P 08 54 14.6 +0.6
baz=74,SNR=7.9
FURC **Furnace Creek,** 73.81 56 ⇑P P 08 54 15.2 +1.0
baz=74,SNR=64
OSI **Osito Adit** 73.83 58 eP P 08 54 15.7 +1.2
comp=Z,16nm,0.3s
OSI **Osito Adit** 73.83 58 ⇑P P 08 54 15.5 +1.0
baz=74
BEL **Belsk** 73.85 327 eP P 08 54 15.2 +1.0
BEL e 08 54 19.9
J19A **Crowheart** 73.86 46 ⇓P P 08 54 15.7 +1.0
baz=74,SNR=46
I20A **Worland** 73.89 45 ⇓P P 08 54 15.8 +1.1
baz=74,SNR=26
BW06 **Boulder Array** 73.92 47 eP P 08 54 15.3 +0.2
comp=Z,36nm,0.8s
LRMC **Laurel Mountai** 73.93 57 ⇑P P 08 54 15.7 +0.6
baz=74,SNR=16
BLG **Laguna Peak** 73.94 59 ⇓P P 08 54 15.5 +0.5
baz=74,SNR=5.1
LVV **L'vov** 73.96 324 eP P 08 54 14.2 -0.7
LVV e 08 54 21.6
G22A **Birney** 73.98 43 ⇓P P 08 54 15.5 +0.3
baz=74,SNR=6.1
H21A **Big Horn, Sher** 74.00 44 ⇑P P 08 54 15.8 +0.4
baz=74,SNR=16
E24A **Baker** 74.04 41 ⇓P P 08 54 15.8 +0.3
baz=74,SNR=9.9
F23A **Volborg** 74.08 42 ⇑P P 08 54 16.1 +0.3
baz=74,SNR=39
D25A **Fairfield** 74.11 40 ⇓P P 08 54 16.3 +0.4
baz=74
EDW2 **Edwards Air Fo** 74.12 57 ⇑P P 08 54 16.9 +0.7
baz=74,SNR=25
M17A **Scullys Gap (B** 74.17 48 ⇓P P 08 54 17.1 +0.5
baz=74,SNR=16
B27A **Peters Farms,** 74.19 38 ⇑P P 08 54 16.8 +0.5
baz=74
C26A **Wahner Farm, P** 74.21 39 ⇓P P 08 54 16.7 +0.2
baz=74
L18A **Fontenelle, Gr** 74.22 48 ⇓P P 08 54 17.5 +0.6
baz=74,SNR=40
A28A **Rude Farm, Bot** 74.28 37 ⇓P P 08 54 17.3 +0.4
baz=74,SNR=5.9
DECC **Green Verdugo** 74.31 58 ⇓P P 08 54 17.7 +0.4
baz=74,SNR=6.2
JLU **Jordanelle** 74.31 49 eP P 08 54 18.4 +1.0
comp=Z,55nm,1.4s
J20A **Shoshoni** 74.32 46 ⇓P P 08 54 17.9 +0.7
baz=74,SNR=25
H22A **Clearmont** 74.38 44 ⇑P P 08 54 17.7 +0.2
baz=74,SNR=7.9
NLU **North Lily Min** 74.39 50 eP P 08 54 19.0 +1.2
comp=Z,31nm,0.9s
MALT **Malatya** 74.39 308 ⇑P P 08 54 18.3 +0.5
MALT **Malatya** 74.39 308 ⇑iP P 08 54 18.3 +0.5
I21A **Big Trails, Te** 74.42 45 ⇓P P 08 54 18.4 +0.5
baz=74,SNR=44
G23A **Biddle** 74.45 43 ⇓P P 08 54 18.2 +0.3
baz=74,SNR=9.3
PASC **Pasadena Art C** 74.46 58 eP P 08 54 18.8 +0.7
comp=Z,18nm,1.0s
F24A **Ekalaka** 74.47 42 ⇓P P 08 54 18.4 +0.3
baz=74,SNR=13
L19A **Farson** 74.48 47 P P 08 54 18.8 +0.5
baz=74
MWC **Mount Wilson** 74.50 58 eP P 08 54 19.2 +0.6
MWC pmax pmax
comp=Z,30nm,1.0s
MWC **Mount Wilson** 74.50 58 eP P 08 54 19.1 +0.6
comp=Z,30nm,1.0s
E25A **Miller Ranch,** 74.53 41 ⇑P P 08 54 18.8 +0.5
baz=74,SNR=13
SHOC **Shoshone** 74.53 56 ⇑P P 08 54 19.2 +0.7
baz=74,SNR=18
DAU **Daniels Canyon** 74.55 49 eP P 08 54 20.0 +1.1
DAU **Daniels Canyon** 74.55 49 eP P 08 54 20.0 +1.1
B28A **Dugan Ranch, T** 74.57 38 ⇑P P 08 54 18.8 +0.4
baz=74,SNR=9.0
C27A **Sayler Ranch,** 74.57 39 ⇑P P 08 54 18.7 +0.2
baz=74
GSC **Goldstone** 74.60 56 eP P 08 54 19.8 +0.8
GSC pmax pmax
comp=Z,17nm,0.9s
GSC **Goldstone** 74.60 56 eP P 08 54 19.8 +0.8
comp=Z,17nm,0.9s
GSC **Goldstone** 74.60 56 ⇑P P 08 54 19.7 +0.7
baz=74,SNR=16
MPU **Maple Canyon** 74.60 50 eP P 08 54 20.1 +1.1
comp=Z,50nm,0.7s
RDF **Al-Radifah** 74.60 295 eP P 08 54 17.9 -1.1
RDF AMb AMB 08 54 19.6
comp=Z,47nm,1.0s
NAY **Al-Naaiem** 74.61 295 eP P 08 54 18.0 -1.0
NAY AMb AMB 08 54 19.2
comp=Z,19nm,1.4s
RST **Umm Al-Ruwaisa** 74.61 296 eP P 08 54 17.8 -1.2
RST AMb AMB 08 54 19.5
comp=Z,317nm,0.9s
D26A **Manning** 74.62 40 ⇑P P 08 54 19.0 +0.2
baz=74,SNR=5.8
J21A **Lysite** 74.66 45 ⇑P P 08 54 19.7 +0.4
baz=74,SNR=20
KWP **Kalwaria Pacla** 74.68 324 ⇑P P 08 54 20.1 +1.0
KWP **Kalwaria Pacla** 74.68 324 ⇑iP P 08 54 20.0 +1.0
KWP **Kalwaria Pacla** 74.68 324 eP P 08 54 20.1 +1.0
KWP e 08 54 27.5
FMP **Fort Macarthur** 74.68 58 ⇑P P 08 54 20.0 +0.7
baz=75
A29A **Manning Farm,** 74.74 37 ⇑P P 08 54 19.8 +0.3
baz=74,SNR=20
BFSC **Mount Baldy Ra** 74.75 58 ⇑P P 08 54 20.3 +0.4
baz=75,SNR=13
RRX **Edison Barstow** 74.75 57 ⇑P P 08 54 20.5 +0.7
baz=75
I22A **9 Mile Ranch,** 74.79 44 ⇑P P 08 54 20.4 +0.4
baz=75,SNR=16
CIS **Catalina Islan** 74.81 59 ⇑P P 08 54 20.6 +0.4
baz=75
SHPR **Sheep Range** 74.83 55 eP P 08 54 21.6 +1.3
G24A **Alzada** 74.85 42 ⇓P P 08 54 20.2 -0.1
baz=75
F25A **Bowman** 74.91 41 ⇓P P 08 54 20.9 +0.3
baz=75,SNR=5.9
M19A **Rock Springs** 74.99 47 ⇑P P 08 54 21.5 +0.2
baz=75
D27A **Center** 75.00 39 ⇓P P 08 54 21.5 +0.5
baz=75
BUR08 **Bucovina Ar. S** 75.00 321 eP P 08 54 20.7 -0.4
E26A **Carlson Angus** 75.00 40 ⇓P P 08 54 21.2 +0.1
baz=75
BURAR **Bucovina Array** 75.02 321 ⇓P P 08 54 21.4 +0.2
BURAR **Bucovina Array** 75.02 321 ⇓iP P 08 54 21.4 +0.2
B29A **Wagenman Farm,** 75.02 37 ⇑P P 08 54 21.3 +0.2
baz=75
ARUT **Antelope Range** 75.02 53 eP P 08 54 22.6 +1.1
ARUT **Antelope Range** 75.02 53 eP P 08 54 22.6 +1.1
comp=Z,443nm,1.2s
TUQ **Turquoise Moun** 75.06 56 ⇑P P 08 54 22.6 +0.9
baz=75,SNR=18
C28A **Hausauer Farms** 75.09 38 ⇑P P 08 54 21.6 +0.1
baz=75
L20A **Wamsutter** 75.10 47 ⇑P P 08 54 22.5 +0.6
baz=75,SNR=21
J22A **Midwest** 75.13 45 ⇓P P 08 54 22.2 +0.3
baz=75,SNR=40
TESR **Tescani** 75.13 320 ⇓iP P 08 54 22.0 +0.3
A30A **Hoffart Farm,** 75.14 36 ⇓P P 08 54 22.0 +0.2
baz=75,SNR=8.6
H24A **Dirks Ranch, A** 75.19 43 ⇑P P 08 54 22.0 -0.2
baz=75,SNR=14
BBRC **Big Bear Solar** 75.20 57 ⇑P P 08 54 23.2 +0.6
baz=75,SNR=12
HEC **Hector,Ludlow** 75.20 57 ⇑P P 08 54 23.1 +0.7
baz=75,SNR=24
ULM **Lac du Bonnet** 75.22 34 eP P 08 54 21.6 -0.6
comp=Z,15nm,0.9s
ULM **Lac du Bonnet** 75.22 34 P P 08 54 21.7 -0.4
comp=Z,18nm,1.0s,baz=319,slow=7.7,SNR=7.3
ULM LR LR 09 29 21.5
comp=Z,105nm,18.8s,baz=47,slow=37
CCUT **Cedar City** 75.22 53 eP P 08 54 23.8 +1.1
comp=Z,42nm,1.5s
K21A **Alcova** 75.26 46 ⇓P P 08 54 23.1 +0.3
baz=75,SNR=28
MVU **Marysvale** 75.27 51 eP P 08 54 24.3 +1.3
comp=Z,20nm,1.0s
I23A **Meade Ranch, G** 75.28 44 ⇑P P 08 54 23.3 +0.5
baz=75
TMUT **Trail Mountain** 75.33 50 eP P 08 54 24.4 +1.1
comp=Z,31nm,1.0s
F26A **Lodgepole** 75.35 41 ⇓P P 08 54 23.4 +0.3
baz=75,SNR=7.4
CFR **Carcaliu** 75.35 318 ⇓P P 08 54 22.9 -0.1
CFR **Carcaliu** 75.35 318 ⇓iP P 08 54 22.9 -0.1
MDND **Maddock** 75.36 38 eP P 08 54 23.4 +0.4
MDND **Maddock** 75.36 38 ⇑P P 08 54 23.2 +0.2
baz=75
D28A **Regan** 75.39 39 ⇓P P 08 54 23.6 +0.3
baz=75
G25A **Newell** 75.45 42 ⇑P P 08 54 23.6 0.0
baz=75,SNR=6.8
MURC **Murrieta** 75.45 58 ⇓P P 08 54 24.2 +0.3
baz=75,SNR=8.0
E27A **Carson** 75.47 40 ⇓P P 08 54 24.2 +0.5
baz=75,SNR=16
STHS **Stebnicka Huta** 75.48 325 eP P 08 54 24.5 +0.8
OJC **Ojcow** 75.49 326 eP P 08 54 24.1 +0.4
OJC pmax pmax
comp=Z,58nm,0.8s
OJC **Ojcow** 75.49 326 eP P 08 54 24.1 +0.4
comp=Z,58nm,0.8s
OJC **Ojcow** 75.49 326 eP P 08 54 24.1 +0.4
OJC e 08 54 31.2
B30A **Myrvik Farm, E** 75.49 37 ⇓P P 08 54 24.1 +0.3
baz=75,SNR=17
M20A **Sweetwater, Wa** 75.53 47 ⇑P P 08 54 25.3 +0.8
baz=75,SNR=12
VRI **Vrincioaia** 75.56 319 ⇓P P 08 54 25.7 +1.5
VRI **Vrincioaia** 75.56 319 ⇓iP P 08 54 25.7 +1.5
Q16A **Castle Valley** 75.60 51 eP P 08 54 25.6 +0.8
Q16A **Castle Valley** 75.60 51 ⇓P P 08 54 25.6 +0.8
baz=75,SNR=17
UZH **Uzhgorod** 75.60 324 eP P 08 54 23.6 -0.7
UZH e 08 54 32.6
PLOR **Plostina** 75.61 319 ⇓P P 08 54 25.7 +1.2
PLOR **Plostina** 75.61 319 ⇓iP P 08 54 25.7 +1.2
J23A **Dilts Ranch, B** 75.62 44 ⇑P P 08 54 24.8 0.0
baz=75
K22A **Casper** 75.63 45 ⇑P P 08 54 24.9 0.0
baz=75,SNR=18
F27A **Lemmon** 75.65 41 ⇓P P 08 54 25.0 +0.2
baz=75,SNR=5.8
GMRC **Granite Mounta** 75.65 56 ⇑P P 08 54 25.8 +0.8
baz=76,SNR=38
L21A **Rawlins** 75.65 46 ⇓P P 08 54 25.3 +0.2
baz=75,SNR=15
H25A **Fruitdale** 75.76 42 ⇓P P 08 54 25.5 +0.1
baz=76,SNR=7.9
I24A **Kuemmerle Ranc** 75.78 43 ⇑P P 08 54 25.3 -0.3
baz=76,SNR=6.6
E28A **Huff** 75.78 39 ⇑P P 08 54 25.8 +0.4
baz=76,SNR=5.3
G26A **Maurine** 75.78 41 ⇑P P 08 54 25.6 +0.1
baz=76,SNR=24
LDFC **Landfair** 75.79 56 eP P 08 54 26.8 +1.0
comp=Z,42nm,0.7s
TLB **Topalu** 75.82 318 ⇓P P 08 54 26.5 +0.8
TLB **Topalu** 75.82 318 ⇓iP P 08 54 26.5 +0.8
O19A **Miners Draw (B** 75.83 48 ⇑P P 08 54 26.3 +0.2
baz=76,SNR=25
SRU **San Rafael** 75.84 50 eP P 08 54 26.9 +0.8
SRU pmax pmax
comp=Z,32nm,0.7s
SRU **San Rafael** 75.84 50 eP P 08 54 26.9 +0.8
comp=Z,32nm,0.7s
TRPA **Tarpa** 75.86 323 ⇑iP P 08 54 26.9 +1.1
NIE **Niedzica** 75.88 325 eP P 08 54 26.8 +0.8
NIE e 08 54 34.2
RSSD **Black Hills** 75.89 43 eP P 08 54 26.6 +0.2
RSSD pmax pmax
comp=Z,88nm,0.8s
RSSD **Black Hills** 75.89 43 eP P 08 54 26.6 +0.2
comp=Z,88nm,0.8s
PFO **Pinyon Flat Ob** 75.92 58 P P 08 54 27.0 +0.4
comp=Z,147nm,0.8s,SNR=11
PFO **Pinyon Flat Ob** 75.92 58 eP P 08 54 26.9 +0.3
comp=Z,19nm,0.8s
PFO **Pinyon Flat Ob** 75.92 58 ⇓P P 08 54 27.0 +0.4
baz=76,SNR=15
D29A **Pettibone, Tap** 75.94 38 ⇓P P 08 54 27.6 +1.2
baz=76
N20A **Spence Gulch,** 75.94 48 ⇓P P 08 54 27.7 +1.0
baz=76,SNR=34
BELC **Belle Mtn. Jos** 75.95 57 ⇓P P 08 54 27.1 +0.3
baz=76,SNR=17
109C **Camp Elliot, M** 75.97 58 ⇓P P 08 54 27.4 +0.6
baz=76,SNR=6.4
C30A **Mose, Pekin** 75.98 37 ⇑P P 08 54 26.6 +0.1
baz=76
K23A **Bowen Ranch, D** 76.03 45 ⇓P P 08 54 27.5 +0.4
baz=76,SNR=5.6
G27A **Dupree** 76.05 41 ⇑P P 08 54 27.0 0.0
baz=76,SNR=8.7
L22A **Ellis Ranch, M** 76.11 46 ⇓P P 08 54 28.1 +0.5
baz=76,SNR=19
I25A **Rochford** 76.12 43 ⇑P P 08 54 27.6 -0.1
baz=76,SNR=18
DOPR **Dopca** 76.13 320 ⇑iP P 08 54 28.2 +0.7
J24A **Dixon Ranch, L** 76.13 44 ⇓P P 08 54 27.1 -0.6
baz=76
BSEG **Bad Segeberg** 76.14 333 eP P 08 54 27.7 +0.4
BSEG pmax pmax
comp=Z,23nm,0.9s
BSEG **Bad Segeberg** 76.14 333 eP P 08 54 27.7 +0.4
comp=Z,23nm,0.9s
H26A **Fairpoint** 76.18 42 ⇑P P 08 54 27.9 +0.1
baz=76,SNR=9.9
MLR **Muntele Rosu** 76.21 320 ⇑iP P 08 54 28.0 -0.1
BR131 **Keskin Array S** 76.22 311 eP P 08 54 28.4 +0.1
comp=Z,2.3nm,0.6s
BRTR **Keskin Array B** 76.22 311 P P 08 54 28.4 +0.1
BRTR PP PP 08 57 20.2 +0.2
BRTR **Keskin Array B** 76.22 311 P P 08 54 28.4 +0.1
comp=Z,3.5nm,0.8s,baz=70,slow=4.1,SNR=20
BRTR PP PP 08 57 20.2 +0.2
comp=Z,2.2nm,0.9s,baz=64,slow=5.6,SNR=3.6
BRTR LR LR 09 29 42.2
comp=Z,48nm,19.2s,baz=171,slow=37
F28A **McLaughlin** 76.25 40 ⇑P P 08 54 28.4 +0.2
baz=76
E29A **Napoleon** 76.28 39 ⇓P P 08 54 28.0 -0.3
baz=76
MSAB **Monastry St. A** 76.28 318 ⇑iP P 08 54 29.4 +1.1
D30A **Buchanan** 76.29 38 ⇓P P 08 54 28.1 -0.3
baz=76,SNR=5.3
P19A **Cripple Cowboy** 76.36 49 ⇓P P 08 54 29.3 +0.1
baz=76,SNR=40
IRM **Iron Mountain** 76.37 56 ⇓P P 08 54 30.1 +1.1
baz=76,SNR=23
BAR **Barrett** 76.38 58 eP P 08 54 29.6 +0.4
comp=Z,13nm,0.8s
MONP **Monument Peak** 76.41 58 ⇓P P 08 54 29.6 +0.1
baz=76,SNR=6.6
KSP **Ksiaz** 76.43 328 eP P 08 54 29.5 +0.5
KSP e 08 54 36.6
O20A **White River Ci** 76.43 48 eP P 08 54 29.6 0.0
O20A **White River Ci** 76.43 48 ⇓P P 08 54 29.9 +0.4
baz=76,SNR=23
L23A **Garrett** 76.44 45 ⇑P P 08 54 29.6 +0.1
baz=76,SNR=22
M22A **Cedar Creek Ra** 76.46 46 ⇓P P 08 54 29.9 +0.2
baz=76,SNR=19
OKC **Ostrava-Krasne** 76.47 327 ⇓iP P 08 54 29.7 +0.5
OKC ePCP PcP 08 54 36.7 -3.9
H27A **Howes** 76.51 41 ⇓P P 08 54 29.8 +0.1
baz=76,SNR=11
BC3 **Big Chuckawall** 76.52 57 ⇓P P 08 54 30.4 +0.5
baz=76,SNR=18
J25A **Sunshine Ranch** 76.53 43 ⇓P P 08 54 29.3 -0.6
baz=76
W13A **Hualapai Mount** 76.53 55 ⇑P P 08 54 30.8 +0.6
baz=76,SNR=42
I26A **New Underwood** 76.55 42 ⇓P P 08 54 30.2 +0.2
baz=76
ANTO **Ankara** 76.59 312 P P 08 54 31.2 +0.9
SNR=5.3
ANTO **Ankara** 76.59 312 ⇑iP P 08 54 38.4 +8.1
U15A **North Rim** 76.61 53 ⇑P P 08 54 32.1 +1.4
baz=76,SNR=53
E30A **Jud** 76.67 38 ⇑P P 08 54 30.5 0.0
baz=76,SNR=6.9
VOIR 76.68 320 ⇓P P 08 54 31.1 +0.4
VOIR 76.68 320 ⇓iP P 08 54 31.1 +0.4
AGMN **Agassiz Nation** 76.70 36 eP P 08 54 30.0 -0.6
comp=Z,26nm,1.0s
F29A **Eureka** 76.73 39 ⇑P P 08 54 30.8 0.0
baz=76
DVTC **Desert V Tower** 76.76 58 ⇓P P 08 54 32.0 +0.6
baz=77,SNR=7.0
G28A **Parade** 76.76 41 ⇓P P 08 54 31.3 +0.2
baz=76
SWSC **Sam W. Stewart** 76.77 58 ⇓P P 08 54 31.8 +0.5
baz=77,SNR=7.9
DRGR 76.78 322 ⇑P P 08 54 31.6 +0.4
DRGR 76.78 322 ⇑iP P 08 54 31.6 +0.4
P20A **De Beque** 76.79 49 ⇑P P 08 54 31.7 +0.2
baz=77,SNR=17
DPC **Dobruska-Polom** 76.81 328 eP P 08 54 31.9 +0.7
DPC **Dobruska-Polom** 76.81 328 ⇓iP P 08 54 31.9 +0.7
DPC ePCP PcP 08 54 38.8 -3.3
DPC **Dobruska-Polom** 76.81 328 eP P 08 54 31.9 +0.7
O21A **Pagoda** 76.81 48 ⇓P P 08 54 32.0 +0.3
baz=77
UPC **Upice** 76.81 328 ⇓iP P 08 54 31.7 +0.5
UPC ePCP PcP 08 54 38.6 -3.4
KRLC **Kraliky** 76.84 327 ⇓iP P 08 54 31.7 +0.3
KRLC ePCP PcP 08 54 39.0 -3.2
L24A **Wheatland** 76.90 45 ⇑P P 08 54 31.9 -0.1
baz=77
PDMCI **Parker Dam,Lak** 76.91 56 ⇑P P 08 54 32.8 +0.8
baz=77,SNR=18
ARR **Arges** 76.93 320 ⇓iP P 08 54 33.2 +1.2
I27A **Quinn** 76.93 42 ⇑P P 08 54 32.5 +0.5
baz=77,SNR=22
N22A **Wattenberg Ran** 76.95 47 ⇓P P 08 54 33.3 +0.8
baz=77,SNR=20
J26A **Sides Ranch, S** 76.96 43 ⇓P P 08 54 32.2 0.0
baz=77,SNR=13
H28A **Mission Ridge** 77.00 41 ⇑P P 08 54 32.9 +0.5
baz=77,SNR=13
Y12C **Blythe** 77.03 56 ⇑P P 08 54 33.6 +0.8
baz=77,SNR=23
K25A **Mack Ranch, Ha** 77.05 44 ⇑P P 08 54 32.8 -0.1
baz=77
PV09 **Paradox Valley** 77.06 50 eP P 08 54 34.1 +1.0
PHWY **Pilot Hill** 77.14 46 eP P 08 54 33.9 +0.3
comp=Z,34nm,1.2s
G29A **Hoven** 77.16 40 ⇑P P 08 54 33.0 -0.3
baz=77,SNR=5.1
N23A **Red Feather La** 77.17 46 ⇑P P 08 54 34.7 +1.0
baz=77,SNR=21
PV10 **Paradox Valley** 77.19 50 eP P 08 54 35.1 +1.3
comp=Z,1µm,1.0s
PSZ **Piszkesteto** 77.19 324 ⇑P P 08 54 34.4 +0.9
PSZ **Piszkesteto** 77.19 324 ⇑iP P 08 54 34.4 +0.9
PSZ **Piszkesteto** 77.19 324 eP P 08 54 34.2 +0.7
comp=Z,15nm,0.8s
PSZ **Piszkesteto** 77.19 324 ⇑eP P 08 54 34.3 +0.8
Q20A **Ridgley Place,** 77.22 49 ⇑P P 08 54 34.4 +0.4
baz=77,SNR=23
LOT **Lotru** 77.28 321 ⇑iP P 08 54 34.4 +0.3
P21A **Newcastle** 77.30 48 ⇓P P 08 54 35.3 +0.9
baz=77,SNR=49
GLA **Glamis** 77.31 57 eP P 08 54 35.5 +1.1
GLA pmax pmax
comp=Z,40nm,0.8s
GLA **Glamis** 77.31 57 eP P 08 54 35.5 +1.1
comp=Z,40nm,0.8s
GLA **Glamis** 77.31 57 ⇑P P 08 54 35.2 +0.9
baz=77,SNR=20
BRG **Berggiesshubel** 77.32 329 eP P 08 54 34.0 0.0
comp=Z,9.8nm,1.0s
BRG **Berggiesshubel** 77.32 329 eP P 08 54 34.4 +0.4
comp=Z,5.0nm,0.8s
CLL **Collm** 77.33 330 ⇓iP P 08 54 33.7 -0.3
CLL pmax pmax
comp=Z,9.0nm,0.9s
CLL **Collm** 77.33 330 eP P 08 54 34.1 +0.1
comp=Z,16nm,0.8s
CLL **Collm** 77.33 330 ⇓iP P 08 54 33.7 -0.3
comp=Z,25nm,0.9s
CLL *i P(2)* 08 54 41.0
comp=Z,32nm,0.8s
CLL ePP pP 08 54 58.0 -0.3
CLL LmV 09 31 00.0
comp=Z,100nm,19.4s
L25A **Engebretsen Ra** 77.33 44 ⇑P P 08 54 34.8 +0.4
baz=77,SNR=6.0
K26A **Motz Farm, Whi** 77.34 43 ⇑P P 08 54 34.4 -0.1
baz=77,SNR=7.1
O22A **Kremmling** 77.35 47 ⇑P P 08 54 35.3 +0.5
baz=77,SNR=32
PVCC **Panska Ves** 77.35 329 ⇓iP P 08 54 34.7 +0.5
PVCC ePCP PcP 08 54 41.5 -2.9
M24A **Cheyenne** 77.36 45 ⇑P P 08 54 35.9 +1.2
baz=77,SNR=33
PV05 **Paradox Valley** 77.36 50 eP P 08 54 35.8 +1.0
NRDL **Niedersach Rie** 77.40 332 eP P 08 54 34.5 +0.2
comp=Z,8.0nm,0.9s
I28A **Midland** 77.42 41 ⇓P P 08 54 34.9 +0.1
baz=77,SNR=32
H29A **Onida** 77.43 40 ⇓P P 08 54 35.0 +0.2
baz=77
VRAC **Vranov** 77.51 327 ⇑iP P 08 54 36.3 +1.1
VRAC **Vranov** 77.51 327 LR LR 09 31 38.6
comp=Z,141nm,18.4s,baz=30,slow=38
PV15 **Paradox Valley** 77.53 49 eP P 08 54 36.5 +0.7
J27A **Elkhorn Farm,** 77.54 42 ⇓P P 08 54 36.1 +0.6
baz=77,SNR=15
G30A **Faulkton** 77.57 40 ⇓P P 08 54 35.7 +0.1
baz=77,SNR=32
PV01 **Paradox Valley** 77.63 50 eP P 08 54 37.0 +0.7
comp=Z,2µm,1.2s
P22A **Eagle** 77.63 48 ⇓P P 08 54 37.1 +0.8
baz=77,SNR=65
O23A **Lake Granby, G** 77.66 47 ⇑P P 08 54 37.6 +1.1
baz=78,SNR=49
R20A **Redvale** 77.70 50 ⇓P P 08 54 37.4 +0.8
baz=78,SNR=31
Q21A **Lamborn Mesa,** 77.71 49 ⇓P P 08 54 37.6 +0.9
baz=78,SNR=13
PRA **Prague** 77.77 329 ⇓P P 08 54 37.0 +0.5
WUAZ **Wupatki** 77.77 53 eP P 08 54 38.2 +1.1
comp=Z,42nm,0.9s
WUAZ *e* 08 55 08.0
WUAZ **Wupatki** 77.77 53 ⇑P P 08 54 38.2 +1.1
baz=78,SNR=31
N24A **Carr** 77.78 46 ⇑P P 08 54 38.0 +1.0
baz=78,SNR=9.2
SMOL **Smolenice** 77.79 326 eP P 08 54 38.0 +1.3
M25A **Palm-Egli Farm** 77.79 45 ⇓P P 08 54 38.1 +1.0
baz=78,SNR=5.1
PRU **Pruhonice** 77.80 329 ⇓iP P 08 54 37.1 +0.4
PRU ePCP PcP 08 54 44.3 -2.0
SMCO **Snowmass** 77.80 48 eP P 08 54 38.3 +0.8
comp=Z,28nm,0.9s
J28A **Allard Ranch,** 77.81 42 ⇓P P 08 54 37.5 +0.6
baz=78,SNR=39
K27A **Flueckinger Fa** 77.82 43 ⇓P P 08 54 37.1 -0.1
baz=78,SNR=10.0
I29A **Vivian Onida** 77.83 41 ⇑P P 08 54 37.0 0.0
baz=78,SNR=10
CLZ **Clausthal** 77.85 332 eP P 08 54 37.5 +0.5
CLZ pmax pmax
comp=Z,16nm,0.8s
CLZ **Clausthal** 77.85 332 eP P 08 54 37.5 +0.5
comp=Z,16nm,0.8s
Y14A **Wickenburg** 77.85 55 ⇓P P 08 54 38.3 +1.0
baz=78,SNR=35
S20A **Disappointment** 77.96 50 ⇑P P 08 54 38.7 +0.6
baz=78,SNR=28
TREC **Trest** 77.97 328 ⇓iP P 08 54 38.0 +0.3
TREC ePCP PcP 08 54 45.5 -1.6
R21A **Cimarron** 78.04 49 ⇑P P 08 54 39.6 +1.0
baz=78,SNR=28
Q22A **Crested Butte,** 78.06 48 ⇑P P 08 54 39.9 +1.1
baz=78,SNR=40
ISCO **Idaho Springs** 78.12 47 eP P 08 54 40.0 +1.0
ISCO pmax pmax

comp=Z,19nm,0.8s
ISCO **Idaho Springs** 78.12 47 *e*P P 08 54 40.0 +1.0
comp=Z,19nm,0.8s
ISCO **Idaho Springs** 78.12 47 ⇑P P 08 54 39.8 +0.7
baz=78,SNR=26
113A **Mohawk Valley,** 78.16 57 ⇑P P 08 54 39.5 +0.5
baz=78,SNR=28
BZS **Buzias** 78.17 322 ⇑P P 08 54 39.2 +0.4
BZS **Buzias** 78.17 322 ⇑*i*P P 08 54 39.2 +0.4
BRSD **Miller** 78.17 40 *e*P P 08 54 39.2 +0.2
BRSD **Miller** 78.17 40 ⇑P P 08 54 38.8 -0.1
baz=78,SNR=20
ZST **Bratislava** 78.17 326 *e*P P 08 54 39.5 +0.7
O24A **Longmont** 78.18 46 ⇑P P 08 54 40.4 +1.2
baz=78,SNR=24
N25A **Grover** 78.22 45 ⇓P P 08 54 40.4 +1.0
baz=78
L27A **T5 Ranch, Ells** 78.23 43 ⇑P P 08 54 39.5 +0.1
baz=78
M26A **McRoberts Ranc** 78.25 44 ⇓P P 08 54 40.4 +0.9
baz=78,SNR=9.6
TANN **Tannenbergstha** 78.25 330 *e*P P 08 54 39.2 -0.1
comp=Z,3.0nm,0.9s
K28A **Ten Mile Ranch** 78.26 42 ⇑P P 08 54 39.8 +0.3
baz=78,SNR=18
J29A **Okreek** 78.27 41 ⇑P P 08 54 39.6 +0.1
baz=78,SNR=19
Z14A **Wintersburg** 78.27 56 ⇓P P 08 54 40.6 +0.9
baz=78,SNR=6.5
P23A **Jefferson** 78.29 47 ⇓P P 08 54 41.3 +1.2
baz=78,SNR=13
MVCO **Mesa Verde** 78.31 50 *e*P P 08 54 41.0 +0.9
comp=Z,52nm,1.4s
MVCO **Mesa Verde** 78.31 50 ⇑P P 08 54 40.8 +0.8
baz=78,SNR=14
I30A **Oacoma** 78.34 41 ⇑P P 08 54 40.0 +0.1
baz=78,SNR=12
IBBN **Ibbenburen** 78.36 333 *e*P P 08 54 40.3 +0.6
comp=Z,30nm,1.0s
S21A **Coal Bank Pass** 78.40 50 ⇑P P 08 54 41.8 +1.2
baz=78,SNR=39
X16A **Lo Mia Camp, P** 78.48 54 ⇓P P 08 54 42.4 +1.4
baz=78,SNR=70
R22A **Saguache, Gunn** 78.59 49 ⇑P P 08 54 42.9 +1.2
baz=78,SNR=16
M27A **Reverse DX Ran** 78.60 44 ⇑P P 08 54 42.0 +0.6
baz=78
Q23A **Hartsel** 78.63 48 ⇓P P 08 54 42.6 +0.7
baz=78
N26A **Koester Ranch,** 78.67 45 ⇓P P 08 54 42.5 +0.7
baz=78,SNR=13
L28A **Connealy Angus** 78.69 43 ⇓P P 08 54 42.2 +0.3
baz=78
O25A **Wiggins** 78.70 46 ⇑P P 08 54 42.5 +0.4
baz=78,SNR=27
P24A **Kohler Place,** 78.70 47 ⇓P P 08 54 43.4 +1.2
baz=78,SNR=19
K29A **Lazy Trails An** 78.75 42 ⇑P P 08 54 42.6 +0.5
baz=78,SNR=15
UBBA **Unterbreizbach** 78.82 331 *e*P P 08 54 42.4 +0.2
comp=Z,2.0nm,0.7s
EYMN **Ely** 78.83 34 *e*P P 08 54 42.2 -0.2
comp=Z,47nm,0.9s
KHC **Kasperske Hory** 78.86 328 *e*P P 08 54 43.0 +0.4
KHC pmax pmax
comp=Z,17nm,0.8s
KHC **Kasperske Hory** 78.86 328 ⇓*i*P P 08 54 42.8 +0.2
KHC *e*PCP PcP 08 54 50.2 -0.8
KHC **Kasperske Hory** 78.86 328 *e*P P 08 54 43.0 +0.4
comp=Z,17nm,0.8s
U20A **Newcomb** 78.87 51 ⇑P P 08 54 43.8 +0.7
baz=79,SNR=5.1
ROTZ **Rotzenmuhle** 78.87 330 *e*P P 08 54 43.3 +0.7
comp=Z,9.0nm,1.0s
S22A **4UR Ranch, Cre** 78.88 49 ⇑P P 08 54 44.3 +1.0
baz=79,SNR=26
CONA **Conrad Observa** 78.90 327 *i*P P 08 54 43.8 +0.9
comp=Z,13nm,1.0s,SNR=6.8
Q24A **Divide** 78.96 47 ⇑P P 08 54 44.2 +0.5
baz=79,SNR=16
T21A **Navajo Lake** 79.01 50 ⇑P P 08 54 44.8 +0.9
baz=79,SNR=8.1
W18A **Petrified Fore** 79.02 53 *e*P P 08 54 45.6 +1.6
comp=Z,14nm,0.8s
W18A **Petrified Fore** 79.02 53 ⇓P P 08 54 45.0 +1.0
baz=79
GEC2 **GERESS Array S** 79.04 328 *e*P P 08 54 44.0 +0.3
GEC2 **GERESS Array S** 79.04 328 *e*P P 08 54 44.0 +0.3
comp=Z,4.0nm,0.8s
GEC2 **GERESS Array S** 79.04 328 *e*P P 08 54 44.0 +0.3
comp=Z,1µm,0.8s
GERES **GERESS Array B** 79.04 328 P P 08 54 43.2 -0.4
GERES pP pP 08 55 07.6 -0.4
GERES **GERESS Array B** 79.04 328 P P 08 54 43.2 -0.4
comp=Z,4.7nm,0.8s,baz=34,slow=5.3,SNR=28
GERES pP pP 08 55 07.6 -0.4
comp=Z,2.2nm,0.6s,baz=27,slow=6.1,SNR=2.7
GERES LR LR 09 33 01.0
comp=Z,100nm,18.0s,baz=214,slow=38
O26A **Horse Wrangler** 79.04 45 ⇓P P 08 54 44.1 +0.2
baz=79,SNR=6.7
N27A **Anderson Farm,** 79.04 44 ⇓P P 08 54 44.3 +0.4
baz=79,SNR=26
P25A **Willow Gulch B** 79.10 46 ⇓P P 08 54 45.1 +0.7
baz=79,SNR=30
WET **Wettzell** 79.12 329 *e*P P 08 54 44.6 +0.6
WET pmax pmax
comp=Z,9.0nm,0.9s
WET **Wettzell** 79.12 329 *e*P P 08 54 44.6 +0.6
comp=Z,9.0nm,0.9s
R23A **Moffat** 79.13 48 ⇑P P 08 54 45.8 +1.1
baz=79,SNR=27
K30A **Basset** 79.16 41 ⇓P P 08 54 44.8 +0.3
baz=79,SNR=20
L29A **Maesberg Ranch** 79.18 42 ⇓P P 08 54 44.5 0.0
baz=79,SNR=6.1
OGNE **Ogallala** 79.20 44 *e*P P 08 54 44.9 +0.2
comp=Z,90nm,0.9s
OGNE **Ogallala** 79.20 44 ⇑P P 08 54 44.9 +0.2
baz=79,SNR=16
M28A **Bar X Bar Ranc** 79.22 43 ⇓P P 08 54 45.0 +0.2
baz=79
BUG **Bochum--Univer** 79.25 333 *e*P P 08 54 44.9 +0.3
comp=Z,15nm,0.9s
V20A **Brimhall** 79.30 51 ⇑P P 08 54 46.2 +0.7
baz=79,SNR=16
X18A **Snowflake** 79.30 53 ⇑P P 08 54 46.6 +1.1
baz=79,SNR=17
214A **Organ Pipe Nat** 79.30 57 ⇑P P 08 54 46.1 +0.8
baz=79,SNR=14
GRF **Grafenberg Arr** 79.30 330 *e*P P 08 54 45.6 +0.6
GRF pmax pmax
comp=Z,24nm,0.8s
GRF **Grafenberg Arr** 79.30 330 *e*P P 08 54 45.6 +0.6
comp=Z,24nm,0.8s
GRFO **Grafenberg** 79.30 330 *e*P P 08 54 45.9 +0.9
GRFO pmax pmax
comp=Z,33nm,0.9s
GRFO **Grafenberg** 79.30 330 *e*P P 08 54 45.9 +0.9
comp=Z,33nm,0.9s
U21A **Nageezi** 79.33 50 ⇓P P 08 54 46.6 +0.9
baz=79,SNR=22
T22A **Edith** 79.36 50 ⇑P P 08 54 47.0 +1.2
baz=79,SNR=32
S23A **Nye Farm, Mont** 79.38 49 ⇓P P 08 54 47.1 +1.2
baz=79,SNR=11
RAYN **Ar Rayn** 79.48 292 *e*P P 08 54 46.4 -0.1
RAYN **Ar Rayn** 79.48 292 P P 08 54 46.1 -0.3
comp=Z,89nm,0.9s,SNR=8.8
Q25A **Bedland, Calha** 79.49 47 ⇑P P 08 54 46.7 +0.2
baz=79,SNR=17
ALN **Alexandroupoli** 79.50 316 P P 08 54 46.3 +0.1
R24A **Sanders Place,** 79.50 48 ⇑P P 08 54 47.5 +1.0
baz=79
P26A **Davis Ranch, A** 79.51 46 ⇓P P 08 54 46.8 +0.3
baz=79,SNR=12
O27A **Beecher Island** 79.52 45 ⇓P P 08 54 46.4 -0.1
baz=79,SNR=9.6
ARSA **Arzberg** 79.58 326 ⇑*i*P P 08 54 46.7 +0.2
comp=Z,6.8nm,0.8s
SDCO **Great Sand Dun** 79.63 48 *e*P P 08 54 48.0 +0.6
comp=Z,17nm,1.1s
L30A **Spencer Herefo** 79.65 42 ⇑P P 08 54 46.7 -0.4
baz=79
N28A **Pribbeno Ranch** 79.65 44 ⇑P P 08 54 47.0 -0.2
baz=79
VTS **Vitosha** 79.68 319 P P 08 54 47.6 +0.3
VTS **Vitosha** 79.68 319 ⇑P P 08 54 48.1 +0.8
VTS **Vitosha** 79.68 319 ⇑*i*P P 08 54 48.1 +0.8
W20A **Ramah** 79.75 52 ⇑P P 08 54 48.6 +0.7
baz=80,SNR=18
V21A **Milan** 79.78 51 ⇓P P 08 54 48.9 +0.8
baz=80,SNR=16
ECSD **EROS Data Cent** 79.82 39 *e*P P 08 54 47.8 -0.1
comp=Z,39nm,0.8s
U22A **Llaves** 79.83 50 ⇓P P 08 54 49.3 +0.9
baz=80,SNR=12
T23A **Casias Ranch,** 79.83 49 ⇑P P 08 54 49.6 +1.2
baz=80,SNR=15
S24A **Houchin Ranch,** 79.87 48 ⇑P P 08 54 49.3 +0.6
baz=80,SNR=14
TNS **Taunus Mts** 79.87 332 *e*P P 08 54 48.2 +0.1
TNS pmax pmax
comp=Z,4.0nm,0.8s
TNS **Taunus Mts** 79.87 332 *e*P P 08 54 48.2 +0.1
comp=Z,4.0nm,0.8s
M30A **Dale-Ortello V** 79.88 42 ⇓P P 08 54 47.9 -0.4
baz=80
Q26A **Hugo** 79.88 46 ⇓P P 08 54 48.9 +0.4
baz=80,SNR=22
L31A **Butterfield Fa** 79.92 41 ⇓P P 08 54 48.6 +0.1
baz=80
P27A **Ficken Ranch,** 79.92 45 ⇓P P 08 54 48.5 -0.2
baz=80,SNR=7.2
O28A **Kritsinger Ran** 79.94 44 ⇓P P 08 54 48.2 -0.5
baz=80
R25A **Fountain Ranch** 80.02 47 ⇑P P 08 54 49.3 +0.1
baz=80,SNR=22
N29A **Votaw Ranch, W** 80.02 43 ⇑P P 08 54 49.0 -0.2
baz=80,SNR=11
DIVS **Divibare** 80.07 322 P P 08 54 49.2 -0.2
V22A **San Miguel Ran** 80.12 50 ⇑P P 08 54 51.0 +1.0
baz=80,SNR=18
X20A **Quemado** 80.16 52 ⇑P P 08 54 51.6 +1.4
baz=80,SNR=40
T24B **San Luis** 80.18 49 ⇓P P 08 54 51.7 +1.4
baz=80,SNR=24
KAVA **Kavala** 80.21 317 P P 08 54 50.4 +0.4
PERS **Pernice** 80.23 326 *i*P P 08 54 50.1 0.0
SOKA **Soboth** 80.23 326 ⇓*i*P P 08 54 50.3 +0.2
comp=Z,32nm,1.1s,SNR=16
U23A **El Rito** 80.24 50 ⇓P P 08 54 51.7 +1.1
baz=80,SNR=69
W21A **San Fidel** 80.25 51 ⇑P P 08 54 51.7 +1.1
baz=80
S25A **Robets Cordova** 80.28 48 ⇑P P 08 54 50.8 0.0
baz=80,SNR=16
RJOB **Jochberg** 80.29 328 *e*P P 08 54 51.4 +1.0
comp=Z,14nm,0.8s
KSCO **Kaye Shedlock'** 80.29 46 ⇓P P 08 54 50.9 +0.2
baz=80
N30A **Hueftle Ranch,** 80.31 43 ⇑P P 08 54 51.0 +0.3
baz=80
TUC **Tucson** 80.32 55 *e*P P 08 54 51.8 +0.9
TUC pmax pmax
comp=Z,19nm,1.0s
TUC **Tucson** 80.32 55 *e*P P 08 54 51.8 +0.9
comp=Z,19nm,1.0s
BEBN **Eben Emael** 80.33 334 P P 08 54 51.0 +0.6
P28A **Saint Francis** 80.35 45 ⇑P P 08 54 51.0 +0.1
baz=80,SNR=11
R26A **Arlington** 80.36 47 ⇑P P 08 54 51.4 +0.3
baz=80,SNR=8.0
MEM **Membach** 80.38 333 P P 08 54 50.3 -0.5
comp=Z,13nm,1.5s
MEM **Membach** 80.38 333 *e*P P 08 54 51.0 +0.2
MEM **Membach** 80.38 333 *e*P P 08 54 51.0 +0.2
SPMN **St. Paul** 80.41 36 *e*P P 08 54 50.7 -0.4
SPMN **St. Paul** 80.41 36 ⇓P P 08 54 50.5 -0.6
baz=80,SNR=5.8
O29A **4D Ranch, Culb** 80.44 44 ⇑P P 08 54 51.1 -0.3
baz=80,SNR=21
M31A **Lambtecht Ranc** 80.47 42 ⇑P P 08 54 50.7 -0.8
baz=80
FUR **Furstenfeldbru** 80.53 329 *e*P P 08 54 52.0 +0.3
FUR pmax pmax
comp=Z,23nm,0.9s
FUR **Furstenfeldbru** 80.53 329 *e*P P 08 54 52.0 +0.3
comp=Z,23nm,0.9s
KBA **Koelnbreinsper** 80.61 327 ⇑*i*P P 08 54 53.1 +0.8
comp=Z,17nm,0.9s,SNR=8.9
SCHQ **Schefferville** 80.62 17 *e*P P 08 54 52.0 0.0
comp=Z,30nm,1.0s
SCHQ **Schefferville** 80.62 17 P P 08 54 51.3 -0.7
comp=Z,20nm,0.9s,baz=320,slow=5.8,SNR=14
SCHQ LR LR 09 33 32.1
comp=Z,106nm,19.1s,baz=287,slow=38
X21A **Alamocita Cree** 80.64 52 ⇓P P 08 54 54.2 +1.4
baz=80,SNR=44
V23A **Ortiz Mt. (NFS** 80.66 50 ⇑P P 08 54 54.6 +1.8
baz=80,SNR=26
Y20A **Horse Springs,** 80.67 53 ⇓P P 08 54 54.5 +1.5
baz=80,SNR=64
T25A **Trinidad** 80.67 48 ⇑P P 08 54 53.1 +0.2
baz=80,SNR=31
Q28A **Sharon Springs** 80.68 45 ⇑P P 08 54 52.7 -0.1
baz=80,SNR=8.1
U24A **Moreno Valley** 80.70 49 ⇓P P 08 54 54.6 +1.4
baz=80,SNR=11
R27A **Eads** 80.73 46 ⇓P P 08 54 52.9 -0.2
baz=80,SNR=9.5
W22A **Albuquerque** 80.74 51 ⇓P P 08 54 54.2 +0.9
baz=81
P29A **Atwood** 80.76 44 ⇑P P 08 54 52.7 -0.4
baz=80,SNR=6.4
BCLA **Clavier** 80.78 334 P P 08 54 52.6 -0.3
O30A **MW Ranch, Wils** 80.79 43 ⇓P P 08 54 52.6 -0.6
baz=81,SNR=7.4
STU **Stuttgart** 80.81 331 *e*P P 08 54 53.6 +0.5
STU pmax pmax
comp=Z,63nm,1.1s
STU **Stuttgart** 80.81 331 *e*P P 08 54 53.3 +0.2
comp=Z,18nm,0.8s
STU **Stuttgart** 80.81 331 *e*P P 08 54 53.6 +0.5
comp=Z,63nm,1.1s
BGNE **Belgrade** 80.83 41 *e*P P 08 54 53.0 -0.5
BGNE **Belgrade** 80.83 41 ⇓P P 08 54 53.1 -0.3
baz=81,SNR=14
S26A **Kim** 80.84 47 ⇑P P 08 54 53.6 -0.1
baz=81,SNR=9.0
MYKA **Terra Mystica** 80.85 327 ⇓*i*P P 08 54 52.9 -0.5
comp=Z,21nm,1.5s,SNR=6.3
N31A **Bailey Ranch,** 80.87 42 ⇓P P 08 54 53.4 -0.3
baz=81,SNR=6.9
VISS **Visnje** 81.01 326 *i*P P 08 54 54.0 -0.3
Y21A **Point of Rocks** 81.02 52 ⇑P P 08 54 56.2 +1.4
baz=81,SNR=15
LAZ **Ladron** 81.06 52 *e*P P 08 54 56.0 +1.0
comp=Z,9.9nm,1.0s
X22A **Bernardo** 81.06 51 ⇑P P 08 54 56.1 +1.2
baz=81,SNR=14
ANMO **Albuquerque** 81.07 51 *e*P P 08 54 56.1 +1.2
comp=Z,25nm,1.1s
BOJS **Bojanci** 81.08 325 *i*P P 08 54 54.5 -0.1
W23A **Werner Place,** 81.09 50 ⇓P P 08 54 56.3 +1.1
baz=81,SNR=25
Z20A **Nine Sixteen R** 81.09 53 ⇓P P 08 54 56.3 +1.2
baz=81,SNR=76
T26A **Comanche Natio** 81.10 48 ⇓P P 08 54 55.1 0.0
baz=81,SNR=32
WATA **Walderalm** 81.10 329 P P 08 54 55.0 +0.1
comp=Z,13nm,1.0s
WLF **Walferdange** 81.14 333 P P 08 54 52.6 -2.2
P30A **Selden** 81.16 44 ⇑P P 08 54 54.7 -0.5
baz=81,SNR=14
O31A **Woolen Ranch,** 81.18 43 ⇑P P 08 54 54.4 -0.9
baz=81
V24A **Rampart Ranch,** 81.20 50 ⇓P P 08 54 56.9 +1.2
baz=81,SNR=39
U25A **Circle Dot Ran** 81.20 49 ⇑P P 08 54 55.9 +0.3
baz=81,SNR=15
GIVF **Givet** 81.21 334 *e*P P 08 54 54.2 -1.0
GIVF **Givet** 81.21 334 *e*P P 08 54 54.2 -1.0
GIVF **Givet** 81.21 334 *e*P P 08 54 54.2 -1.0
PLG **Polygyros** 81.22 317 P P 08 54 54.6 -0.9
R28A **Tribune** 81.22 46 ⇑P P 08 54 54.7 -0.9
baz=81
N32A **Stulken Farm,** 81.25 42 ⇑P P 08 54 55.1 -0.5
baz=81
Q29A **Oakley** 81.26 45 ⇓P P 08 54 55.5 -0.3
baz=81,SNR=13
JAVS **Javornik** 81.27 326 *i*P P 08 54 54.8 -0.9
DOU **Dourbes** 81.29 334 P P 08 54 55.5 -0.1
RETA **Reutte** 81.29 329 ⇑*i*P P 08 54 56.0 +0.2
comp=Z,36nm,1.2s,SNR=12
LENM **Lemitar** 81.32 52 *e*P P 08 54 57.6 +1.3
Y22D **IRIS PASSCAL I** 81.41 52 ⇑P P 08 54 58.2 +1.4
baz=81
LPM **Los Pinos Moun** 81.42 51 *e*P P 08 54 58.0 +1.1
BAIF **Baives** 81.45 334 *e*P P 08 54 55.4 -1.0
comp=Z,14nm,0.9s
BAIF **Baives** 81.45 334 *e*P P 08 54 55.4 -1.0
BAIF pmax pmax
comp=Z,14nm,0.9s
BAIF **Baives** 81.45 334 *e*P P 08 54 55.4 -1.0
comp=Z,14nm,0.9s
120A **U Bar Ranch, L** 81.47 54 ⇓P P 08 54 58.3 +1.2
baz=81,SNR=26
X23A **Hourglass Bar** 81.48 51 ⇑P P 08 54 58.2 +1.0
baz=81,SNR=15
Y22A **Socorro** 81.48 52 ⇑P P 08 54 58.2 +1.0
baz=81,SNR=6.8
W24A **Lazy 6 Ranch,** 81.48 50 ⇑P P 08 54 58.5 +1.3
baz=81,SNR=57
V25A **Rancho No Teng** 81.49 49 ⇓P P 08 54 58.3 +1.1
baz=81
BFO **Black Forest** 81.50 331 *e*P P 08 54 57.1 +0.3
BFO pmax pmax
comp=Z,6.0nm,0.8s
BFO **Black Forest** 81.50 331 *e*P P 08 54 57.1 +0.3
comp=Z,6.0nm,0.8s
BFO **Black Forest** 81.50 331 P P 08 54 56.8 0.0
comp=Z,84nm,0.9s,SNR=5.1
BFO **Black Forest** 81.50 331 *e*P P 08 54 56.8 0.0
comp=Z,15nm,1.0s
Z21A **St. Cloud Mine** 81.51 53 ⇓P P 08 54 58.7 +1.3
baz=81,SNR=41
R29A **Marienthal** 81.52 45 ⇓P P 08 54 56.6 -0.5
baz=81,SNR=5.5
BNM **Barren Site** 81.53 51 *e*P P 08 54 58.6 +1.1
comp=Z,18nm,0.7s
U26A **Atchley Ranch,** 81.58 48 ⇓P P 08 54 58.3 +0.6
baz=81,SNR=12
Q30A **Quinter** 81.59 44 ⇑P P 08 54 57.1 -0.4
baz=81,SNR=7.0
P31A **Stockton** 81.62 43 ⇑P P 08 54 57.4 -0.3
baz=81
T27A **Campo** 81.66 47 ⇑P P 08 54 57.9 -0.1
baz=82,SNR=7.1
FETA **Feichten** 81.69 329 *i*P P 08 54 58.1 +0.1
comp=Z,18nm,0.9s,SNR=9.6
PHP **Peshkopia** 81.71 320 P P 08 54 57.8 -0.3
S28A **Manter** 81.72 46 ⇓P P 08 54 58.5 +0.2
baz=82,SNR=8.1
DAVA **Damuels** 81.79 329 ⇓*i*P P 08 54 58.6 0.0
comp=Z,33nm,0.9s,SNR=10
CDF **Champ du Feu** 81.81 332 *e*P P 08 54 57.7 -0.8
comp=Z,55nm,1.3s
CDF *e*pP pP 08 55 22.4 -0.6
CDF **Champ du Feu** 81.81 332 *e*P P 08 54 57.7 -0.8
CDF pmax pmax
comp=Z,55nm,1.3s
CDF **Champ du Feu** 81.81 332 *e*P P 08 54 57.7 -0.8
comp=Z,55nm,1.3s
CDF *e*pP pP 08 55 22.4 -0.6
319A **Douglas** 81.89 55 ⇓P P 08 55 00.1 +0.9
baz=82,SNR=28
LIT **Litokhoron** 81.90 318 P P 08 54 58.1 -1.0
X24A **Lazy VL Ranch,** 81.93 50 ⇓P P 08 55 01.0 +1.4
baz=82,SNR=8.7
P32A **Huiting Farm,** 81.95 43 ⇓P P 08 54 58.6 -0.7
baz=82,SNR=12
T28A **Walsh** 81.95 47 ⇓P P 08 54 59.2 -0.3
baz=82
Z22A **Elephant Butte** 81.97 52 ⇓P P 08 55 00.5 +0.8
baz=82,SNR=28
220A **Playas Peak, P** 81.98 54 ⇓P P 08 55 00.5 +0.7
baz=82,SNR=32
121A **Cookes Peak, D** 81.98 53 ⇑P P 08 55 01.0 +1.1
baz=82,SNR=26
V26A **Tequesquite Ra** 81.98 49 ⇑P P 08 55 00.1 +0.3
baz=82,SNR=20
FELD **Feldberg im Sc** 82.00 331 *e*P P 08 54 59.6 0.0
Q31A **Ellis** 82.00 44 ⇑P P 08 54 59.0 -0.6
baz=82
ECH **Echery** 82.02 332 *e*P P 08 54 59.1 -0.4
ECH pmax pmax
comp=Z,20nm,1.2s
ECH **Echery** 82.02 332 *e*P P 08 54 59.4 -0.1
ECH **Echery** 82.02 332 *e*P P 08 54 59.1 -0.4
comp=Z,20nm,1.2s
W25A **X Bar L Ranch,** 82.02 49 ⇑P P 08 55 00.9 +1.0
baz=82,SNR=26
Y23A **Lovelace Mesa,** 82.02 51 ⇑P P 08 55 01.0 +0.9
baz=82,SNR=48
U27A **Thompson Grove** 82.07 48 ⇑P P 08 54 59.9 -0.3
baz=82,SNR=13
R30A **Dighton** 82.08 45 ⇓P P 08 54 59.7 -0.4
baz=82,SNR=5.6
XOR **Xorichti** 82.10 317 P P 08 54 58.3 -1.8
S29A **Ulysses** 82.12 46 ⇑P P 08 55 00.6 +0.2
baz=82,SNR=6.8
FUORN **Ofenpass-Fuorn** 82.20 329 *e*P P 08 55 01.3 +0.5
comp=Z,34nm,0.8s
PAGF **Fort de Pagny** 82.23 333 *e*P P 08 55 00.1 -0.5
comp=Z,11nm,0.9s
PAGF **Fort de Pagny** 82.23 333 *e*P P 08 55 00.1 -0.5
comp=Z,11nm,0.9s
122A **Conniff Cattle** 82.34 53 ⇓P P 08 55 02.8 +1.2
baz=82,SNR=7.6
EIL **Elat** 82.35 303 P P 08 55 02.2 +0.6
baz=82,SNR=3.6
EIL **Elat** 82.35 303 LR LR 09 34 10.6
comp=Z,63nm,19.5s,baz=92,slow=37
221A **Mesquite Ranch** 82.36 54 ⇑P P 08 55 02.3 +0.6
baz=82
T29A **Hugoton** 82.37 46 ⇑P P 08 55 01.6 0.0
baz=82
320A **Kipp Ranch, An** 82.37 55 ⇑P P 08 55 03.0 +1.2
baz=82,SNR=15
Y24A **Capitan** 82.39 51 ⇑P P 08 55 02.7 +0.8
baz=82,SNR=13
Z23A **Rita Site, Whi** 82.39 52 ⇑P P 08 55 02.8 +0.9
baz=82,SNR=17
X25A **Clemmons Ranch** 82.40 50 ⇑P P 08 55 03.2 +1.2
baz=82,SNR=37
U28A **Mallet** 82.43 47 ⇓P P 08 55 01.9 -0.2
baz=82
S30A **Montezuma** 82.45 45 ⇓P P 08 55 01.9 -0.1
baz=82,SNR=23
HINF **Hinteralfeld** 82.46 331 *e*P P 08 55 00.6 -1.3
HINF **Hinteralfeld** 82.46 331 *e*P P 08 55 00.6 -1.3
HINF **Hinteralfeld** 82.46 331 *e*P P 08 55 00.6 -1.3
R31A **Burdett** 82.47 44 ⇓P P 08 55 01.3 -0.7
baz=82,SNR=9.6
ERET **Eretria** 82.47 316 P P 08 54 59.7 -2.4
HAU **Haudompre** 82.48 332 *e*P P 08 55 00.9 -1.1
HAU *e*R
comp=Z,116nm,21.5s
HAU **Haudompre** 82.48 332 *e*P P 08 55 00.9 -1.1
HAU **Haudompre** 82.48 332 *e*P P 08 55 00.9 -1.1
MEZF **Maizieres J'vi** 82.51 333 *e*P P 08 55 01.5 -0.5
MEZF **Maizieres J'vi** 82.51 333 *e*P P 08 55 01.5 -0.5
W26A **Owens Ranch, T** 82.51 49 ⇓P P 08 55 03.2 +0.7
baz=82,SNR=6.0
V27A **Dan Oppiter Fa** 82.54 48 ⇑P P 08 55 02.7 +0.1
baz=82,SNR=8.8
P33A **Williams Farm,** 82.55 43 ⇑P P 08 55 01.1 -1.4
baz=82
222A **Williams Famil** 82.70 53 ⇑P P 08 55 04.3 +0.8
baz=82,SNR=8.3
LKR **Lokris** 82.74 316 P P 08 55 02.4 -1.0
SFTF **Sexfontaines** 82.77 333 *e*P P 08 55 02.6 -0.8
comp=Z,63nm,1.2s
SFTF **Sexfontaines** 82.77 333 *e*P P 08 55 02.6 -0.8
comp=Z,63nm,1.2s
SCIA **State Center** 82.82 38 *e*P P 08 54 59.6 -4.2
comp=Z,70nm,0.9s
Y25A **Mesa, Roswell** 82.82 50 ⇑P P 08 55 04.6 +0.5
baz=83,SNR=21
123A **Bell Site, Whi** 82.82 52 ⇑P P 08 55 05.2 +1.1
baz=83,SNR=11
Z24A **Sheeppen Canyo** 82.85 51 ⇑P P 08 55 05.2 +0.8
baz=83,SNR=13
T30A **Plains** 82.86 46 ⇑P P 08 55 03.9 -0.2
baz=83
LOMF **Lomont** 82.87 331 *e*P P 08 55 04.2 +0.2
X26A **CR and CF Fran** 82.87 49 ⇓P P 08 55 05.3 +1.0
baz=83,SNR=20
V28A **Channing** 82.89 48 ⇓P P 08 55 04.4 0.0
baz=83
U29A **Oasis Ranch, S** 82.90 47 ⇓P P 08 55 04.1 -0.3

baz=83
W27A **Bowe Ranch, En** 82.92 49 ⇑P P P 08 55 05.2 +0.6
baz=83,SNR=11
S31A **Mullinville** 82.99 45 ⇑P P P 08 55 04.2 -0.6
baz=83,SNR=7.3
223A **Chaparral, Ant** 83.17 53 ⇓P P P 08 55 06.9 +0.9
baz=83
U30A **WK&E Inc. Balk** 83.17 46 ⇓P P P 08 55 05.9 +0.1
baz=83,SNR=9.2
V29A **Stinnett** 83.19 47 ⇓P P P 08 55 05.8 -0.1
baz=83
X27A **F and S Farms,** 83.20 49 ⇓P P P 08 55 06.9 +0.8
baz=83
124A **Stringfield Ra** 83.25 52 ⇑P P P 08 55 07.2 +0.8
baz=83,SNR=19
W28A **Vega** 83.26 48 ⇑P P P 08 55 07.0 +0.7
baz=83
Z25A **Roswell** 83.27 51 ⇓P P P 08 55 07.4 +1.0
baz=83,SNR=28
T31A **Randall Ranch,** 83.28 45 ⇓P P P 08 55 06.2 -0.1
baz=83,SNR=15
Y26A **Elida** 83.32 50 ⇓P P P 08 55 07.7 +1.0
baz=83,SNR=10
KSU1 **Kansas State U** 83.35 42 eP P P 08 55 06.0 -0.5
comp=Z,38nm,0.7s
JFWS **Jewell Farm** 83.36 36 eP P P 08 55 05.9 -0.7
JFWS pmax pmax
comp=Z,23nm,1.0s
JFWS **Jewell Farm** 83.36 36 eP P P 08 55 05.9 -0.7
comp=Z,22nm,1.0s
SENIN **Lac Senin/Sane** 83.53 330 eP P P 08 55 07.8 +0.2
KEK **Kerkira** 83.53 319 P P P 08 55 06.8 -0.7
GUR **Goura** 83.61 316 P P P 08 55 06.5 -1.6
KLV **Kalavryta, Ach** 83.63 317 P P P 08 55 06.8 -1.3
224A **Cornudas Mount** 83.66 52 ⇓P P P 08 55 09.3 +0.9
baz=84,SNR=32
W29A **Amraillo** 83.67 48 ⇓P P P 08 55 08.6 +0.2
baz=84
Z26A **Caprock** 83.70 50 ⇓P P P 08 55 09.3 +0.6
baz=84,SNR=66
PDO **Prodromos** 83.70 318 P P P 08 55 07.0 -1.4
V30A **Spur Ranch, Mi** 83.72 47 ⇓P P P 08 55 08.5 -0.1
baz=84
Y27A **Causey** 83.72 50 ⇑P P P 08 55 09.2 +0.5
baz=84,SNR=22
U31A **Nine Bar Ranch** 83.73 46 ⇑P P P 08 55 09.1 +0.5
baz=84,SNR=16
125A **Gardner Draw,** 83.75 51 ⇑P P P 08 55 09.7 +0.8
baz=84,SNR=33
CABF **La Chapelle** 83.76 331 eP P P 08 55 07.9 -0.8
CABF **La Chapelle** 83.76 331 eP P P 08 55 07.9 -0.8
CABF **La Chapelle** 83.76 331 eP P P 08 55 07.9 -0.8
X28A **Dimmitt** 83.81 49 ⇑P P P 08 55 09.2 +0.1
baz=84,SNR=5.7
MSTX **Muleshoe** 83.88 49 eP P P 08 55 09.9 +0.3
MSTX **Muleshoe** 83.88 49 ⇓P P P 08 55 09.5 0.0
baz=84,SNR=9.5
DRO **Drossia** 83.93 317 P P P 08 55 09.3 -0.3
LOR **Lormes** 83.98 333 eP P P 08 55 08.7 -0.9
comp=Z,49nm,1.0s
LOR epP pP 08 55 33.4 -0.8
LOR eR
comp=Z,119nm,21.2s
LOR **Lormes** 83.98 333 eP P P 08 55 08.7 -0.9
comp=Z,49nm,1.0s
LOR epP pP 08 55 33.4 -0.8
MNTX **Cornudas Mount** 84.01 52 eP P P 08 55 10.7 +0.6
comp=Z,24nm,1.1s
LAST **Lasithi** 84.02 313 P P P 08 55 10.2 +0.1
225A **Deer Hill, Car** 84.05 52 ⇓P P P 08 55 11.1 +0.6
baz=84,SNR=13
FLN **La Foliniere** 84.06 336 eP P P 08 55 08.9 -1.1
comp=Z,37nm,1.0s
FLN epP pP 08 55 33.6 -0.9
FLN eR
comp=Z,127nm,22.0s
FLN **La Foliniere** 84.06 336 eP P P 08 55 08.9 -1.1
FLN pmax pmax
comp=Z,37nm,1.0s
FLN **La Foliniere** 84.06 336 eP P P 08 55 08.9 -1.1
comp=Z,37nm,1.0s
FLN epP pP 08 55 33.6 -0.9
LDF **La Druitiere** 84.10 336 eP P P 08 55 09.1 -1.1
comp=Z,34nm,0.9s
LDF **La Druitiere** 84.10 336 eP P P 08 55 09.1 -1.1
LDF pmax pmax
comp=Z,34nm,0.9s
LDF **La Druitiere** 84.10 336 eP P P 08 55 09.1 -1.1
comp=Z,34nm,0.9s
Z27A **Tatum** 84.11 50 ⇓P P P 08 55 11.2 +0.5
baz=84,SNR=80
126A **Clayton Basin,** 84.13 51 ⇓P P P 08 55 11.1 +0.3
baz=84,SNR=15
324A **Moseley Ranch,** 84.13 53 ⇓P P P 08 55 11.3 +0.4
baz=84,SNR=20
X29A **Tulia** 84.14 48 ⇑P P P 08 55 11.3 +0.5
baz=84,SNR=14
V31A **Spring Creek L** 84.17 46 ⇑P P P 08 55 11.8 +0.9
baz=84
W30A **Crocket Farms** 84.22 47 ⇓P P P 08 55 11.8 +0.6
baz=84
Y28A **McKinney Farm,** 84.22 49 ⇑P P P 08 55 11.6 +0.4
baz=84,SNR=10
GDL2 **Guadalupe Moun** 84.25 51 eP P P 08 55 12.4 +1.0
KFL **Anninata** 84.28 317 P P P 08 55 11.1 -0.2
SSF **Saint Saulge** 84.28 333 eP P P 08 55 10.3 -0.8
comp=Z,22nm,0.9s
SSF epP pP 08 55 35.0 -0.7
SSF **Saint Saulge** 84.28 333 eP P P 08 55 10.3 -0.8
SSF pmax pmax
comp=Z,22nm,0.9s
SSF **Saint Saulge** 84.28 333 eP P P 08 55 10.3 -0.8
comp=Z,22nm,0.9s
SSF epP pP 08 55 35.0 -0.7
VLS **Valsamata** 84.32 318 P P P 08 55 10.9 -0.7
ITM **Ithomi** 84.40 316 P P P 08 55 11.0 -1.0
226B **Tecolote Peak,** 84.45 51 ⇑P P P 08 55 13.0 +0.6
baz=84,SNR=36
LPL **La Plagne** 84.46 330 eP P P 08 55 12.0 -0.4
comp=Z,49nm,1.0s
LPL epP pP 08 55 36.6 -0.4
LPL **La Plagne** 84.46 330 eP P P 08 55 12.0 -0.4
LPL pmax pmax
comp=Z,49nm,1.0s
LPL **La Plagne** 84.46 330 eP P P 08 55 12.0 -0.4
comp=Z,49nm,1.0s
LPL epP pP 08 55 36.6 -0.4
LPG **La Plagne** 84.47 330 eP P P 08 55 12.2 -0.3
comp=Z,58nm,1.0s
LPG **La Plagne** 84.47 330 eP P P 08 55 12.2 -0.3
LPG pmax pmax
comp=Z,58nm,1.0s
LPG **La Plagne** 84.47 330 eP P P 08 55 12.2 -0.3
comp=Z,58nm,1.0s
127A **Arkansas Junct** 84.49 51 ⇑P P P 08 55 12.8 +0.1
baz=84,SNR=7.4
325A **Bean Ranch, Si** 84.49 52 ⇑P P P 08 55 13.1 +0.3
baz=84,SNR=21
SIVA **Sivas** 84.49 313 P P P 08 55 12.2 -0.2
GRR **Gorron** 84.50 336 eP P P 08 55 11.5 -0.7
comp=Z,54nm,1.0s
GRR epP pP 08 55 36.3 -0.5
GRR **Gorron** 84.50 336 eP P P 08 55 11.5 -0.7
GRR pmax pmax
comp=Z,54nm,1.0s
GRR **Gorron** 84.50 336 eP P P 08 55 11.5 -0.7
comp=Z,54nm,1.0s
GRR epP pP 08 55 36.3 -0.5
SMF **Signal de Mont** 84.52 333 eP P P 08 55 11.7 -0.7
comp=Z,48nm,1.0s
SMF **Signal de Mont** 84.52 333 eP P P 08 55 11.7 -0.7
SMF pmax pmax
comp=Z,49nm,1.0s
SMF **Signal de Mont** 84.52 333 eP P P 08 55 11.7 -0.7
comp=Z,48nm,1.0s
W31A **Holland Ranch,** 84.56 47 ⇑P P P 08 55 13.1 +0.3
baz=84,SNR=20
AVF **Avril sur Loir** 84.56 333 eP P P 08 55 12.0 -0.6
comp=Z,53nm,0.9s
AVF epP pP 08 55 36.6 -0.6
AVF **Avril sur Loir** 84.56 333 eP P P 08 55 12.0 -0.6
AVF pmax pmax
comp=Z,53nm,0.9s
AVF **Avril sur Loir** 84.56 333 eP P P 08 55 12.0 -0.6
comp=Z,53nm,0.9s
AVF epP pP 08 55 36.6 -0.6

Y29A **Porterfield Fa** 84.58 49 ⇓P P P 08 55 13.3 +0.3
baz=84,SNR=6.0
X30A **Coker Ranch, T** 84.60 48 ⇑P P P 08 55 13.1 0.0
baz=84,SNR=7.9
Z28A **Tucker Farm, M** 84.60 49 ⇓P P P 08 55 13.3 +0.1
baz=84,SNR=20
KARN **Karanos** 84.69 314 P P P 08 55 13.0 -0.5
PYL **PYLOS** 84.71 316 P P P 08 55 12.2 -1.3
BNI **Bardonecchia** 84.88 330 eP P P 08 55 14.3 -0.1
BNI pmax pmax
comp=Z,22nm,1.1s
BNI **Bardonecchia** 84.88 330 eP P P 08 55 14.2 -0.1
comp=Z,22nm,1.1s
425A **Indio Mountain** 84.90 53 ⇓P P P 08 55 15.3 +0.5
baz=85,SNR=21
X31A **McDonald Ranch** 84.95 47 ⇓P P P 08 55 15.1 +0.3
baz=85,SNR=23
Y30A **Stafford Cattl** 85.00 48 ⇑P P P 08 55 15.4 +0.3
baz=85,SNR=12
Z29A **Hungry Hill Ra** 85.01 49 ⇓P P P 08 55 15.8 +0.6
baz=85,SNR=76
227A **Bennet, Jal** 85.01 51 ⇑P P P 08 55 15.8 +0.6
baz=85,SNR=5.4
GVD **Gavdhos** 85.02 313 eP P P 08 55 14.8 -0.2
comp=Z,67nm,0.9s
128A **Castleberry Fa** 85.03 50 ⇑P P P 08 55 15.6 +0.3
baz=85,SNR=34
326A **Caldwell Ranch** 85.11 52 ⇓P P P 08 55 16.2 +0.4
baz=85,SNR=37
MBDF **Montbardon** 85.12 330 eP P P 08 55 14.5 -1.1
comp=Z,33nm,0.9s
MBDF **Montbardon** 85.12 330 eP P P 08 55 14.5 -1.1
MBDF pmax pmax
comp=Z,33nm,0.9s
MBDF **Montbardon** 85.12 330 eP P P 08 55 14.5 -1.1
comp=Z,33nm,0.9s
SGMF **Saint Gilles** 85.12 337 eP P P 08 55 14.9 -0.5
comp=Z,51nm,1.1s
SGMF **Saint Gilles** 85.12 337 eP P P 08 55 14.9 -0.5
SGMF pmax pmax
comp=Z,51nm,1.1s
SGMF **Saint Gilles** 85.12 337 eP P P 08 55 14.9 -0.5
comp=Z,51nm,1.1s
PLDF **La Plantade** 85.19 332 eP P P 08 55 16.9 +1.1
ROSF **Rostrenen** 85.26 338 eP P P 08 55 15.7 -0.3
comp=Z,75nm,1.1s
ROSF **Rostrenen** 85.26 338 eP P P 08 55 15.7 -0.3
ROSF pmax pmax
comp=Z,75nm,1.1s
ROSF **Rostrenen** 85.26 338 eP P P 08 55 15.7 -0.3
comp=Z,75nm,1.1s
AGO **Saint Agoulin** 85.28 333 eP P P 08 55 17.4 +1.2
ORIF **Oris-en-Rattie** 85.29 331 eP P P 08 55 15.8 -0.6
comp=Z,28nm,0.8s
ORIF eR
comp=Z,67nm,19.5s
ORIF **Oris-en-Rattie** 85.29 331 eP P P 08 55 15.8 -0.6
ORIF pmax pmax
comp=Z,29nm,0.8s
ORIF **Oris-en-Rattie** 85.29 331 eP P P 08 55 15.8 -0.6
comp=Z,28nm,0.8s
Y31A **Rekieta Farm,** 85.30 48 ⇑P P P 08 55 16.5 -0.1
baz=85,SNR=6.7
Z30A **Sanderson Ranc** 85.31 49 ⇓P P P 08 55 17.0 +0.3
baz=85,SNR=16
228A **UT Block 9, Go** 85.34 50 ⇑P P P 08 55 17.4 +0.5
baz=85,SNR=14
327A **Balmorhea Ranc** 85.36 51 ⇑P P P 08 55 17.8 +0.8
baz=85,SNR=6.6
129A **Stewart Farms,** 85.38 50 ⇑P P P 08 55 17.1 0.0
baz=85,SNR=6.9
TCF **Toulx Ste Croi** 85.39 333 eP P P 08 55 16.3 -0.5
comp=Z,40nm,1.2s
TCF **Toulx Ste Croi** 85.39 333 eP P P 08 55 16.3 -0.5
TCF pmax pmax
comp=Z,40nm,1.2s
TCF **Toulx Ste Croi** 85.39 333 eP P P 08 55 16.3 -0.5
comp=Z,40nm,1.2s
SSB **Saint Sauveur** 85.46 332 eP P P 08 55 17.2 0.0
SSB pmax pmax
comp=Z,5.0nm,0.7s
SSB **Saint Sauveur** 85.46 332 eP P P 08 55 17.2 0.0
comp=Z,4.6nm,0.7s
BST **Brest** 85.51 338 eP P P 08 55 16.9 -0.4
WMOK **Wichita Mounta** 85.52 46 eP P P 08 55 17.6 -0.1
WMOK pmax pmax
comp=Z,21nm,0.8s
WMOK **Wichita Mounta** 85.52 46 eP P P 08 55 17.6 -0.1
comp=Z,21nm,0.8s
TOUF **Mont Tournerai** 85.54 329 eP P P 08 55 17.6 -0.2
426A **McDonald Obser** 85.55 52 ⇑P P P 08 55 17.9 -0.2
baz=85
PYM **Petit Puy Mans** 85.59 333 eP P P 08 55 19.2 +1.4
SBF **Sospel** 85.60 329 eP P P 08 55 16.5 -1.4
comp=Z,69nm,0.9s
SBF **Sospel** 85.60 329 eP P P 08 55 16.5 -1.4
SBF pmax pmax
comp=Z,69nm,0.9s
SBF **Sospel** 85.60 329 eP P P 08 55 16.5 -1.4
comp=Z,69nm,0.9s
QUIF **Quistinic** 85.61 337 eP P P 08 55 17.1 -0.6
comp=Z,30nm,0.9s
QUIF **Quistinic** 85.61 337 eP P P 08 55 17.1 -0.6
QUIF pmax pmax
comp=Z,30nm,0.9s
QUIF **Quistinic** 85.61 337 eP P P 08 55 17.1 -0.6
comp=Z,30nm,0.9s
LUCF **Luceram** 85.61 329 eP P P 08 55 17.4 -0.6
Y32A **R-V Farms, Ver** 85.72 47 ⇑P P P 08 55 18.7 +0.1
baz=86,SNR=6.6
REVF **Revere** 85.73 329 eP P P 08 55 17.8 -0.7
328A **Wristen Ranch,** 85.75 51 ⇓P P P 08 55 19.1 +0.2
baz=86,SNR=29
427A **Hayter Ranch,** 85.79 52 ⇓P P P 08 55 19.7 +0.6
baz=86,SNR=24
Z31A **Sharp Cattle R** 85.84 48 ⇑P P P 08 55 19.3 +0.1
baz=86,SNR=15
MFF **Saint Martin d** 85.88 335 eP P P 08 55 18.9 -0.2
comp=Z,81nm,1.1s
MFF epP pP 08 55 43.7 -0.1
MFF **Saint Martin d** 85.88 335 eP P P 08 55 18.9 -0.2
MFF pmax pmax
comp=Z,81nm,1.1s
MFF **Saint Martin d** 85.88 335 eP P P 08 55 18.9 -0.2
comp=Z,81nm,1.1s
MFF epP pP 08 55 43.7 -0.1
229A **Bryant Ranch,** 85.90 50 ⇑P P P 08 55 20.0 +0.4
baz=86,SNR=14
130A **Snyder** 85.92 49 ⇓P P P 08 55 19.7 +0.1
baz=86,SNR=13
LBL **Lubilhac** 85.96 332 eP P P 08 55 21.0 +1.3
526A **Mary Lane Ranc** 85.96 53 ⇑P P P 08 55 20.7 +0.6
baz=86,SNR=30
329A **Wagon Wheel Ra** 86.15 50 ⇑P P P 08 55 21.6 +0.7
baz=86,SNR=21
527A **Woodward Ranch** 86.18 52 ⇓P P P 08 55 21.3 +0.1
baz=86
131A **Roby** 86.18 49 ⇑P P P 08 55 21.3 +0.3
baz=86,SNR=9.3
SMRF **Simiane la Rot** 86.20 330 eP P P 08 55 20.4 -0.5
SMRF **Simiane la Rot** 86.20 330 eP P P 08 55 20.4 -0.5
PPT2 **Papeete2** 86.21 117 eLR LR 09 22 45.7
comp=Z,120nm,23.8s
PPT2 **Papeete2** 86.21 117 eT T 10 29 35.2
comp=Z,8.4nm,0.3s
Z32A **Haskell** 86.22 48 ⇑P P P 08 55 21.4 +0.3
baz=86,SNR=22
626A **Big Bend Ranch** 86.30 53 ⇑P P P 08 55 21.2 -0.4
baz=86,SNR=16
428A **Kincaid Ranch,** 86.30 51 ⇑P P P 08 55 22.5 +0.8
baz=86,SNR=38
TIAR **Tiarei** 86.34 117 eT T 10 29 37.1
comp=Z,15nm,0.3s
230A **Sterling City** 86.36 50 ⇑P P P 08 55 22.0 +0.2
baz=86,SNR=33
LMR **La Mourre** 86.40 329 eP P P 08 55 20.8 -1.0
comp=Z,43nm,1.0s
LMR **La Mourre** 86.40 329 eP P P 08 55 20.8 -1.0
LMR pmax pmax
comp=Z,43nm,1.0s
LMR **La Mourre** 86.40 329 eP P P 08 55 20.8 -1.0
comp=Z,43nm,1.0s
RJF **Les Rejaudoux** 86.48 333 eP P P 08 55 21.9 -0.3
comp=Z,52nm,1.1s
RJF eR
comp=Z,120nm,22.2s
RJF **Les Rejaudoux** 86.48 333 eP P P 08 55 21.9 -0.3

RJF pmax pmax
comp=Z,52nm,1.1s
RJF **Les Rejaudoux** 86.48 333 eP P P 08 55 21.9 -0.3
comp=Z,52nm,1.1s
CAF **Calviac** 86.63 333 eP P P 08 55 23.1 +0.2
comp=Z,70nm,0.9s
CAF **Calviac** 86.63 333 eP P P 08 55 23.1 +0.2
CAF pmax pmax
comp=Z,71nm,0.9s
CAF **Calviac** 86.63 333 eP P P 08 55 23.1 +0.2
comp=Z,70nm,0.9s
ABTX **Abilene, Hawle** 86.64 48 eP P P 08 55 23.4 +0.3
ABTX e 08 55 53.1
ABTX **Abilene, Hawle** 86.64 48 ⇓P P P 08 55 23.5 +0.3
baz=86,SNR=8.2
528A **Cox Ranch, San** 86.66 52 ⇑P P P 08 55 24.1 +0.7
baz=86,SNR=20
330A **Mertzon** 86.68 50 ⇑P P P 08 55 23.0 -0.4
baz=86,SNR=14
TXAR **Lajitas Array** 86.74 53 P P P 08 55 24.3 +0.5
TXAR pP pP 08 55 49.1 +0.6
TXAR **Lajitas Array** 86.74 53 P P P 08 55 24.3 +0.5
comp=Z,14nm,0.8s,baz=292,slow=3.8,SNR=150
TXAR pP pP 08 55 49.1 +0.6
comp=Z,6.4nm,0.8s,baz=297,slow=3.4,SNR=4.5
LASF **Ste Croix** 86.75 331 eP P P 08 55 23.1 -0.4
comp=Z,38nm,1.2s
LASF **Ste Croix** 86.75 331 eP P P 08 55 23.1 -0.4
comp=Z,38nm,1.2s
231A **Bronte** 86.77 49 ⇑P P P 08 55 23.8 -0.1
baz=87,SNR=18
SFIN **Scholer Farm** 86.79 35 eP P P 08 55 23.7 0.0
SFIN **Scholer Farm** 86.79 35 ⇑P P P 08 55 23.8 0.0
baz=86
SLM **Saint Louis** 86.80 38 eP P P 08 55 24.0 +0.2
SLM pmax pmax
comp=Z,49nm,0.8s
SLM **Saint Louis** 86.80 38 eP P P 08 55 24.0 +0.2
comp=Z,49nm,0.8s
627A **Terlingua Ranc** 86.82 53 ⇓P P P 08 55 24.3 +0.1
baz=87,SNR=15
429A **Davenport Ranc** 86.84 51 ⇑P P P 08 55 24.2 -0.1
baz=87,SNR=9.0
529A **Stev Forest Ra** 87.02 52 ⇓P P P 08 55 25.3 +0.2
baz=87,SNR=12
LFF **La Frestale** 87.06 334 eP P P 08 55 25.1 +0.1
comp=Z,127nm,1.3s
LFF epP pP 08 55 50.0 +0.3
LFF **La Frestale** 87.06 334 eP P P 08 55 25.1 +0.1
LFF pmax pmax
comp=Z,127nm,1.3s
LFF **La Frestale** 87.06 334 eP P P 08 55 25.1 +0.1
comp=Z,127nm,1.3s
LFF epP pP 08 55 50.0 +0.3
628A **Black Gap, Mar** 87.09 52 ⇑P P P 08 55 25.6 +0.1
baz=87,SNR=7.3
430A **Baggett Ranch,** 87.10 50 ⇑P P P 08 55 25.3 -0.2
baz=87,SNR=13
331A **San Angelo** 87.18 50 ⇓P P P 08 55 25.5 -0.3
baz=87,SNR=12
232A **Coleman** 87.19 49 ⇓P P P 08 55 25.9 +0.1
baz=87,SNR=16
MEH **Mehetia** 87.42 117 eT T 10 31 00.5
comp=Z,81nm,0.3s
332A **Millersview** 87.51 49 ⇑P P P 08 55 27.5 +0.1
baz=87,SNR=18
530A **J-C Ranch, Com** 87.51 51 ⇑P P P 08 55 27.8 +0.3
baz=87,SNR=8.8
431A **Sonora** 87.54 50 ⇓P P P 08 55 27.3 -0.3
baz=87,SNR=11
OLIL **Olney** 87.70 37 eP P P 08 55 28.8 +0.7
comp=Z,46nm,0.8s
432A **Menard** 87.86 49 ⇓P P P 08 55 29.1 -0.1
baz=88,SNR=9.0
LONY **Lake Ozonia** 87.89 25 eP P P 08 55 28.3 -0.7
comp=Z,17nm,1.1s
531A **Rocksprings** 87.96 50 ⇓P P P 08 55 29.8 +0.2
baz=88,SNR=6.1
MTLF **Montolieu** 87.97 332 eP P P 08 55 29.2 -0.1
comp=Z,15nm,1.0s
MTLF **Montolieu** 87.97 332 eP P P 08 55 29.2 -0.1
MTLF pmax pmax
comp=Z,15nm,1.0s
MTLF **Montolieu** 87.97 332 eP P P 08 55 29.2 -0.1
comp=Z,15nm,1.0s
SIUC **Southern Illin** 88.01 38 eP P P 08 55 30.2 +0.5
comp=Z,112nm,0.8s
SIUC e 08 55 57.1
BLO **Bloomington** 88.04 36 eP P P 08 55 29.7 -0.1
BLO pmax pmax
comp=Z,20nm,0.8s
BLO **Bloomington** 88.04 36 eP P P 08 55 29.6 -0.1
comp=Z,20nm,0.8s
JCT **Junction City** 88.15 50 eP P P 08 55 30.6 +0.1
JCT pmax pmax
comp=Z,36nm,1.3s
JCT **Junction City** 88.15 50 eP P P 08 55 30.6 +0.1
comp=Z,36nm,1.3s
JCT **Junction City** 88.15 50 ⇑P P P 08 55 30.6 +0.1
baz=88,SNR=11
WHTX **Lake Whitney** 88.33 47 ⇑P P P 08 55 31.6 +0.3
baz=88,SNR=5.3
532A **Rocksprings** 88.36 50 ⇓P P P 08 55 31.5 +0.1
baz=88,SNR=11
MIAR **Mount Ida** 88.41 43 eP P P 08 55 32.0 +0.4
MIAR pmax pmax
comp=Z,19nm,0.5s
MIAR **Mount Ida** 88.41 43 eP P P 08 55 32.0 +0.4
comp=Z,19nm,0.5s
MIAR e 08 55 58.4
631A **Perdido Creek** 88.50 51 ⇑P P P 08 55 32.1 0.0
baz=88,SNR=14
USIN **University of** 88.52 37 eP P P 08 55 32.3 +0.3
comp=Z,32nm,1.1s
USIN e 08 56 02.4
PARMO **Parma** 88.61 39 eP P P 08 55 33.2 +0.8
PARMO e 08 56 00.4
ACSO **Alum Creek Sta** 88.65 33 eP P P 08 55 32.7 +0.1
comp=Z,112nm,1.1s
ACSO e 08 55 57.9
632A **Uvalde** 88.89 50 ⇑P P P 08 55 33.8 -0.1
baz=89
EPF **Esparros** 88.89 333 eP P P 08 55 32.9 -0.9
comp=Z,18nm,1.1s
EPF **Esparros** 88.89 333 eP P P 08 55 32.9 -0.9
EPF pmax pmax
comp=Z,18nm,1.1s
EPF **Esparros** 88.89 333 eP P P 08 55 32.9 -0.9
comp=Z,18nm,1.1s
WCI **Wyandotte Cave** 88.92 36 eP P P 08 55 34.0 +0.1
WCI pmax pmax
comp=Z,27nm,0.8s
WCI **Wyandotte Cave** 88.92 36 eP P P 08 55 34.0 +0.1
comp=Z,27nm,0.8s
WCI e 08 56 01.2
HBAR **Harrisburg** 89.07 41 eP P P 08 55 35.4 +0.7
ACCN **Adirondack Com** 89.28 25 eP P P 08 55 35.2 -0.3
comp=Z,29nm,1.1s
ETSF **Etsaut** 89.31 334 eP P P 08 55 35.9 +0.2
comp=Z,17nm,0.9s
ETSF **Etsaut** 89.31 334 eP P P 08 55 35.9 +0.2
ETSF pmax pmax
comp=Z,17nm,0.9s
ETSF **Etsaut** 89.31 334 eP P P 08 55 35.9 +0.2
comp=Z,17nm,0.9s
732A **Laxson Ranch,** 89.36 51 ⇓P P P 08 55 36.4 +0.3
baz=89,SNR=10
HNH **Hanover** 89.43 24 eP P P 08 55 37.0 +0.8
comp=Z,19nm,0.8s
BINY **Binghamton** 89.57 27 eP P P 08 55 37.0 +0.1
comp=Z,20nm,1.0s
TRY **Troy** 89.87 26 eP P P 08 55 38.3 0.0
comp=Z,404nm,1.8s
WVT **Waverly** 89.95 38 eP P P 08 55 38.8 +0.1
WVT pmax pmax
comp=Z,11nm,0.8s
WVT **Waverly** 89.95 38 eP P P 08 55 38.8 +0.1
comp=Z,11nm,0.8s
WVT e 08 56 04.0
SSPA **Standing Stone** 90.27 29 eP P P 08 55 40.5 +0.3
comp=Z,36nm,0.9s
MCWV **Mont Chateau** 90.38 31 eP P P 08 55 40.9 +0.2
comp=Z,28nm,0.9s
MCWV e 08 56 07.0
SWET **Sewanee** 91.57 38 eP P P 08 55 46.4 0.0
comp=Z,19nm,1.0s
KEST **Kesra** 91.64 323 P P P 08 55 46.3 -0.4

KEST	**Kesra**	**91.64**	**323**	P	**P**	**08 55 46.3**	**-0.4**	
	comp=Z,2.1nm,0.8s,baz=324,slow=1.6,SNR=4.9							
KEST				LR	LR	09 41 30.3		
	comp=Z,47nm,18.2s,baz=333,slow=38							
CPCT	**Cooper Cave**	**92.02**	**37**	*e*P	**P**	**08 55 48.4**	**+0.1**	
CPCT				*e*		08 56 15.3		
TKL	**Tuckaleechee C**	**92.17**	**36**	*e*P	**P**	**08 55 48.9**	**-0.2**	
TKL				*e*		08 56 14.9		
BLA	**Blacksburg**	**92.27**	**33**	*e*P	**P**	**08 55 49.9**	**+0.3**	
BLA				pmax	pmax			
	comp=Z,14nm,0.9s							
BLA	**Blacksburg**	**92.27**	**33**	*e*P	**P**	**08 55 49.9**	**+0.3**	
	comp=Z,14nm,0.9s							
ESDC	**Sonseca Array**	**93.32**	**335**	P	**P**	**08 55 54.1**	**-0.3**	
ESDC				pP	**pP**	**08 56 18.7**	**-0.6**	
ESDC				PP	**PP**	**08 59 37.8**	**-0.6**	
ESDC	**Sonseca Array**	**93.32**	**335**	P	**P**	**08 55 54.1**	**-0.3**	
	comp=Z,1.8nm,0.6s,baz=24,slow=3.5,SNR=13							
ESDC				pP	**pP**	**08 56 18.7**	**-0.6**	
	comp=Z,2.6nm,0.6s,baz=26,slow=4.7,SNR=4.8							
ESDC				PP	**PP**	**08 59 37.8**	**-0.6**	
	comp=Z,1.9nm,0.9s,baz=25,slow=7.9,SNR=6.7							
ESDC				LR	LR	09 39 24.1		
	comp=Z,63nm,19.1s,baz=320,slow=36							
TIGA	**Tifton**	**95.80**	**38**	⇓P	**P**	**08 56 06.2**	**+0.4**	
	baz=96							
TORD	**Torodi Ar. Bea**	**114.38**	**317**	PKP	PKPdf	09 01 18.3	-1.0	
TORD				pPKP	pPKiKP	09 01 43.5	-1.7	
TORD				PP	**PP**	**09 02 12.8**	**-2.8**	
TORD	**Torodi Ar. Bea**	**114.38**	**317**	PKP	PKPdf	09 01 18.3	-0.9	
	comp=Z,1.4nm,0.8s,baz=13,slow=2.2,SNR=7.9							
TORD				pPKP	pPKiKP	09 01 43.5	-1.7	
	comp=Z,1.7nm,0.8s,baz=8.2,slow=1.6,SNR=5.4							
TORD				PP	**PP**	**09 02 12.8**	**-2.8**	
	comp=Z,4.6nm,1.0s,baz=23,slow=7.5,SNR=10							
VNDA	**Vanda**	**119.63**	**175**	PKP	**PKPdf**	**09 01 26.9**	**-0.5**	
VNDA				pPKP	**pPKPdf**	**09 01 53.7**	**+0.4**	
VNDA	**Vanda**	**119.63**	**175**	PKP	**PKPdf**	**09 01 26.9**	**-0.5**	
	comp=Z,0.9nm,0.9s,baz=6.0,slow=1.5,SNR=3.9							
VNDA				pPKP	**pPKPdf**	**09 01 53.7**	**+0.4**	
	comp=Z,1.8nm,1.1s,baz=332,slow=4.1,SNR=4.0							
ROSC	**El Rosal**	**122.87**	**45**	PKP	**PKPdf**	**09 01 36.7**	**+0.6**	
ROSC				pPKP	**pPKPdf**	**09 02 03.5**	**+1.5**	
ROSC	**El Rosal**	**122.87**	**45**	PKP	**PKPdf**	**09 01 36.7**	**+0.6**	
	comp=Z,4.3nm,0.6s,baz=86,slow=22,SNR=3.9							
ROSC				pPKP	**pPKPdf**	**09 02 03.5**	**+1.5**	
	comp=Z,4.8nm,0.5s,baz=276,slow=21,SNR=1.9							
DBIC	**Dimbokro**	**123.19**	**320**	*e*PKPdf	**PKPdf**	**09 01 34.8**	**-1.4**	
DBIC				PKP	**PKPdf**	**09 01 35.4**	**-0.8**	
DBIC				*e*		09 02 01.6		
DBIC				pPKP	**pPKPdf**	**09 02 02.5**	**+0.5**	
DBIC	**Dimbokro**	**123.19**	**320**	PKP	**PKPdf**	**09 01 35.4**	**-0.8**	
	comp=Z,4.5nm,0.7s,baz=242,slow=1.1,SNR=5.3							
DBIC				pPKP	**pPKPdf**	**09 02 02.5**	**+0.5**	
	comp=Z,4.9nm,0.6s,baz=306,slow=3.4,SNR=3.5							
LIC	**Lamto**	**123.66**	**320**	*e*PKIKP	**PKPdf**	**09 01 36.8**	**-0.3**	
	comp=Z,14nm,0.8s							
LIC	**Lamto**	**123.66**	**320**	*e*PKPdf	**PKPdf**	**09 01 36.8**	**-0.3**	
MAW	**Mawson**	**124.06**	**207**	PKP	**PKPdf**	**09 01 34.1**	**-2.0**	
MAW				pPKP	**pPKPdf**	**09 02 03.3**	**+1.3**	
MAW	**Mawson**	**124.06**	**207**	PKP	**PKPdf**	**09 01 34.1**	**-2.0**	
	comp=Z,1.5nm,0.7s,baz=90,slow=5.1,SNR=5.0							
MAW				pPKP	**pPKPdf**	**09 02 03.3**	**+1.3**	
	comp=Z,3.0nm,0.7s,baz=175,slow=0.4,SNR=5.5							
LBTB	**Lobatse**	**125.70**	**267**	*e*PKPdf	**PKPdf**	**09 01 41.1**	**+0.4**	
LBTB				*e*		09 02 07.8		
QSPA	**South Pole Qui**	**131.50**	**180**	*e*P	**PKPdf**	**09 01 50.6**	**+0.2**	
QSPA				*e*		09 02 17.0		
LPAZ	**La Paz**	**143.59**	**55**	PKPpre	PKPpre	09 02 11.6		
LPAZ				*e*PKPdf	PKPbc	09 02 11.9	-0.6	
LPAZ				pPKP	pPKPdf	09 02 41.5	+0.7	
LPAZ	**La Paz**	**143.59**	**55**	PKhKP	PKPpre	09 02 11.6		
	comp=Z,3.7nm,1.0s,baz=28,slow=3.2,SNR=11							
LPAZ				pPKP	pPKPdf	09 02 41.5	+0.7	
	comp=Z,3.2nm,0.7s,baz=2.2,slow=12,SNR=3.7							
SNAA	**Sanae**	**145.44**	**199**	*e*PKPdf	**PKPdf**	**09 02 15.6**	**-0.1**	
SNAA				*e*		09 02 42.0		
H03N2	**Juan Fernandez**	**146.59**	**89**	T	T	11 46 49.0		
	baz=297,slow=0.7,SNR=16							
H03N3	**Juan Fernandez**	**146.60**	**89**	T	T	11 46 49.0		
	baz=297,slow=0.7,SNR=20							
H03N1	**Juan Fernandez**	**146.60**	**89**	T	T	11 46 49.0		
	baz=297,slow=0.7,SNR=22							
LVC	**Limon Verde**	**147.69**	**63**	*e*PKPdf	**PKPbc**	**09 02 22.9**	**-1.2**	
LVC				*e*PKPbc	**PKiKP**	**09 02 25.3**	**-0.8**	
LVC				*e*		09 02 52.7		
LCO	**Las Campanas**	**150.46**	**75**	*e*PKPdf	**PKPdf**	**09 02 27.2**	**+1.6**	
LCO				*e*PKPbc	**PKiKP**	**09 02 31.4**	**-0.3**	
LCO				*e*		09 02 58.6		
BDFB	**Brasilia**	**152.50**	**22**	PKPbc	**PKPbc**	**09 02 36.0**	**+0.2**	
BDFB				PKPab	**PKPab**	**09 02 47.2**	**+0.9**	
BDFB				pPKPbc	**pPKPbc**	**09 03 03.4**	**+1.8**	
BDFB	**Brasilia**	**152.50**	**22**	PKPbc	**PKPbc**	**09 02 36.0**	**+0.2**	
	comp=Z,13nm,0.8s,baz=262,slow=1.1,SNR=17							
BDFB				PKPab	**PKPab**	**09 02 47.2**	**+0.9**	
	comp=Z,31nm,0.8s,baz=325,slow=3.9,SNR=21							
BDFB				pPKPbc	**pPKPbc**	**09 03 03.4**	**+1.8**	
	comp=Z,14nm,0.7s,baz=97,slow=4.5,SNR=4.2							
PLCA	**Paso Flores**	**155.39**	**99**	PKPab	**PKPab**	**09 02 58.0**	**-0.2**	
PLCA				pPKPab	**pPKPab**	**09 03 24.3**	**+1.2**	
PLCA	**Paso Flores**	**155.39**	**99**	PKPab	**PKPab**	**09 02 58.0**	**-0.2**	
	comp=Z,7.2nm,0.8s,baz=270,slow=3.8,SNR=10							
PLCA				pPKPab	**pPKPab**	**09 03 24.3**	**+1.2**	
	comp=Z,6.4nm,0.9s,baz=314,slow=4.0,SNR=4.0							
CPUP	**Villa Florida**	**157.71**	**52**	PKPab	**PKPab**	**09 03 07.0**	**-1.3**	
CPUP	**Villa Florida**	**157.71**	**52**	PKPab	**PKPab**	**09 03 07.0**	**-1.3**	
	comp=Z,5.0nm,0.7s,baz=296,slow=3.8,SNR=8.4							

BJI ***10*** *09:00:54.2, 3°.29N× 122°.79E, h594km, mB5.0/32, mb5.2/55*
IDC ***10*** *09:01:00.9± 0.7, 3°.85N× 122°.45E, h600km± 8km, mb4.4/29, mb1 4.4/29, mb1mx4.4/31, mbtmp4.4/29, Error ellipse: s-maj=8.4km s-min=5.2km az=72.0*
ISCJB ***10*** *09:01:00.2± 0.2, 3°.91N± 0°.02× 122°.42E± 0°.02, h607km± 2km, mb5.1/132, Error ellipse: s-maj=3.7km s-min=2.7km az=158.1*
AUST ***10*** *09:01:00.7± 0.3, 3°.77N× 122°.30E, h592km± 4km, Error ellipse: s-maj=5.1km s-min=3.1km az=40.0*
NEIC ***10*** *09:01:01.2± 0.3, 3°.87N× 122°.39E, h602km± 4km, mb5.1/40, Error ellipse: s-maj=5.8km s-min=3.8km az=62.0*
BKK ***10*** *09:01:01.3± 0.2, 4°.N± 4°× 12°.2E± °, h600km, 4km, M5.0/40, mB5.3/23, mb5.2/40, MLv5.8/6, Mw(mB)4.7/23*
DJA ***10*** *09:01:01.6± 0.2, 4°.N± 4°× 12°.2E± °, h583km, 3km, M5.0/49, mb5.2/49, mB5.5/34, MLv5.8/15, Mw(mB)4.9/34*
MOS ***10*** *09:01:01.0± 0.9, 3°.91N× 122°.43E, h622km, mb5.0/35, Error ellipse: s-maj=12.2km s-min=5.2km az=122.2*

ISC 10 09:01:01.0± 0.3, 3°.86N± 0°.03× 122°.45E± 0°.04, h601km± 2km, h602km: pP-P, n481, σ1°.26/609, mb5.1/130, 33C-41D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res ISC
				Op			h m s	
SGSI	**Sangihe**	**3.08**	**93**	P		**P**	**09 02 18.4**	**-2.3**
TOLI	**Toli-Toli**	**3.18**	**211**	P		**P**	**09 02 20.4**	**-1.0**
TOLI				S		**S**	**09 03 24.7**	**-2.0**
MRSI	**Marisa**	**3.40**	**189**	P		**P**	**09 02 21.7**	**-1.0**
KMSI	**Cibinong**	**3.61**	**155**	P		**P**	**09 02 23.1**	**-0.9**
CTBH	**Cotabato--PC H**	**3.79**	**28**	⇓*i*P		**P**	**09 02 24.6**	**-0.5**
CTBH				*i* S		**S**	**09 03 33.0**	**-0.6**
PAGZ	**Pagadian**	**4.07**	**13**	*e*P		**P**	**09 02 27.1**	**+0.1**
MYLDM	**Lahad Datu**	**4.15**	**289**	P		**P**	**09 02 28.1**	**+0.5**
MYLDM	**Lahad Datu**	**4.15**	**289**	P		**P**	**09 02 27.8**	**+0.2**
DAV	**Davao City (W)**	**4.46**	**44**	P		**P**	**09 02 30.0**	**+0.1**
	SNR=10							
DAV	**Davao City (W)**	**4.46**	**44**	⇓*i*P		**P**	**09 02 29.3**	**-0.5**
DAV	**Davao City (W)**	**4.46**	**44**	P		**P**	**09 02 31.3**	**+1.5**
DAV	**Davao City (W)**	**4.46**	**44**	*e*P		**P**	**09 02 31.5**	**+1.7**
TSM	**Tawau**	**4.58**	**276**	P		**P**	**09 02 30.1**	**-0.7**
BUKP	**Musuan**	**4.76**	**33**	*e*P		**P**	**09 02 31.9**	**-0.2**
MATI	**Mati**	**4.88**	**51**	*e*P		**P**	**09 02 32.5**	**-0.5**
LUWI	**Luwuk**	**4.88**	**176**	P		**P**	**09 02 30.6**	**-2.5**
LUWI				S		**S**	**09 03 45.2**	**-2.9**
LUWI	**Luwuk**	**4.88**	**176**	⇓P		**P**	**09 02 31.0**	**-2.1**
	baz=4.8,SNR=49							
SDKM	**Sandakan**	**5.53**	**289**	P		**P**	**09 02 36.7**	**-1.6**
TNTI	**Ternate**	**5.79**	**122**	P		**P**	**09 02 38.8**	**-1.7**
	5μm,1.1s,46μm14nm							
TNTI	**Ternate**	**5.79**	**122**	*e*P		**P**	**09 02 39.3**	**-1.2**
TBP	**Tagbilaran**	**5.96**	**14**	*e*P		**P**	**09 02 42.0**	**+0.1**
TBP				*i* S		**S**	**09 04 02.8**	**-1.5**
KDM	**Kudat**	**6.36**	**299**	P		**P**	**09 02 44.2**	**-1.2**
SGKI	**Sangatta, Kali**	**6.52**	**228**	P		P	09 02 42.2	-4.6
	1μm,1.1s,14μm4.1nm							
KKM	**Kota Kinabalu**	**6.58**	**289**	P		**P**	**09 02 46.6**	**-0.8**
KKM	**Kota Kinabalu**	**6.58**	**289**	P		**P**	**09 02 46.2**	**-1.2**
	2μm,0.9s,15μm5.5nm							
KKM	**Kota Kinabalu**	**6.58**	**289**	*e*P		**P**	**09 02 46.4**	**-1.1**
KKM	**Kota Kinabalu**	**6.58**	**289**	P		**P**	**09 02 46.4**	**-1.1**
	baz=6.5,SNR=192							
LLP	**Lapu-Lapu**	**6.59**	**13**	⇑*e*P		**P**	**09 02 45.5**	**-1.8**
LLP				*e*S		**S**	**09 04 09.1**	**-5.2**
GUIM	**Jordan**	**6.72**	**1**	*e*P		**P**	**09 02 47.5**	**-1.1**
BATP	**Bataraza**	**6.74**	**317**	*e*P		**P**	**09 02 48.2**	**-0.5**
LBMI	**Labuha**	**6.74**	**131**	P		**P**	**09 02 47.9**	**-0.9**
	2μm,0.7s,18μm8.1nm							
LBMI				S		**S**	**09 04 15.9**	**-1.0**
	2μm,0.7s,18μm8.1nm							
CUYO	**Cuyo Island**	**7.09**	**349**	*e*P		**P**	**09 02 51.6**	**-0.3**
TTSI	**Tana Toraja**	**7.35**	**201**	P		**P**	**09 02 54.6**	**+0.3**
	156nm,1.0s,9μm0.6nm							
BKB	**Balikpapan**	**7.53**	**228**	P		**P**	**09 02 56.3**	**+0.3**
	751nm,0.8s,9μm2.3nm							
ENPP	**El Nido**	**7.89**	**338**	*e*P		**P**	**09 02 58.9**	**-0.5**
SPSI	**Sidrap Palu**	**8.22**	**199**	P		**P**	**09 03 01.5**	**-1.0**
	151nm,0.8s,1μm0.4nm							
NLAI	**Namlea**	**8.45**	**147**	P		**P**	**09 03 05.7**	**+1.0**
	1μm,0.8s,13μm4.2nm							
OTRP	**Odiongan**	**8.46**	**357**	*e*P		**P**	**09 03 04.6**	**-0.1**
SJMP	**San Jose**	**8.64**	**351**	*e*P		**P**	**09 03 07.4**	**+0.8**
KAPI	**Kappang**	**9.22**	**197**	P		**P**	**09 03 12.6**	**+0.4**
	49nm,1.2s							
KAPI	**Kappang**	**9.22**	**197**	*e*P		**P**	**09 03 10.0**	**-2.1**
KAPI				S		**S**	**09 04 56.9**	**-2.8**
KAPI	**Kappang**	**9.22**	**197**	P		**P**	**09 03 09.7**	**-2.4**
	3.7nm,0.3s,baz=0.3,slow=2.0,SNR=11							
KAPI				S		**S**	**09 04 56.9**	**-2.8**
	1.7nm,0.3s,baz=297,slow=22,SNR=6.7							
BTM	**Bintulu**	**9.37**	**266**	P		**P**	**09 03 14.0**	**+0.3**
BKSI	**Bulukumba**	**9.41**	**194**	P		**P**	**09 03 14.7**	**+0.6**
	46nm,0.8s							
AAI	**Ambon**	**9.45**	**142**	P		**P**	**09 03 15.1**	**+0.7**
	320nm,0.9s,4μm							
AAI	**Ambon**	**9.45**	**142**	⇓P		**P**	**09 03 14.8**	**+0.5**
	baz=9.5,SNR=5.3							
MSAI	**Masohi**	**9.65**	**138**	P		**P**	**09 03 17.7**	**+1.2**
	183nm,0.7s,2μm							
SWI	**Sorong**	**9.98**	**118**	P		**P**	**09 03 19.7**	**0.0**
	204nm,1.0s,2μm							
SWI	**Sorong**	**9.98**	**118**	⇓P		**P**	**09 03 20.1**	**+0.5**
	baz=10,SNR=13							
SBUM	**Sibu**	**10.31**	**262**	P		**P**	**09 03 23.4**	**+0.5**
SBUM	**Sibu**	**10.31**	**262**	P		**P**	**09 03 22.9**	**-0.1**
	251nm,1.0s,3μm							
SBUM	**Sibu**	**10.31**	**262**	*e*P		**P**	**09 03 22.8**	**-0.1**
BNDI	**Bandanaira**	**11.17**	**138**	P		**P**	**09 03 32.2**	**+0.7**
	572nm,0.6s,8μm							
BNDI	**Bandanaira**	**11.17**	**138**	P		**P**	**09 03 32.2**	**+0.7**
	baz=11,SNR=7.4							
STKI	**Sintang**	**11.59**	**251**	P		**P**	**09 03 38.6**	**+2.8**
	63nm,0.9s							
FAKI	**Fak Fak**	**11.89**	**124**	P		**P**	**09 03 39.8**	**+1.1**
	295nm,0.8s,3μm							
FAKI	**Fak Fak**	**11.89**	**124**	⇓P		**P**	**09 03 39.1**	**+0.4**
	baz=12,SNR=40							
KSM	**Kuching**	**12.36**	**259**	P		**P**	**09 03 43.2**	**-0.2**
KSM	**Kuching**	**12.36**	**259**	P		**P**	**09 03 43.3**	**-0.1**
	178nm,0.8s,2μm							
KSM	**Kuching**	**12.36**	**259**	*e*P		**P**	**09 03 43.0**	**-0.4**
MMRI	**Maumere**	**12.42**	**181**	P		**P**	**09 03 46.5**	**+2.5**
	178nm,0.8s,2μm							
MMRI	**Maumere**	**12.42**	**181**	*e*P		**P**	**09 03 46.4**	**+2.4**
SOEI	**Soe**	**13.65**	**172**	P		**P**	**09 03 56.4**	**-0.2**
	239nm,0.9s,2μm							
SOEI	**Soe**	**13.65**	**172**	⇑P		**P**	**09 03 56.1**	**-0.5**
	baz=14,SNR=17							
MTNI	**Mataram**	**13.90**	**207**	P		**P**	**09 04 01.5**	**+2.5**
	53nm,1.0s							
TLE	**Tual**	**13.95**	**132**	P		**P**	**09 04 01.4**	**+1.9**
	841nm,0.8s,9μm							
TLE	**Tual**	**13.95**	**132**	P		**P**	**09 04 01.0**	**+1.5**
	baz=14,SNR=30							
BATI	**Baumata**	**14.03**	**175**	P		**P**	**09 03 59.9**	**-0.4**
BATI				S		**S**	**09 06 25.8**	**-1.0**
BATI	**Baumata**	**14.03**	**175**	P		**P**	**09 03 59.9**	**-0.4**
	198nm,0.3s,baz=14,slow=1.7,SNR=115							
BATI				S		**S**	**09 06 25.8**	**-1.0**
	18nm,0.3s,baz=31,slow=23,SNR=20							
BAKI	**Biak**	**14.54**	**110**	P		**P**	**09 04 06.1**	**+1.0**
	550nm,1.4s,6μm							
SAUI	**Saumlaki**	**14.71**	**143**	P		**P**	**09 04 07.6**	**+1.0**
	883nm,1.2s,8μm							
SRPI	**Serui, Papua**	**14.91**	**112**	P		**P**	**09 04 09.4**	**+0.9**
	437nm,1.0s,10μm							
GMJI	**Gumukmas**	**15.03**	**217**	P		**P**	**09 04 10.3**	**+0.8**
	77nm,1.0s							
SJI	**Sawahan**	**15.69**	**223**	P		**P**	**09 04 16.4**	**+0.7**
	59nm,0.7s							
TPI	**Tanjungpandan**	**16.18**	**246**	P		**P**	**09 04 20.4**	**+0.3**
	110nm,1.0s,1μm							
UGM	**Wanagama**	**16.68**	**225**	P		**P**	**09 04 25.0**	**+0.3**
	baz=17,SNR=4.3							
TGJI	**Tegal**	**17.05**	**231**	P		**P**	**09 04 29.4**	**+1.4**
	128nm,1.5s							
PPBI	**Pangkal Pinang**	**17.37**	**250**	P		**P**	**09 04 31.2**	**+0.3**
	113nm,0.7s,5μm							
KPJI	**Karang Pucung**	**17.48**	**231**	P		**P**	**09 04 33.1**	**+1.1**
	67nm,1.1s,2μm							
LEM	**Lembang**	**18.22**	**234**	P		**P**	**09 04 40.2**	**+1.3**
	190nm,1.0s							
CISI	**Cisompet, Garu**	**18.49**	**232**	⇓P		**P**	**09 04 39.6**	**-1.6**
	baz=18,SNR=3.2							
CBJI	**Citeko**	**18.62**	**237**	P		**P**	**09 04 43.7**	**+1.3**
	611nm,1.0s,46μm							
MYKOM	**Kota Tinggi**	**18.69**	**264**	P		**P**	**09 04 43.8**	**+0.8**
MYKOM	**Kota Tinggi**	**18.69**	**264**	P		**P**	**09 04 43.3**	**+0.3**
	224nm,0.9s,2μm							
DBJI	**Dramaga**	**18.78**	**237**	P		**P**	**09 04 44.3**	**+0.5**
	257nm,1.2s							
BTDF	**Bukit Timah Da**	**18.82**	**263**	⇑P		**P**	**09 04 43.1**	**-1.1**
	baz=19,SNR=6.3							
BTDF				⇑P		**P**	**09 04 43.1**	**-1.1**
	baz=19,SNR=6.3							
SBJI	**Serang**	**19.07**	**239**	P		**P**	**09 04 47.8**	**+1.3**
	254nm,1.5s							
KGM	**Kluang**	**19.19**	**265**	P		**P**	**09 04 48.2**	**+0.6**
KDU	**Kakadu**	**19.22**	**149**	P		**P**	**09 04 47.7**	**0.0**
	baz=19,SNR=265							
KTGM	**Kuala Trenggan**	**19.31**	**275**	P		**P**	**09 04 49.1**	**+0.6**
JAY	**Jayapura**	**19.31**	**109**	⇑P		**P**	**09 04 49.0**	**+0.3**
	baz=19,SNR=4.4							
TPUB	**Tau**	**19.41**	**355**	*e*P		**P**	**09 04 49.5**	**+0.1**
	7.8nm,0.4s							
YULB	**Yu-li**	**19.45**	**357**	*e*P		**P**	**09 04 49.8**	**0.0**
	9.6nm,0.6s							
QIZ	**Qiongzhong**	**19.47**	**322**	P		**P**	**09 04 50.2**	**+0.2**
QIZ				S		**S**	**09 07 55.6**	**+0.4**
QIZ				AMB	AMB			
	comp=Z,67nm,1.0s							
QIZ	**Qiongzhong**	**19.47**	**322**	*e*P		**P**	**09 04 50.0**	**+0.1**
	65nm,0.9s							
KLI	**Kotabumi**	**19.59**	**244**	P		**P**	**09 04 51.4**	**+0.2**
	231nm,0.8s,5μm							
SSLB	**Suanglung**	**19.86**	**356**	*e*P		**P**	**09 04 55.6**	**+2.1**
	56nm,1.3s							
MDSI	**Maura Dua**	**20.05**	**246**	P		**P**	**09 04 55.1**	**-0.2**
	52nm,0.9s							
UBPT	**Khong Chiam**	**20.20**	**305**	P		**P**	**09 04 56.4**	**-0.2**
	95nm,1.1s							
UBPT	**Khong Chiam**	**20.20**	**305**	P		**P**	**09 04 56.4**	**-0.2**
	95nm,1.1s							
KASI	**Kota Agung**	**20.21**	**243**	P		**P**	**09 04 57.3**	**+0.6**
	247nm,0.9s,3μm							
LWLI	**Liwa**	**20.38**	**244**	P		**P**	**09 04 58.8**	**+0.4**
	265nm,0.9s,53μm							
KNRA	**Kununurra**	**20.39**	**162**	P		**P**	**09 04 58.7**	**+0.4**
	baz=20,SNR=163							
LHSI	**Lahat**	**20.39**	**248**	P		**P**	**09 04 59.1**	**+0.7**
	133nm,1.0s							
FRIM	**Kepong**	**20.79**	**269**	P		**P**	**09 05 02.5**	**+0.4**
MNAI	**Manna**	**21.12**	**247**	*e*P		**P**	**09 05 04.9**	**-0.1**
	216nm,0.9s							
MNAI	**Manna**	**21.12**	**247**	⇓P		**P**	**09 05 03.4**	**-1.5**
	baz=21,SNR=4.0							
KSI	**Kapahiang**	**21.20**	**250**	P		**P**	**09 05 06.1**	**+0.4**
	289nm,0.7s							
MASI	**Maura Aman, Be**	**21.36**	**251**	P		**P**	**09 05 08.0**	**+0.9**
	596nm,0.9s,6μm							
IPM	**Ipoh**	**21.37**	**272**	P		**P**	**09 05 07.2**	**-0.1**
IPM	**Ipoh**	**21.37**	**272**	*e*P		**P**	**09 05 07.0**	**-0.2**
CHBT	**CHBT**	**21.76**	**295**	P		**P**	**09 05 10.8**	**+0.2**
	315nm,0.9s,3μm							
CHBT	**CHBT**	**21.76**	**295**	P		**P**	**09 05 10.8**	**+0.2**
	315nm,0.9s,3μm							
KULM	**Kulim**	**21.77**	**275**	P		**P**	**09 05 10.8**	**0.0**
KULM	**Kulim**	**21.77**	**275**	*e*P		**P**	**09 05 10.7**	**-0.1**
PANO	**Nakornpanom**	**21.92**	**308**	P		**P**	**09 05 11.8**	**-0.2**
	155nm,0.9s,2μm							
SKLT	**Songkhla**	**21.97**	**280**	P		**P**	**09 05 12.7**	**+0.2**
	143nm,0.9s,1μm							
SKLT	**Songkhla**	**21.97**	**280**	P		**P**	**09 05 12.7**	**+0.2**
	143nm,0.9s,1μm							
FITZ	**Fitzroy Crossi**	**22.05**	**172**	*e*P		**P**	**09 05 13.1**	**0.0**
	78nm,0.8s							
FITZ				S		**S**	**09 08 35.0**	**-1.0**
FITZ				ScP		**ScP**	**09 11 27.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**22.05**	**172**	P		**P**	**09 05 13.1**	**0.0**
	baz=22,SNR=96							
FITZ	**Fitzroy Crossi**	**22.05**	**172**	P		**P**	**09 05 13.1**	**0.0**
	74nm,0.8s,baz=2.6,slow=6.9,SNR=139							
FITZ				S		**S**	**09 08 35.0**	**-1.0**
	17nm,0.9s,baz=340,slow=11,SNR=4.4							
FITZ				ScP		**ScP**	**09 11 27.8**	**-0.3**
	16nm,0.8s,baz=143,slow=3.2,SNR=7.1							
SKNT	**Sakolnakorn**	**22.32**	**307**	P		**P**	**09 05 15.2**	**-0.4**
	114nm,1.1s							
PPI	**Padang Panjang**	**22.45**	**259**	P		**P**	**09 05 16.3**	**-0.5**
	110nm,0.9s							
PPI	**Padang Panjang**	**22.45**	**259**	⇑P		**P**	**09 05 15.3**	**-1.5**
	baz=22							
PDSI	**Padang**	**22.48**	**258**	P		**P**	**09 05 17.4**	**+0.3**
PSI	**Prapat**	**23.51**	**268**	P		**P**	**09 05 26.0**	**-0.4**
PSI				S		**S**	**09 09 00.5**	**+1.1**
PSI				ScP		**ScP**	**09 11 31.4**	**-0.9**
PSI	**Prapat**	**23.51**	**268**	⇑P		**P**	**09 05 25.9**	**-0.5**
	baz=23,SNR=27							
PSI	**Prapat**	**23.51**	**268**	P		**P**	**09 05 26.0**	**-0.4**
	68nm,0.8s,baz=86,slow=5.1,SNR=34							
PSI				S		**S**	**09 09 00.5**	**+1.1**
	2.4nm,0.4s,baz=314,slow=23,SNR=7.3							
PSI				ScP		**ScP**	**09 11 31.4**	**-0.9**
	14nm,0.7s,baz=162,slow=7.9,SNR=6.8							
KRAB	**Krabi**	**23.52**	**282**	P		**P**	**09 05 26.2**	**-0.1**
	202nm,0.6s							
PKDT	**Phuket**	**24.31**	**281**	P		**P**	**09 05 33.2**	**-0.1**
	271nm,0.9s,3μm							
GSI	**Gunungsitoli**	**24.98**	**265**	⇑P		**P**	**09 05 38.1**	**-1.1**
	baz=25							
MBWA	**Marble Bar**	**25.01**	**186**	*e*P		**P**	**09 05 39.0**	**-0.3**
	62nm,0.7s							
MANU	**Manus Island**	**25.59**	**103**	⇓P		**P**	**09 05 46.1**	**+1.5**
	baz=26							
WRAB	**Tennant Creek**	**26.38**	**154**	*e*P		**P**	**09 05 51.2**	**-0.2**
WRAB				*e*S		**S**	**09 09 39.7**	**-4.3**
WRAB				pmax	pmax			
	comp=Z,245nm,0.6s							
WRAB	**Tennant Creek**	**26.38**	**154**	P		**P**	**09 05 51.9**	**+0.5**
	comp=Z,2μm,0.5s							
WRAB	**Tennant Creek**	**26.38**	**154**	*e*P		**P**	**09

XAN AMB AMB
comp=Z,24nm,1.1s
XAN AMB AMB
comp=Z,46nm,6.6s
MORW Morawa 33.31 190 P **P** 09 06 51.0 +0.2
baz=33,SNR=57
CTA Charters Tower 33.37 136 ⇑P **P** 09 06 52.9 +1.5
baz=34
CTAO Charters Tower 33.37 136 *e*P **P** 09 06 52.3 +0.9
CTAO pmax pmax
comp=Z,142nm,1.2s
CTAO Charters Tower 33.37 136 *e*P **P** 09 06 52.3 +0.9
comp=Z,142nm,1.2s
KSAR Wonju Array Be 33.79 8 P **P** 09 06 55.6 +1.0
KSAR PcP **PcP** 09 09 16.6 +0.8
KSAR ScP **ScP** 09 12 05.0 +0.6
KSRS Korea Array 33.81 8 P **P** 09 06 55.6 +0.8
comp=Z,16nm,0.8s,baz=185,slow=10,SNR=60
KSRS PcP **PcP** 09 09 16.6 +0.8
comp=Z,2.9nm,0.9s,baz=195,slow=3.0,SNR=7.5
KSRS ScP **ScP** 09 12 05.0 +0.5
comp=Z,5.2nm,0.8s,baz=189,slow=3.2,SNR=18
IMP Imphal 34.43 310 *ex* **P** 09 06 59.0 -1.3
BLDU Ballidu 34.72 189 P **P** 09 07 02.3 -0.1
baz=35,SNR=64
DL2 Dalian 34.89 359 P **P** 09 07 03.6 -0.2
DL2 S **S** 09 11 49.3 -4.3
DL2 ScS **ScS** 09 16 12.5 -1.3
DL2 AMB AMB
comp=Z,120nm,3.5s
KLBR Kellerberrin 35.54 187 P **P** 09 07 09.3 +0.1
baz=36,SNR=161
MAJO Matsushiro 35.61 22 *e*P **P** 09 07 09.8 -0.1
MAJO Matsushiro 35.61 22 *e*P **P** 09 07 09.8 -0.1
MAT Matsushiro 35.61 22 P **P** 09 07 08.6 -1.2
PATS Pohnpei 35.82 84 ⇑P **P** 09 07 13.5 +1.6
baz=36,SNR=3.4
SHL Shillong 36.42 309 *i* PDS **P** 09 07 17.0 +0.2
SHL *e*S **S** 09 12 19.5 +2.3
BJT Baijiatuau 36.44 352 *e*P **P** 09 07 16.4 -0.1
comp=Z,23nm,0.5s
BJT *e*PcP **PcP** 09 09 24.5 +0.7
BJI Beijing 36.46 352 P **P** 09 07 16.6 -0.1
BJI S **S** 09 12 20.2 +3.3
BJI AMB AMB
comp=Z,47nm,0.8s
QLP Quilpie 36.88 146 P **P** 09 07 21.5 +1.2
baz=37,SNR=119
NWAO Narrogin (SRO) 36.92 187 *e*P **P** 09 07 21.2 +0.7
comp=Z,82nm,0.8s
HHC Hu-ho-hao-te 38.11 347 *e*P **P** 09 07 30.6 +0.4
HHC PP **PP** 09 09 17.4 -0.1
HHC sP **sP** 09 10 20.3 +0.6
HHC S **S** 09 12 44.6 +3.1
HHC SS **SS** 09 15 57.6 -5.1
HHC AMB AMB
comp=Z,77nm,0.9s
HHC AMB AMB
comp=Z,300nm,5.0s
RKGY Rocky Gully 38.61 187 P **P** 09 07 35.5 +1.3
baz=39,SNR=53
BBOO Buckleboo 38.69 162 *e*P **P** 09 07 35.5 +0.6
comp=Z,3µm,1.0s
BBOO Buckleboo 38.69 162 P **P** 09 07 35.7 +0.8
baz=39,SNR=252
LSA Lhasa 39.22 314 P **P** 09 07 40.5 +0.7
LSA AMB AMB
comp=Z,110nm,0.8s
LSA Lhasa 39.22 314 *e*P **P** 09 07 41.2 +1.4
LSA pmax pmax
comp=Z,98nm,0.9s
LSA Lhasa 39.22 314 *e*P **P** 09 07 41.2 +1.4
comp=Z,98nm,0.9s
RMQ Roma 39.47 141 P **P** 09 07 42.5 +1.2
baz=40,SNR=13
HNR Honiara 39.63 110 P **P** 09 07 42.8 0.0
HNR Honiara 39.63 110 P **P** 09 07 42.8 0.0
comp=Z,123nm,0.6s,baz=52,slow=1.0,SNR=7.1
CN2 Changchun 39.86 3 *e*P **P** 09 07 45.3 +1.2
CN2 *es*P **sP** 09 10 36.0 +1.5
CN2 *e*S **S** 09 13 09.8 +3.0
CN2 AMB AMB
comp=Z,10.0nm,0.6s
CN2 AMB AMB
comp=Z,200nm,4.0s
STKA Stephens Creek 39.94 154 P **P** 09 07 46.1 +1.2
STKA ScP **ScP** 09 12 27.3 -0.4
STKA S **S** 09 13 09.0 +0.8
STKA Stephens Creek 39.94 154 P **P** 09 07 46.1 +1.2
baz=40,SNR=114
STKA Stephens Creek 39.94 154 P **P** 09 07 46.1 +1.2
comp=Z,168nm,0.8s,baz=327,slow=7.7,SNR=232
STKA ScP **ScP** 09 12 27.3 -0.4
comp=Z,8.6nm,0.7s,baz=324,slow=3.9,SNR=4.5
STKA S **S** 09 13 09.0 +0.8
comp=Z,4.8nm,0.9s,baz=96,slow=19,SNR=5.0
EIDS Eidsvold 40.20 138 *e*P **P** 09 07 47.5 +0.4
comp=Z,127nm,1.0s
EIDS *e*ScP **ScP** 09 12 29.7 +0.8
EIDS Eidsvold 40.20 138 P **P** 09 07 47.6 +0.5
baz=40,SNR=21
HTT Hallett 40.23 158 ⇓P **P** 09 07 48.8 +1.5
baz=40
TAPN Taplejung 40.55 309 *e*P **P** 09 07 50.6 +0.4
ODAN Odare 40.56 308 *e*P **P** 09 07 50.6 +0.3
comp=Z,254nm,0.9s
GTA Gaotai 40.91 333 ⇓P **P** 09 07 53.7 +1.0
GTA pP **PcP** 09 09 38.6 +0.3
GTA sP **sP** 09 10 44.5 +0.9
GTA ScP **ScP** 09 12 32.9 +1.3
GTA S **S** 09 13 26.1 +3.7
GTA sS **sS** 09 16 31.2 +0.2
GTA ScS **SS** 09 16 48.1 -0.5
GTA AMB AMB
comp=Z,78nm,1.0s
GTA AMB AMB
comp=Z,350nm,5.7s
USRK Ussuriysk Arra 41.05 10 P **P** 09 07 53.8 +0.3
comp=Z,28nm,0.7s,baz=195,slow=7.3,SNR=63
MDJ Mudanjiang 41.07 8 P **P** 09 07 54.0 +0.3
MDJ pP **pP** 09 09 35.8 -1.1
MDJ sP **sP** 09 10 40.7 -4.0
MDJ S **S** 09 13 26.4 +2.2
MDJ sS **sS** 09 16 31.9 -1.2
MDJ AMB AMB
comp=Z,79nm,1.0s
MDJ AMB AMB
comp=Z,81nm,5.3s
RAMN Ramite 41.23 308 *e*P **P** 09 07 56.1 +0.5
comp=Z,588nm,1.1s
CMSA Cobar Meteorol 41.59 149 P **P** 09 07 59.7 +1.7
baz=42,SNR=176
PALK Pallekele 41.67 277 P **P** 09 07 58.5 -0.5
comp=Z,278nm,1.0s,SNR=7.2
PALK Pallekele 41.67 277 *e*P **P** 09 07 58.6 -0.4
comp=Z,104nm,1.3s
JIRN Jiri 41.88 308 *e*P **P** 09 08 01.3 +0.5
GUN Gumba 42.24 308 *e*P **P** 09 08 04.0 +0.4
PKI Pulchoki 42.45 308 *e*P **P** 09 08 05.2 -0.1
KKN Kakani 42.66 308 *e*P **P** 09 08 06.8 +0.1
DMN Daman 42.71 307 *e*P **P** 09 08 07.4 +0.2
comp=Z,370nm,1.0s
GKN Gorkha 43.26 308 *e*P **P** 09 08 11.3 0.0
comp=Z,349nm,1.0s
ASAJ Asahikawa 43.86 21 P **P** 09 08 15.8 +0.4
ASAJ Asahikawa 43.86 21 P **P** 09 08 15.8 +0.4
comp=Z,36nm,0.9s,baz=233,slow=11,SNR=23
KOLN Koldanda 43.98 307 *e*P **P** 09 08 17.5 +0.6
comp=Z,538nm,0.8s
ARMA Armidale 44.04 143 *e*P **P** 09 08 19.8 +2.5
comp=Z,235nm,0.8s
ARMA *e*ScP **ScP** 09 12 46.3 +1.8
ARMA Armidale 44.04 143 P **P** 09 08 19.6 +2.4
baz=44,SNR=102
DANN Dangsing 44.11 308 *e*P **P** 09 08 18.3 +0.3
comp=Z,740nm,0.8s
ARPS Mount Arapiles 44.29 158 ⇑P **P** 09 08 19.8 +1.0
baz=44,SNR=60
HYB Hyderabad 45.06 291 ⇓*i*P **P** 09 08 24.0 -1.2
comp=Z,143nm,0.8s
YNG Young 45.15 149 P **P** 09 08 27.2 +1.7
baz=45,SNR=48
JBP Jabalpur 45.29 299 *e*4 **P** 09 08 27.3 +0.6
HIA Hailar 45.30 358 *e*P **P** 09 08 26.6 +0.2
comp=Z,13nm,0.6s

MGCD Mangrove Creek 45.77 146 P **P** 09 08 32.8 +2.5
baz=46,SNR=19
KLR Kul'dur 45.89 8 *e*P P 09 08 26.8 -4.1
KLR pmax pmax
comp=Z,52nm,1.4s
SONM Songino Array 45.94 345 P **P** 09 08 31.8 +0.4
SONM PcP **PcP** 09 09 55.4 -0.1
SONM ScP **ScP** 09 12 52.2 +0.1
SONM Songino Array 45.94 345 P **P** 09 08 31.8 +0.4
comp=Z,51nm,0.8s,baz=160,slow=8.8,SNR=199
SONM PcP **PcP** 09 09 55.4 -0.1
baz=169,slow=3.9
SONM ScP **ScP** 09 12 52.2 +0.1
comp=Z,11nm,0.8s,baz=164,slow=4.5,SNR=23
RIV Riverview 46.26 146 ⇓P **P** 09 08 36.9 +3.0
baz=46
CAN Canberra 46.26 150 *e*P **P** 09 08 35.9 +2.0
CAN pmax pmax
comp=Z,224nm,0.6s
CAN Canberra 46.26 150 *e*P **P** 09 08 35.9 +2.0
comp=Z,224nm,0.6s
CAN Canberra 46.26 150 ⇓P **P** 09 08 36.0 +2.1
baz=46
CNB Canberra Magne 46.44 149 P **P** 09 08 36.9 +1.6
baz=47,SNR=95
TOO Toolangi 46.46 155 P **P** 09 08 37.1 +1.8
baz=47,SNR=21
MILA Mila 47.71 151 P **P** 09 08 46.2 +1.4
baz=48,SNR=20
ZAK Zakamensk 49.10 344 ⇑*i*P **P** 09 08 54.2 -0.7
ZAK pmax pmax
comp=Z,14nm,1.0s
NDI New Delhi 49.51 305 *e*P **P** 09 08 56.5 -1.7
LHI Lord Howe Isla 49.52 138 ⇑P **P** 09 09 00.0 +1.8
baz=50
POO Poona 49.67 291 ⇑*i*P **P** 09 08 58.0 -1.6
comp=Z,190nm,1.0s
TLY Talaya 50.18 345 *e*P **P** 09 09 03.3 +0.7
TLY pmax pmax
comp=Z,27nm,0.8s
TLY Talaya 50.18 345 P **P** 09 09 03.8 +1.2
comp=Z,210nm,0.8s,SNR=10.0
WMQ Urumqi 50.24 328 P **P** 09 09 03.9 +0.6
WMQ pP **pP** 09 10 54.3 +1.1
WMQ sP **sP** 09 11 58.8 -0.1
WMQ AMB AMB
comp=Z,70nm,1.0s
WMQ AMB AMB
comp=Z,330nm,4.2s
SMLA Simla 50.47 308 *i* P **P** 09 09 05.9 +0.7
IRK Irkutsk 50.53 346 *e*P **P** 09 09 04.8 -0.4
IRK pmax pmax
comp=Z,36nm,1.1s
SDNR Sundarnagar 50.77 308 *e*P **P** 09 09 08.0 +0.6
MOY Mondy 50.90 343 *e*P **P** 09 09 09.1 +1.1
MOY pmax pmax
comp=Z,41nm,1.7s
MOO Moorlands 51.26 157 P **P** 09 09 12.5 +1.9
baz=51,SNR=3.9
TAU Tasmania Unive 51.71 157 *e*P **P** 09 09 15.3 +1.5
TAU pmax pmax
comp=Z,32nm,1.0s
TAU Tasmania Unive 51.71 157 P **P** 09 09 15.9 +2.1
comp=Z,237nm,0.8s,SNR=5.1
TAU Tasmania Unive 51.71 157 *e*P **P** 09 09 15.3 +1.5
comp=Z,32nm,1.0s
THN Thein Dam 52.12 309 *e*P **P** 09 09 15.0 -1.9
CLNS Chul'man 52.86 2 *e*P **P** 09 09 22.1 +0.3
CLNS pmax pmax
comp=Z,41nm,0.9s
CLNS pmax pmax
comp=E,10.0nm,0.9s
CLNS pmax pmax
comp=N,28nm,0.9s
HVS Khovu-Aksy 52.91 338 *d* iP **P** 09 09 22.7 +0.4
HVS pmax pmax
comp=Z,374nm,1.0s
KSH Kashi 54.98 317 P **P** 09 09 38.2 +1.1
KSH pP **pP** 09 11 32.2 +2.1
KSH PP PP 09 11 56.0 +6.4
KSH S **S** 09 16 40.4 +5.4
KSH sS **sS** 09 20 02.1 +4.1
KSH AMB AMB
comp=Z,37nm,1.0s
KSH AMB AMB
comp=Z,120nm,2.7s
MK31 Makanchi Array 55.07 327 *e*P **P** 09 09 37.9 +0.4
MK31 *e* 09 10 29.2
MK31 Makanchi Array 55.07 327 *e*P **P** 09 09 37.9 +0.4
MK31 *e*PcP **PcP** 09 10 29.2 -0.5
MK31 *e*ScP **ScP** 09 13 30.7 -0.7
MKAR Makanchi Array 55.07 327 P **P** 09 09 38.0 +0.4
MKAR 09 10 29.3
MKAR S **S** 09 16 38.2 +2.4
MKAR Makanchi Array 55.07 327 P **P** 09 09 38.0 +0.4
MKAR PcP **PcP** 09 10 29.3 -0.3
MKAR ScP **ScP** 09 13 31.4 0.0
MKAR S **S** 09 16 38.2 +2.4
MKAR Makanchi Array 55.07 327 ⇑P **P** 09 09 38.1 +0.6
baz=55
MKAR Makanchi Array 55.07 327 P **P** 09 09 38.0 +0.4
comp=Z,25nm,0.4s,baz=127,slow=8.4,SNR=451
MKAR PcP **PcP** 09 10 29.3 -0.3
comp=Z,24nm,0.7s,baz=116,slow=5.5,SNR=16
MKAR ScP **ScP** 09 13 31.4 0.0
comp=Z,7.9nm,0.7s,baz=116,slow=5.5,SNR=10
MKAR S **S** 09 16 38.2 +2.4
comp=Z,1.1nm,1.0s,baz=126,slow=14,SNR=5.2
ULHL Ulahol 56.12 320 *i* P **P** 09 09 45.8 +0.8
ULHL Ulahol 56.12 320 P **P** 09 09 45.9 +0.8
SNR=13
KZA Kyzart 56.68 319 *i* P **P** 09 09 50.3 +1.2
KZA Kyzart 56.68 319 P **P** 09 09 50.3 +1.2
SNR=5.8
TKM2 Tokmak 2 56.86 320 *i* P **P** 09 09 50.9 +0.7
TKM2 Tokmak 2 56.86 320 P **P** 09 09 51.0 +0.7
SNR=43
TKM2 Tokmak 2 56.86 320 *e*P **P** 09 09 50.8 +0.7
comp=Z,51nm,0.8s
TKM2 *e*PcP **PcP** 09 10 37.0 -0.1
PETK Petropavlovsk- 57.00 25 P **P** 09 09 50.8 +0.2
PETK 09 10 37.3
PETK Petropavlovsk- 57.00 25 P **P** 09 09 50.8 +0.2
PETK PcP **PcP** 09 10 37.2 +0.2
PETK Petropavlovsk- 57.00 25 P **P** 09 09 50.8 +0.2
comp=Z,11nm,0.9s,baz=228,slow=0.7,SNR=22
PETK PcP **PcP** 09 10 37.2 +0.2
comp=Z,1.9nm,0.6s,baz=239,slow=11,SNR=6.3
AAK Ala-Archa 57.43 319 *e*P **P** 09 09 54.9 +0.9
AAK *e* 09 10 39.4
AAK pmax pmax
comp=Z,30nm,0.9s
AAK Ala-Archa 57.43 319 P **P** 09 09 55.2 +1.2
SNR=15
AAK Ala-Archa 57.43 319 P **P** 09 09 55.0 +0.9
SNR=26
AAK Ala-Archa 57.43 319 P **P** 09 09 54.0 0.0
comp=Z,206nm,1.0s,SNR=18
AAK Ala-Archa 57.43 319 *e*P **P** 09 09 54.9 +0.9
comp=Z,30nm,0.9s
AAK *e*PcP **PcP** 09 10 39.4 +0.1
AAK *e*ScP **ScP** 09 13 42.6 +0.5
CHMS Chumysh 57.44 320 *i* P **P** 09 09 54.2 +0.3
CHMS Chumysh 57.44 320 P **P** 09 09 54.2 +0.3
SNR=9.2
FRU Bishkek 57.45 320 *e*P **P** 09 09 54.0 +0.1
AML Almayashu 57.72 319 *i* P **P** 09 09 57.3 +1.0
AML Almayashu 57.72 319 P **P** 09 09 57.2 +1.0
SNR=32
USP Ospenovka 57.73 320 *i* P **P** 09 09 56.4 +0.5
USP Ospenovka 57.73 320 P **P** 09 09 56.4 +0.5
SNR=47
EKS2 Erkin-Say 57.91 319 *e*P **P** 09 09 57.8 +0.6
EKS2 *e* 09 10 41.5
EKS2 pmax pmax
comp=Z,55nm,0.9s
EKS2 Erkin-Say 57.91 319 P **P** 09 09 58.0 +0.8
SNR=36
EKS2 Erkin-Say 57.91 319 *e*P **P** 09 09 57.8 +0.6
comp=Z,55nm,0.9s
EKS2 *e*PcP **PcP** 09 10 41.5 +0.4
KBL Kabul 58.08 309 *e*P **P** 09 09 58.5 0.0
KBL pmax pmax
comp=Z,54nm,0.8s
KBL Kabul 58.08 309 *e*P **P** 09 09 58.5 0.0
comp=Z,54nm,0.8s
KBL Kabul 58.08 309 P **P** 09 09 58.6 0.0
baz=58,SNR=12
YAK Yakutsk 58.29 4 *e*P **P** 09 09 58.3 -0.8
YAK *e* 09 10 41.0
YAK *e**PP **pP** 09 11 52.8 -1.4
YAK *e* 09 12 17.9
YAK *e*S **S** 09 17 14.9 -1.3
YAK *e* 09 18 41.3
YAK pmax pmax
comp=Z,101nm,0.9s
YAK pmax pmax
comp=N,30nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK pmax pmax
comp=Z,55nm,2.6s
YAK pmax pmax
comp=N,148nm,3.3s
YAK pmax pmax
comp=E,142nm,3.9s
YAK smax smax
comp=N,125nm,2.9s
YAK smax smax
comp=E,73nm,2.8s
ZAA0 Zalesovo Array 58.60 335 *e*P **P** 09 10 00.5 -0.9
ZALV Zalesovo Beam 58.60 335 P **P** 09 10 00.6 -0.8
ZALV 09 10 42.1
ZALV S **S** 09 17 18.9 -1.5
ZALV Zalesovo Beam 58.60 335 P **P** 09 10 00.6 -0.8
ZALV PcP **PcP** 09 10 42.1 -1.3
ZALV S **S** 09 17 18.9 -1.5
ZALV Zalesovo Beam 58.60 335 P **P** 09 10 00.6 -0.8
comp=E,38nm,0.9s,baz=122,slow=5.9,SNR=103
ZALV PcP **PcP** 09 10 42.1 -1.3
comp=E,3.1nm,0.5s,baz=133,slow=4.7,SNR=2.8
ZALV S **S** 09 17 18.9 -1.5
comp=E,2.7nm,0.8s,baz=130,slow=14,SNR=8.5
MSVF Nonsavu 58.87 113 *e*P **P** 09 10 05.5 +1.5
MSVF pmax pmax
comp=Z,30nm,0.9s
MSVF Nonsavu 58.87 113 P **P** 09 10 05.9 +1.9
comp=Z,264nm,0.8s,SNR=6.9
MSVF Nonsavu 58.87 113 *e*P **P** 09 10 05.5 +1.5
comp=Z,30nm,0.9s
KURK Kurchatov 59.39 329 *d* iP **P** 09 10 06.6 -0.1
KURK pmax pmax
comp=Z,119nm,1.2s
KURK Kurchatov 59.39 329 P **P** 09 10 07.0 +0.3
SNR=39
KURK Kurchatov 59.39 329 P **P** 09 10 06.1 -0.6
comp=Z,1µm,0.6s,SNR=66
KURK Kurchatov 59.39 329 *e*P **P** 09 10 06.8 +0.1
comp=Z,74nm,0.8s
NVS Novosibirsk 59.88 335 ⇓*i*P **P** 09 10 08.0 -1.9
NVS *e* 09 10 45.7
NVS *e**PP **pP** 09 12 06.3 +0.4
NVS *i* S **S** 09 17 33.3 -3.2
NVS *e* 09 18 51.8
NVS pmax pmax
comp=Z,61nm,0.9s
NVS pmax pmax
comp=N,27nm,0.8s
NVS pmax pmax
comp=E,23nm,0.8s
NVS smax smax
comp=E,33nm,1.6s
NVS smax smax
comp=N,29nm,1.8s
KK31 Karatay Array 60.26 318 *i* P **P** 09 10 12.2 -0.5
KK31 pmax pmax
comp=Z,28nm,0.8s
KKAR Karatay Array 60.26 318 *e*P **P** 09 10 12.4 -0.3
KKAR pmax pmax
comp=Z,36nm,0.8s
KKAR Karatay Array 60.26 318 *e*P **P** 09 10 12.4 -0.3
comp=Z,36nm,0.8s
SEY Seymchan 62.93 15 *e*P **P** 09 10 30.8 +1.2
WBK Wadi Bani Khal 64.07 293 P **P** 09 10 37.4 -0.3
SNR=5.1
RPZ Rata Peaks 64.39 143 *e*P **P** 09 10 39.9 +0.7
comp=Z,46nm,0.6s
RPZ *e*PcP **PcP** 09 11 03.9 -3.4
JMDO Jabal Madar 64.84 293 P **P** 09 10 42.0 -0.5
SNR=6.5
BVA0 Borovoye Array 64.92 328 P **P** 09 10 41.2 -1.2
BVA0 pmax pmax
comp=Z,87nm,1.1s
IDAH Dahanechah 64.96 304 *e*P **P** 09 10 43.5 +0.1
BRVK Borovoye 64.99 328 *e*P **P** 09 10 42.6 -0.2
BRVK pmax pmax
comp=Z,63nm,1.0s
BRVK Borovoye 64.99 328 P **P** 09 10 43.0 +0.1
SNR=25
BRVK Borovoye 64.99 328 P **P** 09 10 42.2 -0.6
comp=Z,349nm,0.9s,SNR=20
BRVK Borovoye 64.99 328 *e*P **P** 09 10 42.6 -0.2
comp=Z,63nm,1.0s
IMYA Miami 65.58 308 *e*P **P** 09 10 46.7 -0.4
URZ Urewera 65.60 135 *e*P **P** 09 10 47.2 +0.3
comp=Z,49nm,0.6s
IKOO Kooshah 65.61 304 *e*P **P** 09 10 47.1 -0.3
ITEG Tejag 65.91 304 *e*P **P** 09 10 49.1 -0.2
ISRO Mashad 66.07 308 *e*P **P** 09 10 49.7 -0.4
IMOG Moghan 66.13 308 *e*P **P** 09 10 49.5 -1.1
ARQ Araqi 66.39 294 P **P** 09 10 51.6 -0.5
SNR=5.3
IAKL Akhelmad 66.70 308 *e*P **P** 09 10 54.2 +0.1
IKRD Kardeh 66.93 308 *e*P P 09 10 50.9 -4.6
IEMG Emamgholi 66.97 309 *e*P **P** 09 10 55.9 +0.1
ISFR Sfrayin 67.39 309 *e*P **P** 09 10 58.1 -0.3
ABKT Ailbek 67.50 310 P **P** 09 10 59.0 +0.3
comp=Z,282nm,0.7s,SNR=7.8
ISHV Shirvan 67.73 309 *e*P **P** 09 10 59.9 -0.4
TIXI Tiksi 67.82 2 *d* iP **P** 09 10 59.2 -0.7
TIXI pmax pmax
comp=Z,64nm,1.1s
IBAF Bafgh 68.33 302 *e*P **P** 09 11 03.7 -0.3
ABTO Aybut 68.96 287 P **P** 09 11 07.2 -0.8
SNR=7.6
AB31 Akbulak array 69.37 322 *i* P **P** 09 11 08.8 -0.8
AB31 pmax pmax
comp=Z,8.0nm,0.4s
ABKAR Akbulak array 69.37 322 *e*P **P** 09 11 09.3 -0.3
comp=Z,39nm,0.9s
ABKAR Akbulak array 69.37 322 ⇓P **P** 09 11 09.5 -0.2
baz=69
ISRV Sarvestan 70.12 300 *e*P **P** 09 11 15.3 +0.3
IPAR Pars 70.24 300 *e*P **P** 09 11 15.2 -0.4
CASY Casey 70.50 185 *e*P **P** 09 11 16.2 +0.3
comp=Z,14nm,0.7s
AKTO Aktyubinsk 70.92 322 P **P** 09 11 16.2 -2.6
AKTO pmax pmax
comp=Z,58nm,0.8s
IFIR Firoozkooh 71.29 306 *e*P **P** 09 11 21.2 -0.4
ISFB Sefidab 71.51 305 *e*P **P** 09 11 22.3 -0.4
SVE Sverdlovsk 71.64 329 *e*P **P** 09 11 22.3 -0.5
SVE pmax pmax
comp=Z,87nm,1.1s
IVRN Varamin 72.02 305 *e*P **P** 09 11 24.3 -1.3
ARU Arti 72.57 328 *d* iP **P** 09 11 27.3 -0.9
ARU 09 14 19.9
ARU S **S** 09 20 05.3 -0.2
ARU pmax pmax
comp=Z,55nm,1.0s
ARU Arti 72.57 328 P **P** 09 11 27.9 -0.3
comp=Z,294nm,0.8s,SNR=11
IR3 Iran Long-Peri 72.66 306 *e*P **P** 09 11 29.3 0.0
IR5 Iran Long-Peri 72.98 306 *e*P **P** 09 11 30.8 -0.4
IRAZ Razeghan 73.53 306 *e*P **P** 09 11 33.2 -1.3
SOKR Solikamsk 74.53 331 *d* iP **P** 09 11 38.1 -1.1
SOKR pmax pmax
comp=Z,30nm,1.6s
QRN Al-Qurain 74.59 299 *e*P **P** 09 11 39.2 -1.0
QRN AMb AMB 09 11 40.1
comp=Z,168nm,0.7s
KBD Kabd 74.82 299 *e*P **P** 09 11 40.6 -0.9
KBD AMb AMB 09 11 41.8
comp=Z,59nm,1.3s
UMR Umm Al-Rimmam 74.83 299 *e*P **P** 09 11 40.7 -0.9
UMR AMb AMB 09 11 41.8
comp=Z,136nm,0.8s
RDF Al-Radifah 74.93 299 *e*P **P** 09 11 41.2 -0.9
RDF AMb AMB 09 11 42.4
comp=Z,112nm,1.2s

NAY	**Al-Naaiem**	**75.22**	**299**	*e*P		**P**	**09 11 42.4**	**-1.3**
NAY				AMb		AMB	09 11 43.8	
	comp=Z,81nm,1.0s							
RST	**Umm Al-Ruwaisa**	**75.45**	**299**	*e*P		**P**	**09 11 43.7**	**-1.3**
RST				AMb		AMB	09 11 44.9	
	comp=Z,2µm,0.8s							
RAYN	**Ar Rayn**	**76.50**	**293**	P		**P**	**09 11 50.8**	**-0.2**
	comp=Z,296nm,0.9s,SNR=28							
OPO	**Ambohidratompo**	**77.31**	**250**	P		**P**	**09 11 55.2**	**-0.4**
OPO	**Ambohidratompo**	**77.31**	**250**	P		**P**	**09 11 55.2**	**-0.4**
	comp=Z,16nm,0.8s,baz=80,slow=4.6,SNR=20							
ABPO	**Ambohimpanom**	**77.34**	**250**	*e*P		**P**	**09 11 55.0**	**-0.8**
ABPO				pmax		pmax		
	comp=Z,20nm,0.7s							
ABPO	**Ambohimpanom**	**77.34**	**250**	*e*P		**P**	**09 11 55.0**	**-0.8**
	comp=Z,20nm,0.7s							
GNI	**Garni**	**78.12**	**310**	*e*P		**P**	**09 11 59.4**	**-0.2**
	comp=Z,20nm,0.8s							
ZEI	**Tsey**	**78.98**	**313**	*e*P		**P**	**09 12 01.3**	**-2.8**
ZEI				pmax		pmax		
	comp=Z,48nm,1.3s							
ATD	**Arta Tunnel**	**79.06**	**281**	P		**P**	**09 12 05.7**	**+0.8**
ATD	**Arta Tunnel**	**79.06**	**281**	P		**P**	**09 12 05.7**	**+0.8**
	comp=Z,44nm,0.8s,baz=292,slow=11,SNR=8.0							
KBZ	**Khabaz**	**79.79**	**314**	P		**P**	**09 12 07.7**	**-0.3**
KBZ	**Khabaz**	**79.79**	**314**	P		**P**	**09 12 07.7**	**-0.3**
KBZ	**Khabaz**	**79.79**	**314**	P		**P**	**09 12 07.7**	**-0.3**
	comp=Z,16nm,1.0s,baz=99,slow=4.2,SNR=21							
KIV	**Kislovodsk**	**79.96**	**314**	*e*P		**P**	**09 12 08.9**	**-0.2**
KIV				*i*			09 12 15.6	
KIV				pmax		pmax		
	comp=Z,12nm,0.8s							
VRHR	**Novokhopersk**	**81.24**	**321**	*e*P		**P**	**09 12 12.5**	**-2.9**
VRHR				pmax		pmax		
	comp=Z,30nm,1.0s							
VRHR				pmax		pmax		
	comp=N,8.0nm,0.6s							
VRHR				pmax		pmax		
	comp=E,5.0nm,0.4s							
SOC	**Sochi**	**82.09**	**313**	*d iP*		**P**	**09 12 18.6**	**-1.2**
SOC				*e*			09 15 43.0	
SOC				*e*S		**S**	**09 21 41.3**	**-4.6**
SOC				pmax		pmax		
	comp=Z,37nm,1.0s							
MAW	**Mawson**	**82.42**	**199**	P		**P**	**09 12 20.5**	**-0.5**
MAW	**Mawson**	**82.42**	**199**	⇓P		**P**	**09 12 21.4**	**+0.4**
	baz=82							
MAW	**Mawson**	**82.42**	**199**	P		**P**	**09 12 20.5**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=57,slow=8.1,SNR=9.2							
VORD	**Divnogorie**	**82.70**	**321**	*e*P		**P**	**09 12 20.0**	**-2.8**
VORD				pmax		pmax		
	comp=Z,40nm,0.9s							
VORD				pmax		pmax		
	comp=E,30nm,0.6s							
VSR	**Storozhevoye**	**82.80**	**321**	*e*P		**P**	**09 12 20.4**	**-2.8**
VSR				pmax		pmax		
	comp=Z,40nm,0.9s							
VSR				pmax		pmax		
	comp=N,10.0nm,0.5s							
VSR				pmax		pmax		
	comp=E,30nm,0.7s							
MALT	**Malatya**	**82.93**	**308**	⇑*i*P		**P**	**09 12 25.1**	**+0.7**
KLMR	**Klimovskoe**	**83.20**	**331**	*e*P		**P**	**09 12 23.1**	**-1.9**
KLMR				pmax		pmax		
	comp=Z,119nm,1.1s							
ANN	**Anapa**	**83.76**	**314**	*d iP*		**P**	**09 12 27.0**	**-1.1**
ANN				pmax		pmax		
	comp=Z,134nm,0.9s							
MOS	**Moscow**	**83.91**	**325**	*e*P		P	09 12 23.6	-5.0
MOS				pmax		pmax		
	comp=Z,105nm,1.1s							
TMCR	**Tamitsa**	**84.11**	**334**	*e*P		**P**	**09 12 28.8**	**-0.6**
TMCR				*e*			09 15 58.5	
TMCR				pmax		pmax		
	comp=Z,31nm,0.9s							
VNDA	**Vanda**	**84.12**	**172**	P		**P**	**09 12 29.7**	**+0.4**
VNDA	**Vanda**	**84.12**	**172**	P		**P**	**09 12 29.7**	**+0.4**
	comp=Z,10nm,0.6s,baz=316,slow=5.9,SNR=76							
OBN	**Obninsk**	**84.49**	**325**	⇑*i*P		**P**	**09 12 30.5**	**-1.0**
OBN				*e**PP		**pP**	**09 14 42.6**	**+3.2**
OBN				*e*			09 15 59.3	
OBN				pmax		pmax		
	comp=Z,45nm,0.9s							
KMBO	**Kilima Mbogo**	**85.28**	**269**	P		**P**	**09 12 37.2**	**+0.7**
KMBO	**Kilima Mbogo**	**85.28**	**269**	P		**P**	**09 12 37.2**	**+0.7**
	baz=85,SNR=8.9							
KMBO	**Kilima Mbogo**	**85.28**	**269**	P		**P**	**09 12 37.2**	**+0.7**
	comp=Z,255nm,0.9s,baz=59,slow=6.9,SNR=47							
EIL	**Elat**	**85.94**	**299**	⇑P		**P**	**09 12 38.9**	**-0.2**
	baz=86,SNR=7.3							
SIM	**Simferopol'**	**86.12**	**315**	*e*P		**P**	**09 12 41.8**	**+2.2**
SIM				pmax		pmax		
	comp=Z,32nm,0.8s							
BR131	**Keskin Array S**	**86.64**	**309**	*e*P		**P**	**09 12 41.0**	**-1.4**
	comp=Z,3.4nm,0.8s							
BRTR	**Keskin Array B**	**86.64**	**309**	P		**P**	**09 12 41.0**	**-1.4**
BRTR				PP		**PP**	**09 16 17.2**	**+1.3**
BRTR	**Keskin Array B**	**86.64**	**309**	P		**P**	**09 12 41.0**	**-1.4**
	comp=Z,4.6nm,0.8s,baz=123,slow=5.2,SNR=18							
BRTR				PP		**PP**	**09 16 17.2**	**+1.3**
	comp=Z,4.3nm,1.1s,baz=125,slow=6.5,SNR=6.1							
ILAR	**Eielson Array**	**86.82**	**25**	P		**P**	**09 12 41.5**	**-0.9**
ILAR				pP		**pP**	**09 14 50.3**	**-1.0**
ILAR	**Eielson Array**	**86.82**	**25**	P		**P**	**09 12 41.5**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=250,slow=4.8,SNR=15							
ILAR				pP		**pP**	**09 14 50.3**	**-1.0**
	comp=Z,0.7nm,1.0s,baz=268,slow=4.5,SNR=3.1							
JOF	**Joensuu**	**87.11**	**333**	*ep*		**P**	**09 12 41.4**	**-2.4**
	comp=Z,24nm,0.7s							
KEV	**Kevo**	**88.29**	**340**	*ep*		**P**	**09 12 47.7**	**-1.5**
	comp=Z,0.6nm,0.4s							
ARCES	**ARCESS Array B**	**88.84**	**340**	P		**P**	**09 12 50.6**	**-1.2**
ARCES	**ARCESS Array B**	**88.84**	**340**	P		**P**	**09 12 50.6**	**-1.2**
	comp=Z,10nm,0.8s,baz=83,slow=5.4,SNR=15							
AKASG	**Malin Array Be**	**89.09**	**321**	P		**P**	**09 12 51.7**	**-1.6**
AKASG	**Malin Array Be**	**89.09**	**321**	P		**P**	**09 12 51.7**	**-1.6**
AKASG	**Malin Array Be**	**89.09**	**321**	P		**P**	**09 12 51.7**	**-1.6**
	comp=Z,7.3nm,0.7s,baz=73,slow=4.1,SNR=24							
KAF	**Kangasniemi**	**89.49**	**332**	*ep*		**P**	**09 12 52.1**	**-2.8**
	comp=Z,19nm,0.6s							
FINES	**FINESS Array B**	**89.69**	**331**	P		**P**	**09 12 54.3**	**-1.5**
FINES	**FINESS Array B**	**89.69**	**331**	P		**P**	**09 12 54.3**	**-1.5**
	comp=Z,13nm,0.7s,baz=66,slow=5.2,SNR=33							
NACGM	**Naroch**	**90.13**	**325**	*e*		P	09 12 54.0	-4.0
TIRR	**Tirgusor**	**90.20**	**314**	⇓P		**P**	**09 12 58.1**	**-0.5**
TIRR	**Tirgusor**	**90.20**	**314**	⇓*i*P		**P**	**09 12 58.1**	**-0.5**
CFR	**Carcaliu**	**90.33**	**315**	⇓P		**P**	**09 12 58.5**	**-0.7**
CFR	**Carcaliu**	**90.33**	**315**	⇓*i*P		**P**	**09 12 58.5**	**-0.7**
TESR	**Tescani**	**91.22**	**317**	⇓*i*P		**P**	**09 13 02.6**	**-0.7**
VRI	**Vrincioaia**	**91.24**	**316**	⇓P		**P**	**09 13 03.1**	**-0.3**
VRI	**Vrincioaia**	**91.24**	**316**	⇓*i*P		**P**	**09 13 03.1**	**-0.3**
PLOR	**Plostina**	**91.30**	**316**	⇑P		**P**	**09 13 03.1**	**-0.6**
PLOR	**Plostina**	**91.30**	**316**	⇑*i*P		**P**	**09 13 03.1**	**-0.6**
INK	**Inuvik**	**91.59**	**21**	P		**P**	**09 13 04.6**	**+0.2**
INK	**Inuvik**	**91.59**	**21**	P		**P**	**09 13 04.6**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=45,slow=1.4							
MLR	**Muntele Rosu**	**91.83**	**316**	⇓*i*P		**P**	**09 13 05.6**	**-0.7**
BURAR	**Bucovina Array**	**92.05**	**318**	⇓P		**P**	**09 13 06.8**	**-0.4**
BURAR	**Bucovina Array**	**92.05**	**318**	⇓*i*P		**P**	**09 13 06.8**	**-0.4**
BUR08	**Bucovina Ar. S**	**92.05**	**318**	*e*P		**P**	**09 13 07.0**	**-0.2**
SUW	**Suwalki**	**92.34**	**324**	*e*P		**P**	**09 13 07.4**	**-0.8**
SUW				pmax		pmax		
	comp=Z,54nm,0.9s							
SUW	**Suwalki**	**92.34**	**324**	*e*P		**P**	**09 13 07.4**	**-0.8**
	comp=Z,54nm,0.9s							
SUW	**Suwalki**	**92.34**	**324**	*e*P		**P**	**09 13 07.6**	**-0.6**
LVV	**L'vov**	**92.50**	**320**	*e*P		**P**	**09 13 08.4**	**-0.7**
ARR	**Arges**	**92.76**	**316**	⇑*i*P		**P**	**09 13 09.6**	**-0.9**
LOT	**Lotru**	**93.35**	**316**	⇑*i*P		**P**	**09 13 12.8**	**-0.4**
KWP	**Kalwaria Pacla**	**93.38**	**320**	*e*P		**P**	**09 13 13.1**	**0.0**
TRPA	**Tarpa**	**93.75**	**319**	⇑*i*P		**P**	**09 13 13.3**	**-1.5**
QSPA	**South Pole Qui**	**93.77**	**180**	P		**P**	**09 13 14.9**	**+0.3**
QSPA	**South Pole Qui**	**93.77**	**180**	P		**P**	**09 13 14.9**	**+0.3**
	comp=Z,3.2nm,0.8s							
UZH	**Uzhgorod**	**93.82**	**319**	⇓*i*P		**P**	**09 13 13.8**	**-1.3**
DRGR		**93.86**	**317**	⇑P		**P**	**09 13 14.9**	**-0.6**
DRGR		**93.86**	**317**	⇑*i*P		**P**	**09 13 14.9**	**-0.6**
VTS	**Vitosha**	**94.20**	**313**	⇓P		**P**	**09 13 15.6**	**-1.6**
VTS	**Vitosha**	**94.20**	**313**	⇓*i*P		**P**	**09 13 15.6**	**-1.6**
STHS	**Stebnicka Huta**	**94.36**	**320**	*e*P		**P**	**09 13 17.5**	**-0.1**
LSZ	**Lusaka**	**95.11**	**255**	*e*P		**P**	**09 13 20.6**	**-1.2**
LSZ	**Lusaka**	**95.11**	**255**	P		**P**	**09 13 20.4**	**-1.4**
	comp=Z,6.9nm,0.8s,baz=64,slow=7.1,SNR=14							
PSZ	**Piszkesteto**	**95.53**	**319**	⇓P		**P**	**09 13 21.4**	**-1.6**
PSZ	**Piszkesteto**	**95.53**	**319**	⇓*i*P		**P**	**09 13 21.4**	**-1.6**
NB2	**NORSAR Subarra**	**96.74**	**333**	P		**P**	**09 13 26.0**	**-2.1**
	comp=Z,4.9nm,0.8s,baz=70,slow=4.6							
NB2	**NORSAR Subarra**	**96.74**	**333**	P		**P**	**09 13 26.0**	**-2.1**
	baz=70,slow=4.6							
NOA	**NORSAR Array B**	**96.74**	**333**	P		**P**	**09 13 26.4**	**-1.7**
NOA	**NORSAR Array B**	**96.74**	**333**	P		**P**	**09 13 26.4**	**-1.7**
	comp=Z,4.1nm,0.8s,baz=70,slow=4.5,SNR=11							
KSP	**Ksiaz**	**97.14**	**322**	*e*P		**P**	**09 13 30.1**	**+0.1**
BRG	**Bergviesshubel**	**98.56**	**323**	⇑*i*P		Pdif	09 13 36.2	-0.2
	comp=Z,14nm,0.9s							
CLL	**Collm**	**99.00**	**323**	*i* P		Pdif	09 13 37.9	-0.4
CLL				pmax		pmax		
	comp=Z,25nm,0.9s							
CLL	**Collm**	**99.00**	**323**	*i* Pdif		Pdif	09 13 37.9	-0.4
	comp=Z,4.0nm,0.9s							
CLL				*e*pP		pP	09 15 46.0	-3.1
GERES	**GERESS Array B**	**99.30**	**321**	P		**Pdif**	**09 13 39.0**	**-0.8**
GERES				PP		**PP**	**09 17 53.9**	**+1.2**
GERES				PKKP		**PKKPbc**	**09 30 02.0**	**-0.9**
GERES	**GERESS Array B**	**99.30**	**321**	P		**Pdif**	**09 13 39.0**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=76,slow=5.6,SNR=12							
GERES				PP		**PP**	**09 17 53.9**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=97,slow=4.6,SNR=4.8							
GERES				PKKP		**PKKPbc**	**09 30 02.0**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=113,slow=3.0,SNR=5.1							
KEST	**Kesra**	**106.24**	**309**	*e*PKPdf		**PKiKP**	**09 18 17.8**	**-0.9**
KEST				*e*PP		**PP**	**09 18 43.2**	**-0.8**
NVAR	**Mina Array Bea**	**109.97**	**47**	SKP			09 21 05.2	
	comp=Z,1.1nm,0.8s,baz=241,slow=3.8,SNR=7.3							
NVAR				PKKPbc		**PKKPbc**	**09 29 29.9**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=141,slow=5.0,SNR=3.6							
NVAR				PKKP		**PKKPab**	**09 29 42.0**	**-2.5**
	comp=Z,0.4nm,0.6s,baz=121,slow=6.0,SNR=3.9							
ESDC	**Sonseca Array**	**114.49**	**317**	PP		PP	09 19 40.2	-1.8
ESDC	**Sonseca Array**	**114.49**	**317**	PP		PP	09 19 40.2	-1.8
	comp=Z,0.2nm,0.3s,baz=50,slow=6.1,SNR=4.2							
ULM	**Lac du Bonnet**	**116.82**	**26**	PKP		**PKPdf**	**09 18 37.8**	**-0.4**
ULM	**Lac du Bonnet**	**116.82**	**26**	PKP		**PKPdf**	**09 18 37.8**	**-0.4**
	comp=Z,6.0nm,1.0s,baz=321,slow=2.5,SNR=3.2							
MDT	**Midelt**	**118.05**	**310**	PKP		**PKPdf**	**09 18 41.0**	**-0.3**
MDT	**Midelt**	**118.05**	**310**	PKP		**PKPdf**	**09 18 41.0**	**-0.3**
	comp=Z,4.0nm,1.2s,baz=128,slow=2.6,SNR=4.0							
TOA0	**Torodi Ar. Sit**	**118.81**	**287**	*e*PKPdf		**PKPdf**	**09 18 42.3**	**-0.7**
TOA0				*e*SKPdf		**SKPdf**	**09 21 21.4**	**-0.9**
TORD	**Torodi Ar. Bea**	**118.81**	**287**	PKP		**PKPdf**	**09 18 42.3**	**-0.7**
TORD				PP		PP	09 20 04.0	-8.5
TORD				SKP			09 21 21.9	
TORD				PKKPbc		**PKKPbc**	**09 29 00.7**	**+0.2**
TORD	**Torodi Ar. Bea**	**118.81**	**287**	PKP		**PKPdf**	**09 18 42.3**	**-0.7**
	comp=Z,5.8nm,0.6s,baz=52,slow=1.8,SNR=37							
TORD				PP		PP	09 20 04.0	-8.5
	comp=Z,1.6nm,0.8s,baz=60,slow=6.6,SNR=6.4							
TORD				SKP			09 21 21.9	
	comp=Z,2.5nm,0.7s,baz=53,slow=1.8,SNR=8.6							
TORD				PKKPbc		**PKKPbc**	**09 29 00.7**	**+0.2**
	comp=Z,1.1nm,0.9s,baz=286,slow=3.5,SNR=9.4							
SCHQ	**Schefferville**	**121.01**	**6**	PKP		**PKPdf**	**09 18 46.7**	**+0.5**
SCHQ	**Schefferville**	**121.01**	**6**	PKP		**PKPdf**	**09 18 46.7**	**+0.5**
	comp=Z,2.4nm,0.5s,baz=288,slow=6.4,SNR=4.9							
TXAR	**Lajitas Array**	**124.84**	**50**	PKP		**PKPdf**	**09 18 55.1**	**+0.7**
TXAR				pPKP		**pPKPdf**	**09 21 13.3**	**+0.1**
TXAR				SKP			09 21 34.8	
TXAR				PKKPbc		**PKKPbc**	**09 28 37.9**	**-0.8**
TXAR	**Lajitas Array**	**124.84**	**50**	PKP		**PKPdf**	**09 18 55.1**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=315,slow=0.5,SNR=4.8							
TXAR				pPKP		**pPKPdf**	**09 21 13.3**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=298,slow=1.9,SNR=14							
TXAR				SKP			09 21 34.8	
	comp=Z,1.5nm,0.8s,baz=257,slow=1.6,SNR=6.9							
TXAR				PKKPbc		**PKKPbc**	**09 28 37.9**	**-0.8**
	comp=Z,0.8nm,0.9s,baz=134,slow=5.4,SNR=6.1							
DBIC	**Dimbokro**	**126.36**	**281**	PKP		**PKPdf**	**09 18 58.0**	**+0.4**
DBIC	**Dimbokro**	**126.36**	**281**	PKP		**PKPdf**	**09 18 58.0**	**+0.4**
	comp=Z,7.4nm,0.8s,baz=29,slow=3.2,SNR=6.5							
PLCA	**Paso Flores**	**141.47**	**164**	PKPpre		PKPpre	09 19 21.2	
PLCA				SKPbc		**SKPbc**	**09 22 06.8**	**+0.3**
PLCA	**Paso Flores**	**141.47**	**164**	PKhKP		PKPpre	09 19 21.2	
	comp=Z,3.7nm,0.7s,baz=287,slow=2.5,SNR=8.6							
PLCA				SKPbc		**SKPbc**	**09 22 06.8**	**+0.3**
	comp=Z,7.3nm,0.7s,baz=248,slow=2.8,SNR=16							
TGUH	**Tegucigalpa,Un**	**145.56**	**58**	*e*PKPbc		**PKPab**	**09 19 35.4**	**-0.6**
TRQA	**Tornquist**	**145.73**	**174**	*e*PKPbc		**PKPbc**	**09 19 34.7**	**+0.4**
CPUP	**Villa Florida**	**157.66**	**181**	PKPab		**PKPab**	**09 20 27.4**	**+1.0**
CPUP	**Villa Florida**	**157.66**	**181**	PKPab		**PKPab**	**09 20 27.4**	**+1.0**
	comp=Z,2.4nm,0.6s,baz=150,slow=4.3,SNR=6.8							
LPAZ	**La Paz**	**163.86**	**141**	PKP		**PKPdf**	**09 19 59.1**	**+1.2**
LPAZ				PKPab		**PKPab**	**09 20 56.1**	**+1.4**
LPAZ	**La Paz**	**163.86**	**141**	PKP		**PKPdf**	**09 19 59.1**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=43,slow=2.7,SNR=3.9							
LPAZ				PKPab		**PKPab**	**09 20 56.1**	**+1.4**
	comp=Z,1.4nm,0.6s,baz=192,slow=3.3,SNR=6.2							
BDFB	**Brasilia**	**165.00**	**218**	PKPab		**PKPab**	**09 20 59.6**	**+0.5**
BDFB	**Brasilia**	**165.00**	**218**	PKPab		**PKPab**	**09 20 59.6**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=297,slow=2.3,SNR=3.3							

NDI ***10*** *09:12:29.9±2.0, 31°.62N×74°.37E, h10km, ML3.5*
NNC ***10*** *09:12:31.2±5.2, 31°.95N×73°.47E, h0km, mb3.7, Error ellipse: s-maj=131.6km s-min=40.9km az=85.0*

ISC 10 09:12:29.4±3.5, 31°.59N±0°.06×74°.23E±0°.08, h16km±24km, n21, σ2s17/19, 3C-1D, India-Pakistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
THN	**Thein Dam**	**1.52**	**56**	*e*P		**Pb**	**09 12 56.5**	**-0.7**
THN				*e*4			09 13 23.1	
SDNR	**Sundarnagar**	**2.34**	**91**	*e*4		**Sn**	**09 13 36.0**	**+0.3**
SDNR				*e*P		**Pn**	**09 13 06.0**	**-1.3**
SMLA	**Simla**	**2.55**	**100**	*i* P		**Pn**	**09 13 08.3**	**-1.8**
SMLA				*i* S		**Sn**	**09 13 40.5**	**-0.4**
SMLA				*i* S		**Sn**	**09 13 41.5**	**+0.6**
DDI	**Dehra Dun**	**3.52**	**110**	*e*P		**Pn**	**09 13 25.0**	**+1.5**
DDI				*e*4		**Sn**	**09 14 10.0**	**+5.1**
NDI	**New Delhi**	**3.88**	**137**	*e*S		**Sn**	**09 14 12.0**	**-1.8**
KUDL	**Kundal**	**3.95**	**150**	*e*P		**Pn**	**09 13 30.5**	**+1.1**
KUDL				*e*S		**Sn**	**09 14 13.6**	**-1.9**
KUDL				AML		AML	09 14 16.2	
	comp=E,142nm,0.5s							
KUDL				AML		AML	09 14 17.0	
	comp=N,108nm,0.3s							
AYAN	**Aya Nagar**	**3.99**	**140**	*e*P		**Pn**	**09 13 30.9**	**+1.1**
AYAN				*e*S		**Sn**	**09 14 14.6**	**-1.7**
SONA	**Sohna**	**4.15**	**143**	*e*P		**Pn**	**09 13 33.1**	**+1.0**
SONA				*e*S		**Sn**	**09 14 18.1**	**-2.2**
SONA				AML		AML	09 14 25.8	
	comp=E,212nm,0.3s							
SONA				AML		AML	09 14 30.6	
	comp=N,131nm,0.1s							
AJM	**Ajmer**	**5.11**	**176**	*e*4		Sn	09 14 33.0	-11
DANN	**Dangsing**	**8.87**	**109**	*e*P		Pn	09 14 29.8	-7.5
	comp=N,10.0nm,0.2s							
KOLN	**Koldanda**	**8.99**	**113**	*e*P		Pn	09 14 32.2	-6.7
	comp=N,8.9nm,0.2s							
GKN	**Gorkha**	**9.72**	**109**	*e*P		Pn	09 14 41.5	-7.3
KKN	**Kakani**	**10.33**	**109**	*e*P		Pn	09 14 49.6	-7.5
	comp=N,22nm,0.4s							
KKN				*e*S		Sn	09 16 38.5	-14
PKI	**Pulchoki**	**10.52**	**110**	*e*P		Pn	09 14 52.1	-7.8
GUN	**Gumba**	**10.77**	**107**	*e*P		Pn	09 14 55.8	-7.5
	comp=N,22nm,0.3s							
JIRN	**Jiri**	**11.12**	**108**	*e*P		Pn	09 15 00.9	-7.2
JIRN				*e*S		Sn	09 16 58.7	-14
RAMN	**Ramite**	**11.74**	**110**	*e*P		Pn	09 15 08.4	-8.2
	comp=N,21nm,0.4s							
KK31	**Karatay Array**	**11.87**	**347**	⇑Pn		**Pn**	**09 15 17.9**	**0.0**
	comp=N,0.7nm,0.4s,baz=165,slow=12,SNR=12							
KK31				⇑Sn		**Sn**	**09 17 29.1**	**-1.0**
	comp=N,0.6nm,0.5s,baz=166,slow=23,SNR=3.9							
TAPN	**Taplejung**	**12.48**	**106**	*e*P		Pn	09 15 18.3	-8.4
AB31	**Akbulak array**	**20.67**	**333**	⇑Pn		**P**	**09 17 06.9**	**-1.6**
	comp=N,2.8nm,1.1s,baz=36,slow=24,SNR=8.4							
AKTO	**Aktyubinsk**	**22.36**	**332**	⇓Pn		**P**	**09 17 30.5**	**+3.8**
	comp=N,2.9nm,0.7s							

MEX 10 09:19:45.0±0.6, 16°.17N×98°.72W, h5km±10km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.61**	**69**	*i* P		Pg	09 19 55.9	-0.9
PNIG				*i* S		Sg	09 20 04.8	+0.1
CAIG	**El Cayaco**	**1.72**	**301**	*e*P		Pn	09 20 12.3	-3.5
CAIG				*e*S		Sn	09 20 33.7	-4.4
MEIG	**Mezcala**	**1.95**	**334**	*e*P		Pn	09 20 14.9	-4.1
MEIG				*i* S		Sn	09 20 40.0	-3.9
VHO	**Vista Hermosa**	**2.10**	**64**	*i* P		Pn	09 20 18.4	-2.8
VHO				*e*S		Sn	09 20 43.7	-4.3
PLIG	**Platanillo**	**2.33**	**341**	*e*P		Pn	09 20 20.9	-3.3
PLIG				*i* S		Sn	09 20 49.8	-3.7
HUIG	**Huatulco**	**2.54**	**99**	*i* P		Pn	09 20 23.8	-3.2
HUIG				*i* S		Sn	09 20 53.4	-4.9
TPIG	**Tehuac#an**	**2.59**	**30**	*e*P		Pn	09 20 24.6	-3.2
TPIG				*i* S		Sn	09 20 55.3	-4.5
ARIG	**Puente Sto Nin**	**2.62**	**324**	*i* P		Pn	09 20 25.6	-2.5
ARIG				*i* S		Sn	09 20 55.8	-4.4
YAIG	**Yautepec**	**2.70**	**353**	*e*P		Pn	09 20 26.8	-2.6
YAIG				*i* S		Sn	09 20 58.5	-4.1
ZIIG	**Zihuatanejo**	**2.99**	**299**	*i* P		Pn	09 20 31.0	-2.2
ZIIG				*i* S		Sn	09 21 06.4	-3.1

AUST ***10*** *09:22:10.3±10.0, 15°.46S×172°.45W, h0km, Error ellipse: s-maj=2.3km s-min=1.3km az=265.0*
BJI ***10*** *09:22:12.0, 15°.90S×172°.70W, h10km, mB5.5/17, mb5.2/21, Ms5.1/6, Ms7 4.7/8*
IDC ***10*** *09:22:12.4±0.5, 15°.67S×172°.93W, h0km, mb4.5/18, mb1 4.7/18, mb1mx4.7/22, mbtmp4.5/18, MS4.1/19, Ms1 4.1/19, ms1mx3.9/40, Error ellipse: s-maj=20.5km s-min=13.6km az=133.0*
ISCJB ***10*** *09:22:12.7±0.2, 15°.71S±0°.06×172°.89W±0°.05, h10km, mb4.8/94, MS4.2/22, Error ellipse: s-maj=9.7km s-min=4.3km az=145.3*
NEIC ***10*** *09:22:14.3±0.1, 15°.66S×172°.94W, h10km, mb5.0/65, Error ellipse: s-maj=8.4km s-min=3.8km az=140.0*
MOS ***10*** *09:22:16.8±1.5, 15°.71S×172°.94W, h33km, mb5.0/17, Error ellipse: s-maj=14.7km s-min=9.2km az=137.1*
GCMT ***10*** *09:22:20.8±0.3, 15°.54S×172°.63W, h12km, MW4.9, Moment Tensor Solution. s35,c43; s66,c94; Moment tensor: Scale 10^16 Nm; Mrr=2.40±.09; Mθθ 1.74±.08; Mφφ 0.66±.08; Mrθ 1.56±.27; Mrφ -1.26±.07; Mθφ 0.31±.29; Best double couple: M0 3.00000×10^16 NP1: φ=283.00000°, δ61.00000°, λ=-112.00000°. NP2: φ=142.00000°, δ36.00000°, λ=-56.00000°. Principal axes: T 2.8400, Plg13.0000°, Azm28.0000°; N 0.2300, Plg19.0000°, Azm294.0000°; P -3.0600, Plg66.0000°, Azm151.0000°; Data Used: ll lU G CN lC.*

ISC 10 09:22:15.1±0.6, 15°.81S±0°.07×172°.78W±0°.06, h14km±3km, h14km: pP-P, n535, σ0s89/523, mb4.9/94, MS4.2/22, 152C-123D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.13**	**27**	Pn		Pn	09 22 42.0	-8.2
AFI				Sn		Sn	09 23 03.9	-13
AFI				*e*Sn		Sb	09 23 05.5	-14
AFI

comp=Z,1.6nm,0.7s,baz=114,slow=3.3,SNR=5.7
FITZ LR LR 09 55 27.9
comp=Z,280nm,18.6s,baz=276,slow=34
SBA Scott Base 62.89 185 eP **P 09 32 43.1 +2.9**
SBA pmax pmax
comp=Z,13nm,0.9s
SBA Scott Base 62.89 185 eP **P 09 32 43.1 +2.9**
comp=Z,13nm,0.9s
VNDA Vanda 63.03 186 P **P 09 32 42.5 +1.3**
VNDA Vanda 63.03 186 P **P 09 32 42.5 +1.3**
comp=Z,5.4nm,0.9s,baz=7.3,slow=6.1,SNR=24
VNDA LR LR 09 52 44.5
comp=Z,98nm,21.1s,baz=341,slow=29
MEEK Meekatharra 64.21 248 P **P 09 32 49.2 -0.7**
baz=65,SNR=5.6
CASY Casey 70.28 205 eP **P 09 33 28.8 +1.2**
comp=Z,18nm,1.2s
PKM Peak Mountain 71.19 44 ⇑P **P 09 33 35.0 +1.1**
baz=71
SAO San Andreas Ge 71.24 41 eP **P 09 33 33.9 0.0**
SAO pmax pmax
comp=Z,10.0nm,1.0s
SAO San Andreas Ge 71.24 41 eP **P 09 33 33.9 0.0**
comp=Z,9.7nm,1.0s
CIS Catalina Islan 71.30 46 ⇑P **P 09 33 34.6 +0.2**
baz=72
PTRM Twissleman Ran 71.38 43 eP **P 09 33 34.8 0.0**
ARVC Arvin 71.99 44 ⇑P **P 09 33 39.6 +1.2**
baz=72
MWC Mount Wilson 72.00 45 eP **P 09 33 38.1 -0.6**
MWC pmax pmax
comp=Z,9.0nm,0.9s
MWC Mount Wilson 72.00 45 eP **P 09 33 38.1 -0.6**
comp=Z,9.4nm,0.9s
VES Vestal, Richgr 72.23 43 ⇑P **P 09 33 40.7 +0.8**
baz=72
MURC Murrieta 72.24 46 ⇓P **P 09 33 40.8 +0.8**
baz=72
BFSC Mount Baldy Ra 72.28 46 ⇑P **P 09 33 41.1 +0.7**
baz=72
MONP Monument Peak 72.40 47 ⇓P **P 09 33 41.2 0.0**
baz=73
EDW2 Edwards Air Fo 72.41 45 ⇓P **P 09 33 40.6 -0.5**
baz=73,SNR=8.5
ISA Isabella 72.53 44 eP **P 09 33 41.7 -0.1**
ISA pmax pmax
comp=Z,8.0nm,1.0s
ISA Isabella 72.53 44 eP **P 09 33 41.7 -0.1**
comp=Z,8.2nm,1.0s
ISA Isabella 72.53 44 ⇑P **P 09 33 42.0 +0.2**
baz=73
CMB Columbia Colle 72.68 41 eP **P 09 33 42.3 -0.3**
CMB pmax pmax
comp=Z,10.0nm,1.2s
CMB Columbia Colle 72.68 41 eP **P 09 33 42.3 -0.3**
comp=Z,10.0nm,1.2s
PFO Pinyon Flat Ob 72.77 47 ⇑P **P 09 33 43.0 -0.3**
baz=73
PFO Pinyon Flat Ob 72.77 47 LR LR 09 56 55.5
comp=Z,218nm,20.0s,baz=163,slow=29
LRMC Laurel Mountai 72.95 44 ⇓P **P 09 33 43.8 -0.6**
baz=73,SNR=6.8
PETK Petropavlovsk- 73.21 342 P **P 09 33 44.5 -0.8**
PETK Petropavlovsk- 73.21 342 P **P 09 33 44.5 -0.8**
PETK Petropavlovsk- 73.21 342 P **P 09 33 44.5 -0.8**
comp=Z,7.9nm,0.8s,baz=141,slow=9.6,SNR=10
BELC Belle Mtn. Jos 73.30 47 ⇑P **P 09 33 46.3 -0.1**
baz=74
MPMC Manual Prospec 73.41 44 ⇑P **P 09 33 46.8 -0.3**
baz=74,SNR=13
MLAC Mammoth Lakes 73.43 42 ⇓P **P 09 33 47.1 -0.2**
baz=74
MTUM Tungsten Hills 73.44 42 eP **P 09 33 47.4 +0.1**
GSC Goldstone 73.45 45 eP **P 09 33 46.8 -0.5**
GSC pmax pmax
comp=Z,11nm,1.4s
GSC Goldstone 73.45 45 eP **P 09 33 46.8 -0.5**
comp=Z,12nm,1.4s
GSC Goldstone 73.45 45 ⇓P **P 09 33 47.4 +0.1**
baz=74
BC3 Big Chuckawall 73.50 47 ⇑P **P 09 33 47.6 0.0**
baz=74
HEC Hector,Ludlow 73.52 46 ⇓P **P 09 33 47.1 -0.5**
baz=74
GLA Glamis 73.62 48 eP **P 09 33 48.5 +0.2**
GLA pmax pmax
comp=Z,6.0nm,1.0s
GLA Glamis 73.62 48 eP **P 09 33 48.5 +0.2**
comp=Z,6.0nm,1.0s
GLA Glamis 73.62 48 ⇓P **P 09 33 47.9 -0.3**
baz=74
BEKR Beckworth 73.80 39 eP **P 09 33 48.5 -0.9**
comp=Z,2.3nm,0.9s
GMRC Granite Mounta 73.95 46 ⇓P **P 09 33 49.8 -0.5**
baz=74
IRM Iron Mountain 73.98 47 ⇓P **P 09 33 49.8 -0.5**
baz=74
FURC Furnace Creek, 74.06 44 ⇓P **P 09 33 50.4 -0.3**
baz=74,SNR=6.8
TUQ Turquoise Moun 74.13 45 ⇓P **P 09 33 50.7 -0.6**
baz=74
SHOC Shoshone 74.14 45 ⇓P **P 09 33 50.8 -0.4**
baz=74
Y12C Blythe 74.20 47 ⇑P **P 09 33 51.2 -0.4**
baz=74
QSPA South Pole Qui 74.23 180 eP **P 09 33 52.0 +0.5**
comp=Z,21nm,0.9s
113A Mohawk Valley, 74.23 49 ⇓P **P 09 33 51.6 -0.2**
baz=74
NVAR Mina Array Bea 74.24 42 P **P 09 33 51.2 -0.7**
NVAR Mina Array Bea 74.24 42 P **P 09 33 51.2 -0.7**
comp=Z,5.2nm,0.8s,baz=228,slow=9.5,SNR=29
NVAR LR LR 09 58 01.8
comp=Z,331nm,21.9s,baz=105,slow=29
PAHR Pah Rah Range 74.31 40 eP **P 09 33 52.3 0.0**
comp=Z,9.5nm,1.1s
NV11 Mina Array Sit 74.33 42 eP **P 09 33 51.8 -0.6**
LDFC Landfair 74.50 46 eP **P 09 33 53.5 +0.1**
comp=Z,13nm,0.9s
214A Organ Pipe Nat 74.52 50 ⇓P **P 09 33 52.9 -0.7**
baz=75
PDMCI Parker Dam,Lak 74.76 47 ⇓P **P 09 33 54.5 -0.3**
baz=75
MOD Modoc 75.08 38 eP **P 09 33 56.5 -0.2**
comp=Z,30nm,1.0s
Z14A Wintersburg 75.13 48 ⇑P **P 09 33 57.0 +0.1**
baz=75
SHPR Sheep Range 75.23 45 eP **P 09 33 57.3 -0.4**
K05A Summer Lake 75.24 37 eP **P 09 33 57.9 +0.2**
comp=Z,208nm,2.8s
W13A Hualapai Mount 75.36 47 ⇑P **P 09 33 58.2 -0.4**
baz=76
Y14A Wickenburg 75.38 48 ⇓P **P 09 33 58.4 -0.1**
baz=76
H04A Detroit Lake 75.75 35 eP **P 09 34 00.5 +0.1**
comp=Z,38nm,1.8s
PINOR Pine Mountain 75.93 36 eP **P 09 34 01.4 +0.2**
comp=Z,8.9nm,0.7s
R11A Troy Canyon, C 75.95 43 eP **P 09 34 01.5 -0.3**
R11A Troy Canyon, C 75.95 43 ⇓P **P 09 34 01.7 -0.2**
baz=76
TUC Tucson 76.19 50 eP **P 09 34 02.9 -0.3**
TUC pmax pmax
comp=Z,33nm,2.0s
TUC Tucson 76.19 50 eP **P 09 34 02.9 -0.3**
comp=Z,33nm,2.0s
X16A Lo Mia Camp, P 76.74 48 ⇓P **P 09 34 06.3 -0.1**
baz=77,SNR=15
KSRS Korea Array 76.87 315 P **P 09 34 07.3 +0.6**
comp=Z,2.2nm,0.9s,baz=114,slow=4.9,SNR=7.2
319A Douglas 76.87 52 ⇑P **P 09 34 06.6 -0.5**
baz=77
I07A Izee 76.87 36 eP **P 09 34 06.8 -0.1**
comp=Z,92nm,2.7s
KSAR Wonju Array Be 76.89 315 P **P 09 34 07.3 +0.4**
CCUT Cedar City 77.00 45 eP **P 09 34 08.2 +0.3**
comp=Z,7.2nm,1.1s
J08A Circle Bar Ran 77.03 37 eP **P 09 34 07.8 0.0**
comp=Z,98nm,2.8s
ARUT Antelope Range 77.07 44 eP **P 09 34 07.9 -0.3**
ARUT Antelope Range 77.07 44 eP **P 09 34 07.9 -0.3**
comp=Z,136nm,0.9s
U15A North Rim 77.15 46 ⇑P **P 09 34 08.8 0.0**
baz=77,SNR=7.1
LON Longmire 77.28 33 eP **P 09 34 09.3 +0.3**
LON pmax pmax
comp=Z,14nm,1.5s
LON Longmire 77.28 33 eP **P 09 34 09.3 +0.3**
comp=Z,14nm,1.5s
WUAZ Wupatki 77.34 47 ⇑P **P 09 34 09.7 0.0**
baz=78
320A Kipp Ranch, An 77.43 52 ⇑P **P 09 34 09.7 -0.6**
baz=78
D05A Enumclaw 77.47 33 eP **P 09 34 11.1 +1.1**
comp=Z,22nm,1.1s
ELK Elko 77.50 41 eP **P 09 34 10.8 +0.2**
comp=Z,5.4nm,1.1s
220A Playas Peak, P 77.69 52 ⇓P **P 09 34 11.8 +0.1**
baz=78,SNR=6.9
X18A Snowflake 77.87 49 ⇑P **P 09 34 12.8 0.0**
baz=78
120A U Bar Ranch, L 77.90 51 ⇑P **P 09 34 12.8 -0.2**
baz=78
G08A Pilot Rock 77.92 36 eP **P 09 34 12.6 -0.1**
comp=Z,13nm,1.2s
USRK Ussuriysk Arra 78.07 323 P **P 09 34 10.8 -2.6**
comp=Z,2.4nm,0.8s,baz=116,slow=3.4,SNR=3.0
USRK LR LR 10 06 29.4
comp=Z,57nm,20.7s,baz=76,slow=34
Z20A Nine Sixteen R 78.20 51 ⇓P **P 09 34 14.5 0.0**
baz=78,SNR=6.1
LTY Liberty 78.20 33 eP **P 09 34 13.6 -0.5**
comp=Z,99nm,2.8s
MVU Marysvale 78.27 44 eP **P 09 34 15.2 +0.2**
comp=Z,7.7nm,0.8s
HAWA Hanford 78.28 34 eP **P 09 34 14.6 +0.1**
comp=Z,40nm,1.9s
HAWA epP **PcP 09 34 23.1 -0.7**
W18A Petrified Fore 78.31 48 ⇑P **P 09 34 15.2 0.0**
baz=78
121A Cookes Peak, D 78.53 51 ⇑P **P 09 34 16.6 +0.1**
baz=79,SNR=5.2
MFID Camas Ranch 78.63 39 ⇓P **P 09 34 16.9 +0.2**
baz=79
Y20A Horse Springs, 78.72 50 ⇓P **P 09 34 17.7 +0.1**
baz=79,SNR=7.2
DUG Dugway 78.76 43 eP **P**
DUG pmax pmax
comp=Z,11nm,1.4s
DUG Dugway 78.76 43 eP **P 09 34 17.2 -0.3**
comp=Z,11nm,1.4s
DUG Dugway 78.76 43 ⇑P **P 09 34 17.1 -0.4**
baz=79
X20A Quemado 78.93 49 ⇑P **P 09 34 18.3 -0.3**
baz=79
Z21A St. Cloud Mine 78.97 51 ⇑P **P 09 34 18.6 -0.3**
baz=79
E09A Wood Farm, Sta 79.11 35 eP **P 09 34 18.6 -0.4**
comp=Z,27nm,1.8s
Q16A Castle Valley 79.18 44 eP **P 09 34 20.0 +0.1**
Q16A Castle Valley 79.18 44 ⇑P **P 09 34 20.3 +0.4**
baz=79
122A Conniff Cattle 79.20 52 ⇑P **P 09 34 20.1 +0.1**
baz=79
W20A Ramah 79.20 49 ⇑P **P 09 34 20.2 +0.1**
baz=79,SNR=9.6
Y21A Point of Rocks 79.29 50 ⇑P **P 09 34 20.9 +0.2**
baz=80
F10A Beach Ranch, E 79.30 36 eP **P 09 34 19.1 -1.1**
comp=Z,5.4nm,0.9s
TMUT Trail Mountain 79.35 44 eP **P 09 34 21.7 +0.7**
comp=Z,15nm,0.9s
X21A Alamocita Cree 79.41 50 ⇑P **P 09 34 20.8 -0.5**
baz=80
Z22A Elephant Butte 79.48 51 ⇑P **P 09 34 21.5 -0.1**
baz=80,SNR=6.1
HLID Hailey 79.57 39 eP **P 09 34 21.7 -0.2**
comp=Z,36nm,2.0s
HLID Hailey 79.57 39 ⇑P **P 09 34 21.8 0.0**
baz=80
B08A Colville Reser 79.59 33 eP **P 09 34 20.7 -1.0**
comp=Z,14nm,1.5s
DIV Divide 79.66 13 eP **P 09 34 21.1 -0.7**
comp=Z,19nm,0.7s
MDJ Mudanjiang 79.72 322 P **P 09 34 23.8 +1.4**
MDJ pP **pP 09 34 27.1 -0.1**
MDJ sP **sP 09 34 28.4 -0.5**
MDJ PP **PP 09 37 25.1 +1.3**
MDJ S **S 09 44 27.3 +2.8**
MDJ ScS **ScS 09 44 47.6 +1.6**
MDJ SS **SS 09 49 36.5 +2.7**
MDJ AMB AMB
comp=Z,6.0nm,0.5s
MDJ AMB AMB
comp=Z,150nm,5.4s
MDJ LR LR
comp=Z,48nm,19.4s
SRU San Rafael 79.72 44 eP **P 09 34 22.8 0.0**
SRU pmax pmax
comp=Z,12nm,1.3s
SRU San Rafael 79.72 44 eP **P 09 34 22.8 0.0**
comp=Z,12nm,1.3s
BMRM Bremer River 79.78 14 eP **P 09 34 22.2 -0.2**
comp=Z,25nm,1.0s
U20A Newcomb 79.78 48 ⇓P **P 09 34 23.0 -0.2**
baz=80
Y22A Socorro 79.78 50 ⇑P **P 09 34 22.7 -0.6**
baz=80
324A Moseley Ranch, 79.81 53 ⇑P **P 09 34 23.1 -0.3**
baz=80
C09A Chrisman Ranch 79.82 34 eP **P 09 34 22.6 -0.3**
comp=Z,23nm,1.6s
W21A San Fidel 79.82 49 ⇓P **P 09 34 23.4 -0.1**
baz=80
JLU Jordanelle 79.86 43 eP **P 09 34 23.4 -0.2**
comp=Z,47nm,2.2s
425A Indio Mountain 79.91 54 ⇓P **P 09 34 23.9 -0.1**
baz=80,SNR=10
MNTX Cornudas Mount 79.99 53 eP **P 09 34 23.8 -0.5**
comp=Z,5.2nm,1.0s
Z23A Rita Site, Whi 80.03 51 ⇓P **P 09 34 24.5 -0.1**
baz=80
224A Cornudas Mount 80.05 53 ⇑P **P 09 34 24.5 -0.2**
baz=80,SNR=6.4
626A Big Bend Ranch 80.06 55 ⇓P **P 09 34 24.6 -0.2**
baz=80,SNR=7.0
BNM Barren Site 80.13 50 eP **P 09 34 24.4 -0.8**
comp=Z,4.6nm,1.1s
325A Bean Ranch, Si 80.17 53 ⇑P **P 09 34 25.0 -0.4**
baz=80,SNR=11
PV05 Paxox Valley 80.18 46 eP **P 09 34 25.6 +0.2**
LPM Los Pinos Moun 80.20 50 eP **P 09 34 25.0 -0.5**
comp=Z,2.9nm,0.8s
526A Mary Lane Ranc 80.31 55 ⇓P **P 09 34 26.0 -0.1**
baz=80,SNR=7.4
TXAR Lajitas Array 80.35 56 P **P 09 34 25.5 -0.8**
TXAR Lajitas Array 80.35 56 P **P 09 34 25.5 -0.8**
comp=Z,4.5nm,1.0s,baz=230,slow=5.9,SNR=20
TXAR LR LR 10 01 10.3
comp=Z,132nm,21.9s,baz=180,slow=29
PV09 Paradox Valley 80.36 45 eP **P 09 34 26.6 +0.1**
124A Stringfield Ra 80.37 52 ⇑P **P 09 34 26.3 -0.2**
baz=80
U21A Nageezi 80.42 48 ⇓P **P 09 34 26.8 +0.1**
baz=81,SNR=13
Y23A Lovelace Mesa, 80.46 51 ⇓P **P 09 34 26.7 -0.3**
baz=81
PV01 Paradox Valley 80.58 46 eP **P 09 34 27.2 -0.3**
comp=Z,488nm,0.9s
S20A Disappointment 80.58 46 ⇑P **P 09 34 27.2 -0.4**
baz=81
225A Deer Hill, Car 80.60 53 ⇓P **P 09 34 27.6 -0.1**
baz=81
426A McDonald Obser 80.61 54 ⇑P **P 09 34 27.6 -0.2**
baz=81
ANMO Albuquerque 80.61 50 eP **P 09 34 27.3 -0.4**
comp=Z,11nm,1.2s
627A Terlingua Ranc 80.62 56 ⇓P **P 09 34 28.0 +0.2**
baz=81,SNR=12
Z24A Sheeppen Canyo 80.71 52 ⇑P **P 09 34 28.1 -0.2**
baz=81
V22A San Miguel Ran 80.72 49 ⇓P **P 09 34 27.7 -0.6**
baz=81
527A Woodward Ranch 80.72 55 ⇑P **P 09 34 28.1 -0.3**
baz=81
R20A Redvale 80.73 46 ⇓P **P 09 34 28.0 -0.3**
baz=81
PV15 Paradox Valley 80.74 46 eP **P 09 34 27.6 -0.7**
T21A Navajo Lake 80.76 47 ⇓P **P 09 34 28.3 -0.3**
baz=81
NJ2 Nanjing 80.89 307 eP **P 09 34 29.2 +0.2**
NJ2 AMB AMB
comp=Z,20nm,0.5s
S21A Coal Bank Pass 80.89 47 ⇓P **P 09 34 29.2 -0.1**
baz=81,SNR=9.5
Y24A Capitan 80.92 51 ⇓P **P 09 34 28.6 -0.8**
baz=81
326A Caldwell Ranch 80.92 54 ⇑P **P 09 34 28.5 -0.8**
baz=81
W23A Werner Place, 80.93 50 ⇓P **P 09 34 29.1 -0.4**
baz=81
SKAG Skagway 80.94 18 eP **P 09 34 31.7 +3.1**
comp=Z,16nm,1.3s
125A Gardner Draw, 80.96 52 ⇓P **P 09 34 29.0 -0.5**
baz=81
U22A Llaves 80.97 48 ⇑P **P 09 34 29.1 -0.6**
baz=81
GDL2 Guadalupe Moun 80.99 53 eP **P 09 34 30.2 +0.5**
P19A Cripple Cowboy 81.02 45 ⇑P **P 09 34 29.2 -0.6**
baz=81
628A Black Gap, Mar 81.03 56 ⇑P **P 09 34 29.6 -0.3**
baz=81,SNR=8.0
226B Tecolote Peak, 81.09 53 ⇑P **P 09 34 30.0 -0.2**
baz=81,SNR=7.3
Q20A Ridgley Place, 81.16 45 ⇑P **P 09 34 30.5 0.0**
baz=81
V23A Ortiz Mt. (NFS 81.17 49 ⇓P **P 09 34 30.9 +0.2**
baz=81
427A Hayter Ranch, 81.17 55 ⇓P **P 09 34 30.6 -0.1**
baz=81,SNR=11
Z25A Roswell 81.18 52 ⇑P **P 09 34 30.6 -0.1**
baz=81
X24A Lazy VL Ranch, 81.19 50 ⇑P **P 09 34 30.7 -0.1**
baz=81
MCMT McKenzie Canyo 81.20 39 eP **P 09 34 30.4 -0.3**
comp=Z,2.7nm,1.0s
T22A Edith 81.22 48 ⇑P **P 09 34 31.6 +0.6**
baz=81
O19A Miners Draw (B 81.24 44 ⇓P **P 09 34 31.1 +0.2**
baz=81
P20A De Beque 81.35 45 ⇓P **P 09 34 31.4 -0.1**
baz=82,SNR=7.4
RRI2 Red Ridge 81.36 40 eP **P 09 34 31.5 -0.1**
comp=Z,13nm,1.2s
R21A Cimarron 81.39 46 ⇑P **P 09 34 31.9 0.0**
baz=82,SNR=6.5
MCK McKinley 81.42 10 eP **P 09 34 30.4 -0.7**
MCK pmax pmax
comp=Z,31nm,0.9s
MCK McKinley 81.42 10 eP **P 09 34 30.4 -0.7**
comp=Z,31nm,0.9s
U23A El Rito 81.42 49 ⇑P **P 09 34 31.8 -0.2**
baz=82
126A Clayton Basin, 81.44 53 ⇑P **P 09 34 31.7 -0.4**
baz=82
Y25A Mesa, Roswell 81.47 51 ⇓P **P 09 34 32.3 0.0**
baz=82
W24A Lazy 6 Ranch, 81.50 50 ⇑P **P 09 34 32.2 -0.2**
baz=82
Q21A Lamborn Mesa, 81.59 46 ⇑P **P 09 34 33.2 +0.3**
baz=82
S22A 4UR Ranch, Cre 81.61 47 ⇑P **P 09 34 33.1 0.0**
baz=82,SNR=9.9
DLMT Dillon 81.64 38 eP P 09 34 29.4 -3.5
comp=Z,5.3nm,0.9s
MSO Missoula 81.66 36 eP **P 09 34 31.9 -1.0**
comp=Z,9.4nm,1.3s
MSO Missoula 81.66 36 ⇓P **P 09 34 32.4 -0.5**
baz=82
TPAW Teton Pass 81.66 40 eP **P 09 34 33.0 -0.2**
comp=Z,89nm,2.6s
428A Kincaid Ranch, 81.69 55 ⇓P **P 09 34 33.2 -0.2**
baz=82
MENT Mentasta 81.72 13 eP **P 09 34 32.1 -0.6**
Z26A Caprock 81.73 52 ⇑P **P 09 34 33.0 -0.6**
baz=82
227A Bennet, Jal 81.74 54 ⇑P **P 09 34 33.0 -0.6**
baz=82
BSMT Bassoo Peak 81.75 35 eP **P 09 34 32.8 -0.7**
O20A White River Ci 81.75 44 ⇑P **P 09 34 34.0 +0.3**
baz=82
SNOW Snow King Moun 81.77 41 eP **P 09 34 33.8 +0.1**
comp=Z,104nm,2.5s
CN2 Changchun 81.79 320 eS **S 09 44 45.8 -0.4**
CN2 AMB AMB
comp=Z,20nm,0.8s
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,17.0s
CN2 LR LR
comp=E,200nm,17.0s
CN2 LR LR
comp=Z,200nm,18.0s
529A Stev Forest Ra 81.81 56 ⇑P **P 09 34 33.8 -0.2**
baz=82
V24A Rampart Ranch, 81.82 49 ⇑P **P 09 34 34.1 -0.2**
baz=82
328A Wristen Ranch, 81.86 54 ⇓P **P 09 34 33.6 -0.6**
baz=82
IMW Indian Meadow 81.88 40 eP **P 09 34 34.2 -0.1**
comp=Z,6.6nm,1.0s
R22A Saguache, Gunn 81.88 47 ⇑P **P 09 34 34.8 +0.3**
baz=82,SNR=5.5
P21A Newcastle 82.00 45 ⇓P **P 09 34 34.9 -0.2**
baz=82
QLMT Earthquake Lak 82.06 39 eP **P 09 34 35.3 +0.1**
comp=Z,0.4nm,0.6s
Q22A Crested Butte, 82.07 46 ⇓P **P 09 34 35.4 -0.1**
baz=82,SNR=10
N20A Spence Gulch, 82.08 44 ⇑P **P 09 34 35.4 0.0**
baz=82
CHMT Chamberlain Mo 82.10 37 eP **P 09 34 34.5 -0.8**
U24A Moreno Valley 82.12 49 ⇑P **P 09 34 35.5 -0.3**
baz=82
FLWY Flagg Ranch 82.12 40 eP **P 09 34 35.8 +0.3**
comp=Z,20nm,1.4s
PDAR Pinedale Array 82.17 42 LR LR 10 02 51.3
comp=Z,173nm,19.8s,baz=245,slow=30
W25A X Bar L Ranch, 82.20 50 ⇓P **P 09 34 35.1 -0.9**
baz=82
429A Davenport Ranc 82.27 55 ⇓P **P 09 34 35.9 -0.6**
baz=82,SNR=16
T24B San Luis 82.33 48 ⇑P **P 09 34 36.7 -0.2**
baz=82
Z27A Tatum 82.33 52 ⇑P **P 09 34 36.4 -0.4**
baz=82
V25A Rancho No Teng 82.35 50 ⇓P **P 09 34 36.7 -0.2**
baz=82
H17A Grant Village 82.36 40 ⇓P **P 09 34 37.4 +0.6**
baz=82
X26A CR and CF Fran 82.40 51 ⇑P **P 09 34 37.1 0.0**
baz=83
M20A Sweetwater, Wa 82.44 43 ⇓P **P 09 34 37.7 +0.4**
baz=83
P22A Eagle 82.51 45 ⇑P **P 09 34 37.6 -0.1**
baz=83
R23A Moffat 82.52 47 ⇑P **P 09 34 37.4 -0.5**
baz=83
530A J-C Ranch, Com 82.53 56 ⇓P **P 09 34 37.6 -0.2**
baz=83
329A Wagon Wheel Ra 82.55 54 ⇓P **P 09 34 37.9 +0.1**
baz=83
L20A Wamsutter 82.59 43 ⇑P **P 09 34 38.0 -0.1**
baz=83,SNR=8.0
Y27A Causey 82.61 52 ⇓P **P 09 34 37.3 -0.9**
baz=83
128A Castleberry Fa 82.61 53 ⇓P **P 09 34 37.7 -0.5**
baz=83
COLA College 82.66 10 eP **P 09 34 36.8 -0.7**
COLA pmax pmax
comp=Z,42nm,0.8s
COLA College 82.66 10 eP **P 09 34 36.8 -0.7**
comp=Z,42nm,0.8s
S24A Houchin Ranch, 82.71 48 ⇑P **P 09 34 38.8 -0.1**
baz=83
ILAR Eielson Array 82.73 11 P **P 09 34 36.6 -1.4**
ILAR Eielson Array 82.73 11 P **P 09 34 36.6 -1.4**
comp=Z,3.7nm,0.7s,baz=225,slow=5.8,SNR=39
ILAR LR LR 10 03 00.3
comp=Z,142nm,20.7s,baz=227,slow=30
J19A Crowheart 82.74 41 ⇑P **P 09 34 38.4 -0.4**
baz=83
U25A Circle Dot Ran 82.75 49 ⇑P **P 09 34 38.9 -0.1**
baz=83
IM04 Indian Mountai 82.79 8 eP **P 09 34 37.5 -0.7**
631A Perdido Creek 82.85 57 ⇑P **P 09 34 39.0 -0.5**
baz=83,SNR=9.0
430A Baggett Ranch, 82.86 55 ⇑P **P 09 34 38.9 -0.6**
baz=83
O22A Kremmling 82.91 45 ⇑P **P 09 34 39.8 -0.1**
baz=83,SNR=8.9
MSTX Muleshoe 82.94 52 eP **P 09 34 39.5 -0.4**

MSTX	Muleshoe	82.94	52	⇓P		P	09 34 39.7	-0.3	
	baz=83								
V26A	Tequesquite Ra	82.94	50	⇑P		P	09 34 39.1	-0.8	
	baz=83								
Z28A	Tucker Farm, M	82.96	53	⇑P		P	09 34 39.2	-0.8	
	baz=83								
X27A	F and S Farms,	82.97	51	⇑P		P	09 34 40.1	0.0	
	baz=83								
P23A	Jefferson	83.04	46	⇓P		P	09 34 40.6	0.0	
	baz=83								
R24A	Sanders Place,	83.04	47	⇑P		P	09 34 40.1	-0.4	
	baz=83								
H18A	Shoshone NF, C	83.06	40	⇓P		P	09 34 40.6	+0.1	
	baz=83								
732A	Laxson Ranch,	83.08	58	⇓P		P	09 34 40.5	-0.1	
	baz=83								
129A	Stewart Farms,	83.09	53	⇑P		P	09 34 40.3	-0.4	
	baz=83								
330A	Mertzon	83.15	55	⇑P		P	09 34 40.4	-0.6	
	baz=83								
I19A	Meeteetse	83.16	41	⇓P		P	09 34 40.6	-0.4	
	baz=83								
531A	Rocksprings	83.17	56	⇑P		P	09 34 40.6	-0.5	
	baz=83,SNR=7.7								
W27A	Bowe Ranch, En	83.17	51	⇓P		P	09 34 40.5	-0.6	
	baz=83								
RWWY	Rawlins	83.18	43	*e*P		P	09 34 46.4	+5.2	
	comp=Z,14nm,0.9s								
L21A	Rawlins	83.20	43	⇑P		P	09 34 40.8	-0.5	
	baz=83								
U26A	Atchley Ranch,	83.23	49	⇓P		P	09 34 40.6	-0.9	
	baz=83								
N22A	Wattenberg Ran	83.27	44	⇓P		P	09 34 41.4	-0.3	
	baz=83,SNR=7.0								
S25A	Robets Cordova	83.27	48	⇓P		P	09 34 41.2	-0.4	
	baz=83,SNR=6.0								
Q24A	Divide	83.34	47	⇓P		P	09 34 41.9	-0.3	
	baz=84,SNR=7.7								
O23A	Lake Granby, G	83.37	45	⇑P		P	09 34 41.9	-0.3	
	baz=84								
ISCO	Idaho Springs	83.39	46	*e*P		P	09 34 42.3	-0.1	
ISCO				pmax		pmax			
	comp=Z,5.0nm,1.0s								
ISCO	Idaho Springs	83.39	46	*e*P		P	09 34 42.2	-0.1	
	comp=Z,5.0nm,1.0s								
ISCO	Idaho Springs	83.39	46	⇓P		P	09 34 41.9	-0.5	
	baz=84								
J20A	Shoshoni	83.40	42	⇓P		P	09 34 42.2	0.0	
	baz=84,SNR=5.6								
M22A	Cedar Creek Ra	83.45	44	⇑P		P	09 34 42.1	-0.5	
	baz=84								
Z29A	Hungry Hill Ra	83.47	53	⇑P		P	09 34 42.0	-0.6	
	baz=84								
H19A	Powell	83.48	40	⇓P		P	09 34 42.7	+0.2	
	baz=84,SNR=8.7								
632A	Uvalde	83.53	57	⇓P		P	09 34 42.4	-0.5	
	baz=84								
R25A	Fountain Ranch	83.59	48	⇓P		P	09 34 42.5	-0.7	
	baz=84								
K21A	Alcova	83.60	43	⇑P		P	09 34 42.3	-1.0	
	baz=84,SNR=5.7								
X28A	Dimmitt	83.60	52	⇑P		P	09 34 42.6	-0.7	
	baz=84,SNR=11								
GCMT	Greycliff	83.62	39	*e*P		P	09 34 43.1	-0.1	
	comp=Z,7.6nm,1.1s								
N23A	Red Feather La	83.66	45	⇑P		P	09 34 43.0	-0.6	
	baz=84								
I20A	Worland	83.66	41	⇑P		P	09 34 43.3	-0.2	
	baz=84,SNR=10.0								
532A	Rocksprings	83.67	56	⇓P		P	09 34 43.0	-0.7	
	baz=84								
T26A	Comanche Natio	83.67	49	⇑P		P	09 34 42.5	-1.2	
	baz=84								
DAWY	Dawson	83.67	14	*e*P		P	09 34 42.3	-0.6	
331A	San Angelo	83.70	55	⇑P		P	09 34 42.9	-1.0	
	baz=84								
Y29A	Porterfield Fa	83.73	52	⇑P		P	09 34 43.5	-0.5	
	baz=84								
130A	Snyder	83.78	54	⇓P		P	09 34 43.2	-1.0	
	baz=84								
J21A	Lysite	83.81	42	⇑P		P	09 34 43.9	-0.4	
	baz=84,SNR=15								
L22A	Ellis Ranch, M	83.85	43	⇓P		P	09 34 44.4	-0.1	
	baz=84								
EGAK	Eagle	83.89	13	*e*P		P	09 34 44.0	+0.1	
	comp=Z,168nm,2.6s								
O24A	Longmont	83.90	46	⇓P		P	09 34 44.9	+0.1	
	baz=84								
U27A	Thompson Grove	83.91	50	⇓P		P	09 34 44.1	-0.8	
	baz=84								
Z30A	Sanderson Ranc	83.92	53	⇑P		P	09 34 44.0	-0.9	
	baz=84								
S26A	Kim	83.95	48	⇑P		P	09 34 44.5	-0.5	
	baz=84								
Q25A	Bedland, Calha	83.95	47	⇓P		P	09 34 44.2	-0.9	
	baz=84								
H20A	Greybull	84.00	41	⇓P		P	09 34 44.3	-0.9	
	baz=84,SNR=6.0								
231A	Bronte	84.03	55	⇑P		P	09 34 44.3	-1.2	
	baz=84								
432A	Menard	84.04	56	⇓P		P	09 34 44.4	-1.1	
	baz=84								
K22A	Casper	84.08	43	⇑P		P	09 34 45.3	-0.3	
	baz=84								
F19A	Roth Farm, Mol	84.09	39	⇑P		P	09 34 45.0	-0.6	
	baz=84,SNR=5.6								
I21A	Big Trails, Te	84.13	41	⇑P		P	09 34 45.2	-0.6	
	baz=84,SNR=13								
PHWY	Pilot Hill	84.17	44	*e*P		P	09 34 45.7	-0.6	
	comp=Z,18nm,1.8s								
T27A	Campo	84.25	49	⇑P		P	09 34 45.9	-0.7	
	baz=84								
131A	Roby	84.25	54	⇓P		P	09 34 45.8	-0.8	
	baz=84								
W29A	Amraillo	84.25	51	⇑P		P	09 34 46.2	-0.5	
	baz=84								
P25A	Willow Gulch B	84.26	46	⇓P		P	09 34 46.1	-0.6	
	baz=84								
332A	Millersview	84.27	55	⇑P		P	09 34 46.0	-0.7	
	baz=84								
Y30A	Stafford Cattl	84.33	53	⇓P		P	09 34 46.4	-0.6	
	baz=84								
U28A	Mallet	84.34	50	⇓P		P	09 34 46.2	-0.8	
	baz=84								
N24A	Carr	84.35	45	⇓P		P	09 34 46.8	-0.3	
	baz=84								
L23A	Garrett	84.38	44	⇑P		P	09 34 46.7	-0.6	
	baz=84,SNR=6.2								
COLD	Coldfoot	84.46	9	*e*P		P	09 34 47.1	+0.3	
	comp=Z,17nm,1.0s								
J22A	Midwest	84.46	42	⇓P		P	09 34 47.0	-0.5	
	baz=85,SNR=9.2								
Q26A	Hugo	84.46	47	⇓P		P	09 34 47.3	-0.4	
	baz=85								
E19A	Rath Farm, Rou	84.49	39	⇓P		P	09 34 47.1	-0.4	
	baz=85								
F20A	Billings	84.55	39	⇑P		P	09 34 48.0	+0.1	
	baz=85								
O25A	Wiggins	84.56	46	⇓P		P	09 34 47.9	-0.2	
	baz=85								
X30A	Coker Ranch, T	84.57	52	⇓P		P	09 34 47.2	-1.0	
	baz=85								
V29A	Stinnett	84.65	51	⇓P		P	09 34 48.2	-0.4	
	baz=85								
M24A	Cheyenne	84.67	44	⇓P		P	09 34 48.9	+0.2	
	baz=85								
H21A	Big Horn, Sher	84.67	41	⇑P		P	09 34 48.2	-0.3	
	baz=85								
I22A	9 Mile Ranch,	84.68	42	⇑P		P	09 34 48.3	-0.4	
	baz=85								
Z31A	Sharp Cattle R	84.69	53	⇑P		P	09 34 48.3	-0.5	
	baz=85								
EGMT	Eagleton	84.70	37	⇓P		P	09 34 48.6	0.0	
	baz=85								
R27A	Eads	84.71	48	⇓P		P	09 34 48.3	-0.6	
	baz=85								
K23A	Bowen Ranch, D	84.72	43	⇓P		P	09 34 48.2	-0.7	
	baz=85								
T28A	Walsh	84.72	49	⇑P		P	09 34 47.9	-1.0	
	baz=85								
D19A	Cripps Ranch,	84.78	38	⇑P		P	09 34 49.0	0.0	
	baz=85								
ABTX	Abilene, Hawle	84.82	54	*e*P		P	09 34 48.5	-0.9	
ABTX	Abilene, Hawle	84.82	54	⇓P		P	09 34 49.0	-0.4	
	baz=85								
Y31A	Rekieta Farm,	84.85	53	⇑P		P	09 34 49.2	-0.4	
	baz=85								
G21A	Lodge Grass	84.85	40	⇓P		P	09 34 49.5	+0.1	
	baz=85								
L24A	Wheatland	84.85	44	⇑P		P	09 34 49.3	-0.2	
	baz=85								
P26A	Davis Ranch, A	84.86	47	⇓P		P	09 34 49.5	-0.1	
	baz=85								
E20A	Meyer Farm, Mu	84.90	39	⇑P		P	09 34 49.7	+0.1	
	baz=85								
C19A	Slack Wire Ran	84.96	37	⇑P		P	09 34 49.6	-0.2	
	baz=85,SNR=8.3								
H22A	Clearmont	85.09	41	⇑P		P	09 34 50.6	-0.1	
	baz=85								
D20A	Manuel Ranch,	85.18	38	⇑P		P	09 34 51.3	+0.3	
	baz=85								
Z32A	Haskell	85.20	54	⇑P		P	09 34 51.3	0.0	
	baz=85								
X31A	McDonald Ranch	85.32	52	⇑P		P	09 34 51.4	-0.6	
	baz=86								
B19A	Brinkman Farms	85.38	37	⇑P		P	09 34 52.2	+0.3	
	baz=86								
Y32A	R-V Farms, Ver	85.49	53	⇓P		P	09 34 52.4	-0.4	
	baz=86								
EDM	Edmonton	85.53	31	*e*P		P	09 34 51.7	-0.8	
EDM	Edmonton	85.53	31	*e*P		P	09 34 51.7	-0.8	
E21A	Keefer Ranch,	85.56	39	⇓P		P	09 34 53.3	+0.4	
	baz=86								
U30A	WK&E Inc. Balk	85.56	50	⇓P		P	09 34 52.9	-0.2	
	baz=86								
W31A	Holland Ranch,	85.56	52	⇑P		P	09 34 52.8	-0.3	
	baz=86								
C20A	Veseth Ranch,	85.57	38	⇓P		P	09 34 53.0	+0.1	
	baz=86								
J24A	Dixon Ranch, L	85.61	43	⇓P		P	09 34 53.5	+0.2	
	baz=86								
A19A	Klindworth Far	85.73	36	⇓P		P	09 34 52.9	-0.8	
	baz=86								
D21A	La Casta Ranch	85.86	39	⇓P		P	09 34 54.3	-0.1	
	baz=86								
V31A	Spring Creek L	85.87	51	⇓P		P	09 34 54.7	0.0	
	baz=86								
A20A	Cobblestone Ra	86.18	37	⇓P		P	09 34 55.7	-0.2	
	baz=86								
E22A	Miles City	86.20	40	⇑P		P	09 34 55.4	-0.6	
	baz=86								
F23A	Volborg	86.20	40	⇑P		P	09 34 56.1	0.0	
	baz=86								
Q29A	Oakley	86.26	48	⇑P		P	09 34 56.2	-0.4	
	baz=86								
WHTX	Lake Whitney	86.30	55	⇑P		P	09 34 56.1	-0.7	
	baz=86								
H24A	Dirks Ranch, A	86.31	42	⇓P		P	09 34 56.3	-0.4	
	baz=86								
K26A	Motz Farm, Whi	86.31	44	⇓P		P	09 34 56.8	0.0	
	baz=86								
RSSD	Black Hills	86.36	42	*e*P		P	09 34 57.5	+0.4	
RSSD				pmax		pmax			
	comp=Z,42nm,1.4s								
RSSD	Black Hills	86.36	42	*e*P		P	09 34 57.5	+0.4	
	comp=Z,42nm,1.4s								
D22A	Cohagen	86.39	39	⇓P		P	09 34 57.1	+0.2	
	baz=86								
B21A	Ellsworth Farm	86.49	37	⇑P		P	09 34 57.8	+0.4	
	baz=87								
I25A	Rochford	86.51	42	⇑P		P	09 34 57.8	0.0	
	baz=87								
R30A	Dighton	86.52	49	⇓P		P	09 34 57.5	-0.4	
	baz=87								
A21A	Bergtoll Ranch	86.81	37	⇑P		P	09 34 58.6	-0.4	
	baz=87								
APG	El Apazote	86.86	74	LR		LR	10 02 42.3		
	comp=Z,89nm,20.8s,baz=263,slow=28								
D23A	Lindsay	86.99	39	⇑P		P	09 34 59.9	0.0	
	baz=87								
E24A	Baker	87.26	40	⇑P		P	09 35 01.1	-0.2	
	baz=87								
J27A	Elkhorn Farm,	87.32	44	⇑P		P	09 35 01.7	0.0	
	baz=88								
IPM	Ipoh	87.56	275	*e*P		P	09 35 03.9	+0.6	
	comp=Z,6.5nm,0.6s								
MAW	Mawson	87.59	198	P		P	09 35 03.7	+1.2	
MAW	Mawson	87.59	198	P		P	09 35 03.7	+1.2	
	baz=88,SNR=8.5								
MAW	Mawson	87.59	198	P		P	09 35 03.7	+1.2	
	comp=Z,16nm,1.0s,baz=117,slow=5.3,SNR=25								
C24A	Savage	87.62	39	⇑P		P	09 35 03.2	+0.3	
	baz=88								
G26A	Maurine	87.79	42	⇑P		P	09 35 03.8	0.0	
	baz=88								
D25A	Fairfield	88.13	40	⇓P		P	09 35 05.2	-0.2	
	baz=88								
GYA	Guiyang	88.77	298	*e*P		P	09 35 11.4	+2.4	
GYA				PP		PP	09 38 42.1	+3.9	
GYA				SKS		SKSac	09 45 38.8	+0.3	
GYA				S		S	09 45 55.7	-0.5	
GYA				SS		SS	09 51 51.0	+2.5	
GYA				AMB		AMB			
	comp=Z,20nm,1.0s								
GYA				AMB		AMB			
	comp=Z,120nm,5.0s								
GYA				LR		LR			
	comp=Z,540nm,18.2s								
GYA				LR		LR			
	comp=Z,460nm,19.0s								
GYA				LR		LR			
	comp=Z,510nm,18.6s								
PLCA	Paso Flores	88.79	132	P		P	09 35 10.1	+1.2	
PLCA	Paso Flores	88.79	132	P		P	09 35 10.1	+1.2	
	comp=Z,1.7nm,0.8s,baz=170,slow=22,SNR=3.2								
HHC	Hu-ho-hao-te	89.75	313	*e*P		P	09 35 11.6	-1.6	
HHC				pP		PcP	09 35 16.4	+1.9	
HHC				sP		sP	09 35 18.8	-1.0	
HHC				PP		PP	09 38 47.1	+1.4	
HHC				SKS		SKSac	09 45 40.2	-3.4	
HHC				S		S	09 46 01.6	-3.2	
HHC				sS		ScS	09 46 09.8	+0.7	
HHC				AMB		AMB			
	comp=Z,34nm,1.0s								
HHC				AMB		AMB			
	comp=Z,550nm,5.4s								
HHC				LR		LR			
	comp=Z,340nm,17.7s								
HHC				LR		LR			
	comp=Z,370nm,17.7s								
HHC				LR		LR			
	comp=Z,230nm,17.6s								
YKA	Yellowknife Ar	90.24	23	P		P	09 35 14.1	-0.7	
YKA	Yellowknife Ar	90.24	23	P		P	09 35 14.1	-0.7	
	comp=Z,7.7nm,0.8s,baz=230,slow=5.2,SNR=6.3								
JTS	JuntasAbangare	90.69	80	LR		LR	10 05 48.7		
	comp=Z,50nm,20.9s,baz=286,slow=29								
EFI	East Falkland	92.22	146	*e*P		P	09 35 24.4	0.0	
ATAH	Atahualpa	92.27	98	LR		LR	10 05 41.1		
	comp=Z,57nm,19.6s,baz=218,slow=28								
SYO	Syowa Base	92.31	191	⇑*e*P		P	09 35 23.2	-1.3	
SNAA	Sanae	92.46	177	*e*P		P	09 35 25.7	+0.4	
SNAA	Sanae	92.46	177	*e*P		P	09 35 25.7	+0.4	
	comp=Z,6.9nm,1.3s								
CD2	Chengdu	92.54	301	P		P	09 35 27.3	+1.0	
CD2				AMB		AMB			
	comp=Z,10.0nm,0.5s								
VNA2	Neumayer--Watz	92.89	175	*e*P		P	09 35 28.4	+1.2	
VNA2	Neumayer--Watz	92.89	175	*e*I		pP	09 35 37.1	+5.0	
VNA1	Neumayer--Stat	93.09	175	*e*P		P	09 35 29.4	+1.3	
VNA1	Neumayer--Stat	93.09	175	*e*I		pP	09 35 38.6	+5.7	
AGMN	Agassiz Nation	93.22	41	*e*P		P	09 35 25.7	-3.3	
	comp=Z,11nm,1.1s								
CMAR	Chiang Mai Arr	93.31	288	P		P	09 35 31.5	+1.4	
CMAR	Chiang Mai Arr	93.31	288	P		P	09 35 31.5	+1.4	
	comp=Z,0.9nm,0.3s,baz=104,slow=2.9,SNR=6.8								
ULM	Lac du Bonnet	93.88	39	LR		LR	10 09 15.2		
	comp=Z,337nm,19.6s,baz=307,slow=30								
SONM	Songino Array	95.55	318	P		P	09 35 39.2	-0.7	
SONM	Songino Array	95.55	318	P		P	09 35 39.2	-0.7	
	comp=Z,0.6nm,0.9s,baz=90,slow=2.9,SNR=2.9								
GTA	Gaotai	97.90	309	*e*P		Pdif	09 35 51.2	+0.4	
GTA				pP		pP	09 35 55.9	+0.3	
GTA				sP		sP	09 35 58.2	+0.8	
GTA				AMB		AMB			
	comp=Z,3.0nm,0.8s								
TKL	Tuckaleechee C	98.25	55	LR		LR	10 13 23.4		
	comp=Z,117nm,18.4s,baz=33,slow=31								
TLY	Talaya	98.33	321	*e*P		Pdif	09 35 54.6	+2.3	
TLY				pmax		pmax			
	comp=Z,2.0nm,0.9s								
MKAR	Makanchi Array	111.54	314	PKiKP		PKiKP	09 40 47.3	-1.8	
MKAR	Makanchi Array	111.54	314	PKiKP		PKiKP	09 40 47.3	-1.8	
	comp=Z,0.5nm,0.7s,baz=96,slow=2.4,SNR=4.9								
KSH	Kashi	116.20	307	PKP		PKPdf	09 41 08.4	+10	
KSH				PP		PP	09 42 13.6	+10	
KSH				PKS		PKSdf	09 44 40.1	+4.9	
KSH				SKS		SKSdf	09 48 13.4	+3.1	
KSH				SKKS		SKKSac	09 49 05.4	+0.6	
KSH	Kashi	116.20	307	SS		SS	09 58 12.5	+5.2	
KSH				PPMZ					
	comp=Z,130nm,5.0s								
KSH				LR		LR			
	comp=N,160nm,9.5s								
KSH				LR		LR			
	comp=E,130nm,7.7s								
KSH				LR		LR			
	comp=Z,95nm,9.1s								
VOSK	Vostochnaya	118.28	322	*e*PKiKP		PKPdf	09 41 01.1	-0.7	
VOSK	Vostochnaya	118.28	322	*e*PKPdf		PKPdf	09 41 01.1	-0.7	
BRVK	Borovoye	118.63	322	*i* PKiKP		PKPdf	09 41 02.3	-0.1	
ARU	Arti	124.00	328	*i* PKiKP		PKPdf	09 41 12.6	-0.1	
ARU							09 42 53.0		
ARCES	ARCESS Array B	125.10	352	PKP		PKPdf	09 41 13.5	-0.9	
ARCES	ARCESS Array B	125.10	352	PKP		PKPdf	09 41 13.5	-0.9	
	comp=Z,4.3nm,0.9s,baz=77,slow=6.5,SNR=6.6								
FINES	FINESS Array B	132.47	348	PKP		PKPdf	09 41 27.5	-1.1	
FINES	FINESS Array B	132.47	348	PKP		PKPdf	09 41 27.5	-1.1	
	comp=Z,1.9nm,0.7s,baz=351,slow=2.5,SNR=3.6								
HFS	Hagfors	135.50	355	PKP		PKPdf	09 41 34.4	0.0	
HFS	Hagfors	135.50	355	PKP		PKPdf	09 41 34.4	0.0	
	comp=Z,2.8nm,0.8s,baz=128,slow=4.2,SNR=4.6								
AKASG	Malin Array Be	140.95	338	PKiKP		PKPdf	09 41 44.6	-0.1	
AKASG	Malin Array Be	140.95	338	PKP		PKPdf	09 41 44.5	-0.1	
AKASG	Malin Array Be	140.95	338	PKP		PKPdf	09 41 44.6	-0.1	
	comp=Z,0.3nm,0.3s,baz=28,slow=3.0,SNR=4.0								
LSZ	Lusaka	142.81	215	*e*PKPdf		PKPdf	09 41 45.9	-3.3	
RAYN	Ar Rayn	143.23	288	*e*PKPdf		PKPbc	09 41 47.5	+0.8	
TSUM	Tsumeb	143.74	197	*e*PKPdf		PKPbc	09 41 49.3	+1.0	
CLL	Collm	144.29	354	*i* PKiKP		PKPbc	09 41 48.8	0.0	
CLL	Collm	144.29	354	*i* PKPdf		PKPbc	09 41 48.8	0.0	
	comp=Z,5.0nm,0.9s								
CLL				*i* pPKiKP		pPKiKP	09 41 58.5	-0.6	
	comp=Z,9.0nm,0.9s								
MALT	Malatya	144.58	315	⇑PKiKP		PKPdf	09 41 51.8	+0.1	
MALT	Malatya	144.58	315	⇑*i* P		PKPdf	09 41 51.8	+0.1	
STHS	Stebnicka Huta	144.59	344	*e*PKP		PKPbc	09 41 50.1	+0.2	
BRG	Berggiesshubel	144.61	353	*e*PKP		PKPdf	09 42 03.3	+12	
	comp=Z,4.7nm,1.0s								
BRG	Berggiesshubel	144.61	353	*e*PKiKP		PKPdf	09 42 03.3	+12	
BRG				pmax		pmax			
	comp=Z,5.0nm,1.0s								
DPC	Dobruska-Polom	144.77	350	*e*PKiKP		PKPab	09 41 50.5	+0.1	
DPC	Dobruska-Polom	144.77	350	*e*PKP		PKPab	09 41 49.8	-0.6	
DPC				*ex*		x	09 41 59.6		
DPC	Dobruska-Polom	144.77	350	*e*PKPdf		PKPbc	09 41 50.5	0.0	
OKC	Ostrava-Krasne	144.92	348	*e*PKP		PKPab	09 41 50.3	-0.6	
OKC				*ex*		x	09 41 59.7		
BUR08	Bucovina Ar. S	144.95	339	*e*PKPdf		PKPab	09 41 51.0	-0.2	
BURAR	Bucovina Array	144.97	339	⇑PKiKP		PKPbc	09 41 51.3	0.0	
BURAR	Bucovina Array	144.97	339	⇑*i* P		PKPbc	09 41 51.3	0.0	
UZH	Uzhgorod	145.01	342	*e*PKiKP		PKPbc	09 41 50.0	-1.2	
UZH				*i*			09 41 58.0		
TESR	Tescani	145.37	336	⇑*i* P		PKPbc	09 41 51.8	-0.7	
TRPA	Tarpa	145.39	342	⇓*i* P		PKPbc	09 41 51.4	-1.0	
PRU	Pruhonice	145.40	352	*e*PKP		PKPbc	09 41 52.0	-0.4	
PRU				*ex*		x	09 42 01.0		
BCLA	Clavier	145.45	2	PKP		PKPdf	09 41 52.0	-0.6	
BCLA				APKP		pPKPdf	09 42 00.2	+2.6	
VRAC	Vranov	145.73	349	⇓*i* P		PKPdf	09 41 53.3	+0.1	
DOU	Dourbes	145.74	3	PKP		PKPdf	09 41 52.8	-0.3	
DOU				APKP		pPKPdf	09 42 01.9	+3.8	
CFR	Carcaliu	145.84	333	⇑PKP2		PKPab	09 41 54.9	+0.6	
CFR	Carcaliu	145.84	333	⇑*i* P		PKPab	09 41 54.9	+0.6	
VRI	Vrincioaia	145.87	335	⇑PKP2		PKPdf	09 41 53.1	-0.4	
VRI	Vrincioaia	145.87	335	⇑*i* P		PKPdf	09 41 53.1	-0.4	
KMBO	Kilima Mbogo	145.89	243	PKPbc		PKPbc	09 41 55.5	+0.1	
KMBO	Kilima Mbogo	145.89	243	PKPbc		PKPbc	09 41 55.5	+0.1	
	comp=Z,7.9nm,0.8s,baz=80,slow=3.6,SNR=16								
GRFO	Grafenberg	146.06	355	*e*PKHKP		PKPpre	09 41 49.3		
GRFO	Grafenberg	146.06	355	*e*PKPdf		PKPpre	09 41 49.3		
WLF	Walferdange	146.23	1	PKP		PKPbc	09 41 54.9	-0.1	
TIRR	Tirgusor	146.28	332	⇑PKP2		PKPdf	09 41 54.6	+0.4	
TIRR	Tirgusor	146.28	332	⇑*i* P		PKPdf	09 41 54.6	+0.4	
PSZ	Piszkesteto	146.32	345	*e*PKP2		PKPdf	09 41 54.8	+0.5	
PSZ	Piszkesteto	146.32	345	*e*PKPbc		PKPdf	09 41 54.8	+0.5	
SMOL	Smolenice	146.33	348	*e*PKP		PKPbc	09 41 55.5	+0.1	
TLB	Topalu	146.35	333	⇑PKP2		PKPab	09 41 56.7	+0.4	
TLB	Topalu	146.35	333	⇑*i* P		PKPab	09 41 56.7	+0.4	
KHC	Kasperske Hory	146.37	352	*e*PKP2		PKPbc	09 41 55.5	0.0	
KHC	Kasperske Hory	146.37	352	*e*PKP		PKPdf	09 41 54.6	+0.3	
KHC				*ex*		x	09 42 03.9		
KHC	Kasperske Hory	146.37	352	*e*PKPdf		PKPbc	09 41 55.5	0.0	
MLR	Muntele Rosu	146.49	336	⇑*i* P		PKPbc	09 41 56.2	+0.1	
DRG

PPT	**Papeete**	**21.51**	**97**	LR	LR	09 44 03.1			
	comp=Z,128nm,19.5s,baz=358,slow=30								
WRA	**Warramunga Arr**	**51.01**	**257**	P	P	09 42 30.4	-0.7		
	1.5nm,1.0s,baz=91,slow=6.1,SNR=6.4								
ASAR	**Alice Springs**	**51.20**	**252**	P	P	09 42 32.5	+0.2		
	2.0nm,0.6s,baz=89,slow=8.0,SNR=39								
NVAR	**Mina Array Bea**	**73.93**	**41**	P	P	09 45 04.1	-0.2		
	0.5nm,0.6s,baz=229,slow=9.1,SNR=5.5								
TXAR	**Lajitas Array**	**79.87**	**56**	P	P	09 45 37.7	-0.2		
	0.6nm,1.0s,baz=208,slow=5.0,SNR=3.5								
ILAR	**Eielson Array**	**82.84**	**11**	P	P	09 45 52.5	-0.2		
	0.4nm,0.7s,baz=226,slow=6.2,SNR=6.4								
GERES	**GERESS Array B**	**146.98**	**353**	PKPbc	PKPbc	09 53 12.0	+0.4		
	0.1nm,0.3s,baz=35,slow=3.3,SNR=4.2								
BRTR	**Keskin Array B**	**147.52**	**322**	PKPbc	PKPbc	09 53 12.3	-1.2		
	1.1nm,0.7s,baz=73,slow=1.7,SNR=5.4								

IDC ***10*** *09:42:10.9±0.7, 12°.55S×166°.60E, h0km, mb4.3/17, mb1 4.4/18, mb1mx4.4/21, mbtmp4.3/18, ML5.0/1, MS3.5/6, Ms1 3.5/6, ms1mx3.4/27, Error ellipse: s-maj=21.2km s-min=16.5km az=99.0*

ISCJB ***10*** *09:42:17.6±0.5, 12°.52S±0°.05×166°.49E±0°.10, h59km, mb4.3/17, MS3.7/3, Error ellipse: s-maj=13.5km s-min=7.6km az=0.6*

AUST ***10*** *09:42:50.8±6.3, 13°.57S×166°.08E, h319km, Error ellipse: s-maj=5.7km s-min=1.8km az=255.0*

ISC 10 09:42:19.3±0.6, 12°.47S±0°.07×166°.42E±0°.09, h59km, n40, σ1§15/37, mb4.2/17, MS3.7/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.03**	**295**	Pn	**Pn**	**09 43 58.2**	**-1.5**
	25nm,0.3s,baz=159,slow=3.4,SNR=14						
HNR				Sn	**Sn**	**09 45 15.9**	**-2.3**
	15nm,0.3s,baz=18,slow=20,SNR=2.7						
HNR				LR	LR	09 45 25.4	
	comp=Z,83nm,21.2s,baz=109,slow=27						
DZM	**Mont Dzumac**	**9.55**	**180**	*e*Pn	**Pn**	**09 44 35.9**	**+1.6**
	74nm,0.5s						
DZM				*e*LR	LR	09 46 39.9	
	606nm,24.6s						
DZM	**Mont Dzumac**	**9.55**	**180**	Pn	**Pn**	**09 44 33.1**	**-1.2**
	1.0nm,0.3s,baz=92,slow=20,SNR=15						
DZM				Sn	**Sn**	**09 46 19.6**	**-0.7**
	baz=114,slow=20,SNR=1.6						
DZM				LR	LR	09 47 30.5	
	comp=Z,513nm,18.2s,baz=22,slow=34						
PMG	**Port Moresby**	**19.15**	**277**	LR	LR	09 51 49.1	
	comp=Z,86nm,19.5s,baz=200,slow=30						
EIDS	**Eidsvold**	**19.34**	**226**	P	**Pn**	**09 46 42.5**	**+0.9**
	baz=18,SNR=6.6						
RMQ	**Roma**	**21.68**	**227**	P	**P**	**09 47 07.0**	**+1.7**
	baz=21,SNR=8.3						
ARMA	**Armidale**	**22.51**	**215**	P	**P**	**09 47 14.7**	**+0.5**
	baz=22,SNR=6.6						
MGCD	**Mangrove Creek**	**24.95**	**212**	P	**P**	**09 47 38.2**	**+1.0**
	baz=24,SNR=6.6						
QLP	**Quilpie**	**25.12**	**233**	P	**P**	**09 47 39.7**	**+0.8**
	baz=24,SNR=7.2						
YNG	**Young**	**27.22**	**214**	P	**P**	**09 47 55.2**	**-2.6**
	baz=26,SNR=5.1						
URZ	**Urewera**	**27.40**	**161**	LR	LR	09 56 22.5	
	comp=Z,192nm,18.4s,baz=166,slow=31						
STKA	**Stephens Creek**	**29.90**	**226**	P	**P**	**09 48 22.4**	**+0.8**
	baz=29,SNR=19						
STKA	**Stephens Creek**	**29.90**	**226**	P	**P**	**09 48 21.5**	**-0.1**
	6.0nm,0.7s,baz=52,slow=7.5,SNR=12						
RPZ	**Rata Peaks**	**31.40**	**174**	P	**P**	**09 48 33.9**	**-0.8**
	12nm,0.8s,baz=349,slow=10,SNR=4.6						
WRA	**Warramunga Arr**	**31.64**	**252**	P	**P**	**09 48 35.8**	**-1.4**
	1.0nm,0.6s,baz=84,slow=9.5,SNR=16						
ASAR	**Alice Springs**	**32.77**	**246**	P	**P**	**09 48 46.0**	**-1.1**
	1.2nm,0.6s,baz=68,slow=10,SNR=18						
BBOO	**Buckleboo**	**34.37**	**229**	P	**P**	**09 49 01.1**	**+0.3**
	baz=33,SNR=18						
KNRA	**Kununurra**	**36.63**	**260**	P	**P**	**09 49 20.9**	**+0.5**
	baz=36,SNR=6.8						
FITZ	**Fitzroy Crossi**	**39.67**	**257**	P	**P**	**09 49 46.5**	**+0.5**
	baz=39,SNR=3.8						
FITZ	**Fitzroy Crossi**	**39.67**	**257**	P	**P**	**09 49 46.5**	**+0.5**
	5.4nm,0.9s,baz=115,slow=7.1,SNR=7.5						
PPT	**Papeete**	**42.74**	**102**	LR	LR	10 03 12.8	
	comp=Z,148nm,21.6s,baz=322,slow=30						
PPT2	**Papeete2**	**42.74**	**102**	*e*LR	LR	10 02 17.3	
	186nm,28.0s						
MEEK	**Meekatharra**	**46.93**	**245**	P	**P**	**09 50 45.0**	**+0.5**
	baz=46,SNR=6.0						
MORW	**Morawa**	**49.53**	**242**	P	**P**	**09 51 05.2**	**+0.7**
	baz=49,SNR=4.0						
JNU	**Nakatsue**	**56.61**	**324**	P	**P**	**09 51 57.5**	**+1.2**
	15nm,0.8s,baz=56,slow=3.8,SNR=11						
KSRS	**Korea Array**	**61.41**	**326**	P	**P**	**09 52 30.7**	**+1.2**
	2.8nm,0.8s,baz=132,slow=7.5,SNR=12						
USRK	**Ussuriysk Arra**	**64.50**	**333**	P	**P**	**09 52 50.5**	**+0.6**
	2.1nm,0.9s,baz=132,slow=6.4,SNR=3.2						
VNDA	**Vanda**	**65.09**	**181**	P	**P**	**09 52 52.8**	**-0.5**
	0.8nm,0.7s,baz=340,slow=8.4,SNR=4.0						
PETK	**Petropavlovsk-**	**65.73**	**354**	LR	LR	10 16 35.6	
	comp=Z,39nm,20.3s,baz=294,slow=31						
CMAR	**Chiang Mai Arr**	**73.28**	**294**	P	**P**	**09 53 47.0**	**+2.0**
	3.9nm,0.7s,baz=124,slow=4.9,SNR=19						
SONM	**Songino Array**	**80.19**	**324**	P	**P**	**09 54 24.7**	**+1.2**
	1.1nm,0.3s,baz=125,slow=5.8,SNR=8.9						
MAW	**Mawson**	**83.66**	**202**	P	**P**	**09 54 41.0**	**-0.3**
	2.0nm,0.8s,baz=114,slow=8.1,SNR=9.9						
ILAR	**Eielson Array**	**84.64**	**18**	P	**P**	**09 54 45.0**	**-1.1**
	0.5nm,0.7s,baz=233,slow=5.9,SNR=5.4						
NVAR	**Mina Array Bea**	**86.44**	**50**	P	**P**	**09 54 54.5**	**-1.5**
	0.5nm,0.6s,baz=227,slow=7.1,SNR=5.4						
MKAR	**Makanchi Array**	**95.00**	**317**	P	**P**	**09 55 36.4**	**+0.8**
	3.8nm,0.6s,baz=95,slow=6.2,SNR=36						
ZALV	**Zalesovo Beam**	**95.08**	**324**	P	**P**	**09 55 35.4**	**-0.4**
	1.5nm,0.8s,baz=108,slow=4.8,SNR=5.0						
TXAR	**Lajitas Array**	**95.93**	**61**	P	**P**	**09 55 40.4**	**+0.1**
	0.3nm,0.8s,baz=233,slow=7.5,SNR=3.2						
ARCES	**ARCESS Array B**	**117.86**	**345**	PKP	**PKPdf**	**10 00 58.0**	**-0.7**
	1.5nm,0.8s,baz=60,slow=1.9,SNR=12						
KEST	**Kesra**	**148.93**	**322**	PKPbc	**PKPbc**	**10 02 01.7**	**+0.6**
	1.7nm,0.7s,baz=217,slow=2.6,SNR=7.0						
TORD	**Torodi Ar. Bea**	**165.08**	**274**	PKPab	**PKPab**	**10 03 15.9**	**+0.8**
	4.2nm,0.9s,baz=79,slow=4.8,SNR=19						

IDC 10 09:54:34.7±8.3, 17°.37S×178°.71W, h589km±107km, mb3.2/9, mb1 3.4/9, mb1mx3.2/20, mbtmp3.2/9, Error ellipse: s-maj=74.9km s-min=31.7km az=161.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.26**	**260**	P	P	10 00 25.0	+0.2
	4.1nm,0.6s,baz=61,slow=10,SNR=5.9						
STKA	**Stephens Creek**	**38.64**	**240**	P	P	10 01 08.7	-0.3
	3.3nm,0.5s,baz=103,slow=9.3,SNR=14						
WRA	**Warramunga Arr**	**44.45**	**259**	P	P	10 01 54.6	-0.2
	1.5nm,0.3s,baz=95,slow=7.5,SNR=64						
ASAR	**Alice Springs**	**44.66**	**254**	P	P	10 01 56.5	-0.1
	9.5nm,0.5s,baz=86,slow=8.8,SNR=109						
FITZ	**Fitzroy Crossi**	**52.84**	**260**	P	P	10 02 56.7	-0.1
	0.9nm,0.7s,baz=90,slow=10,SNR=2.7						
NVAR	**Mina Array Bea**	**79.24**	**44**	P	P	10 05 40.4	+0.3
	0.6nm,0.7s,baz=233,slow=8.0,SNR=6.6						
ILAR	**Eielson Array**	**85.43**	**13**	P	P	10 06 09.8	-0.6
	0.2nm,0.4s,baz=220,slow=4.9,SNR=8.3						
TXAR	**Lajitas Array**	**85.95**	**58**	P	P	10 06 13.7	-0.1
	0.8nm,0.7s,baz=219,slow=6.4,SNR=10						
PDAR	**Pinedale Array**	**87.16**	**44**	P	P	10 06 19.4	-0.1
	0.6nm,0.7s,baz=220,slow=3.7,SNR=4.9						
GERES	**GERESS Array B**	**147.02**	**345**	PKPbc	PKPbc	10 13 11.8	-0.4
	0.3nm,0.2s,baz=29,slow=3.0,SNR=4.9						

IDC 10 10:18:51.8±26.0, 0°.94S×100°.68E, h167km±228km, mb2.8/3, mb1 3.0/3, mb1mx2.8/22, mbtmp2.8/3, Error ellipse: s-maj=318.7km s-min=27.6km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**28.87**	**256**	T	T	10 52 12.8	
	baz=78,slow=0.7,SNR=33						
H08S3	**Diego Garcia H**	**28.88**	**256**	T	T	10 52 13.8	
	baz=78,slow=0.7,SNR=41						
H08S1	**Diego Carcia H**	**28.89**	**256**	T	T	10 52 10.9	
	baz=78,slow=0.7,SNR=33						
WRA	**Warramunga Arr**	**37.95**	**122**	P	P	10 25 54.2	+0.6
	0.7nm,1.0s,baz=302,slow=9.1,SNR=6.7						
ASAR	**Alice Springs**	**39.34**	**128**	P	P	10 26 04.4	-0.8
	0.2nm,0.7s,baz=302,slow=7.6,SNR=3.6						
MKAR	**Makanchi Array**	**50.20**	**344**	P	P	10 27 30.5	-0.1
	0.2nm,0.4s,baz=156,slow=8.6,SNR=4.1						
TXAR	**Lajitas Array**	**143.45**	**37**	PKP	PKPdf	10 38 06.8	-0.5
	0.2nm,0.5s,baz=255,slow=1.8,SNR=6.5						

AUST ***10*** *10:20:26.9, 12°.46S×166°.45E, h0km*

ISCJB ***10*** *10:20:29.7±0.7, 11°.78S±0°.08×166°.41E±0°.08, h83km, mb4.1/12, Error ellipse: s-maj=12.8km s-min=9.1km az=135.2*

IDC ***10*** *10:20:30.0±3.1, 11°.80S×166°.45E, h75km±26km, mb4.0/12, mb1 4.1/14, mb1mx3.9/25, mbtmp4.1/14, MS3.5/5, Ms1 3.4/5, ms1mx3.2/30, Error ellipse: s-maj=21.2km s-min=15.5km az=65.0*

ISC 10 10:20:31.0±0.8, 11°.82S±0°.08×166°.5E±0°.1, h83km, n31, σ1§25/28, mb4.2/12, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.81**	**290**	P	**Pn**	**10 22 07.8**	**-0.6**
	18nm,0.3s,baz=162,slow=9.1,SNR=6.5						
HNR				S	**Sn**	**10 23 23.7**	**-0.8**
	4.5nm,0.3s,baz=180,slow=20,SNR=3.2						
DZM	**Mont Dzumac**	**10.20**	**180**	*e*Pn	**Pn**	**10 22 54.7**	**+0.1**
	19nm,0.5s						
DZM				*e*LR	LR	10 24 58.4	
	283nm,25.2s						
DZM	**Mont Dzumac**	**10.20**	**180**	P	**Pn**	**10 22 54.0**	**-0.6**
	0.8nm,0.3s,baz=90,slow=20,SNR=4.5						
DZM				S	**Sn**	**10 24 45.5**	**-1.8**
	0.4nm,0.3s,baz=16,slow=18,SNR=1.9						
DZM				LR	LR	10 26 05.9	
	comp=Z,201nm,18.4s,baz=15,slow=33						
PMG	**Port Moresby**	**19.11**	**275**	LR	LR	10 31 32.5	
	comp=Z,128nm,18.1s,baz=83,slow=35						
EIDS	**Eidsvold**	**19.81**	**225**	P	**Pn**	**10 24 57.8**	**+0.5**
	baz=19,SNR=5.8						
CTA	**Charters Tower**	**21.07**	**244**	P	**P**	**10 25 09.2**	**+0.6**
	12nm,0.9s,baz=61,slow=6.6,SNR=7.2						
AFI	**Afiamalu**	**21.33**	**98**	LR	LR	10 31 33.7	
	comp=Z,140nm,18.7s,baz=24,slow=31						
RMQ	**Roma**	**22.14**	**226**	P	**P**	**10 25 21.6**	**+1.5**
	baz=22,SNR=4.8						
ARMA	**Armidale**	**23.05**	**214**	P	**P**	**10 25 30.8**	**+1.2**
	baz=23,SNR=19						
QLP	**Quilpie**	**25.54**	**232**	P	**P**	**10 25 53.2**	**+1.1**
	baz=25,SNR=4.5						
CMSA	**Cobar Meteorol**	**27.42**	**221**	P	**P**	**10 26 13.6**	**+4.6**
	baz=27,SNR=12						
STKA	**Stephens Creek**	**30.37**	**225**	P	**P**	**10 26 36.5**	**+1.3**
	baz=30,SNR=8.1						
STKA	**Stephens Creek**	**30.37**	**225**	P	**P**	**10 26 36.2**	**+1.0**
	8.8nm,0.7s,baz=45,slow=8.2,SNR=23						
STKA				LR	LR	10 38 20.1	
	comp=Z,49nm,21.2s,baz=28,slow=35						
TOO	**Toolangi**	**31.78**	**213**	P	**P**	**10 26 48.8**	**+1.2**
	baz=31,SNR=5.8						
WRA	**Warramunga Arr**	**31.88**	**251**	P	**P**	**10 26 48.0**	**-0.6**
	2.3nm,0.6s,baz=84,slow=9.3,SNR=26						
RPZ	**Rata Peaks**	**32.03**	**174**	P	**P**	**10 26 49.6**	**-0.1**
	16nm,0.9s,baz=322,slow=3.3,SNR=5.5						
ASAR	**Alice Springs**	**33.07**	**245**	P	**P**	**10 26 58.2**	**-0.9**
	2.1nm,0.7s,baz=70,slow=9.5,SNR=28						
ASAR				PcP	**PcP**	**10 29 40.7**	**-0.2**
	1.1nm,0.9s,baz=88,slow=2.5,SNR=4.1						
KDU	**Kakadu**	**33.20**	**265**	P	**P**	**10 27 00.3**	**+0.1**
	baz=33,SNR=6.0						
FITZ	**Fitzroy Crossi**	**39.85**	**256**	P	**P**	**10 27 57.6**	**+0.9**
	baz=40,SNR=8.6						
FITZ	**Fitzroy Crossi**	**39.85**	**256**	P	**P**	**10 27 56.6**	**-0.2**
	6.7nm,0.8s,baz=105,slow=7.5,SNR=19						
PPT	**Papeete**	**42.85**	**103**	LR	LR	10 41 12.4	
	comp=Z,87nm,21.1s,baz=332,slow=29						
PPT2	**Papeete2**	**42.85**	**103**	*e*LR	LR	10 40 20.6	
	105nm,26.5s						
TBI	**Tubuai**	**43.41**	**111**	*e*LR	LR	10 40 40.5	
	122nm,31.5s						
PMOR	**Pomariorio Ree**	**44.47**	**99**	*e*T	T	10 28 34.2	
	27nm,0.2s						
MEEK	**Meekatharra**	**47.23**	**245**	P	**P**	**10 28 56.8**	**+0.8**
	baz=47,SNR=3.8						
NWAO	**Narrogin (SRO)**	**49.61**	**237**	P	**P**	**10 29 14.3**	**+0.1**
	13nm,1.1s,baz=72,slow=6.4,SNR=4.2						
QSPA	**South Pole Qui**	**78.19**	**180**	P	**P**	**10 32 20.7**	**-0.6**
	3.0nm,0.9s						
SONM	**Songino Array**	**79.69**	**324**	P	**P**	**10 32 29.0**	**-0.8**
	0.4nm,0.6s,baz=134,slow=4.2,SNR=3.1						
ILAR	**Eielson Array**	**84.02**	**18**	P	**P**	**10 32 52.0**	**0.0**
	0.3nm,0.5s,baz=259,slow=5.0,SNR=8.9						
NVAR	**Mina Array Bea**	**86.00**	**50**	P	**P**	**10 33 03.3**	**+0.5**
	0.3nm,0.5s,baz=235,slow=7.6,SNR=3.6						
MKAR	**Makanchi Array**	**94.55**	**317**	P	**P**	**10 33 42.2**	**-0.2**
	1.3nm,0.7s,baz=92,slow=6.0,SNR=13						

IDC ***10*** *10:22:32.0±0.7, 49°.98S×114°.40E, h0km, mb4.4/11, mb1 4.6/12, mb1mx4.5/17, mbtmp4.5/12, ML2.6/1, MS4.2/11, Ms1 4.2/11, ms1mx3.9/28, Error ellipse: s-maj=35.5km s-min=14.1km az=107.0*

ISCJB ***10*** *10:22:32.6±0.5, 49°.96S±0°.07×114°.4E±0°.2, h17km, mb4.4/12, MS4.2/10, Error ellipse: s-maj=23.1km s-min=8.0km az=16.0*

NEIC ***10*** *10:22:33.8±0.3, 49°.95S×114°.28E, h10km, mb4.8/2, Error ellipse: s-maj=17.5km s-min=6.8km az=104.0*

DJA ***10*** *10:22:36.2±0.3, 50°.S×4°.×11°.5E±1°.5, h10km, M4.8/11, mb4.8/11*

ISC 10 10:22:34.7±0.5, 49°.98S±0°.08×114°.4E±0°.2, h17km, n176, σ0§90/152, mb4.4/12, MS4.1/10, 53C-50D, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.07**	**359**	T	T	10 41 23.6	
	baz=179,slow=0.7,SNR=320						
H01W1	**Cape Leeuwin H**	**15.07**	**359**	T	T	10 41 24.3	
	baz=179,slow=0.7,SNR=344						
H01W3	**Cape Leeuwin H**	**15.08**	**359**	T	T	10 41 25.3	
	baz=179,slow=0.7,SNR=335						
CASY	**Casey**	**16.47**	**185**	*e*Pn	**Pn**	**10 26 24.0**	**-0.6**
	86nm,1.4s						
NWAO	**Narrogin (SRO)**	**17.17**	**8**	P	**Pn**	**10 26 33.1**	**-0.5**
NWAO	**Narrogin (SRO)**	**17.17**	**8**	P	**Pn**	**10 26 33.1**	**-0.5**
	0.9nm,0.3s,baz=194,slow=7.8,SNR=6.3						
NWAO				LR	LR	10 31 38.6	
	comp=Z,963nm,19.0s,baz=150,slow=32						
STKA	**Stephens Creek**	**27.16**	**59**	P	**P**	**10 28 17.0**	**0.0**
STKA	**Stephens Creek**	**27.16**	**59**	P	**P**	**10 28 17.0**	**0.0**
	3.4nm,1.0s,baz=203,slow=13,SNR=3.1						
ASAR	**Alice Springs**	**30.38**	**37**	P	**P**	**10 28 45.5**	**-0.3**
ASAR	**Alice Springs**	**30.38**	**37**	P	**P**	**10 28 45.5**	**-0.3**
	7.7nm,0.9s,baz=211,slow=8.4,SNR=44						
AS31	**Alice Springs**	**30.38**	**37**	*e*P	**P**	**10 28 45.6**	**-0.1**
MAW	**Mawson**	**30.75**	**216**	P	**P**	**10 28 48.5**	**0.0**
MAW	**Mawson**	**30.75**	**216**	P	**P**	**10 28 48.5**	**0.0**
	3.8nm,1.1s,baz=82,slow=14,SNR=4.2						
MAW				LR	LR	10 38 56.3	
	comp=Z,372nm,18.1s,baz=78,slow=32						
VNDA	**Vanda**	**32.83**	**163**	P	**P**	**10 29 07.5**	**+0.7**
VNDA	**Vanda**	**32.83**	**163**	P	**P**	**10 29 07.5**	**+0.7**
	2.4nm,1.0s,baz=292,slow=6.7,SNR=6.5						
VNDA				LR	LR	10 41 01.2	
	comp=Z,317nm,18.7s,baz=305,slow=34						
FITZ	**Fitzroy Crossi**	**33.06**	**20**	P	**P**	**10 29 09.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**33.06**	**20**	P	**P**	**10 29 09.5**	**+0.2**
	17nm,1.0s,baz=195,slow=9.6,SNR=13						
FITZ				LR	LR	10 41 20.8	
	comp=Z,438nm,20.8s,baz=23,slow=34						
WRA	**Warramunga Arr**	**33.92**	**35**	P	**P**	**10 29 16.6**	**-0.2**
WRA	**Warramunga Arr**	**33.92**	**35**	P	**P**	**10 29 16.6**	**-0.2**
	22nm,0.9s,baz=204,slow=8.6,SNR=48						
WRA				LR	LR	10 41 48.6	
	comp=Z,201nm,19.6s,baz=210,slow=34						
QSPA	**South Pole Qui**	**40.15**	**180**	P	**P**	**10 30 09.7**	**+0.2**
QSPA	**South Pole Qui**	**40.15**	**180**	P	**P**	**10 30 09.7**	**+0.2**
	2.9nm,0.7s						
QSPA				LR	LR	10 46 00.8	
	comp=Z,622nm,18.3s,baz=155,slow=35						
URZ	**Urewera**	**45.28**	**100**	LR	LR	10 47 16.1	
	comp=Z,191nm,18.1s,baz=220,slow=33						
SNAA	**Sanae**	**50.87**	**201**	*e*P	**P**	**10 31 34.3**	**+0.2**
SNAA	**Sanae**	**50.87**	**201**	*e*I		10 31 39.2	
SNAA	**Sanae**	**50.87**	**201**	*e*P	**P**	**10 31 34.1**	**0.0**
SNAA	**Sanae**	**50.87**	**201**	P	**P**	**10 31 33.9**	**-0.2**
	1.2nm,0.8s,baz=140,slow=11,SNR=12						
SNAA				LR	LR	10 52 07.2	
	comp=Z,185nm,18.1s,baz=310,slow=35						
VNA2	**Neumayer--Watz**	**52.45**	**201**	*e*P	**P**	**10 31 46.1**	**+0.3**
	baz=125,slow=6.8						
VNA2	**Neumayer--Watz**	**52.45**	**201**	*e*I		10 31 51.8	
	baz=125,slow=6.8						
VNA1	**Neumayer--Stat**	**52.85**	**201**	*e*P	**P**	**10 31 48.3**	**-0.4**
PSI	**Prapat**	**54.23**	**341**	LR	LR	10 50 51.6	
	comp=Z,355nm,18.1s,baz=36,slow=31						
H08S2	**Diego Garcia H**	**54.73**	**306**	T	T	11 30 53.6	
	baz=146,SNR=57						
H08S1	**Diego Carcia H**	**54.74**	**306**	T	T	11 30 53.1	
	baz=146,SNR=57						
H08S3	**Diego Garcia H**	**54.75**	**306**	T	T	11 30 55.2	
	baz=146,SNR=55						
IPM	**Ipoh**	**55.45**	**344**	*e*P	**P**	**10 32 08.7**	**+0.4**
	10nm,0.9s						
H08N1	**Diego Carcia H**	**56.60**	**305**	T	T	11 33 23.0	
	baz=137,SNR=14						
H08N3	**Diego Garcia H**	**56.61**	**305**	T	T	11 33 28.4	
	baz=137,SNR=12						
H08N2	**Diego Garcia H**	**56.62**	**305**	T	T	11 33 26.4	
	baz=137,SNR=13						
CMAR	**Chiang Mai Arr**	**69.48**	**344**	P	**P**	**10 33 42.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**69.48**	**344**	P	**P**	**10 33 42.8**	**+0.8**
	3.8nm,0.6s,baz=192,slow=5.5,SNR=22						
TBI	**Tubuai**	**76.28**	**110**	*e*T	T	10 35 11.4	
	28nm,0.3s						
KSAR	**Wonju Array Be**	**87.86**	**11**	P	**P**	**10 35 21.9**	**-0.7**
KSRS	**Korea Array**	**87.88**	**11**	P	**P**	**10 35 21.9**	**-0.8**
	1.2nm,1.0s,baz=202,slow=35,SNR=4.2						
KSRS				LR	LR	11 13 13.6	
	comp=Z,34nm,19.8s,baz=175,slow=35						
PLCA	**Paso Flores**	**89.57**	**176**	P	**P**	**10 35 29.9**	**-1.2**
PLCA	**Paso Flores**	**89.57**	**176**	P	**P**	**10 35 29.9**	**-1.2**
	3.2nm,1.0s,baz=177,slow=12,SNR=4.1						
PLCA				LR	LR	11 17 45.9	
	comp=Z,199nm,21.6s,baz=136,slow=37						
LCO	**Las Campanas**	**101.24**	**175**	*e*Pdif	**Pdif**	**10 36 19.3**	**-5.4**
	18nm,0.3s						
H10S2	**ASCENSION HYDR**	**106.46**	**233**	T	T	12 36 38.3	
	baz=146,slow=0.7,SNR=12						
H10S3	**ASCENSION HYDR**	**106.48**	**233**	T	T	12 36 39.3	
	baz=146,slow=0.7,SNR=13						
H10S1	**ASCENSION HYDR**	**106.48**	**233**	T	T	12 36 39.5	
	baz=146,slow=0.7,SNR=13						
NVAR	**Mina Array Bea**	**141.28**	**87**	PKPpre	PKPpre	10 42 00.8	
NVAR	**Mina Array Bea**	**141.28**	**87**	PKPpre	PKPkP	10 42 00.8	
	0.4nm,0.7s,baz=234,slow=4.0,SNR=3.6						
X16A	**Lo Mia Camp, P**	**143.30**	**97**	⇓P	PKPbc	10 42 05.6	+0.7
	baz=143						
220A	**Playas Peak, P**	**143.51**	**103**	⇑P	PKPbc	10 42 06.5	+1.0
	baz=144						
120A	**U Bar Ranch, L**	**143.87**	**102**	⇑P	PKPbc	10 42 07.1	+0.5
	baz=144						
U15A	**North Rim**	**143.99**	**94**	⇑P	**PKPdf**	**10 42 08.6**	**-0.4**
	baz=144,SNR=6.6						
WUAZ	**Wupatki**	**144.02**	**96**	*e*PKPdf	**PKPdf**	**10 42 08.1**	**-0.9**
WUAZ	**Wupatki**	**144.02**	**96**	⇓P	PKPbc	10 42 07.9	+0.9
	baz=144,SNR=5.8						
Z20A	**Nine Sixteen R**	**144.27**	**102**	⇑P	**PKPdf**	**10 42 09.1**	**-0.4**
	baz=144						
X18A	**Snowflake**	**144.32**	**99**	⇓P	**PKPdf**	**10 42 09.4**	**-0.1**
	baz=144						
121A	**Cookes Peak, D**	**144.40**	**103**	⇑P	PKPbc	10 42 08.7	+0.5
	baz=144						
G08A	**Pilot Rock**	**144.40**	**77**	*e*P	**PKPdf**	**10 42 09.5**	**+0.3**
HAWA	**Hanford**	**144.54**	**75**	*e*P	**PKPdf**	**10 42 09.9**	**+0.6**
222A	**Williams Famil**	**144.54**	**104**	⇑P	PKPbc	10 42 09.2	+0.6
	baz=145						
626A	**Big Bend Ranch**	**144.59**	**111**	⇑P	**PKPdf**	**10 42 09.5**	**-0.5**
	baz=145,SNR=9.3						
TXAR	**Lajitas Array**	**144.71**	**111**	PKP	PKPbc	10 42 09.7	+0.5
TXAR	**Lajitas Array**	**144.71**	**111**	PKP	PKPbc	10 42 09.7	+0.4
	3.1nm,0.9s,baz=196,slow=5.5,SNR=25						
Y20A	**Horse Springs,**	**144.92**	**101**	⇓P	**PKPdf**	**10 42 10.7**	**0.0**
	baz=145,SNR=10						
425A	**Indio Mountain**

baz=147,SNR=6.7
430A Baggett Ranch, 147.22 112 ⇑P **PKPbc 10 42 17.2 +0.5**
baz=147,SNR=5.8
Y25A Mesa, Roswell 147.25 104 ⇑P **PKPbc 10 42 17.5 +0.6**
baz=147,SNR=6.1
329A Wagon Wheel Ra 147.26 111 ⇑P **PKPab 10 42 17.9 -0.8**
baz=147
Z26A Caprock 147.27 106 ⇑P **PKPbc 10 42 16.9 0.0**
baz=147
S20A Disappointment 147.35 95 ⇓P **PKPab 10 42 18.4 -0.7**
baz=148,SNR=5.8
U22A Llaves 147.44 99 ⇑P **PKPab 10 42 18.9 -0.6**
baz=148
V23A Ortiz Mt. (NFS 147.48 100 ⇑P **PKPab 10 42 19.0 -0.6**
baz=148
431A Sonora 147.51 113 ⇓P **PKPab 10 42 18.7 -0.9**
baz=148
532A Rocksprings 147.53 115 ⇑P **PKPab 10 42 19.0 -0.7**
baz=148
S21A Coal Bank Pass 147.61 96 ⇓P **PKPab 10 42 19.4 -0.9**
baz=148
W24A Lazy 6 Ranch, 147.64 102 ⇑P **PKPbc 10 42 18.1 +0.2**
baz=148,SNR=5.9
X25A Clemmons Ranch 147.67 104 ⇓P **PKPbc 10 42 18.9 +0.9**
baz=148
128A Castleberry Fa 147.75 108 ⇓P **PKPbc 10 42 18.9 +0.7**
baz=148,SNR=6.7
Z27A Tatum 147.77 107 ⇓P **PKPbc 10 42 18.3 0.0**
baz=148,SNR=5.3
T22A Edith 147.80 98 ⇓P **PKPbc 10 42 19.1 +0.7**
baz=148
V24A Rampart Ranch, 148.05 101 ⇓P **PKPbc 10 42 20.1 +1.0**
baz=148,SNR=5.3
230A Sterling City 148.07 111 ⇓P **PKPbc 10 42 19.4 +0.4**
baz=148
129A Stewart Farms, 148.13 109 ⇓P **PKPbc 10 42 19.6 +0.4**
baz=148
R21A Cimarron 148.18 95 ⇓P **PKPab 10 42 22.2 -0.2**
baz=148
Y27A Causey 148.18 106 ⇓P **PKPbc 10 42 19.9 +0.5**
baz=148,SNR=7.0
W25A X Bar L Ranch, 148.24 103 ⇓P **PKPbc 10 42 20.2 +0.7**
baz=148,SNR=14
Z28A Tucker Farm, M 148.26 108 ⇓P **PKPbc 10 42 19.5 0.0**
baz=148
S22A 4UR Ranch, Cre 148.28 97 ⇓P **PKPbc 10 42 21.2 +1.5**
baz=148,SNR=9.9
T23A Casias Ranch, 148.37 99 ⇓P **PKPbc 10 42 21.0 +1.1**
baz=148
MSTX Muleshoe 148.48 106 ⇑P **PKPbc 10 42 20.3 +0.2**
baz=149
332A Millersview 148.53 113 ⇓P **PKPbc 10 42 21.2 +1.0**
baz=149
V25A Rancho No Teng 148.53 102 ⇓P **PKPbc 10 42 21.5 +1.2**
baz=149
231A Bronte 148.58 112 ⇓P **PKPbc 10 42 21.3 +0.9**
baz=149
W26A Owens Ranch, T 148.59 104 ⇓P **PKPbc 10 42 22.0 +1.6**
baz=149
R22A Saguache, Gunn 148.61 96 ⇑P **PKPab 10 42 24.5 +0.3**
baz=149
Z29A Hungry Hill Ra 148.66 108 ⇑P **PKPbc 10 42 21.0 +0.4**
baz=149,SNR=5.7
Y28A McKinney Farm, 148.76 107 ⇓P **PKPbc 10 42 21.5 +0.7**
baz=149
SNOW Snow King Moun 148.78 84 *e*P **PKPbc 10 42 22.3 +1.5**
T24B San Luis 148.80 99 ⇑P **PKPbc 10 42 22.4 +1.3**
baz=149
IMW Indian Meadow 148.86 84 *e*PKPbc **PKPbc 10 42 21.9 +0.8**
IMW *e*PKPab **PKPab 10 42 26.0 +1.0**
Q22A Crested Butte, 148.87 95 ⇑P **PKPbc 10 42 23.2 +1.9**
baz=149
232A Coleman 148.95 113 ⇓P **PKPbc 10 42 22.6 +1.3**
baz=149
U25A Circle Dot Ran 149.01 101 ⇑P **PKPbc 10 42 22.4 +0.9**
baz=149,SNR=6.7
V26A Tequesquite Ra 149.03 103 ⇑P **PKPbc 10 42 22.3 +0.8**
baz=149,SNR=6.5
Y29A Porterfield Fa 149.09 108 ⇓P **PKPbc 10 42 22.4 +0.7**
baz=149
R23A Moffat 149.18 97 ⇓P **PKPbc 10 42 24.0 +2.0**
baz=149
PDAR Pinedale Array 149.22 86 PKPbc **PKPbc 10 42 22.0 +0.1**
PDAR Pinedale Array 149.22 86 PKPbc **PKPbc 10 42 22.0 +0.1**
1.0nm,0.8s,baz=225,slow=1.9,SNR=8.5
S24A Houchin Ranch, 149.25 98 ⇑P **PKPbc 10 42 23.4 +1.2**
baz=149
U26A Atchley Ranch, 149.43 102 ⇑P **PKPbc 10 42 23.5 +0.9**
baz=150
X29A Tulia 149.46 107 ⇑P **PKPbc 10 42 23.5 +0.9**
baz=150
T25A Trinidad 149.46 100 ⇑P **PKPbc 10 42 23.9 +1.3**
baz=150
Z31A Sharp Cattle R 149.65 110 ⇑P **PKPbc 10 42 23.7 +0.7**
baz=150
R24A Sanders Place, 149.67 98 ⇑P **PKPbc 10 42 24.9 +1.8**
baz=150
S25A Robets Cordova 149.76 99 ⇑P **PKPbc 10 42 24.8 +1.5**
baz=150,SNR=15
W29A Amraillo 149.94 106 ⇑P **PKPbc 10 42 24.6 +0.8**
baz=150
X30A Coker Ranch, T 149.97 108 ⇓P **PKPbc 10 42 24.7 +1.0**
baz=150
V28A Channing 149.98 104 ⇑P **PKPbc 10 42 25.0 +1.2**
baz=150
T26A Comanche Natio 150.00 101 ⇑P **PKPbc 10 42 25.4 +1.5**
baz=150
Y31A Rekieta Farm, 150.02 109 ⇑P **PKPbc 10 42 24.8 +1.0**
baz=150
U27A Thompson Grove 150.03 103 ⇑P **PKPbc 10 42 25.4 +1.5**
baz=150
ISCO Idaho Springs 150.23 95 *e*P **PKPbc 10 42 26.4 +1.9**
Y32A R-V Farms, Ver 150.55 110 ⇓P **PKPbc 10 42 26.4 +1.3**
baz=151
YKA Yellowknife Ar 150.82 46 PKPbc **PKPbc 10 42 24.6 -0.1**
YKA PKPab **PKPab 10 42 30.3 -1.8**
YKA Yellowknife Ar 150.82 46 PKPbc **PKPbc 10 42 24.6 -0.1**
1.9nm,0.8s,baz=298,slow=2.7,SNR=3.2
YKA PKPab **PKPab 10 42 30.3 -1.8**
2.7nm,0.8s,baz=293,slow=2.8,SNR=4.2

CNRM ***10*** *10:26:46.5,34˚.48N×9˚.88W,h30km,MD3.5*
INMG ***10*** *10:26:47.0±1.8,35˚.66N×10˚.05W,h31km±6km,MD2.6, ML2.9,Error ellipse: s-maj=3.7km s-min=3.0km az=119.0*
IGIL ***10*** *10:26:47.1,35˚.69N×9˚.99W,h25km,ML2.9*
LDG ***10*** *10:26:47.6±0.2,35˚.71N×9˚.98W,h30km,Ml3.6/7,Error ellipse: s-maj=4.7km s-min=3.6km az=37.0*
SFS ***10*** *10:26:47.0,35˚.80N×10˚.00W,h84km,ML4.0*
MDD ***10*** *10:26:47.1±1.5,35˚.78N×10˚.06W,h81km±27km,mb4.1/21, Error ellipse: s-maj=14.0km s-min=8.0km az=44.0, PRXIMO*
CSEM ***10*** *10:26:48.7±0.3,35˚.83N×9˚.81W,h80km,ML3.8/16,Error ellipse: s-maj=6.0km s-min=3.6km az=53.0*
ISC 10 10:26:42.8±1.3**,35˚.74N**±0˚.06×**9˚.90W**±0˚.06**,h10km,n138,**
σ1**95**/216**,7C,West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.64**	**32**	*i* P		**Pb**	**10 27 14.2**	**+1.1**
PFVI				*e*S		**Sn**	**10 27 33.8**	**+1.0**
PFVI				A		A	10 27 37.4	
	42nm,0.1s							
PFVI	**Vila Bisbo**	**1.64**	**32**	⇑P		**Pb**	**10 27 14.2**	**+1.1**
	202nm,0.1s,SNR=18							
PFVI				S		**Sn**	**10 27 33.7**	**+1.0**
	60nm,0.1s,SNR=7.9							
PFVI	**Vila Bisbo**	**1.64**	**32**	P		**Pb**	**10 27 14.2**	**+1.1**
	202nm,0.1s,SNR=18							
PFVI				*e*S		**Sn**	**10 27 33.8**	**+1.0**
	42nm,0.1s							
MORF	**Marmelete**	**1.86**	**33**	*i* Pn		**Pb**	**10 27 17.3**	**+0.4**
MORF				*e*Sn		**Sn**	**10 27 39.1**	**+0.8**
MORF				A		A	10 27 39.7	
	64nm,0.1s							
PBDV	**Barranco-do-Ve**	**2.18**	**46**	*i* Pn		**Pb**	**10 27 22.1**	**-0.3**
PBDV				*e*Sn		**Sn**	**10 27 47.4**	**+1.1**
PBDV				A		A	10 27 51.7	
	31nm,0.1s							
PCVE	**Castro Verde**	**2.41**	**38**	*i* Pn		**Pb**	**10 27 25.1**	**-1.1**
PCVE				*e*Sn		**Sn**	**10 27 52.7**	**+0.9**
PCVE				A		A	10 27 55.1	
	18nm,0.2s							
PVAQ	**Vaqueiros**	**2.42**	**46**	*i* Pn		**Pb**	**10 27 25.2**	**-1.2**
PVAQ				*e*Sn		**Sn**	**10 27 53.4**	**+1.4**
PVAQ				A		A	10 27 55.1	
	78nm,0.2s							
PVAQ	**Vaqueiros**	**2.42**	**46**	*i* Pn		**Pb**	**10 27 25.2**	**-1.2**
PVAQ				*e*Sn		**Sn**	**10 27 53.4**	**+1.4**
	78nm,0.2s							
PNCL	**Nicolau / Gran**	**2.61**	**25**	*e*Pn		**Pn**	**10 27 27.0**	**+2.0**
PNCL				*e*Sn		**Sn**	**10 27 57.5**	**+0.8**
PNCL				A		A	10 28 00.5	
	19nm,0.2s							
PNCL	**Nicolau / Gran**	**2.61**	**25**	*e*Pn		**Pn**	**10 27 27.0**	**+2.0**
PNCL				*e*Sn		**Sn**	**10 27 57.5**	**+0.8**
	19nm,0.2s							
EGRO	**El Granado**	**2.64**	**47**	⇑P		**Pn**	**10 27 28.2**	**+2.7**
	100nm,0.1s,SNR=18							
EGRO				S		**Sn**	**10 27 58.2**	**+0.6**
	50nm,0.3s,SNR=9.8							
EGRO	**El Granado**	**2.64**	**47**	P		**Pn**	**10 27 28.2**	**+2.7**
	100nm,0.1s,SNR=18							
EGRO				S		**Sn**	**10 27 58.2**	**+0.6**
	50nm,0.3s,SNR=9.8							
PMST	**Lisbon--Monsan**	**3.04**	**11**	*e*Sn		**Sn**	**10 28 07.3**	**-0.2**
PMST				A		A	10 28 10.4	
	44nm,0.1s							
PMST	**Lisbon--Monsan**	**3.04**	**11**	*e*Sn		**Sn**	**10 28 07.3**	**-0.2**
	44nm,0.1s							
EVOP	**Sao Brissos**	**3.12**	**27**	*e*Pn		**Pn**	**10 27 33.9**	**+1.8**
EVOP				*e*Sn		**Sn**	**10 28 08.9**	**-0.5**
	16nm,0.2s							
PACT	**Alcochete**	**3.14**	**15**	*e*Pn		**Pn**	**10 27 34.7**	**+2.4**
PACT				*e*Sn		**Sn**	**10 28 10.6**	**+0.8**
PACT				A		A	10 28 23.6	
	59nm,0.6s							
PACT	**Alcochete**	**3.14**	**15**	*e*Pn		**Pn**	**10 27 34.7**	**+2.4**
PACT				*e*Sn		**Sn**	**10 28 10.6**	**+0.8**
	59nm,0.6s							
EVO	**Evora**	**3.17**	**28**	*e*Pn		**Pn**	**10 27 33.9**	**+1.2**
EVO				*e*Sn		**Sn**	**10 28 08.9**	**-1.6**
	32nm,0.2s							
EVO	**Evora**	**3.17**	**28**	*e*Pn		**Pn**	**10 27 34.7**	**+2.0**
EVO				*e*Sn		**Sn**	**10 28 10.3**	**-0.2**
EVO				A		A	10 28 12.7	
	41nm,0.1s							
EVO	**Evora**	**3.17**	**28**	*e*Pn		**Pn**	**10 27 34.7**	**+2.0**
EVO				*e*Sn		**Sn**	**10 28 10.3**	**-0.2**
	41nm,0.1s							
PMAFR	**Mafra**	**3.24**	**9**	*e*Pn		**Pn**	**10 27 35.4**	**+1.6**
PMAFR				*e*Sn		**Sn**	**10 28 12.1**	**-0.4**
PMAFR				A		A	10 28 14.6	
	138nm,0.2s							
PMAFR	**Mafra**	**3.24**	**9**	P		**Pn**	**10 27 35.4**	**+1.6**
	36nm,0.2s,SNR=22							
PMAFR				S		**Sn**	**10 28 11.3**	**-1.2**
	72nm,0.2s,SNR=12							
PMAFR	**Mafra**	**3.24**	**9**	P		**Pn**	**10 27 35.4**	**+1.6**
	36nm,0.2s,SNR=22							
PMAFR				S		**Sn**	**10 28 11.3**	**-1.2**
	72nm,0.2s,SNR=12							
PMAFR				*e*Sn		**Sn**	**10 28 12.1**	**-0.4**
	138nm,0.2s							
EMIN	**Mina Concepcio**	**3.29**	**51**	⇑P		**Pn**	**10 27 36.6**	**+2.2**
	19nm,0.1s,SNR=18							
EMIN				S		**Sn**	**10 28 12.9**	**-0.6**
	24nm,0.4s,SNR=13							
EMIN	**Mina Concepcio**	**3.29**	**51**	P		**Pn**	**10 27 36.6**	**+2.2**
	19nm,0.1s,SNR=18							
EMIN				S		**Sn**	**10 28 12.9**	**-0.6**
	24nm,0.4s,SNR=13							
RSA	**Sarsar**	**3.44**	**103**	*i* P		**Pn**	**10 27 36.5**	**0.0**
ESPR	**Espera**	**3.46**	**70**	⇑P		**Pn**	**10 27 38.9**	**+2.3**
	28nm,0.2s,SNR=18							
ESPR				S		**Sn**	**10 28 17.1**	**-0.5**
	16nm,0.2s							
ESPR	**Espera**	**3.46**	**70**	P		**Pn**	**10 27 38.9**	**+2.3**
	28nm,0.2s,SNR=18							
ESPR				S		**Sn**	**10 28 17.1**	**-0.5**
	16nm,0.2s							
ALMR	**Almeirim**	**3.57**	**17**	*e*P		**Pn**	**10 27 40.3**	**+2.1**
ALMR				*e*S		**Sn**	**10 28 19.2**	**-1.2**
ALMR				AML		AML	10 28 21.3	
	comp=E,18nm,0.2s							
ALMR	**Almeirim**	**3.57**	**17**	*e*P		**Pn**	**10 27 40.3**	**+2.1**
ALMR				*e*S		**Sn**	**10 28 19.2**	**-1.2**
ALMR	**Almeirim**	**3.57**	**17**	*e*P		**Pn**	**10 27 40.3**	**+2.1**
ALMR				*e*S		**Sn**	**10 28 19.2**	**-1.2**
PMTG	**Montargil**	**3.58**	**21**	*e*Pn		**Pn**	**10 27 40.2**	**+1.9**
PMTG				*e*Sn		**Sn**	**10 28 20.2**	**-0.5**
PMTG				A		A	10 28 21.7	
	comp=E,14nm,0.2s							
PMTG	**Montargil**	**3.58**	**21**	*e*Pn		**Pn**	**10 27 40.2**	**+1.9**
PMTG				*e*Sn		**Sn**	**10 28 20.2**	**-0.5**
	comp=E,14nm,0.2s							
PESTR	**Estremoz**	**3.62**	**30**	*e*Pn		**Pn**	**10 27 40.8**	**+1.8**
PESTR				*e*Sn		**Sn**	**10 28 21.5**	**-0.3**
PESTR				A		A	10 28 46.0	
	comp=E,7.2nm,0.3s							
PESTR	**Estremoz**	**3.62**	**30**	*e*Pn		**Pn**	**10 27 40.8**	**+1.8**
PESTR				*e*Sn		**Sn**	**10 28 21.5**	**-0.3**
	comp=E,7.2nm,0.3s							
EJIF	**Jimena Fronter**	**3.66**	**78**	P		**Pn**	**10 27 41.9**	**+2.4**
	comp=E,2.3nm,0.2s,SNR=7.9							
EJIF				S		**Sn**	**10 28 24.2**	**+1.5**
	comp=E,4.4nm,0.1s,SNR=7.9							
EJIF	**Jimena Fronter**	**3.66**	**78**	P		**Pn**	**10 27 41.9**	**+2.4**
	comp=E,2.3nm,0.2s,SNR=7.9							
EJIF				S		**Sn**	**10 28 24.2**	**+1.5**
	comp=E,4.4nm,0.1s,SNR=7.9							
ECEU	**Ceuta**	**3.68**	**86**	P		**Pn**	**10 27 42.0**	**+2.2**
	comp=E,2.5nm,0.1s,SNR=7.9							
ECEU				S		**Sn**	**10 28 23.1**	**-0.1**
	comp=E,7.1nm,0.2s,SNR=7.9							
ECEU	**Ceuta**	**3.68**	**86**	P		**Pn**	**10 27 42.0**	**+2.2**
	comp=E,2.5nm,0.1s,SNR=7.9							
ECEU				S		**Sn**	**10 28 23.1**	**-0.1**
	comp=E,7.1nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**3.79**	**37**	⇑P		**Pn**	**10 27 43.2**	**+2.0**
	comp=E,7.2nm,0.1s,SNR=18							
EBAD				S		**Sn**	**10 28 25.1**	**-0.8**
	comp=E,24nm,0.3s							
EBAD	**Badajoz**	**3.79**	**37**	P		**Pn**	**10 27 43.2**	**+2.0**
	comp=E,7.2nm,0.1s,SNR=18							
EBAD				S		**Sn**	**10 28 25.1**	**-0.8**
	comp=E,24nm,0.3s							
LIJA	**Lijar**	**3.81**	**71**	P		**Pn**	**10 27 44.6**	**+2.9**
LIJA				S		**Sn**	**10 28 23.5**	**-3.1**
LIJA	**Lijar**	**3.81**	**71**	P		**Pn**	**10 27 44.6**	**+2.9**
LIJA				S		**Sn**	**10 28 23.5**	**-3.1**
PMRV	**Marv??o**	**4.18**	**28**	*e*Pn		**Pn**	**10 27 48.7**	**+2.0**
PMRV				*e*Sn		**Sn**	**10 28 34.8**	**-0.9**
PMRV				A		A	10 28 38.9	
	comp=E,13nm,0.2s							
PMRV	**Marv??o**	**4.18**	**28**	*e*Pn		**Pn**	**10 27 48.7**	**+2.0**
PMRV				*e*Sn		**Sn**	**10 28 34.8**	**-0.9**
	comp=E,13nm,0.2s							
ECAB	**El Cabril**	**4.28**	**56**	⇑P		**Pn**	**10 27 50.1**	**+2.1**
	comp=E,20nm,0.1s,SNR=18							
ECAB				S		**Sn**	**10 28 35.6**	**-2.5**
	comp=E,12nm,0.4s,SNR=6.3							
ECAB	**El Cabril**	**4.28**	**56**	P		**Pn**	**10 27 50.1**	**+2.1**
	comp=E,20nm,0.1s,SNR=18							
ECAB				S		**Sn**	**10 28 35.6**	**-2.5**
	comp=E,12nm,0.4s,SNR=6.3							
PCAS	**Casmilo, Conde**	**4.44**	**14**	*e*Pn		**Pn**	**10 27 52.2**	**+1.9**
PCAS				*e*Sn		**Sn**	**10 28 40.3**	**-1.7**
PCAS				A		A	10 28 47.5	
	comp=E,9.0nm,0.2s							
PCAS	**Casmilo, Conde**	**4.44**	**14**	*e*Pn		**Pn**	**10 27 52.2**	**+1.9**
PCAS				*e*Sn		**Sn**	**10 28 40.3**	**-1.7**
	comp=E,9.0nm,0.2s							
EMAL	**Malaga-Limoner**	**4.54**	**75**	P		**Pn**	**10 27 54.6**	**+3.1**
EMAL				S		**Sn**	**10 28 41.5**	**-2.9**
EMAL	**Malaga-Limoner**	**4.54**	**75**	P		**Pn**	**10 27 54.6**	**+3.1**
EMAL				S		**Sn**	**10 28 41.5**	**-2.9**
ELUQ	**Luque**	**4.88**	**67**	P		**Pn**	**10 27 58.9**	**+2.6**
	comp=E,4.0nm,0.2s,SNR=7.9							
ELUQ				S		**Sn**	**10 28 50.7**	**-2.2**
	comp=E,11nm,0.2s,SNR=7.9							
ELUQ	**Luque**	**4.88**	**67**	P		**Pn**	**10 27 58.9**	**+2.6**
	comp=E,4.0nm,0.2s,SNR=7.9							
ELUQ				S		**Sn**	**10 28 50.7**	**-2.2**
	comp=E,11nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**4.90**	**59**	⇑P		**Pn**	**10 27 58.6**	**+2.0**
	comp=E,13nm,0.2s,SNR=18							
EADA				S		**Sn**	**10 28 51.2**	**-2.2**
	comp=E,5.5nm,0.5s							
EADA	**Adamuz**	**4.90**	**59**	P		**Pn**	**10 27 58.6**	**+2.0**
	comp=E,13nm,0.2s,SNR=18							
EADA				S		**Sn**	**10 28 51.2**	**-2.2**
	comp=E,5.5nm,0.5s							
MTE	**Manteigas**	**5.01**	**21**	*e*Pn		**Pn**	**10 28 00.3**	**+2.2**
MTE				*e*Sn		**Sn**	**10 28 55.8**	**-0.2**
MTE				A		A	10 28 59.1	
	comp=E,13nm,0.4s							
MTE	**Manteigas**	**5.01**	**21**	*e*Pn		**Pn**	**10 28 00.3**	**+2.2**
MTE				*e*Sn		**Sn**	**10 28 55.8**	**-0.2**
	comp=E,13nm,0.4s							
EGUA	**Guajares**	**5.23**	**76**	P		**Pn**	**10 28 03.7**	**+2.6**
	comp=E,2.2nm,0.2s,SNR=7.9							
EGUA				S		**Sn**	**10 28 59.4**	**-2.1**
	comp=E,14nm,0.2s,SNR=7.9							
EGUA	**Guajares**	**5.23**	**76**	P		**Pn**	**10 28 03.7**	**+2.6**
	comp=E,2.2nm,0.2s,SNR=7.9							
EGUA				S		**Sn**	**10 28 59.4**	**-2.1**
	comp=E,14nm,0.2s,SNR=7.9							
EPLA	**Plasencia**	**5.27**	**34**	P		**Pn**	**10 28 03.6**	**+2.1**
	comp=E,11nm,0.2s,SNR=39							
EPLA				S		**Sn**	**10 29 00.0**	**-2.4**
	comp=E,3.3nm,0.2s							
EPLA	**Plasencia**	**5.27**	**34**	P		**Pn**	**10 28 03.7**	**+2.1**
	comp=E,11nm,0.2s,SNR=39							
EPLA				S		**Sn**	**10 29 00.0**	**-2.4**
	comp=E,3.3nm,0.2s							
ECOG	**Cogollos-Vega**	**5.33**	**71**	S		**Sn**	**10 29 02.3**	**-1.7**
	comp=E,18nm,0.3s,SNR=8.8							
ECOG	**Cogollos-Vega**	**5.33**	**71**	S		**Sn**	**10 29 02.3**	**-1.7**
	comp=E,18nm,0.3s,SNR=8.8							
EQUE	**Quentar**	**5.41**	**72**	S		**Sn**	**10 29 03.9**	**-2.1**
	comp=E,5.0nm,0.3s,SNR=5.9							
EQUE	**Quentar**	**5.41**	**72**	S		**Sn**	**10 29 03.9**	**-2.1**
	comp=E,5.0nm,0.3s,SNR=5.9							
EBAN	**Banos Encina**	**5.46**	**62**	P		**Pn**	**10 28 06.0**	**+1.7**
	comp=E,5.2nm,0.1s,SNR=8.0							
EBAN				S		**Sn**	**10 29 03.6**	**-3.6**
	comp=E,16nm,0.4s,SNR=10							
EBAN	**Banos Encina**	**5.46**	**62**	P		**Pn**	**10 28 06.0**	**+1.7**
	comp=E,5.2nm,0.1s,SNR=8.0							
EBAN				S		**Sn**	**10 29 03.6**	**-3.6**
	comp=E,16nm,0.4s,SNR=10							
EALB	**Alboran**	**5.58**	**86**	S		Sn	10 29 05.5	-4.6
	comp=E,5.1nm,0.1s,SNR=7.9							
EBER	**Berja**	**5.78**	**76**	P		**Pn**	**10 28 10.8**	**+2.0**
	comp=E,0.6nm,0.3s,SNR=5.1							
EBER				S		**Sn**	**10 29 13.6**	**-1.6**
	comp=E,1.5nm,0.2s,SNR=7.9							
EBER	**Berja**	**5.78**	**76**	P		**Pn**	**10 28 10.8**	**+2.0**
	comp=E,0.6nm,0.3s,SNR=5.1							
EBER				S		**Sn**	**10 29 13.6**	**-1.6**
	comp=E,1.5nm,0.2s,SNR=7.9							
EQES	**Quesada**	**5.86**	**67**	P		**Pn**	**10 28 11.5**	**+1.7**
	comp=E,0.9nm,0.1s,SNR=6.2							
EQES				S		**Sn**	**10 29 14.2**	**-2.8**
	comp=E,5.6nm,0.2s,SNR=7.9							
EQES	**Quesada**	**5.86**	**67**	P		**Pn**	**10 28 11.5**	**+1.7**
	comp=E,0.9nm,0.1s,SNR=6.2							
EQES				S		**Sn**	**10 29 14.2**	**-2.8**
	comp=E,5.6nm,0.2s,SNR=7.9							
POLO	**Lamas de Olo**	**5.86**	**16**	*e*Pn		**Pn**	**10 28 11.0**	**+1.2**
POLO				*e*Sn		**Sn**	**10 29 14.6**	**-2.5**
POLO				A		A	10 29 19.2	
	comp=E,3.1nm,0.2s							
POLO	**Lamas de Olo**	**5.86**	**16**	*e*Pn		**Pn**	**10 28 11.0**	**+1.2**
POLO				*e*Sn		**Sn**	**10 29 14.6**	**-2.5**
	comp=E,3.1nm,0.2s							
MVO	**Moncorvo**	**5.86**	**22**	*e*Pn		**Pn**	**10 28 11.4**	**+1.6**
MVO				*e*Sn		**Sn**	**10 29 14.3**	**-2.8**
MVO				A		A	10 29 16.6	
	comp=E,6.4nm,0.5s							
MVO	**Moncorvo**	**5.86**	**22**	P		**Pn**	**10 28 11.3**	**+1.6**
	comp=E,4.9nm,0.1s,SNR=21							
MVO				S		**Sn**	**10 29 14.3**	**-2.8**
	comp=E,2.9nm,0.1s							
MVO	**Moncorvo**	**5.86**	**22**	*e*Pn		**Pn**	**10 28 11.4**	**+1.6**
MVO				S		**Sn**	**10 29 14.3**	**-2.8**
	comp=E,2.9nm,0.1s							
PMPST	**Porto Santo, M**	**5.94**	**245**	*e*Pn		**Pn**	**10 28 08.6**	**-2.2**
PMPST				*e*Sn		Sn	10 29 07.5	-11
PMPST				A		A	10 29 10.9	
	comp=E,15nm,0.3s							
PMPST	**Porto Santo, M**	**5.94**	**245**	*e*Pn		**Pn**	**10 28 08.6**	**-2.2**
PMPST				*e*Sn		Sn	10 29 07.5	-11
	comp=E,15nm,0.3s							
ESDC	**Sonseca Array**	**6.13**	**48**	P		**Pn**	**10 28 15.0**	**+1.5**
	comp=E,56nm,0.1s,baz=235,slow=13,SNR=96							
ESDC				S		**Sn**	**10 29 22.1**	**-1.5**
	comp=E,3.1nm,0.3s,baz=233,slow=23,SNR=14							
ESDC	**Sonseca Array**	**6.13**	**48**	P		**Pn**	**10 28 15.0**	**+1.5**
	comp=E,56nm,0.1s,baz=235,SNR=96							
ESDC				S		**Sn**	**10 29 22.1**	**-1.5**
	comp=E,3.1nm,0.3s,baz=23,SNR=14							
EHUE	**Huescar**	**6.22**	**68**	P		**Pn**	**10 28 16.5**	**+1.7**
	comp=E,1.8nm,0.2s,SNR=7.9							
EHUE				S		**Sn**	**10 29 23.2**	**-2.7**
	comp=E,5.4nm,0.2s,SNR=7.9							
EHUE	**Huescar**	**6.22**	**68**	P		**Pn**	**10 28 16.5**	**+1.7**
	comp=E,1.8nm,0.2s,SNR=7.9							
EHUE				S		**Sn**	**10 29 23.2**	**-2.7**
	comp=E,5.4nm,0.2s,SNR=7.9							
ELOB	**Lobios**	**6.28**	**13**	P		**Pn**	**10 28 16.9**	**+1.3**
	comp=E,3.7nm,0.1s,SNR=22							
ELOB				S		**Sn**	**10 29 22.4**	**-5.1**
	comp=E,6.0nm,0.3s,SNR=5.1							
ELOB	**Lobios**	**6.28**	**13**	P		**Pn**	**10 28 16.9**	**+1.3**
	comp=E,3.7nm,0.1s,SNR=22							
PBRG	**Braganca**	**6.54**	**21**	*e*Sn		**Sn**	**10 29 30.8**	**-2.9**
PBRG				A		A	10 29 33.0	
	comp=E,4.2nm,0.1s							
PBRG	**Braganca**	**6.54**	**21**	S		**Sn**	**10 29 30.8**	**-2.9**
	comp=E,2.1nm,0.1s							
PBRG	**Braganca**	**6.54**	**21**	S		**Sn**	**10 29 30.8**	**-2.9**
	comp=E,2.1nm,0.1s							
EVIA	**Vianos**	**6.58**	**62**	P		**Pn**	**10 28 21.0**	**+1.4**
	comp=E,4.3nm,0.1s,SNR=7.5							
EVIA				S		**Sn**	**10 29 31.6**	**-3.1**
	comp=E,6.5nm,0.2s,SNR=6.1							
EVIA	**Vianos**	**6.58**	**62**	P		**Pn**	**10 28 21.0**	**+1.4**
	comp=E,4.3nm,0.1s,SNR=7.5							
EVIA				S		**Sn**	**10 29 31.6**	**-3.1**
	comp=E,6.5nm,0.2s,SNR=6.1							
ECAL	**Calab

EARI	**Arriondas**	**8.37**	**24**	P		**Pn**	**10 28 46.2**	**+2.0**
	comp=E,0.2nm,0.2s,SNR=5.6							
EMOS	**Mosqueruela**	**8.75**	**55**	P		**Pn**	**10 28 52.3**	**+2.8**
	comp=E,2.5nm,0.3s,SNR=9.6							
EMOS				S		Sn	10 30 23.9	-4.4
	comp=E,2.0nm,0.3s,SNR=5.8							
EMOS	**Mosqueruela**	**8.75**	**55**	P		**Pn**	**10 28 52.3**	**+2.8**
	comp=E,2.5nm,0.3s,SNR=9.6							
EMOS				S		Sn	10 30 23.9	-4.4
	comp=E,2.0nm,0.3s,SNR=5.8							
IUSE	**Utxeti**	**9.67**	**39**	P		**Pn**	**10 29 04.2**	**+2.1**
	comp=E,0.8nm,0.1s,SNR=7.9							
IUSE	**Utxeti**	**9.67**	**39**	P		**Pn**	**10 29 04.2**	**+2.1**
	comp=E,0.8nm,0.1s,SNR=7.9							
IEPA	**Eparoz**	**9.70**	**41**	P		**Pn**	**10 29 04.9**	**+2.4**
	comp=E,1.3nm,0.2s,SNR=7.9							
IEPA				S		**Sn**	**10 30 49.1**	**-2.4**
	comp=E,4.8nm,0.5s,SNR=7.9							
IEPA	**Eparoz**	**9.70**	**41**	P		**Pn**	**10 29 04.9**	**+2.4**
	comp=E,1.3nm,0.2s,SNR=7.9							
IEPA				S		**Sn**	**10 30 49.1**	**-2.4**
	comp=E,4.8nm,0.5s,SNR=7.9							
IELO	**Elcoad**	**9.76**	**41**	P		**Pn**	**10 29 05.7**	**+2.4**
	comp=E,1.5nm,0.2s,SNR=7.9							
IELO				S		**Sn**	**10 30 50.1**	**-2.9**
	comp=E,0.7nm,0.2s,SNR=7.9							
IELO	**Elcoad**	**9.76**	**41**	P		**Pn**	**10 29 05.7**	**+2.4**
	comp=E,1.5nm,0.2s,SNR=7.9							
IELO				S		**Sn**	**10 30 50.1**	**-2.9**
	comp=E,0.7nm,0.2s,SNR=7.9							
ELIZ	**Elizondo**	**9.84**	**39**	P		**Pn**	**10 29 06.0**	**+1.7**
	comp=E,1.8nm,0.2s,SNR=7.9							
ELIZ	**Elizondo**	**9.84**	**39**	P		**Pn**	**10 29 06.0**	**+1.7**
	comp=E,1.8nm,0.2s,SNR=7.9							
EALK	**Alkurruntz**	**9.89**	**38**	P		**Pn**	**10 29 06.8**	**+1.9**
	comp=E,1.5nm,0.2s,SNR=7.9							
EALK	**Alkurruntz**	**9.89**	**38**	P		**Pn**	**10 29 06.8**	**+1.9**
	comp=E,1.5nm,0.2s,SNR=7.9							
SJPF	**Ste Jean**	**9.96**	**40**	*e*Pn		**Pn**	**10 29 08.0**	**+2.1**
SJPF				*e*Sn		Sn	10 30 52.1	-5.6
	comp=E,2.3nm,0.5s							
SJPF	**Ste Jean**	**9.96**	**40**	P		**Pn**	**10 29 08.0**	**+2.1**
SJPF				S		Sn	10 30 52.1	-5.6
	comp=E,0.6nm,0.5s							
ETSF	**Etsaut**	**10.17**	**43**	*e*Pn		**Pn**	**10 29 10.4**	**+1.6**
ETSF				*e*Sn		Sn	10 30 57.1	-5.8
	comp=E,4.0nm,0.6s							
ETSF	**Etsaut**	**10.17**	**43**	P		**Pn**	**10 29 10.4**	**+1.6**
ETSF				S		Sn	10 30 57.1	-5.8
	comp=E,1.0nm,0.6s							
EPOB	**Poblet**	**10.26**	**54**	P		**Pn**	**10 29 11.4**	**+1.3**
	comp=E,0.3nm,0.1s,SNR=7.9							
EPOB	**Poblet**	**10.26**	**54**	P		**Pn**	**10 29 11.4**	**+1.3**
	comp=E,0.3nm,0.1s,SNR=7.9							
EBIE	**Bielsa**	**10.43**	**45**	P		**Pn**	**10 29 14.3**	**+1.7**
	comp=E,2.5nm,0.4s,SNR=10							
EBIE				S		Sn	10 31 04.5	-5.0
	comp=E,0.8nm,0.3s,SNR=7.9							
EBIE	**Bielsa**	**10.43**	**45**	P		**Pn**	**10 29 14.3**	**+1.7**
	comp=E,2.5nm,0.4s,SNR=10							
EBIE				S		Sn	10 31 04.5	-5.0
	comp=E,0.8nm,0.3s,SNR=7.9							
EPF	**Esparros**	**10.75**	**44**	*e*Pn		**Pn**	**10 29 17.4**	**+0.5**
EPF				*e*Sn		Sn	10 31 11.5	-5.8
	comp=E,2.6nm,0.4s							
EPF	**Esparros**	**10.75**	**44**	P		**Pn**	**10 29 17.4**	**+0.5**
EPF				S		Sn	10 31 11.5	-5.8
	comp=E,0.6nm,0.4s							
CSOR	**Sort**	**10.83**	**49**	P		**Pn**	**10 29 19.0**	**+1.0**
	comp=E,0.8nm,0.4s,SNR=7.9							
CSOR	**Sort**	**10.83**	**49**	P		**Pn**	**10 29 19.0**	**+1.0**
	comp=E,0.8nm,0.4s,SNR=7.9							
LFF	**La Frestale**	**12.25**	**38**	*e*Pn		**Pn**	**10 29 37.9**	**+0.7**
LFF				*e*Sn		Sn	10 31 46.8	-7.0
	comp=E,4.7nm,0.4s							
LFF	**La Frestale**	**12.25**	**38**	P		**Pn**	**10 29 37.9**	**+0.7**
LFF				S		Sn	10 31 46.8	-7.0
	comp=E,1.2nm,0.4s							
RJF	**Les Rejaudoux**	**12.90**	**39**	*e*Pn		**Pn**	**10 29 46.5**	**+0.4**
RJF				*e*Sn		Sn	10 32 02.4	-7.3
	comp=E,0.7nm,0.2s							
RJF	**Les Rejaudoux**	**12.90**	**39**	P		**Pn**	**10 29 46.5**	**+0.4**
RJF				S		Sn	10 32 02.4	-7.3
	comp=E,0.2nm,0.2s							
CAF	**Calviac**	**12.93**	**41**	*e*Pn		**Pn**	**10 29 47.5**	**+0.9**
CAF				*e*Sn		Sn	10 32 03.3	-7.2
	comp=E,0.6nm,0.2s							
CAF	**Calviac**	**12.93**	**41**	P		**Pn**	**10 29 47.5**	**+0.9**
CAF				S		Sn	10 32 03.3	-7.2
	comp=E,0.2nm,0.2s							
MFF	**Saint Martin d**	**13.09**	**31**	*e*Pn		**Pn**	**10 29 49.7**	**+1.0**
MFF	**Saint Martin d**	**13.09**	**31**	P		**Pn**	**10 29 49.7**	**+1.0**

*ISCJB **10** 10:38:24.5±0.5, 37.°21S±0.°06×52.°3E±0.°1, h10km, mb4.1/16, MS4.0/10, Error ellipse: s-maj=16.6km s-min=8.5km az=166.8*

*IDC **10** 10:38:24.4±0.6, 37.°17S×52.°30E, h0km, mb4.2/16, mb1 4.3/17, mb1mx4.1/29, mbtmp4.2/17, ML3.7/1, MS3.9/10, Ms1 3.9/10, ms1mx3.6/36, Error ellipse: s-maj=21.0km s-min=15.8km az=67.0*

ISC 10 10:38:26.0±0.6, 37.°14S±0.°09×52.°3E±0.°2, h10km, n34, σ0§87/25, mb4.2/16, MS3.9/10, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**19.03**	**345**	Pn	**Pn**	**10 42 50.8**	**+1.7**
	0.2nm,0.3s,baz=190,slow=9.1,SNR=6.9						
OPO				Sn	**Sn**	**10 46 20.0**	**-2.5**
	0.2nm,0.3s,baz=67,slow=18,SNR=3.1						
OPO				LR	LR	10 48 53.2	
	comp=Z,322nm,18.2s,baz=311,slow=33						
BOSA	**Boshof**	**24.18**	**283**	P	**P**	**10 43 42.3**	**-0.5**
	9.2nm,0.9s,baz=111,slow=8.0,SNR=12						
BOSA				LR	LR	10 50 36.8	
	comp=Z,148nm,20.9s,baz=138,slow=30						
LBTB	**Lobatse**	**25.77**	**290**	P	**P**	**10 43 57.1**	**0.0**
	1.7nm,0.5s,baz=140,slow=10,SNR=4.8						
LBTB				LR	LR	10 52 12.2	
	comp=Z,191nm,18.1s,baz=145,slow=32						
MAW	**Mawson**	**31.10**	**172**	P	**P**	**10 44 42.7**	**-1.4**
	1.6nm,0.9s,baz=7.9,slow=14,SNR=4.1						
MAW				LR	LR	10 54 02.4	
	comp=Z,230nm,19.2s,baz=348,slow=30						
H08S1	**Diego Carcia H**	**34.62**	**37**	T	T	11 21 24.1	
	baz=209,slow=0.7,SNR=6.3						
H08S2	**Diego Garcia H**	**34.63**	**37**	T	T	11 21 24.1	
	baz=209,slow=0.7,SNR=4.1						
H08S3	**Diego Garcia H**	**34.64**	**37**	T	T	11 21 26.3	
	baz=209,slow=0.7,SNR=6.3						
MBAR	**Mbarara**	**41.45**	**326**	P	**P**	**10 46 14.1**	**+0.8**
	2.6nm,0.3s,baz=320,slow=23,SNR=4.7						
SNAA	**Sanae**	**44.37**	**202**	*e*P	**P**	**10 46 36.3**	**+0.1**
SNAA	**Sanae**	**44.37**	**202**	P	**P**	**10 46 36.5**	**+0.2**
	2.0nm,0.8s,baz=93,slow=6.3,SNR=37						
VNA2	**Neumayer--Watz**	**45.54**	**203**	*e*P	**P**	**10 46 46.4**	**+0.9**
	baz=64,slow=7.2						
H01W2	**Cape Leeuwin H**	**49.28**	**107**	T	T	11 40 19.3	
	baz=248,slow=0.7,SNR=190						
H01W3	**Cape Leeuwin H**	**49.29**	**107**	T	T	11 40 21.6	
	baz=248,slow=0.7,SNR=197						
H01W1	**Cape Leeuwin H**	**49.30**	**107**	T	T	11 40 20.6	
	baz=248,slow=0.7,SNR=200						
QSPA	**South Pole Qui**	**53.05**	**180**	P	**P**	**10 47 42.5**	**-0.6**
	3.8nm,0.9s						
VNDA	**Vanda**	**58.09**	**166**	LR	LR	11 09 41.4	
	comp=Z,148nm,21.6s,baz=172,slow=32						
DBIC	**Dimbokro**	**68.82**	**297**	LR	LR	11 16 17.3	
	comp=Z,66nm,19.1s,baz=116,slow=33						
TORD	**Torodi Ar. Bea**	**69.00**	**306**	P	**P**	**10 49 31.8**	**-0.1**
	1.9nm,0.8s,baz=126,slow=5.2,SNR=10						
TORD				LR	LR	11 19 16.1	
	comp=Z,98nm,18.0s,baz=145,slow=36						
STKA	**Stephens Creek**	**71.08**	**116**	P	**P**	**10 49 45.0**	**+0.4**
	2.6nm,0.7s,baz=213,slow=12,SNR=4.9						
WRA	**Warramunga Arr**	**72.07**	**102**	P	**P**	**10 49 51.0**	**+0.3**
	2.5nm,0.5s,baz=227,slow=5.2,SNR=6.4						
CTA	**Charters Tower**	**81.18**	**108**	LR	LR	11 22 58.5	
	comp=Z,864nm,19.8s,baz=317,slow=33						
AAK	**Ala-Archa**	**81.94**	**16**	P	**P**	**10 50 46.4**	**+0.7**
	0.5nm,0.3s,baz=262,slow=10,SNR=5.2						
KEST	**Kesra**	**82.74**	**326**	P	**P**	**10 50 50.2**	**+0.2**
	1.7nm,0.9s,baz=122,slow=2.2,SNR=5.4						
KEST				LR	LR	11 27 59.1	
	comp=Z,39nm,19.4s,baz=172,slow=36						
PLCA	**Paso Flores**	**86.48**	**220**	P	**P**	**10 51 09.4**	**+0.2**
	2.2nm,0.8s,baz=354,slow=22,SNR=3.8						
AKTO	**Aktyubinsk**	**87.35**	**4**	LR	LR	11 24 30.4	
	comp=Z,51nm,19.1s,baz=26,slow=32						
BDFB	**Brasilia**	**88.66**	**251**	LR	LR	11 24 56.4	
	comp=Z,124nm,19.9s,baz=144,slow=32						
KURBB	**Kurchatov Arra**	**90.39**	**16**	P	**P**	**10 51 26.9**	**-0.1**
	0.6nm,0.8s,baz=212,slow=4.3,SNR=4.4						
BVAR	**Borovoye Array**	**91.16**	**11**	P	**P**	**10 51 30.1**	**-0.5**
	0.5nm,0.6s,baz=197,slow=6.5,SNR=2.8						
GERES	**GERESS Array B**	**92.22**	**336**	P	**P**	**10 51 35.0**	**-0.7**
	0.4nm,0.6s,baz=152,slow=5.9,SNR=4.1						
ZALV	**Zalesovo Beam**	**94.97**	**19**	P	**P**	**10 51 47.3**	**-0.8**
	0.5nm,0.4s,baz=213,slow=5.0,SNR=2.9						
INK	**Inuvik**	**148.61**	**4**	PKPbc	**PKPbc**	**10 58 11.8**	**-0.4**
	1.6nm,0.6s,baz=358,slow=9.7,SNR=4.6						
ILAR	**Eielson Array**	**150.07**	**16**	PKPbc	**PKPbc**	**10 58 15.5**	**-0.5**
	4.7nm,0.9s,baz=311,slow=3.0,SNR=31						
TXAR	**Lajitas Array**	**158.47**	**256**	PKP	**PKPdf**	**10 58 24.3**	**+0.4**
	1.1nm,0.8s,baz=136,slow=2.4,SNR=13						
TXAR				PKPab	**PKPab**	**10 58 59.1**	**+0.3**
	1.4nm,1.0s,baz=121,slow=5.5,SNR=5.6						
NVAR	**Mina Array Bea**	**172.44**	**283**	PKP	**PKPdf**	**10 58 36.3**	**+0.9**
	0.7nm,0.8s,baz=101,slow=1.5,SNR=5.7						

IDC 10 10:39:04.2±2.5, 15.°65S×173.°78W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.8/17, mbtmp3.8/5, MS3.1/2, Ms1 3.1/2, ms1mx3.0/25, Error ellipse: s-maj=181.9km s-min=23.7km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.60**	**48**	Pn	Pn	10 39 41.6	-6.0
	16nm,0.3s,baz=208,slow=2.9,SNR=19						
AFI				Sn	Sn	10 40 08.5	-11
	51nm,0.3s,baz=75,slow=22,SNR=8.1						
AFI				LR	LR	10 40 34.0	
	comp=Z,304nm,20.8s,baz=306,slow=34						
RPZ	**Rata Peaks**	**30.81**	**202**	LR	LR	10 56 26.0	
	comp=Z,49nm,21.7s,baz=148,slow=34						
H11S2	**WAKE ISLAND Hy**	**38.99**	**330**	T	T	11 28 32.5	
	baz=152,slow=0.7,SNR=9.1						
H11S3	**WAKE ISLAND Hy**	**39.00**	**330**	T	T	11 28 35.9	
	baz=152,slow=0.7,SNR=9.1						
H11S1	**WAKE ISLAND Hy**	**39.01**	**330**	T	T	11 28 29.7	
	baz=152,slow=0.7,SNR=9.9						
H11N3	**WAKE ISLAND Hy**	**39.95**	**331**	T	T	11 29 53.4	
	baz=152,slow=0.7,SNR=7.1						
H11N1	**WAKE ISLAND Hy**	**39.95**	**331**	T	T	11 29 55.0	
	baz=152,slow=0.7,SNR=7.2						
H11N2	**WAKE ISLAND Hy**	**39.97**	**331**	T	T	11 29 59.7	
	baz=152,slow=0.7,SNR=6.3						
STKA	**Stephens Creek**	**43.59**	**240**	P	P	10 47 10.4	+0.1
	1.7nm,0.8s,baz=87,slow=14,SNR=3.1						
WRA	**Warramunga Arr**	**49.43**	**257**	P	P	10 47 56.1	-0.3
	0.7nm,0.9s,baz=92,slow=7.4,SNR=9.1						
ASAR	**Alice Springs**	**49.68**	**252**	P	P	10 47 58.0	-0.2
	1.6nm,0.5s,baz=85,slow=8.5,SNR=32						
NVAR	**Mina Array Bea**	**74.76**	**42**	P	P	10 50 46.6	+0.2
	0.4nm,0.7s,baz=221,slow=9.5,SNR=3.7						
PDAR	**Pinedale Array**	**82.70**	**42**	P	P	10 51 29.9	-0.2
	0.3nm,0.7s,baz=250,slow=2.4,SNR=3.5						
BRTR	**Keskin Array B**	**146.12**	**320**	PKPbc	PKPdf	10 58 46.2	+0.4
	0.4nm,0.5s,baz=333,slow=0.3,SNR=4.0						

*IDC **10** 10:45:10.5±2.8, 7.°32S×128.°65E, h120km±25km, mb4.0/13, mb1 4.0/17, mb1mx3.9/26, mbtmp4.0/17, Error ellipse: s-maj=23.1km s-min=11.2km az=68.0*

*AUST **10** 10:45:11.2, 7.°49S×128.°54E, h100km*

*ISCJB **10** 10:45:12.4±0.4, 7.°37S±0.°04×128.°57E±0.°05, h151km, mb4.1/13, Error ellipse: s-maj=6.7km s-min=5.9km az=23.5*

*DJA **10** 10:45:14.0±0.4, 7°S±6°×12°9E±°, h197km±28km, M4.7/5, mB4.7/3, mb4.5/5, MLv4.8/3, Mw(mB)3.9/3*

ISC 10 10:45:13.7±0.5, 7.°44S±0.°06×128.°60E±0.°07, h151km, n42, σ1§43/43, mb4.4/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.73**	**102**	P	**Pn**	**10 45 59.1**	**+1.5**
TLE	**Tual**	**4.48**	**67**	P	**Pn**	**10 46 21.6**	**+1.3**
TLE	**Tual**	**4.48**	**67**	P	**Pn**	**10 46 21.6**	**+1.3**
	baz=4.6,SNR=67						
SOEI	**Soe**	**4.87**	**241**	P	**Pn**	**10 46 26.4**	**+0.9**
SOEI	**Soe**	**4.87**	**241**	P	**Pn**	**10 46 26.7**	**+1.2**
	baz=4.8,SNR=48						
BATI	**Baumata**	**5.60**	**240**	P	**Pn**	**10 46 36.0**	**+0.8**
	259nm,0.8s,3μm						
BATI	**Baumata**	**5.60**	**240**	P	**Pn**	**10 46 34.5**	**-0.6**
	60nm,0.3s,baz=110,slow=1.1,SNR=69						
BATI				S	**Sn**	**10 47 37.8**	**-1.1**
	25nm,0.3s,baz=343,slow=19,SNR=7.2						
FAKI	**Fak Fak**	**5.78**	**39**	P	**Pn**	**10 46 35.8**	**-1.7**
	78nm,0.7s,1μm						
FAKI	**Fak Fak**	**5.78**	**39**	P	**Pn**	**10 46 35.6**	**-1.9**
	baz=5.9,SNR=61						
MMRI	**Maumere**	**6.42**	**259**	P	**Pn**	**10 46 46.6**	**+0.6**
	103nm,0.8s						
KDU	**Kakadu**	**6.46**	**144**	P	**Pn**	**10 46 46.5**	**0.0**
	baz=6.5,SNR=237						
SWI	**Sorong**	**7.05**	**22**	P	**Pn**	**10 46 55.0**	**+0.6**
	baz=7.2,SNR=4.6						
KNRA	**Kununurra**	**8.19**	**179**	P	**Pn**	**10 47 09.1**	**-0.4**
	baz=8.2,SNR=86						
LUWI	**Luwuk**	**8.62**	**317**	P	Pn	10 47 06.4	-9.0
	baz=8.6,SNR=3.5						
BKSI	**Bulukumba**	**8.69**	**284**	P	**Pn**	**10 47 18.1**	**+1.8**
	22nm,0.8s,391nm						
FITZ	**Fitzroy Crossi**	**10.98**	**195**	P	**Pn**	**10 47 44.5**	**-2.2**
	baz=11,SNR=42						
FITZ	**Fitzroy Crossi**	**10.98**	**195**	P	**Pn**	**10 47 45.0**	**-1.7**
	1.6nm,0.3s,baz=37,slow=11,SNR=53						
FITZ				S	Sn	10 49 41.0	-7.2
	3.5nm,0.3s,baz=254,slow=18,SNR=9.1						
WRA	**Warramunga Arr**	**13.62**	**156**	P	**Pn**	**10 48 18.2**	**-2.5**
	0.8nm,0.3s,baz=343,slow=14,SNR=56						
WRA				S	Sn	10 50 43.5	-8.1
	3.2nm,0.3s,baz=327,slow=26,SNR=9.0						
COEN	**Coen**	**15.71**	**116**	P	**P**	**10 48 48.1**	**+0.3**
	baz=16,SNR=12						
ASAR	**Alice Springs**	**16.92**	**163**	P	**Pn**	**10 49 02.7**	**+1.1**
	0.6nm,0.3s,baz=336,slow=9.5,SNR=46						
ASAR				S	**S**	**10 52 05.5**	**-4.2**
	0.6nm,0.3s,baz=344,slow=25,SNR=5.7						
MEEK	**Meekatharra**	**21.32**	**205**	P	P	10 50 05.3	+16
	baz=21,SNR=3.7						
MORW	**Morawa**	**24.56**	**207**	P	**P**	**10 50 22.0**	**+2.4**
	baz=25,SNR=3.2						
STKA	**Stephens Creek**	**27.16**	**155**	P	**P**	**10 50 44.6**	**+1.6**
	baz=27,SNR=5.4						
STKA	**Stephens Creek**	**27.16**	**155**	P	**P**	**10 50 44.5**	**+1.5**
	1.8nm,0.4s,baz=342,slow=6.2,SNR=8.9						
NWAO	**Narrogin (SRO)**	**27.47**	**201**	P	**P**	**10 50 46.8**	**+1.1**
	11nm,1.0s,baz=15,slow=12,SNR=2.2						
ASAJ	**Asahikawa**	**52.86**	**13**	P	**P**	**10 54 12.8**	**-1.0**
	6.4nm,0.9s,baz=20,slow=32,SNR=5.7						
SONM	**Songino Array**	**58.43**	**343**	P	**P**	**10 54 54.0**	**+0.4**
	4.1nm,0.9s,baz=166,slow=7.1,SNR=23						
PETK	**Petropavlovsk-**	**65.18**	**19**	P	**P**	**10 55 37.8**	**-0.7**
	4.7nm,0.7s,baz=201,slow=8.1,SNR=6.3						
MKAR	**Makanchi Array**	**67.84**	**328**	P	**P**	**10 55 55.6**	**0.0**
	2.9nm,0.5s,baz=127,slow=8.1,SNR=26						
AAK	**Ala-Archa**	**69.99**	**320**	P	**P**	**10 56 09.0**	**-0.1**
	2.5nm,0.7s,baz=125,slow=5.8,SNR=7.6						
ZALV	**Zalesovo Beam**	**71.37**	**334**	P	**P**	**10 56 16.3**	**-0.7**
	3.5nm,0.5s,baz=121,slow=5.6,SNR=14						
KURBB	**Kurchatov Arra**	**72.17**	**329**	P	**P**	**10 56 21.6**	**-0.2**
	4.4nm,0.6s,baz=131,slow=5.0,SNR=64						
VNDA	**Vanda**	**72.18**	**173**	P	**P**	**10 56 22.8**	**+1.2**
	0.5nm,0.7s,baz=311,slow=7.0,SNR=4.3						
BVAR	**Borovoye Array**	**77.70**	**328**	P	**P**	**10 56 53.3**	**-0.3**
	1.2nm,0.5s,baz=116,slow=6.8,SNR=6.7						
QSPA	**South Pole Qui**	**82.54**	**180**	P	**P**	**10 57 19.7**	**+0.2**
	1.5nm,0.6s						
AKTO	**Aktyubinsk**	**83.58**	**323**	P	**P**	**10 57 23.2**	**-1.7**
	1.6nm,0.7s,baz=100,slow=9.5,SNR=5.4						
GERES	**GERESS Array B**	**111.87**	**320**	PKiKP	**PKiKP**	**11 03 29.8**	**-1.2**
	0.4nm,0.5s,baz=93,slow=2.7,SNR=5.1						
PDAR	**Pinedale Array**	**118.18**	**45**	PKP	**PKPdf**	**11 03 42.5**	**-1.0**
	0.3nm,0.9s,baz=298,slow=1.9,SNR=3.4						
TXAR	**Lajitas Array**	**126.34**	**59**	PKP	**PKPdf**	**11 03 60.0**	**+0.6**
	0.1nm,0.4s,baz=192,slow=1.3,SNR=2.9						
TORD	**Torodi Ar. Bea**	**127.53**	**281**	PKP	**PKPdf**	**11 04 01.7**	**-0.1**
	0.9nm,0.7s,baz=82,slow=1.8,SNR=7.1						
CPUP	**Villa Florida**	**145.94**	**170**	PKPbc	**PKPab**	**11 04 37.3**	**+0.4**
	0.3nm,0.3s,baz=180,slow=5.1,SNR=4.3						
LPAZ	**La Paz**	**151.19**	**145**	PKPbc	**PKPbc**	**11 04 52.0**	**+1.1**
	1.4nm,0.7s,baz=146,slow=1.7,SNR=6.6						
LPAZ				PKPab	**PKPab**	**11 05 01.4**	**+2.3**
	1.7nm,0.6s,baz=173,slow=3.4,SNR=9.6						

IDC 10 10:51:51.0±2.1, 11.°30S×166.°95E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/17, mbtmp3.7/5, Error ellipse: s-maj=87.5km s-min=35.4km az=147.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**33.73**	**244**	P	P	10 58 34.3	-0.2
	0.8nm,1.0s,baz=72,slow=9.1,SNR=3.4						
SONM	**Songino Array**	**79.57**	**323**	P	P	11 04 00.9	+0.8
	0.3nm,0.4s,baz=131,slow=5.3,SNR=4.0						
ILAR	**Eielson Array**	**83.38**	**18**	P	P	11 04 18.9	-0.9
	0.8nm,1.0s,baz=217,slow=5.7,SNR=4.1						
NVAR	**Mina Array Bea**	**85.29**	**49**	P	P	11 04 31.2	+0.8
	0.7nm,0.8s,baz=213,slow=7.6,SNR=4.6						
MKAR	**Makanchi Array**	**94.51**	**317**	P	P	11 05 13.0	-0.5
	0.4nm,0.9s,baz=104,slow=6.1,SNR=3.4						

IDC 10 10:53:56.1±1.9, 12.°99S×166.°40E, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.9/20, mbtmp4.0/7, ML5.2/1, MS3.5/3, Ms1 3.5/3, ms1mx3.2/27, Error ellipse: s-maj=53.9km s-min=27.1km az=131.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.25**	**299**	Pn	Pn	10 55 45.0	+1.6
	38nm,0.3s,baz=137,slow=2.8,SNR=8.7						
DZM	**Mont Dzumac**	**9.03**	**180**	*e*Pn	Pn	10 56 17.3	+9.3
	25nm,0.6s						
DZM				*e*LR	LR	10 58 21.2	
	149nm,26.1s						
DZM	**Mont Dzumac**	**9.03**	**180**	Pn	Pn	10 56 13.5	+5.5
	0.6nm,0.3s,baz=278,slow=14,SNR=3.7						
CTA	**Charters Tower**	**20.55**	**247**	P	Pn	10 58 41.5	+2.9
	4.9nm,0.8s,baz=90,slow=13,SNR=3.2						
AFI	**Afiamalu**	**21.25**	**95**	LR	LR	11 05 10.4	
	comp=Z,219nm,18.8s,baz=51,slow=32						
STKA	**Stephens Creek**	**29.52**	**226**	P	P	11 00 03.7	+1.3
	1.7nm,0.7s,baz=16,slow=7.4,SNR=3.1						
WRA	**Warramunga Arr**	**31.47**	**253**	P	P	11 00 19.3	-0.6
	0.7nm,0.7s,baz=85,slow=9.0,SNR=4.9						
WRA				LR	LR	11 11 01.4	
	comp=Z,101nm,21.8s,baz=85,slow=33						
ASAR	**Alice Springs**	**32.55**	**246**	P	P	11 00 28.4	-0.9
	1.4nm,0.7s,baz=69,slow=9.4,SNR=23						
FITZ	**Fitzroy Crossi**	**39.54**	**257**	P	P	11 01 29.0	-0.1
	1.1nm,0.8s,baz=117,slow=14,SNR=2.2						
FITZ				LR	LR	11 14 47.8	
	comp=Z,40nm,21.8s,baz=263,slow=32						
PPT2	**Papeete2**	**42.64**	**102**	*e*LQ	LQ	11 12 15.3	
	233nm,29.0s						
PPT2				*e*LR	LR	11 14 06.3	
	281nm,26.2s						
SONM	**Songino Array**	**80.61**	**324**	P	P	11 06 10.8	0.0
	0.2nm,0.3s,baz=141,slow=7.1,SNR=3.1						
ILAR	**Eielson Array**	**85.15**	**18**	P	P	11 06 33.8	0.0
	0.5nm,0.7s,baz=246,slow=5.2,SNR=6.9						

IDC 10 11:00:04.2±1.2, 12.°77S×166.°34E, h0km, mb4.3/13, mb1 4.3/14, mb1mx4.2/21, mbtmp4.3/14, ML4.9/1, Error ellipse: s-maj=34.9km s-min=20.4km az=120.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.10**	**297**	Pn	Pn	11 01 50.4	+0.9
	23nm,0.3s,baz=188,slow=4.0,SNR=9.7						
HNR				Sn	Sn	11 03 05.8	-5.1
	baz=232,slow=19,SNR=3.5						
DZM	**Mont Dzum

DZM Sn **Sn** **11 14 44.2 -0.5**
DZM **Mont Dzumac** **8.31 180** Pn **Pn** **11 13 12.6 +0.6**
baz=218,slow=20
DZM Sn **Sn** **11 14 44.2 -0.5**
baz=130,slow=19,SNR=2.1
DZM LR LR 11 16 06.7
comp=Z,1μm,19.6s,baz=193,slow=36
MSVF **Nonsavu** **11.80 111** *e*P Pn 11 14 05.4 +5.7
MSVF pmax pmax
comp=Z,74nm,1.2s
MSVF **Nonsavu** **11.80 111** *e*Pn Pn 11 14 05.4 +5.7
comp=Z,74nm,1.2s
EIDS **Eidsvold** **18.58 229** *e*P **Pn** **11 15 29.9 +1.6**
comp=Z,64nm,0.7s
EIDS **Eidsvold** **18.58 229** P **Pn** **11 15 29.9 +1.6**
baz=19,SNR=26
LHI **Lord Howe Isla** **19.00 200** ⇓P **Pn** **11 15 34.7 +1.5**
baz=19
PMG **Port Moresby** **19.44 281** P **Pn** **11 15 38.1 -0.6**
comp=Z,116nm,1.1s,comp=Z,1μm
PMG **Port Moresby** **19.44 281** *e*P **Pn** **11 15 38.1 -0.6**
PMG **Port Moresby** **19.44 281** P **P** **11 15 37.3 0.0**
comp=Z,1.1nm,0.3s,baz=90,slow=7.4,SNR=10
PMG LR LR 11 22 26.1
comp=Z,1μm,18.6s,baz=95,slow=35
CTA **Charters Tower** **20.39 249** P **P** **11 15 48.2 +0.6**
CTA **Charters Tower** **20.39 249** ⇑P **P** **11 15 48.5 +0.9**
baz=20
CTA **Charters Tower** **20.39 249** P **P** **11 15 48.2 +0.6**
comp=Z,65nm,0.8s,baz=82,slow=14,SNR=47
CTAO **Charters Tower** **20.39 249** *e*P **P** **11 15 47.4 -0.2**
CTAO pmax pmax
comp=Z,102nm,0.9s
CTAO **Charters Tower** **20.39 249** *e*P **P** **11 15 47.4 -0.2**
comp=Z,102nm,0.9s
RMQ **Roma** **20.94 230** ⇓P Pn 11 15 55.5 -0.6
baz=21,SNR=208
AFI **Afiamalu** **21.08 93** *e*P **P** **11 15 54.5 -0.6**
comp=Z,30nm,0.4s
AFI **Afiamalu** **21.08 93** LR LR 11 22 00.9
comp=Z,930nm,21.6s,baz=274,slow=31
RAO **Raoul Island** **21.14 139** LR LR 11 22 24.6
comp=Z,1μm,22.0s,baz=230,slow=32
ARMA **Armidale** **21.57 217** *e*P **P** **11 16 01.7 +1.5**
comp=Z,49nm,0.8s
ARMA **Armidale** **21.57 217** ⇑P **P** **11 16 01.8 +1.5**
baz=22,SNR=21
COEN **Coen** **22.67 267** P **P** **11 16 11.8 -0.3**
baz=23,SNR=12
MGCD **Mangrove Creek** **23.95 213** P **P** **11 16 26.6 +2.0**
baz=24,SNR=5.4
RIV **Riverview** **24.41 212** ⇓P **P** **11 16 30.0 +1.3**
baz=24
QLP **Quilpie** **24.48 235** P **P** **11 16 29.6 +0.1**
baz=24,SNR=44
CMSA **Cobar Meteorol** **26.08 224** P **P** **11 16 44.4 +0.5**
baz=26,SNR=39
URZ **Urewera** **26.19 161** P **P** **11 16 46.6 +1.8**
URZ **Urewera** **26.19 161** P **P** **11 16 46.6 +1.8**
comp=Z,8.8nm,0.9s,baz=340,slow=15,SNR=2.2
YNG **Young** **26.26 216** P **P** **11 16 46.8 +1.2**
baz=26,SNR=12
CNB **Canberra Magne** **26.49 213** P **P** **11 16 48.9 +1.2**
baz=27,SNR=7.3
CAN **Canberra** **26.69 213** ⇑P **P** **11 16 50.7 +1.3**
baz=27
MILA **Mila** **27.95 211** ⇑P **P** **11 17 01.7 +1.0**
baz=28,SNR=6.9
STKA **Stephens Creek** **29.12 227** P **P** **11 17 12.1 +0.9**
STKA ScP **ScP** **11 23 59.7 +2.6**
STKA **Stephens Creek** **29.12 227** P **P** **11 17 12.1 +0.9**
baz=29,SNR=18
STKA **Stephens Creek** **29.12 227** P **P** **11 17 12.1 +0.9**
comp=Z,36nm,0.7s,baz=43,slow=7.9,SNR=56
STKA ScP **ScP** **11 23 59.7 +2.6**
comp=Z,1.9nm,0.5s,baz=14,slow=6.5,SNR=3.9
STKA LR LR 11 29 08.6
comp=Z,1μm,18.5s,baz=50,slow=37
RPZ **Rata Peaks** **30.15 173** *e*P **P** **11 17 21.1 +0.9**
RPZ **Rata Peaks** **30.15 173** P **P** **11 17 21.0 +0.9**
comp=Z,33nm,0.8s,baz=70,slow=6.5,SNR=7.2
TOO **Toolangi** **30.25 214** P **P** **11 17 22.1 +0.9**
baz=30,SNR=20
WRAB **Tennant Creek** **31.37 254** *e*P **P** **11 17 29.5 -1.8**
WRAB pmax pmax
comp=Z,35nm,0.8s
WRAB **Tennant Creek** **31.37 254** P **P** **11 17 29.0 -2.2**
comp=Z,245nm,0.8s,SNR=9.6
WRAB **Tennant Creek** **31.37 254** *e*P **P** **11 17 29.5 -1.8**
comp=Z,35nm,0.8s
WRA **Warramunga Arr** **31.39 254** P **P** **11 17 29.5 -1.8**
WRA ScP **ScP** **11 24 08.0 +3.3**
WRA **Warramunga Arr** **31.39 254** P **P** **11 17 29.5 -1.8**
comp=Z,30nm,0.7s,baz=86,slow=9.3,SNR=131
WRA ScP **ScP** **11 24 08.0 +3.3**
comp=Z,1.8nm,0.9s,baz=95,slow=2.9,SNR=4.7
ARPS **Mount Arapiles** **31.85 219** P **P** **11 17 36.1 +0.9**
baz=32,SNR=18
HTT **Hallett** **31.85 227** ⇓P **P** **11 17 36.2 +0.8**
baz=32
AS17 **Alice Springs** **32.29 247** ⇑P **P** **11 17 37.8 -1.5**
baz=32
AS07 **Alice Springs** **32.31 247** ⇑P **P** **11 17 38.0 -1.5**
baz=32
AS05 **Alice Springs** **32.33 247** ⇑P **P** **11 17 38.1 -1.6**
baz=32
AS14 **Alice Springs** **32.37 247** ⇓P **P** **11 17 38.6 -1.4**
baz=32
AS31 **Alice Springs** **32.37 247** *e*P **P** **11 17 38.2 -1.8**
ASAR **Alice Springs** **32.37 247** P **P** **11 17 38.4 -1.7**
ASAR ScP **ScP** **11 24 10.2 +2.2**
ASAR **Alice Springs** **32.37 247** P **P** **11 17 38.4 -1.7**
comp=Z,26nm,0.7s,baz=73,slow=9.7,SNR=291
ASAR ScP **ScP** **11 24 10.2 +2.2**
comp=Z,1.5nm,0.9s,baz=84,slow=3.6,SNR=5.7
ASAR LR LR 11 29 25.9
comp=Z,848nm,21.7s,baz=71,slow=34
KDU **Kakadu** **33.15 268** ⇓P **P** **11 17 46.1 -0.7**
baz=33,SNR=11
MOO **Moorlands** **33.15 207** ⇓P **P** **11 17 48.1 +1.6**
baz=33,SNR=7.7
BBOO **Buckleboo** **33.65 230** *e*P **P** **11 17 51.2 +0.2**
comp=Z,725nm,0.8s
BBOO **Buckleboo** **33.65 230** P **P** **11 17 51.2 +0.2**
baz=34,SNR=41
KNRA **Kununurra** **36.55 262** P **P** **11 18 15.0 -1.1**
baz=36,SNR=17
FITZ **Fitzroy Crossi** **39.50 258** P **P** **11 18 39.5 -1.6**
FITZ **Fitzroy Crossi** **39.50 258** ⇓P **P** **11 18 39.8 -1.3**
baz=40
FITZ **Fitzroy Crossi** **39.50 258** P **P** **11 18 39.5 -1.6**
comp=Z,18nm,0.9s,baz=87,slow=8.0,SNR=24
FITZ LR LR 11 34 51.1
comp=Z,712nm,18.8s,baz=82,slow=36
BATI **Baumata** **42.03 270** LR LR 11 36 54.8
comp=Z,735nm,19.2s,baz=262,slow=37
PPT2 **Papeete2** **42.38 101** *e*S **S** **11 25 25.3 +1.3**
comp=Z,208nm,26.8s
PPT2 *e*LQ LQ 11 29 03.8
comp=Z,2μm,29.5s
PPT2 *e*LR LR 11 30 53.5
comp=Z,890nm,25.8s,baz=273
PPT **Papeete** **42.38 101** LR LR 11 31 44.0
comp=Z,353nm,21.6s,baz=268,slow=29
TBI **Tubuai** **42.68 110** *e*S **S** **11 25 27.5 -0.6**
comp=Z,130nm,25.0s
TBI *e*LQ LQ 11 29 14.1
comp=Z,893nm,30.0s
TBI *e*LR LR 11 30 58.7
comp=Z,747nm,23.5s,baz=279
MBWA **Marble Bar** **45.12 254** *e*P **P** **11 19 26.7 -0.1**
comp=Z,102nm,1.6s
MEEK **Meekatharra** **46.52 246** P **P** **11 19 37.5 -0.3**
baz=46,SNR=46
KAPI **Kappang** **46.88 276** P **P** **11 19 41.2 +0.5**
comp=Z,38nm,1.1s
KAPI **Kappang** **46.88 276** *e*P **P** **11 19 39.4 -1.3**
KAPI **Kappang** **46.88 276** P **P** **11 19 39.3 -1.4**
comp=Z,22nm,0.9s,baz=138,slow=5.3,SNR=7.1
KLBR **Kellerberrin** **47.98 240** ⇑P **P** **11 19 48.1 -1.0**
baz=48,SNR=7.2
NWAO **Narrogin (SRO)** **48.66 238** *e*P **P** **11 19 53.7 -0.6**
NWAO **Narrogin (SRO)** **48.66 238** P **P** **11 19 53.5 -0.8**
comp=Z,26nm,0.8s,baz=96,slow=6.1,SNR=11
NWAO LR LR 11 39 52.0
comp=Z,538nm,18.2s,baz=227,slow=35
MORW **Morawa** **49.06 243** ⇑P **P** **11 19 57.1 -0.4**
baz=49,SNR=15
TSM **Tawau** **51.48 287** P **P** **11 20 16.3 +0.4**
SDKM **Sandakan** **52.60 288** P **P** **11 20 23.9 -0.5**
KDM **Kudat** **53.41 289** P **P** **11 20 29.8 -0.5**
KKM **Kota Kinabalu** **53.65 288** P **P** **11 20 32.4 +0.2**
KKM **Kota Kinabalu** **53.65 288** P **P** **11 20 32.2 0.0**
comp=Z,61nm,1.0s,comp=Z,795nm
KKM **Kota Kinabalu** **53.65 288** *e*P **P** **11 20 31.9 -0.3**
comp=Z,86nm,1.2s
KKM **Kota Kinabalu** **53.65 288** ⇑P **P** **11 20 32.0 -0.1**
baz=54,SNR=8.9
UGM **Wanagama** **55.21 270** P **P** **11 20 43.2 -0.2**
baz=55,SNR=3.9
BTM **Bintulu** **55.60 284** P **P** **11 20 47.4 +1.2**
RKT **Rikitea** **55.99 109** *e*LR LR 11 37 10.3
comp=Z,408nm,28.5s
SBUM **Sibu** **56.18 282** P **P** **11 20 51.6 +1.2**
SBUM **Sibu** **56.18 282** P **P** **11 20 50.8 +0.5**
comp=Z,33nm,1.2s
SBUM **Sibu** **56.18 282** *e*P **P** **11 20 51.0 +0.7**
comp=Z,23nm,0.9s
MAT **Matsushiro** **56.68 333** P **P** **11 20 51.7 -1.7**
MAT S **S** **11 28 47.4 +4.2**
JNU **Nakatsue** **57.68 325** LR LR 11 41 53.1
comp=Z,224nm,20.5s,baz=89,slow=32
KSM **Kuching** **57.71 281** P **P** **11 21 01.8 +0.6**
KSM **Kuching** **57.71 281** P **P** **11 21 01.2 0.0**
comp=Z,40nm,1.1s
KSM **Kuching** **57.71 281** *e*P **P** **11 21 01.2 0.0**
comp=Z,33nm,0.9s
KSM **Kuching** **57.71 281** ⇓P **P** **11 21 01.5 +0.3**
baz=58,SNR=5.4
ASAJ **Asahikawa** **61.55 341** P **P** **11 21 26.8 -0.2**
ASAJ **Asahikawa** **61.55 341** P **P** **11 21 26.8 -0.2**
comp=Z,7.2nm,0.5s,baz=256,slow=18,SNR=9.3
ASAJ LR LR 11 46 39.2
comp=Z,263nm,20.5s,baz=345,slow=35
KSRS **Korea Array** **62.50 326** P **P** **11 21 32.9 -0.6**
comp=Z,4.0nm,0.9s,baz=138,slow=6.7,SNR=10
KSAR **Wonju Array Be** **62.51 326** P **P** **11 21 32.9 -0.7**
VNDA **Vanda** **63.86 181** P **P** **11 21 42.1 +0.2**
VNDA **Vanda** **63.86 181** P **P** **11 21 42.1 +0.2**
comp=Z,6.5nm,0.9s,baz=4.0,slow=9.0,SNR=14
VNDA LR LR 11 45 06.2
comp=Z,54nm,19.4s,baz=12,slow=32
SBA **Scott Base** **64.15 180** *e*P **P** **11 21 45.1 +1.3**
SBA pmax pmax
comp=Z,17nm,0.9s
SBA **Scott Base** **64.15 180** *e*P **P** **11 21 45.1 +1.3**
comp=Z,17nm,0.9s
CASY **Casey** **64.19 202** *e*P **P** **11 21 44.1 -0.2**
comp=Z,14nm,1.0s
NJ2 **Nanjing** **64.45 316** *e*P **P** **11 21 49.1 +2.6**
NJ2 AMB AMB
comp=Z,20nm,0.8s
KGM **Kluang** **64.55 279** P **P** **11 21 47.5 -0.1**
QIZ **Qiongzhong** **64.61 299** P **P** **11 21 48.6 +0.7**
QIZ pP pP 11 21 51.9 -7.6
QIZ sP sP 11 21 53.2 -11
QIZ S **S** **11 30 29.9 +4.6**
QIZ AMB AMB
comp=Z,18nm,1.2s
QIZ LR LR
comp=Z,340nm,21.6s
USRK **Ussuriysk Arra** **65.66 333** P **P** **11 21 54.3 +0.2**
comp=Z,11nm,0.9s,baz=152,slow=6.4,SNR=16
PETK **Petropavlovsk-** **66.98 354** P **P** **11 22 03.1 +0.7**
PETK **Petropavlovsk-** **66.98 354** P **P** **11 22 03.1 +0.7**
PETK **Petropavlovsk-** **66.98 354** P **P** **11 22 03.1 +0.7**
comp=Z,8.9nm,0.8s,baz=164,slow=7.5,SNR=6.9
PETK LR LR 11 48 28.9
comp=Z,136nm,20.4s,baz=156,slow=34
MDJ **Mudanjiang** **67.05 332** P **P** **11 22 05.1 +2.1**
MDJ pP pP 11 22 08.3 -6.4
MDJ sP sP 11 22 09.7 -10
MDJ PcP **PcP** **11 22 32.9 +1.8**
MDJ PP **PP** **11 24 32.1 +0.8**
MDJ S **S** **11 30 59.1 +5.1**
MDJ ScS **ScS** **11 31 59.1 +1.6**
MDJ SS SS 11 35 21.5 +7.7
MDJ AMB AMB
comp=Z,9.0nm,0.9s
MDJ AMB AMB
comp=Z,120nm,5.3s
MDJ LR LR
comp=Z,95nm,22.4s
MDJ LR LR
comp=Z,54nm,18.4s
MDJ LR LR
comp=Z,150nm,22.2s
MDJ **Mudanjiang** **67.05 332** *e*P **P** **11 22 02.9 -0.1**
comp=Z,18nm,1.0s
IPM **Ipoh** **67.44 281** P **P** **11 22 06.5 +0.3**
IPM **Ipoh** **67.44 281** P **P** **11 22 07.6 +1.4**
comp=Z,23nm,1.5s
IPM **Ipoh** **67.44 281** *e*P **P** **11 22 06.2 -0.1**
comp=Z,161nm,2.3s
CN2 **Changchun** **68.41 329** *e*P **P** **11 22 11.2 -0.4**
CN2 *es*P sP 11 22 18.2 -10
CN2 *e*S **S** **11 31 12.4 +2.1**
CN2 AMB AMB
comp=Z,10.0nm,0.7s
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,200nm,14.0s
CN2 LR LR
comp=Z,200nm,14.0s
CN2 LR LR
comp=Z,200nm,16.0s
SKNT **Sakolnakorn** **68.87 294** P **P** **11 22 15.1 +0.1**
comp=Z,16nm,1.7s
KLR **Kul'dur** **69.79 337** *e*P P 11 22 16.0 -4.1
ENH **Enshi** **70.16 310** *e*P **P** **11 22 21.7 -1.1**
comp=Z,8.2nm,0.9s
GYA **Guiyang** **70.54 305** P **P** **11 22 26.2 +0.9**
GYA PP **PP** **11 25 00.1 -2.0**
GYA S **S** **11 31 32.1 -4.4**
GYA SKS **SKSac** **11 32 21.7 -3.0**
GYA AMB AMB
comp=Z,20nm,1.0s
GYA AMB AMB
comp=Z,100nm,4.4s
GYA LR LR
comp=Z,680nm,19.6s
GYA LR LR
comp=Z,620nm,20.2s
GYA LR LR
comp=Z,760nm,18.6s
BJT **Baijiatuan** **71.01 321** *e*P **P** **11 22 26.8 -0.9**
comp=Z,11nm,0.3s
NANT **Nan** **72.44 295** P **P** **11 22 37.7 +0.9**
comp=Z,20nm,1.2s
XAN **Xi'an** **72.47 313** P **P** **11 22 37.1 +0.4**
XAN pP **pP** **11 22 43.9 -4.6**
KMI **Kunming** **73.16 302** P **P** **11 22 44.0 +2.8**
CHTO **Chiang Mai** **74.00 294** *e*P **P** **11 22 45.6 -0.4**
CHTO pmax pmax
comp=Z,78nm,1.4s
CHTO **Chiang Mai** **74.00 294** P **P** **11 22 46.5 +0.5**
CHTO **Chiang Mai** **74.00 294** *e*P **P** **11 22 45.5 -0.4**
comp=Z,78nm,1.4s
CHTO **Chiang Mai** **74.00 294** P **P** **11 22 46.5 +0.5**
comp=Z,62nm,1.0s
HHC **Hu-ho-hao-te** **74.34 320** *e*P **P** **11 22 47.9 +0.2**
HHC pP pP 11 22 52.6 -6.9
HHC sP sP 11 22 54.8 -9.2
HHC PP **PP** **11 25 36.7 +2.4**
HHC S **S** **11 32 21.3 +1.9**
HHC sS sS 11 32 30.1 -8.9
HHC SS **SS** **11 37 11.2 +4.8**
HHC AMB AMB
comp=Z,33nm,1.0s
HHC AMB AMB
comp=Z,170nm,6.3s
HHC LR LR
comp=Z,430nm,15.7s
HHC LR LR
comp=Z,430nm,16.7s
HHC LR LR
comp=Z,520nm,15.9s
CD2 **Chengdu** **74.82 308** P **P** **11 22 52.7 +2.1**
CD2 pP **pP** **11 22 57.4 -5.0**
CD2 sP sP 11 22 59.7 -7.2
CD2 PP **PP** **11 25 42.4 +3.9**
CD2 S **S** **11 32 28.6 +3.7**
CD2 sS sS 11 32 35.9 -8.7
CD2 SS **SS** **11 37 18.7 +4.9**
CD2 AMB AMB
comp=Z,20nm,0.5s
CD2 AMB AMB
comp=Z,180nm,5.9s
CD2 LR LR
comp=Z,440nm,4.6s
CD2 LR LR
comp=Z,290nm,6.5s
QSPA **South Pole Qui** **76.31 180** P **P** **11 22 58.5 -0.1**
comp=Z,11nm,1.1s
QSPA **South Pole Qui** **76.31 180** P **P** **11 22 58.5 -0.1**
comp=Z,12nm,0.9s
LZH **Lanzhou** **77.10 312** *e*P P 11 23 08.2 +4.6
LZH pP **PcP** **11 23 12.5 -1.9**
LZH sP sP 11 23 14.8 -5.2
LZH *e*PP **PP** **11 26 00.3 +2.5**
LZH *e*S S 11 33 01.0 +11
LZH sS sS 11 33 07.6 -2.3
LZH SS **SS** **11 37 50.6 +2.1**
LZH AMB AMB
comp=Z,27nm,1.2s
LZH AMB AMB
comp=Z,150nm,4.2s
LZH LR LR
comp=Z,520nm,13.4s
LZH LR LR
comp=Z,410nm,14.7s
LZH LR LR
comp=Z,770nm,17.5s
SEY **Seymchan** **77.19 353** *e*P **P** **11 23 05.3 +2.0**
YAK **Yakutsk** **80.85 343** *e*P **P** **11 23 21.3 -2.0**
YAK pmax pmax
comp=Z,15nm,0.9s
YAK pmax pmax
comp=N,13nm,1.6s
YAK pmax pmax
comp=E,4.0nm,1.0s
SONM **Songino Array** **81.25 324** P **P** **11 23 25.3 -0.7**
SONM **Songino Array** **81.25 324** P **P** **11 23 25.3 -0.7**
comp=E,2.0nm,0.9s,baz=129,slow=5.6,SNR=12
SONM LR LR 12 02 01.9
comp=E,162nm,18.3s,baz=124,slow=38
GTA **Gaotai** **81.44 314** *e*P **P** **11 23 28.8 +1.6**
GTA pP **PcP** **11 23 33.4 +0.2**
GTA sP sP 11 23 36.0 -7.6
GTA S **SKSac** **11 33 41.9 -2.1**
GTA sS **ScS** **11 33 50.5 -2.9**
GTA AMB AMB
comp=E,7.0nm,1.5s
GTA AMB AMB
comp=E,130nm,5.9s
GTA LR LR
comp=E,180nm,18.0s
GTA LR LR
comp=E,130nm,17.8s
GTA LR LR
comp=E,120nm,17.6s
MAW **Mawson** **82.55 202** P **P** **11 23 32.0 -0.3**
MAW **Mawson** **82.55 202** ⇑P **P** **11 23 32.4 +0.1**
baz=82
MAW **Mawson** **82.55 202** P **P** **11 23 32.0 -0.3**
comp=E,2.8nm,0.8s,baz=91,slow=3.9,SNR=7.1
MAW LR LR 11 57 07.6
comp=E,120nm,18.8s,baz=294,slow=33
ZAK **Zakamensk** **84.31 325** *e*P **P** **11 23 39.9 -1.9**
ZAK pmax pmax
comp=Z,6.0nm,1.4s
TLY **Talaya** **84.75 326** *e*P **P** **11 23 43.4 -0.5**
TLY pmax pmax
comp=Z,7.0nm,0.9s
TLY MLR MLR
comp=Z,101nm,16.0s
COLA **College** **85.57 18** *e*P **P** **11 23 46.7 -0.9**
COLA pmax pmax
comp=Z,91nm,1.0s
COLA **College** **85.57 18** *e*P **P** **11 23 46.7 -0.9**
comp=Z,91nm,1.0s
ILAR **Eielson Array** **85.79 18** P **P** **11 23 45.9 -2.9**
ILAR **Eielson Array** **85.79 18** P **P** **11 23 45.9 -2.9**
comp=Z,3.2nm,0.6s,baz=234,slow=5.1,SNR=21
NVAR **Mina Array Bea** **87.16 49** P **P** **11 23 57.5 +1.1**
NVAR **Mina Array Bea** **87.16 49** P **P** **11 23 57.5 +1.1**
comp=Z,0.5nm,0.6s,baz=247,slow=4.7,SNR=4.6
NVAR LR LR 11 57 12.2
comp=Z,366nm,18.0s,baz=112,slow=32
EGAK **Eagle** **87.61 20** *e*P **P** **11 23 59.7 +2.1**
comp=Z,7.1nm,0.8s
TIXI **Tiksi** **88.84 349** *e*P **P** **11 24 03.2 -0.1**
TIXI pmax pmax
comp=Z,5.0nm,1.2s
SYO **Syowa Base** **89.47 197** ⇑*e*P **P** **11 24 06.0 -0.4**
HVS **Khovu-Aksy** **90.12 323** *e*P **P** **11 24 10.2 +0.3**
HVS pmax pmax
comp=Z,14nm,1.2s
WMQ **Urumqi** **91.50 315** *e*P P 11 24 12.5 -4.0
WMQ LR LR
comp=N,93nm,26.6s
WMQ LR LR
comp=E,68nm,20.6s
WMQ LR LR
comp=Z,94nm,21.2s
INK **Inuvik** **92.17 19** LR LR 11 59 22.1
comp=Z,206nm,19.8s,baz=222,slow=31
SNAA **Sanae** **94.52 183** *e*P **P** **11 24 28.6 -1.3**
SNAA **Sanae** **94.52 183** *e*P **P** **11 24 28.7 -1.3**
comp=Z,11nm,1.1s
PDAR **Pinedale Array** **94.79 47** LR LR 12 05 21.2
comp=Z,120nm,18.9s,baz=104,slow=34
VNA2 **Neumayer--Watz** **95.47 182** *e*P **P** **11 24 33.7 -0.5**
MK31 **Makanchi Array** **95.97 317** *e*P **P** **11 24 35.1 -1.8**
MK31 **Makanchi Array** **95.97 317** *e*P **P** **11 24 35.1 -1.8**
MKAR **Makanchi Array** **95.97 317** P **P** **11 24 36.3 -0.6**
MKAR **Makanchi Array** **95.97 317** P **P** **11 24 36.3 -0.6**
MKAR **Makanchi Array** **95.97 317** P **P** **11 24 36.3 -0.6**
comp=Z,2.0nm,0.7s,baz=97,slow=6.5,SNR=26
ZALV **Zalesovo Beam** **96.15 324** P **P** **11 24 35.9 -1.6**
ZALV **Zalesovo Beam** **96.15 324** P **P** **11 24 35.9 -1.6**
ZALV **Zalesovo Beam** **96.15 324** P **P** **11 24 35.9 -1.6**
comp=Z,2.4nm,0.7s,baz=113,slow=4.3,SNR=10
TXAR **Lajitas Array** **96.43 61** LR LR 12 01 28.9
comp=Z,107nm,18.5s,baz=5.0,slow=31
NVS **Novosibirsk** **97.26 325** *e*P Pdif 11 24 44.8 +2.2
ARCES **ARCESS Array B** **119.09 345** PKP **PKPdf** **11 29 56.0 -1.9**
ARCES **ARCESS Array B** **119.09 345** PKP **PKPdf** **11 29 56.1 -1.9**
comp=Z,3.1nm,0.6s,baz=72,slow=2.9,SNR=23
OBN **Obninsk** **123.46 328** *i* PKIKP **PKPdf** **11 30 07.8 +1.1**
OBN pmax pmax
comp=Z,3.0nm,0.9s
KBZ **Khabaz** **123.53 314** PKIKP **PKPdf** **11 30 07.3 +0.1**
KBZ **Khabaz** **123.53 314** PKP **PKPdf** **11 30 07.3 +0.1**
KBZ **Khabaz** **123.53 314** PKP **PKPdf** **11 30 07.3 +0.1**
comp=Z,1.1nm,0.6s,baz=135,slow=4.3,SNR=3.7
BOSA **Boshof** **123.66 221** PKP **PKPdf** **11 30 07.2 -1.0**
BOSA **Boshof** **123.66 221** PKP **PKPdf** **11 30 07.2 -1.0**
comp=Z,2.0nm,0.7s,baz=135,slow=2.9,SNR=3.5
FINES **FINESS Array B** **124.52 338** PKP **PKPdf** **11 30 06.8 -1.8**
FINES **FINESS Array B** **124.52 338** PKP **PKPdf** **11 30 06.8 -1.8**
comp=Z,2.3nm,0.8s,baz=128,slow=2.3,SNR=5.2
NOA **NORSAR Array B** **129.46 345** PKP **PKPdf** **11 30 16.8 -1.4**
NOA **NORSAR Array B** **129.46 345** PKP **PKPdf** **11 30 16.8 -1.4**
comp=Z,0.7nm,0.6s,baz=38,slow=2.1,SNR=4.0
AKASG **Malin Array Be** **129.49 326** PKIKP **PKPdf** **11 30 16.2 -2.2**
AKASG **Malin Array Be** **129.49 326** PKP **PKPdf** **11 30 16.1 -2.2**
AKASG **Malin Array Be** **129.49 326** PKP **PKPdf** **11 30 16.1 -2.2**
comp=Z,0.2nm,0.3s,baz=59,slow=2.7,SNR=4.4
BRTR **Keskin Array B** **131.30 311** PKP **PKPdf** **11 30 22.0 -0.4**
BRTR **Keskin Array B** **131.30 311** PKP **PKPdf** **11 30 22.0 -0.4**
comp=Z,0.4nm,0.5s,baz=38,slow=5.4,SNR=3.5
STHS **Stebnicka Huta** **134.43 329** *e*PKP **PKPdf** **11 30 30.6 +2.8**
DPC **Dobruska-Polom** **136.15 333** *e*SKP **SKPdf** **11 34 02.6 -0.6**
DPC *ex* x 11 34 11.3
UPC **Upice** **136.17 333** *e*SKP **SKPdf** **11 34 02.5 -0.7**
UPC *ex* x 11 34 11.2
CLL **Collm** **136.84 336** *i* SKPdf **SKPdf** **11 34 03.4 -0.9**
comp=Z,9.0nm,1.4s
CLL *e*PKSab **PKSab** **11 34 10.0 -2.5**
PRU **Pruhonice** **137.20 333** *e*SKP **SKPdf** **11 34 06.1 +1.1**
PRU *ex* x 11 34 13.5
ZST **Bratislava** **137.30 330** *e*PKP PKPdf 11 30 53.6 +20
KHC **Kasperske Hory** **138.25 333** *e*SKP **SKPdf** **11 34 08.5 +1.5**
KHC *ex* x 11 34 16.4
GERES **GERESS Array B** **138.41 333** PKP **PKPdf** **11 30 34.3 -1.1**

GERES **GERESS Array B 138.41 333** PKP **PKPdf** **11 30 34.3 -1.1**
comp=Z,1.1nm,0.8s,baz=45,slow=1.5,SNR=8.5
BNI Bardonecchia 144.38 335 *e*PKIKP PKPbc 11 30 45.4 +0.8
BNI Bardonecchia 144.38 335 *e*PKPdf PKPbc 11 30 45.4 +0.7
VSL Villasalto 147.37 326 *e*PKPbc **PKPbc** **11 30 53.0 -0.8**
KEST Kesra 149.97 321 *e*PKPbc **PKPbc** **11 31 00.1 -0.6**
KEST Kesra 149.97 321 PKPbc **PKPbc** **11 30 59.7 -1.0**
comp=Z,4.9nm,0.7s,baz=68,slow=0.6,SNR=22
ESDC Sonseca Array 152.81 344 PKPbc **PKPbc** **11 31 05.9 -1.2**
ESDC PKPab **PKPab** **11 31 15.7 -2.3**
ESDC Sonseca Array 152.81 344 PKPbc **PKPbc** **11 31 05.9 -1.2**
comp=Z,1.7nm,0.7s,baz=14,slow=2.2,SNR=10
ESDC PKPab **PKPab** **11 31 15.7 -2.3**
comp=Z,1.1nm,0.7s,baz=323,slow=3.0,SNR=3.6
TORD Torodi Ar. Bea 165.23 270 PKP **PKPdf** **11 31 14.0 -1.0**
TORD PKPab **PKPab** **11 32 11.9 -0.7**
TORD Torodi Ar. Bea 165.23 270 PKP **PKPdf** **11 31 14.0 -1.0**
comp=Z,1.3nm,0.8s,baz=103,slow=1.4,SNR=6.1
TORD PKPab **PKPab** **11 32 11.9 -0.7**
comp=Z,1.4nm,1.0s,baz=82,slow=3.1,SNR=2.7

IDC 10 11:36:29.4±0.9, 3.79N×127.05E, h0km, mb4.1/11, mb1 4.2/11, mb1mx4.0/25, mbtmp4.1/11, Error ellipse: s-maj=61.4km s-min=14.1km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.80**	**184**	P	P	11 41 22.6	-0.5
	1.9nm,0.7s,baz=2.6,slow=9.8,SNR=10						
WRA	**Warramunga Arr**	**24.65**	**163**	P	P	11 41 51.2	-0.8
	6.8nm,0.7s,baz=344,slow=10,SNR=39						
ASAR	**Alice Springs**	**28.10**	**167**	P	P	11 42 24.4	+1.3
	0.6nm,0.5s,baz=341,slow=10,SNR=13						
CMAR	**Chiang Mai Arr**	**31.12**	**300**	P	P	11 42 50.5	+0.6
	1.2nm,0.8s,baz=104,slow=6.9,SNR=7.2						
STKA	**Stephens Creek**	**38.07**	**160**	P	P	11 43 49.7	-0.2
	3.1nm,0.6s,baz=339,slow=8.9,SNR=11						
SONM	**Songino Array**	**47.34**	**341**	P	P	11 45 06.3	+1.1
	0.7nm,0.6s,baz=152,slow=9.2,SNR=4.9						
SONM				PcP	PcP	11 46 36.8	+0.7
	0.8nm,0.8s,baz=151,slow=3.3,SNR=4.0						
MKAR	**Makanchi Array**	**57.69**	**325**	P	P	11 46 21.8	-0.1
	0.9nm,0.4s,baz=122,slow=8.0,SNR=12						
MKAR				PcP	PcP	11 47 15.1	+0.3
	0.4nm,0.6s,baz=124,slow=4.2,SNR=2.5						
KURBB	**Kurchatov Arra**	**61.86**	**327**	P	P	11 46 50.4	0.0
	1.3nm,0.5s,baz=132,slow=6.6,SNR=16						
AKTO	**Aktyubinsk**	**73.81**	**322**	P	P	11 48 04.5	-1.3
	1.9nm,0.7s,baz=131,slow=4.5,SNR=4.3						
ARCES	**ARCESS Array B**	**90.50**	**340**	P	P	11 49 32.0	-0.9
	2.8nm,0.7s,baz=73,slow=6.0,SNR=7.9						
FINES	**FINESS Array B**	**91.93**	**332**	P	P	11 49 38.5	-1.1
	1.3nm,0.8s,baz=79,slow=7.2,SNR=3.0						
TORD	**Torodi Ar. Bea**	**123.20**	**288**	PKP	PKPdf	11 55 29.1	-0.1
	0.4nm,0.8s,baz=50,slow=2.3,SNR=2.8						

*UPP **10** 11:37:16.8, 67.72N×37.31E, h1km, ML1.8, Suspected Mining explosion.*
*ISCJB **10** 11:37:50.0±1.3, 67.58N±0.05×30.3E±0.3, h0km, Error ellipse: s-maj=15.1km s-min=5.0km az=160.6*
*CSEM **10** 11:37:51.1±0.4, 67.57N×30.34E, h2km, ML2.1, Error ellipse: s-maj=10.4km s-min=4.0km az=71.0, Mining explosion.*
*HEL **10** 11:37:51.1±0.4, 67.59N×30.39E, h0km, ML2.1, Explosion*
ISC 10 11:37:50.4±1.5, 67.57N±0.05×30.35E±0.09, h0km, n31, σ0§84/37, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VRF	**Varrio**	**0.34**	**303**	*e*P	**Pg**	**11 37 57.6**	**+0.7**
VRF				*e*S	**Sg**	**11 38 00.4**	**-0.8**
VRF	**Varrio**	**0.34**	**303**	P	**Pg**	**11 37 57.5**	**+0.7**
VRF				S	**Sg**	**11 38 00.4**	**-0.8**
SGF	**Sodankyl**	**1.48**	**267**	*e*P	**Pn**	**11 38 18.4**	**+0.2**
SGF	**Sodankyl**	**1.48**	**267**	P	**Pn**	**11 38 18.4**	**+0.2**
KU6	**Riekki**	**1.56**	**187**	*e*P	**Pn**	**11 38 18.9**	**-0.4**
KU6				*e*S	**Sn**	**11 38 39.1**	**-1.1**
KU6	**Riekki**	**1.56**	**187**	P	**Pn**	**11 38 18.9**	**-0.4**
KU6				S	**Sn**	**11 38 39.1**	**-1.1**
MSF	**Maaselka**	**1.74**	**198**	*e*P	**Pn**	**11 38 22.3**	**+0.4**
MSF	**Maaselka**	**1.74**	**198**	P	**Pn**	**11 38 22.3**	**+0.4**
RNF	**Rovaniemi**	**1.95**	**242**	*e*P	**Pn**	**11 38 25.8**	**+1.1**
RNF	**Rovaniemi**	**1.95**	**242**	P	**Pn**	**11 38 25.8**	**+1.1**
KEV	**Kevo**	**2.52**	**332**	*e*P	**Pn**	**11 38 33.0**	**+0.5**
KEV				*e*S	**Sn**	**11 39 02.6**	**-1.2**
KEV				MSG		11 39 09.9	
	comp=Z,7.2nm,0.1s						
KEV	**Kevo**	**2.52**	**332**	P	**Pn**	**11 38 33.0**	**+0.5**
KEV				S	**Sn**	**11 39 02.6**	**-1.2**
HEF	**Hetta**	**2.66**	**292**	*e*P	**Pn**	**11 38 35.0**	**+0.6**
HEF	**Hetta**	**2.66**	**292**	P	**Pn**	**11 38 35.0**	**+0.6**
PAJU	**Pajala**	**2.86**	**262**	P	**Pn**	**11 38 37.9**	**+0.7**
LANU	**Lannavaara**	**3.21**	**283**	*e*P	**Pn**	**11 38 42.4**	**+0.3**
LANU	**Lannavaara**	**3.21**	**283**	P	**Pn**	**11 38 42.3**	**+0.3**
MASU	**Masugnsbyn**	**3.21**	**272**	P	**Pn**	**11 38 42.6**	**+0.5**
KALU	**Kalix**	**3.26**	**242**	P	**Pn**	**11 38 42.9**	**+0.2**
ERTU	**Ertsjaerv**	**3.35**	**256**	P	**Pn**	**11 38 45.0**	**+1.0**
KJN	**Kajaani**	**3.66**	**198**	*e*P	**Pn**	**11 38 50.1**	**+1.8**
KJN	**Kajaani**	**3.66**	**198**	P	**Pn**	**11 38 50.0**	**+1.8**
DUNU	**Dundret**	**3.81**	**268**	P	**Pn**	**11 38 50.8**	**+0.5**
KUA	**Kurravaara**	**3.83**	**280**	P	**Pn**	**11 38 50.9**	**+0.4**
KIF	**Kilpisjarvi**	**3.83**	**297**	*e*P	**Pn**	**11 38 51.7**	**+1.1**
KIF	**Kilpisjarvi**	**3.83**	**297**	P	**Pn**	**11 38 51.6**	**+1.1**
HARU	**Harads**	**3.96**	**254**	P	**Pn**	**11 38 52.4**	**+0.1**
SJUU	**Sjulsmark**	**4.06**	**243**	P	**Pn**	**11 38 53.9**	**+0.2**
NIKU	**Nikkaluokta**	**4.32**	**279**	P	**Pn**	**11 38 58.0**	**+0.7**
SALU	**Saltoluokta**	**4.56**	**273**	P	**Pn**	**11 39 01.2**	**+0.6**
LILU	**Lilltraesk**	**4.80**	**246**	P	**Pn**	**11 39 03.7**	**-0.1**

IDC 10 11:38:17.7±2.3, 67.63N×31.03E, h0km, mb1 3.3/4, mb1mx3.1/27, mbtmp3.3/4, ML2.5/4, Error ellipse: s-maj=27.9km s-min=8.6km az=77.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARCES	**ARCESS Array B**	**2.79**	**316**	Pn	Pn	11 39 02.6	-1.0
	0.7nm,0.3s,baz=132,slow=16,SNR=11						
ARCES				Pg	Pb	11 39 08.3	0.0
	1.4nm,0.3s,baz=138,slow=16,SNR=12						
ARCES				Sn	Sn	11 39 38.0	+0.1
	1.6nm,0.3s,baz=132,slow=28,SNR=5.6						
ARCES				Lg	Lg	11 39 44.6	
	4.6nm,0.3s,baz=132,slow=30,SNR=14						
FINES	**FINESS Array B**	**6.56**	**201**	Pn	Pn	11 39 54.1	-1.2
	0.2nm,0.3s,baz=19,slow=13,SNR=4.1						
FINES				Sn	Sn	11 41 11.0	+0.3
	0.2nm,0.3s,baz=19,slow=22,SNR=2.9						
FINES				Lg	Lg	11 41 43.1	
	0.5nm,0.3s,baz=16,slow=27,SNR=5.8						
HFS	**Hagfors**	**10.68**	**234**	Pn	Pn	11 40 46.0	-5.6
	0.1nm,0.3s,baz=33,slow=12,SNR=3.4						
HFS				Sn	Sn	11 42 35.5	-16
	0.1nm,0.3s,baz=34,slow=26,SNR=2.4						
NOA	**NORSAR Array B**	**10.79**	**242**	Pn	Pn	11 40 51.8	-1.5
	0.1nm,0.3s,baz=35,slow=11,SNR=3.2						

*IDC **10** 11:42:57.9±2.0, 33.98N×47.30E, h0km, mb3.8/8, mb1 3.9/11, mb1mx3.7/27, mbtmp3.8/11, ML3.4/3, MS3.1/2, Ms1 3.0/2, ms1mx2.4/46, Error ellipse: s-maj=58.6km s-min=17.2km az=160.0*
*ISCJB **10** 11:42:57.1±0.7, 34.00N±0.03×47.21E±0.03, h3km±6km, mb3.6/8, MS3.8/1, Error ellipse: s-maj=4.9km s-min=4.5km az=42.7*
*THR **10** 11:42:57.3±0.4, 34.04N×46.96E, h14km±6km, ML3.7*
*ISN **10** 11:42:58.2±1.7, 33.96N×47.19E, h0km±18km, ML3.5*
*TEH **10** 11:42:58.7, 33.98N×47.16E, h6km, ML3.6*
*CSEM **10** 11:42:58.1±0.2, 34.03N×47.19E, h2km, ML3.6, Error ellipse: s-maj=5.1km s-min=4.0km az=68.0*
ISC 10 11:42:57.2±1.2, 34.05N±0.03×47.06E±0.03, h4km±9km, n72, σ1§42/76, mb3.8/8, 4C-1D, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKOM	**Komasi**	**0.40**	**71**	*e*	**Sg**	**11 43 09.1**	**-1.1**
	comp=Z,15μm,0.1s						
IKOM				*e*Pg	**Pg**	**11 43 03.5**	**-1.4**
IGHG	**Ghaleghazi**	**0.49**	**305**	*e*		11 43 37.4	
	comp=Z,47μm,0.4s						
IGHG				*e*Pg	**Pn**	**11 43 09.9**	**-1.4**
IVIS	**Veis**	**0.51**	**340**	*e*Sg	**Sn**	**11 43 18.2**	**-2.5**
IVIS				*e*Pg	**Pb**	**11 43 08.3**	**-0.5**
IVIS				*e*		11 43 25.2	
	comp=Z,23μm,0.3s						
IDHR	**Dehrash**	**0.85**	**320**	*e*Pg	**Pn**	**11 43 15.7**	**-0.6**
IDHR				*e*		11 43 36.2	
	comp=Z,16μm,0.2s						
IDHR	**Dehrash**	**0.85**	**320**	*e*Pg	**Pn**	**11 43 15.7**	**-0.6**
ILIN	**Lien**	**0.87**	**355**	*e*Pg	**Pn**	**11 43 15.9**	**-0.6**
ILIN				*e*Sg	**Sn**	**11 43 29.3**	**-0.6**
ILIN				*e*		11 43 30.1	
	comp=Z,13μm,0.2s						
ILIN	**Lien**	**0.87**	**355**	*e*Pg	**Pn**	**11 43 15.9**	**-0.6**
ILIN				*e*Sg	**Sn**	**11 43 29.3**	**-0.6**
SNGE	**Sanandaj**	**1.07**	**13**	*e*Pg	**Pb**	**11 43 17.9**	**-0.5**
SNGE				*e*Sg	**Sg**	**11 43 32.9**	**+1.2**
SNGE				AML	AML	11 43 37.1	
	comp=E,2μm,0.5s						
SNGE				AML	AML	11 43 37.2	
	comp=N,2μm,0.5s						
SNGE	**Sanandaj**	**1.07**	**13**	*e*Pg	**Pb**	**11 43 17.9**	**-0.5**
SNGE				*e*Sg	**Sg**	**11 43 32.9**	**+1.2**
IBDR	**Badra**	**1.33**	**226**	*e*Pn	**Pg**	**11 43 23.6**	**+1.0**
IBDR				*e*Sn	**Sg**	**11 43 42.0**	**+2.2**
SHGR	**Shooshtar-Gavs**	**2.42**	**142**	*e*Pn	**Pn**	**11 43 38.9**	**+1.3**
SHGR	**Shooshtar-Gavs**	**2.42**	**142**	*e*Pn	**Pn**	**11 43 38.9**	**+1.3**
KHMZ	**Khomeyn**	**2.43**	**96**	*e*Pn	**Pn**	**11 43 39.8**	**+1.8**
KHMZ	**Khomeyn**	**2.43**	**96**	*e*Pn	**Pn**	**11 43 39.8**	**+1.8**
ASAO	**Ashtian**	**2.51**	**78**	*e*PN5	**Pb**	**11 43 41.1**	**-1.9**
ASAO				AML	AML	11 44 26.4	
	comp=E,444nm,0.6s						
ASAO				AML	AML	11 44 27.2	
	comp=N,369nm,0.6s						
IKRK	**Kirkuk**	**2.61**	**302**	*e*PN	**Pb**	**11 43 43.0**	**-1.6**
IKRK				*e*Sn	**Sg**	**11 44 17.0**	**-4.2**
IRAZ	**Razeghan**	**2.73**	**59**	*e*Pn	**Pn**	**11 43 43.3**	**+1.3**
IRAZ				*e*		11 44 36.1	
	comp=Z,7μm,0.5s						
IRAZ	**Razeghan**	**2.73**	**59**	*e*Pn	**Pn**	**11 43 43.3**	**+1.3**
ZNJK	**Zanjan**	**2.94**	**26**	*e*PN5	**Pn**	**11 43 46.4**	**+1.5**
NSR	**Nassriya**	**3.13**	**195**	*e*PN	**Pn**	**11 43 48.4**	**+1.1**
NSR				*e*Sn	**Sn**	**11 44 23.0**	**-2.0**
NSR	**Nassriya**	**3.13**	**195**	*e*Pn	**Pn**	**11 43 48.4**	**+1.1**
	SNR=39						
NSR				*e*Sn	**Sn**	**11 44 23.0**	**-2.0**
	SNR=39						
IR5	**Iran Long-Peri**	**3.13**	**67**	*e*Pn	**Pn**	**11 43 48.2**	**+0.7**
IR5	**Iran Long-Peri**	**3.13**	**67**	*e*Pn	**Pn**	**11 43 48.2**	**+0.7**
IMHD	**Mahdasht**	**3.39**	**60**	*e*Pn	**Pn**	**11 43 51.4**	**+0.4**
IMHD				*e*		11 44 09.1	
	comp=Z,1μm,0.3s						
IMHD				*e*Sg	**Sb**	**11 44 42.4**	**+2.9**
IMHD	**Mahdasht**	**3.39**	**60**	*e*Pn	**Pn**	**11 43 51.4**	**+0.4**
IMHD				*e*Sg	**Sb**	**11 44 42.4**	**+2.9**
IKLH	**Kolahrood**	**3.84**	**100**	*e*Pn	**Pn**	**11 43 57.9**	**+0.6**
IKLH				*e*		11 45 16.9	
	comp=Z,2μm,0.4s						
IKLH	**Kolahrood**	**3.84**	**100**	*e*Pn	**Pn**	**11 43 57.9**	**+0.6**
IVRN	**Varamin**	**3.97**	**75**	*e*Pn	**Pn**	**11 43 58.9**	**-0.1**
IVRN				*e*		11 44 15.5	
	comp=Z,1μm,0.3s						
IVRN	**Varamin**	**3.97**	**75**	*e*Pn	**Pn**	**11 43 58.9**	**-0.1**
MIB	**Mutribah**	**4.24**	**177**	*e*P	**Pn**	**11 44 03.7**	**+1.1**
MIB	**Mutribah**	**4.24**	**177**	*e*P	**Pn**	**11 44 03.7**	**+1.1**
ISFB	**Sefidab**	**4.31**	**85**	*e*Pn	**Pn**	**11 44 04.3**	**+0.7**
ISFB				*e*		11 45 23.7	
	comp=Z,908nm,0.3s						
ISFB	**Sefidab**	**4.31**	**85**	*e*Pn	**Pn**	**11 44 04.3**	**+0.7**
IDMV	**Damavand**	**4.37**	**68**	*e*		11 44 23.6	
	comp=Z,865nm,0.2s						
IDMV				||*e*Pn	**Pn**	**11 44 04.6**	**0.0**
IGAR	**Gharneh**	**4.49**	**110**	*e*Pn	**Pn**	**11 44 05.8**	**-0.4**
UMR	**Umm Al-Rimmam**	**4.52**	**173**	*e*P	**Pn**	**11 44 07.3**	**+0.9**
UMR	**Umm Al-Rimmam**	**4.52**	**173**	*e*P	**Pn**	**11 44 07.3**	**+0.9**
RST	**Umm Al-Ruwaisa**	**4.53**	**181**	*e*P	**Pn**	**11 44 08.0**	**+1.4**
RST	**Umm Al-Ruwaisa**	**4.53**	**181**	*e*P	**Pn**	**11 44 08.0**	**+1.4**
IZEF	**Zefreh**	**4.55**	**103**	*e*	**Sb**	**11 45 09.8**	**-3.4**
	comp=Z,445nm,0.2s						
NAY	**Al-Naaiem**	**4.79**	**178**	*e*P	**Pn**	**11 44 11.1**	**+1.0**
NAY				AML	AML	11 45 10.3	
	comp=Z,19nm,0.5s						
NAY	**Al-Naaiem**	**4.79**	**178**	*e*P	**Pn**	**11 44 11.1**	**+1.0**
KBD	**Kabd**	**4.89**	**173**	*e*P	**Pn**	**11 44 12.1**	**+0.6**
KBD	**Kabd**	**4.89**	**173**	*e*P	**Pn**	**11 44 12.1**	**+0.6**
IFIR	**Firoozkooh**	**4.95**	**70**	*e*Pn	**Pn**	**11 44 12.4**	**-0.2**
IFIR				*e*		11 44 37.8	
	comp=Z,425nm,0.2s						
IFIR	**Firoozkooh**	**4.95**	**70**	*e*Pn	**Pn**	**11 44 12.4**	**-0.2**
RDF	**Al-Radifah**	**5.12**	**175**	*e*P	**Pn**	**11 44 15.9**	**+1.2**
RDF				AML	AML	11 45 12.5	
	comp=Z,30nm,0.6s						
RDF	**Al-Radifah**	**5.12**	**175**	*e*P	**Pn**	**11 44 15.9**	**+1.2**
QRN	**Al-Qurain**	**5.34**	**172**	*e*P	**Pn**	**11 44 18.4**	**+0.7**
QRN				AML	AML	11 45 18.0	
	comp=Z,22nm,0.3s						
IANJ	**Anjilo**	**5.82**	**74**	*e*Pn	**Pn**	**11 44 24.3**	**-0.2**
IANJ				*e*		11 46 39.7	
	comp=Z,400nm,0.6s						
IANJ	**Anjilo**	**5.82**	**74**	*e*Pn	**Pn**	**11 44 24.3**	**-0.2**
GNI	**Garni**	**6.37**	**344**	Pg	**Pg**	**11 45 01.5**	**+2.3**
	comp=Z,1.3nm,0.3s,baz=204,slow=20,SNR=2.6						
GNI				Lg	Lg	11 46 27.6	
	comp=Z,0.1nm,0.3s,baz=33,slow=18,SNR=2.2						
IPAR	**Pars**	**6.59**	**128**	*e*Pn	**Pn**	**11 44 33.7**	**-1.6**
IPAR				*e*		11 46 01.2	
	comp=Z,310nm,0.4s						
IPAR	**Pars**	**6.59**	**128**	*e*Pn	**Pn**	**11 44 33.7**	**-1.6**
IMEH	**Mehriz**	**6.90**	**111**	*e*Pn	**Pn**	**11 44 37.8**	**-1.5**
IMEH				*e*		11 47 16.9	
	comp=N,174nm,0.2s						
IMEH	**Mehriz**	**6.90**	**111**	*e*Pn	**Pn**	**11 44 37.8**	**-1.5**
ISRV	**Sarvestan**	**6.95**	**130**	*e*Pn	**Pn**	**11 44 38.5**	**-1.6**
ISRV				*e*		11 46 07.0	
	comp=Z,392nm,0.2s						
ISRV	**Sarvestan**	**6.95**	**130**	*e*Pn	**Pn**	**11 44 38.5**	**-1.6**
ASF	**Jabal al Asfar**	**8.73**	**260**	Pg	Pg	11 45 51.3	+7.0
	comp=Z,0.4nm,0.3s,baz=13,slow=6.7,SNR=2.0						
ASF				Lg	Lg	11 47 37.2	
	comp=Z,0.2nm,0.3s,baz=253,slow=19,SNR=2.9						
KBZ	**Khabaz**	**10.19**	**343**	LR	LR	11 50 29.0	
	comp=Z,27nm,20.3s,baz=141,slow=44						
BRTR	**Keskin Array B**	**12.14**	**302**	Pn	Pn	11 45 57.3	+6.2
	comp=Z,0.0nm,0.3s,baz=96,slow=13,SNR=3.0						
AKTO	**Aktyubinsk**	**18.24**	**23**	P	**P**	**11 47 12.2**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=214,slow=15,SNR=4.9						
IDI	**Anoyia**	**18.28**	**280**	P	P	11 47 16.9	+4.9
	comp=Z,0.3nm,0.3s,baz=64,slow=17,SNR=5.7						
BVAR	**Borovoye Array**	**25.22**	**34**	P	**P**	**11 48 26.3**	**+2.4**
	comp=Z,1.0nm,0.6s,baz=212,slow=8.0,SNR=3.2						
KURBB	**Kurchatov Arra**	**28.27**	**45**	P	**P**	**11 48 52.1**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=248,slow=9.0,SNR=3.7						
MKAR	**Makanchi Array**	**29.44**	**54**	P	**P**	**11 49 02.2**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=243,slow=6.3,SNR=7.9						
KEST	**Kesra**	**30.86**	**284**	P	P	11 49 18.2	+3.5
	comp=Z,1.7nm,0.5s,baz=115,slow=5.6,SNR=4.3						
ZALV	**Zalesovo Beam**	**33.12**	**41**	P	**P**	**11 49 34.5**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=251,slow=9.0,SNR=3.1						
ESDC	**Sonseca Array**	**40.76**	**293**	P	P	11 50 40.6	+1.1
	comp=Z,0.4nm,0.6s,baz=61,slow=7.8,SNR=4.6						
TORD	**Torodi Ar. Bea**	**46.03**	**254**	P	P	11 51 25.5	+3.3
	comp=Z,1.1nm,1.0s,baz=38,slow=6.8,SNR=5.0						
USRK	**Ussuriysk Arra**	**63.90**	**53**	LR	LR	12 27 01.5	
	comp=Z,59nm,19.0s,baz=259,slow=41						
ILAR	**Eielson Array**	**80.90**	**6**	P	**P**	**11 55 11.9**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=350,slow=4.8,SNR=4.7						

*ISCJB **10** 11:43:00.7±0.6, 80.4N±0.1×1.1E±0.6, h10km, mb3.5/7, Error ellipse: s-maj=22.0km s-min=6.7km az=34.2*
*IDC **10** 11:43:00.9±1.0, 80.48N×0.71E, h0km, mb3.5/8, mb1 3.8/10, mb1mx3.5/29, mbtmp3.6/10, ML4.0/2, Error ellipse: s-maj=38.2km s-min=16.9km az=37.0*
*BER **10** 11:43:01.3±2.2, 80.80N×1.54E, h10km, ML2.5, ML3.3(NAO)*
*CSEM **10** 11:43:04.9±2.0, 80.25N×1.78E, h10km, ML2.5, Error ellipse: s-maj=78.8km s-min=43.8km az=34.0*
ISC 10 11:43:02.9±0.7, 80.3N±0.1×1.2E±0.1, h10km, n20, σ1§46/28, mb3.6/7, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**2.41**	**121**	*e*P	**Pn**	**11 43 41.8**	**-0.4**
KBS				*e*S	**Sn**	**11 44 10.8**	**-0.9**
KBS				AML	AML	11 44 17.1	
	comp=Z,50nm,0.3s						
KBS	**Kingsbay**	**2.41**	**121**	*e*P	**Pn**	**11 43 41.8**	**-0.4**
	SNR=50						
KBS				*e*S	**Sn**	**11 44 10.8**	**-0.9**
	comp=Z,50nm,0.3s,SNR=50						
SPA0	**Spitsbergen Ar**	**3.56**	**120**	Pn	**Pn**	**11 43 58.1**	**0.0**
	baz=318,slow=11						
SPA0				Sn	**Sn**	**11 44 40.8**	**+0.5**
	baz=324,slow=28						
SPA0	**Spitsbergen Ar**	**3.56**	**120**	Pn	**Pn**	**11 43 58.1**	**0.0**
	baz=318,slow=11						
SPA0				Sn	**Sn**	**11 44 40.8**	**+0.5**
	baz=324,slow=28						
SPA0	**Spitsbergen Ar**	**3.56**	**120**	Pn	**Pn**	**11 43 58.1**	**0.0**
	SNR=50						
SPA0				Sn	**Sn**	**11 44 40.8**	**+0.5**
	SNR=50						
SPITS	**Spitsbergen Ar**	**3.56**	**120**	Pn	**Pn**	**11 43 58.1**	**0.0**
	baz=338,slow=6.3,SNR=142						
SPITS				Sn	**Sn**	**11 44 39.8**	**-0.4**
	baz=291,slow=20,SNR=3.1						
ARA0	**ARCESS Array S**	**12.37**	**137**	Pn	**Pn**	**11 46 00.1**	**+1.4**
	baz=351,slow=12						
ARA0				Sn	**Sn**	**11 48 13.5**	**-2.7**
	baz=356,slow=28						
ARA0	**ARCESS Array S**	**12.37**	**137**	Pn	**Pn**	**11 46 00.1**	**+1.4**
	baz=351,slow=12						
ARA0				Sn	**Sn**	**11 48 13.5**	**-2.7**
	baz=356,slow=28						
ARA0	**ARCESS Array S**	**12.37**	**137**	Pn	**Pn**	**11 46 00.1**	**+1.4**
	SNR=50						
ARA0				Sn	**Sn**	**11 48 13.5**	**-2.7**
	SNR=50						
ARCES	**ARCESS Array B**	**12.37**	**137**	Pn	**Pn**	**11 45 59.9**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=351,slow=11,SNR=12						
RES	**Resolute Bay**	**19.02**	**306**	P	**P**	**11 47 22.1**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=14,slow=8.3,SNR=2.8						
FINES	**FINESS Array B**	**20.28**	**144**	P	Pn	11 47 40.1	0.0
	comp=Z,0.9nm,0.6s,baz=354,slow=13,SNR=6.0						
HFS	**Hagfors**	**20.63**	**162**	P	**P**	**11 47 43.9**	**+1.9**
	comp=Z,1.4nm,0.7s,baz=354,slow=12,SNR=3.1						
GERES	**GERESS Array B**	**31.91**	**164**	P	**P**	**11 49 30.4**	**+2.3**
	comp=Z,0.1nm,0.4s,baz=36,slow=7.4,SNR=3.5						
ILAR	**Eielson Array**	**34.00**	**336**	P	**P**	**11 49 47.7**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=24,slow=6.9,SNR=3.9						
KURBB	**Kurchatov Arra**	**38.43**	**91**	P	**P**	**11 50 23.9**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=344,slow=7.9,SNR=5.1						
KBZ	**Khabaz**	**39.62**	**131**	P	**P**	**11 50 34.5**	**+0.5**
	comp=Z,3.0nm,0.7s,baz=6.3,slow=5.0,SNR=7.0						
NVAR	**Mina Array Bea**	**56.99**	**305**	P	**P**	**11 52 47.9**	**-0.5**
	comp=Z,0.7nm,1.0s,baz=318,slow=2.0,SNR=4.0						
TXAR	**Lajitas Array**	**63.73**	**290**	P	**P**	**11 53 32.9**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=27,slow=6.1,SNR=2.6						
TORD	**Torodi Ar. Bea**	**67.21**	**179**	P	**P**	**11 53 56.0**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=355,slow=7.3,SNR=4.7						

*CSEM **10** 11:46:16.5, 35.63N×5.90E, h0km, ML3.6, After ALG*
CRAAG 10 11:46:16.5, 35.63N×5.90E, MI3.6, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CKHR	**Kef el Ahmar**	**0.50**	**321**	P	Pn	11 46 30.7	-0.4
CKHR	**Kef el Ahmar**	**0.50**	**321**	P	Pn	11 46 30.7	-0.4
CTEI	**Djebel Teioual**	**0.60**	**43**	P	Pn	11 46 32.6	+0.1
CTEI	**Djebel Teioual**	**0.60**	**43**	P	Pn	11 46 32.6	+0.1
SET	**Setif**	**0.70**	**325**	P	Pn	11 46 35.0	+1.2
SET	**Setif**	**0.70**	**325**	P	Pn	11 46 35.0	+1.2
CASM	**Ain Smara**	**0.79**	**37**	P	Pn	11 46 37.8	+2.8
CASM	**Ain Smara**	**0.79**	**37**	P	Pn	11 46 37.8	+2.8
DFRA	**Djebel Bou Aff**	**0.92**	**359**	P

IDC 10 11:51:20.7±8.2, 15°24.84S×173°14.47W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.6/18, mbtmp3.9/2, Error ellipse: s-maj=365.7km s-min=64.8km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.52**	**41**	Pn	Pn	11 51 50.9	-12
	41nm,0.3s,baz=55,slow=1.4,SNR=40						
AFI				Sn	Sn	11 52 09.9	-25
	212nm,0.3s,baz=55,slow=19,SNR=23						
H11S2	**WAKE ISLAND Hy 39.31**	**329**		T	T	12 40 14.1	
	baz=152,slow=0.7,SNR=16						
H11S3	**WAKE ISLAND Hy 39.32**	**329**		T	T	12 40 11.5	
	baz=152,slow=0.7,SNR=14						
H11S1	**WAKE ISLAND Hy 39.32**	**329**		T	T	12 40 07.0	
	baz=152,slow=0.7,SNR=10						
H11N3	**WAKE ISLAND Hy 40.26**	**331**		T	T	12 41 19.8	
	baz=152,slow=0.7,SNR=6.0						
H11N1	**WAKE ISLAND Hy 40.27**	**331**		T	T	12 41 22.8	
	baz=152,slow=0.7,SNR=6.2						
H11N2	**WAKE ISLAND Hy 40.28**	**331**		T	T	12 41 25.2	
	baz=152,slow=0.7,SNR=6.0						
WRA	**Warramunga Arr**	**49.68**	**257**	P	P	12 00 14.5	-0.4
	0.6nm,0.7s,baz=94,slow=6.5,SNR=8.8						
ASAR	**Alice Springs**	**49.92**	**252**	P	P	12 00 16.6	0.0
	1.6nm,0.6s,baz=86,slow=8.3,SNR=25						
BRTR	**Keskin Array B**	**146.46**	**321**	PKPbc	PKPdf	12 11 03.6	+0.6
	0.7nm,0.7s,baz=90,slow=0.3,SNR=3.9						

*IDC **10** 11:52:14.8±4.6, 36°.24N×70°.85E, h162km±40km, mb3.3/9, mb1 3.4/14, mb1mx3.2/32, mbtmp3.3/14, MS2.6/1, Ms1 2.6/1, ms1mx2.4/34, Error ellipse: s-maj=31.4km s-min=19.3km az=11.0*

*ISCJB **10** 11:52:16.8±0.6, 36°.46N±0°.06×70°.95E±0°.09, h188km, mb3.5/8, Error ellipse: s-maj=10.6km s-min=6.4km az=148.9*

*NNC **10** 11:52:24.6±13.0, 37°.06N×70°.84E, h189km±164km, mb3.1, mpv3.9, Error ellipse: s-maj=121.2km s-min=65.9km az=17.0*

ISC 10 11:52:18.1±0.8, 36°.57N±0°.07×71°.02E±0°.09, h188km, n23, σ1§83/26, mb3.5/8, 9C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.67**	**135**	*e*P	**Pn**	**11 53 40.5**	**-0.4**
THN				*e*S	**Sn**	**11 54 44.0**	**-2.1**
KK31	**Karatay Array**	**6.54**	**357**	⇑P	**Pn**	**11 53 53.5**	**+1.4**
	1.7nm,0.4s,baz=188,slow=13,SNR=26						
KK31				⇑S	**Sn**	**11 55 02.8**	**-3.7**
	5.4nm,0.5s,baz=184,slow=23,SNR=11						
AAK	**Ala-Archa**	**6.62**	**23**	P	**Pn**	**11 53 55.4**	**+2.0**
	1.8nm,0.3s,baz=170,slow=5.2,SNR=15						
AAK				S	**Sn**	**11 55 08.3**	**-0.4**
	1.3nm,0.3s,baz=116,slow=23,SNR=15						
AAK				LR	LR	11 56 47.8	
	comp=Z,53nm,20.6s,baz=211,slow=39						
TKM2	**Tokmak 2**	**7.25**	**28**	⇑P	**Pn**	**11 54 03.6**	**+1.8**
	17nm,0.7s						
TKM2				⇑S	**Sn**	**11 55 19.5**	**-4.3**
MK31	**Makanchi Array**	**13.22**	**36**	⇑Pg	**Pn**	**11 55 19.4**	**+0.7**
	2.3nm,0.8s,baz=107,slow=17,SNR=10						
MK31				⇑Sn	x	11 56 11.9	
	0.5nm,0.5s,baz=105,slow=35,SNR=4.1						
MK31				⇑Lg	Lg	11 56 35.2	
	0.6nm,0.5s,baz=108,slow=28,SNR=2.9						
MKAR	**Makanchi Array**	**13.22**	**36**	P	**P**	**11 55 20.4**	**-1.6**
	0.2nm,0.3s,baz=222,slow=13,SNR=11						
AB31	**Akbulak array**	**15.03**	**331**	P	**Pn**	**11 55 40.7**	**-0.3**
	2.5nm,0.8s,baz=144,slow=12,SNR=17						
AB31				⇓S	**Sn**	**11 58 25.6**	**-3.2**
KURBB	**Kurchatov Arra**	**15.05**	**19**	⇑Lg	Lg	11 58 42.9	
	15nm,1.9s						
KURBB	**Kurchatov Arra**	**15.05**	**19**	P	**P**	**11 55 42.4**	**+0.3**
	0.1nm,0.3s,baz=202,slow=11,SNR=3.7						
KURK	**Kurchatov**	**15.16**	**19**	⇓Lg	Lg	11 58 45.0	
	5.2nm,1.5s						
BVAR	**Borovoye Array**	**16.46**	**359**	P	**Pn**	**11 56 00.1**	**+1.8**
	0.5nm,0.3s,baz=167,slow=11,SNR=5.2						
AKTO	**Aktyubinsk**	**16.73**	**330**	⇑P	**P**	**11 56 00.4**	**-0.2**
	7.9nm,0.8s						
AKTO	**Aktyubinsk**	**16.73**	**330**	P	**P**	**11 56 00.8**	**+0.2**
	0.6nm,0.3s,baz=140,slow=10,SNR=14						
ZALV	**Zalesovo Beam**	**19.84**	**25**	P	**P**	**11 56 35.8**	**+1.4**
	1.7nm,0.5s,baz=221,slow=10,SNR=4.5						
SONM	**Songino Array**	**28.28**	**55**	P	**P**	**11 57 55.8**	**+1.8**
	0.2nm,0.3s,baz=268,slow=7.2,SNR=3.3						
FINES	**FINESS Array B**	**37.43**	**326**	P	**P**	**11 59 13.8**	**+1.0**
	1.2nm,0.5s,baz=116,slow=9.4,SNR=5.9						
ARCES	**ARCESS Array B**	**41.08**	**338**	P	**P**	**11 59 44.1**	**+1.2**
	1.6nm,0.6s,baz=113,slow=8.9,SNR=8.2						
HFS	**Hagfors**	**43.02**	**322**	P	**P**	**11 59 59.5**	**+0.8**
	0.8nm,0.5s,baz=96,slow=13,SNR=5.1						
NB2	**NORSAR Subarra**	**44.33**	**323**	P	**P**	**12 00 09.7**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=92,slow=7.9						
NOA	**NORSAR Array B**	**44.33**	**323**	P	**P**	**12 00 09.7**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=94,slow=7.7,SNR=5.2						
TORD	**Torodi Ar. Bea**	**65.73**	**269**	P	**P**	**12 02 41.4**	**-1.7**
	comp=Z,0.8nm,0.7s,baz=52,slow=5.7,SNR=13						
YKA	**Yellowknife Ar**	**81.17**	**3**	P	**P**	**12 04 13.7**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=10,slow=6.2,SNR=3.3						
WRA	**Warramunga Arr**	**82.02**	**122**	P	**P**	**12 04 16.8**	**-0.6**
	comp=Z,0.4nm,1.0s,baz=321,slow=4.8,SNR=3.8						

IDC 10 12:00:25.1±6.2, 18°.18S×176°.65W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.5/18, mbtmp3.7/2, Error ellipse: s-maj=317.7km s-min=52.5km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.23**	**260**	P	P	12 08 52.4	0.0
	0.3nm,0.3s,baz=97,slow=7.6,SNR=14						
ASAR	**Alice Springs**	**46.33**	**254**	P	P	12 08 52.9	-0.2
	0.9nm,0.8s,baz=80,slow=7.7,SNR=6.8						
GERES	**GERESS Array B**	**148.28**	**347**	PKPbc	PKPbc	12 20 12.6	-0.7
	0.7nm,0.8s,baz=18,slow=3.5,SNR=4.6						

*IDC **10** 12:23:29.7±0.7, 13°.79S×166°.48E, h0km, mb4.3/16, mb1 4.4/18, mb1mx4.4/23, mbtmp4.3/18, ML4.3/2, MS3.9/15, Ms1 3.9/15, ms1mx3.8/32, Error ellipse: s-maj=22.7km s-min=15.2km az=110.0*

*ISCJB **10** 12:23:35.2±0.5, 13°.69S±0°.07×166°.22E±0°.07, h43km, mb4.2/15, MS4.0/12, Error ellipse: s-maj=10.8km s-min=8.9km az=137.8*

*AUST **10** 12:24:01.6, 13°.41S×164°.91E, h200km*

ISC 10 12:23:36.4±0.5, 13°.80S±0°.07×166°.28E±0°.09, h43km, n48, σ1§13/39, mb4.2/15, MS4.0/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.58**	**304**	Pn	**Pn**	**12 25 24.7**	**+0.4**
	7.0nm,0.3s,baz=204,slow=3.9,SNR=4.8						
HNR				Sn	**Sn**	**12 26 47.2**	**-1.7**
	baz=234,slow=19,SNR=1.7						
HNR				LR	LR	12 27 37.7	
	comp=Z,269nm,21.7s,baz=124,slow=32						
DZM	**Mont Dzumac**	**8.22**	**179**	*e*Pn	**Pn**	**12 25 32.3**	**-1.0**
	37nm,0.6s						
DZM				*e*LR	LR	12 27 22.0	
	639nm,26.2s						
DZM	**Mont Dzumac**	**8.22**	**179**	Pn	**Pn**	**12 25 32.2**	**-1.0**
	1.9nm,0.3s,baz=341,slow=22,SNR=10						
DZM				Sn	**Sn**	**12 27 03.3**	**-1.7**
	baz=319,slow=19,SNR=1.6						
DZM				LR	LR	12 28 24.6	
	comp=Z,459nm,19.5s,baz=37,slow=36						
PMG	**Port Moresby**	**19.23**	**281**	LR	LR	12 34 22.7	
	comp=Z,225nm,20.6s,baz=47,slow=34						
CTA	**Charters Tower**	**20.14**	**249**	P	Pn	12 28 09.4	+0.2
	8.2nm,1.1s,baz=80,slow=12,SNR=8.2						
RMQ	**Roma**	**20.70**	**230**	P	Pn	12 28 16.2	+0.4
	baz=20,SNR=16						
AFI	**Afiamalu**	**21.30**	**93**	LR	LR	12 34 25.1	
	comp=Z,427nm,20.8s,baz=283,slow=31						
QLP	**Quilpie**	**24.24**	**235**	P	**P**	**12 28 51.6**	**+2.2**
	baz=23,SNR=7.1						
CMSA	**Cobar Meteorol**	**25.85**	**224**	P	**P**	**12 29 05.7**	**+1.7**
	baz=25,SNR=5.4						
URZ	**Urewera**	**26.18**	**160**	LR	LR	12 37 42.6	
	comp=Z,211nm,18.8s,baz=134,slow=33						
STKA	**Stephens Creek**	**28.89**	**227**	P	**P**	**12 29 32.8**	**+1.6**
	baz=28,SNR=8.2						
STKA	**Stephens Creek**	**28.89**	**227**	P	**P**	**12 29 32.7**	**+1.5**
	6.8nm,0.9s,baz=50,slow=9.2,SNR=14						
STKA				LR	LR	12 41 13.2	
	comp=Z,491nm,18.3s,baz=36,slow=37						
WRA	**Warramunga Arr**	**31.14**	**254**	P	**P**	**12 29 50.7**	**-0.6**
	2.3nm,0.6s,baz=86,slow=9.7,SNR=30						
WRA				LR	LR	12 41 50.4	
	comp=Z,322nm,20.2s,baz=95,slow=35						
ASAR	**Alice Springs**	**32.13**	**247**	P	**P**	**12 29 59.3**	**-0.7**
	3.5nm,0.7s,baz=75,slow=9.5,SNR=46						
ASAR				LR	LR	12 43 03.1	
	comp=Z,224nm,21.4s,baz=37,slow=36						
KDU	**Kakadu**	**32.92**	**268**	P	**P**	**12 30 06.3**	**-0.6**
	baz=32,SNR=7.0						
RAR	**Rarotonga**	**33.15**	**108**	LR	LR	12 40 46.9	
	comp=Z,320nm,19.1s,baz=270,slow=32						
BBOO	**Buckleboo**	**33.41**	**230**	P	**P**	**12 30 12.4**	**+1.4**
	baz=33,SNR=8.8						
KNRA	**Kununurra**	**36.30**	**262**	P	**P**	**12 30 36.4**	**+0.2**
	baz=35,SNR=5.0						
FITZ	**Fitzroy Crossi**	**39.26**	**258**	P	**P**	**12 31 01.7**	**+0.6**
	baz=38,SNR=7.0						
FITZ	**Fitzroy Crossi**	**39.26**	**258**	P	**P**	**12 31 01.1**	**-0.1**
	5.8nm,0.8s,baz=82,slow=7.8,SNR=16						
FITZ				LR	LR	12 47 35.0	
	comp=Z,309nm,18.2s,baz=87,slow=37						
BATI	**Baumata**	**41.80**	**270**	LR	LR	12 49 12.6	
	comp=Z,303nm,18.5s,baz=158,slow=37						
PPT2	**Papeete2**	**42.59**	**101**	*e*S	S	12 38 02.4	+14
	75nm,23.0s						
PPT2				*e*LQ	LQ	12 41 36.3	
	316nm,27.8s						
PPT2				*e*LR	LR	12 43 16.5	
	378nm,27.2s						
PPT	**Papeete**	**42.59**	**101**	LR	LR	12 45 04.9	
	comp=Z,137nm,20.0s,baz=342,slow=30						
TBI	**Tubuai**	**42.87**	**109**	*e*S	**S**	**12 37 55.4**	**+2.8**
	80nm,28.5s						
TBI				*e*LR	LR	12 43 37.2	
	337nm,25.5s						
MEEK	**Meekatharra**	**46.27**	**246**	P	**P**	**12 31 58.7**	**+0.7**
	baz=45,SNR=9.0						
NWAO	**Narrogin (SRO)**	**48.41**	**238**	LR	LR	12 53 19.4	
	comp=Z,204nm,19.5s,baz=74,slow=37						
JNU	**Nakatsue**	**57.62**	**325**	LR	LR	12 57 06.1	
	comp=Z,43nm,18.1s,baz=67,slow=35						
ASAJ	**Asahikawa**	**61.56**	**341**	P	**P**	**12 33 49.7**	**+0.6**
	7.8nm,0.7s,baz=110,slow=26,SNR=5.5						
VNDA	**Vanda**	**63.76**	**181**	P	**P**	**12 34 03.5**	**+0.1**
	1.8nm,0.9s,baz=349,slow=8.2,SNR=10.0						
USRK	**Ussuriysk Arra**	**65.64**	**334**	P	**P**	**12 34 17.2**	**+1.1**
	2.2nm,0.8s,baz=131,slow=11,SNR=2.9						
PETK	**Petropavlovsk-**	**67.05**	**354**	P	**P**	**12 34 24.9**	**0.0**
	1.0nm,0.6s,baz=173,slow=7.4,SNR=4.5						
CMAR	**Chiang Mai Arr**	**73.70**	**294**	P	**P**	**12 35 07.7**	**+1.4**
	2.5nm,0.8s,baz=127,slow=5.8						
SONM	**Songino Array**	**81.19**	**324**	P	**P**	**12 35 48.0**	**+0.2**
	0.8nm,0.6s,baz=140,slow=5.6,SNR=7.0						
MAW	**Mawson**	**82.38**	**202**	P	**P**	**12 35 53.6**	**+0.1**
	1.5nm,1.0s,baz=112,slow=5.4,SNR=3.8						
YBH	**Yeka Blue Hor**	**85.44**	**45**	LR	LR	13 06 40.2	
	comp=Z,80nm,18.9s,baz=338,slow=30						
ILAR	**Eielson Array**	**85.95**	**18**	P	**P**	**12 36 09.3**	**-2.3**
	0.8nm,0.6s,baz=242,slow=5.4,SNR=12						
NVAR	**Mina Array Bea**	**87.40**	**50**	P	**P**	**12 36 19.5**	**0.0**
	0.4nm,0.8s,baz=246,slow=3.8,SNR=2.3						
SNAA	**Sanae**	**94.41**	**183**	*e*P	**P**	**12 36 50.7**	**-0.8**
VNA2	**Neumayer--Watz**	**95.37**	**182**	*e*P	**P**	**12 36 55.7**	**-0.1**
	baz=174,slow=4.2						
MKAR	**Makanchi Array**	**95.88**	**317**	P	**P**	**12 36 59.0**	**+0.5**
	1.9nm,0.7s,baz=95,slow=6.2,SNR=22						
ZALV	**Zalesovo Beam**	**96.09**	**324**	P	**P**	**12 36 58.6**	**-0.6**
	1.6nm,0.6s,baz=111,slow=5.9,SNR=6.9						
ARCES	**ARCESS Array B**	**119.12**	**345**	PKP	**PKPdf**	**12 42 19.0**	**-1.0**
	3.3nm,0.7s,baz=75,slow=1.0,SNR=6.6						
NB2	**NORSAR Subarra**	**129.49**	**345**	PKPdf	**PKPdf**	**12 42 39.1**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**129.49**	**345**	PKP	**PKPdf**	**12 42 39.6**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=38,slow=2.0,SNR=3.8						
GERES	**GERESS Array B**	**139.39**	**333**	PKP	**PKPdf**	**12 42 57.4**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=35,slow=3.7,SNR=2.4						
KEST	**Kesra**	**149.89**	**321**	PKPbc	**PKPbc**	**12 43 22.8**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=358,slow=2.8,SNR=5.3						
ESDC	**Sonseca Array**	**152.84**	**343**	PKPbc	**PKPbc**	**12 43 29.1**	**0.0**
	comp=Z,0.4nm,0.6s,baz=9.4,slow=2.5,SNR=4.5						
ESDC				PKPab	**PKPab**	**12 43 39.1**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=12,slow=4.0,SNR=7.2						
TORD	**Torodi Ar. Bea**	**165.00**	**269**	PKP	**PKPdf**	**12 43 36.4**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=96,slow=0.7,SNR=2.8						

IDC 10 12:29:53.3±1.1, 12°.14S×165°.42E, h0km, mb4.1/9, mb1 4.2/11, mb1mx4.0/21, mbtmp4.1/11, ML3.9/2, Error ellipse: s-maj=30.1km s-min=21.7km az=135.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.01**	**296**	Pn	Pn	12 31 25.5	+1.9
	5.6nm,0.3s,baz=135,slow=1.4,SNR=2.9						
HNR				Sn	Sn	12 32 34.4	+1.2
	baz=234,slow=19,SNR=3.2						
DZM	**Mont Dzumac**	**9.92**	**174**	*e*LR	LR	12 34 25.7	
	184nm,24.6s						
DZM	**Mont Dzumac**	**9.92**	**174**	Pn	Pn	12 32 18.4	+1.0
	0.5nm,0.3s,baz=99,slow=19,SNR=6.8						
STKA	**Stephens Creek**	**29.44**	**224**	P	P	12 35 59.3	+0.5
	2.1nm,0.8s,baz=67,slow=6.2,SNR=3.0						
WRA	**Warramunga Arr**	**30.82**	**251**	P	P	12 36 11.3	0.0
	2.3nm,0.7s,baz=79,slow=8.9,SNR=10						
ASAR	**Alice Springs**	**32.03**	**245**	P	P	12 36 21.1	-0.8
	0.7nm,0.6s,baz=69,slow=9.6,SNR=13						
FITZ	**Fitzroy Crossi**	**38.80**	**256**	P	P	12 37 19.3	-0.8
	1.8nm,0.8s,baz=102,slow=8.5,SNR=3.5						
SONM	**Songino Array**	**79.36**	**324**	P	P	12 42 01.6	+0.4
	0.5nm,0.8s,baz=141,slow=4.8,SNR=4.2						
ILAR	**Eielson Array**	**84.65**	**19**	P	P	12 42 28.1	-0.4
	0.9nm,0.7s,baz=247,slow=4.7,SNR=9.7						
NVAR	**Mina Array Bea**	**86.97**	**50**	P	P	12 42 41.1	+0.2
	0.3nm,0.8s,baz=232,slow=6.7,SNR=4.0						
MKAR	**Makanchi Array**	**94.10**	**317**	P	P	12 43 14.2	+0.3
	1.4nm,0.8s,baz=97,slow=6.3,SNR=8.4						
ZALV	**Zalesovo Beam**	**94.25**	**324**	P	P	12 43 13.5	-0.8
	0.4nm,0.4s,baz=106,slow=3.1,SNR=4.0						
TORD	**Torodi Ar. Bea**	**164.09**	**275**	PKPab	PKPab	12 50 53.1	0.0
	1.0nm,1.1s,baz=94,slow=4.8,SNR=3.7						

IDC 10 12:37:24.7±2.0, 13°.91S×166°.41E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/20, mbtmp3.6/5, ML3.3/1, Error ellipse: s-maj=50.7km s-min=35.5km az=132.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.11**	**180**	Pn	Pn	12 39 23.8	-0.2
	0.4nm,0.3s,baz=204,slow=20,SNR=2.7						
WRA	**Warramunga Arr**	**31.23**	**254**	P	P	12 43 46.3	0.0
	0.5nm,0.8s,baz=86,slow=9.8,SNR=6.5						
ASAR	**Alice Springs**	**32.20**	**248**	P	P	12 43 55.0	+0.2
	0.4nm,0.6s,baz=76,slow=9.4,SNR=8.9						
FITZ	**Fitzroy Crossi**	**39.36**	**258**	P	P	12 44 56.0	-0.3
	1.3nm,1.0s,baz=97,slow=8.1,SNR=3.6						
ILAR	**Eielson Array**	**86.01**	**18**	P	P	12 50 06.7	-0.1
	0.3nm,0.5s,baz=209,slow=7.2,SNR=2.9						

ISC 10 12:41:50.9±1.5, 42°.6N±0°.1×43°.45E±0°.05, h9km±6km, n7, σ1§20/14, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.02**	**168**	P	**Pg**	**12 41 52.6**	**-0.1**
ONI				S	**Sg**	**12 41 54.1**	**+0.2**
CHVG	**Ch'k'valeri**	**1.01**	**277**	P	**Pg**	**12 42 10.2**	**-0.1**
CHVG				S	**Sg**	**12 42 24.3**	**+0.9**
AKH	**Akhalkalaki**	**1.20**	**178**	P	**Pn**	**12 42 12.5**	**-1.5**
AKH				S	**Sb**	**12 42 28.2**	**-1.4**
TBLG	**Delisi**	**1.30**	**132**	P	**Pn**	**12 42 14.4**	**-0.8**
TBLG				S	**Sb**	**12 42 32.0**	**-0.3**
ARTV	**Artvin**	**1.82**	**219**	*i* P	**Pn**	**12 42 22.4**	**-0.1**
ARTV				*i* S	**Sn**	**12 42 46.4**	**+0.5**
DGRG	**David-gareji**	**1.84**	**128**	P	**Pb**	**12 42 24.5**	**-0.2**
DGRG				S	**Sg**	**12 42 52.8**	**+2.7**
DAGI	**Agillar**	**1.91**	**217**	*i* P	**Pn**	**12 42 23.6**	**-0.1**
DAGI				*i* S	**Sn**	**12 42 49.1**	**+1.2**

*IDC **10** 12:42:31.4±1.2, 11°.83S×165°.80E, h0km, mb4.1/6, mb1 4.1/8, mb1mx3.9/20, mbtmp4.1/8, ML4.0/2, MS3.9/8, Ms1 3.9/8, ms1mx3.6/23, Error ellipse: s-maj=32.9km s-min=27.1km az=129.0*

*ISCJB **10** 12:42:34.8±0.8, 11°.95S±0°.1×165°.68E±0°.08, h30km, mb4.0/6, MS3.9/7, Error ellipse: s-maj=18.7km s-min=8.7km az=29.3*

ISC 10 12:42:36.2±0.8, 11°.8S±0°.1×165°.8E±0°.1, h30km, n21, σ0§80/15, mb4.0/6, MS3.9/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.21**	**292**	Pn	**Pn**	**12 44 06.3**	**+0.4**
	5.7nm,0.3s,baz=49,slow=20,SNR=3.1						
HNR				Sn	**Sn**	**12 45 15.9**	**0.0**
	3.8nm,0.3s,baz=0.0,slow=20,SNR=4.8						
DZM	**Mont Dzumac**	**10.22**	**177**	*e*Pn	**Pn**	**12 45 01.9**	**+0.9**
	4.1nm,0.3s						
DZM				*e*LR	LR	12 47 09.6	
	454nm,23.2s						
DZM	**Mont Dzumac**	**10.22**	**177**	Pn	**Pn**	**12 45 01.0**	**-0.1**
	0.9nm,0.3s,baz=3.2,slow=20,SNR=13						
DZM				LR	LR	12 47 37.1	
	comp=Z,204nm,18.6s,baz=17,slow=30						
AFI	**Afiamalu**	**21.97**	**98**	LR	LR	12 54 25.1	
	comp=Z,248nm,18.1s,baz=281,slow=32						
STKA	**Stephens Creek**	**29.93**	**224**	LR	LR	13 00 56.2	
	comp=Z,254nm,19.2s,baz=25,slow=37						
WRA	**Warramunga Arr**	**31.27**	**251**	P	**P**	**12 48 52.7**	**-1.0**
	1.1nm,0.6s,baz=84,slow=9.1,SNR=20						
WRA				LR	LR	13 00 17.9	
	comp=Z,115nm,18.8s,baz=65,slow=34						
ASAR	**Alice Springs**	**32.50**	**244**	P	**P**	**12 49 03.3**	**-1.2**
	1.3nm,0.8s,baz=65,slow=9.6,SNR=14						
ASAR				LR	LR	13 02 02.8	
	comp=Z,247nm,21.4s,baz=100,slow=36						
FITZ	**Fitzroy Crossi**	**39.23**	**256**	P	**P**	**12 50 02.6**	**+0.4**
	3.9nm,1.1s,baz=84,slow=9.2,SNR=3.8						
PPT	**Papeete**	**43.48**	**103**	LR	LR	13 07 09.3	
	comp=Z,155nm,18.1s,baz=168,slow=34						
PPT2	**Papeete2**	**43.48**	**103**	*e*S	**S**	**12 57 03.8**	**-0.5**
	39nm,24.8s						
PPT2				*e*LQ	LQ	13 00 56.5	
	298nm,27.8s						
PPT2				*e*LR	LR	13 02 24.8	
	208nm,27.2s						
PPT2	**Papeete2**	**43.48**	**103**	*e*LR	LR	12 50 22.4	
	96nm,25.2s						
TBI	**Tubuai**	**44.01**	**111**	*e*S	**S**	**12 57 12.4**	**+0.6**
	84nm,31.8s						
TBI				*e*LQ	LQ	13 00 58.8	
	169nm,29.5s						
TBI				*e*LR	LR	13 02 55.6	
	143nm,25.2s						
RKT	**Rikitea**	**57.29**	**110**	*e*LR	LR	13 08 49.3	
	175nm,38.5s						
ASAJ	**Asahikawa**	**59.52**	**341**	LR	LR	13 13 37.0	
	comp=Z,67nm,21.2s,baz=332,slow=31						
SONM	**Songino Array**	**79.30**	**324**	P	**P**	**12 54 39.8**	**+0.7**
	0.6nm,0.8s,baz=132,slow=6.0,SNR=5.9						
MKAR	**Makanchi Array**	**94.10**	**317**	P	**P**	**12 55 52.4**	**+0.4**
	1.2nm,0.8s,baz=89,slow=5.4,SNR=11						
ZALV	**Zalesovo Beam**	**94.20**	**324**	P	**P**	**12 55 51.9**	**-0.2**
	0.3nm,0.3s,baz=115,slow=5.4,SNR=4.3						
TXAR	**Lajitas Array**	**96.15**	**61**	LR	LR	13 36 05.0	
	comp=Z,125nm,18.5s,baz=210,slow=33						
ARCES	**ARCESS Array B**	**117.08**	**345**	PKP	**PKPdf**	**13 01 16.4**	**-1.4**
	3.3nm,0.8s,baz=64,slow=2.1,SNR=6.1						
KEST	**Kesra**	**148.04**	**322**	PKPbc	**PKPbc**	**13 02 19.9**	**+0.6**
	3.0nm,1.1s,baz=298,slow=3.6,SNR=4.5						
ESDC	**Sonseca Array**	**150.80**	**344**	PKPbc	**PKPbc**	**13 02 25.3**	**-0.8**
	0.1nm,0.3s,baz=27,slow=2.6,SNR=3.0						

IDC 10 12:50:46.7±1.1, 12°.67S×165°.76E, h0km, mb4.1/6, mb1 4.2/8, mb1mx4.0/19, mbtmp4.1/8, ML3.9/2, MS3.1/1, Ms1 3.1/1, ms1mx3.0/20, Error ellipse: s-maj=36.7km s-min=25.9km az=127.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.55**	**299**	Pn	Pn	12 52 24.2	-0.1
	11nm,0.3s,baz=173,slow=12,SNR=6.5						
HNR				Sn	Sn	12 53 31.4	-8.3
	8.4nm,0.3s,baz=192,slow=19,SNR=3.0						
DZM	**Mont Dzumac**	**9.37**	**176**	Pn	Pn	12 53 03.5	+0.3
	0.2nm,0.3s,baz=318,slow=18,SNR=1.8						
DZM				Sn	Sn	12 54 43.9	-5.6
	baz=90,slow=20,SNR=5.4						
AFI	**Afiamalu**	**21.90**	**96**	LR	LR	13 03 01.1	
	comp=Z,53nm,19.8s,baz=142,slow=34						
WRA

BOQS	**Boqueron**	**1.48**	**45**	*e*P		Pn	13 38 14.5	+0.4
LFRS	**El Faro**	**1.57**	**54**	*e*P		Pn	13 38 15.8	+0.6
PCG	**Pacaya**	**1.71**	**352**	*e*P		Pn	13 38 16.5	-0.8
FUG	**Fuego 3**	**1.81**	**345**	*e*P		Pn	13 38 17.8	-0.8
NBG	**Las Nubes**	**1.89**	**0**	*e*P		Pn	13 38 20.9	+1.1
MRL	**Marmol**	**2.45**	**15**	*e*P		Pn	13 38 28.4	+1.0

IDC 10 13:39:20.0±1.0, 16°03S×172°85W, h0km, mb3.9/6, mb1 4.3/6, mb1mx4.0/20, mbtmp3.9/6, Error ellipse: s-maj=58.0km s-min=22.4km az=153.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.35**	**26**	Pn	Pn	13 39 54.2	-5.8
	17nm,0.3s,baz=337,slow=1.8,SNR=16						
AFI				Sn	Sn	13 40 17.1	-12
	43nm,0.3s,baz=166,slow=19,SNR=8.9						
WRA	**Warramunga Arr**	**50.22**	**257**	P	P	13 48 18.3	+0.1
	1.4nm,0.9s,baz=90,slow=6.6,SNR=15						
ASAR	**Alice Springs**	**50.43**	**252**	P	P	13 48 19.7	-0.1
	1.7nm,0.7s,baz=87,slow=8.4,SNR=15						
NVAR	**Mina Array Bea**	**74.44**	**42**	P	P	13 51 00.8	+0.3
	0.7nm,0.7s,baz=232,slow=8.9,SNR=6.0						
TXAR	**Lajitas Array**	**80.52**	**56**	P	P	13 51 35.5	+1.0
	0.2nm,0.5s,baz=262,slow=6.3,SNR=4.1						
PDAR	**Pinedale Array**	**82.38**	**42**	P	P	13 51 44.4	+0.1
	0.3nm,0.3s,baz=207,slow=3.7,SNR=3.6						
ILAR	**Eielson Array**	**82.96**	**11**	P	P	13 51 45.8	-0.7
	1.1nm,0.7s,baz=224,slow=6.5,SNR=18						
TORD	**Torodi Ar. Bea**	**173.99**	**118**	PKPab	PKPab	14 01 02.4	-1.1
	0.5nm,0.9s,baz=237,slow=4.5,SNR=3.1						

IDC 10 14:05:28.0±7.1, 3°27N×127°36E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.5/22, mbtmp3.9/3, Error ellipse: s-maj=144.1km s-min=113.1km az=77.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.06**	**164**	P	P	14 10 44.1	-1.1
	2.3nm,0.6s,baz=344,slow=10,SNR=27						
ASAR	**Alice Springs**	**27.52**	**167**	P	P	14 11 17.0	+0.4
	0.5nm,0.6s,baz=347,slow=7.8,SNR=11						
STKA	**Stephens Creek**	**37.48**	**160**	P	P	14 12 44.1	+0.6
	1.9nm,0.6s,baz=330,slow=8.7,SNR=4.1						
H11N1	**WAKE ISLAND Hy**	**41.88**	**64**	T	T	14 57 27.8	
	baz=252,slow=0.7,SNR=17						
H11N2	**WAKE ISLAND Hy**	**41.90**	**64**	T	T	14 57 37.7	
	baz=252,slow=0.7,SNR=6.4						
H11N3	**WAKE ISLAND Hy**	**41.90**	**64**	T	T	14 57 34.4	
	baz=252,slow=0.7,SNR=12						

IDC 10 14:13:55.4±1.1, 12°96S×166°60E, h0km, mb4.1/9, mb1 4.2/9, mb1mx4.1/17, mbtmp4.1/9, MS3.6/1, Ms1 3.6/1, ms1mx3.3/28, Error ellipse: s-maj=38.5km s-min=22.8km az=115.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.41**	**298**	Pn	Pn	14 15 49.1	+4.2
	57nm,0.3s,baz=194,slow=4.1,SNR=26						
HNR				Sn	Sn	14 17 08.3	-1.5
	9.3nm,0.3s,baz=66,slow=20,SNR=2.3						
DZM	**Mont Dzumac**	**9.07**	**181**	Pn	Pn	14 16 12.4	+4.6
	1.0nm,0.3s,baz=217,slow=21,SNR=15						
DZM				Sn	Sn	14 17 56.7	+5.9
	baz=210,slow=20,SNR=1.6						
DZM				LR	LR	14 18 36.8	
	comp=Z,322nm,19.2s,baz=198,slow=31						
STKA	**Stephens Creek**	**29.69**	**227**	P	P	14 20 04.2	+1.0
	1.9nm,0.8s,baz=57,slow=6.8,SNR=3.5						
WRA	**Warramunga Arr**	**31.67**	**253**	P	P	14 20 20.5	-0.4
	1.4nm,0.9s,baz=86,slow=9.1,SNR=9.3						
ASAR	**Alice Springs**	**32.74**	**246**	P	P	14 20 30.0	-0.3
	2.1nm,0.8s,baz=74,slow=9.5,SNR=26						
ASAR				PcP	PcP	14 23 15.4	-0.6
	0.4nm,0.5s,baz=71,slow=2.3,SNR=5.5						
KSRS	**Korea Array**	**61.92**	**326**	P	P	14 24 17.3	+0.3
	1.6nm,0.9s,baz=130,slow=6.5,SNR=5.5						
VNDA	**Vanda**	**64.61**	**181**	P	P	14 24 34.4	+0.1
	1.3nm,0.9s,baz=356,slow=5.6,SNR=4.0						
SONM	**Songino Array**	**80.69**	**324**	P	P	14 26 11.2	+0.6
	1.4nm,0.7s,baz=130,slow=4.6,SNR=10						
ILAR	**Eielson Array**	**85.05**	**18**	P	P	14 26 33.4	+0.7
	0.8nm,0.6s,baz=238,slow=4.8,SNR=12						
MKAR	**Makanchi Array**	**95.48**	**317**	P	P	14 27 21.7	-0.6
	1.0nm,0.7s,baz=117,slow=5.0,SNR=9.7						
ZALV	**Zalesovo Beam**	**95.59**	**324**	P	P	14 27 21.5	-1.0
	0.7nm,0.8s,baz=141,slow=5.7,SNR=4.3						
ARCES	**ARCESS Array B**	**118.38**	**345**	PKP	PKPdf	14 32 42.6	-1.8
	4.0nm,0.9s,baz=39,slow=3.7,SNR=3.2						
TORD	**Torodi Ar. Bea**	**165.29**	**272**	PKPab	PKPab	14 35 00.7	+0.2
	0.9nm,0.7s,baz=75,slow=4.9,SNR=8.5						

KRSC 10 14:17:25.2±1.0, 55°19N×160°33E, h7km±11km, ML3.5, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUMR	**Tumrok**	**0.14**	**312**	*e*P	Pg	14 17 29.5	+1.2
TUMR				*i* S	Sg	14 17 32.7	+2.2
KMNR	**Kamenistaya**	**0.57**	**355**	*e*P	Pb	14 17 37.6	-0.1
KMNR				*i* S	Sn	14 17 48.2	-1.5
BZMR	**Bezymyannaya**	**0.75**	**7**	*e*P	Pb	14 17 41.4	+0.6
BZMR				*i* S	Sn	14 17 53.7	-0.6
KIRR	**Kirishev**	**0.77**	**1**	*e*P	Pb	14 17 41.1	0.0
KIRR				*i* S	Sn	14 17 54.2	-0.4
BZGR	**Bezymyannyi-Gr**	**0.78**	**15**	*e*P	Pb	14 17 41.6	+0.3
BZGR				*i* S	Sn	14 17 53.9	-1.0
KPT	**Kopyto**	**0.78**	**356**	*e*P	Pb	14 17 41.8	+0.6
KPT				*i* S	Sn	14 17 54.7	-0.1
BZWR	**Bezymyannyi-We**	**0.78**	**7**	*e*P	Pn	14 17 42.2	-0.7
BZWR				*i* S	Sn	14 17 55.2	+0.2
ZLN	**Zelenaya**	**0.87**	**18**	*e*P	Pn	14 17 44.3	+0.3
ZLN				*i* S	Sn	14 17 59.1	+2.0
KOZ	**Kozyrevsk**	**0.91**	**344**	*e*P	Pn	14 17 44.0	-0.4
KOZ				*i* S	Sn	14 17 59.7	+1.9
LGNR	**Loginova**	**0.92**	**13**	*e*P	Pn	14 17 45.6	+0.7
LGNR				*i* S	Sn	14 18 01.2	+2.6
CIRR	**Tsirk**	**0.96**	**14**	*e*P	Pn	14 17 45.9	+0.6
CIRR				*i* S	Sn	14 18 01.5	+2.2
MKZ	**Mys Kozlova**	**1.03**	**128**	*e*P	Pg	14 17 43.9	-1.0
MKZ				*i* S	Sg	14 17 57.8	-0.4
KRSR	**Krestovskiy**	**1.04**	**7**	*e*P	Pn	14 17 46.1	-0.2
KRSR				*i* S	Sn	14 18 03.0	+1.8
KLY	**Klyuchi**	**1.14**	**9**	*e*P	Pn	14 17 47.9	+0.3
KLY				*i* S	Sn	14 18 06.1	+2.7
SRDR	**Sredinnyy**	**1.18**	**343**	*e*P	Pn	14 17 48.4	+0.2
SRDR				*i* S	Sn	14 18 05.9	+1.2
ESO	**Esso**	**1.18**	**309**	*e*P	Pg	14 17 47.5	-0.5
ESO				*i* S	Sn	14 18 05.0	+0.4
KII	**Karymskiy**	**1.27**	**204**	*e*P	Pg	14 17 49.6	0.0
BDR	**Baidarnaya**	**1.47**	**19**	*e*P	Pg	14 17 54.0	+0.5
BDR				*i* S	Sg	14 18 16.7	+4.1
SMKR	**Semkarok**	**1.54**	**24**	*e*P	Pg	14 17 55.5	+0.7
SMKR				*i* S	Sg	14 18 18.0	+3.2
KBTR	**Krutoberegovo**	**1.74**	**53**	*e*P	Pb	14 17 56.9	-0.5
GNL	**Ganaly**	**2.05**	**224**	*e*P	Pb	14 18 01.7	-1.1
GNL				*i* S	Sb	14 18 29.5	+0.9
KRX	**Arik**	**2.08**	**209**	*e*P	Pb	14 18 02.4	-1.1
SDLR	**Sedlovina**	**2.10**	**204**	*e*P	Pb	14 18 02.7	-1.0
SDLR				*i* S	Sg	14 18 31.5	-1.3
KRER	**Koryakskii**	**2.10**	**207**	*e*P	Pb	14 18 03.4	-0.6
SMAR	**Somma**	**2.13**	**206**	*e*P	Pb	14 18 03.4	-1.0
SMAR				*i* S	Sg	14 18 33.1	-1.0
AVH	**Avacha**	**2.14**	**206**	*e*P	Pb	14 18 03.9	-0.5
KOK	**Koryaka**	**2.15**	**208**	*e*P	Pb	14 18 04.6	+0.1
UGLR	**Uglovaya**	**2.17**	**205**	*e*P	Pb	14 18 05.2	+0.2
PET	**Petropavlovsk**	**2.38**	**205**	*e*P	Pb	14 18 08.4	0.0
PET				*i* S	Sg	14 18 40.9	-0.8
APC	**Apacha**	**2.94**	**221**	*e*P	Pn	14 18 14.6	+2.3
RUS	**Russkaya**	**2.96**	**202**	*e*P	Pn	14 18 13.6	+1.0
RUS				*i* S	Sn	14 18 51.0	+2.6
MTVR	**Mutnovka**	**3.00**	**206**	*e*P	Pb	14 18 18.5	-0.5
ASAK	**Asacha**	**3.16**	**208**	*e*P	Pb	14 18 20.6	-1.2

*IDC **10** 14:25:10.6±0.3, 14°12S×166°73E, h0km, mb5.3/22, mb1 5.4/25, mb1mx5.4/25, mbtmp5.3/25, ML4.6/3, MS5.5/27, Ms1 5.5/27, ms1mx5.4/33, Error ellipse: s-maj=12.7km s-min=11.0km az=125.0*

*ISCJB **10** 14:25:12.7±1.4, 14°14S±0°03×166°71E±0°02, h19km±9km, mb5.7/190, MS5.6/188, Error ellipse: s-maj=5.3km s-min=3.6km az=172.7*

*NEIC **10** 14:25:15.8±0.2, 14°12S×166°69E, h35km, mb5.6/86, MS5.7/131, MW5.7, MW5.8, Error ellipse: s-maj=6.2km s-min=5.1km az=151.0, Moment Tensor Solution. s10 Moment tensor: Scale 10^{17}Nm; M_{rr}=3.37; $M_{\theta\theta}$=0.31; $M_{\phi\phi}$=-3.06; $M_{r\theta}$=0.18; $M_{\theta\phi}$=1.10; $M_{\phi r}$=1.79; Best double couple: M_0=3.90000×10^{17} NP1:ϕ_s172.00000°, δ59.00000°, λ102.00000°. NP2:ϕ_s330.00000°, δ33.00000°, λ71.00000°. Principal axes: T 3.8900, Plg73.0000°, Azm112.0000°; N -0.0600, Plg10.0000°, Azm345.0000°; P -3.8200, Plg13.0000°, Azm253.0000°;*

*MOS **10** 14:25:15.3±1.2, 14°13S×166°57E, h33km, mb6.1/49, MS5.5/35 Error ellipse: s-maj=7.9km s-min=7.2km az=34.8*

*BJI **10** 14:25:17.5, 13°66S×166°63E, h37km, mB5.9/52, mb5.7/66, Ms5.5/60, Ms7 5.2/61*

*GCMT **10** 14:25:19.3±0.1, 14°18S×166°51E, h25km, MW5.8, Moment Tensor Solution. s113,c237; s78,c102; Moment tensor: Scale 10^{17}Nm; M_{rr}=5.68±.05; $M_{\theta\theta}$=0.48±.04; $M_{\phi\phi}$=-6.16±.05; $M_{r\theta}$=2.72±.11; $M_{\theta\phi}$=1.91±.04; $M_{\phi r}$=-2.26±.10; Best double couple: M_0=7.20000×10^{17} NP1:ϕ_s147.00000°, δ60.00000°, λ70.00000°. NP2:ϕ_s4.00000°, δ35.00000°, λ121.00000°. Principal axes: T 6.9900, Plg68.0000°, Azm17.0000°; N 0.3500, Plg17.0000°, Azm158.0000°; P -7.3400, Plg13.0000°, Azm252.0000°; Data Used: ll IU CN IC G. Surface waves: sta=116, comp=239, per= 50.*

*AUST **10** 14:25:21.4±1.4, 14°28S×166°53E, h59km±17km Error ellipse: s-maj=9.9km s-min=9.0km az=70.0*

*DJA **10** 14:25:22.2±1.2, 14°S±°×16°7E±°, h66km±12km, M5.9/61, mb5.8/61, mB6.2/47, Mw(mB)5.9/47, Mwp5.8/2*

*NEIC **10** 14:25:35.3±0.0, 13°92S×166°44E, h27km, Moment Tensor Solution. s123 Moment tensor: Scale 10^{17}Nm; M_{rr}=7.06; $M_{\theta\theta}$=1.03; $M_{\phi\phi}$=-6.03; $M_{r\theta}$=0.81; $M_{\theta\phi}$=1.51; $M_{\phi r}$=-1.36; Best double couple: M_0=6.90000×10^{17} NP1:ϕ_s161.00000°, δ51.00000°, λ86.00000°. NP2:ϕ_s347.00000°, δ39.00000°, λ95.00000°. Principal axes: T 7.2500, Plg82.0000°, Azm49.0000°; N -0.6300, Plg2.0000°, Azm163.0000°; P -6.6200, Plg6.0000°, Azm253.0000°;*

ISC 10 14:25:17.4±0.3, 14°22S±0°04×166°73E±0°04, h45km±1km, h44km:pP-P,n1070,c1958/1074, mb5.7/190, MS5.6/189, 116C-104D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.82**	**182**	*e*Pn	Pn	**14 27 08.3**	**-0.5**
	1μm,1.2s						
DZM				*e*Sn	Sn	**14 28 36.8**	**+0.8**
	980nm,0.9s						
DZM				*e*LR	LR	14 28 57.1	
	53μm,24.8s						
DZM	**Mont Dzumac**	**7.82**	**182**	Pn	Pn	**14 27 07.7**	**-1.0**
	14nm,0.7s						
DZM				Sn	Sn	**14 28 35.8**	**-0.3**
DZM	**Mont Dzumac**	**7.82**	**182**	Pn	Pn	**14 27 07.7**	**-1.0**
	12nm,0.3s,baz=18,slow=18,SNR=59						
DZM				Sn	Sn	**14 28 35.8**	**-0.3**
	19nm,0.3s,baz=132,slow=24,SNR=4.6						
HNR	**Honiara**	**8.16**	**305**	Pn	Pn	**14 27 11.0**	**-2.5**
HNR				Sn	Sn	**14 28 42.1**	**-2.4**
HNR	**Honiara**	**8.16**	**305**	Pn	Pn	**14 27 11.0**	**-2.5**
	69nm,0.3s,baz=128,slow=3.8,SNR=28						
HNR				Sn	Sn	**14 28 42.1**	**-2.4**
	65nm,0.3s,baz=343,slow=19,SNR=5.4						
HNR				LR	LR	14 30 00.6	
	comp=Z,26μm,20.0s,baz=139,slow=36						
MSVF	**Nonsavu**	**11.43**	**109**	*e*P	Pn	**14 28 00.8**	**+2.5**
MSVF				pmax	pmax		
	comp=Z,1μm,1.8s						
MSVF	**Nonsavu**	**11.43**	**109**	Pn	Pn	14 28 04.9	+6.6
	comp=Z,2μm,1.4s,SNR=22						
MSVF	**Nonsavu**	**11.43**	**109**	*e*Pn	Pn	**14 28 00.8**	**+2.5**
	comp=Z,1μm,1.8s						
TARA	**Tarawa**	**16.64**	**22**	*e*Pn	Pn	14 28 59.3	-8.3
	comp=Z,667nm,1.0s						
EIDS	**Eidsvold**	**18.42**	**231**	*e*Pn	P	**14 29 28.0**	**-1.1**
	comp=Z,342nm,1.3s						
EIDS	**Eidsvold**	**18.42**	**231**	⇓P	Pn	**14 29 29.8**	**+0.3**
	baz=18,SNR=13						
PMG	**Port Moresby**	**19.74**	**282**	P	Pn	**14 29 46.3**	**+0.9**
	comp=Z,399nm,1.4s,comp=Z,4μm						
PMG	**Port Moresby**	**19.74**	**282**	P	P	**14 29 41.9**	**-1.8**
	comp=Z,34nm,1.3s						
PMG				S	Sn	**14 33 28.1**	**+1.6**
PMG	**Port Moresby**	**19.74**	**282**	P	P	**14 29 41.9**	**-1.8**
	comp=Z,0.9nm,0.3s,baz=99,slow=7.0,SNR=20						
PMG				S	Sn	**14 33 28.1**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=131,slow=19,SNR=2.3						
PMG				LR	LR	14 36 15.1	
	comp=Z,17μm,18.9s,baz=94,slow=34						
CTA	**Charters Tower**	**20.41**	**251**	P	P	**14 29 50.6**	**-0.3**
CTA				S	Sn	14 33 41.5	-1.1
CTA	**Charters Tower**	**20.41**	**251**	⇓P	P	**14 29 51.1**	**+0.2**
	baz=20						
CTA	**Charters Tower**	**20.41**	**251**	P	P	**14 29 50.6**	**-0.3**
	comp=Z,198nm,1.1s,baz=75,slow=13,SNR=49						
CTA				S	Sn	14 33 41.5	-1.1
	comp=Z,9.0nm,1.0s,baz=172,slow=14,SNR=2.9						
CTA				LR	LR	14 36 37.2	
	comp=Z,14μm,21.5s,baz=72,slow=34						
CTAO	**Charters Tower**	**20.41**	**251**	*e*P	P	**14 29 49.5**	**-1.4**
CTAO				pmax	pmax		
	comp=Z,380nm,1.2s						
CTAO				MLR	MLR		
	comp=Z,16μm,20.0s						
CTAO	**Charters Tower**	**20.41**	**251**	*e*P	P	**14 29 49.5**	**-1.4**
	comp=Z,380nm,1.2s						
CTAO				LR	LR		
	comp=Z,16μm,20.0s						
RAO	**Raoul Island**	**20.64**	**139**	LR	LR	14 36 10.0	
	comp=Z,7μm,20.2s,baz=336,slow=32						
RMQ	**Roma**	**20.78**	**231**	P	P	**14 29 55.9**	**+1.1**
	baz=21,SNR=156						
AFI	**Afiamalu**	**20.85**	**92**	*e*P	P	**14 29 55.0**	**-0.8**
	comp=Z,327nm,1.1s						
AFI	**Afiamalu**	**20.85**	**92**	P	P	**14 29 56.7**	**+0.9**
	comp=Z,279nm,1.1s,baz=281,slow=4.2,SNR=25						
AFI				LR	LR	14 36 26.1	
	comp=Z,11μm,18.1s,baz=1.4,slow=32						
ARMA	**Armidale**	**21.30**	**218**	*e*P	P	**14 29 56.2**	**-4.3**
	comp=Z,396nm,1.6s						
ARMA	**Armidale**	**21.30**	**218**	⇑P	P	**14 30 02.5**	**+2.0**
	baz=21,SNR=10						
OUZ	**Omahuta**	**21.81**	**165**	*e*P	P	**14 30 05.2**	**-0.7**
	comp=Z,192nm,0.9s						
MANU	**Manus Island**	**22.63**	**301**	⇑P	P	**14 30 16.9**	**+2.0**
	baz=22,SNR=5.3						
COEN	**Coen**	**22.85**	**268**	*e*P	P	**14 30 12.8**	**-4.3**
	comp=Z,2μm,1.3s						
COEN	**Coen**	**22.85**	**268**	P	P	**14 30 18.1**	**+0.9**
	baz=23,SNR=7.6						
MGCD	**Mangrove Creek**	**23.65**	**214**	⇓P	P	**14 30 27.0**	**+2.2**
	baz=24,SNR=5.5						
RIV	**Riverview**	**24.10**	**213**	⇓P	P	**14 30 32.4**	**+3.5**
	baz=24						
KNTN	**Kanton**	**24.12**	**64**	*e*P	P	**14 30 28.0**	**-1.3**
	comp=Z,362nm,1.3s						
QLP	**Quilpie**	**24.36**	**236**	⇓P	P	**14 30 31.6**	**+0.1**
	baz=24,SNR=17						
URZ	**Urewera**	**25.66**	**161**	*e*P	P	**14 30 41.8**	**-1.2**
	comp=Z,145nm,1.0s						
URZ	**Urewera**	**25.66**	**161**	P	P	**14 30 44.1**	**+1.0**
	comp=Z,18nm,0.7s,baz=68,slow=3.4,SNR=8.7						
URZ				LR	LR	14 39 52.4	
	comp=Z,11μm,18.7s,baz=343,slow=34						
CMSA	**Cobar Meteorol**	**25.86**	**225**	⇑P	P	**14 30 46.0**	**+1.0**
	baz=26,SNR=23						
YNG	**Young**	**25.98**	**216**	⇓P	P	**14 30 48.2**	**+2.1**
	baz=26,SNR=7.3						
CNB	**Canberra Magne**	**26.19**	**214**	⇑P	P	**14 30 50.6**	**+2.6**
	baz=26,SNR=6.0						
BKZ	**Black Stump Fm**	**26.30**	**163**	*e*P	P	**14 30 49.2**	**+0.2**
	comp=Z,129nm,1.3s						
CAN	**Canberra**	**26.39**	**214**	*e*P	P	**14 30 48.7**	**-1.1**
CAN				pmax	pmax		
	comp=Z,76nm,1.2s						
CAN	**Canberra**	**26.39**	**214**	*e*P	P	**14 30 48.7**	**-1.1**
	comp=Z,76nm,1.2s						
CAN	**Canberra**	**26.39**	**214**	⇑P	P	**14 30 52.2**	**+2.4**
	baz=26						
MILA	**Mila**	**27.62**	**211**	⇓P	P	**14 31 03.3**	**+2.4**
	baz=28						
SNZO	**South Karori**	**27.88**	**167**	PFAKE		14 31 20.0	+17
SNZO				LR	LR		
	comp=Z,14μm,19.0s						
JAY	**Jayapura**	**28.21**	**292**	P	pP	14 31 19.9	+1.7
KHZ	**Kahutara**	**28.71**	**169**	*e*P	P	**14 31 10.6**	**+0.1**
	comp=Z,96nm,1.2s						
STKA	**Stephens Creek**	**28.94**	**228**	P	P	**14 31 12.2**	**-0.4**
	comp=Z,147nm,1.1s						
STKA				S	S	**14 36 03.1**	**+2.7**
STKA	**Stephens Creek**	**28.94**	**228**	P	P	**14 31 12.7**	**+0.1**
	baz=29,SNR=54						
STKA	**Stephens Creek**	**28.94**	**228**	P	P	**14 31 12.2**	**-0.4**
	comp=Z,26nm,0.7s,baz=51,slow=8.1,SNR=28						
STKA				S	S	**14 36 03.1**	**+2.7**
	comp=Z,8.9nm,1.2s,baz=336,slow=20,SNR=1.7						
STKA				LR	LR	14 42 48.6	
	comp=Z,30μm,18.7s,baz=158,slow=36						
RPZ	**Rata Peaks**	**29.63**	**174**	*e*P	P	**14 31 18.8**	**+0.1**
	comp=Z,69nm,0.8s						
RPZ	**Rata Peaks**	**29.63**	**174**	P	P	**14 31 20.1**	**+1.5**
	comp=Z,57nm,0.8s,baz=176,slow=1.9,SNR=13						
RPZ				LR	LR	14 41 27.6	
	comp=Z,8μm,22.0s,baz=346,slow=33						
TOO	**Toolangi**	**29.96**	**215**	⇓P	P	**14 31 23.6**	**+2.0**
	baz=30,SNR=5.0						
ODZ	**Otahua Downs**	**30.91**	**175**	*e*P	P	**14 31 30.2**	**+0.3**
	comp=Z,188nm,1.7s						
WRAB	**Tennant Creek**	**31.44**	**255**	*e*P	P	**14 31 34.1**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,250nm,1.8s						
WRAB				MLR	MLR		
	comp=Z,11μm,20.0s						
WRAB	**Tennant Creek**	**31.44**	**255**	P	P	**14 31 32.7**	**-2.2**
	comp=Z,193nm,1.0s,SNR=8.7						
WRAB	**Tennant Creek**	**31.44**	**255**	*e*P	P	**14 31 34.1**	**-0.8**
	comp=Z,250nm,1.8s						
WRAB				LR	LR		
	comp=Z,11μm,20.0s						
WRA	**Warramunga Arr**	**31.45**	**255**	P	P	**14 31 32.5**	**-2.5**
WRA				PKiKP	**PKiKP**	**14 41 56.1**	**-1.1**
WRA	**Warramunga Arr**	**31.45**	**255**	P	P	**14 31 32.5**	**-2.5**
	comp=Z,25nm,0.9s,baz=84,slow=8.6,SNR=59						
WRA				PKiKP	**PKiKP**	**14 41 56.1**	**-1.1**
	comp=Z,2.2nm,0.9s,baz=0.3,slow=0.6,SNR=5.6						
WRA				LR	LR	14 43 57.0	
	comp=Z,12μm,18.1s,baz=80,slow=36						
ARPS	**Mount Arapiles**	**31.59**	**220**	P	P	**14 31 37.0**	**+1.0**
	baz=32						
HTT	**Hallett**	**31.67**	**228**	⇓P	P	**14 31 36.8**	**0.0**
	baz=32						
AS08	**Alice Springs**	**32.33**	**248**	⇑P	P	**14 31 40.7**	**-2.0**
	baz=32						
AS01	**Alice Springs**	**32.33**	**248**	⇓P	P	**14 31 40.6**	**-2.1**
	baz=32						
AS10	**Alice Springs**	**32.37**	**248**	⇑P	P	**14 31 41.1**	**-2.0**
	baz=32						
AS31	**Alice Springs**	**32.37**	**248**	*e*P	P	**14 31 40.5**	**-2.6**
ASAR	**Alice Springs**	**32.37**	**248**	P	P	**14 31 41.4**	**-1.6**
ASAR	**Alice Springs**	**32.37**	**248**	P	P	**14 31 41.4**	**-1.6**
	comp=Z,16nm,0.8s,baz=73,slow=9.3,SNR=73						
ASAR				LR	LR	14 44 02.5	
	comp=Z,12μm,19.5s,baz=56,slow=35						
RAR	**Rarotonga**	**32.61**	**107**	*e*P	P	**14 31 45.4**	**+0.2**
	comp=Z,206nm,1.5s						
RAR	**Rarotonga**	**32.61**	**107**	P	P	**14 31 47.0**	**+1.9**
	comp=Z,46nm,1.0s,baz=270,slow=9.6,SNR=3.7						
RAR				LR	LR	14 42 26.7	
	comp=Z,7μm,20.1s,baz=268,slow=32						
MOO	**Moorlands**	**32.80**	**207**	⇓P	P	**14 31 48.4**	**+1.9**
	baz=33,SNR=13						
BAKI	**Biak**	**32.92**	**290**	P	P	14 31 51.5	+3.6
	comp=Z,95nm,1.3s,comp=Z,2μm						
TAU	**Tasmania Unive**	**33.12**	**207**	*e*P	P	**14 31 50.2**	**+0.9**
TAU				pmax	pmax		
	comp=Z,134nm,1.2s						
TAU				MLR	MLR		
	comp=Z,11μm,20.0s						
TAU	**Tasmania Unive**	**33.12**	**207**	P	P	**14 31 50.4**	**+1.1**
	comp=Z,358nm,1.2s,SNR=6.8						
TAU	**Tasmania Unive**	**33.12**	**207**	*e*P	P	**14 31 50.2**	**+0.9**
	comp=Z,134nm,1.2s						
TAU				LR	LR		
	comp=Z,11μm,20.0s						
WAKE	**Wake Island**	**33.29**	**360**	PFAKE		14 32 00.0	+9.1
WAKE				LR	LR		
	comp=Z,7μm,19.0s						
KDU	**Kakadu**	**33.34**	**268**	P	P	**14 31 50.1**	**-1.4**
	baz=33,SNR=12						
BBOO	**Buckleboo**	**33.49**	**231**	*e*P	P	**14 31 52.1**	**-0.5**
	comp=Z,2μm,1.1s						
BBOO	**Buckleboo**	**33.49**	**231**	P	P	**14 31 52.5**	**-0.1**
	baz=33,SNR=43						
TLE	**Tual**	**34.51**	**281**	P	P	**14 32 02.6**	**+0.9**
	comp=Z,252nm,1.8s						
TLE	**Tual**	**34.51**	**281**	⇓P	P	**14 32 02.9**	**+1.2**
	baz=34,SNR=6.0						
GUMO	**Guam**	**35.10**	**321**	PFAKE		14 32 20.0	+13
GUMO				LR	LR		
	com

BBSI Bau Bau 44.30 277 P P 14 33 30.7 +7.4
SGSI Sangihe 44.55 290 P **P** **14 33 28.3 +2.9**
comp=Z,447nm,1.4s,comp=Z,6μm
KMSI Cibinong 44.79 286 P **P** **14 33 28.6 +1.3**
comp=Z,704nm,1.1s,comp=Z,7μm
MIDW Midway 44.90 20 PFAKE 14 33 40.0 +12
MIDW LR LR
comp=Z,6μm,20.0s
MBWA Marble Bar 45.18 254 P **P** **14 33 31.1 +0.8**
SNR=13
MBWA Marble Bar 45.18 254 *e*P **P** **14 33 30.4 +0.2**
comp=Z,171nm,1.0s
MBWA LR LR
comp=Z,6μm,19.0s
LUWI Luwuk 45.38 283 P **P** **14 33 32.6 +0.6**
comp=Z,347nm,1.4s,comp=Z,4μm
KKSI Kolaka, Sulawe 45.52 278 P **P** **14 33 33.9 +0.8**
comp=Z,156nm,1.6s,comp=Z,3μm
DAV Davao City (W) 45.98 295 PFAKE 14 33 50.0 +13
DAV LR LR
comp=Z,3μm,19.0s
APSI Ampana 46.49 282 P **P** **14 33 39.0 -1.7**
comp=Z,272nm,1.2s,comp=Z,3μm
MEEK Meekatharra 46.50 247 P **P** **14 33 39.5 -1.3**
baz=46,SNR=33
MRSI Marisa 46.67 284 P P 14 33 50.1 +8.0
BKSI Bulukumba 46.70 276 P **P** **14 33 42.8 +0.5**
comp=Z,70nm,1.6s,comp=Z,1μmcomp=Z,15μm
KAPI Kappang 47.13 276 P **P** **14 33 46.3 +0.6**
SNR=18
KAPI Kappang 47.13 276 P P **14 33 46.4 +0.6**
comp=Z,742nm,1.6s,SNR=11
KAPI Kappang 47.13 276 P **P** **14 33 46.3 +0.6**
comp=Z,156nm,1.6s,comp=Z,3μm
KAPI Kappang 47.13 276 *e*P **P** **14 33 45.6 -0.1**
comp=Z,324nm,1.4s
KAPI LR LR
comp=Z,2μm,19.0s
SPSI Sidrap Palu 47.39 278 P **P** **14 33 49.6 +1.9**
comp=Z,99nm,1.5s,comp=Z,1μm
CBIJ Chichi jima 47.48 330 P **P** **14 33 47.6 -0.5**
JCJ Chichijima 47.48 330 P **P** **14 33 47.6 -0.5**
comp=Z,89nm,0.8s,baz=268,slow=23,SNR=4.6
TTSI Tana Toraja 47.59 279 P **P** **14 33 51.5 +2.2**
comp=Z,55nm,1.4s,comp=Z,1μm
KLBR Kellerberrin 47.90 240 P **P** **14 33 51.8 +0.2**
baz=48,SNR=9.2
MJSI Majene 48.26 278 P P 14 34 03.2 +8.8
NWAO Narrogin (SRO) 48.57 239 *e*P **P** **14 33 57.2 +0.6**
comp=Z,107nm,1.0s
NWAO LR LR
comp=Z,9μm,19.0s
BLDU Ballidu 48.64 242 ⇑P **P** **14 33 57.4 +0.2**
baz=48
MORW Morawa 49.02 244 P **P** **14 34 00.3 +0.1**
baz=49,SNR=18
RKGY Rocky Gully 49.10 236 ⇑P **P** **14 34 02.2 +1.5**
baz=49
KIP Kipapa 49.52 45 *e*P **P** **14 34 04.1 +0.2**
KIP pmax pmax
comp=Z,143nm,2.5s
KIP Kipapa 49.52 45 PFAKE 14 34 10.0 +6.1
KIP LR LR
comp=Z,6μm,19.0s
MTNI Mataram 49.79 271 P **P** **14 34 07.9 +1.7**
comp=Z,206nm,1.3s,comp=Z,3μm
GIRL Giralia 50.29 252 ⇑P **P** **14 34 11.9 +2.0**
baz=50,SNR=3.7
DNP Denpasar 50.71 270 P P 14 34 20.6 +7.4
SRBI Singaraja 50.83 271 P **P** **14 34 15.3 +1.2**
comp=Z,235nm,1.9s,comp=Z,5μm
BKB Balikpapan 50.90 280 P P 14 34 24.0 +9.4
MYLDM Lahad Datu 51.57 289 P **P** **14 34 22.4 +2.8**
MYLDM Lahad Datu 51.57 289 P **P** **14 34 22.6 +3.0**
MYLDM Lahad Datu 51.57 289 P **P** **14 34 22.7 +3.0**
comp=Z,102nm,1.7s,comp=Z,3μm
TSM Tawau 51.82 287 P **P** **14 34 22.4 +0.9**
ABJI Asem Bagus 51.84 271 P **P** **14 34 22.8 +1.2**
comp=Z,431nm,1.2s,comp=Z,7μm
KMMI Kalianget 52.25 272 P P 14 34 32.6 +7.9
BLJI Banyuglugur 52.47 271 P **P** **14 34 27.6 +1.3**
comp=Z,318nm,1.3s,comp=Z,4μm
GMJI Gumukmas 52.51 270 P P 14 34 30.6 +4.0
comp=Z,137nm,0.9s,comp=Z,3μm
MTKI Muara Teweh, K 52.90 280 P P 14 34 36.8 +7.3
KRKI Karangkates 53.49 270 P P 14 34 37.6 +3.8
comp=Z,542nm,1.7s
KKM Kota Kinabalu 54.00 288 P **P** **14 34 38.5 +0.8**
KKM Kota Kinabalu 54.00 288 P **P** **14 34 38.7 +1.0**
comp=Z,219nm,1.2s,comp=Z,3μm
KKM Kota Kinabalu 54.00 288 *e*P **P** **14 34 37.4 -0.3**
comp=Z,248nm,1.1s
KKM LR LR
comp=Z,3μm,21.0s
KKM Kota Kinabalu 54.00 288 P **P** **14 34 38.5 +0.8**
baz=54,SNR=13
PWJI Pagerwojo 54.15 270 P **P** **14 34 41.6 +3.0**
comp=Z,90nm,1.3s
SJI Sawahan 54.24 271 P **P** **14 34 40.8 +1.4**
comp=Z,241nm,2.2s,comp=Z,5μm
NGJI Ngawi 54.61 271 P **P** **14 34 45.1 +3.1**
comp=Z,312nm,1.1s
PCJI Pacitan 54.72 270 P **P** **14 34 44.5 +1.7**
comp=Z,506nm,1.3s,comp=Z,6μm
WOJI Wonogiri, Jawa 55.04 270 P **P** **14 34 47.0 +1.9**
comp=Z,232nm,1.8s,comp=Z,4μm
JOW Kunigami 55.32 317 *e*P **P** **14 34 46.5 -0.4**
comp=Z,71nm,1.1s
PBKI Pangkalan Bun 55.51 277 P P 14 34 59.2 +11
RKT Rikitea 55.63 108 *e*S S 14 42 44.3 +12
comp=Z,2μm,27.2s
RKT *e*SS SS 14 46 37.6 +19
comp=Z,2μm,26.2s
RKT *e*LQ LQ 14 49 00.0
comp=Z,3μm,28.5s
RKT *e*LR LR 14 51 28.4
comp=Z,6μm,23.8s,baz=271
BTM Bintulu 55.91 284 P **P** **14 34 51.4 -0.1**
BJII Banjamegara 56.32 271 P P 14 35 02.2 +7.8
STKI Sintang 56.47 280 P **P** **14 34 57.3 +1.9**
comp=Z,90nm,1.5s,comp=Z,8μm
SBUM Sibu 56.49 283 P **P** **14 34 56.4 +0.9**
SBUM Sibu 56.49 283 P **P** **14 34 56.7 +1.2**
SBUM Sibu 56.49 283 P **P** **14 34 56.9 +1.4**
comp=Z,70nm,1.0s,comp=Z,1μm
SBUM Sibu 56.49 283 *e*P **P** **14 34 55.8 +0.3**
comp=Z,70nm,1.3s
TGJI Tegal 56.99 271 P **P** **14 34 59.9 +0.8**
comp=Z,175nm,1.4s,comp=Z,4μm
KPJI Karang Pucung 57.07 270 P **P** **14 35 01.2 +1.5**
comp=Z,184nm,1.4s,comp=Z,3μm
MAJO Matsushiro 57.21 333 *e*P **P** **14 34 59.3 -0.9**
MAJO pmax pmax
comp=Z,193nm,1.1s
MAJO MLR MLR
comp=Z,2μm,20.0s
MAJO Matsushiro 57.21 333 *e*P **P** **14 34 59.3 -0.9**
comp=Z,193nm,1.1s
MAJO LR LR
comp=Z,2μm,20.0s
MAT Matsushiro 57.21 333 P **P** **14 34 58.5 -1.7**
MAT S **S** **14 42 52.0 -0.8**
KSM Kuching 58.00 281 P **P** **14 35 07.1 +0.9**
KSM Kuching 58.00 281 P **P** **14 35 07.6 +1.4**
KSM Kuching 58.00 281 *e*P **P** **14 35 06.2 0.0**
comp=Z,70nm,1.1s
KSM LR LR
comp=Z,1μm,19.0s
KSM Kuching 58.00 281 P **P** **14 35 07.4 +1.2**
baz=58,SNR=11
YULB Yu-li 58.07 310 *e*P **P** **14 35 05.0 -1.5**
comp=Z,62nm,1.2s
CISI Cisompet, Garu 58.11 270 P **P** **14 35 08.2 +1.1**
comp=Z,198nm,1.5s,comp=Z,3μm
JNU Nakatsue 58.20 325 *e*P **P** **14 35 06.3 -1.0**
comp=Z,117nm,1.1s
LEM Lembang 58.45 271 P **P** **14 35 10.9 +1.3**
comp=Z,214nm,1.1s,comp=Z,5μm
LEM Lembang 58.45 271 ⇓P **P** **14 35 11.4 +1.8**
baz=58,SNR=5.5
TPUB Ta-pu 58.52 309 *e*P **P** **14 35 08.0 -1.6**
comp=Z,143nm,1.2s
SSLB Suanglung 58.55 310 *e*P **P** **14 35 08.5 -1.3**
comp=Z,157nm,1.6s
TATO Taipei 58.85 311 PFAKE 14 35 20.0 +8.1
TATO LR LR
comp=Z,3μm,19.0s

DBJI Dramaga 59.36 271 P **P** **14 35 16.5 +0.8**
comp=Z,213nm,1.8s,comp=Z,5μm
TPI Tanjungpandan 59.37 275 P P 14 35 23.4 +7.6
SKJI Sukabumi 59.45 270 P pP 14 35 29.8 +0.8
QZH Quanzhou 60.98 309 ⇑*i*P **P** **14 35 24.0 -2.5**
QZH S **S** **14 43 42.2 +0.3**
QZH AMB AMB
comp=Z,270nm,1.3s
QZH AMB AMB
comp=Z,2μm,2.7s
QZH LR LR
comp=Z,3μm,23.2s
PPBI Pangkal Pinang 60.99 275 P **P** **14 35 28.7 +1.9**
comp=Z,62nm,1.1s,comp=Z,2μm
YUK Yuzh-Kuril'sk 61.02 343 *c i*P P 14 35 20.4 -5.9
YUK *i* 14 37 36.6
YUK *i* S **S** **14 43 40.2 -1.5**
YUK *i* 14 45 07.5
YUK *i* SS **SS** **14 47 43.8 +1.5**
YUK pmax pmax
comp=Z,1μm,2.1s
YUK pmax pmax
comp=Z,695nm,1.3s
YUK pmax pmax
comp=N,150nm,0.7s
YUK pmax pmax
comp=E,420nm,1.3s
ASAJ Asahikawa 62.09 341 *e*P **P** **14 35 33.1 -0.4**
comp=E,156nm,1.5s
ASAJ Asahikawa 62.09 341 P **P** **14 35 33.5 -0.1**
comp=E,77nm,0.9s,baz=222,slow=11,SNR=31
ASAJ LR LR 14 59 00.3
comp=E,4μm,20.5s,baz=176,slow=33
MDSI Maura Dua 62.31 272 P **P** **14 35 35.1 -0.7**
SSE Sheshan 62.79 316 P **P** **14 35 38.9 +0.4**
SSE S **S** **14 44 06.1 +1.5**
SSE AMB AMB
comp=E,82nm,1.2s
SSE AMB AMB
comp=E,720nm,9.5s
SSE LR LR
comp=E,1μm,17.9s
SSE LR LR
comp=E,770nm,17.9s
SSE LR LR
comp=E,1μm,15.6s
KSRS Korea Array 63.02 326 P **P** **14 35 39.5 -0.4**
comp=E,35nm,0.9s,baz=142,slow=6.7,SNR=74
KSRS LR LR 15 01 50.1
comp=E,1μm,19.7s,baz=145,slow=35
KSRS PKP2bc 15 04 44.2
comp=E,1.6nm,0.9s,baz=318,slow=3.3,SNR=5.6
KSAR Wonju Array Be 63.03 326 P **P** **14 35 39.5 -0.5**
KSAR ⇑*e* 15 04 44.2
VNDA Vanda 63.36 181 *e*P **P** **14 35 42.3 +0.7**
comp=E,172nm,1.5s
VNDA ⇑*e* 15 04 44.5
VNDA Vanda 63.36 181 P **P** **14 35 42.4 +0.7**
comp=E,60nm,1.2s,baz=355,slow=7.4,SNR=60
VNDA PKP2bc 15 04 44.5
comp=E,7.4nm,1.2s,baz=239,slow=2.9,SNR=9.8
SBA Scott Base 63.65 180 *e*P **P** **14 35 44.7 +1.2**
SBA pmax pmax
comp=Z,254nm,1.4s
SBA MLR MLR
comp=Z,3μm,19.0s
SBA Scott Base 63.65 180 *e*P **P** **14 35 44.7 +1.2**
comp=Z,254nm,1.4s
SBA LR LR
comp=Z,3μm,19.0s
INCN Inchon 63.75 325 P **P** **14 35 46.3 +1.4**
SNR=9.7
INCN Inchon 63.75 325 *e*P **P** **14 35 44.3 -0.5**
comp=Z,137nm,1.2s
INCN LR LR
comp=Z,2μm,20.0s
CASY Casey 63.80 202 *e*P **P** **14 35 45.5 +0.8**
comp=Z,104nm,1.4s
CASY LR LR
comp=Z,4μm,20.0s
YSS Yuzh-Sakhalins 64.58 342 ⇑*i*P **P** **14 35 51.5 +1.5**
YSS *e* 14 36 32.0
YSS *e* 14 38 18.0
YSS *e*S **S** **14 44 26.0 -0.3**
YSS *e*PS **PnS** **14 44 44.0 -5.4**
YSS pmax pmax
comp=Z,230nm,1.0s
YSS pmax pmax
comp=Z,2μm,4.0s
YSS MLR MLR
comp=N,2μm,16.0s
YSS MLR MLR
comp=Z,3μm,16.0s
KGM Kluang 64.83 279 P **P** **14 35 54.7 +2.3**
NJ2 Nanjing 64.94 316 *e*P **P** **14 35 52.6 -0.1**
NJ2 pP **pP** **14 36 04.9 -0.7**
NJ2 sP **sP** **14 36 11.3 +0.6**
NJ2 S **S** **14 44 36.0 +4.6**
NJ2 AMB AMB
comp=Z,130nm,1.2s
NJ2 AMB AMB
comp=Z,830nm,6.3s
NJ2 LR LR
comp=Z,2μm,16.0s
NJ2 LR LR
comp=Z,1μm,17.0s
NJ2 LR LR
comp=Z,3μm,17.0s
QIZ Qiongzhong 65.03 299 P **P** **14 35 54.4 +0.8**
QIZ pP **pP** **14 36 06.2 -0.2**
QIZ S **S** **14 44 34.4 +1.5**
QIZ sS **sS** **14 44 54.5 +0.1**
QIZ AMB AMB
comp=Z,41nm,1.5s
QIZ LR LR
comp=Z,550nm,18.5s
QIZ LR LR
comp=Z,1μm,19.4s
SKR Severo-Kuril's 65.28 353 *e*P P 14 35 45.8 -8.7
SKR *e* 14 35 55.5
SKR *e* 14 44 55.0
SKR pmax pmax
comp=Z,220nm,1.0s
SKR MLR MLR
comp=N,4μm,18.0s
SKR MLR MLR
comp=Z,4μm,18.0s
VLA Vladivostok 65.38 333 ⇑*i*P **P** **14 35 55.0 -0.3**
VLA *e* 14 36 26.1
VLA *e*S **S** **14 44 33.8 -2.5**
VLA pmax pmax
comp=Z,191nm,1.6s
USRK Ussuriysk Arra 66.19 333 P **P** **14 36 00.1 -0.4**
comp=Z,182nm,1.1s,baz=143,slow=5.7,SNR=100
USRK LR LR 14 59 49.0
comp=Z,1μm,20.2s,baz=129,slow=31
FX1 Attu Island--F 67.05 4 *e*P **P** **14 36 06.2 +0.4**
WHN Wuhan 67.21 312 ⇑*i*P **P** **14 36 07.9 +0.6**
WHN pP **pP** **14 36 19.9 -0.3**
WHN S **S** **14 45 00.7 +1.7**
WHN AMB AMB
comp=Z,250nm,1.3s
WHN AMB AMB
comp=Z,1μm,4.0s
WHN AMB AMB
comp=Z,2μm,10.2s
WHN LR LR
comp=Z,3μm,19.9s
UBPT Khong Chiam 67.29 293 P **P** **14 36 10.3 +2.2**
comp=Z,31nm,1.4s
PET Petropavlovsk 67.32 355 *e*P **P** **14 36 04.3 -3.2**
PET *e* 14 36 31.0
PET *e*S **S** **14 44 58.5 -0.9**
PET *e*SS **SS** **14 49 26.7 +6.4**
PET *e*SSS SSS 14 52 17.4
PET pmax pmax
comp=Z,600nm,9.6s
PET pmax pmax
comp=Z,125nm,1.3s
PET MLR MLR
comp=Z,2μm,18.0s
PET MLR MLR
comp=Z,2μm,20.0s
PEA0B Petropavlovsk- 67.50 354 *e*P **P** **14 36 05.5 -3.1**
PETK Petropavlovsk- 67.50 354 P **P** **14 36 08.0 -0.6**
PETK Petropavlovsk- 67.50 354 P **P** **14 36 08.0 -0.6**

PETK Petropavlovsk- 67.50 354 P **P** **14 36 08.0 -0.6**
comp=Z,80nm,1.0s,baz=153,slow=7.1,SNR=51
PETK LR LR 14 59 53.5
comp=Z,2μm,21.9s,baz=161,slow=31
DL2 Dalian 67.58 323 ⇑P **P** **14 36 10.5 +1.1**
DL2 PP **PP** **14 38 41.1 +2.1**
DL2 S **S** **14 45 05.3 +2.2**
DL2 AMB AMB
comp=Z,190nm,1.1s
DL2 AMB AMB
comp=Z,620nm,7.7s
DL2 LR LR
comp=Z,800nm,19.6s
DL2 LR LR
comp=Z,830nm,23.5s
MDJ Mudanjiang 67.58 332 P **P** **14 36 10.6 +1.2**
MDJ pP **pP** **14 36 22.6 +0.3**
MDJ sP **sP** **14 36 27.4 0.0**
MDJ PcP **PcP** **14 36 37.2 +1.0**
MDJ PP **PP** **14 38 37.2 -1.8**
MDJ S **S** **14 45 05.0 +2.0**
MDJ AMB AMB
comp=Z,170nm,1.5s
MDJ AMB AMB
comp=Z,1μm,8.8s
MDJ LR LR
comp=Z,1μm,23.3s
MDJ LR LR
comp=Z,840nm,17.5s
MDJ LR LR
comp=Z,1μm,18.6s
MDJ Mudanjiang 67.58 332 *e*P P 14 36 06.1 -3.3
comp=Z,226nm,1.3s
MDJ LR LR
comp=Z,1μm,21.0s
IPM Ipoh 67.74 281 P **P** **14 36 12.3 +1.3**
IPM Ipoh 67.74 281 P **P** **14 36 12.9 +1.9**
IPM Ipoh 67.74 281 *e*P **P** **14 36 11.9 +0.9**
comp=Z,95nm,1.2s
COCO West Island 67.84 262 PFAKE 14 36 20.0 +8.4
COCO LR LR
comp=Z,3μm,20.0s
KULM Kulim 68.33 282 P **P** **14 36 14.6 -0.1**
KULM Kulim 68.33 282 *e*P **P** **14 36 16.0 +1.2**
comp=Z,87nm,1.4s
KULM LR LR
comp=Z,1μm,20.0s
SNY Shenyang 68.49 327 ⇑P **P** **14 36 15.8 +0.7**
SNY S **S** **14 45 17.4 +3.5**
SNY AMB AMB
comp=Z,50nm,1.9s
SNY AMB AMB
comp=Z,1μm,12.0s
SNY LR LR
comp=Z,2μm,21.6s
SNY LR LR
comp=Z,1μm,21.6s
SNY LR LR
comp=Z,2μm,19.0s
PANO Nakornpanom 68.77 295 P **P** **14 36 18.5 +1.1**
comp=Z,60nm,1.2s,comp=Z,2μm
SKLT Songkhla 68.93 284 P **P** **14 36 20.6 +2.1**
comp=Z,70nm,1.3s,comp=Z,1μm
CN2 Changchun 68.94 329 *e*P **P** **14 36 17.9 0.0**
CN2 *es*P **sP** **14 36 36.4 +0.5**
CN2 PcP **PcP** **14 36 42.2 +0.3**
CN2 PP **PP** **14 38 53.3 +2.5**
CN2 *e*S **S** **14 45 19.2 +0.1**
CN2 AMB AMB
comp=Z,130nm,1.0s
CN2 AMB AMB
comp=Z,1μm,3.0s
CN2 LR LR
comp=Z,1μm,19.0s
CN2 LR LR
comp=Z,1μm,19.0s
CN2 LR LR
comp=Z,2μm,21.0s
CHBT CHBT 69.19 290 P P 14 36 30.1 +10
SKNT Sakolnakorn 69.26 295 P **P** **14 36 21.0 +0.6**
comp=Z,83nm,1.3s,comp=Z,1μm
PSI Prapat 69.27 279 P **P** **14 36 20.7 0.0**
baz=69,SNR=15
GSI Gunungsitoli 70.15 277 ⇓P **P** **14 36 27.5 +1.5**
baz=70
KLR Kul'dur 70.33 336 *e*P **P** **14 36 23.2 -3.1**
KLR *e*S **S** **14 45 35.0 -0.3**
KLR pmax pmax
comp=N,92nm,1.8s
KLR pmax pmax
comp=E,160nm,1.8s
KLR pmax pmax
comp=Z,720nm,1.8s
KLR pmax pmax
comp=Z,2μm,8.0s
KRAB Krabi 70.60 284 P P 14 36 32.4 +3.7
comp=Z,32nm,0.9s,comp=Z,356nm
ENH Enshi 70.64 310 *e*P P 14 36 25.3 -3.4
comp=Z,101nm,1.0s
NAYO Nakonayok 70.66 291 P **P** **14 36 30.8 +1.8**
comp=Z,27nm,1.6s
GYA Guiyang 70.99 305 ⇑*i*P **P** **14 36 32.2 +1.2**
GYA pP **pP** **14 36 45.3 +1.3**
GYA sP **sP** **14 36 52.0 +2.9**
GYA PP **PP** **14 39 12.1 +3.1**
GYA S **S** **14 45 43.7 -0.5**
GYA sS **sS** **14 46 05.5 -0.4**
GYA SKS **SKSac** **14 46 26.5 -4.0**
GYA SS **SS** **14 50 19.2 +1.0**
GYA AMB AMB
comp=Z,50nm,1.0s
GYA AMB AMB
comp=Z,680nm,6.9s
GYA LR LR
comp=Z,800nm,17.4s
GYA LR LR
comp=Z,790nm,19.2s
GYA LR LR
comp=Z,2μm,19.9s
BJT Baijiatuau 71.53 321 *e*P **P** **14 36 31.2 -2.6**
comp=Z,187nm,1.3s
BJT LR LR
comp=Z,2μm,21.0s
BJI Beijing 71.54 321 P **P** **14 36 34.7 +0.9**
BJI PP **PP** **14 39 12.4 -0.9**
BJI S **S** **14 45 51.6 +2.0**
BJI AMB AMB
comp=Z,120nm,1.2s
BJI LR LR
comp=Z,1μm,18.0s
BJI LR LR
comp=Z,1μm,22.1s
BJI LR LR
comp=Z,1μm,20.4s
TIY Taiyuan 72.53 318 *e*P **P** **14 36 41.8 +1.8**
TIY pP **pP** **14 36 54.2 +1.2**
TIY sP **sP** **14 37 00.3 +2.2**
TIY S **S** **14 46 04.5 +3.2**
TIY AMB AMB
comp=Z,290nm,1.2s
TIY LR LR
comp=Z,770nm,11.9s
TIY LR LR
comp=Z,1μm,18.8s
TIY LR LR
comp=Z,2μm,22.7s
XAN Xi'an 72.96 313 P **P** **14 36 42.0 -0.6**
XAN pP **pP** **14 36 54.8 -0.8**
XAN sP **sP** **14 37 01.2 +0.5**
XAN PP **PP** **14 39 22.2 -3.4**
XAN S **S** **14 46 08.2 +1.9**
XAN AMB AMB
comp=Z,22nm,1.1s
XAN AMB AMB
comp=Z,260nm,8.1s
XAN LR LR
comp=Z,830nm,18.4s
XAN LR LR
comp=Z,170nm,21.4s
XAN LR LR
comp=Z,330nm,19.4s
KMI Kunming 73.59 302 P **P** **14 36 48.1 +1.4**
KMI pP **pP** **14 36 59.5 -0.3**
KMI sP **sP** **14 37 03.8 -1.0**
KMI PP **PP** **14 39 29.8 -1.6**
KMI S **S** **14 46 14.4 +0.2**

KMI SKS **SKSac** **14 46 46.9 -3.4**
KMI SS SS 14 50 49.8 -8.5
KMI AMB AMB
comp=Z,110nm,1.3s
KMI AMB AMB
comp=Z,1μm,8.3s
KMI LR LR
comp=Z,430nm,21.2s
KMI LR LR
comp=Z,930nm,18.0s
KMI LR LR
comp=Z,1μm,22.8s
CM31 Chiang Mai Arr 74.26 294 *e*P **P** **14 36 49.0 -1.5**
comp=Z,63nm,1.1s
CMAR Chiang Mai Arr 74.26 294 P **P** **14 36 50.5 0.0**
CMAR Chiang Mai Arr 74.26 294 P **P** **14 36 50.5 0.0**
comp=Z,58nm,1.1s,baz=134,slow=3.8
CHTO Chiang Mai 74.39 294 *e*P **P** **14 36 51.0 -0.2**
CHTO pmax pmax
comp=Z,342nm,1.2s
CHTO MLR MLR
comp=Z,1μm,20.0s
CHTO Chiang Mai 74.39 294 P **P** **14 36 52.6 +1.4**
SNR=32
CHTO Chiang Mai 74.39 294 *e*P **P** **14 36 51.0 -0.2**
comp=Z,342nm,1.2s
CHTO LR LR
comp=Z,1μm,20.0s
CHTO Chiang Mai 74.39 294 P **P** **14 36 52.2 +1.0**
comp=Z,288nm,1.3s,comp=Z,5μm
HHC Hu-ho-hao-te 74.86 320 *e*P **P** **14 36 55.2 +1.6**
HHC pP **PcP** **14 37 08.3 +0.9**
HHC sP **sP** **14 37 13.7 +2.0**
HHC PP **PP** **14 39 46.0 +4.3**
HHC S **S** **14 46 28.3 +0.8**
HHC AMB AMB
comp=Z,230nm,1.4s
HHC AMB AMB
comp=Z,2μm,5.8s
HHC LR LR
comp=Z,2μm,15.6s
HHC LR LR
comp=Z,1μm,16.0s
HHC LR LR
comp=Z,2μm,16.7s
CD2 Chengdu 75.28 308 P **P** **14 36 57.2 +1.0**
CD2 pP **PcP** **14 37 11.0 +1.6**
CD2 sP **sP** **14 37 16.7 +2.4**
CD2 PP **PP** **14 39 48.6 +3.1**
CD2 S **S** **14 46 32.0 -0.6**
CD2 AMB AMB
comp=Z,110nm,1.2s
CD2 AMB AMB
comp=Z,2μm,8.3s
CD2 LR LR
comp=Z,2μm,15.5s
CD2 LR LR
comp=Z,1μm,18.4s
HIA Hailar 75.58 330 *e*P **P** **14 36 55.8 -1.6**
comp=Z,338nm,1.3s
HIA LR LR
comp=Z,1μm,20.0s
BTO Baotou 75.70 319 *e*P **P** **14 36 59.5 +1.1**
BTO AMB AMB
comp=Z,38nm,1.7s
LZH Lanzhou 77.59 312 ⇑P **P** **14 37 11.8 +2.5**
LZH pP **pP** **14 37 23.7 +1.2**
LZH sP **sP** **14 37 28.7 +1.2**
LZH S **S** **14 46 59.6 +1.7**
LZH AMB AMB
comp=Z,340nm,1.4s
LZH AMB AMB
comp=Z,1μm,4.1s
LZH LR LR
comp=Z,640nm,14.4s
LZH LR LR
comp=Z,960nm,15.8s
LZH LR LR
comp=Z,1μm,17.0s
SEY Seymchan 77.71 353 *e*P **P** **14 37 09.6 +0.5**
DGPR DIGLIPUR 77.98 287 *e*P **P** **14 37 09.7 -2.0**
CLNS Chul'man 78.86 338 *e*P **P** **14 37 16.6 +0.9**
CLNS *e* 14 37 23.2
CLNS *e**PP **pP** **14 37 27.2 -1.7**
CLNS *e* 14 40 16.5
CLNS *e*PPP PPP 14 42 04.2
CLNS *e*S **S** **14 47 15.9 +5.5**
CLNS *e* 14 47 59.2
CLNS pmax pmax
comp=Z,196nm,1.1s
CLNS pmax pmax
comp=E,28nm,1.2s
CLNS pmax pmax
comp=N,99nm,1.2s
CLNS pmax pmax
comp=E,28nm,1.2s
CLNS pmax pmax
comp=Z,11nm,0.9s
CLNS pmax pmax
comp=N,18nm,1.0s
CLNS smax smax
comp=N,808nm,12.1s
CLNS smax smax
comp=E,861nm,12.1s
CLNS MLR MLR
comp=N,409nm,16.0s
CLNS MLR MLR
comp=Z,666nm,17.0s
CLNS MLR MLR
comp=E,549nm,16.0s
CIT Chita 80.37 330 *e*P **P** **14 37 25.1 +1.1**
CIT *e* 14 37 37.0
CIT *e* 14 40 30.4
CIT pmax pmax
comp=Z,573nm,1.5s
IMP Imphal 80.85 298 *ex* **P** **14 37 27.0 -0.3**
YAK Yakutsk 81.39 343 *e*P **P** **14 37 28.4 -0.7**
YAK *e**PP **pP** **14 37 39.2 -3.1**
YAK *e*S **S** **14 47 33.4 -3.2**
YAK *e*SS **SS** **14 52 52.8 -1.1**
YAK pmax pmax
comp=Z,522nm,1.5s
YAK pmax pmax
comp=E,99nm,1.5s
YAK pmax pmax
comp=N,190nm,1.5s
YAK smax smax
comp=N,181nm,3.3s
YAK smax smax
comp=E,91nm,2.8s
YAK MLR MLR
comp=E,2μm,19.0s
YAK MLR MLR
comp=Z,4μm,22.0s
YAK MLR MLR
comp=N,2μm,19.0s
SONM Songino Array 81.78 324 P **P** **14 37 31.4 -0.3**
SONM PKKPbc **PKKPbc** **14 56 02.8 -2.5**
SONM P'P' 15 04 07.8
SONM Songino Array 81.78 324 P **P** **14 37 31.4 -0.3**
comp=N,64nm,1.2s,baz=126,slow=2.7,SNR=154
SONM PKKPbc **PKKPbc** **14 56 02.8 -2.5**
comp=N,0.7nm,0.6s,baz=236,slow=1.6,SNR=7.1
SONM PKPPKP **P'P'df** **15 04 07.8 +1.8**
comp=N,2.0nm,1.3s,baz=208,slow=2.9,SNR=5.5
SONM LR LR 15 12 00.7
comp=N,1μm,21.3s,baz=125,slow=34
GTA Gaotai 81.94 314 ⇑P **P** **14 37 34.6 +1.8**
GTA pP **pP** **14 37 44.1 -1.9**
GTA sP **sP** **14 37 47.9 -3.1**
GTA S **SKSac** **14 47 47.0 -2.7**
GTA sS **sS** **14 48 05.5 -0.2**
GTA AMB AMB
comp=N,160nm,1.4s
GTA AMB AMB
comp=N,1μm,7.1s
GTA LR LR
comp=N,930nm,18.5s
GTA LR LR
comp=N,1μm,18.0s
GTA LR LR
comp=N,1μm,18.5s
MAW Mawson 82.16 202 P **P** **14 37 33.6 +0.3**
MAW Mawson 82.16 202 ⇑P **P** **14 37 34.0 +0.8**
baz=82,SNR=15
MAW Mawson 82.16 202 P **P** **14 37 33.6 +0.3**
comp=N,22nm,1.0s,baz=98,slow=6.3,SNR=30
MAW LR LR 15 08 07.0
comp=N,4μm,21.9s,baz=98,slow=31
SHL Shillong 82.86 299 *e*P **P** **14 37 35.0 -3.0**
SHL AMB AMB 14 37 39.6
comp=Z,141nm,1.5s
PMR Palmer 83.19 20 *e*P **P** **14 37 39.7 +1.2**
PMR pmax pmax
comp=Z,193nm,1.6s
PMR Palmer 83.19 20 *e*P **P** **14 37 39.7 +1.2**
comp=Z,193nm,1.6s
PAF Port-aux-Franc 83.53 221 PFAKE 14 37 50.0 +9.3
PAF LR LR
comp=Z,4μm,19.0s
KHMM Horse Mountain 84.38 46 *e*P **P** **14 37 48.4 +3.1**
comp=Z,56nm,1.5s
SAO San Andreas Ge 84.40 50 *e*P **P** **14 37 46.0 +0.6**
SAO pmax pmax
comp=Z,18nm,1.3s
SAO San Andreas Ge 84.40 50 *e*P **P** **14 37 46.0 +0.6**
comp=Z,18nm,1.3s
MCK McKinley 84.83 18 *e*P P 14 37 41.8 -5.1
MCK pmax pmax
comp=Z,124nm,1.2s
MCK McKinley 84.83 18 *e*P P 14 37 41.8 -5.1
comp=Z,124nm,1.2s
ZAK Zakamensk 84.83 325 ⇑*i*P **P** **14 37 46.5 -0.9**
ZAK pmax pmax
comp=Z,140nm,1.3s
LSA Lhasa 84.85 302 P **P** **14 37 49.0 +0.6**
LSA pP **pP** **14 38 00.8 -0.9**
LSA S **S** **14 48 08.5 -5.6**
LSA AMB AMB
comp=Z,60nm,1.2s
LSA AMB AMB
comp=Z,750nm,8.8s
LSA Lhasa 84.85 302 *e*P **P** **14 37 45.6 -2.7**
LSA pmax pmax
comp=Z,78nm,1.1s
LSA MLR MLR
comp=Z,660nm,21.0s
LSA Lhasa 84.85 302 *e*P **P** **14 37 45.6 -2.7**
comp=Z,78nm,1.1s
LSA LR LR
comp=Z,660nm,21.0s
PTRM Twissleman Ran 84.92 51 *e*P **P** **14 37 50.0 +1.9**
PKM Peak Mountain 84.95 52 ⇓P **P** **14 37 48.3 -0.1**
baz=85
WDC Whiskeytown Da 85.09 46 *e*P **P** **14 37 48.1 -0.6**
WDC pmax pmax
comp=Z,20nm,1.2s
WDC Whiskeytown Da 85.09 46 *e*P **P** **14 37 48.1 -0.6**
comp=Z,20nm,1.2s
IM04 Indian Mountai 85.19 15 *e*P P 14 37 43.4 -5.3
IRK Irkutsk 85.22 327 *e*P **P** **14 37 48.6 -0.5**
IRK pmax pmax
comp=Z,254nm,1.7s
TLY Talaya 85.28 326*c i*P **P** **14 37 49.1 -0.3**
TLY *e* 14 41 04.9
TLY *e*S **S** **14 48 18.9 +2.4**
TLY *e*PPS PPS 14 49 20.9
TLY pmax pmax
comp=Z,234nm,1.4s
TLY Talaya 85.28 326 P **P** **14 37 48.6 -0.8**
comp=Z,688nm,1.2s,SNR=22
OHCM Honcut 85.35 48 *e*P **P** **14 37 51.1 +1.1**
YBH Yreka Blue Hor 85.42 45 *e*P **P** **14 37 50.3 -0.2**
comp=Z,23nm,1.1s
CIS Catalina Islan 85.52 54 ⇑P **P** **14 37 50.7 -0.4**
baz=86
HUMO Hull Mountain 85.61 44 *e*P **P** **14 37 51.8 +0.5**
CMB Columbia Colle 85.66 49 *e*P **P** **14 37 51.3 -0.4**
CMB pmax pmax
comp=Z,20nm,1.1s
CMB Columbia Colle 85.66 49 *e*P **P** **14 37 51.3 -0.4**
comp=Z,20nm,1.1s
COLA College 85.99 18 *e*P **P** **14 37 50.3 -2.3**
COLA pmax pmax
comp=Z,111nm,1.3s
COLA MLR MLR
comp=Z,2μm,20.0s
COLA College 85.99 18 *e*P **P** **14 37 50.3 -2.3**
comp=Z,111nm,1.3s
COLA LR LR
comp=Z,2μm,20.0s
MWC Mount Wilson 86.07 53 *e*P **P** **14 37 54.4 +0.4**
MWC pmax pmax
comp=Z,26nm,1.1s
MWC Mount Wilson 86.07 53 *e*P **P** **14 37 54.4 +0.4**
comp=Z,26nm,1.1s
ILAR Eielson Array 86.20 18 P **P** **14 37 51.9 -1.9**
ILAR PKiKP **PKiKP** **14 43 00.3 -1.1**
ILAR PKKPbc **PKKPbc** **14 55 52.8 -2.6**
ILAR P'P' 15 03 57.0
ILAR Eielson Array 86.20 18 P **P** **14 37 51.9 -1.9**
comp=Z,11nm,0.8s,baz=230,slow=6.1,SNR=44
ILAR PKiKP **PKiKP** **14 43 00.3 -1.1**
comp=Z,0.5nm,0.5s,baz=264,slow=3.1,SNR=7.1
ILAR PKKPbc **PKKPbc** **14 55 52.8 -2.6**
comp=Z,2.5nm,1.0s,baz=8.7,slow=2.8,SNR=9.4
ILAR PKPPKP **P'P'df** **15 03 57.0 +0.5**
comp=Z,1.3nm,1.1s,baz=357,slow=6.9,SNR=5.6
ILAR LR LR 15 12 30.7
comp=Z,4μm,19.2s,baz=240,slow=33
ISA Isabella 86.25 52 *e*P **P** **14 37 54.7 0.0**
ISA pmax pmax
comp=Z,28nm,1.3s
ISA Isabella 86.25 52 *e*P **P** **14 37 54.6 0.0**
comp=Z,28nm,1.3s
ISA Isabella 86.25 52 ⇑P **P** **14 37 54.6 -0.1**
baz=86
EDW2 Edwards Air Fo 86.35 53 ⇑P **P** **14 37 55.1 -0.1**
baz=86
BFSC Mount Baldy Ra 86.39 54 ⇑P **P** **14 37 55.2 -0.4**
baz=86
MURC Murrieta 86.53 54 ⇓P **P** **14 37 56.0 -0.1**
baz=87
IRO Indian Ridge 86.63 43 P **P** **14 37 55.3 -1.2**
MOY Mondy 86.72 325 *e*P **P** **14 37 57.2 +0.5**
MOY pmax pmax
comp=Z,188nm,2.7s
MTUM Tungsten Hills 86.77 50 *e*P **P** **14 37 57.6 +0.2**
LRMC Laurel Mountai 86.78 52 ⇓P **P** **14 37 57.2 -0.2**
baz=87
CWC Cottonwood Cre 86.81 51 ⇓P **P** **14 37 57.5 -0.1**
baz=87
E03A Lebam 86.81 40 *e*P **P** **14 37 57.9 +0.8**
comp=Z,67nm,1.2s
MONP Monument Peak 86.92 55 ⇑P **P** **14 37 58.2 0.0**
baz=87
H04A Detroit Lake 86.95 43 *e*P **P** **14 37 57.9 0.0**
comp=Z,22nm,1.1s
NLWA Neilton Lookou 86.97 40 *e*P **P** **14 37 59.5 +1.5**
comp=Z,44nm,1.5s
NLWA LR LR
comp=Z,3μm,21.0s
TAPN Taplejung 86.97 299 *e*P **P** **14 37 59.0 +0.3**
comp=Z,256nm,1.3s
PAHR Pah Rah Range 87.00 48 *e*P **P** **14 37 59.0 +0.6**
comp=Z,24nm,1.1s
K05A Summer Lake 87.05 45 *e*P **P** **14 37 59.4 +0.8**
comp=Z,40nm,1.3s
COLD Coldfoot 87.08 15 *e*P **P** **14 37 56.1 -1.8**
comp=Z,50nm,1.2s
DVTC Desert V Tower 87.10 55 ⇑P **P** **14 37 59.0 0.0**
baz=87
ODAN Odare 87.10 298 *e*P **P** **14 37 58.8 -0.5**
comp=Z,350nm,1.3s
PFO Pinyon Flat Ob 87.12 54 *e*P **P** **14 37 59.0 -0.1**
comp=Z,8.9nm,1.1s
PFO LR LR
comp=Z,5μm,20.0s
PFO Pinyon Flat Ob 87.12 54 ⇓P **P** **14 37 59.0 -0.1**
baz=87
MPMC Manual Prospec 87.13 52 ⇓P **P** **14 37 58.9 -0.3**
baz=87
MOD Modoc 87.15 46 *e*P **P** **14 37 59.0 -0.1**
comp=Z,46nm,1.0s
NVAR Mina Array Bea 87.33 49 P **P** **14 38 00.1 -0.1**
NVAR P'P' 15 03 59.6
NVAR Mina Array Bea 87.33 49 P **P** **14 38 00.1 -0.1**
comp=Z,6.4nm,1.0s,baz=227,slow=5.9,SNR=14
NVAR PKPPKP **P'P'df** **15 03 59.6 +2.5**
comp=Z,0.6nm,0.7s,baz=81,slow=4.7,SNR=6.9
NVAR LR LR 15 09 57.6
comp=Z,8μm,19.9s,baz=87,slow=31
GSC Goldstone 87.41 53 *e*P **P** **14 38 01.0 +0.6**
GSC pmax pmax
comp=Z,23nm,1.4s
GSC Goldstone 87.41 53 *e*P **P** **14 38 01.0 +0.6**
comp=Z,23nm,1.4s
GSC Goldstone 87.41 53 ⇑P **P** **14 38 00.5 +0.1**
baz=88
SWSC Sam W. Stewart 87.43 55 ⇓P **P** **14 38 00.2 -0.2**
baz=88
NV11 Mina Array Sit 87.44 49 *e*P **P** **14 38 00.1 -0.5**
BOK Bokaro 87.51 295 *e*P P 14 37 57.8 -3.3
BOK AMB AMB 14 38 02.8
comp=Z,43nm,1.5s
TDL Tradedollar La 87.59 41 P **P** **14 38 01.4 +0.3**
BELC Belle Mtn. Jos 87.61 54 ⇓P **P** **14 38 01.3 -0.2**
baz=88
HEC Hector,Ludlow 87.62 53 ⇓P **P** **14 38 01.2 -0.2**
baz=88
VFP Flag Point 87.67 42 P **P** **14 38 00.2 -1.3**
FURC Furnace Creek, 87.75 52 ⇓P **P** **14 38 01.9 +0.1**
baz=88
RAMN Ramite 87.80 298 *e*P **P** **14 38 02.1 -0.6**
comp=Z,207nm,1.3s
BC3 Big Chuckawall 87.93 55 ⇓P **P** **14 38 02.8 -0.2**
baz=88
PALK Pallekele 87.94 278 P **P** **14 38 05.6 +2.3**
SNR=5.2
PALK Pallekele 87.94 278 P **P** **14 38 05.8 +2.5**
comp=Z,238nm,1.3s,SNR=5.5
PALK Pallekele 87.94 278 *e*P P 14 37 59.4 -3.9
comp=Z,83nm,1.3s
LON Longmire 88.00 41 *e*P **P** **14 38 04.2 +1.3**
LON pmax pmax
comp=Z,12nm,1.2s
LON Longmire 88.00 41 *e*P **P** **14 38 04.2 +1.3**
comp=Z,12nm,1.2s
EGAK Eagle 88.01 20 *e*P **P** **14 38 01.9 -0.5**
comp=Z,36nm,1.2s
EGAK LR LR
comp=Z,2μm,19.0s
TPH Tonopah 88.01 50 PFAKE 14 38 10.0 +6.6
TPH LR LR
comp=Z,4μm,21.0s
D05A Enumclaw 88.06 40 *e*P **P** **14 38 05.5 +2.4**
GMRC Granite Mounta 88.12 54 ⇑P **P** **14 38 03.2 -0.7**
baz=88
TUQ Turquoise Moun 88.13 53 ⇓P **P** **14 38 03.4 -0.5**
baz=88
VIS Vishakhapatnam 88.14 289 *e*P **P** **14 38 02.7 -1.4**
WPW White Pass 88.15 41 P **P** **14 38 03.5 -0.2**
GLA Glamis 88.24 55 *e*P **P** **14 38 04.5 +0.1**
GLA pmax pmax
comp=Z,30nm,1.1s
GLA Glamis 88.24 55 *e*P **P** **14 38 04.5 +0.1**
comp=Z,30nm,1.1s
GLA Glamis 88.24 55 ⇓P **P** **14 38 04.0 -0.3**
baz=88
IRM Iron Mountain 88.33 54 ⇑P **P** **14 38 04.7 0.0**
baz=88
JIRN Jiri 88.36 299 *e*P **P** **14 38 05.0 -0.4**
comp=Z,183nm,1.2s
WVOR Wild Horse Val 88.50 46 *e*P P 14 38 02.2 -3.3
WVOR pmax pmax
comp=Z,39nm,1.4s
WVOR Wild Horse Val 88.50 46 *e*P P 14 38 02.2 -3.3
comp=Z,39nm,1.4s
LDFC Landfair 88.65 53 *e*P **P** **14 38 03.3 -3.1**
comp=Z,63nm,1.2s
GUN Gumba 88.69 299 *e*P **P** **14 38 06.3 -0.7**
comp=Z,193nm,1.2s
Y12C Blythe 88.70 55 ⇑P **P** **14 38 06.3 -0.1**
baz=89
BMN Battle Mountai 88.81 48 *e*P **P** **14 38 06.4 -0.6**
BMN pmax pmax
comp=Z,21nm,1.2s
BMN MLR MLR
comp=Z,3μm,20.0s
BMN Battle Mountai 88.81 48 *e*P **P** **14 38 06.4 -0.6**
comp=Z,21nm,1.2s
BMN LR LR
comp=Z,3μm,20.0s
PKI Pulchoki 88.99 299 *e*P **P** **14 38 07.5 -0.9**
comp=Z,281nm,1.2s
113A Mohawk Valley, 89.00 56 ⇓P **P** **14 38 08.0 +0.1**
baz=89
SYO Syowa Base 89.05 197 ⇓*i*P **P** **14 38 06.4 -1.0**
SHPR Sheep Range 89.06 52 *e*P **P** **14 38 08.7 +0.4**
KKN Kakani 89.17 299 *e*P **P** **14 38 08.4 -0.7**
comp=Z,178nm,1.1s
PDMCI Parker Dam,Lak 89.17 54 ⇑P **P** **14 38 08.7 +0.1**
baz=89
DMN Daman 89.26 299 *e*P **P** **14 38 09.0 -0.6**
comp=Z,429nm,1.1s
G08A Pilot Rock 89.30 43 *e*P **P** **14 38 09.1 0.0**
comp=Z,32nm,1.4s
R11A Troy Canyon, C 89.32 50 *e*P **P** **14 38 07.8 -1.7**
R11A Troy Canyon, C 89.32 50 ⇑P **P** **14 38 09.2 -0.3**
baz=89
TIXI Tiksi 89.37 349*c i*P **P** **14 38 08.3 -0.4**
TIXI pmax pmax
comp=Z,58nm,1.0s
H2OWA Water 89.39 42 P **P** **14 38 11.2 +1.9**
LPIG La Paz 89.46 65 LR LR 15 13 00.5
comp=Z,1μm,18.2s,baz=298,slow=32
214A Organ Pipe Nat 89.53 57 ⇑P **P** **14 38 10.2 -0.3**
baz=90
W13A Hualapai Mount 89.61 54 ⇑P **P** **14 38 10.7 -0.3**
baz=90
GKN Gorkha 89.77 299 *e*P **P** **14 38 10.6 -1.2**
comp=Z,299nm,1.1s
Z14A Wintersburg 89.84 56 ⇑P **P** **14 38 11.9 +0.1**
baz=90
BMO Blue Mountains 90.24 44 PFAKE 14 38 20.0 +6.4
BMO LR LR
comp=Z,2μm,21.0s
ELK Elko 90.33 48 *e*P P 14 38 10.9 -3.4
comp=Z,14nm,1.2s
KOLN Koldanda 90.59 298 *e*P **P** **14 38 14.9 -0.8**
comp=Z,67nm,1.2s
DANN Dangsing 90.61 299 *e*P **P** **14 38 14.4 -1.5**
comp=Z,190nm,1.2s
HVS Khovu-Aksy 90.64 323*c i*P **P** **14 38 15.6 +0.4**
HVS pmax pmax
comp=Z,395nm,1.2s
CCUT Cedar City 90.75 51 *e*P **P** **14 38 16.0 -0.3**
comp=Z,18nm,1.2s
ARUT Antelope Range 90.76 51 *e*P P 14 38 11.6 -4.6
ARUT pmax pmax
comp=Z,250nm,1.2s
ARUT Antelope Range 90.76 51 *e*P P 14 38 11.6 -4.6
comp=Z,250nm,1.2s
MFID Camas Ranch 90.77 45 ⇑P **P** **14 38 15.7 -0.4**
baz=91
U15A North Rim 91.24 53 ⇑P **P** **14 38 18.5 -0.1**
baz=91
TUC Tucson 91.28 57 *e*P P 14 38 15.1 -3.6
TUC pmax pmax
comp=Z,18nm,1.1s
TUC Tucson 91.28 57 *e*P P 14 38 15.1 -3.6
comp=Z,18nm,1.1s
X16A Lo Mia Camp, P 91.34 55 ⇓P **P** **14 38 18.6 -0.4**
baz=91
NEW Newport 91.51 40 *e*P **P** **14 38 16.2 -3.1**
comp=Z,11nm,1.2s
NEW LR LR
comp=Z,2μm,20.0s
NEW Newport 91.51 40 ⇓P **P** **14 38 19.0 -0.3**
baz=92
WUAZ Wupatki 91.70 54 *e*P **P** **14 38 17.9 -2.8**
comp=Z,22nm,1.2s
WUAZ LR LR
comp=Z,4μm,19.0s
WUAZ Wupatki 91.70 54 ⇓P **P** **14 38 20.4 -0.3**
baz=92
HLID Hailey 91.79 46 *e*P P 14 38 17.7 -3.2
comp=Z,15nm,1.4s
HLID Hailey 91.79 46 ⇓P **P** **14 38 20.8 -0.1**
baz=92
MVU Marysvale 91.89 51 *e*P **P** **14 38 19.9 -1.7**
comp=Z,13nm,1.1s
MVU LR LR
comp=Z,3μm,20.0s
DUG Dugway 91.93 49 PFAKE 14 38 30.0 +8.4
DUG LR LR
comp=Z,6μm,20.0s
DUG Dugway 91.93 49 ⇑P **P** **14 38 21.4 -0.1**
baz=92
WMQ Urumqi 92.00 315 P **P** **14 38 22.3 +0.6**

WMQ pP **pP** **14 38 35.8 +0.7**
WMQ sP **sP** **14 38 41.0 +0.9**
WMQ PP **PP** **14 42 04.7 +2.8**
WMQ SKS **SKSac** **14 48 49.7 -1.5**
WMQ S **S** **14 49 17.9 -2.4**
WMQ SS **SS** **14 55 30.8 +0.5**
WMQ AMB AMB
comp=Z,87nm,1.6s
WMQ AMB AMB
comp=Z,730nm,3.6s
WMQ LR LR
comp=Z,1µm,17.8s
WMQ LR LR
comp=Z,1µm,19.4s
WMQ LR LR
comp=Z,1µm,24.0s
319A Douglas 92.27 58 ⇑P **P** **14 38 23.3 0.0**
baz=92
DGAR Diego Garcia 92.32 262 PFAKE 14 38 30.0 +6.2
DGAR LR LR
comp=Z,2µm,20.0s
HYB Hyderabad 92.47 287 *i* P **P** **14 38 23.0 -1.4**
HYB *ep*P **pP** **14 38 35.0 -2.8**
HYB *eS* **S** **14 49 28.0 +2.4**
HYB Hyderabad 92.47 287 *eP* **P** **14 38 22.9 -1.5**
HYB AMB AMB 14 38 25.3
comp=Z,46nm,0.0s
X18A Snowflake 92.55 55 ⇑P **P** **14 38 24.7 0.0**
baz=93
INK Inuvik 92.57 19 LR LR 15 15 51.2
comp=Z,3µm,19.7s,baz=232,slow=33
Q16A Castle Valley 92.79 51 ⇓P **P** **14 38 25.8 +0.1**
baz=93
W18A Petrified Fore 92.88 55 ⇓P **P** **14 38 25.7 -0.5**
baz=93
320A Kipp Ranch, An 92.88 59 ⇓P **P** **14 38 26.2 0.0**
baz=93
NGP Nagpur 92.92 291 *eP* **P** **14 38 23.8 -2.5**
NGP AMB AMB 14 38 25.1
comp=Z,69nm,0.8s
220A Playas Peak, P 93.03 58 ⇓P **P** **14 38 26.3 -0.5**
baz=93
120A U Bar Ranch, L 93.10 57 ⇓P **P** **14 38 27.1 -0.1**
baz=93
Z20A Nine Sixteen R 93.28 57 ⇑P **P** **14 38 28.5 +0.5**
baz=93
DLMT Dillon 93.57 44 *eP* **P** **14 38 28.5 -0.5**
comp=Z,6.7nm,1.0s
Y20A Horse Springs, 93.65 56 ⇓P **P** **14 38 29.5 -0.3**
baz=94
X20A Quemado 93.71 55 ⇓P **P** **14 38 30.1 +0.1**
baz=94
121A Cookes Peak, D 93.79 58 ⇓P **P** **14 38 30.5 +0.1**
baz=94
M17A Scullys Gap (B 93.85 48 ⇑P **P** **14 38 30.5 0.0**
baz=94
W20A Ramah 93.86 55 ⇓P **P** **14 38 30.6 -0.1**
baz=94
AHID Auburn Hatcher 93.89 47 PFAKE 14 38 40.0 +9.4
AHID LR LR
comp=Z,4µm,21.0s
SNAA Sanae 94.03 183 *eP* **P** **14 38 29.4 -1.2**
SNAA Sanae 94.03 183 *eP* **P** **14 38 29.5 -1.2**
comp=Z,149nm,1.3s
Y21A Point of Rocks 94.24 56 ⇑P **P** **14 38 32.3 -0.2**
baz=94
X21A Alamocita Cree 94.26 56 ⇑P **P** **14 38 32.2 -0.3**
baz=94
MVCO Mesa Verde 94.38 53 PFAKE 14 38 40.0 +6.9
MVCO LR LR
comp=Z,3µm,20.0s
P19A Cripple Cowboy 94.62 50 ⇓P **P** **14 38 34.0 -0.1**
baz=95
Z22A Elephant Butte 94.64 57 ⇓P **P** **14 38 33.9 -0.3**
baz=95
S20A Disappointment 94.64 52 ⇓P **P** **14 38 34.1 -0.2**
baz=95
AKL Akola 94.66 290 *eP* **P** **14 38 33.6 -0.8**
AKL AMB AMB 14 38 35.0
comp=Z,69nm,1.8s
R20A Redvale 94.71 52 ⇓P **P** **14 38 34.3 -0.2**
baz=95
Y22A Socorro 94.80 56 ⇓P **P** **14 38 34.9 -0.1**
baz=95
U21A Nageezi 94.84 54 ⇓P **P** **14 38 35.2 +0.1**
baz=95
BHPL Bhopal 94.87 293 *eP* **P** **14 38 33.8 -1.5**
BHPL AMB AMB 14 38 35.6
comp=Z,35nm,1.1s
X22A Bernardo 94.90 56 ⇓P **P** **14 38 35.6 +0.2**
baz=95
Q20A Ridgley Place, 94.97 51 ⇓P **P** **14 38 35.8 +0.2**
baz=95
VNA2 Neumayer--Watz 94.97 182 *eP* **P** **14 38 34.4 -0.5**
baz=202,slow=4.2
BW06 Boulder Array 94.98 47 PFAKE 14 38 50.0 +14
BW06 LR LR
comp=Z,3µm,19.0s
PDAR Pinedale Array 94.98 47 P **P** **14 38 36.5 +0.8**
PDAR PP **PP** **14 42 24.9 -0.6**
PDAR Pinedale Array 94.98 47 P **P** **14 38 36.5 +0.8**
comp=Z,1.2nm,0.9s,baz=280,slow=5.4,SNR=5.1
PDAR PP **PP** **14 42 24.9 -0.6**
comp=Z,0.9nm,1.1s,baz=91,slow=11,SNR=4.1
PDAR LR LR 15 15 56.4
comp=Z,2µm,19.9s,baz=264,slow=32
P20A De Beque 95.03 51 ⇓P **P** **14 38 35.8 -0.1**
baz=95
S21A Coal Bank Pass 95.04 53 ⇓P **P** **14 38 35.8 -0.4**
baz=95
VNA1 Neumayer--Stat 95.28 182 *eP* **P** **14 38 35.7 -0.5**
R21A Cimarron 95.39 52 ⇓P **P** **14 38 38.0 +0.3**
baz=96
324A Moseley Ranch, 95.43 59 ⇑P **P** **14 38 37.4 -0.5**
baz=96
N20A Spence Gulch, 95.44 49 ⇓P **P** **14 38 38.1 +0.3**
baz=96
Q21A Lamborn Mesa, 95.48 51 ⇓P **P** **14 38 38.0 0.0**
baz=96
Y23A Lovelace Mesa, 95.53 57 ⇑P **P** **14 38 38.2 -0.1**
baz=96
224A Cornudas Mount 95.54 58 ⇓P **P** **14 38 38.3 -0.1**
baz=96,SNR=5.8
MNTX Cornudas Mount 95.57 59 PFAKE 14 38 50.0 +12
MNTX LR LR
comp=Z,1µm,19.0s
L20A Wamsutter 95.67 48 ⇑P **P** **14 38 38.0 -0.8**
baz=96
P21A Newcastle 95.74 51 ⇓P **P** **14 38 39.3 +0.1**
baz=96
124A Stringfield Ra 95.74 58 ⇓P **P** **14 38 38.9 -0.4**
baz=96
RLMT Red Lodge 95.77 45 PFAKE 14 38 50.0 +11
RLMT LR LR
comp=Z,2µm,20.0s
S22A 4UR Ranch, Cre 95.80 53 ⇑P **P** **14 38 39.4 -0.2**
baz=96
325A Bean Ranch, Si 95.84 59 ⇓P **P** **14 38 39.5 -0.3**
baz=96,SNR=7.1
U23A El Rito 95.97 54 ⇑P **P** **14 38 40.1 -0.2**
baz=96
Q22A Crested Butte, 95.99 52 ⇓P **P** **14 38 40.2 -0.3**
baz=96
Y24A Capitan 96.03 57 ⇓P **P** **14 38 40.7 +0.1**
baz=96
626A Big Bend Ranch 96.14 61 ⇓P **P** **14 38 40.4 -0.7**
baz=96
EGMT Eagleton 96.16 42 PFAKE 14 38 50.0 +9.3
EGMT LR LR
comp=Z,2µm,20.0s
P22A Eagle 96.28 51 ⇑P **P** **14 38 41.3 -0.3**
baz=96
W24A Lazy 6 Ranch, 96.34 55 ⇓P **P** **14 38 41.3 -0.7**
baz=96
MK31 Makanchi Array 96.47 317 *eP* **P** **14 38 40.8 -1.3**
MK31 Makanchi Array 96.47 317 *eP* **P** **14 38 40.8 -1.3**
MKAR Makanchi Array 96.47 317 P **P** **14 38 41.4 -0.7**
MKAR 14 42 34.5
MKAR Makanchi Array 96.47 317 P **P** **14 38 41.4 -0.7**
MKAR PP **PP** **14 42 34.5 -2.2**
MKAR PKiKP **PKiKP** **14 43 19.9 +0.4**
MKAR PKKPbc **PKKPbc** **14 55 26.0 -2.3**
MKAR Makanchi Array 96.47 317 P **P** **14 38 41.4 -0.7**
comp=Z,34nm,1.0s,baz=103,slow=4.2,SNR=108
MKAR PP **PP** **14 42 34.5 -2.2**
comp=Z,8.5nm,1.1s,baz=95,slow=9.1,SNR=7.7
MKAR PKiKP **PKiKP** **14 43 19.9 +0.4**
comp=Z,1.9nm,0.9s,baz=104,slow=4.8,SNR=6.3
MKAR PKKPbc **PKKPbc** **14 55 26.0 -2.3**
comp=Z,1.4nm,0.9s,baz=277,slow=4.1,SNR=6.1
MKAR LR LR 15 23 32.7
comp=Z,688nm,19.1s,baz=294,slow=36
426A McDonald Obser 96.47 60 ⇑P **P** **14 38 41.5 -1.2**
baz=96
TXAR Lajitas Array 96.49 61 P **P** **14 38 42.1 -0.6**
TXAR PP **PP** **14 42 39.9 +2.5**
TXAR Lajitas Array 96.49 61 P **P** **14 38 42.1 -0.6**
comp=Z,1.7nm,1.0s,baz=240,slow=4.8,SNR=10
TXAR PP **PP** **14 42 39.9 +2.5**
comp=Z,7.4nm,1.2s,baz=242,slow=5.4,SNR=14
TXAR LR LR 15 13 38.7
comp=Z,2µm,21.2s,baz=60,slow=30
O22A Kremmling 96.56 50 ⇓P **P** **14 38 42.6 -0.4**
baz=97
V24A Rampart Ranch, 96.56 55 ⇑P **P** **14 38 42.6 -0.4**
baz=97
K21A Alcova 96.60 48 ⇑P **P** **14 38 43.1 0.0**
baz=97
Y25A Mesa, Roswell 96.63 57 ⇑P **P** **14 38 43.6 +0.3**
baz=97,SNR=7.3
326A Caldwell Ranch 96.66 59 ⇓P **P** **14 38 43.9 +0.5**
baz=97,SNR=9.7
226B Tecolote Peak, 96.67 59 ⇓P **P** **14 38 43.2 -0.2**
baz=97,SNR=11
R23A Moffat 96.67 52 ⇑P **P** **14 38 43.4 -0.2**
baz=97
ZAA0 Zalesovo Array 96.67 324 *eP* **P** **14 38 39.8 -3.0**
ZALV Zalesovo Beam 96.67 324 P **P** **14 38 41.0 -1.8**
ZALV Zalesovo Beam 96.67 324 P **P** **14 38 41.0 -1.8**
ZALV Zalesovo Beam 96.67 324 P **P** **14 38 41.0 -1.8**
comp=Z,60nm,1.1s,baz=113,slow=5.0,SNR=80
ZALV LR LR 15 23 32.8
comp=Z,888nm,18.1s,baz=69,slow=36
627A Terlingua Ranc 96.75 61 ⇑P **P** **14 38 44.0 +0.1**
baz=97,SNR=7.5
SDCO Great Sand Dun 96.82 53 PFAKE 14 38 50.0 +5.7
SDCO LR LR
comp=Z,4µm,19.0s
SMLA Simla 96.84 300 *eP* **P** **14 38 42.7 -1.4**
SMLA AMB AMB 14 38 44.7
comp=Z,28nm,0.6s
L22A Ellis Ranch, M 97.06 49 ⇑P Pdif 14 38 45.2 0.0
baz=97
POO Poona 97.08 287 ⇓*i*P **P** **14 38 44.0 -1.5**
W25A X Bar L Ranch, 97.10 56 ⇑P Pdif 14 38 45.5 +0.1
baz=97
V25A Rancho No Teng 97.11 55 ⇓P **P** **14 38 45.2 -0.3**
baz=97,SNR=12
N23A Red Feather La 97.17 50 ⇑P **P** **14 38 45.7 0.0**
baz=97
ISCO Idaho Springs 97.18 51 PFAKE 14 39 00.0 +14
ISCO LR LR
comp=Z,4µm,20.0s
ISCO Idaho Springs 97.18 51 ⇓P **P** **14 38 45.9 0.0**
baz=97
628A Black Gap, Mar 97.19 61 ⇑P **P** **14 38 45.6 -0.2**
baz=97
J22A Midwest 97.33 47 ⇑P Pdif 14 38 46.9 +0.6
baz=97
YKA Yellowknife Ar 97.33 27 P **P** **14 38 44.9 -0.7**
YKA PKiKP **PKiKP** **14 43 19.7 -0.8**
YKA Yellowknife Ar 97.33 27 P **P** **14 38 44.8 -0.7**
comp=Z,3.1nm,0.9s,baz=67,slow=16,SNR=4.4
YKA PKiKP **PKiKP** **14 43 19.7 -0.8**
comp=Z,1.7nm,0.8s,baz=260,slow=1.5,SNR=5.5
Q24A Divide 97.36 52 ⇑P Pdif 14 38 46.9 +0.2
baz=97
528A Cox Ranch, San 97.42 61 ⇑P Pdif 14 38 47.4 +0.5
baz=98
S25A Robets Cordova 97.63 53 ⇓P Pdif 14 38 48.5 +0.7
baz=98
Z27A Tatum 97.71 58 ⇓P Pdif 14 38 48.9 +0.7
baz=98
NVS Novosibirsk 97.79 325 ⇑*i*P **P** **14 38 46.2 -1.6**
NVS *e* 14 42 41.6
NVS *e* 14 49 23.5
NVS *eS* **S** **14 50 06.2 -3.9**
NVS pmax pmax
comp=N,21nm,1.5s
NVS pmax pmax
comp=E,48nm,1.5s
NVS pmax pmax
comp=Z,73nm,1.5s
NVS pmax pmax
comp=Z,44nm,2.0s
NVS pmax pmax
comp=E,29nm,1.9s
DHRM DHARAMSHALA 97.80 301 *ex* P 14 38 44.4 -4.3
DHRM AMB AMB 14 38 48.4
comp=Z,27nm,1.5s
529A Stev Forest Ra 97.89 61 ⇑P Pdif 14 38 49.6 +0.6
baz=98
I23A Meade Ranch, G 98.16 47 ⇑P **P** **14 38 49.3 -0.7**
baz=98
LAO LASA Array 98.20 44 PFAKE 14 39 00.0 +10
LAO LR LR
comp=Z,2µm,20.0s
429A Davenport Ranc 98.27 61 ⇑Pdiff Pdif 14 38 51.6 +0.9
baz=98
531A Rocksprings 99.32 61 ⇑Pdiff **Pdif** **14 38 55.4 +0.1**
baz=99
KSH Kashi 99.47 308 P **Pdif** **14 38 58.9 +3.0**
KSH pP **pP** **14 39 13.7 +4.4**
KSH sP **sP** **14 39 18.6 +4.3**
KSH PP **PP** **14 43 02.2 +2.2**
KSH S **S** **14 50 30.0 +4.6**
KSH AMB AMB
comp=Z,12nm,1.3s
KSH AMB AMB
comp=Z,160nm,3.9s
KSH LR LR
comp=Z,710nm,13.8s
KSH LR LR
comp=Z,1µm,20.6s
KSH LR LR
comp=Z,550nm,18.1s
KURK Kurchatov 99.67 320 *c i*P **Pdif** **14 38 55.8 -0.5**
KURK pmax pmax
comp=Z,7.0nm,1.0s
KURK Kurchatov 99.67 320 P **Pdif** **14 38 56.2 -0.1**
SNR=9.4
KURK Kurchatov 99.67 320 *e*Pdif **Pdif** **14 38 52.5 -3.8**
comp=Z,13nm,1.4s
532A Rocksprings 99.86 61 ⇑Pdiff **Pdif** **14 38 57.2 -0.6**
baz=100
DGMT Dagmar 99.89 42 PFAKE 14 39 10.0 +13
DGMT LR LR
comp=Z,2µm,20.0s
JCT Junction City 100.01 61 PFAKE 14 39 10.0 +12
JCT LR LR
comp=Z,3µm,21.0s
JCT Junction City 100.01 61 ⇑Pdiff **Pdif** **14 38 58.7 +0.3**
baz=100
OGNE Ogallala 100.09 50 PFAKE 14 39 10.0 +11
OGNE LR LR
comp=Z,5µm,21.0s
432A Menard 100.09 61 ⇓Pdiff **Pdif** **14 38 58.6 -0.2**
baz=100
AAK Ala-Archa 101.10 311 PFAKE 14 39 10.0 +6.9
AAK LR LR
comp=Z,977nm,20.0s
KVTX Kingsville 101.12 64 PFAKE 14 39 10.0 +6.7
KVTX LR LR
comp=Z,1µm,20.0s
WMOK Wichita Mounta 101.59 57 PFAKE 14 39 20.0 +15
WMOK LR LR
comp=Z,2µm,21.0s
EKS2 Erkin-Say 101.63 311 PFAKE 14 39 20.0 +15
EKS2 LR LR
comp=Z,758nm,20.0s
FFC Flin Flon 102.21 36 PFAKE 14 39 20.0 +12
FFC LR LR
comp=Z,2µm,20.0s
PAYG Puerto Ayora 102.42 94 PFAKE 14 39 20.0 +11
PAYG LR LR
comp=Z,3µm,19.0s
RER Riviere de l'E 103.69 244 PFAKE 14 39 30.0 +15
RER LR LR
comp=Z,2µm,20.0s
EFI East Falkland 103.75 153 PFAKE 14 39 30.0 +15
EFI LR LR
comp=Z,5µm,19.0s
KSU1 Kansas State U 103.93 53 PFAKE 14 39 30.0 +14
KSU1 LR LR
comp=Z,5µm,19.0s
ECSD EROS Data Cent 104.45 48 PFAKE 14 39 30.0 +12
ECSD LR LR
comp=Z,2µm,19.0s
BRVK Borovoye 105.09 322 *eP* **Pdif** **14 39 19.9 -0.5**
BRVK pmax pmax
comp=Z,17nm,1.4s
BRVK MLR MLR
comp=Z,1µm,19.0s
BRVK Borovoye 105.09 322 P **Pdif** **14 39 20.6 +0.3**
SNR=5.2
BRVK Borovoye 105.09 322 *e*Pdif **Pdif** **14 39 19.9 -0.5**
comp=Z,17nm,1.4s
BRVK LR LR
comp=Z,1µm,19.0s
AGMN Agassiz Nation 105.38 43 PFAKE 14 43 50.0
AGMN LR LR
comp=Z,2µm,20.0s
MIAR Mount Ida 105.82 58 PFAKE 14 43 50.0
MIAR LR LR
comp=Z,2µm,19.0s
SCIA State Center 106.78 50 PFAKE 14 43 50.0
SCIA LR LR
comp=Z,6µm,20.0s
VBMS Vicksburg 108.11 60 PFAKE 14 43 50.0
VBMS LR LR
comp=Z,2µm,20.0s
EYMN Ely 108.28 44 PFAKE 14 43 50.0
EYMN LR LR
comp=Z,3µm,19.0s
TGUH Tegucigalpa,Un 108.56 80 PFAKE 14 43 50.0
TGUH LR LR
comp=Z,1µm,21.0s
TEIG Tepich 108.63 73 PFAKE 14 43 50.0
TEIG LR LR
comp=Z,1µm,20.0s
JFWS Jewell Farm 109.03 49 PFAKE 14 43 50.0
JFWS LR LR
comp=Z,3µm,20.0s
MSEY Mahe Island 109.31 260 PFAKE 14 43 50.0
MSEY LR LR
comp=Z,655nm,20.0s
HDIL Hopedale 109.66 52 PFAKE 14 43 50.0
HDIL LR LR
comp=Z,5µm,19.0s
LCO Las Campanas 109.85 128 *e*Pdif **Pdif** **14 39 42.1 -0.4**
LCO LR LR
comp=Z,6µm,20.0s
COWI Conover 109.88 46 PFAKE 14 44 00.0
COWI LR LR
comp=Z,2µm,21.0s
JTS JuntasAbangare 110.08 84 PFAKE 14 44 00.0
JTS LR LR
comp=Z,3µm,20.0s
SVE Sverdlovsk 110.59 326 *i* PKIKP **PKiKP** **14 43 45.2 +0.3**
SVE pmax pmax
comp=Z,36nm,1.5s
TRQA Tornquist 110.82 141 PFAKE 14 44 00.0
TRQA LR LR
comp=Z,9µm,19.0s
LRAL Lakeview Retre 111.14 60 PFAKE 14 44 00.0
LRAL LR LR
comp=Z,2µm,20.0s
IDAH Dahanechah 111.62 300 *eP* **PKiKP** **14 43 48.2 +0.2**
ARU Arti 111.77 325 *i* PKIKP **PKiKP** **14 43 46.5 -0.6**
ARU 14 44 29.9
ARU SP SP 14 53 59.5 +2.4
ARU SS **SS** **14 59 58.0 -5.0**
ABPO Ambohimpanom 111.89 243 PFAKE 14 44 00.0
ABPO LR LR
comp=Z,3µm,20.0s
SOKR Solikamsk 112.23 329 *i* PKIKP **PKiKP** **14 43 48.5 +0.7**
SOKR pmax pmax
comp=Z,20nm,1.0s
SOKR MLR MLR
comp=Z,1µm,18.0s
IEMG Emamgholi 112.78 305 *eP* **PKiKP** **14 43 49.7 -0.4**
ISFR Sfrayin 113.30 304 *eP* **PKiKP** **14 43 51.1 0.0**
OTAV Otavalo 114.08 96 PFAKE 14 44 00.0 +6.6
OTAV LR LR
comp=Z,2µm,19.0s
KBS Kingsbay 114.14 355 *e* **PP** **14 44 48.1 +1.8**
KBS AMS AMS 15 27 05.8
comp=Z,1µm,20.5s
KBS Kingsbay 114.14 355 PFAKE 14 44 00.0 +8.9
KBS LR LR
comp=Z,1µm,20.0s
LVC Limon Verde 114.36 123 PFAKE 14 44 00.0 +6.5
LVC LR LR
comp=Z,9µm,20.0s
ACSO Alum Creek Sta 114.48 52 PFAKE 14 44 00.0 +7.2
ACSO LR LR
comp=Z,5µm,20.0s
BCIP Isla Barro Col 114.80 86 PFAKE 14 44 10.0 +16
BCIP LR LR
comp=Z,1µm,20.0s
IBAF Bafgh 115.21 298 *eP* **PKPdf** **14 43 54.2 -0.5**
IMEH Mehriz 116.02 298 *eP* **PKPdf** **14 43 55.2 -1.2**
ICHK Chekchek 116.21 299 *eP* **PKPdf** **14 43 56.4 -0.3**
BLA Blacksburg 116.59 55 PFAKE 14 44 10.0 +13
BLA LR LR
comp=Z,3µm,19.0s
ERPA Erie 116.63 50 PFAKE 14 44 10.0 +13
ERPA LR LR
comp=Z,3µm,21.0s
MCWV Mont Chateau 116.92 53 PFAKE 14 44 10.0 +12
MCWV LR LR
comp=Z,6µm,20.0s
ISRV Sarvestan 117.27 296 *eP* **PKPdf** **14 43 58.0 -1.0**
IPAR Pars 117.34 296 *eP* **PKPdf** **14 43 59.0 -0.1**
LPAZ La Paz 117.91 117 *e*PKPdf **PKPdf** **14 44 00.2 -0.7**
LPAZ PKKPab **PKKPab** **14 54 24.6 -0.6**
LPAZ La Paz 117.91 117 PKP **PKPdf** **14 44 00.2 -0.7**
comp=Z,5.6nm,1.0s,baz=331,slow=1.8,SNR=13
LPAZ PKKPab **PKKPab** **14 54 24.6 -0.6**
comp=Z,1.1nm,0.8s,baz=26,slow=11,SNR=3.8
ISFB Sefidab 118.01 301 *eP* **PKPdf** **14 43 59.3 -0.6**
IVRN Varamin 118.41 302 *eP* **PKPdf** **14 44 01.2 +0.5**
IKLH Kolahrood 118.59 300 *eP* **PKPdf** **14 44 01.2 -0.1**
CNNC Cliffs of the 118.71 57 PFAKE 14 44 10.0 +8.9
CNNC LR LR
comp=Z,3µm,20.0s
APA Apatity 118.73 341 ⇑*i* PKIKP PKPdf 14 43 51.6 -8.6
APA *i* 14 50 49.0
APA MLR MLR
comp=Z,3µm,25.0s
CBN Corbin 118.94 54 PFAKE 14 44 10.0 +8.5
CBN LR LR
comp=Z,3µm,20.0s
IR3 Iran Long-Peri 118.97 303 *eP* **PKPdf** **14 43 59.0 -2.8**
KEV Kevo 119.10 345 *e*pkp **PKPdf** **14 43 59.2 -1.6**
comp=Z,9.2nm,0.7s
KEV Kevo 119.10 345 PFAKE 14 44 10.0 +9.2
KEV LR LR
comp=Z,2µm,19.0s
ROSC El Rosal 119.22 92 PKP **PKPdf** **14 44 03.4 +0.2**
ROSC El Rosal 119.22 92 PKP **PKPdf** **14 44 03.4 +0.2**
comp=Z,6.8nm,0.3s,baz=94,slow=19,SNR=3.7
IGZV Ghazvin 119.57 304 *eP* **PKPdf** **14 44 02.9 -0.2**
BINY Binghamton 119.58 49 PFAKE 14 44 10.0 +7.4
BINY LR LR
comp=Z,5µm,21.0s
ARCES ARCESS Array B 119.62 345 PKP **PKPdf** **14 44 00.7 -1.2**
ARCES PKKPbc **PKKPab** **14 54 13.8 -0.2**
ARCES ARCESS Array B 119.62 345 PKP **PKPdf** **14 44 00.7 -1.2**
comp=Z,16nm,0.6s,baz=70,slow=1.7,SNR=100
ARCES PKKPbc **PKKPab** **14 54 13.8 -0.2**
comp=Z,3.3nm,0.9s,baz=207,slow=1.4,SNR=5.2
ARE0 ARCESS Array S 119.62 345 *eP* **PKPdf** **14 43 59.9 -2.0**
ARE0 ARCESS Array S 119.62 345 *e*PKPdf **PKPdf** **14 44 01.3 -0.6**
SUMG Summit 119.81 8 *e*PKIKP **PKPdf** **14 44 02.2 -0.5**
SUMG Summit 119.81 8 *i* P **PKPdf** **14 44 03.1 +0.4**
comp=Z,24nm,1.0s
SUMG Summit 119.81 8 *e*PKPdf **PKPdf** **14 44 02.2 -0.5**
IRAZ Razeghan 119.86 303 *eP* **PKPdf** **14 44 03.0 -0.6**
KLMR Klimovskoe 119.99 333 *e*PKIKP **PKPdf** **14 44 01.1 -1.7**
KLMR pmax pmax
comp=Z,123nm,1.5s
ILULI Ilulissat 120.09 15 *i* PKIKP **PKPdf** **14 44 01.4 -1.3**
ILULI pmax pmax
comp=Z,31nm,1.0s
LONY Lake Ozonia 120.22 46 PFAKE 14 44 10.0 +6.2
LONY LR LR
comp=Z,2µm,21.0s

KTK1 Kautokeino 120.56 346 eP PKPdf 14 44 03.2 -0.5
NCB Newcomb 120.58 47 PFAKE 14 44 20.0 +15
NCB LR LR
comp=Z,3µm,19.0s
GTBY Guantanamo Bay 120.88 75 PFAKE 14 44 20.0 +14
GTBY LR LR
comp=Z,808nm,20.0s
MAK Makhachkala 120.88 312 i PKIKP PKPdf 14 44 06.1 +1.1
MAK e 14 45 36.9
MAK ePPP PPP 14 48 08.2
MAK e 14 50 56.6
MAK ePS PS 14 55 23.1 -3.4
MAK eSS SS 15 01 58.8 -4.0
MAK eSSS SSS 15 06 29.3
MAK pmax pmax
comp=Z,253nm,1.7s
TRO Tromso 121.06 347 eP PKPdf 14 44 02.7 -1.9
CPUP Villa Florida 121.18 133 PKP PKPdf 14 44 05.8 -0.4
CPUP Villa Florida 121.18 133 PKP PKPdf 14 44 05.8 -0.4
comp=Z,5.6nm,0.8s,baz=204,slow=2.4,SNR=8.2
SFJD Kangerlussuaq 121.83 16 i P PKPdf 14 44 05.1 -1.0
comp=Z,19nm,1.0s
SFJD Kangerlussuaq 121.83 16 PFAKE 14 44 20.0 +14
SFJD LR LR
comp=Z,1µm,21.0s
UMR Umm Al-Rimmam 121.98 296 eP PKPdf 14 44 06.7 -0.9
UMR AMb AMB 14 44 10.0
comp=Z,120nm,1.4s
RDF Al-Radifah 122.13 295 eP PKPdf 14 44 07.2 -0.7
RDF AMb AMB 14 44 12.4
comp=Z,115nm,1.3s
LBNH Lisbon 122.16 46 PFAKE 14 44 20.0 +13
LBNH LR LR
comp=Z,2µm,19.0s
SCHQ Schefferville 122.16 33 PKP PKPdf 14 44 05.8 -1.4
SCHQ Schefferville 122.16 33 PKP PKPdf 14 44 05.8 -1.4
comp=Z,2.5nm,0.3s,baz=340,slow=8.2,SNR=6.0
JOF Joensuu 122.21 338 epkp PKPdf 14 44 04.5 -2.5
comp=Z,14nm,0.7s
NAY Al-Naaiem 122.40 296 eP PKPdf 14 44 07.4 -1.0
RST Umm Al-Ruwaisa 122.60 296 eP PKPdf 14 44 07.7 -1.1
RST AMb AMB 14 44 14.8
comp=Z,759nm,0.9s
DGRG David-gareji 122.70 310 P PKPdf 14 44 10.9 +2.2
VRHR Novokhopersk 122.76 322 ePKIKP PKPdf 14 44 08.6 +0.2
VRHR pmax pmax
comp=Z,40nm,1.0s
VRHR pmax pmax
comp=N,20nm,1.3s
VRHR pmax pmax
comp=E,20nm,0.8s
TBLG Delisi 123.12 311 P PKPdf 14 44 11.3 +1.9
MOS Moscow 123.17 328 ePKIKP PKPdf 14 44 05.6 -3.4
MOS pmax pmax
comp=Z,62nm,1.2s
STEI Steigen 123.23 348 eP PKPdf 14 44 08.1 -0.7
SUR Sutherland 123.34 215 PFAKE 14 44 20.0 +10
SUR LR LR
comp=Z,2µm,20.0s
GNI Garni 123.40 309 ePKPdf PKPdf 14 44 08.2 -2.0
GNI LR LR
comp=Z,845nm,19.0s
BOSA Boshof 123.42 221 ePKPdf PKPdf 14 44 10.3 -0.3
BOSA PKP PKPdf 14 44 10.7 0.0
BOSA Boshof 123.42 221 PKP PKPdf 14 44 10.7 0.0
comp=Z,26nm,1.2s,baz=120,slow=4.0,SNR=6.9
SCO Scoresbysund 123.50 3 ePKIKP PKPdf 14 44 09.4 +0.1
SCO pmax pmax
comp=Z,33nm,1.0s
SCO Scoresbysund 123.50 3 i P PKPdf 14 44 09.4 +0.1
comp=Z,33nm,1.0s
ZEI Tsey 123.52 312 i PKIKP PKPdf 14 44 09.8 -0.6
ZEI pmax pmax
comp=Z,39nm,1.3s
GOF Gofitskoye 123.60 315 ePKIKP PKPdf 14 44 11.3 +1.1
PKME Peaks-Kenny Pk 123.75 45 PFAKE 14 44 20.0 +10
PKME LR LR
comp=Z,2µm,20.0s
ONI Oni 123.88 312 P PKPdf 14 44 12.1 +1.2
OBN Obninsk 123.99 328⇑ i PKIKP PKPdf 14 44 09.5 -1.1
OBN e 14 45 55.4
OBN i PS PS 14 55 56.1 +2.6
OBN pmax pmax
comp=Z,97nm,1.2s
KBZ Khabaz 124.02 313 PKIKP PKPdf 14 44 09.0 -2.0
KBZ Khabaz 124.02 313 PKP PKPdf 14 44 09.0 -2.0
KBZ Khabaz 124.02 313 PKP PKPdf 14 44 09.0 -2.0
comp=Z,12nm,1.1s,baz=150,slow=1.3,SNR=11
AKH Akhalkalaki 124.10 311 P PKPdf 14 44 12.8 +1.3
KIV Kislovodsk 124.12 314⇑ i PKIKP PKPdf 14 44 12.1 +0.7
KIV e 14 45 58.9
KIV i PS PS 14 55 57.0 +1.6
KIV eSS SS 15 02 47.1 +3.1
KIV pmax pmax
comp=Z,59nm,1.3s
KIV MLR MLR
comp=Z,500nm,20.0s
VSR Storozhevoye 124.16 323 ePKIKP PKPdf 14 44 11.3 +0.2
VSR pmax pmax
comp=E,30nm,1.2s
VSR pmax pmax
comp=Z,70nm,1.2s
VSR pmax pmax
comp=N,10.0nm,1.4s
VORD Divnogorie 124.18 323 ePKIKP PKPdf 14 44 11.5 +0.4
VORD pmax pmax
comp=Z,40nm,1.1s
VORD pmax pmax
comp=E,10.0nm,0.7s
PQI Presque Isle 124.22 43 ePKPdf PKPdf 14 44 10.0 -1.4
SDDR Presa de Saban 124.40 77 PFAKE 14 44 20.0 +7.4
SDDR LR LR
comp=Z,1µm,19.0s
KAF Kangasniemi 124.53 339 epkp PKPdf 14 44 09.4 -2.1
comp=Z,11nm,0.5s
GRTK Grand Turk 124.70 74 PFAKE 14 44 20.0 +7.0
GRTK LR LR
comp=Z,1µm,19.0s
CHVG Ch'k'valeri 124.84 312 P PKPdf 14 44 14.1 +1.4
FIA1 FINESS Array S 125.05 338 ePKPdf PKPdf 14 44 11.9 -0.6
FINES FINESS Array B 125.05 338 PKP PKPdf 14 44 11.6 -0.9
FINES FINESS Array B 125.05 338 PKhKP PKPpre 14 44 03.7
comp=Z,2.5nm,0.9s,baz=115,slow=8.6,SNR=5.7
FINES PKP PKPdf 14 44 11.6 -0.9
comp=Z,33nm,0.9s,baz=95,slow=4.4,SNR=37
SAML Samuel 125.40 112 ePKPdf PKPdf 14 44 12.9 -1.7
SAML LR LR
comp=Z,7µm,19.0s
SOC Sochi 126.29 314 c i PKIKP PKPdf 14 44 15.4 0.0
SOC e 14 44 29.0
SOC i 14 46 08.9
SOC ePPP PPP 14 48 49.3
SOC e 14 51 19.6
SOC ePS PS 14 56 04.1 -10
SOC eSS SS 15 03 09.8 -1.2
SOC eSSS SSS 15 07 51.1
SOC pmax pmax
comp=Z,55nm,1.4s
VSU Vasula 126.73 335 d i PKIKP PKPdf 14 44 16.3 +0.5
NSS Namsos 126.82 347 eP PKPdf 14 44 15.2 -0.6
ANN Anapa 127.49 316 i PKIKP PKPdf 14 44 17.0 -0.6
ANN e 14 46 16.8
ANN pmax pmax
comp=Z,43nm,1.3s
NRS Narsarsuaq 127.70 19 i PKIKP PKPdf 14 44 16.8 -0.7
NRS pmax pmax
comp=Z,36nm,1.1s
KMBO Kilima Mbogo 127.71 257 PKP PKPdf 14 44 18.0 -1.4
KMBO ePKPdf PKiKP 14 44 18.3 -1.6
KMBO LR LR
comp=Z,1µm,19.0s
KMBO Kilima Mbogo 127.71 257 PKP PKPdf 14 44 18.0 -1.4
comp=Z,0.7nm,0.3s,baz=47,slow=23,SNR=9.2
MALT Malatya 128.57 308 ⇑PKIKP PKPdf 14 44 21.9 +1.8
MALT Malatya 128.57 308 ⇑i P PKPdf 14 44 21.9 +1.8
MICGM Minsk 128.62 331 ⇓e P PKPdf 14 44 20.0 +0.5
MNK Minsk 128.64 331 ⇓e PKIKP PKPdf 14 44 20.0 +0.4
MNK pmax pmax
comp=Z,260nm,1.5s
CELP Cerrillos 128.79 78 ePKPdf PKPdf 14 44 21.0 +0.1
ISAL Salakas 128.79 332 eP PKPdf 14 44 20.4 +0.7
ISAL AMB AMB 14 44 22.5
comp=Z,21nm,1.4s
IIGN Ignalina 128.88 332 eP PKPdf 14 44 20.2 +0.2
IIGN AMB AMB 14 44 22.2
comp=Z,38nm,1.4s
NACGM Naroch 128.90 331 e PKPdf 14 44 18.0 -2.0
TRIS Tristan da Cun 128.99 181 PFAKE 14 44 30.0 +9.2
TRIS LR LR
comp=Z,2µm,20.0s
SJG San Juan 129.20 78 ePKPdf PKPdf 14 44 20.4 -1.3
SJG LR LR
comp=Z,2µm,20.0s
LSZ Lusaka 129.61 236 ePKPdf PKPdf 14 44 23.1 +0.4
LSZ LR LR
comp=Z,2µm,20.0s
SIM Simferopol' 129.65 317 ePKIKP PKPdf 14 44 21.3 -0.5
SIM pmax pmax
comp=Z,200nm,7.7s
SPB Sao Paulo 129.72 138 PFAKE 14 44 30.0 +7.4
SPB LR LR
comp=Z,8µm,20.0s
BBSR BB Station 129.92 60 PFAKE 14 44 30.0 +7.3
BBSR LR LR
comp=Z,2µm,19.0s
NB2 NORSAR Subarra1 129.99 345 PKPdf PKPdf 14 44 21.0 -1.0
comp=Z,48nm,1.2s,baz=31,slow=1.9
NB2 NORSAR Subarra1 129.99 345 PKPdf PKPdf 14 44 21.0 -1.0
baz=31,slow=1.9
NOA NORSAR Array B 129.99 345 PKP PKPdf 14 44 21.2 -0.8
NOA SKPbc SKPbc 14 47 42.8 +1.6
NOA SKP 14 47 54.7
NOA NORSAR Array B 129.99 345 PKP PKPdf 14 44 21.2 -0.8
comp=Z,23nm,1.0s,baz=36,slow=2.0,SNR=22
NOA SKPbc SKPbc 14 47 42.8 +1.6
comp=Z,8.6nm,1.0s,baz=32,slow=4.3,SNR=9.2
NOA SKP 14 47 54.7
comp=Z,8.1nm,1.0s,baz=31,slow=3.0,SNR=5.6
AKASG Malin Array Be 130.02 326 PKIKP PKPdf 14 44 22.0 -0.3
AKASG 14 46 33.5
AKASG Malin Array Be 130.02 326 PKP PKPdf 14 44 22.0 -0.3
AKASG PP PP 14 46 33.5 -1.1
AKASG SKP 14 47 54.3
AKASG Malin Array Be 130.02 326 PKP PKPdf 14 44 22.0 -0.3
comp=Z,20nm,1.0s,baz=53,slow=1.7,SNR=66
AKASG PP PP 14 46 33.5 -1.1
comp=Z,2.4nm,0.9s,baz=52,slow=6.6,SNR=7.1
AKASG SKP 14 47 54.3
comp=Z,3.2nm,0.6s,baz=46,slow=4.4,SNR=8.6
KIEV Kiev 130.03 326 ePKIKP PKPdf 14 44 21.6 -0.7
KIEV MLR MLR
comp=Z,1µm,20.0s
KIEV Kiev 130.03 326 ePKPdf PKPdf 14 44 21.6 -0.7
KIEV LR LR
comp=Z,1µm,20.0s
HFS Hagfors 130.08 343 PKP PKPdf 14 44 20.8 -1.3
HFS SKPbc SKPbc 14 47 43.4 +2.0
HFS Hagfors 130.08 343 PKP PKPdf 14 44 20.8 -1.3
baz=72,slow=4.7
HFS SKPbc SKPbc 14 47 43.4 +2.0
comp=Z,9.6nm,0.9s,baz=72,slow=4.8,SNR=6.1
NAO01 NORSAR Array S 130.24 345 ePKPdf PKPdf 14 44 23.1 +0.7
ASF Jabal al Asfar 131.00 300 PKP PKPdf 14 44 24.6 -0.3
ASF SKPbc SKPab 14 47 51.1 +5.0
ASF Jabal al Asfar 131.00 300 PKP PKPdf 14 44 24.6 -0.3
comp=Z,9.9nm,1.1s,baz=149,slow=2.9
ASF SKPbc SKPab 14 47 51.1 +5.0
comp=Z,1.8nm,0.7s,baz=153,slow=1.2,SNR=6.9
SUW Suwalki 131.10 332 ePKP PKPdf 14 44 25.3 +1.1
KONO Kongsberg 131.60 345 eP PKPdf 14 44 26.0 +1.0
KONO e 14 46 43.9
KONO Kongsberg 131.60 345 ePKIKP PKPdf 14 44 26.2 +1.1
KONO MLR MLR
comp=Z,1µm,21.0s
KONO Kongsberg 131.60 345 ePKPdf PKPdf 14 44 26.1 +1.1
KONO LR LR
comp=Z,1µm,21.0s
BR131 Keskin Array S 131.78 311 ePKPdf PKPdf 14 44 26.0 -0.2
BRTR Keskin Array B 131.78 311 PKP PKPdf 14 44 24.6 -1.7
BRTR PP PP 14 46 47.0 +0.2
BRTR SKP 14 48 01.9
BRTR Keskin Array B 131.78 311 PKP PKPdf 14 44 24.6 -1.7
comp=Z,3.5nm,0.9s,baz=124,slow=1.6,SNR=16
BRTR PP PP 14 46 47.0 +0.2
comp=Z,8.2nm,1.1s,baz=97,slow=3.0,SNR=7.0
BRTR SKP 14 48 01.9
comp=Z,5.8nm,0.7s,baz=104,slow=3.8,SNR=11
RUND Rundenannen 131.90 348 eP PKPdf 14 44 27.2 +1.5
MMAI Mount Meron Ar 132.10 302 PKP PKPdf 14 44 26.2 -0.7
MMAI SKPbc SKPab 14 47 55.0 +4.3
MMAI SKP 14 48 04.7
MMAI Mount Meron Ar 132.10 302 PKP PKPdf 14 44 26.2 -0.7
comp=Z,15nm,1.0s,baz=97,slow=4.7,SNR=3.7
MMAI SKPbc SKPab 14 47 55.0 +4.3
comp=Z,7.2nm,1.1s,baz=38,slow=4.2,SNR=6.3
MMAI SKP 14 48 04.7
comp=Z,8.9nm,0.9s,baz=85,slow=3.5,SNR=5.8
KIS Kishinev 132.10 322 ePKP PKPdf 14 44 27.0 +0.6
KIS Kishinev 132.10 322 ePP PP 14 46 45.0 -3.2
KIS eSKP 14 47 50.0
KIS eSKS SKSdf 14 51 10.0 -24
KIS LRM MLR 15 44 15.0
comp=Z,1µm,20.0s
KIS Kishinev 132.10 322 ePKIKP PKPdf 14 44 27.0 +0.6
KIS e 14 46 45.0
KIS MLR MLR
comp=N,1µm,20.0s
KIS MLR MLR
comp=Z,1µm,20.0s
KIS MLR MLR
comp=Z,2µm,22.0s
ANTO Ankara 132.35 311 ePKIKP PKPdf 14 44 27.9 +0.7
ANTO MLR MLR
comp=Z,767nm,21.0s
ANTO Ankara 132.35 311 ⇑i P PKPdf 14 44 28.6 +1.4
ANTO Ankara 132.35 311 ePKPdf PKPdf 14 44 27.9 +0.7
ANTO LR LR
comp=Z,767nm,21.0s
GRGR Grenville 132.91 87 PFAKE 14 44 40.0 +11
GRGR LR LR
comp=Z,4µm,21.0s
TLCR 132.96 320 ⇓PKIKP PKPdf 14 44 29.0 +1.0
TLCR 132.96 320 ⇑P PKSdf 14 48 07.7 +3.4
TLCR 132.96 320 ⇓i P PKPdf 14 44 29.0 +1.0
TLCR 132.96 320 ⇑i P PKSdf 14 48 07.7 +3.4
EIL Elat 133.04 297 PKP PKPdf 14 44 28.3 -0.4
EIL Elat 133.04 297 PKP PKPdf 14 44 28.3 -0.4
comp=Z,23nm,1.1s,baz=27,slow=6.8
LVV L'vov 133.28 327 ePKIKP PKPdf 14 44 28.4 -0.1
LVV e 14 46 54.6
ANWB Willy Bob 133.32 79 PFAKE 14 44 40.0 +11
ANWB LR LR
comp=Z,3µm,20.0s
CSS Prodhromos 133.35 305 P PKPdf 14 44 28.8 -0.3
CSS Prodhromos 133.35 305 ePKPdf PKPdf 14 44 29.6 +0.4
CSS LR LR
comp=Z,1µm,20.0s
CFR Carcaliu 133.39 320 ⇓PKIKP PKPdf 14 44 29.3 +0.5
CFR Carcaliu 133.39 320 ⇓i P PKPdf 14 44 29.3 +0.5
BEL Belsk 133.62 331 ePKP PKPdf 14 44 30.2 +1.1
TESR Tescani 133.64 322 ⇑i P PKPdf 14 44 29.7 +0.4
TESR Tescani 133.64 322 ⇓i P PKSdf 14 48 07.2 +1.6
BSD Bornholm Skovb 133.69 338 i PKIKP PKPdf 14 44 33.9 +4.8
BSD pmax pmax
comp=Z,37nm,0.9s
BSD Bornholm Skovb 133.69 338 i P PKPdf 14 44 33.9 +4.8
comp=Z,37nm,0.9s
TLB Topalu 133.72 319 ⇑PKIKP PKPdf 14 44 30.9 +1.4
TLB Topalu 133.72 319 ⇑P PKSdf 14 48 10.5 +4.8
TLB Topalu 133.72 319 ⇑i P PKPdf 14 44 30.9 +1.4
TLB Topalu 133.72 319 ⇑i P PKSdf 14 48 10.5 +4.8
BUR08 Bucovina Ar. S 133.88 324 ePKPdf PKPdf 14 44 31.3 +1.4
BURAR Bucovina Array 133.89 324 ⇑PKIKP PKPdf 14 44 31.6 +1.7
BURAR Bucovina Array 133.89 324 ⇓P PKSdf 14 48 10.4 +4.2
BURAR Bucovina Array 133.89 324 ⇑i P PKPdf 14 44 31.5 +1.7
BURAR Bucovina Array 133.89 324 ⇓i P PKSdf 14 48 10.4 +4.2
VRI Vrincioaia 133.92 321 ⇓PKIKP PKPdf 14 44 30.3 +0.4
VRI Vrincioaia 133.92 321 ⇓i P PKPdf 14 44 30.3 +0.4
PLOR Plostina 133.98 321 ⇓PKIKP PKPdf 14 44 30.6 +0.6
PLOR Plostina 133.98 321 ⇓i P PKPdf 14 44 30.6 +0.6
PLOR Plostina 133.98 321 ⇓i P PKSdf 14 48 09.0 +2.7
MBAR Mbarara 134.02 255 PFAKE 14 44 40.0 +8.8
MBAR LR LR
comp=Z,661nm,22.0s
KWP Kalwaria Pacla 134.08 328 ⇑PKIKP PKPdf 14 44 30.8 +0.7
KWP Kalwaria Pacla 134.08 328 ⇑i P PKPdf 14 44 30.8 +0.7
KWP Kalwaria Pacla 134.08 328 ⇓i P PKSdf 14 48 06.3 0.0
KWP Kalwaria Pacla 134.08 328 PFAKE 14 44 40.0 +10
KWP LR LR
comp=Z,1µm,20.0s
KWP Kalwaria Pacla 134.08 328 ePKP PKPdf 14 44 30.7 +0.7
LLD Lille Linde 134.46 340 ePKIKP PKPdf 14 44 32.7 +2.2
LLD pmax pmax
comp=Z,110nm,0.8s
LLD Lille Linde 134.46 340 i P PKPdf 14 44 32.7 +2.2
comp=Z,113nm,0.8s
MUD Monsted U'grnd 134.47 343 ePKIKP PKPdf 14 44 32.3 +1.8
MUD pmax pmax
comp=Z,12nm,0.9s
MUD Monsted U'grnd 134.47 343 i P PKPdf 14 44 32.3 +1.8
comp=Z,12nm,0.9s
MLR Muntele Rosu 134.58 321 ⇓i P PKPdf 14 44 32.1 +0.8
BDFB Brasilia 134.62 130 PKP PKPdf 14 44 31.8 -0.4
BDFB Brasilia 134.62 130 PKP PKPdf 14 44 31.8 -0.4
comp=Z,6.6nm,0.9s,baz=309,slow=4.8,SNR=6.4
DOPR Dopca 134.67 322 ⇓i P PKPdf 14 44 34.1 +2.8
ISP Isparta 134.70 310 P PKPdf 14 44 29.3 -2.4
ISP Isparta 134.70 310 PFAKE 14 44 40.0 +8.3
ISP LR LR
comp=Z,605nm,20.0s
SECR 134.74 321 ⇓i P PKPdf 14 44 32.5 +1.1
PRD Provadia 134.77 318 i P PKPdf 14 44 32.4 +0.9
BMR Baia Mare 134.82 325 ⇑PKIKP PKPdf 14 44 33.0 +1.5
BMR Baia Mare 134.82 325 ⇑i P PKPdf 14 44 33.0 +1.5
UZH Uzhgorod 134.91 327 ePKIKP PKPdf 14 44 24.2 -7.4
UZH e 14 44 30.6
STHS Stebnicka Huta 134.96 328 ePKP PKPdf 14 44 32.7 +1.0
TSUM Tsumeb 134.99 223 PFAKE 14 44 40.0 +7.2
TSUM LR LR
comp=Z,2µm,19.0s
BBGH Gun Hill 135.07 86 PFAKE 14 44 40.0 +7.1
BBGH LR LR
comp=Z,5µm,21.0s
TRPA Tarpa 135.07 326 ⇓i P PKPdf 14 44 31.0 -0.9
TRPA Tarpa 135.07 326 ⇑i P PKSdf 14 48 13.9 +5.9
VOIR 135.15 322 ⇑PKIKP PKPdf 14 44 31.4 -0.9
VOIR 135.15 322 ⇑i P PKPdf 14 44 31.4 -0.9
VOIR 135.15 322 ⇑i P PKSdf 14 48 12.1 +3.5
OJC Ojcow 135.16 330 ePKPdf PKPdf 14 44 32.7 +0.7
NIE Niedzica 135.43 329 ePKPdf PKPdf 14 44 33.3 +0.7
ARR Arges 135.44 322 ⇑i P PKPdf 14 44 33.8 +1.0
ARR Arges 135.44 322 ⇓i P PKSab 14 48 16.0 +6.3
JMB Yambol 135.64 317 P PKPdf 14 44 33.0 -0.2
JMB Yambol 135.64 317 i P PKPdf 14 44 34.2 +1.0
SZH Strazhica 135.69 319 i P PKPdf 14 44 34.2 +1.0
LOT Lotru 135.91 322 ⇑i P PKPdf 14 44 34.4 +0.7
PVL Pavlikeni 136.10 319 i P PKPdf 14 44 35.2 +1.2
OKC Ostrava-Krasne 136.20 331 ePKPpre PKPpre 14 44 25.6
OKC ePKPdf PKiKP 14 44 35.0 -0.7
OKC AMS AMS 15 45 50.0
comp=Z,1µm,24.1s
BSEG Bad Segeberg 136.24 340 ePKIKP PKPdf 14 44 34.4 +0.5
BSEG Bad Segeberg 136.24 340 ePKPdf PKPdf 14 44 34.4 +0.5
KSP Ksiaz 136.34 333 ePKP PKPdf 14 44 35.4 +1.2
PSZ Piszkesteto 136.60 328 ePKIKP PKPdf 14 44 35.3 +0.4
PSZ MLR MLR
comp=Z,2µm,22.0s
PSZ Piszkesteto 136.60 328 ⇓i P PKPdf 14 44 35.4 +0.5
PSZ Piszkesteto 136.60 328 ⇑i P PKSab 14 48 13.3 -1.4
PSZ Piszkesteto 136.60 328 ePKPdf PKPdf 14 44 35.3 +0.5
PSZ LR LR
comp=Z,2µm,22.0s
PSZ Piszkesteto 136.60 328 ⇓ePKPdf PKPdf 14 44 36.3 +1.4
KRLC Kraliky 136.67 332 ePKPdf PKPdf 14 44 35.8 +0.9
DPC Dobruska-Polom 136.69 333 ePKPpre PKPpre 14 44 24.1
DPC ePKPdf PKPdf 14 44 35.6 +0.7
DPC ePP PP 14 47 19.9 +2.9
DPC AMS AMS 15 44 10.0
ALN Alexandroupoli 136.71 316 P PKPdf 14 44 34.5 -0.6
ALN Alexandroupoli 136.71 316 eP PKPdf 14 44 34.6 -0.6
UPC Upice 136.71 333 ePKPpre PKPpre 14 44 23.4
UPC ePKPdf PKiKP 14 44 35.9 -0.8
UPC ePKS PKSdf 14 48 16.8 +5.8
KDZ Kurdzhali 136.79 317 i P PKPdf 14 44 35.4 0.0
MPEP Malo Peshtene 137.03 320 i P PKPdf 14 44 36.5 +0.8
PLD Plovdiv 137.04 318 i P PKPdf 14 44 36.0 +0.2
BZS Buzias 137.06 324 ⇓PKIKP PKPdf 14 44 36.7 +1.0
BZS Buzias 137.06 324 ⇓i P PKPdf 14 44 36.7 +1.0
PGB Panagyurishte 137.17 319 i P PKPdf 14 44 36.5 +0.4
RZN Rozhen 137.24 317 i P PKPdf 14 44 36.7 +0.3
SMTH Samothraki Isl 137.25 315 P PKPdf 14 44 34.7 -1.5
SMTH Samothraki Isl 137.25 315 eP PKPdf 14 44 34.9 -1.3
PKSN Nyarlorinc 137.26 326 ⇓ePKPdf PKPdf 14 44 37.6 +1.6
PRK Paraskevi 137.26 313 P PKPdf 14 44 34.8 -1.5
PRK Paraskevi 137.26 313 eP PKPdf 14 44 37.7 +1.4
VRAC Vranov 137.30 331 ⇑i P PKPdf 14 44 34.3 -1.8
VRAC Vranov 137.30 331 ⇑i P PKSab 14 48 15.8 -1.8
VRAC Vranov 137.30 331 PKP PKPdf 14 44 34.1 -2.0
VRAC Vranov 137.30 331 PKP PKPdf 14 44 34.1 -2.0
comp=Z,12nm,1.0s,baz=85,slow=1.6,SNR=9.7
PVCC Panska Ves 137.32 334 ePKPdf PKPdf 14 44 36.5 +0.5
PVCC AMS AMS 15 48 30.0
comp=Z,1µm,18.0s
BRG Berggiesshubel 137.32 335 ePKP PKPdf 14 44 27.1 -8.9
comp=Z,7.4nm,1.2s
BRG i 14 44 36.7
comp=Z,70nm,1.4s
BRG PP PP 14 47 11.0 -10
BRG ePKS PKSdf 14 48 20.1 +8.1
comp=Z,36nm,1.6s
BRG SS SS 15 05 21.0 -3.1
BRG
comp=N,1µm,18.8s
BRG
comp=E,553nm,19.1s
BRG
comp=Z,2µm,20.9s
BRG Berggiesshubel 137.32 335 ePKPdf PKPdf 14 44 36.3 +0.3
CLL Collm 137.37 336 i PKIKP PKPdf 14 44 36.1 0.0
CLL MLR MLR
comp=Z,2µm,20.3s
CLL Collm 137.37 336 ePKPdf PKPdf 14 44 36.2 +0.1
CLL Collm 137.37 336 i PKPdf PKPdf 14 44 36.1 0.0
comp=Z,45nm,1.2s
CLL ePP PP 14 47 20.0 -1.1
comp=Z,41nm,1.7s
CLL i SKPdf SKiKP 14 48 10.1 -0.5
comp=Z,25nm,1.1s
CLL eSS SS 15 05 36.0 +11
CLL eSSS SSS 15 10 36.0
CLL Lm MLR 15 46 00.0
comp=N,1µm,21.5s
CLL Lm MLR 15 46 00.0
comp=E,400nm,19.0s
CLL Lm MLR 15 46 00.0
comp=Z,2µm,20.3s
SMG Samos 137.47 311 P PKPdf 14 44 35.8 -0.9
SMG Samos 137.47 311 eP PKPdf 14 44 36.6 -0.1
NRDL Niedersach Rie 137.51 339 ePKPdf PKPdf 14 44 36.5 +0.3
PKS7 Kunszentmiklos 137.54 327 ⇓ePKPdf PKPdf 14 44 37.8 +1.3
KAVA Kavala 137.70 316 P PKPdf 14 44 35.0 -2.0
PRA Prague 137.72 334 PKPdf PKPdf 14 44 38.0 +1.2
PRA PP PP 14 47 25.0 +1.7
PKSG 137.72 328 ePKPdf PKPdf 14 44 37.3 +0.4
PRU Pruhonice 137.73 333 ePKPdf PKPdf 14 44 37.8 +1.0
PRU ePP PP 14 47 24.2 +0.8
PRU ePKS PKSdf 14 48 11.0 -1.8
PRU AMS AMS 15 49 10.0
comp=Z,2µm,21.9s
LIA Limnos Island 137.74 315 eP PKPdf 14 44 39.4 +2.3
VTS Vitosha 137.76 319 P PKPdf 14 44 35.7 -1.6
VTS Vitosha 137.76 319 ⇑PKIKP PKPdf 14 44 38.4 +1.1
VTS Vitosha 137.76 319 ⇑i P PKPdf 14 44 38.4 +1.1
VTS Vitosha 137.76 319 i P PKPdf 14 44 36.2 -1.1
CHOS Chios island 137.77 312 P PKPdf 14 44 37.3 0.0
CHOS Chios island 137.77 312 eP PKPdf 14 44 37.4 +0.1
TREC Trest 137.82 332 ePKPdf PKPdf 14 44 37.3 +0.3
TREC ePKS PKSdf 14 48 19.4 +6.3
TREC AMS AMS 15 49 20.0
comp=Z,2µm,21.7s
PKS2 Kecel 137.87 326 ⇓ePKPdf PKPdf 14 44 38.8 +1.7
MMB Musomiste 137.93 318 i P PKPdf 14 44 37.3 -0.2
CLZ Clausthal 137.95 338 ePKIKP PKPdf 14 44 37.4 +0.2
CLZ Clausthal 137.95 338 ePKPdf PKPdf 14 44 37.4 +0.2
NVR Nevrokopi 137.96 317 P PKPdf 14 44 36.8 -0.8
NVR Nevrokopi 137.96 317 eP PKPdf 14 44 37.0 -0.6
PKST T"s 137.99 328 ePKPdf PKPdf 14 44 37.1 -0.3
KARP Karpathos 138.00 308 P PKPdf 14 44 37.7 -0.1
KARP Karpathos 138.00 308 eP PKPdf 14 44 40.5 +2.7
KKB Krupnik 138.21 318 i P PKPdf 14 44 38.3 +0.3

EKA	**Eskdalemuir Ar**	**138.22 351**	PKP	**PKPdf**	**14 44 36.6**	**-0.9**
EKA			SKPbc	**SKiKP**	**14 48 12.0**	**-0.3**
EKA			SKPab	**SKPab**	**14 48 20.3**	**+3.7**
EKA	**Eskdalemuir Ar**	**138.22 351**	PKP	**PKPdf**	**14 44 36.6**	**-0.9**
	comp=Z,2.8nm,0.5s,baz=10,slow=2.2,SNR=5.5					
EKA			SKPbc	**SKiKP**	**14 48 12.0**	**-0.3**
	comp=Z,7.3nm,1.2s,baz=10,slow=5.1,SNR=4.2					
EKA			SKPab	**SKPab**	**14 48 20.3**	**+3.7**
	comp=Z,13nm,1.0s,baz=36,slow=3.3,SNR=6.5					
ESK	**Eskdalemuir**	**138.25 351**	PFAKE		14 44 50.0	+12
ESK			LR	LR		
	comp=Z,2µm,20.0s					
TANN	**Tannenbergstha**	**138.28 335**	*e*PKPdf	**PKPdf**	**14 44 38.1**	**+0.2**
PKS9	**Tamasi**	**138.30 327**	*e*PKPdf	**PKPdf**	**14 44 38.5**	**+0.5**
SOP	**Sopron**	**138.45 330**⇑	*e*PKPdf	**PKPdf**	**14 44 38.7**	**+0.5**
CONA	**Conrad Observa**	**138.62 330**⇓	*i*PKiKP	**PKPdf**	**14 44 39.0**	**+0.4**
	comp=Z,60nm,1.3s,SNR=19					
APE	**Apeiranthos**	**138.67 311**	*e*P	**PKPdf**	**14 44 40.8**	**+1.8**
KNT	**Kendrikon**	**138.69 318**	P	**PKPdf**	**14 44 37.8**	**-1.1**
PLG	**Polygyros**	**138.71 316**	*e*P	**PKPdf**	**14 44 40.0**	**+1.0**
PAIG	**Paliouri**	**138.76 315**	*e*P	**PKPdf**	**14 44 37.8**	**-1.2**
KHC	**Kasperske Hory**	**138.79 333**	*e*PKPpre	PKPpre	14 44 29.3	
KHC			*e*PKPdf	**PKPdf**	**14 44 39.7**	**+0.9**
KHC			*ex*	x	14 47 06.0	
KHC			*e*PP	**PP**	**14 47 29.5**	**-0.5**
KHC			*e*SKP		14 48 14.8	
KHC			AMS	AMS	15 51 10.0	
	comp=Z,2µm,18.5s					
VAY	**Valandovo**	**138.82 318**	P	**PKPdf**	**14 44 36.7**	**-2.4**
HORT	**Hortiatis**	**138.83 317**	P	**PKPdf**	**14 44 38.0**	**-1.2**
ROTZ	**Rotzenmuhle**	**138.89 335**	*e*PKPdf	**PKPdf**	**14 44 39.0**	**0.0**
DIVS	**Divibare**	**138.89 323**	P	PKPdf	14 44 31.9	-7.3
UBBA	**Unterbreizbach**	**138.92 338**	*e*PKPdf	**PKPdf**	**14 44 39.1**	**+0.3**
GEC2	**GERESS Array S**	**138.95 333**	*e*PKIKP	**PKPdf**	**14 44 39.2**	**0.0**
GEC2	**GERESS Array S**	**138.95 333**	*e*PKPdf	**PKPdf**	**14 44 39.2**	**0.0**
GERES	**GERESS Array B**	**138.95 333**	PKP	**PKPdf**	**14 44 40.7**	**+1.5**
GERES			SKP		14 48 15.3	
GERES			SKPab	**SKPab**	**14 48 24.4**	**+4.2**
GERES	**GERESS Array B**	**138.95 333**	PKhKP	PKPpre	14 44 28.0	
	comp=Z,2.9nm,0.9s,baz=29,slow=3.0,SNR=9.6					
GERES			PKP	**PKPdf**	**14 44 40.7**	**+1.5**
	comp=Z,7.2nm,0.9s,baz=60,slow=2.4,SNR=17					
GERES			SKP		14 48 15.3	
	comp=Z,3.8nm,1.0s,baz=28,slow=3.2,SNR=5.7					
GERES			SKPab	**SKPab**	**14 48 24.4**	**+4.2**
	comp=Z,6.9nm,1.0s,baz=30,slow=2.4,SNR=8.2					
AOS	**Alonnisos**	**138.97 314**	P	**PKPdf**	**14 44 38.8**	**-0.6**
WTSB	**Winterswijk**	**139.05 341**	*e*PKP	**PKPdf**	**14 44 39.0**	**-0.1**
	comp=Z,111nm,1.3s					
WET	**Wettzell**	**139.08 334**	*e*PKIKP	**PKPdf**	**14 44 39.4**	**0.0**
WET	**Wettzell**	**139.08 334**	*e*PKPdf	**PKPdf**	**14 44 39.4**	**0.0**
GRG	**Griva**	**139.11 318**	P	**PKPdf**	**14 44 36.6**	**-3.1**
GRG	**Griva**	**139.11 318**	*e*P	**PKPdf**	**14 44 39.0**	**-0.7**
SKO	**Skopje**	**139.21 319**	P	**PKPdf**	**14 44 35.9**	**-3.9**
ARSA	**Arzberg**	**139.25 330**⇑	*i*PKPdf	**PKPdf**	**14 44 34.9**	**-4.8**
	comp=Z,27nm,1.2s,SNR=11					
SKIA	**Skiathos**	**139.26 315**	P	**PKPdf**	**14 44 39.2**	**-0.8**
NPS	**Neapolis**	**139.29 308**	*e*P	**PKPdf**	**14 44 43.4**	**+3.2**
ERET	**Eretria**	**139.35 313**	P	**PKPdf**	**14 44 39.5**	**-0.7**
GRF	**Grafenberg Arr**	**139.35 336**	*e*PKIKP	**PKPdf**	**14 44 39.9**	**+0.1**
GRF	**Grafenberg Arr**	**139.35 336**	*e*PKPdf	**PKPdf**	**14 44 39.9**	**+0.1**
GRF			*e*L	L	15 49 44.2	
	comp=Z,1µm,20.6s					
BUG	**Bochum--Univer**	**139.35 340**	*e*PKPdf	**PKPdf**	**14 44 39.9**	**+0.2**
GRFO	**Grafenberg**	**139.35 336**	*e*PKIKP	**PKPdf**	**14 44 39.8**	**0.0**
GRFO	**Grafenberg**	**139.35 336**	*e*PKPdf	**PKPdf**	**14 44 39.8**	**0.0**
XOR	**Xorichti**	**139.35 315**	P	**PKPdf**	**14 44 36.9**	**-3.3**
NEO	**Neokhori**	**139.36 315**	P	**PKPdf**	**14 44 39.3**	**-0.9**
NEO	**Neokhori**	**139.36 315**	*e*P	**PKPdf**	**14 44 39.6**	**-0.6**
MRKA	**Markates**	**139.38 314**	P	**PKPdf**	**14 44 39.3**	**-0.9**
MOA	**Molln**	**139.43 331**⇑	*i*PKPdf	PKPdf	14 44 31.2	-8.8
	comp=Z,52nm,1.5s,SNR=8.9					
LAST	**Lasithi**	**139.43 308**	P	**PKPdf**	**14 44 40.2**	**-0.3**
PTL	**Penteli**	**139.48 313**	P	**PKPdf**	**14 44 39.6**	**-0.8**
PTL	**Penteli**	**139.48 313**	*e*P	**PKPdf**	**14 44 39.8**	**-0.6**
LIT	**Litokhoron**	**139.48 316**	*e*P	PKPdf	14 44 32.3	-8.1
ATHU	**Athens Univers**	**139.57 313**	P	**PKPdf**	**14 44 42.3**	**+1.7**
ATH	**Athens Observa**	**139.62 313**	P	**PKPdf**	**14 44 43.3**	**+2.7**
ATH	**Athens Observa**	**139.62 313**	*e*P	**PKPdf**	**14 44 43.1**	**+2.5**
LKR	**Lokris**	**139.82 314**	P	**PKPdf**	**14 44 40.2**	**-0.8**
LKR	**Lokris**	**139.82 314**	*e*P	**PKPdf**	**14 44 40.5**	**-0.5**
IDI	**Anoyia**	**139.83 308**	P	**PKPdf**	**14 44 41.5**	**+0.3**
IDI	**Anoyia**	**139.83 308**	*e*PKPdf	**PKPdf**	**14 44 41.5**	**+0.3**
KZN	**Kozani**	**139.86 317**	P	**PKPdf**	**14 44 40.4**	**-0.7**
KZN	**Kozani**	**139.86 317**	*e*P	**PKPdf**	**14 44 42.7**	**+1.6**
FNA	**Florina**	**139.87 318**	P	**PKPdf**	**14 44 40.7**	**-0.4**
FNA	**Florina**	**139.87 318**	*e*P	**PKPdf**	**14 44 40.7**	**-0.4**
PERS	**Pernice**	**139.88 329**	*i*PKPdf	PKPdf	14 44 35.7	-5.3
PERS			*i*PKPbc	**PKiKP**	**14 44 41.7**	**-1.7**
SOKA	**Soboth**	**139.89 330**⇑	*i*PKPdf	**PKPdf**	**14 44 36.5**	**-4.5**
	comp=Z,42nm,1.3s,SNR=13					
TNS	**Taunus Mts**	**139.97 338**	*e*PKIKP	**PKPdf**	**14 44 41.0**	**0.0**
TNS	**Taunus Mts**	**139.97 338**	*e*PKPdf	**PKPdf**	**14 44 41.0**	**0.0**
PHP	**Peshkopia**	**139.99 320**	P	**PKPdf**	**14 44 40.9**	**-0.4**
SIVA	**Sivas**	**139.99 308**	P	**PKPdf**	**14 44 37.4**	**-4.0**
AXAR	**Agios Charalam**	**140.00 314**	P	**PKPdf**	**14 44 41.2**	**-0.1**
THL	**Klokotos Trika**	**140.06 316**	P	**PKPdf**	**14 44 40.0**	**-1.4**
AGG	**Agios Georgios**	**140.11 315**	P	**PKPdf**	**14 44 40.9**	**-0.7**
AGG	**Agios Georgios**	**140.11 315**	*e*P	**PKPdf**	**14 44 41.1**	**-0.5**
LTK	**Loutraki**	**140.12 313**	P	**PKPdf**	**14 44 40.3**	**-1.3**
LTK	**Loutraki**	**140.12 313**	*e*P	**PKPdf**	**14 44 40.5**	**-1.1**
DID	**Didima**	**140.16 312**	P	PKPdf	14 44 32.9	-8.8
DID	**Didima**	**140.16 312**	*e*P	**PKPdf**	**14 44 42.1**	**+0.4**
RJOB	**Jochberg**	**140.18 332**	*e*PKPdf	**PKPdf**	**14 44 41.4**	**-0.1**
DIDY	**Didyma**	**140.19 312**	P	**PKPdf**	**14 44 37.8**	**-4.0**
MAKR	**Makrakomi, Fth**	**140.25 315**	P	**PKPdf**	**14 44 40.6**	**-1.2**
DSF	**Desfina**	**140.26 314**	P	**PKPdf**	**14 44 38.5**	**-3.4**
NEST	**Nestorio**	**140.28 318**	P	**PKPdf**	**14 44 41.7**	**-0.2**
VAM	**Vamos**	**140.31 309**	P	PKPdf	14 44 33.5	-8.5
VAM	**Vamos**	**140.31 309**	*e*P	PKPdf	14 44 35.4	-6.6
HGN	**Heimansgroeve**	**140.36 341**	*e*PKP	**PKPdf**	**14 44 42.0**	**+0.4**
	comp=Z,64nm,1.4s					
HGN			*e*PP	**PP**	**14 47 44.5**	**+5.1**
KBA	**Koelnbreinsper**	**140.42 331**⇑	*i*PKPdf	PKPdf	14 44 35.6	-6.4
	comp=Z,12nm,1.4s,SNR=13					
MEM	**Membach**	**140.47 341**	E		14 44 35.2	
EVR	**Evrytania**	**140.51 315**	P	**PKPdf**	**14 44 39.2**	**-3.2**
EVR	**Evrytania**	**140.51 315**	*e*P	**PKPdf**	**14 44 42.4**	**0.0**
FUR	**Furstenfeldbru**	**140.52 334**	*e*PKIKP	**PKPdf**	**14 44 41.7**	**-0.3**
FUR	**Furstenfeldbru**	**140.52 334**	*e*PKPdf	**PKPdf**	**14 44 41.7**	**-0.3**
KARN	**Karanos**	**140.52 309**	P	**PKPdf**	**14 44 40.2**	**-2.2**
LJU	**Ljubljana**	**140.59 329**	*e*PKPdf	**PKPdf**	**14 44 37.0**	**-5.2**
BOJS	**Bojanci**	**140.60 328**	*i*PKPdf	PKPdf	14 44 35.1	-7.1
BOJS			*i*PKPbc	**PKiKP**	**14 44 43.0**	**-1.8**
VISS	**Visnje**	**140.60 329**	*i*PKPdf	PKPdf	14 44 36.0	-6.2
VISS			*i*PKPbc	**PKiKP**	**14 44 42.7**	**-2.1**
GUR	**Goura**	**140.60 313**	P	PKPdf	14 44 34.6	-8.0
GUR	**Goura**	**140.60 313**	*e*P	**PKPdf**	**14 44 42.3**	**-0.3**
GVD	**Gavdhos**	**140.61 308**	P	**PKPdf**	**14 44 42.4**	**-0.1**
GVD	**Gavdhos**	**140.61 308**	*e*PKPdf	**PKPdf**	**14 44 43.5**	**+1.0**
EFP	**Efpalio**	**140.68 314**	P	**PKPdf**	**14 44 41.5**	**-1.0**
EFP	**Efpalio**	**140.68 314**	*e*P	**PKPdf**	**14 44 43.2**	**+0.7**
KLV	**Kalavryta, Ach**	**140.69 314**	P	PKPdf	14 44 35.2	-7.5
KLV	**Kalavryta, Ach**	**140.69 314**	*e*P	**PKPdf**	**14 44 42.6**	**-0.1**
VLI	**Veliai**	**140.72 311**	P	PKPdf	14 44 34.2	-8.5
VLI	**Veliai**	**140.72 311**	*e*P	PKPdf	14 44 36.5	-6.2
LAKA	**Lakka**	**140.72 314**	P	**PKPdf**	**14 44 39.8**	**-2.9**
PSA1	**Psathopyrgos**	**140.74 314**	*e*P	**PKPdf**	**14 44 43.4**	**+0.8**
JAN	**Janina**	**140.79 317**	P	**PKPdf**	**14 44 38.3**	**-4.5**
JAN	**Janina**	**140.79 317**	*e*P	**PKPdf**	**14 44 43.4**	**+0.6**
ANKY	**Antikythira Is**	**140.80 310**	P	**PKPdf**	**14 44 40.7**	**-2.1**
ANKY	**Antikythira Is**	**140.80 310**	*e*P	**PKPdf**	**14 44 39.1**	**-3.7**
KYTH	**Kithira**	**140.83 311**	*e*P	**PKPdf**	**14 44 38.4**	**-4.5**
VLX	**Vlachokerasia**	**140.83 313**	P	**PKPdf**	**14 44 38.6**	**-4.4**
VLX	**Vlachokerasia**	**140.83 313**	*e*P	**PKPdf**	**14 44 41.4**	**-1.6**
BCLA	**Clavier**	**140.86 341**	E		14 44 36.7	
STU	**Stuttgart**	**140.88 336**	*e*PKPdf	**PKPdf**	**14 44 42.7**	**+0.1**
VOY	**Vojsko**	**140.91 330**	*e*	**PKPdf**	**14 44 40.3**	**-2.6**
VOY			*e*PKPbc	**PKiKP**	**14 44 43.5**	**-2.0**
VOY			*e*		14 44 47.7	
JAVS	**Javornik**	**140.92 329**	*i*PKPdf	PKPdf	14 44 35.7	-7.2
JAVS			*i*PKPbc	**PKiKP**	**14 44 43.0**	**-2.6**
DRO	**Drossia**	**141.04 314**	P	**PKPdf**	**14 44 38.2**	**-5.1**
ABTA	**Abfaltersbach**	**141.04 332**⇓	*i*PKPdf	PKPdf	14 44 35.8	-7.3
	comp=Z,66nm,1.3s					
PDO	**Prodromos**	**141.10 315**	P	PKPdf	14 44 36.9	-6.4
DYR	**Agios Nikonas**	**141.10 312**	P	**PKPdf**	**14 44 38.3**	**-5.2**
RLS	**Riolos of Patr**	**141.16 314**	P	PKPdf	14 44 38.2	-5.2
RLS	**Riolos of Patr**	**141.16 314**	*e*P	**PKPdf**	**14 44 40.7**	**-2.7**
IGT	**Igoumenitsa**	**141.20 317**	P	PKPdf	14 44 37.0	-6.5
AMT	**Artemida-Makis**	**141.23 313**	P	**PKPdf**	**14 44 43.3**	**-0.3**
AMT	**Artemida-Makis**	**141.23 313**	*e*P	**PKPdf**	**14 44 43.7**	**+0.1**
WLF	**Walferdange**	**141.24 340**	PKP	**PKPdf**	**14 44 41.8**	**-1.4**
WLF			SKP		14 48 31.9	
WLF	**Walferdange**	**141.24 340**	*e*PKIKP	**PKPdf**	**14 44 42.7**	**-0.5**
WLF			MLR	MLR		
	comp=Z,2µm,20.0s					
WLF	**Walferdange**	**141.24 340**	*e*PKPdf	**PKPdf**	**14 44 43.3**	**+0.1**
WLF	**Walferdange**	**141.24 340**	*e*PKPdf	**PKPdf**	**14 44 42.7**	**-0.5**
WLF			LR	LR		
	comp=Z,2µm,20.0s					
ITM	**Ithomi**	**141.24 313**	P	PKPdf	14 44 35.5	-8.1
ITM	**Ithomi**	**141.24 313**	*e*P	**PKPdf**	**14 44 43.4**	**-0.2**
DOU	**Dourbes**	**141.36 342**	PKP	**PKPdf**	**14 44 40.2**	**-3.2**
DOU			SKP		14 48 31.1	
KEK	**Kerkira**	**141.46 318**	P	**PKPdf**	**14 44 40.0**	**-3.9**
KEK	**Kerkira**	**141.46 318**	*e*P	**PKPdf**	**14 44 44.0**	**+0.1**
PYL	**PYLOS**	**141.50 312**	P	PKPdf	14 44 37.3	-6.8
PYL	**PYLOS**	**141.50 312**	*e*P	**PKPdf**	**14 44 43.2**	**-0.9**
BFO	**Black Forest**	**141.58 337**	*e*PKIKP	**PKPdf**	**14 44 41.1**	**-2.8**
BFO	**Black Forest**	**141.58 337**	*e*PKPdf	**PKPdf**	**14 44 41.1**	**-2.8**
BFO	**Black Forest**	**141.58 337**	*e*PKPdf	**PKPdf**	**14 44 40.9**	**-3.0**
FETA	**Feichten**	**141.64 333**⇑	*i*PKPdf	PKPdf	14 44 36.8	-7.5
	comp=Z,55nm,1.1s,SNR=22					
VLS	**Valsamata**	**141.71 315**	P	PKPdf	14 44 39.1	-5.3
FELD	**Feldberg im Sc**	**142.07 337**	PKP	**PKPdf**	**14 44 40.4**	**-4.6**
ECH	**Echery**	**142.11 338**	PKP	**PKPdf**	**14 44 40.4**	**-4.5**
DAVOX	**Davos/Dischmat**	**142.19 334**	PKPpre	PKPpre	14 44 40.8	
DAVOX			PKP	**PKPdf**	**14 44 46.1**	**+0.8**
DAVOX			SKPbc	**SKiKP**	**14 48 23.3**	**+2.3**
DAVOX	**Davos/Dischmat**	**142.19 334**	PKhKP	PKPpre	14 44 40.8	
	comp=Z,23nm,0.9s,baz=293,slow=2.9,SNR=13					
DAVOX			PKP	**PKPdf**	**14 44 46.1**	**+0.8**
	comp=Z,52nm,1.1s,baz=2.7,slow=3.6,SNR=20					
DAVOX			SKPbc	**SKiKP**	**14 48 23.3**	**+2.3**
	comp=Z,17nm,1.2s,baz=288,slow=3.9,SNR=6.6					
MOF	**Molkenrain**	**142.43 337**	PKP	**PKPdf**	**14 44 41.5**	**-4.0**
TUE	**Stuetta**	**142.66 334**	*e*PKPdf	**PKPdf**	**14 44 42.8**	**-3.3**
LOMF	**Lomont**	**142.96 337**	PKP	**PKPdf**	**14 44 42.1**	**-4.4**
CUC	**Castrocucco**	**143.83 321**	*e*PKPdf	PKPab	14 44 45.0	-0.2
VLC	**Villacollemand**	**143.97 331**	*e*PKPdf	PKPbc	14 44 46.7	+0.5
BNI	**Bardonecchia**	**144.91 335**	*e*PKIKP	**PKPab**	**14 44 49.2**	**0.0**
BNI			MLR	MLR		
	comp=Z,2µm,21.0s					
BNI	**Bardonecchia**	**144.91 335**	*e*PKPdf	**PKPab**	**14 44 49.2**	**0.0**
BNI			LR	LR		
	comp=Z,2µm,21.0s					
OG22	**Abries**	**144.99 335**	PKP	PKPbc	14 44 48.5	-1.1
BST	**Brest**	**145.17 349**	PKP	**PKPbc**	**14 44 49.2**	**-0.6**
PLDF	**La Plantade**	**145.29 339**	PKP	**PKPbc**	**14 44 49.5**	**-0.9**
AGO	**Saint Agoulin**	**145.39 340**	PKP	**PKPbc**	**14 44 49.9**	**-0.7**
SAOF	**Saorge**	**145.40 333**	PKP	**PKPdf**	**14 44 50.8**	**0.0**
AUTN	**L'Aution**	**145.45 333**	PKP	**PKPab**	**14 44 51.4**	**+0.1**
TOUF	**Mont Tournerai**	**145.51 333**	PKP	**PKPab**	**14 44 51.6**	**+0.1**
SSB	**Saint Sauveur**	**145.56 338**	*e*PKIKP	**PKPdf**	**14 44 51.0**	**0.0**
SSB			MLR	MLR		
	comp=Z,1µm,22.0s					
SSB	**Saint Sauveur**	**145.56 338**	PKP	**PKPdf**	**14 44 50.4**	**-0.6**
SSB	**Saint Sauveur**	**145.56 338**	*e*PKPdf	**PKPdf**	**14 44 51.0**	**0.0**
SSB			LR	LR		
	comp=Z,1µm,22.0s					
LUCF	**Luceram**	**145.57 333**	PKP	**PKPab**	**14 44 51.6**	**0.0**
MVIF	**Mont Vial**	**145.65 333**	PKP	**PKPab**	**14 44 52.0**	**0.0**
REVF	**Revere**	**145.68 333**	PKP	**PKPbc**	**14 44 51.8**	**+0.2**
REVF	**Revere**	**145.68 333**	PKP	**PKPab**	**14 44 52.9**	**+0.9**
PYM	**Petit Puy Mans**	**145.69 340**	PKP	**PKPdf**	**14 44 51.1**	**-0.2**
VEIF	**Verneugheol**	**145.87 340**	PKP	**PKPbc**	**14 44 51.9**	**-0.2**
CALN	**Calern**	**145.88 334**	PKP	**PKPdf**	**14 44 51.8**	**+0.1**
LBL	**Lubilhac**	**146.06 339**	PKP	**PKPdf**	**14 44 52.0**	**+0.1**
VSL	**Villasalto**	**147.90 326**	*e*PKPdf	**PKPdf**	**14 44 54.4**	**-0.7**
VSL			LR	LR		
	comp=Z,893nm,21.0s					
LRDF	**Laroque-de-Fa**	**148.31 338**	PKP	**PKPdf**	**14 44 56.2**	**+0.6**
CARF	**Carcanieres**	**148.66 338**	PKP	**PKPdf**	**14 44 57.9**	**+1.5**
MLS	**Moulis**	**148.80 339**	PKP	**PKPdf**	**14 44 56.9**	**+0.4**
VALF	**Valcebollere**	**148.96 338**	PKP	**PKPdf**	**14 44 57.4**	**+0.5**
MELF	**Melles**	**148.99 340**	PKP	**PKPbc**	**14 44 59.5**	**-1.4**
LABF	**Labassere**	**149.06 341**	PKP	**PKPdf**	**14 44 57.9**	**+1.0**
SHEL	**Horse Pasture**	**149.11 194**	PFAKE		14 45 10.0	+3.9
SHEL			LR	LR		
	comp=Z,2µm,20.0s					
REYF	**Montagne du Re**	**149.18 341**	PKP	**PKPdf**	**14 44 57.9**	**+0.7**
RESF	**Ens**	**149.19 340**	PKP	**PKPdf**	**14 44 58.7**	**+1.5**
ORDF	**Ordiarp**	**149.22 342**	PKP	**PKPdf**	**14 44 58.9**	**+1.8**
VIEF	**Viey**	**149.22 341**	PKP	**PKPdf**	**14 44 58.4**	**+1.2**
ATE	**Arette**	**149.26 342**	PKP	**PKPdf**	**14 44 57.9**	**+0.7**
OSSF	**Osses**	**149.27 343**	PKP	**PKPdf**	**14 44 57.0**	**-0.2**
LARF	**Larrau**	**149.39 342**	PKP	**PKPdf**	**14 44 58.5**	**+1.0**
RCBR	**Riachuelo**	**149.99 130**	*e*PKPdf	**PKPdf**	**14 44 59.7**	**+0.4**
RCBR			*e*PKPbc	**PKPbc**	**14 45 04.3**	**+0.1**
RCBR			LR	LR		
	comp=Z,2µm,22.0s					
KEST	**Kesra**	**150.48 321**	PKP	**PKPdf**	**14 44 59.1**	**-0.3**
KEST			PKPbc	**PKiKP**	**14 45 05.2**	**-0.3**
KEST	**Kesra**	**150.48 321**	PKP	**PKPdf**	**14 44 59.1**	**-0.3**
	comp=Z,7.9nm,1.2s,baz=184,slow=1.1,SNR=20					
KEST			PKPbc	**PKiKP**	**14 45 05.2**	**-0.3**
	comp=Z,62nm,1.0s,baz=288,slow=3.5,SNR=59					
CMAH	**Djebel Manchou**	**151.02 324**	P	**PKPdf**	**14 45 00.6**	**+0.4**
ABSA	**Djebel Ababsia**	**151.23 323**	P	**PKPdf**	**14 45 01.0**	**+0.4**
CKFL	**Kef-Lekhel**	**151.57 325**	P	**PKPdf**	**14 45 01.6**	**+0.4**
CASM	**Ain Smara**	**151.80 325**	P	**PKPdf**	**14 45 02.4**	**+1.0**
PBRG	**Braganca**	**151.93 350**	*e*PKPdf	**PKPdf**	**14 45 01.6**	**+0.2**
PBRG	**Braganca**	**151.93 350**	*e*PKPbc	**PKPbc**	**14 45 08.5**	**+0.6**
DFRA	**Djebel Bou Aff**	**151.94 326**	P	**PKPdf**	**14 45 03.3**	**+1.6**
CTEI	**Djebel Teioual**	**151.99 324**	P	**PKPdf**	**14 45 03.0**	**+1.2**
SET	**Setif**	**152.45 326**	P	**PKPdf**	**14 45 04.0**	**+1.6**
POLO	**Lamas de Olo**	**152.52 351**	*e*PKPdf	**PKPdf**	**14 45 02.6**	**+0.2**
POLO	**Lamas de Olo**	**152.52 351**	*e*PKPbc	**PKPbc**	**14 45 10.1**	**+0.8**
MVO	**Moncorvo**	**152.60 350**	*e*PKPdf	**PKPdf**	**14 45 03.2**	**+0.7**
MVO	**Moncorvo**	**152.60 350**	*e*PKPbc	**PKPbc**	**14 45 10.2**	**+0.7**
ESDC	**Sonseca Array**	**153.35 344**	PKP	**PKPdf**	**14 45 02.8**	**-0.8**
ESDC			PKPbc	**PKiKP**	**14 45 11.4**	**+0.1**
ESDC			PKPab	**PKPab**	**14 45 23.6**	**+0.4**
ESDC			PP	**PP**	**14 48 54.6**	**-1.3**
ESDC	**Sonseca Array**	**153.35 344**	PKP	**PKPdf**	**14 45 02.8**	**-0.8**
	comp=Z,4.6nm,1.1s,baz=12,slow=3.0,SNR=25					
ESDC			PKPbc	**PKiKP**	**14 45 11.4**	**+0.1**
	comp=Z,17nm,0.9s,baz=8.1,slow=2.7,SNR=45					
ESDC			PKPab	**PKPab**	**14 45 23.6**	**+0.4**
	comp=Z,7.0nm,0.7s,baz=14,slow=4.7,SNR=8.6					
ESDC			PP	**PP**	**14 48 54.6**	**-1.3**
	comp=Z,4.1nm,0.9s,baz=22,slow=5.5,SNR=5.4					
ESLA	**Sonseca Array**	**153.35 344**	*e*PKPbc	**PKPbc**	**14 45 11.0**	**-0.1**
MTE	**Manteigas**	**153.44 350**	*e*PKPdf	**PKPdf**	**14 45 04.2**	**+0.5**
MTE	**Manteigas**	**153.44 350**	*e*PKPbc	**PKPbc**	**14 45 12.0**	**+0.7**
MTE	**Manteigas**	**153.44 350**	*e*PKPdf	**PKPdf**	**14 45 03.2**	**-0.5**
MTE			*e*PKPbc	**PKiKP**	**14 45 11.4**	**0.0**
MTE			LR	LR		
	comp=Z,2µm,19.0s					
PAB	**San Pablo**	**153.57 344**	*e*PKIKP	**PKPdf**	**14 45 03.5**	**-0.4**
PAB			*e*		14 45 11.8	
PAB			MLR	MLR		
	comp=Z,2µm,20.0s					
PAB	**San Pablo**	**153.57 344**	*e*PKPdf	**PKPdf**	**14 45 03.5**	**-0.4**
PAB			*e*PKPbc	**PKiKP**	**14 45 11.8**	**0.0**
PAB			LR	LR		
	comp=Z,2µm,20.0s					
EMHD	**Djebel Mahouad**	**153.72 329**	P	**PKPdf**	**14 45 05.7**	**+1.4**
PCAS	**Casmilo, Conde**	**153.92 352**	*e*PKPdf	**PKPdf**	**14 45 03.9**	**-0.4**
CMLA	**Cha da Macela**	**154.14 23**	PFAKE		14 45 20.0	-6.5
CMLA			LR	LR		
	comp=Z,2µm,20.0s					
EBNR	**Beni Rached**	**154.33 332**	P	**PKPbc**	**14 45 13.0**	**-0.4**
PMRV	**Marv??o**	**154.36 349**	*e*PKPdf	**PKPdf**	**14 45 05.3**	**+0.3**
PMRV	**Marv??o**	**154.36 349**	*e*PKPbc	**PKPbc**	**14 45 14.0**	**+0.7**
EANR	**`Ain N'Sour**	**154.81 332**	P	**PKPdf**	**14 45 07.0**	**+1.2**
PMTG	**Montargil**	**154.84 351**	*e*PKPdf	**PKPdf**	**14 45 05.7**	**+0.1**
PMTG	**Montargil**	**154.84 351**	*e*PKPbc	**PKPbc**	**14 45 14.5**	**+0.2**
PESTR	**Estremoz**	**154.94 349**	*e*PKPdf	**PKPdf**	**14 45 06.1**	**+0.3**
PESTR	**Estremoz**	**154.94 349**	*e*PKPbc	**PKPbc**	**14 45 14.9**	**+0.4**
ETRT	**Tiaret**	**155.17 331**	P	**PKPdf**	**14 45 07.7**	**+1.3**
LIS	**Lisbon**	**155.32 352**	*e*P	**PKPdf**	**14 45 05.0**	**-1.3**
LIS	**Lisbon**	**155.32 352**	*e*P	**PKPdf**	**14 45 05.0**	**-1.3**
EVO	**Evora**	**155.34 350**	*e*PKPdf	**PKPdf**	**14 45 06.8**	**+0.5**
PNCL	**Nicolau / Gran**	**155.83 351**	*e*PKPdf	**PKPdf**	**14 45 07.0**	**0.0**
PCVE	**Castro Verde**	**156.22 350**	*e*PKPdf	**PKPdf**	**14 45 08.1**	**+0.6**
PVAQ	**Vaqueiros**	**156.38 349**	*e*PKPdf	**PKPdf**	**14 45 08.0**	**+0.3**
PBDV	**Barranco-do-Ve**	**156.58 349**	*e*PKPdf	**PKPdf**	**14 45 08.9**	**+0.9**
MORF	**Marmelete**	**156.64 351**	*e*PKPdf	**PKPdf**	**14 45 08.8**	**+0.6**
PFVI	**Vila Bisbo**	**156.83 351**	*e*PKPdf	**PKPdf**	**14 45 09.0**	**+0.7**
ASCN	**Ascension**	**157.97 177**	PFAKE		14 45 20.0	+10
ASCN			LR	LR		
	comp=Z,889nm,19.0s					
MDT	**Midelt**	**159.87 338**	PKP	**PKPdf**	**14 45 12.0**	**-0.3**
MDT			PKPab	**PKPab**	**14 45 51.1**	**-0.3**
MDT			PP	**PP**	**14 49 32.9**	**+0.7**
MDT	**Midelt**	**159.87 338**	PKP	**PKPdf**	**14 45 12.0**	**-0.3**
	comp=Z,32nm,1.2s,baz=33,slow=1.3,SNR=33					
MDT			PKPab	**PKPab**	**14 45 51.1**	**-0.3**
	comp=Z,35nm,1.1s,baz=43,slow=5.2,SNR=10					
MDT			PP	**PP**	**14 49 32.9**	**+0.7**
	comp=Z,6.5nm,1.0s,baz=52,slow=5.1,SNR=4.8					
TAM	**Tamanrasset**	**160.26 298**	*e*PKIKP	**PKPdf**	**14 45 13.5**	**+0.5**
TAM			MLR	MLR		
	comp=Z,2µm,19.0s					
TAM	**Tamanr

comp=Z,6.8nm,0.9s
VNA2 Neumayer--Watz 95.07 182 *e*P **P** **14 45 23.4 -0.8**
baz=178,slow=2.9
VNA1 Neumayer--Stat 95.37 182 *e*P **P** **14 45 25.3 -0.3**
MKAR Makanchi Array 96.33 317 P **P** **14 45 31.1 +0.7**
MKAR 14 49 27.0
MKAR Makanchi Array 96.33 317 P **P** **14 45 31.1 +0.7**
MKAR PP **PP** **14 49 26.9 +2.5**
MKAR Makanchi Array 96.33 317 P **P** **14 45 31.1 +0.7**
comp=Z,3.8nm,0.9s,baz=99,slow=5.9,SNR=8.2
MKAR PP **PP** **14 49 26.9 +2.5**
comp=Z,1.6nm,1.0s,baz=99,slow=6.3,SNR=4.9
ZAA0 Zalesovo Array 96.53 324 *e*P **P** **14 45 30.5 -0.6**
ZALV Zalesovo Beam 96.53 324 P **P** **14 45 30.6 -0.4**
ZALV Zalesovo Beam 96.53 324 P **P** **14 45 30.6 -0.4**
ZALV Zalesovo Beam 96.53 324 P **P** **14 45 30.6 -0.4**
comp=Z,3.6nm,0.7s,baz=114,slow=3.4,SNR=8.3
ARCES ARCESS Array B 119.50 345 PKP **PKPdf** **14 50 50.1 -0.4**
ARCES ARCESS Array B 119.50 345 PKP **PKPdf** **14 50 50.1 -0.4**
comp=Z,3.3nm,0.5s,baz=78,slow=1.9,SNR=14
JOF Joensuu 122.08 338 *e*pkp **PKPdf** **14 50 53.6 -2.1**
comp=Z,4.7nm,0.7s
KAF Kangasniemi 124.40 339 *e*pkp **PKPdf** **14 50 57.7 -2.4**
FINES FINESS Array B 124.92 338 PKP **PKPdf** **14 51 00.9 -0.3**
FINES FINESS Array B 124.92 338 PKP **PKPdf** **14 51 00.9 -0.3**
comp=Z,6.2nm,0.9s,baz=22,slow=1.7,SNR=12
NB2 NORSAR Subarra129.87 345 PKPdf **PKPdf** **14 51 10.7 0.0**
comp=Z,1.8nm,0.8s,baz=32,slow=1.8
NOA NORSAR Array B 129.87 345 PKP **PKPdf** **14 51 10.8 0.0**
NOA NORSAR Array B 129.87 345 PKP **PKPdf** **14 51 10.8 0.0**
comp=Z,2.5nm,0.7s,baz=33,slow=2.0,SNR=9.2
AKASG Malin Array Be 129.88 326 PKIKP **PKPdf** **14 51 10.6 -0.4**
AKASG Malin Array Be 129.88 326 PKP **PKPdf** **14 51 10.6 -0.4**
AKASG Malin Array Be 129.88 326 PKP **PKPdf** **14 51 10.6 -0.4**
comp=Z,0.2nm,0.3s,baz=62,slow=2.1,SNR=7.8
HFS Hagfors 129.95 343 PKP **PKPdf** **14 51 10.3 -0.5**
HFS Hagfors 129.95 343 PKP **PKPdf** **14 51 10.3 -0.5**
comp=Z,2.0nm,0.7s,baz=46,slow=13,SNR=4.6
BRTR Keskin Array B 131.63 311 PKP **PKPdf** **14 51 16.3 +1.4**
BRTR Keskin Array B 131.63 311 PKP **PKPdf** **14 51 16.3 +1.4**
comp=Z,1.0nm,0.9s,baz=131,slow=4.2,SNR=3.7
CLL Collm 137.24 336 *e*PKPdf **PKPdf** **14 51 26.0 +1.2**
EKA Eskdalemuir Ar 138.11 351 PKP **PKPdf** **14 51 27.3 +1.0**
EKA Eskdalemuir Ar 138.11 351 PKP **PKPdf** **14 51 27.3 +1.0**
comp=Z,0.5nm,0.5s,baz=48,slow=3.2,SNR=3.2
GERES GERESS Array B 138.81 333 PKP **PKPdf** **14 51 28.4 +0.5**
GERES GERESS Array B 138.81 333 PKP **PKPdf** **14 51 28.4 +0.5**
comp=Z,1.5nm,0.8s,baz=48,slow=2.0,SNR=3.9
DAVOX Davos/Dischmat 142.06 334 PKP **PKPdf** **14 51 33.6 -0.4**
DAVOX Davos/Dischmat 142.06 334 PKP **PKPdf** **14 51 33.6 -0.4**
comp=Z,4.1nm,0.6s,baz=322,slow=6.0,SNR=7.1
BNI Bardonecchia 144.78 335 *e*PKIKP **PKPdf** **14 51 38.7 0.0**
BNI Bardonecchia 144.78 335 *e*PKPdf **PKPdf** **14 51 38.7 0.0**
SSB Saint Sauveur 145.42 337 *e*PKIKP **PKPab** **14 51 39.8 -0.1**
SSB Saint Sauveur 145.42 337 *e*PKPdf **PKPab** **14 51 39.8 -0.1**
KEST Kesra 150.34 321 PKPbc **PKPbc** **14 51 54.0 +0.7**
KEST Kesra 150.34 321 PKPbc **PKPbc** **14 51 54.0 +0.7**
comp=Z,8.0nm,0.8s,baz=274,slow=0.8,SNR=20
CMAH Djebel Manchou 150.88 324 P **PKPbc** **14 51 53.6 -1.0**
ABSA Djebel Ababsia 151.09 323 P **PKPbc** **14 51 55.5 +0.3**
CKFL Kef-Lekhel 151.43 325 P **PKPbc** **14 51 56.6 +0.6**
DFRA Djebel Bou Aff 151.79 326 P **PKPbc** **14 51 57.7 +0.9**
PBRG Braganca 151.81 349 *e*PKPbc **PKPbc** **14 51 56.6 0.0**
POLO Lamas de Olo 152.41 351 *e*PKPbc **PKPbc** **14 51 58.3 +0.3**
MVO Moncorvo 152.49 350 *e*PKPbc **PKPbc** **14 51 58.4 +0.2**
ESDC Sonseca Array 153.23 344 PKPbc **PKPbc** **14 51 59.7 -0.2**
ESDC PKPab **PKPab** **14 52 12.4 +0.9**
ESDC Sonseca Array 153.23 344 PKPbc **PKPbc** **14 51 59.7 -0.2**
comp=Z,2.5nm,0.8s,baz=29,slow=2.9,SNR=11
ESDC PKPab **PKPab** **14 52 12.4 +0.9**
comp=Z,2.1nm,0.8s,baz=7.5,slow=4.0,SNR=5.2
MTE Manteigas 153.32 350 *e*PKPbc **PKPbc** **14 52 00.1 +0.1**
PMRV Marv??o 154.24 349 *e*PKPbc **PKPbc** **14 52 02.5 +0.5**
TORD Torodi Ar. Bea 165.32 268 PKP **PKPdf** **14 52 06.6 -0.3**
TORD PKPab **PKPab** **14 53 05.5 +0.7**
TORD Torodi Ar. Bea 165.32 268 PKP **PKPdf** **14 52 06.6 -0.3**
comp=Z,1.7nm,1.0s,baz=32,slow=0.6,SNR=3.3
TORD PKPab **PKPab** **14 53 05.5 +0.7**
comp=Z,2.5nm,1.1s,baz=128,slow=3.2,SNR=3.8

IDC ***10*** *14:36:27.9±0.6, 14°.16S×166°.75E, h0km, mb4.7/17, mb1 4.8/20, mb1mx4.7/24, mbtmp4.8/20, ML4.2/2, MS5.0/7, Ms1 5.0/7, ms1mx4.6/29, Error ellipse: s-maj=19.2km s-min=13.8km az=102.0*

AUST ***10*** *14:36:27.4, 13°.97S×166°.94E, h0km*

MOS ***10*** *14:36:32.2±1.1, 14°.33S×166°.38E, h33km, mb5.2/10, Error ellipse: s-maj=13.5km s-min=11.2km az=26.1*

NEIC ***10*** *14:36:33.4±0.3, 14°.19S×166°.50E, h35km, mb5.1/19, Error ellipse: s-maj=9.8km s-min=8.0km az=88.0*

ISCJB ***10*** *14:36:33.1±0.3, 14°.23S±0°.04×166°.54E±0°.06, h43km, mb4.9/48, MS5.0/13, Error ellipse: s-maj=8.5km s-min=5.5km az=170.2*

BJI ***10*** *14:36:34.7, 13°.92S×166°.35E, h35km, mB5.4/22, mb4.8/35, Ms5.4/21, Ms7 5.1/20*

GCMT ***10*** *14:36:36.8±0.2, 14°.14S×166°.47E, h19km±1km, MW5.2, Moment Tensor Solution. s6,c6; s62,c103; Moment tensor: Scale 10^16Nm; Mrr4.45±.65; Mθθ2.42±.33; Mφφ-6.86±.44; Mrθ1.23±.64; Mrφ2.77±.20; Mθφ-6.78±.95; Best double couple: M0 9.20000×10^16 NP1:φs171.00000°, δ70.00000°, λ,97.00000°. NP2:φs333.00000°, δ21.00000°, λ73.00000°. Principal axes: T 7.6000, Plg65.0000°, Azm92.0000°; N 3.1000, Plg6.0000°, Azm349.0000°; P -10.7000, Plg24.0000°, Azm256.0000°; Data Used: IU G II CN IC. Surface wave period40 sec.*

DJA ***10*** *14:36:47.2±2.3, 14°S±8°×16°E±°, h125km±24km, M4.9/19, mb4.9/19*

ISC 10 14:36:34.5±0.4, 14°.21S±0°.05×166°.56E±0°.07, h43km, n164, σ1s48/193, mb4.9/48, MS5.0/13, 2C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.82**	**181**	*e*Pn	**Pn**	**14 38 25.3**	**-0.6**
	596nm,1.2s						
DZM				*e*Sn	**Sn**	**14 39 50.9**	**-2.3**
	975nm,1.5s						
DZM				*e*LR	LR	14 40 13.7	
	4µm,25.6s						
DZM	**Mont Dzumac**	**7.82**	**181**	*e*Pn	**Pn**	**14 38 26.4**	**+0.6**
DZM				*e*Sn	**Sn**	**14 39 52.6**	**-0.6**
DZM	**Mont Dzumac**	**7.82**	**181**	Pn	**Pn**	**14 38 24.7**	**-1.2**
	12nm,0.3s,baz=0.1,slow=21,SNR=27						
DZM				Sn	**Sn**	**14 39 52.6**	**-0.6**
	baz=139,slow=19,SNR=3.6						
HNR	**Honiara**	**8.03**	**306**	Pn	**Pn**	**14 38 28.1**	**-0.5**
HNR				Sn	**Sn**	**14 39 58.9**	**+0.7**
HNR	**Honiara**	**8.03**	**306**	Pn	**Pn**	**14 38 28.1**	**-0.5**
	96nm,0.3s,baz=161,slow=4.4,SNR=22						
HNR				Sn	**Sn**	**14 39 58.9**	**+0.7**
	65nm,0.3s,baz=43,slow=23,SNR=5.9						
EIDS	**Eidsvold**	**18.29**	**230**	*e*Pn	**Pn**	**14 40 45.3**	**+0.2**
	78nm,1.2s						
EIDS	**Eidsvold**	**18.29**	**230**	P	**Pn**	**14 40 46.6**	**+1.5**
	baz=19,SNR=8.8						
PMG	**Port Moresby**	**19.58**	**282**	P	**Pn**	**14 41 01.4**	**+0.7**
	124nm,1.5s						
PMG	**Port Moresby**	**19.58**	**282**	*e*P	**P**	**14 40 57.8**	**-1.3**
	212nm,1.3s						
PMG	**Port Moresby**	**19.58**	**282**	P	**Pn**	**14 41 00.2**	**-0.5**
	0.8nm,0.3s,baz=78,slow=8.0,SNR=11						
CTA	**Charters Tower**	**20.26**	**250**	P	**P**	**14 41 07.1**	**+0.6**
CTA	**Charters Tower**	**20.26**	**250**	P	**P**	**14 41 07.1**	**+0.6**
	39nm,1.0s,baz=73,slow=13,SNR=13						
CTA				LR	LR	14 48 00.9	
	comp=Z,4µm,18.4s,baz=0.1,slow=34						
CTAO	**Charters Tower**	**20.26**	**250**	*e*P	**P**	**14 41 04.0**	**-2.5**
CTAO				pmax	pmax		
	comp=Z,170nm,1.4s						
CTAO	**Charters Tower**	**20.26**	**250**	*e*P	**P**	**14 41 04.0**	**-2.5**
	comp=Z,170nm,1.4s						
RMQ	**Roma**	**20.65**	**231**	P	Pn	14 41 13.2	-0.1
	baz=21,SNR=40						
AFI	**Afiamalu**	**21.02**	**92**	LR	LR	14 47 17.5	
	comp=Z,2µm,19.9s,baz=279,slow=31						
ARMA	**Armidale**	**21.20**	**218**	*e*P	**P**	**14 41 15.2**	**-1.4**
	comp=Z,103nm,1.4s						
ARMA	**Armidale**	**21.20**	**218**	P	**P**	**14 41 18.9**	**+2.3**
	baz=22,SNR=6.3						
OUZ	**Omahuta**	**21.86**	**164**	*e*P	**P**	**14 41 26.1**	**+2.6**
	comp=Z,958nm,2.4s						
COEN	**Coen**	**22.68**	**268**	*e*P	**P**	**14 41 30.7**	**-1.9**
	comp=Z,3µm,2.5s						
COEN	**Coen**	**22.68**	**268**	P	**P**	**14 41 33.8**	**+1.2**
	baz=23,SNR=5.9						
QLP	**Quilpie**	**24.23**	**236**	P	**P**	**14 41 48.7**	**+1.2**
	baz=25,SNR=24						
CMSA	**Cobar Meteorol**	**25.75**	**224**	P	**P**	**14 42 02.6**	**+1.4**
	baz=26,SNR=4.5						
KHZ	**Kahutara**	**28.75**	**169**	*e*P	**P**	**14 42 26.1**	**-1.9**
	comp=Z,180nm,1.7s						
STKA	**Stephens Creek**	**28.82**	**228**	*e*P	**P**	**14 42 26.4**	**-2.3**
	comp=Z,5.8nm,0.9s						
STKA	**Stephens Creek**	**28.82**	**228**	P	**P**	**14 42 29.9**	**+1.2**
	baz=29,SNR=24						
STKA	**Stephens Creek**	**28.82**	**228**	P	**P**	**14 42 29.9**	**+1.2**
	comp=Z,13nm,0.5s,baz=36,slow=7.8,SNR=26						
STKA				LR	LR	14 53 42.9	
	comp=Z,5µm,18.2s,baz=46,slow=36						
RPZ	**Rata Peaks**	**29.66**	**173**	*e*P	**P**	**14 42 35.9**	**-0.2**
RPZ	**Rata Peaks**	**29.66**	**173**	P	**P**	**14 42 36.6**	**+0.5**
	comp=Z,19nm,0.8s,baz=135,slow=1.4,SNR=4.1						
WRA	**Warramunga Arr**	**31.29**	**255**	P	**P**	**14 42 50.0**	**-0.8**
WRA	**Warramunga Arr**	**31.29**	**255**	P	**P**	**14 42 50.0**	**-0.8**
	comp=Z,13nm,0.9s,baz=84,slow=8.8,SNR=20						
WRA				LR	LR	14 54 11.4	
	comp=Z,3µm,20.4s,baz=60,slow=34						
AS31	**Alice Springs**	**32.22**	**248**	*e*P	**P**	**14 42 57.1**	**-1.9**
ASAR	**Alice Springs**	**32.22**	**248**	P	**P**	**14 42 58.1**	**-0.8**
ASAR	**Alice Springs**	**32.22**	**248**	P	**P**	**14 42 58.1**	**-0.8**
	comp=Z,22nm,1.2s,baz=76,slow=9.0,SNR=27						
ASAR				LR	LR	14 55 36.1	
	comp=Z,2µm,20.8s,baz=22,slow=35						
MOO	**Moorlands**	**32.73**	**207**	P	**P**	**14 43 05.1**	**+2.0**
	baz=33,SNR=3.2						
RAR	**Rarotonga**	**32.77**	**107**	LR	LR	14 53 13.2	
	comp=Z,2µm,18.0s,baz=269,slow=31						
KDU	**Kakadu**	**33.17**	**268**	P	**P**	**14 43 07.7**	**+0.5**
	baz=34,SNR=9.6						
BBOO	**Buckleboo**	**33.36**	**231**	P	**P**	**14 43 09.8**	**+1.0**
	baz=34,SNR=16						
KNRA	**Kununurra**	**36.52**	**263**	P	**P**	**14 43 36.3**	**+0.1**
	baz=37,SNR=11						
NLAI	**Namlea**	**40.42**	**282**	P	**P**	**14 44 11.1**	**+2.1**
	comp=Z,60nm,1.6s						
LBMI	**Labuha**	**40.91**	**286**	P	**P**	**14 44 15.4**	**+2.3**
	comp=Z,45nm,1.6s						
SOEI	**Soe**	**41.57**	**271**	P	**P**	**14 44 19.2**	**+0.6**
	comp=Z,56nm,1.6s						
SOEI	**Soe**	**41.57**	**271**	P	**P**	**14 44 19.9**	**+1.4**
	baz=42,SNR=3.7						
BATI	**Baumata**	**42.07**	**270**	P	**P**	**14 44 24.6**	**+2.0**
	comp=Z,62nm,1.1s						
BATI	**Baumata**	**42.07**	**270**	P	**P**	**14 44 24.4**	**+1.8**
BATI	**Baumata**	**42.07**	**270**	P	**P**	**14 44 24.4**	**+1.8**
	comp=Z,43nm,0.6s,baz=143,slow=5.2,SNR=8.0						
PPT2	**Papeete2**	**42.25**	**101**	*e*LQ	LQ	14 54 35.2	
	comp=Z,2µm,26.8s						
PPT2				*e*LR	LR	14 56 20.6	
	comp=Z,2µm,25.5s						
PPT	**Papeete**	**42.25**	**101**	LR	LR	14 56 55.2	
	comp=Z,1µm,19.3s,baz=273,slow=29						
TBI	**Tubuai**	**42.48**	**109**	*e*LQ	LQ	14 54 41.2	
	comp=Z,1µm,27.5s						
TBI				*e*LR	LR	14 56 30.1	
	comp=Z,2µm,25.0s						
MBWA	**Marble Bar**	**45.02**	**254**	*e*P	**P**	**14 44 44.8**	**-1.4**
	comp=Z,23nm,0.9s						
MEEK	**Meekatharra**	**46.35**	**247**	P	**P**	**14 44 57.2**	**+0.4**
	baz=47,SNR=45						
KAPI	**Kappang**	**46.97**	**276**	*e*P	**P**	**14 44 59.9**	**-1.8**
	comp=Z,39nm,1.4s						
KLBR	**Kellerberrin**	**47.76**	**240**	P	**P**	**14 45 07.5**	**-0.2**
	baz=48,SNR=11						
PCI	**Palu**	**48.04**	**282**	P	P	14 45 16.6	+6.5
MORW	**Morawa**	**48.88**	**244**	P	**P**	**14 45 16.5**	**+0.2**
	baz=49,SNR=18						
RKT	**Rikitea**	**55.79**	**108**	*e*LQ	LQ	15 00 14.9	
	comp=Z,676nm,29.8s						
RKT				*e*LR	LR	15 02 40.5	
	comp=Z,1µm,25.0s						
MAJO	**Matsushiro**	**57.13**	**333**	*e*P	**P**	**14 46 15.3**	**-1.6**
MAJO				pmax	pmax		
	comp=Z,14nm,0.9s						
MAJO	**Matsushiro**	**57.13**	**333**	*e*P	**P**	**14 46 15.3**	**-1.6**
	comp=Z,14nm,0.9s						
MAT	**Matsushiro**	**57.13**	**333**	P	**P**	**14 46 17.1**	**+0.2**
JNU	**Nakatsue**	**58.10**	**325**	*e*P	**P**	**14 46 24.2**	**+0.4**
	comp=Z,9.7nm,1.0s						
ASAJ	**Asahikawa**	**62.02**	**341**	P	**P**	**14 46 51.0**	**+0.6**
ASAJ	**Asahikawa**	**62.02**	**341**	P	**P**	**14 46 51.0**	**+0.6**
	comp=Z,4.1nm,0.5s,baz=282,slow=26,SNR=12						
KSRS	**Korea Array**	**62.93**	**326**	P	**P**	**14 46 57.3**	**+0.8**
	comp=Z,3.3nm,0.9s,baz=144,slow=6.6,SNR=11						
KSAR	**Wonju Array Be**	**62.94**	**326**	P	**P**	**14 46 57.3**	**+0.7**
VNDA	**Vanda**	**63.36**	**181**	*e*P	**P**	**14 46 58.3**	**-0.6**
	comp=Z,32nm,1.8s						
VNDA	**Vanda**	**63.36**	**181**	P	**P**	**14 46 59.5**	**+0.6**
	comp=Z,4.0nm,0.7s,baz=0.6,slow=6.8,SNR=22						
SBA	**Scott Base**	**63.65**	**180**	*e*P	**P**	**14 47 00.2**	**-0.6**
SBA				pmax	pmax		
	comp=Z,88nm,2.0s						
SBA	**Scott Base**	**63.65**	**180**	*e*P	**P**	**14 47 00.2**	**-0.6**
	comp=Z,88nm,2.0s						
NJ2	**Nanjing**	**64.83**	**316**	*e*P	**P**	**14 47 11.2**	**+2.0**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
QIZ	**Qiongzhong**	**64.89**	**299**	P	**P**	**14 47 10.4**	**+0.6**
USRK	**Ussuriysk Arra**	**66.11**	**333**	P	**P**	**14 47 18.0**	**+0.7**
	comp=Z,6.0nm,0.8s,baz=151,slow=5.7,SNR=9.0						
PETK	**Petropavlovsk-**	**67.47**	**354**	P	**P**	**14 47 25.7**	**0.0**
PETK	**Petropavlovsk-**	**67.47**	**354**	P	**P**	**14 47 25.7**	**0.0**
PETK	**Petropavlovsk-**	**67.47**	**354**	P	**P**	**14 47 25.7**	**0.0**
	comp=Z,2.4nm,0.5s,baz=165,slow=5.7,SNR=18						
MDJ	**Mudanjiang**	**67.50**	**332**	P	**P**	**14 47 28.2**	**+2.1**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,190nm,5.1s						
CN2	**Changchun**	**68.85**	**329**	*e*P	**P**	**14 47 35.7**	**+1.2**
CN2				*e*sP	**sP**	**14 47 50.0**	**-2.1**
CN2				*e*S	**S**	**14 56 36.5**	**+1.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
CN2				AMB	AMB		
	comp=Z,400nm,5.0s						
CN2				LR	LR		
	comp=Z,900nm,15.0s						
CN2				LR	LR		
	comp=Z,500nm,15.0s						
CN2				LR	LR		
	comp=Z,800nm,14.0s						
KLR	**Kul'dur**	**70.26**	**337**	*e*P	**P**	**14 47 41.7**	**-1.4**
ENH	**Enshi**	**70.51**	**310**	*e*P	**P**	**14 47 44.4**	**-0.7**
	comp=Z,111nm,0.9s						
GYA	**Guiyang**	**70.86**	**305**	*e*P	**P**	**14 47 48.3**	**+0.9**
GYA				pP	**pP**	**14 48 01.4**	**+1.3**
GYA				sP	**sP**	**14 48 06.8**	**+1.8**
GYA				PP	**PP**	**14 50 27.4**	**+2.4**
GYA				S	**S**	**14 57 00.6**	**+0.7**
GYA				sS	**sS**	**14 57 17.0**	**-4.0**
GYA				SKS	**SKSac**	**14 57 42.3**	**-4.5**
GYA				SS	**SS**	**15 01 33.2**	**-0.2**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s						
GYA				AMB	AMB		
	comp=Z,140nm,6.5s						
GYA				LR	LR		
	comp=Z,490nm,19.4s						
GYA				LR	LR		
	comp=Z,420nm,20.2s						
GYA				LR	LR		
	comp=Z,510nm,19.9s						
XAN	**Xi'an**	**72.83**	**313**	P	**P**	**14 47 59.6**	**+0.5**
XAN				pP	**pP**	**14 48 09.9**	**-1.9**
XAN				AMB	AMB		
	comp=Z,3.0nm,1.2s						
KMI	**Kunming**	**73.45**	**302**	P	**P**	**14 48 05.0**	**+1.9**
KMI				pP	**pP**	**14 48 16.4**	**+0.6**
KMI				AMB	AMB		
	comp=Z,14nm,1.1s						
CM31	**Chiang Mai Arr**	**74.11**	**294**	*e*P	**P**	**14 48 04.4**	**-2.5**
	comp=Z,3.9nm,0.8s						
CHTO	**Chiang Mai**	**74.24**	**294**	*e*P	**P**	**14 48 07.8**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,35nm,1.1s						
CHTO	**Chiang Mai**	**74.24**	**294**	*e*P	**P**	**14 48 07.8**	**+0.2**
	comp=Z,35nm,1.1s						
HHC	**Hu-ho-hao-te**	**74.75**	**320**	*e*P	**P**	**14 48 11.1**	**+0.9**
HHC				pP	**pP**	**14 48 21.5**	**-1.4**
HHC				sP	**sP**	**14 48 25.4**	**-2.4**
HHC				PP	**PP**	**14 51 00.5**	**+2.5**
HHC				S	**S**	**14 57 44.0**	**+0.3**
HHC				sS	**sS**	**14 58 01.8**	**-3.1**
HHC				AMB	AMB		
	comp=Z,40nm,0.9s						
HHC				AMB	AMB		
	comp=Z,380nm,7.9s						
HHC				LR	LR		
	comp=Z,1µm,15.7s						
HHC				LR	LR		
	comp=Z,1µm,15.9s						
HHC				LR	LR		
	comp=Z,1µm,15.7s						
LZH	**Lanzhou**	**77.46**	**312**	*e*P	**P**	**14 48 27.2**	**+1.4**
LZH				pP	**pP**	**14 48 40.0**	**+1.4**
LZH				sP	**sP**	**14 48 44.9**	**+1.4**
LZH				PP	**PP**	**14 51 23.3**	**+2.2**
LZH				*e*S	**S**	**14 58 11.1**	**-2.8**
LZH				sS	sS	14 58 29.3	-5.9
LZH				SS	**SS**	**15 03 15.2**	**+1.3**
LZH				AMB	AMB		
	comp=Z,47nm,1.4s						
LZH				AMB	AMB		
	comp=Z,270nm,5.6s						
LZH				LR	LR		
	comp=Z,420nm,13.6s						
LZH				LR	LR		
	comp=Z,530nm,14.0s						
LZH				LR	LR		
	comp=Z,590nm,17.4s						
SEY	**Seymchan**	**77.69**	**353**	*e*P	**P**	**14 48 28.1**	**+1.9**
YAK	**Yakutsk**	**81.34**	**343**	*e*P	**P**	**14 48 43.4**	**-2.7**
YAK				pmax	pmax		
	comp=Z,27nm,1.5s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.5s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.4s						
SONM	**Songino Array**	**81.67**	**324**	P	**P**	**14 48 48.8**	**+0.4**
SONM	**Songino Array**	**81.67**	**324**	P	**P**	**14 48 48.8**	**+0.4**
	comp=N,3.0nm,0.9s,baz=80,slow=1.7,SNR=11						
GTA	**Gaotai**	**81.81**	**314**	⇑P	**P**	**14 48 51.4**	**+2.0**
GTA				pP	**pP**	**14 49 02.1**	**-0.1**
GTA				sP	**sP**	**14 49 05.8**	**-1.3**
GTA				S	**SKSac**	**14 59 04.1**	**-2.1**
GTA				sS	**sS**	**14 59 21.2**	**0.0**
GTA				AMB	AMB		
	comp=N,14nm,1.2s						
GTA				AMB	AMB		
	comp=N,240nm,6.9s						
GTA				LR	LR		
	comp=N,440nm,16.6s						
GTA				LR	LR		
	comp=N,770nm,17.1s						
GTA				LR	LR		
	comp=N,830nm,20.4s						
MAW	**Mawson**	**82.11**	**202**	P	**P**	**14 48 50.7**	**+0.5**
MAW	**Mawson**	**82.11**	**202**	P	P	14 48 55.9	+5.7
	baz=82,SNR=8.4						
MAW	**Mawson**	**82.11**	**202**	P	**P**	**14 48 50.7**	**+0.5**
	comp=N,2.8nm,1.0s,baz=103,slow=7.0,SNR=5.1						
LSA	**Lhasa**	**84.70**	**302**	*e*P	**P**	**14 49 02.5**	**-2.4**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
LSA	**Lhasa**	**84.70**	**302**	*e*P	**P**	**14 49 02.5**	**-2.4**
	comp=Z,6.6nm,0.8s						
ZAK	**Zakamensk**	**84.73**	**325**	*e*P	**P**	**14 49 03.6**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.4s						
TLY	**Talaya**	**85.18**	**326**	*e*P	**P**	**14 49 07.2**	**+1.0**
TLY				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ILAR	**Eielson Array**	**86.25**	**18**	P	**P**	**14 49 09.3**	**-1.8**
ILAR	**Eielson Array**	**86.25**	**18**	P	**P**	**14 49 09.3**	**-1.8**
	comp=Z,2.5nm,0.6s,baz=237,slow=5.1,SNR=37						
NVAR	**Mina Array Bea**	**87.45**	**49**	P	**P**	**14 49 16.8**	**-1.2**
NVAR	**Mina Array Bea**	**87.45**	**49**	P	**P**	**14 49 16.8**	**-1.2**
	comp=Z,1.3nm,1.0s,baz=229,slow=8.2,SNR=3.7						
SYO	**Syowa Base**	**89.00**	**197**	⇑*e*P	**P**	**14 49 23.8**	**-0.7**
TIXI	**Tiksi**	**89.33**	**349**	*e*P	**P**	**14 49 26.8**	**+1.1**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.7s						
HVS	**Khovu-Aksy**	**90.53**	**323**	*e*P	**P**	**14 49 33.2**	**+1.2**
TUC	**Tucson**	**91.42**	**57**	*e*P	**P**	**14 49 39.1**	**+2.5**
TUC				pmax	pmax		
	comp=Z,5.0nm,1.2s						
TUC	**Tucson**	**91.42**	**57**	*e*P	**P**	**14 49 39.1**	**+2.5**
	comp=Z,4.7nm,1.2s						
WMQ	**Urumqi**	**91.88**	**315**	*e*P	**P**	**14 49 40.4**	**+2.0**
WMQ				pP	**pP**	**14 49 53.9**	**+2.5**
WMQ				sP	**sP**	**14 49 59.1**	**+2.9**
WMQ				SKS	**SKSac**	**15 00 07.4**	**-0.6**
WMQ				S	**S**	**15 00 33.9**	**-2.7**
WMQ				SS	**SS**	**15 06 46.0**	**+0.1**
WMQ				AMB	AMB		
	comp=Z,11nm,0.4s						
WMQ				AMB	AMB		
	comp=Z,220nm,3.8s						
WMQ				LR	LR		
	comp=Z,820nm,18.8s						
WMQ				LR	LR		
	comp=Z,750nm,13.8s						
WMQ				LR	LR		
	comp=Z,560nm,18.2s						
SNAA	**Sanae**	**94.03**	**183**	*e*P	**P**	**14 49 47.4**	**-0.4**
SNAA	**Sanae**	**94.03**	**183**	*e*P	**P**	**14 49 46.8**	**-1.0**
	comp=Z,90nm,2.8s						
VNA2	**Neumayer--Watz**	**94.97**	**182**	*e*P	**P**	**14 49 52.0**	**-0.1**
	baz=171,slow=4.6						
MKAR	**Makanchi Array**	**96.36**	**317**	P	**P**	**14 49 59.2**	**+0.4**
MKAR	**Makanchi Array**	**96.36**	**317**	P	**P**	**14 49 59.2**	**+0.4**
MKAR	**Makanchi Array**	**96.36**	**317**	P	**P**	**14 49 59.2**	**+0.4**
	comp=Z,2.6nm,0.9s,baz=93,slow=6.0,SNR=10						
ZALV	**Zalesovo Beam**	**96.57**	**324**	P	**P**	**14 49 59.2**	**-0.4**
ZALV	**Zalesovo

comp=Z,2.6nm,0.6s,baz=288,slow=3.2,SNR=4.8
CUC Castrocucco 143.72 321 *e*PKPdf PKPbc 14 56 04.0 +1.1
BNI Bardonecchia 144.84 335 *e*PKIKP **PKPdf 14 56 07.2 +0.1**
BNI Bardonecchia 144.84 335 *e*PKPdfr **PKPdf 14 56 07.2 +0.1**
BST Brest 145.13 349 PKP **PKPdf 14 56 07.9 +0.5**
PLDF La Plantade 145.23 339 PKP **PKPdf 14 56 07.6 -0.1**
SSB Saint Sauveur 145.49 337 *e*PKP2 **PKPdf 14 56 08.0 -0.1**
SSB Saint Sauveur 145.49 337 *e*PKPdf **PKPdf 14 56 08.0 -0.1**
PYM Petit Puy Mans 145.63 339 PKP **PKPab 14 56 09.6 +0.6**
LBL Lubilhac 146.00 339 PKP **PKPab 14 56 10.6 +0.2**
PBRG Braganca 151.90 349 *e*PKPbc **PKPbc 14 56 24.7 -0.4**
POLO Lamas de Olo 152.49 351 *e*PKPbc **PKPbc 14 56 26.4 -0.1**
MVO Moncorvo 152.57 349 *e*PKPbc **PKPbc 14 56 26.6 -0.1**
PVRL Vila Real 152.57 351 *e*PKPbc **PKPbc 14 56 26.7 +0.1**
ESDC Sonseca Array 153.30 344 PKPbc **PKPbc 14 56 26.2 -2.1**
ESDC PKPab **PKPab 14 56 39.9 -0.3**
ESDC Sonseca Array 153.30 344 PKPbc **PKPbc 14 56 26.3 -2.1**
comp=Z,0.1nm,0.3s,baz=329,slow=1.5,SNR=3.5
ESDC PKPab **PKPab 14 56 39.9 -0.3**
comp=Z,1.0nm,0.6s,baz=14,slow=4.8,SNR=5.0
MTE Manteigas 153.40 350 *e*PKPbc **PKPbc 14 56 27.7 -0.8**
TORD Torodi Ar. Bea 165.25 268 PKP **PKPdf 14 56 34.8 -0.4**
TORD PKPab **PKPab 14 57 33.1 +0.3**
TORD Torodi Ar. Bea 165.25 268 PKP **PKPdf 14 56 34.8 -0.4**
comp=Z,0.8nm,0.7s,baz=19,slow=0.7,SNR=4.7
TORD PKPab **PKPab 14 57 33.1 +0.3**
comp=Z,3.3nm,1.1s,baz=94,slow=2.8,SNR=5.6

NEIC ***10*** *14:39:44.9±0.4, 15°.59S×173°.01W, h10km, mb5.2/20, Error ellipse: s-maj=20.3km s-min=9.5km az=139.0*
IDC ***10*** *14:39:44.4±0.7, 15°.40S×173°.08W, h0km, mb4.2/11, mb1 4.5/11, mb1mx4.4/18, mbtmp4.2/11, Error ellipse: s-maj=32.6km s-min=17.7km az=136.0*
ISCJB ***10*** *14:39:47.8±0.4, 15°.5S±0°.1×173°.01W±0°.07, h33km, mb4.8/36, MS5.1/3, Error ellipse: s-maj=18.2km s-min=8.0km az=158.1*
BJI ***10*** *14:39:48.2, 15°.84S×173°.34W, h35km, mB5.6/10, mb5.3/14, Ms5.5/9, Ms7 5.1/9*
ISC 10 14:39:49.0±0.6, 15°.6S±0°.1×172°.93W±0°.09, h34km±1km, n240, σ0.91/244, mb5.0/36, MS5.1/3, 7C-4D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.00**	**34**	Pn	Pn	14 40 10.8	-10
	86nm,0.3s,baz=341,slow=0.4,SNR=64						
AFI				Sn	Sn	14 40 31.2	-13
	258nm,0.3s,baz=59,slow=19,SNR=18						
MSVF	**Nonsavu**	**8.91**	**255**	Pn	Pn	14 42 03.5	+8.1
	375nm,1.0s,SNR=5.5						
DZM	**Mont Dzumac**	**20.55**	**249**	P	Pn	14 44 28.6	+1.2
DZM	**Mont Dzumac**	**20.55**	**249**	P	Pn	14 44 28.6	+1.2
	30nm,1.0s,baz=75,slow=16,SNR=4.1						
H11S2	**WAKE ISLAND Hy**	**39.36**	**329**	T	T	15 29 00.3	
	baz=150,slow=0.7,SNR=8.6						
H11S3	**WAKE ISLAND Hy**	**39.37**	**329**	T	T	15 29 07.1	
	baz=150,slow=0.7,SNR=31						
H11S1	**WAKE ISLAND Hy**	**39.38**	**329**	T	T	15 29 07.4	
	baz=150,slow=0.7,SNR=11						
H11N3	**WAKE ISLAND Hy**	**40.30**	**330**	T	T	15 30 12.0	
	baz=150,slow=0.7,SNR=7.5						
H11N1	**WAKE ISLAND Hy**	**40.30**	**330**	T	T	15 30 23.3	
	baz=150,slow=0.7,SNR=7.1						
H11N2	**WAKE ISLAND Hy**	**40.32**	**330**	T	T	15 30 19.5	
	baz=150,slow=0.7,SNR=5.5						
STKA	**Stephens Creek**	**44.34**	**240**	*e*P	**P**	14 47 55.4	**-0.7**
	2.8nm,0.9s						
STKA	**Stephens Creek**	**44.34**	**240**	P	**P**	14 47 56.5	**+0.4**
	10nm,0.9s,baz=89,slow=9.6,SNR=10						
WRAB	**Tennant Creek**	**50.24**	**257**	*e*P	**P**	14 48 39.6	**-2.6**
	16nm,1.3s						
WRA	**Warramunga Arr**	**50.25**	**257**	P	**P**	14 48 40.5	**-1.8**
WRA	**Warramunga Ar**	**50.25**	**257**	P	**P**	14 48 40.5	**-1.8**
	2.7nm,0.9s,baz=90,slow=6.7,SNR=16						
ASAR	**Alice Springs**	**50.49**	**252**	P	**P**	14 48 42.7	**-1.4**
ASAR	**Alice Springs**	**50.49**	**252**	P	**P**	14 48 42.7	**-1.4**
	7.1nm,0.7s,baz=87,slow=8.0,SNR=43						
SBA	**Scott Base**	**63.10**	**185**	*e*P	**P**	14 50 11.7	**-1.0**
VNDA	**Vanda**	**63.24**	**186**	*e*P	**P**	14 50 11.3	**-2.3**
	27nm,1.9s						
VNDA	**Vanda**	**63.24**	**186**	P	**P**	14 50 15.7	**+2.1**
	2.3nm,1.1s,baz=348,slow=7.7,SNR=4.1						
FMP	**Fort Macarthur**	**71.49**	**46**	P	**P**	14 51 06.9	**+0.4**
	baz=72						
BFSC	**Mount Baldy Ra**	**72.22**	**46**	P	**P**	14 51 10.9	**-0.1**
	baz=72						
EDW2	**Edwards Air Fo**	**72.35**	**45**	P	**P**	14 51 11.4	**-0.3**
	baz=73						
ISA	**Isabella**	**72.47**	**44**	*e*P	**P**	14 51 11.6	**-0.8**
	13nm,1.5s						
ISA	**Isabella**	**72.47**	**44**	P	**P**	14 51 12.1	**-0.3**
	baz=73						
SWSC	**Sam W. Stewart**	**72.83**	**48**	P	**P**	14 51 15.0	**+0.5**
	baz=73						
LRMC	**Laurel Mountai**	**72.89**	**45**	P	**P**	14 51 15.6	**+0.6**
	baz=73						
PETK	**Petropavlovsk-**	**72.95**	**342**	P	**P**	14 51 13.9	**-0.8**
PETK	**Petropavlovsk-**	**72.95**	**342**	P	**P**	14 51 13.9	**-0.8**
	5.3nm,1.1s,baz=96,slow=14,SNR=3.9						
BELC	**Belle Mtn. Jos**	**73.25**	**47**	P	**P**	14 51 17.1	**0.0**
	baz=74						
MPMC	**Manual Prospec**	**73.35**	**44**	P	**P**	14 51 17.8	**0.0**
	baz=74						
GSC	**Goldstone**	**73.39**	**45**	P	**P**	14 51 17.9	**0.0**
	baz=74						
BC3	**Big Chuckawall**	**73.45**	**47**	P	**P**	14 51 18.6	**+0.3**
	baz=74						
HEC	**Hector,Ludlow**	**73.46**	**46**	P	**P**	14 51 18.7	**+0.3**
	baz=74						
GMRC	**Granite Mounta**	**73.90**	**46**	P	**P**	14 51 21.0	**+0.1**
	baz=74						
IRM	**Iron Mountain**	**73.93**	**47**	P	**P**	14 51 21.0	**0.0**
	baz=74						
TUQ	**Turquoise Moun**	**74.07**	**45**	P	**P**	14 51 22.2	**+0.2**
	baz=74						
SHOC	**Shoshone**	**74.08**	**45**	P	**P**	14 51 22.4	**+0.6**
	baz=74						
NVAR	**Mina Array Bea**	**74.16**	**42**	P	**P**	14 51 23.7	**+1.2**
NVAR	**Mina Array Bea**	**74.16**	**42**	P	**P**	14 51 23.7	**+1.2**
	0.6nm,0.8s,baz=223,slow=7.7,SNR=3.6						
113A	**Mohawk Valley,**	**74.19**	**49**	P	**P**	14 51 23.0	**+0.5**
	baz=74						
PDMCI	**Parker Dam,Lak**	**74.71**	**47**	P	**P**	14 51 26.0	**+0.5**
	baz=75						
Y14A	**Wickenburg**	**75.34**	**48**	P	**P**	14 51 29.3	**+0.1**
	baz=76						
R11A	**Troy Canyon, C**	**75.88**	**43**	*e*P	**P**	14 51 30.9	**-1.5**
	54nm,2.8s						
R11A	**Troy Canyon, C**	**75.88**	**43**	P	**P**	14 51 32.0	**-0.4**
	baz=76						
NLWA	**Neilton Lookou**	**76.52**	**32**	*e*P	**P**	14 51 33.3	**-2.3**
	63nm,2.1s						
KSRS	**Korea Array**	**76.61**	**315**	P	**P**	14 51 36.7	**+0.4**
	0.7nm,0.8s,baz=140,slow=9.6,SNR=4.3						
KSAR	**Wonju Array Be**	**76.63**	**315**	P	**P**	14 51 36.7	**+0.3**
X16A	**Lo Mia Camp, P**	**76.70**	**48**	P	**P**	14 51 37.8	**+0.7**
	baz=77						
I07A	**Izee**	**76.78**	**36**	*e*P	**P**	14 51 35.6	**-1.6**
	72nm,2.6s						
319A	**Douglas**	**76.85**	**52**	P	**P**	14 51 38.4	**+0.5**
	baz=77						
G06A	**Carlson Farm,**	**76.85**	**35**	*e*P	**P**	14 51 37.3	**-0.2**
	54nm,2.0s						
U15A	**North Rim**	**77.10**	**46**	P	**P**	14 51 39.9	**+0.5**
	baz=77						
WUAZ	**Wupatki**	**77.29**	**47**	P	**P**	14 51 41.1	**+0.7**
	baz=78						
D05A	**Enumclaw**	**77.35**	**33**	*e*P	**P**	14 51 40.1	**-0.1**
	91nm,1.9s						
220A	**Playas Peak, P**	**77.66**	**52**	P	**P**	14 51 43.1	**+0.6**
	baz=78						
X18A	**Snowflake**	**77.83**	**49**	P	**P**	14 51 44.3	**+0.8**
	baz=78						
120A	**U Bar Ranch, L**	**77.87**	**51**	P	**P**	14 51 44.3	**+0.6**
	baz=78						
Z20A	**Nine Sixteen R**	**78.16**	**51**	P	**P**	14 51 45.9	**+0.6**
	baz=78						
MVU	**Marysvale**	**78.21**	**44**	*e*P	**P**	14 51 46.8	**+1.2**
	9.9nm,1.4s						
Y20A	**Horse Springs,**	**78.69**	**50**	P	**P**	14 51 49.0	**+0.7**
	baz=79						
X20A	**Quemado**	**78.89**	**49**	P	**P**	14 51 49.8	**+0.4**
	baz=79						
Q16A	**Castle Valley**	**79.12**	**44**	P	**P**	14 51 51.5	**+0.9**
	baz=79						
Y21A	**Point of Rocks**	**79.25**	**50**	P	**P**	14 51 52.2	**+0.8**
	baz=80						
X21A	**Alamocita Cree**	**79.37**	**50**	P	**P**	14 51 52.7	**+0.7**
	baz=80						
Z22A	**Elephant Butte**	**79.44**	**51**	P	**P**	14 51 52.5	**+0.1**
	baz=80						
HLID	**Hailey**	**79.48**	**39**	*e*P	**P**	14 51 52.3	**0.0**
	23nm,1.8s						
HLID	**Hailey**	**79.48**	**39**	P	**P**	14 51 52.7	**+0.3**
	baz=80						
B08A	**Colville Reser**	**79.48**	**33**	*e*P	**P**	14 51 51.6	**-0.4**
	50nm,2.3s						
U20A	**Newcomb**	**79.73**	**48**	P	**P**	14 51 54.5	**+0.7**
	baz=80						
Y22A	**Socorro**	**79.75**	**50**	P	**P**	14 51 54.4	**+0.4**
	baz=80						
W21A	**San Fidel**	**79.78**	**49**	P	**P**	14 51 54.4	**+0.2**
	baz=80						
324A	**Moseley Ranch,**	**79.78**	**53**	P	**P**	14 51 54.3	**0.0**
	baz=80						
425A	**Indio Mountain**	**79.89**	**54**	P	**P**	14 51 55.5	**+0.7**
	baz=80						
X22A	**Bernardo**	**79.97**	**50**	P	**P**	14 51 55.8	**+0.6**
	baz=80						
Z23A	**Rita Site, Whi**	**80.00**	**51**	P	**P**	14 51 55.8	**+0.4**
	baz=80						
224A	**Cornudas Mount**	**80.02**	**53**	P	**P**	14 51 55.9	**+0.4**
	baz=80						
626A	**Big Bend Ranch**	**80.06**	**56**	P	**P**	14 51 55.8	**+0.2**
	baz=80						
V21A	**Milan**	**80.10**	**49**	P	**P**	14 51 57.0	**+1.1**
	baz=80						
325A	**Bean Ranch, Si**	**80.15**	**54**	P	**P**	14 51 56.2	**0.0**
	baz=80						
526A	**Mary Lane Ranc**	**80.30**	**55**	P	**P**	14 51 57.1	**+0.1**
	baz=80						
TXAR	**Lajitas Array**	**80.34**	**56**	P	**P**	14 51 57.4	**+0.2**
TXAR	**Lajitas Array**	**80.34**	**56**	P	**P**	14 51 57.4	**+0.2**
	1.7nm,1.1s,baz=231,slow=5.8,SNR=9.1						
124A	**Stringfield Ra**	**80.34**	**52**	P	**P**	14 51 57.1	**-0.2**
	baz=80						
U21A	**Nageezi**	**80.37**	**48**	P	**P**	14 51 58.1	**+0.7**
	baz=81						
S20A	**Disappointment**	**80.52**	**46**	P	**P**	14 51 58.7	**+0.4**
	baz=81						
426A	**McDonald Obser**	**80.59**	**55**	P	**P**	14 51 57.8	**-0.9**
	baz=81						
627A	**Terlingua Ranc**	**80.61**	**56**	P	**P**	14 51 59.0	**+0.3**
	baz=81						
NJ2	**Nanjing**	**80.64**	**307**	*e*P	**P**	14 51 58.7	**+0.1**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s						
R20A	**Redvale**	**80.68**	**46**	P	**P**	14 51 59.7	**+0.7**
	baz=81						
527A	**Woodward Ranch**	**80.71**	**55**	P	**P**	14 51 59.7	**+0.4**
	baz=81						
T21A	**Navajo Lake**	**80.72**	**48**	P	**P**	14 51 60.0	**+0.8**
	baz=81						
S21A	**Coal Bank Pass**	**80.84**	**47**	P	**P**	14 52 00.5	**+0.5**
	baz=81						
Y24A	**Capitan**	**80.88**	**51**	P	**P**	14 52 00.7	**+0.5**
	baz=81						
326A	**Caldwell Ranch**	**80.90**	**54**	P	**P**	14 52 00.2	**+0.1**
	baz=81						
P19A	**Cripple Cowboy**	**80.95**	**45**	P	**P**	14 52 00.8	**+0.4**
	baz=81						
628A	**Black Gap, Mar**	**81.02**	**56**	P	**P**	14 52 01.2	**+0.4**
	baz=81						
226B	**Tecolote Peak,**	**81.07**	**53**	P	**P**	14 52 01.6	**+0.6**
	baz=81						
Q20A	**Ridgley Place,**	**81.10**	**45**	P	**P**	14 52 01.6	**+0.4**
	baz=81						
427A	**Hayter Ranch,**	**81.16**	**55**	P	**P**	14 52 01.9	**+0.3**
	baz=81						
T22A	**Edith**	**81.18**	**48**	P	**P**	14 52 02.1	**+0.4**
	baz=81						
RRI2	**Red Ridge**	**81.28**	**40**	*e*P	**P**	14 52 01.5	**-0.6**
	11nm,1.4s						
528A	**Cox Ranch, San**	**81.37**	**55**	P	**P**	14 52 03.2	**+0.5**
	baz=82						
U23A	**El Rito**	**81.38**	**49**	P	**P**	14 52 03.3	**+0.5**
	baz=82						
W24A	**Lazy 6 Ranch,**	**81.46**	**50**	P	**P**	14 52 03.2	**0.0**
	baz=82						
CN2	**Changchun**	**81.52**	**320**	*e*P	**P**	14 52 05.7	**+2.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
MSO	**Missoula**	**81.56**	**37**	*e*P	**P**	14 52 02.7	**-0.7**
	36nm,1.8s						
S22A	**4UR Ranch, Cre**	**81.56**	**47**	P	**P**	14 52 04.3	**+0.5**
	baz=82						
TPAW	**Teton Pass**	**81.58**	**41**	*e*P	**P**	14 52 03.6	**-0.1**
	99nm,2.9s						
428A	**Kincaid Ranch,**	**81.67**	**55**	P	**P**	14 52 04.8	**+0.5**
	baz=82						
Z26A	**Caprock**	**81.71**	**52**	P	**P**	14 52 05.0	**+0.6**
	baz=82						
IMW	**Indian Meadow**	**81.80**	**40**	*e*P	**P**	14 52 06.2	**+1.3**
	29nm,1.9s						
IMW				*e*pP	pP	14 52 22.0	+6.4
R22A	**Saguache, Gunn**	**81.83**	**47**	P	**P**	14 52 06.2	**+1.0**
	baz=82						
QLMT	**Earthquake Lak**	**81.97**	**39**	*e*P	**P**	14 52 05.6	**-0.1**
N20A	**Spence Gulch,**	**82.01**	**44**	P	**P**	14 52 06.2	**+0.2**
	baz=82						
Q22A	**Crested Butte,**	**82.01**	**46**	P	**P**	14 52 06.7	**+0.5**
	baz=82						
FLWY	**Flagg Ranch**	**82.04**	**40**	*e*P	**P**	14 52 07.7	**+1.6**
	71nm,2.1s						
PDAR	**Pinedale Array**	**82.10**	**42**	P	**P**	14 52 05.5	**-1.0**
PDAR	**Pinedale Array**	**82.10**	**42**	P	**P**	14 52 05.5	**-1.0**
	0.6nm,0.8s,baz=68,slow=0.8,SNR=5.5						
SMCO	**Snowmass**	**82.11**	**46**	*e*P	**P**	14 52 06.8	**0.0**
	79nm,2.4s						
W25A	**X Bar L Ranch,**	**82.16**	**50**	P	**P**	14 52 07.1	**+0.3**
	baz=82						
429A	**Davenport Ranc**	**82.26**	**55**	P	**P**	14 52 07.5	**+0.2**
	baz=82						
T24B	**San Luis**	**82.29**	**48**	P	**P**	14 52 08.1	**+0.5**
	baz=82						
228A	**UT Block 9, Go**	**82.30**	**54**	P	**P**	14 52 08.1	**+0.5**
	baz=82						
Z27A	**Tatum**	**82.31**	**52**	P	**P**	14 52 07.0	**-0.6**
	baz=82						
V25A	**Rancho No Teng**	**82.31**	**50**	P	**P**	14 52 07.9	**+0.2**
	baz=82						
P22A	**Eagle**	**82.45**	**45**	P	**P**	14 52 08.2	**-0.2**
	baz=83						
COLA	**College**	**82.46**	**11**	*e*P	**P**	14 52 06.3	**-1.1**
	50nm,1.0s						
530A	**J-C Ranch, Com**	**82.52**	**56**	P	**P**	14 52 08.4	**-0.3**
	baz=83						
L20A	**Wamsutter**	**82.52**	**43**	P	**P**	14 52 08.7	**+0.1**
	baz=83						
329A	**Wagon Wheel Ra**	**82.53**	**55**	P	**P**	14 52 08.6	**-0.1**
	baz=83						
ILAR	**Eielson Array**	**82.54**	**11**	P	**P**	14 52 06.8	**-1.1**
ILAR	**Eielson Array**	**82.54**	**11**	P	**P**	14 52 06.8	**-1.1**
	2.8nm,1.1s,baz=212,slow=6.0,SNR=6.3						
Y27A	**Causey**	**82.58**	**52**	P	**P**	14 52 09.1	**+0.1**
	baz=83						
S24A	**Houchin Ranch,**	**82.66**	**48**	P	**P**	14 52 10.0	**+0.5**
	baz=83						
J19A	**Crowheart**	**82.67**	**41**	P	**P**	14 52 09.3	**0.0**
	baz=83						
U25A	**Circle Dot Ran**	**82.71**	**49**	P	**P**	14 52 09.6	**-0.1**
	baz=83						
430A	**Baggett Ranch,**	**82.84**	**55**	P	**P**	14 52 10.9	**+0.5**
	baz=83						
631A	**Perdido Creek**	**82.85**	**57**	P	**P**	14 52 10.4	**0.0**
	baz=83						
O22A	**Kremmling**	**82.86**	**45**	P	**P**	14 52 10.9	**+0.4**
	baz=83						
MSTX	**Muleshoe**	**82.91**	**52**	*e*P	**P**	14 52 11.9	**+1.2**
	50nm,1.8s						
MSTX	**Muleshoe**	**82.91**	**52**	P	**P**	14 52 11.4	**+0.7**
	baz=83						
P23A	**Jefferson**	**82.99**	**46**	P	**P**	14 52 11.9	**+0.6**
	baz=83						
R24A	**Sanders Place,**	**82.99**	**47**	P	**P**	14 52 11.4	**+0.3**
	baz=83						
I19A	**Meeteetse**	**83.08**	**41**	P	**P**	14 52 12.4	**+1.0**
	baz=83						
W27A	**Bowe Ranch, En**	**83.14**	**51**	P	**P**	14 52 12.3	**+0.4**
	baz=83						
531A	**Rocksprings**	**83.16**	**56**	P	**P**	14 52 12.0	**0.0**
	baz=83						
U26A	**Atchley Ranch,**	**83.19**	**49**	P	**P**	14 52 12.2	**0.0**
	baz=83						
N22A	**Wattenberg Ran**	**83.21**	**45**	P	**P**	14 52 12.4	**+0.1**
	baz=83						
S25A	**Robets Cordova**	**83.23**	**48**	P	**P**	14 52 12.4	**+0.1**
	baz=83						
Q24A	**Divide**	**83.29**	**47**	P	**P**	14 52 12.9	**+0.1**
	baz=84						
O23A	**Lake Granby, G**	**83.31**	**45**	P	**P**	14 52 13.2	**+0.4**
	baz=84						
J20A	**Shoshoni**	**83.33**	**42**	P	**P**	14 52 13.4	**+0.7**
	baz=84						
ISCO	**Idaho Springs**	**83.33**	**46**	P	**P**	14 52 13.3	**+0.3**
	baz=84						
632A	**Uvalde**	**83.52**	**57**	P	**P**	14 52 14.2	**+0.3**
	baz=84						
K21A	**Alcova**	**83.53**	**43**	P	**P**	14 52 14.4	**+0.6**
	baz=84						
R25A	**Fountain Ranch**	**83.54**	**48**	P	**P**	14 52 14.2	**+0.3**
	baz=84						
I20A	**Worland**	**83.59**	**41**	P	**P**	14 52 14.2	**+0.2**
	baz=84						
N23A	**Red Feather La**	**83.60**	**45**	P	**P**	14 52 14.2	**-0.1**
	baz=84						
T26A	**Comanche Natio**	**83.63**	**49**	P	**P**	14 52 14.5	**0.0**
	baz=84						
J21A	**Lysite**	**83.73**	**42**	P	**P**	14 52 14.8	**-0.1**
	baz=84						
L22A	**Ellis Ranch, M**	**83.78**	**43**	P	**P**	14 52 15.4	**+0.2**
	baz=84						
U27A	**Thompson Grove**	**83.87**	**50**	P	**P**	14 52 15.7	**+0.1**
	baz=84						
Z30A	**Sanderson Ranc**	**83.90**	**53**	P	**P**	14 52 15.7	**-0.1**
	baz=84						
S26A	**Kim**	**83.90**	**48**	P	**P**	14 52 15.7	**0.0**
	baz=84						
H20A	**Greybull**	**83.92**	**41**	P	**P**	14 52 15.8	**+0.1**
	baz=84						
F19A	**Roth Farm, Mol**	**84.00**	**39**	P	**P**	14 52 16.0	**0.0**
	baz=84						
K22A	**Casper**	**84.01**	**43**	P	**P**	14 52 16.0	**-0.2**
	baz=84						
I21A	**Big Trails, Te**	**84.05**	**42**	P	**P**	14 52 15.9	**-0.5**
	baz=84						
G20A	**Bridger**	**84.14**	**40**	P	**P**	14 52 16.7	**-0.1**
	baz=84						
R26A	**Arlington**	**84.20**	**48**	P	**P**	14 52 17.3	**0.0**
	baz=84						
P25A	**Willow Gulch B**	**84.21**	**46**	P	**P**	14 52 17.6	**+0.3**
	baz=84						
T27A	**Campo**	**84.21**	**49**	P	**P**	14 52 17.1	**-0.2**
	baz=84						
W29A	**Amraillo**	**84.22**	**51**	P	**P**	14 52 17.7	**+0.2**
	baz=84						
COLD	**Coldfoot**	**84.26**	**9**	*e*P	**P**	14 52 17.2	**+0.5**
	27nm,1.6s						
332A	**Millersview**	**84.26**	**55**	P	**P**	14 52 18.3	**+0.7**
	baz=84						
N24A	**Carr**	**84.29**	**45**	P	**P**	14 52 18.5	**+0.8**
	baz=84						
L23A	**Garrett**	**84.31**	**44**	P	**P**	14 52 17.8	**0.0**
	baz=84						
J22A	**Midwest**	**84.39**	**42**	P	**P**	14 52 18.1	**0.0**
	baz=85						
E19A	**Rath Farm, Rou**	**84.40**	**39**	P	**P**	14 52 18.2	**+0.2**
	baz=85						
Q26A	**Hugo**	**84.42**	**47**	P	**P**	14 52 18.2	**-0.2**
	baz=85						
F20A	**Billings**	**84.46**	**39**	P	**P**	14 52 18.5	**+0.1**
	baz=85						
232A	**Coleman**	**84.52**	**55**	P	**P**	14 52 18.6	**-0.3**
	baz=85						
H21A	**Big Horn, Sher**	**84.59**	**41**	P	**P**	14 52 19.1	**0.0**
	baz=85						
EGMT	**Eagleton**	**84.60**	**37**	P	**P**	14 52 19.2	**+0.2**
	baz=85						
I22A	**9 Mile Ranch,**	**84.61**	**42**	P	**P**	14 52 19.2	**0.0**
	baz=85						
Z31A	**Sharp Cattle R**	**84.67**	**53**	P	**P**	14 52 19.2	**-0.4**
	baz=85						
D19A	**Cripps Ranch,**	**84.69**	**38**	P	**P**	14 52 19.5	**0.0**
	baz=85						
ABTX	**Abilene, Hawle**	**84.80**	**54**	*e*P	**P**	14 52 20.1	**-0.1**
ABTX	**Abilene, Hawle**	**84.80**	**54**	P	**P**	14 52 20.2	**-0.1**
	baz=85						
E20A	**Meyer Farm, Mu**	**84.81**	**39**	P	**P**	14 52 20.7	**+0.7**
	baz=85						
C19A	**Slack Wire Ran**	**84.87**	**37**	P	**P**	14 52 20.9	**+0.5**
	baz=85						
Z32A	**Haskell**	**85.18**	**54**	P	**P**	14 52 22.8	**+0.6**
	baz=85						
B19A	**Brinkman Farms**	**85.29**	**37**	P	**P**	14 52 22.8	**+0.4**
	baz=86						
R28A	**Tribune**	**85.39**	**48**	P	**P**	14 52 23.5	**+0.3**
	baz=86						
Y32A	**R-V Farms, Ver**	**85.47**	**53**	P	**P**	14 52 23.9	**+0.3**
	baz=86						
C20A	**Veseth Ranch,**	**85.47**	**38**	P	**P**	14 52 23.9	**+0.5**
	baz=86						
A19A	**Klindworth Far**	**85.64**	**37**	P	**P**	14 52 24.5	**+0.4**
	baz=86						
D21A	**La Casta Ranch**	**85.77**	**39**	P	**P**	14 52 25.2	**+0.3**
	baz=86						
G23A	**Biddle**	**85.90**	**41**	P	**P**	14 52 25.6	**+0.1**
	baz=86						
A20A	**Cobblestone Ra**	**86.08**	**37**	P	**P**	14 52 26.6	**+0.2**
	baz=86						
H24A	**Dirks Ranch, A**	**86.23**	**42**	P	**P**	14 52 27.1	**-0.2**
	baz=86						
MAW	**Mawson**	**87.76**	**198**	P	**P**	14 52 35.4	**+1.2**
MAW	**Mawson**	**87.76**	**198**	P	**P**	14 52 35.4	**+1.2**
	2.7nm,0.8s,baz=109,slow=8.9,SNR=8.2						
GYA	**Guiyang**	**88.53**	**298**	*e*P	**P**	14 52 37.7	**-1.1**
GYA				pP	**pP**	14 52 50.0	**+0.4**
GYA				sP	**sP**	14 52 55.9	**+2.4**
GYA				PP	**PP**	14 56 10.2	**+2.7**
GYA				SKS	**SKSac**	15 03 02.7	**-3.2**
GYA				S	**S**	15 03 21.6	**-1.4**
GYA				sS	**sS**	15 03 39.4	**-1.4**
GYA				SS	**SS**	15 09 16.0	**+1.5**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s						
GYA				A

	comp=Z,15nm,1.1s							
KSH	**Kashi**	**115.95**	**307**	*e*PKP		**PKPdf**	**14 58 29.0**	**+0.3**
KSH				*es*PKP			14 58 43.3	
KSH				PP		PP	14 59 40.7	+7.5
NOA	**NORSAR Array B**	**134.51**	**357**	PKPpre		PKPpre	14 58 58.9	
NOA	**NORSAR Array B**	**134.51**	**357**	PKhKP		PKPpre	14 58 58.9	
	2.0nm,0.8s,baz=32,slow=3.0,SNR=5.1							
HFS	**Hagfors**	**135.26**	**355**	PKPpre		PKPpre	14 59 00.4	
HFS	**Hagfors**	**135.26**	**355**	PKhKP		PKPpre	14 59 00.4	
	1.0nm,0.5s,baz=301,slow=0.8,SNR=7.4							
AKASG	**Malin Array Be**	**140.68**	**338**	PKP		**PKPdf**	**14 59 13.1**	**-1.9**
AKASG	**Malin Array Be**	**140.68**	**338**	PKhKP		PKPpre	14 59 01.4	
	0.4nm,0.5s,baz=46,slow=4.2,SNR=5.9							
AKASG				PKP		**PKPdf**	**14 59 13.1**	**-1.9**
	1.1nm,0.6s,baz=49,slow=4.4,SNR=5.3							
MALT	**Malatya**	**144.31**	**315**	⇑*i*P		**PKPdf**	**14 59 23.0**	**+1.0**
DPC	**Dobruska-Polom**	**144.53**	**350**	*e*PKP		PKPbc	14 59 21.3	+0.8
DPC				*ep*PKP		pPKPdf	14 59 30.5	-2.6
BURAR	**Bucovina Array**	**144.71**	**339**	⇓*i*P		PKPdf	14 59 29.3	+6.9
TRPA	**Tarpa**	**145.13**	**342**	⇑*i*P		PKPdf	14 59 30.4	+7.5
VRAC	**Vranov**	**145.48**	**349**	PKPbc		**PKPdf**	**14 59 23.5**	**0.0**
VRAC	**Vranov**	**145.48**	**349**	PKPbc		**PKPdf**	**14 59 23.5**	**0.0**
	3.3nm,0.3s,baz=268,slow=7.7,SNR=4.0							
VRI	**Vrincioaia**	**145.60**	**335**	⇓*i*P		PKPab	14 59 33.0	+8.6
KMBO	**Kilima Mbogo**	**145.86**	**244**	PKPbc		**PKPab**	**14 59 27.9**	**+1.3**
KMBO	**Kilima Mbogo**	**145.86**	**244**	PKPbc		**PKPab**	**14 59 27.9**	**+1.3**
	0.7nm,0.4s,baz=220,slow=22,SNR=5.8							
TIRR	**Tirgusor**	**146.01**	**332**	⇑*i*P		PKPab	14 59 34.4	+8.5
TLB	**Topalu**	**146.08**	**333**	⇑*i*P		PKPab	14 59 34.6	+8.5
KHC	**Kasperske Hory**	**146.12**	**352**	*e*PKP		**PKPbc**	**14 59 25.4**	**-0.2**
KHC				*ex*		x	14 59 33.5	
MLR	**Muntele Rosu**	**146.22**	**336**	⇑*i*P		**PKPab**	**14 59 27.4**	**+0.5**
GERES	**GERESS Array B**	**146.39**	**352**	PKPbc		**PKPbc**	**14 59 26.9**	**+0.4**
GERES	**GERESS Array B**	**146.39**	**352**	PKPbc		**PKPbc**	**14 59 26.9**	**+0.4**
	0.9nm,0.7s,baz=207,slow=0.6,SNR=9.7							
BRTR	**Keskin Array B**	**146.46**	**321**	PKPbc		**PKPbc**	**14 59 27.2**	**-0.2**
BRTR	**Keskin Array B**	**146.59**	**321**	PKPbc		**PKPbc**	**14 59 27.2**	**-0.2**
	6.1nm,1.0s,baz=146,slow=2.4,SNR=11							
VOIR		**146.62**	**337**	⇓*i*P		**PKPab**	**14 59 29.8**	**+1.5**
ARR	**Arges**	**146.83**	**337**	⇑*i*P		**PKPab**	**14 59 29.2**	**0.0**
BZS	**Buzias**	**147.66**	**341**	⇓*i*P		**PKPbc**	**14 59 30.9**	**+0.8**
MMAI	**Mount Meron Ar**	**149.04**	**309**	PKPbc		**PKPbc**	**14 59 35.3**	**+1.1**
MMAI	**Mount Meron Ar**	**149.04**	**309**	PKPbc		**PKPbc**	**14 59 35.3**	**+1.1**
	4.5nm,0.9s,baz=48,slow=2.1,SNR=5.5							
VTS	**Vitosha**	**149.73**	**336**	⇑*i*P		**PKPbc**	**14 59 37.6**	**+1.9**
ESDC	**Sonseca Array**	**154.13**	**20**	PKPbc		**PKPbc**	**14 59 46.1**	**+0.4**
ESDC				PKPab		**PKPab**	**15 00 00.0**	**+0.8**
ESDC	**Sonseca Array**	**154.13**	**20**	PKPbc		**PKPbc**	**14 59 46.1**	**+0.4**
	0.1nm,0.3s,baz=346,slow=3.7,SNR=2.6							
ESDC				PKPab		**PKPab**	**15 00 00.0**	**+0.8**
	0.1nm,0.4s,baz=318,slow=3.5,SNR=4.5							

*IDC **10** 14:49:26.1±0.8, 14°.21S×166°.75E, h0km, mb4.3/12, mb1 4.4/13, mb1mx4.3/19, mbtmp4.3/13, ML5.0/1, Error ellipse: s-maj=27.3km s-min=18.8km az=111.0*
*ISCJB **10** 14:49:31.6±0.7, 14°.18S±0°.08×166°.4E±0°.1, h43km, mb4.2/12, Error ellipse: s-maj=16.4km s-min=9.5km az=150.7*

IDC 10 14:49:32.6±0.6, 14°.23S±0°.08×166°.6E±0°.1, h43km, n24, σ1s22/28, mb4.2/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.80**	**181**	Pn		**Pn**	**14 51 25.5**	**+1.8**
	2.6nm,0.3s,baz=345,slow=20,SNR=14							
DZM				Sn		**Sn**	**14 52 47.3**	**-3.6**
	baz=41,slow=20,SNR=2.2							
HNR	**Honiara**	**8.04**	**306**	Pn		**Pn**	**14 51 27.4**	**+0.4**
	20nm,0.3s,baz=148,slow=5.5,SNR=11							
HNR				Sn		**Sn**	**14 52 54.8**	**-1.9**
	7.1nm,0.3s,baz=12,slow=20,SNR=3.2							
STKA	**Stephens Creek**	**28.81**	**228**	P		**P**	**14 55 27.9**	**+1.1**
	3.0nm,0.8s,baz=44,slow=6.5,SNR=7.7							
WRA	**Warramunga Arr**	**31.29**	**255**	P		**P**	**14 55 48.5**	**-0.4**
	2.0nm,0.9s,baz=86,slow=9.5,SNR=14							
ASAR	**Alice Springs**	**32.22**	**248**	P		**P**	**14 55 56.8**	**-0.3**
	0.8nm,0.5s,baz=73,slow=9.0,SNR=24							
MAT	**Matsushiro**	**57.15**	**333**	P		**P**	**14 59 15.0**	**-0.1**
KSRS	**Korea Array**	**62.94**	**326**	P		**P**	**14 59 55.6**	**+0.9**
	1.9nm,0.8s,baz=138,slow=6.8,SNR=7.0							
VNDA	**Vanda**	**63.35**	**181**	P		**P**	**14 59 58.1**	**+1.1**
	1.2nm,0.7s,baz=28,slow=6.5,SNR=8.8							
USRK	**Ussuriysk Arra**	**66.13**	**333**	P		**P**	**15 00 16.8**	**+1.3**
	4.1nm,0.6s,baz=121,slow=5.8,SNR=10							
PETK	**Petropavlovsk-**	**67.49**	**354**	P		**P**	**15 00 24.3**	**+0.4**
	3.6nm,0.5s,baz=166,slow=6.7,SNR=29							
CMAR	**Chiang Mai Arr**	**74.12**	**294**	P		**P**	**15 01 06.1**	**+1.0**
	2.2nm,0.9s,baz=125,slow=4.3,SNR=12							
SONM	**Songino Array**	**81.69**	**324**	P		**P**	**15 01 47.4**	**+0.8**
	1.2nm,0.8s,baz=155,slow=8.0,SNR=11							
ILAR	**Eielson Array**	**86.26**	**18**	P		**P**	**15 02 08.0**	**-1.4**
	1.7nm,0.7s,baz=238,slow=5.0,SNR=34							
MKAR	**Makanchi Array**	**96.37**	**317**	P		**P**	**15 02 57.7**	**+0.7**
	1.1nm,0.7s,baz=96,slow=5.9,SNR=11							
ZALV	**Zalesovo Beam**	**96.58**	**324**	P		**P**	**15 02 57.1**	**-0.6**
	1.4nm,0.6s,baz=107,slow=4.2,SNR=7.1							
ARCES	**ARCESS Array B**	**119.59**	**345**	PKP		**PKPdf**	**15 08 16.5**	**-0.8**
	1.6nm,0.4s,baz=89,slow=2.1,SNR=21							
FINES	**FINESS Array B**	**125.00**	**338**	PKP		**PKPdf**	**15 08 27.8**	**0.0**
	2.7nm,0.9s,baz=119,slow=2.4,SNR=7.0							
AKASG	**Malin Array Be**	**129.94**	**326**	PKP		**PKPdf**	**15 08 37.5**	**-0.1**
	0.4nm,0.5s,baz=18,slow=1.5,SNR=4.7							
NB2	**NORSAR Subarra**	**129.96**	**345**	PKPdf		**PKPdf**	**15 08 37.4**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=31,slow=1.9							
NOA	**NORSAR Array B**	**129.96**	**345**	PKP		**PKPdf**	**15 08 36.8**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=32,slow=2.0,SNR=3.9							
GERES	**GERESS Array B**	**138.89**	**333**	PKP		**PKPdf**	**15 08 54.8**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=304,slow=0.5,SNR=4.0							
KEST	**Kesra**	**150.39**	**320**	PKPbc		**PKPbc**	**15 09 20.1**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=256,slow=2.9,SNR=7.4							
ESDC	**Sonseca Array**	**153.31**	**344**	PKP		**PKPdf**	**15 09 17.8**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=274,slow=2.0,SNR=2.7							
ESDC				PKPbc		**PiKPbc**	**15 09 26.4**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=9.6,slow=1.3,SNR=5.2							
ESDC				PKPab		**PKPab**	**15 09 36.2**	**-2.2**
	comp=Z,0.3nm,0.5s,baz=359,slow=2.3,SNR=5.0							
TORD	**Torodi Ar. Bea**	**165.26**	**268**	PKP		**PKPdf**	**15 09 32.9**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=54,slow=2.8,SNR=2.4							

*NNC **10** 14:55:49.1±3.7, 39°.07N×70°.08E, h0km, mb4.0, mpv3.5, Error ellipse: s-maj=30.5km s-min=25.1km az=172.0*

ISC 10 14:55:50.8±1.5, 39°.1N±0°.1×69°.88E±0°.09, h13km, n14, σ1s87/14, 4C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KK31	**Karatay Array**	**3.99**	**7**	Pn		**Pn**	**14 56 54.7**	**+3.0**
	2.6nm,0.4s,baz=190,slow=14,SNR=57							
KK31				⇑Sn		**Sn**	**14 57 46.4**	**-2.8**
	4.4nm,0.4s,baz=197,slow=21,SNR=3.6							
KK31				⇑Lg		Lg	14 57 58.8	
	4.7nm,0.3s,baz=181,slow=29,SNR=6.0							
AML	**Almayashu**	**4.17**	**43**	P		**Pn**	**14 56 53.6**	**-0.9**
	SNR=8.4							
EKS2	**Erkin-Say**	**4.60**	**39**	P		**Pn**	**14 57 01.2**	**+1.1**
	SNR=5.5							
KZA	**Kyzart**	**5.04**	**53**	P		**Pn**	**14 57 06.8**	**+0.4**
	SNR=8.9							
KBK	**Karagaybulak**	**5.21**	**46**	P		**Pn**	**14 57 10.9**	**+2.4**
	SNR=11							
TKM2	**Tokmak 2**	**5.75**	**47**	⇓Pn		**Pn**	**14 57 14.3**	**-1.7**
	6.0nm,0.5s							
TKM2				⇑Sn		**Sn**	**14 58 23.4**	**+1.6**
	7.5nm,0.8s							
TKM2				⇓Lg		Lg	14 58 45.4	
	8.2nm,0.8s							
TKM2	**Tokmak 2**	**5.75**	**47**	P		**Pn**	**14 57 17.4**	**+1.5**
	SNR=12							
IMYA	**Miami**	**8.23**	**253**	*e*P		**Pn**	**14 57 50.5**	**+0.5**
IEMG	**Emamgholi**	**8.99**	**263**	*e*P		**Pn**	**14 57 58.8**	**-1.8**
IPAY	**Payeh**	**9.02**	**256**	*e*P		Pn	14 57 53.2	-7.7
IAKL	**Akhelmad**	**9.15**	**257**	*e*P		**Pn**	**14 58 02.9**	**+0.2**
IKRD	**Kardeh**	**9.28**	**259**	*e*P		Pn	14 57 51.6	-13
AB31	**Akbulak array**	**12.37**	**328**	Pn		**Pn**	**14 58 47.3**	**+0.9**
	1.1nm,0.6s,baz=139,slow=13,SNR=18							
AKTO	**Aktyubinsk**	**14.07**	**327**	⇑Pn		**P**	**14 59 16.1**	**-1.4**
	5.8nm,0.8s							

*IDC **10** 15:04:38.2±1.3, 37°.49S×178°.31E, h0km, mb4.4/6, mb1 4.5/6, mb1mx4.2/16, mbtmp4.3/6, Error ellipse: s-maj=35.3km s-min=26.9km az=149.0*
*WEL **10** 15:04:42.9±0.3, 37°.61S×178°.34E, h56km±2km, ML4.6/19, Error ellipse: s-maj=2.5km s-min=1.7km az=90.0, maximum reported intensity MM 4.*
WEL Felt between Bay of Plenty, Hawkes Bay and Gisborne.
*AUST **10** 15:04:43.6, 37°.80S×177°.56E, h10km*

ISC 10 15:04:39.5±1.8, 37°.79S±0°.04×178°.52E±0°.07, h17km±10km, n122, σ1s37/116, mb4.4/6, 7C-2D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.28**	**324**	⇑PN		**Pn**	**15 04 51.3**	**+2.3**
MXZ				SN		**Sn**	**15 04 57.1**	**+2.3**
MXZ				AML		AML	15 04 58.1	
MXZ				AML		AML	15 04 58.2	
PUZ	**Puketiti**	**0.35**	**217**	⇑PN		Pn	15 04 54.0	+4.1
PUZ				AML		AML	15 05 03.1	
PUZ				AML		AML	15 05 04.8	
CNGZ	**Carnagh Statio**	**0.73**	**199**	PN		Pn	15 04 59.7	+4.6
MWZ	**Matawai**	**0.95**	**235**	⇓PN		**Pn**	**15 05 00.4**	**+2.2**
MWZ				SN		**Sn**	**15 05 12.7**	**+1.3**
MWZ				AML		AML	15 05 16.1	
MWZ				AML		AML	15 05 16.2	
MWZ				AML		AML	15 05 17.7	
WIZ	**White Island**	**1.09**	**284**	PN		**Pb**	**15 04 59.2**	**-0.7**
URZ	**Urewera**	**1.21**	**247**	⇑PN		**Pg**	**15 05 02.9**	**+0.1**
URZ				SN		**Sb**	**15 05 17.0**	**-0.2**
URZ				AML		AML	15 05 20.1	
URZ	**Urewera**	**1.21**	**247**	Pn		**Pg**	**15 05 02.9**	**+0.1**
	583nm,0.3s,baz=313,slow=1.7,SNR=1955							
URZ				Sn		**Sb**	**15 05 17.2**	**0.0**
	baz=127,slow=20							
PRGZ	**Paritu Road**	**1.23**	**204**	PN		**Pg**	**15 05 04.9**	**+1.6**
KNZ	**Kokohu**	**1.39**	**208**	PN		**Pg**	**15 05 06.2**	**-0.2**
MHGZ	**Mahia Peninsul**	**1.44**	**199**	PN		**Pg**	**15 05 07.9**	**+0.7**
EDRZ	**Edgecumbe**	**1.44**	**257**	⇑PN		**Pn**	**15 05 05.5**	**+0.6**
MARZ	**Manawahe**	**1.47**	**262**	PN		**Pn**	**15 05 05.3**	**0.0**
OPRZ	**Ohinepanea**	**1.56**	**267**	PN		**Pn**	**15 05 05.9**	**-0.5**
RAHZ	**Arahi**	**1.59**	**225**	PN		**Pb**	**15 05 09.3**	**+0.8**
TARZ	**Mount Tarawera**	**1.65**	**254**	PN		**Pn**	**15 05 08.6**	**+0.8**
RRRZ	**Republican Roa**	**1.67**	**250**	PN		**Pn**	**15 05 09.0**	**+0.9**
LIRZ	**Lichensteins R**	**1.70**	**262**	PN		**Pn**	**15 05 08.7**	**+0.2**
OMRZ	**Omania**	**1.73**	**259**	PN		**Pn**	**15 05 09.1**	**+0.2**
HLRZ	**Highlands Stat**	**1.77**	**254**	PN		**Pn**	**15 05 10.3**	**+0.8**
TGRZ	**Tauranga**	**1.79**	**271**	PN		**Pn**	**15 05 09.1**	**-0.6**
KARZ	**Kaharoa**	**1.81**	**262**	⇑PN		**Pn**	**15 05 10.1**	**+0.1**
PRRZ	**Plateau Road**	**1.82**	**247**	PN		**Pn**	**15 05 11.2**	**+1.1**
HRRZ	**Handcock Road**	**1.86**	**251**	PN		**Pn**	**15 05 11.5**	**+0.8**
NMHZ	**Naumai**	**1.87**	**225**	PN		**Pb**	**15 05 13.4**	**+0.1**
UTU	**Utuhina**	**1.88**	**258**	PN		**Pn**	**15 05 11.7**	**+0.8**
ALRZ	**Allen Road**	**1.88**	**245**	PN		**Pn**	**15 05 12.1**	**+1.2**
MYRZ	**Mayor Island**	**1.88**	**285**	PN		**Pn**	**15 05 10.0**	**-0.9**
BKZ	**Black Stump Fm**	**2.10**	**229**	PN		**Pn**	**15 05 15.6**	**+1.7**
BKZ				AML		AML	15 05 56.7	
BKZ				AML		AML	15 05 57.0	
CKHZ	**Cape Kidnapper**	**2.18**	**211**	PN		**Pn**	**15 05 16.5**	**+1.5**
CKHZ				SN		**Sn**	**15 05 42.9**	**+1.3**
MCHZ	**McNeill Hill**	**2.18**	**220**	PN		**Pn**	**15 05 17.5**	**-1.0**
WHTZ	**Whakaora**	**2.20**	**246**	PN		**Pn**	**15 05 17.0**	**+1.7**
HATZ	**Hinemaiaia**	**2.20**	**239**	PN		**Pn**	**15 05 17.0**	**+1.7**
KAHZ	**Kahuranaki**	**2.38**	**212**	PN		**Pn**	**15 05 19.3**	**+1.5**
TOZ	**Tahuroa Road**	**2.39**	**271**	PN		**Pn**	**15 05 17.3**	**-0.6**
RITZ	**Rihia Road**	**2.40**	**240**	PN		**Pn**	**15 05 20.2**	**+2.1**
RATZ	**Rangitukua**	**2.41**	**243**	PN		**Pn**	**15 05 19.9**	**+1.6**
TLZ	**Tolley Road**	**2.41**	**256**	PN		**Pn**	**15 05 18.6**	**+0.4**
KUZ	**Kuaotunu**	**2.46**	**294**	PN		**Pn**	**15 05 17.7**	**-1.2**
KATZ	**Kakaramea**	**2.51**	**241**	PN		**Pn**	**15 05 21.4**	**+1.7**
BHHZ	**Black Hill Sta**	**2.56**	**228**	PN		**Pn**	**15 05 21.9**	**+1.6**
PXZ	**Pawanui**	**2.58**	**210**	PN		**Pn**	**15 05 21.9**	**+1.4**
PXZ				AML		AML	15 05 53.4	
PXZ				AML		AML	15 05 53.4	
PXZ				AML		AML	15 05 53.5	
PXZ				AML		AML	15 05 53.5	
KRVZ	**Karewarewa**	**2.61**	**239**	PN		**Pn**	**15 05 22.8**	**+1.8**
WTVZ	**West Tongariro**	**2.65**	**239**	PN		**Pn**	**15 05 23.7**	**+2.1**
NGZ	**Ngauruhoe**	**2.67**	**238**	PN		**Pn**	**15 05 23.7**	**+1.8**
MOVZ	**Moawhango**	**2.70**	**233**	PN		**Pn**	**15 05 23.5**	**+1.3**
WPVZ	**Whakapapa**	**2.73**	**238**	PN		**Pn**	**15 05 24.5**	**+1.9**
WHVZ	**Whangaehu Hut**	**2.74**	**236**	PN		**Pn**	**15 05 24.3**	**+1.4**
FWVZ	**Far West T-bar**	**2.75**	**237**	PN		**Pn**	**15 05 24.7**	**+1.7**
DRZ	**Dome Shelter**	**2.75**	**237**	PN		**Pn**	**15 05 24.8**	**+1.7**
MKAZ	**Moumakai**	**2.75**	**283**	PN		**Pn**	**15 05 22.4**	**-0.5**
WNVZ	**Wahianoa**	**2.75**	**235**	PN		**Pn**	**15 05 24.6**	**+1.5**
TRVZ	**Turoa**	**2.77**	**236**	PN		**Pn**	**15 05 25.0**	**+1.6**
PNHZ	**Pukenui**	**2.79**	**220**	PN		**Pn**	**15 05 24.3**	**+0.9**
WPHZ	**Waipukurau**	**2.79**	**215**	PN		**Pn**	**15 05 24.5**	**+1.1**
MTVZ	**Mangateitei**	**2.87**	**235**	PN		**Pn**	**15 05 25.9**	**+1.4**
PRHZ	**Porangahau**	**2.87**	**210**	PN		**Pn**	**15 05 25.4**	**+0.9**
KBAZ	**Karaka Road Bo**	**2.97**	**282**	PN		**Pn**	**15 05 26.0**	**+0.1**
HIZ	**Hauiti**	**2.98**	**255**	PN		**Pn**	**15 05 27.1**	**+1.1**
TSZ	**Takapari Road**	**3.02**	**221**	PN		**Pn**	**15 05 27.0**	**+0.4**
TSZ				AML		AML	15 06 04.3	
TSZ				AML		AML	15 06 07.7	
MTAZ	**Motutapu**	**3.05**	**288**	⇑PN		**Pn**	**15 05 26.8**	**-0.2**
DVHZ	**Dannevirke**	**3.10**	**215**	PN		**Pn**	**15 05 27.9**	**+0.2**
HBAZ	**Herne Bay Bore**	**3.16**	**286**	PN		**Pn**	**15 05 28.7**	**+0.2**
ABAZ	**Army Bay**	**3.17**	**291**	PN		**Pn**	**15 05 28.6**	**-0.1**
VRZ	**Vera Road**	**3.24**	**245**	PN		**Pn**	**15 05 31.6**	**+2.1**
WTAZ	**Waiatarua**	**3.26**	**284**	PN		**Pn**	**15 05 30.0**	**+0.1**
RVAZ	**Riverhead Bore**	**3.30**	**287**	⇑PN		**Pn**	**15 05 30.5**	**0.0**
POWZ	**Post Office Ro**	**3.36**	**219**	PN		**Pn**	**15 05 31.5**	**+0.2**
WAZ	**Wanganui**	**3.39**	**234**	PN		**Pn**	**15 05 33.5**	**+1.9**
PRWZ	**Pori Road**	**3.40**	**215**	PN		**Pn**	**15 05 32.7**	**+0.9**
MHEZ	**Mangahewa**	**3.54**	**247**	PN		Pn	15 05 36.9	+3.2
TIWZ	**Tintock**	**3.61**	**214**	PN		**Pn**	**15 05 34.9**	**+0.1**
MRZ	**Mangatainoka R**	**3.66**	**218**	PN		**Pn**	**15 05 34.9**	**-0.5**
MRZ				AML		AML	15 06 17.3	
MRZ				AML		AML	15 06 18.0	
DREZ	**Durham Road**	**3.66**	**246**	PN		**Pn**	**15 05 38.3**	**+2.9**
NEZ	**North Egmont**	**3.77**	**246**	PN		**Pn**	**15 05 39.7**	**+2.8**
DFE	**Dawson Falls**	**3.78**	**245**	PN		Pn	15 05 41.1	+3.9
PKE	**Pukeiti**	**3.82**	**247**	PN		**Pn**	**15 05 39.9**	**+2.3**
HOWZ	**Holdsworth Sta**	**3.88**	**216**	PN		**Pn**	**15 05 37.5**	**-0.8**
TMWZ	**Te Maipa**	**3.88**	**211**	PN		**Pn**	**15 05 37.9**	**-0.6**
NWEZ	**Newall Road**	**3.94**	**247**	PN		**Pn**	**15 05 42.2**	**+3.1**
OGWZ	**Otaki Gorge**	**3.98**	**220**	PN		**Pn**	**15 05 38.9**	**-0.9**
MTW	**Mount Morrison**	**4.09**	**214**	PN		**Pn**	**15 05 40.3**	**-1.0**
MTW				AML		AML	15 06 26.5	
MTW				AML		AML	15 06 27.3	
KIW	**Kapiti Island**	**4.15**	**221**	PN		**Pn**	**15 05 41.4**	**-0.8**
KIW				AML		AML	15 06 29.4	
KIW				AML		AML	15 06 30.8	
TRWZ	**Traveller**	**4.21**	**210**	PN		**Pn**	**15 05 42.1**	**-0.8**
TRWZ				AML		AML	15 06 30.6	
TRWZ				AML		AML	15 06 31.5	
CAW	**Cannon Point**	**4.25**	**218**	PN		**Pn**	**15 05 42.2**	**-1.4**
CAW				AML		AML	15 06 33.6	
CAW				AML		AML	15 06 35.0	
PAWZ	**Paruwai Farm**	**4.31**	**213**	PN		**Pn**	**15 05 42.8**	**-1.4**
PAWZ				AML		AML	15 06 32.1	
PAWZ				AML		AML	15 06 32.6	
MSWZ	**Moikau Station**	**4.41**	**214**	PN		**Pn**	**15 05 44.3**	**-1.4**
MSWZ				AML		AML	15 06 33.7	
MSWZ				AML		AML	15 06 34.3	
PLWZ	**Palliser**	**4.54**	**213**	PN		**Pn**	**15 05 45.9**	**-1.5**
WEL	**Wellington**	**4.54**	**219**	PN		**Pn**	**15 05 45.7**	**-1.7**
SNZO	**South Karori**	**4.58**	**219**	PN		**Pn**	**15 05 46.2**	**-1.8**
SNZO				AML		AML	15 06 39.6	
SNZO				AML		AML	15 07 09.6	
DUWZ	**D'Urville Isla**	**4.66**	**228**	PN		**Pn**	**15 05 48.1**	**-1.1**
OUZ	**Omahuta**	**4.72**	**301**	PN		**Pn**	**15 05 50.4**	**+0.4**
TCW	**Tory Channel**	**4.74**	**223**	PN		**Pn**	**15 05 48.4**	**-1.7**
TCW				AML		AML	15 06 43.8	
TCW				AML		AML	15 06 44.0	
TUWZ	**Tuamarina**	**5.07**	**223**	PN		**Pn**	**15 05 53.2**	**-1.4**
TUWZ				AML		AML	15 06 51.3	
TUWZ				AML		AML	15 06 53.6	
NNZ	**Nelson**	**5.24**	**228**	PN		**Pn**	**15 05 55.2**	**-1.9**
BSWZ	**Blackbirch Sta**	**5.30**	**221**	PN		**Pn**	**15 05 56.2**	**-1.8**
BSWZ				AML		AML	15 06 56.5	
BSWZ				AML		AML	15 06 58.6	
THZ	**Tophouse**	**5.87**	**226**	PN		**Pn**	**15 06 03.5**	**-2.2**
KHZ	**Kahutara**	**5.99**	**218**	PN		**Pn**	**15 06 06.4**	**-1.0**
KHZ				AML		AML	15 07 11.1	
KHZ				AML		AML	15 07 14.9	
DSZ	**Denniston Nort**	**6.51**	**231**	PN		Pn	15 06 11.2	-3.3
LTZ	**Lake Taylor**	**6.90**	**222**	PN		Pn	15 06 16.7	-3.3
CRLZ	**Canterbury Las**	**7.31**	**216**	PN		**Pn**	**15 06 22.9**	**-2.6**
MQZ	**McQueen's Vall**	**7.40**	**215**	PN		Pn	15 06 23.4	-3.3
OXZ	**Oxford**	**7.41**	**220**	PN		Pn	15 06 24.0	-2.8
RPZ	**Rata Peaks**	**8.19**	**221**	PN		**Pn**	**15 06 35.1**	**-2.5**
RPZ	**Rata Peaks**	**8.19**	**221**	PN		Pn	15 06 34.5	-3.1
	1.9nm,0.3s,baz=233,slow=23,SNR=12							
RPZ				Sn		Sn	15 08 00.1	-10
	16nm,0.3s,baz=340,slow=21,SNR=25							
LBZ	**Lake Benmore**	**9.11**	**221**	⇓PN		Pn	15 06 47.2	-2.9
ODZ	**Otahua Downs**	**9.35**	**217**	PN		Pn	15 06 49.9	-3.5
STKA	**Stephens Creek**	**30.74**	**270**	P		**P**	**15 10 54.4**	**+0.5**
	baz=30,SNR=6.9							
STKA	**Stephens Creek**	**30.74**	**270**	P		**P**	**15 10 54.3**	**+0.5**
	3.4nm,0.8s,baz=113,slow=9.9,SNR=7.5							
QLP	**Quilpie**	**30.93**	**281**	P		**P**	**15 10 56.1**	**+0.5**
	baz=30,SNR=4.0							
CTA	**Charters Tower**	**33.07**	**293**	P		**P**	**15 11 14.7**	**+0.2**
	5.3nm,0.9s,baz=117,slow=12,SNR=4.4							
COEN	**Coen**	**39.32**	**298**	P		**P**	**15 12 07.4**	**-0.5**
	baz=39,SNR=4.7							
ASAR	**Alice Springs**	**40.48**	**277**	P		**P**	**15 12 15.9**	**-1.6**
	3.8nm,0.5s,baz=124,slow=8.3,SNR=66							
WRA	**Warramunga Arr**	**42.15**	**282**	P		**P**	**15 12 29.5**	**-1.8**
	3.3nm,0.4s,baz=120,slow=8.5,SNR=66							
KNRA	**Kununurra**	**48.94**	**283**	P		**P**	**15 13 24.0**	**-1.0**
	baz=48,SNR=12							
FITZ	**Fitzroy Crossi**	**49.97**	**278**	P		**P**	**15 13 31.7**	**-1.2**
	baz=49,SNR=7.3							
MEEK	**Meekatharra**	**51.12**	**264**	P		**P**	**15 13 39.5**	**-2.1**
	baz=50,SNR=14							
PETK	**Petropavlovsk-**	**92.32**	**348**	P		**P**	**15 17 48.6**	**+0.4**
	2.4nm,1.1s,baz=100,slow=7.7,SNR=4.0							
CMAR	**Chiang Mai Arr**	**93.21**	**291**	P		**P**	**15 17 54.6**	**+1.4**
	0.2nm,0.5s,baz=160,slow=2.9,SNR=2.9							
**

comp=Z,0.8nm,0.7s,baz=89,slow=2.2,SNR=8.6
ASAR Alice Springs 137.43 249 PKP **PKPdf 15 29 05.1 +0.6**
ASAR Alice Springs 137.43 249 PKP **PKPdf 15 29 05.1 +0.6**
comp=Z,0.3nm,0.7s,baz=84,slow=1.5,SNR=4.8
CMAR Chiang Mai Arr 147.44 345 PKPbc **PKPbc 15 29 24.2 -0.6**
CMAR Chiang Mai Arr 147.44 345 PKPbc **PKPbc 15 29 24.3 -0.6**
baz=337,slow=3.3

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*AUST **10** 15:08:45.0, 15°.83S×171°.36W, h200km*
*IDC **10** 15:10:08.0±5.7, 17°.71S×178°.70W, h553km±67km, mb3.0/9, mb1 3.3/10, mb1mx3.1/20, mbtmp3.9/10, Error ellipse: s-maj=30.5km s-min=24.6km az=132.0*
ISC 10 15:10:07.6±0.8, 17°.7S±0°.2×178°.7W±0°.2, h547km, n21, σ0°76/19, mb3.4/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.69**	**250**	P		**P**		**15 13 15.3**	**+1.4**
	0.8nm,0.3s,baz=123,slow=18,SNR=5.4								
CTA	**Charters Tower**	**33.26**	**260**	P		**P**		**15 15 59.4**	**-0.8**
	2.7nm,0.7s,baz=78,slow=11,SNR=3.4								
CMSA	**Cobar Meteorol**	**35.06**	**240**	P		**P**		**15 16 15.0**	**-0.1**
	baz=42,SNR=9.1								
QLP	**Quilpie**	**35.40**	**249**	P		**P**		**15 16 17.6**	**-0.4**
	baz=42,SNR=5.5								
MANU	**Manus Island**	**36.80**	**291**	P		P		15 16 25.3	-4.4
	baz=43,SNR=4.1								
TOO	**Toolangi**	**37.13**	**230**	P		**P**		**15 16 32.7**	**+0.6**
	baz=44,SNR=4.9								
STKA	**Stephens Creek**	**38.54**	**241**	P		**P**		**15 16 43.8**	**+0.2**
	baz=46,SNR=7.1								
STKA	**Stephens Creek**	**38.54**	**241**	P		**P**		**15 16 43.7**	**0.0**
	3.1nm,0.5s,baz=93,slow=9.7,SNR=27								
BBOO	**Buckleboo**	**43.32**	**241**	P		**P**		**15 17 21.3**	**-0.3**
	baz=50,SNR=16								
WRA	**Warramunga Arr**	**44.45**	**259**	P		**P**		**15 17 29.1**	**-1.5**
	2.0nm,0.6s,baz=97,slow=6.8,SNR=40								
ASAR	**Alice Springs**	**44.63**	**254**	P		**P**		**15 17 31.4**	**-0.5**
	19nm,0.6s,baz=90,slow=7.8,SNR=470								
KDU	**Kakadu**	**47.33**	**269**	P		**P**		**15 17 52.0**	**-0.5**
	baz=54,SNR=7.1								
KNRA	**Kununurra**	**50.28**	**264**	P		**P**		**15 18 13.8**	**-0.5**
	baz=57,SNR=6.1								
FITZ	**Fitzroy Crossi**	**52.84**	**260**	P		**P**		**15 18 32.7**	**-0.1**
	baz=60,SNR=6.2								
SOEI	**Soe**	**55.84**	**270**	P		P		15 18 46.9	-7.2
	baz=63,SNR=3.6								
QSPA	**South Pole Qui**	**72.37**	**180**	P		**P**		**15 20 37.8**	**-0.3**
	0.7nm,0.7s								
NVAR	**Mina Array Bea**	**79.42**	**44**	P		**P**		**15 21 18.4**	**+0.8**
	0.4nm,0.6s,baz=230,slow=8.2,SNR=3.7								
ILAR	**Eielson Array**	**85.72**	**13**	P		**P**		**15 21 47.6**	**-0.8**
	0.2nm,0.3s,baz=218,slow=5.4,SNR=7.5								
TXAR	**Lajitas Array**	**86.07**	**58**	P		**P**		**15 21 50.8**	**-0.2**
	0.5nm,0.8s,baz=231,slow=7.9,SNR=4.4								
PDAR	**Pinedale Array**	**87.35**	**44**	P		**P**		**15 21 57.4**	**+0.5**
	0.4nm,0.6s,baz=183,slow=2.6,SNR=4.1								
CMAR	**Chiang Mai Arr**	**88.59**	**290**	P		**P**		**15 22 04.3**	**+1.3**
	0.2nm,0.4s,baz=112,slow=4.6,SNR=4.7								

IDC 10 15:17:11.8±1.0, 14°.02S×166°.47E, h0km, mb4.1/9, mb1 4.2/11, mb1mx4.1/18, mbtmp4.2/11, ML4.4/2, MS3.5/1, Ms1 3.5/1, ms1mx3.2/34, Error ellipse: s-maj=30.8km s-min=19.4km az=104.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.85**	**305**	Pn		Pn		15 19 09.3	+2.1
	10nm,0.3s,baz=189,slow=4.3,SNR=5.1								
HNR				Sn		Sn		15 20 31.1	-5.8
	5.4nm,0.3s,baz=225,slow=16,SNR=2.1								
DZM	**Mont Dzumac**	**8.01**	**180**	Pn		Pn		15 19 08.9	-0.8
	2.1nm,0.3s,baz=102,slow=16,SNR=13								
DZM				Sn		Sn		15 20 33.2	-8.0
	1.2nm,0.3s,baz=135,slow=19,SNR=3.0								
DZM				LR		LR		15 21 04.4	
	comp=Z,372nm,21.7s,baz=218,slow=29								
STKA	**Stephens Creek**	**28.88**	**228**	P		P		15 23 12.7	+0.3
	4.7nm,0.7s,baz=42,slow=6.3,SNR=10								
WRA	**Warramunga Arr**	**31.26**	**255**	P		P		15 23 32.6	-1.0
	2.9nm,0.9s,baz=83,slow=8.8,SNR=11								
ASAR	**Alice Springs**	**32.21**	**248**	P		P		15 23 41.0	-1.0
	1.3nm,0.8s,baz=72,slow=9.3,SNR=13								
VNDA	**Vanda**	**63.55**	**181**	P		P		15 27 44.6	+0.9
	0.9nm,0.6s,baz=3.8,slow=6.3,SNR=7.8								
PETK	**Petropavlovsk-**	**67.27**	**354**	P		P		15 28 08.1	+0.1
	2.3nm,0.9s,baz=159,slow=6.9,SNR=3.7								
SONM	**Songino Array**	**81.47**	**324**	P		P		15 29 31.1	0.0
	0.4nm,0.8s,baz=88,slow=4.9,SNR=3.2								
MAW	**Mawson**	**82.25**	**202**	P		P		15 29 37.3	+2.6
	1.8nm,0.9s,baz=92,slow=4.4,SNR=4.1								
ILAR	**Eielson Array**	**86.09**	**18**	P		P		15 29 52.4	-1.8
	0.9nm,0.7s,baz=226,slow=6.5,SNR=7.6								
MKAR	**Makanchi Array**	**96.16**	**317**	P		P		15 30 42.9	+1.2
	0.3nm,0.8s,baz=82,slow=3.2,SNR=3.0								
ZALV	**Zalesovo Beam**	**96.36**	**324**	P		P		15 30 42.5	+0.1
	0.4nm,0.2s,baz=125,slow=4.9,SNR=2.5								
ARCES	**ARCESS Array B**	**119.37**	**345**	PKP		PKPdf		15 36 03.3	+0.6
	1.2nm,0.6s,baz=64,slow=2.1,SNR=4.5								

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*IDC **10** 15:26:16.5±0.5, 25°.04S×70°.65W, h0km, mb4.7/14, mb1 4.8/19, mb1mx4.7/23, mbtmp4.6/19, ML4.7/4, MS5.1/18, Ms1 5.0/18, ms1mx4.9/32, Error ellipse: s-maj=14.5km s-min=10.0km az=64.0*
*GUC **10** 15:26:16.8±0.8, 25°.07S×71°.07W, h20km±15km, ML5.3*
*NEIC **10** 15:26:19.8±2.7, 24°.94S×70°.68W, h20km±18km, mb5.2/66, Error ellipse: s-maj=11.4km s-min=6.8km az=60.0*
NEIC Felt at Calama and Copiapo.
*ISCJB **10** 15:26:20.7±0.2, 25°.01S±0°.03×70°.71W±0°.04, h38km, mb5.0/88, MS5.2/14, Error ellipse: s-maj=5.7km s-min=3.7km az=166.5*
*MOS **10** 15:26:21.5±1.3, 24°.64S×71°.05W, h33km, mb5.3/27, Error ellipse: s-maj=19.4km s-min=9.1km az=96.2*
*BJI **10** 15:26:23.9, 25°.00S×70°.20W, h46km, mB5.5/11, Ms5.6/12, Ms7 5.3/11*
*GCMT **10** 15:26:24.4±0.1, 25°.02S×71°.22W, h17km, MW5.6, Moment Tensor Solution. s68,c100; s99,c182; Moment tensor: Scale 10^17 Nm; Mrr 1.93±.05; Mθθ 0.14±.03; Mφφ -2.07±.04; Mrθ 0.62±.08; Mθφ 0.29±.02; Mφr -1.84±.10; Best double couple: M0 2.80000×10^17 NP1:φs 165.00000°, δ67.00000°, λ,83.00000°. NP2:φs 2.00000°, δ24.00000°, λ,106.00000°. Principal axes: T 2.7400, Plg67.0000°, Azm62.0000°; N 0.1300, Plg6.0000°, Azm167.0000°; P -2.8700, Plg22.0000°, Azm260.0000°; Data Used: II IU IC G CN. Surface waves from 101 sta.*
ISC 10 15:26:22.1±0.3, 25°.02S±0°.04×70°.65W±0°.06, h38km, n688, σ1s09/672, mb5.1/91, MS5.2/14, 186C-202D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ANCH	**Antofagasta**	**1.35**	**9**	↑*iP*		**Pn**		**15 26 43.0**	**-1.5**
ANCH				*i* S		**Sn**		**15 27 01.7**	**+0.6**
ANCH				AML		AML		15 27 07.9	
	comp=E,64μm,0.6s								
PB10	**Plate Boundary**	**1.50**	**3**	↑*iP*		**Pn**		**15 26 44.5**	**-2.0**
PB10				*i* S		**Sn**		**15 27 04.9**	**0.0**
PB10				AML		AML		15 27 17.9	
	comp=E,116μm,0.5s								
CEN1	**Los Morros**	**1.68**	**14**	↓*iP*		Pn		15 26 44.6	-4.4
CEN1				*i* S		**Sn**		**15 27 06.2**	**-3.1**
CEN1				AML		AML		15 27 11.3	
	comp=E,39μm,0.6s								
CDCH	**Caldera**	**2.04**	**184**	*e*P		Pn		15 26 50.5	-3.4
CDCH				AML		AML		15 27 28.1	
	comp=E,20μm,0.4s								
CPCH	**Copiapo**	**2.34**	**174**	*e*P		**Pn**		**15 26 56.7**	**-1.3**
CPCH				*i* S		**Sn**		**15 27 26.4**	**+0.8**
CPCH				AML		AML		15 27 39.3	
	comp=E,25μm,0.3s								
LVC	**Limon Verde**	**2.88**	**34**	*e*Pn		**Pn**		**15 27 07.8**	**+2.1**
LCO	**Las Campanas**	**3.97**	**181**	*e*Pn		Pn		15 27 17.2	-3.5
CFAA	**Coronel Fontan**	**6.89**	**163**	Pn		**Pn**		**15 28 00.2**	**-0.4**
CFAA				Sn		Sn		15 29 26.9	+9.1
CFAA	**Coronel Fontan**	**6.89**	**163**	Pn		**Pn**		**15 28 00.2**	**-0.4**
	comp=E,1.0nm,0.3s,baz=335,slow=14,SNR=38								
CFAA				Sn		Sn		15 29 26.9	+9.1
	comp=E,2.8nm,0.3s,baz=346,slow=19,SNR=2.2								
CFAA				LR		LR		15 30 41.3	
	comp=E,2μm,20.9s,baz=334,slow=38								
LPAZ	**La Paz**	**9.01**	**16**	Pn		**Pn**		**15 28 30.6**	**+0.5**
LPAZ				Sn		Sn		15 30 20.9	+10
LPAZ	**La Paz**	**9.01**	**16**	Pn		**Pn**		**15 28 30.6**	**+0.5**
	comp=E,7.8nm,0.3s,baz=209,slow=6.6,SNR=117								
LPAZ				Sn		Sn		15 30 20.9	+10
	comp=E,1.2nm,0.3s,baz=202,slow=19,SNR=1.7								
LPAZ				LR		LR		15 31 51.1	
	comp=E,5μm,21.0s,baz=194,slow=37								
H03N1	**Juan Fernandez**	**11.06**	**219**	T		T		15 40 12.5	
	baz=42,slow=0.7,SNR=2177								
H03N2	**Juan Fernandez**	**11.07**	**219**	T		T		15 40 07.3	
	baz=42,slow=0.7,SNR=1855								
H03N3	**Juan Fernandez**	**11.08**	**219**	T		T		15 40 05.6	
	baz=42,slow=0.7,SNR=3182								
CPUP	**Villa Florida**	**12.09**	**99**	*e*Pn		**Pn**		**15 29 11.9**	**+0.2**
	comp=E,112nm,0.6s								
CPUP	**Villa Florida**	**12.09**	**99**	Pn		**Pn**		**15 29 14.4**	**+2.7**
	comp=E,1.0nm,0.3s,baz=258,slow=12,SNR=10								
CPUP				LR		LR		15 34 24.2	
	comp=E,15μm,19.4s,baz=260,slow=40								
SIV	**San Ignacio**	**12.69**	**47**	Pn		**Pn**		**15 29 18.7**	**-1.4**
SIV				Sn		Sn		15 31 49.8	+10
SIV	**San Ignacio**	**12.69**	**47**	Pn		**Pn**		**15 29 18.7**	**-1.4**
	comp=E,1.9nm,0.3s,baz=255,slow=12,SNR=33								
SIV				Sn		Sn		15 31 49.8	+10
	comp=E,1.2nm,0.3s,baz=323,slow=20,SNR=2.8								
SIV				LR		LR		15 35 06.4	
	comp=E,8μm,19.8s,slow=42								
TRQA	**Tornquist**	**14.94**	**153**	*e*Pn		**Pn**		**15 29 47.6**	**-2.9**
PLCA	**Paso Flores**	**15.67**	**180**	*e*Pn		**Pn**		**15 29 57.3**	**-2.8**
PLCA	**Paso Flores**	**15.67**	**180**	Pn		**Pn**		**15 29 59.4**	**-0.7**
	comp=E,1.1nm,0.3s,baz=349,slow=13,SNR=19								
PLCA				LR		LR		15 35 58.7	
	comp=E,10μm,20.2s,baz=355,slow=37								
SAML	**Samuel**	**17.50**	**25**	*e*Pn		**Pn**		**15 30 23.1**	**-0.1**
	comp=E,31nm,0.8s								
ATAH	**Atahualpa**	**19.27**	**336**	P		**Pn**		**15 30 45.0**	**-0.1**
ATAH				S		**Sn**		**15 34 22.6**	**+2.2**
ATAH	**Atahualpa**	**19.27**	**336**	P		**Pn**		**15 30 45.0**	**-0.1**
	comp=E,0.4nm,0.3s,baz=191,slow=4.2,SNR=7.1								
ATAH				S		**Sn**		**15 34 22.6**	**+2.2**
	comp=E,0.4nm,0.3s,baz=299,slow=19,SNR=2.1								
SPB	**Sao Paulo**	**21.21**	**91**	*e*P		**P**		**15 31 04.8**	**+0.3**
	comp=E,79nm,0.8s								
BDFB	**Brasilia**	**23.16**	**71**	*e*P		**P**		**15 31 21.8**	**-3.6**
BDFB	**Brasilia**	**23.16**	**71**	P		**P**		**15 31 24.8**	**-0.6**
	comp=E,30nm,0.8s,baz=230,slow=9.2,SNR=21								
BDFB				S		**S**		**15 35 38.3**	**+3.7**
	comp=E,4.3nm,0.6s,baz=66,slow=19,SNR=1.4								
OTAV	**Otavalo**	**26.22**	**342**	*e*P		**P**		**15 31 50.2**	**-3.8**
USHA	**Ushuaia**	**29.82**	**177**	P		**P**		**15 32 24.4**	**-0.9**
USHA	**Ushuaia**	**29.82**	**177**	P		**P**		**15 32 24.4**	**-0.9**
	comp=E,16nm,0.8s,baz=300,slow=5.1,SNR=9.4								
USHA				LR		LR		15 45 31.6	
	comp=E,5μm,19.0s,baz=346,slow=39								
ROSC	**El Rosal**	**29.91**	**353**	LR		LR		15 44 22.1	
	comp=E,3μm,19.9s,baz=190,slow=36								
SDV	**Santo Domingo**	**33.70**	**0**	*e*P		**P**		**15 32 58.8**	**-1.3**
	comp=E,11nm,0.9s								
JTS	**JuntasAbangare**	**37.77**	**337**	P		**P**		**15 33 36.3**	**+1.6**
JTS	**JuntasAbangare**	**37.77**	**337**	P		**P**		**15 33 36.3**	**+1.6**
	comp=E,3.2nm,0.5s,baz=180,slow=2.0,SNR=3.2								
CRPR	**Cabo Rojo, PR**	**42.91**	**5**	*e*P		P		15 34 13.7	-3.4
	comp=E,67nm,1.1s								
OBIP	**Obispado Ponce**	**42.99**	**6**	*e*P		P		15 34 14.1	-3.7
CELP	**Cerrillos**	**43.02**	**6**	*e*P		P		15 34 12.8	-5.3
LSP	**Las Mesas**	**43.08**	**5**	*e*P		**P**		**15 34 16.7**	**-1.9**
SJG	**San Juan**	**43.10**	**6**	*e*P		P		15 34 15.3	-3.3
	comp=E,44nm,0.9s								
SJG	**San Juan**	**43.10**	**6**	P		**P**		**15 34 16.4**	**-2.2**
	comp=E,53nm,0.7s,baz=156,slow=3.5,SNR=19								
MTP	**Monte Pirata**	**43.15**	**7**	*e*P		**P**		**15 34 17.7**	**-1.3**
	comp=E,33nm,1.1s								
LRS	**Lares**	**43.21**	**5**	*e*P		**P**		**15 34 17.5**	**-2.1**
AOPR	**Arecibo Observ**	**43.27**	**5**	*e*P		**P**		**15 34 19.1**	**-1.0**
	comp=E,25nm,0.8s								
CBYP	**Canovanas**	**43.28**	**7**	*e*P		P		15 34 15.9	-4.3
TIGA	**Tifton**	**57.49**	**347**	↑P		**P**		**15 36 07.0**	**-0.4**
	baz=58								
VNA1	**Neumayer--Stat**	**57.54**	**160**	*e*P		**P**		**15 36 07.8**	**+0.5**
VNA2	**Neumayer--Watz**	**57.90**	**160**	*e*P		**P**		**15 36 09.8**	**0.0**
RKT	**Rikitea**	**58.26**	**257**	*e*S		**S**		**15 44 16.0**	**+3.3**
	comp=E,2μm,27.5s								
RKT				*e*LR		LR		15 53 34.3	
	comp=E,3μm,28.8s,baz=102								
GOGA	**Godfrey**	**59.38**	**348**	*e*P		**P**		**15 36 19.1**	**-1.4**
GOGA				pmax		pmax			
	comp=Z,13nm,1.1s								
GOGA	**Godfrey**	**59.38**	**348**	*e*P		**P**		**15 36 19.1**	**-1.4**
	comp=Z,13nm,1.1s								
SNAA	**Sanae**	**59.51**	**160**	*e*P		**P**		**15 36 21.0**	**-0.1**
SNAA	**Sanae**	**59.51**	**160**	*e*P		**P**		**15 36 20.9**	**-0.1**
	comp=Z,26nm,0.7s								
732A	**Laxson Ranch,**	**60.42**	**330**	↓P		**P**		**15 36 27.2**	**-0.6**
	baz=61,SNR=7.7								
632A	**Uvalde**	**61.01**	**331**	↓P		**P**		**15 36 31.5**	**-0.3**
	baz=61,SNR=9.8								
631A	**Perdido Creek**	**61.28**	**330**	↑P		**P**		**15 36 33.0**	**-0.7**
	baz=62,SNR=14								
CPCT	**Cooper Cave**	**61.56**	**347**	*e*P		**P**		**15 36 33.4**	**-1.9**
532A	**Rocksprings**	**61.60**	**331**	↑P		**P**		**15 36 35.7**	**-0.1**
	baz=62,SNR=7.8								
TKL	**Tuckaleechee C**	**61.62**	**348**	*e*P		**P**		**15 36 33.8**	**-2.0**
TKL	**Tuckaleechee C**	**61.62**	**348**	P		**P**		**15 36 34.6**	**-1.1**
	baz=159,slow=11								
JCT	**Junction City**	**61.85**	**332**	*e*P		**P**		**15 36 35.8**	**-1.8**
JCT				pmax		pmax			
	comp=Z,20nm,0.8s								
JCT	**Junction City**	**61.85**	**332**	*e*P		**P**		**15 36 35.8**	**-1.8**
	comp=Z,20nm,0.8s								
JCT	**Junction City**	**61.85**	**332**	↑P		**P**		**15 36 37.6**	**0.0**
	baz=62,SNR=8.0								
531A	**Rocksprings**	**61.91**	**331**	↑P		**P**		**15 36 37.7**	**-0.2**
	baz=62,SNR=11								
LPIG	**La Paz**	**62.13**	**319**	LR		LR		15 57 27.0	
	comp=Z,546nm,18.0s,baz=140,slow=30								
432A	**Menard**	**62.19**	**332**	↑P		**P**		**15 36 39.1**	**-0.7**
	baz=62,SNR=16								
WHTX	**Lake Whitney**	**62.21**	**334**	*e*P		**P**		**15 36 38.5**	**-1.3**
WHTX	**Lake Whitney**	**62.21**	**334**	↑P		**P**		**15 36 39.5**	**-0.3**
	baz=62								
530A	**J-C Ranch, Com**	**62.25**	**330**	↑P		**P**		**15 36 40.5**	**+0.3**
	baz=62,SNR=8.9								
431A	**Sonora**	**62.38**	**331**	↓P		**P**		**15 36 40.7**	**-0.4**
	baz=63,SNR=5.8								
628A	**Black Gap, Mar**	**62.41**	**328**	↑P		**P**		**15 36 41.5**	**+0.2**
	baz=63,SNR=11								
332A	**Millersview**	**62.61**	**332**	↓P		**P**		**15 36 42.0**	**-0.6**
	baz=63,SNR=14								
627A	**Terlingua Ranc**	**62.63**	**328**	↑P		**P**		**15 36 42.7**	**-0.2**
	baz=63								
529A	**Stev Forest Ra**	**62.64**	**329**	↓P		**P**		**15 36 42.8**	**0.0**
	baz=63,SNR=16								
TXAR	**Lajitas Array**	**62.66**	**328**	P		**P**		**15 36 42.4**	**-0.6**
TXAR	**Lajitas Array**	**62.66**	**328**	P		**P**		**15 36 42.4**	**-0.6**
	comp=Z,6.1nm,1.0s,baz=144,slow=7.4,SNR=33								
430A	**Baggett Ranch,**	**62.75**	**330**	↑P		**P**		**15 36 43.1**	**-0.5**
	baz=63,SNR=6.9								
331A	**San Angelo**	**62.84**	**331**	↓P		**P**		**15 36 43.6**	**-0.5**
	baz=63								
429A	**Davenport Ranc**	**62.91**	**330**	↑P		**P**		**15 36 44.3**	**-0.4**
	baz=63,SNR=16								
528A	**Cox Ranch, San**	**62.93**	**329**	↑P		**P**		**15 36 44.2**	**-0.7**
	baz=63,SNR=10								
WVT	**Waverly**	**62.95**	**344**	*e*P		**P**		**15 36 42.6**	**-2.1**
WVT				pmax		pmax			
	comp=Z,34nm,1.1s								
WVT	**Waverly**	**62.95**	**344**	*e*P		**P**		**15 36 42.6**	**-2.1**
	comp=Z,34nm,1.1s								
232A	**Coleman**	**63.01**	**332**	↑P		**P**		**15 36 44.7**	**-0.5**
	baz=63,SNR=16								
626A	**Big Bend Ranch**	**63.07**	**327**	↓P		**P**		**15 36 45.9**	**+0.1**
	baz=63,SNR=44								
MIAR	**Mount Ida**	**63.11**	**339**	*e*P		**P**		**15 36 42.7**	**-3.1**
MIAR				pmax		pmax			
	comp=Z,16nm,1.0s								
MIAR	**Mount Ida**	**63.11**	**339**	*e*P		**P**		**15 36 42.7**	**-3.1**
	comp=Z,16nm,1.0s								
330A	**Mertzon**	**63.25**	**331**	↑P		**P**		**15 36 46.5**	**-0.4**
	baz=63,SNR=6.6								
527A	**Woodward Ranch**	**63.31**	**328**	↑P		**P**		**15 36 47.1**	**-0.3**
	baz=64,SNR=14								
231A	**Bronte**	**63.33**	**332**	↓P		**P**		**15 36 47.0**	**-0.3**
	baz=64								
428A	**Kincaid Ranch,**	**63.36**	**329**	↓P		**P**		**15 36 47.9**	**+0.2**
	baz=64,SNR=5.4								
526A	**Mary Lane Ranc**	**63.47**	**328**	↓P		**P**		**15 36 48.6**	**+0.2**
	baz=64,SNR=19								
230A	**Sterling City**	**63.63**	**331**	↓P		**P**		**15 36 48.6**	**-0.7**
	baz=64								
ABTX	**Abilene, Hawle**	**63.64**	**333**	*e*P		**P**		**15 36 47.6**	**-1.8**
ABTX	**Abilene, Hawle**	**63.64**	**333**	↑P		**P**		**15 36 49.4**	**0.0**
	baz=64,SNR=8.1								
329A	**Wagon Wheel Ra**	**63.68**	**330**	↑P		**P**		**15 36 49.5**	**-0.3**
	baz=64,SNR=6.6								
427A	**Hayter Ranch,**	**63.80**	**329**	↓P		**P**		**15 36 50.9**	**+0.3**
	baz=64								
426A	**McDonald Obser**	**63.94**	**328**	↑P		**P**		**15 36 51.9**	**+0.2**
	baz=64								
328A	**Wristen Ranch,**	**63.97**	**330**	↓P		**P**		**15 36 51.5**	**-0.1**
	baz=64,SNR=8.0								
131A	**Roby**	**64.00**	**332**	↑P		**P**		**15 36 51.6**	**-0.1**
	baz=64,SNR=7.5								
229A	**Bryant Ranch,**	**64.01**	**331**	↑P		**P**		**15 36 51.7**	**-0.1**
	baz=64								
Z32A	**Haskell**	**64.17**	**333**	↑P		**P**		**15 36 53.0**	**+0.2**
	baz=64								
130A	**Snyder**	**64.18**	**332**	↓P		**P**		**15 36 52.8**	**-0.1**
	baz=64,SNR=9.3								
327A	**Balmorhea Ranc**	**64.27**	**329**	↓P		**P**		**15 36 53.5**	**-0.1**
	baz=64								
Z31A	**Sharp Cattle R**	**64.45**	**333**	↓P		**P**		**15 36 54.7**	**0.0**
	baz=65,SNR=12								
326A	**Caldwell Ranch**	**64.46**	**329**	↓P		**P**		**15 36 54.8**	**0.0**
	baz=65,SNR=8.7								
228A	**UT Block 9, Go**	**64.49**	**330**	↓P		**P**		**15 36 54.8**	**-0.3**
	baz=65,SNR=7.9								
425A	**Indio Mountain**	**64.50**	**327**	↑P		**P**		**15 36 55.3**	**+0.1**
	baz=65,SNR=22								
129A	**Stewart Farms,**	**64.60**	**331**	↓P		**P**		**15 36 55.2**	**-0.5**
	baz=65,SNR=5.4								
WCI	**Wyandotte Cave**	**64.61**	**346**	*e*P		**P**		**15 36 52.9**	**-2.7**
WCI				pmax		pmax			
	comp=Z,24nm,0.6s								
WCI	**Wyandotte Cave**	**64.61**	**346**	*e*P		**P**		**15 36 52.9**	**-2.7**
	comp=Z,24nm,0.6s								
227A	**Bennet, Jal**	**64.72**	**330**	↑P		**P**		**15 36 56.4**	**-0.1**
	baz=65								
Y32A	**R-V Farms, Ver**	**64.76**	**334**	↑P		**P**		**15 36 56.4**	**-0.3**
	baz=65,SNR=5.7								
Z30A	**Sanderson Ranc**	**64.84**	**332**	↓P		**P**		**15 36 56.8**	**-0.5**
	baz=65								
128A	**Castleberry Fa**	**64.86**	**331**	↓P		**P**		**15 36 56.9**	**-0.5**
	baz=65,SNR=7.8								
325A	**Bean Ranch, Si**	**64.98**	**328**	↑P		**P**		**15 36 57.8**	**-0.5**
	baz=65,SNR=38								
Y31A	**Rekieta Farm,**	**65.06**	**333**	↓P		**P**		**15 36 58.5**	**-0.1**
	baz=65,SNR=8.3								
Z29A	**Hungry Hill Ra**	**65.07**	**332**	↑P		**P**		**15 36 58.4**	**-0.4**
	baz=65,SNR=8.7								
226B	**Tecolote Peak,**	**65.18**	**329**	↓P		**P**		**15 36 59.8**	**+0.2**
	baz=65,SNR=16								
Y30A	**Stafford Cattl**	**65.25**	**333**	↓P		**P**		**15 36 59.2**	**-0.8**
	baz=65								
324A	**Moseley Ranch,**	**65.28**	**327**	↓P		**P**		**15 36 59.6**	**-0.7**
	baz=66,SNR=14								
127A	**Arkansas Junct**	**65.31**	**330**	↓P		**P**		**15 36 59.7**	**-0.7**
	baz=66								
Z28A	**Tucker Farm, M**	**65.39**	**331**	↓P		**P**		**15 37 00.4**	**-0.4**
	baz=66								
MNTX	**Cornudas Mount**	**65.44**	**328**	*e*P		**P**		**15 37 00.0**	**-1.1**
	comp=Z,7.0nm,0.9s								
225A	**Deer Hill, Car**	**65.52**	**328**	↑P		**P**		**15 37 01.7**	**-0.1**
	baz=66								
X31A	**McDonald Ranch**	**65.53**	**334**	↑P		**P**		**15 37 00.8**	**-0.9**
	baz=66,SNR=6.4								
Y29A	**Porterfield

baz=68,SNR=6.1
T31A **Randall Ranch,** 67.57 335 ⇑P P 15 37 14.6 0.0
baz=68
Y23A **Lovelace Mesa,** 67.60 329 ⇓P P 15 37 15.7 +0.6
baz=68
U29A **Oasis Ranch, S** 67.63 334 ⇑P P 15 37 15.1 +0.1
baz=68
V27A **Dan Oppiter Fa** 67.68 332 ⇓P P 15 37 15.6 +0.1
baz=68
120A **U Bar Ranch, L** 67.75 326 ⇑P P 15 37 16.9 +0.9
baz=68
X24A **Lazy VL Ranch,** 67.83 329 ⇓P P 15 37 17.0 +0.4
baz=68
T30A **Plains** 67.85 335 ⇑P P 15 37 16.7 +0.2
baz=68
Z21A **St. Cloud Mine** 67.87 327 ⇑P P 15 37 17.6 +0.7
baz=68
W25A **X Bar L Ranch,** 67.93 331 ⇑P P 15 37 17.1 0.0
baz=68,SNR=6.3
S31A **Mullinville** 67.95 336 ⇑P P 15 37 17.0 -0.1
baz=68
U28A **Mallet** 67.95 333 ⇑P P 15 37 17.1 -0.1
baz=68
Y22A **Socorro** 68.04 328 ⇑P P 15 37 18.4 +0.6
baz=68,SNR=6.2
BNM **Barren Site** 68.05 328 *e*P P 15 37 18.4 +0.4
comp=Z,17nm,1.2s
V26A **Tequesquite Ra** 68.12 331 ⇓P P 15 37 18.2 -0.1
baz=68
ACCN **Adirondack Com** 68.12 358 *e*P P 15 37 17.9 -0.1
comp=Z,195nm,2.4s
Y22D **IRIS PASSCAL I** 68.13 328 ⇑P P 15 37 19.6 +1.3
baz=68
Z20A **Nine Sixteen R** 68.18 326 ⇓P P 15 37 19.3 +0.6
baz=68,SNR=15
LPM **Los Pinos Moun** 68.18 328 *e*P P 15 37 20.1 +1.3
X23A **Hourglass Bar** 68.19 329 ⇓P P 15 37 18.8 -0.1
baz=68,SNR=18
U27A **Thompson Grove** 68.24 332 ⇓P P 15 37 19.4 +0.4
baz=68
T29A **Hugoton** 68.25 334 ⇓P P 15 37 19.4 +0.4
baz=68
S30A **Montezuma** 68.34 335 ⇑P P 15 37 19.5 -0.1
baz=69
W24A **Lazy 6 Ranch,** 68.35 330 ⇑P P 15 37 20.0 +0.2
baz=68,SNR=6.9
Y21A **Point of Rocks** 68.44 327 ⇓P P 15 37 21.1 +0.6
baz=69,SNR=7.7
LAZ **Ladron** 68.50 328 *e*P P 15 37 20.4 -0.4
comp=Z,12nm,1.2s
V25A **Rancho No Teng** 68.52 331 ⇑P P 15 37 21.3 +0.4
baz=69,SNR=13
X22A **Bernardo** 68.52 328 ⇑P P 15 37 21.7 +0.8
baz=69
T28A **Walsh** 68.55 333 ⇓P P 15 37 20.9 0.0
baz=69
R31A **Burdett** 68.56 336 ⇑P P 15 37 20.9 +0.1
baz=69
S29A **Ulysses** 68.58 334 ⇓P P 15 37 21.1 0.0
baz=69
U26A **Atchley Ranch,** 68.61 332 ⇓P P 15 37 21.2 -0.2
baz=69,SNR=5.2
ANMO **Albuquerque** 68.62 329 P P 15 37 21.3 -0.2
comp=Z,1110nm,2.2s
ANMO **Albuquerque** 68.62 329 P P 15 37 21.3 -0.2
comp=Z,2.4nm,0.7s,baz=145,slow=9.2,SNR=12
W23A **Werner Place,** 68.65 329 ⇓P P 15 37 22.6 +0.9
baz=69
TUC **Tucson** 68.68 324 *e*P P 15 37 19.9 -1.9
TUC **Tucson** 68.68 324 *e*P P 15 37 19.9 -1.9
Y20A **Horse Springs,** 68.70 327 ⇑P P 15 37 22.7 +0.6
baz=69,SNR=16
V24A **Rampart Ranch,** 68.72 330 ⇓P P 15 37 22.4 +0.2
baz=69,SNR=8.9
MDV **Middlebury** 68.72 358 *e*P P 15 37 20.0 -1.6
T27A **Campo** 68.74 333 ⇑P P 15 37 22.3 +0.1
baz=69
R30A **Dighton** 68.83 335 ⇓P P 15 37 23.0 +0.4
baz=69
X21A **Alamocita Cree** 68.85 328 ⇓P P 15 37 23.6 +0.6
baz=69,SNR=13
S28A **Manter** 68.86 334 ⇓P P 15 37 22.8 0.0
baz=69
U25A **Circle Dot Ran** 68.90 331 ⇓P P 15 37 23.5 +0.3
baz=69,SNR=11
W22A **Albuquerque** 68.92 329 ⇑P P 15 37 24.1 +0.8
baz=69
P33A **Williams Farm,** 68.92 338 ⇑P P 15 37 23.1 +0.1
baz=69
Q31A **Ellis** 69.14 336 ⇑P P 15 37 24.5 0.0
baz=69
V23A **Ortiz Mt. (NFS** 69.15 330 ⇑P P 15 37 25.2 +0.4
baz=69
T26A **Comanche Natio** 69.20 332 ⇑P P 15 37 25.1 0.0
baz=69,SNR=7.7
X20A **Quemado** 69.27 327 ⇑P P 15 37 26.5 +0.9
baz=70,SNR=7.6
R29A **Marienthal** 69.28 335 ⇓P P 15 37 25.7 +0.3
baz=70
U24A **Moreno Valley** 69.29 331 ⇓P P 15 37 26.2 +0.4
baz=70
W21A **San Fidel** 69.32 328 ⇓P P 15 37 26.5 +0.7
baz=70,SNR=5.5
S27A **Las Animas** 69.35 333 ⇑P P 15 37 26.1 +0.2
baz=70
LONY **Lake Ozonia** 69.40 357 *e*P P 15 37 24.3 -1.6
comp=Z,52nm,1.4s
P32A **Huiting Farm,** 69.40 337 ⇑P P 15 37 25.6 -0.4
baz=70
Q30A **Quinter** 69.42 336 ⇓P P 15 37 26.2 0.0
baz=70
R28A **Tribune** 69.48 334 ⇓P P 15 37 26.9 +0.2
baz=70
214A **Organ Pipe Nat** 69.51 322 ⇑P P 15 37 27.9 +1.0
baz=70,SNR=6.8
T25A **Trinidad** 69.52 332 ⇑P P 15 37 27.5 +0.4
baz=70,SNR=7.7
S26A **Kim** 69.53 333 ⇑P P 15 37 27.5 +0.5
baz=70,SNR=8.9
FRNY **Flat Rock** 69.57 358 *e*P P 15 37 26.6 -0.3
comp=Z,30nm,0.9s
P31A **Stockton** 69.59 337 ⇓P P 15 37 27.0 -0.2
baz=70
V22A **San Miguel Ran** 69.62 329 ⇑P P 15 37 28.5 +0.7
baz=70,SNR=12
Q29A **Oakley** 69.63 335 ⇑P P 15 37 27.7 +0.1
baz=70
U23A **El Rito** 69.63 330 ⇓P P 15 37 28.9 +1.1
baz=70,SNR=6.1
W20A **Ramah** 69.74 328 ⇓P P 15 37 29.4 +0.9
baz=70,SNR=6.0
R27A **Eads** 69.82 334 ⇑P P 15 37 28.9 +0.1
baz=70
O32A **Brockman Farm,** 69.86 338 ⇓P P 15 37 28.5 -0.3
baz=70
V21A **Milan** 69.88 329 ⇓P P 15 37 29.9 +0.6
baz=70
T24B **San Luis** 69.88 331 ⇓P P 15 37 30.0 +0.6
baz=70
P30A **Selden** 69.93 336 ⇓P P 15 37 29.3 0.0
baz=70
JFWS **Jewell Farm** 69.97 345 *e*P P 15 37 26.3 -3.1
JFWS pmax pmax
comp=Z,20nm,0.9s
JFWS **Jewell Farm** 69.97 345 *e*P P 15 37 26.3 -3.1
comp=Z,20nm,0.9s
S25A **Robets Cordova** 69.97 332 ⇓P P 15 37 30.6 +0.8
baz=70,SNR=8.5
U22A **Llaves** 69.98 330 ⇓P P 15 37 31.4 +1.5
baz=70,SNR=5.1
X18A **Snowflake** 69.98 326 ⇑P P 15 37 30.8 +0.8
baz=70
R26A **Arlington** 70.10 333 ⇑P P 15 37 30.8 +0.3
baz=70,SNR=7.9
Q28A **Sharon Springs** 70.11 335 ⇓P P 15 37 30.5 0.0
baz=70
O31A **Woolen Ranch,** 70.13 337 ⇓P P 15 37 30.6 0.0
baz=70
T23A **Casias Ranch,** 70.15 330 ⇑P P 15 37 31.6 +0.6
baz=70
P29A **Atwood** 70.23 336 ⇓P P 15 37 31.6 +0.4
baz=70
V20A **Brimhall** 70.27 328 ⇓P P 15 37 32.2 +0.5
baz=70
S24A **Houchin Ranch,** 70.29 331 ⇓P P 15 37 32.8 +0.9
baz=70,SNR=10
N32A **Stulken Farm,** 70.32 338 ⇓P P 15 37 31.5 -0.1
baz=70
W18A **Petrified Fore** 70.34 327 *e*P P 15 37 32.6 +0.5
comp=Z,20nm,1.0s
W18A **Petrified Fore** 70.34 327 ⇓P P 15 37 32.9 +0.8
baz=70
KSCO **Kaye Shedlock'** 70.38 334 ⇓P P 15 37 32.4 +0.2
baz=71
U21A **Nageezi** 70.39 329 ⇑P P 15 37 33.6 +1.1
baz=71,SNR=9.4
O30A **MW Ranch, Wils** 70.42 336 ⇑P P 15 37 32.6 +0.3
baz=71
P28A **Saint Francis** 70.52 335 ⇑P P 15 37 33.5 +0.5
baz=71
T22A **Edith** 70.52 330 ⇓P P 15 37 34.0 +0.7
baz=71,SNR=11
N31A **Bailey Ranch,** 70.59 338 ⇓P P 15 37 33.7 +0.4
baz=71
O29A **4D Ranch, Culb** 70.64 336 ⇓P P 15 37 34.1 +0.4
baz=71
113A **Mohawk Valley,** 70.65 322 ⇓P P 15 37 34.4 +0.6
baz=71
Z14A **Wintersburg** 70.65 323 ⇓P P 15 37 34.6 +0.8
baz=71
Q26A **Hugo** 70.66 333 ⇓P P 15 37 34.7 +0.8
baz=71
X16A **Lo Mia Camp, P** 70.66 325 ⇑P P 15 37 35.1 +1.0
baz=71,SNR=14
S23A **Nye Farm, Mont** 70.69 331 ⇑P P 15 37 35.0 +0.7
baz=71
R24A **Sanders Place,** 70.74 332 ⇓P P 15 37 35.5 +1.0
baz=71
U20A **Newcomb** 70.76 328 ⇓P P 15 37 35.4 +0.8
baz=71,SNR=7.6
T21A **Navajo Lake** 70.79 329 ⇓P P 15 37 35.7 +0.9
baz=71
P27A **Ficken Ranch,** 70.83 334 ⇑P P 15 37 35.8 +0.9
baz=71
BGNE **Belgrade** 70.84 338 *e*P P 15 37 33.3 -1.5
BGNE **Belgrade** 70.84 338 ⇓P P 15 37 34.9 0.0
baz=71
TBI **Tubuai** 70.88 253 *e*S S 15 46 51.0 +2.5
comp=Z,674nm,27.5s
TBI **Tubuai** 70.88 253 *e*LR LR 15 59 18.8
comp=Z,953nm,23.5s,baz=104
LIC **Lamto** 70.92 73 *e*P P 15 37 36.6 +0.7
comp=Z,41nm,0.7s
Q25A **Beand, Calha** 70.95 333 ⇓P P 15 37 36.3 +0.5
baz=71
O28A **Krutsinger Ran** 71.01 335 ⇑P P 15 37 36.5 +0.6
baz=71
R23A **Moffat** 71.02 331 ⇓P P 15 37 37.2 +0.9
baz=71
S22A **4UR Ranch, Cre** 71.09 330 ⇑P P 15 37 37.3 +0.5
baz=71
Y14A **Wickenburg** 71.12 324 ⇑P P 15 37 37.8 +1.1
baz=71
TIC **Toumodi** 71.12 73 *e*P P 15 37 38.8 +1.6
comp=Z,67nm,1.1s
P26A **Davis Ranch, A** 71.13 334 ⇓P P 15 37 37.0 +0.2
baz=71
KIC **Kosan Boka** 71.23 73 *e*P P 15 37 38.4 +0.6
comp=Z,111nm,1.0s
DBIC **Dimbokro** 71.28 73 *e*P P 15 37 34.6 -3.5
DBIC **Dimbokro** 71.28 73 P P 15 37 39.3 +1.2
comp=Z,35nm,0.7s,baz=221,slow=5.8,SNR=29
O27A **Beecher Island** 71.33 335 ⇓P P 15 37 38.8 +0.8
baz=72
Q24A **Divide** 71.37 332 ⇓P P 15 37 39.2 +0.7
baz=72,SNR=10
N28A **Pribbeno Ranch** 71.41 336 ⇓P P 15 37 38.9 +0.6
baz=72
MVCO **Mesa Verde** 71.42 329 *e*P P 15 37 37.2 -1.5
MVCO **Mesa Verde** 71.42 329 ⇑P P 15 37 39.4 +0.7
baz=72,SNR=8.2
P25A **Willow Gulch B** 71.42 333 ⇓P P 15 37 39.1 +0.5
baz=72
GLA **Glamis** 71.45 322 ⇓P P 15 37 39.6 +0.8
baz=72
R22A **Saguache, Gunn** 71.45 331 ⇓P P 15 37 39.5 +0.5
baz=72
S21A **Coal Bank Pass** 71.46 330 ⇑P P 15 37 39.3 +0.2
baz=72,SNR=9.1
WUAZ **Wupatki** 71.48 326 *e*P P 15 37 38.9 -0.1
comp=Z,29nm,1.3s
WUAZ **Wupatki** 71.48 326 ⇑P P 15 37 40.0 +0.9
baz=72,SNR=11
M30A **Dale-Ortello V** 71.55 337 ⇑P P 15 37 39.5 +0.3
baz=72
Q23A **Hartsel** 71.61 332 ⇑P P 15 37 40.3 +0.3
baz=72
O26A **Horse Wrangler** 71.70 334 ⇑P P 15 37 40.9 +0.7
baz=72
P24A **Kohler Place,** 71.73 333 ⇓P P 15 37 41.3 +0.9
baz=72
M29A **Burnside Ranch** 71.75 337 ⇑P P 15 37 40.8 +0.3
baz=72
L31A **Butterfield Fa** 71.76 338 ⇑P P 15 37 40.7 +0.4
baz=72
Y12C **Blythe** 71.80 323 ⇑P P 15 37 41.4 +0.7
baz=72
OGNE **Ogallala** 71.81 335 ⇓P P 15 37 41.3 +0.5
baz=72
S20A **Disappointment** 71.86 329 ⇓P P 15 37 42.4 +1.0
baz=72,SNR=8.2
L30A **Spencer Herefo** 71.86 338 ⇑P P 15 37 41.2 +0.2
baz=72
DVTC **Desert V Tower** 71.88 321 ⇓P P 15 37 42.2 +0.8
baz=72
N27A **Anderson Farm,** 71.89 335 ⇑P P 15 37 41.8 +0.6
baz=72
O25A **Wiggins** 71.92 334 ⇓P P 15 37 42.4 +0.9
baz=72
SWSC **Sam W. Stewart** 71.92 321 ⇑P P 15 37 42.6 +1.2
baz=72
R21A **Cimarron** 71.92 330 ⇓P P 15 37 42.4 +0.7
baz=72
M28A **Bar X Bar Ranc** 71.96 336 ⇓P P 15 37 42.5 +0.8
baz=72
PDMCI **Parker Dam,Lak** 72.00 323 ⇓P P 15 37 43.1 +1.2
baz=72
P23A **Jefferson** 72.01 332 ⇓P P 15 37 42.7 +0.4
baz=72
Q22A **Crested Butte,** 72.05 331 ⇓P P 15 37 43.2 +0.7
baz=72
R20A **Redvale** 72.16 330 ⇓P P 15 37 44.0 +1.0
baz=72,SNR=9.7
N26A **Koester Ranch,** 72.17 335 ⇑P P 15 37 43.4 +0.4
baz=72
PV01 **Paradox Valley** 72.20 329 *e*P P 15 37 43.0 -0.4
comp=Z,1µm,1.1s
BC3 **Big Chuckawall** 72.25 322 ⇓P P 15 37 44.1 +0.5
baz=72,SNR=5.7
ISCO **Idaho Springs** 72.27 332 *e*P P 15 37 43.9 +0.1
ISCO pmax pmax
comp=Z,9.0nm,0.9s
ISCO **Idaho Springs** 72.27 332 *e*P P 15 37 43.9 +0.1
comp=Z,9.3nm,0.9s
ISCO **Idaho Springs** 72.27 332 ⇓P P 15 37 44.4 +0.6
baz=72,SNR=6.1
O24A **Longmont** 72.31 333 ⇓P P 15 37 44.8 +0.9
baz=72
Q21A **Lamborn Mesa,** 72.32 330 ⇑P P 15 37 44.7 +0.7
baz=72
PV15 **Paradox Valley** 72.33 330 *e*P P 15 37 44.4 +0.3
PV05 **Paradox Valley** 72.40 329 *e*P P 15 37 45.1 +0.5
ECSD **EROS Data Cent** 72.45 341 *e*P P 15 37 42.6 -1.8
comp=Z,38nm,1.3s
M27A **Reverse DX Ran** 72.45 336 ⇓P P 15 37 44.9 +0.3
baz=73
IRM **Iron Mountain** 72.45 322 ⇑P P 15 37 45.9 +1.2
baz=73
W13A **Hualapai Mount** 72.47 324 ⇓P P 15 37 45.9 +0.9
baz=73
N25A **Grover** 72.50 334 ⇑P P 15 37 45.9 +0.9
baz=73
PV04 **Paradox Valley** 72.56 329 *e*P P 15 37 46.4 +0.9
P22A **Eagle** 72.58 331 ⇑P P 15 37 46.8 +1.2
baz=73
U15A **North Rim** 72.66 326 ⇑P P 15 37 46.9 +0.8
baz=73,SNR=8.1
O23A **Lake Granby, G** 72.74 332 ⇑P P 15 37 47.4 +0.8
baz=73
Q20A **Ridgley Place,** 72.74 330 ⇑P P 15 37 47.1 +0.6
baz=73
PV09 **Paradox Valley** 72.75 329 *e*P P 15 37 48.2 +1.5
SPMN **St. Paul** 72.77 344 *e*P P 15 37 44.1 -2.1
PFO **Pinyon Flat Ob** 72.78 321 ⇑P P 15 37 47.5 +0.7
baz=73
K29A **Lazy Trails An** 72.78 338 ⇓P P 15 37 47.3 +0.8
baz=73
BELC **Belle Mtn. Jos** 72.81 322 ⇓P P 15 37 47.8 +0.8
baz=73
P21A **Newcastle** 72.83 331 ⇓P P 15 37 48.1 +1.1
baz=73
N24A **Carr** 72.83 333 ⇓P P 15 37 47.9 +1.0
baz=73
L27A **T5 Ranch, Ells** 72.91 336 ⇓P P 15 37 47.6 +0.3
baz=73
O22A **Kremmling** 72.96 332 ⇑P P 15 37 48.4 +0.4
baz=73,SNR=9.4
PPT2 **Papeete2** 72.99 258 *e*S SKiKP 15 47 16.4 -2.0
comp=Z,1µm,25.5s
PPT2 **Papeete2** 72.99 258 *e*LR LR 16 00 21.1
comp=Z,3µm,29.2s,baz=114
PPT **Papeete** 73.00 258 LR LR 16 01 02.4
comp=Z,1µm,20.1s,baz=293,slow=29
J30A **Dallas** 73.00 338 ⇓P P 15 37 48.1 +0.4
baz=73
M25A **Palm-Egli Farm** 73.01 334 ⇓P P 15 37 48.6 +0.6
baz=73
K28A **Ten Mile Ranch** 73.11 337 ⇓P P 15 37 49.4 +0.9
baz=73
LDFC **Landfair** 73.12 323 *e*P P 15 37 50.1 +1.4
comp=Z,10.0nm,1.0s
VNDA **Vanda** 73.12 190 *e*P P 15 37 49.2 +1.2
comp=Z,7.9nm,1.2s
VNDA **Vanda** 73.12 190 P P 15 37 49.2 +1.2
comp=Z,2.6nm,0.7s,baz=80,slow=3.3,SNR=10
L26A **Underwood Farm** 73.15 335 ⇓P P 15 37 49.7 +0.9
baz=73
GMRC **Granite Mounta** 73.20 323 ⇓P P 15 37 50.2 +1.0
baz=73
MURC **Murrieta** 73.20 321 ⇑P P 15 37 50.2 +1.0
baz=73
P20A **De Beque** 73.23 330 ⇑P P 15 37 50.4 +1.0
baz=73
N23A **Red Feather La** 73.32 333 ⇑P P 15 37 50.7 +0.7
baz=74
M24A **Cheyenne** 73.35 334 ⇓P P 15 37 50.6 +0.6
baz=74
J29A **Okreek** 73.36 338 ⇓P P 15 37 50.1 +0.2
baz=74
O21A **Pagoda** 73.41 331 ⇓P P 15 37 51.9 +1.4
baz=74
K27A **Flueckinger Fa** 73.42 336 ⇓P P 15 37 51.0 +0.7
baz=74
N22A **Wattenberg Ran** 73.46 332 ⇓P P 15 37 52.0 +1.2
baz=74
PHWY **Pilot Hill** 73.46 333 *e*P P 15 37 52.6 +1.8
comp=Z,17nm,1.4s
SCI **San Clemente I** 73.54 319 ⇑P P 15 37 52.1 +1.0
baz=74
L25A **Engebretsen Ra** 73.59 335 ⇓P P 15 37 52.4 +1.0
baz=74
P19A **Cripple Cowboy** 73.60 330 ⇓P P 15 37 51.9 +0.3
baz=74,SNR=11
HEC **Hector,Ludlow** 73.60 322 ⇑P P 15 37 52.6 +1.0
baz=74
O20A **White River Ci** 73.68 331 *e*P P 15 37 51.5 -0.5
O20A **White River Ci** 73.68 331 ⇑P P 15 37 52.9 +0.8
baz=74
J28A **Allard Ranch,** 73.69 337 ⇑P P 15 37 52.3 +0.4
baz=74
K26A **Motz Farm, Whi** 73.76 336 ⇓P P 15 37 53.0 +0.7
baz=74
SYO **Syowa Base** 73.78 159⇓*e*P P 15 37 50.6 -1.4
SYO **Syowa Base** 73.78 159⇓*e*pP pP 15 38 00.0 -3.7
J27A **Elkhorn Farm,** 73.81 337 ⇑P P 15 37 53.9 +1.3
baz=74
TUQ **Turquoise Moun** 73.83 323 ⇑P P 15 37 53.6 +0.7
baz=74,SNR=6.1
I29A **Vivian Onida** 73.89 338 ⇑P P 15 37 52.8 -0.2
baz=74
SRU **San Rafael** 73.89 329 *e*P P 15 37 54.5 +1.2
SRU pmax pmax
comp=Z,9.0nm,0.9s
SRU **San Rafael** 73.89 329 *e*P P 15 37 54.5 +1.2
comp=Z,9.4nm,0.9s
BFSC **Mount Baldy Ra** 73.92 321 ⇑P P 15 37 54.2 +0.7
baz=74
M22A **Cedar Creek Ra** 74.02 333 ⇓P P 15 37 54.7 +0.6
baz=74
RRX **Edison Barstow** 74.02 322 ⇑P P 15 37 54.9 +1.0
baz=74
Q16A **Castle Valley** 74.05 328 ⇓P P 15 37 55.2 +1.0
baz=74,SNR=5.9
CCUT **Cedar City** 74.07 326 *e*P P 15 37 54.7 +0.3
comp=Z,18nm,1.1s
I28A **Midland** 74.17 338 ⇑P P 15 37 55.1 +0.5
baz=74
O19A **Miners Draw (B** 74.20 330 ⇓P P 15 37 55.8 +0.7
baz=74,SNR=6.1
SHPR **Sheep Range** 74.21 324 *e*P P 15 37 56.9 +1.7
GSC **Goldstone** 74.21 322 *e*P P 15 37 56.0 +0.9
GSC pmax pmax
comp=Z,16nm,1.4s
GSC **Goldstone** 74.21 322 *e*P P 15 37 56.0 +0.9
comp=Z,16nm,1.4s
GSC **Goldstone** 74.21 322 ⇓P P 15 37 56.1 +1.0
baz=74
MVU **Marysvale** 74.23 327 *e*P P 15 37 53.4 -1.9
comp=Z,19nm,1.4s
L23A **Garrett** 74.24 334 ⇓P P 15 37 55.8 +0.5
baz=74
J26A **Sides Ranch, S** 74.25 336 ⇑P P 15 37 56.1 +0.9
baz=74
N20A **Spence Gulch,** 74.26 331 ⇑P P 15 37 56.2 +0.8
baz=74
ARUT **Antelope Range** 74.29 326 *e*P P 15 37 54.5 -1.1
ARUT **Antelope Range** 74.29 326 *e*P P 15 37 54.5 -1.1
comp=Z,230nm,1.0s
SHOC **Shoshone** 74.36 323 ⇑P P 15 37 56.5 +0.6
baz=74
H29A **Onida** 74.39 339 ⇑P P 15 37 55.6 -0.3
baz=75
L22A **Ellis Ranch, M** 74.47 333 ⇑P P 15 37 57.5 +0.9
baz=75
G30A **Faulkton** 74.50 339 ⇓P P 15 37 57.0 +0.6
baz=75
RWWY **Rawlins** 74.51 332 *e*P P 15 37 54.9 -2.1
comp=Z,337nm,3.0s
I27A **Quinn** 74.54 337 ⇑P P 15 37 57.6 +0.8
baz=75
EDW2 **Edwards Air Fo** 74.58 321 ⇑P P 15 37 58.0 +0.8
baz=75
J25A **Sunshine Ranch** 74.59 336 ⇑P P 15 37 57.9 +0.8
baz=75
BLG **Laguna Peak** 74.64 320 ⇑P P 15 37 57.9 +0.3
baz=75
H28A **Mission Ridge** 74.71 338 ⇓P P 15 37 58.0 +0.3
baz=75
K23A **Bowen Ranch, D** 74.75 334 ⇓P P 15 37 59.0 +0.8
baz=75
M20A **Sweetwater, Wa** 74.76 332 ⇓P P 15 37 59.4 +1.0
baz=75
I26A **New Underwood** 74.79 337 ⇑P P 15 37 59.3 +1.0
baz=75
LRMC **Laurel Mountai** 74.84 322 ⇓P P 15 37 59.7 +0.9
baz=75
J24A **Dixon Ranch, L** 74.86 335 ⇑P P 15 38 00.1 +1.4
baz=75
K22A **Casper** 75.03 333 ⇑P P 15 38 00.7 +0.9
baz=75
G28A **Parade** 75.03 338 ⇑P P 15 38 00.5 +0.9
baz=75
FURC **Furnace Creek,** 75.10 323 ⇓P P 15 38 01.2 +1.1
baz=75
I25A **Rochford** 75.10 336 ⇓P P 15 38 00.8 +0.6
baz=75,SNR=8.5
MPU **Maple Canyon** 75.13 329 *e*P P 15 38 02.0 +1.6
comp=Z,17nm,1.2s
MPMC **Manual Prospec** 75.15 322 ⇑P P 15 38 01.5 +0.8
baz=75
M19A **Rock Springs** 75.19 331 ⇑P P 15 38 01.6 +0.8
baz=75
L20A **Wamsutter** 75.25 332 ⇓P P 15 38 01.8 +0.7
baz=76
DAU **Daniels Canyon** 75.27 329 *e*P P 15 38 01.7 +0.3
DAU **Daniels Canyon** 75.27 329 *e*P P 15 38 01.7 +0.3
J23A **Dilts Ranch, B** 75.27 334 ⇑P P 15 38 02.0 +0.8
baz=76
I24A **Kuemmerle Ranc** 75.30 335 ⇓P P 15 38 01.6 +0.4
baz=76
RSSD **Black Hills** 75.30 336 *e*P P 15 38 00.3 -1.1
RSSD pmax pmax
comp=Z,27nm,0.9s
RSSD **Black Hills** 75.30 336 *e*P P 15 38 00.3 -1.1

K21A **Alcova** 75.31 333 ⇑P P 15 38 02.1 +0.7
baz=76,SNR=9.7
F29A **Eureka** 75.34 339 ⇓P P 15 38 02.1 +0.8
baz=76
ISA **Isabella** 75.41 321 *e*P P 15 38 01.5 -0.6
ISA pmax pmax
comp=Z,8.0nm,0.9s
ISA **Isabella** 75.41 321 *e*P P 15 38 01.5 -0.6
comp=Z,8.1nm,0.9s
ISA **Isabella** 75.41 321 ⇑P P 15 38 02.9 +0.8
baz=76
JLU **Jordanelle** 75.51 329 *e*P P 15 38 04.2 +1.5
comp=Z,56nm,2.1s
G27A **Dupree** 75.64 338 ⇑P P 15 38 03.6 +0.5
baz=76
PKM **Peak Mountain** 75.64 320 ⇓P P 15 38 03.9 +0.4
baz=76
J22A **Midwest** 75.64 334 ⇑P P 15 38 03.7 +0.5
baz=76
F28A **McLaughlin** 75.67 339 ⇑P P 15 38 03.5 +0.3
baz=76
CWC **Cottonwood Cre** 75.75 322 ⇓P P 15 38 04.6 +0.5
baz=76
L19A **Farson** 75.77 331 ⇑P P 15 38 04.5 +0.4
baz=76
G26A **Maurine** 75.79 337 ⇑P P 15 38 04.8 +0.8
baz=76
R11A **Troy Canyon, C** 75.81 325 *e*P P 15 38 05.5 +1.1
comp=Z,121nm,2.8s
R11A **Troy Canyon, C** 75.81 325 ⇓P P 15 38 05.4 +1.0
baz=76,SNR=9.8
DUG **Dugway** 75.84 328 *e*P P 15 38 02.2 -2.3
DUG pmax pmax
comp=Z,22nm,1.4s
DUG **Dugway** 75.84 328 *e*P P 15 38 02.2 -2.3
comp=Z,22nm,1.4s
DUG **Dugway** 75.84 328 ⇑P P 15 38 04.8 +0.4
baz=76,SNR=7.0
L18A **Fontenelle, Gr** 75.92 331 ⇑P P 15 38 05.8 +0.8
baz=76
J21A **Lysite** 75.98 333 ⇑P P 15 38 06.0 +0.8
baz=76
G25A **Newell** 76.00 337 ⇑P P 15 38 05.9 +0.8
baz=76
H24A **Dirks Ranch, A** 76.03 336 ⇓P P 15 38 05.5 +0.1
baz=76
I22A **9 Mile Ranch,** 76.05 334 ⇓P P 15 38 06.1 +0.6
baz=76
F27A **Lemmon** 76.10 338 ⇑P P 15 38 06.3 +0.7
baz=76
D30A **Buchanan** 76.15 341 ⇑P P 15 38 06.6 +0.7
baz=76
E28A **Huff** 76.28 339 ⇑P P 15 38 07.2 +0.5
baz=76
F26A **Lodgepole** 76.30 338 ⇓P P 15 38 07.0 +0.1
baz=76,SNR=6.8
I21A **Big Trails, Te** 76.30 334 ⇓P P 15 38 07.2 +0.2
baz=76,SNR=7.3
PDAR **Pinedale Array** 76.39 332 P P 15 38 08.2 +0.6
PDAR **Pinedale Array** 76.39 332 P P 15 38 08.2 +0.6
comp=Z,1.1nm,0.8s,baz=134,slow=4.3,SNR=7.4
AGMN **Agassiz Nation** 76.41 343 *e*P P 15 38 06.9 -0.4
comp=Z,9.8nm,0.7s
G24A **Alzada** 76.47 336 ⇑P P 15 38 08.5 +0.6
baz=77
J19A **Crowheart** 76.58 332 ⇑P P 15 38 09.3 +0.7
baz=77
C30A **Mose, Pekin** 76.60 341 ⇓P P 15 38 08.8 +0.4
baz=77
MTUM **Tungsten Hills** 76.68 323 *e*P P 15 38 10.8 +1.4
G23A **Biddle** 76.73 336 ⇓P P 15 38 09.6 +0.3
baz=77,SNR=5.3
I20A **Worland** 76.76 333 ⇓P P 15 38 09.9 +0.4
baz=77
D28A **Regan** 76.78 340 ⇓P P 15 38 10.4 +0.9
baz=77
H21A **Big Horn, Sher** 76.88 334 ⇓P P 15 38 10.7 +0.5
baz=77
F24A **Ekalaka** 76.93 336 ⇓P P 15 38 11.2 +0.7
baz=77
MLAC **Mammoth Lakes** 77.03 323 ⇑P P 15 38 11.9 +0.5
baz=77
HVU **Hansel Valley** 77.05 329 *e*P P 15 38 06.5 -4.9
HVU **Hansel Valley** 77.05 329 *e*P P 15 38 06.5 -4.9
MDND **Maddock** 77.07 340 *e*P P 15 38 13.2 +2.1
MDND **Maddock** 77.07 340 ⇑P P 15 38 11.8 +0.8
baz=77
G22A **Birney** 77.08 335 ⇓P P 15 38 12.0 +0.6
baz=77
E25A **Miller Ranch,** 77.12 337 ⇓P P 15 38 12.1 +0.6
baz=77
H20A **Greybull** 77.15 334 ⇓P P 15 38 12.3 +0.6
baz=77
F23A **Volborg** 77.17 336 ⇓P P 15 38 11.8 0.0
baz=77,SNR=5.1
I19A **Meeteetse** 77.19 333 ⇑P P 15 38 12.4 +0.4
baz=77,SNR=7.2
B30A **Myrvik Farm, E** 77.23 342 ⇑P P 15 38 12.2 +0.3
baz=78
D26A **Manning** 77.25 338 ⇓P P 15 38 12.7 +0.5
baz=78
NVAR **Mina Array Bea** 77.31 323 P P 15 38 13.3 +0.3
NVAR **Mina Array Bea** 77.31 323 P P 15 38 13.3 +0.3
comp=Z,2.5nm,0.9s,baz=146,slow=6.1,SNR=12
ELK **Elko** 77.44 327 *e*P P 15 38 14.2 +0.6
G21A **Lodge Grass** 77.44 334 ⇑P P 15 38 13.8 +0.5
baz=78
SNOW **Snow King Moun** 77.47 331 *e*P P 15 38 11.5 -2.3
comp=Z,260nm,3.0s
E24A **Baker** 77.49 337 ⇓P P 15 38 13.5 0.0
baz=78,SNR=9.3
LOHW **Long Hollow** 77.53 331 *e*P P 15 38 13.7 -0.3
comp=Z,12nm,1.1s
F22A **Rosebud** 77.54 335 ⇓P P 15 38 13.9 0.0
baz=78,SNR=6.0
B29A **Wagenman Farm,** 77.54 341 ⇑P P 15 38 14.5 +0.8
baz=78
TPAW **Teton Pass** 77.58 331 *e*P P 15 38 13.4 -1.0
comp=Z,10nm,1.0s
D25A **Fairfield** 77.65 338 ⇑P P 15 38 14.9 +0.5
baz=78
I17A **Pilgrim Ck.** 77.76 332 ⇑P P 15 38 15.7 +0.3
baz=78
E23A **Ismay** 77.80 336 ⇑P P 15 38 15.7 +0.5
baz=78
C26A **Wahner Farm, P** 77.83 339 ⇑P P 15 38 16.1 +0.8
baz=78
G20A **Bridger** 77.84 334 ⇑P P 15 38 15.5 -0.1
baz=78,SNR=8.4
IMW **Indian Meadow** 77.90 331 *e*P P 15 38 14.7 -1.5
comp=Z,12nm,1.1s
A29A **Manning Farm,** 77.92 341 ⇑P P 15 38 16.2 +0.4
baz=78
FLWY **Flagg Ranch** 77.94 332 *e*P P 15 38 14.3 -2.0
comp=Z,26nm,1.0s
E22A **Miles City** 77.98 336 ⇑P P 15 38 16.9 +0.6
baz=78
H18A **Shoshone NF, C** 77.98 333 ⇑P P 15 38 16.6 +0.1
baz=78,SNR=9.6
F20A **Billings** 78.29 334 ⇑P P 15 38 18.9 +0.8
baz=78
D23A **Lindsay** 78.33 337 ⇑P P 15 38 19.1 +0.8
baz=78
C24A **Savage** 78.36 337 ⇑P P 15 38 19.3 +1.0
baz=79
A27A **Ledoux Ranch,** 78.55 340 ⇓P P 15 38 20.0 +0.7
baz=79
F19A **Roth Farm, Mol** 78.65 334 ⇓P P 15 38 20.0 -0.1
baz=79,SNR=7.3
D22A **Cohagen** 78.67 336 ⇑P P 15 38 20.7 +0.6
baz=79
PAHR **Pah Rah Range** 78.82 324 *e*P P 15 38 18.4 -2.7
comp=Z,20nm,1.1s
C23A **Lambert** 78.86 337 ⇓P P 15 38 21.9 +0.9
baz=79
E20A **Meyer Farm, Mu** 78.86 335 ⇓P P 15 38 21.5 +0.3
baz=79,SNR=9.4
GCMT **Greycliff** 78.89 333 *e*P P 15 38 21.8 +0.4
comp=Z,9.9nm,1.1s
D21A **La Casta Ranch** 78.90 336 ⇑P P 15 38 21.7 +0.3
baz=79,SNR=5.2
E19A **Rath Farm, Rou** 79.09 334 ⇓P P 15 38 22.5 +0.1
baz=79,SNR=15
DGMT **Dagmar** 79.09 338 ⇓P P 15 38 22.8 +0.5
baz=79
A25A **Svangstu Ranch** 79.14 339 ⇓P P 15 38 22.9 +0.4
baz=79

HLID **Hailey** 79.20 329 *e*P P 15 38 24.0 +0.8
comp=Z,12nm,1.0s
HLID **Hailey** 79.20 329 ⇑P P 15 38 24.2 +1.0
baz=79,SNR=14
D20A **Manuel Ranch,** 79.35 335 ⇑P P 15 38 24.4 +0.6
baz=80
A24A **Westby** 79.42 338 ⇓P P 15 38 24.7 +0.6
baz=80
BEKR **Beckworth** 79.46 323 *e*P P 15 38 24.7 0.0
comp=Z,3.5nm,1.0s
MCMT **McKenzie Canyo** 79.47 331 *e*P P 15 38 24.5 -0.3
comp=Z,8.3nm,1.2s
B22A **Reddig Ranch S** 79.57 337 ⇑P P 15 38 25.3 +0.3
baz=80
SCHQ **Schefferville** 79.59 2 P P 15 38 25.2 +0.3
SCHQ **Schefferville** 79.59 2 P P 15 38 25.2 +0.3
comp=Z,6.9nm,0.7s,baz=180,slow=8.0,SNR=5.3
SCHQ LR LR 16 12 06.0
comp=Z,623nm,21.4s,baz=349,slow=34
OHCM **Honcut** 79.70 322 *e*P P 15 38 26.8 +1.0
D19A **Cripps Ranch,** 79.70 335 ⇓P P 15 38 25.9 +0.2
baz=80,SNR=6.4
MFID **Camas Ranch** 79.75 328 ⇑P P 15 38 26.7 +0.5
baz=80
DLMT **Dillon** 79.78 331 *e*P P 15 38 27.9 +1.6
C20A **Veseth Ranch,** 79.82 335 ⇓P P 15 38 26.7 +0.3
baz=80
TOA0 **Torodi Ar. Sit** 80.04 70 *e*P P 15 38 29.0 +0.8
TORD **Torodi Ar. Bea** 80.04 70 P P 15 38 29.1 +0.9
TORD **Torodi Ar. Bea** 80.04 70 P P 15 38 29.1 +0.9
comp=Z,74nm,0.8s,baz=263,slow=5.1,SNR=193
TORD LR LR 16 13 53.1
comp=Z,3µm,18.8s,baz=330,slow=36
LRM **Limekiln Ridge** 80.08 332 *e*P P 15 38 24.6 -3.4
A22A **Carney Farms,** 80.13 337 ⇓P P 15 38 28.3 +0.3
baz=80
C19A **Slack Wire Ran** 80.23 335 ⇓P P 15 38 28.9 +0.3
baz=80
B20A **Solberg Farm,** 80.43 336 ⇑P P 15 38 30.0 +0.4
baz=81
A21A **Bergtoll Ranch** 80.49 337 ⇓P P 15 38 30.4 +0.6
baz=81
TSUM **Tsumeb** 80.56 107 *e*P P 15 38 31.6 +0.4
comp=Z,19nm,0.8s
EGMT **Eagleton** 80.75 335 ⇑P P 15 38 31.9 +0.5
baz=81
A20A **Cobblestone Ra** 80.76 336 ⇓P P 15 38 31.9 +0.5
baz=81
B19A **Brinkman Farms** 80.79 335 ⇑P P 15 38 31.6 +0.1
baz=81,SNR=5.7
MOD **Modoc** 80.88 325 *e*P P 15 38 27.8 -4.5
J08A **Circle Bar Ran** 81.00 327 *e*P P 15 38 34.9 +2.0
comp=Z,213nm,3.0s
A19A **Klindworth Far** 81.10 336 ⇑P P 15 38 33.8 +0.6
baz=81
MAW **Mawson** 81.42 164 P P 15 38 35.0 +0.4
comp=Z,7.3nm,0.8s
MAW **Mawson** 81.42 164 P P 15 38 35.0 +0.4
comp=Z,16nm,0.7s,baz=218,slow=5.5,SNR=39
MAW LR LR 16 14 07.9
comp=Z,1µm,20.1s,baz=228,slow=35
SLMT **Seeley Lake** 81.64 332 *e*P P 15 38 36.7 +0.5
K05A **Summer Lake** 81.77 325 *e*P P 15 38 38.6 +1.6
comp=Z,35nm,1.3s
I07A **Izee** 82.03 327 *e*P P 15 38 38.7 +0.4
comp=Z,156nm,3.0s
SWMT **Swartz Lake** 82.07 332 *e*P P 15 38 39.0 +0.6
F10A **Beach Ranch, E** 82.33 329 *e*P P 15 38 41.6 +1.8
comp=Z,112nm,2.5s
BSMT **Bassoo Peak** 82.67 332 *e*P P 15 38 42.9 +1.2
BOSA **Boshof** 83.20 118 LR LR 16 12 38.0
comp=Z,2µm,18.6s,baz=259,slow=33
WALA **Waterton Lakes** 83.24 333 *e*P P 15 38 43.2 -1.3
comp=Z,0.4nm,0.9s
NEW **Newport** 84.00 331 ⇑P P 15 38 49.2 +1.0
baz=84
PFVI **Vita Bisbo** 84.86 45 *e*P P 15 38 55.5 +2.6
comp=Z,70nm,1.5s
MORF **Mammelete** 85.08 45 *e*P P 15 38 58.0 +4.0
PBDV **Barranco-do-Ve** 85.51 45 *e*P P 15 38 58.7 +2.6
comp=Z,64nm,1.1s
PNCL **Nicolau / Gran** 85.64 44 *e*P P 15 38 59.0 +2.3
comp=Z,23nm,1.5s
PCVE **Castro Verde** 85.67 45 *e*P P 15 38 58.9 +2.0
comp=Z,30nm,1.7s
PVAQ **Vaqueiros** 85.74 45 *e*P P 15 38 58.3 +1.1
comp=Z,24nm,1.3s
PVAQ *e*LR LR 15 43 13.1
comp=Z,2µm,20.0s
EVOP **Sao Brissos** 86.14 44 *e*P P 15 39 00.8 +1.6
EVOP pmax pmax
comp=Z,22nm,1.0s
EVOP **Sao Brissos** 86.14 44 *e*P P 15 39 00.8 +1.6
comp=Z,22nm,1.0s
EVO **Evora** 86.21 44 *e*P P 15 39 00.8 +1.3
comp=Z,22nm,1.0s
EDM **Edmonton** 86.28 336 *e*P P 15 38 58.8 -0.8
EDM **Edmonton** 86.28 336 *e*P P 15 38 58.8 -0.8
PESTR **Estremoz** 86.68 44 *e*P P 15 39 03.3 +1.5
comp=Z,14nm,1.3s
PMRV **Marv??o** 87.13 44 *e*LR LR 15 41 47.7
comp=Z,2µm,18.0s
MTE **Manteigas** 87.60 43 *e*P P 15 39 09.5 +3.1
MTE *e*LR LR 15 41 13.3
comp=Z,2µm,18.0s
TAM **Tamanrasset** 87.82 64 *e*P P 15 39 08.5 +0.6
TAM pmax pmax
comp=Z,6.0nm,0.9s
TAM **Tamanrasset** 87.82 64 *e*P P 15 39 08.5 +0.6
comp=Z,6.3nm,0.9s
MVO **Moncorvo** 88.37 43 *e*P P 15 39 11.7 +1.7
comp=Z,13nm,1.2s
MVO *e*LR LR 15 44 06.3
comp=Z,1µm,18.0s
PBRG **Braganca** 88.91 42 *e*P P 15 39 14.2 +1.7
comp=Z,15nm,1.6s
CASY **Casey** 88.98 180 *e*P P 15 39 13.1 +0.7
comp=Z,14nm,0.8s
PAB **San Pablo** 89.13 45 *e*P P 15 39 16.7 +3.1
PAB **San Pablo** 89.13 45 *e*P P 15 39 16.7 +3.1
ESDC **Sonseca Array** 89.45 45 P P 15 39 15.8 +0.8
ESDC **Sonseca Array** 89.45 45 P P 15 39 15.8 +0.8
comp=Z,1.4nm,0.7s,baz=246,slow=4.5,SNR=6.5
ESDC LR LR 16 16 33.9
comp=Z,804nm,19.6s,baz=250,slow=34
URZ **Urewera** 90.62 227 LR LR 16 09 41.1
comp=Z,790nm,18.4s,baz=192,slow=29
RPZ **Rata Peaks** 91.27 220 LR LR 16 10 28.4
comp=Z,879nm,19.9s,baz=300,slow=29
YKA **Yellowknife Ar** 93.97 341 P P 15 39 35.1 -0.3
YKA **Yellowknife Ar** 93.97 341 P P 15 39 35.1 -0.3
comp=Z,3.5nm,0.7s,baz=140,slow=4.7,SNR=7.7
DLBC **Dease Lake** 96.58 333 P P 15 39 48.0 +0.4
DLBC **Dease Lake** 96.58 333 P P 15 39 48.0 +0.4
comp=Z,3.4nm,0.9s,baz=104,slow=8.3,SNR=4.2
KEST **Kesra** 96.68 54 LR LR 16 27 55.7
comp=Z,652nm,18.2s,baz=82,slow=38
TCF **Toulx Ste Croi** 96.76 42 *e*P P 15 39 49.2 +0.6
TCF **Toulx Ste Croi** 96.76 42 *e*P P 15 39 49.2 +0.6
TCF **Toulx Ste Croi** 96.76 42 *e*P P 15 39 49.2 +0.6
BORG **Borgarnes** 97.26 19 LR LR 16 21 45.0
comp=Z,1µm,18.7s,baz=256,slow=34
SSF **Saint Saulge** 97.91 42 *e*P Pdif 15 39 54.0 +0.2
comp=Z,36nm,1.6s
SSF **Saint Saulge** 97.91 42 *e*P Pdif 15 39 54.0 +0.2
SSF pmax pmax
comp=Z,37nm,1.6s
SSF **Saint Saulge** 97.91 42 *e*P Pdif 15 39 54.0 +0.2
comp=Z,36nm,1.6s
SMF **Signal de Mont** 97.92 42 *e*P Pdif 15 39 54.8 +1.0
comp=Z,20nm,1.1s
SMF **Signal de Mont** 97.92 42 *e*P Pdif 15 39 54.8 +1.0
SMF pmax pmax
comp=Z,20nm,1.1s
SMF **Signal de Mont** 97.92 42 *e*P Pdif 15 39 54.8 +1.0
comp=Z,20nm,1.1s
SBF **Sospel** 98.92 46 *e*P Pdif 15 39 59.2 +0.8
comp=Z,48nm,1.0s
SBF **Sospel** 98.92 46 *e*P Pdif 15 39 59.2 +0.8
SBF **Sospel** 98.92 46 *e*P Pdif 15 39 59.2 +0.8
comp=Z,48nm,1.0s
LPL **La Plagne** 99.19 44 *e*P **Pdif** **15 40 00.7 +0.9**
comp=Z,27nm,1.4s
LPL **La Plagne** 99.19 44 *e*P **Pdif** **15 40 00.7 +0.9**
LPL pmax pmax
comp=Z,27nm,1.4s
LPL **La Plagne** 99.19 44 *e*P **Pdif** **15 40 00.7 +0.9**

comp=Z,27nm,1.4s
AKASG **Malin Array Be** 115.06 44 PKIKP **PKPdf** **15 44 57.6 -1.1**
AKASG **Malin Array Be** 115.06 44 PKP **PKPdf** **15 44 57.6 -1.1**
AKASG **Malin Array Be** 115.06 44 PKP **PKPdf** **15 44 57.6 -1.1**
comp=Z,0.4nm,0.3s,baz=269,slow=2.7,SNR=6.5
BRTR **Keskin Array B** 116.13 56 PKP **PKPdf** **15 45 01.3 -0.1**
BRTR **Keskin Array B** 116.13 56 PKP **PKPdf** **15 45 01.3 -0.1**
comp=Z,2.1nm,0.8s,baz=204,slow=2.7,SNR=9.2
OBN **Obninsk** 119.91 39 *i* PKIKP **PKPdf** **15 45 10.1 +2.2**
OBN pmax pmax
comp=Z,10.0nm,1.1s
KLMR **Klimovskoe** 121.33 33 *e*PKIKP **PKPdf** **15 45 11.3 +0.8**
KLMR pmax pmax
comp=Z,23nm,1.5s
VSR **Storozhevoye** 121.36 44 *e*PKIKP **PKPdf** **15 45 10.8 -0.1**
VSR pmax pmax
comp=Z,8.0nm,0.5s
VSR pmax pmax
comp=N,10.0nm,1.4s
VSR pmax pmax
comp=E,10.0nm,1.2s
VORD **Divnogorie** 121.44 44 *e*PKIKP **PKPdf** **15 45 12.6 +1.6**
VORD pmax pmax
comp=Z,4.0nm,0.9s
VORD pmax pmax
comp=E,8.0nm,0.6s
VRHR **Novokhopersk** 122.91 44 *e*PKIKP PKPdf 15 45 06.0 -7.9
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,0.5s
VRHR pmax pmax
comp=Z,10.0nm,0.5s
KIV **Kislovodsk** 123.40 53 *i* PKIKP **PKPdf** **15 45 15.1 -0.1**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KBZ **Khabaz** 123.54 53 PKIKP **PKPdf** **15 45 15.6 +0.3**
KBZ **Khabaz** 123.54 53 PKP **PKPdf** **15 45 15.6 +0.3**
KBZ **Khabaz** 123.54 53 PKP **PKPdf** **15 45 15.6 +0.3**
comp=Z,8.3nm,0.9s,baz=204,slow=2.3,SNR=12
ZEI **Tsey** 124.21 54 *i* PKIKP **PKPdf** **15 45 17.4 +0.5**
ZEI pmax pmax
comp=Z,5.0nm,0.9s
ASAR **Alice Springs** 126.06 208 PKP **PKPdf** **15 45 20.2 -0.7**
ASAR **Alice Springs** 126.06 208 PKP **PKPdf** **15 45 20.2 -0.7**
comp=Z,3.2nm,0.5s,baz=129,slow=1.5,SNR=46
H11S2 **WAKE ISLAND Hyl** 126.66 275 T T 18 04 34.4
baz=110,slow=0.7,SNR=657
H11S1 **WAKE ISLAND Hyl** 126.67 275 T T 18 04 33.2
baz=110,slow=0.7,SNR=507
H11S3 **WAKE ISLAND Hyl** 126.67 275 T T 18 04 33.8
baz=110,slow=0.7,SNR=371
H11N3 **WAKE ISLAND Hyl** 126.84 277 T T 18 05 15.0
baz=111,slow=0.7,SNR=17
H11N1 **WAKE ISLAND Hyl** 126.85 277 T T 18 05 25.0
baz=111,slow=0.7,SNR=13
H11N2 **WAKE ISLAND Hyl** 126.85 277 T T 18 05 21.4
baz=111,slow=0.7,SNR=21
WRA **Warramunga Arr** 129.12 211 PKP **PKPdf** **15 45 26.6 -0.3**
WRA **Warramunga Arr** 129.12 211 PKP **PKPdf** **15 45 26.6 -0.3**
comp=Z,7.9nm,0.3s,baz=165,slow=1.9,SNR=170
ISRV **Sarvestan** 130.19 72 *e*P **PKPdf** **15 45 29.6 +0.7**
ARU **Arti** 131.94 35 *i* PKIKP **PKPdf** **15 45 32.2 +1.3**
ARU 15 47 50.9
PETK **Petropavlovsk-** 134.35 321 PKIKP **PKPdf** **15 45 36.3 +0.7**
PETK **Petropavlovsk-** 134.35 321 PKP **PKPdf** **15 45 36.3 +0.7**
PETK **Petropavlovsk-** 134.35 321 PKP **PKPdf** **15 45 36.3 +0.7**
comp=Z,2.6nm,0.9s,baz=331,slow=2.6,SNR=3.3
ABKAR **Akbulak array** 134.79 45 *e*PKPdf **PKPdf** **15 45 37.0 +0.5**
ISFR **Sfrayin** 134.88 62 *e*P **PKPdf** **15 45 36.8 -0.7**
IEMG **Emamgholi** 135.40 61 *e*P **PKPdf** **15 45 36.9 -1.6**
IKOO **Kooshah** 135.57 68 *e*P **PKPdf** **15 45 38.7 -0.2**
NVS **Novosibirsk** 144.52 26 *i* PKIKP **PKPab** **15 45 52.0 -0.4**
NVS pmax pmax
comp=Z,25nm,0.9s
NVS pmax pmax
comp=E,5.0nm,0.6s
KURK **Kurchatov** 145.13 35 *c i* PKIKP **PKPdf** **15 45 55.8 +0.6**
KURK **Kurchatov** 145.13 35 *e*PKPdf **PKPdf** **15 45 55.6 +0.4**
ZAA0 **Zalesovo Array** 145.81 26 *e*PKPdf **PKPbc** **15 45 56.7 -0.1**
ZALV **Zalesovo Beam** 145.81 26 PKP2 **PKPbc** **15 45 56.9 +0.1**
ZALV **Zalesovo Beam** 145.81 26 PKPbc **PKPbc** **15 45 56.9 +0.1**
ZALV **Zalesovo Beam** 145.81 26 PKPbc **PKPbc** **15 45 56.9 +0.1**
comp=E,21nm,0.5s,baz=308,slow=3.4,SNR=69
EKS2 **Erkin-Say** 145.93 50 *e*PKIKP **PKPdf** **15 45 57.3 +0.3**
EKS2 **Erkin-Say** 145.93 50 P **PKPab** **15 45 58.8 +0.5**
SNR=24
EKS2 **Erkin-Say** 145.93 50 *e*PKPdf **PKPdf** **15 45 57.3 +0.3**
AML **Almayashu** 146.04 51 P **PKPab** **15 45 59.5 +0.5**
SNR=33
USP **Ospenovka** 146.21 49 P **PKPab** **15 45 59.1 -0.1**
SNR=23
AAK **Ala-Archa** 146.44 50 *e*PKP2 **PKPbc** **15 45 59.4 +0.1**
AAK **Ala-Archa** 146.44 50 P **PKPbc** **15 45 59.7 +0.4**
SNR=36
AAK **Ala-Archa** 146.44 50 *e*PKPdf **PKPbc** **15 45 59.4 +0.1**
FRU **Bishkek** 146.45 49 *e*PKIKP **PKPdf** **15 45 57.0 -0.8**
FRU pmax pmax
comp=Z,550nm,3.2s
POO **Poona** 146.47 94 ⇓ *i* x **PKPab** **15 46 01.0 +0.1**
CHMS **Chumysh** 146.48 49 P **PKPab** **15 46 00.4 +0.1**
SNR=24
KBK **Karagaybulak** 146.74 49 P **PKPab** **15 46 02.3 +0.8**
SNR=16
TKM2 **Tokmak 2** 147.09 49 *e*PKIKP **PKPdf** **15 45 59.7 +0.6**
TKM2 **Tokmak 2** 147.09 49 P **PKPbc** **15 46 00.7 -0.6**
SNR=24
TKM2 **Tokmak 2** 147.09 49 *e*PKPdf **PKPdf** **15 45 59.7 +0.6**
KZA **Kyzart** 147.15 50 P **PKPab** **15 46 04.2 +0.8**
SNR=15
ULHL **Ulahol** 147.78 50 P **PKPbc** **15 46 02.3 -0.9**
SNR=9.2
KSH **Kashi** 148.50 55 PKPbc **PKPdf** **15 46 02.7 +1.3**
KSH PP **PP** **15 49 35.3 +0.6**
KSH PKS **PKSdf** **15 49 36.6 0.0**
KSH LR LR
comp=Z,110nm,5.9s
KSH LR LR
comp=Z,180nm,6.3s
MK31 **Makanchi Array** 149.40 38 *e*PKPdf **PKPdf** **15 46 04.5 +2.0**
MKAR **Makanchi Array** 149.40 38 PKP2 **PKPbc** **15 46 07.4 +0.4**
MKAR **Makanchi Array** 149.40 38 PKPbc **PKPbc** **15 46 07.4 +0.4**
MKAR **Makanchi Array** 149.40 38 PKPbc **PKPbc** **15 46 07.4 +0.4**
comp=Z,21nm,0.6s,baz=316,slow=2.7,SNR=138
THN **Thein Dam** 149.69 68 *ex* **PKPbc** **15 46 07.5 -0.5**
HYB **Hyderabad** 150.36 99 *i* PKP **PKPbc** **15 46 09.5 -0.6**
NDI **New Delhi** 151.15 76 *e*P **PKPbc** **15 46 09.0 -2.7**
MOY **Mondy** 152.64 11 *e*PKIKP **PKPdf** **15 46 10.6 +3.2**
MOY pmax pmax
comp=Z,34nm,2.4s
TLY **Talaya** 153.03 8 *e*PKP2 **PKPab** **15 46 29.2 +2.6**
TLY pmax pmax
comp=Z,13nm,0.8s
ZAK **Zakamensk** 154.25 9 *e*PKIKP **PKPdf** **15 46 10.4 +0.6**
ZAK pmax pmax
comp=Z,6.0nm,1.2s
CN2 **Changchun** 157.11 329 *e*PKP **PKPdf** **15 46 10.0 -3.7**
CN2 PP **PP** **15 50 23.2 +0.6**
CN2 SS SS 16 10 12.0 -1.8
CN2 LR LR
comp=Z,400nm,16.0s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,400nm,18.0s
SONM **Songino Array** 157.11 5 PKP **PKPdf** **15 46 14.3 +0.6**
SONM PKPab **PKPab** **15 46 45.3 +1.1**
SONM **Songino Array** 157.11 5 PKP **PKPdf** **15 46 14.3 +0.6**
comp=Z,1.9nm,0.8s,baz=346,slow=0.9,SNR=11
SONM PKPab **PKPab** **15 46 45.3 +1.1**
comp=Z,5.5nm,0.9s,baz=330,slow=3.6,SNR=12
LSA **Lhasa** 163.18 70 *e*PKIKP **PKPdf** **15 46 21.4 -0.1**
LSA **Lhasa** 163.18 70 *e*PKPdf **PKPdf** **15 46 21.4 -0.1**
GTA **Gaotai** 163.56 27 PKP **PKPdf** **15 46 24.5 +3.4**
GTA PKPab PKPab 15 47 18.4 +5.8
GTA PP PP 15 51 03.8 +6.4
GTA PPMZ
comp=Z,410nm,7.6s
GTA LR LR
comp=Z,200nm,17.8s
GTA LR LR
comp=Z,220nm,17.1s
GTA LR LR
comp=Z,250nm,20.9s
HHC **Hu-ho-hao-te** 164.11 354 *e*PKP **PKPdf** **15 46 20.8 -0.8**

HHC				PP	**PP**	15 51 01.0	+1.2	
HHC				SKS	**SKSdf**	15 53 24.2	+1.0	
HHC				SKKS	**SKKSac**	15 57 49.6	+4.0	
HHC				SS	**SS**	16 11 30.9	+4.4	
HHC				PPMZ				
	comp=Z,1μm,11.5s							
HHC				LR	LR			
	comp=Z,440nm,20.7s							
HHC				LR	LR			
	comp=Z,330nm,19.5s							
HHC				LR	LR			
	comp=Z,470nm,20.0s							
LZH	**Lanzhou**	**168.00**	**22**	*e*PKP	**PKPdf**	15 46 20.2	-4.7	
LZH				PKS	**PKSdf**	15 49 56.3	-1.3	
LZH				PP	**PP**	15 51 19.1	-1.2	
LZH				SKS	SKSdf	15 53 18.0	-8.0	
LZH				SKKS	**SKKSac**	15 58 01.0	-4.5	
LZH				PPMZ				
	comp=Z,310nm,5.3s							
LZH				LR	LR			
	comp=Z,470nm,17.0s							
LZH				LR	LR			
	comp=Z,540nm,18.6s							
LZH				LR	LR			
	comp=Z,720nm,20.3s							
CMAR	**Chiang Mai Arr**	**168.33**	**122**	PKP	**PKPdf**	15 46 25.5	+0.2	
CMAR				PKPab	**PKPab**	15 47 33.3	-0.9	
CMAR	**Chiang Mai Arr**	**168.33**	**122**	PKP	**PKPdf**	15 46 25.5	+0.2	
	comp=Z,1.3nm,1.0s,baz=280,slow=1.6,SNR=7.2							
CMAR				PKPab	**PKPab**	15 47 33.3	-0.9	
	comp=Z,2.1nm,0.8s,baz=259,slow=5.4,SNR=4.5							
CD2	**Chengdu**	**172.33**	**39**	PKP	**PKPdf**	15 46 26.8	-0.5	
CD2				pPKP	**pPKPdf**	15 46 37.6	-2.0	
CD2				PKS	**PKSdf**	15 49 57.8	-1.9	
CD2				PP	**PP**	15 51 43.7	+1.3	
CD2				SKS	**SKSdf**	15 53 27.5	-0.4	
CD2				SKKS	**SKKSac**	15 58 28.5	+1.8	
CD2				SS	**SS**	16 12 48.9	-1.4	
CD2				PPMZ				
	comp=Z,410nm,11.7s							
CD2				LR	LR			
	comp=Z,650nm,13.7s							
CD2				LR	LR			
	comp=Z,540nm,15.5s							
QIZ	**Qiongzhong**	**174.02**	**184**	PKP	**PKPdf**	15 46 27.3	-0.9	
QIZ				PP	**PP**	15 51 51.0	+1.3	
QIZ				LR	LR			
	comp=Z,450nm,19.2s							
QIZ				LR	LR			
	comp=Z,650nm,21.2s							
GYA	**Guiyang**	**177.19**	**59**	PKP	**PKPdf**	15 46 27.5	-1.5	
GYA				PKPab	PKPab	15 48 13.0	-0.5	
GYA				PKS	**PKSdf**	15 49 58.7	-2.7	
GYA				PP	**PP**	15 52 06.3	-0.4	
GYA				PPMZ				
	comp=Z,130nm,7.9s							

IDC ***10*** *15:29:36.8±0.7, 14.˚11S×166.˚75E, h0km, mb4.5/14, mb1 4.6/17, mb1mx4.5/22, mbtmp4.6/17, ML3.6/2, MS4.0/1, Ms1 4.0/1, ms1mx3.2/29, Error ellipse: s-maj=23.4km s-min=15.4km az=106.0*

ISCJB ***10*** *15:29:40.6±0.5, 14.˚10S±0.˚07×166.˚61E±0.˚08, h33km, mb4.5/13, Error ellipse: s-maj=11.6km s-min=9.5km az=4.6*

AUST ***10*** *15:29:43.9±17.0, 13.˚38S×166.˚92E, h100km±3km, Error ellipse: s-maj=4.8km s-min=2.1km az=38.0*

ISC 10 15:29:42.4±0.6, 14.˚14S±0.˚07×166.˚6E±0.˚1, h35km, n51, σ1§09/52, mb4.5/13, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.89**	**181**	Pn	**Pn**	**15 31 34.7**	**-0.1**
	2.9nm,0.3s,baz=198,slow=20,SNR=21						
DZM				Sn	**Sn**	**15 33 01.1**	**-1.8**
	baz=143,slow=20,SNR=1.7						
DZM				LR	LR	15 34 12.2	
	comp=Z,1μm,19.5s,baz=32,slow=35						
HNR	**Honiara**	**8.05**	**305**	Pn	**Pn**	**15 31 37.4**	**+0.6**
	60nm,0.3s,baz=159,slow=4.5,SNR=23						
HNR				Sn	**Sn**	**15 33 04.2**	**-2.5**
	11nm,0.3s,baz=168,slow=20,SNR=3.2						
PMG	**Port Moresby**	**19.64**	**282**	P	**Pn**	**15 34 10.3**	**+0.5**
	0.2nm,0.3s,baz=231,slow=6.1,SNR=4.0						
CTA	**Charters Tower**	**20.35**	**250**	P	Pn	15 34 17.3	-0.9
	16nm,1.0s,baz=75,slow=14,SNR=6.5						
RMQ	**Roma**	**20.75**	**231**	P	Pn	15 34 22.6	-0.2
	baz=22,SNR=12						
AFI	**Afiamalu**	**20.95**	**92**	P	Pn	15 34 26.0	+0.7
	16nm,0.9s,baz=344,slow=20,SNR=2.8						
COEN	**Coen**	**22.76**	**268**	P	**P**	**15 34 43.2**	**+1.3**
	baz=23,SNR=3.8						
QLP	**Quilpie**	**24.33**	**236**	P	**P**	**15 34 57.9**	**+0.9**
	baz=25,SNR=11						
CMSA	**Cobar Meteorol**	**25.85**	**224**	P	**P**	**15 35 11.3**	**+0.6**
	baz=27,SNR=6.2						
STKA	**Stephens Creek**	**28.92**	**228**	P	**P**	**15 35 39.2**	**+0.9**
	baz=30,SNR=30						
STKA	**Stephens Creek**	**28.92**	**228**	P	**P**	**15 35 38.8**	**+0.5**
	10nm,0.7s,baz=51,slow=8.3,SNR=42						
WRA	**Warramunga Arr**	**31.38**	**255**	P	**P**	**15 35 59.1**	**-1.1**
	5.1nm,0.9s,baz=84,slow=8.7,SNR=19						
ASAR	**Alice Springs**	**32.32**	**248**	P	**P**	**15 36 07.2**	**-1.2**
	3.6nm,0.9s,baz=72,slow=9.0,SNR=36						
BBOO	**Buckleboo**	**33.46**	**231**	P	**P**	**15 36 19.0**	**+0.7**
	baz=34,SNR=15						
KNRA	**Kununurra**	**36.60**	**263**	P	**P**	**15 36 45.3**	**-0.3**
	baz=37,SNR=3.7						
FITZ	**Fitzroy Crossi**	**39.52**	**259**	P	**P**	**15 37 09.9**	**-0.2**
	baz=40,SNR=4.7						
LUWI	**Luwuk**	**45.28**	**283**	P	P	15 37 46.8	-10
	baz=45,SNR=3.9						
MEEK	**Meekatharra**	**46.45**	**247**	P	**P**	**15 38 06.5**	**+0.3**
	baz=47,SNR=8.5						
MORW	**Morawa**	**48.97**	**244**	P	**P**	**15 38 25.9**	**+0.2**
	baz=50,SNR=3.7						
MAT	**Matsushiro**	**57.10**	**333**	P	**P**	**15 39 24.8**	**-0.6**
ASAJ	**Asahikawa**	**61.98**	**341**	P	**P**	**15 39 59.7**	**+0.8**
	8.9nm,0.7s,baz=173,slow=7.7,SNR=6.4						
KSRS	**Korea Array**	**62.91**	**326**	P	**P**	**15 40 05.3**	**+0.1**
	1.6nm,0.8s,baz=136,slow=6.9,SNR=7.7						
VNDA	**Vanda**	**63.43**	**181**	P	**P**	**15 40 09.0**	**+0.8**
	2.3nm,0.8s,baz=22,slow=4.6,SNR=3.3						
USRK	**Ussuriysk Arra**	**66.09**	**333**	P	**P**	**15 40 25.9**	**+0.1**
	6.4nm,1.0s,baz=138,slow=6.6,SNR=7.7						
PETK	**Petropavlovsk-**	**67.41**	**354**	P	**P**	**15 40 34.4**	**+0.3**
	5.8nm,0.7s,baz=160,slow=9.8,SNR=9.8						
SONM	**Songino Array**	**81.66**	**324**	P	**P**	**15 41 57.7**	**+0.5**
	2.5nm,0.9s,baz=135,slow=6.5,SNR=12						
MAW	**Mawson**	**82.20**	**202**	P	**P**	**15 42 00.8**	**+1.3**
	3.1nm,0.8s,baz=156,slow=10.0,SNR=3.1						
ILAR	**Eielson Array**	**86.16**	**18**	P	**P**	**15 42 18.0**	**-1.6**
	2.6nm,0.7s,baz=237,slow=5.3,SNR=19						
SNAA	**Sanae**	**94.10**	**183**	*e*P	**P**	**15 42 56.3**	**-0.7**
VNA2	**Neumayer--Watz**	**95.05**	**182**	*e*P	**P**	**15 43 00.8**	**-0.5**
MKAR	**Makanchi Array**	**96.36**	**317**	P	**P**	**15 43 08.0**	**+0.3**
	1.6nm,0.9s,baz=100,slow=5.0,SNR=11						
ZALV	**Zalesovo Beam**	**96.56**	**324**	P	**P**	**15 43 07.2**	**-1.2**
	2.1nm,0.8s,baz=108,slow=4.8,SNR=9.9						
ARCES	**ARCESS Array B**	**119.53**	**345**	PKP	**PKPdf**	**15 48 27.0**	**-0.8**
	3.4nm,0.8s,baz=73,slow=2.5,SNR=18						
FINES	**FINESS Array B**	**124.95**	**338**	PKP	**PKPdf**	**15 48 37.9**	**-0.5**
	3.5nm,0.8s,baz=48,slow=1.9,SNR=10						
NB2	**NORSAR Subarra**	**129.90**	**345**	PKPdf	**PKPdf**	**15 48 47.5**	**-0.5**
	comp=Z,0.2nm,0.7s,baz=48,slow=2.6						
NOA	**NORSAR Array B**	**129.90**	**345**	PKP	**PKPdf**	**15 48 47.5**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=34,slow=2.0,SNR=6.1						
NOA				SKPbc	SKPbc	15 52 09.3	+1.5
	comp=Z,1.5nm,0.8s,baz=33,slow=3.1,SNR=6.0						
AKASG	**Malin Array Be**	**129.91**	**326**	PKP	**PKPdf**	**15 48 47.6**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=57,slow=2.5,SNR=4.2						
HFS	**Hagfors**	**129.98**	**343**	PKP	**PKPdf**	**15 48 47.5**	**-0.6**
	baz=294,slow=1.4						
BRTR	**Keskin Array B**	**131.66**	**311**	PKP	**PKPdf**	**15 48 52.0**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=321,slow=2.0,SNR=3.0						
BRTR				SKPbc	**SKPab**	**15 52 19.4**	**+3.7**
	comp=Z,0.5nm,0.7s,baz=74,slow=5.1,SNR=3.3						
GERES	**GERESS Array B**	**138.84**	**333**	PKP	**PKPdf**	**15 49 04.8**	**-0.4**
	comp=Z,1.2nm,0.9s,baz=48,slow=2.0,SNR=6.2						
GERES				SKPbc	**SKiKP**	**15 52 40.8**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=46,slow=3.9,SNR=3.7						
HGN	**Heimansgroeve**	**140.26**	**341**	*e*L	L	15 49 28.0	
	comp=Z,1μm,20.9s						
DAVOX	**Davos/Dischmat**	**142.08**	**334**	PKP	**PKPdf**	**15 49 12.6**	**+1.4**
	comp=Z,2.7nm,0.6s,baz=90,slow=3.0						
LOMF	**Lomont**	**142.85**	**337**	PKP	**PKPdf**	**15 49 15.4**	**+3.0**
PLDF	**La Plantade**	**145.19**	**339**	PKP	**PKPdf**	**15 49 17.4**	**+0.9**
AGO	**Saint Agoulin**	**145.28**	**340**	PKP	**PKPdf**	**15 49 17.2**	**+0.6**
AUTN	**L'Aution**	**145.34**	**333**	PKP	**PKPbc**	**15 49 15.9**	**-1.0**
PYM	**Petit Puy Mans**	**145.59**	**340**	PKP	**PKPab**	**15 49 18.3**	**+0.6**
LBL	**Lubilhac**	**145.96**	**339**	PKP	**PKPab**	**15 49 20.0**	**+0.9**
KEST	**Kesra**	**150.37**	**321**	PKPbc	**PKPbc**	**15 49 30.9**	**+0.3**
	comp=Z,4.6nm,0.9s,baz=293,slow=3.2,SNR=13						
ESDC	**Sonseca Array**	**153.25**	**344**	PKPbc	**PKPbc**	**15 49 36.6**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=11,slow=2.8,SNR=11						
ESDC				PKPab	**PKPab**	**15 49 48.9**	**+0.1**
	comp=Z,2.4nm,0.9s,baz=9.5,slow=4.3,SNR=7.9						
TORD	**Torodi Ar. Bea**	**165.33**	**268**	PKP	**PKPdf**	**15 49 42.6**	**-1.6**
	comp=Z,1.0nm,0.9s,baz=127,slow=1.8,SNR=4.7						
TORD				PKPab	**PKPab**	**15 50 41.7**	**-0.3**
	comp=Z,1.2nm,0.9s,baz=95,slow=4.5,SNR=5.1						

JMA 10 15:30:40.8±0.2, 27.˚47N×127.˚53E, h104km±4km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIH	**Iheya**	**0.58**	**138**	P	Pn	15 30 57.9	+0.3
JIH				S	Sn	15 31 10.2	0.0
JAGN	**Aguni-jima**	**0.91**	**196**	P	Pn	15 31 00.7	+0.1
JAGN				S	Sn	15 31 14.9	-0.6
JOW	**Kunigami**	**0.92**	**134**	P	Pn	15 31 00.7	0.0
JOW				S	Sn	15 31 14.5	-1.2
JTK	**Tokunoshima**	**1.30**	**76**	P	Pn	15 31 05.1	+0.2
JTK				S	Sn	15 31 22.7	-0.4
JKE	**Kume jima 2**	**1.32**	**210**	P	Pn	15 31 04.8	-0.3
JKE				S	Sn	15 31 22.8	-0.7
JJT2	**Tamagusuku 2**	**1.34**	**172**	P	Pn	15 31 05.7	+0.3
JJT2				*e*S	Sn	15 31 24.8	+0.9
JAMN	**Amaminishikomi**	**1.65**	**62**	P	Pn	15 31 09.3	+0.2
JAMN				*e*S	Sn	15 31 29.9	-0.7
JAM	**Amami Oshima**	**2.06**	**62**	P	Pn	15 31 14.5	+0.2
JAM				S	Sn	15 31 39.5	-0.4
JZK	**Kikaishima**	**2.32**	**68**	P	Pn	15 31 18.4	+0.7
JZK				S	Sn	15 31 47.0	+1.1
JNN	**Nakanoshima**	**3.13**	**41**	P	Pn	15 31 29.6	+1.2
JOGS	**Gusukube**	**3.31**	**216**	P	Pn	15 31 30.5	-0.2
JOGS				S	Sn	15 32 09.1	-0.2
JMZ	**Minamidaito 2**	**3.69**	**116**	P	Pn	15 31 33.7	-2.2
JMZ				S	Sn	15 32 12.0	-6.5

GUC 10 15:34:39.0±0.6, 32.˚99S×69.˚15W, h120km±44km, MD3.3, ML3.9, 4C-1D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLCH	**Cerro Calan**	**1.23**	**251**	AML	AML	15 35 25.4	
	comp=E,2μm,0.4s						
FSR	**Penalolen**	**1.26**	**247**	*e*P	Pn	15 35 04.1	+0.3
FSR				*i* S	Sn	15 35 22.9	+0.3
JACH	**Jahuel**	**1.26**	**284**	⇑*i*P	Pn	15 35 04.3	+0.5
JACH				*e*S	Sn	15 35 23.6	+0.9
PCH	**Pirque**	**1.31**	**241**	⇑*i*P	Pn	15 35 03.8	-0.6
PCH				*i* S	Sn	15 35 23.4	-0.2
SAN	**Santiago**	**1.35**	**250**	*e*P	Pn	15 35 04.9	+0.1
SAN				*i* S	Sn	15 35 24.9	+0.5
SAN				AML	AML	15 35 25.2	
	comp=E,5μm,0.4s						
ANTU	**Antumapu**	**1.37**	**245**	*e*P	Pn	15 35 04.8	-0.2
ANTU				*i* S	Sn	15 35 25.0	+0.1
ANTU				AML	AML	15 35 29.5	
	comp=N,932nm,0.6s						
CHCH	**Chadas Angostu**	**1.57**	**233**	⇑*i*P	Pn	15 35 07.8	+0.5
CHCH				*i* S	Sn	15 35 29.4	+0.5
TACH	**Talagante**	**1.64**	**246**	⇑*i*P	Pn	15 35 09.9	+1.9
TACH				*i* S	Sn	15 35 32.4	+2.1
CACH	**El Canelo**	**1.65**	**227**	⇓*i*P	Pn	15 35 09.2	+0.7
CACH				*i* S	Sn	15 35 32.1	+1.3

IDC ***10*** *15:34:54.7±0.4, 14.˚11S×166.˚69E, h0km, mb4.9/22, mb1 5.0/25, mb1mx4.9/28, mbtmp4.9/25, ML4.3/3, MS4.7/12, Ms1 4.7/12, ms1mx4.4/31, Error ellipse: s-maj=16.7km s-min=13.0km az=104.0*

MOS ***10*** *15:34:58.7±1.1, 14.˚15S×166.˚47E, h33km, mb5.6/24, Error ellipse: s-maj=10.6km s-min=9.0km az=12.9*

ISCJB ***10*** *15:34:59.9±0.1, 14.˚18S±0.˚04×166.˚51E±0.˚03, h43km, mb5.2/82, MS4.7/18, Error ellipse: s-maj=5.5km s-min=4.0km az=151.5*

NEIC ***10*** *15:34:59.7±0.2, 14.˚19S×166.˚50E, h35km, mb5.3/38, Error ellipse: s-maj=6.6km s-min=5.5km az=142.0*

BJI ***10*** *15:35:01.1, 13.˚56S×166.˚64E, h35km, mB5.5/24, mb5.2/46, Ms5.1/25, Ms7 4.7/23*

GCMT ***10*** *15:35:02.3±0.2, 14.˚15S×166.˚54E, h28km, MW5.3, Moment Tensor Solution. s59,c83; s82,c117; Moment tensor: Scale 10^17Nm; Mrr0.93±.04; Mθθ0.13±.03; Mφφ-1.06±.03; Mrθ0.31±.05; Mθφ0.22±.02; Mφr-0.24±.04; Best double couple: M0 1.10000×10^17 NP1:ϕs154.00000°, δ55.00000°, λ70.00000°. NP2:ϕs7.00000°, δ39.00000°, λ116.00000°. Principal axes: T 1.0500, Plg72.0000°, Azm14.0000°; N 0.0900, Plg16.0000°, Azm166.0000°; P -1.1400, Plg8.0000°, Azm258.0000°; Data Used: II IU IC G CN.*

AUST ***10*** *15:35:05.3±1.2, 14.˚12S×166.˚62E, h79km±13km Error ellipse: s-maj=10.7km s-min=6.1km az=0.0*

DJA ***10*** *15:35:05.7±1.4, 14˚S±5˚×167˚E±˚, h48km±17km, M5.2/20, mB5.6/4, mb5.2/20, Mw(mB)5.0/4*

ISC 10 15:35:00.7±0.3, 14.˚22S±0.˚04×166.˚59E±0.˚05, h43km, n410, σ1§57/470, mb5.2/81, MS4.7/18, 18C-32D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.81**	**181**	*e*Pn	**Pn**	**15 36 51.8**	**-0.1**
	371nm,1.0s						
DZM				*e*Sn	**Sn**	**15 38 14.0**	**-5.1**
	1μm,1.2s						
DZM				eLR	LR	15 38 39.5	
	6μm,24.8s						
DZM	**Mont Dzumac**	**7.81**	**181**	Pn	**Pn**	**15 36 51.5**	**-0.5**
DZM				Sn	**Sn**	**15 38 20.2**	**+1.1**
DZM	**Mont Dzumac**	**7.81**	**181**	Pn	**Pn**	**15 36 51.5**	**-0.5**
	5.0nm,0.3s,baz=45,slow=21,SNR=21						
DZM				Sn	**Sn**	**15 38 20.2**	**+1.1**
	baz=288,slow=19,SNR=1.8						
HNR	**Honiara**	**8.06**	**305**	Pn	**Pn**	**15 36 53.3**	**-1.9**
HNR				Sn	**Sn**	**15 38 22.6**	**-2.6**
HNR	**Honiara**	**8.06**	**305**	Pn	**Pn**	**15 36 53.3**	**-1.9**
	26nm,0.3s,baz=192,slow=4.2,SNR=16						
HNR				Sn	**Sn**	**15 38 22.6**	**-2.6**
	2.7nm,0.3s,baz=108,slow=19,SNR=1.8						
HNR				LR	LR	15 39 44.1	
	comp=Z,3μm,19.3s,baz=139,slow=36						
MSVF	**Nonsavu**	**11.56**	**109**	*e*P	**Pn**	**15 37 41.2**	**-2.1**
MSVF	**Nonsavu**	**11.56**	**109**	Pn	Pn	15 37 47.7	+4.4
	712nm,1.2s,SNR=7.4						
MSVF	**Nonsavu**	**11.56**	**109**	*e*Pn	**Pn**	**15 37 41.2**	**-2.1**
TARA	**Tarawa**	**16.70**	**23**	*e*Pn	**Pn**	**15 38 50.9**	**-0.7**
	340nm,1.3s						
EIDS	**Eidsvold**	**18.31**	**230**	*e*P	**P**	**15 39 09.8**	**-1.6**
	201nm,1.6s						
EIDS	**Eidsvold**	**18.31**	**230**	⇓P	**Pn**	**15 39 14.0**	**+2.4**
	baz=18,SNR=11						
PMG	**Port Moresby**	**19.61**	**282**	P	**Pn**	**15 39 29.1**	**+1.8**
	114nm,1.1s						
PMG	**Port Moresby**	**19.61**	**282**	*e*P	**P**	**15 39 24.4**	**-1.2**
	101nm,1.0s						
PMG	**Port Moresby**	**19.61**	**282**	P	**P**	**15 39 26.2**	**+0.6**
	0.6nm,0.3s,baz=80,slow=4.3,SNR=8.9						
PMG				LR	LR	15 45 50.2	
	comp=Z,2μm,19.8s,baz=101,slow=33						
CTA	**Charters Tower**	**20.29**	**250**	P	Pn	15 39 34.5	-0.8
CTA	**Charters Tower**	**20.29**	**250**	⇓P	Pn	15 39 35.3	+0.1
	baz=20						
CTA	**Charters Tower**	**20.29**	**250**	P	Pn	15 39 34.5	-0.8
	64nm,1.1s,baz=72,slow=13,SNR=19						
CTA				LR	LR	15 46 00.6	
	comp=Z,2μm,20.8s,baz=19,slow=33						
CTAO	**Charters Tower**	**20.29**	**250**	*e*P	**P**	**15 39 31.9**	**-1.1**
CTAO				pmax	pmax		
	comp=Z,165nm,1.3s						
CTAO	**Charters Tower**	**20.29**	**250**	*e*P	**P**	**15 39 31.9**	**-1.1**
	comp=Z,165nm,1.3s						
RMQ	**Roma**	**20.67**	**231**	⇑P	Pn	15 39 41.0	+1.3
	baz=21,SNR=82						
AFI	**Afiamalu**	**20.98**	**92**	P	Pn	15 39 43.2	-0.4
	comp=Z,6.5nm,1.0s						
AFI	**Afiamalu**	**20.98**	**92**	P	Pn	15 39 43.2	-0.4
	comp=Z,93nm,1.2s,baz=282,slow=4.6,SNR=5.9						
AFI				LR	LR	15 45 58.4	
	comp=Z,1μm,18.0s,baz=16,slow=32						
ARMA	**Armidale**	**21.21**	**218**	*e*P	**P**	**15 39 43.2**	**+0.3**
	comp=Z,94nm,1.3s						
ARMA	**Armidale**	**21.21**	**218**	P	P	**15 39 45.7**	**+2.7**
	baz=21,SNR=7.0						
OUZ	**Omahuta**	**21.84**	**164**	*e*P	**P**	**15 39 49.6**	**0.0**
	comp=Z,168nm,1.0s						
COEN	**Coen**	**22.72**	**268**	*e*P	**P**	**15 39 56.2**	**-2.9**
	comp=Z,615nm,1.3s						
COEN	**Coen**	**22.72**	**268**	⇓P	**P**	**15 39 59.6**	**+0.5**
	baz=23,SNR=8.8						
NIUE	**Niue**	**23.00**	**105**	⇓P	**P**	**15 40 04.0**	**+2.0**
	baz=23						
MGCD	**Mangrove Creek**	**23.57**	**214**	⇑P	**P**	**15 40 10.4**	**+3.0**
	baz=24,SNR=5.4						
QLP	**Quilpie**	**24.25**	**236**	P	**P**	**15 40 16.0**	**+2.1**
	baz=24,SNR=25						
URZ	**Urewera**	**25.70**	**161**	*e*P	**P**	**15 40 28.6**	**+1.8**
	comp=Z,76nm,1.2s						
URZ	**Urewera**	**25.70**	**161**	P	**P**	**15 40 31.4**	**+4.6**
	comp=Z,31nm,0.9s,baz=5.1,slow=6.2,SNR=6.7						
CMSA	**Cobar Meteorol**	**25.77**	**224**	P	**P**	**15 40 29.5**	**+2.0**
	baz=26,SNR=15						
YNG	**Young**	**25.90**	**216**	⇓P	**P**	**15 40 31.3**	**+2.5**
	baz=26						
CNB	**Canberra Magne**	**26.11**	**213**	⇓P	**P**	**15 40 32.3**	**+1.6**
	baz=26,SNR=5.0						
STKA	**Stephens Creek**	**28.83**	**228**	*e*P	**P**	**15 40 55.5**	**+0.4**
	comp=Z,5.9nm,0.7s						
STKA	**Stephens Creek**	**28.83**	**228**	⇑P	**P**	**15 40 57.1**	**+2.0**
	baz=29,SNR=15						
STKA	**Stephens Creek**	**28.83**	**228**	P	**P**	**15 40 56.9**	**+1.8**
	comp=Z,26nm,0.7s,baz=45,slow=7.5,SNR=79						
STKA				LR	LR	15 52 33.3	
	comp=Z,3μm,18.6s,baz=158,slow=36						
RPZ	**Rata Peaks**	**29.64**	**173**	P	**P**	**15 41 04.5**	**+2.3**
RPZ	**Rata Peaks**	**29.64**	**173**	P	**P**	**15 41 04.5**	**+2.3**
	comp=Z,26nm,0.8s,baz=155,slow=7.6,SNR=5.9						
RPZ				LR	LR	15 51 53.7	
	comp=Z,711nm,19.3s,baz=354,slow=34						
WRAB	**Tennant Creek**	**31.31**	**255**	*e*P	**P**	**15 41 15.2**	**-1.9**
WRAB				pmax	pmax		
	comp=Z,33nm,1.3s						
WRAB	**Tennant Creek**	**31.31**	**255**	P	**P**	**15 41 17.2**	**+0.1**
	comp=Z,111nm,1.2s,SNR=5.1						
WRAB	**Tennant Creek**	**31.31**	**255**	*e*P	**P**	**15 41 15.2**	**-1.9**
	comp=Z,32nm,1.3s						
WRA	**Warramunga Arr**	**31.32**	**255**	P	**P**	**15 41 17.1**	**-0.1**
WRA				ScP	**ScP**	**15 47 53.9**	**+3.4**
WRA	**Warramunga Arr**	**31.32**	**255**	P	**P**	**15 41 17.1**	**-0.1**
	comp=Z,16nm,1.0s,baz=84,slow=8.6,SNR=39						
WRA				ScP	**ScP**	**15 47 53.9**	**+3.4**
	comp=Z,2.2nm,1.1s,baz=76,slow=4.2,SNR=3.9						
WRA				LR	LR	15 53 03.5	
	comp=Z,1μm,18.8s,baz=80,slow=35						
AS17	**Alice Springs**	**32.17**	**248**	⇓P	**P**	**15 41 25.1**	**+0.4**
	baz=32						
AS07	**Alice Springs**	**32.19**	**248**	⇓P	**P**	**15 41 25.4**	**+0.5**
	baz=32						
AS01	**Alice Springs**	**32.21**	**248**	⇓P	**P**	**15 41 25.6**	**+0.6**
	baz=32						
AS15	**Alice Springs**	**32.23**	**248**	⇑P	**P**	**15 41 25.9**	**+0.6**
	baz=32						
AS31	**Alice Springs**	**32.25**	**248**	*e*P	**P**	**15 41 24.5**	**-0.9**
ASAR	**Alice Springs**	**32.25**	**248**	P	**P**	**15 41 25.6**	**+0.2**
ASAR				ScP	**ScP**	**15 47 57.1**	**+3.5**
ASAR	**Alice Springs**	**32.25**	**248**	P	**P**	**15 41 25.6**	**+0.2**
	comp=Z,9.2nm,0.9s,baz=75,slow=9.2,SNR=60						
ASAR				ScP	**ScP**	**15 47 57.1**	**+3.5**
	comp=Z,2.5nm,1.0s,baz=84,slow=3.0,SNR=5.0						
ASAR				LR	LR	15 53 47.3	
	comp=Z,1μm,19.6s,baz=48,slow=35						
TAU	**Tasmania Unive**	**33.06**	**206**	*e*P	**P**	**15 41 29.8**	**-2.4**
TAU				pmax	pmax		
	comp=Z,68nm,1.2s						
TAU	**Tasmania Unive**	**33.06**	**206**	*e*P	**P**	**15 41 29.8**	**-2.4**
	comp=Z,68nm,1.2s						
KDU	**Kakadu**	**33.20**	**268**	⇑P	**P**	**15 41 35.1**	**+1.4**
	baz=33,SNR=9.2						
BBOO	**Buckleboo**	**33.38**	**231**	*e*P	**P**	**15 41 32.2**	**-2.9**
	comp=Z,602nm,0.8s						
BBOO	**Buckleboo**	**33.38**	**231**	P	**P**	**15 41 37.4**	**+2.3**
	baz=34,SNR=15						
KNRA	**Kununurra**	**36.55**	**263**	⇓P	**P**	**15 42 03.7**	**+1.1**
	baz=37,SNR=14						
SWI	**Sorong**	**37.38**	**288**	P	P	15 42 13.7	+4.0
	comp=Z,23nm,1.2s						
BNDI	**Bandanaira**	**37.41**	**281**	P	P	15 42 14.4	+4.5
	com

FX1	**Attu Island--F**	**67.06**	**4**	P	**P**	**15 45 48.4**	**-1.0**	
	comp=Z,23nm,0.9s,baz=330,slow=20,SNR=2.9							
WHN	**Wuhan**	**67.12**	**312**	⇓P	**P**	**15 45 51.3**	**+1.2**	
PETK	**Petropavlovsk-**	**67.49**	**354**	P	**P**	**15 45 51.4**	**-0.6**	
PETK	**Petropavlovsk-**	**67.49**	**354**	P	**P**	**15 45 51.4**	**-0.6**	
PETK	**Petropavlovsk-**	**67.49**	**354**	P	**P**	**15 45 51.4**	**-0.6**	
	comp=Z,14nm,0.9s,baz=148,slow=8.7,SNR=13							
PETK				LR	LR	16 09 35.4		
	comp=Z,279nm,20.2s,baz=319,slow=31							
MDJ	**Mudanjiang**	**67.53**	**332**	P	**P**	**15 45 54.1**	**+1.7**	
MDJ				pP	**pP**	**15 46 03.5**	**-1.5**	
MDJ				sP	**sP**	**15 46 07.2**	**-2.7**	
MDJ				PP	**PP**	**15 48 24.1**	**+2.2**	
MDJ				S	**S**	**15 54 49.3**	**+3.5**	
MDJ				AMB	AMB			
	comp=Z,38nm,1.3s							
MDJ				AMB	AMB			
	comp=Z,210nm,7.6s							
MDJ				LR	LR			
	comp=Z,160nm,25.9s							
MDJ				LR	LR			
	comp=Z,190nm,27.8s							
MDJ				LR	LR			
	comp=Z,170nm,21.4s							
MDJ	**Mudanjiang**	**67.53**	**332**	*e*P	**P**	**15 45 52.9**	**+0.5**	
	comp=Z,64nm,1.3s							
PANO	**Nakornpanom**	**68.65**	**295**	P	**P**	**15 46 02.7**	**+2.6**	
	comp=Z,289nm,1.1s,comp=Z,15µm							
CN2	**Changchun**	**68.88**	**329**	*e*P	**P**	**15 46 01.8**	**+0.9**	
CN2				e*p*P	**pP**	**15 46 12.1**	**-1.4**	
CN2				e*s*P	**sP**	**15 46 16.1**	**-2.3**	
CN2				e*S*	**S**	**15 55 03.2**	**+1.3**	
CN2				AMB	AMB			
	comp=Z,30nm,0.6s							
CN2				AMB	AMB			
	comp=Z,300nm,5.0s							
CN2				LR	LR			
	comp=Z,400nm,11.0s							
CN2				LR	LR			
	comp=Z,300nm,11.0s							
CN2				LR	LR			
	comp=Z,400nm,12.0s							
PSI	**Prapat**	**69.14**	**279**	P	**P**	**15 46 03.5**	**+0.2**	
PSI	**Prapat**	**69.14**	**279**	P	**P**	**15 46 03.5**	**+0.2**	
	comp=Z,3.7nm,0.9s,baz=122,slow=18,SNR=3.9							
SKNT	**Sakolnakorn**	**69.14**	**295**	P	**P**	**15 46 04.9**	**+1.8**	
	comp=Z,21nm,1.4s							
KLR	**Kul'dur**	**70.28**	**337**	*e*P	**P**	**15 46 06.3**	**-3.2**	
KLR				pmax	pmax			
	comp=E,35nm,1.8s							
KLR				pmax	pmax			
	comp=Z,130nm,1.8s							
ENH	**Enshi**	**70.54**	**310**	*e*P	P	15 46 07.2	-4.3	
GYA	**Guiyang**	**70.89**	**305**	P	**P**	**15 46 14.6**	**+0.8**	
GYA				pP	**pP**	**15 46 24.9**	**-1.6**	
GYA				PP	**PP**	**15 48 53.1**	**+1.6**	
GYA				S	**S**	**15 55 23.5**	**-3.0**	
GYA				sS	sS	15 55 41.8	-5.8	
GYA				SKS	**SKSac**	**15 56 09.6**	**-3.7**	
GYA				SS	**SS**	**15 59 58.3**	**-1.8**	
GYA				AMB	AMB			
	comp=Z,20nm,1.0s							
GYA				AMB	AMB			
	comp=Z,210nm,7.7s							
GYA				LR	LR			
	comp=Z,740nm,19.2s							
GYA				LR	LR			
	comp=Z,650nm,20.4s							
GYA				LR	LR			
	comp=Z,880nm,19.5s							
BJI	**Beijing**	**71.46**	**321**	P	**P**	**15 46 18.1**	**+1.3**	
BJI				S	**S**	**15 55 35.9**	**+3.6**	
BJI				AMB	AMB			
	comp=Z,31nm,1.2s							
BJI				LR	LR			
	comp=Z,280nm,13.5s							
BJI				LR	LR			
	comp=Z,250nm,17.3s							
BJI				LR	LR			
	comp=Z,140nm,19.6s							
NANT	**Nan**	**72.72**	**295**	P	**P**	**15 46 26.8**	**+2.0**	
	comp=Z,29nm,0.8s							
XAN	**Xi'an**	**72.86**	**313**	P	**P**	**15 46 26.0**	**+0.6**	
XAN				pP	**pP**	**15 46 37.3**	**-0.8**	
XAN				sP	**sP**	**15 46 42.9**	**-0.1**	
XAN				AMB	AMB			
	comp=Z,5.0nm,1.0s							
KMI	**Kunming**	**73.48**	**302**	P	**P**	**15 46 30.7**	**+1.2**	
KMI				pP	**pP**	**15 46 38.9**	**-3.3**	
KMI				AMB	AMB			
	comp=Z,26nm,1.0s							
PAYA	**Payao**	**73.66**	**295**	P	**P**	**15 46 32.5**	**+2.1**	
	comp=Z,6.2nm,1.0s,comp=Z,61nm							
CM31	**Chiang Mai Arr**	**74.14**	**294**	*e*P	**P**	**15 46 31.0**	**-2.3**	
	comp=Z,11nm,0.9s							
CMAR	**Chiang Mai Arr**	**74.14**	**294**	P	**P**	**15 46 34.8**	**+1.5**	
CMAR	**Chiang Mai Arr**	**74.14**	**294**	P	**P**	**15 46 34.8**	**+1.5**	
	comp=Z,9.4nm,1.0s,baz=120,slow=4.2,SNR=43							
CHTO	**Chiang Mai**	**74.27**	**294**	*e*P	**P**	**15 46 31.9**	**-2.1**	
	comp=Z,64nm,1.1s							
CHTO	**Chiang Mai**	**74.27**	**294**	P	**P**	**15 46 35.6**	**+1.6**	
	comp=Z,65nm,1.2s							
HHC	**Hu-ho-hao-te**	**74.78**	**320**	*e*P	**P**	**15 46 37.5**	**+0.9**	
HHC				pP	**pP**	**15 46 48.0**	**-1.3**	
HHC				sP	**sP**	**15 46 51.8**	**-2.4**	
HHC				PP	**PP**	**15 49 27.5**	**+3.1**	
HHC				S	**S**	**15 56 10.7**	**+0.5**	
HHC				sS	**sS**	**15 56 28.0**	**-3.4**	
HHC				AMB	AMB			
	comp=Z,61nm,1.1s							
HHC				AMB	AMB			
	comp=Z,590nm,6.7s							
HHC				LR	LR			
	comp=Z,580nm,15.5s							
HHC				LR	LR			
	comp=Z,620nm,15.4s							
HHC				LR	LR			
	comp=Z,350nm,14.9s							
CD2	**Chengdu**	**75.18**	**308**	P	**P**	**15 46 40.8**	**+1.8**	
CD2				pP	**pP**	**15 46 51.6**	**-0.2**	
CD2				sP	**sP**	**15 46 55.8**	**-0.9**	
CD2				PP	**PP**	**15 49 31.6**	**+3.6**	
CD2				S	**S**	**15 56 16.0**	**+1.0**	
CD2				sS	**sS**	**15 56 34.0**	**-2.2**	
CD2				SS	**SS**	**16 01 08.1**	**+2.6**	
CD2				AMB	AMB			
	comp=Z,120nm,0.5s							
CD2				AMB	AMB			
	comp=Z,460nm,7.1s							
CD2				LR	LR			
	comp=Z,620nm,7.1s							
CD2				LR	LR			
	comp=Z,290nm,8.3s							
HIA	**Hailar**	**75.52**	**330**	*e*P	P	15 46 35.9	-4.7	
BTO	**Baotou**	**75.61**	**319**	*e*P	**P**	**15 46 42.4**	**+1.0**	
LZH	**Lanzhou**	**77.50**	**312**	⇑P	**P**	**15 46 54.5**	**+2.3**	
LZH				pP	**pP**	**15 47 04.7**	**-0.3**	
LZH				sP	**sP**	**15 47 08.0**	**-1.9**	
LZH				PP	**PP**	**15 49 47.0**	**-0.6**	
LZH				S	**S**	**15 56 39.0**	**-1.4**	
LZH				sS	sS	15 56 56.1	-5.7	
LZH				AMB	AMB			
	comp=Z,60nm,1.1s							
LZH				AMB	AMB			
	comp=Z,310nm,4.3s							
LZH				LR	LR			
	comp=Z,410nm,15.0s							
LZH				LR	LR			
	comp=Z,360nm,14.3s							
LZH				LR	LR			
	comp=Z,580nm,16.2s							
SEY	**Seymchan**	**77.70**	**353**	*e*P	**P**	**15 46 52.9**	**+0.4**	
CLNS	**Chul'man**	**78.81**	**338**	*e*P	**P**	**15 46 59.1**	**+0.2**	
CLNS				pmax	pmax			
	comp=Z,37nm,0.9s							
CLNS				pmax	pmax			
	comp=N,21nm,1.0s							
CLNS				pmax	pmax			
	comp=E,15nm,1.0s							
CIT	**Chita**	**80.31**	**330**	*e*P	**P**	**15 47 07.0**	**-0.1**	
CIT				*e*		15 47 15.7		
CIT				pmax	pmax			
	comp=Z,123nm,1.4s							
YAK	**Yakutsk**	**81.36**	**343**	*e*P	**P**	**15 47 09.8**	**-2.6**	
YAK				*e*		15 47 22.2		
YAK				pmax	pmax			
	comp=Z,88nm,1.4s							
YAK				pmax	pmax			
	comp=N,28nm,1.3s							
YAK				pmax	pmax			
	comp=E,17nm,1.3s							
SONM	**Songino Array**	**81.70**	**324**	P	**P**	**15 47 14.9**	**+0.2**	
SONM	**Songino Array**	**81.70**	**324**	P	**P**	**15 47 14.9**	**+0.2**	
	comp=E,11nm,1.0s,baz=138,slow=5.6,SNR=22							
GTA	**Gaotai**	**81.84**	**314**	⇑P	**P**	**15 47 17.6**	**+1.9**	
GTA				pP	**pP**	**15 47 27.5**	**-1.1**	
GTA				sP	**sP**	**15 47 31.5**	**-1.9**	
GTA				S	**S**	**15 57 27.9**	**+1.7**	
GTA				sS	**ScS**	**15 57 45.0**	**+2.3**	
GTA				AMB	AMB			
	comp=E,37nm,1.2s							
GTA				AMB	AMB			
	comp=E,320nm,6.6s							
GTA				LR	LR			
	comp=E,240nm,17.1s							
GTA				LR	LR			
	comp=E,280nm,17.8s							
GTA				LR	LR			
	comp=E,280nm,17.6s							
MAW	**Mawson**	**82.11**	**202**	*e*P	**P**	**15 47 16.1**	**-0.4**	
	comp=E,3.5nm,0.9s							
MAW	**Mawson**	**82.11**	**202**	⇓P	**P**	**15 47 17.6**	**+1.2**	
	baz=82,SNR=17							
MAW	**Mawson**	**82.11**	**202**	P	**P**	**15 47 17.2**	**+0.8**	
	comp=E,6.1nm,0.9s,baz=98,slow=3.9,SNR=11							
ZAK	**Zakamensk**	**84.76**	**325**	⇓*i*P	**P**	**15 47 30.3**	**-0.1**	
ZAK				pmax	pmax			
	comp=Z,31nm,1.3s							
MCK	**McKinley**	**84.88**	**18**	*e*P	**P**	**15 47 30.9**	**+0.3**	
MCK	**McKinley**	**84.88**	**18**	*e*P	**P**	**15 47 30.9**	**+0.3**	
PKM	**Peak Mountain**	**85.05**	**52**	P	**P**	**15 47 34.0**	**+1.6**	
	baz=85							
IRK	**Irkutsk**	**85.15**	**327**	*e*P	**P**	**15 47 30.5**	**-1.7**	
IRK				pmax	pmax			
	comp=Z,42nm,1.6s							
TLY	**Talaya**	**85.21**	**326**	*c i*P	**P**	**15 47 32.7**	**+0.2**	
TLY				pmax	pmax			
	comp=Z,37nm,1.0s							
TLY	**Talaya**	**85.21**	**326**	P	**P**	**15 47 33.1**	**+0.6**	
	comp=Z,182nm,1.0s,SNR=5.4							
HUMO	**Hull Mountain**	**85.70**	**44**	*e*P	**P**	**15 47 35.7**	**+0.5**	
CMB	**Columbia Colle**	**85.76**	**49**	*e*P	**P**	**15 47 36.5**	**+0.8**	
CMB	**Columbia Colle**	**85.76**	**49**	*e*P	**P**	**15 47 36.5**	**+0.8**	
COLA	**College**	**86.03**	**18**	*e*P	**P**	**15 47 35.0**	**-1.3**	
COLA				pmax	pmax			
	comp=Z,40nm,0.9s							
COLA	**College**	**86.03**	**18**	*e*P	**P**	**15 47 35.0**	**-1.3**	
	comp=Z,40nm,0.9s							
ILAR	**Eielson Array**	**86.25**	**18**	P	**P**	**15 47 36.2**	**-1.2**	
ILAR				PKKPbc	**PKKPbc**	**16 05 37.5**	**-1.3**	
ILAR	**Eielson Array**	**86.25**	**18**	P	**P**	**15 47 36.2**	**-1.2**	
	comp=Z,5.0nm,0.8s,baz=238,slow=5.0,SNR=19							
ILAR				PKKPbc	**PKKPbc**	**16 05 37.5**	**-1.3**	
	comp=Z,0.6nm,0.9s,baz=354,slow=3.2,SNR=4.5							
ILAR				LR	LR	16 21 12.4		
	comp=Z,610nm,19.9s,baz=20,slow=32							
ISA	**Isabella**	**86.35**	**52**	P	**P**	**15 47 38.8**	**+0.1**	
	baz=86							
EDW2	**Edwards Air Fo**	**86.46**	**53**	P	**P**	**15 47 39.3**	**+0.1**	
	baz=87							
BFSC	**Mount Baldy Ra**	**86.50**	**54**	P	**P**	**15 47 39.7**	**+0.2**	
	baz=87							
MLAC	**Mammoth Lakes**	**86.76**	**50**	P	**P**	**15 47 41.5**	**+0.7**	
	baz=87							
TAPN	**Taplejung**	**86.86**	**299**	*e*P	**P**	**15 47 42.7**	**+1.1**	
	comp=Z,76nm,1.3s							
LRMC	**Laurel Mountai**	**86.89**	**52**	P	**P**	**15 47 41.3**	**-0.1**	
	baz=87							
E03A	**Lebam**	**86.90**	**40**	*e*P	**P**	**15 47 41.1**	**+0.2**	
	comp=Z,14nm,1.0s							
CWC	**Cottonwood Cre**	**86.92**	**51**	P	**P**	**15 47 42.1**	**+0.6**	
	baz=87							
ODAN	**Odare**	**86.99**	**299**	*e*P	**P**	**15 47 42.9**	**+0.7**	
	comp=Z,68nm,1.1s							
MONP	**Monument Peak**	**87.03**	**55**	P	**P**	**15 47 42.8**	**+0.5**	
	baz=87							
PAHR	**Pah Rah Range**	**87.10**	**48**	*e*P	**P**	**15 47 42.4**	**+0.1**	
	comp=Z,10nm,1.1s							
COLD	**Coldfoot**	**87.11**	**15**	*e*P	**P**	**15 47 41.0**	**-0.6**	
	comp=Z,10nm,1.1s							
K05A	**Summer Lake**	**87.15**	**45**	*e*P	**P**	**15 47 43.6**	**+1.1**	
	comp=Z,101nm,2.4s							
MPMC	**Manual Prospec**	**87.24**	**52**	P	**P**	**15 47 43.8**	**+0.7**	
	baz=87							
MOD	**Modoc**	**87.25**	**46**	*e*P	**P**	**15 47 44.6**	**+1.6**	
	comp=Z,17nm,1.0s							
NVAR	**Mina Array Bea**	**87.44**	**49**	P	**P**	**15 47 45.2**	**+1.1**	
NVAR	**Mina Array Bea**	**87.44**	**49**	P	**P**	**15 47 45.2**	**+1.1**	
	comp=Z,1.8nm,0.9s,baz=238,slow=7.2,SNR=9.6							
NVAR				LR	LR	16 19 59.3		
	comp=Z,922nm,18.9s,baz=52,slow=31							
GSC	**Goldstone**	**87.51**	**53**	P	**P**	**15 47 45.8**	**+1.4**	
	baz=88							
SWSC	**Sam W. Stewart**	**87.54**	**55**	P	**P**	**15 47 45.0**	**+0.6**	
	baz=88							
RAMN	**Ramite**	**87.69**	**298**	*e*P	**P**	**15 47 46.2**	**+0.6**	
BELC	**Belle Mtn. Jos**	**87.72**	**54**	P	**P**	**15 47 45.9**	**+0.5**	
	baz=88							
HEC	**Hector,Ludlow**	**87.73**	**53**	P	**P**	**15 47 45.9**	**+0.5**	
	baz=88							
BC3	**Big Chuckawall**	**88.04**	**55**	P	**P**	**15 47 47.1**	**+0.1**	
	baz=88							
GMRC	**Granite Mounta**	**88.23**	**54**	P	**P**	**15 47 48.0**	**+0.1**	
	baz=88							
TUQ	**Turquoise Moun**	**88.24**	**53**	P	**P**	**15 47 47.8**	**0.0**	
	baz=88							
JIRN	**Jiri**	**88.24**	**299**	*e*P	**P**	**15 47 49.1**	**+0.8**	
	comp=Z,33nm,1.0s							
GLA	**Glamis**	**88.35**	**55**	P	**P**	**15 47 49.7**	**+1.4**	
	baz=88							
IRM	**Iron Mountain**	**88.44**	**54**	P	**P**	**15 47 48.8**	**+0.1**	
	baz=89							
GUN	**Gumba**	**88.58**	**299**	*e*P	**P**	**15 47 50.4**	**+0.5**	
I07A	**Izee**	**88.59**	**44**	*e*P	**P**	**15 47 49.9**	**+0.6**	
	comp=Z,21nm,1.8s							
WVOR	**Wild Horse Val**	**88.59**	**46**	*e*P	**P**	**15 47 47.9**	**-1.5**	
WVOR				pmax	pmax			
	comp=Z,8.0nm,1.3s							
WVOR	**Wild Horse Val**	**88.59**	**46**	*e*P	**P**	**15 47 47.9**	**-1.5**	
	comp=Z,7.8nm,1.3s							
Y12C	**Blythe**	**88.81**	**55**	P	**P**	**15 47 50.8**	**+0.4**	
	baz=89							
PKI	**Pulchoki**	**88.88**	**299**	*e*P	**P**	**15 47 51.7**	**+0.4**	
SYO	**Syowa Base**	**89.00**	**197**	⇑*e*P	**P**	**15 47 49.4**	**-1.3**	
SYO	**Syowa Base**	**89.00**	**197**	⇓*e*sP	sP	15 48 05.4	-3.1	
KKN	**Kakani**	**89.05**	**299**	*e*P	**P**	**15 47 52.6**	**+0.6**	
	comp=Z,33nm,0.9s							
113A	**Mohawk Valley,**	**89.11**	**56**	P	**P**	**15 47 53.1**	**+1.3**	
	baz=89							
DMN	**Daman**	**89.15**	**299**	*e*P	**P**	**15 47 53.3**	**+0.8**	
	comp=Z,100nm,1.0s							
SHPR	**Sheep Range**	**89.16**	**52**	*e*P	**P**	**15 47 51.6**	**-0.6**	
	comp=Z,12nm,1.2s							
PDMCI	**Parker Dam,Lak**	**89.28**	**54**	P	**P**	**15 47 53.6**	**+1.0**	
	baz=89							
TIXI	**Tiksi**	**89.34**	**349**	*e*P	**P**	**15 47 51.5**	**-0.5**	
TIXI				pmax	pmax			
	comp=Z,14nm,1.2s							
R11A	**Troy Canyon, C**	**89.42**	**50**	*e*P	**P**	**15 47 53.6**	**+0.2**	
	comp=Z,6.9nm,1.3s							
R11A	**Troy Canyon, C**	**89.42**	**50**	P	**P**	**15 47 54.1**	**+0.7**	
	baz=90							
214A	**Organ Pipe Nat**	**89.65**	**57**	P	**P**	**15 47 55.4**	**+1.0**	
	baz=90							
GKN	**Gorkha**	**89.66**	**299**	*e*P	**P**	**15 47 54.9**	**+0.2**	
	comp=Z,58nm,1.0s							
W13A	**Hualapai Mount**	**89.72**	**54**	P	**P**	**15 47 55.1**	**+0.2**	
	baz=90							
Z14A	**Wintersburg**	**89.95**	**56**	P	**P**	**15 47 56.0**	**+0.2**	
	baz=90							
Y14A	**Wickenburg**	**90.07**	**55**	P	**P**	**15 47 56.9**	**+0.5**	
	baz=90							
KOLN	**Koldanda**	**90.48**	**298**	*e*P	**P**	**15 47 58.3**	**-0.3**	
	comp=Z,15nm,0.9s							
DANN	**Dangsing**	**90.50**	**299**	*e*P	**P**	**15 47 57.9**	**-0.9**	
	comp=Z,38nm,1.0s							
HVS	**Khovu-Aksy**	**90.56**	**323**	*d i*P	**P**	**15 47 59.1**	**+0.8**	
F10A	**Beach Ranch, E**	**90.77**	**43**	*e*P	**P**	**15 48 00.1**	**+0.7**	
	comp=Z,72nm,2.6s							
CCUT	**Cedar City**	**90.85**	**52**	*e*P	**P**	**15 48 00.6**	**+0.4**	
	comp=Z,4.7nm,1.1s							
MFID	**Camas Ranch**	**90.87**	**45**	P	**P**	**15 48 00.6**	**+0.7**	
	baz=91							
U15A	**North Rim**	**91.35**	**53**	P	**P**	**15 48 02.8**	**+0.3**	
	baz=92							
TUC	**Tucson**	**91.40**	**57**	*e*P	**P**	**15 48 02.4**	**-0.2**	
TUC	**Tucson**	**91.40**	**57**	*e*P	**P**	**15 48 02.4**	**-0.2**	
X16A	**Lo Mia Camp, P**	**91.45**	**55**	P	**P**	**15 48 02.8**	**-0.2**	
	baz=92							
NEW	**Newport**	**91.60**	**40**	P	**P**	**15 48 04.4**	**+1.2**	
	baz=92							
WUAZ	**Wupatki**	**91.81**	**54**	P	**P**	**15 48 05.1**	**+0.5**	
	baz=92							
HLID	**Hailey**	**91.89**	**46**	*e*P	**P**	**15 48 04.7**	**-0.1**	
	comp=Z,28nm,2.5s							
HLID	**Hailey**	**91.89**	**46**	P	**P**	**15 48 05.5**	**+0.7**	
	baz=92							
WMQ	**Urumqi**	**91.91**	**315**	P	**P**	**15 48 05.8**	**+1.1**	
WMQ				pP	**pP**	**15 48 13.8**	**-3.9**	
WMQ				sP	sP	15 48 17.0	-5.5	
WMQ				SKS	**SKSac**	**15 58 35.1**	**+0.8**	
WMQ				S	**S**	**15 59 02.6**	**-0.5**	
WMQ				SS	**SS**	**16 05 13.9**	**+1.4**	
WMQ				AMB	AMB			
	comp=Z,27nm,1.2s							
WMQ				AMB	AMB			
	comp=Z,260nm,5.2s							
WMQ				LR	LR			
	comp=Z,150nm,22.8s							
WMQ				LR	LR			
	comp=Z,260nm,26.0s							
WMQ				LR	LR			
	comp=Z,240nm,22.4s							
DUG	**Dugway**	**92.03**	**49**	P	**P**	**15 48 06.3**	**+0.9**	
	baz=92							
319A	**Douglas**	**92.38**	**58**	P	**P**	**15 48 08.3**	**+1.0**	
	baz=92							
X18A	**Snowflake**	**92.66**	**55**	P	**P**	**15 48 09.6**	**+1.0**	
	baz=93							
Q16A	**Castle Valley**	**92.89**	**51**	P	**P**	**15 48 10.6**	**+1.1**	
	baz=93							
W18A	**Petrified Fore**	**92.99**	**55**	P	**P**	**15 48 11.1**	**+1.0**	
	baz=93							
320A	**Kipp Ranch, An**	**92.99**	**59**	P	**P**	**15 48 11.1**	**+0.9**	
	baz=93							
220A	**Playas Peak, P**	**93.14**	**58**	P	**P**	**15 48 11.7**	**+0.9**	
	baz=93							
120A	**U Bar Ranch, L**	**93.21**	**57**	P	**P**	**15 48 12.4**	**+1.3**	
	baz=93							
Z20A	**Nine Sixteen R**	**93.39**	**57**	P	**P**	**15 48 13.4**	**+1.5**	
	baz=94							
Y20A	**Horse Springs,**	**93.76**	**56**	P	**P**	**15 48 14.1**	**+0.3**	
	baz=94							
X20A	**Quemado**	**93.83**	**55**	P	**P**	**15 48 15.2**	**+1.2**	
	baz=94							
121A	**Cookes Peak, D**	**93.90**	**58**	P	**P**	**15 48 15.1**	**+0.7**	
	baz=94							
SNAA	**Sanae**	**94.02**	**183**	*e*P	**P**	**15 48 13.5**	**-0.5**	
SNAA	**Sanae**	**94.02**	**183**	*e*sP	sP	15 48 27.2	-4.7	
SNAA	**Sanae**	**94.02**	**183**	*e*P	**P**	**15 48 12.6**	**-1.4**	
	comp=Z,26nm,1.1s							
Y21A	**Point of Rocks**	**94.36**	**56**	P	**P**	**15 48 18.0**	**+1.5**	
	baz=94							
X21A	**Alamocita Cree**	**94.37**	**56**	P	**P**	**15 48 17.0**	**+0.5**	
	baz=94							
MVCO	**Mesa Verde**	**94.49**	**53**	P	**P**	**15 48 17.9**	**+0.9**	
	baz=95							
Z22A	**Elephant Butte**	**94.75**	**57**	P	**P**	**15 48 18.6**	**+0.4**	
	baz=95							
U21A	**Nageezi**	**94.95**	**54**	P	**P**	**15 48 19.5**	**+0.4**	
	baz=95							
VNA2	**Neumayer--Watz**	**94.97**	**182**	*e*P	**P**	**15 48 18.2**	**-0.1**	
VNA2	**Neumayer--Watz**	**94.97**	**182**	*e*sP	sP	15 48 31.2	-4.9	
Q20A	**Ridgley Place,**	**95.07**	**51**	P	**P**	**15 48 19.7**	**+0.1**	
	baz=95							
S21A	**Coal Bank Pass**	**95.14**	**53**	P	**P**	**15 48 19.8**	**-0.2**	
	baz=95							
VNA1	**Neumayer--Stat**	**95.27**	**182**	*e*P	**P**	**15 48 19.4**	**-0.2**	
VNA1	**Neumayer--Stat**	**95.27**	**182**	*e*sP	sP	15 48 33.2	-4.3	
ANMO	**Albuquerque**	**95.55**	**56**	P	**P**	**15 48 22.6**	**+0.7**	
ANMO	**Albuquerque**	**95.55**	**56**	P	**P**	**15 48 22.6**	**+0.7**	
	comp=Z,0.7nm,0.4s,baz=249,slow=6.0,SNR=3.1							
X23A	**Hourglass Bar**	**95.69**	**56**	P	**P**	**15 48 23.2**	**+0.7**	
	baz=96							
S22A	**4UR Ranch, Cre**	**95.91**	**53**	P	**P**	**15 48 24.5**	**+1.0**	
	baz=96							
325A	**Bean Ranch, Si**	**95.96**	**59**	P	**P**	**15 48 24.5**	**+0.8**	
	baz=96							
Q22A	**Crested Butte,**	**96.10**	**52**	P	**P**	**15 48 24.3**	**-0.1**	
	baz=96							
Y24A	**Capitan**	**96.14**	**57**	P	**P**	**15 48 25.0**	**+0.5**	
	baz=96							
626A	**Big Bend Ranch**	**96.26**	**61**	P	**P**	**15 48 25.7**	**+0.7**	
	baz=96							
MKAR	**Makanchi Array**	**96.39**	**317**	P	**P**	**15 48 25.4**	**+0.2**	
MKAR	**Makanchi Array**	**96.39**	**317**	P	**P**	**15 48 25.4**	**+0.2**	
MKAR				PKKPbc	**PKKPbc**	**16 05 08.4**	**-3.5**	
MKAR	**Makanchi Array**	**96.39**	**317**	P	**P**	**15 48 25.4**	**+0.2**	
	comp=Z,10nm,1.0s,baz=72,slow=3.3,SNR=5.5							
MKAR				PKKPbc	**PKKPbc**	**16 05 08.4**	**-3.5**	
	comp=Z,0.4nm,0.6s,baz=298,slow=2.6,SNR=4.0							
ZALV	**Zalesovo Beam**	**96.60**	**324**	P	**P**	**15 48 25.3**	**-0.6**	
ZALV	**Zalesovo Beam**	**96.60**	**324**	P	**P**	**15 48 25.2**	**-0.6**	
ZALV	**Zalesovo Beam**	**96.60**	**324**	P	**P**	**15 48 25.2**	**-0.6**	
	comp=Z,7.3nm,0.8s,baz=119,slow=5.7,SNR=5.3							
TXAR	**Lajitas Array**	**96.61**	**62**	P	**P**	**15 48 26.9**	**+0.2**	
TXAR				PP	**PP**	**15 52 22.1**	**+0.4**	
TXAR	**Lajitas Array**	**96.61**	**62**	P	**P**	**15 48 26.9**	**+0.2**	
	comp=Z,0.5nm,0.6s,baz=240,slow=2.5,SNR=5.1							
TXAR				PP	**PP**	**15 52 22.1**	**+0.4**	
	comp=Z,2.4nm,1.1s,baz=247,slow=6.5,SNR=13							
O22A	**Kremmling**	**96.67**	**50**	P	**P**	**15 48 26.7**	**-0.2**	
	baz=97							
KSH	**Kashi**	**99.37**	**308**	*e*P	**Pdif**	**15 48 41.7**	**+2.8**	
KSH				pP	**pP**	**15 48 53.1**	**+1.1**	
KSH				sP	**sP**	**15 48 55.1**	**-1.7**	
KSH				PP	PP	15 52 49.5	+6.8	
KSH				S	**S**	**16 00 09.0**	**+0.9**	
KSH				sS	**sS**	**16 00 25.2**	**-4.9**	
KSH				SS	**SS**	**16 07 04.3**	**+5.6**	
KSH				LR	LR

KIV				pmax	pmax		
	comp=Z,14nm,1.3s						
VSR	**Storozhevoye**	**124.09**	**323**	*e*PKIKP	**PKPdf**	**15 53 54.3**	**-0.1**
VSR				pmax	pmax		
	comp=Z,20nm,1.1s						
VSR				pmax	pmax		
	comp=N,4.0nm,0.6s						
VSR				pmax	pmax		
	comp=E,2.0nm,0.4s						
VORD	**Divnogorie**	**124.10**	**323**	*e*PKIKP	**PKPdf**	**15 53 54.3**	**-0.1**
VORD				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.4s						
KAF	**Kangasniemi**	**124.48**	**339**	*e*pkp	**PKPdf**	**15 53 53.1**	**-1.7**
	comp=E,4.5nm,0.6s						
FINES	**FINESS Array B**	**125.01**	**338**	PKP	**PKPdf**	**15 53 55.3**	**-0.6**
FINES	**FINESS Array B**	**125.01**	**338**	PKP	**PKPdf**	**15 53 55.3**	**-0.6**
	comp=E,10.0nm,0.9s,baz=81,slow=1.7,SNR=12						
SOC	**Sochi**	**126.20**	**314**	*i* PKIKP	**PKPdf**	**15 53 58.8**	**+0.1**
SOC				*e*		15 55 53.4	
SOC				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MALT	**Malatya**	**128.47**	**308**	⇓PKIKP	**PKPdf**	**15 54 02.8**	**-0.6**
MALT	**Malatya**	**128.47**	**308**	⇓*i*P	**PKPdf**	**15 54 02.8**	**-0.6**
AKASG	**Malin Array Be**	**129.95**	**326**	PKIKP	**PKPdf**	**15 54 06.0**	**+0.4**
AKASG	**Malin Array Be**	**129.95**	**326**	PKP	**PKPdf**	**15 54 06.0**	**+0.4**
AKASG	**Malin Array Be**	**129.95**	**326**	PKP	**PKPdf**	**15 54 06.0**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=53,slow=2.0,SNR=23						
NB2	**NORSAR Subarra**	**129.96**	**345**	PKPdf	**PKPdf**	**15 54 05.0**	**-0.4**
	comp=Z,9.0nm,1.1s,baz=31,slow=1.9						
NB2	**NORSAR Subarra**	**129.96**	**345**	PKPdf	**PKPdf**	**15 54 05.0**	**-0.4**
	baz=31,slow=1.9						
NOA	**NORSAR Array B**	**129.96**	**345**	PKP	**PKPdf**	**15 54 05.5**	**+0.1**
NOA				SKPbc	SKPbc	15 57 27.6	+3.0
NOA	**NORSAR Array B**	**129.96**	**345**	PKP	**PKPdf**	**15 54 05.5**	**+0.1**
	comp=Z,4.8nm,0.8s,baz=36,slow=2.0,SNR=13						
NOA				SKPbc	SKPbc	15 57 27.6	+3.0
	comp=Z,5.0nm,0.9s,baz=32,slow=3.0,SNR=11						
HFS	**Hagfors**	**130.04**	**343**	PKP	**PKPdf**	**15 54 05.2**	**-0.3**
HFS				SKPbc	**SKPbc**	**15 57 26.6**	**+1.7**
HFS	**Hagfors**	**130.04**	**343**	PKP	**PKPdf**	**15 54 05.2**	**-0.3**
	comp=Z,4.2nm,0.7s,baz=171,slow=2.9,SNR=6.3						
HFS				SKPbc	**SKPbc**	**15 57 26.6**	**+1.7**
	comp=Z,6.3nm,0.9s,baz=356,slow=4.5,SNR=6.9						
ASF	**Jabal al Asfar**	**130.89**	**300**	PKP	**PKPdf**	**15 54 08.9**	**+0.8**
ASF				SKPbc	**SKPab**	**15 57 34.6**	**+5.4**
ASF	**Jabal al Asfar**	**130.89**	**300**	PKP	**PKPdf**	**15 54 08.9**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=89,slow=7.7,SNR=5.7						
ASF				SKPbc	**SKPab**	**15 57 34.6**	**+5.4**
	comp=Z,2.1nm,0.9s,baz=3.7,slow=1.3,SNR=7.0						
BRTR	**Keskin Array B**	**131.68**	**311**	PKP	**PKPdf**	**15 54 09.5**	**0.0**
BRTR				PP	**PP**	**15 56 32.6**	**+3.0**
BRTR				SKPbc	**SKPab**	**15 57 35.6**	**+3.2**
BRTR				SKP		15 57 46.8	
BRTR	**Keskin Array B**	**131.68**	**311**	PKP	**PKPdf**	**15 54 09.5**	**0.0**
	comp=Z,2.4nm,1.0s,baz=70,slow=1.4,SNR=7.3						
BRTR				PP	**PP**	**15 56 32.6**	**+3.0**
	comp=Z,0.8nm,0.7s,baz=90,slow=7.4,SNR=3.9						
BRTR				SKPbc	**SKPab**	**15 57 35.6**	**+3.2**
	comp=Z,0.9nm,0.8s,baz=42,slow=2.0,SNR=3.6						
BRTR				SKP		15 57 46.8	
	comp=Z,1.7nm,0.7s,baz=114,slow=3.6,SNR=5.9						
MMAI	**Mount Meron Ar**	**131.99**	**302**	PKP	**PKPdf**	**15 54 10.9**	**+0.8**
MMAI				SKPbc	**SKPab**	**15 57 38.4**	**+4.6**
MMAI				SKP		15 57 47.3	
MMAI	**Mount Meron Ar**	**131.99**	**302**	PKP	**PKPdf**	**15 54 10.9**	**+0.8**
	comp=Z,2.5nm,0.7s,baz=352,slow=5.3,SNR=4.8						
MMAI				SKPbc	**SKPab**	**15 57 38.4**	**+4.6**
	comp=Z,0.3nm,0.4s,baz=34,slow=3.7,SNR=3.6						
MMAI				SKP		15 57 47.3	
	comp=Z,13nm,1.1s,baz=95,slow=2.7,SNR=6.2						
TLCR		**132.88**	**320**	⇓PKIKP	**PKPdf**	**15 54 06.3**	**-5.0**
TLCR		**132.88**	**320**	⇓*i*P	**PKPdf**	**15 54 06.3**	**-5.0**
EIL	**Elat**	**132.92**	**297**	PKP	**PKPdf**	**15 54 13.7**	**+1.7**
EIL	**Elat**	**132.92**	**297**	PKP	**PKPdf**	**15 54 13.7**	**+1.7**
	comp=Z,9.4nm,1.0s,baz=325,slow=4.8,SNR=5.2						
BURAR	**Bucovina Array**	**133.81**	**324**	⇓PKIKP	**PKPdf**	**15 54 14.3**	**+1.1**
BURAR	**Bucovina Array**	**133.81**	**324**	⇓*i*P	**PKPdf**	**15 54 14.3**	**+1.1**
VRI	**Vrincioaia**	**133.84**	**321**	⇑PKIKP	**PKPdf**	**15 54 17.2**	**+4.0**
VRI	**Vrincioaia**	**133.84**	**321**	⇑*i*P	**PKPdf**	**15 54 17.2**	**+4.0**
MLR	**Muntele Rosu**	**134.50**	**321**	⇓*i*P	**PKPdf**	**15 54 14.6**	**0.0**
UZH	**Uzhgorod**	**134.84**	**327**	*e*PKIKP	**PKPdf**	**15 54 15.4**	**+0.5**
STHS	**Stebnicka Huta**	**134.90**	**328**	*e*PKP	**PKPdf**	**15 54 15.3**	**+0.3**
VOIR		**135.07**	**322**	⇑PKIKP	**PKPdf**	**15 54 13.4**	**-2.2**
VOIR		**135.07**	**322**	⇑*i*P	**PKPdf**	**15 54 13.4**	**-2.2**
ARR	**Arges**	**135.36**	**322**	⇑*i*P	**PKPdf**	**15 54 17.5**	**+1.4**
DRGR		**135.69**	**325**	⇓PKIKP	**PKPdf**	**15 54 16.3**	**-0.4**
DRGR		**135.69**	**325**	⇓*i*P	**PKPdf**	**15 54 16.3**	**-0.4**
OKC	**Ostrava-Krasne**	**136.14**	**331**	*e*PKPdf	**PKPdf**	**15 54 17.7**	**+0.4**
PSZ	**Piszkesteto**	**136.54**	**328**	*e*PKIKP	**PKPdf**	**15 54 17.5**	**-0.7**
PSZ	**Piszkesteto**	**136.54**	**328**	⇑*i*P	**PKPdf**	**15 54 19.2**	**+1.0**
PSZ	**Piszkesteto**	**136.54**	**328**	*e*PKPdf	**PKPdf**	**15 54 17.5**	**-0.7**
KRLC	**Kraliky**	**136.62**	**332**	*e*PKPdf	**PKPdf**	**15 54 20.2**	**+1.9**
DPC	**Dobruska-Polom**	**136.63**	**332**	*e*PKPdf	**PKPdf**	**15 54 18.1**	**-0.2**
UPC	**Upice**	**136.65**	**333**	*e*PKPdf	**PKPdf**	**15 54 19.4**	**+1.1**
BZS	**Buzias**	**136.99**	**324**	⇓PKIKP	**PKPdf**	**15 54 19.4**	**+0.4**
BZS	**Buzias**	**136.99**	**324**	⇓*i*P	**PKPdf**	**15 54 19.4**	**+0.4**
VRAC	**Vranov**	**137.24**	**331**	PKP	**PKPdf**	**15 54 21.0**	**+1.6**
VRAC				SKPbc	**SKiKP**	**15 57 53.6**	**-0.5**
VRAC	**Vranov**	**137.24**	**331**	PKP	**PKPdf**	**15 54 21.0**	**+1.6**
	comp=Z,3.0nm,0.9s,baz=319,slow=3.9,SNR=3.9						
VRAC				SKPbc	**SKiKP**	**15 57 53.6**	**-0.5**
	comp=Z,1.3nm,0.4s,baz=266,slow=0.7,SNR=2.7						
PVCC	**Panska Ves**	**137.27**	**334**	*e*PKPdf	**PKPdf**	**15 54 19.3**	**-0.1**
BRG	**Berggiesshubel**	**137.27**	**335**	*e*PKP	**PKPdf**	**15 54 20.5**	**+1.1**
	comp=Z,25nm,1.6s						
CLL	**Collm**	**137.32**	**336**	⇓*i*PKIKP	**PKPdf**	**15 54 19.8**	**+0.4**
CLL				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CLL	**Collm**	**137.32**	**336**	⇓*i*PKPdf	**PKPdf**	**15 54 19.8**	**+0.4**
	comp=Z,9.0nm,0.9s						
CLL				*i*		15 54 24.8	
	comp=Z,12nm,1.1s						
CLL				*i* SKPRdf		15 57 53.3	
PRA	**Prague**	**137.66**	**333**	PKPdf	**PKPdf**	**15 54 19.0**	**-1.1**
PRU	**Pruhonice**	**137.68**	**333**	*e*PKPdf	**PKPdf**	**15 54 19.3**	**-0.9**
VTS	**Vitosha**	**137.68**	**319**	⇓PKIKP	**PKPdf**	**15 54 21.2**	**+0.6**
VTS	**Vitosha**	**137.68**	**319**	⇓*i*P	**PKPdf**	**15 54 21.2**	**+0.6**
TREC	**Trest**	**137.76**	**332**	*e*PKPdf	**PKPdf**	**15 54 20.7**	**+0.3**
ESK	**Eskdalemuir**	**138.23**	**351**	*i* PKIKP	PKPdf	15 54 26.4	+5.4
KHC	**Kasperske Hory**	**138.74**	**333**	*e*PKIKP	**PKPdf**	**15 54 21.4**	**-0.8**
KHC	**Kasperske Hory**	**138.74**	**333**	*e*PKPdf	**PKPdf**	**15 54 22.5**	**+0.3**
KHC	**Kasperske Hory**	**138.74**	**333**	*e*PKPdf	**PKPdf**	**15 54 21.4**	**-0.8**
GERES	**GERESS Array B**	**138.89**	**333**	PKPpre	PKPpre	15 54 17.6	
GERES				PKP	**PKPdf**	**15 54 22.7**	**+0.1**
GERES				SKPbc	**SKiKP**	**15 57 56.8**	**-0.8**
GERES				SKPab	**SKPab**	**15 58 07.5**	**+3.9**
GERES	**GERESS Array B**	**138.89**	**333**	PKhKP	PKPpre	15 54 17.6	
	comp=Z,0.9nm,0.8s,baz=48,slow=2.0,SNR=6.2						
GERES				PKP	**PKPdf**	**15 54 22.7**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=75,slow=1.5,SNR=11						
GERES				SKPbc	**SKiKP**	**15 57 56.8**	**-0.8**
	comp=Z,2.0nm,1.0s,baz=33,slow=3.2,SNR=9.1						
GERES				SKPab	**SKPab**	**15 58 07.5**	**+3.9**
	comp=Z,4.7nm,1.1s,baz=62,slow=3.2,SNR=8.6						
GRF	**Grafenberg Arr**	**139.30**	**335**	*e*PKIKP	**PKPdf**	**15 54 23.6**	**+0.4**
GRF	**Grafenberg Arr**	**139.30**	**335**	*e*PKP	**PKPdf**	**15 54 23.6**	**+0.4**
IDI	**Anoyia**	**139.73**	**308**	*e*PKPdf	**PKPdf**	**15 54 23.3**	**-1.1**
IDI				PKP	**PKPdf**	**15 54 25.9**	**+1.4**
IDI	**Anoyia**	**139.73**	**308**	PKP	**PKPdf**	**15 54 25.9**	**+1.4**
	comp=Z,8.5nm,1.0s,baz=124,slow=3.6,SNR=3.4						
PERS	**Pernice**	**139.82**	**329**	*i* PKPbc	PKPdf	15 54 30.4	+6.1
KBA	**Koelnbreinsper**	**140.35**	**331**	⇑*i*PKiKP	**PKiKP**	**15 54 27.5**	**-0.5**
	comp=Z,17nm,1.3s						
MEM	**Membach**	**140.43**	**341**	PKP	**PKPdf**	**15 54 25.6**	**+0.4**
BOJS	**Bojanci**	**140.53**	**328**	*i* PKPbc	**PKPdf**	**15 54 28.4**	**+2.9**
VISS	**Visnje**	**140.53**	**329**	*i* PKPbc	**PKPdf**	**15 54 29.1**	**+3.6**
JAVS	**Javornik**	**140.86**	**329**	*i* PKPbc	**PKPdf**	**15 54 30.6**	**+4.4**
WLF	**Walferdange**	**141.20**	**340**	PKP	**PKPdf**	**15 54 27.4**	**+0.8**
DOU	**Dourbes**	**141.32**	**341**	PKP	**PKPdf**	**15 54 27.2**	**+0.4**
FETA	**Feichten**	**141.58**	**333**	⇓*i*PKPdf	**PKPdf**	**15 54 22.6**	**-5.0**
	comp=Z,14nm,1.3s						
ECH	**Echery**	**142.06**	**338**	*e*PKIKP	**PKPdf**	**15 54 28.0**	**-0.2**
ECH	**Echery**	**142.06**	**338**	*e*PKPdf	**PKPdf**	**15 54 28.0**	**-0.2**
DAVOX	**Davos/Dischmat**	**142.14**	**334**	PKPpre	PKPpre	15 54 24.2	
DAVOX				PKP	**PKPdf**	**15 54 29.0**	**+0.4**
DAVOX				SKPbc	**SKiKP**	**15 58 06.1**	**+1.7**
DAVOX	**Davos/Dischmat**	**142.14**	**334**	PKhKP	PKPpre	15 54 24.2	
	comp=Z,3.1nm,0.7s,baz=34,slow=3.0,SNR=4.5						
DAVOX				PKP	**PKPdf**	**15 54 29.0**	**+0.4**
	comp=Z,9.9nm,1.0s,baz=252,slow=6.4,SNR=8.0						
DAVOX				SKPbc	**SKiKP**	**15 58 06.1**	**+1.7**
	comp=Z,5.8nm,1.0s,baz=62,slow=3.4,SNR=5.7						
LOMF	**Lomont**	**142.91**	**337**	PKP	**PKPdf**	**15 54 28.0**	**-1.8**
CUC	**Castrocucco**	**143.75**	**321**	*e*PKPdf	PKPab	15 54 28.0	-0.4
GDM	**Grand'Maison**	**144.96**	**336**	PKP	**PKPdf**	**15 54 33.4**	**-0.2**
GRN	**Grenoble**	**145.08**	**336**	PKP	**PKPdf**	**15 54 33.9**	**+0.2**
BST	**Brest**	**145.15**	**349**	PKP	**PKPbc**	**15 54 33.0**	**-0.1**
PLDF	**La Plantade**	**145.25**	**339**	PKP	**PKPdf**	**15 54 35.1**	**+1.2**
SURF	**Saint Ours**	**145.27**	**334**	PKP	**PKPdf**	**15 54 34.4**	**+0.2**
AGO	**Saint Agoulin**	**145.34**	**340**	PKP	**PKPab**	**15 54 35.1**	**+1.0**
SAOF	**Saorge**	**145.34**	**333**	PKP	**PKPbc**	**15 54 33.8**	**-0.2**
AUTN	**L'Aution**	**145.39**	**333**	PKP	**PKPbc**	**15 54 34.0**	**-0.4**
TOUF	**Mont Tournerai**	**145.46**	**333**	PKP	**PKPdf**	**15 54 34.0**	**-0.5**
SSB	**Saint Sauveur**	**145.51**	**337**	*e*PKIKP	**PKPab**	**15 54 34.8**	**+0.1**
SSB	**Saint Sauveur**	**145.51**	**337**	PKP	**PKPab**	**15 54 35.0**	**+0.3**
SSB	**Saint Sauveur**	**145.51**	**337**	*e*PKPdf	**PKPab**	**15 54 34.8**	**+0.1**
LUCF	**Luceram**	**145.51**	**333**	PKP	**PKPdf**	**15 54 34.5**	**0.0**
MVIF	**Mont Vial**	**145.59**	**333**	PKP	**PKPbc**	**15 54 34.9**	**0.0**
PYM	**Petit Puy Mans**	**145.65**	**339**	PKP	**PKPab**	**15 54 36.5**	**+1.2**
CALN	**Calern**	**145.82**	**333**	PKP	**PKPbc**	**15 54 35.5**	**-0.1**
VERF	**Verneugheol**	**145.83**	**340**	PKP	**PKPab**	**15 54 35.7**	**-0.2**
LBL	**Lubilhac**	**146.02**	**339**	PKP	**PKPab**	**15 54 37.7**	**+1.0**
FRNF	**Fournols**	**146.12**	**340**	PKP	**PKPab**	**15 54 37.1**	**+0.1**
VSL	**Villasalto**	**147.82**	**326**	*e*PKPdf	**PKPdf**	**15 54 37.6**	**-0.8**
VSL				*e*PKPbc	**PKPbc**	**15 54 40.9**	**-0.4**
LRDF	**Laroque-de-Fa**	**148.26**	**337**	PKP	**PKPbc**	**15 54 42.8**	**+0.4**
MLS	**Moulis**	**148.76**	**339**	PKP	**PKPbc**	**15 54 43.9**	**+0.2**
VALF	**Valcebollere**	**148.91**	**338**	PKP	**PKPbc**	**15 54 44.3**	**0.0**
RESF	**Ens**	**149.15**	**340**	PKP	**PKPbc**	**15 54 45.5**	**+0.7**
VIEF	**Viey**	**149.18**	**341**	PKP	**PKPbc**	**15 54 45.9**	**+1.1**
LARF	**Larrau**	**149.36**	**342**	PKP	**PKPbc**	**15 54 45.7**	**+0.5**
KEST	**Kesra**	**150.40**	**320**	*e*PKPdf	**PKPdf**	**15 54 41.9**	**-0.9**
KEST				*e*PKPbc	**PKPbc**	**15 54 47.1**	**-0.9**
KEST				PKPbc	**PKPbc**	**15 54 48.7**	**+0.7**
KEST	**Kesra**	**150.40**	**320**	PKPbc	**PKPbc**	**15 54 48.7**	**+0.7**
	comp=Z,17nm,0.9s,baz=85,slow=0.5,SNR=36						
CMAH	**Djebel Manchou**	**150.94**	**324**	P	**PKPdf**	**15 54 43.8**	**+0.2**
ABSA	**Djebel Ababsia**	**151.16**	**323**	P	**PKPdf**	**15 54 44.3**	**+0.4**
CKFL	**Kef-Lekhel**	**151.50**	**324**	P	**PKPdf**	**15 54 45.3**	**+0.8**
CASM	**Ain Smara**	**151.73**	**324**	P	**PKPdf**	**15 54 44.8**	**0.0**
DFRA	**Djebel Bou Aff**	**151.87**	**326**	P	**PKPdf**	**15 54 46.1**	**+1.1**
PBRG	**Braganca**	**151.91**	**349**	*e*PKPbc	**PKPbc**	**15 54 51.2**	**-0.1**
SET	**Setif**	**152.38**	**326**	P	**PKPbc**	**15 54 50.0**	**-2.6**
POLO	**Lamas de Olo**	**152.51**	**351**	*e*PKPbc	**PKPbc**	**15 54 52.9**	**+0.2**
MVO	**Moncorvo**	**152.58**	**350**	*e*PKPbc	**PKPbc**	**15 54 52.9**	**0.0**
ESDC	**Sonseca Array**	**153.32**	**344**	PKP	**PKPdf**	**15 54 47.3**	**+0.3**
ESDC				PKPbc	**PKiKP**	**15 54 54.8**	**+0.1**
ESDC				PKPab	**PKPab**	**15 55 06.1**	**-0.4**
ESDC	**Sonseca Array**	**153.32**	**344**	PKP	**PKPdf**	**15 54 47.3**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=1.4,slow=5.9,SNR=4.8						
ESDC				PKPbc	**PKiKP**	**15 54 54.8**	**+0.1**
	comp=Z,4.0nm,0.8s,baz=16,slow=2.6,SNR=17						
ESDC				PKPab	**PKPab**	**15 55 06.1**	**-0.4**
	comp=Z,3.2nm,0.8s,baz=12,slow=3.5,SNR=7.4						
ESLA	**Sonseca Array**	**153.32**	**344**	*e*PKPbc	**PKPbc**	**15 54 54.0**	**-0.5**
MTE	**Manteigas**	**153.42**	**350**	*e*PKPbc	**PKPbc**	**15 54 55.5**	**+0.8**
ADJB	**Djebel Djouab**	**153.44**	**328**	P	**PKPdf**	**15 54 48.4**	**+1.0**
PAB	**San Pablo**	**153.54**	**344**	*e*PKIKP	**PKPdf**	**15 54 46.5**	**-0.9**
PAB				*e*		15 54 54.3	
PAB	**San Pablo**	**153.54**	**344**	*e*PKPdf	**PKPdf**	**15 54 46.5**	**-0.9**
PAB				*e*PKPbc	**PKPbc**	**15 54 54.3**	**-0.8**
PMRV	**Marv??o**	**154.34**	**349**	*e*PKPbc	**PKPbc**	**15 54 56.7**	**0.0**
PMTG	**Montargil**	**154.83**	**350**	*e*PKPbc	**PKPbc**	**15 54 58.0**	**+0.3**
TAM	**Tamanrasset**	**160.14**	**298**	*e*PKIKP	**PKPdf**	**15 54 56.0**	**-0.4**
TAM	**Tamanrasset**	**160.14**	**298**	*e*PKPdf	**PKPdf**	**15 54 56.0**	**-0.4**
TORD	**Torodi Ar. Bea**	**165.29**	**268**	PKP	**PKPdf**	**15 55 00.8**	**-0.6**
TORD				PKPab	**PKPab**	**15 56 00.2**	**+1.0**
TORD	**Torodi Ar. Bea**	**165.29**	**268**	PKP	**PKPdf**	**15 55 00.8**	**-0.6**
	comp=Z,4.0nm,1.0s,baz=43,slow=1.3,SNR=18						
TORD				PKPab	**PKPab**	**15 56 00.2**	**+1.0**
	comp=Z,5.7nm,1.1s,baz=101,slow=2.6,SNR=9.3						

CASC 10 15:50:36.2±1.6, 13°.37N×90°.20W, h26km±4km, MD3.5, 2C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**0.73**	**50**	*e*P	Pb	15 50 50.5	-0.3
SBLS				*e*S	Sb	15 51 00.8	+0.2
RTR	**El Retiro**	**0.75**	**46**	*e*P	Pb	15 50 50.8	-0.2
RTR				*e*S	Sn	15 51 02.0	-0.2
SNJE	**San Jose**	**0.76**	**49**	*e*P	Pb	15 50 50.9	-0.3
SNJE				*e*S	Sb	15 51 01.4	0.0
IXG	**Ixpaco**	**0.84**	**343⇑**	*e*P	Pb	15 50 52.0	-0.4
IXG				*e*S	Sn	15 51 04.1	-0.1
RBDL	**Robledal**	**0.89**	**34**	⇓*i*P	Pn	15 50 52.9	-0.4
BOQS	**Boqueron**	**0.97**	**68**	*e*P	Pn	15 50 53.9	-0.5
BOQS				*e*S	Sb	15 51 07.1	-0.2
PCG	**Pacaya**	**1.09**	**339**	*e*P	Pn	15 50 56.4	+0.2
PCG				*e*S	Sb	15 51 11.4	+0.5
LFU	**La Fuente**	**1.12**	**70**	*e*P	Pn	15 50 56.4	+0.1
LFRS	**El Faro**	**1.14**	**77**	*e*P	Pn	15 50 56.4	-0.2
LFRS				*e*S	Sn	15 51 11.3	-0.2
LBRS	**Las Brisas**	**1.19**	**72**	*e*P	Pn	15 50 57.3	+0.1
NBG	**Las Nubes**	**1.22**	**353**	*e*P	Pb	15 50 58.8	-0.2
NBG				*e*S	Sb	15 51 16.0	+1.3
FUG	**Fuego 3**	**1.24**	**330⇑**	*e*P	Pn	15 50 57.4	-0.7
JAT	**Jato**	**1.68**	**304**	*e*P	Pn	15 51 03.7	-0.3
CNCH	**Conchagua**	**2.31**	**92**	*e*P	Pn	15 51 12.2	-0.5
CNCH				*e*S	Sn	15 51 41.2	+0.9

*ISCJB **10** 15:51:39.6±0.4, 41°.46N±0°.04×140°.53E±0°.06, h146km±3km, mb3.5/9, Error ellipse: s-maj=7.8km s-min=6.1km az=7.5*
*IDC **10** 15:51:40.1±2.0, 41°.46N×140°.58E, h139km±17km, mb3.3/9, mb1 3.4/10, mb1mx3.2/27, mbtmp3.7/10, Error ellipse: s-maj=20.8km s-min=15.9km az=171.0*
*JMA **10** 15:51:41.2±0.1, 41°.47N×140°.54E, h140km±1km, M2.8*

ISC 10 15:51:40.6±0.7, 41°.45N±0°.04×140°.53E±0°.05, h144km±5km, n24, σ0°.54/36, mb3.6/9, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSR	**Shiriuchi**	**0.12**	**313**	P	**Pn**	**15 52 00.0**	**+0.1**
JSR				S	**Sn**	**15 52 14.0**	**-0.7**
JOT	**Ohata**	**0.40**	**100**	P	**Pn**	**15 52 01.2**	**+0.5**
JOT				S	**Sn**	**15 52 15.8**	**-0.2**
JSI2	**Shiura 2**	**0.40**	**193**	P	**Pn**	**15 52 01.3**	**+0.5**
JSI2				S	**Sn**	**15 52 16.2**	**+0.1**
JKB	**Kayabe**	**0.58**	**41**	P	**Pn**	**15 52 01.9**	**+0.3**
JKB				S	**Sn**	**15 52 17.5**	**-0.1**
JYM2	**Yakumo 2**	**0.68**	**350**	P	**Pn**	**15 52 02.4**	**+0.1**
JYM2				S	**Sn**	**15 52 19.1**	**+0.3**
JTM	**Tenmabayashi**	**0.78**	**148**	P	**Pn**	**15 52 03.4**	**+0.4**
JTM				S	**Sn**	**15 52 19.9**	**-0.1**
JIW	**Iwasaki**	**0.94**	**205**	P	**Pn**	**15 52 05.0**	**+0.6**
JOSM	**Okushiri--Mats**	**1.01**	**309**	P	**Pn**	**15 52 04.8**	**0.0**
JOSM				S	**Sn**	**15 52 22.1**	**-1.2**
JANG	**Nango**	**1.31**	**145**	P	**Pn**	**15 52 07.6**	**-0.1**
JANG				S	**Sn**	**15 52 27.6**	**-0.8**
JEW	**Eniwo**	**1.55**	**26**	*e*S	**Sn**	**15 52 34.0**	**+1.1**
JNBK	**Urakawa-nobuka**	**1.85**	**63**	P	**Pn**	**15 52 14.0**	**+0.4**
JNBK				S	**Sn**	**15 52 38.4**	**-0.5**
JOM	**Ohasama**	**2.06**	**163**	P	**Pn**	**15 52 16.2**	**+0.1**
JOM				S	**Sn**	**15 52 43.3**	**0.0**
JFR	**Furan**	**2.29**	**41**	P	**Pn**	**15 52 19.3**	**+0.4**
JFR				*e*S	**Sn**	**15 52 48.0**	**-0.4**
ASAJ	**Asahikawa**	**3.07**	**29**	P	**Pn**	**15 52 28.9**	**+0.4**
	1.0nm,0.3s,baz=270,slow=7.5,SNR=19						
ASAJ				S	**Sn**	**15 53 04.2**	**-1.4**
	1.4nm,0.3s,baz=316,slow=19,SNR=6.5						
USRK	**Ussuriysk Arra**	**6.85**	**296**	P	**Pn**	**15 53 19.1**	**+0.5**
	0.2nm,0.3s,baz=109,slow=14,SNR=7.6						
SONM	**Songino Array**	**24.97**	**296**	P	**P**	**15 56 50.8**	**0.0**
	0.2nm,0.4s,baz=91,slow=8.3,SNR=2.7						
ZALV	**Zalesovo Beam**	**38.53**	**308**	P	**P**	**15 58 48.1**	**-0.6**
	0.8nm,0.4s,baz=92,slow=8.7,SNR=6.7						
MKAR	**Makanchi Array**	**41.32**	**298**	P	**P**	**15 59 12.3**	**+0.4**
	0.3nm,0.5s,baz=82,slow=13,SNR=8.3						
KURBB	**Kurchatov Arra**	**42.85**	**304**	P	**P**	**15 59 24.4**	**+0.2**
	2.0nm,0.6s,baz=80,slow=8.7,SNR=13						
ILAR	**Eielson Array**	**46.19**	**35**	P	**P**	**15 59 50.1**	**-0.3**
	0.3nm,0.6s,baz=290,slow=5.9,SNR=4.2						
BVAR	**Borovoye Array**	**47.17**	**309**	P	**P**	**15 59 58.8**	**+0.5**
	0.6nm,0.3s,baz=84,slow=9.0,SNR=4.0						
WRA	**Warramunga Arr**	**61.35**	**187**	P	**P**	**16 01 40.9**	**-0.2**
	0.3nm,0.4s,baz=6.5,slow=7.1,SNR=11						
HFS	**Hagfors**	**69.80**	**335**	P	**P**	**16 02 34.8**	**0.0**
	2.1nm,0.9s,baz=61,slow=6.8,SNR=3.0						
PDAR	**Pinedale Array**	**75.07**	**46**	P	**P**	**16 03 07.1**	**+0.4**
	0.3nm,0.5s,baz=318,slow=1.2,SNR=3.8						

*CSEM **10** 15:56:28.6±0.5, 42°.14N×19°.70E, h5km, ML1.6/6, Error ellipse: s-maj=8.6km s-min=4.7km az=139.0*

PDG 10 15:56:29.5±0.1, 42°.18N×19°.64E, h16km, ML1.6/10, 10C-8D, Error ellipse: s-maj=0.3km s-min=0.3km az=0.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRME	**Dracevica, Mon**	**0.34**	**271**	⇓*i*Pg	Pg	15 56 36.4	-0.2
DRME				*e*Sg	Sb	15 56 42.2	-0.2
DRME	**Dracevica, Mon**	**0.34**	**271**	⇓*i*Pg	Pg	15 56 36.4	-0.2
DRME				*e*Sg	Sb	15 56 42.2	-0.2
ULC	**Ulcinj**	**0.37**	**234**	⇑*i*Pg	Pg	15 56 36.6	-0.5
ULC				*e*Sg	Sb	15 56 42.8	-0.5
ULC	**Ulcinj**	**0.37**	**234**	⇑*i*Pg	Pg	15 56 36.6	-0.5
ULC				*e*Sg	Sb	15 56 42.8	-0.5
PDG	**Podgorica**	**0.38**	**311**	⇑*i*Pg	Pg	15 56 37.0	-0.3
PDG				*e*Sg	Sb	15 56 43.4	-0.

PYL S Sn 16 07 43.1 +2.9
KARP Karpathos 2.86 70 P Pn 16 07 08.2 +1.8
KARP Karpathos 2.86 70 *e*PB Pn 16 07 09.2 +2.8
KARP Karpathos 2.86 70 P Pn 16 07 08.2 +1.8
KARP Karpathos 2.86 70 *e*Pb Pn 16 07 09.2 +2.8
DIDY Didyma 2.89 350 P Pn 16 07 08.3 +1.4
DIDY S Sn 16 07 42.6 +1.1
DIDY Didyma 2.89 350 P Pn 16 07 08.3 +1.4
DIDY S Sn 16 07 42.6 +1.1
DID Didima 2.92 350 P Pn 16 07 08.8 +1.5
DID S Sn 16 07 42.1 +0.1
DID Didima 2.92 350 *e*PN Pn 16 07 08.7 +1.5
DID Didima 2.92 350 *e*Pn Pn 16 07 08.7 +1.5
DID S Sn 16 07 42.1 +0.1
VLX Vlachokerasia 2.99 337 P Pn 16 07 09.5 +1.2
VLX S Sn 16 07 44.1 +0.2
VLX Vlachokerasia 2.99 337 *e*PB Pn 16 07 10.4 +2.1
VLX Vlachokerasia 2.99 337 P Pn 16 07 09.5 +1.2
VLX Vlachokerasia 2.99 337 *e*Pb Pn 16 07 10.4 +2.1
VLX S Sn 16 07 44.1 +0.2
ITM Ithomi 2.99 329 P Pn 16 07 10.4 +2.2
ITM Ithomi 2.99 329 *e*PB Pn 16 07 10.3 +2.1
ITM Ithomi 2.99 329 *e*Pb Pn 16 07 10.3 +2.1
NAIG Nisos Aigina 3.14 355 *e*PN Pn 16 07 11.9 +1.7
NAIG Nisos Aigina 3.14 355 *e*Pn Pn 16 07 11.9 +1.7
SLUM 3.33 160 P Pn 16 07 14.5 +1.7
ATHU Athens Univers 3.33 359 P Pn 16 07 14.1 +1.2
ATHU S Sn 16 07 52.3 +0.1
ATHU Athens Univers 3.33 359 P Pn 16 07 14.1 +1.2
ATHU S Sn 16 07 52.3 +0.1
ATH Athens Observa 3.34 358 P Pn 16 07 13.9 +0.9
ATH Athens Observa 3.34 358 *e*PN Pn 16 07 15.0 +2.0
ATH Athens Observa 3.34 358 P Pn 16 07 13.9 +0.9
ATH Athens Observa 3.34 358 *e*Pn Pn 16 07 15.0 +2.0
AMT Artemida-Makis 3.38 330 P Pn 16 07 16.4 +2.8
AMT S Sn 16 07 55.6 +2.1
AMT Artemida-Makis 3.38 330 *e*PN Pn 16 07 15.2 +1.6
AMT Artemida-Makis 3.38 330 *e*Pn Pn 16 07 15.2 +1.6
AMT Artemida-Makis 3.38 330 P Pn 16 07 16.4 +2.8
AMT S Sn 16 07 55.6 +2.1
PTL Penteli 3.41 0 P Pn 16 07 14.3 +0.3
PTL S Sn 16 07 55.3 +1.0
PTL Penteli 3.41 0 *e*PN Pn 16 07 15.1 +1.1
PTL Penteli 3.41 0 P Pn 16 07 14.3 +0.3
PTL Penteli 3.41 0 *e*Pn Pn 16 07 15.1 +1.1
PTL S Sn 16 07 55.3 +1.0
LTK Loutraki 3.46 348 P Pn 16 07 16.3 +1.6
LTK Loutraki 3.46 348 *e*PN Pn 16 07 15.8 +1.1
LTK Loutraki 3.46 348 *e*Pn Pn 16 07 15.8 +1.1
LTK Loutraki 3.46 348 P Pn 16 07 16.3 +1.6
GUR Goura 3.52 340 P Pn 16 07 18.1 +2.5
GUR S Sn 16 07 58.4 +1.3
GUR Goura 3.52 340 *e*PN Pn 16 07 17.4 +1.8
GUR Goura 3.52 340 *e*Pn Pn 16 07 17.4 +1.8
GUR Goura 3.52 340 P Pn 16 07 18.1 +2.5
GUR S Sn 16 07 58.4 +1.3
KLV Kalavryta, Ach 3.68 338 P Pn 16 07 19.4 +1.7
KLV S Sn 16 08 01.5 +0.7
KLV Kalavryta, Ach 3.68 338 *e*PN Pn 16 07 19.5 +1.7
KLV Kalavryta, Ach 3.68 338 P Pn 16 07 19.4 +1.7
KLV S Sn 16 08 01.5 +0.7
DRO Drossia 3.75 333 P Pn 16 07 20.8 +2.2
DRO S Sn 16 08 04.2 +1.8
DRO Drossia 3.75 333 P Pn 16 07 20.8 +2.2
DRO S Sn 16 08 04.2 +1.8
ERET Eretria 3.81 359 P Pn 16 07 20.3 +0.8
ERET Eretria 3.81 359 P Pn 16 07 20.3 +0.8
ARG Arkhangelos 3.83 64 P Pn 16 07 22.1 +2.4
ARG Arkhangelos 3.83 64 *e*PN Pn 16 07 22.2 +2.5
ARG Arkhangelos 3.83 64 P Pn 16 07 22.1 +2.4
SMG Samos 3.90 37 P Pn 16 07 23.1 +2.3
SMG Samos 3.90 37 P Pn 16 07 23.1 +2.3
LAKA Lakka 3.91 338 P Pn 16 07 22.7 +1.8
LAKA S Sn 16 08 08.3 +1.7
LAKA Lakka 3.91 338 *e*PN Pn 16 07 22.7 +1.8
LAKA Lakka 3.91 338 P Pn 16 07 22.7 +1.8
LAKA S Sn 16 08 08.3 +1.7
DSF Desfina 3.93 344 P Pn 16 07 22.3 +1.2
DSF Desfina 3.93 344 P Pn 16 07 22.3 +1.2
RLS Riolos of Patr 3.93 331 P Pn 16 07 22.7 +1.6
RLS Riolos of Patr 3.93 331 P Pn 16 07 22.7 +1.6
KALE Kalithea 4.00 340 P Pn 16 07 23.6 +1.4
KALE S Sn 16 08 10.1 +1.2
KALE Kalithea 4.00 340 *e*PN Pn 16 07 23.5 +1.4
KALE Kalithea 4.00 340 P Pn 16 07 23.6 +1.4
KALE S Sn 16 08 10.1 +1.2
LKR Lokris 4.07 350 P Pn 16 07 24.1 +1.0
LKR Lokris 4.07 350 P Pn 16 07 24.1 +1.0
MRKA Markates 4.08 357 P Pn 16 07 23.9 +0.8
MRKA Markates 4.08 357 P Pn 16 07 23.9 +0.8
EFP Efpalio 4.11 338 P Pn 16 07 26.2 +2.7
EFP S Sn 16 08 12.2 +0.9
EFP Efpalio 4.11 338 *e*PN Pn 16 07 25.5 +2.0
EFP Efpalio 4.11 338 *e*Pn Pn 16 07 25.5 +2.0
EFP Efpalio 4.11 338 P Pn 16 07 26.2 +2.7
EFP S Sn 16 08 12.2 +0.9
CHOS Chios island 4.15 25 P Pn 16 07 25.5 +1.4
CHOS S Sn 16 08 12.5 +0.1
CHOS Chios island 4.15 25 *e*PN Pn 16 07 26.4 +2.3
CHOS Chios island 4.15 25 P Pn 16 07 25.5 +1.4
CHOS Chios island 4.15 25 *e*Pn Pn 16 07 26.4 +2.3
CHOS S Sn 16 08 12.5 +0.1
AXAR Agios Charalam 4.24 347 P Pn 16 07 27.8 +2.4
AXAR Agios Charalam 4.24 347 P Pn 16 07 27.8 +2.4
SMIA Simia 4.28 353 P Pn 16 07 27.2 +1.3
SMIA Simia 4.28 353 P Pn 16 07 27.2 +1.3
VLS Valsamata 4.42 324 P Pn 16 07 29.6 +1.8
VLS S Sn 16 08 20.5 +1.5
VLS Valsamata 4.42 324 *e*PN Pn 16 07 30.0 +2.2
VLS Valsamata 4.42 324 P Pn 16 07 29.6 +1.8
VLS Valsamata 4.42 324 *e*Pn Pn 16 07 30.0 +2.2
VLS S Sn 16 08 20.5 +1.5
PDO Prodromos 4.51 332 P Pn 16 07 30.9 +1.8
PDO S Sn 16 08 23.9 +2.6
PDO Prodromos 4.51 332 P Pn 16 07 30.9 +1.8
PDO S Sn 16 08 23.9 +2.6
AOS Alonnisos 4.53 0 P Pn 16 07 30.4 +1.0
AOS S Sn 16 08 22.1 +0.3
AOS Alonnisos 4.53 0 *e*PN Pn 16 07 30.3 +0.9
AOS Alonnisos 4.53 0 P Pn 16 07 30.4 +1.0
AOS S Sn 16 08 22.1 +0.3
SKIA Skiathos 4.54 356 P Pn 16 07 30.5 +1.0
SKIA Skiathos 4.54 356 P Pn 16 07 30.5 +1.0
AGG Agios Georgios 4.55 345 P Pn 16 07 31.1 +1.4
AGG S Sn 16 08 22.8 +0.4
AGG Agios Georgios 4.55 345 *e*PN Pn 16 07 31.6 +1.9
AGG Agios Georgios 4.55 345 P Pn 16 07 31.1 +1.4
AGG Agios Georgios 4.55 345 *e*Pn Pn 16 07 31.6 +1.9
AGG S Sn 16 08 22.8 +0.4
EVR Evrytania 4.59 340 P Pn 16 07 33.2 +3.0
EVR Evrytania 4.59 340 P Pn 16 07 33.2 +3.0
MAKR Makrakomi, Fth 4.59 343 P Pn 16 07 33.0 +2.8
MAKR Makrakomi, Fth 4.59 343 P Pn 16 07 33.0 +2.8
XOR Xorichti 4.76 354 P Pn 16 07 32.5 0.0
XOR S Sn 16 08 27.9 +0.4
XOR Xorichti 4.76 354 P Pn 16 07 32.5 0.0
XOR S Sn 16 08 27.9 +0.4
LJBD Adjabya 4.82 221 *i* P Pn 16 07 31.9 -1.4
SNR=23
LJBD *e*S Sn 16 08 25.5 -3.4
SNR=23
THL Klokotos Trika 5.14 344 P Pn 16 07 39.1 +1.3
THL S Sn 16 08 39.0 +2.1
THL Klokotos Trika 5.14 344 P Pn 16 07 39.1 +1.3
THL S Sn 16 08 39.0 +2.1
SWA2 5.54 165 P Pn 16 07 44.8 +1.6
baz=166
SWA2 S Sn 16 08 46.1 -0.5
baz=166
SWA2 AMP 16 09 00.0
comp=N,110µm,0.7s,logA/T=5.2,baz=166
SWA2 5.54 165 P Pn 16 07 44.8 +1.6
SWA2 S Sn 16 08 46.1 -0.5
IGT Igoumenitsa 5.65 331 P Pn 16 07 46.0 +1.3
IGT Igoumenitsa 5.65 331 P Pn 16 07 46.0 +1.3
PLG Polygyros 5.75 357 P Pn 16 07 46.9 +0.8
PLG Polygyros 5.75 357 P Pn 16 07 46.9 +0.8
LUJL Ujela 5.91 202 *i* P Pn 16 07 48.4 +0.1
SNR=23
LUJL *e*S Sn 16 08 53.8 -1.9
comp=N,306nm,0.3s,SNR=23
KEK Kerkira 6.02 329 P Pn 16 07 50.9 +1.0
KEK Kerkira 6.02 329 P Pn 16 07 50.9 +1.0
NEST Nestorio 6.19 340 P Pn 16 07 52.9 +0.6
NEST Nestorio 6.19 340 P Pn 16 07 52.9 +0.6
FNA Florina 6.45 343 P Pn 16 07 56.1 +0.3
FNA Florina 6.45 343 P Pn 16 07 56.1 +0.3
SRS Serrai 6.48 358 P Pn 16 07 56.6 +0.4
SRS Serrai 6.48 358 P Pn 16 07 56.6 +0.4
VTS Vitosha 7.97 357 *i*P Pn 16 08 18.6 +1.9
VTS Vitosha 7.97 357 *i*P Pn 16 08 18.6 +1.9
HFRF Wahat Farafira 8.38 152 P Pn 16 08 23.4 +1.2
baz=153
HFRF Wahat Farafira 8.38 152 P Pn 16 08 23.4 +1.2
AMAG Maghara 8.82 114 P Pn 16 08 27.3 -1.1
baz=116
AMAG Maghara 8.82 114 P Pn 16 08 27.3 -1.1
RSH 9.07 111 P Pn 16 08 30.3 -1.4
baz=113
RSH 9.07 111 P Pn 16 08 30.3 -1.4
BRTR Keskin Array B 9.31 54 Pn Pn 16 08 35.5 +0.4
comp=N,0.0nm,0.3s,baz=239,slow=13,SNR=3.7
STON Ston 9.53 332 *e*Pn Pn 16 08 34.3 -3.7
STON Sn Sn 16 10 17.1 -7.7
MMAI Mount Meron Ar 9.74 96 Pn Pn 16 08 39.6 -1.3
baz=282,slow=15,SNR=2.9
MMAI Sn Sn 16 10 30.0 0.0
comp=N,1.0nm,0.3s,baz=267,slow=27,SNR=3.3
EIL Elat 10.62 115 Pn Pn 16 08 52.6 -0.3
comp=N,1.1nm,0.3s,baz=293,slow=15,SNR=9.5
EIL Sn Sn 16 10 46.3 -5.3
comp=N,0.5nm,0.3s,baz=18,slow=16,SNR=2.6
LOT Lotru 10.81 360 *i*P Pn 16 08 58.0 +2.4
LOT Lotru 10.81 360 *i*P Pn 16 08 58.0 +2.4
VOIR 10.84 4 *i*P Pn 16 08 56.9 +1.0
VOIR 10.84 4 *i*P Pn 16 08 56.9 +1.0
MLR Muntele Rosu 10.97 8 *i*P Pn 16 09 00.9 +3.2
MLR Muntele Rosu 10.97 8 *i*P Pn 16 09 00.9 +3.2
BZS Buzias 11.11 352 *i*P Pn 16 08 58.6 -1.0
BZS Buzias 11.11 352 *i*P Pn 16 08 58.6 -1.0
ASF Jabal al Asfar 11.17 99 Pn Pn 16 08 59.9 -0.6
comp=N,0.2nm,0.3s,baz=254,slow=18,SNR=2.8
ASF Sn Sn 16 11 04.8 -0.3
comp=N,0.2nm,0.3s,baz=180,slow=17,SNR=2.5
VRI Vrincioaia 11.44 10 *i*P Pn 16 09 13.0 +8.9
UDBI Udbina 11.69 330 *i* Pn Pn 16 09 05.5 -2.1
UDBI Sn Sn 16 11 10.1 -7.6
MALT Malatya 12.29 68 *i*P Pn 16 09 21.1 +5.3
BURAR Bucovina Array 13.02 4 *i*P P 16 09 32.0 -4.1
SMOL Smolenice 14.68 343 *e*PN Pn 16 09 49.8 +1.5
SMOL Smolenice 14.68 343 *e*Pn Pn 16 09 49.8 +1.5
STHS Stebnicka Huta 14.90 353 *e*PN P 16 09 56.0 -1.0
VRAC Vranov 15.62 342 *i*P P 16 10 04.8 -0.2
VRAC Vranov 15.62 342 *i*P P 16 10 04.8 -0.2
VRAC Vranov 15.62 342 Pn P 16 10 04.5 -0.5
comp=N,0.7nm,0.3s,baz=151,slow=11,SNR=9.5
SBF Sospel 15.69 311 *e*P Pn 16 09 59.6 -2.3
comp=N,75nm,1.2s
OKC Ostrava-Krasne 15.77 346 *e*P Pn 16 10 05.1 +2.4
OKC *e*pP pP 16 10 10.9 +0.1
OKC Ostrava-Krasne 15.77 346 P Pn 16 10 05.1 +2.4
LMR La Mourre 16.03 308 *e*P Pn 16 10 01.6 -4.5
GERES GERESS Array B 16.08 335 Pn Pn 16 10 05.9 -0.9
comp=N,0.2nm,0.3s,baz=157,slow=13,SNR=24
DAVOX Davos/Dischmat 16.09 323 Pn Pn 16 10 06.6 -0.5
comp=N,0.1nm,0.3s,baz=154,slow=18,SNR=2.8
KRLC Kraliky 16.29 344 *e*P P 16 10 11.9 -0.5
KRLC *e*pP pP 16 10 18.4 +1.8
KRLC Kraliky 16.29 344 P P 16 10 11.9 -0.5
KHC Kasperske Hory 16.37 335 *e*P Pn 16 10 12.3 +1.8
KHC *e*pP pP 16 10 18.8 +1.3
KHC *ex* x 16 10 34.0
KHC Kasperske Hory 16.37 335 P Pn 16 10 12.3 +1.8
AKASG Malin Array Be 16.53 12 Pn Pn 16 10 11.1 -1.4
comp=N,1.0nm,0.3s,baz=207,slow=11,SNR=4.1
MBDF Montbardon 16.55 313 *e*P Pn 16 10 08.8 -4.1
DPC Dobruska-Polom 16.65 343 *e*P P 16 10 16.4 0.0
DPC *e*pP pP 16 10 23.1 +2.5
DPC Dobruska-Polom 16.65 343 P P 16 10 16.4 0.0
PRU Pruhonice 16.80 339 *e*P P 16 10 18.1 0.0
PRU *e*pP pP 16 10 24.4 +2.1
PRU Pruhonice 16.80 339 P P 16 10 18.1 0.0
UPC Upice 16.87 343 *e*P P 16 10 18.4 -0.4
UPC *e*pP pP 16 10 24.9 +1.9
UPC Upice 16.87 343 P P 16 10 18.4 -0.4
KBZ Khabaz 17.30 53 P Pn 16 10 22.0 -0.2
comp=N,0.1nm,0.3s,baz=240,slow=8.1,SNR=2.5
BRG Berggiesshubel 17.77 339 *e*P P 16 10 29.2 +0.5
comp=N,1.8nm,1.0s
CABF La Chapelle 17.99 317 *e*P Pn 16 10 28.6 -2.2
comp=N,23nm,1.2s
LASF Ste Croix 18.08 307 *e*P Pn 16 10 29.9 -2.0
comp=N,51nm,1.4s
HINF Hinteralfeld 18.31 321 *e*P Pn 16 10 34.0 -0.7
comp=N,25nm,1.2s
HINF Hinteralfeld 18.31 321 *e*P Pn 16 10 34.0 -0.7
comp=N,12nm,1.2s
CLL Collm 18.43 338 *i* P Pn 16 10 37.1 +1.0
comp=Z,7.0nm,0.8s
CLL *i* (sP) sP 16 10 43.3 +1.1
comp=Z,11nm,0.8s
CLL *i* (PP) 16 10 47.5
CDF Champ du Feu 18.49 323 *e*P P 16 10 33.7 -3.1
HAU Haudompre 18.70 321 *e*P P 16 10 38.8 -0.2
comp=Z,19nm,0.8s
HAU Haudompre 18.70 321 *e*P P 16 10 38.8 -0.2
comp=Z,9.4nm,0.8s
PAGF Fort de Pagny 19.36 321 *e*P Pn 16 10 47.5 +0.1
comp=Z,34nm,1.6s
PAGF Fort de Pagny 19.36 321 *e*P Pn 16 10 47.5 +0.1
comp=Z,17nm,1.6s
SFTF Sexfontaines 19.51 320 *e*P P 16 10 48.7 +0.8
SFTF Sexfontaines 19.51 320 *e*P P 16 10 48.7 +0.8
CAF Calviac 19.60 308 *e*P P 16 10 48.0 -1.0
CAF Calviac 19.60 308 *e*P P 16 10 48.0 -1.0
LOR Lormes 19.62 316 *e*P P 16 10 48.4 -0.7
comp=Z,17nm,1.1s
LOR Lormes 19.62 316 *e*P P 16 10 48.4 -0.7
comp=Z,8.4nm,1.1s
MEZF Maizieres J'vi 19.68 320 *e*P Pn 16 10 52.8 +1.6
SSF Saint Saulge 19.71 315 *e*P P 16 10 50.3 +0.2
SSF Saint Saulge 19.71 315 *e*P P 16 10 50.3 +0.2
WLF Walferdange 19.88 324 P Pn 16 10 54.5 +0.9
comp=Z,26nm,1.4s
WLF Walferdange 19.88 324 P Pn 16 10 54.4 +0.9
comp=Z,26nm,1.4s
TCF Toulx Ste Croi 20.11 312 *e*P P 16 10 55.1 +0.7
comp=Z,28nm,1.3s
TCF Toulx Ste Croi 20.11 312 *e*P P 16 10 55.1 +0.7
comp=Z,14nm,1.3s
EPF Esparros 20.11 302 *e*P P 16 10 53.7 -0.8
comp=Z,9.0nm,1.0s
EPF Esparros 20.11 302 *e*P P 16 10 53.7 -0.8
comp=Z,4.5nm,1.0s
RJF Les Rejaudoux 20.11 309 *e*P P 16 10 54.1 -0.4
comp=Z,27nm,1.3s
RJF Les Rejaudoux 20.11 309 *e*P P 16 10 54.1 -0.4
comp=Z,14nm,1.3s
RST Umm Al-Ruwaisa 20.25 98 *e*P P 16 10 57.2 +1.1
RST AMb AMB 16 11 04.8
comp=Z,243nm,1.0s
RST Umm Al-Ruwaisa 20.25 98 *e*P P 16 10 57.2 +1.1
comp=Z,243nm,1.0s
MIB Mutribah 20.42 97 *e*P P 16 10 58.2 +0.2
MIB AMb AMB 16 11 05.3
comp=Z,0.6nm,0.5s
MIB Mutribah 20.42 97 *e*P P 16 10 58.2 +0.2
comp=Z,0.6nm,0.5s
NAY Al-Naaiem 20.54 99 *e*P P 16 10 59.6 +0.4
NAY AMb AMB 16 11 03.1
comp=Z,18nm,1.6s
NAY Al-Naaiem 20.54 99 *e*P P 16 10 59.6 +0.4
comp=Z,18nm,1.6s
MEM Membach 20.60 326 P Pn 16 11 02.4 +0.4
comp=Z,11nm,1.5s
MEM Membach 20.60 326 P Pn 16 11 02.3 +0.3
comp=Z,11nm,1.5s
ETSF Etsaut 20.70 301 *e*P P 16 11 00.2 -0.8
comp=Z,19nm,1.0s
ETSF Etsaut 20.70 301 *e*P P 16 11 00.2 -0.8
comp=Z,9.3nm,1.0s
GIVF Givet 20.81 324 *e*P P 16 11 02.1 +0.1
GIVF Givet 20.81 324 *e*P P 16 11 02.1 +0.1
DOU Dourbes 20.92 323 P P 16 11 03.5 +0.3
comp=Z,12nm,1.5s
DOU Dourbes 20.92 323 P P 16 11 03.5 +0.3
comp=Z,12nm,1.5s
BAIF Baives 21.09 323 *e*P P 16 11 05.2 +0.2
comp=Z,18nm,0.8s
BAIF Baives 21.09 323 *e*P P 16 11 05.2 +0.2
comp=Z,9.1nm,0.8s
SJPF Ste Jean 21.23 301 *e*P P 16 11 04.5 -2.2
comp=Z,36nm,1.3s
SJPF Ste Jean 21.23 301 *e*P P 16 11 04.5 -2.2
comp=Z,18nm,1.3s
MFF Saint Martin d 21.71 311 *e*P P 16 11 11.0 -0.7
comp=Z,33nm,1.2s
MFF Saint Martin d 21.71 311 *e*P P 16 11 11.0 -0.7
comp=Z,16nm,1.2s
LDF La Druitiere 22.60 315 *e*P P 16 11 17.6 -3.6
comp=Z,88nm,1.4s
ESDC Sonseca Array 22.70 291 P P 16 11 22.1 -0.3
comp=Z,2.6nm,0.8s,baz=87,slow=9.9,SNR=17
FLN La Foliniere 22.89 315 *e*P P 16 11 21.1 -3.2
comp=Z,49nm,1.1s
IZEF Zefreh 23.70 86 *e*P P 16 11 37.8 +4.9
IZEF Zefreh 23.70 86 *e*P P 16 11 37.8 +4.9
SGMF Saint Gilles 23.89 313 *e*P P 16 11 32.9 -1.3
SGMF Saint Gilles 23.89 313 *e*P P 16 11 32.9 -1.3
IPAR Pars 25.10 93 *e*P P 16 11 55.0 +9.2
IPAR Pars 25.10 93 *e*P P 16 11 55.0 +9.2
ISRV Sarvestan 25.30 94 *e*P P 16 11 49.9 +2.2
ISRV Sarvestan 25.30 94 *e*P P 16 11 49.9 +2.2
IMEH Mehriz 25.94 88 *e*P P 16 11 55.8 +2.4
IMEH Mehriz 25.94 88 *e*P P 16 11 55.8 +2.4
HFS Hagfors 26.37 349 P P 16 11 55.7 -0.9
comp=Z,3.1nm,0.4s,baz=155,slow=12,SNR=35
FINES FINESS Array B 26.87 2 P P 16 12 00.3 -0.9
comp=Z,2.6nm,0.9s,baz=172,slow=11,SNR=4.2
NB2 NORSAR Subarra 27.66 347 P P 16 12 07.5 -0.8
comp=Z,2.0nm,0.7s,baz=156,slow=9.3
NB2 NORSAR Subarra 27.66 347 P P 16 12 07.5 -0.8
comp=Z,2.0nm,0.7s,baz=156,slow=9.0,SNR=9.1
NOA NORSAR Array B 27.66 347 P P 16 12 07.2 -1.1
comp=Z,0.9nm,0.6s,baz=156,slow=9.1,SNR=8.9
EKA Eskdalemuir Ar 27.87 326 P P 16 12 09.0 -1.3
comp=Z,1.5nm,0.9s,baz=117,slow=9.1,SNR=3.1
TORD Torodi Ar. Bea 29.34 229 P P 16 12 23.6 0.0
comp=Z,2.9nm,1.0s,baz=34,slow=7.9,SNR=12
AKTO Aktyubinsk 29.39 47 P P 16 12 22.6 -1.3
comp=Z,2.3nm,0.7s,baz=246,slow=10,SNR=8.1
ARCES ARCESS Array B 34.97 1 P P 16 13 11.1 -1.4
comp=Z,7.0nm,1.1s,baz=182,slow=9.6,SNR=6.9
BVAR Borovoye Array 37.48 46 P P 16 13 33.5 -0.7
comp=Z,1.8nm,0.8s,baz=248,slow=7.6,SNR=4.5
DBIC Dimbokro 38.41 230 P P 16 13 43.3 +1.0
comp=Z,5.3nm,0.9s,baz=10,slow=8.0,SNR=4.2
AAK Ala-Archa 39.85 63 P P 16 13 57.1 +2.7
comp=Z,1.3nm,0.5s,baz=256,slow=8.3,SNR=7.6
KURBB Kurchatov Arra 42.28 51 P P 16 14 13.8 -0.3
comp=Z,1.7nm,0.5s,baz=278,slow=8.5,SNR=15
SPITS Spitsbergen Ar 43.77 358 P P 16 14 25.1 -0.7
comp=Z,3.1nm,0.7s,baz=178,slow=8.7,SNR=3.4
MKAR Makanchi Array 44.96 56 P P 16 14 35.9 +0.2
comp=Z,3.6nm,0.6s,baz=268,slow=7.3,SNR=36
ZALV Zalesovo Beam 46.14 46 P P 16 14 44.4 -0.5
comp=Z,1.8nm,0.6s,baz=260,slow=7.2,SNR=8.9
SONM Songino Array 60.65 50 P P 16 16 32.1 +0.3
comp=Z,1.0nm,0.7s,baz=282,slow=7.2,SNR=7.0
BOSA Boshof 62.91 179 P P 16 16 48.2 +1.1
comp=Z,2.6nm,0.9s,baz=0.0,slow=8.1,SNR=3.9
CMAR Chiang Mai Arr 67.59 82 P P 16 17 19.3 +1.0
comp=Z,0.5nm,0.8s,baz=296,slow=7.6,SNR=5.4
KSRS Korea Array 79.45 52 P P 16 18 27.5 +0.3
comp=Z,1.4nm,0.8s,baz=293,slow=4.5,SNR=4.5
ASAR Alice Springs 119.01 100 PKP PKPdf 16 25 12.2 +2.4
comp=Z,0.2nm,0.9s,baz=304,slow=1.7,SNR=3.1

IDC 10 16:06:49.3±1.7, 15°.66S×173°.25W, h0km, mb4.0/6, mb1 4.3/6, mb1mx4.0/20, mbtmp4.0/6, Error ellipse: s-maj=142.3km s-min=21.4km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.25**	**40**	Pn	Pn	16 07 21.4	-6.5
	5.2nm,0.3s,baz=330,slow=14,SNR=2.6						
AFI				Sn	Sn	16 07 39.7	-17
	30nm,0.3s,baz=277,slow=22,SNR=4.5						
H11S2	**WAKE ISLAND Hy**	**39.26**	**329**	T	T	16 56 19.4	
	baz=150,slow=0.7,SNR=8.6						
H11S3	**WAKE ISLAND Hy**	**39.27**	**329**	T	T	16 56 20.3	
	baz=150,slow=0.7,SNR=9.9						
H11S1	**WAKE ISLAND Hy**	**39.27**	**329**	T	T	16 56 21.1	
	baz=150,slow=0.7,SNR=7.8						
H11N3	**WAKE ISLAND Hy**	**40.20**	**330**	T	T	16 57 25.9	
	baz=150,slow=0.7,SNR=3.3						
H11N1	**WAKE ISLAND Hy**	**40.21**	**330**	T	T	16 57 26.2	
	baz=150,slow=0.7,SNR=3.5						
H11N2	**WAKE ISLAND Hy**	**40.22**	**330**	T	T	16 57 30.3	
	baz=150,slow=0.7,SNR=4.3						
STKA	**Stephens Creek**	**44.03**	**240**	P	P	16 14 59.2	+0.2
	2.9nm,0.8s,baz=74,slow=11,SNR=5.3						
WRA	**Warramunga Arr**	**49.92**	**257**	P	P	16 15 44.5	-0.7
	1.2nm,0.5s,baz=90,slow=6.8,SNR=33						
WRA				PcP	PcP	16 17 05.9	+0.2
	0.4nm,0.7s,baz=89,slow=3.6,SNR=4.9						
ASAR	**Alice Springs**	**50.17**	**252**	P	P	16 15 46.9	-0.2
	7.0nm,0.6s,baz=87,slow=8.4,SNR=87						
NVAR	**Mina Array Bea**	**74.42**	**42**	P	P	16 18 30.0	+0.3
	0.6nm,0.8s,baz=215,slow=7.7,SNR=3.5						
TXAR	**Lajitas Array**	**80.64**	**56**	P	P	16 19 04.3	-0.2
	0.5nm,0.9s,baz=219,slow=7.7,SNR=4.9						
PDAR	**Pinedale Array**	**82.36**	**42**	P	P	16 19 12.9	-0.6
	0.4nm,0.7s,baz=227,slow=6.1,SNR=3.0						
BRTR	**Keskin Array B**	**146.44**	**321**	PKPbc	PKPbc	16 26 32.8	0.0
	1.0nm,0.9s,baz=132,slow=3.7,SNR=3.8						

MEX 10 16:16:13.1±0.7, 15°.95N×98°.67W, h16km±21km, MD3.5, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.68**	**49**	*i* P	Pg	16 16 23.9	-2.6
PNIG				*i* S	Sg	16 16 32.7	-2.9
CAIG	**El Cayaco**	**1.89**	**306**	*e*P	Pn	16 16 40.7	-4.0
CAIG				*i* S	Sn	16 17 04.0	-4.3
VHO	**Vista Hermosa**	**2.17**	**59**	*i* P	Pn	16 16 46.5	-2.3
VHO				*i* S	Sn	16 17 11.2	-4.4
MEIG	**Mezcala**	**2.17**	**335**	*i* P	Pn	16 16 45.5	-3.3
MEIG				*i* S	Sn	16 17 10.6	-4.8
PLIG	**Platanillo**	**2.56**	**342**	*i* P	Pn	16 16 51.7	-2.4
PLIG				*i* S	Sn	16 17 21.2	-3.9
ARIG	**Puente Sto Nin**	**2.82**	**326**	*e*P	Pn	16 16 55.5	-2.1
ARIG				*e*S	Sn	16 17 27.9	-3.6
ZIIG	**Zihuatanejo**	**3.15**	**302**	*i* P	Pn	16 16 58.9	-3.2
ZIIG				*i* S	Sn	16 17 36.0	-3.4

IDC 10 16:28:50.0±3.1, 11°.52S×165°.88E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/18, mbtmp3.8/4, ML3.5/1, Error ellipse: s-maj=67.7km s-min=42.5km az=88.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.51**	**177**	Pn	Pn	16 31 22.4	+0.2
	0.4nm,0.3s,baz=348,slow=20,SNR=4.8						
DZM				Sn	Sn	16 33 15.0	-5.8
	0.5nm,0.3s,baz=87,slow=18,SNR=2.7						
WRA	**Warramunga Arr**	**31.45**	**251**	P	P	16 35 13.8	+0.3
	0.7nm,0.9s,baz=82,slow=9.4,SNR=5.0						
ASAR	**Alice Springs**	**32.70**	**244**	P	P	16 35 24.2	-0.4
	0.7nm,0.7s,baz=72,slow=9.5,SNR=5.7						
MKAR	**Makanchi Array**	**93.96**	**317**	P	P	16 42 09.8	-0.2
	0.3nm,0.8s,baz=122,slow=4.4,SNR=3.0						

IDC 10 16:33:24.7±1.4, 12°.28S×165°.52E, h0km, mb3.9/6, mb1 4.0/8, mb1mx3.8/19, mbtmp3.9/8, ML3.6/2, Error ellipse: s-maj=38.6km s-min=24.7km az=117.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.16**	**297**	Pn	Pn	16 34 56.3	-0.7
	3.7nm,0.3s,baz=170,slow=11,SNR=3.4						
HNR				Sn	Sn	16 36 04.7	-3.5
	1.1nm,0.3s,baz=180,slow=20,SNR=2.9						
DZM	**Mont Dzumac**	**9.78**	**175**	Pn	Pn	16 35 46.0	-0.8
	0.2nm,0.3s,baz=40,slow=7.9,SNR=2.2						

STKA	**Stephens Creek**	**29.40 225**	P		P		16 39 31.5	+1.6
	0.9nm,0.8s,baz=45,slow=7.1,SNR=2.9							
WRA	**Warramunga Arr**	**30.87 252**	P		P		16 39 42.4	-0.7
	0.8nm,0.6s,baz=78,slow=9.5,SNR=7.0							
ASAR	**Alice Springs**	**32.05 245**	P		P		16 39 52.8	-0.7
	0.6nm,0.6s,baz=74,slow=8.9,SNR=17							
SONM	**Songino Array**	**79.52 324**	P		P		16 45 34.1	+0.6
	0.7nm,0.9s,baz=127,slow=6.2,SNR=3.5							
ILAR	**Eielson Array**	**84.75 19**	P		P		16 45 59.8	-0.5
	0.6nm,0.5s,baz=224,slow=5.5,SNR=12							
MKAR	**Makanchi Array**	**94.26 317**	P		P		16 46 46.4	+0.4
	0.6nm,0.7s,baz=92,slow=6.6,SNR=6.6							

IDC ***10*** *16:34:51.3±1.3,55.57N×162.37E,h0km,mb3.7/3, mb1 4.0/5,mb1mx3.4/27,mbtmp3.7/5,ML3.4/2,Error ellipse: s-maj=36.1km s-min=19.2km az=24.0*
KRSC ***10*** *16:34:52.3±4.4,55.37N×162.51E,h16km±15km,ML4.0*
MOS ***10*** *16:34:53.6±1.6,55.40N×162.53E,h21km,mb4.2/2,Error ellipse: s-maj=16.2km s-min=10.0km az=76.2*

ISC 10 16:34:52.5±1.2,55°37'N±0'03×162°51'E±0'03,h10km±9km, n56,σ1§37/83,mb4.0/3,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.86**	**12**	PN			**Pn**	**16 35 11.0**	**+0.4**
KBTR				S			**Sn**	**16 35 25.2**	**+2.0**
KBTR	**Krutoberegovo**	**0.86**	**12**	P			**Pn**	**16 35 11.0**	**+0.4**
KBTR				*i* S			**Sn**	**16 35 25.2**	**+2.0**
MKZ	**Mys Kozlova**	**0.93**	**209**	PN			**Pn**	**16 35 11.0**	**-0.5**
MKZ				S			**Sn**	**16 35 24.2**	**-0.6**
MKZ	**Mys Kozlova**	**0.93**	**209**	P			**Pn**	**16 35 11.0**	**-0.5**
MKZ				*i* S			**Sn**	**16 35 24.2**	**-0.6**
BZGR	**Bezymyannyi-Gr**	**1.18**	**300**	P			**Pg**	**16 35 15.5**	**+0.4**
BZGR				*i* S			**Sg**	**16 35 31.7**	**+1.4**
CIRR	**Tsirk**	**1.25**	**308**	P			**Pg**	**16 35 17.4**	**+1.0**
LGNR	**Loginova**	**1.25**	**306**	P			**Pg**	**16 35 17.8**	**+1.2**
BZMR	**Bezymyannaya**	**1.28**	**297**	P			**Pg**	**16 35 16.7**	**-0.3**
BZMR				*i* S			**Sg**	**16 35 33.3**	**-0.3**
BZWR	**Bezymyannyi-We**	**1.29**	**298**	P			**Pg**	**16 35 17.1**	**-0.1**
BZWR				*i* S			**Sg**	**16 35 34.2**	**+0.3**
KMNR	**Kamenistaya**	**1.35**	**288**	P			**Pg**	**16 35 18.1**	**-0.2**
KMNR				*i* S			**Sg**	**16 35 36.2**	**+0.4**
SMKR	**Semkarok**	**1.35**	**335**	P			**Pg**	**16 35 18.1**	**-0.3**
SMKR				*i* S			**Sg**	**16 35 36.4**	**+0.5**
TUMR	**Tumrok**	**1.35**	**267**	P			**Pg**	**16 35 18.2**	**-0.2**
TUMR				*i* S			**Sb**	**16 35 34.7**	**-0.6**
KIRR	**Kirishev**	**1.36**	**296**	P			**Pg**	**16 35 18.6**	**0.0**
KIRR				*i* S			**Sg**	**16 35 37.0**	**+0.8**
KRSR	**Krestovskiy**	**1.39**	**309**	P			**Pb**	**16 35 18.3**	**-0.2**
KRSR				*i* S			**Sg**	**16 35 36.4**	**-0.7**
BDR	**Baidarnaya**	**1.41**	**329**	P			**Pg**	**16 35 18.9**	**-0.6**
BDR				*i* S			**Sg**	**16 35 38.8**	**+1.1**
KLY	**Klyuchi**	**1.41**	**313**	PN			**Pn**	**16 35 17.2**	**-1.0**
KLY				S			**Sn**	**16 35 34.7**	**-2.1**
KLY	**Klyuchi**	**1.41**	**313**	P			**Pn**	**16 35 17.2**	**-1.0**
KLY				*i* S			**Sn**	**16 35 34.7**	**-2.1**
KPT	**Kopyto**	**1.43**	**296**	P			**Pg**	**16 35 19.9**	**+0.1**
KPT				*i* S			**Sg**	**16 35 38.8**	**+0.4**
KOZR	**Kozyr**	**1.64**	**296**	PN			**Pb**	**16 35 22.5**	**-0.2**
KOZR				S			**Sg**	**16 35 44.4**	**-0.6**
KOZ	**Kozyrevsk**	**1.64**	**296**	P			**Pb**	**16 35 22.5**	**-0.3**
KOZ				*i* S			**Sg**	**16 35 44.4**	**-0.9**
SRDR	**Sredinnyy**	**1.84**	**302**	P			**Pb**	**16 35 25.3**	**-0.9**
SRDR				*i* S			**Sb**	**16 35 49.7**	**+0.5**
BKI	**Bering**	**1.99**	**93**	PN			**Pb**	**16 35 27.7**	**-0.9**
BKI				S			**Sb**	**16 35 51.6**	**-1.8**
BKI	**Bering**	**1.99**	**93**	P			**Pb**	**16 35 27.7**	**-0.9**
BKI				*i* S			**Sb**	**16 35 51.6**	**-1.8**
KII	**Karymskiy**	**2.22**	**234**	P			**Pb**	**16 35 30.5**	**-2.2**
ESO	**Esso**	**2.23**	**286**	PN			**Pn**	**16 35 29.8**	**+0.4**
ESO				S			**Sn**	**16 35 55.5**	**-1.5**
ESO	**Esso**	**2.23**	**286**	P			**Pn**	**16 35 29.8**	**+0.4**
ESO				*i* S			**Sn**	**16 35 55.5**	**-1.5**
NLC	**Nalytchevo**	**2.88**	**221**	PN			**Pn**	**16 35 39.7**	**+1.4**
NLC				S			**Sn**	**16 36 13.1**	**+0.2**
NLC	**Nalytchevo**	**2.88**	**221**	P			**Pn**	**16 35 39.7**	**+1.4**
NLC				*i* S			**Sn**	**16 36 13.1**	**+0.2**
SDLR	**Sedlovina**	**2.98**	**227**	P			**Pn**	**16 35 41.1**	**+1.2**
SDLR				*i* S			**Sn**	**16 36 16.0**	**+0.3**
KRER	**Koryakskii**	**3.02**	**228**	P			Pb	16 35 42.6	-3.8
KRX	**Arik**	**3.02**	**230**	P			**Pn**	**16 35 42.2**	**+1.7**
KRX				*i* S			**Sn**	**16 36 18.9**	**+2.1**
SMAR	**Somma**	**3.03**	**227**	P			**Pn**	**16 35 42.0**	**+1.4**
SMAR				*i* S			**Sn**	**16 36 17.3**	**+0.4**
AVH	**Avacha**	**3.05**	**228**	P			**Pn**	**16 35 42.8**	**+2.0**
AVH				*i* S			**Sb**	**16 36 19.6**	**-4.5**
UGLR	**Uglovaya**	**3.06**	**226**	P			**Pn**	**16 35 42.4**	**+1.5**
UGLR				*i* S			**Sn**	**16 36 18.3**	**+0.8**
KOK	**Koryaka**	**3.08**	**229**	P			**Pn**	**16 35 42.7**	**+1.6**
KOK				*i* S			**Sn**	**16 36 19.3**	**+1.3**
GNL	**Ganaly**	**3.15**	**240**	P			**Pn**	**16 35 43.5**	**+1.4**
PET	**Petropavlovsk**	**3.26**	**226**	*e*PN			Pb	16 35 46.4	-4.0
PET				*e*S			**Sn**	**16 36 23.9**	**+1.5**
PET				pmax		pmax			
	comp=Z,111nm,0.6s								
PET				smax		smax			
	comp=E,217nm,0.5s								
PET				smax		smax			
	comp=N,200nm,0.6s								
PET	**Petropavlovsk**	**3.26**	**226**	P			**Pn**	**16 35 45.3**	**+1.7**
PET				*i* S			**Sn**	**16 36 24.2**	**+1.8**
PETK	**Petropavlovsk-**	**3.62**	**233**	PN			**Pn**	**16 35 49.7**	**+1.2**
PETK								16 36 38.2	
PETK				pmax		pmax			
	comp=Z,2.0nm,0.3s								
PETK				smax		smax			
	comp=N,2.0nm,0.3s								
PETK	**Petropavlovsk-**	**3.62**	**233**	Pn			**Pn**	**16 35 49.7**	**+1.2**
	comp=N,2.2nm,0.3s,baz=71,slow=16,SNR=105								
PETK				Sn			**Sb**	**16 36 38.2**	**-2.2**
	comp=N,2.3nm,0.3s,baz=71,slow=11,SNR=4.1								
RUS	**Russkaya**	**3.77**	**220**	PN			**Pn**	**16 35 51.8**	**+1.2**
RUS	**Russkaya**	**3.77**	**220**	P			**Pn**	**16 35 51.8**	**+1.2**
RUS				*i* S			**Sn**	**16 36 34.4**	**-0.6**
GRL	**Gorelyy**	**3.85**	**225**	P			Pn	16 35 54.1	+2.3
MTVR	**Mutnovka**	**3.86**	**223**	P			Pn	16 35 54.4	+2.5
MTVR				*i* S			**Sn**	**16 36 38.2**	**+0.9**
APC	**Apacha**	**3.99**	**234**	P			Pn	16 35 56.0	+2.5
APC				*i* S			**Sn**	**16 36 42.8**	**+2.6**
ASAK	**Asacha**	**4.05**	**224**	P			Pn	16 35 57.5	+3.0
ASAK				*i* S			**Sn**	**16 36 44.7**	**+2.8**
PAU	**Pauzhetka**	**5.18**	**223**	PN			Pn	16 36 15.4	+5.4
PAU	**Pauzhetka**	**5.18**	**223**	P			Pn	16 36 15.4	+5.4
SKR	**Severo-Kuril's**	**6.07**	**222**	P			Pn	16 36 25.8	+3.6
FX1	**Attu Island--F**	**6.74**	**107**	Pn			**Pn**	**16 36 32.7**	**+1.4**
	comp=N,3.1nm,0.3s,baz=157,slow=7.5,SNR=12								
FX1				Sn			**Sn**	**16 37 45.0**	**-3.1**
	comp=N,3.2nm,0.3s,baz=228,slow=19,SNR=6.0								
H11N2	**WAKE ISLAND Hy**	**35.73**	**173**	T			T	17 19 16.1	
	baz=357,slow=0.7,SNR=19								
H11N3	**WAKE ISLAND Hy**	**35.75**	**173**	T			T	17 19 17.2	
	baz=357,slow=0.7,SNR=15								
H11N1	**WAKE ISLAND Hy**	**35.75**	**173**	T			T	17 19 17.4	
	baz=357,slow=0.7,SNR=22								
NVAR	**Mina Array Bea**	**53.68**	**73**	P			**P**	**16 44 15.5**	**+1.1**
	comp=N,0.3nm,0.5s,baz=314,slow=7.0,SNR=3.6								
FINES	**FINESS Array B**	**58.58**	**337**	P			**P**	**16 44 47.3**	**-1.4**
	comp=N,0.8nm,0.4s,baz=32,slow=8.9,SNR=13								
TXAR	**Lajitas Array**	**68.47**	**69**	P			**P**	**16 45 55.5**	**+0.8**
	comp=N,0.6nm,0.6s,baz=302,slow=4.8,SNR=9.5								

IDC 10 16:40:42.5±2.5,13°88S×166°54E,h0km,mb3.7/3, mb1 3.8/4,mb1mx3.5/19,mbtmp3.7/4,ML3.5/1,MS3.1/1, Ms1 3.1/1,ms1mx2.9/32,Error ellipse: s-maj=54.6km s-min=44.3km az=109.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.82**	**304**	LR			LR	16 45 24.0	
	comp=Z,139nm,19.7s,baz=254,slow=36								
DZM	**Mont Dzumac**	**8.15**	**181**	Pn			Pn	16 42 41.7	-0.6
	0.6nm,0.3s,baz=8.3,slow=21,SNR=6.0								
DZM				Sn			Sn	16 44 07.5	-7.8
	0.2nm,0.3s,baz=156,slow=20,SNR=2.9								
STKA	**Stephens Creek**	**29.02**	**228**	P			P	16 46 45.0	+0.7
	1.3nm,0.6s,baz=42,slow=9.6,SNR=6.0								
WRA	**Warramunga Arr**	**31.36**	**254**	P			P	16 47 04.8	-0.4
	0.5nm,0.8s,baz=86,slow=9.6,SNR=3.4								
ASAR	**Alice Springs**	**32.33**	**248**	P			P	16 47 13.4	-0.3
	0.6nm,0.8s,baz=75,slow=9.5,SNR=6.9								
ARCES	**ARCESS Array B**	**119.25**	**345**	PKP		PKPdf		16 59 33.0	-0.1
	3.1nm,1.0s,baz=56,slow=3.1,SNR=4.9								

IDC ***10*** *16:49:02.3±0.5,14.18S×166.70E,h0km,mb4.7/18, mb1 4.8/21,mb1mx4.8/24,mbtmp4.7/21,ML4.3/3,MS4.5/17, Ms1 4.5/17,ms1mx4.3/31,Error ellipse: s-maj=17.7km s-min=13.3km az=93.0*
AUST ***10*** *16:49:05.0±0.4,13.75S×166.42E,h0km,Error ellipse: s-maj=14.0km s-min=7.4km az=169.0*
ISCJB ***10*** *16:49:04.8±1.9,14.25S±0.04×166.44E±0.04,h21km±13km, mb5.0/65,MS4.6/20,Error ellipse: s-maj=6.7km s-min=5.8km az=23.6*
BJI ***10*** *16:49:05.6,14.27S×167.05E,h40km,mB5.3/28,mb4.9/44, Ms5.0/19,Ms7 4.8/19*
MOS ***10*** *16:49:06.3±0.9,14.20S×166.51E,h33km,mb5.3/23,Error ellipse: s-maj=12.6km s-min=9.0km az=29.1*
DJA ***10*** *16:49:06.9±0.7,15°S±7'×16°7'E±1'1,h10km,M4.9/11, mb4.9/11*
NEIC ***10*** *16:49:07.3±0.2,14.38S×166.34E,h35km,mb5.0/32,Error ellipse: s-maj=7.3km s-min=6.3km az=143.0*
GCMT ***10*** *16:49:10.8±0.2,14.18S×166.48E,h27km,MW5.2, Moment Tensor Solution. s55,c67; s68,c107; Moment tensor: Scale 10^16Nm; Mrr6.83±.31; Mθθ0.10±.22; Mφφ-6.93±.21; Mrθ2.17±.47; Mrφ1.03±.17; Mθφ-1.82±.32; Best double couple: M0 7.50000×10^16 NP1:φs158.00000°, δ55.00000°,λ73.00000°. NP2:φs6.00000°,δ38.00000°, λ113.00000°. Principal axes: T 7.6200, Plg74.0000°, Azm21.0000°; N -0.2100, Plg14.0000°, Azm168.0000°; P -7.4000, Plg9.0000°, Azm260.0000°; Data Used: IU II IC G CN.*

ISC 10 16:49:07.9±0.4,14°27S±0'05×166°51E±0'05,h34km±1km, n340,σ1§41/378,mb5.0/65,MS4.5/20,20C-13D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.76**	**180**	*e*Pn			**Pn**	**16 50 59.3**	**+0.7**
DZM				*e*Sn			**Sn**	**16 52 22.3**	**-3.1**
	668nm,1.1s								
DZM				*e*LR		LR	LR	16 52 45.2	
	4μm,24.7s								
DZM	**Mont Dzumac**	**7.76**	**180**	Pn			**Pn**	**16 50 59.7**	**+1.1**
	4.9nm,0.7s								
DZM				Sn			**Sn**	**16 52 27.1**	**+1.7**
DZM	**Mont Dzumac**	**7.76**	**180**	Pn			**Pn**	**16 50 59.7**	**+1.1**
	8.9nm,0.3s,baz=29,slow=18,SNR=34								
DZM				Sn			**Sn**	**16 52 27.1**	**+1.7**
	4.5nm,0.3s,baz=303,slow=22,SNR=5.0								
DZM				LR		LR	LR	16 53 39.8	
	comp=Z,2μm,21.9s,baz=145,slow=35								
HNR	**Honiara**	**8.02**	**306**	Pn			**Pn**	**16 51 02.8**	**+0.7**
HNR				Sn			**Sn**	**16 52 30.8**	**-0.9**
HNR	**Honiara**	**8.02**	**306**	Pn			**Pn**	**16 51 02.7**	**+0.7**
	28nm,0.3s,baz=176,slow=1.9,SNR=28								
HNR				Sn			**Sn**	**16 52 30.8**	**-0.9**
	24nm,0.3s,baz=323,slow=20,SNR=4.8								
HNR				LR		LR	LR	16 53 51.6	
	comp=Z,2μm,19.8s,baz=141,slow=36								
MSVF	**Nonsavu**	**11.62**	**109**	*e*P			**Pn**	**16 51 51.7**	**+0.2**
MSVF	**Nonsavu**	**11.62**	**109**	Pn			Pn	16 51 54.7	+3.2
	364nm,1.4s,SNR=5.5								
MSVF	**Nonsavu**	**11.62**	**109**	*e*Pn			**Pn**	**16 51 51.7**	**+0.2**
TARA	**Tarawa**	**16.77**	**23**	*e*Pn			**P**	**16 53 02.0**	**-0.2**
	212nm,1.1s								
EIDS	**Eidsvold**	**18.22**	**230**	*e*Pn			**Pn**	**16 53 14.7**	**-3.5**
	50nm,1.2s								
PMG	**Port Moresby**	**19.54**	**282**	P			**Pn**	**16 53 37.4**	**+3.2**
	60nm,0.9s								
PMG	**Port Moresby**	**19.54**	**282**	*e*P			**P**	**16 53 29.9**	**-2.9**
	71nm,1.1s								
PMG	**Port Moresby**	**19.54**	**282**	P			**Pn**	**16 53 34.8**	**+0.6**
	0.3nm,0.3s,baz=52,slow=23,SNR=5.2								
PMG				LR		LR	LR	17 00 05.2	
	comp=Z,1μm,18.5s,baz=294,slow=34								
CTA	**Charters Tower**	**20.19**	**251**	P			Pn	16 53 42.1	+0.1
CTA	**Charters Tower**	**20.19**	**251**	⇓P			Pn	16 53 42.8	+0.9
	baz=20								
CTA	**Charters Tower**	**20.19**	**251**	P			Pn	16 53 42.1	+0.1
	37nm,1.0s,baz=76,slow=13,SNR=12								
CTA				LR		LR	LR	17 00 37.9	
	comp=Z,1μm,19.7s,baz=173,slow=34								
CTAO	**Charters Tower**	**20.19**	**251**	*e*P			**P**	**16 53 35.8**	**-4.1**
CTAO				pmax		pmax			
	comp=Z,83nm,1.2s								
CTAO	**Charters Tower**	**20.19**	**251**	*e*P			**P**	**16 53 35.8**	**-4.1**
	comp=Z,83nm,1.2s								
RMQ	**Roma**	**20.58**	**231**	⇓P			Pn	16 53 47.9	+1.5
	baz=21,SNR=19								
AFI	**Afiamalu**	**21.07**	**92**	P			**P**	**16 53 50.1**	**+0.7**
	comp=Z,6.1nm,1.1s								
AFI	**Afiamalu**	**21.07**	**92**	P			**P**	**16 53 50.1**	**+0.7**
	comp=Z,65nm,1.0s,baz=268,slow=14,SNR=5.7								
AFI				LR		LR	LR	16 59 58.2	
	comp=Z,940nm,18.1s,baz=264,slow=31								
ARMA	**Armidale**	**21.12**	**218**	*e*P			P	16 53 44.6	-5.4
	comp=Z,92nm,1.5s								
ARMA	**Armidale**	**21.12**	**218**	⇓P			**P**	**16 53 53.1**	**+3.2**
	baz=22,SNR=5.9								
OUZ	**Omahuta**	**21.82**	**164**	*e*P			**P**	**16 53 54.0**	**-3.2**
	comp=Z,79nm,0.9s								
COEN	**Coen**	**22.63**	**268**	*e*P			P	16 54 01.2	-5.0
	comp=Z,350nm,1.0s								
COEN	**Coen**	**22.63**	**268**	⇑P			**P**	**16 54 09.2**	**+3.0**
	baz=23,SNR=6.4								
QLP	**Quilpie**	**24.16**	**236**	⇓P			**P**	**16 54 23.3**	**+2.2**
	baz=24,SNR=4.0								
CMSA	**Cobar Meteorol**	**25.67**	**224**	⇓P			**P**	**16 54 36.4**	**+1.6**
	baz=26,SNR=12								
URZ	**Urewera**	**25.68**	**160**	*e*P			**P**	**16 54 33.0**	**-1.7**
	comp=Z,58nm,0.9s								
URZ	**Urewera**	**25.68**	**160**	P			**P**	**16 54 37.2**	**+2.5**
	comp=Z,49nm,0.8s,baz=312,slow=8.0,SNR=13								
URZ				LR		LR	LR	17 03 23.0	
	comp=Z,915nm,18.2s,baz=339,slow=34								
YNG	**Young**	**25.81**	**216**	⇓P			**P**	**16 54 38.7**	**+2.7**
	baz=26								
BKZ	**Black Stump Fm**	**26.32**	**162**	*e*P			**P**	**16 54 40.5**	**-0.1**
	comp=Z,74nm,1.3s								
STKA	**Stephens Creek**	**28.74**	**228**	*e*P			**P**	**16 55 00.2**	**-2.2**
	comp=Z,6.7nm,1.3s								
STKA				PcP			**PcP**	**16 58 12.1**	**0.0**
STKA	**Stephens Creek**	**28.74**	**228**	⇓P			**P**	**16 55 04.5**	**+2.1**
	baz=29,SNR=5.9								
STKA	**Stephens Creek**	**28.74**	**228**	P			**P**	**16 55 04.0**	**+1.6**
	comp=Z,6.0nm,0.5s,baz=44,slow=7.6,SNR=42								
STKA				PcP			**PcP**	**16 58 12.1**	**0.0**
	comp=Z,2.0nm,0.6s,baz=123,slow=1.4,SNR=3.0								
STKA				LR		LR	LR	17 06 47.8	
	comp=Z,3μm,18.0s,baz=52,slow=37								
RPZ	**Rata Peaks**	**29.61**	**173**	P			**P**	**16 55 10.9**	**+1.0**
RPZ	**Rata Peaks**	**29.61**	**173**	P			**P**	**16 55 10.9**	**+1.0**
	comp=Z,28nm,0.8s,baz=32,slow=3.6,SNR=7.2								
RPZ				LR		LR	LR	17 05 16.4	
	comp=Z,649nm,20.0s,baz=79,slow=33								
TOO	**Toolangi**	**29.80**	**215**	⇑P			P	16 55 18.3	+6.6
	baz=30								
WRAB	**Tennant Creek**	**31.22**	**255**	*e*P			P	16 55 21.5	-2.9
WRAB				pmax		pmax			
	comp=Z,14nm,1.0s								
WRAB	**Tennant Creek**	**31.22**	**255**	*e*P			P	16 55 21.5	-2.9
	comp=Z,14nm,1.0s								
WRA	**Warramunga Arr**	**31.23**	**255**	P			**P**	**16 55 24.6**	**+0.1**
WRA				ScP			**ScP**	**17 02 01.9**	**+2.5**
WRA	**Warramunga Arr**	**31.23**	**255**	P			**P**	**16 55 24.6**	**+0.1**
	comp=Z,4.6nm,1.0s,baz=86,slow=9.3,SNR=16								
WRA				ScP			**ScP**	**17 02 01.9**	**+2.5**
	comp=Z,0.9nm,1.0s,baz=75,slow=3.1,SNR=2.9								
WRA				LR		LR	LR	17 07 38.2	
	comp=Z,980nm,18.1s,baz=70,slow=36								
AS31	**Alice Springs**	**32.15**	**248**	*e*P			P	16 55 29.2	-3.5
ASAR	**Alice Springs**	**32.16**	**248**	P			**P**	**16 55 33.0**	**+0.3**
ASAR				ScP			**ScP**	**17 02 04.6**	**+2.1**
ASAR	**Alice Springs**	**32.16**	**248**	P			**P**	**16 55 33.0**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=72,slow=9.4,SNR=29								
ASAR				ScP			**ScP**	**17 02 04.6**	**+2.1**
	comp=Z,0.9nm,0.9s,baz=107,slow=3.9,SNR=4.0								
ASAR				LR		LR	LR	17 07 43.1	
	comp=Z,1μm,19.7s,baz=0.9,slow=35								
RAR	**Rarotonga**	**32.80**	**107**	LR			LR	17 06 27.3	
	comp=Z,536nm,19.3s,baz=270,slow=32								

BBOO	**Buckleboo**	**33.29**	**231**	*e*P			**P**	**16 55 40.0**	**-2.4**
	comp=Z,6μm,2.5s								
KNRA	**Kununurra**	**36.46**	**263**	P			**P**	**16 56 11.4**	**+1.4**
	baz=36,SNR=7.1								
FITZ	**Fitzroy Crossi**	**39.38**	**259**	*e*P			**P**	**16 56 32.1**	**-2.5**
	comp=Z,24nm,0.9s								
FITZ	**Fitzroy Crossi**	**39.38**	**259**	P			**P**	**16 56 36.3**	**+1.7**
	baz=38,SNR=11								
PPT2	**Papeete2**	**42.29**	**101**	*e*S			**S**	**17 03 22.3**	**+4.7**
	comp=Z,309nm,27.0s								
PPT2				*e*LQ		LQ	LQ	17 07 01.7	
	comp=Z,803nm,27.0s								
PPT2				*e*LR		LR	LR	17 08 50.4	
	comp=Z,696nm,25.2s								
PPT	**Papeete**	**42.29**	**100**	LR			LR	17 10 18.4	
	comp=Z,376nm,20.2s,baz=102,slow=30								
TBI	**Tubuai**	**42.51**	**109**	*e*S			**S**	**17 03 20.9**	**+0.4**
	comp=Z,209nm,27.8s								
TBI				*e*LQ		LQ	LQ	17 07 04.4	
	comp=Z,797nm,27.5s								
TBI				*e*LR		LR	LR	17 08 57.1	
	comp=Z,653nm,23.2s								
MBWA	**Marble Bar**	**44.96**	**254**	*e*P			P	16 57 14.0	-6.1
	comp=Z,32nm,0.9s								
MORW	**Morawa**	**48.81**	**244**	P			**P**	**16 57 51.3**	**+1.2**
	baz=49,SNR=7.0								
MYLDM	**Lahad Datu**	**51.39**	**289**	P			P	16 58 19.8	+10
	comp=Z,32nm,2.0s								
KKM	**Kota Kinabalu**	**53.82**	**289**	P			P	16 58 36.2	+8.3
RKT	**Rikitea**	**55.82**	**108**	*e*S			**S**	**17 06 29.0**	**+1.6**
	comp=Z,209nm,29.0s								
RKT				*e*LR		LR	LR	17 15 06.7	
	comp=Z,472nm,23.2s								
SBUM	**Sibu**	**56.29**	**283**	P			P	16 58 58.8	+13
SBUM	**Sibu**	**56.29**	**283**	*e*P			**P**	**16 58 45.2**	**-0.5**
	comp=Z,8.8nm,0.9s								
MAJO	**Matsushiro**	**57.16**	**333**	*e*P			**P**	**16 58 48.8**	**-2.6**
MAJO				pmax		pmax			
	comp=Z,64nm,1.6s								
MAJO	**Matsushiro**	**57.16**	**333**	*e*P			**P**	**16 58 48.8**	**-2.6**
	comp=Z,64nm,1.6s								
MAT	**Matsushiro**	**57.16**	**333**	P			**P**	**16 58 51.0**	**-0.5**
KSM	**Kuching**	**57.80**	**281**	P			P	16 59 06.1	+10
KSM	**Kuching**	**57.80**	**281**	*e*P			**P**	**16 58 55.4**	**-1.0**
JNU	**Nakatsue**	**58.12**	**325**	*e*P			**P**	**16 58 55.6**	**-2.7**
JNU	**Nakatsue**	**58.12**	**325**	P			**P**	**16 58 58.3**	**0.0**
	comp=Z,22nm,0.9s,baz=112,slow=5.5,SNR=10								
ASAJ	**Asahikawa**		**62.06**	**341**	LR		LR	17 25 22.9	
	comp=Z,369nm,18.7s,baz=313,slow=35								
KSRS	**Korea Array**	**62.95**	**326**	P			**P**	**16 59 31.4**	**+0.3**
	comp=Z,4.8nm,0.9s,baz=134,slow=6.8,SNR=17								
KSAR	**Wonju Array Be**	**62.96**	**326**	P			**P**	**16 59 31.4**	**+0.2**
VNDA	**Vanda**	**63.31**	**181**	*e*P			P	16 59 29.2	-3.7
	comp=Z,30nm,1.5s								
VNDA	**Vanda**	**63.31**	**181**	P			**P**	**16 59 34.1**	**+1.2**
	comp=Z,6.7nm,0.6s,baz=358,slow=7.8,SNR=13								
SBA	**Scott Base**	**63.60**	**180**	*e*P			P	16 59 31.6	-3.2
SBA				pmax		pmax			
	comp=Z,27nm,0.8s								
SBA	**Scott Base**	**63.60**	**180**	*e*P			P	16 59 31.6	-3.2
	comp=Z,27nm,0.8s								
CASY	**Casey**	**63.68**	**202**	*e*P			P	16 59 29.3	-6.2
	comp=Z,15nm,0.9s								
NJ2	**Nanjing**	**64.83**	**316**	*e*P			**P**	**16 59 45.6**	**+2.0**
NJ2				AMB		AMB			
	comp=Z,10.0nm,0.8s								
USRK	**Ussuriysk Arra**	**66.14**	**334**	P			**P**	**16 59 52.4**	**+0.5**
	comp=Z,20nm,1.1s,baz=149,slow=5.9,SNR=19								
WHN	**Wuhan**	**67.09**	**312**	P			**P**	**

CD2 LR LR
comp=Z,370nm,9.5s
BTO Baotou 75.59 319 *e*P **P 17 00 50.3 +0.8**
LZH Lanzhou 77.47 313 *e*P **P 17 01 01.8 +1.5**
LZH pP **PcP 17 01 11.0 +0.4**
LZH sP **sP 17 01 14.2 -0.8**
LZH PP **PP 17 03 54.0 -1.4**
LZH *e*S **S 17 10 48.1 -1.0**
LZH sS **sS 17 11 06.3 -0.6**
LZH SS **SS 17 15 53.1 +4.2**
LZH AMB AMB
comp=Z,51nm,1.3s
LZH AMB AMB
comp=Z,160nm,5.8s
LZH LR LR
comp=Z,420nm,14.7s
LZH LR LR
comp=Z,490nm,15.0s
LZH LR LR
comp=Z,590nm,16.8s
SEY Seymchan 77.74 353 *e*P **P 17 01 01.2 +0.2**
CLNS Chul'man 78.83 338 *e*P **P 17 01 07.9 +0.7**
CLNS pmax pmax
comp=Z,25nm,1.1s
CLNS pmax pmax
comp=N,11nm,1.1s
CLNS pmax pmax
comp=E,5.0nm,1.4s
CIT Chita 80.31 330 *e*P **P 17 01 15.8 +0.4**
CIT *e* 17 01 27.2
YAK Yakutsk 81.38 343 *e*P **P 17 01 18.6 -2.1**
YAK pmax pmax
comp=Z,73nm,1.5s
YAK pmax pmax
comp=E,16nm,1.5s
YAK pmax pmax
comp=N,28nm,1.6s
SONM Songino Array 81.69 324 P **P 17 01 23.2 +0.3**
SONM Songino Array 81.69 324 P **P 17 01 23.2 +0.3**
comp=N,5.7nm,1.1s,baz=123,slow=5.3,SNR=33
GTA Gaotai 81.82 314 ⇑P **P 17 01 25.3 +1.5**
GTA pP **pP 17 01 36.8 +2.1**
GTA sP sP 17 01 42.5 +3.9
GTA S **S 17 11 38.5 +3.5**
GTA sS ScS 17 12 01.2 +10
GTA AMB AMB
comp=N,20nm,1.5s
GTA AMB AMB
comp=N,380nm,7.1s
GTA LR LR
comp=N,180nm,15.0s
GTA LR LR
comp=N,160nm,15.0s
GTA LR LR
comp=N,170nm,15.2s
MAW Mawson 82.03 202 P **P 17 01 24.7 +0.4**
MAW Mawson 82.03 202 P **P 17 01 24.7 +0.4**
comp=N,5.0nm,0.9s,baz=117,slow=4.5,SNR=9.5
PMR Palmer 83.31 20 *e*P **P 17 01 31.1 +0.2**
PMR Palmer 83.31 20 *e*P **P 17 01 31.1 +0.2**
LSA Lhasa 84.69 302 P **P 17 01 39.7 +0.4**
LSA Lhasa 84.69 302 *e*P **P 17 01 38.1 -1.2**
LSA pmax pmax
comp=Z,11nm,1.1s
LSA Lhasa 84.69 302 *e*P **P 17 01 38.1 -1.2**
comp=Z,11nm,1.1s
ZAK Zakamensk 84.75 325 *e*P **P 17 01 37.6 -1.0**
ZAK pmax pmax
comp=Z,19nm,1.4s
MCK McKinley 84.94 18 *e*P **P 17 01 38.8 -0.4**
MCK McKinley 84.94 18 *e*P **P 17 01 38.8 -0.4**
PKM Peak Mountain 85.15 52 P **P 17 01 41.4 +0.3**
baz=86
IRK Irkutsk 85.15 327 *e*P **P 17 01 38.6 -1.9**
IRK pmax pmax
comp=Z,36nm,1.5s
TLY Talaya 85.20 326*c i*P **P 17 01 40.7 -0.1**
TLY pmax pmax
comp=Z,28nm,1.3s
TLY Talaya 85.20 326 P **P 17 01 40.4 -0.4**
comp=Z,95nm,1.1s,SNR=6.8
IM04 Indian Mountai 85.30 15 *e*P **P 17 01 40.4 -0.6**
IMA2 Indian Mountai 85.40 15 *e*P **P 17 01 41.1 -0.4**
PAX Paxson 85.50 20 *e*P **P 17 01 44.2 +2.1**
PAX Paxson 85.50 20 *e*P **P 17 01 44.2 +2.1**
CMB Columbia Colle 85.86 49 *e*P **P 17 01 45.0 +0.6**
CMB pmax pmax
comp=Z,4.0nm,1.0s
CMB Columbia Colle 85.86 49 *e*P **P 17 01 45.0 +0.6**
comp=Z,4.1nm,1.0s
COLA College 86.10 18 *e*P **P 17 01 43.3 -1.6**
COLA pmax pmax
comp=Z,39nm,0.9s
COLA College 86.10 18 *e*P **P 17 01 43.2 -1.6**
comp=Z,39nm,0.9s
ILAR Eielson Array 86.32 18 P **P 17 01 44.0 -2.0**
ILAR Eielson Array 86.32 18 P **P 17 01 44.0 -2.0**
comp=Z,4.8nm,0.7s,baz=238,slow=5.2,SNR=53
ILAR LR LR 17 36 01.5
comp=Z,389nm,18.3s,baz=41,slow=33
ISA Isabella 86.45 52 *e*P **P 17 01 48.4 +1.0**
ISA Isabella 86.45 52 *e*P **P 17 01 48.4 +1.0**
ISA Isabella 86.45 52 P **P 17 01 47.7 +0.3**
baz=87
EDW2 Edwards Air Fo 86.55 53 P **P 17 01 48.2 +0.3**
baz=87
BFSC Mount Baldy Ra 86.59 54 P **P 17 01 48.0 -0.2**
baz=87
TAPN Taplejung 86.81 299 *e*P **P 17 01 50.1 +0.4**
ODAN Odare 86.94 299 *e*P **P 17 01 50.6 +0.4**
comp=Z,43nm,1.2s
MTUM Tungsten Hills 86.96 50 *e*P **P 17 01 49.8 -0.3**
LRMC Laurel Mountai 86.98 52 P **P 17 01 50.7 +0.6**
baz=87
MONP Monument Peak 87.12 55 P **P 17 01 51.1 +0.1**
baz=87
H04A Detroit Lake 87.13 43 *e*P **P 17 01 49.9 -0.5**
comp=Z,13nm,1.3s
COLD Coldfoot 87.18 16 *e*P **P 17 01 50.8 +0.6**
PAHR Pah Rah Range 87.19 48 *e*P **P 17 01 52.0 +0.9**
comp=Z,7.2nm,1.1s
K05A Summer Lake 87.24 45 *e*P **P 17 01 52.0 +0.8**
comp=Z,41nm,1.8s
PFO Pinyon Flat Ob 87.33 55 P **P 17 01 52.0 +0.2**
baz=88
MPMC Manual Prospec 87.33 52 P **P 17 01 52.4 +0.5**
baz=88
NVAR Mina Array Bea 87.53 49 P **P 17 01 53.2 +0.5**
NVAR Mina Array Bea 87.53 49 P **P 17 01 53.2 +0.5**
comp=Z,1.6nm,0.9s,baz=231,slow=5.7,SNR=7.5
NVAR LR LR 17 35 15.2
comp=Z,642nm,18.3s,baz=358,slow=32
RAMN Ramite 87.64 298 *e*P **P 17 01 53.8 +0.2**
SWSC Sam W. Stewart 87.64 55 P **P 17 01 53.8 +0.6**
baz=88
BELC Belle Mtn. Jos 87.81 54 P **P 17 01 54.8 +0.6**
baz=88
HEC Hector,Ludlow 87.82 53 P **P 17 01 54.8 +0.7**
baz=88
BC3 Big Chuckawall 88.14 55 P **P 17 01 56.4 +0.7**
baz=88
JIRN Jiri 88.19 299 *e*P **P 17 01 56.8 +0.4**
GMRC Granite Mounta 88.33 54 P **P 17 01 57.1 +0.5**
baz=89
TUQ Turquoise Moun 88.33 53 P **P 17 01 57.2 +0.6**
baz=89
GLA Glamis 88.44 55 P **P 17 01 57.7 +0.7**
baz=89
GUN Gumba 88.53 299 *e*P **P 17 01 57.9 0.0**
IRM Iron Mountain 88.53 54 P **P 17 01 57.9 +0.5**
baz=89
I07A Izee 88.68 44 *e*P **P 17 01 59.1 +1.1**
comp=Z,64nm,2.8s
PKI Pulchoki 88.83 299 *e*P **P 17 01 59.4 +0.1**
LDFC Landfair 88.85 53 *e*P **P 17 02 00.0 +1.0**
comp=Z,14nm,1.0s
Y12C Blythe 88.90 55 P **P 17 02 00.3 +1.2**
baz=89
SYO Syowa Base 88.94 197⇑*e*pP **P 17 02 01.0 +2.4**
KKN Kakani 89.00 299 *e*P **P 17 02 00.3 +0.3**
comp=Z,17nm,0.9s
DMN Daman 89.10 299 *e*P **P 17 02 00.9 +0.4**
113A Mohawk Valley, 89.21 56 P **P 17 02 00.7 +0.2**
baz=90
SHPR Sheep Range 89.26 52 *e*P **P 17 02 01.8 +0.9**
PDMCI Parker Dam,Lak 89.37 54 P **P 17 02 01.4 +0.1**
baz=90
TIXI Tiksi 89.38 349 *e*P **P 17 01 59.6 -0.8**
TIXI pmax pmax
comp=Z,9.0nm,1.0s
G08A Pilot Rock 89.48 43 *e*P P 17 01 58.4 -3.3
comp=Z,5.3nm,1.1s
R11A Troy Canyon, C 89.52 50 *e*P **P 17 02 02.3 +0.2**
R11A Troy Canyon, C 89.52 50 P **P 17 02 01.4 -0.7**
baz=90
GKN Gorkha 89.61 299 *e*P **P 17 02 02.5 -0.3**
comp=Z,32nm,1.1s
214A Organ Pipe Nat 89.74 57 P **P 17 02 03.5 +0.4**
baz=90
W13A Hualapai Mount 89.81 54 P **P 17 02 03.8 +0.2**
baz=90
Z14A Wintersburg 90.04 56 P **P 17 02 05.3 +0.8**
baz=90
Y14A Wickenburg 90.16 55 P **P 17 02 05.3 +0.2**
baz=90
KOLN Koldanda 90.43 298 *e*P **P 17 02 06.1 -0.6**
DANN Dangsing 90.45 299 *e*P **P 17 02 05.8 -1.1**
ELK Elko 90.53 48 *e*P **P 17 02 07.3 +0.4**
comp=Z,5.8nm,1.3s
HVS Khovu-Aksy 90.55 323*c i*P **P 17 02 06.4 -0.1**
F10A Beach Ranch, E 90.86 43 *e*P **P 17 02 06.9 -1.2**
comp=Z,5.7nm,1.0s
CCUT Cedar City 90.94 52 *e*P **P 17 02 09.8 +1.0**
MFID Camas Ranch 90.96 45 P **P 17 02 09.4 +0.7**
baz=91
U15A North Rim 91.44 53 P **P 17 02 11.3 0.0**
baz=92
TUC Tucson 91.49 57 *e*P **P 17 02 11.6 +0.2**
TUC pmax pmax
comp=Z,5.0nm,1.1s
TUC Tucson 91.49 57 *e*P **P 17 02 11.6 +0.2**
comp=Z,4.7nm,1.1s
X16A Lo Mia Camp, P 91.54 55 P **P 17 02 11.6 -0.1**
baz=92
NEW Newport 91.69 41 P **P 17 02 12.4 +0.5**
baz=92
WMQ Urumqi 91.88 315 P **P 17 02 13.8 +0.9**
WMQ pP **pP 17 02 21.8 -2.0**
WMQ sP **sP 17 02 25.0 -2.7**
WMQ SKS **SKSac 17 12 43.1 -0.2**
WMQ S **S 17 13 10.6 -1.3**
WMQ SS **SS 17 19 21.9 +0.9**
WMQ AMB AMB
comp=Z,16nm,1.6s
WMQ AMB AMB
comp=Z,230nm,4.4s
WMQ LR LR
comp=Z,140nm,20.0s
WMQ LR LR
comp=Z,73nm,20.0s
WMQ LR LR
comp=Z,95nm,20.0s
WUAZ Wupatki 91.90 54 P **P 17 02 13.9 +0.6**
baz=92
HLID Hailey 91.98 46 P **P 17 02 14.4 +0.9**
baz=92
MVU Marysvale 92.09 51 *e*P **P 17 02 15.1 +0.9**
319A Douglas 92.48 58 P **P 17 02 16.4 +0.4**
baz=93
X18A Snowflake 92.76 55 P **P 17 02 18.0 +0.7**
baz=93
320A Kipp Ranch, An 93.09 59 P **P 17 02 19.6 +0.7**
baz=93
Y20A Horse Springs, 93.86 56 P **P 17 02 22.9 +0.4**
baz=94
SNAA Sanae 93.97 183 *e*P **P 17 02 20.4 -1.6**
SNAA Sanae 93.97 183 *e*P **P 17 02 20.7 -1.3**
121A Cookes Peak, D 94.00 58 P **P 17 02 23.9 +0.8**
baz=94
Z22A Elephant Butte 94.84 57 P **P 17 02 27.2 +0.3**
baz=95
PV15 Paradox Valley 94.87 52 *e*P **P 17 02 28.7 +1.7**
VNA2 Neumayer--Watz 94.92 182 *e*P **P 17 02 24.1 -2.2**
VNA2 Neumayer--Watz 94.92 182 *es*P sP 17 02 37.3 -3.9
U21A Nageezi 95.05 54 P **P 17 02 28.3 +0.4**
baz=95
Q20A Ridgley Place, 95.16 51 P **P 17 02 28.8 +0.6**
baz=96
PDAR Pinedale Array 95.18 47 LR LR 17 39 18.2
comp=Z,196nm,19.2s,baz=331,slow=32
VNA1 Neumayer--Stat 95.22 182 *e*P **P 17 02 27.1 -0.6**
VNA1 Neumayer--Stat 95.22 182 *es*P sP 17 02 38.8 -3.7
P20A De Beque 95.22 51 P **P 17 02 29.1 +0.6**
baz=96
S21A Coal Bank Pass 95.24 53 P **P 17 02 29.1 +0.4**
baz=96
Y24A Capitan 96.24 57 P **P 17 02 33.6 +0.3**
baz=96
MK31 Makanchi Array 96.36 317 *e*P **P 17 02 31.8 -1.5**
MK31 Makanchi Array 96.36 317 *e*P **P 17 02 31.8 -1.5**
MKAR Makanchi Array 96.36 317 P **P 17 02 33.4 +0.1**
MKAR 17 06 25.0
MKAR Makanchi Array 96.36 317 P **P 17 02 33.4 +0.1**
MKAR PP **PP 17 06 25.0 -2.4**
MKAR PKKPbc PKKPbc 17 19 14.5 -5.8
MKAR Makanchi Array 96.36 317 P **P 17 02 33.4 +0.1**
comp=Z,4.2nm,1.0s,baz=101,slow=5.9,SNR=24
MKAR PP **PP 17 06 25.0 -2.4**
comp=Z,0.9nm,1.1s,baz=123,slow=7.2,SNR=3.9
MKAR PKKPbc PKKPbc 17 19 14.5 -5.8
comp=Z,0.7nm,1.0s,baz=310,slow=3.4,SNR=4.2
ZALV Zalesovo Beam 96.58 324 P **P 17 02 33.0 -1.1**
ZALV Zalesovo Beam 96.58 324 P **P 17 02 33.0 -1.1**
ZALV Zalesovo Beam 96.58 324 P **P 17 02 33.0 -1.1**
comp=Z,3.4nm,0.8s,baz=106,slow=5.3,SNR=18
TXAR Lajitas Array 96.70 62 P **P 17 02 35.6 +0.2**
TXAR PP **PP 17 06 28.0 -2.6**
TXAR Lajitas Array 96.70 62 P **P 17 02 35.6 +0.2**
comp=Z,0.4nm,0.8s,baz=204,slow=6.5,SNR=4.3
TXAR PP **PP 17 06 28.0 -2.6**
comp=Z,2.1nm,1.1s,baz=254,slow=6.5,SNR=8.5
GDL2 Guadalupe Moun 96.74 59 *e*P P 17 02 40.1 +4.6
NVS Novosibirsk 97.70 325 *e*P P 17 02 34.9 -4.2
KURK Kurchatov 99.57 320 *e*P **Pdif 17 02 46.9 -0.7**
KURK pmax pmax
comp=Z,1.0nm,1.2s
LPAZ La Paz 118.07 117 PKP **PKPdf 17 07 52.0 -1.0**
LPAZ La Paz 118.07 117 PKP **PKPdf 17 07 52.0 -1.0**
comp=Z,2.0nm,1.1s,baz=225,slow=1.4,SNR=4.0
ARCES ARCESS Array B 119.62 345 PKP **PKPdf 17 07 52.3 -1.4**
ARCES ARCESS Array B 119.62 345 PKP **PKPdf 17 07 52.3 -1.4**
comp=Z,5.6nm,0.7s,baz=68,slow=2.4,SNR=12
SUMG Summit 119.89 8 *e*PKIKP PKPdf 17 08 01.6 +7.0
SUMG Summit 119.89 8 *i* P PKPdf 17 08 01.6 +7.0
SUMG *e*S PP 17 09 03.4 -15
CPUP Villa Florida 121.30 133 PKP **PKPdf 17 07 56.6 -1.5**
CPUP Villa Florida 121.30 133 PKP **PKPdf 17 07 56.6 -1.5**
comp=Z,2.0nm,0.7s,baz=315,slow=1.4,SNR=3.5
JOF Joensuu 122.18 338 *e*pkp **PKPdf 17 07 57.2 -1.5**
comp=Z,5.5nm,0.7s
VRHR Novokhopersk 122.66 322 *e*PKIKP **PKPdf 17 07 57.7 -2.3**
VRHR pmax pmax
comp=Z,7.0nm,1.1s
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.6s
ZEI Tsey 123.39 312 *i* PKIKP **PKPdf 17 08 00.9 -1.1**
ZEI pmax pmax
comp=Z,9.0nm,1.2s
KBZ Khabaz 123.90 313 PKIKP **PKPdf 17 08 01.6 -1.0**
KBZ Khabaz 123.90 313 PKP **PKPdf 17 08 01.6 -1.0**
KBZ Khabaz 123.90 313 PKP **PKPdf 17 08 01.6 -1.0**
comp=Z,2.7nm,1.0s,baz=39,slow=6.3,SNR=3.1
OBN Obninsk 123.92 328⇑PKIKP **PKPdf 17 08 01.0 -1.2**
OBN *i* 17 08 06.1
OBN pmax pmax
comp=Z,28nm,1.6s
KIV Kislovodsk 124.00 314⇓*i*PKIKP **PKPdf 17 08 02.6 -0.3**
KIV *i* 17 08 07.1
KIV pmax pmax
comp=Z,8.0nm,1.0s
VSR Storozhevoye 124.07 323 *e*PKIKP **PKPdf 17 08 01.0 -1.7**
VSR pmax pmax
comp=Z,10.0nm,1.3s
VSR pmax pmax
comp=N,10.0nm,1.2s
VSR pmax pmax
comp=E,10.0nm,1.1s
VORD Divnogorie 124.09 323 *e*PKIKP **PKPdf 17 08 01.0 -1.7**
VORD pmax pmax
comp=Z,5.0nm,1.0s
VORD pmax pmax
comp=E,10.0nm,1.4s
SIV San Ignacio 124.19 121 PKP **PKPdf 17 08 02.5 -1.5**
SIV San Ignacio 124.19 121 PKP **PKPdf 17 08 02.5 -1.5**
comp=E,2.4nm,0.8s,baz=311,slow=3.2,SNR=5.0
KAF Kangasniemi 124.50 339 *e*pkp **PKPdf 17 08 01.2 -2.0**
comp=E,5.1nm,0.7s
FINES FINESS Array B 125.02 338 PKP **PKPdf 17 08 02.3 -1.9**
FINES FINESS Array B 125.02 338 PKP **PKPdf 17 08 02.3 -1.9**
comp=E,9.4nm,0.9s,baz=49,slow=3.1,SNR=11
MALT Malatya 128.43 308⇑*i*P **PKPdf 17 08 11.4 -0.2**
AKASG Malin Array Be 129.94 326 PKIKP **PKPdf 17 08 13.5 -0.4**
AKASG 17 10 25.1
AKASG Malin Array Be 129.94 326 PKP **PKPdf 17 08 13.5 -0.4**
AKASG PP **PP 17 10 25.1 -0.6**
AKASG SKPbc SKPbc 17 11 35.0 +1.1
AKASG SKP 17 11 45.6
AKASG Malin Array Be 129.94 326 PKP **PKPdf 17 08 13.5 -0.4**
comp=E,2.4nm,0.7s,baz=56,slow=2.0,SNR=19
AKASG PP **PP 17 10 25.1 -0.6**
comp=E,0.1nm,0.3s,baz=45,slow=5.5,SNR=4.3
AKASG SKPbc SKPbc 17 11 35.0 +1.1
comp=E,0.1nm,0.3s,baz=46,slow=4.7,SNR=4.3
AKASG SKP 17 11 45.6
comp=E,1.5nm,0.7s,baz=47,slow=4.3,SNR=7.2
NB2 NORSAR Subarra 129.99 345 PKPdf **PKPdf 17 08 13.2 -0.5**
comp=Z,8.6nm,1.2s,baz=27,slow=1.8
NB2 NORSAR Subarra 129.99 345 PKPdf **PKPdf 17 08 13.2 -0.5**
baz=27,slow=1.8
NOA NORSAR Array B 129.99 345 PKP **PKPdf 17 08 13.3 -0.5**
NOA SKPbc SKPab 17 11 34.1 +0.5
NOA SKP 17 11 44.1
NOA NORSAR Array B 129.99 345 PKP **PKPdf 17 08 13.3 -0.5**
comp=Z,6.9nm,1.1s,baz=33,slow=2.0,SNR=6.6
NOA SKPbc SKPab 17 11 34.1 +0.5
comp=Z,2.5nm,0.9s,baz=32,slow=3.1,SNR=5.5
NOA SKP 17 11 44.1
comp=Z,1.3nm,0.8s,baz=32,slow=3.0,SNR=3.0
BRTR Keskin Array B 131.65 311 PKP **PKPdf 17 08 18.0 +0.3**
BRTR PP **PP 17 10 37.2 -0.4**
BRTR SKPbc **SKPbc 17 11 40.6 -0.2**
BRTR SKP 17 11 50.9
BRTR Keskin Array B 131.65 311 PKP **PKPdf 17 08 18.0 +0.3**
comp=Z,0.6nm,0.8s,baz=61,slow=1.0,SNR=3.2
BRTR PP **PP 17 10 37.2 -0.4**
comp=Z,0.2nm,0.3s,baz=50,slow=4.5,SNR=3.6
BRTR SKPbc **SKPbc 17 11 40.6 -0.2**
comp=Z,0.7nm,0.7s,baz=70,slow=2.1,SNR=4.5
BRTR SKP 17 11 50.9
comp=Z,2.9nm,0.8s,baz=73,slow=2.2,SNR=5.1
TLCR 132.86 320⇑*i*P **PKPdf 17 08 22.1 +2.5**
CFR Carcaliu 133.29 320⇑*i*P **PKPdf 17 08 25.2 +4.8**
TESR Tescani 133.55 322⇑*i*P PKPdf 17 08 27.0 +6.1
TLB Topalu 133.62 319⇓*i*P **PKPdf 17 08 22.9 +1.2**
BURAR Bucovina Array 133.81 324⇑*i*P **PKPdf 17 08 23.7 +2.2**
VRI Vrincioaia 133.83 321⇓*i*P **PKPdf 17 08 20.5 -1.0**
MLR Muntele Rosu 134.49 321⇓*i*P PKPdf 17 08 16.3 -6.6
UZH Uzhgorod 134.83 327 *e*PKIKP **PKPdf 17 08 23.8 +0.6**
UZH *e* 17 08 30.2
TRPA Tarpa 135.00 326⇑*i*P **PKPdf 17 08 25.8 +2.3**
VOIR 135.06 322⇑*i*P **PKPdf 17 08 28.2 +4.3**
DRGR 135.68 324⇑*i*P **PKPdf 17 08 25.0 0.0**
PSZ Piszkesteto 136.53 327⇑*i*P **PKPdf 17 08 26.8 +0.3**
KRLC Kraliky 136.62 332 *e*PKPdf **PKPdf 17 08 28.2 +1.6**
DPC Dobruska-Polom 136.63 332 *e*PKPdf **PKPdf 17 08 26.8 +0.2**
UPC Upice 136.66 333 *e*PKPdf **PKPdf 17 08 28.3 +1.7**
BZS Buzias 136.98 324⇓*i*P **PKPdf 17 08 27.2 -0.1**
PVCC Panska Ves 137.27 334 *e*PKPdf **PKPdf 17 08 27.6 -0.1**
BRG Berggiesshubel 137.28 335 *e*PKP **PKPdf 17 08 27.4 -0.4**
comp=Z,6.3nm,1.3s
CLL Collm 137.33 336 *i* PKIKP **PKPdf 17 08 26.7 -1.1**
CLL pmax pmax
comp=Z,7.0nm,1.6s
CLL Collm 137.33 336 *i* PKPdf **PKPdf 17 08 26.7 -1.1**
comp=Z,12nm,1.6s
CLL *i* 17 08 33.2
comp=Z,13nm,1.4s
CLL *e*PP **PP 17 11 10.0 -2.5**
comp=Z,14nm,1.9s
CLL *e*SKPdf **SKPdf 17 12 01.0 +0.7**
CLL *i* PKSab **PKSab 17 12 09.4 +0.1**
comp=Z,4.0nm,1.1s
CLL LmV 18 08 00.0
comp=Z,200nm,21.9s
VTS Vitosha 137.66 319⇑*i*P **PKPdf 17 08 29.2 +0.3**
PRU Pruhonice 137.68 333 *e*PKPdf **PKPdf 17 08 32.5 +4.0**
KHC Kasperske Hory 138.74 333 *e*PKIKP **PKPdf 17 08 28.7 -1.8**
KHC Kasperske Hory 138.74 333 *e*PKPdf **PKPdf 17 08 29.5 -1.0**
KHC *ex* x 17 08 32.3
KHC Kasperske Hory 138.74 333 *e*PKPdf **PKPdf 17 08 28.7 -1.8**
GERES GERESS Array B 138.90 333 PKP **PKPdf 17 08 30.6 -0.3**
GERES SKPbc **SKPbc 17 12 03.0 -0.3**
GERES SKPab **SKPab 17 12 14.4 +1.7**
GERES GERESS Array B 138.90 333 PKHKP PKPpre 17 08 24.9
comp=Z,0.8nm,0.8s,baz=38,slow=5.0,SNR=6.9
GERES PKP **PKPdf 17 08 30.6 -0.3**
comp=Z,1.7nm,0.9s,baz=56,slow=2.5,SNR=7.0
GERES SKPbc **SKPbc 17 12 03.1 -0.3**
comp=Z,1.5nm,0.9s,baz=48,slow=2.9,SNR=6.6
GERES SKPab **SKPab 17 12 14.4 +1.7**
comp=Z,2.6nm,0.9s,baz=42,slow=2.2,SNR=9.4
GRF Grafenberg Arr 139.31 335 *e*PKIKP **PKPdf 17 08 33.3 +1.8**
GRF Grafenberg Arr 139.31 335 *e*PKP **PKPdf 17 08 33.3 +1.8**
SOKA Soboth 139.83 329⇑*i*PKPdf **PKPdf 17 08 31.8 -0.9**
comp=Z,12nm,1.4s
FETA Feichten 141.59 333⇑*i*PKPdf **PKPdf 17 08 33.7 -2.2**
comp=Z,11nm,1.1s
DAVA Damuels 141.75 334⇑*i*PKPdf PKPdf 17 08 30.7 -5.5
comp=Z,9.3nm,1.1s
LOMF Lomont 142.92 337 PKP **PKPdf 17 08 37.3 -0.9**
BNI Bardonecchia 144.87 335 *e*PKIKP **PKPab 17 08 40.8 0.0**
BNI Bardonecchia 144.87 335 *e*PKPdf **PKPab 17 08 40.8 0.0**
GDM Grand'Maison 144.97 336 PKP **PKPab 17 08 41.1 -0.1**
GDM Grand'Maison 144.97 336 PKP **PKPab 17 08 41.2 0.0**
GRN Grenoble 145.09 336 PKP **PKPbc 17 08 41.8 +0.3**
BST Brest 145.18 349 PKP **PKPdf 17 08 41.2 -0.3**
PLDF La Plantade 145.26 339 PKP **PKPdf 17 08 42.8 +0.5**
SURF Saint Ours 145.28 334 PKP **PKPbc 17 08 42.3 0.0**
SAOF Saorge 145.35 333 PKP **PKPbc 17 08 41.6 -0.7**
AGO Saint Agoulin 145.36 339 PKP **PKPab 17 08 43.0 +0.6**
AUTN L'Aution 145.40 333 PKP **PKPbc 17 08 42.3 -0.4**
TOUF Mont Tournerai 145.46 333 PKP **PKPdf 17 08 42.5 -0.4**
LUCF Luceram 145.52 333 PKP **PKPdf 17 08 42.3 -0.5**
SSB Saint Sauveur 145.52 337 *e*PKIKP **PKPdf 17 08 41.8 -0.9**
SSB Saint Sauveur 145.52 337 PKP **PKPdf 17 08 42.9 +0.2**
SSB Saint Sauveur 145.52 337 *e*PKPdf **PKPdf 17 08 41.8 -0.9**
MVIF Mont Vial 145.60 333 PKP **PKPdf 17 08 42.0 -1.0**
PYM Petit Puy Mans 145.66 339 PKP **PKPab 17 08 44.4 +0.8**
VERF Verneugheol 145.84 340 PKP **PKPdf 17 08 43.7 +0.4**
LBL Lubilhac 146.03 339 PKP **PKPab 17 08 45.6 +0.6**
VSL Villasalto 147.82 326 *e*PKPbc **PKPbc 17 08 48.7 -0.9**
LRDF Laroque-de-Fa 148.27 337 PKP **PKPbc 17 08 50.6 -0.1**
MLS Moulis 148.77 339 PKP **PKPbc 17 08 51.6 -0.4**
RESF Ens 149.16 340 PKP **PKPbc 17 08 53.5 +0.3**
VIEF Viey 149.20 340 PKP **PKPbc 17 08 53.4 +0.2**
LARF Larrau 149.38 342 PKP **PKPbc 17 08 53.2 -0.4**
KEST Kesra 150.39 320 *e*PKPdf **PKPdf 17 08 49.6 -1.5**
KEST *e*PKPab **PKPbc 17 08 55.3 -1.1**
KEST PKPbc **PKPbc 17 08 56.3 -0.1**
KEST Kesra 150.39 320 PKPbc **PKPbc 17 08 56.3 -0.1**
comp=Z,8.6nm,1.0s,baz=214,slow=2.2,SNR=18
CMAH Djebel Manchou 150.93 324 P **PKPdf 17 08 51.7 -0.2**
ABSA Djebel Ababsia 151.15 323 P **PKPdf 17 08 52.9 +0.6**
CAEH 'Ain El Ouahch 151.15 325 P **PKPdf 17 08 52.6 +0.5**
CKFL Kef-Lekhel 151.49 324 P **PKPdf 17 08 53.6 +0.8**
CASM Ain Smara 151.72 324 P **PKPdf 17 08 54.2 +1.1**
DFRA Djebel Bou Aff 151.86 326 P **PKPbc 17 08 57.2 -2.6**
PBRG Braganca 151.94 349 *e*PKPbc **PKPbc 17 08 59.0 -0.7**
SET Setif 152.37 326 P **PKPbc 17 09 05.0 +4.1**
POLO Lamas de Olo 152.54 351 *e*PKPbc **PKPbc 17 09 00.7 -0.4**
MVO Moncorvo 152.62 349 *e*PKPbc **PKPbc 17 09 00.8 -0.5**
ESDC Sonseca Array 153.34 343 PKP **PKPdf 17 08 54.9 -0.4**
ESDC PKPbc **PKPbc 17 09 02.5 -0.5**
ESDC PKPab **PKPab 17 09 15.0 +0.1**
ESDC Sonseca Array 153.34 343 PKP **PKPdf 17 08 54.9 -0.4**
comp=Z,0.3nm,0.2s,baz=4.8,slow=1.9,SNR=5.3
ESDC PKPbc **PKPbc 17 09 02.5 -0.5**
comp=Z,2.0nm,0.6s,baz=359,slow=2.3,SNR=16
ESDC PKPab **PKPab 17 09 15.0 +0.1**
comp=Z,3.5nm,0.8s,baz=9.9,slow=3.9,SNR=7.1
ESLA Sonseca Array 153.34 343 *e*PKPbc **PKPbc 17 09 02.5 -0.4**
MTE Manteigas 153.45 350 *e*PKPbc **PKPbc 17 09 03.3 +0.2**
MTE Manteigas 153.45 350 *e*PKPbc **PKPbc 17 09 02.5 -0.7**

PAB	**San Pablo**	**153.56 344**	*e*PKIKP	**PKPdf**	**17 08 54.9**	**-0.8**
PAB	**San Pablo**	**153.56 344**	*e*PKPdf	**PKPdf**	**17 08 54.9**	**-0.8**
PMRV	**Marv??o**	**154.37 349**	*e*PKPbc	**PKPbc**	**17 09 05.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**165.20 268**	PKP	**PKPdf**	**17 09 08.6**	**-1.0**
TORD			PKPab	**PKPab**	**17 10 08.0**	**+0.9**
TORD	**Torodi Ar. Bea**	**165.20 268**	PKP	**PKPdf**	**17 09 08.6**	**-1.0**
	comp=Z,1.3nm,1.0s,baz=131,slow=0.7,SNR=7.3					
TORD			PKPab	**PKPab**	**17 10 08.0**	**+0.9**
	comp=Z,3.6nm,1.1s,baz=109,slow=4.3,SNR=7.9					

IDC 10 16:58:19.3±0.8, 13°96S×166°61E, h0km, mb4.1/13, mb1 4.2/14, mb1mx4.1/19, mbtmp4.1/14, ML3.8/1, Error ellipse: s-maj=30.4km s-min=17.5km az=103.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.92 304**		Pn	Pn	17 00 20.4	+4.5
	13nm,0.3s,baz=151,slow=4.2,SNR=10.0						
DZM	**Mont Dzumac**	**8.07 181**		Pn	Pn	17 00 17.5	-0.4
	1.3nm,0.3s,baz=24,slow=20,SNR=7.6						
DZM				Sn	Sn	17 01 42.9	-7.2
	baz=9.0,slow=19,SNR=2.0						
STKA	**Stephens Creek**	**29.02 228**		P	P	17 04 21.2	0.0
	2.6nm,0.6s,baz=20,slow=8.0,SNR=12						
WRA	**Warramunga Arr**	**31.40 255**		P	P	17 04 41.5	-0.9
	1.0nm,0.9s,baz=86,slow=9.3,SNR=3.8						
ASAR	**Alice Springs**	**32.36 248**		P	P	17 04 49.8	-1.0
	0.6nm,0.5s,baz=77,slow=9.1,SNR=18						
KSRS	**Korea Array**	**62.75 326**		P	P	17 08 47.3	+0.9
	0.6nm,0.6s,baz=136,slow=7.1,SNR=4.1						
VNDA	**Vanda**	**63.61 181**		P	P	17 08 53.2	+1.5
	1.7nm,0.6s,baz=6.0,slow=6.4,SNR=8.1						
USRK	**Ussuriysk Arra**	**65.92 333**		P	P	17 09 08.3	+1.2
	2.1nm,0.7s,baz=163,slow=5.6,SNR=5.1						
PETK	**Petropavlovsk-**	**67.23 354**		P	P	17 09 16.2	+0.9
	3.1nm,0.7s,baz=177,slow=5.8,SNR=6.3						
CMAR	**Chiang Mai Arr**	**74.05 294**		P	P	17 09 58.7	+1.0
	0.9nm,0.9s,baz=128,slow=4.8,SNR=6.7						
SONM	**Songino Array**	**81.50 324**		P	P	17 10 39.2	+0.4
	0.2nm,0.3s,baz=140,slow=5.8,SNR=4.7						
MAW	**Mawson**	**82.35 202**		P	P	17 10 43.4	+0.6
	2.6nm,0.9s,baz=94,slow=7.0,SNR=5.3						
ILAR	**Eielson Array**	**86.00 18**		P	P	17 11 00.7	-0.6
	0.8nm,0.5s,baz=241,slow=5.3,SNR=13						
MKAR	**Makanchi Array**	**96.21 317**		P	P	17 11 49.9	+0.4
	0.3nm,0.6s,baz=87,slow=5.3,SNR=5.3						
ZALV	**Zalesovo Beam**	**96.40 324**		P	P	17 11 49.3	-0.9
	0.4nm,0.5s,baz=57,slow=5.3,SNR=3.6						
ARCES	**ARCESS Array B**	**119.35 345**		PKP	PKPdf	17 17 09.3	-0.8
	4.9nm,0.9s,baz=80,slow=1.8,SNR=20						
FINES	**FINESS Array B**	**124.78 338**		PKP	PKPdf	17 17 20.3	-0.5
	0.8nm,0.4s,baz=64,slow=3.2,SNR=8.3						
NOA	**NORSAR Array B**	**129.72 345**		PKP	PKPdf	17 17 28.7	-1.6
	1.3nm,0.9s,baz=30,slow=2.0,SNR=2.8						
AKASG	**Malin Array Be**	**129.74 326**		PKP	PKPdf	17 17 29.1	-1.5
	0.1nm,0.4s,baz=46,slow=2.7,SNR=2.6						
BRTR	**Keskin Array B**	**131.53 311**		PKP	PKPdf	17 17 32.8	-1.7
	0.2nm,0.4s,baz=29,slow=3.3,SNR=2.5						
GERES	**GERESS Array B**	**138.67 333**		PKP	PKPdf	17 17 48.0	+0.5
	0.5nm,0.7s,baz=54,slow=2.3,SNR=6.9						
KEST	**Kesra**	**150.21 321**		PKPbc	PKPbc	17 18 12.4	-0.6
	2.6nm,0.7s,baz=333,slow=2.3,SNR=3.7						
ESDC	**Sonseca Array**	**153.07 344**		PKPbc	PKPbc	17 18 17.8	-1.6
	0.5nm,0.6s,baz=5.5,slow=2.3,SNR=4.9						

IDC 10 17:01:22.8±6.8, 18°52S×175°96W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.6/19, mbtmp3.8/3, ML2.0/1, Error ellipse: s-maj=308.7km s-min=26.0km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.09 42**		Pn	Pn	17 02 53.8	-0.6
	2.1nm,0.3s,baz=221,slow=20,SNR=2.4						
AFI				Sn	Sn	17 04 04.4	-0.5
	4.7nm,0.3s,baz=204,slow=19,SNR=4.7						
WRA	**Warramunga Arr**	**46.81 260**		P	P	17 09 54.4	-0.4
	0.3nm,0.5s,baz=97,slow=8.3,SNR=7.2						
ASAR	**Alice Springs**	**46.87 255**		P	P	17 09 54.7	-0.5
	2.0nm,0.7s,baz=89,slow=8.4,SNR=15						
BRTR	**Keskin Array B**	**146.85 316**		PKPbc	PKPbc	17 21 07.9	+0.3
	0.4nm,0.3s,baz=82,slow=3.6,SNR=4.3						

IDC 10 17:04:26.0±8.4, 11°93S×165°12E, h32km±63km, mb3.6/4, mb1 3.9/6, mb1mx3.5/20, mbtmp3.8/6, ML4.0/2, Error ellipse: s-maj=39.3km s-min=36.7km az=93.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.66 296**		Pn	Pn	17 05 48.4	+0.5
	5.6nm,0.3s,baz=70,slow=14,SNR=4.3						
DZM	**Mont Dzumac**	**10.16 173**		Pn	Pn	17 06 49.0	-0.9
	0.9nm,0.3s,baz=351,slow=19,SNR=24						
WRA	**Warramunga Arr**	**30.61 251**		P	P	17 10 37.5	0.0
	0.6nm,0.7s,baz=79,slow=8.8,SNR=9.1						
ASAR	**Alice Springs**	**31.85 244**		P	P	17 10 48.2	-0.2
	0.8nm,0.7s,baz=69,slow=9.4,SNR=6.3						
ILAR	**Eielson Array**	**84.54 19**		P	P	17 16 55.8	+0.2
	0.3nm,0.6s,baz=237,slow=5.7,SNR=2.8						
MKAR	**Makanchi Array**	**93.75 317**		P	P	17 17 39.5	-0.4
	0.5nm,0.7s,baz=103,slow=6.4,SNR=5.2						

*IDC **10** 17:06:55.9±0.7, 13°97S×166°86E, h0km, mb4.5/14, mb1 4.6/16, mb1mx4.5/22, mbtmp4.6/16, ML4.2/2, MS4.1/10, Ms1 4.1/10, ms1mx3.8/34, Error ellipse: s-maj=23.7km s-min=17.4km az=111.0*

*BJI **10** 17:06:59.9, 13°76S×167°11E, h35km, mB5.2/15, mb4.8/28, Ms5.0/10, Ms7 4.7/9*

*ISCJB **10** 17:07:01.8±0.3, 13°97S±0°05×166°61E±0°06, h43km, mb4.7/31, MS4.3/11, Error ellipse: s-maj=8.7km s-min=6.3km az=164.5*

*NEIC **10** 17:07:02.2±0.3, 13°88S×166°62E, h35km, mb4.7/15, Error ellipse: s-maj=8.7km s-min=7.6km az=46.0*

*AUST **10** 17:07:25.6, 13°97S×166°94E, h300km*

ISC 10 17:07:03.1±0.4, 13°92S±0°05×166°64E±0°07, h43km, n119, σ1s23/144, mb4.8/31, MS4.3/11, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.93 304**		Pn	**Pn**	**17 08 55.5**	**-0.5**
HNR				Sn	**Sn**	**17 10 23.2**	**-1.3**
HNR	**Honiara**	**7.93 304**		Pn	**Pn**	**17 08 55.5**	**-0.5**
	18nm,0.3s,baz=143,slow=1.5,SNR=13						
HNR				Sn	**Sn**	**17 10 23.2**	**-1.3**
	27nm,0.3s,baz=332,slow=20,SNR=6.9						
HNR				LR	LR	17 11 40.8	
	comp=Z,759nm,20.9s,baz=275,slow=35						
DZM	**Mont Dzumac**	**8.11 181**		*e*Pn	**Pn**	**17 08 58.2**	**-0.2**
	21nm,0.3s						
DZM				*e*Sn	Sn	17 10 18.7	-10
	9.9nm,0.3s						
DZM				*e*LR	LR	17 10 48.4	
	793nm,24.6s						
DZM	**Mont Dzumac**	**8.11 181**		Pn	**Pn**	**17 08 59.2**	**+0.8**
DZM				Sn	**Sn**	**17 10 28.1**	**-0.7**
DZM	**Mont Dzumac**	**8.11 181**		Pn	**Pn**	**17 08 59.2**	**+0.8**
	2.4nm,0.3s,baz=189,slow=23,SNR=20						
DZM				Sn	**Sn**	**17 10 28.1**	**-0.7**
	0.5nm,0.3s,baz=135,slow=20,SNR=2.1						
DZM				LR	LR	17 11 20.1	
	comp=Z,244nm,19.2s,baz=211,slow=33						
MSVF	**Nonsavu**	**11.61 111**		*e*Pn	**Pn**	**17 09 46.8**	**+0.4**
	82nm,1.4s						
EIDS	**Eidsvold**	**18.54 230**		*e*P	**P**	**17 11 12.5**	**-3.7**
	86nm,1.7s						
EIDS	**Eidsvold**	**18.54 230**		P	Pn	17 11 25.7	+9.0
	baz=19,SNR=4.2						
PMG	**Port Moresby**	**19.60 281**		*e*P	**Pn**	**17 11 29.6**	**+0.1**
	69nm,1.0s						
PMG	**Port Moresby**	**19.60 281**		P	**Pn**	**17 11 30.1**	**+0.5**
	0.5nm,0.3s,baz=102,slow=7.4,SNR=6.4						
CTA	**Charters Tower**	**20.43 250**		P	**P**	**17 11 37.1**	**+0.1**
CTA	**Charters Tower**	**20.43 250**		P	**P**	**17 11 37.1**	**+0.1**
	12nm,0.8s,baz=79,slow=12,SNR=7.7						
CTAO	**Charters Tower**	**20.43 250**		*e*P	**P**	**17 11 37.7**	**+0.7**
	44nm,1.3s						
RMQ	**Roma**	**20.89 231**		P	Pn	17 11 44.0	-0.8
	baz=21,SNR=17						
AFI	**Afiamalu**	**20.95 93**		P	Pn	17 11 44.8	-0.8
	37nm,1.2s						
AFI	**Afiamalu**	**20.95 93**		LR	LR	17 17 53.8	
	comp=Z,316nm,19.5s,baz=108,slow=32						
QLP	**Quilpie**	**24.46 236**		P	**P**	**17 12 18.9**	**+0.8**
	baz=25,SNR=11						
URZ	**Urewera**	**25.96 161**		LR	LR	17 20 16.2	
	comp=Z,153nm,19.0s,baz=66,slow=31						
CMSA	**Cobar Meteorol**	**26.01 224**		P	**P**	**17 12 32.8**	**+0.7**
	baz=26,SNR=13						
SNZO	**South Karori**	**28.18 167**		P	**P**	**17 12 53.3**	**+1.8**
STKA	**Stephens Creek**	**29.07 228**		*e*P	**P**	**17 12 59.4**	**-0.1**
	3.2nm,0.9s						
STKA				PcP	**PcP**	**17 16 06.8**	**-0.2**
STKA	**Stephens Creek**	**29.07 228**		P	**P**	**17 13 00.3**	**+0.7**
	baz=29,SNR=19						
STKA	**Stephens Creek**	**29.07 228**		P	**P**	**17 12 59.6**	**0.0**
	11nm,0.7s,baz=45,slow=9.2,SNR=27						
STKA				PcP	**PcP**	**17 16 06.8**	**-0.2**
	2.0nm,0.6s,baz=124,slow=3.6,SNR=3.7						
STKA				LR	LR	17 24 19.9	
	comp=Z,905nm,19.0s,baz=118,slow=36						
WRAB	**Tennant Creek**	**31.43 255**		*e*P	**P**	**17 13 19.3**	**-1.4**
	45nm,1.6s						
WRA	**Warramunga Arr**	**31.44 255**		P	**P**	**17 13 19.8**	**-1.0**
WRA				ScP	**ScP**	**17 19 55.0**	**+1.6**
WRA	**Warramunga Arr**	**31.44 255**		P	**P**	**17 13 19.8**	**-1.0**
	6.6nm,1.0s,baz=86,slow=8.7,SNR=16						
WRA				ScP	**ScP**	**17 19 54.9**	**+1.6**
	0.7nm,0.9s,baz=78,slow=3.7,SNR=2.9						
WRA				LR	LR	17 25 36.9	
	comp=Z,392nm,18.9s,baz=105,slow=35						
AS31	**Alice Springs**	**32.40 248**		*e*P	**P**	**17 13 27.8**	**-1.3**
ASAR	**Alice Springs**	**32.41 248**		P	**P**	**17 13 28.0**	**-1.2**
ASAR				ScP	**ScP**	**17 19 58.5**	**+1.9**
ASAR	**Alice Springs**	**32.41 248**		P	**P**	**17 13 28.0**	**-1.2**
	3.5nm,0.8s,baz=75,slow=9.0,SNR=21						
ASAR				ScP	**ScP**	**17 19 58.5**	**+1.9**
	1.1nm,0.9s,baz=91,slow=3.7,SNR=6.2						
ASAR				LR	LR	17 26 24.8	
	comp=Z,321nm,19.4s,baz=331,slow=36						
TAU	**Tasmania Unive**	**33.34 206**		P	**P**	**17 13 37.8**	**+0.7**
KNRA	**Kununurra**	**36.64 262**		P	**P**	**17 14 05.4**	**-0.4**
	baz=37,SNR=4.4						
FITZ	**Fitzroy Crossi**	**39.58 258**		P	**P**	**17 14 30.4**	**-0.1**
	baz=40,SNR=4.7						
FITZ	**Fitzroy Crossi**	**39.58 258**		LR	LR	17 30 25.9	
	comp=Z,452nm,18.1s,baz=65,slow=36						
BATI	**Baumata**	**42.15 270**		LR	LR	17 31 52.4	
	comp=Z,377nm,18.4s,baz=160,slow=35						
PPT2	**Papeete2**	**42.23 101**		*e*LR	LR	17 27 10.7	
	281nm,24.8s						
TBI	**Tubuai**	**42.50 109**		*e*LQ	LQ	17 25 03.3	
	275nm,27.2s						
TBI				*e*LR	LR	17 27 05.6	
	308nm,24.0s						
MBWA	**Marble Bar**	**45.18 254**		*e*P	**P**	**17 15 15.9**	**-0.2**
MEEK	**Meekatharra**	**46.54 246**		P	**P**	**17 15 26.9**	**0.0**
	baz=47,SNR=5.1						
NWAO	**Narrogin (SRO)**	**48.65 238**		LR	LR	17 36 35.4	
	comp=Z,313nm,18.6s,baz=310,slow=36						
MORW	**Morawa**	**49.08 244**		P	**P**	**17 15 48.6**	**+2.2**
	baz=49,SNR=3.0						
KKM	**Kota Kinabalu**	**53.83 288**		P	**P**	**17 16 23.7**	**+1.4**
MAJO	**Matsushiro**	**56.92 333**		*e*P	**P**	**17 16 42.9**	**-1.1**
	11nm,1.0s						
MAT	**Matsushiro**	**56.92 333**		P	**P**	**17 16 43.6**	**-0.4**
ASAJ	**Asahikawa**	**61.78 341**		P	**P**	**17 17 17.4**	**0.0**
ASAJ	**Asahikawa**	**61.78 341**		P	**P**	**17 17 17.4**	**0.0**
	8.3nm,0.9s,baz=203,slow=7.7,SNR=2.7						
KSRS	**Korea Array**	**62.74 326**		P	**P**	**17 17 24.6**	**+0.7**
	1.7nm,0.9s,baz=139,slow=7.2,SNR=5.7						
KSAR	**Wonju Array Be**	**62.75 326**		P	**P**	**17 17 24.6**	**+0.6**
VNDA	**Vanda**	**63.65 181**		*e*P	**P**	**17 17 28.4**	**-1.0**
	4.4nm,1.1s						
VNDA	**Vanda**	**63.65 181**		P	**P**	**17 17 29.0**	**-0.4**
	2.7nm,0.8s,baz=6.4,slow=5.9,SNR=7.6						
SBA	**Scott Base**	**63.94 180**		*e*P	**P**	**17 17 31.7**	**+0.4**
	8.3nm,0.8s						
CASY	**Casey**	**64.04 202**		*e*P	**P**	**17 17 31.7**	**-0.4**
	9.3nm,1.1s						
USRK	**Ussuriysk Arra**	**65.90 333**		P	**P**	**17 17 45.3**	**+0.8**
	11nm,1.0s,baz=130,slow=5.8,SNR=11						
CN2	**Changchun**	**68.65 329**		*e*P	**P**	**17 18 02.6**	**+0.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
ENH	**Enshi**	**70.39 310**		*e*P	**P**	**17 18 13.2**	**+0.2**
	9.5nm,0.8s						
GYA	**Guiyang**	**70.76 305**		*e*P	P	17 18 11.0	-4.5
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
XAN	**Xi'an**	**72.70 313**		P	**P**	**17 18 27.5**	**+0.6**
XAN				pP	**pP**	**17 18 38.1**	**-1.5**
XAN				sP	**sP**	**17 18 43.4**	**-1.1**
XAN				AMB	AMB		
	comp=Z,2.0nm,0.9s						
KMI	**Kunming**	**73.37 302**		P	**P**	**17 18 33.3**	**+2.0**
KMI				pP	**pP**	**17 18 44.8**	**+0.8**
KMI				AMB	AMB		
	comp=Z,11nm,1.3s						
CM31	**Chiang Mai Arr**	**74.07 294**		*e*P	**P**	**17 18 36.6**	**+1.4**
	comp=Z,7.5nm,1.0s						
CMAR	**Chiang Mai Arr**	**74.07 294**		P	**P**	**17 18 36.0**	**+0.8**
CMAR	**Chiang Mai Arr**	**74.07 294**		P	**P**	**17 18 36.0**	**+0.8**
	comp=Z,1.9nm,0.9s,baz=125,slow=4.6,SNR=16						
CHTO	**Chiang Mai**	**74.19 294**		*e*P	**P**	**17 18 36.4**	**+0.5**
	comp=Z,3.9nm,0.8s						
HHC	**Hu-ho-hao-te**	**74.58 320**		*e*P	**P**	**17 18 38.6**	**+0.7**
HHC				pP	**pP**	**17 18 49.0**	**-1.6**
HHC				sP	**sP**	**17 18 53.0**	**-2.5**
HHC				PP	**PP**	**17 21 28.5**	**+3.3**
HHC				S	**S**	**17 28 11.7**	**+1.2**
HHC				sS	**sS**	**17 28 29.8**	**-1.9**
HHC				AMB	AMB		
	comp=Z,45nm,1.0s						
HHC				AMB	AMB		
	comp=Z,680nm,5.6s						
HHC				LR	LR		
	comp=Z,310nm,16.9s						
HHC				LR	LR		
	comp=Z,330nm,16.7s						
HHC				LR	LR		
	comp=Z,230nm,16.3s						
CD2	**Chengdu**	**75.04 308**		P	**P**	**17 18 42.5**	**+1.8**
CD2				pP	**pP**	**17 18 53.3**	**-0.1**
CD2				sP	**sP**	**17 18 57.5**	**-0.8**
CD2				PP	**PP**	**17 21 33.2**	**+4.0**
CD2				S	**S**	**17 28 17.4**	**+1.5**
CD2				sS	**sS**	**17 28 35.5**	**-1.6**
CD2				AMB	AMB		
	comp=Z,20nm,0.5s						
CD2				AMB	AMB		
	comp=Z,200nm,5.9s						
CD2				LR	LR		
	comp=Z,590nm,5.9s						
CD2				LR	LR		
	comp=Z,280nm,7.7s						
QSPA	**South Pole Qui**	**76.10 180**		*e*P	**P**	**17 18 45.2**	**-1.0**
	comp=Z,8.2nm,0.9s						
LZH	**Lanzhou**	**77.33 312**		*e*P	**P**	**17 18 56.1**	**+2.4**
LZH				pP	**pP**	**17 19 06.2**	**-0.3**
LZH				sP	**sP**	**17 19 09.5**	**-1.9**
LZH				PP	**PP**	**17 21 49.6**	**+1.0**
LZH				*e*S	**S**	**17 28 42.1**	**+1.0**
LZH				sS	**SKSac**	**17 29 03.2**	**-0.4**
LZH				SS	**SS**	**17 33 43.2**	**+2.7**
LZH				AMB	AMB		
	comp=Z,32nm,1.1s						
LZH				AMB	AMB		
	comp=Z,140nm,4.1s						
LZH				LR	LR		
	comp=Z,500nm,14.0s						
LZH				LR	LR		
	comp=Z,470nm,15.3s						
LZH				LR	LR		
	comp=Z,530nm,16.8s						
SONM	**Songino Array**	**81.49 324**		P	**P**	**17 19 16.5**	**+0.4**
SONM	**Songino Array**	**81.49 324**		P	**P**	**17 19 16.5**	**+0.4**
	comp=Z,3.2nm,0.9s,baz=138,slow=5.8,SNR=20						
GTA	**Gaotai**	**81.67 314**		||P	**P**	**17 19 19.0**	**+1.8**
GTA				pP	**pP**	**17 19 29.7**	**-0.4**
GTA				sP	**sP**	**17 19 33.8**	**-1.2**
GTA				S	**S**	**17 29 29.2**	**+2.3**
GTA				sS	**sS**	**17 29 46.5**	**-1.9**
GTA				AMB	AMB		
	comp=Z,12nm,1.0s						
GTA				AMB	AMB		
	comp=Z,170nm,6.9s						
GTA				LR	LR		
	comp=Z,110nm,15.9s						
GTA				LR	LR		
	comp=Z,110nm,16.9s						
GTA				LR	LR		
	comp=Z,100nm,15.4s						
MAW	**Mawson**	**82.40 202**		P	**P**	**17 19 20.9**	**+0.5**
MAW	**Mawson**	**82.40 202**		P	**P**	**17 19 20.9**	**+0.5**
	comp=Z,3.0nm,0.8s,baz=92,slow=6.4,SNR=6.1						
LSA	**Lhasa**	**84.62 302**		*e*P	**P**	**17 19 33.8**	**+0.7**
	comp=Z,8.0nm,1.0s						
ILAR	**Eielson Array**	**85.95 18**		P	**P**	**17 19 36.7**	**-1.7**
ILAR	**Eielson Array**	**85.95 18**		P	**P**	**17 19 36.7**	**-1.7**
	comp=Z,1.1nm,0.5s,baz=252,slow=4.9,SNR=17						
TAPN	**Taplejung**	**86.76 299**		*e*P	**P**	**17 19 44.4**	**+0.8**
ODAN	**Odare**	**86.89 298**		*e*P	**P**	**17 19 44.1**	**0.0**
RAMN	**Ramite**	**87.59 298**		*e*P	**P**	**17 19 47.8**	**+0.3**
JIRN	**Jiri**	**88.14 299**		*e*P	**P**	**17 19 50.5**	**+0.2**
GUN	**Gumba**	**88.48 299**		*e*P	**P**	**17 19 52.1**	**+0.2**
PKI	**Pulchoki**	**88.78 299**		*e*P	**P**	**17 19 52.8**	**-0.5**
KKN	**Kakani**	**88.95 299**		*e*P	**P**	**17 19 54.0**	**+0.1**
DMN	**Daman**	**89.05 299**		*e*P	**P**	**17 19 54.6**	**+0.2**
GKN	**Gorkha**	**89.56 299**		*e*P	**P**	**17 19 56.1**	**-0.6**
KOLN	**Koldanda**	**90.38 298**		*e*P	**P**	**17 19 59.5**	**-1.1**
DANN	**Dangsing**	**90.40 299**		*e*P	**P**	**17 20 00.0**	**-0.8**
WMQ	**Urumqi**	**91.73 315**		P	**P**	**17 20 07.0**	**+0.7**
WMQ				pP	**pP**	**17 20 15.0**	**-4.4**
WMQ				sP	sP	17 20 18.2	-6.0
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.5s						
WMQ				AMB	AMB		
	comp=Z,220nm,4.4s						
MK31	**Makanchi Array**	**96.20 317**		*e*P	**P**	**17 20 26.7**	**-0.1**
MKAR	**Makanchi Array**	**96.20 317**		P	**P**	**17 20 26.7**	**-0.1**
MKAR	**Makanchi Array**	**96.20 317**		P	**P**	**17 20 26.7**	**-0.1**
	comp=Z,3.5nm,0.9s,baz=100,slow=6.3,SNR=21						
ZALV	**Zalesovo Beam**	**96.39 324**		P	**P**	**17 20 26.3**	**-1.0**
ZALV	**Zalesovo Beam**	**96.39 324**		P	**P**	**17 20 26.3**	**-1.0**
	comp=Z,4.3nm,0.9s,baz=106,slow=4.9,SNR=13						
ARCES	**ARCESS Array B**	**119.32 345**		PKP	**PKPdf**	**17 25 46.1**	**-1.1**
ARCES	**ARCESS Array B**	**119.32 345**		PKP	**PKPdf**	**17 25 46.1**	**-1.1**
	comp=Z,5.4nm,0.9s,baz=77,slow=1.8,SNR=31						
FINES	**FINESS Array B**	**124.75 338**		PKP	**PKPdf**	**17 25 57.0**	**-0.8**
FINES	**FINESS Array B**	**124.75 338**		PKP	**PKPdf**	**17 25 57.0**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=54,slow=1.8,SNR=10.0						
NOA	**NORSAR Array B**	**129.69 345**		PKP	**PKPdf**	**17 26 06.6**	**-0.8**
NOA	**NORSAR Array B**	**129.69 345**		PKP	**PKPdf**	**17 26 06.6**	**-0.8**
	comp=Z,1.4nm,0.8s,baz=36,slow=2.0,SNR=3.9						
AKASG	**Malin Array Be**	**129.73 326**		PKP	**PKPdf**	**17 26 06.3**	**-1.3**
AKASG	**Malin Array Be**	**129.73 326**		PKP	**PKPdf**	**17 26 06.3**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=47,slow=2.4,SNR=6.6						
BRTR	**Keskin Array B**	**131.53 311**		PKP	**PKPdf**	**17 26 11.5**	**-0.1**
BRTR	**Keskin Array B**	**131.53 311**		PKP	**PKPdf**	**17 26 11.5**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=45,slow=4.3,SNR=2.9						
GERES	**GERESS Array B**	**138.65 333**		PKP	**PKPdf**	**17 26 24.4**	**-0.2**
GERES				SKPbc	**SKiKP**	**17 29 59.2**	**-0.4**
GERES	**GERESS Array B**	**138.65 333**		PKP	**PKPdf**	**17 26 24.4**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=29,slow=2.2,SNR=4.9						
GERES				SKPbc	**SKiKP**	**17 29 59.2**	**-0.4**
	comp=Z,2.0nm,1.0s,baz=30,slow=3.2,SNR=5.8						
PLDF	**La Plantade**	**144.99 339**		PKP	**PKPdf**	**17 26 36.6**	**+0.7**
AGO	**Saint Agoulin**	**145.08 340**		PKP	**PKPdf**	**17 26 39.2**	**+3.2**
SAOF	**Saorge**	**145.10 333**		PKP	**PKPbc**	**17 26 35.5**	**-0.1**
TOUF	**Mont Tournerai**	**145.22 334**		PKP	**PKPbc**	**17 26 36.0**	**-0.2**
PYM	**Petit Puy Mans**	**145.39 340**		PKP	**PKPab**	**17 26 37.8**	**+1.1**
LBL	**Lubilhac**	**145.76 339**		PKP	**PKPab**	**17 26 39.6**	**+1.5**
KEST	**Kesra**	**150.21 321**	*e*PKPbc	PKPbc	**PKPbc**	**17 26 48.8**	**-1.3**
KEST	**Kesra**	**150.21 321**	PKPbc	PKPbc	**PKPbc**	**17 26 49.7**	**-0.3**
	comp=Z,6.2nm,0.9s,baz=86,slow=2.6,SNR=12						
CMAH	**Djebel Manchou**	**150.74 324**		P	**PKPbc**	**17 26 50.7**	**-0.5**
CAEH	**'Ain El Ouahch**	**150.94 325**		P	**PKPbc**	**17 26 52.2**	**+0.6**
ABSA	**Djebel Ababsia**	**150.95 324**		P	**PKPbc**	**17 26 51.8**	**0.0**
DFRA	**Djebel Bou Aff**	**151.65 326**		P	**PKPbc**	**17 26 53.7**	**+0.3**
ESDC	**Sonseca Array**	**153.05 344**	PKPbc	PKPbc	**PKPbc**	**17 26 55.8**	**-0.6**
ESDC	**Sonseca Array**	**153.05 344**	PKPbc	PKPbc	**PKPbc**	**17 26 55.8**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=19,slow=2.8,SNR=5.0						
TOA0	**Torodi Ar. Sit**	**165.34 269**	*e*PKPdf	**PKPdf**	**17 27 02.8**	**-1.1**
TORD	**Torodi Ar. Bea**	**165.34 269**	PKP	**PKPdf**	**17 27 03.3**	**-0.6**
TORD	**Torodi Ar. Bea**	**165.34 269**	PKP	**PKPdf**	**17 27 03.3**	**-0.6**
	comp=Z,1.6nm,0.8s,baz

BDFB **Brasilia** 23.45 71 P P 17 15 25.9 -2.6
BDFB **Brasilia** 23.45 71 P P 17 15 25.9 -2.6
45nm,0.8s,baz=239,slow=10,SNR=48
OTAV **Otavalo** 26.22 343 eP P 17 15 54.9 +0.7
62nm,1.3s
OTAV ePcP PcP 17 19 21.8 +1.1
USHA **Ushuaia** 29.75 177 P P 17 16 25.2 +0.3
USHA **Ushuaia** 29.75 177 P P 17 16 25.2 +0.3
22nm,0.8s,baz=296,slow=6.4,SNR=13
USHA LR LR 17 29 30.9
comp=Z,2µm,19.3s,baz=353,slow=39
ROSC **El Rosal** 29.97 353 eP P 17 16 27.9 +0.3
ROSC **El Rosal** 29.97 353 P P 17 16 28.1 +0.5
8.7nm,0.8s,baz=289,slow=9.1,SNR=6.5
ROSC LR LR 17 28 32.8
comp=Z,1µm,19.9s,baz=195,slow=37
SDV **Santo Domingo** 33.79 1 eP P 17 16 58.8 -2.1
17nm,1.0s
BCIP **Isla Barro Col** 35.15 345 eP P 17 17 12.9 +0.4
RCBR **Riachuelo** 38.65 66 eP P 17 17 42.2 -0.3
255nm,1.0s
TGUH **Tegucigalpa,Un** 42.06 336 eP P 17 18 11.2 +0.7
89nm,1.0s
CRPR **Cabo Rojo, PR** 43.02 5 eP P 17 18 14.7 -3.5
74nm,1.1s
OBIP **Obispado Ponce** 43.10 6 eP P 17 18 16.5 -2.4
86nm,1.0s
CELP **Cerrillos** 43.13 6 eP P 17 18 16.6 -2.6
LSP **Las Mesas** 43.19 5 eP P 17 18 17.2 -2.4
SJG **San Juan** 43.21 7 eP P 17 18 16.4 -3.3
68nm,1.0s
MTP **Monte Pirata** 43.27 8 P P 17 18 16.9 -3.4
27nm,1.1s
LRS **Lares** 43.32 6 eP P 17 18 18.4 -2.3
LRS ePcP PcP 17 20 09.2 0.0
CBYP **Canovanas** 43.40 7 eP P 17 18 18.1 -3.3
78nm,1.0s
SDDR **Presa de Saban** 43.83 360 P P 17 18 20.2 -4.6
GTBY **Guantanamo Bay** 44.95 354 eP P 17 18 33.2 -0.4
103nm,0.9s
TEIG **Tepich** 48.11 338 eP P 17 18 58.0 -0.5
34nm,1.0s
BBSR **BB Station** 57.47 6 eP P 17 20 05.0 -2.4
73nm,1.4s
TIGA **Tifton** 57.51 347 eP P 17 20 06.9 -0.9
TIGA **Tifton** 57.51 347 ⇑P P 17 20 07.2 -0.6
baz=58
VNA1 **Neumayer--Stat** 57.55 159 eP P 17 20 08.6 +1.0
VNA2 **Neumayer--Watz** 57.91 160 eP P 17 20 10.7 +0.5
baz=289,slow=9.7
RKT **Rikitea** 57.97 257 eS S 17 28 06.5 -3.0
564nm,25.2s
RKT eLR LR 17 37 17.3
1µm,27.2s,baz=98
SNAA **Sanae** 59.52 160 eP P 17 20 21.7 +0.3
SNAA **Sanae** 59.52 160 eP P 17 20 21.0 -0.4
59nm,0.8s
LRAL **Lakeview Retre** 59.81 344 eP P 17 20 22.3 -1.4
16nm,1.1s
VBMS **Vicksburg** 59.99 341 P P 17 20 24.9 -0.1
732A **Laxson Ranch,** 60.37 331 ⇓P P 17 20 28.1 +0.5
baz=61,SNR=14
CNNC **Cliffs of the** 60.38 353 eP P 17 20 26.9 -0.7
107nm,1.0s
632A **Uvalde** 60.95 331 ⇑P P 17 20 32.1 +0.5
baz=61,SNR=19
631A **Perdido Creek** 61.22 331 ⇓P P 17 20 33.8 +0.3
baz=62,SNR=18
532A **Rocksprings** 61.54 332 ⇑P P 17 20 36.2 +0.5
baz=62,SNR=15
CPCT **Cooper Cave** 61.59 347 eP P 17 20 34.7 -1.0
TKL **Tuckaleechee C** 61.64 348 eP P 17 20 35.1 -1.1
SWET **Sewanee** 61.65 346 eP P 17 20 35.1 -1.2
75nm,0.9s
JCT **Junction City** 61.80 332 eP P 17 20 37.5 +0.1
JCT pmax pmax
comp=Z,44nm,0.8s
JCT **Junction City** 61.80 332 eP P 17 20 37.5 +0.1
comp=Z,44nm,0.8s
JCT **Junction City** 61.80 332 ⇑P P 17 20 37.7 +0.3
baz=62,SNR=27
531A **Rocksprings** 61.85 331 ⇑P P 17 20 38.4 +0.6
baz=62,SNR=21
432A **Menard** 62.14 332 ⇓P P 17 20 40.0 +0.3
baz=62,SNR=20
WHTX **Lake Whitney** 62.17 335 eP P 17 20 39.9 +0.1
WHTX **Lake Whitney** 62.17 335 ⇑P P 17 20 40.0 +0.2
baz=62,SNR=7.0
530A **J-C Ranch, Com** 62.19 330 ⇑P P 17 20 40.3 +0.3
baz=62,SNR=15
431A **Sonora** 62.33 331 ⇑P P 17 20 41.2 +0.3
baz=63,SNR=12
628A **Black Gap, Mar** 62.34 329 ⇓P P 17 20 42.0 +0.9
baz=63,SNR=9.0
TZTN **Tazewell** 62.46 349 eP P 17 20 40.6 -1.1
comp=Z,33nm,1.3s
627A **Terlingua Ranc** 62.55 328 ⇓P P 17 20 43.1 +0.5
baz=63,SNR=15
332A **Millersview** 62.56 332 ⇑P P 17 20 42.8 +0.3
baz=63,SNR=27
529A **Stev Forest Ra** 62.57 330 ⇑P P 17 20 43.4 +0.8
baz=63,SNR=24
TXAR **Lajitas Array** 62.59 328 P P 17 20 43.7 +0.9
TXAR **Lajitas Array** 62.59 328 P P 17 20 43.7 +0.9
comp=Z,10nm,0.9s,baz=146,slow=7.9,SNR=59
VWCC **Virginia Weste** 62.60 352 eP P 17 20 42.2 -0.4
BLA **Blacksburg** 62.63 351 eP P 17 20 42.2 -0.6
BLA pmax pmax
comp=Z,24nm,0.8s
BLA **Blacksburg** 62.63 351 eP P 17 20 42.2 -0.6
comp=Z,24nm,0.8s
430A **Baggett Ranch,** 62.69 331 ⇑P P 17 20 43.7 +0.4
baz=63,SNR=10
331A **San Angelo** 62.78 332 ⇓P P 17 20 44.3 +0.3
baz=63,SNR=12
JSRW **J. Sargeant Re** 62.81 354 eP P 17 20 44.0 +0.1
429A **Davenport Ranc** 62.85 330 ⇑P P 17 20 45.2 +0.7
baz=63,SNR=37
528A **Cox Ranch, San** 62.87 329 ⇑P P 17 20 45.1 +0.5
baz=63,SNR=19
232A **Coleman** 62.96 333 ⇑P P 17 20 45.2 +0.1
baz=63,SNR=29
WVT **Waverly** 62.96 345 eP P 17 20 43.3 -1.7
WVT pmax pmax
comp=Z,44nm,0.9s
WVT **Waverly** 62.96 345 eP P 17 20 43.3 -1.7
comp=Z,44nm,0.9s
626A **Big Bend Ranch** 63.00 328 ⇓P P 17 20 46.6 +1.2
baz=63,SNR=92
MIAR **Mount Ida** 63.09 339 eP P 17 20 45.3 -0.6
MIAR pmax pmax
comp=Z,24nm,1.0s
MIAR **Mount Ida** 63.09 339 eP P 17 20 45.3 -0.6
comp=Z,24nm,1.0s
330A **Mertzon** 63.19 331 ⇑P P 17 20 47.1 +0.4
baz=64,SNR=17
527A **Woodward Ranch** 63.24 328 ⇓P P 17 20 47.9 +0.7
baz=64,SNR=27
231A **Bronte** 63.28 332 ⇓P P 17 20 47.5 +0.3
baz=64
428A **Kincaid Ranch,** 63.29 330 ⇓P P 17 20 48.5 +1.1
baz=64,SNR=12
526A **Mary Lane Ranc** 63.40 328 ⇑P P 17 20 49.0 +0.8
baz=64,SNR=46
230A **Sterling City** 63.58 331 ⇑P P 17 20 49.5 +0.2
baz=64,SNR=8.4
ABTX **Abilene, Hawle** 63.60 333 eP P 17 20 49.1 -0.2
ABTX **Abilene, Hawle** 63.60 333 ⇓P P 17 20 49.6 +0.3
baz=64,SNR=22
329A **Wagon Wheel Ra** 63.62 331 ⇑P P 17 20 50.0 +0.5
baz=64,SNR=24
PVMO **Portageville** 63.70 343 P P 17 20 50.3 +0.4
comp=Z,212nm,0.9s
427A **Hayter Ranch,** 63.73 329 ⇑P P 17 20 50.9 +0.6
baz=64,SNR=12
426A **McDonald Obser** 63.87 328 ⇓P P 17 20 52.2 +0.7
baz=64,SNR=35
328A **Wristen Ranch,** 63.90 330 ⇓P P 17 20 52.0 +0.6
baz=64,SNR=13
131A **Roby** 63.95 333 ⇓P P 17 20 52.1 +0.4
baz=64,SNR=6.5
PARMO **Parma** 63.95 343 eP P 17 20 50.2 -1.3
229A **Bryant Ranch,** 63.95 331 ⇑P P 17 20 52.3 +0.6
baz=64,SNR=10
130A **Snyder** 64.12 332 ⇓P P 17 20 53.1 +0.3
baz=64,SNR=11
Z32A **Haskell** 64.13 334 ⇑P P 17 20 53.1 +0.3
baz=64,SNR=6.4
326A **Caldwell Ranch** 64.39 329 ⇑P P 17 20 55.3 +0.6
baz=65,SNR=19
Z31A **Sharp Cattle R** 64.41 333 ⇓P P 17 20 55.1 +0.5
baz=65,SNR=30
228A **UT Block 9, Go** 64.43 330 ⇓P P 17 20 55.3 +0.5
baz=65,SNR=15
425A **Indio Mountain** 64.43 328 ⇑P P 17 20 55.8 +0.8
baz=65,SNR=36
129A **Stewart Farms,** 64.54 331 ⇑P P 17 20 55.8 +0.2
baz=65,SNR=12
WCI **Wyandotte Cave** 64.63 347 eP P 17 20 54.4 -1.6
WCI pmax pmax
comp=Z,66nm,0.8s
WCI **Wyandotte Cave** 64.63 347 eP P 17 20 54.4 -1.6
comp=Z,66nm,0.8s
227A **Bennet, Jal** 64.65 330 ⇑P P 17 20 57.1 +0.8
baz=65,SNR=6.1
USIN **University of** 64.67 345 eP P 17 20 54.5 -1.7
comp=Z,97nm,0.9s
Y32A **R-V Farms, Ver** 64.72 334 ⇑P P 17 20 56.9 +0.2
baz=65,SNR=5.4
Z30A **Sanderson Ranc** 64.79 332 ⇓P P 17 20 57.3 +0.1
baz=65,SNR=18
128A **Castleberry Fa** 64.81 331 ⇑P P 17 20 57.6 +0.3
baz=65,SNR=16
SIUC **Southern Illin** 64.81 344 eP P 17 20 56.3 -0.8
comp=Z,77nm,0.9s
325A **Bean Ranch, Si** 64.90 328 ⇑P P 17 20 58.6 +0.5
baz=65,SNR=69
MCWV **Mont Chateau** 64.96 352 eP P 17 20 57.5 -0.6
comp=Z,34nm,0.8s
Z29A **Hungry Hill Ra** 65.01 332 ⇑P P 17 20 58.6 -0.1
baz=65,SNR=14
Y31A **Rekieta Farm,** 65.02 333 ⇓P P 17 20 58.7 +0.1
baz=65,SNR=24
QSPA **South Pole Qui** 65.10 180 eP P 17 20 59.7 +0.8
226B **Tecolote Peak,** 65.11 329 ⇓P P 17 21 00.2 +0.8
baz=65,SNR=27
Y30A **Stafford Cattl** 65.20 333 ⇓P P 17 20 59.8 -0.1
baz=66,SNR=6.3
324A **Moseley Ranch,** 65.21 328 ⇓P P 17 20 59.9 -0.1
baz=66,SNR=32
127A **Arkansas Junct** 65.24 330 ⇓P P 17 21 00.8 +0.6
baz=66,SNR=17
GDL2 **Guadalupe Moun** 65.31 329 eP P 17 21 01.5 +0.8
comp=Z,22nm,0.5s
Z28A **Tucker Farm, M** 65.33 331 ⇑P P 17 21 00.7 0.0
baz=66,SNR=16
MNTX **Cornudas Mount** 65.37 328 eP P 17 21 00.7 -0.2
comp=Z,13nm,0.8s
225A **Deer Hill, Car** 65.44 329 ⇑P P 17 21 02.0 +0.4
baz=66,SNR=14
X31A **McDonald Ranch** 65.48 334 ⇑P P 17 21 01.8 +0.2
baz=66,SNR=18
OLIL **Olney** 65.51 345 eP P 17 20 59.9 -1.7
comp=Z,38nm,0.8s
Y29A **Porterfield Fa** 65.51 332 ⇓P P 17 21 01.9 0.0
baz=66
126A **Clayton Basin,** 65.52 330 ⇑P P 17 21 02.5 +0.5
baz=66,SNR=14
BLO **Bloomington** 65.58 347 eP P 17 21 00.4 -1.7
BLO pmax pmax
comp=Z,39nm,0.9s
BLO **Bloomington** 65.58 347 eP P 17 21 00.4 -1.7
comp=Z,39nm,0.9s
X30A **Coker Ranch, T** 65.69 333 ⇑P P 17 21 03.0 +0.1
baz=66
Z27A **Tatum** 65.72 331 ⇓P P 17 21 03.4 +0.1
baz=66,SNR=23
SSPA **Standing Stone** 65.72 354 eP P 17 21 02.8 -0.2
comp=Z,29nm,0.9s
224A **Cornudas Mount** 65.75 328 ⇓P P 17 21 03.7 +0.1
baz=66
Y28A **McKinney Farm,** 65.80 332 ⇑P P 17 21 03.9 +0.2
baz=66,SNR=6.5
125A **Gardner Draw,** 65.82 329 ⇓P P 17 21 04.2 +0.2
baz=66,SNR=19
SLM **Saint Louis** 65.94 344 eP P 17 21 03.6 -0.8
SLM pmax pmax
comp=Z,47nm,1.0s
SLM **Saint Louis** 65.94 344 eP P 17 21 03.6 -0.8
comp=Z,47nm,1.0s
W31A **Holland Ranch,** 65.95 334 ⇓P P 17 21 04.5 -0.1
baz=66
ACSO **Alum Creek Sta** 65.96 350 eP P 17 21 03.3 -1.3
comp=Z,102nm,0.8s
Z26A **Caprock** 66.02 330 ⇑P P 17 21 05.7 +0.4
baz=66,SNR=28
X29A **Tulia** 66.03 332 ⇓P P 17 21 05.3 +0.1
baz=66,SNR=5.8
MSTX **Muleshoe** 66.08 331 eP P 17 21 05.5 -0.1
MSTX **Muleshoe** 66.08 331 ⇑P P 17 21 05.4 -0.1
baz=66,SNR=43
YLE **Yale** 66.11 358 eP P 17 21 06.2 +0.7
comp=Z,122nm,1.1s
Y27A **Causey** 66.18 331 ⇑P P 17 21 06.4 +0.2
baz=66,SNR=18
124A **Stringfield Ra** 66.23 329 ⇑P P 17 21 07.7 +0.9
baz=66,SNR=19
X28A **Dimmitt** 66.30 332 ⇑P P 17 21 07.3 +0.4
baz=67
Z25A **Roswell** 66.37 329 ⇓P P 17 21 07.9 +0.4
baz=67,SNR=8.2
V31A **Spring Creek L** 66.43 335 ⇓P P 17 21 08.4 +0.7
baz=67
Y26A **Elida** 66.50 331 ⇓P P 17 21 09.1 +0.8
baz=67
222A **Williams Famil** 66.54 327 ⇑P P 17 21 09.6 +1.0
baz=67,SNR=6.6
W29A **Amarillo** 66.59 333 ⇑P P 17 21 09.1 +0.3
baz=67,SNR=7.1
320A **Kipp Ranch, An** 66.65 325 ⇑P P 17 21 10.7 +1.4
baz=67,SNR=18
BRYW **Bryant College** 66.69 360 eP P 17 21 09.6 +0.5
comp=Z,197nm,1.0s
Z24A **Sheeppen Canyo** 66.71 329 ⇑P P 17 21 10.3 +0.5
baz=67,SNR=30
SFIN **Scholer Farm** 66.86 347 eP P 17 21 08.2 -2.0
SFIN **Scholer Farm** 66.86 347 ⇓P P 17 21 08.7 -1.6
baz=67
Y25A **Mesa, Roswell** 66.89 330 ⇓P P 17 21 11.3 +0.5
baz=67,SNR=12
W28A **Vega** 66.94 333 ⇑P P 17 21 11.8 +0.8
baz=67
ALLY **Alegheny Colle** 66.96 353 eP P 17 21 10.3 -0.7
comp=Z,61nm,1.0s
122A **Conniff Cattle** 66.97 327 ⇑P P 17 21 12.6 +1.3
baz=67
X26A **CR and CF Fran** 67.02 331 ⇓P P 17 21 12.8 +1.2
baz=67
Z23A **Rita Site, Whi** 67.06 328 ⇓P P 17 21 13.3 +1.4
baz=67,SNR=8.8
319A **Douglas** 67.07 325 ⇓P P 17 21 13.5 +1.5
baz=67,SNR=21
220A **Playas Peak, P** 67.10 326 ⇓P P 17 21 13.4 +1.2
baz=67,SNR=28
W27A **Bowe Ranch, En** 67.13 332 ⇓P P 17 21 13.0 +0.7
baz=67
121A **Cookes Peak, D** 67.23 327 ⇑P P 17 21 14.2 +1.2
baz=68,SNR=16
Y24A **Capitan** 67.24 329 ⇓P P 17 21 14.1 +1.0
baz=68,SNR=7.3
HRV **Adam Dziewonsk** 67.28 360 eP P 17 21 13.5 +0.6
HRV pmax pmax
comp=Z,58nm,0.9s
HRV **Adam Dziewonsk** 67.28 360 eP P 17 21 13.5 +0.6
comp=Z,58nm,0.9s
V28A **Channing** 67.37 333 ⇓P P 17 21 14.7 +1.0
baz=68,SNR=5.5
U30A **WK&E Inc. Balk** 67.41 334 ⇓P P 17 21 15.4 +1.5
baz=68
ERPA **Erie** 67.41 353 eP P 17 21 12.7 -1.0
comp=Z,69nm,1.0s
Z22A **Elephant Butte** 67.41 328 ⇓P P 17 21 15.7 +1.5
baz=68,SNR=56
W26A **Owens Ranch, T** 67.46 331 ⇓P P 17 21 15.1 +0.7
baz=68,SNR=11
HDIL **Hopedale** 67.52 345 eP P 17 21 12.9 -1.6
comp=Z,63nm,0.9s
T31A **Randall Ranch,** 67.53 335 ⇓P P 17 21 15.2 +0.5
baz=68,SNR=6.0
Y23A **Lovelace Mesa,** 67.53 329 ⇓P P 17 21 16.0 +1.1
baz=68,SNR=7.5
TRY **Troy** 67.55 358 eP P 17 21 15.2 +0.6
comp=Z,80nm,1.0s
V27A **Dan Oppiter Fa** 67.63 332 ⇑P P 17 21 16.0 +0.6
baz=68
120A **U Bar Ranch, L** 67.66 326 ⇓P P 17 21 17.3 +1.6
baz=68,SNR=7.6
Z21A **St. Cloud Mine** 67.80 327 ⇑P P 17 21 17.7 +1.1
baz=68,SNR=5.9
T30A **Plains** 67.81 335 ⇓P P 17 21 17.3 +0.9
baz=68
W25A **X Bar L Ranch,** 67.87 331 ⇓P P 17 21 17.7 +0.7
baz=68,SNR=12
U28A **Mallet** 67.91 333 ⇓P P 17 21 17.8 +0.7
baz=68,SNR=7.4
S31A **Mullinville** 67.92 336 ⇓P P 17 21 17.7 +0.6
baz=68
Y22A **Socorro** 67.97 328 ⇑P P 17 21 19.0 +1.3
baz=68,SNR=14
BNM **Barren Site** 67.98 329 eP P 17 21 18.6 +0.8
comp=Z,28nm,1.1s
V26A **Tequesquite Ra** 68.07 332 ⇓P P 17 21 18.6 +0.5
baz=68,SNR=18
Z20A **Nine Sixteen R** 68.10 326 ⇑P P 17 21 20.0 +1.5
baz=68,SNR=26
LPM **Los Pinos Moun** 68.11 329 eP P 17 21 19.7 +1.1
comp=Z,14nm,0.9s
LENM **Lemitar** 68.16 328 eP P 17 21 20.3 +1.5
comp=Z,12nm,1.1s
U27A **Thompson Grove** 68.19 333 ⇑P P 17 21 19.9 +1.0
baz=68
ACCN **Adirondack Com** 68.20 358 eP P 17 21 18.6 -0.1
comp=Z,41nm,1.1s
KSU1 **Kansas State U** 68.24 339 eP P 17 21 18.4 -0.6
comp=Z,29nm,1.0s
W24A **Lazy 6 Ranch,** 68.29 330 ⇑P P 17 21 20.2 +0.5
baz=69,SNR=12
S30A **Montezuma** 68.30 335 ⇓P P 17 21 20.3 +0.8
baz=69,SNR=7.2
Y21A **Point of Rocks** 68.36 328 ⇓P P 17 21 21.6 +1.3
baz=69,SNR=20
LAZ **Ladron** 68.43 328 eP P 17 21 21.9 +1.4
comp=Z,9.9nm,1.0s
X22A **Bernardo** 68.45 328 ⇑P P 17 21 22.8 +2.1
baz=69,SNR=6.6
V25A **Rancho No Teng** 68.46 331 ⇑P P 17 21 21.3 +0.6
baz=69,SNR=25
HNH **Hanover** 68.49 359 eP P 17 21 20.8 +0.4
comp=Z,93nm,1.0s
T28A **Walsh** 68.50 334 ⇑P P 17 21 21.4 +0.6
baz=69
R31A **Burdett** 68.52 336 ⇑P P 17 21 21.1 +0.2
baz=69,SNR=8.3
S29A **Ulysses** 68.54 335 ⇑P P 17 21 22.0 +1.0
baz=69
ANMO **Albuquerque** 68.55 329 eP P 17 21 22.5 +1.1
comp=Z,46nm,1.5s
U26A **Atchley Ranch,** 68.56 332 ⇑P P 17 21 21.9 +0.6
baz=69,SNR=20
W23A **Werner Place,** 68.59 330 ⇑P P 17 21 22.9 +1.3
baz=69,SNR=12
TUC **Tucson** 68.59 324 eP P 17 21 22.4 +0.9
TUC pmax pmax
comp=Z,21nm,1.3s
TUC **Tucson** 68.59 324 eP P 17 21 22.4 +0.9
comp=Z,21nm,1.3s
Y20A **Horse Springs,** 68.63 327 ⇓P P 17 21 23.1 +1.2
baz=69,SNR=38
V24A **Rampart Ranch,** 68.66 330 ⇓P P 17 21 22.9 +0.9
baz=69,SNR=21
T27A **Campo** 68.70 333 ⇑P P 17 21 22.4 +0.3
baz=69,SNR=12
X21A **Alamocita Cree** 68.77 328 ⇓P P 17 21 24.3 +1.5
baz=69,SNR=23
R30A **Dighton** 68.80 336 ⇑P P 17 21 23.5 +0.9
baz=69
MDV **Middlebury** 68.80 358 eP P 17 21 22.8 +0.4
NCB **Newcomb** 68.81 357 eP P 17 21 22.1 -0.4
comp=Z,31nm,1.1s
S28A **Manter** 68.82 334 ⇑P P 17 21 23.3 +0.5
baz=69,SNR=15
U25A **Circle Dot Ran** 68.84 332 ⇑P P 17 21 24.1 +1.0
baz=69,SNR=24
W22A **Albuquerque** 68.85 329 ⇑P P 17 21 24.9 +1.7
baz=69
LBNH **Lisbon** 69.02 359 eP P 17 21 24.4 +0.6
LBNH pmax pmax
comp=Z,52nm,1.1s
LBNH **Lisbon** 69.02 359 eP P 17 21 24.4 +0.6
comp=Z,52nm,1.1s
V23A **Ortiz Mt. (NFS** 69.09 330 ⇓P P 17 21 25.8 +1.1
baz=69
Q31A **Ellis** 69.11 337 ⇑P P 17 21 25.1 +0.5
baz=69,SNR=7.7
T26A **Comanche Natio** 69.15 333 ⇓P P 17 21 25.8 +0.8
baz=70,SNR=21
X20A **Quemado** 69.20 327 ⇑P P 17 21 26.1 +0.7
baz=70,SNR=20
U24A **Moreno Valley** 69.23 331 ⇑P P 17 21 27.1 +1.4
baz=70
R29A **Marienthal** 69.25 335 ⇓P P 17 21 26.3 +0.9
baz=70,SNR=14
W21A **San Fidel** 69.25 328 ⇓P P 17 21 27.4 +1.7
baz=70,SNR=6.6
S27A **Las Animas** 69.30 333 ⇓P P 17 21 26.7 +0.9
baz=70
WVL **Waterville** 69.34 1 eP P 17 21 26.2 +0.5
comp=Z,72nm,1.0s
P32A **Huiting Farm,** 69.38 337 ⇓P P 17 21 27.2 +1.1
baz=70
Q30A **Quinter** 69.39 336 ⇑P P 17 21 26.9 +0.6
baz=70,SNR=15
214A **Organ Pipe Nat** 69.41 323 ⇑P P 17 21 28.4 +1.9
baz=70,SNR=12
R28A **Tribune** 69.44 334 ⇓P P 17 21 27.4 +0.7
baz=70,SNR=8.5
LONY **Lake Ozonia** 69.47 357 eP P 17 21 26.8 +0.2
comp=Z,32nm,0.9s
T25A **Trinidad** 69.47 332 ⇑P P 17 21 28.2 +1.2
baz=70,SNR=9.3
S26A **Kim** 69.48 333 ⇓P P 17 21 27.9 +1.0
baz=70,SNR=24
V22A **San Miguel Ran** 69.56 329 ⇑P P 17 21 29.1 +1.5
baz=70,SNR=15
P31A **Stockton** 69.56 337 ⇑P P 17 21 27.8 +0.6
baz=70,SNR=10
U23A **El Rito** 69.57 330 ⇓P P 17 21 28.9 +1.2
baz=70,SNR=13
Q29A **Oakley** 69.59 335 ⇑P P 17 21 27.9 +0.4
baz=70,SNR=6.4
FRNY **Flat Rock** 69.65 358 eP P 17 21 27.8 +0.2
comp=Z,50nm,0.9s
W20A **Ramah** 69.67 328 ⇓P P 17 21 29.5 +1.2
baz=70,SNR=16
R27A **Eads** 69.78 334 ⇑P P 17 21 29.3 +0.5
baz=70,SNR=6.5
SCIA **State Center** 69.79 342 eP P 17 21 27.8 -0.8
comp=Z,51nm,1.2s
V21A **Milan** 69.81 329 ⇓P P 17 21 30.3 +1.2
baz=70
T24B **San Luis** 69.82 331 ⇓P P 17 21 30.3 +1.0
baz=70,SNR=10
O32A **Brockman Farm,** 69.84 338 ⇓P P 17 21 30.0 +1.1
baz=70
P30A **Selden** 69.89 336 ⇑P P 17 21 30.6 +1.3
baz=70
X18A **Snowflake** 69.90 326 ⇑P P 17 21 31.1 +1.4
baz=70,SNR=9.5
U22A **Llaves** 69.91 330 ⇓P P 17 21 31.6 +1.9
baz=70,SNR=13
S25A **Robets Cordova** 69.92 332 ⇑P P 17 21 30.7 +1.0
baz=70,SNR=16
JFWS **Jewell Farm** 69.98 345 eP P 17 21 27.7 -2.1
JFWS pmax pmax
comp=Z,43nm,0.9s
JFWS **Jewell Farm** 69.98 345 eP P 17 21 27.7 -2.1
comp=Z,43nm,0.9s
PKME **Peaks-Kenny Pk** 70.05 1 eP P 17 21 29.9 -0.2
comp=Z,46nm,0.9s
R26A **Arlington** 70.05 333 ⇑P P 17 21 31.3 +0.8
baz=70,SNR=25
Q28A **Sharon Springs** 70.07 335 ⇓P P 17 21 31.5 +1.0
baz=70
T23A **Casias Ranch,** 70.09 331 ⇑P P 17 21 31.8 +0.9
baz=70
O31A **Woolen Ranch,** 70.10 337 ⇑P P 17 21 31.5 +0.9
baz=70
V20A **Brimhall** 70.19 328 ⇓P P 17 21 32.9 +1.4
baz=70,SNR=7.3
P29A **Atwood** 70.20 336 ⇓P P 17 21 32.6 +1.4
baz=70
S24A **Houchin Ranch,** 70.23 332 ⇓P P 17 21 33.3 +1.5
baz=70,SNR=24

W18A **Petrified Fore** 70.27 327 *e*P P 17 21 33.3 +1.3
W18A **Petrified Fore** 70.27 327 ⇑P P 17 21 33.2 +1.3
baz=71,SNR=10
R25A **Fountain Ranch** 70.27 333 ⇑P P 17 21 33.3 +1.5
baz=71,SNR=5.5
U21A **Nageezi** 70.32 329 ⇓P P 17 21 33.9 +1.6
baz=71,SNR=15
KSCO **Kaye Shedlock'** 70.33 334 *e*P P 17 21 33.0 +0.8
KSCO **Kaye Shedlock'** 70.33 334 ⇓P P 17 21 33.3 +1.2
baz=71
O30A **MW Ranch, Wils** 70.39 337 ⇓P P 17 21 33.6 +1.3
baz=71
SDCO **Great Sand Dun** 70.45 332 *e*P P 17 21 34.1 +1.0
comp=Z,42nm,1.4s
T22A **Edith** 70.46 330 ⇓P P 17 21 34.8 +1.7
baz=71,SNR=13
113A **Mohawk Valley,** 70.55 323 ⇑P P 17 21 35.0 +1.5
baz=71
N31A **Bailey Ranch,** 70.57 338 ⇓P P 17 21 34.9 +1.4
baz=71
X16A **Lo Mia Camp, P** 70.58 325 ⇑P P 17 21 35.3 +1.5
baz=71,SNR=23
TBI **Tubuai** 70.59 253 *e*LR LR 17 43 03.7
comp=Z,520nm,26.5s,baz=107
O29A **4D Ranch, Culb** 70.61 336 ⇓P P 17 21 34.9 +1.2
baz=71
Q26A **Hugo** 70.61 334 ⇑P P 17 21 35.3 +1.4
baz=71
R24A **Sanders Place,** 70.69 332 ⇑P P 17 21 35.8 +1.4
baz=71
U20A **Newcomb** 70.69 329 ⇑P P 17 21 36.3 +1.9
baz=71
T21A **Navajo Lake** 70.73 330 ⇑P P 17 21 35.8 +1.0
baz=71,SNR=8.1
P27A **Ficken Ranch,** 70.78 335 ⇓P P 17 21 36.3 +1.4
baz=71
BGNE **Belgrade** 70.82 339 *e*P P 17 21 34.8 -0.1
BGNE **Belgrade** 70.82 339 ⇑P P 17 21 35.1 +0.1
baz=71,SNR=10
Q25A **Bedland, Calha** 70.90 333 ⇑P P 17 21 37.0 +1.3
baz=71
R23A **Moffat** 70.96 332 ⇓P P 17 21 37.4 +1.2
baz=71,SNR=14
O28A **Krutsinger Ran** 70.97 335 ⇑P P 17 21 37.0 +1.1
baz=71,SNR=6.0
Y14A **Wickenburg** 71.03 324 ⇑P P 17 21 37.8 +1.4
baz=71,SNR=9.9
S22A **4UR Ranch, Cre** 71.03 331 ⇓P P 17 21 38.0 +1.3
baz=71,SNR=11
M31A **Lambtecht Ranc** 71.04 338 ⇓P P 17 21 37.6 +1.3
baz=71
P26A **Davis Ranch, A** 71.09 334 ⇑P P 17 21 38.2 +1.5
baz=71,SNR=5.0
N29A **Votaw Ranch, W** 71.15 337 ⇓P P 17 21 38.6 +1.5
baz=72
LIC **Lamto** 71.20 74 ⇑*i*P P 17 21 37.5 -0.4
comp=Z,38nm,0.9s,baz=254
LIC **Lamto** 71.20 74 *e*P P 17 21 37.3 -0.6
comp=Z,55nm,0.9s
LIC **Lamto** 71.20 74 ⇑*i*P P 17 21 37.5 -0.4
comp=Z,38nm,0.9s
O27A **Beecher Island** 71.29 335 ⇑P P 17 21 39.4 +1.4
baz=72,SNR=9.3
Q24A **Divide** 71.32 332 ⇓P P 17 21 39.4 +1.0
baz=72,SNR=23
GLA **Glamis** 71.35 322 ⇑P P 17 21 39.6 +1.2
baz=72
MVCO **Mesa Verde** 71.35 329 *e*P P 17 21 39.3 +0.7
comp=Z,20nm,0.9s
MVCO **Mesa Verde** 71.35 329 ⇑P P 17 21 39.8 +1.3
baz=72,SNR=16
P25A **Willow Gulch B** 71.38 333 ⇓P P 17 21 40.0 +1.4
baz=72,SNR=13
S21A **Coal Bank Pass** 71.39 330 ⇑P P 17 21 40.2 +1.3
baz=72,SNR=20
R22A **Saguache, Gunn** 71.40 331 ⇑P P 17 21 40.9 +2.0
baz=72
WUAZ **Wupatki** 71.40 326 *e*P P 17 21 40.4 +1.6
comp=Z,28nm,0.9s
WUAZ **Wupatki** 71.40 326 ⇑P P 17 21 40.7 +1.9
baz=72,SNR=19
TIC **Toumodi** 71.41 73 *e*P P 17 21 38.8 -0.3
comp=Z,74nm,1.0s
KIC **Kosan Boka** 71.52 74 *e*P P 17 21 39.6 -0.2
comp=Z,103nm,1.0s
M30A **Dale-Ortello V** 71.52 337 ⇑P P 17 21 40.9 +1.7
baz=72
DBIC **Dimbokro** 71.57 73 *e*P P 17 21 39.8 -0.3
comp=Z,55nm,0.9s
DBIC **Dimbokro** 71.57 73 P P 17 21 39.8 -0.3
comp=Z,49nm,0.9s,baz=206,slow=6.0,SNR=34
DBIC LR LR 17 51 02.0
comp=Z,1μm,20.3s,baz=210,slow=34
O26A **Horse Wrangler** 71.66 334 ⇓P P 17 21 41.8 +1.6
baz=72,SNR=5.4
P24A **Kohler Place,** 71.68 333 ⇓P P 17 21 41.3 +0.8
baz=72
Y12C **Blythe** 71.70 323 ⇑P P 17 21 42.1 +1.7
baz=72,SNR=6.0
M29A **Burnside Ranch** 71.73 337 ⇑P P 17 21 41.9 +1.4
baz=72
L31A **Butterfield Fa** 71.74 339 ⇑P P 17 21 42.0 +1.5
baz=72
DVTC **Desert V Tower** 71.78 321 ⇑P P 17 21 42.4 +1.4
baz=72
OGNE **Ogallala** 71.78 336 ⇑P P 17 21 42.2 +1.4
baz=72
S20A **Disappointment** 71.79 330 ⇑P P 17 21 42.8 +1.6
baz=72,SNR=13
L30A **Spencer Herefo** 71.83 338 ⇑P P 17 21 42.6 +1.6
baz=72
N27A **Anderson Farm,** 71.85 335 ⇑P P 17 21 42.6 +1.3
baz=72
R21A **Cimarron** 71.86 330 ⇓P P 17 21 43.1 +1.5
baz=72,SNR=9.2
O25A **Wiggins** 71.87 334 ⇓P P 17 21 42.9 +1.5
baz=72,SNR=6.1
SBA **Scott Base** 71.95 191 *e*P P 17 21 42.9 +1.6
SBA pmax pmax
comp=Z,27nm,1.2s
SBA **Scott Base** 71.95 191 *e*P P 17 21 42.9 +1.6
comp=Z,26nm,1.2s
P23A **Jefferson** 71.95 332 ⇑P P 17 21 44.0 +1.8
baz=72,SNR=5.7
Q22A **Crested Butte,** 71.99 331 ⇑P P 17 21 44.0 +1.5
baz=72
R20A **Redvale** 72.09 330 ⇑P P 17 21 44.6 +1.7
baz=72,SNR=15
BAR **Barrett** 72.12 321 *e*P P 17 21 44.2 +1.2
comp=Z,23nm,1.4s
MONP **Monument Peak** 72.13 321 ⇓P P 17 21 44.5 +1.2
baz=72
PV01 **Paradox Valley** 72.14 330 *e*P P 17 21 44.5 +1.3
comp=Z,1μm,1.0s
BC3 **Big Chuckawall** 72.15 322 ⇓P P 17 21 44.7 +1.4
baz=72,SNR=7.8
L29A **Maesberg Ranch** 72.20 337 ⇑P P 17 21 44.5 +1.2
baz=72
ISCO **Idaho Springs** 72.22 333 *e*P P 17 21 44.4 +0.7
ISCO pmax pmax
comp=Z,9.0nm,0.9s
ISCO **Idaho Springs** 72.22 333 *e*P P 17 21 44.4 +0.7
comp=Z,8.9nm,0.9s
ISCO **Idaho Springs** 72.22 333 ⇑P P 17 21 44.7 +1.0
baz=72,SNR=15
Q21A **Lamborn Mesa,** 72.26 331 ⇑P P 17 21 45.6 +1.7
baz=73
O24A **Longmont** 72.27 333 ⇓P P 17 21 45.2 +1.4
baz=73
SMCO **Snowmass** 72.28 331 *e*P P 17 21 45.8 +1.5
comp=Z,30nm,1.0s
IRM **Iron Mountain** 72.36 323 ⇑P P 17 21 45.8 +1.4
baz=73,SNR=7.5
W13A **Hualapai Mount** 72.38 324 ⇑P P 17 21 46.2 +1.5
baz=73,SNR=13
M27A **Reverse DX Ran** 72.42 336 ⇑P P 17 21 46.6 +2.0
baz=73
K30A **Basset** 72.44 338 ⇓P P 17 21 45.2 +0.5
baz=73,SNR=9.8
ECSD **EROS Data Cent** 72.44 341 *e*P P 17 21 44.2 -0.4
comp=Z,33nm,0.9s
PV10 **Paradox Valley** 72.55 329 *e*P P 17 21 46.4 +0.7
comp=Z,202nm,0.8s
U15A **North Rim** 72.57 326 ⇑P P 17 21 47.6 +1.7
baz=73,SNR=23
PFO **Pinyon Flat Ob** 72.68 321 *e*P P 17 21 46.9 +0.5
comp=Z,12nm,1.1s
PFO **Pinyon Flat Ob** 72.68 321 ⇓P P 17 21 48.0 +1.6
baz=73
PFO **Pinyon Flat Ob** 72.68 321 P P 17 21 48.0 +1.6
comp=Z,5.6nm,1.0s,baz=148,slow=5.3,SNR=5.2
Q20A **Ridgley Place,** 72.68 330 ⇓P P 17 21 47.6 +1.2
baz=73
O23A **Lake Granby, G** 72.69 333 ⇑P P 17 21 47.6 +1.1
baz=73,SNR=9.6
PPT2 **Papeete2** 72.70 258 *e*S S 17 31 09.5 -0.8
comp=Z,1μm,26.0s
PPT2 **Papeete2** 72.70 258 *e*LR LR 17 44 03.6
comp=Z,1μm,29.8s,baz=108
BELC **Belle Mtn. Jos** 72.71 322 ⇓P P 17 21 47.7 +1.1
baz=73
PPT **Papeete** 72.71 258 LR LR 17 44 50.2
comp=Z,372nm,20.5s,baz=189,slow=28
K29A **Lazy Trails An** 72.76 338 ⇓P P 17 21 47.7 +1.1
baz=73
COWI **Conover** 72.77 347 *e*P P 17 21 45.5 -1.0
comp=Z,33nm,1.1s
P21A **Newcastle** 72.77 331 ⇓P P 17 21 48.5 +1.5
baz=73
SPMN **St. Paul** 72.78 344 *e*P P 17 21 45.6 -0.9
SPMN **St. Paul** 72.78 344 ⇑P P 17 21 45.7 -0.9
baz=73,SNR=9.9
N24A **Carr** 72.78 334 ⇓P P 17 21 48.2 +1.2
baz=73
L27A **T5 Ranch, Ells** 72.87 336 ⇑P P 17 21 48.5 +1.1
baz=73
O22A **Kremmling** 72.91 332 ⇑P P 17 21 48.4 +0.5
baz=73,SNR=14
M25A **Palm-Egli Farm** 72.97 335 ⇓P P 17 21 49.4 +1.4
baz=73
J30A **Dallas** 72.98 339 ⇑P P 17 21 48.1 +0.2
baz=73,SNR=10
VNDA **Vanda** 72.98 190 *e*P P 17 21 49.2 +1.7
comp=Z,15nm,1.1s
VNDA **Vanda** 72.98 190 P P 17 21 49.2 +1.7
comp=Z,8.6nm,0.9s,baz=131,slow=5.0,SNR=29
VNDA LR LR 17 52 38.9
comp=Z,202nm,19.6s,baz=142,slow=35
LDFC **Landfair** 73.02 323 P P 17 21 50.0 +1.6
comp=Z,21nm,0.8s
K28A **Ten Mile Ranch** 73.08 337 ⇑P P 17 21 49.9 +1.4
baz=73
MURC **Murrieta** 73.09 321 ⇓P P 17 21 49.7 +0.9
baz=73
GMRC **Granite Mounta** 73.10 323 ⇓P P 17 21 50.0 +1.1
baz=73,SNR=12
L26A **Underwood Farm** 73.12 336 ⇓P P 17 21 50.0 +1.2
baz=73
N23A **Red Feather La** 73.27 333 ⇑P P 17 21 50.8 +0.8
baz=74,SNR=13
M24A **Cheyenne** 73.30 334 ⇑P P 17 21 50.2 +0.2
baz=74,SNR=8.0
J29A **Okreek** 73.33 338 ⇓P P 17 21 50.3 +0.4
baz=74,SNR=13
O21A **Pagoda** 73.35 332 ⇓P P 17 21 51.5 +1.1
baz=74
K27A **Flueckinger Fa** 73.39 336 ⇑P P 17 21 51.6 +1.2
baz=74
N22A **Wattenberg Ran** 73.41 333 ⇓P P 17 21 51.7 +0.9
baz=74,SNR=13
PHWY **Pilot Hill** 73.42 334 *e*P P 17 21 51.4 +0.6
comp=Z,16nm,0.9s
I30A **Oacoma** 73.48 339 ⇓P P 17 21 51.8 +1.0
baz=74
HEC **Hector,Ludlow** 73.50 322 ⇑P P 17 21 52.5 +1.3
baz=74,SNR=11
P19A **Cripple Cowboy** 73.54 330 ⇓P P 17 21 52.6 +1.1
baz=74,SNR=36
L25A **Engebretsen Ra** 73.56 335 ⇑P P 17 21 52.6 +1.2
baz=74
O20A **White River Ci** 73.62 331 *e*P P 17 21 53.1 +1.2
O20A **White River Ci** 73.62 331 ⇑P P 17 21 53.2 +1.3
baz=74,SNR=23
J28A **Allard Ranch,** 73.66 337 ⇓P P 17 21 52.7 +0.8
baz=74,SNR=13
TUQ **Turquoise Moun** 73.73 323 ⇑P P 17 21 54.0 +1.4
baz=74,SNR=11
J27A **Elkhorn Farm,** 73.78 337 ⇓P P 17 21 53.7 +1.0
baz=74,SNR=12
SYO **Syowa Base** 73.80 159 ‖*e*P P 17 21 51.5 -0.9
SYO **Syowa Base** 73.80 159 ‖*es*P sP 17 21 53.9 -13
BRSD **Miller** 73.81 340 *e*P P 17 21 52.5 -0.2
BFSC **Mount Baldy Ra** 73.82 321 ⇓P P 17 21 54.0 +0.9
baz=74,SNR=12
SRU **San Rafael** 73.83 329 *e*P P 17 21 54.1 +0.9
SRU pmax pmax
comp=Z,19nm,0.9s
SRU **San Rafael** 73.83 329 *e*P P 17 21 54.1 +0.9
comp=Z,19nm,0.9s
L24A **Wheatland** 73.83 334 ⇑P P 17 21 54.5 +1.4
baz=74
I29A **Vivian Onida** 73.87 338 ⇑P P 17 21 53.1 0.0
baz=74,SNR=7.6
K25A **Mack Ranch, Ha** 73.91 335 ⇓P P 17 21 55.1 +1.6
baz=74
M22A **Cedar Creek Ra** 73.97 333 ⇓P P 17 21 55.4 +1.4
baz=74
Q16A **Castle Valley** 73.98 328 *e*P P 17 21 54.9 +0.8
Q16A **Castle Valley** 73.98 328 ⇓P P 17 21 55.0 +0.9
baz=74,SNR=9.2
CCUT **Cedar City** 73.98 326 *e*P P 17 21 56.3 +2.1
comp=Z,34nm,1.0s
MWC **Mount Wilson** 74.03 321 *e*P P 17 21 54.7 +0.2
MWC pmax pmax
comp=Z,29nm,1.4s
MWC **Mount Wilson** 74.03 321 *e*P P 17 21 54.7 +0.2
comp=Z,30nm,1.4s
GSC **Goldstone** 74.11 322 *e*P P 17 21 55.8 +1.0
GSC pmax pmax
comp=Z,8.0nm,0.9s
GSC **Goldstone** 74.11 322 *e*P P 17 21 55.8 +1.0
comp=Z,8.0nm,0.9s
GSC **Goldstone** 74.11 322 ⇑P P 17 21 55.9 +1.0
baz=74,SNR=6.5
SHPR **Sheep Range** 74.12 324 *e*P P 17 21 56.3 +1.4
comp=Z,17nm,1.2s
I28A **Midland** 74.14 338 ⇓P P 17 21 54.9 +0.2
baz=74,SNR=6.8
O19A **Miners Draw (B** 74.14 331 ⇓P P 17 21 55.7 +0.7
baz=74,SNR=8.1
MVU **Marysvale** 74.15 327 *e*P P 17 21 56.6 +1.5
comp=Z,20nm,1.0s
L23A **Garrett** 74.20 334 ⇓P P 17 21 56.2 +0.9
baz=74
N20A **Spence Gulch,** 74.20 331 ⇓P P 17 21 56.3 +0.9
baz=74,SNR=7.7
J26A **Sides Ranch, S** 74.22 336 ⇑P P 17 21 56.4 +1.1
baz=74
K24A **Anderson Ranch** 74.37 335 ⇓P P 17 21 57.1 +0.9
baz=75
H29A **Onida** 74.38 339 ⇓P P 17 21 56.4 +0.4
baz=75,SNR=10
L22A **Ellis Ranch, M** 74.42 333 ⇓P P 17 21 57.7 +1.1
baz=75
EDW2 **Edwards Air Fo** 74.47 321 ⇑P P 17 21 57.7 +0.8
baz=75,SNR=7.5
G30A **Faulkton** 74.48 340 ⇓P P 17 21 57.2 +0.6
baz=75,SNR=6.0
I27A **Quinn** 74.51 337 ⇓P P 17 21 57.4 +0.6
baz=75,SNR=6.4
BLG **Laguna Peak** 74.53 320 ⇑P P 17 21 58.0 +0.8
baz=75
J25A **Sunshine Ranch** 74.55 336 ⇑P P 17 21 58.2 +1.0
baz=75
H28A **Mission Ridge** 74.69 338 ⇑P P 17 21 58.3 +0.4
baz=75,SNR=6.4
OSI **Osito Adit** 74.70 321 ⇑P P 17 21 59.6 +1.4
baz=75
M20A **Sweetwater, Wa** 74.71 332 ⇓P P 17 21 59.7 +1.4
baz=75
K23A **Bowen Ranch, D** 74.71 334 ⇑P P 17 21 58.8 +0.6
baz=75,SNR=6.7
I26A **New Underwood** 74.76 337 ⇑P P 17 21 59.2 +0.8
baz=75,SNR=5.3
G29A **Hoven** 74.79 339 ⇓P P 17 21 59.4 +1.0
baz=75
J24A **Dixon Ranch, L** 74.83 335 ⇑P P 17 22 00.2 +1.4
baz=75,SNR=6.0
K22A **Casper** 74.98 334 ⇑P P 17 22 00.9 +1.2
baz=75,SNR=5.2
G28A **Parade** 75.01 339 ⇑P P 17 22 00.6 +0.9
baz=75,SNR=6.9
H27A **Howes** 75.01 338 ⇓P P 17 22 00.8 +1.1
baz=75
EYMN **Ely** 75.03 346 *e*P P 17 21 58.8 -0.9
comp=Z,23nm,0.9s
MPMC **Manual Prospec** 75.05 323 ⇓P P 17 22 01.3 +0.9
baz=75,SNR=6.0
MPU **Maple Canyon** 75.06 329 *e*P P 17 22 00.9 +0.5
comp=Z,19nm,1.0s
I25A **Rochford** 75.07 336 ⇓P P 17 22 01.5 +1.3
baz=75,SNR=21
F30A **Leola** 75.08 340 ⇑P P 17 22 00.9 +0.9
baz=75
L20A **Wamsutter** 75.20 332 ⇑P P 17 22 02.1 +1.0
baz=76,SNR=9.3
DAU **Daniels Canyon** 75.20 329 *e*P P 17 22 02.4 +1.1
DAU pmax pmax
comp=Z,17nm,1.0s
DAU **Daniels Canyon** 75.20 329 *e*P P 17 22 02.4 +1.1
comp=Z,17nm,1.0s
NLU **North Lily Min** 75.22 328 P P 17 22 02.3 +1.0
comp=Z,22nm,1.3s
H26A **Fairpoint** 75.24 337 ⇑P P 17 22 02.5 +1.4
baz=76
K21A **Alcova** 75.26 333 ⇓P P 17 22 02.2 +0.8
baz=76,SNR=23
I24A **Kuemmerle Ranc** 75.26 335 ⇓P P 17 22 02.4 +1.1
baz=76,SNR=8.4
RSSD **Black Hills** 75.27 336 *e*P P 17 22 02.1 +0.6
RSSD pmax pmax
comp=Z,59nm,1.0s
RSSD **Black Hills** 75.27 336 *e*P P 17 22 02.1 +0.6
comp=Z,60nm,1.0s
ISA **Isabella** 75.31 322 *e*P P 17 22 03.1 +1.4
ISA pmax pmax
comp=Z,11nm,0.9s
ISA **Isabella** 75.31 322 *e*P P 17 22 03.0 +1.4
comp=Z,11nm,0.9s
ISA **Isabella** 75.31 322 ⇓P P 17 22 03.2 +1.4
baz=76,SNR=16
F29A **Eureka** 75.33 340 ⇓P P 17 22 01.8 +0.3
baz=75,SNR=5.2
JLU **Jordanelle** 75.44 329 *e*P P 17 22 03.6 +1.0
comp=Z,12nm,0.8s
PKM **Peak Mountain** 75.53 320 ⇑P P 17 22 04.0 +0.9
baz=76,SNR=16
H25A **Fruitdale** 75.54 337 ⇑P P 17 22 03.7 +0.9
baz=76
J22A **Midwest** 75.60 334 ⇓P P 17 22 03.9 +0.6
baz=76,SNR=14
G27A **Dupree** 75.61 338 ⇓P P 17 22 03.4 +0.2
baz=76,SNR=12
E30A **Jud** 75.64 340 ⇓P P 17 22 03.4 +0.2
baz=76,SNR=5.6
CWC **Cottonwood Cre** 75.65 322 ⇓P P 17 22 05.5 +1.7
baz=76
F28A **McLaughlin** 75.65 339 ⇓P P 17 22 04.6 +1.2
baz=76
L19A **Farson** 75.71 332 ⇓P P 17 22 05.7 +1.7
baz=76
R11A **Troy Canyon, C** 75.73 325 *e*P P 17 22 05.8 +1.5
R11A **Troy Canyon, C** 75.73 325 ⇑P P 17 22 05.7 +1.5
baz=76,SNR=21
DUG **Dugway** 75.77 328 *e*P P 17 22 05.7 +1.4
DUG pmax pmax
comp=Z,20nm,1.0s
DUG **Dugway** 75.77 328 *e*P P 17 22 05.7 +1.4
comp=Z,20nm,1.0s
DUG **Dugway** 75.77 328 ⇑P P 17 22 05.4 +1.1
baz=76,SNR=22
G26A **Maurine** 75.77 338 ⇓P P 17 22 04.7 +0.7
baz=76,SNR=8.9
M17A **Scullys Gap (B** 75.78 330 ⇑P P 17 22 05.1 +0.6
baz=76
L18A **Fontenelle, Gr** 75.86 331 ⇓P P 17 22 05.8 +0.9
baz=76,SNR=18
SMMC **Simmler** 75.93 320 ⇑P P 17 22 06.5 +1.3
baz=76,SNR=12
J21A **Lysite** 75.93 333 ⇓P P 17 22 06.0 +0.7
baz=76,SNR=9.4
G25A **Newell** 75.97 337 ⇓P P 17 22 06.1 +0.8
baz=76,SNR=9.0
H24A **Dirks Ranch, A** 76.00 336 ⇑P P 17 22 06.0 +0.6
baz=76,SNR=18
I22A **9 Mile Ranch,** 76.00 334 ⇑P P 17 22 06.1 +0.5
baz=76,SNR=11
F27A **Lemmon** 76.08 338 ⇑P P 17 22 06.5 +0.7
baz=76,SNR=6.9
D30A **Buchanan** 76.14 341 ⇑P P 17 22 06.5 +0.5
baz=76,SNR=14
H23A **Clabaugh Cattl** 76.15 335 ⇑P P 17 22 07.6 +1.2
baz=76
TIN **Tinemaha** 76.18 323 ⇑P P 17 22 09.1 +2.4
baz=76
J20A **Shoshoni** 76.20 333 ⇓P P 17 22 08.2 +1.5
baz=76
I21A **Big Trails, Te** 76.26 334 ⇑P P 17 22 07.5 +0.5
baz=77,SNR=23
E28A **Huff** 76.26 339 ⇑P P 17 22 07.8 +1.0
baz=77
F26A **Lodgepole** 76.28 338 ⇓P P 17 22 07.6 +0.7
baz=77,SNR=20
PDAR **Pinedale Array** 76.34 332 P P 17 22 07.9 +0.3
PDAR **Pinedale Array** 76.34 332 P P 17 22 07.9 +0.3
comp=Z,3.4nm,1.0s,baz=126,slow=6.9,SNR=12
PDAR LR LR 17 55 27.4
comp=Z,140nm,18.7s,baz=123,slow=36
AGMN **Agassiz Nation** 76.41 343 *e*P P 17 22 06.9 -0.7
comp=Z,34nm,0.8s
E27A **Carson** 76.41 339 ⇓P P 17 22 08.9 +1.2
baz=77
BGU **Big Grassy Mou** 76.44 329 *e*P P 17 22 08.9 +0.8
comp=Z,20nm,1.3s
G24A **Alzada** 76.44 336 ⇓P P 17 22 08.7 +0.7
baz=77,SNR=6.4
J19A **Crowheart** 76.53 332 ⇑P P 17 22 09.3 +0.6
baz=77,SNR=18
H22A **Clearmont** 76.54 335 ⇑P P 17 22 09.2 +0.7
baz=77,SNR=5.6
C30A **Mose, Pekin** 76.59 341 ⇓P P 17 22 09.7 +1.0
baz=77
F25A **Bowman** 76.62 337 ⇓P P 17 22 09.6 +0.7
baz=77,SNR=9.7
G23A **Biddle** 76.69 336 ⇑P P 17 22 09.9 +0.5
baz=77,SNR=14
I20A **Worland** 76.71 333 ⇑P P 17 22 10.5 +0.9
baz=77,SNR=7.4
E26A **Carlson Angus** 76.75 338 ⇓P P 17 22 10.4 +0.8
baz=77
D28A **Regan** 76.77 340 ⇑P P 17 22 10.7 +1.0
baz=77
H21A **Big Horn, Sher** 76.84 334 ⇑P P 17 22 10.5 +0.2
baz=77,SNR=6.5
F24A **Ekalaka** 76.90 337 ⇓P P 17 22 11.0 +0.5
baz=77,SNR=16
MLAC **Mammoth Lakes** 76.93 323 ⇑P P 17 22 13.3 +2.2
baz=77
HVU **Hansel Valley** 76.99 329 *e*P P 17 22 12.1 +0.9
HVU pmax pmax
comp=Z,15nm,0.8s
HVU **Hansel Valley** 76.99 329 *e*P P 17 22 12.1 +0.9
comp=Z,15nm,0.8s
G22A **Birney** 77.05 335 ⇓P P 17 22 12.0 +0.6
baz=77
MDND **Maddock** 77.06 341 *e*P P 17 22 11.7 +0.4
MDND **Maddock** 77.06 341 ⇑P P 17 22 11.5 +0.3
baz=77,SNR=6.9
E25A **Miller Ranch,** 77.09 338 ⇑P P 17 22 12.8 +1.2
baz=77
H20A **Greybull** 77.10 334 ⇓P P 17 22 12.1 +0.4
baz=77,SNR=18
I19A **Meeteetse** 77.14 333 ⇑P P 17 22 12.8 +0.7
baz=77,SNR=18
F23A **Volborg** 77.14 336 ⇑P P 17 22 12.9 +1.0
baz=77
NV11 **Mina Array Sit** 77.14 324 *e*P P 17 22 13.0 +0.9
NVAR **Mina Array Bea** 77.22 324 P P 17 22 13.9 +1.2
NVAR **Mina Array Bea** 77.22 324 P P 17 22 13.9 +1.2
comp=Z,6.1nm,0.9s,baz=150,slow=6.1,SNR=30
B30A **Myrvik Farm, E** 77.23 342 ⇓P P 17 22 12.1 -0.1
baz=78,SNR=9.8
D26A **Manning** 77.23 339 ⇑P P 17 22 12.9 +0.6
baz=78,SNR=7.2
ELK **Elko** 77.37 327 *e*P P 17 22 13.9 +0.5
comp=Z,10nm,0.9s
G21A **Lodge Grass** 77.40 335 ⇓P P 17 22 13.8 +0.4
baz=78,SNR=15
SNOW **Snow King Moun** 77.42 331 *e*P P 17 22 14.8 +1.1
comp=Z,22nm,1.0s
E24A **Baker** 77.46 337 ⇑P P 17 22 15.0 +1.3
baz=78,SNR=24
F22A **Rosebud** 77.51 336 ⇓P P 17 22 14.4 +0.5
baz=78,SNR=16

TPAW Teton Pass 77.52 331 *e*P P 17 22 15.0 +0.7
comp=Z,16nm,0.9s
C27A Sayler Ranch, 77.53 339 ⇑P P 17 22 14.9 +1.0
baz=78
B29A Wagenman Farm, 77.54 341 ⇓P P 17 22 14.5 +0.6
baz=78,SNR=6.8
RRI2 Red Ridge 77.57 331 *e*P P 17 22 15.6 +1.0
comp=Z,24nm,1.1s
D25A Fairfield 77.63 338 ⇓P P 17 22 15.3 +0.8
baz=78,SNR=12
H19A Powell 77.65 333 ⇑P P 17 22 16.0 +1.2
baz=78
I17A Pilgrim Ck. 77.71 332 ⇑P P 17 22 16.1 +0.9
baz=78,SNR=13
G20A Bridger 77.80 334 ⇑P P 17 22 16.2 +0.6
baz=78,SNR=27
B28A Dugan Ranch, T 77.82 340 ⇑P P 17 22 16.2 +0.7
baz=78,SNR=7.6
IMW Indian Meadow 77.84 332 *e*P P 17 22 16.8 +0.6
comp=Z,13nm,0.9s
F21A Absaloka Mine, 77.87 335 ⇓P P 17 22 17.1 +1.1
baz=78
FLWY Flagg Ranch 77.89 332 *e*P P 17 22 17.6 +1.4
comp=Z,26nm,0.8s
A29A Manning Farm, 77.91 341 ⇓P P 17 22 16.0 0.0
baz=78,SNR=18
H18A Shoshone NF, C 77.94 333 ⇑P P 17 22 17.1 +0.6
baz=78,SNR=32
D24A Glendive 77.95 337 ⇓P P 17 22 17.6 +1.3
baz=78
E22A Miles City 77.95 336 ⇑P P 17 22 16.9 +0.6
baz=78,SNR=8.6
CMB Columbia Colle 78.08 322 *e*P P 17 22 17.6 +0.4
CMB pmax pmax
comp=Z,4.0nm,1.2s
CMB Columbia Colle 78.08 322 *e*P P 17 22 17.6 +0.4
comp=Z,4.3nm,1.2s
H17A Grant Village 78.09 332 *e*P P 17 22 18.7 +1.3
H17A Grant Village 78.09 332 ⇑P P 17 22 18.9 +1.5
baz=78
C25A Freed Ranch, W 78.10 338 ⇓P P 17 22 18.8 +1.7
baz=78
A28A Rude Farm, Bot 78.21 341 ⇑P P 17 22 18.5 +0.9
baz=78
YFT Old Faithful 78.25 332 *e*P P 17 22 20.4 +2.2
comp=Z,14nm,0.8s
LAO LASA Array 78.26 336 *e*P P 17 22 18.7 +0.6
comp=Z,33nm,1.0s
D23A Lindsay 78.31 337 ⇑P P 17 22 19.3 +1.0
baz=79,SNR=12
C24A Savage 78.34 338 ⇑P P 17 22 19.9 +1.5
baz=79
B26A Jensen Ranch, 78.34 339 ⇓P P 17 22 19.9 +1.5
baz=79
SUR Sutherland 78.39 120 P P 17 22 20.9 +1.4
comp=Z,188nm,1.0s,SNR=5.0
SUR Sutherland 78.39 120 *e*P P 17 22 19.6 +0.1
YMR Madison River 78.47 332 *e*P P 17 22 20.7 +1.2
comp=Z,71nm,1.3s
A27A Ledoux Ranch, 78.54 340 ⇑P P 17 22 20.6 +1.1
baz=79
B25A Knox Farm, Ray 78.55 339 ⇓P P 17 22 21.2 +1.6
baz=79
F19A Roth Farm, Mol 78.61 334 ⇓P P 17 22 20.8 +0.7
baz=79,SNR=20
D22A Cohagen 78.64 336 ⇓P P 17 22 21.5 +1.4
baz=79,SNR=5.9
PAHR Pah Rah Range 78.72 324 *e*P P 17 22 22.3 +1.4
comp=Z,36nm,1.0s
A26A Wade Farm, Ken 78.74 340 ⇓P P 17 22 21.8 +1.2
baz=79
QLMT Earthquake Lak 78.80 332 *e*P P 17 22 22.8 +1.5
comp=Z,3.4nm,1.2s
E20A Meyer Farm, Mu 78.83 335 ⇓P P 17 22 22.4 +1.2
baz=79,SNR=33
C23A Lambert 78.84 337 ⇑P P 17 22 22.5 +1.3
baz=79,SNR=7.0
GCMT Greycliff 78.85 334 *e*P P 17 22 22.2 +0.8
comp=Z,16nm,0.9s
D21A La Casta Ranch 78.86 336 ⇑P P 17 22 22.4 +1.0
baz=79,SNR=16
E19A Rath Farm, Rou 79.05 334 ⇑P P 17 22 23.6 +1.2
baz=79,SNR=57
DGMT Dagmar 79.07 338 *e*P P 17 22 23.1 +0.7
comp=Z,45nm,0.9s
DGMT Dagmar 79.07 338 ⇓P P 17 22 24.0 +1.6
baz=79,SNR=6.2
A25A Svangstu Ranch 79.12 339 ⇑P P 17 22 23.6 +0.9
baz=79,SNR=7.6
HLID Hailey 79.13 329 *e*P P 17 22 24.4 +1.3
comp=Z,18nm,0.9s
HLID Hailey 79.13 329 ⇓P P 17 22 24.5 +1.5
baz=79,SNR=35
D20A Manuel Ranch, 79.32 335 ⇓P P 17 22 24.6 +0.7
baz=80,SNR=13
B23A Brockton 79.33 338 ⇑P P 17 22 25.5 +1.6
baz=80
BEKR Beckworth 79.36 324 *e*P P 17 22 25.5 +1.1
comp=Z,6.9nm,1.0s
A24A Westby 79.40 339 ⇓P P 17 22 25.3 +1.1
baz=80
MCMT McKenzie Canyo 79.42 331 *e*P P 17 22 26.0 +1.3
comp=Z,9.4nm,0.9s
C21A Desert Coulee 79.54 336 ⇓P P 17 22 26.2 +1.2
baz=80
B22A Reddig Ranch S 79.55 337 ⇓P P 17 22 26.5 +1.4
baz=80
D19A Cripps Ranch, 79.66 335 ⇑P P 17 22 26.4 +0.7
baz=80,SNR=18
MFID Camas Ranch 79.68 328 ⇑P P 17 22 26.9 +0.9
baz=80,SNR=8.7
SCHQ Schefferville 79.69 2 P P 17 22 25.9 +0.3
SCHQ Schefferville 79.69 2 P P 17 22 25.9 +0.3
comp=Z,19nm,0.9s,baz=141,slow=6.1,SNR=7.3
SCHQ LR LR 17 56 32.5
comp=Z,299nm,18.1s,baz=265,slow=35
DLMT Dillon 79.73 332 *e*P P 17 22 26.9 +0.7
comp=Z,16nm,1.0s
C20A Veseth Ranch, 79.78 336 ⇑P P 17 22 27.2 +0.8
baz=80,SNR=7.1
B21A Ellsworth Farm 80.02 337 ⇑P P 17 22 28.6 +0.9
baz=80,SNR=5.5
LRM Limekiln Ridge 80.03 332 *e*P P 17 22 29.0 +1.0
comp=Z,167nm,1.0s
A22A Carney Farms, 80.11 337 ⇓P P 17 22 29.1 +1.0
baz=80,SNR=9.0
C19A Slack Wire Ran 80.20 335 ⇑P P 17 22 29.4 +0.8
baz=80,SNR=7.2
TOA0 Torodi Ar. Sit 80.33 71 *e*P P 17 22 29.5 -0.5
TORD Torodi Ar. Bea 80.33 71 P P 17 22 29.8 -0.2
TORD Torodi Ar. Bea 80.33 71 P P 17 22 29.8 -0.2
comp=Z,106nm,0.9s,baz=252,slow=5.0,SNR=305
TORD LR LR 17 57 06.4
comp=Z,839nm,19.0s,baz=220,slow=35
B20A Solberg Farm, 80.39 336 ⇓P P 17 22 30.2 +0.5
baz=81,SNR=7.9
A21A Bergtoll Ranch 80.46 337 ⇓P P 17 22 30.9 +0.9
baz=81
LBCM Butte Creek Ri 80.58 324 P P 17 22 32.0 +1.0
EGMT Eagleton 80.71 335 *e*P P 17 22 31.6 +0.2
comp=Z,23nm,0.9s
EGMT Eagleton 80.71 335 ⇓P P 17 22 31.8 +0.4
baz=81,SNR=9.6
A20A Cobblestone Ra 80.73 336 ⇓P P 17 22 32.1 +0.6
baz=81
B19A Brinkman Farms 80.75 335 ⇑P P 17 22 32.4 +0.8
baz=81,SNR=9.1
MOD Modoc 80.79 325 *e*P P 17 22 33.0 +0.9
comp=Z,81nm,1.0s
TSUM Tsumeb 80.80 107 *e*P P 17 22 33.2 +0.5
comp=Z,29nm,0.9s
WDC Whiskeytown Da 81.05 323 *e*P P 17 22 32.0 -1.3
WDC pmax pmax
comp=Z,12nm,1.0s
WDC Whiskeytown Da 81.05 323 *e*P P 17 22 32.0 -1.3
comp=Z,12nm,1.0s
A19A Klindworth Far 81.07 336 ⇑P P 17 22 33.9 +0.6
baz=81,SNR=5.4
CHMT Chamberlain Mo 81.23 332 *e*P P 17 22 35.1 +0.7
comp=Z,10nm,1.3s
MAW Mawson 81.42 164 P P 17 22 35.2 +0.3
MAW Mawson 81.42 164 P P 17 22 35.2 +0.3
comp=Z,29nm,0.8s,baz=223,slow=7.1,SNR=60
MAW LR LR 17 56 45.8
comp=Z,433nm,20.1s,baz=231,slow=34
MSO Missoula 81.46 332 ⇑P P 17 22 36.2 +0.8
baz=82
BMO Blue Mountains 81.46 329 *e*P P 17 22 36.2 +0.7
comp=Z,12nm,1.1s
SLMT Seeley Lake 81.59 332 *e*P P 17 22 37.0 +0.8
comp=Z,15nm,0.9s
YBH Yreka Blue Hor 81.94 324 P P 17 22 38.0 -0.2
YBH Yreka Blue Hor 81.94 324 P P 17 22 38.0 -0.2
comp=Z,6.2nm,0.8s,baz=114,slow=4.2,SNR=8.3
SWMT Swartz Lake 82.01 332 *e*P P 17 22 39.6 +1.2
comp=Z,13nm,1.0s
KTRM Thompson Ridge 82.42 323 P P 17 22 42.4 +1.8
BLMT Blacktail Moun 82.56 332 *e*P P 17 22 42.2 +0.8
comp=Z,18nm,0.9s
BSMT Bassoo Peak 82.61 332 *e*P P 17 22 42.2 +0.6
comp=Z,12nm,0.9s
WALA Waterton Lakes 83.19 333 *e*P P 17 22 45.0 +0.5
comp=Z,0.8nm,0.9s
CROR Criterion Ridg 83.34 327 P P 17 22 47.0 +1.7
BOSA Boshof 83.41 118 P P 17 22 46.2 0.0
BOSA Boshof 83.41 118 P P 17 22 46.2 0.0
comp=Z,51nm,0.9s,baz=245,slow=4.5,SNR=46
BOSA LR LR 17 56 38.8
comp=Z,819nm,19.0s,baz=222,slow=33
HAWA Hanford 83.65 329 *e*P P 17 22 47.6 +0.8
comp=Z,11nm,0.9s
FFC Flin Flon 83.86 342 *i*P P 17 22 48.1 +0.5
NEW Newport 83.94 331 *e*P P 17 22 46.9 -1.4
comp=Z,6.7nm,1.0s
NEW Newport 83.94 331 ⇑P P 17 22 48.6 +0.4
baz=84
NEW Newport 83.94 331 P P 17 22 48.0 -0.3
comp=Z,7.3nm,1.0s,baz=133,slow=3.3,SNR=3.0
COR Corvallis 84.23 325 *e*P P 17 22 50.5 +0.8
COR Corvallis 84.23 325 *e*P P 17 22 50.5 +0.8
comp=Z,698nm,1.6s
MPOR Mary's Peak 84.31 325 P P 17 22 52.0 +1.8
ETW Entiat 84.91 329 P P 17 22 54.2 +0.9
PFVI Vila Bisbo 85.12 45 *e*P P 17 22 55.8 +1.4
comp=Z,82nm,1.1s
LBTB Lobatse 85.20 115 *e*P P 17 22 54.9 -0.5
comp=Z,62nm,1.4s
MORF Marmelete 85.34 45 *e*P P 17 22 57.3 +1.8
comp=Z,62nm,1.6s
MORF Marmelete 85.34 45 *e*P P 17 22 55.4 -0.1
PBDV Barranco-do-Ve 85.76 45 *e*P P 17 22 59.2 +1.6
comp=Z,120nm,0.9s
PNCL Nicolau / Gran 85.89 45 *e*P P 17 22 59.3 +1.1
comp=Z,27nm,1.1s
PCVE Castro Verde 85.92 45 *e*P P 17 22 59.6 +1.2
comp=Z,63nm,1.0s
PVAQ Vaqueiros 85.99 45 *e*P P 17 22 59.9 +1.2
comp=Z,36nm,1.1s
PVAQ Vaqueiros 85.99 45 *e*LR LR 17 53 23.9
comp=Z,375nm,18.0s
EDM Edmonton 86.25 336 *e*P P 17 22 58.9 -0.8
EDM Edmonton 86.25 336 *e*P P 17 22 58.9 -0.8
EVOP Sao Brissos 86.39 44⇑*i*P P 17 23 01.6 +0.9
EVOP pmax pmax
comp=Z,27nm,1.0s
EVOP Sao Brissos 86.39 44⇑*i*P P 17 23 01.6 +0.9
comp=Z,27nm,1.0s
EVO Evora 86.47 44⇑*i*P P 17 23 01.6 +0.6
comp=Z,27nm,1.0s
EVO Evora 86.47 44 *e*P P 17 23 02.4 +1.4
comp=Z,22nm,2.1s
PMTG Montargil 86.65 44 *e*P P 17 23 03.1 +1.2
comp=Z,31nm,1.8s
PESTR Estremoz 86.93 44 *e*P P 17 23 05.9 +2.6
comp=Z,17nm,1.0s
PCAS Casmilo, Conde 87.06 43 *e*P P 17 23 05.1 +1.2
comp=Z,32nm,1.8s
PMRV Marv??o 87.38 44 *e*P P 17 23 06.2 +0.7
PMRV Marv??o 87.38 44 *e*LR LR 17 53 57.5
comp=Z,290nm,22.0s
MTE Manteigas 87.85 43 *e*P P 17 23 06.6 -1.2
comp=Z,18nm,1.2s
MTE Manteigas 87.85 43 *e*LR LR 17 54 37.3
comp=Z,745nm,16.0s
MTE Manteigas 87.85 43 *e*P P 17 23 06.8 -1.0
comp=Z,12nm,0.9s
TAM Tamanrasset 88.10 64 *e*P P 17 23 09.9 +0.3
TAM pmax pmax
comp=Z,10.0nm,0.9s
TAM Tamanrasset 88.10 64 *e*P P 17 23 09.8 +0.3
comp=Z,10.0nm,0.9s
POLO Lamas de Olo 88.27 42 *e*P P 17 23 10.2 +0.4
MVO Moncorvo 88.62 43 *e*P P 17 23 13.3 +1.9
comp=Z,18nm,1.2s
MVO Moncorvo 88.62 43 *e*LR LR 17 54 31.7
comp=Z,643nm,18.0s
CASY Casey 88.89 181 *e*P P 17 23 13.2 +0.8
comp=Z,26nm,0.8s
PAB San Pablo 89.39 45 *e*P P 17 23 15.1 0.0
PAB pmax pmax
comp=Z,60nm,1.0s
PAB San Pablo 89.39 45 *e*P P 17 23 15.1 0.0
comp=Z,60nm,1.0s
ESDC Sonseca Array 89.70 45 P P 17 23 16.4 -0.2
ESDC Sonseca Array 89.70 45 P P 17 23 16.4 -0.2
comp=Z,3.6nm,0.9s,baz=257,slow=4.2,SNR=18
ESDC LR LR 18 04 11.8
comp=Z,279nm,18.3s,baz=250,slow=36
ESLA Sonseca Array 89.70 45 *e*P P 17 23 14.8 -1.8
URZ Urewera 90.37 227 LR LR 17 53 53.2
comp=Z,359nm,19.8s,baz=225,slow=29
LSZ Lusaka 91.63 108 *e*P P 17 23 27.1 +0.8
comp=Z,11nm,1.1s
SJPF Ste Jean 93.29 43 *e*P P 17 23 32.9 -0.1
comp=Z,18nm,1.0s
SJPF Ste Jean 93.29 43 *e*P P 17 23 32.9 -0.1
SJPF pmax pmax
comp=Z,18nm,1.0s
SJPF Ste Jean 93.29 43 *e*P P 17 23 32.9 -0.1
comp=Z,18nm,1.0s
YKA Yellowknife Ar 93.97 341 P P 17 23 35.2 -0.4
YKA Yellowknife Ar 93.97 341 P P 17 23 35.2 -0.4
comp=Z,10nm,0.8s,baz=137,slow=4.6,SNR=21
LFF La Frestale 95.44 43 *e*P P 17 23 42.0 -0.8
comp=Z,31nm,1.2s
LFF La Frestale 95.44 43 *e*P P 17 23 42.0 -0.8
LFF pmax pmax
comp=Z,31nm,1.2s
LFF La Frestale 95.44 43 *e*P P 17 23 42.0 -0.8
comp=Z,31nm,1.2s
MFF Saint Martin d 95.75 41 *e*P P 17 23 43.3 -0.9
MFF Saint Martin d 95.75 41 *e*P P 17 23 43.3 -0.9
MFF Saint Martin d 95.75 41 *e*P P 17 23 43.3 -0.9
CAF Calviac 96.25 43 *e*P P 17 23 45.2 -1.4
CAF Calviac 96.25 43 *e*P P 17 23 45.2 -1.4
CAF Calviac 96.25 43 *e*P P 17 23 45.2 -1.4
DLBC Dease Lake 96.54 333 P P 17 23 48.2 +0.6
DLBC Dease Lake 96.54 333 P P 17 23 48.2 +0.6
comp=Z,8.3nm,0.9s,baz=145,slow=3.9,SNR=13
LDF La Druitiere 96.78 39 *e*P P 17 23 48.3 -0.5
LDF La Druitiere 96.78 39 *e*P P 17 23 48.3 -0.5
LDF La Druitiere 96.78 39 *e*P P 17 23 48.3 -0.5
KEST Kesra 96.95 54 P P 17 23 51.1 +1.0
KEST Kesra 96.95 54 P P 17 23 51.1 +1.0
comp=Z,1.6nm,0.9s,baz=10.0,slow=3.9,SNR=3.6
KEST LR LR 18 11 56.5
comp=Z,301nm,18.1s,baz=210,slow=38
BGF Bois d'Agland 97.52 42 *e*P P 17 23 51.4 -0.9
comp=Z,31nm,1.3s
BGF Bois d'Agland 97.52 42 *e*P P 17 23 51.4 -0.9
BGF pmax pmax
comp=Z,31nm,1.3s
BGF Bois d'Agland 97.52 42 *e*P P 17 23 51.4 -0.9
comp=Z,31nm,1.3s
AVF Avril sur Loir 97.94 42 *e*P P 17 23 53.9 -0.2
comp=Z,13nm,1.0s
AVF Avril sur Loir 97.94 42 *e*P P 17 23 53.9 -0.2
AVF pmax pmax
comp=Z,13nm,1.0s
AVF Avril sur Loir 97.94 42 *e*P P 17 23 53.9 -0.2
comp=Z,13nm,1.0s
SSF Saint Saulge 98.16 42 *e*P P 17 23 54.7 -0.4
SSF Saint Saulge 98.16 42 *e*P P 17 23 54.7 -0.4
SSF Saint Saulge 98.16 42 *e*P P 17 23 54.7 -0.4
SMF Signal de Mont 98.17 42 *e*P Pdif 17 23 55.2 0.0
comp=Z,16nm,1.0s
SMF Signal de Mont 98.17 42 *e*P Pdif 17 23 55.2 0.0
SMF pmax pmax
comp=Z,17nm,1.0s
SMF Signal de Mont 98.17 42 *e*P Pdif 17 23 55.2 0.0
comp=Z,16nm,1.0s
LOR Lormes 98.47 42 *e*P P 17 23 55.2 -1.3
LOR Lormes 98.47 42 *e*P P 17 23 55.2 -1.3
LPL La Plagne 99.45 44 *e*P Pdif 17 24 01.3 +0.1
comp=Z,7.4nm,0.9s
LPL La Plagne 99.45 44 *e*P Pdif 17 24 01.3 +0.1
LPL pmax pmax
comp=Z,7.0nm,0.9s
LPL La Plagne 99.45 44 *e*P Pdif 17 24 01.3 +0.1
comp=Z,7.4nm,0.9s
LPG La Plagne 99.45 44 *e*P Pdif 17 24 01.2 -0.1
comp=Z,10nm,1.0s
LPG La Plagne 99.45 44 *e*P Pdif 17 24 01.2 -0.1
LPG pmax pmax
comp=Z,10.0nm,1.0s
LPG La Plagne 99.45 44 *e*P Pdif 17 24 01.2 -0.1
comp=Z,10nm,1.0s
MEZF Maizieres J'vi 99.75 41 *e*P Pdif 17 24 02.1 -0.1
comp=Z,20nm,1.0s
MEZF Maizieres J'vi 99.75 41 *e*P Pdif 17 24 02.1 -0.1
comp=Z,20nm,1.0s
SUMG Summit 99.91 9 *e*P Pdif 17 24 03.0 +0.2
SUMG Summit 99.91 9 *e*Pdif Pdif 17 24 03.0 +0.2
PAGF Fort de Pagny 100.17 41 *e*P Pdif 17 24 03.4 -0.7
PAGF Fort de Pagny 100.17 41 *e*P Pdif 17 24 03.4 -0.7
BCLA Clavier 100.75 39 P Pdif 17 24 04.6 -2.0
comp=Z,18nm,2.5s
GERES GERESS Array B 105.13 43 PKiKP **PKiKP** 17 28 41.5 +0.9
GERES GERESS Array B 105.13 43 PKiKP **PKiKP** 17 28 41.5 +0.9
comp=Z,0.4nm,0.6s,baz=225,slow=3.6,SNR=4.4
ILAR Eielson Array 106.67 334 PKiKP **PKiKP** 17 28 43.2 +0.4
ILAR Eielson Array 106.67 334 PKiKP **PKiKP** 17 28 43.2 +0.4
comp=Z,0.6nm,1.0s,baz=162,slow=2.3,SNR=4.2
UZH Uzhgorod 110.48 45 *e*PKiKP **PKiKP** 17 28 55.4 +5.0
UZH *e* 17 29 27.6
KIEV Kiev 115.30 44 *e*PKiKP **PKPdf** 17 28 58.4 -1.1
KIEV Kiev 115.30 44 *e*PKPdf **PKPdf** 17 28 58.4 -1.1
AKASG Malin Array Be 115.31 44 PKiKP **PKPdf** 17 28 58.9 -0.6
AKASG Malin Array Be 115.31 44 PKP **PKPdf** 17 28 58.9 -0.6
AKASG Malin Array Be 115.31 44 PKP **PKPdf** 17 28 58.9 -0.6
comp=Z,2.5nm,0.7s,baz=266,slow=2.6,SNR=22
STKA Stephens Creek 115.36 210 PKP **PKPdf** 17 29 01.3 +0.9
STKA Stephens Creek 115.36 210 PKP **PKPdf** 17 29 01.3 +0.9
comp=Z,1.9nm,0.8s,baz=135,slow=2.9,SNR=3.1
BR131 Keskin Array S 116.41 56 *e*PKPdf **PKPdf** 17 29 02.2 0.0
BRTR Keskin Array B 116.41 56 PKP **PKPdf** 17 29 02.5 +0.3
BRTR Keskin Array B 116.41 56 PKP **PKPdf** 17 29 02.5 +0.3
comp=Z,4.0nm,0.8s,baz=176,slow=2.8,SNR=22
OBN Obninsk 120.15 39⇑*i*PKiKP **PKPdf** 17 29 08.9 +0.2
OBN pmax pmax
comp=Z,10.0nm,0.8s
OBN MLR MLR
comp=Z,300nm,21.0s
SOC Sochi 121.50 53 *i*PKiKP **PKPdf** 17 29 10.7 -1.0
SOC *e* 17 30 41.5
SOC *e*SS SS 17 47 20.3 +3.1
SOC pmax pmax
comp=Z,14nm,0.8s
KLMR Klimovskoe 121.55 33 *e*PKiKP **PKPdf** 17 29 11.4 +0.2
KLMR pmax pmax
comp=Z,20nm,1.0s
VSR Storozhevoye 121.62 44 *e*PKiKP **PKPdf** 17 29 11.7 0.0
VSR pmax pmax
comp=E,4.0nm,0.5s
VSR pmax pmax
comp=Z,9.0nm,0.5s
VSR pmax pmax
comp=N,10.0nm,1.0s
VRHR Novokhopersk 123.16 44 *e*PKiKP **PKPdf** 17 29 14.5 -0.1
VRHR pmax pmax
comp=Z,20nm,1.0s
VRHR pmax pmax
comp=N,10.0nm,1.7s
VRHR pmax pmax
comp=E,4.0nm,0.5s
KIV Kislovodsk 123.67 53⇑*i*PKiKP **PKPdf** 17 29 16.8 +0.8
KIV pmax pmax
comp=Z,20nm,1.2s
KBZ Khabaz 123.81 53 PKiKP **PKPdf** 17 29 16.5 +0.4
KBZ Khabaz 123.81 53 PKP **PKPdf** 17 29 16.4 +0.4
KBZ Khabaz 123.81 53 PKP **PKPdf** 17 29 16.4 +0.4
comp=Z,16nm,0.9s,baz=207,slow=2.3,SNR=35
ZEI Tsey 124.48 54 *i*PKiKP **PKPdf** 17 29 17.9 +0.2
ZEI pmax pmax
comp=Z,9.0nm,0.9s
RST Umm Al-Ruwaisa 125.25 71 *e*P **PKPdf** 17 29 19.5 +0.1
RST AMb AMB 17 29 21.5
comp=Z,330nm,0.8s
NAY Al-Naaiem 125.41 71 *e*P **PKPdf** 17 29 19.5 -0.1
NAY AMb AMB 17 29 21.2
comp=Z,7.7nm,0.9s
ASAR Alice Springs 125.86 208 PKP **PKPdf** 17 29 21.1 +0.2
ASAR Alice Springs 125.86 208 PKP **PKPdf** 17 29 21.1 +0.2
comp=Z,12nm,0.8s,baz=142,slow=1.9,SNR=79
AS31 Alice Springs 125.86 208 *e*PKPdf **PKPdf** 17 29 20.4 -0.4
H11S2 WAKE ISLAND Hyl 126.39 275 T T 19 48 33.2
baz=110,slow=0.7,SNR=399
H11S1 WAKE ISLAND Hyl 126.40 275 T T 19 48 33.8
baz=110,slow=0.7,SNR=286
H11S3 WAKE ISLAND Hyl 126.41 275 T T 19 48 33.9
baz=110,slow=0.7,SNR=252
H11N3 WAKE ISLAND Hyl 126.57 277 T T 19 49 14.8
baz=110,slow=0.7,SNR=19
H11N1 WAKE ISLAND Hyl 126.59 277 T T 19 49 04.9
baz=110,slow=0.7,SNR=14
H11N2 WAKE ISLAND Hyl 126.59 277 T T 19 49 17.7
baz=110,slow=0.7,SNR=23
WRA Warramunga Arr 128.91 211 PKP **PKPdf** 17 29 27.4 +0.7
WRA Warramunga Arr 128.91 211 PKP **PKPdf** 17 29 27.4 +0.7
comp=Z,17nm,0.8s,baz=160,slow=1.7,SNR=77
WRAB Tennant Creek 128.91 211 *e*PKiKP **PKPdf** 17 29 27.0 +0.3
WRAB Tennant Creek 128.91 211 *e*PKPdf **PKPdf** 17 29 27.0 +0.3
IZEF Zefreh 130.29 67 *e*P **PKPdf** 17 29 28.3 -0.9
ISRV Sarvestan 130.48 72 *e*P **PKPdf** 17 29 29.2 -0.5
IPAR Pars 130.50 71 *e*P **PKPdf** 17 29 32.2 +2.5
ARU Arti 132.17 35 *i*PKiKP **PKPdf** 17 29 33.2 +1.5
ARU 17 31 56.1
ARU SS SS 17 49 24.7 -4.5
IBAF Bafgh 132.88 69 *e*P **PKPdf** 17 29 29.1 -4.9
FITZ Fitzroy Crossi 134.11 202 PKP **PKPdf** 17 29 37.2 +0.7
FITZ Fitzroy Crossi 134.11 202 PKP **PKPdf** 17 29 37.2 +0.7
comp=Z,7.1nm,0.7s,baz=231,slow=3.6,SNR=20
PETK Petropavlovsk- 134.25 321 PKiKP **PKPdf** 17 29 36.3 +0.6
PETK Petropavlovsk- 134.25 321 PKP **PKPdf** 17 29 36.3 +0.6
PETK Petropavlovsk- 134.25 321 PKP **PKPdf** 17 29 36.3 +0.6
comp=Z,5.0nm,0.9s,baz=127,slow=1.7,SNR=5.7
AB31 Akbulak array 135.05 45 *i*PKiKP **PKPdf** 17 29 37.7 +0.4
AB31 pmax pmax
comp=Z,4.0nm,0.6s
ABKAR Akbulak array 135.05 45 *e*PKPdf **PKPdf** 17 29 37.9 +0.6
ISFR Sfrayin 135.17 62 *e*P **PKPdf** 17 29 42.9 +4.6
IKRD Kardeh 135.58 62 *e*P **PKPdf** 17 29 39.6 +0.6
IEMG Emamgholi 135.68 61 *e*P **PKPdf** 17 29 40.1 +0.8
IPAY Payeh 135.97 63 *e*P **PKPdf** 17 29 37.4 -2.4
BVA0 Borovoye Array 139.81 36 *i*PKiKP **PKPdf** 17 29 43.1 -2.9
BVA0 pmax pmax
comp=Z,13nm,1.0s
YAK Yakutsk 140.55 345 *e*PKiHKP PKPpre 17 29 39.6
YAK pmax pmax
comp=Z,13nm,1.1s
KK31 Karatay Array 143.78 51 *i*PKiKP PKPbc 17 29 50.8 -0.3
KKAR Karatay Array 143.78 51 *e*PKiKP PKPab 17 29 50.2 -0.2
KKAR Karatay Array 143.78 51 *e*PKPdf PKPab 17 29 50.2 -0.2
NVS Novosibirsk 144.72 26⇑*i*PKiKP **PKPab** 17 29 53.0 -0.4
NVS pmax pmax
comp=Z,36nm,0.9s
KURK Kurchatov 145.36 34 *e*PKiKP **PKPab** 17 29 56.4 +0.5
KURK Kurchatov 145.36 34 *e*PKPdf **PKPab** 17 29 56.4 +0.5
YSS Yuzh-Sakhalins 145.50 318 *e*PKiKP **PKPab** 17 29 57.0 +0.4
DNP Denpasar 145.88 191 P PKPab 17 30 07.4 +8.5
ZAA0 Zalesovo Array 146.00 26 *e*PKPdf **PKPbc** 17 29 57.4 -0.3
ZALV Zalesovo Beam 146.00 26 PKP2 **PKPbc** 17 29 57.6 -0.1
ZALV Zalesovo Beam 146.00 26 PKPbc **PKPbc** 17 29 57.6 -0.1
ZALV Zalesovo Beam 146.00 26 PKPbc **PKPbc** 17 29 57.6 -0.1
comp=Z,59nm,0.8s,baz=299,slow=3.0,SNR=170
EKS2 Erkin-Say 146.19 50 *e*PKP2 **PKPbc** 17 29 59.1 +0.2
EKS2 Erkin-Say 146.19 50 P **PKPab** 17 29 59.6 +0.1
SNR=68
EKS2 Erkin-Say 146.19 50 *e*PKPdf **PKPbc** 17 29 59.1 +0.2
CLNS Chul'man 146.29 344 *e*PKP2 **PKPdf** 17 29 57.8 +0.5
CLNS pmax pmax
comp=Z,39nm,1.1s
CLNS pmax pmax
comp=N,10.0nm,0.9s
CLNS pmax pmax
comp=E,9.0nm,0.9s
AML Almayashu 146.31 51 P **PKPab** 17 30 00.0 -0.4
SNR=29
SRBI Singaraja 146.46 191 P PKPab 17 30 07.7 +6.6

	comp=E,100nm,1.0s							
USP	**Ospenovka** SNR=39	**146.48**	**49**	P		**PKPbc**	**17 29 59.5**	**-0.1**
GMJI	**Gumukmas** comp=E,143nm,0.9s	**146.54**	**188**	P		**PKPab**	**17 30 02.1**	**+0.7**
AAK	**Ala-Archa**	**146.70**	**50**	*e*PKP2		**PKPbc**	**17 30 00.0**	**-0.4**
AAK	**Ala-Archa**	**146.70**	**50**	*e*PKPbc		**PKPbc**	**17 30 00.0**	**-0.4**
CHMS	**Chumysh** SNR=38	**146.75**	**49**	P		**PKPdf**	**17 29 58.5**	**-0.1**
KRKI	**Karangkates** comp=E,334nm,1.1s	**146.77**	**186**	P		**PKPab**	**17 30 03.4**	**+1.1**
ASAJ	**Asahikawa**	**146.82**	**313**	*e*PKPdf		**PKPbc**	**17 30 00.1**	**-0.3**
ASAJ				PKPbc		**PKPbc**	**17 30 00.3**	**-0.1**
ASAJ	**Asahikawa** comp=E,20nm,0.8s,baz=81,slow=6.0,SNR=7.7	**146.82**	**313**	PKPbc		**PKPbc**	**17 30 00.3**	**-0.1**
PCJI	**Pacitan** comp=E,252nm,0.9s	**146.83**	**184**	P		**PKPab**	**17 30 03.2**	**+0.7**
PWJI	**Pagerwojo** comp=E,198nm,0.8s	**146.96**	**185**	P		**PKPab**	**17 30 02.7**	**-0.3**
KBK	**Karagaybulak** SNR=49	**147.00**	**49**	P		**PKPbc**	**17 30 01.1**	**-0.1**
BLJI	**Banyuglugur** comp=E,266nm,0.8s	**147.04**	**188**	P		**PKPab**	**17 30 03.3**	**0.0**
WOJI	**Wonogiri, Jawa** comp=E,268nm,0.8s	**147.20**	**183**	P		**PKPab**	**17 30 03.7**	**-0.3**
SJI	**Sawahan** comp=E,71nm,1.2s,comp=E,2µm	**147.25**	**185**	P		**PKPab**	**17 30 04.1**	**-0.2**
TKM2	**Tokmak 2**	**147.35**	**49**	*e*PKP2		**PKPdf**	**17 30 00.9**	**+1.1**
TKM2	**Tokmak 2** SNR=39	**147.35**	**49**	P		**PKPbc**	**17 30 01.1**	**-1.2**
TKM2	**Tokmak 2**	**147.35**	**49**	*e*PKPbc		**PKPdf**	**17 30 00.9**	**+1.1**
KZA	**Kyzart** SNR=13	**147.42**	**50**	P		**PKPdf**	**17 30 00.7**	**+0.5**
CISI	**Cisompet, Garu** comp=E,326nm,0.9s,comp=E,3µm	**147.51**	**178**	P		**PKPbc**	**17 30 04.0**	**+0.7**
PALK	**Pallekele**	**147.63**	**118**	*e*PKPdf		**PKPdf**	**17 29 59.8**	**-1.2**
NGJI	**Ngawi**	**147.63**	**184**	P		**PKPab**	**17 30 09.3**	**+3.6**
KMMI	**Kalianget**	**147.68**	**189**	P		**PKPab**	**17 30 05.9**	**+0.1**
BJII	**Banjamegara**	**147.75**	**181**	P		PKPab	17 30 14.8	+8.6
KPJI	**Karang Pucung** comp=E,100nm,0.9s	**147.75**	**180**	P		**PKPab**	**17 30 05.2**	**-0.9**
BKSI	**Bulukumba** comp=E,68nm,1.0s,comp=E,888nm	**147.89**	**201**	P		**PKPbc**	**17 30 05.2**	**+1.0**
ULHL	**Ulahol** SNR=13	**148.05**	**49**	P		**PKPbc**	**17 30 03.2**	**-1.0**
TGJI	**Tegal**	**148.22**	**180**	P		**PKPbc**	**17 30 06.0**	**+0.9**
LEM	**Lembang** comp=E,365nm,0.8s,comp=E,3µm	**148.23**	**177**	P		**PKPbc**	**17 30 06.6**	**+1.3**
KAPI	**Kappang**	**148.30**	**201**	*e*PKPbc		**PKPbc**	**17 30 05.5**	**+0.2**
KAPI	**Kappang** comp=E,40nm,0.8s,baz=210,slow=3.4,SNR=17	**148.30**	**201**	PKPbc		**PKPbc**	**17 30 05.8**	**+0.5**
KKSI	**Kolaka, Sulawe** comp=E,28nm,1.3s,comp=E,1µm	**148.42**	**205**	P		**PKPab**	**17 30 07.9**	**-1.0**
DBJI	**Dramaga** comp=E,188nm,0.8s	**148.45**	**176**	P		**PKPbc**	**17 30 06.7**	**+1.0**
KSH	**Kashi**	**148.77**	**55**	PKPbc		**PKPbc**	**17 30 04.1**	**-1.9**
KSH				PP		**PP**	**17 33 35.1**	**-1.5**
KSH				SKS		**SKSdf**	**17 37 09.5**	**+1.6**
KSH				SKKS		**SKKSac**	**17 40 28.1**	**+2.8**
KSH				SS		**SS**	**17 52 45.1**	**+0.4**
KSH	comp=E,180nm,3.9s			PPMZ				
KSH	comp=E,110nm,5.9s			LR	LR			
KSH	comp=E,150nm,6.8s			LR	LR			
KSH	comp=E,150nm,11.2s			LR	LR			
KASI	**Kota Agung** comp=E,128nm,1.0s	**149.23**	**171**	P		**PKPbc**	**17 30 09.2**	**+1.5**
MK31	**Makanchi Array**	**149.63**	**38**	*e*PKPdf		**PKPdf**	**17 30 03.4**	**+0.3**
MK31				*e*PKPbc		**PKPbc**	**17 30 08.1**	**+0.3**
MKAR	**Makanchi Array**	**149.63**	**38**	PKIKP		**PKPbc**	**17 30 05.7**	**-2.1**
MKAR	**Makanchi Array**	**149.63**	**38**	PKPbc		**PKPbc**	**17 30 05.7**	**-2.1**
MKAR	**Makanchi Array** comp=E,41nm,0.8s,baz=315,slow=1.0,SNR=88	**149.63**	**38**	PKPbc		**PKPbc**	**17 30 05.7**	**-2.1**
LWLI	**Liwa** comp=E,144nm,0.8s	**149.66**	**170**	P		**PKPbc**	**17 30 10.3**	**+1.3**
KLI	**Kotabumi**	**149.93**	**172**	P		**PKPbc**	**17 30 11.4**	**+1.9**
KLR	**Kul'dur**	**150.10**	**329**	*e*PKIKP		**PKPdf**	**17 30 01.8**	**-2.0**
MDSI	**Maura Dua** comp=E,75nm,0.9s	**150.20**	**170**	P		**PKPdf**	**17 30 06.4**	**+1.4**
HYB	**Hyderabad**	**150.62**	**99**	*i* PKP		**PKPbc**	**17 30 10.5**	**-0.5**
KSI	**Kapahiang** comp=E,128nm,0.8s	**150.73**	**167**	P		**PKPbc**	**17 30 12.6**	**+1.1**
LHSI	**Lahat** comp=E,111nm,1.0s	**150.74**	**169**	P		**PKPbc**	**17 30 12.1**	**+0.7**
LUWI	**Luwuk**	**150.80**	**209**	P		**PKPbc**	**17 30 13.2**	**+1.6**
NDI	**New Delhi**	**151.44**	**76**	*ex*		**PKPbc**	**17 30 08.0**	**-4.6**
MAJO	**Matsushiro**	**152.59**	**302**	*e*PKIKP		**PKPdf**	**17 30 09.3**	**+1.3**
MAJO				*e*			17 30 14.1	
MAJO	**Matsushiro**	**152.59**	**302**	*e*PKPdf		**PKPdf**	**17 30 09.3**	**+1.3**
MAJO				*e*PKPbc		**PKPbc**	**17 30 14.1**	**-1.0**
MAT	**Matsushiro**	**152.59**	**302**	PKP		**PKPbc**	**17 30 15.5**	**+0.5**
IRK	**Irkutsk**	**152.66**	**6**	*e*PKIKP		**PKPbc**	**17 30 13.8**	**-0.8**
IRK	comp=E,43nm,1.8s			pmax	pmax			
MOY	**Mondy** comp=E,29nm,1.4s	**152.78**	**11**	*e*PKIKP		**PKPbc**	**17 30 13.2**	**-1.9**
MOY				pmax	pmax			
TLY	**Talaya**	**153.15**	**7**	*i* PKIKP		**PKPbc**	**17 30 16.1**	**+0.3**
TLY				*e*			17 30 29.4	
PPI	**Padang Panjang**	**153.24**	**160**	P		**PKPbc**	**17 30 17.4**	**+0.3**
USRK	**Ussuriysk Arra** comp=E,8.1nm,0.9s,baz=66,slow=1.7,SNR=11	**153.34**	**321**	PKPbc		**PKPbc**	**17 30 16.8**	**+0.4**
ZAK	**Zakamensk**	**154.38**	**9**	*e*PKIKP		**PKPdf**	**17 30 11.2**	**+1.0**
ZAK	comp=Z,4.0nm,1.0s			pmax	pmax			
PSI	**Prapat**	**155.77**	**155**	PKP		**PKPdf**	**17 30 14.1**	**+0.8**
PSI				PKPab		**PKPab**	**17 30 39.2**	**-0.4**
PSI	**Prapat** comp=E,7.3nm,0.9s,baz=156,slow=7.5,SNR=5.4	**155.77**	**155**	PKP		**PKPdf**	**17 30 14.1**	**+0.8**
PSI	comp=Z,16nm,0.9s,baz=184,slow=5.4,SNR=7.9			PKPab		**PKPab**	**17 30 39.2**	**-0.4**
KSM	**Kuching**	**156.47**	**183**	*e*PKPdf		**PKPdf**	**17 30 12.7**	**-1.4**
CN2	**Changchun**	**157.04**	**328**	*e*PKP		PKPdf	17 30 08.6	-5.3
CN2				PP		**PP**	**17 34 20.8**	**-1.6**
CN2	comp=N,300nm,19.0s			LR	LR			
CN2	comp=E,200nm,19.0s			LR	LR			
CN2	comp=Z,300nm,21.0s			LR	LR			
KOLN	**Koldanda** comp=Z,16nm,1.1s	**157.07**	**78**	*e*P		**PKPdf**	**17 30 15.0**	**+0.3**
DANN	**Dangsing** comp=Z,51nm,0.9s	**157.20**	**76**	*e*P		**PKPdf**	**17 30 15.7**	**+0.8**
SONM	**Songino Array**	**157.22**	**5**	PKP		**PKPdf**	**17 30 15.0**	**+0.8**
SONM				PKPab		**PKPab**	**17 30 45.2**	**+0.2**
SONM				PP		**PP**	**17 34 21.4**	**-1.7**
SONM	**Songino Array** comp=E,5.5nm,0.9s,baz=294,slow=0.4,SNR=36	**157.22**	**5**	PKP		**PKPdf**	**17 30 15.0**	**+0.8**
SONM				PKPab		**PKPab**	**17 30 45.2**	**+0.2**
SONM	comp=Z,9.4nm,0.9s,baz=328,slow=3.5,SNR=15			PP		**PP**	**17 34 21.4**	**-1.7**
GKN	**Gorkha** comp=Z,24nm,1.0s	**157.98**	**77**	*e*P		**PKPdf**	**17 30 17.0**	**+1.2**
DMN	**Daman** comp=Z,11nm,0.8s	**158.41**	**78**	*e*P		**PKPdf**	**17 30 16.9**	**+0.5**
KKN	**Kakani** comp=Z,19nm,0.9s	**158.56**	**78**	*e*P		**PKPdf**	**17 30 16.6**	**+0.1**
PKI	**Pulchoki**	**158.68**	**78**	*e*P		**PKPdf**	**17 30 16.9**	**+0.1**
GUN	**Gumba**	**159.09**	**77**	*e*P		**PKPdf**	**17 30 16.4**	**-0.9**
JIRN	**Jiri**	**159.37**	**78**	*e*P		**PKPdf**	**17 30 17.6**	**-0.1**
RAMN	**Ramite** comp=Z,30nm,0.9s	**159.75**	**80**	*e*P		**PKPdf**	**17 30 18.6**	**+0.6**
KSRS	**Korea Array** comp=Z,2.7nm,0.9s,baz=91,slow=1.8,SNR=13	**159.75**	**312**	PKP		**PKPdf**	**17 30 18.1**	**+0.8**
KSRS				PKPab		**PKPab**	**17 30 57.0**	**+0.7**
KSAR	**Wonju Array Be** comp=Z,1.3nm,0.7s,baz=54,slow=4.6,SNR=4.7	**159.79**	**312**	PKP		**PKPdf**	**17 30 18.1**	**+0.7**
KSAR				PKPab		**PKPab**	**17 30 57.0**	**+0.6**
ODAN	**Odare** comp=Z,25nm,0.9s	**160.45**	**80**	*e*P		**PKPdf**	**17 30 19.2**	**+0.4**
TAPN	**Taplejung** comp=Z,25nm,1.1s	**160.73**	**79**	*e*P		**PKPdf**	**17 30 19.7**	**+0.6**
LSA	**Lhasa**	**163.47**	**70**	PKP		**PKPdf**	**17 30 22.9**	**+0.8**
LSA	**Lhasa**	**163.47**	**70**	*e*PKIKP		**PKPdf**	**17 30 22.9**	**+0.8**
LSA	**Lhasa**	**163.47**	**70**	*e*PKPdf		**PKPdf**	**17 30 22.9**	**+0.8**
LSA				*e*PKPab		**PKPab**	**17 31 14.0**	**+0.6**
GTA	**Gaotai**	**163.76**	**26**	PKP		**PKPdf**	**17 30 23.2**	**+1.6**
GTA				PKPab		**PKPab**	**17 31 14.6**	**+0.8**
GTA				PP		**PP**	**17 35 00.5**	**+1.8**
GTA				SKS		**SKSdf**	**17 37 26.7**	**+3.1**
GTA				SKKS		**SKKSac**	**17 41 48.0**	**+3.3**
GTA				SS		**SS**	**17 55 23.7**	**-0.5**
GTA	comp=Z,120nm,5.9s			PPMZ				
GTA	comp=Z,99nm,16.4s			LR	LR			
GTA	comp=Z,140nm,15.2s			LR	LR			
GTA	comp=Z,110nm,15.2s			LR	LR			
HHC	**Hu-ho-hao-te**	**164.16**	**353**	*e*PKP		**PKPdf**	**17 30 20.0**	**-1.9**
HHC				SKS		**SKSdf**	**17 37 23.1**	**-0.7**
HHC				SKKS		**SKKSac**	**17 41 48.1**	**+1.6**
HHC				SS		**SS**	**17 55 30.8**	**+3.2**
HHC	comp=Z,310nm,11.2s			PPMZ				
HHC	comp=Z,430nm,20.0s			LR	LR			
HHC	comp=Z,330nm,20.4s			LR	LR			
HHC	comp=Z,270nm,20.0s			LR	LR			
SHL	**Shillong**	**164.47**	**85**	*ex*		**PKPdf**	**17 30 24.0**	**+1.3**
LZH	**Lanzhou**	**168.18**	**21**	*e*PKP		**PKPdf**	**17 30 20.6**	**-4.7**
LZH				pPKP		pPKPdf	17 30 29.1	-7.7
LZH				sPKP			17 30 32.5	
LZH				PKP		**PKPab**	**17 31 28.5**	**-4.9**
LZH				PKS		PKSdf	17 33 52.0	-6.0
LZH				PP		**PP**	**17 35 19.2**	**-2.2**
LZH				SKS		SKSdf	17 37 17.8	-8.8
CM31	**Chiang Mai Arr**	**168.52**	**123**	*e*PKPdf		**PKPdf**	**17 30 26.3**	**+0.5**
CM31				*e*PKPab		**PKPab**	**17 31 35.3**	**0.0**
CHTO	**Chiang Mai**	**168.73**	**122**	*e*PKIKP		**PKPdf**	**17 30 25.9**	**0.0**
CHTO				*e*			17 31 35.2	
CHTO	**Chiang Mai**	**168.73**	**122**	*e*PKPdf		**PKPdf**	**17 30 25.9**	**0.0**
CHTO				*e*PKPab		**PKPab**	**17 31 35.2**	**-1.0**
XAN	**Xi'an**	**171.10**	**1**	PKP		**PKPdf**	**17 30 28.0**	**+1.1**
CD2	**Chengdu**	**172.57**	**38**	PKP		**PKPdf**	**17 30 26.7**	**-1.0**
CD2				PKS		**PKSdf**	**17 33 57.6**	**-2.5**
CD2				PP		**PP**	**17 35 45.1**	**+1.3**
CD2				SKS		**SKSdf**	**17 37 27.9**	**-0.6**
CD2				SKKS		**SKKSac**	**17 42 30.4**	**+2.0**
CD2				SS		**SS**	**17 56 53.4**	**+0.4**
CD2	comp=Z,510nm,10.1s			PPMZ				
CD2	comp=Z,290nm,7.1s			LR	LR			
QIZ	**Qiongzhong**	**173.90**	**187**	PKP		**PKPdf**	**17 30 28.6**	**+0.1**
QIZ				PP		**PP**	**17 35 52.9**	**+3.4**
QIZ				SS		SS	17 57 13.2	+8.8
QIZ	comp=Z,450nm,19.5s			LR	LR			
GYA	**Guiyang**	**177.47**	**57**	*e*PKP		**PKPdf**	**17 30 30.6**	**+1.3**
GYA				PKPab		PKPab	17 32 15.0	0.0
GYA				PKS		**PKSdf**	**17 33 58.9**	**-2.8**
GYA				PP		**PP**	**17 36 08.0**	**-0.2**
GYA				SKKS			17 42 53.2	
GYA				SS		**SS**	**17 57 40.5**	**-1.1**
GYA	comp=Z,140nm,8.0s			PPMZ				
GYA	comp=Z,160nm,23.8s			LR	LR			
GYA	comp=Z,140nm,25.0s			LR	LR			
GYA	comp=Z,180nm,23.6s			LR	LR			

IDC 10 17:26:48.6±0.9, 2°13N×128°86E, h0km, mb3.6/8, mb1 3.7/8, mb1mx3.6/20, mbtmp3.6/8, Error ellipse: s-maj=56.0km s-min=15.3km az=81.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi** 0.9nm,0.6s,baz=22,slow=11,SNR=4.1	**20.35**	**189**	P	P	17 31 27.4	+0.7
WRA	**Warramunga Arr** 0.4nm,0.4s,baz=345,slow=11,SNR=6.2	**22.58**	**166**	P	P	17 31 50.1	-0.7
ASAR	**Alice Springs** 0.6nm,0.6s,baz=354,slow=7.9,SNR=9.0	**26.10**	**169**	P	P	17 32 24.1	-0.3
KSRS	**Korea Array** 0.8nm,0.8s,baz=175,slow=10,SNR=3.6	**35.17**	**359**	P	P	17 33 43.9	-0.3
STKA	**Stephens Creek** 1.8nm,0.8s,baz=335,slow=10.0,SNR=3.7	**35.91**	**161**	P	P	17 33 51.0	+0.2
H11N1	**WAKE ISLAND Hy** baz=257	**41.07**	**62**	T	T	18 18 33.6	
H11N2	**WAKE ISLAND Hy** baz=257	**41.08**	**62**	T	T	18 18 28.1	
H11N3	**WAKE ISLAND Hy** baz=257	**41.09**	**62**	T	T	18 18 36.5	
SONM	**Songino Array** 0.5nm,0.7s,baz=139,slow=7.8,SNR=2.4	**49.50**	**340**	P	P	17 35 40.9	-0.1
PETK	**Petropavlovsk-** 1.5nm,0.8s,baz=237,slow=5.0,SNR=2.6	**56.14**	**20**	P	P	17 36 30.0	+0.1
MKAR	**Makanchi Array** 0.7nm,0.6s,baz=111,slow=7.6,SNR=7.7	**60.08**	**325**	P	P	17 36 57.5	-0.2

IDC 10 17:29:53.2±3.1, 29°95S×177°29W, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.5/16, mbtmp3.5/2, Error ellipse: s-maj=65.7km s-min=27.0km az=70.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island** 269nm,0.3s,baz=90,slow=21,SNR=15	**0.89**	**322**	Pn	Pn	17 30 13.7	+0.7
RAO	415nm,0.3s,baz=64,slow=21,SNR=8.4			Sn	Sn	17 30 26.1	-0.4
ASAR	**Alice Springs** 0.3nm,0.7s,baz=108,slow=7.5,SNR=5.0	**43.75**	**266**	P	P	17 38 00.9	+0.3
WRA	**Warramunga Arr** 1.1nm,0.9s,baz=110,slow=8.0,SNR=6.5	**44.70**	**271**	P	P	17 38 07.6	-0.6
FINES	**FINESS Array B** 1.3nm,0.9s,baz=102,slow=4.5,SNR=5.6	**144.93**	**341**	PKP	PKPab	17 49 30.4	-0.4

IDC 10 17:33:55.3±1.3, 12°46S×166°55E, h0km, mb4.0/10, mb1 4.2/10, mb1mx4.0/19, mbtmp4.0/10, MS3.7/2, Ms1 3.7/2, ms1mx3.3/27, Error ellipse: s-maj=47.8km s-min=21.0km az=138.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara** 13nm,0.3s,baz=175,slow=11,SNR=13	**7.14**	**294**	Pn	Pn	17 35 46.3	+5.2
HNR	12nm,0.3s,baz=170,slow=22,SNR=7.0			Sn	Sn	17 37 04.8	+1.7
DZM	**Mont Dzumac** 1.3nm,0.3s,baz=285,slow=13,SNR=14	**9.56**	**181**	Pn	Pn	17 36 18.9	+4.4
DZM	0.7nm,0.3s,baz=273,slow=19,SNR=2.1			Sn	Sn	17 38 01.6	-1.3
DZM	comp=Z,349nm,20.1s,baz=201,slow=34			LR	LR	17 39 18.4	
PMG	**Port Moresby** comp=Z,290nm,20.4s,baz=100,slow=34	**19.27**	**277**	LR	LR	17 44 44.6	
CTA	**Charters Tower** 2.6nm,0.8s,baz=60,slow=14,SNR=2.6	**20.89**	**246**	P	Pn	17 38 44.2	+2.4
STKA	**Stephens Creek** 0.7nm,0.4s,baz=68,slow=11,SNR=4.6	**30.00**	**226**	P	P	17 40 07.0	+1.1
WRA	**Warramunga Arr** 0.4nm,0.4s,baz=84,slow=9.7,SNR=7.7	**31.77**	**252**	P	P	17 40 21.1	-0.5
ASAR	**Alice Springs** 1.2nm,0.6s,baz=67,slow=9.6,SNR=25	**32.90**	**246**	P	P	17 40 31.0	-0.5
FITZ	**Fitzroy Crossi** 1.1nm,0.7s,baz=121,slow=5.9,SNR=4.5	**39.80**	**257**	P	P	17 41 30.4	-0.1
KSRS	**Korea Array** 0.4nm,0.6s,baz=133,slow=7.9,SNR=4.0	**61.48**	**326**	P	P	17 44 14.6	+0.7
CMAR	**Chiang Mai Arr** 1.7nm,0.8s,baz=129,slow=5.2,SNR=16	**73.39**	**294**	P	P	17 45 30.6	+0.7
SONM	**Songino Array** 0.5nm,0.4s,baz=136,slow=4.4,SNR=6.4	**80.26**	**324**	P	P	17 46 08.0	-0.1
ILAR	**Eielson Array** 0.6nm,0.6s,baz=244,slow=4.9,SNR=11	**84.59**	**18**	P	P	17 46 30.0	-0.2
NVAR	**Mina Array Bea** 0.5nm,0.7s,baz=237,slow=7.4,SNR=5.2	**86.33**	**50**	P	P	17 46 40.9	+1.1
MKAR	**Makanchi Array** 0.9nm,0.6s,baz=93,slow=6.2,SNR=12	**95.08**	**317**	P	P	17 47 19.9	-0.5
ARCES	**ARCESS Array B** 2.0nm,0.8s,baz=67,slow=2.4,SNR=5.5	**117.89**	**346**	PKP	PKPdf	17 52 41.2	-2.2
ESDC	**Sonseca Array** 0.1nm,0.3s,baz=12,slow=3.8,SNR=2.8	**151.62**	**344**	PKPbc	PKPbc	17 53 51.6	-0.4
TORD	**Torodi Ar. Bea** 1.4nm,0.9s,baz=81,slow=3.8,SNR=6.2	**165.21**	**274**	PKPab	PKPab	17 54 59.4	-0.7

IDC 10 17:39:54.7±9.7, 15°01S×173°88W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/18, mbtmp3.8/3, MS3.7/2, Ms1 3.7/2, ms1mx3.2/30, Error ellipse: s-maj=435.3km s-min=33.2km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu** comp=Z,720nm,19.8s,baz=18,slow=30	**2.31**	**62**	LR	LR	17 41 04.6	
H11S2	**WAKE ISLAND Hy** baz=145	**38.39**	**329**	T	T	18 27 53.6	
H11S3	**WAKE ISLAND Hy** baz=145	**38.41**	**329**	T	T	18 27 55.6	
H11S1	**WAKE ISLAND Hy** baz=145	**38.41**	**329**	T	T	18 27 54.6	
H11N3	**WAKE ISLAND Hy** baz=138	**39.35**	**331**	T	T	18 28 58.7	
H11N1	**WAKE ISLAND Hy** baz=138	**39.35**	**331**	T	T	18 28 53.7	
H11N2	**WAKE ISLAND Hy** baz=138	**39.36**	**331**	T	T	18 29 00.4	
WRA	**Warramunga Arr** 0.6nm,0.6s,baz=91,slow=7.0,SNR=15	**49.49**	**256**	P	P	17 48 47.0	-0.3
ASAR	**Alice Springs** 1.4nm,0.5s,baz=87,slow=7.9,SNR=27	**49.80**	**252**	P	P	17 48 49.5	-0.1
LPIG	**La Paz** comp=Z,107nm,18.8s,baz=10,slow=30	**73.23**	**59**	LR	LR	18 16 17.8	
ILAR	**Eielson Array** 0.4nm,0.8s,baz=197,slow=9.1,SNR=3.1	**82.15**	**11**	P	P	17 52 16.8	-0.2
BRTR	**Keskin Array B** 0.9nm,0.8s,baz=25,slow=3.3,SNR=5.2	**145.56**	**321**	PKPbc	PKPdf	17 59 35.3	-0.2

MEX 10 17:47:47.4±0.4, 17°21N×100°52W, h8km±9km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.29**	**124**	*i* P	Pg	17 47 52.7	-0.5
CAIG				*i* S	Sg	17 47 57.3	+0.2
ZIIG	**Zihuatanejo**	**0.98**	**294**	*i* P	Pg	17 48 03.4	-2.9
ZIIG				*i* S	Sg	17 48 16.3	-2.8
ARIG	**Puente Sto Nin**	**1.08**	**9**	*i* P	Pg	17 48 04.9	-3.2
ARIG				*i* S	Sg	17 48 18.9	-3.4
PLIG	**Platanillo**	**1.52**	**39**	*i* P	Pn	17 48 11.1	-4.0
PLIG				*i* S	Sn	17 48 29.3	-6.0

KRSC 10 17:56:08.4±4.5, 52°56N×160°83E, h22km±21km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NLC	**Nalytchevo**	**1.09**	**305**	P	Pn	17 56 28.3	0.0
NLC				S	Sb	17 56 42.0	-0.2
UGLR	**Uglovaya**	**1.38**	**299**	P	Pb	17 56 33.1	-0.5
UGLR				S	Sn	17 56 50.2	+0.1
SDLR	**Sedlovina**	**1.38**	**302**	P	Pn	17 56 33.0	+0.5
SDLR				S	Sn	17 56 50.0	-0.2
PET	**Petropavlovsk**	**1.40**	**290**	P	Pb	17 56 33.5	-0.3
PET				S	Sb	17 56 50.9	-0.3
SMAR	**Somma**	**1.42**	**301**	P	Pn	17 56 33.4	+0.3
SMAR				S	Sn	17 56 50.7	-0.6
RUS	**Russkaya**	**1.42**	**266**	P	Pb	17 56 33.7	-0.5
RUS				S	Sn	17 56 51.3	+0.4
AVH	**Avacha**	**1.45**	**300**	P	Pb	17 56 34.4	-0.4
AVH				S	Sb	17 56 52.5	-0.4
KRER	**Koryakskii**	**1.46**	**301**	P	Pb	17 56 34.6	-0.6
KRER				S	Sn	17 56 52.8	+0.4
KOK	**Koryaka**	**1.52**	**300**	P	Pn	17 56 35.1	+0.8
KOK				S	Sn	17 56 53.8	+0.3
KRX	**Arik**	**1.54**	**302**	P	Pn	17 56 35.4	+0.6
KRX				S	Sn	17 56 54.3	0.0
MTVR	**Mutnovka**	**1.62**	**268**	P	Pb	17 56 36.9	-0.9
MTVR				S	Sb	17 56 57.1	-0.8
GRL	**Gorelyy**	**1.68**	**271**	P	Pb	17 56 37.9	-0.9
ASAK	**Asacha**	**1.80**	**266**	P	Pb	17 56 39.7	-1.1
ASAK				S	Sb	17 57 01.8	-1.2
MKZ	**Mys Kozlova**	**2.07**	**15**	P	Pn	17 56 42.9	+1.1
MKZ				S	Sn	17 57 07.2	+0.3
GNL	**Ganaly**	**2.08**	**304**	P	Pb	17 56 44.3	-1.3
GNL				S	Sb	17 57 10.3	-0.8
APC	**Apacha**	**2.26**	**281**	P	Pn	17 56 46.0	+1.6
APC				S	Sn	17 57 13.0	+1.4
MIPR	**Malaya Ipel'ka**	**2.51**	**265**	P	Pn	17 56 50.0	+2.1
TUMR	**Tumrok**	**2.76**	**352**	P	Pn	17 56 53.7	+2.3
TUMR				S	Sn	17 57 25.8	+1.6
KMNR	**Kamenistaya**	**3.22**	**354**	P	Pn	17 57 01.1	+3.3
ESO	**Esso**	**3.60**	**341**	P	Pn	17 57 05.7	+2.9
KBTR	**Krutoberegovo**	**3.84**	**17**	P	Pn	17 57 07.4	+1.3
BKI	**Bering**	**4.03**	**47**	S	Sn	17 57 53.8	-1.4

IDC 10 18:02:24.8±2.7, 15°31S×173°18W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.8/20, mbtmp3.7/5, MS4.0/1, Ms1 4.0/1, ms1mx3.2/33, Error ellipse: s-maj=153.8km s-min=20.1km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu** 48nm,0.3s,baz=126,slow=0.7,SNR=51	**1.94**	**44**	Pn	Pn	18 02 57.8	-1.3
AFI	335nm,0.3s,baz=111,slow=17,SNR=30			Sn	Sn	18 03 17.6	-6.8
AFI	comp=Z,326nm,18.4s,baz=115,slow=41			LR	LR	18 03 43.9	
H11S2	**WAKE ISLAND Hy** baz=152,slow=0.7,SNR=16	**39.00**	**329**	T	T	18 51 19.7	
H11S3	**WAKE ISLAND Hy** baz=152,slow=0.7,SNR=5.2	**39.01**	**329**	T	T	18 51 22.4	
H11S1	**WAKE ISLAND Hy** baz=152,slow=0.7,SNR=14	**39.01**	**329**	T	T	18 51 22.8	
H11N3	**WAKE ISLAND Hy** baz=156	**39.94**	**330**	T	T	18 52 45.7	
H11N1	**WAKE ISLAND Hy** baz=156	**39.94**	**330**	T	T	18 52 44.3	
H11N2	**WAKE ISLAND Hy** baz=156	**39.96**	**330**	T	T	18 52 48.0	
STKA	**Stephens Creek** 1.9nm,0.7s,baz=96,slow=9.1,SNR=3.2	**44.27**	**240**	P	P	18 10 35.8	-0.6
WRA	**Warramunga Arr**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	**Plate Boundary**	**2.65**	**309**	*e*P	Pn	18 11 22.8	+6.6
PB04				*e*S	S	18 12 03.4	+11
PB04				AML	AML	18 12 07.0	
	comp=N,109nm,0.3s						
CEN1	**Los Morros**	**2.75**	**281**	*e*P	Pn	18 11 19.4	+2.0
CEN1				*e*S	S	18 11 57.2	+2.4
CEN1				AML	AML	18 12 00.4	
	comp=E,58nm,0.6s						
PB09	**Plate Boundary**	**2.82**	**319**	*e*P	Pn	18 11 19.8	+1.5
PB09				AML	AML	18 12 03.0	
	comp=E,261nm,0.4s						
ANCH	**Antofagasta**	**2.89**	**275**↑	*i*P	Pn	18 11 19.8	+1.0
ANCH				*e*S	S	18 11 58.3	+0.9
ANCH				AML	AML	18 12 02.2	
	comp=N,255nm,0.0s						
PB10	**Plate Boundary**	**3.04**	**278**↑	*i*P	Pn	18 11 21.6	+0.9
PB10				AML	AML	18 12 03.9	
	comp=N,210nm,0.5s						
PB07	**Plate Boundary**	**3.28**	**312**↓	*i*P	Pn	18 11 24.6	+1.0
PB07				*e*S	S	18 12 07.1	+1.1
PB07				AML	AML	18 12 09.4	
	comp=E,120nm,0.4s						

IDC 10 18:18:56.8±2.0, **8°33S**×120°14E, **h0**km, **mb3.1**/2, **mb1 3.5**/5, **mb1mx3.3**/23, **mbtmp3.3**/5, **ML3.0**/3, **MS3.8**/1, **Ms1 3.8**/1, **ms1mx3.0**/11, **Error ellipse: s-maj=109.2km s-min=23.6km az=62.0, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**3.32**	**353**	Pn	Pn	18 19 51.0	+1.0
	6.0nm,0.3s,baz=172,slow=9.5,SNR=3.6						
KAPI				Sn	Sn	18 20 27.7	-2.4
	2.1nm,0.3s,baz=180,slow=20,SNR=1.4						
FITZ	**Fitzroy Crossi**	**11.09**	**152**	Pn	Pn	18 21 38.8	+2.1
	0.0nm,0.3s,baz=340,slow=12,SNR=1.9						
WRA	**Warramunga Arr**	**17.95**	**132**	Pn	Pn	18 23 06.5	-1.4
	0.1nm,0.3s,baz=307,slow=12,SNR=1.8						
ASAR	**Alice Springs**	**20.16**	**141**	P	P	18 23 32.6	-0.3
	0.2nm,0.4s,baz=317,slow=11,SNR=9.4						
JCJ	**Chichijima**	**41.19**	**31**	LR	LR	18 43 25.6	
	comp=Z,118nm,20.4s,baz=341,slow=36						
MKAR	**Makanchi Array**	**64.39**	**332**	P	P	18 29 34.3	-0.4
	0.3nm,0.6s,baz=122,slow=7.5,SNR=3.0						

*IDC **10** 18:23:21.5±0.7, 17°.04S×172°.77W, h0km, mb4.1/11, mb1 4.3/11, mb1mx4.2/21, mbtmp4.1/11, MS2.9/1, Ms1 2.9/1, ms1mx2.6/33, Error ellipse: s-maj=35.3km s-min=17.8km az=142.0*

*NEIC **10** 18:23:22.8±0.6, 17°.10S×172°.81W, h10km, mb4.4/3, Error ellipse: s-maj=28.5km s-min=14.5km az=153.0*

ISC 10 18:23:27.6±0.6, **17°.1S**±0°.1×**172°.8W**±0°.1, **h41**km, **n39**, σ1**935**/36, **mb4.2**/14, **Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.31**	**17**	*e*Pn	Pn	18 24 07.1	-10
AFI				Sn	Sn	18 24 39.7	-15
AFI	**Afiamalu**	**3.31**	**17**	Pn	Pn	18 24 07.4	-10
	8.4nm,0.3s,baz=51,slow=17,SNR=1.9						
AFI				Sn	Sn	18 24 39.7	-15
	21nm,0.3s,baz=83,slow=15,SNR=3.6						
AFI				LR	LR	18 25 18.7	
	comp=Z,168nm,19.1s,baz=221,slow=36						
MSVF	**Nonsavu**	**8.81**	**265**	*e*Pn	Pn	18 25 39.0	+6.5
	11nm,0.8s						
URZ	**Urewera**	**22.89**	**201**	P	**P**	**18 28 28.9**	**+1.2**
URZ	**Urewera**	**22.89**	**201**	P	**P**	**18 28 29.0**	**+1.2**
	19nm,0.8s,baz=13,slow=7.8,SNR=12						
CTA	**Charters Tower**	**38.91**	**259**	P	**P**	**18 30 48.0**	**-1.6**
CTA	**Charters Tower**	**38.91**	**259**	P	**P**	**18 30 48.0**	**-1.6**
	3.4nm,0.7s,baz=104,slow=8.3,SNR=3.8						
CTAO	**Charters Tower**	**38.91**	**259**	P	**P**	**18 30 48.2**	**-1.5**
	7.9nm,1.0s						
STKA	**Stephens Creek**	**43.76**	**242**	P	**P**	**18 31 28.3**	**-1.0**
STKA				*e*P	**P**	**18 31 30.2**	**+0.8**
STKA	**Stephens Creek**	**43.76**	**242**	P	**P**	**18 31 28.3**	**-1.0**
	1.6nm,0.7s,baz=90,slow=12,SNR=6.1						
WRAB	**Tennant Creek**	**50.08**	**258**	*e*P	P	18 32 15.4	-3.5
	9.9nm,1.2s						
WRA	**Warramunga Arr**	**50.09**	**258**	P	**P**	**18 32 17.4**	**-1.6**
WRA	**Warramunga Arr**	**50.09**	**258**	P	**P**	**18 32 17.4**	**-1.6**
	2.2nm,0.6s,baz=94,slow=7.0,SNR=26						
AS31	**Alice Springs**	**50.20**	**253**	*e*P	**P**	**18 32 19.0**	**-0.8**
ASAR	**Alice Springs**	**50.20**	**253**	P	**P**	**18 32 19.4**	**-0.4**
ASAR	**Alice Springs**	**50.20**	**253**	P	**P**	**18 32 19.4**	**-0.4**
	4.1nm,0.6s,baz=89,slow=7.1,SNR=63						
QSPA	**South Pole Qui**	**72.96**	**180**	*e*P	**P**	**18 34 53.9**	**+1.1**
	2.5nm,0.9s						
NVAR	**Mina Array Bea**	**75.17**	**41**	P	**P**	**18 35 05.6**	**-0.6**
NVAR	**Mina Array Bea**	**75.17**	**41**	P	**P**	**18 35 05.6**	**-0.6**
	0.3nm,0.6s,baz=230,slow=9.8,SNR=4.3						
KSRS	**Korea Array**	**77.80**	**316**	P	**P**	**18 35 23.5**	**+2.7**
	1.2nm,0.8s,baz=136,slow=6.9,SNR=5.6						
KSAR	**Wonju Array Be**	**77.82**	**316**	P	**P**	**18 35 23.5**	**+2.6**
TXAR	**Lajitas Array**	**81.04**	**56**	P	**P**	**18 35 39.6**	**+0.9**
TXAR	**Lajitas Array**	**81.04**	**56**	P	**P**	**18 35 39.6**	**+0.9**
	0.3nm,0.8s,baz=213,slow=6.5,SNR=3.3						
PDAR	**Pinedale Array**	**83.11**	**41**	P	**P**	**18 35 48.7**	**-0.8**
PDAR	**Pinedale Array**	**83.11**	**41**	P	**P**	**18 35 48.7**	**-0.8**
	0.6nm,0.8s,baz=220,slow=3.9,SNR=4.2						
ILAR	**Eielson Array**	**83.98**	**11**	P	**P**	**18 35 52.5**	**-0.6**
ILAR	**Eielson Array**	**83.98**	**11**	P	**P**	**18 35 52.5**	**-0.6**
	0.4nm,0.7s,baz=221,slow=6.1,SNR=6.8						
MAW	**Mawson**	**86.39**	**198**	P	**P**	**18 36 05.6**	**+0.3**
MAW	**Mawson**	**86.39**	**198**	P	**P**	**18 36 05.6**	**+0.3**
	1.5nm,0.9s,baz=108,slow=6.4,SNR=2.6						
CMAR	**Chiang Mai Arr**	**93.74**	**288**	P	**P**	**18 36 42.5**	**+1.7**
CMAR	**Chiang Mai Arr**	**93.74**	**288**	P	**P**	**18 36 42.5**	**+1.7**
	0.8nm,0.9s,baz=101,slow=4.5,SNR=4.4						
KMBO	**Kilima Mbogo**	**145.32**	**241**	PKPbc	**PKPab**	**18 43 02.7**	**+0.4**
KMBO	**Kilima Mbogo**	**145.32**	**241**	PKPbc	**PKPab**	**18 43 02.7**	**+0.4**
	1.9nm,0.6s,baz=212,slow=8.8,SNR=3.2						
BRTR	**Keskin Array B**	**147.86**	**320**	PKPbc	**PKPab**	**18 43 10.1**	**-1.2**
BRTR	**Keskin Array B**	**147.86**	**320**	PKPbc	**PKPab**	**18 43 10.1**	**-1.2**
	1.6nm,0.8s,baz=126,slow=1.7,SNR=9.8						
GERES	**GERESS Array B**	**147.90**	**352**	PKPbc	**PKPbc**	**18 43 08.4**	**-0.1**
GERES	**GERESS Array B**	**147.90**	**352**	PKPbc	**PKPbc**	**18 43 08.4**	**-0.1**
	0.2nm,0.6s,baz=12,slow=5.2,SNR=4.0						
TORD	**Torodi Ar. Bea**	**173.35**	**125**	PKPab	**PKPab**	**18 44 59.5**	**-2.4**
TORD	**Torodi Ar. Bea**	**173.35**	**125**	PKPab	**PKPab**	**18 44 59.5**	**-2.4**
	0.5nm,0.9s,baz=199,slow=7.6,SNR=2.6						

*IDC **10** 18:38:24.1±0.8, 14°.11S×166°.81E, h0km, mb4.1/12, mb1 4.2/13, mb1mx4.1/19, mbtmp4.1/13, ML3.9/1, MS3.6/6, Ms1 3.6/6, ms1mx3.3/31, Error ellipse: s-maj=31.6km s-min=18.6km az=107.0*

*ISCJB **10** 18:38:27.7±0.6, 14°.23S±0°.06×166°.62E±0°.10, h33km, mb4.2/16, MS3.7/3, Error ellipse: s-maj=14.3km s-min=6.7km az=157.9*

*NEIC **10** 18:38:29.2±0.5, 14°.16S×166°.79E, h35km, mb4.5/6, Error ellipse: s-maj=17.5km s-min=11.4km az=81.0*

ISC 10 18:38:29.1±0.6, **14°.16S**±0°.07×**166°.8E**±0°.1, **h35**km, **n55**, σ1**903**/57, **mb4.3**/16, **MS3.8**/3, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.88**	**182**	*e*Pn	**Pn**	**18 40 22.5**	**+1.2**
	10.0nm,0.3s						
DZM				*e*LR	LR	18 42 08.3	
	526nm,24.8s						
DZM	**Mont Dzumac**	**7.88**	**182**	Pn	**Pn**	**18 40 22.3**	**+1.0**
DZM				Sn	**Sn**	**18 41 48.6**	**-0.8**
DZM	**Mont Dzumac**	**7.88**	**182**	Pn	**Pn**	**18 40 22.3**	**+1.0**
	1.6nm,0.3s,baz=152,slow=19,SNR=9.9						
DZM				Sn	**Sn**	**18 41 48.6**	**-0.8**
	baz=307,slow=20,SNR=2.0						
DZM				LR	LR	18 43 01.3	
	comp=Z,442nm,21.0s,baz=123,slow=35						
HNR	**Honiara**	**8.20**	**304**	Pn	**Pn**	**18 40 26.9**	**+1.2**
HNR				Sn	**Sn**	**18 41 56.2**	**-0.9**
HNR	**Honiara**	**8.20**	**304**	Pn	**Pn**	**18 40 26.8**	**+1.2**
	11nm,0.3s,baz=180,slow=17,SNR=4.8						
HNR				Sn	**Sn**	**18 41 56.2**	**-0.9**
	2.6nm,0.3s,baz=350,slow=18,SNR=2.4						
HNR				LR	LR	18 42 42.1	
	comp=Z,141nm,18.2s,baz=81,slow=32						
PMG	**Port Moresby**	**19.80**	**282**	LR	LR	18 48 46.9	
	comp=Z,154nm,20.8s,baz=54,slow=32						
URZ	**Urewera**	**25.68**	**161**	LR	LR	18 51 51.0	
	comp=Z,135nm,20.4s,baz=204,slow=31						
STKA	**Stephens Creek**	**29.03**	**228**	*e*P	**P**	**18 44 26.3**	**+0.2**
	0.6nm,0.5s						
STKA	**Stephens Creek**	**29.03**	**228**	P	**P**	**18 44 27.0**	**+1.0**
	3.1nm,0.6s,baz=52,slow=8.8,SNR=16						
WRAB	**Tennant Creek**	**31.52**	**255**	*e*P	**P**	**18 44 47.3**	**-0.9**
	5.7nm,1.1s						
WRA	**Warramunga Arr**	**31.54**	**255**	P	**P**	**18 44 47.2**	**-1.1**
WRA	**Warramunga Arr**	**31.54**	**255**	P	**P**	**18 44 47.2**	**-1.1**
	0.8nm,0.8s,baz=82,slow=9.2,SNR=3.7						
ASAR	**Alice Springs**	**32.46**	**248**	P	**P**	**18 44 55.2**	**-1.2**
ASAR	**Alice Springs**	**32.46**	**248**	P	**P**	**18 44 55.2**	**-1.2**
	0.8nm,0.6s,baz=73,slow=9.0,SNR=18						
RAR	**Rarotonga**	**32.55**	**107**	LR	LR	18 55 10.0	
	comp=Z,173nm,18.5s,baz=89,slow=31						
PPT2	**Papeete2**	**42.02**	**101**	*e*LR	LR	18 58 43.5	
	147nm,27.2s						
KSRS	**Korea Array**	**63.02**	**326**	P	**P**	**18 48 53.2**	**+0.6**
	1.8nm,0.8s,baz=139,slow=7.1,SNR=8.0						
KSAR	**Wonju Array Be**	**63.03**	**326**	P	**P**	**18 48 53.2**	**+0.5**
VNDA	**Vanda**	**63.42**	**181**	P	**P**	**18 48 55.0**	**+0.2**
	3.1nm,1.1s						
VNDA	**Vanda**	**63.42**	**181**	P	**P**	**18 48 55.5**	**+0.7**
	0.6nm,0.5s,baz=349,slow=4.5,SNR=2.5						
SBA	**Scott Base**	**63.70**	**180**	P	**P**	**18 48 58.9**	**+2.2**
	5.4nm,0.9s						
PETK	**Petropavlovsk-**	**67.45**	**354**	P	**P**	**18 49 21.8**	**+0.7**
PETK	**Petropavlovsk-**	**67.45**	**354**	P	**P**	**18 49 21.8**	**+0.7**
	3.6nm,0.8s,baz=175,slow=7.4,SNR=5.0						
PETK				LR	LR	19 14 02.3	
	comp=Z,71nm,19.7s,baz=44,slow=32						
CMAR	**Chiang Mai Arr**	**74.31**	**294**	P	**P**	**18 50 05.1**	**+1.6**
CMAR	**Chiang Mai Arr**	**74.31**	**294**	P	**P**	**18 50 05.1**	**+1.6**
	1.2nm,0.8s,baz=129,slow=4.2,SNR=12						
CHTO	**Chiang Mai**	**74.44**	**294**	*e*P	**P**	**18 50 02.9**	**-1.4**
	8.8nm,0.9s						
QSPA	**South Pole Qui**	**75.86**	**180**	*e*P	**P**	**18 50 10.0**	**-1.8**
	6.6nm,1.2s						
SONM	**Songino Array**	**81.78**	**324**	P	**P**	**18 50 44.7**	**+0.2**
SONM	**Songino Array**	**81.78**	**324**	P	**P**	**18 50 44.7**	**+0.2**
	1.3nm,0.8s,baz=148,slow=5.8,SNR=8.6						
MAW	**Mawson**	**82.24**	**202**	P	**P**	**18 50 47.2**	**+0.7**
MAW	**Mawson**	**82.24**	**202**	P	**P**	**18 50 47.2**	**+0.7**
	1.8nm,0.7s,baz=14,slow=4.2,SNR=3.3						
ILAR	**Eielson Array**	**86.13**	**18**	P	**P**	**18 51 05.6**	**-0.6**
ILAR	**Eielson Array**	**86.13**	**18**	P	**P**	**18 51 05.6**	**-0.6**
	0.7nm,0.6s,baz=242,slow=5.1,SNR=9.3						
SNAA	**Sanae**	**94.09**	**183**	*e*P	**P**	**18 51 43.7**	**0.0**
VNA2	**Neumayer--Watz**	**95.03**	**182**	*e*P	**P**	**18 51 48.3**	**+0.3**
	baz=183,slow=5.3						
MKAR	**Makanchi Array**	**96.48**	**317**	P	**P**	**18 51 55.3**	**+0.3**
MKAR	**Makanchi Array**	**96.48**	**317**	P	**P**	**18 51 55.3**	**+0.3**
	1.0nm,0.8s,baz=111,slow=5.9,SNR=6.6						
ZALV	**Zalesovo Beam**	**96.67**	**324**	P	**P**	**18 51 55.0**	**-0.5**
ZALV	**Zalesovo Beam**	**96.67**	**324**	P	**P**	**18 51 55.0**	**-0.5**
	0.8nm,0.5s,baz=126,slow=1.8,SNR=6.0						
ARCES	**ARCESS Array B**	**119.59**	**345**	PKP	**PKPdf**	**18 57 14.5**	**-0.2**
ARCES	**ARCESS Array B**	**119.59**	**345**	PKP	**PKPdf**	**18 57 14.5**	**-0.2**
	1.3nm,0.4s,baz=82,slow=2.3,SNR=18						
JOF	**Joensuu**	**122.19**	**338**	*e*pkp	**PKPdf**	**18 57 18.7**	**-1.1**
KAF	**Kangasniemi**	**124.50**	**339**	*e*pkp	**PKPdf**	**18 57 23.6**	**-0.7**
FINES	**FINESS Array B**	**125.03**	**338**	PKP	**PKPdf**	**18 57 25.4**	**+0.1**
FINES	**FINESS Array B**	**125.03**	**338**	PKP	**PKPdf**	**18 57 25.4**	**+0.1**
	2.7nm,0.9s,baz=73,slow=2.5,SNR=11						
NOA	**NORSAR Array B**	**129.96**	**345**	PKP	**PKPdf**	**18 57 34.5**	**-0.3**
NOA	**NORSAR Array B**	**129.96**	**345**	PKP	**PKPdf**	**18 57 34.5**	**-0.3**
	0.5nm,0.6s,baz=32,slow=3.1,SNR=2.8						
GERES	**GERESS Array B**	**138.94**	**333**	PKPpre	PKPpre	18 57 43.9	
GERES				PKP	**PKPdf**	**18 57 51.6**	**-0.5**
GERES	**GERESS Array B**	**138.94**	**333**	PKhKP	PKPpre	18 57 43.9	
	0.1nm,0.2s,baz=311,slow=7.7,SNR=2.3						
GERES				PKP	**PKPdf**	**18 57 51.6**	**-0.5**
	0.4nm,0.8s,baz=45,slow=2.7,SNR=3.6						
KEST	**Kesra**	**150.49**	**321**	PKP	**PKPdf**	**18 58 13.6**	**+1.2**
KEST				PKPbc	**PKiKP**	**18 58 18.1**	**-0.4**
KEST	**Kesra**	**150.49**	**321**	PKP	**PKPdf**	**18 58 13.6**	**+1.2**
	2.1nm,0.8s,baz=117,slow=2.3,SNR=2.2						
KEST				PKPbc	**PKiKP**	**18 58 18.1**	**-0.4**
	1.9nm,0.8s,baz=332,slow=3.1,SNR=8.7						
ESDC	**Sonseca Array**	**153.32**	**344**	PKPbc	**PKPbc**	**18 58 23.8**	**-0.2**
ESDC	**Sonseca Array**	**153.32**	**344**	PKPbc	**PKPbc**	**18 58 23.8**	**-0.2**
	0.1nm,0.4s,baz=29,slow=1.2,SNR=4.4						
TORD	**Torodi Ar. Bea**	**165.50**	**268**	PKP	**PKPdf**	**18 58 28.3**	**-2.8**
TORD	**Torodi Ar. Bea**	**165.50**	**268**	PKP	**PKPdf**	**18 58 28.3**	**-2.8**
	0.5nm,1.0s,baz=335,slow=6.4,SNR=2.4						

IDC 10 18:43:58.6±1.6, **11°.11S**×165°.68E, **h0**km, **mb3.9**/7, **mb1 4.1**/8, **mb1mx3.8**/20, **mbtmp3.9**/8, **ML3.9**/1, **Error ellipse: s-maj=46.4km s-min=26.4km az=123.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.92**	**176**	Pn	Pn	18 46 35.7	-0.8
	0.9nm,0.3s,baz=350,slow=9.4,SNR=5.9						
STKA	**Stephens Creek**	**30.35**	**223**	P	P	18 50 12.9	+0.7
	1.6nm,0.8s,baz=39,slow=14,SNR=3.2						
WRA	**Warramunga Arr**	**31.40**	**250**	P	P	18 50 22.0	+0.3
	2.1nm,0.8s,baz=81,slow=9.2,SNR=11						
ASAR	**Alice Springs**	**32.70**	**243**	P	P	18 50 32.0	-1.2
	0.5nm,0.8s,baz=67,slow=8.3,SNR=5.0						
FITZ	**Fitzroy Crossi**	**39.30**	**255**	P	P	18 51 30.3	+0.6
	1.7nm,0.9s,baz=98,slow=7.4,SNR=4.5						
CMAR	**Chiang Mai Arr**	**72.08**	**294**	P	P	18 55 24.3	-1.0
	0.8nm,0.9s,baz=99,slow=4.7,SNR=3.4						
ILAR	**Eielson Array**	**83.60**	**19**	P	P	18 56 28.5	+0.1
	0.3nm,0.7s,baz=222,slow=8.0,SNR=3.2						
MKAR	**Makanchi Array**	**93.53**	**317**	P	P	18 57 17.2	+0.7
	0.4nm,0.7s,baz=89,slow=6.2,SNR=3.7						

MAN 10 18:44:35, 10°.31N×125°.12E, h1km, **mb4.7, ML3.6, MS3.6, 4C-2D, Leyte**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.31**	**236**	*e*P	Pb	18 44 42.6	-0.8
MSLP				*e*S	Sb	18 44 49.2	+0.2
SCPH	**Surigao**	**0.64**	**145**↑	*e*P	Pg	18 44 47.9	+0.7
PLP	**Palo**	**0.86**	**351**↓	*i*P	Pg	18 44 51.2	-0.4
PLP				*e*S	Sb	18 45 04.1	-0.8
OCLP	**Ormoc**	**0.89**	**326**	*e*P	Pg	18 44 52.6	+0.4
OCLP				*e*S	Sg	18 45 02.5	-1.3
LLP	**Lapu-Lapu**	**1.14**	**270**↓	*e*P	Pg	18 44 56.1	-0.8
LLP				*e*S	Sb	18 45 12.3	-0.6
BESP	**Borongan**	**1.32**	**14**	*e*P	Pg	18 44 59.9	-0.5
TBP	**Tagbilaran**	**1.39**	**244**	*e*P	Pn	18 45 00.9	-0.6
TBP				*e*S	Sn	18 45 21.4	+1.0
BUTP	**Butuan**	**1.42**	**160**	*e*P	Pn	18 45 02.0	0.0
CGP	**Cagayan de Oro**	**1.89**	**193**↑	*e*P	Pn	18 45 09.2	+0.8
CGP				*e*S	Sn	18 45 31.3	-1.6
SNPH	**Sibulan**	**2.09**	**243**	*e*P	Pg	18 45 16.5	+1.3
SNPH				*e*S	Sg	18 45 49.1	+6.7
CNP	**Catarman**	**2.23**	**348**	*e*P	Pn	18 45 14.1	+0.9
BUKP	**Musuan**	**2.42**	**181**	*e*P	Pn	18 45 15.1	-0.7
BIPH	**Bislig**	**2.44**	**150**↑	*e*P	Pb	18 45 17.9	-1.8
GUIM	**Jordan**	**2.51**	**277**	*e*P	Pn	18 45 18.0	+1.0
RCP	**Roxas**	**2.64**	**298**↑	*e*P	Pn	18 45 20.0	+1.2
PAGZ	**Pagadian**	**2.99**	**215**	*e*P	Pn	18 45 24.6	+1.0
PVCP	**Virac**	**3.40**	**344**	*e*P	Pn	18 45 31.9	+2.7

IDC 10 18:49:35.1±5.8, **14°.91S**×172°.60W, **h0**km, **mb3.9**/2, **mb1 4.2**/2, **mb1mx3.7**/19, **mbtmp3.9**/2, **MS4.8**/1, **Ms1 4.8**/1, **ms1mx3.4**/24, **Error ellipse: s-maj=276.1km s-min=18.3km az=139.0, Samoa Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.27**	**39**	Pn	Pg	18 49 59.4	-0.2
	18nm,0.3s,baz=18,slow=1.2,SNR=15						
AFI				Sn	Sn	18 50 18.1	-0.1
	147nm,0.3s,baz=345,slow=23,SNR=20						
HNR	**Honiara**	**27.37**	**278**	LR	LR	19 04 05.6	
	comp=Z,2μm,18.6s,baz=331,slow=32						
WRA	**Warramunga Arr**	**50.71**	**256**	P	P	18 58 36.6	-0.4
	1.6nm,1.1s,baz=96,slow=6.9,SNR=5.7						
ASAR	**Alice Springs**	**51.00**	**252**	P	P	18 58 38.2	-1.0
	2.1nm,0.9s,baz=89,slow=7.8,SNR=31						
GERES	**GERESS Array B**	**145.77**	**353**	PKPbc	PKPab	19 09 16.7	+0.1
	0.3nm,0.7s,baz=71,slow=5.8,SNR=3.9						
BRTR	**Keskin Array B**	**146.26**	**322**	PKPbc	PKPab	19 09 18.6	-0.2
	1.2nm,1.0s,baz=345,slow=1.4,SNR=4.9						

*IDC **10** 18:51:23.5±3.5, 13°.29N×88°.28W, h33km±26km, mb3.9/12, mb1 4.1/13, mb1mx3.9/26, mbtmp3.9/13, ML3.2/1, MS3.3/7, Ms1 3.3/7, ms1mx3.1/44, Error ellipse: s-maj=32.1km s-min=15.5km az=58.0*

*ISCJB **10** 18:51:25.6±0.4, 12°.96N±0°.06×88°.71W±0°.05, h68km±2km, mb4.1/23, Error ellipse: s-maj=12.1km s-min=3.7km az=41.7*

*NEIC **10** 18:51:26.5±1.6, 13°.19N×88°.39W, h64km±13km, mb4.3/10, MD4.5(SNET), Error ellipse: s-maj=15.4km s-min=8.0km az=224.0*

NEIC Felt [III] at Santiago de Maria.

*CASC **10** 18:51:26.6±2.3, 12°.91N×88°.81W, h38km±76km, mb7.1, MD3.9, ML4.5*

ISC 10 18:51:26.1±0.9, **13°.00N**±0°.06×**88°.72W**±0°.05, **h65**km±7km, **n211**, σ1**938**/212, **mb4.2**/23, **65C-62D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIES	**Las Flores**	**0.56**	**325**	*i* P	**Pn**	**18 51 38.4**	**-0.7**
AIES				*e*S	**Sn**	**18 51 47.4**	**-1.2**
AIES				AML	AML	18 51 47.9	
	comp=Z,11μm,0.3s						
VSM	**San Miguel**	**0.61**	**45**↓	*i*P	**Pn**	**18 51 41.1**	**+1.2**
SNVI	**San Vicente**	**0.62**	**349**	*e*P	**Pn**	**18 51 39.9**	**-0.1**
LFRS	**El Faro**	**0.71**	**332**↓	*i*P	**Pn**	**18 51 40.5**	**-0.4**
LBRS	**Las Brisas**	**0.80**	**337**	*e*P	**Pn**	**18 51 41.8**	**-0.2**
SNET	**Serv Nac Est T**	**0.85**	**324**	*e*P	**Pn**	**18 51 41.9**	**-0.6**
SNET				*e*S	**Sn**	**18 51 54.0**	**-0.6**
SNET				AML	AML	18 51 55.8	
	comp=Z,14μm,0.2s						
CNCH	**Conchagua**	**0.90**	**72**	*e*P	**Pn**	**18 51 44.3**	**+1.1**
CAHU	**Cacacuatique**	**0.91**	**33**	*e*P	**Pn**	**18 51 44.9**	**+1.5**
BOQS	**Boqueron**	**0.92**	**323**	*e*P	**Pn**	**18 51 43.3**	**-0.2**
SBLS	**San Blas**	**1.22**	**314**	*e*P	**Pn**	**18 51 47.2**	**-0.2**
SNJE	**San Jose**	**1.22**	**315**	*e*P	**Pn**	**18 51 47.4**	**-0.1**
RTR	**El Retiro**	**1.27**	**315**	*e*P	**Pn**	**18 51 47.9**	**-0.2**
RBDL	**Robledal**	**1.46**	**320**	*e*P	**Pn**	**18 51 50.5**	**0.0**
TGUH	**Tegucigalpa,Un**	**1.75**	**53**	*e*Sn	Sn	18 52 05.6	-10
TGUH				*e*Sn	Sn	18 53 47.6	+92
IXG	**Ixpaco**	**2.06**	**305**	*e*P	**Pn**	**18 51 58.7**	**+0.1**
NBG	**Las Nubes**	**2.24**	**315**	*e*P	**Pn**	**18 52 03.1**	**+2.0**
MRL	**Marmol**	**2.26**	**335**	*e*P	**Pn**	**18 52 03.6**	**+2.2**
PCG	**Pacaya**	**2.30**	**307**	*e*P	**Pn**	**18 52 04.0**	**+2.0**
FUG	**Fuego 3**	**2.52**	**305**	*e*P	**Pn**	**18 52 05.8**	**+0.9**
APG	**El Apazote**	**2.62**	**320**	Pn	**Pn**	**18 52 06.5**	**+0.2**
APG				Pg		18 52 13.9	
APG				Sn	Sn	18 52 46.1	+9.1
APG	**El Apazote**	**2.62**	**320**	Pn	**Pn**	**18 52 06.5**	**+0.2**
	comp=Z,3.7nm,0.3s,baz=143,slow=8.3,SNR=36						
APG				Pg		18 52 13.9	
	comp=Z,11nm,0.3s,baz=116,slow=12,SNR=30						
APG				Sn	Sn	18 52 46.1	+9.1
	comp=Z,11nm,0.3s,baz=252,slow=21,SNR=5.3						
JAT	**Jato**	**3.13**	**295**	*e*P	**Pn**	**18 52 13.4**	**+0.4**
JTS	**JuntasAbangare**	**4.56**	**126**	Pn	**Pn**	**18 52 34.7**	**+2.0**
JTS				Pg		18 52 42.8	
JTS				Sn	**Sn**	**18 53 22.8**	**-1.7**
JTS				Lg	Lg	18 53 44.5	
JTS	**JuntasAbangare**	**4.56**	**126**	Pn	**Pn**	**18 52 34.7**	**+2.0**
	comp=Z,5.0nm,0.3s,baz=306,slow=22,SNR=17						
JTS				Pg		18 52 42.8	
	comp=Z,28nm,0.3s,baz=299,slow=13,SNR=59						
JTS				Sn	**Sn**	**18 53 22.8**	**-1.7**
	comp=Z,13nm,0.3s,baz

baz=23
426A McDonald Obser 22.57 324 ⇑P P P 18 56 22.0 +0.7
baz=23
Z31A Sharp Cattle R 22.76 335 ⇑P P P 18 56 23.7 +0.6
baz=23
228A UT Block 9, Go 22.90 328 ⇑P P P 18 56 24.4 -0.1
baz=23
129A Stewart Farms, 22.95 331 ⇓P P P 18 56 25.1 0.0
baz=23
TKL Tuckaleechee C 23.00 10 P P P 18 56 23.5 -2.0
TKL Tuckaleechee C 23.00 10 P P P 18 56 23.5 -2.0
comp=Z,4.0nm,0.8s,baz=158,slow=12,SNR=5.9
326A Caldwell Ranch 23.02 325 ⇑P P P 18 56 25.3 -0.6
baz=23
Y32A R-V Farms, Ver 23.08 337 ⇓P P P 18 56 27.2 +0.9
baz=23
Z30A Sanderson Ranc 23.16 333 ⇓P P P 18 56 27.8 +0.7
baz=23,SNR=8.3
227A Bennet, Jal 23.18 327 ⇓P P P 18 56 27.3 -0.1
baz=23
128A Castleberry Fa 23.25 329 ⇑P P P 18 56 28.3 +0.3
baz=23
Y31A Rekieta Farm, 23.36 335 ⇓P P P 18 56 30.4 +1.4
baz=23
WMOK Wichita Mounta 23.49 339 *eP* P P 18 56 30.1 0.0
Y30A Stafford Cattl 23.56 334 ⇓P P P 18 56 32.8 +1.9
baz=24,SNR=9.9
325A Bean Ranch, Si 23.63 323 ⇓P P P 18 56 31.8 +0.2
baz=24
226B Tecolote Peak, 23.70 326 ⇓P P P 18 56 32.7 +0.5
baz=24
127A Arkansas Junct 23.73 328 ⇑P P P 18 56 32.9 +0.4
baz=24
Z28A Tucker Farm, M 23.74 331 ⇓P P P 18 56 33.2 +0.6
baz=24
X31A McDonald Ranch 23.84 337 ⇓P P P 18 56 34.7 +1.4
baz=24
324A Moseley Ranch, 23.98 323 ⇑P P P 18 56 35.0 +0.2
baz=24
X30A Coker Ranch, T 24.04 335 ⇓P P P 18 56 36.9 +1.8
baz=24,SNR=9.3
225A Deer Hill, Car 24.09 325 ⇑P P P 18 56 37.2 +1.4
baz=24
Z27A Tatum 24.17 329 ⇑P P P 18 56 36.4 0.0
baz=24,SNR=5.8
X29A Tulia 24.39 333 ⇑P P P 18 56 39.6 +1.1
baz=24
125A Gardner Draw, 24.41 326 ⇑P P P 18 56 39.5 +0.8
baz=24
224A Cornudas Mount 24.46 324 ⇑P P P 18 56 39.7 +0.5
baz=25
MSTX Muleshoe 24.48 331 *eP* P P 18 56 38.9 -0.5
MSTX Muleshoe 24.48 331 ⇑P P P 18 56 39.6 +0.3
baz=24,SNR=6.3
Z26A Caprock 24.52 328 ⇓P P P 18 56 39.9 +0.3
baz=25
Y27A Causey 24.60 330 ⇓P P P 18 56 40.5 +0.1
baz=25,SNR=5.3
V31A Spring Creek L 24.80 338 ⇑P P P 18 56 43.6 +1.5
baz=25
Z25A Roswell 24.92 327 ⇑P P P 18 56 43.9 +0.6
baz=25
Z24A Sheeppen Canyo 25.30 326 ⇓P P P 18 56 48.1 +1.2
baz=25
Y25A Mesa, Roswell 25.40 328 ⇓P P P 18 56 49.0 +1.3
baz=26
W27A Bowe Ranch, En 25.52 332 ⇑P P P 18 56 50.0 +1.3
baz=26
V29A Stinnett 25.53 335 ⇓P P P 18 56 50.8 +2.0
baz=26
W26A Owens Ranch, T 25.87 331 ⇑P P P 18 56 53.9 +2.0
baz=26
T31A Randall Ranch, 25.93 340 ⇑P P P 18 56 53.4 +1.1
baz=26
Y23A Lovelace Mesa, 26.14 326 ⇓P P P 18 56 55.8 +1.4
baz=26
W25A X Bar L Ranch, 26.31 330 ⇑P P P 18 56 57.6 +1.7
baz=26
319A Douglas 26.32 317 ⇑P P P 18 56 56.2 +0.2
baz=26,SNR=7.4
V26A Tequesquite Ra 26.45 332 ⇓P P P 18 56 58.3 +1.1
baz=26,SNR=5.8
Y22A Socorro 26.65 325 ⇓P P P 18 56 59.5 +0.5
baz=27
W24A Lazy 6 Ranch, 26.77 329 ⇑P P P 18 57 01.0 +0.8
baz=27
V25A Rancho No Teng 26.88 331 ⇑P P P 18 57 02.3 +1.1
baz=27,SNR=5.5
S29A Ulysses 26.91 338 ⇑P P P 18 57 03.0 +1.8
baz=27
U26A Atchley Ranch, 26.93 332 ⇑P P P 18 57 02.6 +1.0
baz=27,SNR=5.1
W23A Werner Place, 27.12 327 ⇑P P P 18 57 04.6 +1.3
baz=27
U25A Circle Dot Ran 27.24 332 ⇓P P P 18 57 06.1 +1.8
baz=27
ACSO Alum Creek Sta 27.59 10 P P P 18 57 06.8 -0.4
comp=Z,7.8nm,0.8s
S27A Las Animas 27.65 335 ⇓P P P 18 57 09.1 +1.2
baz=28
R28A Tribune 27.80 338 ⇑P P P 18 57 10.3 +1.1
baz=28
S26A Kim 27.84 334 ⇑P P P 18 57 10.7 +1.1
baz=28
T25A Trinidad 27.84 332 ⇑P P P 18 57 11.3 +1.6
baz=28
U23A El Rito 28.04 329 ⇓P P P 18 57 13.1 +1.5
baz=28,SNR=6.0
R27A Eads 28.13 336 ⇑P P P 18 57 13.2 +1.1
baz=28
S24A Houchin Ranch, 28.62 332 ⇑P P P 18 57 17.1 +0.3
baz=29
R25A Fountain Ranch 28.63 334 ⇑P P P 18 57 17.1 +0.5
baz=29
Q25A Bedland, Calha 29.25 335 ⇓P P P 18 57 23.5 +1.3
baz=29
O20A White River Ci 32.03 331 ⇓P P P 18 57 47.2 +0.5
baz=32
L23A Garrett 32.55 336 ⇑P P P 18 57 52.0 +0.7
baz=33
N20A Spence Gulch, 32.59 332 ⇓P P P 18 57 53.2 +1.6
baz=33
J26A Sides Ranch, S 32.65 340 ⇓P P P 18 57 53.6 +1.7
baz=33
SADO Sadowa 32.70 13 P P P 18 57 50.5 -1.8
SADO Sadowa 32.70 13 P P P 18 57 50.5 -1.8
comp=Z,7.5nm,1.1s,baz=174,slow=6.7,SNR=5.4
K22A Casper 33.33 336 ⇓P P P 18 57 59.1 +1.1
baz=33
SAML Samuel 33.45 129 *eP* P P 18 57 58.8 -0.3
comp=Z,5.0nm,0.7s
H27A Howes 33.53 343 ⇑P P P 18 58 02.3 +2.7
baz=34
K21A Alcova 33.61 335 ⇓P P P 18 58 01.9 +1.4
baz=34
RSSD Black Hills 33.69 340 *eP* P P 18 58 02.0 +0.9
comp=Z,9.4nm,0.6s
J22A Midwest 33.96 337 ⇑P P P 18 58 04.5 +1.1
baz=34
L18A Fontenelle, Gr 34.27 331 ⇓P P P 18 58 06.8 +0.5
baz=34
J21A Lysite 34.28 335 ⇓P P P 18 58 08.1 +1.8
baz=34
I22A 9 Mile Ranch, 34.37 337 ⇓P P P 18 58 08.0 +1.1
baz=34
H24A Dirks Ranch, A 34.41 340 ⇓P P P 18 58 08.6 +1.3
baz=34
G27A Dupree 34.47 342 ⇓P P P 18 58 06.2 -1.5
baz=34
J20A Shoshoni 34.55 335 ⇓P P P 18 58 09.7 +1.2
baz=35
PDAR Pinedale Array 34.72 333 P P P 18 58 09.7 -0.4
PDAR PcP PcP 19 00 42.8 0.0
PDAR Pinedale Array 34.72 333 P P P 18 58 09.7 -0.4
comp=Z,0.8nm,0.8s,baz=116,slow=6.8,SNR=5.8
PDAR PcP PcP 19 00 42.8 0.0
comp=Z,0.5nm,0.7s,baz=142,slow=7.2,SNR=4.5
J19A Crowheart 34.89 334 ⇓P P P 18 58 12.2 +0.6
baz=35
I20A Worland 35.06 335 ⇓P P P 18 58 13.9 +0.9
baz=35,SNR=5.8
F25A Bowman 35.12 342 ⇑P P P 18 58 14.8 +1.5
baz=35
H21A Big Horn, Sher 35.20 337 ⇑P P P 18 58 14.9 +0.7
baz=35
G22A Birney 35.43 338 ⇑P P P 18 58 16.7 +0.7
baz=36
LPAZ La Paz 35.51 144 LR LR 19 13 32.8
comp=Z,45nm,19.4s,baz=45,slow=37
F23A Volborg 35.56 340 ⇓P P P 18 58 18.7 +1.6
baz=36
G21A Lodge Grass 35.77 337 ⇓P P P 18 58 19.4 +0.4
baz=36
D26A Manning 35.83 344 ⇑P P P 18 58 20.2 +0.8
baz=36
G20A Bridger 36.15 336 ⇓P P P 18 58 22.7 +0.5
baz=36
H18A Shoshone NF, C 36.29 334 ⇑P P P 18 58 24.2 +0.6
baz=36,SNR=7.4
NVAR Mina Array Bea 36.48 319 P P P 18 58 27.2 +1.9
NVAR PcP PcP 19 00 50.1 +2.0
NVAR Mina Array Bea 36.48 319 P P P 18 58 27.2 +1.9
comp=Z,1.0nm,0.7s,baz=135,slow=6.8,SNR=4.3
NVAR PcP PcP 19 00 50.1 +2.0
comp=Z,1.1nm,0.6s,baz=132,slow=4.0,SNR=9.8
F19A Roth Farm, Mol 36.96 336 ⇓P P P 18 58 29.6 +0.5
baz=37
D22A Cohagen 37.07 340 ⇓P P P 18 58 32.0 +2.1
baz=37
B25A Knox Farm, Ray 37.17 344 ⇑P P P 18 58 32.6 +1.9
baz=37
E20A Meyer Farm, Mu 37.20 338 ⇑P P P 18 58 32.1 +1.0
baz=37,SNR=5.9
D21A La Casta Ranch 37.27 339 ⇓P P P 18 58 33.2 +1.5
baz=37
E19A Rath Farm, Rou 37.41 337 ⇑P P P 18 58 33.7 +0.9
baz=37
C22A Vida 37.49 341 ⇑P P P 18 58 34.9 +1.4
baz=38
ULM Lac du Bonnet 37.61 352 P P P 18 58 31.8 -2.6
ULM Lac du Bonnet 37.61 352 P P P 18 58 31.8 -2.6
comp=Z,5.8nm,0.8s,baz=186,slow=9.2,SNR=3.2
ULM LR LR 19 14 49.1
comp=Z,129nm,19.1s,baz=22,slow=38
DGMT Dagmar 37.63 343 ⇑P P P 18 58 36.2 +1.5
baz=38
HLID Hailey 37.63 329 P P P 18 58 35.9 +0.9
comp=Z,1.2nm,0.8s
D20A Manuel Ranch, 37.69 338 ⇓P P P 18 58 36.4 +1.1
baz=38
MCMT McKenzie Canyo 37.82 332 *eP* P P 18 58 38.1 +1.6
comp=Z,1.7nm,0.7s
D19A Cripps Ranch, 38.03 338 ⇓P P P 18 58 39.2 +1.1
baz=38,SNR=6.7
C20A Veseth Ranch, 38.18 339 ⇑P P P 18 58 40.6 +1.3
baz=38
C19A Slack Wire Ran 38.57 338 ⇑P P P 18 58 44.0 +1.4
baz=39,SNR=9.9
A22A Carney Farms, 38.61 342 ⇑P P P 18 58 44.3 +1.4
baz=39
EGMT Eagleton 39.07 338 *eP* P P 18 58 47.6 +0.7
comp=Z,6.6nm,0.6s
EGMT Eagleton 39.07 338 ⇓P P P 18 58 48.0 +1.1
baz=39,SNR=5.1
B19A Brinkman Farms 39.14 339 ⇑P P P 18 58 48.2 +0.9
baz=39,SNR=5.1
A20A Cobblestone Ra 39.15 340 ⇓P P P 18 58 48.9 +1.4
baz=39
A19A Klindworth Far 39.47 339 ⇑P P P 18 58 51.5 +1.3
baz=40
SIV San Ignacio 39.71 136 P P P 18 58 53.6 +1.1
SIV PcP PcP 19 00 59.6 +1.5
SIV San Ignacio 39.71 136 P P P 18 58 53.6 +1.1
comp=Z,2.3nm,0.7s,baz=322,slow=7.3,SNR=8.6
SIV PcP PcP 19 00 59.6 +1.5
comp=Z,1.0nm,0.6s,baz=226,slow=1.9,SNR=3.6
LVC Limon Verde 40.36 151 P P P 18 58 58.4 +0.4
comp=Z,2.3nm,0.9s
WALA Waterton Lakes 41.54 335 *eP* P P 18 59 08.1 +0.8
comp=Z,0.1nm,0.8s
SCHQ Schefferville 45.12 18 P P P 18 59 29.9 -6.0
SCHQ Schefferville 45.12 18 P P P 18 59 32.2 -3.7
comp=Z,7.3nm,1.0s,baz=200,slow=12,SNR=3.7
H03N2 Juan Fernandez 47.11 169 T T 19 50 05.3
baz=346,slow=0.7,SNR=5.6
H03N1 Juan Fernandez 47.12 169 T T 19 50 11.7
baz=346,slow=0.7,SNR=6.6
H03N3 Juan Fernandez 47.13 169 T T 19 50 07.4
baz=346,slow=0.7,SNR=6.0
BDFB Brasilia 49.30 124 P P 19 00 08.9 -0.2
BDFB Brasilia 49.30 124 P P 19 00 08.9 -0.2
comp=Z,1.5nm,0.5s,baz=311,slow=11,SNR=2.9
CPUP Villa Florida 49.60 142 P P 19 00 11.0 0.0
CPUP Villa Florida 49.60 142 P P 19 00 11.0 0.0
comp=Z,0.5nm,0.5s,baz=308,slow=17,SNR=3.0
YKA Yellowknife Ar 52.77 345 P P 19 00 34.2 0.0
YKA Yellowknife Ar 52.77 345 P P 19 00 34.2 0.0
comp=Z,1.7nm,0.3s,baz=151,slow=7.3,SNR=19
DLBC Dease Lake 54.89 335 *eP* P 19 00 50.5 +0.6
RCBR Riachuelo 55.70 106 P P 19 00 53.3 -3.1
comp=Z,45nm,1.0s
INK Inuvik 62.32 343 *eP* P 19 01 39.2 -2.1
comp=Z,5.5nm,0.8s
ILAR Eielson Array 65.03 336 P P 19 01 58.4 -0.8
ILAR Eielson Array 65.03 336 P P 19 01 58.4 -0.8
comp=Z,0.9nm,0.9s,baz=111,slow=3.7,SNR=8.7
DAVOX Davos/Dischmat 86.43 43 LR LR 19 39 20.2
comp=Z,40nm,18.6s,baz=265,slow=34
SONM Songino Array 117.96 349 PKP PKPdf 19 10 05.3 -0.5
SONM Songino Array 117.96 349 PKP PKPdf 19 10 05.3 -0.5
comp=Z,0.3nm,0.7s,baz=247,slow=1.1,SNR=3.7
WRA Warramunga Arr 138.23 255 PKP PKPdf 19 10 44.9 +0.2
WRA Warramunga Arr 138.23 255 PKP PKPdf 19 10 44.9 +0.2
comp=Z,0.7nm,0.6s,baz=88,slow=2.5,SNR=6.7
ASAR Alice Springs 138.32 249 PKP PKPdf 19 10 45.5 +0.6
ASAR Alice Springs 138.32 249 PKP PKPdf 19 10 45.5 +0.6
comp=Z,0.7nm,0.8s,baz=63,slow=2.3,SNR=3.1
CMAR Chiang Mai Arr 147.84 346 PKPbc PKPdf 19 11 02.2 +0.5
CMAR Chiang Mai Arr 147.84 346 PKPbc PKPdf 19 11 02.2 +0.5
comp=Z,0.8nm,0.6s,baz=340,slow=3.8,SNR=8.3

DJA 10 19:00:16.1±1.1, 8°S±9′×10°7E±°, h11km±12km, M3.6/3, MLv3.6/3, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.89**	**52**	P	Pg	19 00 31.6	-1.8
SKJI	**Sukabumi**	**1.23**	**333**	P	Pn	19 00 37.5	-1.7
SKJI				S	Sb	19 00 53.8	-1.4
LEM	**Lembang**	**1.37**	**22**	P	Pn	19 00 40.2	-1.2
LEM				S	Sb	19 00 58.5	-1.2
DBJI	**Dramaga**	**1.59**	**347**	P	Pn	19 00 43.4	-0.8
KPJI	**Karang Pucung**	**1.96**	**67**	P	Pn	19 00 50.0	+0.7
TGJI	**Tegal**	**2.34**	**58**	P	Pn	19 00 53.6	-1.0

*IDC **10** 19:00:26.3±0.6, 10°.89S×165°.37E, h0km, mb4.3/17, mb1 4.5/19, mb1mx4.5/23, mbtmp4.3/19, ML4.5/2, Error ellipse: s-maj=19.5km s-min=16.1km az=117.0*
*ISCJB **10** 19:00:29.0±0.3, 10°.89S±0°.04×165°.26E±0°.06, h30km, mb4.6/40, MS4.6/2, Error ellipse: s-maj=8.1km s-min=6.1km az=22.5*
*NEIC **10** 19:00:31.7±0.6, 10°.93S×165°.33E, h38km±5km, mb4.8/20, Error ellipse: s-maj=8.2km s-min=5.4km az=136.0*
*BJI **10** 19:00:32.0, 10°.70S×165°.10E, h41km, mB5.3/15, mb4.7/21, Ms4.9/6, Ms7 4.6/6*

ISC 10 19:00:30.7±0.3, 10°.88S±0°.05×165°.38E±0°.06, h30km, n101, σ1°75/112, mb4.7/41, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.54**	**285**	Pn	**Pn**	**19 01 51.5**	**+0.4**
HNR				Sn	Sn	19 02 43.2	-11
HNR	**Honiara**	**5.54**	**285**	Pn	**Pn**	**19 01 51.5**	**+0.4**
	32nm,0.3s,baz=137,slow=1.7,SNR=18						
HNR				Sn	Sn	19 02 43.2	-11
	28nm,0.3s,baz=210,slow=5.3,SNR=5.1						
DZM	**Mont Dzumac**	**11.18**	**175**	*e*Pn	**Pn**	**19 03 09.3**	**+0.7**
	6.4nm,0.2s						
DZM				*e*Sn	**Sn**	**19 05 15.6**	**+2.9**
	11nm,0.2s						
DZM				*e*LR	LR	19 05 58.1	
	391nm,23.0s						
DZM	**Mont Dzumac**	**11.18**	**175**	Pn	**Pn**	**19 03 08.4**	**-0.3**
DZM	**Mont Dzumac**	**11.18**	**175**	Pn	**Pn**	**19 03 08.4**	**-0.3**
	1.9nm,0.3s,baz=55,slow=14,SNR=12						
MSVF	**Nonsavu**	**14.04**	**120**	*e*Pn	**P**	**19 03 54.5**	**-0.8**
	26nm,1.0s						
TARA	**Tarawa**	**14.28**	**32**	*e*Pn	**Pn**	**19 03 51.1**	**+0.1**
	52nm,0.6s						
EIDS	**Eidsvold**	**19.78**	**221**	*e*P	**P**	**19 04 59.0**	**+0.4**
	12nm,0.9s						
CTA	**Charters Tower**	**20.56**	**241**	P	**P**	**19 05 07.8**	**+0.6**
	45nm,1.0s,baz=68,slow=12,SNR=8.8						
CTAO	**Charters Tower**	**20.56**	**241**	*e*P	**P**	**19 05 05.8**	**-1.3**
	67nm,1.0s						
RMQ	**Roma**	**22.07**	**223**	P	**P**	**19 05 24.2**	**+0.9**
	baz=14,SNR=5.5						
CMSA	**Cobar Meteorol**	**27.47**	**219**	P	**P**	**19 06 17.5**	**+3.2**
	baz=20,SNR=6.4						
URZ	**Urewera**	**29.22**	**161**	P	**P**	**19 06 30.1**	**+0.2**
URZ	**Urewera**	**29.22**	**161**	P	**P**	**19 06 30.1**	**+0.2**
	14nm,0.9s,baz=6.3,slow=9.2,SNR=2.9						
STKA	**Stephens Creek**	**30.32**	**223**	*e*P	**P**	**19 06 39.0**	**-0.6**
STKA	**Stephens Creek**	**30.32**	**223**	P	P	19 06 44.4	+4.8
	baz=23,SNR=5.3						
STKA	**Stephens Creek**	**30.32**	**223**	P	**P**	**19 06 39.9**	**+0.3**
	2.6nm,0.7s,baz=37,slow=8.5,SNR=8.7						
H11N1	**WAKE ISLAND Hy**	**30.43**	**3**	T	T	19 38 35.9	
	baz=184,slow=0.7,SNR=50						
H11N3	**WAKE ISLAND Hy**	**30.44**	**3**	T	T	19 38 35.1	
	baz=184,slow=0.7,SNR=42						
H11N2	**WAKE ISLAND Hy**	**30.45**	**3**	T	T	19 38 36.5	
	baz=184,slow=0.7,SNR=39						
WRAB	**Tennant Creek**	**31.19**	**249**	*e*P	**P**	**19 06 45.0**	**-2.5**
	12nm,1.2s						
WRA	**Warramunga Arr**	**31.20**	**249**	P	**P**	**19 06 46.7**	**-0.9**
WRA	**Warramunga Arr**	**31.20**	**249**	P	**P**	**19 06 46.7**	**-0.9**
	5.5nm,0.9s,baz=80,slow=9.4,SNR=16						
AS31	**Alice Springs**	**32.54**	**243**	*e*P	**P**	**19 06 58.0**	**-1.4**
ASAR	**Alice Springs**	**32.55**	**243**	P	**P**	**19 06 58.5**	**-1.0**
ASAR				PcP	**PcP**	**19 09 48.2**	**+2.4**
ASAR	**Alice Springs**	**32.55**	**243**	P	**P**	**19 06 58.5**	**-1.0**
	6.9nm,0.9s,baz=69,slow=10,SNR=61						
ASAR				PcP	**PcP**	**19 09 48.2**	**+2.4**
	1.0nm,0.8s,baz=83,slow=2.2,SNR=4.8						
KNRA	**Kununurra**	**35.92**	**258**	P	P	19 07 32.1	+3.4
	baz=28,SNR=4.6						
FITZ	**Fitzroy Crossi**	**39.08**	**255**	P	**P**	**19 07 54.7**	**-0.7**
	baz=31,SNR=4.6						
PPT2	**Papeete2**	**44.09**	**104**	*e*S	**S**	**19 15 02.3**	**-5.4**
	108nm,26.2s						
PPT2				*e*LQ	LQ	19 18 52.1	
	235nm,26.8s						
PPT2				*e*LR	LR	19 20 45.7	
	204nm,23.5s						
TBI	**Tubuai**	**44.73**	**112**	*e*S	**S**	**19 15 13.1**	**-3.7**
	111nm,28.8s						
TBI				*e*LR	LR	19 21 02.3	
	174nm,24.5s						
MEEK	**Meekatharra**	**46.70**	**244**	P	**P**	**19 08 57.3**	**+0.2**
	baz=39,SNR=4.6						
MAJO	**Matsushiro**	**53.66**	**333**	P	**P**	**19 09 48.7**	**-0.9**
	10nm,1.1s						
KSM	**Kuching**	**56.12**	**279**	P	P	19 10 01.3	-6.5
	9.9nm,1.1s						
RKT	**Rikitea**	**57.99**	**110**	*e*LR	LR	19 27 18.0	
	218nm,28.8s						
ASAJ	**Asahikawa**	**58.52**	**341**	P	**P**	**19 10 24.1**	**-0.1**
ASAJ	**Asahikawa**	**58.52**	**341**	P	**P**	**19 10 24.1**	**-0.1**
	16nm,0.9s,baz=101,slow=10,SNR=3.4						
KSRS	**Korea Array**	**59.53**	**326**	P	**P**	**19 10 32.6**	**+1.2**
	1.2nm,0.7s,baz=137,slow=7.0,SNR=3.9						
KSAR	**Wonju Array Be**	**59.55**	**326**	P	**P**	**19 10 32.5**	**+1.1**
USRK	**Ussuriysk Arra**	**62.63**	**334**	P	**P**	**19 10 51.2**	**-1.1**
	4.7nm,1.0s,baz=126,slow=7.3,SNR=4.2						
CN2	**Changchun**	**65.41**	**329**	*e*P	**P**	**19 11 09.6**	**-1.0**
CN2				*e*S	**S**	**19 19 48.3**	**-4.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,16.0s						
CN2				LR	LR		
	comp=E,200nm,16.0s						
CN2				LR	LR		
	comp=Z,200nm,18.0s						
VNDA	**Vanda**	**66.66**	**181**	P	**P**	**19 11 16.6**	**-1.5**
VNDA	**Vanda**	**66.66**	**181**	P	**P**	**19 11 16.6**	**-1.5**
	0.9nm,1.0s,baz=27,slow=2.3,SNR=2.2						
ENH	**Enshi**	**67.51**	**309**	*e*P	**P**	**19 11 26.0**	**+1.7**
	4.9nm,1.0s						
GYA	**Guiyang**	**68.02**	**304**	*e*P	**P**	**19 11 27.0**	**-0.8**
GYA				pP	**pP**	**19 11 39.8**	**+2.7**
GYA				sP	**sP**	**19 11 44.0**	**+3.3**
GYA				PP	**PP**	**19 13 58.7**	**+0.5**
GYA				S	**S**	**19 20 20.6**	**-5.0**
GYA				sS	**sS**	**19 20 41.2**	**+0.2**
GYA				SKS	**SKiKP**	**19 21 17.8**	**-4.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
GYA				AMB	AMB		
	comp=Z,90nm,5.3s						
XAN	**Xi'an**	**69.74**	**312**	P	P	19 11 43.1	+4.9
XAN				AMB	AMB		
	comp=Z,1.0nm,0.9s						
HHC	**Hu-ho-hao-te**	**71.47**	**320**	*e*P	**P**	**19 11 46.7**	**-2.0**
HHC				pP	**pP**	**19 11 59.8**	**+1.7**
HHC				sP	**sP**	**19 12 05.1**	**+3.5**
HHC				PP	**PP**	**19 14 27.6**	**-0.1**
HHC				S	**S**	**19 21 00.1**	**-5.4**
HHC				sS	**sS**	**19 21 22.4**	**+1.3**
HHC				SS	**SS**	**19 25 37.3**	**-3.7**
HHC				AMB	AMB		
	comp=Z,39nm,1.0s						
HHC				AMB	AMB		
	comp=Z,230nm,5.0s						
HHC				LR	LR		
	comp=N,250nm,16.4s						
HHC				LR	LR		
	comp=E,270nm,16.1s						
HHC				LR	LR		
	comp=Z,270nm,17.0s						
CMAR	**Chiang Mai Arr**	**71.71**	**294**	P	**P**	**19 11 51.4**	**+1.0**
CMAR	**Chiang Mai Arr**	**71.71**	**294**	P	**P**	**19 11 51.4**	**+1.0**
	0.2nm,0.3s,baz=115,slow=4.1,SNR=3.8						
CD2	**Chengdu**	**72.21**	**307**	P	**P**	**19 11 53.2**	**-0.1**
CD2				pP	**pP**	**19 12 05.5**	**+2.8**
CD2				sP	**sP**	**19 12 10.4**	**+4.2**
CD2				PP	**PP**	**19 14 35.1**	**+0.9**
CD2				S	**S**	**19 21 10.4**	**-3.9**
CD2				sS	**sS**	**19 21 31.0**	**+1.1**
CD2				SS	**SS**	**19 25 49.3**	**-3.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
CD2				AMB	AMB		
	comp=Z,330nm,5.4s						
CD2				LR	LR		
	comp=N,570nm,5.5s						
CD2				LR	LR		
	comp=Z,240nm,6.0s						
LZH	**Lanzhou**	**74.38**	**312**	*e*P	P	19 12 02.6	-3.5
LZH				pP	pP	19 12 14.7	-0.9
LZH				sP	sP	19 12 17.9	-1.2
LZH				AMB	AMB		
	comp=Z,12nm,1.0s						
SONM	**Songino Array**	**78.32**	**324**	P	**P**	**19 12 29.1**	**+0.9**
SONM	**Songino Array**	**78.32**	**324**	P	**P**	**19 12 29.1**	**+0.9**
	1.4nm,1.1s,baz=135,slow=6.6,SNR=7.1						
GTA	**Gaotai**	**78.68**	**314**	*e*P	P	19 12 36.4	+6.0
GTA				pP	pP	19 12 47.7	+7.8
GTA				sP	sP	19 12 52.6	+9.2
GTA	**Gaotai**	**78.68**	**314**	S	S	19 22 39.1	+13
QSPA	**South Pole Qui**	**79.13**	**180**	*e*P	**P**	**19 12 31.6**	**-0.8**
	6.8nm,0.9s						
COLA	**College**	**83.24**	**18**	P	**P**	**19 12 54.3**	**+0.4**
	20nm,0.8s						
ILAR	**Eielson Array**	**83.47**	**19**	P	**P**	**19 12 55.7**	**+0.6**
ILAR	**Eielson Array**	**83.47**	**19**	P	**P**	**19 12 55.7**	**+0.6**
	1.9nm,0.7s,baz=233,slow=5.9,SNR=16						
HUMO	**Hull Mountain**	**84.17**	**45**	*e*P	**P**	**19 13 00.1**	**+0.9**
	108nm,3.0s						
CMB	**Columbia Colle**	**84.51**	**50**	*e*P	**P**	**19 13 01.1**	**0.0**
	5.4nm,1.0s						
E03A	**Lebam**	**85.16**	**41**	*e*P	**P**	**19 13 04.7**	**+0.6**
	16nm,1.0s						
ISA	**Isabella**	**85.26**	**52**	*e*P	**P**	**19 13 04.7**	**-0.2**
	3.7nm,1.0s						
PINOR	**Pine Mountain**	**86.01**	**44**	*e*P	**P**	**19 13 10.0**	**+1.7**
	7.1nm,1.1s						
NVAR	**Mina Array Bea**	**86.19**	**50**	P	**P**	**19 13 10.8**	**+1.0**
NVAR	**Mina Array Bea**	**86.19**	**50**	P	**P**	**19 13 10.8**	**+1.0**
	3.7nm,0.9s,baz=237,slow=7.7,SNR=15						
NV11	**Mina Array Sit**	**86.30**	**50**	*e*P	**P**	**19 13 09.2**	**-1.0**
I07A	**Izee**	**87.03**	**44**	*e*P	**P**	**19 13 13.9**	**+0.4**
	6.1nm,1.2s						
J08A	**Circle Bar Ran**	**87.52**	**45**	*e*P	**P**	**19 13 16.4**	**+0.4**

	24nm,1.9s								
G08A	Pilot Rock	87.77	43	*e*P		P		19 13 17.0	-0.1
	7.4nm,1.1s								
R11A	Troy Canyon, C	88.22	51	*e*P		P		19 13 18.2	-1.3
	9.5nm,1.8s								
WMQ	Urumqi	88.72	315	*e*P		P		19 13 20.8	-0.8
ARUT	Antelope Range	89.72	52	*e*P		P		19 13 26.8	+0.2
	166nm,1.1s								
HLID	Hailey	90.42	46	*e*P		P		19 13 30.0	+0.3
	36nm,2.6s								
MVU	Marysvale	90.83	51	*e*P		P		19 13 32.7	+0.9
	5.1nm,1.0s								
BSMT	Bassoo Peak	91.25	42	*e*P		P		19 13 33.1	-0.4
DLMT	Dillon	92.11	44	*e*P		P		19 13 38.4	+0.9
	5.6nm,0.9s								
LRM	Limekiln Ridge	92.32	44	*e*P		P		19 13 38.4	-0.1
MKAR	Makanchi Array	93.15	317	P		P		19 13 42.3	+0.3
MKAR	Makanchi Array	93.15	317	P		P		19 13 42.3	+0.3
	1.0nm,0.8s,baz=117,slow=4.2,SNR=3.9								
ZALV	Zalesovo Beam	93.21	324	P		P		19 13 41.0	-1.1
ZALV	Zalesovo Beam	93.21	324	P		P		19 13 41.0	-1.1
	0.6nm,0.6s,baz=102,slow=6.2,SNR=3.9								
PDAR	Pinedale Array	93.70	47	P		P		19 13 45.1	+0.1
PDAR	Pinedale Array	93.70	47	P		P		19 13 45.1	+0.1
	1.3nm,0.9s,baz=240,slow=1.8,SNR=7.8								
SMCO	Snowmass	94.97	51	*e*pP		pP		19 14 03.6	+2.9
TXAR	Lajitas Array	96.07	61	P		P		19 13 56.3	+0.3
TXAR	Lajitas Array	96.07	61	P		P		19 13 56.3	+0.3
	0.5nm,0.9s,baz=232,slow=3.0,SNR=4.2								
LPAZ	La Paz	120.58	116	PKP		PKPdf		19 19 21.8	+0.5
LPAZ	La Paz	120.58	116	PKP		PKPdf		19 19 21.8	+0.5
	0.6nm,0.5s,baz=206,slow=3.9,SNR=2.8								
CPUP	Villa Florida	124.41	132	PKP		PKPdf		19 19 28.4	+0.8
CPUP	Villa Florida	124.41	132	PKP		PKPdf		19 19 28.4	+0.8
	0.5nm,0.3s,baz=262,slow=7.1,SNR=2.2								
AKASG	Malin Array Be	126.52	327	PKP		PKPdf		19 19 31.1	+0.2
AKASG	Malin Array Be	126.52	327	PKP		PKPdf		19 19 31.1	+0.2
	0.2nm,0.3s,baz=49,slow=2.8,SNR=2.4								
BDFB	Brasilia	137.72	128	PKP		PKPdf		19 19 52.0	-1.2
BDFB	Brasilia	137.72	128	PKP		PKPdf		19 19 52.0	-1.2
	2.1nm,0.7s,baz=270,slow=9.1,SNR=3.0								
KEST	Kesra	147.06	323	*e*P		PKPdf		19 20 07.8	-1.4
KEST					PKPbc	PKPbc		19 20 11.2	0.0
KEST	Kesra	147.06	323		PKPbc	PKPbc		19 20 11.2	0.0
	1.6nm,0.8s,baz=332,slow=8.4,SNR=5.4								
ESDC	Sonseca Array	149.79	344		PKPbc	PKPbc		19 20 19.0	+0.8
ESDC	Sonseca Array	149.79	344		PKPbc	PKPbc		19 20 19.0	+0.8
	0.3nm,0.6s,baz=7.5,slow=2.3,SNR=3.1								
TORD	Torodi Ar. Bea	163.88	280	PKP		PKPdf		19 20 32.4	+0.4
TORD	Torodi Ar. Bea	163.88	280	PKP		PKPdf		19 20 32.4	+0.4
	0.8nm,1.0s,baz=48,slow=2.1,SNR=3.6								

IDC 10 19:01:13.2±2.0, 12°.19S×166°.56E, h0km, mb4.3/7, mb1 4.5/7, mb1mx4.2/19, mbtmp4.3/7, Error ellipse: s-maj=88.5km s-min=24.9km az=144.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	21.02	245	P	P	19 06 00.1	+1.4
	40nm,1.0s,baz=69,slow=8.6,SNR=3.2						
WRA	Warramunga Arr	31.87	252	P	P	19 07 39.2	-1.2
	3.5nm,0.7s,baz=78,slow=9.3,SNR=7.7						
ASAR	Alice Springs	33.02	245	P	P	19 07 50.7	+0.2
	5.7nm,0.9s,baz=69,slow=10,SNR=8.4						
SONM	Songino Array	80.05	324	P	P	19 13 24.2	-0.8
	0.8nm,0.8s,baz=137,slow=4.8,SNR=3.3						
ILAR	Eielson Array	84.34	18	P	P	19 13 47.0	+0.1
	1.1nm,0.7s,baz=232,slow=4.4,SNR=3.0						
NVAR	Mina Array Bea	86.15	50	P	P	19 13 56.6	-0.2
	0.6nm,0.4s,baz=249,slow=4.7,SNR=5.0						
MKAR	Makanchi Array	94.89	317	P	P	19 14 38.9	+1.5
	0.7nm,0.7s,baz=101,slow=4.1,SNR=3.5						

*IDC **10** 19:18:14.6±1.9, 4°.39N×123°.54E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/23, mbtmp3.5/3, Error ellipse: s-maj=192.4km s-min=26.9km az=63.0*
*ISCJB **10** 19:18:18.8±1.1, 5°.6N×126°.6E±0°.2, h66km, mb3.4/3, Error ellipse: s-maj=35.8km s-min=10.1km az=160.9*
*MAN **10** 19:18:21, 5°.76N×126°.26E, h11km, mb4.4, ML3.3, MS3.2*
ISC 10 19:18:19.9±1.4, 5°.7N±0°.1×126°.7E±0°.2, h66km, n7, σ1§23/7, mb3.4/3, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	1.33	342	*e*P	Pn	19 18 43.0	+0.5
MATI				*e*S	Sn	19 19 00.3	+1.0
BIPH	Bislig	2.51	353	*e*P	Pn	19 19 04.5	+6.0
BUKP	Musuan	2.71	324	*e*P	Pn	19 19 01.4	+0.2
PAGZ	Pagadian	3.91	304	*e*P	Pn	19 19 18.1	+0.6
WRA	Warramunga Arr	26.55	164	P	P	19 23 52.4	+0.6
	0.5nm,0.4s,baz=334,slow=11,SNR=13						
ASAR	Alice Springs	30.00	167	P	P	19 24 23.1	+0.6
	0.3nm,0.3s,baz=341,slow=7.3,SNR=21						
MKAR	Makanchi Array	55.94	325	P	P	19 27 49.4	-1.9
	0.4nm,0.9s,baz=118,slow=8.5,SNR=4.2						

*ISCJB **10** 19:20:48.6±0.5, 39°.77N±0°.01×23°.66E±0°.02, h13km±3km, Error ellipse: s-maj=2.7km s-min=1.7km az=14.6*
*SOF **10** 19:20:48.4, 39°.69N×23°.73E, h18km, MD3.1*
*ATH **10** 19:20:48.2, 39°.79N×23°.69E, h26km, MD3.5/41, ML2.8*
*CSEM **10** 19:20:49.3±0.1, 39°.77N×23°.65E, h15km, MD3.5, Error ellipse: s-maj=2.4km s-min=1.5km az=101.0*
*THE **10** 19:20:49.4, 39°.78N×23°.63E, h14km, ML2.9/34, Error ellipse: s-maj=0.9km s-min=0.4km az=79.0*
ISC 10 19:20:49.3±0.8, 39°.78N±0°.01×23°.65E±0°.02, h14km±5km, n188, σ0§77/273, 9C-8D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	Paliouri	0.15	8	P	Pg	19 20 52.9	-0.1
PAIG				S	Sg	19 20 55.7	+0.2
PAIG	Paliouri	0.15	8	*e*PB	Pg	19 20 52.8	-0.2
PAIG				*e*SB	Sg	19 20 55.8	+0.2
PAIG	Paliouri	0.15	8	*e*Pb	Pg	19 20 52.8	-0.2
PAIG				*e*Sb	Sg	19 20 55.8	+0.2
XOR	Xorichti	0.55	221	P	Pg	19 20 59.6	-0.5
XOR				S	Sg	19 21 07.1	-0.3
NEO	Neokhori	0.58	215	P	Pg	19 21 00.4	-0.2
NEO				S	Sg	19 21 08.4	0.0
NEO	Neokhori	0.58	215	*e*PN	Pg	19 21 00.5	-0.2
NEO				*e*SN	Sg	19 21 09.4	+1.0
NEO	Neokhori	0.58	215	*e*Pn	Pg	19 21 00.5	-0.2
NEO				S	Sg	19 21 08.4	0.0
NEO				*e*Sn	Sg	19 21 09.4	+1.0
OUR	Ouranopolis	0.61	24	P	Pg	19 21 01.3	+0.1
OUR				S	Sg	19 21 10.2	+0.9
OUR	Ouranopolis	0.61	24	P	Pg	19 21 01.3	+0.1
OUR				S	Sg	19 21 10.2	+0.9
PLG	Polygyros	0.61	345	P	Pg	19 21 00.6	-0.8
PLG				S	Sg	19 21 09.1	-0.4
PLG	Polygyros	0.61	345	*e*PN	Pg	19 21 00.7	-0.7
PLG				*e*SN	Sg	19 21 08.9	-0.6
PLG	Polygyros	0.61	345	P	Pg	19 21 00.6	-0.8
PLG				S	Sg	19 21 09.1	-0.4
SKIA	Skiathos	0.63	193	P	Pg	19 21 01.4	-0.3
SKIA				S	Sg	19 21 10.5	+0.5
SKIA	Skiathos	0.63	193	P	Pg	19 21 01.4	-0.3
SKIA				S	Sg	19 21 10.5	+0.5
AOS	Alonnisos	0.64	164	P	Pg	19 21 01.3	-0.4
AOS				S	Sb	19 21 11.9	+0.9
AOS	Alonnisos	0.64	164	*e*PN	Pg	19 21 01.6	-0.1
AOS				*e*SN	Sg	19 21 10.6	+0.5
AOS	Alonnisos	0.64	164	P	Pg	19 21 01.3	-0.4
AOS	Alonnisos	0.64	164	*e*Pn	Pg	19 21 01.6	-0.1
AOS				*e*Sn	Sg	19 21 10.6	+0.5
AOS				S	Sb	19 21 11.9	+0.9
HORT	Hortiatis	0.92	333	P	Pb	19 21 06.0	-1.2
HORT				S	Sb	19 21 18.6	-0.7
HORT	Hortiatis	0.92	333	P	Pb	19 21 06.0	-1.2
HORT				S	Sb	19 21 18.6	-0.7
LIT	Litokhoron	0.95	290	P	Pb	19 21 06.7	-0.9
LIT				S	Sb	19 21 19.7	-0.4
LIT	Litokhoron	0.95	290	*e*PN	Pb	19 21 07.6	0.0
LIT				*e*SN	Sb	19 21 21.0	+0.9
LIT	Litokhoron	0.95	290	P	Pb	19 21 06.7	-0.9
LIT	Litokhoron	0.95	290	*e*Pn	Pb	19 21 07.6	0.0
LIT				S	Sb	19 21 19.7	-0.4
LIT				*e*Sn	Sb	19 21 21.0	+0.9
SMIA	Simia	0.96	201	P	Pb	19 21 07.8	-0.1
SMIA				S	Sb	19 21 21.7	+1.2
SMIA	Simia	0.96	201	P	Pb	19 21 07.8	-0.1
SMIA				S	Sb	19 21 21.7	+1.2
THE	Thessaloniki	1.00	328	P	Pb	19 21 07.9	-0.6
THE	Thessaloniki	1.00	328	P	Pb	19 21 07.9	-0.6
SOH	Sokhos	1.06	348	P	Pb	19 21 08.7	-0.9
SOH				S	Sb	19 21 23.3	-0.1
SOH	Sokhos	1.06	348	*e*PN	Pb	19 21 08.8	-0.9
SOH				*e*SN	Sb	19 21 22.9	-0.5
SOH	Sokhos	1.06	348	P	Pb	19 21 08.7	-0.9
SOH				*e*Sn	Sb	19 21 22.9	-0.5
SOH				S	Sb	19 21 23.3	-0.1
MRKA	Markates	1.07	183	P	Pb	19 21 09.0	-0.8
MRKA				S	Sb	19 21 23.5	-0.2
MRKA	Markates	1.07	183	P	Pb	19 21 09.0	-0.8
MRKA				S	Sb	19 21 23.5	-0.2
LIA	Limnos Island	1.18	84	P	Pn	19 21 10.7	-0.8
LIA				S	Sn	19 21 27.7	+0.3
LIA	Limnos Island	1.18	84	*e*PN	Pn	19 21 10.4	-1.1
LIA				*e*SN	Sb	19 21 26.4	-0.4
LIA	Limnos Island	1.18	84	*e*Pn	Pn	19 21 10.4	-1.1
LIA	Limnos Island	1.18	84	P	Pn	19 21 10.7	-0.8
LIA				*e*Sn	Sb	19 21 26.4	-0.4
LKR	Lokris	1.24	204	P	Pn	19 21 11.3	-1.0
LKR				S	Sb	19 21 28.1	-0.3
LKR	Lokris	1.24	204	*e*PN	Pn	19 21 11.3	-1.0
LKR	Lokris	1.24	204	P	Pn	19 21 11.3	-1.0
LKR				S	Sb	19 21 28.1	-0.3
AXAR	Agios Charalam	1.27	218	P	Pn	19 21 12.2	-0.6
AXAR				S	Sb	19 21 28.6	-0.8
AXAR	Agios Charalam	1.27	218	P	Pn	19 21 12.2	-0.6
AXAR				S	Sb	19 21 28.6	-0.8
AGG	Agios Georgios	1.27	234	P	Pn	19 21 12.1	-0.7
AGG				S	Sb	19 21 28.5	-1.0
AGG	Agios Georgios	1.27	234	*e*PN	Pn	19 21 12.2	-0.6
AGG	Agios Georgios	1.27	234	*e*Pn	Pn	19 21 12.2	-0.6
AGG				S	Sb	19 21 28.5	-1.0
THL	Klokotos Trika	1.28	261	P	Pn	19 21 11.7	-1.2
THL	Klokotos Trika	1.28	261	*e*PN	Pn	19 21 12.3	-0.6
THL	Klokotos Trika	1.28	261	*e*Pn	Pn	19 21 12.3	-0.6
SRS	Serrai	1.33	358	P	Pn	19 21 13.5	-0.2
SRS				S	Sn	19 21 29.8	-1.5
ERET	Eretria	1.34	175	P	Pn	19 21 13.0	-0.8
ERET				S	Sn	19 21 31.0	-0.5
ERET	Eretria	1.34	175	P	Pn	19 21 13.0	-0.8
ERET				S	Sn	19 21 31.0	-0.5
KAVA	Kavala	1.38	28	P	Pn	19 21 13.7	-0.5
KAVA				S	Sn	19 21 31.4	-0.9
KAVA	Kavala	1.38	28	P	Pn	19 21 13.7	-0.5
KAVA				S	Sn	19 21 31.4	-0.9
MAKR	Makrakomi, Fth	1.41	237	P	Pn	19 21 13.8	-0.8
MAKR				S	Sn	19 21 33.0	0.0
MAKR	Makrakomi, Fth	1.41	237	P	Pn	19 21 13.8	-0.8
MAKR				S	Sn	19 21 33.0	0.0
KNT	Kendrikon	1.50	338	P	Pn	19 21 16.4	+0.6
KNT				S	Sn	19 21 36.2	+1.0
GRG	Griva	1.52	321	P	Pn	19 21 16.5	+0.4
GRG				S	Sn	19 21 36.8	+1.1
GRG	Griva	1.52	321	*e*PN	Pn	19 21 16.6	+0.4
GRG	Griva	1.52	321	P	Pn	19 21 16.5	+0.4
GRG				S	Sn	19 21 36.8	+1.1
KZN	Kozani	1.54	291	P	Pn	19 21 16.5	+0.1
KZN				S	Sn	19 21 34.6	-1.7
KZN	Kozani	1.54	291	*e*PN	Pn	19 21 16.6	+0.1
KZN	Kozani	1.54	291	*e*Pn	Pn	19 21 16.6	+0.1
KZN				S	Sn	19 21 34.6	-1.7
NVR	Nevrokopi	1.57	6	P	Pn	19 21 16.1	-0.9
NVR				S	Sn	19 21 37.1	-0.2
NVR	Nevrokopi	1.57	6	*e*PN	Pn	19 21 16.8	-0.2
NVR				*e*SN	Sn	19 21 37.0	-0.2
NVR	Nevrokopi	1.57	6	*e*Pn	Pn	19 21 16.8	-0.2
NVR				*e*Sn	Sn	19 21 37.0	-0.2
SMTH	Samothraki Isl	1.59	64	P	Pn	19 21 16.0	-1.1
SMTH				S	Sb	19 21 38.6	-0.1
SMTH	Samothraki Isl	1.59	64	*e*PN	Pn	19 21 16.1	-1.1
SMTH	Samothraki Isl	1.59	64	*e*Pn	Pn	19 21 16.1	-1.1
DSF	Desfina	1.62	213	P	Pn	19 21 16.7	-1.0
DSF				S	Sn	19 21 37.5	-0.9
DSF	Desfina	1.62	213	P	Pn	19 21 16.7	-1.0
DSF				S	Sn	19 21 37.5	-0.9
EVR	Evrytania	1.67	239	P	Pn	19 21 18.2	-0.1
EVR				S	Sn	19 21 38.6	-1.0
EVR	Evrytania	1.67	239	*e*PN	Pn	19 21 17.9	-0.4
EVR	Evrytania	1.67	239	*e*Pb	Pn	19 21 17.9	-0.4
EVR	Evrytania	1.67	239	P	Pn	19 21 18.2	-0.1
EVR				S	Sn	19 21 38.6	-1.0
PTL	Penteli	1.74	174	P	Pn	19 21 18.7	-0.4
PTL	Penteli	1.74	174	*e*PN	Pn	19 21 18.8	-0.4
PTL	Penteli	1.74	174	P	Pn	19 21 18.7	-0.4
VAY	Valandovo	1.75	332	P	Pn	19 21 19.1	-0.2
VAY	Valandovo	1.75	332	*e*Pn	Pn	19 21 19.4	+0.1
VAY	Valandovo	1.75	332	P	Pn	19 21 19.1	-0.2
ATH	Athens Observa	1.81	178	*e*PN	Pn	19 21 19.8	-0.3
ATH				*e*SN	Sn	19 21 42.0	-0.8
ATH	Athens Observa	1.81	178	*e*Pn	Pn	19 21 19.8	-0.3
ATH				*e*Sn	Sn	19 21 42.0	-0.8
MMB	Musomiste	1.81	2	P	Pn	19 21 19.8	-0.4
KALE	Kalithea	1.82	221	P	Pn	19 21 19.9	-0.5
KALE				S	Sn	19 21 42.6	-0.7
KALE	Kalithea	1.82	221	*e*PB	Pn	19 21 19.8	-0.6
KALE	Kalithea	1.82	221	P	Pn	19 21 19.8	-0.5
KALE				S	Sn	19 21 42.6	-0.7
LTK	Loutraki	1.84	197	P	Pn	19 21 19.9	-0.6
LTK				S	Sn	19 21 43.5	-0.1
LTK	Loutraki	1.84	197	*e*PB	Pn	19 21 20.0	-0.6
LTK	Loutraki	1.84	197	P	Pn	19 21 19.9	-0.6
LTK				S	Sn	19 21 43.5	-0.1
EFP	Efpalio	1.92	226	P	Pn	19 21 21.4	-0.2
EFP	Efpalio	1.92	226	*e*PB	Pn	19 21 21.4	-0.2
EFP	Efpalio	1.92	226	P	Pn	19 21 21.4	-0.2
RDO	Rodhopi	1.98	46	P	Pn	19 21 21.8	-0.7
RDO	Rodhopi	1.98	46	*e*PB	Pn	19 21 21.6	-0.9
RDO	Rodhopi	1.98	46	P	Pn	19 21 21.8	-0.7
FNA	Florina	2.01	301	P	Pn	19 21 23.5	+0.5
FNA				S	Sn	19 21 48.4	+0.5
FNA	Florina	2.01	301	*e*PB	Pn	19 21 23.3	+0.3
FNA	Florina	2.01	301	*e*Pb	Pn	19 21 23.3	+0.3
FNA				S	Sn	19 21 48.4	+0.5
LAKA	Lakka	2.02	221	P	Pn	19 21 22.9	-0.1
LAKA	Lakka	2.02	221	*e*PN	Pn	19 21 22.9	-0.1
LAKA	Lakka	2.02	221	P	Pn	19 21 22.9	-0.1
NAIG	Nisos Aigina	2.02	184	*e*PN	Pn	19 21 22.6	-0.5
NAIG	Nisos Aigina	2.02	184	*e*Pn	Pn	19 21 22.6	-0.5
RZN	Rozhen	2.07	23	P	Pn	19 21 24.4	+0.5
RZN	Rozhen	2.07	23	P	Pn	19 21 24.4	+0.5
KLV	Kalavryta, Ach	2.09	215	P	Pn	19 21 23.6	-0.5
KLV				S	Sn	19 21 50.0	0.0
KLV	Kalavryta, Ach	2.09	215	*e*PN	Pn	19 21 23.8	-0.3
KLV	Kalavryta, Ach	2.09	215	*e*Pn	Pn	19 21 23.8	-0.3
KLV				S	Sn	19 21 50.0	0.0
PRK	Paraskevi	2.09	104	P	Pn	19 21 23.3	-0.7
PRK	Paraskevi	2.09	104	*e*PB	Pn	19 21 24.2	+0.2
PRK	Paraskevi	2.09	104	P	Pn	19 21 23.3	-0.7
PRK	Paraskevi	2.09	104	*e*Pb	Pn	19 21 24.2	+0.2
GUR	Goura	2.11	209	P	Pn	19 21 23.8	-0.5
GUR				S	Sn	19 21 49.8	-0.6
GUR	Goura	2.11	209	*e*PN	Pn	19 21 24.0	-0.3
GUR	Goura	2.11	209	*e*Pn	Pn	19 21 24.0	-0.3
GUR				S	Sn	19 21 49.8	-0.6
KKB	Krupnik	2.13	348	P	Pn	19 21 24.7	+0.2
ALN	Alexandroupoli	2.14	58	P	Pn	19 21 23.8	-0.9
ALN				S	Sn	19 21 51.8	+0.7
ALN	Alexandroupoli	2.14	58	*e*PN	Pn	19 21 23.9	-0.8
ALN	Alexandroupoli	2.14	58	*e*Pn	Pn	19 21 23.9	-0.8
ALN				S	Sn	19 21 51.8	+0.7
JAN	Janina	2.17	268	*e*PN	Pn	19 21 25.2	+0.1
JAN	Janina	2.17	268	*e*Pn	Pn	19 21 25.2	+0.1
DID	Didima	2.29	188	P	Pn	19 21 26.2	-0.6
DID				S	Sn	19 21 54.5	-0.4
DID	Didima	2.29	188	*e*PN	Pn	19 21 26.4	-0.4
DID	Didima	2.29	188	*e*Pn	Pn	19 21 26.4	-0.4
DID				S	Sn	19 21 54.5	-0.4
KDZ	Kurdzhali	2.30	35	P	Pn	19 21 26.0	-0.9
KDZ	Kurdzhali	2.30	35	P	Pn	19 21 26.0	-0.9
DIDY	Didyma	2.33	189	P	Pn	19 21 26.5	-0.9
DIDY				S	Sn	19 21 55.6	-0.2
DIDY	Didyma	2.33	189	P	Pn	19 21 26.5	-0.9
DIDY				S	Sn	19 21 55.6	-0.2
CHOS	Chios island	2.33	126	P	Pn	19 21 27.7	+0.3
CHOS				S	Sn	19 21 55.9	0.0
CHOS	Chios island	2.33	126	*e*PB	Pn	19 21 27.3	-0.1
CHOS	Chios island	2.33	126	*e*Pb	Pn	19 21 27.3	-0.1
CHOS	Chios island	2.33	126	P	Pn	19 21 27.7	+0.3
CHOS				S	Sn	19 21 55.9	0.0
DRO	Drossia	2.37	220	P	Pn	19 21 28.0	+0.1
DRO				S	Sn	19 21 56.4	-0.5
DRO	Drossia	2.37	220	P	Pn	19 21 28.0	+0.1
RLS	Riolos of Patr	2.42	225	*e*PB	Pn	19 21 29.6	+1.0
RLS	Riolos of Patr	2.42	225	*e*Pb	Pn	19 21 29.6	+1.0
PLD	Plovdiv	2.45	19	P	Pn	19 21 29.8	+0.8
PLD	Plovdiv	2.45	19	P	Pn	19 21 29.8	+0.8
VLX	Vlachokerasia	2.61	203	P	Pn	19 21 31.2	0.0
VLX	Vlachokerasia	2.61	203	*e*PN	Pn	19 21 31.0	-0.2
VLX	Vlachokerasia	2.61	203	*e*Pn	Pn	19 21 31.0	-0.2
AMT	Artemida-Makis	2.71	215	P	Pn	19 21 32.8	+0.2
AMT				S	Sn	19 22 05.0	-0.3
AMT	Artemida-Makis	2.71	215	*e*PN	Pn	19 21 33.3	+0.7
AMT	Artemida-Makis	2.71	215	P	Pn	19 21 32.8	+0.2
AMT	Artemida-Makis	2.71	215	*e*Pn	Pn	19 21 33.3	+0.7
AMT				S	Sn	19 22 05.0	-0.3
VTS	Vitosha	2.83	353	P	Pn	19 21 34.4	+0.1
VTS	Vitosha	2.83	353	↑*e*P	Pn	19 21 35.4	+1.1
VTS	Vitosha	2.83	353	P	Pn	19 21 35.4	+1.1
VTS	Vitosha	2.83	353	P	Pn	19 21 35.4	+1.1
VTS	Vitosha	2.83	353	*e*Pn	Pn	19 21 35.7	+1.4
ITM	Ithomi	2.93	208	P	Pn	19 21 36.4	+0.8
ITM	Ithomi	2.93	208	*e*PB	Pn	19 21 37.1	+1.5
ITM	Ithomi	2.93	208	P	Pn	19 21 36.4	+0.8
ITM	Ithomi	2.93	208	*e*Pb	Pn	19 21 37.1	+1.5
KEK	Kerkira	2.97	270	*e*PB	Pn	19 21 38.5	+2.4
APE	Apeiranthos	3.08	151	*e*PN	Pn	19 21 37.0	-0.7
APE	Apeiranthos	3.08	151	↓*e*P	Pn	19 21 37.5	-0.2
APE	Apeiranthos	3.08	151	*e*Pn	Pn	19 21 37.0	-0.7
APE	Apeiranthos	3.08	151	↓*e*Pn	Pn	19 21 37.5	-0.2
VLI	Veliai	3.11	191	*e*PN	Pn	19 21 37.5	-0.5
VLI	Veliai	3.11	191	*e*Pn	Pn	19 21 37.5	-0.5
PYL	PYLOS	3.25	208	*e*PN	Pn	19 21 41.4	+1.5
PYL	PYLOS	3.25	208	*e*Pn	Pn	19 21 41.4	+1.5
KYTH	Kithira	3.53	188	*e*PN	Pn	19 21 44.3	+0.5
KYTH	Kithira	3.53	188	*e*Pn	Pn	19 21 44.3	+0.5
MPEP	Malo Peshtene	3.57	1	P	Pn	19 21 45.0	+0.6
SZH	Strazhica	3.88	25	P	Pn	19 21 49.7	+1.1
SZH	Strazhica	3.88	25	P	Pn	19 21 49.7	+1.1
ANKY	Antikythira Is	3.92	184	*e*PN	Pn	19 21 48.8	-0.3
ANKY	Antikythira Is	3.92	184	*e*Pn	Pn	19 21 48.8	-0.3
PRD	Provadia	4.42	38	P	Pn	19 21 56.5	+0.4
PRD	Provadia	4.42	38	P	Pn	19 21 56.5	+0.4
GRUS	Gruza	4.65	333	*e*Pn	Pn	19 22 01.1	+1.9
DIVS	Divibare	5.11	329	*e*Pn	Pn	19 22 05.1	-0.4
MSAB	Monastry St. A	5.31	34	↓*e*P	Pn	19 22 09.4	+1.1
MSAB	Monastry St. A	5.31	34	↓*e*Pn	Pn	19 22 09.4	+1.1
ARR	Arges	5.63	7	↑*e*P	Pn	19 22 13.4	+0.7
ARR	Arges	5.63	7	↑*e*Pn	Pn	19 22 13.4	+0.7
LOT	Lotru	5.66	1	↓*e*P	Pn	19 22 12.8	-0.4
LOT	Lotru	5.66	1	↓*e*Pn	Pn	19 22 12.8	-0.4
VOIR		5.75	10	↑*e*P	Pn	19 22 15.9	+1.6
VOIR		5.75	10	↑*e*Pn	Pn	19 22 15.9	+1.6
MLR	Muntele Rosu	5.95	16	↑*e*P	Pn	19 22 19.2	+2.0
BZS	Buzias	6.02	346	↓*e*P	Pn	19 22 18.2	+0.2
BZS	Buzias	6.02	346	↓*e*Pn	Pn	19 22 18.2	+0.2
PLOR	Plostina	6.45	19	↑*e*P	Pn	19 22 26.5	+2.5
VRI	Vrincioaia	6.49	19	↑*e*P	Pn	19 22 26.9	+2.5
TESR	Tescani	7.07	17	↑*e*P	Pn	19 22 35

4.7nm,0.9s,baz=72,slow=2.9,SNR=4.0
AKASG Malin Array Be 128.27 326 PKP **PKPdf 19 43 42.3 -0.4**
AKASG Malin Array Be 128.27 326 PKP **PKPdf 19 43 42.3 -0.4**
0.5nm,0.5s,baz=46,slow=2.2,SNR=3.6
BRTR Keskin Array B 130.17 312 PKP **PKPdf 19 43 46.6 -0.4**
BRTR Keskin Array B 130.17 312 PKP **PKPdf 19 43 46.6 -0.4**
0.5nm,0.7s,baz=191,slow=1.5,SNR=3.4
GERES GERESS Array B 137.18 333 PKP **PKPdf 19 43 59.5 -0.3**
GERES GERESS Array B 137.18 333 PKP **PKPdf 19 43 59.5 -0.3**
0.2nm,0.4s,baz=11,slow=2.0,SNR=3.5
DAVOX Davos/Dischmat 140.41 334 PKP **PKPdf 19 44 03.8 -2.0**
DAVOX Davos/Dischmat 140.41 334 PKP **PKPdf 19 44 03.8 -2.0**
0.6nm,0.4s,baz=330,slow=8.1,SNR=2.0
KEST Kesra 148.77 322 PKPbc **PKPbc 19 44 24.4 +0.1**
KEST Kesra 148.77 322 PKPbc **PKPbc 19 44 24.4 +0.1**
1.9nm,0.7s,baz=66,slow=2.9,SNR=6.8
ESDC Sonseca Array 151.59 344 PKPbc **PKPbc 19 44 29.6 -1.4**
ESDC PKPab **PKPab 19 44 40.0 +0.4**
ESDC Sonseca Array 151.59 344 PKPbc **PKPbc 19 44 29.6 -1.4**
0.2nm,0.4s,baz=33,slow=2.9,SNR=6.8
ESDC PKPab **PKPab 19 44 40.0 +0.4**
0.5nm,0.5s,baz=16,slow=5.0,SNR=5.4

MEX 10 19:26:38.4±0.6, 15°51.N×93°46.W, h88km±14km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.30**	**49**	*eP*	Pn	19 26 50.3	-1.3
PCIG				*i* S	Sn	19 27 00.5	-0.9
TGIG		**1.31**	**14**	*i* P	Pn	19 27 00.8	-1.0
TGIG				*i* S	Sn	19 27 17.4	-1.9
CCIG	**Comitan**	**1.48**	**58**	*eP*	Pn	19 27 02.5	-1.7
CCIG				*eS*	Sn	19 27 21.0	-2.6
HUIG	**Huatulco**	**2.57**	**276**	*i* P	Pn	19 27 17.7	-0.5
HUIG				*i* S	Sn	19 27 46.9	-1.7

*ISCJB **10** 19:28:21.5±0.7, 1°.09N±0°.07×127°.02E±0°.06, h72km, mb3.9/5, Error ellipse: s-maj=10.7km s-min=7.1km az=37.8*
*IDC **10** 19:28:22.5±2.9, 0°.90N×126°.95E, h56km±21km, mb3.7/5, mb1 3.9/7, mb1mx3.5/23, mbtmp3.8/7, ML4.0/2, Error ellipse: s-maj=34.3km s-min=13.8km az=67.0*
*DJA **10** 19:28:23.2±0.6, 1°.N±4°×12°.7E±°, h12km±5km, M4.7/3, mb4.7/3, mB4.9/1, MLv4.7/3, Mw(mB)4.2/1*
ISC 10 19:28:23.6±0.9, 0°.99N±0°.08×126°.98E±0°.07, h72km, n17, σ2s06/19, mb3.9/5, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.44**	**119**	P	Pn	19 28 33.0	-3.1
TNTI				S	**Sn**	**19 28 41.3**	**-4.0**
LBMI	**Labuha**	**1.70**	**162**	P	**Pn**	**19 28 52.0**	**+0.7**
LBMI				S	**Sn**	**19 29 14.5**	**+2.3**
KMSI	**Cibinong**	**3.03**	**262**	P	**Pn**	19 29 09.5	+0.3
KMSI				S	**Sn**	**19 29 44.9**	**+0.5**
SGSI	**Sangihe**	**3.05**	**332**	P	**Pn**	**19 29 07.5**	**-2.0**
LUWI	**Luwuk**	**4.67**	**244**	P	Pn	19 29 37.3	+5.7
APSI	**Ampana**	**5.66**	**251**	P	Pn	19 29 54.0	+8.9
KKSI	**Kolaka, Sulawe**	**7.39**	**226**	P	**Pn**	**19 30 09.4**	**+0.5**
	41nm,0.8s,733nm0.2nm						
BBSI	**Bau Bau**	**7.80**	**214**	P	Pn	19 30 30.6	+16
SPSI	**Sidrap Palu**	**8.72**	**236**	P	**Pn**	**19 30 28.7**	**+1.6**
	38nm,0.7s,0.1nm						
KAPI	**Kappang**	**9.36**	**230**	P	**Pn**	**19 30 34.5**	**-1.4**
	2.1nm,0.3s,baz=31,slow=5.9,SNR=15						
KAPI				S	**Sn**	**19 32 15.6**	**-4.0**
	0.7nm,0.3s,baz=319,slow=19,SNR=3.6						
BAKI	**Biak**	**9.38**	**103**	P	Pn	19 30 42.1	+6.0
FITZ	**Fitzroy Crossi**	**19.02**	**184**	P	**P**	**19 32 40.2**	**+0.4**
	0.2nm,0.3s,baz=14,slow=19,SNR=6.7						
WRA	**Warramunga Arr**	**22.02**	**161**	P	**P**	**19 33 12.4**	**+0.1**
	2.7nm,0.5s,baz=342,slow=11,SNR=25						
WRA				S	**S**	**19 37 10.2**	**-1.0**
	1.5nm,0.9s,baz=340,slow=18,SNR=5.9						
WRA				ScP	**ScP**	**19 40 43.0**	**+3.6**
	0.3nm,0.7s,baz=340,slow=3.1,SNR=4.6						
ASAR	**Alice Springs**	**25.41**	**165**	P	**P**	**19 33 45.5**	**+0.8**
	0.9nm,0.3s,baz=348,slow=13,SNR=31						
ASAR				S	S	19 38 16.5	+10
	1.8nm,0.9s,baz=343,slow=19,SNR=11						
ASAR				ScP	**ScP**	**19 40 50.8**	**+2.2**
	0.5nm,0.7s,baz=336,slow=2.6,SNR=6.7						
STKA	**Stephens Creek**	**35.50**	**158**	P	**P**	**19 35 12.4**	**-1.2**
	1.9nm,0.9s,baz=349,slow=10,SNR=2.8						
MKAR	**Makanchi Array**	**59.95**	**326**	P	**P**	**19 38 23.0**	**+0.6**
	2.0nm,0.9s,baz=122,slow=7.4,SNR=12						
AKTO	**Aktyubinsk**	**75.95**	**322**	P	**P**	**19 40 03.4**	**+0.6**
	0.8nm,0.5s,baz=106,slow=7.4,SNR=4.3						

IDC 10 19:30:18.3±1.3, 14°.02S×166°.68E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.6/18, mbtmp3.7/6, ML3.7/1, Error ellipse: s-maj=51.3km s-min=26.9km az=124.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.01**	**182**	Pn	Pn	19 32 16.9	+0.8
	1.0nm,0.3s,baz=38,slow=23,SNR=9.3						
DZM				Sn	Sn	19 33 44.1	-3.6
	0.6nm,0.3s,baz=356,slow=9.7,SNR=2.0						
STKA	**Stephens Creek**	**29.03**	**228**	P	P	19 36 19.9	-0.3
	0.8nm,0.5s,baz=52,slow=9.6,SNR=4.9						
WRA	**Warramunga Arr**	**31.45**	**255**	P	P	19 36 41.4	-0.4
	0.3nm,0.8s,baz=88,slow=9.3,SNR=3.2						
ASAR	**Alice Springs**	**32.40**	**248**	P	P	19 36 49.9	-0.3
	0.3nm,0.5s,baz=74,slow=9.5,SNR=4.0						
ILAR	**Eielson Array**	**86.03**	**18**	P	P	19 42 59.8	-0.6
	0.2nm,0.4s,baz=234,slow=5.1,SNR=3.9						
MKAR	**Makanchi Array**	**96.30**	**317**	P	P	19 43 50.1	+1.2
	0.1nm,0.4s,baz=91,slow=5.2,SNR=3.0						
ARCES	**ARCESS Array B**	**119.42**	**345**	PKP	PKPdf	19 49 08.5	-0.7
	2.2nm,0.9s,baz=74,slow=1.9,SNR=13						
FINES	**FINESS Array B**	**124.85**	**338**	PKP	PKPdf	19 49 19.7	-0.1
	1.3nm,1.0s,baz=111,slow=3.1,SNR=6.2						

IDC 10 19:35:11.3±0.8, 12°.04S×165°.60E, h0km, mb4.1/12, mb1 4.3/14, mb1mx4.1/23, mbtmp4.1/14, ML4.2/2, MS4.7/1, Ms1 4.7/1, ms1mx3.7/28, Error ellipse: s-maj=25.8km s-min=18.9km az=131.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.12**	**294**	Pn	Pn	19 36 42.7	-0.4
	13nm,0.3s,baz=176,slow=3.8,SNR=7.2						
HNR				Sn	Sn	19 37 50.0	-3.9
	6.0nm,0.3s,baz=114,slow=20,SNR=3.7						
DZM	**Mont Dzumac**	**10.01**	**175**	Pn	Pn	19 37 36.0	-0.6
	1.0nm,0.3s,baz=346,slow=12,SNR=6.7						
DZM				Sn	Sn	19 39 19.3	-11
	0.1nm,0.3s,baz=307,slow=20,SNR=1.9						
CTA	**Charters Tower**	**20.22**	**244**	P	Pn	19 39 49.2	-0.8
	7.9nm,0.8s,baz=64,slow=15,SNR=4.8						
STKA	**Stephens Creek**	**29.63**	**224**	P	P	19 41 18.9	+0.3
	2.9nm,0.8s,baz=17,slow=8.0,SNR=4.1						
WRA	**Warramunga Arr**	**31.02**	**251**	P	P	19 41 30.1	-0.9
	3.6nm,1.0s,baz=81,slow=8.7,SNR=16						
ASAR	**Alice Springs**	**32.23**	**245**	P	P	19 41 40.3	-1.3
	2.3nm,0.8s,baz=70,slow=9.1,SNR=20						
FITZ	**Fitzroy Crossi**	**38.99**	**256**	P	P	19 42 39.9	+0.2
	2.5nm,0.9s,baz=59,slow=12,SNR=4.1						
JNU	**Nakatsue**	**55.80**	**325**	LR	LR	20 04 20.7	
	comp=Z,729nm,20.1s,baz=220,slow=31						
CMAR	**Chiang Mai Arr**	**72.37**	**294**	P	P	19 46 41.0	+1.3
	0.7nm,0.7s,baz=122,slow=4.9						
QSPA	**South Pole Qui**	**77.97**	**180**	P	P	19 47 11.2	-0.2
	1.7nm,0.8s						
SONM	**Songino Array**	**79.38**	**324**	P	P	19 47 18.0	-1.3
	0.5nm,0.7s,baz=123,slow=5.2,SNR=5.1						
ILAR	**Eielson Array**	**84.49**	**19**	P	P	19 47 44.6	-1.1
	0.9nm,0.6s,baz=277,slow=5.7,SNR=12						
NVAR	**Mina Array Bea**	**86.77**	**50**	P	P	19 47 57.0	-0.9
	0.5nm,0.7s,baz=238,slow=8.6,SNR=4.9						
MKAR	**Makanchi Array**	**94.14**	**317**	P	P	19 48 31.9	-0.2
	1.1nm,0.8s,baz=113,slow=5.8,SNR=11						
ZALV	**Zalesovo Beam**	**94.27**	**324**	P	P	19 48 30.9	-1.5
	0.5nm,0.6s,baz=123,slow=5.3,SNR=3.0						
ARCES	**ARCESS Array B**	**117.25**	**345**	PKP	PKPdf	19 53 59.3	+1.2
	3.4nm,0.9s,baz=69,slow=4.9,SNR=6.8						
FINES	**FINESS Array B**	**122.63**	**338**	PKP	PKPdf	19 54 10.0	+1.3
	1.8nm,0.9s,baz=63,slow=6.5,SNR=4.8						
ESDC	**Sonseca Array**	**150.96**	**343**	PKPbc	PKPbc	19 55 08.4	+1.9
	0.6nm,0.8s,baz=8.9,slow=2.1,SNR=4.8						
TORD	**Torodi Ar. Bea**	**164.25**	**276**	PKPab	PKPab	19 56 11.6	-0.1
	1.0nm,1.1s,baz=90,slow=4.3,SNR=2.4						

*IDC **10** 19:39:40.4±0.8, 14°.18S×166°.94E, h0km, mb4.2/14, mb1 4.2/15, mb1mx4.2/20, mbtmp4.2/15, ML4.6/1, Error ellipse: s-maj=28.3km s-min=18.7km az=112.0*
*ISCJB **10** 19:39:44.9±0.5, 14°.12S±0°.06×166°.57E±0°.08, h33km, mb4.3/21, Error ellipse: s-maj=11.8km s-min=8.1km az=158.7*
*NEIC **10** 19:39:45.9±0.3, 14°.19S×166°.81E, h35km, mb4.7/9, Error ellipse: s-maj=9.6km s-min=7.2km az=109.0*
ISC 10 19:39:46.4±0.5, 14°.10S±0°.08×166°.7E±0°.1, h35km, n66, σ0s86/65, mb4.5/21, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.93**	**182**	Pn	**Pn**	**19 41 40.8**	**+1.5**
DZM				Sn	Sn	19 43 15.5	+7.6
DZM	**Mont Dzumac**	**7.93**	**182**	Pn	**Pn**	**19 41 40.8**	**+1.5**
	1.7nm,0.3s,baz=20,slow=20,SNR=11						
DZM				Sn	Sn	19 43 15.5	+7.6
	baz=162,slow=20,SNR=2.2						
HNR	**Honiara**	**8.09**	**304**	Pn	**Pn**	**19 41 42.5**	**+1.1**
HNR				Sn	**Sn**	**19 43 10.3**	**-1.4**
HNR	**Honiara**	**8.09**	**304**	Pn	**Pn**	**19 41 42.5**	**+1.1**
	7.2nm,0.3s,baz=219,slow=6.0,SNR=3.8						
HNR				Sn	**Sn**	**19 43 10.3**	**-1.4**
	7.6nm,0.3s,baz=169,slow=18,SNR=2.1						
MSVF	**Nonsavu**	**11.49**	**110**	*e*Pn	Pn	19 42 35.3	+7.2
	34nm,1.1s						
EIDS	**Eidsvold**	**18.47**	**230**	*e*P	**P**	**19 43 58.6**	**-0.8**
	11nm,1.0s						
STKA	**Stephens Creek**	**29.00**	**228**	*e*P	**P**	**19 45 42.9**	**0.0**
	1.4nm,0.7s						
STKA				*e*		19 45 53.2	
STKA	**Stephens Creek**	**29.00**	**228**	P	**P**	**19 45 44.0**	**+1.0**
	1.6nm,0.4s,baz=64,slow=6.7,SNR=12						
WRAB	**Tennant Creek**	**31.45**	**255**	P	**P**	**19 46 05.5**	**+0.7**
	7.0nm,1.1s						
WRA	**Warramunga Arr**	**31.46**	**255**	P	**P**	**19 46 05.6**	**+0.7**
WRA	**Warramunga Arr**	**31.46**	**255**	P	**P**	**19 46 05.6**	**+0.7**
	0.8nm,0.8s,baz=84,slow=8.7,SNR=3.4						
ASAR	**Alice Springs**	**32.40**	**248**	P	**P**	**19 46 12.3**	**-0.9**
ASAR	**Alice Springs**	**32.40**	**248**	P	**P**	**19 46 12.3**	**-0.9**
	0.6nm,0.6s,baz=72,slow=9.6,SNR=11						
FITZ	**Fitzroy Crossi**	**39.60**	**259**	P	**P**	**19 47 15.5**	**+0.7**
FITZ	**Fitzroy Crossi**	**39.60**	**259**	P	**P**	**19 47 15.5**	**+0.7**
	1.5nm,0.8s,baz=128,slow=12,SNR=2.8						
NWAO	**Narrogin (SRO)**	**48.61**	**238**	P	**P**	**19 48 25.7**	**-1.2**
MAJO	**Matsushiro**	**57.11**	**333**	*e*P	**P**	**19 49 29.0**	**-0.4**
	7.6nm,0.8s						
JNU	**Nakatsue**	**58.10**	**325**	P	**P**	**19 49 37.0**	**+0.5**
JNU	**Nakatsue**	**58.10**	**325**	P	**P**	**19 49 37.0**	**+0.5**
	6.1nm,0.9s,baz=135,slow=9.5,SNR=3.4						
KSRS	**Korea Array**	**62.92**	**326**	P	**P**	**19 50 10.2**	**+0.9**
	1.3nm,0.8s,baz=147,slow=7.1,SNR=5.2						
KSAR	**Wonju Array Be**	**62.93**	**326**	P	**P**	**19 50 10.2**	**+0.8**
VNDA	**Vanda**	**63.47**	**181**	P	**P**	**19 50 12.3**	**0.0**
VNDA	**Vanda**	**63.47**	**181**	P	**P**	**19 50 12.3**	**0.0**
	0.6nm,0.5s,baz=9.1,slow=4.8,SNR=3.3						
USRK	**Ussuriysk Arra**	**66.09**	**333**	P	**P**	**19 50 31.8**	**+2.0**
	4.4nm,0.9s,baz=150,slow=7.1,SNR=5.7						
PETK	**Petropavlovsk-**	**67.39**	**354**	P	**P**	**19 50 38.7**	**+0.7**
PETK	**Petropavlovsk-**	**67.39**	**354**	P	**P**	**19 50 38.7**	**+0.7**
	3.3nm,0.8s,baz=161,slow=9.4,SNR=4.2						
ENH	**Enshi**	**70.55**	**310**	*e*P	**P**	**19 50 57.8**	**-0.4**
	5.8nm,0.9s						
CHTO	**Chiang Mai**	**74.33**	**294**	*e*P	**P**	**19 51 21.3**	**+0.4**
	8.1nm,1.0s						
HIA	**Hailar**	**75.48**	**330**	P	**P**	**19 51 27.2**	**+0.3**
QSPA	**South Pole Qui**	**75.92**	**180**	*e*P	**P**	**19 51 28.4**	**-1.0**
	11nm,1.0s						
QSPA				*e*		19 51 38.7	
SONM	**Songino Array**	**81.68**	**324**	P	**P**	**19 52 02.0**	**+0.8**
SONM	**Songino Array**	**81.68**	**324**	P	**P**	**19 52 02.0**	**+0.8**
	1.8nm,0.9s,baz=139,slow=5.4,SNR=12						
MAW	**Mawson**	**82.26**	**202**	P	**P**	**19 52 03.3**	**-0.6**
MAW	**Mawson**	**82.26**	**202**	P	**P**	**19 52 03.3**	**-0.6**
	1.9nm,0.9s,baz=117,slow=6.8,SNR=3.4						
MCK	**McKinley**	**84.73**	**18**	P	**P**	**19 52 17.5**	**+1.0**
LSA	**Lhasa**	**84.77**	**302**	*e*P	**P**	**19 52 18.8**	**+0.7**
	7.3nm,1.2s						
ILAR	**Eielson Array**	**86.10**	**18**	P	**P**	**19 52 22.2**	**-1.0**
ILAR	**Eielson Array**	**86.10**	**18**	P	**P**	**19 52 22.2**	**-1.0**
	0.7nm,0.6s,baz=256,slow=5.2,SNR=5.7						
SNAA	**Sanae**	**94.14**	**183**	*e*P	**P**	**19 53 00.6**	**-0.6**
SNAA	**Sanae**	**94.14**	**183**	*e*P	P	19 53 09.7	+8.5
SNAA	**Sanae**	**94.14**	**183**	*e*P	**P**	**19 53 00.1**	**-1.1**
	6.0nm,1.3s						
SNAA				*e*		19 53 09.5	
VNA2	**Neumayer--Watz**	**95.08**	**182**	*e*P	**P**	**19 53 05.1**	**-0.3**
	baz=194,slow=3.2						
VNA2	**Neumayer--Watz**	**95.08**	**182**	*e*P	P	19 53 13.8	+8.4
	baz=189,slow=4.9						
MKAR	**Makanchi Array**	**96.38**	**317**	P	**P**	**19 53 11.8**	**+0.1**
MKAR	**Makanchi Array**	**96.38**	**317**	P	**P**	**19 53 11.8**	**+0.1**
	1.2nm,0.8s,baz=102,slow=4.7,SNR=11						
ZAA0	**Zalesovo Array**	**96.57**	**324**	P	P	19 53 08.4	-4.0
ZALV	**Zalesovo Beam**	**96.57**	**324**	P	**P**	**19 53 11.7**	**-0.7**
ZALV	**Zalesovo Beam**	**96.57**	**324**	P	**P**	**19 53 11.7**	**-0.7**
	1.7nm,0.8s,baz=104,slow=4.7,SNR=7.6						
ARCES	**ARCESS Array B**	**119.51**	**345**	PKP	**PKPdf**	**19 58 31.2**	**-0.6**
ARCES	**ARCESS Array B**	**119.51**	**345**	PKP	**PKPdf**	**19 58 31.2**	**-0.6**
	1.6nm,0.6s,baz=82,slow=2.2,SNR=22						
FINES	**FINESS Array B**	**124.94**	**338**	PKP	**PKPdf**	**19 58 40.9**	**-1.5**
FINES	**FINESS Array B**	**124.94**	**338**	PKP	**PKPdf**	**19 58 40.9**	**-1.5**
	0.9nm,0.5s,baz=116,slow=2.1,SNR=8.6						
NOA	**NORSAR Array B**	**129.88**	**345**	PKP	**PKPdf**	**19 58 50.6**	**-1.4**
NOA	**NORSAR Array B**	**129.88**	**345**	PKP	**PKPdf**	**19 58 50.6**	**-1.4**
	0.9nm,0.8s,baz=18,slow=5.9,SNR=3.6						
AKASG	**Malin Array Be**	**129.92**	**326**	PKP	**PKPdf**	**19 58 52.3**	**+0.1**
AKASG	**Malin Array Be**	**129.92**	**326**	PKP	**PKPdf**	**19 58 52.3**	**+0.1**
	0.2nm,0.3s,baz=46,slow=1.9,SNR=5.2						
GERES	**GERESS Array B**	**138.84**	**333**	PKP	**PKPdf**	**19 59 09.4**	**+0.3**
GERES	**GERESS Array B**	**138.84**	**333**	PKP	**PKPdf**	**19 59 09.4**	**+0.3**
	0.4nm,0.6s,baz=96,slow=1.3,SNR=5.7						
BNI	**Bardonecchia**	**144.81**	**335**	*e*P	PKPbc	19 59 19.4	+0.4
SSB	**Saint Sauveur**	**145.45**	**338**	*e*P	**PKPab**	**19 59 21.1**	**-0.1**
KEST	**Kesra**	**150.39**	**321**	*e*PKPbc	**PKPbc**	**19 59 34.5**	**-0.2**
KEST	**Kesra**	**150.39**	**321**	PKPbc	**PKPbc**	**19 59 34.9**	**+0.2**
	0.1nm,0.8s,baz=312,slow=1.0,SNR=11						
ESDC	**Sonseca Array**	**153.24**	**344**	PKPbc	**PKPbc**	**19 59 41.0**	**0.0**
ESDC	**Sonseca Array**	**153.24**	**344**	PKPbc	**PKPbc**	**19 59 41.0**	**0.0**
	1.4nm,0.9s,baz=15,slow=2.4,SNR=7.8						
TORD	**Torodi Ar. Bea**	**165.41**	**268**	PKP	**PKPdf**	**19 59 47.2**	**-1.0**
TORD				PKPab	**PKPab**	**20 00 46.9**	**+0.5**
TORD	**Torodi Ar. Bea**	**165.41**	**268**	PKP	**PKPdf**	**19 59 47.2**	**-1.0**
	0.6nm,0.9s,baz=180,slow=1.2,SNR=3.6						
TORD				PKPab	**PKPab**	**20 00 46.9**	**+0.5**
	1.0nm,0.9s,baz=79,slow=1.7,SNR=4.0						

*SZGRF **10** 19:41:14.0, 19°.50S×173°.50W, h33km, mb5.7, Tonga Islands*
*AUST **10** 19:41:20.6±8.7, 15°.79S×171°.88W, h18km±49km, Error ellipse: s-maj=32.4km s-min=14.7km az=102.0*
*ISCJB **10** 19:41:22.8±0.1, 15°.66S±0°.04×173°.00W±0°.03, h10km, mb5.4/237, MS5.7/209, Error ellipse: s-maj=6.0km s-min=2.9km az=152.2*
*DJA **10** 19:41:23.6±0.3, 16°.S±7°×17°.3W±°, h10km, M5.7/4, mB6.2/4, mb5.6/4, Mw(mB)5.8/4*
*IDC **10** 19:41:23.1±0.4, 15°.59S×173°.02W, h0km, mb5.0/39, mb1 5.1/39, mb1mx5.1/40, mbtmp5.0/39, MS5.6/31, Ms1 5.6/31, ms1mx5.5/37, Error ellipse: s-maj=14.7km s-min=10.2km az=149.0*
*NEIC **10** 19:41:24.3±0.1, 15°.66S×173°.06W, h13km, mb5.6/170, ME5.6, MS5.7/145, MW5.9, Error ellipse: s-maj=7.1km s-min=3.8km az=143.0, Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
*BJI **10** 19:41:25.6, 15°.41S×173°.58W, h10km, mB6.1/44, mb5.4/40, Ms5.7/47, Ms7 5.5/47*
*MOS **10** 19:41:27.6±1.2, 15°.38S×172°.88W, h33km, mb5.7/60, MS5.6/57, Error ellipse: s-maj=11.1km s-min=7.7km az=74.5*
*GCMT **10** 19:41:31.8±0.1, 15°.55S×172°.59W, h18km, MW5.9 Best double couple: NP1:φs358.00000°, δ63.00000°, λ98.00000°. NP2:φs161.00000°, δ28.00000°, λ74.00000°. Principal axes: T 0.9900, Plg71.0000°, Azm286.0000°; N 0.0700, Plg7.0000°, Azm175.0000°; P -1.0600, Plg18.0000°, Azm82.0000°; Data Used: ll IU CN IC G. Surface waves: sta=118, comp=257, per= 50.*
*NEIC **10** 19:41:48.3±0.0, 15°.36S×172°.85W, h10km, Moment Tensor Solution. s118 Moment tensor: Scale 10^17^Nm; Mrr6.82; Mθθ0.39; Mφφ-7.20; Mrθ3.65; Mθφ1.30; Mφr2.07; Best double couple: Mo8.20000×10^17^ NP1:φs148.00000°, δ44.00000°, λ53.00000°. NP2:φs15.00000°, δ56.00000°, λ121.00000°. Principal axes: T 8.8300, Plg64.0000°, Azm340.0000°; N -1.2500, Plg24.0000°, Azm176.0000°; P -7.5800, Plg6.0000°, Azm83.0000°;*
ISC 10 19:41:25.1±0.4, 15°.57S±0°.05×172°.98W±0°.05, h16km±1km, n1496, σ1s26/1405, mb5.5/235, MS5.7/211, 267C-282D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.02**	**35**	*i* P	Pn	19 41 52.4	-6.2
AFI				Sn	Sn	19 42 12.7	-11
AFI	**Afiamalu**	**2.02**	**35**	Pn	Pn	19 41 54.0	-4.6
	161nm,0.3s,baz=29,slow=3.8,SNR=111						
AFI				Sn	Sn	19 42 12.7	-11
	1μm,0.3s,baz=246,slow=20,SNR=27						
MSVF	**Nonsavu**	**8.86**	**255**	*e*P	Pn	19 43 39.9	+7.2
MSVF	**Nonsavu**	**8.86**	**255**	*e*Pn	Pn	19 43 39.9	+7.2
KNTN	**Kanton**	**12.78**	**6**	*e*Pn	**Pn**	**19 44 24.0**	**-2.3**
RAR	**Rarotonga**	**13.73**	**116**	*e*Pn	Pn	19 44 32.3	-7.0
RAR	**Rarotonga**	**13.73**	**116**	Pn	Pn	19 44 33.3	-6.0
	4.4nm,0.3s,baz=270,slow=12,SNR=8.2						
RAO	**Raoul Island**	**14.36**	**198**	LR	LR	19 49 40.7	
	comp=Z,24μm,18.0s,baz=21,slow=35						
DZM	**Mont Dzumac**	**20.51**	**248**	*e*P	**P**	**19 46 03.3**	**+0.4**
	1μm,1.4s						
DZM				*e*LQ	LQ	19 50 16.1	
	37μm,29.9s						
DZM				*e*LR	LR	19 51 06.6	
	49μm,24.2s						
DZM	**Mont Dzumac**	**20.51**	**248**	*e*P	**P**	**19 46 03.0**	**+0.1**
	727nm,1.4s						
DZM	**Mont Dzumac**	**20.51**	**248**	P	**P**	**19 46 03.3**	**+0.4**
	213nm,0.9s,baz=68,slow=18,SNR=20						
TARA	**Tarawa**	**21.84**	**319**	*e*P	**P**	**19 46 18.5**	**+1.3**
	502nm,1.5s						
TARA				LR	LR		
	comp=Z,23μm,21.0s						
PAE	**Paea**	**22.52**	**99**	*e*P	**P**	**19 46 20.8**	**-3.6**
	comp=Z,32nm,1.2s						
PPT	**Papeete**	**22.52**	**98**	P	**P**	**19 46 23.1**	**-1.4**
PPT	**Papeete**	**22.52**	**98**	P	**P**	**19 46 23.1**	**-1.4**
	comp=Z,38nm,0.8s,baz=44,slow=18,SNR=3.7						
PPT				LR	LR	19 52 35.7	
	comp=Z,12μm,21.1s,baz=272,slow=30						
PPT2	**Papeete2**	**22.52**	**98**	*e*P	**P**	**19 46 21.2**	**-3.4**
	comp=Z,137nm,1.1s						
PPT2				*e*LQ	LQ	19 50 39.8	
	comp=Z,34μm,27.2s						
PPT2				*e*LR	LR	19 51 42.7	
	comp=Z,37μm,25.8s,baz=263						
TIAR	**Tiarei**	**22.74**	**98**	*e*P	**P**	**19 46 23.0**	**-3.8**
	comp=Z,119nm,1.0s						
TVO	**Taravao**	**22.84**	**99**	*e*P	**P**	**19 46 23.6**	**-4.3**
	comp=Z,98nm,1.3s						
OUZ	**Omahuta**	**22.97**	**209**	*e*P	**P**	**19 46 29.1**	**0.0**
	comp=Z,34nm,1.0s						
XMAS	**Kiritimati**	**23.29**	**43**	*e*P	**P**	**19 46 31.4**	**-1.1**
	comp=Z,1μm,2.2s						
XMAS				LR	LR		
	comp=Z,15μm,19.0s						
TBI	**Tubuai**	**23.46**	**113**	*e*P	**P**	**19 46 30.7**	**-3.5**
	comp=Z,257nm,1.1s						
TBI				*e*LQ	LQ	19 50 52.0	
	comp=Z,31μm,30.5s						
TBI				*e*LR	LR	19 52 15.0	
	comp=Z,38μm,26.0s,baz=287						
PMOR	**Pomariorio Ree**	**24.20**	**92**	*e*P	**P**	**19 46 36.9**	**-4.4**
	comp=Z,411nm,1.3s						
URZ	**Urewera**	**24.23**	**199**	*e*P	**P**	**19 46 40.3**	**-1.0**
	comp=Z,100nm,0.9s						
URZ	**Urewera**	**24.23**	**199**	P	**P**	**19 46 40.7**	**-0.7**
	comp=Z,41nm,0.8s,baz=10,slow=7.1,SNR=12						
VAH	**Vaihoa**	**24.44**	**93**	*e*P	**P**	**19 46 38.8**	**-4.7**
	comp=Z,164nm,1.1s						
BKZ	**Black Stump Fm**	**25.26**	**199**	*e*P	**P**	**

WAKE Wake Island 40.01 329 *e*P **P 19 48 59.0 -0.6**
comp=Z,1µm,1.6s
WAKE LR LR
comp=Z,7µm,19.0s
H11N3 WAKE ISLAND Hy 40.26 330 T T 20 32 20.6
baz=148,slow=0.7,SNR=61
H11N1 WAKE ISLAND Hy 40.26 330 T T 20 32 26.4
baz=148,slow=0.7,SNR=57
H11N2 WAKE ISLAND Hy 40.28 330 T T 20 32 27.2
baz=148,slow=0.7,SNR=60
CMSA Cobar Meteorol 40.82 240 ⇓P **P 19 49 05.0 -1.2**
baz=42,SNR=31
COEN Coen 42.37 266 *e*P **P 19 49 17.4 -1.7**
comp=Z,118nm,1.0s
MOO Moorlands 43.35 224 ⇑P **P 19 49 26.2 -0.5**
baz=44,SNR=7.6
TAU Tasmania Unive 43.47 223 *e*P **P 19 49 25.8 -1.8**
TAU pmax pmax
comp=Z,44nm,1.0s
TAU MLR MLR
comp=Z,8µm,19.0s
TAU Tasmania Unive 43.47 223 *e*P **P 19 49 25.8 -1.8**
comp=Z,44nm,1.0s
TAU LR LR
comp=Z,8µm,19.0s
MIDW Midway 43.73 354 PFAKE 19 49 40.0 +10
MIDW LR LR
comp=Z,9µm,22.0s
STKA Stephens Creek 44.30 240 *e*P **P 19 49 33.4 -1.1**
comp=Z,17nm,0.8s
STKA Stephens Creek 44.30 240 ⇓P **P 19 49 33.6 -0.9**
baz=45,SNR=86
STKA Stephens Creek 44.30 240 P **P 19 49 33.8 -0.7**
comp=Z,73nm,0.8s,baz=85,slow=8.6,SNR=66
HTT Hallett 46.80 239 ⇓P **P 19 49 53.8 -0.6**
baz=48
BBOO Buckleboo 49.08 240 *e*P **P 19 50 10.2 -1.8**
comp=Z,89nm,0.8s
BBOO Buckleboo 49.08 240 P **P 19 50 10.9 -1.1**
baz=50,SNR=66
WRAB Tennant Creek 50.19 257 *e*P **P 19 50 18.7 -1.9**
WRAB pmax pmax
comp=Z,377nm,1.9s
WRAB MLR MLR
comp=Z,9µm,19.0s
WRAB Tennant Creek 50.19 257 *e*P **P 19 50 18.7 -1.9**
comp=Z,377nm,1.9s
WRAB LR LR
comp=Z,9µm,19.0s
WRA Warramunga Arr 50.20 257 P **P 19 50 19.0 -1.7**
WRA Warramunga Arr 50.20 257 P **P 19 50 19.0 -1.7**
comp=Z,37nm,1.0s,baz=91,slow=8.1,SNR=51
WRA LR LR 20 10 37.8
comp=Z,11µm,18.4s,baz=95,slow=35
AS31 Alice Springs 50.44 252 *e*P **P 19 50 20.5 -2.1**
ASAR Alice Springs 50.44 252 P **P 19 50 21.6 -0.9**
ASAR Alice Springs 50.44 252 P **P 19 50 21.6 -0.9**
comp=Z,83nm,0.7s,baz=86,slow=8.0,SNR=385
ASAR LR LR 20 10 36.1
comp=Z,19µm,19.0s,baz=93,slow=35
GUMO Guam 50.77 303 PFAKE 19 50 30.0 +5.1
GUMO LR LR
comp=Z,433nm,19.0s
PALU Palau 56.80 290 ⇓P **P 19 51 10.2 +0.9**
baz=58
SWI Sorong 56.89 279 ⇑P **P 19 51 10.1 +0.2**
baz=58,SNR=30
FITZ Fitzroy Crossi 58.57 258 *e*P **P 19 51 20.7 -0.9**
comp=Z,109nm,1.6s
FITZ Fitzroy Crossi 58.57 258 ⇑P **P 19 51 21.1 -0.5**
baz=60,SNR=16
FITZ Fitzroy Crossi 58.57 258 P **P 19 51 21.4 -0.3**
comp=Z,6.2nm,0.7s,baz=101,slow=8.4,SNR=13
FITZ LR LR 20 15 03.1
comp=Z,14µm,19.5s,baz=120,slow=34
RPN Rapa Nui 59.85 113 PFAKE 19 51 40.0 +10
RPN LR LR
comp=Z,3µm,20.0s
JCJ Chichijima 60.76 314 LR LR 20 13 15.9
comp=Z,5µm,19.9s,baz=292,slow=32
SOEI Soe 61.32 267 ⇓P **P 19 51 41.0 +0.2**
baz=62,SNR=16
BATI Baumata 61.81 267 LR LR 20 16 07.0
comp=Z,7µm,21.2s,baz=109,slow=34
SBA Scott Base 63.12 185 *e*P **P 19 51 54.1 +2.5**
SBA pmax pmax
comp=Z,93nm,1.3s
SBA MLR MLR
comp=Z,3µm,19.0s
SBA Scott Base 63.12 185 *e*P **P 19 51 54.1 +2.5**
comp=Z,93nm,1.3s
SBA LR LR
comp=Z,3µm,19.0s
VNDA Vanda 63.25 186 *e*P **P 19 51 53.8 +1.3**
comp=Z,45nm,1.3s
VNDA Vanda 63.25 186 P **P 19 51 54.2 +1.7**
comp=Z,15nm,1.0s,baz=8.8,slow=6.3,SNR=11
VNDA LR LR 20 13 38.6
comp=Z,2µm,20.1s,baz=14,slow=31
MMRI Maumere 63.52 268 *e*P **P 19 51 55.2 -0.2**
comp=Z,130nm,1.2s
MBWA Marble Bar 63.70 254 P **P 19 51 56.7 +0.3**
SNR=5.4
MBWA Marble Bar 63.70 254 *e*P **P 19 51 55.3 -1.1**
comp=Z,178nm,1.6s
MBWA LR LR
comp=Z,8µm,20.0s
MEEK Meekatharra 64.12 248 P **P 19 51 58.6 -0.6**
baz=65,SNR=25
KLBR Kellerberrin 64.52 242 P **P 19 52 01.1 -0.5**
baz=65,SNR=32
DAV Davao City (W) 64.87 286 PFAKE 19 52 10.0 +5.8
DAV LR LR
comp=Z,4µm,20.0s
NWAO Narrogin (SRO) 64.89 241 *e*P **P 19 52 04.8 +0.8**
comp=Z,191nm,1.6s
NWAO LR LR
comp=Z,5µm,19.0s
BLDU Ballidu 65.47 243 ⇓P **P 19 52 07.3 -0.6**
baz=66,SNR=17
MORW Morawa 66.18 245 P **P 19 52 12.2 -0.2**
baz=67,SNR=10.0
KAPI Kappang 66.78 271 P **P 19 52 16.7 +0.1**
KAPI Kappang 66.78 271 *e*P **P 19 52 15.9 -0.6**
comp=Z,5.9nm,1.0s
KAPI Kappang 66.78 271 LR LR 20 19 11.3
comp=Z,3µm,19.3s,baz=36,slow=34
FX1 Attu Island--F 69.21 351 *e*P P 19 52 27.3 -3.7
FX1 Attu Island--F 69.21 351 P **P 19 52 31.0 0.0**
comp=Z,23nm,0.8s,baz=156,slow=9.0,SNR=5.7
MAJO Matsushiro 69.33 320 *e*P **P 19 52 31.3 -0.8**
MAJO pmax pmax
comp=Z,205nm,2.0s
MAJO MLR MLR
comp=Z,7µm,22.0s
MAJO Matsushiro 69.33 320 *e*P **P 19 52 31.3 -0.8**
comp=Z,34nm,2.0s
MAJO LR LR
comp=Z,4µm,22.0s
MAT Matsushiro 69.33 320 P **P 19 52 32.6 +0.5**
MAT S **S 20 01 36.4 -2.0**
H06S1 SOCORRO T 69.92 63 T T 21 09 04.8
H06E1 SOCORRO T-PHAS 69.97 63 T T 21 09 05.5
YUK Yuzh-Kuril'sk 70.21 330*c i*P P 19 52 29.7 -7.6
YUK *i* 19 53 02.8
YUK *i* 19 55 16.8
YUK *i* S **S 20 01 52.8 +4.5**
YUK *i* 20 02 28.7
YUK *i* SS SS 20 06 11.7 -7.3
CASY Casey 70.42 205 *e*P **P 19 52 38.2 -0.1**
comp=Z,76nm,1.2s
CASY LR LR
comp=Z,3µm,19.0s
BSC Santa Cruz Isl 70.76 45 ⇑P **P 19 52 40.6 -0.3**
baz=71
MYLDM Lahad Datu 70.88 281 P P 19 52 47.5 +5.5
SCI San Clemente I 70.93 46 ⇓P **P 19 52 42.2 +0.2**
baz=71
SBC Santa Barbara 70.96 44 ⇓P **P 19 52 42.6 +0.5**
baz=71
SAC San Andreas 71.07 40 *e*P P 19 52 47.2 +4.5
SAC San Andreas 71.07 40 *e*P P 19 52 47.2 +4.5
PKM Peak Mountain 71.15 44 ⇓P **P 19 52 44.3 +0.7**
baz=71
SAO San Andreas Ge 71.19 42 *e*P **P 19 52 43.6 +0.2**
SAO pmax pmax
comp=Z,40nm,1.2s
SAO San Andreas Ge 71.19 42 *e*P **P 19 52 43.6 +0.2**
comp=Z,10nm,1.2s
BLG Laguna Peak 71.21 45 ⇓P **P 19 52 44.2 +0.5**
baz=72
SMMC Simmler 71.27 44 ⇑P **P 19 52 44.8 +0.7**
baz=72
CIS Catalina Islan 71.27 46 ⇓P **P 19 52 44.3 +0.2**
baz=72
SKR Severo-Kuril's 71.32 340 *e* x 19 52 58.0
SKR *e* **PP 19 55 20.0 -2.4**
SKR *e*S **S 20 01 57.0 -3.9**
SKR *e*PS PnS 20 02 46.0 +16
SKR pmax pmax
comp=Z,220nm,1.0s
SKR pmax pmax
comp=Z,3µm,10.0s
SKR smax smax
comp=N,5µm,14.0s
SKR smax smax
comp=E,4µm,14.0s
SKR MLR MLR
comp=N,6µm,18.0s
SKR MLR MLR
comp=E,3µm,18.0s
SKR MLR MLR
comp=Z,3µm,18.0s
FMP Fort Macarthur 71.52 46 ⇓P **P 19 52 45.9 +0.5**
baz=72
KCPM Cahto Peak 71.68 38 *e*P P 19 52 49.8 +3.2
comp=Z,30nm,1.3s
OSI Osito Adit 71.73 45 *e*P **P 19 52 47.4 +0.6**
comp=Z,10nm,1.1s
OSI Osito Adit 71.73 45 ⇑P **P 19 52 47.5 +0.6**
baz=72
DECC Green Verdugo 71.79 45 ⇓P **P 19 52 47.7 +0.5**
baz=72
KIPM Iron Peak 71.82 38 *e*P P 19 52 50.9 +3.6
109C Camp Elliot, M 71.90 47 ⇑P **P 19 52 48.1 +0.3**
baz=72
ASAJ Asahikawa 71.90 328 P **P 19 52 48.6 +1.1**
ASAJ Asahikawa 71.90 328 P **P 19 52 48.6 +1.1**
comp=Z,31nm,0.9s,baz=182,slow=8.1,SNR=6.9
ARVC Arvin 71.95 44 ⇑P **P 19 52 48.2 +0.1**
baz=72
MWC Mount Wilson 71.97 45 *e*P **P 19 52 48.5 +0.1**
MWC pmax pmax
comp=Z,33nm,1.0s
MWC Mount Wilson 71.97 45 *e*P **P 19 52 48.5 +0.1**
comp=Z,33nm,1.0s
BAR Barrett 72.09 48 P **P 19 52 49.7 +0.7**
comp=Z,4.0nm,1.0s
VES Vestal, Richgr 72.19 44 ⇓P **P 19 52 49.9 +0.4**
baz=72
JNU Nakatsue 72.21 313 P **P 19 52 49.9 +0.2**
JNU Nakatsue 72.21 313 P **P 19 52 49.9 +0.2**
comp=Z,9.2nm,0.8s,baz=14,slow=3.8,SNR=9.5
MURC Murrieta 72.22 46 ⇑P **P 19 52 50.2 +0.5**
baz=72
BFSC Mount Baldy Ra 72.25 46 ⇑P **P 19 52 50.3 +0.2**
baz=72
EDW2 Edwards Air Fo 72.38 45 ⇑P **P 19 52 51.1 +0.3**
baz=73,SNR=9.2
MONP Monument Peak 72.38 47 ⇓P **P 19 52 50.9 0.0**
baz=73
DVTC Desert V Tower 72.49 48 ⇓P **P 19 52 51.8 +0.4**
baz=73
ISA Isabella 72.49 44 *e*P **P 19 52 51.5 +0.1**
ISA pmax pmax
comp=Z,34nm,1.1s
ISA Isabella 72.49 44 *e*P **P 19 52 51.5 +0.1**
comp=Z,8.3nm,1.1s
ISA Isabella 72.49 44 ⇓P **P 19 52 52.0 +0.6**
baz=73,SNR=14
ISA ⇑S **S 20 02 20.1 +4.8**
baz=73
PET Petropavlovsk 72.56 342*c i*P **P 19 52 51.7 +0.4**
PET *e* 19 55 33.5
PET eS **S 20 02 14.0 -1.1**
PET eSS **SS 20 06 51.4 -3.3**
PET pmax pmax
comp=Z,47nm,1.2s
PET pmax pmax
comp=Z,3µm,6.6s
PET pmax pmax
comp=Z,2µm,7.6s
PET MLR MLR
comp=Z,3µm,18.0s
PET MLR MLR
comp=Z,3µm,19.0s
CMB Columbia Colle 72.62 41 *e*P **P 19 52 51.9 -0.2**
CMB pmax pmax
comp=Z,42nm,1.2s
CMB Columbia Colle 72.62 41 *e*P **P 19 52 51.9 -0.2**
comp=Z,42nm,1.2s
KRMB Red Mountain 72.67 36 P **P 19 52 54.0 +1.6**
comp=Z,451nm,2.1s
PFO Pinyon Flat Ob 72.74 47 *e*P **P 19 52 53.0 0.0**
comp=Z,16nm,1.0s
PFO LR LR
comp=Z,4µm,20.0s
PFO Pinyon Flat Ob 72.74 47 ⇑P **P 19 52 53.2 +0.2**
baz=73
PFO Pinyon Flat Ob 72.74 47 P **P 19 52 53.8 +0.8**
comp=Z,2.8nm,0.7s,baz=274,slow=6.8,SNR=6.3
BBRC Big Bear Solar 72.77 46 ⇑P **P 19 52 53.7 +0.3**
baz=73
LPIG La Paz 72.78 58 P **P 19 52 55.0 +1.8**
LPIG La Paz 72.78 58 P **P 19 52 55.0 +1.8**
comp=Z,22nm,0.3s,baz=146,slow=3.1,SNR=4.1
LPIG LR LR 20 18 05.5
comp=Z,3µm,19.3s,baz=240,slow=30
SWSC Sam W. Stewart 72.85 48 ⇓P **P 19 52 54.1 +0.6**
baz=73
WDC Whiskeytown Da 72.86 38 *e*P **P 19 52 56.0 +2.6**
WDC pmax pmax
comp=Z,58nm,1.4s
WDC Whiskeytown Da 72.86 38 *e*P **P 19 52 56.0 +2.6**
comp=Z,58nm,1.4s
PEA0B Petropavlovsk- 72.92 342 *e*P **P 19 52 54.0 +0.6**
PETK Petropavlovsk- 72.92 342 P **P 19 52 54.3 +0.9**
PETK Petropavlovsk- 72.92 342 P **P 19 52 54.3 +0.9**
PETK Petropavlovsk- 72.92 342 P **P 19 52 54.3 +0.9**
comp=Z,16nm,0.7s,baz=142,slow=9.3,SNR=22
LRMC Laurel Mountai 72.92 45 ⇓P **P 19 52 54.6 +0.6**
baz=73
RRX Edison Barstow 73.06 45 ⇓P **P 19 52 55.5 +0.8**
baz=73
CWC Cottonwood Cre 73.19 44 ⇓P **P 19 52 56.0 +0.3**
baz=74
BELC Belle Mtn. Jos 73.27 47 ⇓P **P 19 52 56.4 +0.2**
baz=74
KEBM Edson Butte 73.31 35 P P 19 52 59.4 +3.3
comp=Z,154nm,1.7s
KKM Kota Kinabalu 73.31 281 P **P 19 52 58.0 +1.3**
KKM Kota Kinabalu 73.31 281 *e*P **P 19 52 56.2 -0.5**
comp=Z,38nm,1.0s
KKM LR LR
comp=Z,1µm,20.0s
KKM Kota Kinabalu 73.31 281 ⇑P **P 19 52 56.8 +0.1**
baz=74,SNR=3.4
MPMC Manual Prospec 73.38 44 ⇓P **P 19 52 57.1 +0.3**
baz=74,SNR=17
MLAC Mammoth Lakes 73.38 42 ⇑P **P 19 52 57.4 +0.6**
baz=74,SNR=7.7
GSC Goldstone 73.42 45 *e*P **P 19 52 56.6 -0.3**
GSC pmax pmax
comp=Z,33nm,1.1s
GSC Goldstone 73.42 45 *e*P **P 19 52 56.6 -0.3**
comp=Z,8.1nm,1.1s
GSC Goldstone 73.42 45 ⇓P **P 19 52 56.7 -0.2**
baz=74,SNR=9.8
TIN Tinemaha 73.45 43 ⇑P **P 19 52 57.7 +0.6**
baz=74
BC3 Big Chuckawall 73.47 47 ⇑P **P 19 52 57.8 +0.4**
baz=74
HEC Hector,Ludlow 73.49 46 ⇑P **P 19 52 57.5 +0.1**
baz=74,SNR=8.7
YBH Yreka Blue Hor 73.49 37 P **P 19 52 59.4 +2.2**
YBH Yreka Blue Hor 73.49 37 P **P 19 52 59.4 +2.2**
comp=Z,3.5nm,0.5s,baz=195,slow=8.5,SNR=4.7
GLA Glamis 73.60 48 P **P 19 52 58.6 +0.6**
GLA pmax pmax
comp=Z,45nm,1.2s
GLA Glamis 73.60 48 P **P 19 52 58.6 +0.6**
comp=Z,11nm,1.2s
GLA Glamis 73.60 48 ⇑P **P 19 52 58.3 +0.2**
baz=74
BEKR Beckworth 73.74 40 *e*P **P 19 52 59.5 +0.7**
comp=Z,13nm,1.0s
YSS Yuzh-Sakhalins 73.83 330*e*⇓P **P 19 53 00.0 +1.1**
YSS *e* 19 53 09.0
YSS *e* 19 55 46.0
YSS *e*PS **PnS 20 02 58.0 -5.6**
YSS *e*PPS PPS 20 03 14.0
YSS pmax pmax
comp=Z,80nm,1.0s
YSS pmax pmax
comp=Z,2µm,6.0s
YSS MLR MLR
comp=Z,2µm,18.0s
YSS MLR MLR
comp=N,1µm,14.0s
YSS MLR MLR
comp=E,2µm,16.0s
HUMO Hull Mountain 73.91 36 *e*P **P 19 52 59.5 0.0**
comp=E,54nm,1.1s
GMRC Granite Mounta 73.93 46 ⇓P **P 19 53 00.2 +0.2**
baz=74,SNR=8.0
IRM Iron Mountain 73.95 47 ⇑P **P 19 53 00.5 +0.4**
baz=74,SNR=14
FURC Furnace Creek, 74.03 44 ⇓P **P 19 53 00.9 +0.6**
baz=74
TUQ Turquoise Moun 74.10 45 ⇓P **P 19 53 00.7 -0.3**
baz=74
SHOC Shoshone 74.11 45 ⇑P **P 19 53 01.3 +0.4**
baz=74
Y12C Blythe 74.18 48 ⇓P **P 19 53 01.5 +0.2**
baz=74
NVAR Mina Array Bea 74.19 42 P **P 19 53 02.3 +0.7**
NVAR Mina Array Bea 74.19 42 P **P 19 53 02.3 +0.7**
comp=E,7.0nm,0.9s,baz=228,slow=10,SNR=18
NVAR LR LR 20 20 15.4
comp=E,5µm,18.8s,baz=124,slow=31
113A Mohawk Valley, 74.22 49 ⇓P **P 19 53 02.0 +0.4**
baz=74
PAHR Pah Rah Range 74.25 40 *e*P **P 19 53 02.2 +0.5**
comp=E,26nm,1.0s
NV11 Mina Array Sit 74.28 42 *e*P **P 19 53 01.8 -0.2**
OHAK Old Harbor 74.35 11 P **P 19 53 01.4 -0.3**
comp=E,134nm,1.4s
LDFC Landfair 74.47 46 *e*P **P 19 53 02.3 -0.9**
comp=E,109nm,1.1s
QSPA South Pole Qui 74.47 180 *e*P **P 19 53 03.6 +0.9**
comp=E,126nm,1.3s
QSPA LR LR
comp=Z,3µm,19.0s
214A Organ Pipe Nat 74.51 50 ⇓P **P 19 53 04.2 +0.8**
baz=75
TPH Tonopah 74.68 43 PFAKE 19 53 10.0 +5.6
TPH LR LR
comp=Z,4µm,19.0s
PDMCI Parker Dam,Lak 74.74 47 ⇓P **P 19 53 05.3 +0.7**
baz=75
MOD Modoc 75.01 38 *e*P **P 19 53 06.4 +0.2**
comp=Z,40nm,0.9s
KDAK Kodiak Island 75.01 11 PFAKE 19 53 20.0 +14
KDAK LR LR
comp=Z,5µm,20.0s
Z14A Wintersburg 75.12 49 ⇑P **P 19 53 07.7 +0.9**
baz=75
K05A Summer Lake 75.17 37 *e*P **P 19 53 08.3 +1.2**
comp=Z,1µm,2.8s
SHPR Sheep Range 75.19 45 *e*P **P 19 53 07.5 +0.2**
comp=Z,44nm,1.2s
W13A Hualapai Mount 75.33 47 ⇑P **P 19 53 09.3 +1.0**
baz=76
Y14A Wickenburg 75.36 48 ⇓P **P 19 53 09.7 +1.5**
baz=76
YHNB Yeheng 75.47 301 PFAKE 19 53 20.0 +11
YHNB LR LR
comp=Z,4µm,20.0s
TATO Taipei 75.50 301 PFAKE 19 53 20.0 +11
TATO LR LR
comp=Z,3µm,20.0s
TPUB Ta-pu 75.52 300 *e*P P 19 53 05.3 -4.1
comp=Z,29nm,0.9s
F03A Seaside 75.73 33 *e*P P 19 53 06.1 -3.9
comp=Z,100nm,1.1s
R11A Troy Canyon, C 75.91 43 *e*P **P 19 53 11.7 +0.3**
comp=Z,1µm,1.8s
R11A Troy Canyon, C 75.91 43 ⇓P **P 19 53 12.6 +1.2**
baz=76,SNR=13
BMN Battle Mountai 76.02 41 *e*P **P 19 53 12.3 +0.3**
BMN pmax pmax
comp=Z,44nm,1.1s
BMN MLR MLR
comp=Z,3µm,20.0s
BMN Battle Mountai 76.02 41 *e*P **P 19 53 12.3 +0.3**
comp=Z,44nm,1.1s
BMN LR LR
comp=Z,3µm,20.0s
SBUM Sibu 76.05 277 P **P 19 53 14.2 +1.7**
comp=Z,45nm,0.8s,comp=Z,993nm
TUC Tucson 76.19 50 *e*P **P 19 53 13.3 +0.3**
TUC pmax pmax
comp=Z,84nm,1.6s
TUC MLR MLR
comp=Z,3µm,19.0s
TUC Tucson 76.19 50 *e*P **P 19 53 13.3 +0.3**
comp=Z,84nm,1.6s
TUC LR LR
comp=Z,3µm,19.0s
WVOR Wild Horse Val 76.31 38 *e*P **P 19 53 13.7 +0.1**
WVOR pmax pmax
comp=Z,71nm,1.3s
WVOR MLR MLR
comp=Z,5µm,19.0s
WVOR Wild Horse Val 76.31 38 *e*P **P 19 53 13.7 +0.1**
comp=Z,71nm,1.3s
WVOR LR LR
comp=Z,5µm,19.0s
VFP Flag Point 76.46 35 P **P 19 53 15.5 +1.1**
NLWA Neilton Lookou 76.53 32 *e*P **P 19 53 15.4 +0.9**
comp=Z,62nm,1.4s
NLWA LR LR
comp=Z,2µm,20.0s
FL2 Flat Top 2 76.54 34 P **P 19 53 16.1 +1.3**
KSRS Korea Array 76.56 315 P **P 19 53 16.2 +1.3**
comp=Z,6.2nm,0.9s,baz=128,slow=5.9,SNR=15
KSRS LR LR 20 22 43.7
comp=Z,1µm,20.4s,baz=115,slow=32
KSAR Wonju Array Be 76.58 315 P **P 19 53 16.2 +1.2**
X16A Lo Mia Camp, P 76.73 48 ⇓P **P 19 53 17.3 +1.1**
baz=77,SNR=11
I07A Izee 76.80 37 *e*P **P 19 53 16.9 +0.6**
comp=Z,93nm,1.5s
G06A Carlson Farm, 76.86 35 *e*P **P 19 53 17.5 +1.0**
comp=Z,164nm,1.6s
319A Douglas 76.88 52 ⇓P **P 19 53 17.8 +0.8**
baz=77
J08A Circle Bar Ran 76.96 38 *e*P **P 19 53 18.2 +1.1**
comp=Z,53nm,1.0s
CCUT Cedar City 76.97 45 *e*P **P 19 53 18.0 +0.5**
comp=Z,41nm,1.2s
U15A North Rim 77.13 46 ⇓P **P 19 53 19.2 +0.7**
baz=77,SNR=17
LON Longmire 77.18 33 *e*P **P 19 53 18.3 0.0**
LON pmax pmax
comp=Z,82nm,1.6s
LON Longmire 77.18 33 *e*P **P 19 53 18.3 0.0**
comp=Z,82nm,1.6s
WPW White Pass 77.29 33 P **P 19 53 19.9 +1.0**
WUAZ Wupatki 77.31 47 *e*P **P 19 53 19.4 0.0**
comp=Z,54nm,1.4s
WUAZ LR LR
comp=Z,2µm,20.0s
WUAZ Wupatki 77.31 47 ⇓P **P 19 53 20.5 +1.1**
baz=78,SNR=8.3
320A Kipp Ranch, An 77.43 52 ⇑P **P 19 53 21.2 +1.0**
baz=78
ELK Elko 77.44 41 *e*P **P 19 53 20.5 +0.4**
comp=Z,33nm,1.3s
INCN Inchon 77.45 315 P **P 19 53 23.0 +3.0**
SNR=5.6
INCN Inchon 77.45 315 *e*P **P 19 53 21.8 +1.8**
comp=Z,12nm,1.1s
INCN LR LR
comp=Z,2µm,20.0s
RSO Redoubt South 77.50 10 *e*P **P 19 53 17.5 -2.5**
comp=Z,94nm,1.0s
TRW Toppenish Ridg 77.57 34 P **P 19 53 21.6 +1.1**
PGC Sidney 77.57 31 P **P 19 53 17.8 -2.6**
KSM Kuching 77.61 275 P **P 19 53 22.3 +1.0**
KSM Kuching 77.61 275 P **P 19 53 22.4 +1.1**

comp=Z,74nm,1.4s,comp=Z,2µm
KSM Kuching 77.61 275 *e*P P 19 53 21.4 0.0
comp=Z,126nm,1.5s
KSM LR LR
comp=Z,1µm,20.0s
KSM Kuching 77.61 275 ⇓P P 19 53 21.3 0.0
baz=79,SNR=12
220A Playas Peak, P 77.69 52 ⇓P P 19 53 22.5 +0.9
baz=78,SNR=26
USRK Ussuriysk Arra 77.76 323 P P 19 53 23.2 +1.8
comp=Z,8.3nm,0.9s,baz=116,slow=4.4,SNR=22
USRK LR LR 20 21 15.5
comp=Z,6µm,21.5s,baz=122,slow=31
X18A Snowflake 77.86 49 ⇓P P 19 53 23.2 +0.7
baz=78
QZH Quanzhou 77.89 300 ⇑*i*P P 19 53 21.6 -1.0
QZH AMB AMB
comp=Z,2µm,3.8s
QZH LR LR
comp=Z,6µm,31.6s
120A U Bar Ranch, L 77.90 51 ⇑P P 19 53 23.7 +0.9
baz=78,SNR=9.1
LEM Lembang 78.02 266 P P 19 53 24.2 +0.3
baz=79,SNR=4.6
LTY Liberty 78.11 33 *e*P P 19 53 24.2 +0.7
comp=Z,102nm,1.8s
HAWA Hanford 78.19 35 *e*P P 19 53 24.5 +0.7
comp=Z,98nm,1.4s
HAWA LR LR
comp=Z,5µm,19.0s
Z20A Nine Sixteen R 78.19 51 ⇓P P 19 53 25.2 +0.8
baz=78,SNR=11
MVU Marysvale 78.24 44 *e*P P 19 53 25.6 +1.0
comp=Z,34nm,1.1s
MVU LR LR
comp=Z,4µm,19.0s
W18A Petrified Fore 78.29 48 ⇑P P 19 53 25.8 +0.8
baz=79
SPU Mount Spurr 78.30 10 *e*P P 19 53 30.2 +6.0
221A Mesquite Ranch 78.31 52 ⇓P P 19 53 25.8 +0.8
baz=79,SNR=6.9
SSE Sheshan 78.38 307 P P 19 53 23.8 -1.4
SSE S S 20 03 18.6 -2.0
SSE AMB AMB
comp=Z,49nm,1.0s
SSE AMB AMB
comp=Z,1µm,10.7s
SSE LR LR
comp=Z,830nm,20.4s
SSE LR LR
comp=Z,1µm,20.4s
SSE LR LR
comp=Z,2µm,24.6s
A05A Maple Falls 78.49 31 *e*P P 19 53 27.9 +2.6
comp=Z,126nm,1.8s
ETW Entiat 78.50 33 P P 19 53 26.1 +0.3
BMO Blue Mountains 78.52 37 *e*P P 19 53 25.9 0.0
comp=Z,83nm,1.4s
BMO LR LR
comp=Z,4µm,20.0s
121A Cookes Peak, D 78.53 51 ⇓P P 19 53 27.4 +1.1
baz=79,SNR=11
MFID Camas Ranch 78.57 39 ⇑P P 19 53 27.3 +1.1
baz=79,SNR=13
DUG Dugway 78.71 43 *e*P P 19 53 27.0 -0.1
DUG pmax pmax
comp=Z,52nm,1.4s
DUG MLR MLR
comp=Z,3µm,20.0s
DUG Dugway 78.71 43 *e*P P 19 53 27.0 -0.1
comp=Z,52nm,1.4s
DUG LR LR
comp=Z,3µm,20.0s
DUG Dugway 78.71 43 ⇓P P 19 53 27.8 +0.7
baz=79
Y20A Horse Springs, 78.72 50 ⇓P P 19 53 28.5 +1.1
baz=79,SNR=16
WTV Waterville 78.76 33 P P 19 53 27.7 +0.7
222A Williams Famil 78.86 52 ⇑P P 19 53 28.8 +0.8
baz=79
X20A Quemado 78.92 49 ⇓P P 19 53 29.5 +1.0
baz=79,SNR=16
BGU Big Grassy Mou 78.95 42 *e*P P 19 53 28.6 +0.2
comp=Z,375nm,2.2s
Z21A St. Cloud Mine 78.97 51 ⇑P P 19 53 29.7 +1.0
baz=79,SNR=33
E09A Wood Farm, Sta 79.02 35 *e*P P 19 53 28.5 +0.1
comp=Z,64nm,1.2s
NLU North Lily Min 79.07 43 *e*P P 19 53 30.6 +1.4
comp=Z,81nm,1.9s
Q16A Castle Valley 79.15 44 *e*P P 19 53 30.2 +0.7
Q16A Castle Valley 79.15 44 ⇑P P 19 53 30.3 +0.7
baz=79
W20A Ramah 79.19 49 ⇓P P 19 53 30.8 +0.9
baz=80,SNR=31
122A Conniff Cattle 79.20 52 ⇓P P 19 53 30.8 +0.9
baz=80
PMR Palmer 79.21 11 *e*P P 19 53 28.6 -0.5
PMR pmax pmax
comp=Z,176nm,1.6s
PMR Palmer 79.21 11 *e*P P 19 53 28.6 -0.5
comp=Z,176nm,1.6s
F10A Beach Ranch, E 79.22 36 *e*P P 19 53 29.7 +0.1
comp=Z,274nm,1.9s
OD2 Odessa Site #2 79.24 34 P P 19 53 30.5 +0.8
Y21A Point of Rocks 79.28 50 ⇓P P 19 53 31.5 +1.1
baz=80,SNR=8.6
TMUT Trail Mountain 79.31 44 *e*P P 19 53 31.8 +1.2
comp=Z,347nm,2.1s
223A Chaparral, Ant 79.33 52 ⇓P P 19 53 30.9 +0.3
baz=80
WRAK Wrangell Islan 79.36 22 *e*P P 19 53 30.3 +0.3
comp=Z,32nm,1.0s
WRAK LR LR
comp=Z,3µm,21.0s
MPU Maple Canyon 79.39 43 *e*P P 19 53 31.2 +0.3
comp=Z,233nm,2.6s
X21A Alamocita Cree 79.40 50 ⇓P P 19 53 32.2 +1.1
baz=80,SNR=14
MDJ Mudanjiang 79.41 322 P P 19 53 32.0 +1.4
MDJ pP **pP** 19 53 35.4 -0.4
MDJ sP **sP** 19 53 36.6 -1.0
MDJ PP **PP** 19 56 32.6 +1.6
MDJ S S 20 03 37.4 +6.4
MDJ AMB AMB
comp=Z,45nm,1.9s
MDJ AMB AMB
comp=Z,2µm,8.5s
MDJ LR LR
comp=Z,2µm,22.9s
MDJ LR LR
comp=Z,3µm,22.3s
MDJ LR LR
comp=Z,5µm,22.3s
MDJ Mudanjiang 79.41 322 *e*P P 19 53 31.2 +0.6
comp=Z,437nm,2.4s
MDJ LR LR
comp=Z,5µm,22.0s
DIV Divide 79.47 13 *e*P P 19 53 30.3 -0.3
comp=Z,51nm,1.0s
Z22A Elephant Butte 79.48 51 ⇑P P 19 53 32.2 +0.8
baz=80,SNR=15
B08A Colville Reser 79.50 33 *e*P P 19 53 31.3 +0.3
comp=Z,58nm,1.3s
HLID Hailey 79.50 39 *e*P P 19 53 32.2 +0.9
comp=Z,50nm,1.1s
HLID LR LR
comp=Z,2µm,19.0s
HLID Hailey 79.50 39 ⇑P P 19 53 32.5 +1.1
baz=80,SNR=19
SPUT South Promonto 79.53 42 *e*P P 19 53 33.0 +1.5
comp=Z,61nm,1.5s
V20A Brimhall 79.53 48 ⇑P P 19 53 31.9 +0.2
baz=80
HVU Hansel Valley 79.57 41 *e*P P 19 53 31.9 +0.2
HVU pmax pmax
comp=Z,45nm,1.2s
HVU Hansel Valley 79.57 41 *e*P P 19 53 31.9 +0.2
comp=Z,37nm,1.2s
BMRM Bremner River 79.59 14 *e*P P 19 53 31.3 0.0
comp=Z,141nm,1.2s
SRU San Rafael 79.68 45 *e*P P 19 53 32.4 -0.1
SRU pmax pmax
comp=Z,64nm,1.4s
SRU San Rafael 79.68 45 *e*P P 19 53 32.4 -0.1
comp=Z,64nm,1.4s
C09A Chrisman Ranch 79.72 34 *e*P P 19 53 32.7 +0.4
comp=Z,95nm,1.4s

123A Bell Site, Whi 79.73 52 ⇓P P 19 53 32.7 -0.1
baz=80
U20A Newcomb 79.76 48 ⇑P P 19 53 33.8 +0.8
baz=80,SNR=5.4
Y22A Socorro 79.78 51 ⇓P P 19 53 33.7 +0.6
baz=80,SNR=10
W21A San Fidel 79.81 49 ⇓P P 19 53 33.9 +0.6
baz=80
JLU Jordanelle 79.81 43 *e*P P 19 53 33.3 +0.1
comp=Z,32nm,1.2s
324A Moseley Ranch, 79.82 53 ⇓P P 19 53 34.0 +0.7
baz=80,SNR=19
DAU Daniels Canyon 79.84 43 *e*P P 19 53 33.5 0.0
DAU pmax pmax
comp=Z,80nm,1.5s
DAU Daniels Canyon 79.84 43 *e*P P 19 53 33.5 0.0
comp=Z,5.0nm,1.5s
LAZ Ladron 79.86 50 *e*P P 19 53 34.1 +0.6
comp=Z,102nm,2.1s
Y22D IRIS PASSCAL I 79.87 50 ⇓P P 19 53 34.5 +0.9
baz=80
LENM Lemitar 79.87 50 *e*P P 19 53 35.6 +2.0
comp=Z,32nm,1.3s
425A Indio Mountain 79.93 54 ⇑P P 19 53 34.2 +0.3
baz=80,SNR=19
X22A Bernardo 80.00 50 ⇑P P 19 53 35.3 +1.0
baz=80
MNTX Cornudas Mount 80.00 53 *e*P P 19 53 34.2 +0.1
comp=Z,89nm,1.6s
MNTX LR LR
comp=Z,3µm,20.0s
Z23A Rita Site, Whi 80.03 51 ⇑P P 19 53 35.2 +0.8
baz=80
224A Cornudas Mount 80.06 53 ⇓P P 19 53 35.0 +0.4
baz=80,SNR=20
626A Big Bend Ranch 80.09 56 ⇓P P 19 53 35.3 +0.5
baz=80
BNM Barren Site 80.12 50 *e*P P 19 53 35.1 +0.1
comp=Z,37nm,1.3s
V21A Milan 80.13 49 ⇑P P 19 53 35.6 +0.6
baz=80,SNR=8.4
PV05 Paradox Valley 80.15 46 *e*P P 19 53 36.8 +1.6
MVCO Mesa Verde 80.16 47 *e*P P 19 53 36.0 +0.8
comp=Z,49nm,1.4s
MVCO LR LR
comp=Z,3µm,20.0s
MVCO Mesa Verde 80.16 47 ⇑P P 19 53 35.6 +0.4
baz=80
325A Bean Ranch, Si 80.18 54 ⇓P P 19 53 35.5 +0.1
baz=80,SNR=16
LPM Los Pinos Moun 80.19 50 *e*P P 19 53 35.9 +0.6
526A Mary Lane Ranc 80.33 55 ⇑P P 19 53 36.6 +0.5
baz=81,SNR=5.1
PV09 Paradox Valley 80.33 46 *e*P P 19 53 37.4 +1.3
PV10 Paradox Valley 80.34 46 *e*P P 19 53 36.6 +0.5
comp=Z,465nm,0.9s
W22A Albuquerque 80.36 50 ⇓P P 19 53 36.7 +0.5
baz=81
TXAR Lajitas Array 80.37 56 P P 19 53 37.4 +1.1
TXAR Lajitas Array 80.37 56 P P 19 53 37.4 +1.1
comp=Z,7.7nm,0.9s,baz=224,slow=5.2,SNR=16
TXAR LR LR 20 22 56.9
comp=Z,3µm,19.4s,baz=95,slow=31
124A Stringfield Ra 80.38 52 ⇓P P 19 53 37.0 +0.6
baz=81,SNR=11
CAST Castle Rocks 80.40 9 *e*P P 19 53 34.7 -0.9
comp=Z,35nm,1.2s
U21A Nageezi 80.40 48 ⇑P P 19 53 37.3 +0.9
baz=81,SNR=30
PV04 Paradox Valley 80.44 46 *e*P P 19 53 37.0 +0.5
Y23A Lovelace Mesa, 80.45 51 ⇓P P 19 53 37.5 +0.7
baz=81
PV01 Paradox Valley 80.55 46 *e*P P 19 53 36.9 -0.3
comp=Z,795nm,1.4s
S20A Disappointment 80.55 46 ⇑P P 19 53 38.0 +0.7
baz=81,SNR=13
NJ2 Nanjing 80.59 307 *e*P P 19 53 37.3 +0.1
NJ2 pP **pP** 19 53 40.9 -1.5
NJ2 sP **sP** 19 53 42.6 -1.7
NJ2 S S 20 03 44.0 0.0
NJ2 sS **sS** 20 03 52.5 0.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s
NJ2 AMB AMB
comp=Z,2µm,10.1s
NJ2 LR LR
comp=Z,1µm,16.5s
NJ2 LR LR
comp=Z,2µm,22.0s
NJ2 LR LR
comp=Z,10µm,23.7s
ANMO Albuquerque 80.60 50 *e*P P 19 53 37.9 +0.4
comp=Z,70nm,1.4s
ANMO LR LR
comp=Z,3µm,20.0s
ANMO Albuquerque 80.60 50 P P 19 53 38.3 +0.7
comp=Z,1.8nm,0.7s,baz=201,slow=3.3,SNR=9.3
225A Deer Hill, Car 80.61 53 ⇑P P 19 53 38.1 +0.5
baz=81,SNR=11
NEW Newport 80.62 34 *e*P P 19 53 36.8 -0.4
comp=Z,40nm,1.4s
NEW LR LR
comp=Z,3µm,19.0s
NEW Newport 80.62 34 ⇑P P 19 53 36.9 -0.2
baz=81,SNR=7.1
NEW Newport 80.62 34 P P 19 53 37.5 +0.4
comp=Z,4.3nm,0.7s,baz=179,slow=3.2,SNR=9.9
426A McDonald Obser 80.63 55 ⇓P P 19 53 38.3 +0.5
baz=81,SNR=14
X23A Hourglass Bar 80.64 50 ⇑P P 19 53 38.5 +0.7
baz=81
627A Terlingua Ranc 80.64 56 ⇑P P 19 53 38.3 +0.5
baz=81
V22A San Miguel Ran 80.70 49 ⇓P P 19 53 38.7 +0.6
baz=81
R20A Redvale 80.71 46 ⇓P P 19 53 38.5 +0.4
baz=81,SNR=11
PV15 Paradox Valley 80.71 46 *e*P P 19 53 38.6 +0.6
Z24A Sheeppen Canyo 80.71 52 ⇑P P 19 53 38.7 +0.5
baz=81
TRF Thorofare Moun 80.72 10 P P 19 53 37.8 +0.3
comp=Z,179nm,1.6s
527A Woodward Ranch 80.74 55 ⇑P P 19 53 38.7 +0.3
baz=81
T21A Navajo Lake 80.74 48 ⇑P P 19 53 39.0 +0.8
baz=81,SNR=7.1
M17A Scullys Gap (B 80.76 42 ⇓P P 19 53 38.3 0.0
baz=81
SKAG Skagway 80.77 18 *e*P P 19 53 38.4 +0.8
comp=Z,58nm,1.1s
S21A Coal Bank Pass 80.87 47 ⇓P P 19 53 39.7 +0.7
baz=81,SNR=25
KLR Kul'dur 80.88 327 *e*P P 19 53 35.0 -3.4
KLR *e*S **S** 20 03 48.0 +1.7
KLR pmax pmax
comp=E,64nm,1.8s
KLR pmax pmax
comp=Z,170nm,1.8s
KLR pmax pmax
comp=Z,3µm,11.0s
KLR smax smax
comp=N,2µm,12.0s
KLR smax smax
comp=E,2µm,12.0s
Y24A Capitan 80.92 51 ⇓P P 19 53 40.0 +0.8
baz=81,SNR=16
W23A Werner Place, 80.92 50 ⇑P P 19 53 39.7 +0.4
baz=81
326A Caldwell Ranch 80.93 54 ⇑P P 19 53 40.2 +0.9
baz=81,SNR=6.4
U22A Llaves 80.95 48 ⇓P P 19 53 39.9 +0.5
baz=81
125A Gardner Draw, 80.97 53 ⇑P P 19 53 40.3 +0.8
baz=81,SNR=12
P19A Cripple Cowboy 80.98 45 ⇓P P 19 53 40.1 +0.6
baz=81
GDL2 Guadalupe Moun 81.00 53 *e*P P 19 53 40.3 +0.7
comp=E,18nm,0.5s
628A Black Gap, Mar 81.06 56 ⇓P P 19 53 40.6 +0.7
baz=81
226B Tecolote Peak, 81.10 53 ⇑P P 19 53 40.5 +0.3
baz=81,SNR=21
Q20A Ridgley Place, 81.12 46 ⇓P P 19 53 41.2 +1.0
baz=81,SNR=21
MCMT McKenzie Canyo 81.13 39 *e*P P 19 53 40.5 +0.3
comp=E,27nm,1.1s
AHID Auburn Hatcher 81.14 41 PFAKE 19 53 50.0 +10
AHID LR LR

comp=Z,3µm,21.0s
V23A Ortiz Mt. (NFS 81.16 49 ⇓P P 19 53 41.3 +0.8
baz=81,SNR=7.7
Z25A Roswell 81.18 52 ⇑P P 19 53 40.6 0.0
baz=81
PAX Paxson 81.19 12 *e*P P 19 53 38.1 -1.8
PAX pmax pmax
comp=Z,78nm,1.5s
PAX Paxson 81.19 12 *e*P P 19 53 38.1 -1.8
comp=Z,78nm,1.5s
X24A Lazy VL Ranch, 81.19 51 ⇑P P 19 53 40.6 -0.1
baz=82
427A Hayter Ranch, 81.19 55 ⇓P P 19 53 41.0 +0.3
baz=81
O19A Miners Draw (B 81.20 44 ⇑P P 19 53 40.8 +0.2
baz=82
T22A Edith 81.20 48 ⇓P P 19 53 41.4 +0.6
baz=82,SNR=12
BPAW Bear Paw Mtn. 81.21 10 *e*P P 19 53 38.9 -1.0
comp=Z,131nm,2.1s
MCK McKinley 81.21 11 *e*P P 19 53 39.8 -0.1
MCK pmax pmax
comp=Z,114nm,1.0s
MCK McKinley 81.21 11 *e*P P 19 53 39.8 -0.1
comp=Z,114nm,1.0s
RRI2 Red Ridge 81.30 41 *e*P P 19 53 41.4 +0.2
comp=Z,87nm,1.4s
P20A De Beque 81.32 45 ⇑P P 19 53 41.7 +0.5
baz=82
327A Balmorhea Ranc 81.33 54 ⇓P P 19 53 41.3 0.0
baz=82
R21A Cimarron 81.37 46 ⇓P P 19 53 42.4 +0.7
baz=82,SNR=12
L18A Fontenelle, Gr 81.40 42 ⇓P P 19 53 41.8 +0.2
baz=82
CLNB Carlsbad 81.40 53 *e*P P 19 53 40.9 -0.8
comp=Z,2.7nm,0.8s
528A Cox Ranch, San 81.40 55 ⇑P P 19 53 42.3 +0.5
baz=82
U23A El Rito 81.41 49 ⇓P P 19 53 42.4 +0.6
baz=82,SNR=10.0
126A Clayton Basin, 81.45 53 ⇓P P 19 53 42.6 +0.6
baz=82
Y25A Mesa, Roswell 81.47 51 ⇓P P 19 53 42.6 +0.5
baz=82,SNR=12
CN2 Changchun 81.48 320 *e*P P 19 53 42.9 +1.2
CN2 *e*pP **PcP** 19 53 47.5 -0.2
CN2 *e*sP **sP** 19 53 49.9 +1.1
CN2 *e*S **S** 20 03 52.2 -0.5
CN2 AMB AMB
comp=Z,60nm,1.4s
CN2 AMB AMB
comp=Z,2µm,5.0s
CN2 LR LR
comp=Z,2µm,17.0s
CN2 LR LR
comp=Z,900nm,17.0s
CN2 LR LR
comp=Z,3µm,19.0s
W24A Lazy 6 Ranch, 81.49 50 ⇓P P 19 53 42.3 +0.1
baz=82,SNR=14
MENT Mentasta 81.53 13 P P 19 53 41.7 +0.1
Q21A Lamborn Mesa, 81.57 46 ⇓P P 19 53 43.2 +0.6
baz=82
DLMT Dillon 81.57 38 *e*P P 19 53 42.3 -0.1
comp=Z,88nm,1.4s
MSO Missoula 81.58 37 *e*P P 19 53 42.6 +0.3
comp=Z,84nm,1.3s
MSO Missoula 81.58 37 ⇑P P 19 53 42.3 0.0
baz=82,SNR=13
DL2 Dalian 81.59 314 ⇑*i*P P 19 53 44.2 +1.8
DL2 AMB AMB
comp=Z,1µm,8.4s
DL2 LR LR
comp=Z,630nm,15.7s
DL2 LR LR
comp=Z,890nm,23.5s
S22A 4UR Ranch, Cre 81.59 47 ⇑P P 19 53 43.6 +0.8
baz=82,SNR=22
TPAW Teton Pass 81.60 41 *e*P P 19 53 43.3 +0.6
comp=Z,44nm,1.0s
BSMT Bassoo Peak 81.67 35 *e*P P 19 53 42.5 -0.4
comp=Z,160nm,1.3s
SNY Shenyang 81.67 317 ⇑P P 19 53 44.4 +1.6
SNY AMB AMB
comp=Z,89nm,2.1s
SNY AMB AMB
comp=Z,2µm,8.4s
SNY LR LR
comp=Z,990nm,18.2s
SNY LR LR
comp=Z,1µm,18.2s
SNY LR LR
comp=Z,2µm,17.7s
428A Kincaid Ranch, 81.71 55 ⇑P P 19 53 43.5 +0.1
baz=82
SNOW Snow King Moun 81.71 41 *e*P P 19 53 43.2 -0.1
comp=Z,142nm,1.5s
DLBC Dease Lake 81.71 21 *e*P P 19 53 42.8 0.0
comp=Z,48nm,1.5s
O20A White River Ci 81.72 44 P P 19 53 41.8 -1.6
comp=Z,98nm,1.6s
O20A White River Ci 81.72 44 ⇓P P 19 53 44.0 +0.6
baz=82
Z26A Caprock 81.74 52 ⇑P P 19 53 43.7 +0.2
baz=82,SNR=15
227A Bennet, Jal 81.75 54 ⇑P P 19 53 44.1 +0.6
baz=82
X25A Clemmons Ranch 81.75 51 ⇓P P 19 53 43.6 0.0
baz=82,SNR=11
M19A Rock Springs 81.77 43 ⇓P P 19 53 43.9 +0.3
baz=82
V24A Rampart Ranch, 81.81 50 ⇓P P 19 53 44.4 +0.4
baz=82,SNR=7.5
IMW Indian Meadow 81.82 40 *e*P P 19 53 44.2 +0.3
comp=Z,76nm,1.3s
T23A Casias Ranch, 81.83 48 ⇑P P 19 53 44.4 +0.3
baz=82
529A Stev Forest Ra 81.84 56 ⇓P P 19 53 44.1 0.0
baz=82
R22A Saguache, Gunn 81.86 47 ⇑P P 19 53 44.8 +0.5
baz=82,SNR=8.6
MOOW Moose Ponds 81.86 40 *e*P P 19 53 44.2 +0.1
comp=Z,68nm,1.5s
328A Wristen Ranch, 81.87 54 ⇑P P 19 53 44.5 +0.3
baz=82
LOHW Long Hollow 81.88 41 *e*P P 19 53 44.3 +0.1
comp=Z,89nm,1.6s
JTMT Jette 81.89 36 *e*P P 19 53 42.3 -1.7
LRM Limekiln Ridge 81.90 38 *e*P P 19 53 44.2 0.0
comp=Z,357nm,1.3s
SWMT Swartz Lake 81.92 36 *e*P P 19 53 42.7 -1.4
comp=Z,39nm,1.5s
L19A Farson 81.92 42 ⇑P P 19 53 44.7 +0.3
baz=82
127A Arkansas Junct 81.97 53 ⇑P P 19 53 44.8 +0.1
baz=82
P21A Newcastle 81.97 45 ⇓P P 19 53 44.9 +0.2
baz=82
QLMT Earthquake Lak 82.00 39 *e*P P 19 53 45.6 +0.9
comp=Z,111nm,1.2s
N20A Spence Gulch, 82.03 44 ⇓P P 19 53 45.6 +0.6
baz=82,SNR=15
Q22A Crested Butte, 82.04 46 ⇓P P 19 53 45.6 +0.4
baz=82,SNR=22
I17A Pilgrim Ck. 82.06 40 ⇓P P 19 53 45.8 +0.7
baz=82
FLWY Flagg Ranch 82.06 40 *e*P P 19 53 45.4 +0.3
comp=Z,178nm,1.5s
DOT Dot Lake 82.08 13 *e*P P 19 53 45.2 +0.7
comp=Z,394nm,2.3s
U24A Moreno Valley 82.11 49 ⇑P P 19 53 46.3 +0.7
baz=82,SNR=5.1
BW06 Boulder Array 82.12 42 *e*P P 19 53 45.1 -0.4
comp=Z,46nm,1.3s
BW06 LR LR
comp=Z,5µm,20.0s
PDAR Pinedale Array 82.12 42 P P 19 53 45.5 0.0
PDAR PKKPbc **PKKPbc** 20 12 14.2 -1.9
PDAR Pinedale Array 82.12 42 P P 19 53 45.5 0.0
comp=Z,4.0nm,0.7s,baz=241,slow=3.1,SNR=23
PDAR PKKPbc **PKKPbc** 20 12 14.2 -1.9
comp=Z,0.8nm,1.1s,baz=64,slow=3.4,SNR=3.6
PDAR LR LR 20 25 44.9
comp=Z,4µm,18.2s,baz=250,slow=32
Y26A Elida 82.13 52 ⇓P P 19 53 45.5 -0.1
baz=82
SMCO Snowmass 82.14 46 *e*P P 19 53 46.1 +0.3

comp=Z,104nm,1.4s
S23A Nye Farm, Mont 82.16 47 ⇓P P 19 53 45.7 -0.1
baz=82
YFT Old Faithful 82.16 40 *e*P P 19 53 47.5 +1.9
comp=Z,158nm,1.6s
W25A X Bar L Ranch, 82.19 50 ⇑P P 19 53 46.0 +0.1
baz=82,SNR=16
YMR Madison River 82.19 39 *e*P P 19 53 46.8 +1.0
comp=Z,145nm,1.4s
O21A Pagoda 82.28 45 ⇑P P 19 53 47.0 +0.6
baz=83
429A Davenport Ranc 82.30 55 ⇓P P 19 53 46.7 +0.3
baz=82
H17A Grant Village 82.30 40 *e*P P 19 53 48.4 +2.0
comp=Z,48nm,1.3s
H17A Grant Village 82.30 40 ⇑P P 19 53 47.5 +1.1
baz=83
T24B San Luis 82.32 48 ⇓P P 19 53 47.3 +0.6
baz=83
228A UT Block 9, Go 82.34 54 ⇑P P 19 53 47.0 +0.3
baz=83
Z27A Tatum 82.34 52 ⇑P P 19 53 46.9 +0.2
baz=83
V25A Rancho No Teng 82.34 50 ⇑P P 19 53 47.0 +0.3
baz=83,SNR=26
YNR Norris Junctio 82.39 40 *e*P P 19 53 48.1 +1.2
comp=Z,100nm,1.4s
M20A Sweetwater, Wa 82.40 43 ⇓P P 19 53 47.5 +0.6
baz=83,SNR=8.3
X26A CR and CF Fran 82.40 51 ⇓P P 19 53 47.1 +0.1
baz=83
COLA College 82.45 11 *e*P P 19 53 46.0 -0.3
COLA MLR MLR
comp=Z,3μm,20.0s
COLA College 82.45 11 *e*P P 19 53 46.0 -0.3
comp=Z,297nm,2.5s
COLA LR LR
comp=Z,3μm,20.0s
P22A Eagle 82.48 45 ⇓P P 19 53 48.3 +0.9
baz=83
R23A Moffat 82.50 47 ⇓P P 19 53 48.1 +0.5
baz=83,SNR=11
SDCO Great Sand Dun 82.53 48 *e*P P 19 53 47.7 -0.1
comp=Z,57nm,1.5s
SDCO LR LR
comp=Z,2μm,19.0s
ILAR Eielson Array 82.53 11 P P 19 53 46.5 -0.3
ILAR Eielson Array 82.53 11 P P 19 53 46.5 -0.3
comp=Z,10nm,0.9s,baz=217,slow=5.5,SNR=30
ILAR LR LR 20 28 15.1
comp=Z,3μm,18.7s,baz=32,slow=34
L20A Wamsutter 82.54 43 ⇓P P 19 53 48.3 +0.6
baz=83,SNR=20
530A J-C Ranch, Com 82.55 56 ⇑P P 19 53 47.7 -0.1
baz=83
329A Wagon Wheel Ra 82.56 55 ⇑P P 19 53 47.8 -0.1
baz=83
IM04 Indian Mountai 82.57 8 *e*P P 19 53 47.4 +0.4
Y27A Causey 82.61 52 ⇓P P 19 53 48.0 -0.1
baz=83,SNR=7.1
128A Castleberry Fa 82.62 53 ⇑P P 19 53 48.3 +0.2
baz=83,SNR=14
W26A Owens Ranch, T 82.66 51 ⇑P P 19 53 48.5 +0.2
baz=83
J19A Crowheart 82.69 41 ⇑P P 19 53 48.6 +0.2
baz=83,SNR=13
S24A Houchin Ranch, 82.69 48 ⇑P P 19 53 49.0 +0.3
baz=83,SNR=25
U25A Circle Dot Ran 82.73 49 ⇓P P 19 53 49.0 +0.2
baz=83,SNR=14
PAYG Puerto Ayora 82.78 89 PFAKE 19 54 00.0 +11
PAYG LR LR
comp=Z,2μm,19.0s
SEY Seymchan 82.79 345 ⇓*e*P P 19 53 49.1 +1.0
Q23A Hartsel 82.81 46 ⇓P P 19 53 49.5 +0.2
baz=83
WALA Waterton Lakes 82.82 35 *e*P P 19 53 48.6 -0.2
comp=Z,81nm,1.3s
430A Baggett Ranch, 82.88 55 ⇑P P 19 53 49.6 +0.1
baz=83
O22A Kremmling 82.88 45 ⇓P P 19 53 50.3 +0.7
baz=83,SNR=30
631A Perdido Creek 82.89 57 ⇑P P 19 53 49.6 +0.1
baz=83
229A Bryant Ranch, 82.89 54 ⇓P P 19 53 49.7 +0.2
baz=83
V26A Tequesquite Ra 82.94 50 ⇑P P 19 53 50.1 +0.3
baz=83,SNR=11
MSTX Muleshoe 82.94 52 *e*P P 19 53 49.8 0.0
comp=Z,34μm,2.3s
MSTX Muleshoe 82.94 52 ⇑P P 19 53 50.2 +0.4
baz=83,SNR=14
Z28A Tucker Farm, M 82.96 53 ⇓P P 19 53 49.7 -0.2
baz=83
X27A F and S Farms, 82.97 51 ⇑P P 19 53 49.9 -0.1
baz=83
H18A Shoshone NF, C 83.00 40 ⇓P P 19 53 50.8 +0.8
baz=83
P23A Jefferson 83.01 46 ⇓P P 19 53 51.2 +0.8
baz=83,SNR=12
R24A Sanders Place, 83.02 47 ⇓P P 19 53 51.1 +0.8
baz=83
T25A Trinidad 83.05 49 ⇓P P 19 53 50.8 +0.4
baz=83,SNR=7.7
I19A Meeteetse 83.10 41 ⇓P P 19 53 51.2 +0.7
baz=83,SNR=15
129A Stewart Farms, 83.10 54 ⇑P P 19 53 50.8 +0.2
baz=83
732A Laxson Ranch, 83.12 58 ⇑P P 19 53 50.8 +0.1
baz=83
RWWY Rawlins 83.14 43 *e*P P 19 53 56.5 +5.7
comp=Z,139nm,1.4s
330A Mertzon 83.17 55 ⇓P P 19 53 50.5 -0.5
baz=83
W27A Bowe Ranch, En 83.17 51 ⇓P P 19 53 51.3 +0.3
baz=83,SNR=12
531A Rocksprings 83.19 56 ⇓P P 19 53 51.3 +0.2
baz=83
U26A Atchley Ranch, 83.22 49 ⇓P P 19 53 51.4 +0.2
baz=84,SNR=12
N22A Wattenberg Ran 83.23 45 ⇓P P 19 53 52.1 +0.7
baz=84,SNR=22
S25A Robets Cordova 83.25 48 ⇓P P 19 53 51.8 +0.3
baz=84,SNR=29
Q24A Divide 83.31 47 ⇓P P 19 53 52.3 +0.5
baz=84,SNR=28
Y28A McKinney Farm, 83.32 52 ⇓P P 19 53 52.0 +0.3
baz=84
O23A Lake Granby, G 83.33 45 ⇓P P 19 53 52.3 +0.4
baz=84
431A Sonora 83.34 56 ⇓P P 19 53 51.7 -0.1
baz=84
QIZ Qiongzhong 83.34 292 P P 19 53 50.7 -1.3
QIZ PP PP 19 57 01.8 -2.3
QIZ S S 20 04 11.5 -1.4
QIZ SS SS 20 09 37.3 -1.2
QIZ LR LR
comp=Z,690nm,23.1s
QIZ LR LR
comp=Z,2μm,23.1s
QIZ Qiongzhong 83.34 292 PFAKE 19 54 00.0 +8.0
QIZ LR LR
comp=Z,2μm,22.0s
J20A Shoshoni 83.35 42 ⇑P P 19 53 52.0 +0.2
baz=84,SNR=24
ISCO Idaho Springs 83.36 46 *e*P P 19 53 52.0 -0.1
ISCO pmax pmax
comp=Z,260nm,2.5s
ISCO MLR MLR
comp=Z,3μm,19.0s
ISCO Idaho Springs 83.36 46 *e*P P 19 53 52.0 -0.1
comp=Z,260nm,2.5s
ISCO LR LR
comp=Z,3μm,19.0s
ISCO Idaho Springs 83.36 46 ⇑P P 19 53 52.7 +0.6
baz=84,SNR=18
230A Sterling City 83.40 54 ⇓P P 19 53 52.3 +0.2
baz=84
M22A Cedar Creek Ra 83.42 44 ⇓P P 19 53 52.6 +0.4
baz=84
H19A Powell 83.42 40 ⇓P P 19 53 52.6 +0.5
baz=84
RLMT Red Lodge 83.47 40 *e*P P 19 53 52.6 +0.2
comp=Z,68nm,1.4s
RLMT LR LR
comp=Z,1μm,19.0s
Z29A Hungry Hill Ra 83.47 53 ⇑P P 19 53 52.3 -0.2
baz=84
WHN Wuhan 83.52 304 ⇑*e*P P 19 53 53.3 +0.6
WHN S S 20 04 18.7 +4.5
WHN AMB AMB
comp=Z,3μm,11.9s
WHN LR LR
comp=Z,4μm,21.2s
K21A Alcova 83.55 43 ⇓P P 19 53 53.1 +0.2
baz=84,SNR=20
GCMT Greycliff 83.55 39 *e*P P 19 53 52.6 -0.1
comp=Z,65nm,1.4s
632A Uvalde 83.56 57 ⇓P P 19 53 53.5 +0.5
baz=84
R25A Fountain Ranch 83.57 48 ⇓P P 19 53 53.3 +0.3
baz=84,SNR=15
X28A Dimmitt 83.60 52 ⇓P P 19 53 53.2 +0.1
baz=84
I20A Worland 83.61 41 ⇑P P 19 53 53.1 +0.1
baz=84,SNR=19
N23A Red Feather La 83.62 45 ⇑P P 19 53 53.9 +0.6
baz=84,SNR=17
V27A Dan Oppiter Fa 83.62 50 ⇑P P 19 53 53.6 +0.3
baz=84
T26A Comanche Natio 83.66 49 ⇑P P 19 53 53.3 -0.2
baz=84,SNR=9.5
EGAK Eagle 83.69 13 *e*P P 19 53 52.9 +0.1
comp=Z,104nm,1.5s
EGAK LR LR
comp=Z,3μm,20.0s
532A Rocksprings 83.69 57 ⇓P P 19 53 53.6 0.0
baz=84
331A San Angelo 83.72 55 ⇓P P 19 53 53.8 0.0
baz=84
P24A Kohler Place, 83.72 46 ⇓P P 19 53 54.2 +0.4
baz=84
Y29A Porterfield Fa 83.74 52 ⇑P P 19 53 54.1 +0.2
baz=84
J21A Lysite 83.76 42 ⇓P P 19 53 54.1 +0.2
baz=84,SNR=40
130A Snyder 83.79 54 ⇑P P 19 53 54.1 -0.1
baz=84
L22A Ellis Ranch, M 83.81 43 ⇑P P 19 53 54.8 +0.6
baz=84,SNR=14
PMSA Palmer Station 83.86 156 LR LR 20 23 14.1
comp=Z,3μm,19.6s,baz=243,slow=30
O24A Longmont 83.87 46 ⇓P P 19 53 54.6 +0.1
baz=84
W28A Vega 83.89 51 ⇑P P 19 53 54.5 -0.2
baz=84
MYKOM Kota Tinggi 83.90 274 P P 19 53 56.9 +1.9
U27A Thompson Grove 83.90 50 ⇑P P 19 53 54.4 -0.3
baz=84,SNR=8.6
JCT Junction City 83.91 56 PFAKE 19 54 00.0 +5.2
JCT LR LR
comp=Z,3μm,20.0s
JCT Junction City 83.91 56 ⇑P P 19 53 54.5 -0.3
baz=84
Q25A Bedland, Calha 83.92 47 ⇑P P 19 53 54.9 +0.1
baz=84
S26A Kim 83.93 48 ⇓P P 19 53 55.0 +0.1
baz=84,SNR=14
Z30A Sanderson Ranc 83.93 53 ⇑P P 19 53 54.5 -0.3
baz=84,SNR=14
H20A Greybull 83.95 41 ⇓P P 19 53 54.6 -0.1
baz=84,SNR=14
X29A Tulia 83.95 52 ⇓P P 19 53 55.1 +0.2
baz=84
F19A Roth Farm, Mol 84.03 39 ⇑P P 19 53 55.1 +0.1
baz=84,SNR=27
K22A Casper 84.03 43 ⇓P P 19 53 55.3 0.0
baz=84,SNR=8.2
231A Bronte 84.05 55 ⇑P P 19 53 54.8 -0.6
baz=84,SNR=6.9
432A Menard 84.06 56 ⇑P P 19 53 55.3 -0.3
baz=84
I21A Big Trails, Te 84.08 42 ⇓P P 19 53 55.4 -0.1
baz=84,SNR=29
V28A Channing 84.08 51 ⇓P P 19 53 55.8 +0.2
baz=84
PHWY Pilot Hill 84.13 44 *e*P P 19 53 55.6 -0.4
comp=Z,204nm,2.2s
G20A Bridger 84.17 40 ⇑P P 19 53 56.0 +0.1
baz=84
R26A Arlington 84.23 48 ⇓P P 19 53 56.2 -0.1
baz=84,SNR=31
P25A Willow Gulch B 84.24 46 ⇓P P 19 53 56.6 +0.2
baz=84,SNR=13
T27A Campo 84.24 49 ⇑P P 19 53 56.4 0.0
baz=84
COLD Coldfoot 84.25 9 *e*P P 19 53 56.5 +0.9
comp=Z,451nm,2.4s
W29A Amraillo 84.26 51 ⇓P P 19 53 56.4 -0.1
baz=84
131A Rolla 84.27 54 ⇓P P 19 53 56.6 0.0
baz=84
332A Millersview 84.29 55 ⇓P P 19 53 56.8 +0.1
baz=84
N24A Carr 84.31 45 ⇑P P 19 53 57.0 +0.3
baz=85,SNR=12
U28A Mallet 84.33 50 ⇑P P 19 53 56.7 -0.2
baz=85
L23A Garrett 84.33 44 ⇓P P 19 53 57.0 +0.1
baz=85,SNR=29
Y30A Stafford Cattl 84.34 53 ⇑P P 19 53 57.2 +0.3
baz=85
S27A Las Animas 84.37 49 ⇓P P 19 53 57.0 0.0
baz=85,SNR=6.5
KVTX Kingsville 84.41 60 PFAKE 19 54 10.0 +13
KVTX LR LR
comp=Z,2μm,22.0s
J22A Midwest 84.41 42 ⇓P P 19 53 57.2 0.0
baz=85,SNR=23
E19A Rath Farm, Rou 84.42 39 ⇑P P 19 53 57.8 +0.7
baz=85,SNR=17
Q26A Hugo 84.44 47 ⇓P P 19 53 57.9 +0.5
baz=85
F20A Billings 84.48 40 ⇓P P 19 53 57.8 +0.4
baz=85,SNR=7.9
O25A Wiggins 84.53 46 ⇓P P 19 53 58.1 +0.3
baz=85
232A Coleman 84.56 55 ⇑P P 19 53 58.1 +0.1
baz=85
X30A Coker Ranch, T 84.58 52 ⇓P P 19 53 58.3 +0.2
baz=85
H21A Big Horn, Sher 84.62 41 ⇓P P 19 53 58.4 +0.2
baz=85,SNR=7.7
EGMT Eagleton 84.62 37 *e*P P 19 53 58.2 +0.1
comp=Z,104nm,1.3s
EGMT LR LR
comp=Z,4μm,20.0s
EGMT Eagleton 84.62 37 ⇓P P 19 53 58.2 +0.1
baz=85,SNR=12
I22A 9 Mile Ranch, 84.63 42 ⇓P P 19 53 58.4 +0.2
baz=85,SNR=16
M24A Cheyenne 84.63 44 ⇑P P 19 53 58.8 +0.4
baz=85,SNR=9.3
V29A Stinnett 84.65 51 ⇑P P 19 53 58.7 +0.2
baz=85
K23A Bowen Ranch, D 84.67 43 ⇓P P 19 53 58.4 -0.1
baz=85,SNR=13
R27A Eads 84.69 48 ⇓P P 19 53 58.7 0.0
baz=85,SNR=8.9
Z31A Sharp Cattle R 84.70 53 ⇑P P 19 53 58.7 -0.1
baz=85,SNR=8.2
D19A Cripps Ranch, 84.71 38 ⇑P P 19 53 59.1 +0.6
baz=85,SNR=13
T28A Walsh 84.71 49 ⇓P P 19 53 58.7 0.0
baz=85
G21A Lodge Grass 84.79 40 ⇑P P 19 53 59.2 +0.2
baz=85
L24A Wheatland 84.81 44 ⇑P P 19 53 59.7 +0.5
baz=85
ABTX Abilene, Hawle 84.83 54 *e*P P 19 53 58.8 -0.6
comp=Z,166nm,1.3s
ABTX Abilene, Hawle 84.83 54 ⇓P P 19 53 59.0 -0.3
baz=85,SNR=6.8
P26A Davis Ranch, A 84.83 47 ⇓P P 19 53 59.4 0.0
baz=85
E20A Meyer Farm, Mu 84.83 39 ⇑P P 19 53 59.8 +0.7
baz=85,SNR=14
N25A Grover 84.85 45 ⇓P P 19 53 59.7 +0.3
baz=85
Y31A Rekieta Farm, 84.86 53 ⇑P P 19 53 59.7 +0.2
baz=85
C19A Slack Wire Ran 84.89 38 ⇓P P 19 53 59.9 +0.5
baz=85,SNR=21
J23A Dilts Ranch, B 85.01 42 ⇓P P 19 54 00.3 +0.1
baz=85
H22A Clearmont 85.04 41 ⇑P P 19 54 00.6 +0.3
baz=85
S28A Manter 85.06 49 ⇓P P 19 54 00.4 -0.1
baz=85,SNR=9.6
U29A Oasis Ranch, S 85.06 50 ⇑P P 19 54 00.4 -0.2
baz=85
W30A Crocket Farms 85.09 52 ⇑P P 19 54 01.5 +0.8
baz=85
KSCO Kaye Shedlock' 85.11 47 *e*P P 19 54 01.8 +1.0
comp=Z,100nm,1.4s
KSCO Kaye Shedlock' 85.11 47 ⇑P P 19 54 01.1 +0.4
baz=85
D20A Manuel Ranch, 85.11 38 ⇑P P 19 54 01.4 +0.8
baz=85
F21A Absaloka Mine, 85.13 40 ⇑P P 19 54 01.4 +0.8
baz=85
M25A Palm-Egli Farm 85.14 45 ⇑P P 19 54 01.1 +0.2
baz=85
O26A Horse Wrangler 85.14 46 ⇑P P 19 54 01.1 +0.1
baz=85
K24A Anderson Ranch 85.19 43 ⇑P P 19 54 01.1 0.0
baz=86
Z32A Haskell 85.22 54 ⇑P P 19 54 01.5 +0.2
baz=86,SNR=46
V30A Spur Ranch, Mi 85.23 51 ⇑P P 19 54 01.7 +0.3
baz=86
B19A Brinkman Farms 85.31 37 ⇑P P 19 54 02.2 +0.8
baz=86,SNR=16
I23A Meade Ranch, G 85.32 42 ⇑P P 19 54 02.0 +0.3
baz=86
T29A Hugoton 85.32 50 ⇓P P 19 54 01.9 +0.1
baz=86
X31A McDonald Ranch 85.33 52 ⇓P P 19 54 01.5 -0.3
baz=86
G22A Birney 85.36 41 ⇑P P 19 54 01.7 -0.2
baz=86
P27A Ficken Ranch, 85.37 47 ⇑P P 19 54 01.7 -0.4
baz=86
EDM Edmonton 85.42 31 *e*P P 19 54 01.1 -0.8
EDM Edmonton 85.42 31 *e*P P 19 54 01.1 -0.8
comp=Z,169nm,1.4s
R28A Tribune 85.42 48 ⇓P P 19 54 02.2 -0.1
baz=86,SNR=11
N26A Koester Ranch, 85.45 46 ⇑P P 19 54 02.5 +0.1
baz=86
E21A Keefer Ranch, 85.49 39 ⇓P P 19 54 03.0 +0.6
baz=86
C20A Veseth Ranch, 85.49 38 ⇓P P 19 54 02.9 +0.5
baz=86,SNR=17
Y32A R-V Farms, Ver 85.50 53 ⇓P P 19 54 02.3 -0.4
baz=86,SNR=7.8
L25A Engebretsen Ra 85.51 44 ⇑P P 19 54 02.8 +0.1
baz=86
KTGM Kuala Trenggan 85.55 277 P P 19 54 06.9 +3.5
U30A WK&E Inc. Balk 85.55 50 ⇓P P 19 54 02.7 -0.3
baz=86
USHA Ushuaia 85.56 146 LR LR 20 23 57.9
comp=Z,6μm,20.1s,baz=235,slow=30
J24A Dixon Ranch, L 85.56 43 ⇑P P 19 54 02.9 0.0
baz=86
W31A Holland Ranch, 85.57 52 ⇑P P 19 54 02.7 -0.3
baz=86,SNR=6.7
H23A Clabaugh Cattl 85.63 42 ⇑P P 19 54 02.8 -0.4
baz=86,SNR=7.0
S29A Ulysses 85.64 49 ⇑P P 19 54 03.5 +0.1
baz=86
F22A Rosebud 85.64 40 ⇑P P 19 54 03.5 +0.3
baz=86
A19A Klindworth Far 85.66 37 ⇑P P 19 54 03.5 +0.4
baz=86,SNR=13
Q28A Sharon Springs 85.70 48 ⇑P P 19 54 04.3 +0.6
baz=86
O27A Beecher Island 85.70 46 ⇓P P 19 54 03.9 +0.3
baz=86
K25A Mack Ranch, Ha 85.77 44 ⇓P P 19 54 03.8 -0.2
baz=86
M26A McRoberts Ranc 85.77 45 ⇑P P 19 54 04.1 0.0
baz=86
D21A La Casta Ranch 85.79 39 ⇓P P 19 54 04.4 +0.6
baz=86,SNR=6.9
I24A Kuemmerle Ranc 85.81 42 ⇓P P 19 54 03.9 -0.2
baz=86
B20A Solberg Farm, 85.83 37 ⇑P P 19 54 04.4 +0.4
baz=86,SNR=8.1
T30A Plains 85.85 50 ⇓P P 19 54 04.0 -0.4
baz=86
V31A Spring Creek L 85.87 51 ⇑P P 19 54 05.1 +0.6
baz=86
BJT Baijiatuau 85.88 313 *e*P P 19 54 05.5 +1.2
comp=Z,108nm,1.4s
BJT LR LR
comp=Z,2μm,21.0s
BJI Beijing 85.88 313 P P 19 54 05.7 +1.3
BJI SKS SKSac 20 04 31.2 +1.6
BJI AMB AMB
comp=Z,67nm,2.0s
BJI AMB AMB
comp=Z,2μm,6.3s
BJI LR LR
comp=Z,1μm,21.0s
BJI LR LR
comp=Z,1μm,20.2s
BJI LR LR
comp=Z,2μm,24.9s
N27A Anderson Farm, 85.92 46 ⇑P P 19 54 05.0 +0.3
baz=86
G23A Biddle 85.92 41 ⇑P P 19 54 04.7 +0.1
baz=86
R29A Marienthal 85.94 48 ⇓P P 19 54 05.1 +0.2
baz=86
P28A Saint Francis 85.96 47 ⇓P P 19 54 05.2 +0.3
baz=86
L26A Underwood Farm 86.06 45 ⇑P P 19 54 05.8 +0.4
baz=86
LAO LASA Array 86.08 39 *e*P P 19 54 05.8 +0.5
comp=Z,205nm,1.6s
LAO LR LR
comp=Z,3μm,22.0s
C21A Desert Coulee 86.09 38 ⇓P P 19 54 05.7 +0.3
baz=86
U31A Une Bar Ranch 86.09 51 ⇓P P 19 54 05.8 +0.2
baz=86
A20A Cobblestone Ra 86.10 37 ⇓P P 19 54 05.7 +0.4
baz=86,SNR=17
S30A Montezuma 86.12 49 ⇓P P 19 54 05.5 -0.3
baz=86
E22A Miles City 86.14 40 ⇑P P 19 54 05.8 +0.2
baz=86
F23A Volborg 86.15 40 ⇓P P 19 54 06.2 +0.5
baz=86
J25A Sunshine Ranch 86.15 43 ⇑P P 19 54 05.6 -0.3
baz=86
O28A Krutsinger Ran 86.17 47 ⇑P P 19 54 06.1 +0.2
baz=86
Q29A Oakley 86.24 48 ⇓P P 19 54 06.2 -0.1
baz=86
H24A Dirks Ranch, A 86.25 42 ⇓P P 19 54 05.8 -0.5
baz=86,SNR=8.5
K26A Motz Farm, Whi 86.27 44 ⇓P P 19 54 06.5 +0.1
baz=86
WMOK Wichita Mounta 86.28 53 *e*P P 19 54 05.2 -1.4
WMOK pmax pmax
comp=Z,52nm,1.6s
WMOK MLR MLR
comp=Z,3μm,20.0s
WMOK Wichita Mounta 86.28 53 *e*P P 19 54 05.2 -1.4
comp=Z,52nm,1.6s
WMOK LR LR
comp=Z,3μm,20.0s
RSSD Black Hills 86.31 42 *e*P P 19 54 04.3 -2.5
RSSD pmax pmax
comp=Z,328nm,1.7s
RSSD Black Hills 86.31 42 *e*P P 19 54 04.3 -2.5
comp=Z,82nm,1.7s
M27A Reverse DX Ran 86.32 45 ⇑P P 19 54 06.8 +0.2
baz=87
D22A Cohagen 86.32 39 ⇑P P 19 54 07.0 +0.6
baz=87
OGNE Ogallala 86.32 46 PFAKE 19 54 20.0 +13
OGNE LR LR
comp=Z,2μm,20.0s
OGNE Ogallala 86.32 46 ⇓P P 19 54 07.2 +0.6
baz=87
WHTX Lake Whitney 86.33 56 *e*P P 19 54 06.3 -0.5
comp=Z,94nm,1.4s
WHTX Lake Whitney 86.33 56 ⇓P P 19 54 07.0 +0.2
baz=87
B21A Ellsworth Farm 86.42 38 ⇑P P 19 54 07.4 +0.5
baz=87,SNR=7.7

FRIM **Kepong** 86.43 274 P P 19 54 09.1 +1.4
I25A **Rochford** 86.47 43 ⇑P P 19 54 07.7 +0.3
baz=87
T31A **Randall Ranch,** 86.49 50 ⇓P P 19 54 08.3 +0.7
baz=87
R30A **Dighton** 86.51 49 ⇑P P 19 54 07.6 0.0
baz=87
P29A **Atwood** 86.55 47 ⇓P P 19 54 08.5 +0.6
baz=87
E23A **Ismay** 86.56 40 ⇑P P 19 54 07.9 +0.3
baz=87
N28A **Pribbeno Ranch** 86.56 46 ⇓P P 19 54 08.4 +0.5
baz=87
L27A **T5 Ranch, Ells** 86.59 45 ⇓P P 19 54 08.1 +0.1
baz=87
G24A **Alzada** 86.59 41 ⇑P P 19 54 07.9 -0.1
baz=87
J26A **Sides Ranch, S** 86.60 43 ⇑P P 19 54 08.0 0.0
baz=87
A21A **Bergtoll Ranch** 86.74 37 ⇓P P 19 54 08.6 +0.1
baz=87
C22A **Vida** 86.77 39 ⇓P P 19 54 09.1 +0.4
baz=87
F24A **Ekalaka** 86.80 41 ⇑P P 19 54 09.0 +0.1
baz=87
H25A **Fruitdale** 86.81 42 ⇑P P 19 54 09.3 +0.3
baz=87
Q30A **Quinter** 86.82 48 ⇓P P 19 54 09.3 +0.1
baz=87
S31A **Mullinville** 86.83 50 ⇑P P 19 54 09.4 +0.2
baz=87
O29A **4D Ranch, Culb** 86.85 47 ⇑P P 19 54 10.1 +0.8
baz=87
K27A **Flueckinger Fa** 86.90 44 ⇓P P 19 54 09.7 +0.2
baz=87
D23A **Lindsay** 86.92 39 ⇓P P 19 54 10.2 +0.8
baz=87
HKT **Hockley** 86.93 58 *eP* P 19 54 09.8 +0.1
HKT pmax pmax
comp=Z,172nm,2.1s
HKT **Hockley** 86.93 58 *eP* P 19 54 09.8 +0.1
comp=Z,172nm,2.1s
M28A **Bar X Bar Ranc** 86.96 46 ⇓P P 19 54 10.8 +1.0
baz=87
B22A **Reddig Ranch S** 86.96 38 ⇓P P 19 54 09.9 +0.3
baz=87,SNR=8.3
COCO **West Island** 86.97 258 PFAKE 19 54 20.0 +10
COCO LR LR
comp=Z,3μm,19.0s
APG **El Apazote** 86.98 74 P P 19 54 10.6 0.0
APG **El Apazote** 86.98 74 P P 19 54 10.6 0.0
comp=Z,19nm,1.1s,baz=230,slow=7.9,SNR=6.5
APG LR LR 20 25 34.9
comp=Z,3μm,18.9s,baz=275,slow=30
P30A **Selden** 87.02 48 ⇑P P 19 54 10.4 +0.3
baz=87
I26A **New Underwood** 87.04 43 ⇑P P 19 54 10.1 0.0
baz=87
R31A **Burdett** 87.06 49 ⇓P P 19 54 10.1 -0.1
baz=87
L28A **Connealy Angus** 87.10 45 ⇑P P 19 54 10.7 +0.2
baz=87
G25A **Newell** 87.17 42 ⇓P P 19 54 10.9 +0.2
baz=87
E24A **Baker** 87.20 40 ⇓P P 19 54 11.1 +0.2
baz=88
C23A **Lambert** 87.22 39 ⇑P P 19 54 11.5 +0.7
baz=88
N29A **Votaw Ranch, W** 87.25 46 ⇑P P 19 54 11.3 +0.1
baz=88
J27A **Elkhorn Farm,** 87.28 44 ⇑P P 19 54 11.3 -0.1
baz=88
A22A **Carney Farms,** 87.33 37 ⇓P P 19 54 12.0 +0.7
baz=88
IPM **Ipoh** 87.34 275 P P 19 54 14.2 +2.0
IPM **Ipoh** 87.34 275 *eP* P 19 54 12.6 +0.4
comp=Z,60nm,1.1s
H26A **Fairpoint** 87.34 42 ⇓P P 19 54 12.1 +0.5
baz=88
ENH **Enshi** 87.35 302 *eP* P 19 54 12.4 +0.5
comp=Z,16nm,1.0s
O30A **MW Ranch, Wils** 87.40 47 ⇓P P 19 54 12.2 +0.3
baz=88
Q31A **Ellis** 87.42 48 ⇓P P 19 54 12.3 +0.2
baz=88
D24A **Glendive** 87.44 40 ⇓P P 19 54 12.7 +0.7
baz=88
M29A **Burnside Ranch** 87.45 46 ⇑P P 19 54 12.4 +0.3
baz=88
F25A **Bowman** 87.46 41 ⇑P P 19 54 12.4 +0.3
baz=88
K28A **Ten Mile Ranch** 87.49 44 ⇓P P 19 54 12.5 +0.2
baz=88
PANO **Nakornpanom** 87.50 288 P P 19 54 14.9 +2.1
comp=Z,232nm,1.3s,comp=Z,10μm
C24A **Savage** 87.56 39 ⇑P P 19 54 12.9 +0.4
baz=88
HIA **Hailar** 87.58 323 *eP* P 19 54 13.4 +0.9
comp=Z,30nm,1.1s
HIA LR LR
comp=Z,5μm,22.0s
I27A **Quinn** 87.59 43 ⇓P P 19 54 13.0 +0.2
baz=88
N30A **Hueftle Ranch,** 87.61 47 ⇑P P 19 54 13.3 +0.4
baz=88
P31A **Stockton** 87.63 48 ⇑P P 19 54 13.0 0.0
baz=88
B23A **Brockton** 87.63 38 ⇑P P 19 54 13.5 +0.6
baz=88
TIY **Taiyuan** 87.67 310 *eP* P 19 54 15.0 +1.7
TIY PP PP 19 57 42.7 +3.7
TIY SKS SKSac 20 04 42.1 +1.1
TIY S SKKSac 20 04 52.5 +1.9
TIY LR LR
comp=Z,1μm,21.7s
TIY LR LR
comp=Z,1μm,15.2s
TIY LR LR
comp=Z,2μm,19.3s
G26A **Maurine** 87.74 42 ⇓P P 19 54 13.6 +0.1
baz=88
E25A **Miller Ranch,** 87.74 40 ⇓P P 19 54 13.6 +0.2
baz=88
MAW **Mawson** 87.76 199 *eP* P 19 54 14.0 +0.9
comp=Z,25nm,1.4s
MAW **Mawson** 87.76 199 P P 19 54 14.2 +1.1
comp=Z,16nm,0.7s,baz=127,slow=6.1,SNR=30
MAW LR LR 20 31 25.0
comp=Z,4μm,19.1s,baz=118,slow=34
H27A **Howes** 87.80 42 ⇑P P 19 54 13.9 +0.1
baz=88
L29A **Maesberg Ranch** 87.84 45 ⇑P P 19 54 14.0 0.0
baz=88
J28A **Allard Ranch,** 87.86 44 ⇑P P 19 54 14.2 +0.1
baz=88
O31A **Woolen Ranch,** 87.91 47 ⇑P P 19 54 14.3 0.0
baz=88
KULM **Kulim** 87.92 276 P P 19 54 17.5 +2.5
KULM **Kulim** 87.92 276 *eP* P 19 54 14.1 -0.9
comp=Z,20nm,1.0s
KULM LR LR
comp=Z,2μm,21.0s
A23A **Redstone** 87.92 38 ⇑P P 19 54 14.2 0.0
baz=88
F26A **Lodgepole** 87.93 41 ⇑P P 19 54 14.5 +0.1
baz=88
SKNT **Sakolnakorn** 88.03 288 P P 19 54 17.3 +1.9
comp=Z,44nm,1.8s,comp=Z,1μm
M30A **Dale-Ortello V** 88.05 46 ⇓P P 19 54 15.5 +0.5
baz=88
D25A **Fairfield** 88.07 40 ⇑P P 19 54 16.1 +1.2
baz=88
DGMT **Dagmar** 88.11 38 *eP* P 19 54 17.5 +2.5
comp=Z,72nm,1.3s
DGMT LR LR
comp=Z,5μm,20.0s
DGMT **Dagmar** 88.11 38 ⇓P P 19 54 15.5 +0.4
baz=88
I28A **Midland** 88.14 43 ⇑P P 19 54 15.0 -0.4
baz=88
G27A **Dupree** 88.20 42 ⇑P P 19 54 16.8 +1.1
baz=88
K29A **Lazy Trails An** 88.22 45 ⇓P P 19 54 16.8 +1.0
baz=88
P32A **Huiting Farm,** 88.22 48 ⇓P P 19 54 17.4 +1.6
baz=88
L30A **Spencer Herefo** 88.31 46 ⇑P P 19 54 17.0 +0.8
baz=89

E26A **Carlson Angus** 88.32 41 ⇑P P 19 54 17.2 +1.0
baz=89
INK **Inuvik** 88.34 14 *eP* P 19 54 15.3 -0.3
comp=Z,45nm,1.2s
INK **Inuvik** 88.34 14 P P 19 54 15.7 +0.1
comp=Z,13nm,0.9s,baz=212,slow=8.6,SNR=8.9
C25A **Freed Ranch, W** 88.35 39 ⇑P P 19 54 17.2 +1.0
baz=89
N31A **Bailey Ranch,** 88.42 47 ⇑P P 19 54 17.1 +0.4
baz=89
A24A **Westby** 88.42 38 ⇑P P 19 54 17.7 +1.1
baz=89
J29A **Okreek** 88.47 44 ⇑P P 19 54 17.7 +0.8
baz=89
GYA **Guiyang** 88.48 298 ⇑*iP* P 19 54 18.7 +1.2
GYA PP PP 19 57 46.9 +1.1
GYA SKS SKSac 20 04 44.1 -2.4
GYA S S 20 05 03.6 +0.4
GYA AMB AMB
comp=Z,80nm,1.0s
GYA AMB AMB
comp=Z,970nm,8.7s
GYA LR LR
comp=Z,1μm,19.6s
GYA LR LR
comp=Z,1μm,19.6s
GYA LR LR
comp=Z,2μm,19.5s
H28A **Mission Ridge** 88.51 43 ⇓P P 19 54 18.3 +1.2
baz=89
D26A **Manning** 88.57 40 ⇓P P 19 54 18.6 +1.3
baz=89
M31A **Lambtecht Ranc** 88.60 46 ⇑P P 19 54 18.3 +0.7
baz=89
B25A **Knox Farm, Ray** 88.64 39 ⇓P P 19 54 18.6 +1.0
baz=89
K30A **Basset** 88.67 45 ⇓P P 19 54 17.5 -0.3
baz=89
O32A **Brockman Farm,** 88.69 48 ⇓P P 19 54 17.9 -0.1
baz=89
I29A **Vivian Onida** 88.72 44 ⇓P P 19 54 18.9 +0.8
baz=89
G28A **Parade** 88.74 42 ⇓P P 19 54 18.5 +0.4
baz=89
P33A **Williams Farm,** 88.81 49 ⇓P P 19 54 19.1 +0.5
baz=89
N32A **Stulken Farm,** 88.86 47 ⇓P P 19 54 19.2 +0.4
baz=89
E27A **Carson** 88.87 41 ⇑P P 19 54 18.9 +0.1
baz=89
PSI **Prapat** 88.91 273 P P 19 54 19.2 -0.6
PSI **Prapat** 88.91 273 ⇓P P 19 54 20.0 +0.2
baz=90,SNR=12
PSI **Prapat** 88.91 273 P P 19 54 19.2 -0.6
comp=Z,21nm,1.0s,baz=187,slow=4.6,SNR=13
PSI LR LR 20 35 30.8
comp=Z,2μm,20.3s,baz=123,slow=37
A25A **Svangstu Ranch** 88.96 38 ⇓P P 19 54 19.3 +0.2
baz=89
TUL1 **Tulsa** 88.98 52 *eP* P 19 54 17.7 -1.8
comp=Z,39nm,1.3s
TUL1 **Tulsa** 88.98 52 ⇑P P 19 54 19.5 0.0
baz=89
J30A **Dallas** 89.00 44 ⇓P P 19 54 20.1 +0.7
baz=89
L31A **Butterfield Fa** 89.01 46 ⇑P P 19 54 20.1 +0.6
baz=89
H29A **Onida** 89.02 43 ⇑P P 19 54 20.3 +0.9
baz=89
XAN **Xi'an** 89.06 306 P P 19 54 20.7 +0.8
XAN pP pP 19 54 26.5 +1.3
XAN AMB AMB
comp=Z,8.0nm,2.0s
XAN AMB AMB
comp=Z,310nm,9.3s
XAN LR LR
comp=Z,880nm,20.4s
XAN LR LR
comp=Z,340nm,19.4s
XAN LR LR
comp=Z,590nm,21.4s
PLCA **Paso Flores** 89.10 132 *eP* P 19 54 20.3 +0.1
comp=Z,58nm,1.9s
PLCA **Paso Flores** 89.10 132 P P 19 54 21.6 +1.4
comp=Z,3.1nm,1.0s,baz=263,slow=8.1,SNR=2.1
PLCA LR LR 20 25 33.0
comp=Z,4μm,19.7s,baz=318,slow=30
C26A **Wahner Farm, P** 89.11 40 ⇓P P 19 54 19.8 0.0
baz=89
F28A **McLaughlin** 89.12 42 ⇑P P 19 54 19.9 0.0
baz=89
D27A **Center** 89.17 40 ⇑P P 19 54 21.0 +0.9
baz=89
BGNE **Belgrade** 89.20 47 P P 19 54 20.4 0.0
comp=Z,46nm,1.3s
BGNE **Belgrade** 89.20 47 ⇓P P 19 54 20.9 +0.5
baz=90
B26A **Jensen Ranch,** 89.25 39 ⇓P P 19 54 21.2 +0.7
baz=90
I30A **Oacoma** 89.27 44 ⇑P P 19 54 21.0 +0.3
baz=90
C27A **Sayler Ranch,** 89.43 40 ⇑P P 19 54 21.0 -0.3
baz=90
YAK **Yakutsk** 89.43 337 *eP* P 19 54 19.0 -1.9
YAK *e* 19 54 24.2
YAK *e*PP pP 19 54 31.9 +5.8
YAK *e* 19 57 49.7
YAK *e*S SKSac 20 04 47.3 -2.9
YAK *e*SS SKKSac 20 05 05.4 +2.9
YAK *e*SS SS 20 11 05.8 -0.2
YAK pmax pmax
comp=Z,11nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.4s
YAK pmax pmax
comp=N,4.0nm,1.5s
YAK pmax pmax
comp=E,154nm,4.2s
YAK pmax pmax
comp=Z,521nm,6.1s
YAK pmax pmax
comp=N,112nm,3.2s
YAK smax smax
comp=N,150nm,4.0s
YAK smax smax
comp=E,64nm,2.8s
G29A **Hoven** 89.43 43 ⇑P P 19 54 21.7 +0.4
baz=90
HHC **Hu-ho-hao-te** 89.44 313 *eP* P 19 54 23.3 +1.7
HHC pP pP 19 54 28.0 +1.1
HHC sP sP 19 54 30.4 +1.6
HHC PP PP 19 57 57.2 +4.1
HHC SKS SKSac 20 04 51.0 -0.5
HHC S S 20 05 12.4 +0.8
HHC sS sS 20 05 19.0 -1.3
HHC SS SS 20 11 04.5 -2.9
HHC AMB AMB
comp=E,130nm,1.5s
HHC AMB AMB
comp=E,3μm,6.8s
HHC LR LR
comp=E,1μm,16.5s
HHC LR LR
comp=E,2μm,16.9s
HHC LR LR
comp=E,2μm,18.2s
E28A **Huff** 89.47 41 ⇑P P 19 54 21.6 0.0
baz=90
KSU1 **Kansas State U** 89.48 49 PFAKE 19 54 30.0 +8.3
KSU1 LR LR
comp=Z,3μm,20.0s
A26A **Wade Farm, Ken** 89.58 39 ⇑P P 19 54 22.4 +0.4
baz=90
TGUH **Tegucigalpa,Un** 89.68 75 PFAKE 19 54 30.0 +6.9
TGUH LR LR
comp=Z,2μm,21.0s
F29A **Eureka** 89.74 42 ⇑P P 19 54 23.1 +0.3
baz=90
NAYO **Nakonayok** 89.74 285 P P 19 54 26.3 +2.9
comp=Z,293nm,1.5s
BRSD **Miller** 89.78 44 ⇑P P 19 54 22.6 -0.4
baz=90
D28A **Regan** 89.80 41 ⇓P P 19 54 22.7 -0.3
baz=90
GSI **Gunungsitoli** 89.81 271 ⇑P P 19 54 23.5 -0.3
baz=91
B27A **Peters Farms,** 89.86 39 ⇓P P 19 54 23.4 +0.1
baz=90
G30A **Faulkton** 89.91 43 ⇓P P 19 54 23.6 0.0
baz=90
A27A **Ledoux Ranch,** 90.09 39 ⇑P P 19 54 24.3 0.0
baz=90
YKA **Yellowknife Ar** 90.09 23 P P 19 54 24.4 +0.4
YKA **Yellowknife Ar** 90.09 23 P P 19 54 24.4 +0.4
comp=Z,7.4nm,0.8s,baz=238,slow=4.3,SNR=13
KRAB **Krabi** 90.09 278 P P 19 54 28.0 +2.8
comp=Z,32nm,0.8s,comp=Z,290nm
C28A **Hausauer Farms** 90.12 40 ⇓P P 19 54 24.3 -0.2
baz=90
E29A **Napoleon** 90.14 41 ⇑P P 19 54 24.6 -0.1
baz=90
MIAR **Mount Ida** 90.25 54 *eP* P 19 54 19.9 -5.5
MIAR MLR MLR
comp=Z,3μm,20.0s
MIAR **Mount Ida** 90.25 54 *eP* P 19 54 19.9 -5.5
MIAR LR LR
comp=Z,3μm,20.0s
F30A **Leola** 90.26 42 ⇑P P 19 54 24.9 -0.4
baz=90
D29A **Pettibone, Tap** 90.36 41 ⇑P P 19 54 25.9 +0.3
baz=91
B28A **Dugan Ranch, T** 90.42 39 ⇓P P 19 54 26.5 +0.6
baz=91
BTO **Baotou** 90.45 312 *eP* P 19 54 27.4 +1.0
BTO AMB AMB
comp=Z,22nm,1.7s
TEIG **Tepich** 90.47 69 P P 19 54 25.8 -0.9
TEIG **Tepich** 90.47 69 P P 19 54 25.8 -0.9
comp=Z,2.1nm,0.3s,baz=207,slow=6.8,SNR=2.6
TEIG LR LR 20 27 07.7
comp=Z,2μm,19.8s,baz=176,slow=30
E30A **Jud** 90.58 42 ⇑P P 19 54 27.2 +0.5
baz=91
MDND **Maddock** 90.66 40 ⇓P P 19 54 27.2 +0.2
baz=91
A28A **Rude Farm, Bot** 90.66 39 ⇑P P 19 54 27.2 +0.2
baz=91
JTS **JuntasAbangare** 90.84 80 P P 19 54 29.7 +1.1
JTS **JuntasAbangare** 90.84 80 P P 19 54 29.7 +1.1
comp=Z,13nm,0.9s,baz=4.6,slow=5.0,SNR=7.3
JTS LR LR 20 25 59.7
comp=Z,3μm,20.3s,baz=194,slow=30
D30A **Buchanan** 90.91 41 ⇑P P 19 54 28.1 -0.1
baz=91
B29A **Wagenman Farm,** 91.05 40 ⇑P P 19 54 29.4 +0.6
baz=91
ECSD **EROS Data Cent** 91.09 45 *eP* P 19 54 30.6 +1.5
comp=Z,34nm,1.4s
ECSD LR LR
comp=Z,3μm,22.0s
A29A **Manning Farm,** 91.30 39 ⇓P P 19 54 30.9 +0.9
baz=92
C30A **Mose, Pekin** 91.30 41 ⇑P P 19 54 30.7 +0.6
baz=92
KMI **Kunming** 91.46 296 P P 19 54 31.1 -0.5
KMI pP pP 19 54 40.1 +3.3
KMI PP PP 19 58 10.5 +0.8
KMI S S 20 05 29.5 -1.7
KMI AMB AMB
comp=Z,11nm,2.0s
KMI AMB AMB
comp=Z,740nm,10.1s
KMI LR LR
comp=Z,670nm,16.4s
KMI LR LR
comp=Z,920nm,18.9s
KMI LR LR
comp=Z,2μm,19.2s
NANT **Nan** 91.54 289 P P 19 54 34.1 +2.3
comp=Z,33nm,1.4s
B30A **Myrvik Farm, E** 91.67 40 ⇓P P 19 54 32.8 +1.0
baz=92
A30A **Hoffart Farm,** 91.87 40 ⇓P P 19 54 34.0 +1.4
baz=92
VBMS **Vicksburg** 91.97 57 PFAKE 19 54 40.0 +6.5
VBMS LR LR
comp=Z,1μm,19.0s
FFC **Flin Flon** 92.02 33 *eP* P 19 54 30.7 -2.5
FFC pmax pmax
comp=Z,128nm,1.5s
FFC MLR MLR
comp=Z,1μm,21.0s
FFC **Flin Flon** 92.02 33 *eP* P 19 54 30.7 -2.5
comp=Z,53nm,1.5s
FFC LR LR
comp=Z,2μm,21.0s
CD2 **Chengdu** 92.24 301 P P 19 54 34.2 -0.6
CD2 pP pP 19 54 39.0 -1.1
CD2 sP sP 19 54 41.2 -0.8
CD2 PP PP 19 58 17.0 +1.5
CD2 SKS SKSac 20 05 05.7 -2.2
CD2 S S 20 05 34.2 -3.4
CD2 SS SS 20 11 47.3 -1.0
CD2 AMB AMB
comp=Z,10.0nm,0.5s
CD2 AMB AMB
comp=Z,1μm,11.3s
CD2 LR LR
comp=Z,2μm,22.6s
CD2 LR LR
comp=Z,2μm,20.2s
CIT **Chita** 92.31 324 *eP* P 19 54 36.3 +1.7
CIT *e* 19 54 45.6
CIT *e* 19 54 52.6
CIT *e* 19 58 12.6
CIT pmax pmax
comp=Z,244nm,2.3s
SYO **Syowa Base** 92.51 191 ⇓*iP* P 19 54 34.0 -1.3
SYO **Syowa Base** 92.51 191 *e*SH SKKSac 20 05 27.0 +1.3
EFI **East Falkland** 92.53 146 PFAKE 19 54 50.0 +14
EFI LR LR
comp=Z,5μm,20.0s
SNAA **Sanae** 92.72 177 *eP* P 19 54 36.7 +0.4
SNAA **Sanae** 92.72 177 *eP* P 19 54 36.7 +0.4
comp=Z,51nm,1.3s
HBAR **Harrisburg** 92.83 54 *eP* P 19 54 37.0 -0.4
SCIA **State Center** 92.85 47 PFAKE 19 54 50.0 +13
SCIA LR LR
comp=Z,3μm,19.0s
LCO **Las Campanas** 92.91 121 *eP* P 19 54 39.7 +1.3
comp=Z,23nm,1.1s
LCO LR LR
comp=Z,4μm,20.0s
CM31 **Chiang Mai Arr** 93.05 288 P P 19 54 39.9 +1.1
CMAR **Chiang Mai Arr** 93.05 288 P P 19 54 40.2 +1.4
CMAR **Chiang Mai Arr** 93.05 288 P P 19 54 40.2 +1.4
comp=Z,3.8nm,0.9s,baz=120,slow=3.2,SNR=5.5
CHTO **Chiang Mai** 93.14 289 *eP* P 19 54 39.6 +0.4
CHTO MLR MLR
comp=Z,2μm,22.0s
CHTO **Chiang Mai** 93.14 289 P P 19 54 41.5 +2.3
SNR=8.8
CHTO **Chiang Mai** 93.14 289 *eP* P 19 54 39.5 +0.4
comp=Z,67nm,2.1s
CHTO LR LR
comp=Z,2μm,22.0s
CHTO **Chiang Mai** 93.14 289 P P 19 54 41.0 +1.8
VNA2 **Neumayer--Watz** 93.15 175 *eP* P 19 54 39.4 +1.1
baz=172,slow=2.6
AGMN **Agassiz Nation** 93.16 41 PFAKE 19 54 50.0 +11
AGMN LR LR
comp=Z,3μm,20.0s
VNA1 **Neumayer--Stat** 93.35 175 *eP* P 19 54 40.2 +1.1
LZH **Lanzhou** 93.65 306 *eP* P 19 54 43.0 +1.6
LZH pP pP 19 54 47.6 +1.0
LZH sP sP 19 54 51.4 +2.9
LZH PP PP 19 58 29.0 +2.4
LZH *e*S S 20 05 48.2 -1.9
LZH sS sS 20 05 56.0 -2.9
LZH AMB AMB
comp=Z,44nm,1.4s
LZH AMB AMB
comp=Z,540nm,5.6s
LZH LR LR
comp=Z,1μm,14.6s
LZH LR LR
comp=Z,2μm,16.0s
LZH LR LR
comp=Z,2μm,17.7s
ULM **Lac du Bonnet** 93.81 39 P P 19 54 39.9 -1.6
ULM **Lac du Bonnet** 93.81 39 P P 19 54 39.9 -1.6
comp=Z,7.3nm,0.9s,baz=243,slow=6.4,SNR=4.0
PARMO **Parma** 93.85 53 *eP* P 19 54 42.3 +0.3

CFAA Coronel Fontan 94.02 124 LR LR 20 27 17.2
comp=Z,612nm,20.7s,baz=251,slow=29
SPMN St. Paul 94.16 44 P **P** **19 54 42.5 -0.7**
comp=Z,24nm,1.1s
OTAV Otavalo 94.43 91 PFAKE 19 55 00.0 +14
OTAV LR LR
comp=Z,1µm,21.0s
BRAL Brewton 94.47 59 PFAKE 19 55 00.0 +15
BRAL LR LR
comp=Z,2µm,20.0s
SIUC Southern Illin 94.56 52 *e*P **P** **19 54 44.0 -1.3**
PAF Port-aux-Franc 94.73 216 PFAKE 19 54 50.0 +4.1
PAF LR LR
comp=Z,5µm,22.0s
LRAL Lakeview Retre 95.05 57 PFAKE 19 55 00.0 +12
LRAL LR LR
comp=Z,1µm,20.0s
WVT Waverly 95.20 54 *e*P **P** **19 54 48.7 +0.4**
WVT pmax pmax
comp=Z,22nm,1.5s
WVT Waverly 95.20 54 *e*P **P** **19 54 48.7 +0.4**
comp=Z,22nm,1.5s
SONM Songino Array 95.24 318 P **P** **19 54 48.6 +0.3**
SONM PP **PP** **19 58 37.9 -0.8**
SONM Songino Array 95.24 318 P **P** **19 54 48.6 +0.3**
comp=Z,2.5nm,1.1s,baz=141,slow=2.2,SNR=12
SONM PP **PP** **19 58 37.9 -0.8**
comp=Z,1.9nm,1.1s,baz=94,slow=5.2,SNR=7.2
JFWS Jewell Farm 95.25 47 *e*P **P** **19 54 49.6 +1.3**
JFWS pmax pmax
comp=Z,110nm,1.8s
JFWS MLR MLR
comp=Z,3µm,19.0s
JFWS Jewell Farm 95.25 47 *e*P **P** **19 54 49.6 +1.3**
comp=Z,110nm,1.8s
JFWS LR LR
comp=Z,3µm,19.0s
TIXI Tiksi 95.28 344 *i* P **P** **19 54 48.1 +0.4**
TIXI pmax pmax
comp=Z,9.0nm,1.5s
HDIL Hopedale 95.28 50 P **P** **19 54 49.3 +0.8**
comp=Z,648nm,1.3s
HDIL LR LR
comp=Z,54µm,20.0s
BCIP Isla Barro Col 95.42 82 PFAKE 19 55 00.0 +10
BCIP LR LR
comp=Z,1µm,21.0s
EYMN Ely 95.83 42 PFAKE 19 55 00.0 +9.1
EYMN LR LR
comp=Z,4µm,20.0s
TRQA Tornquist 96.25 132 PFAKE 19 55 00.0 +6.8
TRQA LR LR
comp=Z,3µm,22.0s
LVC Limon Verde 96.58 116 P **P** **19 54 53.5 -1.7**
comp=Z,22nm,1.5s
LVC LR LR
comp=Z,2µm,20.0s
SFIN Scholer Farm 96.85 50 ⇑P **P** **19 54 56.5 +0.8**
baz=97
COWI Conover 96.87 44 PFAKE 19 55 10.0 +14
COWI LR LR
comp=Z,4µm,20.0s
TIGA Tifton 97.45 60 ⇑P **P** **19 54 58.5 -0.1**
baz=98
GTA Gaotai 97.60 309 ⇑P Pdif 19 55 00.2 +0.9
GTA pP pP 19 55 04.9 +0.4
GTA sP sP 19 55 07.3 +0.9
GTA SKS **SKSac** **20 05 37.0 +0.5**
GTA S **ScS** **20 06 24.5 +0.1**
GTA sS sS 20 06 33.1 +0.2
GTA AMB AMB
comp=Z,9.0nm,2.3s
GTA AMB AMB
comp=Z,540nm,9.7s
GTA LR LR
comp=Z,660nm,21.4s
GTA LR LR
comp=Z,2µm,22.3s
GTA LR LR
comp=Z,3µm,21.4s
IRK Irkutsk 97.79 322 *e*P **P** **19 54 58.4 -1.2**
IRK pmax pmax
comp=Z,49nm,3.4s
ZAK Zakamensk 97.91 320 *e*P **P** **19 54 59.6 -0.8**
ZAK pmax pmax
comp=Z,5.0nm,1.4s
TLY Talaya 98.02 321 *e*P Pdif 19 55 01.3 +0.6
TLY *e* 19 55 09.8
TLY *e*S **SKSac** **20 05 36.8 -1.0**
TLY *e*SS **SS** **20 13 11.3 +1.9**
TLY pmax pmax
comp=Z,16nm,1.9s
TKL Tuckaleechee C 98.28 55 P Pdif 19 55 03.3 +1.1
TKL Tuckaleechee C 98.28 55 P Pdif 19 55 03.3 +1.1
comp=Z,3.0nm,0.8s,baz=231,slow=13,SNR=2.2
TKL LR LR 20 34 31.5
comp=Z,2µm,19.9s,baz=262,slow=32
LPAZ La Paz 99.37 110 P **Pdif** **19 55 09.4 +1.0**
LPAZ La Paz 99.37 110 P **Pdif** **19 55 09.4 +1.0**
comp=Z,1.7nm,1.1s,baz=191,slow=3.0,SNR=2.3
LPAZ LR LR 20 29 33.8
comp=Z,1µm,21.8s,baz=259,slow=29
ROSC El Rosal 99.61 88 LR LR 20 30 50.1
comp=Z,930nm,19.8s,baz=187,slow=30
MOY Mondy 99.62 321 *e*P **Pdif** **19 55 09.2 +1.2**
ACSO Alum Creek Sta 99.88 51 PFAKE 19 55 20.0 +11
ACSO LR LR
comp=Z,3µm,19.0s
BLA Blacksburg 101.25 54 PFAKE 19 55 30.0 +15
BLA LR LR
comp=Z,3µm,19.0s
MCWV Mont Chateau 102.14 52 PFAKE 19 55 30.0 +11
MCWV LR LR
comp=Z,3µm,21.0s
GTBY Guantanamo Bay 102.39 73 PFAKE 19 55 30.0 +9.1
GTBY LR LR
comp=Z,1µm,20.0s
ERPA Erie 102.45 50 PFAKE 19 55 30.0 +9.3
ERPA LR LR
comp=Z,4µm,20.0s
LSA Lhasa 102.55 298 PFAKE 19 55 30.0 +8.0
LSA LR LR
comp=Z,763nm,21.0s
CNNC Cliffs of the 102.90 57 PFAKE 19 55 30.0 +7.2
CNNC LR LR
comp=Z,2µm,20.0s
CBN Corbin 103.80 54 PFAKE 19 55 40.0 +13
CBN LR LR
comp=Z,4µm,22.0s
BINY Binghamton 105.41 50 PFAKE 20 00 00.0
BINY LR LR
comp=Z,4µm,19.0s
SDDR Presa de Saban 105.73 74 PFAKE 20 00 00.0
SDDR LR LR
comp=Z,4µm,20.0s
SAML Samuel 106.34 104 PFAKE 20 00 00.0
SAML LR LR
comp=Z,1µm,20.0s
GRTK Grand Turk 106.35 72 PFAKE 20 00 00.0
GRTK LR LR
comp=Z,1µm,21.0s
LONY Lake Ozonia 106.69 48 PFAKE 20 00 00.0
LONY LR LR
comp=Z,3µm,21.0s
NCB Newcomb 106.89 48 PFAKE 20 00 00.0
NCB LR LR
comp=Z,4µm,22.0s
WMQ Urumqi 107.28 312 *e*Pdif **Pdif** **19 55 41.3 -0.9**
WMQ PP **PP** **20 00 11.5 +1.9**
WMQ S **Sdif** **20 07 37.4 -7.4**
WMQ LR LR
comp=Z,620nm,18.6s
WMQ LR LR
comp=Z,680nm,16.0s
WMQ LR LR
comp=Z,860nm,24.2s
LBNH Lisbon 108.56 48 PFAKE 20 00 00.0
LBNH LR LR
comp=Z,4µm,21.0s
ZALV Zalesovo Beam 109.61 322 P **Pdif** **19 55 53.0 +0.8**
ZALV Zalesovo Beam 109.61 322 Pdif **Pdif** **19 55 53.0 +0.8**
ZALV PKiKP **PKiKP** **19 59 54.2 -0.8**
ZALV Zalesovo Beam 109.61 322 Pdiff **Pdif** **19 55 53.0 +0.8**
comp=Z,0.3nm,0.4s,baz=113,slow=3.7,SNR=3.3
ZALV PKiKP **PKiKP** **19 59 54.2 -0.8**
comp=Z,0.9nm,0.6s,baz=185,slow=2.4,SNR=5.2

SJG San Juan 110.35 76 PFAKE 20 00 10.0
SJG LR LR
comp=Z,1µm,20.0s
PKME Peaks-Kenny Pk 110.48 47 PFAKE 20 00 10.0
PKME LR LR
comp=Z,3µm,20.0s
MK31 Makanchi Array 111.23 315 *e*PKiKP **PKiKP** **19 59 57.2 -1.2**
MK31 Makanchi Array 111.23 315 *e*PKPdf **PKiKP** **19 59 57.2 -1.2**
MKAR Makanchi Array 111.23 315 P **Pdif** **19 56 04.7 +5.0**
MKAR *i* 19 59 58.0
MKAR 20 11 15.3
MKAR Makanchi Array 111.23 315 Pdif **Pdif** **19 56 04.7 +5.0**
MKAR PKiKP **PKiKP** **19 59 58.0 -0.4**
MKAR PKKP **PKKPdf** **20 11 15.3 +1.0**
MKAR Makanchi Array 111.23 315 Pdiff **Pdif** **19 56 04.7 +5.0**
comp=Z,0.4nm,0.7s,baz=146,slow=2.4,SNR=3.5
MKAR PKiKP **PKiKP** **19 59 58.0 -0.4**
comp=Z,1.8nm,0.8s,baz=128,slow=0.2,SNR=10
MKAR PKKP **PKKPdf** **20 11 15.3 +1.0**
comp=Z,0.6nm,0.9s,baz=274,slow=4.2,SNR=3.8
DGAR Diego Garcia 111.30 255 PFAKE 20 00 10.0
DGAR LR LR
comp=Z,4µm,20.0s
TRD Trivandrum 111.48 273⇓ *e*P PP 20 00 48.4 +7.7
TRD *e*S **SP** **20 10 10.4 -0.9**
BBSR BB Station 113.45 61 PFAKE 20 00 10.0
BBSR LR LR
comp=Z,1µm,19.0s
GRGR Grenville 113.48 83 PFAKE 20 00 10.0
GRGR LR LR
comp=Z,722nm,20.0s
KURK Kurchatov 113.53 319 *e*PKiKP **PKiKP** **20 00 01.6 -1.0**
KURK MLR MLR
comp=Z,1µm,19.0s
KURK Kurchatov 113.53 319 *e*PKPdf **PKiKP** **20 00 01.6 -1.0**
KURK LR LR
comp=Z,3µm,19.0s
SPB Sao Paulo 114.07 125 PFAKE 20 00 10.0 +5.5
SPB LR LR
comp=Z,4µm,19.0s
ANWB Willy Bob 114.37 77 PFAKE 20 00 10.0 +4.9
ANWB LR LR
comp=Z,1µm,19.0s
BBGH Gun Hill 115.69 83 PFAKE 20 00 20.0 +12
BBGH LR LR
comp=Z,3µm,20.0s
KSH Kashi 115.90 307 PKP **PKPdf** **20 00 09.9 +2.2**
KSH PP PP 20 01 21.0 +9.3
KSH PKS **PKSdf** **20 03 46.4 +2.0**
KSH SKS **SKSdf** **20 07 19.7 +0.2**
KSH SKKS **SKKSac** **20 08 12.6 +0.1**
KSH PPMZ
comp=Z,470nm,8.9s
KSH LR LR
comp=Z,480nm,14.3s
KSH LR LR
comp=Z,810nm,14.5s
KSH LR LR
comp=Z,1µm,20.8s
TKM2 Tokmak 2 116.08 310 *e*PKiKP **PKPdf** **20 00 06.3 -1.7**
TKM2 MLR MLR
comp=Z,1µm,22.0s
TKM2 Tokmak 2 116.08 310 *e*PKPdf **PKPdf** **20 00 06.3 -1.7**
TKM2 LR LR
comp=Z,1µm,22.0s
POO Poona 116.36 283 *e*P **PKPdf** **20 00 07.0 -2.0**
KBS Kingsbay 116.57 359 PFAKE 20 00 20.0 +12
KBS LR LR
comp=Z,1µm,20.0s
SFJD Kangerlussuaq 116.62 22 PFAKE 20 00 20.0 +12
SFJD LR LR
comp=Z,3µm,20.0s
FRU Bishkek 116.80 310 *e*PKiKP **PKPdf** **20 00 09.0 -0.2**
AAK Ala-Archa 116.90 310 *e*PKiKP **PKPdf** **20 00 09.2 -0.3**
AAK MLR MLR
comp=Z,1µm,20.0s
AAK Ala-Archa 116.90 310 *e*PKPdf **PKPdf** **20 00 09.2 -0.3**
AAK LR LR
comp=Z,1µm,20.0s
EKS2 Erkin-Say 117.43 310 PFAKE 20 00 20.0 +9.5
EKS2 LR LR
comp=Z,2µm,20.0s
BRVK Borovoye 118.32 322*c* *i* PKiKP **PKPdf** **20 00 11.6 -0.1**
BRVK pmax pmax
comp=Z,10.0nm,1.2s
BRVK Borovoye 118.32 322 *e*PKPdf **PKPdf** **20 00 11.2 -0.5**
BRVK LR LR
comp=Z,3µm,20.0s
KKAR Karatay Array 119.78 311 *e*PKiKP **PKPdf** **20 00 13.2 -1.7**
KKAR Karatay Array 119.78 311 *e*PKPdf **PKPdf** **20 00 13.2 -1.7**
KBL Kabul 121.58 301 *e*PKiKP **PKPdf** **20 00 19.2 +0.3**
KBL Kabul 121.58 301 *e*PKPdf **PKPdf** **20 00 19.1 +0.3**
SOKR Solikamsk 123.11 332 *i* PKiKP **PKPdf** **20 00 20.8 +0.2**
SOKR pmax pmax
comp=Z,30nm,1.5s
ARU Arti 123.70 328 *i* PKiKP **PKPdf** **20 00 22.0 +0.1**
ARU 20 02 02.4
KEV Kevo 124.42 352 *e*pkp **PKPdf** **20 00 21.8 -1.1**
KEV Kevo 124.42 352 PFAKE 20 00 30.0 +7.1
KEV LR LR
comp=Z,3µm,21.0s
ARCES ARCESS Array B 124.83 352 PKP **PKPdf** **20 00 22.4 -1.3**
ARCES ARCESS Array B 124.83 352 PKP **PKPdf** **20 00 22.4 -1.3**
comp=Z,4.1nm,0.8s,baz=293,slow=0.9,SNR=6.3
APA Apatity 125.28 348⇓ *i* PKiKP PKPdf 20 00 16.0 -8.7
APA *i* 20 02 23.0
APA *i* 20 07 32.0
APA *i* 20 12 10.0
APA *i* PS **PS** **20 12 20.0 +4.4**
APA MLR MLR
comp=Z,3µm,20.0s
ABKAR Akbulak array 125.61 320 *e*PKPdf **PKPdf** **20 00 25.3 -0.5**
ABPO Ambohimpanom 127.59 230 PFAKE 20 00 40.0 +9.2
ABPO LR LR
comp=Z,2µm,21.0s
MSEY Mahe Island 127.98 251 PFAKE 20 00 40.0 +8.5
MSEY LR LR
comp=Z,2µm,19.0s
KLMR Klimovskoe 129.09 340 *e*PKiKP **PKPdf** **20 00 30.5 -1.6**
KLMR pmax pmax
comp=Z,51nm,1.6s
KLMR MLR MLR
comp=Z,2µm,19.0s
JOF Joensuu 129.73 346 *e*pkp **PKPdf** **20 00 33.0 -0.3**
SUR Sutherland 130.53 195 PFAKE 20 00 50.0 +14
SUR LR LR
comp=Z,3µm,19.0s
SMDO Samad 131.46 287 PKPdf **PKPdf** **20 00 39.8 +1.9**
SNR=7.3
KAF Kangasniemi 131.54 348 *e*pkp **PKPdf** **20 00 36.7 0.0**
FINES FINESS Array B 132.19 348 PKP **PKPdf** **20 00 38.9 +0.9**
FINES FINESS Array B 132.19 348 PKP **PKPdf** **20 00 38.9 +0.9**
comp=Z,3.6nm,0.9s,baz=116,slow=4.4,SNR=5.6
RCBR Riachuelo 132.47 113 PFAKE 20 00 50.0 +10
RCBR LR LR
comp=Z,3µm,21.0s
BOSA Boshof 132.66 202 PKP **PKPdf** **20 00 40.2 +0.1**
BOSA Boshof 132.66 202 PKP **PKPdf** **20 00 40.2 +0.1**
comp=Z,3.7nm,0.9s,baz=180,slow=4.0,SNR=3.1
ASHO Ashiyiah 133.28 289 PKPdf **PKPdf** **20 00 41.8 +0.6**
SNR=5.7
MOS Moscow 133.56 337 *e*PKiKP **PKPdf** **20 00 44.1 +3.4**
MOS *e* 20 03 13.2
MOS pmax pmax
comp=Z,56nm,1.5s
OBN Obninsk 134.43 337 *i* PKiKP **PKPdf** **20 00 41.7 -0.6**
OBN *i* 20 03 15.0
OBN pmax pmax
comp=Z,13nm,0.7s
NB2 NORSAR Subarra 134.49 357 PKPdf **PKPdf** **20 00 42.0 -0.4**
comp=Z,30nm,1.7s,baz=5.7,slow=1.9
NB2 NORSAR Subarra 134.49 357 PKPdf **PKPdf** **20 00 42.0 -0.4**
baz=5.7,slow=1.9
NOA NORSAR Array B 134.49 357 PKP **PKPdf** **20 00 42.7 +0.3**
NOA NORSAR Array B 134.49 357 PKP **PKPdf** **20 00 42.7 +0.3**
comp=Z,1.6nm,1.0s,baz=16,slow=3.2,SNR=2.8
RBK Rabkut 134.81 279 PKPdf **PKPdf** **20 00 45.5 +1.3**
SNR=7.3
VRHR Novokhopersk 135.01 330 *i* PKiKP **PKPdf** **20 00 45.1 +1.5**
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=N,8.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,1.3s

KONO Kongsberg 135.95 358 PFAKE 20 00 50.0 +4.9
KONO LR LR
comp=Z,2µm,21.0s
VSR Storozhevoye 136.10 331 *i* PKiKP **PKPdf** **20 00 46.9 +1.3**
VSR pmax pmax
comp=E,10.0nm,1.4s
VSR pmax pmax
comp=Z,20nm,1.4s
VSR pmax pmax
comp=N,10.0nm,1.1s
VORD Divnogorie 136.21 331 *i* PKiKP **PKPdf** **20 00 45.7 -0.1**
VORD pmax pmax
comp=E,10.0nm,0.5s
VORD pmax pmax
comp=Z,7.0nm,0.5s
GOF Gofitskoye 137.78 322 *e*PKiKP **PKPdf** **20 00 51.5 +2.5**
DGRG David-gareji 138.08 316 P PKPdf 20 00 56.6 +7.0
TBLG Delisi 138.38 316 P **PKPdf** **20 00 53.6 +3.4**
ZEI Tsey 138.42 318 *i* PKiKP **PKPdf** **20 00 52.7 +2.2**
ZEI pmax pmax
comp=Z,9.0nm,1.2s
KBZ Khabaz 138.58 320 PKHKP PKPpre 20 00 44.1
KBZ 20 00 52.9
KBZ Khabaz 138.58 320 PKPpre PKPpre 20 00 44.1
KBZ PKP **PKiKP** **20 00 52.9 +0.4**
KBZ Khabaz 138.58 320 PKhKP PKPpre 20 00 44.1
comp=Z,1.3nm,0.9s,baz=18,slow=3.2,SNR=3.1
KBZ PKP **PKiKP** **20 00 52.9 +0.4**
comp=Z,2.5nm,0.9s,baz=51,slow=1.1,SNR=5.2
KIV Kislovodsk 138.59 320 *i* PKiKP **PKPdf** **20 00 47.7 -2.9**
KIV pmax pmax
comp=Z,3.0nm,0.6s
KIV MLR MLR
comp=Z,2µm,21.0s
ONI Oni 138.81 318 P **PKPdf** **20 00 52.7 +1.7**
GNI Garni 139.08 314 *e*PKPdf **PKPdf** **20 00 54.0 +2.3**
GNI LR LR
comp=Z,1µm,22.0s
AKH Akhalkalaki 139.35 317 P **PKPdf** **20 00 48.8 -3.4**
ESK Eskdalemuir 139.56 9 PFAKE 20 01 00.0 +8.1
ESK LR LR
comp=Z,2µm,20.0s
CHVG Ch'k'valeri 139.61 319 P PKPdf 20 01 01.3 +8.9
SUW Suwalki 139.61 345 *e*PKiKP **PKPdf** **20 00 48.7 -3.3**
SUW Suwalki 139.61 345 *e*PKPdf **PKPdf** **20 00 48.7 -3.3**
SUW Suwalki 139.61 345 *e*PKP **PKPdf** **20 00 49.9 -2.1**
KBD Kabd 140.23 297 *e*P PKPdf 20 00 45.4 -8.5
RDF Al-Radifah 140.40 297 *e*P PKPdf 20 00 46.0 -8.2
RDF AMb AMB 20 00 56.9
comp=Z,45nm,2.2s
SOC Sochi 140.59 322 *e*PKiKP **PKPdf** **20 00 52.3 -1.8**
SOC *e* 20 03 49.7
SOC *e*PPP PPP 20 06 57.5
SOC *e* 20 08 04.0
SOC *e*SS SS 20 22 16.1 -1.6
SOC pmax pmax
comp=Z,15nm,0.6s
SOC MLR MLR
comp=Z,2µm,20.0s
NAY Al-Naaiem 140.60 297 *e*P PKPdf 20 00 45.6 -9.0
NAY AMb AMB 20 00 59.1
comp=Z,32nm,1.2s
AKASG Malin Array Be 140.65 338 PKHKP PKPpre 20 00 48.7
AKASG Malin Array Be 140.65 338 PKPpre PKPpre 20 00 48.6
AKASG Malin Array Be 140.65 338 PKhKP PKPpre 20 00 48.6
comp=Z,2.0nm,0.6s,baz=35,slow=3.7,SNR=7.2
KIEV Kiev 140.66 338 *e*PKiKP **PKPdf** **20 00 51.9 -2.1**
KIEV MLR MLR
comp=Z,3µm,22.0s
KIEV Kiev 140.66 338 *e*PKPdf **PKPdf** **20 00 51.9 -2.1**
KIEV LR LR
comp=Z,3µm,22.0s
RST Umm Al-Ruwaisa 140.76 298 *e*P PKPdf 20 00 46.5 -8.4
RST AMb AMB 20 01 01.9
comp=Z,255nm,1.8s
ANN Anapa 141.17 325 *i* PKHKP PKPpre 20 00 48.7
ANN *e* 20 03 53.9
ANN pmax pmax
comp=Z,27nm,1.1s
ANN pmax pmax
comp=Z,511nm,8.1s
ANN MLR MLR
comp=Z,995nm,20.0s
BSEG Bad Segeberg 141.63 357 *e*PKiKP **PKPdf** **20 00 53.1 -2.5**
BSEG Bad Segeberg 141.63 357 *e*PKPbc **PKPdf** **20 00 53.1 -2.5**
SIM Simferopol' 142.85 328 *e*PKiKP **PKPdf** **20 00 58.6 +0.5**
SIM pmax pmax
comp=Z,200nm,8.1s
SIM MLR MLR
comp=Z,1µm,18.0s
LSZ Lusaka 142.90 215 *e*PKPpre PKPpre 20 00 55.3
LSZ LR LR
comp=Z,2µm,19.0s
NRDL Niedersach Rie 143.08 357 *e*PKPbc **PKPdf** **20 00 56.6 -1.6**
LVV L'vov 143.15 342 *e*PKHKP PKPab 20 00 54.0 0.0
LVV *e* 20 04 09.8
LVV *e* 20 08 03.4
LVV MLR MLR
comp=N,2µm,19.0s
LVV MLR MLR
comp=E,900nm,19.0s
LVV MLR MLR
comp=Z,2µm,19.0s
IBBN Ibbenburen 143.34 359 *e*PKPbc **PKPdf** **20 00 58.1 -0.6**
WTSB Winterswijk 143.69 0 *e*PKP **PKPdf** **20 01 00.6 +1.3**
comp=Z,120nm,1.8s
KWP Kalwaria Pacla 143.71 343 *e*PKHKP PKPab 20 00 55.6 -0.6
KWP MLR MLR
comp=Z,3µm,20.0s
KWP Kalwaria Pacla 143.71 343⇓ *i*P PKPbc 20 00 57.4 +0.4
KWP Kalwaria Pacla 143.71 343 *e*PKPpre PKPab 20 00 55.6 -0.6
KWP LR LR
comp=Z,3µm,20.0s
KWP Kalwaria Pacla 143.71 343 *e*PKP PKPab 20 00 55.5 -0.7
CLZ Clausthal 143.72 356 *e*PKiKP **PKPdf** **20 00 59.9 +0.4**
CLZ Clausthal 143.72 356 *e*PKPbc **PKPdf** **20 00 59.9 +0.4**
CMLA Cha da Macela 143.76 46 PFAKE 20 01 10.0 +10
CMLA LR LR
comp=Z,4µm,20.0s
KIS Kishinev 143.80 335 *e*PKP PKPab 20 00 55.0 -1.6
KIS Kishinev 143.80 335 *e*PP PP 20 04 03.0 -9.1
KIS Kishinev 143.80 335 *e*PPP PPP 20 07 26.0
KIS *e*SKKS 20 09 12.0
KIS Kishinev 143.80 335 *e*PKHKP PKPab 20 00 55.0 -1.6
KIS *e*PPP PPP 20 07 26.0
TSUM Tsumeb 143.92 197 *e*PKPdf PKPbc 20 00 59.5 +0.8
TSUM LR LR
comp=Z,3µm,20.0s
OJC Ojcow 143.92 346 *e*PKPdf PKPbc 20 00 57.4 -0.2
OJC *es*PKPdf sPKPdf 20 01 02.9 -4.2
SFNV Sufian 143.99 311 *i* P PKPab 20 00 55.2 -2.6
CLL Collm 144.03 354 *i* PKiKP PKPbc 20 00 58.0 +0.2
CLL pmax pmax
comp=Z,12nm,1.2s
CLL MLR MLR
comp=Z,2µm,19.7s
CLL Collm 144.03 354 *e*PKPbc PKPbc 20 00 58.1 +0.3
CLL Collm 144.03 354 *i* PKPdf PKPbc 20 00 58.0 +0.2
comp=Z,9.0nm,1.2s
CLL *e*PKiKP **PKiKP** **20 01 03.0 -0.5**
comp=Z,63nm,2.0s
CLL *e*PKPlp 20 01 05.0
comp=Z,1µm,17.4s
CLL *i* sPKiKP sPKiKP 20 01 08.7 -2.0
CLL *e*PP **PP** **20 04 12.0 -1.0**
CLL *e*SS **SS** **20 22 56.0 0.0**
CLL *e*SSS SSS 20 28 42.0
CLL LmV 21 08 00.0
comp=Z,2µm,19.7s
KSP Ksiaz 144.03 350 *e*PKP PKPbc 20 00 58.0 +0.1
BUG Bochum--Univer 144.22 360 *e*PKPbc **PKPdf** **20 01 01.5 +1.2**
MALT Malatya 144.27 315⇑ *e*PKiKP **PKPdf** **20 01 01.4 +0.4**
MALT Malatya 144.27 315⇑ *i*P **PKPdf** **20 01 01.4 +0.4**
STHS Stebnicka Huta 144.30 344 *e*PKP PKPbc 20 00 59.3 +0.5
BRG Berggiesshubel 144.35 352 *e*PKP PKPbc 20 00 58.9 +0.1
comp=Z,8.4nm,1.1s
BRG SS SS 20 22 49.0 -11
BRG
comp=N,1µm,18.7s
BRG
comp=E,607nm,20.5s
BRG
comp=Z,2µm,21.1s
BRG Berggiesshubel 144.35 352 *e*PKPbc **PKPdf** **20 01 02.3 +1.7**

UPC	Upice	144.40	350	*i* PKP	PKPbc	20 00 59.9	+0.8		
UPC				*ex* x	x	20 01 11.0			
DPC	Dobruska-Polom	144.50	350	*i* PKP	PKPbc	20 01 00.0	+0.5		
DPC				*ex* x	x	20 01 08.9			
DPC				*ex* x	x	20 14 25.7			
DPC				AMS	AMS	21 03 20.0			
PRAR	RASCA	144.52	337	⇓*i* P	PKPdf	20 01 01.7	+0.7		
NIE	Niedzica	144.54	345	*e*PKPdf	PKPbc	20 00 59.7	+0.1		
PVCC	Panska Ves	144.60	352	*i* PKP	PKPdf	20 01 00.7	-0.3		
PVCC				*ex* x	x	20 01 08.8			
PVCC				AMS	AMS	21 03 10.0			
	comp=Z,2µm,21.2s								
OKC	Ostrava-Krasne	144.64	348	*i* PKP	PKPbc	20 01 00.4	+0.6		
OKC				*ex* x	x	20 01 08.2			
OKC				AMS	AMS	21 04 30.0			
	comp=Z,2µm,20.7s								
BUR08	Bucovina Ar. S	144.66	339	*e*PKPdf	PKPbc	20 01 00.6	+0.5		
BURAR	Bucovina Array	144.67	339	⇓PKIKP	PKPdf	20 01 01.0	-0.4		
BURAR	Bucovina Array	144.67	339	⇓*i* P	PKPdf	20 01 01.0	-0.4		
UZH	Uzhgorod	144.72	342	*e*PKIKP	PKPab	20 00 59.0	-1.0		
UZH				*e*		20 01 07.8			
UZH				*i*		20 01 11.8			
UZH				*e*		20 04 14.0			
UZH				*e*SS	SS	20 23 06.9	+2.6		
UBBA	Unterbreizbach	144.76	357	*e*PKPbc	PKPbc	20 01 00.3	+0.3		
BEBN	Eben Emael	144.85	1	PKP	PKPdf	20 01 01.1	-0.3		
HGN	Heimansgroeve	144.88	1	*e*PKP	PKPab	20 01 00.5	0.0		
	comp=Z,314nm,2.4s								
HGN				*e*PP	PP	20 04 21.6	+3.5		
TANN	Tannenbergstha	144.97	354	*e*PKPbc	PKPbc	20 01 01.3	+0.3		
MEM	Membach	145.04	1	PKP	PKPdf	20 01 01.6	-0.1		
PRA	Prague	145.07	352	PKP	PKPdf	20 01 02.0	+0.2		
TESR	Tescani	145.07	336	⇑*i* P	PKPdf	20 01 01.7	-0.3		
TRPA	Tarpa	145.10	342	⇓*i* P	PKPdf	20 01 02.4	+0.5		
TRPA	Tarpa	145.10	342	⇑*e*PKPbc	PKPdf	20 01 01.8	-0.1		
PRU	Pruhonice	145.13	352	*i* PKP	PKPab	20 01 01.6	+0.1		
PRU				*ex* x	x	20 01 13.1			
PRU				*ex* x	x	20 14 26.7			
PRU				*e*SS	SS	20 23 09.4	+0.7		
PRU				AMS	AMS	21 03 40.0			
	comp=Z,3µm,19.6s								
BMR	Baia Mare	145.21	340	⇓PKIKP	PKPdf	20 01 03.3	+1.2		
BMR	Baia Mare	145.21	340	⇓*i* P	PKPdf	20 01 03.3	+1.2		
BCLA	Clavier	145.21	2	PKP	PKPbc	20 01 00.8	-0.9		
TLCR		145.23	333	⇓PKIKP	PKPdf	20 01 02.8	+0.6		
TLCR		145.23	333	⇓*i* P	PKPdf	20 01 02.8	+0.6		
TNS	Taunus Mts	145.42	358	*e*PKIKP	PKPbc	20 01 02.1	-0.3		
TNS	Taunus Mts	145.42	358	*e*PKPbc	PKPbc	20 01 02.1	-0.3		
VRAC	Vranov	145.46	349	⇓*i* P	PKPab	20 01 03.5	+0.8		
PETR	Petresti	145.48	335	⇑*i* P	PKPab	20 01 04.3	+1.4		
DOU	Dourbes	145.51	3	PKP	PKPdf	20 01 01.9	-0.6		
CFR	Carcaliu	145.53	333	⇓PKIKP	PKPab	20 01 03.9	+0.8		
CFR	Carcaliu	145.53	333	⇓*i* P	PKPab	20 01 03.9	+0.8		
VRI	Vrincioaia	145.57	335	⇓PKIKP	PKPab	20 01 03.9	+0.6		
VRI	Vrincioaia	145.57	335	⇓*i* P	PKPab	20 01 03.9	+0.6		
PLOR	Plostina	145.61	335	⇑PKIKP	PKPab	20 01 03.9	+0.5		
PLOR	Plostina	145.61	335	⇑*i* P	PKPab	20 01 03.9	+0.5		
ROTZ	Rotzenmuhle	145.63	354	*e*PKPbc	PKPab	20 01 03.8	+0.5		
SLMH	Al Salmeh	145.65	313	*i* P	PKPab	20 01 04.9	+1.0		
TREC	Trest	145.66	350	*e*PKP	PKPab	20 01 03.6	+0.1		
TREC				AMS	AMS	21 03 20.0			
	comp=Z,2µm,19.7s								
GRF	Grafenberg Arr	145.80	355	*e*PKP2	PKPbc	20 01 03.5	-0.1		
GRF				MLR	MLR				
	comp=Z,1µm,21.1s								
GRF	Grafenberg Arr	145.80	355	*e*PKPbc	PKPbc	20 01 03.5	-0.1		
GRF				*e*L	L	21 07 06.4			
	comp=Z,1µm,21.1s								
GRFO	Grafenberg	145.80	355	*e*PKP2	PKPdf	20 01 03.3	+0.2		
GRFO	Grafenberg	145.80	355	*e*PKPdf	PKPdf	20 01 03.3	+0.2		
KMBO	Kilima Mbogo	145.82	244	PKPbc	PKPab	20 01 06.6	+1.1		
	SNR=47								
KMBO	Kilima Mbogo	145.82	244	*e*PKPbc	PKPab	20 01 05.8	+0.3		
KMBO				LR	LR				
	comp=Z,2µm,19.0s								
KMBO	Kilima Mbogo	145.82	244	PKPbc	PKPab	20 01 06.7	+1.2		
	comp=Z,28nm,1.0s,baz=98,slow=3.4,SNR=61								
GRER		145.86	335	⇑*i* P	PKPab	20 01 06.6	+2.3		
TIRR	Tirgusor	145.97	332	*e*PKP2	PKPab	20 01 04.6	-0.2		
TIRR	Tirgusor	145.97	332	⇑*i* P	PKPab	20 01 05.2	+0.4		
TIRR	Tirgusor	145.97	332	*e*PKPdf	PKPab	20 01 04.6	-0.2		
WLF	Walferdange	145.99	1	PKP	PKPab	20 01 04.9	+0.3		
WLF	Walferdange	145.99	1	*e*PKP2	PKPab	20 01 04.6	0.0		
WLF				MLR	MLR				
	comp=Z,2µm,20.0s								
WLF	Walferdange	145.99	1	*e*PKPbc	PKPab	20 01 05.2	+0.6		
WLF	Walferdange	145.99	1	*e*PKPbc	PKPab	20 01 04.6	0.0		
WLF				LR	LR				
	comp=Z,2µm,20.0s								
DOPR	Dopca	146.01	337	⇑*i* P	PKPab	20 01 05.1	+0.2		
HARR	Harsova	146.01	333	⇓PKP2	PKPab	20 01 05.8	+0.9		
HARR	Harsova	146.01	333	⇓*i* P	PKPab	20 01 05.8	+0.9		
PSZ	Piszkesteto	146.03	344	*e*PKP2	PKPbc	20 01 04.7	+0.2		
PSZ				MLR	MLR				
	comp=Z,2µm,20.0s								
PSZ	Piszkesteto	146.03	344	⇑*i* P	PKPab	20 01 06.4	+1.4		
PSZ	Piszkesteto	146.03	344	*e*PKPbc	PKPbc	20 01 04.7	+0.2		
PSZ				LR	LR				
	comp=Z,2µm,20.0s								
PSZ	Piszkesteto	146.03	344	⇑*e*PKPdf	PKPbc	20 01 04.7	+0.2		
TLB	Topalu	146.04	333	⇑PKP2	PKPab	20 01 05.7	+0.7		
TLB	Topalu	146.04	333	⇑*i* P	PKPab	20 01 05.7	+0.7		
SMOL	Smolenice	146.05	348	*e*PKP	PKPab	20 01 06.3	+1.4		
KHC	Kasperske Hory	146.10	352	*e*PKIKP	PKPdf	20 01 03.5	-0.2		
KHC	Kasperske Hory	146.10	352	*i* PKP	PKPdf	20 01 04.1	+0.4		
KHC				*ex* x	x	20 01 14.0			
KHC				*ex* x	x	20 14 29.5			
KHC				*e*SS	SS	20 23 22.4	+2.6		
KHC	Kasperske Hory	146.10	352	*e*PKPdf	PKPdf	20 01 03.5	-0.2		
WET	Wettzell	146.18	353	*e*PKP2	PKPab	20 01 05.4	0.0		
WET	Wettzell	146.18	353	*e*PKPbc	PKPab	20 01 05.4	0.0		
MLR	Muntele Rosu	146.19	336	⇓*i* P	PKPab	20 01 05.6	-0.1		
SHEL	Horse Pasture	146.23	158	PFAKE		20 01 10.0	+3.5		
SHEL				LR	LR				
	comp=Z,1µm,19.0s								
DRGR		146.24	340	⇓PKP2	PKPab	20 01 05.7	-0.1		
DRGR		146.24	340	⇓*i* P	PKPab	20 01 05.7	-0.1		
PGOR	Pogoanele	146.24	334	⇓*i* P	PKPab	20 01 19.5	+14		
AMRR	Amara	146.33	333	⇓PKP2	PKPab	20 01 07.6	+1.5		
AMRR	Amara	146.33	333	⇓*i* P	PKPab	20 01 07.6	+1.5		
DRWC	Darouich	146.33	314	*i* P	PKPab	20 01 08.7	+2.2		
GEC2	GERESS Array S	146.37	352	*e*PKP2	PKPbc	20 01 05.8	+0.3		
GEC2	GERESS Array S	146.37	352	*e*PKPbc	PKPbc	20 01 05.8	+0.3		
GERES	GERESS Array B	146.37	352	PKPbc	PKPbc	20 01 05.5	+0.1		
GERES	GERESS Array B	146.37	352	PKPbc	PKPbc	20 01 05.5	+0.1		
	comp=Z,23nm,1.2s,baz=48,slow=2.0,SNR=41								
SECR		146.51	335	⇓*i* P	PKPab	20 01 07.4	+0.6		
MSAB	Monastry St. A	146.53	332	⇑*i* P	PKPab	20 01 08.2	+1.3		
BR131	Keskin Array S	146.54	321	*e*PKPbc	PKPbc	20 01 06.7	+0.3		
BRTR	Keskin Array B	146.54	321	PKPbc	PKPab	20 01 07.2	-0.2		
BRTR	Keskin Array B	146.54	321	PKPbc	PKPab	20 01 07.2	-0.2		
	comp=Z,45nm,0.8s,baz=117,slow=2.0,SNR=106								
VOIR		146.58	337	⇑PKP2	PKPab	20 01 07.5	+0.3		
VOIR		146.58	337	⇑*i* P	PKPab	20 01 07.5	+0.3		
BUD	Budapest	146.66	345	⇑*e*	PKPbc	20 01 06.4	+0.2		
LANF	Langenberg	146.67	359	PKP	PKPdf	20 01 04.6	0.0		
PSN	Preselentsi	146.68	332	*i* P	PKPab	20 01 07.5	0.0		
SULR		146.73	335	⇑*i* P	PKPab	20 01 08.5	+0.9		
MTUR	Matau	146.75	336	⇓PKP2	PKPab	20 01 11.4	+3.5		
MTUR	Matau	146.75	336	⇓*i* P	PKPab	20 01 11.4	+3.5		
BTCH	Batrach	146.77	313	*i* P	PKPab	20 01 09.4	+1.2		
ARR	Arges	146.80	337	⇓*i* P	PKPab	20 01 08.5	+0.5		
STU	Stuttgart	146.84	357	*e*PKP2	PKPab	20 01 08.1	+0.1		
STU	Stuttgart	146.84	357	*e*PKPbc	PKPab	20 01 08.1	+0.1		
PKSG		146.90	346	⇑*e*PKPdf	PKPbc	20 01 07.1	+0.2		
CONA	Conrad Observa	146.92	349	⇓*i* PKPbc	PKPdf	20 01 05.8	+0.6		
	comp=Z,148nm,1.7s,SNR=14								
ANTO	Ankara	146.96	322	*e*PKP2	PKPbc	20 01 08.0	+0.6		
ANTO				MLR	MLR				
	comp=Z,897nm,20.0s								
ANTO	Ankara	146.96	322	PKPdf	PKPbc	20 01 06.9	-0.5		
	SNR=44								
ANTO	Ankara	146.96	322	⇓*i* P	PKPab	20 01 09.0	+0.2		
ANTO	Ankara	146.96	322	*e*PKPbc	PKPbc	20 01 08.0	+0.6		
ANTO				LR	LR				
	comp=Z,897nm,20.0s								
DEV	Deva	146.97	339	⇓PKP2	PKPab	20 01 09.0	+0.4		
DEV	Deva	146.97	339	⇓*i* P	PKPab	20 01 08.9	+0.4		
PKSN	Nyarlorinc	146.98	344	⇑*e*	PKPab	20 01 07.9	-0.6		
SOP	Sopron	147.02	348	⇑*e*PKPdf	PKPdf	20 01 05.6	+0.4		
PKS7	Kunszentmiklos	147.03	345	⇑*e*	PKPab	20 01 15.8	+7.1		
LOT	Lotru	147.05	338	⇓*i* P	PKPbc	20 01 07.6	0.0		
ROOS	tl_alroos	147.06	310	*i* P	PKPbc	20 01 08.7	+0.7		
PKST	T¯¯s	147.10	346	⇑*e*	PKPbc	20 01 07.5	0.0		
ARNB	Al Arnab	147.20	313	*i* P	PKPab	20 01 12.5	+2.6		
MOA	Molln	147.26	351	*i* PKPab	PKPbc	20 01 08.5	+0.5		
	comp=Z,63nm,1.2s,SNR=18								
FUR	Furstenfeldbru	147.31	355	*e*PKP2	PKPbc	20 01 08.4	+0.3		
FUR	Furstenfeldbru	147.31	355	*e*PKPbc	PKPbc	20 01 08.4	+0.3		
BFO	Black Forest	147.31	358	*e*PKP2	PKPdf	20 01 06.9	+1.1		
BFO				MLR	MLR				
	comp=Z,1µm,21.0s								
BFO	Black Forest	147.31	358	*e*PKPbc	PKPbc	20 01 08.8	+0.7		
BFO	Black Forest	147.31	358	*e*PKPdf	PKPdf	20 01 06.9	+1.1		
BFO				LR	LR				
	comp=Z,1µm,21.0s								
HUMR	Humele	147.37	336	⇓*i* P	PKPab	20 01 16.8	+6.6		
THEF	They Montfort	147.42	1	PKP	PKPdf	20 01 06.1	+0.2		
ECH	Echery	147.45	360	*e*PKIKP	PKPdf	20 01 06.8	+0.8		
ECH				MLR	MLR				
	comp=Z,2µm,19.0s								
ECH	Echery	147.45	360	PKP	PKPdf	20 01 05.7	-0.3		
ECH	Echery	147.45	360	*e*PKPbc	PKPdf	20 01 06.8	+0.8		
ECH				LR	LR				
	comp=Z,2µm,19.0s								
PKS2	Kecel	147.53	344	⇑*e*	PKPbc	20 01 09.3	+0.6		
RJOB	Jochberg	147.57	353	*e*PKPbc	PKPab	20 01 10.0	-0.9		
ZALF	Zalf	147.57	308	*i* P	PKPab	20 01 10.6	-0.9		
BZS	Buzias	147.63	341	⇓PKIKP	PKPbc	20 01 07.7	-1.3		
BZS	Buzias	147.63	341	⇓*i* P	PKPbc	20 01 07.7	-1.3		
ARSA	Arzberg	147.63	349	⇓*i* PKPbc	PKPdf	20 01 06.8	+0.5		
	comp=Z,50nm,1.2s,SNR=8.4								
PKS9	Tamasi	147.68	345	⇑*e*	PKPbc	20 01 08.9	-0.2		
FELD	Feldberg im Sc	147.78	359	PKP	PKPdf	20 01 04.9	-1.8		
MOF	Molkenrain	147.81	360	PKP	PKPdf	20 01 06.6	-0.1		
ZIMR		147.93	335	⇑PKP2	PKPab	20 01 12.0	-0.4		
ZIMR		147.93	335	⇑*i* P	PKPab	20 01 12.0	-0.4		
DESE	Dese	147.98	266	*e*P	PKPbc	20 01 11.4	+0.1		
SZH	Strazhica	148.01	333	*i* P	PKPdf	20 01 07.4	+0.4		
RETA	Reutte	148.02	355	*i* PKiKP	PKPbc	20 01 10.5	+0.4		
	comp=Z,82nm,1.5s,SNR=19								
TOTH	TOTAH	148.06	309	*i* P	PKPab	20 01 13.4	0.0		
WATA	Walderalm	148.10	354	⇓*i*pPKPdf	PKPbc	20 01 10.4	0.0		
	comp=Z,28nm,0.8s,SNR=11								
BEHE	Becsehely	148.13	347	⇑*e*	PKPbc	20 01 10.3	0.0		
ISK	Istanbul-Kandi	148.22	327	P	PKPdf	20 01 07.2	-0.2		
ISK	Istanbul-Kandi	148.22	327	PKIKP	PKPdf	20 01 07.2	-0.2		
ISK	Istanbul-Kandi	148.22	327	P	PKPdf	20 01 07.2	-0.2		
SOKA	Soboth	148.27	349	⇑*i* PKPdf	PKPdf	20 01 06.6	-0.9		
	comp=Z,50nm,1.3s,SNR=11								
DAVA	Damuels	148.29	356	*i* PKiKP	PKiKP	20 01 11.8	-0.8		
	comp=Z,71nm,1.1s,SNR=15								
PERS	Pernice	148.30	349	*i* PKPdf	PKPdf	20 01 06.7	-0.8		
PERS				*i* PKPbc	PKPbc	20 01 10.6	-0.2		
PVL	Pavlikeni	148.31	334	*i* P	PKPbc	20 01 11.8	+0.9		
LOMF	Lomont	148.31	0	PKP	PKPdf	20 01 06.8	-0.7		
JMB	Yambol	148.36	332	P	PKPdf	20 01 07.7	+0.1		
JMB	Yambol	148.36	332	PKIKP	PKPdf	20 01 07.7	+0.1		
JMB	Yambol	148.36	332	*i* P	PKPdf	20 01 08.5	+0.9		
JMB	Yambol	148.36	332	P	PKPdf	20 01 07.7	+0.1		
ASCN	Ascension	148.47	136	PFAKE		20 01 20.0	+4.6		
ASCN				LR	LR				
	comp=Z,2µm,21.0s								
FETA	Feichten	148.49	355	⇑*i*pPKPdf	PKPbc	20 01 10.7	-0.8		
	comp=Z,63nm,1.1s,SNR=7.7								
MYKA	Terra Mystica	148.54	351	⇑*i* PKPbc	PKPbc	20 01 10.1	-1.4		
	comp=Z,67nm,1.4s,SNR=7.4								
ABTA	Abfaltersbach	148.58	353	⇑*i* PKPdf	PKPdf	20 01 07.6	-0.4		
	comp=Z,86nm,1.6s,SNR=15								
MPEP	Malo Peshtene	148.84	336	*i* P	PKPdf	20 01 09.0	+0.6		
LJU	Ljubljana	148.97	350	*i* PKPdf	PKPdf	20 01 08.7	+0.2		
LJU				*i* PKPbc	PKPbc	20 01 12.5	-0.1		
PHNC	Paralimni	149.00	314	P	PKPdf	20 01 01.8	-7.1		
	comp=Z,2.5nm,1.4s								
VOY	Vojsko	149.09	351	*e*PKPdf	PKPdf	20 01 09.3	+0.5		
VOY				*e*PKPbc	PKiKP	20 01 14.7	+0.5		
VOY				*e*		20 01 20.7			
VOY				*e*		20 01 27.2			
VOY				*e*		20 01 40.4			
TUE	Stuetta	149.13	357	*e*PKPdf	PKPdf	20 01 09.8	+0.8		
TUE				LR	LR				
	comp=Z,2µm,21.0s								
JAVS	Javornik	149.20	350	*i* PKPdf	PKPdf	20 01 08.8	-0.3		
JAVS				*i* PKPbc	PKPbc	20 01 13.0	-0.3		
PGB	Panagyurishte	149.34	335	*i* P	PKPdf	20 01 09.5	+0.2		
BOJS	Bojanci	149.36	349	*i* PKPdf	PKPdf	20 01 09.2	+0.1		
BOJS				*i* PKPbc	PKPbc	20 01 14.1	+0.6		
MAMC	Mammari	149.48	315	P	PKPdf	20 01 03.4	-6.3		
PLD	Plovdiv	149.48	334	P	PKPdf	20 01 08.6	-0.8		
PLD	Plovdiv	149.48	334	PKIKP	PKPdf	20 01 08.6	-0.8		
PLD	Plovdiv	149.48	334	*i* P	PKPdf	20 01 09.1	-0.3		
PLD	Plovdiv	149.48	334	P	PKPdf	20 01 08.6	-0.8		
DIVS	Divibare	149.50	341	P	PKPdf	20 01 09.1	-0.4		
CSS	Prodhromos	149.51	314	P	PKPdf	20 01 03.0	-6.8		
	comp=Z,1.8nm,1.2s								
CSS	Prodhromos	149.51	314	P	PKPdf	20 01 09.4	-0.3		
CSS	Prodhromos	149.51	314	P	PKPdf	20 01 09.4	-0.3		
CSS				*e*PKPbc	PKPbc	20 01 14.1	-0.1		
CSS				LR	LR				
	comp=Z,310nm,21.0s								
KDZ	Kurdzhali	149.54	332	*i* P	PKPdf	20 01 09.6	0.0		
PLDF	La Plantade	149.56	5	PKP	PKPdf	20 01 10.5	+0.9		
ISP	Isparta	149.63	321	P	PKPdf	20 01 09.5	-0.5		
ISP	Isparta	149.63	321	PKIKP	PKPdf	20 01 09.5	-0.5		
ISP				MLR	MLR				
	comp=Z,1µm,20.0s								
ISP	Isparta	149.63	321	P	PKPdf	20 01 09.5	-0.5		
ISP				LR	LR				
	comp=Z,1µm,20.0s								
VTS	Vitosha	149.69	336	P	PKPdf	20 01 09.7	-0.3		
VTS	Vitosha	149.69	336	⇑PKP2	PKPbc	20 01 15.4	+0.8		
VTS	Vitosha	149.69	336	⇑*i* P	PKPbc	20 01 15.4	+0.8		
VTS	Vitosha	149.69	336	*i* P	PKPdf	20 01 10.2	+0.2		
VTS	Vitosha	149.69	336	P	PKPdf	20 01 09.7	-0.3		
PYM	Petit Puy Mans	149.72	6	PKP	PKPbc	20 01 12.6	-1.9		
RZN	Rozhen	149.82	333	*i* P	PKPdf	20 01 09.9	-0.3		
ALN	Alexandroupoli	149.84	331	P	PKPdf	20 01 08.3	-1.7		
ALN	Alexandroupoli	149.84	331	PKIKP	PKPdf	20 01 08.3	-1.7		
ALN	Alexandroupoli	149.84	331	P	PKPdf	20 01 08.3	-1.7		
RDO	Rodhopi	149.88	331	P	PKPdf	20 01 09.3	-0.8		
RDO	Rodhopi	149.88	331	P	PKPdf	20 01 09.3	-0.8		
ALFC	Alevga	149.91	315	P	PKPdf	20 01 04.2	-6.2		
	comp=Z,0.9nm,0.9s								
SZAC	Souni-Zanaja	149.93	314	P	PKPdf	20 01 04.0	-6.4		
	comp=Z,1.6nm,0.9s								
AKMC	Akamas	150.16	315	P	PKPdf	20 01 04.4	-6.4		
PPCY	Paphos	150.23	315	P	PKPdf	20 01 04.7	-6.1		
KULA	Kula-Manisa	150.25	324	P	PKPdf	20 01 09.1	-1.8		
KULA	Kula-Manisa	150.25	324	P	PKPdf	20 01 09.1	-1.8		
LBL	Lubilhac	150.26	5	PKP	PKPdf	20 01 13.1	+2.4		
SSB	Saint Sauveur	150.31	4	*e*PKIKP	PKPbc	20 01 15.9	0.0		
SSB				MLR	MLR				
	comp=Z,2µm,19.0s								
SSB	Saint Sauveur	150.31	4	PKP	PKPbc	20 01 16.4	+0.5		
SSB	Saint Sauveur	150.31	4	*e*PKPbc	PKPbc	20 01 15.9	0.0		
SSB				LR	LR				
	comp=Z,2µm,19.0s								
MMB	Musomiste	150.32	334	*i* P	PKPdf	20 01 10.6	-0.3		
KKB	Krupnik	150.36	335	*i* P	PKPdf	20 01 10.6	-0.3		
PLE	Pljevlja	150.38	342	*e*PKP	PKPdf	20 01 10.4	-0.6		
GRN	Grenoble	150.40	2	PKP	PKPbc	20 01 16.7	+0.5		
SMTH	Samothraki Isl	150.42	331	P	PKPdf	20 01 07.8	-3.2		
SMTH	Samothraki Isl	150.42	331	P	PKPdf	20 01 07.8	-3.2		
GDM	Grand'Maison	150.45	1	PKP	PKPbc	20 01 17.2	+0.8		
NVR	Nevrokopi	150.46	334	P	PKPdf	20 01 10.4	-0.7		
NVR	Nevrokopi	150.46	334	P	PKPdf	20 01 10.4	-0.7		
KAVA	Kavala	150.47	333	P	PKPdf	20 01 10.4	-0.6		
KAVA	Kavala	150.47	333	P	PKPdf	20 01 10.4	-0.6		
BNI	Bardonecchia	150.61	0	*e*PKIKP	PKPbc	20 01 17.1	+0.4		
BNI				MLR	MLR				
	comp=Z,2µm,21.0s								
BNI	Bardonecchia	150.61	0	*e*PKPbc	PKPbc	20 01 17.1	+0.4		
BNI				LR	LR				
	comp=Z,2µm,21.0s								
IVA	Berane	150.64	340	*e*PKP	PKPdf	20 01 10.9	-0.5		
SRS	Serrai	150.77	334	P	PKPdf	20 01 09.9	-1.6		
SRS	Serrai	150.77	334	PKIKP	PKPdf	20 01 09.9	-1.6		
SRS	Serrai	150.77	334	P	PKPdf	20 01 09.9	-1.6		
PVY	Plav	150.87	340	*e*PKP	PKPdf	20 01 11.1	-0.7		
PCAB	Cabril	150.89	24	*e*PKPbc	PKPbc	20 01 17.6	+0.2		
PCAB	Cabril	150.89	24	*e*PKPab	PKPab	20 01 24.4	-0.2		
SKO	Skopje	150.90	338	P	PKPdf	20 01 12.2	+0.5		
SKO	Skopje	150.90	338	PKIKP	PKPdf	20 01 12.2	+0.5		
SKO	Skopje	150.90	338	P	PKPdf	20 01 12.2	+0.5		
SKO	Skopje	150.90	338	*i* PKP	PKPbc	20 01 19.2	+1.9		
NKY	Niksic	150.97	342	*e*PKP	PKPdf	20 01 11.5	-0.4		
PRK	Paraskevi	151.00	328	P	PKPdf	20 01 12.8	+0.9		
PRK	Paraskevi	151.00	328	PKIKP	PKPdf	20 01 12.8	+0.9		
PRK	Paraskevi	151.00	328	P	PKPdf	20 01 12.8	+0.9		
VAY	Valandovo	151.02	335	P	PKPdf	20 01 09.3	-2.6		
VAY	Valandovo	151.02	335	PKIKP	PKPdf	20 01 09.3	-2.6		
VAY	Valandovo	151.02	335	P	PKPdf	20 01 09.3	-2.6		
VAY	Valandovo	151.02	335	*i* PKP	PKPdf	20 01 01.4	-10		
KNT	Kendrikon	151.02	335	P	PKPdf	20 01 10.9	-1.0		
KNT	Kendrikon	151.02	335	PKIKP	PKPdf	20 01 10.9	-1.0		
KNT	Kendrikon	151.02	335	P	PKPdf	20 01 10.9	-1.0		
NKME	Niksic	151.03	342	*e*PKP	PKPdf	20 01 14.2	+2.3		
LIA	Limnos Island	151.03	330	P	PKPbc	20 01 17.1	-0.6		
LIA	Limnos Island	151.03	330	P	PKPbc	20 01 17.1	-0.6		
SOH	Sokhos	151.12	334	P	PKPdf	20 01 10.9	-1.2		
SOH	Sokhos	151.12	334	PKIKP	PKPdf	20 01 10.9	-1.2		
SOH	Sokhos	151.12	334	P	PKPdf	20 01 10.9	-1.2		
SURF	Saint Ours	151.18	0	PKP	PKPbc	20 01 19.2	+1.0		
TTG	Podgorica	151.24	341	*e*PKP	PKPdf	20 01 11.8	-0.4		
OUR	Ouranopolis	151.24	332	P	PKPdf	20 01 09.9	-2.3		
OUR	Ouranopolis	151.24	332	PKIKP	PKPdf	20 01 09.9	-2.3		
OUR	Ouranopolis	151.24	332	P	PKPdf

EVO	Evora	153.57	27	*e*PKPab	PKPab	20 01 35.8	0.0	
KALE	Kalithea	153.65	332	P	PKPdf	20 01 15.4	-0.6	
KALE	Kalithea	153.65	332	P	PKPdf	20 01 15.4	-0.6	
PNCL	Nicolau / Gran	153.68	28	*e*PKPdf	PKPdf	20 01 18.7	+2.8	
EFP	Efpalio	153.72	333	P	PKPdf	20 01 16.3	+0.3	
LAKA	Lakka	153.84	333	P	PKPdf	20 01 16.9	+0.7	
LAKA	Lakka	153.84	333	P	PKPdf	20 01 16.9	+0.7	
DID	Didima	153.85	330	P	PKPdf	20 01 14.7	-1.5	
DID	Didima	153.85	330	P	PKPdf	20 01 14.7	-1.5	
DIDY	Didyma	153.89	330	P	PKPdf	20 01 14.4	-2.0	
PDO	Prodromos	153.89	334	P	PKPdf	20 01 16.0	-0.2	
GUR	Goura	153.93	332	P	PKPdf	20 01 15.8	-0.6	
GUR	Goura	153.93	332	P	PKPdf	20 01 15.8	-0.6	
KLV	Kalavryta, Ach	153.93	332	P	PKPdf	20 01 15.6	-0.8	
KLV	Kalavryta, Ach	153.93	332	P	PKPdf	20 01 15.6	-0.8	
ZKR	Zakros	154.02	322	P	PKPdf	20 01 16.2	-0.3	
ZKR	Zakros	154.02	322	P	PKPdf	20 01 16.2	-0.3	
PBEJ	Beja	154.05	28	*e*PKPdf	PKPdf	20 01 17.3	+0.8	
PAB	San Pablo	154.12	20	*e*PKIKP	PKPdf	20 01 16.3	-0.3	
PAB				*e*		20 01 24.2		
PAB				MLR	MLR			
	comp=Z,2μm,21.0s							
PAB	San Pablo	154.12	20	*e*PKPdf	PKPdf	20 01 16.3	-0.3	
PAB				*e*PKPbc	PKPbc	20 01 24.2	-0.6	
PAB				LR	LR			
	comp=Z,2μm,21.0s							
ESDC	Sonseca Array	154.13	20	PKP	PKPdf	20 01 17.2	+0.6	
ESDC				PKPbc	PKiKP	20 01 25.1	+0.3	
ESDC	Sonseca Array	154.13	20	PKP	PKPdf	20 01 17.2	+0.6	
	comp=Z,1.0nm,0.9s,baz=2.1,slow=3.3,SNR=4.0							
ESDC				PKPbc	PKiKP	20 01 25.0	+0.3	
	comp=Z,2.1nm,0.7s,baz=332,slow=2.7,SNR=8.9							
ESLA	Sonseca Array	154.13	20	*e*PKPbc	PKPbc	20 01 22.0	-2.8	
DRO	Drossia	154.20	333	P	PKPdf	20 01 16.9	+0.2	
RLS	Riolos of Patr	154.22	333	P	PKPdf	20 01 17.9	+1.2	
RLS	Riolos of Patr	154.22	333	P	PKPdf	20 01 17.9	+1.2	
NPS	Neapolis	154.27	323	P	PKPdf	20 01 16.5	-0.4	
NPS	Neapolis	154.27	323	PKIKP	PKPdf	20 01 16.5	-0.4	
NPS	Neapolis	154.27	323	P	PKPdf	20 01 16.5	-0.4	
MORF	Marmelete	154.28	30	*e*PKPdf	PKPdf	20 01 20.7	+3.8	
MORF	Marmelete	154.28	30	*e*PKPbc	PKPbc	20 01 30.0	+4.9	
MORF	Marmelete	154.28	30	*e*PKIKP	PKPdf	20 01 16.1	-0.8	
PCVE	Castro Verde	154.30	28	*e*PKPdf	PKPdf	20 01 20.1	+3.3	
PCVE	Castro Verde	154.30	28	*e*PKPbc	PKPbc	20 01 30.0	+4.9	
PFVI	Vila Bisbo	154.33	30	*e*PKPdf	PKPdf	20 01 17.7	+0.8	
VLX	Vlachokerasia	154.37	331	P	PKPdf	20 01 09.5	-7.6	
VLX	Vlachokerasia	154.37	331	P	PKPdf	20 01 09.5	-7.6	
LAST	Lasithi	154.42	323	P	PKPdf	20 01 16.6	-0.6	
LAST	Lasithi	154.42	323	P	PKPdf	20 01 16.6	-0.6	
CUC	Castrocucco	154.48	344	*e*PKPbc	PKPbc	20 01 22.7	-2.7	
CUC				LR	LR			
	comp=Z,1μm,19.0s							
VLS	Valsamata	154.49	335	P	PKPdf	20 01 09.5	-7.6	
VLS	Valsamata	154.49	335	PKIKP	PKPdf	20 01 09.5	-7.6	
VLS	Valsamata	154.49	335	P	PKPdf	20 01 09.5	-7.6	
AMT	Artemida-Makis	154.55	332	P	PKPdf	20 01 12.8	-4.4	
VLI	Veliai	154.62	329	P	PKPdf	20 01 09.5	-7.8	
VLI	Veliai	154.62	329	P	PKPdf	20 01 09.5	-7.8	
PVAQ	Vaqueiros	154.63	28	*e*PKPdf	PKPdf	20 01 18.5	+1.2	
PVAQ	Vaqueiros	154.63	28	*e*PKPbc	PKPbc	20 01 29.9	+4.1	
PVAQ	Vaqueiros	154.63	28	*e*SS	SS	20 25 04.1	+8.7	
PVAQ	Vaqueiros	154.63	28	*e*LR	LR	20 56 05.5		
	comp=Z,2μm,18.0s							
IDI	Anoyia	154.66	324	P	PKPdf	20 01 12.4	-5.1	
IDI	Anoyia	154.66	324	P	PKPdf	20 01 12.4	-5.1	
IDI				*e*PKPbc	PKiKP	20 01 27.2	+1.1	
PBDV	Barranco-do-Ve	154.67	29	*e*PKPdf	PKPdf	20 01 18.4	+1.0	
PBDV	Barranco-do-Ve	154.67	29	*e*PKPbc	PKPbc	20 01 30.2	+4.3	
ITM	Ithomi	154.74	331	P	PKPdf	20 01 16.0	-1.5	
ITM	Ithomi	154.74	331	P	PKPdf	20 01 16.0	-1.5	
DYR	Agios Nikonas	154.88	330	P	PKPdf	20 01 17.2	-0.5	
SIVA	Sivas	154.90	324	P	PKPdf	20 01 17.4	-0.3	
SIVA	Sivas	154.90	324	P	PKPdf	20 01 17.4	-0.3	
VAM	Vamos	154.96	325	P	PKPdf	20 01 16.9	-0.9	
VAM	Vamos	154.96	325	PKIKP	PKPdf	20 01 16.9	-0.9	
VAM	Vamos	154.96	325	P	PKPdf	20 01 16.9	-0.9	
PYL	PYLOS	155.05	331	P	PKPdf	20 01 16.5	-1.4	
PYL	PYLOS	155.05	331	P	PKPdf	20 01 16.5	-1.4	
ANKY	Antikythira Is	155.10	327	P	PKPdf	20 01 17.9	-0.1	
ANKY	Antikythira Is	155.10	327	P	PKPdf	20 01 17.9	-0.1	
KARN	Karanos	155.12	326	P	PKPdf	20 01 17.9	-0.2	
KARN	Karanos	155.12	326	P	PKPdf	20 01 17.9	-0.2	
GVD	Gavdhos	155.44	324	P	PKPdf	20 01 18.1	-0.4	
GVD	Gavdhos	155.44	324	P	PKPdf	20 01 18.1	-0.4	
GVD				*e*PKPbc	PKPbc	20 01 28.2		
GVD				*e*PKPab	PKPab	20 01 43.7	-0.2	
VSL	Villasalto	156.07	355	PFAKE		20 01 30.0	+11	
VSL				LR	LR			
	comp=Z,2μm,20.0s							
CMAH	Djebel Manchou	159.03	359	P	PKPab	20 02 00.0	+0.7	
DFRA	Djebel Bou Aff	159.09	3	P	PKPab	20 02 04.0	+4.4	
CKFL	Kef-Lekhel	159.25	1	P	PKPab	20 02 02.2	+1.8	
SET	Setif	159.40	4	P	PKPab	20 02 07.0	+6.0	
CTEI	Djebel Teioual	159.58	1	P	PKPab	20 02 03.1	+1.3	
KEST	Kesra	159.81	355	PKPab	PKPab	20 02 04.5	+1.8	
KEST	Kesra	159.81	355	PKPab	PKPab	20 02 04.5	+1.8	
	comp=Z,4.8nm,0.9s,baz=143,slow=0.9,SNR=7.2							
LIC	Lamto	164.97	127	*e*PKIKP	PKPdf	20 01 40.9	+11	
	comp=Z,41nm,1.3s							
TIC	Toumodi	165.24	126	*e*PKIKP	PKPdf	20 01 40.9	+11	
	comp=Z,133nm,1.6s							
KIC	Kosan Boka	165.28	127	*e*PKIKP	PKPdf	20 01 41.0	+11	
	comp=Z,174nm,1.7s							
DBIC	Dimbokro	165.38	126	PKP	PKPdf	20 01 28.5	-1.5	
DBIC	Dimbokro	165.38	126	PKP	PKPdf	20 01 28.5	-1.5	
	comp=Z,11nm,1.2s,baz=128,slow=4.8,SNR=3.0							
TAM	Tamanrasset	172.68	11	*e*PKIKP	PKPdf	20 01 34.5	0.0	
TAM				MLR	MLR			
	comp=Z,3μm,19.0s							
TAM	Tamanrasset	172.68	11	*e*PKPdf	PKPdf	20 01 34.5	0.0	
TAM				LR	LR			
	comp=Z,3μm,19.0s							
TOA0	Torodi Ar. Sit	174.31	114	*e*PKPdf	PKPdf	20 01 32.9	-2.2	
TORD	Torodi Ar. Bea	174.31	114	PKP	PKPdf	20 01 33.8	-1.3	
TORD				PKPab	PKPab	20 03 07.0	-0.4	
TORD				PP	PP	20 07 03.4	+3.8	
TORD	Torodi Ar. Bea	174.31	114	PKP	PKPdf	20 01 33.8	-1.3	
	comp=Z,6.3nm,1.2s,baz=311,slow=4.0,SNR=9.1							
TORD				PKPab	PKPab	20 03 07.0	-0.4	
	comp=Z,3.6nm,1.0s,baz=251,slow=2.5,SNR=5.0							
TORD				PP	PP	20 07 03.4	+3.8	
	comp=Z,4.5nm,1.2s,baz=227,slow=3.5,SNR=6.4							

MAN 10 19:46:15,18°.04N×119°.33E,h23km,mb5.1,ML4.0,MS4.2, 1C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIPP	Brgy, Tapao	1.08	96	*e*P	Pb	19 46 34.9	-0.1
SIPP				*i*S	Sn	19 46 49.5	+0.4
ABRA	Dolores	1.38	106	*e*P	Pn	19 46 39.1	+0.3
APYP	Conner	1.83	95	*e*P	Pb	19 46 46.6	-1.3
APYP				*e*S	Sb	19 47 09.3	-1.1
CAUP	Cauayan	2.62	114	*e*P	Pb	19 46 59.1	-2.2
PALP	Palanan	3.11	108	*e*P	Pn	19 46 59.4	-3.3
BALP	Baler	3.14	136	*e*P	Pn	19 47 05.0	+1.9

IDC 10 19:49:19.5±1.1,13°.75S×166°.71E,h0km,mb4.3/11, mb1 4.3/12,mb1mx4.2/19,mbtmp4.3/12,ML4.4/1, MS5.4/2,Ms1 5.4/2,ms1mx4.5/27,Error ellipse: s-maj=36.1km s-min=21.4km az=131.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	7.90	302	Pn	Pn	19 51 14.0	-1.7
	5.1nm,0.3s,baz=321,slow=14,SNR=2.9						
HNR				Sn	Sn	19 52 39.5	-6.3
	14nm,0.3s,baz=52,slow=18,SNR=3.6						
DZM	Mont Dzumac	8.28	182	Pn	Pn	19 51 27.6	+6.6
	0.8nm,0.3s,baz=6.8,slow=19,SNR=8.5						
DZM				Sn	Sn	19 52 54.4	-0.9
	baz=90,slow=19,SNR=1.3						
CTA	Charters Tower	20.55	249	P	P	19 54 00.2	+0.3
	4.7nm,0.6s,baz=94,slow=18,SNR=2.8						
STKA	Stephens Creek	29.23	228	P	P	19 55 24.1	+1.0
	3.5nm,0.9s,baz=51,slow=6.5,SNR=3.8						
WRA	Warramunga Arr	31.55	254	P	P	19 55 43.7	-0.1
	1.7nm,0.8s,baz=83,slow=8.6,SNR=4.4						
ASAR	Alice Springs	32.53	247	P	P	19 55 52.4	-0.1
	1.2nm,0.7s,baz=79,slow=9.5,SNR=5.6						
ASAJ	Asahikawa	61.65	340	P	P	19 59 39.3	+0.3
	6.6nm,0.5s,baz=297,slow=2.3,SNR=10						
KSRS	Korea Array	62.63	326	P	P	19 59 46.2	+0.5
	1.2nm,0.8s,baz=109,slow=40,SNR=4.5						
USRK	Ussuriysk Arra	65.78	333	P	P	20 00 06.7	+0.4
	6.3nm,0.7s,baz=144,slow=6.4,SNR=12						
PETK	Petropavlovsk-	67.04	354	P	P	20 00 16.7	+2.5
	2.5nm,0.9s,baz=172,slow=13,SNR=2.7						
CMAR	Chiang Mai Arr	74.06	294	P	P	20 00 58.1	+0.3
	1.5nm,0.7s,baz=134,slow=5.1,SNR=11						
SONM	Songino Array	81.40	324	P	P	20 01 38.3	-0.1
	1.8nm,0.8s,baz=132,slow=4.9,SNR=7.2						
ILAR	Eielson Array	85.77	18	P	P	20 02 01.7	+1.4
	5.8nm,0.4s,baz=236,slow=4.9,SNR=38						
MKAR	Makanchi Array	96.13	317	P	P	20 02 49.5	+0.2
	0.8nm,0.6s,baz=93,slow=4.3,SNR=4.7						
MKAR				LR	LR	20 41 39.2	
	comp=Z,1μm,21.6s,baz=105,slow=33						
ZALV	Zalesovo Beam	96.29	324	P	P	20 02 48.3	-1.5
	1.0nm,0.4s,baz=116,slow=5.1,SNR=4.6						
ZALV				LR	LR	20 43 19.5	
	comp=Z,3μm,20.8s,baz=69,slow=34						
ARCES	ARCESS Array B	119.18	345	PKP	PKPdf	20 08 09.0	-1.0
	1.7nm,0.9s,baz=70,slow=1.9,SNR=22						
FINES	FINESS Array B	124.62	338	PKP	PKPdf	20 08 19.2	-1.4
	2.4nm,1.1s,baz=132,slow=2.8,SNR=5.8						
NOA	NORSAR Array B	129.55	345	PKP	PKPdf	20 08 29.5	-0.6
	0.8nm,0.9s,baz=28,slow=2.0,SNR=2.6						
BRTR	Keskin Array B	131.47	311	PKP	PKPdf	20 08 34.1	-0.5
	0.6nm,0.9s,baz=20,slow=4.6,SNR=3.2						
GERES	GERESS Array B	138.53	333	PKP	PKPdf	20 08 46.7	-0.7
	0.4nm,0.7s,baz=60,slow=3.9,SNR=4.2						
KEST	Kesra	150.12	321	PKPbc	PKPbc	20 09 13.1	+0.3
	2.4nm,0.7s,baz=81,slow=1.2,SNR=11						
ESDC	Sonseca Array	152.91	344	PKPbc	PKPbc	20 09 16.9	-2.2
	0.6nm,0.6s,baz=16,slow=3.7,SNR=7.2						
TORD	Torodi Ar. Bea	165.41	269	PKP	PKPdf	20 09 27.5	+0.4
	0.8nm,0.9s,baz=142,slow=1.3,SNR=2.3						

IDC 10 19:52:50.9±1.9,12°.48S×165°.97E,h0km,mb3.7/4, mb1 3.8/5,mb1mx3.7/18,mbtmp3.7/5,ML3.4/1,Error ellipse: s-maj=52.5km s-min=32.7km az=108.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	6.64	297	Pn	Pn	19 54 34.8	+4.9
	6.5nm,0.3s,baz=175,slow=11,SNR=3.1						
DZM	Mont Dzumac	9.55	177	Pn	Pn	19 55 11.6	+1.6
	0.4nm,0.3s,baz=359,slow=18,SNR=6.7						
WRA	Warramunga Arr	31.23	252	P	P	19 59 12.5	0.0
	0.4nm,0.8s,baz=86,slow=9.5,SNR=3.0						
ASAR	Alice Springs	32.37	245	P	P	19 59 21.9	-0.6
	0.4nm,0.7s,baz=71,slow=9.0,SNR=3.9						
SONM	Songino Array	79.94	324	P	P	20 05 02.9	+0.9
	0.5nm,0.3s,baz=133,slow=5.6,SNR=6.6						
MKAR	Makanchi Array	94.71	317	P	P	20 06 14.7	+0.4
	0.2nm,0.4s,baz=90,slow=5.0,SNR=5.7						
ARCES	ARCESS Array B	117.77	345	PKP	PKPdf	20 11 36.9	-1.8
	2.0nm,0.8s,baz=40,slow=1.5,SNR=6.5						

IDC 10 20:10:41.2±6.2,1°.83N×122°.43E,h483km±88km,mb2.7/6, mb1 3.0/7,mb1mx2.8/24,mbtmp2.9/7,Error ellipse: s-maj=93.3km s-min=19.5km az=62.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	Baumata	12.02	174	P	P	20 13 20.5	+0.3
	3.1nm,0.3s,baz=83,slow=23,SNR=6.1						
FITZ	Fitzroy Crossi	20.06	171	P	P	20 14 41.5	+0.1
	0.9nm,0.6s,baz=20,slow=7.0,SNR=4.9						
WRA	Warramunga Arr	24.59	152	P	P	20 15 21.5	-0.7
	1.0nm,0.6s,baz=334,slow=6.3,SNR=11						
ASAR	Alice Springs	27.70	157	P	P	20 15 49.5	-0.1
	0.4nm,0.6s,baz=340,slow=10,SNR=9.6						
STKA	Stephens Creek	38.14	153	P	P	20 17 18.8	+0.6
	2.3nm,0.8s,baz=319,slow=9.0,SNR=5.3						
SONM	Songino Array	47.88	345	P	P	20 18 35.1	+0.5
	0.2nm,0.6s,baz=165,slow=6.0,SNR=2.5						
MKAR	Makanchi Array	56.77	328	P	P	20 19 38.0	-0.4
	0.6nm,0.6s,baz=128,slow=8.2,SNR=8.1						

JMA 10 20:20:51.0±0.2,39°.41N×144°.55E,h54km,M3.6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	Miyakonagasawa	2.12	275	P	Pn	20 21 25.1	+1.1
MIYJ				S	Sn	20 21 50.3	+1.1
JTH	Tanohata	2.14	285	P	Pn	20 21 25.4	+1.1
JTH				S	Sn	20 21 51.3	+1.6
OFUJ	Ofunato	2.26	263	P	Pn	20 21 26.8	+0.9
OFUJ				S	Sn	20 21 53.1	+0.5
JMK	Ichinoseki	2.63	261	P	Pn	20 21 32.0	+1.1
JMK				*e*S	Sn	20 22 02.6	+1.0
JTM	Tenmabayashi	3.00	298	P	Pn	20 21 37.6	+1.5
JTM				*e*S	Sn	20 22 12.2	+1.4
JRG	Rokugo	3.03	271	P	Pn	20 21 38.3	+1.8
JRG				*e*S	Sn	20 22 13.9	+2.3
JAH	Hinai	3.11	286	P	Pn	20 21 39.4	+1.8
JAH				*e*S	Sn	20 22 15.6	+2.0
JOU	Okura	3.21	252	P	Pn	20 21 39.7	+0.8
JOU				*e*S	Sn	20 22 16.8	+0.9
JYK	Kaneyama	3.29	263	P	Pn	20 21 41.7	+1.6
JCH	Churui	3.33	345	P	Pn	20 21 40.7	+0.2
JCH				*e*S	Sn	20 22 18.6	-0.1
JFT	Otama	3.81	242	P	Pn	20 21 47.5	+0.3
JFT				*e*S	Sn	20 22 30.8	+0.1
NEM2	Nemuro 2	4.05	12	P	Pn	20 21 48.3	-2.1
NEM2				S	Sn	20 22 32.6	-4.0
JTKR	Abashiri--Toko	4.58	354	P	Pn	20 21 58.5	+0.8
JTKR				*e*S	Sn	20 22 48.4	-1.2
JOSM	Okushiri--Mats	4.69	306	P	Pn	20 22 00.9	+1.7
BSO1	Boso 1	5.54	212	*e*S	Sn	20 23 09.4	-2.6
JRY	Ryogami san	5.61	235	P	Pn	20 22 11.8	-0.1
JRY				*e*S	Sn	20 23 13.7	-1.4

*IDC **10**20:50:22.9±9.6,7°.17S×128°.58E,h55km±93km,mb3.5/4, mb1 3.9/7,mb1mx3.5/19,mbtmp3.7/7,ML4.2/3,MS4.3/1, Ms1 4.3/1,ms1mx3.3/28,Error ellipse: s-maj=123.0km s-min=26.2km az=53.0*

*ISCJB **10**20:50:31.1±0.6,7°.63S±0°.06×128°.24E±0°.06,h142km, mb3.5/4,Error ellipse: s-maj=9.0km s-min=7.2km az=41.4*

*AUST **10**20:50:33.5±0.0,7°.75S±128°.37E,h133km,Error ellipse: s-maj=1.3km s-min=0.7km az=312.0*

ISC 10 20:50:32.2±0.8,7°.61S±0°.09×128°.24E±0°.08,h142km,n18, σ1s59/18,mb3.4/4,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	Soe	4.47	241	P	Pn	20 51 40.3	+1.8
	baz=4.5,SNR=44						
TLE	Tual	4.88	67	P	Pn	20 51 45.4	+1.4
	baz=4.8,SNR=7.0						
BATI	Baumata	5.20	240	P	Pn	20 51 49.6	+1.3
	60nm,0.3s,baz=98,slow=3.1,SNR=70						
BATI				S	Sn	20 52 47.5	-0.1
	27nm,0.3s,baz=244,slow=22,SNR=6.2						
FAKI	Fak Fak	6.14	41	P	Pn	20 52 00.1	-0.7
	baz=6.2,SNR=14						
KDU	Kakadu	6.54	141	P	Pn	20 52 06.5	+0.4
	baz=6.4,SNR=56						
SWI	Sorong	7.35	24	P	Pn	20 52 17.6	+0.6
	baz=7.5,SNR=7.3						
KNRA	Kununurra	8.03	176	P	Pn	20 52 25.7	-0.4
	baz=7.9,SNR=215						
FITZ	Fitzroy Crossi	10.73	193	P	Pn	20 52 59.6	-2.5
	baz=11,SNR=51						
FITZ	Fitzroy Crossi	10.73	193	P	Pn	20 52 59.5	-2.6
	1.6nm,0.3s,baz=17,slow=14,SNR=41						
FITZ				S	Sn	20 54 51.3	-9.4
	1.1nm,0.3s,baz=153,slow=18,SNR=2.7						
WRA	Warramunga Arr	13.61	155	P	Pn	20 53 37.1	-2.5
	1.1nm,0.3s,baz=326,slow=13,SNR=64						
WRA				S	Sn	20 55 59.9	-10
	1.7nm,0.3s,baz=19,slow=17,SNR=11						
ASAR	Alice Springs	16.86	162	P	Pn	20 54 21.3	+1.3
	0.6nm,0.3s,baz=344,slow=11,SNR=74						
ASAR				S	S	20 57 17.2	-11
	0.2nm,0.3s,baz=318,slow=17,SNR=1.5						
QLP	Quilpie	24.23	143	P	P	20 55 37.2	+1.2
	baz=24,SNR=6.1						
STKA	Stephens Creek	27.16	154	P	P	20 56 03.2	+0.9
	1.5nm,0.3s,baz=309,slow=6.5,SNR=2.3						
CMSA	Cobar Meteorol	28.84	148	P	P	20 56 18.8	+1.5
	baz=29,SNR=8.6						
CMAR	Chiang Mai Arr	38.81	312	P	P	20 57 43.3	-0.3
	0.3nm,0.6s,baz=127,slow=7.7,SNR=4.3						
RPZ	Rata Peaks	51.84	141	LR	LR	21 23 02.0	
	comp=Z,278nm,18.3s,baz=346,slow=38						
MKAR	Makanchi Array	67.79	328	P	P	21 01 13.1	-1.8
	0.2nm,0.4s,baz=114,slow=7.7,SNR=5.9						
ZALV	Zalesovo Beam	71.37	335	P	P	21 01 35.4	-1.1
	0.6nm,0.6s,baz=120,slow=8.7,SNR=2.5						

JMA 10 20:52:38.8±0.5,45°.51N×150°.40E,h182km,M3.6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	Nemuro 2	3.96	239	P	Pn	20 53 39.7	+0.2
NEM2				*e*S	Sn	20 54 26.9	0.0
JRA	Rausu	4.08	249	P	Pn	20 53 41.7	+0.8
JAK	Akkeshi	4.81	240	P	Pn	20 53 50.6	+0.4
JAK				*e*S	Sn	20 54 46.4	+0.1
JTKR	Abashiri--Toko	4.87	254	P	Pn	20 53 51.5	+0.4
JAR	Ashorobuto	5.24	247	P	Pn	20 53 57.1	+1.2
JOB	Onbets	5.39	243	P	Pn	20 53 58.5	+0.7
JOB				*e*S	Sn	20 55 00.1	+0.2
JKK2	Kamakawa 2	5.70	256	P	Pn	20 54 02.3	+0.5
ASAJ	Asahikawa	5.72	259	P	Pn	20 54 02.8	+0.6
JCH	Churui	5.84	243	P	Pn	20 54 03.9	+0.2
JCH				*e*S	Sn	20 55 09.4	-1.1
JFR	Furan	6.07	250	P	Pn	20 54 07.9	+1.2
JBT2	Biratori 2	6.39	248	P	Pn	20 54 11.8	+0.9
JNBK	Urakawa-nobuka	6.40	242	P	Pn	20 54 10.7	-0.3
JYM2	Yakumo 2	8.01	248	P	Pn	20 54 31.4	-0.7
JSR	Shiriuchi	8.27	245	P	Pn	20 54 34.7	-0.9
JANG	Nango	8.29	235	P	Pn	20 54 34.8	-1.1
JANG				*e*S	Sn	20 56 05.4	-3.4
JTM	Tenmabayashi	8.29	239	P	Pn	20 54 35.2	-0.7
JRG	Rokugo	9.45	233	P	Pn	20 54 51.9	+0.8
JRG				*e*S	Sn	20 56 36.0	-0.5
JIO	Ouri	9.75	227	P	Pn	20 54 55.3	+0.4

IDC 10 20:56:27.5±4.4,15°.12S×173°.26W,h0km,mb3.9/2, mb1 4.2/2,mb1mx3.6/20,mbtmp3.9/2,Error ellipse: s-maj=263.2km s-min=25.1km az=148.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	1.87	50	Pn	Pn	20 56 59.7	-1.2
	9.6nm,0.3s,baz=16,slow=1.6,SNR=17						
AFI				Sn	Sn	20 57 21.0	-4.3
	83nm,0.3s,baz=44,slow=22,SNR=13						
WRA	Warramunga Arr	50.04	257	P	P	21 05 23.9	-0.5
	0.5nm,0.5s,baz=90,slow=6.9,SNR=7.1						
ASAR	Alice Springs	50.33	252	P	P	21 05 25.6	-1.0
	1.8nm,0.7s,baz=87,slow=7.8,SNR=21						
BRTR	Keskin Array B	146.03	321	PKPbc	PKPab	21 16 11.3	+0.9
	1.5nm,1.0s,baz=62,slow=2.9,SNR=5.8						

IDC 10 20:57:43.5±1.2,13°.14S×166°.53E,h0km,mb3.9/7, mb1 3.9/7,mb1mx3.8/19,mbtmp3.8/7,Error ellipse: s-maj=44.1km s-min=31.5km az=96.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	8.88	180	Pn	Pn	20 59 58.9	+5.6
	0.6nm,0.3s,baz=88,slow=22,SNR=8.2						
DZM				Sn	Sn	21 01 37.4	+3.1
	baz=40,slow=15,SNR=1.2						
ASAR	Alice Springs	32.60	247	P	P	21 04 16.8	-0.3
	0.6nm,0.7s,baz=72,slow=9.4,SNR=7.1						
CMAR	Chiang Mai Arr	73.65	294	P	P	21 09 20.4	+0.9
	0.4nm,0.7s,baz=120,slow=5.5,SNR=4.6						
QSPA	South Pole Qui	76.88	180	P	P	21 09 37.5	+0.1
	1.7nm,1.0s						
SONM	Songino Array	80.80	324	P	P	21 09 58.

mb1 4.4/3,mb1mx3.8/20,mbtmp4.2/3,Error ellipse: s-maj=999.7km s-min=181.7km az=79.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**45.17**	**240**	P	P	21 23 46.5	+0.5
	1.3nm,0.4s,baz=101,slow=12,SNR=6.2						
WRA	**Warramunga Arr**	**51.17**	**257**	P	P	21 24 32.3	-0.4
	0.5nm,0.4s,baz=96,slow=6.9,SNR=20						
ASAR	**Alice Springs**	**51.39**	**252**	P	P	21 24 34.0	-0.3
	5.8nm,0.6s,baz=88,slow=7.9,SNR=139						

NIED ***10*** *21:24:00,46˚.50N×153˚.20E,h122km,Mw5.9 Best double couple: M0 8.77000×10^17 NP1:φs111.00000°, δ57.00000°,λ,140.00000°. NP2:φs225.00000°,δ57.00000°, λ,40.00000°.*

SZGRF ***10*** *21:24:26.3,48˚.12N×152˚.47E,h33km,mb6.3,MS5.3,Kuril Islands, Russia*

SKHL ***10*** *21:24:36.9±1.0,47˚.72N×153˚.24E,h107km±16km,mb6.7/5, mbh6.6/3,Ms5.5/4,msh6.6/3*

SKHL Felt (II-III) at Yushno-Kurilsk.

BGS ***10*** *21:24:36.8±1.4,48˚.01N×154˚.38E,h100km±999km,mb6.0*

BJI ***10*** *21:24:37.1,47˚.90N×152˚.81E,h134km,mB6.0/50, mb6.0/71*

ISCJB ***10*** *21:24:38.2±0.3,47˚.83N±0˚.02×152˚.53E±0˚.02, h120km±2km,mb5.9/556,Error ellipse: s-maj=2.7km s-min=1.5km az=157.5*

NEIC ***10*** *21:24:38.5±0.1,47˚.85N×152˚.46E,h112km,mb5.9/272, ME5.5,MW6.0,Error ellipse: s-maj=3.0km s-min=1.9km az=156.0 Best double couple: NP1:φs40.00000°, δ82.00000°,λ,-89.00000°. NP2:φs210.00000°,δ8.00000°, λ,-100.00000°. Principal axes: T 1.1900, Plg37.0000°, Azm128.0000°; N -0.1000, Plg1.0000°, Azm219.0000°; P -1.0900, Plg52.0000°, Azm311.0000°; Broadband fault plane solution: P waves. NP1:φs207.00000°,δ10.00000°, λ,-90.00000°. NP2:φs27.00000°,δ80.00000°,λ,-90.00000°. Principal axes: T Plg35.0000°, Azm117.0000°; N Plg0.0000°, Azm0.0000°; P Plg55.0000°, Azm297.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Recorded [1 JMA] in eastern Hokkaido. Also recorded [1 JMA] in Aomori, Honshu.

MOS ***10*** *21:24:39.6±0.9,47˚.84N×152˚.53E,h139km,mb5.8/120, MS5.0/37 Error ellipse: s-maj=7.6km s-min=6.8km az=84.5*

IDC ***10*** *21:24:40.0±0.5,47˚.87N×152˚.53E,h124km±3km,mb5.4/38, mb1 5.5/42,mb1mx5.5/42,mbtmp5.8/42,MS5.0/34, Ms1 5.0/34,ms1mx4.8/58,Error ellipse: s-maj=7.6km s-min=5.5km az=129.0*

JMA ***10*** *21:24:41.4±0.6,46˚.54N×153˚.23E,h144km,M5.9*

JMA Felt I J1.

GCMT ***10*** *21:24:44.0±0.1,47˚.77N×152˚.79E,h126km,MW5.9 Best double couple: NP1:φs27.00000°,δ88.00000°, λ-79.00000°. NP2:φs128.00000°,δ11.00000°, λ-169.00000°. Principal axes: T 1.0000, Plg42.0000°, Azm107.0000°; N 0.0200, Plg11.0000°, Azm207.0000°; P -1.0200, Plg46.0000°, Azm309.0000°; Data Used: ll lU CN IC G. Surface waves: sta=118, comp=290, per= 50.*

DJA ***10*** *21:24:45.3±2.1,48˚.N±6˚×15˚.3E±˚,h165km±19km,M6.0/10, mB6.4/4,mb5.8/10,Mw(mB)6.2/4*

ISC 10 21:24:40.7±0.2,47.83N±0.03×152.56E±0.02,h133km±1km, h133km:pP-P,n2200,σ1s25/2580,mb5.9/557,326C-356D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.68**	**38**	⇓*i*	PN	Pn	21 25 28.5	-7.7
SKR					pmax	pmax		
	comp=N,2μm,0.5s							
SKR					pmax	pmax		
	comp=E,3μm,0.5s							
SKR					pmax	pmax		
	comp=Z,4μm,0.5s							
SKR					pmax	pmax		
	comp=N,25μm,4.0s							
SKR					pmax	pmax		
	comp=E,10μm,4.0s							
SKR					MLR	MLR		
	comp=N,24μm,12.0s							
SKR					MLR	MLR		
	comp=E,29μm,12.0s							
SKR					MLR	MLR		
	comp=Z,24μm,12.0s							
SKR	**Severo-Kuril's**	**3.68**	**38**	⇓*i*	P	Pn	21 25 28.5	-7.7
SKR				⇓*i*	P	Pn	21 25 28.5	-7.7
SKR					AMB	AMB	21 25 33.0	
	comp=Z,20μm,4.0s							
SKR					AMB	AMB	21 25 33.0	
	comp=Z,14μm,4.0s							
SKR					AMB	AMB	21 25 33.0	
	comp=Z,20μm,4.0s							
SKR					AMB	AMB	21 25 33.0	
	comp=Z,25μm,4.0s							
SKR					AMB	AMB	21 25 33.0	
	comp=Z,10μm,4.0s							
SKR					AMB	AMB	21 25 33.0	
	comp=Z,20μm,4.0s							
SKR					AMB	AMB	21 25 33.0	
	comp=Z,2μm,0.5s							
SKR					AMB	AMB	21 25 33.0	
	comp=Z,3μm,0.5s							
SKR					AMB	AMB	21 25 33.0	
	comp=Z,4μm,0.5s							
SKR				*e*S	Sn	21 26 11.8	-7.5
SKR				A	A	21 26 22.0	
	comp=Z,50μm,10.0s							
SKR				A	A	21 26 22.0	
	comp=Z,70μm,8.0s							
SKR				A	A	21 26 22.0	
	comp=Z,32μm,8.0s							
SKR				A	A	21 26 22.0	
	comp=Z,72μm,8.0s							
SKR				A	A	21 26 22.0	
	comp=Z,23μm,8.0s							
SKR				A	A	21 26 22.0	
	comp=Z,73μm,10.0s							
SKR				A	A	21 26 28.7	
	comp=Z,6μm,0.5s							
SKR				A	A	21 26 28.7	
	comp=Z,2μm,0.5s							
SKR				A	A	21 26 28.7	
	comp=Z,5μm,0.7s							
SKR				AMS	AMS	21 27 48.0	
	comp=Z,20μm,12.0s							
SKR				AMS	AMS	21 27 48.0	
	comp=Z,30μm,12.0s							
SKR				AMS	AMS	21 27 48.0	
	comp=Z,24μm,12.0s							
SKR				AMS	AMS	21 27 48.0	
	comp=Z,24μm,12.0s							
SKR				AMS	AMS	21 27 48.0	
	comp=Z,24μm,12.0s							
SKR				AMS	AMS	21 27 48.0	
	comp=Z,29μm,12.0s							
KUR	**Kuril'sk**	**4.15**	**233**	*d*	PN	**Pn**	**21 25 43.5**	**+1.0**
KUR				*e*S		**Sn**	**21 26 34.1**	**+3.6**
KUR					pmax	pmax		
	comp=E,657nm,0.5s							
KUR					pmax	pmax		
	comp=Z,3μm,0.5s							
KUR					pmax	pmax		
	comp=N,1μm,0.5s							
KUR					smax	smax		
	comp=E,6μm,0.8s							
KUR					smax	smax		
	comp=N,9μm,0.8s							
KUR	**Kuril'sk**	**4.15**	**233**	⇓*i*	P	**Pn**	**21 25 43.5**	**+1.0**
KUR					AMB	AMB	21 25 44.4	
	comp=N,30μm,1.4s							
KUR					AMB	AMB	21 25 47.2	
	comp=N,7μm,0.3s							
KUR					AMB	AMB	21 25 54.1	
	comp=N,657nm,0.5s							
KUR				*e*S	Sn	**21 26 34.2**	**+3.7**
KUR				A	A	21 26 38.0	
	comp=N,182μm,2.0s							
KUR				A	A	21 26 38.0	
	comp=N,95μm,2.0s							
KUR				A	A	21 26 38.0	
	comp=N,346μm,2.0s							
KUR				A	A	21 26 38.0	
	comp=N,96μm,2.0s							
KUR				A	A	21 26 40.1	
	comp=N,9μm,0.8s							
KUR				A	A	21 26 40.1	
	comp=N,6μm,0.8s							
YUK	**Yuzh-Kuril'sk**	**6.02**	**233**	*d*	PN	**Pn**	**21 26 07.1**	**-0.4**
YUK				*i*	S	**Sn**	**21 27 14.0**	**-1.2**
YUK					smax	smax		
	comp=N,4μm,0.6s							
YUK					smax	smax		
	comp=E,5μm,0.6s							
YUK	**Yuzh-Kuril'sk**	**6.02**	**233**	⇓*i*	P	**Pn**	**21 26 07.1**	**-0.4**
YUK					AMB	AMB	21 26 09.0	
	comp=E,2μm,0.5s							
YUK					AMB	AMB	21 26 09.0	
	comp=E,2μm,0.5s							
YUK					AMB	AMB	21 26 09.0	
	comp=E,12μm,0.5s							
YUK				*i*	S	**Sn**	**21 27 14.0**	**-1.2**
YUK					A	A	21 27 19.8	
	comp=E,4μm,0.6s							
YUK					A	A	21 27 19.8	
	comp=E,5μm,0.6s							
PEA0	**Petropavlovsk-**	**6.21**	**30**	*e*	Pn	**Pn**	**21 26 09.5**	**-0.5**
PEA0				*e*	ScP	**ScP**	**21 36 14.2**	**-0.4**
PETK	**Petropavlovsk-**	**6.21**	**30**	*e*	PN	**Pn**	**21 26 10.3**	**+0.3**
PETK					pmax	pmax		
	comp=Z,107nm,0.3s							
PETK	**Petropavlovsk-**	**6.21**	**30**		P	**Pn**	**21 26 10.5**	**+0.5**
	comp=Z,107nm,0.3s,baz=189,slow=11,SNR=374							
PETK					S	**Sn**	**21 27 20.4**	**+0.6**
	baz=169,slow=16,SNR=0.7							
PETK					ScP	**ScP**	**21 36 15.1**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=126,slow=4.0,SNR=14							
PETK					ScS	**ScS**	**21 39 48.5**	**+1.0**
	comp=Z,0.0nm,0.3s,baz=251,slow=26,SNR=5.9							
JRA	**Rausu**	**6.49**	**236**	⇓	P	**Pn**	**21 26 13.6**	**-0.2**
PET	**Petropavlovsk**	**6.49**	**35**	⇑*i*	PN	**Pn**	**21 26 12.5**	**-1.2**
PET				*e*	S	**Sn**	**21 27 24.8**	**-1.6**
PET					pmax	pmax		
	comp=Z,2μm,3.9s							
PET					pmax	pmax		
	comp=Z,1μm,7.0s							
PET					smax	smax		
	comp=E,1μm,0.6s							
PET					smax	smax		
	comp=N,3μm,0.7s							
PET					MLR	MLR		
	comp=Z,10μm,15.0s							
PET					MLR	MLR		
	comp=Z,12μm,16.0s							
NEM2	**Nemuro 2**	**6.54**	**229**	⇓	P	Pn	21 26 11.2	-3.3
NEM2				*e*	S	Sn	21 27 21.3	-6.5
YSS	**Yuzh-Sakhalins**	**6.72**	**266**	⇓*i*	PN	**Pn**	**21 26 19.6**	**+2.8**
YSS				*e*	S	**Sn**	**21 27 32.0**	**+0.1**
YSS					pmax	pmax		
	comp=E,7μm,4.0s							
YSS					pmax	pmax		
	comp=Z,5μm,4.0s							
YSS					pmax	pmax		
	comp=Z,3μm,1.0s							
YSS					MLR	MLR		
	comp=Z,15μm,14.0s							
YSS					MLR	MLR		
	comp=N,20μm,16.0s							
YSS	**Yuzh-Sakhalins**	**6.72**	**266**	⇓*i*	P	**Pn**	**21 26 19.6**	**+2.8**
YSS					AMB	AMB	21 26 22.0	
	comp=N,5μm,4.0s							
YSS					AMB	AMB	21 26 22.0	
	comp=N,7μm,4.0s							
YSS					AMB	AMB	21 26 22.8	
	comp=N,3μm,1.0s							
YSS				*e*	S	**Sn**	**21 27 32.0**	**+0.1**
YSS					AMS	AMS	21 28 34.0	
	comp=N,20μm,16.0s							
YSS					AMS	AMS	21 28 34.0	
	comp=N,15μm,14.0s							
JNK	**Nakash**	**6.94**	**235**		P	**Pn**	**21 26 18.8**	**-1.0**
UGL	**Uglegorsk**	**7.09**	**284**	⇓*i*	PN	Pn	21 26 26.0	+4.2
UGL					pmax	pmax		
	comp=N,149nm,0.7s							
UGL					pmax	pmax		
	comp=E,279nm,0.7s							
UGL					pmax	pmax		
	comp=Z,938nm,0.7s							
UGL					pmax	pmax		
	comp=E,12μm,4.0s							
UGL					pmax	pmax		
	comp=Z,14μm,4.0s							
UGL					pmax	pmax		
	comp=N,5μm,3.0s							
UGL					MLR	MLR		
	comp=N,30μm,7.0s							
UGL					MLR	MLR		
	comp=E,40μm,7.0s							
UGL					MLR	MLR		
	comp=Z,58μm,7.0s							
UGL	**Uglegorsk**	**7.09**	**284**	⇓*i*	P	Pn	21 26 26.0	+4.2
UGL				⇓*i*	P	Pn	21 26 26.0	+4.2
UGL					AMB	AMB	21 26 27.5	
	comp=Z,149nm,0.7s							
UGL					AMB	AMB	21 26 27.5	
	comp=Z,279nm,0.7s							
UGL					AMB	AMB	21 26 27.5	
	comp=Z,938nm,0.7s							
UGL					AMB	AMB	21 26 28.0	
	comp=Z,5μm,3.0s							
UGL					AMB	AMB	21 26 28.0	
	comp=Z,12μm,4.0s							
UGL					AMB	AMB	21 26 28.0	
	comp=Z,14μm,4.0s							
UGL					A	A	21 27 20.0	
	comp=Z,850nm,1.0s							
UGL					A	A	21 27 20.0	
	comp=Z,1μm,0.8s							
UGL					A	A	21 27 21.0	
	comp=Z,4μm,4.0s							
UGL					A	A	21 27 21.0	
	comp=Z,6μm,4.0s							
UGL				*e*	L	L	21 27 22.0	
UGL					AMS	AMS	21 28 16.0	
	comp=Z,30μm,7.0s							
UGL					AMS	AMS	21 28 16.0	
	comp=Z,40μm,7.0s							
UGL					AMS	AMS	21 28 16.0	
	comp=Z,58μm,7.0s							
TYV	**Tymovskoe**	**7.15**	**299**	*e*	P	Pn	21 26 26.0	+3.5
TYV					AMB	AMB	21 26 29.0	
	comp=Z,418nm,0.8s							
TYV					AMB	AMB	21 26 29.0	
	comp=Z,990nm,0.8s							
JTKR	**Abashiri--Toko**	**7.17**	**241**	⇓	P	**Pn**	**21 26 23.4**	**+0.6**
JAK	**Akkeshi**	**7.35**	**232**		P	Pn	21 26 22.1	-3.2
JAK				*e*	S	Sn	21 27 40.8	-6.4
JMP	**Maruseppu**	**7.47**	**243**	⇓	P	**Pn**	**21 26 27.8**	**+0.8**
JSE	**Soyaes**	**7.47**	**251**		P	**Pn**	**21 26 29.6**	**+2.6**
JAR	**Ashorobuto**	**7.66**	**237**		P	**Pn**	**21 26 28.5**	**-0.9**
JWK2	**Keihoku**	**7.77**	**255**		P	Pn	21 26 35.3	+4.4
JWK2				*e*	S	Sn	21 28 05.6	+8.3
ASAJ	**Asahikawa**	**7.87**	**246**	⇓	P	**Pn**	**21 26 34.5**	**+2.2**
ASAJ				*e*	S	**Sn**	**21 28 03.5**	**+3.6**
ASAJ	**Asahikawa**	**7.87**	**246**	*e*	Pn	**Pn**	**21 26 34.5**	**+2.2**
ASAJ				*e*	Sn	**Sn**	**21 28 02.9**	**+3.0**
ASAJ	**Asahikawa**	**7.87**	**246**		P	**Pn**	**21 26 33.3**	**+1.0**
	comp=Z,752nm,0.3s,baz=74,slow=13,SNR=1570							
ASAJ					S	**Sn**	**21 28 04.2**	**+4.3**
	baz=270,slow=24,SNR=5.9							
ASAJ					LR	LR	21 30 22.3	
	comp=Z,4μm,18.2s,baz=55,slow=44							
JOB	**Onbets**	**7.88**	**234**		P	**Pn**	**21 26 30.3**	**-2.1**
JOB				*e*	S	**Sn**	**21 27 55.0**	**-4.9**
JKK2	**Kamakawa 2**	**7.91**	**244**	⇓	P	**Pn**	**21 26 34.2**	**+1.3**
JKK2				*e*	S	**Sn**	**21 28 03.4**	**+2.6**
JSS	**Shosan**	**8.19**	**249**		P	Pn	21 26 40.4	+3.8
JCH	**Churui**	**8.33**	**235**		P	**Pn**	**21 26 35.6**	**-2.9**
JCH				*e*	S	Sn	21 28 04.0	-6.9
OKH	**Okha**	**8.37**	**317**	*i*	PN	Pn	21 26 42.2	+3.3
OKH				*i*	S	**Sn**	**21 28 16.2**	**+4.5**
OKH					pmax	pmax		
	comp=Z,24μm,5.0s							
OKH					smax	smax		
	comp=N,26μm,16.0s							
OKH					smax	smax		
	comp=E,26μm,15.0s							
OKH					MLR	MLR		
	comp=Z,17μm,13.0s							
JFR	**Furan**	**8.41**	**240**		P	**Pn**	**21 26 39.3**	**-0.3**
JFR				*e*	S	**Sn**	**21 28 10.5**	**-2.5**
JAB	**Ashibetsu**	**8.43**	**243**		P	**Pn**	**21 26 41.0**	**+1.1**
JHR	**Hokuryu**	**8.61**	**246**		P	**Pn**	**21 26 45.2**	**+3.0**
JBT2	**Biratori 2**	**8.78**	**239**		P	**Pn**	**21 26 42.6**	**-2.0**
JBT2				*e*	S	**Sn**	**21 28 19.2**	**-2.7**
JEM	**Erimo**	**8.85**	**232**		P	**Pn**	**21 26 43.0**	**-2.4**
JEM				*e*	S	Sn	21 28 17.2	-6.2
JNBK	**Urakawa-nobuka**	**8.89**	**235**		P	Pn	21 26 42.0	-4.0
JNBK				*e*	S	**Sn**	**21 28 18.4**	**-6.0**
NKL	**Nikolayevsk**	**9.25**	**310**	⇓*i*	P	Pn	21 26 54.0	+3.2
NKL					AMB	AMB	21 26 55.8	
	comp=Z,790nm,1.2s							
NKL					AMB	AMB	21 26 55.8	
	comp=Z,2μm,1.2s							
NKL					AMB	AMB	21 26 55.8	
	comp=Z,2μm,1.3s							
NKL					AMB	AMB	21 26 56.0	
	comp=Z,6μm,4.0s							
NKL					AMB	AMB	21 26 56.0	
	comp=Z,12μm,4.0s							
NKL					AMB	AMB	21 26 56.0	
	comp=Z,13μm,6.0s							
NKL				*e*	L	L	21 27 42.0	
NKL					AMS	AMS	21 29 28.0	
	comp=Z,11μm,8.0s							
NKL					AMS	AMS	21 29 28.0	
	comp=Z,12μm,8.0s							
NKL					AMS	AMS	21 29 28.0	
	comp=Z,19μm,7.0s							
JEW	**Eniwo**	**9.28**	**242**		P	**Pn**	**21 26 50.9**	**-0.3**
JEW				*e*	S	**Sn**	**21 28 31.5**	**-2.4**
JSK	**Shakotan**	**9.58**	**247**		P	**Pn**	**21 26 56.7**	**+1.4**
JNB	**Noboribetsu**	**9.74**	**241**		P	**Pn**	**21 26 55.6**	**-1.9**
JNB				*e*	S	**Sn**	**21 28 40.2**	**-4.9**
JKB	**Kayabe**	**10.11**	**238**		P	Pn	21 26 58.6	-3.8
JKB				*e*	S	Sn	21 28 44.9	-9.0
JSH	**Shimam**	**10.24**	**244**		P	**Pn**	**21 27 03.6**	**-0.4**
JSH				*e*	S	**Sn**	**21 28 54.2**	**-2.8**
JYM2	**Yakumo 2**	**10.35**	**241**		P	**Pn**	**21 27 02.9**	**-2.7**
JYM2				*e*	S	Sn	21 28 53.5	-6.3
JSR	**Shiriuchi**	**10.69**	**238**		P	Pn	21 27 06.5	-3.6
JSR				*e*	S	Sn	21 28 55.6	-12
JTM	**Tenmabayashi**	**10.83**	**234**		P	Pn	21 27 06.7	-5.3
JTM				*e*	S	Sn	21 28 57.5	-14
JANG	**Nango**	**10.89**	**231**		P	Pn	21 27 06.6	-6.1
JANG				*e*	S	Sn	21 28 58.5	-14
JOSM	**Okushiri--Mats**	**10.90**	**243**		P	**Pn**	**21 27 10.5**	**-2.4**
JOSM				*e*	S	Sn	21 29 06.6	-6.5
JTH	**Tanohata**	**11.03**	**228**		P	Pn	21 27 07.8	-6.8
JTH				*e*	S	Sn	21 29 01.2	-15
OFUJ	**Ofunato**	**11.79**	**226**		P	Pn	21 27 18.7	-5.9
OFUJ				*e*	S	Sn	21 29 20.5	-14
JRG	**Rokugo**	**12.06**	**230**		P	Pn	21 27 23.3	-4.9
JRG				*e*	S	Sn	21 29 30.6	-11
JOG2	**Oga 2**	**12.13**	**234**		P	Pn	21 27 25.8	-3.4
JIO	**Ouri**	**12.43**	**225**		P	Pn	21 27 27.0	-6.0
JIO				*e*	S	Sn	21 29 36.7	-13
JYA	**Atsumi**	**13.14**	**230**		P	Pn	21 27 37.6	-4.6
JYA				*e*	S	Sn	21 29 56.1	-11
JFK	**Kawauchi**	**13.53**	**224**		P	Pn	21 27 41.9	-5.3
JFK				*e*	S	Sn	21 30 02.9	-14
KLR	**Kul'dur**	**13.86**	**284**	⇑*i*	P	**Pn**	**21 27 50.8**	**-0.5**
KLR				*e*	S	**Sn**	**21 30 28.0**	**+3.7**
KLR					pmax	pmax		
	comp=N,140nm,1.6s							
KLR					pmax	pmax		
	comp=E,1μm,1.6s							
KLR					pmax	pmax		
	comp=Z,2μm,1.6s							
KLR					smax	smax		
	comp=N,7μm,12.5s							
KLR					smax	smax		
	comp=E,6μm,12.5s							
JFY	**Yanaizu**	**14.06**	**227**		P	Pn	21 27 49.9	-4.0
JFY				*e*	S	Sn	21 30 16.8	-13
FX1	**Attu Island--F**	**14.07**	**61**	*e*	Pn	**Pn**	**21 27 54.1**	**+0.1**
FX1				*e*	Sn	Sn	21 30 18.9	-10
FX1				*e*	Sn	Sn	21 30 19.0	-10
FX1				*e*	ScS	**ScS**	**21 40 00.6**	**-0.8**
FX1	**Attu Island--F**	**14.07**	**61**		P	**Pn**	**21 27 53.6**	**-0.3**
	comp=E,78nm,0.3s,baz=14,slow=0.7,SNR=70							
FX1					S	Sn	21 30 19.0	-10
	comp=E,131nm,0.3s,baz=99,slow=16,SNR=19							
FX1					ScS	**ScS**	**21 40 00.6**	**-0.8**
	comp=E,3.5nm,0.3s,baz=249,slow=22,SNR=4.6							
JHK	**Hiroka**	**14.52**	**228**		P	Pn	21 27 56.0	-3.8
SMY	**Shemya**	**14.60**	**62**	*e*	P	**Pn**	**21 27 59.9**	**-0.7**
SMY				*e*			21 30 33.0	
SMY	**Shemya**	**14.60**	**62**	*e*	Pn	**Pn**	**21 27 59.9**	**-0.7**
SMY				*e*	Sn	Sn	21 30 33.0	-8.9
USRK	**Ussuriysk Arra**	**14.74**	**263**		P	**Pn**	**21 28 03.6**	**+1.2**
	comp=E,115nm,0.3s,baz=68,slow=12,SNR=907							
USRK					ScP	**ScP**	**21 36 26.6**	**+0.9**
	comp=E,0.3nm,0.3s,baz=142,slow=0.4,SNR=12							
USRK					ScS	**ScS**	**21 40 03.2**	**-0.2**
	comp=E,0.1nm,0.3s,baz=170,slow=28,SNR=1.8							
JAG	**Ashikaga**	**14.96**	**225**		P	Pn	21 28 01.8	-3.5
SEY	**Seymchan**	**15.14**	**360**	*e*	P	**P**	**21 28 08.5**	**-0.7**
VLA	**Vladivostok**	**15.24**	**260**	⇓*i*	P	**Pn**	**21 28 07.5**	**-1.2**
VLA				*e*	S	**Sn**	**21 30 52.1**	**-5.4**
VLA					pmax	pmax		
	comp=Z,186nm,0.8s							
JGK	**Kuni**	**15.25**	**227**		P	**Pn**	**21 28 08.8**	**-0.1**
MAJO	**Matsushiro**	**15.48**	**228**	*e*	P	**Pn**	**21 28 09.4**	**-2.4**
MAJO					pmax	pmax		
	comp=Z,1μm,1.2s							
MAJO	**Matsushiro**	**15.48**	**228**	*e*	Pn	**Pn**	**21 28 09.4**	**-2.4**
	comp=Z,1μm,1.2s							
MAJO				*e*	ScP	**ScP**	**21 36 26.3**	**-0.9**
MAT	**Matsushiro**	**15.48**	**228**		P	**Pn**	**21 28 08.5**	**-3.3**
MAT					S	**Sn**	**21 31 03.2**	**-0.3**
JYN	**Shimob**	**16.14**	**225**		P	**Pn**	**21 28 18.1**	**-1.9**
MDJ	**Mudanjiang**	**16.20**	**267**		P	**Pn**	**21 28 20.7**	**+0.1**
MDJ					sP	**sP**	**21 28 59.4**	**-2.0**
MDJ					S	**Sn**	**21 31 20.3**	**-0.5**
MDJ					PcP	**PcP**	**21 33 04.4**	**-2.2**
MDJ					PcS	**PcS**	**21 36 41.6**	**-0.6**
MDJ					ScS	**ScS**	**21 40 05.6**	**-1.7**
MDJ					AMB	AMB		
	comp=Z,190nm,0.8s							
MDJ					AMB	AMB		
	comp=Z,4μm,5.3s							
MDJ	**Mudanjiang**	**16.20**	**267**	*e*	Pn	**P**	**21 28 21.2**	**0.0**
	comp=Z,1μm,1.1s							
MDJ				*e*	ScP	**ScP**	**21 36 28.1**	**-0.3**
ZEA	**Zeya**	**17.01**	**300**	⇓*e*	P	**Pn**	**21 28 31.3**	**+1.0**
ZEA				⇓*e*	P	**Pn**	**21 28 31.3**	**+1.0**
ZEA					AMB	AMB	21 28 34.3	
	comp=Z,1μm,1.4s							
ZEA					AMB	AMB	21 28 34.3	
	comp=Z,2μm,1.4s							
ZEA					AMB	AMB	21 28 34.3	
	comp=Z,660nm,1.2s							
ZEA					AMB	AMB	21 28 36.0	
	comp=Z,20μm,5.0s							
ZEA					AMB	AMB	21 28 36.0	
	comp=Z,15μm,5.0s							
ZEA				*e*	S	**Sn**	**21 31 38.5**	**-1.4**
ZEA				A	A	21 31 58.0		
	comp=Z,3μm,5.0s							
JFM	**Mihama**	**17.40**	**231**		P	**P**	**21 28 34.0**	**-0.5**
AMKA	**Amchitka**	**17.65**	**68**	*e*	P	**Pn**	**21 28 37.9**	**-0.1**
AMKA				*e*	S	**S**	**21 31 48.8**	**-4.7**
JWM	**Minabe**	**19.03**	**229**		P	**P**	**21 28 52.7**	**+0.4**
CLNS	**Chul'man**	**19.04**	**309**	*e*	P	**Pn**	**21 28 53.9**	**-0.5**
CLNS					pmax	pmax		
	comp=Z,2μm,1.0s							
CLNS					pmax	pmax		
	comp=E,1μm,1.0s							
CLNS					pmax	pmax		
	comp=N,1μm,1.3s							
CLNS					MLR	MLR		
	comp=Z,4μm,11.0s							
CLNS					MLR	MLR		
	comp=E,3μm,12.0s							
CLNS					MLR	MLR		
	comp=N,3μm,13.0s							
YAK	**Yakutsk**	**19.21**	**326**	*d*	P	**P**	**21 28 53.6**	**-0.3**
YAK				*i*	S	**S**	**21 32 22.2**	**-1.9**
YAK					pmax	pmax		

YAK pmax pmax
comp=E,1µm,1.6s
YAK pmax pmax
comp=N,823nm,1.6s
CN2 Changchun 19.28 268 ↓P **P** **21 28 53.1 -1.8**
CN2 *e*SP **sP** **21 29 33.3 -2.1**
CN2 *e*S S 21 32 18.5 -7.4
CN2 ScP **ScP** **21 36 35.0 +0.1**
CN2 ScS **ScS** **21 40 16.5 -0.2**
CN2 AMB AMB
comp=N,560nm,1.1s
CN2 AMB AMB
comp=N,2µm,6.0s
MRT2 Murotomisaki 2 20.02 231 P **P** **21 29 03.5 +0.5**
GSTR Great Sitkin T 20.54 66 *e*P **P** **21 29 07.1 -1.3**
JKU Kubokawa 20.65 232 P **P** **21 29 10.5 +0.8**
KSRS Korea Array 20.80 249 P **P** **21 29 12.1 +0.9**
comp=N,958nm,0.8s,baz=50,slow=10,SNR=1229
KSRS S **S** **21 32 58.1 +2.2**
comp=N,2.0nm,0.8s,baz=149,slow=23,SNR=1.9
KSRS PcP **PcP** **21 33 15.5 +1.0**
comp=N,21nm,0.9s,baz=21,slow=1.0,SNR=5.1
KSRS ScP **ScP** **21 36 40.6 +2.0**
comp=N,40nm,1.0s,baz=339,slow=0.7,SNR=27
KSRS LR LR 21 38 19.5
comp=N,1µm,19.8s,baz=62,slow=39
KSRS ScS **ScS** **21 40 23.6 +1.5**
comp=N,3.0nm,1.1s,baz=62,slow=41,SNR=3.1
KS01 Wonju Array Si 20.80 249 *e*P **P** **21 29 11.7 +0.4**
KS01 *e*PcP **PcP** **21 33 15.5 +1.0**
KS01 *e*ScP **ScP** **21 36 39.7 +1.1**
KS15 Wonju Array Si 20.83 249 *e*P **P** **21 29 12.1 +0.5**
KS15 *e*S **S** **21 32 58.1 +1.6**
KS15 *e*PcP **PcP** **21 33 15.5 +0.9**
KS15 *e*ScP **ScP** **21 36 40.6 +1.9**
KS15 *e*ScS **ScS** **21 40 23.6 +1.4**
SNY Shenyang 21.34 264 ↓P **P** **21 29 15.0 -2.0**
SNY pP **pP** **21 29 45.3 +4.1**
SNY sP **sP** **21 29 57.7 -0.2**
SNY S **S** **21 33 03.4 -2.6**
SNY sS **sS** **21 33 47.2 +0.3**
SNY ScS **ScS** **21 40 24.7 +0.9**
SNY AMB AMB
comp=N,490nm,0.7s
SNY AMB AMB
comp=N,4µm,7.7s
SNY LR LR
comp=N,3µm,15.5s
SNY LR LR
comp=N,4µm,13.5s
INCN Inchon 21.60 251 P **P** **21 29 21.0 +1.1**
SNR=88
INCN Inchon 21.60 251 *e*P **P** **21 29 20.9 +1.0**
comp=N,1µm,1.2s
INCN *e*ScP **ScP** **21 36 40.8 +0.2**
HIA Hailar 21.68 286 *e*P **P** **21 29 18.6 -2.1**
comp=N,2µm,1.4s
HIA *e*ScP **ScP** **21 36 40.9 +0.2**
JNU Nakatsue 21.99 236 *e*P **P** **21 29 24.2 +0.3**
comp=N,408nm,1.0s
JNU *e*S **S** **21 33 20.0 +2.3**
JNU *e*ScP **ScP** **21 36 40.7 -1.0**
JNU *e*ScS **ScS** **21 40 23.1 -3.5**
JNU Nakatsue 21.99 236 P **P** **21 29 24.0 0.0**
comp=N,243nm,0.8s,baz=54,slow=4.8,SNR=158
JNU S **S** **21 33 20.0 +2.3**
comp=N,22nm,1.1s,baz=275,slow=23,SNR=1.1
JNU ScP **ScP** **21 36 41.9 +0.1**
comp=N,28nm,1.1s,baz=48,slow=5.1,SNR=4.3
JNU ScS **ScS** **21 40 23.1 -3.5**
comp=N,8.9nm,1.0s,baz=36,slow=15,SNR=2.6
JCJ Chichijima 22.24 205 P **P** **21 29 27.4 +0.9**
comp=N,170nm,1.0s,baz=18,slow=16,SNR=3.5
JCJ S **S** **21 33 27.3 +5.4**
comp=N,72nm,0.4s,baz=284,slow=23,SNR=2.4
JCJ ScP **ScP** **21 36 41.1 -1.2**
comp=N,237nm,0.9s,baz=254,slow=7.4,SNR=4.2
JCJ LR LR 21 38 16.7
comp=N,490nm,19.0s,baz=354,slow=37
JCJ ScS **ScS** **21 40 23.9 -3.7**
comp=N,67nm,0.8s,baz=280,slow=24,SNR=1.9
CBI Chichi jima 22.24 205 *e*P **P** **21 29 27.4 +0.9**
CBI *e*S **S** **21 33 27.3 +5.4**
CBI *e*ScP **ScP** **21 36 41.1 -1.2**
CBI *e*ScS **ScS** **21 40 23.9 -3.7**
JUR Ureshino 22.53 237 P **P** **21 29 30.1 +0.8**
NGSJ Nagasakinomoza 22.95 237 P **P** **21 29 34.6 +1.2**
JSJ Shimokoshiki 23.72 235 P **P** **21 29 41.9 +1.5**
DL2 Dalian 24.06 260 ↓*i*P **P** **21 29 42.9 -0.5**
DL2 sP **sP** **21 30 30.0 +3.1**
DL2 S **S** **21 33 48.1 -2.8**
DL2 AMB AMB
comp=N,1µm,1.0s
DL2 AMB AMB
comp=N,3µm,4.7s
DL2 LR LR
comp=N,4µm,20.1s
DL2 LR LR
comp=N,3µm,24.5s
SPIA Saint Paul Isl 24.21 53 *e*P **P** **21 29 43.6 -0.9**
CIT Chita 25.25 294 *e*P **P** **21 29 53.7 -0.4**
CIT *e* 21 30 43.9
CIT pmax pmax
comp=Z,321nm,2.8s
TIXI Tiksi 26.32 343 *d i*P **P** **21 30 02.0 -1.5**
TIXI pmax pmax
comp=Z,112nm,1.3s
TIXI MLR MLR
comp=Z,3µm,19.0s
AKUT Akutan 26.67 61 *e*P **P** **21 30 05.8 -0.9**
comp=Z,494nm,1.8s
AKUT *e*PcP **PcP** **21 33 27.0 +0.3**
BJI Beijing 27.14 267 P **P** **21 30 11.0 -0.1**
BJI pP **pP** **21 30 38.7 -0.8**
BJI AMB AMB
comp=Z,480nm,1.0s
BJI AMB AMB
comp=Z,3µm,6.1s
BJT Baijiatuau 27.15 267 *e*ScP **ScP** **21 36 54.3 -1.7**
TNA Tin City 27.35 35 *e*P **P** **21 30 14.5 +1.7**
comp=Z,231nm,1.4s
TNA *e*PcP **PcP** **21 33 29.0 +0.8**
JIH Iheya 28.29 232 P **P** **21 30 21.2 -0.3**
JOW Kunigami 28.30 231 P **P** **21 30 22.5 +0.9**
JOW Kunigami 28.30 231 *e*P **P** **21 30 21.3 -0.3**
comp=Z,630nm,1.0s
JOW *e*PcP **PcP** **21 33 31.7 +0.5**
TIA Tai'an 28.53 259 ↓P **P** **21 30 23.7 +0.1**
TIA S **S** **21 35 05.0 +3.4**
TIA AMB AMB
comp=Z,160nm,1.4s
TIA AMB AMB
comp=Z,3µm,6.8s
TIA LR LR
comp=Z,5µm,17.2s
TIA LR LR
comp=Z,3µm,16.1s
TIA LR LR
comp=Z,7µm,30.9s
JJT2 Tamagusuku 2 29.13 231 P **P** **21 30 30.2 +1.2**
SSE Sheshan 29.16 246 P **P** **21 30 30.1 +0.9**
SSE S **S** **21 35 12.4 +0.8**
SSE sS **sS** **21 36 01.9 +0.2**
SSE AMB AMB
comp=Z,190nm,1.0s
SSE AMB AMB
comp=Z,1µm,10.1s
SSE LR LR
comp=Z,3µm,28.4s
SSE LR LR
comp=Z,3µm,28.4s
SSE LR LR
comp=Z,3µm,24.9s
JKE Kume jima 2 29.49 232 P **P** **21 30 32.0 -0.1**
SDPT Sand Point 29.64 58 *e*P **P** **21 30 32.7 -0.5**
comp=Z,1µm,2.1s
SDPT *e*PcP **PcP** **21 33 34.4 +0.3**
HHC Hu-ho-hao-te 29.86 272 *e*P **P** **21 30 34.6 -0.9**
HHC pP **pP** **21 31 04.5 +0.4**
HHC sP **sP** **21 31 21.0 +1.5**
HHC PP **PnPn** **21 31 37.2 -0.6**
HHC S **S** **21 35 19.7 -2.9**
HHC sS **sS** **21 36 11.8 -1.0**
HHC SS **ScP** **21 37 06.3 +1.7**
HHC AMB AMB
comp=Z,1µm,1.2s
HHC AMB AMB
comp=Z,3µm,6.4s
HHC LR LR
comp=Z,16µm,13.3s
HHC LR LR
comp=Z,8µm,13.1s
HHC LR LR
comp=Z,10µm,14.2s
NJ2 Nanjing 29.98 251 *e*P **P** **21 30 35.6 -0.8**
NJ2 pP **pP** **21 31 04.4 -0.7**
NJ2 S **S** **21 35 22.0 -2.3**
NJ2 sS **sS** **21 36 14.0 -0.5**
NJ2 ScP **ScP** **21 37 04.5 -0.4**
NJ2 ScS **ScS** **21 41 00.6 0.0**
NJ2 AMB AMB
comp=Z,270nm,1.0s
NJ2 AMB AMB
comp=Z,2µm,6.9s
NJ2 LR LR
comp=Z,2µm,12.0s
NJ2 LR LR
comp=Z,1µm,14.2s
NJ2 LR LR
comp=Z,6µm,14.1s
H11N2 WAKE ISLAND Hy 30.35 153 T T 22 02 17.0
baz=341,slow=0.7,SNR=70
H11N1 WAKE ISLAND Hy 30.37 153 T T 22 02 19.3
baz=341,slow=0.7,SNR=38
H11N3 WAKE ISLAND Hy 30.37 152 T T 22 02 20.7
baz=341,slow=0.7,SNR=52
MIDW Midway 30.44 119 *e*P **P** **21 30 40.4 -0.1**
comp=Z,270nm,1.0s
MIDW *e*ScP **ScP** **21 37 05.5 -1.0**
SONA1 Songino Array 30.63 288 *e*P **P** **21 30 41.8 -0.4**
SONA1 *e*PcP **PcP** **21 33 37.4 +0.3**
SONA1 *e*ScP **ScP** **21 37 07.2 +0.2**
SONA0 Songino Array 30.63 287 *e*P **P** **21 30 42.4 +0.1**
SONA0 *e*PcP **PcP** **21 33 37.7 +0.6**
SONA0 *e*ScP **ScP** **21 37 07.7 +0.6**
SONA0 *e*ScS **ScS** **21 41 01.7 -2.0**
SONM Songino Array 30.63 287 P **P** **21 30 42.4 +0.1**
comp=Z,34nm,0.8s,baz=64,slow=8.2,SNR=137
SONM PcP **PcP** **21 33 37.7 +0.6**
comp=Z,15nm,0.6s,baz=92,slow=1.8,SNR=4.7
SONM ScP **ScP** **21 37 07.7 +0.6**
comp=Z,16nm,0.8s,baz=97,slow=2.7,SNR=7.6
SONM ScS **ScS** **21 41 01.7 -2.0**
comp=Z,2.9nm,1.0s,baz=340,slow=8.1,SNR=4.2
SONM LR LR 21 43 06.3
comp=Z,3µm,20.2s,baz=74,slow=36
SONM P3KPbc 22 02 29.8
comp=Z,3.6nm,1.1s,baz=246,slow=4.0,SNR=12
WAKE Wake Island 30.70 153 *e*ScP **ScP** **21 37 05.5 -1.9**
TIY Taiyuan 30.83 266 *e*P **P** **21 30 44.8 +0.8**
TIY pP **pP** **21 31 16.8 +4.1**
TIY PP **PP** **21 31 54.9 -1.1**
TIY S **S** **21 35 39.6 +1.8**
TIY SS **SnSn** **21 37 30.7 -1.8**
TIY AMB AMB
comp=Z,280nm,1.2s
TIY AMB AMB
comp=Z,2µm,3.8s
TIY LR LR
comp=Z,880nm,11.0s
TIY LR LR
comp=Z,2µm,10.5s
TIY LR LR
comp=Z,3µm,21.9s
IRK Irkutsk 30.86 297 *e*P **P** **21 30 43.8 -0.2**
IRK pmax pmax
comp=Z,128nm,2.2s
BTO Baotou 31.02 272 *e*P **P** **21 30 45.3 -0.3**
BTO AMB AMB
comp=Z,42nm,1.3s
TLY Talaya 31.36 296 *e*P **P** **21 30 49.3 +0.9**
TLY *e* 21 31 17.5
TLY pmax pmax
comp=Z,57nm,0.9s
TLY MLR MLR
comp=Z,4µm,21.0s
TLY Talaya 31.36 296 P **P** **21 30 48.1 -0.3**
comp=Z,544nm,0.9s,SNR=20
H11S1 WAKE ISLAND Hy 31.45 154 T T 22 03 55.1
baz=352,slow=0.6,SNR=551
H11S3 WAKE ISLAND Hy 31.45 154 T T 22 03 59.1
baz=352,slow=0.6,SNR=373
H11S2 WAKE ISLAND Hy 31.46 154 T T 22 03 55.8
baz=352,slow=0.6,SNR=367
ZAK Zakamensk 31.89 293 *e*P **P** **21 30 53.1 -0.1**
ZAK pmax pmax
comp=Z,64nm,1.4s
SVW2 Sparrevohn 32.00 46 *e*P **P** **21 30 55.8 +1.9**
comp=Z,295nm,1.8s
JIJ Ishigaki jima 32.48 234 P **P** **21 30 57.5 -1.0**
MOY Mondy 32.97 296 *e*P **P** **21 31 01.8 -0.8**
MOY *e* 21 32 25.2
MOY pmax pmax
comp=Z,164nm,2.4s
IMA2 Indian Mountai 33.16 37 *e*P **P** **21 31 04.8 +0.8**
IMA2 *e*PcP **PcP** **21 33 43.8 +0.2**
IMA2 *e*ScP **ScP** **21 37 15.8 +0.5**
RSO Redoubt South 33.40 47 *e*P **P** **21 31 07.6 +1.2**
OHAK Old Harbor 33.41 53 *e*P **P** **21 31 05.8 -0.4**
comp=Z,522nm,1.3s
OHAK *e*PcP **PcP** **21 33 45.0 +0.8**
TATO Taipei 33.48 238 *e*P **P** **21 31 07.9 +0.8**
comp=Z,3µm,1.4s
PPLA Purkeypile 33.62 43 *e*P **P** **21 31 09.4 +1.3**
comp=Z,390nm,1.6s
PPLA *e*PcP **PcP** **21 33 45.1 +0.1**
PPLA *e*ScP **ScP** **21 37 19.1 +2.2**
CAST Castle Rocks 33.67 42 *e*P **P** **21 31 09.1 +0.7**
comp=Z,67nm,0.6s
SPU Mount Spurr 33.71 46 *e*P **P** **21 31 09.7 +0.9**
SPU *e*PcP **PcP** **21 33 45.0 -0.2**
SPU *e*ScP **ScP** **21 37 17.8 +0.6**
KDAK Kodiak Island 33.72 52 P **P** **21 31 08.0 -0.8**
comp=Z,1µm,0.9s,SNR=36
KDAK Kodiak Island 33.72 52 *e*P **P** **21 31 08.3 -0.6**
comp=Z,144nm,0.8s
YHNB Yeheng 33.79 238 *e*P **P** **21 31 08.6 -1.3**
comp=Z,266nm,1.4s
WHN Wuhan 33.86 253 P **P** **21 31 10.5 +0.1**
WHN pP **pP** **21 31 42.5 +3.2**
WHN PP **PP** **21 32 30.3 +0.7**
WHN S S 21 36 17.6 -7.1
WHN ScP **ScP** **21 37 19.2 +1.0**
WHN ScS **ScS** **21 41 21.0 +0.8**
WHN AMB AMB
comp=Z,920nm,0.6s
WHN AMB AMB
comp=Z,5µm,4.6s
WHN LR LR
comp=Z,5µm,17.0s
WHN LR LR
comp=Z,8µm,22.1s
WHN LR LR
comp=Z,3µm,12.2s
NACB Ninganchiao 34.05 237 *e*P **P** **21 31 09.6 -2.5**
comp=Z,134nm,1.1s
BPAW Bear Paw Mtn. 34.17 41 *e*P **P** **21 31 13.6 +0.9**
comp=Z,94nm,0.7s
BPAW *e*PcP **PcP** **21 33 47.8 +1.4**
BPAW *e*ScP **ScP** **21 37 18.9 +0.1**
TRF Thorofare Moun 34.48 42 *e*P **P** **21 31 16.8 +1.3**
comp=Z,90nm,0.6s
TRF *e*ScP **ScP** **21 37 15.8 -4.2**
COLD Coldfoot 34.66 35 *e*P **P** **21 31 17.9 +1.0**
comp=Z,94nm,0.8s
COLD *e*PcP **PcP** **21 33 48.8 +1.1**
COLD *e*S **S** **21 36 39.4 +3.2**
COLD *e*ScP **ScP** **21 37 17.5 -2.9**
SSLB Suanglung 34.71 237 *e*P **P** **21 31 16.8 -1.0**
comp=Z,111nm,0.7s
SSLB *e*PcP **PcP** **21 33 49.5 +0.8**
GUMO Guam 34.74 193 *e*P **P** **21 31 16.3 -1.7**
comp=Z,624nm,2.0s
YULB Yu-li 34.83 237 *e*P **P** **21 31 19.1 +0.3**
comp=Z,164nm,0.7s
SEW Seward 35.07 48 *e*P **P** **21 31 20.5 +0.1**
comp=Z,120nm,1.1s
MCK McKinley 35.08 41 *e*P **P** **21 31 20.9 +0.4**
MCK *e* 21 33 49.5
MCK pmax pmax
comp=Z,103nm,0.9s
MCK McKinley 35.08 41 *e*P **P** **21 31 20.9 +0.4**
comp=Z,103nm,0.9s
MCK *e*PcP **PcP** **21 33 49.5 +0.4**
MCK *e*ScP **ScP** **21 37 20.6 -1.4**
PMR Palmer 35.09 45 *e*P **P** **21 31 20.9 +0.3**
PMR *e* 21 33 49.5
PMR pmax pmax
comp=Z,78nm,1.3s
PMR Palmer 35.09 45 *e*P **P** **21 31 20.9 +0.3**
comp=Z,78nm,1.3s
PMR *e*PcP **PcP** **21 33 49.5 +0.5**
QZH Quanzhou 35.20 242 ↓*i*P **P** **21 31 20.5 -1.4**
QZH S **S** **21 36 43.0 -2.3**
QZH sS **sS** **21 37 34.0 -2.0**
QZH AMB AMB
comp=Z,1µm,0.8s
QZH AMB AMB
comp=Z,7µm,3.0s
QZH LR LR
comp=Z,3µm,6.1s
QZH LR LR
comp=Z,4µm,5.3s
QZH LR LR
comp=Z,4µm,13.8s
XAN Xi'an 35.25 263 P **P** **21 31 22.2 -0.2**
XAN pP **pP** **21 31 50.1 -1.4**
XAN sP **sP** **21 32 04.0 -2.7**
XAN PP **PnPn** **21 32 49.1 +4.1**
XAN S **S** **21 36 44.7 -1.5**
XAN PcS **PcS** **21 37 37.7 +0.4**
XAN SS **SnSn** **21 39 12.6 -6.5**
XAN ScS **ScS** **21 41 26.2 -1.6**
XAN AMB AMB
comp=Z,88nm,1.5s
XAN AMB AMB
comp=Z,440nm,7.5s
XAN LR LR
comp=Z,2µm,27.5s
XAN LR LR
comp=Z,1µm,24.5s
XAN LR LR
comp=Z,1µm,40.8s
TPUB Ta-pu 35.28 237 *e*P **P** **21 31 23.5 +0.8**
comp=Z,541nm,0.6s
TPUB *e*PcP **PcP** **21 33 49.9 -0.3**
TWG Pinlang 35.41 236 *e*P **P** **21 31 23.2 -0.5**
comp=Z,3µm,1.2s
TWG *e*PcP **PcP** **21 33 49.1 -1.6**
COLA College 35.53 39 *e*P **P** **21 31 24.8 +0.5**
COLA pmax pmax
comp=Z,349nm,0.9s
COLA College 35.53 39 *e*P **P** **21 31 24.8 +0.5**
comp=Z,348nm,0.9s
IL1 Eielson Array 35.94 39 *e*P **P** **21 31 27.8 -0.1**
IL1 *e*ScP **ScP** **21 37 24.5 -0.7**
ILAR Eielson Array 35.94 39 P **P** **21 31 27.9 0.0**
comp=Z,74nm,0.6s,baz=259,slow=7.0,SNR=445
ILAR S **S** **21 36 57.0 +1.0**
comp=Z,4.8nm,1.3s,baz=225,slow=5.0,SNR=3.4
ILAR ScP **ScP** **21 37 24.7 -0.4**
comp=Z,4.6nm,0.8s,baz=277,slow=3.7,SNR=6.6
ILAR LR LR 21 45 31.2
comp=Z,2µm,19.1s,baz=273,slow=35
ILAR P3KPbc 22 02 06.0
comp=Z,1.3nm,1.0s,baz=83,slow=3.7,SNR=6.0
ILB Eielson Array 35.94 39 *e*P **P** **21 31 27.9 0.0**
ILB *e*S **S** **21 36 57.0 +1.0**
ILB *e*ScP **ScP** **21 37 24.7 -0.4**
KRAR Krasnoyarsk 36.64 306 *e*P **P** **21 31 36.4 +2.5**
KRAR pmax pmax
comp=Z,91nm,1.2s
PAX Paxson 36.68 42 *e*P **P** **21 31 35.1 +0.8**
PAX pmax pmax
comp=Z,97nm,1.4s
PAX Paxson 36.68 42 *e*P **P** **21 31 35.1 +0.8**
comp=Z,97nm,1.4s
PAX *e*ScP **ScP** **21 37 28.0 0.0**
DIV Divide 36.75 46 *e*P **P** **21 31 35.0 +0.2**
comp=Z,272nm,1.4s
ENH Enshi 37.21 258 *e*P **P** **21 31 39.1 0.0**
comp=Z,613nm,1.1s
ENH *e*PcP **PcP** **21 33 56.6 +0.6**
ENH *e*ScP **ScP** **21 37 31.2 +0.8**
DOT Dot Lake 37.25 41 *e*P **P** **21 31 38.3 -0.7**
comp=Z,82nm,0.6s
DOT *e*ScP **ScP** **21 37 30.6 +0.6**
BMRM Bremner River 37.33 46 *e*P **P** **21 31 40.6 +0.9**
comp=Z,121nm,1.0s
BMRM *e*PcP **PcP** **21 33 57.0 +1.1**
BMRM *e*S **S** **21 37 17.4 +0.2**
BMRM *e*ScP **ScP** **21 37 31.6 +1.2**
RAGM Ragged Mountai 37.39 47 *e*P **P** **21 31 41.0 +0.7**
comp=Z,164nm,1.2s
RAGM *e*PcP **PcP** **21 33 56.5 +0.5**
MENT Mentasta 37.48 42 *e*P **P** **21 31 40.9 -0.1**
MENT *e*ScP **ScP** **21 37 29.1 -1.9**
LZH Lanzhou 37.49 270 ↓P **P** **21 31 42.5 +0.9**
LZH pP **pP** **21 32 11.8 +0.9**
LZH sP **sP** **21 32 26.2 +0.1**
LZH PP **PnPn** **21 33 14.3 +2.2**
LZH S **S** **21 37 21.6 +1.1**
LZH ScP **ScP** **21 37 29.0 -2.6**
LZH sS **sS** **21 38 16.0 +4.5**
LZH SS SS 21 39 59.1 -11
LZH AMB AMB
comp=Z,1µm,1.4s
LZH AMB AMB
comp=Z,2µm,4.0s
LZH LR LR
comp=Z,2µm,12.3s
LZH LR LR
comp=Z,2µm,10.6s
LZH LR LR
comp=Z,2µm,13.2s
HVS Khovu-Aksy 37.50 298 *d i*P **P** **21 31 41.5 +0.2**
HVS pmax pmax
comp=Z,371nm,1.3s
EGAK Eagle 38.39 39 *e*P **P** **21 31 48.3 -0.2**
comp=Z,128nm,0.6s
EGAK *e*S **S** **21 37 35.0 +2.0**
GTA Gaotai 38.44 277 ↓P **P** **21 31 49.4 0.0**
GTA pP **pP** **21 32 21.3 +2.4**
GTA sP **sP** **21 32 37.0 +3.0**
GTA PP **PnPn** **21 33 24.6 +1.3**
GTA PcP **PcP** **21 34 02.3 +2.5**
GTA S **S** **21 37 33.7 -1.0**
GTA ScP **ScP** **21 37 36.2 +1.1**
GTA PcS **PcS** **21 37 48.8 -0.5**
GTA sS **sS** **21 38 27.9 +2.0**
GTA ScS **ScS** **21 41 46.5 +0.7**
GTA AMB AMB
comp=Z,130nm,1.3s
GTA AMB AMB
comp=Z,2µm,10.0s
GTA LR LR
comp=Z,2µm,15.9s
GTA LR LR
comp=Z,3µm,17.6s
GTA LR LR
comp=Z,3µm,15.7s
DAWY Dawson 39.25 40 *e*P **P** **21 31 55.3 -0.4**
DAWY *e*ScP **ScP** **21 37 38.5 +0.9**
APYP Conner 39.33 231 *e*P **P** **21 31 56.0 -0.8**
GZH Guangzhou 39.75 246 P P 21 31 56.7 -3.6
GZH S S 21 37 47.5 -6.7
GZH LR LR
comp=Z,3µm,15.5s
GZH LR LR
comp=Z,3µm,14.7s
ABRA Dolores 39.79 232 *e*P **P** **21 32 01.0 +0.4**
CD2 Chengdu 40.61 263 P **P** **21 32 07.7 +0.3**
CD2 pP **pP** **21 32 37.5 +0.4**
CD2 sP **sP** **21 32 52.9 +0.8**
CD2 PP **PnPn** **21 33 46.5 -2.3**
CD2 S **S** **21 38 06.1 -0.9**
CD2 sS **sS** **21 38 58.2 -0.4**
CD2 SS **SS** **21 41 05.4 -6.9**
CD2 AMB AMB
comp=Z,740nm,1.1s
CD2 AMB AMB
comp=Z,3µm,4.8s
CD2 LR LR

comp=Z,3µm,11.9s
CD2 LR LR
comp=Z,2µm,19.0s
HYT Haines Junctio 40.76 45 *e*P **P** **21 32 09.8 +1.4**
HYT *e*ScP **ScP** **21 37 44.8 +1.1**
BALP Baler 40.94 229 *e*P **P** **21 32 10.6 +0.6**
KWAJ Kwajalein Atol 40.94 157 *e*P **P** **21 32 10.8 +0.7**
KWAJ pmax pmax
comp=Z,303nm,1.0s
KWAJ Kwajalein Atol 40.94 157 *e*P **P** **21 32 10.8 +0.7**
comp=Z,303nm,1.0s
KWAJ *e*ScP **ScP** **21 37 43.4 -1.4**
BOLP Bolinao 41.26 232 *e*P **P** **21 32 13.1 +0.4**
PVCP Virac 41.51 224 *e*P **P** **21 32 15.7 +1.0**
GYA Guiyang 41.60 256↓ *i*P **P** **21 32 15.8 +0.2**
GYA pP **pP** **21 32 44.1 -1.3**
GYA sP **sP** **21 32 58.8 -1.6**
GYA PP **PP** **21 33 55.4 +1.1**
GYA PcP **PcP** **21 34 14.4 +4.3**
GYA ScP **ScP** **21 37 49.1 +1.5**
GYA PcS **PcS** **21 38 02.0 0.0**
GYA S **S** **21 38 18.8 -3.0**
GYA ScS **ScS** **21 42 03.2 -1.6**
GYA AMB AMB
comp=Z,170nm,1.0s
GYA AMB AMB
comp=Z,980nm,5.7s
ZAA0 Zalesovo Array 41.68 305 *e*P **P** **21 32 14.7 -1.1**
ZAA0 *e*PcP **PcP** **21 34 10.0 +0.2**
ZAA0 *e*ScP **ScP** **21 37 47.2 -0.1**
ZALV Zalesovo Beam 41.68 305 *e*P **P** **21 32 14.7 -1.0**
ZALV pmax pmax
comp=Z,53nm,0.5s
ZALV Zalesovo Beam 41.68 305 P **P** **21 32 14.6 -1.2**
comp=Z,52nm,0.5s,baz=61,slow=6.8,SNR=266
ZALV PcP **PcP** **21 34 10.3 +0.5**
comp=Z,39nm,0.5s,baz=103,slow=2.8,SNR=20
ZALV ScP **ScP** **21 37 47.6 +0.3**
comp=Z,14nm,0.7s,baz=64,slow=3.4,SNR=8.4
ZALV ScS **ScS** **21 42 04.8 +0.6**
comp=Z,4.3nm,1.0s,baz=30,slow=9.1,SNR=3.6
ZALV LR LR 21 51 37.3
comp=Z,3µm,18.1s,baz=69,slow=39
ZALV P4KPbc 22 10 17.6
comp=Z,0.5nm,0.4s,baz=106,slow=4.0,SNR=3.9
SCZP Santa Cruz 41.77 231 *e*P **P** **21 32 16.3 -0.6**
SKAG Skagway 42.18 46 *e*P **P** **21 32 20.6 +0.9**
comp=Z,38nm,0.9s
SKAG *e*ScP **ScP** **21 37 50.5 +1.3**
CNP Catarman 42.22 223 *e*P **P** **21 32 21.0 +0.5**
NVS Novosibirsk 42.24 306 *e*P **P** **21 32 19.0 -1.2**
NVS *e* 21 32 53.0
NVS *e*PPP PPP 21 34 05.4
NVS *e*S **S** **21 38 26.1 -4.2**
NVS *e*SSS SSS 21 42 04.9
NVS pmax pmax
comp=Z,450nm,1.9s
NVS pmax pmax
comp=N,130nm,1.7s
NVS pmax pmax
comp=E,275nm,1.7s
NVS smax smax
comp=N,127nm,2.5s
BOAC Boac 42.74 227 *e*P **P** **21 32 26.3 +1.6**
SIT Sitka 42.95 50 *e*P **P** **21 32 28.3 +2.3**
SIT pmax pmax
comp=Z,250nm,1.3s
SIT Sitka 42.95 50 *e*P **P** **21 32 28.2 +2.3**
comp=Z,250nm,1.3s
OCLP Ormoc 43.53 222 *e*P **P** **21 32 33.3 +2.2**
OTRP Odiongan 43.60 226 *e*P **P** **21 32 33.0 +1.4**
RCP Roxas 43.95 225↓ *e*P **P** **21 32 35.8 +1.4**
SJMP San Jose 43.95 227 *e*P **P** **21 32 35.4 +0.9**
WMQ Urumqi 44.19 290 P **P** **21 32 36.1 -0.1**
WMQ pP **pP** **21 33 04.7 -1.6**
WMQ sP **sP** **21 33 19.2 -2.1**
WMQ PcP **PcP** **21 34 19.2 +0.7**
WMQ PP **PP** **21 34 22.4 +0.8**
WMQ S **S** **21 38 59.3 0.0**
WMQ sS **sS** **21 39 49.4 -2.0**
WMQ ScS **ScS** **21 42 18.8 -1.6**
WMQ AMB AMB
comp=Z,110nm,1.2s
WMQ AMB AMB
comp=Z,2µm,3.8s
WMQ LR LR
comp=Z,4µm,8.8s
WMQ LR LR
comp=Z,5µm,7.6s
WMQ LR LR
comp=Z,3µm,24.2s
MSLP Maasin 44.23 221 *e*P **P** **21 32 37.1 +0.4**
SCPH Surigao 44.27 220↑ *e*P **P** **21 32 37.4 +0.4**
CRAG Craig 44.67 51 *e*P **P** **21 32 41.5 +1.8**
comp=Z,121nm,1.0s
WRAK Wrangell Islan 44.71 50 *e*P **P** **21 32 42.1 +2.1**
comp=Z,154nm,1.0s
WRAK *e*ScP **ScP** **21 37 58.5 -1.0**
BUSP Coron 44.80 228 *e*P **P** **21 32 42.1 +0.9**
GUIM Jordan 44.83 224 *e*P **P** **21 32 42.8 +1.4**
QIZ Qiongzhong 44.95 245 P **P** **21 32 42.7 +0.4**
QIZ sP **sP** **21 33 26.5 -1.0**
QIZ PP **PP** **21 34 30.0 +0.1**
QIZ S **S** **21 39 10.8 +0.3**
QIZ sS **sS** **21 40 02.4 -0.3**
QIZ AMB AMB
comp=Z,200nm,1.3s
QIZ AMB AMB
comp=Z,2µm,9.3s
QIZ LR LR
comp=Z,1µm,20.1s
QIZ LR LR
comp=Z,2µm,36.4s
QIZ Qiongzhong 44.95 245 *e*P **P** **21 32 44.3 +1.9**
comp=Z,367nm,1.3s
QIZ *e*PcP **PcP** **21 34 20.0 -1.3**
KMI Kunming 45.09 258 P **P** **21 32 44.7 +1.0**
KMI pP **pP** **21 33 12.0 -1.9**
KMI PcP **PcP** **21 34 24.1 +2.0**
KMI PP **PP** **21 34 31.0 -0.6**
KMI ScP **ScP** **21 38 04.2 +2.3**
KMI PcS **PcS** **21 38 18.2 +1.8**
KMI S **S** **21 39 11.1 -1.8**
KMI ScS **ScS** **21 42 27.4 +0.4**
KMI AMB AMB
comp=Z,690nm,1.3s
KMI AMB AMB
comp=Z,3µm,3.7s
KMI LR LR
comp=Z,850nm,20.3s
KMI LR LR
comp=Z,2µm,23.1s
KMI LR LR
comp=Z,2µm,23.1s
DLBC Dease Lake 45.11 46 *e*P **P** **21 32 45.3 +2.0**
DLBC *e*ScP **ScP** **21 38 02.1 +0.8**
CUYO Cuyo Island 45.39 226 *e*P **P** **21 32 46.9 +1.0**
ENPP El Nido 45.87 228 *e*P **P** **21 32 51.0 +1.3**
MK32 Makanchi Array 46.12 296 *e*P **P** **21 32 50.1 -1.2**
MK32 *e*PcP **PcP** **21 34 24.3 -0.9**
MK32 *e*ScP **ScP** **21 38 05.8 +0.2**
MK32 *e*ScS ScS 21 42 25.4 -7.2
MKAR Makanchi Array 46.12 296 *e*P **P** **21 32 50.9 -0.4**
MKAR pmax pmax
comp=Z,24nm,0.5s
MKAR Makanchi Array 46.12 296 *e*P **P** **21 32 50.6 -0.7**
MKAR *e*PcP **PcP** **21 34 25.3 +0.2**
MKAR *e*ScP **ScP** **21 38 06.0 +0.3**
MKAR Makanchi Array 46.12 296 P **P** **21 32 50.1 -1.2**
comp=Z,24nm,0.5s,baz=65,slow=8.6,SNR=208
MKAR PcP **PcP** **21 34 24.3 -0.9**
comp=Z,27nm,0.6s,baz=67,slow=4.5,SNR=4.2
MKAR ScP **ScP** **21 38 05.8 +0.2**
comp=Z,47nm,1.0s,baz=56,slow=3.2,SNR=11
MKAR ScS ScS 21 42 25.4 -7.2
comp=Z,3.5nm,0.9s,baz=55,slow=9.1,SNR=4.6
MKAR LR LR 21 54 02.8
comp=Z,4µm,18.8s,baz=58,slow=38
MKAR P4KPbc 22 10 36.6
comp=Z,1.3nm,0.7s,baz=56,slow=4.6,SNR=17
MK01 Makanchi Array 46.12 296 *e*P **P** **21 32 50.6 -0.7**
MK01 *e*PcP **PcP** **21 34 25.7 +0.6**
MK01 *e*ScP **ScP** **21 38 05.8 +0.1**
BUKP Musuan 46.16 219 *e*P **P** **21 32 52.4 +0.5**

KURK Kurchatov 46.46 303 *d* *i*P **P** **21 32 53.0 -0.8**
KURK pmax pmax
comp=Z,218nm,1.1s
KURK Kurchatov 46.46 303 P **P** **21 32 53.3 -0.6**
SNR=164
KURK Kurchatov 46.46 303 P **P** **21 32 53.3 -0.6**
comp=Z,2µm,1.5s
KURK Kurchatov 46.46 303 *e*P **P** **21 32 53.3 -0.6**
comp=Z,149nm,0.8s
KURK *e*PcP **PcP** **21 34 26.9 +0.8**
KURK *e*ScP **ScP** **21 38 06.5 -0.4**
KURBB Kurchatov Arra 46.55 302 P4KPbc 22 10 38.2
comp=Z,1.0nm,0.5s,baz=63,slow=4.2,SNR=10
DAV Davao City (W) 46.66 218 P **P** **21 32 57.5 +1.6**
SNR=9.0
DAV Davao City (W) 46.66 218 *e*P **P** **21 32 56.4 +0.5**
DAV *e*PcP **PcP** **21 34 28.2 +0.8**
DAV *e*ScP **ScP** **21 38 09.9 +1.6**
PAGZ Pagadian 46.92 221 *e*P **P** **21 32 58.2 +0.4**
CTBH Cotabato--PC H 47.09 220 *e*P **P** **21 33 00.7 +1.5**
OPA Opana 47.23 106 *e*P **P** **21 33 00.4 +0.2**
OPA Opana 47.23 106 *e*P **P** **21 33 00.4 +0.2**
KIP Kipapa 47.41 106 *e*P **P** **21 33 01.9 +0.3**
KIP pmax pmax
comp=Z,423nm,1.0s
KIP Kipapa 47.41 106 *e*P **P** **21 33 01.9 +0.3**
comp=Z,423nm,1.0s
ALE Alert 48.70 6 P **P** **21 33 10.8 0.0**
comp=Z,379nm,0.6s,SNR=22
BATP Bataraza 48.75 229 *e*P **P** **21 33 13.8 +1.9**
HLK Haleakala 49.04 105 *e*P **P** **21 33 14.6 +0.1**
HKL Haleakala 49.06 105 *e*P **P** **21 33 13.7 -1.1**
HKL Haleakala 49.06 105 *e*P **P** **21 33 13.7 -1.1**
TARA Taravao 49.55 153 *e*P **P** **21 33 16.2 -1.7**
PANO Nakornpanom 49.61 249 P **P** **21 33 20.1 +1.7**
comp=Z,457nm,1.3s,comp=Z,11µm
VOSK Vostochnaya 49.72 308 *e*P **P** **21 33 18.7 -0.2**
VOSK *e* 21 34 38.2
VOSK pmax pmax
comp=Z,418nm,1.3s
VOSK Vostochnaya 49.72 308 *e*P **P** **21 33 18.7 -0.2**
comp=Z,418nm,1.3s
VOSK *e*PcP **PcP** **21 34 38.2 +0.3**
VOSK *e*ScP **ScP** **21 38 20.5 -0.2**
LSA Lhasa 49.85 272 P **P** **21 33 21.7 +1.0**
LSA LR LR
comp=Z,3µm,35.0s
LSA Lhasa 49.85 272 *e*P **P** **21 33 21.7 +1.0**
LSA pmax pmax
comp=Z,295nm,0.6s
LSA Lhasa 49.85 272 *e*P **P** **21 33 21.7 +1.0**
comp=Z,295nm,0.6s
LSA *e*ScP **ScP** **21 38 22.6 +0.3**
BVAR Borovoye Array 49.88 309 LR LR 21 56 04.0
comp=Z,2µm,20.1s,baz=55,slow=38
BVAR P4KPbc 22 10 52.8
comp=Z,2.1nm,0.5s,baz=73,slow=5.1,SNR=16
BRVK Borovoye 49.92 309 *d* *i*P **P** **21 33 20.1 -0.3**
BRVK pmax pmax
comp=Z,226nm,1.1s
BRVK Borovoye 49.92 309 P **P** **21 33 20.3 -0.1**
SNR=111
BRVK Borovoye 49.92 309 P **P** **21 33 20.8 +0.4**
comp=Z,1µm,0.7s,SNR=85
BRVK Borovoye 49.92 309 *e*P **P** **21 33 19.9 -0.6**
comp=Z,505nm,1.4s
BRVK *e*PcP **PcP** **21 34 35.7 -2.9**
BRVK *e*ScP **ScP** **21 38 21.2 -0.4**
RES Resolute Bay 49.93 19 *e*P **P** **21 33 20.6 +0.5**
comp=Z,238nm,1.3s
RES *e*ScP **ScP** **21 38 21.9 +0.7**
SKNT Sakolnakorn 50.14 249 P **P** **21 33 23.4 +1.0**
comp=Z,716nm,1.1s,comp=Z,9µm
POHA Pohakuloa 50.22 105 *e*P **P** **21 33 23.1 -0.2**
comp=Z,727nm,0.8s
YKA Yellowknife Ar 50.28 37 P **P** **21 33 23.6 +0.7**
comp=Z,50nm,0.5s,baz=299,slow=7.0,SNR=207
YKA PcP **PcP** **21 34 40.5 +0.8**
comp=Z,12nm,0.5s,baz=305,slow=3.8,SNR=14
YKA ScP **ScP** **21 38 23.3 +0.3**
comp=Z,8.6nm,0.9s,baz=294,slow=4.2,SNR=5.6
YKB5 Yellowknife Ar 50.28 37 *e*P **P** **21 33 22.9 -0.1**
YKB5 *e*PcP **PcP** **21 34 39.7 0.0**
YKB5 *e*ScP **ScP** **21 38 20.6 -2.3**
UBPT Khong Chiam 50.49 246 P **P** **21 33 26.9 +1.8**
comp=Z,356nm,1.2s,comp=Z,6µm
UBPT Khong Chiam 50.49 246 P **P** **21 33 26.3 +1.2**
UBPT Khong Chiam 50.49 246 P **P** **21 33 26.9 +1.8**
comp=Z,356nm,1.2s,comp=Z,6µm
BAKI Biak 50.89 201 P **P** **21 33 29.1 +1.0**
PAYA Payao 51.02 255 P **P** **21 33 30.3 +1.2**
comp=Z,271nm,0.8s,comp=Z,2µm
AAA Alma-Ata 51.17 295 *i* P **P** **21 33 30.0 0.0**
AAA *i* S **S** **21 40 42.6 +4.8**
AAA pmax pmax
comp=Z,2µm,8.2s
AAA smax smax
comp=E,900nm,4.7s
AAA MLR MLR
comp=Z,4µm,22.0s
IMP Imphal 51.18 265 *e*4 21 33 29.0
JAY Jayapura 51.20 195 P **P** **21 33 31.7 +1.3**
KBS Kingsbay 51.37 351 *e*P P 21 33 26.6 -4.3
KBS AMB AMB 21 33 32.8
comp=Z,79nm,1.4s
KBS *e*S **S** **21 40 38.2 -1.3**
KBS Kingsbay 51.37 351 *ce*P **P** **21 33 31.1 +0.2**
KBS pmax pmax
comp=Z,60nm,1.1s
KBS Kingsbay 51.37 351 *e*P **P** **21 33 30.7 -0.2**
comp=Z,45nm,0.8s
KBS *e*PcP **PcP** **21 34 43.7 +0.2**
MYLDM Lahad Datu 51.52 225 P **P** **21 33 35.3 +2.5**
MYLDM Lahad Datu 51.52 225 P **P** **21 33 35.4 +2.6**
MYLDM Lahad Datu 51.52 225 *e*P **P** **21 33 34.3 +1.5**
comp=Z,608nm,1.4s
TNTI Ternate 51.72 213 P P 21 33 37.5 +3.3
TNTI Ternate 51.72 213 P **P** **21 33 35.8 +1.6**
TNTI Ternate 51.72 213 *e*P **P** **21 33 35.3 +1.0**
comp=Z,113nm,1.1s
SDKM Sandakan 51.76 227 P **P** **21 33 36.0 +1.4**
KKM Kota Kinabalu 51.90 229 P **P** **21 33 37.1 +1.4**
KKM Kota Kinabalu 51.90 229 P **P** **21 33 37.7 +1.9**
comp=Z,212nm,1.7s,comp=Z,3µm
KKM Kota Kinabalu 51.90 229 P **P** **21 33 37.7 +1.9**
KKM Kota Kinabalu 51.90 229 *e*P **P** **21 33 36.9 +1.2**
comp=Z,239nm,1.1s
SWI Sorong 51.93 207 P **P** **21 33 35.9 +0.1**
comp=Z,208nm,1.7s,comp=Z,4µm
CHTO Chiang Mai 52.02 255 *e*P **P** **21 33 37.0 +0.5**
CHTO Chiang Mai 52.02 255 P **P** **21 33 37.9 +1.4**
SNR=258
CHTO Chiang Mai 52.02 255 P **P** **21 33 37.9 +1.4**
CHTO Chiang Mai 52.02 255 *e*P **P** **21 33 37.0 +0.5**
comp=Z,2µm,0.9s
CHTO *e*ScP **ScP** **21 38 32.2 +1.1**
CHTO Chiang Mai 52.02 255 P **P** **21 33 37.2 +0.7**
comp=Z,3µm,1.1s,comp=Z,35µm
SHL Shillong 52.04 267 *i* PDN **P** **21 33 37.5 +0.7**
comp=Z,49nm,1.0s
SHL *ex* **ScS** **21 43 12.0 -1.5**
ULHL Ulahol 52.17 294 *i* P **P** **21 33 38.5 +0.8**
ULHL Ulahol 52.17 294 P **P** **21 33 38.5 +0.8**
SNR=35
TKM2 Tokmak 2 52.19 295 *i* P **P** **21 33 38.2 +0.4**
TKM2 Tokmak 2 52.19 295 P **P** **21 33 38.2 +0.4**
SNR=96
TKM2 Tokmak 2 52.19 295 *e*P **P** **21 33 37.7 -0.1**
comp=Z,237nm,1.4s
TKM2 *e*PcP **PcP** **21 34 48.3 +0.7**
TKM2 *e*ScP **ScP** **21 38 32.0 +0.2**
CM31 Chiang Mai Arr 52.27 255 *e*P **P** **21 33 39.5 +1.1**
CM31 *e*PcP **PcP** **21 34 49.9 +2.0**
CM31 *e*ScP **ScP** **21 38 34.2 +2.0**
CM31 *e*S **S** **21 40 56.5 +3.2**
CMAR Chiang Mai Arr 52.27 255 P **P** **21 33 39.5 +1.2**
comp=Z,221nm,0.8s,baz=34,slow=7.2,SNR=914
CMAR PcP **PcP** **21 34 49.9 +2.0**
comp=Z,30nm,0.8s,baz=3.6,slow=2.6,SNR=5.1
CMAR ScP **ScP** **21 38 34.2 +2.0**
comp=Z,64nm,0.9s,baz=17,slow=3.7,SNR=36
CMAR S **S** **21 40 56.5 +3.2**
comp=Z,0.6nm,0.8s,baz=292,slow=7.7,SNR=2.7
CMAR PKP2ab 22 04 47.3
comp=Z,7.8nm,1.3s,baz=241,slow=3.7,SNR=8.9

CM01 Chiang Mai Arr 52.29 255 *e*P **P** **21 33 39.5 +1.0**
CM01 *e*PcP **PcP** **21 34 49.4 +1.5**
CM01 *e*ScP **ScP** **21 38 33.0 +0.6**
TSM Tawau 52.60 226 P **P** **21 33 41.2 +0.5**
CHMS Chumysh 52.66 296 *i* P **P** **21 33 41.5 +0.5**
CHMS Chumysh 52.66 296 P **P** **21 33 41.5 +0.5**
SNR=76
USP Ospenovka 52.67 296 *i* P **P** **21 33 41.7 +0.7**
USP Ospenovka 52.67 296 P **P** **21 33 41.7 +0.7**
SNR=11
KBK Karagaybulak 52.74 295 *i* P **P** **21 33 42.5 +0.7**
KBK Karagaybulak 52.74 295 P **P** **21 33 42.5 +0.7**
SNR=115
SVE Sverdlovsk 52.78 316 *c* *i*P **P** **21 33 41.7 +0.1**
SVE *e* 21 34 49.8
SVE *e* 21 35 46.8
SVE *e*S **S** **21 40 57.4 -1.9**
SVE *e* 21 43 16.5
SVE pmax pmax
comp=Z,400nm,1.3s
FRU Bishkek 52.84 295↓ *i*P **P** **21 33 41.5 -0.8**
FRU *i* *PP **pP** **21 34 15.0 +1.7**
FRU *e* 21 34 50.0
FRU *e*S **S** **21 40 58.0 -2.5**
FRU *e* 21 43 12.0
FRU pmax pmax
comp=Z,500nm,1.8s
FRU MLR MLR
comp=Z,3µm,18.0s
KZA Kyzart 52.88 294 *i* P **P** **21 33 43.8 +0.7**
KZA Kyzart 52.88 294 P **P** **21 33 43.8 +0.7**
SNR=49
LBMI Labuha 52.98 212 P **P** **21 33 44.6 +1.1**
SOKR Solikamsk 53.01 321 *d* *i*P **P** **21 33 42.5 -0.6**
SOKR *PP **pP** **21 34 15.4 +1.2**
SOKR 21 34 50.5
SOKR pmax pmax
comp=Z,350nm,1.0s
SOKR MLR MLR
comp=Z,2µm,17.0s
AAK Ala-Archa 53.02 295 *d* *i*P **P** **21 33 43.6 -0.3**
AAK pmax pmax
comp=Z,275nm,1.0s
AAK Ala-Archa 53.02 295 P **P** **21 33 43.8 0.0**
SNR=71
AAK Ala-Archa 53.02 295 P **P** **21 33 44.8 +0.9**
SNR=116
AAK Ala-Archa 53.02 295 P **P** **21 33 44.0 +0.1**
comp=Z,744nm,0.7s,SNR=66
AAK Ala-Archa 53.02 295 *e*PcP **PcP** **21 34 50.1 -0.6**
AAK *e*ScP **ScP** **21 38 32.0 -3.5**
AAK Ala-Archa 53.02 295 LR LR 21 58 16.3
comp=Z,3µm,19.4s,baz=34,slow=38
AAK P4KPbc 22 11 07.4
comp=Z,2.1nm,0.6s,baz=102,slow=2.4,SNR=12
PGC Sidney 53.14 56 *e*P **P** **21 33 44.5 +0.1**
KMSI Cibinong 53.20 217 P **P** **21 33 46.9 +1.7**
comp=Z,356nm,1.1s,comp=Z,4µm
KMSI Cibinong 53.20 217 P **P** **21 33 46.9 +1.7**
comp=Z,556nm,1.1s,comp=Z,4µm
KMSI Cibinong 53.20 217 P **P** **21 33 46.2 +1.0**
EKS2 Erkin-Say 53.45 296 *e*P **P** **21 33 47.1 +0.2**
EKS2 *e* 21 34 52.1
EKS2 pmax pmax
comp=Z,306nm,1.4s
EKS2 Erkin-Say 53.45 296 P **P** **21 33 48.7 +1.9**
SNR=12
EKS2 Erkin-Say 53.45 296 *e*P **P** **21 33 47.1 +0.2**
comp=Z,306nm,1.4s
EKS2 *e*PcP **PcP** **21 34 52.1 -0.1**
EKS2 *e*ScP **ScP** **21 38 36.6 -0.6**
FAKI Fak Fak 53.58 206 P **P** **21 33 48.4 +0.5**
comp=Z,156nm,1.3s,comp=Z,2µm
FAKI Fak Fak 53.58 206 P **P** **21 33 48.9 +1.0**
NLWA Neilton Lookou 53.60 57 *e*P **P** **21 33 48.5 +0.7**
comp=Z,166nm,0.9s
NLWA *e*ScP **ScP** **21 38 35.5 -2.2**
TAPN Taplejung 53.67 272 *e*P **P** **21 33 49.9 +1.0**
comp=Z,357nm,0.8s
A05A Maple Falls 53.70 55 *e*P **P** **21 33 49.6 +1.2**
comp=Z,274nm,1.5s
AML Almayashu 53.80 295 *i* P **P** **21 33 50.5 +0.7**
AML Almayashu 53.80 295 P **P** **21 33 50.5 +0.7**
SNR=61
KSH Kashi 53.90 291 P P 21 33 54.1 +3.9
KSH pP pP 21 34 25.8 +4.4
KSH sP sP 21 34 42.8 +6.7
KSH PcP **PcP** **21 34 57.0 +3.0**
KSH S **S** **21 41 16.9 +1.8**
KSH sS sS 21 42 14.6 +5.7
KSH SS **SS** **21 45 03.0 +5.4**
KSH AMB AMB
comp=Z,410nm,1.5s
KSH AMB AMB
comp=Z,1µm,5.0s
KSH LR LR
comp=Z,4µm,8.6s
KSH LR LR
comp=Z,3µm,8.1s
KSH LR LR
comp=Z,3µm,16.0s
ARU Arti 53.96 317 *d* *i*P **P** **21 33 49.3 -0.9**
ARU *PP **pP** **21 34 22.6 +1.2**
ARU *SP **sP** **21 34 35.9 -0.2**
ARU *e* 21 34 54.0
ARU 21 35 51.9
ARU S **S** **21 41 14.0 -1.2**
ARU 21 43 23.9
ARU SS **SS** **21 44 53.4 -4.2**
ARU SSS SSS 21 47 05.7
ARU pmax pmax
comp=Z,780nm,1.7s
ARU Arti 53.96 317 P **P** **21 33 49.4 -0.8**
comp=Z,3µm,0.6s,SNR=83
MRSI Marisa 54.13 219 P **P** **21 33 52.6 +0.7**
MRSI Marisa 54.13 219 P **P** **21 33 52.6 +0.7**
comp=Z,284nm,1.4s,comp=Z,5µm
MRSI Marisa 54.13 219 P **P** **21 33 52.8 +0.9**
ODAN Odare 54.21 272 *e*P **P** **21 33 53.3 +0.5**
comp=Z,320nm,0.7s
E03A Lebam 54.24 58 *e*P **P** **21 33 53.6 +1.2**
comp=Z,259nm,1.1s
E03A *e*PcP **PcP** **21 34 56.8 +1.9**
B06A Marblemount 54.30 55 *e*P **P** **21 33 53.4 +0.6**
comp=Z,116nm,0.8s
CHBT CHBT 54.37 247 P **P** **21 33 55.3 +1.6**
CHBT CHBT 54.37 247 P **P** **21 33 55.0 +1.3**
CHBT CHBT 54.37 247 P **P** **21 33 55.3 +1.6**
comp=Z,738nm,1.1s,comp=Z,8µm
JIRN Jiri 54.50 273 *e*P **P** **21 33 55.9 +0.9**
comp=Z,628nm,0.7s
GUN Gumba 54.54 274 *e*P **P** **21 33 56.0 +0.7**
comp=Z,246nm,0.4s
F03A Seaside 54.60 58 *e*P **P** **21 33 56.1 +1.1**
comp=Z,265nm,1.3s
RAMN Ramite 54.68 272 *e*P **P** **21 33 56.8 +0.6**
D05A Enumclaw 54.77 56 *e*P **P** **21 33 57.4 +1.1**
comp=Z,150nm,0.8s
KKN Kakani 55.02 274 *e*P **P** **21 33 59.4 +0.8**
comp=Z,325nm,0.5s
PKI Pulchoki 55.08 274 *e*P **P** **21 33 59.7 +0.6**
comp=Z,354nm,0.6s
LON Longmire 55.12 57 *e*P **P** **21 33 59.0 +0.1**
LON pmax pmax
comp=Z,25nm,0.8s
LON Longmire 55.12 57 *e*P **P** **21 33 59.0 +0.1**
comp=Z,25nm,0.8s
KKAR Karatay Array 55.15 298 *e*P **P** **21 33 58.8 -0.3**
KKAR *e* 21 34 58.5
KKAR Karatay Array 55.15 298 *e*P **P** **21 33 58.8 -0.3**
KKAR *e*PcP **PcP** **21 34 58.5 -0.1**
LUWI Luwuk 55.16 217 P **P** **21 33 58.3 -1.0**
comp=Z,367nm,1.2s,comp=Z,4µm
LUWI Luwuk 55.16 217 P **P** **21 33 58.3 -1.0**
comp=Z,367nm,1.2s,comp=Z,4µm
LUWI Luwuk 55.16 217 P **P** **21 33 58.5 -0.8**
F04A Amboy 55.25 58 *e*P **P** **21 34 00.4 +0.8**
comp=Z,126nm,0.8s
DMN Daman 55.26 274 *e*P **P** **21 34 01.4 +1.1**
GKN Gorkha 55.32 275 *e*P **P** **21 34 01.5 +0.9**
comp=Z,724nm,0.5s
LTY Liberty 55.47 56 *e*P **P** **21 34 01.2 -0.2**
comp=Z,220nm,1.4s
APSI Ampana 55.51 219 P **P** **21 34 01.4 -0.4**
APSI Ampana 55.51 219 P **P** **21 34 01.5 -0.4**

COR Corvallis 55.52 60 eP P 21 34 03.2 +1.6
COR Corvallis 55.52 60 eP P 21 34 03.2 +1.6
comp=Z,1µm,0.9s
DAG Danmarks Havn 55.55 358 i P P 21 34 02.3 +0.9
DAG i 21 34 58.3
DAG Danmarks Havn 55.55 358 i P P 21 34 02.3 +0.9
comp=Z,16nm,0.8s
DAG i 21 34 58.3
B08A Colville Reser 55.57 54 eP P 21 34 02.3 +0.3
comp=Z,197nm,1.1s
B08A eScP ScP 21 38 46.8 +0.5
LVZ Lovozero 55.62 336 P P 21 34 01.7 -0.4
comp=Z,406nm,1.4s,SNR=8.0
DANN Dangsing 55.68 276 eP P 21 34 04.6 +1.2
comp=Z,860nm,0.5s
EDM Edmonton 55.84 46 eP P 21 34 04.4 +0.6
EDM Edmonton 55.84 46 eP P 21 34 04.4 +0.6
KEBM Edson Butte 55.92 62 eP P 21 34 06.0 +1.4
comp=Z,238nm,0.9s
BTM Bintulu 55.93 230 P P 21 34 06.4 +1.5
TLE Tual 56.03 204 P P 21 34 08.0 +2.4
H04A Detroit Lake 56.11 59 eP P 21 34 06.8 +1.0
comp=Z,285nm,1.0s
KOLN Koldanda 56.16 275 eP P 21 34 07.7 +1.0
comp=Z,445nm,0.6s
APA Apatity 56.19 336 ⇓i P P 21 34 06.2 +0.1
APA i 21 35 04.0
APA i 21 36 18.0
APA i S S 21 41 44.0 -0.6
APA i SS SS 21 45 30.0 -2.2
KEV Kevo 56.20 340 eP P 21 34 04.8 -1.3
KEV pmax pmax
comp=Z,69nm,1.2s
KEV Kevo 56.20 340 ep P 21 34 04.2 -1.8
comp=Z,16nm,0.4s
KEV Kevo 56.20 340 eP P 21 34 04.8 -1.3
comp=Z,69nm,1.2s
KEV eScP ScP 21 38 49.6 +1.0
KULLO Kullorsuaq 56.25 9 i P P 21 34 06.5 +0.1
KULLO pmax pmax
comp=Z,78nm,1.1s
KBO Bosley Butte 56.37 62 eP P 21 34 10.1 +2.3
comp=Z,313nm,1.1s
C09A Chrisman Ranch 56.47 54 eP P 21 34 09.2 +0.8
comp=Z,153nm,1.0s
C09A eScP ScP 21 38 52.0 +1.7
D08A Wollman Farm, 56.55 55 eP P 21 34 09.5 +0.5
comp=Z,123nm,1.2s
D08A eScP ScP 21 38 50.6 0.0
HAWA Hanford 56.61 56 eP P 21 34 10.0 +0.7
comp=Z,126nm,1.1s
HAWA eScP ScP 21 38 48.5 -2.3
G06A Carlson Farm, 56.67 58 eP P 21 34 11.2 +1.3
comp=Z,203nm,1.6s
ARA0 ARCESS Array S 56.71 340 eP P 21 34 09.4 -0.3
ARA0 ePcP PcP 21 35 04.5 +0.3
ARA0 eScP ScP 21 38 52.0 +1.1
ARA0 ⇑e 22 04 07.0
ARCES ARCESS Array B 56.71 340 P P 21 34 09.2 -0.5
comp=Z,16nm,0.4s,baz=32,slow=7.0,SNR=222
ARCES PcP PcP 21 35 05.1 +0.9
comp=Z,46nm,0.8s,baz=35,slow=4.4,SNR=10.0
ARCES ScP ScP 21 38 52.5 +1.6
comp=Z,28nm,0.9s,baz=39,slow=6.2,SNR=11
ARCES LR LR 22 04 07.0
comp=Z,1µm,19.0s,baz=291,slow=42
NEW Newport 56.82 53 eP P 21 34 11.4 +0.5
comp=Z,121nm,0.9s
NEW Newport 56.82 53 ⇓P P 21 34 11.9 +1.0
baz=57,SNR=111
NEW ⇑S S 21 41 53.4 -0.2
baz=57
HUMO Hull Mountain 56.89 61 eP P 21 34 12.9 +1.5
comp=Z,172nm,1.4s
HUMO eScP ScP 21 38 54.5 +2.3
SGKI Sangatta, Kali 56.95 223 P P 21 34 08.2 -3.9
KRMB Red Mountain 56.97 63 eP P 21 34 13.8 +1.7
comp=Z,173nm,1.2s
SBUM Sibu 57.01 230 P P 21 34 14.3 +1.7
SBUM Sibu 57.01 230 P P 21 34 14.2 +1.7
SBUM Sibu 57.01 230 eP P 21 34 12.9 +0.3
comp=Z,137nm,1.1s
SBUM eScP ScP 21 38 53.2 +0.2
PMG Port Moresby 57.19 186 P P 21 34 14.8 +1.1
PMG Port Moresby 57.19 186 eP P 21 34 13.6 0.0
comp=Z,128nm,0.8s
PMG Port Moresby 57.19 186 P P 21 34 14.7 +1.1
comp=Z,107nm,0.8s,baz=4.5,slow=5.0,SNR=23
TMCR Tamitsa 57.20 332 eP P 21 34 13.0 -0.2
TMCR e 21 35 07.3
TMCR e 21 36 20.8
TMCR eS S 21 42 04.0 +6.1
TMCR pmax pmax
comp=Z,59nm,0.5s
BOK Bokaro 57.26 270 eP P 21 34 15.5 +1.3
BOK AMB AMB 21 35 09.7
comp=Z,91nm,0.7s
E09A Wood Farm, Sta 57.30 55 eP P 21 34 14.9 +0.7
comp=Z,195nm,1.0s
LGTI Lohaghat 57.32 279 eP P 21 34 17.1 +2.5
PINOR Pine Mountain 57.39 59 eP P 21 34 16.4 +1.6
comp=Z,299nm,1.1s
HNR Honiara 57.39 171 eP P 21 34 14.3 -0.7
comp=Z,495nm,0.8s
HNR Honiara 57.39 171 P P 21 34 15.5 +0.4
comp=Z,329nm,0.9s,baz=210,slow=2.6,SNR=15
ABKAR Akbulak array 57.45 309 eP P 21 34 15.3 +0.1
KHMM Horse Mountain 57.47 63 eP P 21 34 16.8 +1.1
comp=Z,322nm,1.4s
YBH Yreka Blue Hor 57.56 62 eP P 21 34 18.0 +1.7
comp=Z,124nm,1.1s
YBH Yreka Blue Hor 57.56 62 LR LR 21 57 57.9
comp=Z,394nm,18.8s,baz=312,slow=35
G08A Pilot Rock 57.59 57 eP P 21 34 17.1 +0.7
comp=Z,81nm,1.0s
KTK1 Kautokeino 57.62 341 eP P 21 34 15.1 -1.0
KTK1 AMB AMB 21 34 17.8
comp=Z,1.1nm,0.4s
AKTO Aktyubinsk 57.73 311 LR LR 22 01 33.0
comp=Z,2µm,19.4s,baz=236,slow=38
AKTO PKP2bc 22 04 08.1
comp=Z,0.7nm,0.7s,baz=253,slow=3.0,SNR=3.2
AKTO PKP2ab 22 04 17.9
comp=Z,4.1nm,1.1s,baz=227,slow=6.3,SNR=4.5
AKTO P4KPbc 22 11 25.8
comp=Z,5.3nm,0.7s,baz=68,slow=5.6,SNR=17
BKB Balikpapan 57.92 223 P P 21 34 19.7 +0.8
I07A Izee 58.01 58 eP P 21 34 20.6 +1.2
comp=Z,124nm,1.1s
I07A ePcP PcP 21 35 11.2 +1.3
K05A Summer Lake 58.03 60 eP P 21 34 21.2 +1.6
comp=Z,254nm,1.0s
K05A ePcP PcP 21 35 12.0 +1.9
TRO Tromso 58.03 343 eP P 21 34 17.7 -1.2
TRO AMB AMB 21 34 22.2
comp=Z,190nm,1.3s
WALA Waterton Lakes 58.04 51 eP P 21 34 20.4 +0.9
DHRM DHARAMSHALA 58.13 284 eP P 21 34 20.7 +0.1
DHRM AMB AMB 21 34 24.5
comp=Z,349nm,3.5s
F10A Beach Ranch, E 58.14 55 eP P 21 34 21.3 +1.1
comp=Z,91nm,1.0s
TTSI Tana Toraja 58.20 219 P P 21 34 21.2 +0.4
TTSI Tana Toraja 58.20 219 P P 21 34 21.4 +0.6
DDI Dehra Dun 58.21 281 eP P 21 34 20.8 -0.1
DDI ex x 21 36 34.0
KIPM Iron Peak 58.27 64 eP P 21 34 22.8 +1.5
SMLA Simla 58.28 283 i P P 21 34 21.2 0.0
SMLA AMB AMB 21 34 22.5
comp=Z,634nm,0.0s
KCPM Cahto Peak 58.29 64 eP P 21 34 22.9 +1.5
comp=Z,70nm,0.9s
BSMT Bassoo Peak 58.32 52 eP P 21 34 22.2 +0.6
WDC Whiskeytown Da 58.37 63 eP P 21 34 22.7 +0.9
WDC pmax pmax
comp=Z,103nm,1.0s
WDC Whiskeytown Da 58.37 63 eP P 21 34 22.7 +0.9
comp=Z,103nm,1.0s
THN Thein Dam 58.39 285 ex P 21 34 20.0 -2.0
BLMT Blacktail Moun 58.45 52 eP P 21 34 23.4 +1.0
KKSI Kolaka, Sulawe 58.45 217 P P 21 34 24.2 +1.7
KKSI Kolaka, Sulawe 58.45 217 P P 21 34 24.3 +1.7
MTKI Muara Teweh, K 58.59 226 P P 21 34 25.0 +1.5
JTMT Jette 58.65 52 eP P 21 34 24.8 +1.0
JTMT esP sP 21 35 12.8 +2.7

YBMT Yellow Bay 58.72 52 eP P 21 34 25.0 +0.7
BMO Blue Mountains 58.78 56 eP P 21 34 25.6 +0.9
comp=Z,117nm,1.0s
BMO esP sP 21 35 15.1 +4.1
KSM Kuching 58.84 232 P P 21 34 27.6 +2.3
KSM Kuching 58.84 232 P P 21 34 27.3 +2.0
KSM Kuching 58.84 232 eP P 21 34 26.7 +1.4
comp=Z,377nm,1.0s
KSM esP sP 21 35 11.8 +0.2
KSM eScP ScP 21 39 02.4 +1.3
MOD Modoc 58.88 61 eP P 21 34 26.4 +0.9
comp=Z,512nm,0.8s
SWMT Swartz Lake 58.95 52 eP P 21 34 26.6 +0.7
KLMR Klimovskoe 58.99 328 d iP P 21 35 21.1 -0.6
KLMR e*PP pP 21 34 59.4 +2.1
KLMR pmax pmax
comp=Z,253nm,1.2s
HOPS Hopland 59.03 65 eP P 21 34 26.1 -0.3
comp=Z,99nm,1.0s
J08A Circle Bar Ran 59.04 58 eP P 21 34 27.6 +1.0
comp=Z,228nm,1.3s
SPSI Sidrap Palu 59.05 219 P P 21 34 26.9 +0.2
comp=Z,106nm,0.8s,comp=Z,µm
SPSI Sidrap Palu 59.05 219 P P 21 34 27.3 +0.6
KNTN Kanton 59.28 137 eP P 21 34 28.4 +0.1
comp=Z,371nm,0.9s
BBSI Bau Bau 59.29 215 P P 21 34 30.7 +2.4
BNSI Bone 59.30 218 P P 21 34 29.4 +1.0
SLMT Seeley Lake 59.38 52 eP P 21 34 29.4 +0.5
MSO Missoula 59.40 53 eP P 21 34 29.5 +0.5
comp=Z,247nm,1.0s
MSO ePcP PcP 21 35 14.9 -0.5
MSO Missoula 59.40 53 ⇓P P 21 34 30.1 +1.1
baz=59,SNR=231
STKI Sintang 59.42 230 P P 21 34 31.4 +2.1
WVOR Wild Horse Val 59.52 59 eP P 21 34 30.9 +1.0
WVOR pmax pmax
comp=Z,177nm,1.0s
WVOR Wild Horse Val 59.52 59 eP P 21 34 30.9 +1.0
comp=Z,177nm,1.0s
SUMG Summit 59.65 4 eP P 21 34 30.9 +0.4
SUMG pmax pmax
comp=Z,599nm,1.5s
SUMG Summit 59.65 4 ⇓iP P 21 34 31.5 +0.9
comp=Z,67nm,0.9s
SUMG Summit 59.65 4 eP P 21 34 30.9 +0.4
comp=Z,599nm,1.5s
MCCM Marconi Confer 59.68 65 eP P 21 34 30.7 -0.1
comp=Z,69nm,0.9s
KTGM Kuala Trenggan 59.70 241 P P 21 34 33.5 +2.3
CHMT Chamberlain Mo 59.72 52 eP P 21 34 31.5 +0.2
SKLT Songkhla 59.75 245 P P 21 34 33.4 +1.8
comp=Z,621nm,1.1s,comp=Z,7µm
SKLT Songkhla 59.75 245 P P 21 34 33.7 +2.1
SKLT Songkhla 59.75 245 P P 21 34 33.4 +1.8
comp=Z,621nm,1.1s,comp=Z,7µm
KRAB Krabi 59.80 247 P P 21 34 33.3 +1.4
comp=Z,651nm,0.8s,comp=Z,6µm
NDI New Delhi 59.83 280 eP P 21 34 29.0 -3.0
KAPI Kappang 60.00 219 P P 21 34 33.8 +0.6
SNR=7.5
KAPI Kappang 60.00 219 P P 21 34 33.8 +0.6
comp=Z,752nm,0.9s,SNR=10
KAPI Kappang 60.00 219 P P 21 34 33.3 +0.1
comp=Z,165nm,1.1s,comp=Z,2µm
KAPI Kappang 60.00 219 P P 21 34 33.7 +0.5
KAPI Kappang 60.00 219 eP P 21 34 32.4 -0.8
KAPI eS S 21 42 35.4 +0.1
KAPI Kappang 60.00 219 S S 21 42 35.4 +0.1
comp=Z,3.1nm,0.4s,baz=173,slow=19,SNR=1.3
DGPR DIGLIPUR 60.05 256 eP P 21 34 32.9 -0.7
BEKR Beckworth 60.12 62 eP P 21 34 34.6 +0.5
comp=Z,78nm,0.9s
BEKR ePcP PcP 21 35 17.8 -0.7
BKSI Bulukumba 60.12 218 P P 21 34 34.4 +0.4
BKSI Bulukumba 60.12 218 P P 21 34 34.6 +0.6
FFC Flin Flon 60.15 40 eP P 21 34 33.7 -0.1
FFC pmax pmax
comp=Z,161nm,0.7s
FFC Flin Flon 60.15 40 P P 21 34 35.2 +1.4
comp=Z,672nm,0.6s,SNR=18
FFC Flin Flon 60.15 40 eP P 21 34 33.7 -0.1
comp=Z,161nm,0.7s
JOF Joensuu 60.20 333 ep P 21 34 32.5 -1.4
comp=Z,20nm,0.5s
STEI Steigen 60.20 343 eP P 21 34 33.0 -0.9
STEI esP sP 21 35 18.6 -1.7
SAC San Andreas 60.31 66 eP P 21 34 35.9 +0.7
SAC San Andreas 60.31 66 eP P 21 34 35.9 +0.7
LOF Lofoten 60.36 344 eP P 21 34 34.4 -0.6
LOF AMB AMB 21 34 39.6
comp=Z,131nm,1.2s
MFID Camas Ranch 60.51 57 ⇑P P 21 34 37.6 +1.1
baz=60,SNR=44
FCC Fort Churchill 60.56 33 eP P 21 34 37.0 +0.5
FCC Fort Churchill 60.56 33 eP P 21 34 37.0 +0.5
PKDT Phuket 60.59 247 P P 21 34 39.0 +1.7
comp=Z,455nm,1.1s,comp=Z,7µm
JMIC Jan Mayen 60.71 353 LR LR 21 58 38.5
comp=Z,497nm,20.4s,baz=72,slow=34
A19A Klindworth Far 60.77 48 ⇑P P 21 34 39.3 +1.1
baz=61,SNR=42
PAHR Pah Rah Range 60.80 62 eP P 21 34 39.7 +1.1
comp=Z,188nm,1.0s
LRM Limekiln Ridge 60.84 53 eP P 21 34 39.6 +0.7
EGMT Eagleton 60.84 50 eP P 21 34 39.3 +0.6
comp=Z,295nm,1.3s
EGMT Eagleton 60.84 50 ⇓P P 21 34 39.7 +1.0
baz=61,SNR=73
B19A Brinkman Farms 60.98 49 ⇓P P 21 34 40.7 +1.2
baz=61,SNR=58
DLMT Dillon 61.05 53 eP P 21 34 41.3 +1.0
comp=Z,160nm,1.4s
HLID Hailey 61.21 56 eP P 21 34 42.3 +0.9
comp=Z,155nm,1.4s
HLID Hailey 61.21 56 ⇑P P 21 34 42.6 +1.2
baz=61,SNR=139
KULM Kulim 61.21 243 P P 21 34 43.5 +2.0
KULM Kulim 61.21 243 P P 21 34 43.0 +1.5
comp=Z,505nm,1.0s,comp=Z,6µm
KULM Kulim 61.21 243 P P 21 34 43.3 +1.8
KULM Kulim 61.21 243 eP P 21 34 42.0 +0.5
comp=Z,361nm,0.9s
A20A Cobblestone Ra 61.21 48 ⇓P P 21 34 42.3 +1.2
baz=61,SNR=59
MCMT McKenzie Canyo 61.26 54 eP P 21 34 42.1 +0.3
CMB Columbia Colle 61.27 64 eP P 21 34 42.5 +0.8
CMB pmax pmax
comp=Z,93nm,0.9s
CMB Columbia Colle 61.27 64 eP P 21 34 42.5 +0.8
comp=Z,93nm,0.9s
PBA Port Blair 61.30 255 eP P 21 34 43.1 +1.0
PBA AMB AMB 21 34 44.2
comp=Z,588nm,0.8s
KBL Kabul 61.33 291 eP P 21 34 41.4 -0.9
KBL pmax pmax
comp=Z,197nm,0.9s
KBL Kabul 61.33 291 eP P 21 34 41.4 -0.9
comp=Z,197nm,0.9s
C19A Slack Wire Ran 61.39 50 ⇓P P 21 34 43.4 +1.0
baz=61,SNR=81
SAO San Andreas Ge 61.43 66 eP P 21 34 43.1 +0.3
SAO pmax pmax
comp=Z,76nm,1.0s
SAO San Andreas Ge 61.43 66 eP P 21 34 43.1 +0.3
comp=Z,76nm,1.0s
B20A Solberg Farm, 61.45 48 ⇑P P 21 34 43.8 +1.0
baz=61,SNR=50
BMN Battle Mountai 61.61 60 eP P 21 34 45.2 +1.1
BMN pmax pmax
comp=Z,129nm,0.8s
BMN Battle Mountai 61.61 60 eP P 21 34 45.2 +1.1
comp=Z,129nm,0.8s
IPM Ipoh 61.63 243 P P 21 34 46.1 +1.8
IPM Ipoh 61.63 243 P P 21 34 45.4 +1.1
comp=Z,255nm,1.3s,comp=Z,4µm
IPM Ipoh 61.63 243 P P 21 34 45.4 +1.1
IPM Ipoh 61.63 243 eP P 21 34 44.8 +0.4
comp=Z,560nm,1.6s
A21A Bengtoll Ranch 61.64 47 ⇑P P 21 34 45.1 +1.1
baz=61,SNR=41
JBP Jabalpur 61.66 274 ⇓iP P 21 34 45.2 +0.8
JBP i x x 21 34 48.3
comp=Z,524nm,1.8s
JBP ex x 21 42 54.1
PBKI Pangkalan Bun 61.70 228 P P 21 34 46.5 +1.8

D19A Cripps Ranch, 61.85 50 ⇑P P 21 34 46.8 +1.2
baz=62,SNR=62
KONS Konsvik 61.86 343 eP P 21 34 45.5 +0.4
MOR8 Moi Rana 61.88 342 eP P 21 34 42.8 -2.4
MOR8 AMB AMB 21 34 46.3
comp=Z,140nm,0.5s
SCO Scoresbysund 61.93 358 i P P 21 34 47.3 +1.8
SCO pmax pmax
comp=Z,25nm,1.0s
SCO Scoresbysund 61.93 358 i P P 21 34 47.3 +1.8
comp=Z,25nm,1.0s
C20A Veseth Ranch, 61.94 49 ⇑P P 21 34 47.0 +1.0
baz=62,SNR=168
B21A Ellsworth Farm 61.97 48 ⇑P P 21 34 47.5 +1.3
baz=62,SNR=17
ILULI Ilulissat 61.97 9 eP P 21 34 45.7 -0.1
STOK Stokkvaagen 62.02 343 eP P 21 34 46.0 -0.2
QLMT Earthquake Lak 62.03 53 eP P 21 34 47.8 +0.9
COEN Coen 62.08 190 eP P 21 34 46.8 -0.4
comp=Z,606nm,0.9s
A22A Carney Farms, 62.14 47 ⇑P P 21 34 48.5 +1.2
baz=62,SNR=84
MYKOM Kota Tinggi 62.14 238 P P 21 34 49.8 +2.2
MYKOM Kota Tinggi 62.14 238 P P 21 34 49.5 +1.8
MYKOM Kota Tinggi 62.14 238 eP P 21 34 48.7 +1.0
comp=Z,190nm,0.9s
KGM Kluang 62.26 239 P P 21 34 50.7 +2.1
NV01 Mina Array Sit 62.27 63 eP P 21 34 49.4 +0.8
NV01 eScP ScP 21 39 16.4 0.0
NV01 eS S 21 43 05.7 +1.6
NV01 eScS ScS 21 44 30.6 +2.7
NV01 ⇑e 22 04 06.4
NVAR Mina Array Bea 62.27 63 P P 21 34 49.6 +1.0
comp=Z,96nm,0.8s,baz=299,slow=6.9,SNR=315
NVAR S S 21 43 05.7 +1.6
comp=Z,0.3nm,0.7s,baz=218,slow=33,SNR=1.8
NVAR ScS ScS 21 44 30.6 +2.7
comp=Z,0.2nm,0.5s,baz=294,slow=20,SNR=2.5
NVAR PKPPKP P'P'df 22 03 52.2 -3.4
comp=Z,1.4nm,0.9s,baz=153,slow=1.8,SNR=6.2
NVAR PKP2ab 22 04 06.4
comp=Z,2.2nm,1.0s,baz=147,slow=3.0,SNR=3.6
NVAR P4KPbc 22 11 49.5
comp=Z,0.1nm,0.3s,baz=248,slow=3.2,SNR=4.5
FRIM Kepong 62.27 241 P P 21 34 50.0 +1.5
D20A Manuel Ranch, 62.28 50 ⇑P P 21 34 49.6 +1.3
baz=62,SNR=138
MMRI Maumere 62.30 214 P P 21 34 49.4 +0.7
MMRI Maumere 62.30 214 eP P 21 34 48.4 -0.3
comp=Z,517nm,1.3s
KAF Kangasniemi 62.30 335 ep P 21 34 46.2 -1.9
comp=Z,19nm,0.5s
C21A Desert Coulee 62.32 48 ⇑P P 21 34 49.7 +1.1
baz=62,SNR=25
GCMT Greycliff 62.34 52 eP P 21 34 49.9 +1.0
E19A Rath Farm, Rou 62.36 50 ⇓P P 21 34 50.3 +1.3
baz=62,SNR=112
YMR Madison River 62.39 53 eP P 21 34 50.8 +1.5
comp=Z,123nm,0.7s
MLAC Mammoth Lakes 62.46 64 ⇑P P 21 34 51.5 +1.6
baz=62
YNR Norris Junctio 62.51 53 eP P 21 34 51.9 +1.8
comp=Z,146nm,1.1s
B22A Reddig Ranch S 62.56 48 ⇓P P 21 34 51.2 +1.1
baz=62,SNR=12
ELK Elko 62.56 59 eP P 21 34 51.4 +0.8
comp=Z,30nm,0.9s
SOEI Soe 62.59 212 P P 21 34 50.9 +0.2
YFT Old Faithful 62.60 53 eP P 21 34 53.2 +2.4
comp=Z,140nm,1.0s
A23A Redstone 62.67 46 ⇑P P 21 34 51.9 +1.1
baz=62
XMAS Kiritimati 62.67 120 eP P 21 34 50.0 -1.2
comp=Z,446nm,1.3s
E20A Meyer Farm, Mu 62.67 50 ⇓P P 21 34 52.2 +1.2
baz=62,SNR=61
F19A Roth Farm, Mol 62.68 51 ⇑P P 21 34 52.3 +1.2
baz=62,SNR=150
LKWY Lake 62.76 53 eP P 21 34 54.3 +2.5
LKWY pmax pmax
comp=Z,99nm,0.8s
LKWY Lake 62.76 53 eP P 21 34 54.3 +2.5
comp=Z,99nm,0.8s
H17A Grant Village 62.77 53 eP P 21 34 54.5 +2.5
H17A Grant Village 62.77 53 ⇓P P 21 34 54.4 +2.5
baz=63
D21A La Casta Ranch 62.88 49 ⇑P P 21 34 53.4 +1.0
baz=63,SNR=72
FIA0 FINESS Array S 62.90 334 eP P 21 34 50.9 -1.2
FIA0 e 21 44 30.2
FIA0 FINESS Array S 62.90 334 eP P 21 34 50.9 -1.2
FIA0 eScP ScP 21 39 19.7 +1.2
FIA0 eSKSac SKKSac 21 44 30.2 -1.2
FINES FINESS Array B 62.90 334 P P 21 34 50.9 -1.2
comp=Z,32nm,0.4s,baz=34,slow=7.7,SNR=407
FINES ScP ScP 21 39 19.7 +1.2
comp=Z,16nm,0.9s,baz=33,slow=10,SNR=5.4
FINES ScS SKKSac 21 44 30.2 -1.2
comp=Z,2.6nm,0.9s,baz=151,slow=24,SNR=2.7
FINES LR LR 22 07 37.9
comp=Z,1µm,18.8s,baz=35,slow=41
FINES P4KPbc 22 11 50.2
comp=Z,2.9nm,1.0s,baz=106,slow=2.8,SNR=7.0
IMW Indian Meadow 62.91 54 eP P 21 34 54.5 +1.7
comp=Z,171nm,1.1s
PUL Pulkovo 62.91 331 eP P 21 34 52.4 +0.2
PUL pmax pmax
comp=Z,68nm,1.0s
PTRM Twissleman Ran 62.91 66 eP P 21 34 54.0 +1.4
PTRM eScP ScP 21 39 20.7 +1.6
FLWY Flagg Ranch 62.91 53 eP P 21 34 54.6 +1.8
comp=Z,140nm,1.2s
B23A Brockton 62.95 47 ⇑P P 21 34 53.7 +1.0
baz=63,SNR=67
C22A Vida 62.99 48 ⇓P P 21 34 53.9 +0.9
baz=63,SNR=17
RLMT Red Lodge 62.99 52 eP P 21 34 54.8 +1.5
comp=Z,249nm,1.4s
RRI2 Red Ridge 63.06 54 eP P 21 34 55.4 +1.5
comp=Z,244nm,0.9s
H18A Shoshone NF, C 63.08 52 ⇓P P 21 34 55.2 +1.3
baz=63,SNR=74
I17A Pilgrim Ck. 63.09 54 ⇑P P 21 34 55.9 +2.0
baz=63,SNR=76
MOOW Moose Ponds 63.11 54 eP P 21 34 55.7 +1.6
comp=Z,140nm,1.1s
A24A Westby 63.12 46 ⇓P P 21 34 54.8 +0.9
baz=63
F20A Billings 63.13 51 ⇑P P 21 34 55.2 +1.1
baz=63,SNR=56
TPAW Teton Pass 63.17 54 eP P 21 34 56.3 +1.7
comp=Z,334nm,1.1s
VIS Vishakhapatnam 63.18 267 eP P 21 34 55.5 +0.9
VIS AMB AMB 21 34 57.4
comp=Z,438nm,0.8s
E21A Keefer Ranch, 63.19 50 ⇑P P 21 34 56.0 +1.6
baz=63,SNR=13
TIN Tinemaha 63.20 64 ⇑P P 21 34 56.2 +1.6
baz=63,SNR=17
BATI Baumata 63.22 212 P P 21 34 55.0 +0.2
BATI Baumata 63.22 212 S S 21 43 15.9 0.0
comp=Z,3.9nm,0.3s,baz=287,slow=19,SNR=1.7
BATI ScS SKSac 21 44 34.5 -0.5
comp=Z,4.2nm,0.4s,baz=329,slow=22,SNR=1.5
D22A Cohagen 63.24 49 ⇓P P 21 34 55.8 +1.2
baz=63,SNR=36
SMMC Simmler 63.27 66 ⇑P P 21 34 56.8 +1.7
baz=63,SNR=52
LOHW Long Hollow 63.28 54 eP P 21 34 56.7 +1.5
comp=Z,223nm,1.3s
HVU Hansel Valley 63.29 57 eP P 21 34 56.5 +1.3
HVU pmax pmax
comp=Z,87nm,1.0s
HVU Hansel Valley 63.29 57 eP P 21 34 56.5 +1.3
comp=Z,87nm,1.0s
SNOW Snow King Moun 63.29 54 eP P 21 34 57.1 +1.7
comp=Z,209nm,1.1s
C23A Lambert 63.30 48 ⇓P P 21 34 56.1 +1.0
baz=63,SNR=32
BHPL Bhopal 63.33 276 eP P 21 34 55.8 +0.2
BHPL AMB AMB 21 34 56.6
comp=Z,544nm,2.3s
DGMT Dagmar 63.33 46 eP P 21 34 55.6 +0.4
comp=Z,173nm,0.8s
DGMT Dagmar 63.33 46 ⇑P P 21 34 56.3 +1.1
baz=63,SNR=42
MOS Moscow 63.34 325 eP P 21 34 50.0 -5.1

MOS *e* 21 35 26.6
MOS *eS* **S** **21 43 11.4 -5.0**
MOS *i* 21 44 30.5
MOS pmax pmax
comp=Z,1µm,2.4s
MOS pmax pmax
comp=Z,379nm,1.5s
MOS MLR MLR
comp=Z,2µm,21.0s
H19A Powell 63.45 52 ⇓P **P 21 34 57.7 +1.6**
baz=63,SNR=49
VES Vestal, Richgr 63.48 65 ⇑P **P 21 34 57.3 +0.9**
baz=63,SNR=7.0
G20A Bridger 63.48 51 ⇓P **P 21 34 57.2 +0.7**
baz=63,SNR=108
LAO LASA Array 63.53 49 *eP* **P 21 34 58.0 +1.3**
comp=Z,215nm,1.0s
A25A Svangstu Ranch 63.54 46 ⇓P **P 21 34 57.6 +1.1**
baz=63,SNR=24
AHID Auburn Hatcher 63.57 55 *eP* **P 21 34 57.2 +0.1**
comp=Z,148nm,1.2s
F21A Absaloka Mine, 63.65 50 ⇑P **P 21 34 58.5 +1.1**
baz=63,SNR=24
PKM Peak Mountain 63.65 66 ⇑P **P 21 34 58.7 +1.0**
baz=64,SNR=107
NGP Nagpur 63.67 273 *eP* **P 21 34 56.1 -1.7**
NGP *eP* **P 21 34 56.1 -1.7**
NGP AMB AMB 21 34 57.2
comp=Z,537nm,1.1s
NGP *ex* x 21 43 18.8
BGU Big Grassy Mou 63.71 57 *eP* **P 21 34 59.0 +1.0**
comp=Z,27nm,1.0s
D23A Lindsay 63.71 48 ⇑P **P 21 34 59.2 +1.4**
baz=64,SNR=36
SPUT South Promonto 63.78 57 *eP* **P 21 34 59.1 +0.7**
comp=Z,130nm,1.1s
TPI Tanjungpandan 63.81 232 P **P 21 35 00.4 +1.7**
NSS Namsos 63.82 342 *eP* **P 21 34 57.7 -0.4**
NSS AMB AMB 21 35 00.3
comp=Z,53nm,0.8s
E22A Miles City 63.84 49 ⇓P **P 21 34 59.8 +1.2**
baz=64,SNR=34
C24A Savage 63.86 47 ⇓P **P 21 35 00.2 +1.4**
baz=64,SNR=7.0
R11A Troy Canyon, C 63.93 61 *eP* **P 21 35 00.1 +0.5**
R11A Troy Canyon, C 63.93 61 ⇑P **P 21 35 00.4 +0.8**
baz=64,SNR=287
B25A Knox Farm, Ray 63.97 46 ⇑P **P 21 35 00.5 +1.1**
baz=64,SNR=11
ISA Isabella 63.97 65 *eP* **P 21 34 59.5 -0.2**
ISA pmax pmax
comp=Z,67nm,1.0s
ISA Isabella 63.97 65 *eP* **P 21 34 59.5 -0.2**
comp=Z,67nm,1.0s
ISA Isabella 63.97 65 ⇑P **P 21 35 00.1 +0.4**
baz=64,SNR=84
WSI Waingapu 63.99 216 P **P 21 34 59.7 -0.1**
G21A Lodge Grass 64.01 51 ⇓P **P 21 35 00.6 +0.7**
baz=64,SNR=26
SBC Santa Barbara 64.02 67 ⇓P **P 21 35 01.2 +1.3**
baz=64,SNR=8.1
A26A Wade Farm, Ken 64.08 45 ⇑P **P 21 35 01.1 +1.0**
baz=64,SNR=5.7
H20A Greybull 64.09 52 ⇑P **P 21 35 01.4 +1.0**
baz=64,SNR=40
ARVC Arvin 64.11 66 ⇑P **P 21 35 01.5 +1.0**
baz=64,SNR=18
E23A Ismay 64.12 49 ⇑P **P 21 35 01.3 +0.9**
baz=64
F22A Rosebud 64.12 50 ⇑P **P 21 35 01.3 +0.8**
baz=64,SNR=114
PPBI Pangkal Pinang 64.12 234 P **P 21 35 02.7 +1.9**
SFJD Kangerlussuaq 64.15 10 *i* P **P 21 35 00.0 -0.2**
comp=Z,125nm,1.0s
SFJD Kangerlussuaq 64.15 10 *eP* **P 21 35 00.1 -0.1**
comp=Z,408nm,1.2s
SFJD Kangerlussuaq 64.15 10 LR LR 22 04 42.5
comp=Z,956nm,19.9s,baz=87,slow=38
D24A Glendive 64.19 48 ⇓P **P 21 35 02.3 +1.4**
baz=64
OBN Obninsk 64.20 325 *d i* P **P 21 34 59.6 -1.1**
OBN *i* 21 35 35.1
OBN *i* 21 37 19.9
OBN *i* S **S** **21 43 24.2 -2.9**
OBN *i* 21 44 40.3
OBN *i* SS **SS** **21 47 33.3 -4.5**
OBN pmax pmax
comp=Z,186nm,1.1s
OBN MLR MLR
comp=Z,2µm,21.0s
OBN Obninsk 64.20 325 P **P 21 35 00.4 -0.3**
comp=Z,1µm,1.4s,SNR=20
PSI Prapat 64.22 243 *eP* **P 21 35 02.5 +0.9**
PSI *eS*KSac **ScS** **21 44 43.9 +0.8**
PSI Prapat 64.22 243 P **P 21 35 02.5 +0.9**
comp=Z,129nm,0.8s,baz=358,slow=5.2,SNR=74
PSI ScS **ScS** **21 44 43.9 +0.8**
comp=Z,2.2nm,0.4s,baz=127,slow=18,SNR=5.6
MPMC Manual Prospec 64.31 64 ⇓P **P 21 35 03.0 +0.9**
baz=64,SNR=173
C25A Freed Ranch, W 64.31 47 ⇑P **P 21 35 02.9 +1.2**
baz=64,SNR=8.4
DUG Dugway 64.31 58 *eP* **P 21 35 02.9 +0.9**
DUG pmax pmax
comp=Z,160nm,1.0s
DUG Dugway 64.31 58 *eP* **P 21 35 02.9 +0.9**
comp=Z,160nm,1.0s
DUG Dugway 64.31 58 ⇓P **P 21 35 03.2 +1.2**
baz=64,SNR=229
B26A Jensen Ranch, 64.35 46 ⇓P **P 21 35 03.0 +1.1**
baz=64
J19A Crowheart 64.35 53 ⇑P **P 21 35 03.8 +1.6**
baz=64,SNR=125
KCSI Kotacane, Aceh 64.35 245 P **P 21 35 01.9 -0.4**
KMMI Kalianget 64.37 223 P P 21 35 05.8 +3.5
I20A Worland 64.39 52 ⇑P **P 21 35 03.6 +1.3**
baz=64,SNR=90
BW06 Boulder Array 64.41 54 *eP* **P 21 35 02.9 +0.2**
PD31 Pinedale Array 64.41 54 *eP* **P 21 35 03.2 +0.5**
PD31 *eS* **S** **21 43 36.0 +5.4**
PD31 *e*SKSac **SKSac** **21 44 42.2 -1.9**
PD31 *eP'P'df* P'P'df 22 03 37.0 -15
PD31 ⇑*e* 22 03 52.0
PD31 *eP'P'ab* P'P'ab 22 03 57.7 -5.6
PDAR Pinedale Array 64.41 54 P **P 21 35 03.2 +0.5**
comp=Z,103nm,0.8s,baz=318,slow=2.0,SNR=222
PDAR S **S** **21 43 36.0 +5.4**
comp=Z,0.5nm,0.6s,baz=134,slow=4.3,SNR=2.0
PDAR ScS **SKSac** **21 44 42.2 -1.9**
comp=Z,0.2nm,0.6s,baz=324,slow=50,SNR=1.8
PDAR PKPPKP P'P'df 22 03 37.0 -15
comp=Z,0.9nm,0.9s,baz=134,slow=4.3,SNR=4.4
PDAR PKP2bc 22 03 52.0
comp=Z,3.9nm,1.0s,baz=131,slow=6.1,SNR=9.6
PDAR LR LR 22 03 57.7
comp=Z,521nm,18.1s,baz=327,slow=37
FURC Furnace Creek, 64.42 63 ⇑P **P 21 35 03.6 +1.1**
baz=64,SNR=254
A27A Ledoux Ranch, 64.42 45 ⇓P **P 21 35 03.6 +1.3**
baz=64,SNR=41
G22A Birney 64.49 50 ⇑P **P 21 35 03.7 +0.8**
baz=64,SNR=95
H21A Big Horn, Sher 64.50 51 ⇑P **P 21 35 04.0 +0.9**
baz=64,SNR=233
OSI Osito Adit 64.51 66 *eP* **P 21 35 04.2 +1.0**
comp=Z,239nm,1.0s
OSI *ep*P **PcP** **21 35 36.7 +0.5**
OSI Osito Adit 64.51 66 ⇓P **P 21 35 04.5 +1.3**
baz=64,SNR=16
LRMC Laurel Mountai 64.57 65 ⇑P **P 21 35 04.8 +1.2**
baz=64,SNR=86
E24A Baker 64.58 48 ⇑P **P 21 35 04.3 +0.9**
baz=64,SNR=22
CTU Camp Tracy 64.59 57 *eP* **P 21 35 04.7 +0.9**
comp=Z,85nm,1.0s
F23A Volborg 64.60 49 ⇑P **P 21 35 04.7 +1.1**
baz=64,SNR=113
BLG Laguna Peak 64.64 67 ⇑P **P 21 35 04.7 +0.7**
baz=64,SNR=14
D25A Fairfield 64.67 47 ⇑P **P 21 35 04.8 +0.8**
baz=64,SNR=12
M17A Scullys Gap (B 64.67 56 ⇑P **P 21 35 05.8 +1.4**
baz=64,SNR=24
SRBI Singaraja 64.72 222 P **P 21 35 05.9 +1.4**
comp=Z,589nm,1.2s,comp=Z,7µm
SRBI Singaraja 64.72 222 P **P 21 35 05.1 +0.6**
L18A Fontenelle, Gr 64.72 55 ⇑P **P 21 35 06.3 +1.7**
baz=64,SNR=69
RGRI Rengat 64.75 238 P **P 21 35 08.0 +3.1**
RGRI Rengat 64.75 238 *eP* **P 21 35 07.5 +2.6**
MTNI Mataram 64.78 220 P **P 21 35 04.6 -0.4**
EDW2 Edwards Air Fo 64.79 65 ⇓P **P 21 35 06.1 +1.1**
baz=65,SNR=220
B27A Peters Farms, 64.79 45 ⇑P **P 21 35 05.6 +0.9**
baz=65,SNR=27
C26A Wahner Farm, P 64.80 46 ⇑P **P 21 35 05.8 +1.0**
baz=65,SNR=14
J20A Shoshoni 64.81 53 ⇓P **P 21 35 06.3 +1.2**
baz=65,SNR=158
JLU Jordanelle 64.82 57 *eP* **P 21 35 06.7 +1.4**
comp=Z,139nm,1.4s
JLU *ePcP* **pP** **21 35 36.2 -1.3**
H22A Clearmont 64.88 51 ⇑P **P 21 35 06.3 +0.8**
baz=65,SNR=40
NLU North Lily Min 64.90 58 *eP* **P 21 35 06.7 +0.9**
comp=Z,89nm,0.9s
NLU *ePcP* **pP** **21 35 39.7 +1.7**
ABJI Asem Bagus 64.90 223 P **P 21 35 07.2 +1.4**
comp=Z,812nm,1.1s,comp=Z,9µm
ABJI Asem Bagus 64.90 223 P **P 21 35 07.2 +1.4**
A28A Rude Farm, Bot 64.91 44 ⇑P **P 21 35 06.5 +1.0**
baz=65,SNR=14
I21A Big Trails, Te 64.92 52 ⇓P **P 21 35 07.0 +1.2**
baz=65,SNR=193
GRJI Gresik 64.95 225 P **P 21 35 07.3 +1.2**
G23A Biddle 64.97 50 ⇓P **P 21 35 06.7 +0.7**
baz=65,SNR=70
L19A Farson 64.97 54 ⇑P **P 21 35 07.4 +1.1**
baz=65
DECC Green Verdugo 65.00 66 ⇑P **P 21 35 07.1 +0.8**
baz=65,SNR=12
F24A Ekalaka 65.00 49 ⇓P **P 21 35 07.4 +1.1**
baz=65,SNR=16
DAU Daniels Canyon 65.05 57 *eP* **P 21 35 07.9 +0.9**
DAU Daniels Canyon 65.05 57 *eP* **P 21 35 07.9 +0.9**
VRHR Novokhopersk 65.06 319 *eP* **P 21 35 05.7 -0.7**
VRHR *eS* **S** **21 43 32.2 -5.5**
VRHR *e* 21 44 44.9
VRHR pmax pmax
comp=N,400nm,1.4s
VRHR pmax pmax
comp=Z,390nm,1.4s
VRHR pmax pmax
comp=E,140nm,0.9s
VRHR smax smax
comp=N,420nm,5.5s
VRHR smax smax
comp=Z,300nm,4.8s
VRHR smax smax
comp=E,280nm,3.4s
E25A Miller Ranch, 65.08 48 ⇑P **P 21 35 07.8 +1.1**
baz=65,SNR=8.9
VSU Vasula 65.08 332 *d i* P **P 21 35 06.1 -0.3**
VSU pmax pmax
comp=Z,94nm,1.0s
MPU Maple Canyon 65.11 57 *eP* **P 21 35 08.1 +0.9**
comp=Z,92nm,0.7s
MPU *ePcP* **PcP** **21 35 38.5 -0.3**
PASC Pasadena Art C 65.14 66 *eP* **P 21 35 07.5 +0.3**
comp=Z,103nm,1.0s
PASC *ePcP* **PcP** **21 35 37.6 -1.2**
SHOC Shoshone 65.14 63 ⇑P **P 21 35 08.3 +1.0**
baz=65,SNR=37
BLJI Banyuglugur 65.15 223 P **P 21 35 08.1 +0.7**
comp=Z,306nm,0.9s,comp=Z,4µm
BLJI Banyuglugur 65.15 223 P **P 21 35 08.1 +0.7**
J21A Lysite 65.16 52 ⇓P **P 21 35 08.4 +1.0**
baz=65,SNR=83
C27A Sayler Ranch, 65.16 46 ⇓P **P 21 35 08.6 +1.4**
baz=65
MWC Mount Wilson 65.18 66 *eP* **P 21 35 07.8 +0.1**
MWC *e* 21 35 38.8
MWC pmax pmax
comp=Z,297nm,1.4s
MWC Mount Wilson 65.18 66 *eP* **P 21 35 07.8 +0.1**
comp=Z,297nm,1.4s
MWC *ePcP* **PcP** **21 35 38.8 -0.4**
D26A Manning 65.19 47 ⇓P **P 21 35 08.5 +1.1**
baz=65
B28A Dugan Ranch, T 65.19 45 ⇑P **P 21 35 08.4 +1.1**
baz=65,SNR=33
GSC Goldstone 65.23 64 *eP* **P 21 35 08.0 +0.1**
GSC *e* 21 35 39.8
GSC pmax pmax
comp=Z,115nm,1.0s
GSC Goldstone 65.23 64 *eP* **P 21 35 08.0 +0.1**
comp=Z,115nm,1.0s
GSC *ePcP* **pP** **21 35 39.8 -0.3**
GSC Goldstone 65.23 64 ⇑P **P 21 35 09.0 +1.1**
baz=65,SNR=102
NBBI Negara 65.23 222 P **P 21 35 07.8 -0.1**
DNP Denpasar 65.24 221 P **P 21 35 08.8 +0.9**
DNP Denpasar 65.24 221 P **P 21 35 08.5 +0.6**
I22A 9 Mile Ranch, 65.29 51 ⇑P **P 21 35 09.0 +0.8**
baz=65,SNR=99
TBLU Trondheim 65.31 342 *eP* **P 21 35 07.1 -0.7**
TBLU AMB AMB 21 35 11.6
comp=Z,126nm,1.5s
AKL Akola 65.35 274 *eP* **P 21 35 09.8 +1.1**
AKL AMP 21 35 11.7
comp=Z,897nm,1.1s
AKL *i* x x 21 43 41.6
G24A Alzada 65.38 49 ⇑P **P 21 35 09.1 +0.4**
baz=65,SNR=74
FMP Fort Macarthur 65.38 66 ⇑P **P 21 35 09.3 +0.6**
baz=65
A29A Manning Farm, 65.38 44 ⇓P **P 21 35 09.3 +0.7**
baz=65,SNR=12
RRX Edison Barstow 65.39 65 ⇓P **P 21 35 10.2 +1.4**
baz=65
H23A Clabaugh Cattl 65.40 50 ⇓P **P 21 35 09.3 +0.4**
baz=65,SNR=5.9
SHPR Sheep Range 65.41 62 *eP* **P 21 35 09.8 +0.7**
SHPR *ePcP* **pP** **21 35 41.5 +0.1**
BFSC Mount Baldy Ra 65.42 66 ⇑P **P 21 35 09.8 +0.7**
baz=65,SNR=62
F25A Bowman 65.45 48 ⇑P **P 21 35 09.8 +0.7**
baz=65,SNR=24
M19A Rock Springs 65.48 55 ⇑P **P 21 35 10.2 +0.6**
baz=65,SNR=5.1
PMBI Palembang 65.50 234 P **P 21 35 12.7 +3.0**
PMBI Palembang 65.50 234 P **P 21 35 12.5 +2.8**
PMBI Palembang 65.50 234 *eP* **P 21 35 11.3 +1.6**
comp=Z,907nm,1.1s
CIS Catalina Islan 65.52 67 ⇑P **P 21 35 10.6 +0.9**
baz=65,SNR=14
E26A Carlson Angus 65.56 47 ⇓P **P 21 35 10.6 +0.8**
baz=65
ARUT Antelope Range 65.56 60 *eP* **P 21 35 10.7 +0.6**
ARUT *e* 21 35 41.4
ARUT Antelope Range 65.56 60 *eP* **P 21 35 10.7 +0.6**
ARUT *ePcP* **PcP** **21 35 41.4 +0.7**
D27A Center 65.58 46 ⇑P **P 21 35 10.8 +1.0**
baz=65,SNR=12
L20A Wamsutter 65.59 54 ⇑P **P 21 35 11.3 +1.0**
baz=65,SNR=66
J22A Midwest 65.63 52 ⇑P **P 21 35 11.6 +1.2**
baz=65,SNR=165
IMYA Miami 65.63 298 *eP* **P 21 35 10.3 -0.3**
VOR Voronezh 65.64 321 *eP* **P 21 35 09.0 -1.1**
VOR pmax pmax
comp=Z,500nm,1.4s
B29A Wagenman Farm, 65.65 44 ⇓P **P 21 35 11.0 +0.7**
baz=65,SNR=15
TUQ Turquoise Moun 65.67 64 ⇓P **P 21 35 11.7 +0.9**
baz=66,SNR=78
GMJI Gumukmas 65.69 223 P **P 21 35 11.4 +0.6**
comp=Z,213nm,0.8s
GMJI Gumukmas 65.69 223 P **P 21 35 11.2 +0.4**
C28A Hausauer Farms 65.69 45 ⇓P **P 21 35 11.6 +1.0**
baz=66
H24A Dirks Ranch, A 65.71 50 ⇓P **P 21 35 11.3 +0.4**
baz=66,SNR=180
SCI San Clemente I 65.71 67 ⇑P **P 21 35 11.8 +0.9**
baz=66,SNR=8.4
ABKT Ailbek 65.73 300 P **P 21 35 12.0 +1.0**
comp=Z,432nm,1.4s,SNR=27
K21A Alcova 65.75 53 ⇑P **P 21 35 12.0 +0.7**
baz=66,SNR=130
IEMG Emamgholi 65.76 299 *eP* **P 21 35 12.3 +0.8**
CCUT Cedar City 65.77 60 *eP* **P 21 35 12.3 +0.8**
comp=Z,102nm,1.1s
CCUT *ePcP* **pP** **21 35 43.1 -0.7**
I23A Meade Ranch, G 65.78 51 ⇑P **P 21 35 12.4 +1.0**
baz=66
MVU Marysvale 65.80 59 *eP* **P 21 35 12.7 +1.0**
comp=Z,54nm,1.0s
A30A Hoffart Farm, 65.80 43 ⇑P **P 21 35 12.1 +0.8**
baz=66,SNR=7.9
NGJI Ngawi 65.83 226 P **P 21 35 14.2 +2.5**
NGJI Ngawi 65.83 226 P **P 21 35 14.1 +2.4**
HEC Hector,Ludlow 65.83 64 ⇑P **P 21 35 12.7 +1.0**
baz=66,SNR=188
TMUT Trail Mountain 65.83 58 *eP* **P 21 35 12.9 +0.9**
comp=Z,71nm,0.7s
BBRC Big Bear Solar 65.85 65 ⇓P **P 21 35 12.2 +0.1**
baz=66
F26A Lodgepole 65.89 48 ⇓P **P 21 35 12.8 +0.8**
baz=66,SNR=43
ULM Lac du Bonnet 65.95 41 *eP* **P 21 35 11.9 -0.2**
comp=Z,26nm,0.6s
ULM *e*SKSac **SKSac** **21 44 52.0 -2.9**
ULM *eP'P'df* **P'P'df** **22 03 44.9 -4.5**
ULM Lac du Bonnet 65.95 41 P **P 21 35 12.3 +0.2**
comp=Z,30nm,0.5s,baz=315,slow=7.0,SNR=49
ULM ScS **SKSac** **21 44 52.0 -2.9**
comp=Z,4.2nm,1.0s,baz=53,slow=21,SNR=1.4
ULM PKPPKP **P'P'df** **22 03 44.9 -4.5**
comp=Z,1.3nm,0.5s,baz=113,slow=7.7,SNR=4.1
ULM LR LR 22 05 35.3
comp=Z,727nm,18.0s,baz=319,slow=37
PPI Padang Panjang 65.96 240 P **P 21 35 13.0 +0.4**
comp=Z,135nm,1.3s,comp=Z,2µm
PPI Padang Panjang 65.96 240 P **P 21 35 13.5 +0.9**
MDND Maddock 65.97 45 *eP* **P 21 35 12.9 +0.6**
MDND Maddock 65.97 45 ⇓P **P 21 35 13.0 +0.6**
baz=66,SNR=16
D28A Regan 65.98 46 ⇓P **P 21 35 13.4 +1.0**
baz=66,SNR=12
G25A Newell 65.98 49 ⇑P **P 21 35 13.3 +0.8**
baz=66,SNR=27
SJI Sawahan 66.00 225 P **P 21 35 13.6 +0.6**
comp=Z,423nm,1.9s,comp=Z,7µm
SJI Sawahan 66.00 225 P **P 21 35 13.5 +0.6**
M20A Sweetwater, Wa 66.03 54 ⇓P **P 21 35 14.3 +1.3**
baz=66,SNR=46
ISRO Mashad 66.03 298 *eP* **P 21 35 13.3 +0.3**
VSR Storozhevoye 66.03 321 *eP* **P 21 35 13.3 +0.7**
VSR *eS* **S** **21 43 45.3 -4.3**
VSR *e* 21 44 53.1
VSR pmax pmax
comp=Z,440nm,1.5s
VSR pmax pmax
comp=N,290nm,1.3s
VSR pmax pmax
comp=E,140nm,0.9s
VSR smax smax
comp=N,440nm,4.9s
VSR smax smax
comp=Z,400nm,4.8s
VSR smax smax
comp=E,310nm,3.6s
E27A Carson 66.03 47 ⇑P **P 21 35 13.3 +0.4**
baz=66,SNR=25
KRKI Karangkates 66.05 224 P **P 21 35 13.6 +0.4**
comp=E,1µm,1.1s,comp=E,15µm
KRKI Karangkates 66.05 224 P **P 21 35 13.5 +0.4**
SNSI Sinabang, Aceh 66.11 245 P **P 21 35 15.8 +2.2**
Q16A Castle Valley 66.11 58 *eP* **P 21 35 15.0 +1.4**
Q16A *ePcP* **PcP** **21 35 41.2 -1.8**
Q16A Castle Valley 66.11 58 ⇓P **P 21 35 14.7 +1.1**
baz=66,SNR=42
J23A Diltz Ranch, B 66.12 51 ⇑P **P 21 35 14.1 +0.5**
baz=66,SNR=11
K22A Casper 66.13 52 ⇓P **P 21 35 14.7 +1.0**
baz=66,SNR=50
MURC Murrieta 66.13 66 ⇓P **P 21 35 14.3 +0.7**
baz=66,SNR=52
B30A Myrvik Farm, E 66.14 43 ⇑P **P 21 35 14.1 +0.7**
baz=66,SNR=40
VORD Divnogorie 66.16 321 *eP* **P 21 35 14.2 +0.7**
VORD *eS* **S** **21 43 53.7 +2.6**
VORD *e* 21 44 53.5
VORD pmax pmax
comp=Z,180nm,0.8s
VORD pmax pmax
comp=E,310nm,1.4s
VORD smax smax
comp=E,230nm,2.8s
VORD smax smax
comp=Z,260nm,4.3s
F27A Lemmon 66.20 47 ⇑P **P 21 35 14.6 +0.7**
baz=66,SNR=18
IPAY Payeh 66.21 298 *eP* **P 21 35 14.0 -0.4**
GSI Gunungsitoli 66.22 243 *eP* **P 21 35 14.8 +0.5**
comp=Z,1µm,1.6s
PWJI Pagerwojo 66.23 225 P **P 21 35 14.3 0.0**
comp=Z,2µm,1.0s,comp=Z,14µm
PWJI Pagerwojo 66.23 225 P **P 21 35 14.6 +0.3**
ISHV Shirvan 66.24 300 *eP* **P 21 35 16.7 +2.2**
IMOG Moghan 66.24 298 *eP* **P 21 35 14.5 -0.1**
IAKL Akhelmad 66.25 299 *eP* **P 21 35 15.3 +0.6**
GMRC Granite Mounta 66.27 64 ⇑P **P 21 35 15.4 +0.7**
baz=66,SNR=100
IKRD Kardeh 66.28 299 *eP* P 21 35 10.7 -4.1
H25A Fruitdale 66.28 49 ⇑P **P 21 35 14.9 +0.4**
baz=66,SNR=31
PDSI Padang 66.29 240 P **P 21 35 16.6 +1.8**
comp=Z,295nm,1.2s,comp=Z,4µm
PDSI Padang 66.29 240 P **P 21 35 14.8 0.0**
I24A Kuemmerle Ranc 66.29 50 ⇓P **P 21 35 15.0 +0.4**
baz=66,SNR=38
G26A Maurine 66.32 48 ⇓P **P 21 35 15.0 +0.3**
baz=66,SNR=113
O19A Miners Draw (B 66.33 56 ⇓P **P 21 35 15.9 +1.0**
baz=66,SNR=34
SRU San Rafael 66.35 57 *eP* **P 21 35 15.7 +0.6**
SRU pmax pmax
comp=Z,178nm,1.0s
SRU San Rafael 66.35 57 *eP* **P 21 35 15.7 +0.6**
comp=Z,178nm,1.0s
E28A Huff 66.36 46 ⇑P **P 21 35 15.4 +0.6**
baz=66,SNR=17
ISFR Sfrayin 66.39 300 *eP* **P 21 35 16.1 +0.6**
LDFC Landfair 66.40 63 *eP* **P 21 35 16.1 +0.7**
comp=Z,361nm,1.0s
RSSD Black Hills 66.41 50 *eP* **P 21 35 15.7 +0.2**
RSSD Black Hills 66.41 50 *eP* **P 21 35 15.7 +0.2**
comp=Z,1µm,0.6s
N20A Spence Gulch, 66.44 55 ⇓P **P 21 35 16.6 +0.9**
baz=66,SNR=162
MOL Molde 66.47 343 *e* **P 21 35 16.0 +0.8**
MOL AML AML 21 35 19.3
comp=Z,24nm,0.4s
MOL *eS* **S** **21 43 53.9 -0.6**
WOJI Wonogiri, Jawa 66.50 226 P **P 21 35 17.8 +1.8**
comp=Z,254nm,1.9s,comp=Z,5µm
WOJI Wonogiri, Jawa 66.50 226 P **P 21 35 18.0 +2.0**
K23A Bowen Ranch, D 66.53 52 ⇓P **P 21 35 16.3 +0.1**
baz=66,SNR=36
D29A Pettibone, Tap 66.54 45 ⇓P **P 21 35 16.3 +0.3**
baz=66
TGJI Tegal 66.55 228 P **P 21 35 17.8 +1.5**
TGJI Tegal 66.55 228 P **P 21 35 17.9 +1.6**
PFO Pinyon Flat Ob 66.58 65 P **P 21 35 17.1 +0.5**
comp=Z,344nm,1.1s,SNR=29
PFO Pinyon Flat Ob 66.58 65 *eP* **P 21 35 16.6 0.0**
comp=Z,111nm,1.3s
PFO *e*SKSac **SKiKP** **21 45 02.5 -2.9**
PFO Pinyon Flat Ob 66.58 65 ⇓P **P 21 35 17.4 +0.8**
baz=66,SNR=42
PFO Pinyon Flat Ob 66.58 65 ScS **SKiKP** **21 45 02.5 -2.9**
comp=Z,2.0nm,1.0s,baz=197,slow=20,SNR=5.7
BELC Belle Mtn. Jos 66.59 65 ⇑P **P 21 35 17.2 +0.5**
baz=66,SNR=81
G27A Dupree 66.59 48 ⇓P **P 21 35 16.7 +0.3**
baz=66,SNR=29
L22A Ellis Ranch, M 66.60 53 ⇓P **P 21 35 17.7 +1.0**
baz=66,SNR=114
C30A Mose, Pekin 66.61 44 ⇑P **P 21 35 16.7 +0.3**
baz=66
HYB Hyderabad 66.61 270 *i* P **P 21 35 16.0 -0.8**
comp=Z,640nm,1.0s
HYB *e*SP sP 21 35 56.0 -7.6
HYB *eS* **S** **21 43 58.0 +0.5**
HYB *e*SKS **SKSac** **21 45 00.0 -1.0**
HYB *e* 21 45 58.0
HYB Hyderabad 66.61 270 *eP* **P 21 35 17.1 +0.3**
HYB AMB AMB 21 35 18.7

comp=Z,406nm,1.3s
I25A **Rochford** 66.64 50 ⇓P P 21 35 16.9 0.0
baz=66,SNR=79
J24A **Dixon Ranch, L** 66.64 51 ⇑P P 21 35 17.0 +0.1
baz=66,SNR=38
BJII **Banjamegara** 66.66 227 P P 21 35 18.2 +1.1
comp=Z,128nm,0.9s
BJII **Banjamegara** 66.66 227 P P 21 35 18.1 +1.0
109C **Camp Elliot, M** 66.67 66 ⇑P P 21 35 17.6 +0.6
baz=66,SNR=17
PCJI **Pacitan** 66.69 225 P P 21 35 21.1 +3.9
comp=Z,159nm,1.2s
PCJI **Pacitan** 66.69 225 P P 21 35 18.5 +1.3
H26A **Fairpoint** 66.71 49 ⇑P P 21 35 17.5 +0.3
baz=66,SNR=46
UGM **Wanagama** 66.76 226 P P 21 35 18.4 +0.7
comp=Z,483nm,1.5s
UGM **Wanagama** 66.76 226 P P 21 35 18.6 +0.9
UGM **Wanagama** 66.76 226 eP P 21 35 17.3 -0.4
comp=Z,874nm,1.4s
F28A **McLaughlin** 66.82 47 ⇑P P 21 35 17.7 -0.1
baz=67,SNR=8.6
P19A **Cripple Cowboy** 66.86 56 ⇑P P 21 35 18.7 +0.2
baz=67,SNR=60
E29A **Napoleon** 66.87 46 ⇑P P 21 35 18.2 +0.1
baz=67
D30A **Buchanan** 66.90 45 ⇑P P 21 35 18.4 +0.1
baz=67,SNR=19
O20A **White River Ci** 66.93 55 eP P 21 35 19.4 +0.6
O20A **White River Ci** 66.93 55 ⇑P P 21 35 18.7 -0.1
baz=67,SNR=12
L23A **Garrett** 66.94 52 ⇑P P 21 35 18.6 -0.2
baz=67,SNR=60
LHSI **Lahat** 66.94 235 P P 21 35 19.6 +0.8
comp=Z,316nm,1.9s,comp=Z,4μm
LHSI **Lahat** 66.94 235 P P 21 35 19.6 +0.8
M22A **Cedar Creek Ra** 66.95 53 ⇑P P 21 35 19.8 +0.8
baz=67,SNR=97
K24A **Anderson Ranch** 66.98 51 ⇑P P 21 35 18.9 -0.2
baz=67
IRM **Iron Mountain** 67.00 64 ⇑P P 21 35 19.7 +0.5
baz=67,SNR=181
KPJI **Karang Pucung** 67.04 228 P P 21 35 19.9 +0.4
comp=Z,143nm,1.4s
KPJI **Karang Pucung** 67.04 228 P P 21 35 19.7 +0.2
J25A **Sunshine Ranch** 67.04 50 ⇓P P 21 35 19.4 0.0
baz=67,SNR=70
H27A **Howes** 67.05 48 ⇑P P 21 35 19.2 -0.1
baz=67
KLI **Kotabumi** 67.07 233 P P 21 35 20.5 +0.8
KLI **Kotabumi** 67.07 233 P P 21 35 20.5 +0.8
BAR **Barrett** 67.08 66 eP P 21 35 20.1 +0.5
comp=Z,105nm,1.0s
I26A **New Underwood** 67.08 49 ⇑P P 21 35 20.2 +0.7
baz=67,SNR=39
NB2 **NORSAR Subarra** 67.08 341 P P 21 35 19.0 -0.2
comp=Z,295nm,1.4s,baz=28,slow=6.2
NB2 **NORSAR Subarra** 67.08 341 P P 21 35 19.0 -0.2
baz=28,slow=6.2
NB200 **NORSAR Array S** 67.08 341 eP P 21 35 18.2 -1.0
NOA **NORSAR Array B** 67.08 341 P P 21 35 18.2 -1.0
comp=Z,37nm,0.5s,baz=26,slow=6.4,SNR=395
NOA LR LR 22 12 35.1
comp=Z,1μm,18.6s,baz=20,slow=43
MASI **Maura Aman, Be** 67.09 237 P P 21 35 21.1 +1.2
comp=Z,858nm,1.1s,comp=Z,9μm
MASI **Maura Aman, Be** 67.09 237 P P 21 35 20.9 +1.1
MONP **Monument Peak** 67.09 66 ⇓P P 21 35 20.5 +0.6
baz=67,SNR=36
W13A **Hualapai Mount** 67.12 63 ⇓P P 21 35 20.6 +0.5
baz=67,SNR=77
MDSI **Maura Dua** 67.13 234 P P 21 35 20.1 +0.1
comp=Z,97nm,1.0s,comp=Z,2μm
MDSI **Maura Dua** 67.13 234 P P 21 35 20.1 +0.1
NBO02 **NORSAR Array S** 67.15 341 eP P 21 35 19.2 -0.4
BC3 **Big Chuckawall** 67.16 65 ⇑P P 21 35 20.5 +0.3
baz=67,SNR=95
U15A **North Rim** 67.16 61 ⇓P P 21 35 21.5 +1.0
baz=67,SNR=98
E30A **Jud** 67.27 45 ⇑P P 21 35 20.7 +0.1
baz=67,SNR=12
LEM **Lembang** 67.28 230 P P 21 35 21.8 +0.7
comp=Z,245nm,1.3s,comp=Z,4μm
LEM **Lembang** 67.28 230 P P 21 35 21.9 +0.8
P20A **De Beque** 67.28 56 ⇓P P 21 35 21.5 +0.4
baz=67,SNR=14
BLSI **Bandar Lampung** 67.29 233 P P 21 35 21.9 +0.9
comp=Z,200nm,0.7s,comp=Z,3μm
BLSI **Bandar Lampung** 67.29 233 P P 21 35 21.3 +0.3
O21A **Pagoda** 67.30 55 ⇑P P 21 35 21.9 +0.7
baz=67,SNR=17
F29A **Eureka** 67.31 46 ⇑P P 21 35 21.1 +0.2
baz=67,SNR=10
KSI **Kapahiang** 67.31 236 P P 21 35 21.5 +0.2
comp=Z,188nm,1.9s,comp=Z,3μm
KSI **Kapahiang** 67.31 236 P P 21 35 21.7 +0.4
HFS **Hagfors** 67.31 339 LR LR 22 06 04.2
comp=Z,1μm,21.1s,baz=28,slow=37
G28A **Parade** 67.31 47 ⇑P P 21 35 21.0 +0.1
baz=67,SNR=18
AGMN **Agassiz Nation** 67.38 42 eP P 21 35 21.0 -0.3
comp=Z,73nm,1.2s
L24A **Wheatland** 67.40 52 ⇓P P 21 35 22.1 +0.4
baz=67,SNR=7.2
SWSC **Sam W. Stewart** 67.44 66 ⇑P P 21 35 23.1 +1.3
baz=67,SNR=32
DVTC **Desert V Tower** 67.44 66 ⇓P P 21 35 23.0 +1.0
baz=67,SNR=40
N22A **Wattenberg Ran** 67.45 54 ⇑P P 21 35 23.2 +1.1
baz=67,SNR=50
I27A **Quinn** 67.46 49 ⇓P P 21 35 22.8 +0.9
baz=67,SNR=62
J26A **Sides Ranch, S** 67.47 50 ⇓P P 21 35 22.9 +0.8
baz=67,SNR=36
DBJI **Dramaga** 67.49 230 P P 21 35 22.4 +0.1
comp=Z,298nm,1.2s,comp=Z,4μm
DBJI **Dramaga** 67.49 230 P P 21 35 22.8 +0.5
PDMCI **Parker Dam,Lak** 67.52 63 ⇑P P 21 35 23.1 +0.8
baz=67,SNR=50
H28A **Mission Ridge** 67.55 48 ⇓P P 21 35 23.0 +0.6
baz=67,SNR=47
K25A **Mack Ranch, Ha** 67.56 51 ⇓P P 21 35 23.0 +0.4
baz=67,SNR=15
PV09 **Paradox Valley** 67.56 57 eP P 21 35 23.5 +0.6
ISAL **Salakas** 67.61 330 eP P 21 35 22.5 0.0
ISAL AMB AMB 21 35 24.1
comp=Z,30nm,1.5s
LWLI **Liwa** 67.63 234 P P 21 35 22.9 -0.4
comp=Z,473nm,0.9s,comp=Z,4μm
LWLI **Liwa** 67.63 234 P P 21 35 23.0 -0.4
PHWY **Pilot Hill** 67.64 53 eP P 21 35 23.5 +0.1
comp=Z,51nm,1.2s
BORG **Borgarnes** 67.66 357 P P 21 35 25.0 +2.3
comp=Z,2μm,1.4s,SNR=19
BORG **Borgarnes** 67.66 357 eP P 21 35 24.7 +2.0
comp=Z,892nm,1.3s
BORG **Borgarnes** 67.66 357 LR LR 22 03 20.2
comp=Z,438nm,21.4s,baz=202,slow=34
N23A **Red Feather La** 67.66 53 ⇓P P 21 35 24.5 +1.1
baz=68,SNR=73
Y12C **Blythe** 67.66 64 ⇓P P 21 35 24.2 +1.0
baz=68,SNR=66
MNAI **Manna** 67.69 235 eP P 21 35 22.6 -1.0
comp=Z,236nm,1.0s
F30A **Leola** 67.69 46 ⇓P P 21 35 23.2 -0.1
baz=68
PV10 **Paradox Valley** 67.70 57 eP P 21 35 24.9 +1.2
Q20A **Ridgley Place,** 67.72 56 ⇑P P 21 35 24.3 +0.6
baz=68,SNR=55
G29A **Hoven** 67.72 47 ⇓P P 21 35 23.4 -0.1
baz=68
IIGN **Ignalina** 67.76 330 eP P 21 35 23.5 0.0
IIGN AMB AMB 21 35 24.6
comp=Z,38nm,1.8s
PV04 **Paradox Valley** 67.76 57 eP P 21 35 24.4 +0.4
P21A **Newcastle** 67.79 55 ⇑P P 21 35 25.3 +1.0
baz=68,SNR=24
KASI **Kota Agung** 67.82 233 P P 21 35 23.8 -0.6
L25A **Engebretsen Ra** 67.83 51 ⇑P P 21 35 25.2 +0.8
baz=68,SNR=10
CTA **Charters Tower** 67.84 186 eP P 21 35 24.5 +0.2
CTA **Charters Tower** 67.84 186 P P 21 35 24.5 +0.2
comp=Z,85nm,0.8s,baz=3.6,slow=8.0,SNR=65
CTAO **Charters Tower** 67.84 186 eP P 21 35 24.3 -0.1
CTAO pmax pmax
comp=Z,92nm,0.8s
CTAO **Charters Tower** 67.84 186 eP P 21 35 24.3 -0.1
comp=Z,92nm,0.8s
O22A **Kremmling** 67.84 54 ⇓P P 21 35 25.7 +1.0
baz=68,SNR=41
K26A **Motz Farm, Whi** 67.85 50 ⇑P P 21 35 25.0 +0.6
baz=68,SNR=19
M24A **Cheyenne** 67.86 52 ⇓P P 21 35 25.5 +0.9
baz=68,SNR=40
PV05 **Paradox Valley** 67.87 57 eP P 21 35 25.3 +0.5
MICGM **Minsk** 67.88 329⇑eP P 21 35 18.0 -6.2
MNK **Minsk** 67.89 329⇑eP P 21 35 18.0 -6.3
MNK *e*PP PcP 21 35 50.0 +0.1
MNK *eS* S 21 44 00.0 -12
MNK *e* 21 45 10.0
MNK pmax pmax
comp=Z,490nm,1.5s
MNK pmax pmax
comp=N,240nm,1.5s
MNK pmax pmax
comp=E,240nm,1.5s
NACGM **Naroch** 67.93 330 *e* P 21 35 21.0 -3.6
GLA **Glamis** 67.95 65 eP P 21 35 25.6 +0.5
GLA pmax pmax
comp=Z,173nm,0.9s
GLA **Glamis** 67.95 65 eP P 21 35 25.6 +0.5
comp=Z,173nm,0.9s
GLA **Glamis** 67.95 65 ⇓P P 21 35 25.8 +0.6
baz=68,SNR=71
I28A **Midland** 67.96 48 ⇓P P 21 35 25.4 +0.4
baz=68,SNR=48
H29A **Onida** 67.98 47 ⇑P P 21 35 25.4 +0.2
baz=68,SNR=33
HYA **Hoyanger** 68.02 343 eP P 21 35 26.2 +1.2
HYA AMB AMB 21 35 29.6
comp=Z,249nm,1.7s
PV15 **Paradox Valley** 68.04 57 eP P 21 35 25.4 -0.4
J27A **Elkhorn Farm,** 68.07 49 ⇓P P 21 35 26.3 +0.6
baz=68,SNR=21
P22A **Eagle** 68.12 55 ⇓P P 21 35 27.2 +0.9
baz=68,SNR=26
PV01 **Paradox Valley** 68.13 57 eP P 21 35 26.5 +0.1
G30A **Faulkton** 68.15 46 ⇓P P 21 35 26.1 0.0
baz=68,SNR=46
O23A **Lake Granby, G** 68.15 54 ⇓P P 21 35 27.9 +1.3
baz=68,SNR=44
R20A **Redvale** 68.20 57 ⇑P P 21 35 27.6 +0.8
baz=68,SNR=74
Q21A **Lamborn Mesa,** 68.20 56 ⇑P P 21 35 27.9 +1.1
baz=68,SNR=52
IDAH **Dahanechah** 68.22 295 eP P 21 35 27.3 +0.2
N24A **Carr** 68.28 53 ⇑P P 21 35 28.4 +1.2
baz=68,SNR=15
M25A **Palm-Egli Farm** 68.29 52 ⇑P P 21 35 28.3 +1.0
baz=68,SNR=13
SMCO **Snowmass** 68.30 55 eP P 21 35 26.4 -1.3
comp=Z,58nm,0.7s
WUAZ **Wupatki** 68.33 61 eP P 21 35 28.6 +1.0
comp=Z,119nm,1.1s
WUAZ **Wupatki** 68.33 61 ⇓P P 21 35 28.5 +1.0
baz=68,SNR=57
J28A **Allard Ranch,** 68.34 49 ⇓P P 21 35 28.1 +0.7
baz=68,SNR=86
K27A **Flueckinger Fa** 68.34 50 ⇓P P 21 35 27.8 +0.3
baz=68,SNR=7.8
I29A **Vivian Onida** 68.38 48 ⇓P P 21 35 28.0 +0.4
baz=68,SNR=18
L26A **Underwood Farm** 68.38 51 ⇓P P 21 35 28.0 +0.3
baz=68
DBC **Dubki** 68.39 311⇑*i*P P 21 35 27.7 0.0
DBC *i* S PcP 21 35 52.4 +0.1
SUE **Sulen** 68.39 344 eP P 21 35 27.5 +0.3
SUE AMB AMB 21 35 32.0
comp=Z,311nm,1.5s
Y14A **Wickenburg** 68.45 63 ⇓P P 21 35 29.0 +0.7
baz=68,SNR=89
S20A **Disappointment** 68.46 57 ⇑P P 21 35 28.9 +0.4
baz=68,SNR=55
BHJ **Bhuj** 68.49 281 eP P 21 35 29.9 +1.4
BHJ AMB AMB 21 35 30.9
comp=Z,440nm,0.7s
R21A **Cimarron** 68.54 56 ⇑P P 21 35 29.9 +0.9
baz=68,SNR=68
Q22A **Crested Butte,** 68.55 56 ⇓P P 21 35 29.8 +0.7
baz=68,SNR=60
ISCO **Idaho Springs** 68.61 54 eP P 21 35 30.2 +0.7
ISCO pmax pmax
comp=Z,99nm,0.9s
ISCO **Idaho Springs** 68.61 54 eP P 21 35 30.2 +0.7
comp=Z,99nm,0.9s
ISCO **Idaho Springs** 68.61 54 ⇓P P 21 35 30.6 +1.2
baz=68,SNR=152
O24A **Longmont** 68.67 54 ⇓P P 21 35 31.2 +1.5
baz=68,SNR=21
KONO **Kongsberg** 68.69 341 eP P 21 35 30.2 +1.0
KONO AMB AMB 21 35 34.2
comp=Z,191nm,1.8s
KONO *eS* S 21 44 21.9 +0.8
KONO **Kongsberg** 68.69 341 eP P 21 35 29.8 +0.6
KONO **Kongsberg** 68.69 341 eP P 21 35 29.8 +0.6
comp=Z,4μm,2.3s
N25A **Grover** 68.71 52 ⇓P P 21 35 31.0 +1.1
baz=68,SNR=12
BRSD **Miller** 68.74 47 eP P 21 35 29.4 -0.4
BRSD **Miller** 68.74 47 ⇓P P 21 35 29.9 +0.1
baz=68,SNR=19
L27A **T5 Ranch, Ellis** 68.74 50 ⇓P P 21 35 30.6 +0.6
baz=68
M26A **McRoberts Ranc** 68.75 51 ⇓P P 21 35 31.2 +1.1
baz=68,SNR=9.8
K28A **Ten Mile Ranch** 68.78 49 ⇓P P 21 35 30.9 +0.7
baz=69,SNR=20
P23A **Jefferson** 68.78 55 ⇑P P 21 35 31.6 +1.0
baz=69,SNR=18
ITEG **Tejag** 68.79 296 eP P 21 35 30.6 0.0
GOF **Gofitskoye** 68.79 314⇓*i*P P 21 35 30.9 +0.8
GOF *eS* S 21 44 20.6 -2.2
GOF pmax pmax
comp=Z,320nm,1.2s
GOF smax smax
comp=N,40nm,0.9s
GOF smax smax
comp=E,60nm,1.4s
113A **Mohawk Valley,** 68.80 64 ⇑P P 21 35 31.2 +0.9
baz=69,SNR=18
J29A **Okreek** 68.81 48 ⇓P P 21 35 30.5 +0.2
baz=69,SNR=52
MVCO **Mesa Verde** 68.81 58 eP P 21 35 31.0 +0.3
comp=E,143nm,1.1s
MVCO **Mesa Verde** 68.81 58 ⇓P P 21 35 31.1 +0.4
baz=69,SNR=51
ASK **Askoy** 68.84 343 eP P 21 35 29.9 -0.2
RUND **Rundenannen** 68.87 343 eP P 21 35 29.9 -0.4
RUND AMB AMB 21 35 32.9
comp=Z,510nm,1.5s
Z14A **Wintersburg** 68.88 63 ⇓P P 21 35 31.5 +0.7
baz=69,SNR=30
I30A **Oacoma** 68.89 47 ⇑P P 21 35 30.6 -0.2
baz=69
S21A **Coal Bank Pass** 68.90 57 ⇓P P 21 35 32.4 +1.1
baz=69,SNR=163
BER **Bergen** 68.90 343 eP P 21 35 31.7 +1.2
BER *eS* S 21 44 24.2 +0.7
IKOO **Kooshah** 68.96 295 eP P 21 35 31.7 0.0
POO **Poona** 68.99 275⇑*i*P P 21 35 31.0 -0.8
comp=Z,630nm,1.0s
POO eP P 21 35 32.4 +0.6
POO AMB AMB 21 35 34.1
comp=Z,704nm,0.0s
POO *i* x x 21 35 58.0
POO *i* x x 21 38 02.0
POO *i* x x 21 44 26.0
EGD **Espegrend** 69.03 343 eP P 21 35 31.5 +0.3
EGD AMB AMB 21 35 33.9
comp=Z,465nm,1.5s
X16A **Lo Mia Camp, P** 69.05 62 ⇑P P 21 35 33.1 +0.9
baz=69,SNR=134
ODD1 **Odda** 69.08 342 eP P 21 35 32.1 +0.5
ODD1 AMB AMB 21 35 36.7
comp=Z,207nm,1.6s
R22A **Saguache, Gunn** 69.08 56 ⇓P P 21 35 33.6 +1.2
baz=69,SNR=51
M27A **Reverse DX Ran** 69.10 51 ⇓P P 21 35 32.8 +0.6
baz=69,SNR=6.8
Q23A **Hartsel** 69.12 55 ⇑P P 21 35 33.7 +1.0
baz=69,SNR=12
MSVF **Nonsavu** 69.15 154 eP P 21 35 33.2 +0.6
MSVF pmax pmax
comp=Z,218nm,1.0s
MSVF **Nonsavu** 69.15 154 P P 21 35 34.5 +1.9
comp=Z,1μm,0.9s,SNR=23
MSVF **Nonsavu** 69.15 154 eP P 21 35 33.2 +0.6
comp=Z,218nm,1.0s
N26A **Koester Ranch,** 69.16 52 ⇑P P 21 35 33.6 +1.0
baz=69,SNR=19
IGLO **Ghalogha** 69.19 302 eP P 21 35 27.3 -5.7
P24A **Kohler Place,** 69.19 54 ⇓P P 21 35 34.1 +1.2
baz=69,SNR=16
O25A **Wiggins** 69.19 53 ⇑P P 21 35 34.2 +1.4
baz=69,SNR=20
AFI **Afiamalu** 69.20 143 eP P 21 35 33.0 0.0
comp=Z,167nm,1.0s
AFI **Afiamalu** 69.20 143 P P 21 35 33.2 +0.2
comp=Z,109nm,0.8s,baz=199,slow=6.6,SNR=13
L28A **Connealy Angus** 69.21 50 ⇑P P 21 35 33.7 +0.8
baz=68,SNR=8.2
K29A **Lazy Trails An** 69.28 49 ⇓P P 21 35 34.0 +0.7
baz=69,SNR=43
J30A **Dallas** 69.29 48 ⇓P P 21 35 33.7 +0.5
baz=69,SNR=41
S22A **4UR Ranch, Cre** 69.38 56 ⇓P P 21 35 35.4 +1.1
baz=69,SNR=81
U20A **Newcomb** 69.39 58 ⇑P P 21 35 35.5 +1.3
baz=69,SNR=10
WRAB **Tennant Creek** 69.41 198 eP P 21 35 33.3 -0.8
WRAB pmax pmax
comp=E,61nm,1.0s
WRAB **Tennant Creek** 69.41 198 P P 21 35 34.0 -0.1
comp=Z,398nm,1.0s,SNR=16
WRAB **Tennant Creek** 69.41 198 eP P 21 35 33.3 -0.8
comp=E,61nm,1.0s
WRA **Warramunga Arr** 69.42 198 eP P 21 35 33.7 -0.5
WRA *e*PKiKP PKiKP 21 41 48.8 +0.1
WRA *eS* S 21 44 29.2 -1.3
WRA *e*SKSac ScS 21 45 22.3 -0.5
WRA ⇑*e* 22 03 34.0
WRA **Warramunga Arr** 69.42 198 P P 21 35 33.7 -0.5
comp=Z,42nm,0.8s,baz=16,slow=6.2,SNR=128
WRA ScP 21 39 48.0
comp=Z,7.1nm,0.9s,baz=12,slow=5.1,SNR=6.0
WRA PKiKP PKiKP 21 41 48.8 +0.1
comp=Z,1.4nm,0.8s,baz=337,slow=1.7,SNR=4.7
WRA S S 21 44 29.2 -1.3
comp=Z,3.8nm,1.2s,baz=15,slow=12,SNR=6.4
WRA ScS ScS 21 45 22.3 -0.5
comp=Z,0.4nm,0.8s,baz=306,slow=9.0,SNR=1.5
WRA PKP2bc 22 03 34.0
comp=Z,1.0nm,0.6s,baz=190,slow=2.9,SNR=4.9
Q24A **Divide** 69.45 54 ⇓P P 21 35 35.9 +1.2
baz=69,SNR=40
T21A **Navajo Lake** 69.52 57 ⇓P P 21 35 36.4 +1.3
baz=69,SNR=26
O26A **Horse Wrangler** 69.53 52 ⇑P P 21 35 35.4 +0.4
baz=69,SNR=30
N27A **Anderson Farm,** 69.54 52 ⇓P P 21 35 35.7 +0.7
baz=69,SNR=104
BLS5 **Blasjo** 69.56 342 eP P 21 35 35.3 +0.7
BLS5 AMB AMB 21 35 39.5
comp=Z,90nm,1.6s
W18A **Petrified Fore** 69.56 60 eP P 21 35 35.8 +0.5
W18A **Petrified Fore** 69.56 60 ⇓P P 21 35 36.6 +1.3
baz=69,SNR=13
EYMN **Ely** 69.58 40 eP P 21 35 34.8 -0.1
comp=Z,50nm,0.9s
P25A **Willow Gulch B** 69.60 53 ⇓P P 21 35 36.3 +0.9
baz=69,SNR=62
R23A **Moffat** 69.63 55 ⇑P P 21 35 37.4 +1.6
baz=69,SNR=90
NCK **Nalchik** 69.67 313 *i*P P 21 35 36.3 +0.7
K30A **Basset** 69.70 48 ⇓P P 21 35 36.4 +0.6
baz=70,SNR=28
L29A **Maesberg Ranch** 69.70 49 ⇓P P 21 35 36.2 +0.3
baz=70
OGNE **Ogallala** 69.71 51 ⇑P P 21 35 36.5 +0.6
baz=70,SNR=109
M28A **Bar X Bar Ranc** 69.73 50 ⇓P P 21 35 36.7 +0.6
baz=70,SNR=22
KIV **Kislovodsk** 69.78 314*d i*P P 21 35 36.7 +0.4
KIV *i* 21 35 58.1
KIV *i* 21 38 11.4
KIV *i* S S 21 44 35.1 +0.5
KIV *i* 21 45 25.7
KIV pmax pmax
comp=Z,131nm,1.1s
KIV **Kislovodsk** 69.78 314 P P 21 35 36.7 +0.4
comp=Z,641nm,1.5s,SNR=34
V20A **Brimhall** 69.82 59 ⇑P P 21 35 37.9 +1.0
baz=70,SNR=40
KBZ **Khabaz** 69.84 313 eP P 21 35 36.6 +0.1
KBZ **Khabaz** 69.84 313 eP P 21 35 36.6 +0.1
KBZ **Khabaz** 69.84 313 P P 21 35 36.6 +0.1
comp=Z,67nm,1.0s,baz=40,slow=5.5,SNR=80
U21A **Nageezi** 69.84 58 ⇓P P 21 35 38.1 +1.1
baz=70,SNR=66
X18A **Snowflake** 69.85 61 ⇑P P 21 35 38.2 +1.2
baz=70,SNR=60
T22A **Edith** 69.86 57 ⇑P P 21 35 38.3 +1.2
baz=70,SNR=100
SUW **Suwalki** 69.87 331 eP P 21 35 35.9 -0.7
SUW pmax pmax
comp=Z,326nm,1.7s
SUW **Suwalki** 69.87 331 eP P 21 35 35.9 -0.7
comp=Z,326nm,1.7s
SUW **Suwalki** 69.87 331 eP P 21 35 35.6 -0.9
SUW *e*PcP PcP 21 35 59.2 +1.0
SUW *eS* S 21 44 31.1 -4.0
SUW *es*S SKSac 21 45 24.2 -0.3
SUW LMZ LR 22 00 04.5
IANJ **Anjilo** 69.87 301 eP P 21 35 37.3 +0.1
S23A **Nye Farm, Mont** 69.87 56 ⇑P P 21 35 38.0 +0.7
baz=70
FITZ **Fitzroy Crossi** 69.93 207 eP P 21 35 36.9 -0.4
comp=Z,58nm,1.0s
FITZ *eS* S 21 44 36.9 +0.4
FITZ **Fitzroy Crossi** 69.93 207 S S 21 44 36.9 +0.4
comp=Z,5.2nm,1.2s,baz=183,slow=12,SNR=3.0
214A **Organ Pipe Nat** 69.94 64 ⇑P P 21 35 38.5 +1.1
baz=70,SNR=109
Q25A **Bedlad, Calha** 69.98 54 ⇑P P 21 35 38.2 +0.4
baz=70,SNR=85
GUDG **Gudauri** 69.98 312 P P 21 35 38.2 +0.4
ISHM **Shahmirzad** 69.99 301 eP P 21 35 39.2 +1.2
R24A **Sanders Place,** 70.00 55 ⇓P P 21 35 39.1 +1.2
baz=70,SNR=56
KMY **Karmoy** 70.00 343 eP P 21 35 38.6 +1.4
KMY AMB AMB 21 35 40.9
comp=Z,374nm,1.7s
P26A **Davis Ranch, A** 70.01 53 ⇑P P 21 35 38.7 +0.8
baz=70,SNR=38
O27A **Beecher Island** 70.02 52 ⇑P P 21 35 38.1 +0.2
baz=70,SNR=44
ZEI **Tsey** 70.04 312 eP P 21 35 37.0 -1.1
ZEI pmax pmax
comp=Z,93nm,1.5s
M29A **Burnside Ranch** 70.05 50 ⇓P P 21 35 38.3 +0.3
baz=70,SNR=7.9
SDCO **Great Sand Dun** 70.12 56 eP P 21 35 39.5 +0.7
comp=Z,65nm,1.3s
N28A **Pribbeno Ranch** 70.15 51 ⇓P P 21 35 39.1 +0.5
baz=70,SNR=18
L30A **Spencer Herefo** 70.17 49 ⇑P P 21 35 39.1 +0.3
baz=70,SNR=9.6
IPRN **Peran** 70.23 302 eP P 21 35 33.4 -5.9
DGRG **David-gareji** 70.27 310 P P 21 35 39.9 +0.6
W20A **Ramah** 70.28 59 ⇓P P 21 35 40.3 +0.6
baz=70,SNR=42
LRW **Lerwick** 70.28 346 eP P 21 35 39.1 +0.2
LRW AMB AMB 21 35 41.3
comp=Z,281nm,1.5s
V21A **Milan** 70.30 58 ⇓P P 21 35 40.6 +0.8
baz=70,SNR=24
T23A **Casias Ranch,** 70.33 56 ⇓P P 21 35 40.8 +0.7
baz=70,SNR=13
U22A **Llaves** 70.34 57 ⇓P P 21 35 41.4 +1.3
baz=70,SNR=29
S24A **Houchin Ranch,** 70.36 55 ⇓P P 21 35 41.1 +0.8
baz=70,SNR=32
Q26A **Hugo** 70.37 54 ⇓P P 21 35 40.9 +0.8
baz=70,SNR=36
TBLG **Delisi** 70.39 311 P P 21 35 41.1 +1.1
NRS **Narsarsuaq** 70.39 9 *i*P P 21 35 40.4 +0.8
NRS pmax pmax
comp=Z,46nm,0.8s
M30A **Dale-Ortello V** 70.40 49 ⇑P P 21 35 39.7 -0.5
baz=70

SNART **Snartemo** 70.40 341 *e*P P 21 35 40.1 +0.4
SNART AMB AMB 21 35 44.5
comp=Z,260nm,1.5s
ECSD EROS Data Cent 70.40 46 *e*P P 21 35 39.5 -0.6
comp=Z,148nm,0.8s
ONI Oni 70.41 312 P P 21 35 40.9 +0.7
IFIR Firoozkooh 70.42 302 *e*P P 21 35 41.9 +1.3
P27A Ficken Ranch, 70.42 52 ⇑P P 21 35 40.8 +0.5
baz=70,SNR=12
O28A Krutsinger Ran 70.44 52 ⇓P P 21 35 40.4 0.0
baz=70
AKASG **Malin Array Be** 70.44 326 P P 21 35 38.7 -1.4
AKASG S S 21 44 43.6 +1.8
AKASG 21 45 28.8
AKASG pmax pmax
comp=Z,17nm,0.3s
AKASG MLR MLR
comp=Z,2μm,19.5s
AKASG **Malin Array Be** 70.44 326 P P 21 35 38.7 -1.4
comp=Z,16nm,0.3s,baz=34,slow=5.9,SNR=93
AKASG S S 21 44 43.6 +1.8
comp=Z,0.3nm,0.4s,baz=35,slow=13,SNR=2.9
AKASG ScS SKSac 21 45 28.8 -0.1
comp=Z,5.8nm,1.0s,baz=38,slow=8.1,SNR=10
AKASG PKPPKP P'P'df 22 03 30.2 -11
comp=Z,2.6nm,1.0s,baz=231,slow=3.4,SNR=6.7
AKASG PKP2ab 22 03 38.4
comp=Z,4.2nm,1.0s,baz=235,slow=3.5,SNR=6.7
AKASG LR LR 22 09 36.5
comp=Z,2μm,19.5s,baz=45,slow=38
AKASG P4KPbc 22 12 23.4
comp=Z,0.1nm,0.3s,baz=37,slow=4.7,SNR=5.4
AKBB **Malin Array Si** 70.44 326 *e*P P 21 35 38.7 -1.4
AKBB *e*S S 21 44 43.6 +1.8
AKBB *e* 21 45 28.8
AKBB **Malin Array Si** 70.44 326 *e*P P 21 35 38.7 -1.4
AKBB *e*S S 21 44 43.6 +1.8
AKBB *e*SKSac SKSac 21 45 28.8 -0.1
AKBB *e*P'P'df P'P'df 22 03 38.4 -3.2
KIEV Kiev 70.45 326 *e*P P 21 35 39.2 -1.0
KIEV pmax pmax
comp=Z,284nm,1.5s
KIEV Kiev 70.45 326 *e*P P 21 35 39.2 -1.0
comp=Z,284nm,1.5s
L31A Butterfield Fa 70.45 48 ⇑P P 21 35 41.3 +0.9
baz=70,SNR=68
ILAS Lasjerd 70.48 301 *e*P P 21 35 41.6 +0.6
R25A Fountain Ranch 70.51 55 ⇓P P 21 35 41.9 +1.0
baz=70,SNR=36
N29A Votaw Ranch, W 70.53 50 ⇑P P 21 35 41.3 +0.4
baz=70,SNR=7.5
V22A San Miguel Ran 70.64 58 ⇓P P 21 35 42.9 +1.1
baz=70,SNR=45
T24B San Luis 70.68 56 ⇓P P 21 35 43.7 +1.5
baz=70,SNR=18
DZM Mont Dzumac 70.69 166 *e*P P 21 35 43.0 +1.1
comp=Z,504nm,1.1s
DZM Mont Dzumac 70.69 166 P P 21 35 43.6 +1.7
comp=Z,218nm,1.0s,baz=38,slow=8.3,SNR=50
DZM LR LR 22 03 55.3
comp=Z,2μm,18.2s,baz=23,slow=33
X20A Quemado 70.69 60 ⇓P P 21 35 43.5 +1.3
baz=70,SNR=66
U23A El Rito 70.75 57 ⇑P P 21 35 43.6 +1.1
baz=71,SNR=106
S25A Robets Cordova 70.78 55 ⇑P P 21 35 43.2 +0.5
baz=71,SNR=38
W21A San Fidel 70.78 59 ⇓P P 21 35 43.3 +0.6
baz=71
KSCO Kaye Shedlock' 70.79 53 *e*P P 21 35 43.0 +0.4
KSCO Kaye Shedlock' 70.79 53 ⇑P P 21 35 43.1 +0.4
baz=71,SNR=15
KZR Kazreti 70.81 311 P P 21 35 43.7 +1.1
N30A Hueftle Ranch, 70.82 50 ⇑P P 21 35 42.7 0.0
baz=71,SNR=5.3
P28A Saint Francis 70.85 52 ⇓P P 21 35 43.3 +0.3
baz=71,SNR=25
R26A Arlington 70.86 54 ⇓P P 21 35 43.9 +0.9
baz=71,SNR=56
IDMV Damavand 70.88 302 *e*P P 21 35 43.9 +0.5
TUC Tucson 70.92 63 *e*P P 21 35 43.8 +0.4
TUC pmax pmax
comp=Z,116nm,1.2s
TUC Tucson 70.92 63 *e*P P 21 35 43.8 +0.4
comp=Z,116nm,1.2s
O29A 4D Ranch, Culb 70.95 51 ⇓P P 21 35 44.0 +0.5
baz=71,SNR=30
CHVG Ch'k'valeri 70.99 313 P P 21 35 44.2 +0.6
M31A Lambtecht Ranc 71.00 49 ⇑P P 21 35 44.0 +0.2
baz=71
SPMN St. Paul 71.08 43 *e*P P 21 35 43.7 -0.3
SPMN St. Paul 71.08 43 ⇑P P 21 35 44.5 +0.5
baz=71,SNR=21
GOA Goa 71.16 272 *e*P P 21 35 45.7 +0.7
GOA AMB AMB 21 35 47.5
comp=Z,630nm,1.5s
T25A Trinidad 71.16 55 ⇑P P 21 35 45.8 +0.8
baz=71,SNR=55
V23A Ortiz Mt. (NFS 71.17 57 ⇑P P 21 35 46.7 +1.6
baz=71,SNR=46
X21A Alamocita Cree 71.17 59 ⇓P P 21 35 46.8 +1.6
baz=71,SNR=126
Q28A Sharon Springs 71.18 52 ⇓P P 21 35 45.5 +0.6
baz=71,SNR=12
U24A Moreno Valley 71.20 56 ⇑P P 21 35 46.9 +1.5
baz=71,SNR=16
Y20A Horse Springs, 71.21 60 ⇓P P 21 35 47.0 +1.6
baz=71,SNR=66
R27A Eads 71.22 54 ⇑P P 21 35 45.4 +0.2
baz=71,SNR=39
AKH Akhalkalaki 71.26 311 P P 21 35 46.4 +0.9
W22A Albuquerque 71.26 58 ⇑P P 21 35 46.1 +0.5
baz=71
P29A Atwood 71.26 51 ⇓P P 21 35 46.0 +0.6
baz=71,SNR=20
O30A MW Ranch, Wils 71.30 51 ⇓P P 21 35 45.5 0.0
baz=71,SNR=39
IGZV Ghazvin 71.32 304 *e*P P 21 35 47.4 +1.4
S26A Kim 71.33 54 ⇑P P 21 35 46.1 +0.2
baz=71,SNR=35
BGNE Belgrade 71.37 49 *e*P P 21 35 45.7 -0.3
BGNE Belgrade 71.37 49 ⇑P P 21 35 45.9 0.0
baz=71,SNR=29
N31A Bailey Ranch, 71.39 49 ⇓P P 21 35 46.3 +0.2
baz=71,SNR=7.1
BSD Bornholm Skovb 71.41 336 *i* P P 21 35 45.7 -0.2
BSD pmax pmax
comp=Z,44nm,1.1s
BSD MLR MLR
comp=Z,1μm,23.0s
BSD Bornholm Skovb 71.41 336 *i* P P 21 35 45.7 -0.2
comp=Z,44nm,1.0s
BSD
comp=Z,1μm,22.0s
IVRN Varamin 71.46 302 *e*P P 21 35 47.9 +1.2
SOC Sochi 71.49 315 *d i*P P 21 35 46.5 0.0
SOC *e* 21 36 03.9
SOC *e**PP **pP** 21 36 18.2 -1.1
SOC *e**SP **sP** 21 36 31.5 -2.1
SOC *e* 21 38 23.7
SOC *e*PPP PPP 21 40 05.9
SOC *e*S S 21 44 52.9 -1.3
SOC *e* 21 45 36.6
SOC pmax pmax
comp=Z,1μm,3.7s
SOC pmax pmax
comp=Z,64nm,0.6s
IR3 Iran Long-Peri 71.52 303 *e*P P 21 35 47.1 +0.1
GNI Garni 71.55 310 P P 21 35 49.8 +2.7
SNR=18
GNI Garni 71.55 310 LR LR 22 12 15.6
comp=Z,2μm,18.4s,baz=35,slow=40
Y21A Point of Rocks 71.55 60 ⇑P P 21 35 48.9 +1.5
baz=71,SNR=54
COP Copenhagen 71.57 338 *i* P P 21 35 47.3 +0.5
COP pmax pmax
comp=Z,36nm,0.7s
COP MLR MLR
comp=Z,550nm,14.0s
COP Copenhagen 71.57 338 *i* P P 21 35 47.3 +0.5
comp=Z,36nm,0.7s
COP
comp=Z,550nm,14.0s
LAZ Ladron 71.58 59 *e*P P 21 35 48.4 +0.9
X22A Bernardo 71.58 59 ⇓P P 21 35 49.1 +1.6
baz=71,SNR=40

ANMO Albuquerque 71.58 58 *e*P P 21 35 48.2 +0.6
comp=Z,42nm,0.8s
ANMO *e*P'P'df P'P'df 22 03 31.2 -8.8
ANMO Albuquerque 71.58 58 PKPPKP P'P'df 22 03 31.2 -8.8
comp=Z,1.2nm,1.0s,baz=9.7,slow=4.0,SNR=3.0
T26A Comanche Natio 71.59 55 ⇑P P 21 35 48.0 +0.4
baz=71,SNR=97
S27A Las Animas 71.60 54 ⇑P P 21 35 48.0 +0.5
baz=71,SNR=40
W23A Werner Place, 71.61 58 ⇑P P 21 35 48.8 +1.1
baz=71,SNR=30
ANN Anapa 71.63 317 *d i*P P 21 35 46.3 -1.0
ANN *i* *PP **pP** 21 36 18.1 -2.0
ANN *i* 21 38 26.1
ANN *i* PPP PPP 21 40 10.4
ANN *e*S S 21 44 53.8 -1.9
ANN *i* *SS **SKSac** 21 45 37.7 -0.4
ANN pmax pmax
comp=Z,171nm,1.8s
IBAF Bafgh 71.63 297 *e*P P 21 35 48.1 +0.3
ISFB Sefidab 71.63 301 *e*P P 21 35 47.9 +0.2
Z20A Nine Sixteen R 71.65 61 ⇑P P 21 35 48.8 +0.8
baz=72,SNR=44
P30A Selden 71.66 51 ⇓P P 21 35 47.8 0.0
baz=71,SNR=32
IHRS Heris 71.67 307 *e*P P 21 35 49.3 +1.2
MUD Monsted U'grnd 71.68 340 ⇓ *i*P P 21 35 47.8 +0.4
MUD pmax pmax
comp=Z,36nm,0.9s
MUD Monsted U'grnd 71.68 340 ⇓ *i*P P 21 35 47.8 +0.4
comp=Z,36nm,0.8s
ISRB Sarab 71.69 306 *e*P P 21 35 48.3 +0.1
O31A Woolen Ranch, 71.69 50 ⇓P P 21 35 48.1 +0.1
baz=72,SNR=7.5
U25A Circle Dot Ran 71.70 56 ⇓P P 21 35 48.9 +0.7
baz=72,SNR=50
V24A Rampart Ranch, 71.70 57 ⇑P P 21 35 49.7 +1.4
baz=72,SNR=39
R28A Tribune 71.71 53 ⇓P P 21 35 48.4 +0.2
baz=72,SNR=34
Q29A Oakley 71.76 52 ⇑P P 21 35 48.6 +0.2
baz=72,SNR=66
N32A Stulken Farm, 71.77 49 ⇑P P 21 35 48.1 -0.3
baz=72
LENM Lemitar 71.84 59 *e*P P 21 35 49.4 +0.3
ICHK Chekchek 71.86 298 *e*P P 21 35 49.8 +0.5
LPM Los Pinos Moun 71.94 59 *e*P P 21 35 50.3 +0.6
LLD Lille Linde 71.94 337 *e*P P 21 35 50.7 +1.7
LLD pmax pmax
comp=Z,93nm,0.9s
LLD Lille Linde 71.94 337 *i* P P 21 35 50.7 +1.7
comp=Z,93nm,0.8s
Y22D IRIS PASSCAL I 71.94 59 ⇑P P 21 35 51.0 +1.4
baz=72
V25A Rancho No Teng 71.99 56 ⇑P P 21 35 50.4 +0.4
baz=72,SNR=36
W24A Lazy 6 Ranch, 71.99 57 ⇑P P 21 35 50.8 +0.8
baz=72,SNR=93
X23A Hourglass Bar 72.00 58 ⇑P P 21 35 50.8 +0.7
baz=72,SNR=11
R29A Marienthal 72.01 52 ⇑P P 21 35 49.8 -0.1
baz=72,SNR=118
Y22A Socorro 72.01 59 ⇓P P 21 35 50.9 +0.8
baz=72,SNR=36
120A U Bar Ranch, L 72.03 61 ⇑P P 21 35 51.2 +1.0
baz=72,SNR=110
COWI Conover 72.03 40 *e*P P 21 35 49.5 -0.4
comp=Z,40nm,0.6s
Z21A St. Cloud Mine 72.05 60 ⇓P P 21 35 51.4 +1.0
baz=72,SNR=97
BNM Barren Site 72.06 59 *e*P P 21 35 51.5 +1.1
U26A Atchley Ranch, 72.07 55 ⇑P P 21 35 50.7 +0.3
baz=72,SNR=24
Q30A Quinter 72.09 51 ⇓P P 21 35 50.7 +0.4
baz=72,SNR=71
IMRD Marand 72.10 308 *e*P P 21 35 50.8 +0.3
P31A Stockton 72.13 51 ⇓P P 21 35 50.3 -0.3
baz=72,SNR=54
T27A Campo 72.15 54 ⇓P P 21 35 50.6 -0.2
baz=72,SNR=43
O32A Brockman Farm, 72.16 49 ⇓P P 21 35 50.1 -0.5
baz=72,SNR=11
IRAZ Razeghan 72.19 303 *e*P P 21 35 51.4 +0.2
IBST Bostanabad 72.20 307 *e*P P 21 35 51.6 +0.4
ITBZ Tabriz 72.21 308 *e*P P 21 35 51.6 +0.4
S28A Manter 72.21 53 ⇓P P 21 35 51.4 +0.2
baz=72,SNR=63
IMEH Mehriz 72.34 297 *e*P P 21 35 51.5 -0.7
RGN Rugen 72.35 336 *e*P P 21 35 52.6 +1.2
comp=Z,135nm,0.8s
GKP Gorka Klasztor 72.36 334 *e*P P 21 35 51.3 -0.3
GKP *e*S S 21 45 03.7 -0.1
GKP LMZ LR 22 08 31.6
T28A Walsh 72.44 54 ⇑P P 21 35 52.3 -0.2
baz=72,SNR=28
X24A Lazy VL Ranch, 72.44 58 ⇓P P 21 35 53.4 +0.7
baz=72,SNR=35
SCHQ Schefferville 72.45 23 *e*P P 21 35 52.8 +0.7
comp=Z,251nm,1.0s
SCHQ Schefferville 72.45 23 P P 21 35 53.0 +0.8
comp=Z,100nm,0.4s,baz=358,slow=5.9,SNR=281
P32A Huiting Farm, 72.46 50 ⇓P P 21 35 52.0 -0.5
baz=72,SNR=44
319A Douglas 72.48 63 ⇓P P 21 35 53.5 +0.7
baz=72,SNR=149
PALK Pallekele 72.48 261 P P 21 35 54.5 +1.6
SNR=19
PALK Pallekele 72.48 261 P P 21 35 53.0 +0.1
comp=Z,2μm,0.7s,SNR=42
PALK Pallekele 72.48 261 P P 21 35 54.0 +1.1
comp=Z,457nm,1.1s,comp=Z,5μm
PALK Pallekele 72.48 261 *e*P P 21 35 53.6 +0.7
BEL Belsk 72.48 331 *e*P P 21 35 52.9 +0.6
BEL *e*PcP PcP 21 36 11.5 +2.2
BEL *e*S S 21 45 01.8 -3.5
BEL LMZ LR 22 01 35.8
V26A Tequesquite Ra 72.48 56 ⇑P P 21 35 52.8 0.0
baz=72,SNR=32
Z22A Elephant Butte 72.50 60 ⇓P P 21 35 54.0 +1.0
baz=72,SNR=42
Q31A Ellis 72.51 51 ⇑P P 21 35 53.1 +0.3
baz=72,SNR=13
W25A X Bar L Ranch, 72.52 57 ⇓P P 21 35 53.7 +0.6
baz=72,SNR=97
ISAD Sadrabad 72.52 298 *e*P P 21 35 53.3 0.0
121A Cookes Peak, D 72.54 61 ⇓P P 21 35 54.5 +1.2
baz=72,SNR=67
Y23A Lovelace Mesa, 72.54 59 ⇑P P 21 35 54.0 +0.8
baz=72,SNR=84
220A Playas Peak, P 72.55 62 ⇓P P 21 35 54.3 +1.0
baz=72,SNR=97
U27A Thompson Grove 72.56 55 ⇑P P 21 35 53.5 +0.2
baz=72,SNR=55
R30A Dighton 72.57 52 ⇓P P 21 35 53.1 -0.1
baz=72,SNR=44
S29A Ulysses 72.61 53 ⇓P P 21 35 53.5 0.0
baz=72,SNR=36
IZEF Zefreh 72.62 300 *e*P P 21 35 54.3 +0.5
IKLH Kolahrood 72.75 301 *e*P P 21 35 55.2 +0.6
T29A Hugoton 72.86 53 ⇓P P 21 35 55.5 +0.5
baz=73,SNR=16
MVH1 Achvaich 72.86 347 ⇑ *e*P P 21 35 54.6 +0.1
EIDS Eidsvold 72.87 181 *e*P P 21 35 56.1 +1.3
comp=Z,122nm,0.8s
122A Conniff Cattle 72.88 60 ⇑P P 21 35 56.3 +1.1
baz=73,SNR=6.6
Y24A Capitan 72.90 58 ⇓P P 21 35 56.3 +0.9
baz=73,SNR=127
X25A Clemmons Ranch 72.91 57 ⇓P P 21 35 56.3 +0.9
baz=73,SNR=29
221A Mesquite Ranch 72.92 61 ⇓P P 21 35 56.3 +0.9
baz=73,SNR=34
U28A Mallet 72.92 55 ⇓P P 21 35 55.9 +0.5
baz=73
Z23A Rita Site, Whi 72.92 59 ⇓P P 21 35 56.3 +0.9
baz=73,SNR=30
S30A Montezuma 72.95 53 ⇑P P 21 35 55.6 +0.1
baz=73,SNR=51
320A Kipp Ranch, An 72.95 62 ⇓P P 21 35 56.4 +0.8
baz=73,SNR=48
R31A Burdett 72.97 52 ⇑P P 21 35 55.4 -0.1
baz=73,SNR=14
SIM Simferopol' 73.00 319 *de*P P 21 35 58.8 +3.3
SIM *e**PP pP 21 36 30.4 +2.0
SIM *e* 21 38 44.0
SIM *e*S **SKiKP** 21 45 18.0 +3.8

SIM pmax pmax
comp=Z,60nm,0.9s
W26A Owens Ranch, T 73.01 56 ⇑P P 21 35 57.2 +1.3
baz=73,SNR=20
V27A Dan Oppiter Fa 73.04 55 ⇑P P 21 35 56.5 +0.4
baz=73,SNR=15
MCD Coleburn Disti 73.05 347 ⇑ *e*P P 21 35 55.4 -0.2
P33A Williams Farm, 73.07 50 ⇑P P 21 35 55.5 -0.5
baz=73,SNR=16
LVV L'vov 73.08 328 *e*P P 21 35 55.0 -0.9
LVV *e* 21 36 32.6
LVV *e*S S 21 45 05.4 -6.7
LVV *e* 21 45 50.6
LVV *e* 21 50 01.6
LVV MLR MLR
comp=N,800nm,20.0s
LVV MLR MLR
comp=E,1μm,20.0s
LVV MLR MLR
comp=Z,1μm,20.0s
AS01 Alice Springs 73.11 198 *e*P P 21 35 57.5 +1.2
AS12 Alice Springs 73.12 198 *e*P P 21 35 57.2 +0.8
AS12 *e*PKiKP **PKiKP** 21 41 53.5 -0.4
AS12 *e*S S 21 45 13.8 +0.7
AS12 *e*P'P'df P'P'df 22 03 40.5 +7.4
ASAR Alice Springs 73.12 198 P P 21 35 57.2 +0.8
comp=Z,120nm,0.8s,baz=11,slow=5.1,SNR=511
ASAR PKiKP **PKiKP** 21 41 53.5 -0.4
comp=Z,1.0nm,0.9s,baz=56,slow=1.2,SNR=7.3
ASAR S S 21 45 13.8 +0.7
comp=Z,6.6nm,1.3s,baz=4.5,slow=10,SNR=7.3
ASAR PKPPKP P'P'df 22 03 40.5 +7.4
comp=Z,0.8nm,1.0s,baz=176,slow=4.0,SNR=4.3
IGAR Gharneh 73.14 300 *e*P P 21 35 58.7 +1.8
222A Williams Famil 73.25 61 ⇓P P 21 35 58.0 +0.6
baz=73,SNR=16
MME1 Meikle Cairn 73.26 346 ⇑ *e*P P 21 35 56.8 -0.1
Y25A Mesa, Roswell 73.33 58 ⇓P P 21 35 58.4 +0.6
baz=73,SNR=53
T30A Plains 73.35 53 ⇑P P 21 35 58.2 +0.4
baz=73,SNR=7.1
123A Bell Site, Whi 73.36 60 ⇑P P 21 35 59.0 +1.0
baz=73,SNR=5.9
MDO Dochfour 73.36 347 ⇑ *e*P P 21 35 57.7 +0.3
X26A CR and CF Fran 73.37 57 ⇓P P 21 35 58.6 +0.5
baz=73,SNR=26
Z24A Sheeppen Canyo 73.37 59 ⇓P P 21 35 58.5 +0.4
baz=73,SNR=85
V28A Channing 73.38 55 ⇑P P 21 35 58.3 +0.3
baz=73
U29A Oasis Ranch, S 73.39 54 ⇑P P 21 35 58.1 0.0
baz=73,SNR=14
SCIA State Center 73.42 45 *e*P P 21 35 58.8 +0.7
comp=Z,435nm,0.6s
W27A Bowe Ranch, En 73.42 56 ⇑P P 21 35 58.9 +0.5
baz=73,SNR=21
KAC Achnashellach 73.44 348 ⇑ *e*P P 21 35 58.2 +0.3
S31A Mullinville 73.49 52 ⇑P P 21 35 58.2 -0.4
baz=73,SNR=18
DRUM Mains of Drumt 73.57 346 ⇑ *e*P P 21 35 58.7 0.0
DRUM AMB AMB 21 36 00.7
comp=Z,228nm,1.6s
KIS Kishinev 73.59 324 ⇓ *i*P P 21 35 58.0 -0.9
comp=Z,700nm,2.0s
KIS *e*pP **pP** 21 36 28.0 -3.8
KIS *i* S **SKiKP** 21 45 16.0 +1.0
KIS *i* sS **SKSac** 21 45 52.0 -0.8
KIS Kishinev 73.59 324 *e*PS 21 46 12.0
KIS LRM MLR 22 10 56.0
comp=Z,900nm,20.0s
KIS Kishinev 73.59 324 ⇓ *i*P P 21 35 58.0 -0.9
KIS *i* *PP **pP** 21 36 28.0 -3.8
KIS *e* 21 38 44.0
KIS *e* 21 40 28.0
KIS *i* S **SKiKP** 21 45 16.0 +1.0
KIS *i* *SS **SKSac** 21 45 52.0 -0.8
KIS *e*PS **PnS** 21 46 12.0 +3.2
KIS pmax pmax
comp=Z,700nm,2.0s
KIS pmax pmax
comp=Z,2μm,6.0s
KIS Kishinev 73.59 324 ⇑ *i*P P 21 36 00.6 +1.7
KPL Plockton 73.64 348 ⇑ *e*P P 21 35 59.3 +0.3
KPL AMB AMB 21 36 01.3
comp=Z,388nm,1.4s
U30A WK&E Inc. Balk 73.67 53 ⇓P P 21 35 59.7 0.0
baz=74,SNR=18
V29A Stinnett 73.68 54 ⇑P P 21 36 00.1 +0.3
baz=74
BSEG Bad Segeberg 73.68 338 *e*P P 21 36 00.5 +1.2
BSEG pmax pmax
comp=Z,340nm,1.7s
BSEG Bad Segeberg 73.68 338 *e*P P 21 36 00.5 +1.2
comp=Z,340nm,1.7s
KWP Kalwaria Pacla 73.70 329 *e*P P 21 36 00.5 +0.9
KWP pmax pmax
comp=Z,876nm,1.7s
KWP Kalwaria Pacla 73.70 329 ⇑ *i*P P 21 36 00.6 +0.9
KWP Kalwaria Pacla 73.70 329 *e*P P 21 36 00.5 +0.9
comp=Z,876nm,1.7s
KWP Kalwaria Pacla 73.70 329 *e*P P 21 36 00.4 +0.9
KWP LMZ LR 22 06 44.8
X27A F and S Farms, 73.70 56 ⇑P P 21 36 00.9 +0.9
baz=74,SNR=13
223A Chaparral, Ant 73.71 60 ⇓P P 21 36 00.7 +0.6
baz=74,SNR=5.9
W28A Vega 73.75 55 ⇑P P 21 36 00.7 +0.4
baz=74,SNR=30
T31A Randall Ranch, 73.77 52 ⇑P P 21 36 00.2 -0.1
baz=74,SNR=28
124A Stringfield Ra 73.78 59 ⇑P P 21 36 01.1 +0.5
baz=74,SNR=51
Z25A Roswell 73.78 58 ⇓P P 21 36 01.1 +0.6
baz=74,SNR=32
Y26A Elida 73.82 57 ⇓P P 21 36 01.3 +0.5
baz=74,SNR=13
KSU1 Kansas State U 73.88 49 *e*P P 21 36 00.8 0.0
comp=Z,123nm,0.6s
IAS Iasi 73.93 324 ⇑P P 21 36 02.5 +1.6
IAS Iasi 73.93 324 ⇑ *i*P P 21 36 02.5 +1.6
IBND Bandar-abas 73.98 293 *e*P P 21 35 57.8 -3.7
JFWS Jewell Farm 74.03 43 *e*P P 21 36 01.5 -0.1
JFWS pmax pmax
comp=Z,36nm,0.6s
JFWS Jewell Farm 74.03 43 *e*P P 21 36 01.5 -0.1
comp=Z,36nm,0.6s
RUE Ruedersdorf 74.06 335 *e*P P 21 36 02.1 +0.6
comp=Z,631nm,1.8s
TRD Trivandrum 74.08 265 *e*P P 21 36 02.6 +0.3
TRD AMB AMB 21 36 04.8
comp=Z,339nm,1.6s
W29A Amraillo 74.16 55 ⇑P P 21 36 03.7 +1.1
baz=74,SNR=20
OJC Ojcow 74.19 331 *e*P P 21 36 02.5 +0.1
OJC pmax pmax
comp=Z,314nm,1.6s
OJC Ojcow 74.19 331 *e*P P 21 36 02.5 +0.1
comp=Z,314nm,1.6s
OJC Ojcow 74.19 331 *i* P P 21 36 02.0 -0.4
OJC *e*S S 21 45 25.6 +1.0
OJC *e*SKSac **SKSac** 21 45 57.1 -0.2
OJC L L 22 05 09.0
comp=Z,1μm,18.2s
224A Cornudas Mount 74.19 60 ⇓P P 21 36 03.5 +0.6
baz=74,SNR=44
ILIN Lien 74.21 305 *e*P P 21 36 02.9 -0.2
Z26A Caprock 74.21 58 ⇓P P 21 36 03.1 +0.2
baz=74,SNR=239
V30A Spur Ranch, Mi 74.22 54 ⇓P P 21 36 03.1 +0.2
baz=74
U31A Nine Bar Ranch 74.22 53 ⇓P P 21 36 03.1 +0.2
baz=74,SNR=18
Y27A Causey 74.22 57 ⇑P P 21 36 03.5 +0.4
baz=74,SNR=114
LEOM Leova 74.24 324 ⇑P P 21 36 04.3 +1.6
LEOM Leova 74.24 324 ⇑ *i*P P 21 36 04.3 +1.6
125A Gardner Draw, 74.27 59 ⇓P P 21 36 03.6 +0.3
baz=74,SNR=99
X28A Dimmitt 74.30 56 ⇓P P 21 36 03.5 0.0
baz=74,SNR=20
PRAR RASCA 74.31 325 ⇑ *i*P P 21 36 04.1 +1.0
MSTX Muleshoe 74.38 57 *e*P P 21 36 04.3 +0.4
MSTX Muleshoe 74.38 57 ⇓P P 21 36 04.5 +0.6
baz=74,SNR=50
IPAR Pars 74.39 297 *e*P P 21 36 04.9 +0.6
STHS Stebnicka Huta 74.39 329 *e*P P 21 36 04.6 +1.0

IKOM **Komasi** 74.45 304 *e*P P 21 36 04.6 +0.2
BUR04 **Bucovina Ar. S** 74.48 326 *e*P P 21 36 04.0 -0.2
BURAR **Bucovina Array** 74.48 326⇑*e*P P 21 36 06.1 +1.9
BURAR **Bucovina Array** 74.48 326⇑*i*P P 21 36 06.1 +1.9
ESY **Stoneypath** 74.55 346⇑*e*P P 21 36 04.6 +0.3
MNTX **Cornudas Mount** 74.55 60 *e*P P 21 36 04.5 -0.2
comp=Z,54nm,0.9s
IVIS **Veis** 74.56 304 *e*P P 21 36 05.2 +0.3
EAB **Aberfoyle** 74.56 347⇑*e*P P 21 36 04.8 +0.4
225A **Deer Hill, Car** 74.57 59 ⇓P P 21 36 05.6 +0.4
baz=74,SNR=53
Z27A **Tatum** 74.61 57 ⇓P P 21 36 05.3 +0.1
baz=74,SNR=172
X29A **Tulia** 74.63 56 ⇑P P 21 36 05.8 +0.4
baz=74,SNR=37
126A **Clayton Basin,** 74.64 58 ⇓P P 21 36 05.8 +0.4
baz=74,SNR=34
V31A **Spring Creek L** 74.67 53 ⇑P P 21 36 06.3 +0.9
baz=74
324A **Moseley Ranch,** 74.67 60 ⇓P P 21 36 06.4 +0.7
baz=74,SNR=36
ISRV **Sarvestan** 74.68 297 *e*P P 21 36 07.1 +1.1
IDHR **Dehrash** 74.69 305 *e*P P 21 36 05.1 -0.7
UZH **Uzhgorod** 74.69 328 *e*P P 21 36 04.2 -1.1
UZH *e* 21 36 24.0
UZH *e* 21 36 37.6
UZH *e* 21 38 50.8
UZH *e*S **SKiKP** 21 45 22.9 +6.2
UZH *i* 21 46 05.8
UZH *i* 21 46 29.0
NIE **Niedzica** 74.71 330 *i* P P 21 36 05.5 +0.1
NIE *e*S **S** 21 45 29.5 -0.9
NIE *e*SKSac **SKKSac** 21 46 02.0 +0.5
NIE L L 22 05 13.0
comp=Z,1μm,24.4s
W30A **Crocket Farms** 74.71 54 ⇓P P 21 36 06.4 +0.7
baz=74,SNR=13
Y28A **McKinney Farm,** 74.72 56 ⇑P P 21 36 06.2 +0.3
baz=74,SNR=8.8
MBWA **Marble Bar** 74.74 212 P P 21 36 07.4 +1.7
SNR=6.3
MBWA **Marble Bar** 74.74 212 *e*P P 21 36 06.1 +0.3
comp=Z,111nm,1.2s
EBL **Broad Law** 74.76 346 *e*P P 21 36 05.8 +0.3
KSP **Ksiaz** 74.77 333 *e*P P 21 36 05.4 -0.3
KSP *e*PcP **PcP** 21 36 20.1 +0.9
KSP *e*ScS **SKKSac** 21 46 02.6 +0.8
KSP LMZ LR 22 09 29.8
GDL2 **Guadalupe Moun** 74.77 59 *e*P P 21 36 06.8 +0.5
TESR **Tescani** 74.84 325⇑*i*P P 21 36 07.1 +0.9
IGHG **Ghaleghazi** 74.86 304 *e*P P 21 36 06.6 -0.2
PGBU **Glenifferbraes** 74.95 347⇑*e*P P 21 36 07.1 +0.5
PGBU AMB AMB 21 36 09.2
comp=Z,773nm,1.4s
226B **Tecolote Peak,** 74.98 59 ⇑P P 21 36 07.7 +0.4
baz=75,SNR=130
127A **Arkansas Junct** 75.00 58 ⇓P P 21 36 07.7 +0.2
baz=75,SNR=11
CLNB **Carlsbad** 75.00 58 *e*P P 21 36 07.6 0.0
325A **Bean Ranch, Si** 75.03 60 ⇓P P 21 36 08.5 +0.7
baz=75,SNR=52
TRPA **Tarpa** 75.03 328⇑*i*P P 21 36 08.4 +1.2
TRPA **Tarpa** 75.03 328⇓*e* P 21 36 08.0 +0.8
NRDL **Niedersach Rie** 75.04 337 *e*P P 21 36 08.1 +1.0
comp=Z,263nm,1.5s
W31A **Holland Ranch,** 75.05 54 ⇑P P 21 36 08.1 +0.5
baz=75,SNR=34
OKC **Ostrava-Krasne** 75.06 331 *e*P P 21 36 07.9 +0.5
OKC *e*S S 21 45 38.0 +3.7
OKC *e*SKS **ScS** 21 46 06.2 -1.1
OKC AMS AMS 22 17 40.0
comp=Z,1μm,17.5s
TLCR 75.06 323 ⇓P P 21 36 08.4 +0.9
TLCR 75.06 323⇓*i*P P 21 36 08.4 +0.9
BMR **Baia Mare** 75.07 327 ⇑P P 21 36 08.1 +0.6
BMR **Baia Mare** 75.07 327⇑*i*P P 21 36 08.1 +0.6
Y29A **Porterfield Fa** 75.08 56 ⇑P P 21 36 08.5 +0.6
baz=75,SNR=7.8
X30A **Coker Ranch, T** 75.09 55 ⇑P P 21 36 08.4 +0.5
baz=75,SNR=25
Z28A **Tucker Farm, M** 75.10 57 ⇑P P 21 36 08.3 +0.2
baz=75,SNR=20
UPC **Upice** 75.15 333 *e*P P 21 36 08.6 +0.7
UPC *ex* x 21 36 16.4
DPC **Dobruska-Polom** 75.19 333 *e*P P 21 36 09.3 +1.1
DPC *ex* x 21 36 13.9
DPC *e*S **S** 21 45 33.1 -2.7
DPC *e*SKS **ScS** 21 46 07.9 -0.5
DPC AMS AMS 22 13 50.0
BANOM **Banah** 75.22 292 P P 21 36 10.1 +1.4
SNR=18
ESK **Eskdalemuir** 75.22 346⇑*e*P P 21 36 08.5 +0.3
ESK AMB AMB 21 36 09.9
comp=Z,266nm,1.6s
ESK **Eskdalemuir** 75.22 346 *i* P P 21 36 09.2 +1.0
ESK **Eskdalemuir** 75.22 346 P P 21 36 08.2 0.0
comp=Z,1μm,0.5s
ESK **Eskdalemuir** 75.22 346 *e*P P 21 36 08.2 0.0
comp=Z,468nm,1.4s
PETR **Petresti** 75.26 324⇑*i*P P 21 36 11.0 +2.4
CLL **Collm** 75.32 335⇓*i*P P 21 36 09.4 +0.5
CLL *e*S S 21 45 33.0 -4.1
CLL *e* 21 46 04.0
CLL MLR MLR
comp=Z,2μm,18.5s
CLL **Collm** 75.32 335 *e*P P 21 36 09.3 +0.4
comp=Z,341nm,1.5s
CLL **Collm** 75.32 335⇓*i*P P 21 36 09.4 +0.5
comp=Z,341nm,1.5s
CLL *i* P(2) 21 36 16.4
CLL *e*S S 21 45 33.0 -4.1
comp=N,500nm,14.2s
CLL *e*S S 21 45 33.0 -4.1
comp=E,700nm,13.8s
CLL *e*S S 21 45 33.0 -4.1
comp=Z,400nm,16.1s
CLL *e*ScS **ScS** 21 46 11.0 +1.6
CLL *e*SSS 21 54 36.0
CLL *e* 21 55 48.0
CLL L L 22 15 00.0
comp=Z,2μm,18.5s
ECK **Cauldkaine Hil** 75.34 346⇑*e*P P 21 36 09.1 +0.2
VRI **Vrincioaia** 75.34 324 ⇑P P 21 36 10.7 +1.6
VRI **Vrincioaia** 75.34 324⇑*i*P P 21 36 10.7 +1.6
CFR **Carcaliu** 75.35 323 ⇑P P 21 36 10.3 +1.2
CFR **Carcaliu** 75.35 323⇑*i*P P 21 36 10.3 +1.2
PLOR **Plostina** 75.39 324 ⇑P P 21 36 10.8 +1.4
PLOR **Plostina** 75.39 324⇑*i*P P 21 36 10.8 +1.4
BRG **Berggiesshubel** 75.44 334 *i* P P 21 36 10.2 +0.6
comp=Z,197nm,1.6s
BRG *i* PCP **PcP** 21 36 23.2 +1.1
comp=Z,87nm,1.6s
BRG pP **pP** 21 36 44.0 +1.4
BRG S S 21 45 35.0 -3.4
BRG
comp=N,1μm,13.3s
BRG
comp=E,810nm,17.2s
BRG
comp=Z,1μm,16.9s
BRG **Berggiesshubel** 75.44 334 *e*P P 21 36 10.2 +0.6
comp=Z,198nm,1.6s
X31A **McDonald Ranch** 75.44 54 ⇑P P 21 36 10.3 +0.4
baz=75,SNR=39
425A **Indio Mountain** 75.44 60 ⇑P P 21 36 10.5 +0.4
baz=75,SNR=126
XAL **Allendale** 75.49 345 *e*P P 21 36 10.1 +0.3
Y30A **Stafford Cattl** 75.50 55 ⇑P P 21 36 10.2 0.0
baz=75,SNR=20
Z29A **Hungry Hill Ra** 75.50 56 ⇓P P 21 36 10.8 +0.5
baz=75,SNR=81
227A **Bennet, Jal** 75.53 58 ⇑P P 21 36 10.9 +0.4
baz=75,SNR=14
128A **Castleberry Fa** 75.54 57 ⇓P P 21 36 10.7 +0.1
baz=75,SNR=94
PVCC **Panska Ves** 75.56 334 *e*P P 21 36 11.4 +1.1
PVCC *ex* x 21 36 18.2
PVCC *e*S S 21 45 39.6 -0.2
PVCC *e*SKS **ScS** 21 46 12.4 +1.1
PVCC AMS AMS 22 12 20.0
comp=Z,2μm,17.8s
CLZ **Clausthal** 75.56 337 *e*P P 21 36 11.6 +1.3
CLZ pmax pmax
comp=Z,489nm,1.5s
CLZ **Clausthal** 75.56 337 *e*P P 21 36 11.6 +1.3
comp=Z,489nm,1.5s
326A **Caldwell Ranch** 75.64 59 ⇓P P 21 36 11.7 +0.5
baz=76,SNR=113
GRER 75.65 324⇓*i*P P 21 36 13.9 +3.1
DOPR **Dopca** 75.78 325⇓*i*P P 21 36 13.8 +2.2
Y31A **Rekieta Farm,** 75.79 55 ⇓P P 21 36 12.1 +0.3
baz=76,SNR=26
IBBN **Ibbenburen** 75.81 339 *e*P P 21 36 12.5 +0.9
comp=Z,377nm,1.3s
Z30A **Sanderson Ranc** 75.81 56 ⇑P P 21 36 12.4 +0.4
baz=76,SNR=103
TIRR **Tirgusor** 75.82 322 *e*P P 21 36 12.4 +0.6
TIRR pmax pmax
comp=Z,386nm,1.8s
TIRR **Tirgusor** 75.82 322⇑*i*P P 21 36 13.1 +1.3
TIRR **Tirgusor** 75.82 322 *e*P P 21 36 12.4 +0.6
comp=Z,386nm,1.8s
HARR **Harsova** 75.83 323 ⇓P P 21 36 13.5 +1.6
HARR **Harsova** 75.83 323⇓*i*P P 21 36 13.5 +1.6
228A **UT Block 9, Go** 75.85 58 ⇓P P 21 36 12.6 +0.2
baz=76,SNR=30
TLB **Topalu** 75.87 323 ⇓P P 21 36 12.9 +0.8
TLB **Topalu** 75.87 323⇓*i*P P 21 36 12.9 +0.8
129A **Stewart Farms,** 75.88 57 ⇑P P 21 36 12.7 +0.2
baz=76,SNR=9.8
327A **Balmorhea Ranc** 75.89 59 ⇑P P 21 36 13.2 +0.7
baz=76
KESW **Keswick, Cumbr** 75.90 346 *e*P P 21 36 12.7 +0.6
KESW AMB AMB 21 36 14.7
comp=Z,673nm,1.4s
WBK **Wadi Bani Khal** 75.91 288 P P 21 36 15.4 +2.7
SNR=44
MLR **Muntele Rosu** 75.96 324⇑*i*P P 21 36 13.9 +1.1
UOSS **Wadi Hilu** 75.98 292 P P 21 36 12.9 -0.2
comp=Z,1μm,1.6s,SNR=72
PRA **Prague** 76.01 334 P P 21 36 14.0 +1.2
WMOK **Wichita Mounta** 76.02 54 *e*P P 21 36 12.6 -0.6
WMOK pmax pmax
comp=Z,62nm,0.8s
WMOK **Wichita Mounta** 76.02 54 *e*P P 21 36 12.6 -0.6
comp=Z,62nm,0.8s
VRAC **Vranov** 76.02 332⇑*i*P P 21 36 14.5 +1.6
VRAC **Vranov** 76.02 332 LR LR 22 15 10.2
comp=Z,2μm,19.4s,baz=26,slow=40
MDB **Medias** 76.02 326 ⇑P P 21 36 14.8 +1.8
MDB **Medias** 76.02 326⇑*i*P P 21 36 14.8 +1.8
PGOR **Pogoanele** 76.03 323⇑*i*P P 21 36 15.1 +2.1
PRU **Pruhonice** 76.05 334 *e*P P 21 36 13.9 +0.9
PRU *ex* x 21 36 19.9
PRU *e*S **S** 21 45 44.8 -0.3
PRU AMS AMS 22 12 40.0
comp=Z,1μm,19.2s
426A **McDonald Obser** 76.09 60 ⇑P P 21 36 14.1 +0.3
baz=76,SNR=79
CVD **Cernavoda** 76.10 322 ⇓P P 21 36 15.0 +1.6
CVD **Cernavoda** 76.10 322⇓*i*P P 21 36 15.0 +1.6
DRGR 76.10 327 ⇑P P 21 36 14.8 +1.3
DRGR 76.10 327⇑*i*P P 21 36 14.8 +1.3
PSZ **Piszkesteto** 76.14 329 *e*P P 21 36 14.3 +0.6
PSZ pmax pmax
comp=Z,368nm,1.6s
PSZ **Piszkesteto** 76.14 329⇓*i*P P 21 36 15.1 +1.4
PSZ **Piszkesteto** 76.14 329 *e*P P 21 36 14.3 +0.6
comp=Z,368nm,1.6s
PSZ **Piszkesteto** 76.14 329⇓*e* P 21 36 14.0 +0.3
AMRR **Amara** 76.14 323 ⇑P P 21 36 15.4 +1.8
AMRR **Amara** 76.14 323⇑*i*P P 21 36 15.4 +1.8
MALT **Malatya** 76.14 312 ⇑P P 21 36 15.3 +1.4
MALT **Malatya** 76.14 312⇑*i*P P 21 36 15.3 +1.4
SMDO **Samad** 76.17 289 P P 21 36 15.6 +1.3
SNR=35
Y32A **R-V Farms, Ver** 76.21 54 ⇓P P 21 36 14.1 -0.1
baz=76,SNR=75
HPK **Haverah Park** 76.25 345⇑*e*P P 21 36 14.8 +0.8
HPK AMB AMB 21 36 16.6
comp=Z,771nm,1.5s
ASHO **Ashiyiah** 76.26 291 P P 21 36 15.1 +0.4
SNR=90
328A **Wristen Ranch,** 76.27 58 ⇑P P 21 36 14.8 +0.2
baz=76,SNR=164
HOQ **Hoqain** 76.27 290 P P 21 36 15.8 +1.0
SNR=59
MANR **Mangalia** 76.28 322⇓*i*P P 21 36 16.1 +1.7
TANN **Tannenbergstha** 76.28 335 *e*P P 21 36 15.4 +1.0
comp=Z,290nm,1.7s
SECR 76.29 324⇑*i*P P 21 36 15.8 +1.3
427A **Hayter Ranch,** 76.32 59 ⇑P P 21 36 15.3 +0.3
baz=76,SNR=74
HDIL **Hopedale** 76.32 44 *e*P P 21 36 14.3 -0.5
comp=Z,208nm,1.2s
Z31A **Sharp Cattle R** 76.33 55 ⇓P P 21 36 15.1 +0.1
baz=76,SNR=81
WTSB **Winterswijk** 76.36 339 *e*P P 21 36 15.4 +0.7
comp=Z,571nm,1.4s
VOIR 76.36 325 ⇓P P 21 36 16.7 +1.7
VOIR 76.36 325⇓*i*P P 21 36 16.7 +1.7
MSAB **Monastry St. A** 76.36 322⇓*i*P P 21 36 16.8 +1.9
TREC **Trest** 76.38 333 *e*P P 21 36 15.9 +1.0
TREC *ex* x 21 36 20.9
TREC AMS AMS 22 11 10.0
comp=Z,2μm,19.3s
229A **Bryant Ranch,** 76.41 57 ⇑P P 21 36 15.9 +0.4
baz=76,SNR=56
130A **Snyder** 76.41 56 ⇑P P 21 36 15.7 +0.3
baz=76,SNR=28
SMOL **Smolenice** 76.44 331 *e*P P 21 36 17.1 +1.8
LMK **Market Rasen** 76.49 344 *e*P P 21 36 16.2 +0.8
526A **Mary Lane Ranc** 76.50 60 ⇑P P 21 36 16.5 +0.4
baz=76,SNR=138
SULR 76.52 324⇑*i*P P 21 36 17.1 +1.4
MTUR **Matau** 76.53 325 ⇓P P 21 36 17.6 +1.7
MTUR **Matau** 76.53 325⇓*i*P P 21 36 17.6 +1.7
PSN **Preselentsi** 76.55 322 *i* P P 21 36 16.3 +0.3
ARR **Arges** 76.58 325⇑*i*P P 21 36 18.3 +2.1
UBBA **Unterbreizbach** 76.59 337 *e*P P 21 36 17.0 +1.1
comp=Z,409nm,1.7s
JMDO **Jabal Madar** 76.64 288 P P 21 36 18.2 +1.4
SNR=79
329A **Wagon Wheel Ra** 76.66 58 ⇓P P 21 36 17.1 +0.1
baz=76,SNR=150
131A **Roby** 76.68 56 ⇑P P 21 36 17.2 +0.3
baz=76,SNR=19
GMM **Mts of Mourne** 76.69 347⇑*e*P P 21 36 16.6 0.0
Z32A **Haskell** 76.71 55 ⇑P P 21 36 16.8 -0.2
baz=76,SNR=62
527A **Woodward Ranch** 76.72 60 ⇑P P 21 36 17.4 +0.1
baz=76,SNR=91
TUL1 **Tulsa** 76.72 51 *e*P P 21 36 16.6 -0.5
TUL1 **Tulsa** 76.72 51 ⇓P P 21 36 16.8 -0.3
baz=76,SNR=53
BUG **Bochum--Univer** 76.72 339 *e*P P 21 36 17.6 +0.8
comp=Z,640nm,1.5s
BAPR **Bucharest-Chil** 76.80 324⇓*i*P P 21 36 19.0 +1.7
DEV **Deva** 76.80 326 ⇑P P 21 36 19.0 +1.7
DEV **Deva** 76.80 326⇑*i*P P 21 36 19.0 +1.7
BUC **Bucharest** 76.80 324 ⇑P P 21 36 18.9 +1.6
BUD **Budapest** 76.81 330⇓*e* P 21 36 18.3 +1.0
428A **Kincaid Ranch,** 76.83 59 ⇑P P 21 36 18.5 +0.7
baz=77,SNR=94
LOT **Lotru** 76.84 326⇑*i*P P 21 36 18.5 +0.8
626A **Big Bend Ranch** 76.85 61 ⇓P P 21 36 18.3 +0.3
baz=77,SNR=138
CIOR **Ciorogarla** 76.86 324⇓*i*P P 21 36 19.2 +1.5
230A **Sterling City** 76.86 57 ⇓P P 21 36 18.1 +0.1
baz=77,SNR=58
BUC1 **Bucharest** 76.88 324⇑*i*P P 21 36 18.9 +1.1
KBI1 **Birley Grange** 76.91 344 *e*P P 21 36 18.2 +0.4
ROTZ **Rotzenmuhle** 76.93 335 *e*P P 21 36 19.4 +1.4
comp=Z,358nm,1.5s
BSY **Bisya** 76.94 289 P P 21 36 19.4 +0.9
SNR=118
ARQ **Araqi** 76.94 290 P P 21 36 19.4 +0.9
SNR=55
PKSN **Nyarlorinc** 77.03 329⇑*e* P 21 36 20.3 +1.7
KHC **Kasperske Hory** 77.10 334 *e*P P 21 36 19.6 +0.6
KHC pmax pmax
comp=Z,559nm,1.7s
KHC **Kasperske Hory** 77.10 334 *e*P P 21 36 19.7 +0.7
KHC *ex* x 21 36 25.0
KHC *e*S S 21 45 56.2 -0.5
KHC *e*SKS **SKKSac** 21 46 21.6 +1.9
KHC AMS AMS 22 13 40.0
comp=Z,2μm,18.5s
KHC **Kasperske Hory** 77.10 334 *e*P P 21 36 19.6 +0.6
comp=Z,559nm,1.7s
PKSG 77.10 330⇑*e*P P 21 36 20.6 +1.6
ABTX **Abilene, Hawle** 77.13 56 *e*P P 21 36 19.1 -0.4
ABTX **Abilene, Hawle** 77.13 56 ⇓P P 21 36 19.8 +0.3
baz=77,SNR=50
PKS7 **Kunszentmiklos** 77.14 329⇓*e* P 21 36 20.7 +1.5
HUMR **Humele** 77.14 324⇓*i*P P 21 36 19.4 +0.1
330A **Mertzon** 77.18 57 ⇑P P 21 36 19.8 0.0
baz=77,SNR=86
528A **Cox Ranch, San** 77.18 59 ⇓P P 21 36 20.7 +0.8
baz=77,SNR=52
STNC **Stoke** 77.18 345⇑*e*P P 21 36 19.8 +0.5
STNC AMB AMB 21 36 22.2
comp=Z,318nm,1.5s
WME **Myndd Eilian** 77.25 346 *e*P P 21 36 19.8 +0.1
231A **Bronte** 77.27 56 ⇑P P 21 36 20.0 -0.2
baz=77,SNR=40
PRD **Provadia** 77.27 322 *i* P P 21 36 20.6 +0.6
GRF **Grafenberg Arr** 77.28 335 *e*P P 21 36 21.3 +1.3
GRF pmax pmax
comp=Z,719nm,1.5s
GRF MLR MLR
comp=Z,1μm,19.3s
GRF **Grafenberg Arr** 77.28 335 *e*P P 21 36 21.3 +1.3
comp=Z,719nm,1.5s
GRF *e*L L 22 16 23.7
comp=Z,1μm,19.3s
GRFO **Grafenberg** 77.28 335 *e*P P 21 36 20.8 +0.8
GRFO pmax pmax
comp=Z,459nm,1.3s
GRFO **Grafenberg** 77.28 335 *e*P P 21 36 20.8 +0.8
comp=Z,458nm,1.3s
LTX **Lajitas** 77.28 60 *e*P P 21 36 20.7 +0.2
LTX *e*S S 21 46 01.0 +1.5
LTX **Lajitas** 77.28 60 *e*P P 21 36 20.7 +0.2
LTX *e*S S 21 46 01.0 +1.5
LTX *e*PKKPdf **PKKPdf** 21 55 07.6 -1.6
LTX *e*PKKPbc **PKKPbc** 21 55 25.9 +3.4
TX31 **Lajitas Ar. Si** 77.28 60 *e*P P 21 36 20.6 +0.1
TXAR **Lajitas Array** 77.28 60 P P 21 36 20.7 +0.2
comp=Z,131nm,0.7s,baz=298,slow=3.5,SNR=478
TXAR S S 21 46 01.0 +1.5
comp=Z,0.4nm,0.9s,baz=48,slow=1.9,SNR=1.5
TXAR PKKP **PKKPdf** 21 55 07.6 -1.6
comp=Z,0.2nm,0.7s,baz=217,slow=4.4,SNR=3.6
TXAR PKKPbc **PKKPbc** 21 55 25.9 +3.4
comp=Z,0.7nm,0.7s,baz=145,slow=4.6,SNR=6.4
TXAR PKP2ab 22 02 56.1
comp=Z,0.7nm,0.9s,baz=134,slow=7.2,SNR=3.4
WET **Wettzell** 77.30 334 *e*P P 21 36 21.5 +1.4
WET pmax pmax
comp=Z,457nm,1.5s
WET **Wettzell** 77.30 334 *e*P P 21 36 21.5 +1.4
comp=Z,457nm,1.5s
WPM1 **Penmaenmawr** 77.31 346⇑*e*P P 21 36 20.4 +0.3
GEC2 **GERESS Array S** 77.32 334 *e*P P 21 36 21.2 +0.9
GEC2 pmax pmax
comp=Z,258nm,1.6s
GEC2 **GERESS Array S** 77.32 334 *e*P P 21 36 21.2 +0.9
comp=Z,258nm,1.6s
GEC2 **GERESS Array S** 77.32 334 *e*P'P'df P'P'df 22 03 18.4 -11
GERES **GERESS Array B** 77.32 334 P P 21 36 20.2 -0.1
comp=Z,15nm,0.5s,baz=35,slow=4.9,SNR=122
GERES PKKPbc **PKKPbc** 21 55 21.4 -1.3
comp=Z,0.2nm,0.5s,baz=207,slow=1.5,SNR=3.6
GERES PKP2ab 22 03 18.4
comp=Z,0.4nm,0.7s,baz=10,slow=8.4,SNR=3.8
GERES LR LR 22 14 10.5
comp=Z,1μm,19.1s,baz=28,slow=38
PKST **T''s** 77.34 330⇓*e* P 21 36 21.5 +1.1
BR101 **Keskin Array S** 77.34 316 *e*P P 21 36 20.6 -0.1
BR101 ⇑*e* 22 17 54.4
BRTR **Keskin Array B** 77.35 316 P P 21 36 20.6 -0.1
comp=Z,54nm,0.9s,baz=64,slow=2.9,SNR=138
BRTR PKP2ab 22 02 53.0
comp=Z,1.4nm,1.0s,baz=183,slow=4.6,SNR=5.9
BRTR LR LR 22 17 54.4
comp=Z,951nm,18.4s,baz=181,slow=41
429A **Davenport Ranc** 77.36 58 ⇑P P 21 36 20.7 -0.1
baz=77,SNR=52
627A **Terlingua Ranc** 77.36 60 ⇓P P 21 36 21.3 +0.4
baz=77,SNR=88
WLF1 **Llynfaes** 77.37 346 *e*P P 21 36 20.2 -0.1
WLF1 AMB AMB 21 36 22.5
comp=Z,229nm,1.5s
SLM **Saint Louis** 77.39 46 *e*P P 21 36 20.0 -0.8
SLM pmax pmax
comp=Z,229nm,1.3s
SLM **Saint Louis** 77.39 46 *e*P P 21 36 20.0 -0.8
comp=Z,229nm,1.3s
YRC **Rhoscolyn** 77.43 346 *e*P P 21 36 20.6 -0.1
SOP **Sopron** 77.45 331⇓*e* P 21 36 21.9 +0.9
CONA **Conrad Observa** 77.46 332⇓*i*P P 21 36 21.7 +0.6
comp=Z,244nm,1.5s,SNR=89
YLL **Llanberis** 77.47 346⇑*e*P P 21 36 21.1 +0.2
SFIN **Scholer Farm** 77.48 42 *e*P P 21 36 21.8 +0.6
SFIN **Scholer Farm** 77.48 42 ⇑P P 21 36 21.2 0.0
baz=77,SNR=8.5
BZS **Buzias** 77.50 327 ⇑P P 21 36 22.3 +1.1
BZS **Buzias** 77.50 327⇑*i*P P 21 36 22.3 +1.1
COCO **West Island** 77.53 236 *i* P P 21 36 25.0 +3.3
COCO **West Island** 77.53 236 P P 21 36 25.4 +3.7
COCO **West Island** 77.53 236 *e*P P 21 36 20.9 -0.8
comp=Z,406nm,1.1s
529A **Stev Forest Ra** 77.54 59 ⇓P P 21 36 22.0 +0.2
baz=77,SNR=108
TNS **Taunus Mts** 77.54 337 *e*P P 21 36 22.6 +1.1
TNS pmax pmax
comp=Z,562nm,1.5s
TNS **Taunus Mts** 77.54 337 *e*P P 21 36 22.6 +1.1
comp=Z,562nm,1.5s
FOEL **Foel Wylfa** 77.55 345⇑*e*P P 21 36 22.0 +0.5
FOEL AMB AMB 21 36 24.1
comp=Z,438nm,1.5s
PKS2 **Kecel** 77.60 329⇑*e* P 21 36 22.6 +0.8
430A **Baggett Ranch,** 77.61 58 ⇑P P 21 36 22.0 -0.2
baz=77,SNR=72
ANTO **Ankara** 77.62 317 *e*P P 21 36 23.0 +0.9
ANTO pmax pmax
comp=Z,344nm,1.5s
ANTO **Ankara** 77.62 317 P P 21 36 24.4 +2.2
SNR=42
ANTO **Ankara** 77.62 317⇑*i*P P 21 36 23.7 +1.6
ANTO **Ankara** 77.62 317 *e*P P 21 36 23.0 +0.9
comp=Z,344nm,1.5s
628A **Black Gap, Mar** 77.63 60 ⇓P P 21 36 22.5 +0.2
baz=78,SNR=61
BR231 **Keskin MP Arra** 77.65 317 *e*P P 21 36 21.6 -0.8
YRE **Yr Eifl** 77.67 346 *e*P P 21 36 22.2 +0.2
HGN **Heimansgroeve** 77.67 339 *e*P P 21 36 22.6 +0.5
comp=Z,877nm,1.5s
331A **San Angelo** 77.68 57 ⇓P P 21 36 22.7 +0.2
baz=78,SNR=71
232A **Coleman** 77.68 56 ⇑P P 21 36 22.6 0.0
baz=78,SNR=127
BEBN **Eben Emael** 77.71 339 P P 21 36 22.6 +0.4
comp=Z,178nm,1.5s
ZIMR 77.72 324 ⇑P P 21 36 23.4 +0.9
ZIMR 77.72 324⇑*i*P P 21 36 23.4 +0.9
UMR **Umm Al-Rimmam** 77.75 300 *e*P P 21 36 23.2 +0.3
UMR AMb AMB 21 36 25.3
comp=Z,532nm,0.8s
MIB **Mutribah** 77.78 301 *e*P P 21 36 22.9 -0.1
MIB AMb AMB 21 36 25.6
comp=Z,287nm,1.5s
MEM **Membach** 77.80 339 P P 21 36 23.6 +0.9
comp=Z,270nm,1.5s
MEM **Membach** 77.80 339 *e*P P 21 36 23.7 +0.9
MEM **Membach** 77.80 339 *e*P P 21 36 23.7 +0.9
SZH **Strazhica** 77.82 323 *i* P P 21 36 22.6 -0.5
PKS9 **Tamasi** 77.84 330⇓*e* P 21 36 24.7 +1.6
ARMA **Armidale** 77.90 181 *e*P P 21 36 24.8 +1.3
comp=Z,95nm,1.0s
332A **Millersview** 78.01 56 ⇓P P 21 36 24.5 +0.2
baz=78,SNR=90
UCC **Uccle** 78.01 340 P P 21 36 25.6 +1.6
comp=Z,112nm,1.6s
530A **J-C Ranch, Com** 78.03 58 ⇑P P 21 36 25.0 +0.5
baz=78,SNR=82
MOA **Molln** 78.03 333⇓*i*P P 21 36 24.3 +0.1
comp=Z,73nm,1.1s,SNR=37
KBD **Kabd** 78.04 300 *e*P P 21 36 24.7 +0.2
KBD AMb AMB 21 36 27.1
comp=Z,237nm,0.8s
431A **Sonora** 78.05 57 ⇑P P 21 36 24.4 -0.2
baz=78,SNR=93

PVL Pavlikeni 78.10 323 *i* P P 21 36 25.2 +0.6
BCLA Clavier 78.14 339 P P 21 36 25.3 +0.6
comp=Z,269nm,1.3s
ARSA Arzberg 78.17 332⇓ *i*P P 21 36 25.7 +0.7
comp=Z,163nm,1.3s,SNR=101
SSW Stow on the Wo 78.20 344⇑ *e*P P 21 36 25.5 +0.5
RST Umm Al-Ruwaisa 78.20 301 *e*P P 21 36 25.4 0.0
RST AMb AMB 21 36 34.4
comp=Z,4µm,0.8s
JMB Yambol 78.22 322 P P 21 36 25.5 +0.2
JMB Yambol 78.22 322 *e*P P 21 36 25.5 +0.2
JMB Yambol 78.22 322 *i* P P 21 36 26.0 +0.7
JMB Yambol 78.22 322 *e*P P 21 36 25.5 +0.2
QRN Al-Qurain 78.23 300 *e*P P 21 36 25.9 +0.4
QRN AMb AMB 21 36 31.8
comp=Z,598nm,1.3s
SKP1 Kophill 78.23 343⇑ *e*P P 21 36 24.9 -0.2
NAY Al-Naaiem 78.25 301 *e*P P 21 36 25.7 0.0
NAY AMb AMB 21 36 29.7
comp=Z,364nm,1.5s
ISK Istanbul-Kandi 78.33 320 P P 21 36 25.8 -0.1
ISK Istanbul-Kandi 78.33 320 *e*P P 21 36 25.8 -0.1
ISK Istanbul-Kandi 78.33 320 *e*P P 21 36 25.8 -0.1
OLIL Olney 78.33 44 *e*P P 21 36 25.4 -0.6
comp=Z,72nm,0.7s
432A Menard 78.36 57 ⇓P P 21 36 26.5 +0.2
baz=78,SNR=48
MCH1 Michaelchurch 78.37 345⇑ *e*P P 21 36 26.3 +0.4
MCH1 AMB AMB 21 36 28.5
comp=Z,428nm,1.4s
ELSH Elham, Standar 78.39 342⇑ *e*P P 21 36 26.8 +0.7
ELSH AMB AMB 21 36 28.8
comp=Z,782nm,1.3s
LPW Lampeter 78.44 346⇑ *e*P P 21 36 26.4 +0.1
LPW AMB AMB 21 36 28.6
comp=Z,2µm,1.5s
BEHE Becsehely 78.45 331⇓ *e* P 21 36 27.4 +0.9
531A Rocksprings 78.47 58 ⇓P P 21 36 27.0 0.0
baz=78,SNR=109
GIVF Givet 78.55 339⇓ *i*P P 21 36 26.9 -0.1
comp=Z,1µm,1.4s
GIVF Givet 78.55 339 *e*P P 21 36 26.9 -0.1
GIVF Givet 78.55 339 *e*P P 21 36 26.9 -0.1
RJOB Jochberg 78.58 334 *e*P P 21 36 28.2 +0.9
comp=Z,194nm,1.3s
SIUC Southern Illin 78.61 45 *e*P P 21 36 26.9 -0.6
comp=Z,225nm,1.3s
DOU Dourbes 78.61 340 P P 21 36 27.9 +0.6
comp=Z,178nm,1.6s
MPEP Malo Peshtene 78.61 325 *i* P P 21 36 27.5 0.0
OLDB Oldbury-Upon-S 78.62 344 *e*P P 21 36 27.4 +0.2
OLDB AMB AMB 21 36 29.7
comp=Z,360nm,1.5s
SWN1 Swindon 78.62 344⇑ *e*P P 21 36 28.2 +0.9
SWN1 AMB AMB 21 36 30.2
comp=Z,1µm,1.5s
WLF Walferdange 78.64 338 P P 21 36 28.4 +1.0
comp=Z,208nm,2.3s
WLF Walferdange 78.64 338 *e*P P 21 36 28.3 +0.8
WLF pmax pmax
comp=Z,510nm,1.8s
WLF Walferdange 78.64 338 *e*P P 21 36 28.7 +1.2
comp=Z,1µm,2.4s
WLF Walferdange 78.64 338 *e*P P 21 36 28.3 +0.8
comp=Z,510nm,1.8s
FUR Furstenfeldbru 78.64 335 *e*P P 21 36 28.7 +1.2
FUR pmax pmax
comp=Z,714nm,1.5s
FUR Furstenfeldbru 78.64 335 *e*P P 21 36 28.7 +1.2
comp=Z,714nm,1.5s
JCT Junction City 78.66 57 *e*P P 21 36 27.7 -0.3
JCT pmax pmax
comp=Z,139nm,0.8s
JCT Junction City 78.66 57 *e*P P 21 36 27.6 -0.3
comp=Z,139nm,0.8s
JCT Junction City 78.66 57 ⇑P P 21 36 28.0 0.0
baz=78,SNR=76
STU Stuttgart 78.67 336 *e*P P 21 36 27.6 -0.1
STU pmax pmax
comp=Z,441nm,1.4s
STU Stuttgart 78.67 336 *e*P P 21 36 28.7 +1.0
comp=Z,513nm,1.5s
STU Stuttgart 78.67 336 *e*P P 21 36 27.6 -0.1
comp=Z,441nm,1.4s
WOL Wolverton 78.70 344 *e*P P 21 36 28.1 +0.4
WOL AMB AMB 21 36 29.9
comp=Z,667nm,2.1s
BLO Bloomington 78.71 43 *e*P P 21 36 27.3 -0.8
BLO pmax pmax
comp=Z,59nm,0.6s
BLO Bloomington 78.71 43 *e*P P 21 36 27.2 -0.8
comp=Z,59nm,0.6s
MENF Mencas 78.73 341 *e*P P 21 36 27.5 -0.4
BAIF Baives 78.74 340⇓ *i*P P 21 36 28.0 0.0
comp=Z,864nm,1.3s
BAIF Baives 78.74 340 *e*P P 21 36 28.0 0.0
BAIF Baives 78.74 340 *e*P P 21 36 28.0 0.0
PBMO Poplar Bluff 78.76 47 *e*P P 21 36 27.7 -0.6
comp=Z,99nm,0.8s
BATH Bath 78.78 344 *e*P P 21 36 28.6 +0.4
BATH AMB AMB 21 36 30.5
comp=Z,408nm,1.5s
WHTX Lake Whitney 78.82 54 *e*P P 21 36 28.8 +0.1
WHTX Lake Whitney 78.82 54 ⇑P P 21 36 28.9 +0.1
baz=79,SNR=51
HMNX Herstmonceux 78.82 342⇑ *e*P P 21 36 29.5 +1.2
HMNX AMB AMB 21 36 31.7
comp=Z,1µm,1.4s
SOKA Soboth 78.83 332 *i* P P 21 36 28.8 +0.1
comp=Z,398nm,1.3s,SNR=252
PERS Pernice 78.84 332 *i* P P 21 36 28.7 0.0
PERS *e*S S 21 46 15.8 +0.2
LANF Langenberg 78.85 337 *e*P P 21 36 29.7 +1.0
532A Rocksprings 78.86 57 ⇓P P 21 36 29.0 -0.1
baz=79,SNR=110
MIAR Mount Ida 78.92 50 *e*P P 21 36 29.1 -0.2
MIAR pmax pmax
comp=Z,96nm,0.6s
MIAR Mount Ida 78.92 50 *e*P P 21 36 29.1 -0.2
comp=Z,96nm,0.6s
PTN Potsdam (NY) 78.95 32 *e*P P 21 36 29.2 0.0
PTN pmax pmax
comp=Z,625nm,2.5s
PTN Potsdam (NY) 78.95 32 *e*P P 21 36 29.2 0.0
comp=Z,624nm,2.5s
DIM Dimitrovgrad 79.00 323 *i* P P 21 36 30.6 +1.1
KBA Koelnbreinsper 79.00 333⇓ *i*P P 21 36 30.1 +0.4
comp=Z,740nm,1.4s,SNR=64
631A Perdido Creek 79.02 58 ⇑P P 21 36 30.0 +0.1
baz=79,SNR=178
LONY Lake Ozonia 79.05 32 *e*P P 21 36 29.7 -0.1
comp=Z,30nm,1.2s
ERPA Erie 79.11 37 *e*P P 21 36 30.3 +0.1
comp=Z,79nm,1.1s
PGB Panagyurishte 79.13 324 *i* P P 21 36 30.6 +0.3
OBKA Obir 79.14 332⇓ *i*P P 21 36 30.4 0.0
comp=Z,187nm,1.6s,SNR=61
USIN University of 79.15 44 *e*P P 21 36 31.6 +1.2
comp=Z,129nm,0.8s
PARMO Parma 79.19 46 *e*P P 21 36 31.0 +0.4
FRNY Flat Rock 79.22 31 *e*P P 21 36 30.5 -0.2
comp=Z,79nm,1.6s
PLD Plovdiv 79.29 323 P P 21 36 31.4 +0.3
PLD Plovdiv 79.29 323 *e*P P 21 36 31.4 +0.3
PLD Plovdiv 79.29 323 *e*P P 21 36 31.4 +0.3
WATA Walderalm 79.30 334 *i* P P 21 36 32.2 +0.9
comp=Z,190nm,0.9s,SNR=41
BFO Black Forest 79.31 337 *e*P P 21 36 31.8 +0.6
BFO pmax pmax
comp=Z,481nm,1.4s
BFO Black Forest 79.31 337 *e*P P 21 36 32.0 +0.8
comp=Z,397nm,1.3s
BFO Black Forest 79.31 337 P P 21 36 31.9 +0.8
comp=Z,1µm,1.4s,SNR=56
BFO Black Forest 79.31 337 *e*P P 21 36 31.8 +0.6
comp=Z,481nm,1.4s
MYKA Terra Mystica 79.31 333⇓ *i*P P 21 36 31.0 -0.3
comp=Z,129nm,0.9s,SNR=70
KDZ Kurdzhali 79.38 323 *i* P P 21 36 32.3 +0.6
DIVS Divibare 79.39 327 P P 21 36 32.0 +0.2
632A Uvalde 79.40 58 ⇑P P 21 36 32.1 +0.1
baz=79,SNR=28
RETA Reutte 79.40 335⇓ *i*P P 21 36 32.2 +0.4
comp=Z,314nm,1.4s,SNR=113
PVMO Portageville 79.41 47 *e*P P 21 36 30.9 -0.9
comp=Z,283nm,0.4s
MMNY Mt. Morris Dam 79.42 35 *e*P P 21 36 31.8 -0.1
comp=Z,121nm,1.1s
ACSO Alum Creek Sta 79.42 40 *e*P P 21 36 32.1 +0.2
comp=Z,79nm,1.0s
PQI Presque Isle 79.43 27 *e*P P 21 36 32.5 +0.7
ALLY Alegheny Colle 79.44 37 *e*P P 21 36 32.1 +0.1
comp=Z,67nm,0.9s
SISC Sisak 79.46 330 P P 21 36 31.8 -0.1
VTS Vitosha 79.47 324 P P 21 36 31.7 -0.6
VTS Vitosha 79.47 324 *e*P P 21 36 31.7 -0.6
VTS Vitosha 79.47 324⇑ *i*P P 21 36 33.0 +0.7
VTS Vitosha 79.47 324 *i* P P 21 36 32.3 0.0
VTS Vitosha 79.47 324 *e*P P 21 36 31.7 -0.6
CDF Champ du Feu 79.51 337⇓ *i*P P 21 36 32.4 0.0
comp=Z,1µm,1.3s
CDF Champ du Feu 79.51 337 *e*P P 21 36 32.4 0.0
CDF Champ du Feu 79.51 337 *e*P P 21 36 32.4 0.0
VAL Valentia 79.52 349⇓ *i*P P 21 36 33.3 +1.1
ABTA Abfaltersbach 79.55 333⇓ *i*P P 21 36 32.4 -0.2
comp=Z,179nm,1.3s,SNR=92
LJU Ljubljana 79.56 332 *i* P P 21 36 32.0 -0.5
LJU *e*S S 21 46 32.6 +10
WCI Wyandotte Cave 79.58 43 *e*P P 21 36 32.5 -0.3
WCI pmax pmax
comp=Z,97nm,0.8s
WCI Wyandotte Cave 79.58 43 *e*P P 21 36 32.5 -0.3
comp=Z,97nm,0.8s
HTL Hartland 79.59 345 *e*P P 21 36 33.3 +0.7
HTL AMB AMB 21 36 35.4
comp=Z,361nm,1.4s
GNAR Gosnell 79.61 47 *e*P P 21 36 33.3 +0.4
HBAR Harrisburg 79.62 48 *e*P P 21 36 32.6 -0.4
RZN Rozhen 79.63 323 *i* P P 21 36 33.6 +0.4
ECH Echery 79.72 337 *e*P P 21 36 33.8 +0.4
GLAT Glass 79.73 46 *e*P P 21 36 34.0 +0.4
NCB Newcomb 79.74 32 *e*P P 21 36 33.3 -0.3
comp=Z,49nm,1.3s
ALN Alexandroupoli 79.75 322 P P 21 36 32.7 -0.9
ALN Alexandroupoli 79.75 322 *e*P P 21 36 32.7 -0.9
ALN Alexandroupoli 79.75 322 *e*P P 21 36 32.7 -0.9
VOY Vojsko 79.77 332 *e*P P 21 36 32.8 -1.0
VOY *e* 21 36 33.8
VOY *e* 21 37 00.3
VOY *e* 21 37 21.7
VOY *e* 21 37 45.2
PAGF Fort de Pagny 79.77 338⇓ *i*P P 21 36 34.2 +0.5
comp=Z,826nm,1.4s
BOJS Bojanci 79.80 331 *i* P P 21 36 33.7 -0.2
BOJS *e*S S 21 46 21.1 -4.4
FELD Feldberg im Sc 79.81 337 *e*P P 21 36 34.3 +0.2
FETA Feichten 79.83 335⇑ *i*P P 21 36 34.6 +0.4
comp=Z,283nm,1.2s,SNR=93
DAVA Damuels 79.84 335 *i* P P 21 36 34.7 +0.5
comp=Z,230nm,1.0s,SNR=82
JAVS Javornik 79.84 332 *i* P P 21 36 33.1 -1.1
JAVS *e*S S 21 46 33.8 +7.7
DRLN Deer Lake 79.85 19 *e*P P 21 36 34.8 +0.8
comp=Z,334nm,1.3s
732A Laxson Ranch, 79.88 58 ⇑P P 21 36 35.0 +0.4
baz=80,SNR=82
STKA Stephens Creek 79.95 189 *e*P P 21 36 35.0 +0.4
comp=Z,11nm,1.0s
STKA Stephens Creek 79.95 189 P P 21 36 35.2 +0.6
comp=Z,35nm,0.8s,baz=360,slow=6.5,SNR=76
HALT Halls 79.99 47 *e*P P 21 36 35.5 +0.5
MEZF Maizieres J'vi 79.99 339⇓ *i*P P 21 36 35.2 +0.4
comp=Z,2µm,1.4s
MEZF Maizieres J'vi 79.99 339 *e*P P 21 36 35.2 +0.4
THEF They Montfort 80.01 338 *e*P P 21 36 35.6 +0.6
DYA Yadsworthy 80.04 345 *e*P P 21 36 35.4 +0.4
DYA AMB AMB 21 36 37.5
comp=Z,738nm,1.4s
DYA Yadsworthy 80.04 345 *e*P P 21 36 35.2 +0.1
comp=Z,1µm,1.3s
MOF Molkenrain 80.06 337 *e*P P 21 36 35.3 -0.1
MMB Musomiste 80.11 324 *i* P P 21 36 36.1 +0.5
HAU Haudompre 80.13 338⇓ *i*P P 21 36 35.5 -0.1
comp=Z,812nm,1.3s
HAU *e*R
comp=Z,1µm,21.2s
HAU Haudompre 80.13 338 *e*P P 21 36 35.5 -0.1
HAU Haudompre 80.13 338 *e*P P 21 36 35.5 -0.1
KKB Krupnik 80.13 324 *i* P P 21 36 36.4 +0.7
HINF Hinteralfeld 80.17 337⇓ *i*P P 21 36 35.5 -0.4
comp=Z,763nm,1.5s
HINF Hinteralfeld 80.17 337 *e*P P 21 36 35.5 -0.4
HINF Hinteralfeld 80.17 337 *e*P P 21 36 35.5 -0.4
NVR Nevrokopi 80.26 323 P P 21 36 35.8 -0.6
NVR Nevrokopi 80.26 323 *e*P P 21 36 35.8 -0.6
SFTF Sexfontaines 80.27 339⇓ *i*P P 21 36 36.5 +0.2
SFTF Sexfontaines 80.27 339 *e*P P 21 36 36.5 +0.2
PLE Pljevlja 80.28 327⇓ *i*P P 21 36 35.8 -0.8
PKME Peaks-Kenny Pk 80.28 29 *e*P P 21 36 36.6 +0.1
comp=Z,344nm,2.1s
KAVA Kavala 80.30 323 P P 21 36 36.5 -0.1
DAVOX Davos/Dischmat 80.30 335 LR LR 22 18 12.5
comp=Z,923nm,18.0s,baz=199,slow=40
LBNH Lisbon 80.31 31 *e*P P 21 36 37.8 +1.2
LBNH pmax pmax
comp=Z,208nm,2.1s
LBNH Lisbon 80.31 31 *e*P P 21 36 37.8 +1.2
comp=Z,208nm,2.1s
SMTH Samothraki Isl 80.32 322 P P 21 36 36.0 -0.7
ISP Isparta 80.32 317 P P 21 36 36.5 -0.4
ISP Isparta 80.32 317 *e*P P 21 36 37.3 +0.4
ISP Isparta 80.32 317⇑ *i*P P 21 36 37.8 +0.9
ISP Isparta 80.32 317 *e*P P 21 36 37.3 +0.4
FUORN Ofenpass-Fuorn 80.33 335 *e*P P 21 36 38.6 +1.6
comp=Z,676nm,1.4s
ACCN Adirondack Com 80.45 32 *e*P P 21 36 37.5 +0.1
comp=Z,406nm,2.4s
H06N1 SOCORRO T-PHAS 80.46 73 T T 23 04 50.9
SNR=6.1
IVA Berane 80.49 327⇓ *i*P P 21 36 37.9 +0.2
UDBI Udbina 80.50 330 P P 21 36 37.4 -0.3
HWQ Hawqa 80.54 311 *e*P P 21 36 38.1 -0.1
WVT Waverly 80.54 46 *e*P P 21 36 38.3 +0.3
WVT pmax pmax
comp=Z,49nm,0.6s
WVT Waverly 80.54 46 *e*P P 21 36 38.3 +0.3
comp=Z,49nm,0.6s
H06E1 SOCORRO T-PHAS 80.56 73 T T 23 04 49.3
SNR=5.3
UPM Unac-Piva 80.56 328 *e*P P 21 36 36.4 -1.8
SRS Serrai 80.57 323 P P 21 36 37.0 -1.1
SRS Serrai 80.57 323 *e*P P 21 36 37.0 -1.1
SRS Serrai 80.57 323 *e*P P 21 36 37.0 -1.1
KULA Kula-Manisa 80.59 319 P P 21 36 38.0 -0.3
LOMF Lomont 80.61 337 *e*P P 21 36 38.6 +0.3
BINY Binghamton 80.61 34 *e*P P 21 36 38.1 -0.2
comp=Z,605nm,2.9s
HNH Hanover 80.66 31 *e*P P 21 36 39.3 +0.8
SKO Skopje 80.68 325 P P 21 36 38.5 -0.1
SKO Skopje 80.68 325 *e*P P 21 36 38.5 -0.1
SKO Skopje 80.68 325 *e*P P 21 36 38.5 -0.1
SKO Skopje 80.68 325 *i* P P 21 36 40.1 +1.4
PVY Plav 80.71 327⇓ *i*P P 21 36 38.5 -0.4
TUE Stuetta 80.73 335 *e*P P 21 36 40.1 +1.1
comp=Z,452nm,1.3s
NVLJ Novalja 80.76 331 P P 21 36 37.9 -1.1
WVL Waterville 80.79 29 *e*P P 21 36 39.8 +0.7
VAY Valandovo 80.80 324 P P 21 36 37.9 -1.4
VAY Valandovo 80.80 324 *e*P P 21 36 37.9 -1.4
VAY Valandovo 80.80 324 *e*P P 21 36 37.9 -1.4
VAY Valandovo 80.80 324 *i* P P 21 36 39.1 -0.2
KNT Kendrikon 80.81 324 P P 21 36 39.1 -0.2
KNT Kendrikon 80.81 324 *e*P P 21 36 39.1 -0.2
KNT Kendrikon 80.81 324 *e*P P 21 36 39.1 -0.2
BCI Bajram Curri 80.86 326 *i* P P 21 36 39.8 +0.2
NKY Niksic 80.87 327⇓ *i*P P 21 36 39.3 -0.5
SOH Sokhos 80.91 323 P P 21 36 39.1 -0.8
SOH Sokhos 80.91 323 *e*P P 21 36 39.1 -0.8
SOH Sokhos 80.91 323 *e*P P 21 36 39.1 -0.8
JSA Saint Aubin 80.92 344 *e*P P 21 36 40.2 +0.5
JSA AMB AMB 21 36 42.3
comp=Z,550nm,1.5s
NKME Niksic 80.93 327⇓ *i*P P 21 36 39.3 -0.7
RAR Rarotonga 80.93 136 *e*P P 21 36 38.7 -1.3
comp=Z,2µm,3.0s
RAR Rarotonga 80.93 136 P P 21 36 38.7 -1.3
comp=Z,52nm,1.0s,baz=270,slow=6.4,SNR=3.8
RAR LR LR 22 12 13.5
comp=Z,928nm,18.4s,baz=274,slow=35
LIA Limnos Island 80.94 322 P P 21 36 38.2 -1.8
LIA Limnos Island 80.94 322 *e*P P 21 36 38.2 -1.8
BRY Bratogost 80.96 328⇓ *i*P P 21 36 39.2 -1.1
BHL Bhannes 80.99 311 *e*P P 21 36 40.5 0.0
FLN La Foliniere 80.99 342⇓ *i*P P 21 36 40.1 0.0
comp=Z,1µm,1.3s
FLN *e*R
comp=Z,1µm,18.8s
FLN La Foliniere 80.99 342 *e*P P 21 36 40.1 0.0
FLN La Foliniere 80.99 342 *e*P P 21 36 40.1 0.0
PRK Paraskevi 81.03 321 P P 21 36 40.1 -0.4
PRK Paraskevi 81.03 321 *e*P P 21 36 40.1 -0.4
PRK Paraskevi 81.03 321 *e*P P 21 36 40.1 -0.4
OUR Ouranopolis 81.07 323 P P 21 36 40.2 -0.5
OUR Ouranopolis 81.07 323 *e*P P 21 36 40.2 -0.5
OUR Ouranopolis 81.07 323 *e*P P 21 36 40.2 -0.5
LDF La Druitiere 81.07 342⇓ *i*P P 21 36 40.5 -0.1
comp=Z,825nm,1.3s
LDF La Druitiere 81.07 342 *e*P P 21 36 40.5 -0.1
LDF La Druitiere 81.07 342 *e*P P 21 36 40.5 -0.1
TTG Podgorica 81.11 327⇓ *i*P P 21 36 40.2 -0.7
GRG Griva 81.18 324 P P 21 36 40.7 -0.6
GRG Griva 81.18 324 *e*P P 21 36 40.7 -0.6
GRG Griva 81.18 324 *e*P P 21 36 40.7 -0.6
RAO Raoul Island 81.19 154 LR LR 22 08 12.0
comp=Z,1µm,19.1s,baz=348,slow=32
HORT Hortiatis 81.20 323 P P 21 36 40.0 -1.5
HORT Hortiatis 81.20 323 *e*P P 21 36 40.0 -1.5
PUK Puka 81.21 326 *i* P P 21 36 41.6 +0.1
SSPA Standing Stone 81.21 36 *e*P P 21 36 41.9 +0.5
comp=Z,100nm,1.5s
RCY Rachaya 81.22 311 *e*P P 21 36 42.9 +1.1
THE Thessaloniki 81.23 324 P P 21 36 40.6 -0.9
THE Thessaloniki 81.23 324 *e*P P 21 36 40.6 -0.9
THE Thessaloniki 81.23 324 *e*P P 21 36 40.6 -0.9
MCWV Mont Chateau 81.23 38 *e*P P 21 36 42.0 +0.5
comp=Z,70nm,1.1s
PLG Polygyros 81.25 323 P P 21 36 41.2 -0.5
PLG Polygyros 81.25 323 *e*P P 21 36 41.2 -0.5
PLG Polygyros 81.25 323 *e*P P 21 36 41.2 -0.5
HKT Hockley 81.27 55 *e*P P 21 36 42.5 +0.6
HKT pmax pmax
comp=Z,48nm,1.2s
HKT Hockley 81.27 55 *e*P P 21 36 42.5 +0.6
comp=Z,48nm,1.2s
STON Ston 81.28 328 P P 21 36 39.9 -1.9
CSS Prodhromos 81.30 314 P P 21 36 41.8 -0.3
CSS Prodhromos 81.30 314 *e*P P 21 36 41.7 -0.3
comp=Z,266nm,1.2s
PHP Peshkopia 81.31 326 *i* P P 21 36 42.2 +0.2
PHP Peshkopia 81.31 326 P P 21 36 41.2 -0.8
PHP Peshkopia 81.31 326 *e*P P 21 36 41.2 -0.8
PHP Peshkopia 81.31 326 *e*P P 21 36 41.2 -0.8
DRME Dracevica, Mon 81.34 327⇓ *i*P P 21 36 42.1 0.0
BUM Brajici-Budva 81.35 327⇓ *i*P P 21 36 41.2 -1.1
EMMW East Machias 81.36 28 *e*P P 21 36 42.7 +0.5
HCY Herceg Novi 81.37 327⇓ *i*P P 21 36 41.4 -0.9
SENIN Lac Senin/Sane 81.39 336 *e*P P 21 36 43.2 +0.6
comp=Z,312nm,1.3s
GRR Gorron 81.42 342⇓ *i*P P 21 36 42.6 +0.2
comp=Z,2µm,1.2s
GRR Gorron 81.42 342 *e*P P 21 36 42.6 +0.2
GRR Gorron 81.42 342 *e*P P 21 36 42.6 +0.2
LOR Lormes 81.43 339⇓ *i*P P 21 36 42.6 +0.1
comp=Z,1µm,1.1s
LOR *e*R
comp=Z,1µm,22.8s
LOR Lormes 81.43 339 *e*P P 21 36 42.6 +0.1
CABF La Chapelle 81.48 337⇓ *i*P P 21 36 43.1 +0.2
comp=Z,967nm,1.3s
CABF La Chapelle 81.48 337 *e*P P 21 36 43.1 +0.2
CABF La Chapelle 81.48 337 *e*P P 21 36 43.1 +0.2
ULC Ulcinj 81.52 327⇓ *i*P P 21 36 42.2 -0.9
PAIG Paliouri 81.54 323 P P 21 36 41.3 -1.9
PAIG Paliouri 81.54 323 *e*P P 21 36 41.3 -1.9
PAIG Paliouri 81.54 323 *e*P P 21 36 41.3 -1.9
BIA Bitola 81.54 325 *e*P P 21 36 43.1 -0.2
BBOO Buckleboo 81.63 194 *e*P P 21 36 44.1 +0.6
comp=Z,362nm,1.0s
SSF Saint Saulge 81.71 339⇓ *i*P P 21 36 44.1 +0.1
comp=Z,306nm,0.9s
SSF Saint Saulge 81.71 339 *e*P P 21 36 44.1 +0.1
SSF Saint Saulge 81.71 339 *e*P P 21 36 44.1 +0.1
HYF Humbligny 81.72 340⇓ *i*P P 21 36 44.6 +0.6
HYF Humbligny 81.72 340 *e*P P 21 36 44.6 +0.6
FNA Florina 81.73 325 P P 21 36 43.5 -0.7
FNA Florina 81.73 325 *e*P P 21 36 43.5 -0.7
FNA Florina 81.73 325 *e*P P 21 36 43.5 -0.7
TIR Tirane 81.82 326 *i* P P 21 36 44.8 +0.2
TIR Tirane 81.82 326 P P 21 36 44.4 -0.2
TIR Tirane 81.82 326 *e*P P 21 36 45.4 +0.8
TIR pmax pmax
comp=Z,264nm,0.8s
TIR Tirane 81.82 326 *e*P P 21 36 45.4 +0.8
comp=Z,264nm,0.8s
CHOS Chios island 81.84 320 P P 21 36 44.7 -0.2
LIT Litokhoron 81.87 324 P P 21 36 42.9 -2.1
LIT Litokhoron 81.87 324 *e*P P 21 36 42.9 -2.1
LIT Litokhoron 81.87 324 *e*P P 21 36 42.9 -2.1
SGMF Saint Gilles 81.88 343⇓ *i*P P 21 36 45.2 +0.4
comp=Z,439nm,0.6s
SGMF Saint Gilles 81.88 343 *e*P P 21 36 45.2 +0.4
SGMF Saint Gilles 81.88 343 *e*P P 21 36 45.2 +0.4
ROSF Rostrenen 81.94 344⇓ *i*P P 21 36 45.6 +0.5
comp=Z,2µm,1.3s
ROSF Rostrenen 81.94 344 *e*P P 21 36 45.6 +0.5
ROSF Rostrenen 81.94 344 *e*P P 21 36 45.6 +0.5
PMOR Pomariorio Ree 81.95 123 *e*P P 21 36 46.6 +1.1
comp=Z,426nm,1.1s
HRV Adam Dziewonsk 81.96 31 *e*P P 21 36 44.9 -0.5
HRV pmax pmax
comp=Z,410nm,2.4s
HRV Adam Dziewonsk 81.96 31 *e*P P 21 36 44.9 -0.5
comp=Z,410nm,2.4s
KVTX Kingsville 81.97 58 *e*P P 21 36 47.2 +1.6
comp=Z,362nm,1.1s
KZN Kozani 81.98 324 P P 21 36 44.2 -1.4
KZN Kozani 81.98 324 *e*P P 21 36 44.2 -1.4
KZN Kozani 81.98 324 *e*P P 21 36 44.2 -1.4
AVF Avril sur Loir 82.00 339⇓ *i*P P 21 36 45.7 +0.2
comp=Z,460nm,0.6s
AVF Avril sur Loir 82.00 339 *e*P P 21 36 45.7 +0.2
AVF Avril sur Loir 82.00 339 *e*P P 21 36 45.7 +0.2
SMF Signal de Mont 82.02 339⇓ *i*P P 21 36 45.9 +0.3
comp=Z,2µm,1.3s
SMF Signal de Mont 82.02 339 *e*P P 21 36 45.9 +0.3
SMF Signal de Mont 82.02 339 *e*P P 21 36 45.9 +0.3
SMG Samos 82.06 319 P P 21 36 45.7 -0.3
SMG Samos 82.06 319 *e*P P 21 36 45.7 -0.3
AOS Alonnisos 82.10 322 P P 21 36 45.2 -0.9
AOS Alonnisos 82.10 322 *e*P P 21 36 45.2 -0.9
ODNJ Ogdensburg 82.10 34 *e*P P 21 36 46.3 +0.2
comp=Z,595nm,2.7s
BST Brest 82.12 344 *e*P P 21 36 46.8 +0.7
WES Weston 82.15 31 *e*P P 21 36 46.8 +0.5
WES Weston 82.15 31 *e*P P 21 36 46.8 +0.5
NEST Nestorio 82.17 325 P P 21 36 45.3 -1.3
SWET Sewanee 82.19 45 *e*P P 21 36 46.6 -0.1
comp=Z,117nm,0.6s
TZTN Tazewell 82.21 42 *e*P P 21 36 47.0 +0.3
comp=Z,40nm,0.8s
XOR Xorichti 82.21 323 P P 21 36 45.8 -1.0
XOR Xorichti 82.21 323 *e*P P 21 36 45.8 -1.0
LUPA Lehigh Univers 82.22 35 *e*P P 21 36 47.3 +0.5
comp=Z,53nm,1.6s
NEO Neokhori 82.25 323 P P 21 36 46.0 -1.0
NEO Neokhori 82.25 323 *e*P P 21 36 46.0 -1.0
SKIA Skiathos 82.27 322 P P 21 36 47.0 -0.1
VAH Vaihoa 82.30 123 *e*P P 21 36 48.2 +0.9
comp=Z,246nm,1.1s
QUIF Quistinic 82.32 344⇓ *i*P P 21 36 47.3 +0.2
comp=Z,680nm,1.2s
QUIF Quistinic 82.32 344 *e*P P 21 36 47.3 +0.2
QUIF Quistinic 82.32 344 *e*P P 21 36 47.3 +0.2
LPL La Plagne 82.33 337⇓ *i*P P 21 36 48.2 +0.7
comp=Z,463nm,1.0s
LPL La Plagne 82.33 337 *e*P P 21 36 48.2 +0.7
LPL La Plagne 82.33 337 *e*P P 21 36 48.2 +0.7
VBMS Vicksburg 82.33 50 *e*P P 21 36 48.4 +1.0
comp=Z,258nm,1.0s
BGF Bois d'Agland 82.34 339⇓ *i*P P 21 36 47.5 +0.2
comp=Z,405nm,0.6s
BGF Bois d'Agland 82.34 339 *e*P P 21 36 47.5 +0.2

BGF Bois d'Agland 82.34 339 eP P 21 36 47.5 +0.2
LPG La Plagne 82.34 336 ⇓iP P 21 36 48.4 +0.7
comp=Z,740nm,1.1s
LPG La Plagne 82.34 336 eP P 21 36 48.4 +0.7
LPG La Plagne 82.34 336 eP P 21 36 48.4 +0.7
MVL Millersville 82.36 36 eP P 21 36 47.9 +0.5
comp=Z,56nm,1.4s
PAL Palisades 82.43 34 eP P 21 36 47.4 -0.4
PAL pmax pmax
comp=Z,395nm,1.2s
PAL Palisades 82.43 34 eP P 21 36 47.4 -0.4
comp=Z,395nm,1.2s
BRYW Bryant College 82.49 32 eP P 21 36 48.2 0.0
THL Klokotos Trika 82.52 324 P P 21 36 46.3 -2.0
VLC Villacollemand 82.53 334 eP P 21 36 49.3 +0.9
comp=Z,327nm,1.2s
MRKA Markates 82.61 322 P P 21 36 48.1 -0.7
SMIA Simia 82.62 323 P P 21 36 47.6 -1.3
KAAM Kaadhehdhoo 82.63 263 P P 21 36 51.5 +2.3
comp=Z,261nm,1.3s
CPCT Cooper Cave 82.66 44 eP P 21 36 48.6 -0.6
SDMD Soldier's Deli 82.67 36 eP P 21 36 49.4 +0.2
comp=Z,52nm,1.3s
RBK Rabkut 82.68 288 P P 21 36 50.0 +0.5
SNR=64
PLDF La Plantade 82.70 339 eP P 21 36 51.0 +1.7
ARG Arkhangelos 82.73 318 P P 21 36 49.2 -0.3
ARG Arkhangelos 82.73 318 eP P 21 36 49.2 -0.3
ARG Arkhangelos 82.73 318 eP P 21 36 49.2 -0.3
TCF Toulx Ste Croi 82.74 340 ⇓iP P 21 36 49.9 +0.5
comp=Z,2µm,1.4s
TCF Toulx Ste Croi 82.74 340 eP P 21 36 49.9 +0.5
TCF Toulx Ste Croi 82.74 340 eP P 21 36 49.9 +0.5
ERET Eretria 82.74 322 P P 21 36 49.0 -0.6
AGO Saint Agoulin 82.75 339 eP P 21 36 51.4 +2.0
BNI Bardonecchia 82.77 336 eP P 21 36 50.9 +1.2
BNI pmax pmax
comp=Z,197nm,1.2s
BNI Bardonecchia 82.77 336 eP P 21 36 50.9 +1.2
comp=Z,197nm,1.2s
GDM Grand'Maison 82.78 337 eP P 21 36 50.4 +0.6
NIS1 Nisyros Isl. 82.83 319 P P 21 36 47.9 -2.1
TKL Tuckaleechee C 82.84 43 eP P 21 36 50.2 +0.2
GRN Grenoble 82.84 337 eP P 21 36 51.2 +1.2
AGG Agios Georgios 82.86 323 P P 21 36 48.5 -1.6
AGG Agios Georgios 82.86 323 eP P 21 36 48.5 -1.6
AGG Agios Georgios 82.86 323 eP P 21 36 48.5 -1.6
JAN Janina 82.90 324 P P 21 36 50.4 +0.1
JAN Janina 82.90 324 eP P 21 36 50.4 +0.1
JAN Janina 82.90 324 eP P 21 36 50.4 +0.1
LKR Lokris 82.90 323 P P 21 36 48.9 -1.4
LKR Lokris 82.90 323 eP P 21 36 48.9 -1.4
OG22 Abries 82.91 336 eP P 21 36 50.8 +0.3
AXAR Agios Charalam 82.94 323 P P 21 36 49.5 -1.0
MAKR Makrakomi, Fth 82.94 323 P P 21 36 49.6 -1.0
MFF Saint Martin d 82.97 341 ⇓iP P 21 36 51.0 +0.5
comp=Z,2µm,1.4s
MFF Saint Martin d 82.97 341 eP P 21 36 51.0 +0.5
MFF Saint Martin d 82.97 341 eP P 21 36 51.0 +0.5
SRN Sarande 83.04 325 P P 21 36 50.3 -0.7
SRN Sarande 83.04 325 eP P 21 36 50.3 -0.7
BLA Blacksburg 83.04 40 eP P 21 36 51.6 +0.5
BLA pmax pmax
comp=Z,55nm,0.9s
BLA Blacksburg 83.04 40 eP P 21 36 51.6 +0.5
comp=Z,55nm,0.9s
MBDF Montbardon 83.05 336 ⇓iP P 21 36 51.2 0.0
comp=Z,425nm,1.1s
MBDF Montbardon 83.05 336 eP P 21 36 51.2 0.0
MBDF Montbardon 83.05 336 eP P 21 36 51.2 0.0
PTL Penteli 83.05 322 P P 21 36 49.9 -1.2
PTL Penteli 83.05 322 eP P 21 36 49.9 -1.2
PYM Petit Puy Mans 83.06 339 eP P 21 36 52.9 +1.8
PPT Papeete 83.09 126 eP P 21 36 51.0 -0.5
PPT Papeete 83.09 126 P P 21 36 52.4 +0.9
comp=Z,146nm,1.0s,baz=358,slow=6.2,SNR=6.7
PPT LR LR 22 08 41.2
comp=Z,1µm,18.7s,baz=132,slow=32
ORIF Oris-en-Rattie 83.11 337 ⇓iP P 21 36 52.2 +0.8
comp=Z,431nm,0.9s
ORIF eR
comp=Z,905nm,20.5s
ORIF Oris-en-Rattie 83.11 337 eP P 21 36 52.2 +0.8
ORIF Oris-en-Rattie 83.11 337 eP P 21 36 52.2 +0.8
PPT2 Papeete2 83.11 126 eP P 21 36 52.6 +1.0
comp=Z,209nm,1.2s
PPT2 Papeete2 83.11 126 eS S 21 46 58.6 -1.7
comp=Z,824nm,22.8s
PPT2 Papeete2 83.11 126 eLR LR 22 02 54.1
comp=Z,5µm,29.0s,baz=320
SSB Saint Sauveur 83.12 338 eP P 21 36 51.7 +0.3
SSB Saint Sauveur 83.12 338 eP P 21 36 52.0 +0.6
EVR Evrytania 83.16 323 P P 21 36 52.2 +0.4
EVR Evrytania 83.16 323 eP P 21 36 52.2 +0.4
ATHU Athens Univers 83.16 322 P P 21 36 50.2 -1.4
APE Apeiranthos 83.17 320 P P 21 36 50.5 -1.3
APE Apeiranthos 83.17 320 eP P 21 36 50.5 -1.3
APE Apeiranthos 83.17 320 ⇓iP P 21 36 51.5 -0.3
APE Apeiranthos 83.17 320 eP P 21 36 50.5 -1.3
PAE Paea 83.17 126 eP P 21 36 52.6 +0.8
comp=Z,52nm,1.2s
ATH Athens Observa 83.18 322 P P 21 36 50.4 -1.3
ATH Athens Observa 83.18 322 eP P 21 36 50.4 -1.3
ATH Athens Observa 83.18 322 eP P 21 36 50.4 -1.3
VERF Verneugheol 83.18 339 eP P 21 36 52.7 +1.0
VWCC Virginia Weste 83.20 40 eP P 21 36 51.3 -0.6
IGT Igoumenitsa 83.21 325 P P 21 36 50.8 -1.1
IGT Igoumenitsa 83.21 325 eP P 21 36 50.8 -1.1
IGT Igoumenitsa 83.21 325 eP P 21 36 50.8 -1.1
TIAR Tiarei 83.21 125 eP P 21 36 53.0 +1.0
comp=Z,280nm,1.0s
KEK Kerkira 83.26 325 P P 21 36 51.3 -0.8
KEK Kerkira 83.26 325 eP P 21 36 51.3 -0.8
SURF Saint Ours 83.26 336 eP P 21 36 53.5 +1.2
DSF Desfina 83.30 323 P P 21 36 50.8 -1.6
ABTO Aybut 83.37 288 P P 21 36 53.6 +0.5
SNR=135
LRAL Lakeview Retre 83.44 47 eP P 21 36 52.2 -0.9
comp=Z,40nm,0.6s
LTK Loutraki 83.45 322 P P 21 36 50.8 -2.4
TVO Taravao 83.45 125 eP P 21 36 54.5 +1.2
comp=Z,42nm,1.1s
KALE Kalithea 83.47 323 P P 21 36 51.6 -1.7
VIVF Saint-Julien-l 83.48 338 ⇓iP P 21 36 54.0 +0.8
comp=Z,3µm,1.6s
VIVF Saint-Julien-l 83.48 338 eP P 21 36 54.0 +0.8
VIVF Saint-Julien-l 83.48 338 eP P 21 36 54.0 +0.8
CBN Corbin 83.48 37 eP P 21 36 51.8 -1.5
comp=Z,42nm,0.6s
LBL Lubilhac 83.49 339 eP P 21 36 55.6 +2.3
SAOF Saorge 83.51 335 eP P 21 36 52.4 -1.0
EFP Efpalio 83.54 323 P P 21 36 53.1 -0.5
AUTN L'Aution 83.54 335 eP P 21 36 54.4 +0.6
TOUF Mont Tournerai 83.57 336 eP P 21 36 52.4 -1.5
RAYN Ar Rayn 83.58 298 eP P 21 36 54.0 -0.1
comp=Z,553nm,1.0s
RAYN Ar Rayn 83.58 298 P P 21 36 54.6 +0.5
comp=Z,3µm,0.9s
LUCF Luceram 83.66 335 eP P 21 36 53.5 -0.7
SBF Sospel 83.66 335 ⇓iP P 21 36 53.9 -0.3
comp=Z,334nm,0.8s
SBF Sospel 83.66 335 eP P 21 36 53.9 -0.3
SBF Sospel 83.66 335 eP P 21 36 53.9 -0.3
LAKA Lakka 83.67 323 P P 21 36 52.9 -1.4
PDO Prodromos 83.68 324 P P 21 36 53.5 -0.8
UPR University Cam 83.71 323 P P 21 36 55.3 +0.9
MVIF Mont Vial 83.71 336 eP P 21 36 54.6 0.0
JSRW J. Sargeant Re 83.71 38 eP P 21 36 53.6 -0.8
KARP Karpathos 83.72 318 P P 21 36 53.3 -1.3
KARP Karpathos 83.72 318 eP P 21 36 53.3 -1.3
KLV Kalavryta, Ach 83.76 323 P P 21 36 53.4 -1.4
DID Didima 83.78 322 P P 21 36 52.6 -2.3
GUR Goura 83.78 323 P P 21 36 53.4 -1.6
REVF Revere 83.79 335 eP P 21 36 53.5 -1.4
DIDY Didyma 83.81 322 P P 21 36 52.8 -2.3
RJF Les Rejaudoux 83.83 340 ⇓iP P 21 36 55.5 +0.5
comp=Z,2µm,1.4s
RJF eR
comp=Z,2µm,20.8s
RJF Les Rejaudoux 83.83 340 eP P 21 36 55.5 +0.5
RJF Les Rejaudoux 83.83 340 eP P 21 36 55.5 +0.5
CALN Calern 83.92 336 eP P 21 36 56.1 +0.5
URVA University of 83.96 38 eP P 21 36 55.4 -0.3

DRO Drossia 84.02 323 P P 21 36 55.8 -0.3
RLS Riolos of Patr 84.03 323 P P 21 36 55.8 -0.3
RLS Riolos of Patr 84.03 323 eP P 21 36 55.8 -0.3
CAF Calviac 84.06 339 ⇓iP P 21 36 57.1 +0.9
comp=Z,1µm,1.2s
CAF Calviac 84.06 339 eP P 21 36 57.1 +0.9
CAF Calviac 84.06 339 eP P 21 36 57.1 +0.9
SMRF Simiane la Rot 84.06 337 ⇓iP P 21 36 57.2 +1.0
comp=Z,2µm,1.5s
SMRF Simiane la Rot 84.06 337 eP P 21 36 57.2 +1.0
MEH Mehetia 84.18 125 eP P 21 36 57.9 +1.0
comp=Z,83nm,1.2s
VLX Vlachokerasia 84.25 322 P P 21 36 55.9 -1.4
KFL Anninata 84.26 324 P P 21 36 56.6 -0.6
VTN Vitineika 84.26 323 P P 21 36 57.8 +0.6
VLS Valsamata 84.28 324 P P 21 36 56.4 -1.0
VLS Valsamata 84.28 324 eP P 21 36 56.4 -1.0
VLS Valsamata 84.28 324 eP P 21 36 56.4 -1.0
LFF La Frestale 84.35 340 ⇓iP P 21 36 58.3 +0.7
comp=Z,2µm,1.5s
LFF La Frestale 84.35 340 eP P 21 36 58.3 +0.7
LFF La Frestale 84.35 340 eP P 21 36 58.3 +0.7
AMT Artemida-Makis 84.38 323 P P 21 36 56.7 -1.2
LMR La Mourre 84.41 336 ⇓iP P 21 36 58.2 +0.3
comp=Z,2µm,1.4s
LMR La Mourre 84.41 336 eP P 21 36 58.2 +0.3
LMR La Mourre 84.41 336 eP P 21 36 58.2 +0.3
LASF Ste Croix 84.42 338 ⇓iP P 21 36 58.9 +0.9
comp=Z,1µm,1.4s
LASF Ste Croix 84.42 338 eP P 21 36 58.9 +0.9
CUC Castrocucco 84.49 328 eP P 21 36 57.8 -0.7
comp=Z,344nm,1.4s
ZKR Zakros 84.50 318 P P 21 36 58.0 -0.5
ZKR Zakros 84.50 318 eP P 21 36 58.0 -0.5
VLI Veliai 84.57 322 P P 21 36 56.3 -2.5
VLI Veliai 84.57 322 eP P 21 36 56.3 -2.5
ITM Ithomi 84.59 322 P P 21 36 57.7 -1.3
ITM Ithomi 84.59 322 eP P 21 36 57.7 -1.3
NPS Neapolis 84.65 319 P P 21 36 58.0 -1.3
NPS Neapolis 84.65 319 eP P 21 36 58.0 -1.3
NPS Neapolis 84.65 319 eP P 21 36 58.0 -1.3
DYR Agios Nikonas 84.78 322 P P 21 36 58.9 -1.1
LAST Lasithi 84.79 319 P P 21 36 58.7 -1.4
LAST Lasithi 84.79 319 eP P 21 36 58.7 -1.4
OUZ Omahuta 84.80 163 eP P 21 36 59.7 +0.1
comp=Z,104nm,0.9s
KYTH Kithira 84.90 321 P P 21 36 59.0 -1.5
KYTH Kithira 84.90 321 eP P 21 36 59.0 -1.5
PYL PYLOS 84.92 322 P P 21 36 59.1 -1.5
IDI Anoyia 84.95 319 P P 21 36 58.9 -1.9
IDI Anoyia 84.95 319 eP P 21 36 59.5 -1.3
comp=Z,437nm,1.3s
BRAL Brvton 85.05 48 eP P 21 37 01.0 -0.4
comp=Z,191nm,0.7s
ANKY Antikythira Is 85.14 321 P P 21 37 00.3 -1.4
VAM Vamos 85.15 320 P P 21 37 00.9 -0.8
VAM Vamos 85.15 320 eP P 21 37 00.9 -0.8
VAM Vamos 85.15 320 eP P 21 37 00.9 -0.8
SIVA Sivas 85.21 319 P P 21 37 01.6 -0.4
SIVA Sivas 85.21 319 eP P 21 37 01.6 -0.4
KARN Karanos 85.27 320 P P 21 37 01.4 -1.0
MTLF Montolieu 85.52 339 ⇓iP P 21 37 03.5 0.0
comp=Z,387nm,1.2s
MTLF Montolieu 85.52 339 eP P 21 37 03.5 0.0
MTLF Montolieu 85.52 339 eP P 21 37 03.5 0.0
GVD Gavdhos 85.67 320 P P 21 37 03.9 -0.5
GVD Gavdhos 85.67 320 eP P 21 37 03.7 -0.7
comp=Z,728nm,1.2s
CNNC Cliffs of the 85.80 39 eP P 21 37 04.8 -0.2
comp=Z,68nm,0.4s
LRDF Laroque-de-Fa 85.82 338 eP P 21 37 06.1 +1.1
CARF Carcanieres 86.13 339 eP P 21 37 06.8 +0.2
MLS Moulis 86.15 339 eP P 21 37 07.0 +0.4
EPF Esparros 86.25 340 ⇓iP P 21 37 06.0 -1.2
comp=Z,64nm,0.6s
EPF Esparros 86.25 340 eP P 21 37 06.0 -1.2
EPF Esparros 86.25 340 eP P 21 37 06.0 -1.2
LABF Labassere 86.30 340 eP P 21 37 06.6 -0.8
MELF Melles 86.31 340 eP P 21 37 07.3 -0.2
SALF Salau 86.31 339 eP P 21 37 07.8 +0.3
ORDF Ordiarp 86.37 341 eP P 21 37 07.3 -0.3
REYF Montagne du Re 86.39 340 eP P 21 37 07.8 0.0
OSSF Osses 86.40 341 eP P 21 37 07.1 -0.7
TIGA Tifton 86.40 45 eP P 21 37 08.2 +0.3
TIGA Tifton 86.40 45 ⇓P P 21 37 08.4 +0.4
baz=86,SNR=30
NWAO Narrogin (SRO) 86.41 209 eP P 21 37 07.7 0.0
comp=Z,135nm,1.0s
NWAO epP pP 21 37 38.8 -2.8
NWAO Narrogin (SRO) 86.41 209 P P 21 37 08.1 +0.4
comp=Z,108nm,0.9s,baz=37,slow=4.1,SNR=34
NWAO pP pP 21 37 38.8 -2.8
comp=Z,174nm,1.2s,baz=33,slow=4.4,SNR=5.3
VALF Valcebollere 86.45 339 eP P 21 37 09.3 +1.0
RESF Ens 86.47 340 eP P 21 37 09.0 +0.7
VIEF Viey 86.47 340 eP P 21 37 08.1 -0.1
SJPF Ste Jean 86.53 341 ⇓iP P 21 37 07.6 -0.8
comp=Z,21nm,0.5s
SJPF Ste Jean 86.53 341 eP P 21 37 07.6 -0.8
SJPF Ste Jean 86.53 341 eP P 21 37 07.6 -0.8
LARF Larrau 86.55 341 eP P 21 37 08.5 -0.1
ETSF Etsaut 86.58 341 ⇓iP P 21 37 08.4 -0.4
comp=Z,102nm,0.6s
ETSF Etsaut 86.58 341 eP P 21 37 08.4 -0.4
ETSF Etsaut 86.58 341 eP P 21 37 08.4 -0.4
TBI Tubuai 87.87 129 eP P 21 37 16.5 +1.6
comp=Z,461nm,1.1s
TBI Tubuai 87.87 129 eS S 21 47 41.5 -5.0
comp=Z,2µm,30.0s
TBI Tubuai 87.87 129 eLR LR 22 04 54.8
comp=Z,4µm,36.8s,baz=309
URZ Urewera 88.47 161 eP P 21 37 15.8 -1.5
URZ epP pP 21 37 48.6 -2.8
URZ Urewera 88.47 161 P P 21 37 15.8 -1.5
comp=Z,42nm,0.8s,baz=358,slow=3.0,SNR=12
URZ pP pP 21 37 48.6 -2.8
comp=Z,29nm,0.9s,baz=239,slow=15,SNR=3.0
URZ LR LR 22 10 22.9
comp=Z,914nm,20.1s,baz=167,slow=31
DGAR Diego Garcia 88.85 258 eP P 21 37 19.7 -0.1
DGAR Diego Garcia 88.85 258 eP P 21 37 19.7 -0.1
comp=Z,3µm,2.0s
PBRG Braganca 88.88 345 eP P 21 37 19.3 -0.4
comp=Z,144nm,1.7s
PCAB Cabril 89.20 346 eP P 21 37 20.8 -0.4
comp=Z,144nm,1.7s
BKZ Black Stump Fm 89.20 162 eP P 21 37 19.8 -1.1
comp=Z,86nm,1.1s
POLO Lamas de Olo 89.48 345 eP P 21 37 22.1 -0.5
comp=Z,82nm,1.7s
MVO Moncorvo 89.56 345 eP P 21 37 22.3 -0.6
comp=Z,157nm,1.7s
PVRL Vila Real 89.57 345 eP P 21 37 22.7 -0.2
comp=Z,214nm,1.9s
PVIS Viseu 90.14 345 eP P 21 37 25.0 -0.6
comp=Z,138nm,1.7s
CMAH Djebel Manchou 90.33 333 P P 21 37 26.6 0.0
CAEH 'Ain El Ouahch 90.37 333 P P 21 37 27.8 +1.1
ES19 SONSECA Array 90.37 342 eP P 21 37 26.2 -0.5
MTE Manteigas 90.39 345 eP P 21 37 26.4 -0.4
comp=Z,142nm,1.7s
MTE Manteigas 90.39 345 eP P 21 37 26.6 -0.2
comp=Z,225nm,1.7s
ESDC Sonseca Array 90.41 342 eP P 21 37 26.1 -0.8
ESDC ePKKPdf PKKPbc 21 54 52.4 -0.2
ESDC e 21 58 16.8
ESDC Sonseca Array 90.41 342 P P 21 37 26.1 -0.8
comp=Z,6.3nm,0.5s,baz=359,slow=3.1,SNR=82
ESDC PKKPbc PKKPbc 21 54 52.4 -0.2
comp=Z,0.4nm,0.7s,baz=218,slow=0.8,SNR=4.1
ESDC SKKPbc SKKPbc 21 58 16.8 +2.9
comp=Z,0.1nm,0.5s,baz=207,slow=3.0,SNR=4.1
ESDC LR LR 22 28 35.1
comp=Z,837nm,18.7s,baz=25,slow=42
TAU Tasmania Unive 90.48 184 eP P 21 37 27.3 +0.6
TAU Tasmania Unive 90.48 184 P P 21 37 29.0 +2.4
comp=Z,373nm,0.8s,SNR=8.3
TAU Tasmania Unive 90.48 184 eP P 21 37 27.2 +0.6
TAU ePcP PcP 21 37 27.8 +0.1
KEST Kesra 90.54 331 eP P 21 37 28.2 +0.6
KEST Kesra 90.54 331 P P 21 37 27.9 +0.3
comp=Z,40nm,0.8s,baz=290,slow=1.1,SNR=106
KEST S SKSac 21 47 46.5 -0.2
comp=Z,2.0nm,1.1s,baz=279,slow=20,SNR=5.6

KEST LR LR 22 25 50.7
comp=Z,560nm,18.8s,baz=139,slow=41
BFZ Birch Farm 90.61 162 eP P 21 37 27.1 -0.2
comp=Z,142nm,1.3s
PAB San Pablo 90.61 342 eP P 21 37 26.8 -1.1
PAB San Pablo 90.61 342 eP P 21 37 26.8 -1.1
comp=Z,1µm,1.7s
ABSA Djebel Ababsia 90.64 332 P P 21 37 27.8 -0.3
CKFL Kef-Lekhel 90.76 333 P P 21 37 28.6 -0.1
DFRA Djebel Bou Aff 90.88 334 P P 21 37 30.4 +1.2
PCAS Casmilo, Conde 90.89 346 eP P 21 37 28.6 -0.5
comp=Z,176nm,1.7s
SNZO South Karori 90.91 164 eP P 21 37 29.3 +0.6
comp=Z,150nm,1.2s
PCBR Castelo Branco 90.92 345 eP P 21 37 28.4 -0.8
comp=Z,108nm,1.7s
CASM Ain Smara 90.96 333 P P 21 37 26.6 -2.9
DAMY Dhamar 91.07 293 eP P 21 37 31.5 +0.9
CTEI Djebel Teioual 91.17 333 P P 21 37 29.1 -1.5
PTOM Tomar 91.30 345 eP P 21 37 30.8 -0.1
comp=Z,103nm,1.3s
PMRV Marv??o 91.31 345 eP P 21 37 29.8 -1.2
comp=Z,116nm,1.6s
SET Setif 91.34 334 P P 21 37 33.0 +1.7
CKHR Kef el Ahmar 91.48 334 P P 21 37 32.6 +0.6
PMTG Montargil 91.80 345 eP P 21 37 32.3 -1.0
comp=Z,88nm,1.6s
PESTR Estremoz 91.89 345 eP P 21 37 32.9 -0.8
comp=Z,84nm,1.5s
EMHD Djebel Mahouad 92.04 336 P P 21 37 35.7 +1.1
EVO Evora 92.29 345 ⇑iP P 21 37 34.6 -0.9
comp=Z,275nm,1.7s
EVO eR
comp=Z,999nm,19.8s
EVO Evora 92.29 345 eP P 21 37 34.7 -0.8
comp=Z,99nm,1.7s
EBNR Beni Rached 92.34 337 P P 21 37 36.8 +0.9
ECHA Ech Chlef 92.51 337 P P 21 37 37.2 +0.6
RPZ Rata Peaks 92.61 167 eP P 21 37 36.1 -0.5
comp=Z,401nm,2.5s
RPZ Rata Peaks 92.61 167 P P 21 37 36.6 0.0
comp=Z,26nm,0.8s,baz=234,slow=4.5,SNR=3.6
PBEJ Beja 92.75 345 eP P 21 37 37.0 -0.7
comp=Z,114nm,1.8s
EANR 'Ain N'Sour 92.77 337 P P 21 37 37.7 -0.2
PNCL Nicolau / Gran 92.79 345 eP P 21 37 37.2 -0.6
comp=Z,64nm,1.6s
TEIG Tepich 93.11 55 eP P 21 37 38.9 -0.7
comp=Z,31nm,1.2s
TEIG Tepich 93.11 55 P P 21 37 39.5 -0.1
comp=Z,10nm,0.5s,baz=321,slow=14,SNR=6.2
PCVE Castro Verde 93.17 345 eP P 21 37 39.3 -0.3
comp=Z,126nm,1.7s
ETRT Tiaret 93.25 337 P P 21 37 40.7 +0.5
PVAQ Vaqueiros 93.33 344 eP P 21 37 39.4 -1.0
comp=Z,76nm,1.6s
PTEO Sao Teotonio 93.37 345 eP P 21 37 40.5 0.0
comp=Z,182nm,1.8s
PBDV Barranco-do-Ve 93.53 345 eP P 21 37 41.4 +0.1
comp=Z,91nm,1.7s
MORF Marmelete 93.59 345 eP P 21 37 41.4 -0.2
comp=Z,152nm,1.9s
PFVI Vila Bisbo 93.79 345 eP P 21 37 42.0 -0.5
comp=Z,144nm,1.9s
DCZ Deep Cove 93.81 170 eP P 21 37 41.9 0.0
comp=Z,148nm,1.6s
ODZ Otahua Downs 93.85 167 eP P 21 37 44.0 +1.9
comp=Z,86nm,1.5s
ATD Arta Tunnel 94.36 292 LR LR 22 26 25.8
comp=Z,1µm,18.1s,baz=44,slow=39
RKT Rikitea 95.83 118 eSKSac SKSac 21 48 13.6 -1.8
comp=Z,825nm,34.8s
RKT Rikitea 95.83 118 eLR LR 22 08 26.7
comp=Z,3µm,34.8s,baz=315
APG El Apazote 96.04 60 P P 21 37 53.2 -0.1
comp=Z,4.1nm,0.8s,baz=31,slow=5.9,SNR=3.9
FURI Furi 98.98 294 eP P 21 38 08.1 +1.4
comp=Z,116nm,1.7s
KMBO Kilima Mbogo 107.60 289 ePP PP 21 43 15.1 +0.8
KMBO Kilima Mbogo 107.60 289 PP PP 21 43 15.1 +0.8
comp=Z,7.9nm,1.1s,baz=21,slow=9.8,SNR=6.6
OPO Ambohidratompo113.79 268 ePP PP 21 43 55.4 -3.5
OPO Ambohidratompo113.79 268 PP PP 21 43 55.4 -3.5
comp=Z,10nm,1.1s,baz=19,slow=11,SNR=4.8
TOA0 Torodi Ar. Sit 113.97 329 ePdif Pdif 21 39 12.9 -0.1
TOA0 ePKiKP PKiKP 21 43 03.3 -0.8
TOA0 ePKiKP PKiKP 21 43 03.8 -0.4
TOA0 ePP PP 21 43 52.4 -6.4
TOA0 ePKKPbc PKKPbc 21 53 44.7 +0.8
TOA0 ePKKPab PKKPab 21 53 52.9 -2.5
TORD Torodi Ar. Bea 113.97 329 Pdif Pdif 21 39 12.9 -0.1
comp=Z,1.6nm,1.0s,baz=10,slow=2.7,SNR=10.0
TORD PKiKP PKiKP 21 43 03.7 -0.4
comp=Z,3.8nm,0.4s,baz=14,slow=2.0,SNR=54
TORD PP PP 21 43 52.4 -6.4
comp=Z,5.9nm,1.0s,baz=8.5,slow=7.7,SNR=5.5
TORD PKKPbc PKKPbc 21 53 44.7 +0.8
comp=Z,3.1nm,0.6s,baz=194,slow=1.9,SNR=18
TORD PKKPab PKKPab 21 53 52.9 -2.5
comp=Z,14nm,1.0s,baz=192,slow=4.3,SNR=25
TORD SKKPbc SKKPbc 21 57 15.9 +3.0
comp=Z,2.3nm,1.1s,baz=234,slow=3.4,SNR=3.8
DRV Dumont d'Urvil 114.57 185 PP PP 21 44 09.0 +5.5
DRV SKKS 21 53 23.0
DRV SS SS 21 59 29.0 -17
RPN Rapa Nui 114.82 104 ePKKPbc PKKPbc 21 53 40.8 -0.2
RPN Rapa Nui 114.82 104 PKKPbc PKKPbc 21 53 40.8 -0.3
comp=Z,1.9nm,0.6s,baz=252,slow=3.4,SNR=7.4
CASY Casey 118.25 198 ePKPdf PKPdf 21 43 10.6 0.0
CASY eSKPdf SKPdf 21 46 31.6 -1.8
ATAH Atahualpa 120.82 64 PKP PKPdf 21 43 19.1 +1.3
comp=Z,5.0nm,0.5s,baz=76,slow=6.2,SNR=3.2
DBIC Dimbokro 122.19 333 ePKPdf PKPdf 21 43 19.5 -0.5
DBIC eSKPdf SKPdf 21 46 42.7 0.0
DBIC ePKKPbc PKKPbc 21 53 15.9 +1.4
DBIC Dimbokro 122.19 333 PKP PKPdf 21 43 19.5 -0.5
comp=Z,10nm,0.6s,baz=1.7,slow=2.7,SNR=27
DBIC SKP 21 46 42.7
comp=Z,11nm,1.0s,baz=142,slow=2.1,SNR=3.4
DBIC PKKPbc PKKPbc 21 53 15.9 +1.4
comp=Z,4.9nm,0.9s,baz=176,slow=6.2,SNR=4.9
TIC Toumodi 122.26 333 ePKIKP PKPdf 21 43 19.5 -0.6
comp=Z,76nm,1.1s
KIC Kosan Boka 122.45 333 ePKIKP PKPdf 21 43 19.9 -0.5
comp=Z,39nm,1.0s
LIC Lamto 122.66 333 ePKIKP PKPdf 21 43 20.1 -0.7
comp=Z,13nm,0.4s
LIC eR
comp=Z,659nm,21.8s
LIC Lamto 122.66 333 ePKIKP PKPdf 21 43 20.3 -0.5
comp=Z,47nm,0.7s
LIC Lamto 122.66 333 ePKPdf PKPdf 21 43 20.1 -0.7
LSZ Lusaka 124.10 286 ePKPdf PKPdf 21 43 24.1 +0.5
LSZ ePP PP 21 45 10.2 +0.5
LSZ Lusaka 124.10 286 PKP PKPdf 21 43 23.8 +0.2
comp=Z,13nm,0.6s,baz=27,slow=5.0,SNR=34
LSZ PP PP 21 45 10.2 +0.5
comp=Z,4.3nm,1.0s,baz=56,slow=10,SNR=4.0
VNDA Vanda 125.21 178 ePKPdf PKPdf 21 43 23.9 +0.2
VNDA eSKPdf SKPdf 21 46 44.8 -1.7
VNDA eSdif PKKPbc 21 53 05.3 +1.7
VNDA Vanda 125.21 178 PKP PKPdf 21 43 24.0 +0.2
comp=Z,13nm,0.8s,baz=317,slow=4.1,SNR=30
VNDA SKP 21 46 44.8
comp=Z,3.2nm,0.7s,baz=314,slow=4.4,SNR=4.0
VNDA PKKPbc PKKPbc 21 53 05.3 +1.7
comp=Z,1.6nm,0.5s,baz=222,slow=3.4,SNR=7.2
SBA Scott Base 125.72 176 ePKIKP PKPdf 21 43 24.6 -0.1
SBA Scott Base 125.72 176 ePKPdf PKPdf 21 43 24.6 -0.1
SAML Samuel 130.88 50 ePKPdf PKPdf 21 43 36.4 -0.1
SAML eSKPbc SKPbc 21 46 47.2 -1.1
LBTB Lobatse 132.71 279 ePKPpre PKPpre 21 43 23.2
LBTB ePKPdf PKPdf 21 43 39.1 -0.6
LBTB eSKPbc SKPbc 21 46 55.1 +0.5
LBTB Lobatse 132.71 279 PKhKP PKPpre 21 43 23.6
comp=Z,3.2nm,0.8s,baz=125,slow=1.9,SNR=4.6
LBTB PKP PKPdf 21 43 39.9 +0.1
comp=Z,15nm,0.7s,baz=86,slow=1.8,SNR=15
LBTB PP PP 21 45 50.0 -16
comp=Z,13nm,1.0s,baz=51,slow=10,SNR=3.1
LBTB SKPbc SKPbc 21 46 55.1 +0.5
comp=Z,78nm,0.9s,baz=59,slow=2.7,SNR=22
MAW Mawson 132.93 212 ePKPpre PKPpre 21 43 28.8
MAW ePKPdf PKiKP 21 43 39.3 -0.5
MAW eSKPbc SKPbc 21 46 53.5 -0.2
MAW Mawson 132.93 212 PKhKP PKPpre 21 43 28.8

comp=Z,2.2nm,0.7s,baz=326,slow=0.5,SNR=4.5
MAW PKP **PKPdf** **21 43 38.9 +0.3**
comp=Z,16nm,0.8s,baz=333,slow=4.3,SNR=20
MAW SKPbc **SKPbc** **21 46 53.7 0.0**
comp=Z,101nm,0.9s,baz=54,slow=3.3,SNR=46
TSUM Tsumeb 133.76 292 *e*PKPpre PKPpre 21 43 24.6
TSUM *e*PKPdf **PKPdf** **21 43 39.8 -2.1**
TSUM *e*PKPdf **PKPdf** **21 43 40.1 -1.8**
TSUM *e*SKPbc **SKPbc** **21 46 59.1 +0.8**
TSUM Tsumeb 133.76 292 PKhKP PKPpre 21 43 25.9
comp=Z,2.4nm,0.7s,baz=62,slow=9.5,SNR=6.8
TSUM PKP **PKPdf** **21 43 40.1 -1.8**
comp=Z,3.9nm,0.6s,baz=289,slow=1.6,SNR=10
TSUM PP PP 21 45 56.5 -16
comp=Z,8.4nm,1.2s,baz=291,slow=1.8,SNR=3.1
TSUM SKPbc **SKPbc** **21 46 59.1 +0.8**
comp=Z,42nm,0.8s,baz=54,slow=3.2,SNR=20
LPAZ La Paz 134.15 61 *e*PKPpre PKPpre 21 43 28.0
LPAZ *e*PKPdf **PKPdf** **21 43 42.1 -1.2**
LPAZ *e*PP **PP** **21 46 12.1 -3.5**
LPAZ *e*SKPbc **SKPbc** **21 47 00.2 0.0**
LPAZ La Paz 134.15 61 PKhKP PKPpre 21 43 29.4
comp=Z,1.7nm,0.9s,baz=25,slow=3.2,SNR=5.3
LPAZ PKP **PKPdf** **21 43 42.3 -1.0**
comp=Z,5.7nm,0.6s,baz=56,slow=5.1,SNR=10
LPAZ PP **PP** **21 46 12.1 -3.5**
comp=Z,3.8nm,0.8s,baz=295,slow=4.5,SNR=2.3
LPAZ SKPbc **SKPbc** **21 47 00.8 +0.6**
comp=Z,27nm,1.1s,baz=23,slow=2.8,SNR=8.4
BOSA Boshof 135.32 276 *e*PKPpre PKPpre 21 43 28.6
BOSA *e*PKPdf **PKPdf** **21 43 41.7 -2.9**
BOSA *e*PKPdf **PKiKP** **21 43 42.5 -3.6**
BOSA *e*PP PP 21 46 10.8 -12
BOSA *e*SKPbc **SKPbc** **21 47 03.7 +0.7**
BOSA Boshof 135.32 276 PKhKP PKPpre 21 43 28.6
comp=Z,2.4nm,0.5s,baz=12,slow=9.3,SNR=9.3
BOSA PKP **PKPdf** **21 43 41.7 -2.9**
comp=Z,6.6nm,0.5s,baz=360,slow=2.1,SNR=21
BOSA PP PP 21 46 10.8 -12
comp=Z,8.2nm,1.0s,baz=350,slow=8.1,SNR=2.5
BOSA SKPbc **SKPbc** **21 47 03.7 +0.7**
comp=Z,45nm,0.8s,baz=50,slow=2.3,SNR=14
RCBR Riachuelo 137.53 13 *e*PKPpre PKPpre 21 43 49.1
RCBR *e*PKPdf **PKPdf** **21 43 49.3 +0.3**
RCBR *e*SKPbc **SKPbc** **21 47 09.9 -0.2**
QSPA South Pole Qui 137.57 180 *e*PKPpre PKPpre 21 43 36.5
QSPA *e*PKPdf **PKPdf** **21 43 47.4 -0.1**
QSPA *e*SKPbc **SKPbc** **21 47 06.0 -2.4**
SIV San Ignacio 137.89 53 *e*PKPpre PKPpre 21 43 38.8
SIV *e*PKPdf **PKPdf** **21 43 48.9 -0.6**
SIV *ep*PKPdf pPKPdf 21 44 23.4 -1.8
SIV *e*PP PP 21 46 31.4 -6.7
SIV *e*SKPbc **SKPbc** **21 47 11.4 +0.4**
SIV San Ignacio 137.89 53 PKhKP PKPpre 21 43 38.8
comp=Z,2.9nm,0.5s,baz=286,slow=3.8,SNR=9.8
SIV PKP **PKPdf** **21 43 48.9 -0.6**
comp=Z,6.2nm,0.5s,baz=360,slow=1.0,SNR=11
SIV pPKP pPKPdf 21 44 23.4 -1.8
comp=Z,16nm,1.1s,baz=301,slow=1.0,SNR=3.3
SIV PP PP 21 46 31.4 -6.7
comp=Z,3.9nm,0.9s,baz=355,slow=6.8,SNR=2.1
SIV SKPbc **SKPbc** **21 47 11.4 +0.4**
comp=Z,41nm,1.1s,baz=330,slow=2.3,SNR=20
LVC Limon Verde 138.50 67 *e*PKPdf **PKPdf** **21 43 51.2 +0.4**
SUR Sutherland 140.66 275 *e*PKPpre PKPpre 21 43 48.9
SUR Sutherland 140.66 275 PKhKP PKPpre 21 43 48.9
comp=Z,22nm,1.0s,baz=81,slow=3.7,SNR=11
SYO Syowa Base 141.63 212?*e*X PKPpre 21 43 48.0
SYO Syowa Base 141.63 212 *e*SH **SKPbc** **21 47 17.0 -2.2**
LCO Las Campanas 141.84 76 *e*PKPpre PKPpre 21 43 52.5
SHEL Horse Pasture 143.53 323 *e*PKIKP **PKPdf** **21 43 58.7 -1.0**
SHEL Horse Pasture 143.53 323 *e*PKPdf **PKPdf** **21 43 58.7 -1.0**
BDFB Brasilia 143.68 35 *e*PKPpre PKPpre 21 43 57.6
BDFB *ep*PKPdf pPKPdf 21 44 31.6 -4.2
BDFB Brasilia 143.68 35 PKP PKPbc 21 43 57.6 -0.3
comp=Z,56nm,0.7s,baz=284,slow=3.3,SNR=62
BDFB pPKP pPKPdf 21 44 31.6 -4.2
comp=Z,26nm,0.8s,baz=335,slow=9.3,SNR=2.5
CLCH Cerro Calan 144.73 82 *e*P **PKPab** **21 43 57.1 -3.5**
CFAA Coronel Fontan 145.14 77 *e*PKPbc **PKPbc** **21 44 01.4 -0.5**
CFAA *ep*PKPdf **pPKPdf** **21 44 34.3 -3.5**
CFAA *e*PP **PP** **21 47 22.8 +0.2**
CFAA Coronel Fontan 145.14 77 PKPbc **PKPbc** **21 44 01.4 -0.5**
comp=Z,24nm,0.8s,baz=283,slow=2.6,SNR=175
CFAA pPKP **pPKPdf** **21 44 34.3 -3.5**
comp=Z,15nm,1.0s,baz=283,slow=2.4,SNR=4.6
CFAA SKP 21 47 22.8
comp=Z,1.2nm,1.0s,baz=314,slow=7.7,SNR=2.8
LMEL Las Melosas 145.22 82 *e*P **PKPab** **21 44 02.8 +0.2**
CPUP Villa Florida 148.24 58 *e*PKPbc **PKPbc** **21 44 10.8 -0.1**
CPUP *ep*PKPdf **pPKPbc** **21 44 45.1 -1.1**
CPUP Villa Florida 148.24 58 PKPbc **PKPbc** **21 44 09.7 -1.1**
comp=Z,25nm,0.4s,baz=306,slow=2.2,SNR=103
CPUP pPKPbc **pPKPbc** **21 44 45.1 -1.1**
comp=Z,16nm,0.6s,baz=335,slow=2.9,SNR=2.8
PLCA Paso Flores 148.66 93 *e*PKPdf **PKPdf** **21 44 08.3 +0.6**
PLCA *e*PKPbc **PKPbc** **21 44 12.3 +0.6**
PLCA *ep*PKPdf **pPKPdf** **21 44 44.5 +1.0**
PLCA Paso Flores 148.66 93 PKP **PKPdf** **21 44 08.3 +0.6**
comp=Z,36nm,0.9s,baz=228,slow=1.8,SNR=5.2
PLCA PKPbc **PKiKP** **21 44 12.5 -0.5**
comp=Z,38nm,0.9s,baz=279,slow=3.3,SNR=32
PLCA pPKPbc **pPKPdf** **21 44 44.5 +1.0**
comp=Z,32nm,1.0s,baz=298,slow=5.5,SNR=2.5
COYC Coyhaique 149.62 103 *e*P **PKPbc** **21 44 13.7 0.0**
CHRN Cochrane 149.70 106 *e*P **PKPbc** **21 44 13.3 -0.6**
TRQA Tornquist 153.09 82 *e*PKPdf **PKPdf** **21 44 12.7 -1.9**
TRQA *e*PKPbc **PKiKP** **21 44 23.9 +1.7**
TRQA *e*PKPab **PKPab** **21 44 33.3 -0.9**
TRQA *ep*PKPdf **pPKPdf** **21 44 49.9 -0.4**
TRQA *ep*PKPbc **pPKPbc** **21 44 58.8 +1.2**
SNAA Sanae 153.48 197 *e*PKPdf **PKPdf** **21 44 13.6 -0.5**
SNAA Sanae 153.48 197 *e*PKP **PKPbc** **21 44 21.3 -0.6**
SNAA Sanae 153.48 197 *e*PKPab **PKPab** **21 44 35.2 +0.3**
SNAA Sanae 153.48 197 *ep*PKP pPKPdf 21 44 54.8 +4.9
SNAA Sanae 153.48 197 *e*PP PP 21 48 10.7 +0.8
SNAA Sanae 153.48 197 *e*PKPdf **PKPdf** **21 44 13.2 -1.0**
SNAA *e*PKPbc **PKPbc** **21 44 21.6 -0.3**
VNA2 Neumayer--Watz 154.95 195 *e*PKPdf **PKPdf** **21 44 14.6 -1.5**
VNA2 Neumayer--Watz 154.95 195 *e*PKP **PKPbc** **21 44 25.5 +0.5**
VNA2 Neumayer--Watz 154.95 195 *e*PKPab **PKPab** **21 44 40.7 -0.4**
VNA2 Neumayer--Watz 154.95 195 *ep*PKP pPKPdf 21 44 57.4 +5.5
VNA2 Neumayer--Watz 154.95 195 *es*PKPdf sPKPdf 21 45 04.4 -1.1
VNA2 Neumayer--Watz 154.95 195 *es*PKP sPKPbc 21 45 12.8 -1.4
VNA1 Neumayer--Stat 155.34 195 *e*PKPdf **PKPdf** **21 44 18.0 +1.4**
VNA1 Neumayer--Stat 155.34 195 *e*PKPab **PKPab** **21 44 44.2 +1.5**
VNA1 Neumayer--Stat 155.34 195 *es*PKP sPKPbc 21 45 15.7 +0.7

JMA 10 21:27:05.5±0.1, 34°23N×135°41E, h7$^{km}_{\pm 2km}$, M0.2, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWY	**Kouya**	**0.15**	**94**	P	Pg	21 27 08.6	-0.2
JWY				S	Sg	21 27 11.1	+0.1

IDC 10 21:36:59.2±7.0, 20°45S×178°49W, h566$^{km}_{\pm 74km}$, mb2.9/6, mb1 3.3/6, mb1mx3.1/18, mbtmp2.9/6, Error ellipse: s-maj=128.9km s-min=25.6km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.08**	**257**	P	P	21 44 17.9	-0.2
	1.3nm,0.5s,baz=88,slow=8.5,SNR=12						
ASAR				PcP	PcP	21 45 50.8	-0.1
	0.5nm,0.7s,baz=122,slow=3.7,SNR=4.5						
WRA	**Warramunga Arr**	**44.15**	**262**	P	P	21 44 18.1	-0.5
	0.6nm,0.3s,baz=96,slow=7.8,SNR=23						
FITZ	**Fitzroy Crossi**	**52.58**	**262**	P	P	21 45 21.5	+0.3
	2.4nm,1.0s,baz=139,slow=9.3,SNR=3.3						
NVAR	**Mina Array Bea**	**81.31**	**44**	P	P	21 48 17.7	+0.3
	0.2nm,0.4s,baz=229,slow=11,SNR=2.5						
ILAR	**Eielson Array**	**88.37**	**13**	P	P	21 48 50.1	-0.7
	0.4nm,0.8s,baz=217,slow=6.2,SNR=4.1						
PDAR	**Pinedale Array**	**89.24**	**43**	P	P	21 48 55.8	0.0
	0.3nm,0.6s,baz=241,slow=3.0,SNR=3.8						
AKASG	**Malin Array Be**	**142.75**	**331**	PKP	PKPdf	21 55 25.5	-2.9
	1.3nm,0.5s,baz=43,slow=4.3,SNR=15						
BRTR	**Keskin Array B**	**146.46**	**312**	PKPbc	PKPbc	21 55 38.1	+0.2
	0.5nm,0.5s,baz=135,slow=5.0,SNR=4.1						

CSEM ***10*** *21:37:32.4, 45.96N×15.60E, h0^{km}, ML0.5, After LJU*
LJU 10 21:37:32.4, 45.96N×15.60E, h6^{km}, ML0.5, 4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLS	**Golise**	**0.06**	**19**	↓*i*	Pg	21 37 34.0	0.0
GOLS				*i*	Sg	21 37 35.1	-0.1
GOLS							
	comp=Z,17nm,0.1s						
GOLS	**Golise**	**0.06**	**19**	↓*i*	Pg	21 37 34.0	0.0
GOLS				*i*	Sg	21 37 35.1	0.0
	comp=Z,17nm,0.1s						
GCIS	**Gornji Cirnik**	**0.09**	**167**	*i*	Pg	21 37 34.5	0.0
GCIS				*i*	Sg	21 37 36.3	+0.4
GCIS							
	comp=Z,9.0nm,0.1s						
GCIS	**Gornji Cirnik**	**0.09**	**167**	*i*	Pg	21 37 34.5	0.0
GCIS				*i*	Sg	21 37 36.3	+0.4
	comp=Z,8.0nm,0.1s						
CESS	**Cesta pri Krsk**	**0.10**	**280**	*i*	Pg	21 37 35.0	+0.5
CESS				*i*	Sg	21 37 36.1	+0.1
CESS							
	comp=Z,18nm,0.1s						
CESS	**Cesta pri Krsk**	**0.10**	**280**	*i*	Pg	21 37 35.0	+0.4
CESS				*i*	Sg	21 37 36.1	+0.1
	comp=Z,18nm,0.1s						
CRES	**Cresnjev**	**0.16**	**217**	↓*i*	Pg	21 37 35.6	-0.1
CRES				*i*	Sg	21 37 38.2	+0.2
CRES							
	comp=Z,2.0nm,0.1s						
CRES	**Cresnjev**	**0.16**	**217**	↓*i*	Pg	21 37 35.6	-0.2
CRES				*i*	Sg	21 37 38.2	+0.2
	comp=Z,2.0nm,0.1s						

MOS ***10*** *21:44:47.5±1.1, 11.84S×166.57E, h33^{km}, mb5.5/16, Error ellipse: s-maj=13.9km s-min=11.8km az=174.8*
NEIC ***10*** *21:44:49.4±0.2, 11.67S×166.50E, h35^{km}, mb5.5/57, Error ellipse: s-maj=6.4km s-min=5.7km az=139.0*
ISCJB ***10*** *21:44:52.8±1.0, 11.74S±0.03×166.41E±0.03, h74$^{km}_{\pm 9km}$, mb5.2/91, Error ellipse: s-maj=5.6km s-min=5.0km az=170.7*
GCMT ***10*** *21:44:53.6±0.3, 11.89S×166.20E, h53$^{km}_{\pm 1km}$, MW5.4, Moment Tensor Solution. s52,c68; s84,c124; Moment tensor: Scale 10^{17}Nm; M_{rr}=1.30±.06; $M_{\theta\theta}$=0.05±.04; $M_{\phi\phi}$=-1.35±.04; $M_{r\theta}$=0.17±.03; $M_{r\phi}$=0.41±.04; $M_{\theta\phi}$=0.58±.03; Best double couple: M_0=1.50000×10^{17} NP1:ϕ_s344.00000°, δ57.00000°, λ89.00000°. NP2:ϕ_s165.00000°, δ33.00000°, λ91.00000°. Principal axes: T 1.4300, Plg78.0000°, Azm252.0000°; N 0.1600, Plg1.0000°, Azm344.0000°; P -1.5900, Plg12.0000°, Azm75.0000°; Data Used: II IU CN IC G.*
IDC ***10*** *21:44:53.1±2.0, 11.75S×166.49E, h66$^{km}_{\pm 17km}$, mb4.6/27, mb1 4.7/30, mb1mx4.7/32, mbtmp4.7/30, MS4.5/12, Ms1 4.5/12, ms1mx4.3/25 Error ellipse: s-maj=12.6km s-min=10.8km az=74.0*
AUST ***10*** *21:44:56.0±1.2, 11.80S×166.62E, h91$^{km}_{\pm 10km}$, Error ellipse: s-maj=9.2km s-min=5.3km az=60.0*
BJI ***10*** *21:45:00.7, 11.04S×166.36E, h118^{km}, mB5.5/22, mb5.1/40*
ISC 10 21:44:55.2±0.8, 11.78S±0.05×166.43E±0.05, h85$^{km}_{\pm 7km}$, n273, σ1^{s}34/287, mb5.3/92, 13C-10D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.78**	**289**	*e*Pn	**Pn**	**21 46 31.2**	**-0.9**
HNR				*e*Sn	**Sn**	**21 47 45.8**	**-2.1**
HNR	**Honiara**	**6.78**	**289**	P	**Pn**	**21 46 31.7**	**-0.4**
	189nm,0.3s,baz=150,slow=5.3,SNR=72						
HNR				S	**Sn**	**21 47 46.8**	**-1.1**
	132nm,0.3s,baz=45,slow=24,SNR=7.0						
DZM	**Mont Dzumac**	**10.24**	**180**	P	**Pn**	**21 47 19.1**	**-0.2**
	1.5nm,0.3s,baz=22,slow=20,SNR=18						
DZM				S	**Sn**	**21 49 09.1**	**-3.3**
	0.8nm,0.3s,baz=60,slow=23,SNR=1.5						
MSVF	**Nonsavu**	**12.70**	**119**	*e*P	**Pn**	**21 47 53.8**	**+1.1**
MSVF	**Nonsavu**	**12.70**	**119**	*e*Pn	**Pn**	**21 47 53.8**	**+1.1**
TARA	**Tarawa**	**14.55**	**27**	*e*Pn	**Pn**	**21 48 15.8**	**-1.2**
PMG	**Port Moresby**	**19.09**	**275**	*e*P	**Pn**	**21 49 12.5**	**-0.4**
	130nm,1.1s						
PMG	**Port Moresby**	**19.09**	**275**	P	**P**	**21 49 11.5**	**+0.3**
	1.0nm,0.3s,baz=96,slow=6.3,SNR=9.3						
PMG				LR	LR	21 56 04.0	
	comp=Z,3μm,19.0s,baz=177,slow=35						
EIDS	**Eidsvold**	**19.83**	**225**	*e*P	**Pn**	**21 49 20.9**	**-0.7**
	123nm,1.4s						
EIDS	**Eidsvold**	**19.83**	**225**	↓P	**Pn**	**21 49 21.4**	**-0.1**
	baz=20,SNR=18						
PATS	**Pohnpei**	**20.18**	**336**	↑P	**P**	**21 49 23.7**	**+0.7**
	baz=20,SNR=10						
KWAJ	**Kwajalein Atol**	**20.48**	**3**	*e*P	**P**	**21 49 27.0**	**+0.8**
KWAJ				pmax	pmax		
	comp=Z,239nm,1.1s						
KWAJ	**Kwajalein Atol**	**20.48**	**3**	*e*P	**P**	**21 49 27.0**	**+0.8**
	comp=Z,239nm,1.1s						
LHI	**Lord Howe Isla**	**20.79**	**198**	P	Pn	21 49 31.5	-1.2
	baz=21,SNR=3.3						
CTA	**Charters Tower**	**21.07**	**244**	↑P	**P**	**21 49 34.5**	**+1.8**
	baz=21						
CTA	**Charters Tower**	**21.07**	**244**	P	**P**	**21 49 34.5**	**+1.8**
	comp=Z,58nm,1.0s,baz=66,slow=12,SNR=26						
CTA				LR	LR	21 56 13.6	
	comp=Z,2μm,21.4s,baz=31,slow=32						
CTAO	**Charters Tower**	**21.07**	**244**	*e*P	**P**	**21 49 33.5**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,67nm,0.9s						
CTAO	**Charters Tower**	**21.07**	**244**	*e*P	**P**	**21 49 33.5**	**+0.9**
	comp=Z,68nm,0.9s						
MANU	**Manus Island**	**21.23**	**296**	↓P	**P**	**21 49 37.0**	**+2.6**
	baz=21						
AFI	**Afiamalu**	**21.36**	**98**	*e*P	**P**	**21 49 34.6**	**-1.2**
	comp=Z,111nm,1.2s						
AFI	**Afiamalu**	**21.36**	**98**	P	**P**	**21 49 35.5**	**-0.3**
	comp=Z,45nm,0.9s,baz=251,slow=11,SNR=6.2						
RMQ	**Roma**	**22.16**	**226**	P	**P**	**21 49 46.1**	**+1.9**
	baz=22,SNR=57						
COEN	**Coen**	**22.77**	**262**	*e*P	**P**	**21 49 50.6**	**-0.2**
	comp=Z,497nm,0.9s						
COEN	**Coen**	**22.77**	**262**	P	**P**	**21 49 51.8**	**+1.0**
	baz=23,SNR=19						
ARMA	**Armidale**	**23.08**	**214**	*e*P	**P**	**21 49 54.6**	**+0.9**
	comp=Z,246nm,0.9s						
ARMA	**Armidale**	**23.08**	**214**	P	**P**	**21 49 55.2**	**+1.4**
	baz=23,SNR=52						
KNTN	**Kanton**	**23.43**	**69**	*e*P	**P**	**21 49 57.4**	**+0.3**
	comp=Z,362nm,1.3s						
OUZ	**Omahuta**	**24.23**	**166**	*e*P	**P**	**21 50 01.8**	**-2.2**
	comp=Z,328nm,2.2s						
MGCD	**Mangrove Creek**	**25.54**	**211**	↑P	**P**	**21 50 17.1**	**+1.1**
	baz=26,SNR=4.2						
QLP	**Quilpie**	**25.55**	**232**	↑P	**P**	**21 50 17.4**	**+1.2**
	baz=26,SNR=22						
RIV	**Riverview**	**26.01**	**210**	↑P	**P**	**21 50 22.1**	**+1.8**
	baz=26						
JAY	**Jayapura**	**27.10**	**288**	↓P	**P**	**21 50 31.2**	**+0.9**
	baz=27,SNR=8.6						
CMSA	**Cobar Meteorol**	**27.44**	**221**	P	**P**	**21 50 34.1**	**+1.0**
	baz=28,SNR=62						
YNG	**Young**	**27.80**	**213**	P	**P**	**21 50 37.8**	**+1.4**
	baz=28,SNR=12						
URZ	**Urewera**	**28.05**	**162**	*e*P	**P**	**21 50 38.1**	**-0.3**
	comp=Z,249nm,2.5s						
URZ	**Urewera**	**28.05**	**162**	P	**P**	**21 50 37.5**	**-1.0**
	comp=Z,3.3nm,0.4s,baz=214,slow=3.6,SNR=4.1						
CNB	**Canberra Magne**	**28.08**	**211**	P	**P**	**21 50 40.2**	**+1.3**
	baz=28,SNR=12						
CAN	**Canberra**	**28.27**	**211**	↑P	**P**	**21 50 42.3**	**+1.7**
	baz=28						
BKZ	**Black Stump Fm**	**28.71**	**164**	*e*P	**P**	**21 50 44.0**	**-0.4**
	comp=Z,279nm,2.2s						
BFZ	**Birch Farm**	**30.07**	**165**	*e*P	**P**	**21 50 55.6**	**-0.8**
	comp=Z,847nm,2.6s						
STKA	**Stephens Creek**	**30.39**	**225**	*e*P	**P**	**21 50 59.8**	**+0.5**
	comp=Z,9.7nm,0.8s						
STKA	**Stephens Creek**	**30.39**	**225**	P	**P**	**21 51 00.5**	**+1.2**
	baz=30,SNR=47						
STKA	**Stephens Creek**	**30.39**	**225**	P	**P**	**21 51 00.5**	**+1.2**
	comp=Z,44nm,0.8s,baz=46,slow=7.9,SNR=67						
STKA				LR	LR	22 03 02.6	
	comp=Z,425nm,18.1s,baz=13,slow=36						
KHZ	**Kahutara**	**31.15**	**170**	*e*P	**P**	**21 51 06.8**	**+1.0**
	comp=Z,138nm,1.7s						
TOO	**Toolangi**	**31.81**	**213**	↑P	**P**	**21 51 13.3**	**+1.5**
	baz=32,SNR=5.8						
WRAB	**Tennant Creek**	**31.86**	**251**	*e*P	**P**	**21 51 12.5**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,182nm,1.8s						
WRAB	**Tennant Creek**	**31.86**	**251**	P	**P**	**21 51 11.1**	**-1.3**
	comp=Z,225nm,1.0s,SNR=10						
WRAB	**Tennant Creek**	**31.86**	**251**	*e*P	**P**	**21 51 12.5**	**+0.1**
	comp=Z,182nm,1.8s						
WRA	**Warramunga Arr**	**31.87**	**251**	P	**P**	**21 51 12.2**	**-0.3**
	comp=Z,21nm,0.8s,baz=83,slow=9.2,SNR=95						
WRA				PcP	**PcP**	**21 54 01.6**	**0.0**
	comp=Z,5.5nm,1.0s,baz=79,slow=2.8,SNR=6.5						
RPZ	**Rata Peaks**	**32.08**	**174**	*e*P	**P**	**21 51 14.7**	**+0.7**
	comp=Z,30nm,0.8s						
RPZ	**Rata Peaks**	**32.08**	**174**	P	**P**	**21 51 14.5**	**+0.5**
	comp=Z,23nm,0.8s,baz=100,slow=0.6,SNR=6.0						
RPZ				LR	LR	22 02 32.1	
	comp=Z,1μm,21.3s,baz=348,slow=33						
AS01	**Alice Springs**	**33.03**	**245**	*e*P	**P**	**21 51 21.4**	**-1.2**
ASAR	**Alice Springs**	**33.07**	**245**	P	**P**	**21 51 22.2**	**-0.9**
	comp=Z,14nm,0.9s,baz=69,slow=9.4,SNR=100						
ASAR				PcP	**PcP**	**21 54 04.8**	**0.0**
	comp=Z,7.3nm,0.9s,baz=81,slow=2.5,SNR=12						
ASAR				ScP	**ScP**	**21 57 45.5**	**+3.9**
	comp=Z,1.0nm,0.9s,baz=73,slow=3.1,SNR=3.6						
KDU	**Kakadu**	**33.18**	**265**	P	**P**	**21 51 24.5**	**+0.5**
	baz=33,SNR=21						
ARPS	**Mount Arapiles**	**33.30**	**217**	P	**P**	**21 51 26.3**	**+1.6**
	baz=34,SNR=11						
TLE	**Tual**	**33.83**	**277**	↓P	**P**	**21 51 31.1**	**+1.5**
	baz=34						
WHZ	**Wether Hill Ro**	**34.03**	**178**	*e*P	**P**	**21 51 30.1**	**-0.9**
	comp=Z,551nm,2.5s						
BBOO	**Buckleboo**	**34.83**	**228**	*e*P	**P**	**21 51 38.2**	**+0.1**
	comp=Z,552nm,1.1s						
BBOO	**Buckleboo**	**34.83**	**228**	P	**P**	**21 51 38.9**	**+0.8**
	baz=35,SNR=11						
TAU	**Tasmania Unive**	**35.18**	**205**	*e*P	**P**	**21 51 41.0**	**+0.1**
TAU				pmax	pmax		
	comp=Z,72nm,1.5s						
TAU	**Tasmania Unive**	**35.18**	**205**	*e*P	**P**	**21 51 41.0**	**+0.1**
	comp=Z,72nm,1.5s						
SWI	**Sorong**	**36.54**	**285**	↑P	**P**	**21 51 54.0**	**+1.1**
	baz=37						
KNRA	**Kununurra**	**36.76**	**260**	P	**P**	**21 51 55.6**	**+0.8**
	baz=37,SNR=31						
PALU	**Palau**	**37.02**	**299**	P	**P**	**21 51 58.6**	**+1.6**
	baz=37,SNR=8.9						
FITZ	**Fitzroy Crossi**	**39.84**	**256**	*e*P	**P**	**21 52 20.4**	**-0.2**
	comp=Z,60nm,0.9s						
FITZ	**Fitzroy Crossi**	**39.84**	**256**	P	**P**	**21 52 21.1**	**+0.4**
	baz=40,SNR=62						
FITZ	**Fitzroy Crossi**	**39.84**	**256**	P	**P**	**21 52 21.1**	**+0.4**
	comp=Z,48nm,0.8s,baz=88,slow=8.6,SNR=99						
FITZ				PcP	**PcP**	**21 54 25.7**	**+0.5**
	comp=Z,6.5nm,0.7s,baz=65,slow=6.4,SNR=3.2						
TNTI	**Ternate**	**40.75**	**285**	*e*P	**P**	**21 52 27.2**	**-0.9**
	comp=Z,88nm,1.2s						
SOEI	**Soe**	**41.44**	**269**	↑P	**P**	**21 52 34.6**	**+0.6**
	baz=42						
BATI	**Baumata**	**41.98**	**268**	P	**P**	**21 52 39.9**	**+1.6**
	comp=Z,63nm,0.8s,baz=156,slow=1.3,SNR=19						
MIDW	**Midway**	**42.74**	**21**	*e*P	**P**	**21 52 42.4**	**-1.7**
	comp=Z,181nm,1.4s						
MMRI	**Maumere**	**43.57**	**270**	*e*P	**P**	**21 52 50.3**	**-0.9**
	comp=Z,76nm,1.0s						
JCJ	**Chichijima**	**45.24**	**329**	LR	LR	22 10 10.2	
	comp=Z,284nm,18.7s,baz=199,slow=34						
MBWA	**Marble Bar**	**45.60**	**252**	*e*P	**P**	**21 53 07.2**	**0.0**
	comp=Z,114nm,0.9s						
KAPI	**Kappang**	**46.61**	**274**	*e*P	**P**	**21 53 14.2**	**-1.1**
KAPI	**Kappang**	**46.61**	**274**	P	**P**	**21 53 15.0**	**-0.3**
	comp=Z,16nm,0.8s,baz=164,slow=21,SNR=5.6						
MEEK	**Meekatharra**	**47.23**	**245**	P	**P**	**21 53 20.7**	**+0.7**
	baz=47,SNR=19						
KLBR	**Kellerberrin**	**48.89**	**238**	P	**P**	**21 53 33.2**	**+0.5**
	baz=49,SNR=6.7						
BLDU	**Ballidu**	**49.57**	**240**	P	**P**	**21 53 38.6**	**+0.8**
	baz=50,SNR=5.5						
NWAO	**Narrogin (SRO)**	**49.62**	**237**	*e*P	**P**	**21 53 37.7**	**-0.4**
	comp=Z,58nm,1.0s						
NWAO	**Narrogin (SRO)**	**49.62**	**237**	P	**P**	**21 53 38.7**	**+0.5**
	comp=Z,45nm,0.9s,baz=92,slow=7.2,SNR=12						
MORW	**Morawa**	**49.87**	**242**	P	**P**	**21 53 40.9**	**+0.8**
	baz=50,SNR=9.6						
MYLDM	**Lahad Datu**	**50.56**	**287**	P	**P**	**21 53 47.3**	**+1.8**
MYLDM	**Lahad Datu**	**50.56**	**287**	*e*P	**P**	**21 53 47.6**	**+2.1**
	comp=Z,160nm,1.5s						
TSM	**Tawau**	**50.85**	**285**	P	**P**	**21 53 45.9**	**-1.9**
SDKM	**Sandakan**	**51.93**	**287**	P	**P**	**21 53 55.7**	**-0.2**
KKM	**Kota Kinabalu**	**52.99**	**287**	P	**P**	**21 54 05.2**	**+1.5**
KKM	**Kota Kinabalu**	**52.99**	**287**	*e*P	**P**	**21 54 04.9**	**+1.2**
	comp=Z,133nm,1.2s						
KKM	**Kota Kinabalu**	**52.99**	**287**	P	**P**	**21 54 04.8**	**+1.0**
	baz=53,SNR=11						
BTM	**Bintulu**	**55.08**	**282**	P	**P**	**21 54 20.9**	**+2.0**
SBUM	**Sibu**	**55.70**	**281**	P	**P**	**21 54 25.7**	**+2.4**
JNU	**Nakatsue**	**56.06**	**324**	*e*P	**P**	**21 54 24.9**	**-0.7**
	comp=Z,44nm,1.1s						
JNU	**Nakatsue**	**56.06**	**324**	P	**P**	**21 54 25.5**	**-0.1**
	comp=Z,7.6nm,0.8s,baz=125,slow=1.2,SNR=12

VNDA Vanda 65.78 181 *e*P P 21 55 30.5 -0.2
comp=Z,33nm,1.5s
VNDA Vanda 65.78 181 P P 21 55 30.8 +0.1
comp=Z,6.4nm,1.1s,baz=356,slow=7.0,SNR=6.9
CASY Casey 65.95 202 *e*P P 21 55 30.9 -1.0
comp=Z,15nm,0.8s
FRIM Kepong 66.12 279 P P 21 55 35.4 +1.4
SNY Shenyang 66.31 326 ⇓P P 21 55 34.7 +0.1
SNY AMB AMB
comp=Z,21nm,0.9s
PPI Padang Panjang 66.46 275 ⇓P P 21 55 36.7 +0.5
baz=67
CN2 Changchun 66.71 329 *e*P P 21 55 37.5 +0.4
CN2 *es*P sP 21 56 19.9 +12
CN2 *e*S **S** 22 04 18.4 -3.9
CN2 AMB AMB
comp=Z,30nm,0.9s
IPM Ipoh 67.00 280 P P 21 55 40.9 +1.3
IPM Ipoh 67.00 280 *e*P P 21 55 39.9 +0.2
comp=Z,114nm,1.3s
PANO Nakornpanom 67.49 294 P P 21 55 43.8 +1.2
comp=Z,62nm,1.3s,comp=Z,7μm
KLR Kul'dur 67.99 336 *e*P P 21 55 41.1 -4.0
KLR pmax pmax
comp=Z,50nm,1.6s
SKNT Sakolnakorn 68.00 294 P P 21 55 46.7 +0.9
comp=Z,146nm,1.0s,comp=Z,3μm
CHBT CHBT 68.11 289 P P 21 55 42.3 -4.2
PSI Prapat 68.63 278 P P 21 55 50.1 +0.1
baz=69,SNR=18
PSI Prapat 68.63 278 P P 21 55 49.7 -0.3
comp=Z,34nm,1.0s,baz=154,slow=4.5,SNR=19
ENH Enshi 68.87 309 *e*P P 21 55 50.7 -0.4
comp=Z,74nm,1.1s
GYA Guiyang 69.38 304 ⇑*i*P P 21 55 55.3 +0.9
GYA pP PcP 21 56 26.3 +9.0
GYA sP sP 21 56 38.0 +12
GYA ScP 22 00 09.3
GYA PcS 22 00 22.4
GYA S **S** 22 04 49.6 -5.5
GYA SKS **SKiKP** 22 05 39.9 +4.0
GYA AMB AMB
comp=Z,30nm,0.8s
GYA AMB AMB
comp=Z,250nm,5.7s
BJT Baijiatuan 69.46 321 *e*P P 21 55 53.8 -0.6
comp=Z,67nm,1.4s
GSI Gunungsitoli 69.60 276 *e*P P 21 55 55.6 -0.3
comp=Z,64nm,0.9s
GSI Gunungsitoli 69.60 276 ⇓P P 21 55 56.3 +0.5
baz=70
KRAB Krabi 69.74 283 P P 21 55 58.4 +1.7
comp=Z,27nm,0.9s,comp=Z,284nm
XAN Xi'an 71.10 312 P P 21 56 05.5 +0.8
XAN pP pP 21 56 34.0 +7.2
XAN sP sP 21 56 48.3 +12
XAN AMB AMB
comp=Z,13nm,1.0s
XAN LR LR
comp=Z,250nm,18.4s
XAN LR LR
comp=Z,160nm,18.4s
XAN LR LR
comp=Z,170nm,26.5s
KMI Kunming 72.07 301 P P 21 56 12.9 +2.0
KMI pP **PcP** 21 56 25.6 -3.3
KMI AMB AMB
comp=Z,73nm,1.4s
HHC Hu-ho-hao-te 72.82 320 *e*P P 21 56 15.8 +0.9
HHC pP pP 21 56 43.8 +6.8
HHC sP sP 21 56 55.9 +10
HHC PP **PP** 21 59 02.7 +4.6
HHC S **S** 22 05 32.5 -1.8
HHC sS **ScS** 22 06 21.3 +6.2
HHC AMB AMB
comp=Z,61nm,0.8s
HHC LR LR
comp=Z,580nm,15.7s
HHC LR LR
comp=Z,1μm,16.3s
HHC LR LR
comp=Z,970nm,16.2s
CM01 Chiang Mai Arr 72.99 294 *e*P P 21 56 16.9 +0.7
CHTO Chiang Mai 73.13 294 *e*P P 21 56 16.8 -0.2
CHTO pmax pmax
comp=Z,73nm,1.1s
CHTO Chiang Mai 73.13 294 *e*P P 21 56 16.8 -0.2
comp=Z,73nm,1.1s
CHTO Chiang Mai 73.13 294 P P 21 56 18.5 +1.5
comp=Z,293nm,1.2s
HIA Hailar 73.33 330 *e*P P 21 56 17.4 -0.2
HIA *e*PcP P 21 56 17.9 +0.3
CD2 Chengdu 73.57 307 P P 21 56 20.7 +1.2
CD2 sP sP 21 57 03.6 +13
CD2 PP **PP** 21 59 08.4 +3.7
CD2 S **SKiKP** 22 05 40.0 -1.9
CD2 sS ScS 22 06 31.8 +10
CD2 AMB AMB
comp=Z,80nm,1.0s
CD2 AMB AMB
comp=Z,870nm,11.3s
CD2 LR LR
comp=Z,480nm,8.3s
CD2 LR LR
comp=Z,660nm,14.9s
LZH Lanzhou 75.74 312 ⇑P P 21 56 34.2 +2.2
LZH pP pP 21 57 05.0 +11
LZH sP sP 21 57 20.1 +17
LZH PP PP 21 59 28.4 +5.3
LZH S **S** 22 06 04.3 -3.0
LZH sS sS 22 06 53.6 +8.2
LZH SS SS 22 10 51.3 -10
LZH AMB AMB
comp=Z,57nm,1.1s
LZH AMB AMB
comp=Z,460nm,4.0s
LZH LR LR
comp=Z,470nm,13.2s
LZH LR LR
comp=Z,600nm,10.9s
LZH LR LR
comp=Z,670nm,13.8s
OHAK Old Harbor 76.34 21 *e*P P 21 56 34.9 +0.2
comp=Z,599nm,2.2s
CIT Chita 78.12 330 *e*P P 21 56 45.7 +0.8
CIT *e* 21 57 00.7
CIT pmax pmax
comp=Z,69nm,1.3s
QSPA South Pole Qui 78.23 180 *e*P P 21 56 45.3 -0.2
QSPA *e*PcP PcP 21 56 45.6 -9.0
IMP Imphal 79.44 298 *e*P P 21 56 53.0 +0.2
SONM Songino Array 79.65 324 P P 21 56 53.8 +0.4
comp=Z,8.5nm,1.1s,baz=141,slow=5.9,SNR=12
SONA1 Songino Array 79.65 324 *e*P P 21 56 53.7 +0.2
GTA Gaotai 80.04 314 ⇑P P 21 56 57.4 +1.6
GTA S **S** 22 06 51.6 -1.9
GTA AMB AMB
comp=Z,27nm,1.3s
GTA AMB AMB
comp=Z,740nm,6.6s
GTA LR LR
comp=Z,260nm,18.5s
GTA LR LR
comp=Z,390nm,19.2s
GTA LR LR
comp=Z,390nm,19.2s
CAST Castle Rocks 81.44 18 *e*P P 21 57 02.7 +0.2
comp=Z,179nm,2.7s
ZAK Zakamensk 82.68 325 *e*P P 21 57 05.0 -4.4
ZAK pmax pmax
comp=Z,8.0nm,1.6s
TLY Talaya 83.10 326 *e*P P 21 57 11.8 +0.3
TLY pmax pmax
comp=Z,15nm,1.3s
LSA Lhasa 83.31 302 *e*P P 21 57 14.3 +0.7
LSA pmax pmax
comp=Z,23nm,1.2s
LSA Lhasa 83.31 302 *e*P P 21 57 14.3 +0.7
comp=Z,23nm,1.2s
PKM Peak Mountain 83.70 53 P P 21 57 15.5 +0.3
baz=84
IL1 Eielson Array 83.99 18 *e*P P 21 57 14.4 -1.3
ILAR Eielson Array 83.99 18 P P 21 57 14.6 -1.2
comp=Z,3.1nm,0.5s,baz=230,slow=5.2,SNR=57
ILAR LR LR 22 28 41.6

comp=Z,310nm,19.9s,baz=24,slow=31
MAW Mawson 84.30 202 *e*P P 21 57 16.5 -0.8
comp=Z,8.0nm,1.4s
MAW Mawson 84.30 202 P P 21 57 17.4 0.0
baz=84,SNR=9.2
MAW Mawson 84.30 202 P P 21 57 17.1 -0.3
comp=Z,15nm,1.1s,baz=110,slow=5.3,SNR=11
ISA Isabella 84.99 52 P P 21 57 21.9 +0.4
baz=85
E03A Lebam 85.16 41 *e*P P 21 57 22.2 +0.2
comp=Z,29nm,1.1s
WWPM Walker Pass 85.31 52 *e*P P 21 57 26.9 +3.7
K05A Summer Lake 85.54 45 *e*P P 21 57 24.6 +0.3
comp=Z,244nm,3.0s
TAPN Taplejung 85.54 299 *e*P P 21 57 25.5 +0.8
comp=Z,89nm,1.2s
RVCM Rose Valley Ce 85.55 52 *e*PKiKP **PKiKP** 22 02 33.1 -1.0
ODAN Odare 85.69 298 *e*P P 21 57 26.1 +0.7
comp=Z,101nm,1.1s
MONP Monument Peak 85.78 55 P P 21 57 26.5 +0.8
baz=86
EGAK Eagle 85.83 20 *e*P P 21 57 24.9 0.0
comp=Z,24nm,1.2s
MPMC Manual Prospec 85.87 52 P P 21 57 26.5 +0.5
baz=86
NV01 Mina Array Sit 85.98 50 *e*P P 21 57 26.1 -0.5
NVAR Mina Array Bea 85.98 50 P P 21 57 26.6 0.0
comp=Z,1.7nm,0.7s,baz=234,slow=7.8,SNR=10.0
RAMN Ramite 86.39 298 *e*P P 21 57 29.4 +0.5
BELC Belle Mtn. Jos 86.44 54 P P 21 57 29.2 +0.3
baz=86
FURC Furnace Creek, 86.48 52 P P 21 57 29.3 +0.5
baz=86
BC3 Big Chuckawall 86.77 55 P P 21 57 30.5 0.0
baz=87
JIRN Jiri 86.92 299 *e*P P 21 57 32.3 +0.7
GMRC Granite Mounta 86.92 54 P P 21 57 31.9 +0.7
baz=87
I07A Izee 86.95 44 *e*P P 21 57 30.5 -0.6
comp=Z,8.7nm,1.2s
GLA Glamis 87.11 56 *e*P P 21 57 32.0 0.0
GLA pmax pmax
comp=Z,11nm,1.0s
GLA Glamis 87.11 56 *e*P P 21 57 32.0 0.0
comp=Z,11nm,1.0s
GLA Glamis 87.11 56 P P 21 57 32.7 +0.8
baz=87
IRM Iron Mountain 87.16 54 P P 21 57 32.5 +0.4
baz=87
GUN Gumba 87.25 299 *e*P P 21 57 33.8 +0.6
comp=Z,43nm,0.9s
PKI Pulchoki 87.57 299 *e*P P 21 57 35.0 +0.3
KKN Kakani 87.74 299 *e*P P 21 57 35.7 +0.4
SHPR Sheep Range 87.80 52 *e*P P 21 57 35.1 -0.3
DMN Daman 87.84 299 *e*P P 21 57 36.5 +0.6
comp=Z,112nm,1.2s
R11A Troy Canyon, C 88.00 50 P P 21 57 36.4 +0.1
baz=88
GKN Gorkha 88.34 299 *e*P P 21 57 38.1 0.0
comp=Z,35nm,0.7s
214A Organ Pipe Nat 88.46 57 P P 21 57 39.0 +0.6
baz=88
Z14A Wintersburg 88.71 56 P P 21 57 40.4 +0.9
baz=89
DANN Dangsing 89.18 299 *e*P P 21 57 41.9 -0.3
comp=Z,33nm,0.7s
KOLN Koldanda 89.18 298 *e*P P 21 57 41.8 -0.3
comp=Z,14nm,0.7s
NEW Newport 89.86 41 P P 21 57 45.8 +1.1
baz=90
U15A North Rim 90.01 53 P P 21 57 46.3 +0.3
baz=90
WMQ Urumqi 90.08 315 P P 21 57 46.3 +0.5
WMQ AMB AMB
comp=Z,15nm,0.8s
WMQ LR LR
comp=Z,240nm,17.2s
WMQ LR LR
comp=Z,320nm,22.6s
WMQ LR LR
comp=Z,410nm,23.2s
X16A Lo Mia Camp, P 90.19 55 P P 21 57 47.4 +0.7
baz=90
HLID Hailey 90.31 46 *e*P P 21 57 47.4 +0.4
comp=Z,22nm,1.9s
HLID Hailey 90.31 46 P P 21 57 47.9 +0.9
baz=90
WUAZ Wupatki 90.51 54 *e*P P 21 57 47.1 -1.0
comp=Z,63nm,2.3s
WUAZ Wupatki 90.51 54 P P 21 57 48.9 +0.8
baz=90
DUG Dugway 90.57 49 *e*P P 21 57 47.4 -0.9
DUG pmax pmax
comp=Z,10.0nm,1.4s
DUG Dugway 90.57 49 *e*P P 21 57 47.4 -0.9
comp=Z,10.0nm,1.4s
DUG Dugway 90.57 49 P P 21 57 48.4 +0.2
baz=90
MVU Marysvale 90.59 51 *e*P P 21 57 47.8 -0.7
comp=Z,9.3nm,1.1s
BSMT Bassoo Peak 91.24 41 *e*P P 21 57 49.6 -1.7
319A Douglas 91.25 58 P P 21 57 52.1 +0.5
baz=91
SYO Syowa Base 91.28 197 ⇓*e*P P 21 58 05.6 +15
HYB Hyderabad 91.47 287 *i*P P 21 57 52.0 -0.8
320A Kipp Ranch, An 91.87 59 P P 21 57 55.9 +1.4
baz=92
220A Playas Peak, P 91.99 58 P P 21 57 56.5 +1.4
baz=92
DLMT Dillon 92.04 44 *e*P P 21 57 55.0 +0.1
comp=Z,12nm,1.2s
WALA Waterton Lakes 92.13 40 *e*P P 21 57 53.5 -1.7
Z20A Nine Sixteen R 92.20 57 P P 21 57 56.7 +0.7
baz=92
Z21A St. Cloud Mine 92.99 57 P P 21 58 00.4 +0.7
baz=93
PV04 Paradox Valley 93.09 52 *e*P P 21 57 58.0 -2.0
PDAR Pinedale Array 93.56 47 P P 21 58 05.5 +3.4
comp=Z,0.5nm,0.6s,baz=247,slow=1.9,SNR=5.1
U21A Nageezi 93.65 54 P P 21 58 03.0 +0.3
baz=94
S21A Coal Bank Pass 93.80 52 P P 21 58 03.6 +0.1
baz=94
MK01 Makanchi Array 94.50 317 *e*P P 21 58 05.4 -0.7
MKAR Makanchi Array 94.51 317 *e*P P 21 58 05.4 -0.7
MKAR Makanchi Array 94.51 317 *e*P P 21 58 05.4 -0.7
MKAR Makanchi Array 94.51 317 P P 21 58 06.2 +0.1
comp=Z,13nm,0.7s,baz=85,slow=6.3,SNR=102
MKAR PP **PP** 22 01 50.3 -4.8
comp=Z,0.6nm,0.9s,baz=115,slow=6.5,SNR=4.0
ZAA0 Zalesovo Array 94.54 324 *e*P P 21 58 04.3 -1.7
ZALV Zalesovo Beam 94.54 324 P P 21 58 04.8 -1.2
comp=Z,3.8nm,0.9s,baz=108,slow=4.8,SNR=8.4
YKA Yellowknife Ar 95.31 27 P P 21 58 09.2 -0.2
comp=Z,1.1nm,0.4s,baz=258,slow=4.7,SNR=8.8
TXAR Lajitas Array 95.59 61 P P 21 58 12.6 +1.0
comp=Z,0.6nm,0.8s,baz=241,slow=2.6,SNR=4.4
TXAR LR LR 22 31 48.9
comp=Z,394nm,20.1s,baz=245,slow=30
SNAA Sanae 96.43 183 *e*P P 21 58 11.8 -2.7
comp=Z,35nm,1.9s
KURBB Kurchatov Arra 97.67 320 P P 21 58 18.4 -1.9
comp=Z,0.3nm,0.3s,baz=102,slow=5.2,SNR=4.7
KURBB PP **PP** 22 02 22.6 +3.4
comp=Z,0.5nm,0.2s,baz=105,slow=7.5,SNR=5.0
KSH Kashi 97.73 309 P Pdif 21 58 23.4 +2.3
KSH sP 21 59 09.8 +17
BVAR Borovoye Array 102.93 322 Pdiff **Pdif** 21 58 43.4 -0.4
comp=Z,0.3nm,0.6s,baz=64,slow=3.4,SNR=3.7
AKTO Aktyubinsk 110.71 320 PP PP 22 03 59.1 +3.0
comp=Z,1.6nm,1.1s,baz=99,slow=4.8,SNR=2.6
ARCES ARCESS Array B 117.20 346 PKP **PKPdf** 22 03 29.5 -0.5
comp=Z,1.7nm,0.4s,baz=78,slow=2.1,SNR=29
JOF Joensuu 119.86 338 *e*pkp **PKPdf** 22 03 34.3 -0.9
KAF Kangasniemi 122.16 339 *e*pkp **PKPdf** 22 03 38.1 -1.6
FINES FINESS Array B 122.69 339 PKP **PKPdf** 22 03 40.3 -0.4
comp=Z,1.2nm,0.5s,baz=96,slow=1.9,SNR=11
BOSA Boshof 125.04 222 PKP **PKPdf** 22 03 46.9 +0.4
comp=Z,4.7nm,1.0s,baz=146,slow=20,SNR=6.4
NOA NORSAR Array B 127.58 345 PKP **PKPdf** 22 03 50.2 +0.1
comp=Z,0.8nm,0.7s,baz=33,slow=2.0,SNR=3.6
HFS Hagfors 127.67 343 PKP **PKPdf** 22 03 50.1 -0.2
comp=Z,1.9nm,0.7s,baz=111,slow=8.1,SNR=4.3
AKASG Malin Array Be 127.84 327 PKP **PKPdf** 22 03 51.1 +0.2
comp=Z,0.6nm,0.6s,baz=260,slow=0.8,SNR=4.8
AKASG PP **PP** 22 05 51.2 -2.4
comp=Z,0.1nm,0.3s,baz=46,slow=5.5,SNR=4.1

ASF Jabal al Asfar 129.50 302 PP PP 22 06 07.8 +2.2
comp=Z,0.4nm,0.3s,baz=91,slow=12,SNR=4.1
BRTR Keskin Array B 129.95 312 PKP **PKPdf** 22 03 55.6 +0.1
comp=Z,0.6nm,0.8s,baz=294,slow=1.4,SNR=3.3
BRTR PP **PP** 22 06 06.3 -1.8
comp=Z,1.8nm,1.1s,baz=67,slow=4.2,SNR=4.9
MMAI Mount Meron Ar 130.54 303 PKP **PKPdf** 22 03 56.2 -0.5
comp=Z,0.5nm,0.5s,baz=72,slow=4.7,SNR=3.5
LSZ Lusaka 130.68 238 *e*PKPdf **PKPdf** 22 03 58.1 +0.6
BUR04 Bucovina Ar. S 131.74 325 *e*PKPdf **PKPdf** 22 03 59.4 +0.8
STHS Stebnicka Huta 132.73 329 *e*PKP **PKPdf** 22 04 02.2 +1.9
SMOL Smolenice 135.20 331 *e*PKP **PKPdf** 22 04 05.8 +0.9
EKA Eskdalemuir Ar 135.78 351 PKP **PKPdf** 22 04 06.7 +0.9
comp=Z,0.2nm,0.4s,baz=11,slow=3.1,SNR=4.9
GERES GERESS Array B 136.65 334 PKP **PKPdf** 22 04 08.2 +0.4
comp=Z,0.7nm,0.8s,baz=88,slow=3.2,SNR=3.7
GERES PP PP 22 06 41.0 -9.0
comp=Z,0.3nm,0.7s,baz=199,slow=3.7,SNR=3.9
IDI Anoyia 138.06 310 PKP **PKPdf** 22 04 11.4 +0.7
comp=Z,6.2nm,1.0s,baz=194,slow=0.5,SNR=3.6
DAVOX Davos/Dischmat 139.88 335 PKhKP PKPpre 22 04 07.2
baz=311,slow=9.3
KEST Kesra 148.40 323 *e*PKPbc **PKPbc** 22 04 31.7 -0.8
KEST Kesra 148.40 323 PKPbc **PKPbc** 22 04 32.9 +0.5
comp=Z,1.7nm,0.6s,baz=86,slow=0.8,SNR=9.0
POLO Lamas de Olo 150.08 351 *e*PKPbc **PKPbc** 22 04 36.2 -0.3
PVRL Vila Real 150.17 351 *e*PKPbc **PKPbc** 22 04 36.9 +0.3
ESDC Sonseca Array 150.94 345 PKPbc **PKPbc** 22 04 38.5 0.0
comp=Z,1.4nm,0.8s,baz=15,slow=2.9,SNR=8.6
ESDC PKPab **PKPab** 22 04 46.5 +0.5
comp=Z,0.9nm,0.6s,baz=13,slow=4.2,SNR=8.7
PCAS Casmilo, Conde 151.48 352 *e*PKPbc **PKPbc** 22 04 42.9 +3.2
PMRV Marv??o 151.92 350 *e*PKPbc **PKPbc** 22 04 40.9 +0.2
PMTG Montargil 152.41 351 *e*PKPbc **PKPbc** 22 04 41.5 -0.3
TOA0 Torodi Ar. Sit 165.03 277 *e*PKPdf **PKPdf** 22 04 49.0 -1.4
TORD Torodi Ar. Bea 165.03 277 PKP **PKPdf** 22 04 49.9 -0.5
comp=Z,1.6nm,1.1s,baz=193,slow=0.3,SNR=7.0
TORD PKPab **PKPab** 22 05 48.1 +0.5
comp=Z,3.3nm,1.0s,baz=91,slow=5.5,SNR=9.1
TORD PP **PP** 22 09 35.6 +0.9
comp=Z,2.8nm,1.1s,baz=102,slow=3.4,SNR=5.5
KIC Kosan Boka 169.75 239 *e*PKP2 **PKPab** 22 06 08.6 +0.2
comp=Z,199nm,1.7s
LIC Lamto 169.92 238 *e*PKP2 **PKPab** 22 06 09.3 +0.2
comp=Z,42nm,1.1s
DBIC Dimbokro 170.01 240 PKPab **PKPab** 22 06 08.7 -0.8
comp=Z,3.0nm,1.0s,baz=66,slow=6.7,SNR=5.9
TIC Toumodi 170.14 240 *e*PKP2 **PKPab** 22 06 10.2 +0.1
comp=Z,72nm,1.3s

MOS ***10*** *21:50:21.3±1.5,52.45N×106.84E,h9km,mb4.5/1,Error ellipse: s-maj=18.1km s-min=11.6km az=76.2*
BYKL 10 21:50:23.0±0.2,52.49N×106.70E,h15km±3km,13C-9D, FELT I=II MSK at Narin-Kunta, Tyrgan, Yelantsy,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZRHB	**Zarechye**	**0.28**	**77**	⇑*i*Pg		Pg	21 50 29.1	0.0
ZRHB				*i* Sg		Sg	21 50 33.5	+0.3
ZRHB				*i*			21 50 39.1	
ZRHB				Pmax				
	520nm,0.1s							
ZRHB				max				
	13μm,0.7s							
TRG	**Tyrgan**	**0.34**	**322**	⇑*i*PG		Pg	21 50 30.2	0.0
TRG				*e*			21 50 35.5	
TRG				pmax	pmax			
	comp=Z,380nm,0.1s							
TRG				smax	smax			
	comp=N,3μm,0.2s							
TRG	**Tyrgan**	**0.34**	**322**	⇑*i*Pg		Pg	21 50 30.2	0.0
TRG				*i*			21 50 31.2	
TRG				*e*Sg		Sg	21 50 35.5	+0.4
TRG				*e*			21 50 40.3	
TRG				Pmax				
	comp=N,380nm,0.1s							
TRG				Smax				
	comp=N,4μm,0.3s							
KAB	**Kabansk**	**0.44**	**184**	*e*PG		Pg	21 50 31.8	-0.1
KAB				*e*			21 50 37.9	
KAB				pmax	pmax			
	comp=Z,232nm,0.2s							
KAB				smax	smax			
	comp=E,3μm,0.3s							
KAB	**Kabansk**	**0.44**	**184**	⇓*i*Pg		Pg	21 50 31.6	-0.3
KAB				*e*			21 50 33.3	
KAB				*i* Sg		Sg	21 50 37.9	0.0
KAB				max				
	comp=E,279nm,0.1s							
KAB				Smax				
	comp=E,3μm,0.2s							
UUDB	**Ulan-Yde**	**0.86**	**136**	⇓*i*Pg		Pb	21 50 38.7	-1.0
	comp=E,198nm,0.4s							
UUDB				⇑*i*Pg		Pb	21 50 38.7	-1.0
	comp=E,121nm,0.4s							
UUDB				⇑*i*Pg		Pb	21 50 38.7	-1.0
	comp=E,333nm,0.4s							
UUDB				*e*			21 50 43.9	
UUDB				*i* Sg		Sb	21 50 49.7	-1.4
UUDB				*e*Sb		Sn	21 50 53.8	+0.8
UUDB				Pmax				
	comp=E,267nm,0.5s							
UUDB				Smax				
	comp=E,2μm,0.4s							
HRMR	**Khuramsha**	**0.88**	**170**	⇓*i*Pg		Pb	21 50 39.2	-0.8
	comp=E,107nm,0.3s							
HRMR				⇑*i*Pg		Pb	21 50 39.2	-0.8
	comp=E,14nm,0.3s							
HRMR				⇑*i*Pg		Pb	21 50 39.2	-0.8
	comp=E,209nm,0.3s							
HRMR				*e*Pb		Pn	21 50 41.7	+0.8
HRMR				*i* Sg		Sb	21 50 50.8	-0.8
HRMR				*e*Sb		Sn	21 50 54.0	+0.6
HRMR				Pmax				
	comp=E,334nm,0.2s							
HRMR				Smax				
	comp=E,7μm,0.3s							
OGRR	**Ongureny**	**1.27**	**25**	*e*PG		Pn	21 50 46.5	+0.2
OGRR				*e*			21 51 03.9	
OGRR				pmax	pmax			
	comp=Z,137nm,0.5s							
OGRR				smax	smax			
	comp=E,460nm,0.6s							
OGRR	**Ongureny**	**1.27**	**25**	⇑*i*Pg		Pn	21 50 46.5	+0.2
OGRR				⇓*i*Pb		Pg	21 50 47.8	+0.2
OGRR				*e*Sg		Sn	21 51 03.7	+0.5
OGRR				max				
	comp=E,136nm,0.4s							
OGRR				Smax				
	comp=E,465nm,0.6s							
LSTR	**Listvyanka**	**1.31**	**242**	⇑*i*Pg		Pn	21 50 46.8	0.0
LSTR				*i* Sg		Sn	21 51 04.0	0.0
LSTR				Pmax				
	comp=E,102nm,0.3s							
LSTR				Smax				
	comp=E,888nm,0.3s							
MXMB	**Maximikha**	**1.46**	**57**	⇑*i*Pg		Pn	21 50 49.1	+0.2
MXMB				*e*			21 50 54.4	
MXMB				*e*Sg		Sb	21 51 09.1	+0.7
MXMB				Pmax				
	comp=E,361nm,0.5s							
MXMB				Smax				
	comp=E,2μm,0.9s							
IRK	**Irkutsk**	**1.51**	**262**	*e*PN		Pn	21 50 49.4	-0.1
IRK				*e*			21 51 09.5	
IRK				pmax	pmax			
	comp=Z,474nm,0.2s							
IRK				smax	smax			
	comp=N,7μm,0.2s							
IRK	**Irkutsk**	**1.51**	**262**	*e*Pg		Pb	21 50 50.6	-0.1
IRK				*e*			21 50 56.8	
IRK				*e*Sg		Sb	21 51 10.7	+1.0
TLY	**Talaya**	**2.05**	**248**	*e*PN		Pn	21 50 58.1	+1.1
TLY				*e*			21 50 59.6	
TLY				*e*			21 51 25.5	
TLY				pmax	pmax			
	comp=Z,43nm,0.3s							
TLY				smax	smax			
	comp=N,527nm,0.4s							
TLY	**Talaya**	**2.05**	**248**	⇑*i*Pg		Pb	21 51 00.1	+0.1
TLY				*e*Sg		Sb	21 51 26.3	+0.9
TLY				Pmax				
	comp=N,73nm,0.2s							

TLY Smax
comp=N,1μm,0.4s
SYVR Suvo 2.31 58 ⇑*i* Pn Pn 21 51 01.0 +0.5
SYVR ⇓*i* Pg Pb 21 51 04.2 -0.2
SYVR *i* Sg Sg 21 51 35.4 -1.9
SYVR Pmax
comp=N,28nm,0.5s
SYVR Smax
comp=N,250nm,1.3s
ARS Arshan 2.69 259 *e*Pn Pn 21 51 07.4 +1.5
ARS *e*Pg Pb 21 51 10.9 -0.1
ARS *i* PgPg PbPb 21 51 13.7 -0.4
ARS *i* Sg Sb 21 51 45.4 +1.5
ARS *e* 21 51 48.8
ARS max
comp=N,148nm,0.4s
ARS max
comp=N,2μm,0.4s
ZAK Zakamensk 3.01 227 *e*Pn Pn 21 51 11.2 +1.0
ZAK *e*Pg Pb 21 51 17.3 +0.9
ZAK *e*Sn Sn 21 51 48.4 +2.3
ZAK *e*Sg Sb 21 51 56.1 +3.1
ZAK *e*SgSg Sg 21 52 00.1 +0.3
YLYR Ulyunkhan 3.57 46 *e*PN Pn 21 51 15.9 -2.0
YLYR *e*S Sb 21 52 11.6 +2.6
YLYR smax smax
comp=N,88nm,0.7s
YLYR Ulyunkhan 3.57 46 ⇑*i* Pn Pn 21 51 18.4 +0.5
YLYR *e*Pg Pb 21 51 26.5 +0.6
YLYR *e* 21 51 32.1
YLYR *e*Sn Sn 21 51 57.8 -2.0
YLYR *i* Sg Sb 21 52 12.2 +3.2
YLYR max
comp=N,14nm,0.3s
YLYR Smax
comp=N,87nm,0.7s
MOY Mondy 3.62 259 *e*PN Pg 21 51 30.0 -2.4
MOY *e* 21 52 13.4
MOY pmax pmax
comp=Z,90nm,0.5s
MOY smax smax
comp=N,569nm,0.5s
MOY Mondy 3.62 259 *i* Pn Pn 21 51 21.6 +3.0
MOY *e*Pg Pb 21 51 26.8 0.0
MOY *e* 21 52 06.4
MOY *i* Sg Sb 21 52 13.3 +2.7
MOY *e* 21 52 19.8
MOY Pmax
comp=N,104nm,0.9s
MOY max
comp=N,637nm,1.5s
NIZ Nizh Angarsk 3.69 26 *e*PN Pn 21 51 22.4 +2.9
NIZ *e* 21 51 30.0
NIZ *e* 21 52 17.4
NIZ pmax pmax
comp=Z,29nm,0.6s
NIZ smax smax
comp=N,330nm,0.6s
NIZ Nizh Angarsk 3.69 26 *e*Pg Pb 21 51 28.8 +0.9
NIZ *e* 21 51 40.1
NIZ *i* Sg Sg 21 52 17.4 -4.2
NIZ *e* 21 52 20.6
NIZ *e* 21 52 31.9
NIZ Pmax
comp=N,33nm,0.6s
NIZ max
comp=N,379nm,1.1s
ORL Orlik 4.21 273 *e*PN Pn 21 51 28.5 +1.7
ORL *e* 21 51 39.5
ORL *e* 21 52 32.9
ORL pmax pmax
comp=Z,29nm,0.6s
ORL smax smax
comp=N,187nm,0.9s
ORL Orlik 4.21 273 ⇓*i* Pn Pn 21 51 28.5 +1.7
ORL *e*Pg Pb 21 51 38.8 +1.9
ORL *e* 21 51 43.5
ORL *e* 21 52 18.4
ORL *i* Sg Sg 21 52 33.1 -5.3
ORL max
comp=N,28nm,0.7s
ORL Smax
comp=N,187nm,1.1s
CIT Chita 4.24 94 *e*PN Pb 21 51 38.3 +1.0
CIT *e*S Sn 21 52 15.8 -0.5
CIT *e* 21 52 34.3
CIT pmax pmax
comp=Z,67nm,0.8s
CIT smax smax
comp=E,263nm,0.7s
CIT Chita 4.24 94 *e* Pn 21 51 23.1 -3.9
CIT *e*Pg Pb 21 51 38.4 +1.1
CIT *e*Sg Sg 21 52 34.4 -4.7
CIT *e* 21 52 39.3
CIT Pmax
comp=E,62nm,0.3s
CIT max
comp=E,264nm,0.6s
KMO Kumora 4.31 36 *e*Pn Pn 21 51 26.7 -1.3
KMO *e* 21 51 37.3
KMO Pg Pb 21 51 39.5 +1.1
KMO *e* 21 51 45.1
KMO *e* 21 52 30.8
KMO *e*Sg Sb 21 52 35.4 +5.2
KMO *e* 21 52 39.7
KMO max
comp=E,13nm,0.3s
KMO max
comp=E,109nm,0.1s
KPC Khapcheranga 4.54 126 *e*PN Pn 21 51 30.6 -0.6
KPC *e* 21 51 43.3
KPC *e* 21 52 42.3
KPC pmax pmax
comp=Z,31nm,0.2s
KPC smax smax
comp=E,123nm,0.8s
KPC Khapcheranga 4.54 126 *e*Pn Pn 21 51 30.9 -0.3
KPC ⇓*i* 21 51 32.4
KPC *e*Pg Pb 21 51 43.3 +0.9
KPC *e* 21 51 49.0
KPC *e* 21 52 21.8
KPC *e*Sg Sb 21 52 42.2 +5.2
KPC max
comp=E,30nm,0.4s
KPC Smax
comp=E,122nm,1.1s
YOA Uoyan 4.69 37 *e*Sg Sg 21 52 49.5 -4.0
YOA Smax
comp=E,253nm,1.0s
UKT Uakit 5.07 51 ⇓*i* Pn Pn 21 51 39.9 +1.3
UKT *e* 21 51 48.2
UKT *e*Pg Pb 21 51 55.3 +3.8
UKT *e* 21 51 57.5
UKT *i* Sg Sg 21 53 01.4 -4.6
UKT max
comp=E,5.0nm,0.7s
UKT Smax
comp=E,28nm,1.0s
SVKR Severomuysk 5.42 45 *e*Sg Sg 21 53 13.3 -3.6
SVKR Smax
comp=E,134nm,1.9s
BOD Bodaibo 6.78 35 *e*PG Pb 21 52 24.6 +4.1
BOD *e* 21 53 54.2
BOD pmax pmax
comp=Z,4.0nm,0.5s
BOD smax smax
comp=N,35nm,1.5s
BOD Bodaibo 6.78 35 *e* Sn 21 53 29.7 +11
BOD *e*Sg Sg 21 53 52.3 -8.2
BOD Smax
comp=N,19nm,0.9s
CRS Chara 8.02 52 *e* Sn 21 53 47.0 -2.4
CRS *e*Sg Sb 21 54 31.7 +15
TUP Tupik 8.15 71 *e*PN Pn 21 52 20.5 -0.2
TUP *e* 21 52 48.6
TUP pmax pmax
comp=Z,3.0nm,0.4s
TUP Tupik 8.15 71 ⇓*i* Pn Pn 21 52 20.5 -0.2
TUP *e* 21 52 28.8
TUP *e*Pg Pb 21 52 49.2 +5.4
TUP *e*Sg Sb 21 54 35.3 +15
TUP *e* 21 54 44.5
TUP max
comp=Z,2.0nm,0.9s
TUP Smax
comp=Z,79nm,1.1s

IDC 10 21:59:32.9±1.6, 13°.22S×166°.11E, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.7/18, mbtmp3.9/4, ML3.5/1, Error ellipse: s-maj=49.9km s-min=28.9km az=106.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.81**	**178**	Pn	Pn	22 01 42.7	+0.9
	0.6nm,0.3s,baz=228,slow=17,SNR=1.7						
DZM				Sn	Sn	22 03 20.8	-1.2
	0.3nm,0.3s,baz=66,slow=23,SNR=1.4						
ASAR	**Alice Springs**	**32.20**	**246**	P	P	22 06 03.0	0.0
	3.3nm,0.7s,baz=73,slow=9.6,SNR=41						
ILAR	**Eielson Array**	**85.45**	**18**	P	P	22 12 12.1	0.0
	0.3nm,0.7s,baz=252,slow=5.6,SNR=3.2						
MKAR	**Makanchi Array**	**95.34**	**317**	P	P	22 12 58.8	-0.3
	0.3nm,0.7s,baz=98,slow=4.9,SNR=3.2						

IDC 10 21:59:32.5±8.7, 23°.58S×178°.98W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/17, mbtmp3.5/2, Error ellipse: s-maj=366.2km s-min=61.8km az=149.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.01**	**260**	P	P	22 07 34.0	0.0
	0.3nm,0.6s,baz=92,slow=8.8,SNR=4.0						
WRA	**Warramunga Arr**	**43.36**	**265**	P	P	22 07 36.6	-0.3
	0.8nm,0.8s,baz=104,slow=8.2,SNR=8.9						
AKASG	**Malin Array Be**	**145.20**	**328**	PKPbc	PKPbc	22 19 10.6	-0.8
	0.3nm,0.4s,baz=41,slow=3.4,SNR=4.5						

IDC 10 22:16:30.1±9.0, 23°.82S×179°.69E, h516km±97km, mb2.9/4, mb1 3.2/4, mb1mx2.9/17, mbtmp2.9/4, Error ellipse: s-maj=172.8km s-min=45.5km az=167.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**31.19**	**270**	P	P	22 22 08.2	+1.2
	1.6nm,0.3s,baz=105,slow=9.1,SNR=4.1						
ASAR	**Alice Springs**	**41.76**	**261**	P	P	22 23 33.4	-0.8
	0.2nm,0.5s,baz=96,slow=7.1,SNR=7.5						
WRA	**Warramunga Arr**	**42.12**	**266**	P	P	22 23 36.5	-0.7
	0.6nm,0.4s,baz=97,slow=8.5,SNR=16						
TXAR	**Lajitas Array**	**90.64**	**58**	P	P	22 28 37.4	-0.3
	0.4nm,0.7s,baz=212,slow=4.4,SNR=4.9						
AKASG	**Malin Array Be**	**144.75**	**327**	PKP	PKPdf	22 35 07.3	-0.5
	0.2nm,0.3s,baz=48,slow=4.0,SNR=4.1						
BRTR	**Keskin Array B**	**147.30**	**307**	PKPbc	PKPbc	22 35 15.5	-0.4
	0.3nm,0.6s,baz=131,slow=2.8,SNR=2.8						

IDC 10 22:37:14.9±17.0, 29°.08S×76°.16E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/20, mbtmp3.5/4, Error ellipse: s-maj=542.4km s-min=37.6km az=44.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**21.59**	**350**	T	T	23 04 59.6	
	baz=173,slow=0.7,SNR=91						
H08S1	**Diego Carcia H**	**21.60**	**350**	T	T	23 05 04.1	
	baz=173,slow=0.7,SNR=72						
H08S3	**Diego Carcia H**	**21.61**	**350**	T	T	23 05 01.0	
	baz=173,slow=0.7,SNR=73						
H01W2	**Cape Leeuwin H**	**32.59**	**110**	T	T	23 18 36.9	
	baz=268,slow=0.7,SNR=6.0						
H01W3	**Cape Leeuwin H**	**32.60**	**110**	T	T	23 18 31.2	
	baz=268,slow=0.7,SNR=6.1						
H01W1	**Cape Leeuwin H**	**32.61**	**110**	T	T	23 18 30.4	
	baz=268,slow=0.7,SNR=5.6						
ASAR	**Alice Springs**	**51.59**	**98**	P	P	22 46 23.9	+0.5
	0.5nm,0.9s,baz=252,slow=6.5,SNR=4.6						
WRA	**Warramunga Arr**	**53.27**	**94**	P	P	22 46 35.1	-0.7
	0.7nm,0.8s,baz=248,slow=7.7,SNR=4.3						
MKAR	**Makanchi Array**	**75.72**	**4**	P	P	22 49 01.5	-0.6
	0.4nm,0.8s,baz=190,slow=5.1,SNR=4.7						
SONM	**Songino Array**	**81.24**	**20**	P	P	22 49 33.4	+0.7
	0.3nm,0.6s,baz=197,slow=4.5,SNR=3.3						

IDC 10 22:51:42.0±3.4, 12°.66S×165°.74E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.9/18, mbtmp3.8/6, Error ellipse: s-maj=113.8km s-min=31.1km az=137.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**30.96**	**252**	P	P	22 58 01.3	0.0
	0.5nm,0.8s,baz=80,slow=7.6,SNR=3.6						
ASAR	**Alice Springs**	**32.10**	**246**	P	P	22 58 11.1	-0.1
	0.8nm,0.8s,baz=72,slow=8.5,SNR=5.5						
CMAR	**Chiang Mai Arr**	**72.76**	**294**	P	P	23 03 13.2	+0.4
	0.3nm,0.3s,baz=100,slow=3.7,SNR=3.6						
SONM	**Songino Array**	**79.96**	**324**	P	P	23 03 53.3	0.0
	0.6nm,0.9s,baz=123,slow=4.2,SNR=3.8						
ILAR	**Eielson Array**	**85.04**	**18**	P	P	23 04 19.4	+0.2
	2.3nm,1.1s,baz=226,slow=5.4,SNR=7.5						
MKAR	**Makanchi Array**	**94.69**	**317**	P	P	23 05 04.5	-0.8
	1.1nm,0.9s,baz=100,slow=6.3,SNR=7.9						

*IDC **10** 23:29:18.4±0.9, 13°.89N×92°.81E, h0km, mb3.7/10, mb1 3.8/11, mb1mx3.7/25, mbtmp3.7/11, ML2.8/1, MS4.0/1, Ms1 4.0/1, ms1mx2.9/42, Error ellipse: s-maj=30.0km s-min=17.7km az=55.0*
*ISCJB **10** 23:29:22.4±0.4, 14°.14N±0°.04×92°.92E±0°.09, h32km, mb3.7/10, MS4.0/1, Error ellipse: s-maj=12.6km s-min=5.0km az=172.5*
ISC 10 23:29:23.7±0.6, 14°.08N±0°.06×92°.89E±0°.08, h32km, n26, σ1°.08/24, mb3.7/10, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DGPR	**DIGLIPUR**	**0.90**	**177**	*e*P	**Pn**	**23 29 40.2**	**0.0**
DGPR				*e*S	**Sb**	**23 29 53.9**	**+1.2**
DGPR				AML	AML	23 29 54.3	
	comp=E,1μm,0.4s						
DGPR				AML	AML	23 29 55.4	
	comp=N,2μm,0.5s						
PBA	**Port Blair**	**2.42**	**183**	*e*P	Pn	23 30 02.1	+1.1
PBA				*e*S	Sn	23 30 29.7	+0.1
PBA				AML	AML	23 30 40.0	
	comp=E,158nm,0.6s						
PBA				AML	AML	23 30 40.8	
	comp=N,206nm,0.5s						
CMAR	**Chiang Mai Arr**	**7.26**	**52**	Pn	**Pn**	**23 31 08.3**	**+0.7**
	comp=N,0.0nm,0.3s,baz=241,slow=15,SNR=4.6						
CMAR				Sn	**Sn**	**23 32 26.2**	**-2.8**
	comp=N,0.8nm,0.3s,baz=239,slow=27,SNR=1.9						
VIS	**Vishakhapatnam**	**9.88**	**293**	*e*P	**Pn**	**23 31 41.8**	**-1.8**
VIS				*e*S	Sn	23 33 22.8	-11
VIS				AML	AML	23 33 28.2	
	comp=N,54nm,0.7s						
VIS				AML	AML	23 33 28.6	
	comp=E,29nm,0.9s						
ODAN	**Odare**	**13.71**	**339**	*e*P	**Pn**	**23 32 36.3**	**+0.1**
TAPN	**Taplejung**	**14.06**	**341**	*e*P	**Pn**	**23 32 42.0**	**+1.0**
RAMN	**Ramnite**	**14.09**	**336**	*e*P	**Pn**	**23 32 40.9**	**-0.4**
JIRN	**Jiri**	**14.88**	**336**	*e*P	**Pn**	**23 32 51.7**	**-0.6**
DMN	**Daman**	**15.29**	**333**	*e*P	**Pn**	**23 32 56.9**	**-0.7**
GKN	**Gorkha**	**15.84**	**332**	*e*P	**Pn**	**23 33 04.7**	**+0.1**
KOLN	**Koldanda**	**16.14**	**329**	*e*P	**Pn**	**23 33 08.2**	**-0.2**
TRD	**Trivandrum**	**16.57**	**252**	*ex*	Pn	23 33 05.4	-8.4
H08S3	**Diego Garcia H**	**29.59**	**224**	T	T	00 06 21.4	
	baz=38						
H08S2	**Diego Garcia H**	**29.59**	**224**	T	T	00 06 18.3	
	baz=38,SNR=2.8						
H08S1	**Diego Carcia H**	**29.61**	**224**	T	T	00 06 21.0	
	baz=38						
MKAR	**Makanchi Array**	**33.80**	**347**	P	**P**	**23 36 04.3**	**+1.5**
	comp=E,1.4nm,0.8s,baz=169,slow=8.7,SNR=12						
SONM	**Songino Array**	**35.48**	**16**	P	**P**	**23 36 18.9**	**+1.5**
	comp=E,0.7nm,0.6s,baz=195,slow=7.9,SNR=4.8						
KSRS	**Korea Array**	**38.86**	**47**	P	**P**	**23 36 46.2**	**+0.1**
	comp=E,0.5nm,0.4s,baz=246,slow=9.2,SNR=3.9						
ZALV	**Zalesovo Beam**	**40.28**	**353**	P	**P**	**23 36 58.8**	**+1.1**
	comp=E,1.5nm,0.6s,baz=176,slow=9.6,SNR=8.4						
WRA	**Warramunga Arr**	**52.97**	**129**	P	**P**	**23 38 37.1**	**-0.5**
	comp=E,0.3nm,0.7s,baz=307,slow=7.1,SNR=2.4						
WRA				PcP	**PcP**	**23 39 45.7**	**-0.5**
	comp=E,0.2nm,0.5s,baz=308,slow=5.4,SNR=2.9						
ASAR	**Alice Springs**	**54.91**	**133**	P	**P**	**23 38 50.7**	**-1.1**
	comp=E,0.2nm,0.4s,baz=314,slow=6.7,SNR=5.1						
ASAR				PcP	**PcP**	**23 39 52.8**	**-0.8**
	comp=E,0.1nm,0.4s,baz=318,slow=4.0,SNR=2.7						
OPO	**Ambohidratompo**	**55.51**	**235**	LR	LR	00 01 04.0	
	comp=E,123nm,18.0s,baz=173,slow=34						
BRTR	**Keskin Array B**	**57.55**	**308**	P	**P**	**23 39 10.1**	**-0.5**
	comp=E,0.4nm,0.8s,baz=132,slow=6.0,SNR=3.2						
FINES	**FINESS Array B**	**66.69**	**331**	P	**P**	**23 40 11.4**	**+0.1**
	comp=E,1.4nm,0.9s,baz=90,slow=5.7,SNR=5.2						
GERES	**GERESS Array B**	**72.44**	**317**	P	**P**	**23 40 48.1**	**+0.9**
	comp=E,0.6nm,0.7s,baz=81,slow=8.2,SNR=3.8						
ILAR	**Eielson Array**	**89.48**	**22**	P	**P**	**23 42 17.4**	**-0.1**
	comp=E,0.3nm,0.7s,baz=292,slow=4.8,SNR=3.6						

IDC 10 23:32:15.5±2.2, 4°.17N×127°.55E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/21, mbtmp3.5/4, Error ellipse: s-maj=183.4km s-min=24.2km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.88**	**165**	P	P	23 37 38.6	-1.6
	1.2nm,0.8s,baz=344,slow=10,SNR=6.6						
ASAR	**Alice Springs**	**28.36**	**168**	P	P	23 38 13.5	+1.9
	0.1nm,0.3s,baz=344,slow=11,SNR=3.5						
STKA	**Stephens Creek**	**38.26**	**161**	P	P	23 39 37.0	-0.7
	1.2nm,0.6s,baz=335,slow=9.7,SNR=4.5						
MKAR	**Makanchi Array**	**57.66**	**325**	P	P	23 42 07.7	-0.1
	0.2nm,0.6s,baz=120,slow=6.8,SNR=4.0						

*ISCJB **10** 23:38:29.9±1.7, 80°.9N±0°.2×4°.5W±0°.7, h10km, mb3.4/4, MS3.4/1, Error ellipse: s-maj=29.7km s-min=10.2km az=156.4*
*IDC **10** 23:38:35.5±3.0, 81°.28N×0°.92E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.4/26, mbtmp3.7/5, ML3.4/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/30, Error ellipse: s-maj=52.4km s-min=46.9km az=145.0*
ISC 10 23:38:31.3±1.9, 81°.0N±0°.2×4°.5W±0°.1, h10km, n8, σ1°.64/7, mb3.6/4, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAG	**Danmarks Havn**	**5.00**	**220**	*i* P	**Pn**	**23 39 47.4**	**+1.2**
DAG				*i* S	**Sn**	**23 40 42.4**	**-1.5**
DAG				*i*		23 40 46.8	
SUMG	**Summit**	**11.16**	**240**	*i* P	**Pn**	**23 41 10.9**	**-0.1**
SUMG				*i* S	Sn	23 43 09.1	-6.7
ARCES	**ARCESS Array B**	**13.47**	**131**	Pn	**Pn**	**23 41 40.7**	**-1.4**
	0.3nm,0.3s,baz=344,slow=12,SNR=15						
FINES	**FINESS Array B**	**21.35**	**138**	P	**P**	**23 43 18.9**	**+0.8**
	4.2nm,0.9s,baz=348,slow=11,SNR=6.6						
ZALV	**Zalesovo Beam**	**37.11**	**78**	LR	LR	00 02 01.3	
	comp=Z,56nm,19.4s,baz=249,slow=39						
BRTR	**Keskin Array B**	**43.57**	**136**	P	**P**	**23 46 37.0**	**+1.9**
	0.5nm,0.7s,baz=12,slow=7.8,SNR=3.5						
MKAR	**Makanchi Array**	**43.66**	**84**	P	**P**	**23 46 34.6**	**-1.0**
	0.1nm,0.6s,baz=339,slow=7.7,SNR=3.7						
TORD	**Torodi Ar. Bea**	**67.89**	**173**	P	P	23 49 37.8	+8.2
	0.4nm,0.7s,baz=352,slow=6.7,SNR=3.0						

*ATH **10** 23:38:29.7, 34°.08N×22°.26E, h3km, MD3.7/23*
*CSEM **10** 23:38:33.9±0.2, 33°.93N×22°.21E, h40km, ML2.1, Error ellipse: s-maj=5.0km s-min=3.5km az=89.0*
ISC 10 23:38:34.1±6.5, 33°.88N±0°.06×22°.17E±0°.07, h35km±9km, n49, σ1°.30/72, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANKY	**Antikythira Is**	**2.19**	**25**	*e*PG	**Pn**	**23 39 06.9**	**-1.1**
ANKY	**Antikythira Is**	**2.19**	**25**	*e*Pg	**Pn**	**23 39 06.9**	**-1.1**
VAM	**Vamos**	**2.26**	**47**	*e*PN	**Pn**	**23 39 07.4**	**-1.6**
VAM	**Vamos**	**2.26**	**47**	*e*Pn	**Pn**	**23 39 07.4**	**-1.6**
LTBQ	**Tobruq**	**2.35**	**141**	*i* P	**Pn**	**23 39 10.0**	**-0.2**
	SNR=50						
LTBQ				*e*S	**Sn**	**23 39 34.2**	**-3.5**
	13nm,0.4s,SNR=50						
KYTH	**Kithira**	**2.50**	**16**	*e*PN	**Pn**	**23 39 10.7**	**-1.5**
KYTH	**Kithira**	**2.50**	**16**	*e*Pn	**Pn**	**23 39 10.7**	**-1.5**
VLI	**Veliai**	**2.90**	**12**	*e*PN	**Pn**	**23 39 17.7**	**0.0**
VLI				*e*SN	**Sn**	**23 39 49.8**	**-1.6**
VLI	**Veliai**	**2.90**	**12**	*e*Pn	**Pn**	**23 39 17.7**	**0.0**
VLI				*e*Sn	**Sn**	**23 39 49.8**	**-1.6**
PYL	**PYLOS**	**3.02**	**354**	*e*PB	**Pn**	**23 39 18.6**	**-0.9**
PYL	**PYLOS**	**3.02**	**354**	*e*Pn	**Pn**	**23 39 18.6**	**-0.9**
NPS	**Neapolis**	**3.16**	**63**	*e*PN	**Pn**	**23 39 20.0**	**-0.8**
NPS				*e*SN	**Sn**	**23 39 57.6**	**-0.3**
NPS	**Neapolis**	**3.16**	**63**	*e*Pn	**Pn**	**23 39 20.6**	**-0.8**
NPS				*e*Sn	**Sn**	**23 39 57.6**	**-0.3**
ITM	**Ithomi**	**3.29**	**357**	*e*PN	**Pn**	**23 39 22.5**	**-0.7**
ITM	**Ithomi**	**3.29**	**357**	*e*Pn	**Pn**	**23 39 22.5**	**-0.7**
VLX	**Vlachokerasia**	**3.48**	**3**	*e*PN	**Pn**	**23 39 24.9**	**-1.0**
VLX				*e*SN	**Sn**	**23 40 05.2**	**-0.8**
VLX	**Vlachokerasia**	**3.48**	**3**	*e*Pn	**Pn**	**23 39 24.9**	**-1.0**
VLX				*e*Sn	**Sn**	**23 40 05.2**	**-0.8**
AMT	**Artemida-Makis**	**3.66**	**354**	*e*PN	**Pn**	**23 39 28.0**	**-0.2**
AMT				*e*SN	**Sn**	**23 40 09.2**	**-1.0**
AMT	**Artemida-Makis**	**3.66**	**354**	*e*Pn	**Pn**	**23 39 28.0**	**-0.2**
AMT				*e*Sn	**Sn**	**23 40 09.2**	**-1.0**
DID	**Didima**	**3.72**	**13**	*e*PN	**Pn**	**23 39 27.6**	**-1.5**
DID				*e*SN	**Sn**	**23 40 10.1**	**-1.6**
DID	**Didima**	**3.72**	**13**	*e*Pn	**Pn**	**23 39 27.6**	**-1.5**
DID				*e*Sn	**Sn**	**23 40 10.1**	**-1.6**
NAIG	**Nisos Aigina**	**4.01**	**15**	*e*PN	**Pn**	**23 39 31.7**	**-1.4**
NAIG	**Nisos Aigina**	**4.01**	**15**	*e*Pn	**Pn**	**23 39 31.7**	**-1.4**
NAIG	**Nisos Aigina**	**4.01**	**15**	*e*Pn	**Pn**	**23 39 31.7**	**-1.4**
GUR	**Goura**	**4.05**	**2**	*e*PN	**Pn**	**23 39 33.2**	**-0.4**
GUR	**Goura**	**4.05**	**2**	*e*Pn	**Pn**	**23 39 33.2**	**-0.4**
KLV	**Kalavryta, Ach**	**4.15**	**360**	*e*PN	**Pn**	**23 39 35.6**	**+0.6**
KLV				*e*SN	**Sn**	**23 40 20.6**	**-1.8**
KLV	**Kalavryta, Ach**	**4.15**	**360**	*e*Pn	**Pn**	**23 39 35.6**	**+0.6**
KLV				*e*Sn	**Sn**	**23 40 20.6**	**-1.8**
LTK	**Loutraki**	**4.18**	**9**	*e*PN	**Pn**	**23 39 35.1**	**-0.3**
LTK				*e*SN	**Sn**	**23 40 21.2**	**-1.9**
LTK	**Loutraki**	**4.18**	**9**	*e*Pn	**Pn**	**23 39 35.1**	**-0.3**
LTK				*e*Sn	**Sn**	**23 40 21.2**	**-1.9**
RLS	**Riolos of Patr**	**4.20**	**352**	*e*PN	**Pn**	**23 39 35.8**	**+0.1**
RLS				*e*SN	**Sn**	**23 40 22.7**	**-0.9**
RLS	**Riolos of Patr**	**4.20**	**352**	*e*Pn	**Pn**	**23 39 35.8**	**+0.1**
RLS				*e*Sn	**Sn**	**23 40 22.7**	**-0.9**
LAKA	**Lakka**	**4.35**	**358**	*e*PB	**Pn**	**23 39 38.7**	**+1.0**
LAKA				*e*SN	**Sn**	**23 40 26.1**	**-1.1**
LAKA	**Lakka**	**4.35**	**358**	*e*Pb	**Pn**	**23 39 38.7**	**+1.0**
LAKA				*e*Sn	**Sn**	**23 40 26.1**	**-1.1**
PTL	**Penteli**	**4.38**	**18**	*e*PN	**Pn**	**23 39 36.4**	**-1.7**
PTL	**Penteli**	**4.38**	**18**	*e*Pn	**Pn**	**23 39 36.4**	**-1.7**
KARP	**Karpathos**	**4.44**	**67**	*e*PN	**Pn**	**23 39 37.9**	**-1.0**
KARP				*e*SN	**Sn**	**23 40 29.1**	**-0.3**
KARP	**Karpathos**	**4.44**	**67**	*e*Pn	**Pn**	**23 39 37.9**	**-1.0**
KARP				*e*Sn	**Sn**	**23 40 29.1**	**-0.3**
VLS	**Valsamata**	**4.47**	**344**	*e*PN	**Pn**	**23 39 38.3**	**-1.1**
VLS	**Valsamata**	**4.47**	**344**	*e*Pn	**Pn**	**23 39 38.3**	**-1.1**
KALE	**Kalithea**	**4.50**	**360**	*e*PN	**Pn**	**23 39 39.7**	**-0.1**
KALE	**Kalithea**	**4.50**	**360**	*e*Pn	**Pn**	**23 39 39.7**	**-0.1**
EFP	**Efpalio**	**4.54**	**357**	*e*PN	**Pn**	**23 39 39.7**	**-0.6**
EFP				*e*SN	**Sn**	**23 40 29.9**	**-1.9**
EFP	**Efpalio**	**4.54**	**357**	*e*Pn	**Pn**	**23 39 39.7**	**-0.6**
EFP				*e*Sn	**Sn**	**23 40 29.9**	**-1.9**
LKR	**Lokris**	**4.80**	**8**	*e*PN	**Pn**	**23 39 42.3**	**-1.6**
LKR				*e*SN	**Sn**	**23 40 36.1**	**-2.3**
LKR	**Lokris**	**4.80**	**8**	*e*Pn	**Pn**	**23 39 42.3**	**-1.6**
LKR				*e*Sn	**Sn**	**23 40 36.1**	**-2.3**
STON	**Ston**	**9.63**	**340**	*e*Pn	**Pn**	**23 40 47.6**	**-2.5**
STON				Sn	Sn	23 42 23.4	-14
UDBI	**Udbina**	**11.73**	**337**	Sn	Sn	23 43 18.2	-10
NVLJ	**Novalja**	**12.06**	**334**	Sn	Sn	23 43 23.8	-13

*ISCJB **10** 23:48:01.0±0.6, 24°.77N±0°.03×121°.81E±0°.03, h88km±4km, Error ellipse: s-maj=5.2km s-min=3.2km az=149.6*
*JMA **10** 23:48:01.6±0.2, 24°.85N×121°.88E, h82km, M2.6*
*TAP **10** 23:48:01.0, 24°.76N×121°.77E, h87km, ML3.5, B*
ISC 10 23:48:01.3±1.5, 24°.77N±0°.04×121°.80E±0°.03, h87km±7km, n48, σ0°.64/89, 1C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILA	**Ilan**	**0.05**	**265**	*eP*	**Pn**	**23 48 14.1**	**+0.4**
	baz=285						
ILA				S	**Sn**	**23 48 23.9**	**+1.1**
	baz=285						
EGS		**0.14**	**57**	P	**Pn**	**23 48 14.2**	**+0.4**
	baz=75						
EGS				*eS*	**Sn**	**23 48 24.0**	**+1.0**
	baz=75						
TWC	**Suao**	**0.17**	**165↑**	*iP*	**Pn**	**23 48 14.5**	**+0.6**
	baz=153						
TWC				*i* S	**Sn**	**23 48 24.3**	**+1.2**
	baz=153						
ENTT	**Nioudou**	**0.25**	**239↓**	*iP*	**Pn**	**23 48 14.2**	**-0.1**
	baz=247						
ENTT				S	**Sn**	**23 48 23.2**	**-0.6**
	baz=247						
TWA	**Mucha**	**0.29**	**317↓**	*iP*	**Pn**	**23 48 14.3**	**-0.1**
	baz=316						
TWA				*i* S	**Sn**	**23 48 24.0**	**-0.1**
	baz=316						
TWB1	**Santiao Chiao**	**0.29**	**35**	*i* P	**Pn**	**23 48 14.5**	**+0.1**
	baz=48						
TWB1				*eS*	**Sn**	**23 48 24.1**	**0.0**
	baz=48						
NWF	**Wu-fen Shan**	**0.30**	**356**	P	**Pn**	**23 48 14.6**	**0.0**
	baz=353						
NWF				*i* S	**Sn**	**23 48 24.4**	**0.0**
	baz=353						
ENA	**Nanau**	**0.34**	**189**	*i* P	**Pn**	**23 48 15.3**	**+0.5**
	baz=193						
ENA				*eS*	**Sn**	**23 48 26.0**	**+1.3**
	baz=193						
TAP1	**Taipei**	**0.37**	**317**	*eP*	**Pn**	**23 48 14.4**	**-0.4**
	baz=311						
TAP1				S	**Sn**	**23 48 24.7**	**-0.1**
	baz=311						
TAP	**Taipei**	**0.38**	**315**	P	**Pn**	**23 48 14.5**	**-0.4**
	baz=311						
TAP				*i* S	**Sn**	**23 48 24.9**	**-0.1**
	baz=311						
NSK	**Sanguang**	**0.41**	**257↓**	*iP*	**Pn**	**23 48 14.6**	**-0.6**
	baz=250						
NSK				S	**Sn**	**23 48 24.0**	**-1.6**
	baz=250						
TWS1	**Kuangyinshan**	**0.48**	**313↓**	*iP*	**Pn**	**23 48 15.7**	**0.0**
	baz=305						
TWS1				S	**Sn**	**23 48 26.3**	**0.0**
	baz=305						
NNS	**Nan Shan**	**0.51**	**230**	P	**Pn**	**23 48 15.8**	**-0.3**
	baz=227						
NNS				S	**Sn**	**23 48 27.2**	**+0.2**
	baz=227						
TWY	**Chenhua**	**0.54**	**340**	P	**Pn**	**23 48 16.0**	**-0.1**
	baz=335						
TWY				*eS*	**Sn**	**23 48 27.1**	**0.0**
	baz=335						
NCU	**National Centr**	**0.59**	**290**	*i* P	**Pn**	**23 48 16.4**	**-0.2**
	baz=290						
NCU				*eS*	**Sn**	**23 48 27.3**	**-0.6**
	baz=290						
TWD	**Chiawan**	**0.71**	**195**	*eP*	**Pn**	**23 48 16.9**	**-0.8**
	baz=204						
TWD				*eS*	**Sn**	**23 48 28.6**	**-1.3**
	baz=204						
NSTT	**Nanjuang**	**0.74**	**259↓**	*iP*	**Pn**	**23 48 17.6**	**-0.4**
	baz=254						
NSTT				S	**Sn**	**23 48 29.5**	**-1.0**
	baz=254						
HSN	**Hsinchu**	**0.76**	**273**	*eP*	**Pn**	**23 48 17.4**	**-0.8**
	baz=268						
TWT	**Tachien**	**0.77**	**228**	*eP*	**Pn**	**23 48 19.1**	**+0.6**
	baz=224						
TWT				*eS*	**Sn**	**23 48 31.5**	**+0.2**
	baz=224						
WHF	**Hehuan Shan**	**0.79**	**218**	*eP*	**Pn**	**23 48 18.9**	**-0.1**
	baz=214						
WHF				S	**Sn**	**23 48 31.6**	**-0.5**
	baz=214						
HWA	**Hwalien**	**0.81**	**193**	*eP*	**Pn**	**23 48 18.0**	**-0.7**
	baz=199						
PCYT	**Pengchaiyu**	**0.89**	**16**	*eP*	**Pn**	**23 48 20.0**	**+0.4**
	baz=9.0						
PCYT				*eS*	**Sn**	**23 48 34.1**	**+0.9**
	baz=9.0						
ESL	**Shilin**	**1.01**	**200**	*eP*	**Pn**	**23 48 21.0**	**+0.1**
	baz=195						
ESL				*eS*	**Sn**	**23 48 34.2**	**-1.4**
	baz=195						
NSY	**Sanyi**	**1.01**	**250**	*i* P	**Pn**	**23 48 20.9**	**-0.1**
	baz=250						
NSY				*eS*	**Sn**	**23 48 35.1**	**-0.6**
	baz=250						
TWQ1	**Liyutan**	**1.03**	**246↓**	*iP*	**Pn**	**23 48 21.0**	**-0.2**
	baz=247						
TWQ1				*eS*	**Sn**	**23 48 35.1**	**-1.0**
	baz=247						
YOJ	**Yonaguni jima**	**1.14**	**105**	P	**Pn**	**23 48 22.2**	**-0.3**
YOJ				*eS*	**Sn**	**23 48 37.4**	**-1.0**
TCU	**Taichung**	**1.20**	**239**	*eP*	**Pn**	**23 48 23.2**	**0.0**
	baz=239						
SMLT	**Sun Moon Lake**	**1.21**	**223↓**	*iP*	**Pn**	**23 48 23.6**	**+0.2**
	baz=231						
SMLT				*eS*	**Sn**	**23 48 40.6**	**+0.5**
	baz=231						
TYC	**Yuchr**	**1.22**	**225↓**	*iP*	**Pn**	**23 48 23.6**	**+0.1**
	baz=227						
TYC				S	**Sn**	**23 48 39.9**	**-0.2**
	baz=227						
EHY	**Hungye**	**1.33**	**199**	*eP*	**Pn**	**23 48 24.6**	**-0.3**
	baz=194						
EHY				*eS*	**Sn**	**23 48 41.6**	**-1.0**
	baz=194						
WNT	**Mingjian**	**1.35**	**229↓**	*iP*	**Pn**	**23 48 25.3**	**+0.2**
	baz=238						
WNT				*eS*	**Sn**	**23 48 43.1**	**+0.1**
	baz=238						
TWF1	**Yuli**	**1.48**	**198**	*eP*	**Pn**	**23 48 26.6**	**-0.2**
	baz=201						
TWF1				*eS*	**Sn**	**23 48 46.1**	**0.0**
	baz=201						
YUS	**Yu-Shan**	**1.49**	**212**	*eP*	**Pn**	**23 48 27.8**	**+0.4**
	baz=225						
YUS				*eS*	**Sn**	**23 48 48.0**	**+1.1**
	baz=225						
ALS	**Alishan**	**1.55**	**216**	P	**Pn**	**23 48 28.2**	**+0.3**
	baz=226						
ALS				*eS*	**Sn**	**23 48 49.3**	**+1.4**
	baz=226						
CHN5	**Tsauling**	**1.56**	**222**	*eP*	**Pn**	**23 48 27.9**	**+0.2**
	baz=224						
CHN5				*eS*	**Sn**	**23 48 48.1**	**+0.4**
	baz=224						
WGK	**Gukeng**	**1.56**	**227**	P	**Pn**	**23 48 28.0**	**+0.2**
	baz=238						
WGK				*eS*	**Sn**	**23 48 48.3**	**+0.5**
	baz=238						
CHKT	**Chengkung**	**1.71**	**194**	*eP*	**Pn**	**23 48 29.5**	**-0.2**
	baz=182						
CHKT				*eS*	**Sn**	**23 48 50.8**	**-0.3**
	baz=182						
ELDTW	**Lidau**	**1.73**	**205**	*eP*	**Pn**	**23 48 29.7**	**-0.4**
	baz=208						
ELDTW				*eS*	**Sn**	**23 48 51.6**	**-0.2**
	baz=208						
CHN4	**Tsaushan**	**1.79**	**218**	P	**Pn**	**23 48 31.0**	**+0.2**
	baz=222						
CHN4				*eS*	**Sn**	**23 48 54.6**	**+1.5**
	baz=222						
IRIF	**Iriomote-Funau**	**1.81**	**103**	P	**Pn**	**23 48 30.7**	**-0.2**
IRIF				*eS*	**Sn**	**23 48 52.3**	**-1.1**
WTP	**Ta-pu**	**1.87**	**216**	*eP*	**Pn**	**23 48 31.9**	**+0.2**
	baz=216						
WTP				*eS*	**Sn**	**23 48 55.9**	**+1.0**
	baz=216						
HATJ	**Hateruma jima**	**1.96**	**111**	*eS*	**Sn**	**23 48 57.1**	**+0.2**
CHN1	**Nanshi**	**1.96**	**217**	*eP*	**Pn**	**23 48 32.9**	**-0.1**
	baz=220						
CHN1				*eS*	**Sn**	**23 48 57.5**	**+0.4**
	baz=220						
SGST	**Jiashian**	**2.02**	**214**	*eP*	**Pn**	**23 48 34.1**	**+0.4**
	baz=225						
SGST				*eS*	**Sn**	**23 48 59.0**	**+0.6**
	baz=225						
TWG	**Pinlang**	**2.05**	**199**	*eP*	**Pn**	**23 48 34.8**	**+0.7**
	baz=190						
JKRS	**Kuro-shima**	**2.08**	**104**	*eS*	**Sn**	**23 48 59.8**	**0.0**
JIJ	**Ishigaki jima**	**2.17**	**100**	P	**Pn**	**23 48 35.7**	**0.0**
JIJ				*eS*	**Sn**	**23 49 00.7**	**-1.2**
JTJ	**Tarama**	**2.64**	**92**	*eS*	**Sn**	**23 49 14.0**	**+0.8**

*IDC **10** 23:50:14.3±3.0, 5.24S×101.80E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.6/21, mbtmp3.6/7, Error ellipse: s-maj=132.0km s-min=18.0km az=57.0*
*ISCJB **10** 23:50:18.4±0.8, 5.09S±0.06×101.97E±0.06, h36km, mb3.7/7, Error ellipse: s-maj=9.6km s-min=8.3km az=136.7*
*DJA **10** 23:50:21.7±1.1, 5.5S±7.7×10.2E±°, h67km±21km, M3.7/3, MLv3.7/3*
ISC 10 23:50:20.4±1.1, **5.06S**±0.08×**102.03E**±0.10, **h36**km, **n17**, σ**0.67**/**18**, **mb3.8/7**, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.16**	**53**	P	**Pn**	**23 50 40.4**	**+0.4**
MNAI				S	**Sn**	**23 50 54.8**	**+0.2**
KSI	**Kapahiang**	**1.51**	**22**	P	**Pn**	**23 50 45.1**	**+0.2**
KSI				S	**Sn**	**23 51 02.9**	**-0.4**
LHSI	**Lahat**	**1.93**	**51**	P	**Pn**	**23 50 50.6**	**0.0**
LHSI				S	**Sn**	**23 51 13.3**	**-0.4**
LWLI	**Liwa**	**2.02**	**89**	P	**Pn**	**23 50 52.5**	**+0.4**
MDSI	**Maura Dua**	**2.22**	**75**	P	**Pn**	**23 50 54.4**	**-0.2**
MDSI				S	**Sn**	**23 51 20.8**	**0.0**
KASI	**Kota Agung**	**2.50**	**101**	P	**Pn**	**23 50 59.2**	**+0.7**
CMAR	**Chiang Mai Arr**	**23.56**	**353**	P	**P**	**23 55 26.8**	**-0.9**
	0.4nm,0.6s,baz=190,slow=9.7,SNR=3.4						
H01W3	**Cape Leeuwin H**	**31.72**	**161**	T	T	00 29 37.1	
	baz=338,slow=0.7,SNR=7.5						
H01W2	**Cape Leeuwin H**	**31.74**	**161**	T	T	00 29 38.2	
	baz=338,slow=0.7,SNR=7.8						
H01W1	**Cape Leeuwin H**	**31.74**	**161**	T	T	00 29 37.8	
	baz=338,slow=0.7,SNR=6.5						
WRA	**Warramunga Arr**	**34.74**	**118**	P	**P**	**23 57 07.7**	**+0.2**
	0.2nm,0.6s,baz=292,slow=8.2,SNR=4.3						
ASAR	**Alice Springs**	**35.85**	**124**	P	**P**	**23 57 17.2**	**+0.3**
	0.3nm,0.4s,baz=294,slow=8.0,SNR=4.9						
STKA	**Stephens Creek**	**45.63**	**131**	P	**P**	**23 58 35.8**	**-1.7**
	2.6nm,1.0s,baz=304,slow=9.5,SNR=2.3						
SONM	**Songino Array**	**52.81**	**4**	P	**P**	**23 59 33.2**	**+1.0**
	1.4nm,1.0s,baz=183,slow=9.4,SNR=7.0						
MKAR	**Makanchi Array**	**54.51**	**343**	P	**P**	**23 59 44.9**	**+0.3**
	0.5nm,0.5s,baz=150,slow=9.3,SNR=17						
ZALV	**Zalesovo Beam**	**60.54**	**348**	P	**P**	**00 00 27.0**	**+0.1**
	0.7nm,0.4s,baz=163,slow=5.6,SNR=4.9						
TXAR	**Lajitas Array**	**145.74**	**42**	PKPbc	**PKPab**	**00 09 57.6**	**+0.8**
	0.3nm,0.7s,baz=290,slow=2.7,SNR=3.3						

IDC 11 00:02:56.3±8.0, **5.87N**×**127.34E**, **h142**km±76km, **mb3.4**/12, **mb1 3.6**/13, **mb1mx3.4**/26, **mbtmp3.5**/13, **MS3.2**/1, **Ms1 3.2**/1, **ms1mx2.8**/25, **Error ellipse: s-maj=48.9km s-min=15.1km az=66.0**, **Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**16.38**	**193**	P	P	00 06 38.7	+0.1
	3.4nm,0.3s,baz=19,slow=2.7,SNR=8.9						
FITZ	**Fitzroy Crossi**	**23.88**	**184**	P	P	00 07 57.0	+0.1
	1.1nm,0.6s,baz=83,slow=2.5,SNR=5.8						
WRA	**Warramunga Arr**	**26.55**	**165**	P	P	00 08 21.3	+0.1
	0.7nm,0.6s,baz=346,slow=10,SNR=14						
ASAR	**Alice Springs**	**30.04**	**168**	P	P	00 08 51.6	-0.6
	0.2nm,0.4s,baz=345,slow=7.0,SNR=5.1						
KSRS	**Korea Array**	**31.44**	**1**	LR	LR	00 22 25.3	
	comp=Z,41nm,18.7s,baz=47,slow=37						
STKA	**Stephens Creek**	**39.92**	**161**	P	P	00 10 16.5	-0.2
	0.5nm,0.4s,baz=86,slow=23,SNR=3.0						
SONM	**Songino Array**	**45.49**	**340**	P	P	00 11 01.0	-0.6
	0.7nm,0.6s,baz=157,slow=7.6,SNR=5.4						
MKAR	**Makanchi Array**	**56.17**	**324**	P	P	00 12 21.9	+0.5
	1.3nm,0.5s,baz=118,slow=7.6,SNR=28						
ZALV	**Zalesovo Beam**	**58.98**	**332**	P	P	00 12 40.0	-0.8
	0.7nm,0.3s,baz=106,slow=8.4,SNR=3.5						
AAK	**Ala-Archa**	**59.21**	**317**	P	P	00 12 44.2	+1.3
	0.5nm,0.3s,baz=36,slow=2.8,SNR=3.5						
KURBB	**Kurchatov Arra**	**60.29**	**327**	P	P	00 12 49.9	0.0
	1.4nm,0.8s,baz=125,slow=6.3,SNR=12						
BVAR	**Borovoye Array**	**65.88**	**326**	P	P	00 13 25.8	-0.9
	1.6nm,0.6s,baz=124,slow=9.1,SNR=10.0						
ILAR	**Eielson Array**	**82.92**	**26**	P	P	00 15 05.7	+0.6
	0.3nm,0.5s,baz=246,slow=9.8,SNR=3.5						
FINES	**FINESS Array B**	**90.25**	**332**	P	P	00 15 40.4	-0.3
	1.9nm,0.9s,baz=134,slow=4.0,SNR=5.2						
TORD	**Torodi Ar. Bea**	**122.81**	**290**	PKP	PKPdf	00 21 36.0	-0.5
	0.4nm,0.8s,baz=63,slow=2.5,SNR=3.4						

*IDC **11** 00:05:06.8±0.9, 30.75N×141.29E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.6/24, mbtmp3.8/7, ML3.6/1, Error ellipse: s-maj=37.6km s-min=21.6km az=85.0*
*JMA **11** 00:05:08.6±0.1, 30.88N×141.50E, h15km, M4.0*
ISC 11 00:05:12.3±0.8, **30.85N**±0.07×**141.6E**±0.2, **h37**km, **n16**, σ**1.52**/**19**, **mb3.8/6**, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.71**	**327**	*eS*	**Sn**	**00 06 24.0**	**-0.7**
CBIJ	**Chichi jima**	**3.78**	**172**	P	**Pn**	**00 06 08.6**	**+0.5**
CBIJ				*eS*	**Sn**	**00 06 53.2**	**+1.9**
JCJ	**Chichijima**	**3.78**	**172**	Pn	**Pn**	**00 06 06.8**	**-1.3**
	4.8nm,0.3s,baz=287,slow=20,SNR=3.3						
JCJ				Sn	Sn	00 06 43.0	-8.3
	4.8nm,0.3s,baz=287,slow=19,SNR=2.1						
BSO3	**Boso 3**	**4.04**	**347**	*eS*	**Sn**	**00 06 58.7**	**+1.5**
BSO4	**Boso 4**	**4.25**	**346**	*eS*	**Sn**	**00 07 03.6**	**+0.8**
JHU	**Hanno**	**5.34**	**339**	*eS*	**Sn**	**00 07 29.9**	**+0.1**
JRY	**Ryogami san**	**5.62**	**337**	P	**Pn**	**00 06 35.1**	**+1.8**
JRY				*eS*	**Sn**	**00 07 38.4**	**+1.9**
JHO	**Hitachi**	**5.80**	**352**	P	**Pn**	**00 06 35.3**	**-0.5**
JHO				*eS*	**Sn**	**00 07 37.9**	**-3.2**
JAG	**Ashikaga**	**5.83**	**343**	P	**Pn**	**00 06 37.1**	**+0.9**
JAG				*eS*	**Sn**	**00 07 40.2**	**-1.6**
KURBB	**Kurchatov Arra**	**50.09**	**312**	P	**P**	**00 14 02.6**	**-0.8**
	0.6nm,0.5s,baz=91,slow=9.8,SNR=3.8						
WRA	**Warramunga Arr**	**50.98**	**189**	P	**P**	**00 14 09.3**	**-1.1**
	0.2nm,0.4s,baz=6.7,slow=7.6,SNR=7.1						
ASAR	**Alice Springs**	**54.71**	**189**	P	**P**	**00 14 36.2**	**-1.7**
	0.2nm,0.5s,baz=0.0,slow=5.7,SNR=3.5						
FINES	**FINESS Array B**	**74.36**	**333**	P	**P**	**00 16 46.0**	**+0.1**
	2.8nm,1.0s,baz=64,slow=4.4,SNR=5.5						
NVAR	**Mina Array Bea**	**78.62**	**52**	P	**P**	**00 17 11.9**	**+1.2**
	0.5nm,0.7s,baz=305,slow=5.2,SNR=4.2						
TXAR	**Lajitas Array**	**93.77**	**53**	P	P	00 18 27.7	+1.9
	1.0nm,0.7s,baz=307,slow=2.8,SNR=13						
LPAZ	**La Paz**	**149.27**	**69**	PKPbc	**PKPbc**	**00 24 59.3**	**+0.9**
	0.8nm,0.6s,baz=309,slow=5.0,SNR=4.1						

IDC 11 00:15:58.3±5.6, **5.33S**×**145.68E**, **h104**km±62km, **mb3.2**/4, **mb1 3.4**/6, **mb1mx3.2**/17, **mbtmp3.2**/6, **MS3.3**/1, **Ms1 3.3**/1, **ms1mx2.8**/14, **Error ellipse: s-maj=48.0km s-min=26.6km az=134.0**, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.31**	**160**	P	Pn	00 17 02.1	+0.4
	14nm,0.3s,baz=349,slow=6.1,SNR=30						
PMG				S	Sn	00 17 51.1	+0.1
	6.3nm,0.3s,baz=149,slow=21,SNR=7.7						
WRA	**Warramunga Arr**	**18.24**	**216**	P	P	00 20 03.8	0.0
	0.1nm,0.3s,baz=28,slow=11,SNR=5.8						
ASAR	**Alice Springs**	**21.47**	**211**	P	P	00 20 40.3	+1.6
	0.3nm,0.6s,baz=35,slow=8.1,SNR=4.0						
FITZ	**Fitzroy Crossi**	**23.33**	**235**	P	P	00 20 56.5	-1.0
	2.4nm,0.5s,baz=64,slow=8.1,SNR=11						
KAPI	**Kappang**	**25.82**	**270**	LR	LR	00 32 53.3	
	comp=Z,70nm,19.1s,baz=314,slow=39						
SONM	**Songino Array**	**63.19**	**331**	P	P	00 26 15.9	+0.3
	0.3nm,0.6s,baz=131,slow=5.9,SNR=2.8						
ILAR	**Eielson Array**	**85.39**	**23**	P	P	00 28 23.9	+0.1
	0.5nm,0.8s,baz=247,slow=4.7,SNR=4.8						
TORD	**Torodi Ar. Bea**	**143.65**	**285**	PKP	PKPab	00 35 19.4	+0.4
	0.3nm,0.7s,baz=65,slow=4.1,SNR=2.1						

IDC 11 00:19:17.6±0.9, **15.71S**×**173.34W**, **h0**km, **mb3.9**/7, **mb1 4.2**/8, **mb1mx4.0**/21, **mbtmp3.9**/8, **ML1.8**/1, **Error ellipse: s-maj=49.9km s-min=19.9km az=139.0**, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.34**	**40**	P	Pn	00 19 57.1	-0.4
	14nm,0.3s,baz=79,slow=3.0,SNR=6.3						
AFI				Sn	Sn	00 20 25.5	-1.6
	19nm,0.3s,baz=53,slow=22,SNR=3.6						
WRA	**Warramunga Arr**	**49.83**	**257**	P	P	00 28 11.5	-1.3
	0.8nm,0.9s,baz=97,slow=6.8,SNR=5.0						
ASAR	**Alice Springs**	**50.07**	**252**	P	P	00 28 13.7	-1.0
	2.9nm,0.8s,baz=88,slow=8.4,SNR=24						
VNDA	**Vanda**	**63.08**	**186**	P	P	00 29 46.8	+0.5
	1.1nm,0.7s,baz=63,slow=4.2,SNR=3.0						
NVAR	**Mina Array Bea**	**74.52**	**42**	P	P	00 30 58.2	-0.3
	0.8nm,0.7s,baz=230,slow=9.7,SNR=6.7						
PDAR	**Pinedale Array**	**82.46**	**42**	P	P	00 31 40.6	-1.7
	0.6nm,0.8s,baz=204,slow=3.3,SNR=4.7						
ILAR	**Eielson Array**	**82.74**	**11**	P	P	00 31 42.5	-0.4
	0.7nm,0.7s,baz=223,slow=6.3,SNR=9.0						
YKA	**Yellowknife Ar**	**90.36**	**23**	P	P	00 32 20.8	+0.5
	0.7nm,0.7s,baz=238,slow=5.0,SNR=2.9						
BVAR	**Borovoye Array**	**118.16**	**322**	PKP	PKPdf	00 38 06.5	0.0
	0.5nm,0.7s,baz=48,slow=6.4,SNR=3.3						
BRTR	**Keskin Array B**	**146.43**	**321**	PKPbc	PKPab	00 39 02.5	+0.6
	1.7nm,0.8s,baz=130,slow=2.8,SNR=10						
GERES	**GERESS Array B**	**146.45**	**352**	PKPbc	PKPbc	00 39 00.2	-0.6
	0.7nm,0.7s,baz=319,slow=5.3,SNR=4.2						
MMAI	**Mount Meron Ar**	**148.81**	**309**	PKPbc	PKPbc	00 39 08.2	+0.5
	2.0nm,0.9s,baz=152,slow=6.4,SNR=3.8						

MAN 11 00:29:16, **6.42N**×**126.42E**, **h1**km, **mb4.7**, **ML3.6**, **MS3.6**, **1C-3D**, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.55**	**343**	*eP*	Pg	00 29 26.7	+0.2
MATI				*eS*	Sg	00 29 30.2	-3.4
DMPH	**Davao City--Mi**	**1.12**	**306↑**	*eP*	Sn	00 29 57.0	+2.1
KCP	**Kidapawan**	**1.44**	**294↓**	*eP*	Pn	00 29 43.0	-0.4
KCP				*i* S	Sn	00 30 03.8	+0.8
GSPH	**General Santos**	**1.50**	**257↓**	*eP*	Pn	00 29 39.9	-4.3
BUKP	**Musuan**	**1.98**	**317**	*eP*	Pn	00 29 50.8	+0.1
BUKP				*eS*	Sn	00 30 11.3	-4.9
CGP	**Cagayan de Oro**	**2.65**	**320↓**	*eP*	Pn	00 30 00.3	+0.4
CGP				*eS*	Sn	00 30 34.5	+1.8
BUTP	**Butuan**	**2.65**	**343**	*eP*	Pn	00 30 01.7	+1.8

MEX 11 00:36:13.8±0.6, **17.80N**×**99.32W**, **h3**km±6km, **MD3.8**, **Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.31**	**294**	*i* P	Pg	00 36 19.1	-0.9
MEIG				*i* S	Sg	00 36 24.8	+0.6
PLIG	**Platanillo**	**0.62**	**344**	*eP*	Pg	00 36 25.3	-0.5
PLIG				*i* S	Sg	00 36 34.0	0.0
ACX	**Acapulco**	**1.05**	**209**	*i* P	Pg	00 36 25.2	-8.9
ACX				*i* S	Sg	00 36 38.8	-9.1
YAIG	**Yautepec**	**1.09**	**13**	*i* P	Pg	00 36 32.5	-2.4
YAIG				*i* S	Sg	00 36 46.9	-2.3
ARIG	**Puente Sto Nin**	**1.09**	**296**	*eP*	Pg	00 36 32.8	-2.0
ARIG				*i* S	Sg	00 36 46.0	-3.0
CAIG	**El Cayaco**	**1.17**	**231**	*i* P	Pg	00 36 33.3	-3.0
CAIG				*eS*	Sg	00 36 48.5	-3.0
PNIG	**Pinotepa**	**1.80**	**141**	*i* P	Pn	00 36 42.8	-3.0
PNIG				*i* S	Sn	00 37 04.4	-4.9
ZIIG	**Zihuatanejo**	**2.05**	**265**	*i* P	Pn	00 36 45.8	-3.5
ZIIG				*i* S	Sn	00 37 10.3	-5.1

IDC 11 00:51:05.8±1.6, **7.03S**×**154.93E**, **h0**km, **mb3.6**/6, **mb1 3.8**/6, **mb1mx3.7**/16, **mbtmp3.6**/6, **Error ellipse: s-maj=64.3km s-min=23.5km az=114.0**, **Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.75**	**235**	P	P	00 56 18.8	-1.2
	1.4nm,0.9s,baz=58,slow=9.1,SNR=8.1						
ASAR	**Alice Springs**	**26.11**	**228**	P	P	00 56 41.0	-0.7
	0.3nm,0.6s,baz=59,slow=9.6,SNR=5.4						
STKA	**Stephens Creek**	**27.68**	**205**	P	P	00 56 57.5	+1.9
	3.3nm,0.9s,baz=25,slow=11,SNR=4.4						
SONM	**Songino Array**	**59.33**	**327**	P	P	01 02 16.7	+1.4
	0.3nm,0.4s,baz=126,slow=7.4,SNR=2.7						
MKAR	**Makanchi Array**	**83.39**	**319**	P	P	01 03 34.5	-0.5
	0.3nm,0.7s,baz=101,slow=6.3,SNR=3.6						
ILAR	**Eielson Array**	**83.42**	**22**	P	P	01 03 34.0	-0.9
	0.1nm,0.4s,baz=232,slow=5.2,SNR=3.6						
TORD	**Torodi Ar. Bea**	**152.97**	**285**	PKPbc	PKPbc	01 11 05.8	-0.5
	0.4nm,0.7s,baz=80,slow=2.4,SNR=3.6						

IDC 11 00:54:08.8±1.0, **0.92N**×**126.08E**, **h0**km, **mb3.8**/6, **mb1 3.9**/6, **mb1mx3.7**/20, **mbtmp3.8**/6, **Error ellipse: s-maj=131.1km s-min=16.9km az=67.0**, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.26**	**159**	P	P	00 59 07.2	-0.4
	3.1nm,0.7s,baz=339,slow=11,SNR=9.7						
ASAR	**Alice Springs**	**25.59**	**163**	P	P	00 59 41.1	+1.1
	0.5nm,0.3s,baz=347,slow=11,SNR=13						
ASAR				PcP	PcP	01 03 09.7	-1.6
	0.3nm,0.6s,baz=330,slow=2.1,SNR=5.5						
STKA	**Stephens Creek**	**35.78**	**157**	P	P	01 01 09.5	-0.3
	0.8nm,0.3s,baz=324,slow=6.8,SNR=3.9						
SONM	**Songino Array**	**49.75**	**343**	P	P	01 03 04.8	+1.6
	0.6nm,0.8s,baz=151,slow=9.5,SNR=2.9						
MKAR	**Makanchi Array**	**59.50**	**327**	P	P	01 04 13.5	-0.4
	0.5nm,0.4s,baz=122,slow=7.5,SNR=10						
**KURB

439nm,0.8s,4μm1.5nm
KULM Kulim 5.98 33 P **Pn** **01 01 15.6 0.0**
KULM Kulim 5.98 33 P **Pn** **01 01 15.1 -0.5**
156nm,0.9s,1μm0.5nm
KULM Kulim 5.98 33 *e*Pn **Pn** **01 01 14.7 -0.9**
136nm,0.9s
KGM Kluang 6.20 74 P **Pn** **01 01 18.9 +0.3**
KSI Kapahiang 6.50 127 P **Pn** **01 01 22.9 +0.1**
501nm,0.7s,14μm2.5nm
MYKOM Kota Tinggi 6.66 77 P Pn 01 01 17.9 -7.0
MYKOM Kota Tinggi 6.66 77 P **Pn** **01 01 25.1 +0.2**
42nm,0.8s,0.2nm
MNAI Manna 7.22 129 P **Pn** **01 01 32.2 -0.4**
575nm,1.3s,2.0nm
MNAI Manna 7.22 129 P **Pn** **01 01 32.2 -0.4**
baz=7.0,SNR=6.7
LHSI Lahat 7.36 123 P **Pn** **01 01 35.0 +0.4**
392nm,1.0s,4μm1.3nm
SKLT Songkhla 7.60 25 P **Pn** **01 01 35.9 -1.9**
45nm,0.5s,902nm0.2nm
SKLT Songkhla 7.60 25 P **Pn** **01 01 38.2 +0.4**
45nm,0.5s,912nm0.2nm
KTGM Kuala Trenggan 7.65 49 P **Pn** **01 01 38.9 +0.4**
KRAB Krabi 8.13 13 P **Pn** **01 01 43.4 -1.7**
36nm,0.7s,4μm0.3nm
MDSI Maura Dua 8.27 125 P **Pn** **01 01 46.0 -1.0**
281nm,0.8s,2μm
LWLI Liwa 8.48 128 P **Pn** **01 01 49.7 -0.4**
249nm,0.6s,6μm
KLI Kotabumi 9.04 124 P **Pn** **01 01 57.8 +0.2**
190nm,0.8s
KASI Kota Agung 9.14 129 P **Pn** **01 01 58.2 -0.8**
108nm,0.9s
CISI Cisompet, Garu 12.98 127 P Pn 01 02 47.3 -4.4
baz=13,SNR=4.7
CHBT CHBT 13.36 21 P **Pn** **01 02 56.0 -0.8**
CHBT CHBT 13.36 21 P **P** **01 03 05.4 -0.6**
SBUM Sibu 15.01 81 P **Pn** **01 03 19.9 +0.7**
SBUM Sibu 15.01 81 P **P** **01 03 24.3 0.0**
SKNT Sakolnakorn 17.85 21 P **Pn** **01 03 54.7 -0.6**
47nm,0.8s
CM31 Chiang Mai Arr 18.16 5 *e*P **Pn** **01 03 58.0 -1.1**
CMAR Chiang Mai Arr 18.16 5 P **P** **01 03 59.0 -0.3**
CMAR Chiang Mai Arr 18.16 5 P **P** **01 03 59.0 -0.3**
0.8nm,0.3s,baz=194,slow=11,SNR=23
CHTO Chiang Mai 18.52 5 *e*P **P** **01 04 02.1 -1.0**
29nm,0.9s
CHTO Chiang Mai 18.52 5 P **Pn** **01 04 04.7 +1.2**
KKM Kota Kinabalu 19.67 73 P **Pn** **01 04 17.3 -0.2**
SDKM Sandakan 20.50 74 P **P** **01 04 25.6 +0.5**
TSM Tawau 20.87 79 P **P** **01 04 29.5 +0.6**
KAPI Kappang 22.96 103 LR LR 01 16 01.3
comp=Z,168nm,18.5s,baz=106,slow=42
SHL Shillong 25.72 349 *e*P **P** **01 05 20.0 +2.8**
H08S2 Diego Garcia H 26.02 252 T T 01 32 35.4
baz=71,slow=0.7,SNR=837
H08S3 Diego Garcia H 26.02 252 T T 01 32 18.0
baz=71,slow=0.7,SNR=662
H08S1 Diego Garcia H 26.03 252 T T 01 32 37.1
baz=71,slow=0.7,SNR=889
FITZ Fitzroy Crossi 33.24 125 *e*P **P** **01 06 23.3 -0.6**
9.3nm,1.0s
FITZ Fitzroy Crossi 33.24 125 P **P** **01 06 23.5 -0.4**
baz=33,SNR=6.1
FITZ Fitzroy Crossi 33.24 125 P **P** **01 06 22.2 -1.7**
3.0nm,0.7s,baz=289,slow=7.1,SNR=11
H01W3 Cape Leeuwin H 38.31 158 T T 01 47 42.3
baz=333,slow=0.7,SNR=44
H01W2 Cape Leeuwin H 38.32 158 T T 01 47 47.0
baz=333,slow=0.7,SNR=34
H01W1 Cape Leeuwin H 38.32 157 T T 01 47 43.3
baz=333,slow=0.7,SNR=33
WRA Warramunga Arr 41.40 121 P **P** **01 07 32.0 -1.0**
WRA Warramunga Arr 41.40 121 P **P** **01 07 32.0 -1.0**
2.6nm,0.7s,baz=304,slow=8.6,SNR=24
WRAB Tennant Creek 41.40 121 *e*P **P** **01 07 32.8 -0.3**
ASAR Alice Springs 42.69 126 P **P** **01 07 44.0 +0.3**
ASAR PcP **PcP** **01 09 35.3 0.0**
ASAR pPcP 01 09 47.4
ASAR Alice Springs 42.69 126 P **P** **01 07 44.0 +0.3**
1.9nm,0.7s,baz=300,slow=8.1,SNR=31
ASAR PcP **PcP** **01 09 35.3 0.0**
0.4nm,0.8s,baz=321,slow=2.4,SNR=2.4
ASAR pPcP 01 09 47.4
1.0nm,0.7s,baz=309,slow=3.4,SNR=4.9
AS31 Alice Springs 42.69 126 *e*P **P** **01 07 42.3 -1.3**
JNU Nakatsue 45.41 41 P **P** **01 08 05.1 -0.2**
JNU Nakatsue 45.41 41 P **P** **01 08 05.1 -0.2**
4.1nm,0.6s,baz=222,slow=2.3,SNR=3.7
KSAR Wonju Array Be 46.51 34 P **P** **01 08 14.4 +0.6**
KSRS Korea Array 46.53 34 P **P** **01 08 14.4 +0.4**
7.6nm,0.7s,baz=222,slow=9.1,SNR=30
SONM Songino Array 48.04 8 P **P** **01 08 26.7 +0.9**
SONM pP **pP** **01 08 35.8 +1.2**
SONM pPcP 01 10 04.9
SONM Songino Array 48.04 8 P **P** **01 08 26.7 +0.9**
2.2nm,0.6s,baz=191,slow=9.3,SNR=16
SONM pP **pP** **01 08 35.8 +1.2**
5.8nm,0.7s,baz=194,slow=7.8,SNR=23
SONM pPcP 01 10 04.9
2.0nm,0.8s,baz=187,slow=4.2,SNR=5.1
MK31 Makanchi Array 48.20 346 *e*P **P** **01 08 26.3 -0.6**
MKAR Makanchi Array 48.20 346 P **P** **01 08 27.1 +0.2**
MKAR pP **pP** **01 08 36.8 +1.1**
MKAR Makanchi Array 48.20 346 P **P** **01 08 27.1 +0.2**
1.5nm,0.6s,baz=161,slow=8.3,SNR=24
MKAR pP **pP** **01 08 36.8 +1.1**
7.1nm,0.6s,baz=157,slow=7.8,SNR=25
KKAR Karatay Array 48.98 334 *e*P **P** **01 08 32.0 -0.9**
3.7nm,0.8s
STKA Stephens Creek 52.60 132 *e*P **P** **01 08 59.2 -1.2**
STKA Stephens Creek 52.60 132 P **P** **01 09 01.3 +0.9**
baz=52,SNR=4.7
STKA Stephens Creek 52.60 132 P **P** **01 09 00.1 -0.3**
4.6nm,0.8s,baz=217,slow=6.6,SNR=9.4
KURBB Kurchatov Arra 52.69 345 P **P** **01 09 01.2 +0.5**
0.7nm,0.6s,baz=165,slow=7.0,SNR=11
KURK Kurchatov 52.75 345 *e*P **P** **01 09 00.2 -0.9**
1.5nm,0.7s
USRK Ussuriysk Arra 53.49 31 P **P** **01 09 07.3 +0.6**
3.9nm,0.7s,baz=227,slow=5.0,SNR=10
ZAAO Zalesovo Array 54.52 351 *e*P **P** **01 09 14.3 +0.3**
ZALV Zalesovo Beam 54.52 351 P **P** **01 09 14.6 +0.6**
ZALV Zalesovo Beam 54.52 351 P **P** **01 09 14.6 +0.6**
1.4nm,0.3s,baz=164,slow=5.9,SNR=7.9
CMSA Cobar Meteorol 55.56 129 P **P** **01 09 23.4 +1.4**
baz=55,SNR=4.7
BVAR Borovoye Array 57.20 341 P **P** **01 09 33.2 -0.1**
BVAR pP **pP** **01 09 43.5 +1.3**
BVAR Borovoye Array 57.20 341 P **P** **01 09 33.2 -0.1**
1.2nm,0.5s,baz=147,slow=8.9,SNR=6.8
BVAR pP **pP** **01 09 43.5 +1.3**
3.8nm,0.8s,baz=176,slow=4.5,SNR=12
ABKAR Akbulak array 58.43 332 *e*P **P** **01 09 40.5 -1.5**
0.9nm,0.4s
AKTO Aktyubinsk 60.15 332 P **P** **01 09 51.9 -1.9**
AKTO Aktyubinsk 60.15 332 P **P** **01 09 51.9 -1.9**
0.7nm,0.4s,baz=117,slow=4.5,SNR=4.3
HNR Honiara 63.02 101 P **P** **01 10 13.5 -0.4**
HNR Honiara 63.02 101 P **P** **01 10 13.5 -0.4**
32nm,0.3s,baz=151,slow=16,SNR=4.3
BR131 Keskin Array S 69.88 313 *e*P **P** **01 10 56.1 -1.4**
2.9nm,0.6s
BRTR Keskin Array B 69.88 313 P **P** **01 10 57.0 -0.6**
BRTR pP **pP** **01 11 07.8 +1.1**
BRTR Keskin Array B 69.88 313 P **P** **01 10 57.0 -0.6**
1.1nm,0.7s,baz=143,slow=6.2,SNR=8.8
BRTR pP **pP** **01 11 07.8 +1.1**
3.5nm,0.7s,baz=103,slow=6.2,SNR=20
TIRR Tirgusor 74.92 316 ⇓*i*P P 01 11 33.5 +6.2
AKASG Malin Array Be 76.11 323 P **P** **01 11 33.4 -0.6**
AKASG pP **pP** **01 11 43.5 +0.3**
AKASG Malin Array Be 76.11 323 P **P** **01 11 33.4 -0.6**
2.1nm,0.7s,baz=87,slow=5.1,SNR=6.6
AKASG pP **pP** **01 11 43.5 +0.3**
5.4nm,0.6s,baz=89,slow=4.7,SNR=15
VRI Vrincioaia 76.43 317 ⇑*i*P P 01 11 44.2 +8.2
TESR Tescani 76.64 318 ⇑*i*P **P** **01 11 37.2 +0.1**
MLR Muntele Rosu 76.87 317 ⇑*i*P **P** **01 11 38.8 +0.2**
ARR Arges 77.75 316 ⇑*i*P **P** **01 11 43.2 -0.3**
BURAR Bucovina Array 77.85 319 ⇑*i*P **P** **01 11 45.3 +1.3**
BUR08 Bucovina Ar. S 77.86 319 *e*P **P** **01 11 44.4 +0.2**
VTS Vitosha 78.20 313 ⇑*i*P P 01 11 54.1 +7.9
JOF Joensuu 79.07 335 *e*p P 01 12 02.1 +12
2.2nm,0.5s
DRGR 79.34 318 ⇑*i*P P 01 11 56.1 +3.8

BZS Buzias 79.88 316 ⇑*i*P P 01 12 05.9 +11
FINES FINESS Array B 80.92 333 P **P** **01 12 00.3 0.0**
FINES pP **pP** **01 12 11.1 +1.6**
FINES FINESS Array B 80.92 333 P **P** **01 12 00.3 0.0**
0.6nm,0.3s,baz=114,slow=4.8,SNR=6.0
FINES pP **pP** **01 12 11.1 +1.6**
5.1nm,0.6s,baz=115,slow=8.2,SNR=8.9
KAF Kangasniemi 81.00 333 *e*p P 01 12 11.9 +11
3.2nm,0.5s
ARCES ARCESS Array B 83.48 340 P **P** **01 12 13.9 +0.3**
ARCES ARCESS Array B 83.48 340 P **P** **01 12 13.9 +0.3**
3.6nm,1.0s,baz=109,slow=6.8,SNR=4.1
GERES GERESS Array B 85.64 319 P **P** **01 12 25.7 +0.6**
GERES GERESS Array B 85.64 319 P **P** **01 12 25.7 +0.6**
0.2nm,0.6s,baz=112,slow=7.5,SNR=2.9
NB2 NORSAR Subarra 87.91 331 P P 01 12 47.2 +11
comp=Z,7.1nm,1.2s,baz=96,slow=4.6
NB2 NORSAR Subarra 87.91 331 P P 01 12 47.2 +11
baz=96,slow=4.6
NOA NORSAR Array B 87.91 331 P **P** **01 12 36.8 +0.9**
NOA pP **pP** **01 12 47.5 +2.4**
NOA NORSAR Array B 87.91 331 P **P** **01 12 36.8 +0.9**
comp=Z,0.9nm,1.0s,baz=118,slow=4.0,SNR=2.7
NOA pP **pP** **01 12 47.5 +2.4**
comp=Z,1.6nm,0.8s,baz=96,slow=4.7,SNR=3.9
LPG La Plagne 90.26 315 *e*P P 01 12 59.8 +12
comp=Z,6.8nm,0.9s
LPL La Plagne 90.27 315 *e*P P 01 12 59.9 +12
comp=Z,11nm,1.0s
HAU Haudompre 90.50 318 *e*P P 01 13 00.3 +12
comp=Z,10nm,0.8s
CABF La Chapelle 90.70 316 *e*P P 01 13 01.1 +12
MEZF Maizieres J'vi 91.36 318 *e*P P 01 13 04.6 +12
comp=Z,5.2nm,0.8s
SFTF Sexfontaines 91.38 318 *e*P P 01 13 03.9 +12
comp=Z,11nm,0.7s
BAIF Baives 91.85 320 *e*P P 01 13 07.2 +13
comp=Z,21nm,1.0s
LOR Lormes 92.21 317 *e*P P 01 13 08.3 +12
comp=Z,5.5nm,0.8s
SMF Signal de Mont 92.25 317 *e*P P 01 13 07.8 +11
comp=Z,7.0nm,0.9s
BGF Bois d'Agland 92.94 316 *e*P P 01 13 12.3 +13
MTLF Montolieu 93.59 313 *e*P P 01 13 14.2 +12
TORD Torodi Ar. Bea 95.47 283 P **P** **01 13 09.3 -2.6**
TORD Torodi Ar. Bea 95.47 283 P **P** **01 13 09.3 -2.6**
comp=Z,0.6nm,0.9s,baz=27,slow=0.6,SNR=2.6
NVAR Mina Array Bea 129.45 36 PKP **PKPdf** **01 18 57.0 +1.3**
NVAR Mina Array Bea 129.45 36 PKP **PKPdf** **01 18 57.0 +1.3**
comp=Z,0.1nm,0.3s,baz=66,slow=3.1,SNR=2.3
TXAR Lajitas Array 144.38 33 PKP **PKPdf** **01 19 23.7 +0.4**
TXAR pPKP **pPKPdf** **01 19 32.8 -0.2**
TXAR Lajitas Array 144.38 33 PKP **PKPdf** **01 19 23.7 +0.4**
comp=Z,0.3nm,0.7s,baz=240,slow=1.8,SNR=2.4
TXAR pPKP **pPKPdf** **01 19 32.8 -0.2**
comp=Z,1.0nm,0.7s,baz=221,slow=1.2,SNR=8.2
CPUP Villa Florida 144.41 221 PKP **PKPab** **01 19 20.2 -1.2**
CPUP Villa Florida 144.41 221 PKP **PKPab** **01 19 20.2 -1.2**
comp=Z,2.2nm,0.8s,baz=175,slow=7.4,SNR=4.0

IDC 11 01:11:45.6±2.3, 19°54S×170°67W, h0km, mb4.2/2, mb1 4.5/3, mb1mx4.0/19, mbtmp4.4/3, ML3.1/1, Error ellipse: s-maj=74.1km s-min=35.5km az=128.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.70**	**349**	Pn	Pn	01 13 12.8	+1.2
	35nm,0.3s,baz=25,slow=16,SNR=7.3						
ASAR	**Alice Springs**	**51.44**	**255**	P	P	01 20 54.0	+1.0
	4.5nm,0.7s,baz=87,slow=8.4,SNR=43						
WRA	**Warramunga Arr**	**51.56**	**260**	P	P	01 20 52.7	-1.2
	1.1nm,0.6s,baz=95,slow=7.1,SNR=17						
GERES	**GERESS Array B**	**150.55**	**354**	PKPbc	PKPbc	01 31 38.8	-0.7
	0.1nm,0.3s,baz=352,slow=6.0,SNR=2.6						
BRTR	**Keskin Array B**	**150.99**	**319**	PKPbc	PKPbc	01 31 40.6	-0.2
	0.5nm,0.2s,baz=38,slow=2.6,SNR=4.2						

*NIED **11** 01:12:00, 43.00N×147.00E, h26km, Mw5.2 Best double couple: M0 6.31000×10^16 NP1:φs33.00000°, δ66.00000°, λ85.00000°. NP2:φs224.00000°, δ25.00000°, λ100.00000°.*
*IDC **11** 01:12:11.7±0.5, 43.08N×146.62E, h0km, mb4.8/25, mb1 4.9/30, mb1mx4.9/31, mbtmp4.8/30, ML4.0/5, MS4.6/24, Ms1 4.6/24, ms1mx4.5/32, Error ellipse: s-maj=13.5km s-min=11.9km az=138.0*
*DJA **11** 01:12:13.5±1.1, 43°N±9.9', 14°7E±2.2', 0, h10km, M5.4/12, mB5.8/3, mb5.4/12, Mw(mB)5.4/3*
*JMA **11** 01:12:14.4±0.2, 43.00N×146.98E, h50km±4km, M5.4*
JMA Felt III J1.
*SKHL **11** 01:12:15.4±0.2, 42.89N×146.83E, h55km±25km, mb5.9/4, mbh5.6/2, Ms5.0/6, msh5.8/3*
*ISCJB **11** 01:12:17.2±0.4, 43.10N±0.03×146.71E±0.02, h47km±3km, mb5.2/288, MS4.9/56, Error ellipse: s-maj=4.4km s-min=2.1km az=168.8*
*MOS **11** 01:12:17.3±0.9, 43.17N×146.64E, h46km, mb5.4/95, MS5.1/24, Error ellipse: s-maj=7.1km s-min=4.1km az=111.9*
MOS Felt (II-III) at Yuzhno-Kuril'sk.
*BJI **11** 01:12:17.2, 43.31N×146.58E, h45km, mB5.4/45, mb5.3/61, Ms5.0/66, MS7 4.9/61*
*NEIC **11** 01:12:18.4±0.1, 43.15N×146.60E, mb5.2/164, Error ellipse: s-maj=3.8km s-min=2.1km az=162.0*
NEIC Felt [III] at Yuzhno-Kuril'sk. Recorded [3 JMA] in eastern Hokkaido and [1 JMA] in southeastern Hokkaido.
*GCMT **11** 01:12:21.3±0.2, 43.09N×146.83E, h28km±1km, MW5.2, Moment Tensor Solution. s56,c87; s78,c135; Moment tensor: Scale 10^16Nm; Mrr3.97±.20; Mθθ-1.48±.13; Mφφ-2.49±.14; Mrθ2.92±.23; Mrφ-3.21±.09; Mθφ4.69±.27; Best double couple: M0 7.20000×10^16 NP1:φs33.00000°, δ70.00000°, λ83.00000°. NP2:φs232.00000°, δ21.00000°, λ108.00000°. Principal axes: T 6.6200, Plg64.0000°, Azm292.0000°; N 1.1700, Plg6.0000°, Azm35.0000°; P -7.7900, Plg25.0000°, Azm128.0000°; Data Used: II IU IC G CN.*
*SZGRF **11** 01:12:23.7, 44.28N×145.51E, h28km, mb4.9, MS4.9, Hokkaido, Japan, region*

ISC 11 01:12:18.3±0.3, 43°10N±0°04×146°68E±0°03, h43km±1km, h42km:pP-P, n1251, σ1°00/1347, mb5.2/288, MS5.0/56, 248C-230D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.73**	**291**	⇑P	**Pn**	**01 12 32.0**	**-0.2**
NEM2				*e*S	**Sn**	**01 12 44.6**	**+2.4**
YUK	**Yuzh-Kuril'sk**	**1.10**	**328**	*c* iPN	**Pn**	**01 12 36.6**	**-0.6**
YUK				pmax	pmax		
	comp=Z,16μm,2.4s						
YUK				pmax	pmax		
	comp=N,5μm,0.4s						
YUK				pmax	pmax		
	comp=E,2μm,0.4s						
YUK				pmax	pmax		
	comp=Z,15μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.10**	**328**	⇑*i*P	**Pn**	**01 12 36.6**	**-0.6**
YUK				AMB	AMB	01 12 42.1	
	comp=Z,5μm,0.4s						
YUK				AMB	AMB	01 12 42.1	
	comp=Z,2μm,0.4s						
YUK				AMB	AMB	01 12 42.1	
	comp=Z,15μm,0.4s						
YUK				*i* S	**Sn**	**01 12 52.6**	**+1.3**
JRA	**Rausu**	**1.41**	**307**	⇑P	**Pn**	**01 12 41.5**	**+0.1**
JRA				*e*S	**Sn**	**01 13 01.8**	**+3.1**
JAK	**Akkeshi**	**1.46**	**266**	⇑P	**Pn**	**01 12 41.7**	**-0.4**
JAK				*e*S	**Sn**	**01 13 01.3**	**+1.3**
JNK	**Nakash**	**1.51**	**289**	P	**Pn**	**01 12 42.6**	**-0.2**
JNK				*e*S	**Sn**	**01 13 03.8**	**+2.5**
JOB	**Onbets**	**2.10**	**265**	⇑P	**Pn**	**01 12 50.6**	**-0.2**
JAR	**Ashorobuto**	**2.14**	**276**	⇑P	**Pn**	**01 12 51.6**	**+0.2**
JAR				*e*S	**Sn**	**01 13 19.4**	**+2.7**
JTKR	**Abashiri--Toko**	**2.19**	**294**	⇑P	**Pn**	**01 12 53.1**	**+0.9**
JTKR				S	**Sn**	**01 13 22.6**	**+4.5**
KUR	**Kuril'sk**	**2.29**	**21**	*d* iPN	**Pn**	**01 12 52.7**	**-0.8**
KUR				*i* S	**Sn**	**01 13 20.7**	**+0.2**
KUR				pmax	pmax		
	comp=Z,658nm,0.7s						
KUR				smax	smax		
	comp=N,2602μm,0.4s						

KUR	**Kuril'sk**	**2.29**	**21**	⇓*i*P	**Pn**	**01 12 52.8**	**-0.8**
KUR				AMB	AMB	01 13 02.6	
	comp=N,154nm,0.2s						
KUR				AMB	AMB	01 13 02.7	
	comp=N,182nm,0.4s						
KUR				AMB	AMB	01 13 07.6	
	comp=N,12μm,4.0s						
KUR				AMB	AMB	01 13 07.6	
	comp=N,10μm,1.6s						
KUR				AMB	AMB	01 13 08.2	
	comp=N,1μm,0.3s						
KUR				AMB	AMB	01 13 08.2	
	comp=N,1μm,0.3s						
KUR				AMB	AMB	01 13 08.2	
	comp=N,3μm,0.3s						
KUR				*i* S	**Sn**	**01 13 20.7**	**+0.2**
KUR				A	A	01 13 33.8	
	comp=N,8μm,0.4s						
KUR				A	A	01 13 33.8	
	comp=N,7μm,0.4s						
KUR				A	A	01 13 45.0	
	comp=N,54μm,2.0s						
KUR				A	A	01 13 45.0	
	comp=N,32μm,2.0s						
KUR				A	A	01 13 45.0	
	comp=N,25μm,2.0s						
KUR				A	A	01 13 45.0	
	comp=N,20μm,2.0s						
JCH	**Churui**	**2.49**	**260**	P	**Pn**	**01 12 55.7**	**-0.5**
JCH				S	**Sn**	**01 13 27.1**	**+1.8**
JMP	**Maruseppu**	**2.58**	**292**	⇑P	**Pn**	**01 12 58.8**	**+1.3**
JEM	**Erimo**	**2.82**	**249**	P	**Pn**	**01 13 01.9**	**+1.1**
JKK2	**Kamakawa 2**	**2.96**	**286**	P	**Pn**	**01 13 04.2**	**+1.4**
JFR	**Furan**	**2.99**	**273**	P	**Pn**	**01 13 03.8**	**+0.6**
JNBK	**Urakawa-nobuka**	**3.01**	**255**	P	**Pn**	**01 13 03.3**	**-0.1**
ASAJ	**Asahikawa**	**3.13**	**290**	⇑P	**Pn**	**01 13 07.0**	**+1.9**
ASAJ	**Asahikawa**	**3.13**	**290**	*e*Pn	**Pn**	**01 13 06.6**	**+1.5**
ASAJ				Sn	Sn	01 13 50.3	+9.1
ASAJ	**Asahikawa**	**3.13**	**290**	Pn	**Pn**	**01 13 03.7**	**-1.4**
	comp=N,40nm,0.3s,baz=121,slow=12,SNR=95						
ASAJ				Sn	Sn	01 13 50.3	+9.1
	comp=N,266nm,0.3s,baz=187,slow=25,SNR=8.0						
ASAJ				LR	LR	01 14 28.6	
	comp=N,14μm,21.9s,baz=71,slow=44						
JBT2	**Biratori 2**	**3.19**	**266**	P	**Pn**	**01 13 05.6**	**-0.2**
JAB	**Ashibetsu**	**3.28**	**279**	⇑P	**Pn**	**01 13 09.3**	**+2.2**
JKB	**Kayabe**	**4.35**	**256**	⇑P	**Pn**	**01 13 22.0**	**+0.2**
YSS	**Yuzh-Sakhalins**	**4.75**	**326**	*a* iPN	**Pn**	**01 13 28.2**	**+0.9**
YSS				*e*S	**Sn**	**01 14 21.0**	**0.0**
YSS				pmax	pmax		
	comp=Z,100nm,0.4s						
YSS				smax	smax		
	comp=N,540μm,0.6s						
YSS				MLR	MLR		
	comp=N,14μm,16.0s						
YSS				MLR	MLR		
	comp=Z,16μm,16.0s						
YSS				MLR	MLR		
	comp=E,8μm,15.0s						
YSS	**Yuzh-Sakhalins**	**4.75**	**326**	⇑*i*P	**Pn**	**01 13 28.2**	**+0.9**
YSS				⇑*e*P	**Pn**	**01 13 28.2**	**+0.9**
YSS				AMB	AMB	01 13 29.3	
	comp=E,100nm,0.4s						
YSS				*e*sP	sP	01 13 48.2	
YSS				*e*S	**Sn**	**01 14 21.0**	**0.0**
YSS				A	A	01 14 26.6	
	comp=E,540nm,0.6s						
YSS				*e*LQ	LQ	01 14 43.0	
YSS				*e*LR	LR	01 15 08.0	
YSS				AMS	AMS	01 15 30.0	
	comp=E,14μm,16.0s						
YSS				AMS	AMS	01 15 30.0	
	comp=E,16μm,16.0s						
YSS				AMS	AMS	01 15 30.0	
	comp=E,8μm,15.0s						
UGL	**Uglegorsk**	**6.78**	**333**	*e*PN	**Pn**	**01 13 58.0**	**+2.9**
UGL				S	Sn	01 15 19.2	+8.3
UGL				pmax	pmax		
	comp=Z,2μm,2.0s						
UGL				pmax	pmax		
	comp=Z,190nm,0.9s						
UGL				smax	smax		
	comp=E,250nm,0.8s						
UGL				smax	smax		
	comp=N,73nm,0.4s						
UGL				smax	smax		
	comp=N,1μm,2.0s						
UGL				smax	smax		
	comp=E,2μm,4.0s						
UGL				MLR	MLR		
	comp=N,8μm,14.0s						
UGL				MLR	MLR		
	comp=Z,6μm,14.0s						
UGL				MLR	MLR		
	comp=E,4μm,18.0s						
UGL	**Uglegorsk**	**6.78**	**333**	*e*P	**Pn**	**01 13 58.0**	**+2.9**
UGL				AMB	AMB	01 13 59.0	
	comp=E,2μm,2.0s						
UGL				AMB	AMB	01 14 02.0	
	comp=E,190nm,0.9s						
UGL				*e*S	Sn	01 15 19.2	+8.3
UGL				A	A	01 15 20.5	
	comp=E,250nm,0.8s						
UGL				A	A	01 15 20.5	
	comp=E,75nm,0.4s						
UGL				A	A	01 15 26.0	
	comp=E,1μm,2.0s						
UGL				A	A	01 15 26.0	
	comp=E,2μm,4.0s						
UGL				*e*L	L	01 15 40.0	
UGL				AMS	AMS	01 17 04.0	
	comp=E,8μm,14.0s						
UGL				AMS	AMS	01 17 04.0	
	comp=E,6μm,14.0s						
UGL				AMS	AMS	01 17 04.0	
	comp=E,4μm,18.0s						
TEY	**Ternei**	**7.51**	**288**	*e*P	**Pn**	**01 14 06.0**	**+0.9**
TEY				AMB	AMB	01 14 06.7	
	comp=E,56nm,1.2s						
TEY				*e*LR	LR	01 17 10.0	
TEY				AMS	AMS	01 17 18.0	
	comp=E,6μm,15.0s						
TEY				AMS	AMS	01 17 18.0	
	comp=E,32μm,16.0s						
TEY				AMS	AMS	01 17 18.0	
	comp=E,3μm,15.0s						
TYV	**Tymovskoe**	**8.23**	**342**	*e*P	**Pn**	**01 14 17.0**	**+2.0**
TYV				AMB	AMB	01 14 18.5	
	comp=E,1μm,6.0s						
TYV				AMB	AMB	01 14 21.0	
	comp=E,88nm,1.0s						
TYV				AMB	AMB	01 14 21.0	
	comp=E,72nm,1.2s						
TYV				AMB	AMB	01 14 21.0	
	comp=E,210nm,1.4s						
TYV				*e*S	**Sn**	**01 15 51.0**	**+4.4**
TYV				A	A	01 15 53.0	
	comp=E,95nm,0.8s						
TYV				A	A	01 15 53.0	
	comp=E,88nm,1.2s						
TYV				A	A	01 16 00.5	
	comp=E,1μm,5.0s						
TYV				AMS	AMS	01 17 45.0	
	comp=E,12μm,16.0s						
TYV				AMS	AMS	01 17 45.0	
	comp=E,12μm,16.0s						
TYV				AMS	AMS	01 17 45.0	
	comp=E,4μm,14.0s						
MAJO	**Matsushiro**	**9.24**	**228**	*e*PN	**Pn**	**01 14 27.1**	**-1.8**
MAJO	**Matsushiro**	**9.24**	**228**	*e*Pn	**Pn**	**01 14 27.1**	**-1.8**
MAT	**Matsushiro**	**9.24**	**228**	P	**Pn**	**01 14 26.6**	**-2.3**
MAT				S	**Sn**	**01 16 07.8**	**-3.7**
SKR	**Severo-Kuril's**	**9.95**	**37**	*e*PN	Pn	01 14 28.2	-10
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				MLR	MLR		
	comp=N,6μm,18.0s						
SKR				MLR	MLR		
	comp=Z,6μm,18.0s						
SKR				MLR	MLR		
	comp=E,3μm,20.0s						
SKR	**Severo-Kuril's**	**9.95**	**37**	*e*rx	rx	01 14 28.2	

SKR eS Sn 01 16 22.5 -6.3
SKR A A 01 16 32.5
comp=E,80nm,0.5s
SKR AMS AMS 01 18 26.0
comp=E,3μm,20.0s
SKR AMS AMS 01 18 26.0
comp=E,6μm,18.0s
SKR AMS AMS 01 18 26.0
comp=E,9μm,18.0s
SKR AMS AMS 01 18 26.0
comp=E,7μm,20.0s
SKR AMS AMS 01 18 26.0
comp=E,6μm,18.0s
USRK Ussuriysk Arra 10.71 281 Pn **Pn 01 14 47.3 -1.6**
comp=E,2.1nm,0.3s,baz=91,slow=12,SNR=36
USRK LR LR 01 19 09.4
comp=E,4μm,18.4s,baz=245,slow=39
OKH Okha 10.74 348 ePN Pn 01 14 40.0 -9.4
OKH MLR MLR
comp=Z,10μm,16.0s
NKL Nikolayevsk 10.82 340 *i* P **Pn 01 14 51.0 +0.6**
NKL AMB AMB 01 14 55.0
comp=Z,900nm,3.5s
NKL AMB AMB 01 14 55.0
comp=Z,1μm,3.5s
NKL AMB AMB 01 14 55.8
comp=Z,370nm,1.4s
NKL AMB AMB 01 14 55.8
comp=Z,370nm,1.6s
NKL AMB AMB 01 14 55.8
comp=Z,470nm,1.6s
NKL eL L 01 17 44.0
NKL AMS AMS 01 19 22.0
comp=Z,4μm,17.0s
NKL AMS AMS 01 19 22.0
comp=Z,7μm,17.0s
NKL AMS AMS 01 19 22.0
comp=Z,4μm,15.0s
VLA Vladivostok 10.82 275⇑ *i* PN **Pn 01 14 53.2 +2.7**
VLA eS **Sn 01 16 54.4 +4.3**
VLA pmax pmax
comp=Z,202nm,1.2s
JKY Yasaka 11.65 234 P **Pn 01 15 01.0 -0.9**
KLR Kul'dur 12.02 306 ePN **Pn 01 15 06.0 -0.8**
KLR *e* 01 17 28.0
KLR pmax pmax
comp=E,240nm,1.8s
KLR pmax pmax
comp=Z,300nm,1.8s
KLR MLR MLR
comp=Z,26μm,12.0s
PEA0B Petropavlovsk- 12.41 32 ePn **Pn 01 15 10.5 -1.6**
PETK Petropavlovsk- 12.41 32 PN **Pn 01 15 10.8 -1.4**
PETK pmax pmax
comp=Z,2.0nm,0.3s
PETK MLR MLR
comp=Z,2μm,19.8s
PETK Petropavlovsk- 12.41 32 Pn **Pn 01 15 10.8 -1.4**
PETK Petropavlovsk- 12.41 32 Pn **Pn 01 15 10.8 -1.4**
comp=Z,1.9nm,0.3s,baz=199,slow=13,SNR=26
PETK LR LR 01 20 12.4
comp=Z,2μm,19.8s,baz=228,slow=39
MDJ Mudanjiang 12.43 283 P **Pn 01 15 13.3 +0.8**
MDJ sP 01 15 24.9
MDJ S **Sn 01 17 31.6 +2.1**
MDJ SS **SnSn 01 17 42.7 +1.2**
MDJ PcP **PcP 01 20 51.6 +1.3**
MDJ AMB AMB
comp=Z,77nm,1.2s
MDJ AMB AMB
comp=Z,330nm,8.4s
MDJ LR LR
comp=Z,3μm,16.5s
MDJ LR LR
comp=Z,5μm,16.5s
KSRS Korea Array 15.38 255 Pn **Pn 01 15 50.3 -1.9**
comp=Z,0.3nm,0.3s,baz=60,slow=13,SNR=26
KSRS Sn **Sn 01 18 45.5 +4.2**
comp=Z,0.4nm,0.3s,baz=68,slow=24,SNR=4.2
KSRS PcP **PcP 01 20 54.9 +0.6**
comp=Z,0.2nm,0.3s,baz=45,slow=1.9,SNR=5.4
KSRS LR LR 01 22 19.5
comp=Z,2μm,19.0s,baz=64,slow=40
KSAR Wonju Array Be 15.41 255 Pn **Pn 01 15 50.3 -2.3**
KSAR Sn **Sn 01 18 45.5 +3.4**
KSAR PcP **PcP 01 20 54.9 +0.5**
CN2 Changchun 15.44 280 eP **Pn 01 15 50.1 -2.8**
CN2 ePP **PnPn 01 16 03.3 +1.9**
CN2 eS **Sn 01 18 38.6 -4.1**
CN2 eSS **S 01 18 58.5 +1.4**
CN2 AMB AMB
comp=Z,60nm,1.7s
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,2μm,17.0s
CN2 LR LR
comp=Z,4μm,17.0s
CN2 LR LR
comp=Z,5μm,18.0s
JNU Nakatsue 15.91 236 ePn **Pn 01 15 56.4 -2.7**
comp=Z,104nm,1.1s
JNU Nakatsue 15.91 236 Pn **Pn 01 15 56.0 -3.2**
comp=Z,0.3nm,0.3s,baz=50,slow=8.5,SNR=6.8
JNU LR LR 01 22 47.9
comp=Z,2μm,19.2s,baz=33,slow=40
JCJ Chichijima 16.39 194 LR LR 01 21 50.1
comp=Z,466nm,19.5s,baz=286,slow=35
ZEA Zeya 16.66 316 eP **Pn 01 16 07.8 -0.6**
ZEA AMB AMB 01 16 16.0
comp=Z,200nm,2.0s
ZEA AMB AMB 01 16 16.0
comp=Z,400nm,2.0s
ZEA AMB AMB 01 16 16.0
comp=Z,300nm,3.0s
ZEA AMB AMB 01 16 16.4
comp=Z,220nm,1.6s
ZEA AMB AMB 01 16 16.4
comp=Z,180nm,1.6s
ZEA AMB AMB 01 16 16.4
comp=Z,240nm,1.6s
SNY Shenyang 17.09 274 ⇓P **Pn 01 16 12.6 -1.2**
SNY S **Sn 01 19 18.7 -4.0**
SNY AMB AMB
comp=Z,66nm,1.3s
SNY AMB AMB
comp=Z,5μm,6.7s
SNY LR LR
comp=Z,1μm,14.9s
SNY LR LR
comp=Z,2μm,16.7s
SNY LR LR
comp=Z,2μm,15.7s
DL2 Dalian 19.34 266 P **P 01 16 40.3 +0.4**
DL2 eS **S 01 20 12.0 -4.4**
DL2 AMB AMB
comp=Z,140nm,1.4s
DL2 AMB AMB
comp=Z,940nm,5.7s
DL2 LR LR
comp=Z,520nm,14.2s
DL2 LR LR
comp=Z,740nm,13.8s
DL2 LR LR
comp=Z,1μm,16.2s
CLNS Chul'man 19.51 322 eP **Pn 01 16 45.2 +2.0**
CLNS eS **Sn 01 20 20.5 -0.5**
CLNS pmax pmax
comp=Z,29nm,1.2s
CLNS pmax pmax
comp=E,17nm,1.0s
CLNS pmax pmax
comp=N,29nm,1.1s
CLNS smax smax
comp=N,212nm,12.2s
CLNS smax smax
comp=E,159nm,13.3s
CLNS MLR MLR
comp=Z,5μm,16.0s
CLNS MLR MLR
comp=E,3μm,15.0s
CLNS MLR MLR
comp=N,2μm,15.0s
FX1 Attu Island--F 20.14 52 eP Pn 01 16 49.6 -1.0
FX1 Attu Island--F 20.14 52 P **P 01 16 49.1 +0.6**
comp=N,40nm,0.6s,baz=86,slow=2.0,SNR=20
FX1 LR LR 01 25 01.5
comp=N,686nm,18.2s,baz=269,slow=38
SEY Seymchan 20.14 8 eP **P 01 16 47.7 -0.8**
YAK Yakutsk 21.46 338 eP **P 01 17 03.1 +0.4**
YAK *e* 01 17 24.1
YAK eS **S 01 21 00.0 +1.9**
YAK *e* 01 21 05.3
YAK eSS **SnSn 01 21 25.5 +2.3**
YAK eSSS SSS 01 21 40.3
YAK *e* 01 28 20.1
YAK pmax pmax
comp=Z,39nm,1.2s
YAK pmax pmax
comp=N,30nm,1.4s
YAK pmax pmax
comp=E,26nm,1.2s
YAK pmax pmax
comp=Z,130nm,1.8s
YAK pmax pmax
comp=N,142nm,1.8s
YAK pmax pmax
comp=E,100nm,1.4s
YAK smax smax
comp=N,113nm,2.0s
YAK smax smax
comp=E,74nm,1.6s
YAK MLR MLR
comp=Z,3μm,16.0s
YAK MLR MLR
comp=N,2μm,17.0s
YAK MLR MLR
comp=E,1μm,14.0s
JOW Kunigami 22.08 229 eP **P 01 17 09.4 -0.2**
comp=E,88nm,1.1s
BJI Beijing 22.96 273 P **P 01 17 17.6 -1.3**
BJI S **S 01 21 25.6 -0.4**
BJI AMB AMB
comp=E,150nm,1.7s
BJI AMB AMB
comp=E,700nm,3.7s
BJI LR LR
comp=E,1μm,17.4s
BJI LR LR
comp=E,2μm,17.4s
BJI LR LR
comp=E,1μm,26.3s
BJT Baijiatuau 22.98 273 eP **P 01 17 17.3 -1.7**
comp=E,184nm,1.1s
SSE Sheshan 23.50 248 P **P 01 17 25.0 +0.7**
SSE S **S 01 21 35.0 +0.1**
SSE AMB AMB
comp=E,97nm,1.2s
SSE AMB AMB
comp=E,590nm,6.6s
SSE LR LR
comp=E,1μm,17.5s
SSE LR LR
comp=E,1μm,17.5s
SSE LR LR
comp=E,2μm,20.0s
TIA Tai'an 23.69 263⇑P **P 01 17 25.8 -0.2**
TIA AMB AMB
comp=E,110nm,1.2s
TIA AMB AMB
comp=E,970nm,5.0s
TIA LR LR
comp=E,860nm,13.8s
TIA LR LR
comp=E,940nm,12.9s
NJ2 Nanjing 24.55 253 eP **P 01 17 34.1 +0.2**
NJ2 pP **pP 01 17 45.5 +0.2**
NJ2 sP **sP 01 17 49.6 -0.8**
NJ2 S **S 01 21 54.0 +2.3**
NJ2 sS **sS 01 22 11.0 +0.3**
NJ2 AMB AMB
comp=E,50nm,1.0s
NJ2 AMB AMB
comp=E,500nm,8.5s
NJ2 LR LR
comp=E,5μm,24.0s
NJ2 LR LR
comp=E,4μm,22.0s
NJ2 LR LR
comp=E,3μm,20.4s
HHC Hu-ho-hao-te 26.09 277 eP **P 01 17 47.8 -0.2**
HHC sP **sP 01 18 05.0 +0.5**
HHC PP **PnPn 01 18 30.0 +2.6**
HHC PcP **PcP 01 21 15.8 +1.2**
HHC S **S 01 22 17.9 +1.5**
HHC sS **sS 01 22 32.9 -2.6**
HHC ScS **ScS 01 28 38.6 -2.0**
HHC AMB AMB
comp=E,2μm,5.8s
HHC LR LR
comp=E,1μm,13.1s
HHC LR LR
comp=E,3μm,13.5s
HHC LR LR
comp=E,3μm,13.2s
TIY Taiyuan 26.51 270 eP **P 01 17 53.5 +1.8**
TIY AMB AMB
comp=E,110nm,1.2s
TIY LR LR
comp=E,540nm,11.9s
TIY LR LR
comp=E,960nm,14.6s
TIY LR LR
comp=E,1μm,16.4s
BTO Baotou 27.28 277 eP **P 01 17 58.6 -0.1**
BTO AMB AMB
comp=E,22nm,0.9s
SONM Songino Array 28.41 294 P **P 01 18 08.9 +0.2**
SONM ScP **ScP 01 25 00.8 +3.2**
SONM Songino Array 28.41 294 P **P 01 18 08.9 +0.2**
comp=E,35nm,0.9s,baz=88,slow=7.1,SNR=155
SONM ScP **ScP 01 25 00.8 +3.2**
comp=E,0.7nm,0.9s,baz=104,slow=3.0,SNR=3.3
SONM LR LR 01 30 37.1
comp=E,6μm,18.9s,baz=85,slow=39
WHN Wuhan 28.57 255⇓ *i* P **P 01 18 11.2 +1.1**
WHN sP **sP 01 18 22.7 -4.0**
WHN AMB AMB
comp=E,160nm,1.0s
WHN LR LR
comp=E,2μm,13.9s
WHN LR LR
comp=E,4μm,13.3s
WHN LR LR
comp=E,5μm,19.1s
H11N2 WAKE ISLAND Hy 28.85 138 T T 01 49 02.7
baz=331,slow=0.7
H11N1 WAKE ISLAND Hy 28.86 138 T T 01 49 07.8
baz=331,slow=0.7,SNR=9962
H11N3 WAKE ISLAND Hy 28.86 138 T T 01 49 09.6
baz=331,slow=0.7
IRK Irkutsk 29.60 303 eP **P 01 18 19.8 +0.7**
IRK pmax pmax
comp=Z,38nm,1.4s
H11S1 WAKE ISLAND Hy 29.79 139 T T 01 50 16.0
baz=333,slow=0.7
H11S3 WAKE ISLAND Hy 29.80 139 T T 01 50 17.0
baz=333,slow=0.7
H11S2 WAKE ISLAND Hy 29.81 139 T T 01 50 17.3
baz=333,slow=0.7
TIXI Tiksi 29.93 349 eP **P 01 18 22.5 +0.8**
TLY Talaya 29.99 302 eP P 01 18 30.8 +8.2
TLY eS **S 01 23 18.2 +0.8**
TLY pmax pmax
comp=Z,10.0nm,1.1s
TLY MLR MLR
comp=Z,3μm,15.0s
ZAK Zakamensk 30.26 299⇑ *i* P **P 01 18 25.6 +0.5**
ZAK *e* 01 21 25.1
ZAK pmax pmax
comp=Z,17nm,1.0s
XAN Xi'an 30.66 266 P **P 01 18 28.8 +0.1**
XAN pP **pP 01 18 40.1 -0.1**
XAN sP **sP 01 18 47.2 +1.9**
XAN PP **PnPn 01 19 28.9 -0.4**
XAN PcP **PcP 01 21 26.3 +0.3**
XAN S **S 01 23 24.0 -4.3**
XAN SS **ScP 01 25 06.5 +1.5**
XAN AMB AMB
comp=Z,11nm,1.3s
XAN AMB AMB
comp=Z,85nm,10.0s
XAN LR LR
comp=Z,540nm,17.1s
XAN LR LR
comp=Z,160nm,15.8s
MOY Mondy 31.64 302 eP **P 01 18 37.2 0.0**
MOY pmax pmax
comp=Z,34nm,2.4s
ENH Enshi 32.19 259 eP **P 01 18 42.3 +0.1**
comp=Z,25nm,0.8s
LZH Lanzhou 33.46 273⇑P **P 01 18 54.2 +0.9**
LZH pP **pP 01 19 05.4 +0.5**
LZH sP **sP 01 19 09.5 -0.5**
LZH PP **PnPn 01 20 06.2 +1.0**
LZH S **S 01 24 09.4 -2.6**
LZH sS **sS 01 24 31.3 0.0**
LZH SS **SnSn 01 26 18.6 +2.3**
LZH AMB AMB
comp=Z,70nm,1.1s
LZH AMB AMB
comp=Z,230nm,4.6s
LZH LR LR
comp=Z,940nm,13.4s
LZH LR LR
comp=Z,1μm,14.0s
LZH LR LR
comp=Z,2μm,14.5s
GTA Gaotai 35.07 280 eP **P 01 19 07.6 +0.4**
GTA pP **pP 01 19 19.8 +1.0**
GTA sP **sP 01 19 25.1 +1.2**
GTA PcP **PcP 01 21 39.9 +1.7**
GTA S **S 01 24 36.5 -0.3**
GTA sS **sS 01 24 58.3 +2.2**
GTA SS **SnSn 01 26 52.3 -2.9**
GTA AMB AMB
comp=Z,29nm,1.1s
GTA AMB AMB
comp=Z,140nm,4.5s
GTA LR LR
comp=Z,1μm,15.0s
GTA LR LR
comp=Z,2μm,15.9s
GTA LR LR
comp=Z,2μm,15.4s
CD2 Chengdu 36.00 265 P **P 01 19 15.4 +0.2**
CD2 pP **pP 01 19 27.8 +1.0**
CD2 sP **sP 01 19 33.4 +1.5**
CD2 PP **PP 01 20 37.8 +0.3**
CD2 S **S 01 24 49.5 -1.6**
CD2 sS **sS 01 25 10.3 -0.2**
CD2 SS **SnSn 01 27 13.0 -4.9**
CD2 AMB AMB
comp=Z,110nm,1.1s
CD2 AMB AMB
comp=Z,190nm,4.5s
CD2 LR LR
comp=Z,2μm,15.5s
CD2 LR LR
comp=Z,950nm,15.5s
HVS Khovu-Aksy 36.24 302 *i* P **P 01 19 17.4 +0.4**
GYA Guiyang 36.43 256⇑ *i* P **P 01 19 19.3 +0.3**
GYA pP **pP 01 19 31.4 +0.8**
GYA sP **sP 01 19 38.0 +2.3**
GYA PP **PP 01 20 42.9 +0.5**
GYA PcP **PcP 01 21 44.3 +1.8**
GYA S **S 01 24 55.7 -2.1**
GYA sS **sS 01 25 15.9 -1.4**
GYA ScP **ScP 01 25 25.7 +0.3**
GYA SS **SnSn 01 27 21.1 -7.4**
GYA ScS **ScS 01 29 30.0 -2.0**
GYA AMB AMB
comp=Z,40nm,0.9s
GYA AMB AMB
comp=Z,220nm,4.9s
GYA LR LR
comp=Z,1μm,18.9s
GYA LR LR
comp=Z,1μm,18.0s
GYA LR LR
comp=Z,2μm,18.6s
QIZ Qiongzhong 39.18 244 P **P 01 19 42.7 +0.6**
QIZ pP **pP 01 19 54.2 +0.4**
QIZ S **S 01 25 40.2 +0.9**
QIZ AMB AMB
comp=Z,13nm,1.2s
QIZ LR LR
comp=Z,1μm,18.3s
QIZ LR LR
comp=Z,510nm,16.4s
QIZ LR LR
comp=Z,2μm,18.8s
IM04 Indian Mountai 39.36 34 eP **P 01 19 42.6 -0.5**
IMA2 Indian Mountai 39.40 34 eP **P 01 19 43.6 0.0**
RSO Redoubt South 39.67 43 eP **P 01 19 46.1 +0.1**
PPLA Purkeypile 39.90 39 eP **P 01 19 47.8 0.0**
comp=Z,188nm,1.6s
CAST Castle Rocks 39.95 38 eP **P 01 19 48.3 +0.3**
comp=Z,27nm,0.7s
KMI Kunming 40.04 258 P **P 01 19 50.4 +0.9**
KMI pP **pP 01 20 02.7 +1.4**
KMI sP **sP 01 20 08.3 +2.0**
KMI PP **PnPn 01 21 27.2 +1.5**
KMI S **S 01 25 52.3 -0.4**
KMI sS **sS 01 26 13.4 +1.2**
KMI SS SS 01 28 43.5 -7.3
KMI AMB AMB
comp=Z,52nm,1.0s
KMI AMB AMB
comp=Z,260nm,3.1s
KMI LR LR
comp=Z,1μm,17.7s
KMI LR LR
comp=Z,920nm,13.5s
KMI LR LR
comp=Z,1μm,15.6s
BPAW Bear Paw Mtn. 40.44 37 eP **P 01 19 52.6 +0.4**
comp=Z,168nm,2.1s
TRF Thorofare Moun 40.76 38 eP **P 01 19 53.0 -1.9**
comp=Z,24nm,0.8s
COLD Coldfoot 40.88 32 eP **P 01 19 55.9 +0.2**
comp=Z,268nm,2.2s
ZAA0 Zalesovo Array 41.12 308 eP **P 01 19 56.1 -1.7**
ZALV Zalesovo Beam 41.12 308 P **P 01 19 56.2 -1.6**
ZALV 01 21 56.2
ZALV pmax pmax
comp=Z,5.0nm,0.3s
ZALV MLR MLR
comp=Z,1μm,19.2s
ZALV Zalesovo Beam 41.12 308 P **P 01 19 56.2 -1.6**
ZALV PcP **PcP 01 21 56.1 -0.4**
ZALV Zalesovo Beam 41.12 308 P **P 01 19 56.2 -1.6**
comp=Z,4.8nm,0.3s,baz=78,slow=7.7,SNR=31
ZALV PcP **PcP 01 21 56.1 -0.4**
comp=Z,7.9nm,0.7s,baz=80,slow=3.5,SNR=5.9
ZALV LR LR 01 38 21.6
comp=Z,1μm,19.2s,baz=70,slow=38
MCK McKinley 41.35 37 eP **P 01 19 59.6 -0.1**
MCK pmax pmax
comp=Z,74nm,1.4s
MCK McKinley 41.35 37 eP **P 01 19 59.5 -0.1**
comp=Z,74nm,1.4s
COLA College 41.80 36 eP **P 01 20 03.7 +0.5**
COLA pmax pmax
comp=Z,160nm,0.8s
COLA College 41.80 36 eP **P 01 20 03.7 +0.5**
comp=Z,160nm,0.8s
NVS Novosibirsk 41.86 309⇑ *i* P **P 01 20 01.7 -2.1**
NVS *e* 01 21 56.4
NVS eS S 01 26 26.8 +8.3
NVS pmax pmax
comp=E,10.0nm,1.1s
NVS pmax pmax
comp=Z,16nm,1.1s
NVS smax smax
comp=E,20nm,1.9s
WMQ Urumqi 42.02 292 P **P 01 20 05.9 +0.5**
WMQ pP **pP 01 20 18.2 +1.0**
WMQ sP **sP 01 20 23.6 +1.4**
WMQ PP **PP 01 21 47.0 +4.0**
WMQ PcP **PcP 01 22 01.1 +1.3**
WMQ S **S 01 26 21.3 0.0**
WMQ SS **SS 01 29 23.8 -5.4**
WMQ ScS **ScS 01 30 02.2 -1.9**
WMQ AMB AMB
comp=E,93nm,1.2s
WMQ AMB AMB
comp=E,430nm,4.2s

WMQ LR LR
comp=E,1µm,16.6s
WMQ LR LR
comp=E,5µm,15.2s
WMQ LR LR
comp=E,3µm,18.0s
ILAR Eielson Array 42.21 36 P **P** **01 20 04.8 -1.8**
ILAR Eielson Array 42.21 36 P **P** **01 20 04.8 -1.8**
comp=E,6.0nm,0.7s,baz=254,slow=6.6,SNR=45
ILAR LR LR 01 40 01.4
comp=E,453nm,18.2s,baz=276,slow=40
PAX Paxson 42.96 38 *eP* **P** **01 20 12.0 -0.8**
PAX *e**PP **pP** **01 20 25.5 +0.9**
PAX pmax pmax
comp=Z,18nm,1.0s
PAX Paxson 42.96 38 *eP* **P** **01 20 12.0 -0.8**
comp=Z,18nm,1.0s
PAX *e*pP **pP** **01 20 25.5 +0.9**
DOT Dot Lake 43.52 37 *eP* **P** **01 20 16.7 -0.6**
comp=Z,231nm,2.7s
BMRM Bremner River 43.61 41 *eP* **P** **01 20 18.1 +0.1**
comp=Z,31nm,0.8s
MENT Mentasta 43.76 38 *eP* **P** **01 20 20.0 +0.8**
SKNT Sakolnakorn 44.55 248 P **P** **01 20 26.8 +0.8**
comp=Z,71nm,1.4s
MK31 Makanchi Array 44.58 298 *eP* **P** **01 20 25.8 -0.2**
MK31 Makanchi Array 44.58 298 *eP* **P** **01 20 25.8 -0.2**
MKAR Makanchi Array 44.58 298 *eP* **P** **01 20 26.0 0.0**
MKAR Makanchi Array 44.58 298 *eP* **P** **01 20 26.0 0.0**
MKAR Makanchi Array 44.58 298 P **P** **01 20 25.9 0.0**
comp=Z,32nm,0.9s,baz=74,slow=8.9,SNR=158
MKAR LR LR 01 40 19.2
comp=Z,2µm,19.7s,baz=67,slow=38
EGAK Eagle 44.66 35 *eP* **P** **01 20 26.1 -0.2**
comp=Z,101nm,1.6s
MYLDM Lahad Datu 45.25 221 P pP 01 20 48.3 +4.9
KURK Kurchatov 45.61 304 *eP* **P** **01 20 33.8 -0.2**
KURK pmax pmax
comp=Z,56nm,1.5s
KURK Kurchatov 45.61 304 P **P** **01 20 34.4 +0.4**
SNR=17
KURK Kurchatov 45.61 304 P **P** **01 20 34.4 +0.4**
comp=Z,357nm,0.5s,SNR=12
KURK Kurchatov 45.61 304 *eP* **P** **01 20 33.8 -0.2**
comp=Z,56nm,1.5s
KKM Kota Kinabalu 45.65 225 *eP* **P** **01 20 36.1 +1.3**
comp=Z,12nm,0.7s
PAYA Payao 45.76 254 P P 01 20 45.5 +10
LSA Lhasa 45.87 272 P **P** **01 20 37.8 +0.8**
LSA Lhasa 45.87 272 *eP* **P** **01 20 37.7 +0.8**
LSA pmax pmax
comp=Z,43nm,1.2s
LSA Lhasa 45.87 272 *eP* **P** **01 20 37.7 +0.8**
comp=Z,43nm,1.2s
CHTO Chiang Mai 46.78 254 *eP* **P** **01 20 44.4 +0.8**
CHTO pmax pmax
comp=Z,182nm,0.9s
CHTO Chiang Mai 46.78 254 P **P** **01 20 44.7 +1.1**
SNR=14
CHTO Chiang Mai 46.78 254 P **P** **01 20 44.4 +0.8**
comp=Z,262nm,1.0s,comp=Z,3µm
CHTO Chiang Mai 46.78 254 *eP* **P** **01 20 44.4 +0.8**
comp=Z,182nm,0.9s
CHTO Chiang Mai 46.78 254 P **P** **01 20 44.4 +0.8**
comp=Z,262nm,1.0s,comp=Z,3µm
CM31 Chiang Mai Arr 47.02 254 *eP* **P** **01 20 46.5 +1.1**
comp=Z,5.5nm,0.5s
HYT Haines Junctio 47.04 40 *eP* **P** **01 20 46.0 +0.7**
SHL Shillong 47.66 267 *eP* **P** **01 20 52.0 +1.4**
CHBT CHBT 48.68 245 P **P** **01 21 00.2 +1.9**
comp=Z,55nm,1.5s
CHBT CHBT 48.68 245 P **P** **01 21 00.2 +1.9**
comp=Z,55nm,1.5s
VOSK Vostochnaya 49.42 309 *eP* **P** **01 21 03.6 0.0**
VOSK pmax pmax
comp=Z,19nm,0.9s
VOSK Vostochnaya 49.42 309 *eP* **P** **01 21 03.6 0.0**
comp=Z,18nm,0.9s
BVA0 Borovoye Array 49.65 310 P **P** **01 21 03.6 -1.7**
BVA0 pmax pmax
comp=Z,10.0nm,0.9s
TAPN Taplejung 49.69 272 *eP* **P** **01 21 06.7 +0.4**
comp=Z,215nm,1.3s
BRVK Borovoye 49.70 310 *eP* **P** **01 21 05.5 -0.2**
BRVK pmax pmax
comp=Z,49nm,1.5s
BRVK Borovoye 49.70 310 P **P** **01 21 05.8 +0.1**
SNR=11
BRVK Borovoye 49.70 310 P **P** **01 21 05.5 -0.2**
comp=Z,139nm,1.3s,SNR=11
BRVK Borovoye 49.70 310 *eP* **P** **01 21 05.5 -0.2**
comp=Z,49nm,1.5s
ODAN Odare 50.20 271 *eP* **P** **01 21 10.4 +0.3**
comp=Z,102nm,1.0s
ULHL Ulahol 50.35 295 *eP* **P** **01 21 11.9 +0.9**
ULHL Ulahol 50.35 295 P **P** **01 21 11.9 +0.9**
SNR=10
TKM2 Tokmak 2 50.48 296 *eP* **P** **01 21 12.6 +0.6**
TKM2 pmax pmax
comp=Z,93nm,1.0s
TKM2 Tokmak 2 50.48 296 P **P** **01 21 12.7 +0.6**
SNR=84
TKM2 Tokmak 2 50.48 296 *eP* **P** **01 21 12.6 +0.6**
comp=Z,93nm,1.0s
JIRN Jiri 50.62 273 *e*Pn **P** **01 21 13.7 +0.2**
comp=Z,95nm,1.0s
GUN Gumba 50.71 273 *eP* **P** **01 21 14.4 +0.3**
comp=Z,224nm,1.0s
RAMN Ramite 50.73 272 *eP* **P** **01 21 14.2 +0.1**
comp=Z,169nm,1.0s
SBUM Sibu 50.78 227 P **P** **01 21 15.2 +0.9**
comp=Z,11nm,1.5s
SBUM Sibu 50.78 227 *eP* **P** **01 21 15.0 +0.7**
comp=Z,15nm,1.1s
SBUM *e*pP **pP** **01 21 24.2 -2.2**
CHMS Chumysh 51.00 296 *eP* **P** **01 21 15.9 +0.2**
CHMS Chumysh 51.00 296 P **P** **01 21 15.9 +0.2**
SNR=11
KBK Karagaybulak 51.02 296 *eP* **P** **01 21 16.3 +0.2**
KBK Karagaybulak 51.02 296 P **P** **01 21 16.3 +0.2**
SNR=69
USP Ospenovka 51.04 297 *eP* **P** **01 21 16.5 +0.4**
USP Ospenovka 51.04 297 P **P** **01 21 16.5 +0.4**
SNR=35
KZA Kyzart 51.08 295 *eP* **P** **01 21 18.1 +1.3**
KZA Kyzart 51.08 295 P **P** **01 21 18.1 +1.3**
SNR=22
FRU Bishkek 51.16 296⇑ *i*P **P** **01 21 16.0 -0.9**
FRU *e* 01 28 35.0
FRU *e* 01 28 44.0
FRU *e* 01 28 52.0
FRU pmax pmax
comp=Z,160nm,2.0s
FRU MLR MLR
comp=Z,2µm,18.0s
KKN Kakani 51.22 274 *eP* **P** **01 21 17.9 +0.1**
comp=Z,181nm,1.1s
PKI Pulchoki 51.24 273 *eP* **P** **01 21 18.2 +0.1**
comp=Z,187nm,1.2s
AAK Ala-Archa 51.33 296 *eP* **P** **01 21 18.2 -0.2**
AAK pmax pmax
comp=Z,55nm,1.3s
AAK Ala-Archa 51.33 296 P **P** **01 21 19.0 +0.6**
SNR=17
AAK Ala-Archa 51.33 296 P **P** **01 21 19.2 +0.8**
SNR=24
AAK Ala-Archa 51.33 296 P **P** **01 21 18.5 +0.1**
comp=Z,156nm,1.0s,SNR=15
AAK Ala-Archa 51.33 296 *eP* **P** **01 21 18.2 -0.2**
comp=Z,55nm,1.3s
AAK Ala-Archa 51.33 296 P **P** **01 21 18.6 +0.2**
comp=Z,24nm,1.1s,baz=82,slow=5.8,SNR=40
DLBC Dease Lake 51.39 42 *eP* **P** **01 21 19.6 +1.2**
DMN Daman 51.45 274 *eP* **P** **01 21 19.8 +0.3**
comp=Z,239nm,1.2s
GKN Gorkha 51.57 274 *eP* **P** **01 21 20.4 +0.1**
comp=Z,109nm,0.8s
KSH Kashi 51.78 292 P P 01 21 26.4 +4.7
KSH pP pP 01 21 37.9 +4.1
KSH sP sP 01 21 44.9 +6.1
KSH PcP **PcP** **01 22 37.0 +2.6**
KSH PP PP 01 23 25.6 +6.1
KSH S **S** **01 28 46.0 +5.2**
KSH sS sS 01 29 05.4 +4.6
KSH ScS **ScS** **01 31 08.5 +0.2**
KSH AMB AMB
comp=Z,29nm,1.0s
KSH LR LR
comp=Z,2µm,15.8s
KSH LR LR
comp=Z,890nm,13.2s
KSH LR LR
comp=Z,2µm,15.1s
EKS2 Erkin-Say 51.79 296 *eP* **P** **01 21 21.5 -0.3**
EKS2 pmax pmax
comp=Z,37nm,1.0s
EKS2 Erkin-Say 51.79 296 P **P** **01 21 22.1 +0.4**
SNR=29
EKS2 Erkin-Say 51.79 296 *eP* **P** **01 21 21.5 -0.3**
comp=Z,37nm,1.0s
DANN Dangsing 52.01 275 *eP* **P** **01 21 24.4 +0.6**
comp=Z,544nm,1.1s
AML Almayashu 52.09 296 *eP* **P** **01 21 25.0 +0.7**
AML Almayashu 52.09 296 P **P** **01 21 25.0 +0.7**
SNR=28
KOLN Koldanda 52.45 275 *eP* **P** **01 21 27.2 +0.2**
comp=Z,132nm,1.0s
KSM Kuching 52.63 228 P **P** **01 21 29.5 +1.4**
comp=Z,33nm,1.3s
KSM Kuching 52.63 228 *eP* **P** **01 21 29.4 +1.2**
comp=Z,45nm,1.1s
KSM *e*pP **pP** **01 21 41.2 +1.0**
SVE Sverdlovsk 53.38 317⇑ *i*P **P** **01 21 33.0 -0.1**
SVE pmax pmax
comp=Z,69nm,1.1s
SVE MLR MLR
comp=Z,3µm,15.0s
HNR Honiara 53.67 164 LR LR 01 41 01.9
comp=Z,568nm,20.1s,baz=334,slow=32
KK31 Karatay Array 53.71 298 P **P** **01 21 35.5 -0.3**
KK31 pmax pmax
comp=Z,9.0nm,0.4s
KKAR Karatay Array 53.71 298 *eP* **P** **01 21 35.8 -0.1**
KKAR pmax pmax
comp=Z,51nm,0.9s
KKAR Karatay Array 53.71 298 *eP* **P** **01 21 35.8 -0.1**
comp=Z,51nm,0.9s
KAPI Kappang 53.74 214 P **P** **01 21 34.9 -1.4**
KAPI Kappang 53.74 214 P **P** **01 21 34.9 -1.4**
comp=Z,4.8nm,0.7s,baz=198,slow=6.4,SNR=3.6
SKLT Songkhla 53.93 242 P **P** **01 21 39.8 +2.1**
comp=Z,52nm,1.1s
SKLT Songkhla 53.93 242 P **P** **01 21 39.8 +2.1**
comp=Z,52nm,1.1s
SOKR Solikamsk 54.06 321*c i*P **P** **01 21 37.8 -0.2**
SOKR pmax pmax
comp=Z,60nm,1.1s
SOKR MLR MLR
comp=Z,2µm,17.0s
KRAB Krabi 54.08 244 P **P** **01 21 40.5 +1.7**
comp=Z,80nm,0.8s,comp=Z,640nm
ARU Arti 54.59 317*c i*P **P** **01 21 41.2 -0.7**
ARU *PP **pP** **01 21 56.1 +2.0**
ARU 01 23 45.6
ARU S **S** **01 29 18.1 0.0**
ARU SS **SS** **01 32 53.8 -6.7**
ARU pmax pmax
comp=Z,86nm,1.2s
ARU MLR MLR
comp=Z,3µm,16.0s
ARU Arti 54.59 317 P **P** **01 21 41.8 -0.1**
comp=Z,361nm,1.3s,SNR=25
PKDT Phuket 54.89 245 P **P** **01 21 46.8 +2.1**
comp=Z,68nm,1.0s,comp=Z,3µm
KULM Kulim 55.34 241 P **P** **01 21 50.2 +2.3**
comp=Z,39nm,1.1s
KULM Kulim 55.34 241 *eP* **P** **01 21 49.5 +1.6**
comp=Z,38nm,1.0s
SPITS Spitsbergen Ar 55.35 349 P **P** **01 21 47.0 -0.2**
SPITS Spitsbergen Ar 55.35 349 P **P** **01 21 47.0 -0.2**
baz=89,slow=13
IPM Ipoh 55.72 240 *eP* **P** **01 21 50.3 -0.4**
comp=Z,26nm,1.1s
IPM *e*pP **pP** **01 22 03.5 +0.7**
MYKOM Kota Tinggi 56.08 235 P pP 01 22 09.3 +3.9
YKW3 Yellowknife Ar 56.49 33 *eP* **P** **01 21 55.1 -0.4**
comp=Z,0.4nm,0.8s
YKA Yellowknife Ar 56.53 33 P **P** **01 21 55.8 0.0**
YKA Yellowknife Ar 56.53 33 P **P** **01 21 55.8 0.0**
comp=Z,3.7nm,0.5s,baz=303,slow=7.1,SNR=20
COEN Coen 56.87 184 *eP* **P** **01 21 58.8 +0.1**
BATI Baumata 57.06 207 LR LR 01 42 40.9
comp=Z,526nm,20.9s,baz=100,slow=32
AB31 Akbulak array 57.20 309 *eP* **P** **01 22 00.2 -0.6**
AB31 pmax pmax
comp=Z,37nm,0.4s
ABKAR Akbulak array 57.20 309 *eP* **P** **01 22 00.8 +0.1**
AKTO Aktyubinsk 57.70 311 P **P** **01 22 02.6 -1.7**
AKTO pmax pmax
comp=Z,25nm,1.0s
AKTO Aktyubinsk 57.70 311 P **P** **01 22 02.6 -1.7**
AKTO Aktyubinsk 57.70 311 P **P** **01 22 02.6 -1.7**
comp=Z,25nm,1.0s,baz=70,slow=7.6,SNR=37
JBP Jabalpur 57.79 273 *e*S **P** **01 22 06.4 +1.2**
PSI Prapat 58.34 240 P **P** **01 22 08.9 -0.4**
PSI Prapat 58.34 240 P **P** **01 22 08.9 -0.4**
comp=Z,9.9nm,1.0s,baz=80,slow=2.0,SNR=6.1
PSI LR LR 01 52 03.0
comp=Z,363nm,18.5s,baz=0.3,slow=41
KBL Kabul 59.09 290 *eP* **P** **01 22 13.8 -0.6**
KBL pmax pmax
comp=Z,52nm,1.0s
KBL Kabul 59.09 290 *eP* **P** **01 22 13.8 -0.6**
comp=Z,52nm,1.0s
KEV Kevo 59.20 339 *ep* **P** **01 22 12.8 -1.6**
comp=Z,9.9nm,0.8s
TMCR Tamitsa 59.37 331 *eP* **P** **01 22 14.8 -0.8**
TMCR *e* 01 23 01.5
TMCR pmax pmax
comp=Z,35nm,1.1s
ARCES ARCESS Array B 59.73 340 P **P** **01 22 18.0 -0.1**
ARCES ARCESS Array B 59.73 340 P **P** **01 22 18.0 -0.1**
comp=Z,2.8nm,0.4s,baz=45,slow=6.9,SNR=31
E03A Lebam 60.34 53 *eP* **P** **01 22 23.9 +1.4**
comp=Z,31nm,1.0s
F03A Seaside 60.68 53 *eP* **P** **01 22 27.4 +2.4**
comp=Z,41nm,1.1s
KLMR Klimovskoe 60.80 328 *eP* **P** **01 22 22.4 -3.0**
KLMR pmax pmax
comp=Z,78nm,1.6s
KLMR MLR MLR
comp=Z,1µm,19.0s
LON Longmire 61.24 52 *eP* **P** **01 22 29.1 +0.2**
LON pmax pmax
comp=Z,9.0nm,1.2s
LON Longmire 61.24 52 *eP* **P** **01 22 29.1 +0.2**
comp=Z,9.1nm,1.2s
TRO Tromso 61.26 342 *eP* **P** **01 22 27.5 -0.9**
TRO AMB AMB 01 22 35.4
comp=Z,119nm,1.6s
LTY Liberty 61.61 51 *eP* **P** **01 22 31.4 +0.1**
comp=Z,13nm,1.1s
B08A Colville Reser 61.75 49 *eP* **P** **01 22 32.3 +0.1**
comp=Z,37nm,1.6s
EDM Edmonton 62.11 42 *eP* **P** **01 22 34.6 +0.1**
EDM Edmonton 62.11 42 *eP* **P** **01 22 34.6 +0.1**
H04A Detroit Lake 62.17 54 *eP* **P** **01 22 35.7 +0.6**
comp=Z,47nm,1.5s
HYB Hyderabad 62.41 268 *i* P **P** **01 22 36.5 -0.6**
JOF Joensuu 62.50 332 *ep* **P** **01 22 36.3 -0.6**
comp=Z,9.6nm,0.4s
C09A Chrisman Ranch 62.65 49 *eP* **P** **01 22 38.5 +0.3**
comp=Z,16nm,1.1s
HAWA Hanford 62.74 51 *eP* **P** **01 22 39.2 +0.4**
comp=Z,41nm,1.6s
G06A Carlson Farm, 62.77 53 *eP* **P** **01 22 38.8 -0.3**
comp=Z,23nm,1.4s
HUMO Hull Mountain 62.88 56 *ep*P pP 01 22 53.1 +0.9
NEW Newport 63.02 48 *eP* **P** **01 22 40.8 +0.1**
comp=Z,14nm,1.0s
NEW Newport 63.02 48⇓ P **P** **01 22 40.2 -0.5**
baz=63,SNR=7.2
STEI Steigen 63.44 342 *eP* **P** **01 22 41.9 -1.1**
PINOR Pine Mountain 63.45 54 *eP* **P** **01 22 45.0 +1.5**
E09A Wood Farm, Sta 63.46 50 *eP* **P** **01 22 44.0 +0.4**
comp=Z,61nm,1.7s
G08A Pilot Rock 63.71 52 *eP* **P** **01 22 45.9 +0.5**
comp=Z,4.9nm,1.0s
WRAB Tennant Creek 63.74 193 *eP* **P** **01 22 44.8 -0.8**
WRAB pmax pmax
comp=Z,32nm,1.0s
WRAB Tennant Creek 63.74 193 P **P** **01 22 45.0 -0.6**
comp=Z,107nm,1.1s,SNR=6.0
WRAB Tennant Creek 63.74 193 *eP* **P** **01 22 44.8 -0.8**
comp=Z,32nm,1.0s
WRA Warramunga Arr 63.75 193 P **P** **01 22 44.1 -1.6**
WRA Warramunga Arr 63.75 193 P **P** **01 22 44.1 -1.6**
comp=Z,14nm,0.9s,baz=11,slow=6.5,SNR=22
WRA LR LR 01 50 11.5
comp=Z,134nm,19.6s,baz=345,slow=36
FITZ Fitzroy Crossi 63.90 202 *eP* **P** **01 22 47.0 +0.3**
comp=Z,17nm,1.3s
K05A Summer Lake 64.06 55 *eP* **P** **01 22 49.1 +1.3**
comp=Z,37nm,1.1s
I07A Izee 64.09 53 *eP* **P** 01 22 52.4 +4.5
comp=Z,41nm,2.2s
WALA Waterton Lakes 64.27 46 *eP* **P** **01 22 49.0 -0.1**
comp=Z,0.7nm,1.1s
F10A Beach Ranch, E 64.29 50 *eP* **P** 01 22 54.5 +5.3
comp=Z,103nm,2.5s
IEMG Emamgholi 64.41 298 *eP* **P** **01 22 50.6 +0.3**
ABKT Ailbek 64.45 299 P **P** **01 22 51.8 +1.5**
comp=Z,184nm,0.9s,SNR=12
ISRO Mashad 64.52 297 *eP* **P** **01 22 50.7 -0.1**
BSMT Bassoo Peak 64.53 48 *eP* **P** **01 22 51.0 +0.2**
SUMG Summit 64.57 2 *eP* **P** **01 22 50.7 -0.2**
SUMG pmax pmax
comp=Z,106nm,1.3s
SUMG Summit 64.57 2 *i* P **P** **01 22 50.7 -0.2**
comp=Z,32nm,0.9s
SUMG Summit 64.57 2 *eP* **P** **01 22 50.7 -0.2**
comp=Z,106nm,1.3s
BLMT Blacktail Moun 64.66 47 *eP* **P** **01 22 52.7 +1.0**
IMOG Moghan 64.72 297 *eP* **P** **01 22 52.4 0.0**
KAF Kangasniemi 64.74 333 *ep* **P** **01 22 50.6 -1.0**
comp=Z,7.6nm,0.6s
IPAY Payeh 64.75 297 *eP* **P** **01 22 52.3 -0.2**
MOS Moscow 64.77 324 *eP* **P** 01 22 47.5 -4.4
MOS *e* 01 23 08.7
MOS *e*S **S** **01 31 24.5 -4.7**
MOS pmax pmax
comp=Z,103nm,1.4s
MOS MLR MLR
comp=Z,1µm,16.0s
IAKL Akhelmad 64.81 297 *eP* **P** **01 22 53.5 +0.5**
JTMT Jette 64.86 47 *eP* **P** **01 22 53.2 +0.3**
IKRD Kardeh 64.87 298 *eP* **P** 01 22 48.9 -4.4
MOD Modoc 64.90 55 *eP* **P** **01 22 53.9 +0.6**
comp=Z,26nm,0.8s
BMO Blue Mountains 64.91 51 *eP* **P** **01 22 53.2 -0.1**
BMO pmax pmax
comp=Z,8.0nm,1.0s
BMO Blue Mountains 64.91 51 *eP* **P** **01 22 53.1 -0.1**
comp=Z,7.8nm,1.0s
ISFR Sfrayin 65.04 298 *eP* **P** **01 22 54.5 +0.1**
J08A Circle Bar Ran 65.12 53 *eP* **P** **01 22 55.5 +0.8**
comp=Z,38nm,1.6s
SWMT Swartz Lake 65.16 47 *eP* **P** **01 22 55.4 +0.6**
FIA1 FINESS Array S 65.29 333 *eP* **P** **01 22 54.2 -1.1**
FINES FINESS Array B 65.29 333 P **P** **01 22 54.4 -0.9**
FINES FINESS Array B 65.29 333 P **P** **01 22 54.4 -0.9**
comp=Z,19nm,0.8s,baz=46,slow=7.8,SNR=72
WVOR Wild Horse Val 65.58 54 *eP* **P** **01 22 58.1 +0.5**
WVOR pmax pmax
comp=Z,10.0nm,1.0s
WVOR Wild Horse Val 65.58 54 *eP* **P** **01 22 58.1 +0.5**
comp=Z,10nm,1.0s
SLMT Seeley Lake 65.59 47 *eP* **P** **01 22 58.0 +0.3**
MSO Missoula 65.60 48 *eP* **P** **01 22 57.9 +0.2**
MSO Missoula 65.60 48⇓ P **P** **01 22 57.5 -0.2**
baz=65,SNR=8.9
OBN Obninsk 65.63 324*c i*P **P** **01 22 56.8 -0.7**
OBN *e**SP **sP** **01 23 10.1 -4.8**
OBN *e* 01 23 25.7
OBN *e*S **S** **01 31 41.7 +1.9**
OBN *e*SS **SS** **01 35 55.1 +1.7**
OBN pmax pmax
comp=Z,105nm,1.2s
OBN MLR MLR
comp=Z,2µm,18.0s
OBN Obninsk 65.63 324 P **P** **01 22 56.8 -0.7**
comp=Z,341nm,1.2s,SNR=11
OHCM Honcut 65.69 58 *eP* **P** **01 22 58.4 +0.2**
VRHR Novokhopersk 65.89 318 *eP* **P** **01 22 57.9 -1.4**
VRHR pmax pmax
comp=Z,130nm,1.3s
VRHR pmax pmax
comp=N,110nm,1.7s
VRHR pmax pmax
comp=E,90nm,1.9s
VRHR MLR MLR
comp=Z,2µm,14.0s
VRHR MLR MLR
comp=N,220nm,15.0s
VRHR MLR MLR
comp=E,1µm,15.0s
CHMT Chamberlain Mo 65.92 48 *eP* **P** **01 22 59.7 -0.3**
BEKR Beckworth 66.07 57 *eP* **P** **01 23 00.4 -0.5**
comp=E,8.7nm,1.0s
IDAH Dahanechah 66.37 293 *eP* **P** **01 23 03.2 +0.1**
FFC Flin Flon 66.42 36 *eP* **P** **01 23 02.3 -0.4**
FFC pmax pmax
comp=Z,50nm,0.9s
FFC Flin Flon 66.42 36 *eP* **P** **01 23 02.3 -0.4**
comp=Z,50nm,0.9s
SCO Scoresbysund 66.42 356 *eP* **P** **01 23 02.2 -0.2**
SCO pmax pmax
comp=Z,14nm,1.0s
SCO Scoresbysund 66.42 356 *i* P **P** **01 23 02.2 -0.2**
comp=Z,14nm,1.0s
MFID Camas Ranch 66.63 52⇑ P **P** **01 23 04.1 -0.3**
baz=66
FCC Fort Churchill 66.75 30 *eP* **P** **01 23 04.2 -0.5**
FCC pmax pmax
comp=Z,3.0nm,1.2s
FCC Fort Churchill 66.75 30 *eP* **P** **01 23 04.2 -0.5**
comp=Z,3.1nm,1.2s
PAHR Pah Rah Range 66.77 57 *eP* **P** **01 23 06.0 +0.6**
comp=Z,22nm,1.1s
NSS Namsos 66.97 340 *eP* **P** **01 23 05.6 -0.4**
VSR Storozhevoye 67.00 319 *eP* **P** **01 23 06.1 -0.3**
VSR pmax pmax
comp=Z,180nm,1.3s
VSR pmax pmax
comp=N,80nm,1.0s
VSR pmax pmax
comp=E,70nm,1.1s
VSR MLR MLR
comp=Z,2µm,18.0s
VSR MLR MLR
comp=N,1µm,14.0s
VSR MLR MLR
comp=E,720nm,15.0s
ITEG Tejag 67.03 294 *eP* **P** **01 23 07.2 +0.1**
A19A Klindworth Far 67.03 44⇓ P **P** **01 23 06.4 -0.3**
baz=67
LRM Limekiln Ridge 67.04 48 *eP* **P** **01 23 07.5 +0.4**
comp=E,305nm,1.2s
EGMT Eagleton 67.09 45 *eP* **P** **01 23 07.5 +0.3**
comp=E,20nm,0.8s
EGMT Eagleton 67.09 45⇓ P **P** **01 23 07.0 -0.2**
baz=67
VORD Divnogorie 67.10 319 *eP* **P** **01 23 07.0 0.0**
VORD pmax pmax
comp=Z,70nm,0.9s
VORD pmax pmax
comp=E,50nm,1.0s
VORD MLR MLR
comp=Z,2µm,16.0s
VORD MLR MLR
comp=E,1µm,19.0s
IKOO Kooshah 67.14 294 *eP* **P** **01 23 07.8 -0.2**
CMB Columbia Colle 67.16 59 *eP* **P** **01 23 08.2 +0.5**
CMB pmax pmax
comp=Z,29nm,1.4s
CMB Columbia Colle 67.16 59 *eP* **P** **01 23 08.2 +0.5**
comp=Z,29nm,1.4s
B19A Brinkman Farms 67.23 44⇑ P **P** **01 23 08.0 0.0**
baz=67,SNR=7.0
DLMT Dillon 67.25 49 *eP* **P** **01 23 09.2 +1.0**
comp=Z,29nm,1.3s
HLID Hailey 67.35 51 *eP* **P** **01 23 09.6 +0.6**
comp=Z,7.9nm,1.0s
HLID Hailey 67.35 51⇑ P **P** **01 23 08.9 -0.1**
baz=67,SNR=5.8
DZM Mont Dzumac 67.36 160 *e*S S 01 32 08.9 +7.5
comp=Z,204nm,26.8s
DZM Mont Dzumac 67.36 160 *e*LR LR 01 22 01.0

comp=Z,113nm,25.2s
MCMT McKenzie Canyo 67.44 49 eP P 01 23 09.3 -0.3
comp=Z,2.7nm,1.1s
AS31 Alice Springs 67.47 193 eP P 01 23 09.7 0.0
ASAR Alice Springs 67.47 193 P P 01 23 09.7 0.0
ASAR Alice Springs 67.47 193 P P 01 23 09.7 0.0
comp=Z,4.4nm,0.8s,baz=8.6,slow=4.9,SNR=34
ASAR LR LR 01 49 37.9
comp=Z,158nm,20.6s,baz=350,slow=33
A20A Cobblestone Ra 67.47 44 ⇑P P 01 23 09.5 -0.1
baz=67,SNR=6.7
PALK Pallekele 67.58 259 eP P 01 23 10.5 -0.1
comp=Z,31nm,1.1s
BMN Battle Mountai 67.64 55 eP P 01 23 11.6 +0.7
BMN pmax pmax
comp=Z,22nm,1.3s
BMN Battle Mountai 67.64 55 eP P 01 23 11.6 +0.7
comp=Z,22nm,1.3s
C19A Slack Wire Ran 67.64 45 ⇑P P 01 23 10.7 +0.1
baz=67,SNR=9.7
B20A Solberg Farm, 67.71 44 ⇓P P 01 23 10.8 -0.3
baz=68,SNR=7.6
A21A Bergtoll Ranch 67.91 43 ⇓P P 01 23 12.3 +0.1
baz=68
IGLO Ghaloghah 68.04 300 eP P 01 23 03.4 -10
D19A Cripps Ranch, 68.09 45 ⇑P P 01 23 13.3 -0.2
baz=68,SNR=6.8
C20A Veseth Ranch, 68.19 45 ⇑P P 01 23 13.9 -0.2
baz=68,SNR=5.9
NVAR Mina Array Bea 68.21 57 P P 01 23 15.3 +0.8
NVAR Mina Array Bea 68.21 57 P P 01 23 15.3 +0.8
comp=Z,4.3nm,0.5s,baz=300,slow=7.2,SNR=44
QLMT Earthquake Lak 68.22 49 eP P 01 23 15.2 +0.7
B21A Ellsworth Farm 68.23 44 ⇓P P 01 23 13.7 -0.5
baz=68
NV11 Mina Array Sit 68.30 57 eP P 01 23 15.6 +0.5
A22A Carney Farms, 68.41 43 ⇑P P 01 23 15.0 -0.4
baz=68,SNR=6.1
D20A Manuel Ranch, 68.53 45 ⇓P P 01 23 16.0 -0.2
baz=68,SNR=8.1
GCMT Greycliff 68.56 47 eP P 01 23 17.1 +0.6
comp=Z,18nm,1.2s
YMR Madison River 68.58 48 eP P 01 23 17.5 +0.8
comp=Z,30nm,1.2s
C21A Desert Coulee 68.58 44 ⇓P P 01 23 16.2 -0.3
baz=68
E19A Rath Farm, Rou 68.60 46 ⇑P P 01 23 16.6 -0.1
baz=68,SNR=7.2
IANJ Anjilo 68.62 299 eP P 01 23 18.0 +0.8
ELK Elko 68.63 54 eP P 01 23 17.9 +0.8
comp=Z,6.3nm,1.0s
MTUM Tungsten Hills 68.72 58 eP P 01 23 18.4 +0.7
MTUM epP pP 01 23 30.4 +0.2
YFT Old Faithful 68.79 49 eP P 01 23 19.3 +1.2
comp=Z,19nm,1.0s
ISHM Shahmirzad 68.81 300 eP P 01 23 19.1 +0.7
B22A Reddig Ranch S 68.82 43 ⇓P P 01 23 17.7 -0.3
baz=69
F19A Roth Farm, Mol 68.91 47 ⇑P P 01 23 18.6 -0.1
baz=69,SNR=9.2
E20A Meyer Farm, Mu 68.91 46 ⇑P P 01 23 18.7 +0.1
baz=69,SNR=6.7
A23A Redstone 68.94 42 ⇓P P 01 23 18.5 -0.2
baz=69
H17A Grant Village 68.97 49 ⇑P P 01 23 20.5 +1.2
baz=69
GOF Gofitskoye 69.03 312 ⇑iP P 01 23 20.0 +0.8
GOF eS sS 01 32 39.6 -2.2
GOF pmax pmax
comp=Z,220nm,1.3s
IMW Indian Meadow 69.09 49 eP P 01 23 21.2 +1.2
comp=Z,56nm,1.6s
FLWY Flagg Ranch 69.10 49 eP P 01 23 19.9 -0.1
comp=Z,37nm,1.5s
D21A La Casta Ranch 69.13 45 ⇓P P 01 23 19.8 -0.2
baz=69,SNR=6.6
B23A Brockton 69.22 43 ⇓P P 01 23 20.1 -0.3
baz=69,SNR=9.1
RRI2 Red Ridge 69.23 50 eP P 01 23 21.9 +1.0
comp=Z,106nm,1.6s
IFIR Firoozkooh 69.26 300 eP P 01 23 21.6 +0.4
I17A Pilgrim Ck. 69.28 49 ⇓P P 01 23 21.7 +0.5
baz=69
H18A Shoshone NF, C 69.28 48 ⇓P P 01 23 21.2 0.0
baz=69,SNR=6.3
ILAS Lasjerd 69.29 299 eP P 01 23 21.8 +0.4
MOOW Moose Ponds 69.29 49 eP P 01 23 22.2 +1.0
comp=Z,31nm,1.4s
TPAW Teton Pass 69.34 49 eP P 01 23 22.7 +1.1
comp=Z,37nm,1.2s
F20A Billings 69.36 46 ⇑P P 01 23 20.4 -1.1
baz=69
A24A Westby 69.39 42 ⇓P P 01 23 21.2 -0.3
baz=69
HVU Hansel Valley 69.41 52 eP P 01 23 23.0 +1.1
HVU Hansel Valley 69.41 52 eP P 01 23 23.0 +1.1
SFJD Kangerlussuaq 69.44 7 iP P 01 23 20.4 -1.0
PKM Peak Mountain 69.45 61 ⇑P P 01 23 21.7 -0.6
baz=69
LOHW Long Hollow 69.46 49 eP P 01 23 23.2 +1.0
comp=Z,55nm,1.7s
SNOW Snow King Moun 69.47 49 eP P 01 23 23.6 +1.2
comp=Z,50nm,1.6s
D22A Cohagen 69.50 44 ⇑P P 01 23 21.4 -0.8
baz=69
C23A Lambert 69.56 43 ⇑P P 01 23 21.8 -0.8
baz=69
ISAL Salakas 69.58 329 eP P 01 23 22.3 -0.1
ISAL AMB AMB 01 23 24.3
comp=Z,31nm,1.2s
CWC Cottonwood Cre 69.59 59 ⇑P P 01 23 23.0 -0.1
baz=69,SNR=5.1
DGMT Dagmar 69.60 42 eP P 01 23 22.9 +0.1
comp=Z,39nm,1.0s
DGMT Dagmar 69.60 42 ⇓P P 01 23 22.0 -0.8
baz=69
H19A Powell 69.66 48 ⇓P P 01 23 22.4 -1.0
baz=69
MICGM Minsk 69.68 327 ⇓eP P 01 23 22.0 -1.1
MNK Minsk 69.70 327 ⇓eP P 01 23 22.0 -1.2
MNK pmax pmax
comp=E,140nm,1.5s
MNK pmax pmax
comp=Z,270nm,1.5s
IIGN Ignalina 69.70 328 eP P 01 23 22.7 -0.5
IIGN AMB AMB 01 23 24.6
comp=Z,38nm,1.3s
G20A Bridger 69.71 47 ⇑P P 01 23 22.9 -0.7
baz=70
IDMV Damavand 69.76 300 eP P 01 23 24.2 -0.1
LAO LASA Array 69.78 45 eP P 01 23 24.1 +0.2
comp=Z,38nm,1.3s
SBC Santa Barbara 69.80 62 ⇑P P 01 23 23.9 -0.3
baz=70
BGU Big Grassy Mou 69.81 53 epP pP 01 23 32.0 -4.9
A25A Svangstu Ranch 69.81 41 ⇑P P 01 23 23.3 -0.8
baz=70
NACGM Naroch 69.82 328 e P 01 23 21.0 -3.0
ISA Isabella 69.83 60 eP P 01 23 24.5 0.0
ISA pmax pmax
comp=Z,20nm,1.4s
ISA Isabella 69.83 60 eP P 01 23 24.5 0.0
comp=Z,20nm,1.4s
ISA Isabella 69.83 60 ⇑P P 01 23 23.9 -0.5
baz=70
F21A Absaloka Mine, 69.89 46 ⇑P P 01 23 24.1 -0.6
baz=70
SPUT South Promonto 69.90 52 eP P 01 23 25.3 +0.4
comp=Z,21nm,1.3s
GUDG Gudauri 69.91 310 P P 01 23 25.8 +0.8
R11A Troy Canyon, C 69.93 56 eP P 01 23 25.2 0.0
R11A Troy Canyon, C 69.93 56 ⇑P P 01 23 24.9 -0.3
baz=70,SNR=12
KIV Kislovodsk 69.94 312 ciP P 01 23 25.7 +0.7
KIV e*PP pP 01 23 35.0 -2.5
KIV pmax pmax
comp=Z,160nm,1.0s
KIV MLR MLR
comp=Z,3μm,17.0s
KIV Kislovodsk 69.94 312 P P 01 23 25.0 0.0
comp=Z,760nm,0.9s,SNR=36
ARVC Arvin 69.94 60 ⇓P P 01 23 24.6 -0.4
baz=70
IBAF Bafgh 69.95 295 eP P 01 23 25.4 0.0
D23A Lindsay 69.97 44 ⇓P P 01 23 25.1 -0.1
baz=70,SNR=6.4
ZEI Tsey 70.03 310 eP P 01 23 25.7 0.0
ZEI pmax pmax
comp=Z,45nm,0.9s
DGRG David-gareji 70.06 308 P P 01 23 24.0 -1.7
I19A Meeteetse 70.07 48 ⇑P P 01 23 25.6 -0.3
baz=70
NB2 NORSAR Subarra 70.08 339 P P 01 23 24.8 -0.7
comp=Z,124nm,1.4s,baz=32,slow=6.5
NB2 NORSAR Subarra 70.08 339 P P 01 23 24.8 -0.7
baz=32,slow=6.5
NOA NORSAR Array B 70.08 339 P P 01 23 24.8 -0.7
NOA NORSAR Array B 70.08 339 P P 01 23 24.8 -0.7
comp=Z,21nm,0.8s,baz=32,slow=6.3,SNR=120
NOA LR LR 01 58 58.8
comp=Z,940nm,19.0s,baz=35,slow=40
E22A Miles City 70.09 45 ⇓P P 01 23 24.9 -0.9
baz=70
C24A Savage 70.12 43 ⇑P P 01 23 25.1 -0.9
baz=70
MPMC Manual Prospec 70.20 59 ⇓P P 01 23 26.8 -0.1
baz=70,SNR=15
G21A Lodge Grass 70.24 46 ⇓P P 01 23 26.3 -0.6
baz=70
TBLG Delisi 70.24 309 P P 01 23 27.5 +0.6
H20A Greybull 70.31 47 ⇓P P 01 23 26.7 -0.6
baz=70
ICHK Chekchek 70.31 296 eP P 01 23 27.2 -0.5
NAO01 NORSAR Array S 70.33 339 eP P 01 23 26.2 -0.8
comp=Z,14nm,0.8s
FURC Furnace Creek, 70.33 58 ⇑P P 01 23 27.5 +0.1
baz=70,SNR=6.6
A26A Wade Farm, Ken 70.36 41 ⇓P P 01 23 26.4 -1.0
baz=70
F22A Rosebud 70.37 45 ⇓P P 01 23 27.3 -0.3
baz=70,SNR=6.1
DUG Dugway 70.40 53 eP P 01 23 28.2 +0.2
DUG pmax pmax
comp=Z,37nm,1.4s
DUG Dugway 70.40 53 eP P 01 23 28.2 +0.2
comp=Z,37nm,1.4s
DUG Dugway 70.40 53 ⇓P P 01 23 28.1 +0.2
baz=70,SNR=14
ONI Oni 70.41 310 P P 01 23 28.5 +0.7
LRMC Laurel Mountai 70.44 60 ⇑P P 01 23 27.7 -0.6
baz=70
D24A Glendive 70.45 43 ⇓P P 01 23 27.4 -0.7
baz=70
IR3 Iran Long-Peri 70.46 300 eP P 01 23 28.5 +0.2
J19A Crowheart 70.54 49 ⇑P P 01 23 28.6 -0.3
baz=70,SNR=11
C25A Freed Ranch, W 70.58 42 ⇓P P 01 23 28.0 -0.8
baz=70
BW06 Boulder Array 70.59 49 eP P 01 23 29.3 +0.1
PDAR Pinedale Array 70.59 49 P P 01 23 29.2 0.0
PDAR Pinedale Array 70.59 49 P P 01 23 29.2 0.0
comp=Z,3.9nm,0.7s,baz=284,slow=2.4,SNR=26
I20A Worland 70.59 48 ⇓P P 01 23 29.0 -0.1
baz=70,SNR=8.6
B26A Jensen Ranch, 70.62 41 ⇑P P 01 23 28.0 -1.1
baz=70
EDW2 Edwards Air Fo 70.63 60 ⇓P P 01 23 29.3 0.0
baz=70,SNR=7.5
A27A Ledoux Ranch, 70.70 40 ⇑P P 01 23 29.1 -0.4
baz=70
IMEH Mehriz 70.71 295 eP P 01 23 29.1 -1.0
H21A Big Horn, Sher 70.72 47 ⇓P P 01 23 29.3 -0.6
baz=70,SNR=7.1
G22A Birney 70.73 46 ⇑P P 01 23 28.7 -1.1
baz=70
M17A Scullys Gap (B 70.81 51 ⇓P P 01 23 29.7 -0.9
baz=71
E24A Baker 70.84 44 ⇓P P 01 23 29.5 -0.9
baz=71
F23A Volborg 70.85 45 ⇓P P 01 23 29.8 -0.7
baz=71,SNR=5.9
L18A Fontenelle, Gr 70.87 50 ⇑P P 01 23 30.5 -0.4
baz=71,SNR=6.2
JLU Jordanelle 70.93 52 eP P 01 23 31.7 +0.4
comp=Z,37nm,0.4s
D25A Fairfield 70.93 43 ⇑P P 01 23 30.4 -0.6
baz=71
NLU North Lily Min 70.99 53 eP P 01 23 32.7 +1.1
ISAD Sadrabad 70.99 296 eP P 01 23 30.5 -1.4
MWC Mount Wilson 71.00 61 eP P 01 23 31.7 -0.1
MWC Mount Wilson 71.00 61 eP P 01 23 31.7 -0.1
J20A Shoshoni 71.01 48 ⇑P P 01 23 31.4 -0.2
baz=71,SNR=7.8
ISRB Sarab 71.04 304 eP P 01 23 32.0 0.0
CHVG Ch'k'valeri 71.08 311 P P 01 23 32.9 +1.0
IHRS Heris 71.10 305 eP P 01 23 32.5 +0.1
GSC Goldstone 71.11 59 eP P 01 23 32.7 +0.4
GSC Goldstone 71.11 59 eP P 01 23 32.7 +0.4
GSC Goldstone 71.11 59 ⇓P P 01 23 31.9 -0.5
baz=71
I21A Big Trails, Te 71.14 47 ⇑P P 01 23 32.0 -0.4
baz=71,SNR=13
L19A Farson 71.14 50 ⇓P P 01 23 31.4 -1.2
baz=71
DAU Daniels Canyon 71.17 52 eP P 01 23 32.9 +0.1
DAU Daniels Canyon 71.17 52 eP P 01 23 32.9 +0.1
A28A Rude Farm, Bot 71.19 40 ⇑P P 01 23 31.8 -0.7
baz=71
IRAZ Razeghan 71.19 301 eP P 01 23 33.1 +0.1
MPU Maple Canyon 71.21 53 eP P 01 23 33.7 +0.7
comp=Z,34nm,1.4s
G23A Biddle 71.21 45 ⇓P P 01 23 32.3 -0.4
baz=71,SNR=5.7
HYA Hoyanger 71.24 341 eP P 01 23 32.2 -0.2
BFSC Mount Baldy Ra 71.25 61 ⇑P P 01 23 32.5 -0.7
baz=71
F24A Ekalaka 71.26 44 ⇑P P 01 23 32.8 -0.2
baz=71,SNR=7.3
IZEF Zefreh 71.26 298 eP P 01 23 33.0 -0.5
GNI Garni 71.27 308 P P 01 23 35.3 +2.0
SNR=12
GNI Garni 71.27 308 eP P 01 23 34.5 +1.2
comp=Z,104nm,1.3s
E25A Miller Ranch, 71.34 43 ⇑P P 01 23 33.0 -0.4
baz=71
J21A Lysite 71.36 48 ⇓P P 01 23 33.1 -0.8
baz=71
SHPR Sheep Range 71.36 57 eP P 01 23 34.7 +0.8
D26A Manning 71.45 42 ⇑P P 01 23 33.2 -0.9
baz=71
B28A Dugan Ranch, T 71.47 40 ⇑P P 01 23 33.4 -0.8
baz=71
IKLH Kolahrood 71.47 298 eP P 01 23 34.6 -0.2
I22A 9 Mile Ranch, 71.52 47 ⇓P P 01 23 34.4 -0.2
baz=71,SNR=6.9
TUQ Turquoise Moun 71.58 59 ⇑P P 01 23 35.2 0.0
baz=71,SNR=5.8
ARUT Antelope Range 71.59 55 eP P 01 23 35.5 +0.3
ARUT pmax pmax
comp=Z,275nm,1.2s
ARUT Antelope Range 71.59 55 eP P 01 23 35.5 +0.3
comp=Z,275nm,1.2s
IBST Bostanabad 71.59 305 eP P 01 23 35.0 -0.3
G24A Alzada 71.63 45 ⇑P P 01 23 34.3 -1.0
baz=71
IMRD Marand 71.64 306 eP P 01 23 35.6 0.0
A29A Manning Farm, 71.66 39 ⇓P P 01 23 35.0 -0.3
baz=71,SNR=7.0
ITBZ Tabriz 71.69 305 eP P 01 23 36.2 +0.3
KONO Kongsberg 71.69 339 eP P 01 23 35.4 +0.1
F25A Bowman 71.71 44 ⇑P P 01 23 34.5 -1.2
baz=71
HEC Hector,Ludlow 71.71 59 ⇓P P 01 23 36.0 0.0
baz=72,SNR=6.5
L20A Wamsutter 71.77 49 ⇓P P 01 23 35.4 -0.9
baz=72
CCUT Cedar City 71.79 55 eP P 01 23 37.4 +0.8
comp=Z,34nm,1.4s
SOC Sochi 71.79 313 ciP P 01 23 36.1 0.0
SOC eSS SS 01 37 36.4 +7.5
SOC pmax pmax
comp=Z,30nm,0.6s
E26A Carlson Angus 71.83 43 ⇑P P 01 23 35.6 -0.8
baz=72
J22A Midwest 71.84 47 ⇑P P 01 23 36.3 -0.4
baz=72,SNR=16
MVU Marysvale 71.85 54 eP P 01 23 37.7 +0.8
comp=Z,10nm,1.2s
SUW Suwalki 71.88 329 eP P 01 23 36.0 -0.4
AKASG Malin Array Be 71.90 324 P P 01 23 36.1 -0.5
AKASG pmax pmax
comp=Z,9.0nm,0.4s
AKASG MLR MLR
comp=Z,1μm,18.9s
AKASG Malin Array Be 71.90 324 P P 01 23 36.1 -0.5
AKASG Malin Array Be 71.90 324 P P 01 23 36.1 -0.5
comp=Z,9.1nm,0.4s,baz=39,slow=6.1,SNR=142
AKASG LR LR 01 58 01.5
comp=Z,1μm,18.9s,baz=65,slow=38
KIEV Kiev 71.91 324 eP P 01 23 36.0 -0.7
KIEV pmax pmax
comp=Z,76nm,1.1s
KIEV Kiev 71.91 324 eP P 01 23 36.0 -0.7
comp=Z,76nm,1.1s
TMUT Trail Mountain 71.93 53 eP P 01 23 38.0 +0.6
B29A Wagenman Farm, 71.93 40 ⇓P P 01 23 36.4 -0.5
baz=72
K21A Alcova 71.95 48 ⇓P P 01 23 37.1 -0.3
baz=72,SNR=6.1
MURC Murrieta 71.95 61 ⇓P P 01 23 37.0 -0.3
baz=72
H24A Dirks Ranch, A 71.95 45 ⇓P P 01 23 36.7 -0.6
baz=72,SNR=7.6
C28A Hausauer Farms 71.97 41 ⇑P P 01 23 36.7 -0.5
baz=72
ASK Askoy 72.08 341 eP P 01 23 36.9 -0.6
RUND Rundenannen 72.10 341 eP P 01 23 37.0 -0.7
F26A Lodgepole 72.16 43 ⇓P P 01 23 38.2 -0.2
baz=72
ANN Anapa 72.17 315 eP P 01 23 37.6 -0.7
ANN e*PP pP 01 23 50.7 -0.2
ANN eS S 01 32 55.0 -2.4
ANN eSS SS 01 37 30.6 -3.9
ANN pmax pmax
comp=Z,47nm,1.1s
GMRC Granite Mounta 72.17 59 ⇓P P 01 23 38.2 -0.5
baz=72
Q16A Castle Valley 72.20 53 eP P 01 23 39.4 +0.4
Q16A Castle Valley 72.20 53 ⇑P P 01 23 38.6 -0.3
baz=72,SNR=5.3
M20A Sweetwater, Wa 72.20 50 ⇑P P 01 23 38.1 -0.8
baz=72
ODD1 Odda 72.23 340 eP P 01 23 39.0 +0.4
G25A Newell 72.23 44 ⇑P P 01 23 38.5 -0.3
baz=72
MDND Maddock 72.25 40 ⇓P P 01 23 37.8 -1.0
baz=72
D28A Regan 72.25 41 ⇑P P 01 23 38.4 -0.6
baz=72
E27A Carson 72.30 42 ⇓P P 01 23 38.9 -0.3
baz=72
LDFC Landfair 72.32 58 eP P 01 23 39.9 +0.3
comp=Z,97nm,1.5s
K22A Casper 72.33 48 ⇑P P 01 23 39.0 -0.6
baz=72,SNR=7.6
PFO Pinyon Flat Ob 72.42 60 eP P 01 23 40.5 +0.3
comp=Z,26nm,1.3s
PFO Pinyon Flat Ob 72.42 60 ⇓P P 01 23 39.6 -0.6
baz=72
B30A Myrvik Farm, E 72.42 39 ⇓P P 01 23 39.2 -0.7
baz=72
SRU San Rafael 72.45 53 eP P 01 23 40.5 +0.1
SRU pmax pmax
comp=Z,26nm,1.1s
SRU San Rafael 72.45 53 eP P 01 23 40.5 +0.1
comp=Z,26nm,1.1s
BELC Belle Mtn. Jos 72.46 60 ⇑P P 01 23 39.7 -0.7
baz=72
O19A Miners Draw (B 72.47 51 ⇓P P 01 23 39.9 -0.6
baz=72
F27A Lemmon 72.47 43 ⇓P P 01 23 39.9 -0.3
baz=72
I24A Kuemmerle Ranc 72.52 46 ⇑P P 01 23 39.7 -1.0
baz=72
H25A Fruitdale 72.53 45 ⇑P P 01 23 40.0 -0.7
baz=72
G26A Maurine 72.58 44 ⇓P P 01 23 40.5 -0.4
baz=72,SNR=7.7
N20A Spence Gulch, 72.60 50 ⇓P P 01 23 41.5 +0.2
baz=72,SNR=9.5
RWWY Rawlins 72.61 49 eP P 01 23 43.0 +1.6
comp=Z,43nm,1.4s
E28A Huff 72.63 42 ⇓P P 01 23 40.6 -0.5
baz=72
RSSD Black Hills 72.65 45 eP P 01 23 40.9 -0.7
RSSD pmax pmax
comp=Z,363nm,1.7s
RSSD Black Hills 72.65 45 eP P 01 23 40.9 -0.7
comp=Z,363nm,1.7s
BLS5 Blasjo 72.70 340 eP P 01 23 41.5 +0.1
BLS5 AMB AMB 01 23 43.3
comp=Z,39nm,1.6s
IPAR Pars 72.73 295 eP P 01 23 42.5 +0.1
K23A Bowen Ranch, D 72.75 47 ⇓P P 01 23 41.1 -1.0
baz=72
L22A Ellis Ranch, M 72.80 48 ⇓P P 01 23 42.4 -0.1
baz=73,SNR=9.1
G27A Dupree 72.86 43 ⇓P P 01 23 41.9 -0.7
baz=73
J24A Dixon Ranch, L 72.87 46 ⇑P P 01 23 41.9 -0.8
baz=73
BAR Barrett 72.88 61 eP P 01 23 42.4 -0.4
comp=Z,32nm,1.6s
I25A Rochford 72.88 45 ⇓P P 01 23 42.4 -0.5
baz=73,SNR=5.7
IRM Iron Mountain 72.89 59 ⇑P P 01 23 42.9 0.0
baz=73,SNR=10
MONP Monument Peak 72.91 61 ⇑P P 01 23 42.9 -0.3
baz=73
H26A Fairpoint 72.96 44 ⇑P P 01 23 42.4 -0.8
baz=73
ISRV Sarvestan 72.99 294 eP P 01 23 42.5 -1.4
P19A Cripple Cowboy 72.99 51 ⇑P P 01 23 42.8 -0.9
baz=73
BC3 Big Chuckawall 73.02 60 ⇓P P 01 23 43.4 -0.5
baz=73
W13A Hualapai Mount 73.06 58 ⇓P P 01 23 43.9 -0.3
baz=73,SNR=6.9
O20A White River Ci 73.08 51 eP P 01 23 43.4 -0.7
O20A White River Ci 73.08 51 ⇓P P 01 23 43.6 -0.5
baz=73,SNR=6.0
F28A McLaughlin 73.09 42 ⇑P P 01 23 43.2 -0.7
baz=73
M22A Cedar Creek Ra 73.14 49 ⇑P P 01 23 43.6 -1.0
baz=73
L23A Garrett 73.14 48 ⇑P P 01 23 43.7 -0.8
baz=73,SNR=6.0
U15A North Rim 73.17 56 ⇑P P 01 23 45.0 +0.1
baz=73,SNR=10
D30A Buchanan 73.18 40 ⇓P P 01 23 43.7 -0.7
baz=73
SWSC Sam W. Stewart 73.27 61 ⇓P P 01 23 45.0 -0.1
baz=73
J25A Sunshine Ranch 73.28 46 ⇓P P 01 23 44.5 -0.7
baz=73
H27A Howes 73.31 44 ⇑P P 01 23 44.8 -0.4
baz=73
ILIN Lien 73.36 302 eP P 01 23 45.6 -0.3
P20A De Beque 73.42 51 ⇓P P 01 23 45.9 -0.2
baz=73
PDMCI Parker Dam,Lak 73.43 59 ⇑P P 01 23 45.9 -0.1
baz=73
SNART Snartemo 73.45 339 eP P 01 23 46.1 +0.4
SNART AMB AMB 01 23 47.6
comp=Z,45nm,1.1s
IKOM Komasi 73.50 301 eP P 01 23 46.0 -0.7
E30A Jud 73.55 41 ⇑P P 01 23 46.0 -0.5
baz=73
Y12C Blythe 73.55 59 ⇑P P 01 23 46.3 -0.4
baz=73
F29A Eureka 73.58 42 ⇓P P 01 23 46.2 -0.5
baz=73
G28A Parade 73.58 43 ⇓P P 01 23 45.9 -0.9
baz=73
L24A Wheatland 73.61 47 ⇑P P 01 23 45.3 -1.9
baz=73
N22A Wattenberg Ran 73.63 49 ⇓P P 01 23 46.5 -1.0
baz=73
AGMN Agassiz Nation 73.66 38 eP P 01 23 46.6 -0.6
comp=Z,22nm,1.1s
I27A Quinn 73.72 44 ⇑P P 01 23 47.3 -0.3
baz=74,SNR=6.0
J26A Sides Ranch, S 73.72 46 ⇓P P 01 23 47.0 -0.7
baz=74
UOSS Wadi Hilu 73.74 289 P P 01 23 48.5 +0.5
comp=Z,315nm,1.2s,SNR=8.7
H28A Mission Ridge 73.81 43 ⇓P P 01 23 47.9 -0.3
baz=74,SNR=6.6
GLA Glamis 73.81 60 eP P 01 23 48.9 +0.5
GLA pmax pmax

comp=Z,12nm,0.9s
GLA Glamis 73.81 60 *e*P P 01 23 48.9 +0.5
comp=Z,12nm,0.9s
GLA Glamis 73.81 60 ⇓P P 01 23 48.1 -0.2
baz=74
PHWY Pilot Hill 73.83 48 *e*P P 01 23 48.7 +0.1
comp=Z,10nm,1.3s
Q20A Ridgley Place, 73.84 52 ⇓P P 01 23 48.3 -0.3
baz=74,SNR=8.7
HOQ Hoqain 73.84 287 P P 01 23 49.5 +0.8
SNR=11
N23A Red Feather La 73.85 49 ⇑P P 01 23 48.6 -0.1
baz=74,SNR=8.8
IDHR Dehrash 73.86 302 *e*P P 01 23 48.1 -0.7
PV04 Paradox Valley 73.87 52 *e*P P 01 23 49.2 +0.4
BSD Bornholm Skovb 73.92 334 *e*P P 01 23 48.6 +0.1
BSD pmax pmax
comp=Z,22nm,0.9s
BSD Bornholm Skovb 73.92 334 *i* P P 01 23 48.6 +0.1
comp=Z,22nm,0.9s
P21A Newcastle 73.94 51 ⇓P P 01 23 49.0 -0.3
baz=74,SNR=7.3
G29A Hoven 73.99 42 ⇑P P 01 23 48.7 -0.5
baz=74
IGHG Ghaleghazi 73.99 302 *e*P P 01 23 48.5 -1.1
ASHO Ashiyiah 74.01 289 P P 01 23 49.9 +0.3
SNR=11
O22A Kremmling 74.01 50 ⇓P P 01 23 49.0 -0.8
baz=74
M24A Cheyenne 74.06 48 ⇓P P 01 23 50.0 +0.1
baz=74,SNR=7.1
JMDO Jabal Madar 74.07 286 P P 01 23 51.1 +1.1
SNR=5.5
K26A Motz Farm, Whi 74.09 46 ⇓P P 01 23 49.1 -0.8
baz=74
I28A Midland 74.22 44 ⇑P P 01 23 50.0 -0.5
baz=74,SNR=5.8
PV01 Paradox Valley 74.24 52 *e*P P 01 23 51.4 +0.3
comp=Z,2μm,1.3s
H29A Onida 74.25 43 ⇑P P 01 23 50.1 -0.6
baz=74
P22A Eagle 74.28 50 ⇑P P 01 23 51.1 -0.2
baz=74,SNR=8.3
R20A Redvale 74.31 52 ⇓P P 01 23 51.3 -0.1
baz=74,SNR=6.9
J27A Elkhorn Farm, 74.31 45 ⇓P P 01 23 50.6 -0.6
baz=74
WUAZ Wupatki 74.33 56 *e*P P 01 23 52.3 +0.8
comp=Z,17nm,1.1s
WUAZ Wupatki 74.33 56 ⇓P P 01 23 50.8 -0.7
baz=74
O23A Lake Granby, G 74.33 49 ⇓P P 01 23 51.6 0.0
baz=74,SNR=7.7
Q21A Lamborn Mesa, 74.34 51 ⇑P P 01 23 51.1 -0.5
baz=74
Y14A Wickenburg 74.38 58 ⇑P P 01 23 51.6 0.0
baz=74
G30A Faulkton 74.42 42 ⇑P P 01 23 50.8 -0.9
baz=74,SNR=5.8
SMCO Snowmass 74.44 51 *e*P P 01 23 52.5 +0.1
comp=Z,8.9nm,0.8s
BSY Bisya 74.46 287 P P 01 23 53.3 +1.0
SNR=13
N24A Carr 74.48 48 ⇑P P 01 23 51.7 -0.6
baz=74
BEL Belsk 74.48 329 *e*P P 01 23 52.2 +0.4
M25A Palm-Egli Farm 74.50 47 ⇑P P 01 23 52.3 -0.1
baz=74
MUD Monsted U'grnd 74.54 337 *i* P P 01 23 52.3 +0.2
MUD pmax pmax
comp=Z,16nm,1.1s
MUD Monsted U'grnd 74.54 337 *i* P P 01 23 52.3 +0.2
comp=Z,16nm,1.1s
ARQ Araqi 74.55 288 P P 01 23 53.9 +1.1
SNR=6.3
S20A Disappointment 74.56 53 ⇓P P 01 23 52.9 0.0
baz=74,SNR=7.4
K27A Flueckinger Fa 74.58 46 ⇑P P 01 23 51.9 -0.8
baz=74
J28A Allard Ranch, 74.59 44 ⇑P P 01 23 52.5 -0.3
baz=74,SNR=13
GKP Gorka Klasztor 74.64 331 *e*P P 01 23 52.8 +0.1
R21A Cimarron 74.67 52 ⇓P P 01 23 53.6 +0.1
baz=74,SNR=8.9
113A Mohawk Valley, 74.67 59 ⇑P P 01 23 53.3 0.0
baz=74
Q22A Crested Butte, 74.70 51 ⇑P P 01 23 53.5 -0.3
baz=74,SNR=9.4
STKA Stephens Creek 74.76 184 *e*P P 01 23 53.4 -0.2
comp=Z,2.3nm,0.9s
STKA Stephens Creek 74.76 184 P P 01 23 53.4 -0.2
comp=Z,6.2nm,0.8s,baz=344,slow=8.4,SNR=10
STKA LR LR 01 55 13.9
comp=Z,153nm,19.1s,baz=17,slow=35
LVV L'vov 74.76 326 *e*P P 01 23 54.1 +0.5
LVV MLR MLR
comp=N,600nm,17.0s
LVV MLR MLR
comp=E,1μm,17.0s
LVV MLR MLR
comp=Z,1μm,17.0s
ISCO Idaho Springs 74.78 50 *e*P P 01 23 54.7 +0.4
ISCO pmax pmax
comp=Z,27nm,1.3s
ISCO Idaho Springs 74.78 50 *e*P P 01 23 54.6 +0.4
comp=Z,27nm,1.3s
ISCO Idaho Springs 74.78 50 ⇓P P 01 23 54.1 -0.2
baz=74,SNR=11
KIS Kishinev 74.81 321 ⇓*i*P P 01 23 53.0 -0.8
comp=Z,200nm,1.8s
KIS LRM MLR 01 59 28.0
comp=Z,2μm,18.0s
KIS Kishinev 74.81 321 ⇓*i*P P 01 23 53.0 -0.8
KIS *e* 01 26 40.0
KIS *e* 01 33 24.0
KIS pmax pmax
comp=Z,200nm,1.8s
KIS MLR MLR
comp=Z,2μm,18.0s
KIS MLR MLR
comp=N,1μm,15.0s
KIS MLR MLR
comp=E,500nm,17.0s
O24A Longmont 74.86 49 ⇓P P 01 23 54.0 -0.5
baz=75
MVCO Mesa Verde 74.91 53 *e*P P 01 23 55.0 +0.1
comp=E,22nm,1.3s
MVCO Mesa Verde 74.91 53 ⇓P P 01 23 54.8 -0.1
baz=75,SNR=7.6
P23A Jefferson 74.95 50 ⇓P P 01 23 54.5 -0.8
baz=75
M26A McRoberts Ranc 74.97 47 ⇓P P 01 23 55.0 -0.1
baz=75
BRSD Miller 75.01 42 *e*P P 01 23 54.3 -0.8
BRSD *ep*P pP 01 24 06.6 -1.1
BRSD Miller 75.01 42 ⇓P P 01 23 55.0 -0.1
baz=75
S21A Coal Bank Pass 75.01 52 ⇓P P 01 23 55.5 -0.1
baz=75,SNR=12
X16A Lo Mia Camp, P 75.02 57 ⇓P P 01 23 55.7 +0.1
baz=75,SNR=11
K28A Ten Mile Ranch 75.03 45 ⇓P P 01 23 55.0 -0.3
baz=75,SNR=7.4
J29A Okreek 75.07 44 ⇑P P 01 23 54.7 -0.8
baz=75,SNR=6.9
I30A Oacoma 75.16 43 ⇓P P 01 23 55.6 -0.4
baz=75
R22A Saguache, Gunn 75.22 51 ⇑P P 01 23 56.4 -0.4
baz=75,SNR=5.6
P24A Kohler Place, 75.37 49 ⇑P P 01 23 57.2 -0.3
baz=75
N26A Koester Ranch, 75.38 47 ⇓P P 01 23 57.1 -0.3
baz=75
O25A Wiggins 75.39 48 ⇑P P 01 23 56.1 -1.4
baz=75
KWP Kalwaria Pacla 75.45 326 ⇓P P 01 23 58.4 +0.9
KWP Kalwaria Pacla 75.45 326 ⇓*i*P P 01 23 58.4 +0.9
KWP Kalwaria Pacla 75.45 326 *e*P P 01 23 57.9 +0.4
comp=E,177nm,1.2s
KWP Kalwaria Pacla 75.45 326 *e*P P 01 23 58.1 +0.6
S22A 4UR Ranch, Cre 75.51 52 ⇑P P 01 23 58.4 -0.1
baz=75,SNR=7.3
K29A Lazy Trails An 75.53 44 ⇓P P 01 23 57.5 -0.7
baz=75
J30A Dallas 75.55 44 ⇓P P 01 23 57.5 -0.8
baz=75,SNR=6.4
T21A Navajo Lake 75.62 53 ⇓P P 01 23 58.6 -0.3
baz=75
Q24A Divide 75.62 50 ⇓P P 01 23 58.7 -0.4
baz=75,SNR=8.1
N27A Anderson Farm, 75.76 47 ⇑P P 01 23 59.4 -0.2
baz=76,SNR=7.1
R23A Moffat 75.77 51 ⇓P P 01 23 60.0 0.0
baz=76,SNR=9.3
P25A Willow Gulch B 75.78 49 ⇓P P 01 23 59.3 -0.5
baz=76
214A Organ Pipe Nat 75.81 60 ⇑P P 01 23 59.6 -0.3
baz=76
X18A Snowflake 75.86 56 ⇓P P 01 24 00.6 +0.3
baz=76
V20A Brimhall 75.88 54 ⇑P P 01 24 00.2 -0.3
baz=76
U21A Nageezi 75.93 53 ⇑P P 01 24 01.2 +0.4
baz=76,SNR=7.0
OGNE Ogallala 75.93 47 *e*P P 01 24 00.5 -0.1
comp=E,77nm,1.1s
OGNE *ep*P PcP 01 24 12.6 -0.3
OGNE Ogallala 75.93 47 ⇓P P 01 24 00.3 -0.3
baz=76
BUR08 Bucovina Ar. S 75.94 324 *e*P P 01 24 00.3 -0.1
BURAR Bucovina Array 75.95 323 ⇓P P 01 24 00.6 0.0
BURAR Bucovina Array 75.95 323 ⇓*i*P P 01 24 00.6 0.0
K30A Basset 75.96 44 ⇓P P 01 24 00.3 -0.3
baz=76,SNR=6.8
T22A Edith 75.97 52 ⇑P P 01 24 01.1 +0.1
baz=76,SNR=8.1
MALT Malatya 76.12 310 ⇓P P 01 24 02.9 +1.2
MALT Malatya 76.12 310 ⇓*i*P P 01 24 02.9 +1.2
OJC Ojcow 76.15 328 *i* P P 01 24 01.5 0.0
R24A Sanders Place, 76.15 50 ⇓P P 01 24 02.2 +0.2
baz=76,SNR=7.5
TLCR 76.15 320 ⇑P P 01 24 00.6 -1.0
TLCR 76.15 320 ⇑*i*P P 01 24 00.6 -1.0
TESR Tescani 76.16 322 ⇓*i*P P 01 24 01.4 -0.2
Q25A Bedland, Calha 76.16 49 ⇑P P 01 24 01.4 -0.7
baz=76
P26A Davis Ranch, A 76.20 48 ⇓P P 01 24 01.8 -0.3
baz=76
STHS Stebnicka Huta 76.21 327 *e*P P 01 24 02.6 +0.7
O27A Beecher Island 76.23 47 ⇓P P 01 24 01.7 -0.6
baz=76
W20A Ramah 76.32 55 ⇓P P 01 24 03.1 0.0
baz=76,SNR=5.4
BSEG Bad Segeberg 76.37 335 *e*P P 01 24 03.0 +0.4
BSEG pmax pmax
comp=Z,15nm,0.8s
BSEG Bad Segeberg 76.37 335 *e*P P 01 24 03.0 +0.4
comp=Z,15nm,0.8s
V21A Milan 76.37 54 ⇑P P 01 24 03.0 -0.3
baz=76
N28A Pribbeno Ranch 76.38 47 ⇑P P 01 24 02.7 -0.4
baz=76
UZH Uzhgorod 76.41 326 ⇑*i*P P 01 24 02.3 -0.6
UZH *e*S S 01 33 42.0 -2.8
UZH *e* 01 34 11.7
UZH MLR MLR
comp=N,700nm,15.0s
UZH MLR MLR
comp=E,950nm,15.0s
UZH MLR MLR
comp=Z,600nm,15.0s
U22A Llaves 76.44 53 ⇑P P 01 24 03.2 -0.5
baz=76,SNR=5.9
T23A Casias Ranch, 76.45 52 ⇓P P 01 24 03.5 -0.3
baz=76
CFR Carcaliu 76.48 320 ⇑P P 01 24 03.3 -0.1
CFR Carcaliu 76.48 320 ⇑*i*P P 01 24 03.3 -0.1
PETR Petresti 76.49 321 ⇓*i*P P 01 24 05.5 +2.0
S24A Houchin Ranch, 76.50 51 ⇓P P 01 24 03.6 -0.5
baz=76
Q26A Hugo 76.56 49 ⇑P P 01 24 03.6 -0.6
baz=76
NIE Niedzica 76.58 327 *i* P P 01 24 04.7 +0.7
VRI Vrincioaia 76.61 322 ⇑P P 01 24 04.5 +0.3
VRI Vrincioaia 76.61 322 ⇑*i*P P 01 24 04.5 +0.3
O28A Krutsinger Ran 76.65 47 ⇑P P 01 24 03.5 -1.2
baz=76
R25A Fountain Ranch 76.67 50 ⇓P P 01 24 04.5 -0.4
baz=76,SNR=5.2
ECSD EROS Data Cent 76.68 42 *e*P P 01 24 03.9 -0.7
comp=Z,42nm,1.3s
ECSD *ep*P PcP 01 24 16.0 +0.1
KBD Kabd 76.69 297 *e*P P 01 24 04.7 -0.2
KBD AMb AMB 01 24 06.3
comp=Z,37nm,1.0s
TRPA Tarpa 76.69 325 ⇓*i*P P 01 24 05.2 +0.6
TRPA Tarpa 76.69 325 ⇑ P 01 24 05.1 +0.5
L31A Butterfield Fa 76.71 44 ⇑P P 01 24 04.4 -0.5
baz=76,SNR=11
V22A San Miguel Ran 76.72 53 ⇓P P 01 24 05.0 -0.4
baz=76
X20A Quemado 76.72 55 ⇑P P 01 24 05.9 +0.6
baz=76,SNR=8.5
N29A Votaw Ranch, W 76.77 46 ⇑P P 01 24 04.9 -0.4
baz=76
T24B San Luis 76.81 51 ⇑P P 01 24 05.6 -0.2
baz=77
TUC Tucson 76.85 58 *e*P P 01 24 06.3 +0.4
TUC *e**PP pP 01 24 18.8 +0.3
TUC pmax pmax
comp=Z,5.0nm,0.9s
TUC Tucson 76.85 58 *e*P P 01 24 06.3 +0.4
comp=Z,4.9nm,0.9s
TUC *ep*P pP 01 24 18.8 +0.3
U23A El Rito 76.86 52 ⇑P P 01 24 06.2 +0.1
baz=77,SNR=15
TIRR Tirgusor 76.89 320 ⇑P P 01 24 06.7 +1.0
TIRR Tirgusor 76.89 320 ⇑*i*P P 01 24 06.7 +1.0
RST Umm Al-Ruwaisa 76.93 298 *e*P P 01 24 05.6 -0.6
RST AMb AMB 01 24 07.5
comp=Z,570nm,1.0s
S25A Robets Cordova 76.93 50 ⇑P P 01 24 05.7 -0.7
baz=77
NAY Al-Naaiem 76.94 298 *e*P P 01 24 05.5 -0.8
NAY AMb AMB 01 24 07.3
comp=Z,42nm,1.2s
HARR Harsova 76.94 320 ⇓P P 01 24 06.1 +0.1
HARR Harsova 76.94 320 ⇓*i*P P 01 24 06.1 +0.1
RDF Al-Radifah 76.95 297 *e*P P 01 24 06.0 -0.4
RDF AMb AMB 01 24 07.7
comp=Z,97nm,1.3s
KSP Ksiaz 76.96 330 *e*P P 01 24 06.4 +0.4
TLB Topalu 76.97 320 ⇓P P 01 24 07.1 +0.9
TLB Topalu 76.97 320 ⇓*i*P P 01 24 07.1 +0.9
KSCO Kaye Shedlock' 76.98 48 *e*P P 01 24 06.2 -0.4
KSCO *ep*P pP 01 24 18.8 -0.4
KSCO Kaye Shedlock' 76.98 48 ⇑P P 01 24 05.8 -0.8
baz=77
R26A Arlington 77.03 49 ⇓P P 01 24 06.5 -0.4
baz=77,SNR=12
P28A Saint Francis 77.06 48 ⇓P P 01 24 06.2 -0.8
baz=77
OKC Ostrava-Krasne 77.09 329 ⇑*i*P P 01 24 06.8 0.0
OKC AMS AMS 01 59 40.0
comp=Z,500nm,19.1s
DOPR Dopca 77.14 322 ⇓*i*P P 01 24 08.4 +1.2
O29A 4D Ranch, Culb 77.18 47 ⇓P P 01 24 07.1 -0.5
baz=77,SNR=6.6
X21A Alamocita Cree 77.22 55 ⇓P P 01 24 08.5 +0.4
baz=77,SNR=12
Y20A Horse Springs, 77.23 55 ⇑P P 01 24 08.6 +0.4
baz=77,SNR=9.4
M31A Lambtecht Ranc 77.25 45 ⇑P P 01 24 07.3 -0.6
baz=77
MLR Muntele Rosu 77.25 322 ⇑*i*P P 01 24 08.1 +0.1
ISR Istrita 77.26 321 ⇑P P 01 24 09.0 +1.1
ISR Istrita 77.26 321 ⇑*i*P P 01 24 09.0 +1.1
V23A Ortiz Mt. (NFS 77.27 53 ⇓P P 01 24 08.5 +0.2
baz=77
T25A Trinidad 77.31 51 ⇑P P 01 24 08.6 0.0
baz=77,SNR=5.5
U24A Moreno Valley 77.33 52 ⇑P P 01 24 08.4 -0.3
baz=77
UPC Upice 77.33 330 ⇑*i*P P 01 24 08.4 +0.2
DPC Dobruska-Polom 77.35 330 ⇑*i*P P 01 24 08.6 +0.3
DPC *ex* x 01 24 16.7
DPC AMS AMS 02 03 20.0
SPMN St. Paul 77.36 39 ⇓P P 01 24 07.2 -1.2
baz=77
Q28A Sharon Springs 77.38 48 ⇓P P 01 24 07.9 -0.9
baz=77
R27A Eads 77.41 49 ⇓P P 01 24 08.4 -0.5
baz=77,SNR=8.3
MSAB Monastry St. A 77.44 320 ⇑*i*P P 01 24 10.3 +1.4
P29A Atwood 77.48 47 ⇓P P 01 24 08.5 -0.8
baz=77
S26A Kim 77.50 50 ⇓P P 01 24 09.1 -0.4
baz=77,SNR=5.4
O30A MW Ranch, Wils 77.53 46 ⇓P P 01 24 08.7 -0.9
baz=77
Y21A Point of Rocks 77.58 55 ⇑P P 01 24 10.2 0.0
baz=77
BGNE Belgrade 77.62 44 *e*P P 01 24 09.2 -0.8
BGNE Belgrade 77.62 44 ⇑P P 01 24 09.1 -0.9
baz=77
LAZ Ladron 77.63 54 *e*P P 01 24 10.9 +0.5
comp=Z,22nm,1.6s
Z20A Nine Sixteen R 77.65 56 ⇓P P 01 24 10.2 -0.2
baz=77,SNR=7.7
ANMO Albuquerque 77.66 54 *e*P P 01 24 10.6 0.0
comp=Z,30nm,1.7s
NRDL Niedersach Rie 77.67 335 *e*P P 01 24 10.0 +0.1
comp=Z,7.0nm,0.8s
DRGR 77.67 324 ⇓P P 01 24 10.5 +0.3
DRGR 77.67 324 ⇓*i*P P 01 24 10.5 +0.3
W23A Werner Place, 77.69 53 ⇑P P 01 24 10.3 -0.5
baz=78
VOIR 77.70 322 ⇓P P 01 24 11.3 +0.9
VOIR 77.70 322 ⇓*i*P P 01 24 11.3 +0.9
CLL Collm 77.73 332 ⇑*i*P P 01 24 09.8 -0.5
CLL pmax pmax
comp=Z,341nm,1.1s
CLL MLR MLR
comp=Z,900nm,19.1s
CLL Collm 77.73 332 *e*P P 01 24 10.1 -0.2
comp=Z,17nm,0.8s
CLL Collm 77.73 332 ⇑*i*P P 01 24 09.8 -0.5
comp=Z,56nm,1.1s
CLL *i* PcP PcP 01 24 20.4 +0.1
CLL *e*S S 01 34 06.0 +6.9
CLL LmV 02 03 00.0
comp=Z,900nm,19.1s
SULR 77.73 321 ⇓*i*P P 01 24 11.4 +0.9
BR131 Keskin Array S 77.74 313 *e*P P 01 24 10.8 -0.1
comp=Z,3.3nm,0.6s
BRTR Keskin Array B 77.74 313 P P 01 24 09.8 -1.1
BRTR Keskin Array B 77.74 313 P P 01 24 09.8 -1.1
comp=Z,6.0nm,0.8s,baz=66,slow=4.2,SNR=33
BRTR LR LR 02 04 31.5
comp=Z,783nm,18.0s,baz=250,slow=40
T26A Comanche Natio 77.75 50 ⇓P P 01 24 10.4 -0.6
baz=78,SNR=9.6
BRG Berggiesshubel 77.77 332 *i* P P 01 24 10.1 -0.5
comp=Z,23nm,1.3s
BRG
comp=N,754nm,15.1s
BRG
comp=E,623nm,12.9s
BRG
comp=Z,1μm,17.2s
BRG Berggiesshubel 77.77 332 *e*P P 01 24 10.6 0.0
comp=Z,8.0nm,0.9s
S27A Las Animas 77.78 50 ⇑P P 01 24 10.5 -0.6
baz=78
V24A Rampart Ranch, 77.81 52 ⇓P P 01 24 11.8 +0.4
baz=78,SNR=6.0
U25A Circle Dot Ran 77.83 51 ⇑P P 01 24 10.9 -0.6
baz=78
PVCC Panska Ves 77.84 331 ⇑*e*P P 01 24 11.7 +0.7
PVCC *ex* x 01 24 16.0
PVCC AMS AMS 02 05 00.0
comp=Z,900nm,16.4s
P30A Selden 77.89 47 ⇓P P 01 24 11.2 -0.4
baz=78
R28A Tribune 77.91 48 ⇓P P 01 24 11.0 -0.8
baz=78
ARR Arges 77.94 322 ⇓*i*P P 01 24 12.4 +0.7
PSZ Piszkesteto 77.95 327 ⇓P P 01 24 12.7 +1.0
PSZ Piszkesteto 77.95 327 ⇓*i*P P 01 24 12.7 +1.0
PSZ Piszkesteto 77.95 327 *e*P P 01 24 11.8 +0.1
comp=Z,103nm,1.8s
PSZ Piszkesteto 77.95 327 ⇑*e*P P 01 24 12.3 +0.6
Q29A Oakley 77.97 48 ⇓P P 01 24 11.1 -0.9
baz=78
LPM Los Pinos Moun 78.00 54 *e*P P 01 24 12.7 +0.3
comp=Z,23nm,1.6s
120A U Bar Ranch, L 78.01 57 ⇓P P 01 24 12.4 -0.1
baz=78
Y22A Socorro 78.06 55 ⇑P P 01 24 13.0 +0.2
baz=78,SNR=6.0
Z21A St. Cloud Mine 78.07 56 ⇓P P 01 24 13.3 +0.5
baz=78,SNR=15
X23A Hourglass Bar 78.07 54 ⇓P P 01 24 12.7 -0.2
baz=78
ANTO Ankara 78.08 314 ⇑P P 01 24 13.1 +0.5
ANTO Ankara 78.08 314 P P 01 24 13.8 +1.1
SNR=8.8
ANTO Ankara 78.08 314 ⇑*i*P P 01 24 13.1 +0.5
ANTO Ankara 78.08 314 *e*P P 01 24 13.1 +0.5
comp=Z,21nm,0.8s
W24A Lazy 6 Ranch, 78.09 53 ⇓P P 01 24 13.1 +0.2
baz=78,SNR=9.8
VRAC Vranov 78.11 329 ⇓*i*P P 01 24 13.2 +0.7
V25A Rancho No Teng 78.11 52 ⇓P P 01 24 12.8 -0.2
baz=78
BNM Barren Site 78.11 54 *e*P P 01 24 13.1 0.0
comp=Z,31nm,1.6s
CLZ Clausthal 78.14 334 *e*P P 01 24 13.2 +0.5
CLZ pmax pmax
comp=Z,16nm,0.7s
CLZ Clausthal 78.14 334 *e*P P 01 24 13.2 +0.5
comp=Z,16nm,0.7s
U26A Atchley Ranch, 78.22 51 ⇑P P 01 24 12.7 -0.8
baz=78
R29A Marienthal 78.22 48 ⇓P P 01 24 12.7 -0.8
baz=78
PRU Pruhonice 78.30 331 ⇑*i*P P 01 24 13.6 +0.1
PRU *ex* x 01 24 18.7
PRU AMS AMS 02 03 30.0
comp=Z,800nm,16.3s
Q30A Quinter 78.31 47 ⇓P P 01 24 13.2 -0.7
baz=78,SNR=6.4
PRD Provadia 78.32 319 *i* P P 01 24 14.3 +0.6
T27A Campo 78.32 50 ⇓P P 01 24 13.4 -0.7
baz=78
SCHQ Schefferville 78.34 19 P P 01 24 13.5 -0.2
SCHQ Schefferville 78.34 19 P P 01 24 13.5 -0.2
comp=Z,4.4nm,0.5s,baz=323,slow=16,SNR=9.5
SCHQ LR LR 02 01 30.3
comp=Z,476nm,18.3s,baz=3.4,slow=38
P31A Stockton 78.37 46 ⇑P P 01 24 13.4 -0.7
baz=78,SNR=9.0
S28A Manter 78.40 49 ⇓P P 01 24 14.1 -0.4
baz=78,SNR=7.0
319A Douglas 78.42 58 ⇑P P 01 24 14.7 0.0
baz=78
SMOL Smolenice 78.44 328 *e*P P 01 24 15.1 +0.7
220A Playas Peak, P 78.52 57 ⇑P P 01 24 15.5 +0.2
baz=78,SNR=6.8
X24A Lazy VL Ranch, 78.53 53 ⇓P P 01 24 15.5 +0.2
baz=78,SNR=7.5
TREC Trest 78.53 330 ⇑AMS AMS 02 03 20.0
comp=Z,1μm,15.9s
SIRR Siria 78.53 325 ⇑*i*P P 01 24 15.0 +0.1
Z22A Elephant Butte 78.53 55 ⇑P P 01 24 15.5 +0.2
baz=78,SNR=7.2
121A Cookes Peak, D 78.54 56 ⇓P P 01 24 15.8 +0.4
baz=78,SNR=8.3
IBBN Ibbenburen 78.56 336 *e*P P 01 24 14.9 0.0
comp=Z,18nm,0.7s
Y23A Lovelace Mesa, 78.61 54 ⇑P P 01 24 15.6 -0.2
baz=78,SNR=12
V26A Tequesquite Ra 78.61 51 ⇑P P 01 24 15.1 -0.6
baz=78
T28A Walsh 78.62 49 ⇓P P 01 24 15.4 -0.3
baz=78
W25A X Bar L Ranch, 78.64 52 ⇑P P 01 24 15.6 -0.3
baz=78,SNR=13
BUD Budapest 78.65 327 ⇓*e* P 01 24 16.4 +0.9
ESK Eskdalemuir 78.67 343 *e*P P 01 24 15.3 -0.2
ESK pmax pmax
comp=Z,12nm,0.8s
ESK Eskdalemuir 78.67 343 *e*P P 01 24 15.2 -0.2
comp=Z,12nm,0.8s
TANN Tannenbergstha 78.67 332 *e*P P 01 24 15.7 +0.1
comp=Z,3.0nm,0.8s
P32A Huiting Farm, 78.70 46 ⇓P P 01 24 14.8 -1.2
baz=78,SNR=10
U27A Thompson Grove 78.72 50 ⇑P P 01 24 15.6 -0.7
baz=78
Q31A Ellis 78.73 47 ⇑P P 01 24 15.5 -0.7

baz=78
PKSN **Nyarlorinc** 78.78 326⇓*e* P 01 24 17.3 +1.1
R30A **Dighton** 78.78 48 ⇑P P 01 24 15.7 -0.9
baz=78
S29A **Ulysses** 78.81 49 ⇑P P 01 24 16.3 -0.4
baz=79
122A **Conniff Cattle** 78.90 56 ⇑P P 01 24 17.4 +0.1
baz=79
221A **Mesquite Ranch** 78.91 57 ⇓P P 01 24 17.5 +0.1
baz=79
320A **Kipp Ranch, An** 78.91 57 ⇑P P 01 24 17.7 +0.2
baz=79
PKS7 **Kunszentmiklos** 78.94 326⇓*e* P 01 24 17.8 +0.7
SZH **Strazhica** 78.96 320 *i* P P 01 24 17.3 0.0
Z23A **Rita Site, Whi** 78.97 55 ⇑P P 01 24 17.4 -0.3
baz=79
PKSG 78.97 327⇓*e* P 01 24 18.2 +0.9
Y24A **Capitan** 78.97 54 ⇑P P 01 24 17.8 0.0
baz=79,SNR=6.1
X25A **Clemmons Ranch** 79.01 53 ⇓P P 01 24 18.3 +0.4
baz=79
BZS **Buzias** 79.06 324 ⇑P P 01 24 17.6 -0.2
BZS **Buzias** 79.06 324⇑*iP* P 01 24 17.6 -0.2
W26A **Owens Ranch, T** 79.13 52 ⇓P P 01 24 18.2 -0.4
baz=79
WTSB **Winterswijk** 79.14 336 *eP* P 01 24 17.5 -0.6
comp=Z,27nm,0.8s
UBBA **Unterbreizbach** 79.14 334 *eP* P 01 24 18.1 +0.1
comp=Z,4.0nm,0.6s
S30A **Montezuma** 79.15 48 ⇓P P 01 24 17.7 -0.9
baz=79
V27A **Dan Oppiter Fa** 79.19 51 ⇑P P 01 24 18.7 -0.1
baz=79
R31A **Burdett** 79.19 47 ⇓P P 01 24 17.9 -0.8
baz=79
PKST **T``s** 79.22 327⇓*e* P 01 24 19.1 +0.4
222A **Williams Famil** 79.25 56 ⇑P P 01 24 19.2 0.0
baz=79
JMB **Yambol** 79.27 319 P P 01 24 19.6 +0.6
JMB **Yambol** 79.27 319 *i* P P 01 24 19.7 +0.7
ROTZ **Rotzenmuhle** 79.30 332 *eP* P 01 24 19.6 +0.5
comp=Z,14nm,1.1s
P33A **Williams Farm,** 79.31 45 ⇑P P 01 24 18.5 -0.8
baz=79
KHC **Kasperske Hory** 79.36 331 *eP* P 01 24 19.4 0.0
KHC pmax pmax
comp=Z,21nm,0.8s
KHC **Kasperske Hory** 79.36 331⇑*iP* P 01 24 19.4 0.0
KHC *ex* x 01 24 24.5
KHC AMS AMS 02 04 00.0
comp=Z,1µm,16.6s
KHC **Kasperske Hory** 79.36 331 *eP* P 01 24 19.4 0.0
comp=Z,21nm,0.8s
PKS2 **Kecel** 79.37 326⇓*e* P 01 24 19.9 +0.4
Y25A **Mesa, Roswell** 79.42 53 ⇑P P 01 24 19.7 -0.5
baz=79
Z24A **Sheeppen Canyo** 79.44 54 ⇓P P 01 24 19.7 -0.7
baz=79
SOP **Sopron** 79.45 328⇑*e* P 01 24 20.6 +0.7
BUG **Bochum-Univer** 79.46 336 *eP* P 01 24 19.8 0.0
comp=Z,14nm,0.9s
X26A **CR and CF Fran** 79.48 52 ⇓P P 01 24 19.9 -0.6
baz=79
CONA **Conrad Observa** 79.52 329 *i* P P 01 24 20.9 +0.5
comp=Z,11nm,0.7s,SNR=14
W27A **Bowe Ranch, En** 79.55 51 ⇑P P 01 24 19.9 -1.0
baz=79
GEC2 **GERESS Array S** 79.55 331 *eP* P 01 24 20.5 -0.1
GEC2 pmax pmax
comp=Z,4.0nm,0.8s
GEC2 **GERESS Array S** 79.55 331 *eP* P 01 24 20.5 -0.1
comp=Z,4.0nm,0.8s
GERES **GERESS Array B** 79.55 331 P P 01 24 20.2 -0.4
GERES **GERESS Array B** 79.55 331 P P 01 24 20.2 -0.4
comp=Z,2.5nm,0.4s,baz=40,slow=5.2,SNR=30
GERES LR LR 02 04 07.4
comp=Z,940nm,18.0s,baz=21,slow=39
WET **Wettzell** 79.59 331 *eP* P 01 24 21.2 +0.5
WET pmax pmax
comp=Z,8.0nm,0.8s
WET **Wettzell** 79.59 331 *eP* P 01 24 21.2 +0.5
comp=Z,8.0nm,0.8s
PKS9 **Tamasi** 79.67 327⇓*e* P 01 24 21.0 -0.1
SCIA **State Center** 79.70 41 *eP* P 01 24 21.0 -0.4
comp=Z,51nm,1.1s
SCIA *ep*P pP 01 24 33.1 -0.9
S31A **Mullinville** 79.70 48 ⇓P P 01 24 20.5 -1.0
baz=79
GRF **Grafenberg Arr** 79.70 332 *eP* P 01 24 21.7 +0.4
GRF pmax pmax
comp=Z,14nm,0.7s
GRF **Grafenberg Arr** 79.70 332 *eP* P 01 24 21.7 +0.4
comp=Z,14nm,0.7s
GRF *eL* L 02 05 39.9
comp=Z,569nm,18.6s
GRFO **Grafenberg** 79.70 332 *eP* P 01 24 21.5 +0.2
GRFO pmax pmax
comp=Z,25nm,0.9s
GRFO **Grafenberg** 79.70 332 *eP* P 01 24 21.5 +0.2
comp=Z,24nm,0.9s
124A **Stringfield Ra** 79.83 55 ⇑P P 01 24 21.7 -0.8
baz=80
U30A **WK&E Inc. Balk** 79.85 49 ⇓P P 01 24 21.7 -0.7
baz=80
Z25A **Roswell** 79.86 54 ⇑P P 01 24 22.4 -0.1
baz=80
W28A **Vega** 79.90 51 ⇑P P 01 24 22.6 -0.1
baz=80
MPEP **Malo Peshtene** 79.90 322 *i* P P 01 24 22.8 +0.3
Y26A **Elida** 79.92 53 ⇓P P 01 24 22.7 -0.2
baz=80
T31A **Randall Ranch,** 79.97 48 ⇑P P 01 24 22.3 -0.7
baz=80
TNS **Taunus Mts** 80.16 334 *eP* P 01 24 23.8 0.0
TNS pmax pmax
comp=Z,6.0nm,0.8s
TNS **Taunus Mts** 80.16 334 *eP* P 01 24 23.8 0.0
comp=Z,6.0nm,0.8s
MOA **Molln** 80.18 330⇑*iP* P 01 24 24.1 +0.2
comp=Z,5.7nm,0.8s
ARSA **Arzberg** 80.21 329⇑*iP* P 01 24 24.1 +0.1
comp=Z,8.8nm,1.3s,SNR=7.1
224A **Cornudas Mount** 80.22 55 ⇓P P 01 24 24.6 0.0
baz=80,SNR=9.0
Z26A **Caprock** 80.30 53 ⇓P P 01 24 24.8 -0.1
baz=80,SNR=7.0
125A **Gardner Draw,** 80.33 54 ⇓P P 01 24 25.0 -0.1
baz=80,SNR=10
Y27A **Causey** 80.33 52 ⇑P P 01 24 24.8 -0.4
baz=80,SNR=9.0
PGB **Panagyurishte** 80.34 321 *i* P P 01 24 25.2 +0.3
V30A **Spur Ranch, Mi** 80.39 50 ⇑P P 01 24 24.5 -0.8
baz=80
U31A **Nine Bar Ranch** 80.41 49 ⇓P P 01 24 25.2 -0.2
baz=80
PLD **Plovdiv** 80.43 320 P P 01 24 24.4 -0.9
X28A **Dimmitt** 80.44 51 ⇓P P 01 24 25.5 -0.1
baz=80
KDZ **Kurdzhali** 80.45 319 *i* P P 01 24 26.0 +0.6
HGN **Heimansgroeve** 80.46 336 *eP* P 01 24 24.8 -0.4
comp=Z,26nm,1.0s
MSTX **Muleshoe** 80.50 52 *eP* P 01 24 26.1 +0.2
MSTX *ep*P pP 01 24 38.4 -0.3
MSTX **Muleshoe** 80.50 52 ⇑P P 01 24 25.5 -0.5
baz=80
BEBN **Eben Emael** 80.50 336 P P 01 24 25.7 +0.2
comp=Z,10nm,1.3s
MEM **Membach** 80.57 336 P P 01 24 25.5 -0.4
comp=Z,12nm,1.4s
MNTX **Cornudas Mount** 80.58 55 *eP* P 01 24 26.5 +0.2
comp=Z,39nm,1.5s
MNTX *ep*P pP 01 24 38.8 -0.2
KOGS **Kog** 80.59 328 *i* P P 01 24 25.6 -0.5
225A **Deer Hill, Car** 80.62 55 ⇑P P 01 24 26.2 -0.5
baz=80
324A **Moseley Ranch,** 80.69 56 ⇓P P 01 24 26.5 -0.6
baz=80,SNR=5.5
Z27A **Tatum** 80.71 53 ⇓P P 01 24 26.8 -0.3
baz=80,SNR=18
126A **Clayton Basin,** 80.72 54 ⇑P P 01 24 26.7 -0.4
baz=80
ALN **Alexandroupoli** 80.73 319 P P 01 24 27.1 +0.2
VTS **Vitosha** 80.75 321 P P 01 24 27.5 +0.3
VTS **Vitosha** 80.75 321 ⇓P P 01 24 27.5 +0.3
VTS **Vitosha** 80.75 321 ⇓*iP* P 01 24 27.5 +0.3
VTS **Vitosha** 80.75 321 *i* P P 01 24 27.6 +0.3
RZN **Rozhen** 80.75 320 *i* P P 01 24 27.7 +0.4
X29A **Tulia** 80.77 51 ⇑P P 01 24 27.3 -0.1
baz=80
RJOB **Jochberg** 80.81 330 *eP* P 01 24 27.8 +0.5
comp=Z,7.0nm,0.9s
Y28A **McKinney Farm,** 80.85 52 ⇓P P 01 24 27.6 -0.2
baz=81
V31A **Spring Creek L** 80.85 49 ⇓P P 01 24 28.0 +0.3
baz=81
SOKA **Soboth** 80.87 329⇑*iP* P 01 24 27.6 -0.1
comp=Z,33nm,1.3s,SNR=13
PERS **Pernice** 80.87 329 *eP* P 01 24 27.4 -0.3
PERS *i* 01 24 32.5
BCLA **Clavier** 80.95 336 P P 01 24 28.0 +0.1
comp=Z,16nm,1.7s
DIVS **Divibare** 80.97 324 P P 01 24 27.8 -0.5
FUR **Furstenfeldbru** 80.99 332 *eP* P 01 24 28.4 +0.2
FUR pmax pmax
comp=Z,11nm,0.8s
FUR **Furstenfeldbru** 80.99 332 *eP* P 01 24 28.4 +0.2
comp=Z,11nm,0.8s
226B **Tecolote Peak,** 81.03 54 ⇓P P 01 24 28.2 -0.6
baz=81,SNR=15
325A **Bean Ranch, Si** 81.05 55 ⇓P P 01 24 28.9 -0.1
baz=81,SNR=7.5
127A **Arkansas Junct** 81.08 53 ⇑P P 01 24 28.9 -0.2
baz=81
STU **Stuttgart** 81.17 333 *eP* P 01 24 28.9 -0.3
STU pmax pmax
comp=Z,23nm,0.9s
STU **Stuttgart** 81.17 333 *eP* P 01 24 29.1 -0.1
comp=Z,12nm,0.8s
STU **Stuttgart** 81.17 333 *eP* P 01 24 28.9 -0.3
comp=Z,23nm,0.9s
Y29A **Porterfield Fa** 81.21 52 ⇑P P 01 24 29.5 -0.2
baz=81
Z28A **Tucker Farm, M** 81.21 52 ⇑P P 01 24 29.3 -0.4
baz=81
W31A **Holland Ranch,** 81.22 50 ⇑P P 01 24 29.3 -0.4
baz=81
X30A **Coker Ranch, T** 81.24 51 ⇑P P 01 24 29.4 -0.4
baz=81
MMB **Musomiste** 81.29 320 *i* P P 01 24 30.5 +0.5
SMTH **Samothraki Isl** 81.30 319 P P 01 24 29.7 -0.3
SMTH **Samothraki Isl** 81.30 319 P P 01 24 29.7 -0.3
WLF **Walferdange** 81.36 335 P P 01 24 30.4 +0.2
comp=Z,16nm,2.2s
WLF **Walferdange** 81.36 335 *eP* P 01 24 31.9 +1.8
comp=Z,4.0nm,0.9s
KKB **Krupnik** 81.37 321 *i* P P 01 24 30.9 +0.5
CSS **Prodhromos** 81.37 310 P P 01 24 30.3 -0.2
CSS **Prodhromos** 81.37 310 *eP* P 01 24 30.9 +0.4
comp=Z,13nm,0.8s
GIVF **Givet** 81.37 336 *eP* P 01 24 29.5 -0.7
GIVF **Givet** 81.37 336 *eP* P 01 24 29.5 -0.7
GIVF **Givet** 81.37 336 *eP* P 01 24 29.5 -0.7
KAVA **Kavala** 81.38 320 P P 01 24 29.9 -0.5
KAVA **Kavala** 81.38 320 P P 01 24 29.9 -0.5
NVR **Nevrokopi** 81.42 320 P P 01 24 30.7 +0.1
NVR **Nevrokopi** 81.42 320 P P 01 24 30.7 +0.1
MYKA **Terra Mystica** 81.44 329⇑*iP* P 01 24 30.1 -0.6
comp=Z,8.4nm,0.7s,SNR=5.8
LANF **Langenberg** 81.44 334 *eP* P 01 24 30.4 -0.2
DOU **Dourbes** 81.45 336 P P 01 24 30.5 0.0
comp=Z,8.2nm,1.7s
425A **Indio Mountain** 81.46 56 ⇓P P 01 24 31.1 -0.1
baz=81,SNR=10
WATA **Walderalm** 81.59 331⇓*iP* P 01 24 31.4 -0.2
comp=Z,12nm,0.5s,SNR=20
BAIF **Baives** 81.59 337 *eP* P 01 24 30.8 -0.5
comp=Z,10nm,0.6s
BAIF **Baives** 81.59 337 *eP* P 01 24 30.8 -0.5
BAIF pmax pmax
comp=Z,10.0nm,0.6s
BAIF **Baives** 81.59 337 *eP* P 01 24 30.8 -0.5
comp=Z,10nm,0.6s
LJU **Ljubljana** 81.59 329 *i* P P 01 24 30.7 -0.7
X31A **McDonald Ranch** 81.61 50 ⇑P P 01 24 31.5 -0.3
baz=81,SNR=5.2
Z29A **Hungry Hill Ra** 81.63 52 ⇑P P 01 24 31.9 -0.1
baz=81,SNR=16
128A **Castleberry Fa** 81.64 53 ⇓P P 01 24 31.7 -0.3
baz=81,SNR=9.4
326A **Caldwell Ranch** 81.69 55 ⇓P P 01 24 31.9 -0.4
baz=82,SNR=12
SRS **Serrai** 81.72 320 P P 01 24 32.0 -0.2
SRS **Serrai** 81.72 320 P P 01 24 32.0 -0.2
CADS **Cadrg** 81.74 329 *i* P P 01 24 31.0 -1.2
RETA **Reutte** 81.75 332⇑*iP* P 01 24 32.2 -0.1
comp=Z,20nm,1.1s,SNR=9.2
ABTA **Abfaltersbach** 81.75 330⇑*iP* P 01 24 29.7 -2.6
comp=Z,13nm,1.2s
BFO **Black Forest** 81.84 333 *eP* P 01 24 31.8 -0.9
BFO pmax pmax
comp=Z,9.0nm,0.9s
BFO **Black Forest** 81.84 333 *eP* P 01 24 32.6 -0.1
comp=Z,6.0nm,0.9s
BFO **Black Forest** 81.84 333 P P 01 24 32.6 -0.1
comp=Z,70nm,0.7s,SNR=5.5
BFO **Black Forest** 81.84 333 *eP* P 01 24 31.8 -0.9
comp=Z,9.0nm,0.9s
LIA **Limnos Island** 81.92 319 P P 01 24 33.0 -0.2
228A **Lit Block 9, Go** 81.94 53 ⇓P P 01 24 33.3 -0.3
baz=82
Z30A **Sanderson Ranc** 81.94 52 ⇓P P 01 24 33.3 -0.3
baz=82,SNR=5.1
Y31A **Rekieta Farm,** 81.94 51 ⇓P P 01 24 33.4 -0.1
baz=82
RAYN **Ar Rayn** 81.96 295 P P 01 24 34.0 +0.2
comp=Z,109nm,1.2s,SNR=12
129A **Stewart Farms,** 81.99 52 ⇓P P 01 24 33.4 -0.4
baz=82
KNT **Kendrikon** 82.01 321 P P 01 24 33.8 +0.1
SKO **Skopje** 82.04 322 P P 01 24 34.6 +0.8
SKO **Skopje** 82.04 322⇑*eP* P 01 24 35.8 +2.0
VAY **Valandovo** 82.04 321 P P 01 24 32.6 -1.2
VAY **Valandovo** 82.04 321⇑*iP* P 01 24 33.0 -0.9
VAY **Valandovo** 82.04 321 P P 01 24 32.6 -1.2
CDF **Champ du Feu** 82.11 334 *eP* P 01 24 33.7 -0.5
comp=Z,46nm,1.1s
CDF **Champ du Feu** 82.11 334 *eP* P 01 24 33.7 -0.5
CDF pmax pmax
comp=Z,46nm,1.1s
CDF **Champ du Feu** 82.11 334 *eP* P 01 24 33.7 -0.5
comp=Z,46nm,1.1s
426A **McDonald Obser** 82.12 55 ⇓P P 01 24 34.7 0.0
baz=82,SNR=6.9
OUR **Ouranopolis** 82.15 320 P P 01 24 34.1 -0.3
FETA **Feichten** 82.16 331⇑*iP* P 01 24 34.5 -0.1
comp=Z,17nm,1.2s,SNR=5.4
DAVA **Damuels** 82.23 332⇑*iP* P 01 24 34.8 -0.1
comp=Z,14nm,0.6s,SNR=9.3
ECH **Echery** 82.32 334 *eP* P 01 24 34.8 -0.5
ECH pmax pmax
comp=Z,26nm,1.3s
ECH **Echery** 82.32 334 *eP* P 01 24 34.5 -0.8
ECH **Echery** 82.32 334 *eP* P 01 24 34.8 -0.5
comp=Z,26nm,1.3s
328A **Wristen Ranch,** 82.34 54 ⇓P P 01 24 35.7 0.0
baz=82,SNR=15
FELD **Feldberg im Sc** 82.35 333 *eP* P 01 24 35.0 -0.5
427A **Hayter Ranch,** 82.37 55 ⇑P P 01 24 35.9 0.0
baz=82,SNR=7.1
Y32A **R-V Farms, Ver** 82.37 50 ⇓P P 01 24 35.3 -0.5
baz=82
PLG **Polygyros** 82.38 320 P P 01 24 35.3 -0.4
GRG **Griva** 82.41 321 P P 01 24 35.6 -0.2
PAGF **Fort de Pagny** 82.47 335 *eP* P 01 24 35.9 -0.1
comp=Z,11nm,0.6s
PAGF **Fort de Pagny** 82.47 335 *eP* P 01 24 35.9 -0.1
comp=Z,11nm,0.6s
Z31A **Sharp Cattle R** 82.48 51 ⇓P P 01 24 35.7 -0.6
baz=82
229A **Bryant Ranch,** 82.50 53 ⇑P P 01 24 36.6 +0.1
baz=82
526A **Mary Lane Ranc** 82.52 56 ⇑P P 01 24 36.8 +0.1
baz=82,SNR=11
130A **Snyder** 82.54 52 ⇓P P 01 24 36.5 -0.1
baz=82
PAIG **Palioúri** 82.61 319 P P 01 24 36.6 -0.3
CHOS **Chios island** 82.65 317 P P 01 24 37.0 -0.2
THEF **They Montfort** 82.69 335 *eP* P 01 24 36.5 -0.6
PHP **Peshkopia** 82.72 322 P P 01 24 37.0 -0.5
PHP **Peshkopia** 82.72 322 P P 01 24 37.0 -0.5
MEZF **Maizieres J'vi** 82.73 335 *eP* P 01 24 37.1 -0.2
comp=Z,44nm,1.2s
MEZF **Maizieres J'vi** 82.73 335 *eP* P 01 24 37.1 -0.2
comp=Z,5.2nm,0.8s
527A **Woodward Ranch** 82.75 55 ⇓P P 01 24 37.9 -0.1
baz=82,SNR=7.7
329A **Wagon Wheel Ra** 82.75 53 ⇑P P 01 24 37.8 0.0
baz=82,SNR=13
HAU **Haudompre** 82.77 334 *eP* P 01 24 36.8 -0.8
comp=Z,25nm,1.0s
HAU *eR*
comp=Z,766nm,19.5s
HAU **Haudompre** 82.77 334 *eP* P 01 24 36.8 -0.8
HAU pmax pmax
comp=Z,10.0nm,0.8s
HAU **Haudompre** 82.77 334 *eP* P 01 24 36.8 -0.8
comp=Z,10nm,0.8s
HINF **Hinteralfeld** 82.77 334 *eP* P 01 24 36.7 -0.9
comp=Z,12nm,1.0s
HINF **Hinteralfeld** 82.77 334 *eP* P 01 24 36.7 -0.9
HINF pmax pmax
comp=Z,12nm,1.0s
HINF **Hinteralfeld** 82.77 334 *eP* P 01 24 36.7 -0.9
comp=Z,12nm,1.0s
131A **Roby** 82.81 52 ⇑P P 01 24 37.7 -0.4
baz=83
BIA **Bitola** 82.85 322 *eP* P 01 24 37.8 -0.4
626A **Big Bend Ranch** 82.85 56 ⇑P P 01 24 38.6 +0.1
baz=83,SNR=7.6
Z32A **Haskell** 82.86 51 ⇑P P 01 24 38.1 -0.3
baz=83
428A **Kincaid Ranch,** 82.88 54 ⇓P P 01 24 38.8 +0.2
baz=83,SNR=14
TUL1 **Tulsa** 82.95 47 *eP* P 01 24 38.3 -0.3
TUL1 *ep*P pP 01 24 51.0 -0.5
TUL1 **Tulsa** 82.95 47 ⇑P P 01 24 38.4 -0.3
baz=83,SNR=5.3
230A **Sterling City** 82.97 53 ⇑P P 01 24 38.7 -0.3
baz=83,SNR=12
SFTF **Sexfontaines** 83.00 335 *eP* P 01 24 38.2 -0.5
comp=Z,24nm,0.6s
SFTF **Sexfontaines** 83.00 335 *eP* P 01 24 38.2 -0.5
comp=Z,11nm,0.7s
FNA **Florina** 83.01 321 P P 01 24 38.4 -0.6
LIT **Litokhoron** 83.04 320 P P 01 24 38.3 -0.8
AOS **Alonnisos** 83.11 319 P P 01 24 39.1 -0.4
TUE **Stuetta** 83.11 332 *eP* P 01 24 39.6 0.0
comp=Z,7.9nm,0.6s
PMOR **Pomariorio Ree** 83.16 118 *eT* T 02 56 25.5
comp=Z,72nm,0.2s
LOMF **Lomont** 83.19 334 *eP* P 01 24 39.5 -0.3
KZN **Kozani** 83.21 321 P P 01 24 39.1 -1.0
528A **Cox Ranch, San** 83.23 55 ⇑P P 01 24 40.5 +0.1
baz=83,SNR=17
TIR **Tirane** 83.24 323 P P 01 24 39.7 -0.4
TIR **Tirane** 83.24 323 *eP* P 01 24 39.8 -0.4
TIR pmax pmax
comp=Z,39nm,0.8s
TIR **Tirane** 83.24 323 *eP* P 01 24 39.8 -0.3
comp=Z,39nm,0.8s
TIR **Tirane** 83.24 323 P P 01 24 39.7 -0.3
ARG **Arkhangelos** 83.26 314 P P 01 24 40.3 0.0
ABTX **Abilene, Hawle** 83.27 51 *eP* P 01 24 40.7 +0.2
ABTX **Abilene, Hawle** 83.27 51 ⇑P P 01 24 40.0 -0.5
baz=83
330A **Mertzon** 83.28 53 ⇓P P 01 24 40.3 -0.3
baz=83,SNR=11
XOR **Xorichti** 83.29 319 P P 01 24 39.4 -1.0
TXAR **Lajitas Array** 83.29 56 P P 01 24 40.9 +0.2
TXAR **Lajitas Array** 83.29 56 P P 01 24 40.9 +0.2
comp=Z,7.4nm,0.8s,baz=298,slow=3.9,SNR=40
NEO **Neokhori** 83.32 319 P P 01 24 39.6 -1.0
627A **Terlingua Ranc** 83.38 56 ⇑P P 01 24 40.9 -0.3
baz=83,SNR=8.4
231A **Bronte** 83.39 52 ⇑P P 01 24 40.6 -0.5
baz=83,SNR=6.9
429A **Davenport Ranc** 83.43 54 ⇑P P 01 24 41.1 -0.3
baz=83,SNR=5.1
NIS1 **Nisyros Isl.** 83.45 315 P P 01 24 39.9 -1.4
NEST **Nestorio** 83.46 321 P P 01 24 40.7 -0.7
529A **Stev Forest Ra** 83.59 54 ⇑P P 01 24 42.1 -0.1
baz=83,SNR=15
MRKA **Markates** 83.62 319 P P 01 24 41.3 -0.8
628A **Black Gap, Mar** 83.66 55 ⇓P P 01 24 42.4 -0.1
baz=83,SNR=5.8
SMIA **Simia** 83.66 319 P P 01 24 41.5 -0.9
430A **Baggett Ranch,** 83.70 53 ⇑P P 01 24 42.2 -0.5
baz=84,SNR=9.6
ERET **Eretria** 83.72 318 P P 01 24 41.6 -1.1
SFIN **Scholer Farm** 83.76 38 ⇑P P 01 24 42.1 -0.7
baz=84
331A **San Angelo** 83.79 52 ⇓P P 01 24 42.7 -0.5
baz=84,SNR=6.6
232A **Coleman** 83.81 52 ⇓P P 01 24 42.9 -0.4
baz=84,SNR=11
AGG **Agios Georgios** 83.97 320 P P 01 24 42.2 -1.7
PPT2 **Papeete2** 84.00 121 *eS* S 01 35 06.9 +1.6
comp=Z,126nm,26.5s
PPT2 **Papeete2** 84.00 121 *eLR* LR 01 51 10.2
comp=Z,858nm,23.2s,baz=313
FLN **La Foliniere** 84.07 339 *eP* P 01 24 43.7 -0.5
FLN *eR*
comp=Z,543nm,22.2s
FLN **La Foliniere** 84.07 339 *eP* P 01 24 43.7 -0.5
FLN **La Foliniere** 84.07 339 *eP* P 01 24 43.7 -0.5
MAKR **Makrakomi, Fth** 84.07 320 P P 01 24 43.0 -1.4
CABF **La Chapelle** 84.08 334 *eP* P 01 24 44.0 -0.4
CABF **La Chapelle** 84.08 334 *eP* P 01 24 44.0 -0.4
CABF **La Chapelle** 84.08 334 *eP* P 01 24 44.0 -0.4
530A **J-C Ranch, Com** 84.10 54 ⇑P P 01 24 44.5 -0.2
baz=84,SNR=10
TIAR **Tiarei** 84.12 120 *eT* T 02 57 38.1
comp=Z,11nm,0.2s
LDF **La Druitiere** 84.13 339 *eP* P 01 24 43.9 -0.6
comp=Z,48nm,1.2s
LDF **La Druitiere** 84.13 339 *eP* P 01 24 43.9 -0.6
LDF pmax pmax
comp=Z,48nm,1.2s
LDF **La Druitiere** 84.13 339 *eP* P 01 24 43.9 -0.6
comp=Z,48nm,1.2s
332A **Millersview** 84.13 52 ⇓P P 01 24 44.5 -0.4
baz=84,SNR=12
431A **Sonora** 84.14 53 ⇑P P 01 24 44.3 -0.6
baz=84,SNR=7.5
JAN **Janina** 84.16 321 P P 01 24 44.9 0.0
LOR **Lormes** 84.19 336 *eP* P 01 24 44.3 -0.6
comp=Z,25nm,0.7s
LOR *eR*
comp=Z,870nm,17.8s
LOR **Lormes** 84.19 336 *eP* P 01 24 44.3 -0.6
comp=Z,5.5nm,0.8s
KARP **Karpathos** 84.27 315 P P 01 24 44.6 -0.9
SRN **Sarande** 84.36 322 P P 01 24 45.1 -0.7
432A **Menard** 84.47 52 ⇑P P 01 24 46.4 -0.3
baz=84,SNR=13
SSF **Saint Saulge** 84.48 336 *eP* P 01 24 45.9 -0.5
comp=Z,16nm,0.7s
SSF **Saint Saulge** 84.48 336 *eP* P 01 24 45.9 -0.5
SSF pmax pmax
comp=Z,16nm,0.7s
SSF **Saint Saulge** 84.48 336 *eP* P 01 24 45.9 -0.5
comp=Z,16nm,0.7s
IGT **Igoumenitsa** 84.49 321 P P 01 24 45.7 -0.8
GRR **Gorron** 84.51 339 *eP* P 01 24 46.2 -0.2
comp=Z,159nm,1.3s
GRR **Gorron** 84.51 339 *eP* P 01 24 46.2 -0.2
GRR pmax pmax
comp=Z,159nm,1.3s
GRR **Gorron** 84.51 339 *eP* P 01 24 46.2 -0.2
comp=Z,159nm,1.3s
531A **Rocksprings** 84.56 53 ⇑P P 01 24 46.8 -0.2
baz=84,SNR=9.3
HYF **Humbligny** 84.56 336 *eP* P 01 24 46.7 0.0
HYF **Humbligny** 84.56 336 *eP* P 01 24 46.7 0.0
KEK **Kerkira** 84.59 322 P P 01 24 46.3 -0.7
SMF **Signal de Mont** 84.76 335 *eP* P 01 24 47.4 -0.3
comp=Z,37nm,0.7s
SMF **Signal de Mont** 84.76 335 *eP* P 01 24 47.4 -0.3
SMF pmax pmax
comp=Z,7.0nm,0.9s
SMF **Signal de Mont** 84.76 335 *eP* P 01 24 47.4 -0.3
comp=Z,7.0nm,0.9s
JCT **Junction City** 84.76 53 *eP* P 01 24 48.2 +0.1
JCT *e*PP pP 01 25 00.3 -0.6
JCT pmax pmax
comp=Z,99nm,1.5s
JCT **Junction City** 84.76 53 *eP* P 01 24 48.1 +0.1
comp=Z,99nm,1.5s

JCT				epP		pP	01 25 00.3	-0.6
JCT	**Junction City**	**84.76**	**53**	⇓P		**P**	**01 24 47.6**	**-0.5**
	baz=84,SNR=9.4							
AVF	**Avril sur Loir**	**84.78**	**336**	*e*P		**P**	**01 24 47.5**	**-0.3**
	comp=Z,20nm,0.6s							
AVF	**Avril sur Loir**	**84.78**	**336**	*e*P		**P**	**01 24 47.5**	**-0.3**
AVF				pmax		pmax		
	comp=Z,20nm,0.6s							
AVF	**Avril sur Loir**	**84.78**	**336**	*e*P		**P**	**01 24 47.5**	**-0.3**
	comp=Z,20nm,0.6s							
KLV	**Kalavryta, Ach**	**84.83**	**319**	P		**P**	**01 24 46.9**	**-1.5**
LPL	**La Plagne**	**84.84**	**333**	*e*P		**P**	**01 24 48.4**	**0.0**
	comp=Z,16nm,0.7s							
LPL	**La Plagne**	**84.84**	**333**	*e*P		**P**	**01 24 48.4**	**0.0**
LPL				pmax		pmax		
	comp=Z,16nm,0.7s							
LPL	**La Plagne**	**84.84**	**333**	*e*P		**P**	**01 24 48.4**	**0.0**
	comp=Z,16nm,0.7s							
LPG	**La Plagne**	**84.85**	**333**	*e*P		**P**	**01 24 48.6**	**0.0**
	comp=Z,21nm,0.7s							
LPG	**La Plagne**	**84.85**	**333**	*e*P		**P**	**01 24 48.6**	**0.0**
LPG				pmax		pmax		
	comp=Z,21nm,0.7s							
LPG	**La Plagne**	**84.85**	**333**	*e*P		**P**	**01 24 48.6**	**0.0**
	comp=Z,21nm,0.7s							
PDO	**Prodromos**	**84.85**	**320**	P		**P**	**01 24 47.7**	**-0.6**
SiUC	**Southern Illin**	**84.89**	**41**	*e*P		**P**	**01 24 48.4**	**-0.1**
	comp=Z,30nm,0.8s							
532A	**Rocksprings**	**84.96**	**53**	⇓P		**P**	**01 24 48.9**	**-0.3**
	baz=85,SNR=14							
WHTX	**Lake Whitney**	**84.98**	**50**	⇑P		**P**	**01 24 49.3**	**+0.1**
	baz=85							
SGMF	**Saint Gilles**	**85.07**	**340**	*e*P		**P**	**01 24 49.3**	**0.0**
	comp=Z,80nm,1.0s							
SGMF	**Saint Gilles**	**85.07**	**340**	*e*P		**P**	**01 24 49.3**	**0.0**
SGMF				pmax		pmax		
	comp=Z,80nm,1.0s							
SGMF	**Saint Gilles**	**85.07**	**340**	*e*P		**P**	**01 24 49.3**	**0.0**
	comp=Z,80nm,1.0s							
631A	**Perdido Creek**	**85.09**	**54**	⇓P		**P**	**01 24 49.2**	**-0.5**
	baz=85,SNR=18							
ZKR	**Zakros**	**85.10**	**315**	P		**P**	**01 24 49.5**	**-0.1**
BGF	**Bois d'Agland**	**85.14**	**336**	*e*P		**P**	**01 24 49.9**	**+0.3**
	comp=Z,39nm,1.1s							
BGF	**Bois d'Agland**	**85.14**	**336**	*e*P		**P**	**01 24 49.9**	**+0.3**
BGF	**Bois d'Agland**	**85.14**	**336**	*e*P		**P**	**01 24 49.9**	**+0.3**
RLS	**Riolos of Patr**	**85.15**	**320**	P		**P**	**01 24 49.5**	**-0.3**
MIAR	**Mount Ida**	**85.16**	**46**	*e*P		**P**	**01 24 49.9**	**-0.1**
MIAR				pmax		pmax		
	comp=Z,27nm,1.1s							
MIAR	**Mount Ida**	**85.16**	**46**	*e*P		**P**	**01 24 49.9**	**-0.1**
	comp=Z,27nm,1.1s							
MEH	**Mehetia**	**85.17**	**120**	*e*T		T	02 58 56.5	
	comp=Z,39nm,0.2s							
ROSF	**Rostrenen**	**85.17**	**340**	*e*P		**P**	**01 24 49.9**	**+0.1**
	comp=Z,113nm,1.1s							
ROSF	**Rostrenen**	**85.17**	**340**	*e*P		**P**	**01 24 49.9**	**+0.1**
ROSF				pmax		pmax		
	comp=Z,113nm,1.1s							
ROSF	**Rostrenen**	**85.17**	**340**	*e*P		**P**	**01 24 49.9**	**+0.1**
	comp=Z,113nm,1.1s							
BNI	**Bardonecchia**	**85.26**	**333**	*e*P		**P**	**01 24 50.6**	**+0.1**
BNI				pmax		pmax		
	comp=Z,17nm,1.2s							
BNI	**Bardonecchia**	**85.26**	**333**	*e*P		**P**	**01 24 50.6**	**+0.1**
	comp=Z,17nm,1.2s							
BST	**Brest**	**85.40**	**341**	*e*P		**P**	**01 24 51.4**	**+0.5**
KFL	**Anninata**	**85.42**	**320**	P		**P**	**01 24 50.8**	**-0.4**
PLDF	**La Plantade**	**85.43**	**335**	*e*P		**P**	**01 24 52.2**	**+1.0**
LAST	**Lasithi**	**85.44**	**315**	P		**P**	**01 24 50.7**	**-0.8**
PARMO	**Parma**	**85.46**	**42**	*e*P		**P**	**01 24 51.6**	**+0.2**
VLS	**Valsamata**	**85.46**	**320**	P		**P**	**01 24 50.5**	**-0.9**
632A	**Uvalde**	**85.48**	**53**	⇓P		**P**	**01 24 51.9**	**+0.2**
	baz=85							
AGO	**Saint Agoulin**	**85.51**	**335**	*e*P		**P**	**01 24 52.6**	**+1.1**
MBDF	**Montbardon**	**85.52**	**333**	*e*P		**P**	**01 24 51.2**	**-0.6**
	comp=Z,23nm,0.9s							
MBDF	**Montbardon**	**85.52**	**333**	*e*P		**P**	**01 24 51.2**	**-0.6**
MBDF				pmax		pmax		
	comp=Z,23nm,0.9s							
MBDF	**Montbardon**	**85.52**	**333**	*e*P		**P**	**01 24 51.2**	**-0.6**
	comp=Z,23nm,0.9s							
QUIF	**Quistinic**	**85.54**	**340**	*e*P		**P**	**01 24 51.5**	**-0.1**
	comp=Z,40nm,1.0s							
QUIF	**Quistinic**	**85.54**	**340**	*e*P		**P**	**01 24 51.5**	**-0.1**
QUIF				pmax		pmax		
	comp=Z,40nm,1.0s							
QUIF	**Quistinic**	**85.54**	**340**	*e*P		**P**	**01 24 51.5**	**-0.1**
	comp=Z,40nm,1.0s							
TCF	**Toulx Ste Croi**	**85.57**	**336**	*e*P		**P**	**01 24 51.9**	**+0.1**
	comp=Z,27nm,0.9s							
TCF	**Toulx Ste Croi**	**85.57**	**336**	*e*P		**P**	**01 24 51.9**	**+0.1**
TCF				pmax		pmax		
	comp=Z,27nm,0.9s							
TCF	**Toulx Ste Croi**	**85.57**	**336**	*e*P		**P**	**01 24 51.9**	**+0.1**
	comp=Z,27nm,0.9s							
ITM	**Ithomi**	**85.63**	**319**	P		**P**	**01 24 51.0**	**-1.3**
ORIF	**Oris-en-Rattie**	**85.65**	**333**	*e*P		**P**	**01 24 52.3**	**0.0**
	comp=Z,59nm,1.4s							
ORIF				*e*R				
	comp=Z,864nm,22.0s							
ORIF	**Oris-en-Rattie**	**85.65**	**333**	*e*P		**P**	**01 24 52.3**	**0.0**
ORIF				pmax		pmax		
	comp=Z,59nm,1.4s							
ORIF	**Oris-en-Rattie**	**85.65**	**333**	*e*P		**P**	**01 24 52.3**	**0.0**
	comp=Z,59nm,1.4s							
PYM	**Petit Puy Mans**	**85.81**	**335**	*e*P		**P**	**01 24 53.8**	**+0.7**
SIVA	**Sivas**	**85.90**	**316**	P		**P**	**01 24 53.3**	**-0.3**
732A	**Laxson Ranch,**	**85.95**	**54**	⇑P		**P**	**01 24 54.2**	**+0.2**
	baz=86							
MFF	**Saint Martin d**	**85.96**	**338**	*e*P		**P**	**01 24 53.9**	**+0.2**
	comp=Z,36nm,0.7s							
MFF	**Saint Martin d**	**85.96**	**338**	*e*P		**P**	**01 24 53.9**	**+0.2**
MFF				pmax		pmax		
	comp=Z,36nm,0.7s							
MFF	**Saint Martin d**	**85.96**	**338**	*e*P		**P**	**01 24 53.9**	**+0.2**
	comp=Z,36nm,0.7s							
SBF	**Sospel**	**86.05**	**332**	*e*P		**P**	**01 24 53.4**	**-0.9**
	comp=Z,54nm,0.9s							
SBF	**Sospel**	**86.05**	**332**	*e*P		**P**	**01 24 53.4**	**-0.9**
SBF				pmax		pmax		
	comp=Z,54nm,0.9s							
SBF	**Sospel**	**86.05**	**332**	*e*P		**P**	**01 24 53.4**	**-0.9**
	comp=Z,54nm,0.9s							
VIVF	**Saint-Julien-l**	**86.10**	**334**	*e*P		**P**	**01 24 54.5**	**0.0**
	comp=Z,31nm,1.0s							
VIVF	**Saint-Julien-l**	**86.10**	**334**	*e*P		**P**	**01 24 54.5**	**0.0**
VIVF				pmax		pmax		
	comp=Z,31nm,1.0s							
VIVF	**Saint-Julien-l**	**86.10**	**334**	*e*P		**P**	**01 24 54.5**	**0.0**
	comp=Z,31nm,1.0s							
LBL	**Lubilhac**	**86.21**	**335**	*e*P		**P**	**01 24 55.9**	**+0.8**
GVD	**Gavdhos**	**86.41**	**316**	*e*P		**P**	**01 24 56.2**	**0.0**
	comp=Z,92nm,0.9s							
SMRF	**Simiane la Rot**	**86.58**	**333**	*e*P		**P**	**01 24 57.1**	**+0.2**
SMRF	**Simiane la Rot**	**86.58**	**333**	*e*P		**P**	**01 24 57.1**	**+0.2**
RJF	**Les Rejaudoux**	**86.67**	**336**	*e*P		**P**	**01 24 57.3**	**+0.1**
	comp=Z,64nm,1.2s							
RJF				*e*R				
	comp=Z,753nm,22.2s							
RJF	**Les Rejaudoux**	**86.67**	**336**	*e*P		**P**	**01 24 57.3**	**+0.1**
RJF				pmax		pmax		
	comp=Z,64nm,1.2s							
RJF	**Les Rejaudoux**	**86.67**	**336**	*e*P		**P**	**01 24 57.3**	**+0.1**
	comp=Z,64nm,1.2s							
WVT	**Waverly**	**86.82**	**41**	*e*P		**P**	**01 24 57.8**	**-0.3**
WVT				pmax		pmax		
	comp=Z,12nm,1.0s							
WVT	**Waverly**	**86.82**	**41**	*e*P		**P**	**01 24 57.8**	**-0.3**
	comp=Z,12nm,1.0s							
LMR	**La Mourre**	**86.84**	**332**	*e*P		**P**	**01 24 57.6**	**-0.5**
	comp=Z,86nm,1.1s							
LMR	**La Mourre**	**86.84**	**332**	*e*P		**P**	**01 24 57.6**	**-0.5**
LMR				pmax		pmax		
	comp=Z,86nm,1.1s							
LMR	**La Mourre**	**86.84**	**332**	*e*P		**P**	**01 24 57.6**	**-0.5**
	comp=Z,86nm,1.1s							
CAF	**Calviac**	**86.85**	**336**	*e*P		**P**	**01 24 58.6**	**+0.4**
	comp=Z,90nm,1.2s							
CAF	**Calviac**	**86.85**	**336**	*e*P		**P**	**01 24 58.6**	**+0.4**
CAF				pmax		pmax		
	comp=Z,91nm,1.2s							
CAF	**Calviac**	**86.85**	**336**	*e*P		**P**	**01 24 58.6**	**+0.4**
	comp=Z,90nm,1.2s							
LASF	**Ste Croix**	**87.05**	**334**	*e*P		**P**	**01 24 59.5**	**+0.3**
	comp=Z,63nm,1.3s							
LASF	**Ste Croix**	**87.05**	**334**	*e*P		**P**	**01 24 59.5**	**+0.3**
	comp=Z,63nm,1.3s							
LFF	**La Frestale**	**87.23**	**337**	*e*P		**P**	**01 25 00.4**	**+0.5**
	comp=Z,33nm,0.8s							
LFF	**La Frestale**	**87.23**	**337**	*e*P		**P**	**01 25 00.4**	**+0.5**
LFF				pmax		pmax		
	comp=Z,33nm,0.8s							
LFF	**La Frestale**	**87.23**	**337**	*e*P		**P**	**01 25 00.4**	**+0.5**
	comp=Z,33nm,0.8s							
MCWV	**Mont Chateau**	**87.49**	**34**	*e*P		**P**	**01 25 01.9**	**+0.6**
	comp=Z,8.8nm,0.4s							
MTLF	**Montolieu**	**88.23**	**335**	*e*P		**P**	**01 25 05.0**	**+0.2**
	comp=Z,49nm,1.2s							
MTLF	**Montolieu**	**88.23**	**335**	*e*P		**P**	**01 25 05.0**	**+0.2**
MTLF				pmax		pmax		
	comp=Z,49nm,1.2s							
MTLF	**Montolieu**	**88.23**	**335**	*e*P		**P**	**01 25 05.0**	**+0.2**
	comp=Z,49nm,1.2s							
TBI	**Tubuai**	**88.38**	**124**	*e*S		**S**	**01 35 49.1**	**+1.4**
	comp=Z,183nm,25.8s							
TBI	**Tubuai**	**88.38**	**124**	*e*LR		LR	01 53 14.8	
	comp=Z,589nm,24.2s,baz=312							
TBI	**Tubuai**	**88.38**	**124**	*e*T		T	03 02 58.1	
	comp=Z,9.1nm,0.3s							
SWET	**Sewanee**	**88.47**	**41**	*e*P		**P**	**01 25 05.4**	**-0.7**
	comp=Z,25nm,1.0s							
TZTN	**Tazewell**	**88.49**	**38**	*e*P		**P**	**01 25 06.1**	**-0.1**
	comp=Z,15nm,1.0s							
EPF	**Esparros**	**89.09**	**336**	*e*P		**P**	**01 25 08.2**	**-0.7**
	comp=Z,11nm,0.9s							
EPF	**Esparros**	**89.09**	**336**	*e*P		**P**	**01 25 08.2**	**-0.7**
EPF				pmax		pmax		
	comp=Z,11nm,0.9s							
EPF	**Esparros**	**89.09**	**336**	*e*P		**P**	**01 25 08.2**	**-0.7**
	comp=Z,11nm,0.9s							
TKL	**Tuckaleechee C**	**89.12**	**39**	*e*P		**P**	**01 25 08.7**	**-0.5**
SJPF	**Ste Jean**	**89.47**	**337**	*e*P		**P**	**01 25 09.9**	**-0.7**
SJPF	**Ste Jean**	**89.47**	**337**	*e*P		**P**	**01 25 09.9**	**-0.7**
SJPF	**Ste Jean**	**89.47**	**337**	*e*P		**P**	**01 25 09.9**	**-0.7**
ETSF	**Etsaut**	**89.47**	**337**	*e*P		**P**	**01 25 10.8**	**+0.1**
	comp=Z,18nm,0.8s							
ETSF	**Etsaut**	**89.47**	**337**	*e*P		**P**	**01 25 10.8**	**+0.1**
ETSF				pmax		pmax		
	comp=Z,18nm,0.8s							
ETSF	**Etsaut**	**89.47**	**337**	*e*P		**P**	**01 25 10.8**	**+0.1**
	comp=Z,18nm,0.8s							
KEST	**Kesra**	**92.42**	**327**	*e*P		**P**	**01 25 23.6**	**-0.9**
KEST	**Kesra**	**92.42**	**327**	P		**P**	**01 25 23.6**	**-1.0**
	comp=Z,1.2nm,0.9s,baz=302,slow=10,SNR=3.7							
KEST				LR		LR	02 11 55.5	
	comp=Z,333nm,18.5s,baz=336,slow=39							
ESDC	**Sonseca Array**	**93.42**	**338**	P		**P**	**01 25 28.7**	**-0.4**
ESDC	**Sonseca Array**	**93.42**	**338**	P		**P**	**01 25 28.7**	**-0.4**
	comp=Z,2.1nm,0.6s,baz=17,slow=3.8,SNR=21							
ESDC				LR		LR	02 14 10.4	
	comp=Z,326nm,18.5s,baz=20,slow=40							
RKT	**Rikitea**	**97.45**	**115**	*e*SP		SP	01 38 33.3	+2.0
	comp=Z,172nm,28.0s							
RKT	**Rikitea**	**97.45**	**115**	*e*LR		LR	01 57 15.1	
	comp=Z,454nm,32.2s,baz=316							
TORD	**Torodi Ar. Bea**	**115.50**	**322**	PKP		**PKPdf**	**01 30 54.5**	**-1.3**
TORD				PP		**PP**	**01 31 54.5**	**-2.5**
TORD	**Torodi Ar. Bea**	**115.50**	**322**	PKP		**PKPdf**	**01 30 54.5**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=11,slow=2.5,SNR=16							
TORD				PP		**PP**	**01 31 54.5**	**-2.5**
	comp=Z,2.9nm,1.0s,baz=25,slow=6.5,SNR=8.2							
VNDA	**Vanda**	**120.72**	**176**	*e*PKPdf		**PKPdf**	**01 31 04.0**	**0.0**
OTAV	**Otavalo**	**120.92**	**56**	*e*PKPdf		**PKPdf**	**01 31 05.9**	**-1.0**
LSZ	**Lusaka**	**121.03**	**278**	*e*PKPdf		**PKPdf**	**01 31 06.9**	**+0.4**
DBIC	**Dimbokro**	**124.12**	**325**	*e*PKPdf		**PKPdf**	**01 31 11.9**	**-0.6**
DBIC				PKP		**PKPdf**	**01 31 12.1**	**-0.5**
DBIC	**Dimbokro**	**124.12**	**325**	PKP		**PKPdf**	**01 31 12.1**	**-0.5**
	comp=Z,6.2nm,0.9s,baz=320,slow=2.3,SNR=6.4							
LBTB	**Lobatse**	**129.00**	**271**	*e*PKPdf		**PKPdf**	**01 31 21.6**	**0.0**
TSUM	**Tsumeb**	**131.23**	**283**	*e*PKPdf		**PKPdf**	**01 31 26.1**	**+0.2**
QSPA	**South Pole Qui**	**132.84**	**180**	*e*PKPdf		**PKPdf**	**01 31 28.3**	**+0.8**
SYO	**Syowa Base**	**135.45**	**209**	⇓*e*PKiKP		**PKiKP**	**01 31 38.4**	**+4.7**
SAML	**Samuel**	**137.12**	**46**	*e*PKPdf		**PKPdf**	**01 31 37.1**	**0.0**
LPAZ	**La Paz**	**140.11**	**59**	*e*PKPdf		**PKPdf**	**01 31 42.8**	**-0.4**
LPAZ	**La Paz**	**140.11**	**59**	PKP		**PKPdf**	**01 31 44.2**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=252,slow=3.2,SNR=3.2							
H03N2	**Juan Fernandez**	**143.31**	**90**	T		T	04 11 39.1	
	baz=299,slow=0.7,SNR=12							
H03N3	**Juan Fernandez**	**143.32**	**90**	T		T	04 12 04.2	
	baz=299,slow=0.7,SNR=12							
H03N1	**Juan Fernandez**	**143.32**	**90**	T		T	04 11 34.7	
	baz=299,slow=0.7,SNR=17							
LVC	**Limon Verde**	**144.16**	**67**	*e*PKPdf		**PKPdf**	**01 31 49.7**	**-0.1**
LCO	**Las Campanas**	**146.96**	**77**	*e*PKPbc		**PKPbc**	**01 31 56.4**	**0.0**
SNAA	**Sanae**	**147.74**	**197**	*e*P		**PKPbc**	**01 31 57.3**	**+0.2**
SNAA	**Sanae**	**147.74**	**197**	*e*PKPbc		**PKPbc**	**01 31 56.8**	**-0.3**
VNA2	**Neumayer--Watz**	**149.27**	**196**	*e*P		**PKPbc**	**01 32 01.8**	**+0.9**
VNA1	**Neumayer--Stat**	**149.66**	**196**	*e*P		**PKPbc**	**01 32 02.8**	**+0.9**
BDFB	**Brasilia**	**149.88**	**29**	PKPbc		**PKPbc**	**01 32 04.5**	**+0.3**
BDFB	**Brasilia**	**149.88**	**29**	PKPbc		**PKPbc**	**01 32 04.5**	**+0.3**
	comp=Z,21nm,0.9s,baz=356,slow=1.6,SNR=20							
PLCA	**Paso Flores**	**152.34**	**98**	*e*PKPbc		**PKPbc**	**01 32 09.4**	**+0.2**
PLCA	**Paso Flores**	**152.34**	**98**	PKPbc		**PKPbc**	**01 32 09.1**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=287,slow=6.0,SNR=4.5							
CPUP	**Villa Florida**	**154.26**	**57**	*e*PKPdf		**PKPdf**	**01 32 05.9**	**+0.4**
CPUP				*e*PKPbc		**PKiKP**	**01 32 14.9**	**+1.1**
CPUP				*e*PKPab		PKPbc	01 32 19.5	+5.8
CPUP	**Villa Florida**	**154.26**	**57**	PKPbc		**PKPbc**	**01 32 15.3**	**+1.6**
	comp=Z,2.7nm,0.9s,baz=83,slow=1.7,SNR=2.3							

*ISCJB **11** 01:23:21.9±0.5, 36.71N±0.03×22.66E±0.03, h12km±4km, Error ellipse: s-maj=4.8km s-min=3.3km az=41.6*
*CSEM **11** 01:23:21.7±0.2, 36.75N×22.67E, h2km, MD3.3, Error ellipse: s-maj=5.2km s-min=3.4km az=54.0*
*ATH **11** 01:23:21.4, 36.74N×22.67E, h19km±1km, MD3.3/27*
*THE **11** 01:23:22.3, 36.73N×22.66E, h5km±1km, ML2.4/7, Error ellipse: s-maj=1.3km s-min=0.5km az=221.0*

ISC 11 01:23:22.2±0.8, 36.74N±0.02×22.65E±0.02, h12km±6km, n83, σ0.957/104, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLI	**Veliai**	**0.23**	**94**	P	**Pg**	**01 23 27.3**	**+0.1**
VLI				S	**Sg**	**01 23 30.5**	**0.0**
VLI	**Veliai**	**0.23**	**94**	*e*PB	**Pg**	**01 23 27.2**	**+0.1**
VLI				*e*SB	**Sg**	**01 23 30.4**	**0.0**
VLI	**Veliai**	**0.23**	**94**	*e*Pb	**Pg**	**01 23 27.2**	**+0.1**
VLI				S	**Sg**	**01 23 30.5**	**0.0**
DYR	**Agios Nikonas**	**0.26**	**276**	P	**Pg**	**01 23 27.8**	**+0.2**
DYR				S	**Sg**	**01 23 31.3**	**0.0**
DYR	**Agios Nikonas**	**0.26**	**276**	P	**Pg**	**01 23 27.8**	**+0.2**
DYR				S	**Sg**	**01 23 31.3**	**0.0**
KYTH	**Kithira**	**0.55**	**146**	P	**Pg**	**01 23 33.0**	**+0.1**
KYTH	**Kithira**	**0.55**	**146**	*e*PN	**Pg**	**01 23 33.1**	**+0.1**
KYTH	**Kithira**	**0.55**	**146**	P	**Pg**	**01 23 33.0**	**+0.1**
VLX	**Vlachokerasia**	**0.67**	**341**	P	**Pg**	**01 23 34.8**	**-0.5**
VLX	**Vlachokerasia**	**0.67**	**341**	*e*PN	**Pg**	**01 23 34.8**	**-0.5**
VLX	**Vlachokerasia**	**0.67**	**341**	P	**Pg**	**01 23 34.8**	**-0.5**
ITM	**Ithomi**	**0.73**	**308**	P	**Pg**	**01 23 35.9**	**-0.5**
ITM				S	**Sb**	**01 23 47.3**	**+0.5**
ITM	**Ithomi**	**0.73**	**308**	*e*PN	**Pg**	**01 23 35.6**	**-0.8**
ITM	**Ithomi**	**0.73**	**308**	*e*Pn	**Pg**	**01 23 35.6**	**-0.8**
ITM	**Ithomi**	**0.73**	**308**	P	**Pg**	**01 23 35.9**	**-0.5**
ITM				S	**Sb**	**01 23 47.3**	**+0.5**
PYL	**PYLOS**	**0.75**	**283**	P	**Pg**	**01 23 35.9**	**-0.8**
PYL	**PYLOS**	**0.75**	**283**	*e*PN	**Pg**	**01 23 35.9**	**-0.8**
PYL	**PYLOS**	**0.75**	**283**	P	**Pg**	**01 23 35.9**	**-0.8**
DIDY	**Didyma**	**0.86**	**31**	P	**Pg**	**01 23 38.6**	**-0.4**
DIDY				S	**Sb**	**01 23 51.7**	**+0.9**
DIDY	**Didyma**	**0.86**	**31**	P	**Pg**	**01 23 38.6**	**-0.4**
DIDY				S	**Sb**	**01 23 51.7**	**+0.9**
DID	**Didima**	**0.90**	**31**	P	**Pg**	**01 23 39.1**	**-0.5**
DID				S	**Sb**	**01 23 52.0**	**+0.3**
DID	**Didima**	**0.90**	**31**	*e*PN	**Pg**	**01 23 39.3**	**-0.3**
DID				*e*SN	**Sg**	**01 23 51.2**	**-0.2**
DID	**Didima**	**0.90**	**31**	P	**Pg**	**01 23 39.1**	**-0.5**
DID				*e*Sn	**Sg**	**01 23 51.2**	**-0.2**
DID				S	**Sb**	**01 23 52.0**	**+0.3**
ANKY	**Antikythira Is**	**1.01**	**149**	P	**Pb**	**01 23 40.8**	**-0.8**
ANKY				S	**Sb**	**01 23 55.5**	**+0.6**
ANKY	**Antikythira Is**	**1.01**	**149**	P	**Pb**	**01 23 40.8**	**-0.8**
ANKY				S	**Sb**	**01 23 55.5**	**+0.6**
AMT	**Artemida-Makis**	**1.10**	**317**	P	**Pb**	**01 23 42.3**	**-0.8**
AMT				S	**Sn**	**01 23 59.5**	**+1.0**
AMT	**Artemida-Makis**	**1.10**	**317**	*e*PN	**Pb**	**01 23 42.3**	**-0.8**
AMT	**Artemida-Makis**	**1.10**	**317**	P	**Pb**	**01 23 42.3**	**-0.8**
AMT				S	**Sn**	**01 23 59.5**	**+1.0**
NAIG	**Nisos Aigina**	**1.22**	**33**	*e*PN	**Pn**	**01 23 45.2**	**+0.1**
NAIG	**Nisos Aigina**	**1.22**	**33**	*e*Pn	**Pn**	**01 23 45.2**	**+0.1**
GUR	**Goura**	**1.22**	**348**	P	**Pn**	**01 23 44.3**	**-0.9**
GUR	**Goura**	**1.22**	**348**	*e*PN	**Pn**	**01 23 44.2**	**-0.9**
GUR	**Goura**	**1.22**	**348**	P	**Pn**	**01 23 44.3**	**-0.9**
LTK	**Loutraki**	**1.31**	**11**	P	**Pn**	**01 23 46.3**	**0.0**
LTK				S	**Sg**	**01 24 05.1**	**+0.7**
LTK	**Loutraki**	**1.31**	**11**	*e*PN	**Pn**	**01 23 46.4**	**+0.1**
LTK	**Loutraki**	**1.31**	**11**	P	**Pn**	**01 23 46.3**	**0.0**
LTK				S	**Sg**	**01 24 05.1**	**+0.7**
KLV	**Kalavryta, Ach**	**1.37**	**343**	P	**Pn**	**01 23 47.1**	**0.0**
KLV	**Kalavryta, Ach**	**1.37**	**343**	*e*PN	**Pn**	**01 23 47.1**	**0.0**
KLV	**Kalavryta, Ach**	**1.37**	**343**	P	**Pn**	**01 23 47.1**	**0.0**
DRO	**Drossia**	**1.43**	**329**	P	**Pb**	**01 23 48.7**	**-0.1**
DRO	**Drossia**	**1.43**	**329**	P	**Pb**	**01 23 48.7**	**-0.1**
LAKA	**Lakka**	**1.59**	**341**	*e*PN	**Pb**	**01 23 51.4**	**-0.2**
LAKA	**Lakka**	**1.59**	**341**	*e*Pn	**Pb**	**01 23 51.4**	**-0.2**
RLS	**Riolos of Patr**	**1.62**	**325**	*e*PN	**Pb**	**01 23 51.7**	**-0.4**
RLS	**Riolos of Patr**	**1.62**	**325**	*e*Pn	**Pb**	**01 23 51.7**	**-0.4**
PTL	**Penteli**	**1.63**	**36**	P	**Pn**	**01 23 50.4**	**-0.3**
PTL	**Penteli**	**1.63**	**36**	*e*PN	**Pn**	**01 23 50.7**	**0.0**
PTL				*e*SN	**Sn**	**01 24 11.4**	**-0.2**
PTL	**Penteli**	**1.63**	**36**	P	**Pn**	**01 23 50.4**	**-0.3**
PTL	**Penteli**	**1.63**	**36**	*e*Pn	**Pn**	**01 23 50.7**	**0.0**
PTL				*e*Sn	**Sn**	**01 24 11.4**	**-0.2**
DSF	**Desfina**	**1.68**	**357**	P	**Pn**	**01 23 51.9**	**+0.5**
DSF	**Desfina**	**1.68**	**357**	P	**Pn**	**01 23 51.9**	**+0.5**
KARN	**Karanos**	**1.68**	**142**	P	**Pn**	**01 23 51.7**	**+0.3**
KARN	**Karanos**	**1.68**	**142**	*e*PN	**Pn**	**01 23 51.5**	**+0.1**
KARN	**Karanos**	**1.68**	**142**	*e*Pn	**Pn**	**01 23 51.5**	**+0.1**
KALE	**Kalithea**	**1.70**	**346**	P	**Pn**	**01 23 52.5**	**+0.8**
KALE	**Kalithea**	**1.70**	**346**	*e*PN	**Pb**	**01 23 53.2**	**-0.3**
KALE	**Kalithea**	**1.70**	**346**	P	**Pn**	**01 23 52.5**	**+0.8**
KALE	**Kalithea**	**1.70**	**346**	*e*Pn	**Pb**	**01 23 53.2**	**-0.3**
EFP	**Efpalio**	**1.79**	**341**	*e*PN	**Pb**	**01 23 54.4**	**-0.5**
EFP	**Efpalio**	**1.79**	**341**	*e*Pn	**Pb**	**01 23 54.4**	**-0.5**
VAM	**Vamos**	**1.82**	**136**	P	**Pn**	**01 23 53.0**	**-0.4**
VAM	**Vamos**	**1.82**	**136**	P	**Pn**	**01 23 53.0**	**-0.4**
LKR	**Lokris**	**1.93**	**8**	*e*PN	**Pb**	**01 23 56.3**	**-1.0**
LKR	**Lokris**	**1.93**	**8**	*e*Pn	**Pb**	**01 23 56.3**	**-1.0**
GVD	**Gavdhos**	**2.22**	**148**	*e*PN	**Pb**	**01 24 01.0**	**-1.3**
GVD	**Gavdhos**	**2.22**	**148**	*e*Pn	**Pb**	**01 24 01.0**	**-1.3**
EVR	**Evrytania**	**2.28**	**343**	*e*PB	**Pn**	**01 24 00.2**	**+0.5**
EVR	**Evrytania**	**2.28**	**343**	*e*Pb	**Pn**	**01 24 00.2**	**+0.5**
AGG	**Agios Georgios**	**2.30**	**354**	*e*PN	**Pn**	**01 24 01.1**	**+1.2**
**A

	1.5nm,0.6s,baz=80,slow=6.0,SNR=13							
NVAR	**Mina Array Bea**	**66.56**	**301**	P		**P**	01 51 39.5	**+0.9**
	0.6nm,0.8s,baz=52,slow=0.3,SNR=3.7							
ZALV	**Zalesovo Beam**	**71.98**	**34**	P		P	01 52 14.7	+3.1
	0.3nm,0.3s,baz=309,slow=4.6,SNR=2.1							
MKAR	**Makanchi Array**	**75.49**	**41**	P		**P**	**01 52 34.1**	**+1.6**
	0.6nm,0.9s,baz=316,slow=5.1,SNR=4.2							

AUST ***11*** *01:41:43.3, 7.48S×129.54E, h100km*
IDC ***11*** *01:41:43.6±7.9, 7.46S×129.18E, h166km±84km, mb2.8/1, mb1 3.3/5, mb1mx3.1/18, mbtmp3.2/5, Error ellipse: s-maj=77.6km s-min=24.5km az=38.0*
ISCJB ***11*** *01:41:44.1±1.0, 7.67S±0.08×129.25E±0.06, h131km, mb2.9/1, Error ellipse: s-maj=11.1km s-min=8.5km az=176.6*

ISC 11 01:41:45.4±1.2, 7.77S±0.09×129.32E±0.08, h131km, n13, σ1s73/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TLE	**Tual**	**4.00**	**58**	P		**Pn**	**01 42 43.5**	**-1.8**
	baz=3.7,SNR=5.5							
SOEI	**Soe**	**5.37**	**248**	P		**Pn**	**01 43 03.7**	**0.0**
	baz=5.7,SNR=11							
FAKI	**Fak Fak**	**5.63**	**31**	P		Pn	01 42 58.5	-8.6
	baz=5.3,SNR=21							
KDU	**Kakadu**	**5.79**	**148**	P		Pn	01 43 13.2	+4.1
	baz=6.0,SNR=22							
BATI	**Baumata**	**6.09**	**246**	P		**Pn**	**01 43 12.4**	**-0.9**
	24nm,0.3s,baz=82,slow=6.3,SNR=21							
BATI				S		**Sn**	**01 44 21.3**	**-0.5**
	3.6nm,0.3s,baz=45,slow=21,SNR=5.9							
KNRA	**Kununurra**	**7.88**	**184**	P		Pn	01 43 40.0	+2.8
	baz=8.2,SNR=10							
FITZ	**Fitzroy Crossi**	**10.88**	**199**	P		**Pn**	**01 44 17.8**	**+0.3**
	baz=11,SNR=9.5							
FITZ	**Fitzroy Crossi**	**10.88**	**199**	P		**Pn**	**01 44 16.9**	**-0.4**
	0.2nm,0.3s,baz=25,slow=11,SNR=14							
FITZ				S		**Sn**	**01 46 16.1**	**-1.4**
	1.4nm,0.3s,baz=84,slow=16,SNR=8.7							
WRA	**Warramunga Arr**	**13.04**	**159**	P		**Pn**	**01 44 46.3**	**+0.4**
	0.3nm,0.3s,baz=342,slow=12,SNR=11							
WRA				S		**Sn**	**01 47 07.5**	**-2.4**
	0.6nm,0.3s,baz=341,slow=21,SNR=11							
ASAR	**Alice Springs**	**16.41**	**165**	P		**P**	**01 45 30.1**	**+1.4**
	0.4nm,0.3s,baz=340,slow=10,SNR=44							
ASAR				S		**Sn**	**01 48 29.1**	**-1.7**
	0.2nm,0.3s,baz=322,slow=18,SNR=4.9							
QLP	**Quilpie**	**23.47**	**145**	P		**P**	**01 46 46.6**	**+3.3**
	baz=24,SNR=4.3							
BBOO	**Buckleboo**	**25.69**	**167**	P		**P**	**01 47 04.6**	**+1.2**
	baz=26,SNR=4.7							
MKAR	**Makanchi Array**	**68.50**	**327**	P		P	01 52 25.9	-7.8
	0.2nm,0.7s,baz=131,slow=6.5,SNR=3.3							

IDC 11 01:45:06.2±4.2, 3.01S×100.76E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/22, mbtmp3.6/4, Error ellipse: s-maj=178.4km s-min=23.5km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H08S2	**Diego Garcia H**	**28.51**	**260**	T		T	02 20 04.0	
	baz=82,slow=0.7,SNR=232							
H08S3	**Diego Garcia H**	**28.51**	**260**	T		T	02 20 09.5	
	baz=82,slow=0.7,SNR=232							
H08S1	**Diego Garcia H**	**28.52**	**260**	T		T	02 20 12.4	
	baz=82,slow=0.7,SNR=274							
H01W3	**Cape Leeuwin H**	**34.06**	**160**	T		T	02 27 37.9	
	baz=335,slow=0.7,SNR=19							
H01W2	**Cape Leeuwin H**	**34.08**	**160**	T		T	02 27 33.7	
	baz=335,slow=0.7,SNR=0.4							
H01W1	**Cape Leeuwin H**	**34.08**	**160**	T		T	02 27 37.8	
	baz=335,slow=0.7,SNR=13							
WRA	**Warramunga Arr**	**36.83**	**120**	P		P	01 52 15.1	-1.4
	0.2nm,0.4s,baz=300,slow=8.9,SNR=3.9							
ASAR	**Alice Springs**	**38.05**	**126**	P		P	01 52 27.7	+0.9
	0.3nm,0.5s,baz=297,slow=9.0,SNR=4.5							
SONM	**Songino Array**	**50.88**	**5**	P		P	01 54 09.8	+0.7
	0.6nm,0.6s,baz=181,slow=8.6,SNR=3.8							
MKAR	**Makanchi Array**	**52.20**	**344**	P		P	01 54 18.0	-0.8
	1.0nm,0.7s,baz=150,slow=9.3,SNR=10							
TXAR	**Lajitas Array**	**145.03**	**39**	PKPbc		PKPbc	02 04 45.4	-0.3
	0.9nm,0.7s,baz=339,slow=2.3,SNR=7.0							

MEX 11 01:49:27.2±0.7, 16.76N×100.50W, h5km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CAIG	**El Cayaco**	**0.36**	**39**	*i* P		Pg	01 49 33.5	-0.8
CAIG				*i* S		Sg	01 49 39.0	-0.1
ACX	**Acapulco**	**0.63**	**80**	*i* P		Pn	01 49 42.1	-0.8
ACX				*i* S		Sb	01 49 49.7	-0.1
ZIIG	**Zihuatanejo**	**1.25**	**313**	*i* P		Pg	01 49 47.1	-4.0
ZIIG				*i* S		Sg	01 50 03.7	-3.5
MEIG	**Mezcala**	**1.43**	**36**	*i* P		Pn	01 49 50.9	-3.1
MEIG				*i* S		Sb	01 50 08.8	-4.4
ARIG	**Puente Sto Nin**	**1.52**	**6**	*i* P		Pn	01 49 51.5	-3.6
ARIG				*i* S		Sn	01 50 10.7	-4.6
PLIG	**Platanillo**	**1.88**	**30**	*i* P		Pn	01 49 56.7	-3.5
PLIG				*i* S		Sn	01 50 19.6	-4.8
PNIG	**Pinotepa**	**2.31**	**99**	*i* P		Pn	01 50 03.5	-2.5
PNIG				*i* S		Sn	01 50 31.3	-3.5
YAIG	**Yautepec**	**2.50**	**33**	*i* P		Pn	01 50 06.3	-2.4
YAIG				*i* S		Sn	01 50 36.3	-3.5

SOF ***11*** *02:04:40.6, 41.89N×23.20E, h13km, MD3.0*
ATH ***11*** *02:04:40.6, 41.92N×23.19E, h17km±1km, MD3.4/16*
CSEM ***11*** *02:04:40.9±0.1, 41.88N×23.22E, h2km, MD3.0, Error ellipse: s-maj=2.4km s-min=1.9km az=76.0*
SKO ***11*** *02:04:40.8, 41.88N×23.18E, h11km, M2.5, ML2.9*
BEO ***11*** *02:04:41.6±0.3, 41.87N×23.22E, h8km±3km, ML2.5/9*
THE ***11*** *02:04:41.1, 41.87N×23.22E, h1km±1km, ML2.8/13, Error ellipse: s-maj=1.8km s-min=0.8km az=340.0*

ISC 11 02:04:40.9±0.9, 41.89N±0.01×23.21E±0.02, h10km±7km, n117, σ1s03/175, 19C-5D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KKB	**Krupnik**	**0.10**	**258**	P		**Pg**	**02 04 43.5**	**0.0**
KKB	**Krupnik**	**0.10**	**258**	P		**Pg**	**02 04 43.5**	**0.0**
MMB	**Musomiste**	**0.49**	**128**	P		**Pb**	**02 04 51.0**	**-0.6**
MMB	**Musomiste**	**0.49**	**128**	P		**Pb**	**02 04 51.0**	**-0.6**
VTS	**Vitosha**	**0.70**	**360**	P		**Pg**	**02 04 54.6**	**0.0**
VTS				S		**Sg**	**02 05 04.0**	**+0.2**
VTS	**Vitosha**	**0.70**	**360**	↑*i* Pg		**Pg**	**02 04 54.5**	**0.0**
VTS	**Vitosha**	**0.70**	**360**	↑*i* P		**Pg**	**02 04 54.6**	**0.0**
VTS				S		**Sg**	**02 05 04.7**	**+0.9**
VTS	**Vitosha**	**0.70**	**360**	P		**Pg**	**02 04 54.6**	**0.0**
VTS	**Vitosha**	**0.70**	**360**	P		**Pg**	**02 04 54.6**	**0.0**
VTS				S		**Sg**	**02 05 04.0**	**+0.2**
NVR	**Nevrokopi**	**0.72**	**138**	P		**Pg**	**02 04 54.8**	**-0.1**
NVR				S		**Sg**	**02 05 04.4**	**0.0**
NVR	**Nevrokopi**	**0.72**	**138**	*e*PN		**Pg**	**02 04 54.8**	**-0.1**
NVR				*e*SN		**Sb**	**02 05 05.9**	**+0.2**
NVR	**Nevrokopi**	**0.72**	**138**	P		**Pg**	**02 04 54.8**	**-0.1**
NVR				S		**Sg**	**02 05 04.4**	**0.0**
NVR				*e*Sn		**Sb**	**02 05 05.9**	**+0.2**
VAY	**Valandovo**	**0.74**	**221**	P		**Pg**	**02 04 54.4**	**-0.9**
VAY				S		**Sg**	**02 05 04.9**	**-0.1**
VAY	**Valandovo**	**0.74**	**221**	↑*i* Pg		**Pg**	**02 04 54.2**	**-1.1**
VAY				*e*Sg		**Sg**	**02 05 04.7**	**-0.3**
VAY	**Valandovo**	**0.74**	**221**	↑*i* Pg		**Pg**	**02 04 54.9**	**-0.4**
VAY				*i* Sg		**Sg**	**02 05 01.7**	**-3.3**
VAY				*e*Lg		Lg	02 05 01.7	
	comp=N,309nm,0.5s							
VAY				*e*Lg		Lg	02 05 01.7	
	comp=E,327nm,0.3s							
VAY	**Valandovo**	**0.74**	**221**	P		**Pg**	**02 04 54.4**	**-0.9**
VAY				*e*Sg		**Sg**	**02 05 04.7**	**-0.3**
KNT	**Kendrikon**	**0.76**	**198**	P		**Pg**	**02 04 55.6**	**0.0**
KNT				S		**Sg**	**02 05 05.8**	**+0.2**
KNT	**Kendrikon**	**0.76**	**198**	P		**Pg**	**02 04 55.6**	**0.0**
KNT				S		**Sg**	**02 05 05.8**	**+0.2**
SRS	**Serrai**	**0.82**	**160**	P		**Pg**	**02 04 56.7**	**0.0**
SRS				S		**Sb**	**02 05 07.8**	**-0.6**
SRS	**Serrai**	**0.82**	**160**	P		**Pg**	**02 04 56.7**	**0.0**
SRS				S		**Sb**	**02 05 07.8**	**-0.6**
PGB	**Panagyurishte**	**0.97**	**47**	P		**Pg**	**02 04 58.6**	**-1.0**
PGB	**Panagyurishte**	**0.97**	**47**	P		**Pg**	**02 04 58.6**	**-1.0**
SOH	**Sokhos**	**1.07**	**174**	P		**Pb**	**02 05 01.2**	**-0.4**
SOH				S		**Sg**	**02 05 16.0**	**+0.6**
SOH	**Sokhos**	**1.07**	**174**	*e*PN		**Pg**	**02 05 01.5**	**0.0**
SOH				*e*SN		**Sn**	**02 05 16.5**	**-0.5**
SOH	**Sokhos**	**1.07**	**174**	P		**Pb**	**02 05 01.2**	**-0.4**
SOH	**Sokhos**	**1.07**	**174**	*e*Pn		**Pg**	**02 05 01.5**	**0.0**
SOH				S		**Sg**	**02 05 16.0**	**+0.6**
GRG	**Griva**	**1.11**	**214**	P		**Pg**	**02 05 02.3**	**0.0**
GRG				S		**Sn**	**02 05 17.4**	**-0.6**
GRG	**Griva**	**1.11**	**214**	*e*PN		**Pn**	**02 05 02.4**	**-0.2**
GRG				*e*SN		**Sn**	**02 05 17.5**	**-0.6**
GRG	**Griva**	**1.11**	**214**	P		**Pg**	**02 05 02.3**	**0.0**
GRG				S		**Sn**	**02 05 17.4**	**-0.6**
PLD	**Plovdiv**	**1.13**	**78**	P		**Pb**	**02 05 01.9**	**-0.7**
PLD				S		**Sn**	**02 05 18.1**	**-0.3**
PLD	**Plovdiv**	**1.13**	**78**	*e*Pg		**Pb**	**02 05 01.9**	**-0.7**
PLD				*e*Sg		**Sn**	**02 05 18.1**	**-0.3**
PLD	**Plovdiv**	**1.13**	**78**	P		**Pb**	**02 05 01.9**	**-0.7**
PLD				S		**Sn**	**02 05 18.1**	**-0.3**
RZN	**Rozhen**	**1.14**	**100**	P		**Pb**	**02 05 02.3**	**-0.6**
RZN	**Rozhen**	**1.14**	**100**	P		**Pb**	**02 05 02.3**	**-0.6**
THE	**Thessaloniki**	**1.27**	**189**	P		**Pg**	**02 05 05.0**	**-0.2**
THE				S		**Sg**	**02 05 22.1**	**+0.4**
THE	**Thessaloniki**	**1.27**	**189**	P		**Pg**	**02 05 05.0**	**-0.2**
THE				S		**Sg**	**02 05 22.1**	**+0.4**
HORT	**Hortiatis**	**1.29**	**184**	P		**Pn**	**02 05 05.0**	**-0.1**
HORT				S		**Sg**	**02 05 23.3**	**+0.8**
HORT	**Hortiatis**	**1.29**	**184**	P		**Pn**	**02 05 05.0**	**-0.1**
HORT				S		**Sg**	**02 05 23.3**	**+0.8**
KAVA	**Kavala**	**1.32**	**132**	P		**Pb**	**02 05 05.9**	**+0.1**
KAVA				S		**Sg**	**02 05 25.0**	**+1.6**
KAVA	**Kavala**	**1.32**	**132**	P		**Pb**	**02 05 05.9**	**+0.1**
KAVA				S		**Sg**	**02 05 25.0**	**+1.6**
SKO	**Skopje**	**1.33**	**274**	*e*Pg		**Pg**	**02 05 07.3**	**+0.9**
SKO				*e*Sg		**Sg**	**02 05 24.7**	**+1.1**
SKO	**Skopje**	**1.33**	**274**	*e*Pg		**Pg**	**02 05 07.3**	**+0.9**
SKO				*e*Sg		**Sg**	**02 05 24.7**	**+1.1**
MPEP	**Malo Peshtene**	**1.52**	**15**	P		**Pg**	**02 05 09.9**	**-0.1**
PLG	**Polygyros**	**1.52**	**173**	P		**Pb**	**02 05 08.6**	**-0.7**
PLG				S		**Sg**	**02 05 29.3**	**-0.6**
PLG	**Polygyros**	**1.52**	**173**	*e*PN		**Pb**	**02 05 09.4**	**+0.1**
PLG				*e*SN		**Sg**	**02 05 30.4**	**+0.5**
PLG	**Polygyros**	**1.52**	**173**	P		**Pb**	**02 05 08.6**	**-0.7**
PLG	**Polygyros**	**1.52**	**173**	*e*Pn		**Pb**	**02 05 09.4**	**+0.1**
PLG				S		**Sg**	**02 05 29.3**	**-0.6**
PLG				*e*Sn		**Sg**	**02 05 30.4**	**+0.5**
OUR	**Ouranopolis**	**1.66**	**159**	P		**Pb**	**02 05 10.8**	**-0.7**
OUR				S		**Sb**	**02 05 32.4**	**0.0**
OUR	**Ouranopolis**	**1.66**	**159**	P		**Pb**	**02 05 10.8**	**-0.7**
OUR				S		**Sb**	**02 05 32.4**	**0.0**
BIA	**Bitola**	**1.66**	**239**	P		**Pb**	**02 05 10.9**	**-0.8**
BIA				S		**Sg**	**02 05 33.8**	**-0.6**
BIA	**Bitola**	**1.66**	**239**	*i* Pn		**Pb**	**02 05 12.0**	**+0.3**
BIA	**Bitola**	**1.66**	**239**	P		**Pb**	**02 05 10.9**	**-0.8**
BIA				S		**Sg**	**02 05 33.8**	**-0.6**
KDZ	**Kurdzhali**	**1.67**	**97**	P		**Pn**	**02 05 10.2**	**0.0**
KDZ	**Kurdzhali**	**1.67**	**97**	P		**Pn**	**02 05 10.2**	**0.0**
FNA	**Florina**	**1.77**	**232**	P		**Pn**	**02 05 11.9**	**+0.2**
FNA				S		**Sb**	**02 05 36.4**	**+0.6**
FNA	**Florina**	**1.77**	**232**	*e*PN		**Pb**	**02 05 13.3**	**-0.2**
FNA	**Florina**	**1.77**	**232**	P		**Pn**	**02 05 11.9**	**+0.2**
FNA	**Florina**	**1.77**	**232**	*e*Pn		**Pb**	**02 05 13.3**	**-0.2**
FNA				S		**Sb**	**02 05 36.4**	**+0.6**
LIT	**Litokhoron**	**1.87**	**197**	*e*PN		**Pb**	**02 05 14.8**	**-0.3**
LIT				*e*SN		**Sb**	**02 05 38.3**	**-0.2**
LIT	**Litokhoron**	**1.87**	**197**	*e*Pn		**Pb**	**02 05 14.8**	**-0.3**
LIT				*e*Sn		**Sb**	**02 05 38.3**	**-0.2**
RDO	**Rodhopi**	**1.90**	**112**	P		**Pn**	**02 05 13.7**	**+0.4**
RDO	**Rodhopi**	**1.90**	**112**	*e*PN		**Pb**	**02 05 14.7**	**-0.9**
RDO	**Rodhopi**	**1.90**	**112**	P		**Pn**	**02 05 13.7**	**+0.4**
RDO	**Rodhopi**	**1.90**	**112**	*e*Pn		**Pb**	**02 05 14.7**	**-0.9**
KZN	**Kozani**	**1.92**	**215**	*e*PB		**Pn**	**02 05 14.0**	**+0.3**
KZN	**Kozani**	**1.92**	**215**	*e*Pb		**Pn**	**02 05 14.0**	**+0.3**
PAIG	**Paliouri**	**1.99**	**170**	P		**Pn**	**02 05 15.3**	**+0.7**
PAIG				S		**Sb**	**02 05 40.7**	**-1.3**
PAIG	**Paliouri**	**1.99**	**170**	*e*PB		**Pn**	**02 05 15.6**	**+1.0**
PAIG				*e*SN		**Sb**	**02 05 42.3**	**+0.3**
PAIG	**Paliouri**	**1.99**	**170**	P		**Pn**	**02 05 15.3**	**+0.7**
PAIG	**Paliouri**	**1.99**	**170**	*e*Pb		**Pn**	**02 05 15.6**	**+1.0**
PAIG				S		**Sb**	**02 05 40.7**	**-1.3**
PAIG				*e*Sn		**Sb**	**02 05 42.3**	**+0.3**
SELS	**Selova**	**2.04**	**311**	↑*i* Pn		**Pn**	**02 05 15.9**	**+0.5**
SELS				*e*Sn		**Sn**	**02 05 41.4**	**+0.5**
SELS	**Selova**	**2.04**	**311**	↑*i* Pn		**Pn**	**02 05 15.9**	**+0.5**
SELS				*e*Sn		**Sn**	**02 05 41.4**	**+0.5**
BOLS	**Boljevac**	**2.15**	**335**	*e*Pn		**Pn**	**02 05 16.8**	**-0.1**
BOLS	**Boljevac**	**2.15**	**335**	*e*Pn		**Pn**	**02 05 16.8**	**-0.1**
SMTH	**Samothraki Isl**	**2.25**	**128**	*e*PN		**Pb**	**02 05 20.0**	**-1.7**
SMTH	**Samothraki Isl**	**2.25**	**128**	*e*Pn		**Pb**	**02 05 20.0**	**-1.7**
ALN	**Alexandroupoli**	**2.35**	**114**	P		**Pn**	**02 05 21.0**	**+1.5**
ALN				S		**Sb**	**02 05 50.1**	**-2.3**
ALN	**Alexandroupoli**	**2.35**	**114**	*e*PB		**Pn**	**02 05 21.1**	**+1.5**
ALN	**Alexandroupoli**	**2.35**	**114**	P		**Pn**	**02 05 21.0**	**+1.5**
ALN				S		**Sb**	**02 05 50.1**	**-2.3**
ZIMR		**2.37**	**41**	↑*i* P		**Pb**	**02 05 24.2**	**+0.4**
LIA	**Limnos Island**	**2.49**	**142**	*e*PB		**Pb**	**02 05 24.1**	**-1.6**
LIA	**Limnos Island**	**2.49**	**142**	*e*Pb		**Pb**	**02 05 24.1**	**-1.6**
THL	**Klokotos Trika**	**2.49**	**202**	*e*PB		**Pn**	**02 05 23.3**	**+1.8**
THL	**Klokotos Trika**	**2.49**	**202**	*e*Pb		**Pn**	**02 05 23.3**	**+1.8**
XOR	**Xorichti**	**2.52**	**180**	P		**Pn**	**02 05 22.8**	**+0.9**
XOR				S		**Sn**	**02 05 53.4**	**+0.7**
XOR	**Xorichti**	**2.52**	**180**	P		**Pn**	**02 05 22.8**	**+0.9**
XOR				S		**Sn**	**02 05 53.4**	**+0.7**
NEO	**Neokhori**	**2.58**	**180**	*e*PB		**Pn**	**02 05 24.7**	**+1.9**
NEO	**Neokhori**	**2.58**	**180**	*e*Pb		**Pn**	**02 05 24.7**	**+1.9**
GRUS	**Gruza**	**2.71**	**318**	*e*Pn		**Pn**	**02 05 26.7**	**+2.1**
GRUS				*e*Sn		**Sb**	**02 06 00.5**	**-2.4**
GRUS	**Gruza**	**2.71**	**318**	*e*Pn		**Pn**	**02 05 26.7**	**+2.1**
GRUS				*e*Sn		**Sb**	**02 06 00.5**	**-2.4**
SJES	**Sjenica**	**2.76**	**301**	*e*Pn		**Pn**	**02 05 26.5**	**+1.2**
AOS	**Alonnisos**	**2.76**	**169**	*e*PN		**Pn**	**02 05 25.9**	**+0.7**
AOS	**Alonnisos**	**2.76**	**169**	*e*Pn		**Pn**	**02 05 25.9**	**+0.7**
SVIS	**Svilajnac**	**2.79**	**329**	*e*Pn		**Pb**	**02 05 28.3**	**-2.6**
SVIS				*e*Sn		**Sn**	**02 05 59.4**	**0.0**
IVAS	**Ivanjica**	**2.82**	**308**	↑*i* Pn		**Pn**	**02 05 27.2**	**+1.1**
IVAS				*e*Sn		**Sn**	**02 06 01.9**	**+1.8**
IVAS	**Ivanjica**	**2.82**	**308**	↑*i* Pn		**Pn**	**02 05 27.2**	**+1.1**
IVAS				*e*Sn		**Sn**	**02 06 01.9**	**+1.8**
AGG	**Agios Georgios**	**2.94**	**194**	*e*PN		**Pn**	**02 05 29.0**	**+1.3**
AGG	**Agios Georgios**	**2.94**	**194**	*e*Pn		**Pn**	**02 05 29.0**	**+1.3**
DIVS	**Divibare**	**3.23**	**314**	*e*Pn		**Pn**	**02 05 32.6**	**+0.8**
DIVS				*e*Sn		**Sn**	**02 06 10.0**	**-0.5**
DIVS	**Divibare**	**3.23**	**314**	*e*Pn		**Pn**	**02 05 32.6**	**+0.8**
DIVS				*e*Sn		**Sn**	**02 06 10.0**	**-0.5**
ARR	**Arges**	**3.63**	**16**	↑*i* P		**Pg**	**02 05 48.0**	**-2.4**
VOIR		**3.79**	**20**	↑*i* P		**Pn**	**02 05 40.9**	**+1.4**
VOIR		**3.79**	**20**	↑*i* P		**Pn**	**02 05 40.9**	**+1.4**
BZS	**Buzias**	**3.90**	**343**	*e*Pn		**Pn**	**02 05 41.7**	**+0.8**
BZS	**Buzias**	**3.90**	**343**	↑*i* P		Pb	02 05 46.0	-3.8
BZS	**Buzias**	**3.90**	**343**	*e*Pn		**Pn**	**02 05 41.7**	**+0.8**
BZS	**Buzias**	**3.90**	**343**	↑*i* P		Pb	02 05 46.0	-3.8
MSAB	**Monastry St. A**	**4.04**	**55**	↑*i* P		**Pb**	**02 05 54.1**	**+2.0**
MLR	**Muntele Rosu**	**4.11**	**28**	↑*i* P		**Pn**	**02 05 46.0**	**+2.1**
MLR	**Muntele Rosu**	**4.11**	**28**	↑*i* P		**Pn**	**02 05 46.0**	**+2.1**
TLB	**Topalu**	**4.44**	**51**	↓*i* P		**Pn**	**02 05 50.0**	**+1.7**
TLB	**Topalu**	**4.44**	**51**	↓*i* P		**Pn**	**02 05 50.0**	**+1.7**
TIRR	**Tirgusor**	**4.59**	**31**	↓*i* P		Pg	02 06 05.4	-3.4
VRI	**Vrincioaia**	**4.72**	**31**	↓*i* P		**Pn**	**02 05 54.6**	**+2.4**
VRI	**Vrincioaia**	**4.72**	**31**	↓*i* P		**Pn**	**02 05 54.6**	**+2.4**
CFR	**Carcaliu**	**4.86**	**46**	↑*i* P		**Pn**	**02 05 55.5**	**+1.4**
CFR	**Carcaliu**	**4.86**	**46**	↑*i* P		**Pn**	**02 05 55.5**	**+1.4**

IDC 11 02:06:15.7±1.9, 13.75S×166.86E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.6/19, mbtmp3.6/5, ML3.4/1, Error ellipse: s-maj=54.2km s-min=33.0km az=109.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.28**	**183**	Pn		Pn	02 08 16.0	-1.3
	0.5nm,0.3s,baz=239,slow=19,SNR=4.5							
WRA	**Warramunga Arr**	**31.69**	**254**	P		P	02 12 42.0	+0.7
	0.3nm,0.7s,baz=86,slow=9.5,SNR=3.0							
ASAR	**Alice Springs**	**32.66**	**248**	P		P	02 12 49.4	-0.5
	0.5nm,0.7s,baz=72,slow=9.9,SNR=4.4							
SONM	**Songino Array**	**81.48**	**324**	P		P	02 18 33.5	-1.6
	0.1nm,0.4s,baz=108,slow=3.8,SNR=2.9							
MKAR	**Makanchi Array**	**96.22**	**317**	P		P	02 19 46.9	+0.9
	0.2nm,0.6s,baz=100,slow=7.5,SNR=3.5							
ARCES	**ARCESS Array B**	**119.21**	**345**	PKP		PKPdf	02 25 07.0	+0.8
	2.0nm,0.8s,baz=37,slow=1.4,SNR=8.7							

IDC 11 02:18:50.4±7.9, 7.77S×117.66E, h232km±83km, mb2.9/4, mb1 3.1/5, mb1mx3.0/20, mbtmp2.9/5, MS3.6/1, Ms1 3.5/1, ms1mx2.8/10, Error ellipse: s-maj=110.6km s-min=25.5km az=56.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.87**	**144**	P		P	02 21 46.7	-1.1
	0.3nm,0.3s,baz=329,slow=10,SNR=14							
FITZ				S		S	02 24 06.5	-1.6
	0.1nm,0.3s,baz=15,slow=19,SNR=3.6							
WRA	**Warramunga Arr**	**20.19**	**129**	P		P	02 23 07.2	-0.5
	0.7nm,0.6s,baz=304,slow=10,SNR=13							
ASAR	**Alice Springs**	**22.19**	**137**	P		P	02 23 28.1	+0.3
	0.9nm,0.5s,baz=313,slow=9.5,SNR=21							
STKA	**Stephens Creek**	**32.74**	**140**	LR		LR	02 41 14.9	
	comp=Z,103nm,22.0s,baz=205,slow=41							
SONM	**Songino Array**	**56.26**	**351**	P		P	02 28 07.5	+0.7
	0.5nm,0.6s,baz=176,slow=6.9,SNR=4.5							
MKAR	**Makanchi Array**	**62.77**	**333**	P		P	02 28 50.5	-0.6
	0.2nm,0.5s,baz=134,slow=8.3,SNR=3.2							

IDC ***11*** *02:26:41.4±4.2, 5.44S×102.10E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/21, mbtmp3.7/5, Error ellipse: s-maj=178.3km s-min=22.4km az=53.0*
ISCJB ***11*** *02:26:49.5±1.8, 5.25S±0.1×102.75E±0.1, h71km±14km, mb3.7/5, Error ellipse: s-maj=25.2km s-min=9.1km az=136.2*
DJA ***11*** *02:26:51.1±0.9, 5.5S±6×10.3E±, h50km±15km, M3.7/7, MLv3.7/7*

ISC 11 02:26:49.7±2.9, 5.2S±0.1×102.4E±0.2, h51km±23km, n16, σ0s75/17, mb3.9/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MNAI	**Manna**	**0.97**	**32**	P		**Pn**	**02 27 05.8**	**-1.2**
MNAI				S		**Sn**	**02 27 20.5**	**+0.7**
KSI	**Kapahiang**	**1.53**	**6**	P		**Pn**	**02 27 15.0**	**+0.3**
KSI				S		Sn	02 27 23.9	-10
LWLI	**Liwa**	**1.62**	**84**	P		**Pn**	**02 27 16.9**	**+1.0**
LWLI				S		**Sn**	**02 27 36.0**	**+0.2**
LHSI	**Lahat**	**1.73**	**39**	P		**Pn**	**02 27 18.4**	**+1.1**
LHSI				S		**Sn**	**02 27 37.3**	**-1.0**
MDSI	**Maura Dua**	**1.87**	**68**	P		**Pn**	**02 27 19.4**	**+0.2**
MDSI				S		Sn	02 27 31.8	-10
MASI	**Maura Aman, Be**	**2.04**	**354**	P		**Pn**	**02 27 22.2**	**+0.5**
KASI	**Kota Agung**	**2.07**	**99**	P		**Pn**	**02 27 22.1**	**+0.1**
KASI				S		**Sn**	**02 27

LCO				*i* S		Sn	02 44 40.4	+0.6	
LCO				AML		AML	02 44 43.0		
	comp=E,145nm,0.4s								
LMEL	**Las Melosas**	**2.69**	**198**	AML		AML	02 44 50.8		
	comp=N,114nm,0.2s								
CHCH	**Chadas Angostu**	**2.92**	**205**	⇓*i* P		Pn	02 44 10.2	+0.7	
CHCH				*i* S		Sn	02 44 45.7	-0.1	

GUC **11** *02:48:46.1±0.6,25°.06S×71°.39W,h34km±5km, ML3.9*
ISCJB **11** *02:48:47.7±3.0,25°.07S±0°.05×70°.8W±0°.4,h19km±34km, mb3.8/2, Error ellipse: s-maj=55.2km s-min=5.6km az=6.9*
IDC **11** *02:48:49.8±2.5,24°.96S×70°.30W, h0km, mb3.9/2, mb1 4.0/4, mb1mx3.7/18, mbtmp3.9/4, ML3.8/2, MS2.7/1, Ms1 2.9/1, ms1mx2.7/37, Error ellipse: s-maj=69.3km s-min=39.3km az=103.0*

ISC 11 02:48:48.5±2.4, 25°.10S±0°.05×70°.7W±0°.3, h13km±17km, n12, σ1ş74/16, 2C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANCH	**Antofagasta**	**1.43**	**9**	⇓*i* P	**Pb**	**02 49 14.0**	**-1.0**
ANCH				*i* S	**Sg**	**02 49 35.4**	**+0.8**
PB10	**Plate Boundary**	**1.58**	**3**	⇑*i* P	**Pn**	**02 49 15.6**	**-0.7**
PB10				AML	AML	02 49 46.7	
	comp=E,4μm,0.8s						
CEN1	**Los Morros**	**1.75**	**14**	⇓*i* P	Pn	02 49 14.7	-4.1
CEN1				*i* S	**Sn**	**02 49 37.6**	**-3.5**
CEN1				AML	AML	02 49 46.5	
	comp=E,1μm,0.5s						
CDCH	**Caldera**	**1.96**	**185**	*e*P	**Pn**	**02 49 20.5**	**-1.0**
CDCH				*i* S	**Sn**	**02 49 44.7**	**-1.3**
CDCH				AML	AML	02 49 55.2	
	comp=E,624nm,0.7s						
CPCH	**Copiapo**	**2.26**	**173**	⇓*i* P	**Pn**	**02 49 26.0**	**+0.3**
CPCH				*i* S	**Sb**	**02 49 55.0**	**-2.2**
CPCH				AML	AML	02 49 59.8	
	comp=N,1μm,0.1s						
PB07	**Plate Boundary**	**3.43**	**12**	*i* P	**Pn**	**02 49 41.6**	**-0.3**
LCO	**Las Campanas**	**3.89**	**181**	⇑*i* P	**Pn**	**02 49 47.4**	**-0.9**
LCO				*eS*	**Sn**	**02 50 33.8**	**-0.3**
LPAZ	**La Paz**	**9.08**	**15**	Pn	**Pn**	**02 51 01.4**	**+1.4**
	comp=N,0.6nm,0.3s,baz=196,slow=5.8,SNR=18						
LPAZ				LR	LR	02 54 46.2	
	comp=N,56nm,21.1s,baz=72,slow=40						
PLCA	**Paso Flores**	**15.59**	**180**	Pn	**P**	**02 52 34.8**	**+2.5**
	comp=N,0.1nm,0.3s,baz=0.7,slow=8.1,SNR=3.2						
BDFB	**Brasilia**	**23.18**	**70**	P	**P**	**02 53 54.6**	**-0.7**
	comp=N,1.2nm,0.4s,baz=255,slow=11,SNR=3.0						
TORD	**Torodi Ar. Bea**	**80.06**	**70**	P	**P**	**03 01 00.3**	**+1.8**
	comp=N,1.2nm,0.7s,baz=260,slow=5.4,SNR=6.7						
MKAR	**Makanchi Array**	**149.46**	**38**	PKPbc	**PKPbc**	**03 08 38.6**	**+1.2**
	comp=N,0.5nm,0.7s,baz=290,slow=3.7,SNR=4.3						

IDC **11** *03:11:18.9±1.5, 14°.81S×173°.36W, h0km, mb4.3/7, mb1 4.6/7, mb1mx4.5/20, mbtmp4.3/7, MS5.2/4, Ms1 5.2/4, ms1mx4.3/34, Error ellipse: s-maj=57.2km s-min=32.3km az=168.0*
NEIC **11** *03:11:20.5±0.4, 14°.80S×173°.64W, h10km, mb4.8/37, Error ellipse: s-maj=13.6km s-min=9.4km az=172.0*
BJI **11** *03:11:22.1, 14°.91S×173°.89W, h29km, mB5.2/2, mb4.9/7*
ISCJB **11** *03:11:23.2±0.6, 14°.7S±0°.2×173°.64W±0°.07, h33km, mb4.7/50, MS3.8/3, Error ellipse: s-maj=24.9km s-min=9.2km az=175.9*

ISC 11 03:11:25.0±0.7, 14°.5S±0°.2×173°.8W±0°.1, h35km, n314, σ0ş94/308, mb4.7/50, MS3.4/3, 98C-100D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.02**	**73**	*e*Pn	Pn	03 11 45.9	-11
AFI	**Afiamalu**	**2.02**	**73**	Pn	Pn	03 11 45.9	-11
	159nm,0.3s,baz=168,slow=1.1,SNR=32						
AFI				LR	LR	03 12 17.1	
	comp=Z,16nm,28.6s,baz=187,slow=33						
MSVF	**Nonsavu**	**8.49**	**247**	*e*Pn	Pn	03 13 30.6	+5.0
KNTN	**Kanton**	**11.82**	**10**	*e*Pn	**Pn**	**03 14 11.0**	**-0.3**
RAR	**Rarotonga**	**14.90**	**119**	*e*Pn	Pn	03 14 46.9	-6.4
RAO	**Raoul Island**	**15.18**	**194**	LR	LR	03 19 28.3	
	comp=Z,24μm,18.9s,baz=308,slow=33						
H11S2	**WAKE ISLAND Hy**	**38.01**	**329**	T	T	03 59 35.3	
	baz=152,slow=0.7,SNR=22						
H11S3	**WAKE ISLAND Hy**	**38.02**	**329**	T	T	03 59 37.9	
	baz=152,slow=0.7,SNR=30						
H11S1	**WAKE ISLAND Hy**	**38.02**	**329**	T	T	03 59 36.6	
	baz=152,slow=0.7,SNR=14						
PMG	**Port Moresby**	**38.52**	**273**	*e*P	**P**	**03 18 43.7**	**-0.7**
	370nm,1.4s						
H11N3	**WAKE ISLAND Hy**	**38.95**	**330**	T	T	04 00 47.6	
	baz=152,slow=0.7,SNR=24						
H11N1	**WAKE ISLAND Hy**	**38.96**	**330**	T	T	04 00 59.6	
	baz=152,slow=0.7,SNR=36						
H11N2	**WAKE ISLAND Hy**	**38.97**	**330**	T	T	04 00 48.7	
	baz=152,slow=0.7,SNR=24						
JCJ	**Chichijima**	**59.47**	**314**	LR	LR	03 43 20.6	
	comp=Z,18nm,28.6s,baz=139,slow=32						
MAJO	**Matsushiro**	**68.02**	**320**	*e*P	**P**	**03 22 21.6**	**+0.6**
	25nm,1.2s						
PETK	**Petropavlovsk-**	**71.67**	**342**	P	**P**	**03 22 44.6**	**+1.6**
PETK	**Petropavlovsk-**	**71.67**	**342**	P	**P**	**03 22 44.6**	**+1.6**
	5.1nm,0.7s,baz=141,slow=10,SNR=9.8						
MWC	**Mount Wilson**	**71.77**	**46**	*e*P	**P**	**03 22 43.8**	**-0.6**
	3.9nm,0.7s						
ISA	**Isabella**	**72.27**	**45**	*e*P	**P**	**03 22 47.1**	**0.0**
	5.1nm,1.1s						
CMB	**Columbia Colle**	**72.33**	**42**	*e*P	**P**	**03 22 46.9**	**-0.6**
	11nm,1.6s						
YBH	**Yreka Blue Hor**	**73.11**	**37**	P	**P**	**03 22 51.0**	**-0.9**
YBH	**Yreka Blue Hor**	**73.11**	**37**	P	**P**	**03 22 51.0**	**-0.9**
	0.6nm,0.3s,baz=247,slow=11,SNR=3.5						
BELC	**Belle Mtn. Jos**	**73.11**	**47**	⇓P	**P**	**03 22 52.3**	**0.0**
	baz=73						
MPMC	**Manual Prospec**	**73.15**	**45**	⇓P	**P**	**03 22 53.1**	**+0.5**
	baz=73						
GSC	**Goldstone**	**73.22**	**46**	⇓P	**P**	**03 22 53.5**	**+0.7**
	baz=74						
BEKR	**Beckworth**	**73.41**	**40**	*e*P	**P**	**03 22 54.7**	**+0.8**
	1.7nm,1.0s						
GLA	**Glamis**	**73.47**	**49**	⇓P	**P**	**03 22 54.9**	**+0.7**
	baz=74						
HUMO	**Hull Mountain**	**73.50**	**37**	*e*P	**P**	**03 22 54.4**	**+0.1**
	6.7nm,1.1s						
GMRC	**Granite Mounta**	**73.75**	**47**	⇑P	**P**	**03 22 56.5**	**+0.5**
	baz=74						
FURC	**Furnace Creek,**	**73.80**	**45**	⇑P	**P**	**03 22 56.5**	**+0.5**
	baz=74						
NVAR	**Mina Array Bea**	**73.91**	**42**	P	**P**	**03 22 56.0**	**-0.9**
NVAR	**Mina Array Bea**	**73.91**	**42**	P	**P**	**03 22 56.0**	**-0.9**
	1.4nm,0.8s,baz=226,slow=9.2,SNR=9.3						
PAHR	**Pah Rah Range**	**73.93**	**41**	*e*P	**P**	**03 22 59.0**	**+2.0**
	47nm,2.5s						
214A	**Organ Pipe Nat**	**74.42**	**50**	⇑P	**P**	**03 22 59.8**	**0.0**
	baz=75						
PDMCI	**Parker Dam,Lak**	**74.59**	**48**	⇓P	**P**	**03 23 00.9**	**+0.2**
	baz=75						
MOD	**Modoc**	**74.64**	**38**	*e*P	**P**	**03 23 01.4**	**+0.3**
	34nm,1.2s						
SHPR	**Sheep Range**	**74.99**	**45**	*e*P	**P**	**03 23 03.0**	**-0.2**
	5.6nm,1.2s						
Y14A	**Wickenburg**	**75.23**	**49**	⇓P	**P**	**03 23 04.1**	**-0.4**
	baz=76						
KSRS	**Korea Array**	**75.26**	**316**	P	**P**	**03 23 07.5**	**+2.9**
	3.4nm,1.0s,baz=137,slow=5.9,SNR=4.9						
KSRS				LR	LR	03 51 58.2	
	comp=Z,1μm,21.9s,baz=140,slow=32						
KSAR	**Wonju Array Be**	**75.28**	**316**	P	**P**	**03 23 07.5**	**+2.8**
R11A	**Troy Canyon, C**	**75.66**	**44**	⇓P	**P**	**03 23 07.1**	**+0.1**
	baz=76						
WVOR	**Wild Horse Val**	**75.96**	**39**	*e*P	**P**	**03 23 08.1**	**-0.5**
	3.7nm,1.0s						
TUC	**Tucson**	**76.11**	**51**	*e*P	**P**	**03 23 09.6**	**0.0**
	16nm,1.7s						
I07A	**Izee**	**76.40**	**37**	*e*P	**P**	**03 23 11.6**	**+0.6**
	11nm,1.4s						
J08A	**Circle Bar Ran**	**76.59**	**38**	*e*P	**P**	**03 23 12.1**	**-0.1**
	8.2nm,1.3s						
X16A	**Lo Mia Camp, P**	**76.60**	**49**	⇓P	**P**	**03 23 13.4**	**+0.9**
	baz=77						
CCUT	**Cedar City**	**76.75**	**45**	*e*P	**P**	**03 23 14.7**	**+1.4**
	14nm,1.9s						
ARUT	**Antelope Range**	**76.82**	**45**	*e*P	**P**	**03 23 12.7**	**-1.0**
	78nm,1.0s						
U15A	**North Rim**	**76.95**	**47**	⇓P	**P**	**03 23 14.8**	**+0.3**
	baz=77						
ELK	**Elko**	**77.15**	**42**	*e*P	**P**	**03 23 16.5**	**+1.0**
	3.5nm,1.0s						
G08A	**Pilot Rock**	**77.42**	**36**	*e*P	**P**	**03 23 17.1**	**+0.4**
	44nm,2.5s						
220A	**Playas Peak, P**	**77.64**	**52**	⇓P	**P**	**03 23 18.2**	**-0.1**
	baz=78						
120A	**U Bar Ranch, L**	**77.84**	**52**	⇑P	**P**	**03 23 19.7**	**+0.3**
	baz=78						
MVU	**Marysvale**	**78.02**	**45**	*e*P	**P**	**03 23 21.9**	**+1.5**
	7.7nm,1.3s						
Z20A	**Nine Sixteen R**	**78.12**	**51**	⇓P	**P**	**03 23 21.4**	**+0.4**
	baz=78						
MFID	**Camas Ranch**	**78.22**	**39**	⇑P	**P**	**03 23 22.3**	**+1.1**
	baz=78						
221A	**Mesquite Ranch**	**78.26**	**52**	⇑P	**P**	**03 23 22.1**	**+0.4**
	baz=78						
DUG	**Dugway**	**78.45**	**43**	*e*P	**P**	**03 23 22.9**	**+0.2**
	4.3nm,1.0s						
DUG	**Dugway**	**78.45**	**43**	⇑P	**P**	**03 23 23.6**	**+1.0**
	baz=79						
Y20A	**Horse Springs,**	**78.63**	**50**	⇑P	**P**	**03 23 24.4**	**+0.5**
	baz=79						
X20A	**Quemado**	**78.82**	**50**	⇑P	**P**	**03 23 25.1**	**+0.2**
	baz=79						
222A	**Williams Famil**	**78.82**	**53**	⇑P	**P**	**03 23 24.9**	**+0.1**
	baz=79						
Z21A	**St. Cloud Mine**	**78.90**	**51**	⇑P	**P**	**03 23 25.4**	**+0.1**
	baz=79						
Q16A	**Castle Valley**	**78.93**	**45**	⇑P	**P**	**03 23 26.0**	**+0.6**
	baz=79						
W20A	**Ramah**	**79.07**	**49**	⇓P	**P**	**03 23 26.8**	**+0.5**
	baz=79						
TMUT	**Trail Mountain**	**79.09**	**45**	*e*P	**P**	**03 23 26.6**	**+0.2**
	9.1nm,1.0s						
HLID	**Hailey**	**79.17**	**40**	*e*P	**P**	**03 23 26.5**	**-0.1**
	7.0nm,1.1s						
HLID	**Hailey**	**79.17**	**40**	⇑P	**P**	**03 23 27.2**	**+0.7**
	baz=80						
Y21A	**Point of Rocks**	**79.20**	**51**	⇑P	**P**	**03 23 27.2**	**+0.2**
	baz=79						
X21A	**Alamocita Cree**	**79.30**	**50**	⇓P	**P**	**03 23 28.0**	**+0.4**
	baz=80						
NJ2	**Nanjing**	**79.33**	**307**	*e*P	**P**		
NJ2				AMB	AMB	**03 23 28.3**	**+0.8**
	comp=Z,10.0nm,1.0s						
Z22A	**Elephant Butte**	**79.41**	**52**	⇑P	**P**	**03 23 28.7**	**+0.6**
	baz=80						
SRU	**San Rafael**	**79.46**	**45**	*e*P	**P**	**03 23 29.3**	**+1.0**
	12nm,1.4s						
JLU	**Jordanelle**	**79.56**	**43**	*e*P	**P**	**03 23 29.5**	**+0.7**
	59nm,2.6s						
U20A	**Newcomb**	**79.61**	**48**	⇑P	**P**	**03 23 29.5**	**+0.4**
	baz=80						
LAZ	**Ladron**	**79.77**	**50**	*e*P	**P**	**03 23 28.5**	**-1.5**
	6.3nm,1.6s						
324A	**Moseley Ranch,**	**79.80**	**54**	⇓P	**P**	**03 23 30.2**	**-0.1**
	baz=80						
425A	**Indio Mountain**	**79.93**	**55**	⇓P	**P**	**03 23 30.8**	**-0.1**
	baz=80						
224A	**Cornudas Mount**	**80.03**	**53**	⇓P	**P**	**03 23 31.8**	**+0.3**
	baz=80						
626A	**Big Bend Ranch**	**80.12**	**56**	⇑P	**P**	**03 23 32.0**	**+0.1**
	baz=80						
PV09	**Paradox Valley**	**80.14**	**46**	*e*P	**P**	**03 23 33.2**	**+1.1**
CN2	**Changchun**	**80.17**	**320**	*e*P	**P**	**03 23 32.7**	**+1.0**
CN2				*es*P	**sP**	**03 23 47.0**	**+0.2**
325A	**Bean Ranch, Si**	**80.17**	**54**	⇓P	**P**	**03 23 32.2**	**-0.1**
	baz=80						
U21A	**Nageezi**	**80.26**	**48**	⇓P	**P**	**03 23 33.2**	**+0.5**
	baz=80						
MCK	**McKinley**	**80.31**	**11**	*e*P	**P**	**03 23 31.9**	**-0.2**
	185nm,2.6s						
124A	**Stringfield Ra**	**80.33**	**53**	⇑P	**P**	**03 23 33.0**	**-0.2**
	baz=80						
526A	**Mary Lane Ranc**	**80.36**	**56**	⇓P	**P**	**03 23 33.3**	**0.0**
	baz=80						
PV01	**Paradox Valley**	**80.37**	**47**	*e*P	**P**	**03 23 31.2**	**-2.0**
	1μm,1.5s						
S20A	**Disappointment**	**80.38**	**47**	⇑P	**P**	**03 23 33.6**	**+0.2**
	baz=81						
TXAR	**Lajitas Array**	**80.42**	**56**	P	**P**	**03 23 32.7**	**-0.9**
TXAR	**Lajitas Array**	**80.42**	**56**	P	**P**	**03 23 32.7**	**-0.9**
	1.8nm,1.1s,baz=212,slow=4.4,SNR=10						
ANMO	**Albuquerque**	**80.50**	**50**	*e*P	**P**	**03 23 33.5**	**-0.5**
	51nm,2.6s						
R20A	**Redvale**	**80.53**	**47**	⇓P	**P**	**03 23 34.6**	**+0.5**
	baz=81						
V22A	**San Miguel Ran**	**80.58**	**49**	⇓P	**P**	**03 23 34.3**	**-0.2**
	baz=81						
T21A	**Navajo Lake**	**80.60**	**48**	⇑P	**P**	**03 23 34.9**	**+0.4**
	baz=81						
426A	**McDonald Obser**	**80.64**	**55**	⇓P	**P**	**03 23 34.4**	**-0.5**
	baz=81,SNR=7.5						
Z24A	**Sheeppen Canyo**	**80.66**	**52**	⇑P	**P**	**03 23 35.1**	**+0.2**
	baz=81						
627A	**Terlingua Ranc**	**80.69**	**56**	⇑P	**P**	**03 23 34.3**	**-0.7**
	baz=81,SNR=5.3						
S21A	**Coal Bank Pass**	**80.71**	**47**	⇓P	**P**	**03 23 35.6**	**+0.4**
	baz=81						
527A	**Woodward Ranch**	**80.77**	**56**	⇑P	**P**	**03 23 35.1**	**-0.4**
	baz=81						
MCMT	**McKenzie Canyo**	**80.78**	**39**	*e*P	**P**	**03 23 35.7**	**+0.3**
	1.3nm,1.0s						
W23A	**Werner Place,**	**80.82**	**50**	⇓P	**P**	**03 23 36.0**	**+0.2**
	baz=81						
Y24A	**Capitan**	**80.85**	**52**	⇓P	**P**	**03 23 35.7**	**-0.2**
	baz=81						
Q20A	**Ridgley Place,**	**80.93**	**46**	⇓P	**P**	**03 23 36.4**	**+0.2**
	baz=81						
125A	**Gardner Draw,**	**80.93**	**53**	⇑P	**P**	**03 23 35.8**	**-0.5**
	baz=81						
326A	**Caldwell Ranch**	**80.93**	**54**	⇑P	**P**	**03 23 35.8**	**-0.4**
	baz=81						
O19A	**Miners Draw (B**	**80.97**	**44**	⇑P	**P**	**03 23 36.9**	**+0.5**
	baz=81						
GDL2	**Guadalupe Moun**	**80.98**	**53**	*e*P	**P**	**03 23 36.2**	**-0.3**
RRI2	**Red Ridge**	**80.99**	**41**	*e*P	**P**	**03 23 36.0**	**-0.5**
	10.0nm,1.2s						
V23A	**Ortiz Mt. (NFS**	**81.05**	**50**	⇑P	**P**	**03 23 37.6**	**+0.7**
	baz=81						
T22A	**Edith**	**81.06**	**48**	⇓P	**P**	**03 23 37.9**	**+0.8**
	baz=81						
226B	**Tecolote Peak,**	**81.08**	**54**	⇓P	**P**	**03 23 36.3**	**-0.8**
	baz=81,SNR=5.9						
628A	**Black Gap, Mar**	**81.10**	**56**	⇑P	**P**	**03 23 36.7**	**-0.4**
	baz=81						
P20A	**De Beque**	**81.11**	**45**	⇓P	**P**	**03 23 37.9**	**+0.8**
	baz=81						
Z25A	**Roswell**	**81.13**	**52**	⇓P	**P**	**03 23 37.8**	**+0.4**
	baz=81						
R21A	**Cimarron**	**81.19**	**47**	⇓P	**P**	**03 23 38.4**	**+0.7**
	baz=81						
427A	**Hayter Ranch,**	**81.21**	**55**	⇓P	**P**	**03 23 38.0**	**+0.2**
	baz=81						
U23A	**El Rito**	**81.28**	**49**	⇓P	**P**	**03 23 38.5**	**+0.3**
	baz=82						
TPAW	**Teton Pass**	**81.30**	**41**	*e*P	**P**	**03 23 38.0**	**-0.2**
	22nm,1.7s						
W24A	**Lazy 6 Ranch,**	**81.40**	**50**	⇓P	**P**	**03 23 39.0**	**+0.2**
	baz=82						
SNOW	**Snow King Moun**	**81.41**	**41**	*e*P	**P**	**03 23 39.1**	**+0.4**
	6.4nm,1.0s						
Y25A	**Mesa, Roswell**	**81.41**	**52**	⇑P	**P**	**03 23 39.0**	**+0.2**
	baz=82						
S22A	**4UR Ranch, Cre**	**81.43**	**48**	⇓P	**P**	**03 23 39.5**	**+0.5**
	baz=82						
528A	**Cox Ranch, San**	**81.44**	**56**	⇑P	**P**	**03 23 39.4**	**+0.4**
	baz=82						
IMW	**Indian Meadow**	**81.50**	**41**	*e*P	**P**	**03 23 39.1**	**-0.2**
	4.7nm,1.0s						
COLA	**College**	**81.55**	**11**	*e*P	**P**	**03 23 39.1**	**+0.5**
	18nm,0.8s						
MOOW	**Moose Ponds**	**81.55**	**41**	*e*P	**P**	**03 23 39.5**	**+0.1**
	9.9nm,1.6s						
LOHW	**Long Hollow**	**81.58**	**41**	*e*P	**P**	**03 23 40.4**	**+0.8**
	16nm,1.9s						
CHMT	**Chamberlain Mo**	**81.63**	**37**	*e*P	**P**	**03 23 41.7**	**+2.0**
ILAR	**Eielson Array**	**81.64**	**11**	P	**P**	**03 23 39.2**	**+0.1**
ILAR	**Eielson Array**	**81.64**	**11**	P	**P**	**03 23 39.2**	**+0.1**
	0.8nm,0.6s,baz=234,slow=6.3,SNR=23						
L19A	**Farson**	**81.66**	**43**	⇑P	**P**	**03 23 40.4**	**+0.4**
	baz=82						
R22A	**Saguache, Gunn**	**81.69**	**47**	⇓P	**P**	**03 23 40.7**	**+0.3**
	baz=82						
T23A	**Casias Ranch,**	**81.70**	**48**	⇑P	**P**	**03 23 40.7**	**+0.3**
	baz=82						
428A	**Kincaid Ranch,**	**81.73**	**55**	⇓P	**P**	**03 23 40.2**	**-0.3**
	baz=82						
FLWY	**Flagg Ranch**	**81.74**	**40**	*e*P	**P**	**03 23 41.1**	**+0.7**
	22nm,1.5s						
P21A	**Newcastle**	**81.77**	**46**	⇓P	**P**	**03 23 41.1**	**+0.4**
	baz=82						
N20A	**Spence Gulch,**	**81.80**	**44**	⇓P	**P**	**03 23 41.5**	**+0.6**
	baz=82						
PDAR	**Pinedale Array**	**81.84**	**42**	P	**P**	**03 23 39.9**	**-1.2**
PDAR	**Pinedale Array**	**81.84**	**42**	P	**P**	**03 23 39.9**	**-1.2**
	1.1nm,0.8s,baz=199,slow=4.1,SNR=9.4						
Q22A	**Crested Butte,**	**81.86**	**46**	⇑P	**P**	**03 23 41.3**	**0.0**
	baz=82,SNR=6.5						
H17A	**Grant Village**	**81.97**	**40**	⇑P	**P**	**03 23 41.9**	**+0.2**
	baz=82						
W25A	**X Bar L Ranch,**	**82.11**	**51**	⇑P	**P**	**03 23 42.2**	**-0.2**
	baz=82						
T24B	**San Luis**	**82.18**	**49**	⇓P	**P**	**03 23 42.9**	**-0.2**
	baz=82						
V25A	**Rancho No Teng**	**82.24**	**50**	⇓P	**P**	**03 23 43.0**	**-0.3**
	baz=82						
L20A	**Wamsutter**	**82.29**	**43**	⇑P	**P**	**03 23 43.4**	**+0.1**
	baz=83,SNR=6.5						
429A	**Davenport Ranc**	**82.33**	**56**	⇑P	**P**	**03 23 43.0**	**-0.6**
	baz=82						
R23A	**Moffat**	**82.34**	**47**	⇑P	**P**	**03 23 43.5**	**-0.3**
	baz=83						
J19A	**Crowheart**	**82.40**	**42**	⇑P	**P**	**03 23 43.9**	**0.0**
	baz=83						
S24A	**Houchin Ranch,**	**82.55**	**48**	⇑P	**P**	**03 23 44.9**	**0.0**
	baz=83						
Y27A	**Causey**	**82.56**	**52**	⇓P	**P**	**03 23 44.6**	**-0.2**
	baz=83						
329A	**Wagon Wheel Ra**	**82.58**	**55**	⇑P	**P**	**03 23 44.4**	**-0.5**
	baz=83						
530A	**J-C Ranch, Com**	**82.60**	**56**	⇑P	**P**	**03 23 44.2**	**-0.8**
	baz=83						
128A	**Castleberry Fa**	**82.61**	**54**	⇓P	**P**	**03 23 46.2**	**+1.2**
	baz=83						
U25A	**Circle Dot Ran**	**82.62**	**50**	⇑P	**P**	**03 23 45.1**	**-0.1**
	baz=83						
O22A	**Kremmling**	**82.68**	**45**	⇓P	**P**	**03 23 45.3**	**-0.2**
	baz=83,SNR=5.5						
I19A	**Meeteetse**	**82.80**	**41**	⇑P	**P**	**03 23 46.2**	**+0.3**
	baz=83						
P23A	**Jefferson**	**82.83**	**46**	⇑P	**P**	**03 23 46.4**	**+0.1**
	baz=83						
V26A	**Tequesquite Ra**	**82.84**	**50**	⇓P	**P**	**03 23 46.0**	**-0.2**
	baz=83						
R24A	**Sanders Place,**	**82.87**	**48**	⇓P	**P**	**03 23 45.9**	**-0.5**
	baz=83,SNR=5.5						
RWWY	**Rawlins**	**82.90**	**44**	*e*P	**P**	**03 23 46.1**	**-0.5**
	16nm,1.1s						
MSTX	**Muleshoe**	**82.90**	**52**	*e*P	**P**	**03 23 45.1**	**-1.4**
MSTX	**Muleshoe**	**82.90**	**52**	⇑P	**P**	**03 23 46.6**	**0.0**
	baz=83						
430A	**Baggett Ranch,**	**82.91**	**56**	⇑P	**P**	**03 23 46.0**	**-0.7**
	baz=83						
T25A	**Trinidad**	**82.92**	**49**	⇑P	**P**	**03 23 46.4**	**-0.4**
	baz=83						
Z28A	**Tucker Farm, M**	**82.93**	**53**	⇓P	**P**	**03 23 46.2**	**-0.5**
	baz=83						
631A	**Perdido Creek**	**82.95**	**57**	⇑P	**P**	**03 23 46.3**	**-0.5**
	baz=83						
N22A	**Wattsberg Ran**	**83.02**	**45**	⇓P	**P**	**03 23 47.4**	**+0.1**
	baz=83						
J20A	**Shoshoni**	**83.07**	**42**	⇑P	**P**	**03 23 47.5**	**+0.3**
	baz=83						
129A	**Stewart Farms,**	**83.09**	**54**	⇑P	**P**	**03 23 47.2**	**-0.3**
	baz=83						
W27A	**Bowe Ranch, En**	**83.10**	**51**	⇓P	**P**	**03 23 46.8**	**-0.8**
	baz=83						
H19A	**Powell**	**83.10**	**41**	⇓P	**P**	**03 23 47.8**	**+0.4**
	baz=83,SNR=5.0						
U26A	**Atchley Ranch,**	**83.11**	**50**	⇓P	**P**	**03 23 47.5**	**-0.3**
	baz=83						
S25A	**Robets Cordova**	**83.12**	**48**	⇓P	**P**	**03 23 47.2**	**-0.5**
	baz=83,SNR=6.4						
O23A	**Lake Granby, G**	**83.13**	**46**	⇓P	**P**	**03 23 47.4**	**-0.5**
	baz=83						
Q24A	**Divide**	**83.14**	**47**	⇑P	**P**	**03 23 47.5**	**-0.5**
	baz=83,SNR=6.1						
ISCO	**Idaho Springs**	**83.17**	**46**	*e*P	**P**	**03 23 48.3**	**+0.2**
	26nm,2.2s						
ISCO	**Idaho Springs**	**83.17**	**46**	⇑P	**P**	**03 23 47.8**	**-0.3**
	baz=83						
M22A	**Cedar Creek Ra**	**83.18**	**44**	⇓P	**P**	**03 23 48.0**	**-0.1**
	baz=84						
531A	**Rocksprings**	**83.24**	**57**	⇑P	**P**	**03 23 47.6**	**-0.8**
	baz=83						
K21A	**Alcova**	**83.29**	**43**	⇓P	**P**	**03 23 48.4**	**-0.2**
	baz=84						
I20A	**Worland**	**83.31**	**41**	⇑P	**P**	**03 23 48.4**	**-0.1**
	baz=84,SNR=5.6						
N23A	**Red Feather La**	**83.41**	**45**	⇓P	**P**	**03 23 49.1**	**-0.1**
	baz=84						
R25A	**Fountain Ranch**	**83.42**	**48**	⇓P	**P**	**03 23 48.7**	**-0.6**
	baz=84						
Z29A	**Hungry Hill Ra**	**83.45**	**53**	⇓P	**P**	**03 23 48.2**	**-1.2**
	baz=84		

K23A	**Bowen Ranch, D**	**84.42**	**43**	⇓P		**P**	**03 23 54.2**	**-0.1**
	baz=85								
E20A	**Meyer Farm, Mu**	**84.49**	**39**	⇓P		**P**	**03 23 54.9**	**+0.5**
	baz=85								
C19A	**Slack Wire Ran**	**84.51**	**38**	⇑P		**P**	**03 23 54.7**	**+0.2**
	baz=85								
R27A	**Eads**	**84.55**	**48**	⇓P		**P**	**03 23 54.7**	**-0.2**
	baz=85								
232A	**Coleman**	**84.58**	**55**	⇓P		**P**	**03 23 54.4**	**-0.7**
	baz=85								
T28A	**Walsh**	**84.60**	**50**	⇑P		**P**	**03 23 54.5**	**-0.7**
	baz=85								
P26A	**Davis Ranch, A**	**84.66**	**47**	⇓P		**P**	**03 23 55.5**	**-0.1**
	baz=85								
Z31A	**Sharp Cattle R**	**84.69**	**54**	⇓P		**P**	**03 23 54.8**	**-0.8**
	baz=85								
H22A	**Clearmont**	**84.74**	**41**	⇑P		**P**	**03 23 56.4**	**+0.6**
	baz=85								
D20A	**Manuel Ranch,**	**84.76**	**39**	⇑P		**P**	**03 23 56.2**	**+0.5**
	baz=85								
Y31A	**Rekieta Farm,**	**84.83**	**53**	⇓P		**P**	**03 23 56.1**	**-0.3**
	baz=85								
ABTX	**Abilene, Hawle**	**84.84**	**55**	*e*P		**P**	**03 23 54.8**	**-1.6**
ABTX	**Abilene, Hawle**	**84.84**	**55**	⇓P		**P**	**03 23 55.9**	**-0.5**
	baz=85								
S28A	**Manter**	**84.94**	**49**	⇓P		**P**	**03 23 56.6**	**-0.3**
	baz=85								
KSCO	**Kaye Shedlock'**	**84.96**	**48**	⇑P		**P**	**03 23 56.9**	**-0.1**
	baz=85								
C20A	**Veseth Ranch,**	**85.13**	**38**	⇓P		**P**	**03 23 58.0**	**+0.4**
	baz=85								
Z32A	**Haskell**	**85.21**	**54**	⇓P		**P**	**03 23 57.7**	**-0.6**
	baz=85								
A19A	**Klindworth Far**	**85.26**	**37**	⇓P		**P**	**03 23 58.1**	**-0.1**
	baz=86								
D21A	**La Casta Ranch**	**85.44**	**39**	⇑P		**P**	**03 23 59.5**	**+0.3**
	baz=86								
B20A	**Solberg Farm,**	**85.45**	**38**	⇑P		**P**	**03 23 59.4**	**+0.2**
	baz=86								
Y32A	**R-V Farms, Ver**	**85.48**	**53**	⇑P		**P**	**03 23 58.9**	**-0.7**
	baz=86								
G23A	**Biddle**	**85.62**	**41**	⇓P		**P**	**03 24 00.3**	**+0.1**
	baz=86								
A20A	**Cobblestone Ra**	**85.71**	**37**	⇓P		**P**	**03 24 00.5**	**+0.1**
	baz=86								
V31A	**Spring Creek L**	**85.80**	**52**	⇓P		**P**	**03 24 00.6**	**-0.6**
	baz=86								
F23A	**Volborg**	**85.84**	**41**	⇓P		**P**	**03 24 01.1**	**-0.1**
	baz=86								
H24A	**Dirks Ranch, A**	**85.97**	**42**	⇑P		**P**	**03 24 01.7**	**-0.2**
	baz=86								
D22A	**Cohagen**	**85.98**	**39**	⇑P		**P**	**03 24 01.8**	**+0.1**
	baz=86								
K26A	**Motz Farm, Whi**	**86.04**	**44**	⇓P		**P**	**03 24 02.0**	**-0.2**
	baz=86								
B21A	**Ellsworth Farm**	**86.04**	**38**	⇑P		**P**	**03 24 03.0**	**+0.9**
	baz=86								
H25A	**Fruitdale**	**86.54**	**42**	⇑P		**P**	**03 24 05.0**	**+0.4**
	baz=87								
J27A	**Elkhorn Farm,**	**87.05**	**44**	⇓P		**P**	**03 24 06.9**	**-0.3**
	baz=87								
GYA	**Guiyang**	**87.30**	**298**	*e*P		**P**	**03 24 10.0**	**+1.2**
GYA					AMB	AMB			
	comp=Z,10.0nm,1.0s								
HHC	**Hu-ho-hao-te**	**88.15**	**313**	*e*P		**P**	**03 24 11.4**	**-1.1**
HHC					pP	**pP**	**03 24 22.0**	**-1.7**
HHC					sP	**sP**	**03 24 26.0**	**-1.7**
HHC					SKS	**SKSac**	**03 34 35.1**	**-3.6**
HHC					S	**S**	**03 34 52.0**	**-2.5**
HHC					sS	**sS**	**03 35 08.7**	**-4.3**
HHC					SS	**SS**	**03 40 43.5**	**-0.6**
HHC					AMB	AMB			
	comp=Z,120nm,6.3s								
CD2	**Chengdu**	**91.03**	**302**	P		**P**	**03 24 26.6**	**+0.4**
CD2					AMB	AMB			
	comp=Z,10.0nm,0.5s								
LZH	**Lanzhou**	**92.40**	**307**	*e*P		**P**	**03 24 32.9**	**+0.3**
LZH					AMB	AMB			
	comp=Z,15nm,1.0s								
SONM	**Songino Array**	**93.93**	**318**	LR		LR	04 06 54.9		
	comp=Z,18nm,28.6s,baz=126,slow=35								
KURK	**Kurchatov**	**112.22**	**319**	*e*PKP		**PKiKP**	**03 29 59.4**	**+2.5**
KSH	**Kashi**	**114.64**	**307**	*e*PKP		PKPdf	03 30 02.0	-0.1
KSH				*es*PKP			03 30 17.2		
KSH				PP		PP	03 31 07.4	+7.5
KSH				PKS		**PKSdf**	**03 33 40.7**	**+1.8**
KSH				SKS		**SKSdf**	**03 37 10.3**	**-1.6**
KSH				SKKS		**SKKSac**	**03 37 56.4**	**-2.6**
KSH				SS		**SS**	**03 46 57.2**	**+5.4**
TKM2	**Tokmak 2**	**114.80**	**311**	*e*PKP		PKPdf	03 30 02.6	+0.1
ARCES	**ARCESS Array B**	**123.67**	**352**	PKP		**PKPdf**	**03 30 20.1**	**+1.7**
ARCES	**ARCESS Array B**	**123.67**	**352**	PKP		**PKPdf**	**03 30 20.1**	**+1.7**
	2.3nm,0.7s,baz=24,slow=3.3,SNR=4.4								
AKASG	**Malin Array Be**	**139.37**	**338**	PKP		**PKPdf**	**03 30 46.4**	**-2.2**
AKASG	**Malin Array Be**	**139.37**	**338**	PKP		**PKPdf**	**03 30 46.4**	**-2.2**
	1.2nm,0.6s,baz=23,slow=2.3,SNR=6.6								
KIEV	**Kiev**	**139.38**	**338**	*e*PKPdf		**PKPdf**	**03 30 49.9**	**+1.3**
CLL	**Collm**	**142.88**	**353**	*i* PKPdf		**PKPdf**	**03 30 54.0**	**-0.8**
	comp=Z,11nm,1.4s								
BRG	**Berggiesshubel**	**143.18**	**352**	*e*P		**PKPdf**	**03 30 56.2**	**+0.8**
	comp=Z,11nm,1.7s								
BUR08	**Bucovina Ar. S**	**143.38**	**338**	*e*PKPdf		PKPbc	03 30 54.4	+1.2
BURAR	**Bucovina Array**	**143.40**	**338**	⇑*i*P		**PKPdf**	**03 31 00.5**	**+4.5**
TRPA	**Tarpa**	**143.84**	**341**	⇑*i*P		PKPbc	03 30 55.4	+1.1
VRAC	**Vranov**	**144.26**	**348**	PKP		**PKPdf**	**03 30 56.6**	**-0.8**
VRAC	**Vranov**	**144.26**	**348**	PKP		**PKPdf**	**03 30 56.6**	**-0.8**
	comp=Z,4.4nm,1.1s,baz=238,slow=1.3,SNR=5.5								
VRI	**Vrincioaia**	**144.28**	**335**	⇑*i*P		**PKPdf**	**03 30 56.8**	**-0.7**
PLOR	**Plostina**	**144.32**	**335**	⇑*i*P		**PKPdf**	**03 30 57.8**	**+0.2**
GRFO	**Grafenberg**	**144.67**	**354**	*e*PKPdf		**PKPdf**	**03 30 57.5**	**-0.5**
TIRR	**Tirgusor**	**144.67**	**332**	⇓*i*P		**PKPdf**	**03 30 57.7**	**-0.5**
TIRR	**Tirgusor**	**144.67**	**332**	*e*PKPdf		PKPbc	03 30 57.6	+0.5
TLB	**Topalu**	**144.74**	**333**	⇑*i*P		**PKPdf**	**03 30 58.4**	**+0.1**
PSZ	**Piszkesteto**	**144.80**	**344**	*e*PKPdf		**PKPdf**	**03 30 58.2**	**-0.2**
MLR	**Muntele Rosu**	**144.90**	**336**	⇑*i*P		**PKPdf**	**03 30 58.8**	**0.0**
WLF	**Walferdange**	**144.93**	**0**	PKP		**PKPdf**	**03 30 58.3**	**-0.2**
WLF	**Walferdange**	**144.93**	**0**	*e*PKPdf		**PKPdf**	**03 30 58.5**	**0.0**
KHC	**Kasperske Hory**	**144.94**	**352**	*e*PKPdf		**PKPdf**	**03 30 58.2**	**-0.4**
DRGR		**144.97**	**340**	⇑*i*P		**PKPdf**	**03 30 58.5**	**-0.3**
GERES	**GERESS Array B**	**145.20**	**351**	PKPbc		**PKPbc**	**03 30 58.7**	**-0.1**
GERES	**GERESS Array B**	**145.20**	**351**	PKPbc		**PKPbc**	**03 30 58.7**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=45,slow=4.0,SNR=9.7								
BR131	**Keskin Array S**	**145.23**	**321**	*e*PKPbc		**PKPbc**	**03 30 59.2**	**0.0**
BRTR	**Keskin Array B**	**145.23**	**321**	PKPbc		**PKPdf**	**03 30 59.6**	**+0.1**
BRTR	**Keskin Array B**	**145.23**	**321**	PKPbc		**PKPdf**	**03 30 59.6**	**+0.1**
	comp=Z,4.5nm,0.7s,baz=100,slow=2.1,SNR=35								
VOIR		**145.30**	**336**	⇓*i*P		**PKPdf**	**03 30 59.8**	**+0.4**
SULR		**145.44**	**334**	⇑*i*P		**PKPbc**	**03 30 59.4**	**-0.1**
ARR	**Arges**	**145.51**	**337**	⇓*i*P		**PKPab**	**03 31 01.2**	**+1.1**
KMBO	**Kilima Mbogo**	**145.58**	**246**	*e*PKPdf		**PKPdf**	**03 30 59.3**	**-1.7**
KMBO				PKPbc		**PKPbc**	**03 30 59.5**	**-1.5**
KMBO	**Kilima Mbogo**	**145.58**	**246**	PKPbc		**PKPdf**	**03 30 59.5**	**-1.5**
	comp=Z,2.7nm,0.9s,baz=231,slow=23,SNR=4.8								
ANTO	**Ankara**	**145.64**	**322**	⇑*i*P		**PKPdf**	**03 31 00.2**	**+0.1**
ANTO	**Ankara**	**145.64**	**322**	*e*PKPbc		**PKPdf**	**03 31 00.3**	**+0.1**
CONA	**Conrad Observa**	**145.72**	**348**	⇑*ip*PKPdf		**PKPab**	**03 31 02.0**	**+1.2**
	comp=Z,12nm,1.4s								
STU	**Stuttgart**	**145.74**	**357**	*e*PKPbc		**PKPab**	**03 31 02.0**	**+1.3**
MOA	**Molln**	**146.08**	**350**	⇑*ip*PKPdf		**PKPab**	**03 31 02.8**	**+0.8**
	comp=Z,8.3nm,1.0s								
BFO	**Black Forest**	**146.22**	**357**	*e*PKPbc		**PKPbc**	**03 31 01.5**	**-0.3**
BZS	**Buzias**	**146.37**	**340**	⇓*i*P		**PKPab**	**03 31 02.8**	**-0.4**
ECH	**Echery**	**146.37**	**359**	*e*PKPbc		**PKPab**	**03 31 02.8**	**-0.4**
ARSA	**Arzberg**	**146.44**	**349**	⇑*ip*PKPbc		**PKPab**	**03 31 05.0**	**+1.6**
	comp=Z,6.2nm,1.3s								
RETA	**Reutte**	**146.89**	**354**	⇓*ip*PKPdf		**PKPbc**	**03 31 04.2**	**+0.3**
	comp=Z,12nm,1.2s								
KOGS	**Kog**	**147.06**	**347**	*e*PKPdf		**PKPdf**	**03 31 03.1**	**+0.9**
SOKA	**Soboth**	**147.08**	**349**	⇓*ip*PKPdf		**PKPbc**	**03 31 04.1**	**-0.4**
	comp=Z,13nm,1.2s								
PERS	**Pernice**	**147.10**	**349**	*e*PKPdf		**PKPdf**	**03 31 03.1**	**+0.7**
DAVA	**Damuels**	**147.17**	**355**	⇑*ip*PKPdf		**PKPbc**	**03 31 04.5**	**-0.3**
	comp=Z,15nm,1.0s								
FETA	**Feichten**	**147.36**	**354**	⇑*is*PKPdf		**PKPbc**	**03 31 05.9**	**+0.6**
	comp=Z,8.2nm,1.2s								
ABTA	**Abfaltersbach**	**147.42**	**352**	⇑*is*PKPdf		**PKPbc**	**03 31 05.9**	**+0.5**
	comp=Z,8.2nm,0.9s								
DAVOX	**Davos/Dischmat**	**147.67**	**355**	PKPbc		**PKPbc**	**03 31 05.9**	**-0.3**
DAVOX	**Davos/Dischmat**	**147.67**	**355**	PKPbc		**PKPbc**	**03 31 05.9**	**-0.3**
	comp=Z,6.8nm,0.9s,baz=303,slow=3.6,SNR=5.9								
TUE	**Stuetta**	**148.02**	**356**	*e*PKPbc		**PKPbc**	**03 31 06.9**	**-0.3**
CSS	**Prodhromos**	**148.22**	**315**	*e*PKPbc		**PKPbc**	**03 31 09.2**	**+1.3**
BNI	**Bardonecchia**	**149.54**	**359**	*e*PKPbc		**PKPbc**	**03 31 12.6**	**+1.5**

DJA ***11*** *03:12:06.3±0.7, 19°S×16°16′E±°, h10km, M5.8/7, mB6.2/7, mb5.7/7, Mw(mB)5.8/7*

IDC ***11*** *03:12:12.0±0.4, 22°03S×170°27E, h0km, mb5.4/29, mb1 5.5/31, mb1mx5.5/32, mbtmp5.4/31, ML5.4/2, MS5.5/13, Ms1 5.5/13, ms1mx5.4/17, Error ellipse: s-maj=12.4km s-min=11.3km az=153.0*

SZGRF ***11*** *03:12:11.5, 22°20S×170°87E, h33km, mb5.5, Southeast of Loyalty Islands*

AUST ***11*** *03:12:13.6±2.7, 22°00S×170°23E, h4km±17km, Error ellipse: s-maj=8.0km s-min=6.8km az=71.0*

NEIC ***11*** *03:12:13.5±0.1, 22°00S×170°25E, h10km, mb5.7/86, MS5.5/140, MW5.9, MW5.9, Error ellipse: s-maj=4.6km s-min=4.3km az=146.0, Moment Tensor Solution. s24 Moment tensor: Scale 10¹⁷Nm; Mrr=0.65; Mθθ4.38; Mφφ-3.73; Mrθ3.28; Mθφ6.03; Mφr-2.00; Best double couple: Mo8.20000×10¹⁷ NP1:φ285.00000°, δ83.00000°, λ-27.00000°. NP2:φ19.00000°, δ63.00000°, λ-172.00000°. Principal axes: T 8.0700, Plg13.0000°, Azm335.0000°; N 0.3300, Plg62.0000°, Azm92.0000°; P -8.4000, Plg23.0000°, Azm238.0000°;*

ISCJB ***11*** *03:12:14.1±1.5, 22°06S±0°03×170°17E±0°03, h20km±10km, mb5.6/133, MS5.5/174 Error ellipse: s-maj=5.0km s-min=4.1km az=1.7*

MOS ***11*** *03:12:16.2±1.1, 22°02S×170°17E, h33km, mb5.7/60, MS5.5/37, Error ellipse: s-maj=8.7km s-min=8.1km az=95.4*

BJI ***11*** *03:12:17.0, 21°40S×170°53E, h32km, mB5.6/30, mb5.5/47, Ms5.7/49, Ms7 5.4/47*

GCMT ***11*** *03:12:20.5±0.1, 22°05S×169°99E, h24km, MW6.0, Moment Tensor Solution. s112, c258; s93, c132; Moment tensor: Scale 10¹⁸Nm; Mrr=0.06±.01; Mθθ0.30±.01; Mφφ-0.36±.01; Mrθ0.10±.01; Mθφ1.00±.01; Mφr-0.30±.01; Best double couple: Mo1.10000×10¹⁸ NP1:φ10.00000°, δ84.00000°, λ-166.00000°. NP2:φ278.00000°, δ76.00000°, λ-6.00000°. Principal axes: T 1.0300, Plg6.0000°, Azm143.0000°; N 0.1300, Plg75.0000°, Azm31.0000°; P -1.1600, Plg14.0000°, Azm235.0000°; Data Used: II IU CN IC G. Surface waves: sta=120, comp=269, per= 50.*

NEIC ***11*** *03:12:42.2±0.0, 21°64S×169°71E, h10km, Moment Tensor Solution. s132 Moment tensor: Scale 10¹⁷Nm; Mrr1.04; Mθθ2.84; Mφφ-3.88; Mrθ2.39; Mθφ7.73; Mφr2.26; Best double couple: Mo9.10000×10¹⁷ NP1:φ104.00000°, δ72.00000°, λ13.00000°. NP2:φ10.00000°, δ77.00000°, λ162.00000°. Principal axes: T 9.2000, Plg21.0000°, Azm326.0000°; N -0.2100, Plg67.0000°, Azm156.0000°; P -8.9800, Plg3.0000°, Azm57.0000°;*

ISC 11 03:12:17.4±0.3, 22°08S±0°04×170°24E±0°04, h35km±1km, n938, σ1°28/910, mb5.6/132, MS5.5/176, 67C-93D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.52**	**269**	*e*Pn		**Pn**	**03 13 07.8**	**-1.9**
	4μm,0.2s							
DZM				*e*LR		LR	03 13 44.8	
	5μm,0.3s							
DZM	**Mont Dzumac**	**3.52**	**269**	*e*Pn		**Pn**	**03 13 07.8**	**-1.9**
DZM				Sn		**Sn**	**03 13 45.9**	**-4.3**
DZM	**Mont Dzumac**	**3.52**	**269**	Pn		**Pn**	**03 13 08.0**	**-1.8**
	901nm,0.3s,baz=86,slow=19,SNR=3496							
DZM				Sn		**Sn**	**03 13 45.9**	**-4.3**
	589nm,0.3s,baz=123,slow=17,SNR=7.6							
DZM				LR		LR	03 14 20.6	
	comp=Z,50μm,20.1s,baz=86,slow=36							
NFK	**Norfolk Island**	**7.24**	**196**	⇑P		**Pn**	**03 13 59.3**	**-1.5**
	baz=7.3,SNR=21							
MSVF	**Nonsavu**	**8.52**	**61**	Pn		Pn	03 14 23.0	+4.5
	12μm,1.4s,SNR=38							
RAO	**Raoul Island**	**12.85**	**126**	Pn		Pn	03 15 13.0	-4.6
RAO	**Raoul Island**	**12.85**	**126**	Pn		Pn	03 15 13.0	-4.6
	99nm,0.3s,baz=85,slow=22,SNR=4.0							
OUZ	**Omahuta**	**13.42**	**168**	*e*Pn		**Pn**	**03 15 26.0**	**+0.6**
	236nm,1.1s							
LHI	**Lord Howe Isla**	**13.70**	**224**	⇓P		**Pn**	**03 15 26.9**	**-2.4**
	baz=14,SNR=4.1							
HNR	**Honiara**	**15.99**	**320**	Pn		**Pn**	**03 16 00.8**	**+1.0**
HNR	**Honiara**	**15.99**	**320**	Pn		**Pn**	**03 16 00.8**	**+1.0**
	43nm,0.3s,baz=194,slow=2.0,SNR=6.6							
HNR				LR		LR	03 20 51.3	
	comp=Z,9μm,20.1s,baz=145,slow=32							
URZ	**Urewera**	**17.18**	**161**	*e*P		**P**	**03 16 16.1**	**+0.1**
	369nm,1.0s							
URZ				Sn		**Sn**	**03 19 23.2**	**-1.5**
URZ	**Urewera**	**17.18**	**161**	P		**Pn**	**03 16 15.2**	**+0.4**
	4.2nm,0.3s,baz=20,slow=4.6,SNR=33							
URZ				Sn		**Sn**	**03 19 23.2**	**-1.5**
	1.1nm,0.3s,baz=91,slow=18,SNR=6.6							
URZ				LR		LR	03 20 25.7	
	comp=Z,14μm,20.0s,baz=137,slow=29							
EIDS	**Eidsvold**	**17.84**	**256**	*e*P		**Pn**	**03 16 22.4**	**-0.6**
	509nm,1.3s							
EIDS	**Eidsvold**	**17.84**	**256**	P		**Pn**	**03 16 22.5**	**-0.6**
	baz=18,SNR=59							
BKZ	**Black Stump Fm**	**17.86**	**164**	*e*P		**P**	**03 16 25.0**	**+1.4**
	4μm,2.6s							
ARMA	**Armidale**	**18.63**	**240**	*e*P		**Pn**	**03 16 34.3**	**+1.6**
	365nm,1.0s							
ARMA	**Armidale**	**18.63**	**240**	P		**Pn**	**03 16 34.1**	**+1.4**
	baz=19,SNR=16							
NIUE	**Niue**	**18.81**	**84**	⇓P		**Pn**	**03 16 35.3**	**+0.5**
	baz=19,SNR=5.4							
BFZ	**Birch Farm**	**19.23**	**166**	*e*P		**P**	**03 16 39.0**	**+0.3**
	448nm,1.0s							
SNZO	**South Karori**	**19.54**	**170**	*e*P		**P**	**03 16 42.3**	**+0.3**
	922nm,1.2s							
RMQ	**Roma**	**20.06**	**253**	P		Pn	03 16 49.9	+0.1
	baz=20,SNR=57							
MGCD	**Mangrove Creek**	**20.22**	**233**	P		Pn	03 16 52.0	+0.4
	baz=20,SNR=26							
KHZ	**Kahutara**	**20.47**	**173**	*e*P		**P**	**03 16 52.2**	**+0.1**
	627nm,1.0s							
RIV	**Riverview**	**20.48**	**231**	⇓P		Pn	03 16 54.7	+0.1
	baz=20							
RPZ	**Rata Peaks**	**21.59**	**178**	*e*P		**P**	**03 17 05.0**	**+0.9**
	279nm,0.8s							
RPZ	**Rata Peaks**	**21.59**	**178**	P		**P**	**03 17 04.5**	**+0.4**
	246nm,0.7s,baz=6.6,slow=5.1,SNR=48							
RPZ				LR		LR	03 24 10.5	
	comp=Z,9μm,20.8s,baz=354,slow=33							
CTA	**Charters Tower**	**22.46**	**271**	P		**P**	**03 17 15.0**	**+1.2**
CTA	**Charters Tower**	**22.46**	**271**	P		**P**	**03 17 15.0**	**+1.2**
	82nm,0.8s,baz=90,slow=13,SNR=15							
CTA				LR		LR	03 25 25.3	
	comp=Z,28μm,18.7s,baz=92,slow=35							
CTAO	**Charters Tower**	**22.46**	**271**	*e*P		**P**	**03 17 14.6**	**+0.8**
CTAO				pmax		pmax		
	comp=Z,322nm,1.0s							
CTAO				MLR		MLR		
	comp=Z,29μm,20.0s							
CTAO	**Charters Tower**	**22.46**	**271**	*e*P		**P**	**03 17 14.6**	**+0.8**
	comp=Z,322nm,1.0s							
CTAO				LR		LR		
	comp=Z,29μm,20.0s							
CNB	**Canberra Magne**	**22.51**	**230**	P		**P**	**03 17 15.7**	**+1.5**
	baz=23,SNR=99							
YNG	**Young**	**22.72**	**233**	P		**P**	**03 17 17.6**	**+1.2**
	baz=23,SNR=100							
CAN	**Canberra**	**22.77**	**230**	*e*P		**P**	**03 17 18.1**	**+1.2**
CAN				pmax		pmax		
	comp=Z,450nm,1.1s							
CAN				MLR		MLR		
	comp=Z,10μm,19.0s							
CAN	**Canberra**	**22.77**	**230**	*e*P		**P**	**03 17 18.1**	**+1.2**
	comp=Z,450nm,1.1s							
CAN				LR		LR		
	comp=Z,10μm,19.0s							
CAN	**Canberra**	**22.77**	**230**	⇓P		**P**	**03 17 18.1**	**+1.2**
	baz=23							
ODZ	**Otahua Downs**	**22.91**	**179**	*e*P		**P**	**03 17 19.9**	**+1.7**
	comp=Z,302nm,1.4s							
TARA	**Tarawa**	**23.43**	**7**	PFAKE			03 17 30.0	+6.3
TARA				LR		LR		
	comp=Z,7μm,20.0s							
MILA	**Mila**	**23.57**	**226**	⇓P		**P**	**03 17 26.2**	**+1.2**
	baz=24,SNR=30							
CMSA	**Cobar Meteorol**	**23.80**	**242**	P		**P**	**03 17 27.7**	**+0.6**
	baz=24,SNR=183							
QLP	**Quilpie**	**24.10**	**254**	P		**P**	**03 17 30.2**	**+0.2**
	baz=24,SNR=272							

RABL	**Rabaul**	**24.96**	**313**	⇑P		**P**	**03 17 38.4**	**+0.6**
	baz=25								
PMG	**Port Moresby**	**25.49**	**296**	*e*P		**P**	**03 17 42.2**	**-0.5**
	comp=Z,236nm,0.8s								
PMG				LR		LR			
	comp=Z,11μm,20.0s								
PMG	**Port Moresby**	**25.49**	**296**	P		**P**	**03 17 42.8**	**+0.2**
	comp=Z,210nm,0.9s,baz=104,slow=4.9,SNR=17								
PMG				LR		LR	03 26 40.6		
	comp=Z,12μm,18.4s,baz=251,slow=34								
TOO	**Toolangi**	**26.34**	**229**	P		**P**	**03 17 51.0**	**+0.8**
	baz=26,SNR=34								
COEN	**Coen**	**26.94**	**283**	*e*P		**P**	**03 17 55.5**	**-0.3**
	comp=Z,822nm,0.9s								
COEN	**Coen**	**26.94**	**283**	P		**P**	**03 17 56.8**	**+1.0**
	baz=27,SNR=6.5								
STKA	**Stephens Creek**	**27.26**	**243**	*e*P		**P**	**03 17 58.7**	**+0.2**
	comp=Z,31nm,0.8s								
STKA				*e*PcP		**PcP**	**03 21 18.2**	**+0.4**
STKA				*e*ScP		**ScP**	**03 25 01.6**	**+5.8**
STKA	**Stephens Creek**	**27.26**	**243**	P		**P**	**03 17 59.1**	**+0.5**
	baz=27,SNR=121								
STKA	**Stephens Creek**	**27.26**	**243**	P		**P**	**03 17 59.0**	**+0.5**
	comp=Z,135nm,0.9s,baz=83,slow=9.6,SNR=126								
RAR	**Rarotonga**	**27.87**	**94**	LR		LR	03 27 00.1		
	comp=Z,4μm,21.4s,baz=1.4,slow=32								
MOO	**Moorlands**	**27.99**	**218**	P		**P**	**03 18 06.1**	**+1.2**
	baz=28,SNR=45								
TAU	**Tasmania Unive**	**28.21**	**217**	*e*P		**P**	**03 18 07.1**	**+0.2**
TAU				pmax		pmax			
	comp=Z,190nm,1.4s								
TAU				MLR		MLR			
	comp=Z,10μm,21.0s								
TAU	**Tasmania Unive**	**28.21**	**217**	P		**P**	**03 18 07.9**	**+1.0**
	comp=Z,380nm,1.1s,SNR=8.8								
TAU	**Tasmania Unive**	**28.21**	**217**	*e*P		**P**	**03 18 07.1**	**+0.2**
	comp=Z,190nm,1.4s								
TAU				LR		LR			
	comp=Z,10μm,21.0s								
ARPS	**Mount Arapiles**	**28.61**	**233**	P		**P**	**03 18 11.4**	**+0.8**
	baz=29,SNR=26								
HTT	**Hallett**	**29.82**	**241**	⇑P		**P**	**03 18 21.9**	**+0.5**
	baz=30								
BBOO	**Buckleboo**	**32.03**	**243**	*e*P		**P**	**03 18 40.5**	**-0.3**
	comp=Z,4μm,1.0s								
BBOO	**Buckleboo**	**32.03**	**243**	P		**P**	**03 18 40.8**	**-0.1**
	baz=32,SNR=50								
AS01	**Alice Springs**	**33.42**	**260**	⇓P		**P**	**03 18 53.6**	**+0.4**
	baz=33								
AS09	**Alice Springs**	**33.42**	**260**	⇑P		**P**	**03 18 53.4**	**+0.2**
	baz=33								
AS16	**Alice Springs**	**33.44**	**260**	⇓P		**P**	**03 18 53.2**	**-0.1**
	baz=33								
AS31	**Alice Springs**	**33.46**	**260**	*e*P		**P**	**03 18 52.9**	**-0.6**
ASAR	**Alice Springs**	**33.46**	**260**	P		**P**	**03 18 53.2**	**-0.3**
ASAR				*e*			03 50 04.6		
ASAR	**Alice Springs**	**33.46**	**260**	P		**P**	**03 18 53.2**	**-0.3**
	comp=Z,38nm,0.9s,baz=84,slow=9.3,SNR=25								
ASAR				P3KPbc			03 50 04.6		
	comp=Z,0.4nm,0.7s,baz=281,slow=4.0,SNR=5.8								
WRAB	**Tennant Creek**	**33.52**	**267**	*e*P		**P**	**03 18 52.5**	**-1.5**
WRAB				pmax		pmax			
	comp=Z,175nm,1.1s								
WRAB				MLR		MLR			
	comp=Z,27μm,22.0s								
WRAB	**Tennant Creek**	**33.52**	**267**	*e*P		**P**	**03 18 52.5**	**-1.5**
	comp=Z,175nm,1.1s								
WRAB				LR		LR			
	comp=Z,27μm,22.0s								
WRA	**Warramunga Arr**	**33.53**	**267**	P		**P**	**03 18 52.3**	**-1.8**
WRA				S		**S**	**03 24 17.5**	**+3.3**
WRA	**Warramunga Arr**	**33.53**	**267**	P		**P**	**03 18 52.3**	**-1.8**
	comp=Z,32nm,0.7s,baz=97,slow=8.7,SNR=66								
WRA				S		**S**	**03 24 17.5**	**+3.3**
	comp=Z,7.5nm,1.2s,baz=101,slow=14,SNR=4.1	

comp=Z,4μm,21.0s
VNDA Vanda 55.64 182 eP P 03 21 49.0 -0.5
comp=Z,50nm,1.1s
VNDA Vanda 55.64 182 P P 03 21 49.6 +0.1
comp=Z,22nm,0.8s,baz=359,slow=7.2,SNR=32
VNDA LR LR 03 43 55.9
comp=Z,3μm,18.4s,baz=18,slow=34
SBA Scott Base 55.85 181 eP P 03 21 52.0 +1.0
SBA pmax pmax
comp=Z,112nm,0.8s
SBA MLR MLR
comp=Z,3μm,21.0s
SBA Scott Base 55.85 181 eP P 03 21 52.0 +1.0
comp=Z,112nm,0.8s
SBA LR LR
comp=Z,3μm,21.0s
JCJ Chichijima 55.91 330 P P 03 21 51.0 -1.0
comp=Z,161nm,0.8s,baz=236,slow=8.0,SNR=4.8
CBIJ Chichi jima 55.91 330 P P 03 21 51.0 -1.0
RCP Roxas 57.33 301⇓eP P 03 22 03.0 +0.6
CASY Casey 57.92 204 eP P 03 22 04.8 -1.0
comp=Z,81nm,1.2s
CASY LR LR
comp=Z,3μm,20.0s
SDKM Sandakan 58.77 292 P P 03 22 13.1 +0.5
UGM Wanagama 59.04 274 P P 03 22 14.6 +0.1
baz=59,SNR=5.0
KKM Kota Kinabalu 59.81 291 eP P 03 22 20.0 +0.1
comp=Z,141nm,0.9s
KKM LR LR
comp=Z,2μm,20.0s
KKM Kota Kinabalu 59.81 291 P P 03 22 20.4 +0.5
baz=60,SNR=6.0
CISI Cisompet, Garu 61.67 273 P P 03 22 32.3 -0.2
baz=62,SNR=4.3
LEM Lembang 62.11 274 ⇑P P 03 22 36.2 +0.6
baz=62,SNR=9.6
XMI Christmas Isla 62.65 269 ⇑P P 03 22 39.8 +0.8
baz=63
XMIS Christmas Isla 62.67 269 eP P 03 22 37.0 -2.2
comp=Z,563nm,0.8s
XMIS Christmas Isla 62.67 269 ⇓P P 03 22 39.6 +0.4
baz=63
KSM Kuching 62.93 284 eP P 03 22 40.9 +0.1
comp=Z,116nm,0.8s
KSM LR LR
comp=Z,3μm,20.0s
KSM Kuching 62.93 284 P P 03 22 41.2 +0.4
baz=63,SNR=9.0
MIR Mirnyy 64.88 206⇓iP P 03 22 54.0 +1.2
MIR *i* 03 23 07.0
MIR *e* 03 23 30.0
MIR *e*S **S 03 31 34.0 +2.6**
MIR *e*PS **PnS 03 31 57.0 +4.2**
MIR pmax pmax
comp=Z,700nm,2.0s
MIR pmax pmax
comp=Z,125nm,1.5s
MIR MLR MLR
comp=N,4μm,17.0s
MIR MLR MLR
comp=E,8μm,17.0s
MIR MLR MLR
comp=Z,11μm,17.0s
TWG Pinlang 65.45 310 eP P 03 22 56.1 -1.1
comp=Z,239nm,0.9s
MAJO Matsushiro 65.69 332 eP P 03 22 57.6 -0.8
MAJO pmax pmax
comp=Z,69nm,0.8s
MAJO MLR MLR
comp=Z,3μm,20.0s
MAJO Matsushiro 65.69 332 eP P 03 22 57.5 -0.8
comp=Z,69nm,0.8s
MAJO LR LR
comp=Z,3μm,20.0s
MAT Matsushiro 65.69 332 P P 03 22 57.3 -1.1
MAT S **S 03 31 36.6 -5.5**
NACB Ninganchiao 65.95 311 eP P 03 22 59.8 -0.5
comp=Z,526nm,1.5s
TPUB Ta-pu 66.07 310 eP P 03 23 00.0 -1.2
comp=Z,107nm,0.9s
SSLB Suanglung 66.15 311 eP P 03 23 00.3 -1.3
comp=Z,72nm,0.8s
YHNB Yeheng 66.42 312 eP P 03 23 03.3 -0.2
comp=Z,178nm,1.0s
YHNB LR LR
comp=Z,3μm,21.0s
JNU Nakatsue 66.51 325 eP P 03 23 02.9 -0.9
comp=Z,65nm,1.0s
JNU Nakatsue 66.51 325 P P 03 23 03.2 -0.5
comp=Z,97nm,0.9s,baz=107,slow=4.9,SNR=28
TATO Taipei 66.54 312 eP P 03 23 03.5 -0.6
comp=Z,1μm,1.3s
TATO LR LR
comp=Z,2μm,20.0s
MNAI Manna 67.33 275 P P 03 23 09.4 0.0
baz=67,SNR=3.6
QSPA South Pole Qui 67.99 180 eP P 03 23 12.4 -0.5
comp=Z,227nm,1.1s
QSPA LR LR
comp=Z,3μm,19.0s
QSPA South Pole Qui 67.99 180 P P 03 23 12.9 0.0
comp=Z,168nm,1.1s
QZH Quanzhou 68.54 310⇑iP P 03 23 19.1 +2.3
QZH S **S 03 32 20.0 +3.1**
QZH AMB AMB
comp=Z,3μm,3.3s
QZH LR LR
comp=Z,7μm,35.0s
BTDF Bukit Timah Da 68.81 281 P P 03 23 19.4 +0.7
baz=69,SNR=3.8
BTDF P P **03 23 19.4 +0.7**
baz=69,SNR=3.8
MYKOM Kota Tinggi 68.92 281 P P 03 23 20.0 +0.6
YUK Yuzh-Kuril'sk 69.48 341*c* *i*P **P 03 23 23.0 +0.9**
YUK *i* 03 25 55.3
YUK *e*PPP PPP 03 27 38.8
YUK *i*S SKiKP 03 32 49.9 -19
YUK *i*SS **SS 03 36 53.2 -2.5**
YUK pmax pmax
comp=N,284nm,1.5s
YUK pmax pmax
comp=E,575nm,1.5s
YUK pmax pmax
comp=Z,840nm,1.5s
KGM Kluang 69.49 281 P P 03 23 23.6 +0.6
KUR Kuril'sk 70.02 343 eP P 03 23 24.3 -1.1
KUR *e*S **S 03 32 38.0 +4.5**
KUR pmax pmax
comp=Z,528nm,1.1s
KUR MLR MLR
comp=Z,2μm,18.0s
COCO West Island 70.28 264 PFAKE 03 23 40.0 +12
COCO LR LR
comp=Z,8μm,21.0s
ASAJ Asahikawa 70.57 339 eP P 03 23 29.7 +0.8
comp=Z,43nm,1.0s
ASAJ Asahikawa 70.57 339 P P 03 23 30.1 +1.3
comp=Z,76nm,1.1s,baz=256,slow=18,SNR=9.6
SSE Sheshan 70.77 317 P P 03 23 31.7 +1.4
SSE pP **pP 03 23 43.6 +2.5**
SSE S **S 03 32 46.1 +3.3**
SSE AMB AMB
comp=Z,51nm,0.9s
SSE AMB AMB
comp=Z,260nm,7.0s
SSE LR LR
comp=Z,1μm,17.4s
SSE LR LR
comp=Z,1μm,17.4s
SSE LR LR
comp=Z,2μm,20.2s
PPI Padang Panjang 71.18 277 ⇓P P 03 23 34.1 +0.8
baz=71
KSRS Korea Array 71.36 326 P P 03 23 34.1 +0.3
comp=Z,42nm,0.9s,baz=143,slow=6.2,SNR=45
KSRS PKPPKP P'P'df 03 51 34.2 +10
comp=Z,0.6nm,0.6s,baz=337,slow=2.9,SNR=5.9
KSAR Wonju Array Be 71.38 326 P P 03 23 34.1 +0.2
KSAR P'P' 03 51 34.2
QIZ Qiongzhong 71.80 300 P P 03 23 37.7 +0.9
QIZ pP **pP 03 23 46.7 -0.9**
QIZ S **S 03 32 56.4 +1.2**
QIZ sS **sS 03 33 13.0 +0.1**
QIZ ScS **ScS 03 33 40.9 +0.7**
QIZ AMB AMB
comp=Z,38nm,1.1s
QIZ AMB AMB
comp=Z,420nm,5.4s
QIZ LR LR
comp=Z,2μm,25.4s
QIZ Qiongzhong 71.80 300 PFAKE 03 23 50.0 +13
QIZ LR LR
comp=Z,2μm,20.0s
INCN Inchon 72.07 325 eP P 03 23 38.4 +0.3
comp=Z,133nm,1.0s
INCN LR LR
comp=Z,2μm,20.0s
IPM Ipoh 72.59 282 eP P 03 23 41.2 -0.6
comp=Z,108nm,0.8s
NJ2 Nanjing 72.89 316 eP P 03 23 42.2 -0.9
NJ2 sP **sP 03 23 57.6 -0.2**
NJ2 S **S 03 33 09.0 +1.8**
NJ2 sS **sS 03 33 27.0 +2.1**
NJ2 AMB AMB
comp=Z,50nm,0.9s
NJ2 AMB AMB
comp=Z,460nm,3.6s
NJ2 LR LR
comp=Z,4μm,17.7s
NJ2 LR LR
comp=Z,2μm,28.3s
NJ2 LR LR
comp=Z,2μm,22.1s
YSS Yuzh-Sakhalins 73.05 341 eP P 03 23 42.0 -1.7
YSS *e* 03 23 55.9
YSS *e* 03 24 03.0
YSS *e* 03 26 30.0
YSS *e*S **S 03 33 09.0 +0.6**
YSS *e*PPS PPS 03 33 49.0
YSS pmax pmax
comp=Z,1μm,4.0s
YSS pmax pmax
comp=Z,70nm,1.1s
YSS MLR MLR
comp=Z,4μm,14.0s
KULM Kulim 73.27 283 eP P 03 23 45.3 -0.5
comp=Z,86nm,1.0s
KULM LR LR
comp=Z,7μm,21.0s
UBPT Khong Chiam 73.52 294 P P 03 23 48.8 +1.7
comp=Z,68nm,1.2s
PSI Prapat 73.82 280 P P 03 23 48.2 -0.9
PSI Prapat 73.82 280 P P 03 23 48.6 -0.6
baz=74,SNR=5.9
PSI Prapat 73.82 280 P P 03 23 48.2 -0.9
comp=Z,46nm,0.9s,baz=152,slow=4.0,SNR=15
VLA Vladivostok 73.85 332⇑iP P 03 23 48.1 -0.4
VLA *e* 03 24 03.2
VLA *e*S **S 03 33 16.6 -1.0**
VLA pmax pmax
comp=Z,43nm,1.0s
SKLT Songkhla 74.08 285 P P 03 23 51.2 +0.7
comp=Z,76nm,0.9s,comp=Z,1μm
GSI Gunungsitoli 74.46 278 ⇓P P 03 23 53.6 +0.8
baz=74
USRK Ussuriysk Arra 74.67 333 P P 03 23 53.5 +0.2
comp=Z,45nm,0.9s,baz=142,slow=3.9,SNR=20
FX1 Attu Island--F 74.68 2 eP P 03 23 52.9 -0.2
FX1 Attu Island--F 74.68 2 P P 03 23 52.9 -0.2
comp=Z,14nm,0.7s,baz=169,slow=11,SNR=3.3
WHN Wuhan 74.94 312 ⇓P P 03 23 55.2 +0.1
WHN S **S 03 33 33.3 +3.0**
WHN LR LR
comp=Z,1μm,4.3s
WHN LR LR
comp=Z,2μm,12.2s
WHN LR LR
comp=Z,6μm,23.9s
CHBT CHBT 75.03 291 P P 03 23 57.1 +1.2
comp=Z,58nm,1.0s,comp=Z,2μm
PANO Nakornpanom 75.14 296 P P 03 23 57.4 +0.9
comp=Z,55nm,0.9s,comp=Z,892nm
PET Petropavlovsk 75.46 353 eP P 03 23 58.7 +1.2
SKNT Sakolnakorn 75.58 295 P P 03 23 59.7 +0.6
comp=Z,172nm,0.9s,comp=Z,3μm
PEA0B Petropavlovsk- 75.66 352 eP P 03 23 58.4 -0.3
PETK Petropavlovsk- 75.66 352 P P 03 23 59.0 +0.3
PETK pmax pmax
comp=Z,56nm,1.0s
PETK Petropavlovsk- 75.66 352 P P 03 23 59.0 +0.3
PETK Petropavlovsk- 75.66 352 P P 03 23 59.0 +0.3
comp=Z,56nm,1.0s,baz=143,slow=5.2,SNR=24
PETK LR LR 03 52 22.7
comp=Z,3μm,21.3s,baz=151,slow=32
KRAB Krabi 75.81 285 P P 03 24 01.8 +1.3
comp=Z,58nm,0.7s
DL2 Dalian 75.83 323 P P 03 24 00.5 +0.5
DL2 S **S 03 33 45.2 +5.3**
DL2 AMB AMB
comp=Z,210nm,0.9s
DL2 AMB AMB
comp=Z,490nm,3.5s
DL2 LR LR
comp=Z,650nm,20.3s
DL2 LR LR
comp=Z,1μm,25.5s
MDJ Mudanjiang 76.05 331 P P 03 24 01.2 0.0
MDJ sP **sP 03 24 12.7 -3.3**
MDJ S **S 03 33 45.2 +3.1**
MDJ SS **SS 03 38 33.2 -2.9**
MDJ AMB AMB
comp=Z,72nm,1.1s
MDJ AMB AMB
comp=Z,190nm,4.0s
MDJ LR LR
comp=Z,1μm,33.1s
MDJ LR LR
comp=Z,2μm,30.3s
MDJ LR LR
comp=Z,2μm,36.0s
MDJ Mudanjiang 76.05 331 eP P 03 24 01.6 +0.4
comp=Z,70nm,1.0s
MDJ LR LR
comp=Z,2μm,22.0s
MAW Mawson 76.17 202 eP P 03 24 01.6 0.0
comp=Z,25nm,1.4s
MAW Mawson 76.17 202 P P 03 24 02.0 +0.4
baz=76,SNR=24
MAW Mawson 76.17 202 P P 03 24 02.4 +0.8
comp=Z,27nm,0.8s,baz=114,slow=7.4,SNR=62
MAW LR LR 03 55 40.9
comp=Z,3μm,18.4s,baz=103,slow=34
PKDT Phuket 76.44 284 P P 03 24 06.3 +2.2
comp=Z,54nm,1.0s,comp=Z,3μm
TIA Tai'an 76.67 318 ⇑P P 03 24 04.9 0.0
TIA PP **PP 03 27 02.1 +4.1**
TIA S S 03 33 55.7 +6.4
TIA AMB AMB
comp=Z,160nm,0.9s
TIA AMB AMB
comp=Z,470nm,3.4s
TIA LR LR
comp=Z,2μm,21.6s
TIA LR LR
comp=Z,1μm,23.6s
TIA LR LR
comp=Z,3μm,21.5s
CN2 Changchun 77.36 328 eP P 03 24 08.3 -0.3
CN2 *ep*P **PcP 03 24 18.7 -0.3**
CN2 *e*PP **PP 03 27 05.3 +1.8**
CN2 *e*S **S 03 33 56.1 -0.3**
CN2 AMB AMB
comp=Z,10.0nm,1.0s
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,2μm,23.0s
CN2 LR LR
comp=Z,900nm,23.0s
CN2 LR LR
comp=Z,2μm,24.0s
ENH Enshi 78.19 310 eP P 03 24 13.5 -0.1
comp=Z,69nm,0.9s
GYA Guiyang 78.20 305⇑iP P 03 24 15.2 +1.3
GYA pP **pP 03 24 24.6 -0.1**
GYA PP **PP 03 27 12.5 +1.4**
GYA S **S 03 34 06.9 +0.4**
GYA sS **sS 03 34 21.0 -3.4**
GYA SS **SS 03 39 10.1 +0.5**
GYA AMB AMB
comp=Z,50nm,1.0s
GYA AMB AMB
comp=Z,200nm,5.8s
GYA LR LR
comp=Z,920nm,20.5s
GYA LR LR
comp=Z,1μm,20.8s
GYA LR LR
comp=Z,1μm,20.2s
UNV Unalaska Valle 78.23 14 eP P 03 24 11.9 -1.2
comp=Z,105nm,1.0s
KLR Kul'dur 78.83 335 eP P 03 24 12.8 -3.8
KLR *e* 03 34 11.5
KLR pmax pmax
comp=E,82nm,2.2s
KLR pmax pmax
comp=Z,300nm,2.2s
BJT Baijiatuao 79.71 321 eP P 03 24 21.9 +0.3
comp=Z,55nm,0.8s
BJT LR LR
comp=Z,3μm,21.0s
BJI Beijing 79.72 321 P P 03 24 22.0 +0.3
BJI S **S 03 34 25.8 +4.0**
BJI AMB AMB
comp=Z,64nm,1.0s
BJI AMB AMB
comp=Z,290nm,4.0s
BJI LR LR
comp=Z,2μm,27.4s
BJI LR LR
comp=Z,1μm,31.3s
BJI LR LR
comp=Z,3μm,38.9s
PAYA Payao 80.15 296 P P 03 24 25.9 +1.4
comp=Z,18nm,0.9s,comp=Z,264nm
CM31 Chiang Mai Arr 80.52 294 eP P 03 24 28.2 +1.7
comp=Z,144nm,1.1s
KMI Kunming 80.56 302 ⇓P P 03 24 28.6 +1.7
KMI pP **pP 03 24 39.7 +2.0**
KMI sP **sP 03 24 43.6 +1.9**
KMI PP **PP 03 27 34.2 +3.3**
KMI S **S 03 34 31.7 -0.1**
KMI SKS **SKSac 03 34 39.2 -3.7**
KMI sS **sS 03 34 49.1 -0.7**
KMI SS **SS 03 39 47.6 +2.4**
KMI AMB AMB
comp=Z,77nm,1.1s
KMI AMB AMB
comp=Z,240nm,3.1s
KMI LR LR
comp=Z,1μm,20.8s
KMI LR LR
comp=Z,1μm,15.8s
KMI LR LR
comp=Z,1μm,24.8s
CHTO Chiang Mai 80.68 295 eP P 03 24 28.4 +1.0
CHTO MLR MLR
comp=Z,2μm,19.0s
CHTO Chiang Mai 80.68 295 eP P 03 24 28.4 +1.0
comp=Z,506nm,1.1s
CHTO LR LR
comp=Z,2μm,19.0s
CHTO Chiang Mai 80.68 295 P P 03 24 28.6 +1.2
comp=Z,360nm,1.1s,comp=Z,5μm
XAN Xi'an 80.71 312 P P 03 24 27.5 +0.3
XAN sP **sP 03 24 40.9 -1.2**
XAN PP **PP 03 27 33.4 +1.6**
XAN S **S 03 34 31.8 -0.8**
XAN SS **SS 03 39 48.4 +1.6**
XAN AMB AMB
comp=Z,24nm,1.0s
XAN AMB AMB
comp=Z,130nm,4.3s
XAN LR LR
comp=Z,620nm,18.6s
XAN LR LR
comp=Z,330nm,17.0s
XAN LR LR
comp=Z,370nm,23.2s
SYO Syowa Base 82.48 196⇑iP P 03 24 34.0 -2.0
SYO Syowa Base 82.48 196⇓ipP P 03 24 39.0 +3.0
CD2 Chengdu 82.69 307 P P 03 24 39.1 +1.3
CD2 pP **pP 03 24 50.1 +1.4**
CD2 sP **sP 03 24 54.2 +1.5**
CD2 PP **PP 03 27 51.3 +3.1**
CD2 S **S 03 34 53.2 -0.1**
CD2 sS **sS 03 35 11.5 +0.2**
CD2 SS **SS 03 40 19.5 +3.0**
CD2 AMB AMB
comp=Z,60nm,1.0s
CD2 AMB AMB
comp=Z,520nm,6.5s
CD2 LR LR
comp=Z,2μm,19.6s
CD2 LR LR
comp=Z,2μm,20.8s
HHC Hu-ho-hao-te 82.97 319 eP P 03 24 40.2 +1.1
HHC pP **pP 03 24 50.7 +0.7**
HHC sP **sP 03 24 54.6 +0.6**
HHC PP **PP 03 27 53.3 +2.9**
HHC Hu-ho-hao-te 82.97 319 SKS **S 03 34 55.4 -0.4**
HHC Hu-ho-hao-te 82.97 319 S **S 03 34 56.1 +0.3**
HHC Hu-ho-hao-te 82.97 319 sS **sS 03 35 13.5 -0.4**
HHC AMB AMB
comp=Z,110nm,0.7s
HHC AMB AMB
comp=Z,550nm,6.1s
HHC LR LR
comp=N,2μm,17.7s
HHC LR LR
comp=E,2μm,17.9s
HHC LR LR
comp=Z,3μm,18.7s
BTO Baotou 83.77 318 eP P 03 24 41.8 -1.4
PMSA Palmer Station 83.94 160 eP P 03 24 43.5 -0.1
comp=Z,92nm,1.2s
HIA Hailar 84.02 329 PFAKE 03 24 50.0 +5.8
HIA LR LR
comp=Z,2μm,19.0s
LZH Lanzhou 85.31 312 ⇓P P 03 24 52.8 +1.6
LZH pP **pP 03 25 01.7 -0.4**
LZH sP **sP 03 25 04.6 -1.5**
LZH SKS **SKSac 03 35 08.0 -5.8**
LZH S **S 03 35 18.2 -1.4**
LZH sS **sS 03 35 35.6 -2.1**
LZH AMB AMB
comp=Z,150nm,1.3s
LZH AMB AMB
comp=Z,290nm,5.7s
LZH LR LR
comp=Z,950nm,13.0s
LZH LR LR
comp=Z,1μm,14.4s
LZH LR LR
comp=Z,2μm,15.3s
SEY Seymchan 85.89 352 eP P 03 24 53.1 -0.1
MAIT Maitri 86.17 187 eP P 03 24 52.0 -2.7
SNAA Sanae 86.38 182 eS S 03 35 26.4 -2.5
SNAA Sanae 86.38 182 eP P 03 24 54.6 -1.3
SNAA Sanae 86.38 182 epPcP P 03 24 56.8 +1.0
SNAA Sanae 86.38 182 eP P 03 24 54.5 -1.3
comp=Z,115nm,1.1s
MCCM Marconi Confer 86.72 47 eP P 03 24 57.8 0.0
comp=Z,41nm,1.1s
SAO San Andreas Ge 86.99 48 eP P 03 25 00.3 +1.1
SAO pmax pmax
comp=Z,23nm,1.0s
SAO San Andreas Ge 86.99 48 eP P 03 25 00.3 +1.1
comp=Z,23nm,1.0s
HOPS Hopland 87.03 46 eP P 03 24 59.5 +0.1
comp=Z,20nm,1.0s
KCPM Cahto Peak 87.05 45 eP P 03 24 59.8 +0.2
comp=Z,29nm,0.9s
KIPM Iron Peak 87.18 45 eP P 03 25 00.7 +0.5
comp=Z,89nm,1.3s
PKM Peak Mountain 87.21 51 ⇓P P 03 25 01.2 +0.7
baz=87,SNR=6.7
VNA2 Neumayer--Watz 87.24 181 eS SKSac 03 35 26.0 +1.5
VNA2 Neumayer--Watz 87.24 181 eP P 03 24 59.2 -0.7
VNA2 Neumayer--Watz 87.24 181 epPcP PcP 03 25 01.2 -0.8
VNA2 Neumayer--Watz 87.24 181 epP pP 03 25 09.5 -1.4
SMMC Simmler 87.28 50 ⇓P P 03 25 01.5 +0.8
baz=87,SNR=7.7
CLNS Chul'man 87.36 337 eP P 03 25 00.9 +0.3
CLNS *e* 03 25 10.8
CLNS *e**PP pP 03 25 19.9 +8.4
CLNS *e* 03 28 24.3

CLNS ePPP PPP 03 30 20.6
CLNS eS **SKSac 03 35 25.5 +0.2**
CLNS e 03 36 34.5
CLNS eSS **SS 03 41 19.1 -5.0**
CLNS eSSS SSS 03 44 50.8
CLNS pmax pmax
comp=Z,35nm,1.1s
CLNS pmax pmax
comp=N,24nm,1.1s
CLNS pmax pmax
comp=E,10.0nm,1.1s
CLNS pmax pmax
comp=Z,5.0nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,0.9s
CLNS pmax pmax
comp=N,8.0nm,1.0s
CLNS smax smax
comp=N,165nm,10.6s
CLNS smax smax
comp=E,337nm,11.6s
CLNS MLR MLR
comp=Z,556nm,14.0s
CLNS MLR MLR
comp=N,569nm,18.0s
CLNS MLR MLR
comp=Z,656nm,16.0s
IMP Imphal 87.49 298 eP **P 03 25 00.0 -2.0**
VNA1 Neumayer--Stat 87.52 180 eP **P 03 25 00.5 -0.8**
VNA1 Neumayer--Stat 87.52 180 ePcP **PcP 03 25 02.7 -0.5**
VNA1 Neumayer--Stat 87.52 180 epP pP 03 25 10.9 -1.3
DECC Green Verdugo 87.98 52 ⇓P **P 03 25 04.1 0.0**
baz=88
ARVC Arvin 88.03 51 ⇓P **P 03 25 04.9 +0.6**
baz=88,SNR=7.5
MWC Mount Wilson 88.16 52 eP **P 03 25 04.9 -0.3**
MWC pmax pmax
comp=Z,61nm,1.5s
MWC Mount Wilson 88.16 52 eP **P 03 25 04.9 -0.3**
comp=Z,61nm,1.5s
VES Vestal, Richgr 88.19 50 ⇑P **P 03 25 05.4 +0.4**
baz=88
WDC Whiskeytown Da 88.20 45 eP **P 03 25 05.2 +0.3**
WDC pmax pmax
comp=Z,50nm,1.4s
WDC Whiskeytown Da 88.20 45 eP **P 03 25 05.2 +0.3**
comp=Z,50nm,1.4s
109C Camp Elliot, M 88.24 53 ⇓P **P 03 25 05.6 +0.3**
baz=88
KEBM Edson Butte 88.27 42 eP **P 03 25 04.4 -0.9**
comp=Z,34nm,1.0s
CMB Columbia Colle 88.35 48 eP **P 03 25 05.7 -0.1**
CMB pmax pmax
comp=Z,51nm,1.4s
CMB Columbia Colle 88.35 48 eP **P 03 25 05.7 -0.1**
comp=Z,51nm,1.4s
BFSC Mount Baldy Ra 88.46 52 ⇑P **P 03 25 06.8 +0.3**
baz=89,SNR=6.5
MURC Murrieta 88.50 53 ⇓P **P 03 25 06.0 -0.6**
baz=89
EDW2 Edwards Air Fo 88.52 51 ⇑P **P 03 25 06.9 +0.3**
baz=89,SNR=7.2
ISA Isabella 88.54 50 eP **P 03 25 06.9 +0.1**
ISA pmax pmax
comp=Z,43nm,1.3s
ISA Isabella 88.54 50 eP **P 03 25 06.9 +0.1**
comp=Z,42nm,1.3s
ISA Isabella 88.54 50 ⇓P **P 03 25 07.6 +0.8**
baz=89,SNR=16
YBH Yreka Blue Hor 88.69 44 eP **P 03 25 07.1 -0.2**
comp=Z,14nm,0.9s
YBH Yreka Blue Hor 88.69 44 P **P 03 25 07.3 0.0**
comp=Z,8.0nm,1.0s,baz=192,slow=4.2,SNR=4.8
MONP Monument Peak 88.75 54 ⇓P **P 03 25 07.6 -0.4**
baz=89
DVTC Desert V Tower 88.89 54 ⇓P **P 03 25 08.8 +0.3**
baz=89
HUMO Hull Mountain 88.99 43 eP **P 03 25 09.3 +0.6**
comp=Z,33nm,1.0s
LRMC Laurel Mountai 89.02 51 ⇓P **P 03 25 09.3 +0.2**
baz=89
PFO Pinyon Flat Ob 89.06 53 eP **P 03 25 09.3 0.0**
comp=Z,21nm,1.2s
PFO LR LR
comp=Z,1μm,19.0s
PFO Pinyon Flat Ob 89.06 53 ⇓P **P 03 25 09.4 +0.1**
baz=89,SNR=6.0
PFO Pinyon Flat Ob 89.06 53 P **P 03 25 09.5 +0.1**
comp=Z,11nm,1.1s,baz=268,slow=1.7,SNR=8.5
CWC Cottonwood Cre 89.19 50 ⇑P **P 03 25 10.7 +0.8**
baz=89,SNR=6.0
MLAC Mammoth Lakes 89.23 49 ⇑P **P 03 25 10.3 +0.1**
baz=89
SWSC Sam W. Stewart 89.24 54 ⇓P **P 03 25 10.3 +0.3**
baz=89
BEKR Beckworth 89.28 46 eP **P 03 25 10.6 +0.4**
comp=Z,9.4nm,0.8s
TIN Tinemaha 89.38 49 ⇓P **P 03 25 10.7 0.0**
baz=90
MPMC Manual Prospec 89.44 51 ⇑P **P 03 25 11.5 +0.4**
baz=90,SNR=12
SHL Shillong 89.50 298 ex **sP 03 25 25.0 -1.6**
SHL eS **SKSac 03 35 40.0 +0.2**
BELC Belle Mtn. Jos 89.57 53 ⇑P **P 03 25 12.1 +0.4**
baz=90,SNR=13
GSC Goldstone 89.58 51 eP **P 03 25 12.4 +0.7**
GSC pmax pmax
comp=Z,50nm,1.5s
GSC Goldstone 89.58 51 eP **P 03 25 12.4 +0.7**
comp=Z,50nm,1.5s
GSC Goldstone 89.58 51 ⇓P **P 03 25 11.9 +0.2**
baz=90,SNR=8.0
HEC Hector,Ludlow 89.71 52 ⇑P **P 03 25 12.6 +0.3**
baz=90,SNR=11
GTA Gaotai 89.74 313 eP **P 03 25 13.2 +0.8**
GTA pP **pP 03 25 23.9 +0.5**
GTA sP **sP 03 25 27.8 +0.5**
GTA SKS **SKSac 03 35 41.5 +1.0**
GTA S **S 03 36 03.4 +1.5**
GTA sS **sS 03 36 21.0 +0.9**
GTA AMB AMB
comp=Z,24nm,1.0s
GTA AMB AMB
comp=Z,120nm,6.4s
GTA LR LR
comp=Z,790nm,19.9s
GTA LR LR
comp=Z,1μm,19.5s
GTA LR LR
comp=Z,1μm,18.3s
BC3 Big Chuckawall 89.82 53 ⇓P **P 03 25 13.8 +0.9**
baz=90,SNR=8.2
YAK Yakutsk 89.84 342 eP **P 03 25 10.8 -1.3**
YAK e 03 28 43.8
YAK ePPP PPP 03 30 42.1
YAK eS SKSac 03 35 31.9 -7.8
YAK e 03 36 01.4
YAK eSS **SS 03 41 59.0 -1.0**
YAK eSSS SSS 03 45 38.1
YAK pmax pmax
comp=Z,30nm,1.0s
YAK pmax pmax
comp=E,9.0nm,1.3s
YAK pmax pmax
comp=Z,50nm,2.1s
YAK pmax pmax
comp=N,54nm,2.8s
YAK pmax pmax
comp=E,24nm,2.0s
YAK smax smax
comp=N,257nm,2.8s
YAK smax smax
comp=E,205nm,2.8s
PAHR Pah Rah Range 89.86 47 eP **P 03 25 13.2 +0.3**
comp=E,29nm,1.1s
NVAR Mina Array Bea 89.98 48 P **P 03 25 14.3 +0.6**
NVAR PKKPbc **PKKPdf 03 42 44.1 +1.6**
NVAR Mina Array Bea 89.98 48 P **P 03 25 14.3 +0.6**
comp=E,14nm,1.1s,baz=228,slow=8.8,SNR=16
NVAR PKKPbc **PKKPdf 03 42 44.1 +1.6**
comp=E,1.1nm,0.9s,baz=98,slow=3.2,SNR=5.5
GLA Glamis 90.02 54 eP **P 03 25 14.8 +1.1**
GLA pmax pmax
comp=Z,40nm,1.1s
GLA Glamis 90.02 54 eP **P 03 25 14.8 +1.1**
comp=Z,40nm,1.1s
GLA Glamis 90.02 54 ⇑P **P 03 25 14.2 +0.4**
baz=90,SNR=12
SONM Songino Array 90.04 323 P **P 03 25 13.6 +0.1**
SONM PKKPbc **PKKPbc 03 42 45.9 -0.4**
SONM Songino Array 90.04 323 P **P 03 25 13.6 +0.1**
comp=Z,45nm,1.0s,baz=140,slow=3.8,SNR=36
SONM PKKPbc **PKKPbc 03 42 45.9 -0.4**
comp=Z,2.1nm,0.9s,baz=296,slow=2.1,SNR=7.3
FURC Furnace Creek, 90.08 50 ⇑P **P 03 25 14.6 +0.8**
baz=90
NV11 Mina Array Sit 90.08 48 eP **P 03 25 14.3 +0.2**
GMRC Granite Mounta 90.17 52 ⇑P **P 03 25 14.9 +0.4**
baz=90,SNR=8.6
SHOC Shoshone 90.23 51 ⇓P **P 03 25 15.1 +0.5**
baz=90
IRM Iron Mountain 90.27 53 ⇓P **P 03 25 15.6 +0.7**
baz=90,SNR=13
TUQ Turquoise Moun 90.28 52 ⇓P **P 03 25 15.0 0.0**
baz=90
MOD Modoc 90.33 44 eP **P 03 25 15.6 +0.5**
comp=Z,94nm,1.0s
Y12C Blythe 90.56 54 ⇓P **P 03 25 16.8 +0.6**
baz=91,SNR=8.1
TPH Tonopah 90.56 49 PFAKE 03 25 30.0 +14
TPH LR LR
comp=Z,2μm,19.0s
113A Mohawk Valley, 90.70 55 ⇓P **P 03 25 17.1 +0.2**
baz=91
LDFC Landair 90.71 52 eP **P 03 25 18.3 +1.3**
comp=Z,46nm,1.0s
NLWA Neilton Lookou 90.96 38 eP **P 03 25 18.4 +0.7**
comp=Z,18nm,0.8s
NLWA LR LR
comp=Z,1μm,19.0s
214A Organ Pipe Nat 91.08 56 ⇑P **P 03 25 19.2 +0.5**
baz=91,SNR=6.3
PDMCI Parker Dam,Lak 91.08 53 ⇓P **P 03 25 18.9 +0.3**
baz=91,SNR=7.1
MCK McKinley 91.28 17 eP **P 03 25 17.7 -1.2**
MCK pmax pmax
comp=Z,24nm,1.2s
MCK McKinley 91.28 17 eP **P 03 25 17.6 -1.2**
comp=Z,24nm,1.2s
BBB Bella Bella 91.33 33 LR LR 03 58 30.7
comp=Z,639nm,19.7s,baz=246,slow=30
Z14A Wintersburg 91.58 55 ⇓P **P 03 25 21.4 +0.5**
baz=92
W13A Hualapai Mount 91.62 53 ⇑P **P 03 25 22.1 +0.7**
baz=92,SNR=6.8
BMN Battle Mountai 91.66 47 eP **P 03 25 21.7 +0.3**
BMN pmax pmax
comp=Z,15nm,1.0s
BMN MLR MLR
comp=Z,1μm,22.0s
BMN Battle Mountai 91.66 47 eP **P 03 25 21.7 +0.3**
comp=Z,15nm,1.0s
BMN LR LR
comp=Z,1μm,22.0s
WVOR Wild Horse Val 91.67 44 eP **P 03 25 21.5 +0.2**
WVOR pmax pmax
comp=Z,22nm,1.1s
WVOR Wild Horse Val 91.67 44 eP **P 03 25 21.5 +0.2**
comp=Z,22nm,1.1s
Y14A Wickenburg 91.78 54 ⇓P **P 03 25 22.8 +0.9**
baz=92,SNR=6.5
LSA Lhasa 91.80 301 P **P 03 25 23.0 +0.4**
LSA Lhasa 91.80 301 eP **P 03 25 23.0 +0.4**
LSA pmax pmax
comp=Z,32nm,0.8s
LSA MLR MLR
comp=Z,2μm,20.0s
LSA Lhasa 91.80 301 eP **P 03 25 23.0 +0.4**
comp=Z,32nm,0.8s
LSA LR LR
comp=Z,2μm,20.0s
LON Longmire 91.83 40 eP **P 03 25 21.5 -0.3**
LON pmax pmax
comp=Z,9.0nm,0.9s
LON Longmire 91.83 40 eP **P 03 25 21.5 -0.3**
comp=Z,9.4nm,0.9s
R11A Troy Canyon, C 91.83 49 eP **P 03 25 22.4 +0.2**
R11A Troy Canyon, C 91.83 49 ⇑P **P 03 25 22.5 +0.2**
baz=92
PGC Sidney 91.86 37 eP **P 03 25 23.4 +1.6**
comp=Z,1.3nm,0.9s
WRAK Wrangell Islan 91.90 28 eP **P 03 25 21.9 +0.2**
comp=Z,32nm,0.9s
IM04 Indian Mountai 91.92 14 eP **P 03 25 22.2 +0.5**
IMA2 Indian Mountai 92.03 14 eP **P 03 25 22.2 -0.2**
PALK Pallekele 92.27 277 eP **P 03 25 25.4 +0.8**
comp=Z,44nm,1.0s
COLA College 92.47 17 eP **P 03 25 22.9 -1.4**
COLA pmax pmax
comp=Z,196nm,1.0s
COLA MLR MLR
comp=Z,2μm,22.0s
COLA College 92.47 17 eP **P 03 25 22.9 -1.4**
comp=Z,196nm,1.0s
COLA LR LR
comp=Z,2μm,22.0s
ILAR Eielson Array 92.65 17 P **P 03 25 23.6 -1.5**
ILAR PKKPbc **PKKPdf 03 42 38.8 +0.3**
ILAR Eielson Array 92.65 17 P **P 03 25 23.6 -1.5**
comp=Z,9.0nm,0.6s,baz=238,slow=5.1,SNR=11
ILAR PKKPbc **PKKPdf 03 42 38.8 +0.3**
comp=Z,1.8nm,1.0s,baz=4.1,slow=2.7,SNR=8.2
HYT Haines Junctio 92.72 23 eP **P 03 25 22.7 -3.0**
TUC Tucson 92.78 56 eP **P 03 25 28.0 +1.4**
TUC pmax pmax
comp=Z,8.0nm,1.0s
TUC Tucson 92.78 56 eP **P 03 25 28.0 +1.4**
comp=Z,8.1nm,1.0s
HAWA Hanford 93.01 41 eP **P 03 25 27.5 +0.3**
comp=Z,15nm,0.9s
HAWA LR LR
comp=Z,1μm,20.0s
CCUT Cedar City 93.06 51 eP **P 03 25 28.2 +0.2**
comp=Z,2.3nm,1.1s
ARUT Antelope Range 93.11 50 eP **P 03 25 29.3 +1.2**
ARUT pmax pmax
comp=Z,244nm,1.2s
ARUT Antelope Range 93.11 50 eP **P 03 25 29.3 +1.2**
comp=Z,244nm,1.2s
X16A Lo Mia Camp, P 93.15 54 ⇓P **P 03 25 29.0 +0.6**
baz=93,SNR=11
U15A North Rim 93.36 52 ⇓P **P 03 25 29.9 +0.4**
baz=94
IRK Irkutsk 93.58 326 eP P 03 25 38.4 +8.7
IRK pmax pmax
comp=Z,37nm,1.8s
TLY Talaya 93.61 325 eP **P 03 25 30.2 +0.3**
TLY e 03 29 10.9
TLY eS **SKSac 03 36 03.9 +2.3**
TLY e 03 37 57.4
TLY pmax pmax
comp=Z,20nm,0.9s
TLY MLR MLR
comp=Z,820nm,18.0s
TAPN Taplejung 93.64 298 eP **P 03 25 30.7 -0.3**
comp=Z,97nm,1.0s
BMO Blue Mountains 93.66 43 eP **P 03 25 29.1 -1.2**
comp=Z,4.8nm,1.0s
BMO LR LR
comp=Z,2μm,19.0s
WUAZ Wupatki 93.66 53 eP **P 03 25 31.7 +1.0**
comp=Z,11nm,0.9s
WUAZ Wupatki 93.66 53 ⇑P **P 03 25 31.1 +0.4**
baz=94
ODAN Odare 93.71 297 eP **P 03 25 31.1 -0.1**
comp=Z,123nm,0.9s
COLD Coldfoot 93.77 14 eP **P 03 25 30.4 +0.2**
comp=Z,29nm,1.0s
DLBC Dease Lake 94.12 27 eP **P 03 25 33.8 +1.7**
320A Kipp Ranch, An 94.15 58 ⇓P **P 03 25 33.9 +0.9**
baz=94,SNR=7.5
MVU Marysvale 94.29 50 eP **P 03 25 34.1 +0.4**
comp=Z,4.9nm,1.1s
MVU LR LR
comp=Z,2μm,20.0s
EGAK Eagle 94.29 19 eP **P 03 25 31.9 -0.7**
comp=Z,54nm,1.0s
EGAK LR LR
comp=Z,1μm,21.0s
X18A Snowflake 94.32 55 ⇑P **P 03 25 34.2 +0.4**
baz=94
DAWY Dawson 94.33 20 eP **P 03 25 32.0 -0.9**
220A Playas Peak, P 94.38 57 ⇑P **P 03 25 34.2 +0.1**
baz=94
RAMN Ramite 94.40 297 eP **P 03 25 34.5 +0.1**
comp=Z,75nm,1.1s
DGAR Diego Garcia 94.40 260 PFAKE 03 25 50.0 +16
DGAR LR LR
comp=Z,7μm,21.0s
120A U Bar Ranch, L 94.55 57 ⇓P **P 03 25 34.6 -0.2**
baz=95
DUG Dugway 94.58 48 PFAKE 03 25 50.0 +15
DUG LR LR
comp=Z,2μm,19.0s
HLID Hailey 94.94 45 PFAKE 03 25 50.0 +14
HLID LR LR
comp=Z,1μm,19.0s
JIRN Jiri 95.00 298 eP **P 03 25 37.2 -0.1**
comp=Z,50nm,0.9s
EFI East Falkland 95.27 152 PFAKE 03 25 50.0 +12
EFI LR LR
comp=Z,1μm,19.0s
Y20A Horse Springs, 95.28 56 ⇓P **P 03 25 38.6 +0.3**
baz=95
NEW Newport 95.34 40 PFAKE 03 25 50.0 +12
NEW LR LR
comp=Z,1μm,19.0s
GUN Gumba 95.35 298 eP **P 03 25 39.2 +0.3**
comp=Z,101nm,1.1s
222A Williams Famil 95.57 58 ⇑P **P 03 25 40.4 +0.9**
baz=96
Z21A St. Cloud Mine 95.59 56 ⇑P **P 03 25 40.7 +1.0**
baz=96
PKI Pulchoki 95.61 297 eP **P 03 25 39.9 -0.2**
comp=Z,125nm,1.1s
JLU Jordanelle 95.69 49 eP **P 03 25 40.1 +0.1**
comp=Z,5.8nm,1.1s
SRU San Rafael 95.74 50 eP **P 03 25 39.8 -0.4**
SRU pmax pmax
comp=Z,3.0nm,1.0s
SRU San Rafael 95.74 50 eP **P 03 25 39.8 -0.4**
comp=Z,2.8nm,1.0s
KKN Kakani 95.80 297 eP **P 03 25 40.7 -0.1**
comp=E,81nm,0.9s
PLCA Paso Flores 95.80 138 eP **P 03 25 40.4 -0.1**
comp=Z,25nm,1.3s
PLCA Paso Flores 95.80 138 P **P 03 25 40.4 -0.1**
comp=Z,8.4nm,0.9s,baz=206,slow=6.8,SNR=7.3
DMN Daman 95.88 297 eP **P 03 25 41.2 0.0**
comp=Z,126nm,0.9s
Z22A Elephant Butte 96.11 57 ⇑P **P 03 25 42.8 +0.8**
baz=96
U20A Newcomb 96.12 53 ⇑P **P 03 25 42.6 +0.7**
baz=96
GKN Gorkha 96.41 297 eP **P 03 25 43.2 -0.3**
comp=Z,92nm,0.9s
MVCO Mesa Verde 96.46 53 PFAKE 03 25 50.0 +6.4
MVCO LR LR
comp=Z,1μm,19.0s
V21A Milan 96.56 54 ⇑P **P 03 25 44.5 +0.4**
baz=97
M17A Scullys Gap (B 96.58 48 ⇑P **P 03 25 44.9 +0.9**
baz=97
324A Moseley Ranch, 96.60 59 ⇓P **P 03 25 44.6 +0.4**
baz=97
425A Indio Mountain 96.76 60 ⇓P **P 03 25 45.7 +0.8**
baz=97
MNTX Cornudas Mount 96.77 59 PFAKE 03 26 00.0 +15
MNTX LR LR
comp=Z,2μm,19.0s
AHID Auburn Hatcher 96.81 47 PFAKE 03 26 00.0 +15
AHID LR LR
comp=Z,1μm,19.0s
RRI2 Red Ridge 96.89 46 eP **P 03 25 43.7 -1.7**
comp=Z,4.5nm,0.9s
T21A Navajo Lake 97.09 53 ⇓P **P 03 25 45.9 -0.5**
baz=97
ANMO Albuquerque 97.14 55 PFAKE 03 26 00.0 +13
ANMO LR LR
comp=Z,665nm,20.0s
KOLN Koldanda 97.18 297 eP **P 03 25 46.4 -0.6**
comp=Z,36nm,0.9s
DANN Dangsing 97.26 298 eP **P 03 25 46.7 -0.8**
comp=Z,55nm,0.8s
TXAR Lajitas Array 97.29 61 P **P 03 25 46.9 -0.5**
TXAR PKKPbc **PKKPdf 03 42 27.8 -0.9**
TXAR Lajitas Array 97.29 61 P **P 03 25 46.9 -0.5**
comp=Z,1.0nm,1.0s,baz=232,slow=10,SNR=4.3
TXAR PKKPbc **PKKPdf 03 42 27.8 -0.9**
comp=Z,1.6nm,0.8s,baz=94,slow=3.8,SNR=9.5
426A McDonald Obser 97.48 60 ⇓P Pdif 03 25 49.1 +0.7
baz=98
Y24A Capitan 97.55 57 ⇓P Pdif 03 25 49.3 +0.7
baz=98
BW06 Boulder Array 97.85 47 PFAKE 03 26 00.0 +10
BW06 LR LR
comp=Z,1μm,20.0s
PDAR Pinedale Array 97.85 47 P Pdif 03 25 49.8 0.0
PDAR PP **PP 03 29 49.7 +1.0**
PDAR PKKPbc **PKKPbc 03 42 25.4 0.0**
PDAR Pinedale Array 97.85 47 P Pdif 03 25 49.8 0.0
comp=Z,0.7nm,1.0s,baz=183,slow=3.3,SNR=2.5
PDAR PP **PP 03 29 49.7 +1.0**
comp=Z,5.9nm,1.2s,baz=242,slow=3.2,SNR=7.0
PDAR PKKPbc **PKKPbc 03 42 25.4 0.0**
comp=Z,1.8nm,0.9s,baz=112,slow=3.6,SNR=8.9
226B Tecolote Peak, 97.88 59 ⇓P Pdif 03 25 50.0 0.0
baz=98
HYB Hyderabad 97.89 286 *i* P **P 03 25 50.0 -0.2**
HYB eSKS **SKSac 03 36 28.0 +2.3**
HYB e 03 38 16.0
HYB eSS **SS 03 43 58.0 +1.3**
S22A 4UR Ranch, Cre 97.89 53 ⇓P **P 03 25 49.7 -0.4**
baz=98
PAYG Puerto Ayora 98.53 94 PFAKE 03 26 00.0 +6.8
PAYG LR LR
comp=Z,1μm,21.0s
428A Kincaid Ranch, 98.58 60 ⇑Pdiff **P 03 25 52.8 -0.3**
baz=99
I19A Meeteetse 98.71 46 ⇑Pdiff **P 03 25 53.5 0.0**
baz=99
HVS Khovu-Aksy 98.86 322 eP Pdif 03 25 54.3 +0.4
SDCO Great Sand Dun 98.87 53 PFAKE 03 26 10.0 +15
SDCO LR LR
comp=Z,1μm,19.0s
RLMT Red Lodge 98.94 45 PFAKE 03 26 00.0 +5.4
RLMT LR LR
comp=Z,2μm,21.0s
H19A Powell 98.96 45 ⇑Pdiff Pdif 03 25 55.3 +0.8
baz=99
O23A Lake Granby, G 99.45 51 ⇓Pdiff **Pdif 03 25 57.0 0.0**
baz=100
T25A Trinidad 99.47 54 ⇓Pdiff **Pdif 03 25 57.2 +0.1**
baz=100
530A J-C Ranch, Com 99.48 61 ⇑Pdiff **Pdif 03 25 57.0 0.0**
baz=100
ISCO Idaho Springs 99.52 51 PFAKE 03 26 10.0 +13
ISCO LR LR
comp=Z,1μm,19.0s
EGMT Eagleton 99.72 42 PFAKE 03 26 10.0 +12
EGMT LR LR
comp=Z,1μm,20.0s
330A Mertzon 100.03 60 ⇑Pdiff **Pdif 03 25 59.4 -0.1**
baz=100
Z29A Hungry Hill Ra 100.23 58 ⇓Pdiff **Pdif 03 26 00.4 0.0**
baz=100
JCT Junction City 100.84 62 PFAKE 03 26 10.0 +6.9
JCT LR LR
comp=Z,2μm,22.0s
KVTX Kingsville 101.46 65 PFAKE 03 26 20.0 +14
KVTX LR LR
comp=Z,1μm,19.0s
LAO LASA Array 101.49 44 PFAKE 03 26 20.0 +14
LAO LR LR
comp=Z,1μm,20.0s
LCO Las Campanas 102.38 128 PFAKE 03 26 20.0 +10
LCO LR LR
comp=Z,2μm,21.0s
OGNE Ogallala 102.48 51 PFAKE 03 26 20.0 +10
OGNE LR LR
comp=Z,1μm,19.0s
TRQA Tornquist 102.66 140 PFAKE 03 26 20.0 +8.8
TRQA LR LR
comp=Z,1μm,20.0s
RER Riviere de l'E 102.99 241 PFAKE 03 26 20.0 +7.0
RER LR LR
comp=Z,3μm,20.0s
WMOK Wichita Mounta 103.00 58 PFAKE 03 26 20.0 +7.4
WMOK LR LR
comp=Z,1μm,19.0s

DGMT Dagmar 103.37 43 PFAKE 03 26 20.0 +6.1
DGMT LR LR
comp=Z,1µm,20.0s
MKAR Makanchi Array 104.40 315 PP PP 03 30 37.9 +0.1
MKAR PKKPbc **PKKPbc 03 42 04.1 -2.2**
MKAR P'P' 03 50 29.0
MKAR Makanchi Array 104.40 315 PP PP 03 30 37.9 +0.1
comp=Z,3.1nm,0.9s,baz=123,slow=9.0,SNR=4.6
MKAR PKKPbc **PKKPbc 03 42 04.1 -2.2**
comp=Z,3.7nm,0.8s,baz=258,slow=3.3,SNR=17
MKAR PKPPKP **P'P'df 03 50 29.0 +4.4**
comp=Z,1.1nm,1.0s,baz=339,slow=3.1,SNR=6.6
ZALV Zalesovo Beam 104.93 322 PP PP 03 30 42.8 +1.3
ZALV PKKPbc **PKKPbc 03 42 04.1 -0.7**
ZALV Zalesovo Beam 104.93 322 PP PP 03 30 42.8 +1.3
comp=Z,1.8nm,0.8s,baz=123,slow=5.5,SNR=4.2
ZALV PKKPbc **PKKPbc 03 42 04.1 -0.7**
comp=Z,1.3nm,0.6s,baz=252,slow=1.3,SNR=4.1
KSU1 Kansas State U 105.93 54 PFAKE 03 30 50.0
KSU1 LR LR
comp=Z,885nm,19.0s
FFC Flin Flon 106.47 37 PFAKE 03 30 50.0
FFC LR LR
comp=Z,681nm,19.0s
TGUH Tegucigalpa,Un 106.55 81 PFAKE 03 30 50.0
TGUH LR LR
comp=Z,1µm,21.0s
MIAR Mount Ida 107.07 59 PFAKE 03 30 50.0
MIAR LR LR
comp=Z,1µm,20.0s
ECSD EROS Data Cent 107.12 49 PFAKE 03 30 50.0
ECSD LR LR
comp=Z,2µm,20.0s
LVC Limon Verde 107.26 124 *e*PKP **PKiKP 03 30 40.3 -0.8**
LVC LR LR
comp=Z,1µm,19.0s
JTS JuntasAbangare 107.44 86 PFAKE 03 30 50.0
JTS LR LR
comp=Z,2µm,19.0s
TEIG Tepich 107.57 75 PFAKE 03 30 50.0
TEIG LR LR
comp=Z,1µm,20.0s
KURK Kurchatov 107.76 318 *e*PKP **PKiKP 03 30 39.5 -1.3**
KURK LR LR
comp=Z,873nm,20.0s
TKM2 Tokmak 2 107.98 310 PFAKE 03 30 50.0
TKM2 LR LR
comp=Z,1µm,21.0s
AGMN Agassiz Nation 108.68 45 PFAKE 03 30 50.0
AGMN LR LR
comp=Z,2µm,20.0s
AAK Ala-Archa 108.70 309 *e*PKP **PKiKP 03 30 42.7 -0.4**
AAK LR LR
comp=Z,1µm,19.0s
VBMS Vicksburg 108.94 62 PFAKE 03 31 00.0
VBMS LR LR
comp=Z,1µm,21.0s
ULM Lac du Bonnet 109.08 43 PKiKP **PKiKP 03 30 41.0 -2.2**
ULM Lac du Bonnet 109.08 43 PKiKP **PKiKP 03 30 41.0 -2.2**
comp=Z,5.5nm,0.7s,baz=204,slow=5.0,SNR=4.0
SCIA State Center 109.12 52 PFAKE 03 31 00.0
SCIA LR LR
comp=Z,1µm,20.0s
EKS2 Erkin-Say 109.23 309 *e*PKP **PKiKP 03 30 43.5 -0.5**
EKS2 LR LR
comp=Z,1µm,21.0s
OTAV Otavalo 109.79 98 PFAKE 03 31 00.0
OTAV LR LR
comp=Z,614nm,21.0s
MSEY Mahe Island 110.91 256 PFAKE 03 31 00.0
MSEY LR LR
comp=Z,4µm,21.0s
ABPO Ambohimpanom 110.92 238 PFAKE 03 31 00.0
ABPO LR LR
comp=Z,3µm,20.0s
KBL Kabul 111.07 300 *e*PKIKP **PKiKP 03 30 47.3 -0.5**
KBL Kabul 111.07 300 *e*PKP **PKiKP 03 30 47.3 -0.5**
LPAZ La Paz 111.29 119 *e*Pdif **Pdif 03 26 50.8 +0.1**
LPAZ *e*PKP **PKiKP 03 30 49.9 +0.6**
LPAZ PKKPbc **PKKPbc 03 41 45.0 +0.6**
LPAZ La Paz 111.29 119 PKKPbc PKKPbc 03 41 45.0 +0.6
comp=Z,1.0nm,0.7s,baz=22,slow=8.0,SNR=3.7
JFWS Jewell Farm 111.48 51 PFAKE 03 31 00.0
JFWS LR LR
comp=Z,2µm,20.0s
EYMN Ely 111.49 46 PFAKE 03 31 00.0
EYMN LR LR
comp=Z,2µm,20.0s
BRAL Brewton 111.51 64 PFAKE 03 31 00.0
BRAL LR LR
comp=Z,1µm,22.0s
KKAR Karatay Array 111.67 309 *e*PKIKP **PKiKP 03 30 46.7 -1.8**
KKAR Karatay Array 111.67 309 *e*PKP **PKiKP 03 30 46.7 -1.8**
BCIP Isla Barro Col 111.79 89 PFAKE 03 31 00.0
BCIP LR LR
comp=Z,627nm,20.0s
LRAL Lakeview Retre 112.02 62 *e*PKP **PKiKP 03 30 48.3 -1.1**
LRAL LR LR
comp=Z,2µm,19.0s
RES Resolute Bay 112.40 17 *e*PKP **PKiKP 03 30 49.7 +0.8**
BRVK Borovoye 113.25 320 *e*PKIKP **PKiKP 03 30 50.1 -1.0**
BRVK MLR MLR
comp=Z,2µm,22.0s
BRVK Borovoye 113.25 320 *e*PKP **PKiKP 03 30 50.0 -1.0**
BRVK LR LR
comp=Z,2µm,22.0s
CPUP Villa Florida 113.38 134 *e*PKP **PKiKP 03 30 51.6 -0.6**
ROSC El Rosal 115.36 95 *e*PKPdf **PKPdf 03 30 56.6 -0.3**
ACSO Alum Creek Sta 116.45 55 PFAKE 03 31 10.0 +12
ACSO LR LR
comp=Z,1µm,19.0s
BLA Blacksburg 118.05 59 *e*PKIKP **PKPdf 03 30 59.9 -1.0**
BLA MLR MLR
comp=Z,1µm,19.0s
BLA Blacksburg 118.05 59 *e*PKPdf **PKPdf 03 30 59.9 -1.0**
BLA LR LR
comp=Z,1µm,19.0s
SUR Sutherland 118.46 209 *e*PKPdf **PKPdf 03 31 03.1 +0.9**
SUR LR LR
comp=Z,3µm,19.0s
MCWV Mont Chateau 118.78 56 PFAKE 03 31 10.0 +7.8
MCWV LR LR
comp=Z,2µm,19.0s
ERPA Erie 118.89 53 PFAKE 03 31 10.0 +7.7
ERPA LR LR
comp=Z,991nm,19.0s
SAML Samuel 119.23 115 *e*PKPdf **PKPdf 03 31 04.1 +0.3**
SAML LR LR
comp=Z,2µm,21.0s
BOSA Boshof 119.33 215 PKP **PKPdf 03 31 03.3 -0.5**
BOSA Boshof 119.33 215 PKP **PKPdf 03 31 03.3 -0.5**
comp=Z,7.9nm,1.0s,baz=96,slow=3.2,SNR=5.8
GTBY Guantanamo Bay 119.38 79 PFAKE 03 31 20.0 +16
GTBY LR LR
comp=Z,545nm,21.0s
ABKAR Akbulak array 119.54 315 *e*PKPdf **PKPdf 03 31 03.2 -0.2**
CNNC Cliffs of the 119.83 61 PFAKE 03 31 20.0 +16
CNNC LR LR
comp=Z,2µm,19.0s
ARU Arti 120.07 323 *i* PKIKP **PKPdf 03 31 03.2 -0.9**
ARU 03 32 25.3
ARU SP SP 03 42 08.1 -6.4
JSRW J. Sargeant Re 120.12 58 *e*PKPdf **PKPdf 03 31 04.5 -0.3**
CBN Corbin 120.56 58 PFAKE 03 31 20.0 +14
CBN LR LR
comp=Z,1µm,19.0s
SOKR Solikamsk 120.63 327 *i* PKIKP **PKPdf 03 31 04.7 -0.3**
SOKR pmax pmax
comp=Z,10.0nm,1.5s
SPB Sao Paulo 121.66 139 PFAKE 03 31 20.0 +12
SPB LR LR
comp=Z,1µm,19.0s
BINY Binghamton 121.87 53 PFAKE 03 31 20.0 +12
BINY LR LR
comp=Z,2µm,19.0s
LBTB Lobatse 121.95 218 *e*PKPdf **PKPdf 03 31 08.8 -0.2**
KBS Kingsbay 122.22 355 PFAKE 03 31 20.0 +12
KBS LR LR
comp=Z,802nm,22.0s
SDDR Presa de Saban 122.64 81 *e*PKPdf **PKPdf 03 31 09.3 -0.9**
SDDR LR LR
comp=Z,825nm,21.0s
LONY Lake Ozonia 122.92 50 *e*PKPdf **PKPdf 03 31 08.6 -1.4**
LONY LR LR
comp=Z,2µm,21.0s
NCB Newcomb 123.18 51 *e*PKPdf **PKPdf 03 31 09.6 -1.0**
NCB LR LR
comp=Z,2µm,20.0s
GRTK Grand Turk 123.37 78 PFAKE 03 31 20.0 +8.5
GRTK LR LR
comp=Z,859nm,21.0s
TRY Troy 123.59 53 *e*PKPdf **PKPdf 03 31 11.1 -0.2**
LBNH Lisbon 124.83 51 PFAKE 03 31 30.0 +16
LBNH LR LR
comp=Z,2µm,19.0s
BRYW Bryant College 125.18 54 *e*PKPdf **PKPdf 03 31 13.7 -0.7**
CRPR Cabo Rojo, PR 126.23 83 *e*PKPdf **PKPdf 03 31 16.1 -1.0**
LSP Las Mesas 126.30 83 *e*PKPdf **PKPdf 03 31 16.9 -0.4**
LRS Lares 126.55 83 *e*PKPdf **PKPdf 03 31 16.8 -1.0**
SCHQ Schefferville 126.62 37 *e*PKPdf **PKPdf 03 31 15.8 -1.0**
SCHQ Schefferville 126.62 37 PKP **PKPdf 03 31 16.3 -0.4**
comp=Z,23nm,1.0s,baz=319,slow=3.6,SNR=7.3
PKME Peaks-Kenny Pk 126.64 49 *e*PKPdf **PKPdf 03 31 16.7 -0.4**
PKME LR LR
comp=Z,2µm,20.0s
ILULI Ilulissat 126.70 17 *i* PKIKP **PKPdf 03 31 15.2 -1.3**
ILULI pmax pmax
comp=Z,37nm,1.0s
OBIP Obispado Ponce 126.70 83 *e*PKPdf **PKPdf 03 31 16.8 -1.1**
CELP Cerrillos 126.74 83 *e*PKPdf **PKPdf 03 31 16.7 -1.3**
SUMG Summit 126.97 10 *e*PKIKP **PKPdf 03 31 16.9 -0.6**
SUMG Summit 126.97 10 *i* P **PKPdf 03 31 17.4 -0.1**
comp=Z,25nm,1.1s
SUMG Summit 126.97 10 *e*PKPdf **PKPdf 03 31 16.9 -0.6**
BDFB Brasilia 126.99 132 PKP **PKPdf 03 31 18.2 -0.6**
BDFB Brasilia 126.99 132 PKP **PKPdf 03 31 18.2 -0.6**
comp=Z,19nm,0.9s,baz=234,slow=2.2,SNR=18
SJG San Juan 127.14 84 *e*PKPdf **PKPdf 03 31 17.5 -1.3**
SJG LR LR
comp=Z,573nm,19.0s
PQI Presque Isle 127.38 47 *e*PKPdf **PKPdf 03 31 17.3 -1.1**
LSZ Lusaka 127.45 228 *e*PKPdf **PKPdf 03 31 20.2 +0.5**
LSZ LR LR
comp=Z,2µm,20.0s
CBYP Canovanas 127.45 83 *e*PKPdf **PKPdf 03 31 18.5 -1.0**
KEV Kevo 127.51 345 PFAKE 03 31 30.0 +12
KEV LR LR
comp=Z,2µm,21.0s
MTP Monte Pirata 127.69 84 *e*PKPdf **PKPdf 03 31 19.0 -0.8**
ARCES ARCESS Array B 128.03 345 PKP **PKPdf 03 31 19.0 -0.1**
ARCES ARCESS Array B 128.03 345 PKP **PKPdf 03 31 19.0 -0.1**
comp=Z,4.1nm,0.6s,baz=57,slow=2.1,SNR=13
UMR Umm Al-Rimmam 128.16 291 *e*P **PKPdf 03 31 21.1 +0.7**
RDF Al-Radifah 128.24 290 *e*P **PKPdf 03 31 20.8 +0.2**
RDF AMb AMB 03 31 36.0
comp=Z,127nm,1.4s
SFJD Kangerlussuaq 128.27 19 *i* P **PKPdf 03 31 19.3 -0.2**
comp=Z,11nm,1.0s
SFJD Kangerlussuaq 128.27 19 PFAKE 03 31 30.0 +10
SFJD LR LR
comp=Z,1µm,21.0s
STVI Saint Thomas 128.30 84 *e*PKPdf **PKPdf 03 31 20.1 -1.0**
CDVI St. Croix 128.33 84 *e*PKPdf **PKPdf 03 31 21.1 0.0**
KLMR Klimovskoe 128.47 332 *e*PKIKP **PKPdf 03 31 18.8 -1.3**
KLMR pmax pmax
comp=Z,46nm,1.7s
NAY Al-Naaiem 128.54 290 *e*P **PKPdf 03 31 21.5 +0.3**
NAY AMb AMB 03 31 36.2
comp=Z,36nm,1.3s
KMBO Kilima Mbogo 128.68 250 PKP **PKPdf 03 31 23.4 +1.2**
KMBO *e*PKPdf **PKiKP 03 31 24.2 +1.3**
KMBO LR LR
comp=Z,2µm,20.0s
KMBO Kilima Mbogo 128.68 250 PKP **PKPdf 03 31 23.4 +1.2**
comp=Z,11nm,0.9s,baz=46,slow=3.1,SNR=18
RST Umm Al-Ruwaisa 128.78 291 *e*P **PKPdf 03 31 21.7 0.0**
GRGR Grenville 129.63 92 PFAKE 03 31 40.0 +16
GRGR LR LR
comp=Z,590nm,22.0s
BBSR BB Station 130.55 66 *e*PKPdf **PKPdf 03 31 24.3 -0.6**
BBSR LR LR
comp=Z,729nm,19.0s
GNI Garni 130.75 305 *e*PKPdf **PKPdf 03 31 24.1 -1.3**
GNI LR LR
comp=Z,616nm,20.0s
TSUM Tsumeb 131.03 215 *e*PKPdf **PKPdf 03 31 28.1 +1.7**
TSUM LR LR
comp=Z,3µm,21.0s
ANWB Willy Bob 131.06 85 *e*PKPdf **PKPdf 03 31 25.8 -0.5**
ANWB LR LR
comp=Z,683nm,22.0s
ZEI Tsey 131.11 308 *i* PKHKP PKPpre 03 31 08.6
ZEI pmax pmax
comp=Z,5.0nm,1.0s
MOS Moscow 131.56 326 *e*PKIKP PKPdf 03 31 34.9 +8.8
MOS pmax pmax
comp=Z,38nm,1.0s
KIV Kislovodsk 131.82 310 *i* PKIKP **PKPdf 03 31 25.3 -1.8**
KIV *e* 03 31 35.6
KIV *e* 03 33 44.5
KIV *e*SS SS 03 51 20.2 -1.4
KIV pmax pmax
comp=Z,4.0nm,1.0s
BBGH Gun Hill 131.89 92 PFAKE 03 31 40.0 +12
BBGH LR LR
comp=Z,1µm,21.0s
OBN Obninsk 132.36 326 *i* PKIKP **PKPdf 03 31 27.1 -0.5**
OBN *e*SS SS 03 51 29.4 +2.5
OBN pmax pmax
comp=Z,8.0nm,0.9s
FINES FINESS Array B 133.55 337 PKP **PKPdf 03 31 29.4 -0.3**
FINES SKPbc **SKPab 03 34 58.4 +0.5**
FINES FINESS Array B 133.55 337 PKP **PKPdf 03 31 29.4 -0.3**
comp=Z,6.4nm,0.8s,baz=91,slow=2.1,SNR=7.3
FINES SKPbc **SKPab 03 34 58.4 +0.5**
comp=Z,16nm,1.0s,baz=64,slow=4.4,SNR=7.5
NRS Narsarsuaq 133.81 23 *i* PKIKP **PKPdf 03 31 30.0 -0.1**
NRS pmax pmax
comp=Z,42nm,1.1s
MBAR Mbarara 134.54 246 PFAKE 03 31 40.0 +6.7
MBAR LR LR
comp=Z,535nm,21.0s
ANN Anapa 135.33 312 *i* PKIKP **PKPdf 03 31 33.2 -0.3**
ANN *e* 03 34 10.5
ANN *e*SS SS 03 52 10.5 +6.9
ANN pmax pmax
comp=Z,116nm,6.2s
NACGM Naroch 137.35 329 *e* **PKPdf 03 31 34.0 -3.0**
AKASG Malin Array Be 138.32 323 PKHKP PKPpre 03 31 26.6
AKASG Malin Array Be 138.32 323 PKPpre PKPpre 03 31 26.6
AKASG Malin Array Be 138.32 323 PKhKP PKPpre 03 31 26.6
comp=Z,1.0nm,0.6s,baz=46,slow=3.6,SNR=4.9
KIEV Kiev 138.33 323 *e*PKIKP **PKPdf 03 31 37.8 -1.1**
KIEV MLR MLR
comp=Z,1µm,19.0s
KIEV Kiev 138.33 323 *e*PKPdf **PKPdf 03 31 37.8 -1.1**
KIEV LR LR
comp=Z,1µm,19.0s
NB2 NORSAR Subarra 138.41 345 PKPdf PKPpre 03 31 29.1
comp=Z,9.2nm,1.2s,baz=31,slow=1.9
NB2 NORSAR Subarra 138.41 345 PKPdf PKPpre 03 31 29.1
baz=31,slow=1.9
NOA NORSAR Array B 138.41 345 PKPpre PKPpre 03 31 27.9
NOA PKP **PKPdf 03 31 36.1 -2.7**
NOA SKPbc **SKPbc 03 35 11.1 +0.3**
NOA NORSAR Array B 138.41 345 PKhKP PKPpre 03 31 27.9
comp=Z,2.0nm,0.9s,baz=37,slow=2.2,SNR=5.5
NOA PKP **PKPdf 03 31 36.1 -2.7**
comp=Z,2.9nm,0.9s,baz=31,slow=2.5,SNR=6.0
NOA SKPbc **SKPbc 03 35 11.1 +0.3**
comp=Z,1.8nm,0.8s,baz=17,slow=4.3,SNR=5.3
NAO01 NORSAR Array S 138.66 345 *e*PKPdf **PKPdf 03 31 38.2 -1.0**
ANTO Ankara 139.86 306 PFAKE 03 31 50.0 +7.8
ANTO LR LR
comp=Z,801nm,21.0s
KONO Kongsberg 140.02 345 PFAKE 03 31 50.0 +8.3
KONO LR LR
comp=Z,2µm,22.0s
KIS Kishinev 140.24 318 *e*PKP PKPdf 03 31 58.0 +15
KIS Kishinev 140.24 318 *e*PP PP 03 35 08.0 +27
KIS *e*SKP 03 35 33.0
KIS *e*L L 04 20 00.0
KIS LRM MLR 04 35 16.0
comp=Z,2µm,21.0s
CSS Prodhromos 140.31 299 *e*PKPdf **PKPdf 03 31 42.5 -0.6**
CSS LR LR
comp=Z,1µm,20.0s
TLCR 140.99 316 ⇑PKIKP **PKPdf 03 31 39.4 -4.5**
TLCR 140.99 316 ⇑*i*P **PKPdf 03 31 39.4 -4.5**
TIRR Tirgusor 141.53 315 ⇑*i*P PKPdf 03 31 55.6 +11
LVV L'vov 141.63 325 *e*PKHKP PKPpre 03 31 35.1
PRAR RASCA 141.65 320 ⇓*i*P **PKPdf 03 31 41.4 -3.7**
TESR Tescani 141.79 318 ⇑*i*P **PKPdf 03 31 42.4 -3.0**
SHEL Horse Pasture 142.00 186 PFAKE 03 32 00.0 +13
SHEL LR LR
comp=Z,2µm,19.0s
VRI Vrincioaia 142.03 318 ⇓PKHKP **PKPdf 03 31 41.0 -4.8**
VRI Vrincioaia 142.03 318 ⇓*i*P **PKPdf 03 31 41.0 -4.8**
ISP Isparta 142.05 304 PFAKE 03 32 00.0 +14
ISP LR LR
comp=Z,907nm,20.0s
MSAB Monastry St. A 142.07 314 ⇑*i*P PKPdf 03 31 57.3 +11
BUR08 Bucovina Ar. S 142.12 321 *e*PKPpre **PKPdf 03 31 43.1 -3.0**
BURAR Bucovina Array 142.13 321 ⇑PKIKP **PKPdf 03 31 42.9 -3.2**
BURAR Bucovina Array 142.13 321 ⇑*i*P **PKPdf 03 31 42.9 -3.2**
RCBR Riachuelo 142.26 134 *e*PKPpre PKPpre 03 31 42.0
RCBR *e*PKPdf **PKiKP 03 31 49.8 -0.5**
RCBR LR LR
comp=Z,1µm,19.0s
KWP Kalwaria Pacla 142.44 325 *e*PKIKP **PKPdf 03 31 46.1 -0.3**
KWP MLR MLR
comp=Z,1µm,19.0s
KWP Kalwaria Pacla 142.44 325 ⇑*i*P PKPdf 03 31 40.9 -5.5
KWP Kalwaria Pacla 142.44 325 *e*PKPdf **PKPdf 03 31 46.1 -0.3**
KWP LR LR
comp=Z,1µm,19.0s
KWP Kalwaria Pacla 142.44 325 *e*PKP PKPdf 03 31 40.5 -5.9
GKP Gorka Klasztor 142.67 333 *e*PKP **PKPdf 03 31 43.2 -3.5**
MLR Muntele Rosu 142.69 317 ⇓*i*P **PKPdf 03 31 45.1 -2.1**
MUD Monsted U'grnd 142.93 343 *e*PKHKP PKPpre 03 31 41.7
MUD pmax pmax
comp=Z,11nm,0.9s
MUD Monsted U'grnd 142.93 343 *i* P PKPpre 03 31 41.7
comp=Z,11nm,0.8s
UZH Uzhgorod 143.24 324 *e*PKIKP PKPbc 03 31 44.3 -0.6
UZH *e* 03 31 59.5
VOIR 143.28 318 ⇓PKIKP **PKPdf 03 31 49.4 +1.3**
VOIR 143.28 318 ⇓*i*P **PKPdf 03 31 49.4 +1.3**
KULA Kula-Manisa 143.30 305 *e*P PKPdf 03 31 56.6 +8.2
STHS Stebnicka Huta 143.34 326 *e*PKP **PKPdf 03 31 48.3 +0.3**
MTUR Matau 143.37 317 ⇓PKIKP **PKPdf 03 31 51.6 +3.3**
MTUR Matau 143.37 317 ⇓*i*P **PKPdf 03 31 51.6 +3.3**
TRPA Tarpa 143.38 323 ⇑*i*P PKPbc 03 31 46.0 +0.7
JMB Yambol 143.53 312 P PKPbc 03 31 47.0 +1.1
ARR Arges 143.57 318 ⇓*i*P PKPbc 03 31 47.3 +1.3
BALB Balikesir 143.57 307 *e*P PKPdf 03 31 55.8 +7.1
GONE Gonen-Balikesi 143.59 308 *e*P PKPdf 03 31 58.9 +10
DALY Dalyan (Mu˘la 143.72 303 *e*P **PKPdf 03 31 49.0 0.0**
HUMR Humele 143.74 316 ⇑*i*P PKPbc 03 31 46.7 +0.2
YER Yerkesik 143.94 303 *e*P **PKPdf 03 31 49.4 -0.1**
MVH1 Achvaich 143.96 355 *e*P PKPab 03 31 46.2 +0.1
DRGR 144.01 321 ⇓PKIKP PKPbc 03 31 47.5 +0.2
DRGR 144.01 321 ⇓*i*P PKPbc 03 31 47.5 +0.2
AYDB Zeytinkoy-Aydi 144.04 305 *e*P **PKPab 03 31 46.6 -0.6**
LOT Lotru 144.07 319 ⇓*i*P PKPbc 03 31 48.0 +0.4
PVL Pavlikeni 144.07 314 P **PKPdf 03 31 50.6 +1.1**
MCD Coleburn Disti 144.22 354 *e*P **PKPab 03 31 46.3 -0.8**
DEV Deva 144.38 320 ⇑PKIKP PKPbc 03 31 49.1 +0.7
DEV Deva 144.38 320 ⇑*i*P PKPbc 03 31 49.1 +0.7
IZM Izmir 144.39 306 *e*P PKPbc 03 31 48.6 -0.1
MME1 Meikle Cairn 144.45 354 *e*P **PKPab 03 31 47.4 -0.6**
MDO Dochfour 144.46 355 *e*P **PKPab 03 31 47.6 -0.4**
KAC Achnashellach 144.47 356 *e*P **PKPab 03 31 47.7 -0.3**
ALN Alexandroupoli 144.48 310 P **PKPab 03 31 48.0 -0.6**
DAT Datca 144.59 303 *e*P **PKPab 03 31 47.0 -2.3**
OKC Ostrava-Krasne 144.64 328 *e*PKP PKPbc 03 31 49.0 -0.1
OKC *ex* x 03 32 00.4
OKC AMS AMS 04 39 40.0
comp=Z,1µm,18.9s
KDZ Kurdzhali 144.65 312 P **PKPab 03 31 48.9 -0.3**
KPL Plockton 144.65 356 *e*P **PKPab 03 31 47.8 -0.8**
KPL AMB AMB 03 31 51.7
comp=Z,156nm,1.2s
RUE Ruedersdorf 144.66 335 *e*PKPdf PKPbc 03 31 49.0 0.0
BODT Bodrum 144.71 303 *e*P **PKPab 03 31 47.4 -2.2**
BSEG Bad Segeberg 144.73 339 *e*PKIKP **PKPab 03 31 48.9 -0.2**
BSEG Bad Segeberg 144.73 339 *e*PKPbc **PKPab 03 31 48.9 -0.2**
RDO Rodhopi 144.75 311 P **PKPab 03 31 49.1 -0.5**
DRUM Mains of Drumt 144.80 353 *e*P **PKPab 03 31 47.9 -1.4**
DRUM AMB AMB 03 31 50.3
comp=Z,198nm,1.5s
KSP Ksiaz 144.81 331 *e*PKP **PKPab 03 31 49.2 -0.3**
PRK Paraskevi 144.88 307 P **PKPab 03 31 49.0 -1.1**
SMG Samos 144.91 305 P **PKPab 03 31 49.3 -1.0**
SIRR Siria 144.91 321 ⇓*i*P **PKPdf 03 31 50.7 -0.2**
NIS1 Nisyros Isl. 144.93 303 P **PKPab 03 31 49.6 -0.8**
NIS1 Nisyros Isl. 144.93 303 *e*P **PKPab 03 31 49.0 -1.4**
PLD Plovdiv 144.96 313 P **PKPab 03 31 49.7 -0.6**
PLD Plovdiv 144.96 313 P PKPbc 03 31 50.5 +0.2
PSZ Piszkesteto 144.96 325 ⇓PKIKP PKPbc 03 31 50.6 +0.3
PSZ Piszkesteto 144.96 325 ⇓*i*P PKPbc 03 31 50.6 +0.3
PSZ Piszkesteto 144.96 325 *e*PKPdf PKPbc 03 31 50.5 +0.3
PSZ LR LR
comp=Z,2µm,21.0s
PSZ Piszkesteto 144.96 325 ⇓*e* PKPbc 03 31 50.6 +0.3
SMTH Samothraki Isl 145.00 310 P **PKPbc 03 31 49.6 -1.0**
MPEP Malo Peshtene 145.06 315 P **PKPdf 03 31 51.1 -0.1**
RZN Rozhen 145.11 312 P **PKPbc 03 31 50.9 -0.2**
PGB Panagyurishte 145.13 314 P **PKPab 03 31 51.1 0.0**
DPC Dobruska-Polom 145.15 330 *e*PKP **PKPab 03 31 51.0 +0.2**
DPC *ex* x 03 31 59.8
DPC *ex* x 03 54 19.2
DPC AMS AMS 04 29 20.0
UPC Upice 145.18 331 *e*PKP **PKPbc 03 31 50.8 0.0**
UPC *ex* x 03 32 01.5
KARP Karpathos 145.18 301 P **PKPbc 03 31 51.1 -0.2**
BZS Buzias 145.28 320 ⇓PKIKP **PKPbc 03 31 51.3 0.0**
BZS Buzias 145.28 320 ⇓*i*P **PKPbc 03 31 51.3 0.0**
CHOS Chios island 145.30 306 P **PKPbc 03 31 51.5 -0.2**
CHOS Chios island 145.30 306 *e*P **PKPbc 03 31 51.7 0.0**
LIA Limnos Island 145.45 309 P **PKPdf 03 31 51.0 -0.9**
KAVA Kavala 145.52 311 P **PKPdf 03 31 52.0 -0.1**
PKSN Nyarlorinc 145.58 323 ⇓*e* **PKPab 03 31 53.0 +0.6**
BUD Budapest 145.69 325 ⇓*e* **PKPab 03 31 53.1 +0.3**
EAB Aberfoyle 145.70 355 *e*P **PKPdf 03 31 51.4 -0.5**
VRAC Vranov 145.74 329 ⇓*i*P **PKPab 03 31 53.1 +0.1**
VRAC Vranov 145.74 329 PKPbc **PKPab 03 31 53.2 +0.1**
VRAC Vranov 145.74 329 PKPbc **PKPab 03 31 53.2 +0.1**
comp=Z,120nm,1.0s,baz=52,slow=2.4,SNR=98
VTS Vitosha 145.75 314 P **PKPab 03 31 53.6 +0.1**
VTS Vitosha 145.75 314 ⇓PKP2 **PKPab 03 31 53.4 -0.1**
VTS Vitosha 145.75 314 ⇓*i*P **PKPab 03 31 53.4 -0.1**
VTS Vitosha 145.75 314 P **PKPab 03 31 54.4 +0.9**
ESY Stoneypath 145.79 353 *e*P **PKPdf 03 31 51.6 -0.4**
PVCC Panska Ves 145.80 332 *e*PKP **PKPab 03 31 53.2 0.0**
PVCC AMS AMS 04 33 40.0
comp=Z,2µm,22.5s
BRG Berggiesshubel 145.81 333 *i* PKP **PKPab 03 31 53.1 -0.1**
comp=Z,259nm,1.0s
BRG *e*PP PP 03 35 19.8 +6.2
comp=Z,39nm,2.0s
BRG *e*PKS **PKSdf 03 35 30.3 +2.9**
comp=Z,25nm,1.7s
BRG SS SS 03 54 23.0 +18
BRG
comp=N,650nm,15.1s
BRG
comp=E,823nm,21.2s
BRG
comp=Z,2µm,26.0s
BRG Berggiesshubel 145.81 333 *e*PKPbc **PKPbc 03 31 52.9 +0.1**
MMB Musomiste 145.83 313 P **PKPdf 03 31 52.8 +0.2**
NVR Nevrokopi 145.84 312 P **PKPdf 03 31 52.6 0.0**
CLL Collm 145.87 334 ⇑*i*PKP2 **PKPdf 03 31 52.4 +0.1**
CLL pmax pmax
comp=Z,2.0nm,0.9s
CLL MLR MLR
comp=Z,1µm,20.3s
CLL Collm 145.87 334 *e*PKPbc **PKPdf 03 31 52.6 +0.3**
CLL Collm 145.87 334 *e*PKPdf PKPpre 03 31 39.0
CLL Collm 145.87 334 ⇑*i*PKPdf **PKPdf 03 31 52.4 +0.1**
comp=Z,221nm,0.9s
CLL *e* 03 32 42.0
CLL *e*PPS PPS 03 47 52.0
CLL *e*SS SS 03 54 12.0 +6.6
CLL *e*SSS SSS 03 59 34.0
CLL L L 04 37 00.0
comp=Z,1µm,20.3s
PKS7 Kunszentmiklos 145.88 324 ⇓*e* **PKPab 03 31 53.5 -0.1**
EBL Broad Law 145.98 353 *e*P **PKPdf 03 31 52.4 0.0**
NRDL Niedersach Rie 146.00 338 *e*PKPbc **PKPbc 03 31 53.1 -0.1**

ZKR	Zakros	146.03 300	P	PKPdf	03 31 53.1	0.0	
ZKR	Zakros	146.03 300	*e*P	PKPbc	03 31 54.2	+0.3	
PGBU	Glenifferbraes	146.08 355	*e*P	PKPdf	03 31 51.7	-0.8	
PGBU			AMB	AMB	03 31 55.8		
	comp=Z,248nm,1.4s						
APE	Apeiranthos	146.08 304	P	PKPdf	03 31 52.2	-1.0	
APE	Apeiranthos	146.08 304	⇓PKP2	PKPbc	03 31 54.0	-0.1	
APE	Apeiranthos	146.08 304	*e*P	PKPab	03 31 56.0	+1.2	
APE	Apeiranthos	146.08 304	⇓*i*P	PKPbc	03 31 54.0	-0.1	
PKSG		146.08 325	⇓*e*	PKPbc	03 31 53.7	0.0	
SRS	Serrai	146.12 312	P	PKPdf	03 31 52.8	-0.3	
OUR	Ouranopolis	146.15 310	P	PKPbc	03 31 53.8	-0.3	
KKB	Krupnik	146.15 313	P	PKPab	03 31 54.7	-0.1	
PKS2	Kecel	146.18 323	⇓*e*	PKPab	03 31 54.8	+0.1	
PRA	Prague	146.20 332	PKP	PKPab	03 31 55.0	+0.3	
PRU	Pruhonice	146.21 331	*e*PKP	PKPab	03 31 54.6	-0.1	
PRU			*ex*	x	03 32 02.8		
PRU			*e*SS	SS	03 54 15.8	+6.4	
PRU			AMS	AMS	04 36 00.0		
	comp=Z,2μm,21.2s						
TREC	Trest	146.27 330	*e*PKP	PKPbc	03 31 54.5	+0.2	
TREC			AMS	AMS	04 30 20.0		
	comp=Z,3μm,28.5s						
THR2	Thira island,	146.32 303	P	PKPdf	03 31 53.7	+0.1	
SANT	Santorini	146.33 303	PFAKE		03 32 10.0	+14	
SANT			LR	LR			
	comp=Z,734nm,21.0s						
THR1	Thera Island	146.33 303	P	PKPdf	03 31 53.1	-0.5	
PKST	T"'s	146.35 325	⇓*e*	PKPbc	03 31 54.3	-0.3	
THR3	Thira Island,	146.36 303	P	PKPdf	03 31 53.8	+0.2	
THR6	Thira Island,	146.38 303	P	PKPdf	03 31 53.8	+0.1	
SOH	Sokhos	146.40 311	P	PKPab	03 31 55.9	0.0	
EKA	Eskdalemuir Ar	146.42 353	PKPbc	PKPdf	03 31 53.6	+0.5	
EKA	Eskdalemuir Ar	146.42 353	PKPbc	PKPdf	03 31 53.6	+0.5	
	comp=Z,32nm,0.5s,baz=355,slow=2.5,SNR=194						
ESK	Eskdalemuir	146.44 353	*e*P	PKPdf	03 31 53.7	+0.6	
ESK			AMB	AMB	03 31 55.9		
	comp=Z,141nm,1.8s						
ESK	Eskdalemuir	146.44 353	*e*PKP2	PKPbc	03 31 54.0	-0.6	
ESK			MLR	MLR			
	comp=Z,2μm,20.0s						
ESK	Eskdalemuir	146.44 353	*e*PKPbc	PKPbc	03 31 54.0	-0.6	
ESK			LR	LR			
	comp=Z,2μm,20.0s						
CLZ	Clausthal	146.44 337	*e*PKP2	PKPbc	03 31 55.0	+0.3	
CLZ	Clausthal	146.44 337	*e*PKPbc	PKPbc	03 31 55.0	+0.3	
NPS	Neapolis	146.48 301	P	PKPbc	03 31 55.2	-0.1	
PLG	Polygyros	146.51 311	P	PKPdf	03 31 53.9	+0.1	
PAIG	Paliouri	146.52 310	P	PKPdf	03 31 53.8	0.0	
ECK	Cauldkaine Hil	146.57 353	*e*P	PKPdf	03 31 54.1	+0.8	
KNT	Kendrikon	146.58 312	P	PKPdf	03 31 53.3	-0.6	
LAST	Lasithi	146.61 301	P	PKPbc	03 31 55.1	-0.7	
PKS9	Tamasi	146.64 324	⇓*e*	PKPbc	03 31 55.5	+0.1	
AOS	Alonnisos	146.65 308	P	PKPdf	03 31 53.5	-0.5	
AOS	Alonnisos	146.65 308	*e*P	PKPbc	03 31 55.9	+0.2	
HORT	Hortiatis	146.67 311	P	PKPdf	03 31 54.9	+0.8	
VAY	Valandovo	146.73 313	P	PKPdf	03 31 53.5	-0.6	
VAY	Valandovo	146.73 313	*e*PKP	PKPdf	03 31 53.0	-1.0	
THE	Thessaloniki	146.75 311	P	PKPdf	03 31 54.9	+0.8	
XAL	Allendale	146.77 352	*e*P	PKPbc	03 31 54.8	-0.8	
TANN	Tannenbergstha	146.78 334	*e*PKPbc	PKPbc	03 31 55.8	+0.1	
IBBN	Ibbenburen	146.93 340	*e*PKPbc	PKPbc	03 31 55.8	-0.2	
SKIA	Skiathos	146.95 309	P	PKPbc	03 31 55.7	-0.9	
ERET	Eretria	146.96 307	P	PKPdf	03 31 55.3	+0.6	
GRG	Griva	147.00 312	P	PKPbc	03 31 55.9	-0.8	
MRKA	Markates	147.03 308	P	PKPbc	03 31 55.9	-0.9	
CONA	Conrad Observa	147.04 328	⇓*i*pPKPdf	PKPbc	03 31 57.0	+0.4	
	comp=Z,75nm,1.1s,SNR=19						
PTL	Penteli	147.05 307	P	PKPdf	03 31 55.8	+1.0	
IDI	Anoyia	147.05 301	PKPbc	PKPbc	03 31 57.0	-0.1	
IDI	Anoyia	147.05 301	PKPbc	PKPbc	03 31 57.0	-0.1	
	comp=Z,70nm,1.1s,baz=127,slow=3.4,SNR=22						
DIVS	Divibare	147.07 319	P	PKPbc	03 31 56.7	-0.1	
NEO	Neokhori	147.08 309	P	PKPbc	03 31 56.1	-0.8	
XOR	Xorichti	147.08 309	P	PKPdf	03 31 54.4	-0.4	
ATHU	Athens Univers	147.13 306	P	PKPdf	03 31 55.8	+0.9	
KESW	Keswick, Cumbr	147.15 353	*e*P	PKPbc	03 31 56.4	-0.2	
KESW			AMB	AMB	03 31 58.4		
	comp=Z,278nm,1.4s						
SIVA	Sivas	147.18 301	P	PKPbc	03 31 56.6	-0.7	
SIVA	Sivas	147.18 301	*e*P	PKPab	03 31 58.2	-0.8	
MSKU	Masuku	147.18 227	PFAKE		03 32 10.0	+10	
MSKU			LR	LR			
	comp=Z,1.0nm,19.0s						
ATH	Athens Observa	147.18 306	P	PKPdf	03 31 55.9	+1.0	
SKO	Skopje	147.20 315	P	PKPbc	03 31 57.3	+0.1	
SKO	Skopje	147.20 315	*e*PKP	PKPab	03 31 58.6	-0.3	
SMIA	Simia	147.24 308	P	PKPbc	03 31 56.5	-0.9	
KHC	Kasperske Hory	147.26 331	*e*PKP2	PKPbc	03 31 56.8	-0.3	
KHC	Kasperske Hory	147.26 331	*e*PKP	PKPbc	03 31 57.0	-0.1	
KHC			*ex*	x	03 32 07.8		
KHC			*ex*	x	03 54 36.5		
KHC			AMS	AMS	04 34 10.0		
	comp=Z,2μm,19.7s						
KHC	Kasperske Hory	147.26 331	*e*PKPbc	PKPbc	03 31 56.8	-0.3	
LIT	Litokhoron	147.29 311	P	PKPbc	03 31 56.7	-0.8	
ROTZ	Rotzenmuhle	147.38 333	*e*PKPbc	PKPbc	03 31 57.6	+0.2	
UBBA	Unterbreizbach	147.41 337	*e*PKPbc	PKPbc	03 31 57.5	+0.2	
GEC2	GERESS Array S	147.42 331	*e*PKP2	PKPbc	03 31 57.6	-0.1	
GEC2	GERESS Array S	147.42 331	*e*PKPbc	PKPbc	03 31 57.6	-0.1	
GERES	GERESS Array B	147.42 331	PKPbc	PKPbc	03 31 58.1	+0.5	
GERES	GERESS Array B	147.42 331	PKPbc	PKPbc	03 31 58.1	+0.5	
	comp=Z,53nm,0.9s,baz=30,slow=3.2,SNR=49						
LKR	Lokris	147.48 308	P	PKPbc	03 31 57.2	-0.8	
BEHE	Becsehely	147.52 325	⇓*e*	PKPbc	03 31 58.1	+0.2	
WTSB	Winterswijk	147.53 341	*e*PKP	PKPbc	03 31 57.2	-0.5	
	comp=Z,159nm,1.1s						
WET	Wettzell	147.56 332	*e*PKP2	PKPbc	03 31 58.2	+0.2	
WET	Wettzell	147.56 332	*e*PKPbc	PKPbc	03 31 58.2	+0.2	
VAM	Vamos	147.56 302	P	PKPbc	03 31 58.8	+0.4	
HPK	Haverah Park	147.57 351	*e*P	PKPbc	03 31 57.5	-0.2	
HPK			AMB	AMB	03 32 00.6		
	comp=Z,167nm,1.3s						
ARSA	Arzberg	147.66 327	*i* pPKPdf	PKPbc	03 31 58.3	0.0	
	comp=Z,23nm,0.7s,SNR=15						
AXAR	Agios Charalam	147.68 308	P	PKPbc	03 31 57.5	-1.1	
DID	Didima	147.69 306	P	PKPdf	03 31 57.1	+1.2	
KZN	Kozani	147.71 312	P	PKPbc	03 31 57.5	-1.2	
DIDY	Didyma	147.72 306	P	PKPdf	03 31 57.2	+1.2	
LTK	Loutraki	147.72 307	P	PKPdf	03 31 57.2	+1.3	
IVA	Berane	147.77 317	⇑*i*PKP	PKPbc	03 31 59.0	+0.2	
FNA	Florina	147.78 313	P	PKPbc	03 31 58.0	-0.9	
KARN	Karanos	147.79 302	P	PKPbc	03 31 59.5	+0.5	
KARN	Karanos	147.79 302	*e*P	PKPab	03 32 00.4	-1.1	
GVD	Gavdhos	147.79 301	P	PKPbc	03 31 57.7	-1.3	
GVD	Gavdhos	147.79 301	*e*P	PKPbc	03 31 58.6	-0.4	
GVD	Gavdhos	147.79 301	*e*PKPbc	PKPbc	03 31 59.1	+0.1	
KOGS	Kog	147.81 325	*e*PKPbc	PKPbc	03 31 58.0	-0.7	
AGG	Agios Georgios	147.83 309	P	PKPbc	03 31 57.9	-1.1	
BUG	Bochum--Univer	147.84 340	*e*PKPbc	PKPbc	03 31 58.8	+0.3	
ACOR	Acrocorinthos	147.84 307	P	PKPdf	03 31 54.5	-1.6	
GRF	Grafenberg Arr	147.84 334	*e*PKP2	PKPbc	03 31 59.3	+0.6	
GRF			MLR	MLR			
	comp=Z,1μm,21.9s						
GRF	Grafenberg Arr	147.84 334	*e*PKPbc	PKPbc	03 31 59.3	+0.6	
GRF			*e*L	L	04 36 21.4		
	comp=Z,964nm,21.9s						
GRFO	Grafenberg	147.84 334	*e*PKP2	PKPbc	03 31 58.9	+0.2	
GRFO	Grafenberg	147.84 334	*e*PKPbc	PKPbc	03 31 58.9	+0.2	
THL	Klokotos Trika	147.84 310	P	PKPdf	03 31 55.0	-1.0	
PLE	Pljevlja	147.85 318	*e*PKP	PKPbc	03 31 58.9	-0.1	
MOA	Molln	147.87 329	*i* pPKPdf	PKPbc	03 31 58.8	-0.1	
	comp=Z,48nm,0.9s,SNR=5.4						
PVY	Plav	147.87 317	⇑*i*PKP	PKPbc	03 31 58.3	-0.8	
BCI	Bajram Curri	147.91 316	*i* P	PKPbc	03 31 59.2	+0.1	
DSF	Desfina	147.91 308	P	PKPdf	03 31 57.7	+1.5	
MAKR	Makrakomi, Fth	147.97 309	P	PKPbc	03 31 59.0	-0.4	
PHP	Peshkopia	148.00 315	*i* P	PKPbc	03 31 59.2	-0.2	
PHP	Peshkopia	148.00 315	P	PKPbc	03 31 58.6	-0.8	
ANKY	Antikythira Is	148.14 303	P	PKPbc	03 32 00.0	+0.1	
NEST	Nestorio	148.16 312	P	PKPbc	03 31 58.8	-1.1	
VLI	Veliai	148.17 305	P	PKPbc	03 31 58.6	-1.3	
PUK	Puka	148.18 316	*i* P	PKPbc	03 31 59.7	0.0	
KALE	Kalithea	148.20 308	P	PKPbc	03 31 58.7	-0.4	
UPM	Unac-Piva	148.21 318	⇑*i*PKP	PKPbc	03 31 58.7	-1.4	
GUR	Goura	148.22 307	P	PKPbc	03 31 58.8	-1.4	
KYTH	Kithira	148.23 304	P	PKPbc	03 31 59.8	-0.4	
KBI1	Birley Grange	148.24 351	*e*P	PKPbc	03 31 58.5	-1.1	
EVR	Evrytania	148.24 309	P	PKPbc	03 32 00.0	-0.2	
PERS	Pernice	148.28 327	*e*PKPbc	PKPbc	03 31 58.9	-1.1	
SOKA	Soboth	148.30 327	*i* pPKPdf	PKPbc	03 31 59.5	-0.5	
	comp=Z,36nm,0.9s,SNR=11						
KLV	Kalavryta, Ach	148.32 307	P	PKPbc	03 31 58.9	-1.5	
EFP	Efpalio	148.36 308	P	PKPbc	03 32 00.8	+0.4	
NKY	Niksic	148.37 318	⇑*i*PKP	PKPbc	03 32 00.0	-0.4	
LAKA	Lakka	148.37 308	P	PKPbc	03 31 59.2	-1.3	
VLX	Vlachokerasia	148.38 306	P	PKPbc	03 32 00.5	-0.1	
TTG	Podgorica	148.40 317	⇑*i*PKP	PKPbc	03 31 59.3	-1.0	
NKME	Niksic	148.41 318	⇑*i*PKP	PKPbc	03 32 00.0	-0.5	
TNS	Taunus Mts	148.47 337	*e*PKP2	PKPbc	03 32 00.8	+0.4	
TNS	Taunus Mts	148.47 337	*e*PKPbc	PKPbc	03 32 00.8	+0.4	
STNC	Stoke	148.50 351	*e*P	PKPbc	03 32 00.0	-0.2	
STNC			AMB	AMB	03 32 02.4		
	comp=Z,235nm,1.4s						
TIR	Tirane	148.54 315	P	PKPbc	03 32 00.7	0.0	
TIR	Tirane	148.54 315	*e*PKP2	PKPbc	03 32 01.1	+0.3	
TIR			MLR	MLR			
	comp=Z,1μm,20.0s						
TIR	Tirane	148.54 315	*e*PKPbc	PKPbc	03 32 01.1	+0.3	
TIR			LR	LR			
	comp=Z,1μm,20.0s						
WPM1	Penmaenmawr	148.55 353	*e*P	PKPbc	03 32 00.1	-0.3	
WLF1	Llynfaes	148.57 354	*e*P	PKPbc	03 31 59.7	-0.7	
WLF1			AMB	AMB	03 32 01.9		
	comp=Z,190nm,1.2s						
BRY	Bratogost	148.60 318	⇑*i*PKP	PKPbc	03 32 00.4	-0.7	
DYR	Agios Nikonas	148.62 305	P	PKPbc	03 32 00.3	-0.8	
YRC	Rhoscolyn	148.62 354	*e*P	PKPdf	03 31 58.3	+1.5	
JAN	Janina	148.63 311	P	PKPbc	03 32 00.7	-0.4	
RJOB	Jochberg	148.64 330	*e*PKPbc	PKPbc	03 32 00.7	-0.2	
ULC	Ulcinj	148.64 316	*e*PKP	PKPbc	03 31 59.8	-1.2	
OBKA	Obir	148.66 327	⇑*is*PKPdf	PKPbc	03 32 00.5	-0.5	
	comp=Z,27nm,1.0s						
DRO	Drossia	148.68 307	P	PKPab	03 32 03.1	-1.8	
YLL	Llanberis	148.69 354	*e*P	PKPbc	03 32 00.3	-0.4	
BUM	Brajici-Budva	148.69 317	⇑*i*PKP	PKPbc	03 32 00.0	-1.2	
ITM	Ithomi	148.79 306	P	PKPbc	03 32 01.3	-0.3	
RLS	Riolos of Patr	148.82 308	P	PKPbc	03 32 01.8	+0.3	
PDJ	Prodromos	148.82 309	P	PKPbc	03 32 01.2	-0.4	
AMT	Artemida-Makis	148.83 307	P	PKPbc	03 32 02.2	+0.5	
FOEL	Foel Wylfa	148.83 352	*e*P	PKPbc	03 32 00.8	-0.3	
FOEL			AMB	AMB	03 32 02.9		
	comp=Z,170nm,1.6s						
AXS	Araxos	148.83 308	P	PKPbc	03 32 00.3	-1.3	
HGN	Heimansgroeve	148.84 341	*e*PKP	PKPbc	03 32 01.0	-0.2	
	comp=Z,132nm,1.2s						
HGN			*e*PP	PP	03 35 37.6	+6.5	
KBA	Koelnbreinsper	148.85 329	⇓*is*PKPdf	PKPbc	03 32 01.0	-0.6	
	comp=Z,62nm,1.1s,SNR=7.8						
HCY	Herceg Novi	148.87 317	⇑*i*PKP	PKPbc	03 32 00.9	-0.7	
YRE	Yr Eifl	148.88 354	*e*P	PKPbc	03 32 00.6	-0.6	
BEBN	Eben Emael	148.89 341	PKPbc	PKPbc	03 32 03.7	-1.6	
MEM	Membach	148.95 340	PKPbc	PKPbc	03 32 01.6	+0.1	
BOJS	Bojanci	148.96 325	*e*PKPbc	PKPbc	03 32 01.5	-0.2	
BOJS			*e*		03 32 21.3		
LJU	Ljubljana	148.98 326	*e*PKPbc	PKPbc	03 32 01.2	-0.5	
LJU			*e*		03 32 03.2		
LJU			*e*		03 32 21.0		
FUR	Furstenfeldbru	149.00 332	*e*PKP2	PKPbc	03 32 02.0	+0.3	
FUR	Furstenfeldbru	149.00 332	*e*PKPbc	PKPbc	03 32 02.0	+0.3	
PYL	PYLOS	149.02 306	P	PKPbc	03 32 01.1	-1.0	
MYKA	Terra Mystica	149.03 328	⇓*i*PKPbc	PKPbc	03 32 01.1	-0.9	
	comp=Z,43nm,0.8s,SNR=12						
IGT	Igoumenitsa	149.04 311	P	PKPbc	03 32 02.0	-0.1	
SRN	Sarande	149.12 312	P	PKPbc	03 32 02.5	+0.3	
UCC	Uccle	149.28 342	PKPbc	PKPbc	03 32 04.0	+1.7	
KFL	Anninata	149.29 308	P	PKPdf	03 32 00.0	+1.6	
UDBI	Udbina	149.30 323	P	PKPbc	03 32 02.7	+0.1	
VOY	Vojsko	149.31 327	*e*PKPbc	PKPdf	03 31 59.4	+1.1	
VOY			*e*		03 32 02.4		
VOY			*e*		03 32 05.3		
VOY			*e*		03 32 10.4		
VOY			*e*		03 32 57.4		
VOY			*e*		03 33 09.6		
KEK	Kerkira	149.33 312	P	PKPbc	03 32 02.3	-0.5	
BCLA	Clavier	149.34 341	PKPbc	PKPbc	03 32 01.6	-0.9	
STU	Stuttgart	149.38 335	*e*PKP2	PKPbc	03 32 01.8	-0.9	
STU	Stuttgart	149.38 335	*e*PKPbc	PKPbc	03 32 02.2	-0.4	
STU	Stuttgart	149.38 335	*e*PKPbc	PKPbc	03 32 01.8	-0.9	
VLS	Valsamata	149.41 309	P	PKPbc	03 32 02.8	-0.3	
ABTA	Abfaltersbach	149.49 329	⇑*i*PKPbc	PKPbc	03 32 01.9	-1.2	
	comp=Z,75nm,1.1s,SNR=17						
WATA	Walderalm	149.49 331	⇓*is*PKPdf	PKPbc	03 32 02.5	-0.6	
	comp=Z,76nm,1.2s,SNR=20						
SSW	Stow on the Wo	149.54 350	*e*P	PKPbc	03 32 02.1	-0.8	
SKP1	Kophill	149.60 349	*e*P	PKPbc	03 32 01.0	-2.0	
MCH1	Michaelchurch	149.68 352	*e*P	PKPbc	03 32 01.7	-1.5	
MCH1			AMB	AMB	03 32 04.8		
	comp=Z,158nm,1.7s						
LPW	Lampeter	149.69 353	*e*P	PKPbc	03 32 02.4	-0.9	
LPW			AMB	AMB	03 32 04.9		
	comp=Z,908nm,1.4s						
WLF	Walferdange	149.73 339	PKPbc	PKPbc	03 32 03.9	+0.4	
WLF	Walferdange	149.73 339	*e*PKP2	PKPbc	03 32 04.0	+0.5	
WLF			MLR	MLR			
	comp=Z,2μm,21.0s						
WLF	Walferdange	149.73 339	*e*PKPbc	PKPbc	03 32 04.0	+0.5	
WLF	Walferdange	149.73 339	*e*PKPbc	PKPbc	03 32 04.0	+0.5	
WLF			LR	LR			
	comp=Z,2μm,21.0s						
RETA	Reutte	149.74 332	⇓*i*PKPbc	PKPbc	03 32 03.2	-0.5	
	comp=Z,36nm,0.9s,SNR=11						
NVLJ	Novalja	149.77 324	P	PKPbc	03 32 03.3	-0.4	
DOU	Dourbes	149.84 341	PKPbc	PKPbc	03 32 03.5	-0.2	
ASCN	Ascension	149.84 171	*e*PKPdf	PKPdf	03 31 59.8	-0.2	
ASCN			*e*PKPbc	PKiKP	03 32 06.1	+0.3	
ASCN			*e*PKPab	PKPab	03 32 10.5	+0.4	
ASCN			LR	LR			
	comp=Z,612nm,20.0s						
OLDB	Oldbury-Upon-S	149.94 351	*e*P	PKPbc	03 32 04.0	+0.1	
OLDB			AMB	AMB	03 32 05.5		
	comp=Z,130nm,1.4s						
SWN1	Swindon	149.97 350	*e*P	PKPbc	03 32 03.7	-0.3	
SWN1			AMB	AMB	03 32 06.5		
	comp=Z,315nm,1.4s						
WOL	Wolverton	150.07 349	*e*P	PKPbc	03 32 03.5	-0.7	
WOL			AMB	AMB	03 32 10.7		
	comp=Z,222nm,1.9s						
MENF	Mencas	150.07 345	PKP	PKPbc	03 32 03.8	-0.4	
MENF	Mencas	150.07 345	PKP	PKPbc	03 32 04.1	-0.1	
BFO	Black Forest	150.07 335	*e*PKIKP	PKPbc	03 32 04.1	-0.3	
BFO	Black Forest	150.07 335	*e*PKPbc	PKPbc	03 32 04.1	-0.3	
BFO	Black Forest	150.07 335	*e*PKPbc	PKPbc	03 32 03.7	-0.7	
BFO			LR	LR			
	comp=Z,1μm,21.0s						
FETA	Feichten	150.11 331	⇓*i*PKPbc	PKPbc	03 32 04.3	-0.4	
	comp=Z,97nm,1.4s,SNR=15						
BATH	Bath	150.12 351	*e*P	PKPbc	03 32 03.8	-0.5	
BATH			AMB	AMB	03 32 05.9		
	comp=Z,139nm,1.3s						
DAVA	Damuels	150.28 333	⇓*i*PKiKP	PKPbc	03 32 04.9	-0.2	
	comp=Z,87nm,0.9s,SNR=9.5						
FELD	Feldberg im Sc	150.57 335	PKP	PKPbc	03 32 04.8	-0.9	
FELD	Feldberg im Sc	150.57 335	PKP	PKPbc	03 32 03.7	-2.0	
ECH	Echery	150.61 337	*e*PKIKP	PKPbc	03 32 05.1	-0.6	
ECH			MLR	MLR			
	comp=Z,834nm,20.0s						
ECH	Echery	150.61 337	PKP	PKPbc	03 32 05.0	-0.6	
ECH	Echery	150.61 337	PKP	PKPbc	03 32 05.1	-0.6	
ECH	Echery	150.61 337	*e*PKPbc	PKPbc	03 32 05.1	-0.6	
ECH			LR	LR			
	comp=Z,834nm,20.0s						
DAVOX	Davos/Dischmat	150.67 332	PKPbc	PKPbc	03 32 05.4	-0.6	
DAVOX	Davos/Dischmat	150.67 332	PKPbc	PKPbc	03 32 05.4	-0.6	
	comp=Z,30nm,0.5s,baz=10,slow=1.2,SNR=4.3						
HTL	Hartland	150.84 353	*e*P	PKPbc	03 32 05.8	-0.2	
HTL			AMB	AMB	03 32 08.0		
	comp=Z,149nm,1.3s						
MOF	Molkenrain	150.92 336	PKP	PKPbc	03 32 06.1	-0.4	
MOF	Molkenrain	150.92 336	PKP	PKPbc	03 32 05.7	-0.8	
THEF	They Montfort	151.02 338	PKP	PKPbc	03 32 06.7	+0.1	
THEF	They Montfort	151.02 338	PKP	PKPbc	03 32 05.9	-0.7	
TUE	Stuetta	151.14 332	*e*PKPbc	PKPbc	03 32 07.1	-0.1	
TUE			*e*PKPab	PKPab	03 32 13.9	-1.1	
TUE			LR	LR			
	comp=Z,1μm,20.0s						
DYA	Yadsworthy	151.33 352	*e*P	PKPbc	03 32 06.6	-0.6	
DYA			AMB	AMB	03 32 08.8		
	comp=Z,116nm,1.2s						
LOMF	Lomont	151.46 336	PKP	PKPbc	03 32 07.8	0.0	
LOMF	Lomont	151.46 336	PKP	PKPbc	03 32 07.2	-0.6	
CUC	Castrocucco	151.88 315	*e*PKPbc	PKPbc	03 32 07.9	-1.0	
CUC			*e*PKPab	PKPab	03 32 17.7	-0.4	
CUC			LR	LR			
	comp=Z,968nm,21.0s						
VLC	Villacollemand	152.40 328	*e*PKPbc	PKPbc	03 32 09.2	-0.8	
VLC			LR	LR			
	comp=Z,1μm,21.0s						
BNI	Bardonecchia	153.40 333	*e*PKIKP	PKPbc	03 32 12.4	+0.1	
BNI			MLR	MLR			
	comp=Z,2μm,21.0s						
BNI	Bardonecchia	153.40 333	*e*PKPbc	PKPbc	03 32 12.4	+0.1	
BNI			LR	LR			
	comp=Z,2μm,21.0s						
PLDF	La Plantade	153.78 339	PKP	PKPbc	03 32 15.7	+2.7	
AUTN	L'Aution	153.92 331	PKP	PKPbc	03 32 15.9	+2.4	
TOUF	Mont Tournerai	153.99 331	PKP	PKPbc	03 32 15.6	+2.0	
LUCF	Luceram	154.04 331	PKP	PKPbc	03 32 15.4	+1.8	
SSB	Saint Sauveur	154.06 337	*e*PKIKP	PKPdf	03 32 05.3	-0.1	
SSB			*e*		03 32 13.7		
SSB			*e*		03 32 26.5		
SSB			MLR	MLR			
	comp=Z,1μm,22.0s						
SSB	Saint Sauveur	154.06 337	*e*PKPdf	PKPdf	03 32 05.3	-0.1	
SSB			*e*PKPbc	PKiKP	03 32 13.7	+0.1	
SSB			*e*PKPab	PKPab	03 32 26.5	-0.5	
SSB			LR	LR			
	comp=Z,1μm,22.0s						
PYM	Petit Puy Mans	154.18 339	PKP	PKPbc	03 32 15.0	+1.2	
LBL	Lubilhac	154.56 338	PKP	PKPbc	03 32 17.0	+2.3	
VSL	Villasalto	156.17 321	PFAKE		03 32 20.0	+12	
VSL			LR	LR			
	comp=Z,1μm,21.0s						
KEST	Kesra	158.49 313	PKPab	PKPab	03 32 44.4	-2.1	
KEST	Kesra	158.49 313	PKPab	PKPab	03 32 44.4	-2.1	
	comp=Z,6.8nm,1.0s,baz=144,slow=15,SNR=4.2						
CMLA	Cha da Macela	159.28 37	PFAKE		03 32 20.0	+7.6	
CMLA			LR	LR			
	comp=Z,2μm,20.0s						
POLO	Lamas de Olo	160.69 356	*e*PKPab	PKPab	03 32 54.8	-0.9	
PVRL	Vila Real	160.78 355	*e*PKPab	PKPab	03 32 55.6	-0.5	
MVO	Moncorvo	160.83 354	*e*PKPab	PKPab	03 32 56.8	+0.5	
MVO	Moncorvo	160.83 354	*e*LQ	LQ	04 20 02.8		
MVO			*e*LR	LR	04 27 48.7		
	comp=Z,956nm,18.0s						
PVIS	Viseu	161.35 356	*e*PKPab	PKPab	03 32 58.2	-0.4	
MTE	Manteigas	161.64 355	*e*PKPdf	PKPdf	03 32 12.6	-2.4	
MTE	Manteigas	161.64 355	*e*PKPab	PKPab	03 32 59.5	-0.3	
MTE	Manteigas	161.64 355	*e*LQ	LQ	04 19 24.1		
MTE			*e*LR	LR	04 28 49.7		
	comp=Z,1μm,20.0s						
MTE	Manteigas	161.64 355	PFAKE		03 32 30.0	+15	
MTE			LR	LR			
	comp=Z,2μm,21.0s						
ESDC	Sonseca Array	161.77 346	PKP	PKPdf	03 32 12.3	-2.8	
ESDC			PKPab	PKPab	03 32 59.0	-1.5	
ESDC	Sonseca Array	161.77 346	PKP	PKPdf	03 32 12.3	-2.8	
	comp=Z,4.7nm,0.9s,baz=11,slow=1.5,SNR=4.2						
ESDC			PKPab	PKPab	03 32 59.0	-1.5	
	comp=Z,3.7nm,0.9s,baz=16,slow=3.6,SNR=4.1						
ESLA	Sonseca Array	161.77 346	*e*PKPdf	PKPdf	03 32 13.3	-1.8	
ESLA			*e*PKPab	PKPab	03 32 59.8	-0.7	
PAB	San Pablo	161.98 346	*e*PKIKP	PKPdf	03 32 10.8	-4.6	
PAB			MLR	MLR			
	comp=

33nm,1.1s
WRA Warramunga Arr 31.06 251 P **P** **03 18 33.6 -2.1**
WRA Warramunga Arr 31.06 251 P **P** **03 18 33.6 -2.1**
14nm,0.8s,baz=84,slow=9.0,SNR=77
AS31 Alice Springs 32.31 244 *e*P **P** **03 18 43.7 -3.0**
ASAR Alice Springs 32.31 244 P **P** **03 18 43.9 -2.9**
ASAR Alice Springs 32.31 244 P **P** **03 18 43.9 -2.9**
19nm,0.8s,baz=70,slow=9.7,SNR=134
FITZ Fitzroy Crossi 39.00 256 *e*P **P** **03 19 42.5 -1.7**
23nm,1.0s
FITZ Fitzroy Crossi 39.00 256 P **P** **03 19 44.4 +0.2**
1.4nm,1.0s,baz=86,slow=22,SNR=7.2
LBMI Labuha 39.29 283 P P 03 19 51.3 +4.6
74nm,1.2s,4µm
SOEI Soe 40.55 269 P **P** **03 19 59.2 +1.9**
33nm,1.1s,4µm
BATI Baumata 41.09 268 P **P** **03 20 02.2 +0.6**
48nm,0.9s,1µm
BATI Baumata 41.09 268 P **P** **03 20 02.2 +0.6**
BATI Baumata 41.09 268 P **P** **03 20 02.2 +0.6**
64nm,0.8s,baz=118,slow=3.6,SNR=12
MMRI Maumere 42.68 270 P **P** **03 20 14.5 -0.1**
MMRI Maumere 42.68 270 *e*P **P** **03 20 13.6 -1.0**
214nm,0.8s
MBWA Marble Bar 44.78 252 *e*P **P** **03 20 30.6 -0.8**
49nm,0.9s
KAPI Kappang 45.71 274 P **P** **03 20 37.5 -1.4**
230nm,1.1s,SNR=5.9
KAPI Kappang 45.71 274 *e*P **P** **03 20 37.7 -1.2**
58nm,1.1s
KAPI Kappang 45.71 274 P **P** **03 20 38.2 -0.7**
36nm,1.1s,baz=122,slow=4.4,SNR=10
NWAO Narrogin (SRO) 48.92 236 P P 03 21 00.1 -3.5
NWAO Narrogin (SRO) 48.92 236 P P 03 21 00.1 -3.5
147nm,0.7s,baz=88,slow=7.3,SNR=16
MYLDM Lahad Datu 49.67 287 P **P** **03 21 11.5 +1.9**
TSM Tawau 49.97 286 P **P** **03 21 12.9 +1.0**
KKM Kota Kinabalu 52.11 287 P **P** **03 21 28.5 +0.4**
KKM Kota Kinabalu 52.11 287 *e*P **P** **03 21 28.2 +0.1**
43nm,1.0s
MAJO Matsushiro 54.43 333 *e*P **P** **03 21 43.8 -0.9**
26nm,1.2s
SBUM Sibu 54.80 281 P **P** **03 21 48.9 +1.1**
SBUM Sibu 54.80 281 *e*P **P** **03 21 48.5 +0.7**
94nm,1.6s
JNU Nakatsue 55.46 325 *e*P **P** **03 21 52.4 +0.2**
19nm,1.4s
JNU Nakatsue 55.46 325 P **P** **03 21 50.6 -1.7**
15nm,0.9s,baz=149,slow=5.1,SNR=4.8
KSM Kuching 56.38 280 P **P** **03 21 59.3 +0.1**
KSM Kuching 56.38 280 *e*P **P** **03 21 59.0 -0.2**
33nm,1.1s
KSRS Korea Array 60.27 326 P **P** **03 22 24.2 -1.6**
2.5nm,0.9s,baz=140,slow=7.3,SNR=5.3
KSAR Wonju Array Be 60.29 326 P **P** **03 22 24.2 -1.7**
USRK Ussuriysk Arra 63.41 334 P **P** **03 22 44.9 -1.9**
7.4nm,0.9s,baz=139,slow=6.5,SNR=9.8
KTGM Kuala Trenggan 64.30 282 P **P** **03 22 54.0 +0.7**
MDJ Mudanjiang 64.81 332 P **P** **03 22 58.0 +2.0**
MDJ pP **pP** **03 23 07.3 +0.6**
MDJ sP **sP** **03 23 11.1 +0.3**
MDJ S **S** **03 31 39.6 +5.2**
MDJ AMB AMB
comp=Z,11nm,1.2s
MDJ AMB AMB
comp=Z,130nm,4.8s
MDJ LR LR
comp=N,1µm,32.1s
MDJ LR LR
comp=E,2µm,30.5s
MDJ LR LR
comp=Z,2µm,33.8s
FRIM Kepong 65.22 279 P **P** **03 22 58.5 -0.8**
VNDA Vanda 65.86 181 *e*P **P** **03 23 03.4 +1.0**
39nm,1.2s
IPM Ipoh 66.11 280 P **P** **03 23 05.2 0.0**
IPM Ipoh 66.11 280 *e*P **P** **03 23 05.1 0.0**
141nm,1.4s
CN2 Changchun 66.17 329 *e*P **P** **03 23 04.5 -0.3**
CN2 AMB AMB
comp=Z,20nm,0.9s
PANO Nakornpanom 66.64 294 P P 03 23 12.6 +4.2
14nm,1.2s
KULM Kulim 66.68 281 P **P** **03 23 08.7 0.0**
KULM Kulim 66.68 281 *e*P **P** **03 23 07.8 -0.9**
47nm,1.4s
SKNT Sakolnakorn 67.14 294 P **P** **03 23 11.9 +0.3**
28nm,1.0s,2µm
PSI Prapat 67.73 278 P **P** **03 23 13.8 -1.8**
PSI Prapat 67.73 278 P **P** **03 23 13.8 -1.8**
25nm,1.0s,baz=164,slow=2.6,SNR=10
ENH Enshi 68.12 309 *e*P **P** **03 23 16.4 -1.1**
22nm,1.0s
XAN Xi'an 70.38 313 P **P** **03 23 33.0 +1.5**
XAN pP **pP** **03 23 43.1 +0.7**
XAN AMB AMB
comp=Z,3.0nm,1.1s
XAN AMB AMB
comp=Z,45nm,6.9s
NANT Nan 70.71 295 P **P** **03 23 34.8 +1.1**
37nm,1.1s,2µm
KMI Kunming 71.26 302 P **P** **03 23 38.1 +0.9**
KMI AMB AMB
comp=Z,19nm,1.4s
PAYA Payao 71.64 295 P P 03 23 43.2 +3.9
4.4nm,1.0s,254nm
HHC Hu-ho-hao-te 72.17 320 *e*P **P** **03 23 42.8 +0.6**
HHC pP **pP** **03 23 53.1 0.0**
HHC sP **sP** **03 23 57.4 +0.2**
HHC PP **PP** **03 26 24.2 +1.1**
HHC S **S** **03 33 01.4 -1.1**
HHC sS **sS** **03 33 18.9 -1.5**
HHC SS **SS** **03 37 41.2 +0.4**
HHC AMB AMB
comp=Z,55nm,0.9s
HHC AMB AMB
comp=Z,230nm,5.4s
HHC LR LR
comp=N,520nm,15.7s
HHC LR LR
comp=E,410nm,15.4s
HHC LR LR
comp=Z,540nm,15.9s
CHTO Chiang Mai 72.28 294 *e*P **P** **03 23 43.6 +0.4**
59nm,1.1s
CHTO Chiang Mai 72.28 294 P **P** **03 23 45.6 +2.4**
CD2 Chengdu 72.81 308 P **P** **03 23 47.9 +1.7**
CD2 pP **pP** **03 23 58.7 +1.6**
CD2 sP **sP** **03 24 02.9 +1.8**
CD2 PP **PP** **03 26 31.7 +3.0**
CD2 S **S** **03 33 09.2 -0.8**
CD2 sS **sS** **03 33 27.2 -0.8**
CD2 SS **SS** **03 37 51.1 +0.3**
CD2 AMB AMB
comp=Z,30nm,0.8s
CD2 AMB AMB
comp=Z,160nm,5.4s
CD2 LR LR
comp=N,960nm,14.3s
CD2 LR LR
comp=Z,750nm,11.3s
LZH Lanzhou 75.02 312 *e*P P 03 24 03.5 +4.3
LZH pP **PcP** **03 24 12.2 -0.6**
LZH AMB AMB
comp=Z,21nm,1.1s
SONM Songino Array 79.04 324 P **P** **03 24 19.7 -1.8**
SONM Songino Array 79.04 324 P **P** **03 24 19.7 -1.8**
6.9nm,1.1s,baz=132,slow=6.2,SNR=18
GTA Gaotai 79.34 314 *e*P **P** **03 24 24.0 +0.7**
GTA pP **pP** **03 24 34.9 +0.6**
GTA sP **sP** **03 24 38.9 +0.6**
GTA AMB AMB
comp=Z,11nm,1.0s
GTA AMB AMB
comp=Z,120nm,5.7s
GTA LR LR
comp=N,1µm,19.0s
GTA LR LR
comp=E,700nm,20.0s
GTA LR LR
comp=Z,950nm,18.5s
SHL Shillong 80.62 299 *e*P **P** **03 24 30.5 -0.1**
MCK McKinley 82.82 19 *e*P **P** **03 24 43.5 +2.4**
11nm,1.2s
COLA College 83.96 18 *e*P **P** **03 24 48.4 +1.5**
30nm,0.9s

ILAR Eielson Array 84.19 19 P P 03 24 43.8 -4.3
ILAR Eielson Array 84.19 19 P P 03 24 43.8 -4.3
0.5nm,0.7s,baz=291,slow=5.8,SNR=4.5
CMB Columbia Colle 84.92 50 *e*P **P** **03 24 52.4 -0.1**
4.4nm,1.1s
PALK Pallekele 86.41 278 *e*P **P** **03 25 01.9 +1.5**
31nm,1.4s
NVAR Mina Array Bea 86.60 50 P P 03 24 52.2 -8.8
NVAR Mina Array Bea 86.60 50 P P 03 24 52.2 -8.8
0.2nm,0.3s,baz=210,slow=5.2,SNR=2.7
SHPR Sheep Range 88.45 52 *e*P P 03 25 13.8 +3.8
R11A Troy Canyon, C 88.63 51 *e*P P 03 25 14.8 +4.0
WMQ Urumqi 89.38 315 sS **S** **03 35 59.2 -2.6**
F10A Beach Ranch, E 89.63 43 *e*P P 03 25 19.3 +4.1
14nm,0.9s
F10A *e*pP pP 03 25 41.8 +16
CCUT Cedar City 90.11 52 *e*P **P** **03 25 19.0 +1.2**
2.7nm,1.0s
HLID Hailey 90.88 46 *e*P P 03 25 24.5 +3.4
2.9nm,1.1s
SRU San Rafael 92.65 51 *e*P P 03 25 33.3 +3.9
1.3nm,0.7s
SRU *e*pP pP 03 25 52.1 +12
MK31 Makanchi Array 93.83 317 *e*P **P** **03 25 33.1 -1.4**
MKAR Makanchi Array 93.83 317 *e*P **P** **03 25 33.6 -0.9**
MKAR Makanchi Array 93.83 317 P **P** **03 25 32.8 -1.8**
3.4nm,0.7s,baz=100,slow=5.7,SNR=19
ZAA0 Zalesovo Array 93.94 324 *e*P **P** **03 25 32.8 -1.9**
ZALV Zalesovo Beam 93.94 324 P **P** **03 25 32.8 -2.0**
ZALV Zalesovo Beam 93.94 324 P **P** **03 25 32.8 -2.0**
3.6nm,0.7s,baz=94,slow=4.5,SNR=9.3
PMSA Palmer Station 95.19 161 *e*P P 03 25 44.6 +4.2
34nm,1.0s
KURK Kurchatov 96.98 320 *e*P 03 25 49.3
2.1nm,1.0s
AAK Ala-Archa 98.55 312 *e*P Pdif 03 25 57.1 +0.9
1.2nm,0.6s
ABKAR Akbulak array 108.92 318 *e*PKP **PKiKP** **03 30 47.6 +1.0**
LCO Las Campanas 112.33 128 *e*PKP **PKiKP** **03 30 57.6 +3.6**
OTAV Otavalo 115.52 95 *e*PKPdf **PKPdf** **03 31 02.5 +1.8**
ARCES ARCESS Array B 116.89 345 PKP PKPdf 03 30 54.3 -6.9
ARCES ARCESS Array B 116.89 345 PKP PKPdf 03 30 54.3 -6.9
2.2nm,0.6s,baz=86,slow=2.0,SNR=11
LPAZ La Paz 120.10 117 *e*PKPdf **PKPdf** **03 31 13.6 +3.9**
GNI Garni 120.89 310 *e*PKPdf **PKPdf** **03 31 11.5 +1.6**
FINES FINESS Array B 122.28 338 PKP **PKPdf** **03 31 07.4 -4.3**
FINES FINESS Array B 122.28 338 PKP **PKPdf** **03 31 07.4 -4.3**
2.9nm,0.9s,baz=82,slow=4.0,SNR=5.8
CPUP Villa Florida 123.77 133 *e*PKPdf **PKPdf** **03 31 19.6 +3.9**
LBTB Lobatse 126.54 227 *e*PKPdf **PKPdf** **03 31 21.6 +0.3**
AKASG Malin Array Be 127.27 326 PKP **PKPdf** **03 31 18.4 -3.2**
AKASG Malin Array Be 127.27 326 PKP **PKPdf** **03 31 18.4 -3.2**
1.5nm,0.9s,baz=58,slow=2.7,SNR=5.8
KIEV Kiev 127.28 326 *e*PKPdf **PKPdf** **03 31 21.9 +0.3**
NAO01 NORSAR Array S 127.50 345 *e*PKPdf **PKPdf** **03 31 23.9 +2.1**
BUR08 Bucovina Ar. S 131.15 325 *e*PKPdf **PKPdf** **03 31 28.5 -0.8**
TSUM Tsumeb 135.95 226 *e*PKPdf **PKPdf** **03 31 39.1 0.0**
GVD Gavdhos 138.10 310 *e*PKPdf **PKPdf** **03 31 42.4 -0.1**
WLF Walferdange 138.47 340 *e*PKPdf **PKPdf** **03 31 42.0 -0.8**
SSB Saint Sauveur 142.78 338 *e*PKPdf **PKPdf** **03 31 46.4 -4.3**
KEST Kesra 147.78 322 *e*PKPdf **PKPdf** **03 32 00.3 +0.7**
KEST *e*PKPbc **PKiKP** **03 32 03.5 -1.0**
KEST Kesra 147.78 322 PKPbc **PKPdf** **03 32 00.2 +0.5**
3.7nm,0.8s,baz=121,slow=0.5,SNR=17
ABSA Djebel Ababsia 148.50 325 P **PKPbc** **03 32 02.9 -1.5**
CKFL Kef-Lekhel 148.83 326 P **PKPbc** **03 32 03.2 -2.1**
DFRA Djebel Bou Aff 149.18 327 P **PKPbc** **03 32 04.4 -1.8**
SET Setif 149.70 327 P **PKPbc** **03 32 06.0 -1.4**
RCBR Riachuelo 152.50 128 *e*PKPdf **PKPbc** **03 32 10.5 -4.0**

*IDC **11** 03:11:59.7±1.7, 19°.65N×121°.82E, h0km, mb3.7/3, mb1 3.7/3, mb1mx3.4/22, mbtmp3.7/3, MS5.3/1, Ms1 5.3/1, ms1mx3.4/31, Error ellipse: s-maj=170.0km s-min=27.7km az=65.0*
*ISCJB **11** 03:12:24.6±0.6, 21°.94N±0°.03×120°.64E±0°.03, h48km±3km, mb3.5/3, MS5.3/1, Error ellipse: s-maj=5.7km s-min=4.6km az=23.0*
*JMA **11** 03:12:24.3±0.3, 21°.73N×121°.02E, h18km*
*TAP **11** 03:12:24.4, 21°.94N×120°.63E, h40km, ML4.1, C*
ISC 11 03:12:25.0±1.4, **21°.92N**±0°.07×**120°.59E**±0°.04, **h33**km±3km, **n59**, σ1**§02**/92, **mb3.5**/3, **2C-5D**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HEN	**Hengchun**	**0.17**	**58**	*i* P			Pn	03 12 31.5	+1.5
	baz=66								
HEN				*e* S			Sn	03 12 36.4	+5.2
	baz=66								
TWK1	**Hengchun**	**0.20**	**82**	⇓ *i* P			**Pb**	**03 12 31.8**	**+0.1**
	baz=89								
TWK1				*i* S			Sn	03 12 37.0	+3.6
	baz=89								
SCZT	**Fangliau**	**0.46**	**4**	⇑ *i* P			**Pb**	**03 12 34.9**	**-0.1**
	baz=354								
SCZT				*i* S			**Sb**	**03 12 41.9**	**+0.1**
	baz=354								
TWP	**Hsiaoliuchiu**	**0.48**	**334**	⇓ *i* P			**Pn**	**03 12 36.0**	**+0.5**
	baz=330								
TWP				*e* S			**Sn**	**03 12 45.5**	**+2.7**
	baz=330								
EAST	**Anshuo**	**0.52**	**27**	⇑ *i* P			**Pb**	**03 12 35.9**	**-0.2**
	baz=25								
EAST				*i* S			**Sb**	**03 12 43.6**	**-0.1**
	baz=25								
TAW	**Tawu**	**0.53**	**33**	*i* P			**Pb**	**03 12 35.8**	**-0.3**
	baz=31								
TAW				*i* S			**Sb**	**03 12 43.5**	**-0.1**
	baz=31								
KAU	**Kaohsiung**	**0.70**	**338**	*e* P			**Pb**	**03 12 38.6**	**-0.3**
	baz=336								
KAU				*e* S			**Sn**	**03 12 49.5**	**+1.3**
	baz=336								
ECL	**Taimali**	**0.76**	**27**	*e* P			**Pn**	**03 12 37.6**	**-1.8**
	baz=21								
ECL				*e* S			**Sb**	**03 12 48.2**	**-1.7**
	baz=21								
SGLT	**Jiouru**	**0.81**	**354**	*e* P			**Pn**	**03 12 40.0**	**-0.1**
	baz=352								
SGLT				*e* S			**Sn**	**03 12 52.7**	**+1.7**
	baz=352								
LAY	**Lan-yu**	**0.90**	**82**	*e* P			**Pn**	**03 12 40.4**	**-1.1**
	baz=72								
TWM1	**Shoushan**	**0.92**	**350**	P			**Pn**	**03 12 41.9**	**+0.2**
	baz=348								
TTN	**Taitung**	**0.98**	**32**	*e* P			**Pb**	**03 12 43.7**	**+0.1**
	baz=30								
TWG	**Pinlang**	**1.01**	**26**	P			**Pn**	**03 12 42.2**	**-0.6**
	baz=36								
SGST	**Jiashian**	**1.16**	**360**	*e* P			**Pn**	**03 12 44.5**	**-0.4**
	baz=359								
SGST				*e* S			**Sn**	**03 12 59.3**	**-0.4**
	baz=359								
TAI1	**Yung-k'ang**	**1.17**	**344**	*e* P			**Pn**	**03 12 44.9**	**-0.1**
	baz=343								
TAI1				*e* S			**Sn**	**03 12 59.7**	**-0.1**
	baz=343								
CHN3	**Shinhua**	**1.17**	**350**	*e* P			**Pn**	**03 12 46.2**	**+1.1**
	baz=349								
CHN3				*e* S			**Sn**	**03 13 01.1**	**+1.1**
	baz=349								
CHN1	**Nanshi**	**1.26**	**358**	*e* P			**Pn**	**03 12 46.0**	**-0.4**
	baz=344								
CHN1				*e* S			**Sn**	**03 13 01.2**	**-1.0**
	baz=344								
SCLT	**Jiali**	**1.30**	**344**	*e* P			**Pn**	**03 12 46.6**	**-0.3**
	baz=343								
SCLT				*e* S			**Sn**	**03 13 03.2**	**0.0**
	baz=343								
ELDTW	**Lidau**	**1.33**	**17**	*e* P			**Pn**	**03 12 47.3**	**0.0**
	baz=7.0								
ELDTW				*e* S			**Sn**	**03 13 03.6**	**-0.4**
	baz=7.0								
CHKT	**Chengkung**	**1.38**	**31**	*e* P			**Pn**	**03 12 47.8**	**-0.1**
	baz=31								
CHKT				*e* S			**Sn**	**03 13 05.3**	**+0.3**
	baz=31								
CHN4	**Tsaushan**	**1.43**	**0**	⇓ *i* P			**Pn**	**03 12 48.1**	**-0.5**
	baz=360								
CHN4				*e* S			**Sn**	**03 13 04.9**	**-1.4**
	baz=360								
TWF1	**Yuli**	**1.57**	**25**	*e* P			**Pn**	**03 12 50.5**	**-0.1**
	baz=38								
TWF1				*e* S			**Sn**	**03 13 09.9**	**0.0**
	baz=38								

CHY Chiayi 1.58 355 *e*P **Pn** **03 12 50.5 -0.2**
baz=355
CHY *e*S **Sn** **03 13 08.8 -1.3**
baz=355
WDGT Dungji 1.59 328 ⇓ *i* P **Pn** **03 12 49.2 -1.7**
baz=327
WDGT *e*S **Sn** **03 13 07.6 -2.6**
baz=327
ALS Alishan 1.60 7 P **Pn** **03 12 51.0 -0.2**
baz=353
YUS Yu-Shan 1.60 12 P **Pn** **03 12 51.5 0.0**
baz=1.0
YUS *e*S **Sn** **03 13 10.9 -0.3**
baz=1.0
CHN5 Tsauling 1.68 3 *e*P **Pn** **03 12 51.6 -0.5**
baz=351
CHN5 *e*S **Sn** **03 13 10.8 -1.7**
baz=351
EHY Hungye 1.72 23 *e*P **Pn** **03 12 52.7 0.0**
baz=36
EHY *e*S **Sn** **03 13 13.2 -0.3**
baz=36
WSF Szhu 1.75 349 *e*P **Pn** **03 12 52.0 -1.1**
baz=349
WSF *e*S **Sn** **03 13 12.4 -1.7**
baz=349
WGK Gukeng 1.76 359 *e*P **Pn** **03 12 52.4 -0.9**
baz=346
PNG Penghu 1.90 330 *e*P **Pn** **03 12 53.4 -1.7**
baz=340
PNG *e*S **Sn** **03 13 15.4 -2.5**
baz=340
WNT Mingjian 1.96 3 *e*P **Pn** **03 12 55.2 -0.7**
baz=350
WTCT Ta-ch'eng 1.96 352 *e*P **Pn** **03 12 54.5 -1.5**
baz=352
WTCT *e*S **Sn** **03 13 18.1 -1.2**
baz=352
SMLT Sun Moon Lake 1.98 8 ⇓ *e*P **Pn** **03 12 56.3 0.0**
baz=356
SMLT *e*S **Sn** **03 13 19.6 -0.4**
baz=356
TYC Yuchr 1.99 7 *e*P **Pn** **03 12 56.5 +0.1**
baz=355
TYC *e*S **Sn** **03 13 19.1 -1.1**
baz=355
ESL Shilin 2.04 22 *e*P **Pn** **03 12 58.3 +1.2**
baz=34
ESL *e*S **Sn** **03 13 19.6 -1.8**
baz=34
TCU Taichung 2.22 2 *e*P **Pn** **03 12 59.4 -0.2**
baz=352
TCU *e*S **Sn** **03 13 25.1 -0.8**
baz=352
WHF Hehuan Shan 2.31 16 *e*P **Pn** **03 13 01.3 +0.2**
baz=28
TWD Chiawan 2.35 23 *e*P **Pn** **03 13 01.6 +0.3**
baz=23
TWT Tachien 2.39 13 *e*P **Pn** **03 13 02.6 +0.6**
baz=1.0
TWQ1 Liyutan 2.43 4 *e*P **Pn** **03 13 02.8 +0.4**
baz=353
TWQ1 *e*S **Sn** **03 13 30.3 -0.6**
baz=353
NSY Sanyi 2.49 4 *e*P **Pn** **03 13 02.6 -0.7**
baz=353
NSY *e*S **Sn** **03 13 32.3 -0.3**
baz=353
NNS Nan Shan 2.61 16 *e*P **Pn** **03 13 06.0 +0.9**
baz=2.0
NSTT Nanjuang 2.73 8 *e*P **Pn** **03 13 06.5 0.0**
baz=355
NSTT *e*S **Sn** **03 13 37.2 -1.2**
baz=355
NSK Sanguang 2.84 14 *e*P **Pn** **03 13 09.5 +1.4**
baz=14
ENTT Nioudou 2.86 18 *e*P **Pn** **03 13 08.3 0.0**
baz=29
TWC Suao 2.92 23 *e*P **Pn** **03 13 08.2 -1.0**
baz=23
KNM Kinmen 3.18 322 *e*P **Pn** **03 13 12.8 +0.1**
baz=319
YOJ Yonaguni jima 3.38 41 P **Pn** **03 13 16.4 +1.0**
YOJ *e*S **Sn** **03 13 55.6 +1.3**
YOJ Yonaguni jima 3.38 41 *e*P **Pn** **03 13 17.3 +1.9**
baz=40
HATJ Hateruma jima 3.65 54 *e*S **Sn** **03 13 59.2 -1.9**
IRIF Iriomote-Funau 3.76 50 P **Pn** **03 13 21.1 +0.4**
IRIF *e*S **Sn** **03 14 04.0 +0.1**
JKRS Kuro-shima 3.91 53 *e*S **Sn** **03 14 06.2 -1.3**
JIJ Ishigaki jima 4.08 53 P **Pn** **03 13 25.3 +0.2**
JIJ *e*S **Sn** **03 14 10.1 -1.6**
JTJ Tarama 4.66 54 P **Pn** **03 13 33.1 +0.1**
JTJ *e*S **Sn** **03 14 24.9 -1.0**
SONM Songino Array 28.27 340 P **P** **03 18 17.2 +1.9**
0.4nm,0.6s,baz=140,slow=11,SNR=3.0
MKAR Makanchi Array 39.61 318 P **P** **03 19 53.1 -0.3**
0.5nm,0.5s,baz=109,slow=9.7,SNR=6.5
ZALV Zalesovo Beam 41.87 329 P **P** **03 20 11.8 0.0**
1.4nm,0.6s,baz=117,slow=8.2,SNR=6.1
CTA Charters Tower 48.70 147 LR LR 03 38 26.0
comp=Z,3µm,18.9s,baz=75,slow=34

IDC 11 03:17:16.2±4.7, **15°.57S×172°.75W**, **h0km**, **mb4.4**/3, **mb1 4.6**/3, **mb1mx4.1**/20, **mbtmp4.4**/3, **Error ellipse: s-maj=201.4km s-min=25.2km az=134.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.90**	**30**			Pn	Pn	03 17 48.3	-1.8
	42nm,0.3s,baz=48,slow=20,SNR=8.3								
AFI						Sn	Sn	03 18 10.6	-4.2
	246nm,0.3s,baz=39,slow=20,SNR=17								
STKA	**Stephens Creek**	**44.49**	**240**	P		P	P	03 25 29.0	-0.6
	5.7nm,0.9s,baz=90,slow=9.5,SNR=3.2								
WRA	**Warramunga Arr**	**50.41**	**257**	P		P	P	03 26 15.7	-0.2
	0.9nm,0.4s,baz=95,slow=7.8,SNR=11								
ASAR	**Alice Springs**	**50.65**	**252**	P		P	P	03 26 17.1	-0.6
	6.6nm,0.6s,baz=90,slow=7.3,SNR=28								
BRTR	**Keskin Array B**	**146.68**	**321**	PKPbc		PKPab		03 37 01.9	+0.3
	2.7nm,0.8s,baz=92,slow=2.7,SNR=5.9								

IDC 11 04:14:15.1±1.4, **13°.98S×166°.59E**, **h0km**, **mb3.4**/2, **mb1 3.7**/3, **mb1mx3.5**/18, **mbtmp3.5**/3, **ML3.6**/1, **Error ellipse: s-maj=62.5km s-min=33.9km az=117.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.05**	**181**			Pn	Pn	04 16 13.3	-0.1
	0.8nm,0.3s,baz=93,slow=19,SNR=7.1								
DZM						Sn	Sn	04 17 38.8	-6.5
	baz=143,slow=20,SNR=2.3								
ASAR	**Alice Springs**	**32.33**	**248**	P		P	P	04 20 46.3	-0.1
	0.2nm,0.5s,baz=74,slow=9.4,SNR=4.7								
ILAR	**Eielson Array**	**86.02**	**18**	P		P	P	04 26 57.0	-0.1
	0.4nm,0.8s,baz=237,slow=5.0,SNR=5.3								
ARCES	**ARCESS Array B**	**119.36**	**345**	PKP		PKPdf		04 33 05.3	-0.6
	4.1nm,0.9s,baz=66,slow=1.7,SNR=6.8								
ESDC	**Sonseca Array**	**153.09**	**344**	PKPbc		PKPbc		04 34 15.8	+0.6
	0.2nm,0.6s,baz=352,slow=2.8,SNR=2.6								

GUC 11 04:16:24.3±0.6, **27°.75S×66°.68W**, **h170km**, **ML4.3**, **1D, Catamarca Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**3.29**	**276**	*i* S			Sn	04 17 57.2	+0.8
VACH	**Vallenar**	**3.69**	**256**	*i* S			Sn	04 18 06.0	+0.3
VACH					AML		AML	04 18 09.1	
	comp=E,668nm,0.1s								
CDCH	**Caldera**	**3.75**	**280**	*i* S			Sn	04 18 06.5	-0.2
CDCH					AML		AML	04 18 08.1	
	comp=N,76nm,0.4s								
LCO	**Las Campanas**	**3.76**	**250**	⇓ *i* P			Pn	04 17 23.6	+1.2
LCO				*i* S			Sn	04 18 08.6	+0.9
LCO					AML		AML	04 18 10.8	
	comp=E,173nm,0.4s								
TLL	**Tololo Astrono**	**4.34**	**235**	*e* P			Pn	04 17 31.1	+1.2
TLL				*e* S			Sn	04 18 21.9	+0.8

*IDC **11** 04:19:28.9±1.1, 12°.51S×167°.44E, h0km, mb4.0/6,*

mb1 4.3/8,mb1mx4.1/20,mbtmp4.2/8,ML4.6/2,MS3.7/1, Ms1 3.7/1,ms1mx3.2/28,Error ellipse: s-maj=38.7km s-min=21.7km az=136.0

ISCJB ***11*** *04:19:32.4±0.6, 12°.58S±0'.10×167°.40E±0'.08,h33km, mb4.2/12,Error ellipse: s-maj=14.4km s-min=10.8km az=154.8*

NEIC ***11*** *04:19:34.3±0.4, 12°.53S×167°.44E,h35km,mb4.4/9,Error ellipse: s-maj=11.0km s-min=8.0km az=152.0*

ISC 11 04:19:34.2±0.7, 12°.6S±0'.1×167°.4E±0'.1, h35km, n27, σ0s61/26, mb4.2/12, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.98**	**292**			Pn	**Pn**	**04 21 28.2**	**+0.4**
HNR	**Honiara**	**7.98**	**292**			Pn	**Pn**	**04 21 28.2**	**+0.4**
	14nm,0.3s,baz=154,slow=9.5,SNR=6.0								
HNR						LR	LR	04 24 06.2	
	comp=Z,16nm,28.6s,baz=136,slow=35								
DZM	**Mont Dzumac**	**9.51**	**186**	*e*Pn		**Pn**	**04 21 48.9**		**+0.1**
DZM	**Mont Dzumac**	**9.51**	**186**	Pn		**Pn**	**04 21 48.9**		**+0.1**
	2.7nm,0.3s,baz=56,slow=19,SNR=9.2								
EIDS	**Eidsvold**	**20.01**	**228**	*e*P		Pn	04 24 05.7		-0.2
	6.6nm,0.8s								
AFI	**Afiamalu**	**20.28**	**96**	*e*P		**P**	**04 24 07.1**		**+0.1**
	25nm,1.0s								
ARMA	**Armidale**	**23.02**	**217**	*e*P		**P**	**04 24 37.6**		**+1.2**
	11nm,1.0s								
STKA	**Stephens Creek**	**30.56**	**227**	*e*P		**P**	**04 25 45.1**		**+0.4**
	0.7nm,0.6s								
STKA	**Stephens Creek**	**30.56**	**227**	P		**P**	**04 25 45.0**		**+0.4**
	4.0nm,0.8s,baz=42,slow=6.7,SNR=8.5								
WRAB	**Tennant Creek**	**32.56**	**253**	*e*P		**P**	**04 26 02.4**		**0.0**
	11nm,1.3s								
WRA	**Warramunga Arr**	**32.57**	**253**	P		**P**	**04 26 02.0**		**-0.5**
WRA	**Warramunga Arr**	**32.57**	**253**	P		**P**	**04 26 02.0**		**-0.5**
	2.1nm,0.8s,baz=85,slow=9.3,SNR=8.1								
AS31	**Alice Springs**	**33.65**	**246**	*e*P		**P**	**04 26 12.3**		**+0.4**
ASAR	**Alice Springs**	**33.65**	**246**	P		**P**	**04 26 11.2**		**-0.8**
ASAR	**Alice Springs**	**33.65**	**246**	P		**P**	**04 26 11.2**		**-0.8**
	0.6nm,0.7s,baz=72,slow=10.0,SNR=6.4								
MBWA	**Marble Bar**	**46.31**	**253**	*e*P		**P**	**04 27 56.2**		**-0.8**
	9.8nm,1.0s								
QSPA	**South Pole Qui**	**77.46**	**180**	*e*P		**P**	**04 31 25.5**		**-0.4**
	8.5nm,1.2s								
ILAR	**Eielson Array**	**84.42**	**18**	P		**P**	**04 32 02.6**		**-0.1**
ILAR	**Eielson Array**	**84.42**	**18**	P		**P**	**04 32 02.6**		**-0.1**
	1.5nm,0.8s,baz=237,slow=5.9,SNR=13								
NVAR	**Mina Array Bea**	**85.74**	**49**	P		**P**	**04 32 10.8**		**+0.6**
NVAR	**Mina Array Bea**	**85.74**	**49**	P		**P**	**04 32 10.8**		**+0.6**
	0.6nm,0.7s,baz=236,slow=8.1,SNR=7.2								
TUC	**Tucson**	**89.81**	**57**	*e*P		**P**	**04 32 28.9**		**-0.8**
	1.2nm,0.9s								
MVU	**Marysvale**	**90.32**	**51**	*e*P		**P**	**04 32 33.5**		**+1.3**
	2.5nm,0.9s								
MKAR	**Makanchi Array**	**95.75**	**317**	P		**P**	**04 32 56.8**		**+0.1**
MKAR	**Makanchi Array**	**95.75**	**317**	P		**P**	**04 32 56.8**		**+0.1**
	0.8nm,0.8s,baz=98,slow=5.0,SNR=4.4								
ESDC	**Sonseca Array**	**151.94**	**346**	PKPbc		**PKPbc**	**04 39 25.5**		**-0.5**
ESDC	**Sonseca Array**	**151.94**	**346**	PKPbc		**PKPbc**	**04 39 25.5**		**-0.5**
	0.1nm,0.3s,baz=26,slow=3.3,SNR=4.3								

IDC 11 04:40:35.8±7.6, 6°.50S×154°.60E, h0km, mb3.7/3, mb1 3.7/3, mb1mx3.4/17, mbtmp3.7/3, MS4.5/1, Ms1 4.5/1, ms1mx3.7/27, Error ellipse: s-maj=237.4km s-min=40.6km az=117.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.79**	**234**	P		P	P	04 45 50.5	0.0
	0.5nm,1.0s,baz=59,slow=9.9,SNR=2.9								
JNU	**Nakatsue**	**45.39**	**332**	LR		LR	LR	05 06 43.9	
	comp=Z,503nm,18.0s,baz=136,slow=34								
MKAR	**Makanchi Array**	**82.77**	**319**	P		P	P	04 53 02.9	+0.9
	0.6nm,0.6s,baz=103,slow=5.6,SNR=5.0								
ZALV	**Zalesovo Beam**	**83.55**	**326**	P		P	P	04 53 05.0	-0.8
	0.7nm,0.5s,baz=112,slow=6.2,SNR=3.1								

IDC 11 04:45:14.8±2.0, 12°.36S×166°.82E, h0km, mb4.2/7, mb1 4.4/7, mb1mx4.1/18, mbtmp4.2/7, Error ellipse: s-maj=71.4km s-min=25.3km az=130.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.35**	**293**	Pn		Pn		04 47 07.8	+4.5
	33nm,0.3s,baz=145,slow=2.9,SNR=7.8								
DZM	**Mont Dzumac**	**9.67**	**182**	Pn		Pn		04 47 42.0	+6.7
	0.4nm,0.3s,baz=214,slow=18,SNR=4.7								
STKA	**Stephens Creek**	**30.25**	**226**	P		P		04 51 28.9	+1.4
	2.5nm,0.7s,baz=44,slow=12,SNR=5.2								
WRA	**Warramunga Arr**	**32.05**	**252**	P		P		04 51 42.8	-0.8
	0.8nm,0.5s,baz=85,slow=9.7,SNR=17								
ASAR	**Alice Springs**	**33.18**	**246**	P		P		04 51 52.5	-0.9
	3.2nm,0.6s,baz=68,slow=9.8,SNR=56								
CMAR	**Chiang Mai Arr**	**72.59**	**294**	P		P		04 56 51.5	+1.0
	2.1nm,0.5s,baz=124,slow=4.9,SNR=6.1								
SONM	**Songino Array**	**80.34**	**324**	P		P		04 57 28.2	+0.1
	0.4nm,0.3s,baz=131,slow=6.1,SNR=3.7								
ILAR	**Eielson Array**	**84.42**	**18**	P		P		04 57 48.8	-0.1
	0.3nm,0.7s,baz=242,slow=4.6,SNR=3.9								
MKAR	**Makanchi Array**	**95.19**	**317**	P		P		04 58 40.1	-0.2
	1.4nm,0.7s,baz=96,slow=5.8,SNR=11								
ARCES	**ARCESS Array B**	**117.86**	**346**	PKP		PKPdf		05 04 01.8	-1.0
	1.7nm,0.8s,baz=87,slow=1.9,SNR=5.3								
TORD	**Torodi Ar. Bea**	**165.47**	**275**	PKPab		PKPab		05 06 20.2	-0.4
	0.6nm,0.8s,baz=85,slow=5.1,SNR=5.6								

IDC ***11*** *04:47:44.8±0.4, 13°.00S×166°.16E, h0km, mb5.0/24, mb1 5.1/27, mb1mx5.1/28, mbtmp5.0/27, ML3.9/2, MS5.4/24, Ms1 5.4/24, ms1mx5.3/26, Error ellipse: s-maj=15.6km s-min=11.5km az=83.0*

BJI ***11*** *04:47:45.0, 12°.68S×166°.45E, h10km, mB5.7/44, mb5.3/52, Ms5.5/53, Ms7 5.2/51*

ISCJB ***11*** *04:47:46.6±1.5, 13°.01S±0°.03×166°.10E±0°.03, h17km±10km, mb5.4/125, MS4.9/49, Error ellipse: s-maj=5.5km s-min=4.5km az=178.6*

MOS ***11*** *04:47:49.2±1.3, 12°.98S×166°.00E, h33km, mb5.4/29, MS5.5/6, Error ellipse: s-maj=8.7km s-min=7.9km az=32.2*

NEIC ***11*** *04:47:51.5±0.9, 13°.00S×166°.12E, h45km±7km, mb5.3/48, MW5.7, Error ellipse: s-maj=6.1km s-min=5.2km az=156.0*

GCMT ***11*** *04:47:52.5±0.1, 12°.98S×166°.14E, h12km, MW5.7, Moment Tensor Solution. s112,c209; s58,c69; Moment tensor: Scale 10¹⁷Nm; Mrr3.43±.05; Mθθ-0.21±.04; Mφφ-3.22±.04; Mrθ1.78±.13; Mθφ1.26±.03; Mφr-3.55±.17; Best double couple: M₀5.30000×10¹⁷ NP1:φs155.00000°, δ69.00000°, λ86.00000°. NP2:φs346.00000°, δ21.00000°, λ100.00000°. Principal axes: T 5.2200, Plg66.0000°, Azm58.0000°; N 0.2200, Plg4.0000°, Azm156.0000°; P -5.4400, Plg24.0000°, Azm248.0000°; Data Used: II IU CN IC G. Surface waves: sta=111, comp=241, per= 50.*

DJA ***11*** *04:47:55.9±1.1, 13°.S±4°.×16°.6E±°, h67km±11km, M5.5/8, mB6.0/5, mb5.4/8, Mw(mB)5.6/5*

AUST ***11*** *04:47:58.9±2.1, 13°.14S×165°.92E, h100km±20km, Error ellipse: s-maj=10.1km s-min=7.3km az=56.0*

NEIC ***11*** *04:48:06.9±0.0, 12°.91S×166°.21E, h10km, Moment Tensor Solution. s143 Moment tensor: Scale 10¹⁷Nm; Mrr2.99; Mθθ-0.19; Mφφ-2.81; Mrθ-0.67; Mθφ0.90; Mφr-3.76; Best double couple: M₀4.90000×10¹⁷ NP1:φs183.00000°, δ71.00000°, λ103.00000°. NP2:φs326.00000°, δ23.00000°, λ55.00000°. Principal axes: T 5.0300, Plg61.0000°, Azm113.0000°; N -0.3200, Plg12.0000°, Azm358.0000°; P -4.7200, Plg25.0000°, Azm262.0000°;*

ISC 11 04:47:47.7±0.3, 13°.01S±0°.04×166°.21E±0°.04, h16km±1km, n532, σ1s42/611, mb5.5/125, MS5.3/50, 44C-13D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.09**	**299**	Pn		**Pn**	**Pn**	**04 49 30.6**	**-0.3**
HNR				Sn		Sn	**Sn**	**04 50 51.4**	**+0.2**
HNR	**Honiara**	**7.09**	**299**	Pn		**Pn**	**Pn**	**04 49 30.6**	**-0.3**
	148nm,0.3s,baz=168,slow=4.1,SNR=45								
HNR				Sn		**Sn**	**Sn**	**04 50 51.4**	**+0.2**
	baz=18,slow=20,SNR=2.9								
HNR				LR		LR	LR	04 52 31.5	
	comp=Z,30μm,19.2s,baz=130,slow=41								
DZM	**Mont Dzumac**	**9.02**	**179**	*e*Pn		**Pn**	**Pn**	**04 49 57.5**	**+0.1**
	406nm,0.8s								
DZM				*e*LR		LR	LR	04 51 59.5	
	38μm,24.7s								
DZM	**Mont Dzumac**	**9.02**	**179**	*e*Pn		**Pn**	**Pn**	**04 49 59.0**	**+1.6**
	154nm,0.8s								
DZM				Sn		Sn	Sn	04 51 54.5	+16
DZM	**Mont Dzumac**	**9.02**	**179**	Pn		**Pn**	**Pn**	**04 49 57.3**	**-0.1**
	1.0nm,0.3s,baz=357,slow=19,SNR=6.7								
DZM				Sn		Sn	Sn	04 51 54.5	+16
	7.0nm,0.3s,baz=336,slow=19,SNR=3.3								
MSVF	**Nonsavu**	**12.35**	**114**	*e*P		Pn	Pn	04 50 46.8	+3.8
MSVF	**Nonsavu**	**12.35**	**114**	Pn		Pn	Pn	04 50 48.0	+5.0
	578nm,1.4s,SNR=5.7								
MSVF	**Nonsavu**	**12.35**	**114**	*e*Pn		Pn	Pn	04 50 46.8	+3.8
TARA	**Tarawa**	**15.75**	**26**	*e*Pn		**Pn**	**Pn**	**04 51 30.9**	**+1.9**
	345nm,0.9s								
EIDS	**Eidsvold**	**18.82**	**227**	*e*P		**P**	**Pn**	**04 52 08.8**	**+1.4**
	139nm,1.0s								
EIDS	**Eidsvold**	**18.82**	**227**	P		**P**	**Pn**	**04 52 08.7**	**+1.3**
	baz=19,SNR=19								
PMG	**Port Moresby**	**19.02**	**279**	P		**P**	**Pn**	**04 52 10.5**	**+0.7**
PMG	**Port Moresby**	**19.02**	**279**	P		**P**	**Pn**	**04 52 10.7**	**+0.9**
PMG	**Port Moresby**	**19.02**	**279**	*e*P		**P**	**Pn**	**04 52 10.6**	**+0.7**
	235nm,1.0s								
PMG	**Port Moresby**	**19.02**	**279**	P		**P**	**Pn**	**04 52 09.7**	**-0.2**
	1.4nm,0.3s,baz=119,slow=4.4,SNR=16								
PMG				LR		LR	LR	04 58 47.3	
	comp=Z,10μm,18.7s,baz=124,slow=35								
CTA	**Charters Tower**	**20.37**	**247**	P		**P**	**P**	**04 52 24.5**	**+0.7**
CTA	**Charters Tower**	**20.37**	**247**	⇓P		**P**	**P**	**04 52 24.8**	**+1.0**
	baz=20								
CTA	**Charters Tower**	**20.37**	**247**	P		**P**	**P**	**04 52 24.5**	**+0.7**
	75nm,0.8s,baz=71,slow=13,SNR=35								
CTA				LR		LR	LR	05 00 19.0	
	comp=Z,18nm,28.6s,baz=68,slow=37								
CTAO	**Charters Tower**	**20.37**	**247**	*e*P		**P**	**P**	**04 52 24.3**	**+0.5**
CTAO				pmax		pmax	pmax		
	comp=Z,158nm,1.0s								
CTAO	**Charters Tower**	**20.37**	**247**	*e*P		**P**	**P**	**04 52 24.3**	**+0.5**
	comp=Z,158nm,1.0s								
RMQ	**Roma**	**21.16**	**228**	P		**P**	**P**	**04 52 33.8**	**+1.4**
	baz=21,SNR=144								
AFI	**Afiamalu**	**21.43**	**95**	*e*P		**P**	**P**	**04 52 34.9**	**-0.4**
	comp=Z,71nm,0.9s								
AFI	**Afiamalu**	**21.43**	**95**	P		**P**	**P**	**04 52 38.6**	**+3.2**
	comp=Z,56nm,0.8s,baz=69,slow=6.1,SNR=8.4								
AFI				LR		LR	LR	04 59 17.2	
	comp=Z,18nm,28.6s,baz=270,slow=32								
MANU	**Manus Island**	**21.60**	**299**	⇑P		**P**	**P**	**04 52 37.9**	**+0.9**
	baz=22,SNR=7.2								
RAO	**Raoul Island**	**21.88**	**140**	LR		LR	LR	04 59 38.4	
	comp=Z,17nm,28.6s,baz=318,slow=33								
ARMA	**Armidale**	**21.95**	**216**	*e*P		**P**	**P**	**04 52 41.7**	**+0.8**
	comp=Z,155nm,1.1s								
ARMA	**Armidale**	**21.95**	**216**	⇓P		**P**	**P**	**04 52 41.1**	**+0.2**
	baz=22,SNR=35								
COEN	**Coen**	**22.41**	**265**	*e*P		**P**	**P**	**04 52 46.6**	**+0.7**
	comp=Z,2μm,0.9s								
COEN	**Coen**	**22.41**	**265**	P		**P**	**P**	**04 52 46.5**	**+0.7**
	baz=22,SNR=46								
OUZ	**Omahuta**	**23.11**	**164**	*e*P		**P**	**P**	**04 52 57.2**	**+4.3**
	comp=Z,106nm,1.3s								
KNTN	**Kanton**	**24.09**	**67**	*e*P		**P**	**P**	**04 53 01.5**	**-1.2**
	comp=Z,637nm,1.8s								
MGCD	**Mangrove Creek**	**24.38**	**212**	⇑P		**P**	**P**	**04 53 05.7**	**+0.5**
	baz=24,SNR=11								
QLP	**Quilpie**	**24.64**	**233**	P		**P**	**P**	**04 53 07.4**	**-0.3**
	baz=24,SNR=72								
RIV	**Riverview**	**24.85**	**211**	⇑P		**P**	**P**	**04 53 10.3**	**+0.9**
	baz=25								
CMSA	**Cobar Meteorol**	**26.38**	**222**	⇑P		**P**	**P**	**04 53 23.0**	**-0.4**
	baz=26,SNR=45								
YNG	**Young**	**26.66**	**214**	⇑P		**P**	**P**	**04 53 26.1**	**+0.2**
	baz=26,SNR=27								
CNB	**Canberra Magne**	**26.93**	**212**	⇑P		**P**	**P**	**04 53 28.4**	**0.0**
	baz=27,SNR=13								
URZ	**Urewera**	**26.96**	**161**	P		**P**	**P**	**04 53 29.5**	**+1.0**
URZ	**Urewera**	**26.96**	**161**	P		**P**	**P**	**04 53 29.5**	**+1.0**
	comp=Z,3.8nm,0.6s,baz=311,slow=11,SNR=3.0								
URZ				LR		LR	LR	05 02 59.6	
	comp=Z,10μm,19.0s,baz=344,slow=34								
CAN	**Canberra**	**27.12**	**212**	*e*P		**P**	**P**	**04 53 30.3**	**+0.3**
CAN				pmax		pmax	pmax		
	comp=Z,69nm,1.5s								
CAN	**Canberra**	**27.12**	**212**	*e*P		**P**	**P**	**04 53 30.3**	**+0.3**
	comp=Z,69nm,1.5s								
CAN	**Canberra**	**27.12**	**212**	⇑P		**P**	**P**	**04 53 30.6**	**+0.6**
	baz=27								
STKA	**Stephens Creek**	**29.38**	**226**	*e*P		**P**	**P**	**04 53 50.1**	**-0.1**
	comp=Z,82nm,1.9s								
STKA				PcP		PcP	**PcP**	**04 56 58.0**	**+1.6**
STKA	**Stephens Creek**	**29.38**	**226**	⇑P		**P**	**P**	**04 53 49.8**	**-0.4**
	baz=29,SNR=32								
STKA	**Stephens Creek**	**29.38**	**226**	P		**P**	**P**	**04 53 49.9**	**-0.3**
	comp=Z,32nm,0.8s,baz=44,slow=8.3,SNR=33								
STKA				PcP		PcP	**PcP**	**04 56 58.0**	**+1.6**
	comp=Z,15nm,0.8s,baz=48,slow=5.3,SNR=4.5								
STKA				LR		LR	LR	05 05 13.5	
	comp=Z,10μm,20.3s,baz=58,slow=36								
TOO	**Toolangi**	**30.66**	**213**	⇑P		**P**	**P**	**04 54 01.6**	**0.0**
	baz=30,SNR=5.8								
RPZ	**Rata Peaks**	**30.89**	**173**	*e*P		**P**	**P**	**04 54 03.0**	**-0.4**
	comp=Z,77nm,0.9s								
RPZ	**Rata Peaks**	**30.89**	**173**	P		**P**	**P**	**04 54 02.8**	**-0.6**
	comp=Z,63nm,0.7s,baz=114,slow=3.3,SNR=18								
RPZ				LR		LR	LR	05 05 55.4	
	comp=Z,10μm,19.4s,baz=348,slow=35								
WRAB	**Tennant Creek**	**31.28**	**253**	*e*P		**P**	**P**	**04 54 05.4**	**-1.8**
WRAB				pmax		pmax	pmax		
	comp=Z,17nm,0.9s								
WRAB	**Tennant Creek**	**31.28**	**253**	P		**P**	**P**	**04 54 05.0**	**-2.2**
	comp=Z,109nm,2.0s,SNR=6.7								
WRAB	**Tennant Creek**	**31.28**	**253**	*e*P		**P**	**P**	**04 54 05.4**	**-1.8**
	comp=Z,17nm,0.9s								
WRA	**Warramunga Arr**	**31.29**	**253**	P		**P**	**P**	**04 54 05.5**	**-1.7**
WRA				PcP		PcP	**PcP**	**04 57 03.1**	**+1.6**
WRA				ScP		ScP	**ScP**	**05 00 45.8**	**+1.6**
WRA	**Warramunga Arr**	**31.29**	**253**	P		**P**	**P**	**04 54 05.5**	**-1.7**
	comp=Z,15nm,0.8s,baz=83,slow=8.7,SNR=34								
WRA				PcP		PcP	**PcP**	**04 57 03.1**	**+1.6**
	comp=Z,3.2nm,0.7s,baz=72,slow=3.0,SNR=4.0								
WRA				ScP		ScP	**ScP**	**05 00 45.8**	**+1.6**
	comp=Z,0.8nm,0.9s,baz=82,slow=24,SNR=3.4								
WRA				LR		LR	LR	05 06 47.5	
	comp=Z,18nm,28.6s,baz=80,slow=37								
ARPS	**Mount Arapiles**	**32.20**	**218**	⇑P		**P**	**P**	**04 54 16.2**	**+1.1**
	baz=32,SNR=9.4								
AS08	**Alice Springs**	**32.32**	**246**	⇑P		**P**	**P**	**04 54 14.9**	**-1.4**
	baz=32								
AS15	**Alice Springs**	**32.35**	**246**	⇑P		**P**	**P**	**04 54 15.1**	**-1.5**
	baz=32								
AS31	**Alice Springs**	**32.37**	**246**	*e*P		**P**	**P**	**04 54 14.8**	**-2.0**
AS12	**Alice Springs**	**32.37**	**246**	⇓P		**P**	**P**	**04 54 15.0**	**-1.7**
	baz=32								
ASAR	**Alice Springs**	**32.37**	**246**	P		**P**	**P**	**04 54 14.8**	**-2.0**
ASAR				PcP		PcP	**PcP**	**04 57 05.5**	**+1.0**
ASAR				ScP		ScP	**ScP**	**05 00 48.0**	**+0.3**
ASAR	**Alice Springs**	**32.37**	**246**	P		**P**	**P**	**04 54 14.8**	**-2.0**
	comp=Z,62nm,0.9s,baz=75,slow=9.4,SNR=168								
ASAR				PcP		PcP	**PcP**	**04 57 05.5**	**+1.0**
	comp=Z,3.5nm,0.7s,baz=78,slow=2.8,SNR=4.1								
ASAR				ScP		ScP	**ScP**	**05 00 48.0**	**+0.3**
	comp=Z,1.4nm,0.9s,baz=74,slow=4.3,SNR=4.5								
ASAR				LR		LR	LR	05 07 07.7	
	comp=Z,18μm,19.7s,baz=72,slow=36								
ASPA	**Alice Springs**	**32.37**	**246**	⇑P		**P**	**P**	**04 54 15.0**	**-1.8**
	baz=32								
KDU	**Kakadu**	**32.88**	**267**	⇑P		**P**	**P**	**04 54 20.4**	**-0.8**
	baz=33,SNR=17								
MOO	**Moorlands**	**33.65**	**206**	⇓P		**P**	**P**	**04 54 28.6**	**+0.9**
	baz=34,SNR=4.3								
TLE	**Tual**	**33.80**	**279**	P		**P**	**P**	**04 54 32.1**	**+2.8**
	comp=Z,83nm,1.1s								
BBOO	**Buckleboo**	**33.86**	**229**	*e*P		**P**	**P**	**04 54 29.4**	**-0.3**
	comp=Z,2μm,0.9s								
BBOO	**Buckleboo**	**33.86**	**229**	P		**P**	**P**	**04 54 29.3**	**-0.3**
	baz=34,SNR=32								
TAU	**Tasmania Unive**	**33.98**	**205**	*e*P		**P**	**P**	**04 54 30.7**	**+0.2**
TAU				pmax		pmax	pmax		
	comp=Z,47nm,1.2s								
TAU	**Tasmania Unive**	**33.98**	**205**	*e*P		**P**	**P**	**04 54 30.7**	**+0.2**
	comp=Z,47nm,1.2s								
FAKI	**Fak Fak**	**35.04**	**284**	P		**P**	**P**	**04 54 40.0**	**-0.1**
FAKI	**Fak Fak**	**35.04**	**284**	P		**P**	**P**	**04 54 39.8**	**-0.3**
	baz=35,SNR=6.0								
KNRA	**Kununurra**	**36.34**	**261**	P		**P**	**P**	**04 54 50.4**	**-0.9**
	baz=36,SNR=56								
SWI	**Sorong**	**36.66**	**286**	P		**P**	**P**	**04 54 54.0**	**+0.1**
BNDI	**Bandanaira**	**36.81**	**280**	⇓P		**P**	**P**	**04 54 55.7**	**+0.4**
	baz=37								
PALU	**Palau**	**37.45**	**301**	P		**P**	**P**	**04 55 02.1**	**+1.4**
	baz=37,SNR=3.2								
FITZ	**Fitzroy Crossi**	**39.35**	**257**	*e*P		**P**	**P**	**04 55 15.7**	**-0.9**
	comp=Z,149nm,1.4s								
FITZ	**Fitzroy Crossi**	**39.35**	**257**	⇓P		**P**	**P**	**04 55 15.6**	**-1.0**
	baz=39,SNR=44								
LBMI	**Labuha**	**40.27**	**285**	P		**P**	**P**	**04 55 25.2**	**+0.9**
SOEI	**Soe**	**41.21**	**270**	P		**P**	**P**	**04 55 31.2**	**-1.0**
	comp=Z,94nm,1.1s,comp=Z,2μm								
SOEI	**Soe**	**41.21**	**270**	P		**P**	**P**	**04 55 33.1**	**+0.9**
SOEI	**Soe**	**41.21**	**270**	⇓P		**P**	**P**	**04 55 31.9**	**-0.4**
	baz=41,SNR=7.0								
BATI	**Baumata**	**41.73**	**269**	P		**P**	**P**	**04 55 37.1**	**+0.7**
	comp=Z,98nm,1.3s,comp=Z,1μm								
BATI	**Baumata**	**41.73**	**269**	P		**P**	**P**	**04 55 37.6**	**+1.2**
PPT	**Papeete**	**42.82**	**102**	LR		LR	LR	05 09 32.8	
	comp=Z,5μm,20.8s,baz=272,slow=30								
PPT2	**Papeete2**	**42.82**	**102**	*e*S		**S**	**S**	**05 02 11.6**	**+2.2**
	comp=Z,3μm,26.8s								
PPT2				*e*LQ		LQ	LQ	05 05 56.6	
	comp=Z,14μm,26.8s								
PPT2				*e*LR		LR	LR	05 07 40.1	
	comp=Z,17μm,26.5s,baz=269								
TBI	**Tubuai**	**43.21**	**110**	*e*S		**S**	**S**	**05 02 18.6**	**+3.8**
	comp=Z,3μm,26.2s								
TBI				*e*LQ		LQ	LQ	05 06 00.3	
	comp=Z,7μm,30.2s								
TBI				*e*LR		LR	LR	05 07 54.3	
	comp=Z,8μm,23.8s,baz=284								
MMRI	**Maumere**	**43.36**	**271**	*e*P		**P**	**P**	**04 55 49.4**	**-0.3**
	comp=Z,173nm,1.2s								
SGSI	**Sangihe**	**43.66**	**290**	P		**P**	**P**	**04 55 52.7**	**+0.6**
	comp=Z,491nm,1.2s,comp=Z,7μm								
SGSI	**Sangihe**	**43.66**	**290**	P		**P**	**P**	**04 55 53.8**	**+1.7**
KMSI	**Cibinong**	**43.99**	**285**	P		**P**	**P**	**04 55 53.5**	**-1.2**
	comp=Z,556nm,0.9s,comp=Z,8μm								
KMSI	**Cibinong**	**43.99**	**285**	P		**P**	**P**	**04 55 55.3**	**+0.6**
PMOR	**Pomariorio Ree**	**44.52**	**98**	*e*P		**P**	**P**	**04 56 00.2**	**+1.3**
	comp=Z,108nm,1.0s								
LUWI	**Luwuk**	**44.63**	**282**	P		**P**	**P**	**04 55 59.7**	**-0.1**
	comp=Z,149nm,1.2s,comp=Z,3μm								
LUWI	**Luwuk**	**44.63**	**282**	P		**P**	**P**	**04 56 01.1**	**+1.3**
VAH	**Vaihoa**	**44.77**	**99**	*e*P		**P**	**P**	**04 56 03.7**	**+2.8**
	comp=Z,46nm,0.9s								
MBWA	**Marble Bar**	**45.03**	**253**	*e*P		**P**	**P**	**04 56 02.4**	**-0.6**
	comp=Z,44nm,1.0s								
APSI	**Ampana**	**45.74**	**282**	P		**P**	**P**	**04 56 09.5**	**+0.8**
APSI	**Ampana**	**45.74**	**282**	P		**P**	**P**	**04 56 08.4**	**-0.2**
	comp=Z,95nm,1.2s,comp=Z,2μm								
APSI	**Ampana**	**45.74**	**282**	P		**P**	**P**	**04 56 09.4**	**+0.8**
MRSI	**Marisa**	**45.88**	**284**	P		**P**	**P**	**04 56 10.8**	**+1.0**
MRSI	**Marisa**	**45.88**	**284**	P		**P**	**P**	**04 56 08.5**	**-1.3**
	comp=Z,56nm,1.1s								
BKSI	**Bulukumba**	**46.07**	**275**	P		P	P	04 56 18.3	+7.0
	comp=Z,23nm,1.9s,comp=Z,0.1nm								
BKSI	**Bulukumba**	**46.07**	**275**	P		**P**	**P**	**04 56 09.8**	**-1.5**
	comp=Z,23nm,1.9s,comp=Z,994nm								
KAPI	**Kappang**	**46.50**	**275**	P		**P**	**P**	**04 56 14.0**	**-0.7**
	comp=Z,255nm,0.9s,SNR=5.7								
KAPI	**Kappang**	**46.50**	**275

LEM **Lembang** 57.94 270 P **P** 04 57 40.9 +1.0
CBJI **Citeko** 58.76 270 P **P** 04 57 47.2 +1.7
comp=Z,482nm,1.5s,comp=Z,19µm
DBJI **Dramaga** 58.84 270 P **P** 04 57 46.7 +0.6
comp=Z,188nm,1.4s,comp=Z,4µm
DBJI **Dramaga** 58.84 270 P **P** 04 57 46.6 +0.5
YUK **Yuzh-Kuril'sk** 59.72 343*d iP* P 04 57 59.8 +8.3
YUK *e* 05 00 04.9
YUK *e*PPP PPP 05 01 32.9
YUK *i* S S 05 06 17.0 +15
YUK MLR MLR
comp=Z,4µm,20.0s
YUK MLR MLR
comp=E,3µm,19.0s
YUK MLR MLR
comp=N,5µm,20.0s
KUR **Kuril'sk** 60.30 345 P P 04 57 58.8 +3.4
KUR *i* S S 05 05 59.3 -10
KUR pmax pmax
comp=Z,446nm,2.4s
KUR MLR MLR
comp=Z,4µm,18.0s
ASAJ **Asahikawa** 60.78 341 P **P** 04 57 58.5 -0.2
ASAJ **Asahikawa** 60.78 341 P **P** 04 57 58.5 -0.2
comp=Z,29nm,0.6s,baz=224,slow=19,SNR=12
KASI **Kota Agung** 61.23 271 P **P** 04 58 01.9 -0.6
comp=Z,150nm,1.2s
SSE **Sheshan** 61.57 316 P **P** 04 58 05.0 +0.6
SSE pP **pP** 04 58 08.2 -1.4
SSE PP **PP** 05 00 20.5 +0.3
SSE S **S** 05 06 28.0 +2.1
SSE sS **sS** 05 06 33.3 -1.1
SSE AMB AMB
comp=Z,33nm,0.9s
SSE AMB AMB
comp=Z,490nm,9.4s
SSE LR LR
comp=Z,700nm,17.7s
SSE LR LR
comp=Z,1µm,17.7s
SSE LR LR
comp=Z,1µm,17.4s
KSRS **Korea Array** 61.74 326 P **P** 04 58 05.2 -0.2
comp=Z,10nm,0.8s,baz=143,slow=6.7,SNR=30
KSRS LR LR 05 26 48.6
comp=Z,315nm,18.2s,baz=134,slow=38
KSAR **Wonju Array Be** 61.75 326 P **P** 04 58 05.2 -0.3
MDSI **Maura Dua** 61.76 272 P **P** 04 58 05.4 -0.7
comp=Z,54nm,1.4s,comp=Z,2µm
LWLI **Liwa** 61.77 271 P **P** 04 58 07.5 +1.2
comp=Z,149nm,1.3s
LHSI **Lahat** 62.54 272 P **P** 04 58 11.4 +0.1
comp=Z,57nm,1.4s
YSS **Yuzh-Sakhalins** 63.28 342 *e*P P 04 58 10.0 -5.5
YSS *e**SP sP 04 58 16.0 -6.7
YSS *e*PPP PPP 05 02 12.0
YSS *e*S S 05 06 34.0 -13
YSS MLR MLR
comp=Z,6µm,20.0s
YSS MLR MLR
comp=N,6µm,18.0s
YSS MLR MLR
comp=E,2µm,16.0s
NJ2 **Nanjing** 63.73 316 *e*P **P** 04 58 19.3 +0.5
NJ2 AMB AMB
comp=E,30nm,1.3s
QIZ **Qiongzhong** 64.00 299 P **P** 04 58 21.3 +0.4
QIZ S **S** 05 06 57.8 +0.9
QIZ sS **sS** 05 07 04.4 -1.1
QIZ AMB AMB
comp=E,710nm,12.3s
QIZ LR LR
comp=E,490nm,24.8s
QIZ LR LR
comp=E,2µm,26.8s
VLA **Vladivostok** 64.08 333⇑*iP* **P** 04 58 20.4 -0.5
VLA *e* 04 58 55.0
VLA *e*S **S** 05 06 55.9 -1.0
VLA pmax pmax
comp=Z,42nm,1.5s
KGM **Kluang** 64.14 279 P **P** 04 58 24.0 +2.0
VNDA **Vanda** 64.55 181 *e*P **P** 04 58 23.6 0.0
comp=Z,25nm,1.1s
VNDA **Vanda** 64.55 181 P **P** 04 58 23.6 0.0
comp=Z,10nm,0.9s,baz=349,slow=6.7,SNR=12
VNDA LR LR 05 24 44.8
comp=Z,2µm,18.3s,baz=14,slow=34
CASY **Casey** 64.73 202 *e*P **P** 04 58 23.7 -1.2
comp=Z,67nm,1.5s
SBA **Scott Base** 64.85 180 *e*P **P** 04 58 27.2 +1.7
SBA **Scott Base** 64.85 180 *e*P **P** 04 58 27.2 +1.7
USRK **Ussuriysk Arra** 64.89 333 P **P** 04 58 26.5 +0.4
comp=Z,23nm,0.9s,baz=138,slow=5.7,SNR=37
USRK PKKP **PKKPdf** 05 18 56.4 -0.2
comp=Z,1.1nm,0.5s,baz=175,slow=29,SNR=4.5
USRK LR LR 05 26 52.1
comp=Z,1µm,19.4s,baz=125,slow=36
KTGM **Kuala Trenggan** 65.23 282 P **P** 04 58 30.7 +1.6
WHN **Wuhan** 66.03 312 ⇑P **P** 04 58 34.6 +0.8
WHN S **S** 05 07 20.7 -0.7
WHN LR LR
comp=Z,2µm,11.9s
WHN LR LR
comp=Z,2µm,15.3s
WHN LR LR
comp=Z,3µm,17.9s
PEA0B **Petropavlovsk-** 66.25 354 *e*P **P** 04 58 36.4 +1.7
PETK **Petropavlovsk-** 66.25 354 P **P** 04 58 34.1 -0.7
PETK **Petropavlovsk-** 66.25 354 P **P** 04 58 34.0 -0.7
PETK **Petropavlovsk-** 66.25 354 P **P** 04 58 34.0 -0.7
comp=Z,13nm,0.8s,baz=138,slow=5.6,SNR=16
PETK LR LR 05 24 05.4
comp=Z,2µm,20.1s,baz=167,slow=33
MDJ **Mudanjiang** 66.28 332 P **P** 04 58 35.3 +0.1
MDJ S **S** 05 07 26.5 +2.5
MDJ SS **SS** 05 11 42.2 +1.5
MDJ AMB AMB
comp=Z,44nm,1.8s
MDJ AMB AMB
comp=Z,480nm,7.0s
MDJ LR LR
comp=Z,1µm,23.4s
MDJ LR LR
comp=Z,570nm,25.3s
MDJ LR LR
comp=Z,1µm,26.3s
MDJ **Mudanjiang** 66.28 332 *e*P **P** 04 58 34.9 -0.3
comp=Z,39nm,1.0s
DL2 **Dalian** 66.31 323 P **P** 04 58 36.0 +0.6
DL2 S **S** 05 07 27.3 +2.8
DL2 AMB AMB
comp=Z,73nm,1.6s
DL2 AMB AMB
comp=Z,300nm,2.9s
DL2 LR LR
comp=Z,1µm,14.9s
DL2 LR LR
comp=Z,410nm,18.0s
DL2 LR LR
comp=Z,860nm,19.3s
UBPT **Khong Chiam** 66.34 293 P P 04 58 40.1 +4.0
comp=Z,42nm,1.6s,comp=Z,1µm
UBPT **Khong Chiam** 66.34 293 P P 04 58 40.1 +4.0
comp=Z,42nm,1.6s,comp=Z,1µm
PPI **Padang Panjang** 66.35 275 P **P** 04 58 37.4 +1.1
IPM **Ipoh** 67.01 281 P **P** 04 58 41.5 +1.0
IPM **Ipoh** 67.01 281 P **P** 04 58 41.0 +0.5
IPM **Ipoh** 67.01 281 *e*P **P** 04 58 40.1 -0.5
comp=Z,90nm,1.3s
TIA **Tai'an** 67.37 319 ⇓P **P** 04 58 42.1 -0.2
TIA pP **pP** 04 58 50.2 +2.6
TIA sP sP 04 58 55.3 +5.8
TIA PcP **PcP** 04 59 05.0 -4.9
TIA S S 05 07 44.3 +6.8
TIA ScS **SKSac** 05 08 39.4 -0.1
TIA AMB AMB
comp=Z,30nm,1.1s
TIA AMB AMB
comp=Z,900nm,11.1s
TIA LR LR
comp=Z,2µm,14.0s
TIA LR LR
comp=Z,1µm,16.4s
TIA LR LR
comp=Z,3µm,18.4s
KULM **Kulim** 67.59 281 P **P** 04 58 45.6 +1.4

KULM **Kulim** 67.59 281 P **P** 04 58 44.7 +0.5
KULM **Kulim** 67.59 281 *e*P **P** 04 58 44.5 +0.3
comp=Z,53nm,1.4s
CN2 **Changchun** 67.64 329 *e*P **P** 04 58 43.4 -0.5
CN2 PcP **PcP** 04 59 10.1 -0.7
CN2 *e*PP **PP** 05 01 14.9 +1.6
CN2 *e*S **S** 05 07 39.5 -1.0
CN2 *e*SS **SS** 05 12 02.3 +0.4
CN2 AMB AMB
comp=Z,50nm,1.1s
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,2µm,18.0s
CN2 LR LR
comp=Z,1µm,18.0s
CN2 LR LR
comp=Z,1µm,18.0s
PANO **Nakornpanom** 67.80 295 P **P** 04 58 46.0 +0.6
comp=Z,23nm,1.2s
SKLT **Songkhla** 68.16 283 P **P** 04 58 49.2 +1.5
comp=Z,34nm,1.4s,comp=Z,1µm
SKLT **Songkhla** 68.16 283 P **P** 04 58 49.2 +1.5
comp=Z,34nm,1.4s,comp=Z,1µm
SKNT **Sakolnakorn** 68.30 294 P **P** 04 58 48.6 +0.1
comp=Z,110nm,1.1s,comp=Z,6µm
PSI **Prapat** 68.58 278 ⇑P **P** 04 58 49.5 -1.1
baz=68,SNR=12
KLR **Kul'dur** 69.02 337 *e*P P 04 58 48.7 -3.7
KLR *e*S **S** 05 07 53.5 -3.2
KLR *e* 05 12 23.5
KLR pmax pmax
comp=E,57nm,1.6s
KLR pmax pmax
comp=Z,180nm,1.6s
KLR smax smax
comp=N,2µm,10.0s
KLR smax smax
comp=E,1µm,10.0s
ENH **Enshi** 69.48 309 *e*P **P** 04 58 55.0 -0.7
comp=E,45nm,1.1s
GYA **Guiyang** 69.89 305 P **P** 04 58 58.4 0.0
GYA PP **PP** 05 01 33.9 +0.6
GYA S **S** 05 08 04.7 -3.4
GYA SKS **SKSac** 05 08 55.6 -3.7
GYA SS **SS** 05 12 33.7 -3.8
GYA AMB AMB
comp=E,30nm,1.0s
GYA AMB AMB
comp=E,110nm,5.9s
GYA LR LR
comp=E,830nm,18.0s
GYA LR LR
comp=E,750nm,18.6s
GYA LR LR
comp=E,1µm,21.4s
BJT **Baijiatuau** 70.27 321 *e*P **P** 04 59 00.4 +0.1
comp=E,31nm,0.9s
BJI **Beijing** 70.28 321 P **P** 04 59 00.7 +0.4
BJI S **S** 05 08 14.8 +3.0
BJI AMB AMB
comp=E,36nm,1.2s
BJI AMB AMB
comp=E,560nm,5.6s
BJI LR LR
comp=E,2µm,21.8s
BJI LR LR
comp=E,1µm,27.8s
BJI LR LR
comp=E,2µm,30.1s
TIY **Taiyuan** 71.30 318 *e*P **P** 04 59 08.8 +2.1
TIY AMB AMB
comp=E,510nm,3.7s
TIY LR LR
comp=E,2µm,14.7s
TIY LR LR
comp=E,420nm,10.5s
TIY LR LR
comp=E,2µm,18.2s
XAN **Xi'an** 71.77 313 P **P** 04 59 09.1 -0.5
XAN sP **sP** 04 59 17.0 +0.2
XAN PcP **PcP** 04 59 28.0 -0.5
XAN PP **PP** 05 01 49.8 +0.6
XAN S **S** 05 08 27.1 -2.4
XAN AMB AMB
comp=E,6.0nm,1.2s
XAN AMB AMB
comp=E,140nm,9.8s
XAN LR LR
comp=E,760nm,17.3s
XAN LR LR
comp=E,260nm,20.3s
XAN LR LR
comp=E,400nm,22.5s
NANT **Nan** 71.87 295 P **P** 04 59 10.8 +0.4
comp=E,50nm,0.9s,comp=E,17µm
KMI **Kunming** 72.53 302 P **P** 04 59 16.4 +1.9
KMI pP **pP** 04 59 19.5 -0.3
KMI sP **sP** 04 59 20.7 -1.0
KMI PP **PP** 05 01 58.6 +2.5
KMI S **S** 05 08 40.7 +1.8
KMI SKS **SKSac** 05 09 15.9 -3.6
KMI ScS **SKSac** 05 09 20.2 +0.6
KMI SS **SS** 05 13 21.9 +3.7
KMI AMB AMB
comp=E,48nm,1.0s
KMI AMB AMB
comp=E,460nm,4.6s
KMI LR LR
comp=E,820nm,17.5s
KMI LR LR
comp=E,1µm,15.2s
KMI LR LR
comp=E,1µm,16.7s
PAYA **Payao** 72.80 295 P **P** 04 59 16.4 +0.4
comp=E,9.0nm,1.1s,comp=E,102nm
CM31 **Chiang Mai Arr** 73.31 294 *e*P **P** 04 59 18.1 -1.0
CMAR **Chiang Mai Arr** 73.31 294 P **P** 04 59 19.3 +0.2
CMAR **Chiang Mai Arr** 73.31 294 P **P** 04 59 19.3 +0.2
comp=E,22nm,1.0s,baz=118,slow=4.3,SNR=64
CHTO **Chiang Mai** 73.43 294 *e*P **P** 04 59 19.3 -0.4
CHTO pmax pmax
comp=Z,162nm,1.1s
CHTO **Chiang Mai** 73.43 294 P **P** 04 59 20.1 +0.4
CHTO **Chiang Mai** 73.43 294 *e*P **P** 04 59 19.3 -0.4
comp=Z,162nm,1.1s
CHTO **Chiang Mai** 73.43 294 P **P** 04 59 20.1 +0.4
comp=Z,156nm,1.4s,comp=Z,3µm
HHC **Hu-ho-hao-te** 73.61 320 *e*P **P** 04 59 20.9 +0.4
HHC sP **sP** 04 59 27.9 +0.2
HHC PcP **PcP** 04 59 36.8 +0.5
HHC PP **PP** 05 02 07.4 +2.5
HHC S **S** 05 08 50.5 +0.1
HHC sS **sS** 05 08 58.3 -0.8
HHC SKS **SKSac** 05 09 22.6 -4.1
HHC AMB AMB
comp=Z,40nm,0.6s
HHC AMB AMB
comp=Z,580nm,6.2s
HHC LR LR
comp=Z,400nm,17.7s
HHC LR LR
comp=Z,500nm,18.7s
HHC LR LR
comp=Z,2µm,17.7s
CD2 **Chengdu** 74.14 308 P **P** 04 59 24.3 +0.5
CD2 pP **pP** 04 59 29.0 0.0
CD2 sP **sP** 04 59 31.3 +0.3
CD2 PP **PP** 05 02 11.9 +2.3
CD2 S **S** 05 08 56.8 +0.1
CD2 sS **sS** 05 09 04.2 -1.2
CD2 SKS **SKSac** 05 09 27.2 -3.9
CD2 SS **SS** 05 13 44.6 +2.2
CD2 AMB AMB
comp=Z,40nm,1.2s
CD2 AMB AMB
comp=Z,680nm,5.4s
CD2 LR LR
comp=Z,2µm,16.6s
CD2 LR LR
comp=Z,1µm,16.7s
HIA **Hailar** 74.29 330 *e*P **P** 04 59 24.2 +0.1
comp=Z,45nm,0.9s
BTO **Baotou** 74.45 319 *e*P **P** 04 59 25.9 +0.5
LZH **Lanzhou** 76.40 312 P **P** 04 59 38.8 +2.0

LZH pP **pP** 04 59 42.5 +0.4
LZH sP **sP** 04 59 45.1 +1.1
LZH PP **PP** 05 02 31.8 +3.1
LZH *e*S **S** 05 09 22.8 +1.0
LZH sS **sS** 05 09 30.9 +0.4
LZH SS **SS** 05 14 19.8 +3.1
LZH AMB AMB
comp=Z,28nm,1.2s
LZH AMB AMB
comp=Z,200nm,4.1s
LZH LR LR
comp=Z,770nm,15.3s
LZH LR LR
comp=Z,860nm,14.8s
LZH LR LR
comp=Z,1µm,17.1s
SEY **Seymchan** 76.46 354 *e*P **P** 04 59 36.0 -0.3
QSPA **South Pole Qui** 77.01 180 *e*P **P** 04 59 39.0 -0.7
comp=Z,96nm,1.3s
QSPA **South Pole Qui** 77.01 180 P **P** 04 59 38.8 -0.9
comp=Z,59nm,1.1s
CLNS **Chul'man** 77.55 338 *e*P **P** 04 59 42.6 0.0
CLNS *e* 04 59 49.7
CLNS *e**PP **PcP** 04 59 53.3 +0.5
CLNS *e* 05 02 38.2
CLNS *e*PPP PPP 05 04 26.1
CLNS *e*S **S** 05 09 34.5 +1.3
CLNS *e*SS **SS** 05 14 32.6 -0.4
CLNS pmax pmax
comp=Z,7.0nm,0.9s
CLNS pmax pmax
comp=E,45nm,1.1s
CLNS pmax pmax
comp=N,20nm,0.9s
CLNS pmax pmax
comp=Z,4.0nm,0.9s
CLNS pmax pmax
comp=N,6.0nm,0.9s
CLNS pmax pmax
comp=E,6.0nm,1.0s
CLNS smax smax
comp=N,938nm,9.3s
CLNS smax smax
comp=E,2µm,11.9s
CLNS MLR MLR
comp=Z,746nm,15.0s
CLNS MLR MLR
comp=Z,1µm,18.0s
CLNS MLR MLR
comp=E,539nm,15.0s
CIT **Chita** 79.07 330 *e*P **P** 04 59 52.3 +1.1
CIT *e* 04 59 58.6
CIT *e* 05 00 10.2
CIT pmax pmax
comp=Z,145nm,1.6s
IMP **Imphal** 79.83 298 *e*P **P** 04 59 57.0 +1.1
IMP **Imphal** 79.83 298 *e*P **P** 04 59 57.0 +1.1
YAK **Yakutsk** 80.09 343 *e*P **P** 04 59 55.3 -1.1
YAK *e* 05 00 01.7
YAK *e* 05 02 57.2
YAK *e*PPP PPP 05 04 48.0
YAK *e*S S 05 09 53.7 -6.3
YAK *e* 05 10 10.1
YAK *e**SS ScS 05 10 38.6 +18
YAK *e*SS **SS** 05 15 08.5 -2.3
YAK *e*SSS SSS 05 18 35.7
YAK pmax pmax
comp=Z,62nm,1.0s
YAK pmax pmax
comp=N,16nm,1.2s
YAK pmax pmax
comp=E,13nm,1.1s
YAK pmax pmax
comp=Z,105nm,3.0s
YAK pmax pmax
comp=N,48nm,3.2s
YAK pmax pmax
comp=E,59nm,2.6s
YAK smax smax
comp=N,52nm,2.8s
YAK smax smax
comp=E,62nm,1.8s
SONM **Songino Array** 80.50 324 P **P** 04 59 58.2 -1.0
SONM PKKPbc **PKKPbc** 05 18 43.9 +1.3
SONM **Songino Array** 80.50 324 P **P** 04 59 58.2 -1.0
comp=E,19nm,1.3s,baz=133,slow=5.8,SNR=26
SONM PKKPbc **PKKPbc** 05 18 43.9 +1.3
comp=E,0.7nm,0.8s,baz=276,slow=4.2,SNR=3.5
SONM LR LR 05 34 50.3
comp=E,942nm,20.6s,baz=120,slow=35
GTA **Gaotai** 80.73 314 *e*P **P** 05 00 00.9 +0.3
GTA pP **pP** 05 00 05.3 -0.6
GTA sP **sP** 05 00 08.1 +0.3
GTA S **S** 05 10 10.4 +2.4
GTA SKS **SKSac** 05 10 16.1 -2.6
GTA sS **sS** 05 10 18.2 +1.4
GTA AMB AMB
comp=E,34nm,1.3s
GTA AMB AMB
comp=E,470nm,4.5s
GTA LR LR
comp=E,1µm,19.0s
GTA LR LR
comp=E,650nm,19.7s
GTA LR LR
comp=E,930nm,20.9s
SHL **Shillong** 81.84 299 *e*P **P** 05 00 06.5 -0.3
MAW **Mawson** 83.08 202 *e*P **P** 05 00 11.7 -0.6
comp=E,2.4nm,1.1s
MAW **Mawson** 83.08 202 P **P** 05 00 11.6 -0.6
comp=E,2.6nm,0.7s,baz=36,slow=1.4,SNR=6.1
MAW LR LR 05 31 31.9
comp=E,2µm,21.8s,baz=92,slow=32
ZAK **Zakamensk** 83.56 325 *e*P **P** 05 00 13.8 -1.3
ZAK *e* 05 10 32.3
ZAK pmax pmax
comp=Z,23nm,1.3s
LSA **Lhasa** 83.77 302 P **P** 05 00 18.0 +0.9
LSA **Lhasa** 83.77 302 *e*P **P** 05 00 18.6 +1.5
LSA pmax pmax
comp=Z,15nm,1.0s
LSA **Lhasa** 83.77 302 *e*P **P** 05 00 18.6 +1.5
comp=Z,15nm,1.0s
MCK **McKinley** 83.85 18 *e*P **P** 05 00 14.3 -1.9
MCK **McKinley** 83.85 18 *e*P **P** 05 00 14.3 -1.9
IRK **Irkutsk** 83.94 327 *e*P **P** 05 00 15.9 -1.0
IRK pmax pmax
comp=Z,50nm,1.4s
TLY **Talaya** 83.99 326*c iP* **P** 05 00 16.4 -0.8
TLY *e* 05 00 30.9
TLY *e*S **S** 05 10 39.1 -1.6
TLY *e* 05 11 41.4
TLY pmax pmax
comp=Z,60nm,1.5s
TLY MLR MLR
comp=Z,1µm,18.0s
TLY **Talaya** 83.99 326 P **P** 05 00 16.7 -0.5
comp=Z,168nm,1.2s,SNR=8.7
IMA2 **Indian Mountai** 84.27 15 *e*P **P** 05 00 19.4 +1.1
COLA **College** 85.00 18 *e*P **P** 05 00 20.4 -1.5
COLA pmax pmax
comp=Z,295nm,1.6s
COLA **College** 85.00 18 *e*P **P** 05 00 20.4 -1.5
comp=Z,295nm,1.6s
ILAR **Eielson Array** 85.22 18 P **P** 05 00 21.0 -2.1
ILAR PKKP **PKKPdf** 05 18 26.8 +2.0
ILAR **Eielson Array** 85.22 18 P **P** 05 00 21.0 -2.1
comp=Z,5.2nm,1.0s,baz=241,slow=5.6,SNR=29
ILAR PKKP **PKKPdf** 05 18 26.8 +2.0
comp=Z,1.1nm,0.8s,baz=307,slow=1.3,SNR=11
ILAR LR LR 05 34 14.5
comp=Z,17nm,28.6s,baz=230,slow=33
CMB **Columbia Colle** 85.26 49 *e*P **P** 05 00 23.8 -0.2
CMB pmax pmax
comp=Z,4.0nm,0.9s
CMB **Columbia Colle** 85.26 49 *e*P **P** 05 00 23.8 -0.2
comp=Z,4.3nm,0.9s
MOY **Mondy** 85.44 325 *e*P **P** 05 00 25.1 +0.5
MOY pmax pmax
comp=Z,80nm,2.9s
ISA **Isabella** 85.91 52 P **P** 05 00 27.5 +0.2
baz=86
EDW2 **Edwards Air Fo** 86.03 53 P **P** 05 00 27.9 0.0
baz=86
COLD **Coldfoot** 86.05 16 *e*P **P** 05 00 27.4 +0.3

comp=Z,20nm,1.2s
BFSC Mount Baldy Ra 86.09 54 P **P 05 00 28.4 +0.1**
baz=86
MONP Monument Peak 86.65 55 P **P 05 00 32.5 +1.4**
baz=87
MOD Modoc 86.68 46 *e*P **P 05 00 29.6 -1.4**
comp=Z,24nm,1.0s
MPMC Manual Prospec 86.79 52 P **P 05 00 32.5 +0.7**
baz=87
NVAR Mina Array Bea 86.94 50 P **P 05 00 33.1 +0.6**
NVAR PKKPbc **PKKPbc 05 18 28.4 +1.4**
NVAR P'P' 05 26 34.0
NVAR Mina Array Bea 86.94 50 P **P 05 00 33.1 +0.6**
comp=Z,2.5nm,0.7s,baz=233,slow=8.0,SNR=9.4
NVAR PKKPbc **PKKPbc 05 18 28.4 +1.4**
comp=Z,0.6nm,0.7s,baz=87,slow=3.5,SNR=5.5
NVAR PKPPKP **P'P'df 05 26 34.1 +2.1**
comp=Z,0.6nm,0.9s,baz=100,slow=2.2,SNR=2.8
NVAR LR LR 05 31 60.0
comp=Z,18nm,28.6s,baz=85,slow=30
NV11 Mina Array Sit 87.05 50 *e*P **P 05 00 35.3 +2.3**
EGAK Eagle 87.05 20 *e*P **P 05 00 33.2 +1.1**
comp=Z,18nm,1.0s
SWSC Sam W. Stewart 87.17 55 P **P 05 00 34.7 +1.3**
baz=87
PALK Pallekele 87.27 278 P **P 05 00 35.0 +0.6**
comp=Z,142nm,1.3s,SNR=5.6
PALK Pallekele 87.27 278 *e*P **P 05 00 35.0 +0.6**
comp=Z,62nm,1.4s
HEC Hector,Ludlow 87.31 54 P **P 05 00 35.0 +0.8**
baz=88
BELC Belle Mtn. Jos 87.32 54 P **P 05 00 34.4 +0.1**
baz=88
FURC Furnace Creek, 87.41 52 P **P 05 00 34.6 +0.1**
baz=88
BC3 Big Chuckawall 87.65 55 P **P 05 00 37.5 +1.6**
baz=88
GLA Glamis 87.98 56 *e*P **P 05 00 39.3 +1.9**
GLA Glamis 87.98 56 *e*P **P 05 00 39.3 +1.9**
WVOR Wild Horse Val 88.02 46 *e*P **P 05 00 39.6 +2.1**
WVOR pmax pmax
comp=Z,4.0nm,1.0s
WVOR Wild Horse Val 88.02 46 *e*P **P 05 00 39.6 +2.1**
comp=Z,4.4nm,1.0s
IRM Iron Mountain 88.04 54 P **P 05 00 38.7 +1.1**
baz=88
TIXI Tiksi 88.09 349 *e*P **P 05 00 35.7 -1.2**
Y12C Blythe 88.42 55 P **P 05 00 40.6 +1.3**
baz=89
SHPR Sheep Range 88.72 52 *e*P **P 05 00 42.1 +1.1**
comp=Z,12nm,1.4s
R11A Troy Canyon, C 88.94 50 P **P 05 00 42.3 +0.3**
baz=89
214A Organ Pipe Nat 89.31 57 P **P 05 00 44.0 +0.3**
baz=90
W13A Hualapai Mount 89.31 54 P **P 05 00 43.7 -0.1**
baz=90
Z14A Wintersburg 89.58 56 P **P 05 00 45.1 +0.2**
baz=90
Y14A Wickenburg 89.69 55 P **P 05 00 45.8 +0.3**
baz=90
ELK Elko 89.91 48 *e*P **P 05 00 47.0 +0.5**
comp=Z,3.9nm,0.9s
SYO Syowa Base 90.05 197⇑ *e*P **P 05 00 44.5 -1.8**
MFID Camas Ranch 90.29 45 P **P 05 00 48.6 +0.5**
baz=90
ARUT Antelope Range 90.41 51 *e*P **P 05 00 50.3 +1.5**
ARUT pmax pmax
comp=Z,117nm,1.1s
ARUT Antelope Range 90.41 51 *e*P **P 05 00 50.3 +1.5**
comp=Z,117nm,1.1s
WMQ Urumqi 90.79 315 P **P 05 00 50.8 +0.5**
WMQ pP **pP 05 00 55.6 -0.1**
WMQ sP **sP 05 00 57.8 +0.2**
WMQ PP **PP 05 04 28.9 +2.7**
WMQ SKS **SKSac 05 11 20.2 -1.5**
WMQ S **S 05 11 44.4 -2.0**
WMQ AMB AMB
comp=Z,21nm,1.2s
WMQ AMB AMB
comp=Z,380nm,5.2s
WMQ LR LR
comp=Z,980nm,16.0s
WMQ LR LR
comp=Z,810nm,16.0s
WMQ LR LR
comp=Z,930nm,21.0s
U15A North Rim 90.92 53 P **P 05 00 51.8 +0.4**
baz=91
TUC Tucson 91.06 57 *e*P **P 05 00 52.7 +0.8**
TUC Tucson 91.06 57 *e*P **P 05 00 52.7 +0.8**
X16A Lo Mia Camp, P 91.07 55 P **P 05 00 52.6 +0.6**
baz=91
HLID Hailey 91.32 46 *e*P **P 05 00 54.4 +1.5**
comp=Z,5.8nm,1.1s
HLID Hailey 91.32 46 P **P 05 00 53.7 +0.7**
baz=92
DUG Dugway 91.53 49 *e*P **P 05 00 54.7 +0.7**
DUG pmax pmax
comp=Z,5.0nm,1.2s
DUG Dugway 91.53 49 *e*P **P 05 00 54.6 +0.7**
comp=Z,5.5nm,1.2s
DUG Dugway 91.53 49 P **P 05 00 54.5 +0.5**
baz=92
319A Douglas 92.07 58 P **P 05 00 58.0 +1.4**
baz=92
Q16A Castle Valley 92.42 51 P **P 05 00 58.4 +0.2**
baz=93
320A Kipp Ranch, An 92.69 59 P **P 05 00 59.9 +0.4**
baz=93
W20A Ramah 93.59 55 P **P 05 01 05.0 +1.3**
baz=94
PV01 Paradox Valley 94.22 52 *e*P **P 05 01 06.6 +0.1**
S20A Disappointment 94.31 52 P **P 05 01 07.2 +0.2**
baz=94
R20A Redvale 94.38 52 P **P 05 01 07.7 +0.4**
baz=94
PDAR Pinedale Array 94.54 47 P **P 05 01 08.3 +0.4**
PDAR PKKPbc **PKKPdf 05 18 06.5 -1.3**
PDAR Pinedale Array 94.54 47 P **P 05 01 08.3 +0.4**
comp=Z,0.4nm,0.7s,baz=261,slow=3.6,SNR=3.0
PDAR PKKPbc **PKKPdf 05 18 06.5 -1.3**
comp=Z,0.6nm,0.8s,baz=78,slow=9.7,SNR=4.3
PDAR LR LR 05 39 39.9
comp=Z,1μm,18.2s,baz=296,slow=33
MAIT Maitri 94.61 188 *e*P P 05 01 03.0 -4.4
Q20A Ridgley Place, 94.61 51 P **P 05 01 08.9 +0.6**
baz=95
S21A Coal Bank Pass 94.71 53 P **P 05 01 09.8 +0.9**
baz=95
R21A Cimarron 95.05 52 P **P 05 01 10.2 -0.1**
baz=95
SNAA Sanae 95.20 183 *e*P **P 05 01 08.5 -1.7**
SNAA Sanae 95.20 183 *ep*P pP 05 01 15.3 -0.3
SNAA Sanae 95.20 183 *e*P **P 05 01 08.2 -2.0**
comp=Z,20nm,1.2s
SNAA Sanae 95.20 183 P **P 05 01 08.0 -2.2**
comp=Z,5.4nm,1.1s,baz=179,slow=5.1,SNR=12
MK31 Makanchi Array 95.25 317 *e*P **P 05 01 09.8 -1.0**
MK31 Makanchi Array 95.25 317 *e*P **P 05 01 09.8 -1.0**
MKAR Makanchi Array 95.25 317 P **P 05 01 09.5 -1.3**
MKAR 05 04 56.9
MKAR Makanchi Array 95.25 317 P **P 05 01 09.5 -1.3**
MKAR PP **PP 05 04 56.9 -4.2**
MKAR PKKP **PKKPbc 05 18 02.4 -3.5**
MKAR Makanchi Array 95.25 317 ⇓P **P 05 01 10.2 -0.6**
baz=95
MKAR Makanchi Array 95.25 317 P **P 05 01 09.5 -1.3**
comp=Z,11nm,1.0s,baz=100,slow=5.4,SNR=45
MKAR PP **PP 05 04 56.9 -4.2**
comp=Z,4.1nm,1.1s,baz=105,slow=9.3,SNR=5.0
MKAR PKKP **PKKPbc 05 18 02.4 -3.5**
comp=Z,0.8nm,0.7s,baz=297,slow=3.2,SNR=6.7
MKAR LR LR 05 46 13.4
comp=Z,604nm,19.1s,baz=83,slow=37
ZAA0 Zalesovo Array 95.40 324 *e*P **P 05 01 09.3 -1.9**
ZALV Zalesovo Beam 95.40 324 P **P 05 01 09.3 -1.9**
ZALV Zalesovo Beam 95.40 324 P **P 05 01 09.3 -1.9**
ZALV Zalesovo Beam 95.40 324 P **P 05 01 09.3 -1.9**
comp=Z,13nm,1.0s,baz=106,slow=4.8,SNR=26
ZALV LR LR 05 43 09.8
comp=Z,901nm,21.6s,baz=70,slow=35
Q22A Crested Butte, 95.65 52 P **P 05 01 11.3 -1.8**
baz=96
VNA2 Neumayer--Watz 96.16 182 *e*P **P 05 01 12.6 -1.9**
VNA2 Neumayer--Watz 96.16 182 *ep*P pP 05 01 19.2 -0.7

TXAR Lajitas Array 96.37 61 P **P 05 01 17.1 +0.7**
TXAR Lajitas Array 96.37 61 P **P 05 01 17.1 +0.7**
comp=Z,0.9nm,0.8s,baz=231,slow=6.0,SNR=5.4
TXAR LR LR 05 36 39.4
comp=Z,18nm,28.6s,baz=0.0,slow=30
VNA1 Neumayer--Stat 96.46 182 *e*P **P 05 01 14.2 -1.6**
YKA Yellowknife Ar 96.50 27 P **P 05 01 17.1 +1.1**
YKA Yellowknife Ar 96.50 27 P **P 05 01 17.1 +1.1**
comp=Z,1.1nm,0.6s,baz=260,slow=4.8,SNR=5.5
NVS Novosibirsk 96.51 325 *e*P P 05 01 12.2 -4.1
NVS *e* 05 11 49.4
NVS pmax pmax
comp=Z,19nm,2.1s
NVS pmax pmax
comp=E,34nm,2.3s
YKW3 Yellowknife Ar 96.51 27 *e*P **P 05 01 14.9 -1.2**
KSH Kashi 98.32 309 *e*P Pdif 05 01 26.8 +1.7
KSH *es*P sP 05 01 36.1 +3.8
KSH PP **PP 05 05 29.2 +4.0**
KSH SKS **SKSac 05 12 04.1 +1.5**
KSH S **S 05 12 52.3 -0.5**
KSH sS sS 05 13 00.7 -1.1
KSH SS **SS 05 19 41.1 +4.2**
KSH AMB AMB
comp=E,200nm,5.3s
KSH LR LR
comp=E,300nm,7.3s
KSH LR LR
comp=E,400nm,12.9s
KSH LR LR
comp=E,380nm,12.8s
KURK Kurchatov 98.42 320 *e*P **P 05 01 23.3 -1.7**
KURK 05 05 22.5
KURK pmax pmax
comp=Z,3.0nm,1.1s
KURK Kurchatov 98.42 320 *e*P **P 05 01 23.3 -1.7**
comp=Z,3.2nm,1.1s
KURK PP **PP 05 05 22.5 -2.9**
KURBB Kurchatov Arra 98.46 320 PP PP 05 05 22.5 -3.2
comp=Z,0.8nm,0.8s,baz=96,slow=8.0,SNR=4.1
TKM2 Tokmak 2 99.17 312 *e*P **Pdif 05 01 27.3 -1.6**
TKM2 Tokmak 2 99.17 312 *e*P **Pdif 05 01 27.2 -1.6**
EKS2 Erkin-Say 100.45 311 *e*P **Pdif 05 01 33.9 -0.6**
EKS2 Erkin-Say 100.45 311 *e*Pdif **Pdif 05 01 33.9 -0.6**
BRVK Borovoye 103.83 322 *e*P **Pdif 05 01 48.2 -0.8**
BRVK Borovoye 103.83 322 *e*Pdif **Pdif 05 01 48.2 -0.8**
ABKAR Akbulak array 110.35 318 *e*PKP **PKiKP 05 06 18.2 -0.8**
ARU Arti 110.49 326 PKiKP **PKiKP 05 06 18.8 -0.3**
OPO Ambohidratompo 112.19 244 PKiKP **PKiKP 05 06 25.0 +1.3**
OPO Ambohidratompo 112.19 244 PKiKP **PKiKP 05 06 25.0 +1.3**
comp=Z,3.5nm,0.7s,baz=67,slow=4.0,SNR=4.1
OTAV Otavalo 114.72 96 *e*PKP PKPdf 05 06 29.1 0.0
ARCES ARCESS Array B 118.33 345 PKP **PKPdf 05 06 33.0 -0.8**
ARCES PKKPbc **PKKPbc 05 16 55.2 +0.9**
ARCES ARCESS Array B 118.33 345 PKP **PKPdf 05 06 33.0 -0.8**
comp=Z,2.9nm,0.6s,baz=93,slow=2.0,SNR=20
ARCES PKKPbc **PKKPbc 05 16 55.2 +0.9**
comp=Z,3.3nm,0.9s,baz=64,slow=2.8,SNR=4.3
KLMR Klimovskoe 118.69 333 *e*PKIKP PKPdf 05 06 45.2 +11
KLMR pmax pmax
comp=Z,28nm,1.5s
LPAZ La Paz 118.91 117 *e*PKPdf **PKPdf 05 06 37.2 0.0**
LPAZ La Paz 118.91 117 PKP **PKPdf 05 06 37.2 0.0**
comp=Z,1.1nm,0.9s,baz=231,slow=7.8,SNR=3.6
ROSC El Rosal 119.77 92 *e*PKPdf **PKPdf 05 06 38.4 -0.3**
VRHR Novokhopersk 121.49 322 *e*PKIKP **PKPdf 05 06 39.4 -1.0**
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.8s
ZEI Tsey 122.33 313 *i* PKIKP **PKPdf 05 06 40.4 -2.1**
ZEI pmax pmax
comp=Z,8.0nm,1.3s
CPUP Villa Florida 122.38 133 *e*PKPdf **PKPdf 05 06 43.0 +0.2**
CPUP Villa Florida 122.38 133 PKP **PKPdf 05 06 43.1 +0.2**
comp=Z,1.7nm,0.7s,baz=343,slow=3.8,SNR=3.3
OBN Obninsk 122.70 328 *i* PKIKP **PKPdf 05 06 42.4 -0.1**
OBN *e* 05 08 18.8
OBN pmax pmax
comp=Z,6.0nm,1.0s
VSR Storozhevoye 122.89 323 *e*PKIKP **PKPdf 05 06 41.6 -1.5**
VSR pmax pmax
comp=Z,6.0nm,0.4s
VSR pmax pmax
comp=N,5.0nm,0.3s
VSR pmax pmax
comp=E,20nm,1.4s
KIV Kislovodsk 122.91 314 *i* PKIKP **PKPdf 05 06 43.7 +0.2**
KIV *e* 05 08 20.2
KIV *e* 05 13 43.3
KIV *ePS* **PS 05 18 17.4 -1.1**
KIV pmax pmax
comp=Z,5.0nm,1.0s
VORD Divnogorie 122.92 323 *e*PKIKP **PKPdf 05 06 42.3 -0.8**
VORD pmax pmax
comp=Z,7.0nm,1.1s
VORD pmax pmax
comp=E,10.0nm,0.6s
FINES FINESS Array B 123.75 338 PKP **PKPdf 05 06 43.5 -0.9**
FINES FINESS Array B 123.75 338 PKP **PKPdf 05 06 43.5 -0.9**
comp=E,4.4nm,0.9s,baz=30,slow=2.5,SNR=10
BOSA Boshof 123.98 222 PKP **PKPdf 05 06 45.8 -0.3**
BOSA Boshof 123.98 222 PKP **PKPdf 05 06 45.8 -0.3**
comp=E,8.6nm,0.8s,baz=126,slow=1.2,SNR=9.3
SUR Sutherland 124.03 215 *e*PKPdf **PKPdf 05 06 45.8 -0.4**
SUR Sutherland 124.03 215 PKP **PKPdf 05 06 45.7 -0.5**
comp=E,13nm,0.8s,baz=43,slow=5.8,SNR=5.1
SIV San Ignacio 125.08 120 PKP **PKPdf 05 06 49.0 +0.6**
SIV San Ignacio 125.08 120 PKP **PKPdf 05 06 48.9 +0.6**
comp=E,1.6nm,0.8s,baz=61,slow=0.3,SNR=3.8
LBTB Lobatse 126.11 225 *e*PKPdf **PKPdf 05 06 48.6 -1.6**
LBTB Lobatse 126.11 225 PKP **PKPdf 05 06 48.4 -1.9**
comp=E,6.6nm,0.8s,baz=182,slow=3.8,SNR=8.7
ANN Anapa 126.27 316 *i* PKIKP **PKPdf 05 06 46.0 -3.7**
ANN *e* 05 08 44.9
ANN *e*SS SS 05 25 47.2 0.0
ANN *e*SSS SSS 05 30 26.4
ANN pmax pmax
comp=Z,22nm,1.2s
SAML Samuel 126.32 111 *e*PKPdf **PKPdf 05 06 49.9 -0.9**
MALT Malatya 127.43 308⇑ PKIKP **PKPdf 05 06 52.1 -0.2**
MALT Malatya 127.43 308 ⇑*i*P **PKPdf 05 06 52.1 -0.2**
KMBO Kilima Mbogo 127.47 258 PKP **PKPdf 05 06 53.2 -0.1**
KMBO *e*PKPdf **PKiKP 05 06 53.4 -0.4**
KMBO Kilima Mbogo 127.47 258 PKP **PKPdf 05 06 53.2 -0.1**
comp=Z,0.6nm,0.2s,baz=233,slow=22,SNR=3.5
NB2 NORSAR Subarra 128.70 345 PKPdf **PKPdf 05 06 54.5 +0.5**
comp=Z,7.6nm,1.4s,baz=31,slow=1.9
NOA NORSAR Array B 128.70 345 PKP **PKPdf 05 06 55.1 +1.2**
NOA NORSAR Array B 128.70 345 PKP **PKPdf 05 06 55.1 +1.2**
comp=Z,1.1nm,0.7s,baz=38,slow=2.0,SNR=6.3
AKASG Malin Array Be 128.74 326 PKIKP **PKPdf 05 06 53.1 -1.1**
AKASG 05 08 57.9
AKASG Malin Array Be 128.74 326 PKP **PKPdf 05 06 53.1 -1.1**
AKASG PP **PP 05 08 57.9 -2.3**
AKASG Malin Array Be 128.74 326 PKP **PKPdf 05 06 53.1 -1.1**
comp=Z,5.1nm,1.1s,baz=64,slow=1.4,SNR=15
AKASG PP **PP 05 08 57.9 -2.3**
comp=Z,0.6nm,0.5s,baz=48,slow=7.6,SNR=4.6
KIEV Kiev 128.75 326 *e*PKIKP **PKPdf 05 06 53.0 -1.2**
KIEV Kiev 128.75 326 *e*PKPdf **PKPdf 05 06 53.0 -1.2**
SJG San Juan 129.44 77 *e*PKPdf **PKPdf 05 06 56.1 -0.4**
LSZ Lusaka 129.84 237 *e*PKPdf **PKPdf 05 06 58.2 +0.6**
LSZ Lusaka 129.84 237 PKP **PKPdf 05 06 58.1 +0.5**
comp=Z,1.6nm,0.5s,baz=47,slow=9.8,SNR=5.5
BR131 Keskin Array S 130.60 312 *e*PKPdf **PKPdf 05 06 58.2 -0.2**
BRTR Keskin Array B 130.60 312 PKP **PKPdf 05 06 58.5 +0.1**
BRTR PP **PP 05 09 12.9 -0.3**
BRTR SKPbc **SKPbc 05 10 21.5 -0.1**
BRTR Keskin Array B 130.60 312 PKP **PKPdf 05 06 58.5 +0.1**
comp=Z,1.6nm,0.9s,baz=160,slow=3.9,SNR=10.0
BRTR PP **PP 05 09 12.9 -0.3**
comp=Z,1.0nm,0.9s,baz=32,slow=5.6,SNR=3.1
BRTR SKPbc **SKPbc 05 10 21.5 -0.1**
comp=Z,1.0nm,0.8s,baz=113,slow=3.7,SNR=2.5
CFR Carcaliu 132.14 320⇓ PKIKP **PKPdf 05 07 01.1 +0.2**
CFR Carcaliu 132.14 320⇓ *i*P **PKPdf 05 07 01.1 +0.2**
CSS Prodhromos 132.24 306 *e*PKPdf **PKPdf 05 07 01.4 0.0**
BUR08 Bucovina Ar. S 132.61 325 *e*PKPdf **PKPdf 05 07 02.9 +1.1**
BURAR Bucovina Array 132.62 325⇑ PKIKP **PKPdf 05 07 03.4 +1.5**
BURAR Bucovina Array 132.62 325⇑ *i*P **PKPdf 05 07 03.4 +1.5**
VRI Vrincioaia 132.66 322⇑ PKIKP **PKPdf 05 07 00.2 -1.7**

VRI Vrincioaia 132.66 322⇑ *i*P **PKPdf 05 07 00.2 -1.7**
MLR Muntele Rosu 133.32 322⇑ *i*P **PKPdf 05 07 00.5 -2.8**
UZH Uzhgorod 133.62 327 *e*PKIKP PKPdf 05 06 55.1 -8.5
UZH *e* 05 07 11.5
UZH *e* 05 27 17.4
UZH *e* 05 32 12.7
STHS Stebnicka Huta 133.67 329 *e*PKP **PKPdf 05 07 06.7 +3.0**
VOIR 133.89 322⇑ PKIKP **PKPdf 05 07 07.2 +2.9**
VOIR 133.89 322⇑ *i*P **PKPdf 05 07 07.2 +2.9**
ARR Arges 134.18 322⇑ *i*P **PKPdf 05 07 05.4 +0.6**
DRGR 134.49 325⇑ PKIKP **PKPdf 05 07 03.9 -1.5**
DRGR 134.49 325⇑ *i*P **PKPdf 05 07 03.9 -1.5**
OKC Ostrava-Krasne 134.91 331 *e*SS SS 05 27 39.4 +7.2
PSZ Piszkesteto 135.31 328⇑ PKIKP **PKPdf 05 07 10.2 +3.3**
PSZ Piszkesteto 135.31 328⇑ *i*P **PKPdf 05 07 10.2 +3.3**
PSZ Piszkesteto 135.31 328 *e*PKPdf **PKPdf 05 07 06.6 -0.3**
DPC Dobruska-Polom 135.38 333 *e*PKPpre PKPpre 05 07 02.8
DPC *ex* x 05 07 12.2
DPC *e*PP **PP 05 09 42.0 -0.9**
DPC AMS AMS 06 14 00.0
SIRR Siria 135.38 325⇑ *i*P **PKPdf 05 07 08.3 +1.3**
UPC Upice 135.41 333 *e*PKPdf **PKPdf 05 07 03.9 -3.0**
UPC *ex* x 05 07 12.4
TSUM Tsumeb 135.50 225 *e*PKPdf **PKPdf 05 07 07.5 -0.7**
TSUM SKPbc **SKPbc 05 10 39.6 +0.6**
TSUM Tsumeb 135.50 225 PKP **PKPdf 05 07 07.9 -0.3**
comp=Z,5.0nm,0.7s,baz=190,slow=5.8,SNR=7.5
TSUM SKPbc **SKPbc 05 10 39.6 +0.6**
comp=Z,1.8nm,0.8s,baz=110,slow=11,SNR=3.3
BDFB Brasilia 135.77 129 PKP **PKPdf 05 07 10.4 +1.7**
BDFB SKP 05 10 43.7
BDFB Brasilia 135.77 129 PKP **PKPdf 05 07 10.4 +1.7**
comp=Z,2.2nm,0.6s,baz=169,slow=6.1,SNR=4.9
BDFB SKP 05 10 43.7
comp=Z,3.1nm,0.9s,baz=287,slow=14,SNR=2.6
BZS Buzias 135.79 324⇑ PKIKP PKPdf 05 07 02.5 -5.2
BZS Buzias 135.79 324⇑ *i*P PKPdf 05 07 02.5 -5.2
PVCC Panska Ves 136.02 334 *e*PKPdf **PKPdf 05 07 08.9 +0.9**
PVCC *ep*PKP pPKPdf 05 07 23.0 +9.5
PVCC AMS AMS 06 12 40.0
comp=Z,2μm,18.8s
BRG Berggiesshubel 136.02 335 *e*PKP **PKPdf 05 07 07.8 -0.2**
comp=Z,17nm,1.6s
BRG
comp=N,2μm,17.9s
BRG
comp=E,566nm,20.7s
BRG
comp=Z,3μm,20.5s
CLL Collm 136.07 336 *i* PKIKP **PKPdf 05 07 09.1 +1.0**
CLL MLR MLR
comp=Z,2μm,18.6s
CLL Collm 136.07 336 *i* PKPdf **PKPdf 05 07 09.1 +1.0**
comp=Z,3.0nm,1.0s
CLL *e* 05 07 13.0
CLL *e*PP PP 05 09 54.0 +7.0
CLL *e*PKSab **PKSab 05 10 44.0 -2.3**
CLL *e*SS SS 05 27 54.0 +8.2
CLL Lm MLR 06 13 00.0
comp=N,1μm,18.9s
CLL Lm MLR 06 13 00.0
comp=E,400nm,21.7s
CLL Lm MLR 06 13 00.0
comp=Z,2μm,18.6s
PRA Prague 136.42 334 PKPpre PKPpre 05 07 02.0
PRU Pruhonice 136.43 334 *e*PKPpre PKPpre 05 07 02.0
PRU *ex* x 05 07 14.0
PRU *e*SS SS 05 27 43.6 -6.7
PRU AMS AMS 06 12 50.0
comp=Z,2μm,18.7s
VTS Vitosha 136.52 320⇑ PKIKP **PKPdf 05 07 10.3 +0.9**
VTS Vitosha 136.52 320⇑ *i*P **PKPdf 05 07 10.3 +0.9**
TREC Trest 136.52 332 AMS AMS 06 11 50.0
comp=Z,2μm,18.4s
CONA Conrad Observa 137.32 331⇓ *i*PKPdf PKPdf 05 07 03.3 -7.4
comp=Z,8.3nm,0.9s
KHC Kasperske Hory 137.49 333 *e*PKIKP **PKPdf 05 07 09.4 -1.4**
KHC Kasperske Hory 137.49 333 *e*PKPpre PKPpre 05 06 59.6
KHC *e*PKPdf **PKPdf 05 07 11.4 +0.5**
KHC *ep*PKP pPKPdf 05 07 27.2 +11
KHC *e*PP **PP 05 09 57.3 +1.3**
KHC *e*SS SS 05 28 06.4 +3.4
KHC AMS AMS 06 14 00.0
comp=Z,2μm,20.1s
KHC Kasperske Hory 137.49 333 *e*PKPdf **PKPdf 05 07 09.4 -1.4**
GERES GERESS Array B 137.65 333 PKPpre PKPpre 05 07 00.2
GERES PP **PP 05 09 58.9 +1.7**
GERES GERESS Array B 137.65 333 PKhKP PKPpre 05 07 00.2
comp=Z,0.5nm,0.3s,baz=318,slow=1.8,SNR=5.1
GERES PP **PP 05 09 58.9 +1.7**
comp=Z,0.6nm,0.7s,baz=32,slow=5.8,SNR=3.6
GRF Grafenberg Arr 138.04 336 *e*PKIKP **PKPdf 05 07 13.4 +1.6**
GRF Grafenberg Arr 138.04 336 *e*PKP **PKPdf 05 07 13.4 +1.6**
STU Stuttgart 139.58 337 *e*PKIKP **PKPdf 05 07 14.3 -0.4**
STU Stuttgart 139.58 337 *e*PKPdf **PKPdf 05 07 14.3 -0.4**
BFO Black Forest 140.27 337 *e*PKHKP PKPpre 05 07 07.7
BFO *e* 05 07 16.2
BFO Black Forest 140.27 337 *e*PKPpre PKPpre 05 07 07.7
BFO *e*PKPdf **PKPdf 05 07 16.2 +0.3**
FETA Feichten 140.33 334⇑ *i*PKPdf PKPdf 05 07 08.6 -7.7
comp=Z,14nm,1.3s
TUE Stuetta 141.36 334 *e*PKPdf PKPdf 05 07 11.5 -6.7
LOMF Lomont 141.65 337 PKP PKPdf 05 07 13.1 -5.4
BNI Bardonecchia 143.61 335 *e*PKIKP PKPbc 05 07 19.7 +0.2
BNI Bardonecchia 143.61 335 *e*PKPdf PKPbc 05 07 19.7 +0.2
GDM Grand'Maison 143.71 336 PKP PKPbc 05 07 19.9 +0.1
GRN Grenoble 143.82 336 PKP PKPbc 05 07 20.3 +0.2
PLDF La Plantade 143.99 339 PKP PKPbc 05 07 20.3 -0.2
SURF Saint Ours 144.02 335 PKP **PKPdf 05 07 22.3 -0.7**
AGO Saint Agoulin 144.08 340 PKP **PKPab 05 07 20.3 0.0**
AUTN L'Auton 144.15 334 PKP **PKPab 05 07 20.8 -0.1**
TOUF Mont Tournerai 144.21 334 PKP **PKPab 05 07 20.8 -0.3**
SSB Saint Sauveur 144.25 338 *e*PKIKP **PKPab 05 07 20.8 -0.2**
SSB Saint Sauveur 144.25 338 *e*PKPdf **PKPab 05 07 20.8 -0.2**
LUCF Luceram 144.26 333 PKP **PKPab 05 07 20.8 -0.3**
MVIF Mont Vial 144.35 334 PKP **PKPab 05 07 21.3 -0.2**
REVF Revere 144.38 333 PKP **PKPab 05 07 21.3 -0.2**
REVF Revere 144.38 333 PKP **PKPdf 05 07 22.8 -0.6**
PYM Petit Puy Mans 144.39 340 PKP PKPbc 05 07 21.7 -0.1
CALN Calern 144.57 334 PKP **PKPab 05 07 22.4 0.0**
LBL Lubilhac 144.76 339 PKP PKPbc 05 07 23.3 +0.3
VSL Villasalto 146.61 326 *e*PKPbc **PKPdf 05 07 27.9 +0.6**
LRDF Laroque-de-Fa 147.00 338 PKP **PKPbc 05 07 29.8 -0.1**
MLS Moulis 147.50 339 PKP **PKPbc 05 07 30.8 -0.5**
LABF Labassere 147.75 341 PKP **PKPbc 05 07 32.3 +0.3**
REYF Montagne du Re 147.88 341 PKP **PKPbc 05 07 33.4 +1.0**
RESF Ens 147.88 340 PKP **PKPbc 05 07 33.0 +0.5**
VIEF Viey 147.92 341 PKP **PKPbc 05 07 32.7 +0.2**
LARF Larrau 148.09 342 PKP **PKPbc 05 07 32.9 0.0**
KEST Kesra 149.23 321 *e*PKPbc **PKPbc 05 07 35.8 -0.4**
KEST Kesra 149.23 321 PKPbc **PKPbc 05 07 35.5 -0.6**
comp=Z,17nm,0.8s,baz=295,slow=2.3,SNR=41
CMAH Djebel Manchou 149.75 325 P **PKPbc 05 07 38.4 +1.0**
CAEH 'Ain El Ouahch 149.95 326 P **PKPbc 05 07 39.4 +1.6**
ABSA Djebel Ababsia 149.96 324 P **PKPbc 05 07 39.0 +1.1**
CKFL Kef-Lekhel 150.30 325 P **PKPbc 05 07 40.0 +1.2**
CASM Ain Smara 150.53 325 P **PKPbc 05 07 40.3 +1.1**
DFRA Djebel Bou Aff 150.65 326 P **PKPbc 05 07 41.3 +1.7**
PBRG Braganca 150.66 349 *e*PKPab **PKPab 05 07 46.3 +0.2**
PCAB Cabril 150.96 351 *e*PKPab **PKPab 05 07 46.8 -0.5**
RCBR Riachuelo 151.15 129 *e*PKPdf **PKPdf 05 07 31.9 -3.5**
RCBR *e*PKPbc **PKPbc 05 07 38.4 -2.9**
RCBR *e*PKPab **PKPab 05 07 46.5 -2.5**
SET Setif 151.17 327 P **PKPbc 05 07 41.0 +0.2**
POLO Lamas de Olo 151.26 351 *e*PKPbc **PKPbc 05 07 40.8 0.0**
MVO Moncorvo 151.33 349 *e*PKPbc **PKPbc 05 07 40.5 -0.5**
PVRL Vila Real 151.34 350 *e*PKPbc **PKPbc 05 07 41.5 +0.5**
PVIS Viseu 151.91 350 *e*PKPab **PKPab 05 07 49.2 -2.2**
ESDC Sonseca Array 152.05 344 PKPbc **PKPbc 05 07 42.1 -0.6**
ESDC Sonseca Array 152.05 344 PKPbc **PKPbc 05 07 42.1 -0.6**
comp=Z,4.3nm,0.9s,baz=13,slow=3.0,SNR=13
ESLA Sonseca Array 152.05 344 *e*PKPbc **PKPbc 05 07 42.3 -0.4**
MTE Manteigas 152.16 350 *e*PKPbc **PKPbc 05 07 42.7 -0.2**
MTE Manteigas 152.16 350 *e*PKPbc **PKPbc 05 07 42.3 -0.6**
PAB San Pablo 152.28 344 *e*PKIKP **PKPbc 05 07 42.6 -0.6**
PAB San Pablo 152.28 344 *e*PKPbc **PKPbc 05 07 42.6 -0.6**
EMHD Djebel Mahouad 152.43 330 P **PKPbc 05 07 45.0 +1.3**
PCBR Castelo Branco 152.70 349 *e*PKPbc **PKPbc 05 07 44.4 +0.4**
EBNR Beni Rached 153.03 332 P **PKPbc 05 07 47.8 +2.9**
PTOM Tomar 153.07 351 *e*PKPbc **PKPbc 05 07 45.3 +0.5**
PMRV Marv??o 153.08 349 *e*PKPbc **PKPbc 05 07 47.6 +2.7**
EANR 'Ain N'Sour 153.51 332 P **PKPbc 05 07 48.0 +2.0**

PMTG	**Montargil**	**153.58**	**350**	*e*PKPab	**PKPab**	**05 07 59.2**	**+0.9**
PESTR	**Estremoz**	**153.66**	**349**	*e*PKPab	**PKPab**	**05 07 58.3**	**-0.4**
ETRT	**Tiaret**	**153.87**	**331**	P	**PKPbc**	**05 07 51.0**	**+4.1**
EVO	**Evora**	**154.06**	**350**	*e*PKPab	**PKPab**	**05 08 00.4**	**0.0**
PBEJ	**Beja**	**154.53**	**349**	*e*PKPab	**PKPab**	**05 08 01.2**	**-1.2**
PNCL	**Nicolau / Gran**	**154.56**	**350**	*e*PKPab	**PKPab**	**05 08 01.9**	**-0.6**
PCVE	**Castro Verde**	**154.94**	**349**	*e*PKPab	**PKPab**	**05 08 07.2**	**+3.1**
PVAQ	**Vaqueiros**	**155.10**	**348**	*e*PKPab	**PKPab**	**05 08 07.2**	**+2.4**
TAM	**Tamanrasset**	**159.22**	**301**	*e*PKIKP	**PKPdf**	**05 07 46.3**	**0.0**
TAM	**Tamanrasset**	**159.22**	**301**	*e*PKPdf	**PKPdf**	**05 07 46.3**	**0.0**
TORD	**Torodi Ar. Bea**	**164.91**	**272**	PKP	**PKPdf**	**05 07 50.2**	**-1.9**
TORD				PKPab	**PKPab**	**05 08 47.4**	**-1.0**
TORD				PP	**PP**	**05 12 35.9**	**+0.8**
TORD	**Torodi Ar. Bea**	**164.91**	**272**	PKP	**PKPdf**	**05 07 50.2**	**-1.9**
	comp=Z,3.9nm,1.0s,baz=355,slow=2.1,SNR=13						
TORD				PKPab	**PKPab**	**05 08 47.4**	**-1.0**
	comp=Z,10nm,1.1s,baz=90,slow=3.4,SNR=9.4						
TORD				PP	**PP**	**05 12 35.9**	**+0.8**
	comp=Z,1.0nm,1.0s,baz=107,slow=3.9,SNR=3.7						
KIC	**Kosan Boka**	**168.90**	**234**	*e*P	**PKPab**	**05 09 05.0**	**-0.9**
	comp=Z,113nm,1.5s						
LIC	**Lamto**	**169.04**	**233**	*e*P	**PKPab**	**05 09 06.5**	**0.0**
	comp=Z,35nm,1.2s						
DBIC	**Dimbokro**	**169.18**	**235**	*e*PKPdf	**PKPdf**	**05 07 52.0**	**-3.2**
DBIC				*e*PKPab	**PKPab**	**05 09 06.4**	**-0.7**
DBIC	**Dimbokro**	**169.18**	**235**	PKP	**PKPdf**	**05 07 52.2**	**-3.1**
	comp=Z,6.4nm,1.0s,baz=236,slow=5.6,SNR=3.2						
DBIC				PKPab	**PKPab**	**05 09 06.4**	**-0.7**
	comp=Z,9.2nm,0.9s,baz=134,slow=3.4,SNR=3.8						
TIC	**Toumodi**	**169.29**	**235**	*e*P	**PKPab**	**05 09 06.7**	**-0.9**
	comp=Z,138nm,1.7s						

MEX 11 05:07:33.0±0.7, 17.72N×99.47W, h5km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MEIG	**Mezcala**	**0.25**	**326**	*e*P	Pg	05 07 36.9	-1.2
MEIG				*i* S	Sg	05 07 41.9	+0.5
PLIG	**Platanillo**	**0.67**	**358**	*e*P	Pg	05 07 44.9	-1.2
PLIG				*i* S	Sg	05 07 54.8	-0.1
ACX	**Acapulco**	**0.92**	**204**	*i* P	Pg	05 07 49.3	-1.5
ACX				*i* S	Sg	05 08 01.2	-1.6
ARIG	**Puente Sto Nin**	**1.00**	**304**	*i* P	Sg	05 07 50.4	-1.9
ARIG				*i* S	Sg	05 08 03.2	-2.1
CAIG	**El Cayaco**	**1.01**	**229**	*e*P	Pg	05 07 49.9	-2.6
CAIG				*i* S	Sg	05 08 03.4	-2.2
YAIG	**Yautepec**	**1.20**	**19**	*i* P	Pg	05 07 53.7	-2.6
YAIG				*i* S	Sg	05 08 08.5	-3.6
PNIG	**Pinotepa**	**1.84**	**136**	*i* P	Pn	05 08 02.1	-3.3
PNIG				*i* S	Sn	05 08 24.3	-4.8
ZIIG	**Zihuatanejo**	**1.90**	**267**	*i* P	Pn	05 08 01.8	-4.3
ZIIG				*i* S	Sn	05 08 25.8	-4.7

IDC 11 05:24:46.6±3.0, 11.83S×165.26E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/17, mbtmp3.7/4, MS4.2/1, Ms1 4.2/1, ms1mx3.5/30, Error ellipse: s-maj=144.6km s-min=30.5km az=139.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**20.02**	**243**	LR	LR	05 35 16.1	
	comp=Z,673nm,19.9s,baz=356,slow=31						
WRA	**Warramunga Arr**	**30.77**	**251**	P	P	05 31 04.1	0.0
	0.5nm,0.7s,baz=82,slow=9.0,SNR=5.0						
ASAR	**Alice Springs**	**32.02**	**244**	P	P	05 31 14.4	-0.7
	0.5nm,0.7s,baz=69,slow=9.3,SNR=8.4						
ILAR	**Eielson Array**	**84.41**	**19**	P	P	05 37 19.3	-1.2
	0.6nm,0.9s,baz=211,slow=5.1,SNR=4.1						
MKAR	**Makanchi Array**	**93.77**	**317**	P	P	05 38 06.2	+0.6
	0.8nm,0.8s,baz=102,slow=5.8,SNR=5.6						
ARCES	**ARCESS Array B**	**116.97**	**345**	PKP	PKPdf	05 43 34.2	+1.4
	1.2nm,0.8s,baz=80,slow=2.2,SNR=3.9						

IDC 11 05:35:52.0±1.9, 13.02S×166.30E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/19, mbtmp3.9/5, ML4.6/1, Error ellipse: s-maj=65.5km s-min=29.1km az=143.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.18**	**299**	Pn	Pn	05 37 38.1	-0.2
	11nm,0.3s,baz=180,slow=10,SNR=3.5						
WRA	**Warramunga Arr**	**31.38**	**253**	P	P	05 42 14.6	-0.2
	0.3nm,0.5s,baz=84,slow=9.3,SNR=7.0						
ASAR	**Alice Springs**	**32.45**	**246**	P	P	05 42 23.9	-0.3
	0.9nm,0.7s,baz=75,slow=9.4,SNR=21						
ILAR	**Eielson Array**	**85.20**	**18**	P	P	05 48 29.0	-0.9
	0.4nm,0.7s,baz=229,slow=5.9,SNR=6.3						
MKAR	**Makanchi Array**	**95.32**	**317**	P	P	05 49 18.3	+0.2
	0.2nm,0.6s,baz=75,slow=6.1,SNR=2.5						
KEST	**Kesra**	**149.30**	**321**	PKPbc	PKPbc	05 55 44.0	+0.6
	0.9nm,0.7s,baz=304,slow=3.8,SNR=5.7						
ESDC	**Sonseca Array**	**152.09**	**344**	PKPab	PKPab	05 55 58.8	-0.4
	0.1nm,0.3s,baz=5.7,slow=2.4,SNR=2.8						

GUC 11 05:49:02.0±0.4, 21.44S×68.03W, h182km±14km, ML3.6, 4D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**Plate Boundary**	**1.42**	**286**	⇓*i*P	Pn	05 49 34.2	+0.7
PB01				*i* S	Sn	05 49 59.0	+1.2
PB01				AML	AML	05 50 01.6	
	comp=N,155nm,0.2s						
PB07	**Plate Boundary**	**1.75**	**260**	⇓*i*P	Pn	05 49 38.1	+1.2
PB07				*i* S	Sn	05 50 05.1	+1.3
PB07				AML	AML	05 50 06.2	
	comp=N,194nm,0.2s						
MACH	**Maria Elena**	**1.77**	**245**	*e*P	Pn	05 49 38.2	+1.0
MACH				*i* S	Sn	05 50 05.7	+1.2
HMBC	**Humberstone**	**2.09**	**303**	⇓*i*P	Pn	05 49 41.4	+1.1
HMBC				*i* S	Sn	05 50 11.5	+1.4
HMBC				AML	AML	05 50 11.9	
	comp=N,388nm,0.2s						
PSGC	**Pisagua**	**2.68**	**313**	*e*P	Pn	05 49 47.6	+0.4
PSGC				AML	AML	05 50 24.9	
	comp=E,122nm,0.3s						
MNMC	**Minimini**	**2.73**	**327**	⇓*i*P	Pn	05 49 49.3	+1.4
MNMC				*i* S	Sn	05 50 25.0	+1.4
MNMC				AML	AML	05 50 26.5	
	comp=E,540nm,0.5s						

IDC 11 05:49:43.4±9.7, 12.18S×166.56E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.8/3, MS4.1/1, Ms1 4.1/1, ms1mx3.4/32, Error ellipse: s-maj=297.9km s-min=52.5km az=126.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.87**	**252**	P	P	05 56 10.2	-0.4
	1.0nm,0.8s,baz=84,slow=9.3,SNR=7.7						
ASAR	**Alice Springs**	**33.02**	**245**	P	P	05 56 21.0	+0.3
	1.0nm,0.6s,baz=70,slow=9.5,SNR=18						
PPT	**Papeete**	**42.66**	**103**	LR	LR	06 12 24.6	
	comp=Z,236nm,19.9s,baz=249,slow=32						
MKAR	**Makanchi Array**	**94.89**	**317**	P	P	06 03 07.4	-0.2
	0.3nm,0.7s,baz=99,slow=4.5,SNR=3.0						

IDC 11 05:59:26.1±1.7, 13.05S×166.16E, h0km, mb4.0/5, mb1 4.1/7, mb1mx3.9/20, mbtmp4.0/7, ML4.0/2, Error ellipse: s-maj=41.0km s-min=28.4km az=116.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.08**	**300**	Pn	Pn	06 01 12.5	+1.4
	8.9nm,0.3s,baz=98,slow=7.1,SNR=2.6						
DZM	**Mont Dzumac**	**8.97**	**178**	Pn	Pn	06 01 37.0	-0.3
	0.4nm,0.3s,baz=210,slow=14,SNR=3.8						
STKA	**Stephens Creek**	**29.31**	**226**	P	P	06 05 31.7	+1.1
	3.4nm,1.1s,baz=45,slow=13,SNR=4.7						
WRA	**Warramunga Arr**	**31.23**	**253**	P	P	06 05 47.0	-0.8
	0.8nm,0.9s,baz=85,slow=9.5,SNR=5.3						
ASAR	**Alice Springs**	**32.31**	**246**	P	P	06 05 57.0	-0.3
	2.4nm,0.9s,baz=72,slow=9.8,SNR=12						
ILAR	**Eielson Array**	**85.28**	**18**	P	P	06 12 05.0	+0.4
	0.7nm,0.7s,baz=226,slow=6.6,SNR=5.2						
MKAR	**Makanchi Array**	**95.25**	**317**	P	P	06 12 50.7	-1.3
	0.4nm,0.6s,baz=92,slow=5.4,SNR=3.9						

NIED ***11*** *06:01:00,36.30N×139.20E,h140km,Mw4.0 Best double couple: M0 1.19000×10^15 NP1:φs 107.00000°, δ66.00000°, λ109.00000°. NP2:φs 247.00000°, δ30.00000°, λ54.00000°.*

MOS ***11*** *06:01:49.4±1.0,36.31N×139.11E,h125km,mb4.2/22, Error ellipse: s-maj=15.7km s-min=8.3km az=116.3*

IDC ***11*** *06:01:52.7±2.1,36.40N×139.38E,h143km±18km, mb3.8/12,mb1 3.8/16,mb1mx3.6/29,mbtmp4.2/16,Error ellipse: s-maj=22.9km s-min=12.5km az=88.0*

ISCJB ***11*** *06:01:52.8±0.4,36.33N±0.05×139.33E±0.07, h163km±2km,mb4.2/33, Error ellipse: s-maj=9.8km s-min=7.5km az=11.2*

NEIC ***11*** *06:01:52.9±0.7,36.32N×139.43E,h150km±6km,mb4.4/5, Error ellipse: s-maj=11.7km s-min=7.8km az=74.0*

JMA ***11*** *06:01:56.2±0.1,36.28N×139.19E,h149km±1km,M4.1 Broadband fault plane solution: P waves. NP1: φs 78.00000°, δ84.00000°, λ30.00000°. NP2:φs 345.00000°, δ60.00000°, λ173.00000°. Principal axes: T Plg25.0000°, Azm306.0000°; N Plg60.0000°, Azm89.0000°; P Plg16.0000°, Azm208.0000°;*

JMA Felt I J1.

BJI ***11*** *06:02:04.3,37.22N×136.97E,h95km,mB5.1/12,mb4.7/17*

ISC 11 06:01:53.9±0.7, 36.46N±0.07×139.30E±0.07, h158km±5km, n94, σ1.952/100, mb4.2/33, 5C-2D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAG	**Ashikaga**	**0.13**	**107**	⇑P	**Pn**	**06 02 16.7**	**+1.6**
JAG				*e*S	**Sn**	**06 02 32.1**	**+1.0**
JKT	**Katashina**	**0.30**	**353**	⇓P	**Pn**	**06 02 17.5**	**+2.0**
JKT				*e*S	**Sn**	**06 02 34.1**	**+2.0**
JRY	**Ryogami san**	**0.55**	**216**	⇑P	**Pn**	**06 02 17.3**	**+0.8**
JRY				*e*S	**Sn**	**06 02 32.6**	**-1.0**
MAJO	**Matsushiro**	**0.88**	**275**	*e*P	**Pn**	**06 02 19.2**	**+0.7**
MAJO				*e*		06 02 37.1	
MAJO	**Matsushiro**	**0.88**	**275**	*e*Pn	**Pn**	**06 02 19.2**	**+0.7**
MAJO				*e*Sn	**Sn**	**06 02 37.1**	**-0.2**
MAT	**Matsushiro**	**0.88**	**275**	P	**Pn**	**06 02 19.0**	**+0.5**
MAT				S	**Sn**	**06 02 36.8**	**-0.5**
MAT	**Matsushiro**	**0.88**	**275**	P	**Pn**	**06 02 19.1**	**+0.5**
MAT				*e*S	**Sn**	**06 02 36.8**	**-0.5**
JYN	**Shimob**	**1.14**	**213**	⇑P	**Pn**	**06 02 20.4**	**-0.4**
JYN				*e*S	**Sn**	**06 02 39.6**	**-1.7**
JOD2	**Odawara 2**	**1.21**	**188**	⇑P	**Pn**	**06 02 20.9**	**-0.4**
JOD2				*e*S	**Sn**	**06 02 40.1**	**-2.2**
JNU	**Nakatsue**	**7.69**	**247**	P	**Pn**	**06 03 42.8**	**-0.4**
JNU	**Nakatsue**	**7.69**	**247**	P	**Pn**	**06 03 42.8**	**-0.4**
	baz=24,slow=15						
ASAJ	**Asahikawa**	**8.05**	**17**	P	**Pn**	**06 03 48.0**	**+0.2**
ASAJ				S	**Sn**	**06 05 14.9**	**-2.7**
ASAJ	**Asahikawa**	**8.05**	**17**	P	**Pn**	**06 03 48.0**	**+0.2**
	7.9nm,0.3s,baz=197,slow=10,SNR=49						
ASAJ				S	**Sn**	**06 05 14.9**	**-2.7**
	0.7nm,0.3s,baz=259,slow=31,SNR=1.5						
YUK	**Yuzh-Kuril'sk**	**9.07**	**32**	⇓*i*P	**Pn**	**06 04 02.5**	**+1.1**
YUK				*i* S	**Sn**	**06 05 37.7**	**-4.4**
YUK				pmax	pmax		
	comp=E,46nm,0.2s						
YUK				pmax	pmax		
	comp=Z,132nm,0.2s						
KSRS	**Korea Array**	**9.16**	**280**	P	**Pn**	**06 04 03.5**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=96,slow=13,SNR=23						
KSAR	**Wonju Array Be**	**9.19**	**279**	P	**Pn**	**06 04 03.5**	**+0.5**
USRK	**Ussuriysk Array**	**9.53**	**326**	P	**Pn**	**06 04 08.4**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=138,slow=14,SNR=6.2						
CBIJ	**Chichi jima**	**9.66**	**164**	P	Pn	06 04 03.9	-5.4
CBIJ				S	Sn	06 05 42.1	-14
JCJ	**Chichijima**	**9.66**	**164**	P	Pn	06 04 03.9	-5.4
	comp=Z,7.7nm,0.3s,baz=118,slow=22,SNR=11						
JCJ				S	Sn	06 05 42.1	-14
	comp=Z,13nm,0.3s,baz=290,slow=23,SNR=2.8						
YSS	**Yuzh-Sakhalins**	**10.79**	**13**	P	**Pn**	**06 04 22.3**	**-1.8**
CN2	**Changchun**	**12.87**	**309**	*e*P	**P**	**06 04 55.3**	**-0.5**
CN2				*es*P		06 05 22.0	
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
NJ2	**Nanjing**	**17.46**	**261**	*e*P	**P**	**06 05 44.6**	**-2.0**
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s						
HHC	**Hu-ho-hao-te**	**22.05**	**290**	*e*P	P	06 06 30.4	-5.7
HHC				S	S	06 10 14.3	-14
HHC				PcP	PcP	06 10 41.7	+14
HHC				AMB	AMB		
	comp=Z,65nm,0.6s						
HHC				AMB	AMB		
	comp=Z,1μm,6.8s						
HHC				LR	LR		
	comp=Z,830nm,13.1s						
HHC				LR	LR		
	comp=Z,680nm,13.1s						
HHC				LR	LR		
	comp=Z,460nm,13.3s						
SONM	**Songino Array**	**26.71**	**305**	P	**P**	**06 07 18.3**	**-0.3**
SONM	**Songino Array**	**26.71**	**305**	P	**P**	**06 07 18.3**	**-0.3**
	comp=Z,1.6nm,0.5s,baz=118,slow=9.8,SNR=7.5						
LZH	**Lanzhou**	**28.49**	**280**	*e*P	**P**	**06 07 34.8**	**+0.3**
LZH				pP	pP	06 07 53.5	-14
LZH				sP	sP	06 08 07.4	-18
LZH				AMB	AMB		
	comp=Z,16nm,1.1s						
ZAK	**Zakamensk**	**29.31**	**310**	*e*P	**P**	**06 07 40.1**	**-1.4**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.3s						
H11N2	**WAKE ISLAND Hy**	**29.36**	**117**	T	T	06 37 51.6	
	baz=312,slow=0.7,SNR=14						
H11N1	**WAKE ISLAND Hy**	**29.37**	**117**	T	T	06 38 21.3	
	baz=312,slow=0.7,SNR=14						
H11N3	**WAKE ISLAND Hy**	**29.38**	**117**	T	T	06 38 14.8	
	baz=312,slow=0.7,SNR=12						
GYA	**Guiyang**	**29.45**	**260**	*e*P	P	06 07 47.9	+4.9
GYA				pP	pP	06 08 07.8	-8.3
GYA				sP	sP	06 08 21.2	-13
GYA				PP	**PnPn**	**06 08 41.3**	**-3.8**
GYA				S	**S**	**06 12 26.0**	**+0.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CD2	**Chengdu**	**29.97**	**270**	P	**P**	**06 07 49.7**	**+2.2**
CD2				pP	pP	06 08 11.3	-9.4
CD2				sP	sP	06 08 23.1	-16
CD2				PP	**PnPn**	**06 08 45.9**	**-5.8**
CD2				S	**S**	**06 12 30.0**	**-3.7**
CD2				sS	sS	06 13 07.9	-24
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
CD2				AMB	AMB		
	comp=Z,340nm,10.1s						
CD2				LR	LR		
	comp=Z,600nm,5.3s						
CD2				LR	LR		
	comp=Z,630nm,11.9s						
H11S3	**WAKE ISLAND Hy**	**30.02**	**119**	T	T	06 39 33.3	
	baz=307,slow=0.7,SNR=11						
H11S1	**WAKE ISLAND Hy**	**30.02**	**119**	T	T	06 39 33.2	
	baz=307,slow=0.7,SNR=12						
H11S2	**WAKE ISLAND Hy**	**30.04**	**119**	T	T	06 39 35.2	
	baz=307,slow=0.7,SNR=10						
KMI	**Kunming**	**33.19**	**260**	P	P	06 08 22.3	+6.3
KMI				AMB	AMB		
	comp=Z,8.0nm,0.6s						
HVS	**Khovu-Aksy**	**35.42**	**309**	*e*P	**P**	**06 08 34.3**	**-0.4**
WMQ	**Urumqi**	**39.58**	**297**	*e*P	**P**	**06 09 10.1**	**+0.4**
ZAA0	**Zalesovo Array**	**41.05**	**313**	*e*P	**P**	**06 09 22.2**	**+0.6**
ZALV	**Zalesovo Beam**	**41.05**	**313**	P	**P**	**06 09 22.6**	**+1.1**
ZALV				pmax	pmax		
	comp=Z,8.0nm,0.4s						
ZALV	**Zalesovo Beam**	**41.05**	**313**	P	**P**	**06 09 22.6**	**+1.1**
ZALV	**Zalesovo Beam**	**41.05**	**313**	P	**P**	**06 09 22.6**	**+1.1**
	comp=Z,8.0nm,0.4s,baz=102,slow=8.4,SNR=32						
NVS	**Novosibirsk**	**42.01**	**314**	*e*P	**P**	**06 09 27.1**	**-2.2**
MK31	**Makanchi Array**	**42.98**	**302**	*e*P	**P**	**06 09 38.0**	**+0.6**
MK31	**Makanchi Array**	**42.98**	**302**	*e*P	**P**	**06 09 38.0**	**+0.6**
MKAR	**Makanchi Array**	**42.98**	**302**	P	**P**	**06 09 38.0**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**42.98**	**302**	P	**P**	**06 09 38.0**	**+0.6**
MKAR	**Makanchi Array**	**42.98**	**302**	P	**P**	**06 09 38.0**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=90,slow=9.9,SNR=27						
KURK	**Kurchatov**	**44.95**	**308**	*e*P	**P**	**06 09 53.4**	**+0.5**
KURK				pmax	pmax		
	comp=Z,15nm,1.3s						
KURK	**Kurchatov**	**44.95**	**308**	*e*P	**P**	**06 09 53.4**	**+0.5**
	comp=Z,15nm,1.3s						
TKM2	**Tokmak 2**	**48.40**	**298**	*e*P	**P**	**06 10 21.7**	**+1.5**
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
TKM2	**Tokmak 2**	**48.40**	**298**	*e*P	**P**	**06 10 21.7**	**+1.5**
	comp=Z,5.8nm,0.6s						
KSH	**Kashi**	**49.08**	**294**	P	P	06 10 30.6	+5.3
KSH				pP	pP	06 10 52.4	-8.5
KSH				sP	sP	06 11 05.8	-13
KSH				PcP	PcP	06 11 58.5	+12
KSH				PP	**PP**	**06 12 22.9**	**+2.7**
KSH				S	**S**	**06 17 18.5**	**+0.3**
KSH				AMB	AMB		
	comp=Z,5.0nm,1.1s						
KSH				AMB	AMB		
	comp=Z,190nm,6.5s						
KSH				LR	LR		
	comp=Z,180nm,7.5s						
KSH				LR	LR		
	comp=Z,200nm,6.7s						
KSH				LR	LR		
	comp=Z,290nm,13.9s						
AAK	**Ala-Archa**	**49.26**	**298**	*e*P	**P**	**06 10 26.7**	**0.0**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AAK	**Ala-Archa**	**49.26**	**298**	*e*P	**P**	**06 10 26.7**	**0.0**
	comp=Z,3.7nm,0.6s						
VOSK	**Vostochnaya**	**49.39**	**312**	P	**P**	**06 10 28.9**	**+1.6**
VOSK				pmax	pmax		
	comp=Z,8.0nm,0.5s						
VOSK	**Vostochnaya**	**49.39**	**312**	*e*P	**P**	**06 10 27.9**	**+0.6**
BVA0	**Borovoye Array**	**49.70**	**312**	P	**P**	**06 10 30.9**	**+1.3**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRVK	**Borovoye**	**49.76**	**312**	*e*P	**P**	**06 10 30.5**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BRVK	**Borovoye**	**49.76**	**312**	*e*P	**P**	**06 10 30.5**	**+0.5**
	comp=Z,2.5nm,0.4s						
EKS2	**Erkin-Say**	**49.76**	**298**	*e*P	**P**	**06 10 31.5**	**+1.1**
EKS2				pmax	pmax		
	comp=Z,3.0nm,0.8s						
EKS2	**Erkin-Say**	**49.76**	**298**	*e*P	**P**	**06 10 31.5**	**+1.1**
	comp=Z,3.3nm,0.8s						
KK31	**Karatay Array**	**51.94**	**300**	*e*P	**P**	**06 10 47.1**	**+0.6**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KKAR	**Karatay Array**	**51.94**	**300**	*e*P	**P**	**06 10 47.5**	**+1.0**
KKAR	**Karatay Array**	**51.94**	**300**	*e*P	**P**	**06 10 47.5**	**+1.0**
ARU	**Arti**	**55.66**	**318**	*e*P	**P**	**06 11 13.5**	**+0.2**
ARU				S	**S**	**06 18 42.7**	**-4.1**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s						
WRAB	**Tennant Creek**	**56.28**	**186**	*e*P	**P**	**06 11 17.9**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.5s						
WRAB	**Tennant Creek**	**56.28**	**186**	*e*P	**P**	**06 11 17.9**	**-0.2**
	comp=Z,2.6nm,0.5s						
WRA	**Warramunga Arr**	**56.30**	**186**	P	**P**	**06 11 17.8**	**-0.3**
WRA	**Warramunga Arr**	**56.30**	**186**	P	**P**	**06 11 17.8**	**-0.3**
	comp=Z,2.1nm,0.4s,baz=0.4,slow=7.7,SNR=64						
AB31	**Akbulak array**	**57.00**	**310**	*i* P	**P**	**06 11 23.5**	**+0.6**
AB31				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ABKAR	**Akbulak array**	**57.00**	**310**	*e*P	**P**	**06 11 23.8**	**+0.9**
ASAR	**Alice Springs**	**60.02**	**186**	P	**P**	**06 11 44.0**	**0.0**
ASAR	**Alice Springs**	**60.02**	**186**	P	**P**	**06 11 44.0**	**0.0**
	comp=Z,1.4nm,0.4s,baz=356,slow=4.7,SNR=22						
ARCES	**ARCESS Array B**	**63.92**	**339**	P	**P**	**06 12 11.3**	**+1.8**
ARCES	**ARCESS Array B**	**63.92**	**339**	P	**P**	**06 12 11.3**	**+1.8**
	comp=Z,2.3nm,0.8s,baz=48,slow=7.2,SNR=11						
JOF	**Joensuu**	**65.66**	**331**	*e*p	**P**	**06 12 22.4**	**+1.6**
OBN	**Obninsk**	**67.53**	**323**	*e*P	**P**	**06 12 34.4**	**+1.7**
OBN				pmax	pmax		
	comp=Z,5.0nm,1.3s						
OBN				MLR	MLR		
	comp=Z,200nm,16.0s						
KAF	**Kangasniemi**	**68.03**	**332**	*e*p	**P**	**06 12 36.7**	**+0.9**
	comp=Z,1.0nm,0.3s						
FINES	**FINESS Array B**	**68.52**	**332**	P	**P**	**06 12 39.6**	**+0.8**
FINES	**FINESS Array B**	**68.52**	**332**	P	**P**	**06 12 39.6**	**+0.8**
	comp=Z,1.2nm,0.3s,baz=58,slow=6.2,SNR=24						
KIV	**Kislovodsk**	**69.98**	**310**	*e*P	**P**	**06 12 50.6**	**+2.3**
KIV				*e*		06 15 20.6	
KIV				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,200nm,19.0s						
AKASG	**Malin Array Be**	**73.69**	**322**	P	**P**	**06 13 10.9**	**+0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**73.69**	**322**	P	**P**	**06 13 10.8**	**+0.7**
AKASG	**Malin Array Be**	**73.69**	**322**	P	**P**	**06 13 10.8**	**+0.7**
	comp=Z,1.3nm,0.4s,baz=48,slow=6.5,SNR=9.2						
HFS	**Hagfors**	**73.89**	**335**	P	**P**	**06 13 12.3**	**+1.1**
HFS	**Hagfors**	**73.89**	**335**	P	**P**	**06 13 12.3**	**+1.1**
	comp=Z,0.9nm,0.5s,baz=64,slow=3.4,SNR=5.6						
NB2	**NORSAR Subarra**	**74.04**	**337**	P	**P**	**06 13 13.3**	**+1.2**
	comp=Z,1.0nm,0.5s,baz=42,slow=5.9						
NOA	**NORSAR Array B**	**74.04**	**337**	P	**P**	**06 13 13.6**	**+1.5**
NOA	**NORSAR Array B**	**74.04**	**337**	P	**P**	**06 13 13.6**	**+1.5**
	comp=Z,2.1nm,0.8s,baz=41,slow=5.8,SNR=7.7						
BRTR	**Keskin Array B**	**77.94**	**311**	P	**P**	**06 13 35.4**	**+0.7**
BRTR

baz=149,slow=0.7,SNR=8.3
H11N1 WAKE ISLAND Hy 40.17 329 T T 07 09 48.3
baz=149,slow=0.7,SNR=2.2
H11N2 WAKE ISLAND Hy 40.19 329 T T 07 09 49.1
baz=149,slow=0.7,SNR=3.7
WRA Warramunga Arr 51.11 256 P P 06 28 05.4 -0.2
0.1nm,0.6s,baz=84,slow=7.7,SNR=3.5
ASAR Alice Springs 51.39 252 P P 06 28 07.2 -0.4
0.6nm,0.5s,baz=86,slow=8.1,SNR=11
NVAR Mina Array Bea 73.22 41 P P 06 30 33.1 -0.8
0.2nm,0.4s,baz=226,slow=6.0,SNR=2.8
ILAR Eielson Array 81.81 11 P P 06 31 22.6 +1.6
0.1nm,0.8s,baz=217,slow=5.4,SNR=2.2

MAN 11 06:23:08,19.09N×121.25E,h15km,mb4.4,ML3.2,MS3.1, 1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APYP	**Conner**	**1.22**	**180**	*e*P	Pn	06 23 30.1	-0.4
APYP				*e*S	Sg	06 23 47.6	+0.2
SIPP	**Brgy, Tapao**	**1.38**	**213**↓	*e*P	Pn	06 23 32.3	-0.5
ABRA	**Dolores**	**1.52**	**200**	*e*P	Pn	06 23 34.0	-0.7
CAUP	**Cauayan**	**2.20**	**166**	*e*P	Pb	06 23 46.7	-0.8
PALP	**Palanan**	**2.30**	**151**	*e*P	Pn	06 23 45.8	+0.4
BALP	**Baler**	**3.34**	**175**	*e*P	Pn	06 24 01.2	+1.4

*BJI **11** 06:25:39.5,43.79N×74.03E,h16km,ML4.0/6*
*IDC **11** 06:25:43.8±0.6,43.15N×75.00E,h0km,mb3.8/12, mb1 4.0/17,mb1mx3.9/29,mbtmpg3.9/17,ML4.1/5,Error ellipse: s-maj=13.3km s-min=6.3km az=122.0*
*NNC **11** 06:25:43.8±1.4,43.25N×74.91E,h0km,mb4.4,mpv4.1, Error ellipse: s-maj=14.2km s-min=7.3km az=38.0*
*ISCJB **11** 06:25:43.9±0.5,43.27N±0.02×74.95E±0.03,h10km±4km, mb3.8/16,MS3.9/1,Error ellipse: s-maj=4.4km s-min=3.8km az=40.4*
*MOS **11** 06:25:43.7±1.4,43.27N×74.87E,h10km,mb4.2/9,Error ellipse: s-maj=9.9km s-min=6.4km az=84.9*
*TEH **11** 06:25:44.7,43.23N×74.97E,h12km,ML4.0*
*KNET **11** 06:25:45.7±0.4,43.12N×74.96E,h20km±2km,ml3.9,Error ellipse: s-maj=3.6km s-min=2.3km az=19.0*

ISC 11 06:25:45.2±0.8,43.20N±0.03×74.96E±0.02,h12km±6km, n64,σ1§40/78,mb3.9/16,29C-9D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHMS	**Chumysh**	**0.26**	**217**	⇑P	**Pb**	**06 25 51.2**	**-0.6**
	4μm,0.3s,SNR=2827						
CHMS				⇑S	**Sg**	**06 25 54.9**	**+0.7**
	36μm,0.2s						
USP	**Ospenovka**	**0.34**	**281**	⇑P	**Pb**	**06 25 53.7**	**+0.4**
	2μm,0.3s,SNR=2725						
USP				⇑S	**Sb**	**06 25 58.8**	**0.0**
	5μm,0.3s						
FRU	**Bishkek**	**0.45**	**215**	*i* PG	**Pg**	**06 25 54.0**	**-0.1**
FRU				*i*		06 25 58.0	
TKM2	**Tokmak 2**	**0.54**	**121**	⇑P	**Pb**	**06 25 56.2**	**-0.6**
	131nm,0.3s						
TKM2				⇑S	**Sg**	**06 26 03.3**	**+0.1**
	1μm,0.2s						
TKM2	**Tokmak 2**	**0.54**	**121**	*i* PG	**Pb**	**06 25 56.2**	**-0.6**
TKM2	**Tokmak 2**	**0.54**	**121**	⇑P	**Pb**	**06 25 56.1**	**-0.6**
	317nm,0.1s,SNR=422						
KBK	**Karagaybulak**	**0.55**	**181**	*i* PG	**Pg**	**06 25 56.0**	**+0.1**
KBK	**Karagaybulak**	**0.55**	**181**	P	**Pg**	**06 25 56.0**	**+0.1**
	4μm,0.2s,SNR=3083						
KBK				⇑S	**Sg**	**06 26 03.3**	**+0.1**
	11μm,0.2s						
AAK	**Ala-Archa**	**0.67**	**211**	PG	**Pg**	**06 25 57.8**	**-0.4**
AAK						06 26 06.1	
AAK				pmax	pmax		
	comp=Z,806nm,0.3s						
AAK				smax	smax		
	comp=N,1.0nm,0.3s						
AAK	**Ala-Archa**	**0.67**	**211**	P	**Pg**	**06 25 58.0**	**-0.2**
	comp=N,1μm,0.2s,SNR=2446						
AAK				⇑S	**Sg**	**06 26 06.4**	**-0.6**
	comp=N,6μm,0.3s						
AAK	**Ala-Archa**	**0.67**	**211**	Pg	**Pg**	**06 25 57.8**	**-0.4**
	comp=N,806nm,0.3s,baz=67,slow=6.1,SNR=5160						
AAK				Lg	Lg	06 26 06.1	
	comp=N,774nm,0.3s,baz=204,slow=20,SNR=63						
EKS2	**Erkin-Say**	**1.03**	**239**	*i* PG	**Pb**	**06 26 04.8**	**-0.2**
EKS2	**Erkin-Say**	**1.03**	**239**	P	**Pb**	**06 26 04.8**	**-0.2**
	comp=N,906nm,0.2s,SNR=1434						
EKS2				⇓S	**Sb**	**06 26 18.4**	**-0.1**
	comp=N,1μm,0.2s						
KZA	**Kyzart**	**1.14**	**169**	P	**Pg**	**06 26 06.7**	**-0.6**
	comp=N,1μm,0.3s,SNR=524						
KZA				⇓S	**Sg**	**06 26 21.1**	**-1.1**
	comp=N,1μm,0.2s						
ULHL	**Ulahol**	**1.34**	**135**	P	**Pn**	**06 26 09.9**	**-0.1**
	comp=N,186nm,0.1s,SNR=905						
ULHL				⇑S	**Sb**	**06 26 27.0**	**-0.6**
	comp=N,837nm,0.2s						
AML	**Almayashu**	**1.42**	**222**	*i* PG	**Pb**	**06 26 11.6**	**-0.3**
AML	**Almayashu**	**1.42**	**222**	P	**Pb**	**06 26 11.6**	**-0.3**
	comp=N,1μm,0.3s,SNR=1288						
AML				⇓S	**Sn**	**06 26 29.8**	**-0.3**
	comp=N,3μm,0.4s						
AAA	**Alma-Ata**	**1.45**	**87**	*i* PG	**Pg**	**06 26 13.0**	**-0.1**
AAA				*i* S	**Sg**	**06 26 32.9**	**+1.0**
AAA				pmax	pmax		
	comp=Z,671nm,0.1s						
AAA				smax	smax		
	comp=Z,3μm,0.3s						
KNDC	**Almaty**	**1.46**	**89**	⇑P	**Pg**	**06 26 13.8**	**+0.4**
KNDC				⇑S	**Sg**	**06 26 33.8**	**+1.4**
KK31	**Karatay Array**	**3.26**	**270**	⇑Pn	**Pn**	**06 26 37.3**	**+1.2**
	comp=Z,3.6nm,0.4s,baz=88,slow=13,SNR=1512						
KK31				⇑Pg	**Pb**	**06 26 44.2**	**+1.1**
	comp=Z,90nm,0.6s,baz=89,slow=15,SNR=103						
KK31				Lg	Lg	06 27 25.6	
	comp=Z,247nm,0.5s,baz=99,slow=30,SNR=20						
KSH	**Kashi**	**3.76**	**168**	Pn	**Pb**	**06 26 52.1**	**+0.5**
KSH				Sn	**Sb**	**06 27 39.6**	**+2.4**
KSH				SMN			
	comp=Z,140nm,0.8s						
KSH				SME			
	comp=Z,240nm,0.9s						
MK31	**Makanchi Array**	**6.31**	**53**	⇓Pn	**Pn**	**06 27 20.4**	**+2.2**
	comp=Z,23nm,0.6s,baz=231,slow=12,SNR=190						
MK31				⇓Sn	**Sn**	**06 28 31.2**	**+1.0**
	comp=Z,17nm,0.5s,baz=238,slow=13,SNR=5.5						
MK31				⇓Lg	Lg	06 29 00.5	
	comp=Z,140nm,1.3s,baz=227,slow=28,SNR=4.5						
MKAR	**Makanchi Array**	**6.31**	**53**	PN	**Pn**	**06 27 20.4**	**+2.3**
MKAR						06 28 27.5	
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.3s						
MKAR				smax	smax		
	comp=N,4.0nm,0.3s						
MKAR	**Makanchi Array**	**6.31**	**53**	Pn	**Pn**	**06 27 20.4**	**+2.3**
	comp=N,7.3nm,0.3s,baz=232,slow=13,SNR=128						
MKAR				Sn	**Sn**	**06 28 27.5**	**-2.6**
	comp=N,3.7nm,0.3s,baz=236,slow=21,SNR=3.6						
MKAR				Lg	Lg	06 29 06.3	
	comp=N,11nm,0.3s,baz=228,slow=28,SNR=5.4						
KURBB	**Kurchatov Arra**	**7.81**	**17**	⇑Pn	Pn	06 27 42.1	+3.5
	comp=N,5.7nm,0.3s						
KURBB				⇑Pg	Pg	06 28 09.7	-5.0
	comp=N,26nm,0.7s						
KURBB				⇓Lg	Lg	06 29 55.1	
	comp=N,337nm,0.8s						
KURBB	**Kurchatov Arra**	**7.81**	**17**	Pn	**Pn**	**06 27 40.6**	**+2.0**
	comp=N,1.2nm,0.3s,baz=205,slow=13,SNR=4.0						
KURBB				Lg	Lg	06 29 51.5	
	comp=N,6.3nm,0.3s,baz=204,slow=30,SNR=5.8						
KURK	**Kurchatov**	**7.92**	**17**	⇑Pn	Pn	06 27 44.1	+4.0
	comp=N,3.6nm,0.5s						
KURK				⇑Lg	Lg	06 29 56.2	
	comp=N,65nm,0.7s						
KURK	**Kurchatov**	**7.92**	**17**	P	**Pn**	**06 27 40.6**	**+0.5**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
VOSK	**Vostochnaya**	**9.89**	**346**	⇑Pn	**Pn**	**06 28 06.0**	**-1.1**
	comp=Z,1.4nm,0.3s						
VOSK				⇑Sn	**Sn**	**06 29 53.9**	**-4.1**
	comp=Z,5.0nm,0.4s						
VOSK				⇑Lg	Lg	06 30 56.7	
	comp=Z,71nm,1.2s						
BVA0	**Borovoye Array**	**10.29**	**344**	⇑Pn	**Pn**	**06 28 12.6**	**0.0**
	comp=Z,2.3nm,0.7s,baz=143,slow=12,SNR=6.8						
BVA0				⇑Lg	Lg	06 31 09.4	
	comp=Z,50nm,0.8s,baz=150,slow=27,SNR=4.4						
BVAR	**Borovoye Array**	**10.29**	**344**	P	**Pn**	**06 28 12.5**	**-0.1**
BVAR						06 30 03.7	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR				smax	smax		
	comp=N,3.0nm,0.3s						
BVAR	**Borovoye Array**	**10.29**	**344**	Pn	**Pn**	**06 28 12.5**	**-0.1**
	comp=N,0.7nm,0.3s,baz=150,slow=12,SNR=11						
BVAR				Sn	**Sn**	**06 30 03.7**	**-4.1**
	comp=N,2.7nm,0.3s,baz=153,slow=24,SNR=5.4						
BVAR				Lg	Lg	06 31 11.4	
	comp=N,5.0nm,0.3s,baz=158,slow=28,SNR=5.2						
BRVK	**Borovoye**	**10.34**	**344**	⇑Pn	**Pn**	**06 28 13.2**	**-0.1**
	comp=N,8.7nm,0.5s						
BRVK				⇑Lg	Lg	06 31 13.0	
	comp=N,106nm,0.7s						
AB31	**Akbulak array**	**12.03**	**305**	⇓Pn	**Pn**	**06 28 36.0**	**-0.3**
	comp=N,5.2nm,0.7s						
AB31				⇑Sn	Sn	06 30 43.1	-7.2
	comp=N,0.8nm,0.3s						
ZALV	**Zalesovo Beam**	**12.56**	**28**	P	**Pn**	**06 28 45.1**	**+1.5**
ZALV						06 30 58.2	
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ZALV				smax	smax		
	comp=N,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**12.56**	**28**	Pn	**Pn**	**06 28 45.1**	**+1.5**
	comp=N,4.5nm,0.3s,baz=219,slow=14,SNR=15						
ZALV				Sn	**Sn**	**06 30 58.2**	**-5.1**
	comp=N,1.2nm,0.3s,baz=234,slow=21,SNR=3.6						
ZALV				Lg	Lg	06 32 24.6	
	comp=N,0.9nm,0.3s,baz=206,slow=26,SNR=3.6						
NVS	**Novosibirsk**	**12.84**	**22**	*e*P	**Pn**	**06 28 49.0**	**+1.7**
NVS				*e*		06 31 09.4	
IMYA	**Miami**	**13.32**	**244**	*e*P	Pn	06 28 58.7	+4.5
AKTO	**Aktyubinsk**	**13.66**	**308**	⇑Pn	Pn	06 28 55.0	-3.6
	comp=N,5.9nm,0.7s						
AKTO				⇓Sn	Sn	06 31 21.5	-8.6
	comp=N,4.9nm,0.6s						
AKTO	**Aktyubinsk**	**13.66**	**308**	P	**Pn**	**06 28 56.8**	**-1.8**
AKTO						06 31 21.7	
AKTO				smax	smax		
	comp=N,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**13.66**	**308**	Pn	**Pn**	**06 28 56.8**	**-1.8**
	comp=N,0.3nm,0.3s,baz=118,slow=13,SNR=4.4						
AKTO				Sn	Sn	06 31 21.7	-8.4
	comp=N,0.5nm,0.3s,baz=354,slow=20,SNR=5.9						
IAKL	**Akhelmad**	**14.07**	**248**	*e*P	**P**	**06 29 13.7**	**+1.3**
IKRD	**Kardeh**	**14.14**	**249**	*e*P	Pn	06 29 01.4	-4.1
ARU	**Arti**	**16.89**	**327**	*c* iP	**Pn**	**06 29 39.4**	**-1.8**
ARU				S	**Sn**	**06 32 47.5**	**-1.1**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.7s						
ZAK	**Zakamensk**	**20.59**	**60**	*e*P	**P**	**06 30 22.7**	**-1.3**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
TLY	**Talaya**	**21.06**	**56**	*e*P	P	06 30 40.0	+11
TLY				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SONM	**Songino Array**	**22.41**	**67**	P	P	06 30 56.0	+12
	comp=Z,1.2nm,0.8s,baz=264,slow=13,SNR=2.9						
KIV	**Kislovodsk**	**23.32**	**283**⇑	*e*P	**P**	**06 30 54.1**	**+1.0**
KIV				pmax	pmax		
	comp=Z,12nm,1.7s						
KIV				MLR	MLR		
	comp=Z,400nm,17.0s						
ANN	**Anapa**	**26.89**	**286**	*e*P	**P**	**06 31 26.3**	**+0.5**
ANN				*e*PP	**pP**	**06 31 28.2**	**-1.3**
ANN				*e*S	**S**	**06 36 03.8**	**+1.6**
ANN				pmax	pmax		
	comp=Z,11nm,1.1s						
BRTR	**Keskin Array B**	**30.94**	**278**	P	**P**	**06 32 02.6**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=76,slow=8.1,SNR=4.3						
AKASG	**Malin Array Be**	**31.68**	**300**	P	**P**	**06 32 08.4**	**+0.1**
AKASG	**Malin Array Be**	**31.68**	**300**	P	**P**	**06 32 08.4**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=78,slow=8.1,SNR=3.3						
FINES	**FINESS Array B**	**33.98**	**320**	P	**P**	**06 32 29.1**	**+0.8**
	comp=Z,4.0nm,0.9s,baz=92,slow=9.6,SNR=6.2						
ARCES	**ARCESS Array B**	**36.32**	**333**	P	**P**	**06 32 50.0**	**+1.6**
	comp=Z,3.6nm,0.8s,baz=98,slow=8.7,SNR=11						
NB2	**NORSAR Subarra**	**41.12**	**318**	P	**P**	**06 33 29.4**	**+0.6**
	comp=Z,2.5nm,0.7s,baz=88,slow=8.6						
NOA	**NORSAR Array B**	**41.12**	**318**	P	**P**	**06 33 29.7**	**+1.0**
	comp=Z,1.8nm,0.6s,baz=87,slow=8.2,SNR=5.7						
GERES	**GERESS Array B**	**41.90**	**300**	P	**P**	**06 33 36.8**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=34,slow=7.1,SNR=2.9						
BFO	**Black Forest**	**45.45**	**301**	*i* P	**P**	**06 34 02.8**	**-1.1**
ESDC	**Sonseca Array**	**57.17**	**296**	P	**P**	**06 35 31.4**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=50,slow=7.1,SNR=6.5						
ILAR	**Eielson Array**	**67.49**	**18**	P	**P**	**06 36 41.0**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=316,slow=4.6,SNR=10						
TORD	**Torodi Ar. Bea**	**68.95**	**268**	P	**P**	**06 36 49.3**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=39,slow=4.7,SNR=4.8						
YKA	**Yellowknife Ar**	**74.37**	**5**	P	**P**	**06 37 22.9**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=348,slow=6.2,SNR=4.3						
WRA	**Warramunga Arr**	**83.16**	**125**	P	**P**	**06 38 10.1**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=324,slow=4.8,SNR=3.3						
ASAR	**Alice Springs**	**85.78**	**128**	P	**P**	**06 38 23.3**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=336,slow=4.3,SNR=3.8						

MAN 11 06:26:37,8.09N×124.06E,h87km,mb3.6,ML2.4,MS1.9, 2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAGZ	**Pagadian**	**0.71**	**250**	*e*P	Pn	06 26 56.1	+2.8
PAGZ				*e*S	Sn	06 27 05.9	+0.4
DCPH	**Dipolog City**	**0.85**	**305**↓	*i*P	Pn	06 26 48.7	-6.1
DCPH				*i* S	Sn	06 26 51.7	-16
SNPH	**Sibulan**	**1.48**	**327**↓	*i*P	Pn	06 27 04.2	+1.7
SNPH				*i* S	Sn	06 27 16.8	-4.9
IPIL	**Ipil**	**1.50**	**258**	*e*P	Pn	06 27 04.7	+2.1
MATI	**Mati**	**2.46**	**117**	*e*P	Pn	06 27 16.6	+1.3
GUIM	**Jordan**	**2.90**	**330**	*e*P	Pn	06 27 22.4	+1.2

IDC 11 06:31:44.8±7.7,19.27S×178.80E,h0km,mb3.5/3, mb1 3.9/3,mb1mx3.6/16,mbtmp3.5/3,Error ellipse: s-maj=339.5km s-min=40.5km az=145.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.79**	**261**	P	P	06 39 36.6	+0.1
	0.2nm,0.4s,baz=96,slow=7.7,SNR=7.5						
ASAR	**Alice Springs**	**41.88**	**256**	P	P	06 39 36.8	-0.4
	0.6nm,0.6s,baz=94,slow=8.5,SNR=9.1						
ILAR	**Eielson Array**	**87.82**	**14**	P	P	06 44 35.5	0.0
	0.5nm,1.0s,baz=195,slow=5.6,SNR=3.5						

*IDC **11** 06:38:54.2±1.1,12.52N×120.68E,h0km,mb3.6/6, mb1 3.7/6,mb1mx3.5/23,mbtmp3.6/6,MS3.9/1,Ms1 3.9/1, ms1mx3.2/27,Error ellipse: s-maj=151.3km s-min=18.2km az=66.0*
*ISCJB **11** 06:38:56.6±0.5,12.49N±0.04×120.38E±0.04,h23km, mb3.6/6,MS3.7/1,Error ellipse: s-maj=6.3km s-min=5.6km az=31.6*
*MAN **11** 06:38:56,12.44N×120.34E,h18km,mb4.5,ML3.4,MS3.3*

ISC 11 06:38:57.2±0.8,12.48N±0.04×120.43E±0.05,h23km,n20, σ1§32/22,mb3.6/6,4C,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUSP	**Coron**	**0.52**	**205**	*e*P	**Pb**	**06 39 06.6**	**-1.1**
BUSP				*e*S	**Sb**	**06 39 15.2**	**+0.4**
SJMP	**San Jose**	**0.68**	**91**	*e*P	**Pn**	**06 39 10.6**	**-0.9**
SJMP				*e*S	**Sb**	**06 39 18.6**	**-0.7**
PGP	**Puerto Galera**	**1.14**	**27**⇑	*e*P	**Pn**	**06 39 16.7**	**-1.2**
LUBP	**Lubang**	**1.26**	**352**	*e*P	**Pn**	**06 39 17.8**	**-1.7**
OTRP	**Odiongan**	**1.56**	**94**	*e*P	**Pb**	**06 39 24.9**	**-0.6**
ENPP	**El Nido**	**1.60**	**218**	*e*P	**Pn**	**06 39 23.6**	**-0.4**
TGY	**Tagaytay City**	**1.69**	**17**⇑	*i*P	**Pn**	**06 39 26.1**	**+0.7**
BOAC	**Boac**	**1.69**	**55**	*e*P	**Pb**	**06 39 26.2**	**-1.5**
CUYO	**Cuyo Island**	**1.72**	**160**	*e*P	**Pn**	**06 39 25.2**	**-0.6**
LQP	**Lukban**	**1.96**	**34**	*e*P	**Pb**	**06 39 31.2**	**-1.1**
AUQP	**San Andres**	**2.35**	**69**	*e*P	**Pb**	**06 39 40.3**	**+1.4**
GQP	**Guinayangan**	**2.43**	**54**⇑	*e*P	**Pb**	**06 39 41.0**	**+0.8**
RCP	**Roxas**	**2.44**	**112**⇑	*e*P	**Pn**	**06 39 37.2**	**+1.4**
RCP				*e*S	**Sb**	**06 40 07.2**	**-3.0**
JNU	**Nakatsue**	**22.67**	**23**	LR	LR	06 51 42.5	
	comp=Z,331nm,21.9s,baz=44,slow=34						

WRA	**Warramunga Arr**	**35.00**	**157**	P	**P**	**06 45 47.7**	**-0.5**
	0.6nm,0.8s,baz=338,slow=9.5,SNR=3.6						
SONM	**Songino Array**	**37.15**	**344**	P	**P**	**06 46 06.8**	**+0.4**
	1.5nm,0.7s,baz=164,slow=8.6,SNR=6.5						
ASAR	**Alice Springs**	**38.26**	**160**	P	**P**	**06 46 16.3**	**+0.4**
	0.3nm,0.5s,baz=334,slow=7.4,SNR=3.7						
MKAR	**Makanchi Array**	**46.86**	**324**	P	**P**	**06 47 25.7**	**+0.1**
	0.3nm,0.6s,baz=129,slow=7.8,SNR=2.4						
ZALV	**Zalesovo Beam**	**50.02**	**333**	P	**P**	**06 47 51.4**	**+1.6**
	0.5nm,0.3s,baz=142,slow=7.2,SNR=2.9						
KURBB	**Kurchatov Arra**	**51.06**	**327**	P	**P**	**06 47 59.8**	**+2.2**
	0.6nm,0.6s,baz=124,slow=6.9,SNR=5.0						

MEX 11 06:41:19.8±0.8,17.71N×99.52W,h5km,MD3.6,Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MEIG	**Mezcala**	**0.23**	**337**	*e*P	Pg	06 41 23.4	-1.2
MEIG				*i* S	Sg	06 41 28.1	+0.4
PLIG	**Platanillo**	**0.68**	**2**	*i* P	Pg	06 41 31.4	-1.6
PLIG				*i* S	Sg	06 41 41.2	-0.7
ACX	**Acapulco**	**0.90**	**201**	*i* P	Pg	06 41 35.8	-1.3
ACX				*i* S	Sg	06 41 47.8	-0.9
ARIG	**Puente Sto Nin**	**0.97**	**306**	*i* P	Pg	06 41 36.2	-2.2
ARIG				*e*S	Sg	06 41 49.0	-2.1
CAIG	**El Cayaco**	**0.97**	**227**	*i* P	Pg	06 41 36.5	-1.9
CAIG				*i* S	Sg	06 41 49.4	-1.7
YAIG	**Yautepec**	**1.23**	**21**	*i* P	Pg	06 41 40.6	-3.0
YAIG				*i* S	Sg	06 41 56.4	-3.2
PPM	**Popocatepetl**	**1.59**	**32**	*e*P	Pn	06 41 46.5	-2.9
PPM				*i* S	Sn	06 42 06.3	-4.5
ZIIG	**Zihuatanejo**	**1.85**	**267**	*e*P	Pn	06 41 48.8	-3.5
ZIIG				*e*S	Sn	06 42 11.9	-4.2
PNIG	**Pinotepa**	**1.87**	**134**	*i* P	Pn	06 41 48.5	-4.0
PNIG				*i* S	Sn	06 42 12.0	-4.5
TPIG	**Tehuac#an**	**2.17**	**71**	*e*P	Pn	06 41 53.0	-3.9
TPIG				*i* S	Sn	06 42 20.5	-3.9
VHO	**Vista Hermosa**	**2.74**	**103**	*i* P	Pn	06 42 02.5	-2.2
VHO				*i* S	Sn	06 42 34.0	-4.4

*NIED **11** 06:42:00,21.90N×120.80E,h32km,Mw4.8 Best double couple: M0 2.10000×10^16 NP1:φs208.00000°,δ64.00000°, λ72.00000°. NP2:φs64.00000°,δ31.00000°,λ122.00000°.*
*IDC **11** 06:42:04.3±0.4,21.90N×120.79E,h0km,mb4.5/28, mb1 4.6/30,mb1mx4.6/34,mbtmp4.5/30,ML3.8/2,MS4.0/6, Ms1 4.0/6,ms1mx3.7/34,Error ellipse: s-maj=16.3km s-min=9.5km az=76.0*
*NEIC **11** 06:42:05.9±0.2,21.88N×120.72E,h10km,mb4.9/29, ML5.3(TAP),Error ellipse: s-maj=7.0km s-min=4.5km az=104.0*
NEIC Felt at Kao-shiung. Recorded [4 TAP] in P'ing-tung and [3 TAP] in T'ai-tung.
*BJI **11** 06:42:06.3,22.11N×120.51E,h5km,mB4.8/32,mb4.5/35, ML4.4/8,Ms4.4/42,Ms7 4.2/40*
*SZGRF **11** 06:42:07.6,21.71N×123.13E,h46km,mb4.5,Southeast of Taiwan*
*TAP **11** 06:42:08.7,21.93N×120.63E,h42km,ML5.0,C*
*MOS **11** 06:42:08.2±1.1,22.01N×120.67E,h33km,mb5.2/29,Error ellipse: s-maj=11.0km s-min=6.1km az=120.8*
*ISCJB **11** 06:42:09.5±0.3,21.95N±0.02×120.68E±0.02,h46km±2km, mb4.7/82,MS4.1/14,Error ellipse: s-maj=3.0km s-min=2.6km az=13.9*
*JMA **11** 06:42:10.2±0.3,21.89N×120.79E,h96km,M4.6*
*DJA **11** 06:42:21.4±2.9,21°N±16'×12°0E±', h94km±22km,M5.2/5, mB5.5/1,mb5.2/5,Mw(mB)5.0/1*

ISC 11 06:42:09.9±0.5,21.89N±0.03×120.64E±0.03,h33km±2km, h33km:pP-P,n334,σ1§62/423,mb4.7/81,MS4.2/14, 15C-19D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HEN	**Hengchun**	**0.14**	**40**↓	*i*P	**Pb**	**06 42 16.1**	**+0.2**
	baz=63						
TWK1	**Hengchun**	**0.16**	**73**↓	*i*P	**Pb**	**06 42 16.4**	**+0.3**
	baz=86						
SCZT	**Fangliau**	**0.48**	**358**⇑	*i*P	**Pn**	**06 42 19.3**	**-1.1**
	baz=354						
SCZT				*i* S	**Sb**	**06 42 26.3**	**-0.8**
	baz=354						
TWP	**Hsiaoliuchiu**	**0.52**	**331**↓	*i*P	**Pn**	**06 42 20.6**	**-0.4**
	baz=330						
TWP				*e*S	**Sb**	**06 42 29.5**	**+1.4**
	baz=330						
TAW	**Tawu**	**0.52**	**28**⇑	*i*P	**Pn**	**06 42 20.4**	**-0.6**
	baz=31						
TAW				*i* S	**Sn**	**06 42 28.1**	**-0.6**
	baz=31						
EAST	**Anshuo**	**0.52**	**22**⇑	*i*P	**Pn**	**06 42 20.4**	**-0.7**
	baz=25						
EAST				*e*S	**Sn**	**06 42 28.2**	**-0.7**
	baz=25						
KAU	**Kaohsiung**	**0.74**	**336**↓	*e*P	**Pn**	**06 42 23.2**	**-0.8**
	baz=336						
KAU				*e*S	**Sn**	**06 42 33.9**	**-0.1**
	baz=336						
ECL	**Taimali**	**0.76**	**23**	*i* P	**Pn**	**06 42 23.5**	**-0.8**
	baz=25						
SGLT	**Jiouru**	**0.84**	**351**⇑	*i*P	**Pn**	**06 42 25.2**	**-0.1**
	baz=352						
SGLT				S	**Sb**	**06 42 37.3**	**+0.3**
	baz=352						
LAY	**Lan-yu**	**0.86**	**80**	⇓P	**Pn**	**06 42 24.6**	**-1.1**
	baz=73						
LAY				*e*S	**Sn**	**06 42 35.9**	**-1.3**
	baz=73						
TWM1	**Shoushan**	**0.94**	**348**↓	*i*P	**Pn**

YUS eS Sn 06 42 55.5 -0.9
baz=1.0
ALS Alishan 1.62 5⇑*i*P Pn 06 42 35.5 -0.8
baz=353
WDGT Dungji 1.63 327⇓*i*P Pn 06 42 33.7 -2.6
baz=327
WDGT eS Sn 06 42 52.0 -4.2
baz=327
CHN5 Tsauling 1.69 1⇓*i*P Pn 06 42 36.2 -1.1
baz=351
CHN5 eS Sn 06 42 56.5 -1.4
baz=351
EHY Hungye 1.72 21 P Pn 06 42 37.1 -0.5
baz=35
EHY eS Sn 06 42 57.8 -0.7
baz=35
WSF Szhu 1.78 348 *e*P Pn 06 42 36.5 -1.8
baz=349
WSF eS Sn 06 42 57.1 -2.7
baz=349
WGK Gukeng 1.78 358⇑*i*P Pn 06 42 37.3 -1.1
baz=348
WGK eS Sn 06 42 58.4 -1.6
baz=348
SSLB Suanglung 1.91 9 *e*Pn Pn 06 42 38.5 -1.6
PNG Penghu 1.94 329 *e*P Pn 06 42 38.2 -2.3
baz=340
PNG eS Sn 06 42 59.6 -4.2
baz=340
WNT Mingjian 1.98 1 *e*P Pn 06 42 39.6 -1.4
baz=3.0
WNT eS Sn 06 43 03.1 -1.5
baz=3.0
WTCT Ta-ch'eng 1.99 351 eS Sn 06 43 02.4 -2.6
baz=352
SMLT Sun Moon Lake 1.99 7 P Pn 06 42 40.8 -0.6
baz=356
SMLT eS Sn 06 43 04.4 -0.9
baz=356
TYC Yuchr 2.01 6⇑*i*P Pn 06 42 40.8 -0.7
baz=355
TYC eS Sn 06 43 04.3 -1.2
baz=355
ESL Shilin 2.05 21 *e*P Pn 06 42 41.6 -0.4
baz=34
ESL S Sn 06 43 04.5 -1.9
baz=34
ESF Shoufeng Towns 2.12 22 *e*P Pn 06 42 43.1 +0.1
baz=23
TCU Taichung 2.24 1 *e*P Pn 06 42 43.5 -1.2
baz=352
TCU eS Sn 06 43 09.7 -1.5
baz=352
HWA Hwalien 2.26 23 *e*P Pn 06 42 45.6 +0.7
baz=34
HWA eS Sn 06 43 11.3 -0.3
baz=34
WHF Hehuan Shan 2.31 14⇓*i*P Pn 06 42 46.0 -0.1
baz=16
WHF eS Sn 06 43 13.3 -0.3
baz=16
TWD Chiawan 2.35 22 *e*P Pn 06 42 45.6 -0.5
baz=33
TWD eS Sn 06 43 12.5 -1.4
baz=33
TWT Tachien 2.40 12 *e*P Pn 06 42 46.5 -0.5
baz=3.0
TWT eS Sn 06 43 14.7 -0.8
baz=3.0
NACB Ninganchiao 2.43 21 *e*Pn Pn 06 42 45.8 -1.6
TWQ1 Liyutan 2.44 3 *e*P Pn 06 42 46.9 -0.6
baz=353
TWQ1 eS Sn 06 43 14.9 -1.4
baz=353
NSY Sanyi 2.51 3 *e*P Pn 06 42 47.9 -0.6
baz=353
NSY eS Sn 06 43 17.9 -0.1
baz=353
NNS Nan Shan 2.62 15 ⇓P Pn 06 42 50.6 +0.6
baz=17
NNS eS Sn 06 43 20.7 -0.2
baz=17
ENA Nanau 2.72 22 *e*P Pn 06 42 51.6 +0.4
baz=22
NSTT Nanjuang 2.74 7 *e*P Pn 06 42 50.4 -1.3
baz=355
NSTT eS Sn 06 43 22.1 -1.5
baz=355
YHNB Yeheng 2.84 14 *e*Pn Pn 06 42 52.0 -1.1
YHNB eSn Sn 06 43 26.4 +0.1
NSK Sanguang 2.85 13 ⇓P Pn 06 42 52.8 -0.3
baz=15
NSK eS Sn 06 43 26.2 -0.1
baz=15
ENTT Nioudou 2.86 17 *e*P Pn 06 42 53.4 +0.2
baz=29
TWC Suao 2.92 22 *e*P Pn 06 42 54.1 +0.1
baz=24
TWC eS Sn 06 43 27.0 -1.1
baz=24
ILA Ilan 3.04 19 *e*P Pn 06 42 57.1 +1.5
baz=30
TATO Taipei 3.17 14 *e*Pn Pn 06 42 57.9 +0.5
EGS 3.17 22 *e*P Pn 06 42 58.5 +1.1
baz=22
TWA Mucha 3.19 16 *e*P Pn 06 42 57.5 -0.2
baz=2.0
KNM Kinmen 3.23 321 *e*P Pn 06 42 57.0 -1.2
baz=319
TAP1 Taipei 3.23 14 *e*P Pn 06 42 58.1 -0.2
baz=1.0
TWS1 Kuangyinshan 3.27 13 *e*P Pn 06 42 58.5 -0.3
baz=13
NWF Wu-fen Shan 3.33 18 *e*P Pn 06 42 59.8 0.0
baz=30
NWF eS Sn 06 43 39.6 +1.3
baz=30
TWB1 Santiao Chiao 3.34 22 *e*P Pn 06 43 00.3 +0.5
baz=23
TWB1 eS Sn 06 43 38.2 -0.1
baz=23
YOJ Yonaguni jima 3.36 40 P Pn 06 43 00.4 +0.3
YOJ S Sn 06 43 39.4 +0.5
YOJ Yonaguni jima 3.36 40 ⇑P Pn 06 43 00.5 +0.3
baz=50
YOJ eS Sn 06 43 39.0 +0.1
baz=50
TWY Chenhua 3.48 15 *e*P Pn 06 43 01.1 -0.7
baz=3.0
QZH Quanzhou 3.57 329⇑*i*Pn Pn 06 42 58.0 -4.9
QZH Sn Sn 06 43 35.0 -9.0
QZH SMN
comp=Z,740nm,0.3s
QZH SME
comp=Z,2μm,0.8s
QZH LR LR
comp=N,2μm,5.6s
QZH LR LR
comp=E,3μm,5.4s
QZH LR LR
comp=Z,3μm,13.5s
HATJ Hateruma jima 3.63 53 P Pn 06 43 03.9 +0.2
HATJ S Sn 06 43 44.1 -1.3
IRIF Iriomote-Funau 3.74 49 P Pn 06 43 05.4 +0.1
IRIF S Sn 06 43 48.6 +0.3
JKRS Kuro-shima 3.88 52 P Pn 06 43 07.6 +0.3
JKRS S Sn 06 43 51.4 -0.4
JIJ Ishigaki jima 4.06 52 P Pn 06 43 09.6 0.0
JIJ S Sn 06 43 53.9 -2.1
JTJ Tarama 4.63 53 P Pn 06 43 17.6 +0.1
JTJ S Sn 06 44 09.8 -0.4
JMJ Miyako jima 2 5.17 55 P Pn 06 43 25.3 +0.3
JMJ S Sn 06 44 22.2 -1.4
JMJ Miyako jima 2 5.17 55 *e*P Pn 06 43 24.9 -0.1
baz=65
JOGS Gusukube 5.23 56 P Pn 06 43 26.0 +0.2
JOGS S Sn 06 44 24.5 -0.5
GZH Guangzhou 6.85 281 P Pn 06 43 44.2 -3.8
GZH pP 06 43 50.5
GZH SMN
comp=Z,840nm,0.8s
GZH SME
comp=Z,610nm,0.8s
JKE Kume jima 2 7.14 51 P Pn 06 43 50.6 -1.4
JOW Kunigami 8.52 53 *e*P Pn 06 44 09.3 -1.7
baz=57
SSE Sheshan 9.18 3 P Pn 06 44 18.3 -1.6
SSE S Sn 06 46 02.4 +0.3
SSE AMB AMB
comp=Z,31nm,1.0s
SSE AMB AMB
comp=Z,490nm,9.4s
SSE LR LR
comp=N,620nm,19.4s
SSE LR LR
comp=E,1μm,19.4s
SSE LR LR
comp=Z,1μm,15.3s
NJ2 Nanjing 10.24 351 *e*P Pn 06 44 33.1 -1.4
NJ2 S Sn 06 46 21.9 -6.3
NJ2 AMB AMB
comp=Z,20nm,0.8s
NJ2 LR LR
comp=N,2μm,17.0s
NJ2 LR LR
comp=E,1μm,25.0s
NJ2 LR LR
comp=Z,1μm,13.8s
QIZ Qiongzhong 10.51 256 P Pn 06 44 37.3 -1.0
QIZ S Sn 06 46 36.5 +1.5
QIZ AMB AMB
comp=Z,35nm,1.1s
QIZ LR LR
comp=N,1μm,15.8s
QIZ LR LR
comp=E,670nm,18.5s
QIZ LR LR
comp=Z,2μm,15.8s
QIZ Qiongzhong 10.51 256 *e*Pn Pn 06 44 37.1 -1.3
58nm,0.9s
ENH Enshi 13.03 312 *e*Pn Pn 06 45 14.3 +1.5
ENH *e*Sn Sn 06 47 38.1 +1.5
GYA Guiyang 13.54 292⇓*i*P Pn 06 45 19.3 -0.5
GYA PP P 06 45 29.9 +1.4
GYA S Sn 06 47 51.3 +2.2
GYA SS SnSn 06 48 05.3 +3.8
GYA AMB AMB
comp=Z,20nm,1.0s
GYA AMB AMB
comp=Z,70nm,4.5s
GYA LR LR
comp=N,1μm,14.2s
GYA LR LR
comp=E,1μm,15.4s
GYA LR LR
comp=Z,2μm,13.9s
JNU Nakatsue 14.40 37 Pn Pn 06 45 29.2 -2.2
JNU Nakatsue 14.40 37 Pn Pn 06 45 29.2 -2.2
0.2nm,0.3s,baz=36,slow=2.7,SNR=3.9
KDM Kudat 15.34 194 P P 06 45 51.4 +3.0
PANO Nakornpanom 15.82 255 P P 06 45 56.9 +3.1
18nm,1.2s
KKM Kota Kinabalu 16.33 196 P Pn 06 45 57.9 +1.0
KKM Kota Kinabalu 16.33 196 P Pn 06 45 57.2 +0.3
KKM Kota Kinabalu 16.33 196 *e*Pn Pn 06 45 57.9 +1.0
SDKM Sandakan 16.50 192 P Pn 06 45 59.9 +0.9
KSAR Wonju Array Be 16.71 20 Pn Pn 06 46 00.8 -0.7
KMI Kunming 16.73 285 P Pn 06 46 02.1 +0.1
KMI pP P 06 46 04.4 +0.4
KMI sP sP 06 46 05.9 -11
KMI PP pP 06 46 16.2 +3.5
KMI S Sn 06 49 06.7 -0.3
KMI sS S 06 49 10.6 -6.6
KMI SS SnSn 06 49 26.9 +6.7
KMI AMB AMB
comp=Z,9.0nm,0.8s
KMI AMB AMB
comp=Z,150nm,5.1s
KMI LR LR
comp=N,880nm,9.9s
KMI LR LR
comp=E,810nm,9.9s
KMI LR LR
comp=Z,730nm,9.9s
KSRS Korea Array 16.74 21 Pn Pn 06 46 00.8 -1.0
0.7nm,0.3s,baz=200,slow=13,SNR=18
KSRS LR LR 06 53 24.5
comp=Z,705nm,18.5s,baz=198,slow=41
MYLDM Lahad Datu 16.74 187 P P 06 46 04.8 +0.8
MYLDM Lahad Datu 16.74 187 P P 06 46 04.1 +0.1
CD2 Chengdu 17.57 304 P Pn 06 46 12.2 -0.1
CD2 pP P 06 46 15.8 +2.7
CD2 sP sP 06 46 19.3 -6.6
CD2 PP PnPn 06 46 26.8 +3.8
CD2 S Sn 06 49 25.5 -1.5
CD2 sS S 06 49 30.8 -3.3
CD2 SS SnSn 06 49 47.2 +6.5
CD2 AMB AMB
comp=Z,30nm,0.6s
CD2 AMB AMB
comp=Z,260nm,3.8s
CD2 LR LR
comp=N,1μm,8.3s
CD2 LR LR
comp=Z,1μm,12.5s
TSM Tawau 17.70 189 P P 06 46 15.5 +0.9
BJT Baijiatuan 18.46 349 *e*P Pn 06 46 24.3 +1.1
14nm,0.4s
BJI Beijing 18.48 349 P P 06 46 22.6 -0.4
BJI S Sn 06 49 49.9 +1.0
BJI AMB AMB
comp=Z,34nm,1.0s
BJI AMB AMB
comp=Z,170nm,8.7s
BJI LR LR
comp=N,360nm,18.2s
BJI LR LR
comp=E,700nm,17.2s
BJI LR LR
comp=Z,290nm,22.3s
BTM Bintulu 19.98 203 P Pn 06 46 41.1 -0.4
LZH Lanzhou 20.34 318 P P 06 46 44.6 +0.9
LZH pP Pn 06 46 47.7 +1.9
LZH sP sP 06 46 50.7 -5.8
LZH PP PnPn 06 47 03.5 +2.4
LZH S S 06 50 26.1 -4.0
LZH sS Sn 06 50 31.6 -2.7
LZH AMB AMB
comp=Z,73nm,1.4s
LZH AMB AMB
comp=Z,230nm,4.6s
LZH LR LR
comp=N,540nm,12.7s
LZH LR LR
comp=E,640nm,13.3s
LZH LR LR
comp=Z,790nm,14.8s
HHC Hu-ho-hao-te 20.40 340 *e*P P 06 46 36.1 -8.0
HHC sP sP 06 46 43.1 -14
HHC PP pP 06 46 56.8 +4.0
HHC S S 06 50 19.1 -12
HHC sS Sn 06 50 25.2 -10
HHC PcP PcP 06 50 48.3 -7.6
HHC SS SnSn 06 50 48.9 -1.4
HHC AMB AMB
comp=Z,29nm,0.6s
HHC AMB AMB
comp=Z,230nm,6.7s
HHC LR LR
comp=N,1μm,13.2s
HHC LR LR
comp=E,790nm,13.0s
HHC LR LR
comp=Z,810nm,13.5s
CHTO Chiang Mai 20.57 265 *e*P Pn 06 46 47.5 -0.9
CHTO pmax pmax
comp=Z,111nm,1.2s
CHTO Chiang Mai 20.57 265 P Pn 06 46 49.6 +1.2
comp=Z,117nm,1.1s
CHTO Chiang Mai 20.57 265 *e*Pn Pn 06 46 47.5 -0.9
comp=Z,111nm,1.2s
CHTO Chiang Mai 20.57 265 P Pn 06 46 49.6 +1.2
comp=Z,117nm,1.1s
CM31 Chiang Mai Arr 20.64 264 *e*P Pn 06 46 49.9 +0.6
comp=Z,6.1nm,0.5s
CMAR Chiang Mai Arr 20.64 264 P Pn 06 46 48.5 -0.9
CMAR PcP PcP 06 50 57.1 +0.5
CMAR Chiang Mai Arr 20.64 264 P Pn 06 46 48.5 -0.9
comp=Z,5.6nm,0.6s,baz=71,slow=9.4,SNR=19
CMAR PcP PcP 06 50 57.1 +0.5
comp=Z,1.0nm,0.3s,baz=359,slow=1.2,SNR=5.3
SBUM Sibu 20.99 204 P Pn 06 46 52.2 -1.1
SBUM Sibu 20.99 204 P P 06 46 46.2 +0.6
SBUM Sibu 20.99 204 *e*P P 06 46 51.1 +0.5
comp=Z,31nm,1.0s
MAJO Matsushiro 21.12 42 *e*P P 06 46 51.7 -0.2
MAJO pmax pmax
comp=Z,23nm,0.8s
MAJO Matsushiro 21.12 42 *e*P P 06 46 51.7 -0.2
comp=Z,23nm,0.8s
MAT Matsushiro 21.12 42 P P 06 46 50.6 -1.3
MAT eS S 06 50 48.8 +3.6
MRSI Marisa 21.33 176 P P 06 46 56.9 +2.7
KMSI Cibinong 21.44 171 P P 06 46 58.3 +2.9
CN2 Changchun 22.21 9 *e*P P 06 47 01.7 -1.7
CN2 *e*PP PnPn 06 47 26.9 +0.5
CN2 eS S 06 50 59.6 -6.5
CN2 eSS SnSn 06 51 43.2 +8.8
CN2 LR LR
comp=Z,1μm,16.0s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,1μm,17.0s
KSM Kuching 22.65 208 P P 06 47 08.1 -0.3
KSM Kuching 22.65 208 P P 06 47 08.2 -0.3
KSM Kuching 22.65 208 *e*P P 06 47 07.4 -1.0
comp=Z,76nm,1.4s
LUWI Luwuk 22.89 175 P P 06 47 10.4 -0.5
BKB Balikpapan 23.30 189 P P 06 47 15.9 +0.9
LBMI Labuha 23.38 162 P P 06 47 15.3 -0.5
MTKI Muara Teweh, K 23.38 195 P P 06 47 17.2 +1.4
comp=Z,149nm,1.2s
STKI Sintang 23.46 204 P P 06 47 18.4 +1.8
KTGM Kuala Trenggan 23.63 228 P P 06 47 20.1 +1.8
MDJ Mudanjiang 23.84 16 P P 06 47 19.7 -0.3
MDJ pP pP 06 47 22.7 -6.6
MDJ S S 06 51 37.2 +3.5
MDJ AMB AMB
comp=Z,7.0nm,0.8s
MDJ AMB AMB
comp=Z,140nm,8.3s
MDJ LR LR
comp=Z,410nm,22.5s
MDJ LR LR
comp=Z,280nm,20.2s
MDJ LR LR
comp=Z,590nm,19.1s
USRK Ussuriysk Arra 24.15 20 P P 06 47 21.3 -1.5
comp=Z,8.4nm,0.6s,baz=210,slow=9.8,SNR=19
USRK LR LR 06 57 21.4
comp=Z,519nm,20.4s,baz=193,slow=38
TTSI Tana Toraja 24.80 182 P P 06 47 29.2 +0.2
SWI Sorong 24.88 154 P P 06 47 31.5 +1.7
GTA Gaotai 24.91 319 *e*P P 06 47 32.1 +2.0
GTA pP pP 06 47 36.2 -3.3
GTA sP sP 06 47 39.4 -4.1
GTA S S 06 51 56.8 +5.4
GTA AMB AMB
comp=Z,4.0nm,0.8s
GTA AMB AMB
comp=Z,96nm,5.2s
GTA LR LR
comp=Z,340nm,19.2s
GTA LR LR
comp=Z,370nm,16.6s
GTA LR LR
comp=Z,480nm,17.3s
IPM Ipoh 25.71 230 P P 06 47 37.9 +0.5
IPM Ipoh 25.71 230 P P 06 47 36.9 -0.5
IPM Ipoh 25.71 230 *e*P P 06 47 37.3 -0.1
comp=Z,10nm,0.8s
SPSI Sidrap Palu 25.71 182 P P 06 47 38.9 +1.6
NLAI Namlea 25.77 165 P P 06 47 40.3 +2.5
comp=Z,165nm,1.0s,comp=Z,2μm
MYKOM Kota Tinggi 25.81 222 P P 06 47 39.4 +1.2
MYKOM Kota Tinggi 25.81 222 P P 06 47 38.7 +0.5
KGM Kluang 25.97 223 P P 06 47 41.3 +1.7
FRIM Kepong 26.17 228 P P 06 47 41.8 +0.3
SHL Shillong 26.55 284 *e*P P 06 47 46.5 +1.4
KAPI Kappang 26.76 182 P P 06 47 54.3 +7.6
KAPI Kappang 26.76 182 *e*P P 06 47 46.1 -0.7
KAPI Kappang 26.76 182 P P 06 47 46.0 -0.7
comp=Z,9.3nm,0.7s,baz=351,slow=11,SNR=3.9
KAPI LR LR 06 59 21.0
comp=Z,68nm,19.4s,baz=204,slow=39
FAKI Fak Fak 27.15 154 P P 06 47 55.8 +5.5
comp=Z,31nm,0.9s
HIA Hailar 27.32 359 *e*P P 06 47 50.8 -0.8
comp=Z,8.8nm,0.4s
LSA Lhasa 27.61 292 P P 06 47 55.8 +0.9
LSA Lhasa 27.61 292 *e*P P 06 47 56.3 +1.4
LSA pmax pmax
comp=Z,7.0nm,0.9s
LSA Lhasa 27.61 292 *e*P P 06 47 56.3 +1.4
comp=Z,7.2nm,0.9s
SONM Songino Array 28.30 340 P P 06 48 00.3 -0.2
SONM PcP PcP 06 51 14.0 +1.0
SONM Songino Array 28.30 340 P P 06 48 00.3 -0.2
comp=Z,3.3nm,0.7s,baz=149,slow=9.8,SNR=14
SONM PcP PcP 06 51 14.0 +1.0
comp=Z,0.4nm,0.3s,baz=302,slow=3.2,SNR=3.5
PSI Prapat 28.38 231 P P 06 48 01.6 +0.1
PSI Prapat 28.38 231 P P 06 48 01.6 +0.1
comp=Z,7.9nm,0.8s,baz=265,slow=17,SNR=4.4
PSI LR LR 06 59 08.9
comp=Z,560nm,18.2s,baz=59,slow=36
ASAJ Asahikawa 28.65 34 P P 06 48 02.1 -1.3
ASAJ Asahikawa 28.65 34 P P 06 48 02.2 -1.3
comp=Z,16nm,0.9s,baz=231,slow=6.1,SNR=10
KLR Kul'dur 28.67 15 *e*P P 06 48 01.2 -2.4
PPI Padang Panjang 29.72 224 P P 06 48 14.4 +1.1
YSS Yuzh-Sakhalins 30.74 30 *e*P P 06 48 26.0 +4.1
YSS pmax pmax
comp=Z,30nm,1.0s
ZAK Zakamensk 31.54 339 *e*P P 06 48 28.4 -0.6
ZAK pmax pmax
comp=Z,3.0nm,1.3s
BATI Baumata 32.04 174 LR LR 07 01 07.3
comp=Z,349nm,20.4s,baz=155,slow=36
TLY Talaya 32.53 340 *e*P P 06 48 49.3 +12
TLY pmax pmax
comp=Z,4.0nm,0.6s
TLY MLR MLR
comp=Z,285nm,14.0s
WMQ Urumqi 34.92 317 *e*P P 06 48 58.9 +0.3
WMQ pP pP 06 49 03.3 -4.9
WMQ sP sP 06 49 05.9 -6.2
WMQ S S 06 54 28.2 +0.2
WMQ SS SnSn 06 56 41.4 -2.8
WMQ ScS ScS 06 59 17.9 +0.4
WMQ AMB AMB
comp=Z,7.0nm,0.4s
WMQ AMB AMB
comp=Z,200nm,5.6s
WMQ LR LR
comp=Z,460nm,6.6s
WMQ LR LR
comp=Z,320nm,7.2s
WMQ LR LR
comp=Z,220nm,17.8s
MK31 Makanchi Array 39.66 318 *e*P P 06 49 38.9 +0.2
MK31 *e* 06 51 45.2
MK31 Makanchi Array 39.66 318 *e*P P 06 49 38.9 +0.2
MK31 *e*PcP PcP 06 51 45.2 0.0
MKAR Makanchi Array 39.66 318 P P 06 49 38.9 +0.2
MKAR 06 51 45.3
MKAR Makanchi Array 39.66 318 P P 06 49 38.9 +0.2
MKAR PcP PcP 06 51 45.2 +0.1
MKAR Makanchi Array 39.66 318 P P 06 49 38.9 +0.2
comp=Z,5.2nm,0.7s,baz=112,slow=9.7,SNR=31
MKAR PcP PcP 06 51 45.2 +0.1
comp=Z,2.9nm,1.0s,baz=101,slow=6.3,SNR=4.4
FITZ Fitzroy Crossi 40.05 173 P P 06 49 40.5 -1.6
FITZ Fitzroy Crossi 40.05 173 P P 06 49 40.5 -1.6
comp=Z,2.7nm,0.7s,baz=11,slow=11,SNR=7.4
YAK Yakutsk 40.59 7 *e*P P 06 49 52.9 +6.8
YAK pmax pmax
comp=Z,16nm,0.9s
KSH Kashi 41.76 305 P P 06 50 00.8 +4.5
KSH sP sP 06 50 07.2 -2.7
KSH PP PnPn 06 51 38.0 -0.2
KSH PcP PcP 06 51 56.2 +3.9
KSH S S 06 56 15.5 +3.9
KSH sS sS 06 56 22.0 -5.5
KSH AMB AMB

comp=Z,14nm,1.1s
KSH AMB AMB
comp=Z,48nm,3.4s
KSH LR LR
comp=Z,140nm,5.8s
KSH LR LR
comp=Z,170nm,5.6s
KSH LR LR
comp=Z,240nm,10.4s
ZAA0 Zalesovo Array 41.91 329 *e*P **P 06 49 56.7 -0.4**
ZALV Zalesovo Beam 41.91 329 P **P 06 49 56.7 -0.4**
ZALV 06 51 51.3
ZALV Zalesovo Beam 41.91 329 P **P 06 49 56.7 -0.4**
ZALV PcP **PcP 06 51 51.3 -1.0**
ZALV Zalesovo Beam 41.91 329 P **P 06 49 56.7 -0.4**
comp=Z,14nm,0.7s,baz=116,slow=7.8,SNR=56
ZALV PcP **PcP 06 51 51.3 -1.0**
comp=Z,1.0nm,0.4s,baz=94,slow=6.3,SNR=3.3
PETK Petropavlovsk- 42.05 33 P **P 06 49 57.0 -1.3**
PETK Petropavlovsk- 42.05 33 P **P 06 49 57.0 -1.3**
PETK Petropavlovsk- 42.05 33 P **P 06 49 57.0 -1.3**
comp=Z,1.2nm,0.5s,baz=232,slow=8.8,SNR=5.1
TKM2 Tokmak 2 42.81 310 *e*P **P 06 50 05.7 +0.8**
TKM2 pmax pmax
comp=Z,4.0nm,0.8s
TKM2 Tokmak 2 42.81 310 *e*P **P 06 50 05.7 +0.8**
comp=Z,3.8nm,0.8s
H11N1 WAKE ISLAND Hy 43.17 84 T T 07 36 04.0
baz=285,slow=0.7,SNR=38
H11N2 WAKE ISLAND Hy 43.17 84 T T 07 36 01.4
baz=285,slow=0.7,SNR=60
NVS Novosibirsk 43.18 329 *e*P **P 06 50 05.4 -2.0**
NVS pmax pmax
comp=Z,17nm,1.1s
NVS pmax pmax
comp=N,10.0nm,1.2s
NVS pmax pmax
comp=E,11nm,1.3s
H11N3 WAKE ISLAND Hy 43.19 84 T T 07 36 05.2
baz=285,slow=0.7,SNR=48
H11S3 WAKE ISLAND Hy 43.23 86 T T 07 36 05.9
baz=286,slow=0.7,SNR=108
H11S1 WAKE ISLAND Hy 43.24 86 T T 07 36 06.5
baz=286,slow=0.7,SNR=70
H11S2 WAKE ISLAND Hy 43.25 86 T T 07 36 07.4
baz=286,slow=0.7,SNR=40
AAK Ala-Archa 43.52 309 *e*P **P 06 50 07.9 -2.7**
KURK Kurchatov 43.55 322 *e*P **P 06 50 10.4 0.0**
KURK pmax pmax
comp=Z,4.0nm,0.7s
KURK Kurchatov 43.55 322 *e*P **P 06 50 10.4 0.0**
comp=Z,3.5nm,0.7s
KURBB Kurchatov Arra 43.56 322 P **P 06 50 10.7 +0.2**
comp=Z,9.6nm,0.8s,baz=124,slow=7.3,SNR=65
WRAB Tennant Creek 43.68 161 *e*P **P 06 50 10.7 -1.1**
WRAB pmax pmax
comp=Z,74nm,1.4s
WRAB Tennant Creek 43.68 161 *e*P **P 06 50 10.7 -1.1**
comp=Z,74nm,1.4s
WRA Warramunga Arr 43.69 161 P **P 06 50 10.8 -1.1**
WRA S **S 06 56 35.3 -4.6**
WRA Warramunga Arr 43.69 161 P **P 06 50 10.8 -1.1**
comp=Z,20nm,0.8s,baz=344,slow=8.8,SNR=77
WRA S **S 06 56 35.3 -4.6**
comp=Z,6.2nm,1.3s,baz=347,slow=14,SNR=8.4
KK31 Karatay Array 46.49 309 *i*P **P 06 50 34.6 +0.6**
KK31 pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 46.49 309 *e*P **P 06 50 34.7 +0.7**
KKAR *e* 06 52 21.6
KKAR pmax pmax
comp=Z,11nm,1.2s
KKAR Karatay Array 46.49 309 *e*P **P 06 50 34.7 +0.7**
comp=Z,11nm,1.2s
KKAR *e*PP **PP 06 52 21.6 -1.9**
KBL Kabul 46.72 297 *e*P **P 06 50 37.3 +1.1**
KBL pmax pmax
comp=Z,5.0nm,0.4s
KBL Kabul 46.72 297 *e*P **P 06 50 37.3 +1.1**
comp=Z,5.0nm,0.4s
AS31 Alice Springs 47.09 163 *e*P **P 06 50 38.8 -0.1**
ASAR Alice Springs 47.09 163 P **P 06 50 38.2 -0.6**
ASAR ScP **ScP 06 56 02.6 +0.7**
ASAR S **S 06 57 31.4 +2.4**
ASAR Alice Springs 47.09 163 P **P 06 50 38.2 -0.6**
comp=Z,8.4nm,0.8s,baz=339,slow=6.5,SNR=48
ASAR ScP **ScP 06 56 02.6 +0.7**
comp=Z,0.5nm,0.8s,baz=352,slow=3.2,SNR=3.9
ASAR S **S 06 57 31.4 +2.4**
comp=Z,1.0nm,1.0s,baz=353,slow=22,SNR=5.4
CTA Charters Tower 48.66 147 P **P 06 50 51.0 0.0**
CTA Charters Tower 48.66 147 P **P 06 50 51.0 0.0**
comp=Z,3.5nm,0.7s,baz=324,slow=8.0,SNR=5.4
VOSK Vostochnaya 48.70 322 P **P 06 50 50.4 -0.6**
VOSK pmax pmax
comp=Z,5.0nm,0.7s
BVA0 Borovoye Array 49.14 322 P **P 06 50 54.0 -0.4**
BVA0 pmax pmax
comp=Z,9.0nm,0.8s
BVAR Borovoye Array 49.14 322 P **P 06 50 54.6 +0.3**
BVAR 06 52 17.2
BVAR Borovoye Array 49.14 322 P **P 06 50 54.6 +0.3**
BVAR PcP **PcP 06 52 17.2 -0.2**
BVAR Borovoye Array 49.14 322 P **P 06 50 54.6 +0.3**
comp=Z,7.4nm,0.5s,baz=106,slow=8.2,SNR=31
BVAR PcP **PcP 06 52 17.2 -0.2**
comp=Z,1.7nm,0.6s,baz=113,slow=3.5,SNR=3.6
BRVK Borovoye 49.21 322 *e*P **P 06 50 55.1 +0.2**
BRVK pmax pmax
comp=Z,9.0nm,0.6s
BRVK Borovoye 49.21 322 *e*P **P 06 50 55.1 +0.2**
comp=Z,8.8nm,0.6s
TIXI Tiksi 50.00 3 *e*P **P 06 51 00.2 -0.4**
AB31 Akbulak array 54.70 316 *e*P **P 06 51 35.6 -0.2**
AB31 pmax pmax
comp=Z,3.0nm,0.8s
ABKAR Akbulak array 54.70 316 *e*P **P 06 51 35.4 -0.4**
comp=Z,2.8nm,0.7s
SVE Sverdlovsk 55.60 325⇓ *e*P **P 06 51 43.0 +0.8**
SVE pmax pmax
comp=Z,29nm,1.3s
AKTO Aktyubinsk 56.07 317 P **P 06 51 43.4 -2.3**
AKTO pmax pmax
comp=Z,7.0nm,1.2s
ARU Arti 56.64 324 *d i*P **P 06 51 49.4 -0.2**
ARU 06 53 50.0
ARU S **S 06 59 41.5 +2.0**
ARU SS **SS 07 03 29.4 +2.3**
ARU pmax pmax
comp=Z,10.0nm,1.0s
STKA Stephens Creek 57.11 159 P **P 06 51 52.6 -0.6**
STKA Stephens Creek 57.11 159 P **P 06 51 52.6 -0.6**
comp=Z,13nm,1.1s,baz=351,slow=8.5,SNR=10
IANJ Anjilo 59.09 299 *e*P **P 06 52 07.9 +0.4**
ISHM Shahmirzad 59.55 300 *e*P P 06 52 18.6 +7.8
IRAZ Razeghan 62.32 299 *e*P **P 06 52 29.0 -0.5**
ZEI Tsey 65.93 308 *e*P **P 06 52 52.5 -0.6**
ZEI pmax pmax
comp=Z,13nm,0.9s
KIV Kislovodsk 66.64 310 *d i*P **P 06 52 56.0 -1.4**
KIV *e* 06 53 09.1
KIV pmax pmax
comp=Z,36nm,1.2s
KLMR Klimovskoe 66.83 328 *e*P **P 06 52 56.5 -1.7**
KLMR pmax pmax
comp=Z,30nm,1.6s
TMCR Tamitsa 67.31 332 *e*P P 06 52 54.7 -6.5
TMCR pmax pmax
comp=Z,31nm,1.0s
OBN Obninsk 68.99 322⇑ *e*P **P 06 53 10.0 -1.8**
OBN *e* 06 53 23.4
OBN pmax pmax
comp=Z,12nm,1.1s
ANN Anapa 70.21 311 *e*P **P 06 53 18.0 -1.6**
ANN *e*S **S 07 02 30.6 +1.6**
ANN *e*SS **SS 07 07 01.6 +2.6**
ANN pmax pmax
comp=Z,40nm,1.2s
ANN MLR MLR
comp=Z,113nm,17.0s
JOF Joensuu 70.45 331 *ep* **P 06 53 20.9 +0.2**
comp=Z,4.3nm,0.5s
ARCES ARCESS Array B 71.47 338 P **P 06 53 27.1 +0.3**
ARCES ARCESS Array B 71.47 338 P **P 06 53 27.1 +0.3**
comp=Z,3.2nm,0.8s,baz=57,slow=6.6,SNR=3.7

ILAR Eielson Array 71.47 27 P **P 06 53 24.8 -2.1**
ILAR Eielson Array 71.47 27 P **P 06 53 24.8 -2.1**
comp=Z,0.7nm,0.5s,baz=275,slow=4.8,SNR=13
SPITS Spitsbergen Ar 71.60 348 P **P 06 53 27.9 +0.4**
SPITS Spitsbergen Ar 71.60 348 P **P 06 53 27.9 +0.4**
comp=Z,3.3nm,0.6s,baz=96,slow=8.5,SNR=7.6
PAX Paxson 72.48 29 *e*P **P 06 53 32.7 -0.4**
PAX Paxson 72.48 29 *e*P **P 06 53 32.7 -0.4**
FINES FINESS Array B 73.16 330 P **P 06 53 36.4 -0.6**
FINES FINESS Array B 73.16 330 P **P 06 53 36.4 -0.6**
comp=Z,3.1nm,0.7s,baz=51,slow=7.1,SNR=18
VSU Vasula 73.61 327 *e*P **P 06 53 38.9 -0.8**
BR131 Keskin Array S 74.13 307 *e*P **P 06 53 43.4 0.0**
comp=Z,3.5nm,0.9s
BRTR Keskin Array B 74.13 307 P **P 06 53 43.6 +0.3**
BRTR Keskin Array B 74.13 307 P **P 06 53 43.6 +0.3**
comp=Z,2.8nm,0.7s,baz=111,slow=7.0,SNR=16
AKASG Malin Array Be 74.24 319 P **P 06 53 42.8 -0.8**
AKASG Malin Array Be 74.24 319 P **P 06 53 42.8 -0.8**
AKASG Malin Array Be 74.24 319 P **P 06 53 42.8 -0.8**
comp=Z,2.2nm,0.8s,baz=63,slow=5.2,SNR=13
KIEV Kiev 74.25 319 *e*P **P 06 53 42.5 -1.1**
KIEV pmax pmax
comp=Z,4.0nm,1.0s
KIEV Kiev 74.25 319 *e*P **P 06 53 42.5 -1.1**
comp=Z,3.7nm,1.0s
SUW Suwalki 76.81 323 *e*P **P 06 53 57.7 -0.5**
SUW pmax pmax
comp=Z,40nm,1.0s
SUW Suwalki 76.81 323 *e*P **P 06 53 57.7 -0.5**
comp=Z,40nm,1.0s
SUW Suwalki 76.81 323 *e*P **P 06 53 57.8 -0.5**
BUR08 Bucovina Ar. S 77.66 316 *e*P **P 06 54 02.7 -0.6**
BUR08 *e*PcP **pP 06 54 16.1 +2.5**
BEL Belsk 78.92 321 *e*P **P 06 54 11.3 +1.3**
STHS Stebnicka Huta 79.53 319 *e*P **P 06 54 13.4 0.0**
NB2 NORSAR Subarra 80.00 332 P **P 06 54 15.2 -0.6**
comp=Z,3.9nm,0.7s,baz=63,slow=5.6
NOA NORSAR Array B 80.00 332 P **P 06 54 15.2 -0.6**
NOA NORSAR Array B 80.00 332 P **P 06 54 15.2 -0.6**
comp=Z,3.2nm,0.7s,baz=62,slow=5.2,SNR=10
OKC Ostrava-Krasne 81.23 320 *e*P **P 06 54 24.9 +2.4**
OKC *ex* x 06 54 35.4
KSP Ksiaz 81.90 322 *e*P **P 06 54 26.8 +0.7**
DPC Dobruska-Polom 82.09 321 *e*P **P 06 54 27.2 0.0**
DPC *ex* x 06 54 40.3
BRG Berggiesshubel 83.23 322 *e*P **P 06 54 33.6 +0.6**
comp=Z,7.6nm,1.2s
PRU Pruhonice 83.28 321 *e*P **P 06 54 33.8 +0.5**
PRU *ex* x 06 54 46.5
CLL Collm 83.57 323⇓ *i*P **P 06 54 34.3 -0.4**
CLL pmax pmax
comp=Z,3.0nm,1.0s
CLL Collm 83.57 323⇓ *i*P **P 06 54 34.3 -0.4**
comp=Z,11nm,1.0s
CLL *i* 06 54 47.6
comp=Z,11nm,1.1s
KHC Kasperske Hory 84.23 321 *e*P **P 06 54 38.2 0.0**
KHC pmax pmax
comp=Z,8.0nm,1.3s
KHC Kasperske Hory 84.23 321 *e*P **P 06 54 38.0 -0.2**
KHC *ex* x 06 54 51.3
KHC Kasperske Hory 84.23 321 *e*P **P 06 54 38.2 0.0**
comp=Z,7.7nm,1.3s
KMBO Kilima Mbogo 84.28 266 P **P 06 54 40.6 +1.3**
KMBO Kilima Mbogo 84.28 266 P **P 06 54 40.6 +1.3**
comp=Z,5.0nm,0.9s,baz=41,slow=8.6,SNR=10
GERES GERESS Array B 84.28 321 P **P 06 54 38.6 0.0**
GERES GERESS Array B 84.28 321 P **P 06 54 38.6 0.0**
comp=Z,3.6nm,0.8s,baz=67,slow=4.8,SNR=15
GERES LR LR 07 33 00.1
comp=Z,108nm,18.3s,baz=340,slow=36
MOA Molln 84.39 320⇑ *i*P **P 06 54 39.4 +0.4**
comp=Z,8.4nm,1.0s
SUMG Summit 84.71 354 *i*P **P 06 54 40.4 -0.2**
SUMG *i* 06 54 52.0
SUMG pmax pmax
comp=Z,10.0nm,0.9s
SUMG Summit 84.71 354 *i*P **P 06 54 40.4 -0.2**
comp=Z,9.9nm,0.9s
SUMG *i* 06 54 52.0
SUMG Summit 84.71 354 *e*P **P 06 54 40.7 0.0**
comp=Z,13nm,1.0s
YKA Yellowknife Ar 85.27 23 P **P 06 54 41.9 -1.2**
YKA Yellowknife Ar 85.27 23 P **P 06 54 41.9 -1.2**
comp=Z,2.2nm,0.8s,baz=302,slow=5.5,SNR=5.8
GRF Grafenberg Arr 85.33 322 *e*P **P 06 54 44.1 +0.4**
GRF *e**PP **pP 06 54 57.4 +3.3**
GRF pmax pmax
comp=Z,3.0nm,0.7s
GRF Grafenberg Arr 85.33 322 *e*P **P 06 54 44.1 +0.4**
comp=Z,3.0nm,0.7s
GRF *e*pP **pP 06 54 57.4 +3.3**
CDF Champ du Feu 88.22 322 *e*P **P 06 54 56.3 -1.6**
CDF Champ du Feu 88.22 322 *e*P **P 06 54 56.3 -1.6**
CDF Champ du Feu 88.22 322 *e*P **P 06 54 56.3 -1.6**
HAU Haudompre 88.96 322 *e*P **P 06 54 59.5 -1.8**
HAU Haudompre 88.96 322 *e*P **P 06 54 59.5 -1.8**
HAU Haudompre 88.96 322 *e*P **P 06 54 59.5 -1.8**
LPG La Plagne 90.05 320 *e*P **P 06 55 05.8 -1.0**
comp=Z,15nm,1.0s
LPG La Plagne 90.05 320 *e*P **P 06 55 05.8 -1.0**
LPG pmax pmax
comp=Z,15nm,1.0s
LPG La Plagne 90.05 320 *e*P **P 06 55 05.8 -1.0**
comp=Z,15nm,1.0s
LPL La Plagne 90.06 320 *e*P **P 06 55 05.6 -1.2**
comp=Z,36nm,1.3s
LPL La Plagne 90.06 320 *e*P **P 06 55 05.6 -1.2**
LPL pmax pmax
comp=Z,36nm,1.3s
LPL La Plagne 90.06 320 *e*P **P 06 55 05.6 -1.2**
comp=Z,36nm,1.3s
MBDF Montbardon 90.45 319 *e*P **P 06 55 09.6 +1.1**
comp=Z,13nm,1.0s
MBDF Montbardon 90.45 319 *e*P **P 06 55 09.6 +1.1**
MBDF pmax pmax
comp=Z,13nm,1.0s
MBDF Montbardon 90.45 319 *e*P **P 06 55 09.6 +1.1**
comp=Z,13nm,1.0s
SBF Sospel 90.50 318 *e*P **P 06 55 07.1 -1.6**
comp=Z,17nm,0.7s
SBF Sospel 90.50 318 *e*P **P 06 55 07.1 -1.6**
SBF pmax pmax
comp=Z,17nm,0.7s
SBF Sospel 90.50 318 *e*P **P 06 55 07.1 -1.6**
comp=Z,17nm,0.7s
LOR Lormes 90.77 323 *e*P **P 06 55 08.0 -1.8**
comp=Z,11nm,1.1s
LOR Lormes 90.77 323 *e*P **P 06 55 08.0 -1.8**
comp=Z,11nm,1.1s
SSF Saint Saulge 91.09 323 *e*P **P 06 55 09.6 -1.6**
SSF Saint Saulge 91.09 323 *e*P **P 06 55 09.6 -1.6**
SSF Saint Saulge 91.09 323 *e*P **P 06 55 09.6 -1.6**
SMF Signal de Mont 91.13 322 *e*P **P 06 55 09.8 -1.7**
comp=Z,28nm,1.4s
SMF Signal de Mont 91.13 322 *e*P **P 06 55 09.8 -1.7**
SMF pmax pmax
comp=Z,28nm,1.4s
SMF Signal de Mont 91.13 322 *e*P **P 06 55 09.8 -1.7**
comp=Z,28nm,1.4s
AVF Avril sur Loir 91.33 322 *e*P **P 06 55 10.7 -1.6**
comp=Z,10nm,0.9s
AVF Avril sur Loir 91.33 322 *e*P **P 06 55 10.7 -1.6**
AVF pmax pmax
comp=Z,10.0nm,0.9s
AVF Avril sur Loir 91.33 322 *e*P **P 06 55 10.7 -1.6**
comp=Z,10nm,0.9s
SMRF Simiane la Rot 91.58 319 *e*P **P 06 55 11.0 -2.6**
SMRF Simiane la Rot 91.58 319 *e*P **P 06 55 11.0 -2.6**
TCF Toulx Ste Croi 92.26 322 *e*P **P 06 55 15.4 -1.3**
comp=Z,12nm,1.1s
TCF Toulx Ste Croi 92.26 322 *e*P **P 06 55 15.4 -1.3**
TCF pmax pmax
comp=Z,12nm,1.1s
TCF Toulx Ste Croi 92.26 322 *e*P **P 06 55 15.4 -1.3**
comp=Z,12nm,1.1s
NEW Newport 93.17 34 P **P 06 55 21.1 +0.2**
NEW Newport 93.17 34 P **P 06 55 21.1 +0.2**
comp=Z,1.7nm,0.9s,baz=90,slow=2.0,SNR=3.3
NVAR Mina Array Bea 98.44 43 P **P 06 55 44.4 -0.9**
NVAR Mina Array Bea 98.44 43 P **P 06 55 44.4 -0.9**
comp=Z,0.2nm,0.5s,baz=302,slow=5.2,SNR=2.7
TORD Torodi Ar. Bea 110.73 294 PKiKP **PKiKP 07 00 38.1 -2.1**
TORD Torodi Ar. Bea 110.73 294 PKiKP **PKiKP 07 00 38.1 -2.1**
comp=Z,0.9nm,1.0s,baz=39,slow=2.8,SNR=3.9
TXAR Lajitas Array 113.56 42 PKiKP **PKiKP 07 00 44.2 -1.2**
TXAR Lajitas Array 113.56 42 PKiKP **PKiKP 07 00 44.2 -1.2**
comp=Z,0.5nm,0.8s,baz=204,slow=2.0,SNR=5.9
DBIC Dimbokro 119.53 292 PKP **PKPdf 07 00 54.5 -2.6**
DBIC Dimbokro 119.53 292 PKP **PKPdf 07 00 54.6 -2.6**
comp=Z,4.5nm,0.9s,baz=134,slow=2.2,SNR=3.8
SDV Santo Domingo 147.47 21 *e*PKPdf **PKPdf 07 01 48.9 -0.2**
SDV *e*PKPbc **PKPbc 07 01 51.4 -0.2**
ROSC El Rosal 149.64 31 *e*PKPdf **PKPdf 07 01 52.6 -0.4**
ROSC *e*PKPbc **PKiKP 07 01 58.5 -0.1**
LPAZ La Paz 170.01 58 PKP **PKPdf 07 02 15.9 +0.1**
LPAZ *e*PKPdf PKPdf 07 02 16.0 +0.1
LPAZ La Paz 170.01 58 PKP **PKPdf 07 02 15.9 +0.1**
comp=Z,3.0nm,1.1s,baz=8.4,slow=3.4,SNR=5.8

MAN 11 06:52:26,13°.46N×120°.07E,h10km,mb4.4,ML3.3,MS3.1, 1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.32**	**33**	*e*P	Pg	06 52 33.1	+0.7
TGY	**Tagaytay City**	**1.06**	**53**⇑	*i*P	Pg	06 52 46.0	-0.5
SJMP	**San Jose**	**1.43**	**134**	*e*P	Pn	06 52 51.7	-0.3
BUSP	**Coron**	**1.45**	**175**	*e*P	Pn	06 52 52.2	-0.1
BUSP				*e*S	Sn	06 53 10.5	-1.0
BOAC	**Boac**	**1.73**	**90**	*e*P	Pn	06 52 49.3	-6.9
OTRP	**Odiongan**	**2.20**	**120**	*e*P	Pb	06 53 05.4	-0.5
ENPP	**El Nido**	**2.33**	**196**	*e*P	Pn	06 53 04.7	+0.3
CUYO	**Cuyo Island**	**2.76**	**160**	*e*P	Pn	06 53 09.9	-0.4

JMA 11 06:54:05.6±0.3,43°.76N×147°.84E,h31km,M3.7,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.57**	**256**	P	Pn	06 54 32.5	+1.1
NEM2				*e*S	Sn	06 54 52.1	+1.4
JRA	**Rausu**	**1.97**	**276**	P	Pn	06 54 38.1	+1.2
JRA				*e*S	Sb	06 55 02.8	-2.2
JAK	**Akkeshi**	**2.42**	**253**	P	Pn	06 54 44.4	+1.5
JAK				*e*S	Sn	06 55 12.9	+1.5
JTKR	**Abashiri--Toko**	**2.85**	**276**	P	Pn	06 54 51.2	+2.3
JAR	**Ashorobuto**	**3.00**	**263**	P	Pn	06 54 52.7	+1.8
JOB	**Onbets**	**3.04**	**255**	P	Pn	06 54 52.8	+1.2
JMP	**Maruseppu**	**3.25**	**276**	P	Pn	06 54 56.9	+2.5
JCH	**Churui**	**3.47**	**252**	P	Pn	06 54 59.5	+2.1
JCH				*e*S	Sn	06 55 40.1	+2.7
JNBK	**Urakawa-nobuka**	**4.01**	**250**	P	Pn	06 55 07.1	+2.2

IDC 11 06:54:42.1±5.5,13°.33S×168°.20E,h0km,mb3.7/3, mb1 3.8/3,mb1mx3.6/17,mbtmp3.6/3,Error ellipse: s-maj=242.2km s-min=40.7km az=139.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**34.03**	**247**	P	P	07 01 28.1	-0.1
	0.3nm,0.6s,baz=74,slow=9.1,SNR=4.3						
ILAR	**Eielson Array**	**84.92**	**18**	P	P	07 07 18.6	0.0
	0.2nm,0.6s,baz=232,slow=5.4,SNR=6.5						
MKAR	**Makanchi Array**	**96.82**	**316**	P	P	07 08 15.0	-0.1
	0.4nm,0.7s,baz=99,slow=6.3,SNR=3.5						

IDC 11 07:08:57.4±2.1,14°.56S×172°.47W,h0km,mb3.6/4, mb1 3.9/4,mb1mx3.7/20,mbtmp3.6/4,Error ellipse: s-maj=110.0km s-min=15.8km az=145.0,Samoa Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**0.93**	**46**	Pn	Pn	07 09 17.3	-0.6
	82nm,0.3s,baz=202,slow=19,SNR=56						
AFI				Sn	Sn	07 09 31.8	-0.3
	122nm,0.3s,baz=222,slow=15,SNR=14						
WRA	**Warramunga Arr**	**50.91**	**256**	P	P	07 18 00.5	-0.4
	0.2nm,0.5s,baz=92,slow=6.8,SNR=7.3						
ASAR	**Alice Springs**	**51.23**	**251**	P	P	07 18 02.7	-0.5
	1.4nm,0.5s,baz=88,slow=7.7,SNR=35						
NVAR	**Mina Array Bea**	**73.11**	**42**	P	P	07 20 30.9	+0.8
	0.4nm,0.7s,baz=233,slow=8.9,SNR=3.8						
ILAR	**Eielson Array**	**81.45**	**11**	P	P	07 21 16.6	+0.5
	0.3nm,0.8s,baz=228,slow=6.6,SNR=3.9						

CSEM ***11*** *07:12:44.5±0.1,77°.55N×8°.87E,h8km,ML2.4,Error ellipse: s-maj=2.6km s-min=1.6km az=87.0*
NAO ***11*** *07:12:44.4±4.3,77°.59N×8°.41E,ML2.8*
BER ***11*** *07:12:46.0±3.4,77°.58N×8°.41E,h12km±23km,MD2.2, ML2.4,ML2.8(NAO)*

ISC 11 07:12:43.4±2.3,77°.64N±0°.08×8°.5E±0°.1,h10km,n10, σ0°.58/12,Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.47**	**27**	*e*P	**Pg**	**07 13 12.0**	**+0.5**
KBS				*e*S	**Sn**	**07 13 28.4**	**-0.7**
KBS				AML	AML	07 13 34.7	
	comp=Z,80nm,0.4s						
KBS	**Kingsbay**	**1.47**	**27**	*e*P	**Pg**	**07 13 12.0**	**+0.5**
	SNR=55						
KBS				*e*S	**Sn**	**07 13 28.4**	**-0.7**
	comp=Z,80nm,0.4s,SNR=55						
SPA0	**Spitsbergen Ar**	**1.74**	**68**	Pg	**Pg**	**07 13 17.3**	**+0.6**
	baz=243,slow=16						
SPA0				Lg	Lg	07 13 40.5	
	baz=249,slow=18						
SPA0	**Spitsbergen Ar**	**1.74**	**68**	Pg	**Pg**	**07 13 17.3**	**+0.6**
	baz=243,slow=16						
SPA0				Lg	Lg	07 13 40.5	
	baz=249,slow=18						
SPA0	**Spitsbergen Ar**	**1.74**	**68**	Pg	**Pg**	**07 13 17.3**	**+0.6**
	SNR=801						
SPA0				Lg	Lg	07 13 40.5	
	SNR=9.6						
HOPEN	**Hopen**	**3.87**	**99**	*e*S	**Sn**	**07 14 27.6**	**-0.6**
HOPEN	**Hopen**	**3.87**	**99**	*e*S	**Sn**	**07 14 27.6**	**-0.6**
	SNR=53						
ARA0	**ARCESS Array S**	**9.39**	**141**	Pn	**Pn**	**07 14 58.5**	**-0.1**
	baz=328,slow=12						
ARA0	**ARCESS Array S**	**9.39**	**141**	Pn	**Pn**	**07 14 58.5**	**-0.1**
	baz=328,slow=12						
ARA0	**ARCESS Array S**	**9.39**	**141**	Pn	**Pn**	**07 14 58.5**	**-0.1**
	SNR=4.4						

ISCJB ***11*** *07:12:58.0±1.2,77°.0N±0°.2×6°.9E±0°.6,h10km,mb3.4/3, Error ellipse: s-maj=34.4km s-min=13.5km az=26.6*
IDC ***11*** *07:12:58.5±1.4,77°.24N×7°.06E,h0km,mb3.4/3,mb1 3.7/5, mb1mx3.4/26,mbtmp3.5/5,ML2.8/2,Error ellipse: s-maj=40.8km s-min=22.5km az=38.0*

ISC 11 07:12:60.0±1.2,77°.1N±0°.2×7°.1E±0°.1,h10km,n6,σ1s50/6, mb3.7/3,Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARCES	**ARCESS Array B**	**9.21**	**136**	Pn	**Pn**	**07 15 11.9**	**-0.7**
	0.2nm,0.3s,baz=340,slow=14,SNR=5.3						
SUMG	**Summit**	**12.43**	**272**	*i*P	**Pn**	**07 15 57.0**	**0.0**
SUMG				*e*S	Sn	07 17 59.2	-17
FINES	**FINESS Array B**	**16.95**	**148**	P	**Pn**	**07 16 55.2**	**-1.6**
	0.1nm,0.3s,baz=348,slow=20,SNR=3.3						
MKAR	**Makanchi Array**	**41.62**	**91**	P	**P**	**07 20 48.3**	**+0.6**
	0.3nm,0.6s,baz=352,slow=8.7,SNR=2.9						
TORD	**Torodi Ar. Bea**	**64.04**	**186**	P	**P**	**07 23 35.1**	**+1.6**
	0.5nm,0.8s,baz=353,slow=6.5,SNR=3.2						
TXAR	**Lajitas Array**	**66.08**	**297**	P	**P**	**07 23 45.9**	**-0.9**
	0.4nm,0.8s,baz=34,slow=4.7,SNR=3.4						

ISCJB ***11*** *07:21:20.8±0.4,25°.55N±0°.05×141°.26E±0°.07,h10km, mb4.3/32,MS3.2/1,Error ellipse: s-maj=10.1km s-min=5.8km az=38.1*
IDC ***11*** *07:21:20.5±0.5,25°.59N×141°.04E,h0km,mb4.3/21, mb1 4.5/22,mb1mx4.4/26,mbtmp4.3/22,ML2.7/1,MS3.4/2, Ms1 3.4/2,ms1mx2.9/30,Error ellipse: s-maj=18.5km s-min=13.9km az=95.0*
BJI ***11*** *07:21:23.0,25°.50N×141°.50E,h34km,mB5.3/4,mb4.7/11*
NEIC ***11*** *07:21:26.0±0.4,25°.58N×141°.13E,h35km,mb4.7/7,Error ellipse: s-maj=11.9km s-min=10.1km az=97.0*

ISC 11 07:21:22.2±0.5,**25°55N**±0'08×**141°27E**±0'09,**h10**km,**n89**, σ1°**31**/76,**mb4.3**/31,**Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.74**	**28**	Pn **Pn**	**07 21 52.0**	**-0.6**
CBIJ				Sn **Sn**	**07 22 14.0**	**-0.8**
JCJ	**Chichijima**	**1.74**	**28**	Pn **Pn**	**07 21 52.0**	**-0.6**
	330nm,0.3s,baz=255,slow=1.9,SNR=114					
JCJ				Sn **Sn**	**07 22 14.0**	**-0.8**
	132nm,0.3s,baz=292,slow=21,SNR=5.6					
KSRS	**Korea Array**	**16.42**	**319**	Pn **P**	**07 25 18.2**	**+2.7**
	0.9nm,0.3s,baz=133,slow=11,SNR=50					
KSRS				LR LR	07 31 04.5	
	comp=Z,15nm,28.6s,baz=335,slow=36					
KSAR	**Wonju Array Be**	**16.43**	**319**	Pn **P**	**07 25 18.2**	**+2.5**
USRK	**Ussuriysk Arra**	**20.07**	**340**	P **P**	**07 25 56.2**	**+0.5**
	0.2nm,0.3s,baz=172,slow=12,SNR=4.3					
H11N2	**WAKE ISLAND Hy**	**24.33**	**99**	T T	07 51 54.9	
	baz=291,slow=0.7,SNR=104					
H11N1	**WAKE ISLAND Hy**	**24.33**	**99**	T T	07 51 55.0	
	baz=291,slow=0.7,SNR=75					
H11N3	**WAKE ISLAND Hy**	**24.35**	**99**	T T	07 51 56.1	
	baz=291,slow=0.7,SNR=60					
H11S3	**WAKE ISLAND Hy**	**24.56**	**102**	T T	07 52 13.1	
	baz=294,slow=0.7,SNR=262					
H11S1	**WAKE ISLAND Hy**	**24.57**	**101**	T T	07 52 12.8	
	baz=294,slow=0.7,SNR=307					
H11S2	**WAKE ISLAND Hy**	**24.58**	**101**	T T	07 52 11.8	
	baz=294,slow=0.7,SNR=301					
PETK	**Petropavlovsk-**	**30.16**	**20**	P **P**	**07 27 34.5**	**+2.2**
PETK	**Petropavlovsk-**	**30.16**	**20**	P **P**	**07 27 34.5**	**+2.2**
	1.9nm,0.7s,baz=169,slow=8.4,SNR=3.3					
SONM	**Songino Array**	**35.28**	**318**	P **P**	**07 28 17.2**	**-0.1**
SONM	**Songino Array**	**35.28**	**318**	P **P**	**07 28 17.2**	**-0.1**
	2.9nm,0.6s,baz=131,slow=8.7,SNR=14					
GTA	**Gaotai**	**37.27**	**302**	*eP* **P**	**07 28 35.9**	**+1.4**
GTA				pP pP	07 28 45.6	+8.0
GTA				sP sP	07 28 50.6	+12
GTA				AMB AMB		
	comp=Z,5.0nm,1.3s					
CMAR	**Chiang Mai Arr**	**39.74**	**268**	P **P**	**07 28 54.9**	**-0.5**
CMAR	**Chiang Mai Arr**	**39.74**	**268**	P **P**	**07 28 54.8**	**-0.5**
	1.1nm,0.5s,baz=66,slow=7.8,SNR=1.7					
WRAB	**Tennant Creek**	**45.71**	**189**	*eP* **P**	**07 29 43.5**	**-0.1**
	33nm,1.0s					
WRA	**Warramunga Arr**	**45.72**	**189**	P **P**	**07 29 43.5**	**-0.2**
WRA	**Warramunga Arr**	**45.72**	**189**	P **P**	**07 29 43.5**	**-0.2**
	20nm,0.8s,baz=9.7,slow=8.6,SNR=82					
TAPN	**Taplejung**	**47.68**	**285**	*eP* **P**	**07 30 00.8**	**+1.3**
	43nm,1.2s					
ODAN	**Odare**	**48.05**	**284**	*eP* **P**	**07 30 03.4**	**+1.1**
	43nm,1.1s					
RAMN	**Ramite**	**48.72**	**284**	*eP* **P**	**07 30 08.7**	**+1.2**
	19nm,1.0s					
JIRN	**Jiri**	**48.95**	**285**	*eP* **P**	**07 30 11.4**	**+2.0**
	35nm,0.5s					
GUN	**Gumba**	**49.17**	**286**	*eP* **P**	**07 30 12.7**	**+1.7**
	240nm,1.7s					
ASAR	**Alice Springs**	**49.45**	**189**	P **P**	**07 30 12.8**	**+0.1**
ASAR	**Alice Springs**	**49.45**	**189**	P **P**	**07 30 12.8**	**+0.1**
	2.0nm,0.9s,baz=7.8,slow=11,SNR=11					
PKI	**Pulchoki**	**49.64**	**285**	*eP* **P**	**07 30 15.7**	**+1.1**
	10nm,0.7s					
DMN	**Daman**	**49.90**	**286**	*eP* **P**	**07 30 18.0**	**+1.5**
	53nm,1.4s					
GKN	**Gorkha**	**50.23**	**286**	*eP* **P**	**07 30 20.4**	**+1.5**
	9.8nm,0.3s					
MKAR	**Makanchi Array**	**50.83**	**311**	P **P**	**07 30 21.9**	**-1.1**
MKAR	**Makanchi Array**	**50.83**	**311**	P **P**	**07 30 21.9**	**-1.1**
	2.4nm,0.6s,baz=95,slow=8.9,SNR=25					
DANN	**Dangsing**	**50.92**	**287**	*eP* **P**	**07 30 26.1**	**+1.8**
	80nm,0.9s					
KOLN	**Koldanda**	**51.18**	**286**	*eP* **P**	**07 30 27.5**	**+1.4**
	16nm,0.8s					
KURK	**Kurchatov**	**53.49**	**315**	*eP* **P**	**07 30 42.4**	**-0.3**
	8.7nm,1.3s					
TKM2	**Tokmak 2**	**55.64**	**306**	*eP* **P**	**07 31 00.1**	**+1.4**
	3.0nm,0.9s					
STKA	**Stephens Creek**	**57.11**	**180**	P **P**	**07 31 09.1**	**+0.2**
STKA	**Stephens Creek**	**57.11**	**180**	P **P**	**07 31 09.1**	**+0.2**
	3.3nm,0.8s,baz=353,slow=12,SNR=6.2					
BRVK	**Borovoye**	**58.69**	**318**	*eP* **P**	**07 31 19.8**	**0.0**
	11nm,1.3s					
KKAR	**Karatay Array**	**59.33**	**306**	*eP* **P**	**07 31 24.6**	**+0.1**
	3.1nm,0.6s					
ILAR	**Eielson Array**	**59.45**	**28**	P **P**	**07 31 25.4**	**+0.4**
ILAR	**Eielson Array**	**59.45**	**28**	P **P**	**07 31 25.4**	**+0.4**
	2.5nm,0.8s,baz=259,slow=5.8,SNR=21					
KBL	**Kabul**	**61.98**	**297**	*eP* **P**	**07 31 43.3**	**+0.4**
	6.8nm,0.6s					
ABKAR	**Akbulak array**	**65.58**	**315**	*eP* **P**	**07 32 04.9**	**-1.3**
	1.2nm,0.7s					
URZ	**Urewera**	**71.83**	**151**	P **P**	**07 32 44.6**	**-0.4**
URZ	**Urewera**	**71.83**	**151**	P **P**	**07 32 44.7**	**-0.4**
	4.9nm,0.8s,baz=270,slow=3.0,SNR=2.4					
YKA	**Yellowknife Ar**	**73.88**	**28**	P **P**	**07 32 57.2**	**+0.2**
YKA	**Yellowknife Ar**	**73.88**	**28**	P **P**	**07 32 57.2**	**+0.2**
	2.9nm,0.8s,baz=296,slow=6.4,SNR=5.2					
ARCES	**ARCESS Array B**	**74.72**	**341**	P **P**	**07 33 00.3**	**-1.6**
ARCES	**ARCESS Array B**	**74.72**	**341**	P **P**	**07 33 00.3**	**-1.6**
	3.3nm,0.9s,baz=60,slow=7.2,SNR=7.4					
JOF	**Joensuu**	**76.09**	**334**	*ep* **P**	**07 33 08.9**	**-0.9**
	0.7nm,0.4s					
YBH	**Yreka Blue Hor**	**77.67**	**50**	P **P**	**07 33 20.1**	**+0.9**
YBH	**Yreka Blue Hor**	**77.67**	**50**	P **P**	**07 33 20.2**	**+0.9**
	2.2nm,0.7s,baz=14,slow=4.2,SNR=5.2					
KAF	**Kangasniemi**	**78.50**	**334**	*ep* **P**	**07 33 21.5**	**-1.8**
	1.3nm,0.5s					
NEW	**Newport**	**78.60**	**42**	P **P**	**07 33 24.6**	**+0.3**
NEW	**Newport**	**78.60**	**42**	P **P**	**07 33 24.6**	**+0.3**
	4.9nm,0.8s,baz=324,slow=4.9,SNR=7.3					
FIA1	**FINESS Array S**	**78.96**	**334**	*eP* **P**	**07 33 24.1**	**-1.8**
FINES	**FINESS Array B**	**78.96**	**334**	P **P**	**07 33 24.1**	**-1.8**
FINES	**FINESS Array B**	**78.96**	**334**	P **P**	**07 33 24.1**	**-1.8**
	3.6nm,0.5s,baz=68,slow=5.4,SNR=50					
WALA	**Waterton Lakes**	**80.15**	**40**	*eP* **P**	**07 33 34.6**	**+1.9**
	0.2nm,0.7s					
NVAR	**Mina Array Bea**	**82.12**	**51**	P **P**	**07 33 45.3**	**+1.7**
NVAR	**Mina Array Bea**	**82.12**	**51**	P **P**	**07 33 45.3**	**+1.7**
	1.2nm,0.6s,baz=289,slow=5.9,SNR=10					
AKASG	**Malin Array Be**	**83.37**	**324**	P **P**	**07 33 47.4**	**-2.1**
AKASG	**Malin Array Be**	**83.37**	**324**	P **P**	**07 33 47.4**	**-2.1**
	1.2nm,0.5s,baz=53,slow=5.0,SNR=9.1					
HFS	**Hagfors**	**84.33**	**337**	LR LR	08 13 25.1	
	comp=Z,16nm,28.6s,baz=272,slow=37					
NB2	**NORSAR Subarra**	**84.73**	**338**	P P	07 33 53.9	-2.4
	comp=Z,1.0nm,0.6s,baz=49,slow=4.6					
NOA	**NORSAR Array B**	**84.73**	**338**	P **P**	**07 33 54.1**	**-2.3**
NOA	**NORSAR Array B**	**84.73**	**338**	P **P**	**07 33 54.1**	**-2.3**
	comp=Z,1.7nm,0.6s,baz=45,slow=5.0,SNR=5.8					
PDAR	**Pinedale Array**	**85.89**	**44**	P **P**	**07 34 04.2**	**+1.4**
PDAR	**Pinedale Array**	**85.89**	**44**	P **P**	**07 34 04.2**	**+1.4**
	comp=Z,2.3nm,0.9s,baz=296,slow=4.1,SNR=11					
BRTR	**Keskin Array B**	**86.44**	**313**	P **P**	**07 34 05.7**	**+0.2**
BRTR	**Keskin Array B**	**86.44**	**313**	P **P**	**07 34 05.7**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=40,slow=2.5,SNR=2.5					
GERES	**GERESS Array B**	**92.39**	**328**	P **P**	**07 34 31.2**	**-2.1**
GERES	**GERESS Array B**	**92.39**	**328**	P **P**	**07 34 31.2**	**-2.1**
	comp=Z,0.5nm,0.7s,baz=23,slow=7.2,SNR=3.8					
H06N1	**SOCORRO T-PHAS**	**97.06**	**65**	T T	09 23 04.3	
	SNR=8.5					
H06E1	**SOCORRO T-PHAS**	**97.15**	**65**	T T	09 23 04.9	
TXAR	**Lajitas Array**	**97.18**	**53**	P Pdif	07 34 57.1	+1.4
TXAR	**Lajitas Array**	**97.18**	**53**	P Pdif	07 34 57.1	+1.4
	comp=Z,0.4nm,0.8s,baz=306,slow=3.2,SNR=2.9					
TORD	**Torodi Ar. Bea**	**124.95**	**310**	PKP **PKPdf**	**07 40 21.8**	**-1.7**
TORD	**Torodi Ar. Bea**	**124.95**	**310**	PKP **PKPdf**	**07 40 21.8**	**-1.7**
	comp=Z,0.5nm,0.8s,baz=19,slow=1.7,SNR=4.0					
H03N2	**Juan Fernandez**	**144.31**	**112**	T T	10 21 55.6	
	baz=268,slow=0.7,SNR=5.8					
H03N3	**Juan Fernandez**	**144.32**	**112**	T T	10 21 54.5	
	baz=268,slow=0.7,SNR=7.9					
H03N1	**Juan Fernandez**	**144.33**	**112**	T T	10 21 56.8	
	baz=268,slow=0.7,SNR=7.4					
PLCA	**Paso Flores**	**149.56**	**128**	PKPbc **PKPbc**	**07 41 12.3**	**+0.3**
PLCA	**Paso Flores**	**149.56**	**128**	PKPbc **PKPbc**	**07 41 12.3**	**+0.3**
	comp=Z,3.1nm,0.9s,baz=214,slow=4.6,SNR=3.4					
LPAZ	**La Paz**	**151.09**	**77**	PKPbc **PKPbc**	**07 41 17.7**	**+0.6**
LPAZ	**La Paz**	**151.09**	**77**	PKPbc **PKPbc**	**07 41 17.7**	**+0.6**
	comp=Z,2.7nm,0.8s,baz=341,slow=2.4,SNR=12					
SAML	**Samuel**	**151.49**	**59**	*e*PKPbc **PKPbc**	**07 41 16.8**	**-0.5**

*IDC **11** 07:25:15.6*±0.9,25°06N×109°65W,*h0*km,*mb4.2/9, mb1 4.4/14,mb1mx4.2/28,mbtmp4.2/14,ML4.5/2,MS3.8/14,*

Ms1 3.8/14,ms1mx3.6/38,Error ellipse: s-maj=19.9km s-min=15.9km az=80.0

*MEX **11** 07:25:17.9*±0.4,25°21N×109°81W,*h10*km,*MD4.3*

*NEIC **11** 07:25:17.8*±0.6,24°99N×109°63W,*h10*km,*mb4.3/29, Error ellipse: s-maj=7.9km s-min=5.4km az=211.0*

ISC 11 07:25:17.4±3.0,**25.06N**±0'04×**109.70W**±0'06, **h12**km±21km,**n391**,σ1°**42**/382,**mb4.3**/20,**MS3.4**/10, **141C-109D,Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
LPIG	**La Paz**	**1.10**	**210**	*eP* **Pb**	**07 25 37.2**	**-1.3**
LPIG				*i* S **Sb**	**07 25 51.1**	**-1.6**
LPIG	**La Paz**	**1.10**	**210**	Pn **Pb**	**07 25 37.2**	**-1.3**
LPIG				Sn **Sb**	**07 25 51.2**	**-1.6**
LPIG	**La Paz**	**1.10**	**210**	Pn **Pb**	**07 25 37.2**	**-1.3**
	baz=34,slow=11					
LPIG				Sn **Sb**	**07 25 51.2**	**-1.6**
	762nm,0.3s,baz=9.0,slow=19,SNR=56					
SRIG	**Santa Rosalia**	**3.21**	**315**	*i* P Pn	07 26 02.7	-5.0
SRIG				*i* S Sn	07 26 37.7	-8.1
MAIG	**Mazatlaan**	**3.52**	**121**	*eP* **Pn**	**07 26 11.9**	**-0.1**
MAIG				*i* S **Sn**	**07 26 55.0**	**+1.3**
HPIG		**4.08**	**62**	*eP* **Pn**	**07 26 18.5**	**-1.4**
HPIG				*i* S **Sn**	**07 27 06.0**	**-1.8**
HSIG		**4.10**	**344**	*i* P Pn	07 26 16.7	-3.3
HSIG				*i* S Sn	07 27 01.2	-6.7
319A	**Douglas**	**6.30**	**3**	⇑P **Pn**	**07 26 48.0**	**-2.3**
	baz=8.4,SNR=20					
320A	**Kipp Ranch, An**	**6.34**	**9**	⇑P **Pn**	**07 26 49.0**	**-1.9**
	baz=6.4,SNR=11					
626A	**Big Bend Ranch**	**6.67**	**47**	⇑P **Pn**	**07 26 53.2**	**-2.3**
	baz=6.7,SNR=22					
626A				⇑S **Sn**	**07 28 08.6**	**-2.9**
	baz=6.7					
TXAR	**Lajitas Array**	**6.85**	**50**	Pn **Pn**	**07 26 55.6**	**-2.3**
TXAR				Pg Pb	07 27 20.4	+3.8
TXAR				Sn **Sn**	**07 28 10.8**	**-5.1**
TXAR				Lg Lg	07 28 47.0	
TXAR	**Lajitas Array**	**6.85**	**50**	Pn **Pn**	**07 26 55.6**	**-2.3**
	2.0nm,0.3s,baz=227,slow=13,SNR=155					
TXAR				Pg Pb	07 27 20.4	+3.8
	1.3nm,0.3s,baz=232,slow=14,SNR=14					
TXAR				Sn **Sn**	**07 28 10.8**	**-5.1**
	9.3nm,0.3s,baz=225,slow=22,SNR=16					
TXAR				Lg Lg	07 28 47.0	
	4.2nm,0.3s,baz=232,slow=30,SNR=3.5					
220A	**Playas Peak, P**	**6.90**	**8**	⇑P **Pn**	**07 26 56.3**	**-2.2**
	baz=7.0,SNR=16					
ZAIG	**Zacatecas**	**6.91**	**108**	*eP* **Pn**	**07 27 00.6**	**+1.7**
ZAIG				*i* S **Sn**	**07 28 19.1**	**+1.4**
526A	**Mary Lane Ranc**	**7.04**	**44**	⇓P **Pn**	**07 26 58.4**	**-2.2**
	baz=7.1,SNR=13					
425A	**Indio Mountain**	**7.06**	**35**	⇓P **Pn**	**07 27 00.0**	**-0.8**
	baz=7.1,SNR=15					
627A	**Terlingua Ranc**	**7.12**	**51**	⇑P **Pn**	**07 26 59.3**	**-2.3**
	baz=7.1					
221A	**Mesquite Ranch**	**7.13**	**13**	⇑P **Pn**	**07 27 00.2**	**-1.5**
	baz=7.2,SNR=16					
TUC	**Tucson**	**7.29**	**353**	*e*Pn **Pn**	**07 27 02.0**	**-1.8**
TUC				*e*Sn **Sn**	**07 28 25.5**	**-1.1**
324A	**Moseley Ranch,**	**7.37**	**29**	⇓P **Pn**	**07 27 03.3**	**-1.7**
	baz=7.4					
222A	**Williams Famil**	**7.38**	**17**	⇑P **Pn**	**07 27 03.9**	**-1.2**
	baz=7.5					
214A	**Organ Pipe Nat**	**7.39**	**339**	⇑P **Pn**	**07 27 03.9**	**-1.4**
	baz=7.5,SNR=6.8					
527A	**Woodward Ranch**	**7.40**	**45**	⇓P **Pn**	**07 27 03.5**	**-2.0**
	baz=7.4,SNR=6.8					
527A				⇓S **Sn**	**07 28 25.1**	**-4.5**
	baz=7.4					
628A	**Black Gap, Mar**	**7.49**	**52**	⇑P **Pn**	**07 27 04.3**	**-2.3**
	baz=7.5,SNR=6.5					
628A				⇓S **Sn**	**07 28 28.8**	**-2.8**
	baz=7.5					
426A	**McDonald Obser**	**7.51**	**41**	⇓P **Pn**	**07 27 06.0**	**-1.0**
	baz=7.5,SNR=7.9					
120A	**U Bar Ranch, L**	**7.52**	**7**	⇓P **Pn**	**07 27 05.5**	**-1.6**
	baz=7.6,SNR=20					
325A	**Bean Ranch, Si**	**7.54**	**32**	⇓P **Pn**	**07 27 06.1**	**-1.4**
	baz=7.6					
MNTX	**Cornudas Mount**	**7.63**	**29**	*e*Pn **Pn**	**07 27 06.8**	**-1.6**
	12nm,0.8s					
MNTX				*e*Sn **Sn**	**07 28 38.8**	**+3.9**
121A	**Cookes Peak, D**	**7.63**	**12**	⇓P **Pn**	**07 27 06.9**	**-1.8**
	baz=7.7,SNR=66					
SPIG	**San Pedro Mart**	**7.84**	**321**	*i* P **Pn**	**07 27 09.0**	**-2.7**
224A	**Cornudas Mount**	**7.89**	**27**	⇑P **Pn**	**07 27 10.9**	**-1.3**
	baz=7.9					
528A	**Cox Ranch, San**	**7.96**	**49**	⇑P **Pn**	**07 27 11.1**	**-2.0**
	baz=8.0,SNR=7.2					
528A				⇑S **Sn**	**07 28 42.2**	**-1.0**
	baz=8.0					
427A	**Hayter Ranch,**	**8.02**	**43**	⇓P **Pn**	**07 27 12.6**	**-1.2**
	baz=8.0					
326A	**Caldwell Ranch**	**8.02**	**38**	⇑P **Pn**	**07 27 12.4**	**-1.5**
	baz=8.0					
Z20A	**Nine Sixteen R**	**8.08**	**7**	⇓P **Pn**	**07 27 13.7**	**-1.2**
	baz=8.2,SNR=23					
225A	**Deer Hill, Car**	**8.23**	**30**	⇓P **Pn**	**07 27 15.7**	**-1.1**
	baz=8.3,SNR=10					
529A	**Stev Forest Ra**	**8.33**	**51**	⇓P **Pn**	**07 27 16.5**	**-1.7**
	baz=8.3					
428A	**Kincaid Ranch,**	**8.39**	**46**	⇑P **Pn**	**07 27 18.2**	**-0.7**
	baz=8.4					
Z21A	**St. Cloud Mine**	**8.41**	**12**	⇑P **Pn**	**07 27 18.6**	**-0.7**
	baz=8.5,SNR=23					
124A	**Stringfield Ra**	**8.47**	**25**	⇓P **Pn**	**07 27 19.3**	**-1.0**
	baz=8.5,SNR=8.6					
Z22A	**Elephant Butte**	**8.51**	**16**	P **Pn**	**07 27 19.5**	**-1.2**
	baz=8.6,SNR=47					
226B	**Tecolote Peak,**	**8.52**	**34**	⇑P **Pn**	**07 27 20.1**	**-0.7**
	baz=8.6					
GDL2	**Guadalupe Moun**	**8.52**	**32**	*e*Pn **Pn**	**07 27 21.2**	**+0.4**
Z23A	**Rita Site, Whi**	**8.72**	**20**	⇓P **Pn**	**07 27 23.5**	**0.0**
	baz=8.8,SNR=18					
Z14A	**Wintersburg**	**8.74**	**342**	⇑P **Pn**	**07 27 24.0**	**+0.2**
	baz=8.9					
125A	**Gardner Draw,**	**8.77**	**29**	⇑P **Pn**	**07 27 22.8**	**-1.4**
	baz=8.8,SNR=6.3					
429A	**Davenport Ranc**	**8.86**	**50**	⇑P **Pn**	**07 27 24.3**	**-1.1**
	baz=8.9,SNR=8.3					
Y20A	**Horse Springs,**	**8.89**	**7**	⇑P **Pn**	**07 27 25.0**	**-1.0**
	baz=9.0,SNR=12					
530A	**J-C Ranch, Com**	**8.98**	**54**	⇑P **Pn**	**07 27 26.5**	**-0.6**
	baz=9.0					
Z24A	**Sheeppen Canyo**	**9.07**	**24**	⇓P **Pn**	**07 27 27.3**	**-1.1**
	baz=9.1,SNR=12					
Y21A	**Point of Rocks**	**9.09**	**11**	⇓P **Pn**	**07 27 28.3**	**-0.4**
	baz=9.2,SNR=32					
GLA	**Glamis**	**9.14**	**332**	*e*Pn **Pn**	**07 27 28.5**	**-0.7**
GLA	**Glamis**	**9.14**	**332**	⇑P **Pn**	**07 27 28.8**	**-0.5**
	baz=9.2					
Y22A	**Socorro**	**9.16**	**14**	⇓P **Pn**	**07 27 28.3**	**-1.3**
	baz=9.2,SNR=31					
631A	**Perdido Creek**	**9.20**	**60**	⇓P **Pn**	**07 27 28.8**	**-1.3**
	baz=9.2,SNR=6.5					
Z25A	**Roswell**	**9.27**	**27**	⇓P **Pn**	**07 27 30.0**	**-1.1**
	baz=9.3,SNR=6.6					
Y22D	**IRIS PASSCAL I**	**9.30**	**14**	⇓P **Pn**	**07 27 30.7**	**-0.9**
	baz=9.4					
Y14A	**Wickenburg**	**9.30**	**343**	⇑P **Pn**	**07 27 31.3**	**-0.2**
	baz=9.4,SNR=17					
LENM	**Lemitar**	**9.38**	**14**	*e*Pn **Pn**	**07 27 33.8**	**+1.1**
Y23A	**Lovelace Mesa,**	**9.39**	**19**	⇑P **Pn**	**07 27 32.0**	**-0.9**
	baz=9.5,SNR=20					
732A	**Laxson Ranch,**	**9.42**	**65**	⇓P **Pn**	**07 27 32.3**	**-0.8**
	baz=9.4,SNR=6.0					
DVTC	**Desert V Tower**	**9.42**	**325**	⇑P **Pn**	**07 27 34.3**	**+1.2**
	baz=9.5					
X18A	**Snowflake**	**9.44**	**359**	P **Pn**	**07 27 33.6**	**+0.1**
	baz=9.5,SNR=13					
BNM	**Barren Site**	**9.44**	**16**	*e*Pn **Pn**	**07 27 31.9**	**-1.7**
	18nm,1.0s					
X16A	**Lo Mia Camp, P**	**9.45**	**351**	⇓P **Pn**	**07 27 33.7**	**+0.1**
	baz=9.6,SNR=46					
SWSC	**Sam W. Stewart**	**9.49**	**327**	⇓P Pn	07 27 37.5	+3.5
	baz=9.6					
X21A	**Alamocita Cree**	**9.50**	**10**	⇑P **Pn**	**07 27 33.8**	**-0.6**
	baz=9.6,SNR=17					
X20A	**Quemado**	**9.51**	**6**	⇓P **Pn**	**07 27 34.5**	**+0.1**
	baz=9.6,SNR=13					
LAZ	**Ladron**	**9.57**	**13**	*e*Pn **Pn**	**07 27 35.7**	**+0.4**
	5.8nm,0.9s					
531A	**Rocksprings**	**9.58**	**56**	⇓P **Pn**	**07 27 34.7**	**-0.5**
	baz=9.6,SNR=6.3					
Y24A	**Capitan**	**9.58**	**22**	⇑P **Pn**	**07 27 35.3**	**-0.1**
	baz=9.6,SNR=12					
Z26A	**Caprock**	**9.59**	**30**	⇑P **Pn**	**07 27 34.9**	**-0.5**
	baz=9.6					
LPM	**Los Pinos Moun**	**9.60**	**15**	*e*Pn **Pn**	**07 27 37.8**	**+2.2**
Y12C	**Blythe**	**9.63**	**335**	⇑P **Pn**	**07 27 35.7**	**-0.2**
	baz=9.7					
X22A	**Bernardo**	**9.70**	**13**	⇑P **Pn**	**07 27 37.3**	**+0.3**
	baz=9.8					
BAR	**Barrett**	**9.74**	**323**	*e*Pn Pn	07 27 41.6	+4.1
MONP	**Monument Peak**	**9.77**	**325**	⇑P **Pn**	**07 27 40.2**	**+2.2**
	baz=9.9,SNR=9.2					
431A	**Sonora**	**9.80**	**53**	⇓P **Pn**	**07 27 40.9**	**+2.6**
	baz=9.8,SNR=21					
330A	**Mertzon**	**9.82**	**48**	⇑P **Pn**	**07 27 37.6**	**-1.0**
	baz=9.8					
128A	**Castleberry Fa**	**9.83**	**38**	⇑P **Pn**	**07 27 38.2**	**-0.6**
	baz=9.9					
Y25A	**Mesa, Roswell**	**9.85**	**25**	⇓P **Pn**	**07 27 38.5**	**-0.5**
	baz=9.9,SNR=5.1					
632A	**Uvalde**	**9.87**	**61**	⇓P **Pn**	**07 27 39.8**	**+0.6**
	baz=9.8,SNR=9.5					
BC3	**Big Chuckawall**	**9.93**	**331**	⇓P **Pn**	**07 27 41.5**	**+1.4**
	baz=10.0,SNR=8.0					
PDMCI	**Parker Dam,Lak**	**9.98**	**338**	⇑P **Pn**	**07 27 42.1**	**+1.4**
	baz=10,SNR=9.1					
Z27A	**Tatum**	**9.98**	**33**	⇑P **Pn**	**07 27 41.3**	**+0.5**
	baz=10.0					
W18A	**Petrified Fore**	**10.03**	**360**	*e*Pn **Pn**	**07 27 44.3**	**+2.8**
W18A	**Petrified Fore**	**10.03**	**360**	⇑P **Pn**	**07 27 43.9**	**+2.4**
	baz=10,SNR=7.8					
532A	**Rocksprings**	**10.05**	**58**	⇓P **Pn**	**07 27 40.7**	**-0.9**
	baz=10.0					
W20A	**Ramah**	**10.09**	**6**	⇑P **Pn**	**07 27 44.1**	**+1.7**
	baz=10,SNR=18					
230A	**Sterling City**	**10.16**	**46**	⇓P **Pn**	**07 27 43.0**	**-0.3**
	baz=10,SNR=5.9					
W21A	**San Fidel**	**10.18**	**10**	⇑P **Pn**	**07 27 45.4**	**+1.8**
	baz=10					
129A	**Stewart Farms,**	**10.20**	**41**	⇓P **Pn**	**07 27 44.7**	**+0.9**
	baz=10					
IRM	**Iron Mountain**	**10.23**	**334**	⇑P **Pn**	**07 27 45.3**	**+1.1**
	baz=10,SNR=6.8					
ANMO	**Albuquerque**	**10.24**	**15**	*e*Pn **Pn**	**07 27 46.5**	**+2.0**
ANMO				Lg Lg	07 30 35.6	
ANMO	**Albuquerque**	**10.24**	**15**	Pn **Pn**	**07 27 44.2**	**-0.3**
	0.2nm,0.3s,baz=202,slow=13,SNR=32					
ANMO				Lg Lg	07 30 35.6	
	0.2nm,0.3s,baz=129,slow=20,SNR=3.4					
ANMO				LR LR	07 31 13.4	
	comp=Z,16nm,28.6s,baz=193,slow=35					
W22A	**Albuquerque**	**10.27**	**13**	⇓P **Pn**	**07 27 43.7**	**-1.2**
	baz=10					
331A	**San Angelo**	**10.28**	**51**	⇓P **Pn**	**07 27 45.8**	**+1.0**
	baz=10,SNR=14					
JCT	**Junction City**	**10.29**	**56**	*e*Pn **Pn**	**07 27 45.0**	**-0.1**
JCT	**Junction City**	**10.29**	**56**	⇑P **Pn**	**07 27 43.6**	**-1.4**
	baz=10					
PFO	**Pinyon Flat Ob**	**10.36**	**327**	Pn **Pn**	**07 27 48.6**	**+2.6**
PFO	**Pinyon Flat Ob**	**10.36**	**327**	⇑P **Pn**	**07 27 48.1**	**+2.2**
	baz=10,SNR=7.6					
PFO	**Pinyon Flat Ob**	**10.36**	**327**	Pn **Pn**	**07 27 48.6**	**+2.6**
	0.1nm,0.3s,baz=152,slow=9.7,SNR=13					
X25A	**Clemmons Ranch**	**10.40**	**24**	⇓P **Pn**	**07 27 46.4**	**-0.2**
	baz=10					
BELC	**Belle Mtn. Jos**	**10.46**	**330**	⇑P **Pn**	**07 27 49.8**	**+2.4**
	baz=11					
Y27A	**Causey**	**10.47**	**31**	⇑P **Pn**	**07 27 47.4**	**-0.1**
	baz=10					
432A	**Menard**	**10.50**	**

baz=12,SNR=8.6
LRMC Laurel Mountai 12.46 328 ⇑P Pn 07 28 17.2 +2.4
baz=13,SNR=6.6
Y32A R-V Farms, Ver 12.61 43 ⇓P Pn 07 28 16.3 -0.4
baz=13
S21A Coal Bank Pass 12.67 7 ⇓P Pn 07 28 18.9 +1.2
baz=13,SNR=9.5
ARVC Arvin 12.77 324 ⇑P Pn 07 28 21.1 +2.3
baz=13,SNR=7.9
U27A Thompson Grove 12.77 26 ⇑P Pn 07 28 20.5 +1.5
baz=13
S20A Disappointment 12.78 5 ⇓P Pn 07 28 19.7 +0.4
baz=13
CCUT Cedar City 12.84 347 ePn Pn 07 28 23.1 +3.1
MPMC Manual Prospec 12.85 330 ⇑P Pn 07 28 22.4 +2.3
baz=13,SNR=15
T25A Trinidad 12.86 19 ⇓P Pn 07 28 20.3 0.0
baz=13
FURC Furnace Creek, 12.93 333 ⇑P Pn 07 28 23.5 +2.5
baz=13,SNR=13
U28A Mallet 12.98 28 ⇑P Pn 07 28 21.7 -0.2
baz=13
PV05 Paradox Valley 12.99 2 ePn Pn 07 28 25.3 +3.3
ISA Isabella 12.99 326 ePn Pn 07 28 24.3 +2.3
ISA Isabella 12.99 326 ⇑P Pn 07 28 23.8 +1.8
baz=13,SNR=7.1
S23A Nye Farm, Mont 12.99 13 ⇓P Pn 07 28 24.8 +2.6
baz=13,SNR=5.9
PV01 Paradox Valley 13.07 4 ePn Pn 07 28 23.2 0.0
683nm,1.2s
R20A Redvale 13.14 5 P Pn 07 28 25.6 +1.5
baz=13,SNR=14
SDCO Great Sand Dun 13.14 15 ePn Pn 07 28 26.2 +2.0
12nm,1.4s
PKM Peak Mountain 13.14 321 ⇑P Pn 07 28 26.2 +2.1
baz=13
T26A Comanche Natio 13.15 22 ⇓P Pn 07 28 26.1 +1.7
baz=13,SNR=5.2
HKT Hockley 13.23 65 ePn Pn 07 28 26.8 +1.6
PV15 Paradox Valley 13.28 4 ePn Pn 07 28 27.5 +1.4
PV04 Paradox Valley 13.31 3 ePn Pn 07 28 28.6 +2.2
PV09 Paradox Valley 13.41 2 ePn Pn 07 28 28.4 +0.6
CWC Cottonwood Cre 13.43 330 ⇑P Pn 07 28 30.6 +2.5
baz=14,SNR=6.0
VES Vestal, Richgr 13.44 325 ⇑P Pn 07 28 30.5 +2.5
baz=14
SMMC Simmler 13.54 321 ⇑P Pn 07 28 31.7 +2.3
baz=14
MVU Marysvale 13.57 352 ePn Pn 07 28 31.6 +1.6
24nm,1.3s
R25A Fountain Ranch 13.84 18 ⇓P Pn 07 28 34.7 +1.2
baz=14
S27A Las Animas 13.85 23 ⇓P Pn 07 28 34.2 +0.4
baz=14
Q16A Castle Valley 13.87 355 ePn Pn 07 28 36.5 +2.4
Q16A Castle Valley 13.87 355 ⇑P Pn 07 28 36.0 +1.9
baz=14,SNR=17
Q20A Ridgley Place, 13.90 5 ⇑P Pn 07 28 35.3 +0.8
baz=14
SRU San Rafael 14.03 357 ePn Pn 07 28 37.8 +1.6
R11A Troy Canyon, C 14.16 341 ePn Pn 07 28 40.1 +2.1
R11A Troy Canyon, C 14.16 341 ⇑P Pn 07 28 39.5 +1.5
baz=14,SNR=11
Q24A Divide 14.39 14 ⇑P Pn 07 28 41.9 +0.7
baz=14
MTUM Tungsten Hills 14.40 330 ePn Pn 07 28 44.1 +2.7
R27A Eads 14.43 22 ⇑P Pn 07 28 42.1 +0.4
baz=14
P20A De Beque 14.44 4 ⇑P Pn 07 28 42.7 +0.8
baz=14
S29A Ulysses 14.50 28 ⇑P Pn 07 28 43.0 +0.5
baz=15
P19A Cripple Cowboy 14.54 2 ⇓P Pn 07 28 44.4 +1.0
baz=15
P21A Newcastle 14.55 7 ⇓P Pn 07 28 43.7 +0.3
baz=15
P23A Jefferson 14.64 12 ⇑P Pn 07 28 46.1 +1.3
baz=15,SNR=6.4
MLAC Mammoth Lakes 14.75 330 ⇓P Pn 07 28 48.9 +2.7
baz=15,SNR=5.4
NLU North Lily Min 14.99 353 eP P 07 28 56.0 +1.2
MPU Maple Canyon 15.00 354 eP P 07 28 56.6 +1.6
O20A White River Ci 15.08 4 ePn Pn 07 28 51.7 +1.1
O20A White River Ci 15.08 4 P Pn 07 28 52.0 +1.4
baz=15,SNR=11
ISCO Idaho Springs 15.09 12 ePn Pn 07 28 52.5 +1.7
ISCO Idaho Springs 15.09 12 ⇓P Pn 07 28 51.8 +1.0
baz=15
NV11 Mina Array Sit 15.14 334 ePn Pn 07 28 53.2 +1.9
KSCO Kaye Shedlock' 15.14 22 eP P 07 28 56.7 +0.3
P25A Willow Gulch B 15.14 17 ⇑P P 07 28 57.2 +0.7
baz=15,SNR=6.9
R29A Marienthal 15.17 27 ⇓P Pn 07 28 51.7 0.0
baz=15
NVAR Mina Array Bea 15.19 333 Pn Pn 07 28 53.7 +1.6
NVAR Mina Array Bea 15.19 333 Pn Pn 07 28 53.7 +1.6
0.0nm,0.3s,baz=147,slow=12,SNR=33
NVAR LR LR 07 34 50.7
comp=Z,219nm,19.5s,baz=138,slow=38
O19A Miners Draw (B 15.20 2 ⇑P Pn 07 28 53.3 +1.2
baz=15,SNR=11
O22A Kremmling 15.29 9 ⇓P Pn 07 28 54.3 +0.9
baz=15,SNR=5.2
DUG Dugway 15.32 351 ⇓P Pn 07 28 55.5 +1.9
baz=15,SNR=13
DAU Daniels Canyon 15.37 356 ePn Pn 07 28 56.7 +2.2
P26A Davis Ranch, A 15.42 19 ⇓P Pn 07 28 55.2 +0.3
baz=16
R30A Dighton 15.42 29 ⇓P P 07 28 59.8 +0.3
baz=16
O23A Lake Granby, G 15.44 11 ⇑P Pn 07 28 56.6 +1.2
baz=16
Q28A Sharon Springs 15.46 24 P Pn 07 28 56.8 +1.3
baz=16,SNR=8.8
JLU Jordanelle 15.57 355 ePn Pn 07 28 59.1 +2.1
22nm,1.5s
Q29A Oakley 15.64 26 ⇑P Pn 07 28 57.5 -0.2
baz=16
P27A Ficken Ranch, 15.65 21 ⇑P P 07 29 02.0 0.0
baz=16
N20A Spence Gulch, 15.78 4 ⇓P Pn 07 28 59.9 +0.2
baz=16,SNR=12
CMB Columbia Colle 15.80 327 ePn Pn 07 29 01.3 +1.4
15nm,1.2s
N22A Wattenberg Ran 15.93 9 ⇓P Pn 07 29 02.6 +0.8
baz=16,SNR=9.8
P28A Saint Francis 15.94 23 ⇑P Pn 07 29 02.2 +0.5
baz=16
Q30A Quinter 16.02 28 ⇑P Pn 07 29 03.0 +0.3
baz=16
O26A Horse Wrangler 16.06 18 ⇓P P 07 29 07.2 +0.6
baz=16
BGU Big Grassy Mou 16.06 351 ePn P 07 29 05.9 -0.8
16nm,1.3s
N23A Red Feather La 16.10 10 ⇓P Pn 07 29 04.3 +0.3
baz=16
TUL1 Tulsa 16.12 45 ⇑P Pn 07 29 03.2 -0.8
baz=16
O27A Beecher Island 16.26 20 ⇓P Pn 07 29 05.8 0.0
baz=16
P29A Atwood 16.27 25 ⇓P Pn 07 29 05.5 -0.4
baz=16
ELK Elko 16.31 345 ePn P 07 29 08.5 -1.1
M17A Scullys Gap (B 16.39 357 ⇑P Pn 07 29 07.2 -0.3
baz=16
Q31A Ellis 16.40 30 ⇑P Pn 07 29 07.6 0.0
baz=16
M19A Rock Springs 16.41 1 ⇑P Pn 07 29 07.9 +0.1
baz=16
O28A Krutsinger Ran 16.43 22 ⇑P Pn 07 29 07.9 0.0
baz=16
M20A Sweetwater, Wa 16.43 4 P P 07 29 10.0 -0.9
baz=16,SNR=6.0
P30A Selden 16.49 27 ⇑P Pn 07 29 08.7 +0.1
baz=17
BMN Battle Mountai 16.57 339 ePn Pn 07 29 11.4 +1.6
21nm,1.1s
PHWY Pilot Hill 16.58 11 eP P 07 29 14.4 +1.8
11nm,1.2s
RWWY Rawlins 16.71 6 eP P 07 29 21.6 +7.5
17nm,1.3s
PAHR Pah Rah Range 16.72 333 ePn P 07 29 14.5 +0.5
117nm,2.3s
O29A 4D Ranch, Culb 16.77 24 ⇓P P 07 29 13.8 -0.7
baz=17,SNR=6.7
L18A Fontenelle, Gr 16.82 359 ⇑P Pn 07 29 14.0 +0.9
baz=17,SNR=5.5
P31A Stockton 16.83 29 ⇓P Pn 07 29 12.7 -0.4
baz=17
HVU Hansel Valley 16.87 352 ePn P 07 29 17.4 +1.8
MIAR Mount Ida 16.87 52 ePn P 07 29 15.9 +0.4
35nm,1.8s
L20A Wamsutter 16.94 3 ⇓P Pn 07 29 15.5 +1.0
baz=17
N28A Pribbeno Ranch 17.01 22 ⇓P Pn 07 29 15.7 +0.4
baz=17
L22A Ellis Ranch, M 17.14 8 ⇑P Pn 07 29 17.1 0.0
baz=17
BEKR Beckworth 17.27 331 eP P 07 29 20.6 +0.5
9.4nm,1.3s
L23A Garrett 17.33 10 ⇓P Pn 07 29 20.3 +0.9
baz=17
OHCM Honcut 17.36 328 ePn P 07 29 27.6 +6.8
M27A Reverse DX Ran 17.51 19 ⇑P Pn 07 29 21.4 -0.2
baz=18
K21A Alcova 17.64 6 ⇑P Pn 07 29 23.5 +0.2
baz=18
BW06 Boulder Array 17.66 0 eP Pn 07 29 23.4 -0.2
18nm,1.1s
PDAR Pinedale Array 17.66 0 Pn Pn 07 29 23.9 +0.4
PDAR Pinedale Array 17.66 0 Pn Pn 07 29 23.9 +0.4
0.2nm,0.3s,baz=170,slow=9.9,SNR=55
PDAR LR LR 07 36 18.7
comp=Z,16nm,28.6s,baz=155,slow=38
K22A Casper 17.74 8 ⇑P Pn 07 29 24.3 -0.1
baz=18
KSU1 Kansas State U 17.83 35 ePn P 07 29 27.3 +1.2
K23A Bowen Ranch, D 17.97 10 ⇑P P 07 29 28.4 +0.6
baz=18
M29A Burnside Ranch 17.97 22 ⇓P P 07 29 27.9 +0.1
baz=18
J19A Crowheart 18.17 2 ⇓P P 07 29 30.4 +0.4
baz=18
RRI2 Red Ridge 18.29 356 ePn P 07 29 32.6 +1.1
J20A Shoshoni 18.30 4 P P 07 29 32.6 +1.2
baz=18,SNR=19
J21A Lysite 18.33 5 P P 07 29 32.8 +1.0
baz=18,SNR=9.2
SNOW Snow King Moun 18.38 358 ePn P 07 29 33.6 +1.2
TPAW Teton Pass 18.41 357 ePn Pn 07 29 33.6 +0.8
J22A Midwest 18.50 7 ⇓P P 07 29 33.7 +0.1
baz=19
M31A Lambtecht Ranc 18.53 26 ⇓P P 07 29 34.0 +0.2
baz=19
K27A Flueckinger Fa 18.64 17 P Pn 07 29 35.5 +0.1
baz=19,SNR=6.6
MOOW Moose Ponds 18.66 358 eP Pn 07 29 36.0 +0.2
I21A Big Trails, Te 18.81 5 ⇓P P 07 29 37.6 +0.5
baz=19
IMW Indian Meadow 18.82 357 eP Pn 07 29 38.6 +0.9
I17A Pilgrim Ck. 18.83 358 ⇓P P 07 29 37.8 +0.4
baz=19,SNR=7.7
WVOR Wild Horse Val 18.84 339 eP Pn 07 29 38.9 +1.0
21nm,1.2s
HLID Hailey 18.86 349 eP Pn 07 29 39.3 +1.2
HLID Hailey 18.86 349 ⇑P P 07 29 37.9 +0.3
baz=19,SNR=8.2
I20A Worland 18.89 4 ⇓P P 07 29 37.8 -0.1
baz=19,SNR=15
K28A Ten Mile Ranch 18.90 19 ⇓P P 07 29 38.1 +0.1
baz=19
I19A Meeteetse 18.94 2 ⇓P P 07 29 38.8 +0.3
baz=19,SNR=9.7
MOD Modoc 18.96 335 eP Pn 07 29 40.6 +1.2
I22A 9 Mile Ranch, 18.97 7 ⇑P P 07 29 39.3 +0.5
baz=19
MFID Camas Ranch 18.99 346 ⇓P Pn 07 29 40.3 +0.6
baz=19,SNR=6.9
FLWY Flagg Ranch 19.00 358 ePn Pn 07 29 41.3 +1.4
J27A Elkhorn Farm, 19.21 17 ⇑P P 07 29 41.2 -0.3
baz=19
K29A Lazy Trails An 19.27 21 ⇑P Pn 07 29 42.7 -0.3
baz=19
H20A Greybull 19.43 4 P Pn 07 29 44.7 -0.2
baz=20,SNR=9.2
K30A Basset 19.44 23 ⇑P Pn 07 29 45.3 +0.3
baz=20
H18A Shoshone NF, C 19.57 0 ⇑P P 07 29 46.3 +0.8
baz=20,SNR=13
H19A Powell 19.57 2 ⇑P P 07 29 46.2 +0.8
baz=20,SNR=11
J28A Allard Ranch, 19.59 19 ⇑P Pn 07 29 46.4 -0.4
baz=20
QLMT Earthquake Lak 19.77 356 ePn Pn 07 29 51.6 +2.4
YBH Yreka Blue Hor 19.82 330 P Pn 07 29 50.8 +1.2
YBH Yreka Blue Hor 19.82 330 P Pn 07 29 50.8 +1.2
0.1nm,0.3s,baz=120,slow=8.1,SNR=5.6
YBH LR LR 07 35 48.9
comp=Z,178nm,21.7s,baz=266,slow=32
MCMT McKenzie Canyo 19.89 353 eP Pn 07 29 51.3 +0.8
4.4nm,1.0s
J30A Dallas 20.05 22 ⇓P P 07 29 51.4 +0.9
baz=20
H24A Dirks Ranch, A 20.08 11 ⇑P P 07 29 51.0 +0.1
baz=20
H25A Fruitdale 20.14 13 ⇓P Pn 07 29 52.8 -0.6
baz=20
I28A Midland 20.14 18 ⇑P P 07 29 51.8 +0.4
baz=20
G20A Bridger 20.15 3 ⇑P Pn 07 29 53.0 -0.6
baz=20,SNR=13
G22A Birney 20.30 7 ⇑P P 07 29 54.3 +1.0
baz=20
H26A Fairpoint 20.31 14 ⇓P P 07 29 54.4 +1.1
baz=20
DLMT Dillon 20.39 354 eP P 07 29 54.8 +0.5
20nm,1.3s
G23A Biddle 20.40 9 ⇑P P 07 29 54.5 +0.2
baz=20
APG El Apazote 20.63 115 P P 07 29 58.1 +0.9
APG El Apazote 20.63 115 P P 07 29 58.1 +0.9
8.2nm,0.9s,baz=293,slow=6.0,SNR=5.9
APG LR LR 07 38 26.3
comp=Z,16nm,28.6s,baz=288,slow=38
G24A Alzada 20.67 11 ⇓P P 07 29 56.5 -0.7
baz=21
GCMT Greycliff 20.69 0 eP P 07 29 55.1 -2.4
7.4nm,1.3s
BMO Blue Mountains 20.69 345 eP P 07 29 58.3 +0.9
7.7nm,1.0s
F20A Billings 20.73 3 ⇑P P 07 29 57.7 -0.3
baz=21,SNR=8.6
F19A Roth Farm, Mol 20.76 1 ⇓P P 07 29 59.7 +1.4
baz=21
BRAL Brewton 20.83 68 eP Pn 07 30 01.1 -0.3
43nm,0.5s
LRM Limekiln Ridge 20.84 355 eP P 07 30 00.5 +1.3
76nm,1.2s
F23A Volborg 20.90 8 ⇑P P 07 29 59.9 +0.1
baz=21,SNR=7.3
G26A Maurine 20.99 14 ⇑P P 07 30 01.8 +1.2
baz=21
G27A Dupree 21.00 13 ⇓P P 07 30 03.0 +2.2
baz=21
BRSD Miller 21.22 22 eP P 07 30 02.8 -0.3
BRSD Miller 21.22 22 ⇑P P 07 30 05.6 +2.5
baz=21
LRAL Lakeview Retre 21.35 63 eP P 07 30 05.0 +0.4
32nm,1.4s
E19A Rath Farm, Rou 21.37 2 ⇓P P 07 30 05.3 +0.6
baz=22
E20A Meyer Farm, Mu 21.44 3 ⇓P P 07 30 06.0 +0.5
baz=22
ECSD EROS Data Cent 21.48 27 eP P 07 30 09.6 +3.6
5.6nm,0.8s
F26A Lodgepole 21.50 13 ⇓P P 07 30 07.0 +0.8
baz=22
SIUC Southern Illin 21.50 49 eP P 07 30 07.0 +0.8
E23A Ismay 21.68 8 ⇓P P 07 30 08.8 +0.7
baz=22
LAO LASA Array 21.76 6 eP P 07 30 09.7 +0.7
14nm,1.1s
WVT Waverly 21.77 54 eP P 07 30 09.6 +0.5
19nm,0.9s
E24A Baker 21.89 10 ⇑P P 07 30 11.2 +0.9
baz=22
F28A McLaughlin 21.95 17 ⇓P P 07 30 11.5 +0.5
baz=22
E25A Miller Ranch, 21.98 12 ⇑P P 07 30 12.2 +0.8
baz=22
MSO Missoula 21.99 352 ⇑P P 07 30 11.4 0.0
baz=22,SNR=6.9
CHMT Chamberlain Mo 21.99 353 eP P 07 30 12.3 +0.7
9.2nm,1.0s
D20A Manuel Ranch, 22.02 3 ⇑P P 07 30 11.7 0.0
baz=22
D21A La Casta Ranch 22.07 5 ⇓P P 07 30 12.9 +0.6
baz=22
D19A Cripps Ranch, 22.07 1 ⇑P P 07 30 12.7 +0.4
baz=22
E26A Carlson Angus 22.14 13 ⇑P P 07 30 13.9 +0.9
baz=22
D22A Cohagen 22.22 6 ⇓P P 07 30 15.1 +1.2
baz=22
E27A Carson 22.30 15 ⇑P P 07 30 15.1 +0.4
baz=22
SLMT Seeley Lake 22.34 353 eP P 07 30 16.2 +0.9
19nm,1.2s
D23A Lindsay 22.36 8 ⇑P P 07 30 16.0 +0.7
baz=22
C19A Slack Wire Ran 22.64 1 ⇓P P 07 30 19.1 +0.8
baz=23
E28A Huff 22.65 16 ⇑P P 07 30 19.1 +0.7
baz=23
C20A Veseth Ranch, 22.65 3 P P 07 30 19.8 +1.3
baz=23,SNR=7.3
SWMT Swartz Lake 22.66 352 eP P 07 30 19.6 +0.9
11nm,1.1s
HAWA Hanford 22.70 342 eP P 07 30 19.4 +0.4
46nm,1.8s
SWET Sewanee 22.86 58 eP P 07 30 21.7 +0.9
12nm,0.9s
EGMT Eagleton 22.92 360 ⇑P P 07 30 22.6 +1.3
baz=23
C23A Lambert 22.98 8 ⇓P P 07 30 23.1 +1.2
baz=23
B20A Solberg Farm, 23.37 3 ⇑P P 07 30 25.7 -0.2
baz=24,SNR=5.4
LON Longmire 23.71 339 eP P 07 30 29.8 +0.5
19nm,1.2s
TIGA Tifton 23.83 69 ⇓P P 07 30 31.0 +0.5
baz=24
A19A Klindworth Far 23.84 2 ⇓P P 07 30 31.5 +1.0
baz=24
NEW Newport 23.89 348 P P 07 30 31.3 +0.3
0.3nm,0.7s
NEW Newport 23.89 348 ⇑P P 07 30 30.5 -0.4
baz=24,SNR=6.6
NEW Newport 23.89 348 P P 07 30 31.3 +0.3
5.8nm,0.7s,baz=165,slow=12,SNR=15
NEW LR LR 07 40 33.4
comp=Z,16nm,28.6s,baz=160,slow=38
SFIN Scholer Farm 24.29 46 eP P 07 30 35.7 +0.9
SFIN Scholer Farm 24.29 46 ⇓P P 07 30 35.0 +0.3
baz=24
B28A Dugan Ranch, T 24.48 15 ⇓P P 07 30 36.8 +0.5
baz=25
TKL Tuckaleechee C 24.67 59 eP P 07 30 38.4 +0.2
TKL Tuckaleechee C 24.67 59 P P 07 30 38.2 -0.1
4.5nm,0.9s,baz=239,slow=6.1,SNR=7.8
TKL LR LR 07 40 26.0
comp=Z,16nm,28.6s,baz=250,slow=37
JTS JuntasAbangare 27.70 118 LR LR 07 41 38.6
comp=Z,160nm,18.3s,baz=310,slow=36
BBB Bella Bella 30.49 337 LR LR 07 44 03.5
comp=Z,16nm,28.6s,baz=195,slow=37
YKA Yellowknife Ar 37.57 356 P P 07 32 31.0 -0.4
YKA Yellowknife Ar 37.57 356 P P 07 32 31.0 -0.4
2.3nm,0.8s,baz=171,slow=8.1,SNR=4.0
ROSC El Rosal 39.43 115 LR LR 07 52 29.6
comp=Z,58nm,18.0s,baz=352,slow=42
SDV Santo Domingo 40.49 106 eP P 07 32 58.1 +1.4
26nm,1.8s
SJG San Juan 40.95 91 eP P 07 33 00.8 +0.6
10nm,0.9s
SCHQ Schefferville 43.27 35 P P 07 33 17.0 -1.8
SCHQ Schefferville 43.27 35 P P 07 33 17.0 -1.8
3.2nm,0.8s,baz=203,slow=15,SNR=1.9
ILAR Eielson Array 46.35 339 P P 07 33 44.0 +0.9
ILAR Eielson Array 46.35 339 P P 07 33 44.0 +0.9
1.9nm,1.0s,baz=149,slow=6.1,SNR=11
H03N2 Juan Fernandez 65.13 152 T T 08 47 00.6
baz=330,slow=0.7,SNR=14
H03N1 Juan Fernandez 65.14 152 T T 08 47 01.4
baz=330,slow=0.7,SNR=22
H03N3 Juan Fernandez 65.15 152 T T 08 47 03.6
baz=330,slow=0.7,SNR=6.3
AFI Afiamalu 71.83 245 LR LR 07 59 38.9
comp=Z,550nm,21.5s,baz=218,slow=29
PETK Petropavlovsk- 71.86 321 P P 07 36 40.9 +0.7
PETK Petropavlovsk- 71.86 321 P P 07 36 40.9 +0.7
4.9nm,1.0s,baz=73,slow=6.5,SNR=2.9
CPUP Villa Florida 71.87 132 P P 07 36 40.6 +0.1
CPUP Villa Florida 71.87 132 P P 07 36 40.6 +0.1
1.2nm,0.6s,baz=270,slow=7.6,SNR=3.5
BDFB Brasilia 72.45 117 LR LR 08 10 40.7
comp=Z,53nm,20.5s,baz=8.0,slow=38
ARCES ARCESS Array B 80.33 15 LR LR 08 14 29.7
comp=Z,52nm,20.0s,baz=340,slow=37
FINES FINESS Array B 86.72 20 P P 07 38 02.7 +1.6
FINES FINESS Array B 86.72 20 P P 07 38 02.7 +1.6
1.8nm,0.9s,baz=284,slow=5.6,SNR=2.5
AKASG Malin Array Be 96.30 25 LR LR 08 21 56.1
comp=Z,16nm,28.6s,baz=310,slow=35

IDC 11 07:26:10.1±1.5,16°05S×173°23W,h0km,mb3.7/7, mb1 4.0/7,mb1mx3.9/20,mbtmp3.7/7,MS3.3/2,Ms1 3.3/2, ms1mx2.9/26,Error ellipse: s-maj=97.3km s-min=19.5km az=148.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	2.55	34	Pn	Pn	07 26 48.9	-3.9
	14nm,0.3s,baz=291,slow=3.8,SNR=11						
AFI				Sn	Sn	07 27 14.8	-10
	53nm,0.3s,baz=240,slow=16,SNR=14						
AFI				LR	LR	07 27 16.5	
	comp=Z,219nm,19.9s,baz=47,slow=26						
RAO	Raoul Island	13.83	197	LR	LR	07 33 47.3	
	comp=Z,302nm,18.7s,baz=112,slow=33						
STKA	Stephens Creek	43.86	241	P	P	07 34 18.0	-0.4
	1.0nm,0.7s,baz=94,slow=14,SNR=2.8						
WRA	Warramunga Arr	49.86	257	P	P	07 35 04.8	-0.8
	0.7nm,0.7s,baz=94,slow=6.6,SNR=9.2						
ASAR	Alice Springs	50.07	252	P	P	07 35 07.4	+0.2
	1.4nm,0.6s,baz=88,slow=8.2,SNR=22						
NVAR	Mina Array Bea	74.70	42	P	P	07 37 51.6	-0.4
	0.3nm,0.4s,baz=242,slow=7.7,SNR=4.0						
TXAR	Lajitas Array	80.83	56	P	P	07 38 26.8	+0.5
	0.2nm,0.8s,baz=232,slow=4.4,SNR=3.2						
PDAR	Pinedale Array	82.64	42	P	P	07 38 35.2	-0.5
	0.2nm,0.5s,baz=232,slow=3.0,SNR=4.0						
ILAR	Eielson Array	83.05	11	P	P	07 38 36.8	-0.3
	0.3nm,0.6s,baz=223,slow=6.0,SNR=7.0						
BRTR	Keskin Array B	146.76	321	PKPbc	PKPbc	07 45 55.1	+0.5
	1.0nm,0.7s,baz=135,slow=1.0,SNR=5.9						
GERES	GERESS Array B	146.80	352	PKPbc	PKPbc	07 45 53.6	-0.7
	0.3nm,0.5s,baz=338,slow=7.4,SNR=3.2						

IDC 11 07:58:17.6±0.7,15°10S×173°51W,h0km,mb4.0/10, mb1 4.3/10,mb1mx4.1/18,mbtmp4.0/10,MS3.7/3, Ms1 3.7/3,ms1mx3.1/25,Error ellipse: s-maj=35.8km s-min=17.1km az=134.0

NEIC 11 07:58:19.2±0.4,15°14S×173°54W,h10km,mb4.6/2,Error ellipse: s-maj=19.8km s-min=10.8km az=132.0

ISCJB 11 07:58:20.6±0.6,15°1S±0°1×173°6W±0°1,h30km,mb4.1/12, MS3.7/3,Error ellipse: s-maj=24.6km s-min=13.6km az=44.2

ISC 11 07:58:22.2±0.7,15°1S±0°2×173°5W±0°2,h30km,n45, σ0°68/29,mb4.0/12,MS3.7/3,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	2.09	55	Pn	Pn	07 58 46.4	-9.0
AFI				Sn	Sn	07 59 04.7	-16
AFI	Afiamalu	2.09	55	Pn	Pn	07 58 46.4	-9.0
	68nm,0.3s,baz=47,slow=3.2,SNR=49						
AFI				Sn	Sn	07 59 04.7	-16
	273nm,0.3s,baz=180,slow=19,SNR=17						
RAR	Rarotonga	14.41	117	Pn	Pn	08 01 35.5	-8.7
RAR	Rarotonga	14.41	117	Pn	Pn	08 01 35.5	-8.7
	2.0nm,0.3s,baz=270,slow=4.4,SNR=3.8						
DZM	Mont Dzumac	20.18	247	eLR	LR	08 08 25.7	
	374nm,23.8s						
PPT	Papeete	23.12	99	LR	LR	08 09 31.8	
	comp=Z,170nm,20.9s,baz=3.0,slow=29						
PPT2	Papeete2	23.12	99	eLQ	LQ	08 07 35.7	
	380nm,28.2s						

PPT2				*e*LR	LR	08 08 36.1	
	248nm,26.2s						
TBI	**Tubuai**	**24.14**	**113**	*e*LR	LR	08 09 10.8	
	308nm,25.2s						
URZ	**Urewera**	**24.48**	**198**	P	**P**	**08 03 38.1**	**-0.6**
URZ	**Urewera**	**24.48**	**198**	P	**P**	**08 03 38.2**	**-0.6**
	7.3nm,0.7s,baz=77,slow=15,SNR=4.3						
RKT	**Rikitea**	**37.21**	**108**	*e*LR	LR	08 14 55.9	
	155nm,27.8s						
H11S2	**WAKE ISLAND Hy**	**38.66**	**329**	T	T	08 47 00.7	
	baz=144						
H11S3	**WAKE ISLAND Hy**	**38.67**	**329**	T	T	08 47 02.8	
	baz=144						
H11S1	**WAKE ISLAND Hy**	**38.68**	**329**	T	T	08 47 00.9	
	baz=144						
H11N3	**WAKE ISLAND Hy**	**39.61**	**330**	T	T	08 48 14.9	
	baz=152,slow=0.7,SNR=3.5						
H11N1	**WAKE ISLAND Hy**	**39.61**	**330**	T	T	08 48 15.9	
	baz=152,slow=0.7,SNR=5.3						
H11N2	**WAKE ISLAND Hy**	**39.62**	**330**	T	T	08 48 17.9	
	baz=152,slow=0.7,SNR=14						
STKA	**Stephens Creek**	**44.05**	**240**	P	**P**	**08 06 27.6**	**0.0**
STKA	**Stephens Creek**	**44.05**	**240**	P	**P**	**08 06 27.6**	**0.0**
	1.6nm,0.7s,baz=78,slow=12,SNR=5.1						
WRAB	**Tennant Creek**	**49.76**	**257**	*e*P	**P**	**08 07 10.7**	**-1.8**
	13nm,1.7s						
WRA	**Warramunga Arr**	**49.77**	**257**	P	**P**	**08 07 12.3**	**-0.2**
WRA	**Warramunga Arr**	**49.77**	**257**	P	**P**	**08 07 12.3**	**-0.2**
	0.8nm,0.7s,baz=98,slow=6.1,SNR=15						
AS31	**Alice Springs**	**50.06**	**252**	*e*P	**P**	**08 07 15.3**	**+0.5**
ASAR	**Alice Springs**	**50.07**	**252**	P	**P**	**08 07 14.7**	**-0.1**
ASAR	**Alice Springs**	**50.07**	**252**	P	**P**	**08 07 14.7**	**-0.1**
	2.7nm,0.6s,baz=87,slow=8.1,SNR=33						
PETK	**Petropavlovsk-**	**72.33**	**342**	P	**P**	**08 09 45.0**	**+0.1**
PETK	**Petropavlovsk-**	**72.33**	**342**	P	**P**	**08 09 45.0**	**+0.1**
	1.9nm,0.8s,baz=134,slow=8.3,SNR=2.7						
NVAR	**Mina Array Bea**	**74.22**	**42**	P	**P**	**08 09 56.5**	**-0.2**
NVAR	**Mina Array Bea**	**74.22**	**42**	P	**P**	**08 09 56.5**	**-0.2**
	0.7nm,0.7s,baz=229,slow=8.1,SNR=6.8						
QSPA	**South Pole Qui**	**74.92**	**180**	*e*P	**P**	**08 09 59.8**	**-0.5**
	5.6nm,1.0s						
KSRS	**Korea Array**	**75.87**	**316**	LR	LR	08 36 12.2	
	comp=Z,39nm,20.8s,baz=100,slow=30						
TXAR	**Lajitas Array**	**80.57**	**56**	P	**P**	**08 10 32.7**	**+0.4**
TXAR	**Lajitas Array**	**80.57**	**56**	P	**P**	**08 10 32.7**	**+0.4**
	1.6nm,1.0s,baz=212,slow=5.9,SNR=10						
TXAR				LR	LR	08 39 00.6	
	comp=Z,42nm,18.9s,baz=175,slow=30						
PDAR	**Pinedale Array**	**82.15**	**42**	P	**P**	**08 10 40.0**	**-0.5**
PDAR	**Pinedale Array**	**82.15**	**42**	P	**P**	**08 10 40.0**	**-0.5**
	0.8nm,0.8s,baz=232,slow=3.6,SNR=8.3						
ILAR	**Eielson Array**	**82.20**	**11**	P	**P**	**08 10 39.0**	**-1.0**
ILAR	**Eielson Array**	**82.20**	**11**	P	**P**	**08 10 39.0**	**-1.0**
	1.3nm,0.9s,baz=237,slow=6.1,SNR=11						
MAW	**Mawson**	**88.01**	**199**	P	**P**	**08 11 10.2**	**+1.0**
MAW	**Mawson**	**88.01**	**199**	P	**P**	**08 11 10.2**	**+1.0**
	0.7nm,0.5s,baz=69,slow=14,SNR=3.0						
KHC	**Kasperske Hory**	**145.59**	**352**	*e*PKPbc	**PKPab**	**08 17 59.1**	**+1.0**
GERES	**GERESS Array B**	**145.85**	**351**	PKPbc	**PKPbc**	**08 17 58.8**	**+0.1**
GERES	**GERESS Array B**	**145.85**	**351**	PKPbc	**PKPbc**	**08 17 58.8**	**+0.1**
	0.5nm,0.7s,baz=50,slow=2.1,SNR=3.7						
BR131	**Keskin Array S**	**145.86**	**321**	*e*PKPbc	**PKPab**	**08 18 00.5**	**+0.8**
BRTR	**Keskin Array B**	**145.86**	**321**	PKPbc	**PKPab**	**08 18 00.2**	**+0.6**
BRTR	**Keskin Array B**	**145.86**	**321**	PKPbc	**PKPab**	**08 18 00.2**	**+0.6**
	2.1nm,0.9s,baz=40,slow=2.1,SNR=7.5						

IDC 11 08:04:46.2±3.7, 46°.84N×152°.85E, h61km±30km, mb3.4/7, mb1 3.5/9, mb1mx3.3/25, mbtmp3.7/9, ML3.1/2, Error ellipse: s-maj=46.2km s-min=23.7km az=119.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**7.01**	**25**	P	Pn	08 06 25.6	-0.6
	0.1nm,0.3s,baz=230,slow=11,SNR=3.2						
ASAJ	**Asahikawa**	**7.70**	**253**	P	Pn	08 06 36.4	+0.7
	0.4nm,0.3s,baz=85,slow=18,SNR=1.9						
KSRS	**Korea Array**	**20.65**	**252**	P	P	08 09 21.6	+0.9
	0.4nm,0.4s,baz=81,slow=6.2,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**29.38**	**152**	T	T	08 42 01.8	
	baz=342,slow=0.7,SNR=277						
H11N1	**WAKE ISLAND Hy**	**29.39**	**152**	T	T	08 42 11.8	
	baz=342,slow=0.7,SNR=146						
H11N3	**WAKE ISLAND Hy**	**29.40**	**152**	T	T	08 42 10.1	
	baz=342,slow=0.7,SNR=192						
H11S1	**WAKE ISLAND Hy**	**30.46**	**153**	T	T	08 43 27.5	
	baz=344,slow=0.7,SNR=115						
H11S3	**WAKE ISLAND Hy**	**30.47**	**153**	T	T	08 43 34.5	
	baz=344,slow=0.7,SNR=101						
H11S2	**WAKE ISLAND Hy**	**30.48**	**153**	T	T	08 43 31.6	
	baz=344,slow=0.7,SNR=130						
MKAR	**Makanchi Array**	**46.74**	**297**	P	P	08 13 07.4	-1.7
	0.3nm,0.8s,baz=78,slow=6.6,SNR=2.6						
FINES	**FINESS Array B**	**63.88**	**335**	P	P	08 15 11.8	-0.1
	1.5nm,0.9s,baz=31,slow=7.8,SNR=8.6						
NOA	**NORSAR Array B**	**68.09**	**341**	P	P	08 15 39.5	+0.5
	1.4nm,1.1s,baz=28,slow=6.5,SNR=2.8						
HFS	**Hagfors**	**68.31**	**339**	P	P	08 15 40.8	+0.5
	0.8nm,0.4s,baz=46,slow=4.2,SNR=9.2						
AKASG	**Malin Array Be**	**71.37**	**326**	P	P	08 15 59.5	+0.2
	0.4nm,0.3s,baz=39,slow=7.4,SNR=3.6						
ASAR	**Alice Springs**	**72.23**	**198**	P	P	08 16 04.5	-0.2
	0.2nm,0.6s,baz=10,slow=6.1,SNR=1.7						
TXAR	**Lajitas Array**	**77.61**	**60**	pP	pP	08 16 52.0	-0.9
	0.3nm,0.5s,baz=302,slow=5.2,SNR=4.0						

IDC 11 08:11:04.3±0.8, 11°.99S×165°.50E, h0km, mb4.1/10, mb1 4.2/12, mb1mx4.1/20, mbtmp4.1/12, ML4.1/2, MS3.5/4, Ms1 3.5/4, ms1mx3.2/28, Error ellipse: s-maj=31.5km s-min=18.6km az=140.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.02**	**294**	Pn	Pn	08 12 35.8	+1.1
	11nm,0.3s,baz=202,slow=2.5,SNR=5.0						
HNR				LR	LR	08 14 40.9	
	comp=Z,196nm,21.1s,baz=148,slow=36						
DZM	**Mont Dzumac**	**10.07**	**175**	Pn	Pn	08 13 30.2	-0.2
	0.8nm,0.3s,baz=342,slow=20,SNR=5.0						
CTA	**Charters Tower**	**20.16**	**244**	P	P	08 15 41.3	+0.8
	9.3nm,1.0s,baz=73,slow=12,SNR=5.9						
AFI	**Afiamalu**	**22.23**	**97**	LR	LR	08 22 55.9	
	comp=Z,124nm,18.5s,baz=284,slow=32						
STKA	**Stephens Creek**	**29.60**	**224**	P	P	08 17 12.0	+0.7
	1.5nm,0.7s,baz=6.0,slow=6.6,SNR=5.4						
STKA				LR	LR	08 27 28.5	
	comp=Z,74nm,21.4s,baz=27,slow=33						
WRA	**Warramunga Arr**	**30.94**	**251**	P	P	08 17 22.4	-0.9
	2.6nm,0.8s,baz=82,slow=8.7,SNR=24						
ASAR	**Alice Springs**	**32.16**	**244**	P	P	08 17 33.0	-1.1
	2.1nm,0.7s,baz=71,slow=9.1,SNR=20						
PPT	**Papeete**	**43.71**	**103**	LR	LR	08 32 27.4	
	comp=Z,164nm,19.2s,baz=300,slow=29						
SONM	**Songino Array**	**79.28**	**324**	P	P	08 23 12.3	+0.4
	0.8nm,0.8s,baz=120,slow=5.8,SNR=4.1						
ILAR	**Eielson Array**	**84.48**	**19**	P	P	08 23 37.4	-1.3
	0.8nm,0.6s,baz=229,slow=5.2,SNR=18						
NVAR	**Mina Array Bea**	**86.81**	**50**	P	P	08 23 51.0	-0.3
	0.3nm,0.7s,baz=255,slow=6.3,SNR=3.2						
MKAR	**Makanchi Array**	**94.04**	**317**	P	P	08 24 24.8	+0.2
	1.1nm,0.8s,baz=95,slow=6.0,SNR=10						
ZALV	**Zalesovo Beam**	**94.18**	**324**	P	P	08 24 24.4	-0.7
	0.3nm,0.4s,baz=92,slow=4.3,SNR=2.5						
TXAR	**Lajitas Array**	**96.49**	**61**	P	P	08 24 36.3	0.0
	0.2nm,0.8s,baz=226,slow=4.9,SNR=3.3						
ARCES	**ARCESS Array B**	**117.18**	**345**	PKP	PKPdf	08 29 51.6	+0.5
	3.3nm,0.8s,baz=76,slow=1.8,SNR=12						
FINES	**FINESS Array B**	**122.56**	**338**	PKP	PKPdf	08 30 02.3	+0.8
	0.7nm,0.6s,baz=342,slow=3.2,SNR=4.0						
ESDC	**Sonseca Array**	**150.89**	**343**	PKPbc	PKPbc	08 31 00.4	+1.0
	0.2nm,0.2s,baz=0.0,slow=1.7,SNR=4.5						

IDC 11 08:17:35.5±0.9, 12°.27S×166°.40E, h0km, mb3.8/8, mb1 4.0/10, mb1mx3.9/20, mbtmp3.8/10, ML3.9/2, Error ellipse: s-maj=26.7km s-min=20.5km az=128.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.94**	**293**	Pn	Pn	08 19 18.4	0.0
	4.6nm,0.3s,baz=16,slow=20,SNR=2.0						
HNR				Sn	Sn	08 20 41.5	+3.4
	7.2nm,0.3s,baz=167,slow=19,SNR=2.2						
DZM	**Mont Dzumac**	**9.74**	**180**	Pn	Pn	08 19 58.6	+1.4
	0.5nm,0.3s,baz=2.1,slow=24,SNR=9.2						
DZM				Sn	Sn	08 21 51.5	+4.0
	0.5nm,0.3s,baz=315,slow=20,SNR=2.3						
STKA	**Stephens Creek**	**30.02**	**226**	P	P	08 23 45.2	-0.9
	1.4nm,0.9s,baz=117,slow=18,SNR=2.0						
WRA	**Warramunga Arr**	**31.69**	**252**	P	P	08 24 00.8	-0.3
	0.4nm,0.6s,baz=79,slow=8.6,SNR=5.8						
ASAR	**Alice Springs**	**32.84**	**245**	P	P	08 24 10.9	-0.3
	0.4nm,0.5s,baz=66,slow=9.9,SNR=7.9						
CMAR	**Chiang Mai Arr**	**73.19**	**294**	P	P	08 29 09.6	+0.9
	0.7nm,0.3s,baz=119,slow=7.3,SNR=5.5						
SONM	**Songino Array**	**80.03**	**324**	P	P	08 29 47.0	-0.1
	0.3nm,0.3s,baz=121,slow=5.6,SNR=2.8						
ILAR	**Eielson Array**	**84.47**	**18**	P	P	08 30 09.8	0.0
	0.3nm,0.5s,baz=241,slow=5.3,SNR=8.0						
NVAR	**Mina Array Bea**	**86.33**	**50**	P	P	08 30 20.0	0.0
	0.2nm,0.5s,baz=252,slow=7.5,SNR=2.2						
MKAR	**Makanchi Array**	**94.85**	**317**	P	P	08 30 59.3	-0.2
	0.8nm,0.6s,baz=100,slow=7.1,SNR=9.1						
ARCES	**ARCESS Array B**	**117.67**	**345**	PKP	PKPdf	08 36 21.0	-2.1
	1.8nm,0.8s,baz=95,slow=1.9,SNR=3.0						
ESDC	**Sonseca Array**	**151.41**	**344**	PKPbc	PKPbc	08 37 32.7	+0.9
	0.2nm,0.4s,baz=106,slow=1.9,SNR=3.7						

IDC 11 08:21:09.0±1.6, 12°.83S×165°.91E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/19, mbtmp3.9/6, ML3.1/1, Error ellipse: s-maj=51.9km s-min=27.5km az=123.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.20**	**177**	Pn	Pn	08 23 22.9	-0.3
	0.2nm,0.3s,baz=87,slow=17,SNR=2.2						
DZM				Sn	Sn	08 25 06.0	-1.6
	0.1nm,0.3s,baz=48,slow=16,SNR=2.3						
STKA	**Stephens Creek**	**29.29**	**226**	P	P	08 27 13.7	+0.5
	1.7nm,0.8s,baz=61,slow=10,SNR=5.8						
WRA	**Warramunga Arr**	**31.07**	**253**	P	P	08 27 28.6	-0.5
	0.5nm,0.8s,baz=84,slow=9.8,SNR=3.6						
ASAR	**Alice Springs**	**32.18**	**246**	P	P	08 27 38.8	-0.1
	2.5nm,0.8s,baz=76,slow=9.2,SNR=20						
ILAR	**Eielson Array**	**85.14**	**18**	P	P	08 33 46.5	-0.2
	0.4nm,0.8s,baz=264,slow=4.4,SNR=3.8						
MKAR	**Makanchi Array**	**94.93**	**317**	P	P	08 34 33.5	+0.2
	0.5nm,0.7s,baz=108,slow=4.0,SNR=4.8						

IDC 11 08:39:03.0±5.7, 15°.74S×172°.67W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.5/21, mbtmp3.6/3, ML1.8/1, MS3.3/2, Ms1 3.3/2, ms1mx2.9/20, Error ellipse: s-maj=224.3km s-min=27.7km az=134.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.02**	**25**	Pn	Pn	08 39 38.1	-0.3
	20nm,0.3s,baz=146,slow=3.6,SNR=9.3						
RAR	**Rarotonga**	**13.38**	**116**	LR	LR	08 45 15.0	
	comp=Z,15nm,28.6s,baz=265,slow=28						
H11S2	**WAKE ISLAND Hy**	**39.62**	**328**	T	T	09 27 35.0	
	baz=152,slow=0.7,SNR=7.2						
H11S3	**WAKE ISLAND Hy**	**39.63**	**328**	T	T	09 27 42.3	
	baz=152,slow=0.7,SNR=11						
H11S1	**WAKE ISLAND Hy**	**39.64**	**328**	T	T	09 27 59.1	
	baz=152,slow=0.7,SNR=7.0						
H11N3	**WAKE ISLAND Hy**	**40.56**	**330**	T	T	09 29 09.6	
	baz=152,slow=0.7,SNR=5.0						
H11N1	**WAKE ISLAND Hy**	**40.56**	**330**	T	T	09 29 06.1	
	baz=152,slow=0.7,SNR=6.5						
H11N2	**WAKE ISLAND Hy**	**40.58**	**330**	T	T	09 29 13.0	
	baz=152,slow=0.7,SNR=6.5						
WRA	**Warramunga Arr**	**50.45**	**257**	P	P	08 48 02.3	-0.7
	0.4nm,0.8s,baz=97,slow=7.6,SNR=5.6						
ASAR	**Alice Springs**	**50.68**	**252**	P	P	08 48 05.0	+0.3
	1.0nm,0.6s,baz=85,slow=8.0,SNR=9.2						
PMSA	**Palmer Station**	**83.58**	**156**	LR	LR	09 19 57.0	
	comp=Z,73nm,19.7s,baz=69,slow=29						
GERES	**GERESS Array B**	**146.58**	**352**	PKPbc	PKPbc	08 58 46.1	-0.5
	0.3nm,0.7s,baz=349,slow=9.0,SNR=1.4						
BRTR	**Keskin Array B**	**146.87**	**321**	PKPbc	PKPab	08 58 51.9	+2.7
	0.4nm,0.6s,baz=16,slow=7.5,SNR=1.8						

IDC 11 08:46:46.3±3.5, 16°.30S×175°.59W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.9/18, mbtmp4.3/3, Error ellipse: s-maj=158.7km s-min=72.1km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.76**	**240**	P	P	08 54 38.0	+0.4
	2.1nm,0.5s,baz=95,slow=8.4,SNR=11						
WRA	**Warramunga Arr**	**47.59**	**258**	P	P	08 55 23.9	-0.5
	1.0nm,0.5s,baz=96,slow=6.8,SNR=20						
WRA				PcP	PcP	08 56 53.4	-0.9
	0.4nm,0.8s,baz=91,slow=5.0,SNR=2.9						
ASAR	**Alice Springs**	**47.83**	**253**	P	P	08 55 25.8	-0.4
	8.4nm,0.6s,baz=88,slow=8.4,SNR=145						
ASAR				PcP	PcP	08 56 55.7	+0.5
	0.3nm,0.6s,baz=99,slow=4.3,SNR=3.3						

IDC ***11*** *09:05:47.4±2.3, 6°.28S×129°.91E, h0km, mb3.3/1, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=155.9km s-min=31.0km az=69.0*
AUST ***11*** *09:05:48.2±3.8, 5°.96S×129°.09E, h145km, Error ellipse: s-maj=3.2km s-min=1.3km az=305.0*
ISC 11 09:05:47.6±1.0, 6°.34S±0°.08×130°.1E±0°.2, h10km, n9, σ2s63/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.81**	**355**	P	**Pg**	**09 06 20.8**	**-1.5**
	baz=1.6,SNR=9.2						
FAKI	**Fak Fak**	**4.04**	**33**	P	Pb	09 06 55.3	-3.6
	baz=4.4,SNR=23						
KDU	**Kakadu**	**6.75**	**160**	P	Pn	09 07 32.6	+5.8
	baz=7.5,SNR=16						
KNRA	**Kununurra**	**9.37**	**188**	P	Pn	09 08 06.0	+3.2
	baz=9.7,SNR=8.7						
FITZ	**Fitzroy Crossi**	**12.46**	**200**	P	**Pn**	**09 08 45.9**	**+0.6**
	baz=13,SNR=6.0						
WRA	**Warramunga Arr**	**14.15**	**163**	Pn	**Pn**	**09 09 09.7**	**+1.3**
	0.2nm,0.3s,baz=345,slow=13,SNR=20						
WRA				Sn	**Sn**	**09 11 42.6**	**-3.0**
	0.4nm,0.3s,baz=337,slow=21,SNR=6.9						
COEN	**Coen**	**14.96**	**121**	P	**P**	**09 09 26.1**	**+1.1**
	baz=16,SNR=6.4						
ASAR	**Alice Springs**	**17.62**	**168**	P	**P**	**09 09 56.4**	**+1.9**
	0.1nm,0.3s,baz=354,slow=13,SNR=8.3						
ASAR				S	**Sn**	**09 13 06.0**	**-4.0**
	0.1nm,0.3s,baz=0.4,slow=28,SNR=4.8						
MKAR	**Makanchi Array**	**67.70**	**327**	P	**P**	**09 16 45.9**	**+0.7**
	0.2nm,0.5s,baz=142,slow=6.8,SNR=2.8						

IDC ***11*** *09:27:36.7±0.8, 10°.94S×118°.88E, h0km, mb4.0/8, mb1 4.2/10, mb1mx4.0/20, mbtmp4.2/10, ML4.7/2, MS3.2/3, Ms1 3.2/3, ms1mx2.9/33, Error ellipse: s-maj=45.3km s-min=16.2km az=59.0*
ISCJB ***11*** *09:27:39.2±0.4, 11°.23S±0°.04×118°.72E±0°.04, h33km, mb3.9/8, Error ellipse: s-maj=5.9km s-min=5.0km az=33.8*
AUST ***11*** *09:27:42.7±3.3, 11°.37S×118°.79E, h33km, Error ellipse: s-maj=0.9km s-min=0.7km az=280.0*
DJA ***11*** *09:27:42.3±0.6, 11°.5S±6°×11°.9E±°, h173km±10km, M4.8/13, mb4.7/7, mB5.4/5, MLv4.8/13, Mw(mB)4.9/5*
ISC 11 09:27:41.1±0.6, 11°.12S±0°.05×118°.73E±0°.05, h33km, n44, σ1s67/43, mb4.0/8, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**1.61**	**24**	P	Pb	09 28 13.2	+2.9
WBSI				S	**Sb**	**09 28 28.5**	**-1.8**
WSI	**Waingapu**	**2.11**	**47**	P	**Pb**	**09 28 19.3**	**+0.5**
WSI				S	**Sb**	**09 28 47.2**	**+2.6**
WSI	**Waingapu**	**2.11**	**47**	P	**Pb**	**09 28 18.1**	**-0.6**
	baz=2.3,SNR=6.0						
MTNI	**Mataram**	**3.53**	**314**	P	Pb	09 28 38.0	-5.0
DNP	**Denpasar**	**4.24**	**305**	P	**Pn**	**09 28 44.6**	**+1.2**
DNP				S	**Sn**	**09 29 30.0**	**-1.8**
MMRI	**Maumere**	**4.25**	**55**	P	**Pn**	**09 28 44.7**	**+1.1**
SRBI	**Singaraja**	**4.60**	**311**	P	**Pn**	**09 28 48.8**	**+0.4**
BATI	**Baumata**	**4.93**	**80**	Pn	**Pn**	**09 28 54.9**	**+1.9**
	26nm,0.3s,baz=348,slow=0.6,SNR=30						
BATI				Sn	**Sn**	**09 29 46.9**	**-2.0**
	67nm,0.3s,baz=234,slow=19,SNR=6.0						
BYJI	**Banyuwangi**	**5.20**	**303**	P	**Pn**	**09 28 58.1**	**+1.5**
	192nm,0.7s,27µm1.5nm						
ABJI	**Asem Bagus**	**5.53**	**306**	P	**Pn**	**09 29 01.4**	**+0.1**
	224nm,0.8s,5µm0.9nm						
SOEI	**Soe**	**5.61**	**76**	P	**Pn**	**09 29 04.5**	**+2.0**
	140nm,0.9s,3µm1.2nm						
SOEI				S	**Sn**	**09 30 04.3**	**-1.5**
	140nm,0.9s,3µm1.2nm						
SOEI	**Soe**	**5.61**	**76**	P	**Pn**	**09 29 04.4**	**+2.0**
	baz=5.6,SNR=12						
BKSI	**Bulukumba**	**5.92**	**14**	P	Pn	09 29 10.1	+3.5
BKSI				S	**Sn**	**09 30 11.6**	**-1.8**
GMJI	**Gumukmas**	**5.93**	**298**	P	Pn	09 29 03.0	-3.8
BLJI	**Banyuglugur**	**6.08**	**303**	P	**Pn**	**09 29 06.3**	**-2.5**
	94nm,0.7s,4µm1.0nm						
KAPI	**Kappang**	**6.15**	**10**	P	**Pn**	**09 29 11.8**	**+2.0**
	62nm,1.8s,0.2nm						
KAPI	**Kappang**	**6.15**	**10**	Pn	**Pn**	**09 29 12.0**	**+2.2**
	5.0nm,0.3s,baz=196,slow=6.4,SNR=20						
KAPI				Sn	**Sn**	**09 30 16.4**	**-2.6**
	9.4nm,0.3s,baz=265,slow=23,SNR=8.3						
KAPI				LR	LR	09 31 45.0	
	comp=Z,176nm,20.8s,baz=57,slow=42						
SPSI	**Sidrap Palu**	**7.18**	**8**	P	**Pn**	**09 29 22.0**	**-2.0**
	17nm,0.7s,0.1nm						
PWJI	**Pagerwojo**	**7.50**	**294**	P	Pn	09 29 22.8	-5.4
MJSI	**Majene**	**7.53**	**2**	P	Pn	09 29 22.0	-6.7
SJI	**Sawahan**	**7.65**	**295**	P	**Pn**	**09 29 31.1**	**+0.6**
UGM	**Wanagama**	**8.70**	**291**	P	**Pn**	**09 29 45.7**	**+0.8**
	baz=8.9,SNR=3.4						
FITZ	**Fitzroy Crossi**	**9.63**	**137**	P	**Pn**	**09 29 56.4**	**-1.1**
	baz=9.4,SNR=73						
FITZ	**Fitzroy Crossi**	**9.63**	**137**	Pn	**Pn**	**09 29 56.4**	**-1.1**
	5.9nm,0.3s,baz=318,slow=7.4,SNR=108						
FITZ				Sn	Sn	09 31 35.2	-9.4
	4.9nm,0.3s,baz=272,slow=11,SNR=12						
FITZ				LR	LR	09 33 52.8	
	comp=Z,150nm,19.1s,baz=319,slow=39						
KNRA	**Kununurra**	**10.76**	**116**	P	**Pn**	**09 30 12.2**	**-0.7**
	baz=11,SNR=23						
CISI	**Cisompet, Garu**	**11.34**	**287**	P	Pn	09 30 09.3	-12
	baz=12,SNR=3.5						
GIRL	**Giralia**	**12.24**	**200**	P	**Pn**	**09 30 33.1**	**-0.1**
	baz=12,SNR=8.9						
KDU	**Kakadu**	**13.54**	**98**	P	**Pn**	**09 30 51.4**	**+0.4**
	baz=13,SNR=6.6						
MEEK	**Meekatharra**	**15.44**	**180**	P	**Pn**	**09 31 12.4**	**-4.1**
	baz=15,SNR=13						
FAKI	**Fak Fak**	**15.69**	**60**	P	**P**	**09 31 23.1**	**-0.5**
	baz=16,SNR=5.0						
WRA	**Warramunga Arr**	**17.39**	**122**	P	**Pn**	**09 31 38.3**	**-3.2**
	0.6nm,0.3s,baz=303,slow=15,SNR=54						
WRA				S	Sn	09 34 37.1	-17
	0.4nm,0.3s,baz=294,slow=22,SNR=5.3						
WRA				LR	LR	09 39 09.5	
	comp=Z,79nm,21.5s,baz=240,slow=40						
MORW	**Morawa**	**18.03**	**188**	P	**P**	**09 31 48.7**	**-0.7**
	baz=18,SNR=7.0						
ASAR	**Alice Springs**	**19.09**	**133**	P	**Pn**	**09 32 02.1**	**-0.1**
	1.8nm,0.3s,baz=321,slow=13,SNR=138						
ASAR				S	Sn	09 35 21.8	-13
	0.3nm,0.3s,baz=306,slow=22,SNR=8.1						
BLDU	**Ballidu**	**19.49**	**185**	P	**Pn**	**09 32 08.1**	**+1.3**
	baz=19,SNR=10.0						
NWAO	**Narrogin (SRO)**	**21.75**	**183**	P	**P**	**09 32 31.4**	**+1.6**
	10nm,0.9s,baz=348,slow=9.3,SNR=4.4						
NWAO				S	S	09 36 14.2	-15
	13nm,0.7s,baz=274,slow=16,SNR=4.9						
PSI	**Prapat**	**24.08**	**304**	P	P	09 32 59.8	+5.8
	baz=24,SNR=4.6						
PSI	**Prapat**	**24.08**	**304**	P	**P**	**09 32 55.8**	**+1.9**
	10nm,1.0s,baz=148,slow=13,SNR=5.2						
STKA	**Stephens Creek**	**29.53**	**138**	P	**P**	**09 33 44.2**	**+1.5**
	1.3nm,0.6s,baz=294,slow=12,SNR=2.7						
SONM	**Songino Array**	**59.71**	**350**	P	**P**	**09 37 42.9**	**+0.3**
	0.4nm,0.5s,baz=168,slow=8.8,SNR=2.2						
MKAR	**Makanchi Array**	**66.22**	**334**	P	**P**	**09 38 26.0**	**+0.2**
	0.7nm,0.5s,baz=150,slow=

	4.4nm,0.6s,baz=300,slow=6.2,SNR=19							
RABL	**Rabaul**	**44.44**	**88**	P	**P**	**10 01 06.1**	**+2.9**
	baz=45,SNR=5.8							
PATS	**Pohnpei**	**52.72**	**75**	P	P	10 02 19.5	+13
	baz=53,SNR=3.4							
SONM	**Songino Array**	**55.89**	**359**	P	**P**	**10 02 28.9**	**-0.6**
SONM	**Songino Array**	**55.89**	**359**	P	**P**	**10 02 28.9**	**-0.6**
	0.3nm,0.4s,baz=169,slow=8.4,SNR=2.9							
MKAR	**Makanchi Array**	**59.30**	**340**	P	**P**	**10 02 51.2**	**-2.1**
MKAR	**Makanchi Array**	**59.30**	**340**	P	**P**	**10 02 51.2**	**-2.1**
	0.8nm,0.5s,baz=150,slow=7.8,SNR=10							
KURBB	**Kurchatov Arra**	**63.87**	**340**	P	**P**	**10 03 22.5**	**-1.6**
	1.0nm,0.3s,baz=151,slow=6.3,SNR=4.2							
KURK	**Kurchatov**	**63.91**	**340**	P	**P**	**10 03 22.5**	**-1.9**
ZALV	**Zalesovo Beam**	**64.93**	**345**	P	**P**	**10 03 28.0**	**-3.0**
ZALV	**Zalesovo Beam**	**64.93**	**345**	P	**P**	**10 03 28.0**	**-3.0**
	0.5nm,0.4s,baz=149,slow=5.9,SNR=2.3							
MAW	**Mawson**	**66.32**	**197**	P	**P**	**10 03 41.5**	**+1.8**
MAW	**Mawson**	**66.32**	**197**	P	**P**	**10 03 41.5**	**+1.8**
	1.5nm,0.6s,baz=75,slow=4.9,SNR=6.2							
ABKAR	**Akbulak array**	**70.83**	**329**	*e*P	**P**	**10 04 06.1**	**-2.0**
	2.1nm,0.5s							
BRTR	**Keskin Array B**	**83.14**	**312**	P	**P**	**10 05 17.8**	**-0.1**
BRTR	**Keskin Array B**	**83.14**	**312**	P	**P**	**10 05 17.8**	**-0.1**
	0.2nm,0.4s,baz=140,slow=4.9,SNR=2.3							
FINES	**FINESS Array B**	**93.19**	**332**	P	**P**	**10 06 04.7**	**-0.9**
FINES	**FINESS Array B**	**93.19**	**332**	P	**P**	**10 06 04.7**	**-0.9**
	1.4nm,0.8s,baz=108,slow=8.9,SNR=2.9							
TXAR	**Lajitas Array**	**143.93**	**50**	PKP	PKPab	10 12 24.6	-0.3
TXAR	**Lajitas Array**	**143.93**	**50**	PKP	PKPab	10 12 24.6	-0.3
	0.1nm,0.5s,baz=325,slow=1.4,SNR=3.1							
JCT	**Junction City**	**146.17**	**46**	*e*PKPbc	**PKPdf**	**10 12 31.8**	**+0.4**
MIAR	**Mount Ida**	**147.41**	**34**	*e*PKPdf	**PKPdf**	**10 12 33.6**	**+0.3**

*IDC **11** 10:10:10.4±0.9, 16°.66S×172°.59W, h0km, mb3.9/8, mb1 4.3/8, mb1mx4.1/21, mbtmp3.9/8, MS3.8/4, Ms1 3.8/4, ms1mx3.3/36, Error ellipse: s-maj=42.1km s-min=20.2km az=139.0*
*NEIC **11** 10:10:12.5±0.5, 16°.44S×172°.71W, h10km, mb4.7/3, Error ellipse: s-maj=24.3km s-min=12.8km az=128.0*
*ISCJB **11** 10:10:13.0±0.6, 16°.5S±0°.1×172°.7W±0°.2, h24km, mb4.0/10, MS3.9/3, Error ellipse: s-maj=24.6km s-min=10.6km az=32.4*

ISC 11 10:10:14.7±0.7, 16°.5S±0°.1×172°.6W±0°.2, h24km, n49, σ1§22/33, mb4.1/10, MS4.0/3, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.68**	**18**	*e*Pn	Pn	10 10 51.1	-5.4
AFI				*e*Sn	**Sn**	**10 11 26.6**	**-1.7**
AFI	**Afiamalu**	**2.68**	**18**	Pn	Pn	10 10 51.5	-5.0
	13nm,0.3s,baz=312,slow=4.0,SNR=21						
AFI				Sn	Sn	10 11 17.4	-11
	23nm,0.3s,baz=209,slow=19,SNR=4.7						
RAR	**Rarotonga**	**13.05**	**113**	LR	LR	10 16 56.5	
	comp=Z,205nm,19.6s,baz=180,slow=31						
DZM	**Mont Dzumac**	**20.51**	**251**	*e*LR	LR	10 20 24.1	
	118nm,21.1s						
PPT	**Papeete**	**22.07**	**96**	LR	LR	10 21 50.5	
	comp=Z,162nm,21.7s,baz=0,2,slow=32						
PPT2	**Papeete2**	**22.07**	**96**	*e*LR	LR	10 19 50.0	
	273nm,26.5s						
TBI	**Tubuai**	**22.82**	**111**	*e*LQ	LQ	10 19 14.9	
	137nm,25.2s						
TBI				*e*LR	LR	10 20 13.7	
	306nm,29.0s						
URZ	**Urewera**	**23.50**	**201**	*e*P	**P**	**10 15 24.5**	**+1.6**
	28nm,1.3s						
URZ	**Urewera**	**23.50**	**201**	P	**P**	**10 15 20.6**	**-2.2**
	6.1nm,0.7s,baz=34,slow=7.3,SNR=1.6						
HNR	**Honiara**	**27.60**	**281**	LR	LR	10 25 20.6	
	comp=Z,396nm,20.3s,baz=294,slow=33						
RKT	**Rikitea**	**35.97**	**107**	*e*LR	LR	10 26 17.1	
	212nm,29.5s						
H11S2	**WAKE ISLAND Hy**	**40.26**	**329**	T	T	11 01 32.3	
	baz=148						
H11S3	**WAKE ISLAND Hy**	**40.27**	**329**	T	T	11 01 32.1	
	baz=148						
H11S1	**WAKE ISLAND Hy**	**40.28**	**329**	T	T	11 01 30.7	
	baz=148						
WRA	**Warramunga Arr**	**50.33**	**258**	P	**P**	**10 19 09.1**	**-1.0**
WRA	**Warramunga Arr**	**50.33**	**258**	P	**P**	**10 19 09.1**	**-1.0**
	1.2nm,1.0s,baz=96,slow=7.8,SNR=9.2						
AS31	**Alice Springs**	**50.49**	**253**	*e*P	**P**	**10 19 09.7**	**-1.5**
ASAR	**Alice Springs**	**50.49**	**253**	P	**P**	**10 19 10.1**	**-1.2**
ASAR	**Alice Springs**	**50.49**	**253**	P	**P**	**10 19 10.1**	**-1.2**
	6.4nm,0.7s,baz=89,slow=8.3,SNR=57						
FX1	**Attu Island--F**	**70.15**	**351**	LR	LR	10 49 02.9	
	comp=Z,154nm,20.3s,baz=268,slow=33						
QSPA	**South Pole Qui**	**73.58**	**180**	*e*P	**P**	**10 21 44.9**	**-0.9**
	4.3nm,0.9s						
NVAR	**Mina Array Bea**	**74.64**	**41**	P	**P**	**10 21 51.2**	**-1.2**
NVAR	**Mina Array Bea**	**74.64**	**41**	P	**P**	**10 21 51.2**	**-1.2**
	0.7nm,0.7s,baz=225,slow=9.0,SNR=5.3						
KSRS	**Korea Array**	**77.44**	**315**	P	**P**	**10 22 09.8**	**+1.6**
	1.0nm,0.8s,baz=114,slow=4.5,SNR=5.9						
KSAR	**Wonju Array Be**	**77.46**	**315**	P	**P**	**10 22 09.8**	**+1.5**
TXAR	**Lajitas Array**	**80.60**	**56**	P	**P**	**10 22 26.0**	**+0.2**
TXAR	**Lajitas Array**	**80.60**	**56**	P	**P**	**10 22 26.0**	**+0.2**
	0.6nm,1.0s,baz=196,slow=8.8,SNR=3.8						
MCK	**McKinley**	**82.04**	**10**	*e*P	**P**	**10 22 31.9**	**-0.6**
	9.7nm,1.0s						
PDAR	**Pinedale Array**	**82.57**	**41**	P	**P**	**10 22 37.9**	**+1.8**
PDAR	**Pinedale Array**	**82.57**	**41**	P	**P**	**10 22 37.9**	**+1.8**
	0.3nm,0.9s,baz=212,slow=9.6,SNR=2.3						
COLA	**College**	**83.28**	**10**	*e*P	**P**	**10 22 38.5**	**-0.4**
ILAR	**Eielson Array**	**83.35**	**11**	P	**P**	**10 22 39.2**	**-0.1**
ILAR	**Eielson Array**	**83.35**	**11**	P	**P**	**10 22 39.2**	**-0.1**
	1.3nm,0.6s,baz=230,slow=6.0,SNR=29						
DAWY	**Dawson**	**84.28**	**14**	*e*P	**P**	**10 22 44.3**	**+0.1**
SNAA	**Sanae**	**91.80**	**177**	*e*P	P	10 23 31.7	+11
VNA2	**Neumayer--Watz**	**92.23**	**175**	*e*P	P	10 23 34.0	+12
	baz=167,slow=2.6						
VNA1	**Neumayer--Stat**	**92.42**	**175**	*e*P	P	10 23 35.5	+12
CLL	**Collm**	**144.96**	**354**	*i* PKPdf	**PKPdf**	**10 29 50.2**	**+0.4**
	comp=Z,3.0nm,0.8s						
BRG	**Berggiesshubel**	**145.28**	**353**	*e*P	PKPdf	10 30 01.9	+11
	comp=Z,18nm,1.8s						
UPC	**Upice**	**145.34**	**350**	*e*PKP	**PKPdf**	**10 29 53.6**	**+3.1**
DPC	**Dobruska-Polom**	**145.45**	**350**	*e*PKP	**PKPab**	**10 29 51.1**	**+0.2**
DPC				*ex*	x	10 30 03.4	
PRU	**Pruhonice**	**146.07**	**352**	*e*PKP	**PKPbc**	**10 29 52.8**	**+0.2**
PRU				*ex*	x	10 30 05.4	
KHC	**Kasperske Hory**	**147.04**	**352**	*e*PKP	**PKPbc**	**10 29 55.8**	**+0.2**
KHC				*ex*	x	10 30 08.5	
KHC	**Kasperske Hory**	**147.04**	**352**	*e*PKPbc	**PKPbc**	**10 29 56.0**	**+0.4**
GERES	**GERESS Array B**	**147.30**	**352**	PKPbc	**PKPbc**	**10 29 55.7**	**-0.7**
GERES	**GERESS Array B**	**147.30**	**352**	PKPbc	**PKPbc**	**10 29 55.7**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=46,slow=3.9,SNR=4.8						
BR131	**Keskin Array S**	**147.45**	**321**	*e*PKPbc	**PKPbc**	**10 29 57.7**	**+0.6**
BRTR	**Keskin Array B**	**147.45**	**321**	PKPbc	**PKPbc**	**10 29 56.8**	**-0.4**
BRTR	**Keskin Array B**	**147.45**	**321**	PKPbc	**PKPbc**	**10 29 56.8**	**-0.4**
	comp=Z,4.2nm,0.9s,baz=107,slow=1.3,SNR=12						

*MDD **11** 10:14:39.8±2.0, 35°.26N×12°.45W, h0km, mb4.3/10, Error ellipse: s-maj=21.2km s-min=17.3km az=112.0, PRXIMO*
*INMG **11** 10:14:41.8±2.0, 34°.97N×12°.67W, h10km±15km, ML2.5, Error ellipse: s-maj=8.1km s-min=3.6km az=129.0*
*LDG **11** 10:14:41.2±0.3, 35°.20N×12°.68W, h30km, Ml3.3/3, Error ellipse: s-maj=6.5km s-min=6.5km az=107.0*
*CSEM **11** 10:14:42.8±0.4, 35°.36N×12°.21W, h10km, ML3.6/12, Error ellipse: s-maj=7.9km s-min=6.8km az=117.0*

ISC 11 10:14:43.7±3.8, 35°.4N±0°.1×12°.2W±0°.2, h10km, n93, σ0§88/132, 1C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**3.19**	**56**	*e*Pn	**Pn**	**10 15 34.1**	**+0.1**
PFVI				*e*Sn	**Sn**	**10 16 13.9**	**+1.7**
PFVI				A	A	10 16 16.8	
	6.3nm,0.2s						
PFVI	**Vila Bisbo**	**3.19**	**56**	⇑P	**Pn**	**10 15 34.1**	**+0.1**
	10nm,0.2s,SNR=18						
PFVI				S	**Sn**	**10 16 13.9**	**+1.7**
	18nm,0.9s,SNR=5.9						
PFVI	**Vila Bisbo**	**3.19**	**56**	P	**Pn**	**10 15 34.1**	**+0.1**
	10nm,0.2s,SNR=18						
PFVI				S	**Sn**	**10 16 13.9**	**+1.7**
	18nm,0.9s,SNR=5.9						
MORF	**Marmelete**	**3.41**	**55**	*i* Pn	**Pn**	**10 15 37.1**	**+0.1**
MORF				*e*Sn	**Sn**	**10 16 19.2**	**+1.7**
MORF				A	A	10 16 23.2	
	9.3nm,0.2s						
PTEO	**Sao Teotonio**	**3.49**	**51**	*i* Pn	**Pn**	**10 15 38.4**	**+0.3**
PTEO				*e*Sn	**Sn**	**10 16 21.2**	**+1.7**
PTEO				A	A	10 16 24.0	
	3.2nm,0.2s						
PBDV	**Barranco-do-Ve**	**3.87**	**61**	*e*Pn	**Pn**	**10 15 43.5**	**+0.1**
PBDV				*e*Sn	**Sn**	**10 16 30.3**	**+1.4**
PBDV				A	A	10 16 32.4	
	2.7nm,0.1s						
PBDV	**Barranco-do-Ve**	**3.87**	**61**	*e*Pn	**Pn**	**10 15 43.5**	**+0.1**
PBDV				*e*Sn	**Sn**	**10 16 30.3**	**+1.4**
	2.7nm,0.1s						
PNCL	**Nicolau / Gran**	**3.97**	**46**	*e*Pn	**Pn**	**10 15 45.0**	**+0.3**
PNCL				*e*Sn	**Sn**	**10 16 32.7**	**+1.4**
PNCL				A	A	10 16 36.3	
	6.9nm,0.1s						
PNCL	**Nicolau / Gran**	**3.97**	**46**	*e*Pn	**Pn**	**10 15 45.0**	**+0.3**
PNCL				*e*Sn	**Sn**	**10 16 32.7**	**+1.4**
	6.9nm,0.1s						
PCVE	**Castro Verde**	**3.99**	**55**	*e*Pn	**Pn**	**10 15 45.5**	**+0.5**
PCVE				*e*Sn	**Sn**	**10 16 32.8**	**+1.0**
PCVE				A	A	10 16 34.7	
	3.0nm,0.2s						
PCVE	**Castro Verde**	**3.99**	**55**	*e*Pn	**Pn**	**10 15 45.5**	**+0.5**
PCVE				*e*Sn	**Sn**	**10 16 32.8**	**+1.0**
	3.0nm,0.2s						
PVAQ	**Vaqueiros**	**4.10**	**60**	*e*Pn	**Pn**	**10 15 46.6**	**+0.2**
PVAQ				*e*Sn	**Sn**	**10 16 34.9**	**+0.5**
PVAQ				A	A	10 16 39.0	
	6.1nm,0.2s						
PVAQ	**Vaqueiros**	**4.10**	**60**	*e*Pn	**Pn**	**10 15 46.6**	**+0.2**
PVAQ				*e*Sn	**Sn**	**10 16 34.9**	**+0.5**
	6.1nm,0.2s						
PMPST	**Porto Santo, M**	**4.17**	**237**	*e*Pn	Pn	10 15 32.0	-15
PMPST				*e*Sn	Sn	10 16 07.8	-28
PMPST				A	A	10 16 12.1	
	8.3nm,0.3s						
PMPST	**Porto Santo, M**	**4.17**	**237**	*e*Pn	Pn	10 15 32.0	-15
PMPST				*e*Sn	Sn	10 16 07.8	-28
	8.3nm,0.3s						
PMAFR	**Mafra**	**4.22**	**32**	*e*Pn	**Pn**	**10 15 48.2**	**+0.1**
PMAFR				*e*Sn	**Sn**	**10 16 38.3**	**+0.8**
PMAFR				A	A	10 16 39.5	
	17nm,0.2s						
PMAFR	**Mafra**	**4.22**	**32**	P	**Pn**	**10 15 48.4**	**+0.3**
	2.0nm,0.2s,SNR=6.5						
PMAFR				S	**Sn**	**10 16 38.1**	**+0.7**
	7.2nm,0.3s,SNR=8.1						
PMAFR	**Mafra**	**4.22**	**32**	P	**Pn**	**10 15 48.4**	**+0.3**
	2.0nm,0.2s,SNR=6.5						
PMAFR				*e*Sn	**Sn**	**10 16 38.3**	**+0.8**
	17nm,0.2s						
PACT	**Alcochete**	**4.28**	**37**	*e*Pn	**Pn**	**10 15 49.9**	**+1.0**
PACT				*e*Sn	**Sn**	**10 16 39.9**	**+1.0**
PACT				A	A	10 16 42.7	
	7.4nm,0.2s						
PACT	**Alcochete**	**4.28**	**37**	*e*Pn	**Pn**	**10 15 49.9**	**+1.0**
PACT				*e*Sn	**Sn**	**10 16 39.9**	**+1.0**
	7.4nm,0.2s						
EGRO	**El Granado**	**4.32**	**59**	P	**Pn**	**10 15 49.6**	**+0.1**
	2.5nm,0.1s,SNR=23						
EGRO				S	**Sn**	**10 16 40.5**	**+0.5**
	2.4nm,0.3s						
EGRO	**El Granado**	**4.32**	**59**	P	**Pn**	**10 15 49.6**	**+0.1**
	2.5nm,0.1s,SNR=23						
EGRO				S	**Sn**	**10 16 40.5**	**+0.5**
	2.4nm,0.3s						
PBEJ	**Beja**	**4.33**	**52**	*e*Pn	**Pn**	**10 15 49.5**	**-0.1**
PBEJ				*e*Sn	**Sn**	**10 16 41.0**	**+0.9**
PBEJ				A	A	10 16 43.0	
	3.1nm,0.1s						
PBEJ	**Beja**	**4.33**	**52**	P	**Pn**	**10 15 49.5**	**-0.1**
PBEJ				S	**Sn**	**10 16 41.0**	**+0.9**
	1.6nm,0.1s						
PBEJ	**Beja**	**4.33**	**52**	P	**Pn**	**10 15 49.5**	**-0.1**
PBEJ				S	**Sn**	**10 16 41.0**	**+0.9**
	1.6nm,0.1s						
EVOP	**Sao Brissos**	**4.49**	**45**	*e*Pn	**Pn**	**10 15 52.3**	**+0.5**
EVOP				*e*Sn	**Sn**	**10 16 41.6**	**-2.4**
	5.0nm,0.2s						
EVO	**Evora**	**4.55**	**46**	*e*Pn	Pn	10 15 52.3	-0.4
EVO				*e*Sn	Sn	10 16 41.6	-4.1
	10.0nm,0.2s						
EVO	**Evora**	**4.55**	**46**	*e*Pn	**Pn**	**10 15 53.3**	**+0.6**
EVO				*e*Sn	**Sn**	**10 16 47.0**	**+1.3**
EVO	**Evora**	**4.55**	**46**	P	**Pn**	**10 15 53.3**	**+0.6**
EVO				S	**Sn**	**10 16 47.0**	**+1.3**
EVO	**Evora**	**4.55**	**46**	P	**Pn**	**10 15 53.3**	**+0.6**
EVO				S	**Sn**	**10 16 47.0**	**+1.3**
PMTG	**Montargil**	**4.82**	**39**	*e*Pn	**Pn**	**10 15 56.5**	**+0.2**
PMTG				*e*Sn	**Sn**	**10 16 52.4**	**+0.3**
PMTG				A	A	10 16 55.5	
	3.8nm,0.1s						
PMTG	**Montargil**	**4.82**	**39**	*e*Pn	**Pn**	**10 15 56.5**	**+0.2**
PMTG				*e*Sn	**Sn**	**10 16 52.4**	**+0.3**
	3.8nm,0.1s						
EMIN	**Mina Concepcio**	**5.00**	**60**	P	**Pn**	**10 15 58.6**	**-0.3**
	1.5nm,0.2s,SNR=17						
EMIN				S	**Sn**	**10 16 56.4**	**-0.4**
	1.6nm,0.5s						
EMIN	**Mina Concepcio**	**5.00**	**60**	P	**Pn**	**10 15 58.6**	**-0.3**
	1.5nm,0.2s,SNR=17						
EMIN				S	**Sn**	**10 16 56.4**	**-0.4**
	1.6nm,0.5s						
PESTR	**Estremoz**	**5.02**	**45**	*e*Pn	**Pn**	**10 15 59.4**	**+0.2**
PESTR				*e*Sn	**Sn**	**10 16 57.2**	**-0.1**
PESTR				A	A	10 16 58.8	
	1.0nm,0.3s						
PESTR	**Estremoz**	**5.02**	**45**	P	**Pn**	**10 15 59.4**	**+0.2**
PESTR				S	**Sn**	**10 16 57.2**	**-0.1**
	1.0nm,0.3s						
PESTR	**Estremoz**	**5.02**	**45**	P	**Pn**	**10 15 59.4**	**+0.2**
PESTR				S	**Sn**	**10 16 57.2**	**-0.1**
	1.0nm,0.3s						
PTOM	**Tomar**	**5.15**	**34**	*e*Sn	**Sn**	**10 17 00.8**	**+0.4**
PTOM				A	A	10 17 02.8	
	5.8nm,0.2s						
PTOM	**Tomar**	**5.15**	**34**	S	**Sn**	**10 17 00.8**	**+0.4**
	2.9nm,0.2s						
PTOM	**Tomar**	**5.15**	**34**	S	**Sn**	**10 17 00.8**	**+0.4**
	2.9nm,0.2s						
EBAD	**Badajoz**	**5.30**	**49**	P	Pn	**10 16 02.8**	**-0.2**
	1.6nm,0.2s,SNR=36						
EBAD				S	**Sn**	**10 17 03.5**	**-0.5**
	1.1nm,0.4s						
EBAD	**Badajoz**	**5.30**	**49**	P	Pn	**10 16 02.8**	**-0.2**
	1.6nm,0.2s,SNR=36						
EBAD				S	**Sn**	**10 17 03.5**	**-0.5**
	1.1nm,0.4s						
ESPR	**Espera**	**5.30**	**72**	P	Pn	10 16 02.4	-0.6
	1.7nm,0.1s,SNR=33						
ESPR				S	**Sn**	**10 17 04.1**	**-0.1**
	3.6nm,0.7s						
ESPR	**Espera**	**5.30**	**72**	P	Pn	10 16 02.4	-0.6
	1.7nm,0.1s,SNR=33						
ESPR				S	**Sn**	**10 17 04.1**	**-0.1**
	3.6nm,0.7s						
PCAS	**Casmilo, Conde**	**5.47**	**31**	*e*Pn	**Pn**	**10 16 06.1**	**+0.8**
PCAS				*e*Sn	**Sn**	**10 17 09.1**	**+0.9**
PCAS				A	A	10 17 12.1	
	2.9nm,0.2s						
PCAS	**Casmilo, Conde**	**5.47**	**31**	*e*Pn	**Pn**	**10 16 06.1**	**+0.8**
PCAS				*e*Sn	**Sn**	**10 17 09.1**	**+0.9**
	2.9nm,0.2s						
PMRV	**Marv??o**	**5.52**	**42**	*e*Pn	**Pn**	**10 16 06.3**	**+0.3**
PMRV				*e*Sn	**Sn**	**10 17 09.1**	**-0.5**
PMRV				A	A	10 17 10.9	
	2.6nm,0.3s						
PMRV	**Marv??o**	**5.52**	**42**	P	**Pn**	**10 16 06.3**	**+0.3**
PMRV				S	**Sn**	**10 17 09.1**	**-0.5**
	2.6nm,0.3s						
PMRV	**Marv??o**	**5.52**	**42**	P	**Pn**	**10 16 06.3**	**+0.3**
PMRV				S	**Sn**	**10 17 09.1**	**-0.5**
	2.6nm,0.3s						
EJIF	**Jimena Fronter**	**5.53**	**77**	P	**Pn**	**10 16 06.4**	**+0.3**
	3.6nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**5.53**	**77**	P	**Pn**	**10 16 06.4**	**+0.3**
	3.6nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**5.78**	**39**	*e*Pn	**Pn**	**10 16 09.8**	**+0.3**
PCBR				*e*Sn	**Sn**	**10 17 15.2**	**-0.6**
PCBR				A	A	10 17 17.4	
	1.2nm,0.1s						
PCBR	**Castelo Branco**	**5.78**	**39**	P	**Pn**	**10 16 09.8**	**+0.3**
PCBR				S	**Sn**	**10 17 15.2**	**-0.6**
	0.6nm,0.1s						
PCBR	**Castelo Branco**	**5.78**	**39**	P	**Pn**	**10 16 09.8**	**+0.3**
PCBR				S	**Sn**	**10 17 15.2**	**-0.6**
	0.6nm,0.1s						
ECAB	**El Cabril**	**6.03**	**62**	P	**Pn**	**10 16 13.0**	**0.0**
	1.1nm,0.1s,SNR=24						
ECAB				S	**Sn**	**10 17 20.3**	**-1.9**
	5.7nm,1.1s						
ECAB	**El Cabril**	**6.03**	**62**	P	**Pn**	**10 16 13.0**	**0.0**
	1.1nm,0.1s,SNR=24						
ECAB				S	**Sn**	**10 17 20.3**	**-1.9**
	5.7nm,1.1s						
PVIS	**Viseu**	**6.28**	**31**	*e*Sn	**Sn**	**10 17 27.5**	**-0.7**
PVIS				A	A	10 17 30.2	
	3.7nm,0.1s						
PVIS	**Viseu**	**6.28**	**31**	*e*Sn	**Sn**	**10 17 27.5**	**-0.7**
	3.7nm,0.1s						
EADA	**Adamuz**	**6.68**	**63**	P	**Pn**	**10 16 21.5**	**-0.4**
	1.4nm,0.1s,SNR=30						
EADA				S	**Sn**	**10 17 37.0**	**-1.1**
	4.3nm,0.9s						
EADA	**Adamuz**	**6.68**	**63**	P	**Pn**	**10 16 21.5**	**-0.4**
	1.4nm,0.1s,SNR=30						
EADA				S	**Sn**	**10 17 37.0**	**-1.1**
	4.3nm,0.9s						
EPLA	**Plasencia**	**6.69**	**44**	P	Pn	10 16 21.5	-0.6
	0.8nm,0.1s,SNR=7.9						
EPLA				S	**Sn**	**10 17 36.0**	**-2.4**
	SNR=7.9						
EPLA	**Plasencia**	**6.69**	**44**	P	Pn	10 16 21.5	-0.6
	0.8nm,0.1s,SNR=7.9						
EPLA				S	**Sn**	**10 17 36.0**	**-2.4**
	SNR=7.9						
ELUQ	**Luque**	**6.71**	**69**	P	**Pn**	**10 16 22.5**	**+0.1**
	1.3nm,0.1s,SNR=7.9						
ELUQ	**Luque**	**6.71**	**69**	P	**Pn**	**10 16 22.5**	**+0.1**
	1.3nm,0.1s,SNR=7.9						
PVRL	**Vila Real**	**6.82**	**29**	*e*Sn	**Sn**	**10 17 41.8**	**+0.3**
PVRL				A	A	10 17 44.6	
	3.1nm,0.1s						
PVRL	**Vila Real**	**6.82**	**29**	*e*Sn	**Sn**	**10 17 41.8**	**+0.3**
	3.1nm,0.1s						
POLO	**Lamas de Olo**	**6.87**	**29**	*e*Pn	**Pn**	**10 16 24.9**	**+0.3**
POLO				*e*Sn	**Sn**	**10 17 41.3**	**-1.6**
POLO				A	A	10 17 44.4	
	0.6nm,0.3s						
POLO	**Lamas de Olo**	**6.87**	**29**	*e*Pn	**Pn**	**10 16 24.9**	**+0.3**
POLO				*e*Sn	**Sn**	**10 17 41.3**	**-1.6**
	0.6nm,0.3s						
MVO	**Moncorvo**	**7.02**	**34**	*e*Pn	**Pn**	**10 16 26.5**	**-0.1**
MVO				*e*Sn	**Sn**	**10 17 45.1**	**-1.4**
MVO				A	A	10 17 46.9	
	1.8nm,0.2s						
MVO	**Moncorvo**	**7.02**	**34**	P	**Pn**	**10 16 26.5**	**-0.1**
	0.8nm,0.1s,SNR=12						
MVO				S	Sn	10 17 43.8	-2.8
	2.0nm,0.5s,SNR=5.6						
MVO	**Moncorvo**	**7.02**	**34**	P	**Pn**	**10 16 26.5**	**-0.1**
	0.8nm,0.1s,SNR=12						
MVO				S	Sn	10 17 43.8	-2.8
	2.0nm,0.5s,SNR=5.6						
MVO				*e*Sn	**Sn**	**10 17 45.1**	**-1.4**
	1.8nm,0.2s						
ELOB	**Lobios**	**7.20**	**25**	P	**Pn**	**10 16 29.0**	**-0.1**
	0.7nm,0.1s,SNR=7.9						
ELOB				S	Sn	10 17 46.3	-4.7
	2.6nm,0.4s,SNR=7.0						
ELOB	**Lobios**	**7.20**	**25**	P	**Pn**	**10 16 29.0**	**-0.1**
	0.7nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**7.26**	**65**	P	Pn	10 16 29.0	-0.9
	0.9nm,0.2s,SNR=7.9						
EBAN				S	**Sn**	**10 17 51.3**	**-1.1**
	1.7nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**7.26**	**65**	P	Pn	10 16 29.0	-0.9
	0.9nm,0.2s,SNR=7.9						
EBAN				S	**Sn**	**10 17 51.3**	**-1.1**
	1.7nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**7.78**	**54**	P	**Pn**	**10 16 37.1**	**+0.1**
	1.7nm,0.2s,baz=242,slow=13,SNR=19						
ESDC	**Sonseca Array**	**7.78**	**54**	P	**Pn**	**10 16 37.1**	**+0.1**
	1.7nm,0.2s,slow=13,SNR=19						
ECAL	**Calabor**	**7.78**	**31**	P	Pn	10 16 35.5	-1.5
	0.6nm,0.1s,SNR=7.9						
ECAL				S	**Sn**	**10 18 02.9**	**-2.3**
	3.0nm,0.5s,SNR=7.9						
ECAL	**Calabor**	**7.78**	**31**	P	Pn	10 16 35.5	-1.5
	0.6nm,0.1s,SNR=7.9						
ECAL				S	**Sn**	**10 18 02.9**	**-2.3**
	3.0nm,0.5s,SNR=7.9						
EMAZ	**Mazaricos**	**7.92**	**17**	S	Sn	10 18 02.3	-6.4

H03N3	**Juan Fernandez**	**11.03**	**219**	T		T		10 40 00.7	
	baz=43,slow=0.7,SNR=656								
SIV	**San Ignacio**	**12.74**	**47**	Pn		**Pn**		**10 29 15.4**	**-0.3**
SIV				Sn		**Sn**		**10 31 33.1**	**-3.6**
SIV	**San Ignacio**	**12.74**	**47**	Pn		**Pn**		**10 29 15.4**	**-0.3**
	comp=E,0.1nm,0.3s,baz=260,slow=12,SNR=2.6								
SIV				Sn		**Sn**		**10 31 33.1**	**-3.6**
	comp=E,0.2nm,0.3s,baz=225,slow=14,SNR=2.0								
PLCA	**Paso Flores**	**15.64**	**180**	Pn		**Pn**		**10 29 53.8**	**-1.1**
PLCA	**Paso Flores**	**15.64**	**180**	Pn		**Pn**		**10 29 53.8**	**-1.1**
	comp=E,0.1nm,0.3s,baz=7.1,slow=16,SNR=2.4								
BDFB	**Brasilia**	**23.20**	**71**	P		**P**		**10 31 21.1**	**-0.2**
BDFB	**Brasilia**	**23.20**	**71**	P		**P**		**10 31 21.1**	**-0.2**
	comp=E,1.1nm,0.3s,baz=234,slow=15,SNR=3.9								
VNA2	**Neumayer--Watz**	**57.89**	**160**	*eP*		**P**		**10 36 06.5**	**+1.2**
SNAA	**Sanae**	**59.50**	**160**	*eP*		**P**		**10 36 17.6**	**+1.0**
SNAA	**Sanae**	**59.50**	**160**	*eP*		**P**		**10 36 17.2**	**+0.6**
	comp=E,3.2nm,0.7s								
SNAA	**Sanae**	**59.50**	**160**	P		**P**		**10 36 17.6**	**+1.0**
	comp=E,1.0nm,0.6s,baz=279,slow=8.2,SNR=52								
TOA0	**Torodi Ar. Sit**	**80.09**	**70**	*eP*		**P**		**10 38 24.8**	**+0.7**
TORD	**Torodi Ar. Bea**	**80.09**	**70**	P		**P**		**10 38 25.1**	**+1.1**
TORD	**Torodi Ar. Bea**	**80.09**	**70**	P		**P**		**10 38 25.1**	**+1.1**
	comp=E,3.3nm,0.7s,baz=264,slow=5.2,SNR=23								
MAW	**Mawson**	**81.41**	**164**	P		**P**		**10 38 30.9**	**+0.7**
MAW	**Mawson**	**81.41**	**164**	P		**P**		**10 38 30.9**	**+0.7**
	comp=E,1.3nm,0.8s,baz=214,slow=18,SNR=2.5								
BOSA	**Boshof**	**83.23**	**118**	P		**P**		**10 38 41.8**	**+1.1**
BOSA	**Boshof**	**83.23**	**118**	P		**P**		**10 38 41.8**	**+1.1**
	comp=E,3.7nm,0.9s,baz=300,slow=10,SNR=3.5								
ASAR	**Alice Springs**	**126.03**	**208**	PKP		**PKPdf**		**10 45 16.0**	**-0.6**
ASAR	**Alice Springs**	**126.03**	**208**	PKP		**PKPdf**		**10 45 16.0**	**-0.6**
	comp=E,0.4nm,0.8s,baz=125,slow=2.3,SNR=5.8								
H11S2	**WAKE ISLAND Hyl**	**26.62**	**275**	T		T		13 04 51.4	
	baz=110,slow=0.7,SNR=32								
H11S1	**WAKE ISLAND Hyl**	**26.63**	**275**	T		T		13 04 52.1	
	baz=110,slow=0.7,SNR=19								
H11S3	**WAKE ISLAND Hyl**	**26.64**	**275**	T		T		13 04 51.1	
	baz=110,slow=0.7,SNR=14								
WRA	**Warramunga Arr**	**129.08**	**211**	PKP		**PKPdf**		**10 45 20.4**	**-2.1**
WRA	**Warramunga Arr**	**129.08**	**211**	PKP		**PKPdf**		**10 45 20.4**	**-2.1**
	comp=E,0.4nm,0.8s,baz=147,slow=1.6,SNR=3.3								
KURK	**Kurchatov**	**145.17**	**35**	PKPbc		**PKPbc**		**10 45 51.0**	**+0.4**
KURBB	**Kurchatov Arra**	**145.18**	**35**	PKPbc		**PKPbc**		**10 45 51.0**	**+0.4**
	comp=E,0.3nm,0.3s,baz=302,slow=3.8,SNR=4.4								
ZALV	**Zalesovo Beam**	**145.85**	**26**	PKPbc		**PKPdf**		**10 45 52.6**	**+0.6**
ZALV	**Zalesovo Beam**	**145.85**	**26**	PKPbc		**PKPdf**		**10 45 52.6**	**+0.6**
	comp=E,1.3nm,0.6s,baz=301,slow=3.3,SNR=6.6								
MKAR	**Makanchi Array**	**149.44**	**38**	PKPbc		**PKPbc**		**10 46 03.3**	**+0.6**
MKAR	**Makanchi Array**	**149.44**	**38**	PKPbc		**PKPbc**		**10 46 03.3**	**+0.6**
	comp=E,1.2nm,0.6s,baz=332,slow=2.9,SNR=11								

*IDC **11** 10:41:02.7±0.7, 12°.09S×165°.47E, h0km, mb4.2/14, mb1 4.4/16, mb1mx4.2/23, mbtmp4.2/16, ML4.3/2, MS3.6/4, Ms1 3.5/4, ms1mx3.1/25, Error ellipse: s-maj=20.2km s-min=16.9km az=123.0*

*ISCJB **11** 10:41:06.1±0.5, 12°.07S±0°.07×165°.38E±0°.07, h33km, mb4.3/18, MS3.5/3, Error ellipse: s-maj=10.2km s-min=8.5km az=42.9*

*NEIC **11** 10:41:08.0±0.4, 12°.07S×165°.48E, h35km, mb4.4/8, Error ellipse: s-maj=10.5km s-min=8.7km az=111.0*

ISC 11 10:41:07.9±0.5, 12°.18S±0°.06×165°.44E±0°.08, h35km, n47, σ1§11/50, mb4.3/18, MS3.4/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.05**	**296**	Pn	**Pn**	**10 42 33.8**	**-1.1**
HNR				Sn	**Sn**	**10 43 41.8**	**-1.1**
HNR	**Honiara**	**6.05**	**296**	Pn	**Pn**	**10 42 33.8**	**-1.1**
	15nm,0.3s,baz=165,slow=2.3,SNR=4.6						
HNR				Sn	**Sn**	**10 43 41.8**	**-1.1**
	baz=163,slow=19,SNR=3.5						
DZM	**Mont Dzumac**	**9.88**	**175**	*e*Pn	**Pn**	**10 43 27.5**	**-0.1**
DZM				Sn	**Sn**	**10 45 14.3**	**-3.1**
DZM	**Mont Dzumac**	**9.88**	**175**	Pn	**Pn**	**10 43 27.6**	**0.0**
	1.6nm,0.3s,baz=136,slow=20,SNR=9.8						
DZM				Sn	**Sn**	**10 45 14.3**	**-3.1**
	baz=35,slow=12,SNR=2.4						
PMG	**Port Moresby**	**18.16**	**277**	LR	LR	10 50 18.3	
	comp=Z,155nm,21.6s,baz=84,slow=30						
EIDS	**Eidsvold**	**18.86**	**224**	*eP*	**Pn**	**10 45 28.2**	**+2.3**
	12nm,1.1s						
CTA	**Charters Tower**	**20.02**	**244**	P	Pn	10 45 39.8	-0.1
CTA	**Charters Tower**	**20.02**	**244**	P	Pn	10 45 39.8	-0.1
	5.3nm,0.6s,baz=64,slow=13,SNR=9.5						
CTAO	**Charters Tower**	**20.02**	**244**	*eP*	Pn	10 45 39.8	-0.1
	10nm,0.8s						
ARMA	**Armidale**	**22.20**	**213**	*eP*	**P**	**10 46 03.2**	**+1.7**
	14nm,0.9s						
AFI	**Afiamalu**	**22.26**	**97**	LR	LR	10 52 29.0	
	comp=Z,187nm,18.3s,baz=66,slow=31						
OUZ	**Omahuta**	**24.10**	**163**	*eP*	**P**	**10 46 22.3**	**+2.0**
	20nm,0.9s						
URZ	**Urewera**	**27.98**	**160**	P	**P**	**10 46 55.8**	**+0.5**
URZ	**Urewera**	**27.98**	**160**	P	**P**	**10 46 55.8**	**+0.5**
	9.1nm,0.9s,baz=278,slow=7.1,SNR=5.1						
STKA	**Stephens Creek**	**29.42**	**224**	*eP*	**P**	**10 47 09.7**	**+1.4**
	0.9nm,0.8s						
STKA	**Stephens Creek**	**29.42**	**224**	P	**P**	**10 47 08.6**	**+0.4**
	2.4nm,0.7s,baz=25,slow=8.8,SNR=4.4						
STKA				LR	LR	10 58 14.3	
	comp=Z,98nm,21.3s,baz=24,slow=35						
WRAB	**Tennant Creek**	**30.81**	**252**	*eP*	**P**	**10 47 21.5**	**+0.8**
	50nm,1.9s						
WRA	**Warramunga Arr**	**30.82**	**251**	P	**P**	**10 47 20.5**	**-0.4**
WRA	**Warramunga Arr**	**30.82**	**251**	P	**P**	**10 47 20.5**	**-0.4**
	2.5nm,0.8s,baz=83,slow=9.4,SNR=18						
WRA				LR	LR	10 57 53.8	
	comp=Z,91nm,20.6s,baz=245,slow=33						
AS31	**Alice Springs**	**32.02**	**245**	*eP*	**P**	**10 47 30.7**	**-0.7**
ASAR	**Alice Springs**	**32.03**	**245**	P	**P**	**10 47 31.1**	**-0.3**
ASAR				PcP	**PcP**	**10 50 21.1**	**+0.4**
ASAR	**Alice Springs**	**32.03**	**245**	P	**P**	**10 47 31.1**	**-0.3**
	3.6nm,0.8s,baz=70,slow=9.2,SNR=43						
ASAR				PcP	**PcP**	**10 50 21.1**	**+0.4**
	0.4nm,0.6s,baz=55,slow=2.8,SNR=5.0						
USRK	**Ussuriysk Arra**	**63.82**	**334**	P	**P**	**10 51 36.7**	**0.0**
	1.7nm,0.7s,baz=120,slow=8.7,SNR=3.8						
FX1	**Attu Island--F**	**65.14**	**5**	P	**P**	**10 51 45.1**	**0.0**
FX1	**Attu Island--F**	**65.14**	**5**	P	**P**	**10 51 45.1**	**0.0**
	8.5nm,0.7s,baz=210,slow=8.1,SNR=3.0						
CMAR	**Chiang Mai Arr**	**72.29**	**294**	P	**P**	**10 52 31.8**	**+1.4**
CMAR	**Chiang Mai Arr**	**72.29**	**294**	P	**P**	**10 52 31.8**	**+1.4**
	1.1nm,0.6s,baz=128,slow=4.2,SNR=6.8						
QSPA	**South Pole Qui**	**77.83**	**180**	*eP*	**P**	**10 53 01.8**	**+0.1**
	4.4nm,1.1s						
SONM	**Songino Array**	**79.40**	**324**	P	**P**	**10 53 09.9**	**-0.6**
SONM	**Songino Array**	**79.40**	**324**	P	**P**	**10 53 09.9**	**-0.6**
	0.4nm,0.6s,baz=136,slow=6.8,SNR=4.2						
COLA	**College**	**84.45**	**18**	*eP*	**P**	**10 53 35.0**	**-1.5**
	20nm,0.8s						
ILAR	**Eielson Array**	**84.68**	**19**	P	**P**	**10 53 36.3**	**-1.4**
ILAR	**Eielson Array**	**84.68**	**19**	P	**P**	**10 53 36.3**	**-1.4**
	0.9nm,0.6s,baz=270,slow=5.6,SNR=12						
NVAR	**Mina Array Bea**	**86.98**	**50**	P	**P**	**10 53 49.4**	**-0.6**
NVAR	**Mina Array Bea**	**86.98**	**50**	P	**P**	**10 53 49.4**	**-0.6**
	0.6nm,0.7s,baz=231,slow=8.1,SNR=5.7						
MKAR	**Makanchi Array**	**94.14**	**317**	P	**P**	**10 54 23.5**	**+0.5**
MKAR	**Makanchi Array**	**94.14**	**317**	P	**P**	**10 54 23.5**	**+0.5**
	1.6nm,0.7s,baz=93,slow=5.9,SNR=15						
ZALV	**Zalesovo Beam**	**94.29**	**324**	P	**P**	**10 54 22.9**	**-0.6**
ZALV	**Zalesovo Beam**	**94.29**	**324**	P	**P**	**10 54 22.9**	**-0.6**
	0.8nm,0.6s,baz=110,slow=8.7,SNR=4.9						
TXAR	**Lajitas Array**	**96.63**	**62**	P	**P**	**10 54 35.6**	**+0.6**
TXAR	**Lajitas Array**	**96.63**	**62**	P	**P**	**10 54 35.6**	**+0.6**
	0.2nm,0.7s,baz=242,slow=3.6,SNR=2.9						
ARCES	**ARCESS Array B**	**117.35**	**345**	PKP	**PKPdf**	**10 59 50.1**	**+0.9**
ARCES	**ARCESS Array B**	**117.35**	**345**	PKP	**PKPdf**	**10 59 50.1**	**+0.9**
	4.6nm,1.0s,baz=54,slow=2.1,SNR=5.6						
NOA	**NORSAR Array B**	**127.71**	**344**	PKP	**PKPdf**	**11 00 10.1**	**+0.7**
NOA	**NORSAR Array B**	**127.71**	**344**	PKP	**PKPdf**	**11 00 10.0**	**+0.7**
	0.6nm,0.9s,baz=52,slow=2.1,SNR=3.2						
TORD	**Torodi Ar. Bea**	**164.11**	**275**	PKP	**PKPdf**	**11 01 08.3**	**-0.3**
TORD				PKPab	**PKPab**	**11 02 02.4**	**+0.2**
TORD	**Torodi Ar. Bea**	**164.11**	**275**	PKP	**PKPdf**	**11 01 08.3**	**-0.3**
	0.6nm,1.0s,baz=71,slow=1.9,SNR=2.1						
TORD				PKPab	**PKPab**	**11 02 02.4**	**+0.2**
	1.1nm,1.0s,baz=96,slow=6.0,SNR=4.5						

*CSEM **11** 10:51:43.2, 36°.40N×37°.25E, h7km, MD2.9, After DDA*

DDA 11 10:51:43.2, 36°.40N×37°.25E, h7km, MD2.9, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZU	**Kuzuini**	**0.40**	**340**	*i* P	Pg	10 51 50.9	-0.2
KUZU				*i* S	Sb	10 52 04.6	+5.6
KUZU	**Kuzuini**	**0.40**	**340**	*i* P	Pg	10 51 50.9	-0.2
KUZU				*i* S	Sb	10 52 04.6	+5.5
COBT	**Iskenderun**	**0.81**	**279**	*i* P	Pg	10 51 58.6	-0.4
COBT				*i* S	Sb	10 52 11.5	+0.4
COBT	**Iskenderun**	**0.81**	**279**	*i* P	Pg	10 51 58.6	-0.4
COBT				*i* S	Sb	10 52 11.5	+0.4
GZT	**Gaziantep**	**0.99**	**15**	*i* P	Pg	10 52 01.9	-0.5
GZT				*i* S	Sn	10 52 17.4	-0.6
AYKD	**Aykdinkavak**	**1.07**	**341**	*i* P	Pg	10 52 04.0	+0.1
AYKD				*i* S	Sn	10 52 19.9	0.0

*IDC **11** 11:00:37.1±0.5, 17°.72S×172°.97W, h0km, mb4.6/15, mb1 4.8/15, mb1mx4.6/23, mbtmp4.6/15, MS4.6/19, Ms1 4.6/19, ms1mx4.4/31, Error ellipse: s-maj=22.4km s-min=15.7km az=133.0*

*NEIC **11** 11:00:39.4±0.2, 17°.59S×173°.08W, h10km, mb5.0/66, Error ellipse: s-maj=11.0km s-min=4.6km az=142.0*

NEIC Felt at Neiafu.

*BJI **11** 11:00:39.3, 17°.23S×172°.96W, h9km, mB5.5/25, mb5.1/27, Ms5.2/18, Ms7 4.8/18*

*AUST **11** 11:00:40.3, 17°.43S×172°.22W, h60km*

*ISCJB **11** 11:00:41.1±4.1, 17°.72S±0°.07×173°.07W±0°.05, h31km±28km, mb4.9/89, MS4.7/28, Error ellipse: s-maj=11.8km s-min=6.3km az=155.2*

*GCMT **11** 11:00:43.7±0.2, 17°.64S×172°.42W, h13km, MW5.1, Moment Tensor Solution. s52,c73; s91,c156; Moment tensor: Scale 10¹⁶Nm; Mrr4.77±.15; Mθθ0.06±.11; Mφφ-4.83±.11; Mrθ1.29±.28; Mθφ-1.65±.07; Mrφ3.73±.31; Best double couple: M₀6.40000×10¹⁶ NP1:ϕs18.00000°, δ64.00000°, λ91.00000°. NP2:ϕs195.00000°, δ26.00000°, λ87.00000°. Principal axes: T 6.1300, Plg71.0000°, Azm291.0000°; N 0.5700, Plg1.0000°, Azm198.0000°; P -6.6900, Plg19.0000°, Azm107.0000°; Data Used: II IU IC G CN.*

*MOS **11** 11:00:45.6±1.2, 16°.69S×172°.91W, h33km, mb5.1/17 Error ellipse: s-maj=14.9km s-min=11.0km az=62.0*

ISC 11 11:00:40.0±0.5, 17.72S±0°.07×172.98W±0°.06, h14km±2km, h13km:pP-P, n469, σ1§05/480, mb5.0/90, MS4.6/28, 122C-107D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.20**	**115**	P	Pn	11 01 20.6	-9.2
	baz=2.7,SNR=50						
AFI	**Afiamalu**	**3.96**	**17**	*e*Pn	Pn	11 01 31.7	-8.6
AFI				Sn	Sn	11 02 13.5	-13
AFI	**Afiamalu**	**3.96**	**17**	Pn	Pn	11 01 32.0	-8.4
	18nm,0.3s,baz=48,slow=14,SNR=8.9						
AFI				Sn	Sn	11 02 13.5	-13
	41nm,0.3s,baz=208,slow=19,SNR=7.8						
AFI				LR	LR	11 03 05.0	
	comp=Z,2μm,21.2s,baz=179,slow=37						
MSVF	**Nonsavu**	**8.55**	**269**	*e*P	Pn	11 02 51.6	+8.1
MSVF				pmax	pmax		
	comp=Z,389nm,1.2s						
MSVF	**Nonsavu**	**8.55**	**269**	Pn	Pn	11 02 51.0	+7.5
	comp=Z,799nm,1.5s,SNR=11						
MSVF	**Nonsavu**	**8.55**	**269**	*e*Pn	Pn	11 02 51.6	+8.1
	comp=Z,389nm,1.2s						
RAR	**Rarotonga**	**12.93**	**108**	*e*Pn	Pn	11 03 33.4	-10
RAR	**Rarotonga**	**12.93**	**108**	Pn	Pn	11 03 33.5	-10
	comp=Z,6.5nm,0.3s,baz=270,slow=5.0,SNR=11						
DZM	**Mont Dzumac**	**19.82**	**254**	*e*P	**Pn**	**11 05 13.8**	**+1.7**
	comp=Z,137nm,1.5s						
DZM				*e*LR	LR	11 09 52.3	
	comp=Z,2μm,26.4s						
DZM	**Mont Dzumac**	**19.82**	**254**	P	**Pn**	**11 05 13.3**	**+1.2**
DZM	**Mont Dzumac**	**19.82**	**254**	P	**Pn**	**11 05 13.3**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=86,slow=18,SNR=3.0						
OUZ	**Omahuta**	**21.14**	**212**	*e*P	**P**	**11 05 25.9**	**+1.4**
	comp=Z,86nm,1.4s						
URZ	**Urewera**	**22.23**	**201**	*e*P	**P**	**11 05 36.9**	**+0.7**
	comp=Z,114nm,1.1s						
URZ	**Urewera**	**22.23**	**201**	P	**P**	**11 05 36.1**	**-0.2**
	comp=Z,60nm,0.9s,baz=22,slow=7.3,SNR=16						
PPT2	**Papeete2**	**22.30**	**93**	*e*S	S	11 09 34.6	-7.8
	comp=Z,2μm,26.0s						
PPT2				*e*LR	LR	11 10 23.3	
	comp=Z,3μm,29.2s,baz=260						
PPT	**Papeete**	**22.30**	**93**	LR	LR	11 12 40.2	
	comp=Z,2μm,18.3s,baz=258,slow=32						
TBI	**Tubuai**	**22.71**	**108**	*e*S	S	11 09 41.8	-7.9
	comp=Z,882nm,24.1s						
TBI				*e*LR	LR	11 10 43.2	
	comp=Z,3μm,30.2s,baz=284						
BKZ	**Black Stump Fm**	**23.26**	**201**	*e*P	**P**	**11 05 48.7**	**+1.6**
	comp=Z,50nm,1.1s						
HNR	**Honiara**	**27.55**	**284**	LR	LR	11 15 41.5	
	comp=Z,1μm,18.7s,baz=120,slow=33						
RPZ	**Rata Peaks**	**29.22**	**204**	*e*P	P	11 06 47.3	+6.0
	comp=Z,32nm,0.8s						
EIDS	**Eidsvold**	**34.21**	**251**	*e*P	**P**	**11 07 24.1**	**-1.2**
	comp=Z,15nm,1.3s						
RKT	**Rikitea**	**35.95**	**105**	*e*S	**S**	**11 13 16.5**	**-2.0**
	comp=Z,439nm,36.8s						
RKT				*e*LR	LR	11 16 48.5	
	comp=Z,2μm,29.2s,baz=275						
RMQ	**Roma**	**36.40**	**249**	P	**P**	**11 07 44.9**	**+0.7**
	baz=37,SNR=3.9						
CTAO	**Charters Tower**	**38.58**	**260**	*e*P	**P**	**11 08 02.6**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CTAO	**Charters Tower**	**38.58**	**260**	*e*P	**P**	**11 08 02.6**	**-0.1**
	comp=Z,7.2nm,0.7s						
CMSA	**Cobar Meteorol**	**39.77**	**242**	P	**P**	**11 08 11.9**	**-0.7**
	baz=40,SNR=5.1						
QLP	**Quilpie**	**40.45**	**250**	P	**P**	**11 08 17.3**	**-0.9**
	baz=41,SNR=7.8						
COEN	**Coen**	**42.28**	**269**	*e*P	**P**	**11 08 32.5**	**-0.9**
	comp=Z,57nm,0.7s						
STKA	**Stephens Creek**	**43.27**	**242**	*e*P	**P**	**11 08 40.3**	**-1.1**
	comp=Z,2.5nm,1.1s						
STKA	**Stephens Creek**	**43.27**	**242**	P	**P**	**11 08 41.0**	**-0.4**
	baz=44,SNR=7.2						
STKA	**Stephens Creek**	**43.27**	**242**	P	**P**	**11 08 40.6**	**-0.7**
	comp=Z,6.7nm,0.8s,baz=98,slow=9.8,SNR=10						
STKA				LR	LR	11 23 28.2	
	comp=Z,590nm,20.6s,baz=67,slow=32						
BBOO	**Buckleboo**	**48.04**	**242**	P	**P**	**11 09 18.3**	**-0.7**
	baz=49,SNR=7.9						
WRAB	**Tennant Creek**	**49.74**	**259**	*e*P	**P**	**11 09 30.3**	**-1.9**
WRAB				pmax	pmax		
	comp=Z,15nm,1.1s						
WRAB	**Tennant Creek**	**49.74**	**259**	P	**P**	**11 09 30.8**	**-1.5**
	comp=Z,64nm,1.3s,SNR=8.2						
WRAB	**Tennant Creek**	**49.74**	**259**	*e*P	**P**	**11 09 30.3**	**-1.9**
	comp=Z,15nm,1.1s						
WRA	**Warramunga Arr**	**49.75**	**259**	P	**P**	**11 09 29.9**	**-2.4**
WRA	**Warramunga Arr**	**49.75**	**259**	P	**P**	**11 09 29.9**	**-2.4**
	comp=Z,5.0nm,0.7s,baz=97,slow=7.7,SNR=78						
AS31	**Alice Springs**	**49.81**	**254**	*e*P	**P**	**11 09 31.3**	**-1.5**
ASAR	**Alice Springs**	**49.82**	**254**	P	**P**	**11 09 31.3**	**-1.6**
ASAR	**Alice Springs**	**49.82**	**254**	P	**P**	**11 09 31.3**	**-1.6**
	comp=Z,31nm,0.7s,baz=89,slow=8.5,SNR=209						
ASAR				LR	LR	11 27 44.2	
	comp=Z,607nm,21.9s,baz=198,slow=33						
KDU	**Kakadu**	**52.73**	**267**	P	P	11 09 58.2	+3.4
	baz=53,SNR=3.4						
KNRA	**Kununurra**	**55.65**	**263**	P	**P**	**11 10 16.6**	**+0.6**
	baz=56,SNR=5.0						
FITZ	**Fitzroy Crossi**	**58.16**	**259**	*e*P	**P**	**11 10 33.4**	**-0.4**
	comp=Z,9.1nm,1.1s						
FITZ	**Fitzroy Crossi**	**58.16**	**259**	P	**P**	**11 10 33.5**	**-0.3**
	baz=59,SNR=5.2						
VNDA	**Vanda**	**61.13**	**186**	*e*P	**P**	**11 10 56.3**	**+3.0**
	comp=Z,16nm,1.7s						
VNDA	**Vanda**	**61.13**	**186**	P	**P**	**11 10 52.9**	**-0.5**
	comp=Z,2.8nm,0.9s,baz=343,slow=6.5,SNR=4.8						
VNDA				LR	LR	11 34 07.5	
	comp=Z,292nm,18.8s,baz=130,slow=33						
MEEK	**Meekatharra**	**63.33**	**249**	P	**P**	**11 11 08.2**	**-0.8**
	baz=64,SNR=3.3						
BLDU	**Ballidu**	**64.53**	**244**	P	**P**	**11 11 16.8**	**0.0**
	baz=65,SNR=5.9						
MAJO	**Matsushiro**	**70.96**	**320**	*i* P	**P**	**11 11 56.5**	**-0.7**
MAT	**Matsushiro**	**70.96**	**320**	P	**P**	**11 11 56.6**	**-0.6**
MAT				*e*S	**S**	**11 21 17.0**	**+4.3**

SAO	**San Andreas Ge**	**72.79**	**41**	*e*P		**P**		**11 12 07.9**	**-0.2**
SAO				pmax		pmax			
	comp=Z,13nm,1.3s								
SAO	**San Andreas Ge**	**72.79**	**41**	*e*P		**P**		**11 12 07.9**	**-0.2**
	comp=Z,13nm,1.3s								
MURC	**Murrieta**	**73.69**	**46**	⇓P		**P**		**11 12 13.8**	**+0.3**
	baz=74								
VES	**Vestal, Richgr**	**73.74**	**43**	⇑P		**P**		**11 12 14.9**	**+1.2**
	baz=74								
MONP	**Monument Peak**	**73.83**	**47**	⇑P		**P**		**11 12 15.9**	**+1.3**
	baz=74								
EDW2	**Edwards Air Fo**	**73.89**	**44**	⇑P		**P**		**11 12 15.4**	**+0.7**
	baz=74								
ISA	**Isabella**	**74.03**	**44**	*e*P		**P**		**11 12 15.6**	**+0.1**
ISA				pmax		pmax			
	comp=Z,11nm,1.2s								
ISA	**Isabella**	**74.03**	**44**	*e*P		**P**		**11 12 15.6**	**+0.1**
	comp=Z,11nm,1.2s								
ISA	**Isabella**	**74.03**	**44**	⇓P		**P**		**11 12 16.2**	**+0.7**
	baz=74								
PFO	**Pinyon Flat Ob**	**74.21**	**46**	⇓P		**P**		**11 12 17.7**	**+1.0**
	baz=74								
CMB	**Columbia Colle**	**74.24**	**41**	*e*P		**P**		**11 12 16.6**	**-0.1**
CMB				pmax		pmax			
	comp=Z,8.0nm,1.0s								
CMB	**Columbia Colle**	**74.24**	**41**	*e*P		**P**		**11 12 16.6**	**-0.1**
	comp=Z,8.1nm,1.0s								
BELC	**Belle Mtn. Jos**	**74.74**	**46**	⇑P		**P**		**11 12 19.1**	**-0.7**
	baz=75								
MPMC	**Manual Prospec**	**74.91**	**44**	⇑P		**P**		**11 12 21.8**	**+1.0**
	baz=75								
BC3	**Big Chuckawall**	**74.93**	**47**	⇑P		**P**		**11 12 21.9**	**+1.0**
	baz=75								
GSC	**Goldstone**	**74.93**	**45**	⇓P		**P**		**11 12 21.9**	**+1.1**
	baz=75								
PETK	**Petropavlovsk-**	**74.95**	**342**	P		**P**		**11 12 19.1**	**-1.3**
PETK	**Petropavlovsk-**	**74.95**	**342**	P		**P**		**11 12 19.1**	**-1.3**
PETK	**Petropavlovsk-**	**74.95**	**342**	P		**P**		**11 12 19.1**	**-1.3**
	comp=Z,3.1nm,0.8s,baz=165,slow=6.0,SNR=5.6								
PETK				LR		LR		11 48 36.4	
	comp=Z,175nm,18.0s,baz=146,slow=38								
MTUM	**Tungsten Hills**	**74.97**	**42**	*e*P		**P**		**11 12 21.3**	**+0.2**
YBH	**Yreka Blue Hor**	**75.20**	**37**	LR		LR		11 39 13.7	
	comp=Z,422nm,19.5s,baz=234,slow=31								
BEKR	**Beckworth**	**75.39**	**39**	*e*P		**P**		**11 12 22.6**	**-0.8**
	comp=Z,3.6nm,1.1s								
IRM	**Iron Mountain**	**75.42**	**46**	⇓P		**P**		**11 12 23.8**	**+0.3**
	baz=76								
FURC	**Furnace Creek,**	**75.56**	**44**	⇓P		**P**		**11 12 25.1**	**+0.8**
	baz=76								
Y12C	**Blythe**	**75.63**	**47**	⇓P		**P**		**11 12 26.7**	**+2.0**
	baz=76								
113A	**Mohawk Valley,**	**75.63**	**48**	⇓P		**P**		**11 12 25.9**	**+1.1**
	baz=76								
HUMO	**Hull Mountain**	**75.63**	**36**	*e*P		**P**		**11 12 23.5**	**-1.1**
	comp=Z,24nm,1.5s								
YSS	**Yuzh-Sakhalins**	**75.69**	**330**	*i* P		**P**		**11 12 24.9**	**+0.2**
NVAR	**Mina Array Bea**	**75.78**	**41**	P		**P**		**11 12 24.3**	**-1.5**
NVAR	**Mina Array Bea**	**75.78**	**41**	P		**P**		**11 12 24.3**	**-1.5**
	comp=Z,5.0nm,0.8s,baz=226,slow=9.6,SNR=22								
NV11	**Mina Array Sit**	**75.88**	**41**	*e*P		**P**		**11 12 25.8**	**-0.5**
PAHR	**Pah Rah Range**	**75.88**	**40**	*e*P		**P**		**11 12 27.5**	**+1.2**
	comp=Z,22nm,1.7s								
214A	**Organ Pipe Nat**	**75.89**	**49**	⇓P		**P**		**11 12 26.5**	**+0.2**
	baz=76								
PDMCI	**Parker Dam,Lak**	**76.19**	**47**

comp=Z,14nm,1.5s
DUG **Dugway** 80.28 42 eP P 11 12 50.7 0.0
comp=Z,14nm,1.5s
DUG **Dugway** 80.28 42 ⇑P P 11 12 51.7 +1.0
baz=80
X20A **Quemado** 80.31 49 ⇑P P 11 12 52.3 +1.2
baz=80
Z21A **St. Cloud Mine** 80.32 51 ⇑P P 11 12 51.9 +0.7
baz=80
122A **Conniff Cattle** 80.53 51 ⇓P P 11 12 52.1 0.0
baz=81
W20A **Ramah** 80.60 49 ⇑P P 11 12 53.4 +0.8
baz=81
Y21A **Point of Rocks** 80.65 50 ⇑P P 11 12 54.1 +1.1
baz=81
Q16A **Castle Valley** 80.67 44 ⇓P P 11 12 53.8 +0.9
baz=81
E09A **Wood Farm, Sta** 80.77 35 eP P 11 12 52.6 -0.3
comp=Z,13nm,1.1s
X21A **Alamocita Cree** 80.78 49 ⇓P P 11 12 54.3 +0.7
baz=81
Z22A **Elephant Butte** 80.82 51 ⇓P P 11 12 53.5 -0.2
baz=81,SNR=8.1
TMUT **Trail Mountain** 80.85 44 eP P 11 12 54.6 +0.7
comp=Z,12nm,1.2s
F10A **Beach Ranch, E** 80.95 36 eP P 11 12 53.6 -0.5
comp=Z,118nm,2.5s
324A **Moseley Ranch,** 81.09 53 ⇑P P 11 12 56.4 +1.2
baz=81
MDJ **Mudanjiang** 81.10 322 P P 11 12 56.2 +1.5
MDJ sP **sP** 11 13 01.0 -0.1
MDJ PP **PP** 11 15 58.6 -1.5
MDJ AMB AMB
comp=Z,9.0nm,1.7s
MDJ AMB AMB
comp=Z,180nm,7.6s
MDJ LR LR
comp=Z,130nm,30.9s
MDJ LR LR
comp=Z,79nm,33.9s
MDJ LR LR
comp=Z,120nm,33.9s
Y22A **Socorro** 81.14 50 ⇑P P 11 12 56.2 +0.8
baz=81
HLID **Hailey** 81.16 39 eP P 11 12 55.7 +0.4
comp=Z,6.9nm,1.0s
HLID **Hailey** 81.16 39 ⇑P P 11 12 54.8 -0.6
baz=81,SNR=7.2
425A **Indio Mountain** 81.18 54 ⇑P P 11 12 56.0 +0.3
baz=81
U20A **Newcomb** 81.19 47 ⇑P P 11 12 57.4 +1.7
baz=81
W21A **San Fidel** 81.20 49 ⇑P P 11 12 57.4 +1.6
baz=81
LAZ **Ladron** 81.23 50 eP P 11 12 56.0 +0.1
comp=Z,2.5nm,1.1s
B08A **Colville Reser** 81.29 33 eP P 11 12 55.5 -0.2
comp=Z,8.8nm,1.0s
626A **Big Bend Ranch** 81.30 55 ⇓P P 11 12 57.1 +0.8
baz=81
224A **Cornudas Mount** 81.35 52 ⇑P P 11 12 56.3 -0.3
baz=82,SNR=6.7
Z23A **Rita Site, Whi** 81.36 51 ⇑P P 11 12 57.0 +0.4
baz=82
X22A **Bernardo** 81.37 50 ⇑P P 11 12 57.0 +0.4
baz=82
JLU **Jordanelle** 81.38 43 eP P 11 12 56.7 +0.1
comp=Z,8.1nm,1.1s
325A **Bean Ranch, Si** 81.45 53 ⇓P P 11 12 56.5 -0.7
baz=82,SNR=7.1
BNM **Barren Site** 81.48 50 eP P 11 12 57.1 -0.3
comp=Z,9.7nm,1.3s
C09A **Chrisman Ranch** 81.49 34 eP P 11 12 56.7 -0.1
comp=Z,138nm,2.7s
526A **Mary Lane Ranc** 81.55 55 ⇑P P 11 12 58.4 +0.7
baz=82
TXAR **Lajitas Array** 81.57 56 P P 11 12 57.3 -0.4
TXAR **Lajitas Array** 81.57 56 P P 11 12 57.3 -0.4
comp=Z,2.7nm,1.1s,baz=236,slow=6.3,SNR=15
TXAR LR LR 11 45 47.1
comp=Z,317nm,18.7s,baz=80,slow=33
PV05 **Paradox Valley** 81.64 46 eP P 11 12 58.8 +0.7
124A **Stringfield Ra** 81.69 52 ⇑P P 11 12 59.5 +1.1
baz=82
Y23A **Lovelace Mesa,** 81.80 51 ⇑P P 11 12 58.9 -0.1
baz=82
PV09 **Paradox Valley** 81.83 45 eP P 11 12 59.4 +0.3
U21A **Nageezi** 81.83 48 ⇓P P 11 12 59.0 -0.2
baz=82,SNR=9.4
PV10 **Paradox Valley** 81.83 46 eP P 11 12 58.1 -1.0
comp=Z,140nm,1.0s
627A **Terlingua Ranc** 81.84 56 ⇓P P 11 12 58.9 -0.3
baz=82,SNR=7.5
426A **McDonald Obser** 81.87 54 ⇓P P 11 12 59.8 +0.4
baz=82,SNR=6.8
225A **Deer Hill, Car** 81.89 53 ⇓P P 11 12 59.2 -0.3
baz=82,SNR=7.1
PV04 **Paradox Valley** 81.93 46 eP P 11 12 59.5 0.0
527A **Woodward Ranch** 81.96 55 ⇑P P 11 12 59.8 -0.1
baz=82,SNR=5.7
ANMO **Albuquerque** 81.98 50 eP P 11 12 60.0 0.0
comp=Z,16nm,1.5s
S20A **Disappointment** 82.02 46 ⇑P P 11 13 00.0 -0.1
baz=82
PV01 **Paradox Valley** 82.03 46 eP P 11 12 59.7 -0.5
comp=Z,1μm,1.1s
Z24A **Sheeppen Canyo** 82.04 51 ⇓P P 11 13 00.5 +0.3
baz=82
R20A **Redvale** 82.19 46 ⇑P P 11 13 01.3 +0.4
baz=82
T21A **Navajo Lake** 82.19 47 ⇑P P 11 13 01.7 +0.8
baz=82
326A **Caldwell Ranch** 82.19 54 ⇓P P 11 13 01.8 +0.8
baz=82
PV15 **Paradox Valley** 82.19 46 eP P 11 13 02.0 +1.0
628A **Black Gap, Mar** 82.25 56 ⇑P P 11 13 01.4 +0.2
baz=82,SNR=5.5
Y24A **Capitan** 82.26 51 ⇑P P 11 13 01.6 +0.2
baz=82,SNR=8.6
125A **Gardner Draw,** 82.27 52 ⇑P P 11 13 01.7 +0.4
baz=82
GDL2 **Guadalupe Moun** 82.28 53 eP P 11 13 02.2 +0.7
W23A **Werner Place,** 82.30 49 ⇓P P 11 13 02.4 +0.7
baz=82
S21A **Coal Bank Pass** 82.33 47 ⇑P P 11 13 02.1 +0.3
baz=82,SNR=8.8
226B **Tecolote Peak,** 82.38 53 ⇓P P 11 13 01.8 -0.1
baz=82,SNR=8.1
427A **Hayter Ranch,** 82.43 54 ⇓P P 11 13 02.1 -0.1
baz=83,SNR=6.2
P19A **Cripple Cowboy** 82.50 44 ⇓P P 11 13 03.4 +0.8
baz=83
Z25A **Roswell** 82.50 52 ⇓P P 11 13 02.9 +0.4
baz=83
528A **Cox Ranch, San** 82.61 55 ⇓P P 11 13 04.0 +0.7
baz=83
Q20A **Ridgley Place,** 82.62 45 ⇓P P 11 13 03.6 +0.5
baz=83,SNR=9.0
T22A **Edith** 82.64 48 ⇓P P 11 13 04.1 +0.7
baz=83
O19A **Miners Draw (B** 82.74 44 ⇑P P 11 13 03.3 -0.4
baz=83
126A **Clayton Basin,** 82.74 53 ⇓P P 11 13 04.2 +0.4
baz=83
MCMT **McKenzie Canyo** 82.80 38 eP P 11 13 03.6 -0.5
comp=Z,9.4nm,1.2s
Y25A **Mesa, Roswell** 82.81 51 ⇑P P 11 13 04.5 +0.4
baz=83
U23A **El Rito** 82.82 48 ⇑P P 11 13 04.5 +0.2
baz=83,SNR=7.3
P20A **De Beque** 82.83 45 ⇓P P 11 13 04.4 +0.2
baz=83,SNR=10
R21A **Cimarron** 82.84 46 ⇑P P 11 13 04.2 -0.2
baz=83,SNR=7.4
W24A **Lazy 6 Ranch,** 82.87 50 ⇑P P 11 13 05.7 +1.2
baz=83
RRI2 **Red Ridge** 82.92 40 eP P 11 13 04.6 -0.1
comp=Z,34nm,1.4s
428A **Kincaid Ranch,** 82.94 55 ⇑P P 11 13 05.6 +0.8
baz=83
S22A **4UR Ranch, Cre** 83.04 47 ⇓P P 11 13 05.4 -0.1
baz=83,SNR=13
Z26A **Caprock** 83.05 52 ⇑P P 11 13 05.2 -0.2
baz=83,SNR=10
Q21A **Lamborn Mesa,** 83.05 46 ⇑P P 11 13 06.7 +1.2
baz=83
X25A **Clemmons Ranch** 83.10 51 ⇑P P 11 13 06.1 +0.3
baz=83

CN2 **Changchun** 83.11 320 eP P 11 13 05.3 0.0
CN2 esP **sP** 11 13 12.1 +0.3
CN2 ePP **PP** 11 16 18.0 +1.2
CN2 eS **S** 11 23 23.1 -1.6
CN2 AMB AMB
comp=Z,10.0nm,1.2s
CN2 LR LR
comp=Z,200nm,19.0s
CN2 LR LR
comp=Z,200nm,19.0s
CN2 LR LR
comp=Z,200nm,20.0s
328A **Wristen Ranch,** 83.12 54 ⇓P P 11 13 05.3 -0.5
baz=83
V24A **Rampart Ranch,** 83.20 49 ⇑P P 11 13 07.0 +0.7
baz=83
TPAW **Teton Pass** 83.23 40 eP P 11 13 06.5 +0.2
comp=Z,32nm,1.6s
DLMT **Dillon** 83.25 38 eP P 11 13 06.4 +0.2
comp=Z,14nm,1.1s
T23A **Casias Ranch,** 83.26 48 ⇑P P 11 13 06.5 -0.2
baz=83
MSO **Missoula** 83.29 36 eP P 11 13 07.2 +0.8
comp=Z,26nm,1.8s
MSO **Missoula** 83.29 36 ⇑P P 11 13 05.8 -0.6
baz=83
HYT **Haines Junctio** 83.30 17 eP P 11 13 05.2 -0.9
MCK **McKinley** 83.31 11 eP P 11 13 04.8 -1.1
MCK pmax pmax
comp=Z,25nm,1.1s
MCK **McKinley** 83.31 11 eP P 11 13 04.8 -1.1
comp=Z,25nm,1.1s
R22A **Saguache, Gunn** 83.32 47 ⇓P P 11 13 07.4 +0.4
baz=84,SNR=6.4
M19A **Rock Springs** 83.33 43 ⇑P P 11 13 06.8 0.0
baz=84
SNOW **Snow King Moun** 83.33 40 eP P 11 13 07.4 +0.6
comp=Z,24nm,1.1s
IMW **Indian Meadow** 83.45 40 eP P 11 13 07.8 +0.4
comp=Z,24nm,1.3s
P21A **Newcastle** 83.47 45 ⇓P P 11 13 08.0 +0.4
baz=84
MOOW **Moose Ponds** 83.49 40 eP P 11 13 07.3 -0.3
comp=Z,16nm,1.3s
L19A **Farson** 83.50 42 P P 11 13 08.5 +0.9
baz=84
LOHW **Long Hollow** 83.50 40 eP P 11 13 08.2 +0.5
comp=Z,51nm,2.0s
429A **Davenport Ranc** 83.51 55 ⇓P P 11 13 07.8 0.0
baz=84,SNR=6.8
Q22A **Crested Butte,** 83.52 46 ⇓P P 11 13 07.6 -0.4
baz=84,SNR=7.4
W25A **X Bar L Ranch,** 83.56 50 ⇑P P 11 13 08.0 -0.1
baz=84
N20A **Spence Gulch,** 83.58 44 ⇓P P 11 13 07.9 -0.2
baz=84,SNR=5.5
LRM **Limekiln Ridge** 83.58 38 eP P 11 13 07.9 -0.1
228A **UT Block 9, Go** 83.60 54 ⇑P P 11 13 08.2 -0.1
baz=84
Z27A **Tatum** 83.64 52 ⇑P P 11 13 08.4 -0.1
baz=84
QLMT **Earthquake Lak** 83.65 39 eP P 11 13 09.6 +1.2
I17A **Pilgrim Ck.** 83.68 40 ⇓P P 11 13 08.6 0.0
baz=84
FLWY **Flagg Ranch** 83.69 40 eP P 11 13 09.6 +0.9
comp=Z,27nm,1.2s
BW06 **Boulder Array** 83.72 41 eP P 11 13 07.4 -1.4
comp=Z,19nm,1.3s
PDAR **Pinedale Array** 83.72 41 P P 11 13 07.4 -1.4
PDAR **Pinedale Array** 83.72 41 P P 11 13 07.4 -1.4
comp=Z,3.4nm,1.0s,baz=214,slow=3.1,SNR=14
PDAR LR LR 11 46 54.9
comp=Z,305nm,18.3s,baz=144,slow=33
V25A **Rancho No Teng** 83.73 49 ⇓P P 11 13 08.9 0.0
baz=84,SNR=7.6
CHMT **Chamberlain Mo** 83.73 37 eP P 11 13 08.6 -0.2
T24B **San Luis** 83.74 48 ⇓P P 11 13 09.7 +0.6
baz=84
329A **Wagon Wheel Ra** 83.80 54 ⇓P P 11 13 10.1 +0.8
baz=84
128A **Castleberry Fa** 83.90 53 ⇑P P 11 13 10.1 +0.4
baz=84
Y27A **Causey** 83.93 52 ⇑P P 11 13 10.3 +0.3
baz=84
R23A **Moffat** 83.95 47 ⇓P P 11 13 10.4 +0.2
baz=84
SDCO **Great Sand Dun** 83.97 47 eP P 11 13 09.9 -0.4
comp=Z,5.6nm,1.2s
P22A **Eagle** 83.97 45 ⇑P P 11 13 09.7 -0.5
baz=84
L20A **Wamsutter** 84.11 43 ⇑P P 11 13 12.1 +1.3
baz=84
S24A **Houchin Ranch,** 84.12 48 ⇓P P 11 13 10.9 -0.2
baz=84
U25A **Circle Dot Ran** 84.13 49 ⇑P P 11 13 11.3 +0.3
baz=84
QIZ **Qiongzhong** 84.14 292 P P 11 13 13.3 +2.1
QIZ S **S** 11 23 38.4 +2.3
QIZ LR LR
comp=Z,250nm,24.7s
Z28A **Tucker Farm, M** 84.26 53 ⇓P P 11 13 11.9 +0.4
baz=84
MSTX **Muleshoe** 84.26 52 eP P 11 13 11.0 -0.7
MSTX **Muleshoe** 84.26 52 ⇑P P 11 13 11.5 -0.1
baz=84
J19A **Crowheart** 84.29 41 ⇑P P 11 13 11.2 -0.4
baz=84,SNR=6.0
V26A **Tequesquite Ra** 84.31 50 ⇑P P 11 13 11.8 -0.1
baz=84
X27A **F and S Farms,** 84.31 51 ⇑P P 11 13 11.4 -0.5
baz=84
129A **Stewart Farms,** 84.37 53 ⇑P P 11 13 13.0 +0.8
baz=84
531A **Rocksprings** 84.38 56 ⇑P P 11 13 12.6 +0.3
baz=84
O22A **Kremling** 84.39 45 ⇑P P 11 13 12.1 -0.2
baz=84,SNR=7.3
330A **Mertzon** 84.39 55 ⇓P P 11 13 12.6 +0.4
baz=84
T25A **Trinidad** 84.46 48 ⇓P P 11 13 12.6 -0.1
baz=85
R24A **Sanders Place,** 84.47 47 ⇓P P 11 13 12.6 -0.1
baz=85
P23A **Jefferson** 84.50 46 ⇑P P 11 13 13.2 +0.2
baz=85
W27A **Bowe Ranch, En** 84.52 51 ⇑P P 11 13 13.7 +0.8
baz=85
COLA **College** 84.55 10 eP P 11 13 11.2 -1.0
COLA pmax pmax
comp=Z,27nm,1.0s
COLA **College** 84.55 10 eP P 11 13 11.2 -1.0
comp=Z,26nm,1.0s
WALA **Waterton Lakes** 84.58 35 eP P 11 13 12.3 -0.5
comp=Z,1.2nm,1.6s
U26A **Atchley Ranch,** 84.61 49 ⇓P P 11 13 13.0 -0.5
baz=85,SNR=6.1
Y28A **McKinney Farm,** 84.63 52 ⇓P P 11 13 13.8 +0.4
baz=85
ILAR **Eielson Array** 84.63 11 P P 11 13 11.0 -1.6
ILAR **Eielson Array** 84.63 11 P P 11 13 11.0 -1.6
comp=Z,2.0nm,0.9s,baz=224,slow=6.3,SNR=17
ILAR LR LR 11 50 51.6
comp=Z,307nm,18.5s,baz=189,slow=36
S25A **Robets Cordova** 84.68 48 ⇑P P 11 13 13.6 -0.2
baz=85,SNR=5.2
IM04 **Indian Mountai** 84.69 8 eP P 11 13 12.3 -0.6
RWWY **Rawlins** 84.69 43 eP P 11 13 19.6 +5.8
comp=Z,27nm,1.4s
I19A **Meeteetse** 84.72 41 ⇓P P 11 13 14.3 +0.4
baz=85
N22A **Wattenberg Ran** 84.76 44 ⇓P P 11 13 14.9 +0.7
baz=85
Z29A **Hungry Hill Ra** 84.76 53 ⇑P P 11 13 14.1 -0.1
baz=85
Q24A **Divide** 84.78 46 ⇓P P 11 13 14.6 +0.2
baz=85,SNR=5.9
O23A **Lake Granby, G** 84.84 45 ⇓P P 11 13 14.9 +0.2
baz=85
SEY **Seymchan** 84.85 345 eP P 11 13 13.8 +0.1
ISCO **Idaho Springs** 84.85 46 eP P 11 13 15.0 +0.3
ISCO pmax pmax
comp=Z,9.0nm,1.5s
ISCO **Idaho Springs** 84.85 46 eP P 11 13 15.0 +0.3
comp=Z,9.0nm,1.5s
ISCO **Idaho Springs** 84.85 46 ⇓P P 11 13 15.8 +1.1
baz=85
532A **Rocksprings** 84.87 56 ⇑P P 11 13 15.9 +1.2
baz=85
X28A **Dimmitt** 84.92 52 ⇓P P 11 13 15.7 +0.8
baz=85
331A **San Angelo** 84.94 55 ⇑P P 11 13 14.5 -0.5
baz=85
J20A **Shoshoni** 84.95 42 ⇑P P 11 13 15.4 +0.5
baz=85
M22A **Cedar Creek Ra** 84.95 44 ⇑P P 11 13 15.0 -0.1
baz=85
V27A **Dan Oppiter Fa** 84.99 50 ⇓P P 11 13 15.6 +0.4
baz=85
R25A **Fountain Ranch** 85.01 48 ⇓P P 11 13 16.2 +0.8
baz=85
Y29A **Porterfield Fa** 85.04 52 ⇑P P 11 13 14.6 -0.9
baz=85
H19A **Powell** 85.05 40 ⇓P P 11 13 15.5 +0.1
baz=85
T26A **Comanche Natio** 85.06 49 ⇓P P 11 13 15.6 -0.1
baz=85
K21A **Alcova** 85.12 42 ⇑P P 11 13 16.7 +0.8
baz=85
N23A **Red Feather La** 85.14 44 ⇑P P 11 13 17.2 +1.1
baz=85
Z30A **Sanderson Ranc** 85.21 53 ⇓P P 11 13 16.3 0.0
baz=85
GCMT **Greyliff** 85.21 39 eP P 11 13 15.5 -0.7
comp=Z,11nm,1.3s
I20A **Worland** 85.22 41 ⇓P P 11 13 17.2 +1.0
baz=85
432A **Menard** 85.26 56 ⇓P P 11 13 17.8 +1.2
baz=85
X29A **Tulia** 85.27 52 ⇑P P 11 13 17.0 +0.4
baz=85
231A **Bronte** 85.28 55 ⇑P P 11 13 15.8 -0.9
baz=85
U27A **Thompson Grove** 85.28 50 ⇓P P 11 13 17.1 +0.3
baz=85
J21A **Lysite** 85.35 42 ⇑P P 11 13 18.3 +1.3
baz=86
S26A **Kim** 85.35 48 ⇑P P 11 13 17.8 +0.8
baz=86
L22A **Ellis Ranch, M** 85.36 43 ⇓P P 11 13 17.9 +0.8
baz=86
O24A **Longmont** 85.37 45 ⇓P P 11 13 17.9 +0.8
baz=86
V28A **Channing** 85.43 50 ⇑P P 11 13 18.3 +0.8
baz=86
332A **Millersview** 85.50 55 ⇓P P 11 13 18.6 +0.8
baz=86
DAWY **Dawson** 85.56 14 eP P 11 13 16.6 -0.8
W29A **Amraillo** 85.59 51 ⇑P P 11 13 19.0 +0.8
baz=86
K22A **Casper** 85.60 43 ⇓P P 11 13 18.2 0.0
baz=86
Y30A **Stafford Cattl** 85.63 53 ⇑P P 11 13 19.7 +1.2
baz=86
R26A **Arlington** 85.67 48 ⇓P P 11 13 19.4 +0.8
baz=86
I21A **Big Trails, Te** 85.67 41 ⇑P P 11 13 18.2 -0.4
baz=86
F19A **Roth Farm, Mol** 85.68 39 ⇓P P 11 13 19.0 +0.6
baz=86
P25A **Willow Gulch B** 85.71 46 ⇓P P 11 13 19.6 +0.8
baz=86
MAW **Mawson** 85.74 199 LR LR 11 51 03.6
comp=Z,712nm,18.3s,baz=114,slow=35
232A **Coleman** 85.78 55 ⇓P P 11 13 19.6 +0.3
baz=86
S27A **Las Animas** 85.78 48 ⇑P P 11 13 19.1 -0.1
baz=86
N24A **Carr** 85.82 45 ⇓P P 11 13 21.0 +1.7
baz=86
L23A **Garrett** 85.88 43 ⇓P P 11 13 20.5 +0.8
baz=86
Z31A **Sharp Cattle R** 85.97 53 ⇓P P 11 13 20.1 0.0
baz=86
J22A **Midwest** 86.00 42 ⇓P P 11 13 19.8 -0.4
baz=86
ABTX **Abilene, Hawle** 86.08 54 eP P 11 13 20.2 -0.5
ABTX **Abilene, Hawle** 86.08 54 ⇑P P 11 13 20.2 -0.5
baz=86
E19A **Rath Farm, Rou** 86.08 39 ⇓P P 11 13 20.6 +0.2
baz=86
T28A **Walsh** 86.10 49 ⇑P P 11 13 20.7 -0.1
baz=86
R27A **Eads** 86.12 48 ⇓P P 11 13 20.8 0.0
baz=86
Y31A **Rekieta Farm,** 86.15 53 ⇑P P 11 13 20.9 0.0
baz=86
P26A **Davis Ranch, A** 86.30 47 ⇓P P 11 13 22.1 +0.4
baz=86
S28A **Manter** 86.46 49 ⇓P P 11 13 22.9 +0.4
baz=87
Z32A **Haskell** 86.48 54 ⇑P P 11 13 23.4 +0.8
baz=87
E20A **Meyer Farm, Mu** 86.50 39 ⇓P P 11 13 24.3 +1.9
baz=87
C19A **Slack Wire Ran** 86.58 37 ⇓P P 11 13 23.9 +1.1
baz=87
X31A **McDonald Ranch** 86.63 52 ⇓P P 11 13 23.3 0.0
baz=87
Y32A **R-V Farms, Ver** 86.79 53 ⇑P P 11 13 24.9 +0.8
baz=87
D20A **Manuel Ranch,** 86.79 38 ⇓P P 11 13 24.5 +0.6
baz=87
R28A **Tribune** 86.84 48 ⇑P P 11 13 23.5 -0.9
baz=87
W31A **Holland Ranch,** 86.89 52 ⇑P P 11 13 24.6 0.0
baz=87
EDM **Edmonton** 87.24 31 eP P 11 13 26.0 +0.1
EDM **Edmonton** 87.24 31 eP P 11 13 26.0 +0.1
BJT **Baijiatuau** 87.34 313 eP P 11 13 27.0 +0.4
comp=Z,8.5nm,0.3s
BJI **Beijing** 87.35 313 P P 11 13 27.1 +0.5
BJI S **S** 11 24 07.1 +0.4
BJI SS **SS** 11 29 53.4 +1.5
BJI AMB AMB
comp=Z,22nm,1.2s
BJI AMB AMB
comp=Z,260nm,7.9s
BJI LR LR
comp=Z,190nm,26.5s
BJI LR LR
comp=Z,140nm,26.2s
A19A **Klindworth Far** 87.37 36 ⇑P P 11 13 27.2 +0.6
baz=88
P28A **Saint Francis** 87.41 47 ⇓P P 11 13 28.3 +1.2
baz=88
IPM **Ipoh** 87.54 275 eP P 11 13 29.2 +1.0
comp=Z,14nm,1.0s
PLCA **Paso Flores** 87.67 132 LR LR 11 47 18.8
comp=Z,461nm,19.0s,baz=153,slow=32
A20A **Cobblestone Ra** 87.81 37 ⇑P P 11 13 29.8 +1.1
baz=88
T31A **Randall Ranch,** 87.86 50 ⇓P P 11 13 30.0 +0.7
baz=88
N28A **Pribbeno Ranch** 88.03 46 ⇓P P 11 13 30.9 +0.9
baz=88
I25A **Rochford** 88.04 42 ⇓P P 11 13 30.6 +0.5
baz=88
PSI **Prapat** 89.03 273 P P 11 13 35.6 +0.2
baz=90,SNR=9.1
O31A **Woolen Ranch,** 89.35 47 ⇑P P 11 13 37.3 +1.1
baz=90
GYA **Guiyang** 89.48 298 P P 11 13 38.0 +0.8
GYA PP **PP** 11 17 10.7 +1.9
GYA SKS **SKSac** 11 24 06.5 -1.1
GYA S **S** 11 24 25.6 -2.2
GYA SS **SS** 11 30 25.0 +1.2
GYA AMB AMB
comp=Z,20nm,1.0s
GYA AMB AMB
comp=Z,120nm,5.8s
GYA LR LR
comp=Z,530nm,18.4s
GYA LR LR
comp=Z,480nm,18.0s
GYA LR LR
comp=Z,520nm,17.2s
K29A **Lazy Trails An** 89.74 45 ⇓P P 11 13 39.3 +1.3
baz=90
DGMT **Dagmar** 89.78 38 eP P 11 13 39.5 +1.5
comp=Z,23nm,1.1s
G27A **Dupree** 89.79 42 ⇑P P 11 13 39.5 +1.4
baz=90
H28A **Mission Ridge** 90.08 43 ⇓P P 11 13 40.6 +1.1
baz=90
A24A **Westby** 90.10 38 ⇑P P 11 13 41.1 +1.6

baz=90
D26A Manning 90.20 40 ⇑P **P** **11 13 41.5 +1.5**
baz=90
SYO Syowa Base 90.42 191 ⇑*e*P **P** **11 13 40.0 -0.6**
E27A Carson 90.48 41 ⇑P **P** **11 13 42.9 +1.6**
baz=91
H29A Onida 90.58 43 ⇓P **P** **11 13 42.4 +0.6**
baz=91
SNAA Sanae 90.58 177 P **P** **11 13 40.0 -1.6**
SNAA Sanae 90.58 177 P **P** **11 13 40.0 -1.6**
comp=Z,0.8nm,1.0s,baz=207,slow=8.1,SNR=5.0
HHC Hu-ho-hao-te 90.89 313 *e*P **P** **11 13 41.6 -1.9**
HHC sP **sP** **11 13 48.6 -1.3**
HHC PP **PP** **11 17 20.0 +0.3**
HHC SKS **SKSac** **11 24 11.0 -4.1**
HHC S **S** **11 24 35.6 -4.6**
HHC sS **ScS** **11 24 43.6 +0.1**
HHC SS **SS** **11 30 41.6 -2.0**
HHC AMB AMB
comp=Z,24nm,0.6s
HHC AMB AMB
comp=Z,540nm,6.4s
HHC LR LR
comp=Z,350nm,17.9s
HHC LR LR
comp=Z,350nm,18.2s
HHC LR LR
comp=Z,410nm,17.4s
JTS JuntasAbangare 91.22 80 P **P** **11 13 46.2 +0.7**
JTS JuntasAbangare 91.22 80 P **P** **11 13 46.2 +0.7**
comp=Z,6.9nm,0.9s,baz=74,slow=7.4,SNR=4.9
YAK Yakutsk 91.39 337 *e*P **P** **11 13 46.4 +1.3**
KMI Kunming 92.39 295 P **P** **11 13 52.3 +1.4**
KMI pP **pP** **11 13 55.2 -0.5**
KMI sP **sP** **11 13 56.4 -1.0**
KMI PP PP 11 17 38.7 +6.7
KMI S **S** **11 24 49.0 -5.7**
KMI sS **ScS** **11 24 57.9 +1.0**
KMI SS **SS** **11 31 08.3 +2.2**
KMI AMB AMB
comp=Z,9.0nm,1.2s
KMI AMB AMB
comp=Z,180nm,3.4s
KMI LR LR
comp=Z,190nm,23.0s
CD2 Chengdu 93.35 301 P **P** **11 13 55.4 +0.4**
CD2 AMB AMB
comp=Z,10.0nm,0.5s
CMAR Chiang Mai Arr 93.72 288 P **P** **11 13 58.1 +1.2**
CMAR Chiang Mai Arr 93.72 288 P **P** **11 13 58.1 +1.2**
comp=Z,1.4nm,0.5s,baz=106,slow=3.1,SNR=15
CHTO Chiang Mai 93.82 288 *e*P **P** **11 13 59.1 +1.7**
CHTO pmax pmax
comp=Z,17nm,0.9s
CHTO Chiang Mai 93.82 288 *e*P **P** **11 13 59.1 +1.7**
comp=Z,17nm,0.9s
LZH Lanzhou 94.91 306 *e*P **P** **11 14 01.9 -0.3**
LZH pP **pP** **11 14 05.8 -1.2**
LZH sP **sP** **11 14 08.9 +0.2**
LZH *e*S **S** **11 25 11.0 -5.4**
LZH AMB AMB
comp=Z,26nm,1.1s
LZH AMB AMB
comp=Z,86nm,4.4s
LZH LR LR
comp=Z,620nm,16.0s
LZH LR LR
comp=Z,710nm,15.4s
LZH LR LR
comp=Z,840nm,16.8s
ULM Lac du Bonnet 95.47 39 LR LR 11 55 15.2
comp=Z,742nm,18.4s,baz=248,slow=34
SONM Songino Array 96.83 318 LR LR 11 54 44.2
comp=Z,132nm,18.2s,baz=298,slow=34
TIXI Tiksi 97.33 344 *e*P **P** **11 14 11.3 -0.8**
LPAZ La Paz 98.64 110 LR LR 11 50 10.9
comp=Z,230nm,18.4s,baz=312,slow=30
ROSC El Rosal 99.69 88 LR LR 11 48 35.7
comp=Z,81nm,18.9s,baz=1.0,slow=29
MKAR Makanchi Array 112.72 314 PKiKP **PKiKP** **11 19 15.5 -0.7**
MKAR Makanchi Array 112.72 314 PKiKP **PKiKP** **11 19 15.5 -0.7**
comp=Z,0.6nm,0.7s,baz=88,slow=2.5,SNR=3.3
KSH Kashi 117.16 306 *e*PKP **PKPdf** **11 19 27.1 +2.0**
KSH PP PP 11 20 43.4 +7.8
KSH PKS **PKSdf** **11 23 02.5 +0.6**
KSH SKS **SKSdf** **11 26 37.5 +0.4**
KSH PPMZ
comp=Z,83nm,4.7s
KSH LR LR
comp=Z,74nm,6.5s
KSH LR LR
comp=Z,130nm,4.6s
ARU Arti 125.51 328 *i* PKIKP **PKPdf** **11 19 40.9 +0.5**
ARU 11 21 30.7
ARU SS SS 11 38 28.6 -1.2
ARCES ARCESS Array B 126.95 352 PKP **PKPdf** **11 19 42.3 -0.6**
ARCES ARCESS Array B 126.95 352 PKP **PKPdf** **11 19 42.3 -0.6**
comp=Z,4.5nm,1.0s,baz=47,slow=1.7,SNR=5.3
ABKAR Akbulak array 127.23 319 *e*PKPdf **PKPdf** **11 19 44.4 +0.4**
FINES FINESS Array B 134.28 347 PKP **PKPdf** **11 19 57.6 +0.6**
FINES FINESS Array B 134.28 347 PKP **PKPdf** **11 19 57.6 +0.6**
comp=Z,1.5nm,0.8s,baz=284,slow=1.6,SNR=3.8
KIV Kislovodsk 140.22 319 *e*PKiKP **PKPdf** **11 20 11.0 +2.4**
KIV pmax pmax
comp=Z,3.0nm,0.9s
AKASG Malin Array Be 142.62 337 PKiKP **PKPdf** **11 20 11.5 -1.0**
AKASG Malin Array Be 142.62 337 PKP **PKPdf** **11 20 11.5 -1.0**
AKASG Malin Array Be 142.62 337 PKP **PKPdf** **11 20 11.5 -1.0**
comp=Z,0.2nm,0.3s,baz=40,slow=3.6,SNR=3.4
ANN Anapa 142.90 323 *i* PKHKP PKPpre 11 20 04.7
ANN pmax pmax
comp=Z,16nm,0.9s
KMBO Kilima Mbogo 144.83 241 *e*PKPdf **PKPdf** **11 20 18.0 +0.1**
KMBO Kilima Mbogo 144.83 241 PKP **PKPdf** **11 20 17.6 -0.3**
comp=Z,3.5nm,1.0s,baz=106,slow=2.4,SNR=8.1
LVV L'vov 145.17 341 *d i* PKiKP **PKPbc** **11 20 15.9 -0.7**
KIS Kishinev 145.72 333 *e*PKP **PKPdf** **11 20 18.0 -0.1**
KWP Kalwaria Pacla 145.74 342 *e*PKiKP **PKPab** **11 20 18.8 0.0**
KWP Kalwaria Pacla 145.74 342 *e*PKPdf **PKPab** **11 20 18.8 0.0**
KWP Kalwaria Pacla 145.74 342 *e*PKP **PKPab** **11 20 18.9 +0.1**
MALT Malatya 145.76 313 ⇑PKiKP **PKPab** **11 20 21.0 +1.6**
MALT Malatya 145.76 313 ⇑P **PKPab** **11 20 21.0 +1.6**
OJC Ojcow 145.99 345 *e*PKP **PKPdf** **11 20 17.3 -1.2**
KSP Ksiaz 146.13 349 *e*PKP **PKPab** **11 20 20.4 +0.2**
CLL Collm 146.15 353 ⇑*i*PKP2 **PKPbc** **11 20 19.3 -0.3**
CLL pmax pmax
comp=Z,3.0nm,1.3s
CLL Collm 146.15 353 ⇑*i*PKPbc **PKPbc** **11 20 19.3 -0.3**
comp=Z,38nm,1.3s
CLL *i* PKiKP **PKiKP** **11 20 22.3 -0.6**
comp=Z,64nm,1.2s
CLL *i* pPKiKP **pPKiKP** **11 20 29.0 +1.2**
comp=Z,75nm,1.3s
CLL LmV 12 29 00.0
comp=Z,200nm,19.8s
BRG Berggiesshubel 146.46 352 *i* PKP **PKPbc** **11 20 20.1 -0.4**
comp=Z,18nm,1.1s
UPC Upice 146.50 350 *e*PKP **PKPbc** **11 20 21.1 +0.4**
UPC *ex* x 11 20 31.0
DPC Dobruska-Polom 146.60 349 *e*PKP **PKPbc** **11 20 21.2 +0.1**
DPC *ex* x 11 20 31.6
BUR08 Bucovina Ar. S 146.63 337 *e*PKPdf **PKPbc** **11 20 20.7 -0.7**
BURAR Bucovina Array 146.65 337 ⇑PKP2 **PKPab** **11 20 25.8 +3.3**
BURAR Bucovina Array 146.65 337 ⇑P **PKPab** **11 20 25.8 +3.3**
PVCC Panska Ves 146.71 351 *e*PKP **PKPab** **11 20 21.9 -0.5**
PVCC *ex* x 11 20 31.5
OKC Ostrava-Krasne 146.73 347 *e*PKP **PKPbc** **11 20 20.8 -0.6**
UZH Uzhgorod 146.75 341 *e*PKP2 **PKPbc** **11 20 21.9 +0.4**
TESR Tescani 147.01 335 ⇑P **PKPab** **11 20 24.9 +1.1**
TLCR 147.11 331 ⇓PKP2 **PKPbc** **11 20 23.1 +0.5**
TLCR 147.11 331 ⇓P **PKPbc** **11 20 23.1 +0.5**
TRPA Tarpa 147.12 341 ⇓P **PKPab** **11 20 25.0 +0.9**
MEM Membach 147.18 1 PKP **PKPab** **11 20 25.0 +0.8**
PRU Pruhonice 147.24 351 *e*PKP **PKPbc** **11 20 22.4 -0.4**
PRU *ex* x 11 20 32.8
PRU AMS AMS 12 29 40.0
comp=Z,200nm,17.0s
VRI Vrincioaia 147.50 334 ⇑PKiKP **PKPbc** **11 20 23.0 -0.7**
VRI Vrincioaia 147.50 334 ⇑*i*P **PKPbc** **11 20 23.0 -0.7**
VRAC Vranov 147.55 348 ⇓*i*P **PKPab** **11 20 24.8 -1.0**
DOU Dourbes 147.64 3 PKP **PKPab** **11 20 25.3 -0.8**
GRF Grafenberg Arr 147.92 355 *e*PKP2 **PKPab** **11 20 27.0 -0.3**
GRF Grafenberg Arr 147.92 355 *e*PKP **PKPab** **11 20 27.0 -0.3**
TLB Topalu 147.93 331 ⇑P **PKPab** **11 20 26.3 -1.1**
TLB Topalu 147.93 331 ⇑*i*P **PKPab** **11 20 26.3 -1.1**
PSZ Piszkesteto 148.09 344 ⇑PKP2 **PKPbc** **11 20 26.5 +1.2**
PSZ Piszkesteto 148.09 344 ⇑*i*P **PKPbc** **11 20 26.5 +1.2**
PSZ Piszkesteto 148.09 344 *e*PKPbc **PKPbc** **11 20 26.2 +0.8**
WLF Walferdange 148.12 1 PKP **PKPbc** **11 20 26.0 +0.7**
WLF Walferdange 148.12 1 *e*PKP2 **PKPbc** **11 20 25.5 +0.2**
WLF Walferdange 148.12 1 *e*PKPbc **PKPbc** **11 20 25.5 +0.2**
MLR Muntele Rosu 148.13 334 ⇓*i*P PKPdf 11 20 17.1 -5.3
SMOL Smolenice 148.13 347 *e*PKP **PKPbc** **11 20 26.6 +1.3**
BR131 Keskin Array S 148.18 319 *e*PKPbc **PKPbc** **11 20 25.7 -0.2**
BRTR Keskin Array B 148.18 319 PKPbc **PKPbc** **11 20 25.3 -0.7**
BRTR Keskin Array B 148.18 319 PKPbc **PKPbc** **11 20 25.3 -0.7**
comp=Z,14nm,1.2s,baz=101,slow=2.9,SNR=12
KHC Kasperske Hory 148.22 352 *e*PKP2 **PKPbc** **11 20 25.2 -0.4**
KHC Kasperske Hory 148.22 352 *e*PKP **PKPbc** **11 20 25.7 +0.1**
KHC *ex* x 11 20 35.8
KHC Kasperske Hory 148.22 352 *e*PKPbc **PKPbc** **11 20 25.2 -0.4**
DRGR 148.24 339 ⇓PKiKP **PKPdf** **11 20 23.6 +1.2**
DRGR 148.24 339 ⇓*i*P **PKPdf** **11 20 23.6 +1.2**
GERES GERESS Array B 148.48 352 PKPbc **PKPbc** **11 20 24.7 -1.6**
GERES GERESS Array B 148.48 352 PKPbc **PKPbc** **11 20 24.7 -1.6**
comp=Z,2.0nm,0.9s,baz=357,slow=2.7,SNR=10.0
VOIR 148.53 335 ⇑PKiKP **PKPbc** **11 20 25.5 -1.1**
VOIR 148.53 335 ⇑*i*P **PKPbc** **11 20 25.5 -1.1**
ANTO Ankara 148.62 320 *e*PKiKP **PKPbc** **11 20 27.0 0.0**
ANTO Ankara 148.62 320 *e*PKPbc **PKPbc** **11 20 27.0 0.0**
ARR Arges 148.75 336 ⇑*i*P **PKPbc** **11 20 27.3 +0.2**
CONA Conrad Observa 149.01 348 ⇑*i*sPKPdf **PKPbc** **11 20 27.5 -0.2**
comp=Z,24nm,1.1s
BFO Black Forest 149.45 358 *e*PKiKP **PKPbc** **11 20 27.2 -1.5**
BFO Black Forest 149.45 358 *e*PKPbc **PKPbc** **11 20 27.2 -1.5**
BZS Buzias 149.64 340 ⇑*i*P **PKPdf** **11 20 22.3 -2.3**
FETA Feichten 150.62 355 ⇑*i*PKiKP **PKiKP** **11 20 32.4 -0.1**
comp=Z,20nm,1.1s
ABTA Abfaltersbach 150.70 352 ⇑*i*PKPbc **PKPbc** **11 20 31.3 -0.6**
comp=Z,21nm,1.0s
CSS Prodhromos 150.96 311 *e*PKPbc **PKPbc** **11 20 33.3 +0.5**
TUE Stuetta 151.26 357 *e*PKPbc **PKPbc** **11 20 33.7 +0.3**
BNI Bardonecchia 152.74 1 *e*PKiKP **PKPbc** **11 20 38.7 +2.0**
BNI Bardonecchia 152.74 1 *e*PKPbc **PKPbc** **11 20 38.6 +2.0**
ESDC Sonseca Array 156.13 21 PKPab **PKPab** **11 21 02.6 +0.7**
ESDC Sonseca Array 156.13 21 PKPab **PKPab** **11 21 02.6 +0.7**
comp=Z,0.8nm,0.8s,baz=338,slow=2.8,SNR=5.1
TORD Torodi Ar. Bea 173.14 131 PKP **PKPdf** **11 20 49.7 -0.1**
TORD PKPab **PKPab** **11 22 17.0 -0.2**
TORD Torodi Ar. Bea 173.14 131 PKP **PKPdf** **11 20 49.7 -0.1**
comp=Z,2.7nm,1.2s,baz=247,slow=3.0,SNR=5.5
TORD PKPab **PKPab** **11 22 17.0 -0.2**
comp=Z,2.6nm,0.9s,baz=244,slow=3.2,SNR=7.9

GUC 11 11:02:01.0±0.5,**23°.86S**×**67°.39W**,**h215**km,**ML4.0**,**3D**,
Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**2.62**	**280**	⇓*i*	P	Pn		11 02 51.5	+4.2
CEN1				*i*	S	S		11 03 28.8	+5.6
CEN1					AML	AML		11 03 30.7	
comp=N,80nm,0.2s									
PB09	**Plate Boundary**	**2.67**	**320**	⇓*i*	P	Pn		11 02 51.1	+3.1
PB09				*i*	S	S		11 03 28.4	+4.0
PB09					AML	AML		11 03 29.7	
comp=N,489nm,0.5s									
ANCH	**Antofagasta**	**2.77**	**273**	⇓*i*	P	Pn		11 02 50.4	+1.6
ANCH				*e*	S	S		11 03 26.7	+0.8
ANCH					AML	AML		11 03 29.2	
comp=N,194nm,0.0s									
PB07	**Plate Boundary**	**3.13**	**312**	*e*	P	Pn		11 02 55.6	+2.3
PB07				*i*	S	S		11 03 35.9	+2.1
PB07					AML	AML		11 03 37.8	
comp=N,194nm,0.3s									
PB01	**Plate Boundary**	**3.41**	**325**	*e*	P	Pn		11 02 58.5	+2.1
PB01				*i*	S	S		11 03 42.2	+2.6
PB01					AML	AML		11 03 43.1	
comp=E,166nm,0.2s									

*IDC **11** 11:13:22.9*±*0.9*,*13°.05S*×*166°.24E*,*h0*km*,mb4.2/11,*
mb1 4.3/13,mb1mx4.2/20,mbtmp4.2/13,ML4.2/2,MS3.8/2,
Ms1 3.8/2,ms1mx3.6/28,Error ellipse: s-maj=28.5km
s-min=18.3km az=117.0
*ISCJB **11** 11:13:24.8*±*0.6*,*12°.93S*±*0°.06*×*166°.14E*±*0°.08,h20*km*,*
mb4.3/15,MS4.1/1,Error ellipse: s-maj=11.3km
s-min=8.9km az=161.0
*NEIC **11** 11:13:28.8*±*1.8*,*12°.96S*×*166°.19E,h38*km*±*15*km*,*mb4.4/8,*
Error ellipse: s-maj=15.0km s-min=12.6km az=88.0
*AUST **11** 11:13:54.6*,*13°.41S*×*164°.91E,h200*km*

ISC 11 11:13:26.3±0.7,**12°.99S**±0°.07×**166°.23E**±0°.09,**h20**km,**n51,**
σ1°**12/53,mb4.3/15,Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.10**	**299**			Pn	**Pn**	**11 15 08.8**	**-0.3**
HNR						Sn	**Sn**	**11 16 28.1**	**-1.3**
HNR	**Honiara**	**7.10**	**299**			Pn	**Pn**	**11 15 08.8**	**-0.3**
29nm,0.3s,baz=179,slow=8.0,SNR=7.3									
HNR						Sn	**Sn**	**11 16 28.0**	**-1.3**
4.3nm,0.3s,baz=198,slow=20,SNR=2.4									
DZM	**Mont Dzumac**	**9.03**	**179**	*e*	Pn	**Pn**	**Pn**	**11 15 37.2**	**+1.5**
27nm,0.8s									
DZM						Sn	**Sn**	**11 17 15.5**	**-1.5**
DZM	**Mont Dzumac**	**9.03**	**179**			Pn	**Pn**	**11 15 35.1**	**-0.7**
0.3nm,0.3s,baz=136,slow=18,SNR=2.4									
DZM						Sn	**Sn**	**11 17 15.5**	**-1.5**
baz=128,slow=19,SNR=1.4									
DZM					LR	LR		11 17 39.8	
comp=Z,293nm,20.8s,baz=0.0,slow=29									
EIDS	**Eidsvold**	**18.85**	**227**	*e*	P		**Pn**	**11 17 47.2**	**+1.4**
25nm,1.1s									
EIDS	**Eidsvold**	**18.85**	**227**	P			**Pn**	**11 17 47.7**	**+1.9**
baz=18,SNR=4.8									
CTA	**Charters Tower**	**20.39**	**247**	P			**P**	**11 18 02.8**	**+0.7**
CTA	**Charters Tower**	**20.39**	**247**	P			**P**	**11 18 02.8**	**+0.7**
5.2nm,0.5s,baz=80,slow=13,SNR=3.9									
CTAO	**Charters Tower**	**20.39**	**247**	*e*	P		**P**	**11 18 02.9**	**+0.8**
5.9nm,0.5s									
RMQ	**Roma**	**21.19**	**228**	P			**P**	**11 18 12.8**	**+2.1**
baz=20,SNR=13									
MANU	**Manus Island**	**21.61**	**299**	P			P	11 18 33.5	+18
baz=21,SNR=3.2									
ARMA	**Armidale**	**21.97**	**216**	*e*	P		**P**	**11 18 20.2**	**+1.0**
16nm,1.1s									
ARMA	**Armidale**	**21.97**	**216**	P			**P**	**11 18 20.2**	**+1.0**
baz=21,SNR=5.0									
COEN	**Coen**	**22.44**	**265**	*e*	P		**P**	**11 18 26.1**	**+2.0**
111nm,1.0s									
QLP	**Quilpie**	**24.66**	**233**	P			**P**	**11 18 46.5**	**+0.6**
baz=23,SNR=10									
CMSA	**Cobar Meteorol**	**26.41**	**222**	P			**P**	**11 19 02.3**	**+0.7**
baz=25,SNR=5.2									
STKA	**Stephens Creek**	**29.40**	**226**	*e*	P		**P**	**11 19 28.4**	**0.0**
0.9nm,0.6s									
STKA	**Stephens Creek**	**29.40**	**226**	P			**P**	**11 19 29.0**	**+0.5**
baz=28,SNR=9.6									
STKA	**Stephens Creek**	**29.40**	**226**	P			**P**	**11 19 28.6**	**+0.2**
4.4nm,0.7s,baz=40,slow=8.2,SNR=14									
WRAB	**Tennant Creek**	**31.30**	**253**	*e*	P		**P**	**11 19 44.8**	**-0.6**
8.0nm,1.3s									
WRA	**Warramunga Arr**	**31.31**	**253**	P			**P**	**11 19 44.2**	**-1.3**
WRA	**Warramunga Arr**	**31.31**	**253**	P			**P**	**11 19 44.2**	**-1.3**
3.0nm,1.1s,baz=85,slow=9.4,SNR=16									
AS31	**Alice Springs**	**32.39**	**246**	*e*	P		**P**	**11 19 53.5**	**-1.5**
ASAR	**Alice Springs**	**32.39**	**246**	P			**P**	**11 19 53.5**	**-1.5**
ASAR	**Alice Springs**	**32.39**	**246**	P			**P**	**11 19 53.5**	**-1.5**
6.6nm,0.9s,baz=72,slow=9.7,SNR=34									
KDU	**Kakadu**	**32.90**	**267**	P			**P**	**11 19 59.2**	**-0.2**
baz=32,SNR=3.3									
BBOO	**Buckleboo**	**33.89**	**229**	P			**P**	**11 20 08.1**	**+0.2**
baz=33,SNR=15									
FITZ	**Fitzroy Crossi**	**39.37**	**257**	*e*	P		**P**	**11 20 55.0**	**+0.2**
13nm,1.4s									
KAPI	**Kappang**	**46.52**	**275**	LR		LR		11 40 16.2	
comp=Z,206nm,19.7s,baz=58,slow=35									
MEEK	**Meekatharra**	**46.55**	**246**	P			**P**	**11 21 53.8**	**+0.9**
baz=45,SNR=3.7									
MORW	**Morawa**	**49.13**	**243**	P			**P**	**11 22 12.6**	**-0.3**
baz=48,SNR=3.5									
KSRS	**Korea Array**	**61.74**	**326**	P			**P**	**11 23 43.5**	**+0.2**
0.8nm,0.8s,baz=128,slow=5.9,SNR=4.2									
KSAR	**Wonju Array Be**	**61.75**	**326**	P			**P**	**11 23 43.5**	**+0.1**
USRK	**Ussuriysk Arra**	**64.89**	**333**	P			**P**	**11 24 05.7**	**+1.5**
1.6nm,0.6s,baz=145,slow=44,SNR=3.5									
QSPA	**South Pole Qui**	**77.03**	**180**	*e*	P		**P**	**11 25 16.3**	**-1.4**
12nm,1.1s									
SONM	**Songino Array**	**80.50**	**324**	P			**P**	**11 25 38.5**	**+1.4**
SONM	**Songino Array**	**80.50**	**324**	P			**P**	**11 25 38.5**	**+1.4**
0.7nm,0.8s,baz=131,slow=5.9,SNR=3.4									
ILAR	**Eielson Array**	**85.20**	**18**	P			**P**	**11 25 59.5**	**-1.4**
ILAR	**Eielson Array**	**85.20**	**18**	P			**P**	**11 25 59.5**	**-1.4**
1.7nm,0.8s,baz=232,slow=5.3,SNR=14									
MKAR	**Makanchi Array**	**95.25**	**317**	P			**P**	**11 26 48.4**	**-0.4**
MKAR	**Makanchi Array**	**95.25**	**317**	P			**P**	**11 26 48.4**	**-0.4**
0.8nm,0.7s,baz=105,slow=6.5,SNR=6.7									
ZALV	**Zalesovo Beam**	**95.40**	**324**	P			**P**	**11 26 47.5**	**-1.7**
ZALV	**Zalesovo Beam**	**95.40**	**324**	P			**P**	**11 26 47.5**	**-1.7**
0.6nm,0.5s,baz=117,slow=5.0,SNR=2.8									
TXAR	**Lajitas Array**	**96.34**	**61**	P			**P**	**11 26 55.3**	**+1.0**
TXAR	**Lajitas Array**	**96.34**	**61**	P			**P**	**11 26 55.3**	**+1.0**
0.3nm,0.8s,baz=224,slow=5.0,SNR=4.1									
GERES	**GERESS Array B**	**137.64**	**333**	PKP			**PKPdf**	**11 32 49.5**	**+0.4**
GERES	**GERESS Array B**	**137.64**	**333**	PKP			**PKPdf**	**11 32 49.5**	**+0.4**
0.3nm,0.7s,baz=152,slow=4.4,SNR=3.1									
KEST	**Kesra**	**149.23**	**321**	PKPbc			**PKPbc**	**11 33 14.7**	**+0.7**
KEST	**Kesra**	**149.23**	**321**	PKPbc			**PKPbc**	**11 33 14.7**	**+0.7**
1.8nm,0.8s,baz=126,slow=2.5,SNR=4.5									
ESDC	**Sonseca Array**	**152.04**	**344**	PKPbc			**PKPbc**	**11 33 19.9**	**-0.7**
ESDC	**Sonseca Array**	**152.04**	**344**	PKPbc			**PKPbc**	**11 33 19.9**	**-0.7**
0.2nm,0.4s,baz=9.5,slow=2.4,SNR=4.9									

IDC 11 11:24:37.7±5.1,**16°.31S**×**173°.09W**,**h0**km,**mb3.8**/5,
mb1 4.1/5,**mb1mx3.8**/20,**mbtmp3.8**/5,**Error ellipse:**
s-maj=224.2km s-min=31.5km az=137.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.70**	**28**			Pn	Pn	11 25 17.8	-4.6
4.7nm,0.3s,baz=68,slow=16,SNR=4.0									
AFI						Sn	Sn	11 25 44.5	-11
15nm,0.3s,baz=37,slow=20,SNR=6.6									
STKA	**Stephens Creek**	**43.85**	**241**	P			P	11 32 46.0	+0.1
1.7nm,1.0s,baz=100,slow=6.1,SNR=3.3									
WRA	**Warramunga Arr**	**49.94**	**257**	P			P	11 33 32.6	-1.2
0.4nm,0.5s,baz=89,slow=6.6,SNR=8.8									
ASAR	**Alice Springs**	**50.12**	**253**	P			P	11 33 35.1	-0.1
1.3nm,0.6s,baz=88,slow=8.2,SNR=31									
ILAR	**Eielson Array**	**83.27**	**11**	P			P	11 37 05.2	-0.6
0.5nm,0.8s,baz=224,slow=6.3,SNR=7.3									
CMAR	**Chiang Mai Arr**	**93.18**	**288**	P			P	11 37 56.0	+1.5
0.6nm,0.7s,baz=104,slow=3.3,SNR=4.1									
BRTR	**Keskin Array B**	**147.04**	**320**	PKPbc			PKPbc	11 44 22.7	-0.3
1.0nm,0.7s,baz=78,slow=2.5,SNR=5.9									

*IDC **11** 11:44:37.8*±*2.3,13°.79S*×*166°.82E,h0*km*,mb4.0/8,*
mb1 4.1/8,mb1mx3.9/18,mbtmp3.9/8,MS3.8/6,Ms1 3.8/6,
ms1mx3.5/26,Error ellipse: s-maj=72.8km s-min=24.6km
az=127.0
*ISCJB **11** 11:44:39.2*±*1.1,14°.3S*±*0°.1*×*167°.0E*±*0°.2,h33*km*,mb3.9/8,*
MS3.9/4, Error ellipse: s-maj=31.6km s-min=16.4km
az=4.2

ISC 11 11:44:41.2±1.2,**14°.2S**±0°.1×**167°.0E**±0°.3,**h35**km,**n13,**
σ1°**23/8,mb3.9/8,MS3.9/5,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.87**	**184**	*e*	Pn	**Pn**	**Pn**	**11 46 33.3**	**0.0**
10nm,0.3s									
DZM				*e*	LR	LR		11 48 45.1	
315nm,23.8s									
HNR	**Honiara**	**8.39**	**303**		LR	LR		11 49 07.7	
comp=Z,257nm,19.9s,baz=352,slow=34									
PMG	**Port Moresby**	**20.02**	**282**		LR	LR		11 55 35.9	
comp=Z,194nm,21.8s,baz=15,slow=33									
STKA	**Stephens Creek**	**29.18**	**229**	P			P	11 50 43.6	+4.2
2.6nm,0.8s,baz=66,slow=12,SNR=6.6									
STKA						LR	LR	12 02 03.5	
comp=Z,282nm,18.5s,baz=25,slow=36									
WRA	**Warramunga Arr**	**31.75**	**255**	P			**P**	**11 51 01.1**	**-1.1**
0.4nm,0.5s,baz=87,slow=9.6,SNR=9.5									
WRA						LR	LR	12 02 46.9	
comp=Z,282nm,18.9s,baz=55,slow=34									
ASAR	**Alice Springs**	**32.66**	**248**	P			**P**	**11 51 10.0**	**-0.4**
0.7nm,0.7s,baz=73,slow=9.6,SNR=10									
ASAR						LR	LR	12 04 24.0	
comp=Z,268nm,19.4s,baz=110,slow=36									
PPT	**Papeete**	**41.80**	**101**		LR	LR		12 06 49.5	
comp=Z,142nm,18.6s,baz=330,slow=32									
TBI	**Tubuai**	**42.05**	**109**	*e*	S	S		11 59 00.8	+14
50nm,31.2s									
TBI				*e*	LR	LR		12 04 46.3	
98nm,25.0s									
USRK	**Ussuriysk Arra**	**66.30**	**333**	P			**P**	**11 55 25.1**	**-0.9**
1.9nm,0.7s,baz=114,slow=3.7,SNR=4.5									
CMAR	**Chiang Mai Arr**	**74.52**	**294**	P			**P**	**11 56 18.8**	**+2.0**
0.3nm,0.3s,baz=126,slow=5.7,SNR=5.5									
SONM	**Songino Array**	**81.92**	**324**	P			**P**	**11 56 56.5**	**-0.8**
0.5nm,0.8s,baz=134,slow=6.2,SNR=2.6									
ILAR	**Eielson Array**	**86.08**	**18**	P			**P**	**11 57 17.8**	**-0.2**
0.6nm,0.5s,baz=240,slow=5.0,SNR=14									
MKAR	**Makanchi Array**	**96.66**	**316**	P			**P**	**11 58 08.7**	**+0.9**
0.4nm,0.8s,baz=119,slow=6.1,SNR=4.0									

IDC 11 12:18:24.4±1.1,**16°.96S**×**167°.16E**,**h0**km,**mb4.1/7,**
mb1 4.4/8,mb1mx4.1/19,mbtmp4.1/8,ML4.6/1,MS3.3/5,
Ms1 3.3/5,ms1mx3.1/27,Error ellipse: s-maj=40.8km
s-min=22.3km az=137.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.13**	**187**			Pn	Pn	12 19 43.4	+0.8
22nm,0.3s,baz=33,slow=20,SNR=305									
DZM						Sn	Sn	12 20 39.0	-3.6
16nm,0.3s,baz=134,slow=22,SNR=8.1									
DZM						LR	LR	12 20 51.0	
comp=Z,365nm,20.7s,baz=18,slow=29									
HNR	**Honiara**	**10.26**	**316**			LR	LR	12 23 30.6	
comp=Z,48nm,19.1s,baz=65,slow=30									
AFI	**Afiamalu**	**20.53**	**84**			LR	LR	12 29 19.1	
comp=Z,58nm,21.6s,baz=128,slow=32									
**

H08S3	**Diego Garcia H**	**54.50**	**306**	T	T	13 30 54.5	
	baz=148						
CMAR	**Chiang Mai Arr**	**69.29**	**345**	P	P	12 33 44.9	-0.2
	0.8nm,0.6s,baz=194,slow=6.5,SNR=5.2						
TXAR	**Lajitas Array**	**144.95**	**112**	PKP	PKPdf	12 42 15.0	-0.2
	0.4nm,0.9s,baz=212,slow=3.2,SNR=3.2						

IDC 11 12:46:52.8±1.4, 12°.23S×165°.45E, h0km, mb3.9/6, mb1 4.1/8, mb1mx3.9/20, mbtmp4.0/8, ML3.8/2, Error ellipse: s-maj=32.4km s-min=27.4km az=120.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.08**	**297**	Pn	Pn	12 48 22.3	-1.7
	5.6nm,0.3s,baz=150,slow=14,SNR=3.0						
HNR				Sn	Sn	12 49 35.5	+1.1
	2.4nm,0.3s,baz=45,slow=20,SNR=3.0						
DZM	**Mont Dzumac**	**9.83**	**175**	Pn	Pn	12 49 16.2	+0.5
	0.4nm,0.3s,baz=17,slow=20,SNR=3.1						
WRA	**Warramunga Arr**	**30.82**	**252**	P	P	12 53 10.3	-0.4
	1.0nm,0.6s,baz=85,slow=9.6,SNR=11						
ASAR	**Alice Springs**	**32.02**	**245**	P	P	12 53 20.8	-0.5
	1.9nm,0.7s,baz=70,slow=9.4,SNR=36						
CMAR	**Chiang Mai Arr**	**72.32**	**294**	P	P	12 58 21.9	+0.9
	1.0nm,0.7s,baz=125,slow=4.5,SNR=7.0						
SONM	**Songino Array**	**79.45**	**324**	P	P	12 59 02.1	+0.9
	0.2nm,0.3s,baz=127,slow=3.8,SNR=2.0						
ILAR	**Eielson Array**	**84.72**	**19**	P	P	12 59 27.2	-1.2
	0.3nm,0.7s,baz=238,slow=4.5,SNR=3.7						
MKAR	**Makanchi Array**	**94.18**	**317**	P	P	13 00 14.0	+0.2
	0.6nm,0.6s,baz=94,slow=6.0,SNR=6.2						

IDC 11 12:48:23.5±1.0, 12°.24S×165°.69E, h0km, mb3.9/6, mb1 4.1/8, mb1mx3.9/20, mbtmp4.0/8, ML3.6/2, MS3.1/1, Ms1 3.1/1, ms1mx2.8/24, Error ellipse: s-maj=36.9km s-min=22.1km az=144.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.29**	**296**	Pn	Pn	12 49 59.0	+1.4
	3.6nm,0.3s,baz=96,slow=9.2,SNR=3.0						
HNR				Sn	Sn	12 51 05.2	-5.1
	baz=165,slow=20,SNR=1.9						
HNR				LR	LR	12 52 03.5	
	comp=Z,152nm,18.5s,baz=126,slow=35						
DZM	**Mont Dzumac**	**9.81**	**176**	Pn	Pn	12 50 47.2	+1.2
	0.2nm,0.3s,baz=78,slow=20,SNR=2.2						
CTA	**Charters Tower**	**20.22**	**245**	P	P	12 53 00.8	+0.5
	5.7nm,0.9s,baz=63,slow=11,SNR=4.4						
WRA	**Warramunga Arr**	**31.04**	**252**	P	P	12 54 42.6	-0.7
	1.3nm,0.7s,baz=85,slow=9.1,SNR=7.0						
ASAR	**Alice Springs**	**32.22**	**245**	P	P	12 54 52.9	-0.9
	2.3nm,0.7s,baz=69,slow=9.5,SNR=19						
ILAR	**Eielson Array**	**84.66**	**18**	P	P	13 00 57.2	-1.5
	0.3nm,0.8s,baz=243,slow=4.0,SNR=2.5						
NVAR	**Mina Array Bea**	**86.83**	**50**	P	P	13 01 10.6	+0.1
	0.2nm,0.7s,baz=254,slow=6.4,SNR=2.9						
MKAR	**Makanchi Array**	**94.35**	**317**	P	P	13 01 46.0	+0.8
	0.9nm,0.7s,baz=93,slow=6.2,SNR=7.7						
ARCES	**ARCESS Array B**	**117.47**	**345**	PKP	PKPdf	13 07 10.7	0.0
	1.6nm,0.8s,baz=98,slow=1.8,SNR=2.5						
ESDC	**Sonseca Array**	**151.18**	**343**	PKPbc	PKPbc	13 08 20.0	+0.8
	0.1nm,0.5s,baz=27,slow=3.0,SNR=3.7						

*IDC **11** 12:56:32.9±1.2, 16°.73S×173°.57W, h0km, mb4.2/10, mb1 4.5/11, mb1mx4.3/20, mbtmp4.2/11, ML2.0/1, MS3.5/5, Ms1 3.5/5, ms1mx3.3/25, Error ellipse: s-maj=57.8km s-min=17.4km az=145.0*

*NEIC **11** 12:56:33.1±0.7, 17°.10S×173°.36W, h10km, mb4.1/3, Error ellipse: s-maj=33.0km s-min=13.2km az=133.0*

*ISCJB **11** 12:56:40.0±1.0, 16°.7S±0°.3×173°.7W±0°.2, h66km, mb4.0/12, Error ellipse: s-maj=46.0km s-min=12.9km az=144.2*

ISC 11 12:56:42.0±1.1, 16°.6S±0°.3×173°.7W±0°.2, h66km, n47, σ1s08/35, mb4.1/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.23**	**35**	*e*Pn	Pn	12 57 25.2	-5.0
AFI				*e*Sn	**Sn**	**12 58 05.4**	**-2.2**
AFI	**Afiamalu**	**3.23**	**35**	Pn	Pn	12 57 24.1	-6.2
	8.3nm,0.3s,baz=102,slow=5.4,SNR=7.6						
AFI				Sn	Sn	12 57 56.5	-11
	37nm,0.3s,baz=52,slow=19,SNR=10.0						
AFI				LR	LR	12 58 20.4	
	comp=Z,188nm,19.7s,baz=73,slow=33						
MSVF	**Nonsavu**	**7.99**	**260**	*e*Pn	Pn	12 58 44.1	+8.7
DZM	**Mont Dzumac**	**19.53**	**251**	*e*LR	LR	13 06 04.7	
	353nm,25.0s						
PPT	**Papeete**	**23.07**	**96**	LR	LR	13 07 50.9	
	comp=Z,236nm,18.2s,baz=344,slow=30						
PPT2	**Papeete2**	**23.07**	**96**	*e*LR	LR	13 06 55.5	
	194nm,26.5s						
URZ	**Urewera**	**23.07**	**199**	*e*P	P	13 01 32.0	-10
	28nm,1.1s						
TBI	**Tubuai**	**23.73**	**110**	*e*LR	LR	13 07 19.9	
	214nm,27.8s						
HNR	**Honiara**	**26.63**	**282**	LR	LR	13 11 24.0	
	comp=Z,207nm,20.6s,baz=246,slow=33						
STKA	**Stephens Creek**	**43.22**	**241**	*e*P	**P**	**13 04 35.9**	**-0.9**
	2.1nm,0.9s						
STKA	**Stephens Creek**	**43.22**	**241**	P	**P**	**13 04 36.1**	**-0.7**
	10nm,0.8s,baz=82,slow=9.6,SNR=24						
WRA	**Warramunga Arr**	**49.32**	**258**	P	**P**	**13 05 23.7**	**-1.2**
WRA	**Warramunga Arr**	**49.32**	**258**	P	**P**	**13 05 23.7**	**-1.2**
	1.1nm,0.5s,baz=96,slow=7.3,SNR=21						
AS31	**Alice Springs**	**49.49**	**253**	*e*P	**P**	**13 05 24.9**	**-1.3**
ASAR	**Alice Springs**	**49.50**	**253**	P	**P**	**13 05 25.2**	**-1.0**
ASAR	**Alice Springs**	**49.50**	**253**	P	**P**	**13 05 25.2**	**-1.0**
	17nm,0.7s,baz=88,slow=8.8,SNR=310						
FITZ	**Fitzroy Crossi**	**57.71**	**259**	LR	LR	13 27 34.5	
	comp=Z,95nm,19.1s,baz=185,slow=32						
PETK	**Petropavlovsk-**	**73.66**	**342**	P	**P**	**13 08 09.9**	**+1.7**
PETK	**Petropavlovsk-**	**73.66**	**342**	P	**P**	**13 08 09.9**	**+1.7**
	4.1nm,0.7s,baz=144,slow=5.2,SNR=7.0						
CMB	**Columbia Colle**	**73.82**	**41**	*e*P	**P**	**13 08 09.6**	**0.0**
	1.6nm,0.9s						
NVAR	**Mina Array Bea**	**75.38**	**42**	P	**P**	**13 08 19.6**	**+0.7**
NVAR	**Mina Array Bea**	**75.38**	**42**	P	**P**	**13 08 19.6**	**+0.7**
	0.9nm,0.8s,baz=225,slow=7.5,SNR=8.2						
KSRS	**Korea Array**	**76.80**	**316**	LR	LR	13 35 32.1	
	comp=Z,19nm,21.0s,baz=230,slow=30						
TXAR	**Lajitas Array**	**81.49**	**56**	P	**P**	**13 08 53.2**	**+0.6**
TXAR	**Lajitas Array**	**81.49**	**56**	P	**P**	**13 08 53.2**	**+0.6**
	0.5nm,0.9s,baz=236,slow=4.2,SNR=3.6						
PDAR	**Pinedale Array**	**83.32**	**42**	P	**P**	**13 09 01.4**	**-0.6**
PDAR	**Pinedale Array**	**83.32**	**42**	P	**P**	**13 09 01.4**	**-0.6**
	2.0nm,0.8s,baz=214,slow=3.1,SNR=13						
ILAR	**Eielson Array**	**83.64**	**11**	P	**P**	**13 09 02.3**	**-0.6**
ILAR	**Eielson Array**	**83.64**	**11**	P	**P**	**13 09 02.3**	**-0.6**
	0.4nm,0.5s,baz=225,slow=6.1,SNR=7.3						
CMAR	**Chiang Mai Arr**	**92.72**	**288**	P	P	13 09 49.8	+2.3
CMAR	**Chiang Mai Arr**	**92.72**	**288**	P	P	13 09 49.8	+2.3
	1.5nm,0.8s,baz=102,slow=2.4,SNR=16						
SONM	**Songino Array**	**95.53**	**318**	P	**P**	**13 10 00.3**	**+0.4**
SONM	**Songino Array**	**95.53**	**318**	P	**P**	**13 10 00.3**	**+0.4**
	0.3nm,0.5s,baz=90,slow=2.9,SNR=2.6						
CLL	**Collm**	**144.94**	**353**	*i* PKPbc	**PKPdf**	**13 16 11.4**	**-0.1**
	comp=Z,6.0nm,0.7s						
BRG	**Berggiesshubel**	**145.24**	**352**	*e*P	**PKPab**	**13 16 12.7**	**+0.8**
	comp=Z,4.7nm,0.8s						
UPC	**Upice**	**145.26**	**349**	*i* PKP	**PKPab**	**13 16 13.9**	**+1.9**
UPC				*ex*	x	13 16 24.7	
UPC				*ex*	x	13 16 33.8	
BUR08	**Bucovina Ar. S**	**145.33**	**337**	*e*PKPdf	**PKPab**	**13 16 14.1**	**+1.5**
DPC	**Dobruska-Polom**	**145.35**	**349**	*i* PKP	**PKPab**	**13 16 13.9**	**+1.5**
DPC				*ex*	x	13 16 28.6	
OKC	**Ostrava-Krasne**	**145.46**	**346**	*i* PKP	**PKPab**	**13 16 14.2**	**+1.4**
PVCC	**Panska Ves**	**145.48**	**351**	*i* PKP	**PKPab**	**13 16 13.8**	**+1.0**
PRU	**Pruhonice**	**146.01**	**350**	*i* PKP	**PKPab**	**13 16 15.8**	**+1.0**
PRU				*ex*	x	13 16 30.6	
BR131	**Keskin Array S**	**146.88**	**320**	*e*PKPbc	**PKPab**	**13 16 18.5**	**-0.2**
BRTR	**Keskin Array B**	**146.88**	**320**	PKPbc	**PKPab**	**13 16 19.0**	**+0.2**
BRTR	**Keskin Array B**	**146.88**	**320**	PKPbc	**PKPab**	**13 16 19.0**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=121,slow=3.4,SNR=9.9						
KHC	**Kasperske Hory**	**146.99**	**351**	*i* PKP	**PKPab**	**13 16 18.8**	**+0.1**
GERES	**GERESS Array B**	**147.25**	**351**	PKPbc	**PKPab**	**13 16 18.6**	**-1.2**
GERES	**GERESS Array B**	**147.25**	**351**	PKPbc	**PKPab**	**13 16 18.6**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=10,slow=2.2,SNR=7.5						

GUC 11 12:57:16.5±0.6, 20°.43S×69°.04W, h126km±7km, ML3.7, 4C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HMBC	**Humberstone**	**0.81**	**281**	⇑*i*P	Pn	12 57 37.8	+0.3
HMBC				*i* S	Sn	12 57 54.4	+1.0
HMBC				AML	AML	12 57 58.6	
	comp=N,2μm,0.3s						
PSGC	**Pisagua**	**1.32**	**309**	⇑*i*P	Pn	12 57 43.0	+0.6
PSGC				*i* S	Sn	12 58 03.0	+0.9
PSGC				AML	AML	12 58 04.4	
	comp=N,733nm,0.3s						
PB09	**Plate Boundary**	**1.37**	**188**	⇓*i*P	Pn	12 57 43.7	+0.6
PB09				*e*S	Sn	12 58 04.3	+1.0
PB09				AML	AML	12 58 06.8	
	comp=N,2μm,0.4s						
MNMC	**Minimini**	**1.40**	**338**	⇑*i*P	Pn	12 57 44.0	+0.5
MNMC				*i* S	Sn	12 58 04.9	+0.9
MNMC				AML	AML	12 58 06.1	
	comp=E,3μm,0.4s						
PB07	**Plate Boundary**	**1.51**	**211**	⇓*i*P	Pn	12 57 45.5	+0.8
PB07				*i* S	Sn	12 58 07.5	+1.3
PB07				AML	AML	12 58 12.8	
	comp=E,787nm,0.4s						
PB04	**Plate Boundary**	**1.87**	**193**	⇑*i*P	Pn	12 57 53.8	+5.2
PB04				*i* S	Sn	12 58 20.7	+7.5
PB04				AML	AML	12 58 32.9	
	comp=N,405nm,0.4s						
CEN1	**Los Morros**	**3.14**	**200**	⇓*i*P	Pn	12 58 08.9	+4.0
CEN1				AML	AML	12 58 57.0	
	comp=N,113nm,0.6s						

MEX 11 13:00:14.6±0.7, 17°.73N×99°.41W, h5km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MEIG	**Mezcala**	**0.28**	**314**	*e*P	Pg	13 00 19.1	-1.0
MEIG				*i* S	Sg	13 00 23.8	-0.1
PLIG	**Platanillo**	**0.66**	**353**	*e*P	Pg	13 00 26.7	-0.7
PLIG				*e*S	Sg	13 00 35.8	-0.4
ARIG	**Puente Sto Nin**	**1.04**	**302**	*e*P	Pg	13 00 32.9	-1.8
ARIG				*i* S	Sg	13 00 46.1	-2.2
CAIG	**El Cayaco**	**1.06**	**230**	*e*P	Pg	13 00 32.0	-3.0
CAIG				*i* S	Sg	13 00 46.1	-2.7
YAIG	**Yautepec**	**1.17**	**16**	*e*P	Pg	13 00 34.2	-3.1
YAIG				*i* S	Sg	13 00 49.5	-3.2
PNIG	**Pinotepa**	**1.81**	**137**	*i* P	Pn	13 00 42.5	-4.1
PNIG				*e*S	Sn	13 01 05.1	-4.9
ZIIG	**Zihuatanejo**	**1.96**	**267**	*e*P	Pn	13 00 45.9	-2.6
ZIIG				*i* S	Sn	13 01 09.5	-4.0

IDC 11 13:22:45.5±15.0, 11°.26S×164°.57E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/18, mbtmp3.7/3, Error ellipse: s-maj=501.8km s-min=51.1km az=125.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**30.33**	**250**	P	P	13 28 59.2	0.0
	0.7nm,1.0s,baz=80,slow=7.0,SNR=3.4						
ASAR	**Alice Springs**	**31.67**	**243**	P	P	13 29 10.9	-0.1
	0.3nm,0.8s,baz=68,slow=10,SNR=3.0						
MKAR	**Makanchi Array**	**92.89**	**317**	P	P	13 36 00.5	-0.1
	0.8nm,0.6s,baz=94,slow=5.4,SNR=9.2						

*ISCJB **11** 13:37:06.7±1.2, 35°.8N±0°.1×69°.9E±0°.2, h110km, mb3.6/4, Error ellipse: s-maj=23.6km s-min=13.0km az=40.7*

*IDC **11** 13:37:15.0±5.5, 36°.20N×70°.34E, h174km±52km, mb3.2/5, mb1 3.3/7, mb1mx3.0/27, mbtmp3.7/7, Error ellipse: s-maj=40.3km s-min=27.3km az=24.0*

ISC 11 13:37:08.0±1.3, 35°.8N±0°.2×70°.2E±0°.2, h110km, n16, σ1s92/16, mb3.7/4, 1C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.90**	**22**	P	**Pn**	**13 38 48.9**	**+1.9**
	SNR=81						
KK31	**Karatay Array**	**7.30**	**2**	⇑Pn	**Pn**	**13 38 53.3**	**+1.3**
	0.7nm,0.3s,baz=175,slow=12						
KK31				⇓Sn	Sn	13 40 04.5	-8.8
	1.8nm,0.5s,baz=194,slow=25,SNR=6.2						
EKS2	**Erkin-Say**	**7.41**	**21**	P	**Pn**	**13 38 55.5**	**+1.9**
	SNR=7.1						
KZA	**Kyzart**	**7.43**	**31**	P	**Pn**	**13 38 55.6**	**+1.6**
	SNR=6.7						
AAK	**Ala-Archa**	**7.62**	**25**	P	**Pn**	**13 38 58.4**	**+2.0**
	SNR=8.0						
AAK	**Ala-Archa**	**7.62**	**25**	P	**Pn**	**13 38 58.0**	**+1.6**
	1.9nm,0.3s,baz=194,slow=6.0,SNR=18						
AAK				S	Sn	13 40 12.2	-8.9
	0.8nm,0.3s,baz=324,slow=19,SNR=5.4						
KBK	**Karagaybulak**	**7.80**	**27**	P	**Pn**	**13 39 01.1**	**+2.2**
	SNR=6.1						
CHMS	**Chumysh**	**8.03**	**25**	P	**Pn**	**13 39 03.5**	**+1.7**
	SNR=5.4						
USP	**Ospenovka**	**8.18**	**23**	P	**Pn**	**13 39 05.7**	**+1.7**
	SNR=7.8						
TKM2	**Tokmak 2**	**8.27**	**29**	P	**Pn**	**13 39 07.1**	**+1.8**
	SNR=9.9						
MKAR	**Makanchi Array**	**14.27**	**36**	P	**Pn**	**13 40 24.0**	**-0.9**
	0.1nm,0.3s,baz=222,slow=13,SNR=7.6						
ZALV	**Zalesovo Beam**	**20.84**	**25**	P	**P**	**13 41 37.6**	**-3.1**
	0.8nm,0.4s,baz=219,slow=11,SNR=4.6						
FINES	**FINESS Array B**	**37.69**	**327**	P	**P**	**13 44 11.0**	**-1.4**
	1.6nm,0.8s,baz=169,slow=12,SNR=3.3						
ARCES	**ARCESS Array B**	**41.54**	**338**	P	**P**	**13 44 42.8**	**-1.4**
	3.7nm,1.0s,baz=107,slow=6.0,SNR=4.2						
TORD	**Torodi Ar. Bea**	**65.01**	**265**	P	**P**	**13 47 37.7**	**+1.0**
	0.3nm,0.6s,baz=42,slow=6.0,SNR=3.2						
ASAR	**Alice Springs**	**84.42**	**124**	P	**P**	**13 49 28.8**	**+0.4**
	0.3nm,0.9s,baz=316,slow=5.2,SNR=5.6						

*IDC **11** 13:48:40.8±0.6, 55°.45S×29°.50W, h0km, mb4.5/9, mb1 4.6/10, mb1mx4.4/18, mbtmp4.5/10, ML4.0/1, MS4.0/13, Ms1 4.0/13, ms1mx3.8/22, Error ellipse: s-maj=26.8km s-min=15.8km az=66.0*

*ISCJB **11** 13:48:43.0±0.5, 55°.50S±0°.07×29°.6W±0°.1, h28km, mb4.6/12, MS4.0/12, Error ellipse: s-maj=12.3km s-min=8.9km az=141.0*

*NEIC **11** 13:48:45.3±3.8, 55°.48S×29°.60W, h32km±26km, mb4.9/4, Error ellipse: s-maj=12.0km s-min=8.0km az=224.0*

ISC 11 13:48:44.8±0.5, 55°.44S±0°.1×29°.5W±0°.1, h28km, n68, σ1s02/52, mb4.6/11, MS4.0/12, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EFI	**East Falkland**	**17.30**	**271**	*e*Pn	**Pn**	**13 52 43.2**	**-0.8**
VNA1	**Neumayer--Stat**	**17.87**	**157**	*e*Pn	**P**	**13 52 55.2**	**+3.8**
VNA2	**Neumayer--Watz**	**18.27**	**157**	*e*Pn	**P**	**13 52 57.2**	**+1.4**
PMSA	**Palmer Station**	**19.32**	**227**	*e*P	**P**	**13 53 06.7**	**-0.6**
PMSA	**Palmer Station**	**19.32**	**227**	LR	LR	13 59 10.7	
	comp=Z,360nm,20.1s,baz=272,slow=33						
SNAA	**Sanae**	**19.85**	**155**	*e*Pn	**P**	**13 53 11.9**	**-1.2**
SNAA	**Sanae**	**19.85**	**155**	*e*P	**P**	**13 53 12.7**	**-0.5**
	24nm,0.8s						
SNAA	**Sanae**	**19.85**	**155**	P	**P**	**13 53 13.3**	**+0.1**
	0.4nm,0.3s,baz=306,slow=9.9,SNR=125						
USHA	**Ushuaia**	**22.05**	**255**	LR	LR	13 59 41.9	
	comp=Z,729nm,21.6s,baz=50,slow=30						
MAIT	**Maitri**	**23.48**	**147**	*e*P	**P**	**13 53 48.8**	**-2.8**
TRQA	**Tornquist**	**27.86**	**295**	*e*P	**P**	**13 54 31.4**	**-0.4**
PLCA	**Paso Flores**	**30.58**	**281**	LR	LR	14 04 48.5	
	comp=Z,265nm,20.6s,baz=320,slow=32						
QSPA	**South Pole Qui**	**34.81**	**180**	*e*P	**P**	**13 55 33.3**	**+0.4**
QSPA	**South Pole Qui**	**34.81**	**180**	P	**P**	**13 55 33.1**	**+0.3**
	48nm,0.7s						
CPUP	**Villa Florida**	**35.42**	**314**	P	**P**	**13 55 37.6**	**-0.6**
CPUP	**Villa Florida**	**35.42**	**314**	P	**P**	**13 55 37.6**	**-0.6**
	1.5nm,0.5s,baz=126,slow=8.7,SNR=4.6						
CPUP				LR	LR	14 08 55.8	
	comp=Z,134nm,21.4s,baz=148,slow=34						
MAW	**Mawson**	**41.42**	**145**	P	**P**	**13 56 27.8**	**-0.4**
MAW	**Mawson**	**41.42**	**145**	P	**P**	**13 56 27.8**	**-0.4**
	5.1nm,0.7s,baz=223,slow=10,SNR=14						
MAW				LR	LR	14 11 04.9	
	comp=Z,102nm,20.0s,baz=14,slow=32						
BDFB	**Brasilia**	**42.19**	**333**	P	**P**	**13 56 36.5**	**+1.4**
BDFB	**Brasilia**	**42.19**	**333**	P	**P**	**13 56 36.5**	**+1.4**
	1.5nm,0.4s,baz=205,slow=11,SNR=4.3						
VNDA	**Vanda**	**47.11**	**183**	P	**P**	**13 57 14.5**	**+0.9**
	5.4nm,0.8s,baz=184,slow=4.1,SNR=14						
BOSA	**Boshof**	**47.13**	**79**	P	**P**	**13 57 14.1**	**-0.4**
BOSA	**Boshof**	**47.13**	**79**	P	**P**	**13 57 14.1**	**-0.4**
	6.5nm,1.0s,baz=199,slow=8.5,SNR=6.2						
BOSA				LR	LR	14 12 45.1	
	comp=Z,220nm,18.7s,baz=183,slow=31						
H10S2	**ASCENSION HYDR**	**47.84**	**20**	T	T	14 49 06.9	
	baz=192,slow=0.7,SNR=24						
H10S3	**ASCENSION HYDR**	**47.84**	**20**	T	T	14 49 06.0	
	baz=192,slow=0.7,SNR=25						
H10S1	**ASCENSION HYDR**	**47.86**	**20**	T	T	14 49 08.7	
	baz=192,slow=0.7,SNR=27						
LPAZ	**La Paz**	**48.94**	**307**	P	**P**	**13 57 29.5**	**+0.4**
LPAZ	**La Paz**	**48.94**	**307**	P	**P**	**13 57 29.5**	**+0.4**
	5.0nm,0.6s,baz=152,slow=6.4,SNR=19						
H10N1	**ASCENSION HYDR**	**48.96**	**20**	T	T	14 50 28.0	
	baz=191,slow=0.7,SNR=12						
H10N3	**ASCENSION HYDR**	**48.96**	**20**	T	T	14 50 30.7	
	baz=191,slow=0.7,SNR=25						
H10N2	**ASCENSION HYDR**	**48.97**	**20**	T	T	14 50 36.1	
	baz=191,slow=0.7,SNR=12						
LBTB	**Lobatse**	**50.13**	**76**	*e*P	**P**	**13 57 38.4**	**+0.9**
	13nm,0.7s						
SAML	**Samuel**	**53.44**	**317**	*e*P	**P**	**13 58 01.1**	**-1.0**
	20nm,1.4s						
DBIC	**Dimbokro**	**65.20**	**27**	LR	LR	14 20 43.8	
	comp=Z,67nm,19.6s,baz=219,slow=30						
OPO	**Ambohidratompo**	**67.41**	**90**	LR	LR	14 24 39.6	
	comp=Z,210nm,18.1s,baz=358,slow=32						
OTAV	**Otavalo**	**68.21**	**306**	*e*P	**P**	**13 59 44.3**	**+1.1**
	17nm,1.3s						
ROSC	**El Rosal**	**70.49**	**312**	LR	LR	14 30 38.7	
	comp=Z,47nm,19.1s,baz=307,slow=36						
TOA0	**Torodi Ar. Sit**	**73.21**	**32**	P	**P**	**14 00 12.3**	**-0.6**
TORD	**Torodi Ar. Bea**	**73.21**	**32**	P	**P**	**14 00 14.2**	**+1.3**
TORD	**Torodi Ar. Bea**	**73.21**	**32**	P	**P**	**14 00 14.2**	**+1.3**
	3.3nm,1.0s,baz=201,slow=7.1,SNR=11						
TORD				LR	LR	14 28 16.4	
	comp=Z,122nm,18.2s,baz=145,slow=32						
H08N3	**Diego Garcia H**	**90.78**	**102**	T	T	15 42 53.5	
	baz=217,slow=0.7,SNR=3.4						
H08N1	**Diego Carcia H**	**90.78**	**102**	T	T	15 43 06.6	
	baz=217,slow=0.7,SNR=3.4						
H08N2	**Diego Garcia H**	**90.78**	**102**	T	T	15 42 59.5	
	baz=217,slow=0.7,SNR=2.5						
PPT	**Papeete**	**91.46**	**236**	LR	LR	14 32 00.1	
	comp=Z,120nm,21.0s,baz=24,slow=28						
STKA	**Stephens Creek**	**92.70**	**172**	LR	LR	14 40 38.7	
	comp=Z,118nm,20.5s,baz=205,slow=34						
KEST	**Kesra**	**96.71**	**31**	LR	LR	14 40 20.5	
	comp=Z,57nm,20.3s,baz=242,slow=32						
ESDC	**Sonseca Array**	**97.23**	**20**	P	Pdif	14 02 16.5	+2.2
ESDC	**Sonseca Array**	**97.23**	**20**	P	Pdif	14 02 16.5	+2.2
	0.4nm,0.6s,baz=224,slow=36,SNR=4.5						
FINES	**FINESS Array B**	**124.47**	**29**	PKP	**PKPdf**	**14 07 39.5**	**-0.2**
FINES	**FINESS Array B**	**124.47**	**29**	PKP	**PKPdf**	**14 07 39.5**	**-0.2**
	2.4nm,0.7s,baz=200,slow=3.7,SNR=8.1						
CMAR	**Chiang Mai Arr**	**126.53**	**112**	PKP	**PKPdf**	**14 07 44.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**126.53**	**112**	PKP	**PKPdf**	**14 07 44.7**	**-0.4**
	1.6nm,0.9s,baz=221,slow=3.5,SNR=8.3						
ARCES	**ARCESS Array B**	**130.88**	**22**	PKP	**PKPdf**	**14 07 51.1**	**-0.6**
ARCES	**ARCESS Array B**	**130.88**	**22**	PKP	**PKPdf**	**14 07 51.1**	**-0.6**
	5.8nm,1.0s,baz=49,slow=2.7,SNR=3.7						
DAWY	**Dawson**	**145.40**	**313**	*e*PKP	**PKPdf**	**14 08 18.1**	**-0.4**
ILAR	**Eielson Array**	**148.72**	**313**	PKPbc	**PKPbc**	**14 08 27.4**	**-0.4**
ILAR	**Eielson Array**	**148.72**	**313**	PKPbc	**PKPbc**	**14 08 27.4**	**-0.4**
	8.8nm,1.0s,baz=119,slow=1.6,SNR=4.6						
COLA	**College**	**149.14**	**313**	*e*PKPbc	**PKPbc**	**14 08 29.0**	**+0.2**
MCK	**McKinley**	**149.36**	**310**	*e*PKPbc	**PKPbc**	**14 08 29.6**	**+0.2**
BPAW	**Bear Paw Mtn.**	**150.32**	**311**	*e*PKPbc	**PKPbc**	**14 08 31.5**	**-0.3**
COLD	**Coldfoot**	**150.46**	**317**	*e*PKPbc	**PKPbc**	**14 08 32.4**	**+0.4**
COLD				*e*PKPab	**PKPab**	**14 08 40.3**	**+1.5**
IMA2	**Indian Mountai**	**151.73**	**315**	*e*PKPbc	**PKPbc**	**14 08 35.1**	**-0.1**
IMA2				*e*PKPab	**PKPab**	**14 08 43.0**	**-1.3**
**

WRA	**Warramunga Arr**	**31.88**	**250**	P	P	14 21 55.5	-0.5	
	2.7nm,0.8s,baz=84,slow=9.4,SNR=14							
ASAR	**Alice Springs**	**33.14**	**244**	P	P	14 22 06.2	-0.9	
	2.7nm,0.7s,baz=67,slow=10,SNR=38							
ASAR				PcP	PcP	14 24 48.6	-1.8	
	0.4nm,0.7s,baz=59,slow=2.8,SNR=4.4							
FITZ	**Fitzroy Crossi**	**39.80**	**255**	P	P	14 23 04.2	+0.2	
	2.7nm,0.8s,baz=104,slow=9.1,SNR=4.4							
CMAR	**Chiang Mai Arr**	**72.65**	**293**	P	P	14 27 00.2	+1.4	
	0.3nm,0.4s,baz=111,slow=5.1,SNR=3.9							
ILAR	**Eielson Array**	**83.55**	**18**	P	P	14 27 58.2	-0.2	
	0.4nm,0.8s,baz=218,slow=5.7,SNR=5.1							
MKAR	**Makanchi Array**	**94.01**	**317**	P	P	14 28 48.5	-0.3	
	0.7nm,0.6s,baz=98,slow=5.8,SNR=6.0							

IDC 11 14:25:34.2±7.7, 15°73S×173°58W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.6/19, mbtmp3.9/2, Error ellipse: s-maj=342.7km s-min=59.7km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**49.60**	**257**	P	P	14 34 27.6	-0.2
	0.5nm,0.6s,baz=95,slow=7.4,SNR=8.0						
ASAR	**Alice Springs**	**49.85**	**252**	P	P	14 34 29.7	+0.1
	1.8nm,0.5s,baz=86,slow=9.0,SNR=44						
BRTR	**Keskin Array B**	**146.30**	**321**	PKPbc	PKPdf	14 45 16.4	+0.1
	0.7nm,0.8s,baz=19,slow=4.9,SNR=2.9						

IDC 11 14:27:45.5±2.0, 12°83S×166°46E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.8/18, mbtmp3.8/7, ML4.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/28, Error ellipse: s-maj=56.4km s-min=31.2km az=139.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.22**	**297**	Pn	Pn	14 29 30.9	-1.6
	9.9nm,0.3s,baz=182,slow=6.2,SNR=8.0						
HNR				Sn	Sn	14 30 47.6	-7.7
	5.9nm,0.3s,baz=128,slow=19,SNR=2.0						
HNR				LR	LR	14 32 49.5	
	comp=Z,15nm,28.6s,baz=190,slow=42						
WRA	**Warramunga Arr**	**31.58**	**253**	P	P	14 34 09.9	-0.2
	1.0nm,1.2s,baz=83,slow=8.7,SNR=4.2						
ASAR	**Alice Springs**	**32.67**	**246**	P	P	14 34 19.6	-0.1
	0.4nm,0.6s,baz=70,slow=9.1,SNR=8.2						
KSRS	**Korea Array**	**61.73**	**326**	P	P	14 38 06.9	+1.0
	0.5nm,0.7s,baz=120,slow=7.2,SNR=3.4						
SONM	**Songino Array**	**80.50**	**324**	P	P	14 39 59.9	+0.2
	0.3nm,0.4s,baz=108,slow=4.7,SNR=3.5						
ILAR	**Eielson Array**	**84.97**	**18**	P	P	14 40 21.0	-1.3
	0.2nm,0.6s,baz=206,slow=6.0,SNR=3.3						
MKAR	**Makanchi Array**	**95.29**	**317**	P	P	14 41 11.9	+0.4
	0.5nm,0.5s,baz=91,slow=6.4,SNR=5.6						
ARCES	**ARCESS Array B**	**118.22**	**345**	PKP	PKPdf	14 46 34.4	+0.1
	2.3nm,0.9s,baz=56,slow=2.3,SNR=5.1						

*CSEM **11** 14:27:53.7±0.2, 67°79N×20°20E, h2km, ML0.7, Suspected Mining explosion.*
*ISCJB **11** 14:27:53.4±0.5, 67°81N±0°03×20°25E±0°07, h0km, Error ellipse: s-maj=4.9km s-min=3.8km az=174.3*
*NAO **11** 14:27:53.6±2.1, 67°75N×20°58E, ML2.2*
*HEL **11** 14:27:54.9±0.1, 67°84N×20°20E, h0km, ML2.0, ML0.7(UPP), Suspected explosion*
*UPP **11** 14:27:54.3, 67°85N×20°19E, h1km, ML0.7, Suspected Mining explosion.*
*BER **11** 14:27:57.0±4.5, 67°77N×20°33E, h15km±23km, ML2.1, ML2.2(NAO)*

ISC 11 14:27:53.0±0.8, 67°78N±0°03×20°22E±0°02, h0km, n43, σ0°79/55, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.18**	**13**	*i* P	**Pg**	**14 27 56.9**	**+0.3**
KUA				*i* S	**Sg**	**14 27 58.6**	**-0.3**
KUA	**Kurravaara**	**0.18**	**13**	P	**Pg**	**14 27 56.9**	**+0.3**
KUA				S	**Sg**	**14 27 58.6**	**-0.3**
NIKU	**Nikkaluokta**	**0.46**	**282**	*i* P	**Pg**	**14 28 02.5**	**+0.7**
NIKU				*i* S	**Sg**	**14 28 08.9**	**+1.2**
NIKU	**Nikkaluokta**	**0.46**	**282**	P	**Pg**	**14 28 02.5**	**+0.7**
NIKU				S	**Sg**	**14 28 08.9**	**+1.2**
LANU	**Lannavaara**	**0.72**	**67**	*e*P	**Pg**	**14 28 07.6**	**+0.7**
LANU				*e*S	**Sg**	**14 28 17.2**	**+1.0**
LANU	**Lannavaara**	**0.72**	**67**	P	**Pg**	**14 28 07.5**	**+0.7**
LANU				S	**Sg**	**14 28 16.6**	**+0.4**
MASU	**Masugnsbyn**	**0.75**	**114**	*i* P	**Pb**	**14 28 09.3**	**+0.4**
MASU	**Masugnsbyn**	**0.75**	**114**	P	**Pb**	**14 28 09.3**	**+0.4**
SALU	**Saltoluokta**	**0.77**	**240**	*i* P	**Pb**	**14 28 09.2**	**0.0**
SALU	**Saltoluokta**	**0.77**	**240**	P	**Pb**	**14 28 09.2**	**0.0**
KIF	**Kilpisjarvi**	**1.25**	**10**	*e*P	**Pn**	**14 28 18.3**	**+0.5**
KIF				*e*Sn	**Sg**	**14 28 33.2**	**-0.1**
KIF	**Kilpisjarvi**	**1.25**	**10**	*e*P	**Pn**	**14 28 17.9**	**+0.1**
KIF				*e*S	**Sg**	**14 28 33.1**	**-0.1**
KIF	**Kilpisjarvi**	**1.25**	**10**	P	**Pn**	**14 28 17.8**	**+0.1**
KIF				S	**Sg**	**14 28 33.0**	**-0.2**
HEF	**Hetta**	**1.44**	**62**	*e*P	**Pn**	**14 28 18.9**	**-1.4**
HEF				*e*S	**Sg**	**14 28 38.6**	**-0.5**
HEF	**Hetta**	**1.44**	**62**	*e*P	**Pn**	**14 28 20.3**	**0.0**
HEF				*e*S	**Sg**	**14 28 38.6**	**-0.5**
HEF				MSG		14 28 42.0	
	comp=Z,8.6nm,0.4s						
HEF	**Hetta**	**1.44**	**62**	P	**Pn**	**14 28 20.3**	**0.0**
HEF				*e*S	**Sg**	**14 28 38.6**	**-0.5**
	SNR=50						
ERTU	**Ertsjaerv**	**1.45**	**147**	*e*P	**Pb**	**14 28 21.6**	**+0.8**
ERTU	**Ertsjaerv**	**1.45**	**147**	P	**Pb**	**14 28 21.5**	**+0.8**
KTK1	**Kautokeino**	**1.67**	**41**	*e*P	**Pg**	**14 28 25.1**	**+0.1**
KTK1	**Kautokeino**	**1.67**	**41**	*e*P	**Pg**	**14 28 25.1**	**+0.1**
	SNR=50						
TRO	**Tromso**	**1.93**	**346**	*e*P	**Pn**	**14 28 27.4**	**+0.4**
TRO				AML	AML	14 29 02.9	
	comp=Z,23nm,0.7s						
TRO	**Tromso**	**1.93**	**346**	*e*P	**Pn**	**14 28 27.4**	**+0.4**
	SNR=50						
SGF	**Sodankyl**	**2.44**	**95**	*e*PB	**Pb**	**14 28 37.7**	**+0.1**
SGF				*e*SB	**Sb**	**14 29 07.5**	**-0.7**
SGF	**Sodankyl**	**2.44**	**95**	Pb	**Pb**	**14 28 37.7**	**+0.1**
SGF				Sb	**Sb**	**14 29 07.5**	**-0.7**
RNF	**Rovaniemi**	**2.54**	**115**	*e*PB	**Pb**	**14 28 39.1**	**-0.3**
RNF				*e*SG	**Sg**	**14 29 13.5**	**-1.1**
RNF	**Rovaniemi**	**2.54**	**115**	Pb	**Pb**	**14 28 39.1**	**-0.3**
RNF				Sg	**Sg**	**14 29 13.5**	**-1.1**
LOF	**Lofoten**	**2.55**	**281**	*e*Pg	**Pg**	**14 28 41.0**	**-0.7**
LOF				*e*Sg	**Sg**	**14 29 13.3**	**-1.4**
LOF				AML	AML	14 29 18.8	
	comp=Z,22nm,0.5s						
LOF	**Lofoten**	**2.55**	**281**	*e*Pg	**Pg**	**14 28 41.0**	**-0.7**
	SNR=90						
LOF				*e*Sg	**Sg**	**14 29 13.3**	**-1.4**
	comp=Z,22nm,0.5s,SNR=90						
ARA0	**ARCESS Array S**	**2.62**	**45**	Pn	**Pn**	**14 28 38.4**	**+1.9**
	baz=229,slow=14						
ARA0				Sn	**Sn**	**14 29 08.8**	**-0.1**
	baz=229,slow=28						
ARA0				Lg	Lg	14 29 12.3	
	baz=230,slow=28						
ARA0	**ARCESS Array S**	**2.62**	**45**	Pn	**Pn**	**14 28 38.4**	**+1.9**
	baz=229,slow=14						
ARA0				Sn	**Sn**	**14 29 08.8**	**-0.1**
	baz=229,slow=28						
ARA0				Sg	**Sb**	**14 29 12.3**	**-1.1**
	baz=230,slow=28						
ARA0	**ARCESS Array S**	**2.62**	**45**	MSG		14 29 16.5	
	comp=Z,7.2nm,0.4s						
ARA0	**ARCESS Array S**	**2.62**	**45**	Pn	**Pn**	**14 28 38.4**	**+1.9**
	baz=229,slow=13,SNR=50						
ARA0				Sn	**Sn**	**14 29 08.9**	**-0.1**
	baz=229,slow=24,SNR=50						
ARA0				Sg	**Sb**	**14 29 12.3**	**-1.1**
	baz=230,slow=24,SNR=90						
MOR8	**Moi Rana**	**2.79**	**237**	*e*Sg	**Sb**	**14 29 18.2**	**0.0**
MOR8				AML	AML	14 29 21.8	
	comp=Z,17nm,0.5s						
KEV	**Kevo**	**3.17**	**48**	MSG		14 29 40.1	
	comp=Z,6.5nm,0.4s						
FIA0	**FINESS Array S**	**6.83**	**156**	Lg	Lg	14 31 26.7	
	baz=351,slow=37						
FIA0	**FINESS Array S**	**6.83**	**156**	Lg	Lg	14 31 26.7	
	baz=351,slow=37						
FIA0	**FINESS Array S**	**6.83**	**156**	Lg	Lg	14 31 26.7	
	baz=351,slow=29,SNR=5.8						
NB2	**NORSAR Subarra**	**7.80**	**214**	Lg	Lg	14 32 00.7	
	baz=12,slow=37						
NB2	**NORSAR Subarra**	**7.80**	**214**	Lg	Lg	14 32 00.7	
	baz=12,slow=37						
NB2	**NORSAR Subarra**	**7.80**	**214**	Lg	Lg	14 32 00.7	
	baz=12,slow=34						
HFS	**Hagfors**	**8.19**	**204**	Lg	Lg	14 32 07.7	
	baz=39,slow=28						
HFS	**Hagfors**	**8.19**	**204**	Lg	Lg	14 32 07.7	
	baz=39,slow=28						
HFS	**Hagfors**	**8.19**	**204**	Lg	Lg	14 32 07.7	
	baz=39,slow=25,SNR=27						

*IDC **11** 14:36:44.8±1.2, 0.7°2S×127°.69E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.6/20, mbtmp3.7/5, MS3.6/1, Ms1 3.6/1, ms1mx2.6/26, Error ellipse: s-maj=45.0km s-min=21.4km az=76.0*
*ISCJB **11** 14:36:47.7±0.8, 0.7°6S±0.°05×127°.54E±0.°07, h21km±5km, mb3.6/3, MS2.9/1, Error ellipse: s-maj=11.9km s-min=8.2km az=173.0*
*DJA **11** 14:36:47.8±0.5, 1°S±4°×12°8E±°, h4km±4km, M4.3/6, mb4.9/1, mB5.0/1, MLv4.0/6, Mw(mB)4.3/1*

ISC 11 14:36:48.2±1.1, 0.7°4S±0.°07×127°.58E±0.°10, h17km±6km, n25, σ0°78/25, mb3.6/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**0.13**	**324**	P	**Pg**	**14 36 51.8**	**-0.3**
LBMI				S	**Sg**	**14 36 54.9**	**+0.3**
TNTI	**Ternate**	**1.52**	**352**	P	**Pb**	**14 37 16.0**	**0.0**
NLAI	**Namlea**	**2.53**	**191**	P	**Pn**	**14 37 29.1**	**+0.6**
NLAI				S	**Sn**	**14 37 59.4**	**+0.4**
SWI	**Sorong**	**3.69**	**92**	P	**Pn**	**14 37 45.7**	**+1.2**
KMSI	**Cibinong**	**3.82**	**290**	P	**Pn**	**14 37 47.2**	**+0.8**
LUWI	**Luwuk**	**4.81**	**266**	P	**Pn**	**14 37 59.6**	**-0.4**
APSI	**Ampana**	**5.93**	**268**	P	**Pn**	**14 38 15.7**	**+0.4**
KAPI	**Kappang**	**8.89**	**241**	Pn	**Pn**	**14 38 56.6**	**+0.5**
	baz=42,slow=12						
WRA	**Warramunga Arr**	**20.20**	**161**	P	**P**	**14 41 21.2**	**-1.2**
	0.8nm,0.8s,baz=343,slow=11,SNR=9.2						
ASAR	**Alice Springs**	**23.60**	**165**	P	**P**	**14 41 57.6**	**-0.9**
	1.4nm,0.8s,baz=346,slow=10,SNR=24						
KSRS	**Korea Array**	**36.01**	**0**	P	**P**	**14 44 05.3**	**-0.1**
	0.3nm,0.6s,baz=175,slow=9.5,SNR=3.7						
TAPN	**Taplejung**	**47.41**	**309**	*e*P	**P**	**14 45 22.9**	**+0.5**
	8.4nm,0.7s						
ODAN	**Odare**	**47.42**	**308**	*e*P	**P**	**14 45 23.1**	**+0.7**
	15nm,0.8s						
RAMN	**Ramite**	**48.08**	**308**	*e*P	**P**	**14 45 28.5**	**+0.9**
	25nm,0.6s						
JIRN	**Jiri**	**48.74**	**309**	*e*P	**P**	**14 45 33.7**	**+0.9**
	16nm,0.7s						
GUN	**Gumba**	**49.10**	**309**	*e*P	**P**	**14 45 36.4**	**+0.9**
	19nm,0.6s						
PKI	**Pulchoki**	**49.31**	**308**	*e*P	**P**	**14 45 37.5**	**+0.4**
	8.5nm,0.7s						
KKN	**Kakani**	**49.51**	**308**	*e*P	**P**	**14 45 39.1**	**+0.6**
	10nm,0.7s						
DMN	**Daman**	**49.56**	**308**	*e*P	**P**	**14 45 39.4**	**+0.4**
	13nm,0.8s						
GKN	**Gorkha**	**50.11**	**308**	*e*P	**P**	**14 45 43.5**	**+0.4**
	12nm,0.7s						
KOLN	**Koldanda**	**50.83**	**307**	*e*P	**P**	**14 45 49.7**	**+1.2**
	27nm,0.7s						
DANN	**Dangsing**	**50.96**	**308**	*e*P	**P**	**14 45 50.4**	**+0.8**
	31nm,0.7s						
SONM	**Songino Array**	**51.78**	**342**	LR	LR	15 09 17.1	
	comp=Z,15nm,28.6s,baz=251,slow=38						
MKAR	**Makanchi Array**	**61.70**	**326**	P	**P**	**14 47 04.5**	**-1.1**
	1.0nm,0.7s,baz=117,slow=7.5,SNR=10						
CFAA	**Coronel Fontan**	**144.51**	**156**	PKP	PKPbc	14 56 23.2	+0.1
	0.2nm,0.5s,baz=217,slow=3.9						

*ISCJB **11** 14:38:28.1±0.3, 10°.60N±0°.03×62°.54W±0°.02, h105km±3km, mb3.4/6, Error ellipse: s-maj=5.3km s-min=3.2km az=148.5*
*FUNV **11** 14:38:30.0, 10°.62N×62°.45W, h93km, MW3.5*
*IDC **11** 14:38:32.6±2.8, 10°.93N×62°.59W, h124km±24km, mb3.2/6, mb1 3.5/6, mb1mx3.3/23, mbtmp3.6/6, Error ellipse: s-maj=25.3km s-min=22.4km az=101.0*
*TRN **11** 14:38:32.4, 10°.67N×62°.33W, h102km, MD3.6*

ISC 11 14:38:29.0±0.8, 10°.58N±0°.04×62°.54W±0°.03, h100km±6km, n37, σ1°75/62, mb3.4/6, 4C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.32**	**79**	⇑*i*P	**Pn**	**14 38 43.5**	**-0.2**
GUIV				S	**Sn**	**14 38 53.0**	**-1.8**
GUNV	**Guanoco**	**0.57**	**223**	⇑*i*P	**Pn**	**14 38 46.9**	**+1.5**
GUNV				*e*S	**Sn**	**14 38 58.9**	**+1.2**
CRUV	**Carupano**	**0.69**	**278**	⇑*i*P	**Pn**	**14 38 46.4**	**+0.1**
CRUV				*e*S	**Sn**	**14 38 58.5**	**-0.8**
TCE	**Chacachacare**	**0.79**	**82**	*e*P	**Pn**	**14 38 48.4**	**+1.1**
TCE				*e*S	**Sn**	**14 39 00.7**	**-0.3**
TPP	**Pointe-a-Pierr**	**1.11**	**104**	*e*P	**Pn**	**14 38 52.7**	**+2.1**
TPP				*e*S	**Sn**	**14 39 07.7**	**+0.7**
TRN	**Trinidad (W)**	**1.12**	**87**	⇑*e*P	**Pn**	**14 38 52.1**	**+1.3**
TRN				*e*S	**Sn**	**14 39 06.4**	**-0.9**
TBH	**Brigand Hill**	**1.46**	**94**	*e*P	**Pn**	**14 38 56.5**	**+1.7**
TBH				*e*S	**Sn**	**14 39 12.3**	**-2.0**
ORIV	**Oritupano**	**1.73**	**210**	*e*P	**Pn**	**14 38 59.2**	**+1.0**
GRW	**Mount Saint Ca**	**1.79**	**29**	*e*P	**Pn**	**14 39 00.4**	**+1.4**
GRW				*e*S	**Sn**	**14 39 20.5**	**-1.3**
TPR	**Prospect**	**1.83**	**71**	*e*P	**Pn**	**14 38 59.8**	**+0.3**
TPR				*e*S	**Sn**	**14 39 21.4**	**-1.3**
GRHS	**Sauteurs**	**1.85**	**28**	*e*P	**Pn**	**14 39 01.0**	**+1.3**
GRHS				*e*S	**Sn**	**14 39 22.9**	**-0.2**
BOT	**Bacolet**	**1.88**	**72**	*e*P	**Pn**	**14 39 00.9**	**+0.8**
BOT				*e*S	**Sn**	**14 39 21.9**	**-1.9**
GRSS	**Sisters**	**1.93**	**28**	*e*P	**Pn**	**14 39 02.5**	**+1.7**
GRSS				*e*S	**Sn**	**14 39 24.3**	**-0.7**
TOSP	**Speyside**	**2.10**	**70**	*e*P	**Pn**	**14 39 02.6**	**-0.3**
TOSP				*e*S	**Sn**	**14 39 26.1**	**-2.6**
PCRV	**Puerto La Cruz**	**2.10**	**259**	*e*P	**Pn**	**14 39 03.8**	**+0.8**
PCRV				*i* S	**Sn**	**14 39 28.8**	**-0.1**
RIOV	**Rio Grande**	**2.60**	**164**	*e*P	**Pn**	**14 39 10.1**	**+0.6**
RIOV				*e*S	**Sn**	**14 39 38.8**	**-1.9**
GURV	**El Guri**	**2.86**	**191**	*e*P	**Pn**	**14 39 13.8**	**+0.9**
GURV				*e*S	**Sn**	**14 39 45.3**	**-1.4**
SVB	**Belmont**	**2.96**	**25**	*e*P	**Pn**	**14 39 16.4**	**+2.2**
SVB				*e*S	**Sn**	**14 39 47.1**	**-1.9**
CUPV	**Cœpira**	**3.24**	**261**	*e*P	**Pn**	**14 39 19.0**	**+1.0**
CUPV				*e*S	**Sn**	**14 39 56.0**	**+0.2**
MCLT	**Moule a Chique**	**3.48**	**27**	*e*P	**Pn**	**14 39 22.2**	**+1.0**
MCLT				*e*S	**Sn**	**14 39 58.6**	**-3.0**
BIRV	**Birongo**	**3.67**	**269**	*e*P	**Pn**	**14 39 25.1**	**+1.3**
BIRV				*e*S	**Sn**	**14 40 04.9**	**-1.2**
MERV	**Las Mercedes**	**3.93**	**251**	*e*P	**Pn**	**14 39 28.1**	**+0.8**
MERV				*e*S	**Sn**	**14 40 11.8**	**-0.7**
H05S1	**Guadeloupe/Mar**	**4.17**	**23**	P	**Pn**	**14 39 29.4**	**-1.1**
H05S1				S	**Sn**	**14 40 17.0**	**-1.1**
	SNR=6.6						
LUEV	**Luepa**	**4.83**	**167**	*e*P	**Pn**	**14 39 39.6**	**-0.1**
LUEV				*e*S	**Sn**	**14 40 30.6**	**-3.9**
TURV	**Turiamo**	**5.21**	**269**	*e*P	**Pn**	**14 39 45.4**	**+0.8**
BAUV	**El Baul**	**5.66**	**254**	*e*P	**Pn**	**14 39 50.3**	**-0.4**
BAUV				*e*S	**Sn**	**14 40 51.1**	**-3.4**
MAPV	**Macapo**	**5.87**	**263**	*e*P	**Pn**	**14 39 53.3**	**-0.3**
H05N1	**Guadeloupe/Mar**	**5.88**	**14**	P	**Pn**	**14 39 53.3**	**-0.5**
H05N1				S	**Sn**	**14 40 55.4**	**-4.3**
TEPV	**Terepaima**	**6.57**	**265**	*e*P	**Pn**	**14 40 03.5**	**+0.3**
PAYV	**Puerto Ayacuch**	**7.21**	**225**	*e*P	**Pn**	**14 40 12.1**	**+0.3**
PAYV				*e*S	**Sn**	**14 41 26.9**	**-5.3**
LPAZ	**La Paz**	**27.27**	**192**	P	**P**	**14 44 09.0**	**+4.2**
	0.8nm,0.9s,baz=4.8,slow=12,SNR=3.5						
TXAR	**Lajitas Array**	**42.64**	**302**	P	**P**	**14 46 16.6**	**+0.7**
	0.2nm,0.8s,baz=110,slow=9.7,SNR=2.8						
PDAR	**Pinedale Array**	**51.89**	**317**	P	**P**	**14 47 26.7**	**-1.0**
	0.5nm,0.5s,baz=119,slow=9.4,SNR=3.8						
NVAR	**Mina Array Bea**	**56.81**	**309**	pP	pP	14 48 27.0	-0.9
	0.4nm,0.8s,baz=119,slow=8.5,SNR=2.5						
TORD	**Torodi Ar. Bea**	**62.77**	**81**	P	**P**	**14 48 45.4**	**+1.0**
	0.3nm,0.5s,baz=281,slow=6.4,SNR=6.0						
ILAR	**Eielson Array**	**78.09**	**334**	P	**P**	**14 50 14.7**	**-2.0**
	0.3nm,0.6s,baz=94,slow=3.8,SNR=4.6						
FINES	**FINESS Array B**	**80.13**	**29**	P	**P**	**14 50 27.8**	**-0.1**
	1.1nm,0.9s,baz=232,slow=8.6,SNR=5.2						

IDC 11 14:38:42.7±4.6, 4°88S×151°75E, h121km±39km, mb3.3/5, mb1 3.5/6, mb1mx3.3/19, mbtmp3.3/6, Error ellipse: s-maj=57.8km s-min=24.4km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.40**	**225**	P	Pn	14 40 16.5	+2.0
	2.4nm,0.3s,baz=31,slow=11,SNR=6.8						
PMG				S	Sn	14 41 26.5	+0.2
	6.7nm,0.3s,baz=143,slow=20,SNR=8.3						
WRA	**Warramunga Arr**	**22.61**	**227**	P	P	14 43 33.6	+0.1
	1.1nm,0.5s,baz=50,slow=10.0,SNR=11						
ASAR	**Alice Springs**	**25.39**	**221**	P	P	14 43 58.5	-0.5
	0.3nm,0.4s,baz=53,slow=9.0,SNR=12						
FITZ	**Fitzroy Crossi**	**28.70**	**241**	P	P	14 44 28.6	0.0
	4.5nm,1.2s,baz=72,slow=6.9,SNR=5.3						
SONM	**Songino Array**	**65.84**	**328**	P	P	14 49 16.0	+0.7
	0.3nm,0.3s,baz=133,slow=8.1,SNR=3.5						
ILAR	**Eielson Array**	**82.63**	**22**	P	P	14 50 51.4	-0.8
	0.2nm,0.5s,baz=236,slow=6.4,SNR=3.3						

MAN 11 14:42:46, 9°17N×125°71E, h4km, mb4.0, ML2.8, MS2.5, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.21**	**205**	*e*P	Pg	14 42 50.8	+0.6
BUTP				*e*S	Sg	14 42 56.1	+3.1
SCPH	**Surigao**	**0.65**	**340**	*e*P	Pg	14 42 59.2	+0.6
SCPH				*e*S	Sb	14 43 09.1	-0.3
MSLP	**Maasin**	**1.28**	**319**	*e*P	Pg	14 43 08.1	-2.4
MSLP				*e*S	Sn	14 43 28.3	0.0
BUKP	**Musuan**	**1.43**	**207**	*e*P	Pn	14 43 12.4	-0.5
BUKP				*e*S	Sg	14 43 32.6	+0.4

*ISCJB **11** 15:01:29.1±0.7, 28°.61S±0°.04×69°.09W±0°.09, h102km±10km, mb3.7/2, Error ellipse: s-maj=13.2km s-min=6.6km az=168.7*
*GUC **11** 15:01:30.9±0.7, 28°.61S×69°.15W, h81km±35km, ML3.9*
*IDC **11** 15:01:32.3±3.5, 28°.82S×69°.26W, h118km±31km, mb3.5/2, mb1 3.7/2, mb1mx3.3/16, mbtmp3.8/2, Error ellipse: s-maj=37.9km s-min=32.8km az=82.0*

ISC 11 15:01:30.1±0.9, 28°.60S±0°.05×69°.13W±0°.08, h99km±10km, n20, σ0°85/25, 4C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**1.43**	**271**	⇑*i*P	**Pn**	**15 01 56.0**	**+0.6**
VACH				*i* S	**Sn**	**15 02 14.2**	**-0.4**
VACH				AML	AML	15 02 15.8	
	comp=E,4μm,0.4s						
LCO	**Las Campanas**	**1.44**	**253**	⇑*i*P	**Pn**	**15 01 56.5**	**+0.7**
LCO				*i* S	**Sn**	**15 02 15.4**	**+0.3**
LCO				AML	AML	15 02 16.3	
	comp=N,3μm,0.6s						
CPCH	**Copiapo**	**1.64**	**319**	⇑*i*P	**Pn**	**15 01 58.0**	**0.0**
CPCH				*i* S	**Sn**	**15 02 19.3**	**+0.1**
CDCH	**Caldera**	**2.14**	**315**	*e*P	**Pn**	**15 02 05.1**	**+0.8**
CDCH				*i* S	**Sn**	**15 02 30.8**	**+0.2**
CDCH				AML	AML	15 02 34.1	
	comp=N,763nm,0.4s						
TLL	**Tololo Astrono**	**2.14**	**223**	⇑*i*P	**Pn**	**15 02 05.3**	**+0.7**
TLL				*i* S	**Sn**	**15 02 31.4**	**+0.4**
TLL				AML	AML	15 02 33.7	
	comp=N,1μm,0.5s						
CMCH	**Combarbala**	**3.04**	**212**	*i* P	**Pn**	**15 02 15.9**	**-0.4**
CMCH				*i* S	**Sn**	**15 02 50.8**	**-1.2**
CFAA	**Coronel Fontan**	**3.09**	**166**	P	**Pn**	**15 02 19.2**	**+2.1**
	comp=N,1.0nm,0.3s,baz=345,slow=11,SNR=157						
CFAA				S	**Sn**	**15 02 52.4**	**-0.9**
	comp=N,7.7nm,0.3s,baz=343,slow=16,SNR=22						
H03N1	**Juan Fernandez**	**9.68**	**238**	T	T	15 11 21.9	
	baz=62,slow=0.7,SNR=54						
H03N2	**Juan Fernandez**	**9.69**	**238**	T	T	15 11 40.5	
	baz=62,slow=0.7,SNR=38						
H03N3	**Juan Fernandez**	**9.69**	**238**	T	T	15 11 28.6	
	baz=62,slow=0.7,SNR=46						
CPUP	**Villa Florida**	**10.72**	**81**	P	**Pn**	**15 03 59.4**	**-1.3**
	comp=N,1.0nm,0.3s,baz=218,slow=12,SNR=6.5						
TXAR	**Lajitas Array**	**66.40**	**327**	P	**P**	**15 12 09.0**	**+0.3**
	comp=N,0.3nm,0.6s,baz=151,slow=8.6,SNR=4.4						
TORD	**Torodi Ar. Bea**	**80.00**	**69**	P	**P**	**15 13 29.6**	**+0.6**
	comp=N,1.5nm,0.6s,baz=274,slow=5.4,SNR=14						
ASAR	**Alice Springs**	**123.50**	**205**	PKP	**PKPdf**	**15 20 15.2**	**-1.3**
	comp=N,0.4nm,0.5s,baz=128,slow=1.5,SNR=8.8						
WRA	**Warramunga Arr**	**126.68**	**208**	PKP	**PKPdf**	**15 20 21.8**	**-0.8**
	comp=N,1.0nm,0.6s,baz=159,slow=1.6,SNR=13

6.8nm,0.3s,baz=329,slow=4.4,SNR=5.2
HNR Sn Sn 15 21 26.8 -7.0
baz=183,slow=19,SNR=2.0
DZM Mont Dzumac 8.84 179 Pn Pn 15 20 31.9 +0.5
1.0nm,0.3s,baz=30,slow=22,SNR=11
DZM Sn Sn 15 22 02.9 -9.0
baz=107,slow=19,SNR=2.2
WRA Warramunga Arr 31.37 253 P P 15 24 44.7 -0.3
0.3nm,0.6s,baz=86,slow=9.2,SNR=5.7
ASAR Alice Springs 32.43 247 P P 15 24 54.2 -0.1
0.6nm,0.5s,baz=71,slow=9.6,SNR=29
ILAR Eielson Array 85.34 18 P P 15 31 01.0 +0.2
0.3nm,0.5s,baz=228,slow=5.5,SNR=15
MKAR Makanchi Array 95.47 317 P P 15 31 48.2 -0.8
0.3nm,0.5s,baz=89,slow=5.7,SNR=4.1

IDC 11 15:22:24.4±3.8, 10°.86S×164°.11E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.7/3, Error ellipse: s-maj=196.3km s-min=31.7km az=138.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**30.05 249**		P	P	15 28 37.0	+1.5
	0.7nm,0.8s,baz=74,slow=9.6,SNR=4.8						
ASAR	**Alice Springs**	**31.45 242**		P	P	15 28 46.6	-1.3
	0.7nm,0.7s,baz=72,slow=10.0,SNR=8.4						
ILAR	**Eielson Array**	**83.85 19**		P	P	15 34 55.6	0.0
	0.5nm,0.6s,baz=238,slow=5.1,SNR=8.6						

*ISCJB **11** 15:45:47.4±0.9, 8°.42S±0°.08×108°.27E±0°.06, h55km, mb3.5/3, Error ellipse: s-maj=11.8km s-min=6.4km az=28.1*
*DJA **11** 15:45:49.6±0.8, 8°.S±8°×10°.8E±°, h53km±16km, M3.7/11, MLv3.7/11*
*IDC **11** 15:46:04.4±3.2, 9°.91S×110°.34E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/19, mbtmp3.5/4, Error ellipse: s-maj=181.4km s-min=24.7km az=49.0*
ISC 11 15:45:49.0±1.2, 8°.3S±0°.1×108°.29E±0°.06, h55km, n14, σ1§20/16, mb3.2/3, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.88 328**		P	**Pn**	**15 46 04.3**	**-1.1**
CLJI	**Ciiicap**	**0.92 51**		P	**Pn**	**15 46 07.9**	**+2.0**
KPJI	**Karang Pucung**	**1.15 34**		P	**Pn**	**15 46 08.6**	**-0.4**
LEM	**Lembang**	**1.61 336**		P	**Pn**	**15 46 15.3**	**0.0**
LEM				S	**Sn**	**15 46 36.7**	**+1.7**
TGJI	**Tegal**	**1.65 30**		P	**Pn**	**15 46 14.2**	**-1.4**
BJII	**Banjamegara**	**1.71 56**		P	**Pn**	**15 46 16.0**	**-0.5**
YOGI	**Yogyakarta**	**2.04 77**		S	**Sn**	**15 46 45.2**	**-0.3**
UGM	**Wanagama**	**2.25 80**		P	**Pn**	**15 46 24.6**	**+0.7**
UGM				S	**Sn**	**15 46 50.9**	**+0.4**
DBJI	**Dramaga**	**2.31 319**		P	**Pn**	**15 46 25.3**	**+0.6**
PCJI	**Pacitan**	**2.86 88**		P	**Pn**	**15 46 33.8**	**+1.6**
PWJI	**Pagerwojo**	**3.49 86**		P	**Pn**	**15 46 39.0**	**-1.9**
WRA	**Warramunga Arr**	**27.74 117**		P	**P**	**15 51 32.5**	**-0.2**
	0.6nm,0.8s,baz=291,slow=9.3,SNR=6.8						
ASAR	**Alice Springs**	**28.90 125**		P	**P**	**15 51 41.9**	**-1.1**
	0.3nm,0.6s,baz=299,slow=9.5,SNR=7.3						
STKA	**Stephens Creek**	**38.83 132**		P	**P**	**15 53 09.3**	**+0.4**
	4.0nm,0.9s,baz=307,slow=9.6,SNR=5.3						

*ISCJB **11** 16:08:18.3±0.7, 0°.41N±0°.06×101°.15E±0°.09, h33km, mb4.0/10, Error ellipse: s-maj=13.1km s-min=8.1km az=172.2*
*IDC **11** 16:08:24.4±3.3, 0°.41S×100°.01E, h107km±26km, mb3.6/10, mb1 3.7/11, mb1mx3.5/24, mbtmp3.6/11, Error ellipse: s-maj=50.7km s-min=15.3km az=53.0*
*DJA **11** 16:08:27.2±2.6, 1°.S±24°×10°.E±1°.5, h10km±22km, M3.9/3, MLv3.9/3*
ISC 11 16:08:19.6±0.9, 0°.39N±0°.08×101°.2E±0°.1, h35km, n15, σ1§87/12, mb4.2/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPI	**Padang Panjang**	**1.13 222**		P	Pn	16 08 43.0	+4.0
PDSI	**Padang**	**1.46 208**		P	**Pn**	**16 08 45.4**	**+1.8**
PDSI				S	**Sn**	**16 09 00.0**	**-1.6**
PSI	**Prapat**	**3.28 317**		P	Pn	16 09 14.2	+5.6
	7.7nm,0.3s,baz=133,slow=19,SNR=18						
PSI				S	**Sn**	**16 09 47.7**	**+1.2**
	1.6nm,0.3s,baz=146,slow=12,SNR=3.6						
GSI	**Gunungsitoli**	**3.70 284**		P	Pn	16 09 09.9	-4.4
WRA	**Warramunga Arr**	**38.27 124**		P	**P**	**16 15 38.6**	**+1.7**
	0.4nm,0.7s,baz=307,slow=8.5,SNR=8.6						
ASAR	**Alice Springs**	**39.78 129**		P	**P**	**16 15 51.0**	**+1.4**
	0.4nm,0.8s,baz=300,slow=7.6,SNR=7.6						
KSRS	**Korea Array**	**44.39 31**		P	P	16 16 34.1	+7.3
	0.8nm,0.6s,baz=221,slow=7.8,SNR=7.2						
SONM	**Songino Array**	**47.48 5**		P	P	16 16 55.6	+4.4
	0.9nm,0.4s,baz=188,slow=9.2,SNR=7.5						
SONM				PcP	**PcP**	**16 18 20.8**	**-0.4**
	1.0nm,0.8s,baz=186,slow=3.3,SNR=3.6						
MKAR	**Makanchi Array**	**49.08 343**		P	**P**	**16 17 04.4**	**+0.9**
	1.6nm,0.4s,baz=156,slow=8.3,SNR=64						
KURBB	**Kurchatov Arra**	**53.62 342**		P	**P**	**16 17 37.9**	**+0.4**
	1.2nm,0.5s,baz=160,slow=7.0,SNR=16						
ZALV	**Zalesovo Beam**	**55.07 348**		P	**P**	**16 17 48.8**	**+0.9**
	1.7nm,0.3s,baz=160,slow=4.7,SNR=15						
BVAR	**Borovoye Array**	**58.38 339**		P	**P**	**16 18 09.7**	**-1.7**
	0.8nm,0.3s,baz=171,slow=10,SNR=6.6						
FINES	**FINESS Array B**	**82.56 332**		P	P	16 20 36.4	-2.3
	1.2nm,0.5s,baz=123,slow=7.0,SNR=9.3						
ARCES	**ARCESS Array B**	**84.64 340**		P	**P**	**16 20 47.8**	**-1.6**
	1.0nm,0.4s,baz=94,slow=4.6,SNR=16						
TXAR	**Lajitas Array**	**142.11 37**		PKP	**PKPdf**	**16 27 45.5**	**-3.5**
	0.2nm,0.4s,baz=262,slow=1.8,SNR=4.4						

*IDC **11** 16:12:12.0±0.7, 13°.75S×166°.49E, h0km, mb4.3/16, mb1 4.4/18, mb1mx4.3/23, mbtmp4.3/18, ML4.4/2, MS4.3/16, Ms1 4.3/16, ms1mx4.1/26, Error ellipse: s-maj=23.9km s-min=15.4km az=109.0*
*NEIC **11** 16:12:14.6±6.1, 13°.72S×166°.45E, h16km±36km, mb4.5/4, Error ellipse: s-maj=17.8km s-min=11.6km az=79.0*
*ISCJB **11** 16:12:17.5±0.5, 13°.68S±0°.06×166°.22E±0°.07, h43km, mb4.2/18, MS4.3/14, Error ellipse: s-maj=10.5km s-min=8.7km az=156.4*
*GCMT **11** 16:12:19.6±0.2, 13°.72S×166°.28E, h14km, MW5.0, Moment Tensor Solution. s46,c55; s64,c101; Moment tensor: Scale 10^{16}Nm; M_{rr}3.27±.16; $M_{\theta\theta}$0.05±.12; $M_{\phi\phi}$-3.31±.12; $M_{t\theta}$1.14±.27; $M_{t\phi}$0.52±.08; $M_{\theta r}$-1.64±.25; Best double couple: $M_0$3.90000×10^{16} NP1:ϕ_s158.00000°, δ60.00000°, λ77.00000°. NP2:ϕ_s4.00000°, δ32.00000°, λ112.00000°. Principal axes: T 3.9200, Plg71.0000°, Azm38.0000°; N -0.0600, Plg12.0000°, Azm165.0000°; P -3.8500, Plg14.0000°, Azm258.0000°; Data Used: II IU IC G CN.*
*AUST **11** 16:12:32.4, 13°.46S×166°.43E, h200km*
ISC 11 16:12:18.4±0.5, 13°.78S±0°.06×166°.33E±0°.08, h43km, n80, σ1§58/77, mb4.2/18, MS4.3/14, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.60 304**		Pn	**Pn**	**16 14 05.4**	**-1.3**
HNR				Sn	**Sn**	**16 15 30.5**	**-1.2**
HNR	**Honiara**	**7.60 304**		Pn	**Pn**	**16 14 05.4**	**-1.3**
	11nm,0.3s,baz=165,slow=5.0,SNR=7.7						
HNR				Sn	**Sn**	**16 15 30.5**	**-1.2**
	3.6nm,0.3s,baz=252,slow=20,SNR=1.5						
HNR				LR	LR	16 16 19.5	
	comp=Z,844nm,21.9s,baz=133,slow=32						
DZM	**Mont Dzumac**	**8.25 179**	*e*Pn		**Pn**	**16 14 14.6**	**-1.0**
	61nm,0.5s						
DZM				*e*LR	LR	16 16 13.9	
	1μm,27.9s						
DZM	**Mont Dzumac**	**8.25 179**	*e*P		**Pn**	**16 14 14.6**	**-1.0**
DZM				Sn	**Sn**	**16 15 44.8**	**-2.8**
DZM	**Mont Dzumac**	**8.25 179**	Pn		**Pn**	**16 14 14.5**	**-1.0**
	2.3nm,0.3s,baz=13,slow=24,SNR=12						
DZM				Sn	**Sn**	**16 15 44.8**	**-2.8**
	baz=301,slow=19,SNR=1.2						
DZM				LR	LR	16 16 40.3	
	comp=Z,558nm,18.4s,baz=6.8,slow=32						
EIDS	**Eidsvold**	**18.40 229**	*e*P		**Pn**	**16 16 32.5**	**+2.1**
	14nm,1.1s						
EIDS	**Eidsvold**	**18.40 229**	P		**Pn**	**16 16 33.2**	**+2.8**
	baz=19,SNR=3.6						
CTA	**Charters Tower**	**20.20 249**	P		**P**	**16 16 50.5**	**+0.8**
CTA	**Charters Tower**	**20.20 249**	P		**P**	**16 16 50.5**	**+0.8**
	12nm,0.8s,baz=72,slow=13,SNR=11						
CTAO	**Charters Tower**	**20.20 249**	*e*P		Pn	16 16 50.9	-1.0
RMQ	**Roma**	**20.75 230**	P		Pn	16 16 58.2	-0.2
	baz=21,SNR=23						
AFI	**Afiamalu**	**21.25 93**	LR		LR	16 22 57.7	
	comp=Z,758nm,20.4s,baz=277,slow=31						
QLP	**Quilpie**	**24.29 235**	P		**P**	**16 17 33.1**	**+1.2**
	baz=25,SNR=7.4						
CMSA	**Cobar Meteorol**	**25.90 224**	P		**P**	**16 17 47.5**	**+1.0**
	baz=26,SNR=5.7						
STKA	**Stephens Creek**	**28.94 227**	*e*P		**P**	**16 18 14.8**	**+1.0**
STKA	**Stephens Creek**	**28.94 227**	P		**P**	**16 18 15.1**	**+1.4**
	baz=29,SNR=9.8						
STKA	**Stephens Creek**	**28.94 227**	P		**P**	**16 18 14.3**	**+0.6**
	8.3nm,0.9s,baz=22,slow=3.4,SNR=14						
STKA				LR	LR	16 29 38.6	
	comp=Z,770nm,19.7s,baz=48,slow=36						
RPZ	**Rata Peaks**	**30.11 173**	LR		LR	16 28 48.1	
	comp=Z,655nm,18.2s,baz=339,slow=33						
WRAB	**Tennant Creek**	**31.18 254**	*e*P		**P**	**16 18 32.9**	**-0.8**
	3.6nm,0.8s						
WRA	**Warramunga Arr**	**31.19 254**	P		**P**	**16 18 32.9**	**-0.9**
WRA	**Warramunga Arr**	**31.19 254**	P		**P**	**16 18 32.9**	**-0.9**
	2.6nm,0.8s,baz=85,slow=9.6,SNR=23						
WRA				LR	LR	16 30 11.4	
	comp=Z,821nm,20.8s,baz=85,slow=34						
AS31	**Alice Springs**	**32.18 247**	*e*P		**P**	**16 18 41.5**	**-1.0**
ASAR	**Alice Springs**	**32.18 247**	P		**P**	**16 18 41.6**	**-0.8**
ASAR	**Alice Springs**	**32.18 247**	P		**P**	**16 18 41.6**	**-0.8**
	2.5nm,0.6s,baz=75,slow=9.4,SNR=55						
ASAR				LR	LR	16 30 35.7	
	comp=Z,702nm,19.6s,baz=73,slow=34						
RAR	**Rarotonga**	**33.11 108**	LR		LR	16 29 28.6	
	comp=Z,546nm,18.2s,baz=270,slow=31						
BBOO	**Buckleboo**	**33.46 230**	P		**P**	**16 18 54.9**	**+1.3**
	baz=34,SNR=10						
KNRA	**Kununurra**	**36.36 262**	P		**P**	**16 19 18.7**	**0.0**
	baz=36,SNR=8.5						
FITZ	**Fitzroy Crossi**	**39.31 258**	P		**P**	**16 19 44.1**	**+0.5**
FITZ	**Fitzroy Crossi**	**39.31 258**	P		**P**	**16 19 43.6**	**0.0**
	baz=40,SNR=5.6						
FITZ	**Fitzroy Crossi**	**39.31 258**	P		**P**	**16 19 44.1**	**+0.5**
	3.3nm,0.7s,baz=107,slow=8.7,SNR=8.1						
BATI	**Baumata**	**41.85 270**	LR		LR	16 36 40.8	
	comp=Z,339nm,21.6s,baz=36,slow=35						
PPT2	**Papeete2**	**42.55 101**	*e*S		S	16 26 37.7	+7.5
	173nm,24.8s						
PPT2				*e*LQ	LQ	16 30 19.4	
	463nm,27.0s						
PPT2				*e*LR	LR	16 32 08.6	
	834nm,27.8s,baz=262						
PPT	**Papeete**	**42.55 101**	LR		LR	16 33 00.7	
	comp=Z,386nm,19.2s,baz=259,slow=29						
TBI	**Tubuai**	**42.83 110**	*e*S		**S**	**16 26 38.2**	**+4.1**
	176nm,27.0s						
TBI				*e*LQ	LQ	16 30 25.2	
	511nm,27.5s						
TBI				*e*LR	LR	16 32 18.2	
	491nm,25.0s,baz=284						
MEEK	**Meekatharra**	**46.32 246**	P		**P**	**16 20 40.9**	**+0.5**
	baz=46,SNR=10						
MORW	**Morawa**	**48.87 243**	P		P	16 21 04.3	+4.2
	baz=49,SNR=4.1						
RKT	**Rikitea**	**56.14 109**	*e*S		S	16 29 47.2	+6.8
	128nm,28.0s						
RKT				*e*LR	LR	16 38 27.3	
	232nm,33.0s						
ASAJ	**Asahikawa**	**61.55 341**	P		**P**	**16 22 32.5**	**+1.4**
ASAJ	**Asahikawa**	**61.55 341**	P		**P**	**16 22 32.5**	**+1.4**
	15nm,1.0s,baz=295,slow=19,SNR=5.2						
KSRS	**Korea Array**	**62.45 326**	P		**P**	**16 22 38.0**	**+0.8**
	1.1nm,0.7s,baz=138,slow=6.9,SNR=6.1						
KSAR	**Wonju Array Be**	**62.46 326**	P		**P**	**16 22 38.0**	**+0.7**
VNDA	**Vanda**	**63.79 181**	P		**P**	**16 22 46.2**	**+0.6**
VNDA	**Vanda**	**63.79 181**	P		**P**	**16 22 46.2**	**+0.6**
	1.7nm,0.9s,baz=2.5,slow=7.2,SNR=5.3						
VNDA				LR	LR	16 46 54.6	
	comp=Z,161nm,18.2s,baz=21,slow=33						
USRK	**Ussuriysk Arra**	**65.64 334**	P		**P**	**16 22 59.6**	**+1.6**
	1.7nm,0.6s,baz=123,slow=5.3,SNR=3.4						
PETK	**Petropavlovsk-**	**67.03 354**	P		**P**	**16 23 05.6**	**-1.2**
PETK	**Petropavlovsk-**	**67.03 354**	P		**P**	**16 23 05.6**	**-1.2**
	1.2nm,0.5s,baz=207,slow=11,SNR=2.8						
CMAR	**Chiang Mai Arr**	**73.74 294**	P		**P**	**16 23 51.2**	**+2.7**
CMAR	**Chiang Mai Arr**	**73.74 294**	P		**P**	**16 23 51.2**	**+2.7**
	3.5nm,0.9s,baz=122,slow=4.4,SNR=18						
CHTO	**Chiang Mai**	**73.86 294**	*e*P		**P**	**16 23 51.2**	**+1.9**
	6.7nm,0.8s						
QSPA	**South Pole Qui**	**76.24 180**	*e*P		**P**	**16 24 02.1**	**-0.3**
	9.6nm,1.1s						
SONM	**Songino Array**	**81.20 324**	P		**P**	**16 24 29.9**	**+0.1**
SONM	**Songino Array**	**81.20 324**	P		**P**	**16 24 29.9**	**+0.1**
	0.2nm,0.4s,baz=132,slow=6.2,SNR=3.2						
MAW	**Mawson**	**82.42 202**	P		**P**	**16 24 36.8**	**+1.1**
MAW	**Mawson**	**82.42 202**	P		**P**	**16 24 36.8**	**+1.1**
	0.6nm,0.4s,baz=123,slow=18,SNR=2.8						
MAW				LR	LR	16 58 01.7	
	comp=Z,81nm,20.1s,baz=354,slow=33						
ILAR	**Eielson Array**	**85.91 18**	P		**P**	**16 24 51.4**	**-2.1**
ILAR	**Eielson Array**	**85.91 18**	P		**P**	**16 24 51.4**	**-2.1**
	1.2nm,0.8s,baz=237,slow=4.9,SNR=11						
ILAR				LR	LR	17 01 19.2	
	comp=Z,207nm,18.4s,baz=264,slow=34						
NVAR	**Mina Array Bea**	**87.34 50**	LR		LR	16 58 22.1	
	comp=Z,336nm,18.4s,baz=293,slow=32						
PDAR	**Pinedale Array**	**94.97 47**	LR		LR	17 02 52.8	
	comp=Z,93nm,18.4s,baz=261,slow=32						
MKAR	**Makanchi Array**	**95.89 317**	P		**P**	**16 25 41.3**	**+0.7**
MKAR	**Makanchi Array**	**95.89 317**	P		**P**	**16 25 41.3**	**+0.7**
	1.0nm,0.8s,baz=90,slow=7.2,SNR=6.5						
ZALV	**Zalesovo Beam**	**96.09 324**	P		**P**	**16 25 40.8**	**-0.5**
ZALV	**Zalesovo Beam**	**96.09 324**	P		**P**	**16 25 40.8**	**-0.5**
	0.7nm,0.5s,baz=129,slow=4.7,SNR=3.7						
TXAR	**Lajitas Array**	**96.62 62**	LR		LR	16 59 56.1	
	comp=Z,125nm,19.6s,baz=185,slow=30						
ARCES	**ARCESS Array B**	**119.11 345**	PKP		**PKPdf**	**16 31 00.8**	**-1.2**
ARCES			PKKPbc		**PKKPab**	**16 41 14.8**	**-2.6**
ARCES	**ARCESS Array B**	**119.11 345**	PKP		**PKPdf**	**16 31 00.8**	**-1.2**
	1.0nm,0.6s,baz=66,slow=3.0,SNR=6.5						
ARCES			PKKPbc		**PKKPab**	**16 41 14.8**	**-2.6**
	3.4nm,1.0s,baz=270,slow=1.2,SNR=5.9						
FINES	**FINESS Array B**	**124.51 338**	PKP		**PKPdf**	**16 31 11.8**	**-0.8**
FINES	**FINESS Array B**	**124.51 338**	PKP		**PKPdf**	**16 31 11.8**	**-0.8**
	0.9nm,0.7s,baz=68,slow=1.0,SNR=6.2						
AKASG	**Malin Array Be**	**129.44 326**	PKP		**PKPdf**	**16 31 22.5**	**+0.1**
AKASG	**Malin Array Be**	**129.44 326**	PKP		**PKPdf**	**16 31 22.5**	**+0.1**
	0.3nm,0.3s,baz=19,slow=3.5,SNR=4.5						
NOA	**NORSAR Array B**	**129.47 345**	PKP		**PKPdf**	**16 31 23.1**	**+0.9**
NOA	**NORSAR Array B**	**129.47 345**	PKP		**PKPdf**	**16 31 23.1**	**+0.9**
	0.6nm,0.9s,baz=35,slow=2.1,SNR=2.9						
CLL	**Collm**	**136.82 336**	*e*pPKPdf		**pPKPdf**	**16 31 43.0**	**-6.7**
CLL			*e*sPKiKP		sPKiKP	16 31 47.0	-9.2
GERES	**GERESS Array B**	**138.39 333**	PKP		**PKPdf**	**16 31 39.5**	**+0.1**
GERES	**GERESS Array B**	**138.39 333**	PKP		**PKPdf**	**16 31 39.5**	**+0.1**
	0.4nm,0.8s,baz=15,slow=4.1,SNR=2.4						
KEST	**Kesra**	**149.91 321**	PKPbc		**PKPbc**	**16 32 04.1**	**-0.4**
KEST			PKPab		**PKPab**	**16 32 09.9**	**-0.3**
KEST	**Kesra**	**149.91 321**	PKPbc		**PKPbc**	**16 32 04.1**	**-0.4**
	0.6nm,0.7s,baz=299,slow=15,SNR=2.3						
KEST			PKPab		**PKPab**	**16 32 09.9**	**-0.3**
	2.4nm,0.8s,baz=140,slow=2.0,SNR=5.6						
ESDC	**Sonseca Array**	**152.83 343**	PKPbc		**PKPbc**	**16 32 11.5**	**+0.4**
ESDC			PKPab		**PKPab**	**16 32 21.4**	**-0.7**
ESDC	**Sonseca Array**	**152.83 343**	PKPbc		**PKPbc**	**16 32 11.5**	**+0.4**
	0.6nm,0.6s,baz=9.8,slow=3.0,SNR=6.3						
ESDC			PKPab		**PKPab**	**16 32 21.4**	**-0.7**
	0.5nm,0.5s,baz=18,slow=2.8,SNR=7.0						
TORD	**Torodi Ar. Bea**	**165.05 269**	PKP		**PKPdf**	**16 32 21.1**	**+2.1**
TORD	**Torodi Ar. Bea**	**165.05 269**	PKP		**PKPdf**	**16 32 21.0**	**+2.1**
	0.4nm,0.7s,baz=184,slow=2.3,SNR=3.1						

MEX 11 16:48:14.7±0.3, 17°.36N×101°.05W, h8km±4km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.46 302**	*i*	P	Pg	16 48 23.2	-0.5
ZIIG			*i*	S	Sg	16 48 30.2	+0.4
CAIG	**El Cayaco**	**0.81 113**	*e*	P	Pg	16 48 28.4	-1.9
CAIG			*i*	S	Sg	16 48 39.2	-1.7
ARIG	**Puente Sto Nin**	**1.13 36**	*e*	P	Pg	16 48 33.0	-3.5
ARIG			*i*	S	Sg	16 48 47.4	-4.0
ACX	**Acapulco**	**1.24 113**	*i*	P	Pg	16 48 39.7	+1.1
ACX			*e*	S	Sb	16 48 54.2	-0.4
MEIG	**Mezcala**	**1.48 67**	*e*	P	Pn	16 48 38.1	-3.6
MEIG			*e*	S	Sn	16 48 56.2	-5.2
PLIG	**Platanillo**	**1.80 55**	*e*	P	Pn	16 48 43.0	-3.1
PLIG			*e*	S	Sn	16 49 04.1	-5.2
MMIG	**Aquila**	**2.37 293**	*e*	P	Pn	16 48 50.9	-3.1
MMIG			*e*	S	Sn	16 49 18.7	-4.6

*IDC **11** 16:56:46.3±0.6, 13°.69S×166°.38E, h0km, mb4.4/14, mb1 4.5/16, mb1mx4.4/21, mbtmp4.4/16, ML4.4/2, MS4.3/19, Ms1 4.3/19, ms1mx4.2/26, Error ellipse: s-maj=22.5km s-min=15.3km az=101.0*
*ISCJB **11** 16:56:50.3±0.3, 13°.85S±0°.05×166°.16E±0°.06, h31km, mb4.5/20, MS4.3/16, Error ellipse: s-maj=9.5km s-min=5.9km az=148.9*
*NEIC **11** 16:56:52.1±1.6, 13°.75S×166°.27E, h38km±14km, mb4.7/9, Error ellipse: s-maj=13.8km s-min=10.0km az=76.0*
*GCMT **11** 16:56:54.6±0.2, 13°.75S×166°.32E, h15km, MW5.2, Moment Tensor Solution. s58,c79; s78,c116; Moment tensor: Scale 10^{16}Nm; M_{rr}4.99±.17; $M_{\theta\theta}$0.38±.14; $M_{\phi\phi}$-5.37±.14; $M_{t\theta}$2.20±.40; $M_{t\phi}$0.93±.10; $M_{\theta r}$-3.93±.43; Best double couple: $M_0$6.90000×10^{16} NP1:ϕ_s158.00000°, δ66.00000°, λ78.00000°. NP2:ϕ_s5.00000°, δ27.00000°, λ115.00000°. Principal axes: T 6.8200, Plg67.0000°, Azm45.0000°; N 0.2100, Plg11.0000°, Azm163.0000°; P -7.0400, Plg20.0000°, Azm257.0000°; Data Used: II IU IC G CN.*
ISC 11 16:56:51.4±0.4, 13°.77S±0°.06×166°.29E±0°.07, h31km, n99, σ0§99/96, mb4.5/20, MS4.4/16, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.56 304**		Pn	**Pn**	**16 58 40.4**	**+0.9**
HNR				Sn	**Sn**	**17 00 04.5**	**+0.2**
HNR	**Honiara**	**7.56 304**		Pn	**Pn**	**16 58 40.4**	**+0.9**
	10nm,0.3s,baz=201,slow=3.4,SNR=13						
HNR				Sn	**Sn**	**17 00 04.5**	**+0.2**
	baz=66,slow=20,SNR=2.1						
HNR				LR	LR	17 00 54.1	
	comp=Z,1μm,21.3s,baz=133,slow=33						
DZM	**Mont Dzumac**	**8.26 179**	*e*Pn		**Pn**	**16 58 49.4**	**+0.2**
	56nm,0.4s						
DZM				*e*LR	LR	17 00 45.6	
	2μm,24.4s						
DZM	**Mont Dzumac**	**8.26 179**	*e*Pn		**Pn**	**16 58 49.5**	**+0.2**
DZM				Sn	**Sn**	**17 00 21.3**	**-0.3**
DZM	**Mont Dzumac**	**8.26 179**	Pn		**Pn**	**16 58 49.0**	**-0.3**
	2.6nm,0.3s,baz=83,slow=22,SNR=23						
DZM				Sn	**Sn**	**17 00 21.3**	**-0.3**
	1.5nm,0.3s,baz=114,slow=20,SNR=1.9						
DZM				LR	LR	17 01 14.2	
	comp=Z,663nm,19.6s,baz=10,slow=32						
PMG	**Port Moresby**	**19.23 281**	LR		LR	17 07 39.8	
	comp=Z,945nm,18.9s,baz=109,slow=34						
CTA	**Charters Tower**	**20.16 249**	P		**P**	**17 01 23.9**	**+0.5**
CTA	**Charters Tower**	**20.16 249**	P		**P**	**17 01 23.9**	**+0.5**
	7.4nm,0.8s,baz=196,slow=2.9,SNR=3.7						
CTA				LR	LR	17 07 54.9	
	comp=Z,980nm,21.6s,baz=354,slow=33						
CTAO	**Charters Tower**	**20.16 249**	*e*P		**P**	**17 01 21.1**	**-2.3**
	15nm,1.0s						
RAO	**Raoul Island**	**21.25 139**	LR		LR	17 07 18.4	
	comp=Z,219nm,20.7s,baz=318,slow=30						
AFI	**Afiamalu**	**21.30 93**	LR		LR	17 07 42.9	
	comp=Z,1μm,20.8s,baz=271,slow=31						
OUZ	**Omahuta**	**22.36 164**	*e*P		P	17 01 53.0	+6.1
	12nm,0.8s						
STKA	**Stephens Creek**	**28.91 227**	*e*P		**P**	**17 02 49.1**	**+1.3**
STKA	**Stephens Creek**	**28.91 227**	P		**P**	**17 02 48.5**	**+0.7**
	3.9nm,0.6s,baz=39,slow=7.5,SNR=15						
STKA				LR	LR	17 14 13.6	
	comp=Z,1μm,18.0s,baz=51,slow=36						
RPZ	**Rata Peaks**	**30.12 173**	P		**P**	**17 02 58.4**	**0.0**
RPZ	**Rata Peaks**	**30.12 173**	P		**P**	**17 02 58.4**	**0.0**
	13nm,0.7s,baz=198,slow=7.3,SNR=7.6						
RPZ				LR	LR	17 11 44.6	
	comp=Z,174nm,21.2s,baz=11,slow=30						
WRAB	**Tennant Creek**	**31.14 254**	*e*P		**P**	**17 03 05.3**	**-2.3**
	7.2nm,1.0s						
WRA	**Warramunga Arr**	**31.15 254**	P		**P**	**17 03 07.6**	**-0.2**
WRA	**Warramunga Arr**	**31.15 254**	P		**P**	**17 03 07.6**	**-0.2**
	1.7nm,0.7s,baz=85,slow=9.4,SNR=13						
WRA				LR	LR	17 14 46.7	
	comp=Z,1μm,21.1s,baz=80,slow=35						
AS31	**Alice Springs**	**32.14 247**	*e*P		**P**	**17 03 16.0**	**-0.5**
ASAR	**Alice Springs**	**32.14 247**	P		**P**	**17 03 15.9**	**-0.5**
ASAR	**Alice Springs**	**32.14 247**	P		**P

DMN	**Daman**	**88.67 299**	*e*P	**P**	**17 09 43.4**	**+0.9**
	22nm,0.7s						
GKN	**Gorkha**	**89.18 299**	*e*P	**P**	**17 09 45.0**	**+0.2**
	17nm,0.8s						
KOLN	**Koldanda**	**90.00 298**	*e*P	**P**	**17 09 49.4**	**+0.7**
	2.5nm,0.5s						
DANN	**Dangsing**	**90.02 299**	*e*P	**P**	**17 09 49.7**	**+0.9**
	13nm,0.7s						
MAIT	**Maitri**	**93.87 188**	*e*P	**P**	**17 10 03.1**	**-2.4**
SNAA	**Sanae**	**94.45 183**	*e*P	**P**	**17 10 07.8**	**-0.4**
SNAA	**Sanae**	**94.45 183**	*e*P	**P**	**17 10 07.2**	**-1.1**
	9.3nm,1.2s						
PDAR	**Pinedale Array**	**95.00 47**	LR	LR	17 47 27.7		
	comp=Z,146nm,18.6s,baz=253,slow=32						
VNA2	**Neumayer--Watz**	**95.40 182**	*e*P	**P**	**17 10 11.8**	**-0.7**
	baz=182,slow=4.9						
VNA1	**Neumayer--Stat**	**95.71 182**	*e*P	**P**	**17 10 14.6**	**+0.7**
MK31	**Makanchi Array**	**95.85 317**	*e*P	**P**	**17 10 15.5**	**+0.5**
MKAR	**Makanchi Array**	**95.85 317**	P	**P**	**17 10 15.5**	**+0.5**
MKAR	**Makanchi Array**	**95.85 317**	P	**P**	**17 10 15.5**	**+0.5**
	3.0nm,0.7s,baz=98,slow=6.2,SNR=23						
ZAA0	**Zalesovo Array**	**96.06 324**	*e*P	**P**	**17 10 14.9**	**-0.7**
ZALV	**Zalesovo Beam**	**96.06 324**	P	**P**	**17 10 15.2**	**-0.4**
ZALV	**Zalesovo Beam**	**96.06 324**	P	**P**	**17 10 15.2**	**-0.4**
	2.6nm,0.8s,baz=117,slow=5.2,SNR=11						
TXAR	**Lajitas Array**	**96.66 62**	LR	LR	17 44 52.8		
	comp=Z,174nm,19.7s,baz=175,slow=30						
ARCES	**ARCESS Array B 119.09 345**		PKP	**PKPdf**	**17 15 35.5**	**-1.1**
ARCES			PKKPbc	**PKKPab**	**17 25 50.1**	**-2.1**
ARCES	**ARCESS Array B 119.09 345**		PKP	**PKPdf**	**17 15 35.5**	**-1.1**
	3.6nm,0.7s,baz=66,slow=1.7,SNR=16						
ARCES			PKKPbc	**PKKPab**	**17 25 50.1**	**-2.1**
	1.7nm,0.7s,baz=211,slow=2.1,SNR=6.5						
FINES	**FINESS Array B**	**124.48 338**	PKP	**PKPdf**	**17 15 46.6**	**-0.6**
FINES	**FINESS Array B**	**124.48 338**	PKP	**PKPdf**	**17 15 46.6**	**-0.6**
	2.4nm,0.9s,baz=19,slow=8.1,SNR=4.5						
KMBO	**Kilima Mbogo**	**127.39 258**	PKP	**PKPdf**	**17 15 55.2**	**+0.7**
KMBO	**Kilima Mbogo**	**127.39 258**	PKP	**PKPdf**	**17 15 55.2**	**+0.7**
	1.1nm,0.2s,baz=227,slow=19,SNR=2.7						
AKASG	**Malin Array Be**	**129.41 326**	PKPpre	PKPpre	17 15 53.5		
AKASG	**Malin Array Be**	**129.41 326**	PKhKP	PKPpre	17 15 53.5		
	0.2nm,0.3s,baz=321,slow=3.3,SNR=3.5						
NB2	**NORSAR Subarra**	**129.45 345**	PKPdf	**PKPdf**	**17 15 56.7**	**-0.1**
	comp=Z,4.7nm,1.2s,baz=27,slow=1.8						
NOA	**NORSAR Array B**	**129.45 345**	PKP	**PKPdf**	**17 15 56.5**	**-0.2**
NOA	**NORSAR Array B**	**129.45 345**	PKP	**PKPdf**	**17 15 56.5**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=32,slow=1.9,SNR=4.3						
GERES	**GERESS Array B**	**138.36 333**	PKP	**PKPdf**	**17 16 14.2**	**+0.3**
GERES	**GERESS Array B**	**138.36 333**	PKP	**PKPdf**	**17 16 14.2**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=279,slow=8.8,SNR=5.1						
KEST	**Kesra**	**149.87 321**	PKPbc	**PKPbc**	**17 16 39.0**	**-0.1**
KEST	**Kesra**	**149.87 321**	PKPbc	**PKPbc**	**17 16 39.0**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=142,slow=2.2,SNR=4.4						
PBRG	**Braganca**	**151.41 349**	*e*PKPbc	**PKPbc**	**17 16 42.3**	**-0.2**
PCAB	**Cabril**	**151.72 351**	*e*PKPbc	**PKPbc**	**17 16 44.1**	**+0.9**
POLO	**Lamas de Olo**	**152.02 350**	*e*PKPbc	**PKPbc**	**17 16 43.8**	**-0.2**
MVO	**Moncorvo**	**152.09 349**	*e*PKPbc	**PKPbc**	**17 16 43.9**	**-0.2**
PVRL	**Vila Real**	**152.10 350**	*e*PKPbc	**PKPbc**	**17 16 44.1**	**0.0**
PVIS	**Viseu**	**152.67 350**	*e*PKPbc	**PKPbc**	**17 16 43.9**	**-1.5**
ESDC	**Sonseca Array**	**152.80 343**	PKPbc	**PKPbc**	**17 16 44.4**	**-1.4**
ESDC			PKPab	**PKPab**	**17 16 56.6**	**0.0**
ESDC	**Sonseca Array**	**152.80 343**	PKPbc	**PKPbc**	**17 16 44.4**	**-1.4**
	comp=Z,2.0nm,0.8s,baz=16,slow=2.2,SNR=13						
ESDC			PKPab	**PKPab**	**17 16 56.6**	**0.0**
	comp=Z,1.9nm,0.8s,baz=15,slow=3.8,SNR=6.1						
MTE	**Manteigas**	**152.92 350**	*e*PKPbc	**PKPbc**	**17 16 45.1**	**-0.9**
PCAS	**Casmilo, Conde**	**153.42 351**	*e*PKPbc	**PKPbc**	**17 16 48.0**	**+1.0**
PCBR	**Castelo Branco**	**153.45 349**	*e*PKPbc	**PKPbc**	**17 16 47.9**	**+0.8**
PTOM	**Tomar**	**153.83 351**	*e*PKPbc	**PKPbc**	**17 16 47.6**	**-0.3**
PMRV	**Marv??o**	**153.84 349**	*e*PKPbc	**PKPbc**	**17 16 48.6**	**+0.6**
TORD	**Torodi Ar. Bea**	**165.00 269**	PKP	**PKPdf**	**17 16 52.9**	**-0.6**
TORD	**Torodi Ar. Bea**	**165.00 269**	PKP	**PKPdf**	**17 16 52.9**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=30,slow=1.6,SNR=5.5						

*IDC **11** 17:02:55.4±0.7, 13°.83S×166°.51E, h0km, mb4.4/15, mb1 4.5/16, mb1mx4.4/22, mbtmp4.4/16, ML4.5/1, Error ellipse: s-maj=24.3km s-min=16.1km az=101.0*
*ISCJB **11** 17:02:60.0±0.5, 13°.90S±0°.05×166°.4E±0°.1, h43km, mb4.4/15, Error ellipse: s-maj=14.3km s-min=7.2km az=169.3*
*AUST **11** 17:02:59.0±9.9, 13°.58S×166°.07E, h2km, Error ellipse: s-maj=2.4km s-min=1.1km az=36.0*
*NEIC **11** 17:03:00.7±0.5, 13°.86S×166°.40E, h35km, mb4.7/2, Error ellipse: s-maj=13.1km s-min=9.0km az=75.0*

ISC 11 17:03:01.9±0.5, 13°.84S±0°.06×166°.30E±0°.10, h43km, n74, σ1s08/78, mb4.3/15, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**		**7.61 304**			Pn	**Pn**	**17 04 48.8**	**-1.5**
HNR						Sn	**Sn**	**17 06 13.1**	**-2.1**
HNR	**Honiara**		**7.61 304**			Pn	**Pn**	**17 04 48.8**	**-1.5**
	6.6nm,0.3s,baz=188,slow=2.5,SNR=7.5								
HNR						Sn	**Sn**	**17 06 13.1**	**-2.1**
	baz=184,slow=19,SNR=1.2								
DZM	**Mont Dzumac**		**8.19 179**	*e*Pn			**Pn**	**17 04 58.8**	**+0.4**
	118nm,1.1s								
DZM	**Mont Dzumac**		**8.19 179**	Pn			**Pn**	**17 04 58.6**	**+0.2**
	1.9nm,0.7s								
DZM						Sn	**Sn**	**17 06 28.7**	**-1.1**
DZM	**Mont Dzumac**		**8.19 179**	Pn			**Pn**	**17 04 58.6**	**+0.2**
	1.1nm,0.3s,baz=354,slow=18,SNR=7.5								
DZM						Sn	**Sn**	**17 06 28.7**	**-1.1**
	0.5nm,0.3s,baz=135,slow=19,SNR=2.3								
NFK	**Norfolk Island**		**15.21 175**	P			**P**	**17 06 37.9**	**-0.3**
	baz=16,SNR=4.0								
CTA	**Charters Tower**		**20.15 249**	P			**P**	**17 07 32.5**	**-0.2**
CTA	**Charters Tower**		**20.15 249**	P			**P**	**17 07 32.5**	**-0.2**
	12nm,0.9s,baz=81,slow=16,SNR=7.2								
CTAO	**Charters Tower**		**20.15 249**	*e*P			**P**	**17 07 32.9**	**+0.3**
	28nm,1.3s								
RMQ	**Roma**		**20.69 230**	P			Pn	17 07 42.2	+1.0
	baz=21,SNR=18								
OUZ	**Omahuta**		**22.29 164**	*e*P			**P**	**17 07 54.2**	**-1.3**
QLP	**Quilpie**		**24.23 235**	P			**P**	**17 08 17.0**	**+2.2**
	baz=24,SNR=4.4								
URZ	**Urewera**		**26.15 160**	*e*P			**P**	**17 08 30.7**	**-1.4**
STKA	**Stephens Creek**		**28.88 227**	P			**P**	**17 08 58.0**	**+1.4**
STKA	**Stephens Creek**		**28.88 227**	P			**P**	**17 08 58.9**	**+2.2**
	baz=29,SNR=7.5								
STKA	**Stephens Creek**		**28.88 227**	P			**P**	**17 08 58.0**	**+1.4**
	6.2nm,0.8s,baz=41,slow=5.6,SNR=13								
RPZ	**Rata Peaks**		**30.06 173**	*e*P			**P**	**17 09 04.4**	**-2.6**
RPZ	**Rata Peaks**		**30.06 173**	P			**P**	**17 09 07.1**	**+0.1**
	24nm,0.8s,baz=99,slow=3.2,SNR=6.8								
WRAB	**Tennant Creek**		**31.13 254**	*e*P			**P**	**17 09 16.2**	**-0.6**
WRA	**Warramunga Arr**		**31.14 254**	P			**P**	**17 09 16.8**	**-0.1**
WRA	**Warramunga Arr**		**31.14 254**	P			**P**	**17 09 16.8**	**-0.1**
	2.2nm,0.8s,baz=86,slow=9.5,SNR=8.4								
ASAR	**Alice Springs**		**32.13 247**	P			**P**	**17 09 25.6**	**+0.1**
ASAR	**Alice Springs**		**32.13 247**	P			**P**	**17 09 25.6**	**+0.1**
	2.3nm,0.6s,baz=75,slow=9.5,SNR=38								
KNRA	**Kununurra**		**36.31 262**	P			**P**	**17 10 02.4**	**+0.5**
	baz=36,SNR=4.2								
PPT2	**Papeete2**		**42.57 101**	*e*LR			LR	17 23 04.1	
	309nm,27.2s								
TBI	**Tubuai**		**42.84 109**	*e*LR			LR	17 23 15.8	
	206nm,23.2s								
MEEK	**Meekatharra**		**46.27 246**	P			**P**	**17 11 24.7**	**+1.2**
	baz=46,SNR=6.5								
RKT	**Rikitea**		**56.15 109**	*e*LR			LR	17 29 09.7	
	74nm,27.8s								
ASAJ	**Asahikawa**		**61.59 341**	P			**P**	**17 13 15.9**	**+1.0**
ASAJ	**Asahikawa**		**61.59 341**	P			**P**	**17 13 15.9**	**+1.0**
	20nm,1.0s,baz=325,slow=18,SNR=3.8								
KSRS	**Korea Array**		**62.48 326**	P			**P**	**17 13 22.2**	**+1.3**
	0.5nm,0.6s,baz=127,slow=4.7,SNR=3.2								
KSAR	**Wonju Array Be**		**62.49 326**	P			**P**	**17 13 22.2**	**+1.2**
VNDA	**Vanda**		**63.73 181**	*e*P			**P**	**17 13 29.2**	**+0.5**
VNDA	**Vanda**		**63.73 181**	P			**P**	**17 13 28.6**	**-0.1**
	3.6nm,0.9s,baz=14,slow=5.8,SNR=9.0								
USRK	**Ussuriysk Arra**		**65.67 334**	P			**P**	**17 13 42.7**	**+0.9**
	3.0nm,1.0s,baz=101,slow=10,SNR=4.5								
PETK	**Petropavlovsk-**		**67.08 354**	P			**P**	**17 13 51.0**	**+0.3**
PETK	**Petropavlovsk-**		**67.08 354**	P			**P**	**17 13 50.9**	**+0.3**
	2.3nm,0.9s,baz=133,slow=6.1,SNR=3.3								
CMAR	**Chiang Mai Arr**		**73.73 294**	P			**P**	**17 14 34.3**	**+2.3**
CMAR	**Chiang Mai Arr**		**73.73 294**	P			**P**	**17 14 34.3**	**+2.3**
	2.5nm,0.9s,baz=122,slow=4.7,SNR=20								
SONM	**Songino Array**		**81.22 324**	P			**P**	**17 15 14.1**	**+0.7**
SONM	**Songino Array**		**81.22 324**	P			**P**	**17 15 14.1**	**+0.7**
	1.0nm,0.8s,baz=126,slow=6.2,SNR=5.1								
ILAR	**Eielson Array**		**85.97 18**	P			**P**	**17 15 35.2**	**-2.1**
	1.5nm,0.8s,baz=240,slow=4.8,SNR=13								
SNAA	**Sanae**		**94.38 183**	*e*P			**P**	**17 16 16.8**	**-0.1**
SNAA	**Sanae**		**94.38 183**	*e*P			**P**	**17 16 14.7**	**-2.2**
	8.6nm,1.2s								
VNA2	**Neumayer--Watz**		**95.34 182**	*e*P			**P**	**17 16 21.1**	**-0.1**
	baz=187,slow=4.8								
MKAR	**Makanchi Array**		**95.91 317**	P			**P**	**17 16 25.0**	**+0.8**
MKAR	**Makanchi Array**		**95.91 317**	P			**P**	**17 16 25.0**	**+0.8**
	1.7nm,0.8s,baz=105,slow=5.8,SNR=11								
ZALV	**Zalesovo Beam**		**96.12 324**	P			**P**	**17 16 24.2**	**-0.7**
ZALV	**Zalesovo Beam**		**96.12 324**	P			**P**	**17 16 24.2**	**-0.7**
	1.8nm,0.8s,baz=105,slow=5.8,SNR=7.5								
ARCES	**ARCESS Array B**		**119.15 345**	PKP			**PKPdf**	**17 21 45.1**	**-0.6**
ARCES	**ARCESS Array B**		**119.15 345**	PKP			**PKPdf**	**17 21 45.1**	**-0.6**
	6.9nm,1.1s,baz=76,slow=2.3,SNR=7.6								
AKASG	**Malin Array Be**		**129.47 326**	PKP			**PKPdf**	**17 22 05.0**	**-1.0**
AKASG	**Malin Array Be**		**129.47 326**	PKP			**PKPdf**	**17 22 05.0**	**-1.0**
	0.1nm,0.3s,baz=37,slow=3.2,SNR=4.1								
GERES	**GERESS Array B**		**138.42 333**	PKP			**PKPdf**	**17 22 23.3**	**+0.3**
GERES				SKPbc			**SKiKP**	**17 25 58.9**	**+1.0**
GERES	**GERESS Array B**		**138.42 333**	PKP			**PKPdf**	**17 22 23.3**	**+0.3**
	0.2nm,0.3s,baz=337,slow=5.8,SNR=3.6								
GERES				SKPbc			**SKiKP**	**17 25 58.9**	**+1.0**
	1.4nm,1.1s,baz=186,slow=1.0,SNR=4.1								
KEST	**Kesra**		**149.93 321**	PKPbc			**PKPbc**	**17 22 48.8**	**+0.6**
KEST	**Kesra**		**149.93 321**	PKPbc			**PKPbc**	**17 22 48.8**	**+0.6**
	1.3nm,0.7s,baz=100,slow=7.7,SNR=3.4								
PBRG	**Braganca**		**151.48 349**	*e*PKP			**PKPbc**	**17 22 51.5**	**-0.1**
PCAB	**Cabril**		**151.79 351**	*e*PKP			**PKPbc**	**17 22 52.6**	**+0.3**
POLO	**Lamas de Olo**		**152.08 350**	*e*PKP			**PKPbc**	**17 22 53.0**	**0.0**
MVO	**Moncorvo**		**152.16 349**	*e*PKP			**PKPbc**	**17 22 53.6**	**+0.4**
PVRL	**Vila Real**		**152.17 350**	*e*PKP			**PKPbc**	**17 22 53.5**	**+0.4**
ESDC	**Sonseca Array**		**152.87 343**	PKPbc			**PKPbc**	**17 22 54.5**	**-0.3**
ESDC				PKPab			**PKPab**	**17 23 05.6**	**-0.2**
ESDC	**Sonseca Array**		**152.87 343**	PKPbc			**PKPbc**	**17 22 54.5**	**-0.3**
	1.5nm,0.8s,baz=2.9,slow=2.2,SNR=12								
ESDC				PKPab			**PKPab**	**17 23 05.6**	**-0.2**
	0.4nm,0.5s,baz=23,slow=2.9,SNR=3.5								
MTE	**Manteigas**		**152.99 350**	*e*PKP			**PKPbc**	**17 22 55.4**	**+0.4**
PCAS	**Casmilo, Conde**		**153.49 351**	*e*PKP			**PKPbc**	**17 22 55.9**	**-0.1**
PCBR	**Castelo Branco**		**153.52 349**	*e*PKP			**PKPbc**	**17 22 56.0**	**-0.1**
PTOM	**Tomar**		**153.90 351**	*e*PKP			**PKPbc**	**17 22 55.4**	**-1.5**
PMRV	**Marv??o**		**153.91 349**	*e*PKP			**PKPbc**	**17 22 56.8**	**-0.2**
PMTG	**Montargil**		**154.40 350**	*e*PKP			**PKPbc**	**17 22 57.4**	**-0.6**
PMAFR	**Mafra**		**154.68 352**	*e*PKP			**PKPbc**	**17 22 56.8**	**-1.8**
TORD	**Torodi Ar. Bea**		**165.01 269**	PKP			**PKPdf**	**17 23 02.4**	**0.0**
TORD	**Torodi Ar. Bea**		**165.01 269**	PKP			**PKPdf**	**17 23 02.4**	**0.0**
	0.6nm,0.5s,baz=259,slow=5.8,SNR=11								

*IDC **11** 17:45:02.3±2.3, 22°.28S×170°.24E, h0km, mb4.1/7, mb1 4.3/8, mb1mx4.1/18, mbtmp4.1/8, ML4.0/1, MS3.6/1, Ms1 3.6/1, ms1mx3.0/32, Error ellipse: s-maj=70.2km s-min=28.3km az=143.0*
*ISCJB **11** 17:45:05.8±0.9, 22°.2S±0°.2×170°.01E±0°.10, h25km, mb4.0/7, Error ellipse: s-maj=27.8km s-min=12.5km az=5.6*

ISC 11 17:45:07.1±1.1, 22°.2S±0°.2×170°.1E±0°.1, h25km, n12, σ0s90/13, mb4.0/7, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**		**3.35 272**			Pn	**Pn**	**17 45 58.0**	**+0.1**
	15nm,0.3s,baz=265,slow=18,SNR=218								
DZM						Sn	**Sn**	**17 46 36.3**	**-0.7**
	8.5nm,0.3s,baz=52,slow=22,SNR=3.7								
DZM						LR	LR	17 46 40.1	
	comp=Z,857nm,19.6s,baz=355,slow=28								
STKA	**Stephens Creek**		**27.04 243**	P			**P**	**17 50 47.8**	**+0.4**
	5.8nm,0.7s,baz=91,slow=9.7,SNR=19								
ASAR	**Alice Springs**		**33.27 260**	P			**P**	**17 51 43.0**	**+0.3**
	1.1nm,0.8s,baz=88,slow=9.2,SNR=11								
WRA	**Warramunga Arr**		**33.35 267**	P			**P**	**17 51 42.7**	**-0.7**
	1.1nm,0.5s,baz=100,slow=8.3,SNR=20								
FITZ	**Fitzroy Crossi**		**41.78 267**	P			**P**	**17 52 55.4**	**+0.6**
	5.9nm,1.1s,baz=183,slow=6.0								
KSRS	**Korea Array**		**71.39 326**	P			**P**	**17 56 25.1**	**+0.2**
	1.2nm,0.9s,baz=154,slow=5.6,SNR=6.6								
CMAR	**Chiang Mai Arr**		**80.42 294**	P			**P**	**17 57 18.8**	**+1.7**
	1.7nm,1.0s,baz=134,slow=4.4,SNR=12								
SNAA	**Sanae**		**86.23 182**	*e*P			**P**	**17 57 45.8**	**-0.3**
VNA2	**Neumayer--Watz**		**87.09 181**	*e*P			**P**	**17 57 50.4**	**+0.1**
	baz=183,slow=4.7								
SONM	**Songino Array**		**90.05 323**	P			**P**	**17 58 04.2**	**-0.5**
	1.4nm,0.9s,baz=130,slow=6.1,SNR=6.5								
GERES	**GERESS Array B**		**147.46 330**	PKPbc			**PKPbc**	**18 04 47.6**	**-1.3**
	0.7nm,0.6s,baz=77,slow=2.9,SNR=5.7								
DAVOX	**Davos/Dischmat**		**150.72 332**	PKPbc			**PKPbc**	**18 04 56.1**	**-1.2**
	0.8nm,0.3s,baz=351,slow=4.9,SNR=3.9								

*IDC **11** 17:51:25.1±0.8, 13°.85S×166°.47E, h0km, mb4.3/15, mb1 4.4/17, mb1mx4.3/24, mbtmp4.3/17, ML4.0/2, Error ellipse: s-maj=25.0km s-min=16.0km az=104.0*
*ISCJB **11** 17:51:30.3±0.7, 13°.93S±0°.06×166°.2E±0°.1, h43km, mb4.3/14, Error ellipse: s-maj=15.1km s-min=7.2km az=159.7*

ISC 11 17:51:31.5±0.7, 13°.85S±0°.08×166°.3E±0°.1, h43km, n25, σ1s12/27, mb4.3/14, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**		**7.63 304**			Pn	**Pn**	**17 53 19.7**	**-0.5**
	6.0nm,0.3s,baz=167,slow=2.4,SNR=7.9								
HNR						Sn	**Sn**	**17 54 43.9**	**-1.5**
	5.0nm,0.3s,baz=90,slow=20,SNR=2.7								
DZM	**Mont Dzumac**		**8.17 179**	*e*Pn			**Pn**	**17 53 28.9**	**+1.1**
	28nm,0.6s								
DZM				*e*LR			LR	17 55 33.8	
	379nm,22.9s								
DZM	**Mont Dzumac**		**8.17 179**	Pn			**Pn**	**17 53 26.9**	**-0.9**
	0.8nm,0.3s,baz=29,slow=19,SNR=5.7								
DZM						Sn	**Sn**	**17 54 57.8**	**-1.1**
	0.8nm,0.3s,baz=306,slow=19,SNR=2.5								
CTA	**Charters Tower**		**20.16 249**	P			**P**	**17 56 02.9**	**+0.5**
	10nm,0.9s,baz=65,slow=14,SNR=7.2								
STKA	**Stephens Creek**		**28.88 227**	P			**P**	**17 57 26.9**	**+0.5**
	4.0nm,1.0s,baz=28,slow=9.9,SNR=5.1								
WRA	**Warramunga Arr**		**31.16 254**	P			**P**	**17 57 46.3**	**-0.3**
	1.2nm,0.8s,baz=53,slow=3.1,SNR=6.5								
ASAR	**Alice Springs**		**32.14 248**	P			**P**	**17 57 55.1**	**-0.2**
	1.4nm,0.8s,baz=76,slow=9.1,SNR=19								
FITZ	**Fitzroy Crossi**		**39.28 258**	P			**P**	**17 58 55.9**	**-0.6**
	4.6nm,0.9s,baz=141,slow=9.6,SNR=5.0								
PPT2	**Papeete2**		**42.55 101**	*e*LR			LR	18 11 38.0	
	402nm,27.2s								
JNU	**Nakatsue**		**57.68 325**	P			**P**	**18 01 18.2**	**+0.4**
	3.4nm,0.8s,baz=159,slow=4.1,SNR=3.1								
ASAJ	**Asahikawa**		**61.61 341**	P			**P**	**18 01 46.0**	**+1.3**
	17nm,1.1s,baz=210,slow=16,SNR=2.9								
KSRS	**Korea Array**		**62.50 326**	P			**P**	**18 01 51.9**	**+1.2**
	1.3nm,0.8s,baz=141,slow=8.1,SNR=6.0								
VNDA	**Vanda**		**63.71 181**	P			**P**	**18 01 59.7**	**+1.4**
	3.4nm,1.0s,baz=349,slow=8.1,SNR=6.0								
USRK	**Ussuriysk Arra**		**65.69 334**	P			**P**	**18 02 13.1**	**+1.6**
	3.3nm,0.9s,baz=151,slow=7.0,SNR=5.3								
CMAR	**Chiang Mai Arr**		**73.75 294**	P			**P**	**18 03 03.8**	**+2.0**
	3.9nm,0.9s,baz=138,slow=5.5,SNR=21								
SONM	**Songino Array**		**81.25 324**	P			**P**	**18 03 43.5**	**+0.3**
	1.4nm,0.9s,baz=131,slow=4.4,SNR=5.8								
ILAR	**Eielson Array**		**85.98 18**	P			**P**	**18 04 05.0**	**-1.9**
	1.6nm,0.8s,baz=233,slow=6.4,SNR=16								
MAIT	**Maitri**		**93.79 188**	*e*P			**P**	**18 04 42.3**	**-1.4**
MAIT				*e*				18 07 09.7	
MKAR	**Makanchi Array**		**95.94 317**	P			**P**	**18 04 54.9**	**+1.0**
	2.3nm,0.8s,baz=99,slow=8.0,SNR=8.0								
ZALV	**Zalesovo Beam**		**96.14 324**	P			**P**	**18 04 54.5**	**-0.2**
	1.8nm,0.7s,baz=107,slow=5.0,SNR=7.2								
ARCES	**ARCESS Array B**		**119.18 345**	PKP			**PKPdf**	**18 10 14.5**	**-0.8**
	2.4nm,0.9s,baz=83,slow=2.7,SNR=7.6								
GERES	**GERESS Array B**		**138.45 333**	PKP			**PKPdf**	**18 10 52.1**	**-0.5**
	0.3nm,0.7s,baz=343,slow=2.0,SNR=2.7								
KEST	**Kesra**		**149.95 321**	PKPbc			**PKPbc**	**18 11 16.0**	**-1.8**
	1.7nm,0.8s,baz=275,slow=3.1,SNR=4.7								
ESDC	**Sonseca Array**		**152.89 343**	PKPbc			**PKPbc**	**18 11 24.8**	**+0.3**
	1.0nm,0.8s,baz=18,slow=2.5,SNR=8.4								
ESDC				PKPab			**PKPab**	**18 11 35.4**	**-0.2**
	0.4nm,0.7s,baz=16,slow=3.7,SNR=4.0								
TORD	**Torodi Ar. Bea**		**165.03 269**	PKP			**PKPdf**	**18 11 32.0**	**0.0**
	0.6nm,0.9s,baz=202,slow=1.6,SNR=3.4								

*AUST **11** 17:53:41.8, 13°.49S×167°.96E, h0km*

*IDC **11** 17:53:52.2±0.7, 13°.73S×166°.53E, h0km, mb4.5/16, mb1 4.6/18, mb1mx4.5/23, mbtmp4.5/18, ML4.2/2, MS4.4/1, Ms1 4.4/1, ms1mx3.5/37, Error ellipse: s-maj=22.5km s-min=15.6km az=114.0*
*ISCJB **11** 17:53:57.3±0.5, 13°.65S±0°.06×166°.37E±0°.08, h43km, mb4.4/16, MS4.2/1, Error ellipse: s-maj=10.7km s-min=8.5km az=162.0*

ISC 11 17:53:58.5±0.6, 13°.73S±0°.07×166°.48E±0°.10, h43km, n44, σ1s18/43, mb4.4/16, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**		**7.69 303**			Pn	**Pn**	**17 55 46.7**	**-1.4**
	6.1nm,0.3s,baz=145,slow=5.0,SNR=3.6								
HNR						Sn	**Sn**	**17 57 13.2**	**-0.8**
	5.2nm,0.3s,baz=54,slow=19,SNR=1.6								
DZM	**Mont Dzumac**		**8.29 180**	*e*Pn			**Pn**	**17 55 59.3**	**+2.9**
	58nm,0.7s								
DZM				*e*LR			LR	17 58 06.5	
	556nm,24.5s								
DZM	**Mont Dzumac**		**8.29 180**	Pn			**Pn**	**17 55 54.8**	**-1.6**
	1.6nm,0.3s,baz=323,slow=20,SNR=3.3								
DZM						Sn	**Sn**	**17 57 25.9**	**-3.0**
	baz=176,slow=14,SNR=1.4								
EIDS	**Eidsvold**		**18.54 229**	P			**Pn**	**17 58 14.3**	**+2.1**
	baz=20,SNR=4.0								
CTA	**Charters Tower**		**20.34 249**	P			**P**	**17 58 31.7**	**+0.2**
	23nm,1.0s,baz=76,slow=12,SNR=9.3								
CTA						LR	LR	18 05 22.0	
	comp=Z,879nm,18.3s,baz=72,slow=34								
RMQ	**Roma**		**20.89 230**	P			Pn	17 58 38.7	-1.5
	baz=22,SNR=21								
QLP	**Quilpie**		**24.43 235**	P			**P**	**17 59 13.9**	**+0.5**
	baz=26,SNR=8.1								
CMSA	**Cobar Meteorol**		**26.03 224**	P			**P**	**17 59 28.4**	**+0.6**
	baz=27,SNR=10								
STKA	**Stephens Creek**		**29.07 227**	P			**P**	**17 59 55.9**	**+0.9**
	baz=30,SNR=12								
STKA	**Stephens Creek**		**29.07 227**	P			**P**	**17 59 55.6**	**+0.6**
	12nm,0.7s,baz=305,slow=17,SNR=11								
WRA	**Warramunga Arr**		**31.34 254**	P			**P**	**18 00 13.4**	**-1.8**
	5.0nm,1.0s,baz=86,slow=8.6,SNR=8.4								
ASAR	**Alice Springs**		**32.33 247**	P			**P**	**18 00 22.6**	**-1.3**
	3.6nm,0.7s,baz=75,slow=9.4,SNR=18								
BBOO	**Buckleboo**		**33.60 230**	P			**P**	**18 00 35.6**	**+0.7**
	ba

DANN eS Sn 18 02 58.0 -1.7
KURBB Kurchatov Arra 13.42 16 Pn Pn 18 00 31.9 -4.4
baz=207,slow=11,SNR=5.9
KURBB Lg Lg 18 04 18.8
0.6nm,0.3s,baz=201,slow=29,SNR=5.0
KOLN Koldanda 13.51 135 *eP* **Pn 18 00 40.6 +2.8**
KOLN eS **Sn 18 03 06.7 -1.4**
GKN Gorkha 13.93 131 *eP* **Pn 18 00 44.8 +1.2**
17nm,0.5s
GKN eS **Sn 18 03 15.2 -3.2**
KKN Kakani 14.47 130 *eP* **Pn 18 00 51.2 +0.1**
7.9nm,0.5s
DMN Daman 14.50 131 *eP* **Pn 18 00 53.0 +1.5**
7.3nm,0.4s
PKI Pulchoki 14.71 130 *eP* **Pn 18 00 55.9 +1.5**
14nm,0.7s
AB31 Akbulak array 14.73 325 Pn Pn 18 00 50.2 -4.1
1.2nm,0.5s,baz=129,slow=13,SNR=36
AB31 ⇑Sn Sn 18 03 26.7 -11
4.2nm,0.8s,baz=147,slow=23,SNR=4.2
VOSK Vostochnaya 14.95 356 ⇑Pn **Pn 18 00 59.2 +2.0**
2.4nm,0.7s
JIRN Jiri 15.12 128 *eP* **Pn 18 01 00.6 +0.6**
9.5nm,0.4s
BVA0 Borovoye Array 15.29 354 ⇑Pn **Pn 18 01 04.1 +2.4**
6.8nm,0.7s,baz=163,slow=8.8,SNR=26
BVAR Borovoye Array 15.29 354 Pn Pn 18 00 55.3 -6.4
0.2nm,0.3s,baz=162,slow=16,SNR=4.0
BVAR Lg Lg 18 05 21.4
0.2nm,0.3s,baz=159,slow=30,SNR=3.1
BRVK Borovoye 15.33 354 ⇑Pn **Pn 18 01 04.4 +2.1**
11nm,0.7s
RAMN Ramite 15.88 129 *eP* **Pn 18 01 09.6 -0.3**
18nm,0.6s
RAMN eS Sn 18 03 59.2 -6.9
TAPN Taplejung 16.30 126 *eP* **Pn 18 01 15.0 -0.3**
9.3nm,0.6s
ODAN Odare 16.44 127 *eP* **Pn 18 01 16.6 -0.4**
AKTO Aktyubinsk 16.45 325 ⇓Pn **Pn 18 01 15.8 -0.9**
9.8nm,0.9s
AKTO ⇓Sn Sn 18 04 10.5 -8.6
3.2nm,0.7s
AKTO Aktyubinsk 16.45 325 Pn **Pn 18 01 12.7 -4.0**
0.1nm,0.3s,baz=170,slow=18,SNR=4.9
AKTO Sn Sn 18 04 05.2 -14
0.1nm,0.3s,baz=12,slow=20,SNR=4.4
ZALV Zalesovo Beam 18.11 23 P Pn 18 01 32.9 -4.5
0.3nm,0.3s,baz=212,slow=12,SNR=12
GNI Garni 21.92 285 P P 18 02 26.1 +6.6
3.8nm,0.5s,baz=45,slow=11,SNR=6.0
SONM Songino Array 26.38 57 P **P 18 03 02.4 0.0**
0.8nm,0.8s,baz=262,slow=11,SNR=7.0
SONM LR LR 18 15 12.7
comp=Z,59nm,19.3s,baz=343,slow=41
BRTR Keskin Array B 30.45 286 P **P 18 03 40.5 +1.7**
0.7nm,0.9s,baz=87,slow=5.3,SNR=4.1
MMAI Mount Meron Ar 30.74 272 LR LR 18 17 41.2
comp=Z,64nm,20.3s,baz=80,slow=39
AKASG Malin Array Be 33.28 307 P **P 18 04 04.0 +0.6**
0.9nm,0.7s,baz=78,slow=7.3,SNR=3.8
FINES FINESS Array B 37.22 325 P **P 18 04 36.3 -0.8**
1.0nm,0.6s,baz=118,slow=11,SNR=8.2
ARCES ARCESS Array B 40.49 337 P **P 18 05 03.5 -1.0**
4.4nm,0.8s,baz=70,slow=11,SNR=47
NB2 NORSAR Subarra 44.21 322 P **P 18 05 34.1 -0.9**
comp=Z,1nm,0.5s,baz=90,slow=7.9
NOA NORSAR Array B 44.21 322 P **P 18 05 34.1 -0.9**
comp=Z,1.3nm,0.6s,baz=92,slow=7.9,SNR=5.6
DAVOX Davos/Dischmat 46.28 302 P **P 18 05 51.7 0.0**
comp=Z,2.0nm,0.7s,baz=40,slow=7.9,SNR=2.5
ESDC Sonseca Array 58.13 298 P **P 18 07 21.8 +2.0**
comp=Z,0.2nm,0.5s,baz=58,slow=7.2,SNR=3.8
TORD Torodi Ar. Bea 67.21 269 P **P 18 08 21.9 +1.3**
comp=Z,0.5nm,0.7s,baz=44,slow=5.5,SNR=6.2
ILAR Eielson Array 73.09 17 P **P 18 08 54.0 -2.0**
comp=Z,1.2nm,0.9s,baz=311,slow=4.2,SNR=6.1

IDC 11 17:59:06.4±4.6,5˚**38S**×**146˚51E,h253**km±50km,**mb3.2**/3, **mb1 3.4**/5,**mb1mx3.1**/18,**mbtmp3.2**/5,**Error ellipse: s-maj=71.2km s-min=24.8km az=137.0,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.05**	**171**	P		Pn	18 00 11.7	+0.7
	0.9nm,0.3s,baz=246,slow=13,SNR=7.4							
PMG				S		S	18 01 02.5	+0.2
	5.5nm,0.3s,baz=19,slow=23,SNR=10							
WRA	**Warramunga Ar**	**18.70**	**218**	P		P	18 03 05.8	-0.7
	1.1nm,0.3s,baz=48,slow=8.6,SNR=63							
ASAR	**Alice Springs**	**21.86**	**212**	P		P	18 03 40.1	+1.1
	0.9nm,0.5s,baz=43,slow=7.4,SNR=26							
FITZ	**Fitzroy Crossi**	**23.98**	**236**	P		P	18 03 57.5	-0.9
	1.7nm,0.6s,baz=79,slow=2.2,SNR=9.9							
ILAR	**Eielson Array**	**85.11**	**23**	P		P	18 11 13.7	-0.1
	0.6nm,0.7s,baz=263,slow=5.7,SNR=7.3							

*IDC **11** 18:02:01.5±0.5,13˚.02S×166˚.15E,h0km,mb4.6/23, mb1 4.7/25,mb1mx4.7/29,mbtmp4.6/25,ML4.7/2,MS4.5/21, Ms1 4.5/21,ms1mx4.3/42,Error ellipse: s-maj=15.3km s-min=13.3km az=107.0*

*ISCJB **11** 18:02:02.2±0.3,13˚.00S±0˚.04×166˚.14E±0˚.05,h20km, mb4.8/46,MS4.6/32,Error ellipse: s-maj=6.7km s-min=5.4km az=150.5*

*NEIC **11** 18:02:03.5±4.1,13˚.05S×165˚.98E,h17km±26km,mb5.0/15, Error ellipse: s-maj=10.5km s-min=8.5km az=188.0*

*BJI **11** 18:02:04.3,12˚.80S×165˚.23E,h10km,mB5.3/30,mb4.8/41, Ms5.1/27,Ms7 4.6/29*

*MOS **11** 18:02:04.4±1.2,13˚.12S×166˚.02E,h33km,mb5.1/10,Error ellipse: s-maj=13.0km s-min=9.8km az=15.7*

*GCMT **11** 18:02:09.0±0.3,13˚.03S×166˚.20E,h19km,MW5.0, Moment Tensor Solution. s36,c56; s64,c92; Moment tensor: Scale 10^{16}Nm; M_{rr}-3.82±.20; $M_{\theta\theta}$-0.32±.13; $M_{\phi\phi}$4.14±.15; $M_{r\theta}$0.50±.33; $M_{\theta\phi}$1.15±.11; $M_{\theta r}$-1.09±.28; Best double couple: $M_0$4.30000×10^{16} NP1:ϕ$_1$2.00000°, δ53.00000°,λ-105.00000°. NP2:ϕ$_2$206.00000°, δ40.00000°,λ-71.00000°. Principal axes: T 4.5300, Plg7.0000°, Azm103.0000°; N -0.4500, Plg12.0000°, Azm11.0000°; P -4.0800, Plg76.0000°, Azm221.0000°; Data Used: lU II IC G CN.*

*AUST **11** 18:02:21.5,13˚.43S×165˚.42E,h100km*

ISC 11 18:02:03.9±0.3,**12˚.94S**±0˚.05×**166˚.13E**±0˚.05,**h20**km,**n149, s19/89**/174,**mb4.9**/47,**MS4.5**/32,**1C,Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.00**	**299**	Pn		**Pn**	**18 03 46.5**	**+1.1**
HNR				Sn		**Sn**	**18 05 08.6**	**+4.2**
HNR	**Honiara**	**7.00**	**299**	Pn		**Pn**	**18 03 46.5**	**+1.1**
	26nm,0.3s,baz=259,slow=1.2,SNR=24							
HNR				Sn		**Sn**	**18 05 08.6**	**+4.2**
	5.5nm,0.3s,baz=210,slow=20,SNR=1.8							
HNR				LR		LR	18 06 09.4	
	comp=Z,3μm,19.9s,baz=123,slow=35							
DZM	**Mont Dzumac**	**9.09**	**178**	*e*Pn		**Pn**	**18 04 14.3**	**+0.2**
	61nm,0.4s							
DZM				*e*Sn		Sn	18 05 44.5	-11
	202nm,0.8s							
DZM				*e*LR		LR	18 06 13.5	
	3μm,24.3s							
DZM	**Mont Dzumac**	**9.09**	**178**	Pn		**Pn**	**18 04 13.4**	**-0.7**
DZM				Sn		**Sn**	**18 05 55.1**	**-0.8**
DZM	**Mont Dzumac**	**9.09**	**178**	Pn		**Pn**	**18 04 13.4**	**-0.7**
	4.7nm,0.3s,baz=38,slow=20,SNR=27							
DZM				Sn		**Sn**	**18 05 55.1**	**-0.8**
	baz=90,slow=20,SNR=4.0							
DZM				LR		LR	18 06 35.4	
	comp=Z,1μm,18.5s,baz=2.2,slow=30							
MSVF	**Nonsavu**	**12.44**	**114**	*e*P		**Pn**	**18 05 01.4**	**+1.4**
MSVF	**Nonsavu**	**12.44**	**114**	*e*Pn		**Pn**	**18 05 01.4**	**+1.4**
EIDS	**Eidsvold**	**18.82**	**227**	*e*P		**P**	**18 06 19.3**	**-3.2**
	28nm,0.9s							
EIDS	**Eidsvold**	**18.82**	**227**	P		**Pn**	**18 06 25.5**	**+2.5**
	baz=18,SNR=3.9							
PMG	**Port Moresby**	**18.94**	**279**	P		**Pn**	**18 06 29.3**	**+4.7**
	0.5nm,0.3s,baz=66,slow=8.4,SNR=3.6							
PMG				LR		LR	18 12 14.7	
	comp=Z,818nm,19.4s,baz=99,slow=32							
CTA	**Charters Tower**	**20.33**	**247**	P		Pn	18 06 40.9	-0.3
	15nm,0.8s,baz=76,slow=14,SNR=6.7							
CTAO	**Charters Tower**	**20.33**	**247**	*e*P		**P**	**18 06 36.5**	**-2.5**
CTAO					pmax	pmax		
	comp=Z,65nm,1.5s							
CTAO	**Charters Tower**	**20.33**	**247**	*e*P		**P**	**18 06 36.5**	**-2.5**
	comp=Z,65nm,1.5s							
PATS	**Pohnpei**	**21.13**	**338**	P		P	18 06 57.1	+9.4
	baz=22,SNR=3.6							
RMQ	**Roma**	**21.16**	**228**	P		**P**	**18 06 50.5**	**+2.5**
	baz=20,SNR=34							
AFI	**Afiamalu**	**21.51**	**95**	P		**P**	**18 06 53.1**	**+1.2**
AFI	**Afiamalu**	**21.51**	**95**	P		**P**	**18 06 53.1**	**+1.2**
	comp=Z,32nm,0.9s,baz=41,slow=20,SNR=3.0							
ARMA	**Armidale**	**21.96**	**215**	*e*P		**P**	**18 06 55.0**	**-1.7**
	comp=Z,147nm,1.9s							
ARMA	**Armidale**	**21.96**	**215**	P		**P**	**18 06 58.4**	**+1.7**
	baz=21,SNR=6.6							
COEN	**Coen**	**22.35**	**265**	*e*P		**P**	**18 06 57.5**	**-3.4**
	comp=Z,667nm,1.5s							
COEN	**Coen**	**22.35**	**265**	P		**P**	**18 07 04.4**	**+3.5**
	baz=22,SNR=7.8							
OUZ	**Omahuta**	**23.19**	**164**	*e*P		**P**	**18 07 08.5**	**-0.9**
	comp=Z,51nm,1.4s							
KNTN	**Kanton**	**24.13**	**67**	*e*P		**P**	**18 07 19.8**	**+1.1**
	comp=Z,864nm,3.0s							
MGCD	**Mangrove Creek**	**24.40**	**212**	P		**P**	**18 07 23.6**	**+2.5**
	baz=24,SNR=4.6							
QLP	**Quilpie**	**24.62**	**233**	P		**P**	**18 07 24.4**	**+1.3**
	baz=24,SNR=6.1							
CMSA	**Cobar Meteorol**	**26.38**	**222**	P		**P**	**18 07 42.4**	**+3.4**
	baz=26,SNR=7.6							
URZ	**Urewera**	**27.04**	**161**	LR		LR	18 16 55.3	
	comp=Z,759nm,20.7s,baz=94,slow=33							
STKA	**Stephens Creek**	**29.37**	**226**	*e*P		**P**	**18 08 04.4**	**-1.4**
	comp=Z,53nm,2.5s							
STKA	**Stephens Creek**	**29.37**	**226**	P		**P**	**18 08 07.1**	**+1.3**
	baz=29,SNR=9.0							
STKA	**Stephens Creek**	**29.37**	**226**	P		**P**	**18 08 06.8**	**+1.1**
	comp=Z,11nm,0.9s,baz=41,slow=8.9,SNR=16							
STKA				LR		LR	18 19 09.7	
	comp=Z,1μm,19.1s,baz=52,slow=35							
RPZ	**Rata Peaks**	**30.96**	**173**	P		**P**	**18 08 19.7**	**0.0**
RPZ	**Rata Peaks**	**30.96**	**173**	P		**P**	**18 08 19.7**	**0.0**
	comp=Z,22nm,0.8s,baz=66,slow=11,SNR=3.9							
RPZ				LR		LR	18 19 31.1	
	comp=Z,752nm,19.6s,baz=26,slow=34							
WRAB	**Tennant Creek**	**31.23**	**253**	*e*P		**P**	**18 08 19.5**	**-2.9**
WRA	**Warramunga Arr**	**31.24**	**253**	P		**P**	**18 08 21.9**	**-0.6**
WRA	**Warramunga Arr**	**31.24**	**253**	P		**P**	**18 08 21.9**	**-0.6**
	comp=Z,3.3nm,0.8s,baz=84,slow=9.0,SNR=15							
WRA				LR		LR	18 20 25.5	
	comp=Z,1μm,19.5s,baz=80,slow=35							
AS31	**Alice Springs**	**32.33**	**246**	*e*P		P	18 08 28.0	-4.0
ASAR	**Alice Springs**	**32.33**	**246**	P		**P**	**18 08 31.6**	**-0.5**
ASAR				ScP		**ScP**	**18 15 07.2**	**+4.4**
ASAR	**Alice Springs**	**32.33**	**246**	P		**P**	**18 08 31.6**	**-0.5**
	comp=Z,14nm,0.8s,baz=73,slow=9.3,SNR=112							
ASAR				ScP		**ScP**	**18 15 07.2**	**+4.4**
	comp=Z,1.0nm,0.9s,baz=92,slow=4.1,SNR=4.5							
ASAR				LR		LR	18 20 53.9	
	comp=Z,2μm,18.2s,baz=76,slow=35							
KDU	**Kakadu**	**32.81**	**267**	P		**P**	**18 08 37.1**	**+0.8**
	baz=32,SNR=3.6							
RAR	**Rarotonga**	**33.55**	**109**	LR		LR	18 20 25.4	
	comp=Z,772nm,18.5s,baz=270,slow=33							
BBOO	**Buckleboo**	**33.85**	**229**	*e*P		**P**	**18 08 43.1**	**-2.1**
BBOO	**Buckleboo**	**33.85**	**229**	P		**P**	**18 08 46.1**	**+0.9**
	baz=33,SNR=10							
KNRA	**Kununurra**	**36.28**	**261**	P		**P**	**18 09 07.1**	**+0.8**
	baz=36,SNR=3.8							
FITZ	**Fitzroy Crossi**	**39.30**	**257**	*e*P		P	18 09 27.3	-4.5
FITZ	**Fitzroy Crossi**	**39.30**	**257**	P		**P**	**18 09 33.5**	**+1.7**
	baz=38,SNR=3.6							
FITZ	**Fitzroy Crossi**	**39.30**	**257**	P		**P**	**18 09 32.7**	**+0.9**
	comp=Z,3.6nm,0.8s,baz=84,slow=9.8,SNR=5.3							
BATI	**Baumata**	**41.66**	**269**	P		**P**	**18 09 53.6**	**+2.1**
BATI	**Baumata**	**41.66**	**269**	P		**P**	**18 09 53.6**	**+2.1**
	comp=Z,21nm,0.6s,baz=266,slow=3.3,SNR=5.9							
PPT2	**Papeete2**	**42.91**	**102**	*e*LQ		LQ	18 20 16.0	
	comp=Z,932nm,25.8s							
PPT2				*e*LR		LR	18 21 55.7	
	comp=Z,1μm,27.2s,baz=267							
PPT	**Papeete**	**42.91**	**102**	LR		LR	18 23 23.6	
	comp=Z,594nm,19.9s,baz=340,slow=30							
TBI	**Tubuai**	**43.30**	**110**	*e*LQ		LQ	18 20 14.0	
	comp=Z,464nm,26.2s							
TBI				*e*LR		LR	18 22 09.0	
	comp=Z,632nm,26.2s,baz=284							
TBI	**Tubuai**	**43.30**	**110**	*e*LQ		LQ	18 09 36.7	
	comp=Z,282nm,29.8s							
MEEK	**Meekatharra**	**46.48**	**246**	P		**P**	**18 10 31.1**	**+1.0**
	baz=46,SNR=8.4							
NWAO	**Narrogin (SRO)**	**48.75**	**237**	P		**P**	**18 10 47.5**	**0.0**
NWAO	**Narrogin (SRO)**	**48.75**	**237**	P		**P**	**18 10 47.5**	**0.0**
	comp=Z,13nm,0.9s,baz=92,slow=12,SNR=4.3							
MORW	**Morawa**	**49.07**	**243**	P		**P**	**18 10 51.0**	**+0.9**
	baz=48,SNR=5.3							
KKM	**Kota Kinabalu**	**53.06**	**288**	*e*P		**P**	**18 11 18.7**	**-1.6**
	comp=Z,25nm,1.1s							
KKM	**Kota Kinabalu**	**53.06**	**288**	P		**P**	**18 11 22.6**	**+2.2**
	baz=53,SNR=4.8							
MAJO	**Matsushiro**	**55.82**	**333**	*e*P		**P**	**18 11 40.1**	**+0.2**
MAJO					pmax	pmax		
	comp=Z,37nm,1.5s							
MAJO	**Matsushiro**	**55.82**	**333**	*e*P		**P**	**18 11 40.1**	**+0.2**
	comp=Z,37nm,1.5s							
RKT	**Rikitea**	**56.59**	**109**	*e*S		**S**	**18 19 33.4**	**-3.6**
	comp=Z,244nm,24.5s							
RKT				*e*LR		LR	18 28 16.8	
	comp=Z,414nm,28.8s,baz=274							
JNU	**Nakatsue**	**56.83**	**325**	P		**P**	**18 11 48.3**	**+1.1**
JNU	**Nakatsue**	**56.83**	**325**	P		**P**	**18 11 48.3**	**+1.1**
	comp=Z,9.8nm,1.0s,baz=96,slow=2.7,SNR=4.8							
YUK	**Yuzh-Kuril'sk**	**59.64**	**343**	⇑*i*P		**P**	**18 12 05.4**	**-1.1**
YUK				*e*			18 14 15.3	
YUK				S		**S**	**18 20 14.6**	**-1.2**
YUK				MLR		MLR		
	comp=Z,679nm,20.0s							
ASAJ	**Asahikawa**	**60.70**	**341**	*e*P		**P**	**18 12 12.9**	**-0.9**
	comp=Z,35nm,0.9s							
ASAJ	**Asahikawa**	**60.70**	**341**	P		**P**	**18 12 15.2**	**+1.4**
	comp=Z,17nm,0.3s,baz=207,slow=11,SNR=79							
SSE	**Sheshan**	**61.47**	**316**	P		**P**	**18 12 17.7**	**-1.6**
SSE				S		**S**	**18 20 39.8**	**0.0**
SSE				AMB		AMB		
	comp=Z,33nm,1.0s							
SSE				AMB		AMB		
	comp=Z,220nm,4.6s							
SSE				LR		LR		
	comp=Z,120nm,25.0s							
SSE				LR		LR		
	comp=Z,85nm,25.0s							
SSE				LR		LR		
	comp=Z,190nm,20.6s							
KSRS	**Korea Array**	**61.65**	**326**	P		**P**	**18 12 21.7**	**+1.3**
	comp=Z,2.0nm,0.8s,baz=147,slow=6.7,SNR=8.9							
KSRS				LR		LR	18 34 34.9	
	comp=Z,105nm,19.9s,baz=145,slow=32							
KSAR	**Wonju Array Be**	**61.66**	**326**	P		**P**	**18 12 21.7**	**+1.2**
NJ2	**Nanjing**	**63.63**	**316**	*e*P		**P**	**18 12 32.4**	**-1.4**
NJ2				AMB		AMB		
	comp=Z,20nm,1.2s							
QIZ	**Qiongzhong**	**63.91**	**299**	P		**P**	**18 12 33.4**	**-2.5**
QIZ				S		**S**	**18 21 11.1**	**+0.2**
QIZ				LR		LR		
	comp=Z,210nm,30.1s							
VNDA	**Vanda**	**64.62**	**181**	*e*P		**P**	**18 12 39.0**	**-0.6**
	comp=Z,31nm,1.7s							
VNDA	**Vanda**	**64.62**	**181**	P		**P**	**18 12 39.8**	**+0.3**
	comp=Z,4.3nm,1.1s,baz=347,slow=6.5,SNR=4.6							
VNDA				LR		LR	18 39 26.2	
	comp=Z,260nm,18.7s,baz=12,slow=35							
USRK	**Ussuriysk Arra**	**64.80**	**334**	P		**P**	**18 12 43.2**	**+2.1**
	comp=Z,5.1nm,0.9s,baz=123,slow=7.0,SNR=10.0							
PETK	**Petropavlovsk-**	**66.18**	**354**	LR		LR	18 35 42.7	
	comp=Z,184nm,20.7s,baz=323,slow=30							
MDJ	**Mudanjiang**	**66.19**	**332**	P		**P**	**18 12 52.0**	**+1.8**
MDJ				sP		**sP**	**18 12 56.6**	**-2.5**
MDJ				PcP		**PcP**	**18 13 21.2**	**+0.9**
MDJ				S		**S**	**18 21 43.1**	**+5.0**
MDJ				AMB		AMB		
	comp=Z,11nm,1.3s							
MDJ				AMB		AMB		
	comp=Z,200nm,9.3s							
MDJ				LR		LR		
	comp=Z,110nm,25.7s							
MDJ				LR		LR		
	comp=Z,88nm,26.9s							
MDJ				LR		LR		
	comp=Z,72nm,24.5s							
IPM	**Ipoh**	**66.93**	**281**	*e*P		P	18 12 52.3	-3.3
	comp=Z,37nm,1.5s							
CN2	**Changchun**	**67.55**	**329**	*e*P		**P**	**18 13 00.4**	**+1.5**
CN2				*ep*P		**pP**	**18 13 04.4**	**-1.0**
CN2				*es*P		**sP**	**18 13 07.5**	**-0.3**
CN2				*e*S		**S**	**18 21 55.5**	**+1.0**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.8s							
PSI	**Prapat**	**68.50**	**278**	P		**P**	**18 13 06.5**	**+0.8**
PSI	**Prapat**	**68.50**	**278**	P		**P**	**18 13 06.5**	**+0.8**
	comp=Z,4.0nm,0.6s,baz=332,slow=17,SNR=4.5							
KLR	**Kul'dur**	**68.94**	**337**	*e*P		P	18 13 04.0	-3.4
ENH	**Enshi**	**69.38**	**309**	*e*P		**P**	**18 13 09.5**	**-1.2**
	comp=Z,9.0nm,1.0s							
GYA	**Guiyang**	**69.80**	**305**	P		**P**	**18 13 12.8**	**-0.6**
GYA				PP		**PP**	**18 15 49.2**	**+1.1**
GYA				S		**S**	**18 22 20.6**	**-1.5**
GYA				SKS		**SKSac**	**18 23 09.1**	**-4.6**
GYA				AMB		AMB		
	comp=Z,30nm,1.0s							
GYA				AMB		AMB		
	comp=Z,120nm,5.7s							
GYA				LR		LR		
	comp=Z,590nm,18.5s							
GYA				LR		LR		
	comp=Z,550nm,20.0s							
GYA				LR		LR		
	comp=Z,560nm,19.2s							
BJI	**Beijing**	**70.19**	**321**	P		**P**	**18 13 14.0**	**-1.3**
BJI				S		**S**	**18 22 25.8**	**-0.1**
BJI				AMB		AMB		
	comp=Z,9.0nm,0.6s							
BJI				AMB		AMB		
	comp=Z,100nm,4.4s							
BJI				LR		LR		
	comp=Z,320nm,36.1s							
BJI				LR		LR		
	comp=Z,220nm,39.4s							
KMI	**Kunming**	**72.43**	**302**	P		**P**	**18 13 29.0**	**-0.6**
KMI				pP		**pP**	**18 13 32.0**	**-4.1**
KMI				PP		**PP**	**18 16 10.5**	**-0.4**
KMI				S		**S**	**18 22 50.9**	**-2.1**
KMI				AMB		AMB		
	comp=Z,6.0nm,0.7s							
KMI				LR		LR		
	comp=Z,430nm,10.4s							
KMI				LR		LR		
	comp=Z,470nm,15.0s							
KMI				LR		LR		
	comp=Z,340nm,13.1s							
CM31	**Chiang Mai Arr**	**73.22**	**294**	*e*P		**P**	**18 13 32.6**	**-1.4**
	comp=Z,7.6nm,0.9s							
CMAR	**Chiang Mai Arr**	**73.22**	**294**	P		**P**	**18 13 35.9**	**+1.8**
CMAR	**Chiang Mai Arr**	**73.22**	**294**	P		**P**	**18 13 35.9**	**+1.8**
	comp=Z,5.6nm,0.9s,baz=123,slow=4.4,SNR=50							
HHC	**Hu-ho-hao-te**	**73.51**	**320**	*e*P		**P**	**18 13 32.9**	**-2.6**
HHC				sP		**sP**	**18 13 39.9**	**-4.6**
HHC				PcP		**PcP**	**18 13 49.3**	**-2.2**
HHC				PP		**PP**	**18 16 18.7**	**-1.0**
HHC				S		**S**	**18 23 00.9**	**-3.6**
HHC				SKS		SKSac	18 23 34.0	-7.1
HHC				SS		**SS**	**18 27 45.8**	**-2.0**
HHC				AMB		AMB		
	comp=Z,30nm,0.6s							
HHC				AMB		AMB		
	comp=Z,340nm,6.4s							
HHC				LR		LR		
	comp=Z,450nm,17.8s							
HHC				LR		LR		
	comp=Z,390nm,17.9s							
HHC				LR		LR		
	comp=Z,170nm,18.2s							
CD2	**Chengdu**	**74.05**	**308**	P		**P**	**18 13 38.4**	**-0.4**
CD2				pP		**pP**	**18 13 43.1**	**-2.3**
CD2				sP		**sP**	**18 13 45.4**	**-2.4**
CD2				PP		**PP**	**18 16 25.2**	**+0.8**
CD2				S		**S**	**18 23 09.5**	**-1.3**
CD2				sS		**sS**	**18 23 16.8**	**-4.8**
CD2				AMB		AMB		
	comp=Z,30nm,0.5s							
CD2				AMB		AMB		
	comp=Z,250nm,6.5s							
CD2				LR		LR		
	comp=Z,820nm,4.8s							
CD2				LR		LR		
	comp=Z,450nm,5.9s							
LZH	**Lanzhou**	**76.31**	**312**	*e*P		**P**	**18 13 51.9**	**+0.1**
LZH				pP		**pP**	**18 13 56.0**	**-2.4**
LZH				sP		**sP**	**18 14 00.2**	**-0.6**
LZH				PP		**PP**	**18 16 42.2**	**-1.4**
LZH				*e*S		**S**	**18 23 34.6**	**-1.3**
LZH				sS		**sS**	**18 23 44.3**	**-2.5**
LZH				SS		**SS**	**18 28 29.2**	**-1.3**
LZH				AMB		AMB		
	comp=Z,33nm,1.2s							
LZH				AMB		AMB		
	comp=Z,170nm,4.4s							
LZH				LR		LR		
	comp=Z,690nm,14.6s							
LZH				LR		LR		
	comp=Z,810nm,15.0s							
LZH				LR		LR		
	comp=Z,910nm,16.7s							
CIT	**Chita**	**78.98**	**330**	*e*P		**P**	**18 14 07.7**	**+1.4**
CIT				*e*			18 14 11.2	
CIT				*e*			18 14 26.1	
YAK	**Yakutsk**	**80.01**	**343**	*e*P		**P**	**18 14 12.1**	**+0.6**
YAK				pmax		pmax		
	comp=Z,12nm,1.1s							
YAK				MLR		MLR		
	comp=Z,485nm,16.0s							
YAK				MLR		MLR		
	comp=N,342nm,18.0s							
YAK				MLR		MLR		
	comp=E,205nm,19.0s							
SONM	**Songino Array**	**80.41**	**324**	P		**P**	**18 14 15.2**	**+1.0**
SONM	**Songino Array**	**80.41**	**324**	P		**P**	**18 14 15.2**	**+1.0**
	comp=E,3.7nm,1.1s,baz=142,slow=5.9,SNR=8.6							
SONM				LR		LR	18 50 33.9	
	comp=E,121nm,18.4s,baz=136,slow=36							
GTA	**Gaotai**	**80.64**	**314**	*e*P		**P**	**18 14 18.0**	**+2.4**
GTA				pP		**PcP**	**18 14 22.6**	**+0.2**
GTA				sP		**sP**	**18 14 25.7**	**+1.0**
GTA				AMB		AMB		
	comp=E,7.0nm,1.2s							
MAW	**Mawson**	**83.12**	**202**	P		**P**	**18 14 27.7**	**-0.4**
MAW	**Mawson**	**83.12**	**202**	P		**P**	**18 14 27.7**	**-0.4**
	comp=E,0.4nm,0.3s,baz=53,slow=20,SNR=2.3							
MAW				LR		LR	18 44 11.6	
	comp=E,230nm,20.9s,baz=102,slow=30							
ZAK	**Zakamensk**	**83.46**	**325**	*e*P		**P**	**18 14 30.8**	**+0.6**
ZAK

WMQ				AMB	AMB			
	comp=Z,190nm,4.6s							
WMQ				LR	LR			
	comp=Z,160nm,22.4s							
WMQ				LR	LR			
	comp=Z,120nm,23.2s							
WMQ				LR	LR			
	comp=Z,76nm,20.4s							
MK31	**Makanchi Array**	**95.15 317**	*e*P	**P**		**18 15 24.4**	**-1.5**	
MK31	**Makanchi Array**	**95.15 317**	*e*P	**P**		**18 15 24.4**	**-1.5**	
MKAR	**Makanchi Array**	**95.15 317**	P	**P**		**18 15 26.9**	**+1.0**	
MKAR	**Makanchi Array**	**95.15 317**	P	**P**		**18 15 26.9**	**+1.0**	
MKAR	**Makanchi Array**	**95.15 317**	P	**P**		**18 15 26.9**	**+1.0**	
	comp=Z,2.4nm,0.7s,baz=93,slow=7.0,SNR=19							
ANMO	**Albuquerque**	**95.20 55**	LR	LR		18 52 49.0		
	comp=Z,753nm,18.4s,baz=78,slow=32							
SNAA	**Sanae**	**95.26 183**	*e*P	**P**		**18 15 26.6**	**+0.5**	
ZAA0	**Zalesovo Array**	**95.30 324**	*e*P	**P**		**18 15 24.9**	**-1.4**	
ZALV	**Zalesovo Beam**	**95.30 324**	P	**P**		**18 15 26.0**	**-0.4**	
ZALV	**Zalesovo Beam**	**95.30 324**	P	**P**		**18 15 26.0**	**-0.4**	
ZALV	**Zalesovo Beam**	**95.30 324**	P	**P**		**18 15 26.0**	**-0.4**	
	comp=Z,2.9nm,0.8s,baz=107,slow=5.1,SNR=12							
VNA2	**Neumayer--Watz**	**96.22 182**	*e*P	**P**		**18 15 27.3**	**-3.1**	
TXAR	**Lajitas Array**	**96.40 61**	P	**P**		**18 15 33.9**	**+1.8**	
TXAR	**Lajitas Array**	**96.40 61**	P	**P**		**18 15 33.9**	**+1.8**	
	comp=Z,0.4nm,0.8s,baz=224,slow=6.3,SNR=6.2							
TXAR			LR	LR		18 51 55.3		
	comp=Z,409nm,18.1s,baz=130,slow=31							
NVS	**Novosibirsk**	**96.42 325**	*i* P	P		18 15 34.8	+3.4	
VNA1	**Neumayer--Stat**	**96.52 182**	*e*P	**P**		**18 15 29.1**	**-2.6**	
KSH	**Kashi**	**98.23 309**	P	Pdif		18 15 40.6	+0.4	
KSH			pP	pP		18 15 45.3	-1.6	
KSH			sP	sP		18 15 47.5	-1.8	
ARCES	**ARCESS Array B**	**118.25 345**	PKP	**PKPdf**		**18 20 48.7**	**-0.5**	
ARCES	**ARCESS Array B**	**118.25 345**	PKP	**PKPdf**		**18 20 48.7**	**-0.5**	
	comp=Z,2.7nm,0.9s,baz=72,slow=2.9,SNR=3.8							
OBN	**Obninsk**	**122.61 328**	*e*PKIKP	**PKPdf**		**18 21 01.1**	**+3.2**	
OBN			pmax	pmax				
	comp=Z,7.0nm,1.6s							
KIV	**Kislovodsk**	**122.82 314**	*e*PKIKP	**PKPdf**		**18 20 57.3**	**-1.6**	
KIV			*e*PS	**PS**		**18 32 32.2**	**-1.1**	
KIV			pmax	pmax				
	comp=Z,6.0nm,0.9s							
BOSA	**Boshof**	**123.98 222**	PKP	**PKPdf**		**18 21 01.9**	**+0.2**	
BOSA	**Boshof**	**123.98 222**	PKP	**PKPdf**		**18 21 01.9**	**+0.2**	
	comp=Z,5.5nm,1.0s,baz=183,slow=6.5,SNR=3.5							
AKASG	**Malin Array Be**	**128.64 326**	PKIKP	**PKPdf**		**18 21 11.1**	**+1.5**	
AKASG	**Malin Array Be**	**128.64 326**	PKP	**PKPdf**		**18 21 11.1**	**+1.5**	
AKASG	**Malin Array Be**	**128.64 326**	PKP	**PKPdf**		**18 21 11.1**	**+1.5**	
	comp=Z,0.3nm,0.5s,baz=55,slow=1.4,SNR=5.9							
PRU	**Pruhonice**	**136.34 334**	AMS	AMS		19 27 10.0		
	comp=Z,200nm,17.6s							
KHC	**Kasperske Hory**	**137.40 333**	AMS	AMS		19 28 50.0		
	comp=Z,300nm,17.2s							
GERES	**GERESS Array B**	**137.56 333**	PKP	**PKPdf**		**18 21 27.3**	**+0.7**	
GERES	**GERESS Array B**	**137.56 333**	PKP	**PKPdf**		**18 21 27.3**	**+0.7**	
	comp=Z,0.7nm,0.9s,baz=64,slow=3.1,SNR=5.1							
KEST	**Kesra**	**149.13 321**	PKPbc	**PKPbc**		**18 21 52.2**	**+0.8**	
KEST	**Kesra**	**149.13 321**	PKPbc	**PKPbc**		**18 21 52.2**	**+0.8**	
	comp=Z,3.7nm,0.7s,baz=293,slow=2.2,SNR=11							
ESDC	**Sonseca Array**	**151.97 344**	PKPbc	**PKPbc**		**18 21 59.1**	**+1.1**	
ESDC			PKPab	**PKPab**		**18 22 08.6**	**+1.4**	
ESDC	**Sonseca Array**	**151.97 344**	PKPbc	**PKPbc**		**18 21 59.1**	**+1.1**	
	comp=Z,1.5nm,0.8s,baz=4.8,slow=3.2,SNR=7.7							
ESDC			PKPab	**PKPab**		**18 22 08.6**	**+1.4**	
	comp=Z,1.2nm,0.6s,baz=8.8,slow=3.9,SNR=8.8							
TORD	**Torodi Ar. Bea**	**164.84 273**	PKP	**PKPdf**		**18 22 09.9**	**+2.4**	
TORD			PKPab	**PKPab**		**18 23 04.6**	**+1.0**	
TORD	**Torodi Ar. Bea**	**164.84 273**	PKP	**PKPdf**		**18 22 09.9**	**+2.4**	
	comp=Z,2.6nm,1.1s,baz=23,slow=0.5,SNR=7.9							
TORD			PKPab	**PKPab**		**18 23 04.6**	**+1.0**	
	comp=Z,0.9nm,0.8s,baz=90,slow=4.3,SNR=3.9							

IDC 11 18:07:31.8±1.9, 14.73S×173.51W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.8/18, mbtmp3.7/5, Error ellipse: s-maj=111.1km s-min=24.5km az=150.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.87**	**64**	Pn	Pn	18 07 59.8	-5.4
	15nm,0.3s,baz=357,slow=7.6,SNR=12						
AFI				Sn	Sn	18 08 19.8	-10
	67nm,0.3s,baz=54,slow=23,SNR=21						
H11S2	**WAKE ISLAND Hy**	**38.34**	**329**	T	T	18 57 01.3	
	baz=152,slow=0.7,SNR=7.4						
H11S3	**WAKE ISLAND Hy**	**38.35**	**329**	T	T	18 57 00.4	
	baz=152,slow=0.7,SNR=6.4						
H11S1	**WAKE ISLAND Hy**	**38.35**	**329**	T	T	18 57 01.5	
	baz=152,slow=0.7,SNR=5.8						
H11N3	**WAKE ISLAND Hy**	**39.28**	**330**	T	T	18 58 12.7	
	baz=152,slow=0.7,SNR=6.1						
H11N1	**WAKE ISLAND Hy**	**39.28**	**330**	T	T	18 58 15.0	
	baz=152,slow=0.7,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**39.30**	**330**	T	T	18 58 14.9	
	baz=152,slow=0.7,SNR=5.3						
WRA	**Warramunga Arr**	**49.90**	**256**	P	P	18 16 27.4	-0.2
	0.3nm,0.5s,baz=96,slow=8.6,SNR=4.8						
ASAR	**Alice Springs**	**50.22**	**251**	P	P	18 16 29.2	-0.8
	1.8nm,0.8s,baz=88,slow=7.5,SNR=22						
NVAR	**Mina Array Bea**	**73.91**	**42**	P	P	18 19 09.6	+0.4
	0.5nm,0.7s,baz=222,slow=9.9,SNR=4.3						
TXAR	**Lajitas Array**	**80.33**	**56**	P	P	18 19 45.1	-0.3
	0.8nm,1.0s,baz=191,slow=6.1,SNR=5.6						
ILAR	**Eielson Array**	**81.81**	**11**	P	P	18 19 50.6	-1.7
	0.8nm,0.6s,baz=260,slow=5.8,SNR=6.8						
GERES	**GERESS Array B**	**145.47**	**352**	PKPbc	PKPab	18 27 12.6	+0.3
	0.2nm,0.3s,baz=68,slow=3.6,SNR=4.0						
BRTR	**Keskin Array B**	**145.57**	**322**	PKPbc	PKPab	18 27 13.9	+0.9
	1.7nm,0.9s,baz=70,slow=1.4,SNR=7.9						

*NIED **11** 18:11:00, 41.50N×142.80E, h32km, Mw3.6 Best double couple: M₀2.64000×10¹⁴ NP1:φ₈286.00000°, δ81.00000°, λ98.00000°. NP2:φ₈64.00000°, δ11.00000°, λ49.00000°.*

JMA 11 18:11:36.0±0.1, 41.52N×142.82E, h30km±3km, M3.5, 1C-4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.56**	**27**	⇑P	Pb	18 11 47.0	-0.3
JEM				*e*S	Sb	18 11 54.5	-0.6
JNBK	**Urakawa-nobuka**	**0.76**	**356**	P	Pn	18 11 50.1	-0.6
JNBK				*e*S	Sb	18 12 00.6	-0.2
JCH	**Churui**	**1.17**	**20**	⇓P	Pn	18 11 56.7	+0.4
JCH				*e*S	Sn	18 12 11.6	+0.4
JBT2	**Biratori 2**	**1.30**	**345**	P	Pb	18 11 59.4	-0.5
JBT2				*e*S	Sb	18 12 16.8	+0.6
JOT	**Ohata**	**1.34**	**265**	P	Pn	18 11 59.2	+0.6
JKB	**Kayabe**	**1.39**	**286**	P	Pn	18 11 59.7	+0.4
JKB				*e*S	Sn	18 12 16.7	+0.1
JTM	**Tenmabayashi**	**1.51**	**242**	⇓P	Pb	18 12 02.3	-1.1
JTM				*e*S	Sb	18 12 21.1	-1.1
JANG	**Nango**	**1.51**	**221**	⇓P	Pn	18 12 01.8	+0.7
JOB	**Onbets**	**1.57**	**28**	⇓P	Pb	18 12 03.4	-1.1
JOB				*e*S	Sb	18 12 24.6	+0.6
JNB	**Noboribetsu**	**1.63**	**306**	P	Pn	18 12 02.6	-0.1
JNB				*e*S	Sn	18 12 22.1	-0.5
JFR	**Furan**	**1.65**	**354**	P	Pn	18 12 03.7	+0.7
JFR				*e*S	Sb	18 12 25.1	-1.1
JEW	**Eniwo**	**1.67**	**323**	P	Pn	18 12 04.2	+1.0
JEW				*e*S	Sb	18 12 27.0	+0.4
JSR	**Shiriuchi**	**1.80**	**271**	P	Pb	18 12 06.7	-1.6
JSR				*e*S	Sb	18 12 28.9	-1.6
MAT	**Matsushiro**	**6.13**	**217**	P	Pn	18 13 07.8	+3.2
MAT				*e*S	Sn	18 14 12.9	-0.8

*CSEM **11** 18:20:56.1±0.7, 34.66N×23.71E, h10km, MD3.1, Error ellipse: s-maj=12.4km s-min=8.4km az=30.0*
*THE **11** 18:20:56.3, 34.69N×23.73E, h0km±5km, Error ellipse: s-maj=7.7km s-min=1.4km az=227.0*

ATH 11 18:20:56.0, 34.62N×23.77E, h16km±6km, MD3.1/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.34**	**50**	P	Pg	18 21 03.0	-0.1
GVD				S	Sg	18 21 07.8	-0.2
GVD	**Gavdhos**	**0.34**	**50**	*e*PB	Pg	18 21 03.2	+0.1
GVD				*e*SB	Sg	18 21 08.4	+0.4
GVD	**Gavdhos**	**0.34**	**50**	*e*Pb	Pg	18 21 03.2	+0.1
GVD				S	Sg	18 21 07.8	-0.2
GVD				*e*Sb	Sb	18 21 08.4	-0.5
KARN	**Karanos**	**0.79**	**9**	P	Pb	18 21 10.3	-1.1
KARN				S	Sb	18 21 21.6	-0.3
KARN	**Karanos**	**0.79**	**9**	*e*PB	Pb	18 21 10.7	-0.7
KARN				*e*SN	Sg	18 21 22.7	+0.7
KARN	**Karanos**	**0.79**	**9**	P	Pb	18 21 10.3	-1.1
KARN	**Karanos**	**0.79**	**9**	*e*Pb	Pb	18 21 10.7	-0.7
KARN				S	Sb	18 21 21.6	-0.3
KARN				*e*Sn	Sg	18 21 22.7	+0.7
VAM	**Vamos**	**0.86**	**24**	P	Pb	18 21 11.8	-0.8
VAM				S	Sg	18 21 24.7	+0.6
VAM	**Vamos**	**0.86**	**24**	*e*PB	Pb	18 21 12.0	-0.6
VAM				*e*SN	Sg	18 21 24.7	+0.6
VAM	**Vamos**	**0.86**	**24**	*e*Pb	Pb	18 21 12.0	-0.6
VAM				S	Sg	18 21 24.7	+0.6
SIVA	**Sivas**	**0.94**	**65**	P	Pb	18 21 14.1	+0.1
SIVA				S	Sn	18 21 28.9	+1.2
SIVA	**Sivas**	**0.94**	**65**	P	Pb	18 21 14.1	+0.1
SIVA				S	Sn	18 21 28.9	+1.2
IDI	**Anoyia**	**1.14**	**54**	P	Pb	18 21 17.7	+0.3
IDI				S	Sg	18 21 34.9	+1.9
IDI	**Anoyia**	**1.14**	**54**	*e*PN	Pn	18 21 17.3	-0.1
IDI				*e*SN	Sg	18 21 33.3	+0.3
IDI	**Anoyia**	**1.14**	**54**	*e*Pn	Pn	18 21 17.3	-0.1
IDI	**Anoyia**	**1.14**	**54**	P	Pb	18 21 17.7	+0.3
IDI				*e*Sn	Sg	18 21 33.3	+0.3
IDI				S	Sn	18 21 34.9	+2.2
ANKY	**Antikythira Is**	**1.30**	**343**	*e*PN	Pg	18 21 21.1	0.0
ANKY	**Antikythira Is**	**1.30**	**343**	*e*Pn	Pg	18 21 21.1	0.0
LAST	**Lasithi**	**1.50**	**68**	P	Pb	18 21 24.2	+0.5
LAST	**Lasithi**	**1.50**	**68**	*e*PN	Pg	18 21 24.8	-0.3
LAST	**Lasithi**	**1.50**	**68**	P	Pb	18 21 24.2	+0.5
LAST	**Lasithi**	**1.50**	**68**	*e*Pn	Pg	18 21 24.8	-0.3

*CSEM **11** 18:22:02.7±0.8, 36.19N×21.78E, h2km, ML2.1/5, Error ellipse: s-maj=14.7km s-min=6.6km az=50.0*
*THE **11** 18:22:03.2, 36.18N×21.86E, h8km±1km, ML2.1/5, Error ellipse: s-maj=2.0km s-min=1.2km az=45.0*

ATH 11 18:22:01.3, 36.13N×21.63E, h5km, MD3.1/6, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.77**	**7**	P	Pg	18 22 16.2	+0.1
PYL				S	Sb	18 22 27.5	-0.5
PYL	**PYLOS**	**0.77**	**7**	*e*PB	Pg	18 22 16.4	+0.3
PYL				*e*SB	Sb	18 22 27.8	-0.2
PYL	**PYLOS**	**0.77**	**7**	*e*Sb	Sb	18 22 27.8	-0.2
PYL	**PYLOS**	**0.77**	**7**	*e*Pb	Pg	18 22 16.4	+0.3
PYL				S	Sb	18 22 27.5	-0.5
DYR	**Agios Nikonas**	**0.85**	**42**	P	Pg	18 22 15.5	-2.2
DYR				S	Sg	18 22 25.7	-3.0
DYR	**Agios Nikonas**	**0.85**	**42**	P	Pg	18 22 15.5	-2.2
DYR				S	Sg	18 22 25.7	-3.0
ITM	**Ithomi**	**1.07**	**13**	P	Pg	18 22 21.7	-0.3
ITM				S	Sb	18 22 37.0	+0.2
ITM	**Ithomi**	**1.07**	**13**	*e*PN	Pg	18 22 21.7	-0.3
ITM				*e*SB	Sb	18 22 36.6	-0.2
ITM	**Ithomi**	**1.07**	**13**	P	Pg	18 22 21.7	-0.3
ITM				*e*Sb	Sb	18 22 36.6	-0.2
ITM				S	Sg	18 22 37.0	+1.0
KYTH	**Kithira**	**1.15**	**82**	P	Pg	18 22 21.4	-2.0
KYTH	**Kithira**	**1.15**	**82**	*e*PN	Pg	18 22 23.0	-0.4
KYTH	**Kithira**	**1.15**	**82**	P	Pg	18 22 21.4	-2.0
KYTH	**Kithira**	**1.15**	**82**	*e*Pg	Pg	18 22 23.0	-0.4
VLI	**Veliai**	**1.21**	**61**	P	Pg	18 22 22.6	-1.9
VLI				S	Sg	18 22 37.6	-2.6
VLI	**Veliai**	**1.21**	**61**	*e*PB	Pb	18 22 24.7	0.0
VLI	**Veliai**	**1.21**	**61**	P	Pg	18 22 22.6	-1.9
VLI	**Veliai**	**1.21**	**61**	*e*Pb	Pb	18 22 24.7	0.0
VLI				S	Sg	18 22 37.6	-2.6
VLX	**Vlachokerasia**	**1.38**	**26**	P	Pn	18 22 26.0	-1.3
VLX				S	Sb	18 22 43.9	-1.8
VLX	**Vlachokerasia**	**1.38**	**26**	*e*PN	Pn	18 22 26.2	-1.1
VLX	**Vlachokerasia**	**1.38**	**26**	P	Pn	18 22 26.0	-1.3
VLX				S	Sb	18 22 43.9	-1.8
ANKY	**Antikythira Is**	**1.38**	**100**	*e*PB	Pg	18 22 27.9	+0.1
ANKY	**Antikythira Is**	**1.38**	**100**	*e*Pb	Pg	18 22 27.9	+0.1
AMT	**Artemida-Makis**	**1.40**	**3**	P	Pb	18 22 28.0	0.0
AMT				S	Sb	18 22 46.3	0.0
AMT	**Artemida-Makis**	**1.40**	**3**	*e*PB	Pb	18 22 28.1	+0.1
AMT	**Artemida-Makis**	**1.40**	**3**	P	Pb	18 22 28.0	0.0
AMT				S	Sb	18 22 46.3	0.0
KLV	**Kalavryta, Ach**	**1.96**	**12**	*e*PN	Pb	18 22 37.5	0.0
KLV	**Kalavryta, Ach**	**1.96**	**12**	*e*Pn	Pb	18 22 37.5	0.0

*MOS **11** 18:26:03.3±1.0, 23.23N×94.55E, h33km, mb5.0/33, Error ellipse: s-maj=11.4km s-min=5.0km az=120.2*
*ISCJB **11** 18:26:07.5±0.5, 23.27N±0.03×94.32E±0.03, h63km±4km, mb4.7/96, Error ellipse: s-maj=5.7km s-min=3.2km az=40.0*
*NEIC **11** 18:26:11.2±0.1, 23.27N×94.50E, mb4.8/33, Error ellipse: s-maj=5.6km s-min=3.4km az=49.0*
*IDC **11** 18:26:11.5±0.5, 23.24N×94.50E, h90km±4km, mb4.2/45, mb1 4.3/45, mb1mx4.2/49, mbtmp4.6/45, MS3.6/3, Ms1 3.6/3, ms1mx3.2/34, Error ellipse: s-maj=9.9km s-min=6.4km az=57.0*
*LDG **11** 18:26:12.8±0.4, 23.21N×93.68E, h90km, Mb4.4/14, Ms3.0/1, Error ellipse: s-maj=17.2km s-min=15.3km az=118.0*
*DJA **11** 18:26:14.5±1.4, 23°N±7°×97°4E±°, h85km±16km, M4.8/14, mB6.1/2, mb4.8/14, Mw(mB)5.7/2*
*BKK **11** 18:26:14.2±0.9, 23°N±7°×97°4E±°, h89km±9km, M5.0/17, mB5.5/3, mb4.9/17, MLv5.0/1, Mw(mB)4.9/3*
*BJI **11** 18:26:20.5, 23.84N×94.59E, h143km, mB4.8/15, mb4.5/23*

ISC 11 18:26:11.3±0.4, 23.24N±0.04×94.34E±0.04, h89km±3km, h89km:pP-P, n354, σ1s34/389, mb4.6/96, 15C-6D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.58**	**347**	*e*4	Pn	**18 26 37.0**	**-1.2**
IMP				*e*S	Sn	**18 27 01.0**	**+2.5**
SHL	**Shillong**	**3.22**	**317**	*e*P	Pn	**18 26 59.1**	**-0.9**
SHL				*e*S	Sn	**18 27 34.0**	**-3.5**
CM31	**Chiang Mai Arr**	**6.42**	**137**	*e*Pn	Pn	**18 27 42.5**	**-0.8**
	64nm,0.5s						
CMAR	**Chiang Mai Arr**	**6.42**	**137**	P	Pn	**18 27 42.8**	**-0.5**
CMAR				S	Sn	**18 28 54.2**	**-0.8**
CMAR	**Chiang Mai Arr**	**6.42**	**137**	P	Pn	**18 27 42.8**	**-0.5**
	baz=312,slow=13						
CMAR				S	Sn	**18 28 54.2**	**-0.8**
	5.1nm,0.3s,baz=324,slow=20,SNR=2.9						
PAYA	**Payao**	**6.44**	**126**	P	Pn	**18 27 43.1**	**-0.5**
	164nm,0.8s,1μm0.6nm						
GTK	**Gangtok**	**6.59**	**309**	*e*x	Pn	18 27 42.0	-3.8
LSA	**Lhasa**	**7.04**	**337**	P	Pn	**18 27 53.0**	**+0.8**
LSA				S	Sn	**18 29 05.7**	**-5.2**
LSA				SMN			
	comp=Z,270nm,0.8s						
LSA				SME			
	comp=Z,410nm,0.8s						
LSA	**Lhasa**	**7.04**	**337**	*e*P	Pn	**18 27 52.6**	**+0.4**
LSA				*e*		18 29 09.0	
LSA	**Lhasa**	**7.04**	**337**	*e*Pn	Pn	**18 27 52.6**	**+0.4**
LSA				*e*Sn	Sn	**18 29 09.0**	**-1.9**
ODAN	**Odare**	**7.26**	**301**	*e*Pn	Pn	**18 27 53.1**	**-1.8**
ODAN				*e*Sn	Sn	**18 29 10.7**	**-5.2**
	2μm,0.5s						
TAPN	**Taplejung**	**7.26**	**306**	*e*Pn	Pn	**18 27 53.1**	**-1.9**
TAPN				*e*Sn	Sn	**18 29 11.4**	**-4.7**
	1μm,0.4s						
BOK	**Bokaro**	**7.78**	**276**	*e*P	Pn	**18 28 00.2**	**-1.6**
BOK				AMB	AMB	18 28 01.8	
	comp=Z,551nm,1.5s						
KMI	**Kunming**	**7.90**	**75**	⇑P	Pn	18 28 08.0	+4.3
KMI				LR	LR		
	comp=Z,1μm,8.0s						
KMI				LR	LR		
	comp=Z,500nm,4.8s						
KMI				LR	LR		
	comp=Z,350nm,9.1s						
RAMN	**Ramite**	**7.93**	**299**	*e*Pn	Pn	**18 28 02.3**	**-1.8**
RAMN				*e*Sn	Sn	18 29 25.0	-7.3
	comp=Z,829nm,0.4s						
JIRN	**Jiri**	**8.58**	**303**	*e*Pn	Pn	**18 28 11.0**	**-2.0**
JIRN				*e*Sn	Sn	18 29 41.0	-7.3
	comp=Z,958nm,0.5s						
GUN	**Gumba**	**8.94**	**303**	*e*Pn	Pn	**18 28 15.7**	**-2.3**
GUN				*e*Sn	Sn	18 29 50.9	-6.2
	comp=Z,658nm,0.4s						
PKI	**Pulchoki**	**9.15**	**300**	*e*Pn	Pn	**18 28 18.2**	**-2.6**
PKI				*e*Sn	Sn	18 29 54.6	-7.6
	comp=Z,721nm,0.6s						
KKN	**Kakani**	**9.35**	**301**	*e*Pn	Pn	**18 28 20.5**	**-2.9**
KKN				*e*Sn	Sn	18 29 58.9	-8.1
	comp=Z,541nm,0.4s						
DMN	**Daman**	**9.41**	**299**	*e*Pn	Pn	**18 28 21.5**	**-2.8**
DMN				*e*Sn	Sn	18 30 00.2	-8.3
	comp=Z,354nm,0.4s						
GKN	**Gorkha**	**9.96**	**300**	*e*Pn	Pn	**18 28 28.8**	**-2.8**
GKN				*e*Sn	Sn	18 30 13.8	-7.8
	comp=Z,661nm,0.3s						
DGPR	**DIGLIPUR**	**10.09**	**188**	*e*P	Pn	**18 28 30.9**	**-2.5**
DGPR				AMB	AMB	18 28 33.5	
	comp=Z,166nm,0.2s						
KOLN	**Koldanda**	**10.70**	**297**	*e*Pn	Pn	18 28 38.4	-3.3
KOLN				*e*Sn	Sn	18 30 29.7	-10
	comp=Z,314nm,0.3s						
DANN	**Dangsing**	**10.80**	**300**	*e*Pn	Pn	18 28 39.6	-3.7
DANN				*e*Sn	Sn	18 30 33.3	-9.1
	comp=Z,587nm,0.6s						
SKNT	**Sakolnakorn**	**10.99**	**123**	P	Pn	**18 28 46.2**	**+0.5**
	comp=Z,95nm,1.1s						
PANO	**Nakornpanom**	**11.39**	**120**	P	Pn	**18 28 52.1**	**+1.1**
	comp=Z,197nm,1.0s,comp=Z,20μm						
PBA	**Port Blair**	**11.62**	**188**	*e*x	Pn	18 28 50.4	-3.7
PBA				AMB	AMB	18 29 05.0	
	comp=Z,134nm,2.3s						
VIS	**Vishakhapatnam**	**11.68**	**244**	*e*P	Pn	**18 28 52.9**	**-2.1**
VIS				AMB	AMB	18 28 55.0	
	comp=Z,13nm,0.5s						
UBPT	**Khong Chiam**	**13.15**	**125**	P	Pn	**18 29 16.0**	**+1.3**
	comp=Z,67nm,1.0s						
UBPT	**Khong Chiam**	**13.15**	**125**	P	Pn	**18 29 16.0**	**+1.3**
	comp=Z,67nm,1.0s						
JBP	**Jabalpur**	**13.20**	**273**	⇓*i* P		**18 29 14.3**	**-0.9**
JBP				*e*4		18 31 32.1	
LGTI	**Lohaghat**	**14.06**	**299**	*e*P	Pn	**18 29 23.5**	**-2.9**
LGTI				*e*x	Sn	18 31 52.4	-8.7
NGP	**Nagpur**	**14.31**	**265**	*e*P	Pn	18 29 24.9	-4.9
NGP				*e*x	Sn	18 31 52.1	-15
LZH	**Lanzhou**	**15.23**	**31**	*e*P	P	**18 29 45.5**	**+1.0**
LZH				AMB	AMB		
	comp=Z,18nm,1.1s						
ENH	**Enshi**	**15.23**	**59**	*e*Pn	Pn	**18 29 38.2**	**-3.3**
	comp=Z,75nm,0.9s						
BHPL	**Bhopal**	**15.55**	**273**	*e*P	Pn	**18 29 42.3**	**-3.3**
BHPL				AMB	AMB	18 29 45.4	
	comp=Z,54nm,0.9s						
HYB	**Hyderabad**	**15.89**	**252**	*i* P	Pn	18 29 45.0	-4.9
HYB				*e*S	Sn	18 32 30.5	-15
HYB	**Hyderabad**	**15.89**	**252**	*e*P	Pn	**18 29 47.2**	**-2.6**
DDI	**Dehra Dun**	**16.15**	**299**	*e*P	Pn	**18 29 51.6**	**-1.5**
AKL	**Akola**	**16.26**	**264**	*i* P	Pn	**18 29 52.2**	**-2.3**
AKL				AMP		18 29 53.4	
	comp=Z,59nm,0.9s						
AKL				*i* x	x	18 32 37.7	
NDI	**New Delhi**	**16.32**	**293**	*e*P	Pn	**18 29 52.0**	**-3.1**
NDI				*ex*	x	18 32 35.0	
XAN	**Xi'an**	**16.71**	**47**	P	Pn	**18 30 00.3**	**+0.4**
XAN				AMB	AMB		
	comp=Z,7.0nm,0.8s						
XAN				AMB	AMB		
	comp=Z,37nm,4.0s						
GTA	**Gaotai**	**16.79**	**15**	*e*P	Pn	**18 29 59.9**	**-1.0**
GTA				pP	P	**18 30 06.0**	**+4.3**
GTA				AMB	AMB		
	comp=Z,2.0nm,0.8s						
SMLA	**Simla**	**17.17**	**301**	*i* P	Pn	**18 30 03.1**	**-2.4**
SMLA				*i* x	Sn	18 33 01.7	-15
LATR	**Latur**	**17.29**	**257**	*e*4	Pn	18 29 56.4	-11
LATR				*ex*	x	18 29 58.5	
	comp=Z,49nm,0.7s						
LATR				*ex*	x	18 32 53.9	
DHRM	**DHARAMSHALA**	**18.30**	**303**	*e*P	P	**18 30 16.8**	**-1.7**
THN	**Thein Dam**	**18.82**	**303**	*ex*	P	**18 30 22.5**	**-1.5**
WHN	**Wuhan**	**19.26**	**64**	P	P	**18 30 29.4**	**+0.6**
POO	**Poona**	**19.70**	**260**	*e*P	P	**18 30 32.5**	**-1.3**
POO				AMB	AMB	18 30 40.7	
	comp=Z,30nm,0.5s						
KTGM	**Kuala Trenggan**	**19.72**	**153**	P	Pn	**18 30 36.0**	**-0.2**
IPM	**Ipoh**	**19.73**	**160**	P	P	**18 30 33.8**	**-0.3**
IPM	**Ipoh**	**19.73**	**160**	P	P	**18 30 33.5**	**-0.6**
	comp=Z,35nm,1.2s						
IPM	**Ipoh**	**19.73**	**160**	*e*P	P	**18 30 31.7**	**-2.3**
	comp=Z,21nm,0.6s						
KCSI	**Kotac

SONM ScP **ScP** **18 38 34.6 -0.1**
comp=Z,0.6nm,0.7s,baz=228,slow=4.3,SNR=3.7
KSM Kuching 26.61 142 P **P** **18 31 43.3 +1.7**
BTM Bintulu 26.94 135 P **P** **18 31 49.0 +4.4**
SBUM Sibu 26.97 137 P **P** **18 31 46.2 +1.5**
SBUM Sibu 26.97 137 P **P** **18 31 46.6 +1.9**
comp=Z,9.3nm,1.1s
SBUM Sibu 26.97 137 *e*P **P** **18 31 45.8 +1.1**
comp=Z,23nm,1.5s
KDM Kudat 27.04 123 P **P** **18 31 47.3 +1.8**
KKM Kota Kinabalu 27.13 126 P **P** **18 31 47.6 +1.3**
HVS Khovu-Aksy 27.86 359 *i*P **P** **18 31 54.0 +1.6**
KK31 Karatay Array 27.95 321 *e*P **P** **18 31 54.6 +1.3**
KK31 pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 27.95 321 *e*P **P** **18 31 52.3 -1.0**
KKAR Karatay Array 27.95 321 *e*P **P** **18 31 52.3 -1.0**
ZAK Zakamensk 27.98 12 *e*P **P** **18 31 54.1 +0.5**
ZAK *e* 18 35 07.2
ZAK pmax pmax
comp=Z,8.0nm,1.6s
MYLDM Lahad Datu 29.42 124 P **P** **18 32 08.0 +1.5**
MYLDM Lahad Datu 29.42 124 P **P** **18 32 09.4 +2.8**
comp=Z,16nm,1.4s
TSM Tawau 29.52 126 P **P** **18 32 08.5 +1.0**
KURBB Kurchatov Arra 29.98 340 P **P** **18 32 11.8 +0.6**
comp=Z,5.5nm,0.7s,baz=151,slow=8.4,SNR=14
KURBB PcP **PcP** **18 35 12.1 +0.6**
comp=Z,1.5nm,0.5s,baz=162,slow=2.4,SNR=5.7
KURBB ScP **ScP** **18 38 45.4 -0.2**
comp=Z,2.1nm,0.6s,baz=150,slow=2.7,SNR=21
KURK Kurchatov 30.04 340 P **P** **18 32 11.8 +0.2**
KURK 18 35 12.1
KURK 18 38 45.4
KURK Kurchatov 30.04 340 P **P** **18 32 11.8 +0.2**
KURK PcP **PcP** **18 35 12.1 +0.5**
KURK ScP **ScP** **18 38 45.4 -0.4**
JOW Kunigami 30.91 76 P **P** **18 32 19.0 -0.6**
JOW Kunigami 30.91 76 P **P** **18 32 19.0 -0.6**
comp=Z,1.5nm,0.6s,baz=96,slow=10,SNR=5.7
ZAA0 Zalesovo Array 31.50 349 *e*P **P** **18 32 24.9 +0.4**
ZALV Zalesovo Beam 31.50 349 P **P** **18 32 24.2 -0.3**
ZALV 18 35 15.2
ZALV Zalesovo Beam 31.50 349 P **P** **18 32 24.2 -0.3**
ZALV PcP **PcP** **18 35 15.2 -0.2**
ZALV Zalesovo Beam 31.50 349 P **P** **18 32 24.2 -0.3**
comp=Z,2.3nm,0.4s,baz=160,slow=8.5,SNR=16
ZALV PcP **PcP** **18 35 15.2 -0.2**
comp=Z,0.7nm,0.3s,baz=178,slow=3.4,SNR=2.7
KSAR Wonju Array Be 32.04 56 P **P** **18 32 27.4 -2.1**
KSAR pP **pP** **18 32 49.2 -0.7**
KSRS Korea Array 32.08 56 P **P** **18 32 27.4 -2.4**
comp=Z,0.6nm,0.5s,baz=251,slow=8.5,SNR=6.0
KSRS pP **pP** **18 32 49.2 -1.0**
comp=Z,1.7nm,0.7s,baz=252,slow=7.3,SNR=5.9
KSRS LR LR 18 46 49.5
comp=Z,112nm,18.2s,baz=65,slow=39
IMYA Miami 32.28 302 *e*P **P** **18 32 33.6 +1.8**
IKOO Kooshah 32.44 294 *e*P **P** **18 32 34.2 +0.9**
NVS Novosibirsk 32.64 348 *e*P **P** **18 32 33.3 -1.1**
NVS *e* 18 32 46.6
NVS *e*S **S** **18 37 42.1 -1.6**
NVS pmax pmax
comp=Z,5.0nm,0.5s
NVS pmax pmax
comp=N,2.0nm,0.5s
NVS smax smax
comp=N,10.0nm,1.7s
NVS smax smax
comp=E,4.0nm,0.9s
ITEG Tejag 32.71 295 *e*P **P** **18 32 37.7 +2.0**
IPAY Payeh 33.17 302 *e*P **P** **18 32 40.3 +0.6**
JNU Nakatsue 33.54 65 P **P** **18 32 41.1 -1.6**
JNU Nakatsue 33.54 65 P **P** **18 32 41.1 -1.6**
comp=E,10nm,0.9s,baz=346,slow=7.4,SNR=6.7
JNU LR LR 18 47 20.2
comp=E,97nm,19.4s,baz=58,slow=38
IKRD Kardeh 33.62 302 *e*P P 18 32 38.4 -5.2
ISFR Sfrayin 34.09 302 *e*P P 18 32 52.6 +4.9
VOSK Vostochnaya 34.41 335 *e*P **P** **18 32 51.5 +1.6**
VOSK pmax pmax
comp=Z,16nm,0.8s
VOSK Vostochnaya 34.41 335 *e*P **P** **18 32 51.5 +1.6**
comp=Z,16nm,0.8s
PCI Palu 34.52 131 P P 18 32 55.7 +4.5
comp=Z,1μm,1.1s,comp=Z,30μm
BVAR Borovoye Array 34.87 335 P **P** **18 32 56.3 +2.4**
BVAR 18 35 25.9
BVAR Borovoye Array 34.87 335 P **P** **18 32 56.2 +2.4**
BVAR pP **pP** **18 33 15.8 +1.2**
BVAR PcP **PcP** **18 35 25.9 +1.0**
BVAR Borovoye Array 34.87 335 P **P** **18 32 56.2 +2.4**
comp=Z,1.3nm,0.4s,baz=137,slow=9.5,SNR=11
BVAR pP **pP** **18 33 15.8 +1.2**
comp=Z,2.9nm,0.7s,baz=146,slow=8.7,SNR=5.1
BVAR PcP **PcP** **18 35 25.9 +1.0**
comp=Z,1.5nm,0.6s,baz=143,slow=3.0,SNR=3.6
BRVK Borovoye 34.94 335 *e*P **P** **18 32 52.3 -2.1**
BRVK pmax pmax
comp=Z,5.0nm,0.6s
BRVK Borovoye 34.94 335 *e*P **P** **18 32 52.3 -2.1**
comp=Z,4.7nm,0.6s
USRK Ussuriysk Arra 37.22 47 P **P** **18 33 11.9 -2.1**
comp=Z,2.7nm,0.8s,baz=233,slow=8.8,SNR=4.3
USRK LR LR 18 48 55.9
comp=Z,107nm,20.4s,baz=107,slow=37
AB31 Akbulak array 37.47 323 P **P** **18 33 17.9 +1.8**
AB31 pmax pmax
comp=Z,3.0nm,0.3s
ABKAR Akbulak array 37.47 323 *e*P **P** **18 33 16.1 +0.1**
TNTI Ternate 39.07 120 *e*P **P** **18 33 29.3 -0.6**
comp=Z,41nm,1.2s
AKTO Aktyubinsk 39.15 323 P **P** **18 33 30.5 +0.4**
AKTO Aktyubinsk 39.15 323 P **P** **18 33 30.5 +0.4**
AKTO Aktyubinsk 39.15 323 P **P** **18 33 30.5 +0.4**
comp=Z,5.0nm,0.7s,baz=108,slow=9.4,SNR=11
MAJO Matsushiro 39.95 60 *e*P P 18 33 32.5 -4.5
MAJO pmax pmax
comp=Z,17nm,0.8s
MAJO Matsushiro 39.95 60 *e*P P 18 33 32.5 -4.5
comp=Z,17nm,0.8s
MAT Matsushiro 39.95 60 P **P** **18 33 35.4 -1.7**
SVE Sverdlovsk 41.55 333 *i*P **P** **18 33 52.2 +2.4**
SVE pmax pmax
comp=Z,24nm,0.9s
UMR Umm Al-Rimmam 42.01 289 *e*P **P** **18 33 55.3 +1.3**
RDF Al-Radifah 42.19 288 *e*P **P** **18 33 56.6 +1.1**
RDF AMb AMB 18 34 04.3
comp=Z,35nm,0.5s
ARU Arti 42.20 331 *c i*P **P** **18 33 56.3 +1.1**
ARU 18 35 32.7
ARU PPP PPP 18 36 06.2
ARU S S 18 40 16.2 +7.6
ARU SS **SS** **18 43 19.7 0.0**
ARU pmax pmax
comp=Z,5.0nm,1.0s
NAY Al-Naaiem 42.44 288 *e*P **P** **18 33 58.7 +1.1**
NAY AMb AMB 18 34 04.6
comp=Z,27nm,0.6s
RST Umm Al-Ruwaisa 42.64 289 *e*P **P** **18 33 59.8 +0.6**
RST AMb AMB 18 34 06.4
comp=Z,249nm,0.8s
BATI Baumata 43.91 136 P **P** **18 34 08.2 -1.3**
BATI Baumata 43.91 136 P **P** **18 34 08.2 -1.3**
comp=Z,21nm,0.5s,baz=5.9,slow=1.7,SNR=6.0
ASAJ Asahikawa 44.51 50 P **P** **18 34 12.7 -1.2**
ASAJ Asahikawa 44.51 50 P **P** **18 34 12.7 -1.2**
comp=Z,20nm,1.1s,baz=61,slow=1.1,SNR=3.3
RAYN Ar Rayn 44.65 280 *e*P **P** **18 34 16.8 +1.5**
comp=Z,6.9nm,0.9s
SOKR Solikamsk 44.87 334 *i*P **P** **18 34 18.0 +1.5**
SOKR pmax pmax
comp=Z,10.0nm,0.9s
ZEI Tsey 45.83 308 *e*P **P** **18 34 26.1 +1.5**
ZEI pmax pmax
comp=Z,13nm,0.8s
KIV Kislovodsk 46.88 309 *e*P **P** **18 34 34.7 +2.0**
KIV *e* 18 36 05.5
KIV pmax pmax
comp=Z,6.0nm,0.9s
VRHR Novokhopersk 49.02 318 *e*P **P** **18 34 49.3 +0.4**
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,1.8s
VRHR pmax pmax
comp=E,10.0nm,1.2s
VSR Storozhevoye 50.55 318 *e*P P 18 34 56.2 -4.4
VSR pmax pmax
comp=Z,10.0nm,0.5s
VSR pmax pmax
comp=N,6.0nm,0.4s
VSR pmax pmax
comp=E,7.0nm,0.6s
ANN Anapa 50.72 310 *e*P **P** **18 35 02.0 0.0**
ANN pmax pmax
comp=Z,10.0nm,0.9s
FITZ Fitzroy Crossi 51.22 141 P **P** **18 35 06.1 +0.2**
FITZ Fitzroy Crossi 51.22 141 P **P** **18 35 06.1 +0.2**
comp=Z,12nm,1.0s,baz=345,slow=5.9,SNR=7.0
TIXI Tiksi 52.26 13 *e*P **P** **18 35 12.7 -0.3**
OBN Obninsk 52.92 322 *e*P **P** **18 35 18.3 +0.2**
OBN *e* 18 37 20.3
OBN pmax pmax
comp=Z,12nm,1.7s
KLMR Klimovskoe 53.02 330 *e*P **P** **18 35 17.5 -1.3**
KLMR pmax pmax
comp=Z,21nm,1.5s
EIL Elat 53.07 290 P **P** **18 35 20.9 +1.3**
EIL Elat 53.07 290 P **P** **18 35 20.9 +1.3**
comp=Z,5.5nm,0.7s,baz=104,slow=8.6,SNR=6.0
BR131 Keskin Array S 53.35 303 *e*P **P** **18 35 22.6 +0.8**
comp=Z,1.6nm,0.5s
BRTR Keskin Array B 53.35 303 P **P** **18 35 22.4 +0.6**
BRTR Keskin Array B 53.35 303 P **P** **18 35 22.4 +0.6**
comp=Z,1.3nm,0.6s,baz=114,slow=9.1,SNR=7.6
ISP Isparta 55.88 301 *e*P **P** **18 35 42.7 +2.7**
ISP pmax pmax
comp=Z,5.0nm,0.7s
ISP Isparta 55.88 301 *i*P **P** **18 35 40.8 +0.8**
ISP Isparta 55.88 301 *e*P **P** **18 35 42.7 +2.7**
comp=Z,4.6nm,0.7s
AKASG Malin Array Be 56.71 316 P **P** **18 35 45.4 -0.2**
AKASG Malin Array Be 56.71 316 P **P** **18 35 45.4 -0.2**
AKASG Malin Array Be 56.71 316 P **P** **18 35 45.4 -0.2**
comp=Z,6.6nm,0.6s,baz=84,slow=6.2,SNR=21
KIEV Kiev 56.72 316 *e*P **P** **18 35 45.1 -0.5**
KIEV pmax pmax
comp=Z,8.0nm,0.8s
KIEV Kiev 56.72 316 *e*P **P** **18 35 45.0 -0.5**
comp=Z,8.2nm,0.8s
CFR Carcaliu 57.33 310 *i*P **P** **18 35 50.8 +0.8**
WRA Warramunga Arr 58.00 135 P **P** **18 35 54.9 -0.2**
WRA ScP **ScP** **18 40 35.2 -3.1**
WRA Warramunga Arr 58.00 135 P **P** **18 35 54.9 -0.2**
comp=Z,11nm,0.8s,baz=322,slow=7.5,SNR=136
WRA ScP **ScP** **18 40 35.2 -3.1**
comp=Z,0.6nm,0.7s,baz=325,slow=4.6,SNR=5.2
WRAB Tennant Creek 58.00 134 *e*P **P** **18 35 53.9 -1.2**
WRAB pmax pmax
comp=Z,21nm,0.9s
WRAB Tennant Creek 58.00 134 *e*P **P** **18 35 53.9 -1.2**
comp=Z,21nm,0.9s
VRI Vrincioaia 58.30 311 *i*P **P** **18 35 58.7 +1.8**
TESR Tescani 58.34 311 *i*P **P** **18 35 58.1 +1.0**
PLOR Plostina 58.35 311 *i*P **P** **18 35 59.1 +1.8**
SMG Samos 58.79 301 *e*P **P** **18 36 01.6 +1.2**
KARP Karpathos 58.80 299 *e*P **P** **18 36 01.4 +0.9**
MLR Muntele Rosu 58.86 310 *i*P **P** **18 36 03.0 +2.1**
ALN Alexandroupoli 59.08 305 *e*P **P** **18 36 03.3 +1.0**
BURAR Bucovina Array 59.29 313 *i*P **P** **18 36 04.7 +0.9**
BUR08 Bucovina Ar. S 59.30 313 *e*P **P** **18 36 04.2 +0.3**
FINES FINESS Array B 59.49 329 P **P** **18 36 05.0 +0.3**
FINES pP **pP** **18 36 26.7 -0.4**
FINES FINESS Array B 59.49 329 P **P** **18 36 05.0 +0.3**
comp=Z,3.3nm,0.7s,baz=99,slow=8.3,SNR=11
FINES pP **pP** **18 36 26.7 -0.4**
comp=Z,2.7nm,0.6s,baz=112,slow=9.2,SNR=3.4
VOIR 59.49 310 *i*P **P** **18 36 06.1 +0.9**
ARR Arges 59.79 310 *i*P **P** **18 36 08.2 +1.0**
NWAO Narrogin (SRO) 59.97 158 P **P** **18 36 08.3 -0.1**
NWAO Narrogin (SRO) 59.97 158 P **P** **18 36 08.3 -0.1**
comp=Z,9.4nm,0.5s,baz=339,slow=6.4,SNR=12
SANT Santorini 60.06 300 *e*P **P** **18 36 08.6 -0.6**
comp=Z,14nm,0.6s
LAST Lasithi 60.22 298 *e*P **P** **18 36 11.4 +1.1**
LOT Lotru 60.39 310 *i*P **P** **18 36 11.8 +0.4**
AS31 Alice Springs 60.42 138 *e*P **P** **18 36 10.9 -0.8**
ASAR Alice Springs 60.42 138 P **P** **18 36 12.2 +0.4**
ASAR Alice Springs 60.42 138 P **P** **18 36 12.2 +0.4**
comp=Z,8.0nm,0.7s,baz=320,slow=6.8,SNR=291
KMBO Kilima Mbogo 60.52 255 P **P** **18 36 13.6 +0.7**
KMBO Kilima Mbogo 60.52 255 P **P** **18 36 13.6 +0.7**
comp=Z,1.8nm,0.5s,baz=62,slow=18,SNR=5.4
IDI Anoyia 60.67 299 *e*P **P** **18 36 14.1 +0.7**
IDI Anoyia 60.67 299 *e*P **P** **18 36 13.1 -0.4**
comp=Z,6.6nm,0.8s
IDI Anoyia 60.67 299 P **P** **18 36 13.8 +0.4**
comp=Z,2.6nm,0.5s,baz=23,slow=12,SNR=9.8
KWP Kalwaria Pacla 60.89 315 *i*P **P** **18 36 15.8 +1.2**
DRGR 61.04 312 *i*P **P** **18 36 16.7 +1.0**
VTS Vitosha 61.04 307 *i*P **P** **18 36 17.0 +1.1**
ARCES ARCESS Array B 61.05 338 P **P** **18 36 16.2 +0.9**
ARCES ARCESS Array B 61.05 338 P **P** **18 36 16.2 +0.9**
comp=Z,3.1nm,0.6s,baz=99,slow=6.7,SNR=12
UZH Uzhgorod 61.21 314 *e*P **P** **18 36 18.5 +1.8**
UZH *e* 18 36 37.5
VAM Vamos 61.21 299 *e*P **P** **18 36 18.5 +1.5**
KARN Karanos 61.44 299 *e*P **P** **18 36 19.6 +1.0**
GRG Griva 61.82 305 *e*P **P** **18 36 21.3 +0.2**
STHS Stebnicka Huta 61.85 315 *e*P **P** **18 36 21.5 +0.4**
BZS Buzias 61.89 311 *i*P **P** **18 36 22.6 +1.2**
OPO Ambohidratompo 62.01 232 P **P** **18 36 23.8 +1.1**
OPO Ambohidratompo 62.01 232 P **P** **18 36 23.8 +1.1**
comp=Z,3.9nm,0.8s,baz=342,slow=3.2,SNR=4.4
AGG Agios Georgios 62.14 303 *e*P **P** **18 36 22.7 -0.5**
GUR Goura 62.29 302 *e*P **P** **18 36 24.3 0.0**
THL Klokotos Trika 62.30 304 *e*P **P** **18 36 23.3 -0.9**
NIE Niedzica 62.46 315 *e*P **P** **18 36 26.7 +1.6**
LAKA Lakka 62.53 302 *e*P **P** **18 36 25.8 0.0**
PYL PYLOS 62.93 301 *e*P **P** **18 36 28.1 -0.4**
VRAC Vranov 64.89 315 *i*P **P** **18 36 43.0 +1.9**
VRAC Vranov 64.89 315 P **P** **18 36 42.9 +1.8**
VRAC Vranov 64.89 315 P **P** **18 36 42.9 +1.8**
comp=Z,5.5nm,0.8s,baz=108,slow=8.4,SNR=6.1
DPC Dobruska-Polom 64.94 316 *i*P **P** **18 36 42.9 +1.4**
SPITS Spitsbergen Ar 64.95 347 P **P** **18 36 41.9 +0.9**
SPITS Spitsbergen Ar 64.95 347 P **P** **18 36 41.9 +0.9**
comp=Z,8.1nm,0.9s,baz=102,slow=14,SNR=4.4
HFS Hagfors 65.51 327 P **P** **18 36 45.4 +0.5**
HFS pP **pP** **18 37 07.7 +0.1**
HFS Hagfors 65.51 327 P **P** **18 36 45.4 +0.5**
comp=Z,7.1nm,0.5s,baz=112,slow=6.6,SNR=36
HFS pP **pP** **18 37 07.7 +0.1**
comp=Z,6.6nm,0.7s,baz=101,slow=3.0,SNR=2.8
PRU Pruhonice 66.12 316 *i*P **P** **18 36 50.3 +1.3**
PRU *e*pP **PcP** **18 37 15.3 -3.4**
BRG Berggiesshubel 66.37 317 *e*P **P** **18 36 51.6 +0.9**
comp=Z,2.1nm,0.5s
BRG
comp=N,294nm,18.0s
BRG
comp=E,134nm,19.7s
BRG
comp=Z,325nm,15.8s
CTA Charters Tower 66.47 126 P **P** **18 36 51.0 -0.6**
CTA Charters Tower 66.47 126 P **P** **18 36 51.0 -0.6**
comp=Z,5.1nm,0.6s,baz=308,slow=9.7,SNR=6.5
NB2 NORSAR Subarra 66.65 328 P **P** **18 36 52.3 +0.1**
comp=Z,2.7nm,0.6s,baz=84,slow=6.5
NOA NORSAR Array B 66.65 328 P **P** **18 36 52.4 +0.1**
NOA pP **pP** **18 37 15.7 +0.6**
NOA NORSAR Array B 66.65 328 P **P** **18 36 52.4 +0.1**
comp=Z,3.5nm,0.7s,baz=85,slow=6.5,SNR=14
NOA pP **pP** **18 37 15.7 +0.6**
comp=Z,4.8nm,0.8s,baz=84,slow=6.5,SNR=4.3
GEC2 GERESS Array S 66.83 315 *e*P **P** **18 36 55.0 +1.3**
GEC2 GERESS Array S 66.83 315 *e*P **P** **18 36 55.0 +1.3**
GERES GERESS Array B 66.83 315 P **P** **18 36 54.6 +0.9**
GERES GERESS Array B 66.83 315 P **P** **18 36 54.6 +0.9**
comp=Z,2.7nm,0.7s,baz=78,slow=5.8,SNR=34
KHC Kasperske Hory 66.87 315 *i*P **P** **18 36 54.1 +0.2**
KHC *e*pP **pP** **18 37 17.3 +0.7**
CLL Collm 66.90 318 *i*P **P** **18 36 55.1 +1.2**
CLL pmax pmax
comp=Z,6.0nm,1.1s
CLL Collm 66.90 318 *i*P **P** **18 36 55.1 +1.2**
comp=Z,7.0nm,1.1s
CLL LmV 19 27 00.0
comp=Z,200nm,18.3s
DAVOX Davos/Dischmat 69.75 313 P **P** **18 37 12.6 +0.5**
DAVOX Davos/Dischmat 69.75 313 P **P** **18 37 12.6 +0.5**
comp=Z,2.8nm,0.7s,baz=124,slow=14,SNR=4.1
STKA Stephens Creek 71.04 139 P **P** **18 37 18.2 -1.5**
STKA Stephens Creek 71.04 139 P **P** **18 37 18.2 -1.5**
comp=Z,3.9nm,0.7s,baz=339,slow=24,SNR=7.3
CDF Champ du Feu 71.10 315 *e*P **P** **18 37 20.3 +0.2**
comp=Z,7.3nm,0.9s
CDF Champ du Feu 71.10 315 *e*P **P** **18 37 20.3 +0.2**
CDF pmax pmax
comp=Z,7.0nm,0.9s
CDF Champ du Feu 71.10 315 *e*P **P** **18 37 20.3 +0.2**
comp=Z,7.3nm,0.9s
SBF Sospel 72.13 311 *e*P **P** **18 37 26.6 +0.2**
SBF Sospel 72.13 311 *e*P **P** **18 37 26.6 +0.2**
SBF Sospel 72.13 311 *e*P **P** **18 37 26.6 +0.2**
LPG La Plagne 72.17 312 *e*P **P** **18 37 27.6 +0.7**
comp=Z,19nm,0.9s
LPG La Plagne 72.17 312 *e*P **P** **18 37 27.6 +0.7**
LPG pmax pmax
comp=Z,19nm,0.9s
LPG La Plagne 72.17 312 *e*P **P** **18 37 27.6 +0.7**
comp=Z,19nm,0.9s
LPL La Plagne 72.18 312 *e*P **P** **18 37 27.5 +0.6**
comp=Z,7.0nm,0.5s
LPL La Plagne 72.18 312 *e*P **P** **18 37 27.5 +0.6**
LPL pmax pmax
comp=Z,7.0nm,0.5s
LPL La Plagne 72.18 312 *e*P **P** **18 37 27.5 +0.6**
comp=Z,7.0nm,0.5s
CABF La Chapelle 72.33 314 *e*P **P** **18 37 28.9 +1.3**
CABF La Chapelle 72.33 314 *e*P **P** **18 37 28.9 +1.3**
CABF La Chapelle 72.33 314 *e*P **P** **18 37 28.9 +1.3**
MBDF Montbardon 72.36 312 *e*P **P** **18 37 28.5 +0.6**
comp=Z,7.0nm,0.7s
MBDF Montbardon 72.36 312 *e*P **P** **18 37 28.5 +0.6**
MBDF pmax pmax
comp=Z,7.0nm,0.7s
MBDF Montbardon 72.36 312 *e*P **P** **18 37 28.5 +0.6**
comp=Z,7.0nm,0.7s
MEZF Maizieres J'vi 72.51 316 *e*P **P** **18 37 29.1 +0.7**
comp=Z,7.8nm,0.6s
MEZF Maizieres J'vi 72.51 316 *e*P **P** **18 37 29.1 +0.7**
comp=Z,7.8nm,0.6s
SFTF Sexfontaines 72.59 315 *e*P **P** **18 37 29.3 +0.3**
SFTF Sexfontaines 72.59 315 *e*P **P** **18 37 29.3 +0.3**
KEST Kesra 72.94 302 P **P** **18 37 32.2 +0.9**
KEST Kesra 72.94 302 P **P** **18 37 32.2 +0.9**
comp=Z,1.7nm,0.8s,baz=211,slow=20,SNR=6.4
VIVF Saint-Julien-l 73.76 312 *e*P **P** **18 37 36.3 +0.3**
VIVF Saint-Julien-l 73.76 312 *e*P **P** **18 37 36.3 +0.3**
VIVF Saint-Julien-l 73.76 312 *e*P **P** **18 37 36.3 +0.3**
SMF Signal de Mont 73.81 314 *e*P **P** **18 37 36.3 +0.1**
comp=Z,7.9nm,0.7s
SMF Signal de Mont 73.81 314 *e*P **P** **18 37 36.3 +0.1**
SMF pmax pmax
comp=Z,8.0nm,0.6s
SMF Signal de Mont 73.81 314 *e*P **P** **18 37 36.3 +0.1**
comp=Z,7.9nm,0.6s
AVF Avril sur Loir 74.09 314 *e*P **P** **18 37 37.4 -0.4**
AVF Avril sur Loir 74.09 314 *e*P **P** **18 37 37.4 -0.4**
AVF Avril sur Loir 74.09 314 *e*P **P** **18 37 37.4 -0.4**
BGF Bois d'Agland 74.49 314 *e*P **P** **18 37 40.4 +0.3**
comp=Z,8.1nm,0.7s
BGF Bois d'Agland 74.49 314 *e*P **P** **18 37 40.4 +0.3**
BGF pmax pmax
comp=Z,8.0nm,0.7s
BGF Bois d'Agland 74.49 314 *e*P **P** **18 37 40.4 +0.3**
comp=Z,8.1nm,0.7s
LASF Ste Croix 74.55 312 *e*P **P** **18 37 41.2 +0.6**
LASF Ste Croix 74.55 312 *e*P **P** **18 37 41.2 +0.6**
TCF Toulx Ste Croi 74.99 314 *e*P **P** **18 37 43.8 +0.7**
comp=Z,8.1nm,0.8s
TCF Toulx Ste Croi 74.99 314 *e*P **P** **18 37 43.8 +0.7**
TCF pmax pmax
comp=Z,8.0nm,0.8s
TCF Toulx Ste Croi 74.99 314 *e*P **P** **18 37 43.8 +0.7**
comp=Z,8.1nm,0.8s
LSZ Lusaka 75.15 246 *e*P **P** **18 37 45.1 +0.7**
comp=Z,9.6nm,0.7s
LSZ Lusaka 75.15 246 P **P** **18 37 45.3 +0.8**
comp=Z,7.8nm,0.6s,baz=52,slow=8.0,SNR=15
EKA Eskdalemuir Ar 75.32 324 P **P** **18 37 45.5 +0.7**
EKA pP **pP** **18 38 08.7 +0.8**
EKA Eskdalemuir Ar 75.32 324 P **P** **18 37 45.5 +0.7**
comp=Z,2.7nm,0.8s,baz=82,slow=5.4,SNR=5.3
EKA pP **pP** **18 38 08.7 +0.8**
comp=Z,3.4nm,0.8s,baz=73,slow=5.6,SNR=2.8
CAF Calviac 75.51 313 *e*P **P** **18 37 46.8 +0.7**
CAF Calviac 75.51 313 *e*P **P** **18 37 46.8 +0.7**
CAF Calviac 75.51 313 *e*P **P** **18 37 46.8 +0.7**
RJF Les Rejaudoux 75.76 313 *e*P **P** **18 37 48.4 +0.9**
comp=Z,8.4nm,0.8s
RJF Les Rejaudoux 75.76 313 *e*P **P** **18 37 48.4 +0.9**
RJF pmax pmax
comp=Z,8.0nm,0.8s
RJF Les Rejaudoux 75.76 313 *e*P **P** **18 37 48.4 +0.9**
comp=Z,8.4nm,0.8s
LFF La Frestale 76.40 313 *e*P **P** **18 37 51.9 +0.9**
comp=Z,6.7nm,0.6s
LFF La Frestale 76.40 313 *e*P **P** **18 37 51.9 +0.9**
LFF pmax pmax
comp=Z,7.0nm,0.6s
LFF La Frestale 76.40 313 *e*P **P** **18 37 51.9 +0.9**
comp=Z,6.7nm,0.6s
SGMF Saint Gilles 77.41 317 *e*P **P** **18 37 57.2 +0.6**
SGMF Saint Gilles 77.41 317 *e*P **P** **18 37 57.2 +0.6**
SGMF Saint Gilles 77.41 317 *e*P **P** **18 37 57.2 +0.6**
MATP Matopo 77.46 241 P **P** **18 37 58.2 +0.7**
MATP Matopo 77.46 241 P **P** **18 37 58.2 +0.7**
comp=Z,6.6nm,0.8s,baz=52,slow=9.0,SNR=6.1
ROSF Rostrenen 77.82 317 *e*P **P** **18 38 00.2 +1.2**
comp=Z,53nm,1.1s
ROSF Rostrenen 77.82 317 *e*P **P** **18 38 00.2 +1.2**
ROSF pmax pmax
comp=Z,53nm,1.1s
ROSF Rostrenen 77.82 317 *e*P **P** **18 38 00.2 +1.2**
comp=Z,53nm,1.1s
ETSF Etsaut 77.97 312 *e*P **P** **18 38 00.9 +0.9**
ETSF Etsaut 77.97 312 *e*P **P** **18 38 00.9 +0.9**
ETSF Etsaut 77.97 312 *e*P **P** **18 38 00.9 +0.9**
CAST Castle Rocks 79.35 25 *e*P **P** **18 38 07.3 +0.1**
comp=Z,59nm,2.2s
ILAR Eielson Array 80.52 22 P **P** **18 38 12.0 -1.4**
ILAR Eielson Array 80.52 22 P **P** **18 38 12.0 -1.4**
comp=Z,0.8nm,0.6s,baz=297,slow=4.8,SNR=14
ESDC Sonseca Array 81.55 309 P **P** **18 38 19.1 -0.3**
ESDC Sonseca Array 81.55 309 P **P** **18 38 19.1 -0.3**
comp=Z,2.0nm,0.4s,baz=40,slow=4.8,SNR=4.4
LBTB Lobatse 82.09 239 P **P** **18 38 23.5 +1.1**
LBTB Lobatse 82.09 239 P **P** **18 38 23.5 +1.1**
comp=Z,3.2nm,0.4s,baz=83,slow=6.4,SNR=9.8
RES Resolute Bay 82.13 2 P **P** **18 38 22.0 +0.3**
RES pP **pP** **18 38 46.2 +1.0**
RES Resolute Bay 82.13 2 P **P** **18 38 22.0 +0.3**
comp=Z,6.6nm,0.8s,baz=24,slow=2.9,SNR=8.2
RES pP **pP** **18 38 46.2 +1.0**
comp=Z,4.1nm,0.8s,baz=268,slow=2.0,SNR=2.9
INK Inuvik 82.26 16 P **P** **18 38 22.6 +0.1**
INK Inuvik 82.26 16 P **P** **18 38 22.6 +0.1**
comp=Z,5.5nm,0.8s,baz=270,slow=20
BOSA Boshof 84.15 236 P **P** **18 38 33.8 +0.8**
BOSA Boshof 84.15 236 P **P** **18 38 33.8 +0.8**
comp=Z,8.3nm,0.7s,baz=53,slow=3.5,SNR=8.8
SFJD Kangerlussuaq 86.29 347 P **P** **18 38 42.2 -0.6**
SFJD Kangerlussuaq 86.29 347 P **P** **18 38 42.2 -0.6**
comp=Z,12nm,0.8s,baz=126,slow=4.3,SNR=4.1
TORD Torodi Ar. Bea 87.28 283 P **P** **18 38 49.5 +0.8**
TORD pP **pP** **18 39 12.9 +0.4**
TORD Torodi Ar. Bea 87.28 283 P **P** **18 38 49.5 +0.8**
comp=Z,1.8nm,0.9s,baz=58,slow=3.3,SNR=10
TORD pP **pP** **18 39 12.9 +0.4**
comp=Z,2.8nm,1.0s,baz=60,slow=4.1,SNR=5.9
QSPA South Pole Qui 113.05 180 PKiKP **PKiKP** **18 44 36.9 -0.6**
QSPA South Pole Qui 113.05 180 PKiKP **PKiKP** **18 44 36.9 -0.6**
SNAA Sanae 114.11 200 PKiKP PKPdf 18 44 39.1 -0.3
SNAA Sanae 114.11 200 PKiKP PKPdf 18 44 39.1 -0.3
comp=Z,0.2nm,0.7s,baz=324,slow=17,SNR=2.7
ANMO Albuquerque 118.87 19 PKP **PKPdf** **18 44 50.1 0.0**
ANMO Albuquerque 118.87 19 PKP **PKPdf** **18 44 50.1 0.0**
comp=Z,1.5nm,0.8s,baz=102,slow=3.3,SNR=5.1
TKL Tuckaleechee C 121.40 358 PKP **PKPdf** **18 44 53.7 -0.9**
TKL Tuckaleechee C 121.40 358 PKP **PKPdf** **18 44 53.7 -0.9**
comp=Z,4.2nm,0.8s,baz=90,slow=3.0,SNR=5.0

TXAR	Lajitas Array	124.94	19	PKP		PKPdf	18 45 00.4	-1.3
TXAR	Lajitas Array	124.94	19	PKP		PKPdf	18 45 00.4	-1.3
	comp=Z,1.8nm,0.7s,baz=223,slow=1.5,SNR=22							
BDFB	Brasilia	143.78	275	PKP		PKPdf	18 45 36.6	-0.4
BDFB	Brasilia	143.78	275	PKP		PKPdf	18 45 36.6	-0.4
	comp=Z,2.9nm,0.7s,baz=315,slow=7.4,SNR=4.4							
SDV	Santo Domingo	144.85	334	*e*PKPdf		PKPbc	18 45 38.3	0.0
JTS	JuntasAbangare	146.67	359	PKPbc		PKPdf	18 45 41.6	-0.4
JTS	JuntasAbangare	146.67	359	PKPbc		PKPdf	18 45 41.6	-0.4
	comp=Z,2.5nm,0.5s,baz=309,slow=13,SNR=2.8							
ROSC	El Rosal	149.97	337	PKPbc		PKPbc	18 45 53.6	+0.8
ROSC				PKPab		PKPab	18 45 58.8	+0.3
ROSC	El Rosal	149.97	337	PKPbc		PKPbc	18 45 53.6	+0.8
	comp=Z,4.7nm,0.3s,baz=98,slow=16,SNR=6.4							
ROSC				PKPab		PKPab	18 45 58.8	+0.3
	comp=Z,8.8nm,0.6s,baz=116,slow=19,SNR=4.6							
CPUP	Villa Florida	154.11	257	PKPbc		PKPbc	18 46 01.2	-0.1
CPUP	Villa Florida	154.11	257	PKPbc		PKPbc	18 46 01.2	-0.1
	comp=Z,2.8nm,0.6s,baz=66,slow=3.2,SNR=4.5							
SIV	San Ignacio	155.76	283	PKPab		PKPab	18 46 23.8	+1.2
SIV	San Ignacio	155.76	283	PKPab		PKPab	18 46 23.8	+1.2
	comp=Z,1.3nm,0.5s,baz=121,slow=5.8,SNR=4.5							
ATAH	Atahualpa	162.53	335	PKPab		PKPab	18 46 53.0	+0.7
ATAH	Atahualpa	162.53	335	PKPab		PKPab	18 46 53.0	+0.7
	comp=Z,7.5nm,0.7s,baz=62,slow=6.4,SNR=5.5							

MEX 11 18:28:58.0±0.5, 14.76N×94.40W, h21km±24km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.48	50	*i* P	Pn	18 29 20.3	-3.0
PCIG				*i* S	Sn	18 29 37.6	-4.4
HUIG	Huatulco	1.93	301	*e*P	Pn	18 29 27.3	-2.3
HUIG				*i* S	Sn	18 29 49.4	-4.0
TGIG		2.35	31	*e*P	Pn	18 29 34.0	-1.6
TGIG				*e*S	Sn	18 30 00.8	-3.0
CCIG	Comitan	2.65	55	*e*P	Pn	18 29 37.4	-2.4
CCIG				*i* S	Sn	18 30 08.2	-3.3
VHO	Vista Hermosa	3.21	316	*i* P	Pn	18 29 45.0	-2.6
VHO				*i* S	Sn	18 30 21.9	-3.5
PNIG	Pinotepa	3.94	295	*i* P	Pn	18 29 56.0	-1.4
PNIG				*i* S	Sn	18 30 39.8	-3.3

*IDC **11** 18:39:27.1±0.7, 13.˚16S×166.˚34E, h0km, mb4.5/16, mb1 4.6/18, mb1mx4.5/25, mbtmp4.5/18, ML4.5/2, Error ellipse: s-maj=22.2km s-min=15.2km az=105.0*
*ISCJB **11** 18:39:28.7±0.5, 13.˚18S±0.˚05×166.˚16E±0.˚08, h20km, mb4.5/20, Error ellipse: s-maj=11.3km s-min=6.6km az=162.0*
*NEIC **11** 18:39:32.4±0.4, 13.˚16S×166.˚22E, h35km, mb4.6/6, Error ellipse: s-maj=10.5km s-min=7.9km az=111.0*

ISC 11 18:39:30.4±0.5, 13.˚13S±0.˚06×166.˚25E±0.˚09, h20km, n65, σ0s87/69, mb4.6/20, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	7.19	300	Pn	Pn	18 41 14.3	-0.2
HNR				Sn	Sn	18 42 35.9	+0.2
HNR	Honiara	7.19	300	Pn	Pn	18 41 14.3	-0.2
	23nm,0.3s,baz=0.5,slow=1.0,SNR=19						
HNR				Sn	Sn	18 42 35.9	+0.2
	23nm,0.3s,baz=198,slow=19,SNR=3.5						
DZM	Mont Dzumac	8.89	179	Pn	Pn	18 41 38.1	+0.2
	2.8nm,0.5s						
DZM				Sn	Sn	18 43 18.0	+0.4
DZM	Mont Dzumac	8.89	179	Pn	Pn	18 41 38.1	+0.2
	1.7nm,0.3s,baz=209,slow=19,SNR=4.2						
DZM				Sn	Sn	18 43 18.0	+0.4
	baz=90,slow=20,SNR=1.8						
EIDS	Eidsvold	18.77	227	*e*P	P	18 43 48.6	+0.1
	22nm,1.0s						
CTA	Charters Tower	20.36	247	P	P	18 44 06.7	+0.8
CTA	Charters Tower	20.36	247	P	P	18 44 06.7	+0.8
	9.5nm,0.8s,baz=80,slow=16,SNR=3.6						
CTAO	Charters Tower	20.36	247	*e*P	P	18 44 05.9	0.0
	19nm,1.0s						
AFI	Afiamalu	21.38	95	P	P	18 44 23.1	+6.1
AFI	Afiamalu	21.38	95	P	P	18 44 23.1	+6.1
	14nm,0.5s,baz=216,slow=19,SNR=4.1						
ARMA	Armidale	21.87	216	*e*P	P	18 44 22.1	-0.1
	13nm,1.0s						
STKA	Stephens Creek	29.32	226	*e*P	P	18 45 31.5	-0.4
STKA	Stephens Creek	29.32	226	P	P	18 45 33.4	+1.5
	6.3nm,0.8s,baz=8.4,slow=13,SNR=9.6						
WRA	Warramunga Arr	31.30	253	P	P	18 45 48.6	-0.9
WRA	Warramunga Arr	31.30	253	P	P	18 45 48.6	-0.9
	2.0nm,0.8s,baz=84,slow=10,SNR=11						
AS31	Alice Springs	32.36	246	*e*P	P	18 45 58.3	-0.5
ASAR	Alice Springs	32.36	246	P	P	18 45 58.1	-0.6
ASAR	Alice Springs	32.36	246	P	P	18 45 58.1	-0.6
	19nm,0.8s,baz=72,slow=8.7,SNR=105						
FITZ	Fitzroy Crossi	39.37	257	*e*P	P	18 46 57.2	-1.7
NWAO	Narrogin (SRO)	48.74	238	P	P	18 48 14.1	+0.1
NWAO	Narrogin (SRO)	48.74	238	P	P	18 48 14.1	+0.1
	29nm,1.0s,baz=100,slow=4.9,SNR=4.9						
KKM	Kota Kinabalu	53.23	288	*e*P	P	18 48 46.5	-1.6
	16nm,1.1s						
ASAJ	Asahikawa	60.91	341	P	P	18 49 43.4	+1.6
ASAJ	Asahikawa	60.91	341	P	P	18 49 43.4	+1.6
	6.7nm,0.5s,baz=275,slow=33,SNR=16						
KSRS	Korea Array	61.87	326	P	P	18 49 48.9	+0.5
	2.1nm,0.9s,baz=148,slow=7.4,SNR=9.3						
KSAR	Wonju Array Be	61.88	326	P	P	18 49 48.9	+0.4
USRK	Ussuriysk Arra	65.02	333	P	P	18 50 09.7	+0.6
	1.9nm,0.5s,baz=118,slow=5.7,SNR=7.3						
IPM	Ipoh	67.08	281	*e*P	P	18 50 23.5	+0.5
	10.0nm,0.9s						
CM31	Chiang Mai Arr	73.40	294	*e*P	P	18 51 01.2	-0.5
	8.1nm,1.0s						
CMAR	Chiang Mai Arr	73.40	294	P	P	18 51 03.0	+1.4
CMAR	Chiang Mai Arr	73.40	294	P	P	18 51 03.0	+1.4
	5.3nm,1.0s,baz=117,slow=4.5,SNR=36						
QSPA	South Pole Qui	76.89	180	P	P	18 51 21.5	+0.5
QSPA	South Pole Qui	76.89	180	P	P	18 51 21.5	+0.5
	7.8nm,1.0s						
SONM	Songino Array	80.63	324	P	P	18 51 42.4	+0.5
SONM	Songino Array	80.63	324	P	P	18 51 42.4	+0.5
	1.2nm,0.6s,baz=136,slow=5.5,SNR=9.2						
ILAR	Eielson Array	85.32	18	P	P	18 52 03.7	-1.9
ILAR	Eielson Array	85.32	18	P	P	18 52 03.7	-1.9
	1.9nm,0.9s,baz=249,slow=5.0,SNR=14						
NVAR	Mina Array Bea	86.99	50	P	P	18 52 15.7	+0.9
NVAR	Mina Array Bea	86.99	50	P	P	18 52 15.7	+0.9
	0.4nm,0.7s,baz=239,slow=7.1,SNR=4.5						
SNAA	Sanae	95.08	183	*e*P	P	18 52 47.0	-4.7
SNAA	Sanae	95.08	183	P	P	18 52 49.7	-2.0
SNAA	Sanae	95.08	183	P	P	18 52 49.7	-2.0
	0.9nm,1.1s,baz=160,slow=3.6,SNR=4.9						
MK31	Makanchi Array	95.37	317	*e*P	P	18 52 52.9	-0.5
MKAR	Makanchi Array	95.37	317	P	P	18 52 52.4	-1.0
MKAR	Makanchi Array	95.37	317	P	P	18 52 52.4	-1.0
	3.9nm,1.1s,baz=95,slow=6.7,SNR=11						
ZALV	Zalesovo Beam	95.53	324	P	P	18 52 53.2	-0.7
ZALV	Zalesovo Beam	95.53	324	P	P	18 52 53.2	-0.7
	3.4nm,1.0s,baz=108,slow=4.8,SNR=9.0						
VNA2	Neumayer--Watz	96.03	182	*e*P	P	18 52 55.5	-0.5
ARCES	ARCESS Array B	118.47	345	PKP	PKPdf	18 58 15.1	-1.0
ARCES	ARCESS Array B	118.47	345	PKP	PKPdf	18 58 15.1	-1.0
	2.4nm,0.8s,baz=110,slow=1.2,SNR=8.0						
FINES	FINESS Array B	123.88	338	PKP	PKPdf	18 58 26.8	+0.2
FINES	FINESS Array B	123.88	338	PKP	PKPdf	18 58 26.8	+0.2
	1.9nm,1.1s,baz=83,slow=2.9,SNR=3.3						
BOSA	Boshof	123.92	222	PKP	PKPdf	18 58 28.9	+0.9
BOSA	Boshof	123.92	222	PKP	PKPdf	18 58 28.9	+0.9
	4.0nm,0.6s,baz=194,slow=3.9,SNR=5.6						
AKASG	Malin Array Be	128.87	326	PKP	PKPdf	18 58 36.4	-0.2
AKASG	Malin Array Be	128.87	326	PKP	PKPdf	18 58 36.4	-0.2
	0.1nm,0.2s,baz=27,slow=1.6,SNR=4.4						
GERES	GERESS Array B	137.78	333	PKP	PKPdf	18 58 53.5	0.0
GERES	GERESS Array B	137.78	333	PKP	PKPdf	18 58 53.5	0.0
	0.1nm,0.3s,baz=1.9,slow=6.0,SNR=3.7						
SSB	Saint Sauveur	144.38	338	*e*PKPdf	PKPbc	18 59 04.2	+0.4
KEST	Kesra	149.35	321	*e*PKPbc	PKPbc	18 59 18.0	-0.4
KEST	Kesra	149.35	321	PKPbc	PKPbc	18 59 18.6	+0.1
	3.7nm,0.9s,baz=284,slow=3.0,SNR=9.2						
ESDC	Sonseca Array	152.19	344	PKPbc	PKPbc	18 59 24.9	-0.1
ESDC				PKPab	PKPab	18 59 35.5	+0.9
ESDC	Sonseca Array	152.19	344	PKPbc	PKPbc	18 59 24.9	-0.1
	0.2nm,0.4s,baz=14,slow=2.5,SNR=3.6						
ESDC				PKPab	PKPab	18 59 35.5	+0.9
	1.3nm,0.5s,baz=12,slow=3.9,SNR=18						

TORD	Torodi Ar. Bea	164.96	272	PKP		PKPdf	18 59 33.9	-0.2
TORD				PKPab		PKPab	19 00 30.8	+0.2
TORD	Torodi Ar. Bea	164.96	272	PKP		PKPdf	18 59 33.9	-0.2
	0.7nm,1.0s,baz=342,slow=1.8,SNR=3.6							
TORD				PKPab		PKPab	19 00 30.8	+0.2
	0.7nm,0.7s,baz=75,slow=4.6,SNR=4.0							

*NEIC **11** 18:40:50.5, 52.˚18N×170.˚42W, h5km, ML3.9(AEIC), After AEIC.*
*ISCJB **11** 18:40:53.9±0.6, 52.˚4N±0.˚1×170.˚60W±0.˚07, h68km±5km, mb3.8/20, Error ellipse: s-maj=17.7km s-min=5.0km az=161.7*
*IDC **11** 18:40:58.0±4.7, 52.˚48N×170.˚67W, h87km±42km, mb3.6/20, mb1 3.8/22, mb1mx3.7/31, mbtmp3.6/22, Error ellipse: s-maj=20.7km s-min=11.7km az=178.0*

ISC 11 18:40:55.9±1.3, 52.˚4N±0.˚1×170.˚51W±0.˚05, h71km±10km, n53, σ1s19/52, mb4.0/20, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	1.17	59	P	Pn	18 41 12.8	-3.7
OKSP	Okmok Steeple	1.61	56	P	Pn	18 41 19.9	-2.3
OKSP				S	Sn	18 41 41.0	-1.3
OKCE	Okmok Cone E	1.77	53	P	Pn	18 41 22.8	-1.6
OKCE				S	Sn	18 41 47.8	+1.7
OKTU	Okmok Mt. Tuli	1.80	55	P	Pn	18 41 23.3	-1.6
OKFG	Magazine Ridge	1.88	56	P	Pn	18 41 24.0	-2.0
OKFG				S	Sn	18 41 50.0	+1.2
MREP	Makushin Rep't	2.69	56	P	Pn	18 41 36.0	-0.8
MSW	Makushin Switc	2.72	54	P	Pn	18 41 36.2	-1.1
MSW				S	Sn	18 42 12.0	+3.0
MTBL	Makushin Table	2.80	54	P	Pn	18 41 37.8	-0.6
ZRO	Akutan Zero	3.22	56	P	Pn	18 41 43.1	-1.0
LVA	Lava Point	3.23	55	P	Pn	18 41 44.2	+0.1
AKGG	Akutan Green G	3.27	54	P	Pn	18 41 44.1	-0.6
AKUT	Akutan	3.35	56	*e*Pn	Pn	18 41 45.4	-0.3
GSMY	Great Sitkin M	3.43	267	P	Pn	18 41 45.6	-1.3
GSTD	Great Sitkin T	3.48	267	P	Pn	18 41 47.0	-0.7
GSTD				S	Sn	18 42 30.4	+2.7
GSCK	Great Sitkin C	3.50	266	P	Pn	18 41 46.7	-1.1
TAPA	Tanaga Point A	4.54	266	P	Pn	18 42 01.2	-0.9
TAFL	Tanaga Flats	4.60	265	P	Pn	18 42 02.7	-0.1
TASE	Tanaga Southea	4.67	266	P	Pn	18 42 03.0	-0.8
SPIA	Saint Paul Isl	4.81	2	P	Pn	18 42 05.9	+0.2
FALS	False Pass	4.90	57	P	Pn	18 42 07.0	+0.1
SDPT	Sand Point	6.64	59	*e*Pn	Pn	18 42 29.7	-0.9
ILAR	Eielson Array	17.34	35	P	P	18 44 53.7	+0.4
	0.1nm,0.3s,baz=213,slow=12,SNR=5.1						
ILAR				PcP	PcP	18 49 31.4	+0.6
	0.0nm,0.3s,baz=264,slow=3.5,SNR=5.3						
PETK	Petropavlovsk-	19.18	285	P	P	18 45 13.7	+0.2
	1.7nm,0.3s,baz=91,slow=13,SNR=36						
DLBC	Dease Lake	23.48	59	P	P	18 46 01.8	+2.7
	5.7nm,1.0s,baz=278,slow=4.9,SNR=5.5						
INK	Inuvik	23.73	34	P	P	18 46 00.4	-0.6
	1.8nm,0.6s,baz=90,slow=20						
NEW	Newport	33.69	75	P	P	18 47 30.2	+0.4
	1.5nm,0.5s,baz=300,slow=7.5,SNR=5.0						
H11N2	WAKE ISLAND Hy	37.03	217	T	T	19 27 10.7	
	baz=24,slow=0.7,SNR=28						
H11N3	WAKE ISLAND Hy	37.04	217	T	T	19 27 13.3	
	baz=24,slow=0.7,SNR=28						
H11N1	WAKE ISLAND Hy	37.05	217	T	T	19 27 12.0	
	baz=24,slow=0.7,SNR=22						
H11S1	WAKE ISLAND Hy	38.23	216	T	T	19 28 41.9	
	baz=23,slow=0.7,SNR=117						
H11S2	WAKE ISLAND Hy	38.24	216	T	T	19 28 50.4	
	baz=23,slow=0.7,SNR=102						
H11S3	WAKE ISLAND Hy	38.24	216	T	T	19 28 51.2	
	baz=23,slow=0.7,SNR=93						
NVAR	Mina Array Bea	38.36	90	P	P	18 48 11.6	+1.5
	0.2nm,0.4s,baz=291,slow=5.4,SNR=2.8						
PDAR	Pinedale Array	41.09	78	P	P	18 48 33.7	+1.0
	1.5nm,0.8s,baz=302,slow=4.4,SNR=10						
KSRS	Korea Array	44.71	276	P	P	18 49 01.7	+0.1
	1.8nm,0.7s,baz=52,slow=6.9,SNR=13						
JNU	Nakatsue	45.76	269	P	P	18 49 10.1	0.0
	8.6nm,0.9s,baz=353,slow=5.0,SNR=4.6						
SONM	Songino Array	50.69	300	P	P	18 49 47.0	-1.0
	0.4nm,0.5s,baz=64,slow=6.2,SNR=5.4						
SONM				PcP	PcP	18 51 04.7	+0.5
	0.8nm,0.7s,baz=53,slow=1.5,SNR=6.2						
TXAR	Lajitas Array	53.45	88	P	P	18 50 09.6	+0.9
	1.2nm,0.7s,baz=293,slow=5.2,SNR=16						
ZALV	Zalesovo Beam	56.94	317	P	P	18 50 32.3	-1.0
	0.4nm,0.3s,baz=70,slow=5.4,SNR=2.2						
ZALV				PcP	PcP	18 51 28.1	+0.3
	0.8nm,0.6s,baz=32,slow=5.8,SNR=3.8						
ARCES	ARCESS Array B	57.83	353	P	P	18 50 38.7	-0.7
	1.3nm,0.7s,baz=18,slow=6.0,SNR=6.7						
ARCES				PcP	PcP	18 51 31.3	+0.2
	4.2nm,1.1s,baz=25,slow=3.2,SNR=4.8						
MKAR	Makanchi Array	63.29	313	P	P	18 51 16.1	-0.8
	0.2nm,0.4s,baz=46,slow=6.4,SNR=4.8						
FINES	FINESS Array B	65.76	351	P	P	18 51 31.7	-0.9
	1.2nm,0.6s,baz=356,slow=9.3,SNR=7.9						
NB2	NORSAR Subarra	66.92	359	P	P	18 51 39.9	-0.2
	comp=Z,1.0nm,0.5s,baz=2.1,slow=6.5						
NOA	NORSAR Array B	66.92	359	P	P	18 51 40.1	0.0
	comp=Z,1.2nm,0.5s,baz=1.6,slow=6.4,SNR=7.3						
CMAR	Chiang Mai Arr	75.93	282	P	P	18 52 35.2	+0.3
	comp=Z,2.4nm,0.8s,baz=28,slow=6.2,SNR=15						
AKASG	Malin Array Be	75.94	347	P	P	18 52 33.3	-1.3
	comp=Z,0.5nm,0.4s,baz=15,slow=6.1,SNR=3.5						
GERES	GERESS Array B	79.09	357	P	P	18 52 52.4	+0.2
	comp=Z,0.7nm,0.8s,baz=26,slow=6.4,SNR=7.6						
WRA	Warramunga Arr	86.47	231	P	P	18 53 29.0	-1.6
	comp=Z,0.7nm,1.0s,baz=52,slow=6.7,SNR=3.2						
ESDC	Sonseca Array	87.58	10	P	P	18 53 35.0	-0.9
	comp=Z,0.6nm,0.7s,baz=349,slow=5.1,SNR=5.1						
ASAR	Alice Springs	89.87	229	P	P	18 53 46.6	-0.1
	comp=Z,1.0nm,0.8s,baz=25,slow=4.6,SNR=6.8						
H03N2	Juan Fernandez	116.58	111	T	T	21 07 04.5	
	baz=319,slow=0.7,SNR=18						
H03N1	Juan Fernandez	116.59	111	T	T	21 06 50.7	
	baz=319,slow=0.7,SNR=16						
H03N3	Juan Fernandez	116.60	111	T	T	21 07 04.9	
	baz=319,slow=0.7,SNR=14						

*IDC **11** 18:42:01.8±0.5, 12.˚99S×166.˚07E, h0km, mb4.6/20, mb1 4.7/21, mb1mx4.6/25, mbtmp4.6/21, ML4.2/1, MS4.2/22, Ms1 4.2/22, ms1mx4.1/36, Error ellipse: s-maj=17.9km s-min=14.9km az=110.0*
*ISCJB **11** 18:42:03.1±0.3, 13.˚01S±0.˚04×166.˚15E±0.˚04, h20km, mb4.8/45, MS3.9/30, Error ellipse: s-maj=5.9km s-min=5.6km az=161.9*
*BJI **11** 18:42:04.7, 12.˚90S×166.˚00E, h10km, mB5.4/30, mb4.9/41, Ms5.1/24, Ms7 4.6/25*
*GCMT **11** 18:42:05.9±0.3, 13.˚03S×166.˚18E, h13km±1km, MW4.9, Moment Tensor Solution. s25,c33; s64,c100; Moment tensor: Scale 10^16^Nm; Mrr2.13±.16; Mθθ-3.43±.13; Mφφ 1.31±.10; Mrθ 0.53±.21; Mrφ-0.40±.08; Mθφ 0.57±.24; Best double couple: M0 3.00000×10^16^ NP1:φs63.00000°, δ56.00000°, λ59.00000°. NP2:φs290.00000°, δ45.00000°, λ127.00000°. Principal axes: T 2.4400, Plg64.0000°, Azm277.0000°; N 1.1000, Plg25.0000°, Azm82.0000°; P -3.5200, Plg6.0000°, Azm175.0000°; Data Used: IU IC G II CN. Surface wave period40 sec.*
*MOS **11** 18:42:05.1±1.3, 13.˚00S×166.˚09E, h33km, mb5.1/10 Error ellipse: s-maj=12.5km s-min=8.9km az=7.2*
*NEIC **11** 18:42:06.7±0.3, 13.˚00S×166.˚11E, h35km, mb5.0/11, Error ellipse: s-maj=7.4km s-min=6.4km az=142.0*
*BKK **11** 18:42:07.0±0.6, 13.˚5S±10.˚16×16.˚6E±1.˚0, h10km, M5.0/10, mB6.2/1, mb5.0/10, Mw(mB)5.9/1*
*AUST **11** 18:42:11.4±1.0, 12.˚95S×165.˚90E, h60km, Error ellipse: s-maj=17.7km s-min=13.9km az=42.0*

ISC 11 18:42:04.8±0.3, 13.˚05S±0.˚05×166.˚19E±0.˚05, h20km, n157, σ1s57/192, mb4.9/45, MS4.0/30, 15C-7D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	7.10	300	Pn	Pn	18 43 48.4	+0.6
HNR				Sn	Sn	18 45 08.8	+1.0
HNR	Honiara	7.10	300	Pn	Pn	18 43 48.3	+0.6
	37nm,0.3s,baz=177,slow=6.2,SNR=8.4						
HNR				Sn	Sn	18 45 08.8	+1.0
	baz=144,slow=19,SNR=1.4						
DZM	Mont Dzumac	8.98	179	*e*Pn	Pn	18 44 12.2	-1.3
	78nm,0.5s						
DZM				*e*LR	LR	18 45 37.0	
	4µm,26.7s						
DZM				*e*Sn	Sn	18 45 46.9	-7.3
	77nm,0.7s						
DZM	Mont Dzumac	8.98	179	Pn	Pn	18 44 13.9	+0.4
DZM				Sn	Sn	18 45 53.7	-0.4
DZM	Mont Dzumac	8.98	179	Pn	Pn	18 44 13.9	+0.4
	2.5nm,0.3s,baz=335,slow=19,SNR=4.2						
DZM				Sn	Sn	18 45 53.7	-0.4
	3.3nm,0.3s,baz=112,slow=19,SNR=2.5						
DZM				LR	LR	18 46 28.4	
	comp=Z,995nm,18.8s,baz=10,slow=30						
MSVF	Nonsavu	12.35	114	*e*P	Pn	18 45 01.6	+1.9
MSVF				pmax	pmax		
	comp=Z,100nm,1.8s						
MSVF	Nonsavu	12.35	114	*e*P	Pn	18 45 01.6	+1.9
	comp=Z,100nm,1.8s						
TARA	Tarawa	15.79	26	*e*Pn	Pn	18 45 45.1	-1.0
	comp=Z,369nm,1.4s						
EIDS	Eidsvold	18.79	227	*e*P	P	18 46 21.5	-1.5
	comp=Z,38nm,1.0s						
EIDS	Eidsvold	18.79	227	⇑P	Pn	18 46 25.8	+2.2
	baz=19						
PMG	Port Moresby	19.02	279	P	Pn	18 46 28.3	+1.9
PMG	Port Moresby	19.02	279	P	Pn	18 46 28.3	+1.9
	comp=Z,0.2nm,0.3s,baz=226,slow=14,SNR=4.3						
PMG				LR	LR	18 52 06.5	
	comp=Z,595nm,18.1s,baz=132,slow=32						
CTA	Charters Tower	20.34	247	P	Pn	18 46 41.2	-1.0
CTA	Charters Tower	20.34	247	⇑P	Pn	18 46 42.3	+0.1
	baz=20						
CTA	Charters Tower	20.34	247	P	Pn	18 46 41.2	-1.0
	comp=Z,11nm,1.0s,baz=66,slow=14,SNR=6.3						
CTAO	Charters Tower	20.34	247	*e*P	P	18 46 40.2	+0.1
CTAO				pmax	pmax		
	comp=Z,75nm,1.5s						
CTAO	Charters Tower	20.34	247	*e*P	P	18 46 40.2	+0.1
	comp=Z,75nm,1.5s						
RMQ	Roma	21.13	228	⇓P	P	18 46 51.4	+2.8
	baz=21						
AFI	Afiamalu	21.44	95	P	P	18 46 54.8	+2.7
AFI	Afiamalu	21.44	95	P	P	18 46 54.8	+2.7
	comp=Z,34nm,0.8s,baz=116,slow=12,SNR=5.9						
AFI				LR	LR	18 53 07.7	
	comp=Z,569nm,21.4s,baz=276,slow=31						
ARMA	Armidale	21.91	216	*e*P	P	18 46 57.7	+0.7
	comp=Z,172nm,1.7s						
ARMA	Armidale	21.91	216	⇑P	P	18 46 59.1	+2.0
	baz=22						
COEN	Coen	22.40	265	*e*P	P	18 47 00.9	-1.5
	comp=Z,658nm,1.6s						
COEN	Coen	22.40	265	⇑P	P	18 47 03.4	+1.1
	baz=22						
MGCD	Mangrove Creek	24.34	212	⇓P	P	18 47 23.6	+2.1
	baz=24						
RIV	Riverview	24.80	211	⇓P	P	18 47 27.4	+1.7
	baz=25						
CMSA	Cobar Meteorol	26.34	222	⇑P	P	18 47 42.3	+2.7
	baz=26						
CNB	Canberra Magne	26.88	212	⇓P	P	18 47 45.7	+1.1
	baz=27						
URZ	Urewera	26.93	161	LR	LR	18 56 24.4	
	comp=Z,16nm,28.6s,baz=330,slow=32						
STKA	Stephens Creek	29.34	226	*e*P	P	18 48 06.8	+0.3
	comp=Z,18nm,1.7s						
STKA	Stephens Creek	29.34	226	⇑P	P	18 48 06.8	+0.3
	baz=29						
STKA	Stephens Creek	29.34	226	P	P	18 48 07.0	+0.6
	comp=Z,7.3nm,0.9s,baz=24,slow=7.0,SNR=6.4						
TOO	Toolangi	30.62	213	⇑P	P	18 48 18.8	+1.0
	baz=31						
RPZ	Rata Peaks	30.85	173	P	P	18 48 21.4	+1.8
RPZ	Rata Peaks	30.85	173	P	P	18 48 21.4	+1.8
	comp=Z,7.1nm,0.6s,baz=60,slow=8.1,SNR=4.5						
RPZ				LR	LR	18 59 16.0	
	comp=Z,491nm,20.3s,baz=346,slow=34						
WRAB	Tennant Creek	31.25	253	*e*P	P	18 48 23.0	-0.5
WRAB				pmax	pmax		
	comp=Z,31nm,1.5s						
WRAB	Tennant Creek	31.25	253	*e*P	P	18 48 23.0	-0.5
	comp=Z,31nm,1.5s						
WRA	Warramunga Arr	31.27	253	P	P	18 48 23.0	-0.6
WRA	Warramunga Arr	31.27	253	P	P	18 48 23.0	-0.6
	comp=Z,2.2nm,0.7s,baz=83,slow=8.9,SNR

comp=Z,112nm,18.8s,baz=126,slow=36
KSAR Wonju Array Be 61.78 326 P **P** **18 52 21.6 -0.6**
NJ2 Nanjing 63.75 316 *e*P **P** **18 52 36.6 +1.1**
NJ2 AMB AMB
comp=Z,20nm,0.8s
VNDA Vanda 64.51 181 P **P** **18 52 39.1 -0.7**
VNDA Vanda 64.51 181 P **P** **18 52 39.1 -0.7**
comp=Z,2.1nm,1.0s,baz=344,slow=6.3,SNR=3.9
VNDA LR LR 19 15 58.4
comp=Z,16nm,28.6s,baz=8.0,slow=32
USRK Ussuriysk Arra 64.92 333 P **P** **18 52 42.9 0.0**
comp=Z,14nm,1.1s,baz=155,slow=6.7,SNR=12
USRK LR LR 19 20 37.2
comp=Z,104nm,19.4s,baz=137,slow=36
PETK Petropavlovsk- 66.29 354 P **P** **18 52 50.8 -0.8**
PETK Petropavlovsk- 66.29 354 P **P** **18 52 50.8 -0.8**
PETK Petropavlovsk- 66.29 354 P **P** **18 52 50.8 -0.8**
comp=Z,3.3nm,0.8s,baz=152,slow=9.9,SNR=3.8
PETK LR LR 19 16 26.6
comp=Z,16nm,28.6s,baz=170,slow=31
MDJ Mudanjiang 66.31 332 P **P** **18 52 52.5 +0.6**
MDJ PP **PP** **18 55 17.8 -0.4**
MDJ S **S** **19 01 42.2 +1.7**
MDJ SS **SS** **19 05 55.8 -1.6**
MDJ AMB AMB
comp=Z,15nm,1.1s
MDJ AMB AMB
comp=Z,100nm,5.6s
MDJ LR LR
comp=Z,78nm,20.6s
MDJ LR LR
comp=Z,79nm,20.6s
MDJ LR LR
comp=Z,170nm,32.2s
IPM Ipoh 67.01 281 *e*P P **18 52 56.8 -0.3**
comp=Z,64nm,1.6s
CN2 Changchun 67.67 329 *e*P **P** **18 53 01.8 +1.2**
CN2 *e*pP **pP** **18 53 08.0 +0.9**
CN2 *e*S **S** **19 01 56.3 -0.6**
CN2 *e*SS **SS** **19 06 18.5 0.0**
CN2 AMB AMB
comp=Z,20nm,0.9s
KLR Kul'dur 69.06 337 *e*P P 18 53 04.8 -4.3
KLR pmax pmax
comp=Z,64nm,1.8s
GYA Guiyang 69.90 305 P **P** **18 53 17.4 +2.4**
GYA PP **PP** **18 55 53.2 +3.2**
GYA S **S** **19 02 23.5 -0.8**
GYA SKS **SKSac** **19 03 14.0 -1.5**
GYA SS **SS** **19 06 55.7 +1.9**
GYA AMB AMB
comp=Z,20nm,1.0s
GYA AMB AMB
comp=Z,120nm,5.9s
GYA LR LR
comp=Z,550nm,18.8s
GYA LR LR
comp=Z,450nm,20.2s
GYA LR LR
comp=Z,520nm,19.7s
BJI Beijing 70.31 321 P **P** **18 53 18.5 +1.5**
BJI S **S** **19 02 31.2 +3.0**
BJI SS **SS** **19 07 02.5 +3.2**
BJI AMB AMB
comp=Z,14nm,1.6s
BJI LR LR
comp=Z,240nm,27.4s
KMI Kunming 72.54 302 P **P** **18 53 33.4 +2.3**
KMI pP **pP** **18 53 36.8 -0.9**
KMI sP **sP** **18 53 37.9 -2.2**
KMI S **S** **19 02 56.3 +1.2**
KMI sS **SKiKP** **19 03 01.4 -4.0**
KMI SS **SS** **19 07 36.7 +2.2**
KMI AMB AMB
comp=Z,13nm,1.3s
KMI AMB AMB
comp=Z,160nm,5.0s
KMI LR LR
comp=Z,110nm,17.3s
CM31 Chiang Mai Arr 73.31 294 *e*P **P** **18 53 33.7 -1.9**
comp=Z,7.1nm,0.9s
CMAR Chiang Mai Arr 73.31 294 P **P** **18 53 35.8 +0.2**
CMAR Chiang Mai Arr 73.31 294 P **P** **18 53 35.8 +0.2**
comp=Z,7.5nm,1.0s,baz=117,slow=4.5,SNR=20
HHC Hu-ho-hao-te 73.63 320 *e*P **P** **18 53 37.9 +0.8**
HHC sP **sP** **18 53 44.9 -1.2**
HHC PcP **PcP** **18 53 54.1 +1.2**
HHC S **SKiKP** **19 03 06.3 -0.1**
HHC SKS **SKSac** **19 03 39.2 -3.8**
HHC ScS **SKKSac** **19 03 43.1 -0.1**
HHC AMB AMB
comp=Z,14nm,0.6s
HHC AMB AMB
comp=Z,350nm,6.0s
HHC LR LR
comp=Z,600nm,18.0s
HHC LR LR
comp=Z,310nm,18.0s
HHC LR LR
comp=Z,260nm,17.7s
CD2 Chengdu 74.16 308 P **P** **18 53 42.1 +1.7**
CD2 pP **pP** **18 53 46.8 -0.1**
CD2 sP **sP** **18 53 49.1 -0.2**
CD2 PP **PP** **18 56 29.2 +2.9**
CD2 S **S** **19 03 13.8 +0.9**
CD2 sS **sS** **19 03 21.1 -2.7**
CD2 SS **SS** **19 08 00.9 +2.1**
CD2 AMB AMB
comp=Z,20nm,0.7s
CD2 AMB AMB
comp=Z,350nm,4.1s
CD2 LR LR
comp=Z,1μm,5.4s
CD2 LR LR
comp=Z,480nm,6.0s
LZH Lanzhou 76.42 312 *e*P **P** **18 53 54.5 +1.1**
LZH pP **pP** **18 53 58.6 -1.4**
LZH sP **sP** **18 54 01.3 -1.1**
LZH PP **PP** **18 56 48.2 +2.7**
LZH *e*S **S** **19 03 37.8 -0.3**
LZH sS **sS** **19 03 46.1 -2.9**
LZH SS **SS** **19 08 34.5 +1.3**
LZH AMB AMB
comp=Z,22nm,1.2s
LZH AMB AMB
comp=Z,130nm,4.0s
LZH LR LR
comp=Z,600nm,13.9s
LZH LR LR
comp=Z,630nm,14.0s
LZH LR LR
comp=Z,800nm,16.4s
CIT Chita 79.10 330 *e*P **P** **18 54 05.6 -2.2**
CIT *e* 18 54 14.7
CIT *e* 18 54 23.8
YAK Yakutsk 80.13 343 *e*P **P** **18 54 10.7 -2.4**
YAK pmax pmax
comp=Z,12nm,1.1s
SONM Songino Array 80.53 324 P **P** **18 54 15.5 -0.3**
SONM Songino Array 80.53 324 P **P** **18 54 15.5 -0.3**
comp=Z,1.9nm,0.7s,baz=136,slow=5.1,SNR=13
SONM LR LR 19 30 17.1
comp=Z,16nm,28.6s,baz=107,slow=36
GTA Gaotai 80.75 314 *e*P **P** **18 54 18.4 +1.2**
GTA pP **PcP** **18 54 24.5 +0.6**
GTA sP **sP** **18 54 27.7 +1.5**
GTA AMB AMB
comp=Z,4.0nm,1.0s
MAW Mawson 83.04 202 LR LR 19 25 33.3
comp=Z,109nm,19.7s,baz=96,slow=31
IRK Irkutsk 83.97 327 *e*P **P** **18 54 31.1 -2.4**
IRK pmax pmax
comp=Z,39nm,4.0s
TLY Talaya 84.02 326 *e*P **P** **18 54 36.3 +2.5**
TLY pmax pmax
comp=Z,12nm,1.1s
TLY MLR MLR
comp=Z,120nm,15.0s
YBH Yreka Blue Hor 84.98 45 P **P** **18 54 40.7 +1.7**
YBH Yreka Blue Hor 84.98 45 P **P** **18 54 40.7 +1.7**
comp=Z,3.7nm,1.0s,baz=236,slow=8.0,SNR=4.5
COLA College 85.04 18 *i* P **P** **18 54 38.2 -0.4**
ILAR Eielson Array 85.26 18 P **P** **18 54 37.4 -2.4**
ILAR Eielson Array 85.26 18 P **P** **18 54 37.4 -2.4**
comp=Z,3.2nm,0.9s,baz=249,slow=4.8,SNR=6.7
ILAR LR LR 19 28 37.5
comp=Z,16nm,28.6s,baz=226,slow=33
MOY Mondy 85.46 325 *e*P P 18 54 34.2 -7.0
NVAR Mina Array Bea 86.98 50 P **P** **18 54 50.0 +0.8**
NVAR Mina Array Bea 86.98 50 P **P** **18 54 50.0 +0.8**
comp=Z,1.3nm,0.9s,baz=237,slow=7.6,SNR=7.8
NVAR LR LR 19 26 54.5
comp=Z,320nm,19.5s,baz=104,slow=31
TIXI Tiksi 88.13 349 *e*P **P** **18 54 51.7 -1.9**
WMQ Urumqi 90.81 315 *e*P **P** **18 55 07.9 +1.0**
WMQ pP **pP** **18 55 12.7 -0.9**
WMQ sP **sP** **18 55 14.9 -1.1**
WMQ PP **PP** **18 58 45.9 +3.0**
WMQ SKS **SKSac** **19 05 37.0 -0.8**
WMQ S **S** **19 06 00.7 -2.0**
WMQ AMB AMB
comp=Z,11nm,1.0s
WMQ AMB AMB
comp=Z,120nm,4.8s
WMQ LR LR
comp=Z,120nm,20.0s
WMQ LR LR
comp=Z,130nm,24.2s
WMQ LR LR
comp=Z,160nm,23.2s
MAIT Maitri 94.57 188 *e*P **P** **18 55 22.5 -1.2**
PDAR Pinedale Array 94.58 47 LR LR 19 37 43.0
comp=Z,16nm,28.6s,baz=298,slow=35
SNAA Sanae 95.16 183 *e*P **P** **18 55 24.8 -1.7**
MK31 Makanchi Array 95.27 317 *e*P **P** **18 55 27.1 -0.3**
MK31 Makanchi Array 95.27 317 *e*P **P** **18 55 27.1 -0.3**
MKAR Makanchi Array 95.27 317 P **P** **18 55 26.9 -0.5**
MKAR Makanchi Array 95.27 317 P **P** **18 55 26.9 -0.5**
MKAR Makanchi Array 95.27 317 ⇑P **P** **18 55 26.8 -0.5**
baz=95
MKAR Makanchi Array 95.27 317 P **P** **18 55 26.9 -0.5**
comp=Z,2.7nm,0.7s,baz=90,slow=6.6,SNR=12
MKAR LR LR 19 37 54.6
comp=Z,71nm,21.1s,baz=102,slow=35
ZAA0 Zalesovo Array 95.42 324 *e*P **P** **18 55 26.4 -1.5**
ZALV Zalesovo Beam 95.42 324 P **P** **18 55 26.2 -1.7**
ZALV Zalesovo Beam 95.42 324 P **P** **18 55 26.2 -1.7**
ZALV Zalesovo Beam 95.42 324 P **P** **18 55 26.2 -1.7**
comp=Z,3.6nm,0.8s,baz=115,slow=4.0,SNR=12
ZALV LR LR 19 37 15.1
comp=Z,16nm,28.6s,baz=70,slow=35
VNA2 Neumayer--Watz 96.12 182 *e*P **P** **18 55 29.4 -1.4**
TXAR Lajitas Array 96.40 61 P **P** **18 55 33.9 +0.8**
TXAR Lajitas Array 96.40 61 P **P** **18 55 33.9 +0.8**
comp=Z,0.4nm,0.8s,baz=186,slow=8.8,SNR=4.5
KSH Kashi 98.34 309 P Pdif 18 55 50.2 +8.6
KSH PP PP 18 59 50.6 +8.8
KSH S **S** **19 07 10.0 +1.0**
KSH SS **SS** **19 13 58.4 +5.1**
KSH AMB AMB
comp=Z,97nm,4.1s
KSH LR LR
comp=Z,86nm,5.5s
KSH LR LR
comp=Z,110nm,4.6s
KSH LR LR
comp=Z,190nm,5.7s
AAK Ala-Archa 99.94 312 LR LR 19 45 47.2
comp=Z,42nm,18.1s,baz=41,slow=38
ARCES ARCESS Array B 118.37 345 PKP **PKPdf** **19 00 48.3 -2.0**
ARCES ARCESS Array B 118.37 345 PKP **PKPdf** **19 00 48.3 -2.0**
comp=Z,6.3nm,1.1s,baz=68,slow=1.7,SNR=6.8
OBN Obninsk 122.73 328 *e*PKIKP **PKPdf** **19 00 59.4 +0.3**
OBN pmax pmax
comp=Z,4.0nm,0.9s
KIV Kislovodsk 122.93 314 *e*PKIKP **PKPdf** **19 01 00.9 +0.9**
KIV pmax pmax
comp=Z,3.0nm,0.8s
KIV MLR MLR
comp=Z,100nm,18.0s
FINES FINESS Array B 123.78 338 PKP **PKPdf** **19 01 00.6 -0.3**
FINES FINESS Array B 123.78 338 PKP **PKPdf** **19 01 00.6 -0.3**
comp=Z,4.6nm,1.1s,baz=193,slow=16,SNR=3.4
BOSA Boshof 123.95 222 PKP **PKPdf** **19 01 01.5 -1.1**
BOSA Boshof 123.95 222 PKP **PKPdf** **19 01 01.5 -1.1**
comp=Z,3.7nm,0.9s,baz=342,slow=16,SNR=4.9
AKASG Malin Array Be 128.76 326 PKIKP **PKPdf** **19 01 10.0 -0.8**
AKASG Malin Array Be 128.76 326 PKP **PKPdf** **19 01 10.0 -0.8**
AKASG Malin Array Be 128.76 326 PKP **PKPdf** **19 01 10.0 -0.8**
comp=Z,0.1nm,0.2s,baz=75,slow=1.0,SNR=4.7
BRTR Keskin Array B 130.62 312 PKP **PKPdf** **19 01 13.5 -1.4**
BRTR Keskin Array B 130.62 312 PKP **PKPdf** **19 01 13.5 -1.4**
comp=Z,0.3nm,0.7s,baz=160,slow=3.9,SNR=2.6
STHS Stebnicka Huta 133.70 329 *e*PKP **PKPdf** **19 01 25.0 +4.7**
BRG Berggiesshubel 136.05 335 *e*PKP PKPdf 19 01 29.9 +5.3
comp=Z,2.0nm,0.8s
BRG Berggiesshubel 136.05 335 *e*PKIKP PKPdf 19 01 29.9 +5.3
BRG pmax pmax
comp=Z,2.0nm,0.9s
CLL Collm 136.10 336 *i* PKIKP **PKPdf** **19 01 29.5 +4.9**
CLL Collm 136.10 336 *i* (PKiKP) 19 01 29.5
CLL *e*SKPbc SKPbc 19 04 48.0 -7.6
CLL LmV 20 08 00.0
comp=Z,200nm,18.0s
GERES GERESS Array B 137.68 333 PKP **PKPdf** **19 01 27.3 -0.4**
GERES GERESS Array B 137.68 333 PKP **PKPdf** **19 01 27.3 -0.4**
comp=Z,0.1nm,0.3s,baz=56,slow=3.7,SNR=3.8
SSB Saint Sauveur 144.28 338 *e*PKIKP PKPbc 19 01 37.9 0.0
SSB Saint Sauveur 144.28 338 *e*PKPdf PKPbc 19 01 37.9 0.0
KEST Kesra 149.25 321 *e*PKPbc **PKPbc** **19 01 52.5 -0.2**
KEST Kesra 149.25 321 PKPbc **PKPbc** **19 01 52.2 -0.5**
comp=Z,4.3nm,0.8s,baz=125,slow=1.0,SNR=9.7
ESDC Sonseca Array 152.09 344 PKPbc **PKPbc** **19 01 58.6 -0.7**
ESDC PKPab **PKPab** **19 02 08.1 -0.5**
ESDC Sonseca Array 152.09 344 PKPbc **PKPbc** **19 01 58.6 -0.7**
comp=Z,0.6nm,0.7s,baz=48,slow=2.0,SNR=4.5
ESDC PKPab **PKPab** **19 02 08.1 -0.5**
comp=Z,1.8nm,0.6s,baz=12,slow=3.9,SNR=13
TORD Torodi Ar. Bea 164.90 272 PKP **PKPdf** **19 02 06.5 -2.0**
TORD PKPab **PKPab** **19 03 04.4 -0.4**
TORD Torodi Ar. Bea 164.90 272 PKP **PKPdf** **19 02 06.5 -2.0**
comp=Z,1.9nm,1.2s,baz=213,slow=1.5,SNR=4.6
TORD PKPab **PKPab** **19 03 04.4 -0.4**
comp=Z,2.5nm,1.1s,baz=107,slow=3.1,SNR=5.4

*DJA **11** 19:03:46.8±1.7, 4°N±16°×12°7E±°, h10km, M4.7/5, mB5.2/3, mb5.0/5, MLv4.6/2, Mw(mB)4.6/3*
*ISCJB **11** 19:03:47.2±0.3, 3°.88N±0°.03×126°.66E±0°.04, h45km, mb4.2/24, MS3.6/3, Error ellipse: s-maj=6.6km s-min=4.2km az=161.9*
*IDC **11** 19:03:48.1±2.8, 3°.79N×126°.22E, h41km±24km, mb3.9/22, mb1 4.0/22, mb1mx4.0/26, mbtmp3.9/22, MS3.7/4, Ms1 3.7/4, ms1mx3.3/42, Error ellipse: s-maj=27.0km s-min=9.1km az=76.0*
*AUST **11** 19:03:51.7±0.4, 3°.80N×126°.67E, h81km, Error ellipse: s-maj=1.1km s-min=0.9km az=243.0*

ISC 11 19:03:48.8±0.4, **3°.83N**±0°.04×**126°.55E**±0°.07, **h45km, n70,**
σ1§**71**/63, **mb4.2**/24, **MS3.7**/3, **2C, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.03**	**262**	P	**Pn**	**19 04 08.0**	**+1.2**
SGSI				S	**Sn**	**19 04 23.1**	**+3.0**
GSPH	**General Santos**	**2.75**	**325**	*e*P	**Pn**	**19 04 31.1**	**+0.4**
MATI	**Mati**	**3.11**	**355**	*e*P	**Pn**	**19 04 36.9**	**+1.4**
MATI				*e*S	**Sn**	**19 05 17.2**	**+5.8**
TNTI	**Ternate**	**3.14**	**165**	P	**Pn**	**19 04 36.8**	**+0.9**
CTBH	**Cotabato--PC H**	**4.08**	**326**	*e*P	**Pn**	**19 04 51.4**	**+2.7**
CTBH				*i* S	**Sn**	**19 05 39.9**	**+4.7**
KMSI	**Cibinong**	**4.13**	**219**	P	Pn	19 04 53.0	+3.6
BUKP	**Musuan**	**4.29**	**340**	*e*P	**Pn**	**19 04 53.5**	**+1.9**
BIPH	**Bislig**	**4.33**	**358**‖	*e*P	**Pn**	**19 04 53.9**	**+1.6**
LBMI	**Labuha**	**4.54**	**168**	P	**Pn**	**19 04 57.0**	**+2.0**
CGP	**Cagayan de Oro**	**4.95**	**338**‖	*e*P	Pn	19 05 08.7	+7.9
CGP				*e*S	Sn	19 06 11.0	+14
PAGZ	**Pagadian**	**5.09**	**322**	*e*P	**Pn**	**19 05 05.3**	**+2.7**
BUTP	**Butuan**	**5.19**	**350**	*e*P	**Pn**	**19 05 05.7**	**+1.7**
MRSI	**Marisa** 125nm,0.7s,1μm	**5.68**	**234**	P	**Pn**	**19 05 13.8**	**+3.1**
LUWI	**Luwuk** 307nm,1.1s,2μm	**6.13**	**218**	P	Pn	19 05 23.0	+6.0
LUWI	**Luwuk** baz=6.2,SNR=20	**6.13**	**218**	P	Pn	19 05 23.2	+6.2
TOLI	**Toli-Toli** 133nm,0.7s,2μm	**6.34**	**245**	P	Pn	19 05 24.0	+4.1
SWI	**Sorong** 33nm,1.1s	**6.62**	**135**	P	**Pn**	**19 05 24.4**	**+0.7**
SWI	**Sorong** baz=6.5,SNR=10	**6.62**	**135**	P	**Pn**	**19 05 24.8**	**+1.1**
PALU	**Palau** baz=8.5,SNR=4.0	**8.63**	**66**	P	Pn	19 05 54.3	+3.1
FAKI	**Fak Fak** baz=8.7,SNR=6.8	**8.80**	**140**	P	**Pn**	**19 05 55.0**	**+1.5**
TTSI	**Tana Toraja**	**9.58**	**225**	P	Pn	19 06 07.8	+3.5
KKM	**Kota Kinabalu** baz=11,SNR=6.3	**10.53**	**282**	P	Pn	19 06 22.1	+4.8
KAPI	**Kappang** comp=Z,289nm,20.9s,baz=234,slow=39	**11.10**	**218**	LR	LR	19 10 52.9	
BATI	**Baumata** 0.6nm,0.3s,baz=18,slow=6.4,SNR=2.7	**14.23**	**192**	P	**Pn**	**19 07 10.4**	**+2.5**
KDU	**Kakadu** baz=18,SNR=4.2	**17.43**	**160**	P	**P**	**19 07 49.3**	**-0.3**
KNRA	**Kununurra** baz=20,SNR=12	**19.50**	**174**	P	**P**	**19 08 12.3**	**-0.1**
FITZ	**Fitzroy Crossi** baz=22,SNR=12	**21.81**	**182**	P	**P**	**19 08 37.3**	**0.0**
FITZ	**Fitzroy Crossi** 1.6nm,0.4s,baz=13,slow=12,SNR=16	**21.81**	**182**	P	**P**	**19 08 36.0**	**-1.3**
PMG	**Port Moresby** comp=Z,247nm,18.5s,baz=169,slow=40	**24.39**	**123**	LR	LR	19 20 10.4	
WRA	**Warramunga Arr** 4.6nm,0.7s,baz=353,slow=9.5,SNR=43	**24.83**	**162**	P	**P**	**19 09 06.4**	**-0.7**
WRA				S	**S**	**19 13 27.4**	**+0.4**
JCJ	**Chichijima** 0.7nm,0.8s,baz=342,slow=19,SNR=3.5	**27.55**	**31**	LR	LR	19 18 10.2	
ASAR	**Alice Springs** 0.7nm,0.6s,baz=343,slow=7.1,SNR=20	**28.25**	**166**	P	**P**	**19 09 37.8**	**-0.2**
ASAR				S	**S**	**19 14 23.4**	**+2.3**
JNU	**Nakatsue** 4.7nm,0.9s,baz=188,slow=10,SNR=4.0	**29.42**	**7**	P	**P**	**19 09 48.1**	**-0.2**
JNU				LR	LR	19 21 28.3	
CMAR	**Chiang Mai Arr** 0.4nm,0.3s,baz=114,slow=11,SNR=3.8	**30.67**	**300**	P	P	19 09 56.5	-2.9
MEEK	**Meekatharra** baz=31,SNR=6.5	**31.24**	**194**	P	**P**	**19 10 04.5**	**+0.1**
KSRS	**Korea Array** 1.6nm,0.7s,baz=181,slow=10,SNR=11	**33.49**	**2**	P	**P**	**19 10 23.9**	**0.0**
BLDU	**Ballidu** baz=36,SNR=6.2	**35.52**	**195**	P	**P**	**19 10 41.6**	**+0.1**
KLBR	**Kellerberrin** baz=36,SNR=7.7	**36.20**	**193**	P	**P**	**19 10 47.8**	**+0.3**
NWAO	**Narrogin (SRO)** 14nm,1.1s,baz=15,slow=8.7,SNR=4.6	**37.60**	**193**	P	**P**	**19 10 58.4**	**-0.9**
STKA	**Stephens Creek** baz=38,SNR=5.2	**38.28**	**159**	P	**P**	**19 11 05.6**	**+0.6**
STKA	**Stephens Creek** 4.5nm,0.7s,baz=15,slow=7.2,SNR=8.8	**38.28**	**159**	P	**P**	**19 11 05.3**	**+0.3**
USRK	**Ussuriysk Arra** 1.7nm,0.6s,baz=177,slow=2.9,SNR=5.7	**40.49**	**6**	P	**P**	**19 11 23.9**	**+0.6**
ARMA	**Armidale** baz=42,SNR=4.4	**41.65**	**147**	P	**P**	**19 11 34.4**	**+1.3**
ARPS	**Mount Arapiles** baz=43,SNR=5.4	**42.83**	**162**	P	**P**	**19 11 43.6**	**+1.0**
TAPN	**Taplejung** 5.1nm,0.6s	**43.81**	**306**	*e*P	**P**	**19 11 50.0**	**-1.0**
ODAN	**Odare** 6.9nm,0.6s	**43.87**	**306**	*e*P	**P**	**19 11 50.4**	**-1.0**
RAMN	**Ramite** 4.0nm,0.5s	**44.55**	**305**	*e*P	**P**	**19 11 55.8**	**-1.0**
JIRN	**Jiri** 4.1nm,0.4s	**45.17**	**306**	*e*P	**P**	**19 12 00.9**	**-1.0**
GUN	**Gumba** 7.7nm,0.5s	**45.52**	**306**	*e*P	**P**	**19 12 03.5**	**-1.2**
KKN	**Kakani** 4.0nm,0.5s	**45.96**	**306**	*e*P	**P**	**19 12 06.4**	**-1.6**
GKN	**Gorkha** 3.5nm,0.5s	**46.56**	**306**	*e*P	**P**	**19 12 11.0**	**-1.7**
SONM	**Songino Array** 1.4nm,0.5s,baz=155,slow=8.2,SNR=14	**47.15**	**342**	P	**P**	**19 12 16.4**	**-0.5**
KOLN	**Koldanda** 17nm,0.5s	**47.32**	**305**	*e*P	**P**	**19 12 17.4**	**-1.3**
DANN	**Dangsing** 12nm,0.5s	**47.41**	**306**	*e*P	**P**	**19 12 18.0**	**-1.5**
PETK	**Petropavlovsk-** 1.5nm,0.6s,baz=160,slow=4.7,SNR=3.6	**55.41**	**22**	P	**P**	**19 13 19.5**	**+1.0**
MKAR	**Makanchi Array** 1.5nm,0.4s,baz=120,slow=7.5,SNR=42	**57.37**	**325**	P	**P**	**19 13 31.5**	**-1.2**
ZALV	**Zalesovo Beam** 0.9nm,0.6s,baz=131,slow=8.1,SNR=3.8	**60.42**	**333**	P	**P**	**19 13 51.7**	**-1.9**
KURBB	**Kurchatov Arra** 1.7nm,0.5s,baz=132,slow=6.6,SNR=23	**61.56**	**327**	P	**P**	**19 13 60.0**	**-1.4**
BVAR	**Borovoye Array** 1.0nm,0.5s,baz=144,slow=9.8,SNR=8.6	**67.14**	**327**	P	**P**	**19 14 36.1**	**-1.8**
NAY	**Al-Naaiem**	**78.81**	**299**	*e*P	**P**	**19 15 45.3**	**-2.2**
NAY				AMb	AMB	19 15 47.9	
RST	**Umm Al-Ruwaisa**	**79.03**	**299**	*e*P	**P**	**19 15 46.3**	**-2.4**
RST				AMb	AMB	19 15 47.7	
VNDA	**Vanda** comp=Z,56nm,0.6s	**83.55**	**173**	P	**P**	**19 16 12.3**	**+0.6**
ILAR	**Eielson Array** comp=Z,0.6nm,0.8s,baz=0.0,slow=6.1,SNR=2.7	**85.09**	**25**	P	**P**	**19 16 20.0**	**+0.3**
BRTR	**Keskin Array B** comp=Z,0.7nm,1.0s,baz=242,slow=6.9,SNR=3.5	**89.82**	**310**	P	**P**	**19 16 41.5**	**-1.8**
ARCES	**ARCESS Array B** comp=Z,0.3nm,0.5s,baz=108,slow=4.7,SNR=2.7	**90.30**	**340**	P	**P**	**19 16 43.7**	**-1.0**
FINES	**FINESS Array B** comp=Z,2.8nm,0.9s,baz=86,slow=5.0,SNR=7.6	**91.66**	**332**	P	**P**	**19 16 50.3**	**-0.8**
AKASG	**Malin Array Be** comp=Z,1.2nm,0.6s,baz=60,slow=1.3,SNR=11	**91.70**	**321**	P	**P**	**19 16 49.9**	**-1.7**
NOA	**NORSAR Array B** comp=Z,0.8nm,0.6s,baz=67,slow=5.0,SNR=5.1	**98.62**	**334**	P	**P**	**19 17 21.7**	**-1.3**
TXAR	**Lajitas Array** comp=Z,0.9nm,0.9s,baz=132,slow=1.3,SNR=2.9	**121.68**	**52**	PKP	**PKPdf**	**19 22 39.1**	**+0.4**
TORD	**Torodi Ar. Bea** comp=Z,0.1nm,0.5s,baz=42,slow=2.0,SNR=2.7	**122.72**	**288**	PKP	**PKPdf**	**19 22 40.4**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=110,slow=2.4,SNR=4.0						

*CSEM **11** 19:21:26.6±0.2, 67°.79N×20°.22E, h2km, ML0.8, Error ellipse: s-maj=5.2km s-min=4.2km az=13.0, Mining explosion.*
*UPP **11** 19:21:26.7, 67°.86N×20°.16E, h0km, ML0.8, Suspected Mining explosion.*
*ISCJB **11** 19:21:26.2±0.6, 67°.79N±0°.03×20°.22E±0°.10, h0km, Error ellipse: s-maj=5.2km s-min=4.2km az=173.2*
*BER **11** 19:21:27.6±3.4, 67°.65N×20°.57E, h0km, MD2.1, ML2.1, ML2.0(NAO), Suspected explosion*
*HEL **11** 19:21:28.1, 67°.83N×20°.12E, h0km, ML1.5, Explosion*
*NAO **11** 19:21:29.7±2.0, 67°.82N×20°.90E, ML2.0*

ISC 11 19:21:26.7±0.8, **67°.81N**±0°.02×**20°.19E**±0°.02, **h0km, n34,**
σ1§**13**/50, **Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.16**	**20**	*i* P	**Pg**	**19 21 29.1**	**-0.6**
KUA				*i* S	**Sg**	**19 21 31.4**	**-0.4**
KUA	**Kurravaara**	**0.16**	**20**	P	**Pg**	**19 21 29.1**	**-0.6**
KUA				S	**Sg**	**19 21 31.4**	**-0.4**
NIKU	**Nikkaluokta**	**0.44**	**278**	*i* P	**Pg**	**19 21 34.8**	**-0.4**
NIKU	**Nikkaluokta**	**0.44**	**278**	P	**Pg**	**19 21 34.8**	**-0.4**
LANU	**Lannavaara**	**0.72**	**69**	*i* P	**Pg**	**19 21 40.5**	**-0.1**
LANU	**Lannavaara**	**0.72**	**69**	P	**Pg**	**19 21 40.4**	**-0.1**
MASU	**Masugnsbyn**	**0.78**	**116**	*i* P	**Pg**	**19 21 41.2**	**-0.3**
MASU	**Masugnsbyn**	**0.78**	**116**	P	**Pg**	**19 21 41.2**	**-0.3**
SALU	**Saltoluokta**	**0.78**	**237**	*i* P	**Pg**	**19 21 42.0**	**+0.4**
SALU	**Saltoluokta**	**0.78**	**237**	P	**Pg**	**19 21 41.9**	**+0.4**
KIF	**Kilpisjarvi** baz=190	**1.22**	**10**	*e*PN	**Pn**	**19 21 51.0**	**0.0**
KIF				*e*SN	**Sn**	**19 22 09.0**	**+0.8**
KIF				*e*RG	Rg	19 22 12.2	
HEF	**Kilpisjarvi**	**1.22**	**10**	Pn	**Pn**	**19 21 51.0**	**0.0**
KIF				Sn	**Sn**	**19 22 09.0**	**+0.8**
HEF	**Hetta** baz=243	**1.43**	**64**	*e*P	**Pn**	**19 21 52.7**	**-1.2**
HEF				MSG	**Sb**	**19 22 13.2**	**+0.1**
	comp=Z,7.9nm,0.4s						
HEF				*e*SN	**Sb**	**19 22 13.2**	**+0.1**
HEF	**Hetta**	**1.43**	**64**	P	**Pn**	**19 21 52.7**	**-1.2**
HEF				Sn	**Sb**	**19 22 13.2**	**+0.1**
KTK1	**Kautokeino**	**1.65**	**42**	*e*Sg	**Sg**	**19 22 22.0**	**+2.2**
KTK1	**Kautokeino** SNR=90	**1.65**	**42**	*e*Sg	**Sg**	**19 22 22.0**	**+2.2**
TRO	**Tromso**	**1.89**	**346**	*e*P	**Pn**	**19 22 00.2**	**0.0**
TRO				*e*S	**Sb**	**19 22 26.9**	**+0.7**
TRO				AML	AML	19 22 30.8	
	comp=Z,25nm,0.4s						
TRO	**Tromso** SNR=50	**1.89**	**346**	*e*P	**Pn**	**19 22 00.2**	**0.0**

TRO					*e*S		**Sb**	**19 22 26.9**	**+0.7**
	comp=Z,25nm,0.4s,SNR=50								
SGF	**Sodankyl**	**2.45**	**96**	*e*PB			**Pb**	**19 22 10.3**	**-1.3**
	baz=286								
SGF					*e*SG		**Sb**	**19 22 43.1**	**+0.8**
SGF	**Sodankyl**	**2.45**	**96**	Pb			**Pb**	**19 22 10.3**	**-1.3**
SGF					Sg		**Sb**	**19 22 43.1**	**+0.8**
RNF	**Rovaniemi**	**2.57**	**115**	*e*P			**Pn**	**19 22 11.3**	**+1.8**
	baz=305								
RNF					*e*SB		**Sb**	**19 22 46.0**	**+0.4**
RNF					MSG			19 22 46.0	
	comp=Z,0.8nm,0.1s								
RNF	**Rovaniemi**	**2.57**	**115**	P			**Pn**	**19 22 11.3**	**+1.8**
RNF					Sb		**Sb**	**19 22 46.0**	**+0.4**
	comp=Z,0.8nm,0.1s								
ARA0	**ARCESS Array S**	**2.60**	**46**	Pn			**Pn**	**19 22 10.4**	**+0.4**
	baz=234,slow=16								
ARA0					Sn		**Sn**	**19 22 42.4**	**+0.1**
	baz=229,slow=22								
ARA0					Lg		Lg	19 22 45.7	
	baz=230,slow=28								
ARA0	**ARCESS Array S**	**2.60**	**46**	Pn			**Pn**	**19 22 10.4**	**+0.4**
	baz=234,slow=16								
ARA0					Sn		**Sn**	**19 22 42.4**	**+0.1**
	baz=229,slow=22								
ARA0					Lg		Lg	19 22 45.7	
	baz=230,slow=28								
ARA0	**ARCESS Array S**	**2.60**	**46**	Pn			**Pn**	**19 22 10.4**	**+0.4**
	baz=234,slow=14,SNR=0.7								
ARA0					Sn		**Sn**	**19 22 42.4**	**+0.1**
	baz=229,slow=22,SNR=7.5								
ARA0					Lg		Lg	19 22 45.7	
	baz=230,slow=24,SNR=3.2								
MOR8	**Moi Rana**	**2.79**	**237**	*e*Sg			**Sb**	**19 22 51.2**	**-1.0**
MOR8	**Moi Rana**	**2.79**	**237**	*e*Sg			**Sb**	**19 22 51.2**	**-1.0**
	SNR=90								
OUL	**Oulu**	**3.57**	**137**	*e*SG			**Sg**	**19 23 18.4**	**-2.7**
OUL					MSG			19 23 18.4	
	comp=Z,0.8nm,0.4s								
OUL	**Oulu**	**3.57**	**137**	Sg			**Sg**	**19 23 18.4**	**-2.7**
	comp=Z,0.8nm,0.4s								
APA0	**Apatity Array**	**4.88**	**86**	Lg			Lg	19 23 52.7	
APA0	**Apatity Array**	**4.88**	**86**	Lg			Lg	19 23 52.7	
FIA0	**FINESS Array S**	**6.87**	**156**	Pn			**Pn**	**19 23 11.2**	**+2.7**
FIA0					Sn		**Sn**	**19 24 27.5**	**+0.2**
	baz=344,slow=22								
FIA0					Lg		Lg	19 24 58.7	
	baz=353,slow=28								
FIA0	**FINESS Array S**	**6.87**	**156**	Pn			**Pn**	**19 23 11.2**	**+2.7**
FIA0					Sn		**Sn**	**19 24 27.5**	**+0.2**
	baz=344,slow=22								
FIA0					Lg		Lg	19 24 58.7	
	baz=353,slow=28								
FIA0	**FINESS Array S**	**6.87**	**156**	Sn			**Sn**	**19 24 27.5**	**+0.2**
	baz=344,slow=20								
FIA0					Lg		Lg	19 24 58.7	
	baz=353,slow=24,SNR=28								

IDC 11 19:23:22.4±1.9, 23°.61N×94°.05E, h0km, mb3.2/3, mb1 3.3/4, mb1mx3.1/25, mbtmp3.2/4, ML3.7/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/21, Error ellipse: s-maj=56.0km s-min=25.4km az=55.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.18**	**355**	*e*P	Pg	19 23 42.0	-3.1
IMP				*e*S	Sg	19 23 52.0	-8.4
CMAR	**Chiang Mai Arr**	**6.86**	**137**	Pn	Pn	19 25 02.9	-1.4
	0.4nm,0.3s,baz=324,slow=16,SNR=5.3						
CMAR				Pg	Pg	19 25 29.0	-4.9
	0.3nm,0.3s,baz=312,slow=13,SNR=4.1						
CMAR				Lg	Lg	19 27 14.8	
	0.1nm,0.3s,baz=212,slow=35,SNR=2.6						
MKAR	**Makanchi Array**	**25.00**	**341**	P	P	19 28 46.6	-1.2
	0.2nm,0.4s,baz=142,slow=12,SNR=6.7						
SONM	**Songino Array**	**26.11**	**19**	P	P	19 28 58.6	+0.6
	0.2nm,0.6s,baz=202,slow=11,SNR=2.4						
JNU	**Nakatsue**	**33.62**	**65**	LR	LR	19 45 17.4	
	comp=Z,60nm,18.3s,baz=61,slow=39						
AKASG	**Malin Array Be**	**56.26**	**316**	P	P	19 33 05.2	+0.7
	0.3nm,0.4s,baz=84,slow=6.4,SNR=4.3						

IDC 11 19:28:44.7±1.0, 13°.13S×166°.09E, h29km±5km, mb3.8/11, mb1 4.0/13, mb1mx3.9/20, mbtmp3.9/13, ML4.1/2, Error ellipse: s-maj=25.0km s-min=18.1km az=117.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.05**	**301**	Pn	Pn	19 30 25.8	-0.3
	14nm,0.3s,baz=164,slow=10,SNR=8.9						
HNR				Sn	Sn	19 31 45.6	+0.2
	baz=158,slow=18,SNR=1.6						
DZM	**Mont Dzumac**	**8.90**	**178**	Pn	Pn	19 30 51.6	0.0
	0.6nm,0.3s,baz=106,slow=20,SNR=3.6						
DZM				Sn	Sn	19 32 31.4	+0.3
	0.5nm,0.3s,baz=294,slow=20,SNR=1.6						
STKA	**Stephens Creek**	**29.21**	**226**	P	P	19 34 43.6	-0.4
	3.3nm,0.9s,baz=56,slow=11,SNR=3.6						
WRA	**Warramunga Arr**	**31.15**	**253**	P	P	19 35 00.7	-0.5
	0.6nm,0.7s,baz=86,slow=9.4,SNR=4.8						
ASAR	**Alice Springs**	**32.22**	**246**	P	P	19 35 10.3	-0.4
	4.8nm,0.7s,baz=73,slow=9.4,SNR=46						
ASAR				pP	pP	19 35 19.2	0.0
	2.8nm,0.8s,baz=73,slow=9.6,SNR=7.5						
ASAR				sP	sP	19 35 24.5	+1.7
	2.0nm,0.8s,baz=71,slow=9.4,SNR=3.8						
KSRS	**Korea Array**	**61.78**	**326**	P	P	19 39 01.3	+0.6
	0.7nm,0.8s,baz=143,slow=6.1,SNR=3.9						
USRK	**Ussuriysk Arra**	**64.95**	**334**	P	P	19 39 22.6	+1.0
	1.9nm,0.8s,baz=142,slow=9.6,SNR=4.0						
CMAR	**Chiang Mai Arr**	**73.25**	**294**	P	P	19 40 14.1	+0.3
	2.2nm,1.0s,baz=123,slow=4.8,SNR=15						
SONM	**Songino Array**	**80.53**	**324**	P	P	19 40 54.4	0.0
	0.4nm,0.7s,baz=129,slow=5.2,SNR=3.8						
SONM				pP	pP	19 41 03.0	-0.7
	0.6nm,0.8s,baz=136,slow=4.3,SNR=3.9						
ILAR	**Eielson Array**	**85.37**	**18**	P	P	19 41 17.4	-1.4
	0.8nm,0.8s,baz=233,slow=5.8,SNR=7.1						
NVAR	**Mina Array Bea**	**87.10**	**50**	P	P	19 41 29.1	+0.8
	0.3nm,0.7s,baz=236,slow=7.5,SNR=2.7						
MKAR	**Makanchi Array**	**95.26**	**317**	P	P	19 42 04.8	-1.1
	0.3nm,0.5s,baz=95,slow=6.9,SNR=7.1						
MKAR				pP	pP	19 42 14.5	-0.8
	0.6nm,0.7s,baz=111,slow=6.6,SNR=3.4						
ZALV	**Zalesovo Beam**	**95.43**	**324**	P	P	19 42 05.3	-1.1
	0.7nm,0.6s,baz=126,slow=4.2,SNR=4.3						
KEST	**Kesra**	**149.25**	**321**	PKPbc	PKPbc	19 48 31.3	+0.1
	1.4nm,0.8s,baz=25,slow=3.4,SNR=4.0						
ESDC	**Sonseca Array**	**152.14**	**343**	PKPbc	PKPbc	19 48 37.6	-0.2
	0.1nm,0.5s,baz=63,slow=1.9,SNR=3.2						
ESDC				PKPab	PKPab	19 48 47.3	-0.1
	0.2nm,0.5s,baz=23,slow=4.2,SNR=4.5						

IDC 11 19:31:01.3±11.0, 13°.30S×166°.06E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/18, mbtmp3.6/3, MS2.9/1, Ms1 2.9/1, ms1mx2.7/32, Error ellipse: s-maj=320.5km s-min=52.9km az=121.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.12**	**302**	LR	LR	19 35 04.3	
	comp=Z,103nm,21.1s,baz=217,slow=34						
ASAR	**Alice Springs**	**32.12**	**247**	P	P	19 37 30.6	-0.2
	1.0nm,0.7s,baz=72,slow=9.6,SNR=4.8						
CMAR	**Chiang Mai Arr**	**73.30**	**294**	P	P	19 42 35.5	+0.3
	0.6nm,0.8s,baz=132,slow=3.1,SNR=5.0						
SONM	**Songino Array**	**80.65**	**324**	P	P	19 43 16.2	-0.1
	0.2nm,0.6s,baz=132,slow=4.1,SNR=2.6						

IDC ***11*** *19:41:25.8±0.9, 31°.42N×91°.16E, h0km, mb3.8/12, mb1 3.9/15, mb1mx3.8/29, mbtmp3.8/15, ML3.5/3, MS3.1/1, Ms1 3.1/1, ms1mx2.7/44, Error ellipse: s-maj=25.5km s-min=16.3km az=48.0*

BJI ***11*** *19:41:28.1, 31°.55N×91°.15E, h10km, mB4.6/1, mb4.4/7, ML3.9/4, Ms4.0/3, Ms7 3.8/3*

ISCJB ***11*** *19:41:29.5±0.5, 31°.57N±0°.05×91°.16E±0°.08, h33km, mb3.8/11, MS3.0/1, Error ellipse: s-maj=9.7km s-min=6.6km az=5.9*

ISC 11 19:41:31.4±0.6, 31°.53N±0°.07×91°.13E±0°.09, h35km, n21, σ2s05/22, mb3.8/11, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**1.82**	**179**	Pg	**Pn**	**19 42 00.4**	**-0.3**
LSA				Sg	**Sn**	**19 42 23.4**	**+0.6**
LSA				SMN			
	comp=Z,350nm,0.6s						
LSA				SME			
	comp=Z,570nm,0.6s						
SHL	**Shillong**	**5.98**	**173**	*e*P	Pn	19 43 02.5	+4.9
GTA	**Gaotai**	**10.58**	**40**	*e*P	**Pn**	**19 44 00.6**	**0.0**
GTA				pP		19 44 04.8	
GTA				sP		19 44 08.1	
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**14.81**	**150**	Pn	Pn	19 44 53.6	-4.7
	0.1nm,0.3s,baz=323,slow=15,SNR=3.0						
MKAR	**Makanchi Array**	**16.70**	**338**	Pn	**Pn**	**19 45 20.7**	**-1.9**
	0.2nm,0.3s,baz=140,slow=14,SNR=8.7						
AAK	**Ala-Archa**	**17.26**	**315**	P	**Pn**	**19 45 30.4**	**+0.6**
	0.1nm,0.3s,baz=138,slow=16,SNR=2.4						
HHC	**Hu-ho-hao-te**	**18.90**	**55**	*e*P	**Pn**	**19 45 49.2**	**-0.6**
HHC				PP	**PnPn**	**19 46 05.4**	**+2.9**
HHC				S	**Sn**	**19 49 16.4**	**-4.0**
HHC				SS	**SnSn**	**19 49 41.3**	**+6.9**
HHC				AMB	AMB		
	comp=Z,29nm,0.8s						
HHC				LR	LR		
	comp=N,460nm,12.6s						
HHC				LR	LR		
	comp=E,350nm,10.5s						
HHC				LR	LR		
	comp=Z,410nm,11.0s						
PBA	**Port Blair**	**19.83**	**175**	*e*P	P	19 45 57.9	-1.3
SONM	**Songino Array**	**20.02**	**31**	P	**P**	**19 46 01.9**	**+0.7**
	4.8nm,0.5s,baz=216,slow=12,SNR=74						
KURBB	**Kurchatov Arra**	**21.25**	**337**	P	**P**	**19 46 14.1**	**-0.2**
	2.4nm,0.8s,baz=150,slow=9.9,SNR=10						
ZALV	**Zalesovo Beam**	**22.86**	**350**	P	**P**	**19 46 30.9**	**-0.6**
	2.8nm,0.8s,baz=168,slow=12,SNR=10						
BVAR	**Borovoye Array**	**26.22**	**331**	P	**P**	**19 47 03.3**	**+0.5**
	0.8nm,0.5s,baz=133,slow=12,SNR=3.4						
KSRS	**Korea Array**	**30.76**	**69**	P	**P**	**19 47 42.4**	**-1.0**
	1.5nm,0.7s,baz=274,slow=8.9,SNR=9.1						
KSRS				LR	LR	20 00 57.8	
	comp=Z,37nm,19.4s,baz=200,slow=38						
FINES	**FINESS Array B**	**50.99**	**326**	P	**P**	**19 50 29.2**	**-0.1**
	2.3nm,0.9s,baz=122,slow=7.2,SNR=4.0						
PETK	**Petropavlovsk-**	**51.69**	**45**	P	**P**	**19 50 35.3**	**+0.5**
	3.3nm,1.0s,baz=270,slow=7.2,SNR=2.0						
GERES	**GERESS Array B**	**59.10**	**311**	P	**P**	**19 51 29.0**	**+0.7**
	0.2nm,0.5s,baz=78,slow=10,SNR=3.2						
WRA	**Warramunga Arr**	**65.85**	**135**	P	**P**	**19 52 13.1**	**-0.5**
	0.6nm,0.7s,baz=325,slow=6.4,SNR=5.0						
ASAR	**Alice Springs**	**68.47**	**138**	P	**P**	**19 52 29.6**	**-0.6**
	1.0nm,1.1s,baz=325,slow=6.1,SNR=4.8						
ILAR	**Eielson Array**	**73.96**	**22**	P	**P**	**19 53 02.9**	**0.0**
	1.8nm,0.8s,baz=297,slow=5.1,SNR=16						
TORD	**Torodi Ar. Bea**	**82.77**	**281**	P	**P**	**19 53 52.4**	**+0.1**
	1.0nm,0.7s,baz=44,slow=4.7,SNR=6.4						
TXAR	**Lajitas Array**	**117.86**	**15**	PKP	**PKPdf**	**20 00 14.7**	**0.0**
	0.1nm,0.4s,baz=135,slow=0.3,SNR=3.9						

BJI ***11*** *19:59:13.1, 11°.00S×165°.40E, h10km, mB5.2/19, mb4.6/23, Ms5.1/13, Ms7 4.6/15*

ISCJB ***11*** *19:59:14.4±1.6, 11°.31S±0°.05×165°.92E±0°.06, h41km±13km, mb4.7/40, MS4.2/25, Error ellipse: s-maj=10.9km s-min=7.1km az=153.9*

NEIC ***11*** *19:59:15.3±0.4, 11°.27S×165°.86E, h35km, mb4.9/10, Error ellipse: s-maj=11.0km s-min=9.4km az=119.0*

IDC ***11*** *19:59:15.2±0.5, 11°.24S×165°.97E, h33km±2km, mb4.3/22, mb1 4.4/24, mb1mx4.4/28, mbtmp4.5/24, ML5.1/2, MS4.1/21, Ms1 4.1/21, ms1mx4.0/35, Error ellipse: s-maj=13.2km s-min=11.4km az=108.0*

AUST ***11*** *19:59:30.9±4.5, 11°.19S×165°.81E, h189km, Error ellipse: s-maj=1.9km s-min=1.2km az=241.0*

ISC 11 19:59:15.2±0.4, 11°.23S±0°.05×165°.92E±0°.06, h32km±2km, h32km:pP-P, n117, σ1s45/161, mb4.6/40, MS4.2/25, 2C-4D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.14**	**286**	Pn	**Pn**	**20 00 46.3**	**+2.6**
HNR				Sn	**Sn**	**20 01 55.0**	**+2.2**
HNR	**Honiara**	**6.14**	**286**	Pn	**Pn**	**20 00 46.3**	**+2.6**
	117nm,0.3s,baz=152,slow=5.0,SNR=27						
HNR				Sn	**Sn**	**20 01 55.0**	**+2.2**
	16nm,0.3s,baz=210,slow=20,SNR=1.6						
HNR				LR	LR	20 02 06.1	
	comp=Z,290nm,20.7s,baz=112,slow=28						
DZM	**Mont Dzumac**	**10.80**	**177**	*e*Pn	**Pn**	**20 01 48.0**	**+0.3**
	43nm,0.6s						
DZM				*e*LR	LR	20 04 19.4	
	1μm,26.7s						
DZM	**Mont Dzumac**	**10.80**	**177**	Pn	**Pn**	**20 01 48.4**	**+0.7**
DZM				Sn	**Sn**	**20 03 46.4**	**-1.1**
DZM	**Mont Dzumac**	**10.80**	**177**	Pn	**Pn**	**20 01 48.4**	**+0.7**
	6.0nm,0.3s,baz=0.1,slow=18,SNR=25						
DZM				Sn	**Sn**	**20 03 46.4**	**-1.1**
	0.5nm,0.3s,baz=328,slow=19,SNR=3.5						
DZM				LR	LR	20 04 56.9	
	comp=Z,397nm,20.7s,baz=180,slow=32						
PMG	**Port Moresby**	**18.54**	**274**	LR	LR	20 09 45.7	
	comp=Z,927nm,21.4s,baz=131,slow=34						
PATS	**Pohnpei**	**19.47**	**337**	⇓P	**Pn**	**20 03 42.4**	**+1.5**
	baz=20,SNR=6.6						
EIDS	**Eidsvold**	**19.88**	**223**	*e*Pn	**P**	**20 03 43.7**	**-0.2**
	20nm,0.9s						
EIDS	**Eidsvold**	**19.88**	**223**	P	**Pn**	**20 03 47.2**	**+1.5**
	baz=20,SNR=4.1						
MANU	**Manus Island**	**20.54**	**295**	P	Pn	20 03 53.1	-0.5
	baz=20,SNR=5.1						
CTA	**Charters Tower**	**20.86**	**243**	P	**P**	**20 03 55.0**	**+0.3**
CTA	**Charters Tower**	**20.86**	**243**	P	**P**	**20 03 55.0**	**+0.3**
	11nm,0.9s,baz=68,slow=14,SNR=6.4						
CTAO	**Charters Tower**	**20.86**	**243**	*e*P	**P**	**20 03 51.3**	**-3.4**
	43nm,1.2s						
AFI	**Afiamalu**	**21.93**	**99**	LR	LR	20 10 43.7	
	comp=Z,806nm,19.1s,baz=260,slow=32						
RMQ	**Roma**	**22.18**	**224**	⇓P	**P**	**20 04 09.8**	**+1.0**
	baz=22,SNR=25						
COEN	**Coen**	**22.36**	**261**	*e*P	P	20 04 05.9	-4.9
	327nm,1.1s						
COEN	**Coen**	**22.36**	**261**	P	sP	20 04 24.5	+0.9
	baz=22,SNR=5.2						
ARMA	**Armidale**	**23.26**	**213**	*e*P	**P**	**20 04 18.4**	**-1.7**
	18nm,1.1s						
RAO	**Raoul Island**	**23.44**	**142**	LR	LR	20 11 58.3	
	comp=Z,478nm,18.9s,baz=24,slow=33						
QLP	**Quilpie**	**25.51**	**230**	P	**P**	**20 04 41.7**	**+0.9**
	baz=26,SNR=5.8						
URZ	**Urewera**	**28.73**	**161**	P	**P**	**20 05 09.1**	**-0.5**
URZ	**Urewera**	**28.73**	**161**	P	**P**	**20 05 09.1**	**-0.5**
	10nm,0.8s,baz=297,slow=4.5,SNR=3.9						
URZ				LR	LR	20 14 42.5	
	comp=Z,721nm,18.3s,baz=340,slow=32						
H11S2	**WAKE ISLAND Hy**	**29.54**	**2**	T	T	20 35 42.6	
	baz=183,slow=0.7,SNR=30						
H11S3	**WAKE ISLAND Hy**	**29.54**	**1**	T	T	20 35 50.6	
	baz=183,slow=0.7,SNR=22						
H11S1	**WAKE ISLAND Hy**	**29.55**	**2**	T	T	20 35 49.5	
	baz=183,slow=0.7,SNR=16						
STKA	**Stephens Creek**	**30.43**	**224**	P	**P**	**20 05 25.8**	**+0.9**
STKA				sP	**sP**	**20 05 38.2**	**+0.1**
STKA				PcP	**PcP**	**20 08 24.1**	**0.0**
STKA	**Stephens Creek**	**30.43**	**224**	P	**P**	**20 05 25.8**	**+0.9**
	baz=30,SNR=6.2						
STKA	**Stephens Creek**	**30.43**	**224**	P	**P**	**20 05 25.8**	**+0.9**
	8.2nm,0.8s,baz=31,slow=9.9,SNR=8.8						
STKA				sP	**sP**	**20 05 38.2**	**+0.1**
	5.8nm,0.7s,baz=337,slow=11,SNR=4.0						
STKA				PcP	**PcP**	**20 08 24.1**	**0.0**
	2.4nm,0.8s,baz=45,slow=2.9,SNR=3.2						
STKA				LR	LR	20 16 37.8	
	comp=Z,361nm,18.7s,baz=34,slow=34						
H11N1	**WAKE ISLAND Hy**	**30.76**	**2**	T	T	20 37 16.0	
	baz=184,slow=0.7,SNR=23						
H11N3	**WAKE ISLAND Hy**	**30.76**	**2**	T	T	20 37 25.2	
	baz=184,slow=0.7,SNR=20						
H11N2	**WAKE ISLAND Hy**	**30.78**	**2**	T	T	20 37 17.9	
	baz=184,slow=0.7,SNR=18						
WRAB	**Tennant Creek**	**31.57**	**250**	*e*P	**P**	**20 05 32.6**	**-2.5**
	27nm,1.2s						
WRA	**Warramunga Arr**	**31.58**	**250**	P	**P**	**20 05 34.8**	**-0.4**
WRA				pP	**pP**	**20 05 46.3**	**+1.7**
WRA				PcP	**PcP**	**20 08 26.7**	**-0.6**
WRA	**Warramunga Arr**	**31.58**	**250**	P	**P**	**20 05 34.8**	**-0.4**
	11nm,1.0s,baz=82,slow=9.1,SNR=32						
WRA				pP	**pP**	**20 05 46.3**	**+1.7**
	5.7nm,0.8s,baz=82,slow=8.6,SNR=9.3						
WRA				PcP	**PcP**	**20 08 26.7**	**-0.6**
	1.4nm,0.8s,baz=81,slow=2.8,SNR=4.8						
WRA				LR	LR	20 16 45.9	
	comp=Z,279nm,20.3s,baz=75,slow=33						
RPZ	**Rata Peaks**	**32.68**	**173**	P	**P**	**20 05 44.8**	**+0.3**
RPZ	**Rata Peaks**	**32.68**	**173**	P	**P**	**20 05 44.8**	**+0.3**
	16nm,0.8s,baz=352,slow=6.5,SNR=7.7						
KDU	**Kakadu**	**32.74**	**264**	P	**P**	**20 05 45.5**	**+0.2**
	baz=33,SNR=4.7						
AS31	**Alice Springs**	**32.86**	**244**	*e*P	P	20 05 42.1	-4.3
ASAR	**Alice Springs**	**32.86**	**244**	P	**P**	**20 05 45.7**	**-0.7**
ASAR				pP	**pP**	**20 05 56.1**	**+0.3**
ASAR				sP	**sP**	**20 06 01.7**	**+1.9**
ASAR				PcP	**PcP**	**20 08 30.7**	**-0.1**
ASAR	**Alice Springs**	**32.86**	**244**	P	**P**	**20 05 45.7**	**-0.7**
	6.4nm,0.9s,baz=74,slow=9.4,SNR=38						
ASAR				pP	**pP**	**20 05 56.1**	**+0.3**
	4.0nm,0.8s,baz=70,slow=9.4,SNR=5.8						
ASAR				sP	**sP**	**20 06 01.7**	**+1.9**
	3.9nm,0.8s,baz=67,slow=9.9,SNR=6.2						
ASAR				PcP	**PcP**	**20 08 30.7**	**-0.1**
	1.9nm,0.8s,baz=79,slow=3.6,SNR=9.2						
ASAR				LR	LR	20 18 20.9	
	comp=Z,304nm,19.7s,baz=72,slow=35						
KNRA	**Kununurra**	**36.37**	**259**	⇓P	**P**	**20 06 16.6**	**-0.1**
	baz=36,SNR=3.7						
FITZ	**Fitzroy Crossi**	**39.50**	**255**	*e*P	**P**	**20 06 40.4**	**-2.7**
	20nm,0.9s						
FITZ				pP	**pP**	**20 06 51.2**	**-1.4**
FITZ				sP	**sP**	**20 06 56.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**39.50**	**255**	⇑P	**P**	**20 06 43.0**	**-0.1**
	baz=39,SNR=12						
FITZ	**Fitzroy Crossi**	**39.50**	**255**	P	**P**	**20 06 43.3**	**+0.2**
	15nm,0.9s,baz=96,slow=6.9,SNR=18						
FITZ				pP	**pP**	**20 06 51.2**	**-1.4**
	5.9nm,0.8s,baz=101,slow=7.0,SNR=2.4						
FITZ				sP	**sP**	**20 06 56.5**	**-0.1**
	4.2nm,0.6s,baz=98,slow=7.2,SNR=3.7						
FITZ				LR	LR	20 22 17.7	
	comp=Z,347nm,21.2s,baz=83,slow=35						
TNTI	**Ternate**	**40.12**	**285**	*e*P	**P**	**20 06 46.4**	**-2.1**
	58nm,1.5s						
SOEI	**Soe**	**40.95**	**268**	⇓P	**P**	**20 06 56.8**	**+1.3**
	baz=41,SNR=3.6						
BATI	**Baumata**	**41.50**	**267**	P	**P**	**20 07 01.0**	**+1.2**
BATI				sP	**sP**	**20 07 14.0**	**+0.7**
BATI	**Baumata**	**41.50**	**267**	P	**P**	**20 07 01.0**	**+1.2**
	50nm,0.9s,baz=115,slow=1.1,SNR=8.9						
BATI				sP	**sP**	**20 07 14.0**	**+0.7**
	25nm,0.8s,baz=138,slow=4.8,SNR=3.7						
BATI				LR	LR	20 22 27.2	
	comp=Z,265nm,19.9s,baz=228,slow=34						
PPT	**Papeete**	**43.49**	**104**	LR	LR	20 22 18.1	
	comp=Z,258nm,18.7s,baz=5.6,slow=32						
PPT2	**Papeete2**	**43.49**	**104**	*e*S	**S**	**20 13 46.2**	**+3.2**
	114nm,26.0s						
PPT2				*e*LR	LR	20 19 22.3	
	392nm,24.2s						
TBI	**Tubuai**	**44.11**	**112**	*e*S	**S**	**20 13 57.2**	**+5.5**
	149nm,33.0s						
TBI				*e*LQ	LQ	20 17 54.6	
	266nm,33.8s						
TBI				*e*LR	LR	20 19 42.0	
	795nm,28.0s,baz=280						
KAPI	**Kappang**	**46.07**	**274**	P	**P**	**20 07 36.2**	**-0.4**
	46nm,1.2s						
KAPI	**Kappang**	**46.07**	**274**	P	**P**	**20 07 36.2**	**-0.4**
	17nm,0.8s,baz=90,slow=10,SNR=6.9						
MEEK	**Meekatharra**	**47.02**	**244**	P	**P**	**20 07 44.5**	**+0.6**
	baz=47,SNR=6.4						
NWAO	**Narrogin (SRO)**	**49.50**	**236**	P	**P**	**20 08 02.2**	**-0.7**
NWAO	**Narrogin (SRO)**	**49.50**	**236**	P	**P**	**20 08 02.2**	**-0.7**
	17nm,1.1s,baz=89,slow=7.7,SNR=4.1						
MYLDM	**Lahad Datu**	**49.92**	**287**	P	**P**	**20 08 08.5**	**+2.2**
TSM	**Tawau**	**50.23**	**285**	P	**P**	**20 08 09.5**	**+0.9**
KKM	**Kota Kinabalu**	**52.35**	**287**	P	**P**	**20 08 25.3**	**+0.6**
KKM	**Kota Kinabalu**	**52.35**	**287**	*e*P	**P**	**20 08 21.7**	**-3.0**
	45nm,1.2s						
KKM	**Kota Kinabalu**	**52.35**	**287**	P	**P**	**20 08 25.8**	**+1.1**
	baz=52,SNR=5.7						
JNU	**Nakatsue**	**55.32**	**324**	P	**P**	**20 08 46.2**	**+0.2**
JNU	**Nakatsue**	**55.32**	**324**	P	**P**	**20 08 46.2**	**+0.2**
	3.1nm,0.9s,baz=135,slow=10.0,SNR=2.3						
JNU				LR	LR	20 28 49.1	
	comp=Z,130nm,20.6s,baz=309,slow=32						
RKT	**Rikitea**	**57.37**	**110**	*e*LR	LR	20 25 47.9	
	726nm,27.5s,baz=277						
ASAJ	**Asahikawa**	**59.02**	**341**	LR	LR	20 29 57.4	
	comp=Z,229nm,21.9s,baz=166,slow=31						
SSE	**Sheshan**	**60.10**	**316**	P	**P**	**20 09 18.4**	**-1.2**
SSE				AMB	AMB		
	comp=Z,26nm,1.0s				

BJI				LR	LR		
	comp=Z,150nm,22.8s						
KMI	**Kunming**	**71.36**	**301**	P	**P**	**20 10 34.0**	**+1.4**
KMI				pP	pP	20 10 36.9	-5.8
KMI				sP	sP	20 10 38.0	-8.5
KMI				PP	**PP**	**20 13 12.8**	**+1.4**
KMI				S	**S**	**20 19 48.5**	**-0.5**
KMI				SS	**SS**	**20 24 21.9**	**-2.2**
KMI				AMB	AMB		
	comp=Z,14nm,2.0s						
KMI				AMB	AMB		
	comp=Z,380nm,3.1s						
KMI				LR	LR		
	comp=Z,140nm,17.1s						
HHC	**Hu-ho-hao-te**	**72.08**	**320**	*e*P	**P**	**20 10 34.9**	**-1.6**
HHC				pP	pP	20 10 39.6	-7.0
HHC				PcP	**PcP**	**20 10 54.1**	**-0.7**
HHC				PP	**PP**	**20 13 16.2**	**-0.9**
HHC				S	**S**	**20 19 53.6**	**-2.9**
HHC				sS	SKiKP	20 20 01.5	-10
HHC				ScS	**SKSac**	**20 20 36.4**	**-2.2**
HHC				AMB	AMB		
	comp=Z,26nm,0.7s						
HHC				AMB	AMB		
	comp=Z,180nm,6.8s						
HHC				LR	LR		
	comp=N,440nm,17.5s						
HHC				LR	LR		
	comp=E,440nm,17.6s						
HHC				LR	LR		
	comp=Z,350nm,18.0s						
CMAR	**Chiang Mai Arr**	**72.34**	**294**	P	**P**	**20 10 39.6**	**+1.2**
CMAR				pP	**pP**	**20 10 48.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**72.34**	**294**	P	**P**	**20 10 39.6**	**+1.2**
	3.4nm,0.8s,baz=125,slow=4.4,SNR=27						
CMAR				pP	**pP**	**20 10 48.9**	**+0.4**
	2.6nm,0.9s,baz=117,slow=4.2,SNR=6.8						
CD2	**Chengdu**	**72.84**	**307**	sS	**SKiKP**	**20 20 12.1**	**-0.6**
CD2	**Chengdu**	**72.84**	**307**	SS	SS	20 24 45.4	-1.0
CD2				AMB	AMB		
	comp=Z,30nm,0.5s						
CD2				AMB	AMB		
	comp=Z,280nm,4.7s						
CD2				LR	LR		
	comp=N,1μm,4.8s						
CD2				LR	LR		
	comp=Z,480nm,4.6s						
LZH	**Lanzhou**	**75.00**	**312**	SS	SS	20 25 29.3	+10
LZH				AMB	AMB		
	comp=Z,30nm,1.0s						
LZH				AMB	AMB		
	comp=Z,130nm,4.1s						
LZH				LR	LR		
	comp=N,700nm,14.1s						
LZH				LR	LR		
	comp=E,850nm,16.0s						
LZH				LR	LR		
	comp=Z,1μm,17.2s						
QSPA	**South Pole Qui**	**78.78**	**180**	*e*P	**P**	**20 11 13.8**	**-0.8**
	comp=Z,11nm,1.0s						
SONM	**Songino Array**	**78.91**	**324**	P	**P**	**20 11 15.7**	**+0.1**
SONM				pP	**pP**	**20 11 25.6**	**-0.2**
SONM	**Songino Array**	**78.91**	**324**	P	**P**	**20 11 15.7**	**+0.1**
	comp=Z,0.9nm,1.0s,baz=139,slow=5.5,SNR=4.9						
SONM				pP	**pP**	**20 11 25.6**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=138,slow=5.9,SNR=3.9						
SONM				LR	LR	20 44 02.1	
	comp=Z,106nm,18.3s,baz=97,slow=34						
GTA	**Gaotai**	**79.30**	**314**	*e*P	**P**	**20 11 19.2**	**+1.3**
GTA				pP	**PcP**	**20 11 24.0**	**-2.1**
GTA				sP	**sP**	**20 11 27.0**	**-4.9**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s						
ILAR	**Eielson Array**	**83.63**	**18**	P	**P**	**20 11 39.2**	**-0.8**
ILAR	**Eielson Array**	**83.63**	**18**	P	**P**	**20 11 39.2**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=247,slow=5.0,SNR=24						
NVAR	**Mina Array Bea**	**86.01**	**50**	P	**P**	**20 11 52.7**	**-0.3**
NVAR	**Mina Array Bea**	**86.01**	**50**	P	**P**	**20 11 52.7**	**-0.3**
	comp=Z,2.0nm,1.0s,baz=232,slow=4.4,SNR=7.3						
PFO	**Pinyon Flat Ob**	**86.05**	**55**	P	**P**	**20 11 53.2**	**0.0**
PFO	**Pinyon Flat Ob**	**86.05**	**55**	P	**P**	**20 11 53.2**	**0.0**
	comp=Z,1.2nm,0.6s,baz=269,slow=5.6,SNR=3.2						
LPIG	**La Paz**	**88.93**	**65**	P	**P**	**20 12 06.9**	**-0.2**
LPIG	**La Paz**	**88.93**	**65**	P	**P**	**20 12 06.9**	**-0.2**
	comp=Z,18nm,0.3s,baz=280,slow=6.1,SNR=2.9						
WMQ	**Urumqi**	**89.34**	**315**	*e*P	**P**	**20 12 08.9**	**+0.3**
WMQ				pP	**PcP**	**20 12 13.7**	**+3.7**
WMQ				sP	sP	20 12 15.9	-6.8
WMQ				SKS	**SKSac**	**20 22 35.9**	**-0.7**
WMQ				S	**S**	**20 22 54.6**	**-1.9**
WMQ				SS	**SS**	**20 28 50.7**	**-1.3**
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.5s						
WMQ				AMB	AMB		
	comp=Z,180nm,4.6s						
WMQ				LR	LR		
	comp=Z,110nm,25.0s						
WMQ				LR	LR		
	comp=Z,150nm,19.6s						
WMQ				LR	LR		
	comp=Z,100nm,22.4s						
SYO	**Syowa Base**	**91.66**	**197**	*e*X	P	20 12 11.7	-7.2
PV05	**Paradox Valley**	**92.93**	**52**	*e*P	**P**	**20 12 27.1**	**+1.5**
PDAR	**Pinedale Array**	**93.55**	**47**	P	**P**	**20 12 28.7**	**+0.3**
PDAR	**Pinedale Array**	**93.55**	**47**	P	**P**	**20 12 28.7**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=32,slow=3.7,SNR=2.8						
MKAR	**Makanchi Array**	**93.77**	**317**	P	**P**	**20 12 28.6**	**-0.4**
MKAR				pP	**pP**	**20 12 38.5**	**-0.9**
MKAR	**Makanchi Array**	**93.77**	**317**	P	**P**	**20 12 28.6**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=91,slow=6.6,SNR=13						
MKAR				pP	**pP**	**20 12 38.5**	**-0.9**
	comp=Z,1.2nm,0.8s,baz=88,slow=7.8,SNR=3.3						
MKAR				LR	LR	20 52 45.8	
	comp=Z,46nm,18.4s,baz=276,slow=34						
ZALV	**Zalesovo Beam**	**93.80**	**324**	P	**P**	**20 12 28.1**	**-0.9**
ZALV	**Zalesovo Beam**	**93.80**	**324**	P	**P**	**20 12 28.1**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=112,slow=3.5,SNR=3.8						
ZALV				LR	LR	20 57 01.8	
	comp=Z,89nm,18.0s,baz=70,slow=37						
TXAR	**Lajitas Array**	**95.77**	**61**	LR	LR	20 47 55.6	
	comp=Z,160nm,19.1s,baz=270,slow=30						
KSH	**Kashi**	**97.00**	**309**	P	**P**	**20 12 45.4**	**+1.3**
KSH				pP	**pP**	**20 12 50.3**	**-4.2**
KSH				sP	sP	20 12 52.5	-5.7
KSH				PP	**PP**	**20 16 40.2**	**0.0**
KSH				S	**S**	**20 24 03.2**	**-1.7**
KSH				sS	ScS	20 24 12.8	+7.6
KSH				SS	**SS**	**20 30 43.1**	**+1.2**
KSH				AMB	AMB		
	comp=Z,65nm,4.5s						
KSH				LR	LR		
	comp=Z,96nm,5.2s						
KSH				LR	LR		
	comp=Z,150nm,5.1s						
KSH				LR	LR		
	comp=Z,170nm,5.5s						
ARCES	**ARCESS Array B**	**116.55**	**345**	PKP	**PKPdf**	**20 17 53.6**	**-1.8**
ARCES	**ARCESS Array B**	**116.55**	**345**	PKP	**PKPdf**	**20 17 53.6**	**-1.8**
	comp=Z,1.5nm,0.7s,baz=38,slow=1.5,SNR=8.3						
KEST	**Kesra**	**147.66**	**323**	PKPbc	**PKPbc**	**20 18 57.4**	**+0.4**
KEST	**Kesra**	**147.66**	**323**	PKPbc	**PKPbc**	**20 18 57.4**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=27,slow=2.3,SNR=3.8						
ESDC	**Sonseca Array**	**150.28**	**344**	PKPbc	**PKPbc**	**20 19 03.4**	**-0.1**
ESDC				PKPab	**PKPab**	**20 19 09.8**	**+0.1**
ESDC	**Sonseca Array**	**150.28**	**344**	PKPbc	**PKPbc**	**20 19 03.4**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=342,slow=3.0,SNR=4.0						
ESDC				PKPab	**PKPab**	**20 19 09.8**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=3.3,slow=2.9,SNR=5.2						
TORD	**Torodi Ar. Bea**	**164.46**	**279**	PKP	**PKPdf**	**20 19 16.4**	**-0.2**
TORD				PKPab	**PKPab**	**20 20 10.6**	**-0.8**
TORD	**Torodi Ar. Bea**	**164.46**	**279**	PKP	**PKPdf**	**20 19 16.4**	**-0.2**
	comp=Z,0.9nm,1.2s,baz=315,slow=4.8,SNR=3.0						
TORD				PKPab	**PKPab**	**20 20 10.6**	**-0.8**
	comp=Z,2.9nm,1.3s,baz=81,slow=1.4,SNR=4.4						

*IDC **11** 20:13:29.7±0.9,31°.45N×91°.30E,h12km±4km, mb3.7/13, mb1 3.8/16,mb1mx3.8/29,mbtmp3.7/16,ML3.6/3,MS3.0/1, Ms1 3.0/1,ms1mx2.6/31,Error ellipse: s-maj=22.1km s-min=14.8km az=46.0*
*BJI **11** 20:13:29.8,31°.45N×91°.10E,h8km,mb4.4/6,ML3.9/4, Ms3.8/2,Ms7 3.6/2*
*ISCJB **11** 20:13:31.2±0.5,31°.57N±0°.05×91°.38E±0°.10,h33km, mb3.8/12,Error ellipse: s-maj=12.0km s-min=6.6km az=173.2*

ISC 11 20:13:32.8±0.6,31°.54N±0°.06×91°.3E±0°.1,h35km,n21, σ1ŝ89/24,mb3.8/12,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**1.83**	**183**	Pg	**Pn**	**20 14 01.9**	**-0.3**
LSA				Sg	**Sn**	**20 14 24.8**	**+0.4**
LSA				SMN			
	comp=Z,160nm,0.8s						
LSA				SME			
	comp=Z,340nm,0.8s						
SHL	**Shillong**	**5.97**	**174**	*e*P	Pn	20 15 06.5	+7.6
GTA	**Gaotai**	**10.51**	**39**	*e*P	**Pn**	**20 16 02.3**	**+1.3**
GTA				pP		20 16 06.7	
GTA				sP		20 16 09.9	
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s						
LZH	**Lanzhou**	**11.42**	**63**	*e*P	Pn	20 16 18.7	+5.2
LZH				pP		20 16 21.9	
LZH				sP		20 16 24.4	
LZH				AMB	AMB		
	comp=Z,13nm,1.0s						
CMAR	**Chiang Mai Arr**	**14.77**	**150**	Pn	**Pn**	**20 16 58.1**	**-1.1**
	0.2nm,0.3s,baz=322,slow=13,SNR=7.5						
MKAR	**Makanchi Array**	**16.72**	**338**	Pn	**Pn**	**20 17 23.0**	**-1.3**
	0.2nm,0.3s,baz=145,slow=14,SNR=12						
AAK	**Ala-Archa**	**17.32**	**314**	P	**P**	**20 17 33.9**	**+0.8**
	0.1nm,0.3s,baz=126,slow=14,SNR=2.9						
AAK				LR	LR	20 25 58.2	
	comp=Z,47nm,18.2s,baz=43,slow=43						
SONM	**Songino Array**	**19.96**	**31**	P	**P**	**20 18 03.0**	**+1.1**
	5.3nm,0.5s,baz=214,slow=12,SNR=68						
KURBB	**Kurchatov Arra**	**21.28**	**337**	P	**P**	**20 18 16.3**	**+0.2**
	0.4nm,0.2s,baz=147,slow=11,SNR=5.3						
KURBB				pP	**pP**	**20 18 21.6**	**-3.8**
	2.1nm,0.8s,baz=147,slow=10,SNR=7.0						
ZALV	**Zalesovo Beam**	**22.87**	**350**	P	**P**	**20 18 32.3**	**-0.7**
	3.2nm,0.8s,baz=171,slow=11,SNR=10						
ZALV				pP	**pP**	**20 18 37.5**	**-4.8**
	4.7nm,0.7s,baz=164,slow=11,SNR=9.0						
BVAR	**Borovoye Array**	**26.26**	**331**	P	**P**	**20 19 05.1**	**+0.6**
	0.6nm,0.5s,baz=134,slow=6.2,SNR=4.0						
BVAR				pP	**pP**	**20 19 10.0**	**-4.5**
	0.5nm,0.4s,baz=141,slow=9.6,SNR=4.4						
KSRS	**Korea Array**	**30.66**	**69**	P	**P**	**20 19 44.2**	**+0.3**
	1.7nm,0.6s,baz=274,slow=8.6,SNR=7.7						
BRTR	**Keskin Array B**	**46.83**	**297**	P	**P**	**20 22 01.2**	**+1.8**
	0.5nm,0.7s,baz=99,slow=9.1,SNR=3.2						
AKASG	**Malin Array Be**	**48.97**	**312**	P	**P**	**20 22 17.3**	**+1.7**
	1.0nm,0.6s,baz=77,slow=7.1,SNR=5.1						
FINES	**FINESS Array B**	**51.04**	**326**	P	**P**	**20 22 31.8**	**+0.7**
	1.2nm,0.6s,baz=160,slow=6.1,SNR=4.2						
GERES	**GERESS Array B**	**59.17**	**311**	P	**P**	**20 23 31.5**	**+1.3**
	0.6nm,0.7s,baz=72,slow=6.3,SNR=3.2						
WRA	**Warramunga Arr**	**65.79**	**135**	P	**P**	**20 24 14.5**	**-0.1**
	0.5nm,0.7s,baz=326,slow=6.4,SNR=4.4						
ASAR	**Alice Springs**	**68.41**	**138**	P	**P**	**20 24 31.2**	**+0.1**
	0.6nm,0.8s,baz=319,slow=6.0,SNR=4.7						
ILAR	**Eielson Array**	**73.91**	**22**	P	**P**	**20 25 04.0**	**0.0**
	2.2nm,0.9s,baz=289,slow=5.0,SNR=21						
ILAR				pP	pP	20 25 08.2	-6.6
	0.6nm,0.8s,baz=308,slow=4.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**82.87**	**281**	P	**P**	**20 25 53.8**	**-0.4**
	1.2nm,0.7s,baz=61,slow=4.3,SNR=8.9						
TORD				pP	**PcP**	**20 25 57.9**	**-1.1**
	1.3nm,0.8s,baz=54,slow=4.6,SNR=5.3						
TXAR	**Lajitas Array**	**117.83**	**15**	PKP	**PKPdf**	**20 32 16.1**	**+0.1**
	0.1nm,0.4s,baz=287,slow=1.2,SNR=4.5						

*ISCJB **11** 20:21:24.5±0.7,12°.50S±0°.07×165°.7E±0°.1,h40km, mb3.9/10,MS3.5/1,Error ellipse: s-maj=15.4km s-min=7.4km az=153.0*
*IDC **11** 20:21:24.9±1.2,12°.41S×165°.82E,h28km±4km,mb3.8/10, mb1 3.9/12,mb1mx3.8/21,mbtmp3.8/12,ML4.0/2,MS3.5/1, Ms1 3.5/1,ms1mx2.9/24,Error ellipse: s-maj=30.0km s-min=20.3km az=106.0*

ISC 11 20:21:25.7±0.8,12°.45S±0°.09×165°.8E±0°.1,h40km,n16, σ1ŝ58/22,mb3.8/10,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.48**	**297**	Pn	**Pn**	**20 23 00.2**	**+1.6**
	12nm,0.3s,baz=108,slow=16,SNR=4.2						
HNR				Sn	**Sn**	**20 24 12.0**	**+0.7**
	6.1nm,0.3s,baz=117,slow=18,SNR=2.0						
DZM	**Mont Dzumac**	**9.59**	**176**	Pn	**Pn**	**20 23 42.3**	**+0.9**
	0.4nm,0.3s,baz=348,slow=19,SNR=4.7						
DZM				Sn	**Sn**	**20 25 29.1**	**+1.1**
	0.5nm,0.3s,baz=323,slow=20,SNR=3.1						
WRA	**Warramunga Arr**	**31.07**	**252**	P	**P**	**20 27 41.9**	**+1.6**
	0.4nm,0.8s,baz=85,slow=10,SNR=3.1						
ASAR	**Alice Springs**	**32.23**	**245**	P	**P**	**20 27 51.5**	**+0.9**
	0.5nm,0.8s,baz=72,slow=9.2,SNR=5.7						
ASAR				pP	**pP**	**20 27 59.4**	**-2.2**
	0.7nm,0.8s,baz=71,slow=11,SNR=4.9						
ASAR				sP	**sP**	**20 28 03.9**	**-2.5**
	1.2nm,0.8s,baz=69,slow=9.3,SNR=5.8						
PPT	**Papeete**	**43.33**	**102**	LR	LR	20 44 31.2	
	comp=Z,52nm,19.0s,baz=292,slow=32						
KSRS	**Korea Array**	**61.06**	**326**	P	**P**	**20 31 36.5**	**+0.9**
	1.1nm,0.6s,baz=140,slow=6.2,SNR=7.4						
USRK	**Ussuriysk Arra**	**64.21**	**334**	P	**P**	**20 31 57.1**	**+0.7**
	3.6nm,1.0s,baz=123,slow=6.1,SNR=5.5						
CMAR	**Chiang Mai Arr**	**72.72**	**294**	P	**P**	**20 32 50.8**	**+0.6**
	0.2nm,0.7s,baz=100,slow=3.8,SNR=4.1						
CMAR				pP	**pP**	**20 32 58.4**	**-3.8**
	0.5nm,0.7s,baz=112,slow=5.2,SNR=5.3						
CMAR				sP	**sP**	**20 33 04.8**	**-2.0**
	0.4nm,0.5s,baz=130,slow=5.5,SNR=3.0						
SONM	**Songino Array**	**79.82**	**324**	P	**P**	**20 33 30.6**	**+0.5**
	1.1nm,0.7s,baz=145,slow=5.6,SNR=11						
ILAR	**Eielson Array**	**84.82**	**18**	P	**P**	**20 33 57.0**	**+1.3**
	0.3nm,0.5s,baz=241,slow=5.0,SNR=9.1						
MKAR	**Makanchi Array**	**94.57**	**317**	P	**P**	**20 34 42.7**	**+0.4**
	1.8nm,0.7s,baz=95,slow=7.0,SNR=16						
MKAR				pP	**pP**	**20 34 52.6**	**-1.9**
	1.0nm,0.7s,baz=104,slow=6.2,SNR=5.8						
ZALV	**Zalesovo Beam**	**94.71**	**324**	P	**P**	**20 34 42.2**	**-0.5**
	0.8nm,0.6s,baz=70,slow=4.9,SNR=4.6						
SNAA	**Sanae**	**95.73**	**184**	*e*P	**P**	**20 34 46.4**	**-0.8**
VNA2	**Neumayer--Watz**	**96.70**	**182**	*e*P	**P**	**20 34 51.1**	**-0.4**
KURBB	**Kurchatov Arra**	**97.78**	**320**	P	**P**	**20 34 56.2**	**-0.4**
	0.1nm,0.5s,baz=99,slow=5.0,SNR=2.6						
TORD	**Torodi Ar. Bea**	**164.48**	**274**	PKPab	**PKPab**	**20 42 21.4**	**+0.3**
	0.9nm,1.1s,baz=113,slow=1.9,SNR=3.1						

IDC 11 20:32:47.2±1.7,15°.83S×172°.27W,h0km,mb3.4/3, mb1 3.7/3,mb1mx3.5/20,mbtmp3.4/3,Error ellipse: s-maj=47.8km s-min=28.7km az=110.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.97**	**14**	Pn	Pn	20 33 22.0	0.0
	5.9nm,0.3s,baz=195,slow=20,SNR=7.4						
AFI				Sn	Sn	20 33 42.5	-5.0
	30nm,0.3s,baz=64,slow=23,SNR=8.7						
WRA	**Warramunga Arr**	**50.80**	**257**	P	P	20 41 50.2	+0.4
	0.4nm,0.9s,baz=90,slow=7.6,SNR=3.7						
ASAR	**Alice Springs**	**51.01**	**252**	P	P	20 41 50.9	-0.5
	0.3nm,0.5s,baz=87,slow=8.1,SNR=7.3						
VNDA	**Vanda**	**63.06**	**186**	P	P	20 43 15.7	-0.1
	0.4nm,0.6s,baz=351,slow=8.1,SNR=3.0						

IDC 11 20:34:31.6±2.7,15°.73S×173°.54W,h0km,mb3.6/4, mb1 4.0/5,mb1mx3.7/20,mbtmp3.6/5,ML1.2/1,MS3.4/1, Ms1 3.4/1,ms1mx2.6/32,Error ellipse: s-maj=169.5km s-min=19.4km az=146.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.48**	**43**	Pn	Pn	20 35 12.6	-0.9
	3.2nm,0.3s,baz=225,slow=4.3,SNR=1.6						
AFI				Sn	Sn	20 35 43.8	-0.7
	42nm,0.3s,baz=174,slow=17,SNR=7.4						
HNR	**Honiara**	**26.61**	**280**	LR	LR	20 47 56.7	
	comp=Z,85nm,19.0s,baz=150,slow=30						
WRA	**Warramunga Arr**	**49.64**	**257**	P	P	20 43 25.2	-0.2
	0.5nm,1.0s,baz=88,slow=7.6,SNR=3.9						
ASAR	**Alice Springs**	**49.88**	**252**	P	P	20 43 26.4	-0.8
	1.0nm,0.5s,baz=89,slow=8.3,SNR=17						
NVAR	**Mina Array Bea**	**74.66**	**42**	P	P	20 46 13.3	0.0
	0.2nm,0.4s,baz=244,slow=3.5,SNR=3.0						
PDAR	**Pinedale Array**	**82.60**	**42**	P	P	20 46 57.5	+0.5
	0.4nm,0.6s,baz=220,slow=3.6,SNR=4.9						
BRTR	**Keskin Array B**	**146.33**	**321**	PKPbc	PKPab	20 54 15.2	-0.4
	0.6nm,0.8s,baz=29,slow=2.8,SNR=4.1						

*PRE **11** 20:43:03.4±2.0,3°.98S×34°.89E,h10km,ML4.8*
*ISCJB **11** 20:43:05.3±0.6,3°.82S±0°.05×34°.81E±0°.04,h22km,Error ellipse: s-maj=6.8km s-min=5.8km az=17.2*

ISC 11 20:43:04.6±1.1,3°.95S±0°.06×34°.87E±0°.05,h22km,n7, σ1ŝ32/10,Lake Victoria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAUS	**Longido**	**2.19**	**57**	*i* P	**Pn**	**20 43 40.8**	**+1.0**
MAUS				*i* S	**Sb**	**20 44 07.5**	**-2.8**
DODT	**Dodoma, Tanzan**	**2.39**	**159**	*i* P	**Pb**	**20 43 47.2**	**+0.1**
DODT				*i* S	**Sb**	**20 44 15.2**	**-0.9**
KMBO	**Kilima Mbogo**	**3.68**	**40**	*e*P	**Pn**	**20 44 01.2**	**+0.8**
KMBO				*e*S	**Sn**	**20 44 44.3**	**+1.1**
KIG	**Kigali**	**5.19**	**292**	*e*P	**Pn**	**20 44 21.1**	**-0.1**
KIG				*e*S	**Sn**	**20 45 20.9**	**+0.3**
KIG				AML	AML	20 45 52.3	
	comp=Z,562nm,0.4s						
MBAR	**Mbarara**	**5.30**	**309**	*e*P	**Pn**	**20 44 22.8**	**+0.1**
MBAR				*e*S	**Sn**	**20 45 24.1**	**+0.8**
MZM	**Mzuzu**	**7.48**	**186**	*i* P	Pn	20 44 59.0	+6.5
MZM				*i* S	Sb	20 46 57.9	+15
LSZ	**Lusaka**	**13.04**	**210**	*e*S	Sn	20 48 27.4	-5.9

*ISCJB **11** 20:58:03.1±0.4,6°.46S±0°.04×129°.93E±0°.05,h146km, mb3.6/5,Error ellipse: s-maj=7.5km s-min=5.5km az=20.4*
*AUST **11** 20:58:03.6±0.0,6°.53S×130°.06E,h143km,Error ellipse: s-maj=1.4km s-min=0.9km az=293.0*
*DJA **11** 20:58:05.9±1.1,6°.S±7°×13°.0E±1°.0,h144km±39km,M4.5/7, mb4.3/4,mB5.3/1,MLv4.7/7,Mw(mB)4.7/1*
*IDC **11** 20:58:07.5±2.1,6°.61S×129°.78E,h183km±19km,mb3.5/5, mb1 3.7/10,mb1mx3.5/20,mbtmp4.2/10,Error ellipse: s-maj=21.4km s-min=11.5km az=58.0*

ISC 11 20:58:03.8±0.6,6°.49S±0°.06×130°.01E±0°.06,h146km,n29, σ1ŝ79/32,mb3.6/5,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.96**	**139**	P	Pn	20 58 43.2	+4.9
AAI	**Ambon**	**3.32**	**327**	P	Pn	20 58 58.9	+3.7
	baz=3.4,SNR=4.9						
FAKI	**Fak Fak**	**4.19**	**32**	P	**Pn**	**20 59 07.3**	**+0.8**
FAKI				S	**Sn**	**20 59 53.7**	**-1.6**
FAKI	**Fak Fak**	**4.19**	**32**	P	**Pn**	**20 59 07.3**	**+0.8**
	baz=4.2,SNR=57						
KMPI	**Kaimana, Papua**	**4.63**	**53**	P	**Pn**	**20 59 14.5**	**+2.2**
SWI	**Sorong**	**5.73**	**13**	P	**Pn**	**20 59 27.0**	**+0.1**
	12nm,0.8s,4μm0.6nm						
SWI	**Sorong**	**5.73**	**13**	P	**Pn**	**20 59 27.4**	**+0.5**
	baz=5.8,SNR=6.2						
LBMI	**Labuha**	**6.33**	**337**	P	**Pn**	**20 59 37.1**	**+2.1**
	24nm,1.1s,0.1nm						
SOEI	**Soe**	**6.55**	**240**	P	**Pn**	**20 59 39.8**	**+1.8**
	54nm,0.8s,0.3nm						
SOEI				S	**Sn**	**21 00 54.8**	**+3.1**
	54nm,0.8s,0.3nm						
SOEI	**Soe**	**6.55**	**240**	P	**Pn**	**20 59 39.9**	**+1.9**
	baz=6.6,SNR=8.1						
KDU	**Kakadu**	**6.62**	**159**	P	**Pn**	**20 59 39.9**	**+1.1**
	baz=6.6,SNR=136						
BATI	**Baumata**	**7.29**	**239**	P	**Pn**	**20 59 49.0**	**+1.2**
BATI	**Baumata**	**7.29**	**239**	P	**Pn**	**20 59 49.6**	**+1.8**
	17nm,0.3s,baz=100,slow=6.1,SNR=29						
BATI				S	**Sn**	**21 01 07.1**	**-2.2**
	13nm,0.3s,baz=141,slow=20,SNR=10						
KNRA	**Kununurra**	**9.21**	**188**	P	**Pn**	**21 00 13.6**	**+0.2**
	baz=9.2,SNR=19						
FITZ	**Fitzroy Crossi**	**12.30**	**200**	P	**Pn**	**21 00 53.4**	**-0.9**
	baz=12,SNR=12						
FITZ	**Fitzroy Crossi**	**12.30**	**200**	P	**Pn**	**21 00 53.8**	**-0.5**
	0.3nm,0.3s,baz=30,slow=12,SNR=12						
FITZ				S	Sn	21 03 02.1	-8.2
	1.3nm,0.3s,baz=211,slow=21,SNR=9.0						
WRA	**Warramunga Arr**	**14.02**	**163**	P	**Pn**	**21 01 16.0**	**-0.3**
	1.1nm,0.3s,baz=345,slow=11,SNR=27						
WRA				S	Sn	21 03 42.8	-8.8
	2.4nm,0.3s,baz=342,slow=22,SNR=9.7						
COEN	**Coen**	**14.92**	**121**	P	**P**	**21 01 30.0**	**+0.4**
	baz=15,SNR=13						
PMG	**Port Moresby**	**17.23**	**101**	P	**Pn**	**21 01 58.4**	**+2.6**
	0.7nm,0.3s,baz=239,slow=12,SNR=2.1						
ASAR	**Alice Springs**	**17.48**	**168**	P	**Pn**	**21 01 59.0**	**+0.1**
	2.1nm,0.3s,baz=347,slow=10.0,SNR=114						
ASAR				S	**S**	**21 05 09.6**	**-2.9**
	0.5nm,0.3s,baz=357,slow=25,SNR=5.4						
ASAR				ScP	**ScP**	**21 09 47.3**	**-5.5**
	0.1nm,0.3s,baz=346,slow=2.0,SNR=5.5						
CTA	**Charters Tower**	**20.77**	**132**	P	**P**	**21 02 35.3**	**+1.9**
	4.6nm,0.7s,baz=322,slow=10,SNR=5.4						
QLP	**Quilpie**	**24.14**	**147**	P	**P**	**21 03 07.4**	**+0.9**
	baz=24,SNR=5.8						
STKA	**Stephens Creek**	**27.48**	**158**	P	**P**	**21 03 36.5**	**0.0**
	baz=28,SNR=6.4						
**STK

WHZ				S*	Sn	21 08 07.9	-0.7		
WHZ				AML	AML	21 08 16.5			
MLZ	**Mavora Lakes**	**1.02**	**79**	⇓P*	Pb	21 07 56.1	-1.3		
MLZ				S*	Sb	21 08 09.5	-1.1		
MLZ				AML	AML	21 08 10.4			
MSZ	**Milford Sound**	**1.21**	**44**	PN	Pn	21 07 57.5	-2.6		
MSZ				AML	AML	21 08 18.5			
MSZ				AML	AML	21 08 18.5			
MSZ				AML	AML	21 08 18.5			
MSZ				AML	AML	21 08 18.6			
APZ	**The Paps**	**1.55**	**147**	PN	Pb	21 08 06.0	-0.4		
WKZ	**Wanaka**	**1.76**	**67**	PN	Pn	21 08 08.2	+0.5		
WKZ				AML	AML	21 08 36.3			
WKZ				AML	AML	21 08 36.3			
WKZ				AML	AML	21 08 37.3			
WKZ				AML	AML	21 08 37.3			
EAZ	**Earnscleugh**	**1.83**	**81**	PN	Pn	21 08 09.7	+1.0		
EAZ				AML	AML	21 08 37.5			
EAZ				AML	AML	21 08 38.4			
SYZ	**Scrubby Hill**	**1.94**	**122**	PN	Pb	21 08 11.8	-1.2		
JCZ	**Jackson Bay**	**2.05**	**45**	PN	Pn	21 08 12.8	+0.9		
JCZ				AML	AML	21 08 46.8			
JCZ				AML	AML	21 08 50.7			
TUZ	**Tuapeka**	**2.06**	**103**	PN	Pb	21 08 13.6	-1.5		
TUZ				AML	AML	21 08 45.7			
TUZ				AML	AML	21 08 47.5			
LBZ	**Lake Benmore**	**2.70**	**66**	PN	Pn	21 08 22.4	+1.7		
LBZ				AML	AML	21 08 59.6			
LBZ				AML	AML	21 10 51.5			
ODZ	**Otahua Downs**	**2.80**	**81**	PN	Pn	21 08 21.7	-0.3		
FOZ	**Fox Glacier**	**2.89**	**48**	PN	Pn	21 08 25.1	+1.9		
FOZ				AML	AML	21 09 15.9			
FOZ				AML	AML	21 09 16.2			
RPZ	**Rata Peaks**	**3.58**	**61**	PN	Pn	21 08 32.2	-0.5		
RPZ				AML	AML	21 09 17.3			
RPZ				AML	AML	21 09 20.0			

IDC 11 21:07:44.6±2.8, 6°23S×127°59E, h411km, 32km, mb3.2/4, mb1 3.4/8, mb1mx3.2/18, mbtmp3.3/8, Error ellipse: s-maj=47.1km s-min=11.5km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.55**	**224**	P	P	21 09 13.6	+0.9
	44nm,0.3s,baz=48,slow=2.6,SNR=48						
BATI				S	S	21 10 24.7	-0.1
	7.2nm,0.3s,baz=310,slow=16,SNR=6.5						
FITZ	**Fitzroy Crossi**	**11.96**	**189**	P	P	21 10 23.8	+0.2
	0.2nm,0.3s,baz=22,slow=13,SNR=5.7						
WRA	**Warramunga Arr**	**15.13**	**155**	P	P	21 10 57.5	-0.8
	2.1nm,0.3s,baz=336,slow=11,SNR=82						
WRA				S	S	21 13 34.8	-3.7
	0.4nm,0.3s,baz=328,slow=20,SNR=5.0						
ASAR	**Alice Springs**	**18.37**	**161**	P	P	21 11 32.4	-0.4
	1.9nm,0.3s,baz=345,slow=12,SNR=74						
ASAR				S	S	21 14 41.6	+0.9
	0.2nm,0.3s,baz=349,slow=26,SNR=7.1						
STKA	**Stephens Creek**	**28.68**	**155**	P	P	21 13 06.6	+0.5
	3.1nm,0.9s,baz=334,slow=7.2,SNR=2.9						
SONM	**Songino Array**	**56.98**	**343**	P	P	21 16 49.6	+0.2
	0.4nm,0.5s,baz=168,slow=7.5,SNR=5.5						
MKAR	**Makanchi Array**	**66.29**	**328**	P	P	21 17 50.8	+0.2
	1.3nm,0.4s,baz=123,slow=8.0,SNR=36						
ZALV	**Zalesovo Beam**	**69.85**	**335**	P	P	21 18 11.6	-0.7
	0.8nm,0.6s,baz=137,slow=4.4,SNR=4.9						

IDC 11 21:12:11.6±2.0, 15°26S×173°50W, h0km, mb3.8/5, mb1 4.2/5, mb1mx3.9/18, mbtmp3.8/5, MS3.5/1, Ms1 3.5/1, ms1mx2.9/25, Error ellipse: s-maj=117.3km s-min=23.0km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.15**	**51**	Pn	Pn	21 12 40.4	-8.4
	47nm,0.3s,baz=182,slow=2.3,SNR=66						
AFI				Sn	Sn	21 13 00.5	-16
	116nm,0.3s,baz=41,slow=20,SNR=12						
RAR	**Rarotonga**	**14.32**	**116**	LR	LR	21 18 39.1	
	comp=Z,214nm,21.4s,baz=78,slow=27						
H11N3	**WAKE ISLAND Hy**	**39.74**	**330**	T	T	22 01 52.3	
	baz=152,slow=0.7,SNR=15						
H11N1	**WAKE ISLAND Hy**	**39.75**	**330**	T	T	22 01 49.6	
	baz=152,slow=0.7,SNR=17						
H11N2	**WAKE ISLAND Hy**	**39.76**	**330**	T	T	22 01 54.0	
	baz=152,slow=0.7,SNR=16						
WRA	**Warramunga Arr**	**49.78**	**257**	P	P	21 21 05.9	-0.6
	0.7nm,0.7s,baz=93,slow=6.8,SNR=5.1						
ASAR	**Alice Springs**	**50.06**	**252**	P	P	21 21 08.2	-0.4
	4.7nm,0.6s,baz=86,slow=8.1,SNR=54						
NVAR	**Mina Array Bea**	**74.30**	**42**	P	P	21 23 50.8	-0.4
	0.2nm,0.3s,baz=225,slow=9.6,SNR=4.0						
TXAR	**Lajitas Array**	**80.62**	**56**	P	P	21 24 27.3	+0.6
	0.6nm,1.0s,baz=286,slow=6.3,SNR=3.4						
PDAR	**Pinedale Array**	**82.23**	**42**	P	P	21 24 34.5	-0.7
	0.4nm,0.7s,baz=260,slow=3.3,SNR=4.2						
ILAR	**Eielson Array**	**82.33**	**11**	P	P	21 24 33.7	-1.1
	0.3nm,0.5s,baz=224,slow=5.0,SNR=4.7						
BRTR	**Keskin Array B**	**145.99**	**321**	PKPbc	PKPbc	21 31 54.1	+0.2
	1.4nm,0.9s,baz=84,slow=2.7,SNR=8.7						
GERES	**GERESS Array B**	**145.99**	**351**	PKPbc	PKPab	21 31 54.1	+0.1
	0.6nm,0.8s,baz=55,slow=3.9,SNR=3.4						
ESDC	**Sonseca Array**	**154.01**	**19**	PKPab	PKPab	21 32 26.8	-0.1
	0.4nm,0.7s,baz=326,slow=4.4,SNR=3.9						

IDC 11 21:17:13.8±3.7, 14°76S×172°89W, h0km, mb4.1/2, mb1 4.3/2, mb1mx3.6/20, mbtmp4.1/2, Error ellipse: s-maj=233.2km s-min=18.4km az=148.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.37**	**52**	Pn	Pb	21 17 40.6	+0.1
	57nm,0.3s,baz=88,slow=4.0,SNR=12						
AFI				Sn	Sn	21 17 59.2	-0.1
	319nm,0.3s,baz=254,slow=23,SNR=19						
H11S2	**WAKE ISLAND Hy**	**39.68**	**328**	T	T	22 05 05.6	
	baz=150,slow=0.7,SNR=8.1						
H11S3	**WAKE ISLAND Hy**	**39.70**	**328**	T	T	22 05 06.8	
	baz=150,slow=0.7,SNR=10						
H11S1	**WAKE ISLAND Hy**	**39.70**	**328**	T	T	22 05 06.9	
	baz=150,slow=0.7,SNR=11						
WRA	**Warramunga Arr**	**50.48**	**256**	P	P	21 26 13.9	0.0
	0.6nm,0.7s,baz=93,slow=7.3,SNR=6.6						
ASAR	**Alice Springs**	**50.78**	**251**	P	P	21 26 16.0	-0.3
	4.2nm,0.6s,baz=87,slow=7.9,SNR=73						
BRTR	**Keskin Array B**	**145.97**	**322**	PKPbc	PKPdf	21 36 55.2	-0.1
	0.5nm,0.8s,baz=42,slow=3.5,SNR=3.0						

*TAP **11** 21:18:09.7,22°89N×121°33E,h21km,ML3.5,B*
*JMA **11** 21:18:10.6±0.2,22°89N×121°51E,h106km,M2.8*
ISC 11 21:18:09.8±1.0, 22°85N±0°03×121°38E±0°03, h34km±1km, n49, σ1s13/77, 8C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.23**	**246**	⇓*i*P	**Pn**	**21 18 15.8**	**-0.4**
	baz=230						
TTN				*e*S	**Sn**	**21 18 19.8**	**+0.8**
	baz=230						
CHKT	**Chengkung**	**0.25**	**357**	⇓*i*P	**Pn**	**21 18 15.5**	**-1.1**
	baz=18						
CHKT				*i* S	**Sn**	**21 18 19.5**	**-0.5**
	baz=18						
TWG	**Pinlang**	**0.28**	**265**	⇓*i*P	**Pn**	**21 18 15.8**	**-1.5**
	baz=266						
TWG				*i* S	**Sn**	**21 18 20.6**	**-0.9**
	baz=266						
ECL	**Taimali**	**0.47**	**238**	⇑*i*P	**Pb**	**21 18 18.5**	**-1.4**
	baz=242						
ECL				*e*S	**Sb**	**21 18 25.1**	**-1.7**
	baz=242						
ELDTW	**Lidau**	**0.48**	**316**	*i* P	**Pb**	**21 18 18.1**	**-2.0**
	baz=317						
ELDTW				*i* S	**Sb**	**21 18 24.0**	**-3.3**
	baz=317						
TWF1	**Yuli**	**0.51**	**351**	*e*P	**Pn**	**21 18 18.8**	**-1.9**
	baz=345						
TWF1				*e*S	**Sb**	**21 18 25.2**	**-2.8**
	baz=345						
EHY	**Hungye**	**0.66**	**355**	P	**Pn**	**21 18 20.7**	**-1.9**
	baz=360						
EAST	**Anshuo**	**0.67**	**227**	*e*P	**Pn**	**21 18 21.9**	**-0.9**
	baz=230						
YUS	**Yu-Shan**	**0.75**	**328**	⇑*i*P	**Pn**	**21 18 23.4**	**-1.0**
	baz=331						
YUS				*e*S	**Sn**	**21 18 32.4**	**-2.4**
	baz=331						
SGST	**Jiashian**	**0.77**	**288**	⇑*i*P	**Pn**	**21 18 24.2**	**0.0**
	baz=287						
SGST				*e*S	**Sb**	**21 18 35.5**	**+0.4**
	baz=287						
WTP	**Ta-pu**	**0.81**	**300**	⇑*i*P	**Pn**	**21 18 24.7**	**-0.1**
	baz=302						
WTP				S	**Sn**	**21 18 36.4**	**+0.8**
	baz=302						
LAY	**Lan-yu**	**0.82**	**169**	*i* P	**Pn**	**21 18 24.3**	**-0.6**
	baz=156						
SGLT	**Jiouru**	**0.83**	**262**	*e*P	**Pn**	**21 18 24.2**	**-0.8**
	baz=255						
ALS	**Alishan**	**0.84**	**321**	⇑*i*P	**Pn**	**21 18 25.2**	**-0.3**
	baz=323						
CHN1	**Nanshi**	**0.85**	**293**	⇑*i*P	**Pn**	**21 18 25.8**	**+0.4**
	baz=295						
CHN1				*i* S	**Sb**	**21 18 37.9**	**+0.4**
	baz=295						
CHN4	**Tsaushan**	**0.88**	**305**	⇑*i*P	**Pn**	**21 18 26.0**	**+0.3**
	baz=312						
CHN4				*i* S	**Sb**	**21 18 38.6**	**+0.4**
	baz=312						
TWM1	**Shoushan**	**0.88**	**269**	*e*P	**Pb**	**21 18 26.6**	**-0.1**
	baz=266						
TWK	**Hsinying**	**0.92**	**297**	⇑*i*P	**Pn**	**21 18 26.7**	**+0.4**
	baz=297						
TWK				*e*S	**Sb**	**21 18 40.4**	**+1.0**
	baz=297						
CHN3	**Shinhua**	**0.96**	**284**	*e*P	**Pb**	**21 18 28.3**	**+0.3**
	baz=283						
CHN3				*e*S	**Sb**	**21 18 43.0**	**+2.5**
	baz=283						
ESL	**Shilin**	**0.96**	**3**	*e*P	**Pn**	**21 18 26.9**	**+0.1**
	baz=357						
CHN5	**Tsauling**	**0.99**	**319**	*i* P	**Pn**	**21 18 27.8**	**+0.6**
	baz=320						
CHN5				*i* S	**Sb**	**21 18 41.9**	**+0.6**
	baz=320						
HEN	**Hengchun**	**1.03**	**215**	*e*P	**Pb**	**21 18 28.5**	**-0.6**
	baz=201						
TWK1	**Hengchun**	**1.04**	**211**	*e*P	**Pn**	**21 18 27.8**	**-0.2**
	baz=197						
TWP	**Hsiaoliuchiu**	**1.06**	**242**	*e*P	**Pb**	**21 18 30.6**	**+0.9**
	baz=241						
CHY	**Chiayi**	**1.09**	**307**	*i* P	**Pb**	**21 18 29.9**	**-0.2**
	baz=307						
CHY				*e*S	**Sb**	**21 18 44.8**	**+0.6**
	baz=307						
SMLT	**Sun Moon Lake**	**1.12**	**337**	P	**Pn**	**21 18 30.1**	**+0.9**
	baz=345						
SMLT				*e*S	**Sn**	**21 18 44.2**	**+0.8**
	baz=345						
WGK	**Gukeng**	**1.12**	**318**	*e*P	**Pb**	**21 18 30.3**	**-0.4**
	baz=318						
WGK				*e*S	**Sb**	**21 18 45.8**	**+0.7**
	baz=318						
SCLT	**Jiali**	**1.14**	**287**	*e*P	**Pn**	**21 18 29.0**	**-0.3**
	baz=296						
SCLT				*e*S	**Sb**	**21 18 47.6**	**+2.1**
	baz=296						
HWA	**Hwalien**	**1.14**	**10**	*e*P	**Pn**	**21 18 28.8**	**-0.6**
TYC	**Yuchr**	**1.16**	**336**	*e*P	**Pn**	**21 18 30.7**	**+1.2**
	baz=337						
TYC				S	**Sb**	**21 18 46.5**	**+0.5**
	baz=337						
WNT	**Mingjian**	**1.21**	**328**	*e*P	**Pn**	**21 18 31.6**	**+1.4**
	baz=329						
WNT				*e*S	**Sb**	**21 18 48.1**	**+0.6**
	baz=329						
TWD	**Chiawan**	**1.24**	**9**	*e*P	**Pn**	**21 18 30.5**	**-0.2**
TWD				*e*S	**Sn**	**21 18 47.1**	**+0.8**
WHF	**Hehuan Shan**	**1.29**	**355**	*e*P	**Pn**	**21 18 31.2**	**-0.6**
	baz=8.0						
TWT	**Tachien**	**1.41**	**352**	*e*P	**Pn**	**21 18 34.7**	**+1.5**
	baz=353						
NNS	**Nan Shan**	**1.58**	**360**	*e*P	**Pn**	**21 18 36.7**	**+1.2**
	baz=13						
TWQ1	**Liyutan**	**1.59**	**340**	*e*P	**Pb**	**21 18 37.9**	**-0.8**
	baz=338						
TWQ1				*e*S	**Sb**	**21 18 57.9**	**-0.6**
	baz=338						
NSY	**Sanyi**	**1.66**	**340**	*e*P	**Pn**	**21 18 37.4**	**+0.9**
	baz=338						
NSY				*e*S	**Sb**	**21 19 00.3**	**-0.1**
	baz=338						
ENTT	**Nioudou**	**1.79**	**5**	*e*P	**Pb**	**21 18 41.3**	**-0.7**
	baz=6.0						
TWC	**Suao**	**1.81**	**14**	*e*P	**Pn**	**21 18 38.9**	**+0.5**
	baz=2.0						
NSTT	**Nanjuang**	**1.81**	**349**	*e*P	**Pn**	**21 18 40.1**	**+1.6**
	baz=359						
NSK	**Sanguang**	**1.82**	**359**	*e*P	**Pn**	**21 18 39.8**	**+1.1**
	baz=12						
PNG	**Penghu**	**1.82**	**293**	*e*P	**Pn**	**21 18 39.2**	**+0.5**
	baz=293						
YOJ	**Yonaguni jima**	**2.20**	**43**	P	**Pn**	**21 18 44.9**	**+1.1**
YOJ				*e*S	**Sn**	**21 19 11.4**	**+1.6**
NWF	**Wu-fen Shan**	**2.24**	**9**	*e*P	**Pn**	**21 18 46.5**	**+1.9**
	baz=8.0						
HATJ	**Hateruma jima**	**2.53**	**61**	*e*S	**Sn**	**21 19 18.4**	**+0.3**
IRIF	**Iriomote-Funau**	**2.62**	**55**	P	**Pn**	**21 18 50.5**	**+0.9**
IRIF				*e*S	**Sn**	**21 19 20.7**	**+0.5**
JKRS	**Kuro-shima**	**2.78**	**60**	P	**Pn**	**21 18 52.6**	**+0.7**
JKRS				*e*S	**Sn**	**21 19 24.7**	**+0.4**
JIJ	**Ishigaki jima**	**2.95**	**59**	P	**Pn**	**21 18 54.8**	**+0.6**
JIJ				*e*S	**Sn**	**21 19 27.5**	**-0.9**
JTJ	**Tarama**	**3.53**	**59**	P	**Pn**	**21 19 02.8**	**+0.6**
JTJ				*e*S	**Sn**	**21 19 42.8**	**+0.1**

DJA 11 21:20:47.1±0.8, 1°N±6°×122°3E±°, h10km, M3.6/4, MLv3.6/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.13**	**226**	P	Pb	21 21 07.2	-1.5
MRSI				S	Sb	21 21 22.6	-0.9
KMSI	**Cibinong**	**1.41**	**119**	P	Pg	21 21 14.1	-0.1
KMSI				S	Sn	21 21 30.2	-1.3
TOLI	**Toli-Toli**	**1.96**	**266**	P	Pb	21 21 22.3	-0.6
LUWI	**Luwuk**	**2.30**	**179**	P	Pn	21 21 25.7	+0.6
LUWI				S	Sb	21 21 58.5	+1.4

*IDC **11** 21:22:47.4±1.1, 4°03S×34°79E, h0km, mb3.7/8, mb1 3.9/10, mb1mx3.8/27, mbtmp3.8/10, ML4.4/3, MS3.1/2, Ms1 3.1/2, ms1mx2.7/36, Error ellipse: s-maj=22.9km s-min=16.3km az=157.0*
*ISCJB **11** 21:22:48.8±0.4, 3°93S±0°04×34°77E±0°04, h22km, mb3.8/11, MS3.5/1, Error ellipse: s-maj=5.9km s-min=5.4km az=170.1*
*NEIC **11** 21:22:48.7±0.4, 4°05S×34°81E, h10km, mb4.2/3, Error ellipse: s-maj=7.8km s-min=6.7km az=107.0*
*PRE **11** 21:22:48.6±2.3, 3°92S×34°81E, h10km, ML5.5*
ISC 11 21:22:50.3±0.5, 4°03S±0°05×34°79E±0°04, h22km, n37, σ1s72/52, mb4.0/11, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAUS	**Longido**	**2.30**	**56**	*i* P	**Pn**	**21 23 25.4**	**-1.7**
MAUS				*i* S	**Sn**	**21 23 52.4**	**-2.4**
DODT	**Dodoma, Tanzan**	**2.35**	**156**	*i* P	**Pn**	**21 23 28.8**	**+1.1**
DODT				*i* S	**Sb**	**21 24 00.9**	**+0.2**
KMBO	**Kilima Mbogo**	**3.79**	**41**	*e*P	**Pn**	**21 23 46.6**	**-1.1**
KMBO				*e*S	**Sn**	**21 24 29.6**	**-2.2**
KMBO	**Kilima Mbogo**	**3.79**	**41**	Pn	**Pn**	**21 23 46.6**	**-1.1**
KMBO				Pg	**Pb**	**21 23 57.7**	**+0.9**
KMBO				Sn	**Sn**	**21 24 29.6**	**-2.2**
KMBO				Lg	Lg	21 24 46.7	
KMBO	**Kilima Mbogo**	**3.79**	**41**	Pn	**Pn**	**21 23 46.6**	**-1.1**
	7.0nm,0.3s,baz=226,slow=20,SNR=64						
KMBO				Pg	**Pb**	**21 23 57.7**	**+0.9**
	21nm,0.3s,baz=221,slow=19,SNR=34						
KMBO				Sn	**Sn**	**21 24 29.6**	**-2.2**
	24nm,0.3s,baz=72,slow=23,SNR=6.4						
KMBO				Lg	Lg	21 24 46.7	
	64nm,0.3s,baz=232,slow=19,SNR=10						
KIG	**Kigali**	**5.15**	**293**	*e*P	**Pn**	**21 24 06.8**	**+0.5**
KIG				*e*S	**Sn**	**21 25 04.0**	**-1.2**
KIG				AML	AML	21 25 37.4	
	comp=Z,3μm,0.5s						
KIG	**Kigali**	**5.15**	**293**	*e*P	**Pn**	**21 24 06.8**	**+0.5**
KIG				*e*S	**Sn**	**21 25 04.0**	**-1.2**
MBAR	**Mbarara**	**5.29**	**310**	Pn	**Pn**	**21 24 07.9**	**-0.4**
MBAR				*e*P	**Pn**	**21 24 08.0**	**-0.2**
MBAR				*e*S	**Sn**	**21 25 04.7**	**-3.9**
MBAR				Sn	**Sn**	**21 25 05.9**	**-2.8**
MBAR				Lg	Lg	21 25 34.6	
MBAR	**Mbarara**	**5.29**	**310**	Pn	**Pn**	**21 24 07.9**	**-0.4**
	comp=Z,29nm,0.3s,baz=154,slow=22,SNR=32						
MBAR				Sn	**Sn**	**21 25 05.9**	**-2.8**
	comp=Z,152nm,0.3s,baz=43,slow=20,SNR=11						
MBAR				Lg	Lg	21 25 34.6	
	comp=Z,326nm,0.3s,baz=231,slow=23,SNR=15						
MBAR				LR	LR	21 25 46.8	
	comp=Z,72nm,19.1s,baz=101,slow=34						
MZM	**Mzuzu**	**7.39**	**186**	*i* P	**Pn**	**21 24 38.8**	**+1.8**
MZM				*i* S	Sb	21 26 38.3	+13
LSZ	**Lusaka**	**12.93**	**210**	Pn	**Pn**	**21 25 52.3**	**-0.6**
LSZ				*e*P	P	21 25 53.7	-10
LSZ				Sn	**Sn**	**21 28 11.2**	**-5.1**
LSZ				*e*S	**Sn**	**21 28 13.7**	**-2.6**
LSZ				Lg	Lg	21 29 34.7	
LSZ	**Lusaka**	**12.93**	**210**	Pn	**Pn**	**21 25 52.3**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=18,slow=11,SNR=10.0						
LSZ				Sn	**Sn**	**21 28 11.2**	**-5.1**
	comp=Z,1.2nm,0.3s,baz=360,slow=19,SNR=3.5						
LSZ				Lg	Lg	21 29 34.7	
	comp=Z,8.8nm,0.3s,baz=111,slow=18,SNR=21						
ABPO	**Ambohimpanom**	**19.22**	**142**	P	**P**	**21 27 13.0**	**-0.3**
TSUM	**Tsumeb**	**22.57**	**227**	*e*P	**P**	**21 27 50.2**	**+0.7**
	comp=Z,7.6nm,0.9s						
LBTB	**Lobatse**	**22.66**	**202**	*e*P	**P**	**21 27 50.5**	**+0.1**
	comp=Z,6.5nm,0.9s						
LBTB	**Lobatse**	**22.66**	**202**	P	**P**	**21 27 52.9**	**+2.5**
	comp=Z,4.0nm,0.8s,baz=38,slow=9.6,SNR=4.3						
BOSA	**Boshof**	**26.07**	**199**	*e*P	**P**	**21 28 21.4**	**-1.1**
TOA0	**Torodi Ar. Sit**	**37.03**	**298**	*e*P	**P**	**21 29 58.9**	**0.0**
TORD	**Torodi Ar. Bea**	**37.03**	**298**	P	**P**	**21 29 59.6**	**+0.7**
TORD	**Torodi Ar. Bea**	**37.03**	**298**	P	**P**	**21 29 59.6**	**+0.7**
	comp=Z,1.5nm,1.0s,baz=104,slow=7.3,SNR=6.0						
DBIC	**Dimbokro**	**40.98**	**285**	*e*P	**P**	**21 30 32.8**	**+0.8**
	comp=Z,5.6nm,1.1s						
GUDG	**Gudauri**	**47.11**	**10**	P	**P**	**21 31 21.2**	**+0.2**
AKASG	**Malin Array Be**	**54.73**	**356**	P	**P**	**21 32 18.6**	**+0.7**
AKASG	**Malin Array Be**	**54.73**	**356**	P	**P**	**21 32 18.6**	**+0.7**
	comp=Z,0.1nm,0.2s,baz=182,slow=7.2,SNR=5.1						
GERES	**GERESS Array B**	**55.78**	**343**	P	**P**	**21 32 26.1**	**+0.4**
GERES	**GERESS Array B**	**55.78**	**343**	P	**P**	**21 32 26.1**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=159,slow=6.1,SNR=4.2						
ESDC	**Sonseca Array**	**56.22**	**324**	P	**P**	**21 32 29.9**	**+0.9**
ESDC	**Sonseca Array**	**56.22**	**324**	P	**P**	**21 32 29.9**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=136,slow=6.8,SNR=7.4						
AAK	**Ala-Archa**	**58.72**	**33**	LR	LR	21 58 27.9	
	comp=Z,36nm,19.1s,baz=215,slow=36						
MKAR	**Makanchi Array**	**65.65**	**34**	P	**P**	**21 33 33.6**	**+0.6**
MKAR	**Makanchi Array**	**65.65**	**34**	P	**P**	**21 33 33.6**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=226,slow=6.2,SNR=9.3						
CMAR	**Chiang Mai Arr**	**67.00**	**68**	P	**P**	**21 33 43.4**	**+1.3**
CMAR	**Chiang Mai Arr**	**67.00**	**68**	P	**P**	**21 33 43.4**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=256,slow=7.2,SNR=4.5						
ARCES	**ARCESS Array B**	**73.69**	**357**	P	**P**	**21 34 21.6**	**-0.4**
ARCES	**ARCESS Array B**	**73.69**	**357**	P	**P**	**21 34 21.6**	**-0.4**
	comp=Z,1.8nm,1.0s,baz=164,slow=3.6,SNR=4.0						
SONM	**Songino Array**	**80.77**	**40**	P	**P**	**21 35 02.6**	**+0.2**
SONM	**Songino Array**	**80.77**	**40**	P	**P**	**21 35 02.6**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=239,slow=2.7,SNR=3.7						

*IDC **11** 21:28:56.6±1.8, 3°86S×34°79E, h0km, mb3.5/2, mb1 3.9/5, mb1mx3.5/27, mbtmp3.9/5, ML4.1/3, Error ellipse: s-maj=28.3km s-min=17.5km az=161.0*
*NEIC **11** 21:28:57.8±0.7, 3°86S×34°78E, h10km, mb4.1/1, Error ellipse: s-maj=14.3km s-min=9.1km az=118.0*
*ISCJB **11** 21:28:58.1±0.5, 3°87S±0°04×34°79E±0°04, h22km, mb3.7/3, Error ellipse: s-maj=6.3km s-min=5.9km az=35.4*
*PRE **11** 21:29:02.1±2.3, 3°58S×34°84E, h10km, ML4.9*
*BUL **11** 21:29:05.6±2.2, 4°34S×35°06E, h18km±28km, MD3.4*
ISC 11 21:28:59.4±0.7, 3°87S±0°04×34°82E±0°04, h22km, n21, σ1s72/38, mb3.6/3, Lake Victoria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAUS	**Longido**	**2.19**	**59**	*i* P	**Pb**	**21 29 39.6**	**+1.3**
MAUS				*i* S	**Sn**	**21 30 02.5**	**+1.5**
DODT	**Dodoma, Tanzan**	**2.49**	**158**	*i* P	**Pn**	**21 29 40.4**	**+1.6**
DODT				*i* S	**Sn**	**21 30 07.6**	**-0.9**
KMBO	**Kilima Mbogo**	**3.65**	**42**	*e*P	**Pn**	**21 29 54.6**	**-0.2**
KMBO				*e*S	**Sn**	**21 30 37.6**	**+0.3**
KMBO	**Kilima Mbogo**	**3.65**	**42**	*e*P	**Pn**	**21 29 54.6**	**-0.2**
KMBO				Pn	**Pn**	**21 29 55.0**	**+0.2**
KMBO				Pg	**Pb**	**21 30 03.9**	**+0.5**
KMBO				Sn	**Sn**	**21 30 36.6**	**-0.7**
KMBO				*e*S	Sb	21 30 37.6	-10
KMBO				Lg	Lg	21 30 52.4	
KMBO	**Kilima Mbogo**	**3.65**	**42**	Pn	**Pn**	**21 29 55.0**	**+0.2**
	2.0nm,0.3s,baz=223,slow=19,SNR=6.8						
KMBO				Pg	**Pb**	**21 30 03.9**	**+0.5**
	5.0nm,0.3s,baz=223,slow=18,SNR=7.0						
KMBO				Sn	**Sn**	**21 30 36.6**	**-0.7**
	13nm,0.3s,baz=257,slow=24,SNR=7.8						
KMBO				Lg	Lg	21 30 52.4	
	33nm,0.3s,baz=252,slow=24,SNR=6.5						
KMBO	**Kilima Mbogo**	**3.65**	**42**	*i* P	**Pb**	**21 30 04.5**	**+1.1**
KMBO				*i* S	**Sb**	**21 30 44.5**

Ms1 4.2/12,ms1mx4.0/29,Error ellipse: s-maj=24.1km s-min=17.0km az=115.0
*NEIC **11** 21:47:16.2±0.8,33°.17S×179°.83E,h47km±7km,mb4.8/5, Error ellipse: s-maj=9.1km s-min=6.8km az=121.0*
ISC 11 21:47:15.1±0.6,33°.13S±0°.07×179°.83E±0°.09,h35km,n62, σ1°08/41,mb4.6/13,MS4.4/9,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.32**	**27**	P		**Pn**		**21 48 19.6**	**+1.4**
RAO	**Raoul Island**	**4.32**	**27**	P		**Pn**		**21 48 19.6**	**+1.4**
	39nm,0.3s,baz=233,slow=20,SNR=2.5								
RAO				LR		LR		21 49 22.9	
	comp=Z,430nm,21.4s,baz=310,slow=29								
OUZ	**Omahuta**	**5.57**	**246**	*e*Pn		**Pn**		**21 48 35.1**	**-0.3**
	128nm,0.8s								
OUZ				*e*Sn		**Sn**		**21 49 37.8**	**-0.5**
URZ	**Urewera**	**5.58**	**203**	P		**Pn**		**21 48 36.7**	**+1.2**
URZ				S		**Sn**		**21 49 40.2**	**+1.8**
URZ	**Urewera**	**5.58**	**203**	P		**Pn**		**21 48 36.7**	**+1.2**
	12nm,0.3s,baz=44,slow=5.6,SNR=33								
URZ				S		**Sn**		**21 49 40.2**	**+1.8**
	baz=37,slow=20,SNR=2.0								
RPZ	**Rata Peaks**	**12.61**	**210**	LR		LR		21 55 25.8	
	comp=Z,943nm,19.6s,baz=142,slow=39								
MSVF	**Nonsavu**	**15.41**	**354**	*e*Pn		**Pn**		**21 50 52.1**	**+2.1**
DZM	**Mont Dzumac**	**16.17**	**310**	*e*LR		LR		21 54 17.7	
	3μm,25.9s								
DZM	**Mont Dzumac**	**16.17**	**310**	*e*P		**Pn**		**21 51 00.5**	**+0.7**
	22nm,1.2s								
DZM	**Mont Dzumac**	**16.17**	**310**	LR		LR		21 55 54.0	
	comp=Z,2μm,19.2s,baz=30,slow=32								
TAU	**Tasmania Unive**	**27.27**	**240**	*e*P		**P**		**21 52 56.1**	**+0.1**
	66nm,1.1s								
TBI	**Tubuai**	**28.67**	**78**	*e*LQ		LQ		21 58 50.6	
	1μm,26.2s								
TBI				*e*LR		LR		22 00 03.8	
	755nm,29.2s,baz=236								
TBI	**Tubuai**	**28.67**	**78**	*e*T		T		22 22 44.9	
	13nm,0.3s								
PAE	**Paea**	**31.49**	**68**	*e*T		T		22 26 14.9	
	3.6nm,0.2s								
PPT2	**Papeete2**	**31.53**	**68**	*e*LQ		LQ		21 59 55.9	
	831nm,25.2s								
PPT2				*e*LR		LR		22 01 18.9	
	608nm,27.2s,baz=246								
PPT2	**Papeete2**	**31.53**	**68**	*e*T		T		22 26 19.1	
	6.1nm,0.4s								
PPT	**Papeete**	**31.55**	**68**	LR		LR		22 03 47.4	
	comp=Z,194nm,20.1s,baz=3.0,slow=32								
STKA	**Stephens Creek**	**32.15**	**262**	LR		LR		22 06 24.1	
	comp=Z,667nm,18.2s,baz=67,slow=36								
CTA	**Charters Tower**	**32.56**	**285**	P		**P**		**21 53 43.8**	**+0.7**
CTA	**Charters Tower**	**32.56**	**285**	P		**P**		**21 53 43.8**	**+0.7**
	4.6nm,0.8s,baz=127,slow=9.9,SNR=3.8								
CTAO	**Charters Tower**	**32.56**	**285**	*e*P		**P**		**21 53 42.9**	**-0.2**
PMOR	**Pomariorio Ree**	**34.36**	**66**	*e*T		T		22 29 50.0	
	1.8nm,0.2s								
VAH	**Vaihoa**	**34.42**	**67**	*e*T		T		22 29 54.3	
	14nm,0.3s								
PMG	**Port Moresby**	**38.25**	**301**	LR		LR		22 08 12.7	
	comp=Z,605nm,18.5s,baz=134,slow=33								
RKT	**Rikitea**	**40.82**	**88**	*e*LQ		LQ		22 04 04.8	
	416nm,27.2s								
RKT				*e*LR		LR		22 05 47.1	
	850nm,28.8s,baz=246								
RKT	**Rikitea**	**40.82**	**88**	*e*T		T		22 37 57.2	
	2.3nm,0.2s								
AS31	**Alice Springs**	**41.21**	**271**	*e*P		**P**		**21 54 56.3**	**-0.3**
ASAR	**Alice Springs**	**41.21**	**271**	P		**P**		**21 54 57.0**	**+0.3**
ASAR	**Alice Springs**	**41.21**	**271**	P		**P**		**21 54 57.0**	**+0.3**
	7.0nm,0.8s,baz=108,slow=7.5,SNR=41								
WRAB	**Tennant Creek**	**42.45**	**276**	*e*P		**P**		**21 55 06.7**	**-0.1**
	22nm,1.0s								
WRA	**Warramunga Arr**	**42.45**	**276**	P		**P**		**21 55 06.5**	**-0.3**
WRA	**Warramunga Arr**	**42.45**	**276**	P		**P**		**21 55 06.5**	**-0.3**
	5.4nm,0.8s,baz=114,slow=7.9,SNR=22								
VNDA	**Vanda**	**45.21**	**185**	P		**P**		**21 55 28.1**	**-0.1**
VNDA	**Vanda**	**45.21**	**185**	P		**P**		**21 55 28.1**	**-0.1**
	1.0nm,0.9s,baz=6.1,slow=7.2,SNR=2.8								
FITZ	**Fitzroy Crossi**	**50.58**	**273**	*e*P		**P**		**21 56 11.0**	**+0.4**
	23nm,1.0s								
MBWA	**Marble Bar**	**54.15**	**267**	*e*P		**P**		**21 56 36.1**	**-0.9**
QSPA	**South Pole Qui**	**56.99**	**180**	*e*P		**P**		**21 56 57.5**	**+0.5**
	20nm,1.0s								
MAW	**Mawson**	**69.11**	**201**	LR		LR		22 26 48.9	
	comp=Z,171nm,18.2s,baz=341,slow=34								
SNAA	**Sanae**	**75.48**	**179**	*e*P		**P**		**21 58 52.7**	**-2.5**
SNAA	**Sanae**	**75.48**	**179**	*e*I				21 59 02.1	
SNAA	**Sanae**	**75.48**	**179**	*e*P		**P**		**21 58 53.9**	**-1.3**
	9.3nm,1.3s								
VNA2	**Neumayer--Watz**	**76.11**	**178**	*e*P		**P**		**21 58 57.6**	**-1.2**
	baz=184,slow=2.9								
VNA2	**Neumayer--Watz**	**76.11**	**178**	*e*I		P		21 59 06.7	+7.9
	baz=184,slow=2.9								
VNA1	**Neumayer--Stat**	**76.36**	**177**	*e*P		**P**		**21 58 58.6**	**-1.5**
VNA1	**Neumayer--Stat**	**76.36**	**177**	*e*I		P		21 59 07.7	+7.6
PLCA	**Paso Flores**	**81.98**	**134**	LR		LR		22 26 05.9	
	comp=Z,189nm,21.2s,baz=141,slow=28								
KSRS	**Korea Array**	**85.26**	**321**	LR		LR		22 32 33.4	
	comp=Z,95nm,19.7s,baz=47,slow=32								
USRK	**Ussuriysk Arra**	**88.44**	**328**	LR		LR		22 34 55.1	
	comp=Z,106nm,20.2s,baz=39,slow=32								
ISA	**Isabella**	**89.53**	**46**	*e*P		**P**		**22 00 08.2**	**-0.5**
	8.5nm,1.0s								
CMB	**Columbia Colle**	**90.02**	**43**	*e*P		**P**		**22 00 10.9**	**0.0**
	6.9nm,1.1s								
NVAR	**Mina Array Bea**	**91.48**	**44**	P		**P**		**22 00 18.6**	**+0.6**
NVAR	**Mina Array Bea**	**91.48**	**44**	P		**P**		**22 00 18.6**	**+0.6**
	1.9nm,0.9s,baz=224,slow=8.2,SNR=6.0								
TXAR	**Lajitas Array**	**95.40**	**59**	P		**P**		**22 00 34.0**	**-2.1**
TXAR	**Lajitas Array**	**95.40**	**59**	P		**P**		**22 00 34.0**	**-2.1**
	0.4nm,0.7s,baz=359,slow=4.0,SNR=5.9								
LPAZ	**La Paz**	**98.67**	**116**	LR		LR		22 35 02.6	
	comp=Z,132nm,21.2s,baz=137,slow=29								
CPUP	**Villa Florida**	**99.70**	**130**	LR		LR		22 36 10.7	
	comp=Z,248nm,22.0s,baz=208,slow=29								
FINES	**FINESS Array B**	**147.00**	**337**	PKPbc		**PKPbc**		**22 06 52.5**	**-0.7**
FINES	**FINESS Array B**	**147.00**	**337**	PKPbc		**PKPbc**		**22 06 52.6**	**-0.7**
	6.1nm,1.1s,baz=17,slow=1.5,SNR=3.9								
AKASG	**Malin Array Be**	**152.21**	**318**	PKPbc		**PKPbc**		**22 07 06.8**	**+0.3**
AKASG	**Malin Array Be**	**152.21**	**318**	PKPbc		**PKPbc**		**22 07 06.8**	**+0.3**
	0.1nm,0.3s,baz=133,slow=1.1,SNR=2.4								
TORD	**Torodi Ar. Bea**	**160.04**	**185**	PKPab		**PKPab**		**22 07 50.0**	**-0.7**
TORD	**Torodi Ar. Bea**	**160.04**	**185**	PKPab		**PKPab**		**22 07 50.0**	**-0.7**
	0.3nm,0.6s,baz=168,slow=2.5,SNR=3.4								

*IDC **11** 21:49:41.6±1.2, 14°.14N×145°.86E,h0km,mb3.8/9, mb1 3.9/9,mb1mx3.8/24,mbtmp3.8/9,MS4.5/2,Ms1 4.6/2, ms1mx3.2/39,Error ellipse: s-maj=41.4km s-min=20.8km az=88.0*
*ISCJB **11** 21:49:43.8±0.8, 14°.18N±0°.09×146°.2E±0°.1,h33km, mb4.0/13,MS4.5/2,Error ellipse: s-maj=17.4km s-min=10.3km az=33.7*
*NEIC **11** 21:49:43.5±1.0, 14°.12N×146°.64E,h35km,mb4.3/4,Error ellipse: s-maj=26.5km s-min=12.3km az=85.0*
ISC 11 21:49:46.5±1.1, 14°.2N±0°.1×146°.1E±0°.1,h35km,n29, σ1°01/22,mb4.0/13,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.36**	**245**	*e*Pn		**Pn**		**21 50 11.6**	**+2.6**
GUMO				*e*Sn		**Sn**		**21 50 24.9**	**-1.0**
H11S3	**WAKE ISLAND Hy**	**20.18**	**75**	T		T		22 16 04.4	
	baz=264,slow=0.6,SNR=10								
H11S1	**WAKE ISLAND Hy**	**20.20**	**75**	T		T		22 16 03.0	
	baz=264,slow=0.6,SNR=11								
H11S2	**WAKE ISLAND Hy**	**20.20**	**75**	T		T		22 16 04.8	
	baz=264,slow=0.6,SNR=7.5								
H11N1	**WAKE ISLAND Hy**	**20.60**	**72**	T		T		22 15 42.4	
	baz=264								
H11N2	**WAKE ISLAND Hy**	**20.61**	**72**	T		T		22 15 43.3	
	baz=264								
H11N3	**WAKE ISLAND Hy**	**20.62**	**72**	T		T		22 15 43.7	
	baz=264								
KSRS	**Korea Array**	**28.28**	**328**	P		**P**		**21 55 36.2**	**-0.4**
	0.9nm,0.5s,baz=140,slow=9.8,SNR=3.5								
KSAR	**Wonju Array Be**	**28.29**	**328**	P		**P**		**21 55 36.2**	**-0.5**
CTAO	**Charters Tower**	**34.05**	**180**	*e*P		P		21 56 21.7	-5.9
	12nm,0.9s								
WRA	**Warramunga Arr**	**35.84**	**199**	P		**P**		**21 56 42.0**	**-1.0**
WRA	**Warramunga Arr**	**35.84**	**199**	P		**P**		**21 56 42.0**	**-1.0**
	1.8nm,0.8s,baz=23,slow=9.4,SNR=4.6								
WRA				LR		LR		22 10 09.7	
	comp=Z,549nm,19.3s,baz=80,slow=34								
FITZ	**Fitzroy Crossi**	**37.91**	**213**	*e*P		**P**		**21 56 59.9**	**-0.7**
	5.1nm,0.9s								
ASAR	**Alice Springs**	**39.47**	**198**	P		**P**		**21 57 12.8**	**-0.9**
ASAR	**Alice Springs**	**39.47**	**198**	P		**P**		**21 57 12.8**	**-0.9**
	0.4nm,0.8s,baz=21,slow=13,SNR=4.9								
SONM	**Songino Array**	**46.97**	**324**	P		**P**		**21 58 13.6**	**-0.6**
SONM	**Songino Array**	**46.97**	**324**	P		**P**		**21 58 13.6**	**-0.6**
	0.5nm,0.6s,baz=135,slow=7.3,SNR=5.8								
LSA	**Lhasa**	**52.83**	**297**	*e*P		**P**		**21 58 59.3**	**-0.1**
	0.9nm,0.3s								
ZALV	**Zalesovo Beam**	**61.87**	**324**	P		**P**		**22 00 01.9**	**-0.3**
ZALV	**Zalesovo Beam**	**61.87**	**324**	P		**P**		**22 00 01.9**	**-0.3**
	0.4nm,0.4s,baz=106,slow=7.7,SNR=2.8								
MKAR	**Makanchi Array**	**61.92**	**316**	P		**P**		**22 00 02.2**	**-0.6**
MKAR	**Makanchi Array**	**61.92**	**316**	P		**P**		**22 00 02.2**	**-0.6**
	0.4nm,0.4s,baz=92,slow=8.7,SNR=16								
KURK	**Kurchatov**	**64.93**	**320**	*e*P		**P**		**22 00 22.0**	**-0.5**
	1.0nm,0.6s								
KURBB	**Kurchatov Arra**	**64.97**	**319**	P		**P**		**22 00 21.6**	**-1.2**
	0.5nm,0.4s,baz=101,slow=6.7,SNR=7.8								
ILAR	**Eielson Array**	**67.51**	**25**	P		**P**		**22 00 40.3**	**+1.5**
ILAR	**Eielson Array**	**67.51**	**25**	P		**P**		**22 00 40.3**	**+1.5**
	0.6nm,0.4s,baz=252,slow=5.8,SNR=22								
BVAR	**Borovoye Array**	**70.23**	**322**	P		**P**		**22 00 56.0**	**+0.1**
BVAR	**Borovoye Array**	**70.23**	**322**	P		**P**		**22 00 56.0**	**+0.1**
	0.5nm,0.3s,baz=103,slow=7.1,SNR=3.3								
NVAR	**Mina Array Bea**	**85.59**	**52**	LR		LR		22 37 37.0	
	comp=Z,326nm,18.5s,baz=116,slow=34								

*IDC **11** 21:51:35.4±0.7, 13°.15S×166°.20E,h0km,mb4.4/15, mb1 4.5/17,mb1mx4.4/24,mbtmp4.4/17,ML4.4/2,MS4.0/6, Ms1 4.1/6,ms1mx3.7/27,Error ellipse: s-maj=22.5km s-min=15.5km az=90.0*
*ISCJB **11** 21:51:40.0±0.5, 13°.22S±0°.05×166°.13E±0°.08,h44km, mb4.4/19,MS4.0/6,Error ellipse: s-maj=11.5km s-min=7.1km az=158.7*
*NEIC **11** 21:51:40.6±1.4, 13°.15S×166°.19E,h35km±12km,mb4.8/6, Error ellipse: s-maj=13.0km s-min=8.9km az=74.0*
ISC 11 21:51:41.6±0.6,13°.20S±0°.06×166°.18E±0°.09,h44km,n57, σ0°92/55,mb4.5/19,MS4.0/6,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.16**	**301**	Pn		**Pn**		**21 53 21.9**	**-2.0**
HNR				Sn		**Sn**		**21 54 45.3**	**+1.3**
HNR	**Honiara**	**7.16**	**301**	Pn		**Pn**		**21 53 21.9**	**-2.0**
	13nm,0.3s,baz=180,slow=9.1,SNR=8.6								
HNR				Sn		**Sn**		**21 54 45.3**	**+1.3**
	24nm,0.3s,baz=45,slow=20,SNR=2.6								
DZM	**Mont Dzumac**	**8.83**	**178**	*e*Pn		**Pn**		**21 53 46.7**	**-0.1**
	192nm,1.2s								
DZM				*e*Sn		**Sn**		**21 55 23.1**	**-2.0**
	94nm,0.8s								
DZM	**Mont Dzumac**	**8.83**	**178**	*e*Pn		**Pn**		**21 53 46.9**	**+0.1**
	38nm,0.8s								
DZM				*e*Sn		**Sn**		**21 55 26.5**	**+1.4**
DZM	**Mont Dzumac**	**8.83**	**178**	Pn		**Pn**		**21 53 46.5**	**-0.3**
	1.7nm,0.3s,baz=12,slow=17,SNR=13								
DZM				Sn		**Sn**		**21 55 25.9**	**+0.8**
	1.3nm,0.3s,baz=194,slow=18,SNR=3.4								
EIDS	**Eidsvold**	**18.68**	**227**	*e*P		**Pn**		**21 55 56.2**	**-0.7**
	24nm,1.2s								
CTA	**Charters Tower**	**20.27**	**248**	P		Pn		21 56 15.9	0.0
CTA	**Charters Tower**	**20.27**	**248**	P		Pn		21 56 15.9	0.0
	6.4nm,0.8s,baz=88,slow=12,SNR=6.3								
AFI	**Afiamalu**	**21.45**	**94**	LR		LR		22 02 26.0	
	comp=Z,234nm,20.2s,baz=266,slow=30								
RAO	**Raoul Island**	**21.75**	**140**	LR		LR		22 02 46.2	
	comp=Z,516nm,18.4s,baz=20,slow=31								
COEN	**Coen**	**22.37**	**265**	*e*P		**P**		**21 56 37.6**	**+1.3**
	180nm,1.2s								
STKA	**Stephens Creek**	**29.23**	**226**	*e*P		**P**		**21 57 39.7**	**+0.3**
	1.1nm,0.8s								
STKA	**Stephens Creek**	**29.23**	**226**	P		**P**		**21 57 39.4**	**0.0**
	5.4nm,0.9s,baz=26,slow=7.1,SNR=3.9								
WRA	**Warramunga Arr**	**31.21**	**253**	P		**P**		**21 57 55.8**	**-1.3**
WRA	**Warramunga Arr**	**31.21**	**253**	P		**P**		**21 57 55.8**	**-1.3**
	1.4nm,0.8s,baz=84,slow=8.8,SNR=4.0								
AS31	**Alice Springs**	**32.27**	**246**	*e*P		**P**		**21 58 06.3**	**0.0**
ASAR	**Alice Springs**	**32.27**	**246**	P		**P**		**21 58 06.0**	**-0.3**
ASAR	**Alice Springs**	**32.27**	**246**	P		**P**		**21 58 06.0**	**-0.3**
	14nm,0.8s,baz=75,slow=9.2,SNR=28								
PPT2	**Papeete2**	**42.81**	**102**	*e*LQ		LQ		22 09 49.0	
	480nm,27.0s								
PPT2				*e*LR		LR		22 11 33.1	
	476nm,29.0s								
PPT	**Papeete**	**42.81**	**102**	LR		LR		22 14 04.6	
	comp=Z,156nm,18.9s,baz=250,slow=32								
TBI	**Tubuai**	**43.17**	**110**	*e*LR		LR		22 11 48.1	
	225nm,31.8s								
RKT	**Rikitea**	**56.47**	**109**	*e*LR		LR		22 18 01.1	
	204nm,31.5s								
JNU	**Nakatsue**	**57.06**	**325**	P		**P**		**22 01 24.4**	**+0.8**
JNU	**Nakatsue**	**57.06**	**325**	P		**P**		**22 01 24.4**	**+0.8**
	2.9nm,0.7s,baz=117,slow=4.5,SNR=3.7								
ASAJ	**Asahikawa**	**60.95**	**341**	P		**P**		**22 01 50.4**	**+0.2**
ASAJ	**Asahikawa**	**60.95**	**341**	P		**P**		**22 01 50.4**	**+0.2**
	12nm,0.7s,baz=242,slow=4.7,SNR=5.0								
VNDA	**Vanda**	**64.36**	**181**	*e*P		**P**		**22 02 12.4**	**-0.1**
VNDA	**Vanda**	**64.36**	**181**	P		**P**		**22 02 13.3**	**+0.8**
	1.1nm,0.8s,baz=357,slow=4.7,SNR=3.9								
VNDA				LR		LR		22 25 09.7	
	comp=Z,122nm,20.2s,baz=22,slow=31								
USRK	**Ussuriysk Arra**	**65.05**	**334**	P		**P**		**22 02 18.0**	**+0.7**
	10nm,1.0s,baz=146,slow=6.3,SNR=11								
PETK	**Petropavlovsk-**	**66.43**	**354**	LR		LR		22 25 38.3	
	comp=Z,94nm,20.8s,baz=163,slow=31								
ENH	**Enshi**	**69.58**	**310**	*e*P		**P**		**22 02 45.9**	**-0.6**
	9.0nm,0.9s								
CM31	**Chiang Mai Arr**	**73.36**	**294**	*e*P		**P**		**22 03 09.3**	**-0.2**
	6.9nm,0.8s								
CMAR	**Chiang Mai Arr**	**73.36**	**294**	P		**P**		**22 03 10.7**	**+1.3**
CMAR	**Chiang Mai Arr**	**73.36**	**294**	P		**P**		**22 03 10.7**	**+1.3**
	1.1nm,0.3s,baz=125,slow=4.8,SNR=4.4								
QSPA	**South Pole Qui**	**76.82**	**180**	*e*P		**P**		**22 03 28.4**	**-0.3**
	15nm,1.3s								
QSPA	**South Pole Qui**	**76.82**	**180**	P		**P**		**22 03 29.7**	**+1.0**
	7.0nm,1.0s								
SONM	**Songino Array**	**80.64**	**324**	P		**P**		**22 03 50.0**	**+0.1**
SONM	**Songino Array**	**80.64**	**324**	P		**P**		**22 03 50.0**	**+0.1**
	1.3nm,0.8s,baz=140,slow=5.5,SNR=8.3								
ILAR	**Eielson Array**	**85.41**	**18**	P		**P**		**22 04 13.1**	**-0.9**
ILAR	**Eielson Array**	**85.41**	**18**	P		**P**		**22 04 13.1**	**-0.9**
	1.8nm,0.9s,baz=238,slow=5.3,SNR=12								
ILAR				LR		LR		22 36 45.5	
	comp=Z,165nm,19.9s,baz=230,slow=32								
NVAR	**Mina Array Bea**	**87.08**	**50**	P		**P**		**22 04 23.4**	**+0.2**
NVAR	**Mina Array Bea**	**87.08**	**50**	P		**P**		**22 04 23.4**	**+0.2**
	0.4nm,0.6s,baz=234,slow=9.9,SNR=3.9								
SNAA	**Sanae**	**95.01**	**183**	*e*P		**P**		**22 04 58.5**	**-0.8**
SNAA	**Sanae**	**95.01**	**183**	*e*P		**P**		**22 04 59.7**	**+0.3**
	3.1nm,1.1s								
MK31	**Makanchi Array**	**95.37**	**317**	*e*P		**P**		**22 05 01.2**	**-0.1**
MKAR	**Makanchi Array**	**95.37**	**317**	P		**P**		**22 05 01.4**	**0.0**
MKAR	**Makanchi Array**	**95.37**	**317**	P		**P**		**22 05 01.4**	**0.0**
	1.1nm,0.6s,baz=88,slow=5.4,SNR=11								
ZALV	**Zalesovo Beam**	**95.53**	**324**	P		**P**		**22 05 00.5**	**-1.3**
ZALV	**Zalesovo Beam**	**95.53**	**324**	P		**P**		**22 05 00.5**	**-1.3**
	0.7nm,0.3s,baz=96,slow=4.3,SNR=4.2								
VNA2	**Neumayer--Watz**	**95.97**	**182**	*e*P		**P**		**22 05 03.9**	**+0.3**
KURBB	**Kurchatov Arra**	**98.59**	**320**	P		**P**		**22 05 15.4**	**-0.3**
	0.2nm,0.2s,baz=115,slow=2.5,SNR=3.0								
ARCES	**ARCESS Array B**	**118.51**	**345**	PKP		**PKPdf**		**22 10 24.6**	**+0.6**
ARCES	**ARCESS Array B**	**118.51**	**345**	PKP		**PKPdf**		**22 10 24.6**	**+0.6**
	1.9nm,0.8s,baz=29,slow=2.1,SNR=3.7								
KEST	**Kesra**	**149.36**	**321**	PKPbc		**PKPbc**		**22 11 27.1**	**+0.8**
KEST	**Kesra**	**149.36**	**321**	PKPbc		**PKPbc**		**22 11 27.1**	**+0.8**
	1.8nm,0.7s,baz=76,slow=3.2,SNR=5.3								
ESDC	**Sonseca Array**	**152.23**	**344**	PKPbc		**PKPbc**		**22 11 31.6**	**-1.3**
ESDC				PKPab		**PKPab**		**22 11 43.5**	**+0.8**
ESDC	**Sonseca Array**	**152.23**	**344**	PKPbc		**PKPbc**		**22 11 31.6**	**-1.3**
	0.1nm,0.4s,baz=8.5,slow=2.6,SNR=2.8								
ESDC				PKPab		**PKPab**		**22 11 43.5**	**+0.8**
	0.5nm,0.5s,baz=11,slow=3.9,SNR=13								

IDC 11 22:16:56.7±1.8,13°.37S×166°.30E,h0km,mb3.7/4, mb1 3.9/5,mb1mx3.7/18,mbtmp3.7/5,ML3.6/1,MS3.3/1, Ms1 3.3/1,ms1mx2.7/31,Error ellipse: s-maj=53.0km s-min=31.1km az=126.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.65**	**179**	Pn		Pn		22 19 02.6	-0.8
	0.6nm,0.3s,baz=342,slow=20,SNR=4.5								
DZM				Sn		Sn		22 20 33.8	-8.1
	0.2nm,0.3s,baz=15,slow=16,SNR=2.0								
STKA	**Stephens Creek**	**29.20**	**227**	P		P		22 23 01.1	+1.0
	4.3nm,1.1s,baz=27,slow=9.0,SNR=2.7								
WRA	**Warramunga Arr**	**31.27**	**254**	P		P		22 23 18.4	-0.2
	0.4nm,0.7s,baz=86,slow=9.5,SNR=6.3								
ASAR	**Alice Springs**	**32.31**	**247**	P		P		22 23 27.4	-0.4
	0.4nm,0.7s,baz=73,slow=9.6,SNR=7.1								
KAPI	**Kappang**	**46.63**	**276**	LR		LR		22 44 12.7	
	comp=Z,36nm,19.2s,baz=2.8,slow=35								
ILAR	**Eielson Array**	**85.53**	**18**	P		P		22 29 36.4	0.0
	0.2nm,0.4s,baz=239,slow=5.3,SNR=5.5								

IDC 11 22:19:33.1±1.3,11°.17S×165°.75E,h0km,mb3.9/5, mb1 4.2/7,mb1mx3.9/20,mbtmp4.0/7,ML4.4/2,Error ellipse: s-maj=39.2km s-min=26.5km az=142.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.97**	**286**	Pn		Pn		22 21 02.6	-0.1
	30nm,0.3s,baz=287,slow=19,SNR=5.1								
DZM	**Mont Dzumac**	**10.86**	**177**	Pn		Pn		22 22 10.4	+0.4
	1.1nm,0.3s,baz=37,slow=15,SNR=5.7								
WRA	**Warramunga Arr**	**31.44**	**250**	P		P		22 25 56.6	+0.1
	3.0nm,0.4s,baz=81,slow=9.3,SNR=95								
ASAR	**Alice Springs**	**32.74**	**243**	P		P		22 26 07.2	-0.7
	0.9nm,0.8s,baz=74,slow=10.0,SNR=5.9								
ILAR	**Eielson Array**	**83.63**	**18**	P		P		22 32 02.7	-0.4
	0.3nm,0.6s,baz=231,slow=4.7,SNR=3.6								
NVAR	**Mina Array Bea**	**86.10**	**50**	P		P		22 32 16.2	-0.2
	0.2nm,0.4s,baz=233,slow=7.5,SNR=2.6								
MKAR	**Makanchi Array**	**93.62**	**317**	P		P		22 32 52.2	+0.8
	0.6nm,1.0s,baz=91,slow=5.9,SNR=2.5								

MEX 11 22:22:04.4±0.8,15°.59N×92°.47W,h176km±7km,MD3.7, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		**0.73**	**279**	*e*P		Pn		22 22 28.4	-1.5
PCIG				*e*S		Sn		22 22 47.8	-1.7
CCIG	**Comitan**	**0.76**	**25**	*i* P		Pn		22 22 28.9	-1.4
CCIG				*i* S		Sn		22 22 47.9	-2.6
TGIG		**1.34**	**332**	*e*P		Pn		22 22 33.9	-0.7
TGIG				*i* S		Sn		22 22 55.5	-2.6
HUIG	**Huatulco**	**3.51**	**273**	*e*P		Pn		22 22 57.3	-1.9
HUIG				*i* S		Sn		22 23 39.6	-2.3
VHO	**Vista Hermosa**	**4.35**	**290**	*i* P		Pn		22 23 09.0	-1.2
VHO				*i* S		Sn		22 23 59.4	-2.2

**IDC 11 22:29:57.9±1.5,13°.14S×166°.33E,h0km,mb3.9/6, mb1 4.1/7,mb1mx3.9/19,mbtmp3.9/7,ML3.4/1,MS3.2/1, Ms1 3.2/1,ms1mx2.8/25,Error ellipse: s-maj=42.5km s-min=25.6km az=107.0,

LCO				*e*Sn		**Sn**	**23 53 09.4**	**-2.6**
LCO	**Las Campanas**	**1.50**	**183**	⇑*i*P		**Pn**	**23 52 53.2**	**-0.2**
LCO				*i* S		**Sn**	**23 53 12.2**	**+0.2**
LCO				AML	AML		23 53 15.2	
	comp=N,2μm,0.3s							
TLL	**Tololo Astrono**	**2.65**	**183**	⇑*i*P		**Pn**	**23 53 09.8**	**+0.6**
TLL				*i* S		**Sn**	**23 53 41.0**	**+0.7**
TLL				AML	AML		23 54 04.4	
	comp=N,1μm,0.6s							
CFAA	**Coronel Fontan**	**4.58**	**154**	Pn		**Pn**	**23 53 37.5**	**+2.0**
CFAA				Sn		**Sn**	**23 54 29.1**	**+1.7**
CFAA	**Coronel Fontan**	**4.58**	**154**	Pn		**Pn**	**23 53 37.5**	**+2.0**
	comp=N,0.6nm,0.3s,baz=329,slow=12,SNR=84							
CFAA				Sn		**Sn**	**23 54 29.1**	**+1.7**
	comp=N,2.7nm,0.3s,baz=260,slow=21,SNR=11							
LVC	**Limon Verde**	**5.12**	**18**	*e*Pn		**Pn**	**23 53 43.0**	**0.0**
	comp=N,59nm,0.5s							
LVC				*e*Sn		**Sn**	**23 54 41.8**	**+0.8**
H03N1	**Juan Fernandez**	**9.28**	**228**	T		T	00 03 22.7	
	baz=138,slow=0.7,SNR=451							
H03N2	**Juan Fernandez**	**9.29**	**228**	T		T	00 03 41.9	
	baz=51,slow=0.7,SNR=519							
H03N3	**Juan Fernandez**	**9.29**	**228**	T		T	00 03 41.6	
	SNR=600							
LPAZ	**La Paz**	**11.40**	**12**	*e*Pn		**Pn**	**23 55 08.2**	**-1.3**
LPAZ	**La Paz**	**11.40**	**12**	Pn		**Pn**	**23 55 06.9**	**-2.6**
	comp=N,0.2nm,0.3s,baz=303,slow=15,SNR=6.3							
CPUP	**Villa Florida**	**11.92**	**87**	*e*Pn		**Pn**	**23 55 15.2**	**-0.8**
CPUP	**Villa Florida**	**11.92**	**87**	Pn		**Pn**	**23 55 16.9**	**+0.9**
	comp=N,0.6nm,0.3s,baz=251,slow=16,SNR=4.1							
TRQA	**Tornquist**	**12.78**	**148**	*e*Pn		**Pn**	**23 55 27.9**	**+0.3**
SIV	**San Ignacio**	**14.49**	**40**	Pn		Pn	23 55 46.1	-4.8
SIV	**San Ignacio**	**14.49**	**40**	Pn		Pn	23 55 46.1	-4.8
	comp=N,0.2nm,0.3s,baz=224,slow=14,SNR=1.7							
TORD	**Torodi Ar. Bea**	**80.86**	**70**	P		**P**	**00 04 37.2**	**-0.3**
TORD	**Torodi Ar. Bea**	**80.86**	**70**	P		**P**	**00 04 37.2**	**-0.3**
	comp=N,1.2nm,0.7s,baz=216,slow=7.1,SNR=11							
ZALV	**Zalesovo Beam**	**148.01**	**28**	PKPbc		**PKPbc**	**00 12 07.9**	**0.0**
ZALV	**Zalesovo Beam**	**148.01**	**28**	PKPbc		**PKPbc**	**00 12 07.9**	**0.0**
	comp=N,1.5nm,0.7s,baz=317,slow=3.8,SNR=7.2							
MKAR	**Makanchi Array**	**151.30**	**41**	PKPbc		**PKPbc**	**00 12 16.1**	**-0.2**
MKAR	**Makanchi Array**	**151.30**	**41**	PKPbc		**PKPbc**	**00 12 16.1**	**-0.2**
	comp=N,0.7nm,0.8s,baz=315,slow=1.6,SNR=4.4							

*ISCJB **11** 23:54:15.0±0.6, 17.°09S×172.°73W±0.°2, h17km, mb4.2/10, MS3.7/8, Error ellipse: s-maj=22.9km s-min=8.2km az=18.3*

*IDC **11** 23:54:14.5±0.7, 17.°09S×172.°33W, h0km, mb4.2/9, mb1 4.5/10, mb1mx4.3/21, mbtmp4.2/10, ML1.8/1, MS3.7/10, Ms1 3.7/10, ms1mx3.5/30, Error ellipse: s-maj=34.5km s-min=16.3km az=131.0*

ISC 11 23:54:16.6±0.6, 17.°1S±0.°1×172.°3W±0.°2, h17km, n29, σ1$19/21, mb4.2/10, MS3.7/8, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
AFI	**Afiamalu**	**3.21**	**9**	Pn		**Pn**	**23 55 05.5**	**-0.8**
	6.5nm,0.3s,baz=188,slow=7.5,SNR=9.0							
AFI				Sn		**Sn**	**23 55 43.2**	**-1.1**
	32nm,0.3s,baz=43,slow=22,SNR=8.2							
AFI				LR		LR	23 56 05.8	
	comp=Z,358nm,20.5s,baz=180,slow=35							
RAR	**Rarotonga**	**12.51**	**111**	LR		LR	00 00 23.3	
	comp=Z,633nm,20.7s,baz=269,slow=29							
DZM	**Mont Dzumac**	**20.64**	**253**	*e*LR		LR	00 04 19.6	
	400nm,25.1s							
DZM	**Mont Dzumac**	**20.64**	**253**	LR		LR	00 04 21.2	
	comp=Z,127nm,18.2s,baz=216,slow=30							
PPT2	**Papeete2**	**21.68**	**95**	*e*LR			00 03 43.4	
	471nm,26.0s							
PPT	**Papeete**	**21.68**	**95**	LR		LR	00 04 34.3	
	comp=Z,230nm,21.3s,baz=184,slow=28							
TBI	**Tubuai**	**22.28**	**110**	*e*LR		LR	00 04 01.3	
	563nm,28.5s,baz=283							
URZ	**Urewera**	**23.04**	**202**	P		**P**	**23 59 21.4**	**+0.4**
	11nm,0.7s,baz=78,slow=8.9,SNR=6.4							
HNR	**Honiara**	**28.06**	**282**	LR		LR	00 08 18.2	
	comp=Z,95nm,20.0s,baz=119,slow=30							
RKT	**Rikitea**	**35.47**	**106**	*e*LR		LR	00 10 07.2	
	305nm,27.8s,baz=279							
STKA	**Stephens Creek**	**44.15**	**242**	P		**P**	**00 02 24.5**	**0.0**
	6.4nm,1.0s,baz=84,slow=9.2,SNR=3.5							
WRA	**Warramunga Arr**	**50.52**	**258**	P		**P**	**00 03 14.3**	**-0.1**
	3.7nm,0.9s,baz=96,slow=6.8,SNR=17							
ASAR	**Alice Springs**	**50.63**	**253**	P		**P**	**00 03 15.4**	**+0.2**
	9.8nm,0.6s,baz=89,slow=8.4,SNR=82							
ASAR				PcP		**PcP**	**00 04 33.1**	**+0.5**
	1.4nm,0.9s,baz=94,slow=5.0,SNR=2.0							
VNDA	**Vanda**	**61.81**	**186**	P		**P**	**00 04 34.3**	**+0.2**
	1.7nm,1.0s,baz=6.4,slow=7.6,SNR=4.7							
JNU	**Nakatsue**	**73.74**	**313**	LR		LR	00 31 32.6	
	comp=Z,37nm,19.8s,baz=237,slow=30							
NVAR	**Mina Array Bea**	**74.88**	**41**	P		**P**	**00 05 57.8**	**+1.0**
	1.5nm,0.9s,baz=224,slow=8.6,SNR=11							
NVAR				LR		LR	00 35 15.9	
	comp=Z,51nm,19.2s,baz=290,slow=33							
KSRS	**Korea Array**	**78.12**	**315**	LR		LR	00 32 51.9	
	comp=Z,42nm,21.7s,baz=146,slow=30							
TXAR	**Lajitas Array**	**80.67**	**55**	P		**P**	**00 06 30.1**	**+1.0**
	1.9nm,0.8s,baz=219,slow=8.7,SNR=19							
TXAR				LR		LR	00 34 35.6	
	comp=Z,82nm,18.3s,baz=5.0,slow=30							
PDAR	**Pinedale Array**	**82.82**	**41**	P		**P**	**00 06 40.7**	**+0.4**
	0.3nm,0.3s,baz=251,slow=2.8,SNR=3.7							
ILAR	**Eielson Array**	**83.90**	**11**	P		**P**	**00 06 45.7**	**+0.7**
	0.6nm,0.7s,baz=226,slow=6.2,SNR=8.1							
SNAA	**Sanae**	**91.16**	**177**	*e*P		**P**	**00 07 17.6**	**-2.8**
SNAA	**Sanae**	**91.16**	**177**	P		**P**	**00 07 17.5**	**-2.8**
	0.9nm,0.8s,baz=200,slow=4.2,SNR=11							
SNAA				LR		LR	00 40 33.0	
	comp=Z,38nm,21.4s,baz=190,slow=30							
VNA2	**Neumayer--Watz**	**91.58**	**175**	*e*P		**P**	**00 07 20.3**	**-1.9**
	baz=184,slow=2.9							
BVAR	**Borovoye Array**	**119.88**	**322**	PKP		**PKPdf**	**00 13 05.6**	**-0.3**
	0.8nm,0.8s,baz=315,slow=0.8,SNR=3.6							
CLL	**Collm**	**145.61**	**354**	*i* P		**PKPab**	**00 13 55.1**	**+0.7**
	comp=Z,10.0nm,1.2s							
KMBO	**Kilima Mbogo**	**145.71**	**241**	PKPbc		**PKPab**	**00 13 56.7**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=159,slow=2.8,SNR=5.1							
GERES	**GERESS Array B**	**147.97**	**353**	PKPbc		**PKPbc**	**00 14 01.5**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=72,slow=4.3,SNR=4.2							
BRTR	**Keskin Array B**	**148.15**	**320**	PKPbc		**PKPbc**	**00 14 02.6**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=117,slow=2.8,SNR=8.9							
DAVOX	**Davos/Dischmat**	**150.35**	**357**	PKPbc		**PKPbc**	**00 14 07.7**	**+0.4**
	comp=Z,2.3nm,0.7s,baz=352,slow=3.2,SNR=5.9							

*MOS **12** 00:08:00.9±1.4, 50.°39N×157.°33E, h42km, mb4.2/1, Error ellipse: s-maj=20.3km s-min=7.5km az=76.3*

*KRSC **12** 00:08:03.8±3.1, 50.°74N×157.°84E, h3km±2km, ML4.8*

*ISCJB **12** 00:08:06.2±0.8, 50.°71N±0.°06×157.°6E±0.°1, h62km±10km, mb3.6/6, Error ellipse: s-maj=13.3km s-min=6.2km az=42.7*

*IDC **12** 00:08:10.1±2.8, 51.°05N×157.°23E, h81km±22km, mb3.3/6, mb1 3.8/9, mb1mx3.4/27, mbtmp3.5/9, Error ellipse: s-maj=40.9km s-min=17.8km az=168.0*

ISC 12 00:08:07.2±1.2, 50.°72N±0.°08×157.°60E±0.°07, h53km±13km, n59, σ1$17/61, mb3.6/6, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PAU	**Pauzhetka**	**0.90**	**327**	PN		**Pn**	**00 08 23.4**	**-0.3**
PAU				S		**Sn**	**00 08 34.7**	**-1.1**
PAU	**Pauzhetka**	**0.90**	**327**	*i* P		**Pn**	**00 08 23.4**	**-0.3**
PAU				*i* S		**Sn**	**00 08 34.7**	**-1.1**
SKR	**Severo-Kuril's**	**0.95**	**268**	⇓*i*PN		Pn	00 08 16.9	-7.4
SKR				*eS*		Sn	00 08 28.5	-8.3
SKR				pmax		pmax		
	comp=N,1μm,0.2s							
SKR				pmax		pmax		
	comp=E,1μm,0.2s							
SKR				pmax		pmax		
	comp=Z,2μm,0.2s							
SKR				smax		smax		
	comp=N,10μm,0.2s							
SKR				smax		smax		
	comp=E,6μm,0.2s							
SKR				smax		smax		
	comp=N,8μm,2.0s							
SKR				smax		smax		
	comp=E,6μm,2.0s							
SKR	**Severo-Kuril's**	**0.95**	**268**	*e*P		**Pn**	**00 08 24.6**	**+0.3**
SKR				*i* S		**Sn**	**00 08 37.4**	**+0.6**
MIPR	**Malaya Ipel'ka**	**1.65**	**342**	*e*P		**Pn**	**00 08 32.9**	**-0.8**
ASAK	**Asacha**	**1.68**	**6**	*e*P		**Pn**	**00 08 34.2**	**0.0**
ASAK				*i* S		**Sn**	**00 08 55.1**	**+0.5**
MTVR	**Mutnovka**	**1.80**	**11**	*i* P		**Pn**	**00 08 35.9**	**-0.1**
MTVR				*i* S		**Sn**	**00 08 56.8**	**-1.0**
RUS	**Russkaya**	**1.81**	**18**	PN		**Pn**	**00 08 35.6**	**-0.3**
RUS	**Russkaya**	**1.81**	**18**	*i* P		**Pn**	**00 08 35.6**	**-0.3**
RUS				*i* S		**Sn**	**00 08 56.0**	**-1.6**
GRL	**Gorelyy**	**1.86**	**9**	*i* P		**Pn**	**00 08 36.9**	**+0.2**
GRL				*i* S		**Sn**	**00 08 58.7**	**-0.4**
APC	**Apacha**	**2.23**	**353**	*i* P		**Pn**	**00 08 41.5**	**-0.1**
APC				*i* S		**Sn**	**00 09 10.8**	**+2.9**
PETK	**Petropavlovsk-**	**2.39**	**1**	PN		**Pn**	**00 08 44.1**	**+0.2**
PETK				pmax		pmax		
	comp=Z,15nm,0.3s							
PETK	**Petropavlovsk-**	**2.39**	**1**	P		**Pn**	**00 08 44.1**	**+0.2**
	comp=Z,15nm,0.3s,baz=149,slow=18,SNR=192							
PETK				S		Sn	00 09 01.1	-11
	comp=Z,21nm,0.3s,baz=236,slow=20,SNR=18							
PET	**Petropavlovsk**	**2.40**	**15**	PN		**Pn**	**00 08 44.3**	**+0.3**
PET	**Petropavlovsk**	**2.40**	**15**	*i* P		**Pn**	**00 08 44.3**	**+0.3**
PET				*i* S		**Sn**	**00 09 11.5**	**-0.6**
UGLR	**Uglovaya**	**2.60**	**16**	*i* P		**Pn**	**00 08 47.2**	**+0.3**
UGLR				*i* S		**Sn**	**00 09 18.8**	**+1.4**
AVH	**Avacha**	**2.64**	**15**	*i* P		**Pn**	**00 08 48.4**	**+1.0**
AVH				*i* S		**Sn**	**00 09 20.1**	**+1.8**
SMAR	**Somma**	**2.65**	**16**	*e*P		**Pn**	**00 08 49.1**	**+1.4**
KOK	**Koryaka**	**2.65**	**14**	*e*P		**Pn**	**00 08 48.6**	**+1.0**
NLC	**Nalytchevo**	**2.68**	**23**	PN		**Pn**	**00 08 47.2**	**-0.6**
NLC	**Nalytchevo**	**2.68**	**23**	*e*P		**Pn**	**00 08 47.2**	**-0.6**
SDLR	**Sedlovina**	**2.68**	**17**	*e*P		**Pn**	**00 08 47.6**	**-0.4**
KRER	**Koryakskii**	**2.68**	**15**	*e*P		**Pn**	**00 08 48.4**	**+0.3**
KRER				*i* S		**Sn**	**00 09 20.5**	**+1.1**
KRX	**Arik**	**2.72**	**13**	*e*P		**Pn**	**00 08 48.6**	**+0.1**
KRX				*i* S		**Sn**	**00 09 21.5**	**+1.2**
GNL	**Ganaly**	**2.99**	**4**	*e*P		**Pn**	**00 08 52.4**	**+0.2**
KII	**Karymskiy**	**3.51**	**18**	P		**Pn**	**00 09 00.2**	**+0.9**
KII				*i* S		**Sn**	**00 09 41.7**	**+2.2**
MKZ	**Mys Kozlova**	**4.59**	**32**	PN		**Pn**	**00 09 14.3**	**+0.3**
MKZ	**Mys Kozlova**	**4.59**	**32**	*e*P		**Pn**	**00 09 14.3**	**+0.3**
MKZ				*i* S		**Sn**	**00 10 06.9**	**+1.0**
TUMR	**Tumrok**	**4.82**	**18**	*e*P		**Pn**	**00 09 18.4**	**+1.1**
ESO	**Esso**	**5.26**	**7**	PN		**Pn**	**00 09 24.5**	**+1.4**
ESO	**Esso**	**5.26**	**7**	*e*P		**Pn**	**00 09 24.5**	**+1.4**
KMNR	**Kamenistaya**	**5.29**	**16**	*e*P		**Pn**	**00 09 25.8**	**+2.2**
BZMR	**Bezymyannaya**	**5.50**	**17**	*e*P		**Pn**	**00 09 28.6**	**+2.0**
KOZ	**Kozyrevsk**	**5.52**	**13**	*e*P		**Pn**	**00 09 25.9**	**-0.8**
KOZR	**Kozyr**	**5.53**	**13**	PN		**Pn**	**00 09 25.9**	**-1.0**
SRDR	**Sredinnyy**	**5.75**	**12**	*e*P		**Pn**	**00 09 31.1**	**+1.2**
KBTR	**Krutoberegovo**	**6.32**	**27**	PN		**Pn**	**00 09 38.0**	**+0.4**
KBTR	**Krutoberegovo**	**6.32**	**27**	*e*P		**Pn**	**00 09 38.0**	**+0.4**
BKI	**Bering**	**6.76**	**45**	PN		**Pn**	**00 09 44.2**	**+0.5**
BKI	**Bering**	**6.76**	**45**	*e*P		**Pn**	**00 09 44.2**	**+0.5**
BKI				*i* S		Sn	00 10 53.5	-5.7
KUR	**Kuril'sk**	**8.53**	**234**	*e*PN		Pn	00 09 58.8	-9.1
FX1	**Attu Island--F**	**9.88**	**71**	P		**Pn**	**00 10 28.9**	**+2.5**
	comp=Z,8.9nm,0.3s,baz=93,slow=17,SNR=29							
FX1				S		**Sn**	**00 12 12.3**	**-3.4**
	comp=Z,9.8nm,0.3s,baz=161,slow=23,SNR=8.8							
ASAJ	**Asahikawa**	**12.11**	**243**	P		Pn	00 10 58.8	+1.9
	comp=Z,1.8nm,0.3s,baz=63,slow=11,SNR=4.8							
ILAR	**Eielson Array**	**31.60**	**42**	P		**P**	**00 14 23.1**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=274,slow=6.2,SNR=5.5							
H11N2	**WAKE ISLAND Hy**	**31.79**	**163**	T		T	00 48 29.6	
	baz=351,slow=0.7,SNR=136							
H11N3	**WAKE ISLAND Hy**	**31.80**	**163**	T		T	00 48 17.5	
	baz=351,slow=0.7,SNR=104							
H11N1	**WAKE ISLAND Hy**	**31.80**	**163**	T		T	00 48 30.7	
	baz=351,slow=0.7,SNR=68							
H11S1	**WAKE ISLAND Hy**	**32.95**	**164**	T		T	00 49 40.1	
	baz=351,slow=0.7,SNR=224							
H11S3	**WAKE ISLAND Hy**	**32.96**	**164**	T		T	00 49 39.1	
	baz=351,slow=0.7,SNR=86							
H11S2	**WAKE ISLAND Hy**	**32.97**	**164**	T		T	00 49 39.6	
	baz=351,slow=0.7,SNR=58							
SONM	**Songino Array**	**32.99**	**285**	P		**P**	**00 14 35.7**	**-1.3**
	comp=Z,0.2nm,0.6s,baz=56,slow=6.8,SNR=2.7							
MKAR	**Makanchi Array**	**47.81**	**296**	P		P	00 16 34.7	-4.4
MKAR	**Makanchi Array**	**47.81**	**296**	P		P	00 16 34.7	-4.4
	comp=Z,0.3nm,0.5s,baz=59,slow=6.0,SNR=4.8							
NVAR	**Mina Array Bea**	**58.05**	**67**	P		**P**	**00 17 56.1**	**+1.3**
	comp=Z,0.9nm,0.5s,baz=295,slow=7.5,SNR=9.1							
PDAR	**Pinedale Array**	**60.06**	**58**	P		**P**	**00 18 08.5**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=305,slow=5.4,SNR=5.4							
TXAR	**Lajitas Array**	**73.02**	**64**	P		**P**	**00 19 32.0**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=292,slow=4.8,SNR=21							
H03N2	**Juan Fernandez**	**135.77**	**89**	T		T	02 58 10.5	
	baz=312,slow=0.7,SNR=80							
H03N1	**Juan Fernandez**	**135.78**	**89**	T		T	02 58 07.1	
	baz=312,slow=0.7,SNR=108							
H03N3	**Juan Fernandez**	**135.78**	**89**	T		T	02 58 03.9	
	baz=312,slow=0.7,SNR=94							

MAN 12 00:09:07, 13.°70N×120.°37E, h71km, mb4.4, ML3.3, MS3.2, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
LUBP	**Lubang**	**0.13**	**287**	*e*P		Pn	00 09 19.2	+1.8
LUBP				*e*S		Sn	00 09 27.3	+2.2
PGP	**Puerto Galera**	**0.59**	**109**	⇑*i*P		Pn	00 09 22.2	+1.3
TGY	**Tagaytay City**	**0.68**	**53**	⇑*i*P		Pn	00 09 23.6	+1.8
SJMP	**San Jose**	**1.43**	**149**	*e*P		Pn	00 09 33.0	+1.9
SJMP				*e*S		Sn	00 09 51.3	+2.2
BUSP	**Coron**	**1.69**	**186**	*e*P		Pn	00 09 35.9	+1.3
OTRP	**Odiongan**	**2.08**	**129**	*e*P		Pn	00 09 41.4	+1.6
ENPP	**El Nido**	**2.64**	**201**	*e*P		Pn	00 09 48.8	+1.4

*ISCJB **12** 00:17:42.9±0.7, 21.°34S±0.°06×66.°8W±0.°1, h240km±14km, mb3.6/3, Error ellipse: s-maj=19.7km s-min=9.3km az=13.7*

*IDC **12** 00:17:43.3±1.6, 21.°34S×66.°61W, h217km±17km, mb3.5/3, mb1 3.4/7, mb1mx3.2/20, mbtmp3.4/7, Error ellipse: s-maj=25.7km s-min=17.0km az=94.0*

*GUC **12** 00:17:44.4±0.5, 21.°32S×67.°45W, h277km±8km, ML4.4*

ISC 12 00:17:43.7±1.0, 21.°30S±0.°08×66.°8W±0.°1, h228km±14km, n18, σ1$26/24, mb4.1/3, 2C-6D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PB09	**Plate Boundary**	**2.33**	**257**	⇓*i*P		Pn	**00 18 28.9**	**+1.1**
PB09				*i* S		**S**	**00 19 02.9**	**+0.6**
PB09				AML	AML		00 19 07.0	
	comp=N,840nm,0.2s							
PB01	**Plate Boundary**	**2.52**	**275**	⇓*i*P		**Pn**	**00 18 30.3**	**+0.5**
PB01				*i* S		**S**	**00 19 05.6**	**-0.2**
PB01				AML	AML		00 19 07.1	
	comp=N,432nm,0.3s							
PB04	**Plate Boundary**	**2.68**	**248**	⇓*i*P		Pn	00 18 38.4	+7.0
PB04				*i* S		S	00 19 19.1	+11
PB04				AML	AML		00 19 21.5	
	comp=N,366nm,0.4s							
MACH	**Maria Elena**	**2.89**	**251**	*e*P		**Pn**	**00 18 34.7**	**+0.8**
MACH				*i* S		**S**	**00 19 12.3**	**-1.0**
PB07	**Plate Boundary**	**2.91**	**261**	⇑*i*P		**Pn**	**00 18 34.5**	**+0.4**
PB07				*i* S		**S**	**00 19 12.2**	**-1.3**
PB07				AML	AML		00 19 13.0	
	comp=E,502nm,0.4s							
HMBC	**Humberstone**	**3.06**	**289**	⇓*i*P		**Pn**	**00 18 36.1**	**+0.3**
HMBC				*i* S		**S**	**00 19 15.6**	**-1.0**
HMBC				AML	AML		00 19 17.2	
	comp=N,399nm,0.2s							
PSGC	**Pisagua**	**3.55**	**298**	⇓*i*P		**Pn**	**00 18 41.3**	**-0.1**
PSGC				*i* S		**S**	**00 19 25.0**	**-1.6**
PSGC				AML	AML		00 19 26.8	
	comp=N,197nm,0.5s							
CEN1	**Los Morros**	**3.78**	**236**	⇑*i*P		**Pn**	**00 18 46.7**	**+2.7**
CEN1				AML	AML		00 19 36.1	
	comp=E,231nm,0.5s							
ANCH	**Antofagasta**	**4.10**	**234**	⇓*i*P		**Pn**	**00 18 48.0**	**+0.2**
ANCH				AML	AML		00 19 37.6	
	comp=E,491nm,0.3s							
LPAZ	**La Paz**	**5.14**	**346**	P		**Pn**	**00 19 03.2**	**+1.9**
	comp=E,2.8nm,0.3s,baz=157,slow=11,SNR=43							
LPAZ				S		**S**	**00 20 03.4**	**+0.7**
	baz=348,slow=17,SNR=5.5							
SIV	**San Ignacio**	**7.57**	**47**	P		**Pn**	**00 19 30.1**	**-1.4**
	comp=E,4.5nm,0.3s,baz=250,slow=12,SNR=58							
CFAA	**Coronel Fontan**	**10.35**	**187**	P		**Pn**	**00 20 04.7**	**-2.2**
	comp=E,0.2nm,0.3s,baz=3.4,slow=14,SNR=65							
CFAA				S		S	00 21 52.7	-10
	comp=E,0.1nm,0.3s,baz=274,slow=19,SNR=5.6							
BDFB	**Brasilia**	**18.68**	**76**	P		**P**	**00 21 45.2**	**0.0**
	comp=E,0.4nm,0.3s,baz=241,slow=10,SNR=5.6							
SNAA	**Sanae**	**61.83**	**161**	P		**P**	**00 27 39.1**	**+0.8**
	comp=E,0.2nm,0.7s,baz=289,slow=5.9,SNR=5.7							
DBIC	**Dimbokro**	**66.79**	**73**	P		**P**	**00 28 10.3**	**-1.0**
	comp=E,3.7nm,1.0s,baz=210,slow=8.8,SNR=4.7							
TORD	**Torodi Ar. Bea**	**75.44**	**69**	P		**P**	**00 29 02.5**	**-0.5**
	comp=E,2.6nm,0.5s,baz=260,slow=5.6,SNR=80							
MKAR	**Makanchi Array**	**144.30**	**37**	PKP		**PKPdf**	**00 36 52.8**	**+0.3**
	comp=E,1.0nm,0.6s,baz=319,slow=3.3,SNR=11							
SONM	**Songino Array**	**152.96**	**10**	PKPbc		**PKPbc**	**00 37 15.5**	**+1.5**
	comp=E,0.3nm,0.4s,baz=69,slow=0.9,SNR=3.5							

*NEIC **12** 00:19:36.9, 19.°01N×64.°62W, h57km, MD3.3(RSPR), After RSPR.*

RSPR 12 00:19:36.9, 19.°01N×64.°62W, h57km±13km, MD3.2/3, 12C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
STVI	**Saint Thomas**	**0.72**	**206**	⇑*e*P		Pn	00 19 50.6	-0.7
STVI	**Saint Thomas**	**0.72**	**206**	*e*Pg		Pn	00 19 53.8	+2.5
STVI	**Saint Thomas**	**0.72**	**206**	⇑*e*P		Pn	00 19 50.6	-0.7
STVI				*e*S		Sn	00 20 01.2	-0.6
CDVI	**St. Croix**	**1.26**	**186**	⇑*e*P		Pn	00 20 01.1	+2.8
CDVI	**St. Croix**	**1.26**	**186**	⇑*e*P		Pn	00 20 01.1	+2.8
MTP	**Monte Pirata**	**1.27**	**224**	⇑*e*P		Pn	00 19 58.7	+0.3
MTP	**Monte Pirata**	**1.27**	**224**	⇑*e*P		Pn	00 19 58.0	-0.4
MTP	**Monte Pirata**	**1.27**	**224**	⇑*e*P		Pn	00 19 58.0	-0.4
MTP				*e*S		Sn	00 20 15.4	+1.0
MTP	**Monte Pirata**	**1.27**	**224**	⇑*e*P		Pn	00 19 58.7	+0.3
MTP				*e*S		Sn	00 20 13.5	-1.0
CBYP	**Canovanas**	**1.38**	**238**	*e*Pn		Pn	00 20 01.5	+1.5
CBYP	**Canovanas**	**1.38**	**238**	*e*Pn		Pn	00 19 58.2	-1.8
HUMP	**Col San Antoni**	**1.45**	**234**	⇑*e*P		Pn	00 19 59.9	-0.9
HUMP	**Col San Antoni**	**1.45**	**234**	⇑*e*P		Pn	00 19 59.6	-1.3
HUMP	**Col San Antoni**	**1.45**	**234**	*e*S		Sn	00 20 18.2	-0.6
HUMP	**Col San Antoni**	**1.45**	**234**	⇑*e*P		Pn	00 19 59.9	-0.9
HUMP				*e*S		Sn	00 20 18.2	-0.6
HUMP	**Col San Antoni**	**1.45**	**234**	⇑*e*P		Pn	00 19 59.6	-1.3

IDC 12 00:23:47.0±1.2, 12.°39S×165.°51E, h0km, mb4.3/9, mb1 4.3/10, mb1mx4.1/21, mbtmp4.2/10, ML3.7/1, MS3.6/6, Ms1 3.6/6, ms1mx3.3/28, Error ellipse: s-maj=43.2km s-min=21.4km az=125.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
DZM	**Mont Dzumac**	**9.67**	**175**	Pn		Pn	00 26 08.4	+0.6
	0.7nm,0.3s,baz=342,slow=20,SNR=5.9							
DZM				Sn		Sn	00 27 50.5	-6.7
	0.2nm,0.3s,baz=96,slow=19,SNR=1.6							
DZM				LR		LR	00 29 31.7	
	comp=Z,148nm,19.2s,baz=210,slow=36							
PMG	**Port Moresby**	**18.26**	**278**	LR		LR	00 32 55.6	
	comp=Z,90nm,18.8s,baz=192,slow=30							
CTA	**Charters Tower**	**20.00**	**245**	P		Pn	00 28 23.0	-0.1
	6.

KURBB				Lg		Lg	00 44 35.6		
	0.1nm,0.3s,baz=202,slow=31,SNR=5.1								
BVAR	**Borovoye Array**	**13.44**	**350**	Pn		**Pn**	**00 41 49.8**	**+0.5**	
	0.1nm,0.3s,baz=152,slow=16,SNR=3.7								
AB31	**Akbulak array**	**13.78**	**318**	Pn		**Pn**	**00 41 53.3**	**-0.7**	
	1.4nm,0.8s,baz=124,slow=14,SNR=15								
AB31				⇓Sn		**Sn**	**00 44 22.0**	**-4.0**	
	0.5nm,0.5s,baz=127,slow=26,SNR=4.0								
AKTO	**Aktyubinsk**	**15.49**	**318**	Pn		**Pn**	**00 42 15.8**	**-1.2**	
	0.2nm,0.3s,baz=108,slow=13,SNR=3.4								
ZALV	**Zalesovo Beam**	**15.89**	**24**	Pn		**P**	**00 42 26.7**	**+1.2**	
	0.1nm,0.3s,baz=219,slow=11,SNR=3.0								
GNI	**Garni**	**22.44**	**280**	LR		LR	00 53 24.2		
	comp=Z,35nm,18.0s,baz=194,slow=40								
SONM	**Songino Array**	**24.51**	**60**	P		**P**	**00 44 01.2**	**+3.6**	
	0.4nm,1.0s,baz=270,slow=8.6,SNR=2.8								
HHC	**Hu-ho-hao-te**	**28.45**	**76**	*e*P		P	00 44 28.7	-4.5	
HHC				AMB		AMB			
	comp=Z,25nm,0.9s								
HHC				AMB		AMB			
	comp=Z,280nm,4.8s								
FINES	**FINESS Array B**	**36.19**	**323**	P		**P**	**00 45 40.3**	**-0.2**	
	comp=Z,2.3nm,1.0s,baz=99,slow=7.2,SNR=4.4								
ARCES	**ARCESS Array B**	**39.07**	**335**	P		**P**	**00 46 05.8**	**+1.1**	
	comp=Z,2.3nm,0.8s,baz=110,slow=7.9,SNR=4.1								
GERES	**GERESS Array B**	**43.08**	**303**	P		**P**	**00 46 37.3**	**-0.8**	
	comp=Z,0.4nm,0.5s,baz=67,slow=7.7,SNR=2.0								
NOA	**NORSAR Array B**	**43.26**	**321**	P		**P**	**00 46 39.3**	**-0.1**	
	comp=Z,0.6nm,0.6s,baz=91,slow=8.0,SNR=2.8								
TORD	**Torodi Ar. Bea**	**68.21**	**269**	P		P	00 49 35.8	-3.1	
	comp=Z,0.4nm,0.6s,baz=49,slow=5.6,SNR=7.1								
WRA	**Warramunga Arr**	**81.77**	**124**	P		**P**	**00 50 56.2**	**-0.8**	
	comp=Z,0.6nm,0.9s,baz=314,slow=4.6,SNR=3.4								
ASAR	**Alice Springs**	**84.25**	**127**	P		**P**	**00 51 08.4**	**-1.3**	
	comp=Z,0.6nm,0.8s,baz=342,slow=3.1,SNR=5.2								

ISCJB **12** *00:39:04.2±0.5,3˚.07N±0˚.05×129˚.25E±0˚.08,h150km, mb4.1/18, Error ellipse: s-maj=11.4km s-min=6.4km az=171.1*
IDC **12** *00:39:04.6±0.8,2˚.94N×128˚.94E,h133km±6km, mb3.9/16, mb1 4.0/16,mb1mx3.9/25,mbtmp3.9/16, Error ellipse: s-maj=28.1km s-min=9.9km az=72.0*
DJA **12** *00:39:17.9±1.0,3˚N±10˚×12˚9E±˚, h211km±6km, M4.7/10, mB5.0/3, mb4.5/10, MLv4.9/3, Mw(mB)4.3/3*
AUST **12** *00:39:20.6,2˚.50N×128˚.50E, h300km*
ISC 12 00:39:05.9±0.7,2˚.95N±0˚.07×129˚.1E±0˚.1, h150km, n62, σ1s49, mb4.2/18, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
TNTI	**Ternate**	**2.75**	**218**	P		Pn	00 40 00.3		+10
SGSI	**Sangihe**	**3.61**	**282**	P		Pn	00 40 09.1		+7.9
KMSI	**Cibinong**	**5.61**	**245**	P		Pn	00 40 32.6		+5.1
	279nm,0.8s,4.1nm								
FAKI	**Fak Fak**	**6.64**	**151**	P		Pn	00 40 54.0		+13
	56nm,1.1s								
FAKI	**Fak Fak**	**6.64**	**151**	P		Pn	00 40 54.2		+13
	baz=6.6,SNR=4.8								
LUWI	**Luwuk**	**7.44**	**238**	P		Pn	00 40 56.2		+4.3
	116nm,0.8s,3µm								
LUWI	**Luwuk**	**7.44**	**238**	P		Pn	00 40 56.3		+4.4
	baz=6.7,SNR=7.9								
APSI	**Ampana**	**8.35**	**243**	P		Pn	00 41 08.0		+3.9
	97nm,1.1s,995nm								
TTSI	**Tana Toraja**	**11.00**	**237**	P		**Pn**	**00 41 41.0**	**+1.8**	
	27nm,1.1s,2µm								
SPSI	**Sidrap Palu**	**11.56**	**234**	P		**Pn**	**00 41 48.3**	**+1.8**	
	18nm,1.1s								
SOEI	**Soe**	**13.50**	**201**	P		**P**	**00 42 13.6**	**-2.1**	
	baz=13,SNR=6.8								
BATI	**Baumata**	**14.14**	**202**	P		**P**	**00 42 23.1**	**+0.4**	
	7.7nm,0.3s,baz=92,slow=2.0,SNR=5.1								
WSI	**Waingapu**	**15.28**	**215**	P		**Pn**	**00 42 32.5**	**-1.5**	
	baz=15,SNR=3.6								
KDU	**Kakadu**	**15.90**	**168**	P		**P**	**00 42 45.6**	**+3.4**	
	baz=16,SNR=24								
SBUM	**Sibu**	**16.84**	**269**	P		**Pn**	**00 42 55.0**	**+2.0**	
	50nm,1.0s								
KNRA	**Kununurra**	**18.51**	**181**	P		**Pn**	**00 43 13.5**	**+0.6**	
	baz=18,SNR=30								
PWJI	**Pagerwojo**	**20.38**	**238**	P		Pn	00 43 32.3		-2.6
	55nm,2.6s								
PCJI	**Pacitan**	**21.00**	**238**	P		**P**	**00 43 38.7**	**+0.9**	
	84nm,2.4s								
FITZ	**Fitzroy Crossi**	**21.19**	**189**	P		**P**	**00 43 39.9**	**+0.2**	
	baz=21,SNR=19								
FITZ	**Fitzroy Crossi**	**21.19**	**189**	P		**P**	**00 43 39.8**	**0.0**	
	3.0nm,0.5s,baz=12,slow=10,SNR=27								
KPJI	**Karang Pucung**	**22.55**	**243**	P		**P**	**00 43 53.8**	**+0.1**	
WRA	**Warramunga Arr**	**23.33**	**167**	P		**P**	**00 44 01.7**	**+0.8**	
	2.4nm,0.3s,baz=343,slow=9.9,SNR=91								
ASAR	**Alice Springs**	**26.87**	**170**	P		**P**	**00 44 34.0**	**+1.1**	
	1.8nm,0.3s,baz=351,slow=7.4,SNR=32								
ASAR				pP		**pP**	**00 45 00.1**	**-4.2**	
	2.3nm,0.6s,baz=338,slow=9.5,SNR=6.3								
ASAR				PcP		**PcP**	**00 47 51.0**	**-0.5**	
	0.6nm,0.6s,baz=348,slow=3.2,SNR=4.6								
PSI	**Prapat**	**30.11**	**270**	P		**P**	**00 45 00.5**	**-1.4**	
	2.6nm,0.5s,baz=66,slow=10.0,SNR=5.1								
MEEK	**Meekatharra**	**31.10**	**198**	P		**P**	**00 45 09.3**	**-1.0**	
	baz=31,SNR=8.0								
CMAR	**Chiang Mai Arr**	**33.28**	**300**	P		**P**	**00 45 30.5**	**+1.0**	
	3.0nm,0.6s,baz=119,slow=7.3,SNR=22								
MORW	**Morawa**	**34.20**	**201**	P		**P**	**00 45 36.3**	**-1.0**	
	baz=34,SNR=3.5								
KSRS	**Korea Array**	**34.35**	**358**	P		P	00 45 42.1	+3.7	
	0.9nm,0.4s,baz=170,slow=10,SNR=4.8								
BLDU	**Ballidu**	**35.40**	**199**	P		**P**	**00 45 46.7**	**-0.8**	
	baz=35,SNR=9.5								
KLBR	**Kellerberrin**	**36.00**	**197**	P		**P**	**00 45 52.0**	**-0.6**	
	baz=36,SNR=14								
BBOO	**Buckleboo**	**36.18**	**170**	P		**P**	**00 45 55.4**	**+1.3**	
	baz=36,SNR=9.4								
STKA	**Stephens Creek**	**36.62**	**162**	P		**P**	**00 45 59.6**	**+1.7**	
	baz=37,SNR=10								
STKA	**Stephens Creek**	**36.62**	**162**	P		**P**	**00 45 59.0**	**+1.1**	
	2.1nm,0.3s,baz=337,slow=8.9,SNR=14								
NWAO	**Narrogin (SRO)**	**37.40**	**196**	P		**P**	**00 46 04.0**	**-0.5**	
	12nm,1.1s,baz=36,slow=8.9,SNR=6.4								
H11S3	**WAKE ISLAND Hy**	**39.93**	**64**	T		T	01 30 45.3		
	baz=253								
H11S2	**WAKE ISLAND Hy**	**39.94**	**64**	T		T	01 30 44.7		
	baz=253								
H11S1	**WAKE ISLAND Hy**	**39.95**	**64**	T		T	01 30 51.6		
	baz=253								
H11N1	**WAKE ISLAND Hy**	**40.50**	**63**	T		T	01 31 33.5		
	baz=254,slow=0.7								
H11N2	**WAKE ISLAND Hy**	**40.51**	**63**	T		T	01 31 32.6		
	baz=254								
H11N3	**WAKE ISLAND Hy**	**40.52**	**63**	T		T	01 31 34.7		
	baz=254,slow=0.7								
SHL	**Shillong**	**42.22**	**306**	*e*P		P	00 46 47.0		+2.3
TAPN	**Taplejung**	**46.36**	**306**	*e*P		**P**	**00 47 18.1**	**+0.4**	
	12nm,0.6s								
ODAN	**Odare**	**46.42**	**305**	*e*P		**P**	**00 47 18.4**	**+0.3**	
	20nm,0.6s								
RAMN	**Ramite**	**47.11**	**305**	*e*P		**P**	**00 47 23.9**	**+0.4**	
	24nm,0.5s								
JIRN	**Jiri**	**47.72**	**305**	*e*P		**P**	**00 47 28.7**	**+0.4**	
	17nm,0.3s								
GUN	**Gumba**	**48.07**	**306**	*e*P		**P**	**00 47 31.3**	**+0.3**	
	32nm,0.7s								
PKI	**Pulchoki**	**48.33**	**305**	*e*P		**P**	**00 47 32.5**	**-0.4**	
KKN	**Kakani**	**48.52**	**305**	*e*P		**P**	**00 47 34.1**	**-0.1**	
	8.2nm,0.4s								
DMN	**Daman**	**48.59**	**305**	*e*P		**P**	**00 47 35.1**	**+0.2**	
SONM	**Songino Array**	**48.80**	**340**	P		**P**	**00 47 38.0**	**+2.0**	
	1.0nm,0.7s,baz=151,slow=7.4,SNR=6.3								
GKN	**Gorkha**	**49.12**	**305**	*e*P		**P**	**00 47 38.5**	**-0.3**	
	4.1nm,0.3s								
KOLN	**Koldanda**	**49.89**	**304**	*e*P		**P**	**00 47 44.9**	**+0.2**	
	32nm,0.6s								
DANN	**Dangsing**	**49.97**	**305**	*e*P		**P**	**00 47 45.4**	**0.0**	
	35nm,0.6s								
MKAR	**Makanchi Array**	**59.53**	**324**	P		**P**	**00 48 54.0**	**+0.4**	
	1.8nm,0.4s,baz=114,slow=8.3,SNR=23								
MKAR				sP		sP	00 49 39.9		-5.4
	0.3nm,0.4s,baz=98,slow=9.2,SNR=2.1								
ZALV	**Zalesovo Beam**	**62.35**	**332**	P		**P**	**00 49 12.0**	**-0.4**	
	0.9nm,0.3s,baz=128,slow=6.8,SNR=6.0								
KURBB	**Kurchatov Arra**	**63.66**	**327**	P		**P**	**00 49 21.5**	**+0.4**	
	4.0nm,0.5s,baz=126,slow=5.9,SNR=46								
KURBB				sP		**sP**	**00 50 08.3**	**-4.8**	
	0.6nm,0.7s,baz=124,slow=6.0,SNR=2.8								
BVAR	**Borovoye Array**	**69.25**	**327**	P		**P**	**00 49 56.7**	**+0.1**	
	1.1nm,0.4s,baz=116,slow=9.8,SNR=9.1								
AKTO	**Aktyubinsk**	**75.72**	**321**	P		**P**	**00 50 33.6**	**-1.4**	
	0.4nm,0.3s,baz=102,slow=7.5,SNR=4.2								
ILAR	**Eielson Array**	**84.80**	**25**	P		**P**	**00 51 25.3**	**+2.0**	
	0.3nm,0.5s,baz=258,slow=6.1,SNR=4.6								
ARCES	**ARCESS Array B**	**91.98**	**340**	P		**P**	**00 51 56.5**	**-0.8**	
	1.1nm,0.7s,baz=86,slow=5.7,SNR=9.8								
FINES	**FINESS Array B**	**93.61**	**332**	P		**P**	**00 52 04.0**	**-0.9**	
	4.7nm,1.0s,baz=34,slow=5.7,SNR=3.6								
TORD	**Torodi Ar. Bea**	**125.38**	**288**	PKP		**PKPdf**	**00 57 48.7**	**-1.4**	
	0.2nm,0.3s,baz=71,slow=1.5,SNR=13								

PRE **12** *00:47:43.3±1.7,4˚.55S×34˚.75E,h10km,ML3.9*
ISC 12 00:47:42.3±1.7,4˚.7S±0˚.1×34˚.66E±0˚.09,h10km,n5, σ2s72/6,Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
DODT	**Dodoma, Tanzan**	**1.82**	**143**	*i* P		Pg	00 48 32.9		+15
DODT				*i* S		Sg	00 49 05.2		+24
MAUS	**Longido**	**2.83**	**46**	*i* P		**Pn**	**00 48 28.5**	**+0.8**	
MAUS				*i* S		Sn	00 48 53.3		-8.7
KIG	**Kigali**	**5.34**	**301**	*e*P		**Pn**	**00 49 04.1**	**+1.8**	
KIG				*e*S		**Sn**	**00 50 04.0**	**-0.1**	
KIG				AML		AML	00 50 37.9		
	comp=Z,62nm,0.4s								
MBAR	**Mbarara**	**5.66**	**316**	*e*P		**Pn**	**00 49 08.6**	**+1.9**	
MBAR				*e*S		**Sn**	**00 50 08.3**	**-3.7**	
LSZ	**Lusaka**	**12.27**	**211**	*e*S		**Sn**	**00 52 53.3**	**-1.1**	

ISCJB **12** *00:53:15.0±0.3,55˚.30N±0˚.02×110˚.42E±0˚.04,h10km, mb3.5/1, Error ellipse: s-maj=4.0km s-min=2.3km az=136.7*
MOS **12** *00:53:16.0±0.4,55˚.39N×110˚.36E,h4km,mb4.5/1, Error ellipse: s-maj=16.3km s-min=8.6km az=65.5*
BYKL **12** *00:53:17.4±0.2,55˚.37N×110˚.36E*
IDC **12** *00:53:24.6±5.0,55˚.09N×109˚.33E,h0km,mb3.5/1, mb1 3.7/5,mb1mx3.4/29,mbtmp3.7/5,ML3.6/4, Error ellipse: s-maj=63.9km s-min=26.7km az=70.0*
ISC 12 00:53:17.2±0.7,55˚.36N±0˚.02×110˚.35E±0˚.02,h10km,n44, σ2s07/76,4C-5D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
NIZ	**Nizh Angarsk**	**0.62**	**312**	⇑*i*Pg		**Pg**	**00 53 28.8**	**-0.4**	
NIZ				*e*Sg		**Sg**	**00 53 37.5**	**+0.2**	
YLYR	**Ulyunkhan**	**0.68**	**136**	*e*PG		**Pg**	**00 53 29.6**	**-0.6**	
YLYR				*e*			00 53 37.9		
YLYR				pmax		pmax			
	comp=Z,515nm,0.7s								
YLYR				smax		smax			
	comp=N,693nm,0.3s								
YLYR	**Ulyunkhan**	**0.68**	**136**	⇑*i*Pg		**Pg**	**00 53 29.6**	**-0.6**	
YLYR				*e*Sg		**Sg**	**00 53 38.9**	**-0.1**	
YLYR				Pmax					
	comp=N,657nm,0.7s								
YLYR				Smax					
	comp=N,1µm,0.8s								
KMO	**Kumora**	**0.71**	**42**	*e*PG		**Pg**	**00 53 29.8**	**-1.1**	
KMO				*e*			00 53 40.2		
KMO				pmax		pmax			
	comp=Z,637nm,0.5s								
KMO				smax		smax			
	comp=N,2µm,1.0s								
KMO	**Kumora**	**0.71**	**42**	⇓*i*Pg		**Pg**	**00 53 29.9**	**-1.0**	
KMO				*e*Sg		**Sg**	**00 53 39.5**	**-0.8**	
KMO				*e*			00 53 47.8		
KMO				Pmax					
	comp=N,637nm,0.3s								
KMO				max					
	comp=N,2µm,1.0s								
YOA	**Uoyan**	**1.09**	**45**	⇓*i*PG		**Pb**	**00 53 37.1**	**-1.1**	
YOA				*e*			00 53 51.9		
YOA				pmax		pmax			
	comp=Z,580nm,0.4s								
YOA				smax		smax			
	comp=E,4µm,1.2s								
YOA	**Uoyan**	**1.09**	**45**	*e*Pg		**Pb**	**00 53 37.4**	**-0.8**	
YOA				*e*Sg		**Sb**	**00 53 52.3**	**-0.2**	
YOA				Pmax					
	comp=E,566nm,0.5s								
YOA				Smax					
	comp=E,3µm,0.8s								
SYVR	**Suvo**	**1.72**	**187**	*e*PN		**Pb**	**00 53 48.2**	**-0.7**	
SYVR				*e*			00 54 11.8		
SYVR				pmax		pmax			
	comp=Z,148nm,0.6s								
SYVR				smax		smax			
	comp=E,3µm,0.7s								
SYVR	**Suvo**	**1.72**	**187**	⇓*i*Pg		**Pb**	**00 53 48.5**	**-0.4**	
SYVR				*e*Sg		**Sg**	**00 54 11.8**	**-0.6**	
SYVR				Pmax					
	comp=E,146nm,0.6s								
SYVR				Smax					
	comp=E,2µm,0.9s								
UKT	**Uakit**	**1.87**	**85**	*e*PN		**Pb**	**00 53 50.4**	**-1.1**	
UKT	**Uakit**	**1.87**	**85**	⇑*i*Pg		**Pb**	**00 53 50.6**	**-0.9**	
UKT				*e*Sg		**Sb**	**00 54 14.8**	**-0.2**	
UKT				Pmax					
	comp=E,173nm,0.7s								
UKT				Smax					
	comp=E,847nm,0.9s								
SVKR	**Severomuysk**	**1.96**	**66**	*e*Pg		**Pb**	**00 53 52.9**	**-0.2**	
SVKR				*e*Sg		**Sg**	**00 54 19.0**	**-1.3**	
SVKR				Pmax					
	comp=E,154nm,0.3s								
SVKR				Smax					
	comp=E,2µm,0.6s								
MXMB	**Maximikha**	**2.31**	**205**	*e*Pg		**Pb**	**00 53 59.1**	**+0.3**	
MXMB				*e*Sg		**Sg**	**00 54 30.3**	**-0.9**	
MXMB				Pmax					
	comp=E,317nm,0.9s								
MXMB				Smax					
	comp=E,1µm,1.0s								
OGRR	**Ongureny**	**2.36**	**224**	*e*PN		**Pb**	**00 53 57.8**	**-1.9**	
OGRR				*e*S		**Sg**	**00 54 31.3**	**-1.5**	
OGRR				smax		smax			
	comp=E,416nm,0.7s								
OGRR	**Ongureny**	**2.36**	**224**	⇓*i*Pn		**Pb**	**00 53 58.1**	**-1.6**	
OGRR				*e*Pg		**Pg**	**00 53 59.7**	**-2.6**	
OGRR				*e*Sn		**Sn**	**00 54 25.7**	**+0.8**	
OGRR				*e*Sg		**Sb**	**00 54 31.0**	**+2.2**	
OGRR				Pmax					
	comp=E,91nm,0.3s								
OGRR				Smax					
	comp=E,319nm,0.2s								
BOD	**Bodaibo**	**3.19**	**38**	*e*PN		**Pn**	**00 54 08.5**	**+1.2**	
BOD				*e*			00 54 13.3		
BOD				*e*			00 54 54.2		
BOD				pmax		pmax			
	comp=Z,43nm,0.6s								
BOD				smax		smax			
	comp=E,211nm,0.9s								
BOD	**Bodaibo**	**3.19**	**38**	*e*Pn		**Pn**	**00 54 09.2**	**+1.9**	
BOD				*e*Pg		**Pb**	**00 54 13.6**	**-0.2**	
BOD				*e*Sg		**Sb**	**00 54 54.5**	**+1.9**	
BOD				Pmax					
	comp=E,43nm,0.8s								
BOD				Smax					
	comp=E,212nm,0.9s								
ZRHB	**Zarechye**	**3.39**	**215**	*e*Pg		**Pb**	**00 54 18.0**	**+0.7**	
ZRHB				*e*Sn		**Sn**	**00 54 50.9**	**+0.5**	
ZRHB				*e*Sg		**Sg**	**00 55 04.2**	**-1.7**	
ZRHB				Pmax					
	comp=E,237nm,0.8s								
ZRHB				Smax					
	comp=E,850nm,1.0s								
TRG	**Tyrgan**	**3.52**	**224**	*e*PN		**Pn**	**00 54 13.7**	**+1.8**	
TRG				*e*			00 54 21.4		
TRG				*e*S		**Sn**	**00 54 54.5**	**+1.0**	
TRG				*e*			00 55 06.5		
TRG				pmax		pmax			
	comp=Z,37nm,0.4s								
TRG				smax		smax			
	comp=E,243nm,0.8s								
TRG	**Tyrgan**	**3.52**	**224**	⇓*i*Pn		**Pn**	**00 54 13.6**	**+1.7**	
TRG				*e*Pg		**Pb**	**00 54 19.7**	**+0.2**	
TRG				*e*Sg		**Sg**	**00 55 06.4**	**-3.6**	
TRG				Pmax					
	comp=E,36nm,0.4s								
TRG				Smax					
	comp=E,243nm,1.0s								
CIT	**Chita**	**3.85**	**149**	*e*Sg		**Sb**	**00 55 15.8**	**+4.0**	
CIT				Smax					
	comp=E,249nm,0.2s								
UUDB	**Ulan-Yde**	**3.85**	**206**	*e*Pg		**Pb**	**00 54 26.9**	**+1.7**	
UUDB				*e*Sg		**Sg**	**00 55 18.1**	**-2.6**	
UUDB				Pmax					
	comp=E,75nm,1.0s								
UUDB				Smax					
	comp=E,281nm,0.8s								
HRMR	**Khuramsha**	**4.26**	**210**	*e*Pn		**Pn**	**00 54 24.1**	**+2.1**	
HRMR				*e*Pg		**Pb**	**00 54 33.4**	**+1.3**	
HRMR				*e*Sn		**Sn**	**00 55 10.4**	**-1.3**	
HRMR				*e*Sg		**Sg**	**00 55 29.5**	**-4.2**	
HRMR				Pmax					
	comp=E,115nm,1.1s								
HRMR				Smax					
	comp=E,583nm,0.8s								
CRS	**Chara**	**4.69**	**68**	*e*Pg		**Pb**	**00 54 42.0**	**+2.5**	
CRS				*e*Sg		**Sg**	**00 55 43.5**	**-4.1**	
CRS				Pmax					
	comp=E,67nm,0.9s								
CRS				Smax					
	comp=E,270nm,1.8s								
IRK	**Irkutsk**	**4.77**	**232**	*e*PN		**Pb**	**00 54 43.9**	**+3.1**	
IRK				*e*			00 55 45.7		
IRK				pmax		pmax			
	comp=Z,166nm,0.2s								
IRK				smax		smax			
	comp=N,618nm,1.2s								
LSTR	**Listvyanka**	**4.80**	**225**	*e*Pn		**Pn**	**00 54 31.9**	**+2.4**	
LSTR				*e*Pg		**Pb**	**00 54 42.3**	**+1.0**	
LSTR				*e*Sg		**Sg**	**00 55 45.6**	**-5.6**	
LSTR				Pmax					
	comp=N,19nm,0.5s								
LSTR				Smax					
	comp=N,338nm,1.6s								
TUP	**Tupik**	**5.62**	**96**	*e*PN		**Pn**	**00 54 41.8**	**+1.0**	
TUP				*e*			00 54 58.4		
TUP				*e*			00 56 12.2		
TUP				pmax		pmax			
	comp=Z,8.0nm,0.6s								
TUP				smax		smax			
	comp=N,143nm,0.9s								
TUP	**Tupik**	**5.62**	**96**	*e*Pn		**Pn**	**00 54 41.5**	**+0.7**	
TUP				*e*			00 54 48.6		
TUP				*e*Pg		**Pb**	**00 54 58.1**	**+2.8**	
TUP				*e*			00 55 03.2		
TUP				*e*Sn		**Sn**	**00 55 44.1**	**-1.3**	
TUP				*e*Sg		**Sg**	**00 56 12.0**	**-5.5**	
TUP				max					
	comp=N,15nm,1.0s								
TUP				Smax					
	comp=N,144nm,0.9s								
KPC	**Khapcheranga**	**5.80**	**167**	*e*Pn		**Pn**	**00 54 44.1**	**+0.8**	
KPC				*e*			00 54 53.2		
KPC				*e*Pg		**Pb**	**00 55 01.2**	**+2.8**	
KPC				*e*Sn		**Sn**	**00 55 48.3**	**-1.6**	
KPC				*e*Sg		Sg	00 56 17.1		-6.2
KPC				Pmax					
	comp=N,14nm,0.5s								
KPC				Smax					
	comp=N,235nm,1.0s								
ARS	**Arshan**	**5.84**	**237**	*e*PN		**Pn**	**00 54 45.6**	**+1.8**	
ARS				*e*			00 55 03.4		
ARS				*e*			00 56 17.8		
ARS				pmax		pmax			
	comp=Z,52nm,0.6s								
ARS				smax		smax			
	comp=E,417nm,1.0s								
ARS	**Arshan**	**5.84**	**237**	*e*Pn		**Pn**	**00 54 45.4**	**+1.6**	
ARS				*e*Pg		Pb	00 55 03.2		+4.1
ARS				*e*Sn		**Sn**	**00 55 48.3**	**-2.5**	
ARS				*e*Sg		Sg	00 56 18.1		-6.4
ARS				Pmax					
	comp=E,52nm,0.6s								
ARS				Smax					
	comp=E,418nm,1.2s								
ZAK	**Zakamensk**	**6.57**	**224**	*e*PN		**Pn**	**00 54 52.0**	**-1.9**	
ZAK				*e*			00 55 12.0		
ZAK				*e*S		**Sg**	**00 56 42.2**	**-5.7**	
ZAK				pmax		pmax			
	comp=Z,6.0nm,0.5s								
ZAK				smax		smax			
	comp=E,50nm,0.9s								
MOY	**Mondy**	**6.70**	**240**	*e*PN		**Pn**	**00 54 58.0**	**+2.4**	
MOY				*e*			00 55 19.4		
MOY				*e*			00 56 47.7		
MOY				pmax		pmax			
	comp=Z,20nm,0.7s								
MOY				smax		smax			
	comp=N,147nm,1.5s								
ORL	**Orlik**	**6.83**	**250**	*e*PN		**Pn**	**00 54 59.6**	**+2.1**	
ORL				*e*			00 55 21.5		
ORL				*e*S		**Sn**	**00 56 14.9**	**-0.4**	
ORL				*e*			00 56 49.1		
ORL				pmax		pmax			
	comp=Z,19nm,0.9s								
ORL				smax		smax			
	comp=N,249nm,1.0s								
ORL	**Orlik**	**6.83**	**250**	⇑*i*Pn		**Pn**	**00 54 59.9**	**+2.4**	
ORL				*e*			00 56 15.8		
ORL				*e*Sg		Sg	00 56 49.3		-7.0
ORL				Smax					
	comp=N,249nm,1.2s								
SONM	**Songino Array**	**7.93**	**200**	Pn		**Pn**	**00 55 14.8**	**+2.2**	
	comp=N,0.3nm,0.3s,baz=16,slow=13,SNR=7.6								
SONM				Pg		Pb	00 55 41.7		+7.0
	comp=N,0.6nm,0.3s,baz=9.8,slow=16,SNR=12								
SONM				Lg		Lg	00 57 24.1		
	comp=N,0.5nm,0.3s,baz=11,slow=28,SNR=3.6								
ZALV	**Zalesovo Beam**	**14.82**	**275**	P		**Pn**	**00 56 47.5**	**+0.9**	
ZALV	**Zalesovo Beam**	**14.82**	**275**

	comp=E,510nm,0.1s							
YOA				Smax				
	comp=E,985nm,0.6s							
SYVR	**Suvo**	**1.69**	**188**	*e*PN	Pn	00 57 26.0	+0.6	
SYVR				*e*		00 57 49.6		
SYVR				pmax	pmax			
	comp=Z,45nm,0.3s							
SYVR				smax	smax			
	comp=N,317nm,0.9s							
SYVR	**Suvo**	**1.69**	**188**	*e*Pg	Pb	00 57 26.4	-0.6	
SYVR				*e*Sg	Sg	00 57 49.9	-0.3	
SYVR				Pmax				
	comp=N,45nm,0.3s							
SYVR				Smax				
	comp=N,314nm,0.9s							
UKT	**Uakit**	**1.86**	**84**	*e*PN	Pn	00 57 27.6	-0.3	
SVKR	**Severomuysk**	**1.97**	**65**	*e*Pn	Pn	00 57 29.4	+0.1	
SVKR				*e*Pg	Pb	00 57 30.5	-1.3	
SVKR				*e*Sg	Sb	00 57 57.4	+0.9	
SVKR				Pmax				
	comp=N,62nm,0.2s							
SVKR				Smax				
	comp=N,465nm,0.5s							
MXMB	**Maximikha**	**2.28**	**205**	*e*Pg	Pb	00 57 37.1	0.0	
MXMB				*e*Sg	Sg	00 58 07.6	-1.5	
MXMB				Pmax				
	comp=N,34nm,0.3s							
MXMB				Smax				
	comp=N,356nm,0.9s							
OGRR	**Ongureny**	**2.34**	**225**	*e*Pn	Pn	00 57 35.5	+1.2	
OGRR				*e*Pg	Pb	00 57 37.4	-0.7	
OGRR				*e*Sg	Sb	00 58 08.4	+1.3	
OGRR				Pmax				
	comp=N,32nm,0.4s							
OGRR				Smax				
	comp=N,88nm,0.5s							
BOD	**Bodaibo**	**3.20**	**37**	*e*Pn	Pn	00 57 43.8	-2.4	
BOD				*e*Pg	Pb	00 57 51.3	-1.5	
BOD				*e*Sn	Sn	00 58 22.0	-2.4	
BOD				*e*Sg	Sb	00 58 32.7	+0.9	
BOD				Pmax				
	comp=N,12nm,0.2s							
BOD				Smax				
	comp=N,87nm,0.7s							
ZRHB	**Zarechye**	**3.37**	**216**	*e*Sg	Sb	00 58 39.6	+3.0	
ZRHB				Smax				
	comp=N,182nm,1.2s							
TRG	**Tyrgan**	**3.50**	**224**	*e*Pn	Pn	00 57 50.4	+0.1	
TRG				*e*Pg	Pb	00 57 57.5	-0.4	
TRG				*e*Sn	Sn	00 58 31.5	-0.3	
TRG				*e*Sg	Sg	00 58 44.7	-3.6	
TRG				Pmax				
	comp=N,13nm,0.5s							
TRG				Smax				
	comp=N,32nm,0.5s							
UUDB	**Ulan-Yde**	**3.83**	**206**	*e*Pg	Pb	00 58 04.6	+1.2	
UUDB				*e*Sn	Sn	00 58 38.8	-1.0	
UUDB				*e*Sg	Sg	00 58 55.6	-3.1	
UUDB				Pmax				
	comp=N,30nm,0.9s							
UUDB				Smax				
	comp=N,52nm,1.1s							
HRMR	**Khuramsha**	**4.23**	**210**	*e*Pg	Pb	00 58 11.6	+1.3	
HRMR				*e*Sn	Sn	00 58 49.7	-0.1	
HRMR				*e*Sg	Sg	00 59 07.0	-4.8	
HRMR				Pmax				
	comp=N,28nm,0.7s							
HRMR				Smax				
	comp=N,108nm,0.7s							
TLY	**Talaya**	**5.43**	**230**	*e*Pg	Pb	00 58 33.9	+3.2	
TLY				*e*Sg	Sg	00 59 43.8	-6.3	
TLY				Pmax				
	comp=N,2.0nm,0.1s							
TLY				Smax				
	comp=N,29nm,0.5s							
TUP	**Tupik**	**5.61**	**95**	*e*Pn	Pn	00 58 19.8	+0.6	
TUP				*e*Pg	Pb	00 58 35.9	+2.1	
TUP				*e*Sn	Sn	00 59 21.6	-2.1	
TUP				*e*Sg	Sg	00 59 49.9	-5.9	
TUP				Pmax				
	comp=N,3.0nm,0.4s							
TUP				Smax				
	comp=N,34nm,0.8s							
KPC	**Khapcheranga**	**5.77**	**167**	*e*Sg	Sg	00 59 55.8	-5.3	
KPC				Smax				
	comp=N,36nm,1.3s							
ARS	**Arshan**	**5.83**	**237**	*e*Pn	Pn	00 58 22.9	+0.5	
ARS				*e*Pg	Pb	00 58 40.5	+2.9	
ARS				*e*Sn	Sn	00 59 26.7	-2.6	
ARS				*e*Sg	Sg	00 59 56.0	-7.1	
ARS				Pmax				
	comp=N,24nm,0.5s							
ARS				Smax				
	comp=N,94nm,1.0s							
MOY	**Mondy**	**6.69**	**241**	*e*PN	Pn	00 58 36.6	+2.4	
MOY				*e*		00 58 57.2		
MOY				*e*S	Sn	00 59 49.5	-1.0	
MOY				*e*		01 00 21.5		
MOY				pmax	pmax			
	comp=Z,1.0nm,0.2s							
MOY				smax	smax			
	comp=N,49nm,1.9s							
MOY	**Mondy**	**6.69**	**241**	*e*Pn	Pn	00 58 34.2	0.0	
MOY				*e*Sn	Sn	00 59 46.6	-3.9	
MOY				*e*Sg	Sb	01 00 21.4	+9.1	
MOY				Smax				
	comp=N,48nm,1.8s							
ORL	**Orlik**	**6.83**	**250**	*e*PG	Pg	00 59 00.9	-5.9	
ORL				*e*		01 00 26.9		
ORL				pmax	pmax			
	comp=Z,10.0nm,0.8s							
ORL				smax	smax			
	comp=N,66nm,1.3s							
ORL	**Orlik**	**6.83**	**250**	*e*Pn	Pn	00 58 35.8	-0.4	
ORL				*e*		00 59 53.5		
ORL				*e*Sg	Sg	01 00 27.1	-8.2	
ORL				Smax				
	comp=N,66nm,1.4s							

WEL 12 01:02:05.7±0.2, 36°43S×179°74E, h5km, ML3.6/3, Error ellipse: s-maj=2.8km s-min=1.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**2.02**	**215**	PN	Pn	01 02 39.5	-1.1
PUZ				SN	Sn	01 03 05.5	-0.8
CNGZ	**Carnagh Statio**	**2.39**	**210**	PN	Pn	01 02 44.8	-0.7
CNGZ				SN	Sn	01 03 13.9	-1.2
MWZ	**Matawai**	**2.59**	**222**	PN	Pn	01 02 47.7	-0.8
MWZ				SN	Sn	01 03 18.9	-1.4
URZ	**Urewera**	**2.78**	**228**	PN	Pn	01 02 50.1	-0.8
NMHZ	**Naumai**	**3.54**	**220**	PN	Pn	01 03 00.4	-1.0

*IDC **12** 01:34:54.7±1.6, 24°.45N×122°.11E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/24, mbtmp3.6/4, Error ellipse: s-maj=82.5km s-min=27.7km az=72.0*
*TAP **12** 01:34:54.9, 24°.81N×122°.75E, h44km±1km, ML3.2, C*
*ISCJB **12** 01:34:55.3±0.9, 24°.89N±0°.06×122°.78E±0°.06, h16km, mb3.5/3, Error ellipse: s-maj=10.8km s-min=5.6km az=42.0*

ISC 12 01:34:54.5±0.9, 24°80N±0°.05×122°76E±0°.06, h16km, n20, σ1°09/21, mb3.4/3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima** baz=141	**0.41**	**145**	P	**Pn**	**01 35 05.0**	**-0.8**
YOJ	baz=141			S	**Sn**	**01 35 12.2**	**-0.8**
TWB1	**Santiao Chiao** baz=279	**0.73**	**287**	P	**Pb**	**01 35 08.7**	**-0.1**
TWB1	baz=279			*e*S	**Sn**	**01 35 19.8**	**-1.2**
TWC	**Suao** baz=256	**0.85**	**257**	*e*P	**Pb**	**01 35 10.2**	**-0.7**
NWF	**Wu-fen Shan** baz=287	**0.93**	**287**	*e*P	**Pg**	**01 35 11.9**	**-0.7**
PCYT	**Pengchaiyu** baz=323	**1.04**	**323**	*e*P	**Pb**	**01 35 12.8**	**-1.3**
TWA	**Mucha** baz=271	**1.08**	**280**	*e*P	**Pg**	**01 35 15.6**	**+0.2**
ENTT	**Nioudou** baz=261	**1.09**	**262**	*e*P	**Pn**	**01 35 14.6**	**-0.7**
NSK	**Sanguang** baz=264	**1.28**	**265**	*e*P	**Pg**	**01 35 18.3**	**-0.9**
NNS	**Nan Shan** baz=254	**1.31**	**255**	*e*P	**Pg**	**01 35 18.9**	**-0.9**
TWT	**Tachien** baz=238	**1.54**	**250**	*e*P	**Pg**	**01 35 25.1**	**+1.0**
NSTT	**Nanjuang** baz=274	**1.60**	**264**	*e*P	**Pg**	**01 35 24.7**	**-0.7**
SMLT	**Sun Moon Lake** baz=231	**1.92**	**242**	*e*P	**Pg**	**01 35 31.2**	**-0.3**
TYC	**Yuchr** baz=232	**1.95**	**243**	*e*P	**Pg**	**01 35 30.3**	**-1.6**
TWF1	**Yuli** baz=233	**1.96**	**223**	*e*P	**Pb**	**01 35 28.2**	**-1.7**
ALS	**Alishan** baz=233	**2.19**	**235**	*e*P	**Pb**	**01 35 34.7**	**+0.7**
WTP	**Ta-pu** baz=222	**2.49**	**232**	*e*P	**Pn**	**01 35 35.6**	**+1.1**
KSRS	**Korea Array** baz=197,slow=11,SNR=4.5	**13.37**	**18**	Pn	**P**	**01 38 13.3**	**+0.2**
SONM	**Songino Array** 0.3nm,0.3s,baz=157,slow=7.8,SNR=3.3	**26.39**	**335**	P	**P**	**01 40 32.3**	**+2.0**
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=92,slow=7.4,SNR=3.3	**40.52**	**326**	P	P	01 42 35.7	+3.0
WRA	**Warramunga Arr** 1.2nm,1.0s,baz=347,slow=8.4,SNR=3.7	**45.88**	**165**	P	**P**	**01 43 17.5**	**+1.2**

*IDC **12** 01:36:11.1±1.4, 24°.45N×121°.72E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/24, mbtmp3.6/5, ML3.5/1, MS3.3/1, Ms1 3.3/1, ms1mx2.8/42, Error ellipse: s-maj=83.7km s-min=23.2km az=72.0*
*TAP **12** 01:36:11.9, 24°.69N×122°.56E, h6km±1km, ML3.0, D*
*ISCJB **12** 01:36:12.7±0.7, 24°.71N±0°.07×122°.60E±0°.05, h17km, mb3.5/4, MS3.1/1, Error ellipse: s-maj=10.3km s-min=5.0km az=26.2*

ISC 12 01:36:12.1±0.8, 24°70N±0°.06×122°51E±0°.05, h17km, n24, σ1°21/25, mb3.5/4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima** baz=118	**0.51**	**117**	P	**Pb**	**01 36 21.9**	**-0.6**
YOJ	baz=118			*i* S	**Sb**	**01 36 29.5**	**-0.2**
TWB1	**Santiao Chiao** baz=301	**0.57**	**303**	*e*P	**Pn**	**01 36 25.2**	**-0.1**
TWB1	baz=301			*e*S	**Sn**	**01 36 34.1**	**-0.2**
TWC	**Suao** baz=262	**0.61**	**262**	*i* P	**Pn**	**01 36 25.6**	**-0.3**
ENA	**Nanau** baz=250	**0.75**	**249**	*e*P	**Pn**	**01 36 29.2**	**+1.3**
NWF	**Wu-fen Shan** baz=298	**0.76**	**300**	*e*P	**Pn**	**01 36 28.7**	**+0.6**
ENTT	**Nioudou** baz=266	**0.86**	**267**	*e*P	**Pn**	**01 36 29.2**	**-0.2**
TWA	**Mucha** baz=288	**0.89**	**289**	*e*P	**Pn**	**01 36 31.1**	**+1.3**
TWD	**Chiawan** baz=235	**1.03**	**234**	*e*P	**Pg**	**01 36 33.4**	**+1.3**
NSK	**Sanguang** baz=269	**1.05**	**269**	*e*P	**Pg**	**01 36 34.5**	**+2.2**
NNS	**Nan Shan** baz=256	**1.07**	**256**	*e*P	**Pg**	**01 36 33.7**	**+1.0**
WHF	**Hehuan Shan** baz=245	**1.26**	**244**	*e*P	**Pg**	**01 36 38.5**	**+2.0**
NSTT	**Nanjuang** baz=267	**1.38**	**268**	*e*P	**Pg**	**01 36 37.6**	**-0.9**
EHY	**Hungye** baz=223	**1.61**	**223**	*e*P	**Pb**	**01 36 40.5**	**-0.8**
SMLT	**Sun Moon Lake** baz=241	**1.68**	**242**	*e*P	**Pg**	**01 36 43.5**	**-0.9**
TYC	**Yuchr** baz=243	**1.70**	**243**	*e*P	**Pg**	**01 36 43.7**	**-1.1**
YUS	**Yu-Shan** baz=230	**1.86**	**230**	*e*P	**Pg**	**01 36 46.8**	**-1.1**
ALS	**Alishan** baz=233	**1.95**	**233**	*e*P	**Pb**	**01 36 45.8**	**-1.6**
CHN4	**Tsaushan** baz=233	**2.21**	**233**	*e*P	**Pn**	**01 36 48.5**	**+0.6**
KSRS	**Korea Array** 0.2nm,0.3s,baz=193,slow=10.0,SNR=5.4	**13.53**	**19**	Pn	**P**	**01 39 30.8**	**-1.6**
USRK	**Ussuriysk Arra** comp=Z,89nm,19.8s,baz=304,slow=39	**20.94**	**19**	LR	LR	01 49 56.8	
SONM	**Songino Array** 0.3nm,0.3s,baz=148,slow=8.7,SNR=3.9	**26.39**	**335**	P	**P**	**01 41 49.2**	**+1.5**
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=105,slow=9.4,SNR=3.0	**40.48**	**326**	P	**P**	**01 43 49.0**	**-0.8**
WRA	**Warramunga Arr** 1.1nm,0.9s,baz=349,slow=8.6,SNR=3.9	**45.84**	**164**	P	**P**	**01 44 34.0**	**+0.7**
ASAR	**Alice Springs** 0.5nm,0.9s,baz=350,slow=9.4,SNR=3.1	**49.33**	**166**	P	**P**	**01 45 02.4**	**+1.9**

*TAP **12** 01:38:10.9, 24°.97N×122°.90E, h65km±1km, ML3.4, C*
*IDC **12** 01:38:13.1±1.2, 24°.40N×121°.78E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.6/25, mbtmp3.7/6, ML3.6/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/51, Error ellipse: s-maj=71.2km s-min=19.9km az=68.0*
*ISCJB **12** 01:38:17.8±1.0, 24°.81N±0°.07×122°.53E±0°.10, h62km, mb3.6/5, Error ellipse: s-maj=12.7km s-min=10.1km az=169.7*

ISC 12 01:38:18.2±0.9, 24°69N±0°.08×122°64E±0°.09, h62km, n23, σ2°03/21, mb3.7/5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima** baz=165	**0.41**	**125**	*e*P	Pn	01 38 23.4	-6.1
YOJ	baz=165			*e*S	**Sn**	**01 38 32.4**	**-5.1**
TWB1	**Santiao Chiao** baz=267	**0.67**	**298**	P	Pn	01 38 27.4	-4.8
TWB1	baz=267			*e*S	**Sn**	**01 38 38.7**	**-3.9**
TWC	**Suao** baz=249	**0.73**	**263**	*e*P	Pn	01 38 29.3	-3.6
NWF	**Wu-fen Shan** baz=286	**0.87**	**296**	*e*P	Pn	01 38 30.6	-4.2
ENTT	**Nioudou** baz=255	**0.98**	**267**	*e*P	**Pn**	**01 38 35.8**	**-0.3**
TWA	**Mucha** baz=270	**1.00**	**287**	*e*P	**Pn**	**01 38 36.1**	**-0.3**
TWD	**Chiawan** baz=233	**1.14**	**238**	*e*P	**Pn**	**01 38 37.7**	**-0.4**
NSK	**Sanguang** baz=258	**1.17**	**269**	*e*P	**Pn**	**01 38 38.1**	**-0.5**
NNS	**Nan Shan** baz=245	**1.19**	**258**	*e*P	**Pn**	**01 38 38.2**	**-0.6**
WHF	**Hehuan Shan** baz=231	**1.37**	**247**	*e*P	**Pn**	**01 38 39.7**	**-2.0**
NSTT	**Nanjuang** baz=267	**1.50**	**268**	*e*P	**Pn**	**01 38 41.3**	**-1.7**
EHY	**Hungye** baz=232	**1.69**	**226**	*e*P	**Pn**	**01 38 42.8**	**-2.7**
SMLT	**Sun Moon Lake** baz=231	**1.79**	**243**	*e*P	**Pn**	**01 38 48.8**	**+1.8**
TYC	**Yuchr** baz=231	**1.81**	**245**	*e*P	**Pn**	**01 38 46.5**	**-0.7**
YUS	**Yu-Shan** baz=222	**1.96**	**233**	*e*P	**Pn**	**01 38 50.2**	**+0.6**
ALS	**Alishan** baz=232	**2.05**	**235**	*e*P	**Pn**	**01 38 50.7**	**0.0**
CHN4	**Tsaushan** baz=232	**2.30**	**235**	*e*P	**Pn**	**01 38 54.7**	**+0.9**
KSRS	**Korea Array** 0.3nm,0.3s,baz=195,slow=12,SNR=6.0	**13.49**	**18**	Pn	**P**	**01 41 34.2**	**+0.3**
KSRS	comp=Z,132nm,18.9s,baz=168,slow=39			LR	LR	01 47 16.8	
SONM	**Songino Array** 0.8nm,0.7s,baz=142,slow=7.3,SNR=4.9	**26.44**	**335**	P	**P**	**01 43 50.7**	**+1.3**
MKAR	**Makanchi Array** 1.1nm,0.9s,baz=115,slow=8.4,SNR=4.6	**38.91**	**315**	P	**P**	**01 45 38.9**	**+1.1**
ZALV	**Zalesovo Beam** 0.6nm,0.5s,baz=116,slow=8.2,SNR=3.9	**40.55**	**326**	P	**P**	**01 45 50.8**	**-0.5**
WRA	**Warramunga Arr** 1.3nm,0.7s,baz=345,slow=8.3,SNR=6.2	**45.81**	**165**	P	**P**	**01 46 36.1**	**+2.0**
ASAR	**Alice Springs** 0.3nm,0.6s,baz=351,slow=8.9,SNR=4.0	**49.30**	**166**	P	**P**	**01 47 03.3**	**+2.2**

*IDC **12** 01:43:33.9±1.0, 13°.00N×120°.13E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/22, mbtmp3.6/6, Error ellipse: s-maj=24.6km s-min=14.8km az=109.0*
*MAN **12** 01:43:35, 13°.08N×120°.20E, h4km, mb4.4, ML3.3, MS3.2*
*ISCJB **12** 01:43:36.7±0.6, 13°.04N±0°.05×120°.20E±0°.08, h27km, mb3.7/6, Error ellipse: s-maj=11.2km s-min=6.9km az=6.6*

ISC 12 01:43:37.7±0.8, 13°07N±0°.05×120°28E±0°.08, h27km, n15, σ0°80/16, mb3.7/6, 2C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.66**	**357**	*e*P	**Pb**	**01 43 49.1**	**-1.6**
LUBP				*e*S	**Sn**	**01 44 01.7**	**+0.9**
PGP	**Puerto Galera**	**0.78**	**57‖**	*e*P	**Pb**	**01 43 51.4**	**-1.3**
SJMP	**San Jose**	**1.02**	**127**	*e*P	**Pb**	**01 43 56.3**	**-0.3**
BUSP	**Coron**	**1.06**	**184**	*e*P	**Pn**	**01 43 56.5**	**-0.3**
TGY	**Tagaytay City** 3.0nm,0.3s,baz=0.0,slow=20,SNR=5.9	**1.21**	**32**	Pg	**Pb**	**01 43 59.8**	**-0.2**
TGY	3.0nm,0.3s,baz=0.0,slow=20,SNR=15			Lg	Lg	01 44 17.1	
TGY	**Tagaytay City**	**1.21**	**32‖**	*i*P	**Pn**	**01 43 59.1**	**+0.2**
BOAC	**Boac**	**1.57**	**76**	*e*P	**Pb**	**01 44 05.1**	**-1.0**
LQP	**Lukban**	**1.60**	**50‖**	*e*P	**Pb**	**01 44 06.0**	**-0.7**
ENPP	**El Nido**	**2.03**	**204**	*e*P	**Pn**	**01 44 10.1**	**-0.1**
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=343,slow=8.9,SNR=6.2	**35.60**	**157**	P	**P**	**01 50 33.1**	**-0.2**
SONM	**Songino Array** 1.3nm,0.6s,baz=163,slow=8.9,SNR=7.3	**36.55**	**344**	P	**P**	**01 50 41.8**	**+0.6**
ASAR	**Alice Springs** 0.7nm,0.5s,baz=332,slow=6.5,SNR=4.0	**38.87**	**160**	P	**P**	**01 51 01.4**	**+0.4**
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=112,slow=6.4,SNR=4.8	**46.30**	**324**	P	**P**	**01 52 02.0**	**+0.9**
ZALV	**Zalesovo Beam** 0.3nm,0.4s,baz=120,slow=8.5,SNR=2.3	**49.43**	**333**	P	**P**	**01 52 24.8**	**-0.4**
FINES	**FINESS Array B** 1.8nm,0.9s,baz=58,slow=7.2,SNR=4.7	**80.64**	**331**	P	**P**	**01 55 47.8**	**-0.1**

IDC 12 01:45:52.4±1.4, 13°.19S×166°.00E, h0km, mb4.1/9, mb1 4.2/10, mb1mx4.1/19, mbtmp4.0/10, ML3.8/1, Error ellipse: s-maj=41.1km s-min=22.1km az=106.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 1.0nm,0.3s,baz=181,slow=22,SNR=8.1	**8.85**	**177**	Pn	Pn	01 48 03.1	+1.3
DZM	0.6nm,0.3s,baz=288,slow=20,SNR=2.1			Sn	Sn	01 49 41.9	-0.4
STKA	**Stephens Creek** 1.5nm,0.7s,baz=66,slow=8.7,SNR=3.2	**29.11**	**226**	P	P	01 51 53.6	-1.4
WRA	**Warramunga Arr** 1.1nm,0.9s,baz=84,slow=8.6,SNR=3.2	**31.04**	**253**	P	P	01 52 12.4	0.0
ASAR	**Alice Springs** 5.2nm,0.8s,baz=73,slow=9.6,SNR=36	**32.11**	**246**	P	P	01 52 21.9	+0.2
USRK	**Ussuriysk Arra** 1.1nm,0.7s,baz=157,slow=8.9,SNR=4.3	**64.96**	**334**	P	P	01 56 34.5	+0.5
CMAR	**Chiang Mai Arr** 0.9nm,0.3s,baz=111,slow=4.9,SNR=9.2	**73.20**	**294**	P	P	01 57 26.6	+0.9
SONM	**Songino Array** 0.4nm,0.7s,baz=132,slow=6.0,SNR=4.1	**80.53**	**324**	P	P	01 58 06.1	-0.6
ILAR	**Eielson Array** 0.5nm,0.6s,baz=226,slow=6.7,SNR=5.3	**85.45**	**18**	P	P	01 58 31.2	-0.4
MKAR	**Makanchi Array** 0.6nm,0.7s,baz=108,slow=4.7,SNR=3.3	**95.24**	**317**	P	P	01 59 16.9	-1.3
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=98,slow=6.0,SNR=2.7	**95.43**	**324**	P	P	01 59 16.7	-2.1
KEST	**Kesra** 0.6nm,0.6s,baz=268,slow=13,SNR=2.5	**149.24**	**321**	PKPbc	PKPbc	02 05 45.3	+1.7

*IDC **12** 01:49:37.4±1.0, 12°.67S×166°.06E, h0km, mb4.3/10, mb1 4.4/12, mb1mx4.2/23, mbtmp4.3/12, ML4.1/2, MS3.5/1, Ms1 3.4/1, ms1mx2.9/32, Error ellipse: s-maj=32.3km s-min=19.1km az=128.0*
*ISCJB **12** 01:49:41.9±0.8, 12°.67S±0°.09×165°.9E±0°.1, h40km, mb4.3/11, MS3.4/1, Error ellipse: s-maj=16.8km s-min=12.2km az=175.1*
*NEIC **12** 01:49:42.9±0.5, 12°.66S×166°.02E, h35km, mb4.2/5, Error ellipse: s-maj=12.1km s-min=8.7km az=107.0*

ISC 12 01:49:43.4±0.7, 12°69S±0°.09×166°0E±0°.1, h40km, n44, σ0°81/43, mb4.3/11, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.75**	**298**	Pn	**Pn**	**01 51 18.6**	**-1.4**
HNR	**Honiara** 20nm,0.3s,baz=256,slow=4.2,SNR=3.8	**6.75**	**298**	Pn	**Pn**	**01 51 18.6**	**-1.4**
DZM	**Mont Dzumac**	**9.34**	**177**	Pn	**Pn**	**01 51 54.9**	**-0.8**
DZM	**Mont Dzumac** 0.3nm,0.3s,baz=336,slow=10.0,SNR=2.8	**9.34**	**177**	Pn	**Pn**	**01 51 54.9**	**-0.8**
EIDS	**Eidsvold** 5.6nm,0.6s	**18.88**	**226**	*e*P	**Pn**	**01 54 01.8**	**+0.4**
CTA	**Charters Tower**	**20.29**	**246**	P	**P**	**01 54 16.6**	**+0.6**
CTA	**Charters Tower** 4.2nm,0.7s,baz=61,slow=10,SNR=4.5	**20.29**	**246**	P	**P**	**01 54 16.6**	**+0.6**
CTAO	**Charters Tower** 11nm,1.3s	**20.29**	**246**	P	Pn	01 54 16.9	-1.3
ARMA	**Armidale** 9.9nm,0.8s	**22.08**	**215**	*e*P	**P**	**01 54 36.5**	**+1.2**
STKA	**Stephens Creek** 6.9nm,1.6s	**29.44**	**226**	*e*P	**P**	**01 55 43.8**	**+0.4**
STKA	**Stephens Creek** 7.1nm,0.8s,baz=21,slow=9.3,SNR=7.3	**29.44**	**226**	P	**P**	**01 55 43.7**	**+0.2**
STKA	comp=Z,102nm,21.6s,baz=22,slow=31			LR	LR	02 05 00.6	
WRA	**Warramunga Arr**	**31.17**	**252**	P	**P**	**01 55 58.1**	**-0.9**
WRA	**Warramunga Arr** 2.1nm,0.9s,baz=81,slow=9.1,SNR=8.2	**31.17**	**252**	P	**P**	**01 55 58.1**	**-0.9**
ASAR	**Alice Springs**	**32.30**	**246**	P	**P**	**01 56 08.0**	**-0.8**
ASAR	**Alice Springs** 2.5nm,0.7s,baz=71,slow=9.5,SNR=18	**32.30**	**246**	P	**P**	**01 56 08.0**	**-0.8**
FITZ	**Fitzroy Crossi**	**39.21**	**257**	P	**P**	**01 57 08.0**	**-0.1**
FITZ	**Fitzroy Crossi** 6.7nm,1.0s,baz=107,slow=8.4,SNR=8.2	**39.21**	**257**	P	**P**	**01 57 08.0**	**-0.1**
ASAJ	**Asahikawa**	**60.41**	**341**	P	**P**	**01 59 49.7**	**+1.0**
ASAJ	**Asahikawa** 10nm,0.8s,baz=166,slow=4.2,SNR=5.8	**60.41**	**341**	P	**P**	**01 59 49.7**	**+1.0**
CMAR	**Chiang Mai Arr**	**72.98**	**294**	P	**P**	**02 01 10.8**	**+1.4**
CMAR	**Chiang Mai Arr** 2.1nm,0.3s,baz=114,slow=4.5,SNR=5.0	**72.98**	**294**	P	**P**	**02 01 10.9**	**+1.4**
QSPA	**South Pole Qui** 7.2nm,1.1s	**77.33**	**180**	*e*P	**P**	**02 01 33.6**	**-0.3**
SONM	**Songino Array**	**80.12**	**324**	P	**P**	**02 01 48.9**	**-0.5**
SONM	**Songino Array** 0.6nm,0.6s,baz=107,slow=7.7,SNR=2.5	**80.12**	**324**	P	**P**	**02 01 48.9**	**-0.5**
ILAR	**Eielson Array**	**84.99**	**18**	P	**P**	**02 02 12.6**	**-1.6**
ILAR	**Eielson Array** 0.7nm,0.7s,baz=227,slow=6.1,SNR=8.6	**84.99**	**18**	P	**P**	**02 02 12.6**	**-1.6**
MKAR	**Makanchi Array**	**94.87**	**317**	P	**P**	**02 03 01.9**	**+0.6**
MKAR	**Makanchi Array** 1.7nm,0.8s,baz=98,slow=5.8,SNR=6.7	**94.87**	**317**	P	**P**	**02 03 01.9**	**+0.6**
SNAA	**Sanae**	**95.50**	**184**	*e*P	**P**	**02 03 04.5**	**+0.6**
VNA2	**Neumayer--Watz** baz=184,slow=3.0	**96.47**	**182**	*e*P	**P**	**02 03 07.8**	**-0.4**
ARCES	**ARCESS Array B**	**117.97**	**345**	PKP	**PKPdf**	**02 08 25.3**	**0.0**
ARCES	**ARCESS Array B** 2.3nm,0.7s,baz=52,slow=1.5,SNR=8.5	**117.97**	**345**	PKP	**PKPdf**	**02 08 25.3**	**0.0**
FINES	**FINESS Array B**	**123.37**	**338**	PKP	**PKPdf**	**02 08 35.5**	**-0.3**
FINES	**FINESS Array B** 2.6nm,0.8s,baz=358,slow=3.2,SNR=4.3	**123.37**	**338**	PKP	**PKPdf**	**02 08 35.5**	**-0.3**
AKASG	**Malin Array Be**	**128.35**	**326**	PKP	**PKPdf**	**02 08 45.6**	**-0.1**
AKASG	**Malin Array Be** 0.1nm,0.3s,baz=75,slow=1.1,SNR=3.9	**128.35**	**326**	PKP	**PKPdf**	**02 08 45.6**	**-0.1**
EIL	**Elat**	**131.68**	**298**	PKP	**PKPdf**	**02 08 53.4**	**+0.7**
EIL	**Elat** 2.9nm,0.7s,baz=18,slow=3.2,SNR=2.7	**131.68**	**298**	PKP	**PKPdf**	**02 08 53.4**	**+0.7**
GERES	**GERESS Array B**	**137.27**	**333**	PKP	**PKPdf**	**02 09 03.1**	**+0.4**
GERES	**GERESS Array B** 0.3nm,0.4s,baz=316,slow=4.1,SNR=2.4	**137.27**	**333**	PKP	**PKPdf**	**02 09 03.1**	**+0.4**
KEST	**Kesra**	**148.84**	**321**	PKPbc	**PKPbc**	**02 09 28.1**	**+

PCIG				*i* S	Sn	01 52 08.5	-1.8
HUIG	**Huatulco**	**1.84**	**242**	*e*P	Pn	01 51 52.5	-1.9
HUIG				*e*S	Sn	01 52 17.1	-0.7
CCIG	**Comitan**	**2.23**	**99**	*e*P	Pn	01 51 58.8	-0.7
CCIG				*i* S	Sn	01 52 25.4	-1.7
VHO	**Vista Hermosa**	**2.25**	**281**	*e*P	Pn	01 51 58.4	-1.5
VHO				*i* S	Sn	01 52 26.1	-1.6
PNIG	**Pinotepa**	**3.56**	**266**	*e*P	Pn	01 52 15.9	-1.0
PNIG				*e*S	Sn	01 52 56.8	-1.5

IDC 12 01:53:16.6±1.2, 24.50N×121.80E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/24, mbtmp3.7/7, ML3.7/1, MS3.5/9, Ms1 3.5/9, ms1mx3.3/45, Error ellipse: s-maj=66.5km s-min=18.8km az=66.0, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**13.93**	**21**	Pn	Pn	01 56 36.2	+0.9
	0.4nm,0.3s,baz=195,slow=12,SNR=8.0						
KSRS				LR	LR	02 01 31.1	
	comp=Z,178nm,21.1s,baz=190,slow=36						
ASAJ	**Asahikawa**	**25.91**	**36**	LR	LR	02 09 35.4	
	comp=Z,99nm,18.6s,baz=120,slow=38						
SONM	**Songino Array**	**26.30**	**336**	P	P	01 58 53.6	-0.4
	1.6nm,1.0s,baz=153,slow=9.7,SNR=5.0						
SONM				LR	LR	02 09 47.8	
	comp=Z,151nm,20.9s,baz=176,slow=38						
KAPI	**Kappang**	**29.41**	**184**	LR	LR	02 12 18.4	
	comp=Z,44nm,21.5s,baz=216,slow=39						
PSI	**Prapat**	**30.86**	**229**	LR	LR	02 11 39.5	
	comp=Z,193nm,19.0s,baz=246,slow=36						
MKAR	**Makanchi Array**	**38.50**	**315**	P	P	02 00 42.4	+1.8
	0.7nm,0.9s,baz=110,slow=8.3,SNR=3.7						
MKAR				LR	LR	02 18 53.0	
	comp=Z,49nm,18.4s,baz=189,slow=40						
PETK	**Petropavlovsk-**	**39.29**	**34**	LR	LR	02 16 41.1	
	comp=Z,59nm,19.5s,baz=260,slow=36						
ZALV	**Zalesovo Beam**	**40.28**	**327**	P	P	02 00 54.7	-0.6
	0.7nm,0.6s,baz=124,slow=7.8,SNR=3.2						
ZALV				LR	LR	02 18 45.4	
	comp=Z,106nm,19.7s,baz=72,slow=38						
KURBB	**Kurchatov Arra**	**42.23**	**319**	P	P	02 01 09.7	-1.6
	0.3nm,0.3s,baz=110,slow=7.9,SNR=5.4						
WRA	**Warramunga Arr**	**45.83**	**163**	P	P	02 01 39.5	-1.0
	2.0nm,0.8s,baz=346,slow=8.6,SNR=7.1						
BVAR	**Borovoye Array**	**47.78**	**320**	LR	LR	02 24 06.3	
	comp=Z,47nm,18.1s,baz=296,slow=39						
ASAR	**Alice Springs**	**49.30**	**165**	P	P	02 02 08.4	+0.9
	0.6nm,0.7s,baz=356,slow=8.6,SNR=5.1						

BUL 12 02:00:05.7±9.3, 0°.90N×31°.39E, h15km±999km, MD4.9
ISCJB 12 02:00:08.5±0.7, 1°.25S±0°.09×29°.24E±0°.07, h10km, mb3.9/8, Error ellipse: s-maj=13.4km s-min=9.0km az=19.5
IDC 12 02:00:08.8±1.9, 1°.27S×29°.12E, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.8/25, mbtmp4.0/9, ML3.7/1, Error ellipse: s-maj=53.5km s-min=21.2km az=2.0
ISC 12 02:00:09.5±0.9, 1°.14S±0°.1×29°.20E±0°.09, h10km, n13, σ1§59/14, mb4.1/8, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBAR	**Mbarara**	**1.74**	**62**	*i* P	**Pn**	**02 00 39.5**	**-0.5**
MBAR				*i* S	Sn	02 00 55.6	-6.8
MAUS	**Longido**	**7.61**	**100**	*i* P	**Pn**	**02 02 02.8**	**+2.1**
MAUS				*i* S	**Sn**	**02 03 25.4**	**-1.7**
KMBO	**Kilima Mbogo**	**8.06**	**88**	Pn	**Pn**	**02 02 09.4**	**+2.5**
	1.0nm,0.3s,baz=243,slow=20,SNR=12						
KMBO				Lg	Lg	02 04 18.7	
	4.4nm,0.3s,baz=240,slow=20,SNR=6.7						
DODT	**Dodoma, Tanzan**	**8.07**	**126**	*i* P	**Pn**	**02 02 08.0**	**+1.0**
DODT				*i* S	**Sn**	**02 03 35.5**	**-3.0**
MZM	**Mzuzu**	**11.03**	**155**	*i* P	Pn	02 02 52.2	+4.7
MZM				*i* S	Sn	02 05 17.4	+26
TORD	**Torodi Ar. Bea**	**30.89**	**299**	P	**P**	**02 06 25.5**	**-1.1**
	1.5nm,0.7s,baz=111,slow=7.9,SNR=14						
TORD				Lg	Lg	02 16 13.2	
	2.0nm,1.1s,baz=111,slow=23,SNR=6.2						
DBIC	**Dimbokro**	**34.93**	**284**	P	**P**	**02 07 02.2**	**+0.3**
	2.5nm,0.8s,baz=98,slow=9.1,SNR=10						
BRTR	**Keskin Array B**	**41.15**	**5**	P	**P**	**02 07 54.0**	**-0.2**
	0.5nm,0.7s,baz=188,slow=9.4,SNR=5.2						
GERES	**GERESS Array B**	**51.84**	**347**	P	**P**	**02 09 18.7**	**+0.8**
	0.5nm,0.6s,baz=170,slow=6.0,SNR=2.1						
KURBB	**Kurchatov Arra**	**66.68**	**32**	P	**P**	**02 11 00.8**	**+0.3**
	0.9nm,0.8s,baz=241,slow=6.5,SNR=4.4						
MKAR	**Makanchi Array**	**66.76**	**37**	P	**P**	**02 11 01.8**	**+0.5**
	1.2nm,0.6s,baz=239,slow=6.0,SNR=7.2						
ARCES	**ARCESS Array B**	**70.87**	**359**	P	**P**	**02 11 25.2**	**-1.1**
	2.1nm,0.9s,baz=152,slow=4.1,SNR=4.3						
CMAR	**Chiang Mai Arr**	**71.29**	**70**	P	**P**	**02 11 30.7**	**+0.8**
	1.0nm,0.3s,baz=273,slow=5.3,SNR=6.9						

BJI 12 02:03:20.3, 25°.97N×105°.82E, h7km, ML3.7/9
IDC 12 02:03:21.8±6.0, 26°.16N×105°.57E, h0km, mb3.8/3, mb1 3.8/4, mb1mx3.4/26, mbtmp3.8/4, ML4.0/1, MS4.0/1, Ms1 4.0/1, ms1mx2.8/47, Error ellipse: s-maj=142.3km s-min=34.5km az=111.0
ISC 12 02:03:20.8±1.1, 26.0N±0°.2×105.77E±0°.09, h10km, n7, σ1§81/8, mb3.9/3, 1C, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GYA	**Guiyang**	**0.91**	**62⇑**	*i*Pg	**Pg**	**02 03 36.3**	**-2.0**
GYA				Sg	**Sg**	**02 03 49.7**	**-0.4**
GYA				SMN			
	2µm,1.0s						
GYA				SME			
	2µm,0.8s						
KMI	**Kunming**	**2.88**	**252**	Pg	**Pb**	**02 04 11.5**	**-1.0**
KMI				Sg	**Sg**	**02 04 51.4**	**-2.1**
KMI				SMN			
	140nm,0.9s						
KMI				SME			
	80nm,0.8s						
CMAR	**Chiang Mai Arr**	**9.84**	**221**	Pn	**Pn**	**02 05 44.4**	**+1.9**
	0.4nm,0.3s,baz=33,slow=10,SNR=3.5						
CMAR				Pg		02 06 27.4	
	0.4nm,0.3s,baz=45,slow=17,SNR=5.1						
CMAR				Lg	Lg	02 08 41.3	
	0.6nm,0.3s,baz=36,slow=29,SNR=2.5						
SONM	**Songino Array**	**21.76**	**1**	P	**P**	**02 08 13.9**	**+1.3**
	1.2nm,0.5s,baz=184,slow=11,SNR=7.2						
ZALV	**Zalesovo Beam**	**31.92**	**336**	P	**P**	**02 09 47.4**	**+1.1**
	1.7nm,0.8s,baz=133,slow=8.7,SNR=6.0						
KURBB	**Kurchatov Arra**	**32.21**	**327**	P	**P**	**02 09 49.6**	**+0.6**
	1.1nm,0.7s,baz=132,slow=9.5,SNR=14						
JCJ	**Chichijima**	**32.52**	**80**	LR	LR	02 23 03.0	
	comp=Z,237nm,18.1s,baz=108,slow=36						

TAP 12 02:11:46.2, 24°.89N×122°.68E, h4km±1km, ML3.3, D
IDC 12 02:11:47.1±1.2, 24°.41N×121°.47E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.6/26, mbtmp3.8/7, ML3.7/1, MS3.8/1, Ms1 3.8/1, ms1mx3.0/45, Error ellipse: s-maj=67.0km s-min=19.1km az=67.0
ISC 12 02:11:48.4±0.8, 24.80N±0°.04×122.54E±0°.06, h17km, n38, σ1§10/37, mb3.7/6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.54**	**128**	*i* P	Pg	02 11 57.1	-2.1
	baz=145						
YOJ				*e*S	**Sg**	**02 12 06.5**	**+0.1**
	baz=145						
TWB1	**Santiao Chiao**	**0.55**	**293**	*e*P	**Pb**	**02 12 00.0**	**+0.5**
	baz=280						
TWB1				*e*S	**Sb**	**02 12 07.5**	**+0.4**
	baz=280						
TWC	**Suao**	**0.66**	**254**	*e*P	**Pn**	**02 12 02.1**	**-0.8**
	baz=249						
NWF	**Wu-fen Shan**	**0.74**	**292**	*e*P	**Pg**	**02 12 02.3**	**-0.7**
	baz=282						
TWE	**Neicheng**	**0.80**	**265**	*e*P	**Pn**	**02 12 05.5**	**+0.6**
	baz=259						
ENA	**Nanau**	**0.82**	**244**	*e*P	**Pn**	**02 12 05.8**	**+0.6**
	baz=241						
TWA	**Mucha**	**0.89**	**282**	*e*P	**Pn**	**02 12 06.3**	**+0.1**
	baz=274						
ENTT	**Nioudou**	**0.90**	**260**	*e*P	**Pn**	**02 12 06.2**	**-0.1**
	baz=255						
PCYT	**Pengchaiyu**	**0.93**	**333**	*e*P	**Pb**	**02 12 05.3**	**-0.8**
	baz=323						
TWY	**Chenhua**	**0.98**	**299**	*e*P	**Pb**	**02 12 05.9**	**-1.0**
	baz=291						
NSK	**Sanguang**	**1.08**	**264**	P	**Pg**	**02 12 09.4**	**0.0**
	baz=259						
TWD	**Chiawan**	**1.12**	**231**	*e*P	**Pg**	**02 12 11.7**	**+1.6**
	baz=230						
NNS	**Nan Shan**	**1.12**	**252**	*e*P	**Pg**	**02 12 11.8**	**+1.6**
	baz=249						
WHF	**Hehuan Shan**	**1.33**	**241**	P	**Pg**	**02 12 15.4**	**+1.2**
	baz=239						
TWT	**Tachien**	**1.36**	**247**	*e*P	Pg	02 12 16.9	+2.3
	baz=245						
ESL	**Shilin**	**1.41**	**226**	*e*P	**Pg**	**02 12 16.2**	**+0.7**
	baz=226						
NSTT	**Nanjuang**	**1.41**	**264**	*e*P	**Pg**	**02 12 16.1**	**+0.5**
	baz=260						
TWQ1	**Liyutan**	**1.67**	**255**	*e*P	**Pg**	**02 12 22.1**	**+1.5**
	baz=252						
EHY	**Hungye**	**1.70**	**221**	*e*P	**Pb**	**02 12 19.0**	**-0.3**
	baz=221						
SMLT	**Sun Moon Lake**	**1.75**	**239**	*e*P	**Pg**	**02 12 23.0**	**+0.9**
	baz=238						
TYC	**Yuchr**	**1.78**	**240**	*e*P	**Pg**	**02 12 21.5**	**-1.1**
	baz=239						
TWF1	**Yuli**	**1.83**	**219**	*e*P	**Pb**	**02 12 21.2**	**-0.3**
	baz=219						
YUS	**Yu-Shan**	**1.95**	**228**	*e*P	**Pg**	**02 12 24.4**	**-1.6**
	baz=228						
ALS	**Alishan**	**2.04**	**231**	*e*P	**Pg**	**02 12 25.9**	**-1.7**
	baz=231						
CHN5	**Tsauling**	**2.08**	**235**	*e*P	**Pg**	**02 12 26.3**	**-2.0**
	baz=234						
CHN4	**Tsaushan**	**2.29**	**231**	*e*P	**Pb**	**02 12 28.3**	**-1.0**
	baz=231						
WTP	**Ta-pu**	**2.34**	**229**	*e*P	**Pb**	**02 12 30.2**	**-0.1**
	baz=228						
TWK	**Hsinying**	**2.42**	**231**	*e*P	**Pb**	**02 12 30.8**	**-0.7**
	baz=230						
CHN1	**Nanshi**	**2.44**	**229**	*e*P	**Pb**	**02 12 32.1**	**+0.2**
	baz=229						
EAST	**Anshuo**	**2.86**	**213**	*e*P	**Pb**	**02 12 38.1**	**-0.9**
	baz=213						
KSRS	**Korea Array**	**13.43**	**19**	Pn	**P**	**02 15 09.1**	**+1.6**
	0.3nm,0.3s,baz=187,slow=13,SNR=10						
SONM	**Songino Array**	**26.31**	**335**	P	**P**	**02 17 23.4**	**+0.1**
	0.8nm,0.8s,baz=154,slow=8.5,SNR=6.5						
MKAR	**Makanchi Array**	**38.77**	**315**	P	**P**	**02 19 10.9**	**-1.1**
	0.9nm,0.8s,baz=106,slow=9.8,SNR=4.9						
ZALV	**Zalesovo Beam**	**40.42**	**326**	P	**P**	**02 19 25.3**	**-0.3**
	1.7nm,0.8s,baz=126,slow=7.3,SNR=5.8						
KURBB	**Kurchatov Arra**	**42.45**	**319**	P	**P**	**02 19 39.6**	**-2.6**
	0.8nm,0.7s,baz=112,slow=6.6,SNR=4.7						
AAK	**Ala-Archa**	**43.13**	**307**	LR	LR	02 38 36.8	
	comp=Z,116nm,18.7s,baz=185,slow=38						
WRA	**Warramunga Arr**	**45.93**	**164**	P	**P**	**02 20 10.1**	**-0.3**
	2.4nm,0.7s,baz=348,slow=8.6,SNR=9.8						
ASAR	**Alice Springs**	**49.42**	**166**	P	**P**	**02 20 39.0**	**+1.4**
	1.5nm,1.1s,baz=348,slow=8.5,SNR=4.3						

TAP 12 02:13:20.1, 24°.83N×122°.89E, h7km±3km, ML3.5, D
ISCJB 12 02:13:22.0±0.6, 24°.83N±0°.04×122°.87E±0°.05, h16km, mb3.7/6, MS3.7/3, Error ellipse: s-maj=7.5km s-min=5.1km az=138.5
IDC 12 02:13:22.3±1.1, 24°.71N×122°.39E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.7/26, mbtmp3.7/8, ML3.7/1, MS3.8/4, Ms1 3.8/4, ms1mx3.3/48, Error ellipse: s-maj=44.9km s-min=19.2km az=71.0
ISC 12 02:13:22.5±0.8, 24.74N±0°.04×122.76E±0°.05, h16km, n38, σ1§33/36, mb3.7/6, MS3.8/3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.36**	**140**	*e*P	**Pg**	**02 13 28.9**	**-1.0**
	baz=163						
YOJ				*e*S	**Sg**	**02 13 34.4**	**-0.5**
	baz=163						
TWB1	**Santiao Chiao**	**0.75**	**291**	*e*P	**Pg**	**02 13 35.8**	**-1.4**
	baz=282						
TWB1				*e*S	**Sn**	**02 13 49.4**	**0.0**
	baz=282						
EGS		**0.76**	**278**	*e*P	**Pn**	**02 13 37.3**	**-1.2**
	baz=271						
TWC	**Suao**	**0.84**	**262**	*e*P	**Pn**	**02 13 39.0**	**-0.6**
	baz=257						
NWF	**Wu-fen Shan**	**0.95**	**291**	*e*P	**Pb**	**02 13 39.5**	**-1.2**
	baz=283						
ENA	**Nanau**	**0.97**	**252**	*e*P	**Pn**	**02 13 42.8**	**+1.3**
	baz=249						
TWE	**Neicheng**	**0.99**	**269**	*e*P	**Pn**	**02 13 41.4**	**-0.4**
	baz=254						
PCYT	**Pengchaiyu**	**1.09**	**325**	*e*P	**Pb**	**02 13 39.8**	**-3.2**
	baz=317						
ENTT	**Nioudou**	**1.09**	**265**	*e*P	**Pg**	**02 13 43.8**	**+0.2**
	baz=261						
TWA	**Mucha**	**1.09**	**283**	*e*P	**Pg**	**02 13 43.7**	**0.0**
	baz=277						
TWY	**Chenhua**	**1.18**	**297**	*e*P	**Pb**	**02 13 43.8**	**-0.7**
	baz=290						
TWD	**Chiawan**	**1.24**	**239**	*e*P	**Pg**	**02 13 45.6**	**-1.0**
	baz=237						
TWS1	**Kuangyinshan**	**1.27**	**287**	*e*P	**Pg**	**02 13 47.5**	**+0.5**
	baz=281						
NSK	**Sanguang**	**1.27**	**268**	*e*P	**Pg**	**02 13 46.5**	**-0.6**
	baz=263						
NNS	**Nan Shan**	**1.29**	**257**	*e*P	**Pg**	**02 13 47.4**	**-0.1**
	baz=254						
WHF	**Hehuan Shan**	**1.48**	**247**	*e*P	**Pg**	**02 13 49.8**	**-1.3**
	baz=245						
ESL	**Shilin**	**1.52**	**233**	*e*P	**Pg**	**02 13 51.1**	**-0.6**
	baz=232						
TWT	**Tachien**	**1.52**	**252**	*e*P	**Pg**	**02 13 50.9**	**-0.9**
	baz=249						
NSTT	**Nanjuang**	**1.60**	**267**	*e*P	**Pb**	**02 13 51.2**	**-0.5**
	baz=263						
EHY	**Hungye**	**1.79**	**227**	*e*P	**Pb**	**02 13 53.5**	**-1.5**
	baz=227						
TWQ1	**Liyutan**	**1.85**	**258**	*e*P	**Pb**	**02 13 55.6**	**-0.3**
	baz=256						
SMLT	**Sun Moon Lake**	**1.90**	**244**	*e*P	**Pb**	**02 13 56.5**	**-0.3**
	baz=242						
TWF1	**Yuli**	**1.92**	**224**	*e*P	**Pg**	**02 13 57.1**	**-2.3**
	baz=224						
TYC	**Yuchr**	**1.92**	**245**	*e*P	**Pb**	**02 13 55.2**	**-2.0**
	baz=243						
ALS	**Alishan**	**2.16**	**236**	*e*P	**Pg**	**02 14 01.9**	**-2.1**
	baz=235						
CHN4	**Tsaushan**	**2.41**	**236**	*e*P	**Pg**	**02 14 06.3**	**-2.5**
	baz=235						
WTP	**Ta-pu**	**2.46**	**233**	*e*P	**Pb**	**02 14 05.8**	**-0.6**
	baz=232						
CHN1	**Nanshi**	**2.56**	**233**	*e*P	**Pb**	**02 14 06.7**	**-1.4**
	baz=232						
EAST	**Anshuo**	**2.92**	**217**	*e*P	**Pn**	**02 14 09.8**	**+1.3**
	baz=217						
KSRS	**Korea Array**	**13.43**	**18**	Pn	P	02 16 37.2	-4.5
	0.4nm,0.3s,baz=214,slow=15,SNR=3.4						
KSRS				LR	LR	02 21 35.4	
	comp=Z,437nm,18.2s,baz=192,slow=36						
USRK	**Ussuriysk Arra**	**20.83**	**19**	P	Pn	02 18 06.3	+0.4
	1.6nm,0.7s,baz=221,slow=7.6,SNR=4.3						
USRK				LR	LR	02 26 15.7	
	comp=Z,114nm,19.3s,baz=325,slow=37						
SONM	**Songino Array**	**26.45**	**335**	P	**P**	**02 18 59.8**	**+0.9**
	1.4nm,1.1s,baz=153,slow=8.1,SNR=5.4						
SONM				LR	LR	02 30 36.2	
	comp=Z,264nm,18.5s,baz=165,slow=39						
MKAR	**Makanchi Array**	**38.95**	**315**	P	**P**	**02 20 49.0**	**+1.2**
	3.1nm,1.0s,baz=106,slow=9.2,SNR=7.3						
ZALV	**Zalesovo Beam**	**40.58**	**326**	P	**P**	**02 21 02.1**	**+1.0**
	2.1nm,0.9s,baz=132,slow=8.0,SNR=5.4						
KURBB	**Kurchatov Arra**	**42.62**	**319**	P	**P**	**02 21 17.5**	**-0.4**
	0.4nm,0.5s,baz=114,slow=7.6,SNR=5.3						
WRA	**Warramunga Arr**	**45.82**	**165**	P	**P**	**02 21 46.1**	**+2.3**
	1.7nm,0.7s,baz=347,slow=8.5,SNR=6.9						
ASAR	**Alice Springs**	**49.31**	**166**	P	P	02 22 14.1	+3.1
	0.6nm,0.9s,baz=346,slow=10,SNR=3.4						
ARCES	**ARCESS Array B**	**69.56**	**338**	LR	LR	03 00 14.9	
	comp=Z,116nm,20.2s,baz=175,slow=40						

IDC 12 02:15:28.8±1.1, 24.87N×122.74E, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.8/25, mbtmp4.0/8, MS3.8/1, Ms1 3.8/1, ms1mx3.0/41, Error ellipse: s-maj=65.8km s-min=18.8km az=67.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**13.30**	**18**	Pn	Pn	02 18 38.8	0.0
	baz=197,slow=12,SNR=3.2						
USRK	**Ussuriysk Arra**	**20.70**	**19**	P	Pn	02 20 14.3	+1.5
	3.1nm,0.9s,baz=226,slow=9.9,SNR=4.0						
SONM	**Songino Array**	**26.32**	**335**	P	P	02 21 07.6	+1.3
	2.5nm,0.8s,baz=154,slow=9.8,SNR=5.3						
MKAR	**Makanchi Array**	**38.85**	**315**	P	P	02 22 56.2	+0.5
	2.2nm,0.8s,baz=97,slow=8.7,SNR=6.4						
ZALV	**Zalesovo Beam**	**40.45**	**326**	P	P	02 23 08.2	-0.6
	2.7nm,0.7s,baz=109,slow=7.8,SNR=7.0						
KURBB	**Kurchatov Arra**	**42.51**	**319**	P	P	02 23 25.3	-0.5
	1.2nm,0.9s,baz=110,slow=8.2,SNR=6.6						
WRA	**Warramunga Arr**	**45.95**	**165**	P	P	02 23 53.7	0.0
	2.0nm,0.7s,baz=346,slow=8.6,SNR=6.6						
WRA				LR	LR	02 40 48.0	
	comp=Z,115nm,20.3s,baz=120,slow=33						
ASAR	**Alice Springs**	**49.45**	**166**	P	P	02 24 20.8	0.0
	0.6nm,0.6s,baz=347,slow=11,SNR=5.6						
NOA	**NORSAR Array B**	**78.28**	**332**	P	P	02 27 29.3	-1.1
	1.2nm,0.8s,baz=58,slow=5.9,SNR=3.9						

IDC 12 02:16:59.5±1.2, 24.83N×121.78E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.6/24, mbtmp3.7/5, ML3.6/1, MS3.0/2, Ms1 3.0/2, ms1mx2.9/46, Error ellipse: s-maj=66.4km s-min=21.0km az=69.0, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**10.70**	**184**	LR	LR	02 24 06.1	
	comp=Z,49nm,21.3s,baz=280,slow=40						
JNU	**Nakatsue**	**11.47**	**42**	LR	LR	02 24 37.3	
	comp=Z,140nm,20.6s,baz=44,slow=40						
KSRS	**Korea Array**	**13.63**	**21**	Pn	Pn	02 20 15.4	+1.3
	0.3nm,0.3s,baz=197,slow=13,SNR=2.6						
SONM	**Songino Array**	**25.99**	**336**	P	P	02 22 33.2	-0.9
	0.9nm,1.0s,baz=148,slow=6.8,SNR=2.7						
MKAR	**Makanchi Array**	**38.26**	**315**	P	P	02 24 21.8	+0.4
	0.6nm,0.8s,baz=111,slow=7.9,SNR=2.3						
WRA	**Warramunga Arr**	**46.15**	**164**	P	P	02 25 25.3	-0.7
	2.4nm,0.8s,baz=347,slow=8.5,SNR=4.8						
ASAR	**Alice Springs**	**49.62**	**165**	P	P	02 25 53.2	+0.3
	0.5nm,0.8s,baz=348,slow=7.6,SNR=3.1						

IDC 12 02:17:32.0±1.3, 24.70N×122.08E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.6/24, mbtmp3.7/6, ML3.3/1, Error ellipse: s-maj=70.9km s-min=21.6km az=69.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**13.66**	**20**	Pn	Pn	02 20 47.1	+0.2
	0.2nm,0.3s,baz=205,slow=17,SNR=3.0						
SONM	**Songino Array**	**26.22**	**336**	P	P	02 23 08.6	-0.1
	0.7nm,0.8s,baz=151,slow=9.9,SNR=3.2						
MKAR	**Makanchi Array**	**38.54**	**315**	P	P	02 24 56.8	+0.4
	0.6nm,0.7s,baz=111,slow=8.0,SNR=2.7						
ZALV	**Zalesovo Beam**	**40.26**	**326**	P	P	02 25 09.7	-0.8
	0.6nm,0.5s,baz=108,slow=9.3,SNR=2.6						
WRA	**Warramunga Arr**	**45.95**	**164**	P	P	02 25 55.7	-1.2
	2.3nm,0.8s,baz=345,slow=8.4,SNR=4.7						
ASAR	**Alice Springs**	**49.43**	**166**	P	P	02 26 25.0	+1.1
	0.6nm,0.8s,baz=349,slow=8.1,SNR=3.4						

IDC 12 02:21:24.7±1.0, 12°.80N×48°.63E, h0km, mb3.9/18, mb1 4.1/19, mb1mx4.0/31, mbtmp4.0/19, ML4.4/1, MS3.6/5, Ms1 3.6/5, ms1mx3.2/39, Error ellipse: s-maj=24.5km s-min=16.4km az=174.0
ISCJB 12 02:21:26.3±0.6, 12°.75N±0°.08×48°.47E±0°.04, h26km, mb4.0/17, MS3.5/5, Error ellipse: s-maj=11.4km s-min=5.5km az=176.4
DHMR 12 02:21:27.1±1.7, 13°.30N×48°.31E, h15km±29km, ML4.0
CSEM 12 02:21:28.2±1.7, 12°.39N×48°.06E, h2km, ML4.0, Error ellipse: s-maj=47.2km s-min=18.3km az=165.0
ISC 12 02:21:28.9±0.7, 12.95N±0°.09×48.50E±0°.06, h26km, n36, σ1§93/37, mb4.0/17, MS3.5/5, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MUKL	**Al Mukalla**	**1.60**	**19**	*i* P	Pn	02 21 51.9	-3.7
MUKL				*i* S	**Sn**	**02 22 10.9**	**-4.5**
MUKL				AML	AML	02 22 12.3	
	comp=E,3µm,0.3s						
BDHA	**Al Bayda'**	**3.03**	**290**	*i* P	**Pn**	**02 22 14.0**	**-1.4**
BDHA				*i* S	**Sn**	**02 22 50.5**	**-0.4**
BDHA				AML	AML	02 22 54.9	
	comp=Z,3µm,0.5s						
BDHA	**Al Bayda'**	**3.03**	**290**	*i* P	**Pn**	**02 22 14.0**	**-1.4**
BDHA				*i* S	**Sn**	**02 22 50.5**	**-0.4**
	comp=Z,1µm,0.5s						
LBOS		**3.29**	**287**	*i* P	**Pn**	**02 22 18.3**	**-0.7**
LBOS				*i* S	**Sn**	**02 22 56.3**	**-1.2**
TRBA	**At Turbah**	**4.28**	**274**	*i* P	**Pn**	**02 22 30.4**	**-2.2**
TRBA				*i* S	**Sn**	**02 23 22.7**	**+0.9**
UDYN	**Al 'Udayn**	**4.52**	**283**	*i* P	**Pn**	**02 22 33.9**	**-2.0**
UDYN				*i* S	**Sn**	**02 23 25.9**	**-1.8**
UDYN				AML	AML	02 24 01.1	
	comp=Z,188nm,0.6s						
HAJJ	**Hajjah**	**5.48**	**301**	*i* S	**Sn**	**02 23 47.1**	**-4.2**
HAJJ	**Hajjah**	**5.48**	**301**	*i* S	**Sn**	**02 23 47.1**	**-4.2**
ATD	**Arta Tunnel**	**5.70**	**256**	Pn	**Pn**	**02 22 51.8**	**-0.2**
	comp=Z,12nm,0.3s,baz=65,slow=14,SNR=23						
RDF	**Al-Radifah**	**15.92**	**357**	*e*P	**P**	**02 25 15.6**	**+0.9**
RDF				AMb	AMB	02 25 17.7	
	comp=Z,86nm,1.1s

TXAR Lajitas Array 130.11 328 PKP **PKPdf 02 40 38.5 +1.1**
comp=Z,0.4nm,0.8s,baz=356,slow=2.9,SNR=3.0

IDC 12 02:21:54.6±3.5, 12°.68S×165°.84E, h0km, mb4.0/9, mb1 4.1/9, mb1mx4.0/20, mbtmp4.0/9, Error ellipse: s-maj=115.3km s-min=26.4km az=135.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**20.17**	**246**	P	Pn	02 26 31.9	-0.9
	2.1nm,0.3s,baz=57,slow=11,SNR=5.4						
WRA	**Warramunga Arr**	**31.05**	**252**	P	P	02 28 14.0	-0.6
	1.0nm,0.7s,baz=84,slow=9.2,SNR=6.9						
ASAR	**Alice Springs**	**32.18**	**246**	P	P	02 28 24.4	-0.1
	1.6nm,0.7s,baz=70,slow=9.1,SNR=11						
FITZ	**Fitzroy Crossi**	**39.08**	**257**	P	P	02 29 23.8	0.0
	2.4nm,1.0s,baz=90,slow=9.1,SNR=3.3						
CMAR	**Chiang Mai Arr**	**72.85**	**294**	P	P	02 33 26.3	+0.4
	0.9nm,0.4s,baz=119,slow=5.6,SNR=3.9						
SONM	**Songino Array**	**80.03**	**324**	P	P	02 34 07.0	+0.8
	0.5nm,0.8s,baz=123,slow=5.3,SNR=2.6						
ILAR	**Eielson Array**	**85.02**	**18**	P	P	02 34 32.1	+0.4
	0.4nm,0.9s,baz=210,slow=6.3,SNR=5.3						
MKAR	**Makanchi Array**	**94.77**	**317**	P	P	02 35 16.9	-1.3
	0.7nm,0.7s,baz=92,slow=4.3,SNR=2.2						
ZALV	**Zalesovo Beam**	**94.92**	**324**	P	P	02 35 17.4	-1.3
	0.5nm,0.6s,baz=123,slow=5.3,SNR=2.6						

IDC 12 02:23:22.8±1.4, 12°.44S×165°.48E, h0km, mb4.0/7, mb1 4.2/9, mb1mx4.0/21, mbtmp4.0/9, ML3.7/1, MS3.3/4, Ms1 3.3/4, ms1mx3.1/33, Error ellipse: s-maj=37.2km s-min=23.8km az=117.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.20**	**298**	LR	LR	02 26 19.5	
	comp=Z,136nm,20.0s,baz=131,slow=28						
DZM	**Mont Dzumac**	**9.62**	**175**	Pn	Pn	02 25 44.4	+1.6
	0.7nm,0.3s,baz=342,slow=20,SNR=6.3						
DZM				Sn	Sn	02 27 31.7	-0.1
	0.2nm,0.3s,baz=322,slow=20,SNR=2.2						
PMG	**Port Moresby**	**18.24**	**278**	LR	LR	02 32 10.4	
	comp=Z,76nm,21.3s,baz=152,slow=29						
CTA	**Charters Tower**	**19.95**	**245**	P	Pn	02 27 58.0	-0.3
	0.3nm,0.3s,baz=82,slow=5.8						
AFI	**Afiamalu**	**22.19**	**96**	LR	LR	02 33 57.7	
	comp=Z,80nm,21.6s,baz=74,slow=29						
WRA	**Warramunga Arr**	**30.78**	**252**	P	P	02 29 39.8	-0.6
	1.9nm,0.7s,baz=83,slow=9.2,SNR=8.8						
ASAR	**Alice Springs**	**31.95**	**245**	P	P	02 29 49.8	-0.9
	2.4nm,0.7s,baz=68,slow=9.5,SNR=12						
FITZ	**Fitzroy Crossi**	**38.79**	**257**	P	P	02 30 49.1	-0.4
	1.4nm,0.6s,baz=74,slow=12,SNR=3.7						
PETK	**Petropavlovsk-**	**65.62**	**355**	LR	LR	03 00 56.8	
	comp=Z,59nm,19.6s,baz=119,slow=34						
CMAR	**Chiang Mai Arr**	**72.43**	**294**	P	P	02 34 52.4	+0.8
	1.1nm,0.5s,baz=118,slow=4.4,SNR=7.0						
SONM	**Songino Array**	**79.63**	**324**	P	P	02 35 33.0	+0.8
	0.4nm,0.6s,baz=126,slow=7.3,SNR=3.7						
ILAR	**Eielson Array**	**84.91**	**19**	P	P	02 35 58.6	-0.6
	0.6nm,0.9s,baz=222,slow=6.1,SNR=3.8						
MKAR	**Makanchi Array**	**94.35**	**317**	P	P	02 36 44.0	-0.5
	0.8nm,0.6s,baz=99,slow=5.2,SNR=5.7						

IDC 12 02:26:26.3±4.6, 12°.40S×165°.47E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/19, mbtmp3.7/4, Error ellipse: s-maj=225.2km s-min=31.5km az=141.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**30.79**	**252**	P	P	02 32 44.0	+0.1
	0.7nm,0.8s,baz=82,slow=8.9,SNR=3.9						
ASAR	**Alice Springs**	**31.96**	**245**	P	P	02 32 53.9	-0.4
	1.1nm,0.8s,baz=74,slow=8.6,SNR=7.0						
FITZ	**Fitzroy Crossi**	**38.79**	**257**	P	P	02 33 53.2	+0.2
	1.7nm,0.8s,baz=90,slow=8.1,SNR=2.6						
ILAR	**Eielson Array**	**84.87**	**19**	P	P	02 39 02.6	0.0
	0.3nm,0.8s,baz=247,slow=4.4,SNR=2.9						

IDC ***12*** *02:40:54.2±1.3, 6°.30S×130°.86E, h0km, mb4.4/2, mb1 4.8/6, mb1mx4.1/18, mbtmp4.6/6, ML4.5/4, MS3.7/2, Ms1 3.7/2, ms1mx3.0/35, Error ellipse: s-maj=37.1km s-min=23.8km az=78.0*
AUST ***12*** *02:41:02.0, 6°.48S×130°.54E, h35km*
ISCJB ***12*** *02:41:03.7±0.5, 6°.51S±0°.04×130°.63E±0°.05, h90km, mb4.2/2, Error ellipse: s-maj=6.5km s-min=6.2km az=33.3*
DJA ***12*** *02:41:07.2±1.1, 6°.5S±4°×13°.1E±°, h100km±17km, M4.4/5, mb4.8/2, mB5.5/1, MLv4.2/5, Mw(mB)5.0/1*
ISC 12 02:41:05.2±0.7, 6°.30S±0°.05×130°.72E±0°.06, h90km, n29, σ1°95/26, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.76**	**161**	P	**Pn**	**02 41 35.5**	**+1.1**
SAUI				S	**Sn**	**02 41 58.7**	**+2.2**
BNDI	**Bandanaira**	**1.95**	**335**	P	**Pn**	**02 41 39.2**	**+2.4**
BNDI	**Bandanaira**	**1.95**	**335**	P	**Pn**	**02 41 38.1**	**+1.4**
	baz=2.1,SNR=26						
TLE	**Tual**	**2.11**	**72**	P	**Pn**	**02 41 40.9**	**+2.0**
TLE				S	**Sn**	**02 42 07.4**	**+2.8**
TLE	**Tual**	**2.11**	**72**	P	**Pn**	**02 41 40.9**	**+2.0**
	baz=2.3,SNR=36						
MSAI	**Masohi**	**3.44**	**329**	P	**Pn**	**02 41 58.4**	**+1.7**
FAKI	**Fak Fak**	**3.69**	**24**	P	**Pn**	**02 41 59.8**	**-0.3**
FAKI				S	**Sn**	**02 42 39.6**	**-3.0**
FAKI	**Fak Fak**	**3.69**	**24**	P	**Pn**	**02 41 59.7**	**-0.3**
	baz=3.9,SNR=154						
NLAI	**Namlea**	**4.72**	**310**	P	Pn	02 42 20.0	+5.9
SWI	**Sorong**	**5.43**	**6**	P	**Pn**	**02 42 22.9**	**-0.9**
	64nm,0.3s,5μm						
SWI	**Sorong**	**5.43**	**6**	P	**Pn**	**02 42 23.4**	**-0.3**
	baz=5.7,SNR=10						
LBMI	**Labuha**	**6.48**	**330**	P	**Pn**	**02 42 41.2**	**+3.1**
KDU	**Kakadu**	**6.57**	**165**	P	**Pn**	**02 42 37.1**	**-2.2**
	baz=6.5,SNR=454						
SOEI	**Soe**	**7.25**	**241**	P	**Pn**	**02 42 50.3**	**+1.6**
	baz=7.0,SNR=4.5						
BATI	**Baumata**	**7.99**	**240**	Pn	Pn	02 42 53.1	-5.5
	4.4nm,0.3s,baz=45,slow=2.9,SNR=2.3						
BATI				Sn	**Sn**	**02 44 27.0**	**-0.5**
	4.8nm,0.3s,baz=100,slow=19,SNR=4.0						
KNRA	**Kununurra**	**9.51**	**191**	P	**Pn**	**02 43 17.1**	**-2.3**
	baz=9.4,SNR=18						
MMPI	**Merauke**	**9.82**	**103**	P	Pn	02 43 26.9	+3.3
KAPI	**Kappang**	**10.99**	**276**	Sn	**Sn**	**02 45 37.1**	**-3.6**
	2.0nm,0.3s,baz=59,slow=21,SNR=7.0						
FITZ	**Fitzroy Crossi**	**12.73**	**202**	P	Pn	02 43 57.9	-5.1
	baz=13,SNR=25						
FITZ	**Fitzroy Crossi**	**12.73**	**202**	Pn	Pn	02 43 57.4	-5.6
	2.9nm,0.3s,baz=34,slow=12,SNR=88						
FITZ				Sn	Sn	02 46 09.2	-14
	2.8nm,0.3s,baz=139,slow=20,SNR=8.5						
WRA	**Warramunga Arr**	**14.01**	**166**	Pn	Pn	02 44 13.9	-5.8
	2.2nm,0.3s,baz=349,slow=13,SNR=54						
WRA				Sn	Sn	02 46 41.3	-13
	2.8nm,0.3s,baz=343,slow=22,SNR=8.1						
COEN	**Coen**	**14.42**	**123**	P	**Pn**	**02 44 25.2**	**+0.1**
	baz=14,SNR=4.7						
ASAR	**Alice Springs**	**17.53**	**170**	P	**P**	**02 45 01.1**	**-2.8**
	2.4nm,0.3s,baz=347,slow=12,SNR=92						
ASAR				S	Sn	02 48 06.9	-12
	0.7nm,0.3s,baz=348,slow=26,SNR=6.1						
ASAR				LR	LR	02 50 48.9	
	comp=Z,177nm,20.9s,baz=270,slow=34						
MEEK	**Meekatharra**	**23.28**	**208**	P	**P**	**02 46 05.7**	**+0.4**
	baz=23,SNR=3.5						
JCJ	**Chichijima**	**35.01**	**18**	LR	LR	03 01 11.3	
	comp=Z,148nm,20.2s,baz=82,slow=35						
CMAR	**Chiang Mai Arr**	**39.85**	**309**	P	**P**	**02 48 30.6**	**+0.3**
	1.1nm,0.4s,baz=132,slow=7.4,SNR=5.4						
MKAR	**Makanchi Array**	**68.04**	**326**	P	**P**	**02 51 56.5**	**+1.3**
	2.8nm,0.5s,baz=127,slow=7.0,SNR=34						
TORD	**Torodi Ar. Bea**	**129.38**	**282**	PKP	**PKPdf**	**03 00 05.0**	**+0.6**
	0.2nm,0.5s,baz=84,slow=1.9,SNR=4.1						
LPAZ	**La Paz**	**150.81**	**140**	PKPbc	**PKPbc**	**03 00 49.7**	**+0.6**
	0.4nm,0.4s,baz=12,slow=2.7,SNR=4.5						

IDC ***12*** *02:56:50.0±0.6, 7°.62S×107°.37E, h0km, mb4.3/13, mb1 4.4/13, mb1mx4.2/21, mbtmp4.3/13, MS3.5/1, Ms1 3.5/1, ms1mx3.0/40, Error ellipse: s-maj=25.5km s-min=17.3km az=67.0*
NEIC ***12*** *02:56:55.3±0.3, 7°.76S×107°.31E, h35km, mb4.4/5, Error ellipse: s-maj=13.0km s-min=9.6km az=82.0*
DJA ***12*** *02:56:57.8±0.6, 8°.5S±3°×10°.7E±°, h23km±6km, M5.0/29, mb5.2/5, mB5.5/5, MLv4.9/29, Mw(mB)5.0/5*
ISCJB ***12*** *02:56:59.4±0.6, 7°.77S±0°.09×107°.47E±0°.04, h86km±5km, mb4.4/18, Error ellipse: s-maj=15.2km s-min=3.8km az=20.3*
ISC 12 02:56:59.3±1.1, 7°.92S±0°.08×107°.38E±0°.05, h70km±9km, n87, σ1°46/83, mb4.4/18, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.56**	**50**	P	**Pn**	**02 57 11.1**	**-1.7**
CISI				S	**Sn**	**02 57 20.8**	**-2.0**
LEM	**Lembang**	**1.11**	**12**	P	**Pn**	**02 57 20.6**	**+1.2**
LEM				S	**Sn**	**02 57 38.5**	**+4.2**
SKJI	**Sukabumi**	**1.22**	**318**	P	**Pn**	**02 57 19.1**	**-1.6**
DBJI	**Dramaga**	**1.49**	**335**	P	**Pn**	**02 57 24.8**	**+0.5**
CLJI	**Cilicap**	**1.63**	**83**	P	**Pn**	**02 57 28.1**	**+2.1**
KPJI	**Karang Pucung**	**1.64**	**69**	P	**Pn**	**02 57 26.8**	**+0.6**
KPJI				S	**Sn**	**02 57 49.6**	**+3.1**
TGJI	**Tegal**	**2.02**	**59**	P	**Pn**	**02 57 32.9**	**+1.7**
SBJI	**Serang**	**2.18**	**325**	P	**Pn**	**02 57 34.1**	**+0.7**
BJII	**Banjamegara**	**2.38**	**76**	P	**Pn**	**02 57 36.5**	**+0.3**
BJII				S	**Sn**	**02 58 08.0**	**+3.6**
YOGI	**Yogyakarta**	**2.89**	**88**	P	**Pn**	**02 57 42.3**	**-0.7**
YOGI				S	**Sn**	**02 58 15.0**	**-1.7**
XMIS	**Christmas Isla**	**3.06**	**214**	*e*Pn	Pn	02 57 40.4	-5.1
XMIS				*e*S	Sn	02 58 07.3	-14
UGM	**Wanagama**	**3.11**	**90**	P	**Pn**	**02 57 45.6**	**-0.5**
UGM				S	**Sn**	**02 58 20.6**	**-1.6**
BLSI	**Bandar Lampung**	**3.31**	**320**	P	**Pn**	**02 57 50.0**	**+1.3**
WOJI	**Wonogiri, Jawa**	**3.51**	**89**	P	**Pn**	**02 57 50.7**	**-0.8**
KASI	**Kota Agung**	**3.72**	**310**	P	**Pn**	**02 57 55.8**	**+1.4**
PCJI	**Pacitan**	**3.77**	**94**	P	**Pn**	**02 57 54.6**	**-0.4**
PCJI				S	**Sn**	**02 58 35.9**	**-2.3**
KLI	**Kotabumi**	**3.94**	**320**	P	**Pn**	**02 57 59.4**	**+2.0**
NGJI	**Ngawi**	**4.08**	**83**	P	Pn	02 58 03.7	+4.4
SJI	**Sawahan**	**4.35**	**88**	P	**Pn**	**02 58 03.6**	**+0.5**
LWLI	**Liwa**	**4.38**	**311**	P	**Pn**	**02 58 06.4**	**+2.9**
LWLI				S	**Sn**	**02 58 52.9**	**-0.5**
PWJI	**Pagerwojo**	**4.38**	**92**	P	**Pn**	**02 58 02.8**	**-0.6**
PWJI				S	**Sn**	**02 58 52.8**	**-0.4**
MDSI	**Maura Dua**	**4.67**	**317**	P	Pn	02 58 10.8	+3.5
KRKI	**Karangkates**	**5.03**	**93**	P	**Pn**	**02 58 13.3**	**+1.1**
KRKI				S	**Sn**	**02 59 11.1**	**+2.0**
GRJI	**Gresik**	**5.15**	**79**	P	**Pn**	**02 58 14.4**	**+0.4**
	111nm,0.5s,2μm0.7nm						
GRJI				S	**Sn**	**02 59 13.5**	**+1.3**
	111nm,0.5s,2μm0.7nm						
LHSI	**Lahat**	**5.59**	**316**	P	**Pn**	**02 58 21.6**	**+1.7**
	136nm,0.8s,3μm0.5nm						
GMJI	**Gumukmas**	**6.01**	**94**	P	**Pn**	**02 58 26.7**	**+1.0**
	106nm,0.9s,3μm0.5nm						
GMJI				S	**Sn**	**02 59 35.2**	**+2.0**
	106nm,0.9s,3μm0.5nm						
BLJI	**Banyuglugur**	**6.16**	**89**	P	**Pn**	**02 58 27.7**	**0.0**
	133nm,0.4s,5μm0.9nm						
KSI	**Kapahiang**	**6.38**	**311**	P	Pn	02 58 38.0	+7.2
ABJI	**Asem Bagus**	**6.79**	**89**	P	Pn	02 58 41.4	+5.0
BATI	**Baumata**	**16.24**	**99**	Sn	Sn	03 03 33.0	-10
BATI	**Baumata**	**16.24**	**99**	Sn	Sn	03 03 33.0	-10
	1.3nm,0.3s,baz=38,slow=19,SNR=2.9						
FITZ	**Fitzroy Crossi**	**20.45**	**121**	*e*P	**P**	**03 01 31.5**	**+0.3**
	8.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.45**	**121**	P	**P**	**03 01 31.6**	**+0.4**
	6.3nm,0.6s,baz=304,slow=6.7,SNR=22						
H01W3	**Cape Leeuwin H**	**27.55**	**168**	T	T	03 32 21.0	
	baz=348,slow=0.7,SNR=3.8						
H01W1	**Cape Leeuwin H**	**27.56**	**168**	T	T	03 32 18.6	
	baz=348,slow=0.7,SNR=4.8						
H01W2	**Cape Leeuwin H**	**27.56**	**168**	T	T	03 32 27.9	
	baz=348,slow=0.7,SNR=4.3						
WRA	**Warramunga Arr**	**28.71**	**117**	LR	LR	03 14 22.2	
	comp=Z,80nm,18.1s,baz=275,slow=36						
H08S2	**Diego Garcia H**	**34.56**	**268**	T	T	03 41 03.9	
	baz=92,slow=0.7,SNR=4.4						
H08S3	**Diego Garcia H**	**34.57**	**268**	T	T	03 41 02.4	
	baz=92,slow=0.7,SNR=3.7						
H08S1	**Diego Garcia H**	**34.58**	**268**	T	T	03 41 05.3	
	baz=92,slow=0.7,SNR=5.0						
STKA	**Stephens Creek**	**39.75**	**132**	P	**P**	**03 04 26.4**	**+1.1**
STKA	**Stephens Creek**	**39.75**	**132**	P	**P**	**03 04 26.4**	**+1.1**
	6.8nm,0.4s,baz=306,slow=7.6,SNR=27						
SONM	**Songino Array**	**55.52**	**359**	P	**P**	**03 06 25.4**	**-1.9**
SONM				PcP	**PcP**	**03 07 25.5**	**-1.0**
SONM	**Songino Array**	**55.52**	**359**	P	**P**	**03 06 25.4**	**-1.9**
	0.6nm,0.3s,baz=174,slow=9.7,SNR=5.6						
SONM				PcP	**PcP**	**03 07 25.5**	**-1.0**
	0.8nm,0.4s,baz=182,slow=4.0,SNR=5.8						
MKAR	**Makanchi Array**	**58.87**	**340**	P	**P**	**03 06 48.5**	**-2.4**
MKAR	**Makanchi Array**	**58.87**	**340**	P	**P**	**03 06 48.5**	**-2.4**
	0.5nm,0.3s,baz=152,slow=8.5,SNR=20						
ZALV	**Zalesovo Beam**	**64.51**	**345**	P	**P**	**03 07 26.7**	**-1.9**
ZALV	**Zalesovo Beam**	**64.51**	**345**	P	**P**	**03 07 26.7**	**-1.9**
	0.7nm,0.3s,baz=146,slow=8.0,SNR=3.2						
MAW	**Mawson**	**66.60**	**197**	P	**P**	**03 07 43.0**	**+1.2**
MAW	**Mawson**	**66.60**	**197**	P	**P**	**03 07 43.0**	**+1.2**
	4.0nm,0.6s,baz=50,slow=5.6,SNR=14						
RDF	**Al-Radifah**	**68.25**	**305**	*e*P	**P**	**03 07 52.6**	**-0.5**
RDF				AMb	AMB	03 08 04.4	
	comp=Z,44nm,1.4s						
NAY	**Al-Naaiem**	**68.62**	**306**	*e*P	**P**	**03 07 54.8**	**-0.5**
NAY				AMb	AMB	03 07 55.5	
	comp=Z,9.0nm,0.7s						
RST	**Umm Al-Ruwaisa**	**68.92**	**306**	*e*P	**P**	**03 07 56.4**	**-0.8**
RST				AMb	AMB	03 07 57.6	
	comp=Z,147nm,0.7s						
KMBO	**Kilima Mbogo**	**70.17**	**272**	P	**P**	**03 08 06.3**	**+0.8**
KMBO	**Kilima Mbogo**	**70.17**	**272**	P	**P**	**03 08 06.3**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=50,slow=7.9,SNR=4.5						
ABKAR	**Akbulak array**	**70.39**	**329**	*e*P	**P**	**03 08 05.1**	**-0.7**
	comp=Z,6.3nm,0.5s						
LSZ	**Lusaka**	**77.58**	**256**	P	**P**	**03 08 49.6**	**+1.0**
LSZ	**Lusaka**	**77.58**	**256**	P	**P**	**03 08 49.6**	**+1.0**
	comp=Z,2.3nm,0.5s,baz=71,slow=7.8,SNR=8.9						
BOSA	**Boshof**	**79.37**	**242**	P	**P**	**03 08 59.0**	**+0.7**
BOSA	**Boshof**	**79.37**	**242**	P	**P**	**03 08 59.0**	**+0.7**
	comp=Z,4.7nm,1.0s,baz=100,slow=4.9,SNR=7.7						
QSPA	**South Pole Qui**	**82.08**	**180**	*e*P	**P**	**03 09 12.5**	**+0.5**
	comp=Z,1.8nm,0.5s						
BRTR	**Keskin Array B**	**82.72**	**312**	P	**P**	**03 09 15.3**	**-0.6**
BRTR	**Keskin Array B**	**82.72**	**312**	P	**P**	**03 09 15.3**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=126,slow=6.0,SNR=11						
BR131	**Keskin Array S**	**82.72**	**312**	*e*P	**P**	**03 09 15.7**	**-0.2**
	comp=Z,0.6nm,0.5s						
AKASG	**Malin Array Be**	**88.64**	**321**	P	**P**	**03 09 42.8**	**-1.9**
AKASG	**Malin Array Be**	**88.64**	**321**	P	**P**	**03 09 42.8**	**-1.9**
	comp=Z,0.4nm,0.4s,baz=81,slow=5.1,SNR=5.2						
SNAA	**Sanae**	**88.77**	**197**	*e*P	**P**	**03 09 46.5**	**+1.4**
SNAA	**Sanae**	**88.77**	**197**	*e*I	pP	03 10 04.6	+0.1
SNAA	**Sanae**	**88.77**	**197**	*e*P	**P**	**03 09 46.3**	**+1.3**
	comp=Z,6.4nm,1.1s						
VNA2	**Neumayer--Watz**	**90.41**	**197**	*e*P	**P**	**03 09 54.7**	**+2.0**
	baz=91,slow=3.6						
VNA2	**Neumayer--Watz**	**90.41**	**197**	*e*I	pP	03 10 12.9	+0.8
	baz=91,slow=3.6						
FINES	**FINESS Array B**	**92.75**	**332**	P	**P**	**03 10 02.8**	**-0.8**
FINES	**FINESS Array B**	**92.75**	**332**	P	**P**	**03 10 02.8**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=134,slow=8.0,SNR=2.7						
ARCES	**ARCESS Array B**	**94.52**	**340**	P	**P**	**03 10 10.3**	**-1.3**
ARCES	**ARCESS Array B**	**94.52**	**340**	P	**P**	**03 10 10.3**	**-1.3**
	comp=Z,3.2nm,1.0s,baz=104,slow=5.9,SNR=6.2						
TORD	**Torodi Ar. Bea**	**106.97**	**281**	PKiKP	**PKiKP**	**03 15 17.4**	**-0.8**
TORD	**Torodi Ar. Bea**	**106.97**	**281**	PKiKP	**PKiKP**	**03 15 17.4**	**-0.8**
	comp=Z,0.6nm,1.1s,baz=69,slow=1.4,SNR=4.6						
TXAR	**Lajitas Array**	**143.88**	**50**	PKP	PKPbc	03 16 26.1	+0.8
TXAR	**Lajitas Array**	**143.88**	**50**	PKP	PKPbc	03 16 26.1	+0.8
	comp=Z,0.4nm,0.4s,baz=300,slow=1.8,SNR=11						
TUL1	**Tulsa**	**145.00**	**34**	*e*PKPdf	**PKPdf**	**03 16 29.1**	**0.0**
JCT	**Junction City**	**146.08**	**45**	*e*PKPbc	**PKPab**	**03 16 33.0**	**+0.2**
BDFB	**Brasilia**	**146.21**	**226**	PKPbc	**PKPab**	**03 16 34.0**	**+0.4**
BDFB	**Brasilia**	**146.21**	**226**	PKPbc	**PKPab**	**03 16 34.0**	**+0.4**
	comp=Z,3.7nm,0.4s,baz=130,slow=2.5,SNR=12						
MIAR	**Mount Ida**	**147.23**	**33**	*e*PKPbc	**PKPbc**	**03 16 35.8**	**+0.6**
WVT	**Waverly**	**148.67**	**24**	*e*PKPbc	**PKPbc**	**03 16 39.1**	**+0.1**
LPAZ	**La Paz**	**155.54**	**190**	PKPab	**PKPab**	**03 17 14.2**	**+1.6**
LPAZ	**La Paz**	**155.54**	**190**	PKPab	**PKPab**	**03 17 14.2**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=167,slow=3.9,SNR=4.6						

ISCJB ***12*** *02:58:20.1±0.6, 4°.92S×0°.05×130°.77E±0°.04, h50km, mb4.0/4, Error ellipse: s-maj=7.6km s-min=6.2km az=15.1*
IDC ***12*** *02:58:22.3±7.4, 4°.67S×130°.86E, h66km±69km, mb3.8/4, mb1 3.9/5, mb1mx3.5/16, mbtmp3.8/5, ML4.4/2, Error ellipse: s-maj=70.4km s-min=22.6km az=51.0*
DJA ***12*** *02:58:23.7±0.3, 5°.5S±3°×13°.1E±°, h70km, M4.5/6, mb4.8/3, mB5.0/1, MLv4.3/6, Mw(mB)4.3/1*
ISC 12 02:58:21.7±0.8, 4°.72S±0°.07×130°.78E±0°.06, h50km, n20, σ1°80/18, mb4.0/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**0.90**	**283**	P	**Pn**	**02 58 38.8**	**+0.8**
BNDI				S	**Sn**	**02 58 50.8**	**+0.8**
TLE	**Tual**	**2.15**	**115**	P	Pn	02 58 59.5	+4.4
TLE				S	Sn	02 59 27.4	+6.9
MSAI	**Masohi**	**2.30**	**306**	P	**Pn**	**02 58 56.8**	**-0.3**
FAKI	**Fak Fak**	**2.31**	**39**	P	**Pn**	**02 58 59.1**	**+1.8**
FAKI				S	**Sn**	**02 59 28.2**	**+3.7**
AAI	**Ambon**	**2.78**	**292**	P	**Pn**	**02 59 03.5**	**-0.2**
KMPI	**Kaimana, Papua**	**3.10**	**70**	P	Pn	02 59 11.3	+3.2
SWI	**Sorong**	**3.86**	**7**	P	Pn	02 59 29.2	+11
SWI				S	**Sn**	**03 00 01.6**	**-1.1**
NLAI	**Namlea**	**3.96**	**292**	P	**Pn**	**02 59 21.2**	**+1.3**
NLAI				S	**Sn**	**03 00 08.4**	**+3.3**
LBMI	**Labuha**	**5.22**	**321**	P	**Pn**	**02 59 37.0**	**-0.2**
	84nm,1.0s,1μm						
SOEI	**Soe**	**8.17**	**232**	P	Pn	03 00 21.3	+3.4
	61nm,0.9s						
BATI	**Baumata**	**8.92**	**232**	P	**Pn**	**03 00 30.1**	**+2.1**
BATI	**Baumata**	**8.92**	**232**	P	**Pn**	**03 00 30.3**	**+2.3**
	5.3nm,0.3s,baz=93,slow=1.3,SNR=16						
FITZ	**Fitzroy Crossi**	**14.22**	**200**	P	Pn	03 01 36.2	-4.2
	0.5nm,0.3s,baz=13,slow=11,SNR=20						
FITZ				S	Sn	03 04 03.7	-13
	0.7nm,0.3s,baz=217,slow=18,SNR=4.6						
WRA	**Warramunga Arr**	**15.52**	**167**	P	Pn	03 01 51.6	-5.8
	0.4nm,0.3s,baz=345,slow=13,SNR=19						
WRA				S	Sn	03 04 32.9	-16
	1.9nm,0.3s,baz=349,slow=20,SNR=8.5						
ASAR	**Alice Springs**	**19.07**	**171**	P	**P**	**03 02 39.2**	**-0.9**
	0.7nm,0.3s,baz=352,slow=11,SNR=37						
ASAR				S	S	03 06 00.4	-14
	0.3nm,0.3s,baz=345,slow=16,SNR=4.3						
CTA	**Charters Tower**	**21.45**	**137**	P	**P**	**03 03 06.2**	**+0.3**
	2.1nm,0.2s,baz=294,slow=8.7,SNR=4.2						
STKA	**Stephens Creek**	**28.86**	**161**	P	**P**	**03 04 14.3**	**-1.2**
	1.5nm,0.4s,baz=341,slow=8.9,SNR=4.8						
MKAR	**Makanchi Array**	**66.77**	**326**	P	**P**	**03 09 07.0**	**-1.0**
	0.6nm,0.4s,baz=122,slow=7.3,SNR=8.2						
ZALV	**Zalesovo Beam**	**69.91**	**333**	P	**P**	**03 09 25.5**	**-1.9**
	1.1nm,0.5s,baz=134,slow=6.4,SNR=3.1						
TORD	**Torodi Ar. Bea**	**129.10**	**283**	PKP	**PKPdf**	**03 17 24.9**	**-0.3**
	0.5nm,0.9s,baz=76,slow=2.6,SNR=3.5						

ISCJB ***12*** *03:14:15.6±0.6, 24°.83N±0°.06×122°.70E±0°.04, h10km, mb3.7/4, Error ellipse: s-maj=9.2km s-min=4.7km az=16.5*
IDC ***12*** *03:14:16.3±1.2, 24°.76N×122°.64E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/23, mbtmp3.7/5, MS3.5/2, Ms1 3.5/2, ms1mx3.1/41, Error ellipse: s-maj=56.6km s-min=21.0km az=74.0*
JMA ***12*** *03:14:16.7±0.1, 24°.93N×122°.86E, h22km, M2.9*
TAP ***12*** *03:14:28.3, 24°.52

Scale 10^{18}Nm; M_{rr}-0.35±.01; $M_{\theta\theta}$-1.93±.01; $M_{\phi\phi}$2.27±.01; $M_{r\theta}$-0.11±.02; $M_{r\phi}$0.93±.01; $M_{\theta\phi}$-0.01±.02; Best double couple: M_o2.30000×10^{18} NP1:ϕ_s57.00000°,δ88.00000°, λ-3.00000°. NP2:ϕ_s147.00000°,δ87.00000°, λ-178.00000°. Principal axes: T 2.4700, Plg1.0000°, Azm102.0000°; N -0.3400, Plg86.0000°, Azm202.0000°; P -2.1300, Plg3.0000°, Azm12.0000°; Data Used: II IU IC G CN. Mantle waves from 105 sta. Surface waves: sta=121, comp=284, per= 50.

NEIC ***12*** *03:16:01.7±0.0, 16.95S×66.47E, h10km, Moment Tensor Solution. s130 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.36; $M_{\theta\theta}$-1.59; $M_{\phi\phi}$1.95; $M_{r\theta}$-0.16; $M_{\theta\phi}$0.83; $M_{r\phi}$-0.19; Best double couple: M_o2.00000×10^{18} NP1:ϕ_s147.00000°, δ83.00000°,λ180.00000°. NP2:ϕ_s238.00000°,δ90.00000°, λ7.00000°. Principal axes: T 2.1500, Plg4.0000°, Azm102.0000°; N -0.3700, Plg83.0000°, Azm239.0000°; P -1.7800, Plg4.0000°, Azm12.0000°;*

SZGRF ***12*** *03:16:10.2, 14.36S×62.23E, h10km, mb5.2, MS5.2, South Indian Ocean*

ISC 12 03:15:47.8±0.3, 17.18S±0.03×66.69E±0.03, h14km±1km, h14km:pP-P, n1743, σ1934/1980, mb6.0/289, MS5.8/222, 296C-270D, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MRIV	**Mauritius Mete**	**9.24**	**249**	*e*Pn		Pn	03 17 54.8	-6.0
MRIV				*e*S		Sn	03 19 33.4	-11
H08S1	**Diego Garcia H**	**11.03**	**31**	Pn		**Pn**	**03 18 24.6**	**-0.5**
	baz=226,slow=0.1,SNR=310							
H08S1				T		T	03 29 38.5	
	baz=222,slow=0.7							
H08S2	**Diego Garcia H**	**11.04**	**32**	Pn		**Pn**	**03 18 25.0**	**-0.2**
	baz=226,slow=0.1,SNR=389							
H08S2				T		T	03 29 39.0	
	baz=222,slow=0.7							
H08S3	**Diego Garcia H**	**11.05**	**31**	Pn		**Pn**	**03 18 24.9**	**-0.5**
	baz=226,slow=0.1,SNR=214							
H08S3				T		T	03 29 33.3	
	baz=222,slow=0.7							
RER	**Riviere de l'E**	**11.07**	**247**	*e*Pn		Pn	03 18 20.1	-5.7
	67nm,0.6s							
RER				*e*S		Sn	03 20 17.8	-12
DGAR	**Diego Garcia**	**11.22**	**31**	*e*P		**Pn**	**03 18 27.0**	**-0.9**
DGAR				pmax		pmax		
	comp=Z,10μm,1.4s							
DGAR	**Diego Garcia**	**11.22**	**31**	Pn		**Pn**	**03 18 28.4**	**+0.5**
	SNR=48							
DGAR	**Diego Garcia**	**11.22**	**31**	Pn		**Pn**	**03 18 28.0**	**+0.1**
	comp=Z,31μm,1.3s,SNR=31							
DGAR	**Diego Garcia**	**11.22**	**31**	*e*Pn		**Pn**	**03 18 27.0**	**-0.9**
	comp=Z,13μm,1.4s							
H08N3	**Diego Garcia H**	**11.56**	**22**	Pn		**Pn**	**03 18 33.0**	**+0.7**
	baz=193,slow=0.1,SNR=149							
H08N3				T		T	03 30 19.7	
	baz=199,slow=0.7							
H08N1	**Diego Garcia H**	**11.58**	**22**	Pn		**Pn**	**03 18 32.7**	**+0.3**
	baz=193,slow=0.1,SNR=183							
H08N1				T		T	03 30 19.4	
	baz=199,slow=0.7							
H08N2	**Diego Garcia H**	**11.59**	**22**	Pn		**Pn**	**03 18 33.5**	**+0.9**
	baz=193,slow=0.1,SNR=108							
H08N2				T		T	03 30 29.7	
	baz=199,slow=0.7							
MSEY	**Mahe Island**	**16.59**	**317**	Pn		**P**	**03 19 43.3**	**+0.7**
	SNR=22							
MSEY	**Mahe Island**	**16.59**	**317**	P		**P**	**03 19 43.3**	**+0.7**
	comp=Z,1μm,1.8s,SNR=29							
MSEY	**Mahe Island**	**16.59**	**317**	*e*Pn		**Pn**	**03 19 40.2**	**0.0**
	comp=Z,1μm,1.9s							
ABPO	**Ambohimpanom**	**18.59**	**261**	*e*P		**P**	**03 20 03.8**	**-1.1**
ABPO				pmax		pmax		
	comp=Z,2μm,2.5s							
ABPO	**Ambohimpanom**	**18.59**	**261**	*e*P		**P**	**03 20 03.8**	**-1.1**
	comp=Z,2μm,2.5s							
OPO	**Ambohidratompo**	**18.61**	**263**	P		**P**	**03 20 05.2**	**0.0**
OPO				S		Sn	03 23 21.1	-13
OPO	**Ambohidratompo**	**18.61**	**263**	P		**P**	**03 20 05.2**	**0.0**
	comp=Z,3.8nm,0.3s,baz=86,slow=11,SNR=28							
OPO				S		Sn	03 23 21.1	-13
	baz=122,slow=19,SNR=1.5							
OPO				LR		LR	03 25 17.9	
	comp=Z,50μm,21.9s,baz=76,slow=31							
KAAM	**Kaadhehdhoo**	**18.63**	**20**	P		**P**	**03 20 05.2**	**0.0**
	comp=Z,1μm,3.4s,comp=Z,62μmcomp=Z,124μm							
KAAM	**Kaadhehdhoo**	**18.63**	**20**	⇓P		**P**	**03 20 04.9**	**-0.3**
	baz=19,SNR=11							
MNCY	**Minicoy**	**26.05**	**14**	*i* x		**P**	**03 21 24.0**	**+3.1**
TRD	**Trivandrum**	**27.47**	**22**	*e*P		**P**	**03 21 33.3**	**-0.5**
PALK	**Pallekele**	**27.97**	**31**	P		**P**	**03 21 39.1**	**+0.9**
	SNR=10							
PALK	**Pallekele**	**27.97**	**31**	P		**P**	**03 21 38.1**	**-0.2**
	comp=Z,332nm,1.3s,SNR=11							
PALK	**Pallekele**	**27.97**	**31**	P		**P**	**03 21 39.7**	**+1.4**
	comp=Z,106nm,1.6s,comp=Z,6μmcomp=Z,11μm							
PALK	**Pallekele**	**27.97**	**31**	*e*P		**P**	**03 21 38.0**	**-0.2**
	comp=Z,1μm,2.4s							
COCO	**West Island**	**29.56**	**84**	*e*P		**P**	**03 21 51.0**	**-1.4**
COCO				pmax		pmax		
	comp=Z,1μm,1.5s							
COCO				MLR		MLR		
	comp=Z,41μm,20.0s							
COCO	**West Island**	**29.56**	**84**	P		**P**	**03 21 54.5**	**+2.1**
	comp=Z,413nm,1.3s							
COCO	**West Island**	**29.56**	**84**	*e*P		**P**	**03 21 51.0**	**-1.4**
	comp=Z,1μm,1.5s							
COCO				LR		LR		
	comp=Z,41μm,20.0s							
PAF	**Port-aux-Franc**	**32.21**	**176**	PFAKE			03 22 30.0	+15
PAF				LR		LR		
	comp=Z,25μm,21.0s							
MDRS	**Chennai**	**32.91**	**25**	*e*P		**P**	**03 22 21.3**	**-0.5**
KMBO	**Kilima Mbogo**	**33.06**	**296**	*e*P		**P**	**03 22 23.1**	**-0.4**
	comp=Z,218nm,1.8s							
KMBO				*e*PcP		**PcP**	**03 25 09.4**	**+2.2**
KMBO	**Kilima Mbogo**	**33.06**	**296**	⇓P		**P**	**03 22 23.5**	**0.0**
	baz=33							
KMBO	**Kilima Mbogo**	**33.06**	**296**	P		**P**	**03 22 23.1**	**-0.4**
	comp=Z,10nm,0.9s,baz=98,slow=7.0,SNR=17							
KMBO				LR		LR	03 32 47.0	
	comp=Z,37μm,21.8s,baz=111,slow=31							
GOA	**Goa**	**33.22**	**13**	*e*P		**P**	**03 22 24.1**	**-0.4**
MSNA	**Messina**	**34.83**	**255**	*e*P		**P**	**03 22 38.3**	**-0.3**
MSNA				AMB		AMB	03 22 44.6	
	comp=Z,106nm,3.9s							
MSNA	**Messina**	**34.83**	**255**	P		**P**	**03 22 38.3**	**-0.3**
SNSI	**Sinabang, Aceh**	**35.13**	**59**	P		**P**	**03 22 42.3**	**+1.1**
	comp=Z,323nm,1.9s,comp=Z,9μm							
GSI	**Gunungsitoli**	**35.56**	**62**	P		**P**	**03 22 46.1**	**+1.1**
	comp=Z,424nm,1.9s,comp=Z,9μm							
GSI	**Gunungsitoli**	**35.56**	**62**	⇑P		**P**	**03 22 46.3**	**+1.4**
	baz=36							
POO	**Poona**	**36.18**	**12**	*e*P		**P**	**03 22 50.7**	**+0.5**
HYB	**Hyderabad**	**36.31**	**19**	*i* P		**P**	**03 22 50.0**	**-1.3**
HYB				*e*S		**S**	**03 28 33.0**	**+1.0**
HYB	**Hyderabad**	**36.31**	**19**	*e*P		**P**	**03 22 51.5**	**+0.2**
KSD	**Kokstad**	**36.41**	**242**	*e*P		**P**	**03 22 53.8**	**+1.5**
KSD				AMB		AMB	03 22 58.4	
	comp=Z,330nm,4.1s							
KSD	**Kokstad**	**36.41**	**242**	P		**P**	**03 22 53.8**	**+1.5**
RBK	**Rabkut**	**36.59**	**340**	⇓P		**P**	**03 22 54.6**	**+0.9**
	SNR=38							
SLR	**Silverton**	**36.63**	**250**	*e*P		**P**	**03 22 51.5**	**-2.8**
SLR				AMB		AMB	03 22 58.1	
	comp=Z,189nm,2.2s							
SLR	**Silverton**	**36.63**	**250**	P		**P**	**03 22 51.5**	**-2.8**
SLR	**Silverton**	**36.63**	**250**	P		**P**	**03 22 51.5**	**-2.8**
ABTO	**Aybut**	**36.77**	**338**	P		**P**	**03 22 57.0**	**+1.8**
	SNR=32							
KCSI	**Kotacane, Aceh**	**36.95**	**59**	P		**P**	**03 22 57.4**	**+0.6**
	comp=Z,188nm,2.0s,comp=Z,5μm							
PDSI	**Padang**	**36.95**	**68**	P		**P**	**03 22 58.7**	**+1.8**
	comp=Z,363nm,1.8s,comp=Z,14μm							
LSZ	**Lusaka**	**36.97**	**267**	*e*P		**P**	**03 22 55.5**	**-1.7**
LSZ	**Lusaka**	**36.97**	**267**	P		**P**	**03 22 57.2**	**0.0**
	SNR=22							
LSZ	**Lusaka**	**36.97**	**267**	*e*P		**P**	**03 22 55.9**	**-1.3**
	comp=Z,72nm,1.3s							
LSZ				LR		LR		
	comp=Z,14μm,19.0s							
LSZ	**Lusaka**	**36.97**	**267**	P		**P**	**03 22 56.2**	**-0.9**
	comp=Z,13nm,0.9s,baz=77,slow=13,SNR=18							
ATD	**Arta Tunnel**	**37.00**	**319**	LR		LR	03 36 32.3	
	comp=Z,15μm,18.4s,baz=130,slow=34							
PPI	**Padang Panjang**	**37.11**	**67**	P		**P**	**03 22 59.9**	**+1.7**
	comp=Z,263nm,1.5s,comp=Z,5μm							
PPI	**Padang Panjang**	**37.11**	**67**	P		**P**	**03 22 00.5**	**+2.3**
	baz=37,SNR=5.2							
LHMI	**Lhok Sumawe**	**37.28**	**56**	P		**P**	**03 23 01.6**	**+2.0**
	comp=Z,404nm,2.4s,comp=Z,12μm							
KLOF	**Kloof**	**37.30**	**249**	*e*P		**P**	**03 23 00.6**	**+0.7**
KLOF				AMB		AMB	03 23 04.9	
	comp=Z,116nm,3.5s							
KLOF	**Kloof**	**37.30**	**249**	P		**P**	**03 23 00.6**	**+0.7**
PSI	**Prapat**	**37.50**	**61**	P		**P**	**03 23 00.9**	**-0.7**
PSI	**Prapat**	**37.50**	**61**	⇑P		**P**	**03 23 02.6**	**+0.9**
	baz=38,SNR=25							
PSI	**Prapat**	**37.50**	**61**	P		**P**	**03 23 00.9**	**-0.7**
	comp=Z,79nm,1.2s,baz=219,slow=7.3,SNR=30							
PSI				LR		LR	03 35 07.8	
	comp=Z,25μm,20.1s,baz=224,slow=31							
SEK	**Senekal**	**37.54**	**246**	*e*P		**P**	**03 23 01.0**	**-0.9**
SEK				AMB		AMB	03 23 07.3	
	comp=Z,136nm,4.4s							
SEK	**Senekal**	**37.54**	**246**	P		**P**	**03 23 01.0**	**-0.9**
MASI	**Maura Aman, Be**	**37.58**	**72**	P		**P**	**03 23 02.9**	**+0.7**
	comp=Z,908nm,1.4s,comp=Z,12μm							
PRYS	**Parys**	**37.59**	**248**	*e*P		**P**	**03 23 02.1**	**-0.2**
PRYS				AMB		AMB	03 23 07.2	
	comp=Z,70nm,3.5s							
PRYS	**Parys**	**37.59**	**248**	P		**P**	**03 23 02.1**	**-0.2**
KSI	**Kapahiang**	**37.69**	**73**	P		**P**	**03 23 04.7**	**+1.5**
	comp=Z,460nm,2.1s,comp=Z,12μm							
VIS	**Vishakhapatnam**	**38.36**	**26**	*e*P		**P**	**03 23 09.9**	**+1.3**
XMIS	**Christmas Isla**	**38.37**	**85**	*e*P		**P**	**03 23 09.2**	**+0.3**
	comp=Z,10μm,2.3s							
DAMY	**Dhamar**	**38.47**	**324**	*e*P		**P**	**03 23 11.6**	**+1.6**
LHSI	**Lahat**	**38.48**	**74**	P		**P**	**03 23 11.2**	**+1.4**
	comp=Z,478nm,1.8s,comp=Z,9μmcomp=Z,10μm							
PBA	**Port Blair**	**38.52**	**44**	*e*P		P	03 23 10.2	+0.2
PBA				AMB		AMB	03 23 16.2	
	comp=Z,699nm,1.3s							
LWLI	**Liwa**	**38.53**	**76**	P		**P**	**03 23 11.9**	**+1.6**
	comp=Z,279nm,0.7s							
KASI	**Kota Agung**	**38.76**	**77**	P		**P**	**03 23 13.3**	**+1.2**
	comp=Z,341nm,1.8s,comp=Z,6μm							
DESE	**Dese**	**38.80**	**315**	*e*P		**P**	**03 23 15.0**	**+2.2**
DESE				*e*S		S	03 29 25.8	+15
MDSI	**Maura Dua**	**38.83**	**75**	P		**P**	**03 23 14.2**	**+1.4**
	comp=Z,136nm,1.7s,comp=Z,4μmcomp=Z,14μm							
RGRI	**Rengat**	**38.87**	**68**	P		**P**	**03 23 14.8**	**+1.7**
	comp=Z,651nm,1.5s,comp=Z,123μm							
AKL	**Akola**	**38.99**	**15**	*e*P		**P**	**03 23 12.7**	**-1.2**
LBTB	**Lobatse**	**39.00**	**251**	*e*P		**P**	**03 23 12.3**	**-1.9**
LBTB				AMB		AMB	03 23 18.2	
	comp=Z,184nm,2.1s							
LBTB	**Lobatse**	**39.00**	**251**	*e*P		**P**	**03 23 12.8**	**-1.4**
	comp=Z,124nm,1.0s							
MBAR	**Mbarara**	**39.02**	**291**	*e*P		**P**	**03 23 13.0**	**-1.5**
MBAR	**Mbarara**	**39.02**	**291**	P		**P**	**03 23 16.0**	**+1.4**
	comp=Z,53nm,1.1s,SNR=5.4							
MBAR	**Mbarara**	**39.02**	**291**	P		**P**	**03 23 13.0**	**-1.5**
MBAR				LR		LR		
	comp=Z,368nm,22.0s							
KIG	**Kigali**	**39.03**	**289**	*e*P		**P**	**03 23 14.8**	**+0.1**
KIG				AMB		AMB	03 23 21.2	
	comp=Z,81nm,3.8s							
KIG	**Kigali**	**39.03**	**289**	P		**P**	**03 23 14.8**	**+0.1**
KLI	**Kotabumi**	**39.32**	**76**	P		**P**	**03 23 18.4**	**+1.5**
	comp=Z,183nm,1.7s,comp=Z,4μm							
SWZ	**Schweizer**	**39.41**	**248**	*e*P		**P**	**03 23 16.8**	**-0.9**
SWZ				AMB		AMB	03 23 22.5	
	comp=Z,229nm,5.1s							
SWZ	**Schweizer**	**39.41**	**248**	P		**P**	**03 23 16.8**	**-0.9**
GRM	**Grahamstown**	**39.46**	**238**	*e*P		**P**	**03 23 18.8**	**+1.0**
GRM				AMB		AMB	03 23 24.9	
	comp=Z,138nm,3.2s							
GRM	**Grahamstown**	**39.46**	**238**	P		**P**	**03 23 18.8**	**+1.0**
GRM	**Grahamstown**	**39.46**	**238**	P		**P**	**03 23 18.8**	**+1.0**
BLSI	**Bandar Lampung**	**39.51**	**77**	P		**P**	**03 23 19.6**	**+1.2**
	comp=Z,300nm,1.3s,comp=Z,7μm							
BOSA	**Boshof**	**39.64**	**246**	*e*P		**P**	**03 23 18.3**	**-1.3**
BOSA				AMB		AMB	03 23 23.5	
	comp=Z,113nm,2.0s							
BOSA	**Boshof**	**39.64**	**246**	*e*P		**P**	**03 23 20.7**	**+1.1**
	comp=Z,501nm,2.3s							
BOSA	**Boshof**	**39.64**	**246**	P		**P**	**03 23 18.4**	**-1.2**
	comp=Z,12nm,0.8s,baz=78,slow=8.3,SNR=9.2							
HVD	**Gariep Dam**	**39.74**	**243**	*e*P		**P**	**03 23 18.4**	**-2.0**
HVD				AMB		AMB	03 23 26.6	
	comp=Z,129nm,4.0s							
HVD	**Gariep Dam**	**39.74**	**243**	P		**P**	**03 23 18.4**	**-2.0**
HVD	**Gariep Dam**	**39.74**	**243**	P		**P**	**03 23 18.4**	**-2.0**
DGPR	**DIGLIPUR**	**39.77**	**42**	*e*P		**P**	**03 23 21.4**	**+0.8**
DGPR				AMB		AMB	03 23 26.2	
	comp=Z,681nm,2.1s							
NGP	**Nagpur**	**39.98**	**18**	*e*P		**P**	**03 23 22.4**	**+0.2**
NGP				*e*P		**P**	**03 23 22.4**	**+0.2**
NGP				*ex*		x	03 29 25.8	
PKDT	**Phuket**	**39.99**	**54**	P		**P**	**03 23 22.8**	**+0.4**
	comp=Z,153nm,2.2s,comp=Z,5μm							
IPM	**Ipoh**	**40.17**	**61**	P		**P**	**03 23 24.9**	**+1.0**
IPM	**Ipoh**	**40.17**	**61**	*e*P		**P**	**03 23 24.4**	**+0.4**
	comp=Z,643nm,1.5s							
JMDO	**Jabal Madar**	**40.20**	**348**	⇑P		**P**	**03 23 24.1**	**+0.2**
	SNR=30							
WBK	**Wadi Bani Khal**	**40.26**	**349**	P		**P**	**03 23 25.9**	**+1.4**
	SNR=44							
BHJ	**Bhuj**	**40.29**	**4**	*e*P		**P**	**03 23 26.0**	**+1.3**
BHJ				AMB		AMB	03 23 29.8	
	comp=Z,565nm,1.3s							
KULM	**Kulim**	**40.30**	**59**	P		**P**	**03 23 25.5**	**+0.5**
KULM	**Kulim**	**40.30**	**59**	P		**P**	**03 23 24.4**	**-0.6**
	comp=Z,242nm,1.5s,comp=Z,5μm							
KULM	**Kulim**	**40.30**	**59**	*e*P		**P**	**03 23 24.7**	**-0.3**
	comp=Z,510nm,1.5s							
KULM				*e*			03 24 59.6	
KULM				LR		LR		
	comp=Z,14μm,21.0s							
BSY	**Bisya**	**40.75**	**347**	P		**P**	**03 23 30.0**	**+1.4**
	SNR=99							
KGM	**Kluang**	**40.85**	**66**	P		**P**	**03 23 30.4**	**+0.8**
SMDO	**Samad**	**40.88**	**348**	P		**P**	**03 23 31.2**	**+1.5**
	SNR=76							
BTDF	**Bukit Timah Da**	**40.94**	**67**	P		**P**	**03 23 31.8**	**+1.5**
	baz=41,SNR=5.7							
BTDF				P		**P**	**03 23 31.8**	**+1.5**
	baz=41,SNR=5.7							
MYKOM	**Kota Tinggi**	**41.21**	**66**	P		**P**	**03 23 33.1**	**+0.6**
MYKOM	**Kota Tinggi**	**41.21**	**66**	P		**P**	**03 23 32.9**	**+0.4**
	comp=Z,371nm,1.8s,comp=Z,6μm							
ARQ	**Araqi**	**41.48**	**346**	P		**P**	**03 23 35.9**	**+1.4**
	SNR=34							
BHPL	**Bhopal**	**41.52**	**15**	*e*P		**P**	**03 23 35.3**	**+0.4**
PPBI	**Pangkal Pinang**	**41.53**	**73**	P		**P**	**03 23 35.3**	**+0.2**
	comp=Z,155nm,1.9s,comp=Z,19μm							
HOQ	**Hoqain**	**41.54**	**347**	P		**P**	**03 23 36.5**	**+1.5**
	SNR=46							
JBP	**Jabalpur**	**42.16**	**18**	⇓*e*P		**P**	**03 23 39.8**	**-0.2**
JBP				*ex*		x	03 29 53.0	
CLJI	**Cilicap**	**42.31**	**83**	P		**P**	**03 23 43.1**	**+1.6**
	comp=Z,345nm,2.0s,comp=Z,8μm							
KPJI	**Karang Pucung**	**42.34**	**82**	P		**P**	**03 23 43.6**	**+1.8**
	comp=Z,227nm,1.7s,comp=Z,8μm							
KTGM	**Kuala Trenggan**	**42.39**	**61**	P		**P**	**03 23 43.0**	**+0.8**
TGJI	**Tegal**	**42.66**	**81**	P		**P**	**03 23 45.8**	**+1.4**
	comp=Z,393nm,1.7s,comp=Z,8μm							
TPI	**Tanjungpandan**	**42.69**	**75**	P		**P**	**03 23 44.9**	**+0.3**
	comp=Z,239nm,1.6s,comp=Z,4μm							
ASHO	**Ashiyiah**	**42.88**	**346**	P		**P**	**03 23 45.6**	**-0.4**
	SNR=102							
HATD	**Hatta, Dubai**	**43.00**	**346**	P		**P**	**03 23 47.7**	**+0.8**
	SNR=58							
ASUD	**Al Ashush, Dub**	**43.01**	**345**	P		**P**	**03 23 49.0**	**+2.1**
	SNR=8.6							
BJII	**Banjamegara**	**43.08**	**82**	P		**P**	**03 23 48.4**	**+0.5**
	comp=Z,170nm,2.1s,comp=Z,7μm							
UOSS	**Wadi Hilu**	**43.10**	**346**	P		**P**	**03 23 47.9**	**+0.2**
	comp=Z,540nm,1.3s,SNR=35							
NAZ	**Nazwa, Dubai**	**43.27**	**345**	P		**P**	**03 23 49.6**	**+0.5**
	SNR=28							
YOGI	**Yogyakarta**	**43.49**	**83**	P		**P**	**03 23 53.4**	**+2.3**
	comp=Z,974nm,1.7s,comp=Z,15μm							
UGM	**Wanagama**	**43.68**	**83**	P		**P**	**03 23 55.8**	**+3.1**
UGM	**Wanagama**	**43.68**	**83**	P		**P**	**03 23 54.2**	**+1.5**
	baz=44,SNR=4.2							
SUR	**Sutherland**	**43.98**	**241**	*e*P		**P**	**03 23 55.4**	**+0.3**
SUR				AMB		AMB	03 24 01.7	
	comp=Z,109nm,3.4s							
SUR	**Sutherland**	**43.98**	**241**	P		**P**	**03 23 55.4**	**+0.3**
SUR				*e*P		**pP**	**03 23 58.7**	**-0.8**
SUR				LR		LR		
	comp=Z,10μm,19.0s							
BANOM	**Banah**	**44.02**	**346**	P		**P**	**03 23 55.8**	**+0.6**
	SNR=16							
RUDU	**RUNDU**	**44.69**	**262**	*e*P		**P**	**03 24 02.5**	**+1.7**
RUDU				AMB		AMB	03 24 06.1	
	comp=Z,141nm,5.0s							
RUDU	**RUNDU**	**44.69**	**262**	P		**P**	**03 24 02.5**	**+1.7**
CVNA	**Calvinia**	**44.73**	**242**	*e*P		**P**	**03 24 58.9**	**-2.1**
CVNA				AMB		AMB	03 24 07.2	
	comp=Z,141nm,3.1s							
CVNA	**Calvinia**	**44.73**	**242**	P		**P**	**03 23 58.9**	**-2.1**
BOK	**Bokaro**	**44.84**	**25**	*e*P		**P**	**03 23 59.4**	**-2.3**
GIRL	**Giralia**	**44.89**	**105**	⇑P		**P**	**03 24 03.4**	**+1.1**
	baz=45,SNR=4.4							
CER	**Ceres**	**45.39**	**240**	*e*P		P	03 24 02.2	-3.9
CER				AMB		AMB	03 24 10.8	
	comp=Z,218nm,2.3s							
CER	**Ceres**	**45.39**	**240**	P		P	03 24 02.2	-3.9
RAYN	**Ar Rayn**	**45.44**	**332**	*e*P		**P**	**03 24 05.5**	**-1.1**
RAYN	**Ar Rayn**	**45.44**	**332**	P		**P**	**03 24 06.2**	**-0.4**
	comp=Z,525nm,1.4s,SNR=20							
IBND	**Bandar-abas**	**45.44**	**347**	*e*P		**P**	**03 24 08.1**	**+1.7**
H01W2	**Cape Leeuwin H**	**45.69**	**122**	T		T	04 12 47.3	
	baz=281,slow=0.7							
H01W3	**Cape Leeuwin H**	**45.69**	**122**	T		T	04 12 47.3	
	baz=281,slow=0.7							
H01W1	**Cape Leeuwin H**	**45.70**	**122**	T		T	04 12 48.5	
	baz=281,slow=0.7							
CHBT	**CHBT**	**46.09**	**52**	P		**P**	**03 24 13.3**	**+1.5**
	comp=Z,139nm,1.8s,comp=Z,3μm							
KOMG	**Komaggas**	**46.52**	**245**	*e*P		**P**	**03 24 12.1**	**-3.0**
KOMG				AMB		AMB	03 24 20.5	
	comp=Z,142nm,5.4s							
KOMG	**Komaggas**	**46.52**	**245**	P		**P**	**03 24 12.1**	**-3.0**
TSUM	**Tsumeb**	**46.57**	**260**	*e*P		**P**	**03 24 15.3**	**-0.4**
TSUM	**Tsumeb**	**46.57**	**260**	*e*P		**P**	**03 24 18.1**	**+2.4**
	comp=Z,54nm,1.4s							
TSUM				*e*			03 25 58.5	
TSUM				LR		LR		
	comp=Z,11μm,19.0s							
MORW	**Morawa**	**46.61**	**114**	P		**P**	**03 24 16.0**	**+0.2**
	baz=47,SNR=15							
NDI	**New Delhi**	**46.72**	**13**	*e*P		**P**	**03 24 14.5**	**-2.0**
NDI				*e*S		**S**	**03 31 04.0**	**-1.9**
WIN	**Windhoek**	**46.77**	**255**	*e*P		**P**	**03 24 18.4**	**+1.0**
WIN				AMB		AMB	03 24 23.4	
	comp=Z,37nm,3.6s							
WIN	**Windhoek**	**46.77**	**255**	P		**P**	**03 24 18.4**	**+1.0**
WIN	**Windhoek**	**46.77**	**255**	P		**P**	**03 24 18.4**	**+1.0**
KSM	**Kuching**	**46.82**	**71**	P		**P**	**03 24 18.8**	**+1.2**
KSM	**Kuching**	**46.82**	**71**	*e*P		**P**	**03 24 17.6**	**0.0**
	comp=Z,407nm,1.2s							
KSM				LR		LR		
	comp=Z,11μm,19.0s							
KSM	**Kuching**	**46.82**	**71**	⇓P		**P**	**03 24 17.9**	**+0.3**
	baz=47,SNR=35							
BLDU	**Ballidu**	**47.29**	**116**	⇑P		**P**	**03 24 21.1**	**0.0**
	baz=47,SNR=5.7							
CM31	**Chiang Mai Arr**	**47.55**	**43**	*e*P		**P**	**03 24 22.9**	**-0.2**
	comp=Z,524nm,1.5s							
KOLN	**Koldanda**	**47.60**	**20**	*e*P		**P**	**03 24 23.8**	**+0.2**
	comp=Z,536nm,1.4s							
RAMN	**Ramite**	**47.94**	**24**	*e*P		**P**	**03 24 26.7**	**+0.4**
	comp=Z,1μm,1.8s							
NWAO	**Narrogin (SRO)**	**47.96**	**119**	*e*P		**P**	**03 24 25.9**	**-0.3**
	comp=Z,138nm,1.4s							
NWAO				LR		LR		
	comp=Z,15μm,20.0s							
NWAO	**Narrogin (SRO)**	**47.96**	**119**	P		**P**	**03 24 23.8**	**-2.4**
	comp=Z,50nm,1.1s,baz=273,slow=12,SNR=8.2							
DMN	**Daman**	**47.97**	**22**	*e*P		**P**	**03 24 26.9**	**+0.3**
	comp=Z,860nm,1.5s							
PKI	**Pulchoki**	**48.05**	**23**	*e*P		**P**	**03 24 26.9**	**-0.4**
	comp=Z,506nm,1.5s							
GKN	**Gorkha**	**48.17**	**21**	*e*P		**P**	**03 24 28.2**	**+0.2**
	comp=Z,626nm,1.3s							
ODAN	**Odare**	**48.17**	**25**	*

comp=Z,6µm,19.0s
LSA Lhasa 52.24 27 *e*P **P 03 24 59.3 +0.1**
comp=Z,512nm,1.8s
LSA LR LR
comp=Z,6µm,19.0s
MIR Mirnyy 52.27 167 *e*P **P 03 25 00.0 +1.6**
MIR *e* 03 25 00.0
MIR *e* 03 27 05.0
MIR *e*PPP PPP 03 28 10.0
MIR *e*S **S 03 32 26.0 +3.2**
MIR pmax pmax
comp=Z,182nm,2.0s
MIR pmax pmax
comp=Z,1µm,4.0s
ISFB Sefidab 53.06 345 *e*P **P 03 25 04.6 -0.1**
KAPI Kappang 53.29 83 P **P 03 25 05.0 -1.7**
SNR=63
KAPI Kappang 53.29 83 P **P 03 25 04.1 -2.7**
comp=Z,2µm,1.2s,SNR=56
KAPI Kappang 53.29 83 *e*P **P 03 25 04.8 -2.0**
comp=Z,750nm,1.3s
KAPI Kappang 53.29 83 P **P 03 25 04.7 -2.0**
comp=Z,501nm,1.2s,baz=253,slow=7.2,SNR=78
KAPI LR LR 03 44 27.2
comp=Z,14µm,21.5s,baz=249,slow=32
IMOG Moghan 53.45 353 *e*P **P 03 25 07.4 -0.5**
IMYA Miami 53.60 353 *e*P **P 03 25 07.3 -1.4**
IVRN Varamin 53.80 345 *e*P **P 03 25 11.4 +1.3**
IPAY Payeh 53.83 352 *e*P **P 03 25 09.0 -1.6**
KKM Kota Kinabalu 54.10 69 P **P 03 25 13.0 +0.2**
KKM Kota Kinabalu 54.10 69 *e*P **P 03 25 12.1 -0.7**
comp=Z,455nm,1.4s
KKM LR LR
comp=Z,16µm,22.0s
KKM Kota Kinabalu 54.10 69 ⇑P **P 03 25 12.3 -0.5**
baz=54,SNR=66
IFIR Firoozkooh 54.17 346 *e*P **P 03 25 15.4 +2.3**
IKRD Kardeh 54.22 352 *e*P **P 03 25 10.8 -2.6**
IKOM Komasi 54.24 340 *e*P **P 03 25 12.4 -1.1**
IDMV Damavand 54.28 345 *e*P **P 03 25 12.9 -1.0**
SYO Syowa Base 54.51 192⇑*e*X **P 03 25 12.7 -2.1**
SYO Syowa Base 54.51 192⇓*i*sP sP 03 25 20.0 -1.0
MMRI Maumere 54.66 88 *e*P **P 03 25 16.7 -0.1**
comp=Z,1µm,1.2s
IRAZ Razeghan 54.66 343 *e*P **P 03 25 15.5 -1.1**
IGHG Ghaleghazi 54.69 340 *e*P **P 03 25 17.5 +0.7**
IVIS Veis 54.78 340 *e*P **P 03 25 17.4 +0.1**
KMI Kunming 54.79 41 ⇓P **P 03 25 18.3 +0.6**
KMI pP **pP 03 25 21.5 -0.7**
KMI sP **sP 03 25 23.2 -0.8**
KMI PcP **PcP 03 26 20.7 +0.6**
KMI PP PP 03 27 26.2 +5.5
KMI S **S 03 32 59.6 +1.1**
KMI SS **SS 03 36 46.0 +3.9**
KMI AMB AMB
comp=Z,120nm,1.6s
KMI AMB AMB
comp=Z,2µm,3.4s
KMI LR LR
comp=Z,7µm,13.0s
KMI LR LR
comp=Z,7µm,21.1s
KMI LR LR
comp=Z,7µm,25.9s
SDKM Sandakan 54.81 70 P **P 03 25 18.1 +0.2**
TSM Tawau 54.85 72 P **P 03 25 18.4 +0.3**
KDM Kudat 55.04 68 P **P 03 25 19.8 +0.3**
IDHR Dehrash 55.09 340 *e*P **P 03 25 20.2 +0.5**
ILIN Lien 55.10 340 *e*P **P 03 25 20.2 +0.4**
ABKT Ailbek 55.41 352 P **P 03 25 24.5 +2.8**
comp=Z,374nm,1.0s,SNR=15
IGZV Ghazvin 55.51 344 *e*P **P 03 25 23.0 +0.3**
QIZ Qiongzhong 55.63 52 P **P 03 25 24.7 +1.1**
QIZ PP **PP 03 27 28.8 +0.7**
QIZ S **S 03 33 12.5 +3.0**
QIZ sS **sS 03 33 18.0 +1.0**
QIZ AMB AMB
comp=Z,120nm,2.1s
QIZ LR LR
comp=Z,9µm,22.1s
QIZ LR LR
comp=Z,7µm,17.2s
QIZ Qiongzhong 55.63 52 PFAKE 03 25 40.0 +16
QIZ LR LR
comp=Z,6µm,19.0s
BATI Baumata 55.63 91 P **P 03 25 25.1 +1.3**
BATI Baumata 55.63 91 P **P 03 25 25.1 +1.3**
comp=Z,409nm,0.9s,baz=255,slow=1.7,SNR=81
BATI LR LR 03 44 42.2
comp=Z,8µm,21.5s,baz=278,slow=31
EIL Elat 55.74 326 LR LR 03 45 42.4
comp=Z,12µm,19.0s,baz=144,slow=32
MYLDM Lahad Datu 55.79 71 P **P 03 25 25.8 +0.9**
FITZ Fitzroy Crossi 55.97 101 *e*P **P 03 25 25.9 -0.3**
comp=Z,355nm,1.2s
FITZ Fitzroy Crossi 55.97 101 ⇑P **P 03 25 25.8 -0.3**
baz=56,SNR=81
FITZ Fitzroy Crossi 55.97 101 P **P 03 25 25.8 -0.4**
comp=Z,187nm,1.1s,baz=256,slow=7.0,SNR=97
SOEI Soe 56.32 90 ⇓P **P 03 25 30.1 +1.3**
baz=56,SNR=48
ASF Jabal al Asfar 56.77 330 P **P 03 25 32.6 +1.0**
ASF Jabal al Asfar 56.77 330 P **P 03 25 32.6 +1.0**
comp=Z,9.7nm,0.8s,baz=125,slow=6.0,SNR=2.4
ASF LR LR 03 46 11.8
comp=Z,4µm,20.3s,baz=284,slow=32
CASY Casey 56.81 160 *e*P **P 03 25 31.1 -0.3**
comp=Z,101nm,1.2s
CASY LR LR
comp=Z,7µm,20.0s
KSH Kashi 57.07 9 P P 03 25 30.4 -3.2
KSH pP pP 03 25 37.9 -0.3
KSH sP sP 03 25 41.7 +1.8
KSH PP **PP 03 27 38.3 -2.4**
KSH S S 03 33 20.7 -7.4
KSH sS sS 03 33 33.6 -2.0
KSH SS **SS 03 37 15.1 -2.3**
KSH AMB AMB
comp=Z,2µm,2.6s
KSH LR LR
comp=Z,5µm,15.7s
KSH LR LR
comp=Z,8µm,12.6s
KSH LR LR
comp=Z,7µm,15.6s
ZALF Zalf 57.18 331 *e*P **P 03 25 36.4 +1.9**
SALA Sala 57.29 330 *e*P **P 03 25 38.6 +3.2**
LUWI Luwuk 57.41 80 ⇑P **P 03 25 37.3 +0.9**
baz=58,SNR=5.5
TCHB Talchebab 57.63 329 *e*P **P 03 25 40.1 +2.4**
TOTH TOTAH 57.97 330 *e*P P 03 25 44.5 +4.4
MMAI Mount Meron Ar 58.19 329 P **P 03 25 42.6 +1.0**
MMAI Mount Meron Ar 58.19 329 P **P 03 25 42.6 +1.0**
comp=Z,18nm,0.9s,baz=132,slow=6.4,SNR=5.7
MMAI LR LR 03 46 44.1
comp=Z,5µm,18.7s,baz=175,slow=32
MZRK Al-Mazaregh 58.20 335 *e*P **P 03 25 43.9 +2.3**
GYA Guiyang 58.23 43⇑*i*P **P 03 25 43.9 +1.8**
GYA PP PP 03 27 56.8 +5.5
GYA ScP **ScP 03 30 33.6 +0.2**
GYA S **S 03 33 42.1 -1.8**
GYA SS **SS 03 37 40.5 +4.4**
GYA AMB AMB
comp=Z,180nm,1.0s
GYA AMB AMB
comp=Z,2µm,5.7s
GYA LR LR
comp=Z,5µm,19.8s
GYA LR LR
comp=Z,5µm,21.1s
GYA LR LR
comp=Z,4µm,22.4s
ROOS tl_alroos 58.24 331 *e*P P 03 25 45.2 +3.3
BRBR Barbar 58.24 330 *e*P **P 03 25 43.2 +1.1**
MARH Ras Al Marh 58.49 331 *e*P **P 03 25 45.2 +1.2**
HAKT HAKKARI 58.59 339 *i*P **P 03 25 43.8 -0.8**
SFNV Sufian 58.93 335 *e*P **P 03 25 45.9 -0.8**
JHLN Al Jahlan 58.99 333 *e*P **P 03 25 48.4 +1.3**
KBSD Kabsdagh 59.27 336 *e*P **P 03 25 48.4 -0.6**
KNRA Kununurra 59.33 98 ⇑P **P 03 25 49.6 -0.3**
baz=60,SNR=67
AML Almayashu 59.37 6 *i*P **P 03 25 49.1 -0.9**
AML Almayashu 59.37 6 P **P 03 25 49.1 -0.9**
SNR=40
KZA Kyzart 59.49 7 *i*P **P 03 25 50.8 -0.1**
SNR=44
CD2 Chengdu 59.64 37 P **P 03 25 50.6 -1.1**
CD2 pP **pP 03 25 55.2 -1.1**
CD2 sP **sP 03 25 57.6 -0.4**
CD2 PcP **PcP 03 26 40.7 +1.9**
CD2 PP **PP 03 28 04.7 +1.1**
CD2 PcS **PcS 03 30 41.4 +0.4**
CD2 S **S 03 33 57.4 -4.5**
CD2 SS **SS 03 37 58.3 +0.3**
CD2 AMB AMB
comp=Z,450nm,1.7s
CD2 AMB AMB
comp=Z,3µm,4.0s
CD2 LR LR
comp=Z,6µm,18.4s
CD2 LR LR
comp=Z,6µm,23.8s
ULHL Ulahol 59.78 8 *i*P **P 03 25 51.6 -1.1**
ULHL Ulahol 59.78 8 P **P 03 25 51.6 -1.1**
SNR=17
EKS2 Erkin-Say 59.90 6 *e*P **P 03 25 52.9 -0.5**
EKS2 pmax pmax
comp=Z,362nm,1.7s
EKS2 MLR MLR
comp=Z,6µm,20.0s
EKS2 Erkin-Say 59.90 6 P **P 03 25 53.1 -0.3**
SNR=43
EKS2 Erkin-Say 59.90 6 *e*P **P 03 25 52.9 -0.5**
comp=Z,362nm,1.7s
EKS2 LR LR
comp=Z,6µm,20.0s
AAK Ala-Archa 59.95 7 *e*P **P 03 25 53.0 -0.7**
AAK Ala-Archa 59.95 7 P **P 03 25 53.7 0.0**
SNR=81
AAK Ala-Archa 59.95 7 P **P 03 25 52.9 -0.9**
SNR=58
AAK Ala-Archa 59.95 7 P **P 03 25 53.1 -0.7**
comp=Z,657nm,1.2s,SNR=43
AAK Ala-Archa 59.95 7 *e*P **P 03 25 53.0 -0.7**
AAK P'P'ab **P'P'ab 03 55 36.3 +0.1**
AAK Ala-Archa 59.95 7 P **P 03 25 53.2 -0.5**
comp=Z,78nm,1.2s,baz=183,slow=7.1,SNR=31
AAK LR LR 03 48 35.1
comp=Z,10µm,21.1s,baz=187,slow=33
AAK PKP2ab 03 55 36.3
comp=Z,0.7nm,0.5s,baz=202,slow=5.7,SNR=4.3
KBK Karagaybulak 60.02 7 *i*P **P 03 25 54.2 -0.1**
KBK Karagaybulak 60.02 7 P **P 03 25 54.2 -0.1**
SNR=27
KK31 Karatay Array 60.09 3 *i*P **P 03 25 53.2 -1.3**
KK31 pmax pmax
comp=Z,474nm,1.8s
KKAR Karatay Array 60.09 3 *e*P **P 03 25 54.0 -0.5**
KKAR pmax pmax
comp=Z,153nm,1.4s
KKAR Karatay Array 60.09 3 *e*P **P 03 25 54.0 -0.5**
comp=Z,153nm,1.4s
FRU Bishkek 60.16 7⇑*i*P **P 03 25 54.0 -1.0**
FRU *e* 03 34 08.0
FRU pmax pmax
comp=Z,550nm,2.2s
FRU pmax pmax
comp=Z,3µm,3.0s
BTCH Batrach 60.17 332 *e*P **P 03 25 53.9 -1.4**
DIYA Diyarbakir 60.23 336 *i*P **P 03 25 55.5 -0.2**
ARNB Al Arnab 60.24 331 *e*P **P 03 25 53.6 -2.2**
CHMS Chumysh 60.34 7 *i*P **P 03 25 56.0 -0.2**
CHMS Chumysh 60.34 7 P **P 03 25 56.0 -0.2**
SNR=5.7
TKM2 Tokmak 2 60.36 8 *e*P **P 03 25 55.3 -1.3**
TKM2 pmax pmax
comp=Z,224nm,1.3s
TKM2 MLR MLR
comp=Z,6µm,22.0s
TKM2 Tokmak 2 60.36 8 P **P 03 25 54.7 -1.9**
SNR=51
TKM2 Tokmak 2 60.36 8 *e*P **P 03 25 55.3 -1.3**
comp=Z,224nm,1.3s
TKM2 LR LR
comp=Z,6µm,22.0s
PHNC Paralimni 60.46 329 P **P 03 25 59.9 +2.7**
KUZU Kuzuini 60.51 333 *i*P **P 03 25 58.7 +1.1**
DRWC Darouich 60.56 332 *e*P **P 03 25 56.0 -2.0**
USP Ospenovka 60.58 7 *i*P **P 03 25 56.9 -1.0**
USP Ospenovka 60.58 7 P **P 03 25 56.9 -1.0**
SNR=52
ATAB Bozova 60.58 334 *i*P P 03 25 54.4 -3.6
GNI Garni 60.59 341 P **P 03 26 00.4 +2.3**
SNR=91
GNI Garni 60.59 341 *e*P **P 03 25 58.5 +0.3**
comp=Z,336nm,1.0s
GNI LR LR
comp=Z,4µm,19.0s
GNI Garni 60.59 341 P **P 03 25 59.0 +0.8**
comp=Z,173nm,0.9s,baz=243,slow=0.7,SNR=49
EKAR Karacoban 60.68 338 *i*P **P 03 26 01.9 +3.0**
BNGL BINGOL 60.74 337 *i*P **P 03 25 58.7 -0.6**
CSS Prodhromos 60.77 329 *e*P **P 03 25 58.9 -0.4**
comp=Z,142nm,1.0s
CSS LR LR
comp=Z,7µm,19.0s
GZT Gaziantep 60.79 334 *i*P **P 03 26 00.9 +1.3**
SZAC Souni-Zanaja 60.83 328 P **P 03 26 00.5 +0.7**
comp=Z,3.1nm,1.1s
AAA Alma-Ata 60.89 9 *e*P **P 03 26 00.5 +0.5**
AAA *e*S **S 03 34 18.5 +1.0**
AAA pmax pmax
comp=Z,5µm,4.3s
AAA smax smax
comp=E,6µm,14.3s
MAMC Mammari 60.99 329 P **P 03 26 02.5 +1.7**
EATA Eleskirt 61.07 339 *i*P **P 03 26 04.1 +2.4**
PPCY Paphos 61.20 328 P **P 03 26 01.5 -0.7**
MALT Malatya 61.24 335⇑*i*P **P 03 26 03.6 +1.0**
DIGO Kars 61.27 340 *i*P **P 03 26 05.1 +2.2**
ALFC Alevga 61.29 328 P **P 03 26 02.6 -0.3**
comp=E,1.7nm,1.0s
AKMC Akamas 61.32 328 P **P 03 26 03.3 +0.2**
HOMI Horasan 61.44 339 *i*P P 03 26 00.9 -3.2
EAK Akyaka 61.44 340 *i*P **P 03 26 04.1 +0.1**
DGRG David-gareji 61.59 342 P **P 03 26 06.7 +1.9**
DGRG S **S 03 34 27.3 +0.8**
KZR Kazreti 61.81 341 P **P 03 26 09.1 +2.8**
CTBH Cotabato--PC H 61.83 72⇑*e*P **P 03 26 05.6 -1.3**
KOPT Kop Dagi 61.92 337 *i*P **P 03 26 08.3 +1.0**
GULE Gulek 61.96 331 *i*P **P 03 26 07.3 -0.3**
TBLG Delisi 62.03 342 P **P 03 26 10.6 +2.8**
TBLG S **S 03 34 29.7 -2.3**
AKH Akhalkalaki 62.13 340 P **P 03 26 11.4 +2.7**
AKH S **S 03 34 32.1 -1.4**
DDEM Demirkent 62.25 339 *i*P **P 03 26 09.4 +0.1**
RCP Roxas 62.32 67⇓*e*P **P 03 26 10.4 +0.2**
TNTI Ternate 62.35 80 *e*P **P 03 26 10.0 -0.5**
comp=E,1µm,1.3s
DAGI Agillar 62.35 339 *i*P **P 03 26 08.3 -1.7**
DBAD Bademkaya 62.38 339 *i*P **P 03 26 10.5 +0.3**
MAK Makhachkala 62.39 344*d i*P P 03 26 13.9 +3.8
MAK *e* 03 26 46.4
MAK *e* 03 28 28.2
MAK *e*S S 03 34 44.4 +8.0
MAK *e* 03 36 01.2
MAK *e*SS **SS 03 38 37.3 -3.3**
MAK pmax pmax
comp=Z,374nm,1.6s
MAK MLR MLR
comp=Z,2µm,14.0s
ARTV Artvin 62.45 339 *i*P **P 03 26 11.5 +0.7**
KELT Kelkit 62.50 337 *i*P **P 03 26 11.5 +0.4**
ENH Enshi 62.65 41 *e*P **P 03 26 10.8 -1.3**
comp=Z,151nm,1.1s
ENH LR LR
comp=Z,20nm,20.0s
DBOC Borcka 62.68 339 *i*P **P 03 26 10.5 -1.6**
MAIT Maitri 62.69 198 *e*P **P 03 26 09.1 -2.7**
GUDG Gudauri 62.78 342 P P 03 26 16.3 +3.3
ASAR Alice Springs 62.83 108 P **P 03 26 12.7 -0.9**
ASAR P'P' 03 55 15.3
ASAR ⇑*e* 03 55 27.0
ASAR Alice Springs 62.83 108 P **P 03 26 12.7 -0.9**
comp=Z,77nm,0.8s,baz=272,slow=6.2,SNR=241
ASAR LR LR 03 50 27.6
comp=Z,50µm,19.1s,baz=269,slow=33
ASAR PKPPKP **P'P'df 03 55 15.3 -3.6**
comp=Z,1.5nm,0.9s,baz=132,slow=1.9,SNR=5.7
ASAR PKP2bc 03 55 27.0
comp=Z,2.2nm,1.1s,baz=115,slow=3.6,SNR=4.9
AS31 Alice Springs 62.83 108 *e*P **P 03 26 12.2 -1.4**
SUSE Susehri 62.96 336 *i*P **P 03 26 13.7 -0.5**
DAV Davao City (W) 62.98 73 P **P 03 26 14.3 -0.4**
SNR=9.2
DAV Davao City (W) 62.98 73 PFAKE 03 26 30.0 +15
DAV LR LR
comp=Z,11µm,19.0s
AVNT Avonos 63.15 332 *i*P **P 03 26 14.7 -0.7**
ONI Oni 63.21 341 P **P 03 26 18.4 +2.8**
ONI S **S 03 34 44.3 -2.5**
ZEI Tsey 63.25 341 *e*P **P 03 26 15.9 -0.2**
ZEI pmax pmax
comp=Z,127nm,1.4s
KDU Kakadu 63.47 96 ⇓P **P 03 26 17.7 -0.2**
baz=64,SNR=45
GRSN GIRESUNGRSN 63.55 336 *i*P **P 03 26 17.9 +0.1**
LZH Lanzhou 63.58 33 ⇑P **P 03 26 17.8 -0.6**
LZH pP **pP 03 26 21.4 -1.6**
LZH sP **sP 03 26 23.7 -1.0**
LZH PP PP 03 28 44.2 +5.7
LZH S **S 03 34 47.2 -4.8**
LZH SS **SS 03 38 58.0 -1.9**
LZH AMB AMB
comp=Z,180nm,1.3s
LZH AMB AMB
comp=Z,590nm,4.0s
LZH LR LR
comp=Z,4µm,16.5s
LZH LR LR
comp=Z,4µm,17.3s
LZH LR LR
comp=Z,5µm,18.9s
AKAS Kas 63.65 327 *i*P **P 03 26 19.0 +0.2**
WMQ Urumqi 63.68 17 P **P 03 26 18.8 0.0**
WMQ pP **pP 03 26 23.5 +0.2**
WMQ sP **sP 03 26 25.8 +0.8**
WMQ PcP **PcP 03 26 57.3 +2.4**
WMQ PP **PP 03 28 40.6 +1.5**
WMQ PcS 03 30 56.8
WMQ S **S 03 34 51.2 -1.5**
WMQ ScS **SKSac 03 36 08.0 -3.9**
WMQ SS **SS 03 39 00.4 -0.6**
WMQ AMB AMB
comp=Z,260nm,1.5s
WMQ AMB AMB
comp=Z,5µm,4.2s
WMQ LR LR
comp=Z,9µm,18.0s
WMQ LR LR
comp=Z,7µm,22.6s
WMQ LR LR
comp=Z,7µm,25.0s
CHVG Ch'k'valeri 63.76 340 P **P 03 26 21.1 +1.8**
BBOO Buckleboo 63.77 119 *e*P **P 03 26 16.7 -3.0**
comp=Z,9µm,1.8s
BBOO Buckleboo 63.77 119 ⇓P **P 03 26 19.1 -0.6**
baz=64,SNR=18
WRA Warramunga Arr 63.80 104 P **P 03 26 19.3 -0.8**
WRA S **S 03 34 55.6 +0.5**
WRA ⇑*e* 03 55 18.1
WRA Warramunga Arr 63.80 104 P **P 03 26 19.3 -0.8**
comp=Z,289nm,1.1s,baz=263,slow=6.4,SNR=180
WRA S **S 03 34 55.6 +0.5**
comp=Z,1.0nm,1.1s,baz=262,slow=13,SNR=4.8
WRA LR LR 03 53 27.0
comp=Z,18µm,18.3s,baz=270,slow=36
WRA PKP2bc 03 55 18.1
comp=Z,3.9nm,1.2s,baz=61,slow=2.3,SNR=4.8
WRAB Tennant Creek 63.81 104 *e*P **P 03 26 19.6 -0.6**
WRAB pmax pmax
comp=Z,731nm,1.3s
WRAB MLR MLR
comp=Z,17µm,22.0s
WRAB Tennant Creek 63.81 104 P **P 03 26 19.5 -0.6**
comp=Z,2µm,1.1s,SNR=58
WRAB Tennant Creek 63.81 104 *e*P **P 03 26 19.6 -0.6**
comp=Z,731nm,1.3s
WRAB LR LR
comp=Z,17µm,22.0s
KORT Korkueli 63.86 328 *i*P **P 03 26 20.1 -0.1**
PLP Palo 64.12 68⇓*e*P P 03 26 18.1 -4.0
GTA Gaotai 64.25 28 ⇑P **P 03 26 21.7 -0.9**
GTA pP **pP 03 26 25.8 -1.4**
GTA sP **sP 03 26 29.2 +0.3**
GTA S **S 03 34 59.3 -0.7**
GTA sS **sS 03 35 07.2 -0.4**
GTA SS **SS 03 39 10.9 +0.9**
GTA AMB AMB
comp=Z,41nm,1.4s
GTA AMB AMB
comp=Z,3µm,3.8s
GTA LR LR
comp=Z,4µm,20.9s
GTA LR LR
comp=Z,4µm,23.8s
GTA LR LR
comp=Z,5µm,21.6s
ISP Isparta 64.42 329 *e*P **P 03 26 22.2 -1.6**
ISP pmax pmax
comp=Z,85nm,1.3s
ISP MLR MLR
comp=Z,5µm,19.0s
ISP Isparta 64.42 329⇑*i*P **P 03 26 23.7 -0.1**
ISP Isparta 64.42 329 *e*P **P 03 26 22.2 -1.6**
comp=Z,85nm,1.3s
ISP LR LR
comp=Z,5µm,19.0s
ARG Arkhangelos 64.42 326 *e*P **P 03 26 23.5 -0.2**
KARP Karpathos 64.45 325 *e*P **P 03 26 22.7 -1.2**
BR131 Keskin Array S 64.47 332 *e*P **P 03 26 24.0 -0.1**
comp=Z,40nm,0.8s
BRTR Keskin Array B 64.47 332 P **P 03 26 24.1 +0.1**
BRTR ⇑*e* 03 55 14.9
BRTR Keskin Array B 64.47 332 P **P 03 26 24.1 +0.1**
comp=Z,29nm,0.9s,baz=156,slow=6.4,SNR=51
BRTR LR LR 03 52 37.1
comp=Z,6µm,19.9s,baz=326,slow=34
BRTR PKP2bc 03 55 14.9
comp=Z,0.2nm,0.4s,baz=318,slow=1.7,SNR=3.6
BBAL Bala 64.55 332 *i*P **P 03 26 23.3 -1.3**
ZKR Zakros 64.66 324 *e*P **P 03 26 25.5 +0.2**
KIV Kislovodsk 64.68 341*be*P **P 03 26 25.7 +0.3**
KIV *i* 03 26 30.1
KIV 03 28 48.6
KIV *i*S **S 03 35 06.3 +1.1**
KIV *e*SS **SS 03 39 20.0 +3.3**
KIV *i*SSS SSS 03 42 09.8
KIV pmax pmax
comp=Z,185nm,1.2s
KIV MLR MLR
comp=Z,4µm,16.0s
KIV Kislovodsk 64.68 341 P **P 03 26 26.3 +0.9**
comp=Z,643nm,1.4s,SNR=19
XAN Xi'an 64.91 38 P **P 03 26 25.5 -1.5**
XAN sP **sP 03 26 31.7 -1.6**
XAN PcP **PcP 03 26 56.9 -3.2**
XAN PP **PP 03 28 50.6 +0.6**
XAN S **S 03 35 05.3 -2.9**
XAN ScS **SKSac 03 36 15.7 -5.9**
XAN SS **SS 03 39 19.5 -0.9**
XAN AMB AMB
comp=Z,73nm,1.5s
XAN AMB AMB
comp=Z,520nm,6.8s
XAN LR LR
comp=Z,4µm,34.7s
XAN LR LR
comp=Z,1µm,35.1s
XAN LR LR
comp=Z,840nm,21.1s
BOLV Bolvadin 64.91 330 *i*P **P 03 26 25.4 -1.6**
ANTO Ankara 64.96 332 *e*P **P 03 26 27.8 +0.5**
ANTO pmax pmax
comp=Z,117nm,1.5s
ANTO MLR MLR
comp=Z,6µm,21.0s
ANTO Ankara 64.96 332 P **P 03 26 28.7 +1.4**
SNR=30
ANTO Ankara 64.96 332⇑*i*P **P 03 26 27.3 +0.1**
ANTO Ankara 64.96 332 *e*P **P 03 26 27.8 +0.5**
comp=Z,117nm,1.5s
ANTO LR LR

comp=Z,6μm,21.0s
NPS Neapolis 65.10 324 *e*P **P 03 26 29.7 +1.5**
LAST Lasithi 65.11 323 *e*P **P 03 26 28.2 -0.1**
ELDT Eldivan 65.18 333 *i* P **P 03 26 28.6 -0.2**
MK31 Makanchi Array 65.21 12 *i* P **P 03 26 27.0 -1.7**
MK31 pmax pmax
comp=Z,512nm,1.6s
MK31 Makanchi Array 65.21 12 *e*P **P 03 26 27.4 -1.2**
MKAR Makanchi Array 65.21 12 P **P 03 26 27.3 -1.4**
MKAR Makanchi Array 65.21 12 P **P 03 26 27.2 -1.4**
MKAR ⇑*e* 03 55 18.6
MKAR Makanchi Array 65.21 12 P **P 03 26 27.2 -1.4**
comp=Z,35nm,0.9s,baz=212,slow=7.0,SNR=75
MKAR LR LR 03 54 19.7
comp=Z,4μm,18.7s,baz=198,slow=36
MKAR PKP2bc 03 55 18.6
comp=Z,0.9nm,0.9s,baz=344,slow=4.8,SNR=5.0
NIS1 Nisyros Isl. 65.22 326 *e*P **P 03 26 28.8 -0.1**
SOC Sochi 65.33 339*c i*P P 03 26 26.0 -3.4
SOC *e* 03 28 58.6
SOC *i* S **S 03 35 12.1 -0.8**
SOC *e*SS **SS 03 39 31.0 +4.5**
SOC *e*SSS SSS 03 42 23.4
SOC pmax pmax
comp=Z,112nm,1.1s
SOC pmax pmax
comp=Z,567nm,2.3s
SOC MLR MLR
comp=Z,3μm,20.0s
SOC MLR MLR
comp=N,4μm,20.0s
SOC MLR MLR
comp=E,2μm,18.0s
KHAL Karahalli 65.35 328 *i* P P 03 26 26.5 -3.4
SIVA Sivas 65.39 323 *e*P **P 03 26 30.2 +0.2**
TLE Tual 65.49 88 P **P 03 26 31.9 +0.7**
baz=66,SNR=11
SWI Sorong 65.50 83 ⇓P **P 03 26 31.7 +0.6**
baz=66,SNR=8.0
IDI Anoyia 65.53 323 *e*P **P 03 26 31.6 +0.6**
IDI Anoyia 65.53 323 *e*P **P 03 26 30.3 -0.8**
comp=E,431nm,1.5s
IDI Anoyia 65.53 323 P **P 03 26 30.2 -0.8**
comp=E,26nm,1.0s,baz=146,slow=7.9,SNR=19
GOF Gofitskoye 65.57 342 *e*P **P 03 26 31.8 +0.8**
GOF pmax pmax
comp=Z,100nm,1.1s
QZH Quanzhou 65.65 52⇑*i*P **P 03 26 29.0 -2.9**
QZH S **S 03 35 14.0 -3.6**
QZH SS **SS 03 39 31.0 -1.2**
QZH AMB AMB
comp=Z,3μm,2.7s
QZH LR LR
comp=Z,8μm,14.0s
QZH LR LR
comp=Z,5μm,13.1s
QZH LR LR
comp=Z,11μm,14.1s
GVD Gavdhos 65.68 322 *e*P **P 03 26 31.9 0.0**
GVD Gavdhos 65.68 322 *e*P **P 03 26 31.7 -0.2**
comp=Z,601nm,1.4s
FAKI Fak Fak 65.81 85 P **P 03 26 33.3 0.0**
baz=66,SNR=14
WHN Wuhan 65.99 44 ⇑P **P 03 26 33.8 -0.2**
WHN S **S 03 35 21.6 +0.2**
WHN LR LR
comp=Z,4μm,13.0s
WHN LR LR
comp=Z,4μm,11.2s
WHN LR LR
comp=Z,10μm,19.9s
SANT Santorini 65.99 324 *e*P **P 03 26 33.0 -0.9**
SANT Santorini 65.99 324 *e*P **P 03 26 32.5 -1.4**
comp=Z,141nm,1.0s
SANT LR LR
comp=Z,2μm,22.0s
VAM Vamos 66.02 323 *e*P **P 03 26 34.3 +0.2**
BORA Eskisehir 66.06 330 *i* P **P 03 26 32.9 -1.5**
KARN Karanos 66.17 323 *e*P **P 03 26 34.9 -0.2**
SMG Samos 66.22 326 *e*P **P 03 26 34.9 -0.4**
DEMI Demirci 66.26 328 *i* P **P 03 26 36.1 +0.5**
AB31 Akbulak array 66.41 355 *i* P **P 03 26 34.2 -2.1**
AB31 pmax pmax
comp=Z,116nm,0.8s
ABKAR Akbulak array 66.41 355 *e*P **P 03 26 35.2 -1.0**
comp=Z,61nm,0.7s
APE Apeiranthos 66.45 325 *e*P **P 03 26 36.3 -0.6**
APE Apeiranthos 66.45 325⇑*i*P **P 03 26 36.4 -0.5**
AKHS Akhisar 66.59 328 *i* P **P 03 26 35.0 -2.7**
AKHS Akhisar 66.59 328 *i* P **P 03 26 35.0 -2.7**
DURS Dursunbey 66.80 329 *i* P **P 03 26 37.2 -2.0**
DURS Dursunbey 66.80 329 *i* P **P 03 26 37.2 -2.0**
ANKY Antikythira Is 66.86 323 *e*P **P 03 26 40.2 +0.8**
CHOS Chios island 67.14 326 *e*P **P 03 26 39.4 -1.9**
ANN Anapa 67.20 338 *e*P **P 03 26 41.0 -0.4**
ANN *e*S **S 03 35 35.0 -0.5**
ANN *e*SS **SS 03 39 54.8 -0.6**
ANN pmax pmax
comp=Z,213nm,1.6s
ANN MLR MLR
comp=N,4μm,22.0s
ANN MLR MLR
comp=E,566nm,22.0s
ANN MLR MLR
comp=Z,2μm,22.0s
BALY Balya 67.34 328 *i* P **P 03 26 40.4 -2.1**
SNAA Sanae 67.40 199 *e*S **S 03 35 39.6 +2.0**
SNAA Sanae 67.40 199 *e*P **P 03 26 42.4 -0.1**
SNAA Sanae 67.40 199 *e*pP **P 03 26 43.8 +1.3**
SNAA Sanae 67.40 199 *e*P **P 03 26 41.7 -0.8**
comp=Z,128nm,1.6s
YHNB Yeheng 67.62 53 PFAKE 03 27 00.0 +15
YHNB LR LR
comp=Z,6μm,22.0s
PRK Paraskevi 67.66 327 *e*P **P 03 26 44.9 +0.5**
VLI Veliai 67.66 323 *e*P **P 03 26 42.9 -1.6**
AKTO Aktyubinsk 67.75 354 P **P 03 26 42.7 -2.1**
AKTO Aktyubinsk 67.75 354 P **P 03 26 42.7 -2.1**
AKTO Aktyubinsk 67.75 354 P **P 03 26 42.7 -2.1**
comp=Z,80nm,1.1s,baz=169,slow=6.8,SNR=32
DRV Dumont d'Urvil 67.75 156 SS SS 03 39 50.0 -13
DRV L L 03 43 00.0
DRV R 03 48 00.0
TATO Taipei 67.87 53 PFAKE 03 27 00.0 +14
TATO LR LR
comp=Z,5μm,21.0s
DID Didima 68.04 324 *e*P **P 03 26 47.6 +0.6**
ATH Athens Observa 68.11 325 *e*P **P 03 26 48.9 +1.6**
KURBB Kurchatov Arra 68.31 8 P **P 03 26 46.9 -1.3**
comp=Z,48nm,0.8s,baz=204,slow=6.6,SNR=111
KURBB PKP2bc 03 55 08.8
comp=Z,0.6nm,0.2s,baz=2.1,slow=2.6,SNR=7.1
KURK Kurchatov 68.41 8 P **P 03 26 47.3 -1.6**
KURK pmax pmax
comp=Z,174nm,1.5s
KURK Kurchatov 68.41 8 P **P 03 26 48.3 -0.6**
SNR=89
KURK Kurchatov 68.41 8 P **P 03 26 47.7 -1.2**
comp=Z,939nm,1.1s,SNR=44
KURK Kurchatov 68.41 8 P **P 03 26 46.9 -2.0**
KURK ⇑*e* 03 55 08.8
KURK LR LR
comp=Z,3μm,20.0s
VLX Vlachokerasia 68.44 323 *e*P **P 03 26 51.0 +1.5**
STKA Stephens Creek 68.53 118 *e*P **P 03 26 49.2 -1.0**
comp=Z,38nm,1.4s
STKA Stephens Creek 68.53 118 ⇑P **P 03 26 49.6 -0.6**
baz=69,SNR=28
STKA Stephens Creek 68.53 118 P **P 03 26 49.4 -0.9**
comp=Z,36nm,0.9s,baz=279,slow=6.5,SNR=33
STKA LR LR 03 53 36.4
comp=Z,14μm,18.2s,baz=254,slow=33
ITM Ithomi 68.56 323 *e*P **P 03 26 49.9 -0.3**
SIM Simferopol' 68.57 336*ce*P **P 03 26 51.8 +1.7**
SIM *e*S **S 03 35 55.0 +3.0**
SIM *e*SS **SS 03 40 15.0 -1.8**
SIM pmax pmax
comp=Z,73nm,1.1s
SIM MLR MLR
comp=Z,1μm,16.7s
VNA2 Neumayer--Watz 68.68 200 *e*S S 03 35 59.1 +6.2
VNA2 Neumayer--Watz 68.68 200 *e*P **P 03 26 50.1 -0.4**
VNA2 Neumayer--Watz 68.68 200 *e*pP **P 03 26 52.0 +1.5**
GUR Goura 68.85 324 *e*P **P 03 26 51.7 -0.4**

AOS Alonnisos 68.87 326 *e*P **P 03 26 50.0 -2.1**
VNA1 Neumayer--Stat 68.93 200 *e*P **P 03 26 52.2 +0.2**
VNA1 Neumayer--Stat 68.93 200 *e*pP **P 03 26 53.6 +1.6**
AMT Artemida-Makis 68.93 323 *e*P **P 03 26 51.4 -1.1**
SMTH Samothraki Isl 68.95 327 *e*P **P 03 26 51.7 -0.8**
LKR Lokris 68.98 325 *e*P **P 03 26 52.4 -0.4**
ALN Alexandroupoli 69.00 328 *e*P **P 03 26 52.5 -0.3**
KLV Kalavryta, Ach 69.03 324 *e*P **P 03 26 52.5 -0.7**
SHEL Horse Pasture 69.04 259 PFAKE 03 27 10.0 +16
SHEL LR LR
comp=Z,10μm,21.0s
LAKA Lakka 69.27 324 *e*P **P 03 26 54.5 -0.1**
KALE Kalithea 69.28 324 *e*P **P 03 26 57.1 +2.4**
NEO Neokhori 69.33 325 *e*P **P 03 26 55.5 +0.6**
PSA1 Psathopyrgos 69.38 324 *e*P **P 03 26 55.2 0.0**
RLS Riolos of Patr 69.43 323 *e*P **P 03 26 55.5 -0.1**
EFP Efpalio 69.44 324 *e*P **P 03 26 58.3 +2.7**
RDO Rodhopi 69.44 328 *e*P **P 03 26 55.3 -0.2**
TIY Taiyuan 69.50 37 *e*P **P 03 26 56.4 +0.3**
TIY S S 03 35 54.9 -8.6
TIY AMB AMB
comp=Z,230nm,1.2s
TIY AMB AMB
comp=Z,2μm,3.9s
TIY LR LR
comp=Z,3μm,15.9s
TIY LR LR
comp=Z,1μm,13.3s
TIY LR LR
comp=Z,3μm,18.5s
PAIG Paliouri 69.52 326 *e*P **P 03 26 57.8 +1.7**
AGG Agios Georgios 69.62 324 *e*P **P 03 26 54.1 -2.6**
VOSK Vostochnaya 69.71 3 P **P 03 26 54.8 -2.2**
VOSK pmax pmax
comp=Z,2μm,4.0s
EVR Evrytania 69.83 324 *e*P **P 03 26 56.6 -1.6**
KDZ Kurdzhali 69.88 328 *i* P **P 03 26 58.8 +0.6**
NJ2 Nanjing 69.95 46 *e*P **P 03 26 56.8 -2.1**
NJ2 pP **pP 03 26 59.6 -3.9**
NJ2 sP **sP 03 27 04.6 -0.6**
NJ2 S **S 03 36 11.0 +2.2**
NJ2 sS sS 03 36 22.5 +6.1
NJ2 AMB AMB
comp=Z,80nm,0.8s
NJ2 AMB AMB
comp=Z,2μm,5.3s
NJ2 LR LR
comp=Z,4μm,17.3s
NJ2 LR LR
comp=Z,5μm,22.8s
NJ2 LR LR
comp=Z,3μm,18.4s
PLG Polygyros 69.97 326 *e*P **P 03 27 00.2 +1.3**
BVA0 Borovoye Array 69.99 2 P **P 03 26 57.5 -1.2**
BVA0 pmax pmax
comp=Z,2μm,0.1s
BVAR Borovoye Array 69.99 2 P **P 03 26 58.7 0.0**
BVAR Borovoye Array 69.99 2 P **P 03 26 58.7 0.0**
BVAR ⇑*e* 03 55 02.6
BVAR Borovoye Array 69.99 2 P **P 03 26 58.7 0.0**
comp=Z,45nm,0.7s,baz=174,slow=6.0,SNR=42
BVAR PKP2bc 03 55 02.6
comp=Z,1.4nm,0.9s,baz=101,slow=1.5,SNR=8.0
BVAR LR LR 03 56 12.0
comp=Z,4μm,18.8s,baz=186,slow=35
BRVK Borovoye 70.02 2 *e*P **P 03 26 58.0 -0.8**
BRVK pmax pmax
comp=Z,220nm,1.2s
BRVK MLR MLR
comp=Z,5μm,22.0s
BRVK Borovoye 70.02 2 P **P 03 26 57.8 -1.0**
SNR=65
BRVK Borovoye 70.02 2 P **P 03 26 58.3 -0.5**
comp=Z,833nm,1.0s,SNR=25
BRVK Borovoye 70.02 2 *e*P **P 03 26 58.0 -0.8**
comp=Z,220nm,1.2s
BRVK LR LR
comp=Z,5μm,22.0s
VLS Valsamata 70.02 323 *e*P **P 03 26 58.0 -1.2**
PRD Provadia 70.08 330 *i* P **P 03 26 59.8 +0.4**
THL Klokotos Trika 70.17 325 *e*P **P 03 26 59.1 -1.0**
BTO Baotou 70.18 34 *e*P **P 03 26 59.5 -0.8**
RZN Rozhen 70.26 328 *i* P **P 03 27 01.2 +0.4**
LIT Litokhoron 70.29 325 *e*P **P 03 26 59.5 -1.3**
SOH Sokhos 70.34 326 *e*P **P 03 27 03.1 +2.0**
NVR Nevrokopi 70.45 327 *e*P **P 03 27 00.5 -1.3**
MSAB Monastry St. A 70.56 331⇑*i*P **P 03 27 02.2 -0.1**
TIRR Tirgusor 70.58 332 *e*P **P 03 27 01.7 -0.7**
TIRR pmax pmax
comp=Z,107nm,0.9s
TIRR Tirgusor 70.58 332⇑*i*P **P 03 27 02.2 -0.2**
TIRR Tirgusor 70.58 332 *e*P **P 03 27 01.7 -0.7**
comp=Z,107nm,0.9s
MMB Musomiste 70.69 327 *i* P **P 03 27 02.6 -0.7**
KZN Kozani 70.82 325 *e*P **P 03 27 02.7 -1.5**
TLB Topalu 70.85 332⇓*i*P **P 03 27 04.4 +0.3**
JAN Janina 70.88 324 *e*P **P 03 27 03.7 -0.8**
TOA0 Torodi Ar. Sit 70.89 291 *e*P **P 03 27 03.4 -1.6**
TORD Torodi Ar. Bea 70.89 291 P **P 03 27 03.4 -1.6**
TORD Torodi Ar. Bea 70.89 291 P **P 03 27 03.4 -1.6**
comp=Z,13nm,1.2s,baz=121,slow=3.2,SNR=26
TORD LR LR 03 56 18.9
comp=Z,11μm,19.5s,baz=120,slow=34
TLCR 70.97 333⇑*i*P **P 03 27 05.0 +0.2**
HARR Harsova 70.98 332⇑*i*P **P 03 27 05.6 +0.7**
TOO Toolangi 70.99 124 P **P 03 27 05.9 +0.6**
baz=71,SNR=11
SSE Sheshan 71.02 48 P **P 03 27 05.7 +0.3**
SSE pP **pP 03 27 08.9 -1.1**
SSE S **S 03 36 21.7 +0.4**
SSE sS **sS 03 36 29.3 +0.4**
SSE ScS **ScS 03 37 08.9 -0.5**
SSE SS **SS 03 40 55.7 +0.8**
SSE AMB AMB
comp=Z,62nm,0.7s
SSE AMB AMB
comp=Z,880nm,6.0s
SSE LR LR
comp=Z,4μm,20.7s
SSE LR LR
comp=Z,3μm,20.4s
SSE LR LR
comp=Z,3μm,17.4s
VAY Valandovo 71.11 326 *i* P P 03 27 01.9 -3.8
HHC Hu-ho-hao-te 71.18 34 *e*P **P 03 27 07.0 +0.6**
HHC pP **pP 03 27 11.3 +0.3**
HHC sP **sP 03 27 14.6 +1.9**
HHC PP **PP 03 29 47.2 +2.7**
HHC S **S 03 36 23.2 +0.1**
HHC sS **sS 03 36 31.8 +1.1**
HHC SS **SS 03 41 03.9 +6.5**
HHC AMB AMB
comp=Z,460nm,1.6s
HHC AMB AMB
comp=Z,6μm,4.3s
HHC LR LR
comp=Z,2μm,15.5s
HHC LR LR
comp=Z,8μm,15.5s
HHC LR LR
comp=Z,5μm,21.7s
KKB Krupnik 71.23 327 *i* P **P 03 27 05.9 -0.6**
CFR Carcaliu 71.26 332⇓*i*P **P 03 27 06.4 -0.2**
TIA Tai'an 71.36 41⇑P **P 03 27 06.5 -0.9**
TIA sP **sP 03 27 16.3 +2.6**
TIA S **S 03 36 26.4 +1.3**
TIA SS **SS 03 41 01.4 +1.4**
TIA AMB AMB
comp=Z,200nm,1.8s
TIA AMB AMB
comp=Z,3μm,3.4s
TIA LR LR
comp=Z,3μm,17.3s
TIA LR LR
comp=Z,3μm,18.4s
TIA LR LR
comp=Z,5μm,21.5s
VRHR Novokhopersk 71.45 344 *e*P **P 03 27 08.5 +0.9**
VRHR *e*S **S 03 36 24.3 -1.2**
VRHR pmax pmax
comp=E,120nm,1.0s
VRHR pmax pmax
comp=Z,170nm,1.0s
VRHR pmax pmax
comp=N,140nm,1.1s
VRHR smax smax
comp=E,1μm,5.7s
VRHR smax smax
comp=Z,690nm,6.7s
VRHR smax smax
comp=N,450nm,5.9s
BIA Bitola 71.56 325 *i* P P 03 27 01.3 -7.3
QLP Quilpie 71.62 113 P **P 03 27 09.2 -0.1**
baz=72,SNR=21
VTS Vitosha 71.68 328⇑*i*P **P 03 27 08.9 -0.5**
VTS Vitosha 71.68 328 *i* P **P 03 27 09.3 -0.1**
MOO Moorlands 71.69 130 P **P 03 27 10.4 +1.0**
baz=72,SNR=5.2
TAU Tasmania Unive 71.73 130 PFAKE 03 27 20.0 +10
TAU LR LR
comp=Z,13μm,19.0s
SULR 71.74 331⇑*i*P **P 03 27 10.9 +1.4**
TAM Tamanrasset 71.80 302 *e*P **P 03 27 10.3 -0.2**
TAM pmax pmax
comp=Z,110nm,1.7s
TAM MLR MLR
comp=Z,10μm,22.0s
TAM Tamanrasset 71.80 302 *e*P **P 03 27 10.3 -0.2**
comp=Z,110nm,1.7s
TAM LR LR
comp=Z,10μm,22.0s
ISR Istrita 71.94 331⇓*i*P **P 03 27 12.0 +1.2**
ISR Istrita 71.94 331⇓*i*P **P 03 27 12.0 +1.2**
GRER 71.94 332⇓*i*P **P 03 27 12.2 +1.5**
MPEP Malo Peshtene 71.97 328 *i* P **P 03 27 09.8 -1.1**
VORD Divnogorie 71.99 342 *e*P **P 03 27 10.9 +0.1**
VORD *e*S **S 03 36 33.0 +1.3**
VORD pmax pmax
comp=Z,230nm,1.5s
VORD pmax pmax
comp=E,20nm,0.7s
VORD smax smax
comp=E,390nm,4.1s
VORD smax smax
comp=Z,460nm,5.8s
CMSA Cobar Meteorol 72.03 118 P **P 03 27 11.5 -0.2**
baz=72,SNR=25
PETR Petresti 72.09 332⇑*i*P **P 03 27 13.0 +1.5**
SECR 72.09 331⇑*i*P **P 03 27 12.3 +0.7**
LEOM Leova 72.23 333⇓*i*P **P 03 27 12.3 0.0**
VSR Storozhevoye 72.25 342 *e*P **P 03 27 12.5 +0.1**
VSR *e*S **S 03 36 33.0 -1.7**
VSR pmax pmax
comp=Z,250nm,1.4s
VSR pmax pmax
comp=N,130nm,1.2s
VSR pmax pmax
comp=E,80nm,1.3s
VSR smax smax
comp=E,3μm,8.7s
VSR smax smax
comp=Z,290nm,3.9s
VSR smax smax
comp=N,760nm,5.2s
GHRR 72.27 332⇑*i*P **P 03 27 14.1 +1.5**
KIS Kishinev 72.39 334 *e*P **P 03 27 12.0 -1.3**
comp=N,700nm,2.5s
KIS Kishinev 72.39 334 *e*PcP P 03 27 21.0 +7.7
VRI Vrincioaia 72.43 332⇓*i*P **P 03 27 14.1 +0.5**
PLOR Plostina 72.45 332⇑*i*P **P 03 27 14.1 +0.3**
GOLR 72.47 330⇑*i*P **P 03 27 14.9 +1.0**
MLR Muntele Rosu 72.50 331⇑*i*P **P 03 27 14.5 +0.3**
MLR Muntele Rosu 72.50 331⇑*i*P **P 03 27 14.5 +0.3**
ZAA0 Zalesovo Array 72.53 11 *e*P **P 03 27 12.9 -1.2**
ZALV Zalesovo Beam 72.53 11 P **P 03 27 13.1 -0.9**
ZALV Zalesovo Beam 72.53 11 P **P 03 27 13.1 -0.9**
ZALV Zalesovo Beam 72.53 11 P **P 03 27 13.1 -0.9**
comp=N,143nm,0.8s,baz=202,slow=6.2,SNR=114
ZALV LR LR 03 56 57.3
comp=N,4μm,20.4s,baz=341,slow=34
TIR Tirane 72.59 325 *e*P **P 03 27 14.4 -0.3**
TIR pmax pmax
comp=Z,142nm,0.9s
TIR MLR MLR
comp=Z,2μm,20.0s
TIR Tirane 72.59 325 *e*P **P 03 27 14.4 -0.3**
comp=Z,142nm,0.9s
TIR LR LR
comp=Z,2μm,20.0s
VOR Voronezh 72.69 343 *e*P **P 03 27 15.0 0.0**
VOR pmax pmax
comp=Z,480nm,1.4s
VOIR 72.87 331⇑*i*P **P 03 27 15.9 -0.5**
QSPA South Pole Qui 72.91 180 *e*P **P 03 27 15.7 -0.7**
comp=Z,194nm,1.2s
QSPA LR LR
comp=Z,8μm,22.0s
TESR Tescani 72.95 332⇑*i*P **P 03 27 16.8 +0.1**
ARR Arges 73.02 330⇑*i*P **P 03 27 16.9 -0.3**
IAS Iasi 73.08 333⇓*i*P P 03 27 24.8 +7.4
NVS Novosibirsk 73.11 10⇓*i*P **P 03 27 16.7 -0.7**
NVS *i* S **S 03 36 42.3 -2.1**
NVS pmax pmax
comp=Z,282nm,1.2s
NVS pmax pmax
comp=N,286nm,1.8s
NVS pmax pmax
comp=E,137nm,1.4s
NVS smax smax
comp=N,7.0nm,0.4s
NVS smax smax
comp=E,96nm,1.8s
DOPR Dopca 73.11 331⇓*i*P **P 03 27 19.1 +1.4**
DOPR Dopca 73.11 331⇓*i*P **P 03 27 19.1 +1.4**
SRE Strehaia 73.18 329⇑*i*P **P 03 27 19.2 +1.1**
BJT Baijiatuau 73.21 38 *e*P **P 03 27 18.3 -0.1**
comp=E,160nm,1.3s
BJT *e* 03 30 05.1
BJT LR LR
comp=Z,2μm,21.0s
BJI Beijing 73.23 38 P **P 03 27 18.2 -0.2**
BJI PP **PP 03 30 04.9 +3.0**
BJI S **S 03 36 43.2 -3.1**
BJI SS **SS 03 41 33.4 +4.9**
BJI AMB AMB
comp=Z,100nm,1.8s
BJI AMB AMB
comp=Z,2μm,4.4s
BJI LR LR
comp=Z,4μm,24.7s
BJI LR LR
comp=Z,5μm,21.9s
BJI LR LR
comp=Z,2μm,45.3s
COEN Coen 73.31 100 *e*P **P 03 27 18.9 -0.7**
comp=Z,3μm,1.8s
COEN Coen 73.31 100 P **P 03 27 19.2 -0.3**
baz=73,SNR=8.1
ULC Ulcinj 73.35 325 *e*P **P 03 27 19.0 -0.2**
PVY Plav 73.39 326⇓*i*P **P 03 27 19.3 -0.2**
LOT Lotru 73.48 330⇓*i*P **P 03 27 19.5 -0.5**
DRME Dracevica, Mon 73.53 325⇓*i*P **P 03 27 21.4 +1.2**
IVA Berane 73.61 326⇓*i*P **P 03 27 20.5 -0.3**
ARU Arti 73.64 355*d i*P **P 03 27 19.8 -0.7**
ARU 03 30 06.2
ARU PPP PPP 03 31 45.1
ARU S **S 03 36 51.6 +1.2**
ARU pmax pmax
comp=Z,250nm,1.2s
ARU Arti 73.64 355 P **P 03 27 20.8 +0.3**
comp=Z,881nm,1.1s,SNR=21
TTG Podgorica 73.66 325⇓*i*P **P 03 27 20.6 -0.3**
PRAR RASCA 73.79 333⇑*i*P **P 03 27 21.8 +0.1**
YNG Young 73.81 121 ⇓P **P 03 27 22.5 +0.2**
baz=74,SNR=23
SONM Songino Array 73.83 27 P **P 03 27 22.1 0.0**
SONM Songino Array 73.83 27 P **P 03 27 22.1 0.0**
comp=Z,43nm,0.8s,baz=213,slow=6.1,SNR=86
SONM LR LR 03 58 20.8
comp=Z,5μm,20.7s,baz=215,slow=35
SVE Sverdlovsk 73.90 357⇓*e*P **P 03 27 22.0 0.0**
SVE *e* 03 30 13.8
SVE *e*S **SKiKP 03 36 50.6 -0.1**
SVE pmax pmax
comp=Z,315nm,1.5s
SVE MLR MLR
comp=Z,4μm,17.0s
JAY Jayapura 73.99 88 ⇓P **P 03 27 23.4 -0.2**
baz=74,SNR=13

CUC **Castrocucco** **74.01 322** *e*P **P** **03 27 20.7 -2.4**
comp=Z,110nm,1.4s
CUC LR LR
comp=Z,2μm,20.0s
NKME Niksic **74.05 325**⇓*i*P **P** **03 27 23.7 +0.4**
NKY Niksic **74.06 326** *e*P **P** **03 27 22.8 -0.6**
JOW Kunigami **74.06 55** *e*P **P** **03 27 23.8 +0.1**
comp=Z,108nm,1.4s
HCY Herceg Novi **74.08 325**⇓*i*P **P** **03 27 24.0 +0.5**
CAN Canberra **74.12 123** *e*P **P** **03 27 24.3 +0.2**
CAN pmax pmax
comp=Z,621nm,2.0s
CAN MLR MLR
comp=Z,7μm,20.0s
CAN Canberra **74.12 123** *e*P **P** **03 27 24.3 +0.2**
comp=Z,621nm,2.0s
CAN LR LR
comp=Z,7μm,20.0s
PLE Pljevlja **74.20 326**⇓*i*P **P** **03 27 24.0 -0.3**
DEV Deva **74.22 330**⇓*i*P **P** **03 27 24.4 +0.2**
KIC Kosan Boka **74.32 282** *e*P **P** **03 27 23.3 -2.2**
comp=Z,231nm,1.3s
BRY Bratogost **74.36 325** *e*P **P** **03 27 24.5 -0.8**
UPM Unac-Piva **74.37 326**⇓*i*P **P** **03 27 24.6 -0.8**
CNB Canberra Magne **74.42 123**⇑*i*P **P** **03 27 26.4 +0.6**
baz=74,SNR=9.7
ARCR ARCALIA **74.42 331**⇓*i*P **P** **03 27 26.6 +1.3**
BURAR Bucovina Array **74.43 332**⇑*i*P **P** **03 27 26.9 +1.4**
BUR08 Bucovina Ar. S **74.46 332** *e*P **P** **03 27 25.1 -0.6**
VNDA Vanda **74.46 167** *e*P **P** **03 27 24.1 -1.1**
comp=Z,78nm,1.2s
VNDA Vanda **74.46 167** P **P** **03 27 24.1 -1.1**
comp=Z,31nm,1.0s,baz=263,slow=7.9,SNR=45
VNDA LR LR 03 56 00.9
comp=Z,10μm,21.0s,baz=261,slow=32
DBIC Dimbokro **74.53 282** *e*P **P** **03 27 25.3 -1.4**
DBIC Dimbokro **74.53 282** *e*P **P** **03 27 25.5 -1.2**
comp=Z,75nm,1.2s
DBIC Dimbokro **74.53 282** P **P** **03 27 24.6 -2.1**
comp=Z,23nm,1.1s,baz=92,slow=7.6,SNR=9.1
DBIC LR LR 03 58 43.8
comp=Z,10μm,20.4s,baz=93,slow=35
LIC Lamto **74.54 282** *e*P **P** **03 27 24.8 -2.0**
comp=Z,87nm,1.0s
LIC *e*R
comp=Z,6μm,21.2s
LIC Lamto **74.54 282** *e*P **P** **03 27 25.7 -1.1**
comp=Z,113nm,1.0s
LIC Lamto **74.54 282** *e*P **P** **03 27 24.8 -2.0**
comp=Z,87nm,1.0s
ZAK Zakamensk **74.59 23** *e*P **P** **03 27 25.9 -0.4**
ZAK *e* 03 30 08.1
ZAK pmax pmax
comp=Z,26nm,1.7s
BZS Buzias **74.65 329**⇓*i*P **P** **03 27 27.3 +0.6**
TIC Toumodi **74.67 282** *e*P **P** **03 27 25.2 -2.4**
comp=Z,733nm,2.1s
CTA Charters Tower **74.76 107** LR LR 03 57 55.4
comp=Z,27μm,19.8s,baz=251,slow=34
CTAO Charters Tower **74.76 107** *e*P **P** **03 27 27.8 -0.2**
CTAO pmax pmax
comp=Z,339nm,1.3s
CTAO MLR MLR
comp=Z,29μm,20.0s
CTAO Charters Tower **74.76 107** *e*P **P** **03 27 27.8 -0.2**
comp=Z,338nm,1.3s
CTAO LR LR
comp=Z,29μm,20.0s
MOY Mondy **74.81 21** *e*P **P** **03 27 27.5 -0.1**
MOY pmax pmax
comp=Z,344nm,3.6s
DRGR **74.97 330**⇑*i*P **P** **03 27 28.5 -0.1**
DRGR **74.97 330**⇑*i*P **P** **03 27 28.5 -0.1**
SIRR Siria **75.09 329**⇓*i*P **P** **03 27 30.2 +0.9**
AKASG Malin Array Be **75.17 336** P **P** **03 27 28.1 -1.5**
AKASG 03 30 17.5
AKASG Malin Array Be **75.17 336** P **P** **03 27 28.1 -1.5**
AKASG PP **PP** **03 30 17.5 -0.7**
AKASG Malin Array Be **75.17 336** P **P** **03 27 28.1 -1.5**
comp=Z,49nm,0.9s,baz=141,slow=4.6,SNR=63
AKASG PP **PP** **03 30 17.5 -0.7**
comp=Z,10nm,1.1s,baz=139,slow=9.3,SNR=4.7
AKASG LR LR 04 00 11.1
comp=Z,3μm,20.7s,baz=145,slow=36
KIEV Kiev **75.17 336** *e*P **P** **03 27 28.4 -1.1**
KIEV *e* 03 30 16.1
KIEV pmax pmax
comp=Z,131nm,1.0s
KIEV MLR MLR
comp=Z,3μm,20.0s
KIEV Kiev **75.17 336** *e*P **P** **03 27 28.4 -1.1**
comp=Z,131nm,1.0s
KIEV *e*PP **PP** **03 30 16.1 -2.1**
KIEV LR LR
comp=Z,3μm,20.0s
BMR Baia Mare **75.25 331**⇓*i*P **P** **03 27 30.5 +0.4**
SBA Scott Base **75.43 168** *e*P **P** **03 27 31.8 +1.0**
SBA pmax pmax
comp=Z,220nm,1.7s
SBA MLR MLR
comp=Z,4μm,20.0s
SBA Scott Base **75.43 168** *e*P **P** **03 27 31.8 +1.0**
comp=Z,220nm,1.7s
SBA LR LR
comp=Z,4μm,20.0s
KEST Kesra **75.58 315** *e*P **P** **03 27 32.6 +0.2**
KEST Kesra **75.58 315** P **P** **03 27 32.2 -0.2**
comp=Z,7.7nm,0.9s,baz=19,slow=3.6,SNR=13
KEST LR LR 03 58 58.5
comp=Z,4μm,21.4s,baz=241,slow=34
RMQ Roma **75.62 114**⇑P **P** **03 27 34.7 +1.8**
baz=76,SNR=21
TLY Talaya **75.77 23***c i*P **P** **03 27 32.3 -0.7**
TLY *e* 03 37 45.1
TLY *e*SS SS 03 42 08.7 +1.8
TLY pmax pmax
comp=Z,124nm,1.8s
TLY Talaya **75.77 23** P **P** **03 27 33.3 +0.3**
comp=Z,250nm,1.7s,SNR=29
DL2 Dalian **75.83 41** P **P** **03 27 31.1 -2.5**
DL2 S **S** **03 37 10.3 -5.2**
DL2 AMB AMB
comp=Z,110nm,1.7s
DL2 AMB AMB
comp=Z,1μm,5.9s
DL2 LR LR
comp=Z,2μm,17.3s
DL2 LR LR
comp=Z,2μm,24.5s
TRPA Tarpa **76.02 331**⇑*i*P **P** **03 27 34.5 0.0**
TRPA Tarpa **76.02 331** *e* **P** **03 27 33.5 -1.0**
PKSN Nyarlorinc **76.42 329**⇓*e* P 03 27 42.0 +5.2
OBN Obninsk **76.42 343***ke*P **P** **03 27 36.7 +0.1**
OBN *i* 03 27 45.1
OBN 03 30 28.0
OBN *i* S **S** **03 37 22.2 +0.9**
OBN *i* PS **PnS** **03 38 05.6 +5.8**
OBN SS **SS** **03 42 11.0 -5.5**
OBN pmax pmax
comp=Z,465nm,1.7s
OBN MLR MLR
comp=Z,3μm,22.0s
OBN Obninsk **76.42 343** P **P** **03 27 37.0 +0.4**
comp=Z,1μm,1.5s,SNR=14
IRK Irkutsk **76.45 23** *e*P **P** **03 27 36.7 -0.2**
IRK pmax pmax
comp=Z,351nm,3.0s
UZH Uzhgorod **76.50 331** *e*P **P** **03 27 36.6 -0.6**
UZH *i* 03 27 37.2
UZH *i* 03 27 44.4
UZH *e* 03 27 49.8
UZH *i* S **S** **03 37 27.8 +5.3**
UZH *e* 03 45 26.4
UZH MLR MLR
comp=N,600nm,17.0s
UZH MLR MLR
comp=E,300nm,17.0s
UZH MLR MLR
comp=Z,800nm,17.0s
LVV L'vov **76.60 333**⇑*i*P **P** **03 27 37.9 +0.1**
LVV *e*S **S** **03 37 24.0 +0.4**
MOS Moscow **76.68 344**K *i*P **P** **03 27 35.7 -2.3**
MOS *e* 03 27 46.2
MOS *e* 03 30 35.6
MOS *i* S **S** **03 37 25.0 +0.9**

MOS *e* 03 37 53.9
MOS pmax pmax
comp=Z,2μm,2.2s
MOS pmax pmax
comp=Z,589nm,1.5s
MOS smax smax
comp=E,4μm,5.4s
MOS smax smax
comp=N,700nm,3.8s
MOS MLR MLR
comp=Z,3μm,20.0s
PKS7 Kunszentmiklos **76.87 329** *e* **P** **03 27 39.4 +0.1**
SOKR Solikamsk **76.93 355***c i*P **P** **03 27 41.2 +1.9**
SOKR 03 30 35.3
SOKR S **S** **03 37 28.7 +2.1**
SOKR pmax pmax
comp=Z,210nm,1.2s
SOKR MLR MLR
comp=Z,3μm,19.0s
PKS9 Tamasi **76.99 328**⇓*e*P **P** **03 27 40.3 +0.2**
PKS9 Tamasi **76.99 328**⇓*e*P **P** **03 27 40.3 +0.2**
KWP Kalwaria Pacla **77.04 332** *e*P **P** **03 27 39.7 -0.6**
KWP pmax pmax
comp=Z,199nm,1.1s
KWP MLR MLR
comp=Z,3μm,21.0s
KWP Kalwaria Pacla **77.04 332**⇑*i*P **P** **03 27 40.8 +0.5**
KWP Kalwaria Pacla **77.04 332** *e*P **P** **03 27 39.7 -0.6**
comp=Z,199nm,1.1s
KWP LR LR
comp=Z,3μm,21.0s
KWP Kalwaria Pacla **77.04 332** *e*P **P** **03 27 40.2 -0.1**
KWP *e*pP **pP** **03 27 42.8 -2.1**
KWP *e*S **S** **03 37 31.6 +3.1**
KWP LMZ LR 03 53 32.6
PSZ Piszkesteto **77.11 330** *e*P **P** **03 27 39.3 -1.5**
PSZ pmax pmax
comp=Z,163nm,1.6s
PSZ MLR MLR
comp=Z,2μm,20.0s
PSZ Piszkesteto **77.11 330**⇑*i*P **P** **03 27 40.1 -0.7**
PSZ Piszkesteto **77.11 330** *e*P **P** **03 27 39.3 -1.5**
comp=Z,163nm,1.6s
PSZ LR LR
comp=Z,2μm,20.0s
PSZ Piszkesteto **77.11 330**⇓*e* **P** **03 27 39.5 -1.3**
ABSA Djebel Ababsia **77.14 315** P **P** **03 27 43.0 +1.7**
BUD Budapest **77.24 329**⇓*e*P **P** **03 27 41.6 +0.2**
ARMA Armidale **77.25 118** *e*P **P** **03 27 42.5 +0.3**
comp=Z,329nm,1.5s
ARMA Armidale **77.25 118** ⇓P **P** **03 27 42.5 +0.3**
baz=77,SNR=9.1
CMAH Djebel Manchou **77.37 315** P **P** **03 27 44.0 +1.5**
PKSG **77.49 329**⇓*e*P **P** **03 27 42.8 0.0**
STHS Stebnicka Huta **77.55 332** *e*P **P** **03 27 43.0 -0.1**
PKST T"s **77.57 328**⇓*e*P **P** **03 27 43.0 -0.3**
VSL Villasalto **77.67 318** *e*P **P** **03 27 44.2 +0.1**
comp=Z,331nm,1.5s
VSL LR LR
comp=Z,3μm,20.0s
BEHE Becsehely **77.69 327**⇓*e*P **P** **03 27 44.5 +0.6**
CKFL Kef-Lekhel **77.73 314** P **P** **03 27 47.0 +2.4**
CASM Ain Smara **77.81 314** P P 03 27 49.0 +4.0
CAEH 'Ain El Ouahch **77.84 315** P **P** **03 27 47.0 +1.9**
BOJS Bojanci **77.86 326** *i*P **P** **03 27 44.7 -0.3**
BOJS *i* 03 27 53.9
BOJS *e*S **S** **03 37 35.9 -1.5**
EIDS Eidsvold **77.90 113** *e*P **P** **03 27 45.4 -0.3**
comp=Z,243nm,1.4s
EIDS Eidsvold **77.90 113** P **P** **03 27 46.0 +0.2**
baz=78,SNR=7.8
NIE Niedzica **77.97 331** *e*P **P** **03 27 45.3 -0.2**
NIE *e*pP **pP** **03 27 48.3 -1.9**
NIE *e*PcP **PcP** **03 27 54.7 -0.5**
NIE *e*S **S** **03 37 40.7 +2.1**
NIE L L 04 02 58.0
comp=Z,3μm,20.4s
PMG Port Moresby **78.24 96** *e*P **P** **03 27 47.5 -0.2**
comp=Z,201nm,1.1s
PMG Port Moresby **78.24 96** P **P** **03 27 46.4 -1.4**
comp=Z,106nm,1.0s,baz=252,slow=3.6,SNR=22
PMG LR LR 04 02 00.1
comp=Z,11μm,18.6s,baz=244,slow=36
VISS Visnje **78.27 326** *i*P **P** **03 27 45.3 -1.9**
VISS *e*S **S** **03 37 40.3 -1.6**
INCN Inchon **78.29 45** P **P** **03 27 47.1 -0.5**
SNR=13
INCN Inchon **78.29 45** PFAKE 03 28 00.0 +12
INCN LR LR
comp=Z,3μm,20.0s
SET Setif **78.53 314** P P 03 27 53.0 +4.0
LJU Ljubljana **78.59 326** *i*P **P** **03 27 48.6 -0.4**
LJU *i* 03 27 57.8
LJU *e*S **S** **03 37 43.3 -2.0**
SOP Sopron **78.60 328**⇓*e*P **P** **03 27 49.4 +0.4**
MICGM Minsk **78.70 338**⇓*e*P **P** **03 27 48.0 -1.3**
MNK Minsk **78.71 338***de*P **P** **03 27 48.0 -1.4**
MNK *e* 03 27 48.0
MNK *e* 03 28 04.0
MNK *e* 03 30 44.0
MNK *e*PPP PPP 03 32 40.0
MNK *e*S **S** **03 37 43.0 -3.2**
MNK *e*PS **PnS** **03 38 22.0 -7.0**
MNK *e*SS **SS** **03 42 44.0 -7.1**
MNK *e*SSS SSS 03 46 10.0
MNK pmax pmax
comp=Z,350nm,1.2s
MNK pmax pmax
comp=E,490nm,1.4s
MNK pmax pmax
comp=N,440nm,1.4s
MNK smax smax
comp=E,5μm,10.0s
MNK MLR MLR
comp=Z,4μm,20.0s
SMOL Smolenice **78.72 329** *e*P **P** **03 27 49.7 0.0**
SOKA Soboth **78.73 327** *i*P **P** **03 27 49.2 -0.7**
comp=Z,193nm,1.6s,SNR=55
JAVS Javornik **78.75 326** *i*P **P** **03 27 49.1 -0.9**
JAVS *i* 03 27 58.5
JAVS *e*S **S** **03 37 44.3 -2.9**
SNY Shenyang **78.75 40**⇑P **P** **03 27 48.2 -1.7**
SNY S S 03 37 40.5 -6.6
SNY SS **SS** **03 42 51.4 -0.7**
SNY AMB AMB
comp=Z,130nm,1.2s
SNY AMB AMB
comp=Z,3μm,3.5s
SNY LR LR
comp=Z,3μm,22.1s
SNY LR LR
comp=Z,4μm,22.5s
SNY LR LR
comp=Z,3μm,20.1s
OJC Ojcow **78.78 331** *e*P **P** **03 27 49.4 -0.5**
OJC *e*pP **pP** **03 27 52.0 -2.6**
OJC *e*PcP **PcP** **03 27 58.3 -0.4**
OJC *e*S **S** **03 37 49.8 +2.7**
OJC L L 04 02 05.0
comp=Z,2μm,20.3s
ARSA Arzberg **78.85 327**⇓*i*P **P** **03 27 49.7 -0.7**
comp=Z,173nm,1.3s,SNR=68
OBKA Obir **78.88 326**⇑*i*P **P** **03 27 49.4 -1.3**
comp=Z,162nm,1.4s,SNR=23
VOY Vojsko **78.93 326** *e* **P** **03 27 50.3 -0.6**
VOY *e* 03 28 00.3
JNU Nakatsue **79.07 50** *e*P **P** **03 27 51.4 -0.6**
comp=Z,51nm,1.2s
JNU Nakatsue **79.07 50** P **P** **03 27 51.1 -0.9**
comp=Z,50nm,0.9s,baz=216,slow=1.8,SNR=16
JNU LR LR 04 01 39.3
comp=Z,3μm,19.2s,baz=237,slow=35
CONA Conrad Observa **79.12 328** *i*P **P** **03 27 51.0 -0.9**
comp=Z,343nm,1.5s,SNR=100
KSAR Wonju Array Be **79.12 45** P **P** **03 27 50.9 -1.2**
KSRS Korea Array **79.15 45** P **P** **03 27 50.9 -1.3**
comp=Z,19nm,0.8s,baz=243,slow=5.3,SNR=33
KSRS LR LR 04 00 58.5
comp=Z,4μm,19.8s,baz=60,slow=34
ASCN Ascension **79.19 265** PFAKE 03 28 00.0 +7.0
ASCN LR LR
comp=Z,2μm,22.0s
OKC Ostrava-Krasne **79.28 330** *e*P **P** **03 27 52.2 -0.4**
OKC *e* 03 28 01.4

OKC *e*S **S** **03 37 53.3 +0.9**
OKC MLR MLR
comp=Z,2μm,18.4s
OKC Ostrava-Krasne **79.28 330** *e*P **P** **03 27 52.2 -0.4**
OKC *e*PCP **PcP** **03 28 01.4 +0.6**
OKC *e*S **S** **03 37 53.3 +0.9**
OKC AMS AMS 04 02 30.0
comp=Z,2μm,18.4s
NACGM Naroch **79.41 338** *e*P P 03 27 50.0 -3.2
MYKA Terra Mystica **79.44 326**⇑*i*P **P** **03 27 53.6 -0.1**
comp=Z,122nm,1.5s,SNR=17
BEL Belsk **79.48 333** *e*P **P** **03 27 54.0 +0.3**
BEL *e*pP **pP** **03 27 56.7 -1.7**
BEL *e*S S 03 38 02.3 +7.8
BEL LMZ LR 03 58 56.3
VRAC Vranov **79.67 329**⇑*i*P **P** **03 27 54.6 -0.1**
VRAC Vranov **79.67 329** P **P** **03 27 54.7 -0.1**
VRAC Vranov **79.67 329** P **P** **03 27 54.7 -0.1**
comp=Z,44nm,1.2s,baz=124,slow=3.7,SNR=18
VRAC LR LR 04 02 09.1
comp=Z,868nm,21.6s,baz=346,slow=35
VLC Villacollemand **79.75 323** *e*P **P** **03 27 55.2 -0.2**
comp=Z,50nm,1.2s
VLC LR LR
comp=Z,2μm,22.0s
KBA Koelnbreinsper **79.88 326** *i*P **P** **03 27 56.1 -0.2**
comp=Z,111nm,1.4s,SNR=18
MOA Molln **79.88 327** *i*P **P** **03 27 55.7 -0.3**
comp=Z,285nm,1.6s,SNR=45
IIGN Ignalina **79.96 338** *e*P **P** **03 27 56.0 -0.2**
IIGN AMB AMB 03 28 01.2
comp=Z,51nm,1.5s
CIT Chita **80.04 27** *e*P **P** **03 27 56.5 -0.3**
CIT *e* 03 28 04.2
CIT pmax pmax
comp=Z,688nm,3.7s
SUW Suwalki **80.08 336** *e*P **P** **03 27 56.8 -0.1**
SUW *e* 03 30 54.3
SUW pmax pmax
comp=Z,253nm,1.1s
SUW Suwalki **80.08 336** *e*P **P** **03 27 56.8 -0.1**
comp=Z,253nm,1.1s
SUW *e*PP **PP** **03 30 54.3 -5.0**
SUW Suwalki **80.08 336** *e*P **P** **03 27 56.4 -0.5**
SUW *e*pP **pP** **03 28 00.7 -0.9**
SUW *e*PP **PP** **03 30 55.1 -4.3**
SUW *e*S **S** **03 38 04.4 +3.6**
SUW LMZ LR 04 01 25.5
KRLC Kraliky **80.09 330** *e*P **P** **03 27 58.4 +1.3**
KRLC Kraliky **80.09 330** *e*P **P** **03 27 58.4 +1.3**
ABTA Abfaltersbach **80.12 326**⇓*i*P **P** **03 27 56.3 -1.1**
comp=Z,250nm,1.6s,SNR=40
ISAL Salakas **80.17 338** *e*P **P** **03 27 57.1 -0.2**
ISAL AMB AMB 03 28 02.7
comp=Z,38nm,1.3s
TREC Trest **80.20 329** *e*P **P** **03 27 57.1 -0.6**
TREC *e*S **S** **03 38 01.1 -1.2**
TREC MLR MLR
comp=Z,2μm,20.3s
TREC Trest **80.20 329** *e*P **P** **03 27 57.1 -0.6**
TREC *e*PCP **PcP** **03 28 06.9 +2.0**
TREC *e*S **S** **03 38 01.1 -1.2**
TREC AMS AMS 04 01 00.0
comp=Z,2μm,20.3s
EMHD Djebel Mahouad **80.24 313** P **P** **03 28 00.1 +1.7**
DPC Dobruska-Polom **80.49 330** *e*P **P** **03 27 59.4 +0.1**
DPC *e* 03 28 08.1
DPC *e*S **S** **03 38 05.7 +0.3**
DPC Dobruska-Polom **80.49 330** *e*P **P** **03 27 59.4 +0.1**
DPC *e*PCP **PcP** **03 28 08.1 +1.9**
DPC *e*S **S** **03 38 05.7 +0.3**
DPC AMS AMS 04 05 00.0
UPC Upice **80.74 330** *e*P **P** **03 28 00.9 +0.3**
UPC Upice **80.74 330** *e*P **P** **03 28 00.9 +0.3**
KLMR Klimovskoe **80.78 347***d i*P **P** **03 28 00.3 -0.2**
KLMR *e*S **S** **03 38 04.7 -3.0**
KLMR pmax pmax
comp=Z,524nm,1.6s
KLMR MLR MLR
comp=Z,4μm,19.0s
GEC2 GERESS Array S **80.81 328** *e*P **P** **03 28 00.1 -1.0**
GEC2 GERESS Array S **80.81 328** *e*P **P** **03 28 00.1 -1.0**
comp=Z,5.0nm,1.0s
GERES GERESS Array B **80.81 328** P **P** **03 28 00.1 -1.0**
GERES GERESS Array B **80.81 328** P **P** **03 28 00.1 -1.0**
comp=Z,2.5nm,0.8s,baz=145,slow=7.5,SNR=12
GERES LR LR 04 04 17.0
comp=Z,1μm,19.2s,baz=300,slow=36
KSP Ksiaz **80.83 330** *e*P **P** **03 28 01.6 +0.6**
KSP *e*pP **pP** **03 28 04.7 -1.0**
KSP *e*S **S** **03 38 10.9 +2.1**
WATA Walderalm **80.99 326**⇓*i*P **P** **03 28 01.0 -1.1**
comp=Z,122nm,1.3s,SNR=9.7
CN2 Changchun **81.00 39** *e*P **P** **03 28 00.4 -1.7**
CN2 *e*sP **sP** **03 28 07.4 -1.1**
CN2 PP **PP** **03 31 08.0 +0.8**
CN2 *e*S **S** **03 38 08.7 -2.2**
CN2 SKS **SKSac** **03 38 14.4 -6.2**
CN2 SS **SS** **03 43 27.0 +1.2**
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,4μm,20.0s
CN2 LR LR
comp=Z,2μm,20.0s
CN2 LR LR
comp=Z,3μm,21.0s
ETRT Tiaret **81.02 311** P **P** **03 28 03.0 +0.4**
KHC Kasperske Hory **81.05 328** *e*P **P** **03 28 00.1 -2.2**
KHC *e*S **S** **03 38 07.5 -3.8**
KHC MLR MLR
comp=Z,2μm,21.2s
KHC Kasperske Hory **81.05 328** *e*P **P** **03 28 00.1 -2.2**
KHC *e*x x 03 28 10.8
KHC *e*S **S** **03 38 07.5 -3.8**
KHC AMS AMS 04 04 30.0
comp=Z,2μm,21.2s
KHC Kasperske Hory **81.05 328** *e*P **P** **03 28 01.0 -1.4**
comp=Z,153nm,1.5s
HIA Hailar **81.11 32** *e*P **P** **03 28 02.1 -0.5**
comp=Z,284nm,1.6s
HIA *e*PP **PP** **03 31 11.1 +3.1**
HIA LR LR
comp=Z,3μm,19.0s
PRU Pruhonice **81.12 329** *e*P **P** **03 28 01.9 -0.7**
PRU *e*S **S** **03 38 09.9 -1.9**
PRU MLR MLR
comp=Z,2μm,20.2s
PRU Pruhonice **81.12 329** *e*P **P** **03 28 01.9 -0.7**
PRU *e*PCP **PcP** **03 28 11.9 +3.0**
PRU *e*S **S** **03 38 09.9 -1.9**
PRU AMS AMS 04 05 30.0
comp=Z,2μm,20.2s
PRA Prague **81.22 329**⇑P **P** **03 28 02.0 -1.1**
PRA AMS AMS 04 06 00.0
FETA Feichten **81.26 325** *i*P **P** **03 28 03.0 -0.6**
comp=Z,71nm,1.3s,SNR=16
EBNR Beni Rached **81.29 312** P **P** **03 28 05.0 +1.1**
REVF Revere **81.30 321** *e*P **P** **03 28 02.9 -0.9**
SAOF Saorge **81.33 321** *e*P **P** **03 28 02.9 -1.0**
SBF Sospel **81.33 321** *e*P **P** **03 28 03.2 -0.7**
comp=Z,764nm,1.5s
SBF Sospel **81.33 321** *e*P **P** **03 28 03.2 -0.7**
SBF pmax pmax
comp=Z,764nm,1.5s
SBF Sospel **81.33 321** *e*P **P** **03 28 03.2 -0.7**
comp=Z,764nm,1.5s
ECHA Ech Chlef **81.34 312** P **P** **03 28 06.2 +2.2**
LUCF Luceram **81.40 321** *e*P **P** **03 28 03.5 -0.8**
AUTN L'Aution **81.41 321** *e*P **P** **03 28 03.5 -1.1**
WET Wettzell **81.42 328** *e*P **P** **03 28 03.1 -1.1**
WET pmax pmax
comp=Z,7.0nm,1.1s
WET Wettzell **81.42 328** *e*P **P** **03 28 03.1 -1.1**
comp=Z,7.0nm,1.1s
EANR 'Ain N'Sour **81.43 312** P **P** **03 28 04.3 -0.4**
PVCC Panska Ves **81.45 329** *e*P **P** **03 28 03.2 -1.1**
PVCC *e*S **S** **03 38 16.2 +0.9**
PVCC MLR MLR
comp=Z,2μm,20.1s
PVCC Panska Ves **81.45 329** *e*P **P** **03 28 03.2 -1.1**
PVCC *e*x x 03 28 14.3
PVCC *e*S **S** **03 38 16.2 +0.9**
PVCC AMS AMS 04 05 40.0

comp=Z,2µm,20.1s
MVIF Mont Vial 81.52 321 *e*P **P** **03 28 04.4 -0.6**
RETA Reutte 81.52 325 ⇑ *i*P **P** **03 28 03.9 -1.0**
comp=Z,114nm,1.7s,SNR=13
TOUF Mont Tournerai 81.52 321 *e*P **P** **03 28 04.6 -0.5**
DAVOX Davos/Dischmat 81.58 324 P **P** **03 28 04.3 -1.1**
DAVOX Davos/Dischmat 81.58 324 P **P** **03 28 04.3 -1.1**
comp=Z,20nm,0.9s,baz=134,slow=9.8,SNR=24
CALN Calern 81.60 321 *e*P **P** **03 28 05.7 +0.2**
LMR La Mourre 81.60 320 *e*P **P** **03 28 04.7 -0.6**
comp=Z,483nm,1.6s
LMR La Mourre 81.60 320 *e*P **P** **03 28 04.7 -0.6**
LMR pmax pmax
comp=Z,483nm,1.6s
LMR La Mourre 81.60 320 *e*P **P** **03 28 04.7 -0.6**
comp=Z,483nm,1.6s
FUR Furstenfeldbru 81.65 326 *e*P **P** **03 28 05.3 -0.2**
FUR pmax pmax
comp=Z,28nm,0.9s
FUR Furstenfeldbru 81.65 326 *e*P **P** **03 28 05.3 -0.2**
comp=Z,28nm,0.9s
TUE Stuetta 81.70 324 *e*P **P** **03 28 04.7 -1.3**
comp=Z,162nm,1.4s
TUE LR LR
comp=Z,2µm,22.0s
BRG Berggiesshubel 81.98 329 *i* P **P** **03 28 07.2 +0.1**
comp=Z,193nm,1.8s
BRG *i* 03 28 16.6
comp=Z,169nm,1.6s
BRG *e*PP **PP** **03 31 15.2 +0.1**
comp=Z,41nm,1.9s
BRG S **S** **03 38 24.0 +3.3**
BRG SS **SS** **03 43 40.0 -0.2**
BRG
comp=N,1µm,22.4s
BRG
comp=E,2µm,20.0s
BRG
comp=Z,2µm,20.2s
BRG Berggiesshubel 81.98 329 *e*P **P** **03 28 07.2 +0.1**
BRG 03 31 15.2
BRG S **S** **03 38 24.0 +3.3**
BRG SS **SS** **03 43 40.0 -0.2**
BRG pmax pmax
comp=Z,193nm,1.8s
BRG pmax pmax
comp=Z,41nm,1.9s
BRG MLR MLR
comp=N,1µm,22.4s
BRG MLR MLR
comp=E,2µm,20.0s
BRG MLR MLR
comp=Z,2µm,20.2s
BRG Berggiesshubel 81.98 329 *e*P **P** **03 28 06.7 -0.4**
comp=Z,66nm,1.7s
GKP Gorka Klasztor 82.04 333 *e*P **P** **03 28 09.3 +2.0**
GKP *e*pP **pP** **03 28 11.3 -0.7**
GKP *e*S **S** **03 38 25.5 +4.4**
GKP *e*sS **sS** **03 38 28.7 -0.2**
SURF Saint Ours 82.04 321 *e*P **P** **03 28 08.3 +0.4**
ROTZ Rotzenmuhle 82.15 328 *e*P **P** **03 28 07.6 -0.5**
comp=Z,3.0nm,1.1s
MBDF Montbardon 82.20 321 *e*P **P** **03 28 08.4 -0.2**
comp=Z,46nm,0.7s
MBDF Montbardon 82.20 321 *e*P **P** **03 28 08.4 -0.2**
MBDF pmax pmax
comp=Z,46nm,0.7s
MBDF Montbardon 82.20 321 *e*P **P** **03 28 08.4 -0.2**
comp=Z,46nm,0.7s
TANN Tannenbergstha 82.42 328 *e*P **P** **03 28 09.5 0.0**
comp=Z,29nm,1.4s
OG25 Le Caire 82.43 321 *e*P **P** **03 28 09.7 0.0**
BNI Bardonecchia 82.44 322 *e*P **P** **03 28 08.3 -1.5**
BNI pmax pmax
comp=Z,152nm,1.5s
BNI MLR MLR
comp=Z,3µm,21.0s
BNI Bardonecchia 82.44 322 *e*P **P** **03 28 08.3 -1.5**
comp=Z,152nm,1.5s
BNI LR LR
comp=Z,3µm,21.0s
SMRF Simiane la Rot 82.52 320 *e*P **P** **03 28 10.4 +0.2**
comp=Z,385nm,1.5s
SMRF Simiane la Rot 82.52 320 *e*P **P** **03 28 10.4 +0.2**
comp=Z,385nm,1.5s
GRF Grafenberg Arr 82.61 327 *e*P **P** **03 28 09.6 -0.9**
GRF pmax pmax
comp=Z,21nm,1.1s
GRF Grafenberg Arr 82.61 327 *e*P **P** **03 28 09.6 -0.9**
comp=Z,21nm,1.1s
GRF *e*L L 03 55 59.4
comp=Z,1µm,18.5s
GRFO Grafenberg 82.61 327 *e*P **P** **03 28 09.5 -0.9**
GRFO pmax pmax
comp=Z,299nm,1.5s
GRFO Grafenberg 82.61 327 *e*P **P** **03 28 09.5 -0.9**
comp=Z,299nm,1.5s
LPG La Plagne 82.64 322 *e*P **P** **03 28 09.6 -1.5**
LPG La Plagne 82.64 322 *e*P **P** **03 28 09.6 -1.5**
LPG La Plagne 82.64 322 *e*P **P** **03 28 09.6 -1.5**
LPL La Plagne 82.66 322 *e*P **P** **03 28 09.7 -1.4**
comp=Z,552nm,1.8s
LPL La Plagne 82.66 322 *e*P **P** **03 28 09.7 -1.4**
LPL pmax pmax
comp=Z,552nm,1.8s
LPL La Plagne 82.66 322 *e*P **P** **03 28 09.7 -1.4**
comp=Z,552nm,1.8s
CLL Collm 82.72 329 *i* P **P** **03 28 11.0 0.0**
CLL *e*S **S** **03 38 31.0 +2.8**
CLL pmax pmax
comp=Z,10.0nm,1.6s
CLL MLR MLR
comp=Z,2µm,21.5s
CLL Collm 82.72 329 *e*P **P** **03 28 10.9 0.0**
comp=Z,8.0nm,1.0s
CLL Collm 82.72 329 *i* P **P** **03 28 11.0 0.0**
comp=Z,194nm,1.6s
CLL *e*Plp 03 28 15.0
CLL *i* 03 28 20.5
comp=Z,318nm,1.8s
CLL *e*S **S** **03 38 31.0 +2.8**
comp=N,3µm,17.2s
CLL *e*S **S** **03 38 31.0 +2.8**
comp=E,3µm,14.8s
CLL *e*PPS PPS 03 39 36.0
CLL *e*SS **SS** **03 43 49.0 -2.0**
CLL *e*SSS SSS 03 47 18.0
CLL L L 04 04 00.0
comp=Z,2µm,21.5s
ORIF Oris-en-Rattie 82.84 321 *e*P **P** **03 28 11.5 -0.4**
comp=Z,542nm,1.6s
ORIF *e*R
comp=Z,2µm,19.5s
ORIF Oris-en-Rattie 82.84 321 *e*P **P** **03 28 11.5 -0.4**
ORIF pmax pmax
comp=Z,542nm,1.6s
ORIF Oris-en-Rattie 82.84 321 *e*P **P** **03 28 11.5 -0.4**
comp=Z,542nm,1.6s
GDM Grand'Maison 82.85 322 *e*P **P** **03 28 13.4 +1.4**
MOX Moxa 82.99 328 *e*P **P** **03 28 10.9 -1.5**
MOX pmax pmax
comp=Z,8.0nm,1.1s
MOX Moxa 82.99 328 *e*P **P** **03 28 10.9 -1.5**
comp=Z,8.0nm,1.1s
MOX *e*L L 03 51 04.0
comp=Z,1µm,22.0s
GUMO Guam 83.00 74 PFAKE 03 28 20.0 +6.7
GUMO LR LR
comp=Z,2µm,20.0s
RUE Ruedersdorf 83.09 331 *e*P **P** **03 28 13.6 +0.8**
comp=Z,179nm,1.4s
GRN Grenoble 83.09 322 *e*P **P** **03 28 13.2 0.0**
STU Stuttgart 83.12 326 *e*P **P** **03 28 12.9 -0.3**
STU pmax pmax
comp=Z,295nm,1.8s
STU Stuttgart 83.12 326 *e*P **P** **03 28 12.8 -0.3**
comp=Z,9.0nm,0.8s
STU Stuttgart 83.12 326 *e*P **P** **03 28 12.9 -0.3**
comp=Z,294nm,1.8s
FELD Feldberg im Sc 83.26 325 *e*P **P** **03 28 12.0 -2.0**
BFO Black Forest 83.34 325 *e*P **P** **03 28 13.6 -0.7**
BFO pmax pmax
comp=Z,48nm,1.5s
BFO Black Forest 83.34 325 *e*P **P** **03 28 13.6 -0.7**
comp=Z,48nm,1.5s
BFO Black Forest 83.34 325 P **P** **03 28 14.2 -0.1**
comp=Z,305nm,1.6s,SNR=6.5
BFO Black Forest 83.34 325 *e*P **P** **03 28 13.6 -0.7**
comp=Z,256nm,1.8s
BFO LR LR
comp=Z,1µm,19.0s
VIVF Saint-Julien-l 83.53 321 *e*P **P** **03 28 14.8 -0.6**
comp=Z,387nm,1.8s
VIVF Saint-Julien-l 83.53 321 *e*P **P** **03 28 14.8 -0.6**
VIVF pmax pmax
comp=Z,387nm,1.8s
VIVF Saint-Julien-l 83.53 321 *e*P **P** **03 28 14.8 -0.6**
comp=Z,387nm,1.8s
LOMF Lomont 83.62 324 *e*P **P** **03 28 13.9 -2.0**
LASF Ste Croix 83.62 320 *e*P **P** **03 28 15.4 -0.5**
comp=Z,297nm,1.5s
LASF Ste Croix 83.62 320 *e*P **P** **03 28 15.4 -0.5**
comp=Z,297nm,1.5s
CABF La Chapelle 83.64 323 *e*P **P** **03 28 15.5 -0.5**
comp=Z,504nm,1.6s
CABF La Chapelle 83.64 323 *e*P **P** **03 28 15.5 -0.5**
CABF pmax pmax
comp=Z,504nm,1.6s
CABF La Chapelle 83.64 323 *e*P **P** **03 28 15.5 -0.5**
comp=Z,504nm,1.6s
MOF Molkenrain 83.73 324 *e*P **P** **03 28 15.2 -1.2**
SSB Saint Sauveur 83.83 321 *e*P **P** **03 28 16.9 0.0**
SSB pmax pmax
comp=Z,217nm,1.6s
SSB MLR MLR
comp=Z,2µm,21.0s
SSB Saint Sauveur 83.83 321 *e*P **P** **03 28 16.7 -0.2**
SSB Saint Sauveur 83.83 321 *e*P **P** **03 28 16.9 0.0**
comp=Z,217nm,1.6s
SSB LR LR
comp=Z,2µm,21.0s
HINF Hinteralfeld 83.87 324 *e*P **P** **03 28 15.8 -1.2**
comp=Z,387nm,1.6s
HINF Hinteralfeld 83.87 324 *e*P **P** **03 28 15.8 -1.2**
HINF pmax pmax
comp=Z,387nm,1.6s
HINF Hinteralfeld 83.87 324 *e*P **P** **03 28 15.8 -1.2**
comp=Z,387nm,1.6s
UBBA Unterbreizbach 83.91 328 *e*P **P** **03 28 17.6 +0.6**
comp=Z,7.0nm,1.0s
ECH Echery 83.92 325 *e*P **P** **03 28 16.2 -1.1**
ECH pmax pmax
comp=Z,150nm,1.6s
ECH MLR MLR
comp=Z,1µm,19.0s
ECH Echery 83.92 325 *e*P **P** **03 28 15.4 -1.9**
ECH Echery 83.92 325 *e*P **P** **03 28 16.2 -1.1**
comp=Z,150nm,1.6s
ECH LR LR
comp=Z,1µm,19.0s
VALF Valcebollere 83.93 318 *e*P **P** **03 28 18.2 +0.5**
MDJ Mudanjiang 83.95 40 P **P** **03 28 15.9 -1.6**
MDJ pP **PcP** **03 28 19.1 -2.3**
MDJ sP **sP** **03 28 20.5 -3.4**
MDJ S **SKSac** **03 38 39.1 -1.1**
MDJ ScS **ScS** **03 38 51.4 -2.1**
MDJ AMB AMB
comp=Z,23nm,1.5s
MDJ AMB AMB
comp=Z,130nm,3.3s
MDJ LR LR
comp=Z,6µm,34.6s
MDJ LR LR
comp=Z,3µm,32.0s
MDJ LR LR
comp=Z,2µm,30.6s
MDJ Mudanjiang 83.95 40 *e*P **P** **03 28 16.0 -1.5**
comp=Z,174nm,1.3s
MDJ LR LR
comp=Z,3µm,22.0s
CDF Champ du Feu 83.96 325 *e*P **P** **03 28 16.6 -1.0**
comp=Z,527nm,1.7s
CDF Champ du Feu 83.96 325 *e*P **P** **03 28 16.6 -1.0**
CDF pmax pmax
comp=Z,527nm,1.7s
CDF Champ du Feu 83.96 325 *e*P **P** **03 28 16.6 -1.0**
comp=Z,527nm,1.7s
TMCR Tamitsa 84.05 348 *e*P **P** **03 28 18.9 +1.4**
TMCR *e* 03 28 21.5
TMCR *e* 03 31 37.8
TMCR pmax pmax
comp=Z,138nm,1.5s
HAU Haudompre 84.25 324 *e*P **P** **03 28 18.1 -0.9**
comp=Z,545nm,1.7s
HAU *e*R
comp=Z,1µm,19.2s
HAU Haudompre 84.25 324 *e*P **P** **03 28 18.1 -0.9**
HAU pmax pmax
comp=Z,545nm,1.7s
HAU Haudompre 84.25 324 *e*P **P** **03 28 18.1 -0.9**
comp=Z,545nm,1.7s
MTLF Montolieu 84.27 319 *e*P **P** **03 28 18.8 -0.4**
comp=Z,432nm,1.6s
MTLF Montolieu 84.27 319 *e*P **P** **03 28 18.8 -0.4**
MTLF pmax pmax
comp=Z,432nm,1.6s
MTLF Montolieu 84.27 319 *e*P **P** **03 28 18.8 -0.4**
comp=Z,432nm,1.6s
MDT Midelt 84.28 307 P **P** **03 28 19.7 +0.1**
MDT Midelt 84.28 307 P **P** **03 28 19.7 +0.1**
comp=Z,8.4nm,1.1s,baz=96,slow=7.0,SNR=10
CLZ Clausthal 84.34 329 *e*P **P** **03 28 18.9 -0.4**
CLZ pmax pmax
comp=Z,16nm,1.0s
CLZ Clausthal 84.34 329 *e*P **P** **03 28 18.9 -0.4**
comp=Z,16nm,1.0s
TNS Taunus Mts 84.36 327 *e*P **P** **03 28 19.6 +0.1**
TNS pmax pmax
comp=Z,6.0nm,0.8s
TNS Taunus Mts 84.36 327 *e*P **P** **03 28 19.6 +0.1**
comp=Z,6.0nm,0.8s
JOF Joensuu 84.51 345 *e*p **P** **03 28 20.5 +0.6**
comp=Z,30nm,0.8s
LBL Lubilhac 84.59 321 *e*P **P** **03 28 21.0 +0.2**
PLDF La Plantade 84.75 321 *e*P **P** **03 28 21.3 -0.3**
FIA1 FINESS Array S 84.77 342 *e*P **P** **03 28 21.2 0.0**
FIA1 *e*PP **PP** **03 31 38.3 +0.6**
FINES FINESS Array B 84.77 342 P **P** **03 28 21.2 0.0**
FINES PP **PP** **03 31 37.5 -0.2**
FINES PKKPbc PKKPbc 03 46 40.7 +7.3
FINES FINESS Array B 84.77 342 P **P** **03 28 21.2 0.0**
comp=Z,52nm,1.1s,baz=108,slow=6.2,SNR=17
FINES PP **PP** **03 31 37.5 -0.2**
comp=Z,15nm,1.1s,baz=117,slow=6.6,SNR=5.9
FINES PKKPbc PKKPbc 03 46 40.7 +7.3
comp=Z,4.4nm,1.1s,baz=292,slow=5.1,SNR=3.5
FINES LR LR 04 07 18.6
comp=Z,3µm,20.5s,baz=142,slow=36
NRDL Niedersach Rie 84.86 329 *e*P **P** **03 28 22.6 +0.8**
comp=Z,6.0nm,1.0s
PAGF Fort de Pagny 84.90 324 *e*P **P** **03 28 21.7 -0.5**
PAGF Fort de Pagny 84.90 324 *e*P **P** **03 28 21.7 -0.5**
SMF Signal de Mont 84.97 322 *e*P **P** **03 28 21.7 -0.9**
comp=Z,145nm,1.5s
SMF Signal de Mont 84.97 322 *e*P **P** **03 28 21.7 -0.9**
SMF pmax pmax
comp=Z,145nm,1.5s
SMF Signal de Mont 84.97 322 *e*P **P** **03 28 21.7 -0.9**
comp=Z,145nm,1.5s
MELF Melles 84.97 318 *e*P **P** **03 28 25.9 +3.1**
PYM Petit Puy Mans 85.00 321 *e*P **P** **03 28 23.2 +0.3**
SFTF Sexfontaines 85.10 324 *e*P **P** **03 28 22.7 -0.5**
comp=Z,642nm,1.5s
SFTF Sexfontaines 85.10 324 *e*P **P** **03 28 22.7 -0.5**
comp=Z,642nm,1.5s
CAF Calviac 85.16 320 *e*P **P** **03 28 23.3 -0.3**
comp=Z,267nm,1.7s
CAF Calviac 85.16 320 *e*P **P** **03 28 23.3 -0.3**
CAF pmax pmax
comp=Z,267nm,1.7s
CAF Calviac 85.16 320 *e*P **P** **03 28 23.3 -0.3**
comp=Z,267nm,1.7s
RESF Ens 85.21 317 *e*P **P** **03 28 24.2 +0.1**
USRK Ussuriysk Arra 85.22 41 P **P** **03 28 22.3 -1.6**
comp=Z,28nm,0.9s,baz=234,slow=6.2,SNR=22
KAF Kangasniemi 85.22 342 *e*p **P** **03 28 23.1 -0.4**
comp=Z,63nm,0.8s
MEZF Maizieres J'vi 85.25 324 *e*P **P** **03 28 23.6 -0.4**
comp=Z,715nm,1.7s
MEZF Maizieres J'vi 85.25 324 *e*P **P** **03 28 23.6 -0.4**
comp=Z,715nm,1.7s
WLF Walferdange 85.28 325 P **P** **03 28 24.0 -0.1**
comp=Z,67nm,1.8s
WLF Walferdange 85.28 325 *e*P **P** **03 28 23.8 -0.2**
WLF pmax pmax
comp=Z,150nm,1.5s
WLF MLR MLR
comp=Z,2µm,22.0s
WLF Walferdange 85.28 325 *e*P **P** **03 28 24.0 -0.1**
comp=Z,10.0nm,0.9s
WLF Walferdange 85.28 325 *e*P **P** **03 28 23.8 -0.2**
comp=Z,150nm,1.5s
WLF LR LR
comp=Z,2µm,22.0s
LOR Lormes 85.28 323 *e*P **P** **03 28 23.5 -0.7**
comp=Z,367nm,1.7s
LOR *e*R
comp=Z,3µm,23.0s
LOR Lormes 85.28 323 *e*P **P** **03 28 23.5 -0.7**
comp=Z,367nm,1.7s
EPF Esparros 85.32 318 *e*P **P** **03 28 23.9 -0.6**
comp=Z,274nm,1.8s
EPF Esparros 85.32 318 *e*P **P** **03 28 23.9 -0.6**
EPF pmax pmax
comp=Z,274nm,1.8s
EPF Esparros 85.32 318 *e*P **P** **03 28 23.9 -0.6**
comp=Z,274nm,1.8s
SSF Saint Saulge 85.38 322 *e*P **P** **03 28 23.9 -0.7**
comp=Z,338nm,1.6s
SSF Saint Saulge 85.38 322 *e*P **P** **03 28 23.9 -0.7**
SSF pmax pmax
comp=Z,338nm,1.6s
SSF Saint Saulge 85.38 322 *e*P **P** **03 28 23.9 -0.7**
comp=Z,338nm,1.6s
JCJ Chichijima 85.39 60 LR LR 04 02 23.3
comp=Z,3µm,21.6s,baz=123,slow=33
VIEF Viey 85.45 317 *e*P **P** **03 28 26.8 +1.6**
LABF Labassere 85.50 318 *e*P **P** **03 28 25.6 +0.2**
BGF Bois d'Agland 85.51 322 *e*P **P** **03 28 25.0 -0.3**
comp=Z,505nm,1.6s
BGF Bois d'Agland 85.51 322 *e*P **P** **03 28 25.0 -0.3**
BGF pmax pmax
comp=Z,505nm,1.6s
BGF Bois d'Agland 85.51 322 *e*P **P** **03 28 25.0 -0.3**
comp=Z,505nm,1.6s
BSEG Bad Segeberg 85.63 330 *e*P **P** **03 28 28.1 +2.4**
BSEG pmax pmax
comp=Z,281nm,2.1s
BSEG Bad Segeberg 85.63 330 *e*P **P** **03 28 28.1 +2.4**
comp=Z,281nm,2.1s
BUG Bochum--Univer 85.67 327 *e*P **P** **03 28 26.5 +0.5**
comp=Z,10.0nm,0.9s
RJF Les Rejaudoux 85.68 320 *e*P **P** **03 28 25.9 -0.3**
comp=Z,356nm,1.6s
RJF *e*R
comp=Z,6µm,22.8s
RJF Les Rejaudoux 85.68 320 *e*P **P** **03 28 25.9 -0.3**
RJF pmax pmax
comp=Z,356nm,1.6s
RJF Les Rejaudoux 85.68 320 *e*P **P** **03 28 25.9 -0.3**
comp=Z,356nm,1.6s
TCF Toulx Ste Croi 85.75 321 *e*P **P** **03 28 26.2 -0.4**
comp=Z,257nm,1.9s
TCF Toulx Ste Croi 85.75 321 *e*P **P** **03 28 26.2 -0.4**
TCF pmax pmax
comp=Z,257nm,1.9s
TCF Toulx Ste Croi 85.75 321 *e*P **P** **03 28 26.2 -0.4**
comp=Z,257nm,1.9s
REYF Montagne du Re 85.81 317 *e*P **P** **03 28 27.1 +0.1**
ETSF Etsaut 85.84 317 *e*P **P** **03 28 26.8 -0.3**
comp=Z,318nm,1.7s
ETSF Etsaut 85.84 317 *e*P **P** **03 28 26.8 -0.3**
ETSF pmax pmax
comp=Z,318nm,1.7s
ETSF Etsaut 85.84 317 *e*P **P** **03 28 26.8 -0.3**
comp=Z,318nm,1.7s
MEM Membach 85.87 326 P **P** **03 28 28.2 +1.2**
comp=Z,45nm,2.1s
LFF La Frestale 85.98 319 *e*P **P** **03 28 27.5 -0.2**
comp=Z,455nm,1.6s
LFF La Frestale 85.98 319 *e*P **P** **03 28 27.5 -0.2**
LFF pmax pmax
comp=Z,455nm,1.6s
LFF La Frestale 85.98 319 *e*P **P** **03 28 27.5 -0.2**
comp=Z,455nm,1.6s
MAJO Matsushiro 85.99 50 *e*P **P** **03 28 27.1 -0.9**
MAJO pmax pmax
comp=Z,310nm,1.5s
MAJO MLR MLR
comp=Z,3µm,22.0s
MAJO Matsushiro 85.99 50 *e*P **P** **03 28 27.1 -0.9**
comp=Z,310nm,1.5s
MAJO LR LR
comp=Z,3µm,22.0s
MAT Matsushiro 85.99 50 P **P** **03 28 26.9 -1.1**
MAT S **S** **03 39 02.4 +0.7**
HYF Humbligny 85.99 322 *e*P **P** **03 28 27.4 -0.3**
HYF Humbligny 85.99 322 *e*P **P** **03 28 27.4 -0.3**
ATE Arette 86.02 317 *e*P **P** **03 28 27.9 -0.1**
BCLA Clavier 86.15 326 P **P** **03 28 28.8 +0.4**
comp=Z,76nm,1.7s
LARF Larrau 86.18 317 *e*P **P** **03 28 31.9 +3.1**
GIVF Givet 86.23 325 *e*P **P** **03 28 28.6 -0.2**
comp=Z,629nm,1.7s
GIVF Givet 86.23 325 *e*P **P** **03 28 28.6 -0.2**
GIVF pmax pmax
comp=Z,629nm,1.7s
GIVF Givet 86.23 325 *e*P **P** **03 28 28.6 -0.2**
comp=Z,629nm,1.7s
DOU Dourbes 86.36 325 P **P** **03 28 30.5 +1.1**
comp=Z,92nm,2.3s
SJPF Ste Jean 86.37 317 *e*P **P** **03 28 29.6 -0.1**
comp=Z,388nm,1.7s
SJPF Ste Jean 86.37 317 *e*P **P** **03 28 29.6 -0.1**
SJPF pmax pmax
comp=Z,388nm,1.7s
SJPF Ste Jean 86.37 317 *e*P **P** **03 28 29.6 -0.1**
comp=Z,388nm,1.7s
RTC Rabat Centre 86.47 307 PFAKE 03 28 40.0 +10
RTC LR LR
comp=Z,10µm,19.0s
BAIF Baives 86.55 325 *e*P **P** **03 28 30.3 0.0**
comp=Z,671nm,1.6s
BAIF Baives 86.55 325 *e*P **P** **03 28 30.3 0.0**
BAIF pmax pmax
comp=Z,671nm,1.6s
BAIF Baives 86.55 325 *e*P **P** **03 28 30.3 0.0**
comp=Z,671nm,1.6s
ESDC Sonseca Array 86.69 313 P **P** **03 28 30.6 -0.8**
ESDC Sonseca Array 86.69 313 P **P** **03 28 30.6 -0.8**
comp=Z,12nm,1.1s,baz=98,slow=4.0,SNR=41
ESDC LR LR 04 10 06.1
comp=Z,4µm,18.1s,baz=125,slow=38
ESLA Sonseca Array 86.69 313 *e*P **P** **03 28 30.3 -1.1**
comp=Z,108nm,1.6s
PAB San Pablo 86.90 313 *e*P **P** **03 28 31.8 -0.7**
PAB pmax pmax
comp=Z,2µm,1.6s
PAB MLR MLR
comp=Z,7µm,19.0s
PAB San Pablo 86.90 313 *e*P **P** **03 28 31.8 -0.7**
comp=Z,2µm,1.6s
PAB LR LR
comp=Z,7µm,19.0s
MFF Saint Martin d 87.33 321 *e*P **P** **03 28 33.8 -0.4**
comp=Z,366nm,1.6s
MFF Saint Martin d 87.33 321 *e*P **P** **03 28 33.8 -0.4**
MFF pmax pmax
comp=Z,366nm,1.6s
MFF Saint Martin d 87.33 321 *e*P **P** **03 28 33.8 -0.4**
comp=Z,366nm,1.6s
KLR Kul'dur 87.57 37 *e*P P 03 28 28.7 -6.6
KLR *e* 03 28 29.0
KLR *e* 03 32 05.5
KLR *e*S **SKSac** **03 38 59.0 -3.7**
KLR *e* 03 45 04.0
KLR pmax pmax
comp=E,240nm,2.8s
KLR pmax pmax
comp=Z,960nm,2.8s
KLR pmax pmax
comp=E,600nm,7.5s
KLR pmax pmax
comp=Z,2µm,7.5s
KLR smax smax
comp=N,1µm,13.0s
KLR smax smax
comp=E,2µm,13.0s
KLR MLR MLR

comp=E,3µm,12.5s
KLR MLR MLR
comp=Z,7µm,12.5s
MUD Monsted U'grnd 87.66 332 *e*P **P 03 28 37.8 +2.3**
MUD MLR MLR
comp=Z,2µm,19.0s
MUD Monsted U'grnd 87.66 332 *i* P **P 03 28 37.8 +2.3**
MUD
comp=Z,2µm,19.0s
APA Apatity 87.96 348 ⇑P **P 03 28 39.4 +2.6**
APA *i* 03 32 08.0
APA *i* 03 39 00.0
APA *i* S S 03 39 26.0 +6.6
APA *i* SS **SS 03 45 08.0 +0.4**
BBTS Babate 87.97 286 P **P 03 28 39.7 +1.7**
BBTS Babate 87.97 286 P **P 03 28 39.7 +1.7**
comp=Z,28nm,1.0s,baz=300,slow=2.2,SNR=3.8
HFS Hagfors 88.06 336 P **P 03 28 37.8 +0.3**
HFS PP **PP 03 32 05.8 +1.3**
HFS Hagfors 88.06 336 P **P 03 28 37.8 +0.3**
comp=Z,27nm,1.1s,baz=141,slow=5.0,SNR=9.6
HFS PP **PP 03 32 05.8 +1.3**
comp=Z,16nm,1.1s,baz=149,slow=9.4,SNR=4.5
HFS LR LR 04 05 00.4
comp=Z,930nm,19.3s,baz=313,slow=34
CLNS Chul'man 88.19 28 *e*P **P 03 28 38.9 +0.7**
CLNS *e* 03 28 45.4
CLNS *e* 03 32 08.3
CLNS *e*PPP PPP 03 34 06.5
CLNS *e*S **SKSac 03 39 05.7 -0.6**
CLNS pmax pmax
comp=Z,80nm,1.1s
CLNS pmax pmax
comp=N,17nm,0.8s
CLNS pmax pmax
comp=E,37nm,1.1s
CLNS pmax pmax
comp=N,8.0nm,1.1s
CLNS pmax pmax
comp=E,9.0nm,1.0s
CLNS pmax pmax
comp=Z,11nm,1.0s
CLNS smax smax
comp=N,816nm,12.9s
CLNS smax smax
comp=E,1µm,10.8s
CLNS MLR MLR
comp=Z,2µm,14.0s
CLNS MLR MLR
comp=E,2µm,14.0s
CLNS MLR MLR
comp=N,859nm,11.0s
LDF La Druitiere 88.26 322 *e*P **P 03 28 38.0 -0.7**
comp=N,591nm,1.9s
LDF La Druitiere 88.26 322 *e*P **P 03 28 38.0 -0.7**
LDF pmax pmax
comp=Z,591nm,1.9s
LDF La Druitiere 88.26 322 *e*P **P 03 28 38.0 -0.7**
comp=Z,591nm,1.9s
PVAQ Vaqueiros 88.45 310 *e*S **SKSac 03 39 10.0 +1.4**
PVAQ Vaqueiros 88.45 310 *e*LQ LQ 03 52 03.1
PVAQ *e*LR LR 03 56 45.3
comp=Z,4µm,22.0s
FLN La Foliniere 88.55 322 *e*P **P 03 28 39.5 -0.5**
comp=Z,445nm,1.7s
FLN *e*R
comp=Z,5µm,22.5s
FLN La Foliniere 88.55 322 *e*P **P 03 28 39.5 -0.5**
FLN pmax pmax
comp=Z,445nm,1.7s
FLN La Foliniere 88.55 322 *e*P **P 03 28 39.5 -0.5**
comp=Z,445nm,1.7s
GRR Gorron 88.59 322 *e*P **P 03 28 39.7 -0.5**
comp=Z,374nm,1.6s
GRR Gorron 88.59 322 *e*P **P 03 28 39.7 -0.5**
GRR pmax pmax
comp=Z,374nm,1.6s
GRR Gorron 88.59 322 *e*P **P 03 28 39.7 -0.5**
comp=Z,374nm,1.6s
PCVE Castro Verde 88.77 310 *e*P P 03 28 44.8 +3.5
comp=Z,104nm,1.7s
PMRV Marv??o 89.00 312 *e*P **P 03 28 41.6 -0.8**
comp=Z,137nm,1.6s
PMRV Marv??o 89.00 312 *e*S **S 03 39 31.5 +1.0**
PMRV Marv??o 89.00 312 *e*LQ LQ 03 52 23.6
PMRV *e*LR LR 03 59 40.2
comp=Z,8µm,20.0s
MORF Marmelete 89.10 310 *e*P **P 03 28 44.7 +1.7**
comp=Z,176nm,2.0s
EVO Evora 89.10 311 *e*P **P 03 28 43.3 +0.4**
comp=Z,393nm,1.8s
EVO *e*R
comp=Z,10µm,21.2s
EVO Evora 89.10 311 *e*P **P 03 28 45.5 +2.6**
comp=Z,137nm,1.8s
EVOP Sao Brissos 89.18 311 *e*P **P 03 28 43.3 +0.1**
EVOP pmax pmax
comp=Z,393nm,1.8s
EVOP Sao Brissos 89.18 311 *e*P **P 03 28 43.3 +0.1**
comp=Z,393nm,1.8s
PNCL Nicolau / Gran 89.31 310 *e*P P 03 28 47.1 +3.2
comp=Z,134nm,1.7s
KONO Kongsberg 89.38 335 *e*P **P 03 28 45.8 +2.2**
KONO pmax pmax
comp=Z,473nm,1.5s
KONO MLR MLR
comp=Z,3µm,19.0s
KONO Kongsberg 89.38 335 *e*P **P 03 28 45.8 +2.2**
comp=Z,473nm,1.5s
KONO LR LR
comp=Z,3µm,19.0s
MVO Moncorvo 89.44 314 *e*P **P 03 28 44.8 +0.3**
comp=Z,156nm,1.7s
MVO Moncorvo 89.44 314 *e*S **SKSac 03 39 12.5 -2.0**
MVO Moncorvo 89.44 314 *e*LQ LQ 03 52 28.9
MVO *e*LR LR 03 59 41.4
comp=Z,4µm,20.0s
PMTG Montargil 89.46 311 *e*P **P 03 28 47.4 +2.9**
comp=Z,198nm,1.8s
PBRG Braganca 89.49 314 *e*P **P 03 28 47.8 +3.1**
comp=Z,118nm,1.6s
MTE Manteigas 89.49 313 *e*P **P 03 28 47.7 +2.9**
comp=Z,97nm,1.7s
MTE Manteigas 89.49 313 *e*S S 03 39 21.4 -14
MTE Manteigas 89.49 313 *e*LQ LQ 03 52 28.9
MTE *e*LR LR 03 59 41.9
comp=Z,3µm,22.0s
MTE Manteigas 89.49 313 *e*P **P 03 28 45.4 +0.7**
comp=Z,124nm,1.8s
MTE LR LR
comp=Z,3µm,21.0s
SGMF Saint Gilles 89.54 321 *e*P **P 03 28 43.7 -1.0**
comp=Z,344nm,1.6s
SGMF Saint Gilles 89.54 321 *e*P **P 03 28 43.7 -1.0**
SGMF pmax pmax
comp=Z,344nm,1.6s
SGMF Saint Gilles 89.54 321 *e*P **P 03 28 43.7 -1.0**
comp=Z,344nm,1.6s
NB2 NORSAR Subarra 89.59 336 P **P 03 28 43.5 -1.2**
comp=Z,12nm,1.2s,baz=150,slow=10
NOA NORSAR Array B 89.59 336 P **P 03 28 43.7 -1.0**
NOA PP **PP 03 32 17.1 +0.5**
NOA NORSAR Array B 89.59 336 P **P 03 28 43.7 -1.0**
comp=Z,6.0nm,1.0s,baz=119,slow=4.6,SNR=5.5
NOA PP **PP 03 32 17.1 +0.5**
comp=Z,2.2nm,0.9s,baz=124,slow=8.0,SNR=3.9
NOA LR LR 04 10 08.0
comp=Z,2µm,21.5s,baz=120,slow=36
QUIF Quistinic 89.76 321 *e*P **P 03 28 44.7 -1.0**
comp=Z,115nm,1.4s
QUIF Quistinic 89.76 321 *e*P **P 03 28 44.7 -1.0**
QUIF pmax pmax
comp=Z,115nm,1.4s
QUIF Quistinic 89.76 321 *e*P **P 03 28 44.7 -1.0**
comp=Z,115nm,1.4s
PACT Alcochete 89.78 311 *e*P **P 03 28 48.4 +2.4**
comp=Z,350nm,1.8s
LIS Lisbon 89.99 311 *e*P **P 03 28 46.5 -0.5**
LIS AMb AMB 03 29 00.5
comp=Z,159nm,2.2s
LIS Lisbon 89.99 311 *e*P **P 03 28 46.5 -0.5**
comp=Z,159nm,2.2s
ROSF Rostrenen 90.01 321 *e*P **P 03 28 45.8 -1.1**
ROSF pmax pmax
comp=Z,345nm,1.9s
ROSF Rostrenen 90.01 321 *e*P **P 03 28 45.8 -1.1**
comp=Z,345nm,1.9s
PCAS Casmilo, Conde 90.03 312 *e*P **P 03 28 49.4 +2.2**
POLO Lamas de Olo 90.05 314 *e*P **P 03 28 50.1 +2.7**
PMSA Palmer Station 90.12 199 PFAKE 03 29 00.0 +13
PMSA LR LR
comp=Z,3µm,20.0s
HNR Honiara 90.33 100 PFAKE 03 29 00.0 +11
HNR LR LR
comp=Z,111nm,21.0s
KEV Kevo 91.10 347 *e*p **P 03 28 52.0 +0.6**
comp=Z,11nm,0.9s
KEV Kevo 91.10 347 PFAKE 03 29 00.0 +8.6
KEV LR LR
comp=Z,4µm,21.0s
ARCES ARCESS Array B 91.25 347 P **P 03 28 51.8 -0.4**
ARCES PP **PP 03 32 30.3 +0.7**
ARCES ARCESS Array B 91.25 347 P **P 03 28 51.8 -0.4**
comp=Z,50nm,1.1s,baz=131,slow=3.7,SNR=19
ARCES PP **PP 03 32 30.3 +0.7**
comp=Z,11nm,1.1s,baz=119,slow=7.1,SNR=4.2
ARCES LR LR 04 11 19.0
comp=Z,2µm,19.9s,baz=333,slow=36
ARE0 ARCESS Array S 91.25 347 *e*P **P 03 28 53.5 +1.3**
SNZO South Karori 91.70 134 PFAKE 03 29 10.0 +15
SNZO LR LR
comp=Z,4µm,20.0s
ASAJ Asahikawa 92.07 44 LR LR 04 05 23.1
comp=Z,2µm,21.3s,baz=224,slow=32
DZM Mont Dzumac 92.33 114 *e*P **P 03 28 57.8 -0.7**
comp=Z,67nm,1.5s
DZM Mont Dzumac 92.33 114 *e*SKSac **SKSac 03 39 30.6 -1.5**
comp=Z,1µm,22.6s
DZM Mont Dzumac 92.33 114 *e*PS PS 03 41 21.3 +7.3
comp=Z,1µm,26.4s
DZM *e*SS SS 03 46 15.7 +3.3
comp=Z,7µm,28.1s
DZM *e*LQ LQ 03 54 45.4
comp=Z,9µm,36.7s
DZM *e*LR LR 03 58 36.6
comp=Z,20µm,20.9s
EKA Eskdalemuir Ar 93.02 328 P **P 03 29 01.5 +0.8**
EKA Eskdalemuir Ar 93.02 328 P **P 03 29 01.5 +0.8**
comp=Z,4.8nm,0.9s,baz=93,slow=5.7,SNR=4.3
ESK Eskdalemuir 93.04 327 PFAKE 03 29 10.0 +9.2
ESK LR LR
comp=Z,2µm,19.0s
YAK Yakutsk 93.11 25 *e*P **P 03 29 02.0 +1.1**
YAK *e* 03 32 46.3
YAK *e*PPP PPP 03 34 42.5
YAK *e*S **SKSac 03 39 33.7 -0.6**
YAK *e* 03 40 08.0
YAK *e*SSS SSS 03 49 53.7
YAK pmax pmax
comp=Z,42nm,1.4s
YAK pmax pmax
comp=E,15nm,1.4s
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=Z,597nm,4.2s
YAK pmax pmax
comp=E,274nm,3.6s
YAK pmax pmax
comp=N,136nm,3.3s
YAK smax smax
comp=N,212nm,4.4s
YAK smax smax
comp=E,420nm,6.2s
YSS Yuzh-Sakhalins 93.22 42*ce*P P 03 28 58.0 -3.8
YSS *e* 03 32 47.0
YSS *e*PPP PPP 03 34 50.0
YSS *e* 03 39 32.0
YSS *e*S S 03 39 58.0 -11
YSS *e*PS **PS 03 41 20.0 -3.0**
YSS *e*SS **SS 03 46 30.0 +5.5**
YSS *e*SSS SSS 03 50 08.0
YSS pmax pmax
comp=Z,600nm,7.0s
YSS MLR MLR
comp=Z,2µm,19.0s
YSS MLR MLR
comp=E,2µm,18.0s
YUK Yuzh-Kuril'sk 94.24 45⇓ *i*P **P 03 29 04.0 -2.5**
YUK *i* 03 32 50.0
YUK *i* S **SKSac 03 39 38.7 -2.5**
YUK *i* SS **SS 03 46 37.2 -2.0**
YUK *i* SSS SSS 03 50 15.3
YUK MLR MLR
comp=E,2µm,21.0s
YUK MLR MLR
comp=Z,2µm,21.0s
EFI East Falkland 96.29 211 PFAKE 03 29 30.0 +14
EFI LR LR
comp=Z,3µm,21.0s
SPITS Spitsbergen Ar 99.29 351 P **Pdif 03 29 29.9 +1.1**
SPITS Spitsbergen Ar 99.29 351 P **Pdif 03 29 29.9 +1.1**
comp=Z,36nm,1.0s,baz=131,slow=14,SNR=7.8
RCBR Riachuelo 100.23 261 PFAKE 03 29 50.0 +16
RCBR LR LR
comp=Z,8µm,21.0s
KBS Kingsbay 100.45 351 PFAKE 03 29 50.0 +16
KBS LR LR
comp=Z,3µm,20.0s
CMLA Cha da Macela 102.02 306 PFAKE 03 29 50.0 +8.2
CMLA LR LR
comp=Z,5µm,19.0s
RAO Raoul Island 102.45 126 PFAKE 03 30 00.0 +16
RAO LR LR
comp=Z,8µm,19.0s
SPB Sao Paulo 103.97 240 PFAKE 03 30 00.0 +9.2
SPB LR LR
comp=Z,3µm,19.0s
MSVF Nonsavu 104.06 114 PFAKE 03 30 00.0 +8.6
MSVF LR LR
comp=Z,9µm,20.0s
WAKE Wake Island 104.64 74 PFAKE 03 30 10.0 +16
WAKE LR LR
comp=Z,2µm,20.0s
TARA Tarawa 105.91 94 PFAKE 03 34 20.0
TARA LR LR
comp=Z,5µm,19.0s
TRQA Tornquist 106.93 220 PFAKE 03 34 30.0
TRQA LR LR
comp=Z,4µm,22.0s
SUMG Summit 110.81 342 *i* P **PP 03 35 02.6 +4.9**
AFI Afiamalu 114.54 115 PFAKE 03 34 40.0 +11
AFI LR LR
comp=Z,4µm,22.0s
CFAA Coronel Fontan 115.02 222 PKP **PKPdf 03 34 30.5 +1.4**
CFAA Coronel Fontan 115.02 222 PKP **PKPdf 03 34 30.5 +1.4**
comp=Z,0.2nm,0.6s,baz=222,slow=8.6,SNR=3.6
SFJD Kangerlussuaq 116.25 337 PFAKE 03 34 40.0 +10
SFJD LR LR
comp=Z,2µm,21.0s
LCO Las Campanas 118.33 222 PFAKE 03 34 50.0 +14
LCO LR LR
comp=Z,3µm,20.0s
MIDW Midway 120.47 67 PFAKE 03 34 50.0 +11
MIDW LR LR
comp=Z,3µm,22.0s
RAR Rarotonga 120.58 128 PFAKE 03 34 50.0 +10
RAR LR LR
comp=Z,3µm,21.0s
LVC Limon Verde 121.25 229 PFAKE 03 34 50.0 +8.4
LVC LR LR
comp=Z,2µm,20.0s
RES Resolute Bay 121.61 354 PKP **PKPdf 03 34 40.2 -0.1**
RES Resolute Bay 121.61 354 PKP **PKPdf 03 34 40.2 -0.1**
comp=Z,22nm,1.0s,baz=352,slow=2.2,SNR=7.8
SAML Samuel 124.06 246 *e*PKPdf **PKPdf 03 34 48.1 +1.2**
SAML LR LR
comp=Z,5µm,20.0s
IMA2 Indian Mountai 124.41 19 *e*PKPdf **PKPdf 03 34 45.7 -0.4**
IMA2 *e*PP **PP 03 36 33.4 +1.5**
LPAZ La Paz 124.42 236 *e*PKPdf **PKPdf 03 34 48.0 -0.2**
LPAZ PKP **PKPdf 03 34 48.3 0.0**
LPAZ La Paz 124.42 236 PKP **PKPdf 03 34 48.3 0.0**
comp=Z,4.0nm,0.8s,baz=41,slow=2.8,SNR=12
IM04 Indian Mountai 124.45 19 *e*PKPdf **PKPdf 03 34 45.6 -0.4**
COLD Coldfoot 124.62 16 *e*PKPdf **PKPdf 03 34 46.3 0.0**
TBI Tubuai 126.42 138 *e*PP PP 03 36 29.3 -16
comp=Z,145nm,26.5s
TBI Tubuai 126.42 138 *e*SS SS 03 53 54.4 +5.1
comp=Z,3µm,42.0s
TBI Tubuai 126.42 138 *e*LQ LQ 04 09 02.2
comp=Z,4µm,35.5s
TBI *e*LR LR 04 14 28.0
comp=Z,3µm,25.0s
BPAW Bear Paw Mtn. 126.59 20 *e*PKPdf **PKPdf 03 34 51.1 +0.9**
BPAW *e*PP **PP 03 36 47.3 +1.1**
COLA College 126.99 18 *e*PKIKP **PKPdf 03 34 50.6 -0.3**
COLA *e* 03 36 46.0
COLA MLR MLR
comp=Z,2µm,20.0s
COLA College 126.99 18 *e*PKPdf **PKPdf 03 34 50.5 -0.3**
COLA *e*PP **PP 03 36 46.0 -2.8**
COLA LR LR
comp=Z,2µm,20.0s
PPLA Purkeypile 127.00 21 *e*PKPdf **PKPdf 03 34 51.0 -0.2**
PPLA *e*PP **PP 03 36 47.1 -2.1**
TRF Thorofare Moun 127.26 20 *e*PKPdf **PKPdf 03 34 51.5 -0.2**
INK Inuvik 127.31 9 PKP **PKPdf 03 34 50.7 -0.7**
INK Inuvik 127.31 9 PKP **PKPdf 03 34 50.7 -0.7**
comp=Z,51nm,1.2s,baz=180,slow=1.0
ILAR Eielson Array 127.35 17 PKP **PKPdf 03 34 50.6 -1.0**
ILAR PP **PP 03 36 50.9 -0.3**
ILAR Eielson Array 127.35 17 PKP **PKPdf 03 34 50.6 -1.0**
comp=Z,19nm,1.1s,baz=315,slow=2.7,SNR=22
ILAR PP **PP 03 36 50.9 -0.3**
comp=Z,3.5nm,1.0s,baz=314,slow=4.7,SNR=4.4
MCK McKinley 127.50 19 *e*PKIKP **PKPdf 03 34 52.2 +0.2**
MCK McKinley 127.50 19 *e*PKPdf **PKPdf 03 34 52.2 +0.2**
BBGH Gun Hill 128.09 273 PFAKE 03 35 10.0 +16
BBGH LR LR
comp=Z,5µm,19.0s
SCHQ Schefferville 128.34 328 PKP **PKPdf 03 34 52.7 -1.1**
SCHQ Schefferville 128.34 328 PKP **PKPdf 03 34 52.7 -1.1**
comp=Z,5.7nm,1.0s,baz=49,slow=9.3,SNR=2.6
EGAK Eagle 128.86 15 *e*PKPdf **PKPdf 03 34 54.0 -0.5**
EGAK LR LR
comp=Z,3µm,22.0s
PMR Palmer 128.94 21 *e*PKIKP **PKPdf 03 34 55.1 +0.4**
PMR Palmer 128.94 21 *e*PKPdf **PKPdf 03 34 55.1 +0.4**
DOT Dot Lake 129.00 17 *e*PKPdf **PKPdf 03 34 55.4 +0.6**
PAX Paxson 129.12 18 *e*PKIKP **PKPdf 03 34 55.6 +0.4**
PAX Paxson 129.12 18 *e*PKPdf **PKPdf 03 34 55.6 +0.4**
GRGR Grenville 129.88 272 PFAKE 03 35 10.0 +12
GRGR LR LR
comp=Z,2µm,22.0s
KDAK Kodiak Island 130.12 26 *e*PKPdf **PKPdf 03 34 57.8 +0.7**
KDAK LR LR
comp=Z,2µm,21.0s
PPT2 Papeete2 130.32 132 *e*PP PP 03 37 05.1 -6.4
comp=Z,230nm,25.0s
PPT2 Papeete2 130.32 132 *e*SS SS 03 54 41.7 +3.5
comp=Z,2µm,25.8s
PPT2 Papeete2 130.32 132 *e*LR LR 04 16 11.9
comp=Z,3µm,23.2s
DIV Divide 130.40 20 *e*PKPdf **PKPdf 03 34 58.9 +1.3**
BMRM Bremner River 130.90 20 *e*PKPdf **PKPdf 03 34 59.8 +1.3**
ANWB Willy Bob 130.96 279 PFAKE 03 35 10.0 +10
ANWB LR LR
comp=Z,4µm,21.0s
HYT Haines Junctio 133.09 16 *e*PKPdf **PKPdf 03 35 03.5 +0.7**
BBSR BB Station 133.73 299 PFAKE 03 35 20.0 +15
BBSR LR LR
comp=Z,3µm,21.0s
PKME Peaks-Kenny Pk 133.89 317 PFAKE 03 35 20.0 +15
PKME LR LR
comp=Z,5µm,21.0s
XMAS Kiritimati 134.11 104 PFAKE 03 35 20.0 +14
XMAS LR LR
comp=Z,3µm,20.0s
YKW3 Yellowknife Ar 134.66 1 *e*PKPdf **PKPdf 03 35 06.5 +1.0**
YKW3 *e*PP **PP 03 37 42.0 +3.8**
RKT Rikitea 134.69 151 *e*SS SS 03 55 26.3 -3.6
comp=Z,1µm,33.0s
RKT Rikitea 134.69 151 *e*LQ LQ 04 12 33.0
comp=Z,3µm,36.2s
RKT *e*LR LR 04 18 17.6
comp=Z,4µm,23.5s
YKA Yellowknife Ar 134.73 1 PKP **PKPdf 03 35 04.5 -1.2**
YKA PP **PP 03 37 38.8 +0.2**
YKA Yellowknife Ar 134.73 1 PKP **PKPdf 03 35 04.5 -1.2**
comp=Z,5.3nm,1.0s,baz=44,slow=1.9,SNR=3.3
YKA PP **PP 03 37 38.8 +0.2**
comp=Z,6.6nm,1.0s,baz=353,slow=6.6,SNR=6.1
SJG San Juan 135.14 279 PKPpre PKPpre 03 34 50.1
SJG PKP **PKiKP 03 35 09.0 -0.2**
SJG LR LR
comp=Z,4µm,21.0s
SJG San Juan 135.14 279 PKhKP PKPpre 03 34 50.1
comp=Z,13nm,0.9s,baz=15,slow=12,SNR=3.3
SJG PKP **PKiKP 03 35 09.0 -0.2**
comp=Z,2.3nm,0.3s,baz=359,slow=5.3,SNR=2.6
RPN Rapa Nui 135.79 185 PFAKE 03 35 20.0 +11
RPN LR LR
comp=Z,3µm,22.0s
LBNH Lisbon 136.02 317 PFAKE 03 35 20.0 +11
LBNH LR LR
comp=Z,4µm,20.0s
DLBC Dease Lake 136.99 13 PKPpre PKPpre 03 35 01.2
DLBC PKP **PKPdf 03 35 09.8 -0.3**
DLBC *e*PKPdf **PKiKP 03 35 10.0 -1.9**
DLBC Dease Lake 136.99 13 PKhKP PKPpre 03 35 01.2
comp=Z,2.8nm,0.9s,baz=55,slow=1.8,SNR=5.0
DLBC PKP **PKPdf 03 35 09.8 -0.3**
comp=Z,3.5nm,0.8s,baz=330,slow=13,SNR=5.7
LONY Lake Ozonia 137.57 319 PFAKE 03 35 20.0 +8.5
LONY LR LR
comp=Z,3µm,21.0s
NCB Newcomb 137.63 318 PFAKE 03 35 20.0 +8.3
NCB LR LR
comp=Z,4µm,22.0s
ATAH Atahualpa 137.87 238 PKPpre PKPpre 03 35 05.5
ATAH PKP **PKPdf 03 35 14.2 +0.7**
ATAH Atahualpa 137.87 238 PKhKP PKPpre 03 35 05.5
comp=Z,2.7nm,0.7s,baz=185,slow=7.3,SNR=2.0
ATAH PKP **PKPdf 03 35 14.2 +0.7**
comp=Z,3.3nm,0.6s,baz=157,slow=7.7,SNR=2.2
WRAK Wrangell Islan 138.27 16 PFAKE 03 35 20.0 +7.7
WRAK LR LR
comp=Z,2µm,20.0s
BINY Binghamton 139.58 316 *e*PKPdf **PKPdf 03 35 16.0 +0.7**
BINY LR LR
comp=Z,5µm,20.0s
ROSC El Rosal 139.92 257 PKP **PKPdf 03 35 14.3 -2.9**
ROSC *e*PKPdf **PKiKP 03 35 18.1 -1.5**
ROSC El Rosal 139.92 257 PKP **PKPdf 03 35 14.3 -2.9**
comp=Z,1.6nm,0.3s,baz=276,slow=9.2,SNR=3.0
GRTK Grand Turk 140.05 283 PFAKE 03 35 30.0 +13
GRTK LR LR
comp=Z,5µm,21.0s
SDDR Presa de Saban 140.07 279 *e*PKPdf **PKPdf 03 35 16.9 0.0**
SDDR LR LR
comp=Z,3µm,20.0s
SADO Sadowa 140.30 321 PKP **PKPdf 03 35 14.7 -1.7**
SADO Sadowa 140.30 321 PKP **PKPdf 03 35 14.7 -1.7**
comp=Z,7.6nm,0.8s,baz=351,slow=1.4,SNR=3.3
SDMD Soldier's Deli 141.37 312 *e*PKPdf **PKPdf 03 35 20.8 +2.2**
FFC Flin Flon 141.52 349 *e*PKIKP **PKPdf 03 35 18.2 -0.1**
FFC MLR MLR
comp=Z,2µm,20.0s
FFC Flin Flon 141.52 349 *e*PKPdf **PKPdf 03 35 18.2 -0.1**
FFC LR LR
comp=Z,2µm,20.0s
SSPA Standing Stone 141.56 315 *e*PKPdf **PKPdf 03 35 16.9 -1.9**
OTAV Otavalo 141.77 247 *e*PKPpre PKPpre 03 35 18.1
OTAV *e*PKPdf **PKiKP 03 35 23.0 -0.5**
OTAV LR LR
comp=Z,3µm,20.0s
ERPA Erie 142.23 318 *e*PKPdf **PKPdf 03 35 21.2 +1.1**
ERPA LR LR
comp=Z,6µm,22.0s
CBN Corbin 142.24 311 PFAKE 03 35 30.0 +10
CBN LR LR
comp=Z,4µm,22.0s
BBB Bella Bella 143.17 15 PKP **PKPdf 03 35 20.1 -1.2**
BBB Bella Bella 143.17 15 PKP **PKPdf 03 35 20.1 -1.2**
comp=Z,9.0nm,0.8s,baz=104,slow=4.2,SNR=2.5
MCWV Mont Chateau 143.34 315 PFAKE 03 35 30.0 +7.9
MCWV LR LR
comp=Z,4µm,20.0s
GTBY Guantanamo Bay 143.73 280 PFAKE 03 35 40.0 +17
GTBY LR LR
comp=Z,3µm,20.0s
CNNC Cliffs of the 143.74 307 *e*PKPdf **PKPdf 03 35 23.2 +0.4**
CNNC LR LR
comp=Z,4µm,20.0s

EDM	**Edmonton**	**144.04**	**0**	*e*PKIKP	PKPbc	03 35 20.7	-0.1		
EDM				*e*		03 38 40.6			
EDM	**Edmonton**	**144.04**	**0**	*e*PKPdf	PKPbc	03 35 20.7	-0.1		
EDM				*e*		03 38 40.6			
ULM	**Lac du Bonnet**	**144.15**	**341**	*e*PKPpre	PKPpre	03 35 19.9			
ULM				PKP	**PKPab**	**03 35 20.1**	**-0.7**		
ULM				*e*PKPdf	**PKPdf**	**03 35 24.7**	**+1.5**		
ULM				PP	**PP**	**03 38 40.0**	**+3.1**		
ULM	**Lac du Bonnet**	**144.15**	**341**	PKP	**PKPab**	**03 35 20.1**	**-0.7**		
	comp=Z,51nm,0.9s,baz=32,slow=3.7,SNR=18								
ULM				PP	**PP**	**03 38 40.0**	**+3.1**		
	comp=Z,13nm,1.0s,baz=18,slow=9.7,SNR=3.8								
EYMN	**Ely**	**144.49**	**335**	*e*PKPdf	**PKPab**	**03 35 22.0**	**-0.1**		
EYMN				LR	LR				
	comp=Z,4µm,20.0s								
BLA	**Blacksburg**	**144.85**	**311**	*e*PKIKP	PKPbc	03 35 24.0	+0.1		
BLA				MLR	MLR				
	comp=Z,4µm,22.0s								
BLA	**Blacksburg**	**144.85**	**311**	*e*PKPdf	PKPbc	03 35 24.0	0.0		
BLA				LR	LR				
	comp=Z,4µm,22.0s								
ACSO	**Alum Creek Sta**	**145.14**	**317**	*e*PKPdf	**PKPbc**	**03 35 24.2**	**-0.5**		
ACSO				LR	LR				
	comp=Z,3µm,20.0s								
GWJ	**Greenwich**	**145.16**	**277**	*i* P	**PKPdf**	**03 35 26.2**	**+0.2**		
HOJ	**Hope**	**145.17**	**277**	*i* P	**PKPdf**	**03 35 26.5**	**+0.7**		
STH	**Stony Hill**	**145.23**	**277**	*i* P	**PKPdf**	**03 35 26.5**	**+0.5**		
AGMN	**Agassiz Nation**	**145.84**	**339**	*e*PKPdf	**PKPdf**	**03 35 26.1**	**-0.1**		
AGMN				LR	LR				
	comp=Z,6µm,20.0s								
A30A	**Hoffart Farm,**	**146.05**	**342**	⇑PKPdf	**PKPdf**	**03 35 26.6**	**+0.1**		
	baz=146								
MCJ	**Malvern**	**146.05**	**277**	*i* P	**PKPab**	**03 35 29.8**	**+0.9**		
A29A	**Manning Farm,**	**146.33**	**343**	⇑PKPdf	**PKPdf**	**03 35 27.4**	**+0.5**		
	baz=146								
KMSC	**Kings Mountain**	**146.38**	**308**	*e*PKPbc	**PKPbc**	**03 35 29.0**	**+0.3**		
KMSC	**Kings Mountain**	**146.38**	**308**	⇓PKPdf	**PKPbc**	**03 35 28.3**	**-0.5**		
	baz=146								
BCIP	**Isla Barro Col**	**146.49**	**261**	*e*PKPbc	**PKPab**	**03 35 30.2**	**-0.4**		
BCIP				LR	LR				
	comp=Z,3µm,20.0s								
B30A	**Myrvik Farm, E**	**146.50**	**342**	⇓PKPdf	**PKPbc**	**03 35 28.1**	**-0.6**		
	baz=146								
A28A	**Rude Farm, Bot**	**146.62**	**344**	⇓PKPdf	**PKPbc**	**03 35 28.7**	**-0.4**		
	baz=146								
B29A	**Wagenman Farm,**	**146.78**	**343**	⇓PKPdf	**PKPbc**	**03 35 28.9**	**-0.6**		
	baz=147								
A27A	**Ledoux Ranch,**	**146.82**	**345**	⇓PKPdf	**PKPbc**	**03 35 29.5**	**-0.1**		
	baz=147								
B28A	**Dugan Ranch, T**	**147.07**	**344**	⇑PKPdf	**PKPbc**	**03 35 29.6**	**-0.6**		
	baz=147								
SPMN	**St. Paul**	**147.19**	**333**	*e*PKPdf	**PKPdf**	**03 35 28.7**	**+0.2**		
SPMN				*e*PKPbc	**PKPbc**	**03 35 30.7**	**0.0**		
SPMN	**St. Paul**	**147.19**	**333**	⇓PKPdf	**PKPbc**	**03 35 30.4**	**-0.3**		
	baz=147								
C30A	**Mose, Pekin**	**147.21**	**341**	⇑PKPdf	**PKPbc**	**03 35 29.9**	**-0.8**		
	baz=147								
A25A	**Svangstu Ranch**	**147.25**	**348**	⇓PKPdf	**PKPbc**	**03 35 29.9**	**-0.9**		
	baz=147								
B27A	**Peters Farms,**	**147.34**	**345**	⇑PKPdf	**PKPdf**	**03 35 29.7**	**+1.0**		
	baz=147								
TZTN	**Tazewell**	**147.39**	**312**	*e*PKPbc	**PKPbc**	**03 35 31.4**	**-0.2**		
MDND	**Maddock**	**147.41**	**343**	*e*PKPbc	**PKPbc**	**03 35 31.3**	**+0.1**		
MDND	**Maddock**	**147.41**	**343**	⇑PKPdf	**PKPdf**	**03 35 29.2**	**+0.4**		
	baz=147								
PGC	**Sidney**	**147.54**	**13**	*e*PKPbc	**PKPbc**	**03 35 31.3**	**-0.3**		
A23A	**Redstone**	**147.57**	**350**	⇑PKPdf	**PKPdf**	**03 35 29.7**	**+0.6**		
	baz=147								
B26A	**Jensen Ranch,**	**147.60**	**346**	⇑PKPdf	**PKPdf**	**03 35 29.8**	**+0.6**		
	baz=147								
SFIN	**Scholer Farm**	**147.63**	**321**	*e*PKPdf	**PKPdf**	**03 35 29.3**	**-0.1**		
SFIN				*e*PKPbc	**PKPbc**	**03 35 32.3**	**+0.2**		
SFIN	**Scholer Farm**	**147.63**	**321**	⇑PKPdf	**PKPdf**	**03 35 29.5**	**+0.2**		
	baz=148								
A22A	**Carney Farms,**	**147.71**	**351**	⇑PKPdf	**PKPdf**	**03 35 29.8**	**+0.5**		
	baz=148								
JFWS	**Jewell Farm**	**147.71**	**327**	*e*PKIKP	**PKPdf**	**03 35 29.1**	**-0.4**		
JFWS				*e*		03 35 31.9			
JFWS				*e*		03 35 36.0			
JFWS				MLR	MLR				
	comp=Z,7µm,22.0s								
JFWS	**Jewell Farm**	**147.71**	**327**	*e*PKPdf	**PKPdf**	**03 35 29.1**	**-0.4**		
JFWS				*e*PKPbc	**PKPbc**	**03 35 31.9**	**-0.3**		
JFWS				*e*PKPab	**PKPab**	**03 35 36.0**	**+1.4**		
JFWS				LR	LR				
	comp=Z,7µm,22.0s								
C28A	**Hausauer Farms**	**147.75**	**344**	⇑PKPdf	**PKPdf**	**03 35 29.8**	**+0.4**		
	baz=148								
D30A	**Buchanan**	**147.83**	**341**	⇑PKPdf	**PKPdf**	**03 35 29.4**	**-0.1**		
	baz=148								
A21A	**Bergtoll Ranch**	**147.85**	**352**	⇑PKPdf	**PKPdf**	**03 35 30.0**	**+0.5**		
	baz=148								
B25A	**Knox Farm, Ray**	**147.90**	**347**	⇑PKPdf	**PKPdf**	**03 35 30.4**	**+0.7**		
	baz=148								
DGMT	**Dagmar**	**147.92**	**349**	*e*PKPbc	**PKPbc**	**03 35 33.0**	**+0.3**		
DGMT				LR	LR				
	comp=Z,3µm,20.0s								
DGMT	**Dagmar**	**147.92**	**349**	⇓PKPdf	**PKPdf**	**03 35 30.3**	**+0.6**		
	baz=148								
TKL	**Tuckaleechee C**	**147.96**	**311**	*e*PKPbc	**PKPbc**	**03 35 33.4**	**+0.2**		
TKL				*e*PKPab	**PKPab**	**03 35 36.6**	**+0.8**		
TKL	**Tuckaleechee C**	**147.96**	**311**	PKPbc	**PKPdf**	**03 35 31.5**	**+1.4**		
	comp=Z,20nm,0.9s,baz=107,slow=4.2,SNR=10								
BLO	**Bloomington**	**148.00**	**319**	*e*PKP2	**PKPbc**	**03 35 34.2**	**+1.0**		
BLO	**Bloomington**	**148.00**	**319**	*e*PKPbc	**PKPbc**	**03 35 34.1**	**+1.0**		
BLO				*e*PKPab	**PKPab**	**03 35 36.1**	**+0.3**		
CMW	**Cultus Mountai**	**148.02**	**11**	P	**PKPbc**	**03 35 32.9**	**-0.2**		
C27A	**Sayler Ranch,**	**148.04**	**345**	⇓PKPdf	**PKPdf**	**03 35 30.5**	**+0.6**		
	baz=148								
B23A	**Brockton**	**148.07**	**350**	⇑PKPdf	**PKPdf**	**03 35 30.8**	**+0.8**		
	baz=148								
C26A	**Wahner Farm, P**	**148.08**	**346**	⇑PKPdf	**PKPdf**	**03 35 30.9**	**+1.0**		
	baz=148								
A20A	**Cobblestone Ra**	**148.08**	**353**	⇑PKPdf	**PKPdf**	**03 35 30.7**	**+0.7**		
	baz=148								
RPW	**Rockport**	**148.10**	**10**	P	**PKPbc**	**03 35 32.4**	**-0.8**		
A19A	**Klindworth Far**	**148.12**	**354**	⇑PKPdf	**PKPdf**	**03 35 30.2**	**+0.1**		
	baz=148								
D29A	**Pettibone, Tap**	**148.12**	**342**	⇓PKPdf	**PKPdf**	**03 35 30.3**	**+0.2**		
	baz=148								
WALA	**Waterton Lakes**	**148.20**	**1**	*e*PKPbc	**PKPbc**	**03 35 33.5**	**-0.1**		
WALA				*e*PKPab	**PKPab**	**03 35 36.8**	**+0.4**		
D28A	**Regan**	**148.28**	**343**	⇓PKPdf	**PKPdf**	**03 35 30.4**	**+0.1**		
	baz=148								
JCW	**Jim Creek**	**148.28**	**11**	P	**PKPbc**	**03 35 33.3**	**-0.3**		
WCI	**Wyandotte Cave**	**148.39**	**317**	*e*PKIKP	**PKPdf**	**03 35 30.7**	**-0.1**		
WCI				*e*		03 35 34.7			
WCI				*e*		03 35 38.5			
WCI	**Wyandotte Cave**	**148.39**	**317**	*e*PKPdf	**PKPdf**	**03 35 30.7**	**-0.1**		
WCI				*e*PKPbc	**PKPbc**	**03 35 34.7**	**+0.5**		
WCI				*e*PKPab	**PKPab**	**03 35 38.5**	**+1.1**		
B22A	**Reddig Ranch S**	**148.39**	**351**	⇓PKPdf	**PKPdf**	**03 35 30.9**	**+0.4**		
	baz=148								
B21A	**Ellsworth Farm**	**148.41**	**352**	⇑PKPdf	**PKPdf**	**03 35 30.8**	**+0.3**		
	baz=148								
E30A	**Jud**	**148.41**	**341**	⇑PKPdf	**PKPdf**	**03 35 30.7**	**+0.2**		
	baz=148								
C25A	**Freed Ranch, W**	**148.45**	**347**	⇓PKPdf	**PKPdf**	**03 35 30.8**	**+0.2**		
	baz=148								
B20A	**Solberg Farm,**	**148.53**	**353**	⇑PKPdf	**PKPdf**	**03 35 31.1**	**+0.4**		
	baz=148								
E29A	**Napoleon**	**148.58**	**342**	⇓PKPdf	**PKPdf**	**03 35 30.9**	**+0.1**		
	baz=148								
CPCT	**Cooper Cave**	**148.60**	**311**	*e*PKPdf	**PKPdf**	**03 35 31.6**	**+0.5**		
CPCT				*e*PKPbc	**PKPbc**	**03 35 34.6**	**-0.2**		
B19A	**Brinkman Farms**	**148.61**	**354**	⇓PKPdf	**PKPdf**	**03 35 31.1**	**+0.3**		
	baz=148								
D27A	**Center**	**148.61**	**344**	⇓PKPdf	**PKPdf**	**03 35 30.4**	**-0.4**		
	baz=148								
NLWA	**Neilton Lookou**	**148.64**	**14**	*e*PKPbc	**PKPbc**	**03 35 35.0**	**+0.4**		
NLWA				LR	LR				
	comp=Z,3µm,20.0s								
C23A	**Lambert**	**148.74**	**349**	⇑PKPdf	**PKPdf**	**03 35 30.7**	**-0.3**		
	baz=149								
NEW	**Newport**	**148.84**	**5**	PKP	**PKPdf**	**03 35 31.6**	**+0.3**		
NEW				*e*PKPdf	**PKPbc**	**03 35 31.9**	**-3.2**		
NEW				PKPbc	**PKPbc**	**03 35 35.2**	**+0.1**		
NEW				*e*PKPbc	**PKPab**	**03 35 37.5**	**-1.5**		
NEW				LR	LR				
	comp=Z,3µm,22.0s								
NEW	**Newport**	**148.84**	**5**	⇓PKPdf	**PKPdf**	**03 35 30.8**	**-0.5**		
	baz=149								
NEW	**Newport**	**148.84**	**5**	PKP	**PKPdf**	**03 35 31.6**	**+0.3**		
	comp=Z,4.9nm,0.7s,baz=90,slow=1.1,SNR=23								
NEW				PKPbc	**PKPbc**	**03 35 35.2**	**+0.1**		
	comp=Z,136nm,1.1s,baz=336,slow=3.3,SNR=30								
C24A	**Savage**	**148.86**	**348**	⇓PKPdf	**PKPdf**	**03 35 31.7**	**+0.4**		
	baz=149								
E28A	**Huff**	**148.88**	**343**	⇓PKPdf	**PKPdf**	**03 35 32.1**	**+0.8**		
	baz=149								
D26A	**Manning**	**148.91**	**346**	⇓PKPdf	**PKPdf**	**03 35 32.3**	**+0.9**		
	baz=149								
C22A	**Vida**	**148.91**	**350**	⇓PKPdf	**PKPdf**	**03 35 32.1**	**+0.8**		
	baz=149								
D25A	**Fairfield**	**149.00**	**347**	⇓PKPdf	**PKPdf**	**03 35 31.9**	**+0.4**		
	baz=149								
C21A	**Desert Coulee**	**149.01**	**352**	⇓PKPdf	**PKPdf**	**03 35 32.2**	**+0.7**		
	baz=149								
F30A	**Leola**	**149.04**	**340**	⇓PKPdf	**PKPdf**	**03 35 31.9**	**+0.3**		
	baz=149								
WTV	**Waterville**	**149.08**	**9**	P	**PKPbc**	**03 35 35.1**	**-0.7**		
EGMT	**Eagleton**	**149.10**	**355**	*e*PKPbc	**PKPbc**	**03 35 36.4**	**+0.6**		
EGMT				*e*		03 39 08.6			
EGMT				LR	LR				
	comp=Z,3µm,20.0s								
EGMT	**Eagleton**	**149.10**	**355**	⇓PKPdf	**PKPdf**	**03 35 31.8**	**+0.1**		
	baz=149								
ETW	**Entiat**	**149.12**	**9**	P	**PKPbc**	**03 35 33.9**	**-2.1**		
SAW	**Saint Andrews**	**149.16**	**8**	P	**PKPdf**	**03 35 33.7**	**+2.0**		
C20A	**Veseth Ranch,**	**149.24**	**353**	⇑PKPdf	**PKPdf**	**03 35 32.0**	**+0.2**		
	baz=149								
D24A	**Glendive**	**149.24**	**348**	⇓PKPdf	**PKPdf**	**03 35 31.9**	**0.0**		
	baz=149								
BLMT	**Blacktail Moun**	**149.24**	**1**	*e*PKPbc	**PKPbc**	**03 35 36.2**	**-0.1**		
BLMT				*e*PKPab	**PKPab**	**03 35 40.2**	**-0.5**		
OLIL	**Olney**	**149.25**	**319**	*e*PKPbc	**PKPbc**	**03 35 36.8**	**+0.5**		
OLIL				*e*PKPab	**PKPab**	**03 35 41.4**	**+0.6**		
E27A	**Carson**	**149.25**	**344**	⇓PKPdf	**PKPdf**	**03 35 31.7**	**-0.2**		
	baz=149								
F29A	**Eureka**	**149.30**	**341**	⇑PKPdf	**PKPdf**	**03 35 31.8**	**-0.2**		
	baz=149								
C19A	**Slack Wire Ran**	**149.33**	**354**	⇑PKPdf	**PKPdf**	**03 35 31.9**	**-0.1**		
	baz=149								
D23A	**Lindsay**	**149.35**	**349**	⇑PKPdf	**PKPdf**	**03 35 31.8**	**-0.2**		
	baz=149								
BSMT	**Bassoo Peak**	**149.39**	**2**	*e*PKPbc	**PKPbc**	**03 35 36.3**	**-0.4**		
YBMT	**Yellow Bay**	**149.40**	**1**	*e*PKPbc	**PKPbc**	**03 35 36.8**	**+0.2**		
USIN	**University of**	**149.43**	**318**	*e*PKPbc	**PKPbc**	**03 35 36.8**	**0.0**		
USIN				*e*PKPab	**PKPab**	**03 35 41.1**	**-0.4**		
E26A	**Carlson Angus**	**149.44**	**345**	⇓PKPdf	**PKPdf**	**03 35 32.5**	**+0.2**		
	baz=149								
JTMT	**Jette**	**149.51**	**1**	*e*PKPbc	**PKPbc**	**03 35 36.4**	**-0.5**		
TIGA	**Tifton**	**149.54**	**303**	*e*PKPbc	**PKPbc**	**03 35 38.0**	**+0.7**		
TIGA	**Tifton**	**149.54**	**303**	⇓PKPdf	**PKPdf**	**03 35 32.3**	**-0.4**		
	baz=150								
D22A	**Cohagen**	**149.54**	**350**	⇓PKPdf	**PKPdf**	**03 35 32.0**	**-0.4**		
	baz=149								
F28A	**McLaughlin**	**149.57**	**343**	⇓PKPdf	**PKPdf**	**03 35 32.3**	**-0.1**		
	baz=149								
E25A	**Miller Ranch,**	**149.63**	**346**	⇓PKPdf	**PKPdf**	**03 35 32.5**	**0.0**		
	baz=150								
LON	**Longmire**	**149.69**	**12**	*e*PKP2	**PKPbc**	**03 35 37.2**	**-0.1**		
LON	**Longmire**	**149.69**	**12**	*e*PKPbc	**PKPbc**	**03 35 37.2**	**-0.1**		
LON				*e*PKPab	**PKPab**	**03 35 41.7**	**-0.7**		
G30A	**Faulkton**	**149.71**	**340**	⇓PKPdf	**PKPdf**	**03 35 32.6**	**-0.1**		
	baz=150								
SWET	**Sewanee**	**149.72**	**312**	*e*PKPbc	**PKPbc**	**03 35 37.8**	**+0.1**		
D21A	**La Casta Ranch**	**149.75**	**351**	⇓PKPdf	**PKPdf**	**03 35 32.6**	**-0.1**		
	baz=150								
SWMT	**Swartz Lake**	**149.75**	**1**	*e*PKPbc	**PKPbc**	**03 35 37.2**	**-0.3**		
E24A	**Baker**	**149.77**	**348**	⇑PKPdf	**PKPdf**	**03 35 32.6**	**-0.1**		
	baz=150								
WPW	**White Pass**	**149.79**	**11**	P	**PKPbc**	**03 35 37.8**	**+0.2**		
D20A	**Manuel Ranch,**	**149.87**	**353**	⇑PKPdf	**PKPdf**	**03 35 32.9**	**0.0**		
	baz=150								
D19A	**Cripps Ranch,**	**149.88**	**354**	⇑PKPdf	**PKPdf**	**03 35 32.9**	**0.0**		
	baz=150								
F27A	**Lemmon**	**149.88**	**344**	⇑PKPdf	**PKPdf**	**03 35 32.6**	**-0.4**		
	baz=150								
G29A	**Hoven**	**149.90**	**341**	⇓PKPdf	**PKPdf**	**03 35 32.6**	**-0.4**		
	baz=150								
SCIA	**State Center**	**149.94**	**329**	*e*PKPbc	**PKPbc**	**03 35 37.7**	**-0.2**		
SCIA				*e*PKPab	**PKPab**	**03 35 42.6**	**-0.9**		
SCIA				LR	LR				
	comp=Z,4µm,20.0s								
ECSD	**EROS Data Cent**	**149.99**	**335**	*e*PKPbc	**PKPbc**	**03 35 37.4**	**-0.7**		
ECSD				*e*PKPab	**PKPab**	**03 35 41.8**	**-1.9**		
ECSD				LR	LR				
	comp=Z,5µm,20.0s								
LAO	**LASA Array**	**150.00**	**350**	*e*PKPbc	**PKPbc**	**03 35 38.1**	**0.0**		
LAO				*e*PKPab	**PKPab**	**03 35 43.6**	**-0.1**		
LAO				LR	LR				
	comp=Z,3µm,20.0s								
E23A	**Ismay**	**150.02**	**349**	⇑PKPdf	**PKPdf**	**03 35 32.9**	**-0.3**		
	baz=150								
SLMT	**Seeley Lake**	**150.02**	**0**	*e*PKPbc	**PKPbc**	**03 35 38.5**	**+0.3**		
SLMT				*e*PKPab	**PKPab**	**03 35 42.5**	**-1.4**		
F25A	**Bowman**	**150.19**	**346**	⇑PKPdf	**PKPdf**	**03 35 33.3**	**-0.2**		
	baz=150								
E22A	**Miles City**	**150.19**	**350**	⇑PKPdf	**PKPdf**	**03 35 33.4**	**0.0**		
	baz=150								
BRSD	**Miller**	**150.25**	**339**	*e*PKPdf	**PKPdf**	**03 35 33.7**	**+0.2**		
BRSD				*e*PKPbc	**PKPbc**	**03 35 38.5**	**-0.1**		
BRSD				*e*PKPab	**PKPab**	**03 35 43.5**	**-1.3**		
BRSD	**Miller**	**150.25**	**339**	⇓PKPdf	**PKPdf**	**03 35 33.4**	**-0.1**		
	baz=150								
E21A	**Keefer Ranch,**	**150.27**	**351**	⇓PKPdf	**PKPdf**	**03 35 33.8**	**+0.2**		
	baz=150								
G28A	**Parade**	**150.31**	**342**	⇑PKPdf	**PKPdf**	**03 35 33.7**	**+0.1**		
	baz=150								
G27A	**Dupree**	**150.32**	**344**	⇑PKPdf	**PKPdf**	**03 35 33.9**	**+0.2**		
	baz=150								
CHMT	**Chamberlain Mo**	**150.35**	**360**	*e*PKPbc	**PKPbc**	**03 35 39.5**	**+0.4**		
HAWA	**Hanford**	**150.42**	**9**	*e*PKPbc	**PKPbc**	**03 35 40.1**	**+1.1**		
HAWA				LR	LR				
	comp=Z,3µm,20.0s								
MSO	**Missoula**	**150.43**	**1**	⇓PKPdf	**PKPdf**	**03 35 34.4**	**+0.5**		
	baz=150								
E20A	**Meyer Farm, Mu**	**150.45**	**353**	⇑PKPdf	**PKPdf**	**03 35 34.4**	**+0.6**		
	baz=150								
F24A	**Ekalaka**	**150.48**	**347**	⇓PKPdf	**PKPdf**	**03 35 34.5**	**+0.5**		
	baz=150								
H29A	**Onida**	**150.50**	**341**	⇓PKPdf	**PKPdf**	**03 35 34.3**	**+0.4**		
	baz=150								
SIUC	**Southern Illin**	**150.56**	**319**	*e*PKPbc	**PKPbc**	**03 35 39.7**	**+0.1**		
SIUC				*e*PKPab	**PKPab**	**03 35 44.5**	**-1.7**		
E19A	**Rath Farm, Rou**	**150.56**	**354**	⇓PKPdf	**PKPdf**	**03 35 34.4**	**+0.3**		
	baz=150								
WVT	**Waverly**	**150.57**	**315**	*e*PKIKP	**PKPbc**	**03 35 38.5**	**-1.2**		
WVT	**Waverly**	**150.57**	**315**	*e*PKPbc	**PKPbc**	**03 35 38.5**	**-1.2**		
G26A	**Maurine**	**150.57**	**345**	⇓PKPdf	**PKPdf**	**03 35 34.0**	**-0.1**		
	baz=150								
SLM	**Saint Louis**	**150.61**	**321**	PKIKP	**PKPdf**	**03 35 34.9**	**+0.7**		
SLM	**Saint Louis**	**150.61**	**321**	PKPdf	**PKPdf**	**03 35 34.9**	**+0.7**		
H28A	**Mission Ridge**	**150.71**	**342**	⇑PKPdf	**PKPdf**	**03 35 34.4**	**+0.1**		
	baz=151								
F23A	**Volborg**	**150.79**	**349**	⇑PKPdf	**PKPdf**	**03 35 34.5**	**+0.1**		
	baz=151								
G25A	**Newell**	**150.87**	**346**	⇑PKPdf	**PKPdf**	**03 35 34.8**	**+0.3**		
	baz=151								
I30A	**Oacoma**	**150.88**	**339**	⇓PKPdf	**PKPdf**	**03 35 34.9**	**+0.3**		
	baz=151								
G24A	**Alzada**	**150.97**	**347**	⇓PKPdf	**PKPdf**	**03 35 34.9**	**+0.1**		
	baz=151								
F21A	**Absaloka Mine,**	**150.98**	**351**	⇓PKPdf	**PKPdf**	**03 35 34.8**	**0.0**		
	baz=151								
H27A	**Howes**	**151.04**	**343**	⇑PKPdf	**PKPdf**	**03 35 34.8**	**-0.1**		
	baz=151								
I29A	**Vivian Onida**	**151.07**	**340**	⇓PKPdf	**PKPdf**	**03 35 34.6**	**-0.3**		
	baz=151								
F20A	**Billings**	**151.14**	**353**	⇑PKPdf	**PKPdf**	**03 35 34.6**	**-0.4**		
	baz=151								
F19A	**Roth Farm, Mol**	**151.18**	**354**	⇑PKPdf	**PKPdf**	**03 35 35.2**	**+0.1**		
	baz=151								
PAYG	**Puerto Ayora**	**151.19**	**234**	PFAKE		03 35 50.0	+0.4		
PAYG				LR	LR				
	comp=Z,2µm,20.0s								
H26A	**Fairpoint**	**151.25**	**344**	⇑PKPdf	**PKPdf**	**03 35 35.3**	**+0.2**		
	baz=151								
G23A	**Biddle**	**151.29**	**348**	⇓PKPdf	**PKPdf**	**03 35 35.2**	**0.0**		
	baz=151								
I28A	**Midland**	**151.36**	**342**	⇓PKPdf	**PKPdf**	**03 35 35.5**	**+0.2**		
	baz=151								
COR	**Corvallis**	**151.41**	**15**	PKIKP	**PKPdf**	**03 35 34.8**	**-0.5**		
COR	**Corvallis**	**151.41**	**15**	PKPdf	**PKPdf**	**03 35 34.8**	**-0.5**		
J30A	**Dallas**	**151.42**	**339**	⇑PKPdf	**PKPdf**	**03 35 35.6**	**+0.2**		
	baz=151								
G22A	**Birney**	**151.44**	**350**	⇓PKPdf	**PKPdf**	**03 35 35.5**	**0.0**		
	baz=151								
LRM	**Limekiln Ridge**	**151.44**	**359**	*e*PKPdf	**PKPdf**	**03 35 36.6**	**+0.9**		
H25A	**Fruitdale**	**151.45**	**345**	⇑PKPdf	**PKPdf**	**03 35 35.6**	**+0.1**		
	baz=151								
GLAT	**Glass**	**151.46**	**316**	*e*PKPdf	**PKPdf**	**03 35 37.1**	**+1.5**		
GLAT				*e*PKPab	**PKPab**	**03 35 50.8**	**+0.8**		
LRAL	**Lakeview Retre**	**151.53**	**309**	*e*PKPdf	**PKPdf**	**03 35 36.1**	**+0.3**		
LRAL				*e*PKPbc	**PKiKP**	**03 35 42.6**	**+0.1**		
LRAL				LR	LR				
	comp=Z,4µm,22.0s								
PARMO	**Parma**	**151.53**	**318**	PKPdf	**PKPdf**	**03 35 35.9**	**+0.2**		
H24A	**Dirks Ranch, A**	**151.55**	**347**	⇓PKPdf	**PKPdf**	**03 35 35.6**	**0.0**		
	baz=151								
I27A	**Quinn**	**151.56**	**343**	⇑PKPdf	**PKPdf**	**03 35 35.9**	**+0.3**		
	baz=151								
G21A	**Lodge Grass**	**151.58**	**351**	⇓PKPdf	**PKPdf**	**03 35 35.8**	**+0.1**		
	baz=151								
J29A	**Okreek**	**151.63**	**340**	⇑PKPdf	**PKPdf**	**03 35 35.7**	**-0.1**		
	baz=152								
JTS	**JuntasAbangare**	**151.63**	**260**	PKPbc	**PKPbc**	**03 35 43.6**	**+0.8**		
JTS				LR	LR				
	comp=Z,5µm,22.0s								
JTS	**JuntasAbangare**	**151.63**	**260**	PKPbc	**PKPbc**	**03 35 43.6**	**+0.8**		
	baz=308,slow=11								
HALT	**Halls**	**151.71**	**316**	*e*PKPdf	**PKPdf**	**03 35 36.8**	**+0.8**		
HALT				*e*PKPab	**PKPab**	**03 35 52.1**	**+1.0**		
G20A	**Bridger**	**151.72**	**352**	⇓PKPdf	**PKPdf**	**03 35 36.1**	**+0.2**		
	baz=152								
I26A	**New Underwood**	**151.81**	**344**	⇑PKPdf	**PKPdf**	**03 35 36.2**	**+0.1**		
	baz=152								
DLMT	**Dillon**	**151.90**	**359**	*e*PKPdf	**PKPdf**	**03 35 37.3**	**+1.0**		
H23A	**Clabaugh Cattl**	**151.90**	**348**	⇑PKPdf	**PKPdf**	**03 35 36.3**	**+0.1**		
	baz=152								
J28A	**Allard Ranch,**	**151.91**	**341**	⇓PKPdf	**PKPdf**	**03 35 36.8**	**+0.6**		
	baz=152								
RLMT	**Red Lodge**	**151.94**	**354**	*e*PKPdf	**PKPdf**	**03 35 38.7**	**+2.3**		
RLMT				LR	LR				
	comp=Z,3µm,21.0s								
RSSD	**Black Hills**	**152.03**	**346**	*e*PKIKP	**PKPdf**	**03 35 38.0**	**+1.5**		
RSSD				*e*		03 35 43.1			
RSSD	**Black Hills**	**152.03**	**346**	*e*PKPdf	**PKPdf**	**03 35 38.0**	**+1.5**		
RSSD				*e*PKPbc	**

baz=154
MFID Camas Ranch 153.76 4 ⇑PKPdf PKPdf 03 35 39.4 +0.4
baz=154
M28A Bar X Bar Ranc 153.77 339 ⇑PKPdf PKPdf 03 35 39.5 +0.5
baz=154
N30A Hueftle Ranch, 153.85 337 ⇑PKPdf PKPdf 03 35 39.7 +0.6
baz=154
L25A Engebretsen Ra 153.85 344 ⇑PKPdf PKPdf 03 35 39.4 +0.2
baz=154
RRI2 Red Ridge 153.86 357 PKPdf PKPdf 03 35 39.4 0.0
K22A Casper 153.96 349 ⇓PKPdf PKPdf 03 35 39.5 +0.2
baz=154
M27A Reverse DX Ran 153.98 341 ⇓PKPdf PKPdf 03 35 39.3 0.0
baz=154
P33A Williams Farm, 153.99 332 ⇓PKPdf PKPdf 03 35 39.0 -0.3
baz=154
N29A Votaw Ranch, W 154.02 338 ⇓PKPdf PKPdf 03 35 39.2 -0.2
baz=154
KRMB Red Mountain 154.09 18 ePKPbc PKPbc 03 35 44.8 -2.8
O31A Woolen Ranch, 154.10 335 ⇑PKPdf PKPdf 03 35 39.7 +0.2
baz=154
K21A Alcova 154.11 350 ⇓PKPdf PKPdf 03 35 40.1 +0.5
baz=154
L24A Wheatland 154.20 346 ⇓PKPdf PKPdf 03 35 39.8 +0.1
baz=154
YBH Yreka Blue Hor 154.24 16 PKP PKPdf 03 35 40.6 +0.9
YBH PKPbc PKiKP 03 35 48.2 +0.3
YBH PKPab PKPab 03 36 01.8 +0.2
YBH PP PP 03 39 35.9 +0.4
YBH Yreka Blue Hor 154.24 16 PKP PKPdf 03 35 40.6 +0.9
comp=Z,4.8nm,1.2s,baz=75,slow=5.8,SNR=5.6
YBH PKPbc PKiKP 03 35 48.2 +0.3
comp=Z,15nm,1.0s,baz=109,slow=2.2,SNR=10
YBH PKPab PKPab 03 36 01.8 +0.2
comp=Z,29nm,1.0s,baz=297,slow=6.8,SNR=13
YBH PP PP 03 39 35.9 +0.4
comp=Z,2.4nm,1.1s,baz=263,slow=8.1,SNR=3.4
P32A Huiting Farm, 154.24 333 ⇑PKPdf PKPdf 03 35 40.1 +0.5
baz=154
M26A McRoberts Ranc 154.27 342 ⇑PKPdf PKPdf 03 35 39.4 -0.4
baz=154
BW06 Boulder Array 154.30 354 PKPdf PKPdf 03 35 39.7 -0.2
BW06 LR LR
comp=Z,6µm,20.0s
PDAR Pinedale Array 154.30 354 PKP PKPdf 03 35 39.5 -0.4
PDAR PKPbc PKPbc 03 35 47.3 -0.8
PDAR PP PP 03 39 37.2 +1.3
PDAR Pinedale Array 154.30 354 PKP PKPdf 03 35 39.5 -0.4
comp=Z,3.8nm,1.0s,baz=103,slow=3.2,SNR=15
PDAR PKPbc PKPbc 03 35 47.3 -0.8
comp=Z,12nm,1.1s,baz=48,slow=1.3,SNR=18
PDAR PP PP 03 39 37.2 +1.3
comp=Z,7.8nm,1.2s,baz=33,slow=5.4,SNR=5.0
L23A Garrett 154.31 347 ⇑PKPdf PKPdf 03 35 39.8 -0.1
baz=154
O30A MW Ranch, Wils 154.37 336 ⇑PKPdf PKPdf 03 35 40.9 +1.1
baz=154
OGNE Ogallala 154.40 340 ePKPdf PKPdf 03 35 40.6 +0.7
OGNE ePKPbc PKiKP 03 35 50.1 +1.8
OGNE ePP PP 03 39 31.1 -5.4
OGNE LR LR
comp=Z,4µm,21.0s
OGNE Ogallala 154.40 340 ⇓PKPdf PKPdf 03 35 40.3 +0.4
baz=154
WVOR Wild Horse Val 154.42 9 PKIKP PKPdf 03 35 40.5 +0.6
WVOR e 03 39 33.0
WVOR MLR MLR
comp=Z,4µm,20.0s
WVOR Wild Horse Val 154.42 9 PKPdf PKPdf 03 35 40.5 +0.6
WVOR e 03 39 33.0
WVOR LR LR
comp=Z,4µm,20.0s
AHID Auburn Hatcher 154.43 356 ePKPdf PKPdf 03 35 40.0 -0.1
AHID ePP PP 03 39 41.0 +4.4
AHID LR LR
comp=Z,5µm,20.0s
N28A Pribbeno Ranch 154.46 339 ⇑PKPdf PKPdf 03 35 40.0 0.0
baz=154
VBMS Vicksburg 154.52 310 ePKPdf PKPdf 03 35 41.7 +1.5
VBMS ePKPbc PKiKP 03 35 49.6 +1.0
VBMS LR LR
comp=Z,3µm,22.0s
L22A Ellis Ranch, M 154.54 348 ⇓PKPdf PKPdf 03 35 40.6 +0.4
baz=154
M25A Palm-Egli Farm 154.55 344 ⇓PKPdf PKPdf 03 35 40.9 +0.7
baz=154
MOD Modoc 154.64 12 PKPdf PKPdf 03 35 40.4 +0.1
P31A Stockton 154.65 334 ⇓PKPdf PKPdf 03 35 40.8 +0.6
baz=154
N27A Anderson Farm, 154.69 341 ⇓PKPdf PKPdf 03 35 40.8 +0.5
baz=154
O29A 4D Ranch, Culb 154.69 337 ⇑PKPdf PKPdf 03 35 41.2 +0.9
baz=155
M24A Cheyenne 154.72 345 ⇑PKPdf PKPdf 03 35 41.2 +0.8
baz=155
KHMM Horse Mountain 154.74 19 ePKPdf PKPdf 03 35 42.1 +1.6
TGUH Tegucigalpa,Un 154.74 267 ePKPdf PKPdf 03 35 43.2 +2.3
TGUH LR LR
comp=Z,3µm,20.0s
N26A Koester Ranch, 154.88 342 ⇓PKPdf PKPdf 03 35 41.5 +0.8
baz=155
L20A Wamsutter 154.89 351 ⇓PKPdf PKPdf 03 35 41.5 +0.7
baz=155
P30A Selden 154.99 336 ⇓PKPdf PKPdf 03 35 41.4 +0.7
baz=155
RWWY Rawlins 155.02 349 ePKPdf PKPdf 03 35 39.7 -1.3
RWWY ePKPbc PKPab 03 35 50.6 -15
RWWY ePP PP 03 39 39.0 -1.1
PHWY Pilot Hill 155.03 346 ePKPdf PKPdf 03 35 41.4 +0.3
O28A Krutsinger Ran 155.04 339 ⇓PKPdf PKPdf 03 35 41.5 +0.6
baz=155
Q31A Ellis 155.09 334 ⇑PKPdf PKPdf 03 35 41.7 +0.8
baz=155
N25A Grover 155.14 343 ⇓PKPdf PKPdf 03 35 41.6 +0.5
baz=155
M22A Cedar Creek Ra 155.18 348 ⇑PKPdf PKPdf 03 35 41.4 +0.2
baz=155
L18A Fontenelle, Gr 155.18 354 ⇑PKPdf PKPdf 03 35 41.5 +0.4
baz=155
P29A Atwood 155.20 337 ⇑PKPdf PKPdf 03 35 41.7 +0.6
baz=155
O27A Beecher Island 155.22 340 ⇑PKPdf PKPdf 03 35 41.5 +0.4
baz=155
MIAR Mount Ida 155.29 318 PKIKP PKPdf 03 35 41.1 -0.1
MIAR MLR MLR
comp=Z,3µm,20.0s
MIAR Mount Ida 155.29 318 PKPdf PKPdf 03 35 41.1 -0.1
MIAR LR LR
comp=Z,3µm,20.0s
N24A Carr 155.34 345 ⇓PKPdf PKPdf 03 35 41.8 +0.5
baz=155
WDC Whiskeytown Da 155.36 17 ePKIKP PKPdf 03 35 43.0 +1.9
WDC e 03 39 40.9
WDC Whiskeytown Da 155.36 17 ePKPdf PKPdf 03 35 43.0 +1.9
WDC ePP PP 03 39 40.9 -0.8
M20A Sweetwater, Wa 155.38 351 ⇓PKPdf PKPdf 03 35 41.8 +0.3
baz=155
O26A Horse Wrangler 155.44 341 ⇑PKPdf PKPdf 03 35 41.6 +0.2
baz=155
Q30A Quinter 155.46 335 ⇓PKPdf PKPdf 03 35 41.8 +0.4
baz=155
HVU Hansel Valley 155.48 359 PKIKP PKPdf 03 35 41.8 +0.4
HVU Hansel Valley 155.48 359 PKPdf PKPdf 03 35 41.8 +0.4
M19A Rock Springs 155.50 352 ⇓PKPdf PKPdf 03 35 41.5 0.0
baz=155
N23A Red Feather La 155.53 346 ⇓PKPdf PKPdf 03 35 42.2 +0.5
baz=155
M17A Scullys Gap (B 155.69 355 ⇑PKPdf PKPdf 03 35 42.2 +0.3
baz=156
TUL1 Tulsa 155.71 324 ePKPdf PKPdf 03 35 41.9 +0.2
TUL1 Tulsa 155.71 324 ⇓PKPdf PKPdf 03 35 42.3 +0.6
baz=156
N22A Wattenberg Ran 155.73 347 ⇓PKPdf PKPdf 03 35 42.4 +0.4
baz=156
R31A Burdett 155.75 333 ⇓PKPdf PKPdf 03 35 42.4 +0.7
baz=156
KIPM Iron Peak 155.78 19 ePKPdf PKPdf 03 35 43.0 +1.1
KIPM ePKPab PKPab 03 36 09.5 +1.2
O25A Wiggins 155.80 343 ⇓PKPdf PKPdf 03 35 42.8 +0.9
baz=156
P27A Ficken Ranch, 155.83 339 ⇑PKPdf PKPdf 03 35 41.2 -0.8
baz=156
Q29A Oakley 155.84 336 ⇓PKPdf PKPdf 03 35 42.2 +0.3
baz=156
SPUT South Promonto 155.94 358 ePKPdf PKPdf 03 35 42.3 +0.2
SPUT ePKPab PKPab 03 36 11.1 +2.2
SPUT ePP PP 03 39 45.5 +0.5
Q28A Sharon Springs 156.01 338 ⇑PKPdf PKPdf 03 35 42.5 +0.3
baz=156
N20A Spence Gulch, 156.03 351 ⇑PKPdf PKPdf 03 35 42.6 +0.3
baz=156
O24A Longmont 156.05 344 ⇓PKPdf PKPdf 03 35 42.6 +0.3
baz=156
R30A Dighton 156.07 334 ⇑PKPdf PKPdf 03 35 42.7 +0.5
baz=156
P26A Davis Ranch, A 156.07 341 ⇑PKPdf PKPdf 03 35 42.6 +0.3
baz=156
TEIG Tepich 156.10 281 ePKPdf PKPdf 03 35 43.1 +0.4
TEIG LR LR
comp=Z,4µm,20.0s
O23A Lake Granby, G 156.17 346 ⇑PKPdf PKPdf 03 35 43.0 +0.3
baz=156
S31A Mullinville 156.28 332 ⇓PKPdf PKPdf 03 35 43.1 +0.6
baz=156
R29A Marienthal 156.30 336 ⇓PKPdf PKPdf 03 35 42.9 +0.4
baz=156
KSCO Kaye Shedlock' 156.33 339 ePKPdf PKPdf 03 35 42.7 +0.1
KSCO ePP PP 03 39 48.0 +0.6
KSCO Kaye Shedlock' 156.33 339 ⇑PKPdf PKPdf 03 35 42.8 +0.1
baz=156
BGU Big Grassy Mou 156.34 359 ePKPdf PKPdf 03 35 43.3 +0.7
BGU ePP PP 03 39 51.8 +4.6
O22A Kremmling 156.36 347 ⇑PKPdf PKPdf 03 35 43.3 +0.5
baz=156
P25A Willow Gulch B 156.37 342 ⇓PKPdf PKPdf 03 35 43.5 +0.7
baz=156
ELK Elko 156.46 4 ePKPdf PKPdf 03 35 43.9 +1.0
ELK ePKPab PKPab 03 36 13.2 +2.0
ELK ePP PP 03 39 44.5 -3.5
ISCO Idaho Springs 156.49 345 ePKIKP PKPdf 03 35 42.7 -0.4
ISCO e 03 39 54.7
ISCO MLR MLR
comp=Z,4µm,20.0s
ISCO Idaho Springs 156.49 345 ePKPdf PKPdf 03 35 42.7 -0.4
ISCO ePP PP 03 39 54.7 +6.3
ISCO LR LR
comp=Z,4µm,20.0s
ISCO Idaho Springs 156.49 345 ⇑PKPdf PKPdf 03 35 43.4 +0.3
baz=156
O21A Pagoda 156.50 349 ⇓PKPdf PKPdf 03 35 43.3 +0.3
baz=156
P24A Kohler Place, 156.58 343 ⇑PKPdf PKPdf 03 35 43.5 +0.5
baz=156
BEKR Beckworth 156.58 14 ePKPdf PKPdf 03 35 44.1 +1.1
BEKR ePKPab PKPab 03 36 13.5 +1.7
BMN Battle Mountai 156.59 8 ePKIKP PKPdf 03 35 43.5 +0.5
BMN MLR MLR
comp=Z,3µm,22.0s
BMN Battle Mountai 156.59 8 ePKPdf PKPdf 03 35 43.5 +0.5
BMN ePKPab PKPab 03 36 12.6 +0.8
BMN LR LR
comp=Z,3µm,22.0s
JLU Jordanelle 156.61 356 ePKPdf PKPdf 03 35 44.7 +1.6
JLU ePKPab PKPab 03 36 15.4 +3.5
JLU ePP PP 03 39 50.8 +2.0
R28A Tribune 156.63 337 ⇑PKPdf PKPdf 03 35 44.0 +1.0
baz=156
HOPS Hopland 156.66 19 ePKPdf PKPdf 03 35 40.7 -2.2
HOPS ePKPab PKPab 03 36 12.6 +0.7
O19A Miners Draw (B 156.68 352 ⇓PKPdf PKPdf 03 35 44.0 +0.9
baz=156
S30A Montezuma 156.69 333 ⇓PKPdf PKPdf 03 35 43.9 +0.9
baz=157
O20A White River Ci 156.71 350 ePKPdf PKPdf 03 35 43.0 -0.1
O20A ePKPab PKPab 03 36 15.8 +3.5
O20A White River Ci 156.71 350 ⇓PKPdf PKPdf 03 35 43.9 +0.7
baz=156
Q26A Hugo 156.71 340 ⇓PKPdf PKPdf 03 35 44.1 +0.9
baz=157
DAU Daniels Canyon 156.78 356 ePKIKP PKPdf 03 35 44.5 +1.1
DAU e 03 39 55.0
DAU Daniels Canyon 156.78 356 ePKPdf PKPdf 03 35 44.5 +1.1
DAU ePKPab PKPab 03 36 17.5 +4.7
DAU ePP PP 03 39 55.0 +5.1
T31A Randall Ranch, 156.80 331 ⇓PKPdf PKPdf 03 35 43.9 +0.8
baz=157
PAHR Pah Rah Range 156.94 12 ePKPdf PKPdf 03 35 44.1 +0.7
PAHR ePKPab PKPab 03 36 14.3 +1.1
Q25A Bedland, Calha 156.94 342 ⇑PKPdf PKPdf 03 35 43.9 +0.3
baz=157
P23A Jefferson 156.95 345 ⇓PKPdf PKPdf 03 35 44.4 +0.6
baz=157
P22A Eagle 156.95 347 ⇓PKPdf PKPdf 03 35 44.0 +0.4
baz=157
S29A Ulysses 156.98 335 ⇓PKPdf PKPdf 03 35 44.4 +1.0
baz=157
R27A Eads 157.04 338 ⇓PKPdf PKPdf 03 35 44.4 +0.8
baz=157
DUG Dugway 157.06 359 ePKIKP PKPdf 03 35 43.4 -0.2
DUG e 03 39 49.2
DUG MLR MLR
comp=Z,3µm,21.0s
DUG Dugway 157.06 359 ePKPdf PKPdf 03 35 43.4 -0.2
DUG ePP PP 03 39 49.2 -2.0
DUG LR LR
comp=Z,3µm,21.0s
DUG Dugway 157.06 359 ⇑PKPdf PKPdf 03 35 44.5 +0.9
baz=157
Q24A Divide 157.16 343 ⇑PKPdf PKPdf 03 35 44.0 +0.1
baz=157
P21A Newcastle 157.16 348 ⇓PKPdf PKPdf 03 35 44.4 +0.6
baz=157
MPU Maple Canyon 157.20 357 ePKPdf PKPdf 03 35 43.8 0.0
MPU ePP PP 03 39 50.1 -1.9
T30A Plains 157.21 333 ⇓PKPdf PKPdf 03 35 44.4 +0.6
baz=157
R26A Arlington 157.25 340 ⇓PKPdf PKPdf 03 35 44.3 +0.4
baz=157
NLU North Lily Min 157.28 358 ePKPdf PKPdf 03 35 44.5 +0.6
NLU ePP PP 03 39 54.6 +2.1
P19A Cripple Cowboy 157.31 351 ⇓PKPdf PKPdf 03 35 44.4 +0.4
baz=157
S28A Manter 157.32 336 ⇑PKPdf PKPdf 03 35 44.2 +0.3
baz=157
P20A De Beque 157.35 350 ⇓PKPdf PKPdf 03 35 44.4 +0.4
baz=157
Q23A Hartsel 157.39 345 ⇑PKPdf PKPdf 03 35 44.1 -0.2
baz=157
T29A Hugoton 157.45 334 ⇑PKPdf PKPdf 03 35 44.2 +0.1
baz=157
U31A Nine Bar Ranch 157.47 331 ⇑PKPdf PKPdf 03 35 43.9 -0.1
baz=157
S27A Las Animas 157.61 338 ⇑PKPdf PKPdf 03 35 44.6 +0.3
baz=158
R25A Fountain Ranch 157.66 341 ⇑PKPdf PKPdf 03 35 41.7 -2.7
baz=158
Q22A Crested Butte, 157.69 347 ⇓PKPdf PKPdf 03 35 41.3 -3.3
baz=158
U30A WK&E Inc. Balk 157.70 332 ⇓PKPdf PKPdf 03 35 42.7 -1.6
baz=158
T28A Walsh 157.81 336 ⇑PKPdf PKPdf 03 35 43.6 -0.9
baz=158
R24A Sanders Place, 157.83 343 ⇑PKPdf PKPdf 03 35 43.1 -1.6
baz=158
Q21A Lamborn Mesa, 157.85 348 ⇓PKPdf PKPdf 03 35 43.6 -1.0
baz=158
Q20A Ridgley Place, 157.87 350 ⇑PKPdf PKPdf 03 35 43.9 -0.8
baz=158
S26A Kim 157.87 339 ⇑PKPdf PKPdf 03 35 44.0 -0.6
baz=158
TMUT Trail Mountain 157.89 356 ePKPdf PKPdf 03 35 46.1 +1.2
TMUT ePKPab PKPab 03 36 19.1 +1.6
TMUT ePP PP 03 39 55.8 -0.2
APG El Apazote 157.94 268 PKP PKPdf 03 35 44.1 -1.3
APG PKPab PKPab 03 36 19.4 +0.9
APG El Apazote 157.94 268 PKP PKPdf 03 35 44.1 -1.3
comp=Z,2.9nm,0.9s,baz=259,slow=3.3,SNR=3.5
APG PKPab PKPab 03 36 19.4 +0.9
comp=Z,5.4nm,0.7s,baz=27,slow=6.8,SNR=5.8
SRU San Rafael 158.02 354 ePKIKP PKPdf 03 35 44.2 -0.7
SRU e 03 40 00.4
SRU San Rafael 158.02 354 ePKPdf PKPdf 03 35 44.1 -0.7
SRU ePKPab PKPab 03 36 19.0 +1.0
SRU ePP PP 03 40 00.4 +3.9
R23A Moffat 158.06 344 ⇓PKPdf PKPdf 03 35 43.8 -1.3
baz=158
T27A Campo 158.10 337 ⇓PKPdf PKPdf 03 35 44.1 -0.9
baz=158
S25A Robets Cordova 158.15 341 ⇑PKPdf PKPdf 03 35 45.0 -0.1
baz=158
WMOK Wichita Mounta 158.22 326 PKIKP PKPdf 03 35 41.6 -3.4
WMOK MLR MLR
comp=Z,4µm,22.0s
WMOK Wichita Mounta 158.22 326 PKPdf PKPdf 03 35 41.6 -3.4
WMOK LR LR
comp=Z,4µm,22.0s
Q16A Castle Valley 158.26 355 ePKPdf PKPdf 03 35 45.4 +0.2
Q16A ePKPab PKPab 03 36 21.3 +2.3
Q16A ePP PP 03 39 54.2 -3.7
Q16A Castle Valley 158.26 355 ⇑PKPdf PKPdf 03 35 44.3 -0.9
baz=158
R21A Cimarron 158.30 348 ⇑PKPdf PKPdf 03 35 43.6 -1.7
baz=158
T26A Comanche Natio 158.32 339 ⇑PKPdf PKPdf 03 35 44.0 -1.3
baz=158
CMB Columbia Colle 158.32 15 ePKIKP PKPdf 03 35 45.5 +0.4
CMB e 03 39 57.5
CMB Columbia Colle 158.32 15 ePKPdf PKPdf 03 35 45.5 +0.4
CMB ePKPab PKPab 03 36 20.7 +1.6
CMB ePP PP 03 39 57.5 -0.6
V30A Spur Ranch, Mi 158.36 331 ⇑PKPdf PKPdf 03 35 43.7 -1.5
baz=158
NVAR Mina Array Bea 158.38 11 PKP PKPdf 03 35 46.3 +0.9
NVAR PKPab PKPab 03 36 17.6 -2.0
NVAR PP PP 03 39 59.4 +0.8
NVAR Mina Array Bea 158.38 11 PKP PKPdf 03 35 46.3 +0.9
comp=Z,3.6nm,1.1s,baz=146,slow=0.6,SNR=16
NVAR PKPab PKPab 03 36 17.6 -2.0
comp=Z,55nm,1.1s,baz=339,slow=3.1,SNR=15
NVAR PP PP 03 39 59.4 +0.8
comp=Z,5.5nm,1.0s,baz=323,slow=3.5,SNR=8.5
SDCO Great Sand Dun 158.39 343 ePKPdf PKPdf 03 35 46.0 +0.5
SDCO ePKPab PKPab 03 36 22.0 +2.2
SDCO LR LR
comp=Z,5µm,22.0s
S24A Houchin Ranch, 158.41 342 ⇓PKPdf PKPdf 03 35 44.0 -1.6
baz=158
NV11 Mina Array Sit 158.41 10 ePKPdf PKPdf 03 35 46.2 +0.9
NV11 ePKPab PKPab 03 36 19.6 0.0
NV11 ePP PP 03 39 59.3 +0.7
W31A Holland Ranch, 158.47 329 ⇓PKPdf PKPdf 03 35 44.7 -0.6
baz=158
U28A Mallet 158.50 335 ⇓PKPdf PKPdf 03 35 44.3 -1.1
baz=158
PV04 Paradox Valley 158.52 351 ePKPdf PKPdf 03 35 47.2 +1.7
PV04 ePKPab PKPab 03 36 23.9 +3.8
PV04 ePP PP 03 39 59.1 -0.2
S23A Nye Farm, Mont 158.57 344 ⇓PKPdf PKPdf 03 35 44.3 -1.4
baz=158
T25A Trinidad 158.62 340 ⇑PKPdf PKPdf 03 35 45.8 +0.2
baz=158
R20A Redvale 158.63 349 ⇑PKPdf PKPdf 03 35 45.7 0.0
baz=158
U27A Thompson Grove 158.70 336 ⇑PKPdf PKPdf 03 35 45.8 +0.1
baz=159
PV01 Paradox Valley 158.72 350 ePKPdf PKPdf 03 35 46.1 +0.3
PV01 ePKPab PKPab 03 36 22.6 +1.5
PV01 ePP PP 03 39 57.0 -3.4
S22A 4UR Ranch, Cre 158.74 346 ⇑PKPdf PKPdf 03 35 45.3 -0.6
baz=159
MVU Marysvale 158.74 358 ePKPdf PKPdf 03 35 47.1 +1.3
MVU ePP PP 03 39 59.7 -0.8
MVU LR LR
comp=Z,4µm,21.0s
R11A Troy Canyon, C 158.82 5 ePKPdf PKPdf 03 35 46.4 +0.5
R11A ePKPab PKPab 03 36 21.9 +0.5
R11A ePP PP 03 40 01.4 +0.6
R11A Troy Canyon, C 158.82 5 ⇑PKPdf PKPdf 03 35 46.2 +0.3
baz=159
TPH Tonopah 158.91 9 PFAKE 03 36 00.0 +14
TPH LR LR
comp=Z,7µm,22.0s
X31A McDonald Ranch 158.93 328 ⇓PKPdf PKPdf 03 35 46.5 +0.6
baz=159
S20A Disappointment 158.97 349 ⇑PKPdf PKPdf 03 35 46.5 +0.4
baz=159
T24B San Luis 158.99 342 ⇑PKPdf PKPdf 03 35 46.3 0.0
baz=159
S21A Coal Bank Pass 159.03 348 ⇓PKPdf PKPdf 03 35 46.4 +0.2
baz=159
V28A Channing 159.04 334 ⇓PKPdf PKPdf 03 35 47.1 +1.0
baz=159
MLAC Mammoth Lakes 159.06 12 ⇑PKPdf PKPdf 03 35 46.8 +0.6
baz=159
U26A Atchley Ranch, 159.07 338 ⇑PKPdf PKPdf 03 35 46.9 +0.7
baz=159
Y32A R-V Farms, Ver 159.13 326 ⇑PKPdf PKPdf 03 35 47.1 +1.0
baz=159
T23A Casias Ranch, 159.21 343 ⇑PKPdf PKPdf 03 35 47.6 +1.2
baz=159
V27A Dan Oppiter Fa 159.29 335 ⇓PKPdf PKPdf 03 35 47.5 +1.1
baz=159
U25A Circle Dot Ran 159.29 339 ⇑PKPdf PKPdf 03 35 47.6 +1.2
baz=159
W29A Amraillo 159.32 332 ⇑PKPdf PKPdf 03 35 46.8 +0.4
baz=159
WHTX Lake Whitney 159.42 319 ePKPdf PKPdf 03 35 46.9 +0.5
WHTX Lake Whitney 159.42 319 ⇓PKPdf PKPdf 03 35 46.7 +0.3
baz=159
T22A Edith 159.45 345 ⇑PKPdf PKPdf 03 35 46.9 +0.2
baz=159
W28A Vega 159.45 333 ⇓PKPdf PKPdf 03 35 46.7 +0.1
baz=159
ARUT Antelope Range 159.47 0 ePKIKP PKPdf 03 35 48.0 +1.4
ARUT e 03 40 07.5
ARUT Antelope Range 159.47 0 ePKPdf PKPdf 03 35 48.0 +1.4
ARUT ePP PP 03 40 07.5 +3.1
X30A Coker Ranch, T 159.52 329 ⇑PKPdf PKPdf 03 35 47.1 +0.5
baz=159
U24A Moreno Valley 159.57 341 ⇓PKPdf PKPdf 03 35 47.0 0.0
baz=159
HKT Hockley 159.58 312 ePKIKP PKPdf 03 35 48.3 +1.7
HKT e 03 40 11.1
HKT Hockley 159.58 312 ePKPdf PKPdf 03 35 48.3 +1.7
HKT ePKPab PKPab 03 36 28.1 +3.2
HKT ePP PP 03 40 11.1 +5.1
Y31A Rekieta Farm, 159.59 327 ⇑PKPdf PKPdf 03 35 46.9 +0.2
baz=160
MVCO Mesa Verde 159.60 349 ePKPdf PKPdf 03 35 46.6 -0.2
MVCO ePKPab PKPab 03 36 25.5 +0.5
MVCO LR LR
comp=Z,4µm,21.0s
MVCO Mesa Verde 159.60 349 ⇑PKPdf PKPdf 03 35 47.4 +0.5
baz=159
V26A Tequesquite Ra 159.62 337 ⇓PKPdf PKPdf 03 35 46.9 +0.1
baz=160
T21A Navajo Lake 159.62 347 ⇑PKPdf PKPdf 03 35 47.4 +0.5
baz=160
Z32A Haskell 159.68 325 ⇑PKPdf PKPdf 03 35 47.9 +1.1
baz=160
CCUT Cedar City 159.71 0 ePKPdf PKPdf 03 35 48.6 +1.7
CCUT ePP PP 03 40 10.5 +4.8
TIN Tinemaha 159.73 11 ⇓PKPdf PKPdf 03 35 47.2 +0.4
baz=160
X29A Tulia 159.91 331 ⇓PKPdf PKPdf 03 35 48.1 +1.0
baz=160
U23A El Rito 159.91 343 ⇑PKPdf PKPdf 03 35 48.2 +1.0
baz=160
W27A Bowe Ranch, En 159.98 335 ⇑PKPdf PKPdf 03 35 47.6 +0.4
baz=160
Y30A Stafford Cattl 159.98 328 ⇓PKPdf PKPdf 03 35 47.8 +0.7
baz=160
Z31A Sharp Cattle R 160.03 326 ⇑PKPdf PKPdf 03 35 48.7 +1.5
baz=160
U22A Llaves 160.04 345 ⇑PKPdf PKPdf 03 35 48.6 +1.2
baz=160
X28A Dimmitt 160.07 332 ⇑PKPdf PKPdf 03 35 48.9 +1.6
baz=160
U21A Nageezi 160.19 346 ⇑PKPdf PKPdf 03 35 48.9 +1.4
baz=160
V24A Rampart Ranch, 160.19 340 ⇑PKPdf PKPdf 03 35 48.2 +0.6
baz=160
W26A Owens Ranch, T 160.24 336 ⇑PKPdf PKPdf 03 35 48.4 +0.9
baz=160
ABTX Abilene, Hawle 160.28 324 ePKPdf PKPdf 03 35 48.0 +0.5
ABTX ePKPab PKPab 03 36 27.8 0.0
ABTX ePP PP 03 40 11.3 +1.9
ABTX Abilene, Hawle 160.28 324 ⇑PKPdf PKPdf 03 35 48.4 +1.0
baz=160
X27A F and S Farms, 160.35 334 ⇑PKPdf PKPdf 03 35 48.5 +0.9
baz=160
CWC Cottonwood Cre 160.36 11 ⇑PKPdf PKPdf 03 35 48.6 +1.0
baz=160
Y29A Porterfield Fa 160.38 330 ⇑PKPdf PKPdf 03 35 48.5 +0.9
baz=160
W25A X Bar L Ranch, 160.38 338 ⇓PKPdf PKPdf 03 35 48.4 +0.7
baz=160

U20A	**Newcomb** baz=160	160.42	348	⇑PKPdf	**PKPdf**	03 35 49.0	+1.3
V23A	**Ortiz Mt. (NFS** baz=160	160.45	342	⇓PKPdf	**PKPdf**	03 35 49.1	+1.3
V22A	**San Miguel Ran** baz=160	160.49	344	⇑PKPdf	**PKPdf**	03 35 48.9	+1.0
FURC	**Furnace Creek,** baz=160	160.53	9	⇑PKPdf	**PKPdf**	03 35 48.7	+1.1
Z30A	**Sanderson Ranc** baz=160	160.57	328	⇓PKPdf	**PKPdf**	03 35 48.5	+0.7
Y28A	**McKinney Farm,** baz=160	160.61	331	⇓PKPdf	**PKPdf**	03 35 48.5	+0.6
131A	**Roby** baz=160	160.66	325	⇑PKPdf	**PKPdf**	03 35 48.9	+0.9
SHPR	**Sheep Range**	160.68	4	*e*PKPdf	**PKPdf**	03 35 49.0	+1.0
SHPR				*e*PKPab	**PKPab**	03 36 33.7	+4.1
SHPR				*e*PP	**PP**	03 40 14.7	+3.7
W24A	**Lazy 6 Ranch,** baz=161	160.71	340	⇑PKPdf	**PKPdf**	03 35 49.4	+1.3
VES	**Vestal, Richgr** baz=161	160.72	14	⇑PKPdf	**PKPdf**	03 35 48.6	+0.8
X26A	**CR and CF Fran** baz=161	160.72	336	⇓PKPdf	**PKPdf**	03 35 49.4	+1.3
MSTX	**Muleshoe** baz=161	160.79	332	⇓PKPdf	**PKPdf**	03 35 48.7	+0.6
U15A	**North Rim** baz=161	160.81	357	⇓PKPdf	**PKPdf**	03 35 49.6	+1.3
232A	**Coleman** baz=161	160.82	322	⇓PKPdf	**PKPdf**	03 35 49.0	+0.9
MPMC	**Manual Prospec** baz=161	160.84	10	⇓PKPdf	**PKPdf**	03 35 49.9	+1.6
Z29A	**Hungry Hill Ra** baz=161	160.88	329	⇑PKPdf	**PKPdf**	03 35 49.1	+0.9
V20A	**Brimhall** baz=161	160.96	348	⇓PKPdf	**PKPdf**	03 35 49.5	+1.2
SMMC	**Simmler** baz=161	160.99	17	⇓PKPdf	**PKPdf**	03 35 49.2	+1.0
W23A	**Werner Place,** baz=161	160.99	342	⇓PKPdf	**PKPdf**	03 35 48.9	+0.5
130A	**Snyder** baz=161	161.03	326	⇑PKPdf	**PKPdf**	03 35 48.9	+0.6
ISA	**Isabella**	161.03	13	*e*PKIKP	**PKPdf**	03 35 49.3	+1.0
ISA				*e*		03 40 11.0	
ISA	**Isabella**	161.03	13	*e*PKPdf	**PKPdf**	03 35 49.3	+1.0
ISA				*e*PKPab	**PKPab**	03 36 31.5	+0.5
ISA				*e*PP	**PP**	03 40 11.0	-1.8
ISA	**Isabella** baz=161	161.03	13	⇑PKPdf	**PKPdf**	03 35 49.1	+0.8
Y27A	**Causey** baz=161	161.03	333	⇑PKPdf	**PKPdf**	03 35 49.0	+0.6
X25A	**Clemmons Ranch** baz=161	161.07	337	⇓PKPdf	**PKPdf**	03 35 49.3	+0.8
SHOC	**Shoshone** baz=161	161.17	7	⇓PKPdf	**PKPdf**	03 35 48.9	+0.5
231A	**Bronte** baz=161	161.17	324	⇑PKPdf	**PKPdf**	03 35 49.2	+0.7
Z28A	**Tucker Farm, M** baz=161	161.18	331	⇑PKPdf	**PKPdf**	03 35 49.1	+0.5
332A	**Millersview** baz=161	161.24	321	⇓PKPdf	**PKPdf**	03 35 49.3	+0.7
W22A	**Albuquerque** baz=161	161.28	343	⇑PKPdf	**PKPdf**	03 35 49.6	+0.9
ANMO	**Albuquerque**	161.28	342	*e*PKPdf	**PKPdf**	03 35 48.8	+0.1
ANMO				*e*PKPab	**PKPab**	03 36 32.1	-0.2
ANMO				PKPab	PKPab	03 36 33.4	+1.1
ANMO				*e*PP	**PP**	03 40 11.3	-3.1
ANMO				PP	PP	03 40 11.6	-2.8
ANMO	comp=Z,5μm,19.0s			LR	LR		
ANMO	**Albuquerque** comp=Z,15nm,1.2s,baz=201,slow=0.7,SNR=16	161.28	342	PKP	**PKPdf**	03 35 48.8	+0.1
ANMO				PKPab	**PKPab**	03 36 33.4	+1.1
	comp=Z,24nm,1.1s,baz=53,slow=5.1,SNR=11						
ANMO				PP	**PP**	03 40 11.6	-2.8
	comp=Z,8.5nm,1.3s,baz=45,slow=8.6,SNR=2.8						
Y26A	**Elida** baz=161	161.28	335	⇓PKPdf	**PKPdf**	03 35 49.8	+1.1
X24A	**Lazy VL Ranch,** baz=161	161.31	339	⇓PKPdf	**PKPdf**	03 35 49.7	+0.9
LRMC	**Laurel Mountai** baz=161	161.37	11	⇓PKPdf	**PKPdf**	03 35 50.2	+1.5
PKM	**Peak Mountain** baz=161	161.43	17	⇑PKPdf	**PKPdf**	03 35 50.3	+1.4
W21A	**San Fidel** baz=161	161.44	345	⇑PKPdf	**PKPdf**	03 35 50.0	+1.1
ARVC	**Arvin** baz=161	161.46	14	⇑PKPdf	**PKPdf**	03 35 49.4	+0.8
129A	**Stewart Farms,** baz=161	161.47	328	⇓PKPdf	**PKPdf**	03 35 49.6	+0.8
X23A	**Hourglass Bar** baz=161	161.54	341	⇑PKPdf	**PKPdf**	03 35 49.4	+0.4
Z27A	**Tatum** baz=161	161.54	332	⇓PKPdf	**PKPdf**	03 35 49.8	+0.9
W20A	**Ramah** baz=162	161.62	347	⇓PKPdf	**PKPdf**	03 35 50.1	+1.0
Y25A	**Mesa, Roswell** baz=162	161.62	337	⇑PKPdf	**PKPdf**	03 35 50.4	+1.3
432A	**Menard** baz=162	161.63	320	⇓PKPdf	**PKPdf**	03 35 50.5	+1.5
230A	**Sterling City** baz=162	161.65	325	⇑PKPdf	**PKPdf**	03 35 50.4	+1.4
WUAZ	**Wupatki**	161.66	355	*e*PKPdf	**PKPdf**	03 35 47.6	-1.5
WUAZ				*e*PKPab	**PKPab**	03 36 34.9	+1.1
WUAZ				*e*PP	**PP**	03 40 20.8	+4.6
WUAZ	comp=Z,5μm,22.0s			LR	LR		
WUAZ	**Wupatki** baz=162	161.66	355	⇑PKPdf	**PKPdf**	03 35 50.6	+1.6
TUQ	**Turquoise Moun** baz=162	161.67	7	⇓PKPdf	**PKPdf**	03 35 50.6	+1.6
GSC	**Goldstone**	161.69	9	*e*PKIKP	**PKPdf**	03 35 50.6	+1.6
GSC				*e*		03 40 18.4	
GSC	**Goldstone**	161.69	9	*e*PKPdf	**PKPdf**	03 35 50.6	+1.6
GSC				*e*PKPab	**PKPab**	03 36 34.7	+0.8
GSC				*e*PP	**PP**	03 40 18.4	+2.1
GSC	**Goldstone** baz=162	161.69	9	⇑PKPdf	**PKPdf**	03 35 50.4	+1.4
331A	**San Angelo** baz=162	161.70	323	⇓PKPdf	**PKPdf**	03 35 50.5	+1.4
128A	**Castleberry Fa** baz=162	161.78	330	⇑PKPdf	**PKPdf**	03 35 50.6	+1.4
X22A	**Bernardo** baz=162	161.85	343	⇓PKPdf	**PKPdf**	03 35 51.2	+1.9
W18A	**Petrified Fore** baz=162	161.85	351	⇓PKPdf	**PKPdf**	03 35 51.1	+1.8
SBC	**Santa Barbara** baz=162	161.88	17	⇓PKPdf	**PKPdf**	03 35 51.4	+2.3
EDW2	**Edwards Air Fo** baz=162	161.89	12	⇑PKPdf	**PKPdf**	03 35 51.2	+2.1
Y24A	**Capitan** baz=162	161.89	338	⇑PKPdf	**PKPdf**	03 35 51.0	+1.6
Z26A	**Caprock** baz=162	161.91	334	⇓PKPdf	**PKPdf**	03 35 49.1	-0.2
JCT	**Junction City**	161.91	319	*e*PKIKP	**PKPdf**	03 35 49.9	+0.6
JCT				MLR	MLR		
JCT	comp=Z,4μm,20.0s **Junction City**	161.91	319	*e*PKPdf	**PKPdf**	03 35 49.9	+0.6
JCT				*e*PKPab	**PKPab**	03 36 37.9	+2.8
JCT				LR	LR		
JCT	comp=Z,4μm,20.0s **Junction City** baz=162	161.91	319	⇓PKPdf	**PKPdf**	03 35 50.0	+0.6
LPM	**Los Pinos Moun**	161.92	342	*e*PKPdf	**PKPdf**	03 35 49.9	+0.5
LPM				*e*PKPab	**PKPab**	03 36 36.5	+1.4
LPM				*e*PP	**PP**	03 40 21.8	+4.0
229A	**Bryant Ranch,** baz=162	161.96	327	⇑PKPdf	**PKPdf**	03 35 50.3	+0.9
LAZ	**Ladron**	161.98	343	*e*PKPdf	**PKPdf**	03 35 50.5	+1.0
LAZ				*e*PKPab	**PKPab**	03 36 37.5	+2.1
LAZ				*e*PP	**PP**	03 40 21.9	+3.8
330A	**Mertzon** baz=162	162.05	324	⇓PKPdf	**PKPdf**	03 35 50.5	+1.0
BNM	**Barren Site**	162.07	342	*e*PKPdf	**PKPdf**	03 35 51.4	+1.7
BNM				*e*PKPab	**PKPab**	03 36 37.7	+1.9
BNM				*e*PP	**PP**	03 40 20.1	+1.4
Y23A	**Lovelace Mesa,** baz=162	162.09	340	⇑PKPdf	**PKPdf**	03 35 50.6	+1.0
X21A	**Alamocita Cree** baz=162	162.11	345	⇓PKPdf	**PKPdf**	03 35 50.7	+1.1
127A	**Arkansas Junct** baz=162	162.14	332	⇑PKPdf	**PKPdf**	03 35 50.8	+1.2
W13A	**Hualapai Mount** baz=162	162.15	2	⇓PKPdf	**PKPdf**	03 35 50.9	+1.3
LENM	**Lemitar**	162.16	343	*e*PKPdf	**PKPdf**	03 35 49.6	-0.1
LENM				*e*PKPab	**PKPab**	03 36 38.7	+2.6
LENM				*e*PP	**PP**	03 40 16.8	-2.2
X20A	**Quemado** baz=162	162.18	347	⇑PKPdf	**PKPdf**	03 35 50.4	+0.7
Z25A	**Roswell** baz=162	162.20	336	⇑PKPdf	**PKPdf**	03 35 50.4	+0.7
HEC	**Hector,Ludlow** baz=162	162.22	8	⇓PKPdf	**PKPdf**	03 35 50.3	+0.8
532A	**Rocksprings** baz=162	162.22	319	⇑PKPdf	**PKPdf**	03 35 50.5	+0.9
Y22D	**IRIS PASSCAL I** baz=162	162.23	342	⇓PKPdf	**PKPdf**	03 35 50.5	+0.8
228A	**UT Block 9, Go** baz=162	162.24	329	⇑PKPdf	**PKPdf**	03 35 50.7	+1.0
431A	**Sonora** baz=162	162.26	322	⇓PKPdf	**PKPdf**	03 35 50.5	+0.8
GMRC	**Granite Mounta** baz=162	162.35	6	⇑PKPdf	**PKPdf**	03 35 50.6	+0.9
Y22A	**Socorro** baz=162	162.37	342	⇓PKPdf	**PKPdf**	03 35 50.9	+1.1
BLG	**Laguna Peak** baz=162	162.37	16	⇓PKPdf	**PKPdf**	03 35 50.0	+0.4
Z24A	**Sheeppen Canyo** baz=162	162.40	337	⇑PKPdf	**PKPdf**	03 35 50.6	+0.6
KVTX	**Kingsville**	162.42	309	PFAKE		03 36 00.0	+10
KVTX	comp=Z,14μm,20.0s			LR	LR		
329A	**Wagon Wheel Ra** baz=162	162.43	326	⇓PKPdf	**PKPdf**	03 35 50.0	+0.2
126A	**Clayton Basin,** baz=162	162.46	333	⇑PKPdf	**PKPdf**	03 35 50.3	+0.4
X18A	**Snowflake** baz=162	162.46	351	⇓PKPdf	**PKPdf**	03 35 50.6	+0.7
Y21A	**Point of Rocks** baz=162	162.50	344	⇓PKPdf	**PKPdf**	03 35 50.6	+0.6
MWC	**Mount Wilson**	162.50	13	*e*PKIKP	**PKPdf**	03 35 51.0	+1.0
MWC				*e*		03 40 24.0	
MWC	**Mount Wilson**	162.50	13	*e*PKPdf	**PKPdf**	03 35 51.0	+1.0
MWC				*e*PKPab	**PKPab**	03 36 39.2	+1.5
MWC				*e*PP	**PP**	03 40 24.0	+3.2
PASC	**Pasadena Art C**	162.53	14	*e*PKPdf	**PKPdf**	03 35 50.2	+0.4
PASC				*e*PKPab	**PKPab**	03 36 38.4	+0.9
430A	**Baggett Ranch,** baz=162	162.55	323	⇑PKPdf	**PKPdf**	03 35 50.6	+0.7
632A	**Uvalde** baz=162	162.56	317	⇓PKPdf	**PKPdf**	03 35 50.4	+0.4
BFSC	**Mount Baldy Ra** baz=162	162.57	12	⇓PKPdf	**PKPdf**	03 35 50.2	+0.2
531A	**Rocksprings** baz=162	162.59	320	⇑PKPdf	**PKPdf**	03 35 50.5	+0.5
227A	**Bennet, Jal** baz=162	162.67	330	⇓PKPdf	**PKPdf**	03 35 50.6	+0.5
BBRC	**Big Bear Solar** baz=162	162.69	10	⇑PKPdf	**PKPdf**	03 35 50.9	+0.7
125A	**Gardner Draw,** baz=163	162.72	335	⇑PKPdf	**PKPdf**	03 35 50.4	+0.2
X16A	**Lo Mia Camp, P** baz=163	162.75	355	⇓PKPdf	**PKPdf**	03 35 50.4	+0.2
Y20A	**Horse Springs,** baz=163	162.76	346	⇑PKPdf	**PKPdf**	03 35 51.0	+0.7
Z23A	**Rita Site, Whi** baz=163	162.76	340	⇑PKPdf	**PKPdf**	03 35 51.2	+1.0
PDMCI	**Parker Dam,Lak** baz=163	162.94	2	⇑PKPdf	**PKPdf**	03 35 51.6	+1.4
328A	**Wristen Ranch,** baz=163	162.94	328	⇑PKPdf	**PKPdf**	03 35 51.1	+0.8
124A	**Stringfield Ra** baz=163	163.00	337	⇑PKPdf	**PKPdf**	03 35 51.5	+1.0
Z22A	**Elephant Butte** baz=163	163.00	342	⇑PKPdf	**PKPdf**	03 35 52.0	+1.6
226B	**Tecolote Peak,** baz=163	163.01	332	⇑PKPdf	**PKPdf**	03 35 51.8	+1.4
IRM	**Iron Mountain** baz=163	163.01	5	⇑PKPdf	**PKPdf**	03 35 51.6	+1.4
429A	**Davenport Ranc** baz=163	163.04	324	⇑PKPdf	**PKPdf**	03 35 51.2	+0.8
530A	**J-C Ranch, Com** baz=163	163.08	322	⇑PKPdf	**PKPdf**	03 35 51.5	+1.0
BELC	**Belle Mtn. Jos** baz=163	163.08	8	⇑PKPdf	**PKPdf**	03 35 51.6	+1.1
631A	**Perdido Creek** baz=163	163.13	318	⇑PKPdf	**PKPdf**	03 35 52.1	+1.6
Z21A	**St. Cloud Mine** baz=163	163.16	343	⇓PKPdf	**PKPdf**	03 35 52.1	+1.4
732A	**Laxson Ranch,** baz=163	163.19	315	⇓PKPdf	**PKPdf**	03 35 51.9	+1.3
CIS	**Catalina Islan** baz=163	163.21	15	⇑PKPdf	**PKPdf**	03 35 52.1	+1.6
225A	**Deer Hill, Car** baz=163	163.27	334	⇓PKPdf	**PKPdf**	03 35 51.8	+1.0
MURC	**Murrieta** baz=163	163.28	11	⇑PKPdf	**PKPdf**	03 35 52.0	+1.5
327A	**Balmorhea Ranc** baz=163	163.29	329	⇓PKPdf	**PKPdf**	03 35 51.8	+1.2
Y14A	**Wickenburg** baz=163	163.31	359	⇓PKPdf	**PKPdf**	03 35 52.1	+1.5
123A	**Bell Site, Whi** baz=163	163.35	339	⇑PKPdf	**PKPdf**	03 35 52.2	+1.5
428A	**Kincaid Ranch,** baz=163	163.40	326	⇓PKPdf	**PKPdf**	03 35 52.6	+1.7
PFO	**Pinyon Flat Ob**	163.40	9	*e*PKPdf	**PKPdf**	03 35 50.1	-0.7
PFO				PKP	**PKPdf**	03 35 50.4	-0.4
PFO				*e*PKPab	**PKPab**	03 36 42.1	+0.6
PFO				PKPab	PKPab	03 36 42.3	+0.8
PFO				PP	**PP**	03 40 28.0	+2.6
PFO				*e*PP	PP	03 40 28.4	+3.0
PFO	comp=Z,3μm,20.0s			LR	LR		
PFO	**Pinyon Flat Ob** baz=163	163.40	9	⇑PKPdf	**PKPdf**	03 35 52.5	+1.7
PFO	**Pinyon Flat Ob** comp=Z,7.7nm,1.2s,baz=304,slow=1.6,SNR=10	163.40	9	PKP	**PKPdf**	03 35 50.4	-0.4
PFO				PKPab	**PKPab**	03 36 42.3	+0.8
	comp=Z,39nm,1.1s,baz=358,slow=4.8,SNR=20						
PFO				PP	**PP**	03 40 28.0	+2.6
	comp=Z,18nm,1.2s,baz=348,slow=6.7,SNR=6.7						
Y12C	**Blythe** baz=163	163.47	4	⇓PKPdf	**PKPdf**	03 35 53.0	+2.3
BC3	**Big Chuckawall** baz=163	163.48	6	⇓PKPdf	**PKPdf**	03 35 53.0	+2.1
122A	**Conniff Cattle** baz=163	163.53	341	⇑PKPdf	**PKPdf**	03 35 52.9	+2.0
326A	**Caldwell Ranch** baz=163	163.57	331	⇑PKPdf	**PKPdf**	03 35 52.2	+1.3
SCI	**San Clemente I** baz=163	163.58	16	⇑PKPdf	**PKPdf**	03 35 52.7	+1.9
224A	**Cornudas Mount** baz=163	163.58	336	⇓PKPdf	**PKPdf**	03 35 52.8	+1.8
529A	**Stev Forest Ra** baz=164	163.61	324	⇑PKPdf	**PKPdf**	03 35 52.3	+1.3
427A	**Hayter Ranch,** baz=164	163.67	328	⇑PKPdf	**PKPdf**	03 35 52.5	+1.4
MNTX	**Cornudas Mount**	163.85	335	*e*PKPdf	**PKPdf**	03 35 51.5	+0.4
MNTX				*e*PKPab	**PKPab**	03 36 45.5	+2.1
MNTX				*e*PP	**PP**	03 40 30.0	+2.0
MNTX	comp=Z,4μm,22.0s			LR	LR		
Z14A	**Wintersburg** baz=164	163.88	359	⇑PKPdf	**PKPdf**	03 35 52.7	+1.7
528A	**Cox Ranch, San** baz=164	163.89	325	⇓PKPdf	**PKPdf**	03 35 52.7	+1.3
121A	**Cookes Peak, D** baz=164	163.92	343	⇓PKPdf	**PKPdf**	03 35 52.4	+1.0
325A	**Bean Ranch, Si** baz=164	163.97	333	⇓PKPdf	**PKPdf**	03 35 53.1	+1.6
223A	**Chaparral, Ant** baz=164	163.98	338	⇑PKPdf	**PKPdf**	03 35 53.1	+1.7
109C	**Camp Elliot, M** baz=164	163.99	12	⇓PKPdf	**PKPdf**	03 35 53.0	+1.8
MONP	**Monument Peak** baz=164	164.11	10	⇓PKPdf	**PKPdf**	03 35 53.4	+1.9
222A	**Williams Famil** baz=164	164.11	340	⇑PKPdf	**PKPdf**	03 35 52.8	+1.3
324A	**Moseley Ranch,** baz=164	164.12	335	⇓PKPdf	**PKPdf**	03 35 52.1	+0.6
120A	**U Bar Ranch, L** baz=164	164.13	345	⇑PKPdf	**PKPdf**	03 35 52.9	+1.3
426A	**McDonald Obser** baz=164	164.13	329	⇑PKPdf	**PKPdf**	03 35 52.1	+0.5
GLA	**Glamis**	164.14	5	*e*PKIKP	**PKPdf**	03 35 53.1	+1.7
GLA				*e*		03 40 31.1	
GLA	**Glamis**	164.14	5	*e*PKPdf	**PKPdf**	03 35 53.1	+1.7
GLA				*e*PKPab	**PKPab**	03 36 46.8	+2.2
GLA				*e*PP	**PP**	03 40 31.1	+2.0
GLA	**Glamis** baz=164	164.14	5	⇓PKPdf	**PKPdf**	03 35 53.0	+1.6
SWSC	**Sam W. Stewart** baz=164	164.15	8	⇑PKPdf	**PKPdf**	03 35 53.0	+1.7
BAR	**Barrett**	164.27	11	*e*PKPdf	**PKPdf**	03 35 53.4	+1.9
BAR				*e*PKPab	**PKPab**	03 36 46.1	+0.9
BAR				*e*PP	**PP**	03 40 30.9	+1.1
527A	**Woodward Ranch** baz=164	164.34	327	⇑PKPdf	**PKPdf**	03 35 52.5	+0.7
221A	**Mesquite Ranch** baz=164	164.41	342	⇑PKPdf	**PKPdf**	03 35 52.5	+0.7
628A	**Black Gap, Mar** baz=164	164.47	324	⇓PKPdf	**PKPdf**	03 35 52.7	+0.9
113A	**Mohawk Valley,** baz=164	164.48	1	⇓PKPdf	**PKPdf**	03 35 52.2	+0.6
425A	**Indio Mountain** baz=164	164.48	332	⇑PKPdf	**PKPdf**	03 35 52.3	+0.5
526A	**Mary Lane Ranc** baz=164	164.66	328	⇑PKPdf	**PKPdf**	03 35 53.0	+0.9
220A	**Playas Peak, P** baz=165	164.71	344	⇑PKPdf	**PKPdf**	03 35 52.4	+0.3
TUC	**Tucson**	164.76	352	*e*PKIKP	**PKPdf**	03 35 52.7	+0.7
TUC				*e*		03 40 30.4	
TUC	comp=Z,4μm,21.0s			MLR	MLR		
TUC	**Tucson**	164.76	352	*e*PKPdf	**PKPdf**	03 35 52.7	+0.7
TUC				*e*PKPab	**PKPab**	03 36 49.6	+2.1
TUC				*e*PP	**PP**	03 40 30.4	-2.1
TUC	comp=Z,4μm,21.0s			LR	LR		
627A	**Terlingua Ranc** baz=165	164.77	325	⇓PKPdf	**PKPdf**	03 35 51.2	-0.9
TXAR	**Lajitas Array**	165.02	326	PKP	**PKPdf**	03 35 52.0	-0.4
TXAR				PKPab	**PKPab**	03 36 49.0	+0.2
TXAR				PP	PP	03 40 41.6	+7.0
TXAR	**Lajitas Array** comp=Z,2.5nm,1.0s,baz=122,slow=1.6,SNR=20	165.02	326	PKP	**PKPdf**	03 35 52.0	-0.4
TXAR				PKPab	**PKPab**	03 36 49.0	+0.2
	comp=Z,18nm,1.0s,baz=64,slow=2.5,SNR=11						
TXAR				PP	PP	03 40 41.6	+7.0
	comp=Z,1.4nm,1.1s,baz=358,slow=3.0,SNR=2.6						
626A	**Big Bend Ranch** baz=165	165.09	327	⇑PKPdf	**PKPdf**	03 35 52.2	-0.1
320A	**Kipp Ranch, An** baz=165	165.25	344	⇓PKPdf	**PKPdf**	03 35 51.5	-1.0
214A	**Organ Pipe Nat** baz=165	165.28	358	⇑PKPdf	**PKPdf**	03 35 51.6	-0.8
319A	**Douglas** baz=165	165.40	346	⇑PKPdf	**PKPdf**	03 35 52.5	-0.1

IDC 12 03:16:48.4±1.1, 10°44N×40°90W, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/25, mbtmp3.9/6, Error ellipse: s-maj=32.0km s-min=25.7km az=146.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N3	**ASCENSION HYDR** baz=304,slow=0.7,SNR=8.9	31.95	124	T	T	03 56 42.4	
H10N2	**ASCENSION HYDR** baz=304,slow=0.7,SNR=11	31.95	124	T	T	03 56 41.2	
H10N1	**ASCENSION HYDR** baz=304,slow=0.7,SNR=12	31.97	124	T	T	03 56 45.3	
H10S3	**ASCENSION HYDR** baz=305,slow=0.7,SNR=8.0	32.45	126	T	T	03 57 32.3	
H10S1	**ASCENSION HYDR** baz=305,slow=0.7,SNR=6.9	32.45	125	T	T	03 57 36.5	
H10S2	**ASCENSION HYDR** baz=305,slow=0.7,SNR=6.5	32.47	125	T	T	03 57 26.2	
SIV	**San Ignacio** 1.7nm,0.8s,baz=72,slow=7.0,SNR=4.5	32.99	218	P	P	03 23 25.3	-0.2
LPAZ	**La Paz** 2.8nm,0.5s,baz=29,slow=6.7,SNR=5.5	37.84	226	P	P	03 24 07.6	-0.2
TORD	**Torodi Ar. Bea** 2.0nm,0.7s,baz=278,slow=9.5,SNR=14	41.75	82	P	P	03 24 39.5	-0.3
ULM	**Lac du Bonnet** 2.2nm,0.6s,baz=141,slow=6.5,SNR=2.8	59.97	323	P	P	03 26 55.6	-1.0
NVAR	**Mina Array Bea** 0.3nm,0.7s,baz=98,slow=6.3,SNR=3.6	73.74	307	P	P	03 28 25.5	+0.6
ILAR	**Eielson Array** 0.8nm,1.0s,baz=64,slow=3.4,SNR=5.6	87.33	336	P	P	03 29 37.9	+0.9

IDC 12 03:17:34.7±1.5, 24°52N×121°98E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/25, mbtmp3.8/5, ML3.8/1, Error ellipse: s-maj=67.7km s-min=25.0km az=68.0, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array** 0.4nm,0.3s,baz=201,slow=12,SNR=8.2	13.86	20	Pn	Pn	03 20 54.0	+1.6
SONM	**Songino Array** 0.8nm,0.7s,baz=136,slow=8.7,SNR=5.6	26.35	336	P	P	03 23 11.8	-0.8
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=105,slow=11,SNR=6.8	38.61	315	P	P	03 25 00.7	+1.1
ZALV	**Zalesovo Beam** 0.8nm,0.3s,baz=116,slow=6.6,SNR=2.5	40.37	327	P	P	03 25 12.9	-1.1
WRA	**Warramunga Arr** 1.7nm,0.9s,baz=347,slow=8.8,SNR=5.6	45.80	164	P	P	03 25 58.2	-0.1

IDC 12 03:21:41.8±2.0, 8°52S×74°56W, h172km±30km, mb3.6/5, mb1 3.5/8, mb1mx3.3/24, mbtmp3.4/8, Error ellipse: s-maj=47.3km s-min=15.4km az=44.0, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa** 8.4nm,0.3s,baz=141,slow=6.5,SNR=64	4.04	290	P	Pn	03 22 43.8	+0.1
ATAH	13nm,0.3s,baz=48,slow=19,SNR=24			S	Sn	03 23 31.5	-0.5
LPAZ	**La Paz** 0.1nm,0.3s,baz=311,slow=5.8,SNR=3.8	9.96	142	P	Pn	03 24 02.2	+0.4
SIV	**San Ignacio** 0.2nm,0.3s,baz=300,slow=8.1,SNR=2.8	15.13	121	P	Pn	03 25 07.2	+0.1
CPUP	**Villa Florida** 2.1nm,0.7s,baz=311,slow=10,SNR=3.5	24.12	139	P	P	03 26 43.0	+1.1
SJG	**San Juan** 15nm,1.0s,baz=174,slow=10,SNR=3.8	27.73	17	P	P	03 27 15.6	+1.2
TXAR	**Lajitas Array** 0.2nm,0.5s,baz=157,slow=10.0,SNR=5.5	46.93	324	P	P	03 29 56.2	+0.8
DBIC	**Dimbokro** 2.5nm,0.8s,baz=246,slow=10,SNR=5.2	71.11	80	P	P	03 32 41.5	-0.6
TORD	**Torodi Ar. Bea** 1.2nm,0.6s,baz=280,slow=4.4,SNR=7.7	78.72	75	P	P	03 33 24.8	-1.1

*ATH **12** 03:25:40.8, 39°29N×23°66E, h23km, MD3.0/14, ML2.7*
*THE **12** 03:25:41.7, 39°31N×23°64E, h8km, ML2.6/16, Error ellipse: s-maj=0.8km s-min=0.

PAIG					*e*SN	**Sb**	03 26 02.5	-0.3
PAIG	**Paliouri**	**0.62**	**2**	*e*Pn	**Pg**	03 25 53.6	0.0
PAIG	**Paliouri**	**0.62**	**2**	P	**Pb**	03 25 54.5	+0.3
PAIG					*e*Sn	**Sb**	03 26 02.5	-0.3
PAIG					S	**Sb**	03 26 03.5	+0.7
LKR	**Lokris**	**0.83**	**218**	P	**Pg**	03 25 57.0	-0.4
LKR					S	**Sb**	03 26 08.8	+0.1
LKR	**Lokris**	**0.83**	**218**	*e*PN	**Pg**	03 25 57.1	-0.4
LKR					*e*SN	**Sg**	03 26 08.5	+0.2
LKR	**Lokris**	**0.83**	**218**	P	**Pg**	03 25 57.0	-0.4
LKR					*e*Sn	**Sg**	03 26 08.5	+0.2
ERET	**Eretria**	**0.87**	**172**	P	**Pg**	03 25 58.2	-0.1
ERET					S	**Sb**	03 26 10.8	+0.8
ERET	**Eretria**	**0.87**	**172**	P	**Pg**	03 25 58.2	-0.1
ERET					S	**Sb**	03 26 10.8	+0.8
AXAR	**Agios Charalam**	**0.94**	**236**	P	**Pg**	03 25 59.4	-0.2
AXAR					S	**Sb**	03 26 12.5	+0.5
AXAR	**Agios Charalam**	**0.94**	**236**	P	**Pg**	03 25 59.4	-0.2
AXAR					S	**Sb**	03 26 12.5	+0.5
OUR	**Ouranopolis**	**1.06**	**14**	P	**Pg**	03 26 01.5	-0.4
OUR					S	**Sn**	03 26 16.4	-0.2
OUR	**Ouranopolis**	**1.06**	**14**	P	**Pg**	03 26 01.5	-0.4
OUR					S	**Sn**	03 26 16.4	-0.2
AGG	**Agios Georgios**	**1.06**	**255**	P	**Pb**	03 26 01.0	-0.7
AGG	**Agios Georgios**	**1.06**	**255**	*e*PN	**Pb**	03 26 01.5	-0.2
AGG					*e*SN	**Sg**	03 26 16.3	+0.5
AGG	**Agios Georgios**	**1.06**	**255**	P	**Pb**	03 26 01.0	-0.7
AGG	**Agios Georgios**	**1.06**	**255**	*e*Pn	**Pb**	03 26 01.5	-0.2
AGG					*e*Sn	**Sg**	03 26 16.3	+0.5
PLG	**Polygyros**	**1.08**	**352**	P	**Pb**	03 26 01.5	-0.5
PLG					S	**Sg**	03 26 16.6	+0.2
PLG	**Polygyros**	**1.08**	**352**	*e*PN	**Pb**	03 26 01.5	-0.5
PLG					*e*SN	**Sg**	03 26 16.6	+0.2
PLG	**Polygyros**	**1.08**	**352**	P	**Pb**	03 26 01.5	-0.5
PLG					S	**Sg**	03 26 16.6	+0.2
LIT	**Litokhoron**	**1.20**	**312**	P	**Pn**	03 26 03.2	-0.7
LIT					S	**Sn**	03 26 21.5	+1.5
LIT	**Litokhoron**	**1.20**	**312**	*e*PN	**Pn**	03 26 03.5	-0.4
LIT					*e*SN	**Sn**	03 26 20.3	+0.3
LIT	**Litokhoron**	**1.20**	**312**	P	**Pn**	03 26 03.2	-0.7
LIT	**Litokhoron**	**1.20**	**312**	*e*Pn	**Pn**	03 26 03.5	-0.4
LIT					*e*Sn	**Sn**	03 26 20.3	+0.3
LIT					S	**Sn**	03 26 21.5	+1.5
MAKR	**Makrakomi, Fth**	**1.22**	**257**	P	**Pn**	03 26 04.2	0.0
MAKR					S	**Sg**	03 26 21.9	+1.2
MAKR	**Makrakomi, Fth**	**1.22**	**257**	P	**Pn**	03 26 04.2	0.0
MAKR					S	**Sg**	03 26 21.9	+1.2
DSF	**Desfina**	**1.25**	**225**	P	**Pn**	03 26 04.2	-0.5
DSF					S	**Sn**	03 26 21.7	+0.3
DSF	**Desfina**	**1.25**	**225**	P	**Pn**	03 26 04.2	-0.5
DSF					S	**Sn**	03 26 21.7	+0.3
PTL	**Penteli**	**1.26**	**172**	P	**Pg**	03 26 05.5	-0.3
PTL					S	**Sb**	03 26 21.4	+0.1
PTL	**Penteli**	**1.26**	**172**	*e*PN	**Pn**	03 26 04.3	-0.5
PTL					*e*SN	**Sb**	03 26 21.2	-0.1
PTL	**Penteli**	**1.26**	**172**	*e*Pn	**Pn**	03 26 04.3	-0.5
PTL	**Penteli**	**1.26**	**172**	P	**Pg**	03 26 05.5	-0.3
PTL					S	**Sb**	03 26 21.4	+0.1
THL	**Klokotos Trika**	**1.29**	**282**	P	**Pn**	03 26 05.0	-0.1
THL					S	**Sg**	03 26 23.1	0.0
THL	**Klokotos Trika**	**1.29**	**282**	*e*PN	**Pn**	03 26 05.1	-0.1
THL					*e*SN	**Sg**	03 26 23.3	+0.2
THL	**Klokotos Trika**	**1.29**	**282**	*e*Pn	**Pn**	03 26 05.1	-0.1
THL					*e*Sn	**Sg**	03 26 23.3	+0.2
LIA	**Limnos Island**	**1.32**	**63**	P	**Pn**	03 26 05.2	-0.4
LIA					S	**Sg**	03 26 25.3	+1.2
LIA	**Limnos Island**	**1.32**	**63**	*e*PN	**Pn**	03 26 05.2	-0.4
LIA					*e*SN	**Sg**	03 26 24.5	+0.4
LIA	**Limnos Island**	**1.32**	**63**	P	**Pn**	03 26 05.2	-0.4
LIA					*e*Sn	**Sg**	03 26 24.5	+0.4
ATH	**Athens Observa**	**1.33**	**178**	*e*PN	**Pn**	03 26 05.3	-0.4
ATH					*e*SN	**Sn**	03 26 23.4	+0.2
ATH	**Athens Observa**	**1.33**	**178**	*e*Pn	**Pn**	03 26 05.3	-0.4
ATH					*e*Sn	**Sn**	03 26 23.4	+0.2
ATHU	**Athens Univers**	**1.34**	**175**	P	**Pg**	03 26 07.0	-0.2
ATHU					S	**Sg**	03 26 24.2	-0.4
ATHU	**Athens Univers**	**1.34**	**175**	P	**Pg**	03 26 07.0	-0.2
ATHU					S	**Sg**	03 26 24.2	-0.4
HORT	**Hortiatis**	**1.36**	**342**	P	**Pn**	03 26 05.7	-0.5
HORT					S	**Sn**	03 26 24.6	+0.5
HORT	**Hortiatis**	**1.36**	**342**	P	**Pn**	03 26 05.7	-0.5
HORT					S	**Sn**	03 26 24.6	+0.5
LTK	**Loutraki**	**1.39**	**203**	P	**Pn**	03 26 06.5	0.0
LTK					S	**Sg**	03 26 26.2	+0.1
LTK	**Loutraki**	**1.39**	**203**	*e*PN	**Pn**	03 26 06.5	0.0
LTK	**Loutraki**	**1.39**	**203**	P	**Pn**	03 26 06.5	0.0
LTK					S	**Sg**	03 26 26.2	+0.1
EVR	**Evrytania**	**1.48**	**255**	P	**Pb**	03 26 08.5	-0.4
EVR	**Evrytania**	**1.48**	**255**	*e*PN	**Pb**	03 26 08.7	-0.2
EVR	**Evrytania**	**1.48**	**255**	P	**Pb**	03 26 08.5	-0.4
KALE	**Kalithea**	**1.49**	**233**	P	**Pn**	03 26 07.2	-0.8
KALE	**Kalithea**	**1.49**	**233**	*e*PN	**Pn**	03 26 08.1	+0.1
KALE	**Kalithea**	**1.49**	**233**	P	**Pn**	03 26 07.2	-0.8
KALE	**Kalithea**	**1.49**	**233**	*e*Pn	**Pn**	03 26 08.1	+0.1
SOH	**Sokhos**	**1.53**	**352**	*e*PN	**Pn**	03 26 08.7	+0.2
SOH	**Sokhos**	**1.53**	**352**	*e*Pn	**Pn**	03 26 08.7	+0.2
ACOR	**Acrocorinthos**	**1.54**	**204**	P	**Pn**	03 26 08.3	-0.3
ACOR	**Acrocorinthos**	**1.54**	**204**	P	**Pn**	03 26 08.3	-0.3
NAIG	**Nisos Aigina**	**1.55**	**185**	*e*PN	**Pb**	03 26 09.3	-0.6
NAIG	**Nisos Aigina**	**1.55**	**185**	*e*Pn	**Pb**	03 26 09.3	-0.6
EFP	**Efpalio**	**1.62**	**238**	P	**Pb**	03 26 10.5	-0.7
EFP	**Efpalio**	**1.62**	**238**	*e*PN	**Pb**	03 26 10.5	-0.7
EFP	**Efpalio**	**1.62**	**238**	P	**Pb**	03 26 10.5	-0.7
LAKA	**Lakka**	**1.68**	**231**	P	**Pn**	03 26 11.2	+0.6
LAKA	**Lakka**	**1.68**	**231**	*e*PN	**Pn**	03 26 11.3	+0.6
LAKA	**Lakka**	**1.68**	**231**	P	**Pn**	03 26 11.2	+0.6
GUR	**Goura**	**1.71**	**217**	P	**Pn**	03 26 11.1	+0.1
GUR	**Goura**	**1.71**	**217**	*e*PN	**Pn**	03 26 11.2	+0.2
GUR	**Goura**	**1.71**	**217**	*e*Pn	**Pn**	03 26 11.2	+0.2
KLV	**Kalavryta, Ach**	**1.72**	**223**	P	**Pn**	03 26 11.4	+0.3
KLV	**Kalavryta, Ach**	**1.72**	**223**	*e*PB	**Pn**	03 26 11.3	+0.2
KLV	**Kalavryta, Ach**	**1.72**	**223**	*e*Pn	**Pn**	03 26 11.3	+0.2
KZN	**Kozani**	**1.76**	**305**	*e*PN	**Pb**	03 26 12.7	-0.9
KZN	**Kozani**	**1.76**	**305**	*e*Pn	**Pb**	03 26 12.7	-0.9
SRS	**Serrai**	**1.81**	**359**	P	**Pn**	03 26 12.5	+0.2
SRS	**Serrai**	**1.81**	**359**	P	**Pn**	03 26 12.5	+0.2
KAVA	**Kavala**	**1.82**	**21**	P	**Pn**	03 26 11.8	-0.6
KAVA	**Kavala**	**1.82**	**21**	P	**Pn**	03 26 11.8	-0.6
DID	**Didima**	**1.82**	**190**	P	**Pn**	03 26 12.7	+0.2
DID					S	**Sn**	03 26 35.8	+0.3
DID	**Didima**	**1.82**	**190**	*e*PN	**Pn**	03 26 12.7	+0.2
DID	**Didima**	**1.82**	**190**	P	**Pn**	03 26 12.7	+0.2
DID					S	**Sn**	03 26 35.8	+0.3
DIDY	**Didyma**	**1.86**	**191**	P	**Pn**	03 26 13.1	+0.1
DIDY	**Didyma**	**1.86**	**191**	P	**Pn**	03 26 13.1	+0.1
SMTH	**Samothraki Isl**	**1.86**	**51**	P	**Pn**	03 26 12.1	-0.9
SMTH	**Samothraki Isl**	**1.86**	**51**	*e*PN	**Pn**	03 26 13.2	+0.2
SMTH	**Samothraki Isl**	**1.86**	**51**	P	**Pn**	03 26 12.1	-0.9
SMTH	**Samothraki Isl**	**1.86**	**51**	*e*Pn	**Pn**	03 26 13.2	+0.2
GRG	**Griva**	**1.91**	**330**	P	**Pn**	03 26 13.9	+0.2
GRG	**Griva**	**1.91**	**330**	*e*PB	**Pn**	03 26 13.9	+0.2
GRG	**Griva**	**1.91**	**330**	*e*Pb	**Pn**	03 26 13.9	+0.2
KNT	**Kendrikon**	**1.94**	**343**	P	**Pn**	03 26 14.8	+0.7
KNT	**Kendrikon**	**1.94**	**343**	P	**Pn**	03 26 14.8	+0.7
PRK	**Paraskevi**	**2.04**	**91**	*e*PN	**Pb**	03 26 16.8	-1.4
PRK	**Paraskevi**	**2.04**	**91**	*e*Pn	**Pb**	03 26 16.8	-1.4
NVR	**Nevrokopi**	**2.05**	**4**	P	**Pn**	03 26 15.6	0.0
NVR	**Nevrokopi**	**2.05**	**4**	*e*PB	**Pn**	03 26 15.7	+0.1
NVR	**Nevrokopi**	**2.05**	**4**	P	**Pn**	03 26 15.6	0.0
CHOS	**Chios island**	**2.09**	**115**	P	**Pn**	03 26 16.9	+0.7
CHOS	**Chios island**	**2.09**	**115**	*e*PN	**Pn**	03 26 16.9	+0.7
CHOS	**Chios island**	**2.09**	**115**	P	**Pn**	03 26 16.9	+0.7
VLX	**Vlachokerasia**	**2.17**	**208**	*e*PB	**Pn**	03 26 18.2	+0.8
VLX	**Vlachokerasia**	**2.17**	**208**	*e*Pb	**Pn**	03 26 18.2	+0.8
JAN	**Janina**	**2.19**	**280**	*e*PN	**Pn**	03 26 18.2	+0.6
JAN	**Janina**	**2.19**	**280**	*e*Pn	**Pn**	03 26 18.2	+0.6
ALN	**Alexandroupoli**	**2.43**	**48**	P	**Pn**	03 26 20.3	-0.5
ALN	**Alexandroupoli**	**2.43**	**48**	P	**Pn**	03 26 20.3	-0.5
APE	**Apeiranthos**	**2.68**	**146**	P	**Pn**	03 26 24.7	+0.4
APE	**Apeiranthos**	**2.68**	**146**	P	**Pn**	03 26 24.7	+0.4

ROM 12 03:26:25.7±0.3, 42°.97N×12°.91E, h11km±3km, Md1.4/3, Ml0.9/2, Error ellipse: s-maj=6.2km s-min=2.9km az=151.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CESI	**CESI - Serrava**	**0.03**	**354**	Pg	Pg	03 26 28.2	+0.4
CESI				Sg	Sg	03 26 29.6	+0.3
	25nm,0.1s						
NRCA	**Norcia**	**0.20**	**132**	Pg	Pg	03 26 30.8	+0.6
NRCA				Sg	Sg	03 26 34.4	+1.2
	21nm,0.1s						
LNSS	**Leonessa**	**0.38**	**165**	Pg	Pg	03 26 33.6	+0.2
LNSS				Sg	Sb	03 26 39.7	-1.0
	9.0nm,0.7s						

JMA 12 03:30:43.8, 33°.38N×130°.94E, h11km±1km, M0.6, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.26**	**191**	P	Pg	03 30 49.1	-0.2
JNU				S	Sg	03 30 52.7	-0.2
JNU	**Nakatsue**	**0.26**	**191**	PP	Pg	03 30 49.0	-0.3
	2.9nm,0.3s,baz=227,slow=6.9,SNR=14						
JNU	**Nakatsue**	**0.26**	**191**	PP	Pg	03 30 49.0	-0.3
JFA	**Akaike**	**0.35**	**340**	P	Pg	03 30 51.0	+0.1
JFA				S	Sg	03 30 56.0	+0.4

TAP ***12*** *03:36:40.8, 24°.91N×122°.72E, h1km±1km, ML3.3, D*
ISCJB ***12*** *03:36:41.6±0.7, 25°.02N±0°.05×122°.80E±0°.05, h16km, mb3.6/6, Error ellipse: s-maj=8.5km s-min=5.6km az=43.4*
IDC ***12*** *03:36:42.3±1.1, 24°.40N×121°.38E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/24, mbtmp3.7/7, ML2.8/1, Error ellipse: s-maj=70.7km s-min=20.0km az=68.0*

ISC 12 03:36:41.8±0.9, 24°.87N±0°.06×122°.70E±0°.06, h16km, n27, σ1°10/27, mb3.5/6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.49**	**146**	*i* P	**Pn**	**03 36 52.5**	**-1.7**
	baz=149						
YOJ				*e*S	**Sn**	03 37 01.1	-1.3
	baz=149						
TWB1	**Santiao Chiao**	**0.66**	**282**	*e*P	**Pn**	03 36 55.2	-1.3
	baz=278						
TWB1				*e*S	**Sn**	03 37 04.5	-2.1
	baz=278						
TWC	**Suao**	**0.82**	**252**	*e*P	**Pn**	03 36 58.3	-0.3
	baz=248						
NWF	**Wu-fen Shan**	**0.86**	**284**	*e*P	**Pn**	03 36 58.2	-1.1
	baz=280						
PCYT	**Pengchaiyu**	**0.95**	**323**	*e*P	**Pn**	03 37 00.2	-0.2
	baz=320						
TWE	**Neicheng**	**0.95**	**261**	*e*P	**Pn**	03 37 00.9	+0.5
	baz=258						
ENA	**Nanau**	**0.98**	**243**	*e*P	**Pg**	03 37 01.0	+0.2
	baz=241						
TWA	**Mucha**	**1.02**	**276**	*e*P	**Pg**	03 37 00.9	-0.7
	baz=273						
ENTT	**Nioudou**	**1.06**	**258**	*e*P	**Pg**	03 37 03.6	+1.3
	baz=255						
TWY	**Chenhua**	**1.08**	**292**	*e*P	**Pg**	03 37 01.4	-1.2
	baz=289						
NSK	**Sanguang**	**1.24**	**261**	*e*P	**Pg**	03 37 05.9	+0.2
	baz=259						
TWD	**Chiawan**	**1.28**	**232**	*e*P	**Pg**	03 37 07.3	+0.9
	baz=230						
NNS	**Nan Shan**	**1.28**	**251**	*e*P	**Pg**	03 37 07.0	+0.5
	baz=248						
WHF	**Hehuan Shan**	**1.50**	**241**	*e*P	**Pg**	03 37 10.8	+0.1
	baz=239						
SMLT	**Sun Moon Lake**	**1.92**	**239**	*e*P	**Pg**	03 37 18.1	-0.5
	baz=238						
TYC	**Yuchr**	**1.94**	**241**	*e*P	**Pg**	03 37 18.1	-1.0
	baz=239						
TWF1	**Yuli**	**1.98**	**221**	*e*P	**Pb**	03 37 17.0	-0.5
	baz=219						
YUS	**Yu-Shan**	**2.11**	**230**	*e*P	**Pb**	03 37 19.3	-0.6
	baz=228						
ALS	**Alishan**	**2.20**	**232**	*e*P	**Pb**	03 37 20.7	-0.7
	baz=231						
CHN4	**Tsaushan**	**2.45**	**232**	*e*P	**Pb**	03 37 25.2	-0.3
	baz=231						
KSRS	**Korea Array**	**13.31**	**18**	Pn	P	03 40 03.9	+4.2
	0.0nm,0.3s,baz=192,slow=12,SNR=7.1						
SONM	**Songino Array**	**26.30**	**335**	P	**P**	**03 42 19.3**	**+2.5**
	0.3nm,0.5s,baz=152,slow=6.7,SNR=4.2						
SONM				PcP	PcP	03 45 46.9	+4.2
	0.2nm,0.5s,baz=153,slow=4.5,SNR=3.9						
MKAR	**Makanchi Array**	**38.82**	**315**	P	**P**	**03 44 05.1**	**-0.9**
	0.3nm,0.4s,baz=108,slow=9.0,SNR=3.3						
ZALV	**Zalesovo Beam**	**40.44**	**326**	P	**P**	**03 44 19.5**	**+0.3**
	0.6nm,0.5s,baz=108,slow=4.7,SNR=2.7						
WRA	**Warramunga Arr**	**45.96**	**165**	P	**P**	**03 45 05.5**	**+1.2**
	1.8nm,0.8s,baz=345,slow=8.6,SNR=10						
ASAR	**Alice Springs**	**49.46**	**166**	P	P	03 45 34.1	+2.7
	0.3nm,0.7s,baz=350,slow=9.8,SNR=3.1						
FINES	**FINESS Array B**	**71.55**	**330**	P	**P**	**03 48 02.7**	**+0.9**
	1.7nm,0.9s,baz=50,slow=4.3,SNR=3.9						

IDC 12 03:40:08.8±1.1, 24°.72N×122°.17E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.5/24, mbtmp3.6/6, ML3.4/1, MS2.8/1, Ms1 2.8/1, ms1mx2.8/33, Error ellipse: s-maj=51.5km s-min=22.2km az=77.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**10.62**	**186**	LR	LR	03 46 34.8	
	comp=Z,52nm,18.8s,baz=67,slow=36						
KSRS	**Korea Array**	**13.62**	**20**	Pn	Pn	03 43 22.1	-1.1
	0.2nm,0.3s,baz=202,slow=12,SNR=7.6						
USRK	**Ussuriysk Arra**	**21.03**	**20**	P	P	03 44 54.6	+0.6
	0.8nm,0.5s,baz=220,slow=13,SNR=3.0						
MKAR	**Makanchi Array**	**38.59**	**315**	P	P	03 47 33.7	+0.2
	0.3nm,0.8s,baz=108,slow=9.2,SNR=2.8						
WRA	**Warramunga Arr**	**45.94**	**164**	P	P	03 48 33.7	0.0
	0.9nm,0.8s,baz=346,slow=8.5,SNR=5.7						
ASAR	**Alice Springs**	**49.42**	**166**	P	P	03 49 00.4	-0.3
	0.3nm,0.8s,baz=341,slow=11,SNR=3.3						
FINES	**FINESS Array B**	**71.44**	**330**	P	P	03 51 30.6	-0.2
	3.0nm,1.0s,baz=46,slow=9.9,SNR=3.2						

TAP ***12*** *03:47:29.3, 24°.79N×122°.77E, h21km±1km, ML2.9, D*
IDC ***12*** *03:47:32.0±1.5, 24°.58N×122°.20E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/24, mbtmp3.5/4, ML3.0/1, Error ellipse: s-maj=71.2km s-min=25.2km az=70.0*

ISC 12 03:47:34.0±1.5, 24°.79N±0°.09×122°.4E±0°.1, h16km, n12, σ1°11/11, mb3.5/3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.40**	**304**	*e*P	**Pn**	**03 47 43.7**	**-1.4**
	baz=287						
TWB1				*e*S	**Sn**	03 47 50.9	-1.4
	baz=287						
TWC	**Suao**	**0.49**	**249**	*e*P	**Pn**	03 47 45.3	-1.0
	baz=257						
NWF	**Wu-fen Shan**	**0.59**	**299**	*e*P	**Pn**	03 47 47.6	-0.2
	baz=287						
TWE	**Neicheng**	**0.63**	**264**	*e*P	**Pn**	03 47 47.6	-0.6
	baz=266						
YOJ	**Yonaguni jima**	**0.68**	**118**	P	Pg	03 47 37.9	-9.5
	baz=145						
YOJ				*e*S	Sg	03 47 44.2	-12
	baz=145						
ENTT	**Nioudou**	**0.73**	**259**	*e*P	**Pn**	03 47 50.0	+0.3
	baz=262						
NSK	**Sanguang**	**0.91**	**263**	*e*P	**Pg**	03 47 52.4	+0.7
	baz=265						
WHF	**Hehuan Shan**	**1.18**	**237**	*e*P	**Pn**	03 47 55.7	-0.5
	baz=244						
KSRS	**Korea Array**	**13.49**	**19**	Pn	P	03 50 47.9	-6.1
	0.1nm,0.3s,baz=194,slow=13,SNR=4.7						
SONM	**Songino Array**	**26.25**	**335**	P	**P**	**03 53 09.9**	**+1.4**
	0.4nm,0.6s,baz=150,slow=8.3,SNR=3.7						
MKAR	**Makanchi Array**	**38.66**	**315**	P	**P**	**03 54 57.7**	**+0.9**
	0.8nm,0.8s,baz=96,slow=11,SNR=5.0						
WRA	**Warramunga Arr**	**45.96**	**164**	P	**P**	**03 55 55.6**	**-0.9**
	0.6nm,0.8s,baz=345,slow=8.3,SNR=3.0						

IDC 12 03:48:14.8±3.3, 11°.92S×165°.19E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/17, mbtmp3.8/4, Error ellipse: s-maj=158.5km s-min=29.7km az=140.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.68**	**251**	P	P	03 54 31.8	+0.3
	1.1nm,1.0s,baz=82,slow=9.1,SNR=4.6						
ASAR	**Alice Springs**	**31.92**	**244**	P	P	03 54 41.8	-0.7
	0.7nm,0.7s,baz=68,slow=10,SNR=7.3						
ILAR	**Eielson Array**	**84.51**	**19**	P	P	04 00 48.8	-0.6
	0.5nm,0.6s,baz=239,slow=5.3,SNR=12						
MKAR	**Makanchi Array**	**93.78**	**317**	P	P	04 01 34.1	+0.2
	0.5nm,0.6s,baz=95,slow=6.4,SNR=3.6						
ARCES	**ARCESS Array B**	**117.04**	**345**	PKP	PKPdf	04 07 02.1	+0.9
	5.9nm,1.1s,baz=66,slow=2.2,SNR=4.0						

IDC ***12*** *03:59:09.1±1.1, 24°.74N×122°.41E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.8/23, mbtmp3.9/7, Error ellipse: s-maj=56.6km s-min=18.8km az=70.0*
ISCJB ***12*** *03:59:10.1±0.7, 24°.96N±0°.05×122°.93E±0°.05, h16km, mb3.8/6, Error ellipse: s-maj=7.7km s-min=5.8km az=140.5*
TAP ***12*** *03:59:12.6, 24°.76N×122°.71E, h1km±2km, ML3.5, D*

ISC 12 03:59:11.6±0.8, 24°.85N±0°.06×122°.81E±0°.06, h16km, n40, σ1°15/41, mb3.7/6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.43**	**155**	*i* P	**Pg**	**03 59 20.0**	**-0.2**
	baz=137						
YOJ				*e*S	**Sg**	03 59 26.5	+0.4
	baz=137						
TWB1	**Santiao Chiao**	**0.76**	**282**	*e*P	**Pb**	03 59 27.5	+1.0
	baz=290						
TWB1				*e*S	**Sg**	03 59 35.8	-0.8
	baz=290						
TWC	**Suao**	**0.91**	**255**	P	**Pb**	03 59 27.4	-1.5
	baz=258						
NWF	**Wu-fen Shan**	**0.96**	**284**	*e*P	**Pb**	03 59 29.0	-0.9
	baz=290						
TWE	**Neicheng**	**1.05**	**263**	*e*P	**Pb**	03 59 31.8	+0.4
	baz=267						
ENA	**Nanau**	**1.06**	**247**	*e*P	**Pb**	03 59 30.6	-1.0
	baz=249						
TWA	**Mucha**	**1.12**	**277**	*e*P	**Pb**	03 59 31.4	-1.3
	baz=282						
ENTT	**Nioudou**	**1.15**	**260**	*e*P	**Pg**	03 59 34.6	+0.8
	baz=263						
NSK	**Sanguang**	**1.33**	**263**	*e*P	**Pn**	03 59 35.1	-0.5
	baz=265						
TWD	**Chiawan**	**1.34**	**236**	*e*P	**Pn**	03 59 35.3	-0.4
	baz=236						
NNS	**Nan Shan**	**1.37**	**253**	*e*P	**Pn**	03 59 35.7	-0.5
	baz=255						
HWA	**Hwalien**	**1.40**	**232**	*e*P	**Pb**	03 59 37.2	-0.2
	baz=232						
WHF	**Hehuan Shan**	**1.57**	**244**	*e*P	**Pn**	03 59 39.7	+0.4
	baz=244						
TWT	**Tachien**	**1.60**	**249**	*e*P	**Pb**	03 59 41.1	+0.2
	baz=250						
ESL	**Shilin**	**1.62**	**231**	*e*P	**Pn**	03 59 40.2	+0.6
	baz=230						
NSTT	**Nanjuang**	**1.66**	**263**	*e*P	**Pb**	03 59 42.2	+0.4
	baz=265						
EHY	**Hungye**	**1.91**	**226**	*e*P	**Pb**	03 59 45.4	-0.6
	baz=225						
TWQ1	**Liyutan**	**1.92**	**255**	*e*P	**Pb**	03 59 47.2	+0.9
	baz=256						
SMLT	**Sun Moon Lake**	**1.99**	**242**	*e*P	**Pb**	03 59 47.4	-0.1
	baz=242						
TYC	**Yuchr**	**2.01**	**243**	*e*P	**Pb**	03 59 47.3	-0.5
	baz=243						
TWF1	**Yuli**	**2.03**	**223**	*e*P	**Pb**	03 59 46.9	-1.2
	baz=222						
YUS	**Yu-Shan**	**2.17**	**232**	*e*P	**Pn**	03 59 48.0	+0.4
	baz=231						
ALS	**Alishan**	**2.26**	**234**	*e*P	**Pn**	03 59 49.9	+1.3
	baz=234						
CHN5	**Tsauling**	**2.31**	**238**	*e*P	**Pn**	03 59 51.3	+2.1
	baz=238						
ELDTW	**Lidau**	**2.33**	**225**	*e*P	**Pn**	03 59 50.3	+0.9
	baz=224						
CHN4	**Tsaushan**	**2.52**	**234**	*e*P	**Pn**	03 59 52.9	+1.1
	baz=234						
WTP	**Ta-pu**	**2.56**	**232**	*e*P	**Pn**	03 59 54.0	+1.5
	baz=231						
TWG	**Pinlang**	**2.57**	**219**	*e*P	**Pn**	03 59 54.7	+2.1
	baz=217						
CHN1	**Nanshi**	**2.66**	**232**	*e*P	**Pb**	03 59 56.9	-2.0
	baz=231						
SGST	**

mb1 3.7/3, mb1mx3.3/25, mbtmp3.5/3, Error ellipse: s-maj=98.3km s-min=29.9km az=77.0, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**14.07**	**20**	Pn	Pn	04 08 57.4	-0.3
	baz=201,slow=11,SNR=5.8						
SONM	**Songino Array**	**26.46**	**336**	P	P	04 11 15.9	0.0
	0.3nm,0.6s,baz=154,slow=8.0,SNR=2.5						
WRA	**Warramunga Arr**	**45.66**	**163**	P	P	04 13 59.6	-0.1
	1.2nm,0.9s,baz=345,slow=8.3,SNR=5.4						

IDC ***12*** *04:22:04.0±1.2, 1°.44S×99°.57E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.8/21, mbtmp4.0/7, Error ellipse: s-maj=50.3km s-min=18.4km az=61.0*

ISCJB ***12*** *04:22:05.4±0.8, 1°.55S±0°.06×99°.28E±0°.07, h30km, mb4.0/7, Error ellipse: s-maj=9.6km s-min=9.2km az=9.7*

DJA ***12*** *04:22:06.4±0.7, 1°.5S±4°×9°.9E±°, h15km, M4.4/5, mb4.2/1, MLv4.4/5*

ISC 12 04:22:08.2±0.9, 1°.43S±0°.07×99°.41E±0°.07, h30km, n20, σ1s26/16, mb4.1/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.17**	**64**	P	**Pn**	**04 22 27.4**	**-1.2**
PDSI				S	**Sb**	**04 22 45.6**	**+0.9**
PPI	**Padang Panjang**	**1.38**	**46**	P	**Pn**	**04 22 31.0**	**-0.4**
PPI				S	**Sb**	**04 22 51.7**	**+1.0**
GSI	**Gunungsitoli**	**3.28**	**326**	P	**Pn**	**04 22 57.3**	**-0.3**
MNAI	**Manna**	**4.58**	**130**	P	**Pn**	**04 23 15.2**	**-0.3**
MDSI	**Maura Dua**	**5.64**	**123**	P	**Pn**	**04 23 31.2**	**+1.1**
H08S2	**Diego Garcia H**	**27.52**	**256**	T	T	04 55 57.7	
	baz=78,slow=0.7,SNR=35						
H08S3	**Diego Garcia H**	**27.53**	**256**	T	T	04 55 58.3	
	baz=78,slow=0.7,SNR=44						
H08S1	**Diego Carcia H**	**27.54**	**256**	T	T	04 55 49.9	
	baz=78,slow=0.7,SNR=49						
H01W3	**Cape Leeuwin H**	**36.00**	**159**	T	T	05 07 00.6	
	baz=335,slow=0.7,SNR=22						
H01W2	**Cape Leeuwin H**	**36.02**	**159**	T	T	05 07 01.1	
	baz=335,slow=0.7,SNR=25						
H01W1	**Cape Leeuwin H**	**36.02**	**159**	T	T	05 07 05.9	
	baz=335,slow=0.7,SNR=19						
WRA	**Warramunga Arr**	**38.79**	**121**	P	**P**	**04 29 28.5**	**-2.0**
	1.9nm,0.7s,baz=301,slow=9.0,SNR=19						
ASAR	**Alice Springs**	**40.06**	**126**	P	**P**	**04 29 41.2**	**+0.1**
	0.8nm,0.6s,baz=302,slow=7.6,SNR=9.8						
KSRS	**Korea Array**	**46.84**	**31**	P	**P**	**04 30 34.5**	**-0.9**
	1.1nm,0.5s,baz=236,slow=8.7,SNR=5.5						
SONM	**Songino Array**	**49.44**	**6**	P	**P**	**04 30 55.9**	**+0.2**
	0.5nm,0.5s,baz=189,slow=10,SNR=5.6						
SONM				PcP	**PcP**	**04 32 20.7**	**+3.2**
	0.3nm,0.5s,baz=173,slow=3.8,SNR=2.4						
STKA	**Stephens Creek**	**49.96**	**132**	P	**P**	**04 30 59.2**	**-0.6**
	2.4nm,0.8s,baz=315,slow=7.1,SNR=3.3						
MKAR	**Makanchi Array**	**50.33**	**345**	P	**P**	**04 31 02.7**	**+0.4**
	1.3nm,0.5s,baz=155,slow=9.2,SNR=12						
ZALV	**Zalesovo Beam**	**56.51**	**350**	P	**P**	**04 31 47.5**	**+0.1**
	1.8nm,0.5s,baz=169,slow=6.3,SNR=9.1						
TXAR	**Lajitas Array**	**144.60**	**36**	PKP	PKPbc	04 41 41.1	-0.3
	0.3nm,0.4s,baz=194,slow=0.7,SNR=4.8						
CFAA	**Coronel Fontan**	**145.12**	**199**	PKPbc	**PKPbc**	**04 41 42.4**	**-0.5**
	0.4nm,0.6s,baz=206,slow=2.4,SNR=7.1						

JMA 12 04:33:45.1±0.1, 43°.33N×146°.25E, h55km±1km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.37**	**276**	P	Pn	04 33 55.3	0.0
NEM2				eS	Sn	04 34 02.9	+0.2
JRA	**Rausu**	**1.02**	**307**	P	Pn	04 34 03.3	+0.1
JRA				eS	Sn	04 34 16.7	+0.1
JNK	**Nakash**	**1.14**	**283**	P	Pn	04 34 04.7	-0.2
JNK				eS	Sn	04 34 18.9	-0.7
JAK	**Akkeshi**	**1.19**	**254**	P	Pn	04 34 05.5	+0.1
JAK				eS	Sn	04 34 20.5	0.0
JAR	**Ashorobuto**	**1.81**	**270**	P	Pn	04 34 14.6	+0.7
JAR				eS	Sn	04 34 36.6	+0.9
JTKR	**Abashiri--Toko**	**1.82**	**291**	P	Pn	04 34 14.7	+0.8
JTKR				eS	Sn	04 34 36.8	+1.0

IDC ***12*** *04:42:00.5±1.2, 24°.70N×122°.48E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/25, mbtmp3.8/7, MS4.0/3, Ms1 4.0/3, ms1mx3.5/40, Error ellipse: s-maj=55.1km s-min=19.8km az=68.0*

TAP ***12*** *04:42:00.8, 24°.99N×122°.91E, h14km±2km, ML3.5, D*

ISC 12 04:42:02.7±0.8, 24°.81N±0°.05×122°.73E±0°.05, h16km, n35, σ1s08/33, mb3.7/6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.43**	**143**	P	**Pb**	**04 42 11.7**	**-0.2**
	baz=170						
YOJ				eS	**Sn**	**04 42 19.8**	**-2.0**
	baz=170						
TWB1	**Santiao Chiao**	**0.70**	**287**	ePn	**Pg**	**04 42 16.0**	**-0.5**
	baz=271						
EGS		**0.72**	**273**	ePn	**Pn**	**04 42 18.3**	**0.0**
	baz=260						
TWC	**Suao**	**0.82**	**256**	ePn	**Pn**	**04 42 20.2**	**+0.5**
	baz=248						
NWF	**Wu-fen Shan**	**0.90**	**287**	ePn	**Pn**	**04 42 20.8**	**0.0**
	baz=274						
TWE	**Neicheng**	**0.97**	**265**	ePn	**Pn**	**04 42 22.3**	**+0.6**
	baz=256						
PCYT	**Pengchaiyu**	**1.01**	**324**	ePn	**Pb**	**04 42 20.4**	**-1.5**
	baz=310						
TWA	**Mucha**	**1.05**	**280**	ePn	**Pg**	**04 42 25.2**	**+2.0**
	baz=269						
ENTT	**Nioudou**	**1.07**	**261**	ePn	**Pg**	**04 42 24.9**	**+1.5**
	baz=254						
TWY	**Chenhua**	**1.12**	**295**	ePn	**Pn**	**04 42 23.4**	**-0.4**
	baz=283						
NSK	**Sanguang**	**1.25**	**264**	ePn	**Pg**	**04 42 26.2**	**-0.7**
	baz=257						
TWD	**Chiawan**	**1.26**	**235**	ePn	**Pg**	**04 42 29.0**	**+2.0**
	baz=232						
NNS	**Nan Shan**	**1.29**	**254**	ePn	**Pg**	**04 42 27.7**	**+0.1**
	baz=248						
WHF	**Hehuan Shan**	**1.49**	**244**	P	**Pg**	**04 42 30.4**	**-1.0**
	baz=240						
NSTT	**Nanjuang**	**1.58**	**264**	ePn	**Pb**	**04 42 31.8**	**+0.3**
	baz=258						
SMLT	**Sun Moon Lake**	**1.90**	**241**	ePn	**Pb**	**04 42 37.0**	**-0.1**
	baz=238						
TYC	**Yuchr**	**1.93**	**243**	ePn	**Pb**	**04 42 35.9**	**-1.6**
	baz=239						
TWF1	**Yuli**	**1.95**	**222**	ePn	**Pb**	**04 42 36.9**	**-1.0**
	baz=221						
YUS	**Yu-Shan**	**2.09**	**231**	ePn	**Pb**	**04 42 38.4**	**-2.1**
	baz=230						
ALS	**Alishan**	**2.18**	**234**	ePn	**Pb**	**04 42 42.0**	**+0.1**
	baz=232						
CHN5	**Tsauling**	**2.23**	**238**	ePn	**Pb**	**04 42 41.7**	**-1.0**
	baz=235						
CHN4	**Tsaushan**	**2.43**	**234**	ePn	**Pb**	**04 42 45.4**	**-0.7**
	baz=232						
WTP	**Ta-pu**	**2.48**	**232**	ePn	**Pb**	**04 42 46.0**	**-1.0**
	baz=230						
TWK	**Hsinying**	**2.56**	**234**	ePn	**Pb**	**04 42 48.4**	**+0.1**
	baz=232						
CHN1	**Nanshi**	**2.58**	**232**	ePn	**Pb**	**04 42 48.3**	**-0.3**
	baz=230						
JNU	**Nakatsue**	**10.93**	**39**	LR	LR	04 49 23.4	
	comp=Z,366nm,18.3s,baz=43,slow=40						
KSRS	**Korea Array**	**13.37**	**18**	Pn	**P**	**04 45 22.9**	**+1.7**
	0.2nm,0.3s,baz=193,slow=12,SNR=13						
KSRS				LR	LR	04 50 48.2	
	comp=Z,249nm,19.5s,baz=20,slow=39						
USRK	**Ussuriysk Arra**	**20.77**	**19**	P	Pn	04 46 44.9	-0.5
	1.3nm,0.5s,baz=186,slow=10,SNR=2.9						
SONM	**Songino Array**	**26.37**	**335**	P	**P**	**04 47 39.0**	**+0.6**
	1.5nm,0.9s,baz=145,slow=5.4,SNR=8.2						
MKAR	**Makanchi Array**	**38.88**	**315**	P	**P**	**04 49 27.6**	**+0.2**
	1.5nm,0.9s,baz=108,slow=8.1,SNR=11						
ZALV	**Zalesovo Beam**	**40.50**	**326**	P	**P**	**04 49 40.8**	**0.0**
	1.6nm,0.8s,baz=108,slow=8.0,SNR=4.8						
KURBB	**Kurchatov Arra**	**42.55**	**319**	P	**P**	**04 49 56.1**	**-1.5**
	0.5nm,0.2s,baz=109,slow=8.3,SNR=6.9						
WRA	**Warramunga Arr**	**45.89**	**165**	P	**P**	**04 50 24.4**	**-0.3**
	2.3nm,1.0s,baz=348,slow=8.3,SNR=5.1						
ASAR	**Alice Springs**	**49.39**	**166**	P	**P**	**04 50 51.7**	**-0.1**
	0.4nm,0.8s,baz=353,slow=6.7,SNR=3.1						
KEST	**Kesra**	**92.92**	**312**	LR	LR	05 43 12.8	
	comp=Z,249nm,20.5s,baz=251,slow=40						

IDC 12 05:05:57.3±1.2, 13°.65S×166°.38E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.7/20, mbtmp3.7/6, ML3.2/1, Error ellipse: s-maj=39.5km s-min=29.2km az=107.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.38**	**180**	Pn	Pn	05 08 01.0	+0.7
	0.3nm,0.3s,baz=342,slow=19,SNR=2.6						
DZM				Sn	Sn	05 09 27.2	-8.5
	baz=307,slow=20,SNR=1.7						
WRA	**Warramunga Arr**	**31.27**	**254**	P	P	05 12 18.8	-0.4
	0.2nm,0.5s,baz=66,slow=9.2,SNR=4.2						
ASAR	**Alice Springs**	**32.27**	**247**	P	P	05 12 28.1	0.0
	0.4nm,0.7s,baz=76,slow=8.6,SNR=4.3						
QSPA	**South Pole Qui**	**76.37**	**180**	P	P	05 17 48.3	-0.1
	2.4nm,0.9s						
ILAR	**Eielson Array**	**85.77**	**18**	P	P	05 18 37.9	-0.2
	0.5nm,0.9s,baz=232,slow=5.2,SNR=5.4						
MKAR	**Makanchi Array**	**95.83**	**317**	P	P	05 19 26.3	+0.5
	0.3nm,0.5s,baz=84,slow=7.7,SNR=3.2						
ARCES	**ARCESS Array B**	**118.99**	**345**	PKP	PKPdf	05 24 47.1	-0.4
	3.7nm,0.9s,baz=85,slow=1.9,SNR=5.1						

MDD ***12*** *05:25:32.4±2.3, 32°.80N×12°.39W, h30km±32km, mb3.7/3, Error ellipse: s-maj=22.6km s-min=6.8km az=151.0, PRXIMO*

CSEM ***12*** *05:25:34.0±0.7, 33°.34N×12°.67W, h20km, ML2.9/12, Error ellipse: s-maj=32.7km s-min=5.6km az=150.0*

INMG ***12*** *05:25:34.8±1.0, 32°.68N×12°.33W, h10km, ML2.4, Error ellipse: s-maj=10.8km s-min=2.5km az=148.0*

ISC 12 05:25:30.3±2.0, 33°.1N±0°.2×12°.46W±0°.09, h10km, n47, σ2s10/73, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPST	**Porto Santo, M**	**3.25**	**270**	ePn	**Pn**	**05 26 21.8**	**+0.4**
PMPST				eSn	**Sn**	**05 26 57.1**	**-3.0**
PMPST				A	A	05 27 02.7	
	20nm,0.6s						
PMPST	**Porto Santo, M**	**3.25**	**270**	ePn	**Pn**	**05 26 21.8**	**+0.4**
PMPST				eSn	**Sn**	**05 26 57.1**	**-3.0**
	20nm,0.6s						
PMPS	**Porto Santo**	**3.25**	**270**	ePn	**Pn**	**05 26 21.7**	**+0.4**
PMPS				eSn	**Sn**	**05 26 57.1**	**-3.0**
PMPS				A	A	05 27 09.2	
	15nm,0.8s						
PMPS	**Porto Santo**	**3.25**	**270**	Pn	**Pn**	**05 26 21.7**	**+0.4**
PMPS				Pn	**Pn**	**05 26 21.8**	**+0.4**
PMPS				Sn	**Sn**	**05 26 57.1**	**-3.0**
	9.8nm,0.6s						
PMPS				Sn	**Sn**	**05 26 57.1**	**-3.0**
	7.5nm,0.8s						
PMPS	**Porto Santo**	**3.25**	**270**	Pn	**Pn**	**05 26 21.8**	**+0.4**
PMPS				eSn	**Sn**	**05 26 57.1**	**-3.0**
	15nm,0.8s						
PMAR	**Madeira**	**3.77**	**265**	ePn	**Pn**	**05 26 28.5**	**-0.1**
PMAR				eSn	**Sn**	**05 27 10.4**	**-2.7**
PMAR				A	A	05 27 15.3	
	9.9nm,0.7s						
PMAR	**Madeira**	**3.77**	**265**	Pn	**Pn**	**05 26 28.5**	**-0.1**
PMAR				Sn	**Sn**	**05 27 10.4**	**-2.7**
	4.9nm,0.7s						
PMAR	**Madeira**	**3.77**	**265**	Pn	**Pn**	**05 26 28.5**	**-0.1**
PMAR				eSn	**Sn**	**05 27 10.4**	**-2.7**
	9.9nm,0.7s						
CFUE	**Fuerteventura**	**4.64**	**196**	Sn	Sn	05 27 22.2	-12
	3.2nm,0.1s,SNR=7.9						
CFUE	**Fuerteventura**	**4.64**	**196**	Sn	Sn	05 27 22.2	-12
	3.2nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.98**	**36**	ePn	**Pn**	**05 26 47.0**	**+1.8**
PFVI				eSn	**Sn**	**05 27 42.4**	**-0.4**
PFVI				A	A	05 27 47.3	
	4.5nm,0.7s						
PFVI	**Vila Bisbo**	**4.98**	**36**	Pn	**Pn**	**05 26 46.2**	**+1.1**
	0.7nm,0.1s,SNR=7.9						
PFVI				Sn	**Sn**	**05 27 41.7**	**-1.1**
	2.3nm,0.3s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.98**	**36**	ePn	**Pn**	**05 26 47.0**	**+1.8**
PFVI				eSn	**Sn**	**05 27 42.4**	**-0.4**
	4.5nm,0.7s						
MORF	**Marmelete**	**5.21**	**36**	ePn	**Pn**	**05 26 50.3**	**+2.0**
MORF				eSn	**Sn**	**05 27 48.4**	**0.0**
MORF				A	A	05 27 49.5	
	5.1nm,0.9s						
MORF	**Marmelete**	**5.21**	**36**	Pn	**Pn**	**05 26 50.3**	**+2.0**
MORF				Sn	**Sn**	**05 27 48.4**	**0.0**
	5.1nm,0.9s						
MORF	**Marmelete**	**5.21**	**36**	Pn	**Pn**	**05 26 50.3**	**+2.0**
MORF				eSn	**Sn**	**05 27 48.4**	**0.0**
	5.1nm,0.9s						
PTEO	**Sao Teotonio**	**5.36**	**34**	eSn	**Sn**	**05 27 52.2**	**+0.1**
PTEO				A	A	05 28 03.5	
	4.0nm,0.8s						
PTEO	**Sao Teotonio**	**5.36**	**34**	Sn	**Sn**	**05 27 52.2**	**+0.1**
	2.0nm,0.8s						
PTEO	**Sao Teotonio**	**5.36**	**34**	eSn	**Sn**	**05 27 52.2**	**+0.1**
	4.0nm,0.8s						
PBDV	**Barranco-do-Ve**	**5.53**	**41**	ePn	**Pn**	**05 26 55.4**	**+2.7**
PBDV				eSn	**Sn**	**05 27 55.4**	**-1.0**
PBDV				A	A	05 28 03.2	
	2.3nm,0.7s						
PBDV	**Barranco-do-Ve**	**5.53**	**41**	Pn	**Pn**	**05 26 55.4**	**+2.7**
PBDV				Sn	**Sn**	**05 27 55.4**	**-1.0**
	2.3nm,0.7s						
PBDV	**Barranco-do-Ve**	**5.53**	**41**	Pn	**Pn**	**05 26 55.4**	**+2.7**
PBDV				eSn	**Sn**	**05 27 55.4**	**-1.0**
	2.3nm,0.7s						
PCVE	**Castro Verde**	**5.76**	**38**	eSn	**Sn**	**05 28 01.8**	**-0.3**
PCVE				A	A	05 28 06.9	
	2.3nm,0.6s						
PCVE	**Castro Verde**	**5.76**	**38**	Sn	**Sn**	**05 28 01.8**	**-0.3**
	2.3nm,0.6s						
PCVE	**Castro Verde**	**5.76**	**38**	eSn	**Sn**	**05 28 01.8**	**-0.3**
	2.3nm,0.6s						
PVAQ	**Vaqueiros**	**5.76**	**41**	ePn	**Pn**	**05 26 58.3**	**+2.4**
PVAQ				eSn	**Sn**	**05 28 01.3**	**-0.8**
PVAQ				A	A	05 28 03.4	
	2.1nm,1.0s						
PVAQ	**Vaqueiros**	**5.76**	**41**	Pn	**Pn**	**05 26 58.3**	**+2.4**
PVAQ				Sn	**Sn**	**05 28 01.3**	**-0.8**
	2.1nm,1.0s						
PVAQ	**Vaqueiros**	**5.76**	**41**	Pn	**Pn**	**05 26 58.3**	**+2.4**
PVAQ				eSn	**Sn**	**05 28 01.3**	**-0.8**
	2.1nm,1.0s						
PNCL	**Nicolau / Gran**	**5.91**	**32**	ePn	Pn	05 27 02.1	+4.2
PNCL				eSn	**Sn**	**05 28 05.1**	**-0.6**
PNCL				A	A	05 28 08.6	
	2.1nm,0.4s						
EGRO	**El Granado**	**5.99**	**41**	Pn	**Pn**	**05 27 01.0**	**+2.0**
	0.3nm,0.1s,SNR=4.1						
EGRO				Sn	**Sn**	**05 28 04.9**	**-2.7**
	0.7nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**5.99**	**41**	Pn	**Pn**	**05 27 01.0**	**+2.0**
	0.3nm,0.1s,SNR=4.1						
EGRO				Sn	**Sn**	**05 28 04.9**	**-2.7**
	0.7nm,0.1s,SNR=7.9						
EVO	**Evora**	**6.49**	**33**	eSn	**Sn**	**05 28 18.6**	**-1.3**
EVO				A	A	05 28 22.9	
	1.8nm,0.3s						
EVO	**Evora**	**6.49**	**33**	Sn	**Sn**	**05 28 18.6**	**-1.3**
	1.8nm,0.3s						
EVO	**Evora**	**6.49**	**33**	eSn	**Sn**	**05 28 18.6**	**-1.3**
	1.8nm,0.3s						
EMIN	**Mina Concepcio**	**6.61**	**44**	Sn	**Sn**	**05 28 19.3**	**-3.7**
	0.6nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**6.61**	**44**	Sn	**Sn**	**05 28 19.3**	**-3.7**
	0.6nm,0.1s,SNR=7.9						
PMTG	**Montargil**	**6.85**	**29**	ePn	**Pn**	**05 27 13.9**	**+3.1**
PMTG				eSn	**Sn**	**05 28 27.1**	**-1.6**
PMTG				A	A	05 28 36.8	
	1.3nm,0.8s						
PMTG	**Montargil**	**6.85**	**29**	ePn	**Pn**	**05 27 13.9**	**+3.1**
PMTG				eSn	**Sn**	**05 28 27.1**	**-1.6**
	1.3nm,0.8s						
EBAD	**Badajoz**	**7.14**	**37**	Sn	**Sn**	**05 28 32.2**	**-3.9**
	2.4nm,0.8s,SNR=5.4						
EBAD	**Badajoz**	**7.14**	**37**	Sn	**Sn**	**05 28 32.2**	**-3.9**
	2.4nm,0.8s,SNR=5.4						
PMRV	**Marv??o**	**7.50**	**32**	ePn	Pn	05 27 23.5	+3.7
PMRV				eSn	**Sn**	**05 28 43.0**	**-1.9**
PMRV				A	A	05 28 43.8	
	3.5nm,0.8s						
PMRV	**Marv??o**	**7.50**	**32**	Pn	Pn	05 27 23.5	+3.7
PMRV				Sn	**Sn**	**05 28 43.0**	**-1.9**
	3.5nm,0.8s						
PMRV	**Marv??o**	**7.50**	**32**	Pn	Pn	05 27 23.5	+3.7
PMRV				eSn	**Sn**	**05 28 43.0**	**-1.9**
	3.5nm,0.8s						
ECAB	**El Cabril**	**7.56**	**47**	Sn	**Sn**	**05 28 43.3**	**-3.2**
	0.3nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**7.56**	**47**	Sn	**Sn**	**05 28 43.3**	**-3.2**
	0.3nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**8.15**	**50**	Pn	**Pn**	**05 27 28.9**	**+0.2**
	0.1nm,0.1s,SNR=7.9						
EADA				Sn	**Sn**	**05 28 57.3**	**-3.6**
	0.7nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**8.15**	**50**	Pn	**Pn**	**05 27 28.9**	**+0.2**
	0.1nm,0.1s,SNR=7.9						
EADA				Sn	**Sn**	**05 28 57.3**	**-3.6**
	0.7nm,0.2s,SNR=7.9						

IDC 12 05:26:56.3±2.2, 17°.77S×167°.36E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.6/18, mbtmp3.5/4, ML3.1/1, Error ellipse: s-maj=55.3km s-min=36.8km az=124.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.36**	**191**	Pn	Pn	05 28 03.2	-0.9
	1.0nm,0.3s,baz=360,slow=21,SNR=12						
DZM				Sn	Sn	05 28 50.2	-5.5
	2.3nm,0.3s,baz=325,slow=23,SNR=12						
WRA	**Warramunga Arr**	**31.29**	**261**	P	P	05 33 18.5	+0.1
	0.5nm,0.7s,baz=90,slow=9.7,SNR=5.9						
ASAR	**Alice Springs**	**31.78**	**254**	P	P	05 33 22.8	+0.1
	0.4nm,0.6s,baz=75,slow=8.6,SNR=6.5						
ILAR	**Eielson Array**	**89.38**	**18**	P	P	05 39 54.5	0.0
	0.3nm,0.8s,baz=238,slow=5.2,SNR=2.9						

IDC 12 05:28:46.7±1.7, 12°.33S×165°.30E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/18, mbtmp3.7/5, ML3.8/1, Error ellipse: s-maj=50.9km s-min=32.4km az=121.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.75**	**174**	Pn	Pn	05 31 07.9	-0.5
	0.8nm,0.3s,baz=10,slow=19,SNR=5.7						
WRA	**Warramunga Arr**	**30.65**	**252**	P	P	05 35 03.0	-0.1
	0.4nm,0.8s,baz=82,slow=10,SNR=2.7						
ASAR	**Alice Springs**	**31.84**	**245**	P	P	05 35 13.7	0.0
	0.8nm,0.8s,baz=67,slow=9.8,SNR=6.8						
ILAR	**Eielson Array**	**84.86**	**19**	P	P	05 41 22.9	-0.1
	0.9nm,1.2s,baz=230,slow=7.0,SNR=4.2						
MKAR	**Makanchi Array**	**94.15**	**317**	P	P	05 42 07.6	+0.1
	0.1nm,0.3s,baz=115,slow=6.5,SNR=2.6						

IDC ***12*** *05:37:12.0±1.2, 24°.68N×122°.30E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/23, mbtmp3.5/5, MS3.4/2, Ms1 3.4/2, ms1mx3.1/33, Error ellipse: s-maj=51.0km s-min=23.4km az=72.0*

TAP ***12*** *05:37:13.0, 24°.84N×122°.76E, h3km±1km, ML3.1, D*

ISCJB ***12*** *05:37:17.4±1.0, 24°.89N±0°.08×122°.7E±0°.1, h62km, mb3.5/5, Error ellipse: s-maj=13.9km s-min=11.6km az=24.4*

ISC 12 05:37:18.9±1.6, 24°.9N±0°.1×122°.6E±0°.2, h62km, n23, σ1s30/17, mb3.5/5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.55**	**138**	P	Pn	05 37 22.2	-9.4
	baz=149						
YOJ				eS	Sn	05 37 28.9	-12
	baz=149						
TWB1	**Santiao Chiao**	**0.58**	**283**	ePn	Pn	05 37 28.3	-3.5
	baz=283						
TWC	**Suao**	**0.74**	**249**	ePn	**Pn**	**05 37 30.6**	**-3.1**
	baz=254						
NWF	**Wu-fen Shan**	**0.78**	**285**	ePn	**Pn**	**05 37 33.6**	**-0.6**
	baz=284						
ENTT	**Nioudou**	**0.98**	**256**	ePn	**Pn**	**05 37 37.0**	**+0.3**
	baz=259						
NSK	**Sanguang**	**1.15**	**260**	ePn	**Pn**	**05 37 37.8**	**-1.3**
	baz=262						
NNS	**Nan Shan**	**1.21**	**249**	ePn	**Pn**	**05 37 39.5**	**-0.3**
	baz=252						
WHF	**Hehuan Shan**	**1.42**	**240**	ePn	**Pn**	**05 37 41.5**	**-1.6**
	baz=242						
EHY	**Hungye**	**1.80**	**221**	ePn	**Pn**	**05 37 46.9**	**-0.8**
	baz=224						
SMLT	**Sun Moon Lake**	**1.84**	**238**	ePn	**Pn**	**05 37 49.0**	**+0.6**
	baz=240						
TYC	**Yuchr**	**1.87**	**239**	ePn	**Pn**	**05 37 49.5**	**+1.0**
	baz=241						
YUS	**Yu-Shan**	**2.05**	**228**	ePn	**Pn**	**05 37 50.4**	**-1.1**
	baz=230						
ALS	**Alishan**	**2.13**	**231**	ePn	**Pn**	**05 37 54.2**	**+1.7**
	baz=233						
CHN4	**Tsaushan**	**2.39**	**231**	ePn	**Pn**	**05 37 56.9**	**+1.2**
	baz=233						
TWK	**Hsinying**	**2.51**	**231**	ePn	**Pn**	**05 37 57.6**	**+0.1**
	baz=232						
CHN1	**Nanshi**	**2.54**	**229**	ePn	**Pn**	**05 37 57.2**	**-0.6**
	baz=231						
JNU	**Nakatsue**	**10.95**	**39**	LR	LR	05 45 00.8	
	comp=Z,290nm,20.6s,baz=39,slow=42						
KSRS	**Korea Array**	**13.34**	**19**	LR	LR	05 46 06.5	
	comp=Z,89nm,19.7s,baz=40,slow=39						
SONM	**Songino Array**	**26.27**	**335**	P	**P**	**05 42 49.4**	**+1.0**
	0.4nm,0.7s,baz=151,slow=3.3,SNR=3.0						
PETK	**Petropavlovsk-**	**38.57**	**34**	P	P	05 44 39.1	+3.5
	1.5nm,0.6s,baz=224,slow=10,SNR=2.7						
MKAR	**Makanchi Array**	**38.76**	**315**	P	**P**	**05 44 37.6**	**+0.

0.4nm,0.2s,baz=88,slow=7.9,SNR=3.1
ILAR Eielson Array 84.80 23 P **P** **06 11 38.4 -1.7**
0.5nm,0.6s,baz=252,slow=4.7,SNR=8.4
TORD Torodi Ar. Bea 147.24 285 PKPbc **PKPbc** **06 18 49.3 -0.8**
0.4nm,0.5s,baz=62,slow=3.1,SNR=4.7
BDFB Brasilia 152.43 142 PKPbc **PKPbc** **06 19 01.6 -1.4**
2.6nm,0.5s,baz=125,slow=1.9,SNR=7.4

IDC 12 06:29:47.8±2.6, 19°28N×145°60E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.6/24, mbtmp3.9/4, Error ellipse: s-maj=173.9km s-min=31.3km az=123.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.51**	**196**	P		P	06 37 28.8	0.0
	1.0nm,0.4s,baz=18,slow=8.7,SNR=36							
FITZ	**Fitzroy Crossi**	**42.00**	**209**	P		P	06 37 41.0	0.0
	1.1nm,0.3s,baz=28,slow=14,SNR=22							
ASAR	**Alice Springs**	**44.18**	**195**	P		P	06 37 58.1	-0.5
	0.5nm,0.5s,baz=16,slow=7.8,SNR=9.3							
NVAR	**Mina Array Bea**	**82.86**	**52**	P		P	06 42 14.8	0.0
	0.3nm,0.7s,baz=290,slow=5.9,SNR=4.1							

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*IDC **12** 06:36:57.7±0.6, 12°67S×166°13E, h0km, mb4.5/18, mb1 4.6/20, mb1mx4.6/24, mbtmp4.6/20, ML4.4/2, MS4.6/21, Ms1 4.6/21, ms1mx4.5/30, Error ellipse: s-maj=20.6km s-min=14.6km az=110.0*

*MOS **12** 06:37:02.6±1.3, 12°72S×165°88E, h33km, mb5.5/15, Error ellipse: s-maj=12.4km s-min=9.5km az=21.2*

*ISCJB **12** 06:37:03.2±0.3, 12°76S±0°05×165°89E±0°05, h40km, mb4.8/40, MS4.7/29, Error ellipse: s-maj=8.1km s-min=6.3km az=138.7*

*NEIC **12** 06:37:03.4±0.3, 12°63S×166°01E, h35km, mb5.1/8, Error ellipse: s-maj=9.2km s-min=8.3km az=141.0*

*GCMT **12** 06:37:04.8±0.2, 12°71S×165°97E, h12km, MW5.2, Moment Tensor Solution. s53,c66; s86,c123; Moment tensor: Scale 10^{16}Nm; M_{rr}5.52±.16; $M_{\theta\theta}$-0.70±.17; $M_{\phi\phi}$-4.82±.15; $M_{r\theta}$3.01±.52; $M_{r\phi}$2.42±.12; $M_{\theta\phi}$-3.85±.46; Best double couple: $M_0$7.50000×10^{16} NP1:ϕ_s146.00000°, δ65.00000°, λ82.00000°. NP2:ϕ_s345.00000°, δ26.00000°, λ107.00000°. Principal axes: T 7.4000, Plg69.0000°, Azm41.0000°; N 0.2800, Plg7.0000°, Azm150.0000°; P -7.6700, Plg20.0000°, Azm242.0000°; Data Used: IU IC II G CN.*

*BJI **12** 06:37:14.2, 12°50S×166°15E, h126km, mB5.2/30, mb4.8/41*

*DJA **12** 06:37:18.3±5.6, 13°S±14°×16°6E±2°4, h150km±45km, M4.7/12, mB5.8/2, mb4.7/12, Mw(mB)5.4/2*

ISC 12 06:37:04.2±0.3, 12°68S±0°05×165°92E±0°06, h40km, n156, σ1°58/153, mb4.8/40, MS4.7/29, 2C-1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.69**	**298**	Pn		**Pn**	**06 38 41.1**	**+1.1**
HNR				Sn		**Sn**	**06 39 56.3**	**+1.3**
HNR	**Honiara**	**6.69**	**298**	Pn		**Pn**	**06 38 41.1**	**+1.1**
	56nm,0.3s,baz=191,slow=19,SNR=7.3							
HNR				Sn		**Sn**	**06 39 56.3**	**+1.3**
	13nm,0.3s,baz=180,slow=20,SNR=3.0							
DZM	**Mont Dzumac**	**9.35**	**177**	*e*Pn		**Pn**	**06 39 17.6**	**+1.0**
	158nm,1.3s							
DZM				*e*LR		LR	06 41 17.8	
	2μm,28.8s							
DZM	**Mont Dzumac**	**9.35**	**177**	*e*Pn		Pn	06 39 21.3	+4.7
DZM				Sn		**Sn**	**06 40 55.9**	**-4.7**
DZM	**Mont Dzumac**	**9.35**	**177**	Pn		**Pn**	**06 39 17.5**	**+0.9**
	0.9nm,0.3s,baz=11,slow=18,SNR=8.9							
DZM				Sn		**Sn**	**06 40 55.9**	**-4.7**
	baz=306,slow=19,SNR=2.7							
DZM				LR		LR	06 41 18.0	
	comp=Z,372nm,19.9s,baz=8.4,slow=28							
MSVF	**Nonsavu**	**12.74**	**115**	*e*P		**Pn**	**06 40 04.3**	**+1.3**
MSVF				pmax		pmax		
	comp=Z,127nm,1.6s							
MSVF	**Nonsavu**	**12.74**	**115**	*e*Pn		**Pn**	**06 40 04.3**	**+1.3**
	comp=Z,127nm,1.6s							
PMG	**Port Moresby**	**18.69**	**278**	P		**Pn**	**06 41 21.9**	**+1.9**
PMG	**Port Moresby**	**18.69**	**278**	P		**Pn**	**06 41 21.9**	**+1.9**
	comp=Z,0.7nm,0.3s,baz=59,slow=12,SNR=2.3							
EIDS	**Eidsvold**	**18.84**	**226**	*e*P		**Pn**	**06 41 22.6**	**+0.9**
	comp=Z,82nm,1.6s							
EIDS				*e*S		Sn	06 44 37.0	-15
CTA	**Charters Tower**	**20.24**	**246**	P		Pn	06 41 37.8	-0.5
CTA	**Charters Tower**	**20.24**	**246**	P		Pn	06 41 37.8	-0.5
	comp=Z,36nm,1.1s,baz=75,slow=12,SNR=17							
CTAO	**Charters Tower**	**20.24**	**246**	*e*P		Pn	06 41 38.1	-0.3
CTAO				pmax		pmax		
	comp=Z,66nm,1.1s							
CTAO	**Charters Tower**	**20.24**	**246**	*e*Pn		Pn	06 41 38.0	-0.3
	comp=Z,66nm,1.1s							
AFI	**Afiamalu**	**21.74**	**96**	LR		LR	06 48 49.3	
	comp=Z,959nm,19.0s,baz=277,slow=33							
ARMA	**Armidale**	**22.05**	**215**	*e*P		**P**	**06 41 57.0**	**+1.3**
	comp=Z,82nm,1.5s							
COEN	**Coen**	**22.16**	**264**	*e*P		**P**	**06 41 58.3**	**+1.4**
	comp=Z,189nm,0.9s							
STKA	**Stephens Creek**	**29.40**	**226**	*e*P		**P**	**06 43 05.1**	**+1.3**
STKA	**Stephens Creek**	**29.40**	**226**	P		**P**	**06 43 04.8**	**+0.9**
	comp=Z,9.8nm,0.7s,baz=43,slow=7.6,SNR=15							
STKA				LR		LR	06 55 22.3	
	comp=Z,4μm,18.1s,baz=30,slow=37							
WRAB	**Tennant Creek**	**31.10**	**252**	*e*P		**P**	**06 43 18.3**	**-0.8**
WRAB				pmax		pmax		
	comp=Z,34nm,1.8s							
WRAB	**Tennant Creek**	**31.10**	**252**	*e*P		**P**	**06 43 18.3**	**-0.8**
	comp=Z,34nm,1.8s							
WRA	**Warramunga Arr**	**31.11**	**252**	P		**P**	**06 43 18.4**	**-0.8**
WRA	**Warramunga Arr**	**31.11**	**252**	P		**P**	**06 43 18.4**	**-0.8**
	comp=Z,2.6nm,0.7s,baz=81,slow=9.0,SNR=16							
WRA				LR		LR	06 55 41.0	
	comp=Z,1μm,18.2s,baz=75,slow=36							
RPZ	**Rata Peaks**	**31.24**	**173**	P		**P**	**06 43 19.3**	**-0.7**
RPZ	**Rata Peaks**	**31.24**	**173**	P		**P**	**06 43 19.3**	**-0.7**
	comp=Z,33nm,1.0s,baz=35,slow=7.0,SNR=6.1							
RPZ				LR		LR	06 54 17.3	
	comp=Z,412nm,20.4s,baz=88,slow=33							
AS31	**Alice Springs**	**32.24**	**246**	*e*P		**P**	**06 43 28.4**	**-0.7**
ASAR	**Alice Springs**	**32.24**	**246**	P		**P**	**06 43 28.4**	**-0.8**
ASAR				PcP		**PcP**	**06 46 18.0**	**+0.9**
ASAR	**Alice Springs**	**32.24**	**246**	P		**P**	**06 43 28.4**	**-0.8**
	comp=Z,5.0nm,0.7s,baz=71,slow=9.1,SNR=36							
ASAR				PcP		**PcP**	**06 46 18.0**	**+0.9**
	comp=Z,2.0nm,1.1s,baz=66,slow=2.2,SNR=3.7							
ASAR				LR		LR	06 56 21.6	
	comp=Z,2μm,18.9s,baz=84,slow=36							
RAR	**Rarotonga**	**33.84**	**109**	LR		LR	06 54 27.0	
	comp=Z,820nm,19.3s,baz=269,slow=31							
FITZ	**Fitzroy Crossi**	**39.15**	**257**	*e*P		**P**	**06 44 28.2**	**-0.1**
FITZ	**Fitzroy Crossi**	**39.15**	**257**	P		**P**	**06 44 28.0**	**-0.3**
	comp=Z,8.0nm,0.7s,baz=95,slow=8.9,SNR=17							
FITZ				LR		LR	07 00 43.2	
	comp=Z,924nm,19.4s,baz=72,slow=36							
BATI	**Baumata**	**41.45**	**269**	LR		LR	07 00 04.1	
	comp=Z,404nm,18.4s,baz=268,slow=33							
PPT	**Papeete**	**43.17**	**102**	LR		LR	06 59 39.3	
	comp=Z,600nm,19.9s,baz=273,slow=32							
PPT2	**Papeete2**	**43.17**	**102**	*e*S		**S**	**06 51 28.6**	**+2.9**
	comp=Z,347nm,26.8s							
PPT2				*e*LQ		LQ	06 55 12.0	
	comp=Z,2μm,26.2s							
PPT2				*e*LR		LR	06 56 56.5	
	comp=Z,2μm,28.0s,baz=270							
TBI	**Tubuai**	**43.59**	**111**	*e*S		**S**	**06 51 32.6**	**+1.1**
	comp=Z,306nm,28.0s							
TBI				*e*LQ		LQ	06 55 11.0	
	comp=Z,802nm,28.2s							
TBI				*e*LR		LR	06 56 54.0	
	comp=Z,700nm,28.0s,baz=287							
KAPI	**Kappang**	**46.19**	**275**	LR		LR	07 02 24.4	
	comp=Z,297nm,21.4s,baz=99,slow=33							
NWAO	**Narrogin (SRO)**	**48.71**	**237**	LR		LR	07 06 48.3	
	comp=Z,2μm,18.7s,baz=248,slow=37							
JNU	**Nakatsue**	**56.50**	**325**	P		**P**	**06 46 41.5**	**-1.0**
JNU	**Nakatsue**	**56.50**	**325**	P		**P**	**06 46 41.5**	**-1.0**
	comp=Z,4.0nm,0.8s,baz=90,slow=5.1,SNR=2.0							
RKT	**Rikitea**	**56.88**	**109**	*e*S		**S**	**06 54 39.4**	**+2.8**
	comp=Z,203nm,27.0s							
RKT				*e*LQ		LQ	07 00 52.1	
	comp=Z,417nm,29.2s							
RKT				*e*LR		LR	07 03 14.3	
	comp=Z,286nm,22.0s,baz=279							
ASAJ	**Asahikawa**	**60.38**	**341**	P		**P**	**06 47 10.2**	**+0.9**
ASAJ	**Asahikawa**	**60.38**	**341**	P		**P**	**06 47 10.2**	**+0.9**
	comp=Z,17nm,0.9s,baz=243,slow=1.3,SNR=8.3							
KSRS	**Korea Array**	**61.32**	**326**	P		**P**	**06 47 16.4**	**+0.6**
	comp=Z,7.8nm,1.2s,baz=147,slow=6.3,SNR=11							
KSAR	**Wonju Array Be**	**61.33**	**326**	P		**P**	**06 47 16.4**	**+0.5**
YSS	**Yuzh-Sakhalins**	**62.89**	**342**↑	*e*P		**P**	**06 47 29.0**	**+2.9**
YSS				pmax		pmax		
	comp=Z,120nm,1.4s							
YSS				MLR		MLR		
	comp=Z,1μm,18.0s							
NJ2	**Nanjing**	**63.30**	**316**	*e*P		P	06 47 33.6	+4.4
NJ2				AMB		AMB		
	comp=Z,20nm,0.6s							
USRK	**Ussuriysk Arra**	**64.48**	**334**	P		**P**	**06 47 37.1**	**+0.4**
	comp=Z,2.7nm,0.6s,baz=141,slow=9.8,SNR=6.9							
VNDA	**Vanda**	**64.87**	**181**	P		**P**	**06 47 39.5**	**+0.7**
VNDA	**Vanda**	**64.87**	**181**	P		**P**	**06 47 39.5**	**+0.7**
	comp=Z,1.6nm,0.9s,baz=340,slow=6.8,SNR=4.8							
VNDA				LR		LR	07 14 01.2	
	comp=Z,774nm,18.0s,baz=8.1,slow=34							
CASY	**Casey**	**64.92**	**202**	*e*P		**P**	**06 47 39.7**	**+0.4**
	comp=Z,21nm,1.1s							
MDJ	**Mudanjiang**	**65.87**	**332**	P		P	06 47 49.1	+3.4
MDJ				AMB		AMB		
	comp=Z,13nm,1.1s							
MDJ				AMB		AMB		
	comp=Z,88nm,5.4s							
PETK	**Petropavlovsk-**	**65.90**	**355**	P		**P**	**06 47 46.1**	**+0.3**
PETK	**Petropavlovsk-**	**65.90**	**355**	P		**P**	**06 47 46.1**	**+0.3**
PETK	**Petropavlovsk-**	**65.90**	**355**	P		**P**	**06 47 46.1**	**+0.3**
	comp=Z,4.4nm,0.9s,baz=141,slow=5.7,SNR=4.4							
PETK				LR		LR	07 13 20.4	
	comp=Z,320nm,19.5s,baz=168,slow=33							
CN2	**Changchun**	**67.22**	**329**	*e*P		**P**	**06 47 57.4**	**+3.0**
CN2				*e*S		**S**	**06 56 42.6**	**-3.7**
CN2				AMB		AMB		
	comp=Z,20nm,0.9s							
CN2				LR		LR		
	comp=Z,900nm,20.0s							
CN2				LR		LR		
	comp=Z,500nm,20.0s							
CN2				LR		LR		
	comp=Z,500nm,18.0s							
KLR	**Kul'dur**	**68.62**	**337**	*e*P		P	06 48 00.0	-3.0
KLR				*e*			06 48 11.0	
KLR				pmax		pmax		
	comp=Z,100nm,1.8s							
GYA	**Guiyang**	**69.47**	**305**↑	*i*P		**P**	**06 48 11.7**	**+2.7**
GYA				pP		PcP	06 48 43.2	+11
GYA				sP		sP	06 48 59.0	+33
GYA				PP		PP	06 50 49.4	+6.3
GYA				S		**S**	**06 57 09.8**	**-4.3**
GYA				SKS		**SKiKP**	**06 57 55.6**	**+0.5**
GYA				sS		**SKSac**	**06 58 05.0**	**-1.7**
GYA				AMB		AMB		
	comp=Z,10.0nm,1.0s							
GYA				AMB		AMB		
	comp=Z,120nm,5.2s							
XAN	**Xi'an**	**71.34**	**313**	P		**P**	**06 48 22.9**	**+2.7**
XAN				pP		PcP	06 48 53.4	+14
XAN				sP		sP	06 49 07.7	+31
XAN				AMB		AMB		
	comp=Z,3.0nm,1.4s							
XAN				AMB		AMB		
	comp=Z,50nm,4.7s							
KMI	**Kunming**	**72.11**	**302**	P		P	06 48 29.4	+4.2
KMI				pP		PcP	06 49 00.8	+17
KMI				S		S	06 57 39.8	-5.3
KMI				SS		**SS**	**07 02 22.3**	**-0.9**
KMI				AMB		AMB		
	comp=Z,16nm,1.3s							
KMI				AMB		AMB		
	comp=Z,150nm,4.6s							
KMI				LR		LR		
	comp=Z,140nm,17.2s							
HHC	**Hu-ho-hao-te**	**73.18**	**320**	*e*P		**P**	**06 48 33.7**	**+2.6**
HHC				pP		PcP	06 49 05.1	+18
HHC				sP		sP	06 49 18.9	+31
HHC				PP		PP	06 51 20.7	+6.0
HHC				S		**S**	**06 57 52.8**	**-3.6**
HHC				sS		ScS	06 58 47.2	+11
HHC				SS		**SS**	**07 02 34.0**	**-4.8**
HHC				AMB		AMB		
	comp=Z,52nm,0.8s							
HHC				AMB		AMB		
	comp=Z,300nm,6.8s							
HHC				LR		LR		
	comp=Z,350nm,15.7s							
HHC				LR		LR		
	comp=Z,410nm,15.6s							
HHC				LR		LR		
	comp=Z,440nm,15.1s							
CD2	**Chengdu**	**73.72**	**308**	P		P	06 48 38.1	+3.7
CD2				pP		PcP	06 49 10.2	+20
CD2				sP		sP	06 49 24.2	+33
CD2				PP		PP	06 51 26.6	+7.2
CD2				S		**SKiKP**	**06 57 58.3**	**-2.9**
CD2				sS		ScS	06 58 54.0	+13
CD2				SS		**SS**	**07 02 47.7**	**+0.4**
CD2				AMB		AMB		
	comp=Z,20nm,0.5s							
CD2				AMB		AMB		
	comp=Z,710nm,4.4s							
LZH	**Lanzhou**	**75.98**	**312**	*e*P		P	06 48 51.5	+4.0
LZH				sP		sP	06 49 31.4	+27
LZH				PP		PP	06 51 46.3	+7.7
LZH				*e*S		S	06 58 22.0	-6.0
LZH				SKS		SKSac	06 58 40.3	-15
LZH				sS		ScS	06 59 14.6	+15
LZH				AMB		AMB		
	comp=Z,37nm,1.2s							
LZH				AMB		AMB		
	comp=Z,180nm,4.7s							
LZH				LR		LR		
	comp=Z,710nm,14.6s							
LZH				LR		LR		
	comp=Z,660nm,14.2s							
LZH				LR		LR		
	comp=Z,830nm,16.5s							
SEY	**Seymchan**	**76.11**	**354**	*i*P		**P**	**06 48 46.2**	**-1.2**
CLNS	**Chul'man**	**77.15**	**338**	*e*P		**P**	**06 48 55.2**	**+1.7**
CLNS				pmax		pmax		
	comp=Z,7.0nm,1.0s							
CLNS				pmax		pmax		
	comp=N,20nm,1.3s							
CLNS				pmax		pmax		
	comp=E,7.0nm,0.9s							
QSPA	**South Pole Qui**	**77.33**	**180**	*e*P		**P**	**06 48 54.2**	**-0.4**
	comp=E,45nm,1.3s							
YAK	**Yakutsk**	**79.70**	**344**	*e*P		**P**	**06 49 05.9**	**-1.5**
YAK				*e*			06 49 12.8	
YAK				*e**PP		**PcP**	**06 49 16.7**	**+1.7**
YAK				*e*S		**S**	**06 59 05.2**	**-1.5**
YAK				*e**SS		**SKSac**	**06 59 19.2**	**-1.5**
YAK				*e*			06 59 23.7	
YAK				pmax		pmax		
	comp=Z,25nm,1.1s							
YAK				pmax		pmax		
	comp=E,6.0nm,1.0s							
YAK				pmax		pmax		
	comp=N,9.0nm,1.2s							
YAK				smax		smax		
	comp=E,125nm,12.4s							
YAK				smax		smax		
	comp=N,37nm,9.3s							
YAK				MLR		MLR		
	comp=Z,667nm,20.0s							
YAK				MLR		MLR		
	comp=N,322nm,18.0s							
YAK				MLR		MLR		
	comp=E,205nm,16.0s							
SONM	**Songino Array**	**80.08**	**324**	P		**P**	**06 49 10.8**	**+0.9**
SONM	**Songino Array**	**80.08**	**324**	P		**P**	**06 49 10.8**	**+0.9**
	comp=E,6.1nm,1.0s,baz=130,slow=4.1,SNR=25							
SONM				LR		LR	07 25 19.7	
	comp=E,259nm,18.9s,baz=274,slow=36							
GTA	**Gaotai**	**80.31**	**314**	*e*P		**P**	**06 49 14.3**	**+2.9**
GTA				pP		pP	06 49 45.9	+22
GTA				sP		sP	06 49 59.7	+32
GTA				S		**S**	**06 59 10.2**	**-4.2**
GTA				SKS		SKSac	06 59 16.4	-10
GTA				sS		sS	07 00 04.4	+30
GTA				SS		**SS**	**07 04 25.4**	**-1.2**
GTA				AMB		AMB		
	comp=E,16nm,1.2s							
GTA				AMB		AMB		
	comp=E,230nm,4.5s							
GTA				LR		LR		
	comp=E,150nm,12.1s							
GTA				LR		LR		
	comp=E,200nm,12.6s							
GTA				LR		LR		
	comp=E,240nm,17.1s							
ZAK	**Zakamensk**	**83.13**	**325**	*e*P		**P**	**06 49 26.2**	**+0.2**
ZAK				*e*			06 52 40.1	
ZAK				pmax		pmax		
	comp=Z,6.0nm,1.4s							
MAW	**Mawson**	**83.28**	**202**	P		**P**	**06 49 26.6**	**+0.3**
MAW	**Mawson**	**83.28**	**202**	P		**P**	**06 49 26.6**	**+0.3**
	comp=Z,2.8nm,0.8s,baz=85,slow=11,SNR=4.6							
MAW				LR		LR	07 19 16.4	
	comp=Z,235nm,20.7s,baz=287,slow=30							
TLY	**Talaya**	**83.57**	**326**	*e*P		**P**	**06 49 30.6**	**+2.5**
TLY				*e*			06 49 43.3	
TLY				*e*			06 52 38.5	
TLY				*e*S		S	06 59 41.3	-5.9
TLY				pmax		pmax		
	comp=Z,15nm,1.5s							
TLY				MLR		MLR		
	comp=Z,272nm,18.0s							
COLA	**College**	**84.78**	**18**	*i*P		P	06 49 39.5	+5.6
ILAR	**Eielson Array**	**85.00**	**18**	P		**P**	**06 49 32.4**	**-2.6**
ILAR	**Eielson Array**	**85.00**	**18**	P		**P**	**06 49 32.4**	**-2.6**
	comp=Z,3.2nm,0.9s,baz=240,slow=4.9,SNR=26							
ILAR				LR		LR	07 23 51.7	
	comp=Z,301nm,18.4s,baz=232,slow=33							
NVAR	**Mina Array Bea**	**86.95**	**50**	P		**P**	**06 49 44.8**	**-0.8**
NVAR	**Mina Array Bea**	**86.95**	**50**	P		**P**	**06 49 44.8**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=232,slow=6.7,SNR=2.8							
NVAR				LR		LR	07 21 59.9	
	comp=Z,699nm,19.2s,baz=245,slow=31							
TIXI	**Tiksi**	**87.72**	**349**	*i*P		**P**	**06 49 47.7**	**-0.5**
HVS	**Khovu-Aksy**	**88.94**	**323**	*i*P		**P**	**06 49 55.9**	**+1.3**
SYO	**Syowa Base**	**90.28**	**197**↓	*e*PcP		**P**	**06 50 00.0**	**-0.5**
WMQ	**Urumqi**	**90.36**	**315**	*e*P		**P**	**06 50 03.8**	**+2.4**
WMQ				pP		pP	06 50 36.3	+23
WMQ				sP		sP	06 50 49.7	+31
WMQ				AMB		AMB		
	comp=Z,10.0nm,0.8s							
WMQ				AMB		AMB		
	comp=Z,110nm,4.6s							
WMQ				LR		LR		
	comp=Z,130nm,18.4s							
WMQ				LR		LR		
	comp=Z,180nm,14.8s							
WMQ				LR		LR		
	comp=Z,120nm,17.6s							
PDAR	**Pinedale Array**	**94.53**	**47**	LR		LR	07 28 09.7	
	comp=Z,231nm,18.6s,baz=267,slow=33							
MK31	**Makanchi Array**	**94.82**	**317**	*e*P		**P**	**06 50 22.5**	**+0.6**
MK31	**Makanchi Array**	**94.82**	**317**	*e*P		**P**	**06 50 22.5**	**+0.6**
MKAR	**Makanchi Array**	**94.82**	**317**	P		**P**	**06 50 22.7**	**+0.8**
MKAR	**Makanchi Array**	**94.82**	**317**	P		**P**	**06 50 22.7**	**+0.8**
MKAR	**Makanchi Array**	**94.82**	**317**	P		**P**	**06 50 22.7**	**+0.8**
	comp=Z,3.9nm,0.9s,baz=100,slow=6.7,SNR=22							
MAIT	**Maitri**	**94.89**	**188**	*e*P		**P**	**06 50 19.0**	**-2.7**
ZAA0	**Zalesovo Array**	**94.97**	**324**	*e*P		**P**	**06 50 21.8**	**-0.5**
ZALV	**Zalesovo Beam**	**94.97**	**324**	P		**P**	**06 50 22.1**	**-0.2**
ZALV	**Zalesovo Beam**	**94.97**	**324**	P		**P**	**06 50 22.1**	**-0.2**
ZALV	**Zalesovo Beam**	**94.97**	**324**	P		**P**	**06 50 22.1**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=119,slow=5.2,SNR=8.7							
ZALV				LR		LR	07 37 30.7	
	comp=Z,200nm,18.3s,baz=160,slow=38							
SNAA	**Sanae**	**95.50**	**184**	*e*P		**P**	**06 50 23.0**	**-1.7**
SNAA	**Sanae**	**95.50**	**184**	*e*pP		pP	06 50 34.0	-3.0
SNAA	**Sanae**	**95.50**	**184**	*e*P		**P**	**06 50 23.3**	**-1.4**
	comp=Z,12nm,1.2s							
TXAR	**Lajitas Array**	**96.46**	**61**	LR		LR	07 25 09.2	
	comp=Z,353nm,19.5s,baz=105,slow=30							
VNA2	**Neumayer--Watz**	**96.47**	**182**	*e*P		**P**	**06 50 28.8**	**-0.2**
VNA2	**Neumayer--Watz**	**96.47**	**182**	*e*pP		pP	06 50 38.5	-2.8
VNA1	**Neumayer--Stat**	**96.77**	**182**	*e*P		**P**	**06 50 30.0**	**-0.3**
KSH	**Kashi**	**97.90**	**309**	*e*P		Pdif	06 50 40.4	+4.2
KSH				sP		sP	06 51 26.6	+34
KSH				PP		PP	06 54 44.9	+10
KSH				S		S	07 01 50.9	-9.0
KSH				SS		**SS**	**07 08 46.0**	**+3.8**
KSH				AMB		AMB		
	comp=Z,160nm,5.7s							
KSH				LR		LR		
	comp=Z,190nm,8.8s							
KSH				LR		LR		
	comp=Z,150nm,4.9s							
KSH				LR		LR		
	comp=Z,170nm,8.2s							
ARCES	**ARCESS Array B**	**117.95**	**345**	PKP		**PKPdf**	**06 55 44.6**	**-1.4**
ARCES	**ARCESS Array B**	**117.95**	**345**	PKP		**PKPdf**	**06 55 44.6**	**-1.4**
	comp=Z,4.1nm,0.7s,baz=83,slow=2.3,SNR=17							
VRHR	**Novokhopersk**	**121.06**	**323**	*e*PKIKP		**PKPdf**	**06 55 53.1**	**+0.6**
VRHR				pmax		pmax		
	comp=N,9.0nm,0.5s							
VRHR				pmax		pmax		
	comp=Z,10.0nm,0.5s							
VRHR				pmax		pmax		
	comp=E,10.0nm,0.6s							
ZEI	**Tsey**	**121.90**	**313**	*i*PKIKP		**PKPdf**	**06 55 54.2**	**-0.5**
ZEI				pmax		pmax		
	comp=Z,7.0nm,1.3s							
OBN	**Obninsk**	**122.28**	**328**	*i*PKIKP		**PKPdf**	**06 55 55.0**	**+0.3**
OBN				*e*			06 56 05.5	
OBN				pmax		pmax		
	comp=Z,7.0nm,0.4s							
VSR	**Storozhevoye**	**122.47**	**323**	*e*PKIKP		**PKPdf**	**06 55 55.2**	**0.0**
VSR				pmax		pmax		
	comp=Z,10.0nm,0.5s							
VSR				pmax		pmax		
	comp=N,7.0nm,0.6s							
VSR				pmax		pmax		
	comp=E,5.0nm,0.4s							
KIV	**Kislovodsk**	**122.49**	**314**	*i*PKIKP		**PKPdf**	**06 55 57.0**	**+1.4**
KIV				*e*			06 56 02.1	
KIV				pmax		pmax		
	comp=Z,9.0nm,0.9s							
VORD	**Divnogorie**	**122.49**	**323**	*e*PKIKP		**PKPdf**	**06 55 55.7**	**+0.5**
VORD				pmax		pmax		
	comp=Z,9.0nm,1.1s							
VORD				pmax		pmax		
	comp=E,10.0nm,0.6s							
FINES	**FINESS Array B**	**123.34**	**338**	PKP		**PKPdf**	**06 55 55.5**	**-1.0**
FINES	**FINESS Array B**	**123.34**	**338**	PKP		**PKPdf**	**06 55 55.5**	**-1.0**
	comp=E,3.6nm,0.8s,baz=45,slow=3.0,SNR=6.

SSB	**Saint Sauveur**	**143.84**	**338**	*e*PKIKP	PKPbc	06 56 33.4	+0.3
SSB	**Saint Sauveur**	**143.84**	**338**	*e*PKPdf	PKPbc	06 56 33.4	+0.3
KEST	**Kesra**	**148.80**	**321**	*e*PKPbc	**PKPbc**	**06 56 48.4**	**+0.4**
KEST	**Kesra**	**148.80**	**321**	PKPbc	**PKPbc**	**06 56 46.4**	**-1.6**
	comp=Z,3.9nm,0.7s,baz=281,slow=0.4,SNR=12						
PBRG	**Braganca**	**150.29**	**349**	*e*PKPbc	**PKPbc**	**06 56 51.7**	**+0.3**
POLO	**Lamas de Olo**	**150.89**	**350**	*e*PKPbc	**PKPbc**	**06 56 53.2**	**+0.3**
POLO				*e*P	PKPab	06 57 19.4	+19
MVO	**Moncorvo**	**150.96**	**349**	*e*PKPbc	**PKPbc**	**06 56 53.4**	**+0.3**
MVO				*e*P	PKPab	06 57 19.8	+19
PVRL	**Vila Real**	**150.97**	**350**	*e*PKPbc	**PKPbc**	**06 56 53.5**	**+0.4**
PVRL				*e*P	PKPab	06 57 19.7	+19
PVIS	**Viseu**	**151.55**	**350**	*e*PKPbc	**PKPbc**	**06 56 54.8**	**+0.4**
ESDC	**Sonseca Array**	**151.67**	**343**	PKPbc	**PKPbc**	**06 56 54.9**	**+0.1**
ESDC	**Sonseca Array**	**151.67**	**343**	PKPbc	**PKPbc**	**06 56 54.9**	**+0.1**
	comp=Z,6.0nm,0.8s,baz=15,slow=2.7,SNR=30						
ESLA	**Sonseca Array**	**151.67**	**343**	*e*PKPbc	**PKPbc**	**06 56 54.6**	**-0.2**
MTE	**Manteigas**	**151.80**	**349**	*e*PKPbc	**PKPbc**	**06 56 55.3**	**+0.3**
MTE	**Manteigas**	**151.80**	**349**	*e*PKPbc	**PKPbc**	**06 56 54.9**	**-0.1**
PAB	**San Pablo**	**151.89**	**344**	*e*PKIKP	**PKPbc**	**06 56 55.2**	**-0.1**
PAB	**San Pablo**	**151.89**	**344**	*e*PKPbc	**PKPbc**	**06 56 55.2**	**-0.1**
PCBR	**Castelo Branco**	**152.33**	**349**	*e*PKPbc	**PKPbc**	**06 56 56.1**	**0.0**
PCBR				*e*P	PKPab	06 57 22.6	+17
PTOM	**Tomar**	**152.71**	**350**	*e*PKPbc	**PKPbc**	**06 56 57.4**	**+0.4**
PTOM				*e*P	PKPab	06 57 23.5	+16
PMRV	**Marv??o**	**152.71**	**349**	*e*PKPbc	**PKPbc**	**06 56 57.1**	**+0.1**
PMRV				*e*P	PKPab	06 57 23.4	+16
PMTG	**Montargil**	**153.21**	**350**	*e*PKPbc	**PKPbc**	**06 56 59.1**	**+1.0**
PMTG				*e*P	PKPab	06 57 24.2	+14
EVO	**Evora**	**153.69**	**349**	*e*PKPbc	**PKPbc**	**06 56 58.5**	**-0.7**
TORD	**Torodi Ar. Bea**	**164.61**	**273**	PKP	**PKPdf**	**06 57 03.5**	**-1.2**
TORD				PKPab	**PKPab**	**06 58 01.5**	**+1.4**
TORD	**Torodi Ar. Bea**	**164.61**	**273**	PKP	**PKPdf**	**06 57 03.5**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=346,slow=4.6,SNR=4.2						
TORD				PKPab	**PKPab**	**06 58 01.5**	**+1.4**
	comp=Z,6.2nm,1.2s,baz=88,slow=3.2,SNR=11						
DBIC	**Dimbokro**	**169.12**	**238**	PKPab	**PKPab**	**06 58 21.1**	**+1.2**
DBIC	**Dimbokro**	**169.12**	**238**	PKPab	**PKPab**	**06 58 21.1**	**+1.2**
	comp=Z,8.3nm,1.1s,baz=156,slow=10.0,SNR=2.8						

IDC ***12*** *06:40:10.8±0.9, 12°.78S×166°.18E, h0km, mb4.3/14, mb1 4.4/15, mb1mx4.2/24, mbtmp4.4/15, ML5.0/1, Error ellipse: s-maj=28.7km s-min=18.0km az=120.0*

ISCJB ***12*** *06:40:15.9±0.7, 12°.77S±0°.07×166°.0E±0°.1, h40km, mb4.3/14, Error ellipse: s-maj=16.4km s-min=10.6km az=174.3*

NEIC ***12*** *06:40:16.6±0.5, 12°.69S×166°.08E, h35km, mb4.0/2, Error ellipse: s-maj=13.4km s-min=10.4km az=98.0*

ISC 12 06:40:17.4±0.6, 12°.71S±0°.08×166°.1E±0°.1, h40km, n51, σ0s93/51, mb4.2/14, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
HNR	**Honiara**	**6.83**	**298**	Pn		**Pn**	**06 41 55.5**	**+0.4**
HNR	**Honiara**	**6.83**	**298**	Pn		**Pn**	**06 41 55.5**	**+0.4**
	29nm,0.3s,baz=45,slow=1.4,SNR=4.0							
DZM	**Mont Dzumac**	**9.32**	**178**	Pn		**Pn**	**06 42 30.3**	**+0.9**
DZM	**Mont Dzumac**	**9.32**	**178**	Pn		**Pn**	**06 42 30.3**	**+0.9**
	0.5nm,0.3s,baz=7.4,slow=19,SNR=3.6							
CTA	**Charters Tower**	**20.36**	**246**	P		**P**	**06 44 51.2**	**+0.5**
CTA	**Charters Tower**	**20.36**	**246**	P		**P**	**06 44 51.2**	**+0.5**
	5.9nm,0.8s,baz=66,slow=18,SNR=3.9							
CTAO	**Charters Tower**	**20.36**	**246**	*e*P		**P**	**06 44 50.8**	**+0.1**
STKA	**Stephens Creek**	**29.48**	**226**	*e*P		**P**	**06 46 18.9**	**+1.0**
STKA	**Stephens Creek**	**29.48**	**226**	P		**P**	**06 46 18.1**	**+0.2**
	7.7nm,0.8s,baz=37,slow=10,SNR=7.8							
RPZ	**Rata Peaks**	**31.20**	**173**	P		**P**	**06 46 32.6**	**-0.3**
RPZ	**Rata Peaks**	**31.20**	**173**	P		**P**	**06 46 32.6**	**-0.3**
	17nm,0.9s,baz=306,slow=8.7,SNR=3.6							
WRAB	**Tennant Creek**	**31.23**	**253**	P		**P**	**06 46 32.1**	**-1.4**
	1.1nm,0.6s							
WRA	**Warramunga Arr**	**31.24**	**253**	P		**P**	**06 46 31.5**	**-2.1**
WRA	**Warramunga Arr**	**31.24**	**253**	P		**P**	**06 46 31.5**	**-2.1**
	1.3nm,0.7s,baz=85,slow=8.6,SNR=5.5							
ASAR	**Alice Springs**	**32.36**	**246**	P		**P**	**06 46 41.9**	**-1.5**
ASAR	**Alice Springs**	**32.36**	**246**	P		**P**	**06 46 41.9**	**-1.5**
	2.1nm,0.7s,baz=71,slow=9.5,SNR=8.0							
FITZ	**Fitzroy Crossi**	**39.28**	**257**	*e*P		**P**	**06 47 42.9**	**+0.2**
	2.2nm,0.6s							
FITZ	**Fitzroy Crossi**	**39.28**	**257**	P		**P**	**06 47 41.9**	**-0.7**
	2.0nm,0.6s,baz=92,slow=11,SNR=7.5							
NWAO	**Narrogin (SRO)**	**48.81**	**237**	P		**P**	**06 48 58.5**	**-0.4**
NWAO	**Narrogin (SRO)**	**48.81**	**237**	P		**P**	**06 48 58.5**	**-0.4**
	9.9nm,0.9s,baz=132,slow=14,SNR=2.9							
ASAJ	**Asahikawa**	**60.46**	**341**	P		**P**	**06 50 24.2**	**+1.1**
ASAJ	**Asahikawa**	**60.46**	**341**	P		**P**	**06 50 24.2**	**+1.1**
	6.8nm,0.7s,baz=83,slow=8.1,SNR=4.0							
KSRS	**Korea Array**	**61.42**	**326**	P		**P**	**06 50 31.0**	**+1.3**
	0.9nm,0.6s,baz=120,slow=7.4,SNR=4.3							
KSAR	**Wonju Array Be**	**61.43**	**326**	P		**P**	**06 50 31.0**	**+1.2**
USRK	**Uusuriysk Arra**	**64.56**	**334**	P		**P**	**06 50 52.0**	**+1.5**
	2.7nm,0.9s,baz=134,slow=8.3,SNR=4.1							
QSPA	**South Pole Qui**	**77.31**	**180**	*e*P		**P**	**06 52 07.8**	**+0.1**
SONM	**Songino Array**	**80.18**	**324**	P		**P**	**06 52 22.7**	**-1.0**
SONM	**Songino Array**	**80.18**	**324**	P		**P**	**06 52 22.7**	**-1.0**
	0.9nm,0.6s,baz=142,slow=7.2,SNR=4.9							
ILAR	**Eielson Array**	**84.98**	**18**	P		**P**	**06 52 46.9**	**-1.4**
ILAR	**Eielson Array**	**84.98**	**18**	P		**P**	**06 52 46.9**	**-1.4**
	1.2nm,0.7s,baz=240,slow=5.2,SNR=8.4							
MK31	**Makanchi Array**	**94.94**	**317**	*e*P		**P**	**06 53 36.1**	**+0.4**
MKAR	**Makanchi Array**	**94.94**	**317**	P		**P**	**06 53 35.8**	**+0.1**
MKAR	**Makanchi Array**	**94.94**	**317**	P		**P**	**06 53 35.8**	**+0.1**
	1.6nm,1.0s,baz=92,slow=5.5,SNR=7.7							
ZALV	**Zalesovo Beam**	**95.08**	**324**	P		**P**	**06 53 36.1**	**+0.1**
ZALV	**Zalesovo Beam**	**95.08**	**324**	P		**P**	**06 53 36.1**	**+0.1**
	0.7nm,0.6s,baz=99,slow=5.1,SNR=3.5							
ARCES	**ARCESS Array B**	**118.01**	**345**	PKP		**PKPdf**	**06 58 58.7**	**-0.7**
ARCES	**ARCESS Array B**	**118.01**	**345**	PKP		**PKPdf**	**06 58 58.7**	**-0.7**
	2.0nm,0.6s,baz=48,slow=1.8,SNR=7.9							
FINES	**FINESS Array B**	**123.42**	**338**	PKP		**PKPdf**	**06 59 09.6**	**-0.4**
FINES	**FINESS Array B**	**123.42**	**338**	PKP		**PKPdf**	**06 59 09.6**	**-0.4**
	5.8nm,1.0s,baz=96,slow=1.9,SNR=3.9							
AKASG	**Malin Array Be**	**128.41**	**326**	PKP		**PKPdf**	**06 59 19.2**	**-0.6**
AKASG	**Malin Array Be**	**128.41**	**326**	PKP		**PKPdf**	**06 59 19.2**	**-0.6**
	0.7nm,0.6s,baz=64,slow=1.6,SNR=4.3							
BRTR	**Keskin Array B**	**130.30**	**312**	PKP		**PKPdf**	**06 59 23.2**	**-0.8**
BRTR	**Keskin Array B**	**130.30**	**312**	PKP		**PKPdf**	**06 59 23.2**	**-0.8**
	0.6nm,0.6s,baz=27,slow=0.3,SNR=2.9							
GERES	**GERESS Array B**	**137.32**	**333**	PKP		**PKPdf**	**06 59 37.3**	**+0.5**
GERES	**GERESS Array B**	**137.32**	**333**	PKP		**PKPdf**	**06 59 37.3**	**+0.5**
	1.1nm,0.7s,baz=56,slow=2.5,SNR=3.5							
KEST	**Kesra**	**148.91**	**321**	PKPbc		**PKPdf**	**06 59 58.7**	**+1.2**
KEST	**Kesra**	**148.91**	**321**	PKPbc		**PKPdf**	**06 59 58.7**	**+1.2**
	1.2nm,0.8s,baz=330,slow=8.1,SNR=2.1							
ESDC	**Sonseca Array**	**151.73**	**344**	PKPbc		**PKPbc**	**07 00 08.0**	**-0.2**
ESDC	**Sonseca Array**	**151.73**	**344**	PKPbc		**PKPbc**	**07 00 08.0**	**-0.2**
	2.3nm,0.8s,baz=14,slow=2.6,SNR=8.9							
TORD	**Torodi Ar. Bea**	**164.75**	**273**	PKPab		**PKPab**	**07 01 14.5**	**+0.6**
TORD	**Torodi Ar. Bea**	**164.75**	**273**	PKPab		**PKPab**	**07 01 14.5**	**+0.6**
	1.0nm,0.9s,baz=86,slow=4.0,SNR=4.4							

NEIC ***12*** *06:44:22.6, 32°.21N×115°.33W, h5km, ML3.1(PAS), ML3.5(ECX), After ECX.*

NEIC Felt at Mexicali.

ECX 12 06:44:22.6±0.5, 32°.20N×115°.33W, h5km, MD3.3, ML3.5, 10C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CPBX	**Cerro Prieto**	**0.21**	**6**	⇑*e*P		Pg	06 44 26.5	-0.4
CPBX				*e*S		Sg	06 44 30.1	+0.3
CPBX				⇑*e*			06 44 36.5	
	comp=N,43μm,0.4s							
CPBX				⇑*e*			06 44 38.0	
	comp=E,36μm,0.3s							
EMX	**El Mayor**	**0.23**	**160**	⇓*e*P		Pg	06 44 26.2	-0.8
EMX				*e*S		Sg	06 44 29.7	-0.4
EMX				⇑*e*			06 44 30.7	
	comp=E,5μm,0.6s							
RDX	**Rancho Dawling**	**0.59**	**242**	⇑*e*P		Pg	06 44 33.2	-0.9
RDX				*e*S		Sg	06 44 41.1	-0.9
YUH	**Yuha Desert**	**0.67**	**312**	⇓*e*P		Pg	06 44 34.0	-1.5
COA	**Coachella**	**0.68**	**15**	⇑*e*P		Pg	06 44 34.4	-1.3
COK	**Cook Ranch**	**0.73**	**333**	⇓*e*P		Pg	06 44 35.3	-1.2
RMX	**La Rumorosa**	**0.75**	**302**	⇓*e*P		Pg	06 44 35.5	-1.7
RMX				⇓*e*			06 44 47.3	
	comp=E,1μm,0.1s							
ECBX	**El Chinero**	**0.77**	**162**	⇓*e*P		Pg	06 44 36.1	-1.2
ECBX				*e*S		Sg	06 44 46.5	-0.8
GLA	**Glamis**	**0.95**	**27**	*e*Pg		Pg	06 44 38.1	-2.8
GLA				*e*Sg		Sg	06 44 51.8	-1.5
ZAX	**El Zacaton**	**1.06**	**230**	⇑*e*P		Pg	06 44 41.1	-1.9
ZAX				*e*S		Sg	06 44 55.1	-1.7
CBX	**Cerro Bola**	**1.13**	**276**	*e*P		Pg	06 44 42.2	-2.4
CBX				*e*S		Sg	06 44 57.9	-1.6
SPIG	**San Pedro Mart**	**1.16**	**186**	P		Pg	06 44 42.4	-3.0
SPIG				S		Sg	06 44 59.2	-1.5
SPX	**San Pedro Mart**	**1.16**	**186**	⇑*e*P		Pg	06 44 42.6	-2.7
SPX				*e*S		Sg	06 44 58.5	-2.2
SPX				⇓*e*			06 45 00.5	
	comp=N,490nm,0.4s							
ECNX	**Esteban Cantu**	**1.21**	**244**	⇑*e*P		Pg	06 44 43.6	-2.4
ECNX				*e*S		Sg	06 44 59.6	-2.1
BAR	**Barrett**	**1.23**	**293**	*e*Pn		Pg	06 44 43.2	-3.0
BAR				*e*Sn		Sg	06 44 59.5	-2.8
PBX	**Punta Banda**	**1.27**	**249**	⇑*e*P		Pg	06 44 44.4	-2.6
PBX				*e*S		Sg	06 45 01.8	-1.8
PFO	**Pinyon Flat Ob**	**1.69**	**326**	*e*Pn		Pn	06 44 48.8	-4.2
PFO				*e*Sn		Sn	06 45 14.9	-0.3
LDFC	**Landfair**	**2.87**	**4**	*e*Pn		Pn	06 45 08.5	-0.8
MWC	**Mount Wilson**	**3.05**	**312**	*e*Pn		Pn	06 45 12.2	+0.5
MWC				*e*Sg		Sg	06 46 00.4	-0.6
GSC	**Goldstone**	**3.33**	**339**	*e*Pg		Pg	06 45 24.5	-2.0
GSC				*e*Sn		Sn	06 45 53.7	-1.8
TUC	**Tucson**	**3.85**	**87**	*e*Pn		Pn	06 45 22.4	-0.2
TUC				*e*Sg		Sg	06 46 26.3	-0.4
SHPR	**Sheep Range**	**4.29**	**2**	*e*Pn		Pn	06 45 29.4	+0.6
ISA	**Isabella**	**4.33**	**324**	*e*Pn		Pn	06 45 26.8	-2.4
WUAZ	**Wupatki**	**4.67**	**44**	*e*Pn		Pn	06 45 32.8	-1.1

IDC 12 06:48:48.8±14.0, 18°.98S×175°.73W, h248km±153km, mb3.5/6, mb1 3.7/6, mb1mx3.4/19, mbtmp3.5/6, Error ellipse: s-maj=72.8km s-min=23.5km az=172.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
URZ	**Urewera**	**20.20**	**197**	P		P	06 53 05.0	-0.1
	3.7nm,0.4s,baz=9.5,slow=6.1,SNR=3.6							
CTA	**Charters Tower**	**35.80**	**262**	P		P	06 55 25.4	+0.4
	2.4nm,0.4s,baz=90,slow=10,SNR=3.6							
WRA	**Warramunga Arr**	**46.95**	**260**	P		P	06 56 54.9	-0.5
	1.6nm,0.4s,baz=97,slow=8.0,SNR=63							
ASAR	**Alice Springs**	**46.97**	**255**	P		P	06 56 55.5	0.0
	2.2nm,0.5s,baz=89,slow=8.3,SNR=40							
NVAR	**Mina Array Bea**	**78.46**	**42**	P		P	07 00 23.0	+0.3
	0.9nm,0.8s,baz=223,slow=10,SNR=9.5							
ILAR	**Eielson Array**	**86.38**	**12**	P		P	07 01 01.9	-0.8
	0.1nm,0.5s,baz=215,slow=5.2,SNR=4.7							
BRTR	**Keskin Array B**	**147.33**	**316**	PKPbc		PKPbc	07 08 03.3	-0.4
	0.7nm,0.6s,baz=76,slow=6.1,SNR=3.2							

NIED ***12*** *07:10:00, 35°.90N×137°.60E, h17km, Mw3.8 Best double couple: Ms5.03000×1014 NP1:ϕs242.00000°, δ83.00000°, λ159.00000°. NP2:ϕs334.00000°, δ69.00000°, λ8.00000°.*

JMA 12 07:10:34.1, 35°.95N×137°.65E, h9km, M3.7, 1C-4D Broadband fault plane solution: P waves. NP1: ϕs318.00000°, δ85.00000°, λ-22.00000°. **NP2:** ϕs50.00000°, δ68.00000°, λ-175.00000°. **Principal axes:** T Plg12.0000°, Azm6.0000°; N Plg67.0000°, Azm127.0000°; P Plg19.0000°, Azm272.0000°; **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JGN	**Niukaw**	**0.38**	**315**	⇓P		Pg	07 10 41.7	-0.1
JNT	**Takato**	**0.40**	**101**	⇓P		Pg	07 10 42.0	-0.2
JNT				S		Sg	07 10 47.4	-0.3
JTT	**Ttatey**	**0.70**	**339**	P		Pg	07 10 48.1	+0.4
MAT	**Matsushiro**	**0.74**	**37**	P		Pg	07 10 48.2	-0.3
MAT				S		Sg	07 10 58.0	-0.3
MAT	**Matsushiro**	**0.74**	**37**	P		Pg	07 10 48.2	-0.3
JGM	**Miyama**	**0.80**	**252**	P		Pg	07 10 49.3	-0.2
JYN	**Shimob**	**0.86**	**122**	⇓P		Pg	07 10 50.7	0.0
SHZ3	**Shizuoka 3**	**0.99**	**152**	⇑P		Pg	07 10 52.5	-0.8
JRY	**Ryogami san**	**1.02**	**86**	⇓P		Pg	07 10 53.1	-0.6

IDC 12 07:18:18.7±1.2, 16°.54S×172°.55W, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.9/20, mbtmp3.9/5, ML1.4/1 Error ellipse: s-maj=49.5km s-min=21.6km az=137.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
AFI	**Afiamalu**	**2.72**	**16**	Pn		Pn	07 19 02.9	-0.9
	3.5nm,0.3s,baz=185,slow=12,SNR=3.4							
AFI				Sn		Sn	07 19 34.8	-2.7
	17nm,0.3s,baz=192,slow=21,SNR=9.6							
URZ	**Urewera**	**23.47**	**201**	P		P	07 23 29.3	-0.6
	5.2nm,0.8s,baz=54,slow=19,SNR=1.6							
WRA	**Warramunga Arr**	**50.39**	**258**	P		P	07 27 17.8	-0.4
	0.6nm,0.5s,baz=95,slow=6.9,SNR=20							
ASAR	**Alice Springs**	**50.55**	**253**	P		P	07 27 19.8	+0.4
	4.8nm,0.6s,baz=87,slow=8.7,SNR=76							
NVAR	**Mina Array Bea**	**74.63**	**41**	P		P	07 30 00.6	+0.4
	0.6nm,0.7s,baz=221,slow=11,SNR=3.6							
TXAR	**Lajitas Array**	**80.57**	**56**	P		P	07 30 33.6	+0.1
	0.4nm,0.8s,baz=226,slow=10,SNR=4.3							

FUNV ***12*** *07:26:24.5, 6°.68N×73°.21W, h155km, MW3.5*

ISCJB ***12*** *07:26:25.4±0.7, 6°.88N±0°.06×72°.94W±0°.06, h172km±7km, mb3.2/4, Error ellipse: s-maj=10.1km s-min=8.6km az=147.5*

IDC ***12*** *07:26:28.1±3.5, 6°.56N×73°.39W, h178km±26km, mb2.9/4, mb1 3.3/4, mb1mx3.1/23, mbtmp2.9/4, Error ellipse: s-maj=58.7km s-min=17.4km az=59.0*

ISC 12 07:26:25.0±0.9, 6°.81N±0°.06×73°.04W±0°.06, h162km±8km, n23, σ1s09/34, mb3.3/4, 6C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CAPV	**Capacho**	**1.27**	**34**	⇑*i*P		**Pn**	**07 26 54.7**	**+1.2**
CAPV				*e*S		**Sn**	**07 27 15.0**	**-0.4**
ROSC	**El Rosal**	**2.33**	**214**	P		**Pn**	**07 27 06.4**	**+1.3**
	74nm,0.3s,baz=350,slow=3.2,SNR=265							
ROSC				S		**Sn**	**07 27 33.2**	**-2.9**
	42nm,0.3s,baz=94,slow=20,SNR=15							
VIGV	**El Vigia**	**2.61**	**39**	⇑*i*P		**Pn**	**07 27 09.0**	**+0.9**
VIGV				*e*S		**Sn**	**07 27 41.1**	**-0.4**
SOCV	**Socops**	**2.61**	**56**	*e*P		**Pn**	**07 27 08.9**	**+0.8**
SOCV				*e*S		**Sn**	**07 27 41.1**	**-0.3**
ELOV	**Elorza**	**3.53**	**87**	⇓*i*P		**Pn**	**07 27 20.8**	**+1.2**
ELOV				*e*S		**Sn**	**07 28 00.6**	**-1.5**
VIRV	**Villa del Rosa**	**3.72**	**10**	⇑*i*P		**Pn**	**07 27 21.4**	**-0.6**
VIRV				*e*S		**Sn**	**07 28 05.3**	**-1.1**
SANV	**Sanarito**	**4.38**	**52**	*e*P		**Pn**	**07 27 31.0**	**+0.4**
CURV	**Curarigua**	**4.40**	**44**	⇑*e*P		**Pn**	**07 27 31.4**	**+0.5**
CURV				*e*S		**Sn**	**07 28 21.3**	**-1.0**
DABV	**Dabajuro**	**4.72**	**30**	⇑*e*P		**Pn**	**07 27 35.5**	**+0.5**
TEPV	**Terepaima**	**4.93**	**50**	*e*P		**Pn**	**07 27 38.2**	**+0.4**
TEPV				*e*S		**Sn**	**07 28 33.3**	**-1.3**
SIQV	**Siquisique**	**4.97**	**40**	⇑*e*P		**Pn**	**07 27 38.4**	**+0.1**
SIQV				*i* P		**Pn**	**07 27 38.5**	**+0.1**
SIQV				*e*S		**Sn**	**07 28 33.7**	**-1.9**
BAUV	**El Baul**	**5.38**	**67**	*e*P		**Pn**	**07 27 43.1**	**-0.6**
BAUV				*e*S		**Sn**	**07 28 43.0**	**-2.3**
MAPV	**Macapo**	**5.43**	**56**	*e*P		**Pn**	**07 27 44.6**	**+0.2**
MONV	**Montecano**	**5.94**	**30**	*e*P		**Pn**	**07 27 50.5**	**-0.6**
BIRV	**Birongo**	**7.62**	**61**	*e*P		**Pn**	**07 28 13.4**	**0.0**
CUPV	**Cœpira**	**7.86**	**65**	*e*P		**Pn**	**07 28 16.4**	**-0.3**
JTS	**JuntasAbangare**	**12.28**	**287**	P		**P**	**07 29 19.6**	**-0.8**
	0.5nm,0.3s,baz=9.6,slow=12,SNR=5.7							
SIV	**San Ignacio**	**25.57**	**152**	P		**P**	**07 31 40.1**	**+0.8**
	0.8nm,0.6s,baz=270,slow=20,SNR=3.2							
TXAR	**Lajitas Array**	**36.53**	**312**	P		**P**	**07 33 16.1**	**+0.8**
	0.5nm,0.6s,baz=127,slow=8.8,SNR=7.7							
PDAR	**Pinedale Array**	**48.13**	**324**	P		**P**	**07 34 49.2**	**+0.2**
	0.4nm,0.7s,baz=116,slow=8.1,SNR=3.2							
NVAR	**Mina Array Bea**	**51.55**	**315**	P		**P**	**07 35 16.3**	**+1.5**
	0.2nm,0.7s,baz=148,slow=5.3,SNR=3.0							
ASAR	**Alice Springs**	**149.17**	**234**	PKPbc		**PKPbc**	**07 45 55.0**	**-0.3**
	0.5nm,0.6s,baz=110,slow=3.8,SNR=8.7							
WRA	**Warramunga Arr**	**150.41**	**241**	PKPbc		**PKPbc**	**07 45 58.2**	**-0.2**
	0.4nm,0.4s,baz=110,slow=2.5,SNR=13							

WEL 12 07:30:01.1±0.5, 37°.98S×176°.00E, h211km±3km, ML3.9/15, 13C-4D, Error ellipse: s-maj=3.1km s-min=2.7km az=0.0,

North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PRRZ	**Plateau Road**	**0.60**	**149**	PN		Pn	07 30 30.4	+0.5
PRRZ				SN		S	07 30 52.3	-0.1
URZ	**Urewera**	**0.92**	**108**	⇑PN		Pn	07 30 31.1	-0.4
URZ				SN		S	07 30 54.0	-1.0
URZ				AML		AML	07 30 59.5	
MKAZ	**Moumakai**	**1.09**	**322**	PN		Pn	07 30 31.9	-0.7
MKAZ				SN		S	07 30 57.1	+0.1
KRVZ	**Karewarewa**	**1.15**	**194**	PN		Pn	07 30 33.1	0.0
TWVZ	**Taurewa**	**1.18**	**202**	PN		Pn	07 30 33.4	+0.1
OTVZ	**Oturere**	**1.21**	**192**	PN		Pn	07 30 33.8	+0.2
NGZ	**Ngauruhoe**	**1.23**	**195**	⇓PN		Pn	07 30 34.0	+0.2
BKZ	**Black Stump Fm**	**1.25**	**162**	⇑PN		Pn	07 30 33.5	-0.3
BKZ						AML	07 30 58.8	
BKZ						AML	07 31 01.2	
MWZ	**Matawai**	**1.25**	**107**	PN		Pn	07 30 33.8	0.0
MWZ				SN		S	07 30 58.9	-0.3
MWZ				AML		AML	07 31 00.6	
MWZ				AML		AML	07 31 09.0	
RAHZ	**Arahi**	**1.27**	**138**	PN		Pn	07 30 34.4	+0.6
WPVZ	**Whakapapa**	**1.27**	**196**	⇑PN		Pn	07 30 34.0	0.0
NMHZ	**Naumai**	**1.28**	**151**	PN		Pn	07 30 35.0	+0.9
TUVZ	**Tukino**	**1.31**	**192**	PN		Pn	07 30 34.3	-0.1
FWVZ	**Far West T-bar**	**1.32**	**195**	⇑PN		Pn	07 30 34.4	-0.1
WHVZ	**Whangaehu Hut**	**1.34**	**194**	⇑PN		Pn	07 30 34.6	-0.1
TRVZ	**Turoa**	**1.36**	**195**	PN		Pn	07 30 34.8	-0.1
WNVZ	**Wahianoa**	**1.38**	**193**	⇑PN		Pn	07 30 34.8	-0.1
PKVZ	**Pokaka**	**1.40**	**201**	PN		Pn	07 30 34.9	-0.1
MOVZ	**Moawhango**	**1.44**	**188**	PN		Pn	07 30 34.8	-0.5
MTVZ	**Mangateitei**	**1.46**	**196**	PN		Pn	07 30 35.4	-0.1
BHHZ	**Black Hill Sta**	**1.51**	**178**	PN		Pn	07 30 35.4	-0.5
MCHZ	**McNeill Hill**	**1.56**	**160**	⇓PN		Pn	07 30 37.1	+0.9
KNZ	**Kokoru**	**1.67**	**129**	⇑PN		Pn	07 30 37.4	+0.1
PRGZ	**Paritu Road**	**1.75**	**123**	PN		Pn	07 30 38.0	0.0
CNGZ	**Carnagh Statio**	**1.81**	**107**	PN		Pn	07 30 39.1	+0.5
CKHZ	**Cape Kidnapper**	**1.88**	**154**	PN		Pn	07 30 39.5	+0.4
MXZ	**Matakaoa Point**	**1.88**	**78**	PN		Pn	07 30 38.5	-0.7
MHGZ	**Mahia Peninsul**	**1.90**	**129**	PN		Pn	07 30 39.7	+0.3
KAHZ	**Kahuranaki**	**1.94**	**160**	⇑PN		Pn	07 30 40.0	+0.2
PNHZ	**Pukenui**	**1.94**	**175**	PN		Pn	07 30

KSRS					LR	LR	07 59 44.4			
	comp=Z,47nm,19.0s,baz=195,slow=38									
MKAR	**Makanchi Array**	**38.85**	**314**	P	P	P	07 58 19.0	+7.0		
	0.2nm,0.4s,baz=94,slow=9.3,SNR=3.1									
WRA	**Warramunga Arr**	**46.07**	**165**	P	P	P	07 59 12.3	+1.5		
	0.8nm,0.8s,baz=347,slow=8.5,SNR=4.8									

GUC 12 07:51:25.5±0.7, 32°.61S×71°.33W, h40km±2km, MD3.5, ML2.5, 10C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**0.45**	**144**	⇑ *i* P	Pn	07 51 36.3	+0.4
ROCH				*i* S	Sn	07 51 44.3	+1.0
IHA	**Instituto Hidr**	**0.49**	**212**	⇓ *i* P	Pn	07 51 36.3	+0.1
IHA				*i* S	Sn	07 51 44.1	+0.5
JACH	**Jahuel**	**0.63**	**97**	⇓ *i* P	Pn	07 51 38.6	+0.5
JACH				*i* S	Sn	07 51 48.5	+1.4
CHNG	**Los Chungos**	**0.74**	**349**	⇓ *i* P	Pn	07 51 39.5	+0.1
CHNG				*i* S	Sn	07 51 49.9	+0.4
LCCH	**Las Cruces**	**0.89**	**193**	⇑ *i* P	Pn	07 51 42.3	+0.7
STL	**Santa Lucia**	**1.01**	**145**	⇓ *i* P	Pn	07 51 43.8	+0.5
STL				*i* S	Sn	07 51 57.7	+1.4
SAN	**Santiago**	**1.01**	**146**	*e*P	Pn	07 51 43.9	+0.6
SAN				*i* S	Sn	07 51 57.6	+1.2
SAN				AML	AML	07 51 58.9	
	comp=N,116nm,0.5s						
CLCH	**Cerro Calan**	**1.03**	**140**	⇑ *i* P	Pn	07 51 44.3	+0.7
CLCH				*i* S	Sn	07 51 58.6	+1.7
CLCH				AML	AML	07 51 59.5	
	comp=N,206nm,0.5s						
LACH	**Col Las Americ**	**1.08**	**142**	⇑ *i* P	Pn	07 51 45.1	+0.9
LACH				*i* S	Sn	07 51 59.6	+1.6
LACH				AML	AML	07 52 01.1	
	comp=E,79nm,0.3s						
TACH	**Talagante**	**1.09**	**163**	⇑ *i* P	Pn	07 51 45.1	+0.7
TACH				*i* S	Sn	07 51 59.4	+1.1
ANTU	**Antumapu**	**1.12**	**149**	⇑ *i* P	Pn	07 51 45.5	+0.7
ANTU				*i* S	Sn	07 52 00.5	+1.4
ANTU				AML	AML	07 52 01.0	
	comp=E,159nm,0.4s						
PCH	**Pirque**	**1.22**	**146**	⇓ *i* P	Pn	07 51 47.1	+0.8
PCH				*i* S	Sn	07 52 03.7	+2.0
SJCH	**San Jose de Ma**	**1.31**	**142**	⇑ *i* P	Pn	07 51 47.5	-0.1
SJCH				*i* S	Sn	07 52 04.8	+0.8
SJCH				AML	AML	07 52 05.7	
	comp=N,103nm,0.7s						
CHCH	**Chadas Angostu**	**1.44**	**157**	⇓ *i* P	Pn	07 51 50.4	+1.2
CHCH				*i* S	Sn	07 52 09.0	+2.1
CMCH	**Combarbala**	**1.46**	**11**	⇑ *i* P	Pn	07 51 49.6	+0.1
CMCH				*i* S	Sn	07 52 08.7	+1.2
CMCH				AML	AML	07 52 10.9	
	comp=E,909nm,0.7s						
LMEL	**Las Melosas**	**1.56**	**143**	⇑ *i* P	Pn	07 51 52.1	+1.2
LMEL				*i* S	Sn	07 52 12.3	+2.3
LMEL				AML	AML	07 52 13.2	
	comp=N,165nm,0.2s						

IDC 12 07:57:38.0±1.5, 24°.54N×122°.30E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.5/26, mbtmp3.6/5, ML3.6/2, Error ellipse: s-maj=47.1km s-min=26.6km az=76.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**11.38**	**39**	Pn	Pn	08 00 21.3	-0.7
	0.4nm,0.3s,baz=180,slow=13,SNR=3.6						
KSRS	**Korea Array**	**13.74**	**19**	Pn	Pn	08 00 55.2	+1.1
	0.2nm,0.3s,baz=196,slow=12,SNR=3.0						
SONM	**Songino Array**	**26.45**	**336**	P	P	08 03 16.2	-0.6
	0.3nm,0.6s,baz=147,slow=8.5,SNR=3.9						
MKAR	**Makanchi Array**	**38.80**	**315**	P	P	08 05 04.8	+0.3
	0.4nm,0.7s,baz=125,slow=9.7,SNR=3.1						
WRA	**Warramunga Arr**	**45.74**	**164**	P	P	08 06 01.1	-0.1
	1.0nm,0.9s,baz=345,slow=8.7,SNR=5.4						

*TAP **12** 08:02:15.0, 24°.94N×122°.71E, h4km±1km, ML3.1, D*
*IDC **12** 08:02:15.2±1.1, 24°.58N×121°.63E, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.5/25, mbtmp3.6/7, ML3.6/1, Error ellipse: s-maj=45.5km s-min=18.9km az=73.0*
ISC 12 08:02:15.7±0.8, 24°.85N±0°.04×122°.60E±0°.05, h15km, n29, σ1°30/25, mb3.4/5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.54**	**135**	P	**Pb**	**08 02 26.6**	**-0.3**
	baz=150						
YOJ				*e*S	**Sb**	**08 02 35.1**	**+0.7**
	baz=150						
TWB1	**Santiao Chiao**	**0.57**	**286**	*e*P	**Pn**	**08 02 29.1**	**-0.2**
	baz=275						
TWC	**Suao**	**0.72**	**251**	*e*P	**Pn**	**08 02 31.9**	**+0.5**
	baz=246						
NWF	**Wu-fen Shan**	**0.77**	**287**	*e*P	**Pn**	**08 02 32.7**	**+0.5**
	baz=278						
TWE	**Neicheng**	**0.85**	**262**	*e*P	**Pn**	**08 02 34.4**	**+1.2**
	baz=256						
PCYT	**Pengchaiyu**	**0.91**	**329**	*e*P	**Pb**	**08 02 33.8**	**+0.5**
	baz=320						
TWA	**Mucha**	**0.93**	**278**	*e*P	Pn	08 02 37.8	+3.6
	baz=272						
ENTT	**Nioudou**	**0.96**	**258**	*e*P	Pn	08 02 38.2	+3.5
	baz=253						
TWY	**Chenhua**	**1.00**	**295**	*e*P	**Pg**	**08 02 35.2**	**+0.2**
	baz=288						
NSK	**Sanguang**	**1.14**	**262**	*e*P	**Pg**	**08 02 39.1**	**+1.5**
	baz=257						
NNS	**Nan Shan**	**1.18**	**250**	*e*P	**Pg**	**08 02 40.7**	**+2.1**
	baz=247						
WHF	**Hehuan Shan**	**1.40**	**240**	P	**Pg**	**08 02 44.2**	**+1.5**
	baz=238						
NSTT	**Nanjuang**	**1.47**	**262**	*e*P	Pg	08 02 46.9	+3.0
	baz=258						
EHY	**Hungye**	**1.77**	**221**	*e*P	**Pb**	**08 02 47.7**	**-0.2**
	baz=221						
SMLT	**Sun Moon Lake**	**1.82**	**238**	*e*P	Pg	08 02 53.8	+3.1
	baz=237						
TYC	**Yuchr**	**1.84**	**240**	*e*P	**Pg**	**08 02 50.0**	**-1.0**
	baz=238						
TWF1	**Yuli**	**1.90**	**219**	*e*P	**Pg**	**08 02 53.5**	**+1.2**
	baz=219						
YUS	**Yu-Shan**	**2.02**	**228**	*e*P	**Pg**	**08 02 53.2**	**-1.3**
	baz=227						
ALS	**Alishan**	**2.11**	**231**	*e*P	**Pg**	**08 02 56.0**	**-0.2**
	baz=230						
CHN4	**Tsaushan**	**2.36**	**231**	*e*P	**Pb**	**08 02 57.8**	**-0.1**
	baz=230						
WTP	**Ta-pu**	**2.41**	**229**	*e*P	**Pb**	**08 02 58.7**	**-0.2**
	baz=228						
CHN1	**Nanshi**	**2.51**	**229**	*e*P	**Pb**	**08 02 57.7**	**-2.9**
	baz=228						
KSRS	**Korea Array**	**13.37**	**19**	Pn	**P**	**08 05 32.5**	**-1.9**
	0.3nm,0.3s,baz=201,slow=12,SNR=2.7						
USRK	**Ussuriysk Arra**	**20.77**	**19**	P	Pn	08 07 04.3	+5.9
	1.2nm,0.7s,baz=192,slow=13,SNR=3.4						
SONM	**Songino Array**	**26.29**	**335**	P	**P**	**08 07 50.3**	**-0.4**
	0.6nm,0.7s,baz=139,slow=11,SNR=2.3						
MKAR	**Makanchi Array**	**38.77**	**315**	P	**P**	**08 09 37.5**	**-2.1**
	0.7nm,0.8s,baz=105,slow=5.6,SNR=4.9						
ZALV	**Zalesovo Beam**	**40.40**	**326**	P	**P**	**08 09 53.6**	**+0.6**
	0.4nm,0.4s,baz=107,slow=9.2,SNR=2.3						
WRA	**Warramunga Arr**	**45.97**	**165**	P	**P**	**08 10 39.7**	**+1.4**
	1.5nm,0.9s,baz=348,slow=8.2,SNR=5.3						
ASAR	**Alice Springs**	**49.46**	**166**	P	**P**	**08 11 07.0**	**+1.5**
	0.3nm,0.7s,baz=354,slow=7.6,SNR=3.0						

*TIR **12** 08:06:29.7±0.6, 41°.50N×20°.52E, h2km±40km, ML2.5*
*SKO **12** 08:06:30.6, 41°.51N×20°.43E, h15km, M1.9, ML2.3*
ISC 12 08:06:30.1±1.5, 41°.48N±0°.06×20°.45E±0°.07, h12km±11km, n5, σ0°52/7, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.20**	**358**	*i* Pg	**Pg**	**08 06 34.2**	**-0.4**
PHP				*i* Sg	**Sg**	**08 06 38.2**	**+0.6**
TIR	**Tirane**	**0.46**	**253**	*i* Pg	**Pb**	**08 06 40.3**	**+0.1**
PUK	**Puka**	**0.70**	**323**	*i* Pg	**Pn**	**08 06 45.7**	**-0.2**
BIA	**Bitola**	**0.80**	**125**	*e*Pg	**Pn**	**08 06 47.2**	**-0.1**
SKO	**Skopje**	**0.89**	**56**	*e*Pg	**Pn**	**08 06 48.1**	**-0.3**
SKO				*e*Lg	Lg	08 07 01.3	
	comp=E,40nm,0.5s						
SKO				*e*Lg	Lg	08 07 01.5	
	comp=N,91nm,0.4s						
SKO				*i* Sg	**Sn**	**08 07 01.6**	**+0.4**

*CSEM **12** 08:20:16.2±0.2, 37°.83N×21°.11E, h8km, ML2.3/5, Error ellipse: s-maj=4.5km s-min=3.8km az=63.0*
*ATH **12** 08:20:16.3, 37°.87N×21°.12E, h16km±2km, MD2.9/19*
*THE **12** 08:20:16.6, 37°.86N×21°.09E, h22km±1km, ML2.3/5, Error ellipse: s-maj=1.5km s-min=0.7km az=352.0*
ISC 12 08:20:16.6±1.1, 37°.86N±0°.02×21°.11E±0°.02, h21km±2km, n76, σ0°78/125, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VTN	**Vitineika**	**0.08**	**47**	P	**Pb**	**08 20 20.4**	**-0.1**
VTN				S	**Sb**	**08 20 24.3**	**+1.1**
VTN	**Vitineika**	**0.08**	**47**	P	**Pb**	**08 20 20.4**	**-0.1**
RLS	**Riolos of Patr**	**0.35**	**55**	P	**Pb**	**08 20 23.7**	**-0.2**
RLS				S	**Sb**	**08 20 29.7**	**+0.7**
RLS	**Riolos of Patr**	**0.35**	**55**	*e*PB	**Pb**	**08 20 23.1**	**-0.8**
RLS				*e*SB	**Sb**	**08 20 29.4**	**+0.4**
RLS	**Riolos of Patr**	**0.35**	**55**	*e*Pb	**Pb**	**08 20 23.1**	**-0.8**
RLS	**Riolos of Patr**	**0.35**	**55**	P	**Pb**	**08 20 23.7**	**-0.2**
RLS				*e*Sb	**Sb**	**08 20 29.4**	**+0.4**
KFL	**Anninata**	**0.36**	**315**	P	**Pb**	**08 20 23.7**	**-0.4**
KFL				S	**Sb**	**08 20 29.6**	**+0.3**
KFL	**Anninata**	**0.36**	**315**	P	**Pb**	**08 20 23.7**	**-0.4**
KFL				S	**Sb**	**08 20 29.6**	**+0.3**
AXS	**Araxos**	**0.40**	**32**	P	**Pb**	**08 20 24.2**	**-0.6**
AXS				S	**Sb**	**08 20 29.8**	**+0.8**
AXS	**Araxos**	**0.40**	**32**	P	**Pb**	**08 20 24.2**	**-0.6**
AXS				S	**Sb**	**08 20 31.2**	**+0.8**
DRO	**Drossia**	**0.49**	**79**	P	**Pb**	**08 20 25.8**	**-0.6**
DRO				S	**Sb**	**08 20 33.9**	**+0.8**
DRO	**Drossia**	**0.49**	**79**	P	**Pb**	**08 20 25.8**	**-0.6**
DRO				S	**Sb**	**08 20 33.9**	**+0.8**
VLS	**Valsamata**	**0.52**	**308**	P	**Pb**	**08 20 26.6**	**-0.4**
VLS				S	**Sb**	**08 20 35.1**	**+1.0**
VLS	**Valsamata**	**0.52**	**308**	*e*PN	**Pb**	**08 20 26.0**	**-1.0**
VLS				*e*SN	**Sb**	**08 20 35.1**	**+1.0**
VLS	**Valsamata**	**0.52**	**308**	*e*Pn	**Pb**	**08 20 26.0**	**-1.0**
VLS	**Valsamata**	**0.52**	**308**	P	**Pb**	**08 20 26.6**	**-0.4**
VLS				S	**Sb**	**08 20 35.1**	**+1.0**
AMT	**Artemida-Makis**	**0.58**	**124**	*e*PN	**Pb**	**08 20 27.4**	**-0.7**
AMT				*e*SN	**Sb**	**08 20 35.7**	**-0.2**
AMT	**Artemida-Makis**	**0.58**	**124**	*e*Pn	**Pb**	**08 20 27.4**	**-0.7**
AMT				*e*Sn	**Sb**	**08 20 35.7**	**-0.2**
SFD	**Strofades**	**0.61**	**187**	*e*PN	**Pb**	**08 20 28.5**	**-0.1**
SFD	**Strofades**	**0.61**	**187**	*e*Pn	**Pb**	**08 20 28.5**	**-0.1**
PDO	**Prodromos**	**0.74**	**5**	P	**Pb**	**08 20 30.2**	**-0.6**
PDO	**Prodromos**	**0.74**	**5**	P	**Pb**	**08 20 30.2**	**-0.6**
LAKA	**Lakka**	**0.79**	**61**	P	**Pb**	**08 20 31.0**	**-0.6**
LAKA				S	**Sn**	**08 20 43.5**	**-0.2**
LAKA	**Lakka**	**0.79**	**61**	*e*PN	**Pb**	**08 20 30.8**	**-0.8**
LAKA				*e*SN	**Sb**	**08 20 41.9**	**+0.1**
LAKA	**Lakka**	**0.79**	**61**	P	**Pb**	**08 20 31.0**	**-0.6**
LAKA				*e*Sn	**Sb**	**08 20 41.9**	**+0.1**
LAKA				S	**Sn**	**08 20 43.5**	**-0.2**
PVO	**Paravola**	**0.82**	**23**	P	**Pb**	**08 20 32.3**	**+0.1**
PVO				S	**Sn**	**08 20 43.7**	**-0.9**
PVO	**Paravola**	**0.82**	**23**	P	**Pb**	**08 20 32.3**	**+0.1**
PVO				S	**Sn**	**08 20 43.7**	**-0.9**
KLV	**Kalavryta, Ach**	**0.84**	**77**	P	**Pb**	**08 20 31.7**	**-0.9**
KLV				S	**Sn**	**08 20 45.4**	**+0.2**
KLV	**Kalavryta, Ach**	**0.84**	**77**	*e*PN	**Pb**	**08 20 31.4**	**-1.2**
KLV				*e*SN	**Sb**	**08 20 43.9**	**+0.4**
KLV	**Kalavryta, Ach**	**0.84**	**77**	*e*Pb	**Pb**	**08 20 31.4**	**-1.2**
KLV	**Kalavryta, Ach**	**0.84**	**77**	P	**Pb**	**08 20 31.7**	**-0.9**
KLV				*e*Sn	**Sb**	**08 20 43.9**	**+0.4**
KLV				S	**Sn**	**08 20 45.4**	**+0.2**
EFP	**Efpalio**	**0.85**	**48**	P	**Pb**	**08 20 32.2**	**-0.4**
EFP				S	**Sn**	**08 20 45.2**	**+0.1**
EFP	**Efpalio**	**0.85**	**48**	*e*PN	**Pb**	**08 20 32.1**	**-0.5**
EFP				*e*SN	**Sb**	**08 20 43.3**	**-0.2**
EFP	**Efpalio**	**0.85**	**48**	P	**Pb**	**08 20 32.2**	**-0.4**
EFP				*e*Sn	**Sb**	**08 20 43.3**	**-0.2**
EFP				S	**Sn**	**08 20 45.2**	**+0.1**
ITM	**Ithomi**	**0.94**	**136**	P	**Pb**	**08 20 33.2**	**-1.0**
ITM				S	**Sn**	**08 20 48.1**	**+0.7**
ITM	**Ithomi**	**0.94**	**136**	*e*PN	**Pb**	**08 20 32.5**	**-1.7**
ITM				*e*SN	**Sn**	**08 20 48.2**	**+0.8**
ITM	**Ithomi**	**0.94**	**136**	*e*Pn	**Pb**	**08 20 32.5**	**-1.7**
ITM	**Ithomi**	**0.94**	**136**	P	**Pb**	**08 20 33.2**	**-1.0**
ITM				*e*Sn	**Sn**	**08 20 48.2**	**+0.8**
KALE	**Kalithea**	**0.97**	**57**	P	**Pb**	**08 20 33.9**	**-0.9**
KALE				S	**Sn**	**08 20 48.6**	**+0.3**
KALE	**Kalithea**	**0.97**	**57**	*e*PB	**Pb**	**08 20 33.9**	**-0.9**
KALE				*e*SN	**Sn**	**08 20 48.4**	**+0.1**
KALE	**Kalithea**	**0.97**	**57**	P	**Pb**	**08 20 33.9**	**-0.9**
KALE				S	**Sn**	**08 20 48.6**	**+0.3**
GUR	**Goura**	**0.98**	**85**	P	**Pb**	**08 20 34.0**	**-0.9**
GUR				S	**Sn**	**08 20 47.9**	**-0.6**
GUR	**Goura**	**0.98**	**85**	*e*PB	**Pb**	**08 20 33.9**	**-0.9**
GUR				*e*SN	**Sb**	**08 20 47.8**	**+0.4**
GUR	**Goura**	**0.98**	**85**	P	**Pb**	**08 20 34.0**	**-0.9**
GUR				S	**Sn**	**08 20 47.9**	**-0.6**
PYL	**PYLOS**	**1.09**	**152**	P	**Pn**	**08 20 35.4**	**-1.2**
PYL				S	**Sn**	**08 20 52.0**	**+1.0**
PYL	**PYLOS**	**1.09**	**152**	*e*PN	**Pn**	**08 20 34.9**	**-1.7**
PYL				*e*SN	**Sn**	**08 20 51.6**	**+0.6**
PYL	**PYLOS**	**1.09**	**152**	*e*Pn	**Pn**	**08 20 34.9**	**-1.7**
PYL	**PYLOS**	**1.09**	**152**	P	**Pn**	**08 20 35.4**	**-1.2**
PYL				*e*Sn	**Sn**	**08 20 51.6**	**+0.6**
PYL				S	**Sn**	**08 20 52.0**	**+1.0**
VLX	**Vlachokerasia**	**1.12**	**115**	*e*PN	**Pb**	**08 20 37.5**	**+0.2**
VLX				*e*SN	**Sn**	**08 20 53.5**	**+1.5**
VLX	**Vlachokerasia**	**1.12**	**115**	*e*Pn	**Pb**	**08 20 37.5**	**+0.2**
VLX				*e*Sn	**Sn**	**08 20 53.5**	**+1.5**
EVR	**Evrytania**	**1.19**	**27**	*e*PB	**Pn**	**08 20 37.8**	**-0.4**
EVR	**Evrytania**	**1.19**	**27**	*e*Pb	**Pn**	**08 20 37.8**	**-0.4**
DSF	**Desfina**	**1.25**	**63**	*e*PN	**Pb**	**08 20 39.6**	**+0.2**
DSF	**Desfina**	**1.25**	**63**	*e*Pn	**Pb**	**08 20 39.6**	**+0.2**
DESF	**Desfina**	**1.25**	**63**	*e*PN	**Pb**	**08 20 39.3**	**-0.2**
DESF				*e*SN	**Sb**	**08 20 56.6**	**+1.4**
DESF	**Desfina**	**1.25**	**63**	*e*Pn	**Pb**	**08 20 39.3**	**-0.2**
DESF				*e*Sn	**Sb**	**08 20 56.6**	**+1.4**
MAKR	**Makrakomi, Fth**	**1.41**	**35**	*e*PN	**Pb**	**08 20 42.8**	**+0.7**
MAKR				*e*SN	**Sb**	**08 21 01.0**	**+1.4**
MAKR	**Makrakomi, Fth**	**1.41**	**35**	*e*Pn	**Pb**	**08 20 42.8**	**+0.7**
LTK	**Loutraki**	**1.48**	**83**	*e*PN	**Pb**	**08 20 43.6**	**+0.2**
LTK	**Loutraki**	**1.48**	**83**	*e*Pn	**Pb**	**08 20 43.6**	**+0.2**
AGG	**Agios Georgios**	**1.51**	**39**	*e*PN	**Pb**	**08 20 44.3**	**+0.4**
AGG	**Agios Georgios**	**1.51**	**39**	*e*Pn	**Pb**	**08 20 44.3**	**+0.4**
LKR	**Lokris**	**1.69**	**61**	*e*PN	**Pb**	**08 20 47.3**	**+0.4**
LKR	**Lokris**	**1.69**	**61**	*e*Pn	**Pb**	**08 20 47.3**	**+0.4**
DIDY	**Didyma**	**1.71**	**102**	*e*PN	**Pb**	**08 20 47.0**	**-0.4**
DIDY	**Didyma**	**1.71**	**102**	*e*Pn	**Pb**	**08 20 47.0**	**-0.4**
DID	**Didima**	**1.73**	**101**	*e*PN	**Pb**	**08 20 47.5**	**-0.1**
DID	**Didima**	**1.73**	**101**	*e*Pn	**Pb**	**08 20 47.5**	**-0.1**
THL	**Klokotos Trika**	**1.84**	**22**	*e*PN	**Pb**	**08 20 50.2**	**+0.6**
THL	**Klokotos Trika**	**1.84**	**22**	*e*Pn	**Pb**	**08 20 50.2**	**+0.6**
VLI	**Veliai**	**1.85**	**127**	*e*PN	**Pb**	**08 20 50.4**	**+0.7**
VLI				*e*SN	**Sb**	**08 21 14.2**	**+1.8**
VLI	**Veliai**	**1.85**	**127**	*e*Pn	**Pb**	**08 20 50.4**	**+0.7**
VLI				*e*Sn	**Sb**	**08 21 14.2**	**+1.8**
MRKA	**Markates**	**2.13**	**66**	*e*PN	**Pb**	**08 20 53.4**	**-1.0**
MRKA	**Markates**	**2.13**	**66**	*e*Pn	**Pb**	**08 20 53.4**	**-1.0**
KYTH	**Kithira**	**2.20**	**135**	*e*PN	**Pb**	**08 20 55.5**	**-0.2**
KYTH	**Kithira**	**2.20**	**135**	*e*Pn	**Pb**	**08 20 55.5**	**-0.2**

*IDC **12** 08:20:54.4±0.6, 13°.95N×144°.96E, h0km, mb4.1/12, mb1 4.3/12, mb1mx4.1/24, mbtmp4.1/12, Error ellipse: s-maj=29.9km s-min=14.4km az=84.0*
*NEIC **12** 08:21:10.5±1.0, 13°.84N×144°.75E, h132km±9km, mb4.2/2, Error ellipse: s-maj=26.5km s-min=11.1km az=81.0*
ISC 12 08:21:09.9±0.6, 13°.86N±0°.10×144°.8E±0°.2, h125km, n39, σ1°32/34, mb4.0/14, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.29**	**161**	*e*Pg	**Pn**	**08 21 29.2**	**+1.8**
GUMO				*e*Sg	**Sn**	**08 21 43.1**	**+2.5**
H11S3	**WAKE ISLAND Hy 21.54**	**75**		T	T	08 48 03.0	
	baz=264,slow=0.7,SNR=7.6						
H11S1	**WAKE ISLAND Hy 21.55**	**75**		T	T	08 48 02.9	
	baz=264,SNR=2.3						
H11S2	**WAKE ISLAND Hy 21.55**	**75**		T	T	08 48 05.3	
	baz=264,slow=0.7,SNR=1.9						
H11N1	**WAKE ISLAND Hy 21.95**	**72**		T	T	08 49 08.5	
	baz=260,slow=0.7,SNR=8.7						
H11N2	**WAKE ISLAND Hy 21.96**	**72**		T	T	08 49 07.4	
	baz=260,slow=0.7,SNR=6.3						
H11N3	**WAKE ISLAND Hy 21.97**	**72**		T	T	08 49 07.0	
	baz=260,slow=0.7,SNR=10						
JNU	**Nakatsue**	**22.97**	**329**	P	**P**	**08 26 04.4**	**+0.7**
JNU	**Nakatsue**	**22.97**	**329**	P	**P**	**08 26 04.4**	**+0.7**
	2.9nm,0.6s,baz=45,slow=12,SNR=4.7						
KSRS	**Korea Array**	**27.88**	**330**	P	**P**	**08 26 46.2**	**-1.7**
	0.5nm,0.4s,baz=147,slow=9.0,SNR=3.3						
KSAR	**Wonju Array Be**	**27.89**	**330**	P	**P**	**08 26 46.2**	**-1.8**
CTA	**Charters Tower**	**33.77**	**177**	P	**P**	**08 27 38.0**	**-1.8**
CTA	**Charters Tower**	**33.77**	**177**	P	**P**	**08 27 38.0**	**-1.8**
	0.8nm,0.3s,baz=0.0,slow=10,SNR=3.4						
CTAO	**Charters Tower**	**33.77**	**177**	*e*P	**P**	**08 27 40.2**	**+0.4**
	3.7nm,0.8s						
WRAB	**Tennant Creek**	**35.12**	**197**	*e*P	**P**	**08 27 51.1**	**-0.4**
	2.1nm,0.5s						
WRA	**Warramunga Arr**	**35.13**	**197**	P	**P**	**08 27 50.7**	**-0.9**
WRA	**Warramunga Arr**	**35.13**	**197**	P	**P**	**08 27 50.7**	**-0.9**
	1.7nm,0.5s,baz=18,slow=8.3,SNR=42						
ASAR	**Alice Springs**	**38.78**	**196**	P	**P**	**08 28 22.0**	**-0.5**
ASAR	**Alice Springs**	**38.78**	**196**	P	**P**	**08 28 22.0**	**-0.5**
	0.5nm,0.6s,baz=19,slow=13,SNR=16						
DZM	**Mont Dzumac**	**41.56**	**149**	*e*P	**P**	**08 28 46.0**	**+0.5**
DZM	**Mont Dzumac**	**41.56**	**149**	P	**P**	**08 28 45.3**	**-0.2**
	4.7nm,0.6s,baz=294,slow=16,SNR=7.5						
STKA	**Stephens Creek**	**45.58**	**184**	*e*P	**P**	**08 29 16.5**	**-0.9**
STKA	**Stephens Creek**	**45.58**	**184**	P	**P**	**08 29 16.4**	**-1.1**
	2.2nm,0.4s,baz=27,slow=4.5,SNR=8.0						
SONM	**Songino Array**	**46.45**	**325**	P	**P**	**08 29 24.3**	**0.0**
SONM	**Songino Array**	**46.45**	**325**	P	**P**	**08 29 24.3**	**0.0**
	0.2nm,0.4s,baz=128,slow=9.3,SNR=2.9						
MKAR	**Makanchi Array**	**61.23**	**316**	P	**P**	**08 31 12.8**	**+1.0**
MKAR	**Makanchi Array**	**61.23**	**316**	P	**P**	**08 31 12.8**	**+1.0**
	0.8nm,0.5s,baz=91,slow=9.3,SNR=5.7						
ILAR	**Eielson Array**	**68.36**	**25**	P	**P**	**08 31 55.3**	**-2.3**
ILAR	**Eielson Array**	**68.36**	**25**	P	**P**	**08 31 55.3**	**-2.3**
	0.7nm,0.4s,baz=252,slow=5.6,SNR=18						
ARCES	**ARCESS Array B**	**86.80**	**342**	P	**P**	**08 33 40.2**	**+0.4**
ARCES	**ARCESS Array B**	**86.80**	**342**	P	**P**	**08 33 40.2**	**+0.4**
	4.2nm,0.9s,baz=52,slow=9.8,SNR=3.8						
NVAR	**Mina Array Bea**	**86.82**	**51**	P	**P**	**08 33 41.2**	**+0.3**
NVAR	**Mina Array Bea**	**86.82**	**51**	P	**P**	**08 33 41.2**	**+0.3**
	1.4nm,0.7s,baz=266,slow=6.2,SNR=15						
FINES	**FINESS Array B**	**90.88**	**335**	P	**P**	**08 33 58.0**	**-1.1**
FINES	**FINESS Array B**	**90.88**	**335**	P	**P**	**08 33 58.0**	**-1.1**
	2.2nm,0.8s,baz=176,slow=5.5,SNR=5.2						
TORD	**Torodi Ar. Bea**	**134.63**	**305**	PKP	**PKPdf**	**08 40 16.7**	**+2.1**
TORD	**Torodi Ar. Bea**	**134.63**	**305**	PKP	**PKPdf**	**08 40 16.7**	**+2.1**
	0.1nm,0.4s,baz=33,slow=2.2,SNR=2.9						
LPAZ	**La Paz**	**148.16**	**99**	PKPbc	**PKPbc**	**08 40 43.6**	**+0.8**
LPAZ	**La Paz**	**148.16**	**99**	PKPbc	**PKPbc**	**08 40 43.6**	**+0.8**
	0.6nm,0.5s,baz=337,slow=1.1,SNR=3.5						

*IDC **12** 08:43:08.7±1.4, 24°.63N×122°.24E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/24, mbtmp3.7/5, MS3.4/9, Ms1 3.4/9, ms1mx3.2/35, Error ellipse: s-maj=52.5km s-min=23.9km az=70.0*
*ISCJB **12** 08:43:09.7±0.7, 24°.90N±0°.04×122°.71E±0°.05, h10km, mb3.6/4, MS3.4/7, Error ellipse: s-maj=7.4km s-min=4.9km az=44.0*
*TAP **12** 08:43:09.2, 24°.87N×122°.67E, h3km±1km, ML3.3, D*
ISC 12 08:43:09.8±0.9, 24°.87N±0°.07×122°.73E±0°.06, h10km, n39, σ0°97/32, mb3.7/4, MS3.3/7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res

s-min=32.4km az=117.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 0.6nm,0.3s,baz=333,slow=18,SNR=6.4	**10.15**	**181**	Pn	Pn	08 47 30.2	-0.2
WRA	**Warramunga Arr** comp=Z,57nm,18.9s,baz=275,slow=36	**32.05**	**251**	LR	LR	09 04 01.2	
ASAR	**Alice Springs** 1.9nm,0.7s,baz=70,slow=9.4,SNR=8.2	**33.23**	**245**	P	P	08 51 42.4	0.0
ILAR	**Eielson Array** 0.2nm,0.7s,baz=235,slow=4.6,SNR=2.8	**84.01**	**18**	P	P	08 57 35.2	+0.1
MKAR	**Makanchi Array** 0.2nm,0.7s,baz=100,slow=6.0,SNR=2.8	**94.72**	**317**	P	P	08 58 26.4	-0.3

IDC ***12*** *08:54:17.6±0.9, 16°.55S×172°.35W, h0km, mb3.7/8, mb1 4.1/8, mb1mx3.9/21, mbtmp3.8/8, MS3.6/3, Ms1 3.6/3, ms1mx3.3/24, Error ellipse: s-maj=42.6km s-min=21.1km az=132.0*

ISCJB ***12*** *08:54:19.5±0.8, 16°.3S±0°.2×172°.5W±0°.2, h24km, mb3.8/9, MS3.5/2, Error ellipse: s-maj=32.9km s-min=13.8km az=33.9*

ISC 12 08:54:21.0±0.8, 16°.3S±0°.2×172°.5W±0°.3, h24km, n17, σ1§84/9, mb3.7/9, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 7.4nm,0.3s,baz=147,slow=3.4,SNR=7.3	**2.48**	**15**	Pn	**Pn**	**08 54 57.4**	**-2.5**
AFI	36nm,0.3s,baz=119,slow=22,SNR=6.2			Sn	Sn	08 55 22.5	-7.1
RAR	**Rarotonga** comp=Z,214nm,18.4s,baz=61,slow=34	**12.95**	**114**	LR	LR	09 01 31.8	
DZM	**Mont Dzumac** 186nm,25.0s	**20.73**	**251**	*e*LR	LR	09 04 42.3	
PPT	**Papeete** comp=Z,84nm,19.9s,baz=357,slow=32	**21.91**	**97**	LR	LR	09 05 54.6	
PPT2	**Papeete2** 146nm,23.2s	**21.91**	**97**	*e*LR	LR	09 04 09.6	
TBI	**Tubuai** 217nm,29.8s	**22.71**	**112**	*e*LR	LR	09 04 23.3	
URZ	**Urewera** 6.8nm,0.9s,baz=284,slow=4.9,SNR=2.3	**23.71**	**201**	P	**P**	**08 59 29.0**	**-2.1**
RPZ	**Rata Peaks** 7.4nm,0.8s,baz=350,slow=11,SNR=3.1	**30.70**	**204**	P	P	09 00 41.1	+7.1
RKT	**Rikitea** 62nm,24.8s	**35.85**	**107**	*e*LR	LR	09 10 26.5	
WRA	**Warramunga Arr** 0.5nm,0.7s,baz=92,slow=6.5,SNR=3.1	**50.53**	**257**	P	**P**	**09 03 18.6**	**+0.8**
ASAR	**Alice Springs** 2.4nm,0.7s,baz=88,slow=8.3,SNR=36	**50.70**	**253**	P	**P**	**09 03 19.2**	**+0.1**
FITZ	**Fitzroy Crossi** comp=Z,88nm,20.7s,baz=318,slow=33	**58.92**	**258**	LR	LR	09 26 48.2	
VNDA	**Vanda** 0.8nm,0.8s,baz=6.2,slow=6.0,SNR=5.5	**62.56**	**186**	P	**P**	**09 04 42.1**	**-0.4**
NVAR	**Mina Array Bea** 0.4nm,0.7s,baz=228,slow=7.8,SNR=4.3	**74.40**	**41**	P	**P**	**09 05 59.0**	**+1.7**
TXAR	**Lajitas Array** 0.8nm,1.1s,baz=224,slow=3.5,SNR=3.7	**80.36**	**56**	P	**P**	**09 06 30.6**	**-0.2**
PDAR	**Pinedale Array** 0.5nm,1.0s,baz=266,slow=5.4,SNR=3.5	**82.34**	**41**	P	**P**	**09 06 42.2**	**+1.1**
ILAR	**Eielson Array** 0.3nm,0.9s,baz=209,slow=7.2,SNR=4.3	**83.17**	**11**	P	**P**	**09 06 46.8**	**+2.2**

IDC 12 09:04:48.4±8.9, 15°.05S×172°.21W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/20, mbtmp3.7/3, MS3.9/2, Ms1 3.9/2, ms1mx3.3/28, Error ellipse: s-maj=402.8km s-min=35.0km az=139.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 106nm,0.3s,baz=153,slow=4.5,SNR=27	**1.21**	**20**	Pn	Pg	09 05 08.4	-3.3
AFI	539nm,0.3s,baz=180,slow=19,SNR=36			Sn	Sg	09 05 22.8	-4.7
RAR	**Rarotonga** comp=Z,100nm,21.9s,baz=90,slow=30	**13.31**	**119**	LR	LR	09 11 24.1	
URZ	**Urewera** comp=Z,2μm,18.4s,baz=354,slow=32	**24.97**	**200**	LR	LR	09 18 05.8	
H11S2	**WAKE ISLAND Hy** baz=141	**39.27**	**327**	T	T	09 54 23.5	
H11S3	**WAKE ISLAND Hy** baz=141	**39.29**	**327**	T	T	09 54 23.4	
H11S1	**WAKE ISLAND Hy** baz=141	**39.29**	**327**	T	T	09 54 27.1	
H11N3	**WAKE ISLAND Hy** baz=147	**40.20**	**329**	T	T	09 55 31.4	
H11N1	**WAKE ISLAND Hy** baz=147	**40.20**	**329**	T	T	09 55 35.3	
H11N2	**WAKE ISLAND Hy** baz=147	**40.21**	**329**	T	T	09 55 36.1	
WRA	**Warramunga Arr** 0.8nm,0.9s,baz=92,slow=6.9,SNR=6.1	**51.04**	**256**	P	P	09 13 52.7	-0.1
ASAR	**Alice Springs** 0.8nm,0.5s,baz=89,slow=7.7,SNR=24	**51.31**	**252**	P	P	09 13 54.3	-0.5
ILAR	**Eielson Array** 0.4nm,0.7s,baz=223,slow=6.2,SNR=5.9	**81.89**	**11**	P	P	09 17 08.6	-0.7
BRTR	**Keskin Array B** 0.5nm,0.5s,baz=37,slow=1.2,SNR=3.4	**146.60**	**322**	PKPbc	PKPab	09 24 33.2	-0.2

ISCJB ***12*** *09:09:43.9±0.5, 46°.02S±0°.05×166°.01E±0°.04, h12km, mb4.0/5, MS3.7/2, Error ellipse: s-maj=7.8km s-min=4.4km az=7.0*

IDC ***12*** *09:09:43.2±1.2, 46°.13S×166°.08E, h0km, mb4.1/5, mb1 4.3/7, mb1mx4.1/17, mbtmp4.2/7, ML4.3/2, MS3.9/2, Ms1 3.8/2, ms1mx3.5/20, Error ellipse: s-maj=39.2km s-min=19.6km az=164.0*

WEL ***12*** *09:09:45.6±0.6, 46°.05S×165°.96E, h28km±1km, ML4.9/18, Error ellipse: s-maj=6.2km s-min=2.3km az=90.0*

AUST ***12*** *09:09:47.0±14.0, 46°.13S×166°.11E, h34km, Error ellipse: s-maj=1.8km s-min=0.7km az=355.0*

NEIC ***12*** *09:09:47.7, 46°.01S×166°.20E, h12km, ML4.8(WEL), After WEL.*

ISC 12 09:09:45.0±0.6, 46°.10S±0°.05×166°.10E±0°.04, h12km, n87, σ1§01/82, mb4.0/5, 1C-8D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.41**	**99**	⇓P*	**Pb**	**09 09 55.3**	**+1.1**
PYZ				S*	**Sb**	**09 10 01.0**	**+0.6**
PYZ	**Puysegur Point**	**0.41**	**99**	⇓P*	**Pb**	**09 09 55.3**	**+1.1**
PYZ				S*	**Sb**	**09 10 02.1**	**+1.7**
DCZ	**Deep Cove**	**0.97**	**50**	⇓PN	**Pg**	**09 10 03.4**	**-0.2**
DCZ				SN	**Sg**	**09 10 16.2**	**0.0**
DCZ				AML	AML	09 10 20.3	
DCZ				AML	AML	09 10 20.3	
DCZ				AML	AML	09 10 22.4	
DCZ	**Deep Cove**	**0.97**	**50**	⇓P*	**Pg**	**09 10 03.4**	**-0.2**
WHZ	**Wether Hill Ro**	**1.30**	**82**	⇓PN	**Pn**	**09 10 09.2**	**+0.2**
WHZ				SN	**Sb**	**09 10 26.7**	**+0.5**
WHZ				AML	AML	09 10 33.0	
WHZ	**Wether Hill Ro**	**1.30**	**82**	⇓P*	**Pn**	**09 10 09.2**	**+0.2**
APZ	**The Paps**	**1.50**	**120**	PN	**Pn**	**09 10 11.3**	**-0.4**
APZ				SN	**Sn**	**09 10 30.6**	**-0.6**
APZ	**The Paps**	**1.50**	**120**	PN	**Pn**	**09 10 11.3**	**-0.4**
MLZ	**Mavora Lakes**	**1.64**	**63**	⇓PN	**Pn**	**09 10 14.6**	**+0.9**
MLZ				AML	AML	09 10 41.3	
MLZ				AML	AML	09 10 43.0	
MLZ	**Mavora Lakes**	**1.64**	**63**	Pn	**Pn**	**09 10 14.6**	**+0.9**
MSZ	**Milford Sound**	**1.92**	**43**	PN	**Pn**	**09 10 18.1**	**+0.6**
MSZ				AML	AML	09 10 56.5	
MSZ				AML	AML	09 10 56.5	
MSZ				AML	AML	09 10 57.7	
MSZ				AML	AML	09 10 57.7	
MSZ	**Milford Sound**	**1.92**	**43**	Pn	**Pn**	**09 10 18.1**	**+0.6**
SYZ	**Scrubby Hill**	**2.15**	**103**	PN	**Pn**	**09 10 21.1**	**+0.5**
EAZ	**Earnscleugh**	**2.41**	**70**	AML	AML	09 11 01.0	
EAZ				AML	AML	09 11 01.0	
EAZ				AML	AML	09 11 13.6	
EAZ				AML	AML	09 11 13.6	
EAZ	**Earnscleugh**	**2.41**	**70**	Pn	**Pn**	**09 10 26.2**	**+2.0**
WKZ	**Wanaka**	**2.42**	**59**	AML	AML	09 11 02.4	
WKZ				AML	AML	09 11 02.4	
WKZ				AML	AML	09 11 11.1	
WKZ				AML	AML	09 11 11.2	
WKZ	**Wanaka**	**2.42**	**59**	Pn	**Pb**	**09 10 26.8**	**-1.6**
TUZ	**Tuapeka**	**2.47**	**88**	⇑PN	**Pn**	**09 10 26.3**	**+1.3**
TUZ				AML	AML	09 11 01.7	
TUZ				AML	AML	09 11 05.4	
TUZ	**Tuapeka**	**2.47**	**88**	Pn	**Pn**	**09 10 26.3**	**+1.3**
JCZ	**Jackson Bay**	**2.77**	**44**	PN	**Pn**	**09 10 30.1**	**+0.8**
JCZ				AML	AML	09 11 21.3	
JCZ				AML	AML	09 11 26.5	
JCZ	**Jackson Bay**	**2.77**	**44**	Pn	**Pn**	**09 10 31.1**	**+1.8**
HHSZ	**Highcliff Hill**	**3.14**	**88**	PN	**Pn**	**09 10 35.8**	**+1.5**
LBZ	**Lake Benmore**	**3.36**	**61**	PN	**Pn**	**09 10 38.0**	**+0.7**
LBZ				AML	AML	09 11 47.0	
LBZ				AML	AML	09 11 54.9	
LBZ	**Lake Benmore**	**3.36**	**61**	Pn	**Pn**	**09 10 38.0**	**+0.7**
ODZ	**Otahua Downs**	**3.36**	**73**	⇓PN	**Pn**	**09 10 37.4**	**+0.1**
ODZ	**Otahua Downs**	**3.36**	**73**	Pn	**Pn**	**09 10 37.4**	**+0.1**
FOZ	**Fox Glacier**	**3.60**	**46**	PN	**Pn**	**09 10 42.8**	**+2.2**
FOZ				AML	AML	09 11 46.9	
FOZ				AML	AML	09 11 53.7	
FOZ	**Fox Glacier**	**3.60**	**46**	Pn	**Pn**	**09 10 42.8**	**+2.2**
RPZ	**Rata Peaks**	**4.25**	**58**	PN	**Pn**	**09 10 49.2**	**-0.3**
RPZ				AML	AML	09 12 09.5	
RPZ				AML	AML	09 12 15.3	
RPZ	**Rata Peaks**	**4.25**	**58**	Pn	**Pn**	**09 10 49.2**	**-0.3**
RPZ				Sn	**Sn**	**09 11 39.3**	**+0.1**
RPZ	**Rata Peaks** 37nm,0.3s,baz=213,slow=5.1,SNR=226	**4.25**	**58**	Pn	**Pn**	**09 10 49.5**	**-0.1**
RPZ	44nm,0.3s,baz=266,slow=19,SNR=5.1			Sn	**Sn**	**09 11 39.3**	**+0.1**
WVZ	**Waitaha Valley**	**4.49**	**49**	PN	**Pn**	**09 10 53.6**	**+0.9**
WVZ				AML	AML	09 12 17.1	
WVZ				AML	AML	09 12 23.3	
WVZ	**Waitaha Valley**	**4.49**	**49**	Pn	**Pn**	**09 10 53.6**	**+0.9**
OXZ	**Oxford**	**5.06**	**59**	PN	**Pn**	**09 11 00.1**	**-0.6**
MQZ	**McQueen's Vall**	**5.23**	**65**	PN	**Pn**	**09 11 03.0**	**0.0**
MQZ	**McQueen's Vall**	**5.23**	**65**	Pn	**Pn**	**09 11 03.0**	**0.0**
LTZ	**Lake Taylor**	**5.52**	**55**	PN	**Pn**	**09 11 06.4**	**-0.6**
LTZ				AML	AML	09 12 15.9	
LTZ				AML	AML	09 13 05.4	
LTZ	**Lake Taylor**	**5.52**	**55**	Pn	**Pn**	**09 11 06.4**	**-0.6**
DSZ	**Denniston Nort**	**5.99**	**45**	PN	**Pn**	**09 11 13.8**	**+0.3**
DSZ				AML	AML	09 12 36.8	
DSZ				AML	AML	09 12 47.8	
DSZ	**Denniston Nort**	**5.99**	**45**	Pn	**Pn**	**09 11 13.8**	**+0.3**
KHZ	**Kahutara**	**6.49**	**58**	*e*Pn	**Pn**	**09 11 20.4**	**+0.2**
THZ	**Tophouse**	**6.55**	**51**	AML	AML	09 12 56.0	
THZ				AML	AML	09 12 58.4	
NNZ	**Nelson**	**7.19**	**50**	AML	AML	09 13 08.5	
NNZ				AML	AML	09 14 02.4	
SNZO	**South Karori**	**7.86**	**56**	*e*Pn	**Pn**	**09 11 39.1**	**+0.1**
URZ	**Urewera**	**11.31**	**50**	Pn	**Pn**	**09 12 25.6**	**-0.8**
URZ				Sn	**Sn**	**09 14 29.9**	**-2.8**
URZ	**Urewera** 0.9nm,0.3s,baz=292,slow=11,SNR=5.3	**11.31**	**50**	Pn	**Pn**	**09 12 25.6**	**-0.8**
URZ	0.8nm,0.3s,baz=289,slow=4.1,SNR=4.6			Sn	**Sn**	**09 14 29.9**	**-2.8**
MOO	**Moorlands** baz=14,SNR=7.4	**14.03**	**278**	P	**Pn**	**09 13 02.4**	**-1.1**
MILA	**Mila** baz=16,SNR=8.2	**15.55**	**300**	P	**Pn**	**09 13 23.5**	**-0.5**
TOO	**Toolangi** baz=18,SNR=13	**17.53**	**292**	P	**P**	**09 13 50.3**	**+0.1**
RAO	**Raoul Island**	**20.98**	**42**	P	**P**	**09 14 26.7**	**-1.3**
RAO				S	**S**	**09 18 21.6**	**+0.1**
RAO	**Raoul Island** 135nm,0.3s,baz=191,slow=17,SNR=3.7	**20.98**	**42**	P	**P**	**09 14 26.7**	**-1.3**
RAO	263nm,0.4s,baz=162,slow=20,SNR=3.1			S	**S**	**09 18 21.6**	**+0.1**
STKA	**Stephens Creek** comp=Z,305nm,18.3s,baz=204,slow=33	**23.64**	**298**	LR	LR	09 22 45.2	
DZM	**Mont Dzumac**	**23.97**	**1**	P	**P**	**09 15 01.7**	**+2.3**
DZM	**Mont Dzumac** 13nm,1.1s,baz=181,slow=7.7,SNR=5.2	**23.97**	**1**	P	**P**	**09 15 01.7**	**+2.3**
VNDA	**Vanda** comp=Z,168nm,21.6s,baz=30,slow=32	**31.57**	**182**	LR	LR	09 26 22.1	
ASAR	**Alice Springs**	**34.25**	**300**	P	**P**	**09 16 30.0**	**-0.9**
ASAR				PcP	**PcP**	**09 19 06.7**	**-0.6**
ASAR	**Alice Springs** 0.5nm,0.8s,baz=132,slow=8.2,SNR=7.6	**34.25**	**300**	P	**P**	**09 16 30.0**	**-0.9**
ASAR	0.4nm,0.8s,baz=117,slow=3.2,SNR=2.7			PcP	**PcP**	**09 19 06.7**	**-0.6**
WRA	**Warramunga Arr**	**36.86**	**304**	P	**P**	**09 16 52.9**	**-0.4**
WRA	**Warramunga Arr** 1.1nm,0.8s,baz=143,slow=7.7,SNR=5.9	**36.86**	**304**	P	**P**	**09 16 52.9**	**-0.4**
H01W1	**Cape Leeuwin H** baz=120,slow=0.7,SNR=298	**40.40**	**267**	T	T	10 00 08.9	
H01W2	**Cape Leeuwin H** baz=120,slow=0.7,SNR=362	**40.41**	**267**	T	T	10 00 09.7	
H01W3	**Cape Leeuwin H** baz=120,slow=0.7,SNR=361	**40.41**	**267**	T	T	10 00 08.2	
FITZ	**Fitzroy Crossi**	**43.50**	**296**	P	**P**	**09 17 47.5**	**-0.8**
FITZ	**Fitzroy Crossi** 2.8nm,1.1s,baz=187,slow=8.1,SNR=3.1	**43.50**	**296**	P	**P**	**09 17 47.5**	**-0.8**
H03N3	**Juan Fernandez** baz=258,slow=0.5	**81.46**	**130**	T	T	10 51 58.1	
H03N2	**Juan Fernandez** baz=258,slow=0.5	**81.47**	**130**	T	T	10 51 57.1	
H03N1	**Juan Fernandez** baz=258,slow=0.5	**81.48**	**130**	T	T	10 51 58.9	
H08S2	**Diego Garcia H** baz=136,slow=0.7,SNR=179	**87.05**	**262**	T	T	10 58 17.5	
H08S1	**Diego Garcia H** baz=136,slow=0.7,SNR=121	**87.06**	**262**	T	T	10 58 18.9	
H08S3	**Diego Garcia H** baz=136,slow=0.7,SNR=269	**87.06**	**262**	T	T	10 58 18.2	
CMAR	**Chiang Mai Arr**	**88.26**	**299**	P	**P**	**09 22 36.8**	**+0.5**
CMAR	**Chiang Mai Arr** 0.9nm,0.3s,baz=122,slow=3.3,SNR=5.2	**88.26**	**299**	P	**P**	**09 22 36.8**	**+0.5**
H08N1	**Diego Garcia H** baz=122,slow=0.7,SNR=14	**89.00**	**262**	T	T	11 00 50.6	
H08N3	**Diego Garcia H** baz=122,slow=0.7,SNR=25	**89.01**	**262**	T	T	11 00 50.0	
H08N2	**Diego Garcia H** baz=122,slow=0.7,SNR=16	**89.02**	**262**	T	T	11 00 49.5	
TORD	**Torodi Ar. Bea**	**144.60**	**207**	PKP	**PKPab**	**09 29 20.1**	**0.0**
TORD	**Torodi Ar. Bea** 1.3nm,0.5s,baz=159,slow=2.0,SNR=21	**144.60**	**207**	PKP	**PKPab**	**09 29 20.1**	**0.0**
BRTR	**Keskin Array B**	**145.03**	**277**	PKP	**PKPab**	**09 29 21.9**	**+0.6**
BRTR	**Keskin Array B** 2.3nm,0.9s,baz=134,slow=3.6,SNR=11	**145.03**	**277**	PKP	**PKPab**	**09 29 21.9**	**+0.6**
SCHQ	**Schefferville**	**145.94**	**56**	PKPbc	**PKPdf**	**09 29 23.4**	**+0.6**
SCHQ	**Schefferville** 4.7nm,0.7s,baz=350,slow=2.4,SNR=6.0	**145.94**	**56**	PKPbc	**PKPdf**	**09 29 23.4**	**+0.6**
ARCES	**ARCESS Array B**	**149.48**	**334**	PKPbc	**PKPbc**	**09 29 33.3**	**+0.6**
ARCES	**ARCESS Array B** 7.8nm,0.8s,baz=75,slow=2.3,SNR=18	**149.48**	**334**	PKPbc	**PKPbc**	**09 29 33.3**	**+0.6**
AKASG	**Malin Array Be**	**151.31**	**295**	PKPbc	**PKPbc**	**09 29 37.5**	**0.0**
AKASG	**Malin Array Be** 1.2nm,0.5s,baz=83,slow=2.6,SNR=6.8	**151.31**	**295**	PKPbc	**PKPbc**	**09 29 37.5**	**0.0**
FINES	**FINESS Array B**	**152.39**	**318**	PKPbc	**PKPbc**	**09 29 40.7**	**+1.0**
FINES	**FINESS Array B** 1.8nm,0.8s,baz=60,slow=19,SNR=2.7	**152.39**	**318**	PKPbc	**PKPbc**	**09 29 40.7**	**+1.0**

BJI ***12*** *09:37:16.5, 12°.20S×166°.66E, h20km, mB6.4/57, mb5.8/64, Ms6.0/73, Ms7 5.8/69*

MOS ***12*** *09:37:19.0±1.3, 12°.33S×166°.41E, h33km, mb5.8/58, MS5.8/45, Error ellipse: s-maj=7.2km s-min=6.9km az=54.0*

NEIC ***12*** *09:37:21.5±0.1, 12°.41S×166°.50E, h42km, mb5.9/98, ME5.6, MS5.9/153, MW6.2, MW6.2, Error ellipse: s-maj=5.8km s-min=4.3km az=151.0, Moment Tensor Solution. s37 Moment tensor: Scale 10¹⁸Nm; Mrr3.06; Mθθ-1.34; Mϕϕ-1.73; Mrθ0.33; Mθϕ0.36; Mϕr0.90; Best double couple: M₀2.80000×10¹⁸ NP1:φs145.00000°, δ38.00000°, λ76.00000°. NP2:φs343.00000°, δ53.00000°, λ101.00000°. Principal axes: T 3.2600, Plg78.0000°, Azm295.0000°; N -1.2400, Plg8.0000°, Azm156.0000°; P -2.0300, Plg7.0000°, Azm65.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt at Luganville, Vanuatu.

ISCJB ***12*** *09:37:22.1±0.8, 12°.44S±0°.03×166°.46E±0°.02, h58km±7km, mb5.8/168, MS5.8/212 Error ellipse: s-maj=4.2km s-min=2.9km az=176.8*

IDC ***12*** *09:37:22.9±0.5, 12°.44S×166°.57E, h65km±3km, mb5.1/27, mb1 5.1/29, mb1mx5.1/29, mbtmp5.1/29, MS5.7/24, Ms1 5.7/24, ms1mx5.6/26, Error ellipse: s-maj=8.1km s-min=7.5km az=84.0*

GCMT ***12*** *09:37:26.1±0.1, 12°.40S×166°.26E, h51km, MW6.2, Moment Tensor Solution. s124,c279; s96,c148; Moment tensor: Scale 10¹⁸Nm; Mrr2.15±.02; Mθθ-0.11±.01; Mϕϕ-2.04±.01; Mrθ0.05±.01; Mθϕ0.65±.01; Mϕr0.85±.01; Best double couple: M₀2.40000×10¹⁸ NP1:φs350.00000°, δ55.00000°, λ99.00000°. NP2: φs155.00000°, δ35.00000°, λ78.00000°. Principal axes: T 2.3300, Plg78.0000°, Azm290.0000°; N 0.0500, Plg7.0000°, Azm165.0000°; P -2.3800, Plg10.0000°, Azm74.0000°; Data Used: II IU CN IC G. Surface waves: sta=114, comp=261, per= 50.*

AUST ***12*** *09:37:30.7±1.6, 12°.61S×166°.50E, h124km±14km Error ellipse: s-maj=6.7km s-min=5.0km az=44.0*

DJA ***12*** *09:37:31.5±1.0, 13°.3S±3°.×16°.6E±°, h109km±10km, M6.2/15, mb6.0/15, mB6.6/14, Mw(mB)6.4/14, Mwp6.0/5*

NEIC ***12*** *09:37:40.0±0.0, 12°.39S×165°.93E, h50km, Moment Tensor Solution. s139 Moment tensor: Scale 10¹⁸Nm; Mrr2.36; Mθθ-0.24; Mϕϕ-2.12; Mrθ0.18; Mθϕ0.57; Mϕr0.28; Best double couple: M₀2.30000×10¹⁸ NP1:φs159.00000°, δ43.00000°, λ82.00000°. NP2:φs350.00000°, δ48.00000°, λ98.00000°. Principal axes: T 2.4000, Plg83.0000°, Azm318.0000°; N -0.1100, Plg5.0000°, Azm164.0000°; P -2.2900, Plg2.0000°, Azm74.0000°;*

ISC 12 09:37:22.6±0.3, 12°.48S±0°.03×166°.62E±0°.03, h57km±2km, h57km:pP-P, n1176, σ1§64/1206, mb5.9/169, MS5.8/212, 41C-37D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.21**	**294**	P	**Pn**	**09 39 05.5**	**0.0**
HNR				S	**Sn**	**09 40 23.2**	**-2.9**
HNR	**Honiara** 1μm,0.3s,baz=165,slow=2.6,SNR=120	**7.21**	**294**	P	**Pn**	**09 39 05.5**	**0.0**
HNR	564nm,0.3s,baz=160,slow=11,SNR=7.3			S	**Sn**	**09 40 23.2**	**-2.9**
DZM	**Mont Dzumac** 182nm,0.3s	**9.54**	**181**	*e*Pn	**Pn**	**09 39 39.5**	**+2.0**
DZM	168μm,26.1s			*e*LR	LR	09 41 53.0	
DZM	**Mont Dzumac** 371nm,0.8s	**9.54**	**181**	*e*Pn	**Pn**	**09 39 39.9**	**+2.3**
DZM				S	**Sn**	**09 41 26.1**	**+2.7**
DZM	**Mont Dzumac** 16nm,0.3s,baz=18,slow=15,SNR=29	**9.54**	**181**	P	**Pn**	**09 39 39.8**	**+2.3**
DZM	10nm,0.3s,baz=72,slow=20,SNR=1.9			S	**Sn**	**09 41 26.1**	**+2.7**
MSVF	**Nonsavu**	**12.21**	**117**	*e*P	P	09 40 19.4	-5.2
MSVF	**Nonsavu** 2μm,2.1s,SNR=10	**12.21**	**117**	Pn	**P**	**09 40 22.0**	**-2.6**
MSVF	**Nonsavu** 1μm,0.9s	**12.21**	**117**	*e*Pn	P	09 40 19.4	-5.2
TARA	**Tarawa**	**15.10**	**25**	*e*Pn	**Pn**	**09 40 54.0**	**+1.4**
RABL	**Rabaul** baz=16,SNR=3.7	**16.49**	**299**	⇑P	**P**	**09 41 15.0**	**+2.8**
PMG	**Port Moresby**	**19.35**	**277**	P	**Pn**	**09 41 46.5**	**+1.3**
PMG	**Port Moresby**	**19.35**	**277**	P	**P**	**09 41 44.1**	**+0.5**
PMG				*e*Pn	**Pn**	**09 41 45.7**	**+0.6**
PMG	**Port Moresby** 3.1nm,0.3s,baz=99,slow=7.4,SNR=14	**19.35**	**277**	P	**P**	**09 41 44.1**	**+0.5**
EIDS	**Eidsvold** 452nm,0.8s	**19.48**	**227**	*e*Pn	**Pn**	**09 41 46.9**	**+0.2**
EIDS	**Eidsvold** baz=19,SNR=84	**19.48**	**227**	P	**Pn**	**09 41 47.0**	**+0.4**
LHI	**Lord Howe Isla** baz=20,SNR=11	**20.19**	**199**	⇓P	Pn	09 41 54.3	-0.7
CTA	**Charters Tower**	**20.95**	**246**	P	**P**	**09 42 01.6**	**+0.7**
CTA				S	**S**	**09 45 51.2**	**-0.2**
CTA	**Charters Tower** baz=21	**20.95**	**246**	⇑P	Pn	09 42 03.0	-1.2
CTA	**Charters Tower** 31nm,0.6s,baz=75,slow=13,SNR=35	**20.95**	**246**	P	**P**	**09 42 01.6**	**+0.7**
CTA	8.5nm,0.8s,baz=76,slow=12,SNR=1.7			S	**S**	**09 45 51.2**	**-0.2**
CTA	comp=Z,37μm,20.0s,baz=95,slow=34			LR	LR	09 49 16.4	
CTAO	**Charters Tower**	**20.95**	**246**	*e*P	**P**	**09 42 01.8**	**+0.8**
CTAO	comp=Z,5μm,2.9s			pmax	pmax		
CTAO	comp=Z,47μm,22.0s			MLR	MLR		
CTAO	**Charters Tower** comp=Z,5μm,2.9s	**20.95**	**246**	*e*Pn	**P**	**09 42 01.8**	**+0.8**
CTAO	comp=Z,47μm,22.0s			LR	LR		
AFI	**Afiamalu**	**21.08**	**96**	P	**P**	**09 42 04.3**	**+1.8**
AFI				*e*Pn	pP	09 42 06.2	-9.0
AFI	**Afiamalu** comp=Z,137nm,0.8s,baz=239,slow=5.9,SNR=18	**21.08**	**96**	P	**P**	**09 42 04.3**	**+1.8**
AFI	comp=Z,23μm,18.0s,baz=262,slow=33			LR	LR	09 49 01.7	
MANU	**Manus Island** baz=22,SNR=8.8	**21.70**	**297**	P	**P**	**09 42 10.9**	**+1.8**
RMQ	**Roma** baz=22,SNR=124	**21.82**	**228**	P	**P**	**09 42 11.8**	**+1.5**
RAO	**Raoul Island**	**22.04**	**142**	P	**P**	**09 42 13.6**	**+1.1**
RAO				S	**S**	**09 46 07.9**	**-4.5**
RAO	**Raoul Island** comp=Z,183nm,0.5s,baz=34,slow=16,SNR=2.0	**22.04**	**142**	P	**P**	**09 42 13.6**	**+1.1**
RAO	comp=Z,236nm,0.4s,baz=308,slow=19,SNR=3.8			S	**S**	**09 46 07.9**	**-4.5**
RAO	comp=Z,6μm,19.6s,baz=130,slow=29			LR	LR	09 48 07.1	
MTSU	**Mount Surprise** baz=22	**22.22**	**253**	⇑P	**P**	**09 42 16.4**	**+1.7**
ARMA	**Armidale** comp=Z,453nm,0.9s	**22.61**	**216**	*e*P	**P**	**09 42 19.9**	**+1.1**
ARMA	**Armidale** baz=22,SNR=142	**22.61**	**216**	P	**P**	**09 42 19.9**	**+1.1**
COEN	**Coen** comp=Z,2μm,1.2s	**22.87**	**264**	*e*P	**P**	**09 42 21.4**	**-0.2**
COEN	**Coen** baz=23,SNR=39	**22.87**	**264**	P	**P**	**09 42 21.0**	**-0.5**
NIUE	**Niue** baz=24,SNR=7.8	**23.49**	**109**	⇑P	**P**	**09 42 29.3**	**+1.7**
KNTN	**Kanton** comp=Z,2μm,1.5s	**23.51**	**68**	*e*P	**P**	**09 42 27.8**	**+0.1**
OUZ	**Omahuta** comp=Z,80nm,1.0s	**23.51**	**166**	*e*P	**P**	**09 42 30.1**	**+2.5**
MGCD	**Mangrove Creek** baz=25,SNR=62	**25.04**	**212**	P	**P**	**09 42 42.9**	**+1.3**
QLP	**Quilpie** baz=25,SNR=34	**25.28**	**233**	P	**P**	**09 42 44.0**	**+0.3**
RIV	**Riverview** baz=25	**25.51**	**211**	⇑P	**P**	**09 42 47.4**	**+1.6**
CMSA	**Cobar Meteorol** baz=27,SNR=51	**27.04**	**222**	⇑P	**P**	**09 43 00.0**	**+0.4**
YNG	**Young** baz=27,SNR=62	**27.32**	**214**	P	**P**	**09 43 03.1**	**+0.9**
URZ	**Urewera** comp=Z,234nm,1.7s	**27.33**	**162**	*e*P	**P**	**09 43 05.3**	**+3.1**
URZ				S	**

STKA LR LR 09 54 45.2
comp=Z,39µm,21.1s,baz=60,slow=35
KHZ Kahutara 30.43 170 *e*P **P** **09 43 32.8 +3.1**
comp=Z,510nm,2.1s
H11S2 WAKE ISLAND Hy 30.77 0 T T 10 14 37.6
baz=182,slow=0.7,SNR=197
H11S3 WAKE ISLAND Hy 30.77 0 T T 10 14 37.9
baz=182,slow=0.7,SNR=152
H11S1 WAKE ISLAND Hy 30.79 0 T T 10 14 38.5
baz=182,slow=0.7,SNR=133
TOO Toolangi 31.33 213 P **P** **09 43 38.4 +0.7**
baz=31,SNR=113
RPZ Rata Peaks 31.36 174 *e*P **P** **09 43 40.8 +2.9**
comp=Z,116nm,0.7s
RPZ S **S** **09 48 38.9 -2.3**
RPZ Rata Peaks 31.36 174 P **P** **09 43 37.9 0.0**
comp=Z,102nm,0.6s,baz=296,slow=1.5,SNR=51
RPZ S **S** **09 48 38.9 -2.3**
comp=Z,20nm,1.2s,baz=45,slow=15,SNR=2.0
WAKE Wake Island 31.56 0 PFAKE 09 43 50.0 +10
WAKE LR LR
comp=Z,7µm,20.0s
WRAB Tennant Creek 31.82 252 *e*P **P** **09 43 40.6 -1.6**
WRAB pmax pmax
comp=Z,2µm,2.6s
WRAB MLR MLR
comp=Z,17µm,22.0s
WRAB Tennant Creek 31.82 252 P **P** **09 43 40.0 -2.2**
comp=Z,530nm,1.4s,SNR=73
WRAB Tennant Creek 31.82 252 *e*P **P** **09 43 40.6 -1.6**
comp=Z,2µm,2.6s
WRAB LR LR
comp=Z,17µm,22.0s
WRA Warramunga Arr 31.83 252 P **P** **09 43 40.9 -1.4**
WRA S **S** **09 48 45.1 -3.9**
WRA ScP **ScP** **09 50 11.8 +0.8**
WRA Warramunga Arr 31.83 252 P **P** **09 43 40.9 -1.4**
comp=Z,47nm,0.6s,baz=85,slow=9.7,SNR=124
WRA S **S** **09 48 45.1 -3.9**
comp=Z,4.6nm,1.1s,baz=88,slow=13,SNR=3.0
WRA ScP **ScP** **09 50 11.8 +0.8**
comp=Z,9.6nm,1.1s,baz=68,slow=4.6,SNR=5.7
WRA LR LR 09 55 27.9
comp=Z,16µm,19.0s,baz=80,slow=34
H11N1 WAKE ISLAND Hy 31.99 0 T T 10 16 09.1
baz=184,slow=0.7,SNR=107
H11N3 WAKE ISLAND Hy 31.99 1 T T 10 16 09.5
baz=184,slow=0.7,SNR=104
H11N2 WAKE ISLAND Hy 32.01 0 T T 10 16 10.5
baz=184,slow=0.7,SNR=64
ARPS Mount Arapiles 32.86 218 ⇓P **P** **09 43 51.7 +0.6**
baz=33
AS17 Alice Springs 32.87 246 ⇓P **P** **09 43 50.3 -1.1**
baz=33
AS07 Alice Springs 32.89 246 ⇑P **P** **09 43 50.2 -1.4**
baz=33
AS01 Alice Springs 32.91 246 *e*P **P** **09 43 50.0 -1.7**
AS01 Alice Springs 32.91 246 ⇓P **P** **09 43 50.5 -1.2**
baz=33
AS14 Alice Springs 32.94 246 ⇓P **P** **09 43 50.9 -1.1**
baz=33
AS31 Alice Springs 32.95 246 *e*P **P** **09 43 50.7 -1.5**
ASAR Alice Springs 32.95 246 P **P** **09 43 50.6 -1.5**
ASAR ScP **ScP** **09 50 13.6 -1.3**
ASAR ⇑*e* 10 17 47.3
ASAR Alice Springs 32.95 246 P **P** **09 43 50.6 -1.5**
comp=Z,162nm,0.8s,baz=69,slow=9.0,SNR=409
ASAR ScP **ScP** **09 50 13.6 -1.3**
comp=Z,5.3nm,1.0s,baz=72,slow=3.3,SNR=3.4
ASAR LR LR 09 56 33.1
comp=Z,20µm,19.7s,baz=71,slow=35
ASAR PKP2bc 10 17 47.3
comp=Z,0.7nm,0.8s,baz=69,slow=9.3,SNR=8.6
RAR Rarotonga 33.26 110 PFAKE 09 44 10.0 +15
RAR LR LR
comp=Z,10µm,19.0s
KDU Kakadu 33.31 266 ⇓P **P** **09 43 54.4 -0.9**
baz=33,SNR=38
WHZ Wether Hill Ro 33.33 178 *e*P **P** **09 43 57.5 +2.5**
comp=Z,881nm,2.5s
GUMO Guam 33.70 320 *e*P **P** **09 43 57.9 -0.7**
comp=Z,241nm,1.0s
GUMO LR LR
comp=Z,11µm,21.0s
TLE Tual 34.11 278 P **P** **09 44 03.7 +1.4**
TLE Tual 34.11 278 ⇓P **P** **09 44 02.2 -0.1**
baz=34
MOO Moorlands 34.30 206 P **P** **09 44 04.7 +1.2**
baz=34,SNR=27
BBOO Buckleboo 34.51 229 *e*P **P** **09 44 05.5 0.0**
comp=Z,3µm,0.9s
BBOO Buckleboo 34.51 229 P **P** **09 44 05.5 0.0**
baz=34,SNR=28
MTN Manton Dam 34.61 265 ⇑P **P** **09 44 06.2 -0.3**
baz=34,SNR=24
TAU Tasmania Unive 34.63 205 *e*P **P** **09 44 07.2 +0.9**
TAU pmax pmax
comp=Z,216nm,1.2s
TAU MLR MLR
comp=Z,9µm,21.0s
TAU Tasmania Unive 34.63 205 P **P** **09 44 07.0 +0.7**
comp=Z,890nm,0.8s,SNR=16
TAU Tasmania Unive 34.63 205 *e*P **P** **09 44 07.2 +0.9**
comp=Z,216nm,1.2s
TAU LR LR
comp=Z,9µm,21.0s
FAKI Fak Fak 35.31 283 P **P** **09 44 13.5 +0.8**
FAKI Fak Fak 35.31 283 ⇑P **P** **09 44 12.1 -0.5**
baz=35,SNR=12
KNRA Kununurra 36.83 260 P **P** **09 44 24.7 -0.9**
baz=37,SNR=44
SWI Sorong 36.90 285 P **P** **09 44 26.2 0.0**
SWI Sorong 36.90 285 P **P** **09 44 26.4 +0.2**
baz=37,SNR=15
BNDI Bandanaira 37.12 279 P **P** **09 44 29.2 +1.1**
BNDI Bandanaira 37.12 279 P **P** **09 44 29.0 +0.9**
baz=37,SNR=6.4
PALU Palau 37.53 300 ⇓P **P** **09 44 32.9 +1.4**
baz=38,SNR=5.6
MSAI Masohi 38.37 280 P **P** **09 44 39.0 +0.4**
XMAS Kiritimati 38.49 70 PFAKE 09 44 50.0 +10
XMAS LR LR
comp=Z,18µm,22.0s
AAI Ambon 38.98 280 P **P** **09 44 44.4 +0.6**
AAI Ambon 38.98 280 ⇓P **P** **09 44 44.1 +0.3**
baz=39,SNR=5.1
FITZ Fitzroy Crossi 39.86 257 *e*P **P** **09 44 50.1 -0.9**
comp=Z,483nm,1.4s
FITZ Fitzroy Crossi 39.86 257 ⇓P **P** **09 44 50.3 -0.7**
baz=40,SNR=45
NLAI Namlea 40.16 280 P **P** **09 44 54.5 +1.0**
LBMI Labuha 40.53 284 P **P** **09 44 58.8 +2.2**
TNTI Ternate 41.12 286 P **P** **09 45 01.3 -0.2**
TNTI Ternate 41.12 286 *e*P **P** **09 45 02.9 +1.5**
comp=Z,5µm,2.4s
SOEI Soe 41.61 269 P **P** **09 45 06.9 +1.2**
SOEI Soe 41.61 269 ⇑P **P** **09 45 07.5 +1.8**
baz=42
BATI Baumata 42.14 269 P **P** **09 45 13.0 +3.1**
PAE Paea 42.54 103 *e*P **P** **09 45 14.9 +1.9**
comp=Z,62nm,1.3s
PPT Papeete 42.54 102 P **P** **09 45 14.2 +1.1**
PPT pP **pP** **09 45 30.3 +2.5**
PPT Papeete 42.54 102 P **P** **09 45 14.2 +1.1**
comp=Z,16nm,0.5s,baz=329,slow=7.9,SNR=4.2
PPT pP **pP** **09 45 30.3 +2.5**
comp=Z,228nm,1.2s,baz=5.8,slow=5.1,SNR=11
PPT LR LR 09 59 13.5
comp=Z,12µm,21.0s,baz=89,slow=31
PPT2 Papeete2 42.54 102 *e*P **P** **09 45 15.3 +2.1**
comp=Z,345nm,1.3s
PPT2 *e*S S 09 51 43.0 +11
comp=Z,6µm,29.8s
PPT2 *e*LQ LQ 09 55 22.8
comp=Z,30µm,30.8s
PPT2 *e*LR LR 09 57 16.9
comp=Z,79µm,29.5s,baz=273
TIAR Tiarei 42.76 102 *e*P **P** **09 45 16.9 +2.0**
comp=Z,447nm,1.2s
TVO Taravao 42.85 103 *e*P **P** **09 45 17.9 +2.2**
comp=Z,103nm,1.4s
TBI Tubuai 43.02 111 *e*S **S** **09 51 41.4 +2.8**
comp=Z,2µm,28.2s
TBI *e*LQ LQ 09 55 42.1
comp=Z,22µm,31.0s
TBI *e*LR LR 09 57 27.7
comp=Z,40µm,31.5s,baz=287

MIDW Midway 43.32 21 PFAKE 09 45 30.0 +11
MIDW LR LR
comp=Z,16µm,22.0s
MMRI Maumere 43.76 270 P **P** **09 45 24.4 +1.4**
MMRI Maumere 43.76 270 *e*P **P** **09 45 23.3 +0.3**
comp=Z,407nm,1.3s
SGSI Sangihe 43.87 289 P **P** **09 45 26.0 +2.2**
MEH Mehetia 43.98 103 *e*P **P** **09 45 26.7 +2.0**
comp=Z,381nm,1.3s
BBSI Bau Bau 44.01 275 P P 09 45 28.2 +3.2
PMOR Pomariorio Ree 44.20 99 *e*P **P** **09 45 28.9 +2.4**
comp=Z,2µm,1.4s
KMSI Cibinong 44.25 284 P **P** **09 45 28.6 +1.7**
VAH Vaihoa 44.45 99 *e*P **P** **09 45 30.6 +2.2**
comp=Z,1µm,1.3s
LUWI Luwuk 44.91 281 P **P** **09 45 34.0 +1.8**
LUWI Luwuk 44.91 281 P **P** **09 45 34.1 +1.8**
baz=45,SNR=5.2
DAV Davao City (W) 45.18 293 PFAKE 09 45 50.0 +16
DAV LR LR
comp=Z,6µm,19.0s
KKSI Kolaka, Sulawe 45.19 277 P **P** **09 45 35.5 +1.1**
MBWA Marble Bar 45.57 253 P **P** **09 45 37.5 +0.2**
SNR=32
MBWA Marble Bar 45.57 253 *e*P **P** **09 45 37.2 -0.1**
comp=Z,343nm,1.0s
MBWA LR LR
comp=Z,11µm,22.0s
CBIJ Chichi jima 45.93 329 P **P** **09 45 40.5 +0.5**
JCJ Chichijima 45.93 329 P **P** **09 45 40.5 +0.5**
comp=Z,33nm,0.3s,baz=118,slow=17,SNR=3.2
JCJ LR LR 10 02 04.2
comp=Z,7µm,21.3s,baz=338,slow=32
APSI Ampana 46.03 281 P **P** **09 45 41.7 +0.7**
MRSI Marisa 46.16 283 P **P** **09 45 41.4 -0.6**
BKSI Bulukumba 46.43 275 P **P** **09 45 44.3 +0.2**
BNSI Bone 46.64 276 P **P** **09 45 46.3 +0.5**
KAPI Kappang 46.85 275 P **P** **09 45 47.8 +0.3**
SNR=18
KAPI Kappang 46.85 275 P **P** **09 45 47.5 0.0**
comp=Z,2µm,0.8s,SNR=18
KAPI Kappang 46.85 275 P **P** **09 45 47.2 -0.3**
KAPI Kappang 46.85 275 *e*P **P** **09 45 46.4 -1.1**
comp=Z,248nm,0.8s
KAPI LR LR
comp=Z,4µm,20.0s
SPSI Sidrap Palu 47.07 276 P **P** **09 45 47.9 -1.2**
MEEK Meekatharra 47.11 245 P **P** **09 45 49.4 +0.1**
baz=47,SNR=613
TTSI Tana Toraja 47.23 277 P **P** **09 45 52.1 +1.7**
PLP Palo 47.55 298 ⇓*e*P **P** **09 45 51.9 -0.9**
PCI Palu 47.77 280 P **P** **09 45 52.2 -2.4**
comp=Z,182nm,0.6s,comp=Z,7µm
MJSI Majene 47.93 277 P **P** **09 45 58.0 +2.2**
KIP Kipapa 48.38 46 *e*P **P** **09 46 01.5 +2.3**
KIP *e**PP **pP** **09 46 16.9 +2.8**
KIP pmax pmax
comp=Z,261nm,1.1s
KIP MLR MLR
comp=Z,8µm,19.0s
KIP Kipapa 48.38 46 *e*P **P** **09 46 01.5 +2.3**
comp=Z,261nm,1.1s
KIP *e*pP **pP** **09 46 16.9 +2.8**
KIP LR LR
comp=Z,8µm,19.0s
CNP Catarman 48.46 299 *e*P **P** **09 46 00.7 +0.8**
OPA Opana 48.56 46 *e*P **P** **09 46 03.6 +3.1**
OPA *e**PP **pP** **09 46 18.5 +3.0**
OPA Opana 48.56 46 *e*P **P** **09 46 03.6 +3.1**
OPA *e*pP **pP** **09 46 18.5 +3.0**
KLBR Kellerberrin 48.69 239 P **P** **09 46 00.7 -0.8**
baz=48,SNR=72
HKL Haleakala 49.19 48 *e*P **P** **09 46 06.6 +0.8**
HKL *e**PP **pP** **09 46 24.4 +3.6**
HKL Haleakala 49.19 48 *e*P **P** **09 46 06.6 +0.8**
HKL *e*pP **pP** **09 46 24.4 +3.6**
HLK Haleakala 49.23 48 *e*pP pP 09 46 24.8 +3.9
BLDU Ballidu 49.38 240 P **P** **09 46 06.1 -0.7**
baz=49,SNR=36
NWAO Narrogin (SRO) 49.39 237 P **P** **09 46 08.2 +1.4**
SNR=11
NWAO Narrogin (SRO) 49.39 237 *e*P **P** **09 46 06.4 -0.5**
comp=Z,244nm,0.8s
NWAO LR LR
comp=Z,21µm,20.0s
PVCP Virac 49.42 300 ⇓*e*P **P** **09 46 07.4 +0.1**
RCP Roxas 49.67 297 ⇑*e*P **P** **09 46 10.0 +0.9**
MTNI Mataram 49.68 269 P **P** **09 46 09.9 +0.6**
MORW Morawa 49.71 242 P **P** **09 46 09.0 -0.3**
baz=50,SNR=109
RKGY Rocky Gully 49.98 235 P **P** **09 46 11.7 +0.4**
baz=50,SNR=14
DNP Denpasar 50.62 269 P **P** **09 46 18.1 +1.7**
OTRP Odiongan 50.66 297 *e*P **P** **09 46 17.3 +0.6**
SRBI Singaraja 50.71 270 P **P** **09 46 17.9 +0.9**
MYLDM Lahad Datu 50.94 287 P **P** **09 46 20.6 +1.8**
MYLDM Lahad Datu 50.94 287 P **P** **09 46 20.0 +1.2**
TSM Tawau 51.22 286 P **P** **09 46 21.9 +0.9**
BOAC Boac 51.33 299 *e*P **P** **09 46 22.8 +1.2**
BYJI Banyuwangi 51.52 269 P **P** **09 46 25.1 +1.9**
ABJI Asem Bagus 51.71 270 P **P** **09 46 26.4 +1.8**
comp=Z,57nm,1.1s,comp=Z,11µm
KMMI Kalianget 52.10 271 P **P** **09 46 29.7 +2.2**
SDKM Sandakan 52.31 287 P **P** **09 46 29.0 -0.1**
BLJI Banyuglugur 52.34 270 P **P** **09 46 29.6 +0.3**
TAOE Nuku Hiva Isla 52.37 92 *e*LQ LQ 09 59 27.9
comp=Z,4µm,28.1s
TAOE *e*LR LR 10 01 42.4
comp=Z,31µm,26.4s,baz=268
GMJI Gumukmas 52.40 269 P **P** **09 46 30.5 +0.8**
MTKI Muara Teweh, K 52.52 278 P **P** **09 46 31.8 +1.2**
KDM Kudat 53.10 289 P **P** **09 46 36.6 +1.7**
KKM Kota Kinabalu 53.37 287 P **P** **09 46 37.0 0.0**
KKM Kota Kinabalu 53.37 287 P **P** **09 46 37.0 0.0**
KKM Kota Kinabalu 53.37 287 *e*P **P** **09 46 36.1 -0.8**
comp=Z,326nm,0.8s
KKM LR LR
comp=Z,2µm,22.0s
KKM Kota Kinabalu 53.37 287 P **P** **09 46 36.3 -0.7**
baz=53,SNR=48
KRKI Karangkates 53.39 269 P **P** **09 46 38.3 +1.3**
BCPH Baguio City Da 53.80 301 ⇑*i*P P 09 46 35.1 -5.0
JOW Kunigami 53.98 317 *e*P **P** **09 46 41.8 +0.8**
comp=Z,160nm,1.0s
PWJI Pagerwojo 54.05 269 P **P** **09 46 42.8 +1.0**
comp=Z,322nm,1.1s,comp=Z,7µm
SJI Sawahan 54.13 269 P **P** **09 46 43.5 +1.0**
NGJI Ngawi 54.49 270 P **P** **09 46 47.5 +2.5**
PCJI Pacitan 54.63 269 P **P** **09 46 47.7 +1.7**
WOJI Wonogiri, Jawa 54.94 269 P **P** **09 46 50.0 +1.7**
UGM Wanagama 55.32 269 *e*P **P** **09 46 52.6 +1.6**
UGM Wanagama 55.32 269 ⇓P **P** **09 46 51.3 +0.2**
baz=55,SNR=11
BTM Bintulu 55.41 283 P **P** **09 46 53.6 +1.9**
MAJO Matsushiro 55.63 332 PFAKE 09 47 00.0 +7.2
MAJO LR LR
comp=Z,7µm,22.0s
SBUM Sibu 56.02 282 P **P** **09 46 57.0 +0.9**
SBUM Sibu 56.02 282 P **P** **09 46 56.4 +0.4**
SBUM Sibu 56.02 282 *e*P **P** **09 46 56.0 0.0**
comp=Z,295nm,1.5s
STKI Sintang 56.08 279 P **P** **09 46 58.3 +1.8**
BJII Banjamegara 56.21 269 P **P** **09 46 59.4 +1.9**
RKT Rikitea 56.30 110 *e*S S 09 54 55.7 +11
comp=Z,1µm,27.8s
RKT *e*LQ LQ 10 01 04.1
comp=Z,5µm,37.0s
RKT *e*LR LR 10 03 36.5
comp=Z,30µm,29.5s,baz=276
JNU Nakatsue 56.73 324 *e*P **P** **09 47 00.9 +0.1**
JNU Nakatsue 56.73 324 P **P** **09 47 00.6 -0.2**
comp=Z,86nm,0.8s,baz=110,slow=3.5,SNR=19
JNU LR LR 10 06 16.3
comp=Z,3µm,22.0s,baz=134,slow=31
TWG Pinlang 56.75 308 *e*P **P** **09 47 00.6 -0.5**
comp=Z,1µm,1.4s
TGJI Tegal 56.87 270 P **P** **09 47 02.7 +0.6**
YULB Yu-li 56.89 309 *e*P **P** **09 47 00.8 -1.2**
KPJI Karang Pucung 56.97 269 P **P** **09 47 03.7 +0.9**
DRV Dumont d'Urvil 56.99 192 P P 09 46 50.0 -12
DRV S S 09 54 41.0 -11
DRV SS SS 09 58 28.0 -13
DRV L L 10 01 00.0
DRV R 10 03 00.0

NACB Ninganchiao 57.10 310 *e*P **P** **09 47 04.1 +0.6**
comp=Z,1µm,2.0s
TPUB Ta-pu 57.35 308 *e*P **P** **09 47 03.0 -2.3**
comp=Z,376nm,1.0s
SSLB Suanglung 57.37 309 *e*P **P** **09 47 04.8 -0.6**
comp=Z,176nm,1.2s
YHNB Yeheng 57.55 310 *e*P **P** **09 47 05.6 -1.2**
YHNB LR LR
comp=Z,14µm,22.0s
KSM Kuching 57.58 280 P **P** **09 47 07.3 +0.2**
KSM Kuching 57.58 280 P **P** **09 47 07.6 +0.5**
KSM Kuching 57.58 280 *e*P **P** **09 47 08.1 +1.0**
comp=Z,230nm,1.2s
KSM LR LR
comp=Z,2µm,22.0s
KSM Kuching 57.58 280 ⇑P **P** **09 47 07.3 +0.2**
baz=58,SNR=25
TATO Taipei 57.64 310 *e*P **P** **09 47 07.8 +0.5**
comp=Z,1µm,1.1s
TATO *e*pP **pP** **09 47 18.8 -3.8**
TATO LR LR
comp=Z,13µm,22.0s
CISI Cisompet, Garu 58.02 269 P **P** **09 47 10.4 +0.1**
CISI Cisompet, Garu 58.02 269 *e*P **P** **09 47 09.3 -1.1**
CISI Cisompet, Garu 58.02 269 P **P** **09 47 09.2 -1.1**
baz=58,SNR=11
LEM Lembang 58.34 270 P **P** **09 47 13.8 +1.1**
LEM Lembang 58.34 270 ⇑P **P** **09 47 12.7 0.0**
baz=58,SNR=19
TPI Tanjungpandan 59.12 274 P **P** **09 47 19.1 +1.2**
CBJI Citeko 59.16 270 P **P** **09 47 18.4 +0.2**
DBJI Dramaga 59.24 270 P **P** **09 47 19.4 +0.7**
comp=Z,362nm,1.8s,comp=Z,11µm
YUK Yuzh-Kuril'sk 59.33 343 ⇑*i*P **P** **09 47 17.1 -1.6**
YUK *i* 09 49 35.3
YUK *i* PPP PPP 09 50 54.3
YUK *i* S **S** **09 55 23.4 +0.4**
YUK *i* SS **SS** **09 59 18.1 -0.8**
SKJI Sukabumi 59.35 269 P **P** **09 47 22.5 +3.1**
comp=Z,719nm,1.0s,comp=Z,9µm
XMIS Christmas Isla 59.67 265 *e*P **P** **09 47 21.3 -0.4**
comp=Z,601nm,0.9s
XMIS Christmas Isla 59.67 265 ⇑P **P** **09 47 21.9 +0.2**
baz=60
QZH Quanzhou 59.80 309 ⇑*i*P **P** **09 47 20.0 -2.3**
QZH S **S** **09 55 26.3 -3.5**
QZH AMB AMB
comp=Z,560nm,1.3s
QZH AMB AMB
comp=Z,6µm,4.8s
QZH LR LR
comp=Z,12µm,19.9s
QZH LR LR
comp=Z,11µm,21.4s
QZH LR LR
comp=Z,12µm,21.7s
ASAJ Asahikawa 60.42 340 P **P** **09 47 24.8 -1.4**
ASAJ Asahikawa 60.42 340 P **P** **09 47 24.8 -1.4**
comp=Z,31nm,0.6s,baz=212,slow=11,SNR=16
PPBI Pangkal Pinang 60.73 275 P **P** **09 47 29.9 +1.0**
KLI Kotabumi 61.41 271 P **P** **09 47 33.3 -0.2**
SSE Sheshan 61.47 316 P **P** **09 47 33.6 +0.1**
SSE pP **pP** **09 47 46.9 -2.1**
SSE S **S** **09 55 50.5 -0.3**
SSE AMB AMB
comp=Z,180nm,0.7s
SSE AMB AMB
comp=Z,2µm,6.0s
SSE LR LR
comp=Z,2µm,21.6s
SSE LR LR
comp=Z,2µm,22.3s
SSE LR LR
comp=Z,5µm,27.6s
KSRS Korea Array 61.53 326 P **P** **09 47 33.1 -0.7**
comp=Z,17nm,0.8s,baz=137,slow=7.1,SNR=30
KSRS LR LR 10 12 43.6
comp=Z,3µm,21.3s,baz=145,slow=34
KSRS PKP2bc 10 16 50.6
comp=Z,1.3nm,0.9s,baz=259,slow=2.5,SNR=3.8
KSAR Wonju Array Be 61.55 325 P **P** **09 47 33.1 -0.8**
KSAR ⇑*e* 10 16 50.6
KS01 Wonju Array Si 61.56 326 *e*P **P** **09 47 32.4 -1.7**
KASI Kota Agung 61.63 270 P **P** **09 47 35.7 +0.7**
MDSI Maura Dua 62.15 271 P **P** **09 47 37.7 -0.8**
LWLI Liwa 62.16 271 P **P** **09 47 39.7 +1.0**
INCN Inchon 62.27 325 P **P** **09 47 39.4 +0.5**
SNR=11
INCN Inchon 62.27 325 *e*P **P** **09 47 39.6 +0.7**
INCN LR LR
comp=Z,4µm,21.0s
YSS Yuzh-Sakhalins 62.90 342 *c i*P **P** **09 47 43.0 +0.2**
YSS *e**SP sP 09 47 56.8 -7.9
YSS *e*S **S** **09 56 08.0 -0.3**
YSS *e*PS **PnS** **09 56 23.0 -8.6**
YSS pmax pmax
comp=Z,2µm,7.0s
LHSI Lahat 62.92 272 P **P** **09 47 44.3 +0.6**
SKR Severo-Kuril's 63.56 353 *e*P P 09 47 36.0 -11
SKR *e* 09 50 06.0
SKR *e*S S 09 56 10.0 -6.3
SKR *e* 09 56 53.0
SKR pmax pmax
comp=Z,3µm,14.0s
SKR MLR MLR
comp=N,3µm,18.0s
SKR MLR MLR
comp=E,3µm,18.0s
SKR MLR MLR
comp=Z,3µm,18.0s
NJ2 Nanjing 63.63 315 *e*P **P** **09 47 46.4 -1.6**
NJ2 pP pP 09 47 55.6 -7.9
NJ2 sP sP 09 48 00.6 -9.3
NJ2 sS sS 09 56 35.0 -9.1
NJ2 AMB AMB
comp=Z,3µm,8.8s
NJ2 LR LR
comp=Z,6µm,25.7s
NJ2 LR LR
comp=Z,4µm,22.8s
NJ2 LR LR
comp=Z,7µm,25.9s
VLA Vladivostok 63.80 332 ⇓*i*P **P** **09 47 47.5 -1.3**
VLA *e* 09 48 21.2
VLA *e*S **S** **09 56 20.0 +0.4**
VLA pmax pmax
comp=Z,47nm,1.2s
KSI Kapahiang 63.87 272 P **P** **09 47 49.6 -0.4**
MYKOM Kota Tinggi 63.89 278 P **P** **09 47 50.7 +0.6**
MYKOM Kota Tinggi 63.89 278 P **P** **09 47 51.1 +1.0**
QIZ Qiongzhong 64.11 298 P **P** **09 47 51.3 -0.1**
QIZ S **S** **09 56 28.3 +4.0**
QIZ SS **SS** **10 00 36.8 +2.3**
QIZ AMB AMB
comp=Z,150nm,1.2s
QIZ AMB AMB
comp=Z,3µm,9.8s
QIZ LR LR
comp=Z,3µm,23.4s
QIZ LR LR
comp=Z,2µm,23.4s
QIZ LR LR
comp=Z,7µm,25.7s
QIZ Qiongzhong 64.11 298 *e*P **P** **09 47 52.5 +1.2**
comp=Z,114nm,0.8s
QIZ LR LR
comp=Z,4µm,21.0s
MASI Maura Aman, Be 64.32 273 P **P** **09 47 52.8 -0.1**
KGM Kluang 64.46 278 P **P** **09 47 52.4 -1.4**
USRK Ussuriysk Arra 64.60 333 P **P** **09 47 53.4 -0.7**
comp=Z,30nm,0.9s,baz=142,slow=6.5,SNR=25
USRK LR LR 10 13 21.5
comp=Z,3µm,21.2s,baz=297,slow=33
RGRI Rengat 64.84 276 P **P** **09 47 59.1 +2.8**
VNDA Vanda 65.09 181 *e*P **P** **09 47 56.2 -0.6**
comp=Z,155nm,1.8s
VNDA P'P' 10 16 37.2
VNDA Vanda 65.09 181 P **P** **09 47 56.0 -0.8**
comp=Z,27nm,0.9s,baz=1.8,slow=6.8,SNR=39
VNDA LR LR 10 13 26.2
comp=Z,6µm,19.6s,baz=13,slow=33
VNDA PKPPKP **P'P'df** **10 16 37.2 -4.2**
comp=Z,0.5nm,0.9s,baz=354,slow=4.5,SNR=3.4
FX1 Attu Island--F 65.33 4 *e*P **P** **09 47 58.3 -0.3**
FX1 Attu Island--F 65.33 4 P **P** **09 47 58.4 -0.3**

comp=Z,11nm,0.4s,baz=128,slow=7.7,SNR=14
FX1 LR LR 10 10 33.9
comp=Z,4μm,21.2s,baz=19,slow=30
CASY Casey 65.37 202 *e*P **P 09 47 57.8 -0.9**
CASY LR LR
comp=Z,6μm,22.0s
SBA Scott Base 65.38 180 *e*P **P 09 47 59.4 +0.8**
SBA pmax pmax
comp=Z,91nm,0.9s
SBA MLR MLR
comp=Z,5μm,19.0s
SBA Scott Base 65.38 180 *e*P **P 09 47 59.4 +0.8**
comp=Z,91nm,0.9s
SBA LR LR
comp=Z,5μm,19.0s
KTGM Kuala Trenggan 65.52 282 P **P 09 48 02.4 +1.7**
PET Petropavlovsk 65.59 355 *i* P **P 09 47 59.5 -0.8**
ADK Adak 65.71 11 *e*pP **pP 09 48 20.5 +3.9**
ADK LR LR
comp=Z,10μm,22.0s
PEA0 Petropavlovsk- 65.77 354 *e*P **P 09 48 02.9 +1.5**
PETK Petropavlovsk- 65.77 354 P **P 09 47 59.2 -2.3**
PETK pmax pmax
comp=Z,9.0nm,0.7s
PETK Petropavlovsk- 65.77 354 P **P 09 47 59.2 -2.3**
PETK Petropavlovsk- 65.77 354 P **P 09 47 59.2 -2.3**
comp=Z,8.8nm,0.7s,baz=154,slow=8.7,SNR=6.7
PETK LR LR 10 12 19.7
comp=Z,2μm,21.6s,baz=170,slow=32
WHN Wuhan 65.98 312 P **P 09 48 03.5 +0.2**
WHN sP sP 09 48 16.2 -9.1
WHN SS **SS 10 01 08.0 +4.7**
WHN LR LR
comp=Z,10μm,20.0s
WHN LR LR
comp=Z,11μm,20.3s
WHN LR LR
comp=Z,19μm,21.2s
MDJ Mudanjiang 66.01 332 P **P 09 48 03.3 +0.1**
MDJ pP pP 09 48 06.5 -12
MDJ S **S 09 56 47.3 +0.6**
MDJ sS sS 09 56 57.0 -16
MDJ AMB AMB
comp=Z,56nm,1.8s
MDJ AMB AMB
comp=Z,3μm,6.0s
MDJ LR LR
comp=Z,4μm,27.7s
MDJ LR LR
comp=Z,3μm,27.4s
MDJ LR LR
comp=Z,6μm,32.8s
MDJ Mudanjiang 66.01 332 *e*P **P 09 48 03.7 +0.5**
comp=Z,426nm,1.9s
MDJ LR LR
comp=Z,6μm,21.0s
DL2 Dalian 66.13 323 P **P 09 48 03.9 -0.2**
DL2 S **S 09 56 48.2 -0.2**
DL2 AMB AMB
comp=Z,140nm,0.9s
DL2 AMB AMB
comp=Z,2μm,5.9s
DL2 LR LR
comp=Z,1μm,21.5s
DL2 LR LR
comp=Z,870nm,17.5s
DL2 LR LR
comp=Z,2μm,19.6s
FRIM Kepong 66.41 279 P P 09 48 01.8 -4.7
UBPT Khong Chiam 66.51 293 P **P 09 48 08.5 +1.6**
UBPT Khong Chiam 66.51 293 P **P 09 48 08.2 +1.3**
comp=Z,181nm,1.2s,comp=Z,4μm
PDSI Padang 66.54 274 P **P 09 48 06.6 -0.7**
PPI Padang Panjang 66.70 275 P **P 09 48 08.0 -0.3**
PPI Padang Panjang 66.70 275 ⇑P **P 09 48 08.3 +0.1**
baz=67,SNR=6.7
SNY Shenyang 66.99 326 ⇑P **P 09 48 08.4 -1.1**
SNY S **S 09 56 59.4 +0.7**
SNY AMB AMB
comp=Z,69nm,1.8s
SNY AMB AMB
comp=Z,3μm,3.5s
SNY LR LR
comp=Z,1μm,18.6s
SNY LR LR
comp=Z,3μm,22.5s
SNY LR LR
comp=Z,4μm,24.0s
TIA Tai'an 67.24 318 ⇑P **P 09 48 11.1 -0.2**
TIA sP sP 09 48 20.6 -13
TIA AMB AMB
comp=Z,70nm,0.9s
TIA LR LR
comp=Z,4μm,24.6s
TIA LR LR
comp=Z,6μm,27.4s
TIA LR LR
comp=Z,9μm,25.1s
IPM Ipoh 67.31 280 P **P 09 48 12.6 +0.5**
IPM Ipoh 67.31 280 P **P 09 48 12.2 0.0**
IPM Ipoh 67.31 280 *e*P **P 09 48 11.7 -0.5**
comp=Z,431nm,1.2s
CN2 Changchun 67.40 329 ⇑P **P 09 48 12.4 +0.3**
CN2 *e*pP pP 09 48 17.0 -11
CN2 *e*S **S 09 57 05.3 +1.7**
CN2 AMB AMB
comp=Z,80nm,0.8s
CN2 LR LR
comp=Z,4μm,22.0s
CN2 LR LR
comp=Z,3μm,22.0s
CN2 LR LR
comp=Z,5μm,25.0s
KULM Kulim 67.89 281 P **P 09 48 14.4 -1.3**
KULM Kulim 67.89 281 P **P 09 48 16.9 +1.1**
KULM Kulim 67.89 281 *e*P **P 09 48 16.6 +0.8**
comp=Z,146nm,1.0s
KULM LR LR
comp=Z,5μm,22.0s
PANO Nakornpanom 67.95 294 P **P 09 48 16.8 +0.7**
comp=Z,126nm,1.3s,comp=Z,3μm
COCO West Island 67.97 262 PFAKE 09 48 30.0 +14
COCO LR LR
comp=Z,5μm,20.0s
SKNT Sakolnakorn 68.45 294 P **P 09 48 18.7 -0.5**
comp=Z,401nm,1.0s,comp=Z,5μm
CHBT CHBT 68.51 289 P **P 09 48 21.0 +1.3**
CHBT CHBT 68.51 289 P **P 09 48 20.9 +1.3**
comp=Z,239nm,2.6s,comp=Z,4μm
KLR Kul'dur 68.70 336 ⇓*e*P P 09 48 15.6 -4.5
KLR *e*S **S 09 57 13.5 -5.4**
KLR pmax pmax
comp=Z,950nm,3.0s
KLR pmax pmax
comp=N,900nm,8.0s
KLR pmax pmax
comp=Z,4μm,8.0s
PSI Prapat 68.91 278 P **P 09 48 21.0 -1.4**
baz=69,SNR=54
ENH Enshi 69.46 309 *e*P **P 09 48 23.8 -1.5**
comp=Z,338nm,1.0s
GSI Gunungsitoli 69.86 276 ⇓P **P 09 48 27.8 -0.3**
baz=70
GYA Guiyang 69.92 304 ⇑*i*P **P 09 48 28.6 +0.3**
GYA PP **PP 09 51 07.3 +3.5**
GYA S **S 09 57 33.4 -1.1**
GYA SKS **SKSac 09 58 21.0 -4.0**
GYA SS **SS 10 02 05.4 +0.6**
GYA AMB AMB
comp=Z,140nm,0.8s
GYA AMB AMB
comp=Z,2μm,9.0s
GYA LR LR
comp=Z,2μm,20.8s
GYA LR LR
comp=Z,2μm,21.5s
GYA LR LR
comp=Z,3μm,20.8s
BJT Baijiatuau 70.11 321 *e*P **P 09 48 29.6 +0.5**
comp=Z,371nm,1.4s
BJT LR LR
comp=Z,6μm,22.0s
BJI Beijing 70.12 321 P **P 09 48 29.4 +0.3**
BJI S **S 09 57 39.5 +3.5**
BJI AMB AMB
comp=Z,84nm,1.5s
BJI AMB AMB
comp=Z,3μm,4.8s
BJI LR LR
comp=Z,5μm,27.8s
BJI LR LR
comp=Z,5μm,25.2s
BJI LR LR
comp=Z,12μm,30.9s
KCSI Kotacane, Aceh 70.20 278 P **P 09 48 28.2 -2.0**
PKDT Phuket 70.81 283 P **P 09 48 35.4 +1.6**
comp=Z,547nm,1.1s,comp=Z,13μm
LOEI Loei 71.07 294 P **P 09 48 32.6 -2.7**
comp=Z,109nm,1.6s,comp=Z,3μm
TIY Taiyuan 71.18 317 *e*P **P 09 48 36.6 +0.9**
TIY pP pP 09 48 45.2 -6.3
TIY sP sP 09 48 50.4 -7.4
TIY S **S 09 57 49.6 +1.0**
TIY LR LR
comp=Z,3μm,15.5s
TIY LR LR
comp=Z,3μm,18.5s
TIY LR LR
comp=Z,8μm,22.9s
LHMI Lhok Sumawe 71.43 280 P **P 09 48 40.1 +2.5**
XAN Xi'an 71.71 312 P **P 09 48 38.0 -0.9**
XAN PcP **PcP 09 48 58.6 +0.8**
XAN PP **PP 09 51 18.1 -0.8**
XAN S **S 09 57 53.4 -1.4**
XAN SKS **SKSac 09 58 35.7 -2.3**
XAN SS **SS 10 02 30.5 -1.4**
XAN AMB AMB
comp=Z,41nm,0.8s
XAN AMB AMB
comp=Z,860nm,9.8s
XAN LR LR
comp=Z,2μm,22.9s
XAN LR LR
comp=Z,1μm,20.6s
XAN LR LR
comp=Z,2μm,22.8s
NANT Nan 72.01 295 P **P 09 48 40.5 -0.5**
comp=Z,348nm,1.4s,comp=Z,8μm
MIR Mirnyy 72.12 204 ⇑*i*P **P 09 48 43.0 +2.3**
MIR *e* 09 48 58.0
MIR *e*S **S 09 58 00.0 +1.7**
MIR *e*PS **PnS 09 58 28.0 -7.1**
MIR pmax pmax
comp=Z,126nm,1.0s
MIR pmax pmax
comp=Z,3μm,8.0s
KMI Kunming 72.59 301 P **P 09 48 45.8 +1.2**
KMI pP pP 09 48 49.5 -11
KMI sP sP 09 48 50.7 -16
KMI PcP **PcP 09 49 04.3 +2.4**
KMI PP **PP 09 51 29.0 +2.1**
KMI S **S 09 58 09.0 +3.4**
KMI SKS **ScS 09 58 46.7 -0.9**
KMI ScS **SKKSac 09 58 50.1 +4.5**
KMI SS **SS 10 02 50.8 +4.8**
KMI AMB AMB
comp=Z,260nm,0.9s
KMI AMB AMB
comp=Z,4μm,5.1s
KMI LR LR
comp=Z,2μm,18.1s
KMI LR LR
comp=Z,3μm,18.9s
KMI LR LR
comp=Z,5μm,21.7s
PAYA Payao 72.94 295 P **P 09 48 46.8 +0.2**
comp=Z,55nm,1.0s
CM01 Chiang Mai Arr 73.44 294 *e*P **P 09 48 49.3 -0.1**
CM31 Chiang Mai Arr 73.46 294 P **P 09 48 48.4 -1.2**
comp=Z,140nm,0.9s
CMAR Chiang Mai Arr 73.46 294 P **P 09 48 49.6 0.0**
CMAR Chiang Mai Arr 73.46 294 P **P 09 48 49.7 0.0**
comp=Z,95nm,0.9s,baz=122,slow=4.6,SNR=110
HHC Hu-ho-hao-te 73.47 320 *e*P **P 09 48 50.1 +0.8**
HHC pP pP 09 48 54.4 -11
HHC sP sP 09 48 57.6 -14
HHC PP **PP 09 51 33.5 -0.4**
HHC S **SKiKP 09 58 18.4 +3.2**
HHC sS S 09 58 26.9 +12
HHC SS **SS 10 02 53.8 -4.8**
HHC AMB AMB
comp=Z,160nm,1.3s
HHC AMB AMB
comp=Z,6μm,6.0s
HHC LR LR
comp=Z,8μm,23.6s
HHC LR LR
comp=Z,13μm,23.3s
HHC LR LR
comp=Z,25μm,23.6s
HIA Hailar 74.03 330 *e*P **P 09 48 52.7 +0.4**
HIA LR LR
comp=Z,4μm,21.0s
CD2 Chengdu 74.14 307 P **P 09 48 54.3 +0.9**
CD2 pP PcP 09 48 59.0 -9.2
CD2 sP sP 09 49 01.3 -14
CD2 PP **PP 09 51 41.6 +1.8**
CD2 S **S 09 58 20.0 -2.6**
CD2 sS sS 09 58 33.6 -16
CD2 SS **SS 10 03 13.7 +4.5**
CD2 AMB AMB
comp=Z,180nm,1.3s
CD2 AMB AMB
comp=Z,4μm,6.9s
CD2 LR LR
comp=Z,1μm,7.1s
CD2 LR LR
comp=Z,5μm,26.2s
BTO Baotou 74.32 319 *e*P **P 09 48 55.0 +0.7**
CHGN Chignik 74.46 19 *e*P **P 09 48 52.4 -2.1**
CHGN *e*pP **pP 09 49 14.0 +3.5**
SEY Seymchan 75.98 353 *i* P **P 09 49 02.0 -1.2**
LZH Lanzhou 76.34 312 ⇑P **P 09 49 07.6 +1.5**
LZH pP PcP 09 49 11.3 -6.5
LZH sP sP 09 49 13.8 -15
LZH PP **PP 09 51 58.0 -0.4**
LZH S **S 09 58 49.8 +2.7**
LZH sS SKSac 09 58 57.0 -16
LZH SKS **SKKSac 09 59 12.4 -1.0**
LZH SS **SS 10 03 48.6 +6.0**
LZH AMB AMB
comp=Z,950nm,1.5s
LZH AMB AMB
comp=Z,4μm,4.7s
LZH LR LR
comp=Z,6μm,16.7s
LZH LR LR
comp=Z,5μm,16.1s
LZH LR LR
comp=Z,8μm,18.6s
OHAK Old Harbor 76.92 21 *e*P **P 09 49 08.7 +0.1**
OHAK *e*pP **pP 09 49 26.7 +2.2**
PBA Port Blair 77.14 285 *e*P P 09 49 11.4 +0.6
CLNS Chul'man 77.21 338 *e*P **P 09 49 09.3 -1.1**
CLNS *e* 09 49 19.8
CLNS *e**PP **pP 09 49 26.2 -0.1**
CLNS *e* 09 52 00.3
CLNS *e*PPP PPP 09 53 51.2
CLNS *e*S **S 09 58 56.3 +0.9**
CLNS *e* 09 59 58.4
CLNS *e*SS **SS 10 03 51.3 -3.4**
CLNS *e*SSS SSS 10 07 10.4
CLNS pmax pmax
comp=Z,17nm,1.0s
CLNS pmax pmax
comp=N,10.0nm,1.1s
CLNS pmax pmax
comp=E,5.0nm,0.9s
CLNS pmax pmax
comp=Z,8.0nm,1.0s
CLNS pmax pmax
comp=N,11nm,1.1s
CLNS pmax pmax
comp=E,7.0nm,0.9s
CLNS smax smax
comp=E,2μm,12.5s
CLNS smax smax
comp=N,1μm,11.0s
DGPR DIGLIPUR 77.37 287 *e*P **P 09 49 12.9 +0.8**
QSPA South Pole Qui 77.54 180 *e*P **P 09 49 11.3 -0.9**
comp=N,109nm,0.9s
QSPA LR LR
comp=Z,4μm,21.0s
KDAK Kodiak Island 77.59 21 PFAKE 09 49 20.0 +7.6
KDAK LR LR
comp=Z,12μm,20.0s
CIT Chita 78.82 330 *e*P **P 09 49 19.7 +0.3**
CIT *e* 09 49 33.3
CIT *e* 09 59 39.5
CIT pmax pmax
comp=Z,695nm,2.1s
RPN Rapa Nui 79.19 116 PFAKE 09 49 30.0 +8.0
RPN LR LR
comp=Z,6μm,22.0s
SVW2 Sparrevohn 79.20 18 *e*P **P 09 49 24.4 +3.1**
comp=Z,82nm,1.3s
RSO Redoubt South 79.58 19 *e*P P 09 49 32.9 +9.4
RSO *e*pP pP 09 49 40.9 +1.4
YAK Yakutsk 79.70 343 *e*P **P 09 49 22.0 -1.9**
YAK *e* 09 49 29.9
YAK *e* 09 52 22.5
YAK *e*S **S 09 59 25.4 +3.7**
YAK *e* 09 59 47.7
YAK pmax pmax
comp=Z,26nm,1.0s
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK pmax pmax
comp=Z,83nm,2.0s
YAK pmax pmax
comp=E,28nm,1.3s
YAK pmax pmax
comp=N,53nm,2.2s
YAK smax smax
comp=N,452nm,10.8s
YAK smax smax
comp=E,248nm,7.7s
YAK MLR MLR
comp=Z,5μm,21.0s
YAK MLR MLR
comp=N,4μm,22.0s
YAK MLR MLR
comp=E,2μm,24.0s
SONM Songino Array 80.32 324 P **P 09 49 26.2 -1.5**
SONM pP **pP 09 49 43.3 -0.5**
SONM PKKPbc **PKKPbc 10 08 08.6 -3.8**
SONM Songino Array 80.32 324 P **P 09 49 26.2 -1.5**
comp=E,11nm,0.3s,baz=142,slow=5.6,SNR=32
SONM pP **pP 09 49 43.3 -0.5**
comp=E,78nm,1.2s,baz=122,slow=4.8,SNR=8.8
SONM PKKPbc **PKKPbc 10 08 08.6 -3.8**
comp=E,1.5nm,0.8s,baz=256,slow=4.7,SNR=8.0
SONM LR LR 10 22 20.1
comp=E,4μm,21.9s,baz=136,slow=34
SONA1 Songino Array 80.32 324 *e*P **P 09 49 26.4 -1.4**
SPU Mount Spurr 80.35 19 *e*pP pP 09 49 45.8 +2.3
GTA Gaotai 80.66 314 ⇓P **P 09 49 29.9 +0.1**
GTA S **S 09 59 34.9 +1.8**
GTA AMB AMB
comp=E,76nm,1.9s
GTA AMB AMB
comp=E,3μm,7.8s
GTA LR LR
comp=E,3μm,23.5s
GTA LR LR
comp=E,5μm,24.0s
GTA LR LR
comp=E,7μm,22.6s
PMR Palmer 81.60 20 *e*P **P 09 49 34.5 +0.5**
PMR pmax pmax
comp=Z,124nm,1.5s
PMR Palmer 81.60 20 *e*P **P 09 49 34.5 +0.5**
comp=Z,124nm,1.5s
SHL Shillong 81.94 298 ⇑*i*P **P 09 49 36.5 -0.4**
SHL *ex* x 10 00 11.5
KCPM Cahto Peak 82.89 47 *e*P **P 09 49 44.3 +2.8**
comp=Z,57nm,1.1s
KIPM Iron Peak 83.01 47 *e*P P 09 49 45.8 +3.7
KHMM Horse Mountain 83.25 46 *e*P **P 09 49 46.5 +3.2**
comp=Z,76nm,1.0s
ZAK Zakamensk 83.36 325 *e*P **P 09 49 41.7 -1.9**
ZAK *e* 09 59 58.7
ZAK pmax pmax
comp=Z,58nm,1.5s
KRMB Red Mountain 83.37 45 *e*P **P 09 49 44.5 +0.5**
KRMB *e*pP **pP 09 50 03.1 +3.0**
SAO San Andreas Ge 83.38 50 *e*P **P 09 49 45.6 +1.6**
SAO pmax pmax
comp=Z,38nm,1.0s
SAO San Andreas Ge 83.38 50 *e*P **P 09 49 45.6 +1.6**
comp=Z,38nm,1.0s
H02S1 DAWSON INLET T 83.44 32 T T 11 21 07.2
SNR=7.4
IMA2 Indian Mountai 83.65 15 *e*P **P 09 49 42.6 -2.2**
IRK Irkutsk 83.72 327 *e*P **P 09 49 44.2 -1.1**
IRK *e* 09 49 58.5
IRK pmax pmax
comp=Z,127nm,2.3s
MAW Mawson 83.72 202 *e*P **P 09 49 44.4 -0.7**
MAW Mawson 83.72 202 P **P 09 49 44.4 -0.7**
baz=83,SNR=24
MAW Mawson 83.72 202 P **P 09 49 44.2 -0.9**
comp=Z,78nm,1.0s,baz=104,slow=5.4,SNR=40
MAW LR LR 10 21 04.5
comp=Z,4μm,21.7s,baz=99,slow=31
TLY Talaya 83.78 326 *c i*P **P 09 49 44.7 -1.0**
TLY *e* 09 49 59.6
TLY *e*S **S 10 00 05.3 +1.0**
TLY pmax pmax
comp=Z,69nm,1.4s
TLY Talaya 83.78 326 P **P 09 49 45.4 -0.3**
comp=Z,258nm,0.8s,SNR=6.8
LSA Lhasa 83.83 302 P **P 09 49 44.9 -2.1**
LSA pP **PcP 09 49 54.6 +3.6**
LSA sP sP 09 49 58.2 -11
LSA S **SKSac 10 00 03.3 -2.6**
LSA LR LR
comp=Z,1μm,23.2s
LSA LR LR
comp=Z,3μm,24.5s
LSA LR LR
comp=Z,5μm,23.2s
LSA Lhasa 83.83 302 *e*P **P 09 49 48.4 +1.3**
comp=Z,129nm,1.1s
LSA LR LR
comp=Z,5μm,22.0s
WDC Whiskeytown Da 83.97 46 *e*P **P 09 49 49.6 +2.7**
WDC Whiskeytown Da 83.97 46 *e*P **P 09 49 49.6 +2.7**
SMMC Simmler 83.98 52 P **P 09 49 47.9 +0.8**
baz=84
PKM Peak Mountain 83.98 52 P **P 09 49 48.1 +0.8**
baz=84
OHCM Honcut 84.27 48 *e*P **P 09 49 48.7 +0.3**
SCI San Clemente I 84.35 55 P **P 09 49 49.6 +0.6**
baz=84
COLA College 84.37 18 PFAKE 09 50 00.0 +12
COLA LR LR
comp=Z,5μm,20.0s
HUMO Hull Mountain 84.44 44 *e*P **P 09 49 50.1 +0.8**
comp=Z,79nm,1.0s
IL1 Eielson Array 84.59 18 *e*P P 09 49 46.0 -3.4
ILAR Eielson Array 84.59 18 P **P 09 49 46.8 -2.7**
ILAR PKKPbc **PKKPdf 10 07 58.4 +3.3**
ILAR Eielson Array 84.59 18 P **P 09 49 46.8 -2.7**
comp=Z,14nm,0.8s,baz=238,slow=5.1,SNR=50
ILAR PKKPbc **PKKPdf 10 07 58.4 +3.3**
comp=Z,0.9nm,0.8s,baz=347,slow=2.1,SNR=7.2
ILAR LR LR 10 21 39.5
comp=Z,6μm,21.3s,baz=234,slow=31
CIS Catalina Islan 84.60 54 P **P 09 49 50.8 +0.5**
baz=85
CMB Columbia Colle 84.61 49 *e*P **P 09 49 50.0 -0.3**
CMB pmax pmax
comp=Z,58nm,1.1s
CMB Columbia Colle 84.61 49 *e*P **P 09 49 50.0 -0.3**
comp=Z,58nm,1.1s
PAF Port-aux-Franc 84.77 221 PFAKE 09 50 00.0 +9.2
PAF LR LR
comp=Z,11μm,21.0s
FMP Fort Macarthur 84.78 54 P **P 09 49 52.0 +0.9**
baz=85
ARVC Arvin 84.82 52 P **P 09 49 52.0 +0.7**
baz=85
VES Vestal, Richgr 84.86 52 P **P 09 49 52.2 +0.8**
baz=85

MWC **Mount Wilson** 85.13 54 eP P 09 49 54.4 +1.3
MWC pmax pmax
comp=Z,283nm,2.1s
MWC **Mount Wilson** 85.13 54 eP P 09 49 54.4 +1.3
comp=Z,283nm,2.1s
WRAK **Wrangell Islan** 85.16 29 eP P 09 49 53.5 +1.1
comp=Z,314nm,2.1s
WRAK LR LR
comp=Z,5µm,21.0s
MOY **Mondy** 85.23 325 eP P 09 49 53.0 -0.1
MOY pmax pmax
comp=Z,220nm,3.8s
ISA **Isabella** 85.27 52 eP P 09 49 54.1 +0.5
ISA pmax pmax
comp=Z,141nm,1.8s
ISA **Isabella** 85.27 52 eP P 09 49 54.1 +0.5
comp=Z,141nm,1.8s
ISA **Isabella** 85.27 52 P P 09 49 54.4 +0.8
baz=85
F03A **Seaside** 85.33 41 epP pP 09 50 12.6 +2.8
HYT **Haines Junctio** 85.33 24 eP P 09 49 54.0 +0.6
EDW2 **Edwards Air Fo** 85.39 53 P P 09 49 55.2 +1.0
baz=86
SKAG **Skagway** 85.45 26 P P 09 49 53.4 -0.4
SKAG epP pP 09 50 16.8 +6.8
BFSC **Mount Baldy Ra** 85.45 54 P P 09 49 54.8 +0.2
baz=86
E03A **Lebam** 85.57 41 eP P 09 49 57.0 +2.3
comp=Z,100nm,1.0s
MURC **Murrieta** 85.61 54 P P 09 49 56.5 +1.2
baz=86
MLAC **Mammoth Lakes** 85.63 50 P P 09 49 56.9 +1.3
baz=86
NLWA **Neilton Lookou** 85.71 40 PFAKE 09 50 10.0 +14
NLWA LR LR
comp=Z,5µm,20.0s
H04A **Detroit Lake** 85.75 43 eP P 09 49 55.6 -0.2
comp=Z,108nm,1.5s
MTUM **Tungsten Hills** 85.75 50 eP P 09 49 56.9 +0.8
BAR **Barrett** 85.76 55 eP P 09 49 57.3 +1.3
LRMC **Laurel Mountai** 85.81 52 P P 09 49 57.4 +0.9
baz=86
CWC **Cottonwood Cre** 85.82 51 P P 09 49 57.4 +0.9
baz=86
RVCM **Rose Valley Ce** 85.83 52 eP P 09 49 54.5 -1.9
K05A **Summer Lake** 85.90 45 eP P 09 49 57.4 +0.6
comp=Z,93nm,1.0s
TIN **Tinemaha** 85.91 51 P P 09 49 58.3 +1.5
baz=86
PAHR **Pah Rah Range** 85.92 48 eP P 09 49 57.6 +0.8
comp=Z,69nm,1.1s
MOD **Modoc** 86.02 46 eP P 09 49 57.5 +0.2
comp=Z,204nm,1.1s
MONP **Monument Peak** 86.02 55 P P 09 49 58.4 +0.8
baz=86
BBRC **Big Bear Solar** 86.04 54 P P 09 49 58.1 +0.4
baz=86
TAPN **Taplejung** 86.04 299 eP P 09 49 57.2 -0.7
comp=Z,860nm,1.5s
F04A **Amboy** 86.06 41 eP P 09 49 58.3 +1.1
comp=Z,382nm,2.0s
MPMC **Manual Prospec** 86.15 52 P P 09 49 59.0 +0.8
baz=86
ODAN **Odare** 86.18 298 eP P 09 49 57.8 -0.8
comp=Z,2µm,1.5s
DVTC **Desert V Tower** 86.21 56 P P 09 49 59.1 +0.7
baz=86
PFO **Pinyon Flat Ob** 86.21 55 PFAKE 09 50 10.0 +12
PFO LR LR
comp=Z,7µm,21.0s
PFO **Pinyon Flat Ob** 86.21 55 P P 09 49 58.9 +0.5
baz=86
NV01 **Mina Array Sit** 86.29 50 eP P 09 49 58.7 -0.1
NVAR **Mina Array Bea** 86.29 50 P P 09 49 57.5 -1.4
NVAR pP pP 09 50 15.3 +0.3
NVAR **Mina Array Bea** 86.29 50 P P 09 49 57.5 -1.4
comp=Z,3.9nm,0.7s,baz=235,slow=7.3,SNR=34
NVAR pP pP 09 50 15.3 +0.3
comp=Z,38nm,1.0s,baz=232,slow=7.2,SNR=18
NVAR LR LR 10 21 38.8
comp=Z,10µm,20.2s,baz=71,slow=31
PINOR **Pine Mountain** 86.31 44 eP P 09 50 00.2 +1.7
TDL **Tradedollar La** 86.35 41 P P 09 49 59.6 +0.8
EGAK **Eagle** 86.42 20 eP P 09 49 57.2 -1.4
comp=Z,49nm,1.0s
EGAK LR LR
comp=Z,6µm,20.0s
GSC **Goldstone** 86.45 53 eP P 09 50 00.1 +0.6
GSC **Goldstone** 86.45 53 eP P 09 50 00.1 +0.6
GSC **Goldstone** 86.45 53 P P 09 50 00.2 +0.7
baz=87
PGC **Sidney** 86.47 39 eP P 09 50 01.0 +1.9
comp=Z,3.7nm,1.3s
PGC epP pP 09 50 15.2 -0.1
DAWY **Dawson** 86.58 21 eP P 09 50 00.3 +0.9
HEC **Hector,Ludlow** 86.67 53 P P 09 50 01.4 +0.8
baz=87
BOK **Bokaro** 86.68 295 eP P 09 49 59.9 -0.9
BELC **Belle Mtn. Jos** 86.69 54 P P 09 50 01.6 +0.8
baz=87
FURC **Furnace Creek,** 86.76 52 P P 09 50 02.1 +1.3
baz=87
LON **Longmire** 86.76 41 eP P 09 50 02.6 +1.9
LON pmax pmax
comp=Z,35nm,1.3s
LON **Longmire** 86.76 41 eP P 09 50 02.6 +1.9
comp=Z,35nm,1.3s
D05A **Enumclaw** 86.81 40 eP P 09 50 02.4 +1.5
comp=Z,218nm,1.4s
RAMN **Ramite** 86.88 298 eP P 09 50 01.0 -1.0
comp=Z,1µm,1.7s
WPW **White Pass** 86.91 41 P P 09 50 02.1 +0.6
H06S1 **SOCORRO T** 86.93 70 T T 11 25 49.4
SNR=5.5
G06A **Carlson Farm,** 86.97 43 epP pP 09 50 14.9 -3.0
TPH **Tonopah** 86.99 50 PFAKE 09 50 10.0 +7.8
TPH LR LR
comp=Z,7µm,20.0s
SHOC **Shoshone** 87.04 52 P P 09 50 02.9 +0.7
baz=87
TUQ **Turquoise Moun** 87.17 53 P P 09 50 03.6 +0.5
baz=87
GMRC **Granite Mounta** 87.19 54 P P 09 50 03.7 +0.6
baz=87
I07A **Izee** 87.33 44 eP P 09 50 04.0 +0.4
comp=Z,52nm,1.0s
GLA **Glamis** 87.35 55 eP P 09 50 06.1 +2.2
GLA pmax pmax
comp=Z,45nm,0.9s
GLA **Glamis** 87.35 55 eP P 09 50 06.0 +2.2
comp=Z,45nm,0.9s
GLA **Glamis** 87.35 55 P P 09 50 04.9 +1.0
baz=88
WVOR **Wild Horse Val** 87.37 46 eP P 09 50 04.2 +0.3
WVOR pmax pmax
comp=Z,75nm,1.3s
WVOR MLR MLR
comp=Z,3µm,19.0s
WVOR **Wild Horse Val** 87.37 46 eP P 09 50 04.2 +0.3
comp=Z,75nm,1.3s
WVOR LR LR
comp=Z,3µm,19.0s
IRM **Iron Mountain** 87.41 54 P P 09 50 05.2 +1.0
baz=88
JIRN **Jiri** 87.42 299 eP P 09 50 03.9 -0.9
comp=Z,364nm,1.1s
VIS **Vishakhapatnam** 87.49 289 eP P 09 50 04.1 -0.6
PALK **Pallekele** 87.59 278 P P 09 50 06.5 +1.1
SNR=11
PALK **Pallekele** 87.59 278 P P 09 50 07.5 +2.1
comp=Z,501nm,0.9s,SNR=13
PALK **Pallekele** 87.59 278 P P 09 50 06.0 +0.6
PALK **Pallekele** 87.59 278 eP P 09 50 05.3 -0.1
comp=Z,77nm,0.9s
TIXI **Tiksi** 87.65 349 i P P 09 50 03.2 -1.1
LTY **Liberty** 87.67 41 eP P 09 50 05.3 +0.2
comp=Z,34nm,1.1s
LDFC **Landfair** 87.71 53 eP P 09 50 06.4 +0.8
comp=Z,125nm,1.1s
BMN **Battle Mountai** 87.73 48 eP P 09 50 06.3 +0.6
BMN e*PP pP 09 50 23.4 +1.5
BMN MLR MLR
comp=Z,5µm,20.0s
BMN **Battle Mountai** 87.73 48 eP P 09 50 06.2 +0.6
BMN epP pP 09 50 23.4 +1.5
BMN LR LR
comp=Z,5µm,20.0s
GUN **Gumba** 87.75 299 eP P 09 50 05.1 -1.2
comp=Z,494nm,1.1s
J08A **Circle Bar Ran** 87.78 45 eP P 09 50 06.2 +0.3
comp=Z,60nm,0.9s
Y12C **Blythe** 87.79 55 P P 09 50 07.2 +1.2
baz=88
ETW **Entiat** 88.01 40 P P 09 50 06.7 -0.2
PKI **Pulchoki** 88.07 299 eP P 09 50 06.6 -1.2
comp=Z,1µm,1.6s
SHPR **Sheep Range** 88.08 52 eP P 09 50 07.4 0.0
G08A **Pilot Rock** 88.10 43 eP P 09 50 06.8 -0.4
comp=Z,52nm,1.2s
HAWA **Hanford** 88.10 42 eP P 09 50 08.1 +1.0
comp=Z,238nm,2.2s
HAWA LR LR
comp=Z,2µm,20.0s
113A **Mohawk Valley,** 88.13 56 P P 09 50 08.7 +1.2
baz=88
REDWA **Red Mountain** 88.13 42 P P 09 50 08.4 +1.2
KKN **Kakani** 88.24 299 eP P 09 50 07.2 -1.2
comp=Z,234nm,0.9s
PDMCI **Parker Dam,Lak** 88.25 54 P P 09 50 08.7 +0.6
baz=88
WTV **Waterville** 88.29 40 P P 09 50 08.0 0.0
R11A **Troy Canyon, C** 88.30 50 eP P 09 50 08.7 +0.2
R11A **Troy Canyon, C** 88.30 50 P P 09 50 09.0 +0.5
baz=88
DMN **Daman** 88.34 299 eP P 09 50 07.8 -1.2
comp=Z,446nm,0.8s
W13A **Hualapai Mount** 88.67 54 P P 09 50 10.8 +0.5
baz=89
214A **Organ Pipe Nat** 88.68 57 P P 09 50 10.9 +0.7
baz=89
D08A **Wollman Farm,** 88.72 41 eP P 09 50 10.9 +0.9
comp=Z,219nm,2.3s
LPIG **La Paz** 88.83 65 LR LR 10 21 25.3
comp=Z,3µm,21.0s,baz=285,slow=30
GKN **Gorkha** 88.84 299 eP P 09 50 09.2 -2.0
comp=Z,674nm,1.1s
B08A **Colville Reser** 88.91 40 eP P 09 50 10.7 -0.2
comp=Z,184nm,1.9s
Z14A **Wintersburg** 88.95 56 P P 09 50 12.5 +1.1
baz=89
OD2 **Odessa Site #2** 88.97 41 P P 09 50 11.3 +0.1
E09A **Wood Farm, Sta** 89.05 42 eP P 09 50 12.0 +0.5
comp=Z,147nm,1.9s
Y14A **Winkenburg** 89.06 55 P P 09 50 13.2 +1.2
baz=89
BMO **Blue Mountains** 89.07 44 eP P 09 50 11.7 -0.1
BMO pmax pmax
comp=Z,161nm,1.9s
BMO MLR MLR
comp=Z,5µm,21.0s
BMO **Blue Mountains** 89.07 44 eP P 09 50 11.7 -0.1
comp=Z,161nm,1.9s
BMO LR LR
comp=Z,5µm,21.0s
ELK **Elko** 89.26 48 eP P 09 50 13.4 +0.4
MDRS **Chennai** 89.31 283 eP P 09 50 14.0 +0.6
C09A **Chrisman Ranch** 89.39 41 epP pP 09 50 31.4 +2.0
F10A **Beach Ranch, E** 89.47 43 eP P 09 50 13.7 0.0
comp=Z,319nm,2.0s
MFID **Camas Ranch** 89.63 45 P P 09 50 15.2 +0.7
baz=90
KOLN **Koldanda** 89.67 298 eP P 09 50 13.1 -2.1
comp=Z,142nm,0.9s
DANN **Dangsing** 89.68 299 eP P 09 50 13.3 -2.0
comp=Z,228nm,0.7s
CCUT **Cedar City** 89.75 52 eP P 09 50 16.1 +0.7
comp=Z,91nm,1.4s
NEW **Newport** 90.27 40 eP P 09 50 17.7 +0.4
comp=Z,30nm,1.1s
NEW LR LR
comp=Z,3µm,21.0s
NEW **Newport** 90.27 40 P P 09 50 17.6 +0.4
baz=90
U15A **North Rim** 90.28 53 P P 09 50 18.4 +0.5
baz=90
X16A **Lo Mia Camp, P** 90.43 55 P P 09 50 19.3 +0.8
baz=91
TUC **Tucson** 90.44 57 eP P 09 50 19.7 +1.2
TUC pmax pmax
comp=Z,202nm,2.4s
TUC MLR MLR
comp=Z,8µm,20.0s
TUC **Tucson** 90.44 57 eP P 09 50 19.6 +1.2
comp=Z,202nm,2.4s
TUC LR LR
comp=Z,8µm,20.0s
HLID **Hailey** 90.66 46 eP P 09 50 20.0 +0.6
comp=Z,27nm,0.9s
HLID LR LR
comp=Z,2µm,20.0s
HLID **Hailey** 90.66 46 P P 09 50 20.5 +1.1
baz=91
SYO **Syowa Base** 90.67 197‖ eP P 09 50 15.5 -3.2
SYO **Syowa Base** 90.67 197‖ ePcP P 09 50 17.4 -1.3
WMQ **Urumqi** 90.70 315 P P 09 50 19.3 -0.1
WMQ pP PcP 09 50 24.1 +3.6
WMQ sP sP 09 50 26.3 -16
WMQ PP PP 09 54 00.1 +4.5
WMQ SKS SKSac 10 00 48.7 +2.3
WMQ S S 10 01 12.1 +0.8
WMQ SS SS 10 07 17.0 +2.4
WMQ AMB AMB
comp=Z,130nm,1.0s
WMQ AMB AMB
comp=Z,2µm,5.4s
WMQ LR LR
comp=Z,2µm,20.2s
WMQ LR LR
comp=Z,3µm,21.0s
WMQ LR LR
comp=Z,4µm,25.0s
WUAZ **Wupatki** 90.77 54 eP P 09 50 21.1 +1.0
WUAZ LR LR
comp=Z,5µm,22.0s
WUAZ **Wupatki** 90.77 54 P P 09 50 21.0 +1.0
baz=91
DUG **Dugway** 90.88 49 eP P 09 50 20.9 +0.4
DUG pmax pmax
comp=Z,37nm,1.1s
DUG MLR MLR
comp=Z,7µm,20.0s
DUG **Dugway** 90.88 49 eP P 09 50 20.9 +0.4
comp=Z,37nm,1.1s
DUG LR LR
comp=Z,7µm,20.0s
DUG **Dugway** 90.88 49 P P 09 50 21.5 +1.0
baz=91
MVU **Marysvale** 90.89 51 eP P 09 50 21.9 +1.3
comp=Z,50nm,1.1s
MVU LR LR
comp=Z,9µm,20.0s
BGU **Big Grassy Mou** 90.92 48 eP P 09 50 21.3 +0.7
comp=Z,29nm,1.0s
HVU **Hansel Valley** 91.33 48 eP P 09 50 23.9 +1.4
HVU pmax pmax
comp=Z,67nm,1.0s
HVU **Hansel Valley** 91.33 48 eP P 09 50 23.9 +1.4
comp=Z,67nm,1.0s
NLU **North Lily Min** 91.36 49 eP P 09 50 23.0 +0.2
NLU epP pP 09 50 39.9 +0.8
319A **Douglas** 91.45 58 P P 09 50 24.0 +0.7
baz=92
TRD **Trivandrum** 91.48 278 eP P 09 50 24.2 +0.6
TRD ⇑ex x 09 50 26.4
BSMT **Bassoo Peak** 91.64 41 eP P 09 50 23.8 -0.1
X18A **Snowflake** 91.66 55 P P 09 50 24.9 +0.6
baz=92
MPU **Maple Canyon** 91.71 49 eP P 09 50 27.2 +2.8
comp=Z,90nm,1.5s
Q16A **Castle Valley** 91.78 51 P P 09 50 25.4 +0.7
baz=92
TMUT **Trail Mountain** 91.84 50 eP P 09 50 25.4 +0.2
TMUT epP pP 09 50 44.1 +2.7
HYB **Hyderabad** 91.86 287 i P P 09 50 23.0 -2.3
HYB epP pP 09 50 39.0 -2.6
HYB ePP PP 09 54 08.0 +2.8
HYB eSKS SKSac 10 00 56.0 +2.0
HYB e 10 01 40.0
HYB ePS PS 10 02 40.0 +0.3
HYB **Hyderabad** 91.86 287 eP P 09 50 24.2 -1.1
MSO **Missoula** 91.90 42 eP P 09 50 26.5 +1.5
comp=Z,148nm,2.7s
MSO **Missoula** 91.90 42 P P 09 50 25.9 +0.9
baz=92
JTMT **Jette** 91.93 42 P P 09 50 25.1 -0.1
JTMT epP pP 09 50 43.1 +1.7
W18A **Petrified Fore** 91.97 55 epP pP 09 50 42.8 +0.9
W18A **Petrified Fore** 91.97 55 P P 09 50 26.2 +0.5
baz=92
JLU **Jordanelle** 91.99 49 eP P 09 50 27.2 +1.5
comp=Z,62nm,1.4s
SWMT **Swartz Lake** 92.05 42 epP pP 09 50 41.4 -0.6
320A **Kipp Ranch, An** 92.07 59 P P 09 50 26.7 +0.5
baz=92
DAU **Daniels Canyon** 92.09 49 eP P 09 50 27.4 +1.1
DAU e*PP pP 09 50 40.4 -2.1
DAU **Daniels Canyon** 92.09 49 eP P 09 50 27.4 +1.1
DAU epP pP 09 50 40.4 -2.1
MCMT **McKenzie Canyo** 92.09 45 eP P 09 50 27.3 +1.2
NGP **Nagpur** 92.19 291 eP P 09 50 24.5 -2.3
NGP AMB AMB 09 50 39.6
comp=Z,124nm,1.6s
NGP ex x 10 01 28.0
220A **Playas Peak, P** 92.20 58 P P 09 50 28.1 +1.4
baz=92
120A **U Bar Ranch, L** 92.26 57 P P 09 50 28.0 +1.0
baz=92
SLMT **Seeley Lake** 92.31 42 eP P 09 50 25.7 -1.2
SLMT epP pP 09 50 44.0 +0.8
SRU **San Rafael** 92.31 51 eP P 09 50 29.7 +2.5
SRU pmax pmax
comp=Z,67nm,1.9s
SRU **San Rafael** 92.31 51 eP P 09 50 29.7 +2.5
comp=Z,67nm,1.9s
CHMT **Chamberlain Mo** 92.38 43 eP P 09 50 29.3 +2.0
DLMT **Dillon** 92.41 44 eP P 09 50 28.4 +1.0
Z20A **Nine Sixteen R** 92.42 57 P P 09 50 28.4 +0.6
baz=93
DGAR **Diego Garcia** 92.46 262 PFAKE 09 50 40.0 +12
DGAR LR LR
comp=Z,4µm,22.0s
WALA **Waterton Lakes** 92.54 40 eP P 09 50 29.9 +2.0
LRM **Limekiln Ridge** 92.62 44 eP P 09 50 31.5 +3.0
RRI2 **Red Ridge** 92.78 46 eP P 09 50 30.8 +1.4
Y20A **Horse Springs,** 92.78 56 P P 09 50 30.7 +1.2
baz=93
M17A **Scullys Gap (B** 92.78 48 P P 09 50 30.5 +1.2
baz=93
AHID **Auburn Hatcher** 92.79 47 PFAKE 09 50 40.0 +11
AHID LR LR
comp=Z,4µm,20.0s
X20A **Quemado** 92.82 55 P P 09 50 31.1 +1.4
baz=93
221A **Mesquite Ranch** 92.84 58 P P 09 50 31.1 +1.4
baz=93
LGTI **Lohaghat** 92.93 299 eP P 09 50 29.9 -0.1
W20A **Ramah** 92.95 55 P P 09 50 31.5 +1.2
baz=93
121A **Cookes Peak, D** 92.95 57 P P 09 50 31.4 +1.1
baz=93
QLMT **Earthquake Lak** 93.07 45 epP pP 09 50 45.9 -0.9
TPAW **Teton Pass** 93.07 46 eP P 09 50 34.1 +3.4
comp=Z,26nm,1.3s
IMW **Indian Meadow** 93.18 46 P P 09 50 31.0 -0.2
IMW epP pP 09 50 49.5 +2.0
SNOW **Snow King Moun** 93.20 46 P P 09 50 33.3 +2.0
SNOW esP sP 09 50 49.8 -4.1
Z21A **St. Cloud Mine** 93.22 57 P P 09 50 32.8 +1.3
baz=93
PV09 **Paradox Valley** 93.23 51 eP P 09 50 33.1 +1.6
PV10 **Paradox Valley** 93.27 52 eP P 09 50 33.3 +1.6
MOOW **Moose Ponds** 93.28 46 eP P 09 50 36.6 +5.0
LOHW **Long Hollow** 93.34 46 eP P 09 50 34.6 +2.7
comp=Z,24nm,1.4s
Y21A **Point of Rocks** 93.37 56 P P 09 50 32.7 +0.5
baz=94
X21A **Alamocita Cree** 93.38 56 P P 09 50 32.7 +0.4
baz=94
PV04 **Paradox Valley** 93.38 52 eP P 09 50 33.9 +1.8
PV04 epP pP 09 50 49.2 +0.8
FLWY **Flagg Ranch** 93.39 46 P P 09 50 33.3 +1.2
FLWY epP pP 09 50 50.5 +2.1
MVCO **Mesa Verde** 93.42 53 eP P 09 50 34.3 +1.9
comp=Z,89nm,2.3s
MVCO LR LR
comp=Z,5µm,22.0s
MVCO **Mesa Verde** 93.42 53 P P 09 50 33.0 +0.6
baz=94
222A **Williams Famil** 93.43 58 P P 09 50 32.8 +0.4
baz=94
I17A **Pilgrim Ck.** 93.44 46 P P 09 50 33.4 +1.1
baz=94
H17A **Grant Village** 93.55 45 P P 09 50 33.9 +1.1
baz=94
PV01 **Paradox Valley** 93.58 52 eP P 09 50 34.6 +1.5
P19A **Cripple Cowboy** 93.60 50 P P 09 50 34.1 +0.9
baz=94
122A **Conniff Cattle** 93.64 57 P P 09 50 34.4 +1.1
baz=94
O19A **Miners Draw (B** 93.64 50 P P 09 50 34.4 +1.1
baz=94
KAAM **Kaadhehdhoo** 93.64 270 P P 09 50 35.1 +1.5
KAAM **Kaadhehdhoo** 93.64 270 ⇑P P 09 50 34.2 +0.6
baz=94,SNR=15
S20A **Disappointment** 93.67 52 P P 09 50 34.6 +1.0
baz=94
PV15 **Paradox Valley** 93.69 52 eP P 09 50 36.4 +2.8
R20A **Redvale** 93.73 52 P P 09 50 34.3 +0.5
baz=94
Z22A **Elephant Butte** 93.78 57 P P 09 50 35.2 +1.1
baz=94
L19A **Farson** 93.88 48 P P 09 50 35.4 +1.0
baz=94
BW06 **Boulder Array** 93.89 47 eP P 09 50 38.4 +4.0
BW06 LR LR
comp=Z,4µm,20.0s
PDAR **Pinedale Array** 93.89 47 P P 09 50 34.5 +0.1
PDAR pP pP 09 50 51.8 +1.0
PDAR **Pinedale Array** 93.89 47 P P 09 50 34.5 +0.1
comp=Z,1.0nm,0.6s,baz=203,slow=3.2,SNR=9.5
PDAR pP pP 09 50 51.8 +1.0
comp=Z,5.8nm,1.0s,baz=270,slow=3.7,SNR=10
PDAR LR LR 10 30 21.1
comp=Z,3µm,18.6s,baz=238,slow=34
U21A **Nageezi** 93.91 54 P P 09 50 35.8 +1.1
baz=94
Y22A **Socorro** 93.93 56 P P 09 50 35.4 +0.7
baz=94
AKL **Akola** 93.96 290 eP P 09 50 34.7 -0.2
AKL AMB AMB 09 50 34.9
comp=Z,102nm,1.4s
Q20A **Ridgley Place,** 93.97 51 P P 09 50 36.3 +1.5
baz=94
EDM **Edmonton** 94.00 36 P P 09 50 35.2 +0.8
EDM e*PP pP 09 50 50.5 -0.2
EDM **Edmonton** 94.00 36 P P 09 50 35.2 +0.8
EDM epP pP 09 50 50.5 -0.2
P20A **De Beque** 94.01 51 P P 09 50 36.1 +1.1
baz=94
S21A **Coal Bank Pass** 94.07 52 P P 09 50 36.0 +0.6
baz=94
PMSA **Palmer Station** 94.09 161 PFAKE 09 50 50.0 +15
PMSA LR LR
comp=Z,2µm,19.0s
BHPL **Bhopal** 94.10 293 eP P 09 50 32.0 -3.6
BHPL AMB AMB 09 50 49.3
comp=Z,92nm,1.9s
H18A **Shoshone NF, C** 94.25 45 P P 09 50 36.9 +0.8
baz=94
O20A **White River Ci** 94.27 50 eP P 09 50 38.3 +2.1
O20A **White River Ci** 94.27 50 P P 09 50 37.8 +1.6
baz=94
Z23A **Rita Site, Whi** 94.39 57 P P 09 50 37.9 +1.1
baz=94
N20A **Spence Gulch,** 94.40 49 P P 09 50 37.5 +0.7
baz=94
R21A **Cimarron** 94.41 52 P P 09 50 37.6 +0.6
baz=95
Q21A **Lamborn Mesa,** 94.49 51 P P 09 50 38.5 +1.3
baz=95
ANMO **Albuquerque** 94.55 55 eP P 09 50 37.7 +0.1
comp=Z,11nm,1.2s
ANMO LR LR
comp=Z,6µm,20.0s
I19A **Meeteetse** 94.58 46 P P 09 50 38.9 +1.4
baz=95
L20A **Wamsutter** 94.60 48 P P 09 50 39.0 +1.3
baz=95

T22A	**Edith**	**94.63**	**53**	P		**P**		**09 50 38.6**	**+0.6**
	baz=95								
RLMT	**Red Lodge**	**94.63**	**45**	PFAKE				09 50 50.0	+12
RLMT				LR		LR			
	comp=Z,2μm,20.0s								
324A	**Moseley Ranch,**	**94.64**	**59**	P		**P**		**09 50 38.1**	**+0.1**
	baz=95								
Y23A	**Lovelace Mesa,**	**94.67**	**56**	P		**P**		**09 50 38.6**	**+0.4**
	baz=95								
H19A	**Powell**	**94.72**	**45**	P		**P**		**09 50 38.9**	**+0.8**
	baz=95								
224A	**Cornudas Mount**	**94.73**	**58**	P		**P**		**09 50 39.0**	**+0.5**
	baz=95								
P21A	**Newcastle**	**94.73**	**51**	P		**P**		**09 50 39.1**	**+0.8**
	baz=95								
MNTX	**Cornudas Mount**	**94.77**	**59**	*e*P		**P**		**09 50 39.9**	**+1.4**
	comp=Z,9.1nm,1.4s								
MNTX				LR		LR			
	comp=Z,4μm,22.0s								
S22A	**4UR Ranch, Cre**	**94.83**	**53**	P		**P**		**09 50 39.4**	**+0.5**
	baz=95								
EGMT	**Eagleton**	**94.95**	**42**	*e*pP		**pP**		**09 50 57.4**	**+2.1**
EGMT				LR		LR			
	comp=Z,2μm,20.0s								
DDI	**Dehra Dun**	**94.97**	**300**	*e*P		**P**		**09 50 39.8**	**+0.3**
R22A	**Saguache, Gunn**	**94.99**	**52**	P		**P**		**09 50 40.6**	**+0.9**
	baz=95								
Q22A	**Crested Butte,**	**95.00**	**51**	P		**P**		**09 50 40.6**	**+0.9**
	baz=95								
SMCO	**Snowmass**	**95.02**	**51**	*e*P		P		09 50 44.0	+4.1
	comp=Z,66nm,1.0s								
U23A	**El Rito**	**95.05**	**54**	P		**P**		**09 50 40.7**	**+0.9**
	baz=95								
325A	**Bean Ranch, Si**	**95.05**	**59**	P		**P**		**09 50 40.2**	**+0.3**
	baz=95								
J20A	**Shoshoni**	**95.07**	**47**	P		**P**		**09 50 40.8**	**+1.0**
	baz=95								
MK31	**Makanchi Array**	**95.14**	**317**	*i* P		**P**		**09 50 38.1**	**-1.7**
MK31				pmax		pmax			
	comp=Z,43nm,0.8s								
MKAR	**Makanchi Array**	**95.14**	**317**	P		**P**		**09 50 38.2**	**-1.6**
MKAR								09 54 28.3	
MKAR				pmax		pmax			
	comp=Z,54nm,0.9s								
MKAR				pmax		pmax			
	comp=Z,9.0nm,1.1s								
MKAR				pmax		pmax			
	comp=Z,4.0nm,0.8s								
MKAR				MLR		MLR			
	comp=Z,3μm,21.9s								
MKAR	**Makanchi Array**	**95.14**	**317**	P		**P**		**09 50 38.2**	**-1.6**
MKAR				PP		**PP**		**09 54 28.3**	**-2.0**
MKAR				PKKPbc		**PKKPbc**		**10 07 31.3**	**-4.3**
MKAR	**Makanchi Array**	**95.14**	**317**	P		**P**		**09 50 38.2**	**-1.6**
	comp=Z,54nm,0.9s,baz=92,slow=7.3,SNR=10								
MKAR				PP		**PP**		**09 54 28.3**	**-2.0**
	comp=Z,9.3nm,1.1s,baz=96,slow=8.7,SNR=3.9								
MKAR				PKKPbc		**PKKPbc**		**10 07 31.3**	**-4.3**
	comp=Z,4.1nm,0.8s,baz=298,slow=1.8,SNR=18								
MKAR				LR		LR		10 31 36.6	
	comp=Z,3μm,21.9s,baz=108,slow=34								
MAIT	**Maitri**	**95.19**	**188**	*e*P		P		09 50 35.8	-3.8
ZAA0	**Zalesovo Array**	**95.21**	**324**	*e*P		**P**		**09 50 38.5**	**-1.3**
ZALV	**Zalesovo Beam**	**95.21**	**324**	P		**P**		**09 50 37.8**	**-2.1**
ZALV				pmax		pmax			
	comp=Z,16nm,0.8s								
ZALV				MLR		MLR			
	comp=Z,3μm,21.7s								
ZALV	**Zalesovo Beam**	**95.21**	**324**	P		**P**		**09 50 37.8**	**-2.1**
ZALV				PKKPbc		**PKKPbc**		**10 07 31.8**	**-3.9**
ZALV	**Zalesovo Beam**	**95.21**	**324**	P		**P**		**09 50 37.8**	**-2.1**
	comp=Z,16nm,0.8s,baz=108,slow=3.8,SNR=14								
ZALV				PKKPbc		**PKKPbc**		**10 07 31.8**	**-3.9**
	comp=Z,0.7nm,0.3s,baz=292,slow=2.8,SNR=4.2								
ZALV				LR		LR		10 33 39.9	
	comp=Z,3μm,21.7s,baz=332,slow=36								
P22A	**Eagle**	**95.27**	**51**	P		**P**		**09 50 41.9**	**+1.1**
	baz=95								
D19A	**Cripps Ranch,**	**95.34**	**43**	P		**P**		**09 50 42.7**	**+1.9**
	baz=96								
C19A	**Slack Wire Ran**	**95.35**	**42**	P		**P**		**09 50 42.3**	**+1.5**
	baz=96								
NDI	**New Delhi**	**95.37**	**298**	*ex*		P		09 50 38.0	-3.2
G20A	**Bridger**	**95.38**	**45**	P		**P**		**09 50 42.2**	**+1.2**
	baz=96								
626A	**Big Bend Ranch**	**95.40**	**61**	P		**P**		**09 50 42.4**	**+0.9**
	baz=96								
W24A	**Lazy 6 Ranch,**	**95.45**	**55**	P		**P**		**09 50 42.5**	**+0.8**
	baz=96								
K21A	**Alcova**	**95.52**	**48**	P		**P**		**09 50 42.8**	**+0.9**
	baz=96								
J21A	**Lysite**	**95.53**	**47**	P		**P**		**09 50 42.8**	**+1.0**
	baz=96								
526A	**Mary Lane Ranc**	**95.54**	**61**	P		**P**		**09 50 43.4**	**+1.2**
	baz=96								
O22A	**Kremmling**	**95.54**	**50**	P		**P**		**09 50 43.8**	**+1.7**
	baz=96								
Z25A	**Roswell**	**95.63**	**57**	P		**P**		**09 50 43.6**	**+1.1**
	baz=96								
V24A	**Rampart Ranch,**	**95.66**	**55**	P		**P**		**09 50 43.7**	**+1.0**
	baz=96								
R23A	**Moffat**	**95.70**	**52**	P		**P**		**09 50 44.1**	**+1.2**
	baz=96								
E20A	**Meyer Farm, Mu**	**95.70**	**44**	P		**P**		**09 50 43.9**	**+1.5**
	baz=96								
426A	**McDonald Obser**	**95.71**	**60**	P		**P**		**09 50 43.6**	**+0.6**
	baz=96								
I21A	**Big Trails, Te**	**95.73**	**47**	P		**P**		**09 50 43.6**	**+0.9**
	baz=96								
N22A	**Wattenberg Ran**	**95.74**	**50**	P		**P**		**09 50 43.7**	**+0.7**
	baz=96								
SNAA	**Sanae**	**95.75**	**183**	*e*P		**P**		**09 50 40.2**	**-2.0**
SNAA	**Sanae**	**95.75**	**183**	*e*P		**P**		**09 50 40.1**	**-2.1**
	comp=Z,29nm,1.2s								
M22A	**Cedar Creek Ra**	**95.75**	**49**	P		**P**		**09 50 43.8**	**+0.8**
	baz=96								
TX31	**Lajitas Ar. Si**	**95.76**	**61**	*e*P		**P**		**09 50 43.0**	**-0.2**
TXAR	**Lajitas Array**	**95.76**	**61**	P		**P**		**09 50 41.6**	**-1.5**
TXAR				pP		**pP**		**09 50 58.7**	**-0.8**
TXAR				PP		PP		09 54 49.1	+13
TXAR				PKKPbc		**PKKPbc**		**10 07 31.6**	**-1.7**
TXAR				⇑*e*				10 14 46.5	
TXAR	**Lajitas Array**	**95.76**	**61**	P		**P**		**09 50 41.6**	**-1.5**
	comp=Z,1.8nm,0.7s,baz=224,slow=5.7,SNR=22								
TXAR				pP		**pP**		**09 50 58.7**	**-0.8**
	comp=Z,4.0nm,0.9s,baz=221,slow=4.8,SNR=7.5								
TXAR				PP		PP		09 54 49.1	+13
	comp=Z,1.9nm,1.1s,baz=270,slow=2.7,SNR=4.6								
TXAR				PKKPbc		**PKKPbc**		**10 07 31.6**	**-1.7**
	comp=Z,0.5nm,0.8s,baz=122,slow=4.3,SNR=4.1								
TXAR				PKP2bc				10 14 46.5	
	comp=Z,0.4nm,0.9s,baz=25,slow=3.3,SNR=3.4								
TXAR				LR		LR		10 24 48.0	
	comp=Z,4μm,21.8s,baz=335,slow=30								
Y25A	**Mesa, Roswell**	**95.78**	**57**	P		**P**		**09 50 44.2**	**+1.0**
	baz=96								
D20A	**Manuel Ranch,**	**95.82**	**43**	P		**P**		**09 50 44.7**	**+1.7**
	baz=96								
YKA	**Yellowknife Ar**	**95.84**	**27**	P		**P**		**09 50 41.4**	**-1.2**
YKA				PKiKP		**PKiKP**		**09 55 22.5**	**+0.9**
YKA	**Yellowknife Ar**	**95.84**	**27**	P		**P**		**09 50 41.4**	**-1.2**
	comp=Z,0.8nm,0.4s,baz=258,slow=5.0,SNR=6.1								
YKA				PKiKP		**PKiKP**		**09 55 22.5**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=231,slow=1.4,SNR=3.2								
SDCO	**Great Sand Dun**	**95.87**	**53**	PFAKE				09 51 00.0	+16
SDCO				LR		LR			
	comp=Z,6μm,22.0s								
SMLA	**Simla**	**95.88**	**300**	*e*P		**P**		**09 50 44.4**	**+0.9**
GOA	**Goa**	**95.90**	**285**	*e*P		**P**		**09 50 42.6**	**-1.3**
627A	**Terlingua Ranc**	**96.02**	**61**	P		**P**		**09 50 45.3**	**+0.9**
	baz=96								
C20A	**Veseth Ranch,**	**96.04**	**43**	P		**P**		**09 50 45.2**	**+1.3**
	baz=96								
S24A	**Houchin Ranch,**	**96.07**	**53**	P		**P**		**09 50 45.5**	**+0.9**
	baz=96								
N23A	**Red Feather La**	**96.14**	**50**	P		**P**		**09 50 45.8**	**+1.0**
	baz=96								
ISCO	**Idaho Springs**	**96.17**	**51**	P		**P**		**09 50 46.3**	**+1.3**
ISCO				*e**PP		**pP**		**09 50 57.0**	**-4.4**
ISCO				MLR		MLR			
	comp=Z,9μm,22.0s								
ISCO	**Idaho Springs**	**96.17**	**51**	P		**P**		**09 50 46.3**	**+1.3**
ISCO				*ep*P		**pP**		**09 50 57.0**	**-4.4**
ISCO				LR		LR			
	comp=Z,9μm,22.0s								
ISCO	**Idaho Springs**	**96.17**	**51**	P		**P**		**09 50 46.0**	**+1.0**
	baz=96								
V25A	**Rancho No Teng**	**96.20**	**55**	P		**P**		**09 50 46.2**	**+1.0**
	baz=96								
J22A	**Midwest**	**96.23**	**47**	P		**P**		**09 50 46.2**	**+1.2**
	baz=96								
Z26A	**Caprock**	**96.24**	**57**	P		**P**		**09 50 45.9**	**+0.6**
	baz=96								
R24A	**Sanders Place,**	**96.26**	**52**	P		**P**		**09 50 46.2**	**+0.8**
	baz=96								
Q24A	**Divide**	**96.37**	**52**	P		**P**		**09 50 46.3**	**+0.4**
	baz=96								
628A	**Black Gap, Mar**	**96.46**	**61**	P		**P**		**09 50 46.7**	**+0.4**
	baz=97								
POO	**Poona**	**96.46**	**287**	*e*P		**P**		**09 50 45.2**	**-1.3**
U25A	**Circle Dot Ran**	**96.47**	**54**	P		**P**		**09 50 46.7**	**+0.4**
	baz=97								
S25A	**Robets Cordova**	**96.68**	**53**	P		**P**		**09 50 47.7**	**+0.4**
	baz=97								
VNA2	**Neumayer--Watz**	**96.70**	**182**	*e*P		**P**		**09 50 47.1**	**+0.6**
DHRM	**DHARAMSHALA**	**96.81**	**301**	*e*P		**P**		**09 50 47.5**	**-0.5**
DHRM					AMB	AMB		09 51 01.6	
	comp=Z,89nm,3.0s								
V26A	**Tequesquite Ra**	**96.86**	**55**	P		**P**		**09 50 48.5**	**+0.5**
	baz=97								
328A	**Wristen Ranch,**	**96.87**	**59**	P		**P**		**09 50 48.4**	**+0.3**
	baz=97								
U26A	**Atchley Ranch,**	**97.00**	**54**	P		**P**		**09 50 49.3**	**+0.6**
	baz=97								
VNA1	**Neumayer--Stat**	**97.00**	**182**	*e*P		**P**		**09 50 49.1**	**+1.3**
Y27A	**Causay**	**97.02**	**57**	P		Pdif		09 50 49.9	+1.0
	baz=97								
LAO	**LASA Array**	**97.03**	**44**	PFAKE				09 51 00.0	+11
LAO				LR		LR			
	comp=Z,3μm,20.0s								
Q25A	**Bedland, Calha**	**97.05**	**52**	P		Pdif		09 50 49.5	+0.5
	baz=97								
529A	**Stev Forest Ra**	**97.14**	**61**	P		Pdif		09 50 50.1	+0.7
	baz=97								
MSTX	**Muleshoe**	**97.36**	**57**	*e*pP		pP		09 51 05.9	-0.7
429A	**Davenport Ranc**	**97.51**	**60**	P		Pdif		09 50 51.3	+0.2
	baz=98								
R26A	**Arlington**	**97.56**	**53**	P		Pdif		09 50 52.0	+0.9
	baz=98								
Q26A	**Hugo**	**97.61**	**52**	P		Pdif		09 50 52.4	+0.9
	baz=98								
Y28A	**McKinney Farm,**	**97.77**	**57**	P		**P**		**09 50 52.2**	**0.0**
	baz=98								
D23A	**Lindsay**	**97.80**	**43**	P		Pdif		09 50 53.2	+1.3
	baz=98								
H24A	**Dirks Ranch, A**	**97.84**	**46**	P		Pdif		09 50 52.9	+0.7
	baz=98								
B23A	**Brockton**	**98.16**	**42**	P		Pdif		09 50 54.5	+1.0
	baz=98								
AAA	**Alma-Ata**	**98.19**	**312**	*e*P		**P**		**09 50 52.7**	**-1.0**
AAA				*e*S		**S**		**10 02 15.6**	**-1.3**
AAA				pmax		pmax			
	comp=Z,1μm,8.0s								
AAA				smax		smax			
	comp=N,700nm,17.0s								
AAA				MLR		MLR			
	comp=Z,2μm,24.0s								
Y29A	**Porterfield Fa**	**98.24**	**57**	P		Pdif		09 50 54.6	+0.3
	baz=98								
KURK	**Kurchatov**	**98.28**	**320**	PFAKE				09 51 10.0	+16
KURK				LR		LR			
	comp=Z,3μm,22.0s								
KSH	**Kashi**	**98.31**	**309**	P		Pdif		09 50 56.1	+1.6
KSH				pP		PcP		09 51 00.9	+6.4
KSH				S		**S**		**10 02 18.7**	**+0.5**
KSH				SS		**SS**		**10 09 04.8**	**+1.6**
KSH				AMB		AMB			
	comp=Z,750nm,7.1s								
KSH				LR		LR			
	comp=Z,2μm,23.0s								
KSH				LR		LR			
	comp=Z,3μm,19.4s								
KSH				LR		LR			
	comp=Z,4μm,21.3s								
631A	**Perdido Creek**	**98.43**	**62**	P		Pdif		09 50 55.2	+0.1
	baz=99								
531A	**Rocksprings**	**98.58**	**61**	P		Pdif		09 50 56.5	+0.7
	baz=99								
Z30A	**Sanderson Ranc**	**98.59**	**58**	P		Pdif		09 50 57.0	+1.2
	baz=99								
N27A	**Anderson Farm,**	**98.67**	**50**	P		Pdif		09 50 57.4	+1.4
	baz=99								
DGMT	**Dagmar**	**98.68**	**42**	PFAKE				09 51 10.0	+14
DGMT				LR		LR			
	comp=Z,2μm,19.0s								
OGNE	**Ogallala**	**99.06**	**50**	PFAKE				09 51 10.0	+12
OGNE				LR		LR			
	comp=Z,9μm,20.0s								
TKM2	**Tokmak 2**	**99.12**	**312**	*e*P		**Pdif**		**09 50 57.8**	**-0.3**
TKM2				pmax		pmax			
	comp=Z,11nm,0.9s								
TKM2	**Tokmak 2**	**99.12**	**312**	PFAKE				09 51 10.0	+12
TKM2				LR		LR			
	comp=Z,3μm,22.0s								
TKM2	**Tokmak 2**	**99.12**	**312**	*e*P		**Pdif**		**09 50 57.8**	**-0.3**
	comp=Z,11nm,0.9s								
632A	**Uvalde**	**99.12**	**62**	P		**Pdif**		**09 50 58.9**	**+0.7**
	baz=99								
JCT	**Junction City**	**99.26**	**61**	*e*pP		**pP**		**09 51 15.3**	**+0.1**
JCT				LR		LR			
	comp=Z,6μm,22.0s								
FRU	**Bishkek**	**99.82**	**312**	*e*P		**Pdif**		**09 51 01.0**	**0.0**
FRU				*i*				09 51 14.0	
FRU				pmax		pmax			
	comp=Z,80nm,2.2s								
FRU				MLR		MLR			
	comp=Z,3μm,23.0s								
AAK	**Ala-Archa**	**99.88**	**312**	*e*P		**Pdif**		**09 51 01.5**	**+0.1**
AAK				MLR		MLR			
	comp=Z,2μm,22.0s								
AAK	**Ala-Archa**	**99.88**	**312**	*e*Pdif		**Pdif**		**09 51 01.5**	**+0.1**
AAK				LR		LR			
	comp=Z,2μm,22.0s								
EKS2	**Erkin-Say**	**100.41**	**311**	PFAKE				09 51 20.0	+16
EKS2				LR		LR			
	comp=Z,2μm,22.0s								
KVTX	**Kingsville**	**100.47**	**64**	PFAKE				09 51 20.0	+16
KVTX				LR		LR			
	comp=Z,2μm,20.0s								
WMOK	**Wichita Mounta**	**100.73**	**57**	PFAKE				09 51 20.0	+15
WMOK				LR		LR			
	comp=Z,8μm,20.0s								
FFC	**Flin Flon**	**100.88**	**36**	PFAKE				09 51 20.0	+15
FFC				LR		LR			
	comp=Z,4μm,20.0s								
BHJ	**Bhuj**	**101.14**	**291**	*e*P		**Pdif**		**09 51 06.9**	**-0.3**
PAYG	**Puerto Ayora**	**102.64**	**94**	PFAKE				09 51 30.0	+16
PAYG				LR		LR			
	comp=Z,3μm,22.0s								
KK31	**Karatay Array**	**102.84**	**312**	*i* P		**Pdif**		**09 51 13.4**	**-1.0**
KK31				pmax		pmax			
	comp=Z,10.0nm,0.9s								
KKAR	**Karatay Array**	**102.84**	**312**	*e*P		**Pdif**		**09 51 13.3**	**-1.1**
KKAR	**Karatay Array**	**102.84**	**312**	*e*Pdif		**Pdif**		**09 51 13.3**	**-1.1**
KSU1	**Kansas State U**	**102.97**	**52**	PFAKE				09 51 30.0	+15
KSU1				LR		LR			
	comp=Z,4μm,20.0s								
ECSD	**EROS Data Cent**	**103.37**	**48**	PFAKE				09 51 30.0	+13
ECSD				LR		LR			
	comp=Z,3μm,21.0s								
BRVK	**Borovoye**	**103.66**	**322**	PFAKE				09 51 30.0	+12
BRVK				LR		LR			
	comp=Z,7μm,22.0s								
AGMN	**Agassiz Nation**	**104.19**	**43**	PFAKE				09 51 30.0	+10
AGMN				LR		LR			
	comp=Z,4μm,20.0s								
ULM	**Lac du Bonnet**	**104.27**	**41**	PKiKP		**PKiKP**		**09 55 35.2**	**-1.8**
ULM	**Lac du Bonnet**	**104.27**	**41**	PKiKP		**PKiKP**		**09 55 35.2**	**-1.8**
	comp=Z,4.8nm,0.8s,baz=262,slow=2.8,SNR=4.2								
MIAR	**Mount Ida**	**104.98**	**57**	PFAKE				09 55 50.0	
MIAR				LR		LR			
	comp=Z,6μm,20.0s								
SCIA	**State Center**	**105.75**	**50**	PFAKE				09 55 50.0	
SCIA				LR		LR			
	comp=Z,10μm,21.0s								
EYMN	**Ely**	**107.11**	**43**	PFAKE				09 55 50.0	
EYMN				LR		LR			
	comp=Z,4μm,22.0s								
VBMS	**Vicksburg**	**107.35**	**60**	PFAKE				09 56 00.0	
VBMS				LR		LR			
	comp=Z,4μm,22.0s								
JFWS	**Jewell Farm**	**107.98**	**49**	PFAKE				09 56 00.0	
JFWS				LR		LR			
	comp=Z,3μm,19.0s								
TEIG	**Tepich**	**108.23**	**73**	PFAKE				09 56 00.0	
TEIG				LR		LR			
	comp=Z,5μm,22.0s								
TGUH	**Tegucigalpa,Un**	**108.35**	**79**	PFAKE				09 56 00.0	
TGUH				LR		LR			
	comp=Z,3μm,20.0s								
MSEY	**Mahe Island**	**109.49**	**260**	PFAKE				09 56 00.0	
MSEY				LR		LR			
	comp=Z,5μm,21.0s								
JTS	**JuntasAbangare**	**110.00**	**83**	PFAKE				09 56 00.0	
JTS				LR		LR			
	comp=Z,3μm,20.0s								
BRAL	**Brewton**	**110.23**	**61**	PFAKE				09 56 00.0	
BRAL				LR		LR			
	comp=Z,2μm,19.0s								
AB31	**Akbulak array**	**110.23**	**318**	*i* P		**Pdif**		**09 51 52.2**	**+5.1**
LRAL	**Lakeview Retre**	**110.36**	**59**	PFAKE				09 56 00.0	
LRAL				LR		LR			
	comp=Z,5μm,20.0s								
IMON	**Monand**	**110.84**	**301**	*e*P		**PKiKP**		**09 55 48.4**	**-1.7**
LCO	**Las Campanas**	**111.00**	**128**	PFAKE				09 56 00.0	
LCO				LR		LR			
	comp=Z,3μm,21.0s								
AKTO	**Aktyubinsk**	**111.36**	**319**	PKKPbc		PKKPbc		10 06 44.2	-3.1
AKTO	**Aktyubinsk**	**111.36**	**319**	PKKPbc		PKKPbc		10 06 44.2	-3.1
	comp=Z,1.6nm,0.6s,baz=66,slow=2.0,SNR=6.2								
IAKL	**Akhelmad**	**111.62**	**305**	*e*P		**PKiKP**		**09 55 49.4**	**-2.2**
TRQA	**Tornquist**	**112.22**	**140**	PFAKE				09 56 00.0	
TRQA				LR		LR			
	comp=Z,4μm,21.0s								
KBS	**Kingsbay**	**112.41**	**355**	PFAKE				09 56 00.0	
KBS				LR		LR			
	comp=Z,2μm,21.0s								
ISHV	**Shirvan**	**112.45**	**306**	*e*P		**PKiKP**		**09 55 53.3**	**+0.3**
BSY	**Bisya**	**112.47**	**290**	PKiKP		**PKiKP**		**09 55 52.8**	**-0.4**
	SNR=6.4								
ABPO	**Ambohimpanom**	**112.58**	**243**	PFAKE				09 56 10.0	
ABPO				LR		LR			
	comp=Z,4μm,22.0s								
ACSO	**Alum Creek Sta**	**113.50**	**51**	PFAKE				09 56 10.0	
ACSO				LR		LR			
	comp=Z,7μm,21.0s								
OTAV	**Otavalo**	**114.37**	**95**	PFAKE				09 56 10.0	+12
OTAV				LR		LR			
	comp=Z,3μm,20.0s								
BCIP	**Isla Barro Col**	**114.78**	**86**	PFAKE				09 56 10.0	+12
BCIP				LR		LR			
	comp=Z,3μm,21.0s								
LVC	**Limon Verde**	**115.39**	**123**	PFAKE				09 56 10.0	+11
LVC				LR		LR			
	comp=Z,2μm,21.0s								
ERPA	**Erie**	**115.59**	**49**	PFAKE				09 56 10.0	+11
ERPA				LR		LR			
	comp=Z,8μm,22.0s								
BLA	**Blacksburg**	**115.69**	**55**	PFAKE				09 56 10.0	+11
BLA				LR		LR			
	comp=Z,6μm,20.0s								
MCWV	**Mont Chateau**	**115.95**	**52**	PFAKE				09 56 10.0	+11
MCWV				LR		LR			
	comp=Z,10μm,20.0s								
IPAR	**Pars**	**116.46**	**297**	*e*P		**PKPdf**		**09 56 00.5**	**-0.6**
ISFB	**Sefidab**	**117.01**	**302**	*e*P		**PKPdf**		**09 55 59.8**	**-1.9**
APA	**Apatity**	**117.06**	**342**	*i*/PKiKP		**PKPdf**		**09 55 55.8**	**-4.8**
APA				*i* PS		**PS**		**10 06 54.0**	**-1.1**
IVRN	**Varamin**	**117.39**	**303**	*e*P		**PKPdf**		**09 56 01.9**	**-0.5**
KEV	**Kevo**	**117.40**	**345**	*e*pkp		**PKPdf**		**09 56 00.1**	**-1.1**
KEV	**Kevo**	**117.40**	**345**	PFAKE				09 56 10.0	+8.8
KEV				LR		LR			
	comp=Z,3μm,22.0s								
IKAZ	**Kazeroun**	**117.51**	**297**	*e*P		**PKPdf**		**09 56 01.3**	**-1.8**
CNNC	**Cliffs of the**	**117.86**	**57**	PFAKE				09 56 20.0	+17
CNNC				LR		LR			
	comp=Z,5μm,20.0s								
ARA0	**ARCESS Array S**	**117.92**	**346**	*e*PKPdf		**PKPdf**		**09 56 02.3**	**0.0**
ARCES	**ARCESS Array B**	**117.92**	**346**	PKP		**PKPdf**		**09 56 00.0**	**-2.3**
ARCES				PKKPbc		PKKPbc		10 06 20.0	-5.3
ARCES	**ARCESS Array B**	**117.92**	**346**	PKP		**PKPdf**		**09 56 00.0**	**-2.3**
	comp=Z,6.6nm,0.6s,baz=75,slow=2.0,SNR=47								
ARCES				PKPbc		PKKPbc		10 06 20.0	-5.3
	comp=Z,5.4nm,0.8s,baz=228,slow=2.4,SNR=11								
CBN	**Corbin**	**118.01**	**53**	PFAKE				09 56 20.0	+17
CBN				LR		LR			
	comp=Z,9μm,22.0s								
SUMG	**Summit**	**118.11**	**8**	*i* P		**PKKPbc**		**10 06 24.0**	**-1.2**
	comp=Z,8.6nm,1.0s								
SUMG				*i*				10 06 44.1	
IGZV	**Ghazvin**	**118.50**	**305**	*e*P		**PKPdf**		**09 56 00.8**	**-3.9**
BINY	**Binghamton**	**118.53**	**49**	PFAKE				09 56 20.0	+16
BINY				LR		LR			
	comp=Z,8μm,22.0s								
LPAZ	**La Paz**	**118.79**	**117**	PKP		**PKPdf**		**09 56 05.2**	**-1.1**
LPAZ				*e*PKPdf		**PKiKP**		**09 56 05.7**	**-0.7**
LPAZ				PKKPbc		PKKPbc		10 06 15.3	-6.3
LPAZ	**La Paz**	**118.79**	**117**	PKP		**PKPdf**		**09 56 05.2**	**-1.1**
	comp=Z,1.6nm,0.6s,baz=262,slow=4.2,SNR=10.0								
LPAZ				PKKPbc		PKKPbc		10 06 15.3	-6.3
	comp=Z,1.3nm,0.9s,baz=176,slow=4.0,SNR=3.7								
IRAZ	**Razeghan**	**118.83**	**304**	*e*P		**PKPdf**		**09 56 05.2**	**-0.1**
LONY	**Lake Ozonia**	**119.09**	**46**	PFAKE				09 56 20.0	+

PKME Peaks-Kenny Pk 122.59 44 PFAKE 09 56 20.0 +8.1
PKME LR LR
comp=Z,4µm,20.0s
ONI Oni 122.64 313 P **PKPdf** **09 56 13.1 +0.9**
ONI S **PP** **09 57 52.5 +2.4**
VSR Storozhevoye 122.71 324 *e*PKIKP **PKPdf** **09 56 10.8 -1.2**
VSR *e* 10 03 18.4
VSR pmax pmax
comp=Z,20nm,0.9s
VSR pmax pmax
comp=N,7.0nm,0.5s
VSR pmax pmax
comp=E,10.0nm,0.7s
VSR pmax pmax
comp=Z,220nm,5.7s
VSR pmax pmax
comp=N,120nm,5.9s
VSR pmax pmax
comp=E,90nm,5.0s
VSR MLR MLR
comp=Z,4µm,24.0s
VSR MLR MLR
comp=N,2µm,23.0s
VSR MLR MLR
comp=E,1µm,17.0s
VORD Divnogorie 122.73 323 *e*PKIKP **PKPdf** **09 56 10.4 -1.6**
VORD *e* 09 57 46.8
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD pmax pmax
comp=E,90nm,0.7s
VORD pmax pmax
comp=Z,170nm,5.2s
VORD pmax pmax
comp=E,220nm,8.2s
VORD MLR MLR
comp=Z,2µm,21.0s
VORD MLR MLR
comp=E,1µm,22.0s
KIV Kislovodsk 122.83 315 *i* PKIKP **PKPdf** **09 56 13.0 +0.4**
KIV *e* 09 56 27.1
KIV *i* 09 57 51.2
KIV PS **PS** **10 07 49.3 +1.2**
KIV pmax pmax
comp=Z,28nm,1.2s
KAF Kangasniemi 122.88 339 *e*pkp **PKPdf** **09 56 10.0 -2.0**
AKH Akhalkalaki 122.88 311 P **PKPdf** **09 56 13.6 +0.7**
AKH S **PP** **09 57 52.9 +1.0**
CLDR Caldiran 123.04 309 *e*P **PKPdf** **09 56 14.1 +0.7**
RAYN Ar Rayn 123.26 290 *e*PKPdf **PKPdf** **09 56 12.8 -1.1**
FINES FINESS Array B 123.41 339 PKP **PKPdf** **09 56 12.8 -0.2**
FINES FINESS Array B 123.41 339 PKP **PKPdf** **09 56 12.8 -0.2**
comp=Z,10nm,0.8s,baz=134,slow=5.5,SNR=12
SDV Santo Domingo 123.71 88 PFAKE 09 56 30.0 +15
SDV LR LR
comp=Z,7µm,20.0s
SDDR Presa de Saban 124.09 75 PFAKE 09 56 30.0 +14
SDDR LR LR
comp=Z,2µm,20.0s
GRTK Grand Turk 124.30 72 PFAKE 09 56 30.0 +14
GRTK LR LR
comp=Z,2µm,20.0s
BOSA Boshof 124.64 222 PKP **PKPdf** **09 56 16.1 -0.6**
BOSA *e*PKPdf **PKiKP** **09 56 16.6 -0.4**
BOSA Boshof 124.64 222 PKP **PKPdf** **09 56 16.1 -0.6**
comp=Z,10nm,0.8s,baz=142,slow=0.9,SNR=12
SUR Sutherland 124.69 215 PFAKE 09 56 30.0 +13
SUR LR LR
comp=Z,3µm,22.0s
EZM Erzurum 124.81 310 *e*P **PKPdf** **09 56 16.8 0.0**
SOC Sochi 125.00 315 *i* PKIKP **PKPdf** **09 56 16.0 -0.6**
SOC *e* 09 58 03.6
SOC *e*PPP PPP 10 00 42.0
SOC pmax pmax
comp=Z,21nm,0.9s
SOC MLR MLR
comp=Z,3µm,22.0s
GUMT Gumushane 126.06 311 *e*P **PKPdf** **09 56 19.5 +0.5**
MAZI Mazidag 126.06 307 *e*P **PKPdf** **09 56 19.1 +0.1**
SAML Samuel 126.13 111 *e*PKPdf **PKPdf** **09 56 18.0 -1.6**
SAML LR LR
comp=Z,2µm,22.0s
EZC Erzincan 126.34 310 *e*P **PKPdf** **09 56 19.8 +0.2**
PTK Pertek 126.53 309 *e*P **PKPdf** **09 56 21.3 +1.3**
MICGM Minsk 127.06 331 *e*P **PKPdf** **09 56 18.0 -2.2**
MNK Minsk 127.08 331 *e*PKIKP **PKPdf** **09 56 18.0 -2.3**
MNK MLR MLR
comp=Z,4µm,21.0s
NACGM Naroch 127.33 332 *e* **PKPdf** **09 56 18.0 -2.7**
MALT Malatya 127.41 309 *e*P **PKPdf** **09 56 22.2 +0.7**
MALT Malatya 127.41 309 ||*i*P **PKPdf** **09 56 21.8 +0.2**
RSDY Resadiye-TOKAT 127.66 312 *e*P **PKPdf** **09 56 21.8 -0.1**
KMBO Kilima Mbogo 127.97 259 PKP **PKPdf** **09 56 22.9 -0.7**
KMBO LR LR
comp=Z,4µm,20.0s
KMBO Kilima Mbogo 127.97 259 PKP **PKPdf** **09 56 22.9 -0.7**
comp=Z,3.2nm,0.8s,baz=29,slow=21,SNR=8.5
DARE Darende-Malaty 128.06 309 *e*P **PKPdf** **09 56 25.8 +3.0**
SIM Simferopol' **128.29 318** *i* PKIKP **PKPdf** **09 56 26.0 +3.1**
SIM *e* 09 58 25.0
SIM *e*SS SS 10 16 03.0 +24
SIM pmax pmax
comp=Z,23nm,0.7s
SIM pmax pmax
comp=Z,550nm,9.3s
SIM MLR MLR
comp=Z,3µm,24.7s
NB2 NORSAR Subarra128.30 345 PKPdf **PKPdf** **09 56 22.1 -0.4**
comp=Z,32nn,1.2s,baz=31,slow=1.9
NB2 NORSAR Subarra128.30 345 PKPdf **PKPdf** **09 56 22.1 -0.4**
baz=31,slow=1.9
NOA NORSAR Array B 128.30 345 PKP **PKPdf** **09 56 22.1 -0.4**
NOA NORSAR Array B 128.30 345 PKP **PKPdf** **09 56 22.1 -0.4**
comp=Z,5.3nm,0.9s,baz=35,slow=2.0,SNR=9.4
NBO02 NORSAR Array S 128.38 345 *e*PKPdf **PKPdf** **09 56 22.8 +0.2**
AKASG Malin Array Be 128.52 327 PKIKP **PKPdf** **09 56 21.8 -1.4**
AKASG 09 58 26.9
AKASG pmax pmax
comp=Z,11nm,1.0s
AKASG pmax pmax
comp=Z,4.0nm,1.0s
AKASG Malin Array Be 128.52 327 PKP **PKPdf** **09 56 21.8 -1.4**
AKASG PP **PP** **09 58 26.9 -1.8**
AKASG Malin Array Be 128.52 327 PKP **PKPdf** **09 56 21.8 -1.4**
comp=Z,10nm,1.0s,baz=55,slow=2.0,SNR=23
AKASG PP **PP** **09 58 26.9 -1.8**
comp=Z,3.7nm,0.9s,baz=53,slow=6.6,SNR=3.2
KIEV Kiev 128.53 327 *e*PKIKP **PKPdf** **09 56 23.1 -0.1**
KIEV MLR MLR
comp=Z,3µm,20.0s
KIEV Kiev 128.53 327 *e*PKPdf **PKPdf** **09 56 23.1 -0.1**
KIEV LR LR
comp=Z,3µm,20.0s
SJG San Juan 128.93 77 PFAKE 09 56 40.0 +15
SJG LR LR
comp=Z,2µm,22.0s
BBSR BB Station 129.12 58 PFAKE 09 56 40.0 +15
BBSR LR LR
comp=Z,2µm,20.0s
BZK Bozkurt 129.51 315 *e*P **PKPdf** **09 56 24.2 -1.1**
CORM Corum 129.68 312 *e*P **PKPdf** **09 56 24.2 -1.7**
KONO Kongsberg 129.91 345 PFAKE 09 56 40.0 +15
KONO LR LR
comp=Z,2µm,22.0s
LSZ Lusaka 130.47 237 PFAKE 09 56 40.0 +12
LSZ LR LR
comp=Z,6µm,21.0s
BRTR Keskin Array B 130.55 312 PKP **PKPdf** **09 56 26.4 -1.2**
BRTR PP **PP** **09 58 40.6 -2.0**
BRTR SKPbc **SKPab** **09 59 49.0 +2.5**
BRTR Keskin Array B 130.55 312 PKP **PKPdf** **09 56 26.4 -1.2**
comp=Z,5.4nm,0.8s,baz=132,slow=3.5,SNR=17
BRTR PP **PP** **09 58 40.6 -2.0**
comp=Z,4.0nm,0.9s,baz=89,slow=4.8,SNR=3.8
BRTR SKPbc **SKPab** **09 59 49.0 +2.5**
comp=Z,5.6nm,0.8s,baz=99,slow=5.1,SNR=2.6
KIS Kishinev 130.67 323 *e*PKP **PKPdf** **09 56 26.0 -1.3**
KIS Kishinev 130.67 323 *i* PsP x 09 56 42.0
KIS Kishinev 130.67 323 *e*PPS **PKKSdf** **10 10 10.0 +3.9**
KIS LRM MLR 10 51 50.0
comp=Z,4µm,25.0s
SPB Sao Paulo 131.07 137 PFAKE 09 56 40.0 +11
SPB LR LR
comp=Z,2µm,21.0s
ANTO Ankara 131.11 313 *e*PKIKP **PKPdf** **09 56 29.1 +0.5**
ANTO MLR MLR
comp=Z,2µm,22.0s
ANTO Ankara 131.11 313 *e*P **PKPdf** **09 56 28.4 -0.2**
ANTO Ankara 131.11 313 ||*i*P **PKPdf** **09 56 28.8 +0.3**
ANTO Ankara 131.11 313 *e*PKPdf **PKPdf** **09 56 29.1 +0.5**
ANTO LR LR
comp=Z,2µm,22.0s
BR231 Keskin MP Arra 131.14 312 *e*PKPdf **PKPdf** **09 56 27.1 -1.5**
TLCR 131.56 321 ||*i*P **PKPdf** **09 56 30.0 +0.9**
LVV L'vov 131.76 328 *d i*PKIKP **PKPdf** **09 56 29.2 -0.1**
CFR Carcaliu 131.99 321 ||*i*P **PKPdf** **09 56 30.5 +0.6**
LFK Lefkose 132.01 306 *e*P **PKPdf** **09 56 31.5 +1.2**
BSD Bornholm Skovb 132.05 338 *i* P **PP** **09 58 54.2 +3.1**
BSD
comp=Z,3µm,24.0s
KIZT Kizilcal 132.12 312 *e*P **PKPdf** **09 56 31.2 +0.7**
AKIN Ak¨–nc¨–lar- K 132.14 306 *e*P PKPdf 09 56 42.3 +12
TIRR Tirgusor 132.16 320 ||*i*P **PKPdf** **09 56 31.1 +0.9**
TESR Tescani 132.20 323 ||*i*P **PKPdf** **09 56 30.2 -0.1**
CSS Prodhromos 132.26 306 P **PKPdf** **09 56 30.3 -0.5**
CSS Prodhromos 132.26 306 PFAKE 09 56 40.0 +9.2
CSS LR LR
comp=Z,2µm,22.0s
TLB Topalu 132.34 320 ||*i*P **PKPdf** **09 56 31.1 +0.6**
HARR Harsova 132.35 320 ||*i*P **PKPdf** **09 56 31.8 +1.2**
BURAR Bucovina Array 132.41 325 ||*i*P **PKPdf** **09 56 32.3 +1.5**
BUR04 Bucovina Ar. S 132.42 325 *e*PKPdf **PKPdf** **09 56 31.6 +0.8**
COP Copenhagen 132.44 340 *i* P **PP** **09 58 53.9 +0.3**
COP
comp=Z,1µm,24.0s
VRI Vrincioaia 132.49 322 ||*i*P **PKPdf** **09 56 30.6 -0.3**
GULT Gulveren 132.52 314 *e*P **PKPdf** **09 56 30.5 -0.7**
KWP Kalwaria Pacla 132.55 329 PFAKE 09 56 40.0 +9.1
KWP LR LR
comp=Z,4µm,22.0s
LEF Lefka 132.56 306 *e*P **PKPdf** **09 56 29.9 -1.4**
PSN Preselentsi 132.68 319 *i* P **PKPdf** **09 56 32.5 +1.3**
MSAB Monastry St. A 132.71 320 ||*i*P **PKPdf** **09 56 33.5 +2.2**
GRGR Grenville 132.89 85 PFAKE 09 56 50.0 +18
GRGR LR LR
comp=Z,2µm,22.0s
ADVT Abdulvahap 133.06 314 *e*P **PKPdf** **09 56 31.2 -0.9**
ANWB Willy Bob 133.07 77 PFAKE 09 56 50.0 +17
ANWB LR LR
comp=Z,2µm,21.0s
CAVI Cavuskoy 133.09 314 *e*P **PKPdf** **09 56 32.5 +0.4**
ISK Istanbul-Kandi 133.27 316 P **PKPdf** **09 56 31.6 -0.9**
ISK Istanbul-Kandi 133.27 316 *e*P **PKPdf** **09 56 31.5 -0.9**
SECR 133.32 322 ||*i*P **PKPdf** **09 56 32.8 +0.3**
UZH Uzhgorod 133.39 328 *e*PKIKP **PKPdf** **09 56 32.0 -0.4**
UZH *e* 09 56 45.3
UZH *i* 10 21 37.0
PRD Provadia 133.41 319 *i* P **PKPdf** **09 56 33.7 +1.1**
BGKT Bogazkoy 133.42 316 *e*P **PKPdf** **09 56 33.2 +0.5**
STHS Stebnicka Huta 133.43 329 *e*PKP **PKPdf** **09 56 34.4 +1.9**
STHS *e* 09 56 53.5
STHS *e*PP **PP** **09 59 02.5 +2.2**
GEMT Gemlik 133.45 315 *e*P **PKPdf** **09 56 30.2 -2.6**
ISP Isparta 133.50 311 P **PKPdf** **09 56 31.6 -1.5**
ISP Isparta 133.50 311 *e*P **PKPdf** **09 56 30.9 -2.2**
ISP Isparta 133.50 311 PFAKE 09 56 50.0 +17
ISP LR LR
comp=Z,1µm,21.0s
TRPA Tarpa 133.57 327 ||*i*P **PKPdf** **09 56 34.0 +1.2**
OJC Ojcow 133.60 331 *e*PKIKP **PKPdf** **09 56 34.3 +1.5**
OJC Ojcow 133.60 331 *e*PKPdf **PKPdf** **09 56 34.3 +1.5**
OJC Ojcow 133.60 331 *e*PKPdf **PKPdf** **09 56 30.8 -2.0**
OJC *e*PP **PP** **09 58 59.1 -2.2**
OJC L L 10 54 51.0
comp=Z,5µm,21.9s
CTYL Yal??k??y-??at 133.62 316 *e*P **PKPdf** **09 56 30.5 -2.5**
ARMT Armutlu 133.62 315 *e*P **PKPdf** **09 56 31.9 -1.3**
TVSB Tavsanli 133.66 313 *e*P **PKPdf** **09 56 32.2 -1.2**
MDNY Mudanya-Bursa 133.69 315 *e*P **PKPdf** **09 56 33.5 +0.3**
VOIR 133.72 323 ||*i*P **PKPdf** **09 56 35.0 +1.7**
NIE Niedzica 133.88 330 *e*PKPdf **PKPdf** **09 56 32.6 -0.8**
NIE *e* 09 59 04.6
NIE *e*SS SS 10 16 46.9 +0.8
NIE L L 10 57 07.0
comp=Z,3µm,21.3s
ARR Arges 134.00 323 ||*i*P **PKPdf** **09 56 34.8 +1.0**
PHSR Pinarhisar 134.06 317 *e*P **PKPdf** **09 56 34.6 +0.6**
DRGR 134.28 326 ||*i*P **PKPdf** **09 56 34.5 +0.2**
JMB Yambol 134.29 318 P **PKPdf** **09 56 33.9 -0.4**
JMB Yambol 134.29 318 *e*P **PKPdf** **09 56 33.6 -0.7**
SZH Strazhica 134.31 320 *i* P **PKPdf** **09 56 35.2 +0.8**
ELL Elmali 134.34 310 *e*P **PKPdf** **09 56 33.2 -1.6**
MBAR Mbarara 134.34 257 PFAKE 09 56 50.0 +15
MBAR LR LR
comp=Z,876nm,22.0s
KULA Kula-Manisa 134.60 312 P **PKPdf** **09 56 34.6 -0.6**
KULA Kula-Manisa 134.60 312 *e*P **PKPdf** **09 56 34.6 -0.6**
OKC Ostrava-Krasne 134.64 332 *e*PKIKP **PKPdf** **09 56 36.5 +1.8**
OKC *e* 09 56 51.8
OKC MLR MLR
comp=Z,4µm,26.7s
OKC Ostrava-Krasne 134.64 332 *e*PKPdf **PKPdf** **09 56 36.5 +1.8**
OKC *ep*PKP **pPKPdf** **09 56 51.8 +0.2**
OKC *e*PP PP 09 59 01.0 -6.9
OKC *e*SKP 10 00 07.1
OKC AMS AMS 10 51 00.0
comp=Z,4µm,26.7s
GONE Gonen-Balikesi 134.65 315 *e*P **PKPdf** **09 56 33.2 -1.9**
PVL Pavlikeni 134.72 320 *i* P **PKPdf** **09 56 35.3 +0.2**
RKY Sarkoy-Tekirda 134.72 316 *e*P **PKPdf** **09 56 36.2 +1.0**
KRBG Karabiga-Canak 134.77 315 *e*P **PKPdf** **09 56 31.9 -3.4**
BBGH Gun Hill 135.02 84 PFAKE 09 56 50.0 +14
BBGH LR LR
comp=Z,4µm,20.0s
PSZ Piszkesteto 135.08 328 *e*PKIKP **PKPdf** **09 56 38.7 +2.9**
PSZ MLR MLR
comp=Z,2µm,19.0s
PSZ Piszkesteto 135.08 328 ||*i*P **PKPdf** **09 56 38.6 +2.9**
PSZ Piszkesteto 135.08 328 *e*PKPdf **PKPdf** **09 56 38.7 +2.9**
PSZ LR LR
comp=Z,2µm,19.0s
DPC Dobruska-Polom 135.10 333 *e*PKIKP **PKPdf** **09 56 36.7 +1.0**
DPC *e* 09 56 51.5
DPC Dobruska-Polom 135.10 333 *e*PKPdf **PKPdf** **09 56 36.7 +1.0**
DPC *ep*PKP **pPKPdf** **09 56 51.5 -1.0**
DPC *e*PP PP 09 59 04.1 -6.7
DPC *e*SKP 10 00 05.9
DPC AMS AMS 10 55 30.0
DPC Dobruska-Polom 135.10 333 *e*PKPdf **PKPdf** **09 56 38.4 +3.1**
UPC Upice 135.12 334 *e*PKIKP **PKPdf** **09 56 36.2 +0.6**
UPC *e* 09 56 51.1
UPC Upice 135.12 334 *e*PKPdf **PKPdf** **09 56 36.2 +0.6**
UPC *ep*PKP **pPKPdf** **09 56 51.1 -1.4**
UPC *ex* x 09 59 40.1
LPK Lapseki 135.15 316 *e*P **PKPdf** **09 56 33.9 -2.1**
SIRR Siria 135.18 326 ||*i*P **PKPdf** **09 56 38.9 +3.0**
DALY Dalyan (Mu¨la 135.25 310 *e*P **PKPdf** **09 56 32.9 -3.4**
AYDB Zeytinkoy-Aydi 135.38 312 *e*P **PKPdf** **09 56 36.6 -0.1**
ALN Alexandroupoli 135.39 317 P **PKPdf** **09 56 34.6 -1.8**
ALN Alexandroupoli 135.39 317 *e*P **PKPdf** **09 56 34.1 -2.3**
ALN Alexandroupoli 135.39 317 *e*P **PP** **09 59 12.3 -0.9**
YER Yerkesik 135.41 311 *e*P **PKPdf** **09 56 35.2 -1.4**
BZS Buzias 135.60 325 ||*i*P **PKPdf** **09 56 36.8 +0.1**
RDO Rodhopi 135.61 317 *e*P **PP** **09 59 13.3 -1.2**
PLD Plovdiv 135.68 319 P **PKPdf** **09 56 35.9 -1.0**
BRG Berggiesshubel 135.71 335 *e*PDIF **Pdif** **09 53 43.8 +3.4**
comp=Z,4.7nm,1.0s
BRG *e* 09 54 34.2
comp=Z,12nm,1.2s
BRG Berggiesshubel 135.71 335 *e*PKP **PKPdf** **09 56 38.2 +1.5**
comp=Z,42nm,1.6s
BRG *ep*PKP **pPKPdf** **09 56 57.8 +4.2**
comp=Z,48nm,1.4s
BRG PP **PP** **09 59 17.0 +2.5**
BRG SKP 10 00 11.0
BRG SS SS 10 17 19.0 +11
BRG
comp=N,4µm,29.5s
BRG
comp=E,3µm,28.8s
BRG
comp=Z,3µm,30.2s
BRG Berggiesshubel 135.71 335 *e*PKIKP **PKPdf** **09 56 38.2 +1.5**
BRG 09 59 17.0
BRG pmax pmax
comp=Z,42nm,1.6s
BRG pmax pmax
comp=Z,48nm,1.4s
BRG MLR MLR
comp=N,4µm,29.5s
BRG MLR MLR
comp=E,3µm,28.8s
BRG MLR MLR
comp=Z,3µm,30.2s
PVCC Panska Ves 135.72 335 *e*PKIKP **PKPdf** **09 56 38.5 +1.8**
PVCC *e* 09 56 53.5
PVCC *e* 09 59 14.4
PVCC MLR MLR
comp=Z,4µm,24.7s
PVCC Panska Ves 135.72 335 *e*PKPdf **PKPdf** **09 56 38.5 +1.8**
PVCC *ep*PKP **pPKPdf** **09 56 53.5 -0.1**
PVCC *e*PP **PP** **09 59 14.4 -0.2**
PVCC AMS AMS 10 53 20.0
comp=Z,4µm,24.7s
VRAC Vranov 135.73 332 ||*i*P **PKPdf** **09 56 39.9 +3.1**
CLL Collm 135.75 336 *i* PKIKP **PKPdf** **09 56 36.1 -0.7**
CLL *e* 09 59 14.0
CLL pmax pmax
comp=Z,14nm,1.8s
CLL MLR MLR
comp=Z,2µm,20.7s
CLL Collm 135.75 336 *i* PKPdf **PKPdf** **09 56 36.1 -0.7**
comp=Z,44nm,1.8s
CLL *i* sPKPdf **sPKPdf** **09 56 53.1 -6.7**
CLL *i* sPKiKP **sPKiKP** **09 56 57.9 -3.4**
comp=Z,24nm,0.9s
CLL *e*PP **PP** **09 59 15.0 +0.3**
CLL *e*PPlp 09 59 16.0
comp=Z,1µm,19.6s
CLL *es*PP 09 59 30.0
CLL *i* SKPab **SKiKP** **10 00 09.8 0.0**
CLL *e*PKSab **PKSab** **10 00 15.0 +0.7**
CLL *es*SKPdf 10 00 30.0
CLL *e* 10 00 44.0
CLL *e*PPP PPP 10 02 18.0
CLL *es*PS 10 09 55.0
CLL *e*SPP SPP 10 11 15.0
CLL *e*PPPrev 10 12 19.0
CLL *es*PPPrev 10 12 35.0
CLL *e*SS SS 10 17 18.0 +10
CLL *e*PSPS 10 18 12.0
CLL *e* 10 19 20.0
CLL *e*SSS SSS 10 22 12.0
CLL L L 10 59 00.0
comp=Z,2µm,20.7s
BDFB Brasilia 135.79 128 PKP **PKPdf** **09 56 37.0 -1.0**
BDFB *e*PKPdf **PKiKP** **09 56 38.3 -1.3**
BDFB SKPbc **SKPbc** **10 00 01.3 -3.7**
BDFB SKP 10 00 05.2
BDFB Brasilia 135.79 128 PKP **PKPdf** **09 56 37.0 -1.0**
comp=Z,10nn,0.8s,baz=190,slow=4.1,SNR=14
BDFB SKPbc **SKPbc** **10 00 01.3 -3.7**
comp=Z,1.2nm,0.4s,baz=225,slow=4.3,SNR=2.1
BDFB SKP 10 00 05.2
comp=Z,17nm,1.1s,baz=246,slow=3.2,SNR=6.5
ARG Arkhangelos 135.87 310 P **PKPdf** **09 56 37.6 +0.1**
ARG Arkhangelos 135.87 310 *e*P **PP** **09 59 14.4 -2.1**
SMTH Samothraki Isl 135.93 316 *e*P **PP** **09 59 15.8 -0.8**
PRK Paraskevi 135.99 315 P **PKPdf** **09 56 36.7 -0.9**
PRK Paraskevi 135.99 315 *e*P **PP** **09 59 16.3 -0.7**
PRA Prague 136.12 334 PKPdf **PKPdf** **09 56 39.0 +1.5**
PRA PP PP 09 58 16.0 -61
PRU Pruhonice 136.13 334 *e*PKIKP **PKPdf** **09 56 38.9 +1.4**
PRU *e* 09 56 51.7
PRU *e* 09 59 16.2
PRU *es*SS SS 10 17 39.8 +27
PRU MLR MLR
comp=Z,4µm,24.7s
PRU Pruhonice 136.13 334 *e*PKPdf **PKPdf** **09 56 38.9 +1.4**
PRU *ep*PKP **pPKPdf** **09 56 51.7 -2.7**
PRU *e*PP **PP** **09 59 16.2 -1.0**
PRU *e*SKP 10 00 11.8
PRU *ex* x 10 17 39.8
PRU AMS AMS 10 53 30.0
comp=Z,4µm,24.7s
TSUM Tsumeb 136.16 225 *e*PKPdf **PKPdf** **09 56 38.5 -0.2**
TSUM LR LR
comp=Z,6µm,20.0s
TREC Trest 136.24 333 *e*PKIKP **PKPdf** **09 56 40.0 +2.2**
TREC MLR MLR
comp=Z,5µm,24.2s
TREC Trest 136.24 333 *e*PKPdf **PKPdf** **09 56 40.0 +2.2**
TREC AMS AMS 10 56 20.0
comp=Z,5µm,24.2s
SMG Samos 136.24 312 *e*P **PP** **09 59 17.2 -1.5**
KAVA Kavala 136.36 318 P **PKPdf** **09 56 37.7 -0.5**
VTS Vitosha 136.37 320 P **PKPdf** **09 56 37.2 -1.2**
VTS Vitosha 136.37 320 *e*P **PKPdf** **09 56 36.9 -1.6**
VTS Vitosha 136.37 320 ||*i*P **PKPdf** **09 56 38.4 0.0**
VTS Vitosha 136.37 320 *i* P **PKPdf** **09 56 37.8 -0.6**
NIS1 Nisyros Isl. 136.43 311 P **PKPdf** **09 56 37.1 -1.4**
NIS1 Nisyros Isl. 136.43 311 *e*P **PKPdf** **09 56 36.0 -2.5**
NIS1 Nisyros Isl. 136.43 311 *e*P **PP** **09 59 18.5 -1.5**
LIA Limnos Island 136.44 316 *e*P **PP** **09 59 17.2 -2.6**
CHOS Chios island 136.51 314 P **PKPdf** **09 56 37.4 -1.3**
ESK Eskdalemuir 136.52 352 PFAKE 09 56 50.0 +12
ESK LR LR
comp=Z,2µm,20.0s
MMB Musomiste 136.57 319 *i* P **PKPdf** **09 56 37.4 -1.3**
NVR Nevrokopi 136.61 318 P **PKPdf** **09 56 37.4 -1.3**
NVR Nevrokopi 136.61 318 *e*P **PP** **09 59 21.1 +0.3**
KKB Krupnik 136.84 320 *i* P **PKPdf** **09 56 39.6 +0.5**
KARP Karpathos 136.84 309 P **PKPdf** **09 56 37.9 -1.5**
KARP Karpathos 136.84 309 *e*P PP 09 59 15.7 -7.0
SRS Serrai 136.90 318 P **PKPdf** **09 56 37.4 -1.9**
OUR Ouranopolis 137.04 317 P **PKPdf** **09 56 38.2 -1.3**
OUR Ouranopolis 137.04 317 *e*P **PKPdf** **09 56 37.2 -2.3**
KHC Kasperske Hory 137.19 334 *e*PKIKP **PKPdf** **09 56 39.7 +0.1**
KHC *e* 09 56 54.4
KHC *e* 09 59 23.5
KHC *es*SS SS 10 17 56.3 +31
KHC MLR MLR
comp=Z,5µm,24.2s
KHC Kasperske Hory 137.19 334 *e*PKPdf **PKPdf** **09 56 39.7 +0.1**
KHC *ep*PKP **pPKPdf** **09 56 54.4 -2.1**
KHC *e*PP **PP** **09 59 23.5 -0.4**
KHC *e*SKP 10 00 04.0
KHC *ex* x 10 00 33.2
KHC *ex* x 10 17 56.3
KHC AMS AMS 10 54 20.0
comp=Z,5µm,24.2s
KHC Kasperske Hory 137.19 334 *e*PKPdf **PKPdf** **09 56 40.1 +0.5**
KNT Kendrikon 137.32 319 P **PKPdf** **09 56 38.2 -1.8**
GEC2 GERESS Array S 137.36 334 *e*PKIKP **PKPdf** **09 56 40.9 +0.9**
GEC2 GERESS Array S 137.36 334 *e*PKPdf **PKPdf** **09 56 40.9 +0.9**
GEC2 *e*PKPdf **PKiKP** **09 56 41.3 -0.6**
GERES GERESS Array B 137.36 334 PKP **PKPdf** **09 56 39.4 -0.6**
GERES SKPbc **SKPbc** **10 00 04.5 -4.2**
GERES SKPab **SKiKP** **10 00 12.7 -0.6**
GERES GERESS Array B 137.36 334 PKP **PKPdf** **09 56 39.4 -0.6**
comp=Z,5.3nm,0.8s,baz=90,slow=1.3,SNR=17
GERES SKPbc **SKPbc** **10 00 04.5 -4.2**
comp=Z,1.4nm,0.8s,baz=45,slow=4.6,SNR=2.6
GERES SKPab **SKiKP** **10 00 12.7 -0.6**
comp=Z,3.1nm,0.8s,baz=22,slow=1.1,SNR=3.6
PLG Polygyros 137.37 317 P **PKPdf** **09 56 37.7 -2.5**
PLG Polygyros 137.37 317 *e*P **PP** **09 59 26.6 +1.0**
PAIG Paliouri 137.44 317 P **PKPdf** **09 56 38.0 -2.3**
PAIG Paliouri 137.44 317 *e*P **PP** **09 59 23.0 -3.0**
APE Apeiranthos 137.45 312 P **PKPdf** **09 56 38.0 -2.4**
APE Apeiranthos 137.45 312 *e*P **PP** **09 59 25.5 -0.9**
HORT Hortiatis 137.49 318 P **PKPdf** **09 56 38.9 -1.6**
AOS Alonnisos 137.67 316 P **PKPdf** **09 56 38.8 -1.9**
AOS Alonnisos 137.67 316 *e*P **PKPdf** **09 56 39.7 -1.0**
AOS Alonnisos 137.67 316 *e*P **PP** **09 59 23.3 -4.2**
ZKR Zakros 137.72 309 *e*P **PP** **09 59 26.9 -1.2**
GRF Grafenberg Arr 137.72 336 *e*PKIKP **PKPdf** **09 56 42.0 +1.5**
GRF Grafenberg Arr 137.72 336 *e*PKPdf **PKPdf** **09 56 42.0 +1.5**
GRF *ep*PKPdf **pPKPdf** **09 56 59.9 +2.5**
GRF *e*L L 11 00 34.6
comp=Z,3µm,20.9s
SANT Santorini 137.79 311 PFAKE 09 56 50.0 +8.9
SANT LR LR
comp=Z,1µm,21.0s
NEO Neokhori 138.05 316 P **PKPdf** **09 56 39.6 -1.9**
NEO Neokhori 138.05 316 *e*P **PP** **09 59 25.2 -4.7**
MRKA Markates 138.09 315 P **PKPdf** **09 56 40.0 -1.5**
NPS Neapolis 138.12 310 P **PKPdf** **09 56 40.4 -1.3**
NPS Neapolis 138.12 310 *e*P **PP** **09 59 29.9 -0.7**

LIT	Litokhoron	138.14 318	P		PKPdf	09 56 39.0	-2.6	
PTL	Penteli	138.21 314	*e*P		PP	09 59 30.7	-0.2	
LAST	Lasithi	138.26 309	*e*P		PP	09 59 30.5	-1.0	
SMIA	Simia	138.27 316	P		PKPdf	09 56 41.2	-0.7	
ATHU	Athens Univers	138.30 314	P		PKPdf	09 56 40.0	-1.9	
SOKA	Soboth	138.34 330	⇑*i*PKPdf		PKPdf	09 56 36.9	-4.9	
	comp=Z,23nm,1.3s							
ATH	Athens Observa	138.35 314	*e*P		PP	09 59 30.7	-1.0	
FNA	Florina	138.50 319	P		PKPdf	09 56 41.0	-1.3	
KZN	Kozani	138.50 318	P		PKPdf	09 56 39.8	-2.5	
LKR	Lokris	138.52 315	P		PKPdf	09 56 40.4	-1.9	
LKR	Lokris	138.52 315	*e*P		PP	09 59 30.4	-2.4	
PHP	Peshkopia	138.59 321	P		PKPdf	09 56 41.4	-1.0	
IDI	Anoyia	138.65 310	P		PKPdf	09 56 42.0	-0.8	
IDI	Anoyia	138.65 310	*e*P		PP	09 59 33.1	-0.8	
IDI	Anoyia	138.65 310	PKP		PKPdf	09 56 42.0	-0.8	
IDI			*e*PKPdf		PKiKP	09 56 44.2	-0.7	
IDI			PP		PP	09 59 29.3	-4.6	
IDI	**Anoyia**	**138.65 310**	PKP		**PKPdf**	**09 56 42.0**	**-0.8**	
	comp=Z,20nm,0.8s,baz=30,slow=5.6,SNR=11							
IDI			PP		PP	09 59 29.3	-4.6	
	comp=Z,1.8nm,0.4s,baz=41,slow=12,SNR=2.3							
THL	Klokotos Trika	138.73 317	*e*P		PP	09 59 30.7	-3.3	
AGG	Agios Georgios	138.79 316	P		PKPdf	09 56 41.3	-1.5	
MEM	Membach	138.80 341	PKP		PKPdf	09 56 43.9	+1.4	
MEM			APKP		pPKPdf	09 57 01.4	+2.1	
MEM	Membach	138.80 341	*e*PKIKP		PKPdf	09 56 44.3	+1.9	
MEM	Membach	138.80 341	*e*PKPdf		PKPdf	09 56 44.3	+1.9	
LTK	Loutraki	138.84 315	P		PKPdf	09 56 40.6	-2.3	
LTK	Loutraki	138.84 315	*e*P		PP	09 59 33.3	-1.6	
DID	Didima	138.90 314	P		PKPdf	09 56 40.6	-2.5	
DID	Didima	138.90 314	*e*P		PP	09 59 33.1	-2.1	
NEST	Nestorio	138.91 319	P		PKPdf	09 56 42.2	-0.9	
DIDY	Didyma	138.93 314	P		PKPdf	09 56 41.3	-1.9	
MAKR	Makrakomi, Fth	138.93 316	P		PKPdf	09 56 41.3	-1.8	
DSF	Desfina	138.96 315	P		PKPdf	09 56 41.7	-1.5	
ACOR	Acrocorinthos	138.98 315	P		PKPdf	09 56 37.0	-6.2	
VISS	Visnje	139.06 330	*e*PKPdf		PKPdf	09 56 42.5	-0.5	
VISS			*e*			09 59 33.4		
BOJS	Bojanci	139.06 329	*e*PKPdf		PKPdf	09 56 42.8	-0.3	
BOJS			*e*			09 59 32.8		
VAM	Vamos	139.12 310	*e*P		PP	09 59 35.8	-0.9	
TIR	Tirane	139.13 321	*e*P		PP	09 59 49.9	+14	
TIR	Tirane	139.13 321	PFAKE			09 57 00.0	+17	
TIR			LR		LR			
	comp=Z,3μm,22.0s							
EVR	Evrytania	139.20 317	P		PKPdf	09 56 43.7	0.0	
EVR	Evrytania	139.20 317	*e*P		PP	09 59 33.3	-3.8	
KALE	Kalithea	139.24 316	P		PKPdf	09 56 43.3	-0.4	
KALE	Kalithea	139.24 316	*e*P		PP	09 59 36.4	-0.9	
GUR	Goura	139.32 315	P		PKPdf	09 56 42.5	-1.4	
GUR	Goura	139.32 315	*e*P		PP	09 59 37.2	-0.7	
KARN	Karanos	139.33 311	*e*P		PP	09 59 36.4	-1.6	
JAVS	Javornik	139.37 330	*e*PKPdf		PKPdf	09 56 44.7	+0.9	
JAVS			*e*			09 59 33.9		
EFP	Efpalio	139.38 316	P		PKPdf	09 56 43.7	-0.2	
EFP	Efpalio	139.38 316	*e*P		PP	09 59 38.4	+0.3	
KLV	Kalavryta, Ach	139.40 315	P		PKPdf	09 56 42.4	-1.6	
KLV	Kalavryta, Ach	139.40 315	*e*P		PP	09 59 37.3	-1.0	
LAKA	Lakka	139.42 316	P		PKPdf	09 56 43.8	-0.2	
LAKA	Lakka	139.42 316	*e*P		PP	09 59 36.5	-1.9	
GVD	Gavdhos	139.44 310	*e*P		PP	09 59 36.5	-2.2	
GVD	Gavdhos	139.44 310	*e*PKPdf		PKPdf	09 56 44.3	+0.2	
VLI	Veliai	139.47 313	P		PKPdf	09 56 41.7	-2.4	
VLI	Veliai	139.47 313	*e*P		PP	09 59 35.3	-3.5	
VLX	Vlachokerasia	139.56 314	P		PKPdf	09 56 42.2	-2.2	
WLF	Walferdange	139.57 340	PKP		PKPdf	09 56 44.9	+1.0	
WLF			APKP		pPKPdf	09 57 03.0	+2.3	
WLF	**Walferdange**	**139.57 340**	PFAKE			09 57 00.0	+16	
WLF			LR		LR			
	comp=Z,5μm,22.0s							
ANKY	Antikythira Is	139.59 312	*e*P		PP	09 59 38.1	-1.4	
LANF	Langenberg	139.59 338	PKP		PKPdf	09 56 45.6	+1.6	
DRO	Drossia	139.75 315	P		PKPdf	09 56 44.5	-0.1	
PDO	Prodromos	139.78 316	P		PKPdf	09 56 43.8	-0.8	
RLS	Riolos of Patr	139.86 316	*e*P		PP	09 59 41.5	+0.5	
DYR	Agios Nikonas	139.88 313	P		PKPdf	09 56 43.9	-1.0	
DYR	Agios Nikonas	139.88 313	*e*P		PP	09 59 40.3	-1.0	
BFO	Black Forest	139.94 337	PFAKE			09 57 00.0	+15	
BFO			LR		LR			
	comp=Z,2μm,20.0s							
ITM	Ithomi	139.97 314	*e*P		PP	09 59 40.6	-1.2	
FETA	Feichten	140.04 334	⇑*i*PKPdf		PKPdf	09 56 45.7	+0.7	
	comp=Z,24nm,1.0s							
KEK	Kerkira	140.10 319	P		PKPdf	09 56 43.8	-1.4	
PYL	PYLOS	140.24 314	*e*P		PP	09 59 42.4	-1.0	
VLS	Valsamata	140.40 316	*e*P		PP	09 59 46.7	+2.4	
FELD	Feldberg im Sc	140.44 337	PKP		PKPdf	09 56 43.6	-2.1	
ECH	Echery	140.47 338	PFAKE			09 57 00.0	+14	
ECH			LR		LR			
	comp=Z,3μm,22.0s							
MOF	Molkenrain	140.78 338	PKP		PKPdf	09 56 45.8	-0.5	
TUE	Stuetta	141.05 335	*e*PKPdf		PKPdf	09 56 47.5	+0.5	
TUE			LR		LR			
	comp=Z,3μm,20.0s							
LOMF	Lomont	141.32 338	PKP		PKPdf	09 56 45.8	-1.4	
VLC	Villacollemand	142.41 332	PFAKE			09 57 00.0	+11	
VLC			LR		LR			
	comp=Z,2μm,20.0s							
CUC	Castrocucco	142.41 322	*e*PKPdf		PKPdf	09 56 52.2	+2.8	
CUC			LR		LR			
	comp=Z,2μm,21.0s							
BNI	Bardonecchia	143.29 336	*e*PKIKP		PKPbc	09 56 48.1	+0.1	
BNI			MLR		MLR			
	comp=Z,4μm,21.0s							
BNI	Bardonecchia	143.29 336	*e*PKPpre		PKPbc	09 56 48.1	+0.1	
BNI			LR		LR			
	comp=Z,4μm,21.0s							
CEL	Celeste	143.42 320	PFAKE			09 57 00.0	+8.8	
CEL			LR		LR			
	comp=Z,2μm,22.0s							
SSB	Saint Sauveur	143.91 338	PFAKE			09 57 00.0	+8.1	
SSB			LR		LR			
	comp=Z,2μm,20.0s							
LBL	Lubilhac	144.41 340	PKP		PKPbc	09 56 51.6	+0.3	
FRNF	Fournols	144.50 341	PKP		PKPbc	09 56 52.1	+0.6	
VSL	Villasalto	146.39 327	PFAKE			09 57 10.0	+12	
VSL			LR		LR			
	comp=Z,2μm,21.0s							
LRDF	Laroque-de-Fa	146.66 338	PKP		PKPdf	09 56 56.8	+0.2	
MLS	Moulis	147.14 340	PKP		PKPbc	09 56 59.6	0.0	
REYF	Montagne du Re	147.51 342	PKP		PKPbc	09 57 00.6	-0.1	
RESF	Ens	147.52 341	PKP		PKPbc	09 57 00.7	-0.1	
KEST	Kesra	149.06 322	PKPbc		PKPbc	09 57 04.5	-0.5	
KEST			pPKPbc		pPKPbc	09 57 22.8	+0.9	
KEST	**Kesra**	**149.06 322**	PKPbc		**PKPbc**	**09 57 04.5**	**-0.5**	
	comp=Z,12nm,0.9s,baz=77,slow=2.7,SNR=17							
KEST			pPKPbc		**pPKPbc**	**09 57 22.8**	**+0.9**	
	comp=Z,31nm,0.8s,baz=56,slow=1.8,SNR=6.2							
CMAH	Djebel Manchou	149.54 326	P		PKPbc	09 57 04.4	-1.8	
ABSA	Djebel Ababsia	149.76 325	P		PKPbc	09 57 06.7	-0.1	
CKFL	Kef-Lekhel	150.09 326	P		PKPbc	09 57 07.7	+0.1	
PBRG	Braganca	150.21 350	*e*PKPdf		PKPdf	09 57 00.9	-1.6	
PBRG	Braganca	150.21 350	*e*PKPbc		PKPbc	09 57 07.4	-0.2	
CASM	Ain Smara	150.32 326	P		PKPbc	09 57 08.1	+0.1	
DFRA	Djebel Bou Aff	150.43 327	P		PKPbc	09 57 09.1	+0.7	
PCAB	Cabril	150.50 352	*e*PKPdf		PKPdf	09 57 03.9	+1.0	
PCAB	Cabril	150.50 352	*e*PKPbc		PKPbc	09 57 08.8	+0.5	
CTEI	Djebel Teioual	150.51 326	P		PKPbc	09 57 09.1	+0.5	
POLO	Lamas de Olo	150.80 351	*e*PKPdf		PKPdf	09 57 03.3	-0.2	
MVO	Moncorvo	150.88 350	*e*PKPbc		PKPbc	09 57 09.1	-0.1	
PVRL	Vila Real	150.88 351	*e*PKPdf		PKPdf	09 57 03.5	0.0	
SET	Setif	150.94 328	P		PKPbc	09 57 11.0	+1.4	
CKHR	Kef el Ahmar	151.02 327	P		PKPbc	09 57 10.1	+0.3	
RCBR	Riachuelo	151.16 128	*e*PKPbc		PKPbc	09 57 09.9	-0.8	
RCBR			LR		LR			
	comp=Z,3μm,20.0s							
PVIS	Viseu	151.46 351	*e*PKPbc		PKPbc	09 57 10.5	-0.1	
ES19	SONSECA Array	151.62 344	*e*PKPdf		PKPdf	09 57 05.0	+0.3	
ABA	Alger-Bouzarea	151.64 331	P		PKPbc	09 57 11.5	+0.4	
ESDC	Sonseca Array	151.66 345	PKP		PKPdf	09 57 04.8	0.0	
ESDC			PKPbc		PKPbc	09 57 10.0	-1.1	
ESDC	**Sonseca Array**	**151.66 345**	PKP		**PKPdf**	**09 57 04.8**	**0.0**	
	comp=Z,0.8nm,0.5s,baz=4.0,slow=2.7,SNR=15							
ESDC			PKPbc		PKPbc	09 57 10.0	-1.1	
	comp=Z,10nm,0.8s,baz=358,slow=2.5,SNR=24							
MTE	Manteigas	151.71 351	*e*PKPdf		PKPdf	09 57 05.2	+0.3	
MTE	Manteigas	151.71 351	*e*PKPdf		PKPdf	09 57 07.5	+2.6	
MTE			LR		LR			
	comp=Z,4μm,21.0s							
PAB	San Pablo	151.88 345	*e*PKIKP		PKPdf	09 57 05.1	0.0	
PAB			MLR		MLR			
	comp=Z,6μm,22.0s							
PAB	San Pablo	151.88 345	*e*PKPdf		PKPdf	09 57 05.1	0.0	
PAB			LR		LR			
	comp=Z,6μm,22.0s							
ADJB	Djebel Djouab	151.97 330	P		PKPbc	09 57 12.6	+0.6	
EMHD	Djebel Mahouad	152.17 331	P		PKPbc	09 57 13.5	+1.1	
PCBR	Castelo Branco	152.25 350	*e*PKPdf		PKPdf	09 57 05.2	-0.4	
PCBR	Castelo Branco	152.25 350	*e*PKPbc		PKPbc	09 57 12.2	-0.1	
CMLA	Cha da Macela	152.58 21	PFAKE			09 57 20.0	-3.6	
CMLA			LR		LR			
	comp=Z,4μm,19.0s							
PTOM	Tomar	152.61 352	*e*PKPdf		PKPdf	09 57 06.8	+0.7	
PMRV	Marv??o	152.63 350	*e*PKPdf		PKPdf	09 57 05.6	-0.6	
EBNR	Beni Rached	152.75 333	P		PKPbc	09 57 16.8	+3.2	
PMTG	Montargil	153.12 351	*e*PKPdf		PKPdf	09 57 06.0	-0.9	
EANR	'Ain N'Sour	153.22 333	P		PKPbc	09 57 17.0	+2.3	
PMAFR	Mafra	153.38 353	*e*PKPdf		PKPdf	09 57 06.5	-0.8	
LIS	Lisbon	153.60 353	*e*P		PKPdf	09 57 07.1	-0.4	
LIS			AMS		AMS	11 09 08.4		
	comp=Z,4μm,20.9s							
LIS	Lisbon	153.60 353	*e*P		PKPdf	09 57 07.1	-0.4	
LIS	Lisbon	153.60 353	A		A	11 09 08.4		
	comp=Z,4μm,20.9s							
LIS	Lisbon	153.60 353	*e*PKIKP		PKPdf	09 57 07.1	-0.4	
ETRT	Tiaret	153.60 332	P		PKPbc	09 57 16.5	+0.9	
EVO	Evora	153.61 350	*e*PKPdf		PKPdf	09 57 06.4	-1.2	
PBEJ	Beja	154.08 350	*e*PKPdf		PKPdf	09 57 07.8	-0.5	
PNCL	Nicolau / Gran	154.10 351	*e*PKPdf		PKPdf	09 57 07.7	-0.6	
PCVE	Castro Verde	154.50 350	*e*PKPdf		PKPdf	09 57 08.1	-0.8	
PVAQ	Vaqueiros	154.66 349	*e*PKPdf		PKPdf	09 57 08.5	-0.6	
MORF	Marmelete	154.91 351	*e*PKIKP		PKPdf	09 57 07.4	-2.1	
PFVI	Vila Bisbo	155.11 351	*e*PKPdf		PKPdf	09 57 11.2	+1.5	
RTC	Rabat Centre	157.77 346	PFAKE			09 57 20.0	+6.7	
RTC			LR		LR			
	comp=Z,3μm,21.0s							
MDT	Midelt	158.22 340	PKP		PKPdf	09 57 13.7	-0.4	
MDT			PKPab		PKPab	09 57 44.4	-3.6	
MDT	**Midelt**	**158.22 340**	PKP		**PKPdf**	**09 57 13.7**	**-0.4**	
	comp=Z,5.4nm,1.0s,baz=84,slow=2.5,SNR=8.6							
MDT			PKPab		**PKPab**	**09 57 44.4**	**-3.6**	
	comp=Z,8.0nm,1.0s,baz=17,slow=1.0,SNR=7.3							
TAM	Tamanrasset	159.29 302	PFAKE			09 57 30.0	+14	
TAM			LR		LR			
	comp=Z,2μm,22.0s							
ASCN	Ascension	159.70 177	PFAKE			09 57 30.0	+14	
ASCN			LR		LR			
	comp=Z,802nm,21.0s							
TORD	Torodi Ar. Bea	165.28 274	PKP		PKPdf	09 57 20.8	-0.8	
TORD			PKPab		PKPab	09 58 19.4	-0.1	
TORD			PP		PP	10 02 04.1	-2.6	
TORD	**Torodi Ar. Bea**	**165.28 274**	PKP		**PKPdf**	**09 57 20.8**	**-0.8**	
	comp=Z,6.2nm,1.0s,baz=355,slow=1.5,SNR=17							
TORD			PKPab		**PKPab**	**09 58 19.4**	**-0.1**	
	comp=Z,76nm,1.0s,baz=81,slow=3.9,SNR=22							
TORD			PP		PP	10 02 04.1	-2.6	
	comp=Z,6.0nm,0.9s,baz=104,slow=5.1,SNR=4.1							
KIC	Kosan Boka	169.53 235	*e*P		**PKPab**	**09 58 39.5**	**+1.3**	
	comp=Z,413nm,1.5s							
KIC	Kosan Boka	169.53 235	*e*P		PP	10 02 27.6	0.0	
	comp=Z,396nm,2.0s							
LIC	Lamto	169.68 234	*e*P		**PKPab**	**09 58 39.6**	**+0.8**	
	comp=Z,148nm,1.7s							
LIC	Lamto	169.68 234	*e*P		PP	10 02 29.8	+1.5	
	comp=Z,71nm,1.7s							
DBIC	Dimbokro	169.81 236	PKP		PKPdf	09 57 25.4	+0.5	
DBIC			PKPab		PKPab	09 58 38.2	-1.1	
DBIC	**Dimbokro**	**169.81 236**	PKP		**PKPdf**	**09 57 25.4**	**+0.5**	
	comp=Z,3.6nm,1.0s,baz=13,slow=5.1,SNR=3.3							
DBIC			PKPab		**PKPab**	**09 58 38.2**	**-1.1**	
	comp=Z,28nm,1.0s,baz=96,slow=4.3,SNR=9.3							
TIC	Toumodi	169.92 236	*e*P		**PKPab**	**09 58 41.4**	**+1.5**	
	comp=Z,976nm,2.2s							
TIC	**Toumodi**	**169.92 236**	*e*P		**PP**	**10 02 31.5**	**+1.9**	
	comp=Z,337nm,1.9s							

NIED ***12*** *09:42:00,37.40N×139.70E,h5km,Mw4.7 Best double couple: M₀1.26000×10¹⁶ NP1:φ₀135.00000°,δ67.00000°, λ-84.00000°. NP2:φ₀301.00000°,δ24.00000°, λ-103.00000°.*

BJI ***12*** *09:42:15.6,37.24N×140.18E,h20km,mB5.0/20,mb4.6/28, Ms5.1/21,Ms7 4.7/21*

SZGRF ***12*** *09:42:17.7,37.37N×141.50E,h30km,mb4.9,Near east coast of eastern Honshu, Japan*

ISCJB ***12*** *09:42:18.9±0.4,37.44N±0.02×139.66E±0.02,h8km±2km, mb4.8/61,MS4.7/4,Error ellipse: s-maj=4.0km s-min=3.0km az=159.1*

IDC ***12*** *09:42:18.5±0.5,37.45N×139.54E,h0km,mb4.5/19, mb1 4.6/21,mb1mx4.6/26,mbtmp4.5/21,ML3.7/2,Error ellipse: s-maj=17.0km s-min=14.5km az=88.0*

JMA ***12*** *09:42:19.5,37.43N×139.70E,h4km±1km,M4.9 Broadband fault plane solution: P waves. NP1: φs113.00000°,δ47.00000°,λ-98.00000°. NP2: φs304.00000°,δ43.00000°,λ-82.00000°. Principal axes: T Plg2.0000°, Azm208.0000°; N Plg6.0000°, Azm118.0000°; P Plg84.0000°, Azm318.0000°;*

JMA Felt IV J1.

NEIC ***12*** *09:42:20.3±0.3,37.47N×139.70E,h10km,mb5.2/30, MW4.7(NIED) Error ellipse: s-maj=8.3km s-min=5.9km az=148.0*

NEIC Felt at Aizu-Wakamatsu. Recorded [4 JMA] in Fukushima, [2 JMA] in Niigata and [1 JMA] in Gumma, Nagano, Tochigi and Yamagata.

MOS ***12*** *09:42:22.2±1.1,37.47N×139.59E,h33km,mb5.0/30,Error ellipse: s-maj=10.6km s-min=6.5km az=103.9*

ISC 12 09:42:23.1±0.5, 37.44N±0.04×139.68E±0.04, h30km±2km, n313,σ1s23/332, mb4.8/64, MS4.8/6, 12C-7D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFY	**Yanaizu**	**0.04**	**148**	⇑P			Pb	09 42 20.3	-7.9
JFY				S			Sb	09 42 20.9	-11
JNS	**Sasagawa**	**0.47**	**323**	⇓P			Pb	09 42 29.0	-4.2
JNS				S	*e*		**Sb**	**09 42 35.8**	**-4.2**
JSB	**Shiboa**	**0.51**	**158**	⇑P			Pb	09 42 29.4	-4.3
JSB				S	*e*		**Sb**	**09 42 36.3**	**-4.6**
JFT	**Otama**	**0.53**	**81**	⇑P			Pb	09 42 29.4	-4.6
JFT				S	*e*		**Sb**	**09 42 36.5**	**-5.0**
JHK	**Hiroka**	**0.56**	**250**	⇓P			Pb	09 42 30.4	-4.1
JHK				S			**Sb**	**09 42 38.1**	**-4.2**
JKT	**Katashina**	**0.75**	**207**	⇑P			Pb	09 42 33.9	-3.9
JKT				S	*e*		**Sb**	**09 42 43.8**	**-4.0**
JIZZ	**Izumozaki**	**0.78**	**277**	⇓P			**Pn**	**09 42 36.0**	**-2.0**
JIZZ				S	*e*		**Sb**	**09 42 48.0**	**-0.3**
JYS	**Shirataka**	**0.84**	**21**	⇑P			Pn	09 42 35.5	-3.4
JYS				S			**Sn**	**09 42 47.1**	**-3.1**
JFK	**Kawauchi**	**0.95**	**94**	⇓P			Pn	09 42 37.1	-3.4
JMM	**Marumori**	**0.98**	**64**	⇑P			Pn	09 42 37.7	-3.1
MAJO	**Matsushiro**	**1.48**	**233**	*e*P			**Pn**	**09 42 47.1**	**-0.6**
MAJO				*e*				09 43 07.2	
MAJO	**Matsushiro**	**1.48**	**233**	*e*Pn			**Pn**	**09 42 47.1**	**-0.6**
MAJO				*e*Sn			**Sb**	**09 43 07.2**	**-1.2**
MAT	**Matsushiro**	**1.48**	**233**	P			**Pn**	**09 42 46.8**	**-0.9**
MAT				S			**Sb**	**09 43 06.6**	**-1.8**
ASAJ	**Asahikawa**	**7.03**	**17**	*e*Pn			**Pn**	**09 44 04.1**	**+0.2**
ASAJ	**Asahikawa**	**7.03**	**17**	Pn			**Pn**	**09 44 04.1**	**+0.2**
	1.0nm,0.3s,baz=222,slow=2.6,SNR=7.8								
JNU	**Nakatsue**	**8.38**	**242**	*e*Pn			**Pn**	**09 44 25.0**	**+2.4**
JNU	**Nakatsue**	**8.38**	**242**	Pn			**Pn**	**09 44 21.6**	**-1.0**
	0.9nm,0.3s,baz=47,slow=15,SNR=38								
USRK	**Uesuriysk Arra**	**8.92**	**322**	Pn			**Pn**	**09 44 28.4**	**-1.4**
	0.2nm,0.3s,baz=136,slow=16,SNR=2.9								
KSRS	**Korea Array**	**9.35**	**274**	Pn			**Pn**	**09 44 37.6**	**+1.8**
	1.7nm,0.3s,baz=89,slow=13,SNR=39								
KSAR	**Wonju Array Be**	**9.38**	**274**	Pn			**Pn**	**09 44 37.6**	**+1.4**
YSS	**Yuzh-Sakhalins**	**9.78**	**12**	⇓*e*P			**Pn**	**09 44 44.0**	**+2.5**
YSS				pmax			pmax		
	comp=Z,30nm,0.9s								
YSS				MLR			MLR		
	comp=N,2μm,14.0s								
YSS				MLR			MLR		
	comp=Z,3μm,14.0s								
MDJ	**Mudanjiang**	**10.46**	**316**	P			**Pn**	**09 44 48.3**	**-2.6**
MDJ				pP				09 44 55.1	
MDJ				sP				09 45 00.0	
MDJ				S			**Sn**	**09 46 42.7**	**-4.2**
MDJ				ScP			**ScP**	**09 54 25.1**	**+0.1**
MDJ				PcS			**PcS**	**09 54 28.9**	**+0.6**

MDJ	**Mudanjiang**	**10.46**	**316**	ScS			ScS	09 58 00.2	+0.4
MDJ				AMB			AMB		
	comp=Z,4.0nm,0.6s								
MDJ				AMB			AMB		
	comp=Z,130nm,5.3s								
MDJ				LR			LR		
	comp=N,1μm,8.0s								
MDJ				LR			LR		
	comp=E,390nm,6.6s								
MDJ				LR			LR		
	comp=Z,3μm,7.6s								
MDJ	**Mudanjiang**	**10.46**	**316**	*e*Pn			**Pn**	**09 44 52.6**	**+1.8**
	comp=Z,77nm,1.2s								
CN2	**Changchun**	**12.53**	**305**	*e*P			Pn	09 45 22.9	+3.6
CN2				*e*S			**Sn**	**09 47 40.9**	**+3.1**
CN2				AMB			AMB		
	comp=Z,10.0nm,0.9s								
CN2				LR			LR		
	comp=Z,800nm,12.0s								
CN2				LR			LR		
	comp=Z,800nm,12.0s								
CN2				LR			LR		
	comp=Z,700nm,12.0s								
KLR	**Kul'dur**	**13.11**	**337**	*e*P			**Pn**	**09 45 25.7**	**-1.5**
KLR				pmax			pmax		
	comp=E,80nm,1.6s								
KLR				pmax			pmax		
	comp=Z,200nm,1.6s								
JOW	**Kunigami**	**14.31**	**226**	*e*Pn			**Pn**	**09 45 45.3**	**+1.6**
NJ2	**Nanjing**	**17.93**	**259**	*e*P			**Pn**	**09 46 29.4**	**-0.7**
NJ2				pP			**pP**	**09 46 38.7**	**+0.2**
NJ2				sP			**sP**	**09 46 44.5**	**+2.2**
NJ2				S			**S**	**09 49 52.0**	**-2.8**
NJ2				AMB			AMB		
	comp=Z,20nm,0.8s								
NJ2				AMB			AMB		
	comp=Z,2μm,6.8s								
NJ2				LR			LR		
	comp=Z,4μm,11.2s								
NJ2				LR			LR		
	comp=Z,3μm,15.3s								
NJ2				LR			LR		
	comp=Z,1μm,8.5s								
TATO	**Taipei**	**19.87**	**236**	P			**Pn**	**09 46 52.4**	**-1.2**
PETK	**Petropavlovsk-**	**20.07**	**33**	P			**P**	**09 46 54.7**	**+0.9**
PETK				pmax			pmax		
	comp=Z,5.0nm,0.8s								
PETK	**Petropavlovsk-**	**20.07**	**33**	P			**P**	**09 46 54.7**	**+0.9**
PETK	**Petropavlovsk-**	**20.07**	**33**	P			**P**	**09 46 54.7**	**+0.9**
	comp=Z,5.4nm,0.8s,baz=224,slow=6.0,SNR=3.9								
HHC	**Hu-ho-hao-te**	**22.03**	**288**	*e*P			**P**	**09 47 12.9**	**-2.3**
HHC				pP			**pP**	**09 47 22.0**	**-1.3**
HHC				sP			**sP**	**09 47 26.2**	**-1.0**
HHC				PP			**PnPn**	**09 47 38.5**	**+1.1**
HHC				S			S	09 51 07.4	-9.2
HHC				AMB			AMB		
	comp=Z,30nm,0.9s								
HHC				AMB			AMB		
	comp=Z,330nm,6.3s								
HHC				LR			LR		
	comp=Z,5μm,13.3s								
HHC				LR			LR		
	comp=Z,3μm,12.8s								
HHC				LR			LR		
	comp=Z,2μm,12.7s								
YAK	**Yakutsk**	**25.39**	**349**	*e*P			**P**	**09 47 46.9**	**-0.5**
ENH	**Enshi**	**26.00**	**263**	*e*P			**P**	**09 47 52.7**	**-0.7**
	comp=Z,10nm,0.8s								
SONM	**Songino Array**	**26.41**	**304**	P			**P**	**09 47 56.0**	**-1.0**
SONM	**Songino Array**	**26.41**	**304**	P			**P**	**09 47 56.0**	**-1.0**
	comp=Z,2.7nm,1.0s,baz=103,slow=9.4,SNR=11								
SEY	**Seymchan**	**26.68**	**13**	*i*P			**P**	**09 47 59.8**	**+0.7**
LZH	**Lanzhou**	**28.64**	**278**	*e*P			**P**	**09 48 17.7**	**+0.6**
LZH				pP			**pP**	**09 48 24.3**	**-1.6**
LZH				sP			**sP**	**09 48 27.4**	**-2.2**
LZH				AMB			AMB		
	comp=Z,14nm,1.0s								
ZAK	**Zakamensk**	**28.93**	**308**	*e*P			**P**	**09 48 18.8**	**-0.7**
ZAK				pmax			pmax		
	comp=Z,2.0nm,1.2s								
GYA	**Guiyang**	**29.94**	**258**	P			**P**	**09 48 29.8**	**+1.1**
GYA				pP			**pP**	**09 48 39.0**	**+1.5**
GYA				PP	

BRVK **Borovoye** 49.33 312 *e*P P 09 51 08.8 -0.5
comp=Z,70nm,2.2s
EKS2 **Erkin-Say** 49.58 298 *e*P P 09 51 10.8 -0.7
EKS2 pmax pmax
comp=Z,103nm,2.3s
EKS2 **Erkin-Say** 49.58 298 *e*P P 09 51 10.8 -0.7
comp=Z,103nm,2.3s
COEN **Coen** 51.23 176 P P 09 51 22.8 -1.2
ARU **Arti** 55.14 318 *d iP* P 09 51 51.9 -0.4
ARU 09 52 51.8
ARU 09 53 53.1
ARU S S 09 59 34.2 +1.2
ARU SS SS 10 03 11.9 -4.8
ARU pmax pmax
comp=Z,11nm,1.2s
ABKAR **Akbulak array** 56.62 309 *e*P P 09 52 02.5 -0.5
comp=Z,1.5nm,0.4s
WRAB **Tennant Creek** 57.28 186 *e*P P 09 52 07.5 -0.5
WRA **Warramunga Arr** 57.30 186 P P 09 52 07.7 -0.4
WRA **Warramunga Arr** 57.30 186 P P 09 52 07.7 -0.4
comp=Z,13nm,0.8s,baz=2.0,slow=7.4,SNR=24
ASAR **Alice Springs** 61.02 186 P P 09 52 33.6 -0.2
ASAR **Alice Springs** 61.02 186 P P 09 52 33.6 -0.2
comp=Z,6.7nm,0.8s,baz=12,slow=7.5,SNR=12
APA **Apatity** 61.74 335 ‖ *iP* P 09 52 41.4 +3.2
APA *i* S S 10 01 02.0 +3.2
RES **Resolute Bay** 62.55 14 P P 09 52 44.4 +0.9
RES **Resolute Bay** 62.55 14 P P 09 52 44.4 +0.9
comp=Z,6.0nm,1.1s,baz=296,slow=8.2,SNR=4.6
KLMR **Klimovskoe** 62.67 327 *e*P P 09 52 42.5 -2.0
KLMR pmax pmax
comp=Z,32nm,1.5s
ARCES **ARCESS Array B** 63.13 339 P P 09 52 48.0 +0.6
ARCES **ARCESS Array B** 63.13 339 P P 09 52 48.0 +0.6
comp=Z,7.0nm,1.0s,baz=53,slow=6.2,SNR=5.3
YKA **Yellowknife Ar** 64.15 30 P P 09 52 54.6 +0.3
YKA **Yellowknife Ar** 64.15 30 P P 09 52 54.6 +0.3
comp=Z,1.5nm,0.8s,baz=307,slow=6.9,SNR=3.1
JOF **Joensuu** 64.95 331 *ep* P 09 52 58.8 -0.7
comp=Z,0.7nm,0.3s
IANJ **Anjilo** 66.57 297 *e*P P 09 53 10.4 -0.3
ISHM **Shahmirzad** 66.84 298 *e*P P 09 53 14.0 +1.5
OBN **Obninsk** 66.94 323 P P 09 53 14.0 +1.6
OBN pmax pmax
comp=Z,9.0nm,1.4s
KAF **Kangasniemi** 67.31 332 *ep* P 09 53 13.4 -1.2
comp=Z,4.0nm,0.7s
NLWA **Neilton Lookou** 67.46 47 *e*P P 09 53 17.1 +1.2
comp=Z,42nm,1.6s
FINES **FINESS Array B** 67.81 332 P P 09 53 16.8 -0.9
FINES **FINESS Array B** 67.81 332 P P 09 53 16.8 -0.9
comp=Z,6.6nm,0.8s,baz=101,slow=8.1,SNR=8.1
STKA **Stephens Creek** 68.98 178 P P 09 53 26.5 +1.1
STKA **Stephens Creek** 68.98 178 P P 09 53 26.5 +1.1
comp=Z,3.7nm,0.7s,baz=335,slow=16,SNR=4.2
IZEF **Zefreh** 69.01 296 *e*P P 09 53 27.4 +1.2
KIV **Kislovodsk** 69.59 310 P P 09 53 34.0 +4.6
KIV pmax pmax
comp=Z,16nm,1.1s
NEW **Newport** 70.80 44 P P 09 53 37.1 +0.5
baz=70
PINOR **Pine Mountain** 71.16 49 *e*pP P 09 53 39.2 +0.5
AKASG **Malin Array Be** 73.12 321 P P 09 53 50.0 -0.4
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG **Malin Array Be** 73.12 321 P P 09 53 50.0 -0.4
AKASG **Malin Array Be** 73.12 321 P P 09 53 50.0 -0.4
comp=Z,3.5nm,0.6s,baz=45,slow=6.1,SNR=17
KIEV **Kiev** 73.14 321 *e*P P 09 53 50.1 -0.4
KIEV pmax pmax
comp=Z,8.0nm,1.0s
KIEV **Kiev** 73.14 321 *e*P P 09 53 50.1 -0.4
comp=Z,8.4nm,1.0s
NB2 **NORSAR Subarra** 73.27 337 P P 09 53 50.8 -0.4
comp=Z,13nm,1.1s,baz=41,slow=5.9
NOA **NORSAR Array B** 73.27 337 P P 09 53 50.5 -0.7
NOA **NORSAR Array B** 73.27 337 P P 09 53 50.5 -0.7
comp=Z,3.4nm,0.7s,baz=39,slow=5.9,SNR=13
SLMT **Seeley Lake** 73.38 43 *e*P P 09 53 53.0 +0.8
FFC **Flin Flon** 74.11 32 *e*P P 09 53 56.3 +0.2
MFID **Camas Ranch** 74.37 47 P P 09 53 59.0 +1.0
baz=74
A19A **Klindworth Far** 74.81 39 P P 09 54 01.3 +0.9
baz=74
LRM **Limekiln Ridge** 74.82 44 *e*P P 09 54 02.1 +1.4
EGMT **Eagleton** 74.87 41 P P 09 54 01.4 +0.6
baz=75
B19A **Brinkman Farms** 75.01 40 P P 09 54 02.8 +1.2
baz=75
DLMT **Dillon** 75.02 44 *e*P P 09 54 02.5 +0.7
HLID **Hailey** 75.10 46 P P 09 54 03.4 +1.0
baz=75
C19A **Slack Wire Ran** 75.42 41 P P 09 54 05.1 +1.1
baz=75
NVAR **Mina Array Bea** 75.84 52 P P 09 54 08.3 +1.6
NVAR **Mina Array Bea** 75.84 52 P P 09 54 08.3 +1.6
comp=Z,3.5nm,0.8s,baz=285,slow=5.2,SNR=6.9
D19A **Cripps Ranch,** 75.88 41 P P 09 54 07.0 +0.4
baz=76
C20A **Veseth Ranch,** 75.97 40 P P 09 54 07.6 +0.5
baz=76
B21A **Ellsworth Farm** 76.01 39 P P 09 54 07.8 +0.5
baz=76
A22A **Carney Farms,** 76.18 38 P P 09 54 08.7 +0.4
baz=76
D20A **Manuel Ranch,** 76.31 41 P P 09 54 09.2 +0.2
baz=76
GCMT **Greycliff** 76.35 42 *e*P P 09 54 10.7 +1.3
comp=Z,12nm,1.2s
C21A **Desert Coulee** 76.36 40 P P 09 54 09.7 +0.4
baz=76
E19A **Rath Farm, Rou** 76.38 41 P P 09 54 09.9 +0.4
baz=76
F19A **Roth Farm, Mol** 76.69 42 P P 09 54 11.8 +0.5
baz=76
E20A **Meyer Farm, Mu** 76.70 41 P P 09 54 11.7 +0.4
baz=76
H17A **Grant Village** 76.75 44 *e*P P 09 54 13.6 +1.8
H17A **Grant Village** 76.75 44 P P 09 54 14.5 +2.7
baz=76
IMW **Indian Meadow** 76.86 44 *e*P P 09 54 13.8 +1.3
D21A **La Casta Ranch** 76.92 40 P P 09 54 13.6 +1.1
baz=77
PKM **Peak Mountain** 76.97 56 P P 09 54 15.1 +1.9
baz=77
B23A **Brockton** 76.99 38 P P 09 54 13.8 +0.9
baz=77
C22A **Vida** 77.03 39 P P 09 54 13.9 +0.8
baz=77
I17A **Pilgrim Ck.** 77.05 44 P P 09 54 15.9 +2.4
baz=77
H18A **Shoshone NF, C** 77.06 43 P P 09 54 14.8 +1.2
baz=77
D22A **Cohagen** 77.28 40 P P 09 54 15.7 +1.2
baz=77
C23A **Lambert** 77.34 39 P P 09 54 15.9 +1.0
baz=77
DGMT **Dagmar** 77.38 38 P P 09 54 14.8 -0.2
baz=77
BR131 **Keskin Array S** 77.54 311 *e*P P 09 54 16.4 +0.1
comp=Z,7.1nm,1.1s
BRTR **Keskin Array B** 77.54 311 P P 09 54 15.8 -0.4
BRTR **Keskin Array B** 77.54 311 P P 09 54 15.8 -0.4
comp=Z,4.7nm,1.0s,baz=98,slow=3.8,SNR=11
D23A **Lindsay** 77.75 39 P P 09 54 18.3 +1.1
baz=78
MPMC **Manual Prospec** 77.79 54 P P 09 54 18.4 +0.7
baz=78
C24A **Savage** 77.90 39 P P 09 54 18.6 +0.7
baz=78
OJC **Ojcow** 77.92 325 *e*P P 09 54 18.3 +0.3
OJC pmax pmax
comp=Z,22nm,1.2s
OJC **Ojcow** 77.92 325 *e*P P 09 54 18.3 +0.3
comp=Z,22nm,1.2s
G21A **Lodge Grass** 78.03 42 P P 09 54 18.9 +0.1
baz=78
H20A **Greybull** 78.09 43 P P 09 54 19.5 +0.3
baz=78
A26A **Wade Farm, Ken** 78.12 36 P P 09 54 19.5 +0.4
baz=78
E23A **Ismay** 78.16 40 P P 09 54 20.0 +0.5
baz=78
EDW2 **Edwards Air Fo** 78.18 55 P P 09 54 20.6 +0.9
baz=78
D24A **Glendive** 78.23 39 P P 09 54 20.6 +0.8
baz=78
J19A **Crowheart** 78.32 44 P P 09 54 21.5 +1.0
baz=78
PDAR **Pinedale Array** 78.36 45 P P 09 54 21.2 +0.4
PDAR **Pinedale Array** 78.36 45 P P 09 54 21.2 +0.4
comp=Z,3.8nm,0.8s,baz=275,slow=2.7,SNR=9.7
I20A **Worland** 78.38 43 P P 09 54 21.5 +0.7
baz=78
B26A **Jensen Ranch,** 78.39 37 P P 09 54 21.7 +1.0
baz=78
A27A **Ledoux Ranch,** 78.45 36 P P 09 54 21.5 +0.6
baz=78
H21A **Big Horn, Sher** 78.51 42 P P 09 54 22.3 +0.8
baz=78
E24A **Baker** 78.62 39 P P 09 54 23.0 +1.0
baz=78
F23A **Volborg** 78.64 40 P P 09 54 23.0 +0.9
baz=78
L18A **Fontenelle, Gr** 78.64 46 P P 09 54 23.2 +0.9
baz=78
JLU **Jordanelle** 78.67 47 *e*P P 09 54 23.0 +0.4
comp=Z,124nm,2.3s
DAU **Daniels Canyon** 78.91 47 *e*P P 09 54 23.9 -0.1
DAU **Daniels Canyon** 78.91 47 *e*P P 09 54 23.9 -0.1
I21A **Big Trails, Te** 78.92 43 P P 09 54 24.3 +0.5
baz=79
A28A **Rude Farm, Bot** 78.94 36 P P 09 54 24.0 +0.4
baz=79
MPU **Maple Canyon** 78.94 48 *e*P P 09 54 16.4 -7.6
comp=Z,149nm,2.3s
F24A **Ekalaka** 79.04 40 P P 09 54 25.2 +0.9
baz=79
E25A **Miller Ranch,** 79.12 39 P P 09 54 25.6 +0.9
baz=79
J21A **Lysite** 79.15 43 P P 09 54 26.0 +0.9
baz=79
TUQ **Turquoise Moun** 79.18 54 P P 09 54 26.4 +1.0
baz=79
C27A **Sayler Ranch,** 79.20 37 P P 09 54 26.2 +1.1
baz=79
B28A **Dugan Ranch, T** 79.22 36 P P 09 54 25.9 +0.7
baz=79
RAYN **Ar Rayn** 79.22 291 *e*P P 09 54 26.3 +0.7
comp=Z,8.8nm,1.0s
HEC **Hector,Ludlow** 79.29 54 P P 09 54 26.7 +0.8
baz=79
I22A **9 Mile Ranch,** 79.30 42 P P 09 54 26.5 +0.7
baz=79
DPC **Dobruska-Polom** 79.37 327 *e*P P 09 54 26.9 +0.9
DPC pmax pmax
comp=Z,254nm,2.0s
DPC **Dobruska-Polom** 79.37 327 *e*P P 09 54 26.8 +0.8
DPC **Dobruska-Polom** 79.37 327 *e*P P 09 54 26.9 +0.8
comp=Z,254nm,2.0s
UPC **Upice** 79.39 327 *e*P P 09 54 26.9 +0.9
UPC **Upice** 79.39 327 *e*P P 09 54 26.9 +0.9
G24A **Alzada** 79.41 40 P P 09 54 26.5 +0.1
baz=79
PSZ **Piszkesteto** 79.52 324 *e*P P 09 54 28.0 +1.1
PSZ pmax pmax
comp=Z,26nm,1.3s
PSZ **Piszkesteto** 79.52 324 *e*P P 09 54 28.0 +1.1
comp=Z,26nm,1.3s
L20A **Wamsutter** 79.54 45 P P 09 54 28.1 +0.9
baz=79
E26A **Carlson Angus** 79.61 38 P P 09 54 28.4 +1.0
baz=79
J22A **Midwest** 79.63 43 P P 09 54 28.6 +0.9
baz=79
B29A **Wagenman Farm,** 79.68 35 P P 09 54 28.5 +0.8
baz=79
K21A **Alcova** 79.73 44 P P 09 54 29.1 +0.9
baz=79
C28A **Hausauer Farms** 79.73 36 P P 09 54 29.0 +1.1
baz=79
H24A **Dirks Ranch, A** 79.74 41 P P 09 54 28.8 +0.6
baz=79
GMRC **Granite Mounta** 79.75 54 P P 09 54 29.1 +0.7
baz=80
A30A **Hoffart Farm,** 79.81 35 P P 09 54 29.1 +0.7
baz=80
ULM **Lac du Bonnet** 79.92 33 P P 09 54 28.8 -0.1
ULM *epP* PcP 09 54 29.3 -7.1
ULM **Lac du Bonnet** 79.92 33 P P 09 54 28.8 -0.1
comp=Z,4.7nm,0.8s,baz=318,slow=4.0,SNR=5.0
F26A **Leopole** 79.94 39 P P 09 54 29.8 +0.6
baz=80
PVCC **Panska Ves** 79.99 328 *e*P P 09 54 29.5 +0.2
PVCC **Panska Ves** 79.99 328 *e*P P 09 54 29.5 +0.2
D28A **Regan** 80.02 37 P P 09 54 30.0 +0.4
baz=80
CLL **Collm** 80.05 329 ⇑ *iP* P 09 54 29.7 +0.1
CLL pmax pmax
comp=Z,14nm,1.2s
CLL **Collm** 80.05 329 ⇑ *iP* P 09 54 29.7 +0.1
comp=Z,14nm,1.2s
K22A **Casper** 80.11 43 P P 09 54 31.0 +0.6
baz=80
G27A **Dupree** 80.13 39 P P 09 54 34.1 +3.9
baz=80
B30A **Myrvik Farm, E** 80.16 35 P P 09 54 31.1 +0.8
baz=80
SRU **San Rafael** 80.18 48 *e*P P 09 54 29.5 -1.3
SRU **San Rafael** 80.18 48 *e*P P 09 54 29.5 -1.3
H25A **Fruitdale** 80.32 40 P P 09 54 31.8 +0.5
baz=80
N20A **Spence Gulch,** 80.36 46 P P 09 54 32.2 +0.4
baz=80
G26A **Maurine** 80.36 39 P P 09 54 32.4 +0.9
baz=80
RWWY **Rawlins** 80.38 44 *e*P P 09 54 35.4 +3.5
comp=Z,13nm,0.9s
PRU **Pruhonice** 80.41 328 *e*P P 09 54 31.9 +0.4
PRU **Pruhonice** 80.41 328 *e*P P 09 54 31.9 +0.4
PRU *epP* PcP 09 54 34.9 -3.6
L22A **Ellis Ranch, M** 80.58 44 P P 09 54 34.0 +1.1
baz=80
P19A **Cripple Cowboy** 80.74 47 P P 09 54 34.4 +0.6
baz=80
H26A **Fairpoint** 80.75 40 P P 09 54 34.3 +0.8
baz=80
O20A **White River Ci** 80.83 46 P P 09 54 34.9 +0.6
baz=81
L23A **Garrett** 80.92 43 P P 09 54 35.2 +0.4
baz=81
D30A **Buchanan** 80.94 36 P P 09 54 35.1 +0.7
baz=81
PDMCI **Parker Dam,Lak** 81.03 54 P P 09 54 35.9 +0.7
baz=81
H27A **Howes** 81.09 40 P P 09 54 36.1 +0.8
baz=81
I26A **New Underwood** 81.11 40 P P 09 54 36.3 +0.7
baz=81
E30A **Jud** 81.31 37 P P 09 54 36.6 +0.2
baz=81
F29A **Eureka** 81.35 38 P P 09 54 37.1 +0.4
baz=81
G28A **Parade** 81.36 39 P P 09 54 37.6 +0.8
baz=81
CONA **Conrad Observa** 81.37 326 ⇑ *ipP* P 09 54 37.9 +1.1
comp=Z,14nm,1.4s
KHC **Kasperske Hory** 81.47 328 *e*P P 09 54 37.6 +0.3
KHC **Kasperske Hory** 81.47 328 *e*P P 09 54 37.6 +0.3
KHC *epP* PcP 09 54 40.9 -2.3
KHC **Kasperske Hory** 81.47 328 *e*P P 09 54 37.6 +0.3
comp=Z,24nm,1.5s
I27A **Quinn** 81.50 40 P P 09 54 38.3 +0.8
baz=81
J26A **Sides Ranch, S** 81.50 41 P P 09 54 38.4 +0.7
baz=81
Q20A **Ridgley Place,** 81.59 47 P P 09 54 39.2 +0.9
baz=81
H28A **Mission Ridge** 81.59 39 P P 09 54 39.2 +1.2
baz=81
GERES **GERESS Array B** 81.63 327 P P 09 54 37.8 -0.4
GERES **GERESS Array B** 81.63 327 P P 09 54 37.8 -0.4
comp=Z,2.8nm,0.8s,baz=46,slow=7.6,SNR=8.7
P21A **Newcastle** 81.70 46 P P 09 54 40.5 +1.6
baz=81
PV05 **Paradox Valley** 81.70 48 *e*P P 09 54 32.0 -7.0
O22A **Kremmling** 81.78 45 P P 09 54 40.6 +1.1
baz=82
M24A **Cheyenne** 81.84 43 P P 09 54 40.9 +1.3
baz=82
K26A **Motz Farm, Whi** 81.87 42 P P 09 54 40.5 +0.9
baz=82
I28A **Midland** 82.00 40 P P 09 54 40.7 +0.5
baz=82
GRF **Grafenberg Arr** 82.02 329 *e*P P 09 54 40.7 +0.6
GRF pmax pmax
comp=Z,6.0nm,0.8s
GRF **Grafenberg Arr** 82.02 329 *e*P P 09 54 40.7 +0.6
comp=Z,6.0nm,0.8s
H29A **Onida** 82.03 39 P P 09 54 40.7 +0.4
baz=82
O23A **Lake Granby, G** 82.10 45 P P 09 54 42.1 +1.0
baz=82
G30A **Faulkton** 82.19 38 P P 09 54 41.6 +0.4
baz=82
I29A **Vivian Onida** 82.42 39 P P 09 54 43.3 +0.9
baz=82
ISCO **Idaho Springs** 82.55 45 *e*P P 09 54 44.6 +1.1
ISCO pmax pmax
comp=Z,81nm,2.1s
ISCO **Idaho Springs** 82.55 45 *e*P P 09 54 44.6 +1.1
comp=Z,81nm,2.1s
SOKA **Soboth** 82.68 325 ⇑ *ipP* P 09 54 44.8 +1.0
comp=Z,22nm,1.3s
BRSD **Miller** 82.78 38 *e*P P 09 54 42.7 -1.5
K28A **Ten Mile Ranch** 82.81 41 P P 09 54 45.2 +0.7
baz=82
I30A **Oacoma** 82.93 39 P P 09 54 45.6 +0.5
baz=83
R23A **Moffat** 83.53 46 P P 09 54 49.6 +1.0
baz=83
BFO **Black Forest** 84.27 330 *e*P P 09 54 51.9 +0.1
BFO pmax pmax
comp=Z,48nm,1.6s
BFO **Black Forest** 84.27 330 *e*P P 09 54 51.9 +0.1
comp=Z,48nm,1.6s
FETA **Feichten** 84.31 328 ⇑ *ipP* P 09 54 52.8 +0.6
comp=Z,7.9nm,0.9s
DAVA **Damuels** 84.46 328 ⇑ *iP* P 09 54 50.8 -2.1
comp=Z,21nm,1.0s
U23A **El Rito** 84.59 48 P P 09 54 55.0 +1.1
baz=84
CDF **Champ du Feu** 84.62 330 *e*P P 09 54 53.8 +0.2
CDF **Champ du Feu** 84.62 330 *e*P P 09 54 53.8 +0.2
CDF **Champ du Feu** 84.62 330 *e*P P 09 54 53.8 +0.2
KSCO **Kaye Shedlock'** 84.76 44 P P 09 54 56.7 +2.1
R26A **Arlington** 84.81 45 P P 09 54 55.3 +0.5
baz=84
ECH **Echery** 84.82 330 *e*P P 09 54 53.6 -1.0
ECH pmax pmax
comp=Z,18nm,1.2s
ECH **Echery** 84.82 330 *e*P P 09 54 53.6 -1.0
comp=Z,18nm,1.2s
FUORN **Ofenpass-Fuorn** 84.82 328 *e*P P 09 54 55.3 +0.4
P28A **Saint Francis** 84.84 43 P P 09 54 55.0 +0.1
baz=84
Y20A **Horse Springs,** 84.91 51 P P 09 54 56.7 +1.1
baz=85
T25A **Trinidad** 85.07 46 P P 09 54 57.4 +1.1
baz=85
U24A **Moreno Valley** 85.07 47 P P 09 54 57.4 +1.0
baz=85
PAGF **Fort de Pagny** 85.10 331 *e*P P 09 54 56.2 +0.2
comp=Z,22nm,1.4s
PAGF **Fort de Pagny** 85.10 331 *e*P P 09 54 56.2 +0.2
comp=Z,22nm,1.4s
HAU **Haudompre** 85.31 331 *e*P P 09 54 56.9 -0.1
comp=Z,12nm,0.7s
HAU **Haudompre** 85.31 331 *e*P P 09 54 56.9 -0.1
HAU pmax pmax
comp=Z,12nm,0.7s
HAU **Haudompre** 85.31 331 *e*P P 09 54 56.9 -0.1
comp=Z,12nm,0.7s
T26A **Comanche Natio** 85.51 46 P P 09 54 58.6 +0.1
baz=85
V24A **Rampart Ranch,** 85.54 48 P P 09 54 58.8 +0.1
baz=85
SFTF **Sexfontaines** 85.65 331 *e*P P 09 54 58.6 -0.1
comp=Z,93nm,1.3s
SFTF **Sexfontaines** 85.65 331 *e*P P 09 54 58.6 -0.1
comp=Z,93nm,1.3s
IDI **Anoyia** 85.69 312 *e*P P 09 54 58.5 -0.7
IDI **Anoyia** 85.69 312 P P 09 54 58.3 -1.0
comp=Z,6.1nm,0.6s,baz=33,slow=11,SNR=4.1
U26A **Atchley Ranch,** 85.97 46 P P 09 55 00.9 +0.1
baz=86
Q30A **Quinter** 86.10 43 P P 09 55 01.4 +0.3
baz=86
P31A **Stockton** 86.15 42 P P 09 55 01.6 +0.2
baz=86
W25A **X Bar L Ranch,** 86.37 48 P P 09 55 03.8 +1.1
baz=86
P32A **Huiting Farm,** 86.49 41 P P 09 55 03.0 -0.1
baz=86
CABF **La Chapelle** 86.55 330 *e*P P 09 55 03.4 +0.1
CABF **La Chapelle** 86.55 330 *e*P P 09 55 03.4 +0.1
CABF **La Chapelle** 86.55 330 *e*P P 09 55 03.4 +0.1
LOR **Lormes** 86.88 332 *e*P P 09 55 04.7 -0.1
comp=Z,15nm,0.8s
LOR **Lormes** 86.88 332 *e*P P 09 55 04.7 -0.1
comp=Z,15nm,0.8s
V27A **Dan Oppiter Fa** 86.94 46 P P 09 55 05.7 +0.2
baz=87
SSF **Saint Saulge** 87.18 332 *e*P P 09 55 06.0 -0.2
comp=Z,7.6nm,0.7s
SSF **Saint Saulge** 87.18 332 *e*P P 09 55 06.0 -0.2
SSF pmax pmax
comp=Z,8.0nm,0.7s
SSF **Saint Saulge** 87.18 332 *e*P P 09 55 06.0 -0.2
comp=Z,7.6nm,0.7s
LPL **La Plagne** 87.18 329 *e*P P 09 55 07.5 +0.9
LPL **La Plagne** 87.18 329 *e*P P 09 55 07.5 +0.9
LPL **La Plagne** 87.18 329 *e*P P 09 55 07.5 +0.9
LPG **La Plagne** 87.19 329 *e*P P 09 55 07.7 +1.0
LPG **La Plagne** 87.19 329 *e*P P 09 55 07.7 +1.0
LPG **La Plagne** 87.19 329 *e*P P 09 55 07.7 +1.0
AVF **Avril sur Loir** 87.46 332 *e*P P 09 55 07.7 +0.1
comp=Z,25nm,1.2s
AVF **Avril sur Loir** 87.46 332 *e*P P 09 55 07.7 +0.1
AVF pmax pmax
comp=Z,25nm,1.2s
AVF **Avril sur Loir** 87.46 332 *e*P P 09 55 07.7 +0.1
comp=Z,25nm,1.2s
KSU1 **Kansas State U** 87.91 40 *e*P P 09 55 09.9 0.0
comp=Z,11nm,0.9s
TXAR **Lajitas Array** 90.96 51 P P 09 55 24.3 -0.2
TXAR **Lajitas Array** 90.96 51 P P 09 55 24.3 -0.2
comp=Z,2.4nm,0.7s,baz=291,slow=2.6,SNR=10
WHTX **Lake Whitney** 92.74 46 *e*P P 09 55 33.3 +0.8
HKT **Hockley** 95.19 46 *e*P P 09 55 43.6 -0.1
HKT pmax pmax
comp=Z,45nm,1.9s
HKT **Hockley** 95.19 46 *e*P P 09 55 43.6 -0.1
comp=Z,45nm,1.9s
VNDA **Vanda** 115.50 175 PKP PKPdf 10 01 02.1 +1.4
VNDA **Vanda** 115.50 175 PKP PKPdf 10 01 02.1 +1.4
comp=Z,0.4nm,0.7s,baz=283,slow=20,SNR=7.1
SAML **Samuel** 144.90 42 *e*PKPab PKPbc 10 01 57.0 +0.2
LPAZ **La Paz** 147.66 57 PKPbc PKPbc 10 02 05.1 -0.7
LPAZ **La Paz** 147.66 57 PKPbc PKPbc 10 02 05.1 -0.7
comp=Z,5.1nm,0.8s,baz=16,slow=11,SNR=13
H03N2 **Juan Fernandez** 148.44 94 T T 12 47 17.0
baz=290
H03N3 **Juan Fernandez** 148.45 95 T T 12 47 18.6
baz=290
H03N1 **Juan Fernandez** 148.46 94 T T 12 47 18.6
baz=290

IDC 12 09:49:44.2±7.0, 15°12'S×172°7'.94W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/20, mbtmp3.6/2, Error ellipse: s-maj=358.5km s-min=20.0km az=142.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu** 14nm,0.3s,baz=218,slow=6.1,SNR=10	1.64	43	Pn	Pn	Pn	09 50 13.4	-1.0
AFI	35nm,0.3s,baz=280,slow=12,SNR=8.4				Sn	Sn	09 50 35.9	-0.5
H11S2	**WAKE ISLAND Hy** 38.95 328 baz=158			T	T	T	10 39 08.8	
H11S3	**WAKE ISLAND Hy** 38.97 328 baz=158			T	T	T	10 39 10.9	
H11S1	**WAKE ISLAND Hy** 38.97 328 baz=158			T	T	T	10 39 08.9	
H11N3	**WAKE ISLAND Hy** 39.89 330 baz=157			T	T	T	10 40 23.9	
H11N1	**WAKE ISLAND Hy** 39.90 330 baz=157			T	T	T	10 40 26.0	

H11N2	**WAKE ISLAND Hy**	**39.91**	**330**	T	T	10 40 25.2	
	baz=157						
WRA	**Warramunga Arr**	**50.34**	**256**	P	P	09 58 43.3	-0.1
	1.0nm,1.1s,baz=89,slow=6.7,SNR=3.8						
ASAR	**Alice Springs**	**50.62**	**252**	P	P	09 58 44.1	-1.4
	0.8nm,0.6s,baz=86,slow=8.6,SNR=16						
BRTR	**Keskin Array B**	**146.22**	**322**	PKPbc	PKPab	10 09 28.5	+0.7
	0.6nm,0.6s,baz=45,slow=0.6,SNR=2.9						

IDC 12 10:02:12.6±0.8, 15°68S×173°72W, h0km, mb3.9/8, mb1 4.3/8, mb1mx4.1/18, mbtmp3.9/8, MS3.8/1, Ms1 3.8/1, ms1mx3.6/27, Error ellipse: s-maj=42.8km s-min=18.9km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.58**	**47**	Pn	Pn	10 02 49.3	-6.4
	12nm,0.3s,baz=218,slow=4.6,SNR=18						
AFI				Sn	Sn	10 03 16.2	-12
	27nm,0.3s,baz=50,slow=21,SNR=13						
AFI				LR	LR	10 03 34.8	
	comp=Z,2μm,18.8s,baz=129,slow=32						
H11S2	**WAKE ISLAND Hy**	**39.05**	**330**	T	T	10 51 33.6	
	baz=152,slow=0.7,SNR=30						
H11S3	**WAKE ISLAND Hy**	**39.06**	**330**	T	T	10 51 43.4	
	baz=152,slow=0.7,SNR=29						
H11S1	**WAKE ISLAND Hy**	**39.06**	**330**	T	T	10 51 38.2	
	baz=152,slow=0.7,SNR=38						
H11N3	**WAKE ISLAND Hy**	**40.00**	**331**	T	T	10 52 50.6	
	baz=152,slow=0.7,SNR=45						
H11N1	**WAKE ISLAND Hy**	**40.01**	**331**	T	T	10 52 51.5	
	baz=152,slow=0.7,SNR=46						
H11N2	**WAKE ISLAND Hy**	**40.02**	**331**	T	T	10 52 52.0	
	baz=152,slow=0.7,SNR=47						
STKA	**Stephens Creek**	**43.63**	**240**	P	P	10 10 18.2	-0.9
	2.7nm,0.7s,baz=94,slow=7.2,SNR=3.5						
WRA	**Warramunga Arr**	**49.48**	**257**	P	P	10 11 04.0	-1.2
	4.6nm,1.0s,baz=91,slow=6.8,SNR=16						
ASAR	**Alice Springs**	**49.73**	**252**	P	P	10 11 06.9	-0.2
	2.7nm,0.6s,baz=88,slow=7.8,SNR=52						
VNDA	**Vanda**	**63.07**	**186**	P	P	10 12 41.9	+0.6
	1.1nm,0.8s,baz=28,slow=6.6,SNR=5.1						
NVAR	**Mina Array Bea**	**74.74**	**42**	P	P	10 13 53.9	-1.0
	1.0nm,0.8s,baz=227,slow=8.5,SNR=4.3						
TXAR	**Lajitas Array**	**81.02**	**56**	P	P	10 14 28.8	-1.1
	0.2nm,0.7s,baz=226,slow=3.6,SNR=3.4						
PDAR	**Pinedale Array**	**82.68**	**42**	P	P	10 14 38.9	+0.5
	0.7nm,0.8s,baz=174,slow=2.5,SNR=4.0						
ILAR	**Eielson Array**	**82.78**	**11**	P	P	10 14 38.3	+0.1
	1.0nm,0.9s,baz=232,slow=6.0,SNR=14						
ARCES	**ARCESS Array B**	**124.84**	**352**	PKP	PKPdf	10 21 12.1	-1.8
	2.8nm,0.9s,baz=66,slow=1.5,SNR=4.5						
BRTR	**Keskin Array B**	**146.18**	**320**	PKPbc	PKPab	10 21 56.3	+0.3
	4.7nm,0.9s,baz=140,slow=2.9,SNR=12						
GERES	**GERESS Array B**	**146.37**	**351**	PKPbc	PKPab	10 21 56.7	+0.3
	0.6nm,0.8s,baz=225,slow=2.5,SNR=3.3						
TORD	**Torodi Ar. Bea**	**174.89**	**119**	PKP	PKPdf	10 22 26.8	+1.2
	1.3nm,1.1s,baz=271,slow=1.1,SNR=3.9						

*ISCJB **12** 10:03:31.9±0.7,59°.33N±0°.03×27°.01E±0°.07, h0km, Error ellipse: s-maj=5.4km s-min=3.8km az=13.4*
*CSEM **12** 10:03:33.6±0.4,59°.33N×27°.02E, h2km, ML2.2, Error ellipse: s-maj=8.3km s-min=5.5km az=108.0, Mining explosion.*
*HEL **12** 10:03:33.5±0.8,59°.33N×27°.23E, h0km, ML1.8, Explosion*
*NAO **12** 10:03:33.0±1.1,59°.31N×27°.03E, ML2.2*
*IDC **12** 10:03:34.8±1.1,59°.38N×27°.03E, h0km, mb1 3.2/5, mb1mx3.0/28, mbtmp3.1/5, ML2.7/5, Error ellipse: s-maj=12.0km s-min=7.8km az=88.0*
*BER **12** 10:03:34.1±3.5,59°.32N×27°.06E, h0km, ML2.2(NAO), Suspected explosion*

ISC 12 10:03:32.4±0.8, 59°.34N±0°.02×27°.01E±0°.04, h0km, n40, σ1§46/57, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VSU	**Vasula**	**0.89**	**189**	Pg	**Pg**	**10 03 49.8**	**+0.4**
VSU				Lg	Lg	10 04 01.3	
VSU	**Vasula**	**0.89**	**189**	Pg	**Pg**	**10 03 49.8**	**+0.4**
VSU				Lg	Lg	10 04 01.3	
VSU	**Vasula**	**0.89**	**189**	Pg	**Pg**	**10 03 49.8**	**+0.4**
VSU				*eS*	**Sg**	**10 04 00.1**	**-0.8**
	SNR=90						
VSU				Lg	Lg	10 04 01.3	
	SNR=55						
VJF	**Virojoki**	**1.23**	**13**	PG	**Pg**	**10 03 55.7**	**-0.4**
VJF				SG	**Sg**	**10 04 12.6**	**+0.6**
VJF				MSG		10 04 12.6	
	comp=Z,5.3nm,0.2s						
VJF	**Virojoki**	**1.23**	**13**	Pg	**Pg**	**10 03 55.6**	**-0.4**
VJF				Sg	**Sg**	**10 04 12.6**	**+0.6**
PVF	**Pernaja**	**1.34**	**335**	PG	**Pg**	**10 03 57.9**	**-0.1**
PVF				SG	**Sb**	**10 04 16.5**	**+0.5**
PVF				MSG		10 04 16.5	
	comp=Z,4.2nm,0.4s						
PVF	**Pernaja**	**1.34**	**335**	Pg	**Pg**	**10 03 57.9**	**-0.1**
PVF				Sg	**Sb**	**10 04 16.5**	**+0.5**
SRPE	**Suurupi**	**1.35**	**276**	*eS*	**Sn**	**10 04 18.3**	**+1.2**
	comp=Z,271nm,0.6s,SNR=50						
MEF	**Metsahovi**	**1.59**	**305**	PG	**Pg**	**10 04 02.9**	**+0.1**
MEF				SG	**Sg**	**10 04 24.9**	**+1.5**
MEF				MSG		10 04 24.9	
	comp=Z,6.7nm,0.1s						
MEF	**Metsahovi**	**1.59**	**305**	*eP*	**Pn**	**10 04 01.9**	**+0.2**
	SNR=50						
MEF	**Metsahovi**	**1.59**	**305**	Pg	**Pg**	**10 04 02.9**	**+0.1**
MEF				*eS*	**Sg**	**10 04 23.8**	**+0.4**
	SNR=50						
MEF				Sg	**Sg**	**10 04 24.9**	**+1.5**
MTSE	**Matsula**	**1.77**	**251**	PN	**Pb**	**10 04 05.6**	**0.0**
MTSE				SG	**Sg**	**10 04 29.8**	**+0.6**
MTSE	**Matsula**	**1.77**	**251**	*eP*	**Pn**	**10 04 04.7**	**+0.5**
	SNR=50						
MTSE	**Matsula**	**1.77**	**251**	Pn	**Pb**	**10 04 05.6**	**0.0**
MTSE				Sg	**Sg**	**10 04 29.7**	**+0.6**
MTSE				*eS*	**Sb**	**10 04 30.2**	**+1.9**
	SNR=50						
FIA0	**FINESS Array S**	**2.16**	**348**	Pn	**Pb**	**10 04 11.2**	**-1.1**
	baz=172,slow=16						
FIA0				Lg	Lg	10 04 41.5	
	baz=169,slow=37						
FIA0				Rg	Rg	10 04 54.5	
	baz=162,slow=37						
FIA0	**FINESS Array S**	**2.16**	**348**	Pn	**Pb**	**10 04 11.2**	**-1.1**
	baz=172,slow=16						
FIA0				Lg	Lg	10 04 41.5	
	baz=169,slow=37						
FIA0				Rg	Rg	10 04 54.5	
	baz=162,slow=37						
FIA0	**FINESS Array S**	**2.16**	**348**	PN	**Pn**	**10 04 10.8**	**+1.2**
	baz=166						
FIA0				SG	**Sb**	**10 04 40.7**	**+1.0**
FIA0				MSG		10 04 40.7	
	comp=Z,6.6nm,0.4s						
FIA0				RG	Rg	10 04 55.3	
FIA0	**FINESS Array S**	**2.16**	**348**	Pn	**Pb**	**10 04 11.2**	**-1.1**
	baz=172,slow=15,SNR=8.5						
FIA0				Sg	**Sb**	**10 04 40.7**	**+1.0**
FIA0				Lg	Lg	10 04 41.5	
	baz=169,slow=28,SNR=92						
FINES	**FINESS Array B**	**2.16**	**348**	Pn	**Pn**	**10 04 10.9**	**+1.3**
	comp=Z,2.0nm,0.3s,baz=165,slow=16,SNR=33						
FINES				Sn	**Sb**	**10 04 40.3**	**+0.6**
	comp=Z,3.7nm,0.3s,baz=167,slow=25,SNR=18						
FINES				Lg	Lg	10 04 42.5	
	comp=Z,3.7nm,0.3s,baz=169,slow=28,SNR=19						
FINES				Rg	Rg	10 04 54.9	
	comp=Z,9.1nm,0.6s,baz=170,slow=27,SNR=3.5						
KAF	**Kangasniemi**	**2.81**	**353**	PN	**Pb**	**10 04 22.0**	**-1.4**
KAF				SG	**Sn**	**10 04 55.5**	**+2.6**
KAF				MSG		10 04 55.5	
	comp=Z,1.3nm,0.2s						
KAF	**Kangasniemi**	**2.81**	**353**	Pn	**Pb**	**10 04 21.9**	**-1.4**
SLIT	**Slitere, Latvi**	**3.01**	**237**	*eP*	**Pb**	**10 04 26.5**	**-0.3**
	SNR=50						
RAF	**Rauma**	**3.12**	**305**	PN	**Pb**	**10 04 25.9**	**-2.7**
RAF				SG	**Sb**	**10 05 08.8**	**+1.7**
RAF				MSG		10 05 08.8	
	comp=Z,3.1nm,0.4s						
RAF	**Rauma**	**3.12**	**305**	*eP*	**Pn**	**10 04 23.8**	**+1.1**
	SNR=50						
RAF	**Rauma**	**3.12**	**305**	Pn	**Pb**	**10 04 25.9**	**-2.7**
SUF	**Sumiainen**	**3.42**	**353**	PN	**Pn**	**10 04 29.3**	**+2.5**
SUF				SG	**Sb**	**10 05 18.1**	**+2.3**
SUF				MSG		10 05 18.1	
	comp=Z,4.8nm,0.4s						
SUF	**Sumiainen**	**3.42**	**353**	Pn	**Pn**	**10 04 29.3**	**+2.5**
AAL	**Aland**	**3.65**	**286**	SG	**Sg**	**10 05 31.2**	**+1.7**
AAL	**Aland**	**3.65**	**286**	Sg	**Sg**	**10 05 31.2**	**+1.7**
JOF	**Joensuu**	**4.15**	**28**	PN	**Pn**	**10 04 38.8**	**+1.8**
JOF	**Joensuu**	**4.15**	**28**	Pn	**Pn**	**10 04 38.7**	**+1.8**
HFS	**Hagfors**	**6.78**	**282**	Sn	**Sn**	**10 06 27.5**	**-3.3**
	baz=111,slow=28						
HFS				Lg	Lg	10 07 03.9	
	baz=106,slow=37						
HFS	**Hagfors**	**6.78**	**282**	Sn	**Sn**	**10 06 27.5**	**-3.3**
	baz=111,slow=28						
HFS				Lg	Lg	10 07 03.9	
	baz=106,slow=37						
HFS	**Hagfors**	**6.78**	**282**	Lg	Lg	10 07 03.9	
	baz=106,slow=28						
HFS	**Hagfors**	**6.78**	**282**	Pn	**Pn**	**10 05 12.4**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=113,slow=15,SNR=2.6						
HFS				Sn	**Sn**	**10 06 29.5**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=91,slow=24,SNR=3.2						
HFS				Lg	Lg	10 07 06.3	
	comp=Z,0.6nm,0.3s,baz=89,slow=31,SNR=6.5						
NOA	**NORSAR Array B**	**8.05**	**289**	Pn	**Pn**	**10 05 28.7**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=95,slow=13,SNR=3.5						
NOA				Lg	Lg	10 07 48.7	
	comp=Z,0.4nm,0.3s,baz=132,slow=23,SNR=3.3						
AKASG	**Malin Array Be**	**8.75**	**171**	Pn	**Pn**	**10 05 38.9**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=354,slow=13,SNR=2.7						
ARA0	**ARCESS Array S**	**10.26**	**357**	Pn	**Pn**	**10 05 59.5**	**-1.2**
	baz=174,slow=14						
ARA0	**ARCESS Array S**	**10.26**	**357**	Pn	**Pn**	**10 05 59.5**	**-1.2**
	baz=174,slow=14						
ARCES	**ARCESS Array B**	**10.26**	**357**	Pn	**Pn**	**10 05 59.2**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=168,slow=15,SNR=5.7						

IDC 12 10:04:59.9±6.7, 16°08S×173°44W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.8/19, mbtmp3.9/3, Error ellipse: s-maj=320.0km s-min=33.6km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.69**	**37**	Pn	Pn	10 05 37.6	-7.0
	baz=205,slow=21,SNR=2.9						
AFI				Sn	Sn	10 06 04.6	-13
	29nm,0.3s,baz=48,slow=22,SNR=4.1						
WRA	**Warramunga Arr**	**49.65**	**257**	P	P	10 13 53.6	-0.2
	1.7nm,1.0s,baz=96,slow=7.8,SNR=6.5						
ASAR	**Alice Springs**	**49.86**	**252**	P	P	10 13 55.0	-0.4
	2.5nm,0.8s,baz=88,slow=7.8,SNR=11						
ILAR	**Eielson Array**	**83.12**	**11**	P	P	10 17 26.2	-1.0
	0.4nm,0.7s,baz=226,slow=7.4,SNR=5.4						
BRTR	**Keskin Array B**	**146.66**	**320**	PKPbc	PKPbc	10 24 44.6	+0.5
	1.3nm,0.8s,baz=65,slow=2.6,SNR=4.9						
GERES	**GERESS Array B**	**146.81**	**351**	PKPbc	PKPbc	10 24 43.7	-0.4
	0.4nm,0.5s,baz=189,slow=3.7,SNR=2.5						

IDC 12 10:11:19.4±1.5, 15°88S×173°49W, h0km, mb4.0/7, mb1 4.3/7, mb1mx4.1/19, mbtmp4.0/7, Error ellipse: s-maj=97.2km s-min=19.8km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.56**	**41**	Pn	Pn	10 11 56.5	-5.8
	12nm,0.3s,baz=56,slow=6.2,SNR=21						
AFI				Sn	Sn	10 12 23.5	-11
	40nm,0.3s,baz=50,slow=23,SNR=6.8						
STKA	**Stephens Creek**	**43.72**	**240**	P	P	10 19 26.4	-0.1
	2.9nm,0.7s,baz=88,slow=12,SNR=5.1						
WRA	**Warramunga Arr**	**49.65**	**257**	P	P	10 20 12.9	-0.3
	1.7nm,0.8s,baz=91,slow=6.8,SNR=24						
ASAR	**Alice Springs**	**49.88**	**252**	P	P	10 20 14.4	-0.6
	3.3nm,0.5s,baz=87,slow=7.9,SNR=80						
NVAR	**Mina Array Bea**	**74.74**	**42**	P	P	10 23 02.1	+0.5
	0.8nm,0.7s,baz=228,slow=9.6,SNR=8.0						
TXAR	**Lajitas Array**	**80.95**	**56**	P	P	10 23 36.8	+0.5
	0.6nm,1.0s,baz=214,slow=6.0,SNR=4.0						
PDAR	**Pinedale Array**	**82.68**	**42**	P	P	10 23 43.3	-1.9
	0.5nm,0.8s,baz=198,slow=4.4,SNR=4.0						
ILAR	**Eielson Array**	**82.93**	**11**	P	P	10 23 45.0	-0.7
	0.9nm,0.6s,baz=228,slow=6.2,SNR=20						
ARCES	**ARCESS Array B**	**125.06**	**352**	PKP	PKPdf	10 30 20.9	-0.2
	4.9nm,1.0s,baz=5.7,slow=0.9,SNR=4.4						
BRTR	**Keskin Array B**	**146.47**	**320**	PKPbc	PKPab	10 31 03.5	-0.4
	1.7nm,0.7s,baz=119,slow=1.5,SNR=9.5						
GERES	**GERESS Array B**	**146.60**	**351**	PKPbc	PKPbc	10 31 03.3	+0.3
	0.7nm,0.7s,baz=299,slow=1.4,SNR=5.9						

*IDC **12** 10:29:12.9±2.1, 13°.95S×166°.77E, h15km±11km, mb4.8/17, mb1 4.8/19, mb1mx4.7/23, mbtmp4.8/19, ML4.3/2, MS4.7/11, Ms1 4.8/11, ms1mx4.4/37, Error ellipse: s-maj=18.9km s-min=13.6km az=88.0*
*ISCJB **12** 10:29:14.9±1.2, 13°.86S±0°.04×166°.63E±0°.05, h35km±11km, mb5.0/63, MS4.9/20, Error ellipse: s-maj=7.6km s-min=6.1km az=161.7*
*MOS **12** 10:29:14.1±0.9, 13°.90S×166°.67E, h33km, mb5.6/19, Error ellipse: s-maj=11.2km s-min=8.8km az=32.4*
*NEIC **12** 10:29:16.0±0.2, 13°.90S×166°.72E, h35km, mb5.1/28, Error ellipse: s-maj=7.1km s-min=6.5km az=108.0*
*BJI **12** 10:29:20.5, 14°.00S×166°.60E, h93km, mB5.4/27, mb5.1/46*
*AUST **12** 10:29:22.6±1.0, 13°.94S×166°.56E, h85km±12km, Error ellipse: s-maj=6.6km s-min=6.2km az=34.0*
*DJA **12** 10:29:24.5±3.4, 14°.S±9°×16°.7E±1°.1, h101km±49km, M4.8/8, mb4.8/8*

ISC 12 10:29:17.6±0.7, 13°.84S±0°.05×166°.66E±0°.05, h47km±6km, n233, σ1§50/269, mb5.1/63, MS4.9/20, 13C-11D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.90**	**303**	Pn	**Pn**	**10 31 11.2**	**+1.3**
HNR				*ePg*		10 31 45.3	
HNR				Sn	**Sn**	**10 32 37.3**	**-0.8**
HNR	**Honiara**	**7.90**	**303**	Pn	**Pn**	**10 31 11.2**	**+1.3**
	29nm,0.3s,baz=1.0,slow=0.8,SNR=4.8						
HNR				Sn	**Sn**	**10 32 37.3**	**-0.8**
	20nm,0.3s,baz=37,slow=23,SNR=3.7						
HNR				LR	LR	10 33 44.8	
	comp=Z,3μm,19.2s,baz=152,slow=34						
DZM	**Mont Dzumac**	**8.19**	**181**	*ePn*	**Pn**	**10 31 12.6**	**-1.4**
	145nm,0.3s						
DZM				*eLR*	LR	10 33 16.7	
	5μm,24.6s						
DZM	**Mont Dzumac**	**8.19**	**181**	Pn	**Pn**	**10 31 12.8**	**-1.2**
DZM				Sn	**Sn**	**10 32 47.5**	**+2.2**
DZM	**Mont Dzumac**	**8.19**	**181**	Pn	**Pn**	**10 31 12.8**	**-1.2**
	2.7nm,0.3s,baz=55,slow=21,SNR=25						
DZM				Sn	**Sn**	**10 32 47.5**	**+2.2**
	7.7nm,0.3s,baz=312,slow=22,SNR=5.1						
DZM				LR	LR	10 33 57.5	
	comp=Z,3μm,21.8s,baz=22,slow=35						
MSVF	**Nonsavu**	**11.63**	**111**	*eP*	**Pn**	**10 32 00.0**	**-1.1**
MSVF	**Nonsavu**	**11.63**	**111**	Pn	Pn	10 32 05.4	+4.3
	396nm,1.3s,SNR=5.0						
MSVF	**Nonsavu**	**11.63**	**111**	*ePn*	**Pn**	**10 31 60.0**	**-1.1**
TARA	**Tarawa**	**16.32**	**23**	Pn	**Pn**	**10 33 03.7**	**0.0**
	332nm,1.1s						
EIDS	**Eidsvold**	**18.60**	**230**	*ePn*	**Pn**	**10 33 32.1**	**+0.3**
	60nm,1.2s						
EIDS	**Eidsvold**	**18.60**	**230**	⇓P	**Pn**	**10 33 31.8**	**0.0**
	baz=18,SNR=8.0						
PMG	**Port Moresby**	**19.60**	**281**	P	**Pn**	**10 33 43.3**	**-0.4**
	79nm,1.2s						
PMG	**Port Moresby**	**19.60**	**281**	*eP*	**Pn**	**10 33 43.4**	**-0.3**
	81nm,1.1s						
PMG	**Port Moresby**	**19.60**	**281**	P	**Pn**	**10 33 43.9**	**+0.1**
	0.6nm,0.3s,baz=36,slow=6.7,SNR=5.2						
CTA	**Charters Tower**	**20.47**	**250**	P	**P**	**10 33 51.5**	**-0.2**
CTA				ScP	**ScP**	**10 41 37.7**	**+2.6**
CTA	**Charters Tower**	**20.47**	**250**	⇑P	**P**	**10 33 52.5**	**+0.9**
	baz=20						
CTA	**Charters Tower**	**20.47**	**250**	P	**P**	**10 33 51.5**	**-0.2**
	34nm,1.0s,baz=77,slow=14,SNR=35						
CTA				ScP	**ScP**	**10 41 37.7**	**+2.6**
	1.2nm,0.6s,baz=153,slow=3.1,SNR=3.8						
CTAO	**Charters Tower**	**20.47**	**250**	*eP*	**P**	**10 33 52.2**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,73nm,1.1s						
CTAO	**Charters Tower**	**20.47**	**250**	*eP*	**P**	**10 33 52.2**	**+0.6**
	comp=Z,73nm,1.1s						
AFI	**Afiamalu**	**20.94**	**93**	*ePn*	Pn	10 34 03.5	+3.7
	comp=Z,82nm,1.0s						
RMQ	**Roma**	**20.96**	**230**	⇓P	**P**	**10 33 58.2**	**+1.4**
	baz=21,SNR=22						
ARMA	**Armidale**	**21.55**	**218**	*eP*	**P**	**10 34 04.1**	**+0.9**
	comp=Z,50nm,1.0s						
ARMA	**Armidale**	**21.55**	**218**	P	**P**	**10 34 04.0**	**+0.9**
	baz=22,SNR=4.0						
MTSU	**Mount Surprise**	**21.89**	**256**	⇓P	**P**	**10 34 07.5**	**+0.6**
	baz=22						
OUZ	**Omahuta**	**22.19**	**165**	*eP*	**P**	**10 34 10.0**	**+0.1**
	comp=Z,51nm,0.8s						
COEN	**Coen**	**22.79**	**267**	*eP*	**P**	**10 34 17.0**	**+0.4**
	comp=Z,300nm,1.0s						
COEN	**Coen**	**22.79**	**267**	P	**P**	**10 34 16.8**	**+0.3**
	baz=23,SNR=5.2						
MGCD	**Mangrove Creek**	**23.92**	**214**	⇓P	**P**	**10 34 28.2**	**+0.9**
	baz=24						
QLP	**Quilpie**	**24.52**	**235**	⇑P	**P**	**10 34 33.1**	**+0.3**
	baz=24,SNR=18						
URZ	**Urewera**	**26.03**	**161**	P	**P**	**10 34 45.8**	**-0.6**
URZ	**Urewera**	**26.03**	**161**	P	**P**	**10 34 45.8**	**-0.6**
	comp=Z,5.8nm,0.8s,baz=284,slow=4.2,SNR=2.6						
CMSA	**Cobar Meteorol**	**26.08**	**224**	P	**P**	**10 34 46.7**	**-0.2**
	baz=26,SNR=11						
STKA	**Stephens Creek**	**29.13**	**228**	*eP*	**P**	**10 35 14.1**	**-0.1**
STKA	**Stephens Creek**	**29.13**	**228**	P	**P**	**10 35 14.8**	**+0.5**
	baz=29,SNR=22						
STKA	**Stephens Creek**	**29.13**	**228**	P	**P**	**10 35 13.9**	**-0.4**
	comp=Z,28nm,0.7s,baz=44,slow=7.5,SNR=51						
STKA				LR	LR	10 46 34.6	
	comp=Z,2μm,19.6s,baz=30,slow=36						
RPZ	**Rata Peaks**	**30.01**	**174**	P	**P**	**10 35 19.6**	**-2.3**
RPZ	**Rata Peaks**	**30.01**	**174**	P	**P**	**10 35 19.6**	**-2.3**
	comp=Z,15nm,0.7s,baz=340,slow=3.1,SNR=7.8						
RPZ				LR	LR	10 45 22.2	
	comp=Z,895nm,19.0s,baz=329,slow=32						
WRAB	**Tennant Creek**	**31.47**	**254**	*eP*	**P**	**10 35 33.3**	**-1.8**
WRAB				pmax	pmax		
	comp=Z,28nm,1.1s						
WRAB	**Tennant Creek**	**31.47**	**254**	*eP*	**P**	**10 35 33.3**	**-1.8**
	comp=Z,28nm,1.1s						
WRA	**Warramunga Arr**	**31.48**	**254**	P	**P**	**10 35 33.6**	**-1.5**
WRA				PcP	**PcP**	**10 38 27.3**	**-0.3**
WRA				ScP	**ScP**	**10 42 09.7**	**+2.6**
WRA	**Warramunga Arr**	**31.48**	**254**	P	**P**	**10 35 33.6**	**-1.5**
	comp=Z,5.3nm,0.8s,baz=85,slow=9.0,SNR=33						
WRA				PcP	**PcP**	**10 38 27.3**	**-0.3**
	comp=Z,3.1nm,1.0s,baz=85,slow=2.8,SNR=4.8						
WRA				ScP	**ScP**	**10 42 09.7**	**+2.6**
	comp=Z,1.7nm,1.0s,baz=85,slow=3.2,SNR=4.9						
WRA				LR	LR	10 47 12.0	
	comp=Z,979nm,19.1s,baz=90,slow=34						
AS07	**Alice Springs**	**32.39**	**248**	⇓P	**P**	**10 35 42.8**	**-0.4**
	baz=32						
AS09	**Alice Springs**	**32.42**	**248**	⇑P	**P**	**10 35 42.3**	**-1.1**
	baz=32						
AS10	**Alice Springs**	**32.45**	**248**	⇓P	**P**	**10 35 42.6**	**-1.0**
	baz=32						
AS31	**Alice Springs**	**32.45**	**248**	*eP*	**P**	**10 35 42.1**	**-1.6**
ASAR	**Alice Springs**	**32.45**	**248**	P	**P**	**10 35 42.4**	**-1.3**
ASAR				PcP	**PcP**	**10 38 29.2**	**-1.0**
ASAR				ScP	**ScP**	**10 42 12.6**	**+2.2**
ASAR	**Alice Springs**	**32.45**	**248**	P	**P**	**10 35 42.4**	**-1.3**
	comp=Z,5.1nm,0.8s,baz=75,slow=8.8,SNR=20						
ASAR				PcP	**PcP**	**10 38 29.2**	**-1.0**
	comp=Z,2.1nm,0.7s,baz=75,slow=3.2,SNR=5.3						
ASAR				ScP	**ScP**	**10 42 12.6**	**+2.2**
	comp=Z,1.8nm,0.9s,baz=77,slow=3.3,SNR=8.0						
ASAR				LR	LR	10 48 41.9	
	comp=Z,906nm,19.3s,baz=113,slow=36						
KDU	**Kakadu**	**33.28**	**268**	P	**P**	**10 35 51.1**	**+0.2**
	baz=33,SNR=4.7						
BBOO	**Buckleboo**	**33.67**	**231**	P	**P**	**10 35 54.5**	**+0.3**
	baz=34,SNR=7.5						
MTN	**Manton Dam**	**34.56**	**267**	⇓P	**P**	**10 36 02.4**	**+0.3**
	baz=34,SNR=4.5						
KNRA	**Kununurra**	**36.66**	**262**	⇓P	**P**	**10 36 19.9**	**-0.2**
	baz=36,SNR=5.8						
FITZ	**Fitzroy Crossi**	**39.60**	**258**	*eP*	**P**	**10 36 45.1**	**+0.3**
	comp=Z,27nm,1.1s						
FITZ	**Fitzroy Crossi**	**39.60**	**258**	⇓P	**P**	**10 36 44.9**	**0.0**
	baz=40,SNR=5.8						
MCQ	**Macquarie Isla**	**41.02**	**187**	⇑P	**P**	**10 36 57.7**	**+1.7**
	baz=41						
PPT2	**Papeete2**	**42.23**	**101**	*eLQ*	LQ	10 47 27.0	
	comp=Z,1μm,27.0s						
PPT2				*eLR*	LR	10 49 15.0	
	comp=Z,1μm,22.2s						
PPT	**Papeete**	**42.23**	**101**	LR	LR	10 49 52.2	
	comp=Z,899nm,19.8s,baz=125,slow=29						
TBI	**Tubuai**	**42.51**	**109**	*eLQ*	LQ	10 47 14.8	
	comp=Z,1μm,26.2s						
PMOR	**Pomariorio Ree**	**43.98**	**97**	*eP*	**P**	**10 37 22.3**	**+1.7**
	comp=Z,101nm,1.2s						
VAH	**Vaihoa**	**44.21**	**98

GYA				sP	sP	10 41 06.2	+18	
GYA				PP	PP	10 43 11.9	+5.3	
GYA				S	**S**	**10 49 37.6**	**-3.2**	
GYA				sS	SKSac	10 50 19.2	-8.9	
GYA				SKS	**SKKSac**	**10 50 23.0**	**-5.2**	
GYA				SS	**SS**	**10 54 14.4**	**+0.6**	
GYA				AMB	AMB			
	comp=Z,10.0nm,1.0s							
GYA				AMB	AMB			
	comp=Z,120nm,5.7s							
GYA				LR	LR			
	comp=Z,580nm,20.8s							
GYA				LR	LR			
	comp=Z,460nm,21.0s							
GYA				LR	LR			
	comp=Z,590nm,20.4s							
LOEI	**Loei**	**71.65**	**294**	P	**P**	**10 40 34.2**	**-0.7**	
	comp=Z,13nm,1.3s							
NANT	**Nan**	**72.62**	**295**	P	**P**	**10 40 41.9**	**+1.2**	
	comp=Z,30nm,1.2s							
XAN	**Xi'an**	**72.65**	**313**	P	**P**	**10 40 41.3**	**+0.6**	
XAN				pP	PcP	10 41 06.2	+8.3	
XAN				sP	sP	10 41 16.3	+17	
XAN				AMB	AMB			
	comp=Z,8.0nm,1.2s							
XAN				AMB	AMB			
	comp=Z,140nm,14.1s							
KMI	**Kunming**	**73.33**	**302**	⇑P	**P**	**10 40 47.0**	**+1.9**	
KMI				pP	PcP	10 41 11.7	+10	
KMI				sP	sP	10 41 22.1	+18	
KMI				PP	**PP**	**10 43 33.9**	**+4.7**	
KMI				S	**S**	**10 50 07.9**	**-3.1**	
KMI				SKS	SKSac	10 50 39.8	-8.3	
KMI				SS	**SS**	**10 54 54.4**	**+0.3**	
KMI				AMB	AMB			
	comp=Z,39nm,1.0s							
KMI				AMB	AMB			
	comp=Z,230nm,6.5s							
KMI				LR	LR			
	comp=Z,650nm,13.8s							
KMI				LR	LR			
	comp=Z,420nm,16.1s							
KMI				LR	LR			
	comp=Z,400nm,17.8s							
PAYA	**Payao**	**73.55**	**295**	P	**P**	**10 40 47.6**	**+1.4**	
	comp=Z,6.2nm,1.1s							
CM31	**Chiang Mai Arr**	**74.05**	**294**	*e*P	**P**	**10 40 50.6**	**+1.5**	
	comp=Z,4.6nm,0.4s							
CMAR	**Chiang Mai Arr**	**74.05**	**294**	P	**P**	**10 40 50.6**	**+1.5**	
CMAR	**Chiang Mai Arr**	**74.05**	**294**	P	**P**	**10 40 50.6**	**+1.5**	
	comp=Z,12nm,0.9s,baz=119,slow=4.4,SNR=58							
HHC	**Hu-ho-hao-te**	**74.53**	**320**	*e*P	**P**	**10 40 53.4**	**+1.8**	
HHC				pP	PcP	10 41 17.8	+12	
HHC				sP	sP	10 41 29.0	+19	
HHC				PP	**PP**	**10 43 43.2**	**+4.3**	
HHC				S	**S**	**10 50 21.0**	**-2.6**	
HHC				sS	**ScS**	**10 51 02.6**	**+3.4**	
HHC				SS	**SS**	**10 55 12.4**	**+0.9**	
HHC				AMB	AMB			
	comp=Z,75nm,1.1s							
HHC				AMB	AMB			
	comp=Z,610nm,8.6s							
HHC				LR	LR			
	comp=Z,700nm,16.7s							
HHC				LR	LR			
	comp=Z,720nm,16.7s							
HHC				LR	LR			
	comp=Z,550nm,16.7s							
CD2	**Chengdu**	**75.00**	**308**	P	**P**	**10 40 56.9**	**+2.4**	
CD2				pP	PcP	10 41 21.4	+13	
CD2				sP	sP	10 41 31.9	+19	
CD2				PP	PP	10 43 48.8	+5.8	
CD2				S	**S**	**10 50 26.6**	**-2.5**	
CD2				sS	**ScS**	**10 51 09.1**	**+5.7**	
CD2				SS	**SS**	**10 55 20.1**	**+1.2**	
CD2				AMB	AMB			
	comp=Z,10.0nm,0.5s							
CD2				AMB	AMB			
	comp=Z,730nm,4.2s							
CD2				LR	LR			
	comp=Z,800nm,4.9s							
CD2				LR	LR			
	comp=Z,990nm,10.7s							
HIA	**Hailar**	**75.22**	**330**	*e*P	**P**	**10 40 55.6**	**+0.3**	
	comp=Z,64nm,1.2s							
QSPA	**South Pole Qui**	**76.18**	**180**	*e*P	**P**	**10 40 59.5**	**-1.3**	
	comp=Z,19nm,0.8s							
LZH	**Lanzhou**	**77.28**	**312**	P	**P**	**10 41 09.4**	**+1.9**	
LZH				pP	pP	10 41 31.3	+10	
LZH				sP	sP	10 41 44.1	+18	
LZH				PP	**PP**	**10 44 04.5**	**+2.2**	
LZH				*e*S	**S**	**10 50 51.0**	**-3.3**	
LZH				sS	ScS	10 51 32.1	+10	
LZH				SS	**SS**	**10 55 49.0**	**-4.6**	
LZH				AMB	AMB			
	comp=Z,20nm,1.1s							
LZH				AMB	AMB			
	comp=Z,130nm,4.2s							
LZH				LR	LR			
	comp=Z,600nm,14.4s							
LZH				LR	LR			
	comp=Z,740nm,16.6s							
LZH				LR	LR			
	comp=Z,910nm,17.2s							
SEY	**Seymchan**	**77.33**	**353**	*e*P	**P**	**10 41 05.3**	**-1.6**	
CLNS	**Chul'man**	**78.48**	**338**	*e*P	**P**	**10 41 14.4**	**+0.9**	
CLNS				pmax	pmax			
	comp=Z,28nm,0.9s							
CLNS				pmax	pmax			
	comp=N,13nm,0.9s							
CLNS				pmax	pmax			
	comp=E,9.0nm,0.8s							
YAK	**Yakutsk**	**81.01**	**343**	*e*P	**P**	**10 41 26.2**	**-0.8**	
YAK				pmax	pmax			
	comp=Z,52nm,1.0s							
YAK				pmax	pmax			
	comp=E,8.0nm,1.1s							
YAK				pmax	pmax			
	comp=N,15nm,1.1s							
SONM	**Songino Array**	**81.43**	**324**	P	**P**	**10 41 30.7**	**+0.9**	
SONM	**Songino Array**	**81.43**	**324**	P	**P**	**10 41 30.7**	**+0.9**	
	comp=N,12nm,0.9s,baz=138,slow=6.1,SNR=62							
GTA	**Gaotai**	**81.62**	**314**	⇑P	**P**	**10 41 32.3**	**+1.3**	
GTA				pP	pP	10 41 57.9	+13	
GTA				sP	sP	10 42 08.6	+19	
GTA				S	**S**	**10 51 35.6**	**-4.5**	
GTA				sS	sS	10 52 17.9	+15	
GTA				SS	**SS**	**10 56 58.9**	**+0.4**	
GTA				AMB	AMB			
	comp=N,45nm,1.2s							
GTA				AMB	AMB			
	comp=N,350nm,5.5s							
GTA				LR	LR			
	comp=N,240nm,16.9s							
GTA				LR	LR			
	comp=N,250nm,16.2s							
GTA				LR	LR			
	comp=N,540nm,16.6s							
MAW	**Mawson**	**82.48**	**202**	*e*P	**P**	**10 41 34.2**	**-0.7**	
	comp=N,1.6nm,0.9s							
MAW	**Mawson**	**82.48**	**202**	⇓P	**P**	**10 41 34.5**	**-0.3**	
	baz=82,SNR=7.3							
MAW	**Mawson**	**82.48**	**202**	P	**P**	**10 41 34.9**	**+0.1**	
	comp=N,8.0nm,0.9s,baz=101,slow=6.6,SNR=11							
SHL	**Shillong**	**82.62**	**299**	*e*P	**P**	**10 41 37.5**	**+0.9**	
ZAK	**Zakamensk**	**84.49**	**325**	*e*P	**P**	**10 41 45.0**	**-0.5**	
ZAK				pmax	pmax			
	comp=Z,32nm,1.2s							
LSA	**Lhasa**	**84.59**	**302**	P	**P**	**10 41 48.0**	**+1.0**	
LSA	**Lhasa**	**84.59**	**302**	*e*P	**P**	**10 41 47.9**	**+1.0**	
LSA				pmax	pmax			
	comp=Z,5.0nm,0.6s							
LSA	**Lhasa**	**84.59**	**302**	*e*P	**P**	**10 41 47.9**	**+0.9**	
	comp=Z,4.7nm,0.6s							
IRK	**Irkutsk**	**84.87**	**327**	*e*P	**P**	**10 41 45.8**	**-1.5**	
IRK				pmax	pmax			
	comp=Z,49nm,1.6s							
TLY	**Talaya**	**84.93**	**326***c*	*i*P	**P**	**10 41 47.7**	**+0.1**	
TLY				pmax	pmax			
	comp=Z,37nm,0.8s							
TLY	**Talaya**	**84.93**	**326**	P	**P**	**10 41 47.5**	**-0.1**	
	comp=Z,235nm,0.9s,SNR=9.1							
IMA2	**Indian Mountai**	**84.95**	**15**	P	**P**	**10 41 48.0**	**+0.5**	
COLA	**College**	**85.65**	**18**	*e*P	**P**	**10 41 49.4**	**-1.5**	
COLA				pmax	pmax			
	comp=Z,46nm,0.9s							
COLA	**College**	**85.65**	**18**	*e*P	**P**	**10 41 49.4**	**-1.5**	
	comp=Z,46nm,0.9s							
ILAR	**Eielson Array**	**85.87**	**18**	P	**P**	**10 41 51.2**	**-0.7**	
ILAR	**Eielson Array**	**85.87**	**18**	P	**P**	**10 41 51.2**	**-0.7**	
	comp=Z,2.4nm,0.4s,baz=242,slow=4.3,SNR=32							
ILAR				LR	LR	11 18 05.9		
	comp=Z,616nm,19.4s,baz=42,slow=34							
MOY	**Mondy**	**86.37**	**325**	*e*P	**P**	**10 41 55.4**	**+0.5**	
MOY				pmax	pmax			
	comp=Z,29nm,2.6s							
BBB	**Bella Bella**	**86.37**	**34**	LR	LR	11 12 17.8		
	comp=Z,446nm,20.0s,baz=188,slow=30							
TAPN	**Taplejung**	**86.73**	**299**	*e*P	**P**	**10 41 57.7**	**+0.2**	
	comp=Z,103nm,1.6s							
ODAN	**Odare**	**86.86**	**298**	*e*P	**P**	**10 41 58.2**	**+0.2**	
	comp=Z,64nm,1.1s							
PFO	**Pinyon Flat Ob**	**86.97**	**54**	LR	LR	11 14 38.3		
	comp=Z,865nm,18.1s,baz=190,slow=31							
NVAR	**Mina Array Bea**	**87.14**	**49**	LR	LR	11 13 11.2		
	comp=Z,1μm,20.4s,baz=33,slow=30							
RAMN	**Ramite**	**87.56**	**298**	*e*P	**P**	**10 42 01.5**	**+0.1**	
	comp=Z,63nm,1.5s							
EGAK	**Eagle**	**87.68**	**20**	*e*P	**P**	**10 42 02.2**	**+1.4**	
	comp=Z,7.7nm,1.0s							
JIRN	**Jiri**	**88.11**	**299**	*e*P	**P**	**10 42 04.2**	**0.0**	
	comp=Z,22nm,0.8s							
I07A	**Izee**	**88.28**	**44**	*e*P	**P**	**10 42 06.4**	**+2.1**	
	comp=Z,3.7nm,0.9s							
GUN	**Gumba**	**88.45**	**299**	*e*P	**P**	**10 42 05.7**	**-0.1**	
	comp=Z,41nm,0.9s							
J08A	**Circle Bar Ran**	**88.72**	**45**	*e*P	**P**	**10 42 07.4**	**+1.0**	
	comp=Z,8.4nm,1.3s							
PKI	**Pulchoki**	**88.75**	**299**	*e*P	**P**	**10 42 07.1**	**-0.1**	
KKN	**Kakani**	**88.92**	**299**	*e*P	**P**	**10 42 07.8**	**0.0**	
	comp=Z,36nm,0.9s							
TIXI	**Tiksi**	**88.99**	**349**	*e*P	**P**	**10 42 05.3**	**-1.5**	
DMN	**Daman**	**89.02**	**299**	*e*P	**P**	**10 42 08.5**	**+0.1**	
	comp=Z,91nm,1.0s							
G08A	**Pilot Rock**	**89.07**	**43**	*e*P	**P**	**10 42 08.8**	**+0.8**	
	comp=Z,4.7nm,1.1s							
SYO	**Syowa Base**	**89.38**	**197**⇑	*e*P	P	10 42 05.4	-3.5	
SYO	**Syowa Base**	**89.38**	**197**⇓	*e*PcP	**P**	**10 42 08.0**	**-0.9**	
GKN	**Gorkha**	**89.53**	**299**	*e*P	**P**	**10 42 10.1**	**-0.5**	
	comp=Z,84nm,1.1s							
HVS	**Khovu-Aksy**	**90.30**	**323**	*i* P	**P**	**10 42 13.8**	**+0.3**	
KOLN	**Koldanda**	**90.35**	**298**	*e*P	**P**	**10 42 13.6**	**-0.9**	
	comp=Z,12nm,0.9s							
DANN	**Dangsing**	**90.37**	**299**	*e*P	**P**	**10 42 14.0**	**-0.7**	
	comp=Z,29nm,0.9s							
WMQ	**Urumqi**	**91.68**	**315**	P	**P**	**10 42 20.6**	**+0.5**	
WMQ				pP	pP	10 42 46.5	+12	
WMQ				sP	sP	10 42 57.0	+18	
WMQ				AMB	AMB			
	comp=Z,19nm,1.0s							
WMQ				AMB	AMB			
	comp=Z,230nm,5.6s							
WMQ				LR	LR			
	comp=Z,400nm,22.0s							
WMQ				LR	LR			
	comp=Z,250nm,22.0s							
WMQ				LR	LR			
	comp=Z,330nm,18.8s							
MAIT	**Maitri**	**93.85**	**188**	*e*P	P	10 42 26.4	-3.2	
SNAA	**Sanae**	**94.40**	**183**	*e*P	**P**	**10 42 30.8**	**-1.4**	
SNAA	**Sanae**	**94.40**	**183**	*e*P	**P**	**10 42 30.6**	**-1.6**	
	comp=Z,26nm,1.3s							
VNA2	**Neumayer--Watz**	**95.35**	**182**	*e*P	**P**	**10 42 35.2**	**-1.3**	
MK31	**Makanchi Array**	**96.15**	**317**	*e*P	**P**	**10 42 40.6**	**+0.1**	
MK31	**Makanchi Array**	**96.15**	**317**	*e*P	**P**	**10 42 40.6**	**+0.1**	
MKAR	**Makanchi Array**	**96.15**	**317**	P	**P**	**10 42 40.6**	**0.0**	
MKAR						10 46 31.4		
MKAR	**Makanchi Array**	**96.15**	**317**	P	**P**	**10 42 40.6**	**0.0**	
MKAR				PP	**PP**	**10 46 31.4**	**-2.8**	
MKAR	**Makanchi Array**	**96.15**	**317**	P	**P**	**10 42 40.6**	**0.0**	
	comp=Z,11nm,0.8s,baz=101,slow=6.3,SNR=84							
MKAR				PP	**PP**	**10 46 31.4**	**-2.8**	
	comp=Z,1.5nm,1.1s,baz=90,slow=9.8,SNR=3.7							
ZAA0	**Zalesovo Array**	**96.33**	**324**	*e*P	**P**	**10 42 40.2**	**-0.9**	
ZALV	**Zalesovo Beam**	**96.33**	**324**	P	**P**	**10 42 40.2**	**-0.9**	
ZALV	**Zalesovo Beam**	**96.33**	**324**	P	**P**	**10 42 40.2**	**-0.9**	
ZALV	**Zalesovo Beam**	**96.33**	**324**	P	**P**	**10 42 40.2**	**-0.9**	
	comp=Z,11nm,0.8s,baz=111,slow=4.6,SNR=48							
TXAR	**Lajitas Array**	**96.38**	**61**	P	**P**	**10 42 43.2**	**+1.1**	
TXAR				PP	**PP**	**10 46 39.0**	**+2.6**	
TXAR	**Lajitas Array**	**96.38**	**61**	P	**P**	**10 42 43.2**	**+1.1**	
	comp=Z,0.3nm,0.9s,baz=235,slow=4.4,SNR=3.5							
TXAR				PP	**PP**	**10 46 39.0**	**+2.6**	
	comp=Z,0.6nm,1.0s,baz=243,slow=5.5,SNR=6.4							
NVS	**Novosibirsk**	**97.44**	**325**	*e*P	**P**	**10 42 43.7**	**-2.4**	
NVS				pmax	pmax			
	comp=N,3.0nm,1.3s							
NVS				pmax	pmax			
	comp=E,6.0nm,1.3s							
NVS				pmax	pmax			
	comp=Z,13nm,1.3s							
KSH	**Kashi**	**99.18**	**308**	P	**Pdif**	**10 43 00.8**	**+6.3**	
KSH				pP	pP	10 43 20.8	+12	
KSH				sP	sP	10 43 31.8	+18	
KSH				PP	PP	10 47 03.8	+6.0	
KSH	**Kashi**	**99.18**	**308**	S	**S**	**10 54 27.1**	**+4.4**	
KSH	**Kashi**	**99.18**	**308**	SS	SS	11 01 13.4	+1.0	
KSH				AMB	AMB			
	comp=Z,90nm,6.0s							
KSH				LR	LR			
	comp=N,270nm,7.3s							
KSH				LR	LR			
	comp=E,120nm,5.7s							
KSH				LR	LR			
	comp=Z,440nm,18.4s							
KURK	**Kurchatov**	**99.34**	**320**	*e*P	**Pdif**	**10 42 53.1**	**-1.6**	
ARCES	**ARCESS Array B**	**119.25**	**345**	PKP	**PKPdf**	**10 48 00.0**	**-1.0**	
ARCES	**ARCESS Array B**	**119.25**	**345**	PKP	**PKPdf**	**10 48 00.0**	**-1.0**	
	comp=Z,4.4nm,0.6s,baz=90,slow=2.4,SNR=25							
KLMR	**Klimovskoe**	**119.63**	**333**	*e*PKIKP	**PKPdf**	**10 47 59.6**	**-2.4**	
KLMR				pmax	pmax			
	comp=Z,18nm,1.2s							
ZEI	**Tsey**	**123.21**	**312**	*i* PKIKP	**PKPdf**	**10 48 08.8**	**-0.9**	
ZEI				pmax	pmax			
	comp=Z,7.0nm,1.1s							
OBN	**Obninsk**	**123.64**	**328**⇑	*i*PKIKP	**PKPdf**	**10 48 09.5**	**-0.3**	
OBN				pmax	pmax			
	comp=Z,16nm,1.1s							
OBN				MLR	MLR			
	comp=Z,600nm,23.0s							
BOSA	**Boshof**	**123.66**	**221**	PKP	**PKPdf**	**10 48 10.3**	**-0.6**	
BOSA	**Boshof**	**123.66**	**221**	PKP	**PKPdf**	**10 48 10.3**	**-0.6**	
	comp=Z,4.7nm,0.9s,baz=354,slow=9.3,SNR=4.0							
KIV	**Kislovodsk**	**123.81**	**314**	*i* PKIKP	**PKPdf**	**10 48 10.0**	**-0.7**	
KIV				pmax	pmax			
	comp=Z,17nm,1.3s							
KIV				MLR	MLR			
	comp=Z,300nm,17.0s							
FINES	**FINESS Array B**	**124.68**	**338**	PKP	**PKPdf**	**10 48 11.1**	**-0.5**	
FINES	**FINESS Array B**	**124.68**	**338**	PKP	**PKPdf**	**10 48 11.1**	**-0.5**	
	comp=Z,7.4nm,1.0s,baz=103,slow=8.4,SNR=6.6							
KMBO	**Kilima Mbogo**	**127.72**	**258**	PKP	**PKPdf**	**10 48 18.4**	**-0.9**	
KMBO	**Kilima Mbogo**	**127.72**	**258**	PKP	**PKPdf**	**10 48 18.4**	**-0.9**	
	comp=Z,0.8nm,0.5s,baz=38,slow=24,SNR=3.6							
NB2	**NORSAR Subarra**	**129.61**	**345**	PKPdf	**PKPdf**	**10 48 20.4**	**-0.8**	
	comp=Z,4.4nm,1.1s,baz=31,slow=1.9							
NOA	**NORSAR Array B**	**129.61**	**345**	PKP	**PKPdf**	**10 48 20.6**	**-0.6**	
NOA				SKPbc	SKPbc	10 51 42.9	+3.3	
NOA	**NORSAR Array B**	**129.61**	**345**	PKP	**PKPdf**	**10 48 20.6**	**-0.6**	
	comp=Z,2.3nm,0.8s,baz=36,slow=2.1,SNR=5.0							
NOA				SKPbc	SKPbc	10 51 42.9	+3.3	
	comp=Z,1.9nm,0.8s,baz=30,slow=3.2,SNR=5.5							
AKASG	**Malin Array Be**	**129.67**	**326**	PKIKP	**PKPdf**	**10 48 20.2**	**-1.3**	
AKASG	**Malin Array Be**	**129.67**	**326**	PKP	**PKPdf**	**10 48 20.2**	**-1.3**	
AKASG	**Malin Array Be**	**129.67**	**326**	PKP	**PKPdf**	**10 48 20.2**	**-1.3**	
	comp=Z,2.2nm,0.7s,baz=59,slow=2.0,SNR=10.0							
BRTR	**Keskin Array B**	**131.48**	**311**	PKP	**PKPdf**	**10 48 24.1**	**-1.4**	
BRTR				PP	**PP**	**10 50 44.8**	**0.0**	
BRTR				SKPbc	**SKPab**	**10 51 51.0**	**+3.3**	
BRTR	**Keskin Array B**	**131.48**	**311**	PKP	**PKPdf**	**10 48 24.1**	**-1.4**	
	comp=Z,0.9nm,0.7s,baz=145,slow=4.5,SNR=5.3							
BRTR				PP	**PP**	**10 50 44.8**	**0.0**	
	comp=Z,0.5nm,0.5s,baz=134,slow=3.6,SNR=3.5							
BRTR				SKPbc	**SKPab**	**10 51 51.0**	**+3.3**	
	comp=Z,1.1nm,0.7s,baz=73,slow=4.1,SNR=5.1							
STHS	**Stebnicka Huta**	**134.61**	**329**	*e*PKP	**PKPdf**	**10 48 30.6**	**-0.4**	
BRG	**Berggiesshubel**	**136.96**	**335**	*e*(P)	PKPdf	10 48 27.1	-8.1	
	comp=Z,13nm,1.6s							
CLL	**Collm**	**137.00**	**336**	*e*PKIKP	**PKPdf**	**10 48 35.0**	**-0.3**	
CLL				pmax	pmax			
	comp=Z,44nm,1.3s							
CLL	**Collm**	**137.00**	**336**	*e*PKPdf	**PKPdf**	**10 48 35.0**	**-0.3**	
	comp=Z,12nm,1.3s							
CLL				*e*SKPdf	**SKPdf**	**10 52 07.0**	**+0.4**	
GERES	**GERESS Array B**	**138.59**	**333**	PKP	**PKPdf**	**10 48 38.0**	**-0.4**	
GERES				SKPbc	**SKiKP**	**10 52 12.9**	**-0.1**	
GERES	**GERESS Array B**	**138.59**	**333**	PKhKP	PKPpre	10 48 28.9		
	comp=Z,0.6nm,0.7s,baz=177,slow=2.3,SNR=3.9							
GERES				PKP	**PKPdf**	**10 48 38.0**	**-0.4**	
	comp=Z,1.7nm,0.8s,baz=56,slow=3.4,SNR=7.4							
GERES				SKPbc	**SKiKP**	**10 52 12.9**	**-0.1**	
	comp=Z,1.2nm,0.7s,baz=48,slow=2.0,SNR=5.0							
DAVA	**Damuels**	**141.43**	**334**⇑	*i*PKPdf	**PKPdf**	**10 48 40.4**	**-3.3**	
	comp=Z,14nm,1.4s							
CEL	**Celeste**	**144.47**	**319**	*e*PKPdf	**PKPab**	**10 48 47.4**	**-0.2**	
BNI	**Bardonecchia**	**144.54**	**335**	*e*PKIKP	**PKPab**	**10 48 47.8**	**0.0**	
BNI	**Bardonecchia**	**144.54**	**335**	*e*PKPdf	**PKPab**	**10 48 47.8**	**0.0**	
PLDF	**La Plantade**	**144.92**	**339**	PKP	**PKPdf**	**10 48 50.3**	**+0.5**	
AGO	**Saint Agoulin**	**145.01**	**340**	PKP	**PKPdf**	**10 48 50.2**	**+0.3**	
SAOF	**Saorge**	**145.04**	**333**	PKP	**PKPbc**	**10 48 48.0**	**-1.4**	
AUTN	**L'Aution**	**145.08**	**333**	PKP	**PKPbc**	**10 48 49.2**	**-0.7**	
TOUF	**Mont Tournerai**	**145.15**	**334**	PKP	**PKPbc**	**10 48 49.5**	**-0.5**	
SSB	**Saint Sauveur**	**145.18**	**338**	*e*PKIKP	**PKPbc**	**10 48 49.5**	**-0.4**	
SSB	**Saint Sauveur**	**145.18**	**338**	PKP	**PKPab**	**10 48 50.1**	**+0.1**	
SSB	**Saint Sauveur**	**145.18**	**338**	*e*PKPdf	**PKPbc**	**10 48 49.5**	**-0.4**	
LUCF	**Luceram**	**145.20**	**333**	PKP	**PKPbc**	**10 48 49.7**	**-0.4**	
REVF	**Revere**	**145.31**	**333**	PKP	**PKPdf**	**10 48 50.6**	**+0.1**	
PYM	**Petit Puy Mans**	**145.32**	**340**	PKP	**PKPdf**	**10 48 51.6**	**+1.1**	
LBL	**Lubilhac**	**145.69**	**339**	PKP	**PKPab**	**10 48 53.2**	**+1.3**	
FRNF	**Fournols**	**145.78**	**340**	PKP	**PKPab**	**10 48 52.1**	**-0.1**	
KEST	**Kesra**	**150.15**	**321**	*e*PKPbc	**PKPbc**	**10 49 03.7**	**-0.2**	
KEST	**Kesra**	**150.15**	**321**	PKPbc	**PKPbc**	**10 49 03.5**	**-0.4**	
	comp=Z,16nm,0.9s,baz=349,slow=1.3,SNR=19							
CMAH	**Djebel Manchou**	**150.67**	**324**	P	**PKPbc**	**10 49 04.5**	**-0.6**	
ABSA	**Djebel Ababsia**	**150.89**	**324**	P	**PKPbc**	**10 49 05.6**	**-0.1**	
CKFL	**Kef-Lekhel**	**151.23**	**325**	P	**PKPbc**	**10 49 06.3**	**-0.2**	
CASM	**Ain Smara**	**151.46**	**325**	P	**PKPbc**	**10 49 06.8**	**-0.1**	
DFRA	**Djebel Bou Aff**	**151.59**	**326**	P	**PKPbc**	**10 49 07.9**	**+0.6**	
CTEI	**Djebel Teioual**	**151.65**	**325**	P	**PKPbc**	**10 49 07.6**	**+0.1**	
PCAB	**Cabril**	**151.85**	**352**	*e*PKPbc	**PKPbc**	**10 49 07.7**	**+0.1**	
POLO	**Lamas de Olo**	**152.14**	**351**	*e*PKPbc	**PKPbc**	**10 49 08.4**	**0.0**	
MVO	**Moncorvo**	**152.22**	**350**	*e*PKPbc	**PKPbc**	**10 49 08.6**	**+0.1**	
PVRL	**Vila Real**	**152.23**	**351**	*e*PKPbc	**PKPbc**	**10 49 08.5**	**0.0**	
PVIS	**Viseu**	**152.80**	**351**	*e*PKPbc	**PKPbc**	**10 49 09.9**	**+0.1**	
ESDC	**Sonseca Array**	**152.97**	**344**	PKPbc	**PKPbc**	**10 49 09.9**	**-0.3**	
ESDC				PKPab	**PKPab**	**10 49 21.4**	**-0.1**	
ESDC	**Sonseca Array**	**152.97**	**344**	PKPbc	**PKPbc**	**10 49 09.9**	**-0.3**	
	comp=Z,2.6nm,0.8s,baz=351,slow=4.9,SNR=4.2							
ESDC				PKPab	**PKPab**	**10 49 21.4**	**-0.1**	
	comp=Z,3.7nm,0.7s,baz=21,slow=3.8,SNR=5.1							
MTE	**Manteigas**	**153.06**	**350**	*e*PKPdf	**PKPdf**	**10 49 02.8**	**-0.3**	
MTE	**Manteigas**	**153.06**	**350**	*e*PKPbc	**PKPbc**	**10 49 10.4**	**0.0**	
PCBR	**Castelo Branco**	**153.59**	**350**	*e*PKPbc	**PKPbc**	**10 49 11.6**	**+0.1**	
PMRV	**Marv??o**	**153.97**	**349**	*e*PKPbc	**PKPbc**	**10 49 12.5**	**+0.1**	
TORD	**Torodi Ar. Sit**	**165.36**	**269**	*e*PKPdf	**PKPdf**	**10 49 16.8**	**-1.1**	
TORD	**Torodi Ar. Bea**	**165.36**	**269**	PKP	**PKPdf**	**10 49 17.1**	**-0.9**	
TORD				PKPab	**PKPab**	**10 50 16.1**	**+0.2**	
TORD	**Torodi Ar. Bea**	**165.36**	**269**	PKP	**PKPdf**	**10 49 17.1**	**-0.9**	
	comp=Z,5.3nm,1.0s,baz=36,slow=1.2,SNR=22							
TORD				PKPab	**PKPab**	**10 50 16.1**	**+0.2**	
	comp=Z,6.5nm,1.0s,baz=115,slow=2.5,SNR=10							
DBIC	**Dimbokro**	**169.03**	**230**	PKP	**PKPdf**	**10 49 19.5**	**-1.2**	
DBIC	**Dimbokro**	**169.03**	**230**	PKP	**PKPdf**	**10 49 19.5**	**-1.2**	
	comp=Z,5.3nm,0.9s,baz=67,slow=1.4,SNR=5.0							

IDC 12 10:37:21.4±1.6,0.94N×124.95E,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.6/20,mbtmp3.7/4,Error ellipse: s-maj=165.8km s-min=22.9km az=65.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.70**	**157**	P	P	10 42 25.7	+0.8
	1.0nm,0.3s,baz=334,slow=11,SNR=32						
ASAR	**Alice Springs**	**25.96**	**161**	P	P	10 42 56.8	+0.9
	0.3nm,0.3s,baz=337,slow=7.3,SNR=20						
ASAR				PcP	PcP	10 46 22.4	-2.4
	0.4nm,0.5s,baz=352,slow=2.3,SNR=6.1						
MKAR	**Makanchi Array**	**58.87**	**327**	P	P	10 47 22.8	+0.7
	0.7nm,0.5s,baz=122,slow=8.0,SNR=14						
VNDA	**Vanda**	**80.90**	**172**	P	P	10 49 36.5	-0.6
	0.6nm,0.9s,baz=315,slow=5.0,SNR=4.4				

HUIG	**Huatulco**	**2.74**	**280**	*e*P	**Pn**	**10 56 50.5**	**-0.3**
HUIG				*i* S	**Sn**	**10 57 21.5**	**-1.5**
APG	**El Apazote**	**2.77**	**96**	P	**Pn**	**10 56 49.3**	**-2.1**
	8.7nm,0.3s,baz=301,slow=10,SNR=102						
APG				S	Sn	10 57 12.8	-11
	11nm,0.3s,baz=287,slow=15,SNR=5.6						
VHO	**Vista Hermosa**	**3.73**	**299**	*e*P	**Pn**	**10 57 04.0**	**-0.5**
VHO				*e*S	**Sn**	**10 57 46.8**	**-0.8**
VHO	**Vista Hermosa**	**3.73**	**299**	*e*P	**Pn**	**10 57 04.0**	**-0.5**
VHO				*e*S	**Sn**	**10 57 46.8**	**-0.8**
PNIG	**Pinotepa**	**4.76**	**284**	*e*P	**Pn**	**10 57 19.0**	**+0.6**
PNIG				*i* S	**Sn**	**10 58 11.1**	**-1.3**
PNIG	**Pinotepa**	**4.76**	**284**	*e*P	**Pn**	**10 57 19.0**	**+0.6**
PNIG				*i* S	**Sn**	**10 58 11.1**	**-1.3**
JTS	**JuntasAbangare**	**9.55**	**120**	P	**Pn**	**10 58 24.3**	**+0.5**
	0.7nm,0.3s,baz=306,slow=19,SNR=3.2						
TXAR	**Lajitas Array**	**16.93**	**327**	P	**P**	**11 00 04.4**	**+2.6**
	0.1nm,0.3s,baz=152,slow=13,SNR=8.1						
ANMO	**Albuquerque**	**22.86**	**331**	P	**P**	**11 01 07.1**	**+1.0**
	0.7nm,0.7s,baz=147,slow=10,SNR=4.1						
NVAR	**Mina Array Bea**	**31.88**	**321**	P	P	11 02 30.0	+2.9
	0.3nm,0.6s,baz=124,slow=9.2,SNR=4.3						
ILAR	**Eielson Array**	**61.16**	**337**	P	**P**	**11 06 15.3**	**+0.3**
	0.4nm,0.8s,baz=119,slow=5.4,SNR=4.7						

ISCJB ***12*** *10:58:23.2±0.4,36.˚77S±0.˚03×72.˚02W±0.˚08,h81km±4km, mb3.7/8,Error ellipse: s-maj=10.8km s-min=4.1km az=21.5*

GUC ***12*** *10:58:23.9±0.8,36.˚74S×72.˚10W,h88km±3km,ML4.6*

NEIC ***12*** *10:58:23.9,36.˚74S×72.˚10W,h88km,MG4.6(GUC),After GUC.*

NEIC Felt [II] at Chillan, Parral, San Carlos and San Clemente.

IDC ***12*** *10:58:25.4±2.4,36.˚75S×71.˚88W,h82km±21km,mb3.5/9, mb1 3.8/12,mb1mx3.7/21,mbtmp3.6/12,Error ellipse: s-maj=28.2km s-min=12.8km az=95.0*

ISC 12 10:58:24.8±0.7,36.˚75S±0.˚04×72.˚15W±0.˚06,h83km±5km, n51,σ1ş12/80,mb3.6/8,8C-13D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCHI	**Chillan**	**0.15**	**23**	⇓*i*P	**Pn**	**10 58 35.9**	**-0.9**
CCHI				*i* S	**Sn**	**10 58 44.8**	**-0.8**
CCHI	**Chillan**	**0.15**	**23**	⇓*i*P	**Pn**	**10 58 35.9**	**-0.9**
CCHI				*i* S	**Sn**	**10 58 44.8**	**-0.8**
CCHI				AML	AML	10 58 51.1	
	comp=E,17μm,0.5s						
CCSP	**San Pedro de C**	**0.78**	**262**	*e*P	**Pn**	**10 58 41.1**	**-0.4**
CCSP				*i* S	**Sn**	**10 58 54.0**	**+0.1**
COCH	**Cobquecura**	**0.80**	**320**	⇑*i*P	**Pn**	**10 58 41.9**	**+0.2**
COCH				*i* S	**Sn**	**10 58 54.8**	**+0.4**
COCH	**Cobquecura**	**0.80**	**320**	⇑*i*P	**Pn**	**10 58 41.9**	**+0.2**
COCH				*i* S	**Sn**	**10 58 54.8**	**+0.4**
COCH				AML	AML	10 58 56.5	
	comp=E,9μm,0.4s						
LNCH	**Linares**	**1.00**	**27**	*i* P	**Pn**	**10 58 45.7**	**+1.7**
LNCH				*i* S	**Sn**	**10 59 00.4**	**+2.0**
LNCH	**Linares**	**1.00**	**27**	*i* P	**Pn**	**10 58 45.7**	**+1.7**
LNCH				*i* S	**Sn**	**10 59 00.4**	**+2.0**
LNCH				AML	AML	10 59 01.4	
	comp=N,12μm,0.2s						
TALC	**Talca**	**1.41**	**17**	⇓*i*P	**Pn**	**10 58 47.8**	**-1.3**
TALC				*i* S	**Sn**	**10 59 05.9**	**-1.5**
TALC	**Talca**	**1.41**	**17**	⇓*i*P	**Pn**	**10 58 47.8**	**-1.3**
TALC				*i* S	**Sn**	**10 59 05.9**	**-1.5**
TALC				AML	AML	10 59 07.7	
	comp=E,24μm,0.1s						
CTCH	**Constitucion**	**1.43**	**351**	*e*P	**Pn**	**10 58 48.7**	**-0.6**
CTCH				*i* S	**Sn**	**10 59 07.2**	**-0.6**
CTCH	**Constitucion**	**1.43**	**351**	*e*P	**Pn**	**10 58 48.7**	**-0.6**
CTCH				*i* S	**Sn**	**10 59 07.2**	**-0.6**
CTCH				AML	AML	10 59 14.3	
	comp=E,29μm,0.5s						
NICH	**Los Niches**	**1.89**	**24**	⇓*i*P	**Pn**	**10 58 55.2**	**-0.2**
NICH				*i* S	**Sn**	**10 59 18.2**	**-0.5**
NICH	**Los Niches**	**1.89**	**24**	⇓*i*P	**Pn**	**10 58 55.2**	**-0.2**
NICH				*i* S	**Sn**	**10 59 18.2**	**-0.5**
NICH				AML	AML	10 59 21.0	
	comp=N,7μm,0.3s						
LNV	**Longovilo**	**2.85**	**12**	⇓*i*P	**Pn**	**10 59 07.7**	**-0.5**
LNV				*i* S	**Sn**	**10 59 40.3**	**-1.2**
LNV	**Longovilo**	**2.85**	**12**	⇓*i*P	**Pn**	**10 59 07.7**	**-0.5**
LNV				*i* S	**Sn**	**10 59 40.3**	**-1.2**
CHCH	**Chadas Angostu**	**3.06**	**24**	*e*P	**Pn**	**10 59 10.5**	**-0.6**
CHCH	**Chadas Angostu**	**3.06**	**24**	*e*P	**Pn**	**10 59 10.5**	**-0.6**
VLCH	**Valdivia**	**3.17**	**195**	⇑*i*P	**Pn**	**10 59 10.5**	**-2.1**
VLCH				*e*S	**Sn**	**10 59 47.2**	**-2.1**
VLCH	**Valdivia**	**3.17**	**195**	⇑*i*P	**Pn**	**10 59 10.5**	**-2.1**
VLCH				*e*S	**Sn**	**10 59 47.2**	**-2.1**
TACH	**Talagante**	**3.24**	**18**	⇑*i*P	**Pn**	**10 59 12.5**	**-1.0**
TACH	**Talagante**	**3.24**	**18**	⇑*i*P	**Pn**	**10 59 12.5**	**-1.0**
PCH	**Pirque**	**3.39**	**24**	⇓*i*P	**Pn**	**10 59 15.1**	**-0.6**
PCH	**Pirque**	**3.39**	**24**	⇓*i*P	**Pn**	**10 59 15.1**	**-0.6**
ANTU	**Antumapu**	**3.40**	**22**	*e*P	**Pn**	**10 59 15.2**	**-0.6**
ANTU				*i* S	**Sn**	**10 59 54.0**	**-1.1**
ANTU	**Antumapu**	**3.40**	**22**	*e*P	**Pn**	**10 59 15.2**	**-0.6**
ANTU				*i* S	**Sn**	**10 59 54.0**	**-1.1**
ANTU				AML	AML	11 00 11.2	
	comp=N,1μm,0.4s						
SJCH	**San Jose de Ma**	**3.43**	**26**	*e*P	**Pn**	**10 59 15.0**	**-1.1**
SJCH				*i* S	**Sn**	**10 59 54.4**	**-1.4**
SJCH	**San Jose de Ma**	**3.43**	**26**	*e*P	**Pn**	**10 59 15.0**	**-1.1**
SJCH				*i* S	**Sn**	**10 59 54.4**	**-1.4**
FSR	**Penalolen**	**3.52**	**23**	*e*P	**Pn**	**10 59 17.7**	**+0.4**
FSR				*i* S	**Sn**	**10 59 58.4**	**+0.5**
FSR	**Penalolen**	**3.52**	**23**	*e*P	**Pn**	**10 59 17.7**	**+0.4**
FSR				*i* S	**Sn**	**10 59 58.4**	**+0.5**
CLCH	**Cerro Calan**	**3.59**	**22**	⇓*i*P	**Pn**	**10 59 17.6**	**-0.8**
CLCH				*i* S	**Sn**	**10 59 58.6**	**-1.1**
CLCH				AML	AML	11 00 02.4	
	comp=N,1μm,0.5s						
ROCH	**El Roble**	**3.88**	**14**	⇓*i*P	**Pn**	**10 59 21.6**	**-0.8**
ROCH				*i* S	**Sn**	**11 00 06.0**	**-0.9**
ROCH	**El Roble**	**3.88**	**14**	⇓*i*P	**Pn**	**10 59 21.6**	**-0.8**
ROCH				*i* S	**Sn**	**11 00 06.0**	**-0.9**
PLCA	**Paso Flores**	**4.17**	**163**	*e*Pn	**Pn**	**10 59 25.6**	**-0.6**
PLCA	**Paso Flores**	**4.17**	**163**	P	**Pn**	**10 59 25.9**	**-0.3**
	comp=N,10nm,0.3s,baz=331,slow=13,SNR=159						
JACH	**Jahuel**	**4.25**	**18**	⇑*i*P	**Pn**	**10 59 26.1**	**-1.2**
JACH				*e*S	**Sn**	**11 00 14.2**	**-1.6**
JACH	**Jahuel**	**4.25**	**18**	⇑*i*P	**Pn**	**10 59 26.1**	**-1.2**
JACH				*e*S	**Sn**	**11 00 14.2**	**-1.6**
CFAA	**Coronel Fontan**	**6.07**	**33**	P	**Pn**	**10 59 50.4**	**-1.6**
	comp=N,1.3nm,0.3s,baz=212,slow=13,SNR=119						
CFAA				S	**Sn**	**11 00 58.9**	**-1.2**
	comp=N,0.7nm,0.3s,baz=313,slow=19,SNR=3.8						
LCO	**Las Campanas**	**7.81**	**9**	*e*Pn	**Pn**	**11 00 13.8**	**-2.1**
	comp=N,22nm,0.3s						
USHA	**Ushuaia**	**18.27**	**173**	P	**P**	**11 02 31.9**	**+0.3**
	comp=N,0.8nm,0.3s,baz=80,slow=1.0,SNR=3.7						
LPAZ	**La Paz**	**20.69**	**11**	*e*P	**P**	**11 03 00.4**	**+1.5**
	comp=N,5.7nm,1.0s						
LPAZ	**La Paz**	**20.69**	**11**	P	**P**	**11 02 59.0**	**+0.1**
	comp=N,2.7nm,0.7s,baz=180,slow=7.7,SNR=11						
SIV	**San Ignacio**	**22.89**	**28**	P	**P**	**11 03 20.8**	**-1.0**
	comp=N,2.2nm,0.6s,baz=230,slow=9.7,SNR=7.9						
SNAA	**Sanae**	**49.09**	**157**	P	**P**	**11 07 03.5**	**+0.1**
	comp=N,0.2nm,0.4s,baz=264,slow=5.7,SNR=34						
QSPA	**South Pole Qui**	**53.50**	**180**	P	**P**	**11 07 37.1**	**+0.6**
	comp=N,1.2nm,0.7s						
TXAR	**Lajitas Array**	**72.09**	**331**	P	**P**	**11 09 41.6**	**+1.4**
	comp=N,0.4nm,1.0s,baz=149,slow=8.1,SNR=5.9						
DBIC	**Dimbokro**	**76.16**	**71**	P	**P**	**11 10 04.1**	**-0.1**
	comp=N,3.6nm,0.5s,baz=222,slow=3.9,SNR=8.5						
BOSA	**Boshof**	**78.89**	**117**	P	**P**	**11 10 19.1**	**-0.4**
	comp=N,1.4nm,0.5s,baz=231,slow=6.5,SNR=2.7						
TORD	**Torodi Ar. Bea**	**85.24**	**70**	P	**P**	**11 10 52.3**	**-0.3**
	comp=N,0.2nm,0.5s,baz=245,slow=5.3,SNR=6.3						
NVAR	**Mina Array Bea**	**86.08**	**325**	P	**P**	**11 10 58.4**	**+1.9**
	comp=N,0.2nm,0.5s,baz=157,slow=5.9,SNR=2.8						
WRA	**Warramunga Arr**	**118.32**	**208**	PKP	**PKPdf**	**11 17 02.6**	**-0.4**
	comp=N,0.5nm,0.7s,baz=168,slow=1.6,SNR=4.8						
MKAR	**Makanchi Array**	**158.54**	**54**	PKPab	**PKPab**	**11 18 46.1**	**-1.6**
	comp=N,0.5nm,0.6s,baz=264,slow=2.9,SNR=4.1						

IDC ***12*** *11:02:50.2±0.6,11.˚87S×167.˚01E,h0km,mb4.4/17, mb1 4.6/19,mb1mx4.5/22,mbtmp4.4/19,ML4.0/2,MS4.4/12, Ms1 4.4/12,ms1mx4.3/25,Error ellipse: s-maj=21.0km s-min=14.8km az=109.0*

ISCJB ***12*** *11:02:54.6±0.2,11.˚88S±0.˚05×166.˚96E±0.˚04,h35km, mb4.8/54,MS4.5/17,Error ellipse: s-maj=7.3km s-min=5.2km az=155.2*

MOS ***12*** *11:02:54.2±0.9,11.˚77S×166.˚93E,h33km,mb5.2/6,Error ellipse: s-maj=12.5km s-min=9.9km az=14.9*

NEIC ***12*** *11:02:56.1±0.3,11.˚81S×166.˚99E,h35km,mb5.0/22,Error ellipse: s-maj=8.0km s-min=6.5km az=155.0*

AUST ***12*** *11:02:57.6±1.6,11.˚89S×167.˚35E,h73km±17km,Error ellipse: s-maj=8.4km s-min=6.4km az=115.0*

BJI ***12*** *11:03:10.6,11.˚84S×166.˚28E,h143km,mB5.2/24, mb4.8/41*

DJA ***12*** *11:03:12.3±5.3,12.˚5S±14.˚×16.˚6E±3.˚0,h136km±38km, M4.9/11,mB5.1/1,mb4.9/11,Mw(mB)4.5/1*

ISC 12 11:02:55.9±0.3,11.˚81S±0.˚05×166.˚93E±0.˚06,h35km,n173, σ1ş58/170,mb4.9/54,MS4.5/17,10C-5D,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.26**	**288**	Pn	**Pn**	**11 04 42.0**	**+2.4**
HNR				Sn	Sn	11 06 09.4	+8.5
HNR	**Honiara**	**7.26**	**288**	Pn	**Pn**	**11 04 42.0**	**+2.4**
	89nm,0.3s,baz=162,slow=3.4,SNR=13						
HNR				Sn	Sn	11 06 09.4	+8.5
	29nm,0.3s,baz=290,slow=16,SNR=2.7						
DZM	**Mont Dzumac**	**10.22**	**183**	*e*Pn	**Pn**	**11 05 20.3**	**0.0**
	200nm,1.4s						
DZM				*e*LR	LR	11 07 38.7	
	4μm,26.1s						
DZM	**Mont Dzumac**	**10.22**	**183**	Pn	**Pn**	**11 05 19.3**	**-0.9**
DZM				Sn	**Sn**	**11 07 10.0**	**-3.7**
DZM	**Mont Dzumac**	**10.22**	**183**	Pn	**Pn**	**11 05 19.3**	**-0.9**
	2.9nm,0.3s,baz=23,slow=17,SNR=28						
DZM				Sn	**Sn**	**11 07 10.0**	**-3.7**
	baz=190,slow=23,SNR=2.1						
DZM				LR	LR	11 08 38.0	
	comp=Z,2μm,21.9s,baz=12,slow=34						
MSVF	**Nonsavu**	**12.26**	**120**	*e*P	**Pn**	**11 05 49.7**	**+1.5**
MSVF				pmax	pmax		
	comp=Z,153nm,1.7s						
MSVF	**Nonsavu**	**12.26**	**120**	*e*Pn	**Pn**	**11 05 49.7**	**+1.5**
	comp=Z,152nm,1.7s						
PMG	**Port Moresby**	**19.58**	**275**	P	**Pn**	**11 07 24.7**	**+2.0**
	comp=Z,97nm,1.0s,comp=Z,1μm						
PMG	**Port Moresby**	**19.58**	**275**	*e*P	**Pn**	**11 07 23.4**	**+0.8**
	comp=Z,86nm,1.0s						
PMG	**Port Moresby**	**19.58**	**275**	P	**P**	**11 07 21.7**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=106,slow=9.2,SNR=4.8						
PMG				LR	LR	11 12 54.2	
	comp=Z,902nm,21.2s,baz=282,slow=31						
EIDS	**Eidsvold**	**20.16**	**226**	*e*P	Pn	11 07 29.3	-0.2
	comp=Z,84nm,0.9s						
EIDS	**Eidsvold**	**20.16**	**226**	⇑P	Pn	11 07 29.0	-0.4
	baz=20,SNR=24						
PATS	**Pohnpei**	**20.41**	**335**	⇓P	Pn	11 07 32.6	+0.2
	baz=21						
AFI	**Afiamalu**	**20.86**	**98**	LR	LR	11 14 03.7	
	comp=Z,717nm,18.0s,baz=281,slow=32						
CTA	**Charters Tower**	**21.50**	**245**	P	**P**	**11 07 42.4**	**+0.4**
CTA	**Charters Tower**	**21.50**	**245**	⇑P	**P**	**11 07 44.1**	**+2.1**
	baz=22						
CTA	**Charters Tower**	**21.50**	**245**	P	**P**	**11 07 42.4**	**+0.4**
	comp=Z,30nm,0.8s,baz=73,slow=14,SNR=29						
CTA				LR	LR	11 14 56.9	
	comp=Z,2μm,20.0s,baz=125,slow=34						
CTAO	**Charters Tower**	**21.50**	**245**	*e*P	**P**	**11 07 43.5**	**+1.6**
CTAO				pmax	pmax		
	comp=Z,69nm,1.1s						
CTAO	**Charters Tower**	**21.50**	**245**	*e*P	**P**	**11 07 43.5**	**+1.6**
	comp=Z,69nm,1.1s						
RAO	**Raoul Island**	**22.38**	**143**	P	**P**	**11 07 52.1**	**+0.9**
RAO	**Raoul Island**	**22.38**	**143**	LR	LR	11 14 41.4	
	comp=Z,471nm,19.1s,baz=46,slow=32						
RMQ	**Roma**	**22.49**	**227**	P	**P**	**11 07 54.5**	**+2.0**
	baz=23,SNR=54						
COEN	**Coen**	**23.26**	**262**	*e*P	**P**	**11 08 02.0**	**+1.5**
	comp=Z,1μm,2.0s						
COEN	**Coen**	**23.26**	**262**	⇓P	**P**	**11 08 02.3**	**+1.8**
	baz=24,SNR=5.7						
ARMA	**Armidale**	**23.33**	**215**	*e*P	**P**	**11 08 03.5**	**+2.2**
	comp=Z,49nm,1.0s						
ARMA	**Armidale**	**23.33**	**215**	⇑P	**P**	**11 08 02.4**	**+1.1**
	baz=24,SNR=4.3						
QLP	**Quilpie**	**25.93**	**232**	P	**P**	**11 08 25.7**	**+0.7**
	baz=26,SNR=12						
CMSA	**Cobar Meteorol**	**27.74**	**222**	P	**P**	**11 08 42.6**	**+1.3**
	baz=28,SNR=10.0						
URZ	**Urewera**	**27.87**	**163**	LR	LR	11 17 21.4	
	comp=Z,1μm,20.5s,baz=171,slow=31						
STKA	**Stephens Creek**	**30.72**	**225**	*e*P	**P**	**11 09 09.4**	**+1.6**
STKA	**Stephens Creek**	**30.72**	**225**	⇑P	**P**	**11 09 08.0**	**+0.2**
	baz=31,SNR=14						
STKA	**Stephens Creek**	**30.72**	**225**	P	**P**	**11 09 06.3**	**-1.5**
	comp=Z,12nm,0.8s,baz=36,slow=8.5,SNR=10						
STKA				LR	LR	11 21 09.2	
	comp=Z,2μm,18.7s,baz=148,slow=36						
WRAB	**Tennant Creek**	**32.32**	**251**	*e*P	**P**	**11 09 21.7**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,23nm,1.1s						
WRAB	**Tennant Creek**	**32.32**	**251**	*e*P	**P**	**11 09 21.7**	**-0.3**
	comp=Z,23nm,1.1s						
WRA	**Warramunga Arr**	**32.33**	**251**	P	**P**	**11 09 21.7**	**-0.5**
WRA	**Warramunga Arr**	**32.33**	**251**	P	**P**	**11 09 21.7**	**-0.5**
	comp=Z,8.5nm,1.0s,baz=84,slow=8.9,SNR=25						
WRA				LR	LR	11 20 58.9	
	comp=Z,497nm,19.4s,baz=70,slow=34						
RAR	**Rarotonga**	**33.20**	**111**	LR	LR	11 19 46.0	
	comp=Z,881nm,20.8s,baz=271,slow=31						
AS17	**Alice Springs**	**33.43**	**245**	⇑P	**P**	**11 09 31.5**	**-0.2**
	baz=34						
AS19	**Alice Springs**	**33.47**	**245**	⇓P	**P**	**11 09 31.8**	**-0.3**
	baz=34						
AS15	**Alice Springs**	**33.49**	**245**	⇑P	**P**	**11 09 32.0**	**-0.3**
	baz=34						
AS31	**Alice Springs**	**33.51**	**245**	*e*P	**P**	**11 09 31.7**	**-0.8**
ASAR	**Alice Springs**	**33.51**	**245**	P	**P**	**11 09 31.9**	**-0.5**
ASAR				ScP	**ScP**	**11 16 00.8**	**+5.8**
ASAR	**Alice Springs**	**33.51**	**245**	P	**P**	**11 09 31.9**	**-0.5**
	comp=Z,12nm,0.8s,baz=70,slow=9.4,SNR=125						
ASAR				ScP	**ScP**	**11 16 00.8**	**+5.8**
	comp=Z,0.3nm,0.8s,baz=76,slow=5.3,SNR=4.2						
ASAR				LR	LR	11 22 12.6	
	comp=Z,895nm,18.4s,baz=82,slow=35						
KDU	**Kakadu**	**33.67**	**265**	P	**P**	**11 09 34.5**	**+0.6**
	baz=34,SNR=3.2						
MTN	**Manton Dam**	**34.97**	**264**	⇓P	**P**	**11 09 46.3**	**+1.1**
	baz=35						
KNRA	**Kununurra**	**37.24**	**260**	⇑P	**P**	**11 10 05.3**	**+0.8**
	baz=38,SNR=8.8						
FITZ	**Fitzroy Crossi**	**40.32**	**256**	*e*P	**P**	**11 10 31.1**	**+0.7**
	comp=Z,69nm,1.4s						
FITZ	**Fitzroy Crossi**	**40.32**	**256**	⇓P	**P**	**11 10 31.0**	**+0.7**
	baz=41,SNR=20						
PPT	**Papeete**	**42.39**	**103**	LR	LR	11 24 54.0	
	comp=Z,415nm,18.4s,baz=89,slow=31						
PPT2	**Papeete2**	**42.39**	**103**	*e*LQ	LQ	11 20 47.4	
	comp=Z,988nm,26.8s						
PPT2				*e*LR	LR	11 22 40.0	
	comp=Z,2μm,28.5s,baz=274						
TBI	**Tubuai**	**42.97**	**112**	*e*LQ	LQ	11 20 53.1	
	comp=Z,980nm,31.2s						
TBI				*e*LR	LR	11 23 12.4	
	comp=Z,1μm,29.5s,baz=285						
MMRI	**Maumere**	**44.06**	**270**	*e*P	**P**	**11 11 01.3**	**+0.4**
	comp=Z,40nm,0.9s						
MBWA	**Marble Bar**	**46.06**	**252**	*e*P	**P**	**11 11 17.2**	**+0.5**
	comp=Z,33nm,0.9s						
MEEK	**Meekatharra**	**47.67**	**245**	P	**P**	**11 11 29.8**	**+0.5**
	baz=48,SNR=8.1						
MYLDM	**Lahad Datu**	**51.04**	**287**	P	**P**	**11 11 57.9**	**+2.8**
KKM	**Kota Kinabalu**	**53.47**	**287**	P	**P**	**11 12 14.3**	**+1.0**
KKM	**Kota Kinabalu**	**53.47**	**287**	*e*P	**P**	**11 12 14.6**	**+1.3**
	comp=Z,74nm,1.2s						
KKM	**Kota Kinabalu**	**53.47**	**287**	⇑P	**P**	**11 12 14.1**	**+0.8**
	baz=54						
SBUM	**Sibu**	**56.19**	**281**	*e*P	**P**	**11 12 34.0**	**+1.0**
	comp=Z,20nm,1.3s						
RKT	**Rikitea**	**56.24**	**110**	*e*LQ	LQ	11 26 38.8	
	comp=Z,674nm,31.2s						
RKT				*e*LR	LR	11 29 18.8	
	comp=Z,1μm,26.2s,baz=280						
KSRS	**Korea Array**	**61.16**	**325**	P	**P**	**11 13 07.7**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=137,slow=7.1,SNR=7.2						
KSAR	**Wonju Array Be**	**61.17**	**325**	P	**P**	**11 13 07.7**	**+0.5**
YSS	**Yuzh-Sakhalins**	**62.37**	**342**	*e*P	P	11 13 22.0	+7.0
NJ2	**Nanjing**	**63.38**	**315**	*e*P	**P**	**11 13 22.2**	**+0.2**
NJ2				AMB	AMB		
	comp=Z,50nm,1.1s						
USRK	**Ussuriysk Arra**	**64.15**	**333**	P	**P**	**11 13 28.4**	**+1.5**
	comp=Z,4.6nm,0.9s,baz=131,slow=6.2,SNR=6.2						
PETK	**Petropavlovsk-**	**65.14**	**354**	P	**P**	**11 13 34.3**	**+1.2**
PETK	**Petropavlovsk-**	**65.14**	**354**	P	**P**	**11 13 34.3**	**+1.2**
PETK	**Petropavlovsk-**	**65.14**	**354**	P	**P**	**11 13 34.3**	**+1.2**
	comp=Z,4.4nm,0.9s,baz=116,slow=8.4,SNR=4.4						
PETK				LR	LR	11 38 30.8	
	comp=Z,213nm,19.0s,baz=279,slow=33						
MDJ	**Mudanjiang**	**65.56**	**332**	P	P	11 13 41.9	+5.8
MDJ				pP	PcP	11 14 13.4	+5.9
MDJ				sP	sP	11 14 27.9	+37
MDJ				S	**S**	**11 22 15.8**	**-3.1**
MDJ				sS	SKSac	11 23 13.6	-15
MDJ				AMB	AMB		
	comp=Z,16nm,1.4s						
MDJ				AMB	AMB		
	comp=Z,46nm,2.9s						
MDJ				LR	LR		
	comp=Z,110nm,24.0s						
MDJ				LR	LR		
	comp=Z,150nm,19.4s						
MDJ				LR	LR		
	comp=Z,350nm,16.3s						
VNDA	**Vanda**	**65.76**	**181**	P	**P**	**11 13 36.6**	**-0.3**
VNDA	**Vanda**	**65.76**	**181**	P	**P**	**11 13 36.6**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=355,slow=5.5,SNR=7.0						
WHN	**Wuhan**	**65.77**	**311**	*e*P	P	11 13 41.3	+3.7
CN2	**Changchun**	**66.99**	**329**	*e*P	P	11 13 50.9	+5.7
CN2				*e*S	**S**	**11 22 31.4**	**-4.9**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s						
CN2				LR	LR		
	comp=Z,200nm,11.0s						
KLR	**Kul'dur**	**68.22**	**336**	*e*P	P	11 13 48.4	-4.4
SKNT	**Sakolnakorn**	**68.46**	**294**	P	**P**	**11 13 56.3**	**+1.3**
	comp=Z,29nm,1.3s						
PSI	**Prapat**	**69.12**	**278**	⇑P	**P**	**11 13 58.6**	**-0.8**
	baz=70,SNR=3.7						
ENH	**Enshi**	**69.28**	**309**	*e*P	**P**	**11 13 60.0**	**0.0**
	comp=Z,15nm,0.9s						
GYA	**Guiyang**	**69.81**	**304**	P	**P**	**11 14 06.4**	**+3.0**
GYA				pP	PcP	11 14 41.2	+15
GYA				sP	sP	11 14 56.0	+38
GYA				PP	PP	11 16 43.8	+5.6
GYA				ScP		11 18 17.6	
GYA				PcS		11 18 32.0	
GYA				S	S	11 23 02.8	-7.9
GYA				SKS	**SKiKP**	**11 23 48.4**	**0.0**
GYA				sS	**SKSac**	**11 24 02.5**	**+0.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
GYA				AMB	AMB		
	comp=Z,90nm,5.3s						
GSI	**Gunungsitoli**	**70.09**	**276**	⇑P	**P**	**11 14 04.3**	**-0.9**
	baz=70						
LOEI	**Loei**	**71.08**	**293**	P	**P**	**11 14 10.3**	**-0.9**
	comp=Z,68nm,1.9s						
XAN	**Xi'an**	**71.49**	**312**	P	**P**	**11 14 13.9**	**+0.5**
XAN				pP	PcP	11 14 48.3	+16
XAN				sP	sP	11 15 03.7	+35
XAN				AMB	AMB		
	comp=Z,4.0nm,1.2s						
NANT	**Nan**	**72.02**	**294**	P	**P**	**11 14 18.1**	**+1.3**
	comp=Z,29nm,0.9s						
KMI	**Kunming**	**72.51**	**301**	P	**P**	**11 14 21.3**	**+1.4**
KMI				pP	PcP	11 14 57.7	+20
KMI				S	S	11 23 32.2	-10
KMI				AMB	AMB		
	comp=Z,12nm,1.2s						
KMI				LR	LR		
	comp=Z,390nm,16.0s						
KMI				LR	LR		
	comp=Z,350nm,21.4s						
KMI				LR	LR		
	comp=Z,440nm,18.0s						
PAYA	**Payao**	**72.94**	**295**	P	**P**	**11 14 24.3**	**+1.9**
HHC	**Hu-ho-hao-te**	**73.16**	**319**	*e*P	**P**	**11 14 25.7**	**+2.4**
HHC				pP	PcP	11 15 00.3	+21
HHC				sP	sP	11 15 15.8	+38
HHC				PP	PP	11 17 13.1	+6.4
HHC				S	S	11 23 36.7	-12
HHC				sS	ScS	11 24 40.4	+11
HHC				SS	**SS**	**11 28 26.1**	**-5.0**
HHC				AMB	AMB		
	comp=Z,29nm,1.0s						
HHC				AMB	AMB		
	comp=Z,380nm,5.9

MAW	Mawson	84.46	202		P		P	11 15 23.8	-0.9
MAW	Mawson	84.46	202		P		P	11 15 23.8	-0.9
	comp=Z,4.9nm,1.1s,baz=72,slow=6.1,SNR=5.1								
HYT	Haines Junctio	84.60	24	*e*P			P	11 15 26.9	+1.2
ISA	Isabella	84.62	52	P			P	11 15 26.0	-0.2
	baz=85								
EDW2	Edwards Air Fo	84.75	53	P			P	11 15 25.7	-1.2
	baz=85								
BFSC	Mount Baldy Ra	84.81	54	P			P	11 15 27.3	0.0
	baz=85								
MPMC	Manual Prospec	85.50	52	P			P	11 15 30.8	0.0
	baz=86								
NVAR	Mina Array Bea	85.63	49	P			P	11 15 30.9	-0.6
NVAR	Mina Array Bea	85.63	49	P			P	11 15 30.9	-0.6
	comp=Z,0.9nm,0.8s,baz=231,slow=7.4,SNR=6.9								
EGAK	Eagle	85.69	20	*e*P			P	11 15 32.2	+1.3
	comp=Z,11nm,0.8s								
BELC	Belle Mtn. Jos	86.05	54	P			P	11 15 32.3	-1.2
	baz=86								
TUQ	Turquoise Moun	86.53	53	P			P	11 15 35.3	-0.5
	baz=87								
GMRC	Granite Mounta	86.54	54	P			P	11 15 35.2	-0.7
	baz=87								
TIXI	Tiksi	87.06	349	*e*P			P	11 15 36.5	-0.9
LDFC	Landfair	87.06	53	*e*P			P	11 15 38.1	-0.3
	comp=Z,22nm,1.1s								
HAWA	Hanford	87.40	42	*e*P			P	11 15 45.4	+5.8
SHPR	Sheep Range	87.43	52	*e*P			P	11 15 45.0	+4.8
	comp=Z,4.9nm,1.0s								
R11A	Troy Canyon, C	87.64	50	P			P	11 15 41.0	-0.2
	baz=88								
W13A	Hualapai Mount	88.03	54	P			P	11 15 42.9	-0.3
	baz=88								
BMO	Blue Mountains	88.37	44	P			P	11 15 45.5	+1.0
BMO				pmax		pmax			
	comp=Z,12nm,1.5s								
BMO	Blue Mountains	88.37	44	P			P	11 15 45.5	+1.0
	comp=Z,12nm,1.5s								
HVS	Khovu-Aksy	88.85	323	*e*P			P	11 15 45.2	-1.3
X16A	Lo Mia Camp, P	89.80	55	P			P	11 15 51.0	-0.6
	baz=90								
HLID	Hailey	89.97	45	P			P	11 15 52.1	0.0
	baz=90								
WUAZ	Wupatki	90.12	54	*e*P			P	11 15 51.3	-1.6
	comp=Z,8.5nm,1.1s								
WUAZ	Wupatki	90.12	54	P			P	11 15 53.2	+0.2
	baz=90								
DUG	Dugway	90.21	49	P			P	11 15 53.6	+0.4
	baz=90								
WMQ	Urumqi	90.45	315	*e*P			P	11 15 56.6	+2.4
WMQ				AMB		AMB			
	comp=Z,12nm,0.4s								
WMQ				AMB		AMB			
	comp=Z,64nm,4.4s								
WMQ				LR		LR			
	comp=Z,310nm,23.0s								
WMQ				LR		LR			
	comp=Z,260nm,23.0s								
WMQ				LR		LR			
	comp=Z,360nm,24.8s								
HVU	Hansel Valley	90.66	47	*e*P			P	11 15 54.9	-0.4
HVU				pmax		pmax			
	comp=Z,17nm,1.2s								
HVU	Hansel Valley	90.66	47	*e*P			P	11 15 54.9	-0.4
	comp=Z,17nm,1.2s								
319A	Douglas	90.84	58	P			P	11 15 56.6	+0.2
	baz=91								
Q16A	Castle Valley	91.12	51	P			P	11 15 57.8	+0.2
	baz=91								
JLU	Jordanelle	91.32	49	*e*P			P	11 15 58.0	-0.5
	comp=Z,5.8nm,1.1s								
MCMT	McKenzie Canyo	91.40	45	*e*P			P	11 15 58.4	-0.4
	comp=Z,4.4nm,1.5s								
320A	Kipp Ranch, An	91.46	58	P			P	11 15 59.3	0.0
	baz=92								
DLMT	Dillon	91.71	44	*e*P			P	11 16 00.0	-0.1
	comp=Z,8.4nm,1.1s								
M17A	Scullys Gap (B	92.11	48	P			P	11 16 02.9	+0.8
	baz=92								
S21A	Coal Bank Pass	93.42	52	P			P	11 16 07.9	-0.5
	baz=94								
ZALV	Zalesovo Beam	94.85	324	P			P	11 16 13.3	-0.9
ZALV	Zalesovo Beam	94.85	324	P			P	11 16 13.2	-0.9
ZALV	Zalesovo Beam	94.85	324	P			P	11 16 13.2	-0.9
	comp=Z,0.6nm,0.4s,baz=86,slow=4.6,SNR=6.6								
MK31	Makanchi Array	94.87	317	*e*P			P	11 16 14.5	0.0
MK31	Makanchi Array	94.87	317	*e*P			P	11 16 14.5	0.0
MKAR	Makanchi Array	94.87	317	P			P	11 16 14.6	+0.1
MKAR								11 20 03.3	
MKAR	Makanchi Array	94.87	317	P			P	11 16 14.6	+0.1
MKAR				PP			PP	11 20 03.3	-0.4
MKAR	Makanchi Array	94.87	317	P			P	11 16 14.6	+0.1
	comp=Z,3.3nm,0.7s,baz=95,slow=6.5,SNR=33								
MKAR				PP			PP	11 20 03.3	-0.4
	comp=Z,0.5nm,1.0s,baz=108,slow=9.6,SNR=3.8								
TXAR	Lajitas Array	95.17	61	P			P	11 16 16.0	-0.4
TXAR				PP			PP	11 20 09.8	+3.2
TXAR	Lajitas Array	95.17	61	P			P	11 16 16.0	-0.4
	comp=Z,0.3nm,0.8s,baz=228,slow=4.9,SNR=3.6								
TXAR				PP			PP	11 20 09.8	+3.2
	comp=Z,2.3nm,1.3s,baz=214,slow=6.0,SNR=3.9								
SNAA	Sanae	96.43	183	P			P	11 16 22.4	+1.2
SNAA	Sanae	96.43	183	P			P	11 16 22.4	+1.2
	comp=Z,1.2nm,1.1s,baz=178,slow=8.3,SNR=3.9								
KSH	Kashi	98.14	309	*e*P		Pdif		11 16 34.0	+4.4
KSH				pP		pP		11 17 09.0	+28
KSH				sP		sP		11 17 24.2	+39
ARCES	ARCESS Array B	117.36	346	PKP		PKPdf		11 21 36.5	-0.8
ARCES	ARCESS Array B	117.36	346	PKP		PKPdf		11 21 36.5	-0.8
	comp=Z,2.4nm,0.9s,baz=51,slow=3.6,SNR=2.9								
CPUP	Villa Florida	122.66	132	PKP		PKPdf		11 21 50.4	+1.6
CPUP	Villa Florida	122.66	132	PKP		PKPdf		11 21 50.4	+1.6
	comp=Z,0.8nm,0.3s,baz=241,slow=0.6,SNR=5.4								
AKASG	Malin Array Be	128.13	327	PKIKP		PKPdf		11 21 57.3	-1.1
AKASG	Malin Array Be	128.13	327	PKP		PKPdf		11 21 57.3	-1.1
AKASG	Malin Array Be	128.13	327	PKP		PKPdf		11 21 57.3	-1.1
	comp=Z,0.1nm,0.2s,baz=46,slow=2.7,SNR=2.9								
CLL	Collm	135.26	337	*e*PKIKP		PKPdf		11 22 08.0	-3.9
CLL				pmax		pmax			
	comp=Z,12nm,0.6s								
GERES	GERESS Array B	136.89	334	PKP		PKPdf		11 22 14.8	-0.3
GERES	GERESS Array B	136.89	334	PKP		PKPdf		11 22 14.8	-0.3
	comp=Z,0.3nm,0.4s,baz=328,slow=3.5,SNR=3.2								
KEST	Kesra	148.72	323	PKPbc		PKPbc		11 22 39.1	-1.1
KEST	Kesra	148.72	323	PKPbc		PKPbc		11 22 39.1	-1.1
	comp=Z,2.3nm,1.0s,baz=212,slow=18,SNR=3.8								
POLO	Lamas de Olo	150.18	352	*e*PKPbc		PKPbc		11 22 43.9	+0.3
MVO	Moncorvo	150.28	351	*e*PKPbc		PKPbc		11 22 44.1	+0.3
ESDC	Sonseca Array	151.09	345	PKPbc		PKPbc		11 22 44.7	-1.1
ESDC				PKPab		PKPab		11 22 51.9	-1.5
ESDC	Sonseca Array	151.09	345	PKPbc		PKPbc		11 22 44.7	-1.1
	comp=Z,0.2nm,0.4s,baz=23,slow=2.0,SNR=6.0								
ESDC				PKPab		PKPab		11 22 51.9	-1.5
	comp=Z,1.8nm,0.8s,baz=22,slow=3.5,SNR=8.0								
PMRV	Marv?2o	152.03	351	*e*PKPbc		PKPbc		11 22 47.7	-0.2
TORD	Torodi Ar. Bea	165.52	277	PKP		PKPdf		11 22 56.5	-1.4
TORD				PKPab		PKPab		11 23 56.4	-0.1
TORD	Torodi Ar. Bea	165.52	277	PKP		PKPdf		11 22 56.5	-1.4
	comp=Z,2.2nm,1.2s,baz=197,slow=3.1,SNR=4.6								
TORD				PKPab		PKPab		11 23 56.4	-0.1
	comp=Z,1.0nm,1.0s,baz=62,slow=2.2,SNR=2.3								

PGC **12** *11:10:03.5±1.5,50.47N×130.20W,h10km,ML3.4/13, Mw4.4, 198km west of Pt. Hardy, Bc Vancouver Island Region*

NEIC **12** *11:10:03.5,50.47N×130.20W,h10km,mb3.9/6, MW4.4(OTT), After OTT.*

IDC **12** *11:10:06.9±1.2,50.61N×129.67W,h0km,mb3.7/4, mb1 4.1/11,mb1mx3.8/31,mbtmp3.8/11,ML4.0/6,Error ellipse: s-maj=19.6km s-min=9.0km az=72.0*

ISC 12 11:10:03.2±1.9, 50.54N±0.05×130.06W±0.05, h3km±12km, n347,σ1$52/319, mb3.6/5, 133C-138D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOLB	Holberg	1.23	84	⇑P		Pg	11 10 26.0	-0.8
HOLB				⇑S		Sg	11 10 42.1	-0.7
BPBC	Brooks Peninsu	1.51	104	⇑Pn		Pn	11 10 28.9	-2.3
PHC	Port Hardy	1.68	83	⇑Pn		Pn	11 10 32.6	-0.8
PHC				⇓Sn		Sn	11 10 52.8	-2.8
MAYB	Maynard	1.85	93	Pn		Pn	11 10 34.5	-1.5
EDB	Eliza Dome	2.00	108	⇓Pn		Pn	11 10 35.7	-2.2
BBB	Bella Bella	2.05	36	Pn		Pn	11 10 38.3	-0.3
BBB				⇑Sn		Sn	11 11 02.2	-2.4
BBB	Bella Bella	2.05	36	Pn		Pn	11 10 38.4	-0.3
BBB				Sn		Sn	11 11 02.3	-2.4
BBB	Bella Bella	2.05	36	Pn		Pn	11 10 38.4	-0.3
	40nm,0.3s,baz=234,slow=11,SNR=839							
BBB				Sn		Sn	11 11 02.3	-2.4
	114nm,0.3s,baz=37,slow=23,SNR=15							
TLCB	Telegraph Cove	2.06	88	⇑Pn		Pn	11 10 38.0	-0.7
WOSB	Woss	2.27	98	⇑Pn		Pn	11 10 40.6	-1.0
BNB	Barry Inlet	2.30	333	⇓Pn		Pn	11 10 39.7	-2.4
BNB				⇑Sn		Sn	11 11 07.8	-3.2
ETB	Estevan Point	2.55	116	Pn		Pn	11 10 43.6	-1.8
GDR	Gold River	2.70	105	Pn		Pn	11 10 46.0	-1.5
BCBC	Bella Coola	2.77	47	⇑Pn		Pn	11 10 48.9	+0.5
BCBC				⇑Sn		Sn	11 11 20.0	-2.2
MOBC	Moresby Island	2.87	336	⇑Pn		Pn	11 10 48.0	-1.9
MOBC				⇓Sn		Sn	11 11 21.5	-3.5
SPLB	Strathcona Par	2.90	101	⇑Pn		Pn	11 10 49.5	-0.8
DIB	Dawson Inlet,	3.06	332	⇓Pn		Pn	11 10 50.4	-2.1
DIB				⇓Sn		Sn	11 11 27.2	-2.4
BTB	Buttle Lake	3.12	108	Pn		Pn	11 10 52.0	-1.4
OZB	Mount Ozzard	3.35	116	Pn		Pn	11 10 54.6	-1.9
BMSB	Bamfield Mari	3.62	116	⇑Pn		Pn	11 10 59.5	-0.6
MGB	Mount Grey	3.80	112	P		Pn	11 11 02.7	-0.1
PGC	Sidney	4.69	111	*e*Pn		Pn	11 11 14.3	-0.6
STW	Striped Peak	4.81	117	P		Pn	11 11 16.9	+0.3
MCW	Mount Constitu	5.05	109	P		Pn	11 11 21.0	+1.2
NLWA	Neiltun Lookou	5.15	125	*e*Pn		Pn	11 11 20.6	-0.6
	7.7nm,0.7s							
CRAG	Craig	5.28	341	*e*Pn		Pn	11 11 22.2	-0.7
	18nm,0.7s							
BLN	Blyn Mountain	5.28	116	P		Pn	11 11 23.5	+0.5
VDB	Vedder Mountai	5.37	103	P		Pn	11 11 19.9	-4.4
A05A	Maple Falls	5.39	104	P		Pn	11 11 25.9	+1.5
MBW	Mount Baker	5.58	105	P		Pn	11 11 27.9	+0.6
CMW	Cultus Mountai	5.59	109	P		Pn	11 11 28.5	+1.1
JCW	Jim Creek	5.80	111	P		Pn	11 11 31.0	+0.8
B06A	Marblemount	5.94	107	P		Pn	11 11 33.0	+1.1
RPW	Rockport	5.95	107	P		Pn	11 11 32.9	+0.8
WRAK	Wrangell Islan	6.05	348	*e*Pn		Pn	11 11 33.2	-0.3
	11nm,0.6s							
LON	Longmire	6.65	122	*e*Pn		Pn	11 11 42.9	+1.1
	8.6nm,0.6s							
NAC	Naches	7.20	118	P		Pn	11 11 51.6	+2.2
DLBC	Dease Lake	7.92	0	*e*Pn		Pn	11 12 01.3	+2.0
DLBC				Sn		Sn	11 13 30.1	+0.8
DLBC	Dease Lake	7.92	0	Pn		Pn	11 12 01.9	+2.7
	2.1nm,0.3s,baz=194,slow=11,SNR=124							
DLBC				Sn		Sn	11 13 30.1	+0.8
	0.9nm,0.3s,baz=175,slow=15,SNR=3.0							
HAWA	Hanford	8.13	117	*e*Pn		Pn	11 12 03.0	+0.9
	5.7nm,0.4s							
NEW	Newport	8.74	100	Pn		Pn	11 12 11.7	+1.2
NEW	Newport	8.74	100	⇑P		Pn	11 12 11.7	+1.2
	baz=8.8							
NEW	Newport	8.74	100	Pn		Pn	11 12 11.7	+1.2
	1.1nm,0.3s,baz=295,slow=13,SNR=13							
YBH	Yreka Blue Hor	10.17	147	Pn		Pn	11 12 34.4	+4.3
YBH	Yreka Blue Hor	10.17	147	Pn		Pn	11 12 34.4	+4.3
	0.2nm,0.3s,baz=345,slow=18,SNR=3.8							
BMO	Blue Mountains	10.30	119	*e*Pn		Pn	11 12 32.2	+0.3
	1.4nm,0.5s							
BSMT	Bassoo Peak	10.35	99	*e*Pn		Pn	11 12 32.3	-0.4
	2.6nm,0.6s							
SWMT	Swartz Lake	10.97	100	*e*Pn		Pn	11 12 41.8	+0.7
	2.9nm,0.5s							
MSO	Missoula	11.28	103	⇓P		Pn	11 12 46.9	+1.5
	baz=11							
CHMT	Chamberlain Mo	11.67	102	*e*Pn		Pn	11 12 51.3	+0.5
	5.6nm,1.2s							
MFID	Camas Ranch	12.04	121	⇓P		Pn	11 12 58.3	+2.6
	baz=12							
HLID	Hailey	12.73	117	⇓P		Pn	11 13 08.0	+2.7
	baz=13,SNR=5.9							
DLMT	Dillon	12.79	107	*e*Pn		Pn	11 13 06.3	+0.4
	5.3nm,0.7s							
MCMT	McKenzie Canyo	12.91	110	*e*Pn		Pn	11 13 07.7	-0.1
	1.5nm,0.6s							
EGMT	Eagleton	13.49	93	⇓P		Pn	11 13 17.6	+2.2
	baz=14							
B19A	Brinkman Farms	13.87	90	⇑P		Pn	11 13 22.6	+1.9
	baz=14							
A19A	Klindworth Far	13.88	88	⇓P		Pn	11 13 22.5	+1.8
	baz=14							
C19A	Slack Wire Ran	14.03	93	⇑P		Pn	11 13 24.9	+2.0
	baz=14							
D19A	Cripps Ranch,	14.34	95	⇑P		Pn	11 13 28.6	+1.6
	baz=14							
A20A	Cobblestone Ra	14.41	88	⇑P		Pn	11 13 29.4	+1.4
	baz=14							
H17A	Grant Village	14.52	108	⇑P		Pn	11 13 31.4	+1.7
	baz=14							
YKA	Yellowknife Ar	14.65	29	Pn		Pn	11 13 29.3	-1.8
YKA				Sn		Sn	11 16 04.5	-9.4
YKA	Yellowknife Ar	14.65	29	Pn		Pn	11 13 29.3	-1.8
	0.2nm,0.3s,baz=214,slow=13,SNR=7.0							
YKA				Sn		Sn	11 16 04.5	-9.4
	0.1nm,0.3s,baz=222,slow=23,SNR=4.0							
E19A	Rath Farm, Rou	14.67	98	⇓P		Pn	11 13 33.4	+1.9
	baz=15							
NVAR	Mina Array Bea	14.70	141	Pn		P	11 13 36.3	-2.3
NVAR	Mina Array Bea	14.70	141	Pn		P	11 13 36.3	-2.3
	0.0nm,0.3s,baz=332,slow=14,SNR=3.6							
C20A	Veseth Ranch,	14.70	93	⇓P		Pn	11 13 34.5	+2.4
	baz=15,SNR=5.6							
I17A	Pilgrim Ck.	14.78	109	⇑P		Pn	11 13 35.3	+2.1
	baz=15,SNR=6.6							
F19A	Roth Farm, Mol	14.82	100	⇓P		Pn	11 13 35.6	+1.8
	baz=15							
D20A	Manuel Ranch,	14.84	95	⇓P		Pn	11 13 35.7	+1.8
	baz=15							
H18A	Shoshone NF, C	14.93	105	⇓P		Pn	11 13 36.0	+0.7
	baz=15,SNR=8.6							
A21A	Bergtoll Ranch	15.02	87	⇑P		Pn	11 13 38.4	+2.2
	baz=15							
E20A	Meyer Farm, Mu	15.06	97	⇓P		Pn	11 13 39.4	+2.5
	baz=15							
C21A	Desert Coulee	15.24	91	⇑P		Pn	11 13 42.2	+2.8
	baz=15							
F20A	Billings	15.35	100	⇓P		P	11 13 44.3	-1.3
	baz=15,SNR=8.3							
H19A	Powell	15.35	104	⇓P		Pn	11 13 43.7	+2.9
	baz=15							
EGAK	Eagle	15.43	342	*e*Pn		Pn	11 13 42.9	+1.4
	4.7nm,0.9s							
G20A	Bridger	15.57	102	⇓P		P	11 13 46.7	-1.4
	baz=16							
D21A	La Casta Ranch	15.57	94	⇓P		P	11 13 46.6	-1.5
	baz=16							
A22A	Carney Farms,	15.66	86	⇓P		P	11 13 47.4	-1.6
	baz=16							
I19A	Meeteetse	15.67	106	⇑P		P	11 13 48.0	-1.3
	baz=16							
E21A	Keefer Ranch,	15.72	96	⇑P		P	11 13 48.4	-1.3
	baz=16							
B22A	Reddig Ranch S	15.80	89	⇑P		Pn	11 13 48.5	+1.9
	baz=16,SNR=5.6							
DUG	Dugway	15.89	124	⇓P		P	11 13 50.5	-1.2
	baz=16							
R11A	Troy Canyon, C	15.94	134	⇓P		P	11 13 51.2	-1.1
	baz=16							
BW06	Boulder Array	16.04	111	*e*Pn		Pn	11 13 51.7	+1.8
	10nm,1.2s							
PDAR	Pinedale Array	16.04	111	Pn		P	11 13 53.4	-0.1
PDAR	Pinedale Array	16.04	111	Pn		P	11 13 53.4	-0.1
	0.1nm,0.3s,baz=312,slow=11,SNR=32							
C22A	Vida	16.04	91	⇑P		P	11 13 51.9	-1.4
	baz=16,SNR=7.7							
H20A	Greybull	16.06	104	⇓P		Pn	11 13 51.3	+1.4
	baz=16							
J19A	Crowheart	16.06	109	⇑P		P	11 13 53.4	-0.2
	baz=16							
D22A	Cohagen	16.06	93	⇓P		Pn	11 13 50.2	+0.3
	baz=16							
M17A	Scullys Gap (B	16.20	117	⇓P		Pn	11 13 51.9	0.0
	baz=16							
I20A	Worland	16.25	105	⇓P		Pn	11 13 53.8	+1.3
	baz=16,SNR=5.1							
L18A	Fontenelle, Gr	16.27	114	⇑P		Pn	11 13 53.9	+1.0
	baz=16							
A23A	Redstone	16.33	86	⇓P		Pn	11 13 54.9	+1.5
	baz=16							
B23A	Brockton	16.39	88	⇑P		Pn	11 13 55.2	+1.0
	baz=16							
C23A	Lambert	16.47	90	⇑P		Pn	11 13 56.4	+1.2
	baz=16,SNR=5.4							
L19A	Farson	16.56	113	⇑P		Pn	11 13 58.1	+1.5
	baz=17							
H21A	Big Horn, Sher	16.58	102	⇑P		Pn	11 13 57.6	+0.8
	baz=17							
J20A	Shoshoni	16.60	107	⇑P		Pn	11 13 58.3	+1.4
	baz=17							
D23A	Lindsay	16.67	92	⇑P		P	11 13 60.0	-0.3
	baz=17,SNR=10							
G22A	Birney	16.77	99	⇓P		Pn	11 14 00.4	+1.3
	baz=17							
ILAR	Eielson Array	16.78	335	Pn		P	11 14 03.9	+2.6
ILAR	Eielson Array	16.78	335	Pn		P	11 14 03.9	+2.6
	0.1nm,0.3s,baz=146,slow=11,SNR=24							
I21A	Big Trails, Te	16.84	105	⇑P		Pn	11 14 00.6	+0.6
	baz=17							
A24A	Westby	16.90	85	⇓P		P	11 14 02.4	-0.3
	baz=17							
DGMT	Dagmar	16.90	87	*e*Pn		Pn	11 14 01.3	+0.7
	14nm,0.8s							
DGMT	Dagmar	16.90	87	⇑P		Pn	11 14 01.9	+1.3
	baz=17,SNR=5.1							
J21A	Lysite	16.99	106	⇑P		Pn	11 14 03.3	+1.3
	baz=17							
ISA	Isabella	17.07	146	⇓P		P	11 14 04.6	-0.2
	baz=17							
MPMC	Manual Prospec	17.08	143	⇑P		Pn	11 14 04.1	+1.0
	baz=17							
F23A	Volborg	17.11	97	⇑P		Pn	11 14 04.4	+1.0
	baz=17							
L20A	Wamsutter	17.22	111	⇓P		Pn	11 14 05.6	+0.8
	baz=17							
D24A	Glendive	17.25	91	⇑P		Pn	11 14 06.2	+1.1
	baz=17							
I22A	9 Mile Ranch,	17.30	103	⇑P		Pn	11 14 06.6	+0.9
	baz=17							
G23A	Biddle	17.35	98	⇓P		P	11 14 07.7	-0.1
	baz=17							
ARVC	Arvin	17.43	148	⇑P		Pn	11 14 08.2	+0.9
	baz=17							
A25A	Svangstu Ranch	17.46	85	⇓P		P	11 14 09.3	+0.4
	baz=18							
E24A	Baker	17.47	93	⇑P		P	11 14 09.0	-0.1
	baz=18							
K21A	Alcova	17.51	108	⇑P		P	11 14 10.0	+0.3
	baz=18,SNR=5.5							
J22A	Midwest	17.55	105	⇑P		P	11 14 10.3	+0.2
	baz=18,SNR=6.7							
B25A	Knox Farm, Ray	17.62	87	⇑P		P	11 14 11.4	+0.8
	baz=18							
F24A	Ekalaka	17.67	95	⇓P		P	11 14 12.8	+1.4
	baz=18,SNR=6.3							
C25A	Freed Ranch, W	17.73	89	⇓P		P	11 14 13.1	+1.2
	baz=18							
O19A	Miners Draw (B	17.85	117	⇑P		P	11 14 15.2	+1.8
	baz=18							
D25A	Fairfield	17.88	91	⇑P		P	11 14 15.3	+1.7
	baz=18							
G24A	Alzada	17.91	97	⇓P		Pn	11 14 14.1	+0.8
	baz=18							
K22A	Casper	17.94	107	⇑P		P	11 14 15.5	+1.1
	baz=18							
N20A	Spence Gulch,	18.00	114	⇑P		P	11 14 16.6	+1.5
	baz=18							
GSC	Goldstone	18.01	143	⇓P		P	11 14 16.9	+1.7
	baz=18							
E25A	Miller Ranch,	18.07	93	⇑P		P	11 14 17.7	+2.0
	baz=18,SNR=14							
H24A	Dirks Ranch, A	18.09	99	⇓P		Pn	11 14 15.9	+0.4
	baz=18							
A26A	Wade Farm, Ken	18.15	84	⇓P		P	11 14 17.3	+0.8
	baz=18							
B26A	Jensen Ranch,	18.18	86	⇑P		P	11 14 17.9	+1.1
	baz=18							
F25A	Bowman	18.27	94	⇓P		P	11 14 18.6	+0.8
	baz=18							
L22A	Ellis Ranch, M	18.35	108	⇑P		P	11 14 19.6	+0.6
	baz=18							
P19A	Cripple Cowboy	18.38	118	⇓P		P	11 14 20.5	+1.2
	baz=18							
K23A	Bowen Ranch, D	18.43	106	⇑P		P	11 14 20.3	+0.5
	baz=18							
O20A	White River Ci	18.46	116	⇑P		Pn	11 14 21.9	+1.7
	baz=18							
D26A	Manning	18.49	90	⇑P		Pn	11 14 22.0	+1.7
	baz=18,SNR=6.7							
G25A	Newell	18.60	96	⇓P		Pn	11 14 23.0	+1.3
	baz=19							
M22A	Cedar Creek Ra	18.62	110	⇑P		Pn	11 14 23.5	+1.2
	baz=19							
BFSC	Mount Baldy Ra	18.64	146	⇑P		Pn	11 14 23.6	+1.3
	baz=19							
A27A	Ledoux Ranch,	18.64	84	⇑P		Pn	11 14 23.8	+1.7
	baz=19,SNR=5.5							
E26A	Carlson Angus	18.68	92	⇑P		Pn	11 14 24.6	+1

B29A	Wagenman Farm, baz=20	19.98	84	⇑P	Pn	11 14 38.6	+0.3
I27A	Quinn baz=20	19.99	98	⇑P	Pn	11 14 38.7	+0.4
F28A	McLaughlin baz=20	19.99	92	⇑P	Pn	11 14 39.2	+0.9
N24A	Carr baz=20	20.00	109	⇑P	Pn	11 14 39.1	+0.4
Q22A	Crested Butte, baz=20,SNR=7.9	20.08	117	P	Pn	11 14 40.4	+0.5
WUAZ	Wupatki 3.4nm,0.8s	20.21	131	*e*P	P	11 14 39.7	+0.4
WUAZ	Wupatki baz=20	20.21	131	⇑P	Pn	11 14 41.5	+0.3
ISCO	Idaho Springs baz=20	20.21	113	⇓P	Pn	11 14 41.6	+0.1
G28A	Parade baz=20	20.24	94	⇓P	Pn	11 14 41.8	+0.4
D29A	Pettibone, Tap baz=20,SNR=7.5	20.29	88	⇑P	Pn	11 14 43.1	+1.2
P23A	Jefferson baz=20	20.36	114	⇑P	P	11 14 42.6	+1.6
H28A	Mission Ridge baz=20	20.36	95	⇑P	Pn	11 14 42.3	-0.4
MVCO	Mesa Verde baz=20	20.37	123	⇓P	Pn	11 14 43.3	0.0
J27A	Elkhorn Farm, baz=20	20.42	100	⇓P	Pn	11 14 43.9	+0.3
S21A	Coal Bank Pass baz=20	20.43	121	⇓P	Pn	11 14 44.2	+0.3
E29A	Napoleon baz=20	20.44	89	⇑P	Pn	11 14 44.1	+0.4
N25A	Grover baz=20	20.49	108	⇑P	Pn	11 14 43.9	-0.6
A30A	Hoffart Farm, baz=20,SNR=5.5	20.51	82	⇓P	Pn	11 14 44.2	-0.2
K27A	Flueckinger Fa baz=21	20.56	102	⇑P	Pn	11 14 45.4	+0.2
I28A	Midland baz=21	20.58	97	⇓P	Pn	11 14 45.5	+0.2
R22A	Saguache, Gunn baz=21	20.60	118	⇑P	Pn	11 14 45.8	-0.2
B30A	Myrvik Farm, E baz=21	20.64	83	⇑P	Pn	11 14 46.1	+0.2
Y14A	Wickenburg baz=21	20.76	137	⇑P	Pn	11 14 47.6	0.0
GLA	Glamis baz=21	20.76	142	⇑P	Pn	11 14 47.9	+0.3
C30A	Mose, Pekin baz=21	20.78	86	⇑P	Pn	11 14 47.7	0.0
D30A	Buchanan baz=21,SNR=9.4	20.81	87	⇓P	Pn	11 14 47.8	-0.2
J28A	Allard Ranch, baz=21	20.82	99	⇑P	Pn	11 14 47.5	-0.7
G29A	Hoven baz=21	20.82	93	⇓P	P	11 14 47.2	+1.4
H29A	Onida baz=21	20.89	95	⇓P	Pn	11 14 49.0	0.0
O25A	Wiggins baz=21	20.90	110	⇑P	Pn	11 14 48.7	-0.5
S22A	4UR Ranch, Cre baz=21	20.90	119	⇓P	Pn	11 14 48.8	-0.7
E30A	Jud baz=21,SNR=10.0	20.94	89	⇑P	Pn	11 14 49.3	-0.1
U20A	Newcomb baz=21	20.98	124	⇑P	Pn	11 14 50.0	-0.3
Q24A	Divide baz=21	21.03	114	⇑P	P	11 14 50.7	+2.3
X16A	Lo Mia Camp, P baz=21	21.07	133	⇓P	P	11 14 51.3	+2.7
K28A	Ten Mile Ranch baz=21,SNR=6.3	21.10	101	⇑P	P	11 14 52.0	+3.1
I29A	Vivian Onida baz=21	21.12	96	⇓P	P	11 14 51.3	+2.4
F30A	Leola baz=21,SNR=7.0	21.13	91	P	P	11 14 51.2	+2.2
R23A	Moffat baz=21	21.16	116	⇑P	P	11 14 51.6	+1.9
P25A	Willow Gulch B baz=21	21.25	111	⇑P	P	11 14 52.6	+2.1
G30A	Faulkton baz=21	21.35	93	⇓P	P	11 14 53.4	+2.0
T22A	Edith baz=21	21.38	120	⇓P	P	11 14 54.1	+2.0
S23A	Nye Farm, Mont baz=21	21.39	118	⇓P	P	11 14 54.1	+1.9
J29A	Okreek baz=21	21.40	98	⇓P	P	11 14 54.0	+2.0
U21A	Nageezi baz=21	21.40	123	⇑P	P	11 14 54.4	+2.1
N27A	Anderson Farm, baz=21	21.44	106	⇓P	P	11 14 55.0	+2.4
V20A	Brimhall baz=22	21.45	125	⇓P	P	11 14 54.7	+1.9
Q25A	Bedland, Calha baz=22	21.59	113	⇓P	P	11 14 55.7	+1.4
OGNE	Ogallala baz=22	21.67	105	⇓P	P	11 14 57.1	+2.2
ULM	Lac du Bonnet	21.69	77	P	P	11 14 55.7	+0.7
ULM	Lac du Bonnet 5.0nm,0.5s,baz=279,slow=10,SNR=10	21.69	77	P	P	11 14 55.7	+0.7
X18A	Snowflake baz=22	21.70	130	⇑P	P	11 14 57.7	+2.3
P26A	Davis Ranch, A baz=22	21.71	110	⇑P	P	11 14 58.0	+2.5
K29A	Lazy Trails An baz=22	21.73	99	⇓P	P	11 14 58.4	+2.7
T23A	Casias Ranch, baz=22	21.85	119	⇓P	P	11 14 58.8	+1.7
U22A	Llaves baz=22	21.88	121	⇑P	P	11 14 59.1	+1.8
S24A	Houchin Ranch, baz=22	21.89	117	⇓P	P	11 14 58.9	+1.3
W20A	Ramah baz=22	21.95	126	⇓P	P	11 15 00.5	+2.4
J30A	Dallas baz=22	21.97	97	⇑P	P	11 14 59.7	+1.6
R25A	Fountain Ranch baz=22	22.08	114	⇑P	P	11 15 01.3	+1.9
N28A	Pribbeno Ranch baz=22	22.12	105	⇑P	P	11 15 01.3	+1.5
V22A	San Miguel Ran baz=22	22.19	122	⇓P	P	11 15 02.2	+1.4
T24B	San Luis baz=22	22.20	118	⇓P	P	11 15 01.8	+0.9
M29A	Burnside Ranch baz=22	22.21	103	⇓P	P	11 15 01.7	+0.9
U23A	El Rito baz=22	22.27	120	⇓P	P	11 15 03.3	+1.7
S25A	Robets Cordova baz=22	22.32	115	⇑P	P	11 15 03.9	+1.8
W21A	San Fidel baz=22	22.40	125	⇓P	P	11 15 04.3	+1.3
X20A	Quemado baz=22	22.41	127	⇑P	P	11 15 05.2	+2.1
R26A	Arlington baz=22	22.46	113	⇑P	P	11 15 05.4	+1.8
KSCO	Kaye Shedlock'	22.49	110	*e*P	P	11 15 04.9	+1.1
KSCO	Kaye Shedlock' baz=22	22.49	110	⇓P	P	11 15 05.5	+1.6
V23A	Ortiz Mt. (NFS baz=23	22.71	121	⇑P	P	11 15 08.1	+1.8
U24A	Moreno Valley baz=23	22.72	119	⇓P	P	11 15 08.2	+1.7
X21A	Alamocita Cree baz=23	22.85	126	⇑P	P	11 15 09.2	+1.4
R27A	Eads baz=23	22.86	112	⇑P	P	11 15 09.6	+1.9
O29A	4D Ranch, Culb baz=23	22.91	106	⇓P	P	11 15 09.6	+1.4
Q28A	Sharon Springs baz=23	22.93	109	⇓P	P	11 15 10.4	+1.9
Y20A	Horse Springs, baz=23	22.97	128	⇓P	P	11 15 11.7	+2.7
T26A	Comanche Natio baz=23	23.14	115	⇓P	P	11 15 11.8	+1.1
ANMO	Albuquerque	23.16	123	P	P	11 15 12.9	+1.9
ANMO	Albuquerque 2.4nm,1.2s,baz=315,slow=10.0,SNR=3.5	23.16	123	P	P	11 15 12.9	+1.9
W23A	Werner Place, baz=23	23.16	122	⇓P	P	11 15 13.1	+2.1
S27A	Las Animas baz=23	23.20	113	⇑P	P	11 15 12.9	+1.6
X22A	Bernardo baz=23	23.20	125	⇑P	P	11 15 13.5	+2.1
V24A	Rampart Ranch, baz=23	23.22	120	⇑P	P	11 15 14.0	+2.3
R28A	Tribune baz=23	23.41	110	⇓P	P	11 15 15.1	+1.7
Z20A	Nine Sixteen R baz=24	23.50	130	⇑P	P	11 15 15.5	+1.1
V25A	Rancho No Teng baz=24	23.50	119	⇑P	P	11 15 15.3	+0.9
W24A	Lazy 6 Ranch, baz=24	23.53	121	⇑P	P	11 15 15.9	+1.3
Q29A	Oakley baz=24	23.56	108	⇑P	P	11 15 16.1	+1.3
X23A	Hourglass Bar baz=24	23.58	123	⇓P	P	11 15 16.9	+1.7
ECSD	EROS Data Cent 3.2nm,0.5s	23.60	94	*e*P	P	11 15 17.1	+2.0
U26A	Atchley Ranch, baz=24	23.60	117	⇓P	P	11 15 17.5	+2.1
Y22A	Socorro baz=24	23.67	126	⇑P	P	11 15 17.5	+1.4
T27A	Campo baz=24	23.73	114	⇓P	P	11 15 18.1	+1.6
R29A	Marienthal baz=24	23.76	109	⇓P	P	11 15 18.5	+1.7
Z21A	St. Cloud Mine baz=24	23.80	128	⇓P	P	11 15 19.1	+1.7
S28A	Manter baz=24	23.85	112	⇑P	P	11 15 19.6	+1.9
V26A	Tequesquite Ra baz=24	24.00	118	⇑P	P	11 15 21.0	+1.8
T28A	Walsh baz=24	24.04	113	⇓P	P	11 15 21.3	+1.8
W25A	X Bar L Ranch, baz=24	24.04	120	⇑P	P	11 15 21.5	+1.9
U27A	Thompson Grove baz=24	24.11	115	⇓P	P	11 15 22.1	+1.9
Y23A	Lovelace Mesa, baz=24	24.15	124	⇑P	P	11 15 22.6	+1.9
Z22A	Elephant Butte baz=24	24.20	127	⇓P	P	11 15 22.9	+1.7
Y24A	Capitan baz=24	24.48	123	⇓P	P	11 15 25.1	+1.4
220A	Playas Peak, P baz=24	24.52	131	⇓P	P	11 15 25.4	+1.4
Z23A	Rita Site, Whi baz=25	24.58	126	⇓P	P	11 15 23.3	-1.2
R31A	Burdett baz=25	24.82	108	⇓P	P	11 15 28.0	+1.5
Y25A	Mesa, Roswell baz=25	24.88	122	⇓P	P	11 15 28.4	+1.1
X26A	CR and CF Fran baz=25	24.90	120	⇓P	P	11 15 28.7	+1.4
Z24A	Sheeppen Canyo baz=25	24.98	124	⇓P	P	11 15 30.4	+2.2
SPMN	St. Paul baz=25	25.35	88	⇓P	P	11 15 33.5	+2.2
Z25A	Roswell baz=25	25.36	123	⇓P	P	11 15 33.4	+1.8
T31A	Randall Ranch, baz=26	25.50	110	⇓P	P	11 15 34.6	+1.9
Y27A	Causey baz=26	25.75	120	⇑P	P	11 15 36.5	+1.4
Z26A	Caprock baz=26	25.76	122	⇓P	P	11 15 36.6	+1.4
X28A	Dimmitt baz=26	25.82	118	⇓P	P	11 15 36.7	+1.0
125A	Gardner Draw, baz=26	25.87	124	⇑P	P	11 15 37.5	+1.3
224A	Cornudas Mount baz=26	25.88	126	⇑P	P	11 15 37.6	+1.3
MSTX	Muleshoe baz=26	25.90	119	⇓P	P	11 15 37.9	+1.4
Z27A	Tatum baz=26	26.15	121	⇑P	P	11 15 39.9	+1.2
225A	Deer Hill, Car baz=26	26.21	125	⇑P	P	11 15 40.9	+1.5
Y28A	McKinney Farm, baz=26	26.24	119	⇑P	P	11 15 40.8	+1.3
226B	Tecolote Peak, baz=27	26.59	124	⇓P	P	11 15 43.5	+0.8
Y29A	Porterfield Fa baz=27	26.60	118	⇑P	P	11 15 43.4	+0.7
X30A	Coker Ranch, T baz=27	26.63	116	⇑P	P	11 15 44.3	+1.4
325A	Bean Ranch, Si baz=27	26.72	126	⇑P	P	11 15 45.0	+1.0
X31A	McDonald Ranch baz=27	27.01	115	⇑P	P	11 15 47.7	+1.3
Z29A	Hungry Hill Ra baz=27	27.02	119	⇑P	P	11 15 47.7	+1.2
128A	Castleberry Fa baz=27	27.07	121	⇑P	P	11 15 48.2	+1.2
227A	Bennet, Jal baz=27	27.10	123	⇑P	P	11 15 48.6	+1.3
425A	Indio Mountain baz=27	27.18	127	⇑P	P	11 15 49.6	+1.5
326A	Caldwell Ranch baz=27	27.28	125	⇑P	P	11 15 50.7	+1.8
Y31A	Rekieta Farm, baz=27	27.33	116	⇑P	P	11 15 50.6	+1.4
228A	UT Block 9, Go baz=27	27.40	122	⇑P	P	11 15 50.9	+1.0
426A	McDonald Obser baz=28	27.77	126	⇑P	P	11 15 55.0	+1.6
Y32A	R-V Farms, Ver baz=28	27.77	115	⇑P	P	11 15 54.1	+0.9
Z31A	Sharp Cattle R baz=28	27.86	117	⇑P	P	11 15 55.0	+0.9
427A	Hayter Ranch, baz=28	27.95	125	⇓P	P	11 15 56.0	+1.1
131A	Roby baz=28	28.20	118	⇑P	P	11 15 58.0	+0.9
526A	Mary Lane Ranc baz=28	28.22	127	⇑P	P	11 15 59.2	+1.8
527A	Woodward Ranch baz=28	28.40	126	⇓P	P	11 16 00.2	+1.2
428A	Kincaid Ranch, baz=28	28.43	124	⇑P	P	11 16 00.5	+1.3
ABTX	Abilene, Hawle baz=29	28.66	117	⇓P	P	11 16 02.0	+0.9
330A	Mexon baz=29	28.71	121	⇑P	P	11 16 02.7	+1.0
TXAR	Lajitas Array	29.03	127	P	P	11 16 06.3	+1.8
TXAR	Lajitas Array 1.0nm,1.0s,baz=316,slow=6.2,SNR=7.6	29.03	127	P	P	11 16 06.3	+1.8
627A	Terlingua Ranc baz=29	29.07	126	⇓P	P	11 16 06.5	+1.6
529A	Stev Forest Ra baz=29	29.15	124	⇓P	P	11 16 06.9	+1.3
430A	Baggett Ranch, baz=29	29.16	122	⇓P	P	11 16 07.1	+1.4
628A	Black Gap, Mar baz=29	29.30	126	⇓P	P	11 16 08.5	+1.6
431A	Sonora baz=30	29.58	121	⇓P	P	11 16 09.9	+0.6
530A	J-C Ranch, Com baz=30	29.60	123	⇑P	P	11 16 10.0	+0.5
JCT	Junction City baz=30	30.18	120	⇓P	P	11 16 15.3	+0.7
WHTX	Mc Whitney baz=30	30.38	115	⇑P	P	11 16 17.4	+1.1
631A	Perdido Creek baz=31	30.59	122	⇑P	P	11 16 19.2	+1.0
KMSC	Kings Mountain baz=38	38.17	95	⇓P	P	11 17 23.9	+0.1
H11N2	WAKE ISLAND Hy 57.94 baz=44,slow=0.7,SNR=424	262	T		T	12 22 36.7	
H11N3	WAKE ISLAND Hy 57.94 baz=44,slow=0.7,SNR=402	262	T		T	12 22 36.8	
H11N1	WAKE ISLAND Hy 57.95 baz=44,slow=0.7,SNR=473	262	T		T	12 22 38.0	
H11S1	WAKE ISLAND Hy 58.97 baz=46,slow=0.7,SNR=22	261	T		T	12 23 50.0	
H11S2	WAKE ISLAND Hy 58.98 baz=46,slow=0.7,SNR=17	261	T		T	12 23 54.7	
H11S3	WAKE ISLAND Hy 58.98 baz=46,slow=0.7,SNR=12	261	T		T	12 23 58.1	
MKAR	Makanchi Array	79.11	338	P	P	11 22 15.1	+6.3
MKAR	Makanchi Array 0.4nm,0.8s,baz=19,slow=7.6,SNR=3.5	79.11	338	P	P	11 22 15.1	+6.3

ATH ***12*** *11:23:42.8, 33°.64N×25°.36E, h7km⊥5km, MD3.5/6*
IDC ***12*** *11:23:47.3±1.2, 34°.07N×25°.44E, h0km, mb3.6/5,*
mb1 3.9/11, mb1mx3.7/29, mbtmp3.8/11, ML3.9/5, Error
ellipse: s-maj=20.4km s-min=16.7km az=19.0
CSEM ***12*** *11:23:47.8±0.2, 33°.97N×25°.46E, h2km, ML3.0/1, Error*
ellipse: s-maj=6.2km s-min=3.4km az=58.0
HLW ***12*** *11:23:49.0, 34°.27N×25°.42E, h32km±24km, Md3.5, Ml3.6*
THE ***12*** *11:23:54.2, 34°.37N×25°.41E, h0km±3km, ML3.0/1, Error*

ellipse: s-maj=9.2km s-min=2.1km az=193.0
ISC 12 11:23:47.6±1.4, 33°.98N±0°.03×25°.49E±0°.03, h3km±10km, n112, σ1&31/124, mb3.9/5, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIVA	Sivas	1.18	332	P			Pb	11 24 09.7	-0.9
SIVA				S			Sb	11 24 23.5	-2.8
SIVA	Sivas	1.18	332	P			Pb	11 24 09.7	-0.9
SIVA				S			Sb	11 24 23.5	-2.8
NPS	Neapolis	1.29	4	P			Pn	11 24 10.7	-1.7
NPS	Neapolis	1.29	4	*e*PN			Pg	11 24 11.7	-0.5
NPS				*e*SB			Sn	11 24 36.0	+5.8
NPS	Neapolis	1.29	4	P			Pn	11 24 10.7	-1.7
NPS	Neapolis	1.29	4	*e*Pn			Pg	11 24 11.7	-0.5
NPS				*e*Sb			Sn	11 24 36.0	+5.8
IDI	Anoyia	1.40	339	P			Pb	11 24 13.5	-0.9
IDI	Anoyia	1.40	339	P			Pb	11 24 13.5	-0.9
IDI	Anoyia 8.5nm,0.3s,baz=329,slow=21,SNR=32	1.40	339	Pn			Pb	11 24 13.7	-0.7
IDI				Sn			Sg	11 24 31.7	-0.9
	13nm,0.3s,baz=331,slow=22,SNR=9.4								
VAM	Vamos	1.78	324	P			Pb	11 24 20.3	-0.5
VAM	Vamos	1.78	324	*e*PG			Pb	11 24 20.4	-0.4
VAM				*e*SN			Sg	11 24 46.3	+1.5
VAM	Vamos	1.78	324	*e*Pg			Pb	11 24 20.4	-0.4
VAM				*e*Sn			Sg	11 24 46.3	+1.5
KARP	Karpathos	2.08	41	P			Pg	11 24 26.4	-1.1
KARP				S			Sb	11 24 51.4	-0.9
KARP	Karpathos	2.08	41	*e*PG			Pg	11 24 26.8	-0.7
KARP				*e*SN			Sg	11 24 54.9	+0.4
KARP	Karpathos	2.08	41	P			Pg	11 24 26.4	-1.1
KARP	Karpathos	2.08	41	*e*Pg			Pg	11 24 26.8	-0.7
KARP				S			Sb	11 24 51.4	-0.9
KARP				*e*Sn			Sg	11 24 54.9	+0.4
SLUM		2.49	186	S			Sn	11 24 59.5	-0.4
	baz=184								
SLUM		2.49	186	P			Pn	11 24 30.2	+1.2
SLUM				S			Sn	11 24 59.5	-0.4
ANKY	Antikythira Is	2.61	317	*e*PB			Pn	11 24 29.8	-0.8
ANKY	Antikythira Is	2.61	317	*e*Pb			Pn	11 24 29.8	-0.8
NIS1	Nisyros Isl.	2.96	27	*e*PN			Pb	11 24 38.0	-2.9
NIS1	Nisyros Isl.	2.96	27	*e*Pn			Pb	11 24 38.0	-2.9
KYTH	Kithira	3.06	319	P			Pn	11 24 38.9	+2.1
KYTH	Kithira	3.06	319	*e*PB			Pn	11 24 38.5	+1.7
KYTH	Kithira	3.06	319	*e*Pb			Pn	11 24 38.5	+1.7
KYTH	Kithira	3.06	319	P			Pn	11 24 38.9	+2.1
APE	Apeiranthos	3.08	1	*e*PN			Pn	11 24 39.0	+1.8
APE	Apeiranthos	3.08	1	*e*Pn			Pn	11 24 39.0	+1.8
HMAT	Matruh baz=155	3.18	154	P			Pn	11 24 39.5	+1.1
HMAT				S			Sn	11 25 16.1	-0.7
	baz=155								
HMAT	Matruh	3.18	154	P			Pn	11 24 39.5	+1.1
HMAT				S			Sn	11 25 16.1	-0.7
VLI	Veliai	3.44	323	P			Pn	11 24 42.8	+0.8
VLI	Veliai	3.44	323	*e*PN			Pn	11 24 42.2	+0.2
VLI	Veliai	3.44	323	*e*Pn			Pn	11 24 42.2	+0.2
VLI	Veliai	3.44	323	P			Pn	11 24 42.8	+0.8
TURN	Turunc	3.85	40	*i* P			Pn	11 24 45.7	-1.9
TURN				*i* S			Sn	11 25 24.4	-8.9
TURN	Turunc	3.85	40	*i* P			Pn	11 24 45.7	-1.9
DIDY	Didyma	3.95	333	*e*PN			Pn	11 24 49.3	+0.1
DIDY	Didyma	3.95	333	*e*Pn			Pn	11 24 49.3	+0.1
DID	Didima	3.97	333	*e*PN			Pn	11 24 49.5	+0.1
DID	Didima	3.97	333	*e*Pn			Pn	11 24 49.5	+0.1
AKAS	Kas	4.05	55	*i* P			Pn	11 24 53.8	+3.2
AKAS				*i* S			Sn	11 25 40.0	+1.4
AKAS	Kas	4.05	55	*i* P			Pn	11 24 53.8	+3.2
AKAS				*i* S			Sn	11 25 40.0	+1.4
AYDN	Tasoluk	4.16	27	*i* P			Pn	11 24 54.2	+2.3
AYDN				*i* S			Sb	11 25 49.5	-2.4
AYDN	Tasoluk	4.16	27	*i* P			Pn	11 24 54.2	+2.3
ITM	Ithomi	4.32	319	*e*PN			Pn	11 24 53.4	-0.7
ITM	Ithomi	4.32	319	*e*Pn			Pn	11 24 53.4	-0.7
GOLH	Golhisar	4.64	44	*i* P			Pn	11 25 01.0	+2.3
GOLH				*i* S			Sn	11 25 55.6	+2.5
GOLH	Golhisar	4.64	44	*i* P			Pn	11 25 01.0	+2.3
GOLH				*i* S			Sn	11 25 55.6	+2.5
DNZL	Cakiroluk	4.70	37	*i* P			Pb	11 25 04.5	-6.1
DNZL				*i* S			Sb	11 26 01.3	-6.3
DNZL	Cakiroluk	4.70	37	*i* P			Pb	11 25 04.5	-6.1
GUR	Goura	4.70	328	*e*PN			Pn	11 25 00.0	+0.5
GUR	Goura	4.70	328	*e*Pn			Pn	11 25 00.0	+0.5
SWA2	baz=179	4.72	180	P			Pn	11 25 00.9	+1.3
SWA2				S			Sn	11 25 52.0	-2.9
	baz=179								
SWA2				AMP				11 26 00.0	
	comp=E,80μm,0.4s,logA/T=5.3,baz=179								
SWA2		4.72	180	P			Pn	11 25 00.9	+1.3
SWA2				S			Sn	11 25 52.0	-2.9
GAZI	Gazipasa	6.03	66	*i* P			Pn	11 25 18.4	+0.8
GAZI				*i* S			Sn	11 26 24.0	-3.2
GAZI	Gazipasa	6.03	66	*i* P			Pn	11 25 18.4	+0.8
HNAT	Natroun baz=134	6.15	133	P			Pn	11 25 20.1	+0.8
HNAT	Natroun	6.15	133	P			Pn	11 25 20.1	+0.8
TVSB	Tavsanli	6.32	29	*e*PG			Pb	11 25 40.4	+2.1
TVSB				*e*SG			Pg	11 25 44.4	-4.3
ERMK	Ermenek	6.62	64	*i* P			Pn	11 25 29.9	+3.9
ERMK				*i* S			Sn	11 26 41.0	-1.1
ERMK	Ermenek	6.62	64	*i* S			Sn	11 26 41.0	-1.1
HSAF	As Saff baz=130	6.75	128	P			Pn	11 25 27.4	-0.1
HSAF	As Saff	6.75	128	P			Pn	11 25 27.4	-0.1
GLL	Jalalah baz=129	6.87	128	P			Pn	11 25 29.7	+0.4
GLL	Jalalah	6.87	128	P			Pn	11 25 29.7	+0.4
HHAG	Hagoal baz=125	6.90	124	P			Pn	11 25 29.7	+0.1
HHAG	Hagoal	6.90	124	P			Pn	11 25 29.7	+0.1
MDNY	Mudanya-Bursa	6.93	22	*e*PG			Pb	11 25 52.7	+4.1
ARMT	Armutlu	7.10	21	*e*PG			Pb	11 25 55.7	+4.2
CAVI	Cavuskoy	7.12	28	*e*PG			Pb	11 25 48.1	-3.7
CAVI				*e*SG			Pg	11 25 56.0	-7.9
HFRF	Wahat Farafira baz=159	7.23	160	P			Pn	11 25 35.1	+1.0
HFRF	Wahat Farafira	7.23	160	P			Pn	11 25 35.1	+1.0
ADVT	Abdulvahap	7.28	26	*e*PG			Pb	11 25 50.9	-3.6
AMAG	Maghara baz=116	7.33	115	P			Pn	11 25 35.0	-0.5
AMAG	Maghara	7.33	115	P			Pn	11 25 35.0	-0.5
SUZ	baz=123	7.48	121	P			Pn	11 25 38.1	+0.6
SUZ		7.48	121	P			Pn	11 25 38.1	+0.6
RSH	baz=113	7.58	111	P			Pn	11 25 38.0	-0.8
RSH		7.58	111	P			Pn	11 25 38.1	-0.8
GULT	Gulveren	7.59	30	*e*PG			Pb	11 25 55.4	-4.4
KZIT	Kziot	8.12	110	Pn			Pn	11 25 46.7	+0.3
SLTI	Sal'it	8.20	100	Pn			Pn	11 25 47.9	+0.5
GULE	Gulek	8.25	64	*i* P			Pn	11 25 49.9	+1.7
GULE				*i* S			Pg	11 26 38.0	+12
GULE	Gulek	8.25	64	*i* P			Pn	11 25 49.9	+1.7
HNKL	Nakhl baz=118	8.26	117	P			Pn	11 25 48.2	-0.1
HNKL	Nakhl	8.26	117	P			Pn	11 25 48.2	-0.1
MMAI	Mount Meron Ar comp=E,2.5nm,0.3s,baz=281,slow=10,SNR=4.2	8.33	94	Pn			Pn	11 25 50.5	+1.2
MMAI				Sn			Sn	11 27 24.6	+0.6
	comp=E,3.5nm,0.3s,baz=280,slow=17,SNR=3.7								
GRB	Gharib baz=131	8.45	130	P			Pn	11 25 51.3	+0.4
GRB	Gharib	8.45	130	P			Pn	11 25 51.3	+0.4
MMLI	Mount Malkishu	8.46	98	Pn			Pn	11 25 51.6	+0.5
HMDT	Nahal Hemdat	8.59	99	Pn			Pn	11 25 53.0	+0.2
DSI	Dead Sea	8.66	103	Pn			Pn	11 25 54.6	+0.8
BRTR	Keskin Array B comp=E,0.3nm,0.3s,baz=225,slow=14,SNR=7.9	8.69	46	Pn			Pn	11 25 55.0	+0.7
KRMI	Paran Flat	8.73	114	Pn			Pn	11 25 55.4	+0.7
MZDA	Masada	8.74	105	Pn			Pn	11 25 54.9	+0.1
PRNI	Paran	8.84	112	Pn			Pn	11 25 56.7	+0.5
HRFI	Mount Harif	9.01	113	Pn			Pn	11 25 59.0	+0.5
MBRI	Mt Berech	9.03	115	Pn			Pn	11 25 58.9	0.0
HDK1	Dakhla baz=157	9.06	157	P			Pn	11 26 00.6	+1.2
HDK1	Dakhla	9.06	157	P			Pn	11 26 00.6	+1.2
EIL	Elat	9.12	116	Pn			Pn	11 26 00.3	+0.2
EIL	Elat comp=E,1.7nm,0.3s,baz=307,slow=7.6,SNR=8.5	9.12	116	Pn			Pn	11 26 00.

baz=133
HHRG **Al Ghardaqah** 9.68 132 P Pn 11 26 08.7 +0.9
GNI **Garni** 16.54 63 Pn P 11 27 44.9 +1.6
comp=E,0.9nm,0.3s,baz=4.1,slow=4.7,SNR=4.3
AKASG **Malin Array Be** 16.93 8 Pn Pn 11 27 44.5 -0.9
comp=E,0.8nm,0.3s,baz=199,slow=11,SNR=7.0
GERES **GERESS Array B** 17.25 333 Pn Pn 11 27 49.0 -0.5
comp=E,0.3nm,0.3s,baz=146,slow=12,SNR=6.2
ESDC **Sonseca Array** 24.19 292 P P 11 29 04.7 -0.6
comp=E,0.1nm,0.3s,baz=86,slow=9.2,SNR=2.4
TORD **Torodi Ar. Bea** 29.96 232 P P 11 29 57.9 +0.8
comp=E,0.1nm,0.4s,baz=36,slow=9.8,SNR=3.9
ARCES **ARCESS Array B** 35.61 0 P P 11 30 44.6 -1.5
comp=E,2.6nm,0.8s,baz=170,slow=8.5,SNR=4.7
MKAR **Makanchi Array** 44.21 56 P P 11 31 58.8 +1.0
comp=E,1.1nm,0.6s,baz=279,slow=6.4,SNR=13
ZALV **Zalesovo Beam** 45.63 45 P P 11 32 07.0 -2.0
comp=E,0.9nm,0.6s,baz=272,slow=12,SNR=3.8

IDC 12 11:36:36.0±5.7, 15°33S×174°48W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/17, mbtmp4.0/3, MS3.3/2, Ms1 3.3/2, ms1mx3.0/34, Error ellipse: s-maj=220.9km s-min=54.7km az=133.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	2.97	62	LR	LR	11 38 01.3	
	comp=Z,177nm,20.0s,baz=133,slow=29						
STKA	**Stephens Creek**	43.17	240	P	P	11 44 38.6	-0.2
	3.2nm,0.8s,baz=96,slow=9.2,SNR=5.0						
WRA	**Warramunga Arr**	48.85	257	P	P	11 45 23.8	0.0
	0.4nm,0.5s,baz=91,slow=7.4,SNR=7.1						
ASAR	**Alice Springs**	49.15	252	P	P	11 45 25.9	-0.1
	1.4nm,0.5s,baz=88,slow=7.9,SNR=62						
TGY	**Tagaytay City**	70.23	291	LR	LR	12 17 33.0	
	comp=Z,63nm,18.7s,baz=264,slow=35						
BRTR	**Keskin Array B**	145.44	320	PKPbc	PKPbc	11 56 15.7	-0.9
	0.8nm,0.6s,baz=35,slow=5.3,SNR=3.8						

*CNRM **12** 11:40:52.7, 33°56N×3°40W, h30km, MD2.8*
*MDD **12** 11:40:54.3±0.9, 33°38N×3°95W, h0km, mb3.7/6, Error ellipse: s-maj=12.0km s-min=5.9km az=85.0, PRXIMO*
*CSEM **12** 11:40:57.2±0.4, 33°48N×4°14W, h20km, mb3.7/6, Error ellipse: s-maj=8.5km s-min=7.3km az=96.0*
*INMG **12** 11:40:57.3±1.1, 33°37N×4°13W, h22km±10km, ML2.4, Error ellipse: s-maj=10.9km s-min=5.1km az=2.0*

ISC 12 11:40:54.7±1.2, 33°39N±0°03×4°09W±0°06, h17km±9km, n47, σ1°26/82, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TZK	**Tazeka**	0.70	353	P	Pg	11 41 07.5	-1.1
TZK				S	Sg	11 41 17.5	-0.4
TZK	**Tazeka**	0.70	353	P	Pg	11 41 07.5	-1.1
TZK				S	Sg	11 41 17.5	-0.4
TGT	**Taghat**	1.05	310	P	Pg	11 41 16.0	+0.8
TGT				S	Sn	11 41 33.0	+3.8
TGT	**Taghat**	1.05	310	P	Pg	11 41 16.0	+0.8
ZFT	**Errachidia**	1.37	190	P	Pn	11 41 19.0	-0.3
ZFT				S	Sg	11 41 39.5	+0.4
ZFT	**Errachidia**	1.37	190	*i* P	Pn	11 41 19.0	-0.3
ZFT				S	Sg	11 41 39.5	+0.4
EGUA	**Guajares**	3.46	7	P	Pn	11 41 47.8	-0.1
	1.0nm,0.1s,SNR=7.9						
EGUA				S	Sn	11 42 28.2	-0.3
	20nm,0.8s,SNR=7.9						
EGUA	**Guajares**	3.46	7	P	Pn	11 41 47.8	-0.1
	1.0nm,0.1s,SNR=7.9						
EGUA				S	Sn	11 42 28.2	-0.3
	20nm,0.8s,SNR=7.9						
EBER	**Berja**	3.63	15	P	Pn	11 41 51.6	+1.2
	2.8nm,1.0s,SNR=6.3						
EBER				S	Sn	11 42 33.3	+0.3
	11nm,0.9s,SNR=7.9						
EBER	**Berja**	3.63	15	P	Pn	11 41 51.6	+1.2
	2.8nm,1.0s,SNR=6.3						
EBER				S	Sn	11 42 33.3	+0.3
	11nm,0.9s,SNR=7.9						
EADA	**Adamuz**	4.78	355	P	Pn	11 42 08.4	+2.3
	0.8nm,0.1s,SNR=7.9						
EADA				S	Sn	11 43 01.6	+0.4
	12nm,1.5s,SNR=4.0						
EADA	**Adamuz**	4.78	355	P	Pn	11 42 08.4	+2.3
	0.8nm,0.1s,SNR=7.9						
EADA				S	Sn	11 43 01.6	+0.4
	12nm,1.5s,SNR=4.0						
ECAB	**El Cabril**	4.80	347	P	Pn	11 42 08.5	+2.2
	0.7nm,0.1s,SNR=8.0						
ECAB				S	Sn	11 43 01.3	-0.2
	12nm,1.1s,SNR=7.9						
ECAB	**El Cabril**	4.80	347	P	Pn	11 42 08.5	+2.2
	0.7nm,0.1s,SNR=8.0						
ECAB				S	Sn	11 43 01.3	-0.2
	12nm,1.1s,SNR=7.9						
EMIN	**Mina Concepcio**	4.85	335	P	Pn	11 42 06.6	-0.3
	0.7nm,0.3s,SNR=52						
EMIN				S	Sn	11 42 58.7	-4.0
	9.3nm,0.8s,SNR=7.9						
EMIN	**Mina Concepcio**	4.85	335	P	Pn	11 42 06.6	-0.3
	0.7nm,0.3s,SNR=52						
PBDV	**Barranco-do-Ve**	4.96	322	*e*Pn	Pn	11 42 09.0	+0.4
PBDV				*e*Sn	Sn	11 43 04.7	-0.9
PBDV				A	A	11 43 12.7	
	2.2nm,0.5s						
PBDV	**Barranco-do-Ve**	4.96	322	P	Pn	11 42 09.0	+0.4
PBDV				S	Sn	11 43 04.7	-0.9
	2.2nm,0.5s						
PBDV	**Barranco-do-Ve**	4.96	322	P	Pn	11 42 09.0	+0.4
PBDV				S	Sn	11 43 04.7	-0.9
	2.2nm,0.5s						
EGRO	**El Granado**	4.98	327	P	Pn	11 42 09.4	+0.7
	1.5nm,0.3s,SNR=4.6						
EGRO				S	Sn	11 43 04.7	-1.1
	3.6nm,0.5s,SNR=7.9						
EGRO	**El Granado**	4.98	327	P	Pn	11 42 09.4	+0.7
	1.5nm,0.3s,SNR=4.6						
EGRO				S	Sn	11 43 04.7	-1.1
	3.6nm,0.5s,SNR=7.9						
PVAQ	**Vaqueiros**	4.98	324	*e*Pn	Pn	11 42 08.8	0.0
PVAQ				*e*Sn	Sn	11 43 04.1	-1.9
PVAQ				A	A	11 43 05.8	
	4.0nm,0.5s						
PVAQ	**Vaqueiros**	4.98	324	P	Pn	11 42 08.8	0.0
PVAQ				S	Sn	11 43 04.1	-1.9
	4.0nm,0.5s						
PVAQ	**Vaqueiros**	4.98	324	P	Pn	11 42 08.8	0.0
PVAQ				S	Sn	11 43 04.1	-1.9
	4.0nm,0.5s						
PCVE	**Castro Verde**	5.32	324	*e*Pn	Pn	11 42 14.3	+0.9
PCVE				*e*Sn	Sn	11 43 12.9	-1.4
PCVE				A	A	11 43 14.6	
	2.4nm,0.5s						
PCVE	**Castro Verde**	5.32	324	P	Pn	11 42 14.3	+0.9
PCVE				S	Sn	11 43 12.9	-1.4
	2.4nm,0.5s						
PCVE	**Castro Verde**	5.32	324	P	Pn	11 42 14.3	+0.9
PCVE				S	Sn	11 43 12.9	-1.4
	2.4nm,0.5s						
MORF	**Marmelete**	5.40	318	*e*Pn	Pn	11 42 16.0	+1.4
MORF				*e*Sn	Sn	11 43 15.0	-1.4
MORF				A	A	11 43 16.9	
	3.1nm,0.4s						
MORF	**Marmelete**	5.40	318	P	Pn	11 42 16.0	+1.4
MORF				S	Sn	11 43 15.0	-1.4
	3.1nm,0.4s						
MORF	**Marmelete**	5.40	318	P	Pn	11 42 16.0	+1.4
MORF				S	Sn	11 43 15.0	-1.4
	3.1nm,0.4s						
PBEJ	**Beja**	5.55	327	*e*Sn	Sn	11 43 19.3	-0.8
PBEJ	**Beja**	5.55	327	S	Sn	11 43 19.3	-0.8
PBEJ	**Beja**	5.55	327	S	Sn	11 43 19.3	-0.8
PTEO	**Sao Teotonio**	5.61	319	*e*Pn	Pn	11 42 18.6	+1.2
PTEO				*e*Sn	Sn	11 43 20.2	-1.3
PTEO				A	A	11 43 25.2	
	3.2nm,0.3s						
PTEO	**Sao Teotonio**	5.61	319	P	Pn	11 42 18.6	+1.2
PTEO				S	Sn	11 43 20.2	-1.3
	1.6nm,0.3s						
PTEO	**Sao Teotonio**	5.61	319	P	Pn	11 42 18.6	+1.2
PTEO				S	Sn	11 43 20.2	-1.3
	1.6nm,0.3s						
EBAD	**Badajoz**	5.86	337	S	Sn	11 43 26.3	-1.2
	3.6nm,0.8s,SNR=7.9						
EBAD	**Badajoz**	5.86	337	S	Sn	11 43 26.3	-1.2
	3.6nm,0.8s,SNR=7.9						
PNCL	**Nicolau / Gran**	5.94	324	*e*Pn	Pn	11 42 22.6	+0.7
PNCL				*e*Sn	Sn	11 43 28.5	-1.0
PNCL				A	A	11 43 45.6	
	1.8nm,0.5s						
PNCL	**Nicolau / Gran**	5.94	324	*e*Pn	Pn	11 42 22.6	+0.7
PNCL				*e*Sn	Sn	11 43 28.5	-1.0
	1.8nm,0.5s						
PMTG	**Montargil**	6.58	331	*e*Pn	Pn	11 42 31.1	+0.4
PMTG				*e*Sn	Sn	11 43 43.7	-1.6
PMTG				A	A	11 43 57.0	
	1.7nm,0.8s						
PMTG	**Montargil**	6.58	331	*e*Pn	Pn	11 42 31.1	+0.4
PMTG				*e*Sn	Sn	11 43 43.7	-1.6
	1.7nm,0.8s						
PMRV	**Marv??o**	6.59	337	*e*Pn	Pn	11 42 31.4	+0.6
PMRV	**Marv??o**	6.59	337	P	Pn	11 42 31.4	+0.6
PMRV	**Marv??o**	6.59	337	P	Pn	11 42 31.4	+0.6
EPLA	**Plasencia**	6.85	347	P	Pn	11 42 35.8	+1.3
	0.9nm,0.1s,SNR=7.1						
EPLA	**Plasencia**	6.85	347	P	Pn	11 42 35.8	+1.3
	0.9nm,0.1s,SNR=7.1						

IDC 12 11:41:35.3±2.4, 6°36S×130°49E, h0km, mb3.7/1, mb1 3.7/4, mb1mx3.4/16, mbtmp3.5/4, ML3.3/3, MS4.1/1, Ms1 4.1/1, ms1mx3.1/34, Error ellipse: s-maj=93.4km s-min=29.7km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	12.60	202	Pn	Pn	11 44 36.6	+0.6
	0.1nm,0.3s,baz=32,slow=12,SNR=8.1						
FITZ				Sn	Sn	11 46 45.6	-12
	0.2nm,0.3s,baz=151,slow=17,SNR=5.5						
WRA	**Warramunga Arr**	14.01	165	Pn	Pn	11 44 53.7	-1.6
	0.1nm,0.3s,baz=347,slow=13,SNR=6.8						
WRA				Sn	Sn	11 47 17.4	-14
	0.4nm,0.3s,baz=342,slow=21,SNR=7.7						
ASAR	**Alice Springs**	17.52	170	P	P	11 45 41.9	-0.5
	0.2nm,0.3s,baz=349,slow=9.5,SNR=5.3						
ASAR				S	Sn	11 48 41.6	-16
	0.1nm,0.3s,baz=356,slow=26,SNR=4.3						
URZ	**Urewera**	52.75	134	LR	LR	12 13 10.5	
	comp=Z,189nm,20.5s,baz=188,slow=36						
MKAR	**Makanchi Array**	67.96	326	P	P	11 52 36.1	0.0
	0.4nm,0.5s,baz=125,slow=7.2,SNR=4.2						

IDC 12 11:47:55.0±0.9, 4°90N×139°07E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.9/21, mbtmp3.9/9, Error ellipse: s-maj=45.2km s-min=16.5km az=90.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	25.12	191	P	P	11 53 21.7	-0.1
	2.4nm,0.9s,baz=8.8,slow=10,SNR=8.1						
FITZ	**Fitzroy Crossi**	26.42	210	P	P	11 53 33.3	-0.3
	4.0nm,0.9s,baz=27,slow=16,SNR=4.9						
ASAR	**Alice Springs**	28.84	190	P	P	11 53 55.8	+0.4
	0.3nm,0.4s,baz=21,slow=11,SNR=7.9						
KSRS	**Korea Array**	33.97	344	P	P	11 54 40.6	+0.3
	0.7nm,0.5s,baz=157,slow=7.9,SNR=3.4						
USRK	**Ussuriysk Arra**	39.63	352	P	P	11 55 28.8	+0.3
	2.8nm,0.8s,baz=182,slow=13,SNR=5.2						
SONM	**Songino Array**	51.11	332	P	P	11 57 00.3	+0.6
	0.7nm,0.6s,baz=154,slow=5.8,SNR=5.3						
MKAR	**Makanchi Array**	64.11	320	P	P	11 58 31.1	-0.1
	1.3nm,0.9s,baz=115,slow=7.4,SNR=8.3						
ZALV	**Zalesovo Beam**	65.64	328	P	P	11 58 40.0	-1.0
	0.4nm,0.3s,baz=103,slow=4.7,SNR=5.3						
ILAR	**Eielson Array**	78.81	25	P	P	11 59 59.1	-0.4
	0.6nm,0.8s,baz=268,slow=6.6,SNR=7.6						
LPAZ	**La Paz**	151.01	115	PKPbc	PKPbc	12 07 51.8	0.0
	0.7nm,0.6s,baz=320,slow=1.8,SNR=4.3						

IDC 12 11:52:03.2±4.0, 21°40N×147°09E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/26, mbtmp3.6/3, Error ellipse: s-maj=210.9km s-min=42.9km az=128.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	42.94	198	P	P	12 00 03.9	-0.2
	0.4nm,0.4s,baz=19,slow=8.3,SNR=12						
FITZ	**Fitzroy Crossi**	44.53	210	P	P	12 00 17.2	+0.3
	1.2nm,0.8s,baz=37,slow=9.1,SNR=3.1						
ASAR	**Alice Springs**	46.60	197	P	P	12 00 32.8	-0.5
	0.4nm,0.7s,baz=13,slow=8.7,SNR=5.2						
LPAZ	**La Paz**	146.33	87	PKPbc	PKPdf	12 11 46.8	+0.4
	1.9nm,0.4s,baz=271,slow=4.8,SNR=7.0						

IDC 12 12:09:55.3±1.0, 16°91S×172°38W, h0km, mb4.0/6, mb1 4.3/6, mb1mx3.9/21, mbtmp4.0/6, Error ellipse: s-maj=68.8km s-min=20.5km az=156.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	3.04	11	Pn	Pn	12 10 39.0	-5.9
	5.6nm,0.3s,baz=185,slow=20,SNR=13						
AFI				Sn	Sn	12 11 12.8	-9.3
	30nm,0.3s,baz=128,slow=23,SNR=20						
CTA	**Charters Tower**	39.29	259	P	P	12 17 25.0	-1.3
	0.7nm,0.4s,baz=307,slow=14,SNR=2.6						
STKA	**Stephens Creek**	44.16	242	P	P	12 18 06.2	+0.1
	4.3nm,0.9s,baz=121,slow=17,SNR=3.8						
WRA	**Warramunga Arr**	50.47	258	P	P	12 18 55.9	+0.4
	1.3nm,0.6s,baz=94,slow=7.0,SNR=33						
ASAR	**Alice Springs**	50.59	253	P	P	12 18 57.2	+0.8
	7.3nm,0.6s,baz=87,slow=8.5,SNR=164						
NVAR	**Mina Array Bea**	74.80	41	P	P	12 21 38.2	+0.3
	0.6nm,0.6s,baz=225,slow=10,SNR=8.4						
TXAR	**Lajitas Array**	80.64	56	P	P	12 22 10.9	+0.3
	0.5nm,0.9s,baz=215,slow=8.5,SNR=5.2						
BRTR	**Keskin Array B**	147.94	320	PKPbc	PKPbc	12 29 41.6	-1.5
	0.6nm,0.7s,baz=48,slow=2.1,SNR=2.2						
TORD	**Torodi Ar. Bea**	173.16	122	PKPab	PKPab	12 31 34.0	-1.0
	0.6nm,0.9s,baz=266,slow=5.5,SNR=3.7						

MEX 12 12:22:47.1±0.3, 15°14N×93°31W, h76km±4km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.57	9	*e*P	Pn	12 22 59.8	-1.4
PCIG				*i* S	Sn	12 23 09.8	-1.7
CCIG	**Comitan**	1.60	45	*e*P	Pn	12 23 12.7	-1.2
CCIG				*i* S	Sn	12 23 31.9	-2.2
TGIG		1.64	6	*e*P	Pn	12 23 12.8	-1.4
TGIG				*i* S	Sn	12 23 33.0	-1.8
HUIG	**Huatulco**	2.77	283	*e*P	Pn	12 23 28.6	-0.7
HUIG				*e*S	Sn	12 24 00.2	-1.6
VHO	**Vista Hermosa**	3.81	301	*i* P	Pn	12 23 42.8	-1.0
VHO				*e*S	Sn	12 24 26.2	-1.4

*DDA **12** 12:24:23.8, 37°47N×37°02E, h10km, MD3.6*
*ISCJB **12** 12:24:24.5±0.7, 37°46N±0°03×37°01E±0°03, h1km±5km, Error ellipse: s-maj=5.5km s-min=3.5km az=169.3*
*CSEM **12** 12:24:24.9±0.2, 37°46N×36°98E, h2km, MD3.6, Error ellipse: s-maj=6.1km s-min=4.2km az=166.0*
*ISK **12** 12:24:25.4, 37°51N×36°98E, h9km, MD3.0*

ISC 12 12:24:24.8±1.1, 37°45N±0°03×37°00E±0°02, h2km±10km, n33, σ0°73/51, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYKD	**Aykdinkavak**	0.15	257	*i* P	Pg	12 24 28.0	+0.2
AYKD				*i* S	Sg	12 24 31.1	+1.3
GZT	**Gaziantep**	0.46	102	*i* P	Pg	12 24 32.7	-1.0
GZT				*i* S	Sg	12 24 39.8	+0.2
ANDN	**Andirin**	0.53	284	*i* P	Pg	12 24 34.8	-0.2
ANDN				*i* S	Sg	12 24 42.3	+0.3
ANDN	**Andirin**	0.53	284	*i* P	Pg	12 24 34.8	-0.2
ANDN				*i* S	Sg	12 24 42.3	+0.3
KOZT	**Kozan**	0.93	272	*e*PG	Pb	12 24 43.3	-0.4
KOZT				*e*SG	Sb	12 24 56.6	+0.1
KOZT	**Kozan**	0.93	272	*e*Pg	Pb	12 24 43.3	-0.4
ATAB	**Bozova**	1.03	88	*i* P	Pg	12 24 43.6	-1.0
ATAB				*i* S	Sg	12 24 57.6	-0.4
ATAB	**Bozova**	1.03	88	*i* P	Pg	12 24 43.6	-1.0
ATAB				*i* S	Sg	12 24 57.6	-0.4
CEYT	**Ceyhan**	1.09	247	*e*PN	Pn	12 24 47.0	0.0
CEYT	**Ceyhan**	1.09	247	*e*Pn	Pn	12 24 47.0	0.0
COBT	**Iskenderun**	1.10	213	*i* P	Pg	12 24 45.2	-0.7
COBT				*i* S	Sb	12 25 01.9	+0.4
COBT	**Iskenderun**	1.10	213	*i* P	Pg	12 24 45.2	-0.7
COBT				*i* S	Sb	12 25 01.9	+0.4
DARE	**Darende-Malaty**	1.18	19	*e*PN	Pg	12 24 47.5	0.0
DARE				*e*SN	Sb	12 25 03.9	0.0
DARE	**Darende-Malaty**	1.18	19	*e*Pn	Pg	12 24 47.5	0.0
DARE				*e*Sn	Sb	12 25 03.9	0.0
PINB	**Pinarbasi**	1.31	339	*i* S	Sg	12 25 07.2	+0.2
PINB	**Pinarbasi**	1.31	339	*i* S	Sg	12 25 07.2	+0.2
MALT	**Malatya**	1.42	52	*e*PN	Pn	12 24 50.9	-0.9
MALT	**Malatya**	1.42	52	*e*Pn	Pn	12 24 50.9	-0.9
YAYL	**Yayladag**	1.58	207	*i* P	Pb	12 24 54.8	0.0
YAYL				*i* S	Sn	12 25 14.5	-0.5
YAYL	**Yayladag**	1.58	207	*i* P	Pb	12 24 54.8	0.0
YAYL				*i* S	Sn	12 25 14.5	-0.5
BNN	**Bunyan**	1.67	327	*e*PN	Pn	12 24 54.6	-0.6
BNN	**Bunyan**	1.67	327	*e*Pn	Pn	12 24 54.6	-0.6
GULE	**Gulek**	1.78	265	*i* P	Pn	12 24 55.9	-0.8
GULE				*i* S	Sn	12 25 19.8	-0.1
GULE	**Gulek**	1.78	265	*i* P	Pn	12 24 55.9	-0.8
GULE				*i* S	Sn	12 25 19.8	-0.1
ELZG	**Elazig**	1.89	56	*i* P	Pb	12 24 59.9	-0.2
ELZG				*i* S	Sb	12 25 23.9	-0.3
ELZG	**Elazig**	1.89	56	*i* P	Pb	12 24 59.9	-0.2
ELZG				*i* S	Sb	12 25 23.9	-0.3
NIG	**Nigde**	2.00	290	*e*PN	Pn	12 25 00.1	+0.2
NIG	**Nigde**	2.00	290	*e*Pn	Pn	12 25 00.1	+0.2
PTK	**Pertek**	2.38	52	*e*PN	Pn	12 25 05.6	+0.7
PTK	**Pertek**	2.38	52	*e*Pn	Pn	12 25 05.6	+0.7
MAZI	**Mazidag**	2.75	89	*e*PN	Pn	12 25 11.5	+1.5
MAZI	**Mazidag**	2.75	89	*e*Pn	Pn	12 25 11.5	+1.5
BEST	**Besiri**	3.42	81	*i* P	Pb	12 25 26.9	+0.8
BEST				*i* S	Sb	12 26 10.9	+2.7

*MOS **12** 12:44:35.8±1.1, 11°79S×166°38E, h33km, mb5.2/14, Error ellipse: s-maj=12.5km s-min=9.0km az=142.9*
*NEIC **12** 12:44:38.6±0.2, 11°68S×166°35E, h42km, mb5.2/40, MW5.5, Error ellipse: s-maj=7.1km s-min=5.4km az=144.0, Moment Tensor Solution. s13 Moment tensor: Scale 10^17 Nm; Mrr 2.00; Mθθ -0.09; Mφφ -1.90; Mrθ -0.02; Mrφ 0.06; Mθφ 0.49; Best double couple: Mw2.00000×10^17 NP1: φs178.00000°, δ38.00000°, λ90.00000°. NP2: φs358.00000°, δ52.00000°, λ90.00000°. Principal axes: T 2.0600, Plg82.0000°, Azm267.0000°; N -0.0900, Plg0.0000°, Azm358.0000°; P -1.9600, Plg7.0000°, Azm88.0000°;*
*BJI **12** 12:44:40.5, 11°39S×166°41E, h64km, mB5.4/31, mb5.1/39, Ms5.2/34, Ms7 4.8/36*
*ISCJB **12** 12:44:41.6±1.1, 11°79S±0°03×166°31E±0°03, h82km±10km, mb4.9/80, Error ellipse: s-maj=5.7km s-min=4.9km az=162.8*
*IDC **12** 12:44:41.9±2.2, 11°81S×166°41E, h77km±19km, mb4.4/23, mb1 4.6/26, mb1mx4.6/26, mbtmp4.5/26, MS4.5/23, Ms1 4.5/23, ms1mx4.5/26, Error ellipse: s-maj=13.0km s-min=10.6km az=62.0*
*GCMT **12** 12:44:42.2±0.1, 11°82S×166°18E, h56km, MW5.4, Moment Tensor Solution. s84,c134; s1,c1; Moment tensor: Scale 10^17 Nm; Mrr 1.59±.03; Mθθ 0.06±.03; Mφφ -1.52±.03; Mrθ -0.17±.02; Mθφ 0.32±.02; Mrφ 0.73±.02; Best double couple: Mo 1.80000×10^17 NP1: φs348.00000°, δ58.00000°, λ89.00000°. NP2: φs169.00000°, δ32.00000°, λ91.00000°. Principal axes: T 1.7600, Plg77.0000°, Azm256.0000°; N 0.0000, Plg0.0000°, Azm348.0000°; P -1.7500, Plg13.0000°, Azm78.0000°; Data Used: II IU IC G CN. Surface waves: sta= 97, comp=192, per= 50.*
*DJA **12** 12:44:45.2±2.1, 12°S±9°×16°E±°, h86km±31km, MS.1/8, mB5.5/6, mb5.2/8, Mw(mB)5.0/6*
*AUST **12** 12:44:46.5±1.0, 11°81S×166°44E, h119km±10km, Error ellipse: s-maj=7.7km s-min=4.8km az=58.0*

ISC 12 12:44:40.3±0.3, 11°81S±0°04×166°45E±0°05, h61km±2km, h61km:pP-P, n336, σ1°32/368, mb5.1/82, 14C-9D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	6.81	290	P	Pn	12 46 18.9	+1.2
HNR				S	Sn	12 47 34.1	+0.3
HNR	**Honiara**	6.81	290	P	Pn	12 46 18.8	+1.2
	147nm,0.3s,baz=152,slow=3.8,SNR=76						
HNR				S	Sn	12 47 34.1	+0.3
	140nm,0.3s,baz=221,slow=23,SNR=7.9						
DZM	**Mont Dzumac**	10.21	180	*e*Pn	Pn	12 47 05.2	+1.0
	96nm,0.5s						
DZM				*e*LR	LR	12 49 25.4	
	11μm,25.9s						
DZM	**Mont Dzumac**	10.21	180	P	Pn	12 47 06.7	+2.5
DZM				S	Sn	12 48 56.6	-0.6
DZM	**Mont Dzumac**	10.21	180	P	Pn	12 47 06.7	+2.5
	1.9nm,0.3s,baz=61,slow=20,SNR=32						
DZM				S	Sn	12 48 56.6	-0.6
	2.4nm,0.3s,baz=29,slow=21,SNR=2.3						
MSVF	**Nonsavu**	12.67	119	*e*P	P	12 47 43.4	-3.7
MSVF	**Nonsavu**	12.67	119	*e*Pn	P	12 47 43.4	-3.7
TARA	**Tarawa**	14.57	27	*e*Pn	Pn	12 48 05.3	+2.0
RABL	**Rabaul**	16.03	297	⇑P	P	12 48 25.5	+1.1
	baz=16,SNR=5.7						
PMG	**Port Moresby**	19.11	275	P	P	12 48 57.8	-0.5
	96nm,1.0s,3μm						
PMG	**Port Moresby**	19.11	275	P	Pn	12 48 59.3	-0.5
PMG				*e*Pn	P	12 49 00.3	+1.9
PMG	**Port Moresby**	19.11	275	P	Pn	12 48 59.3	-0.5
	1.1nm,0.3s,baz=39,slow=5.4,SNR=6.4						
EIDS	**Eidsvold**	19.82	225	*e*Pn	Pn	12 49 08.7	+0.6
	102nm,1.0s						
EIDS	**Eidsvold**	19.82	225	P	Pn	12 49 08.7	+0.6
	baz=20,SNR=20						
PATS	**Pohnpei**	20.21	336	P	P	12 49 11.3	+1.0
	baz=20,SNR=4.8						
LHI	**Lord Howe Isla**	20.77	198	⇓P	Pn	12 49 18.6	-0.6
	baz=21,SNR=6.3						
CTA	**Charters Tower**	21.07	244	P	P	12 49 21

baz=28,SNR=65
YNG Young 27.78 213 ⇑P P **12 50 24.7 +1.1**
baz=28,SNR=20
URZ Urewera 28.01 162 P P **12 50 26.0 +0.5**
URZ Urewera 28.01 162 P P **12 50 26.0 +0.5**
comp=Z,19nm,1.1s,baz=296,slow=7.6,SNR=5.1
URZ LR LR 12 59 55.2
comp=Z,1µm,21.1s,baz=169,slow=33
CNB Canberra Magne 28.07 211 P P **12 50 27.4 +1.2**
baz=28,SNR=15
BKZ Black Stump Fm 28.68 164 *e*P P **12 50 31.9 +0.4**
comp=Z,75nm,1.6s
MILA Mila 29.56 209 ⇑P P **12 50 39.9 +0.6**
baz=30
STKA Stephens Creek 30.38 225 *e*P P **12 50 46.7 +0.1**
comp=Z,14nm,0.8s
STKA Stephens Creek 30.38 225 P P **12 50 47.5 +0.9**
baz=30,SNR=78
STKA Stephens Creek 30.38 225 P P **12 50 47.4 +0.8**
comp=Z,64nm,0.7s,baz=40,slow=8.6,SNR=113
STKA LR LR 13 02 10.5
comp=Z,2µm,21.6s,baz=47,slow=35
TOO Toolangi 31.79 213 P P **12 50 59.8 +0.8**
baz=32,SNR=50
WRAB Tennant Creek 31.87 251 *e*P P **12 50 59.0 -0.9**
WRAB pmax pmax
comp=Z,20nm,0.8s
WRAB Tennant Creek 31.87 251 *e*P P **12 50 59.0 -0.9**
comp=Z,20nm,0.8s
WRA Warramunga Arr 31.88 251 P P **12 50 59.2 -0.8**
WRA PcP **PcP** **12 53 49.4 -0.2**
WRA Warramunga Arr 31.88 251 P P **12 50 59.2 -0.8**
comp=Z,14nm,0.6s,baz=84,slow=9.3,SNR=118
WRA PcP **PcP** **12 53 49.4 -0.2**
comp=Z,2.9nm,0.8s,baz=78,slow=3.3,SNR=3.7
WRA LR LR 13 02 35.8
comp=Z,1µm,19.9s,baz=70,slow=34
RPZ Rata Peaks 32.04 174 *e*P P **12 51 01.6 +0.5**
RPZ Rata Peaks 32.04 174 P P **12 51 00.7 -0.4**
comp=Z,32nm,0.8s,baz=212,slow=1.0,SNR=22
RPZ LR LR 13 02 40.5
comp=Z,1µm,18.8s,baz=344,slow=34
AS17 Alice Springs 33.00 245 ⇑P P **12 51 09.3 -0.5**
baz=33
AS31 Alice Springs 33.08 245 *e*P P **12 51 09.5 -1.0**
AS10 Alice Springs 33.08 245 ⇑P P **12 51 09.7 -0.7**
baz=33
ASAR Alice Springs 33.08 245 P P **12 51 09.3 -1.1**
ASAR PcP **PcP** **12 53 52.2 -0.6**
ASAR Alice Springs 33.08 245 P P **12 51 09.3 -1.1**
comp=Z,17nm,0.8s,baz=68,slow=9.6,SNR=168
ASAR PcP **PcP** **12 53 52.2 -0.6**
comp=Z,5.3nm,0.7s,baz=88,slow=2.1,SNR=7.6
ASAR LR LR 13 03 18.7
comp=Z,2µm,22.0s,baz=72,slow=34
AS11 Alice Springs 33.09 245 ⇓P P **12 51 10.2 -0.4**
baz=33
HTT Hallett 33.12 225 ⇑P P **12 51 11.5 +0.8**
baz=33
KDU Kakadu 33.20 265 ⇓P P **12 51 11.4 -0.1**
baz=33,SNR=29
ARPS Mount Arapiles 33.28 218 ⇑P P **12 51 12.2 +0.2**
baz=33
RAR Rarotonga 33.65 111 LR LR 13 02 10.6
comp=Z,1µm,19.7s,baz=270,slow=31
MTN Manton Dam 34.50 264 ⇓P P **12 51 23.0 +0.2**
baz=34,SNR=4.0
BBOO Buckleboo 34.83 228 P P **12 51 25.7 +0.2**
baz=35,SNR=17
MOO Moorlands 34.83 205 P P **12 51 26.8 +1.4**
baz=35,SNR=3.1
FAKI Fak Fak 35.01 282 P P **12 51 27.2 -0.1**
baz=35,SNR=3.8
TAU Tasmania Unive 35.16 205 P P **12 51 30.1 +1.9**
TAU Tasmania Unive 35.16 205 P P **12 51 30.1 +1.9**
KNRA Kununurra 36.77 260 P P **12 51 42.2 -0.1**
baz=37,SNR=31
FITZ Fitzroy Crossi 39.86 256 *e*P P **12 52 08.0 -0.3**
comp=Z,52nm,0.8s
FITZ Fitzroy Crossi 39.86 256 P P **12 52 08.1 -0.2**
baz=40,SNR=54
TNTI Ternate 40.78 285 *e*pP pP 12 52 31.6 +0.1
PPT Papeete 42.85 103 P P **12 52 32.0 -0.8**
PPT Papeete 42.85 103 P P **12 52 32.0 -0.8**
comp=Z,11nm,0.8s,baz=115,slow=18,SNR=2.8
PPT LR LR 13 06 20.1
comp=Z,614nm,19.5s,baz=88,slow=30
PPT2 Papeete2 42.85 103 *e*LQ LQ 13 02 54.9
comp=Z,2µm,28.8s
PPT2 *e*LR LR 13 04 38.0
comp=Z,5µm,30.0s,baz=272
TBI Tubuai 43.41 111 *e*LQ LQ 13 03 09.9
comp=Z,2µm,29.2s
TBI *e*LR LR 13 04 56.3
comp=Z,4µm,29.8s,baz=280
MMRI Maumere 43.59 270 *e*pP pP 12 52 54.9 +0.4
VAH Vaihoa 44.72 100 *e*P P 12 52 58.5 +11
comp=Z,61nm,1.0s
JCJ Chichijima 45.28 329 LR LR 13 08 16.0
comp=Z,514nm,20.6s,baz=104,slow=31
MBWA Marble Bar 45.61 252 *e*P **P** **12 52 55.3 +0.5**
comp=Z,42nm,0.8s
KAPI Kappang 46.63 274 *e*P P **12 53 02.8 -0.1**
KAPI Kappang 46.63 274 LR LR 13 11 41.0
comp=Z,333nm,20.6s,baz=99,slow=35
MEEK Meekatharra 47.24 245 P P **12 53 07.9 +0.3**
baz=47,SNR=32
KLBR Kellerberrin 48.89 238 P P **12 53 19.9 -0.3**
baz=49,SNR=18
BLDU Ballidu 49.57 240 P P **12 53 25.6 +0.2**
baz=50,SNR=11
NWAO Narrogin (SRO) 49.62 237 *e*P P **12 53 26.0 +0.2**
comp=Z,35nm,0.9s
NWAO *e*pP **pP** **12 53 42.9 +1.3**
MORW Morawa 49.87 242 P P **12 53 28.2 +0.5**
baz=50,SNR=9.3
MYLDM Lahad Datu 50.58 287 P P **12 53 36.3 +3.0**
TSM Tawau 50.88 285 P P **12 53 36.8 +1.2**
KKM Kota Kinabalu 53.02 287 P P **12 53 52.9 +1.4**
KKM Kota Kinabalu 53.02 287 *e*P P **12 53 51.7 +0.2**
comp=Z,78nm,1.1s
KKM *e*pP **pP** **12 54 06.1 -1.5**
KKM Kota Kinabalu 53.02 287 P P **12 53 52.2 +0.7**
baz=53,SNR=5.4
MAJO Matsushiro 54.96 332 *e*P P **12 54 05.6 +0.4**
MAJO Matsushiro 54.96 332 *e*P P **12 54 05.6 +0.4**
MAT Matsushiro 54.96 332 P P **12 54 03.3 -1.9**
MAT S S **13 01 45.2 +2.5**
SBUM Sibu 55.72 281 P P **12 54 12.6 +1.5**
SBUM Sibu 55.72 281 *e*pP pP 12 54 26.3 -1.0
JNU Nakatsue 56.10 324 *e*P P **12 54 13.1 -0.3**
comp=Z,17nm,1.3s
JNU Nakatsue 56.10 324 LR LR 13 14 40.8
comp=Z,242nm,21.7s,baz=157,slow=32
YULB Yu-li 56.35 309 *e*P P **12 54 14.3 -1.1**
comp=Z,31nm,1.1s
RKT Rikitea 56.68 110 *e*LQ LQ 13 08 44.0
comp=Z,496nm,29.8s
RKT *e*LR LR 13 11 09.0
comp=Z,3µm,28.2s,baz=276
TPUB Ta-pu 56.81 308 *e*P P **12 54 18.3 -0.3**
YHNB Yeheng 56.99 310 *e*P P **12 54 19.2 -0.9**
DRV Dumont d'Urvil 57.61 192 P P 12 54 19.0 -4.6
DRV Dumont d'Urvil 57.61 192 SS **SS** **13 06 05.0 -2.6**
DRV L L 13 08 00.0
DRV R 13 11 00.0
YUK Yuzh-Kuril'sk 58.65 343 ⇑*i*P **pP** **12 54 47.4 0.0**
YUK *i*S S 13 02 54.0 +23
ASAJ Asahikawa 59.74 340 P P **12 54 38.3 -0.4**
ASAJ Asahikawa 59.74 340 P P **12 54 38.3 -0.4**
comp=Z,6.7nm,0.4s,baz=165,slow=6.6,SNR=20
ASAJ LR LR 13 17 11.0
comp=Z,525nm,21.0s,baz=129,slow=33
KSRS Korea Array 60.89 325 P P **12 54 46.1 -0.5**
comp=Z,2.0nm,0.7s,baz=149,slow=6.9,SNR=9.6
KSRS LR LR 13 20 44.6
comp=Z,224nm,19.6s,baz=138,slow=36
KSAR Wonju Array Be 60.90 325 P P **12 54 46.1 -0.6**
YSS Yuzh-Sakhalins 62.22 342 *e*P **pP** **12 55 10.5 -1.4**
YSS pmax pmax
comp=Z,50nm,1.2s
NJ2 Nanjing 63.04 315 *e*P P **12 55 00.8 -0.4**
NJ2 pP **pP** **12 55 15.2 -2.5**
NJ2 sP **sP** **12 55 23.3 -1.3**
NJ2 AMB AMB
comp=Z,50nm,1.2s

VLA Vladivostok 63.13 332 ⇓*e*P **pP** **12 55 14.2 -3.9**
VLA *e*S S 13 03 41.9 +14
VLA pmax pmax
comp=Z,8.0nm,0.7s
MYKOM **Kota Tinggi 63.63 278** P P **12 55 07.0 +1.5**
QIZ Qiongzhong 63.64 298 P P **12 55 05.2 -0.3**
QIZ pP **pP** **12 55 21.1 -0.9**
QIZ S S **13 03 35.4 0.0**
QIZ sS **sS** **13 04 03.3 0.0**
QIZ LR LR
comp=Z,610nm,24.5s
USRK Ussuriysk Arra 63.93 333 P P **12 55 07.1 +0.3**
comp=Z,6.0nm,1.0s,baz=134,slow=5.5,SNR=11
USRK LR LR 13 21 38.6
comp=Z,183nm,18.6s,baz=275,slow=35
FX1 Attu Island--F 64.69 4 *e*P P **12 55 13.2 +1.6**
PETK Petropavlovsk- 65.09 354 P P **12 55 15.9 +1.7**
PETK Petropavlovsk- 65.09 354 P P **12 55 15.9 +1.7**
PETK Petropavlovsk- 65.09 354 P P **12 55 15.9 +1.7**
comp=Z,1.1nm,0.5s,baz=56,slow=9.1,SNR=5.6
PETK LR LR 13 19 55.6
comp=Z,268nm,21.4s,baz=172,slow=32
KTGM Kuala Trenggan 65.22 282 P P **12 55 17.2 +1.3**
MDJ Mudanjiang 65.34 332 P P **12 55 16.7 +0.7**
MDJ pP **pP** **12 55 32.9 +0.3**
MDJ sP **sP** **12 55 39.9 +0.4**
MDJ PP **PP** **12 57 40.7 0.0**
MDJ S S **13 03 56.4 +1.0**
MDJ sS **sS** **13 04 24.5 +1.1**
MDJ LR LR
comp=Z,240nm,29.9s
MDJ LR LR
comp=Z,220nm,31.6s
MDJ LR LR
comp=Z,390nm,30.6s
MDJ Mudanjiang 65.34 332 *e*P P **12 55 15.0 -1.0**
comp=Z,9.3nm,1.0s
WHN Wuhan 65.41 312 P P **12 55 17.5 +0.7**
WHN S S **13 04 01.5 +4.7**
WHN LR LR
comp=Z,2µm,29.5s
VNDA Vanda 65.75 181 *e*P P **12 55 17.7 -0.5**
comp=Z,19nm,1.3s
VNDA Vanda 65.75 181 P P **12 55 18.1 -0.2**
comp=Z,4.7nm,0.9s,baz=348,slow=6.9,SNR=40
VNDA LR LR 13 18 39.3
comp=Z,327nm,18.2s,baz=58,slow=31
CASY Casey 65.93 202 *e*P P **12 55 19.3 -0.2**
comp=Z,22nm,1.0s
SBA Scott Base 66.04 180 *e*P P **12 55 20.3 +0.2**
SBA pmax pmax
comp=Z,23nm,1.1s
SBA Scott Base 66.04 180 *e*P P **12 55 20.3 +0.2**
comp=Z,23nm,1.1s
CN2 Changchun 66.74 329 *e*P P **12 55 24.9 -0.2**
CN2 *e*S S **13 04 11.0 -1.5**
CN2 AMB AMB
comp=Z,10.0nm,0.9s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,300nm,21.0s
IPM Ipoh 67.03 280 P P **12 55 28.8 +1.3**
IPM Ipoh 67.03 280 *e*P P **12 55 27.6 0.0**
comp=Z,156nm,1.8s
IPM *e*sP sP 12 55 43.0 -8.0
PANO Nakornpanom 67.52 294 P P **12 55 31.5 +1.0**
comp=Z,31nm,1.4s
KULM Kulim 67.60 281 P P **12 55 32.3 +1.2**
KULM Kulim 67.60 281 *e*P P **12 55 31.1 -0.1**
KLR Kul'dur 68.03 336 *e*P P 12 55 28.8 -4.3
KLR *e* 12 55 43.8
KLR pmax pmax
comp=Z,50nm,1.6s
SKNT Sakolnakorn 68.03 294 P P **12 55 34.1 +0.4**
comp=Z,120nm,1.4s
PSI Prapat 68.65 278 P P **12 55 37.1 -0.8**
baz=69,SNR=10
PSI Prapat 68.65 278 LR LR 13 25 48.7
comp=Z,501nm,21.0s,baz=117,slow=36
ENH Enshi 68.91 309 *e*P P **12 55 38.2 -0.8**
comp=Z,29nm,0.9s
GYA Guiyang 69.41 304 ⇑*i*P **P** **12 55 44.0 +1.7**
GYA pP **PcP** **12 56 03.2 -2.2**
GYA PP **PP** **12 58 20.0 +3.4**
GYA ScP 13 00 02.6
GYA PcS 13 00 12.3
GYA S S **13 04 43.2 -2.1**
GYA sS **sS** **13 05 16.7 +3.2**
GYA SKS **SKSac** **13 05 33.0 -4.8**
GYA SS **SS** **13 09 12.9 -0.9**
GYA AMB AMB
comp=Z,30nm,1.0s
GYA AMB AMB
comp=Z,170nm,5.5s
GYA LR LR
comp=Z,880nm,20.3s
GYA LR LR
comp=Z,760nm,20.6s
GYA LR LR
comp=Z,990nm,19.8s
BJT Baijiatuau 69.49 321 *e*P P **12 55 42.0 -0.4**
BJI Beijing 69.50 321 P P **12 55 42.1 -0.3**
BJI S S **13 04 46.9 +1.4**
BJI AMB AMB
comp=Z,19nm,1.0s
BJI AMB AMB
comp=Z,280nm,5.6s
BJI LR LR
comp=Z,370nm,26.8s
BJI LR LR
comp=Z,310nm,31.0s
BJI LR LR
comp=Z,630nm,35.5s
LOEI Loei 70.65 293 P P **12 55 48.2 -1.7**
comp=Z,37nm,1.3s
XAN Xi'an 71.14 312 P P **12 55 51.6 -1.1**
XAN pP **pP** **12 56 07.2 -2.2**
XAN sP **sP** **12 56 15.4 -0.9**
XAN PP **PP** **12 58 30.7 -0.6**
XAN S S **13 04 59.6 -5.4**
XAN SKS **SKSac** **13 05 45.5 -4.9**
XAN AMB AMB
comp=Z,7.0nm,1.3s
XAN AMB AMB
comp=Z,96nm,11.8s
XAN LR LR
comp=Z,210nm,21.8s
XAN LR LR
comp=Z,120nm,23.7s
XAN LR LR
comp=Z,180nm,23.5s
NANT Nan 71.59 294 P P **12 55 55.9 +0.3**
KMI Kunming 72.10 301 ⇑P P **12 56 00.0 +1.1**
KMI pP **pP** **12 56 15.9 +0.2**
KMI PP **PP** **12 58 43.0 +3.1**
KMI S S **13 05 15.9 -0.9**
KMI SS **SS** **13 09 55.9 +0.5**
KMI AMB AMB
comp=Z,49nm,1.3s
KMI AMB AMB
comp=Z,470nm,4.4s
KMI LR LR
comp=Z,370nm,12.0s
KMI LR LR
comp=Z,570nm,18.2s
KMI LR LR
comp=Z,590nm,19.8s
HHC Hu-ho-hao-te 72.85 320 *e*P P **12 56 04.4 +1.5**
HHC pP **pP** **12 56 21.1 +1.4**
HHC sP **sP** **12 56 27.4 +0.9**
HHC PP **PP** **12 58 49.5 +3.6**
HHC S S **13 05 26.0 +1.5**
HHC sS **sS** **13 05 52.9 -0.1**
HHC AMB AMB
comp=Z,69nm,1.1s
HHC AMB AMB
comp=Z,310nm,5.2s
HHC LR LR
comp=Z,580nm,15.5s
HHC LR LR
comp=Z,1µm,19.0s
HHC LR LR

comp=Z,2µm,20.4s
CM31 Chiang Mai Arr 73.05 294 *e*P P **12 56 04.7 +0.4**
comp=Z,21nm,0.7s
CD2 Chengdu 73.61 307 P P **12 56 08.4 +1.0**
CD2 pP **pP** **12 56 25.0 +0.7**
CD2 sP **sP** **12 56 31.9 +0.8**
CD2 PP **PP** **12 58 54.9 +2.5**
CD2 S **SKiKP** **13 05 32.4 +0.1**
CD2 sS **sS** **13 06 00.8 -1.1**
CD2 SS **SS** **13 10 18.7 +0.8**
CD2 AMB AMB
comp=Z,30nm,0.5s
CD2 AMB AMB
comp=Z,810nm,6.4s
CD2 LR LR
comp=Z,820nm,4.8s
CD2 LR LR
comp=Z,930nm,8.3s
SEY Seymchan 75.30 353 *i*P pP 12 56 33.7 +0.3
LZH Lanzhou 75.78 312 ⇑P P **12 56 21.3 +1.3**
LZH pP **pP** **12 56 36.1 -0.9**
LZH sP **sP** **12 56 41.7 -2.0**
LZH PP **PP** **12 59 13.2 +2.3**
LZH *e*S **S** **13 05 57.4 -0.2**
LZH sS **SKSac** **13 06 25.6 +0.1**
LZH AMB AMB
comp=Z,160nm,1.2s
LZH AMB AMB
comp=Z,390nm,4.0s
LZH LR LR
comp=Z,910nm,14.0s
LZH LR LR
comp=Z,820nm,15.5s
LZH LR LR
comp=Z,1µm,16.3s
YAK Yakutsk 79.02 343 *e*P **pP** **12 56 53.9 -0.4**
YAK pmax pmax
comp=Z,22nm,1.1s
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.3s
SONM Songino Array 79.68 324 P P **12 56 41.2 -0.3**
SONM Songino Array 79.68 324 P P **12 56 41.2 -0.3**
comp=E,2.0nm,0.6s,baz=138,slow=5.4,SNR=18
SONM LR LR 13 28 09.1
comp=E,246nm,20.9s,baz=122,slow=33
GTA Gaotai 80.08 314 *e*P P **12 56 44.2 +0.4**
GTA pP **pP** **12 57 00.8 -0.1**
GTA sP **sP** **12 57 07.4 -0.2**
GTA S S **13 06 41.6 -2.1**
GTA sS **sS** **13 07 11.3 -1.3**
GTA SS **SS** **13 11 55.6 +0.1**
GTA AMB AMB
comp=E,16nm,1.6s
GTA AMB AMB
comp=E,250nm,5.7s
GTA LR LR
comp=E,250nm,15.2s
GTA LR LR
comp=E,390nm,21.1s
GTA LR LR
comp=E,590nm,20.9s
ZAK Zakamensk 82.72 325 *e*P P **12 56 56.2 -1.3**
ZAK pmax pmax
comp=Z,6.0nm,0.9s
KHMM Horse Mountain 82.90 46 *e*pP pP 12 57 17.8 +2.0
IM04 Indian Mountai 82.95 15 *e*P P **12 56 58.4 +0.2**
H02S1 DAWSON INLET T 82.97 32 T T 14 28 17.8
SNR=6.6
IMA2 Indian Mountai 83.05 15 *e*P P **12 56 58.7 -0.2**
SAO San Andreas Ge 83.08 50 *e*P P **12 57 02.3 +2.7**
SAO San Andreas Ge 83.08 50 *e*P P **12 57 02.3 +2.7**
TLY Talaya 83.14 326 *e*P pP 12 57 13.8 -2.9
LSA Lhasa 83.34 302 P P **12 57 01.7 +0.1**
LSA Lhasa 83.34 302 *e*P P **12 57 01.2 -0.4**
LSA pmax pmax
comp=Z,14nm,0.9s
LSA Lhasa 83.34 302 *e*P P **12 57 01.2 -0.4**
comp=Z,14nm,0.9s
COLA College 83.79 18 *e*P P **12 57 02.6 +0.1**
COLA pmax pmax
comp=Z,51nm,0.9s
COLA College 83.79 18 *e*P P **12 57 02.6 +0.1**
comp=Z,51nm,0.9s
YBH Yreka Blue Hor 83.93 45 *e*P P **12 57 04.6 +0.7**
YBH Yreka Blue Hor 83.93 45 P P **12 57 03.8 -0.2**
comp=Z,2.5nm,0.7s,baz=132,slow=6.4,SNR=9.3
OHCM Honcut 83.95 48 *e*pP pP 12 57 21.6 +0.5
ILAR Eielson Array 84.01 18 P P **12 57 03.1 -0.5**
ILAR Eielson Array 84.01 18 P P **12 57 03.1 -0.5**
comp=Z,4.5nm,0.5s,baz=250,slow=4.9,SNR=76
ILAR LR LR 13 28 20.2
comp=Z,288nm,20.5s,baz=28,slow=31
HUMO Hull Mountain 84.09 44 *e*P P **12 57 05.3 +0.7**
MAW Mawson 84.28 202 *e*P P **12 57 04.6 -0.4**
comp=Z,1.5nm,0.9s
MAW Mawson 84.28 202 P P **12 57 04.9 -0.2**
baz=84,SNR=5.9
MAW Mawson 84.28 202 P P **12 57 05.1 +0.1**
comp=Z,6.3nm,0.7s,baz=112,slow=6.8,SNR=11
MAW LR LR 13 27 48.2
comp=Z,535nm,21.1s,baz=123,slow=31
CMB Columbia Colle 84.31 49 *e*P P **12 57 07.1 +1.2**
CMB Columbia Colle 84.31 49 *e*P P **12 57 07.1 +1.2**
MWC Mount Wilson 84.87 54 *e*P P **12 57 09.4 +0.4**
MWC Mount Wilson 84.87 54 *e*P P **12 57 09.4 +0.4**
BEKR Beckworth 84.95 48 *e*P P **12 57 08.4 -0.8**
comp=Z,6.6nm,1.0s
ISA Isabella 84.99 52 *e*P P **12 57 10.0 +0.6**
ISA Isabella 84.99 52 *e*P P **12 57 10.0 +0.6**
ISA Isabella 84.99 52 P P **12 57 10.3 +0.9**
baz=85
EDW2 Edwards Air Fo 85.13 53 P P **12 57 10.7 +0.6**
baz=85
BFSC Mount Baldy Ra 85.19 54 P P **12 57 10.8 +0.3**
baz=85
MTUM Tungsten Hills 85.45 51 *e*pP pP 12 57 29.5 +0.5
BAR Barrett 85.52 55 P P **12 57 12.4 +0.4**
comp=Z,3.8nm,0.9s
CWC Cottonwood Cre 85.54 52 P P **12 57 12.8 +0.5**
baz=86
K05A Summer Lake 85.55 45 *e*P P **12 57 13.8 +1.6**
comp=Z,61nm,1.8s
K05A *e*pP **pP** **12 57 29.1 -0.3**
TAPN Taplejung 85.57 299 *e*P P **12 57 12.5 -0.3**
comp=Z,100nm,1.4s
PAHR Pah Rah Range 85.60 48 *e*P P **12 57 12.6 +0.2**
MOD Modoc 85.68 46 *e*P P **12 57 12.3 -0.4**
comp=Z,27nm,0.8s
ODAN Odare 85.72 298 *e*P P **12 57 13.0 -0.4**
comp=Z,64nm,1.2s
MONP Monument Peak 85.78 55 P P **12 57 13.9 +0.4**
baz=86
BBRC Big Bear Solar 85.78 54 P P **12 57 14.2 +0.6**
baz=86
EGAK Eagle 85.85 20 *e*P P **12 57 12.5 -0.3**
comp=Z,198nm,2.8s
MPMC Manual Prospec 85.87 52 P P **12 57 14.2 +0.2**
baz=86
PINOR Pine Mountain 85.94 44 *e*pP pP 12 57 32.6 +1.6
PFO Pinyon Flat Ob 85.96 55 *e*P P **12 57 14.4 +0.1**
NVAR Mina Array Bea 85.99 50 P P **12 57 15.3 +0.9**
NVAR Mina Array Bea 85.99 50 P P **12 57 15.3 +0.9**
comp=Z,1.6nm,0.5s,baz=237,slow=7.8,SNR=16
NV11 Mina Array Sit 86.10 50 *e*P P **12 57 14.8 -0.2**
GSC Goldstone 86.18 53 *e*P P **12 57 15.3 0.0**
GSC Goldstone 86.18 53 *e*P P **12 57 15.3 0.0**
HEC Hector,Ludlow 86.41 53 P P **12 57 17.3 +0.8**
baz=86
RAMN Ramite 86.42 298 *e*P P **12 57 16.5 -0.4**
comp=Z,33nm,1.2s
BELC Belle Mtn. Jos 86.44 54 P P **12 57 16.9 +0.2**
baz=86
FURC Furnace Creek, 86.48 52 P P **12 57 17.0 +0.4**
baz=87
H06N1 SOCORRO T-PHAS 86.87 70 T T 14 31 38.7
SNR=33
TUQ Turquoise Moun 86.91 53 P P **12 57 19.5 +0.6**
baz=87
GMRC Granite Mounta 86.93 54 P P **12 57 19.2 +0.1**
baz=87
JIRN Jiri 86.96 299 *e*P P **12 57 19.3 -0.4**
I07A Izee 86.96 44 *e*P P **12 57 20.4 +1.4**
comp=Z,13nm,1.3s

WVOR **Wild Horse Val** 87.02 46 *e*P P 12 57 20.9 +1.6
WVOR pmax pmax
comp=Z,13nm,1.1s
WVOR Wild Horse Val 87.02 46 *e*P P 12 57 20.9 +1.6
comp=Z,13nm,1.1s
GLA Glamis 87.11 56 *e*P P 12 57 20.9 +1.0
GLA Glamis 87.11 56 *e*P P 12 57 20.9 +1.0
GLA Glamis 87.11 56 P P 12 57 20.3 +0.4
baz=87
IRM Iron Mountain 87.16 54 P P 12 57 20.4 +0.4
baz=87
LTY Liberty 87.28 41 *e*P P 12 57 21.6 +1.2
comp=Z,128nm,3.0s
GUN Gumba 87.29 299 *e*P P 12 57 20.8 -0.4
J08A Circle Bar Ran 87.43 45 *e*P P 12 57 21.5 +0.3
LDFC Landfair 87.44 54 *e*P P 12 57 21.8 +0.3
PKI Pulchoki 87.61 299 *e*P P 12 57 21.9 -0.8
comp=Z,13nm,0.6s
HAWA Hanford 87.72 42 *e*pP pP 12 57 40.3 +0.6
G08A Pilot Rock 87.73 43 *e*pP pP 12 57 38.9 -1.0
KKN Kakani 87.77 299 *e*P P 12 57 22.8 -0.6
comp=Z,20nm,0.8s
SHPR Sheep Range 87.80 52 *e*P P 12 57 25.0 +1.7
comp=Z,8.5nm,1.0s
SHPR *es*P sP 12 57 40.9 -6.4
DMN Daman 87.88 299 *e*P P 12 57 23.5 -0.4
comp=Z,50nm,0.9s
113A Mohawk Valley, 87.89 56 P P 12 57 23.9 +0.3
baz=88
PDMCI Parker Dam,Lak 88.00 55 P P 12 57 24.4 +0.4
baz=88
R11A Troy Canyon, C 88.00 50 *e*pP pP 12 57 41.5 0.0
R11A Troy Canyon, C 88.00 50 P P 12 57 23.7 -0.5
baz=88
GKN Gorkha 88.37 299 *e*P P 12 57 25.2 -1.0
comp=Z,28nm,0.8s
214A Organ Pipe Nat 88.46 57 P P 12 57 27.0 +0.7
baz=89
HVS Khovu-Aksy 88.56 323 *i* P pP 12 57 39.7 -4.0
ELK Elko 88.94 48 *e*pP pP 12 57 46.2 +0.2
F10A Beach Ranch, E 89.10 43 *e*P P 12 57 30.2 +1.2
comp=Z,135nm,2.9s
DANN Dangsing 89.21 299 *e*P P 12 57 29.0 -1.2
comp=Z,13nm,0.6s
KOLN Koldanda 89.21 298 *e*P P 12 57 28.7 -1.5
comp=Z,17nm,0.9s
CCUT Cedar City 89.47 52 *e*pP pP 12 57 48.2 -0.3
U15A North Rim 90.01 53 P P 12 57 34.0 +0.2
baz=90
WMQ Urumqi 90.12 315 P P 12 57 33.4 -0.5
WMQ pP **pP** 12 57 50.5 -0.7
WMQ sP **sP** 12 57 57.2 -0.7
WMQ SKS **SKSac** 13 07 57.0 -2.7
WMQ S **S** 13 08 19.2 -3.4
WMQ SS **SS** 13 14 22.1 -0.8
WMQ AMB AMB
comp=Z,25nm,0.8s
WMQ AMB AMB
comp=Z,280nm,4.6s
WMQ LR LR
comp=Z,240nm,22.0s
WMQ LR LR
comp=Z,290nm,19.0s
WMQ LR LR
comp=Z,440nm,26.4s
X16A Lo Mia Camp, P 90.19 55 P P 12 57 34.8 +0.3
baz=90
TUC Tucson 90.22 57 *e*P P 12 57 36.5 +1.9
TUC Tucson 90.22 57 *e*P P 12 57 36.5 +1.9
HLID Hailey 90.31 46 *e*P P 12 57 34.9 -0.1
comp=Z,6.1nm,1.0s
HLID Hailey 90.31 46 P P 12 57 35.3 +0.4
baz=90
WUAZ Wupatki 90.51 54 *e*P P 12 57 36.5 +0.5
comp=Z,10nm,0.9s
WUAZ Wupatki 90.51 54 P P 12 57 36.3 +0.3
baz=91
DUG Dugway 90.57 49 *e*P P 12 57 37.6 +1.4
DUG Dugway 90.57 49 *e*P P 12 57 37.6 +1.4
DUG Dugway 90.57 49 P P 12 57 36.3 +0.1
baz=91
MVU Marysvale 90.59 51 *e*P P 12 57 36.8 +0.3
MVU *e*pP **pP** 12 57 53.7 -0.1
BGU Big Grassy Mou 90.60 48 *e*P P 12 57 36.9 +0.6
comp=Z,12nm,1.3s
HVU Hansel Valley 91.01 48 *e*P P 12 57 38.5 +0.3
HVU Hansel Valley 91.01 48 *e*P P 12 57 38.5 +0.3
NLU North Lily Min 91.06 49 *e*P P 12 57 41.0 +2.4
319A Douglas 91.25 58 P P 12 57 39.4 -0.1
baz=91
BSMT Bassoo Peak 91.25 41 *e*P P 12 57 40.0 +0.8
SYO Syowa Base 91.26 197 *e*P P 12 57 35.8 -2.8
MPU Maple Canyon 91.40 50 *e*pP pP 12 57 59.4 +1.9
HYB Hyderabad 91.50 287 *i* P P 12 57 40.0 -0.8
JLU Jordanelle 91.68 49 *e*pP pP 12 57 59.4 +0.6
MCMT McKenzie Canyo 91.73 45 *e*P P 12 57 42.1 +0.6
comp=Z,1.1nm,0.6s
DLMT Dillon 92.04 44 *e*P P 12 57 44.5 +1.7
comp=Z,8.9nm,1.0s
DLMT *e*pP **pP** 12 58 00.1 -0.1
LRM Limekiln Ridge 92.26 44 P P 12 57 44.6 +0.6
comp=Z,38nm,1.0s
Y20A Horse Springs, 92.55 56 P P 12 57 45.9 +0.4
baz=93
IMW Indian Meadow 92.83 46 *e*pP pP 12 58 08.2 +4.1
PV04 Paradox Valley 93.09 52 *e*pP pP 12 58 09.3 +4.0
PV01 Paradox Valley 93.30 52 P P 12 57 48.9 -0.1
comp=Z,355nm,1.0s
PV15 Paradox Valley 93.41 52 *e*pP pP 12 58 15.3 +8.5
PDAR Pinedale Array 93.56 47 P P 12 57 50.1 0.0
PDAR Pinedale Array 93.56 47 P P 12 57 50.1 0.0
comp=Z,0.7nm,0.5s,baz=238,slow=3.6,SNR=7.4
U21A Nageezi 93.65 54 P P 12 57 50.7 0.0
baz=94
P20A De Beque 93.72 51 P P 12 57 51.3 +0.5
baz=94
S21A Coal Bank Pass 93.80 52 P P 12 57 51.4 +0.1
baz=94
MK31 Makanchi Array 94.54 317 *e*P P 12 57 53.4 -0.8
MK31 Makanchi Array 94.54 317 *e*P P 12 57 53.4 -0.8
MKAR Makanchi Array 94.54 317 *e*P P 12 57 53.6 -0.6
MKAR Makanchi Array 94.54 317 *e*P P 12 57 53.6 -0.6
MKAR Makanchi Array 94.54 317 P P 12 57 53.4 -0.8
comp=Z,6.3nm,0.6s,baz=89,slow=6.4,SNR=82
MKAR LR LR 13 42 42.1
comp=Z,133nm,19.2s,baz=105,slow=37
ZALV Zalesovo Beam 94.57 324 P P 12 57 52.4 -1.7
ZALV Zalesovo Beam 94.57 324 P P 12 57 52.4 -1.7
ZALV Zalesovo Beam 94.57 324 P P 12 57 52.4 -1.7
comp=Z,1.0nm,0.6s,baz=130,slow=4.5,SNR=7.2
ZALV LR LR 13 41 27.1
comp=Z,186nm,20.1s,baz=249,slow=36
Q22A Crested Butte, 94.72 51 P P 12 57 56.1 +0.5
baz=95
Y24A Capitan 94.94 57 P P 12 57 56.3 -0.2
baz=95
B19A Brinkman Farms 95.19 42 P P 12 57 57.6 +0.5
baz=95
O22A Kremmling 95.24 50 P P 12 57 58.0 +0.1
baz=95
YKA Yellowknife Ar 95.33 27 P P 12 57 55.6 -1.7
YKA Yellowknife Ar 95.33 27 P P 12 57 55.6 -1.7
comp=Z,1.2nm,0.4s,baz=258,slow=4.9,SNR=9.0
GDL2 Guadalupe Moun 95.51 58 *e*P P 12 57 53.6 -5.5
GDL2 *e*pP pP 12 58 14.1 -2.4
TXAR Lajitas Array 95.59 61 P P 12 58 58.9 -0.5
TXAR Lajitas Array 95.59 61 P P 12 58 58.9 -0.5
comp=Z,0.4nm,0.7s,baz=226,slow=5.2,SNR=5.2
NVS Novosibirsk 95.68 325 *e*P **pP** 12 58 13.6 -2.9
NVS pmax pmax
comp=Z,9.0nm,1.6s
NVS pmax pmax
comp=N,3.0nm,1.2s
NVS pmax pmax
comp=E,7.0nm,1.6s
MAIT Maitri 95.82 188 *e*P P 12 57 56.0 -3.6
SNAA Sanae 96.40 183 *e*P P 12 58 13.5 +11
SNAA Sanae 96.40 183 *e*P **P** 12 58 00.4 -1.9
SNAA *e* 12 58 13.4
VNA2 Neumayer--Watz 97.36 182 *e*P Pdif 12 58 18.5 +12
KURK Kurchatov 97.66 320 *e*P pP 12 58 24.3 -1.3
KSH Kashi 97.77 309 P Pdif 12 58 10.4 +1.2
KSH pP pP 12 58 29.0 +2.5
KSH sP sP 12 58 36.4 +3.2
KSH PP PP 13 02 16.1 +8.0
KSH S **S** 13 09 29.3 -1.0
KSH sS sS 13 09 57.0 -3.0
KSH AMB AMB
comp=E,62nm,2.7s
KSH LR LR
comp=E,91nm,6.9s
KSH LR LR
comp=E,170nm,5.6s
KSH LR LR
comp=E,160nm,10.3s
AAK Ala-Archa 99.31 312 *e*P pP 12 58 30.6 -2.9
ARCES ARCESS Array B 117.24 346 PKP **PKPdf** 13 03 16.6 -1.5
ARCES ARCESS Array B 117.24 346 PKP **PKPdf** 13 03 16.6 -1.5
comp=E,2.1nm,0.5s,baz=77,slow=2.0,SNR=17
FINES FINESS Array B 122.73 339 PKP **PKPdf** 13 03 27.6 -1.2
FINES FINESS Array B 122.73 339 PKP **PKPdf** 13 03 27.6 -1.2
comp=E,1.4nm,0.5s,baz=66,slow=1.6,SNR=5.5
BOSA Boshof 125.03 222 PKP **PKPdf** 13 03 33.9 -0.7
BOSA Boshof 125.03 222 PKP **PKPdf** 13 03 33.9 -0.7
comp=E,4.4nm,1.1s,baz=89,slow=13,SNR=4.1
NOA NORSAR Array B 127.61 345 PKP **PKPdf** 13 03 39.5 +1.2
NOA NORSAR Array B 127.61 345 PKP **PKPdf** 13 03 39.5 +1.2
comp=E,0.5nm,0.5s,baz=356,slow=1.8,SNR=2.4
AKASG Malin Array Be 127.87 327 PKIKP **PKPdf** 13 03 37.5 -1.5
AKASG Malin Array Be 127.87 327 PKP **PKPdf** 13 03 37.5 -1.5
AKASG Malin Array Be 127.87 327 PKP **PKPdf** 13 03 37.5 -1.5
comp=E,0.2nm,0.2s,baz=40,slow=2.1,SNR=3.9
ASF Jabal al Asfar 129.53 302 PKP **PKPdf** 13 03 43.0 +0.1
ASF Jabal al Asfar 129.53 302 PKP **PKPdf** 13 03 43.0 +0.1
comp=E,1.0nm,0.4s,baz=256,slow=4.2,SNR=2.2
BRTR Keskin Array B 129.98 312 PKP **PKPdf** 13 03 43.5 -0.1
BRTR Keskin Array B 129.98 312 PKP **PKPdf** 13 03 43.5 -0.1
comp=E,0.4nm,0.5s,baz=106,slow=3.1,SNR=2.9
CLL Collm 135.07 337 *e*PKIKP **pPKPdf** 13 04 08.0 -2.6
CLL pmax pmax
comp=Z,3.0nm,0.9s
CLL MLR MLR
comp=Z,200nm,21.2s
CLL Collm 135.07 337 *ep*PKiKP **pPKPdf** 13 04 08.0 -2.6
comp=Z,5.0nm,0.9s
CLL *ep*SKPbc 13 07 37.0
CLL L L 14 04 00.0
comp=Z,200nm,21.2s
GERES GERESS Array B 136.69 334 PKP **PKPdf** 13 03 54.8 -1.1
GERES GERESS Array B 136.69 334 PKP **PKPdf** 13 03 54.8 -1.1
comp=E,0.4nm,0.4s,baz=48,slow=1.5,SNR=3.0
KEST Kesra 148.43 323 PKPbc **PKPbc** 13 04 19.5 -1.0
KEST Kesra 148.43 323 PKPbc **PKPbc** 13 04 19.5 -1.0
comp=E,1.7nm,0.6s,baz=45,slow=1.6,SNR=6.6
ESDC Sonseca Array 150.97 345 PKPbc **PKPbc** 13 04 25.6 -1.0
ESDC PKPab **PKPab** 13 04 33.2 -0.8
ESDC Sonseca Array 150.97 345 PKPbc **PKPbc** 13 04 25.6 -1.0
comp=Z,0.4nm,0.5s,baz=359,slow=4.1,SNR=4.7
ESDC PKPab **PKPab** 13 04 33.2 -0.8
comp=Z,0.8nm,0.5s,baz=11,slow=3.8,SNR=7.3
TORD Torodi Ar. Bea 165.05 277 PKP **PKPdf** 13 04 37.8 -0.8
TORD PKPab **PKPab** 13 05 34.6 -1.0
TORD PP **PP** 13 09 27.6 +5.0
TORD Torodi Ar. Bea 165.05 277 PKP **PKPdf** 13 04 37.8 -0.8
comp=Z,0.7nm,0.6s,baz=60,slow=0.3,SNR=6.9
TORD PKPab **PKPab** 13 05 34.6 -1.0
comp=Z,3.3nm,1.1s,baz=59,slow=3.4,SNR=6.8
TORD PP **PP** 13 09 27.6 +5.0
comp=Z,1.4nm,0.9s,baz=94,slow=5.7,SNR=4.0
KIC Kosan Boka 169.76 239 *e*PKP2 **PKPab** 13 05 55.7 -0.6
comp=Z,187nm,1.3s
LIC Lamto 169.92 237 *e*PKP2 **PKPab** 13 05 56.4 -0.6
comp=Z,76nm,1.0s
DBIC Dimbokro 170.02 240 PKPab **PKPab** 13 05 56.7 -0.8
DBIC Dimbokro 170.02 240 PKPab **PKPab** 13 05 56.7 -0.8
comp=Z,5.6nm,0.8s,baz=96,slow=4.0,SNR=6.1
TIC Toumodi 170.14 239 *e*PKP2 **PKPab** 13 05 57.2 -0.8
comp=Z,96nm,1.3s

IDC 12 12:50:05.8±0.8, 15°90S×173°44W, h0km, mb4.3/10, mb1 4.5/10, mb1mx4.3/22, mbtmp4.3/10, MS4.6/1, Ms1 4.5/1, ms1mx3.5/30, Error ellipse: s-maj=42.2km s-min=17.0km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.55**	**39**	Pn	Pn	12 50 42.8	-5.8
	9.0nm,0.3s,baz=37,slow=23,SNR=13						
AFI				Sn	Sn	12 51 07.4	-13
	31nm,0.3s,baz=87,slow=22,SNR=6.1						
URZ	**Urewera**	**23.78**	**199**	P	P	12 55 20.9	+0.8
	3.9nm,0.6s,baz=59,slow=5.9,SNR=3.5						
PMG	**Port Moresby**	**38.93**	**275**	P	P	12 57 33.7	-0.1
	8.5nm,0.9s,baz=38,slow=24,SNR=3.6						
STKA	**Stephens Creek**	**43.75**	**240**	P	P	12 58 12.1	-1.1
	4.0nm,0.9s,baz=312,slow=6.0,SNR=3.5						
WRA	**Warramunga Arr**	**49.69**	**257**	P	P	12 58 59.7	-0.3
	2.4nm,0.9s,baz=91,slow=6.7,SNR=9.1						
ASAR	**Alice Springs**	**49.92**	**252**	P	P	12 59 01.3	-0.4
	6.3nm,0.8s,baz=87,slow=8.2,SNR=34						
YBH	**Yreka Blue Hor**	**74.02**	**37**	P	P	13 01 44.1	+0.6
	4.8nm,1.0s,baz=207,slow=3.5,SNR=6.2						
NVAR	**Mina Array Bea**	**74.72**	**42**	P	P	13 01 48.6	+0.7
	1.5nm,0.7s,baz=229,slow=10,SNR=9.4						
TXAR	**Lajitas Array**	**80.92**	**56**	P	P	13 02 20.9	-1.7
	0.5nm,0.9s,baz=235,slow=4.4,SNR=3.8						
PDAR	**Pinedale Array**	**82.66**	**42**	P	P	13 02 30.8	-0.8
	0.9nm,0.7s,baz=242,slow=3.1,SNR=5.1						
ILAR	**Eielson Array**	**82.94**	**11**	P	P	13 02 31.7	-0.5
	1.1nm,0.8s,baz=229,slow=6.3,SNR=13						
SNAA	**Sanae**	**92.41**	**177**	*e*P	P	13 03 19.3	+1.1
VNA2	**Neumayer--Watz**	**92.86**	**175**	*e*P	P	13 03 22.0	+1.8
ULM	**Lac du Bonnet**	**94.34**	**39**	LR	LR	13 39 43.3	
	comp=Z,276nm,21.1s,baz=287,slow=32						
BRTR	**Keskin Array B**	**146.51**	**320**	PKPbc	PKPab	13 09 50.1	-0.4
	2.7nm,0.8s,baz=103,slow=1.6,SNR=13						
GERES	**GERESS Array B**	**146.63**	**351**	PKPbc	PKPbc	13 09 49.4	-0.2
	1.0nm,0.7s,baz=3.1,slow=7.3,SNR=5.3						

IDC 12 12:53:31.5±2.7, 18°77S×169°12E, h213km±30km, mb3.7/10, mb1 3.9/11, mb1mx3.7/19, mbtmp3.7/11, Error ellipse: s-maj=46.8km s-min=18.0km az=158.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.14**	**217**	P	Pn	12 54 35.8	+0.3
	7.9nm,0.3s,baz=33,slow=17,SNR=44						
DZM				S	S	12 55 26.0	+0.2
	2.9nm,0.3s,baz=16,slow=21,SNR=3.7						
CTA	**Charters Tower**	**21.61**	**263**	P	P	12 58 03.9	-1.1
	1.6nm,0.6s,baz=85,slow=14,SNR=3.0						
STKA	**Stephens Creek**	**28.01**	**237**	P	P	12 59 04.3	+1.5
	4.6nm,0.8s,baz=313,slow=15,SNR=4.9						
WRA	**Warramunga Arr**	**32.81**	**262**	P	P	12 59 44.5	-0.6
	0.9nm,0.8s,baz=81,slow=6.1,SNR=22						
ASAR	**Alice Springs**	**33.14**	**255**	P	P	12 59 48.1	+0.1
	9.0nm,0.4s,baz=81,slow=8.7,SNR=55						
PETK	**Petropavlovsk-**	**72.26**	**353**	P	P	13 04 34.5	+1.2
	3.8nm,0.8s,baz=149,slow=6.8,SNR=5.7						
SONM	**Songino Array**	**86.78**	**323**	P	P	13 05 51.8	+0.1
	0.6nm,0.7s,baz=150,slow=6.1,SNR=4.8						
YBH	**Yreka Blue Hor**	**87.04**	**44**	P	P	13 05 53.3	+0.3
	1.3nm,0.6s,baz=270,slow=7.1,SNR=4.2						
NVAR	**Mina Array Bea**	**88.57**	**49**	P	P	13 06 01.3	+0.7
	0.2nm,0.3s,baz=224,slow=4.5,SNR=3.4						
ILAR	**Eielson Array**	**89.81**	**17**	P	P	13 06 04.4	-1.1
	0.4nm,0.6s,baz=239,slow=5.0,SNR=9.2						
PDAR	**Pinedale Array**	**96.38**	**47**	P	P	13 06 35.1	-1.3
	0.3nm,0.8s,baz=236,slow=6.4,SNR=2.7						
ARCES	**ARCESS Array B**	**124.59**	**345**	PKP	PKPdf	13 12 04.2	-0.6
	4.0nm,1.0s,baz=57,slow=4.5,SNR=8.4						
GERES	**GERESS Array B**	**144.03**	**332**	PKP	PKPbc	13 12 40.0	-0.2
	0.8nm,0.8s,baz=50,slow=4.2,SNR=4.6						

IDC 12 13:10:07.6±1.9, 4°90N×123°25E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/23, mbtmp3.7/5, Error ellipse: s-maj=325.9km s-min=20.4km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.99**	**157**	P	P	13 15 51.3	0.0
	0.6nm,0.3s,baz=336,slow=9.4,SNR=23						
ASAR	**Alice Springs**	**30.24**	**160**	P	P	13 16 19.7	-0.6
	0.2nm,0.5s,baz=340,slow=8.3,SNR=8.1						
STKA	**Stephens Creek**	**40.54**	**156**	P	P	13 17 49.4	+0.7
	8.5nm,1.1s,baz=340,slow=12,SNR=3.0						
MKAR	**Makanchi Array**	**54.64**	**326**	P	P	13 19 38.9	+0.6
	0.3nm,0.4s,baz=121,slow=9.1,SNR=5.2						
KURBB	**Kurchatov Arra**	**58.91**	**328**	P	P	13 20 07.6	-0.8
	0.1nm,0.3s,baz=130,slow=6.4,SNR=4.3						

IDC 12 13:14:34.6±17.0, 12°02N×86°06W, h0km, mb3.2/3, mb1 3.8/3, mb1mx3.5/22, mbtmp3.3/3, Error ellipse: s-maj=314.8km s-min=210.7km az=171.0, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**23.77**	**319**	P	P	13 19 48.4	-0.7
	0.9nm,0.8s,baz=140,slow=10,SNR=9.7						
PDAR	**Pinedale Array**	**36.80**	**331**	P	P	13 21 44.4	-0.1
	0.2nm,0.6s,baz=128,slow=10,SNR=2.8						
NVAR	**Mina Array Bea**	**38.92**	**318**	P	P	13 22 02.9	+0.4
	0.1nm,0.3s,baz=130,slow=11,SNR=2.2						

IDC 12 13:31:54.9±6.1, 2°89S×141°14E, h0km, mb3.6/2, mb1 4.1/3, mb1mx3.6/15, mbtmp3.9/3, ML4.2/1, Error ellipse: s-maj=228.3km s-min=30.1km az=90.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.20**	**201**	P	Pn	13 36 08.3	-0.9
	0.8nm,0.3s,baz=20,slow=12,SNR=37						
WRA				S	Sn	13 39 12.0	-21
	0.2nm,0.3s,baz=16,slow=22,SNR=4.5						
ASAR	**Alice Springs**	**21.80**	**198**	P	P	13 36 49.3	+0.5
	2.5nm,0.7s,baz=27,slow=10,SNR=30						
ASAR				S	S	13 40 40.4	-11
	1.0nm,0.9s,baz=15,slow=28,SNR=3.8						
MKAR	**Makanchi Array**	**71.42**	**322**	P	P	13 43 17.1	0.0
	0.3nm,0.4s,baz=110,slow=6.6,SNR=6.2						

MEX 12 13:42:23.5±0.5, 16°59N×100°47W, h2km±3km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.50**	**23**	*i* P	Pg	13 42 32.6	-0.5
CAIG				*i* S	Sg	13 42 39.9	+0.3
ACX	**Acapulco**	**0.65**	**64**	*i* P	Pg	13 42 34.5	-1.5
ACX				*i* S	Sg	13 42 43.4	-1.0
ZIIG	**Zihuatanejo**	**1.39**	**317**	*e*P	Pn	13 42 46.1	-3.9
ZIIG				*i* S	Sg	13 43 03.1	-5.2
MEIG	**Mezcala**	**1.56**	**31**	*e*P	Pn	13 42 48.7	-3.6
MEIG				*e*S	Sn	13 43 08.4	-4.9
ARIG	**Puente Sto Nin**	**1.69**	**4**	*e*P	Pn	13 42 51.1	-3.0
ARIG				*i* S	Sn	13 43 11.6	-4.8
PLIG	**Platanillo**	**2.02**	**27**	*e*P	Pn	13 42 55.6	-3.1
PLIG				*i* S	Sn	13 43 20.0	-4.7
PNIG	**Pinotepa**	**2.25**	**95**	*e*P	Pn	13 42 58.3	-3.6
PNIG				*e*S	Sn	13 43 25.4	-4.8
YAIG	**Yautepec**	**2.63**	**30**	*e*P	Pn	13 43 04.7	-2.5
YAIG				*e*S	Sn	13 43 35.1	-4.7

*IDC **12** 13:42:44.5±0.7, 13°29S×166°67E, h0km, mb4.7/18, mb1 4.8/20, mb1mx4.6/26, mbtmp4.7/20, ML4.3/2, MS3.9/13, Ms1 3.9/13, ms1mx3.8/25, Error ellipse: s-maj=21.1km s-min=15.2km az=120.0*

*ISCJB **12** 13:42:48.1±3.5, 13°20S±0°05×166°49E±0°08, h29km±24km, mb4.8/36, MS4.0/13, Error ellipse: s-maj=13.2km s-min=8.0km az=165.8*

*BJI **12** 13:42:49.9, 12°84S×166°34E, h25km, mB5.1/18, mb5.0/38, Ms5.0/6, Ms7 4.6/6*

*NEIC **12** 13:42:51.2±1.6, 13°22S×166°55E, h43km±13km, mb4.6/11, Error ellipse: s-maj=11.6km s-min=9.0km az=86.0*

*AUST **12** 13:43:09.3, 12°95S×165°94E, h200km*

ISC 12 13:42:50.4±0.5, 13°22S±0°05×166°54E±0°08, h35km±3km, n116, σ19°25/143, mb4.9/36, MS4.0/13, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.48**	**300**	Pn	Pn	**13 44 37.6**	**+0.5**
HNR				Sn	Sn	**13 45 59.8**	**-1.0**
HNR	**Honiara**	**7.48**	**300**	Pn	**Pn**	**13 44 37.6**	**+0.5**
	39nm,0.3s,baz=150,slow=5.1,SNR=28						
HNR				Sn	**Sn**	**13 45 59.8**	**-1.0**
	48nm,0.3s,baz=21,slow=23,SNR=11						
HNR				LR	LR	13 47 18.9	
	comp=Z,1μm,21.5s,baz=126,slow=36						
DZM	**Mont Dzumac**	**8.80**	**181**	*e*Pn	**Pn**	**13 44 56.2**	**+0.9**
	60nm,0.3s						
DZM				*e*Sn	**Sn**	**13 46 34.8**	**+1.4**
	204nm,1.1s						
DZM				*e*LR	LR	13 47 02.8	
	1μm,24.1s						
DZM	**Mont Dzumac**	**8.80**	**181**	Pn	**Pn**	**13 44 55.0**	**-0.3**
DZM				Sn	**Sn**	**13 46 30.8**	**-2.6**
DZM	**Mont Dzumac**	**8.80**	**181**	Pn	**Pn**	**13 44 55.0**	**-0.3**
	1.5nm,0.3s,baz=335,slow=11,SNR=21						
DZM				Sn	**Sn**	**13 46 30.8**	**-2.6**
	baz=311,slow=20,SNR=2.1						
DZM				LR	LR	13 47 43.8	
	comp=Z,631nm,20.7s,baz=19,slow=34						
EIDS	**Eidsvold**	**18.92**	**228**	*e*P	**Pn**	**13 47 10.6**	**+1.5**
	22nm,1.0s						
EIDS	**Eidsvold**	**18.92**	**228**	P	**Pn**	**13 47 11.1**	**+2.0**
	baz=19,SNR=5.3						
PMG	**Port Moresby**	**19.37**	**279**	P	**Pn**	**13 47 14.6**	**-0.1**
PMG	**Port Moresby**	**19.37**	**279**	P	**Pn**	**13 47 14.6**	**-0.1**
	0.7nm,0.3s,baz=81,slow=3.9,SNR=7.4						
PMG				LR	LR	13 53 56.9	
	comp=Z,354nm,18.4s,baz=333,slow=34						
CTA	**Charters Tower**	**20.59**	**248**	P	**P**	**13 47 27.5**	**+1.0**
CTA	**Charters Tower**	**20.59**	**248**	P	**P**	**13 47 27.5**	**+1.0**
	10nm,0.7s,baz=81,slow=13,SNR=18						
CTAO	**Charters Tower**	**20.59**	**248**	*e*P	**P**	**13 47 27.6**	**+1.0**
	20nm,1.0s						
AFI	**Afiamalu**	**21.09**	**94**	LR	LR	13 54 47.4	
	comp=Z,95nm,18.3s,baz=233,slow=34						
RMQ	**Roma**	**21.27**	**229**	P	**P**	**13 47 35.9**	**+2.1**
	baz=21,SNR=31						
PATS	**Pohnpei**	**21.54**	**337**	P	**P**	**13 47 37.5**	**+0.7**
	baz=21,SNR=3.9						
ARMA	**Armidale**	**21.97**	**216**	*e*P	**P**	**13 47 42.8**	**+1.4**
	27nm,1.1s						
ARMA	**Armidale**	**21.97**	**216**	P	**P**	**13 47 43.4**	**+2.0**
	baz=22,SNR=8.1						
COEN	**Coen**	**22.72**	**265**	*e*P	**P**	**13 47 49.5**	**0.0**
	254nm,1.2s						
COEN	**Coen**	**22.72**	**265**	P	**P**	**13 47 49.9**	**+0.4**
	baz=22,SNR=4.2						
MGCD	**Mangrove Creek**	**24.37**	**213**	P	**P**	**13 48 07.2**	**+1.8**
	baz=24,SNR=4.6						
QLP	**Quilpie**	**24.77**	**234**	P	**P**	**13 48 09.6**	**+0.5**
	baz=24,SNR=3.8						
CMSA	**Cobar Meteorol**	**26.44**	**223**	P	**P**	**13 48 25.5**	**+1.4**
	baz=26,SNR=11						
STKA	**Stephens Creek**	**29.46**	**227**	*e*P	**P**	**13 48 51.6**	**+0.5**
STKA				PcP	**PcP**	**13 51 54.9**	**-1.5**
STKA	**Stephens Creek**	**29.46**	**227**	P	**P**	**13 48 52.1**	**+0.9**
	baz=29,SNR=7.0						
STKA	**Stephens Creek**	**29.46**	**227**	P	**P**	**13 48 51.1**	**0.0**
	11nm,1.1s,baz=354,slow=8.0,SNR=8.6						
STKA				PcP	**PcP**	**13 51 54.9**	**-1.5**
	3.0nm,0.6s,baz=199,slow=7.3,SNR=4.2						
STKA				LR	LR	13 59 43.5	
	comp=Z,218nm,19.2s,baz=295,slow=34						
TOO	**Toolangi**	**30.67**	**214**	P	**P**	**13 49 03.0**	**+1.2**
	baz=31,SNR=6.2						
WRAB	**Tennant Creek**	**31.52**	**253**	*e*P	**P**	**13 49 08.3**	**-1.2**
	3.6nm,0.8s						
WRA	**Warramunga Arr**	**31.54**	**253**	P	**P**	**13 49 08.4**	**-1.2**
WRA				PcP	**PcP**	**13 52 01.7**	**-0.3**
WRA	**Warramunga Arr**	**31.54**	**253**	P	**P**	**13 49 08.4**	**-1.2**
	5.2nm,0.8s,baz=86,slow=9.2,SNR=33						
WRA				PcP	**PcP**	**13 52 01.7**	**-0.3**
	2.6nm,1.0s,baz=76,slow=2.3,SNR=5.6						
WRA				LR	LR	14 01 31.1	
	comp=Z,568nm,18.5s,baz=75,slow=36						
AS31	**Alice Springs**	**32.58**	**247**	*e*P	**P**	**13 49 17.5**	**-

comp=Z,33nm,19.3s,baz=264,slow=30
KDU Kakadu 33.19 267 P P 13 49 24.7 +0.6
baz=33,SNR=3.6
KNRA Kununurra 36.63 261 P P 13 49 53.5 -0.3
baz=36,SNR=4.1
FITZ Fitzroy Crossi 39.62 258 eP P 13 50 18.1 -0.9
FITZ Fitzroy Crossi 39.62 258 P P 13 50 18.8 -0.2
baz=39,SNR=5.6
FITZ Fitzroy Crossi 39.62 258 P P 13 50 18.4 -0.6
3.8nm,0.8s,baz=115,slow=7.4,SNR=9.2
PPT2 Papeete2 42.46 102 eLR LR 14 02 37.6
371nm,25.8s
PPT Papeete 42.46 102 LR LR 14 03 41.2
comp=Z,211nm,19.3s,baz=11,slow=30
TBI Tubuai 42.83 110 eLR LR 14 02 44.4
222nm,24.8s
MBWA Marble Bar 45.27 253 eP P 13 51 05.0 0.0
12nm,1.1s
MEEK Meekatharra 46.73 246 P P 13 51 16.8 +0.4
baz=46,SNR=37
KAPI Kappang 46.84 276 P P 13 51 17.4 0.0
KAPI Kappang 46.84 276 P P 13 51 17.4 0.0
21nm,1.2s,baz=30,slow=0.6,SNR=4.1
NWAO Narrogin (SRO) 48.93 238 P P 13 51 33.0 -0.4
NWAO Narrogin (SRO) 48.93 238 P P 13 51 33.0 -0.4
14nm,0.8s,baz=89,slow=9.8,SNR=5.1
MORW Morawa 49.30 243 P P 13 51 36.4 +0.1
baz=49,SNR=12
MAJO Matsushiro 56.25 333 eP P 13 52 26.6 -0.8
8.2nm,0.8s
MAT Matsushiro 56.25 333 P P 13 52 26.7 -0.7
JNU Nakatsue 57.29 324 P P 13 52 35.0 +0.2
JNU Nakatsue 57.29 324 P P 13 52 35.0 +0.2
18nm,0.8s,baz=120,slow=6.4,SNR=14
ASAJ Asahikawa 61.09 340 P P 13 53 01.4 +0.5
ASAJ Asahikawa 61.09 340 P P 13 53 01.4 +0.5
9.5nm,0.9s,baz=267,slow=19,SNR=4.6
KSRS Korea Array 62.10 326 P P 13 53 08.3 +0.5
4.7nm,0.9s,baz=142,slow=7.1,SNR=15
KSRS LR LR 14 19 44.7
comp=Z,48nm,19.2s,baz=225,slow=36
KSAR Wonju Array Be 62.11 326 P P 13 53 08.3 +0.4
VNDA Vanda 64.34 181 eP P 13 53 22.1 0.0
VNDA Vanda 64.34 181 P P 13 53 22.0 -0.2
4.5nm,1.1s,baz=354,slow=6.1,SNR=9.6
SBA Scott Base 64.64 180 eP P 13 53 24.7 +0.6
7.1nm,1.1s
USRK Ussuriysk Arra 65.23 333 P P 13 53 29.3 +0.9
11nm,0.8s,baz=142,slow=6.8,SNR=17
PETK Petropavlovsk- 66.50 354 LR LR 14 17 47.6
comp=Z,78nm,19.3s,baz=94,slow=32
MDJ Mudanjiang 66.62 332 P P 13 53 38.0 +0.7
MDJ pP pP 13 53 47.4 -0.8
MDJ sP sP 13 53 51.0 -1.3
MDJ PP PP 13 56 04.5 -0.1
MDJ S S 14 02 28.4 +2.2
MDJ sS sS 14 02 44.4 +0.3
MDJ ScS ScS 14 03 32.8 +1.2
MDJ AMB AMB
comp=Z,21nm,1.0s
CN2 Changchun 68.00 329 eP P 13 53 46.6 +0.6
CN2 AMB AMB
comp=Z,30nm,0.8s
ENH Enshi 69.86 309 eP P 13 53 58.1 0.0
5.2nm,0.3s
GYA Guiyang 70.28 305 eP P 13 54 01.0 +0.3
GYA AMB AMB
comp=Z,10.0nm,1.0s
KMI Kunming 72.91 302 P P 13 54 17.2 +0.4
KMI AMB AMB
comp=Z,9.0nm,1.1s
CMAR Chiang Mai Arr 73.69 294 P P 13 54 22.6 +1.4
CMAR Chiang Mai Arr 73.69 294 P P 13 54 22.6 +1.4
3.4nm,0.8s,baz=124,slow=4.7,SNR=20
HHC Hu-ho-hao-te 73.98 320 eP P 13 54 24.1 +1.5
HHC pP pP 13 54 34.2 +0.6
HHC sP sP 13 54 38.8 +1.2
HHC PP PP 13 57 10.9 +2.7
HHC S S 14 03 52.3 -0.3
HHC sS sS 14 04 11.1 +0.4
HHC AMB AMB
comp=Z,47nm,1.2s
HHC AMB AMB
comp=Z,440nm,5.3s
HHC LR LR
comp=N,390nm,16.7s
HHC LR LR
comp=E,380nm,16.7s
HHC LR LR
comp=Z,260nm,16.7s
CD2 Chengdu 74.53 308 P P 13 54 27.1 +1.2
CD2 AMB AMB
comp=Z,10.0nm,0.5s
LZH Lanzhou 76.79 312 eP P 13 54 40.8 +1.9
LZH pP PcP 13 54 49.0 -1.1
LZH sP sP 13 54 52.9 -1.0
LZH PP PP 13 57 34.0 +1.9
LZH eS S 14 04 18.6 -5.4
LZH sS sS 14 04 35.2 -7.0
LZH SS SS 14 09 14.3 -6.7
LZH AMB AMB
comp=Z,20nm,1.2s
LZH AMB AMB
comp=Z,100nm,5.0s
LZH LR LR
comp=N,300nm,15.6s
LZH LR LR
comp=E,290nm,16.0s
LZH LR LR
comp=Z,430nm,17.3s
SONM Songino Array 80.87 324 P P 13 55 01.3 +0.3
SONM Songino Array 80.87 324 P P 13 55 01.3 +0.3
7.4nm,1.0s,baz=135,slow=5.4,SNR=29
SONM LR LR 14 29 25.5
comp=Z,67nm,18.1s,baz=30,slow=35
GTA Gaotai 81.12 314 eP P 13 55 03.9 +1.4
GTA pP PcP 13 55 11.1 +2.3
GTA sP sP 13 55 16.6 -1.0
GTA AMB AMB
comp=Z,19nm,0.9s
ILAR Eielson Array 85.32 18 P P 13 55 21.5 -2.0
ILAR Eielson Array 85.32 18 P P 13 55 21.5 -2.0
2.4nm,0.6s,baz=246,slow=5.1,SNR=51
TAPN Taplejung 86.33 299 eP P 13 55 29.6 -0.1
38nm,1.3s
ODAN Odare 86.47 298 eP P 13 55 30.4 +0.1
45nm,1.0s
NVAR Mina Array Bea 86.83 49 P P 13 55 31.6 -0.3
NVAR Mina Array Bea 86.83 49 P P 13 55 31.6 -0.3
1.0nm,0.7s,baz=230,slow=8.6,SNR=7.6
RAMN Ramite 87.17 298 eP P 13 55 33.7 0.0
36nm,1.3s
JIRN Jiri 87.71 299 eP P 13 55 36.7 +0.2
19nm,1.0s
WVOR Wild Horse Val 87.94 46 eP P 13 55 39.1 +2.1
19nm,0.4s
GUN Gumba 88.05 299 eP P 13 55 38.1 0.0
25nm,0.9s
PKI Pulchoki 88.36 299 eP P 13 55 39.1 -0.4
36nm,1.1s
KKN Kakani 88.53 299 eP P 13 55 39.9 -0.3
18nm,0.8s
DMN Daman 88.62 299 eP P 13 55 40.8 +0.1
47nm,0.9s
GKN Gorkha 89.13 299 eP P 13 55 42.2 -0.7
34nm,0.9s
KOLN Koldanda 89.96 298 eP P 13 55 46.2 -0.7
7.4nm,0.8s
DANN Dangsing 89.97 299 eP P 13 55 46.0 -1.0
34nm,1.0s
WMQ Urumqi 91.17 315 P P 13 55 52.3 +0.3
WMQ pP pP 13 56 02.9 -0.3
WMQ sP sP 13 56 06.8 -0.4
WMQ AMB AMB
comp=Z,14nm,0.8s
WMQ AMB AMB
comp=Z,99nm,4.4s
WMQ LR LR
comp=N,110nm,19.0s
WMQ LR LR
comp=E,64nm,18.0s
WMQ LR LR
comp=Z,73nm,17.4s
SNAA Sanae 95.00 183 eP P 13 56 07.7 -1.5
SNAA Sanae 95.00 183 eP P 13 56 07.7 -1.5
6.2nm,1.1s

MK31 Makanchi Array 95.63 317 eP P 13 56 12.2 -0.1
MKAR Makanchi Array 95.63 317 P P 13 56 12.4 +0.1
MKAR Makanchi Array 95.63 317 P P 13 56 12.4 +0.1
7.6nm,0.7s,baz=95,slow=6.5,SNR=90
ZAA0 Zalesovo Array 95.76 324 eP P 13 56 11.2 -1.6
ZALV Zalesovo Beam 95.76 324 P P 13 56 12.0 -0.7
ZALV Zalesovo Beam 95.76 324 P P 13 56 12.0 -0.7
5.3nm,0.8s,baz=113,slow=4.3,SNR=23
ZALV LR LR 14 37 44.7
comp=Z,89nm,18.9s,baz=249,slow=34
VNA2 Neumayer--Watz 95.95 182 eP P 13 56 13.0 -0.5
KSH Kashi 98.71 309 eP Pdif 13 56 29.3 +2.7
KSH pP pP 13 56 38.5 +0.7
KSH sP sP 13 56 46.8 +4.9
KURK Kurchatov 98.80 320 P P 13 56 25.3 -1.2
1.7nm,1.1s
ARCES ARCESS Array B 118.62 345 PKP PKPdf 14 01 34.9 +0.7
ARCES ARCESS Array B 118.62 345 PKP PKPdf 14 01 34.9 +0.7
5.7nm,1.1s,baz=86,slow=3.9,SNR=5.4
BOSA Boshof 124.04 222 PKP PKPdf 14 01 45.5 -0.4
BOSA Boshof 124.04 222 PKP PKPdf 14 01 45.5 -0.4
2.3nm,1.0s,baz=146,slow=3.6,SNR=3.2
KIS Kishinev 131.21 322 LRM MLR 14 03 00.0
300nm,20.0s
STHS Stebnicka Huta 134.02 329 ePKP PKPdf 14 02 04.6 +0.5
KEST Kesra 149.60 321 PKPbc PKPbc 14 02 36.6 -0.2
KEST Kesra 149.60 321 PKPbc PKPbc 14 02 36.6 -0.2
0.6nm,0.4s,baz=243,slow=4.5,SNR=2.6
ESDC Sonseca Array 152.35 344 PKPbc PKPbc 14 02 43.6 +0.5
ESDC PKPab PKPab 14 02 53.2 +0.2
ESDC Sonseca Array 152.35 344 PKPbc PKPbc 14 02 43.6 +0.5
0.1nm,0.3s,baz=14,slow=4.0,SNR=3.8
ESDC PKPab PKPab 14 02 53.2 +0.2
1.4nm,0.7s,baz=13,slow=3.9,SNR=8.7
TORD Torodi Ar. Bea 165.24 271 PKP PKPdf 14 02 50.5 -1.6
TORD PKPab PKPab 14 03 50.3 +0.7
TORD Torodi Ar. Bea 165.24 271 PKP PKPdf 14 02 50.5 -1.6
1.1nm,0.9s,baz=135,slow=0.1,SNR=5.2
TORD PKPab PKPab 14 03 50.3 +0.7
3.6nm,1.0s,baz=86,slow=4.5,SNR=13
DBIC Dimbokro 169.31 233 PKPab PKPab 14 04 08.1 +0.6
DBIC Dimbokro 169.31 233 PKPab PKPab 14 04 08.1 +0.6
1.4nm,0.7s,baz=123,slow=6.5,SNR=3.9

RSPR 12 13:46:30.8, 17.77N×66.90W, h11km±1km, 8C-1D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GBPR	Guanica, Bosqu	0.20	4↑	eP	Pg	13 46 34.8	-0.3
GBPR	Guanica, Bosqu	0.20	4	eS	Sg	13 46 38.7	+0.6
GBPR	Guanica, Bosqu	0.20	4↑	eP	Pg	13 46 34.0	-1.1
GBPR	Guanica, Bosqu	0.20	4	eS	Sg	13 46 38.3	+0.2
CRPR	Cabo Rojo, PR	0.31	319↑	eP	Pg	13 46 36.9	-0.2
CRPR	Cabo Rojo, PR	0.31	319	eS	Sg	13 46 42.2	+0.9
CRPR	Cabo Rojo, PR	0.31	319↑	eP	Pg	13 46 36.9	-0.2
CRPR	Cabo Rojo, PR	0.31	319	eS	Sg	13 46 42.2	+0.9
OBIP	Obispado Ponce	0.39	45↑	eP	Pg	13 46 38.2	-0.3
OBIP	Obispado Ponce	0.39	45	eS	Sg	13 46 44.3	+0.7
OBIP	Obispado Ponce	0.39	45↑	eP	Pg	13 46 36.8	-1.7
OBIP	Obispado Ponce	0.39	45	eS	Sg	13 46 43.3	-0.4
CELP	Cerrillos	0.43	45	eS	Sb	13 46 46.0	-0.9
LSP	Las Mesas	0.44	336↑	eP	Pg	13 46 39.7	+0.1
LSP	Las Mesas	0.44	336↑	eP	Pg	13 46 39.3	-0.3
AOPR	Arecibo Observ	0.59	13	eS	Sg	13 46 49.8	-0.4
AOPR	Arecibo Observ	0.59	13↓	eP	Pg	13 46 42.0	-0.3
AOPR	Arecibo Observ	0.59	13	eS	Sg	13 46 49.6	-0.5

MAN 12 13:46:38, 7.17N×123.50E, h23km, mb4.6, ML3.4, MS3.4, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAGZ	Pagadian	0.68	350	eP	Pn	13 46 51.8	-0.4
PAGZ				eS	Sn	13 47 02.5	+0.3
IPIL	Ipil	1.11	303	eP	Pb	13 46 58.6	+0.1
IPIL				eS	Sn	13 47 13.8	+1.1
DCPH	Dipolog City	1.41	354	eP	Pn	13 47 02.8	+0.6
DCPH				eS	Sb	13 47 21.9	+0.7
BUKP	Musuan	1.70	66	eP	Pn	13 47 06.8	+0.5
CGP	Cagayan de Oro	1.73	43↑	iP	Pn	13 47 07.4	+0.6
CGP				i S	Sn	13 47 29.2	+1.0
SNPH	Sibulan	2.17	353↓	eP	Pb	13 47 18.9	+2.2
SNPH				i S	Sb	13 47 46.8	+3.5
GUIM	Jordan	3.55	345	eP	Pn	13 47 32.8	+1.1

GUC 12 13:51:10.5±0.8, 22.58S×70.34W, h38km±3km, MD4.1, ML3.4, 2C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB04	Plate Boundary	0.85	69↓	iP	Pn	13 51 19.0	-7.0
PB04				i S	Sn	13 51 24.7	-13
PB04				AML	AML	13 51 25.1	
comp=N,12μm,0.1s							
PB10	Plate Boundary	0.95	192↓	iP	Pn	13 51 27.5	+0.1
PB10				i S	Sn	13 51 40.7	+1.0
PB10				AML	AML	13 51 42.6	
comp=N,2μm,0.5s							
ANCH	Antofagasta	1.10	183↓	iP	Pn	13 51 30.1	+0.7
ANCH				i S	Sn	13 51 44.3	+1.0
ANCH				AML	AML	13 51 49.2	
comp=N,479nm,0.6s							
PB01	Plate Boundary	1.72	28↑	iP	Pn	13 51 40.0	+1.9
PB01				i S	Sn	13 52 02.1	+3.1
PB01				AML	AML	13 52 05.3	
comp=E,517nm,0.2s							
HMBC	Humberstone	2.33	11	eP	Pn	13 51 48.0	+1.5
HMBC				AML	AML	13 52 29.7	
comp=N,375nm,0.6s							
PSGC	Pisagua	2.98	4↑	iP	Pn	13 51 55.7	+0.3
PSGC				i S	Sn	13 52 31.4	+1.5
PSGC				AML	AML	13 52 45.6	
comp=E,82nm,0.6s							
MNMC	Minimini	3.50	12	eP	Pn	13 52 04.8	+2.0
MNMC				AML	AML	13 53 07.2	
comp=E,183nm,0.6s							

IDC 12 13:53:23.1±6.5, 47.68N×152.88E, h134km±66km, mb2.9/2, mb1 3.3/4, mb1mx2.9/26, mbtmp3.1/4, Error ellipse: s-maj=187.3km s-min=26.7km az=137.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	Petropavlovsk-	6.24	28	P	Pn	13 54 53.0	+0.3
	0.4nm,0.3s,baz=172,slow=12,SNR=16						
ASAJ	Asahikawa	8.01	247	P	Pn	13 55 16.5	-0.1
	1.3nm,0.3s,baz=84,slow=13,SNR=12						
ILAR	Eielson Array	35.92	39	P	P	14 00 09.3	-0.6
	0.2nm,0.6s,baz=266,slow=6.2,SNR=4.6						
TXAR	Lajitas Array	77.17	61	P	P	14 05 02.5	+0.4
	0.3nm,0.6s,baz=310,slow=4.7,SNR=4.2						

IDC 12 14:41:03.7±1.7, 11.50S×165.21E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, ML3.3/1, MS3.4/2, Ms1 3.4/2, ms1mx3.0/29, Error ellipse: s-maj=51.4km s-min=31.2km az=129.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	10.58	174	Pn	Pn	14 43 37.3	+0.4
	0.3nm,0.3s,baz=302,slow=17,SNR=9.1						
DZM				LR	LR	14 46 16.9	
	comp=Z,150nm,18.1s,baz=23,slow=30						
AFI	Afiamalu	22.58	99	LR	LR	14 52 01.1	
	comp=Z,133nm,21.3s,baz=252,slow=29						
WRA	Warramunga Arr	30.83	250	P	P	14 47 21.9	+0.1
	0.9nm,0.7s,baz=83,slow=9.3,SNR=10						
ASAR	Alice Springs	32.12	244	P	P	14 47 33.0	-0.2
	0.8nm,1.1s,baz=69,slow=9.8,SNR=4.7						
ILAR	Eielson Array	84.11	19	P	P	14 53 36.1	-0.1
	0.1nm,0.4s,baz=230,slow=4.5,SNR=3.8						

IDC 12 14:48:05.0±23.0, 8.00S×154.79E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/17, mbtmp3.7/3, MS3.9/2, Ms1 4.0/2, ms1mx3.1/31, Error ellipse: s-maj=380.0km s-min=102.2km az=30.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	23.09	237	P	P	14 53 12.4	-0.3
	0.8nm,0.7s,baz=66,slow=10,SNR=6.6						
ASAR	Alice Springs	25.37	230	P	P	14 53 34.5	+0.4
	0.9nm,0.8s,baz=60,slow=8.6,SNR=18						
STKA	Stephens Creek	26.75	206	P	P	14 53 46.1	-0.4
	4.0nm,1.1s,baz=22,slow=16,SNR=3.2						
AFI	Afiamalu	33.32	103	LR	LR	15 05 53.8	
	comp=Z,133nm,21.6s,baz=66,slow=32						
VNDA	Vanda	69.59	178	LR	LR	15 24 42.0	
	comp=Z,153nm,19.4s,baz=138,slow=32						

IDC 12 14:50:22.6±1.4, 14.60S×176.90W, h0km, mb3.8/7, mb1 4.1/7, mb1mx3.9/17, mbtmp3.8/7, MS3.9/10, Ms1 3.9/10, ms1mx3.8/27, Error ellipse: s-maj=67.5km s-min=22.5km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	14.61	184	LR	LR	14 57 42.7	
	comp=Z,257nm,19.8s,baz=357,slow=30						
DZM	Mont Dzumac	17.46	242	eLR	LR	14 58 20.0	
	375nm,25.2s						
HNR	Honiara	23.21	280	LR	LR	15 02 14.0	
	comp=Z,101nm,21.8s,baz=236,slow=31						
URZ	Urewera	24.16	192	LR	LR	15 02 55.9	
	comp=Z,631nm,21.3s,baz=32,slow=31						
PPT2	Papeete2	26.41	100	eLQ	LQ	15 01 02.3	
	249nm,25.5s						
PPT2				eLR	LR	15 02 26.0	
	357nm,25.2s						
TBI	Tubuai	27.33	113	eLQ	LQ	15 01 24.6	
	320nm,29.0s						
TBI				eLR	LR	15 02 49.0	
	319nm,26.5s,baz=291						
RPZ	Rata Peaks	30.79	197	LR	LR	15 08 11.9	
	comp=Z,686nm,18.6s,baz=41,slow=35						
PMG	Port Moresby	35.50	274	LR	LR	15 08 01.7	
	comp=Z,71nm,20.2s,baz=235,slow=30						
H11S2	WAKE ISLAND Hy	36.63	333	T	T	15 36 49.5	
	baz=152,slow=0.7,SNR=6.1						
H11S3	WAKE ISLAND Hy	36.65	333	T	T	15 36 50.4	
	baz=152,slow=0.7,SNR=5.9						
H11S1	WAKE ISLAND Hy	36.65	333	T	T	15 36 50.8	
	baz=152,slow=0.7,SNR=6.0						
H11N3	WAKE ISLAND Hy	37.64	335	T	T	15 38 17.7	
	baz=155						
H11N1	WAKE ISLAND Hy	37.64	334	T	T	15 38 09.6	
	baz=155,slow=0.7						
H11N2	WAKE ISLAND Hy	37.66	335	T	T	15 38 18.7	
	baz=155,slow=0.7						
RKT	Rikitea	40.46	109	eLR	LR	15 08 47.7	
	182nm,27.0s						
WRA	Warramunga Arr	46.74	256	P	P	14 58 54.7	+0.7
	1.1nm,1.0s,baz=94,slow=7.0,SNR=4.2						
WRA				LR	LR	15 16 30.7	
	comp=Z,124nm,19.6s,baz=260,slow=34						
ASAR	Alice Springs	47.15	251	P	P	14 58 56.7	-0.5
	0.7nm,0.7s,baz=83,slow=8.3,SNR=11						
ASAR				LR	LR	15 17 10.6	
	comp=Z,129nm,21.1s,baz=100,slow=34						
FITZ	Fitzroy Crossi	55.06	258	LR	LR	15 22 36.3	
	comp=Z,163nm,19.3s,baz=96,slow=35						
PETK	Petropavlovsk-	70.89	344	LR	LR	15 25 20.1	
	comp=Z,99nm,21.6s,baz=201,slow=30						
USRK	Ussuriysk Arra	74.74	325	P	P	15 02 03.8	-0.6
	0.6nm,0.6s,baz=121,slow=5.6,SNR=2.3						
NVAR	Mina Array Bea	76.05	44	P	P	15 02 13.7	+1.3
	1.5nm,0.9s,baz=228,slow=9.6,SNR=6.4						
ILAR	Eielson Array	82.36	12	P	P	15 02 46.6	+0.6
	1.6nm,1.1s,baz=224,slow=5.0,SNR=4.2						
TXAR	Lajitas Array	83.01	57	P	P	15 02 49.4	-0.9
	0.1nm,0.5s,baz=225,slow=3.7,SNR=2.7						
PDAR	Pinedale Array	83.96	43	P	P	15 02 54.7	-0.5
	1.0nm,0.9s,baz=205,slow=3.8,SNR=6.0						
MAW	Mawson	87.44	199	LR	LR	15 42 51.3	
	comp=Z,207nm,18.0s,baz=63,slow=36						
BRTR	Keskin Array B	143.37	319	PKP	PKPdf	15 09 58.4	-1.2
	1.6nm,1.1s,baz=45,slow=0.8,SNR=5.3						

TAP ***12*** *14:57:25.5, 25.03N×122.82E, h2km±1km, ML3.3, D*
ISCJB ***12*** *14:57:29.4±0.7, 24.89N±0.05×122.72E±0.05, h16km, mb3.5/6, MS3.4/3, Error ellipse: s-maj=8.7km s-min=5.4km az=40.7*
IDC ***12*** *14:57:29.3±1.2, 24.38N×121.99E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/26, mbtmp3.6/7, ML3.3/1, MS3.4/5, Ms1 3.4/5, ms1mx3.1/34, Error ellipse: s-maj=67.5km s-min=18.6km az=67.0*
ISC 12 14:57:30.2±0.8, 24.85N±0.06×122.69E±0.06, h16km, n40, σ1°33/38, mb3.4/6, MS3.5/3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	0.48	142	P	Pg	14 57 38.0	-1.8
	baz=163						
YOJ				eS	Sb	14 57 47.4	+0.3
	baz=163						
TWB1	Santiao Chiao	0.66	284	eP	Pg	14 57 41.5	-1.5
	baz=268						
EGS		0.69	270	eP	Pg	14 57 42.4	-1.2
	baz=256						
TWC	Suao	0.80	253	eP	Pb	14 57 44.8	-0.9
	baz=244						
NWF	Wu-fen Shan	0.85	285	eP	Pb	14 57 45.7	-0.9
	baz=272						
TWE	Neicheng	0.94	263	eP	Pb	14 57 48.0	0.0
	baz=253						
ENA	Nanau	0.96	244	eP	Pb	14 57 48.1	-0.3
	baz=238						
PCYT	Pengchaiyu	0.96	325	eP	Pb	14 57 42.1	-6.3
	baz=311						
TWA	Mucha	1.01	278	eP	Pb	14 57 47.8	-1.5
	baz=267						
ENTT	Nioudou	1.04	259	eP	Pb	14 57 48.1	-1.7
	baz=250						
TAP1	Taipei	1.07	281	eP	Pb	14 57 48.2	-2.2
	baz=270						
TWY	Chenhua	1.08	294	eP	Pb	14 57 48.9	-1.5
	baz=282						
TWS1	Kuangyinshan	1.18	283	eP	Pn	14 57 51.9	-0.1
	baz=273						
NSK	Sanguang	1.22	262	eP	Pn	14 57 51.7	-0.9
	baz=254						
TWD	Chiawan	1.25	233	eP	Pb	14 57 54.0	+0.6
	baz=229						
NNS	Nan Shan	1.26	252	eP	Pn	14 57 53.1	-0.2
	baz=245						
WHF	Hehuan Shan	1.47	242	eP	Pn	14 57 56.7	+0.3
	baz=237						
TWT	Tachien	1.50	247	eP	Pn	14 57 57.3	+0.8
	baz=242						
NSTT	Nanjuang	1.55	262	eP	Pb	14 57 59.6	+1.1
	baz=256						
TWQ1	Liyutan	1.81	255	eP	Pn	14 58 00.7	0.0
	baz=249						
SMLT	Sun Moon Lake	1.89	240	eP	Pn	14 58 00.4	-1.5
	baz=236						
TYC	Yuchr	1.92	241	eP	Pn	14 58 02.2	+0.1
	baz=237						
TWF1	Yuli	1.96	221	eP	Pn	14 58 01.2	-1.5
	baz=219						
YUS	Yu-Shan	2.08	230	eP	Pn	14 58 05.2	+0.3
	baz=227						
ALS	Alishan	2.17	233	eP	Pn	14 58 06.5	+0.5
	baz=230						
CHN5	Tsauling	2.22	236	eP	Pn	14 58 08.2	+1.8
	baz=233						
CHN4	Tsaushan	2.42	233	eP	Pb	14 58 11.7	-1.7
	baz=230						
WTP	Ta-pu	2.48	230	eP	Pn	14 58 11.1	+1.2
	baz=228						
CHN1	Nanshi	2.58	231	eP	Pn	14 58 13.8	+2.5
	baz=228						
SGST	Jiashian	2.61	228	eP	Pn	14 58 13.4	+1.7
	baz=226						
EAST	Anshuo	2.98	215	eP	Pn	14 58 16.1	-0.6
	baz=214						
JNU	Nakatsue	10.92	39	LR	LR	15 05 02.3	
	comp=Z,130nm,18.5s,baz=228,slow=39						
KSRS	Korea Array	13.34	18	Pn	P	15 00 48.5	+0.1
	0.2nm,0.3s,baz=198,slow=12,SNR=5.3						
KSRS				LR	LR	15 06 03.5	
	comp=Z,147nm,18.8s,baz=184,slow=37						
ASAJ	Asahikawa	25.16	35	LR	LR	15 12 30.4	

comp=Z,75nm,21.6s,baz=155,slow=35
SONM Songino Array 26.32 335 P P 15 03 08.2 +2.9
1.0nm,1.0s,baz=141,slow=7.4,SNR=5.8
SONM LR LR 15 14 23.4
comp=Z,166nm,21.4s,baz=114,slow=38
MKAR Makanchi Array 38.83 315 P **P 15 04 54.5 +0.1**
0.9nm,1.0s,baz=102,slow=10,SNR=4.2
ZALV Zalesovo Beam 40.45 326 P **P 15 05 09.4 +1.7**
0.4nm,0.4s,baz=117,slow=8.7,SNR=2.9
ZALV LR LR 15 22 54.2
comp=Z,68nm,19.3s,baz=70,slow=38
KURBB Kurchatov Arra 42.50 319 P **P 15 05 26.2 +1.6**
0.7nm,0.2s,baz=113,slow=7.1,SNR=6.0
WRA Warramunga Arr 45.94 165 P **P 15 05 51.2 -1.2**
1.1nm,0.9s,baz=347,slow=8.9,SNR=10
ASAR Alice Springs 49.44 166 P **P 15 06 19.6 0.0**
0.1nm,0.6s,baz=351,slow=7.8,SNR=4.6

IDC 12 15:00:21.5±1.3, 30.03S×178.77W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/17, mbtmp4.0/3, MS3.5/2, Ms1 3.5/2, ms1mx3.2/25, Error ellipse: s-maj=50.9km s-min=20.9km az=152.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.07**	**44**	Pn	Pb	15 00 43.3	+0.4
	118nm,0.3s,baz=284,slow=12,SNR=9.3						
RAO				Sn	Sg	15 00 56.2	+0.3
	548nm,0.3s,baz=69,slow=21,SNR=15						
DZM	**Mont Dzumac**	**15.46**	**297**	LR	LR	15 08 35.0	
	comp=Z,130nm,19.1s,baz=180,slow=32						
HNR	**Honiara**	**28.56**	**311**	LR	LR	15 15 41.3	
	comp=Z,110nm,20.4s,baz=289,slow=32						
ASAR	**Alice Springs**	**42.47**	**267**	P	P	15 08 17.2	-1.4
	1.0nm,0.7s,baz=109,slow=7.4,SNR=12						
WRA	**Warramunga Arr**	**43.42**	**272**	P	P	15 08 26.7	+0.4
	1.7nm,0.6s,baz=115,slow=7.8,SNR=11						
FITZ	**Fitzroy Crossi**	**51.70**	**270**	P	P	15 09 30.9	+0.2
	0.8nm,0.4s,baz=115,slow=14,SNR=3.9						
H03N3	**Juan Fernandez**	**81.42**	**124**	T	T	16 41 33.0	
	baz=235,slow=0.7						
H03N2	**Juan Fernandez**	**81.42**	**124**	T	T	16 41 32.8	
	baz=235						
H03N1	**Juan Fernandez**	**81.43**	**124**	T	T	16 41 30.5	
	baz=235,slow=0.7						
KURBB	**Kurchatov Arra**	**120.35**	**314**	PKP	PKPdf	15 19 14.7	+0.3
	0.3nm,0.6s,baz=109,slow=2.5,SNR=4.4						
FINES	**FINESS Array B**	**144.57**	**340**	PKP	PKPdf	15 19 59.0	-0.3
	2.0nm,0.6s,baz=67,slow=3.5,SNR=8.6						
TORD	**Torodi Ar. Bea**	**163.20**	**182**	PKPab	PKPab	15 21 16.5	-0.1
	0.4nm,0.6s,baz=168,slow=3.3,SNR=3.8						

*IDC **12** 15:00:57.2±0.7, 8.01S×107.36E, h0km, mb4.0/13, mb1 4.1/14, mb1mx4.0/26, mbtmp4.0/14, ML4.2/1, MS3.7/3, Ms1 3.7/3, ms1mx3.2/37, Error ellipse: s-maj=34.2km s-min=13.9km az=56.0*
*AUST **12** 15:01:00.4±0.6, 8.36S×107.34E, h0km, Error ellipse: s-maj=0.9km s-min=0.7km az=306.0*
*NEIC **12** 15:01:02.4±0.4, 8.07S×107.30E, h35km, mb4.7/3, Error ellipse: s-maj=12.6km s-min=8.3km az=53.0*
*DJA **12** 15:01:03.9±0.7, 8°S±3°×10°7E±°, h19km±7km, M4.9/4, MLv4.9/4*
*ISCJB **12** 15:01:04.1±0.5, 8.30S±0.04×107.29E±0.03, h75km±5km, mb3.9/14, Error ellipse: s-maj=7.7km s-min=4.5km az=22.8*

ISC 12 15:01:05.1±1.1, 8.30S±0.05×107.31E±0.04, h58km±10km, n76, σ1°s79/69, mb4.1/14, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.89**	**35**	P	Pn	15 01 18.5	-3.2
CISI	**Cisompet, Garu**	**0.89**	**35**	P	Pn	15 01 18.0	-3.7
	baz=0.9,SNR=835						
SKJI	**Sukabumi**	**1.48**	**330**	P	**Pn**	**15 01 27.4**	**-2.1**
SKJI				S	**Sn**	**15 01 45.3**	**-2.6**
LEM	**Lembang**	**1.49**	**12**	P	**Pn**	**15 01 28.7**	**-1.1**
LEM				S	**Sn**	**15 01 50.9**	**+2.6**
LEM	**Lembang**	**1.49**	**12**	P	**Pn**	**15 01 28.9**	**-0.9**
	baz=1.6,SNR=112						
CLJI	**Cilicap**	**1.79**	**71**	P	**Pn**	**15 01 35.1**	**+1.5**
DBJI	**Dramaga**	**1.82**	**342**	P	**Pn**	**15 01 33.2**	**-0.9**
DBJI				S	**Sn**	**15 01 55.5**	**-0.5**
KPJI	**Karang Pucung**	**1.87**	**59**	P	**Pn**	**15 01 32.9**	**-1.9**
KPJI				S	**Sn**	**15 02 00.8**	**+3.4**
TGJI	**Tegal**	**2.29**	**52**	P	**Pn**	**15 01 39.5**	**-1.0**
BJII	**Banjamegara**	**2.57**	**68**	P	**Pn**	**15 01 45.1**	**+0.8**
BJII				S	**Sn**	**15 02 16.5**	**+2.0**
XMI	**Christmas Isla**	**2.67**	**217**	P	**Pn**	**15 01 45.1**	**-0.6**
	baz=2.6,SNR=14						
XMIS	**Christmas Isla**	**2.71**	**217**	*eP*	**Pn**	**15 01 45.3**	**-1.0**
XMIS	**Christmas Isla**	**2.71**	**217**	P	**Pn**	**15 01 45.3**	**-1.0**
	baz=2.7,SNR=27						
YOGI	**Yogyakarta**	**3.00**	**81**	S	**Sn**	**15 02 26.4**	**+1.4**
UGM	**Wanagama**	**3.21**	**83**	S	**Sn**	**15 02 31.4**	**+1.2**
UGM	**Wanagama**	**3.21**	**83**	P	**Pn**	**15 01 51.0**	**-2.1**
	baz=3.2,SNR=32						
BLSI	**Bandar Lampung**	**3.56**	**325**	P	**Pn**	**15 01 58.4**	**+0.6**
PCJI	**Pacitan**	**3.83**	**89**	P	**Pn**	**15 02 02.2**	**+0.6**
PCJI				S	**Sn**	**15 02 42.3**	**-3.1**
KASI	**Kota Agung**	**3.92**	**314**	P	**Pn**	**15 02 04.8**	**+2.0**
KASI				S	**Sn**	**15 02 49.4**	**+1.9**
KLI	**Kotabumi**	**4.19**	**324**	P	**Pn**	**15 02 09.0**	**+2.5**
NGJI	**Ngawi**	**4.22**	**78**	P	Pn	15 02 11.0	+4.1
SJI	**Sawahan**	**4.45**	**83**	P	**Pn**	**15 02 10.6**	**+0.4**
PWJI	**Pagerwojo**	**4.46**	**87**	P	**Pn**	**15 02 10.4**	**+0.2**
LWLI	**Liwa**	**4.58**	**315**	P	**Pn**	**15 02 14.2**	**+2.2**
MDSI	**Maura Dua**	**4.90**	**320**	P	**Pn**	**15 02 17.6**	**+1.4**
MNAI	**Manna**	**5.83**	**312**	P	**Pn**	**15 02 31.8**	**+2.8**
	baz=5.9,SNR=4.8						
KSI	**Kapahiang**	**6.58**	**314**	P	**Pn**	**15 02 41.6**	**+2.3**
GIRL	**Giralia**	**15.74**	**156**	P	**Pn**	**15 04 42.1**	**-1.1**
	baz=16,SNR=4.3						
BATI	**Baumata**	**16.26**	**98**	Pn	**Pn**	**15 04 48.5**	**-1.3**
BATI	**Baumata**	**16.26**	**98**	Pn	**Pn**	**15 04 48.5**	**-1.3**
	1.0nm,0.3s,baz=259,slow=16,SNR=2.1						
BATI				LR	LR	15 12 27.5	
	comp=Z,394nm,18.5s,baz=289,slow=42						
SOEI	**Soe**	**16.82**	**96**	P	**P**	**15 05 01.0**	**+2.7**
	baz=17,SNR=4.0						
FITZ	**Fitzroy Crossi**	**20.32**	**120**	*eP*	**P**	**15 05 37.7**	**+1.2**
FITZ	**Fitzroy Crossi**	**20.32**	**120**	P	Pn	15 05 38.1	-0.9
	baz=20,SNR=4.3						
FITZ	**Fitzroy Crossi**	**20.32**	**120**	P	**P**	**15 05 36.4**	**-0.1**
	3.2nm,0.8s,baz=272,slow=5.8,SNR=7.7						
KNRA	**Kununurra**	**22.22**	**111**	P	**P**	**15 06 01.6**	**+4.6**
	baz=22,SNR=4.1						
MTN	**Manton Dam**	**23.85**	**103**	P	P	15 06 23.4	+10
	baz=24,SNR=3.9						
KDU	**Kakadu**	**25.12**	**102**	P	P	15 06 33.9	+9.1
	baz=25,SNR=3.6						
NWAO	**Narrogin (SRO)**	**26.18**	**161**	LR	LR	15 15 39.7	
	comp=Z,172nm,21.9s,baz=277,slow=33						
H01W3	**Cape Leeuwin H**	**27.19**	**168**	T	T	15 35 54.9	
	baz=280,slow=0.7,SNR=7.5						
H01W1	**Cape Leeuwin H**	**27.21**	**168**	T	T	15 35 54.9	
	baz=280,slow=0.7,SNR=8.5						
H01W2	**Cape Leeuwin H**	**27.21**	**168**	T	T	15 35 54.9	
	baz=280,slow=0.7,SNR=8.3						
WRA	**Warramunga Arr**	**28.61**	**117**	P	**P**	**15 06 56.2**	**0.0**
WRA	**Warramunga Arr**	**28.61**	**117**	P	**P**	**15 06 56.2**	**0.0**
	0.5nm,1.1s,baz=290,slow=11,SNR=3.1						
ASAR	**Alice Springs**	**29.70**	**124**	P	**P**	**15 07 06.9**	**+1.0**
ASAR	**Alice Springs**	**29.70**	**124**	P	**P**	**15 07 06.9**	**+1.0**
	0.5nm,0.9s,baz=303,slow=8.4,SNR=5.5						
H08S2	**Diego Garcia H**	**34.48**	**269**	T	T	15 43 41.0	
	baz=92						
H08S3	**Diego Garcia H**	**34.49**	**269**	T	T	15 43 41.9	
	baz=92						
H08S1	**Diego Carcia H**	**34.49**	**269**	T	T	15 43 42.5	
	baz=92						
STKA	**Stephens Creek**	**39.56**	**131**	P	**P**	**15 08 30.4**	**-0.4**
STKA	**Stephens Creek**	**39.56**	**131**	P	**P**	**15 08 32.5**	**+1.8**
	baz=40,SNR=5.6						
STKA	**Stephens Creek**	**39.56**	**131**	P	**P**	**15 08 30.4**	**-0.4**
	3.3nm,0.8s,baz=294,slow=13,SNR=8.8						
KSRS	**Korea Array**	**49.43**	**22**	LR	LR	15 31 35.5	
	comp=Z,57nm,19.3s,baz=288,slow=37						
SONM	**Songino Array**	**55.89**	**359**	P	**P**	**15 10 34.9**	**-2.1**
SONM				PcP	**PcP**	**15 11 35.1**	**-0.1**
SONM	**Songino Array**	**55.89**	**359**	P	**P**	**15 10 34.9**	**-2.1**
	1.2nm,0.6s,baz=172,slow=7.2,SNR=13						
SONM				PcP	**PcP**	**15 11 35.1**	**-0.1**
	0.7nm,0.5s,baz=175,slow=3.5,SNR=4.1						
TKM2	**Tokmak 2**	**58.59**	**333**	*eP*	**P**	**15 10 55.2**	**-1.0**
	3.9nm,0.5s						
MK31	**Makanchi Array**	**59.20**	**340**	*eP*	**P**	**15 10 57.5**	**-2.7**
MKAR	**Makanchi Array**	**59.20**	**340**	P	**P**	**15 10 57.7**	**-2.5**
MKAR	**Makanchi Array**	**59.20**	**340**	P	**P**	**15 10 57.7**	**-2.5**
	0.8nm,0.4s,baz=149,slow=8.6,SNR=23						
KURBB	**Kurchatov Arra**	**63.77**	**340**	P	**P**	**15 11 28.7**	**-2.1**
	0.9nm,0.6s,baz=151,slow=5.8,SNR=7.7						
KURK	**Kurchatov**	**63.81**	**340**	P	**P**	**15 11 28.7**	**-2.5**
ZALV	**Zalesovo Beam**	**64.86**	**346**	P	**P**	**15 11 35.9**	**-2.1**
ZALV	**Zalesovo Beam**	**64.86**	**346**	P	**P**	**15 11 35.9**	**-2.1**
	0.8nm,0.6s,baz=97,slow=7.6,SNR=4.6						
BVAR	**Borovoye Array**	**68.67**	**337**	P	**P**	**15 12 01.6**	**-0.6**
BVAR	**Borovoye Array**	**68.67**	**337**	P	**P**	**15 12 01.6**	**-0.6**
	2.3nm,0.5s,baz=150,slow=8.7,SNR=19						
ABKAR	**Akbulak array**	**70.67**	**329**	*eP*	**P**	**15 12 14.1**	**-0.5**
	8.6nm,0.6s						
PETK	**Petropavlovsk-**	**74.57**	**29**	P	**P**	**15 12 36.3**	**-1.4**
PETK	**Petropavlovsk-**	**74.57**	**29**	P	**P**	**15 12 36.3**	**-1.4**
	2.8nm,0.9s,baz=243,slow=16,SNR=5.2						
VNDA	**Vanda**	**74.64**	**169**	P	**P**	**15 12 39.7**	**+1.9**
VNDA	**Vanda**	**74.64**	**169**	P	**P**	**15 12 39.7**	**+1.9**
	1.0nm,0.9s,baz=306,slow=4.6,SNR=5.4						
QSPA	**South Pole Qui**	**81.70**	**180**	*eP*	**P**	**15 13 19.4**	**+2.2**
	3.7nm,1.3s						
QSPA	**South Pole Qui**	**81.70**	**180**	P	**P**	**15 13 19.1**	**+1.9**
	1.5nm,1.0s						
BRTR	**Keskin Array B**	**82.91**	**312**	P	**P**	**15 13 24.1**	**0.0**
BRTR	**Keskin Array B**	**82.91**	**312**	P	**P**	**15 13 24.1**	**0.0**
	1.6nm,0.8s,baz=136,slow=7.2,SNR=7.7						
TXAR	**Lajitas Array**	**144.18**	**50**	PKP	PKPbc	15 20 34.0	+0.6
TXAR	**Lajitas Array**	**144.18**	**50**	PKP	PKPbc	15 20 34.0	+0.6
	0.2nm,0.5s,baz=253,slow=1.4,SNR=3.7						
JCT	**Junction City**	**146.40**	**45**	*e*PKPbc	**PKPab**	**15 20 41.7**	**+0.5**

*BJI **12** 15:01:09.6, 37.50N×31.90W, h6km, mB5.5/3, mb5.0/10, Ms5.1/2, Ms7 4.7/3*
*MOS **12** 15:01:10.2±0.8, 37.52N×31.88W, h10km, mb5.2/17, Error ellipse: s-maj=18.9km s-min=5.8km az=135.5*
*CSEM **12** 15:01:10.6±0.2, 37.55N×31.88W, h2km, mb4.7/23, Error ellipse: s-maj=11.6km s-min=5.8km az=3.0*
*IDC **12** 15:01:10.5±0.7, 37.61N×31.97W, h0km, mb4.2/20, mb1 4.4/20, mb1mx4.2/34, mbtmp4.3/20, MS4.0/19, Ms1 4.0/19, ms1mx3.8/40, Error ellipse: s-maj=21.4km s-min=13.4km az=170.0*
*ISCJB **12** 15:01:10.8±0.4, 37.65N±0.05×31.91W±0.06, h10km, mb4.5/48, MS4.0/20, Error ellipse: s-maj=7.7km s-min=6.4km az=178.7*
*PDA **12** 15:01:12.3±1.1, 37.59N×31.99W, h10km, MD5.0, ML4.5, Error ellipse: s-maj=11.3km s-min=2.1km az=173.0*
*NEIC **12** 15:01:12.1±0.3, 37.62N×31.94W, h10km, mb5.1/18, Error ellipse: s-maj=9.3km s-min=5.0km az=176.0*

ISC 12 15:01:13.5±0.7, 37.55N±0.07×31.73W±0.05, h16km±3km, h16km:pP-P, n289, σ1°s43/293, mb4.7/48, MS3.9/20, 1D, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H07S1	**FLORES T-PHASE**	**1.87**	**13**	Pn	Pn	15 01 39.6	-5.3
H07S1				Sn	**Sn**	**15 02 03.6**	**-4.7**
	SNR=63						
H07N1	**FLORES T-PHASE**	**2.19**	**12**	Pn	Pn	15 01 44.4	-4.9
H07N1				Sn	**Sn**	**15 02 15.4**	**-0.7**
	SNR=60						
PPNO	**Prainha do Nor**	**2.89**	**70**	*eP*	**Pn**	**15 01 56.4**	**-2.5**
PPNO				*eS*	**Sn**	**15 02 29.3**	**-4.1**
PPNO				A	A	15 02 32.2	
	84nm,0.4s						
PPNO	**Prainha do Nor**	**2.89**	**70**	*eP*	**Pn**	**15 01 56.4**	**-2.5**
PPNO				*eS*	**Sn**	**15 02 29.3**	**-4.1**
PMAN	**Manadas**	**3.07**	**68**	*eS*	**Sn**	**15 02 34.2**	**-3.5**
PMAN				A	A	15 02 36.0	
	39nm,0.2s						
PMAN	**Manadas**	**3.07**	**68**	*eS*	**Sn**	**15 02 34.2**	**-3.5**
PSET	**Sete Cidades**	**4.78**	**85**	*eS*	**Sn**	**15 03 15.8**	**-4.0**
PSET				A	A	15 03 21.4	
	130nm,0.4s						
PSET	**Sete Cidades**	**4.78**	**85**	*eS*	**Sn**	**15 03 15.8**	**-4.0**
PDA	**Ponta Delgada**	**4.82**	**86**	*eP*	**Sn**	**15 03 18.9**	**-1.9**
CMLA	**Cha da Macela**	**4.93**	**86**	*eP*	**Pn**	**15 02 25.2**	**-1.7**
CMLA				*eS*	**Sn**	**15 03 20.1**	**-3.5**
CMLA				A	A	15 03 25.5	
	124nm,0.3s						
CMLA	**Cha da Macela**	**4.93**	**86**	*eP*	**Pn**	**15 02 25.2**	**-1.7**
CMLA				*eS*	**Sn**	**15 03 20.1**	**-3.5**
BART	**Pico Bartolome**	**5.21**	**85**	*eP*	**Pn**	**15 02 29.1**	**-1.8**
BART				*eS*	**Sn**	**15 03 27.4**	**-3.3**
BART				A	A	15 03 34.3	
	84nm,0.7s						
BART	**Pico Bartolome**	**5.21**	**85**	*eP*	**Pn**	**15 02 29.1**	**-1.8**
BART				*eS*	**Sn**	**15 03 27.4**	**-3.3**
PSMA	**Santa Maria**	**5.30**	**94**	*eP*	**Pn**	**15 02 30.2**	**-1.7**
PSMA				*eS*	**Sn**	**15 03 28.8**	**-3.8**
PSMN	**Pico do Norte,**	**5.34**	**94**	*eP*	**Pn**	**15 02 30.6**	**-2.0**
PSMN				*eS*	**Sn**	**15 03 30.0**	**-3.8**
PSMN				A	A	15 03 31.1	
	41nm,0.3s						
PSMN	**Pico do Norte,**	**5.34**	**94**	*eP*	**Pn**	**15 02 30.6**	**-2.0**
PSMN				*eS*	**Sn**	**15 03 30.0**	**-3.8**
PMTG	**Montargil**	**18.50**	**78**	*eP*	**Pn**	**15 05 33.0**	**+3.9**
	21nm,1.4s						
PVIS	**Viseu**	**18.75**	**73**	*eP*	Pn	15 05 37.1	+5.0
POLO	**Lamas de Olo**	**18.86**	**71**	*eP*	**Pn**	**15 05 35.9**	**+2.4**
	10.0nm,1.5s						
PVRL	**Vila Real**	**18.91**	**71**	*eP*	**Pn**	**15 05 37.3**	**+3.2**
MTE	**Manteigas**	**19.01**	**74**	*eP*	**Pn**	**15 05 37.2**	**+1.9**
	23nm,1.6s						
MTE				*eP*	**pP**	**15 05 39.7**	**+0.6**
MTE	**Manteigas**	**19.01**	**74**	*eP*	**Pn**	**15 05 37.2**	**+1.9**
	23nm,1.6s						
PCBR	**Castelo Branco**	**19.06**	**76**	*eP*	**Pn**	**15 05 38.4**	**+2.6**
	17nm,1.9s						
MVO	**Moncorvo**	**19.42**	**72**	*eP*	**Pn**	**15 05 43.0**	**+2.7**
	24nm,1.0s						
PBRG	**Braganca**	**19.68**	**70**	*eP*	**Pn**	**15 05 46.1**	**+2.8**
VAL	**Valentia**	**20.86**	**40**	*eP*	**P**	**15 05 53.1**	**-1.4**
PAB	**San Pablo**	**21.48**	**76**	*eP*	**P**	**15 06 05.3**	**+3.8**
PAB				pmax	pmax		
	comp=Z,188nm,1.1s						
PAB	**San Pablo**	**21.48**	**76**	*eP*	**P**	**15 06 05.2**	**+3.8**
	comp=Z,188nm,1.1s						
PAB	**San Pablo**	**21.48**	**76**	*eP*	**P**	**15 06 05.2**	**+3.8**
	comp=Z,188nm,1.1s						
ESDC	**Sonseca Array**	**21.77**	**76**	P	**P**	**15 06 06.3**	**+1.8**
ESDC	**Sonseca Array**	**21.77**	**76**	P	**P**	**15 06 06.3**	**+1.8**
ESDC	**Sonseca Array**	**21.77**	**76**	P	**P**	**15 06 06.3**	**+1.8**
	comp=Z,10nm,0.8s,baz=278,slow=8.8,SNR=55						
ESDC				LR	LR	15 13 01.6	
	comp=Z,240nm,20.1s,baz=290,slow=32						
ESLA	**Sonseca Array**	**21.77**	**76**	*eP*	**P**	**15 06 06.5**	**+2.0**
	comp=Z,5.3nm,1.0s						
ESLA	**Sonseca Array**	**21.77**	**76**	*eP*	**P**	**15 06 06.5**	**+2.0**
	comp=Z,5.3nm,1.0s						
MDT	**Midelt**	**22.63**	**94**	P	**P**	**15 06 15.5**	**+1.7**
MDT	**Midelt**	**22.63**	**94**	P	**P**	**15 06 15.5**	**+1.7**
MDT	**Midelt**	**22.63**	**94**	P	**P**	**15 06 15.5**	**+1.7**
	comp=Z,5.2nm,1.1s,baz=284,slow=9.8,SNR=6.2						
MDT				LR	LR	15 13 29.4	
	comp=Z,332nm,18.6s,baz=298,slow=32						
QUIF	**Quistinic**	**23.28**	**54**	*eP*	**P**	**15 06 20.4**	**+0.2**
QUIF	**Quistinic**	**23.28**	**54**	*eP*	**P**	**15 06 20.4**	**+0.2**
QUIF	**Quistinic**	**23.28**	**54**	*eP*	**P**	**15 06 20.4**	**+0.2**
QUIF	**Quistinic**	**23.28**	**54**	*eP*	**P**	**15 06 20.4**	**+0.2**
ROSF	**Rostrenen**	**23.33**	**53**	*eP*	**P**	**15 06 21.2**	**+0.4**
	comp=Z,60nm,1.2s						
ROSF	**Rostrenen**	**23.33**	**53**	*eP*	**P**	**15 06 21.2**	**+0.4**
ROSF				pmax	pmax		
	comp=Z,60nm,1.2s						
ROSF	**Rostrenen**	**23.33**	**53**	*eP*	**P**	**15 06 21.2**	**+0.4**
	comp=Z,60nm,1.2s						
ROSF	**Rostrenen**	**23.33**	**53**	*eP*	**P**	**15 06 21.2**	**+0.4**
	comp=Z,30nm,1.2s						
SGMF	**Saint Gilles**	**23.76**	**54**	*eP*	**P**	**15 06 25.2**	**+0.2**
	comp=Z,96nm,1.3s						
SGMF	**Saint Gilles**	**23.76**	**54**	*eP*	**P**	**15 06 25.2**	**+0.2**
SGMF				pmax	pmax		
	comp=Z,96nm,1.3s						
SGMF	**Saint Gilles**	**23.76**	**54**	*eP*	**P**	**15 06 25.2**	**+0.2**
	comp=Z,96nm,1.3s						
SGMF	**Saint Gilles**	**23.76**	**54**	*eP*	**P**	**15 06 25.2**	**+0.2**
	comp=Z,48nm,1.3s						
EPF	**Esparros**	**24.98**	**67**	*eP*	**P**	**15 06 37.0**	**+0.7**
EPF	**Esparros**	**24.98**	**67**	*eP*	**P**	**15 06 37.0**	**+0.7**
EPF	**Esparros**	**24.98**	**67**	*eP*	**P**	**15 06 37.0**	**+0.7**
EPF	**Esparros**	**24.98**	**67**	*eP*	**P**	**15 06 37.0**	**+0.7**
MFF	**Saint Martin d**	**24.99**	**59**	*eP*	**P**	**15 06 36.9**	**+0.6**
	comp=Z,24nm,0.9s						
MFF	**Saint Martin d**	**24.99**	**59**	*eP*	**P**	**15 06 36.9**	**+0.6**
MFF				pmax	pmax		
	comp=Z,25nm,0.9s						
MFF	**Saint Martin d**	**24.99**	**59**	*eP*	**P**	**15 06 36.9**	**+0.6**
	comp=Z,24nm,0.9s						
MFF	**Saint Martin d**	**24.99**	**59**	*eP*	**P**	**15 06 36.9**	**+0.6**
	comp=Z,12nm,0.9s						
FLN	**La Foliniere**	**25.23**	**54**	*eP*	**P**	**15 06 38.9**	**+0.5**
	comp=Z,108nm,1.5s						
FLN				*eR*			
	comp=Z,240nm,19.2s						
FLN	**La Foliniere**	**25.23**	**54**	*eP*	**P**	**15 06 38.9**	**+0.5**
FLN				pmax	pmax		
	comp=Z,108nm,1.5s						
FLN	**La Foliniere**	**25.23**	**54**	*eP*	**P**	**15 06 38.9**	**+0.5**
	comp=Z,108nm,1.5s						
FLN	**La Foliniere**	**25.23**	**54**	*eP*	**P**	**15 06 38.9**	**+0.5**
	comp=Z,54nm,1.5s						
LFF	**La Frestale**	**25.39**	**63**	*eP*	**P**	**15 06 40.2**	**+0.3**
LFF	**La Frestale**	**25.39**	**63**	*eP*	**P**	**15 06 40.2**	**+0.3**
LFF	**La Frestale**	**25.39**	**63**	*eP*	**P**	**15 06 40.2**	**+0.3**
LFF	**La Frestale**	**25.39**	**63**	*eP*	**P**	**15 06 40.2**	**+0.3**
LDF	**La Druitiere**	**25.42**	**54**	*eP*	**P**	**15 06 40.4**	**+0.2**
	comp=Z,32nm,0.9s						
LDF	**La Druitiere**	**25.42**	**54**	*eP*	**P**	**15 06 40.4**	**+0.2**
LDF				pmax	pmax		
	comp=Z,32nm,0.9s						
LDF	**La Druitiere**	**25.42**	**54**	*eP*	**P**	**15 06 40.4**	**+0.2**
	comp=Z,32nm,0.9s						
LDF	**La Druitiere**	**25.42**	**54**	*eP*	**P**	**15 06 40.4**	**+0.2**
	comp=Z,16nm,0.9s						
RJF	**Les Rejaudoux**	**25.97**	**62**	*eP*	**P**	**15 06 46.3**	**+1.1**
RJF				*eR*			
	comp=Z,299nm,19.5s						
RJF	**Les Rejaudoux**	**25.97**	**62**	*eP*	**P**	**15 06 46.3**	**+1.1**
RJF	**Les Rejaudoux**	**25.97**	**62**	*eP*	**P**	**15 06 46.3**	**+1.1**
RJF	**Les Rejaudoux**	**25.97**	**62**	*eP*	**P**	**15 06 46.3**	**+1.1**
EKA	**Eskdalemuir Ar**	**26.25**	**38**	P	**P**	**15 06 47.1**	**-0.6**
EKA	**Eskdalemuir Ar**	**26.25**	**38**	P	**P**	**15 06 47.1**	**-0.6**
EKA	**Eskdalemuir Ar**	**26.25**	**38**	P	**P**	**15 06 47.1**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=234,slow=6.9,SNR=5.4						
MTLF	**Montolieu**	**26.36**	**67**	*eP*	**P**	**15 06 48.9**	**+0.1**
MTLF	**Montolieu**	**26.36**	**67**	*eP*	**P**	**15 06 48.9**	**+0.1**
MTLF	**Montolieu**	**26.36**	**67**	*eP*	**P**	**15 06 48.9**	**+0.1**
MTLF	**Montolieu**	**26.36**	**67**	*eP*	**P**	**15 06 48.9**	**+0.1**
BBTS	**Babate**	**26.49**	**145**	LR	LR	15 15 10.0	
	comp=Z,335nm,18.0s,baz=344,slow=32						
TCF	**Toulx Ste Croi**	**26.56**	**60**	*eP*	**P**	**15 06 51.1**	**+0.5**
	comp=Z,41nm,1.0s						
TCF	**Toulx Ste Croi**	**26.56**	**60**	*eP*	**P**	**15 06 51.1**	**+0.5**
TCF				pmax	pmax		
	comp=Z,41nm,1.0s						
TCF	**Toulx Ste Croi**	**26.56**	**60**	*eP*	**P**	**15 06 51.1**	**+0.5**
	comp=Z,41nm,1.0s						
TCF	**Toulx Ste Croi**	**26.56**	**60**	*eP*	**P**	**15 06 51.1**	**+0.5**
	comp=Z,21nm,1.0s						
BGF	**Bois d'Agland**	**27.03**	**60**	*eP*	**P**	**15 06 55.0**	**+0.2**
BGF	**Bois d'Agland**	**27.03**	**60**	*eP*	**P**	**15 06 55.0**	**+0.2**
BGF	**Bois d'Agland**	**27.03**	**60**	*eP*	**P**	**15 06 55.0**	**+0.2**
BGF	**Bois d'Agland**	**27.03**	**60**	*eP*	**P**	**15 06 55.0**	**+0.2**
AVF	**Avril sur Loir**	**27.40**	**59**	*eP*	**P**	**15 06 58.2**	**+0.1**
AVF	**Avril sur Loir**	**27.40**	**59**	*eP*	**P**	**15 06 58.2**	**+0.1**
AVF	**Avril sur Loir**	**27.40**	**59**	*eP*	**P**	**15 06 58.2**	**+0.1**
AVF	**Avril sur Loir**	**27.40**	**59**	*eP*	**P**	**15 06 58.2**	**+0.1**
SSF	**Saint Saulge**	**27.54**	**59**	*eP*	**P**	**15 06 59.4**	**0.0**
	comp=Z,36nm,1.3s						
SSF	**Saint Saulge**	**27.54**	**59**	*eP*	**P**	**15 06 59.4**	**0.0**
SSF				pmax	pmax		
	comp=Z,36nm,1.3s						
SSF	**Saint Saulge**	**27.54**	**59**	*eP*	**P**	**15 06 59.4**	**0.0**

CDF	Champ du Feu	30.23	56	*e*P		P	15 07 23.5	+0.2
	comp=Z,45nm,0.9s							
CDF	Champ du Feu	30.23	56	*e*P		P	15 07 23.5	+0.2
	comp=Z,22nm,0.9s							
SFJD	Kangerlussuaq	31.40	346	LR		LR	15 17 28.3	
	comp=Z,587nm,18.5s,baz=61,slow=31							
CLL	Collm	34.23	52	*e*P		P	15 08 06.0	+7.8
CLL	Collm	34.23	52	L		L	15 08 06.0	
	comp=Z,100nm,22.0s							
FRB	Frobisher Bay	34.26	332	LR		LR	15 18 09.2	
	comp=Z,288nm,21.8s,baz=39,slow=30							
KHC	Kasperske Hory	34.44	56	*e*P		P	15 08 00.2	0.0
KHC	Kasperske Hory	34.44	56	*e*P		P	15 08 00.2	0.0
KHC	Kasperske Hory	34.44	56	*e*P		P	15 08 00.2	0.0
GERES	GERESS Array B	34.51	56	P		P	15 08 00.4	-0.5
GERES	GERESS Array B	34.51	56	P		P	15 08 00.4	-0.5
GERES	GERESS Array B	34.51	56	P		P	15 08 00.4	-0.5
	comp=Z,0.4nm,0.4s,baz=260,slow=8.9,SNR=5.0							
PRU	Pruhonice	35.10	54	*e*P		P	15 08 07.3	+1.5
PRU	Pruhonice	35.10	54	*e*P		P	15 08 07.3	+1.5
PRU	Pruhonice	35.10	54	*e*P		P	15 08 07.3	+1.5
TAM	Tamanrasset	35.16	104	P		P	15 08 07.3	+0.5
TAM				pmax		pmax		
	comp=Z,2.0nm,0.3s							
TAM	Tamanrasset	35.16	104	P		P	15 08 07.3	+0.5
	comp=Z,2.3nm,0.3s							
TAM	Tamanrasset	35.16	104	P		P	15 08 07.3	+0.5
	comp=Z,2.0nm,0.3s							
NOA	NORSAR Array B	35.58	35	P		P	15 08 10.2	+0.3
NOA	NORSAR Array B	35.58	35	P		P	15 08 10.2	+0.3
NOA	NORSAR Array B	35.58	35	P		P	15 08 10.2	+0.3
	comp=Z,3.4nm,1.0s,baz=254,slow=8.8,SNR=3.4							
NOA				LR		LR	15 19 49.1	
	comp=Z,98nm,19.9s,baz=280,slow=31							
JMIC	Jan Mayen	35.64	13	LR		LR	15 20 21.4	
	comp=Z,136nm,18.7s,baz=252,slow=32							
SJG	San Juan	35.80	247	LR		LR	15 17 41.7	
	comp=Z,78nm,19.5s,baz=80,slow=28							
SADO	Sadowa	35.99	297	P		P	15 08 10.2	-3.3
SADO	Sadowa	35.99	297	P		P	15 08 10.2	-3.3
SADO	Sadowa	35.99	297	P		P	15 08 10.2	-3.3
	comp=Z,4.7nm,0.6s,baz=330,slow=14,SNR=4.2							
UPC	Upice	36.07	53	*e*P		P	15 08 15.3	+1.1
UPC	Upice	36.07	53	*e*P		P	15 08 15.3	+1.1
UPC	Upice	36.07	53	*e*P		P	15 08 15.3	+1.1
DPC	Dobruska-Polom	36.26	54	*e*P		P	15 08 16.6	+0.8
DPC	Dobruska-Polom	36.26	54	*e*P		P	15 08 16.6	+0.8
DPC	Dobruska-Polom	36.26	54	*e*P		P	15 08 16.6	+0.8
TOA0	Torodi Ar. Sit	38.43	120	*e*P		P	15 08 35.6	+1.1
TOA0	Torodi Ar. Sit	38.43	120	*e*P		P	15 08 35.6	+1.1
TORD	Torodi Ar. Bea	38.43	120	P		P	15 08 35.0	+0.5
TORD	Torodi Ar. Bea	38.43	120	P		P	15 08 35.0	+0.5
TORD	Torodi Ar. Bea	38.43	120	P		P	15 08 35.0	+0.5
	comp=Z,3.3nm,1.0s,baz=163,slow=12,SNR=10							
TORD				LR		LR	15 22 33.0	
	comp=Z,203nm,20.8s,baz=250,slow=33							
DBIC	Dimbokro	39.26	135	LR		LR	15 22 24.3	
	comp=Z,321nm,21.2s,baz=241,slow=32							
FINES	FINESS Array B	42.64	37	P		P	15 09 08.9	+0.1
FINES	FINESS Array B	42.64	37	P		P	15 09 08.9	+0.1
FINES	FINESS Array B	42.64	37	P		P	15 09 08.9	+0.1
	comp=Z,7.3nm,0.9s,baz=243,slow=13,SNR=4.5							
FINES				LR		LR	15 26 55.4	
	comp=Z,89nm,18.4s,baz=332,slow=36							
ARCES	ARCESS Array B	44.00	25	P		P	15 09 19.1	-0.6
ARCES	ARCESS Array B	44.00	25	P		P	15 09 19.1	-0.6
ARCES	ARCESS Array B	44.00	25	P		P	15 09 19.1	-0.6
	comp=Z,9.9nm,1.0s,baz=243,slow=11,SNR=9.8							
ARCES				LR		LR	15 23 47.8	
	comp=Z,108nm,19.0s,baz=136,slow=31							
KIEV	Kiev	44.45	53	*e*P		P	15 09 23.5	0.0
KIEV				pmax		pmax		
	comp=Z,4.0nm,0.9s							
KIEV	Kiev	44.45	53	*e*P		P	15 09 23.5	0.0
	comp=Z,4.0nm,0.9s							
KIEV	Kiev	44.45	53	*e*P		P	15 09 23.5	0.0
	comp=Z,4.0nm,0.9s							
AKASG	Malin Array Be	44.46	53	P		P	15 09 23.4	-0.2
AKASG	Malin Array Be	44.46	53	P		P	15 09 23.4	-0.2
AKASG	Malin Array Be	44.46	53	P		P	15 09 23.4	-0.2
AKASG	Malin Array Be	44.46	53	P		P	15 09 23.4	-0.2
	comp=Z,6.4nm,0.8s,baz=274,slow=7.9,SNR=22							
ULM	Lac du Bonnet	46.54	307	LR		LR	15 29 37.0	
	comp=Z,237nm,18.3s,baz=110,slow=37							
RES	Resolute Bay	47.13	341	LR		LR	15 26 15.1	
	comp=Z,200nm,18.3s,baz=33,slow=32							
OBN	Obninsk	48.28	46	P		P	15 09 54.0	+0.5
OBN							15 11 19.0	
OBN				pmax		pmax		
	comp=Z,47nm,2.5s							
OBN	Obninsk	48.28	46	P		P	15 09 54.0	+0.5
	comp=Z,47nm,2.5s							
OBN	Obninsk	48.28	46	PcP		PcP	15 11 19.0	-1.2
BRTR	Keskin Array B	50.08	66	LR		LR	15 30 46.1	
	comp=Z,41nm,18.2s,baz=192,slow=35							
ZEI	Tsey	56.23	59	*e*P		P	15 10 53.6	+0.5
ZEI				pmax		pmax		
	comp=Z,13nm,1.6s							
ZEI	Tsey	56.23	59	*e*P		P	15 10 53.6	+0.5
	comp=Z,13nm,1.6s							
PDAR	Pinedale Array	57.72	302	P		P	15 11 00.8	-2.9
PDAR	Pinedale Array	57.72	302	P		P	15 11 00.8	-2.9
PDAR	Pinedale Array	57.72	302	P		P	15 11 00.8	-2.9
	comp=Z,1.1nm,0.9s,baz=79,slow=9.2,SNR=7.1							
GNI	Garni	57.84	62	*e*P		P	15 11 05.4	+0.9
ANMO	Albuquerque	58.80	292	*e*P		P	15 11 08.5	-2.8
TXAR	Lajitas Array	59.27	285	P		P	15 11 13.4	-1.1
TXAR	Lajitas Array	59.27	285	P		P	15 11 13.4	-1.1
TXAR	Lajitas Array	59.27	285	P		P	15 11 13.4	-1.1
	comp=Z,1.6nm,0.8s,baz=82,slow=7.0,SNR=16							
ARU	Arti	59.85	40	*i* P		P	15 11 18.3	+0.4
ARU							15 13 27.0	
ARU				S		S	15 19 34.6	+6.0
ARU				SS		SS	15 23 30.6	+6.4
ARU				pmax		pmax		
	comp=Z,13nm,1.7s							
ARU	Arti	59.85	40	*i* P		P	15 11 18.3	+0.4
	comp=Z,13nm,1.7s							
AKTK	Aktyubinsk	62.05	46	P		P	15 11 32.9	-0.1
AKTO	Aktyubinsk	62.05	46	P		P	15 11 32.9	-0.1
AKTO	Aktyubinsk	62.05	46	P		P	15 11 32.9	-0.1
AKTO	Aktyubinsk	62.05	46	P		P	15 11 32.8	-0.1
AKTO	Aktyubinsk	62.05	46	P		P	15 11 32.9	-0.1
	comp=Z,3.1nm,0.8s,baz=294,slow=8.0,SNR=9.6							
WUAZ	Wupatki	62.12	295	*e*P		P	15 11 34.4	+0.4
	comp=Z,8.4nm,1.3s							
WUAZ	Wupatki	62.12	295	*e*P		P	15 11 34.3	+0.4
	comp=Z,8.4nm,1.3s							
LPAZ	La Paz	63.56	220	P		P	15 11 43.4	-0.7
LPAZ	La Paz	63.56	220	P		P	15 11 43.4	-0.7
LPAZ	La Paz	63.56	220	P		P	15 11 43.4	-0.7
	comp=Z,6.6nm,1.0s,baz=33,slow=6.5,SNR=14							
NVAR	Mina Array Bea	65.61	301	P		P	15 11 55.4	-1.5
NVAR	Mina Array Bea	65.61	301	P		P	15 11 55.4	-1.5
NVAR	Mina Array Bea	65.61	301	P		P	15 11 55.4	-1.5
	comp=Z,0.5nm,0.8s,baz=76,slow=6.3,SNR=4.3							
ILAR	Eielson Array	66.20	335	P		P	15 11 59.1	-0.9
ILAR	Eielson Array	66.20	335	P		P	15 11 59.2	-0.9
ILAR	Eielson Array	66.20	335	P		P	15 11 59.1	-0.9
	comp=Z,1.3nm,0.9s,baz=53,slow=5.3,SNR=15							
BRVK	Borovoye	67.42	40	*e*P		P	15 12 07.9	-0.1
BRVK	Borovoye	67.42	40	*e*P		P	15 12 07.9	-0.1
IMA2	Indian Mountai	67.51	338	*e*P		P	15 12 08.1	-0.4
IMA2	Indian Mountai	67.51	338	*e*P		P	15 12 08.1	-0.4
TIXI	Tiksi	70.24	6	*e*P		P	15 12 25.4	+0.2
TIXI	Tiksi	70.24	6	*e*P		P	15 12 25.4	+0.2
NVS	Novosibirsk	72.48	33	*e*P		P	15 12 38.4	-0.6
NVS				pmax		pmax		
	comp=Z,22nm,1.6s							
NVS				pmax		pmax		
	comp=N,3.0nm,1.4s							
NVS				pmax		pmax		
	comp=E,2.0nm,1.1s							
NVS	Novosibirsk	72.48	33	*e*P		P	15 12 38.4	-0.6
	comp=E,3.0nm,1.4s							
KURK	Kurchatov	72.98	39	P		P	15 12 42.5	+0.4
KURK	Kurchatov	72.98	39	P		P	15 12 42.5	+0.4
KURK	Kurchatov	72.98	39	P		P	15 12 42.5	+0.4
KURBB	Kurchatov Arra	72.99	39	P		P	15 12 42.5	+0.4
	comp=E,4.4nm,0.9s,baz=311,slow=6.6,SNR=26							
ZAA0	Zalesovo Array	73.77	33	*e*P		P	15 12 47.1	+0.4
ZAA0	Zalesovo Array	73.77	33	*e*P		P	15 12 47.1	+0.4
ZALV	Zalesovo Beam	73.77	33	P		P	15 12 47.2	+0.5
ZALV	Zalesovo Beam	73.77	33	P		P	15 12 47.2	+0.5
ZALV	Zalesovo Beam	73.77	33	P		P	15 12 47.2	+0.5
	comp=E,6.4nm,1.0s,baz=308,slow=7.3,SNR=14							
AAK	Ala-Archa	75.78	47	*e*P		P	15 12 59.8	+1.0
AAK	Ala-Archa	75.78	47	*e*P		P	15 12 59.8	+1.0
MK31	Makanchi Array	77.37	40	*e*P		P	15 13 08.1	+0.6
MK31	Makanchi Array	77.37	40	*e*P		P	15 13 08.1	+0.6
MK31	Makanchi Array	77.37	40	*e*P		P	15 13 08.1	+0.6
MKAR	Makanchi Array	77.37	40	P		P	15 13 07.8	+0.3
MKAR	Makanchi Array	77.37	40	P		P	15 13 07.8	+0.3
MKAR	Makanchi Array	77.37	40	P		P	15 13 07.8	+0.3
MKAR	Makanchi Array	77.37	40	P		P	15 13 07.8	+0.3
	comp=E,7.9nm,1.1s,baz=313,slow=4.3,SNR=21							
KSH	Kashi	78.60	49	P		P	15 13 17.3	+2.7
KSH				pP		pP	15 13 19.2	-0.7
KSH				sP		sP	15 13 22.6	+0.7
KSH				PP		PP	15 16 15.2	+3.3
KSH				S		S	15 23 10.8	-0.1
KSH				SS		SS	15 28 14.7	+0.9
KSH				AMB		AMB		
	comp=E,12nm,1.2s							
KSH				AMB		AMB		
	comp=E,170nm,5.5s							
KSH				LR		LR		
	comp=E,130nm,6.9s							
KSH				LR		LR		
	comp=E,100nm,5.1s							
KSH				LR		LR		
	comp=E,100nm,9.6s							
HVS	Khovu-Aksy	79.58	31	*e*P		P	15 13 19.5	-0.2
HVS	Khovu-Aksy	79.58	31	*e*P		P	15 13 19.5	-0.2
YAK	Yakutsk	79.63	9	*e*P		P	15 13 18.6	-1.0
YAK	Yakutsk	79.63	9	*e*P		P	15 13 18.6	-1.0
SEY	Seymchan	79.81	358	*e*P		P	15 13 21.2	+0.6
SEY	Seymchan	79.81	358	*e*P		P	15 13 21.2	+0.6
MOY	Mondy	82.01	28	*e*P		P	15 13 33.4	+0.7
MOY	Mondy	82.01	28	*e*P		P	15 13 33.4	+0.7
WMQ	Urumqi	82.18	40	*e*P		P	15 13 34.6	+0.9
WMQ				AMB		AMB		
	comp=E,9.0nm,0.5s							
WMQ				AMB		AMB		
	comp=E,160nm,3.6s							
ZAK	Zakamensk	83.90	27	*e*P		P	15 13 42.4	-0.1
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.3s							
ZAK	Zakamensk	83.90	27	*e*P		P	15 13 42.4	-0.1
	comp=Z,3.0nm,1.3s							
BOSA	Boshof	84.74	132	LR		LR	15 51 25.2	
	comp=Z,67nm,18.9s,baz=249,slow=36							
SONM	Songino Array	87.15	27	P		P	15 13 59.0	+0.2
SONM	Songino Array	87.15	27	P		P	15 13 59.0	+0.2
SONM	Songino Array	87.15	27	P		P	15 13 59.0	+0.2
	comp=Z,3.2nm,0.9s,baz=330,slow=6.3,SNR=18							
HHC	Hu-ho-hao-te	95.05	27	*e*P		P	15 14 34.7	-1.0
HHC				pP		pP	15 14 39.4	-1.7
HHC				sP		sP	15 14 42.1	-0.9
HHC				PP		PP	15 18 25.9	+1.8
HHC				S		S	15 25 44.7	-5.2
HHC				SS		SS	15 32 12.6	-1.0
HHC				AMB		AMB		
	comp=Z,31nm,1.1s							
HHC				LR		LR		
	comp=Z,210nm,17.0s							
HHC				LR		LR		
	comp=Z,320nm,17.4s							
HHC				LR		LR		
	comp=Z,220nm,17.3s							
LZH	Lanzhou	95.97	35	*e*P		P	15 14 40.3	+0.3
LZH				pP		pP	15 14 45.2	-0.2
LZH				sP		sP	15 14 47.6	+0.2
LZH				AMB		AMB		
	comp=Z,14nm,1.0s							
USRK	Ussuriysk Arra	97.31	12	LR		LR	15 54 34.2	
	comp=Z,127nm,18.5s,baz=49,slow=33							
CD2	Chengdu	100.19	38	P		Pdif	15 14 58.9	-0.1
CD2				AMB		AMB		
	comp=Z,10.0nm,0.5s							
FITZ	Fitzroy Crossi	152.27	52	PKPbc		PKPbc	15 21 08.0	-0.8
FITZ	Fitzroy Crossi	152.27	52	PKPbc		PKPbc	15 21 08.0	-0.8
FITZ	Fitzroy Crossi	152.27	52	PKPbc		PKPbc	15 21 08.0	-0.8
	comp=Z,4.5nm,1.0s,baz=4.8,slow=3.3,SNR=4.1							
WRA	Warramunga Arr	158.67	39	PKPab		PKPab	15 21 45.2	-0.8
WRA	Warramunga Arr	158.67	39	PKPab		PKPab	15 21 45.2	-0.8
WRA	Warramunga Arr	158.67	39	PKPab		PKPab	15 21 45.2	-0.8
	comp=Z,3.6nm,1.1s,baz=338,slow=4.3,SNR=7.4							
ASAR	Alice Springs	161.48	46	PKPab		PKPab	15 21 58.4	+0.1
ASAR	Alice Springs	161.48	46	PKPab		PKPab	15 21 58.3	+0.1
ASAR	Alice Springs	161.48	46	PKPab		PKPab	15 21 58.4	+0.1
	comp=Z,1.4nm,0.9s,baz=323,slow=4.0,SNR=8.1							

IDC ***12*** *15:36:48.1±0.5, 18.40N×119.42E, h0km, mb4.3/21, mb1 4.4/23, mb1mx4.4/29, mbtmp4.3/23, ML4.0/2, MS3.9/11, Ms1 3.9/11, ms1mx3.6/43, Error ellipse: s-maj=20.8km s-min=11.1km az=68.0*

MAN ***12*** *15:36:51, 18.32N×119.32E, h15km, mb4.7, ML3.6, MS3.5*

ISCJB ***12*** *15:36:51.5±0.2, 18.48N±0.02×119.37E±0.03, h32km, mb4.5/45, MS4.0/17, Error ellipse: s-maj=4.4km s-min=2.8km az=152.8*

MOS ***12*** *15:36:51.4±1.0, 18.43N×119.42E, h33km, mb5.0/15, Error ellipse: s-maj=13.7km s-min=7.3km az=110.9*

BJI ***12*** *15:36:51.7, 18.53N×119.36E, h25km, mB4.7/24, mb4.5/38, Ms4.5/28, Ms7 4.1/28*

NEIC ***12*** *15:36:52.8±0.2, 18.47N×119.48E, mb4.6/7, Error ellipse: s-maj=6.9km s-min=4.0km az=91.0*

BKK ***12*** *15:36:55.4±0.5, 19°N±7'×12°0E±', h10km, M4.9/11, mB5.2/1, mb4.9/11, Mw(mB)4.6/1*

DJA ***12*** *15:37:07.3±4.9, 18.1N±35'×12.1E±1.0, h49km±26km, M4.9/5, mB5.4/5, mb5.0/5, Mw(mB)4.8/5*

ISC 12 15:36:53.0±0.3, 18.44N±0.03×119.45E±0.04, h32km, n167, σ1s75/192, mb4.6/45, MS3.9/17, 5C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIPP	Brgy, Tapao	1.09	118	||*i*	P	Pn	15 37 12.3	+0.3
PIP	Pasuquin	1.12	96	||*i*	P	Pn	15 37 12.6	+0.2
ABRA	Dolores	1.44	123	*e*	P		Pn	15 37 17.5	+0.7
ABRA				*e*	S		Sb	15 37 37.4	+0.3
APYP	Conner	1.80	108	*e*	P		Pn	15 37 22.8	+1.0
APYP				*e*	S		Sb	15 37 48.1	+0.6
BOLP	Bolinao	2.10	168	*e*	P		Pn	15 37 25.6	-0.3
BOLP				*e*	S		Sn	15 37 50.3	-0.6
BCPH	Baguio City Da	2.32	152	||*i*	P	Pn	15 37 28.6	-0.6
SGCP	Mt. Cagua	2.47	94	*e*	P		Pn	15 37 33.3	+2.2
CAUP	Cauayan	2.71	123	*e*	P		Pb	15 37 38.1	-2.7
PALP	Palanan	3.15	115	||*i*	P	Pn	15 37 43.5	+3.1
BALP	Baler	3.37	143	*e*	P		Pn	15 37 46.1	+2.7
TWG	Pinlang	4.61	19	*e*	P		Pn	15 37 59.5	-1.1
TPUB	Ta-pu	4.96	13	*e*	P		Pn	15 38 03.1	-2.2
YULB	Yu-li	5.22	19	*e*	P		Pn	15 38 08.3	-0.6
	84nm,0.4s								
SSLB	Suanglung	5.50	15	*e*	P		Pn	15 38 10.7	-2.0
	84nm,0.6s								
NACB	Ninganchiao	6.04	19	*e*	P		Pn	15 38 20.1	-0.1
	80nm,0.6s								
YHNB	Yeheng	6.45	16	*e*	P		Pn	15 38 24.7	-1.1
	89nm,0.5s								
TATO	Taipei	6.77	16	*e*	P		Pn	15 38 29.2	-1.0
QIZ	Qiongzhong	9.12	275	P			Pn	15 38 56.8	-5.7
QIZ				S			Sn	15 40 33.4	-11
QIZ				LR			LR		
	comp=N,2μm,14.1s								
QIZ	Qiongzhong	9.12	275	*e*	P		Pn	15 38 56.7	-5.7
	comp=N,84nm,0.9s								
KDM	Kudat	11.74	193	P			Pn	15 39 37.4	-0.9
KKM	Kota Kinabalu	12.72	195	P			Pn	15 39 52.4	+0.6
KKM	Kota Kinabalu	12.72	195	*e*	P		Pn	15 39 51.6	-0.2
MYLDM	Lahad Datu	13.21	184	P			P	15 40 05.0	-3.0
MYLDM	Lahad Datu	13.21	184	P			P	15 40 03.0	-5.0
NJ2	Nanjing	13.56	358	*e*	P		Pn	15 40 04.3	+1.1
NJ2				AMB			AMB		
	comp=N,10.0nm,0.6s								
TSM	Tawau	14.15	186	P			Pn	15 40 12.2	+0.9
GYA	Guiyang	14.25	306	||*i*	P	Pn	15 40 13.4	+0.6
GYA				pP			P	15 40 21.0	+1.3
GYA				PP			PnPn	15 40 26.4	+5.6
GYA				S			Sn	15 42 51.7	+1.8
GYA				sS			S	15 43 03.0	-6.7
GYA				AMB			AMB		
	comp=N,20nm,0.8s								
GYA				LR			LR		
	comp=N,430nm,14.3s								
GYA				LR			LR		
	comp=N,360nm,15.6s								
GYA				LR			LR		
	comp=N,450nm,14.8s								
ENH	Enshi	14.86	324	*e*	P		Pn	15 40 19.6	-1.3
	comp=N,13nm,1.1s								
NONG	Nongkai	15.49	271	P		P	P	15 40 43.6	+10
	comp=N,87nm,1.1s								
BTM	Bintulu	16.38	203	P		P	P	15 40 43.9	+0.7
KMI	Kunming	16.88	296	P		P	P	15 40 50.7	+1.8
KMI				AMB		AMB			
	comp=N,13nm,1.6s								
CHAI	Chaiyaphum	16.88	264	P		P	P	15 40 58.3	+10
	comp=N,5.4nm,1.0s								
SBUM	Sibu	17.40	205	P		P	P	15 40 55.7	+1.2
SBUM	Sibu	17.40	205	P		P	Pn	15 40 53.1	-0.4
JNU	Nakatsue	17.86	33	*e*	P	P	Pn	15 40 58.7	-0.4
JNU	Nakatsue	17.86	33	P		P	Pn	15 40 58.3	-0.7
	comp=N,0.7nm,0.3s,baz=205,slow=5.0,SNR=16								
JNU				LR		LR		15 47 55.6	
	comp=N,202nm,21.4s,baz=230,slow=37								
MRSI	Marisa	18.02	172	P		P	P	15 41 03.0	+1.6
XAN	Xi'an	18.16	331	P		P	Pn	15 41 00.8	-2.0
XAN				pP		pP	P	15 41 08.6	-2.7
XAN				PP		PP	PnPn	15 41 15.1	+0.7
XAN				S		Sn	Sn	15 44 16.7	-7.9
XAN				SS		SS	SnSn	15 44 38.4	-0.2
XAN				AMB		AMB			
	comp=N,6.0nm,1.5s								
XAN				LR		LR			
	comp=N,590nm,14.6s								
XAN				LR		LR			
	comp=N,330nm,14.6s								
XAN				LR		LR			
	comp=N,120nm,15.5s								
KMSI	Cibinong	18.30	165	P		P	Pn	15 41 06.9	+2.3
CD2	Chengdu	18.88	314	P		P	Pn	15 41 12.4	+0.9
CD2				pP		pP	P	15 41 19.8	+0.5
CD2				sP		sP	Sn	15 41 24.3	+0.9
CD2				PP		PP	PnPn	15 41 28.8	+4.6
CD2				S		S	Sn	15 44 38.5	-3.5
CD2				sS		sS	S	15 44 50.3	-7.0
CD2				SS		SS	SnSn	15 45 03.8	+7.6
CD2				AMB		AMB			
	comp=N,20nm,0.5s								
CD2				AMB		AMB			
	comp=N,650nm,7.1s								
CD2				LR		LR			
	comp=N,870nm,10.7s								
CD2				LR		LR			
	comp=N,1μm,10.7s								
KSM	Kuching	19.10	209	P		P	Pn	15 41 23.9	+10
KSM	Kuching	19.10	209	P		P	P	15 41 12.9	-0.4
KSM	Kuching	19.10	209	*e*	P	P	Pn	15 41 14.4	+0.1
KSM				*e*				15 41 23.6	
TNTI	Ternate	19.20	155	P		P	P	15 41 12.2	-2.2
CMAR	Chiang Mai Arr	19.46	273	P		P	P	15 41 17.0	-0.2
CMAR	Chiang Mai Arr	19.46	273	P		P	P	15 41 17.0	-0.2
	comp=N,0.1nm,0.3s,baz=91,slow=9.9,SNR=20								
LUWI	Luwuk	19.64	170	P		P	Pn	15 41 21.3	+0.7
MTKI	Muara Teweh, K	19.78	194	P		P	Pn	15 41 32.5	+10
	comp=N,48nm,0.7s,comp=N,3μm								
STKI	Sintang	19.87	204	P		P	Pn	15 41 32.1	+8.7
	comp=N,45nm,0.9s,comp=N,3μm								
KSAR	Wonju Array Be	20.32	20	P		P	P	15 41 27.2	+0.8
KSRS	Korea Array	20.35	20	P		P	P	15 41 27.2	+0.6
	comp=N,13nm,0.8s,baz=201,slow=12,SNR=35								
KSRS				LR		LR		15 49 15.8	
	comp=N,126nm,19.0s,baz=200,slow=37								
LBMI	Labuha	20.55	156	P		P	Pn	15 41 30.8	-0.6
	comp=N,98nm,1.0s,comp=N,1μm								
KTGM	Kuala Trenggan	20.58	233	P		P	P	15 41 29.1	-0.4
TTSI	Tana Toraja	21.35	179	P		P	P	15 41 43.2	+5.5
BJI	Beijing	21.71	353	P		P	P	15 41 41.8	+0.5
BJI				S		S	S	15 45 42.0	+2.1
BJI				AMB		AMB			
	comp=N,17nm,0.5s								
BJI				AMB		AMB			
	comp=N,100nm,4.0s								
BJI				LR		LR			
	comp=N,250nm,18.8s								
BJI				LR		LR			
	comp=N,590nm,19.3s								
BJI				LR		LR			
	comp=N,83nm,20.2s								
SPSI	Sidrap Palu	22.27	179	P		P	P	15 41 49.0	+1.5
LZH	Lanzhou	22.34	325	*e*	P	P	P	15 41 49.4	+1.1
LZH				pP		pP	P	15 41 58.9	+2.0
LZH				sP		sP	S	15 42 02.8	+1.8
LZH				PP		PnPn	PnPn	15 42 19.6	+7.9
LZH				S		S	S	15 45 50.0	-2.2
LZH				sS		Sn	Sn	15 46 05.1	-0.3
LZH				SS		SnSn	SnSn	15 46 29.6	+8.4
LZH				AMB		AMB			
	comp=N,34nm,1.0s

comp=Z,150nm,13.2s
MDJ LR LR
comp=Z,170nm,14.6s
MDJ LR LR
comp=Z,170nm,12.2s
USRK Ussuriysk Arra 27.76 20 P **P 15 42 40.4 +1.7**
comp=Z,5.5nm,0.6s,baz=206,slow=8.6,SNR=12
LSA Lhasa 28.09 299 P **P 15 42 42.5 +0.1**
LSA Lhasa 28.09 299 *e*P **P 15 42 42.6 +0.1**
LSA *e* 15 42 51.6
LSA pmax pmax
comp=Z,10.0nm,0.9s
LSA Lhasa 28.09 299 *e*P **P 15 42 42.6 +0.1**
comp=Z,10.0nm,0.9s
LSA *e* 15 42 51.6
BATI Baumata 28.77 171 P **P 15 42 47.0 -1.1**
BATI Baumata 28.77 171 P **P 15 42 47.0 -1.1**
comp=Z,16nm,0.5s,baz=126,slow=9.7,SNR=9.2
TAPN Taplejung 30.48 293 *e*P **P 15 43 02.5 -1.1**
comp=Z,12nm,0.9s
ODAN Odare 30.68 292 *e*P **P 15 43 04.6 -0.7**
comp=Z,18nm,0.9s
SONM Songino Array 31.20 343 P **P 15 43 08.6 -0.7**
SONM Songino Array 31.20 343 P **P 15 43 08.6 -0.7**
comp=Z,0.5nm,0.6s,baz=163,slow=9.7,SNR=5.1
SONM LR LR 15 55 30.1
comp=Z,221nm,18.2s,baz=157,slow=36
RAMN Ramite 31.39 292 *e*P **P 15 43 11.0 -0.5**
comp=Z,34nm,0.8s
JIRN Jiri 31.87 293 *e*P **P 15 43 15.6 -0.2**
comp=Z,15nm,0.6s
GUN Gumba 32.18 293 *e*P **P 15 43 17.9 -0.6**
comp=Z,44nm,0.9s
KLR Kul'dur 32.28 15 *e*P **P 15 43 18.2 -0.5**
PKI Pulchoki 32.54 292 *e*P **P 15 43 20.6 -1.1**
comp=Z,20nm,1.0s
KKN Kakani 32.68 293 *e*P **P 15 43 21.8 -1.0**
comp=Z,18nm,0.8s
DMN Daman 32.81 292 *e*P **P 15 43 23.0 -1.0**
comp=Z,18nm,0.8s
GKN Gorkha 33.28 293 *e*P **P 15 43 26.8 -1.2**
comp=Z,26nm,0.8s
DANN Dangsing 34.10 293 *e*P **P 15 43 34.0 -1.2**
comp=Z,23nm,0.7s
KOLN Koldanda 34.15 292 *e*P **P 15 43 35.0 -0.6**
comp=Z,12nm,0.8s
YSS Yuzh-Sakhalins 34.28 29 *e*P **P 15 43 37.2 +1.0**
YSS *e* 15 43 47.0
YSS pmax pmax
comp=Z,30nm,1.0s
ZAK Zakamensk 34.39 342 *e*P **P 15 43 38.6 +1.4**
ZAK pmax pmax
comp=Z,3.0nm,1.4s
WMQ Urumqi 36.75 320 *e*P **P 15 43 57.8 +0.2**
WMQ pP **pP 15 44 07.5 +0.5**
WMQ sP **sP 15 44 11.4 +0.5**
WMQ S **S 15 49 38.5 -1.0**
WMQ SS **SnSn 15 52 06.8 -5.1**
WMQ ScS **ScS 15 54 08.8 -2.2**
WMQ AMB AMB
comp=Z,9.0nm,0.5s
WMQ AMB AMB
comp=Z,200nm,5.8s
WMQ LR LR
comp=Z,270nm,18.4s
FITZ Fitzroy Crossi 36.82 170 *e*P **P 15 43 57.9 -0.4**
PMG Port Moresby 38.90 133 P **P 15 44 16.1 +0.1**
PMG Port Moresby 38.90 133 P **P 15 44 16.1 +0.1**
comp=Z,10nm,0.7s,baz=276,slow=11,SNR=3.3
WRAB Tennant Creek 40.84 158 *e*P **P 15 44 31.1 -0.9**
WRAB pmax pmax
comp=Z,9.0nm,0.6s
WRAB Tennant Creek 40.84 158 *e*P **P 15 44 31.1 -0.9**
comp=Z,8.9nm,0.6s
WRA Warramunga Arr 40.85 158 P **P 15 44 31.4 -0.7**
WRA Warramunga Arr 40.85 158 P **P 15 44 31.4 -0.7**
comp=Z,5.9nm,0.7s,baz=348,slow=8.7,SNR=46
MK31 Makanchi Array 41.56 321 *e*P **P 15 44 38.6 +0.9**
MK31 *e* 15 44 46.9
MK31 Makanchi Array 41.56 321 *e*P **P 15 44 38.6 +0.9**
MK31 *e* 15 44 46.9
MKAR Makanchi Array 41.56 321 P **P 15 44 38.2 +0.5**
MKAR 15 46 33.9
MKAR Makanchi Array 41.56 321 P **P 15 44 38.2 +0.5**
MKAR PcP **PcP 15 46 33.9 -0.7**
MKAR Makanchi Array 41.56 321 P **P 15 44 38.2 +0.5**
comp=Z,2.1nm,1.0s,baz=120,slow=7.1,SNR=10
MKAR PcP **PcP 15 46 33.9 -0.7**
comp=Z,0.5nm,0.7s,baz=126,slow=3.3,SNR=2.1
MKAR LR LR 16 01 10.6
comp=Z,101nm,21.2s,baz=115,slow=35
YAK Yakutsk 44.13 7 *e*P **P 15 44 57.2 -1.0**
AS31 Alice Springs 44.16 161 *e*P **P 15 44 58.9 -0.1**
AS31 *e* 15 45 08.7
ASAR Alice Springs 44.17 161 P **P 15 44 58.4 -0.6**
ASAR Alice Springs 44.17 161 P **P 15 44 58.4 -0.6**
comp=Z,5.6nm,0.6s,baz=340,slow=7.0,SNR=165
ZALV Zalesovo Beam 44.33 331 P **P 15 45 00.1 +0.2**
ZALV 15 46 44.7
ZALV Zalesovo Beam 44.33 331 P **P 15 45 00.1 +0.2**
ZALV PcP **PcP 15 46 44.6 +1.0**
ZALV Zalesovo Beam 44.33 331 P **P 15 45 00.1 +0.2**
comp=Z,0.7nm,0.6s,baz=116,slow=6.9,SNR=4.1
ZALV PcP **PcP 15 46 44.7 +1.0**
comp=Z,0.4nm,0.6s,baz=99,slow=4.5,SNR=2.4
ZALV LR LR 16 03 02.0
comp=Z,112nm,19.2s,baz=250,slow=36
AAK Ala-Archa 44.93 312 *i*P **P 15 45 08.0 +2.8**
PETK Petropavlovsk- 45.55 32 P **P 15 45 10.2 +0.5**
PETK Petropavlovsk- 45.55 32 P **P 15 45 10.2 +0.5**
PETK Petropavlovsk- 45.55 32 P **P 15 45 10.2 +0.5**
comp=Z,3.6nm,1.0s,baz=186,slow=8.6,SNR=9.2
KURK Kurchatov 45.63 324 *e*P **P 15 45 10.4 +0.1**
KURK *e* 15 45 19.6
KURK pmax pmax
comp=Z,15nm,1.1s
KURK Kurchatov 45.63 324 *e*P **P 15 45 10.3 +0.1**
comp=Z,15nm,1.1s
KURK *e* 15 45 19.6
KURBB Kurchatov Arra 45.63 324 P **P 15 45 10.8 +0.5**
comp=Z,3.8nm,0.9s,baz=122,slow=8.0,SNR=19
CTA Charters Tower 46.45 144 P **P 15 45 17.4 +0.2**
CTA Charters Tower 46.45 144 P **P 15 45 17.4 +0.2**
comp=Z,18nm,0.7s,baz=326,slow=11,SNR=31
CTAO Charters Tower 46.45 144 *e*P **P 15 45 18.3 +1.2**
CTAO *e* 15 45 28.1
CTAO pmax pmax
comp=Z,23nm,0.8s
CTAO Charters Tower 46.45 144 *e*P **P 15 45 18.3 +1.2**
comp=Z,23nm,0.8s
CTAO *e* 15 45 28.1
KKAR Karatay Array 47.87 312 *e*P **P 15 45 28.5 +0.5**
KKAR *e* 15 45 37.1
KKAR pmax pmax
comp=Z,8.0nm,0.9s
KKAR Karatay Array 47.87 312 *e*P **P 15 45 28.5 +0.5**
comp=Z,8.3nm,0.9s
KKAR *e* 15 45 37.0
SEY Seymchan 49.90 19 *i*P **P 15 45 44.5 +1.3**
BVAR Borovoye Array 51.22 324 P **P 15 45 52.7 -0.7**
BVAR 15 47 09.9
BVAR Borovoye Array 51.22 324 P **P 15 45 52.7 -0.7**
BVAR PcP **PcP 15 47 09.9 +1.6**
BVAR Borovoye Array 51.22 324 P **P 15 45 52.7 -0.7**
comp=Z,0.6nm,0.7s,baz=138,slow=11,SNR=4.4
BVAR PcP **PcP 15 47 09.9 +1.6**
comp=Z,0.5nm,0.5s,baz=116,slow=3.4,SNR=2.8
BRVK Borovoye 51.29 324 *i*P **P 15 45 54.2 +0.3**
TIXI Tiksi 53.50 4 *e*P **P 15 46 08.8 -1.1**
STKA Stephens Creek 54.35 157 *e*P **P 15 46 17.4 +0.7**
STKA Stephens Creek 54.35 157 P **P 15 46 16.1 -0.6**
comp=Z,5.1nm,0.7s,baz=314,slow=6.1,SNR=10.0
ABKAR Akbulak array 56.42 317 P **P 15 46 31.4 0.0**
comp=Z,2.6nm,0.7s
ABKAR *e* 15 46 40.5
SVE Sverdlovsk 57.80 326 *e*P **P 15 46 42.1 +1.0**
SVE pmax pmax
comp=Z,23nm,1.4s
ARU Arti 58.80 325 *d*P **P 15 46 47.4 -0.7**
ARU S **S 15 54 50.5 -0.7**
ARU SS **SS 15 58 41.4 -3.1**
ARU pmax pmax
comp=Z,6.0nm,1.0s
ZEI Tsey 67.22 309 *e*P **P 15 47 44.2 -0.4**
ZEI pmax pmax
comp=Z,16nm,1.4s
KIV Kislovodsk 68.01 311↑ *e*P P 15 47 53.1 +3.7
KIV *e* 15 47 59.0
KIV 15 48 13.0
KIV pmax pmax
comp=Z,17nm,1.3s
KIV MLR MLR
comp=Z,100nm,17.0s
VRHR Novokhopersk 68.27 318 *e*P P 15 47 58.8 +8.1
VRHR pmax pmax
comp=Z,20nm,0.9s
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VORD Divnogorie 69.75 318 *e*P P 15 48 08.5 +8.6
VORD pmax pmax
comp=Z,5.0nm,0.7s
VORD pmax pmax
comp=E,10.0nm,0.9s
VSR Storozhevoye 69.81 319 *e*P P 15 48 08.7 +8.4
VSR pmax pmax
comp=Z,20nm,1.4s
VSR pmax pmax
comp=N,6.0nm,1.0s
VSR pmax pmax
comp=E,1.0nm,0.3s
OBN Obninsk 71.04 323 P **P 15 48 09.0 +1.3**
OBN *e* 15 48 16.4
ARCES ARCESS Array B 74.25 339 P **P 15 48 27.3 +0.7**
ARCES ARCESS Array B 74.25 339 P **P 15 48 27.3 +0.7**
comp=E,2.1nm,0.9s,baz=81,slow=5.6,SNR=3.2
AFI Afiamalu 75.01 110 LR LR 16 18 15.5
comp=E,120nm,20.6s,baz=156,slow=33
ILAR Eielson Array 75.04 26 P **P 15 48 30.4 -0.8**
ILAR Eielson Array 75.04 26 P **P 15 48 30.4 -0.8**
comp=E,1.0nm,0.8s,baz=265,slow=5.6,SNR=14
ILAR LR LR 16 22 33.0
comp=E,53nm,19.0s,baz=113,slow=37
BRTR Keskin Array B 75.31 307 P **P 15 48 34.5 +1.0**
BRTR Keskin Array B 75.31 307 P **P 15 48 34.5 +1.0**
comp=E,0.3nm,0.4s,baz=138,slow=5.4,SNR=3.0
FINES FINESS Array B 75.59 330 P **P 15 48 33.2 -1.2**
FINES FINESS Array B 75.59 330 P **P 15 48 33.2 -1.2**
comp=E,4.3nm,0.9s,baz=64,slow=4.4,SNR=5.8
AKASG Malin Array Be 76.10 319 P **P 15 48 36.7 -0.9**
AKASG Malin Array Be 76.10 319 P **P 15 48 36.6 -0.9**
AKASG Malin Array Be 76.10 319 P **P 15 48 36.6 -0.9**
comp=E,0.6nm,0.5s,baz=64,slow=6.0,SNR=4.8
AKASG LR LR 16 24 44.3
comp=E,56nm,21.2s,baz=270,slow=38
KIEV Kiev 76.11 319 *i*P **P 15 48 38.9 +1.3**
URZ Urewera 78.12 137 LR LR 16 20 29.5
comp=E,234nm,18.1s,baz=146,slow=34
NB2 NORSAR Subarra 82.52 332 P P 15 49 20.2 +7.7
comp=Z,2.0nm,0.7s,baz=68,slow=5.1
NOA NORSAR Array B 82.52 332 P **P 15 49 11.6 -0.8**
NOA NORSAR Array B 82.52 332 P **P 15 49 11.6 -0.8**
comp=Z,2.1nm,1.1s,baz=67,slow=5.1,SNR=2.7
NOA LR LR 16 28 57.0
comp=Z,80nm,19.1s,baz=55,slow=38
BRG Berggiesshubel 85.27 322 *e*(P) P 15 49 40.7 +14
comp=Z,3.0nm,1.0s
CLL Collm 85.64 323 *i*P P 15 49 40.4 +12
CLL pmax pmax
comp=Z,6.0nm,1.1s
YKA Yellowknife Ar 88.87 22 P **P 15 49 43.5 -0.3**
YKA Yellowknife Ar 88.87 22 P **P 15 49 43.5 -0.3**
comp=Z,2.9nm,0.8s,baz=307,slow=4.5,SNR=4.3
TXAR Lajitas Array 116.86 42 PKP **PKPdf 15 55 35.6 +0.5**
TXAR Lajitas Array 116.86 42 PKP **PKPdf 15 55 35.6 +0.5**
comp=Z,0.3nm,0.7s,baz=250,slow=2.6,SNR=3.1
SDV Santo Domingo 151.08 21 *e*PKPbc **PKPbc 15 56 44.2 +0.1**
SDV *e* 15 56 53.3

IDC 12 15:43:16.9±1.7, 13°39S×166°51E, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.9/19, mbtmp4.0/8, ML4.3/1, MS3.8/2, Ms1 3.8/2, ms1mx3.1/31, Error ellipse: s-maj=46.9km s-min=29.2km az=148.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.54**	**301**	Pn	Pn	15 45 08.5	+0.4
	4.2nm,0.3s,baz=63,slow=4.5,SNR=2.3						
HNR				Sn	Sn	15 46 33.5	-0.9
	3.3nm,0.3s,baz=185,slow=16,SNR=2.0						
HNR				LR	LR	15 47 41.9	
	comp=Z,202nm,18.6s,baz=123,slow=35						
DZM	**Mont Dzumac**	**8.63**	**180**	Pn	Pn	15 45 27.9	+4.6
	0.6nm,0.3s,baz=108,slow=19,SNR=5.2						
DZM				Sn	Sn	15 47 04.5	+3.0
	0.2nm,0.3s,baz=330,slow=20,SNR=3.4						
WRA	**Warramunga Arr**	**31.46**	**254**	P	P	15 49 39.9	-0.6
	1.5nm,0.9s,baz=90,slow=13,SNR=5.0						
ASAR	**Alice Springs**	**32.48**	**247**	P	P	15 49 49.2	-0.2
	1.4nm,0.8s,baz=71,slow=9.8,SNR=10						
BATI	**Baumata**	**42.02**	**270**	LR	LR	16 06 45.7	
	comp=Z,376nm,18.9s,baz=78,slow=34						
CMAR	**Chiang Mai Arr**	**73.73**	**294**	P	P	15 54 54.9	+1.5
	0.1nm,0.3s,baz=93,slow=4.8,SNR=4.7						
SONM	**Songino Array**	**80.99**	**324**	P	P	15 55 32.8	-0.9
	0.5nm,0.7s,baz=142,slow=6.7,SNR=4.8						
ILAR	**Eielson Array**	**85.49**	**18**	P	P	15 55 56.0	-0.3
	0.4nm,0.5s,baz=245,slow=4.6,SNR=14						
MKAR	**Makanchi Array**	**95.73**	**317**	P	P	15 56 45.5	+0.6
	0.6nm,0.7s,baz=95,slow=6.6,SNR=7.9						
ZALV	**Zalesovo Beam**	**95.88**	**324**	P	P	15 56 44.9	-0.5
	0.6nm,0.6s,baz=107,slow=5.0,SNR=3.6						

IDC 12 16:01:17.0±4.1, 4°59S×152°80E, h71km±38km, mb3.6/11, mb1 3.7/12, mb1mx3.7/20, mbtmp3.6/12, ML2.9/1, Error ellipse: s-maj=25.2km s-min=19.8km az=107.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.36**	**229**	P	Pn	16 03 01.3	-0.6
	1.0nm,0.3s,baz=68,slow=5.4,SNR=5.1						
PMG				S	Sn	16 04 24.1	+0.1
	0.2nm,0.3s,baz=16,slow=18,SNR=2.5						
DZM	**Mont Dzumac**	**21.84**	**144**	P	P	16 06 04.5	+0.6
	4.3nm,1.1s,baz=299,slow=19,SNR=4.0						
WRA	**Warramunga Arr**	**23.58**	**228**	P	P	16 06 21.8	+0.2
	0.9nm,0.3s,baz=49,slow=8.9,SNR=22						
ASAR	**Alice Springs**	**26.30**	**222**	P	P	16 06 46.5	+0.2
	0.5nm,0.4s,baz=55,slow=9.1,SNR=36						
FITZ	**Fitzroy Crossi**	**29.76**	**241**	P	P	16 07 17.1	0.0
	1.2nm,0.7s,baz=12,slow=15,SNR=9.0						
JNU	**Nakatsue**	**82.88**	**333**	P	P	16 09 08.6	-0.1
	2.8nm,0.5s,baz=130,slow=7.3,SNR=4.6						
KSRS	**Korea Array**	**47.81**	**333**	P	P	16 09 48.4	+0.8
	1.2nm,0.8s,baz=152,slow=8.2,SNR=4.2						
PETK	**Petropavlovsk-**	**57.63**	**3**	P	P	16 11 00.3	+0.5
	1.3nm,0.5s,baz=169,slow=8.4,SNR=7.0						
SONM	**Songino Array**	**66.15**	**328**	P	P	16 11 57.8	+0.6
	0.4nm,0.6s,baz=132,slow=4.1,SNR=4.0						
SONM				PcP	PcP	16 12 27.2	+0.2
	0.3nm,0.6s,baz=116,slow=2.0,SNR=3.8						
MKAR	**Makanchi Array**	**80.17**	**319**	P	P	16 13 19.3	-0.4
	0.6nm,0.5s,baz=92,slow=8.4,SNR=12						
ZALV	**Zalesovo Beam**	**80.98**	**326**	P	P	16 13 23.6	-0.3
	0.8nm,0.5s,baz=104,slow=4.4,SNR=3.8						
ILAR	**Eielson Array**	**81.97**	**22**	P	P	16 13 27.5	-1.4
	0.5nm,0.7s,baz=247,slow=5.7,SNR=8.7						
TORD	**Torodi Ar. Bea**	**150.24**	**288**	PKPbc	PKPbc	16 21 00.9	-0.3
	1.3nm,0.5s,baz=85,slow=2.2,SNR=28						

MAN 12 16:05:01, 13°04N×124°61E, h28km, mb4.4, ML3.3, MS3.1, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNP	**Catarman**	**0.53**	**175**	*e*P	Pn	16 05 13.3	+0.5
CNP				*e*S	Sn	16 05 20.9	+0.1
PVCP	**Virac**	**0.71**	**321**↑	*e*P	Pb	16 05 14.3	-0.5
PLP	**Palo**	**1.90**	**169**↓	*e*P	Pb	16 05 33.5	-1.5
PLP				*e*S	Sn	16 05 55.0	+0.3
AUQP	**San Andres**	**1.91**	**279**	*e*P	Pb	16 05 36.1	+1.0
RCP	**Roxas**	**2.34**	**231**↑	*e*P	Pn	16 05 38.8	+1.1
RCP				*e*S	Sn	16 06 06.6	+1.0
OTRP	**Odiongan**	**2.62**	**255**	*e*P	Pn	16 05 41.8	+0.4
BOAC	**Boac**	**2.73**	**279**	*e*P	Pn	16 05 44.9	+2.0
SJMP	**San Jose**	**3.46**	**261**	*e*P	Pn	16 05 55.0	+2.0
BUSP	**Coron**	**4.43**	**257**	*e*P	Pn	16 06 07.3	+0.9

IDC **12** *16:11:59.9±2.1, 39°25N×25°26E, h0km, mb3.3/2, mb1 3.3/3, mb1mx3.1/24, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=82.2km s-min=20.7km az=158.0*
DDA **12** *16:12:01.7, 38°77N×25°59E, h5km, MD3.7*
ISCJB **12** *16:12:01.9±0.6, 38°76N±0°02×25°65E±0°02, h13km±4km, mb3.2/2, Error ellipse: s-maj=2.7km s-min=2.3km az=163.7*
ISK **12** *16:12:02.0, 38°72N×25°62E, h21km, ML3.6*
CSEM **12** *16:12:02.9±0.1, 38°73N×25°65E, h15km, ML3.3, Error ellipse: s-maj=1.6km s-min=1.4km az=169.0*
ATH **12** *16:12:02.3, 38°75N×25°68E, h34km, ML3.3*
THE **12** *16:12:03.5, 38°76N×25°69E, h16km±1km, ML3.3/10, Error ellipse: s-maj=1.6km s-min=0.4km az=128.0*
ISC 12 16:12:03.5±1.0, 38°75N±0°02×25°66E±0°02, h17km±7km, n270, σ0°67/324, 15C-7D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOS	**Chios island**	**0.48**	**139**	P	**Pg**	**16 12 13.0**	**-0.2**
CHOS				S	**Sg**	**16 12 19.5**	**-0.3**
CHOS	**Chios island**	**0.48**	**139**	*e*PG	**Pg**	**16 12 12.5**	**-0.7**
CHOS				*e*SG	**Sg**	**16 12 19.4**	**-0.3**
CHOS	**Chios island**	**0.48**	**139**	*e*PB	**Pg**	**16 12 13.1**	**-0.2**
CHOS				*e*SB	**Sg**	**16 12 20.0**	**+0.2**
CHOS	**Chios island**	**0.48**	**139**	*e*Pg	**Pg**	**16 12 12.5**	**-0.7**
CHOS	**Chios island**	**0.48**	**139**	*e*Pb	**Pg**	**16 12 13.1**	**-0.2**
CHOS				S	**Sg**	**16 12 19.5**	**-0.3**
CHOS				*e*Sb	**Sg**	**16 12 20.0**	**+0.2**
PRK	**Paraskevi**	**0.69**	**44**	P	**Pb**	**16 12 16.2**	**-0.8**
PRK				S	**Sb**	**16 12 26.3**	**+0.1**
PRK	**Paraskevi**	**0.69**	**44**	*e*PN	**Pb**	**16 12 16.2**	**-0.8**
PRK				*e*SN	**Sb**	**16 12 26.2**	**+0.1**
PRK	**Paraskevi**	**0.69**	**44**	P	**Pb**	**16 12 16.2**	**-0.8**
PRK				S	**Sb**	**16 12 26.3**	**+0.1**
AYVA	**Ayvalik**	**0.98**	**55**	*i*P	**Pb**	**16 12 21.5**	**-0.4**
AYVA				*i*S	**Sb**	**16 12 35.2**	**+0.6**
AYVA	**Ayvalik**	**0.98**	**55**	*i*P	**Pb**	**16 12 21.5**	**-0.4**
AYVA				*i*S	**Sb**	**16 12 35.2**	**+0.6**
BOZC	**Bozcaada**	**1.13**	**16**	*i*P	**Pn**	**16 12 22.6**	**-1.9**
BOZC				*i*S	**Sb**	**16 12 40.0**	**+1.0**
LIA	**Limnos Island**	**1.20**	**342**	P	**Pn**	**16 12 24.6**	**-0.9**
LIA				S	**Sb**	**16 12 41.0**	**0.0**
LIA	**Limnos Island**	**1.20**	**342**	*e*PN	**Pn**	**16 12 24.6**	**-0.9**
LIA				*e*SN	**Sb**	**16 12 41.0**	**0.0**
LIA	**Limnos Island**	**1.20**	**342**	P	**Pn**	**16 12 24.6**	**-0.9**
LIA				S	**Sb**	**16 12 41.0**	**0.0**
IZM	**Izmir**	**1.31**	**105**	*e*PN	**Pn**	**16 12 26.1**	**-0.9**
IZM				*e*SN	**Sn**	**16 12 43.8**	**-0.3**
IZM	**Izmir**	**1.31**	**105**	*e*Pn	**Pn**	**16 12 26.1**	**-0.9**
IZM				*e*Sn	**Sn**	**16 12 43.8**	**-0.3**
SMG	**Samos**	**1.40**	**138**	P	**Pn**	**16 12 27.5**	**-0.7**
SMG	**Samos**	**1.40**	**138**	*e*PN	**Pn**	**16 12 27.5**	**-0.7**
SMG				*e*SN	**Sn**	**16 12 45.0**	**-1.2**
SMG	**Samos**	**1.40**	**138**	P	**Pn**	**16 12 27.5**	**-0.7**
SMG				*e*Sn	**Sn**	**16 12 45.0**	**-1.2**
AOS	**Alonnisos**	**1.45**	**287**	P	**Pn**	**16 12 28.3**	**-0.5**
AOS				S	**Sn**	**16 12 47.7**	**+0.3**
AOS	**Alonnisos**	**1.45**	**287**	*e*PN	**Pn**	**16 12 27.7**	**-1.1**
AOS	**Alonnisos**	**1.45**	**287**	*e*PN	**Pn**	**16 12 28.8**	**0.0**
AOS				*e*SN	**Sn**	**16 12 47.7**	**+0.3**
AOS	**Alonnisos**	**1.45**	**287**	P	**Pn**	**16 12 28.3**	**-0.5**
AOS	**Alonnisos**	**1.45**	**287**	*e*Pn	**Pn**	**16 12 28.8**	**0.0**
AOS				S	**Sn**	**16 12 47.7**	**+0.3**
ERET	**Eretria**	**1.48**	**259**	P	**Pn**	**16 12 28.6**	**-0.8**
ERET				S	**Sn**	**16 12 48.7**	**+0.3**
ERET	**Eretria**	**1.48**	**259**	P	**Pn**	**16 12 28.6**	**-0.8**
ERET				S	**Sn**	**16 12 48.7**	**+0.3**
PTL	**Penteli**	**1.57**	**244**	P	**Pn**	**16 12 29.7**	**-0.9**
PTL	**Penteli**	**1.57**	**244**	*e*PN	**Pn**	**16 12 29.6**	**-1.0**
PTL				*e*SN	**Sn**	**16 12 49.5**	**-1.1**
PTL	**Penteli**	**1.57**	**244**	P	**Pn**	**16 12 29.7**	**-0.9**
PTL				*e*Sn	**Sn**	**16 12 49.5**	**-1.1**
MRKA	**Markates**	**1.62**	**269**	P	**Pn**	**16 12 30.6**	**-0.6**
MRKA				S	**Sn**	**16 12 52.1**	**+0.4**
MRKA	**Markates**	**1.62**	**269**	*e*PN	**Pn**	**16 12 30.6**	**-0.6**
MRKA				*e*SN	**Sn**	**16 12 51.1**	**-0.6**
MRKA	**Markates**	**1.62**	**269**	P	**Pn**	**16 12 30.6**	**-0.6**
MRKA				*e*Sn	**Sn**	**16 12 51.1**	**-0.6**
MRKA				S	**Sn**	**16 12 52.1**	**+0.4**
GCAM	**G?zelcaml?**	**1.63**	**130**	*i*P	**Pb**	**16 12 34.7**	**+1.7**
GCAM				*i*S	**Sg**	**16 12 57.1**	**+1.1**
GCAM	**G?zelcaml?**	**1.63**	**130**	*i*P	**Pb**	**16 12 34.7**	**+1.7**
APE	**Apeiranthos**	**1.68**	**183**	P	**Pn**	**16 12 30.9**	**-1.2**
APE	**Apeiranthos**	**1.68**	**183**	*e*PN	**Pn**	**16 12 30.6**	**-1.5**
APE	**Apeiranthos**	**1.68**	**183**	*e*PN	**Pn**	**16 12 30.9**	**-1.2**
APE				*e*SN	**Sn**	**16 12 52.9**	**-0.4**
APE	**Apeiranthos**	**1.68**	**183**↑	*i*P	**Pb**	**16 12 34.1**	**+0.1**
APE	**Apeiranthos**	**1.68**	**183**	P	**Pn**	**16 12 30.9**	**-1.2**
APE				*e*Sn	**Sn**	**16 12 52.9**	**-0.4**
AKHS	**Akhisar**	**1.69**	**85**	*i*P	**Pn**	**16 12 32.0**	**-0.2**
AKHS				*i*S	**Sg**	**16 12 58.0**	**0.0**
AKHS	**Akhisar**	**1.69**	**85**	*i*P	**Pn**	**16 12 32.0**	**-0.2**
AKS	**Akhisar**	**1.69**	**85**	*e*PN	**Pn**	**16 12 31.6**	**-0.6**
AKS	**Akhisar**	**1.69**	**85**	*e*Pn	**Pn**	**16 12 31.6**	**-0.6**
ATH	**Athens Observa**	**1.71**	**244**	*e*PB	**Pn**	**16 12 32.1**	**-0.4**
ATH				*e*SN	**Sn**	**16 12 53.8**	**-0.1**
ATH	**Athens Observa**	**1.71**	**244**	*e*Pb	**Pn**	**16 12 32.1**	**-0.4**
ATH				*e*Sn	**Sn**	**16 12 53.8**	**-0.1**
SMTH	**Samothraki Isl**	**1.72**	**357**	P	**Pn**	**16 12 31.4**	**-1.2**
SMTH	**Samothraki Isl**	**1.72**	**357**	*e*PN	**Pn**	**16 12 31.6**	**-1.0**
SMTH				*e*SN	**Sn**	**16 12 53.7**	**-0.4**
SMTH	**Samothraki Isl**	**1.72**	**357**	*e*Pn	**Pn**	**16 12 31.6**	**-1.0**
SMTH				*e*Sn	**Sn**	**16 12 53.7**	**-0.4**
SKIA	**Skiathos**	**1.76**	**284**	P	**Pn**	**16 12 32.7**	**-0.4**
SKIA				S	**Sn**	**16 12 55.8**	**+0.7**
SKIA	**Skiathos**	**1.76**	**284**	*e*PN	**Pn**	**16 12 32.7**	**-0.4**
SKIA				*e*SN	**Sn**	**16 12 54.5**	**-0.6**
SKIA	**Skiathos**	**1.76**	**284**	P	**Pn**	**16 12 32.7**	**-0.4**
SKIA				*e*Sn	**Sn**	**16 12 54.5**	**-0.6**
SKIA				S	**Sn**	**16 12 55.8**	**+0.7**
BALY	**Balya**	**1.82**	**56**	*i*P	**Pb**	**16 12 37.6**	**+1.4**
BALY				*i*S	**Sg**	**16 13 02.2**	**+0.2**
BALY	**Balya**	**1.82**	**56**	*i*P	**Pb**	**16 12 37.6**	**+1.4**
LPK	**Lapseki**	**1.83**	**27**	*e*PN	**Pn**	**16 12 33.1**	**-0.6**
LPK	**Lapseki**	**1.83**	**27**	*e*Pn	**Pn**	**16 12 33.5**	**-0.6**
SMIA	**Simia**	**1.92**	**275**	*e*PN	**Pn**	**16 12 35.0**	**-0.3**
SMIA				*e*SN	**Sn**	**16 12 59.2**	**+0.2**
SMIA	**Simia**	**1.92**	**275**	*e*Pn	**Pn**	**16 12 35.0**	**-0.3**
SMIA				*e*Sn	**Sn**	**16 12 59.2**	**+0.2**
PAIG	**Paliouri**	**1.93**	**308**	P	**Pn**	**16 12 34.9**	**-0.6**
PAIG				S	**Sn**	**16 12 59.4**	**+0.1**
PAIG	**Paliouri**	**1.93**	**308**	*e*PN	**Pn**	**16 12 34.8**	**-0.7**
PAIG				*e*SN	**Sn**	**16 12 59.3**	**0.0**
PAIG	**Paliouri**	**1.93**	**308**	P	**Pn**	**16 12 34.9**	**-0.6**
PAIG				*e*Sn	**Sn**	**16 12 59.3**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.93**	**114**	*e*PN	**Pn**	**16 12 34.8**	**-0.9**
AYDB	**Zeytinkoy-Aydi**	**1.93**	**114**	*e*Pn	**Pn**	**16 12 34.8**	**-0.9**
BALB	**Balikesir**	**1.94**	**62**	*e*PN	**Pn**	**16 12 35.3**	**-0.4**
BALB	**Balikesir**	**1.94**	**62**	*e*Pn	**Pn**	**16 12 35.3**	**-0.4**
NEO	**Neokhori**	**1.97**	**287**	*e*PN	**Pn**	**16 12 35.8**	**-0.3**
NEO				*e*SN	**Sn**	**16 13 00.5**	**0.0**
NEO	**Neokhori**	**1.97**	**287**	*e*Pn	**Pn**	**16 12 35.8**	**-0.3**
NEO				*e*Sn	**Sn**	**16 13 00.5**	**0.0**
XOR	**Xorichti**	**2.01**	**288**	P

BODT	Bodrum	2.14	142	ePN	Pn	16 12 37.5	-0.8	
BODT	Bodrum	2.14	142	ePn	Pn	16 12 37.5	-0.8	
ALN	Alexandroupoli	2.16	8	P	Pn	16 12 37.5	-1.2	
ALN				S	Sn	16 13 04.0	-1.1	
ALN	Alexandroupoli	2.16	8	ePN	Pn	16 12 39.4	+0.7	
ALN	Alexandroupoli	2.16	8	ePn	Pn	16 12 37.9	-0.8	
ALN	Alexandroupoli	2.16	8	P	Pn	16 12 37.5	-1.2	
ALN	Alexandroupoli	2.16	8	ePn	Pn	16 12 37.9	-0.8	
ALN				S	Sn	16 13 04.0	-1.1	
LTK	Loutraki	2.23	252	P	Pn	16 12 39.3	-0.4	
LTK	Loutraki	2.23	252	ePN	Pn	16 12 39.7	0.0	
LTK	Loutraki	2.23	252	P	Pn	16 12 39.3	-0.4	
LTK	Loutraki	2.23	252	ePn	Pn	16 12 39.7	0.0	
RKY	Sarkoy-Tekirda	2.26	31	ePN	Pn	16 12 39.8	-0.3	
RKY	Sarkoy-Tekirda	2.26	31	ePn	Pn	16 12 39.8	-0.3	
DID	Didima	2.28	238	P	Pn	16 12 39.7	-0.6	
DID	Didima	2.28	238	ePN	Pn	16 12 39.7	-0.6	
DID	Didima	2.28	238	P	Pn	16 12 39.7	-0.6	
DIDY	Didyma	2.31	237	P	Pn	16 12 39.9	-0.9	
DIDY	Didyma	2.31	237	P	Pn	16 12 39.9	-0.9	
KULA	Kula-Manisa	2.37	95	P	Pn	16 12 41.2	-0.4	
KULA	Kula-Manisa	2.37	95	ePN	Pn	16 12 41.5	0.0	
KULA	Kula-Manisa	2.37	95	P	Pn	16 12 41.2	-0.4	
KULA	Kula-Manisa	2.37	95	ePn	Pn	16 12 41.5	0.0	
BNT	Bandirma	2.37	47	ePN	Pn	16 12 41.2	-0.4	
BNT	Bandirma	2.37	47	ePn	Pn	16 12 41.2	-0.4	
SANT	Santorini	2.38	184	P	Pn	16 12 41.0	-0.8	
SANT	Santorini	2.38	184	ePN	Pn	16 12 40.3	-1.4	
SANT	Santorini	2.38	184	ePn	Pn	16 12 40.3	-1.4	
SANT	Santorini	2.38	184	P	Pn	16 12 41.0	-0.8	
RDO	Rodhopi	2.39	358	P	Pn	16 12 41.1	-0.7	
RDO	Rodhopi	2.39	358	ePN	Pn	16 12 41.1	-0.7	
RDO	Rodhopi	2.39	358	P	Pn	16 12 41.1	-0.7	
KAVA	Kavala	2.41	339	P	Pn	16 12 41.1	-0.9	
KAVA	Kavala	2.41	339	ePN	Pn	16 12 41.2	-0.8	
KAVA	Kavala	2.41	339	ePn	Pn	16 12 41.2	-0.8	
DSF	Desfina	2.48	263	P	Pn	16 12 42.6	-0.4	
DSF	Desfina	2.48	263	ePN	Pn	16 12 42.4	-0.6	
DSF	Desfina	2.48	263	P	Pn	16 12 42.6	-0.4	
DAT	Datca	2.53	142	ePN	Pn	16 12 43.0	-0.8	
DAT	Datca	2.53	142	ePn	Pn	16 12 43.1	-0.8	
KCTX	Karacabey (Bur	2.58	53	ePN	Pn	16 12 44.8	+0.4	
KCTX	Karacabey (Bur	2.58	53	ePn	Pn	16 12 44.8	+0.4	
AGG	Agios Georgios	2.61	277	P	Pn	16 12 44.8	-0.1	
AGG	Agios Georgios	2.61	277	ePN	Pn	16 12 44.6	-0.3	
AGG	Agios Georgios	2.61	277	ePn	Pn	16 12 44.6	-0.3	
YER	Yerkesik	2.63	127	ePN	Pn	16 12 44.7	-0.5	
YER	Yerkesik	2.63	127	ePn	Pn	16 12 44.7	-0.5	
TKR	Tekirdag	2.66	32	ePN	Pn	16 12 45.9	+0.3	
TKR	Tekirdag	2.66	32	ePn	Pn	16 12 45.9	+0.3	
HORT	Hortiatis	2.70	314	ePN	Pn	16 12 45.9	-0.2	
HORT	Hortiatis	2.70	314	ePn	Pn	16 12 45.9	-0.2	
SOH	Sokhos	2.72	320	P	Pn	16 12 46.3	-0.2	
SOH	Sokhos	2.72	320	ePN	Pn	16 12 46.2	-0.2	
SOH	Sokhos	2.72	320	ePn	Pn	16 12 46.2	-0.2	
GUR	Goura	2.73	254	P	Pn	16 12 46.6	0.0	
GUR	Goura	2.73	254	ePN	Pn	16 12 46.3	-0.3	
GUR	Goura	2.73	254	ePn	Pn	16 12 46.3	-0.3	
GUR	Goura	2.73	254	P	Pn	16 12 46.6	0.0	
MAKR	Makrakomi, Fth	2.76	277	P	Pn	16 12 47.2	+0.2	
MAKR	Makrakomi, Fth	2.76	277	ePN	Pn	16 12 47.0	0.0	
MAKR	Makrakomi, Fth	2.76	277	ePn	Pn	16 12 47.0	0.0	
KALE	Kalithea	2.78	264	P	Pn	16 12 47.3	+0.1	
KALE	Kalithea	2.78	264	ePN	Pn	16 12 46.8	-0.4	
KALE	Kalithea	2.78	264	ePn	Pn	16 12 46.8	-0.4	
KALE	Kalithea	2.78	264	P	Pn	16 12 47.3	+0.1	
LIT	Litokhoron	2.80	300	P	Pn	16 12 47.5	+0.1	
LIT	Litokhoron	2.80	300	P	Pn	16 12 47.5	+0.1	
KLV	Kalavryta, Ach	2.84	257	P	Pn	16 12 48.0	-0.1	
KLV	Kalavryta, Ach	2.84	257	ePN	Pn	16 12 48.0	-0.1	
KLV	Kalavryta, Ach	2.84	257	P	Pn	16 12 48.0	-0.1	
SRS	Serrai	2.84	327	P	Pn	16 12 47.8	-0.3	
SRS	Serrai	2.84	327	ePN	Pn	16 12 47.6	-0.5	
SRS	Serrai	2.84	327	P	Pn	16 12 47.8	-0.3	
LAKA	Lakka	2.93	261	P	Pn	16 12 49.5	+0.2	
LAKA	Lakka	2.93	261	ePN	Pn	16 12 49.8	+0.5	
LAKA	Lakka	2.93	261	P	Pn	16 12 49.5	+0.2	
LAKA	Lakka	2.93	261	ePn	Pn	16 12 49.8	+0.5	
NVR	Nevrokopi	2.94	333	P	Pn	16 12 48.8	-0.6	
NVR	Nevrokopi	2.94	333	ePN	Pn	16 12 48.8	-0.6	
NVR	Nevrokopi	2.94	333	P	Pn	16 12 48.8	-0.6	
THL	Klokotos Trika	2.94	287	P	Pn	16 12 49.1	-0.3	
THL	Klokotos Trika	2.94	287	ePN	Pn	16 12 49.2	-0.2	
THL	Klokotos Trika	2.94	287	P	Pn	16 12 49.1	-0.3	
VLI	Veliai	2.96	228	P	Pn	16 12 48.7	-0.5	
VLI	Veliai	2.96	228	ePN	Pn	16 12 48.7	-1.0	
VLI	Veliai	2.96	228	ePn	Pn	16 12 48.7	-1.0	
VLI	Veliai	2.96	228	P	Pn	16 12 49.2	-0.5	
MDNY	Mudanya-Bursa	2.97	56	ePN	Pn	16 12 50.1	+0.3	
MDNY	Mudanya-Bursa	2.97	56	ePn	Pn	16 12 50.1	+0.3	
EVR	Evrytania	3.01	274	ePN	Pn	16 12 50.8	+0.4	
EVR	Evrytania	3.01	274	ePn	Pn	16 12 50.8	+0.4	
TVSB	Tavsanli	3.04	76	ePN	Pn	16 12 50.8	-0.1	
TVSB	Tavsanli	3.04	76	ePn	Pn	16 12 50.8	-0.1	
DALY	Dalyan (Mu˘la	3.06	128	ePN	Pn	16 12 50.6	-0.4	
DALY	Dalyan (Mu˘la	3.06	128	ePn	Pn	16 12 50.6	-0.4	
KHL	Karahalli	3.06	97	ePN	Pn	16 12 51.6	+0.4	
KHL	Karahalli	3.06	97	ePn	Pn	16 12 51.6	+0.4	
ARMT	Armutlu	3.07	53	ePN	Pn	16 12 52.2	+1.1	
ARMT	Armutlu	3.07	53	ePn	Pn	16 12 52.2	+1.1	
SLVT	Silivri	3.16	38	ePN	Pn	16 12 52.8	+0.4	
SLVT	Silivri	3.16	38	ePn	Pn	16 12 52.8	+0.4	
DRO	Drossia	3.20	257	ePN	Pn	16 12 53.2	+0.2	
DRO	Drossia	3.20	257	ePn	Pn	16 12 53.2	+0.2	
KNT	Kendrikon	3.21	319	P	Pn	16 12 52.4	-0.7	
KNT	Kendrikon	3.21	319	ePN	Pn	16 12 53.1	0.0	
KNT	Kendrikon	3.21	319	P	Pn	16 12 52.4	-0.7	
KNT	Kendrikon	3.21	319	ePn	Pn	16 12 53.1	0.0	
PHSR	Pinarhisar	3.21	26	ePN	Pn	16 12 53.8	+0.7	
PHSR	Pinarhisar	3.21	26	ePn	Pn	16 12 53.8	+0.7	
KYTH	Kithira	3.23	221	P	Pn	16 12 52.6	-0.8	
KYTH	Kithira	3.23	221	P	Pn	16 12 52.6	-0.8	
CTKS	Kestanelik-??a	3.31	41	ePN	Pn	16 12 54.8	+0.4	
CTKS	Kestanelik-??a	3.31	41	ePn	Pn	16 12 54.8	+0.4	
GRG	Griva	3.33	312	ePN	Pn	16 12 55.3	+0.5	
GRG	Griva	3.33	312	ePn	Pn	16 12 55.3	+0.5	
ITM	Ithomi	3.34	243	ePN	Pn	16 12 55.2	+0.3	
ITM	Ithomi	3.34	243	ePn	Pn	16 12 55.2	+0.3	
CTYL	Yal??k??y-??at	3.39	36	ePN	Pn	16 12 56.0	+0.5	
CTYL	Yal??k??y-??at	3.39	36	ePn	Pn	16 12 56.0	+0.5	
BGKT	Bogazkoy	3.41	44	ePN	Pn	16 12 56.5	+0.7	
BGKT	Bogazkoy	3.41	44	ePn	Pn	16 12 56.5	+0.7	
KARP	Karpathos	3.42	159	P	Pn	16 12 55.6	-0.4	
KARP	Karpathos	3.42	159	ePN	Pn	16 12 55.2	-0.8	
KARP	Karpathos	3.42	159	ePn	Pn	16 12 55.2	-0.8	
KARP	Karpathos	3.42	159	P	Pn	16 12 55.6	-0.4	
PLD	Plovdiv	3.43	348	ePN	Pn	16 12 56.2	+0.2	
PLD	Plovdiv	3.43	348	ePn	Pn	16 12 56.2	+0.2	
FETY	Fethiye	3.44	127	ePN	Pn	16 12 56.3	0.0	
FETY	Fethiye	3.44	127	ePn	Pn	16 12 56.3	0.0	
NPS	Neapolis	3.48	181	ePN	Pn	16 12 56.3	-0.6	
NPS	Neapolis	3.48	181	ePn	Pn	16 12 56.3	-0.6	
ISK	Istanbul-Kandi	3.49	47	P	Pn	16 12 56.2	-0.7	
ISK	Istanbul-Kandi	3.49	47	ePN	Pn	16 12 58.1	+1.2	
ISK	Istanbul-Kandi	3.49	47	P	Pn	16 12 56.2	-0.7	
ISK	Istanbul-Kandi	3.49	47	ePn	Pn	16 12 58.1	+1.2	
PDO	Prodromos	3.50	269	ePN	Pn	16 12 56.9	-0.2	
PDO	Prodromos	3.50	269	ePn	Pn	16 12 56.9	-0.2	
IDI	Anoyia	3.51	190	P	Pn	16 12 57.3	0.0	
IDI	Anoyia	3.51	190	P	Pn	16 12 57.3	0.0	
VAM	Vamos	3.54	200	ePN	Pn	16 12 57.1	-0.5	
VAM	Vamos	3.54	200	ePn	Pn	16 12 57.1	-0.5	
CAVI	Cavuskoy	3.55	65	ePN	Pn	16 12 58.6	+0.8	
CAVI	Cavuskoy	3.55	65	ePn	Pn	16 12 58.6	+0.8	
ADVT	Abdulvahap	3.57	61	ePN	Pn	16 12 59.3	+1.2	
ADVT	Abdulvahap	3.57	61	ePn	Pn	16 12 59.3	+1.2	
KLYT	Kilyos	3.60	45	ePN	Pn	16 12 58.4	-0.1	
KLYT	Kilyos	3.60	45	ePn	Pn	16 12 58.4	-0.1	
HRT	Hereke	3.72	55	ePN	Pn	16 13 00.8	+0.7	
HRT	Hereke	3.72	55	ePn	Pn	16 13 00.8	+0.7	
JMB	Yambol	3.78	10	ePN	Pn	16 13 02.1	+1.2	
JMB	Yambol	3.78	10	ePn	Pn	16 13 02.1	+1.2	
FNA	Florina	3.87	303	ePN	Pn	16 13 02.6	+0.4	
FNA	Florina	3.87	303	ePn	Pn	16 13 02.6	+0.4	
SILT	Sile	3.89	51	ePN	Pn	16 13 03.1	+0.7	
SILT	Sile	3.89	51	ePn	Pn	16 13 03.1	+0.7	
ESKT	Eskisehir	4.11	78	ePN	Pn	16 13 06.6	+1.0	
ESKT	Eskisehir	4.11	78	ePn	Pn	16 13 06.6	+1.0	
GULT	Gulveren	4.11	64	ePn	Pn	16 13 05.6	+0.1	
VTS	Vitosha	4.26	335	P	Pn	16 13 08.3	+0.6	
VTS	Vitosha	4.26	335	ePN	Pn	16 13 08.3	+0.6	
VTS	Vitosha	4.26	335	iP	Pn	16 13 06.1	-1.6	
VTS	Vitosha	4.26	335	P	Pn	16 13 08.3	+0.6	
MSAB	Monastry St. A	5.58	16	iP	Pn	16 13 26.2	+0.6	
MSAB	Monastry St. A	5.58	16	iP	Pn	16 13 26.2	+0.6	
BOLS	Boljevac	5.79	332	ePn	Pn	16 13 26.5	-2.0	
TIRR	Tirgusor	6.06	19	iP	Pn	16 13 33.3	+1.0	
TIRR	Tirgusor	6.06	19	iP	Pn	16 13 33.3	+1.0	
TLB	Topalu	6.10	16	iP	Pn	16 13 31.7	-1.0	
TLB	Topalu	6.10	16	iP	Pn	16 13 31.7	-1.0	
BRTR	Keskin Array B	6.27	79	Pn	Pn	16 13 35.8	+0.4	
BRTR	0.5nm,0.3s,baz=262,slow=12,SNR=13			Pg	Pg	16 13 59.4	-4.2	
BRTR	0.2nm,0.3s,baz=262,slow=16,SNR=6.3			Lg	Lg	16 15 28.1		
GRUS	baz=248,slow=31,SNR=2.3 Gruza	6.34	326	ePn	Pn	16 13 36.4	+0.4	
IVAS	Ivanjica	6.36	321	ePn	Pn	16 13 36.9	+0.5	
VOIR		6.70	356	iP	Pn	16 13 40.2	-0.8	
VOIR		6.70	356	iP	Pn	16 13 40.2	-0.8	
MLR	Muntele Rosu	6.74	2	iP	Pn	16 13 41.2	-0.5	
MLR	Muntele Rosu	6.74	2	iP	Pn	16 13 41.2	-0.5	
DIVS	Divibare	6.83	323	ePn	Pn	16 13 43.1	+0.2	
LOT	Lotru	6.84	349	iP	Pn	16 13 42.0	-1.0	
LOT	Lotru	6.84	349	iP	Pn	16 13 42.0	-1.0	
VRI	Vrincioaia	7.15	6	iP	Pn	16 13 48.2	+0.9	
VRI	Vrincioaia	7.15	6	iP	Pn	16 13 48.2	+0.9	
BZS	Buzias	7.49	338	iP	Pn	16 13 49.3	-2.5	
BZS	Buzias	7.49	338	iP	Pn	16 13 49.3	-2.5	
TESR	Tescani	7.79	5	iP	Pn	16 13 55.6	-0.4	
TESR	Tescani	7.79	5	iP	Pn	16 13 55.6	-0.4	
SIRR	Siria	8.07	340	iP	Pn	16 13 56.7	-3.1	
DRGR		8.32	346	iP	Pn	16 14 11.1	+7.8	
TORD	Torodi Ar. Bea	33.18	226	P	P	16 18 39.6	+0.3	
MKAR	0.3nm,0.7s,baz=32,slow=9.1,SNR=2.3 Makanchi Array	41.55	60	P	P	16 19 48.9	-1.0	
	0.3nm,0.7s,baz=286,slow=8.8,SNR=3.8							

IDC 12 16:12:46.9±2.2, 13°47S×166°62E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.8/18, mbtmp4.0/6, ML4.3/1, Error ellipse: s-maj=64.1km s-min=30.4km az=139.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	Honiara	7.67	301	Pn		Pn		16 14 40.9	+0.9
	4.8nm,0.3s,baz=166,slow=7.9,SNR=4.2								
HNR				Sn		Sn		16 16 02.0	-5.7
	3.1nm,0.3s,baz=177,slow=18,SNR=3.4								
DZM	Mont Dzumac	8.55	181	Pn		Pn		16 14 59.6	+7.4
	0.3nm,0.3s,baz=348,slow=21,SNR=9.4								
DZM				Sn		Sn		16 16 34.6	+5.0
	baz=45,slow=20,SNR=2.2								
WRA	Warramunga Arr	31.54	254	P		P		16 19 10.5	-0.7
	0.6nm,0.7s,baz=89,slow=8.4,SNR=4.6								
ASAR	Alice Springs	32.55	247	P		P		16 19 20.6	+0.5
	1.2nm,0.8s,baz=72,slow=9.4,SNR=32								
SONM	Songino Array	81.12	324	P		P		16 25 03.8	-0.4
	0.5nm,0.8s,baz=106,slow=4.7,SNR=4.5								
ILAR	Eielson Array	85.53	18	P		P		16 25 26.9	+0.4
	0.4nm,0.6s,baz=240,slow=5.0,SNR=7.0								
MKAR	Makanchi Array	95.86	317	P		P		16 26 15.1	-0.3
	0.7nm,0.6s,baz=89,slow=6.5,SNR=5.8								

IDC 12 16:15:51.6±0.9, 15°67N×120°20E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/23, mbtmp3.7/7, MS2.7/1, Ms1 2.7/1, ms1mx2.6/27, Error ellipse: s-maj=33.5km s-min=18.2km az=72.0

MAN 12 16:15:55, 15°66N×120°05E, h1km, mb4.7, ML3.5, MS3.5

ISCJB 12 16:15:57.0±0.7, 15°69N±0°05×119°89E±0°08, h53km, mb3.6/6, MS2.5/1, Error ellipse: s-maj=11.0km s-min=7.1km az=168.1

ISC 12 16:15:57.9±0.9, 15°70N±0°06×119°8E±0°1, h53km, n20, σ1§65/20, mb3.5/6, 4C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BOLP	Bolinao	0.69	6	eP		Pn		16 16 09.8	-1.9
BOLP				eS		Sn		16 16 17.6	-4.0
BCPH	Baguio City Da	0.99	46	iP		Pn		16 16 12.9	-2.9
BALP	Baler	1.68	88	eP		Pn		16 16 23.0	-1.9
TGY	Tagaytay City	1.91	146	iP		Pn		16 16 26.6	-1.5
ABRA	Dolores	2.12	23	eP		Pn		16 16 30.9	0.0
CAUP	Cauayan	2.28	57	eP		Pn		16 16 34.4	+1.3
LQP	Lukban	2.28	133	eP		Pn		16 16 33.9	+0.5
SIPP	Brgy, Tapao	2.29	15	eP		Pn		16 16 32.3	-1.0
APYP	Conner	2.54	32	eP		Pn		16 16 37.3	+0.5
PIP	Pasuquin	2.72	16	iP		Pn		16 16 39.1	-0.1
PALP	Palanan	2.83	61	iP		Pn		16 16 41.6	+0.9
GQP	Guinayangan	3.04	125	eP		Pn		16 16 44.1	-0.2
SGCP	Mt. Cagua	3.30	40	eP		Pn		16 16 48.1	+1.0
CMAR	Chiang Mai Arr	20.16	281	P		Pn		16 20 32.2	+1.9
	2.1nm,0.7s,baz=91,slow=8.1,SNR=6.5								
KSRS	Korea Array	22.83	17	P		P		16 20 54.5	-2.0
	1.6nm,0.8s,baz=200,slow=11,SNR=5.3								
KSRS				LR		LR		16 30 27.7	
	comp=Z,19nm,20.6s,baz=230,slow=38								
SONM	Songino Array	33.92	344	P		P		16 22 37.5	+1.5
	0.8nm,0.6s,baz=165,slow=9.9,SNR=10								
WRA	Warramunga Arr	38.18	158	P		P		16 23 11.1	-1.4
	0.4nm,0.7s,baz=332,slow=9.6,SNR=11								
ASAR	Alice Springs	41.47	160	P		P		16 23 39.5	-0.3
	0.2nm,0.3s,baz=331,slow=7.2,SNR=9.6								
MKAR	Makanchi Array	43.94	323	P		P		16 24 01.9	+2.3
	0.7nm,0.7s,baz=136,slow=9.7,SNR=6.8								
MKAR				PcP		PcP		16 25 46.2	+1.4
	0.5nm,0.6s,baz=104,slow=3.9,SNR=3.8								
PETK	Petropavlovsk-	47.71	30	P		P		16 24 29.8	+0.5
	1.7nm,0.7s,baz=199,slow=7.2,SNR=4.5								

AUST 12 16:21:44.3, 7°48S×129°04E, h200km

ISCJB 12 16:21:45.9±0.6, 7°45S±0°05×129°09E±0°06, h131km, mb3.2/1, Error ellipse: s-maj=8.8km s-min=6.5km az=24.0

IDC 12 16:21:47.8±8.2, 7°61S×129°10E, h147km±87km, mb3.1/1, mb1 3.3/5, mb1mx3.1/18, mbtmp3.2/5, Error ellipse: s-maj=79.5km s-min=25.0km az=37.0

ISC 12 16:21:46.2±0.9, 7°56S±0°07×129°13E±0°08, h131km, n14, σ2§06/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	3.12	14	P		Pn		16 22 35.3	+0.9
	baz=3.1,SNR=3.5								
TLE	Tual	4.06	62	P		Pn		16 22 48.9	+2.1
	baz=4.1,SNR=13								
SOEI	Soe	5.28	245	P		Pn		16 23 05.5	+2.3
	baz=5.2,SNR=11								
FAKI	Fak Fak	5.56	34	P		Pn		16 23 05.3	-1.6
	baz=5.6,SNR=5.6								
MTN	Manton Dam	5.61	160	P		Pn		16 23 11.3	+3.9
	baz=5.7,SNR=8.1								
BATI	Baumata	6.01	244	P		Pn		16 23 14.3	+1.4
	9.8nm,0.3s,baz=87,slow=3.4,SNR=18								
BATI				S		Sn		16 24 22.0	+1.5
	5.0nm,0.3s,baz=85,slow=22,SNR=11								
KDU	Kakadu	6.06	147	P		Pn		16 23 16.3	+2.7
	baz=6.2,SNR=21								
SWI	Sorong	6.99	18	P		Pn		16 23 24.2	-1.8
	baz=7.0,SNR=3.2								
KNRA	Kununurra	8.07	183	P		Pn		16 23 42.8	+2.2
	baz=8.2,SNR=8.3								
FITZ	Fitzroy Crossi	11.01	198	P		Pn		16 24 20.3	+0.2
	baz=11,SNR=4.8								
FITZ	Fitzroy Crossi	11.01	198	P		Pn		16 24 19.6	-0.5
	0.6nm,0.3s,baz=26,slow=10,SNR=15								
FITZ				S		Sn		16 26 17.7	-3.8
	1.1nm,0.3s,baz=337,slow=24,SNR=8.4								
WRA	Warramunga Arr	13.30	158	P		Pn		16 24 49.7	-0.4
	0.2nm,0.3s,baz=334,slow=13,SNR=10								
WRA				S		Sn		16 27 11.4	-5.5
	1.0nm,0.3s,baz=334,slow=23,SNR=13								
ASAR	Alice Springs	16.65	165	P		P		16 25 34.0	+1.9
	0.1nm,0.3s,baz=336,slow=9.9,SNR=8.4								
ASAR				S		Sn		16 28 35.7	-1.9
	0.3nm,0.3s,baz=324,slow=15,SNR=7.7								
MKAR	Makanchi Array	68.23	327	P		P		16 32 32.6	0.0
	0.3nm,0.5s,baz=124,slow=7.2,SNR=5.3								

IDC 12 16:37:50.4±1.9, 3°67N×125°85E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/22, mbtmp3.3/4, Error ellipse: s-maj=122.1km s-min=24.0km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.64	181	P		P		16 42 42.8	+0.3
	1.0nm,0.7s,baz=7.1,slow=13,SNR=3.9								
WRA	Warramunga Arr	24.91	161	P		P		16 43 13.4	-1.9
	0.5nm,0.7s,baz=338,slow=10,SNR=7.4								
ASAR	Alice Springs	28.28	164	P		P		16 43 47.5	+1.6
	0.1nm,0.4s,baz=341,slow=10,SNR=6.3								
MKAR	Makanchi Array	57.11	326	P		P		16 47 38.7	0.0
	0.1nm,0.4s,baz=129,slow=8.5,SNR=3.1								

NIED 12 16:51:00, 47°20N×154°20E, h38km, Mw4.8 Best double couple: M0 2.05000×10^16 NP1:φ=266.00000°, δ84.00000°, λ-64.00000°. NP2:φ=8.00000°, δ26.00000°, λ-167.00000°.

DJA 12 16:51:07.3±0.9, 48°N±10°×15°5E±1°9, h10km, M5.4/10, mB6.5/2, mb5.4/10, Mw(mB)6.3/2

BJI 12 16:51:08.7, 47°63N×154°33E, h41km, mB5.1/33, mb5.2/50, Ms4.6/39, Ms7 4.3/43

ISCJB 12 16:51:10.6±0.4, 47°38N±0°03×154°02E±0°02, h39km±4km, mb5.4/294, MS4.3/36, Error ellipse: s-maj=4.3km s-min=2.0km az=171.1

MOS 12 16:51:10.3±1.0, 47°39N×153°89E, h38km, mb5.7/102, MS4.2/24, Error ellipse: s-maj=7.0km s-min=4.1km az=102.8

BGS 12 16:51:12.5±2.3, 48°14N×159°54E, h35km, mb5.5

JMA 12 16:51:13.2±0.9, 47°18N×154°21E, h30km, M5.5

NEIC 12 16:51:13.8±0.6, 47°41N×153°88E, h54km±5km, mb5.4/140, Error ellipse: s-maj=4.4km s-min=2.6km az=166.0

SKHL 12 16:51:15.8±1.3, 47°35N×154°18E, h56km±23km, mb5.9/5, mbh5.6/1, Ms4.5/4, msh5.1/2

IDC 12 16:51:15.9±1.5, 47°44N×153°91E, h74km±13km, mb4.8/28, mb1 4.9/31, mb1mx4.9/31, mbtmp4.8/31, MS4.1/22, Ms1 4.1/22, ms1mx4.0/42, Error ellipse: s-maj=11.7km s-min=9.6km az=133.0

GCMT 12 16:51:18.8±0.2, 47°45N×154°08E, h87km±3km, MW5.0, Moment Tensor Solution. s45,c63; s75,c115; Moment tensor: Scale 10^16Nm; Mrr-2.24±.16; Mθθ0.46±.16; Mφφ1.78±.15; Mrθ2.46±.09; Mθφ0.48±.15; Mrφ1.90±.09; Best double couple: M0 3.70000×10^16 NP1:φ=225.00000°, δ74.00000°, λ-78.00000°. NP2:φ=9.00000°, δ20.00000°, λ-125.00000°. Principal axes: T 3.3700, Plg28.0000°, Azm306.0000°; N 0.6800, Plg11.0000°, Azm42.0000°; P -4.0500, Plg60.0000°, Azm151.0000°; Data Used: II IU IC G CN.

SZGRF 12 16:51:21.4, 48°85N×149°75E, h33km, mb5.4, MS4.4, Northwest of Kuril Islands, Russia

ISC 12 16:51:12.8±0.4, 47°38N±0°04×153°92E±0°03, h48km±2km, h48km:pP-P, n1237, σ1§18/1276, mb5.4/294, MS4.3/37, 214C-234D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.61	23	iPN		Pn		16 51 59.0	-7.2
SKR				pmax		pmax			
	comp=E,470nm,0.7s								
SKR				pmax		pmax			
	comp=Z,1μm,0.7s								
SKR				pmax		pmax			
	comp=Z,3μm,1.0s								
SKR				MLR		MLR			
	comp=N,6μm,8.0s								
SKR				MLR		MLR			
	comp=E,4μm,8.0s

comp=N,370μm,0.8s
YSS smax smax
comp=E,510μm,0.9s
YSS Yuzh-Sakhalins 7.62 271 ⇑*i*P Pn 16 53 07.9 +6.7
YSS AMB AMB 16 53 09.8
comp=E,770nm,1.0s
YSS AMB AMB 16 53 10.0
comp=E,1μm,2.0s
YSS *e*S **Sn** **16 54 32.0 +5.9**
YSS A A 16 54 38.0
comp=E,370nm,0.8s
YSS A A 16 54 38.0
comp=E,510nm,0.9s
YSS *e*LQ LQ 16 54 50.0
YSS AMS AMS 16 55 54.0
comp=E,2μm,16.0s
YSS AMS AMS 16 55 54.0
comp=E,1μm,16.0s
JTKR Abashiri--Toko 7.79 248 P Pn 16 53 07.6 +4.1
JAK Akkeshi 7.85 239 P **Pn** **16 53 05.3 +1.0**
JAK *e*S **Sn** **16 54 29.4 -2.3**
UGL Uglegorsk 8.09 286 *α i*PN Pn 16 53 15.0 +7.4
UGL S Sn 16 54 49.0 +11
UGL pmax pmax
comp=N,2μm,3.0s
UGL pmax pmax
comp=E,2μm,3.0s
UGL pmax pmax
comp=Z,2μm,3.0s
UGL pmax pmax
comp=N,225nm,1.0s
UGL pmax pmax
comp=E,404nm,1.0s
UGL pmax pmax
comp=Z,1μm,1.0s
UGL smax smax
comp=N,121nm,0.8s
UGL smax smax
comp=E,193nm,0.8s
UGL MLR MLR
comp=N,2μm,14.0s
UGL MLR MLR
comp=E,2μm,14.0s
UGL MLR MLR
comp=Z,2μm,14.0s
UGL Uglegorsk 8.09 286 ⇑*i*P Pn 16 53 15.0 +7.4
UGL ⇑*i*P Pn 16 53 15.0 +7.4
UGL AMB AMB 16 53 16.0
comp=Z,2μm,3.0s
UGL AMB AMB 16 53 16.0
comp=Z,2μm,3.0s
UGL AMB AMB 16 53 16.0
comp=Z,2μm,3.0s
UGL AMB AMB 16 53 16.0
comp=Z,225nm,1.0s
UGL AMB AMB 16 53 16.0
comp=Z,404nm,1.0s
UGL AMB AMB 16 53 16.0
comp=Z,1μm,1.0s
UGL *e*S Sn 16 54 49.0 +11
UGL A A 16 54 50.0
comp=Z,121nm,0.8s
UGL A A 16 54 50.0
comp=Z,193nm,0.8s
UGL AMS AMS 16 56 38.0
comp=Z,2μm,14.0s
UGL AMS AMS 16 56 38.0
comp=Z,2μm,14.0s
UGL AMS AMS 16 56 38.0
comp=Z,2μm,14.0s
JMP Maruseppu 8.12 249 P Pn 16 53 12.8 +4.7
TYV Tymovskoe 8.17 299 *e*P Pn 16 53 15.2 +6.6
TYV AMB AMB 16 53 17.0
comp=Z,35nm,0.8s
TYV AMB AMB 16 53 17.0
comp=Z,290nm,1.0s
TYV AMB AMB 16 53 17.0
comp=Z,308nm,1.0s
TYV AMB AMB 16 53 27.0
comp=Z,2μm,4.0s
TYV AMB AMB 16 53 27.0
comp=Z,1μm,4.0s
TYV AMB AMB 16 53 27.0
comp=Z,2μm,2.0s
TYV *e*S **Sn** **16 54 43.5 +4.0**
TYV A A 16 54 48.5
comp=Z,154nm,0.8s
TYV A A 16 54 48.5
comp=Z,32nm,0.6s
TYV AMS AMS 16 56 46.0
comp=Z,2μm,11.0s
TYV AMS AMS 16 56 46.0
comp=Z,2μm,20.0s
TYV AMS AMS 16 56 46.0
comp=Z,2μm,16.0s
JAR Ashorobuto 8.23 244 P **Pn** **16 53 12.3 +2.8**
JAR *e*S **Sn** **16 54 41.9 +0.8**
JSE Soyaes 8.23 257 P Pn 16 53 16.9 +7.4
JOB Onbets 8.41 242 P **Pn** **16 53 14.1 +2.1**
JOB *e*S **Sn** **16 54 44.2 -1.3**
ASAJ Asahikawa 8.56 252 P Pn 16 53 19.7 +5.6
ASAJ Asahikawa 8.56 252 *e*P Pn 16 53 19.2 +5.1
comp=Z,81nm,0.8s
ASAJ Asahikawa 8.56 252 P Pn 16 53 18.6 +4.5
comp=Z,11nm,0.3s,baz=79,slow=11,SNR=62
ASAJ LR LR 16 56 29.5
comp=Z,1μm,19.9s,baz=148,slow=37
JWK2 Keihoku 8.57 260 P Pn 16 53 22.4 +8.3
JKK2 Kamakawa 2 8.57 250 P Pn 16 53 18.7 +4.4
JCH Churui 8.86 241 P **Pn** **16 53 19.8 +1.6**
JCH *e*S **Sn** **16 54 53.8 -2.8**
JFR Furan 9.03 246 P Pn 16 53 25.0 +4.5
JAB Ashibetsu 9.09 249 P Pn 16 53 26.0 +4.7
JEM Erimo 9.35 239 P **Pn** **16 53 26.6 +1.8**
JEM *e*S **Sn** **16 55 06.5 -2.0**
JBT2 Biratori 2 9.37 245 P **Pn** **16 53 27.5 +2.3**
JNBK Urakawa-nobuka 9.42 241 P **Pn** **16 53 26.3 +0.4**
JNBK *e*S Sn 16 55 03.1 -7.3
JEW Eniwo 9.91 247 P Pn 16 53 35.8 +3.3
NKL Nikolayevsk 10.25 309 *i* P Pn 16 53 42.0 +4.9
NKL AMB AMB 16 53 44.0
comp=Z,900nm,4.0s
NKL AMB AMB 16 53 44.0
comp=Z,900nm,5.5s
NKL AMB AMB 16 53 44.0
comp=Z,1μm,5.5s
NKL AMB AMB 16 53 48.3
comp=Z,280nm,1.1s
NKL AMB AMB 16 53 48.3
comp=Z,140nm,1.2s
NKL AMB AMB 16 53 48.3
comp=Z,210nm,1.2s
NKL *e*S **Sn** **16 55 33.0 +2.6**
NKL *e*L L 16 56 10.0
NKL AMS AMS 16 57 46.0
comp=Z,700nm,20.0s
NKL AMS AMS 16 57 46.0
comp=Z,1μm,20.0s
JNB Noboribetsu 10.36 246 P **Pn** **16 53 40.5 +1.8**
JNB *e*S **Sn** **16 55 31.6 -1.8**
JKB Kayabe 10.69 244 P **Pn** **16 53 43.5 +0.3**
JKB *e*S **Sn** **16 55 35.8 -5.6**
JSH Shimam 10.90 249 P **Pn** **16 53 49.2 +3.2**
JYM2 Yakumo 2 10.97 246 P **Pn** **16 53 48.4 +1.4**
JYM2 *e*S **Sn** **16 55 47.3 -0.9**
JSR Shiriuchi 11.27 244 P **Pn** **16 53 51.3 +0.1**
JSR *e*S Sn 16 55 49.1 -6.5
JTM Tenmabayashi 11.34 239 P **Pn** **16 53 51.2 -0.9**
JTM *e*S Sn 16 55 47.1 -10
JANG Nango 11.35 236 P **Pn** **16 53 50.5 -1.8**
JANG *e*S Sn 16 55 48.1 -10
JTH Tanohata 11.46 234 P **Pn** **16 53 51.2 -2.5**
JTH *e*S Sn 16 55 49.3 -11
JOSM Okushiri--Mats 11.55 248 P **Pn** **16 53 56.3 +1.4**
OFUJ Ofunato 12.18 232 P **Pn** **16 54 01.8 -1.7**
TEY Ternei 12.22 265 *e*P Pn 16 54 09.0 +4.9
TEY AMB AMB 16 54 09.7
comp=Z,33nm,0.9s
JRG Rokugo 12.52 235 P **Pn** **16 54 07.2 -0.9**
JRG *e*S Sn 16 56 19.0 -7.0
JIO Ouri 12.81 230 P **Pn** **16 54 09.9 -2.2**
FX1 Attu Island--F 13.51 59 *e*P **Pn** **16 54 20.5 -1.1**
FX1 S Sn 16 56 38.9 -11
FX1 Attu Island--F 13.51 59 P **Pn** **16 54 21.0 -0.6**
comp=Z,117nm,0.3s,baz=276,slow=4.0,SNR=193

FX1 S Sn 16 56 38.9 -11
comp=Z,51nm,0.3s,baz=9.4,slow=16,SNR=10
FX1 LR LR 16 59 12.4
comp=Z,209nm,18.4s,baz=290,slow=35
JYA Atsumi 13.59 235 P **Pn** **16 54 22.5 -0.3**
SMY Shemya 14.01 60 *e*P **Pn** **16 54 27.8 -0.6**
SMY pmax pmax
comp=Z,138nm,0.6s
SMY Shemya 14.01 60 *e*P **Pn** **16 54 27.8 -0.6**
comp=Z,138nm,0.6s
JFY Yanaizu 14.45 232 P **Pn** **16 54 33.4 -1.1**
KLR Kul'dur 14.86 285 *e*P **Pn** **16 54 39.8 +0.1**
KLR pmax pmax
comp=E,120nm,1.4s
KLR pmax pmax
comp=Z,140nm,1.4s
KLR MLR MLR
comp=E,700nm,12.0s
KLR MLR MLR
comp=Z,5μm,12.0s
USRK Ussuriysk Arra 15.61 266 P **P** **16 54 51.8 -1.2**
comp=Z,4.8nm,0.3s,baz=72,slow=10,SNR=54
USRK LR LR 17 00 48.5
comp=Z,600nm,18.7s,baz=67,slow=37
SEY Seymchan 15.61 357 *e*P **Pn** **16 54 48.3 -1.1**
MAJO Matsushiro 15.90 233 *e*P **Pn** **16 54 52.1 -1.1**
MAJO pmax pmax
comp=Z,51nm,0.9s
MAJO Matsushiro 15.90 233 *e*P **Pn** **16 54 52.1 -1.1**
comp=Z,52nm,0.9s
MAT Matsushiro 15.90 233 P **Pn** **16 54 52.8 -0.4**
VLA Vladivostok 16.07 263 ⇑*i*P **P** **16 54 57.0 -1.0**
VLA *i* S **Sn** **16 57 53.6 +1.1**
VLA pmax pmax
comp=Z,72nm,1.0s
MDJ Mudanjiang 17.11 270 P **Pn** **16 55 07.9 -0.5**
MDJ pP **pP** **16 55 19.3 -1.3**
MDJ sP **sP** **16 55 24.8 -1.9**
MDJ S **Sn** **16 58 17.7 +0.2**
MDJ ScP **ScP** **17 03 23.0 +1.7**
MDJ PcS **PcS** **17 03 27.9 +1.3**
MDJ AMB AMB
comp=Z,110nm,3.8s
MDJ LR LR
comp=Z,360nm,19.7s
MDJ LR LR
comp=Z,430nm,29.7s
MDJ LR LR
comp=Z,690nm,31.5s
MDJ Mudanjiang 17.11 270 *e*P **Pn** **16 55 08.6 +0.3**
comp=Z,36nm,0.8s
CLNS Chul'man 20.04 309 *e*P Pn 16 55 43.3 -0.4
CLNS *e* 16 56 00.6
CLNS *e*S Sn 16 59 27.7 -0.5
CLNS *e*SS **SnSn** **16 59 44.4 +1.6**
CLNS *e*SSS SSS 16 59 58.4
CLNS pmax pmax
comp=E,97nm,0.9s
CLNS pmax pmax
comp=E,139nm,0.8s
CLNS pmax pmax
comp=N,73nm,0.9s
CLNS pmax pmax
comp=E,68nm,1.0s
CLNS pmax pmax
comp=Z,190nm,1.0s
CLNS pmax pmax
comp=N,219nm,1.1s
CLNS smax smax
comp=E,12nm,1.1s
CLNS smax smax
comp=N,16nm,1.2s
CLNS MLR MLR
comp=N,349nm,10.0s
CLNS MLR MLR
comp=E,417nm,15.0s
YAK Yakutsk 20.10 326 *d i*P **P** **16 55 41.6 -0.5**
YAK *e**PP pP 16 56 00.3 +7.0
YAK *e*S **S** **16 59 24.2 -0.8**
YAK *e* 16 59 49.9
YAK *e**SS sS 16 59 57.1 +14
YAK pmax pmax
comp=Z,38nm,0.9s
YAK pmax pmax
comp=E,27nm,1.4s
YAK pmax pmax
comp=N,19nm,1.2s
YAK smax smax
comp=N,228nm,2.3s
YAK smax smax
comp=E,163nm,2.0s
CN2 Changchun 20.19 270 *e*sP sP 16 56 30.9 +30
CN2 *e*S **S** **16 59 20.7 -6.4**
CN2 LR LR
comp=N,500nm,18.0s
CN2 LR LR
comp=E,500nm,18.0s
CN2 LR LR
comp=Z,500nm,20.0s
CN2 Changchun 20.19 270 *e*P **P** **16 55 43.4 +0.1**
CN2 *e*S **S** **16 59 20.7 -6.4**
CN2 AMB AMB
comp=Z,40nm,0.7s
CN2 LR LR
comp=Z,500nm,18.0s
CN2 LR LR
comp=Z,500nm,18.0s
CN2 LR LR
comp=Z,500nm,20.0s
KSRS Korea Array 21.51 252 P **P** **16 56 00.0 +2.5**
comp=Z,64nm,0.9s,baz=53,slow=10,SNR=122
KSRS LR LR 17 03 14.6
comp=Z,248nm,19.5s,baz=62,slow=33
KSAR Wonju Array Be 21.54 252 P **P** **16 56 00.0 +2.1**
CBIJ Chichi jima 22.25 209 S **S** **17 00 07.3 0.0**
JCJ Chichijima 22.25 209 S **S** **17 00 07.3 0.0**
comp=Z,98nm,0.9s,baz=270,slow=20,SNR=2.5
JCJ LR LR 17 03 05.8
comp=Z,196nm,21.5s,baz=246,slow=32
INCN Inchon 22.33 254 P **P** **16 56 08.8 +2.4**
SNR=8.7
INCN Inchon 22.33 254 *e*P **P** **16 56 08.5 +2.1**
comp=Z,315nm,1.3s
JNU Nakatsue 22.51 239 P **P** **16 56 10.4 +2.0**
JNU Nakatsue 22.51 239 P **P** **16 56 10.4 +2.0**
comp=Z,14nm,0.9s,baz=54,slow=8.9,SNR=7.2
HIA Hailar 22.69 287 P **P** **16 56 08.7 -1.4**
comp=Z,33nm,0.8s
CIT Chita 26.27 295 *e*P **P** **16 56 42.7 -0.7**
CIT *e* 16 57 01.0
CIT pmax pmax
comp=Z,70nm,1.1s
TIXI Tiksi 27.02 343 *e*P **P** **16 56 48.4 -1.5**
BJI Beijing 28.04 269 P **P** **16 57 00.8 +1.5**
BJI S **S** **17 01 40.9 +0.6**
BJI AMB AMB
comp=Z,24nm,1.1s
BJI AMB AMB
comp=Z,120nm,3.6s
BJI LR LR
comp=Z,540nm,18.8s
BJI LR LR
comp=Z,440nm,22.0s
BJI LR LR
comp=Z,430nm,26.4s
BJT Baijiatuan 28.05 269 P **P** **16 56 59.0 -0.4**
comp=Z,18nm,0.5s
H11N2 WAKE ISLAND Hy 29.54 155 T T 17 28 28.1
SNR=978
H11N1 WAKE ISLAND Hy 29.55 155 T T 17 29 20.1
baz=344,slow=0.7,SNR=1422
H11N3 WAKE ISLAND Hy 29.55 155 T T 17 29 28.1
baz=173,slow=0.7,SNR=846
SSE Sheshan 29.84 249 *e*P **P** **16 57 15.3 0.0**
SSE S **S** **17 02 12.7 +3.9**
SSE AMB AMB
comp=Z,35nm,0.6s
SSE AMB AMB
comp=Z,91nm,2.8s
SSE LR LR
comp=Z,220nm,24.8s
SSE LR LR
comp=Z,85nm,25.0s
SSE LR LR
comp=Z,220nm,26.2s
H11S1 WAKE ISLAND Hy 30.64 156 T T 17 29 50.1
baz=346,slow=0.7,SNR=4664
H11S3 WAKE ISLAND Hy 30.65 156 T T 17 29 51.6
baz=346,slow=0.7,SNR=6676
H11S2 WAKE ISLAND Hy 30.66 156 T T 17 29 51.9
baz=346,slow=0.7,SNR=2468
NJ2 Nanjing 30.70 253 *e*P **P** **16 57 22.5 -0.5**
NJ2 AMB AMB
comp=Z,30nm,1.1s
HHC Hu-ho-hao-te 30.80 274 *e*P **P** **16 57 24.8 +0.9**
HHC pP **pP** **16 57 36.0 -0.5**
HHC sP **sP** **16 57 41.4 -0.8**
HHC PP **PnPn** **16 58 27.5 +2.2**
HHC S **S** **17 02 23.2 -0.8**
HHC sS **sS** **17 02 44.3 -0.8**
HHC SS **SnSn** **17 04 08.6 +2.7**
HHC AMB AMB
comp=Z,190nm,0.9s
HHC AMB AMB
comp=Z,300nm,8.4s
HHC LR LR
comp=Z,650nm,12.3s
HHC LR LR
comp=Z,580nm,12.7s
HHC LR LR
comp=Z,640nm,13.2s
SONM Songino Array 31.65 289 P **P** **16 57 31.0 -0.4**
SONM ScP **ScP** **17 03 58.4 -2.9**
SONM Songino Array 31.65 289 P **P** **16 57 31.0 -0.4**
comp=Z,25nm,0.7s,baz=66,slow=8.9,SNR=180
SONM ScP **ScP** **17 03 58.4 -2.9**
comp=Z,2.4nm,0.9s,baz=110,slow=2.3,SNR=8.2
SONM LR LR 17 11 16.9
comp=Z,420nm,19.3s,baz=70,slow=38
IRK Irkutsk 31.89 297 *e*P P 16 57 30.0 -3.3
IRK pmax pmax
comp=Z,41nm,1.5s
TLY Talaya 32.38 297 *e*P **P** **16 57 38.4 +0.8**
TLY *e* 17 05 14.2
TLY pmax pmax
comp=Z,32nm,0.7s
TLY MLR MLR
comp=Z,403nm,14.0s
ZAK Zakamensk 32.91 294 *e*P **P** **16 57 41.9 -0.5**
ZAK pmax pmax
comp=Z,20nm,1.2s
IM04 Indian Mountai 32.92 37 *e*P **P** **16 57 42.7 +0.5**
IMA2 Indian Mountai 32.97 36 *e*P **P** **16 57 43.1 +0.4**
RSO Redoubt South 33.04 47 *e*P **P** **16 57 43.6 +0.1**
comp=Z,48nm,0.9s
KDAK Kodiak Island 33.28 52 P **P** **16 57 44.6 -0.7**
comp=Z,320nm,0.9s,SNR=7.2
MOY Mondy 33.99 297 *e*P **P** **16 57 51.8 0.0**
MOY pmax pmax
comp=Z,31nm,2.0s
WHN Wuhan 34.62 255 P **P** **16 57 58.3 +1.1**
WHN S **S** **17 03 25.7 +2.5**
WHN LR LR
comp=Z,660nm,11.0s
PMR Palmer 34.77 45 *e*P **P** **16 57 59.0 +0.8**
PMR pmax pmax
comp=Z,9.0nm,0.8s
PMR Palmer 34.77 45 *e*P **P** **16 57 59.0 +0.8**
comp=Z,8.9nm,0.8s
ILAR Eielson Array 35.72 39 P **P** **16 58 06.4 +0.1**
ILAR Eielson Array 35.72 39 P **P** **16 58 06.4 +0.1**
comp=Z,7.4nm,0.8s,baz=249,slow=6.9,SNR=42
ILAR LR LR 17 11 03.7
comp=Z,212nm,19.9s,baz=177,slow=33
XAN Xi'an 36.12 265 P **P** **16 58 11.2 +1.1**
XAN pP **pP** **16 58 21.3 -1.5**
XAN sP **sP** **16 58 24.4 -4.1**
XAN AMB AMB
comp=Z,30nm,1.0s
XAN AMB AMB
comp=Z,27nm,5.9s
ENH Enshi 38.02 259 *e*P **P** **16 58 27.3 +1.0**
comp=Z,14nm,0.3s
EGAK Eagle 38.17 39 *e*P **P** **16 58 27.2 +0.1**
comp=Z,24nm,0.8s
LZH Lanzhou 38.42 272 ⇑P **P** **16 58 31.5 +1.7**
LZH pP **pP** **16 58 42.4 -0.1**
LZH sP **sP** **16 58 46.7 -1.5**
LZH PP **PnPn** **17 00 03.6 +3.3**
LZH S **S** **17 04 22.3 +0.9**
LZH sS **sS** **17 04 42.0 -0.9**
LZH SS **SnSn** **17 07 03.6 -6.9**
LZH AMB AMB
comp=Z,140nm,1.2s
LZH AMB AMB
comp=Z,620nm,4.0s
LZH LR LR
comp=Z,1μm,10.6s
LZH LR LR
comp=Z,1μm,11.5s
LZH LR LR
comp=Z,3μm,14.6s
HVS Khovu-Aksy 38.52 299 *e*P **P** **16 58 30.4 0.0**
DAWY Dawson 39.01 40 *e*P **P** **16 58 35.3 +1.0**
GTA Gaotai 39.41 279 *e*P **P** **16 58 39.0 +1.0**
GTA pP **pP** **16 58 50.4 -0.4**
GTA sP **sP** **16 58 56.0 -0.5**
GTA S **S** **17 04 35.2 -1.1**
GTA sS **sS** **17 04 55.7 -2.1**
GTA SS **SS** **17 07 23.2 -8.3**
GTA AMB AMB
comp=Z,33nm,1.0s
GTA AMB AMB
comp=Z,95nm,4.3s
GTA LR LR
comp=Z,260nm,13.3s
GTA LR LR
comp=Z,210nm,12.1s
GTA LR LR
comp=Z,150nm,10.2s
HYT Haines Junctio 40.44 45 *e*P **P** **16 58 48.1 +1.9**
CD2 Chengdu 41.48 265 P **P** **16 58 56.3 +1.2**
CD2 pP **pP** **16 59 08.4 +0.4**
CD2 sP **sP** **16 59 13.7 +0.1**
CD2 PP **PnPn** **17 00 35.7 -0.7**
CD2 S **S** **17 05 07.7 +0.6**
CD2 sS **sS** **17 05 27.9 -0.8**
CD2 SS **SS** **17 08 07.8 -4.8**
CD2 AMB AMB
comp=Z,280nm,1.0s
CD2 AMB AMB
comp=Z,520nm,4.3s
CD2 LR LR
comp=Z,400nm,5.9s
CD2 LR LR
comp=Z,570nm,6.5s
GYA Guiyang 42.38 258 ⇑*i*P **P** **16 59 03.4 +0.8**
GYA pP **pP** **16 59 15.7 +0.2**
GYA sP **sP** **16 59 22.0 +0.9**
GYA PP **PP** **17 00 44.3 +2.9**
GYA PcP **PcP** **17 00 57.4 +2.2**
GYA ScP **ScP** **17 04 41.9 +0.3**
GYA S **S** **17 05 21.0 +0.3**
GYA sS **sS** **17 05 43.3 +1.0**
GYA AMB AMB
comp=Z,40nm,0.9s
GYA AMB AMB
comp=Z,150nm,5.0s
GYA LR LR
comp=Z,780nm,17.8s
GYA LR LR
comp=Z,660nm,16.0s
GYA LR LR
comp=Z,890nm,17.9s
ZAA0 Zalesovo Array 42.69 305 *e*P **P** **16 59 03.4 -1.2**
ZALV Zalesovo Beam 42.69 305 P **P** **16 59 03.7 -0.9**
ZALV 17 00 54.8
ZALV pmax pmax
comp=Z,43nm,0.4s
ZALV Zalesovo Beam 42.69 305 P **P** **16 59 03.7 -0.9**
ZALV PcP **PcP** **17 00 54.8 -0.8**
ZALV ScP **ScP** **17 04 38.7 -3.5**
ZALV Zalesovo Beam 42.69 305 P **P** **16 59 03.7 -0.9**
comp=Z,43nm,0.4s,baz=61,slow=7.1,SNR=236
ZALV PcP **PcP** **17 00 54.8 -0.8**
comp=Z,6.9nm,0.8s,baz=46,slow=4.3,SNR=3.7
ZALV ScP **ScP** **17 04 38.7 -3.5**
comp=Z,0.9nm,0.7s,baz=57,slow=5.3,SNR=3.7
ZALV LR LR 17 17 45.7
comp=Z,330nm,20.8s,baz=70,slow=37
NVS Novosibirsk 43.24 307 *e*P **P** **16 59 07.3 -1.7**

NVS *e* 17 00 49.4
NVS pmax pmax
comp=N,13nm,0.5s
NVS pmax pmax
comp=E,16nm,0.5s
NVS pmax pmax
comp=Z,27nm,0.5s
DLBC Dease Lake 44.76 46 *eP* **P 16 59 23.6 +2.3**
WMQ Urumqi 45.21 291 P **P 16 59 25.1 +0.1**
WMQ pP **pP 16 59 37.5 -0.5**
WMQ sP **sP 16 59 42.8 -0.9**
WMQ S **S 17 06 01.1 -0.3**
WMQ sS **sS 17 06 22.0 -1.2**
WMQ SS **ScS 17 09 15.5 -1.9**
WMQ AMB AMB
comp=Z,25nm,1.5s
WMQ AMB AMB
comp=Z,140nm,3.6s
WMQ LR LR
comp=Z,370nm,15.6s
WMQ LR LR
comp=Z,470nm,12.2s
WMQ LR LR
comp=Z,310nm,17.6s
QIZ Qiongzhong 45.60 247 P **P 16 59 30.6 +2.3**
QIZ S **S 17 06 08.6 +1.3**
QIZ LR LR
comp=Z,92nm,25.6s
KMI Kunming 45.90 260 P **P 16 59 32.0 +1.2**
KMI pP **pP 16 59 43.2 -0.7**
KMI sP **sP 16 59 50.1 +0.6**
KMI PP **PP 17 01 19.8 +0.9**
KMI S **S 17 06 11.2 -0.8**
KMI SS **ScS 17 09 27.0 +4.4**
KMI AMB AMB
comp=Z,24nm,1.1s
KMI AMB AMB
comp=Z,270nm,3.2s
KMI LR LR
comp=Z,250nm,12.2s
KMI LR LR
comp=Z,310nm,9.9s
KMI LR LR
comp=Z,200nm,17.7s
MK31 Makanchi Array 47.14 297 *eP* **P 16 59 39.5 -0.6**
MK31 Makanchi Array 47.14 297 *eP* **P 16 59 39.5 -0.6**
MKAR Makanchi Array 47.14 297 P **P 16 59 39.5 -0.6**
MKAR 17 01 11.1
MKAR pmax pmax
comp=Z,51nm,0.9s
MKAR Makanchi Array 47.14 297 P **P 16 59 39.5 -0.6**
MKAR PcP **PcP 17 01 11.1 0.0**
MKAR ScP **ScP 17 04 58.0 -2.7**
MKAR Makanchi Array 47.14 297 P **P 16 59 39.5 -0.6**
comp=Z,51nm,0.9s,baz=66,slow=7.3,SNR=264
MKAR PcP **PcP 17 01 11.1 0.0**
comp=Z,4.2nm,0.8s,baz=56,slow=6.7,SNR=2.6
MKAR ScP **ScP 17 04 58.0 -2.7**
comp=Z,0.8nm,0.7s,baz=54,slow=8.0,SNR=4.2
MKAR LR LR 17 20 40.4
comp=Z,95nm,18.7s,baz=45,slow=38
KURK Kurchatov 47.47 303 *eP* **P 16 59 41.8 -0.8**
KURK pmax pmax
comp=Z,91nm,0.8s
KURK Kurchatov 47.47 303 P **P 16 59 42.3 -0.3**
SNR=58
KURK Kurchatov 47.47 303 P **P 16 59 41.8 -0.8**
comp=Z,1µm,0.6s
KURK Kurchatov 47.47 303 *eP* **P 16 59 41.8 -0.8**
comp=Z,92nm,0.8s
ALE Alert 49.06 6 P **P 16 59 54.1 -0.3**
comp=Z,238nm,0.8s,SNR=14
RES Resolute Bay 50.06 19 *eP* **P 17 00 02.4 +0.3**
comp=Z,68nm,1.0s
YKA Yellowknife Ar 50.09 37 P **P 17 00 03.7 +1.2**
YKA PcP **PcP 17 01 21.5 +0.1**
YKA Yellowknife Ar 50.09 37 P **P 17 00 03.7 +1.2**
comp=Z,10nm,0.7s,baz=296,slow=7.1,SNR=14
YKA PcP **PcP 17 01 21.5 +0.1**
comp=Z,2.2nm,0.6s,baz=304,slow=3.5,SNR=4.7
NONG Nongkai 50.58 253 P **P 17 00 09.1 +2.4**
comp=Z,26nm,1.1s
VOSK Vostochnaya 50.72 309 P **P 17 00 06.5 -0.9**
VOSK pmax pmax
comp=Z,49nm,0.5s
LSA Lhasa 50.79 273 P **P 17 00 10.6 +1.9**
LSA Lhasa 50.79 273 *eP* **P 17 00 10.7 +1.9**
LSA pmax pmax
comp=Z,85nm,0.8s
LSA Lhasa 50.79 273 *eP* **P 17 00 10.7 +1.9**
comp=Z,85nm,0.8s
SKNT Sakolnakorn 50.84 251 P P 17 00 13.6 +4.9
comp=Z,29nm,0.9s
BVA0 Borovoye Array 50.88 309 *eP* **P 17 00 08.3 -0.3**
BVA0 pmax pmax
comp=Z,64nm,0.4s
BRVK Borovoye 50.92 309 *eP* **P 17 00 08.3 -0.6**
BRVK pmax pmax
comp=Z,72nm,0.6s
BRVK Borovoye 50.92 309 P **P 17 00 08.9 0.0**
SNR=26
BRVK Borovoye 50.92 309 P **P 17 00 08.6 -0.3**
comp=Z,801nm,0.7s,SNR=58
BRVK Borovoye 50.92 309 *eP* **P 17 00 08.3 -0.6**
comp=Z,72nm,0.6s
PAYA Payao 51.80 257 P **P 17 00 18.2 +2.3**
comp=Z,13nm,0.9s,comp=Z,132nm
MYLDM Lahad Datu 51.87 227 P P 17 00 19.8 +3.4
comp=Z,20nm,1.0s
CHTO Chiang Mai 52.80 257 *eP* **P 17 00 24.7 +1.4**
CHTO pmax pmax
comp=Z,106nm,0.9s
CHTO Chiang Mai 52.80 257 P **P 17 00 25.6 +2.3**
SNR=8.2
CHTO Chiang Mai 52.80 257 P **P 17 00 24.9 +1.6**
comp=Z,137nm,1.0s,comp=Z,35µm
CHTO Chiang Mai 52.80 257 *eP* **P 17 00 24.7 +1.4**
comp=Z,106nm,0.9s
CHTO Chiang Mai 52.80 257 P **P 17 00 25.1 +1.8**
comp=Z,398nm,1.4s,comp=Z,29µm
CHAI Chaiyaphum 52.91 252 P **P 17 00 25.9 +1.7**
comp=Z,10nm,0.9s,comp=Z,117nm
SHL Shillong 52.93 269 *eP* **P 17 00 26.0 +1.6**
CM31 Chiang Mai Arr 53.05 257 *eP* **P 17 00 27.0 +1.9**
comp=Z,4.6nm,0.5s
CMAR Chiang Mai Arr 53.05 257 P **P 17 00 27.4 +2.2**
CMAR ScP **ScP 17 05 24.6 -1.9**
CMAR Chiang Mai Arr 53.05 257 P **P 17 00 27.4 +2.2**
comp=Z,13nm,0.9s,baz=32,slow=6.8,SNR=62
CMAR ScP **ScP 17 05 24.6 -1.9**
comp=Z,1.3nm,1.1s,baz=25,slow=4.7,SNR=7.4
ULHL Ulahol 53.20 295 *i* P **P 17 00 26.9 +0.7**
ULHL Ulahol 53.20 295 P **P 17 00 26.9 +0.7**
SNR=18
TKM2 Tokmak 2 53.21 296 P **P 17 00 26.3 0.0**
TKM2 pmax pmax
comp=Z,30nm,1.3s
TKM2 Tokmak 2 53.21 296 P **P 17 00 26.6 +0.3**
SNR=15
TKM2 Tokmak 2 53.21 296 *eP* **P 17 00 26.1 -0.3**
comp=Z,23nm,1.1s
MBW Mount Baker 53.44 55 P **P 17 00 28.3 +0.5**
CHMS Chumysh 53.69 297 *i* P **P 17 00 30.1 +0.5**
CHMS Chumysh 53.69 297 P **P 17 00 30.1 +0.5**
SNR=11
USP Ospenovka 53.69 297 *i* P **P 17 00 29.9 +0.3**
USP Ospenovka 53.69 297 P **P 17 00 29.9 +0.3**
SNR=51
SVE Sverdlovsk 53.74 317 *d i* P **P 17 00 29.5 -0.2**
SVE pmax pmax
comp=Z,125nm,0.6s
KBK Karagaybulak 53.76 296 *i* P **P 17 00 30.5 +0.2**
KBK Karagaybulak 53.76 296 P **P 17 00 30.5 +0.2**
SNR=10
FRU Bishkek 53.86 296 *eP* **P 17 00 30.2 -0.7**
FRU pmax pmax
comp=Z,64nm,1.6s
KZA Kyzart 53.90 295 *i* P **P 17 00 32.4 +0.8**
KZA Kyzart 53.90 295 P **P 17 00 32.4 +0.8**
SNR=21
AAK Ala-Archa 54.05 296 *eP* **P 17 00 32.2 -0.2**
AAK pmax pmax
comp=Z,18nm,0.8s
AAK Ala-Archa 54.05 296 P **P 17 00 32.8 +0.4**
SNR=10
AAK Ala-Archa 54.05 296 P **P 17 00 32.6 +0.2**
SNR=25
AAK Ala-Archa 54.05 296 P **P 17 00 32.5 +0.1**
comp=Z,158nm,0.9s,SNR=16
AAK Ala-Archa 54.05 296 *eP* **P 17 00 32.2 -0.2**
comp=Z,18nm,0.8s
AAK Ala-Archa 54.05 296 LR LR 17 25 01.0
comp=Z,280nm,20.5s,baz=38,slow=38
EKS2 Erkin-Say 54.47 297 *eP* **P 17 00 35.3 -0.1**
EKS2 pmax pmax
comp=Z,13nm,0.6s
EKS2 Erkin-Say 54.47 297 P **P 17 00 35.5 +0.1**
SNR=26
EKS2 Erkin-Say 54.47 297 *eP* **P 17 00 35.2 -0.1**
comp=Z,13nm,0.6s
FMW Mount Fremont 54.58 57 P **P 17 00 36.5 +0.2**
TDL Tradedollar La 54.59 58 P **P 17 00 37.1 +0.8**
TAPN Taplejung 54.61 273 *eP* **P 17 00 38.1 +1.3**
comp=Z,36nm,0.4s
WPW White Pass 54.78 57 P **P 17 00 38.2 +0.7**
AML Almayashu 54.82 296 *i* P **P 17 00 39.0 +0.7**
AML Almayashu 54.82 296 P **P 17 00 39.0 +0.7**
SNR=18
ARU Arti 54.92 317 *c i* P **P 17 00 37.5 -0.8**
ARU *PP **pP** 17 00 52.3 +0.7
ARU 17 01 41.1
ARU 17 02 38.9
ARU S **S 17 08 14.5 -1.5**
ARU pmax pmax
comp=Z,191nm,0.8s
ARU Arti 54.92 317 P **P 17 00 37.7 -0.6**
comp=Z,2µm,0.5s,SNR=71
KSH Kashi 54.92 292 P P 17 00 43.1 +4.4
KSH pP pP 17 00 53.0 +1.0
KSH sP sP 17 01 03.5 +5.9
KSH PP **PP 17 02 44.8 +3.1**
KSH S S 17 08 23.2 +6.4
KSH sS sS 17 08 43.8 +4.7
KSH SS **SS 17 12 03.9 +3.7**
KSH AMB AMB
comp=Z,16nm,1.2s
KSH LR LR
comp=Z,140nm,7.3s
KSH LR LR
comp=Z,110nm,6.7s
KSH LR LR
comp=Z,240nm,9.1s
TWW Teanaway 54.92 56 P **P 17 00 39.6 +1.0**
CHBT CHBT 55.05 249 P P 17 00 43.0 +3.3
comp=Z,26nm,0.9s
CHBT CHBT 55.05 249 P P 17 00 43.4 +3.7
comp=Z,25nm,0.9s
ODAN Odare 55.14 273 *eP* **P 17 00 41.5 +0.9**
comp=Z,23nm,0.4s
EBG Ellensburg 55.22 56 P **P 17 00 41.5 +0.9**
JIRN Jiri 55.44 275 *eP* **P 17 00 44.3 +1.4**
comp=Z,112nm,0.7s
EDM Edmonton 55.48 47 *eP* **P 17 00 42.9 +0.4**
EDM *e* 17 00 51.7
EDM Edmonton 55.48 47 *eP* **P 17 00 42.9 +0.4**
EDM *e* 17 00 51.7
GUN Gumba 55.49 275 *eP* **P 17 00 44.3 +1.1**
comp=Z,58nm,0.5s
RAMN Ramite 55.62 274 *eP* **P 17 00 45.2 +1.1**
comp=Z,179nm,0.8s
BROR Big Rock Looko 55.64 60 P **P 17 00 44.8 +1.2**
KKN Kakani 55.97 275 *eP* **P 17 00 48.1 +1.6**
comp=Z,238nm,1.3s
PKI Pulchoki 56.03 275 *eP* **P 17 00 48.2 +1.1**
comp=Z,131nm,1.0s
DAG Danmarks Havn 56.04 358 *i* P **P 17 00 46.2 +0.2**
DAG pmax pmax
comp=Z,22nm,0.9s
DAG Danmarks Havn 56.04 358 *i* P **P 17 00 46.2 +0.2**
comp=Z,26nm,0.9s
KK31 Karatay Array 56.18 299 *i* P **P 17 00 46.9 -0.7**
KK31 pmax pmax
comp=Z,7.0nm,0.4s
KKAR Karatay Array 56.18 299 *eP* **P 17 00 47.4 -0.1**
KKAR pmax pmax
comp=Z,13nm,0.6s
KKAR Karatay Array 56.18 299 *eP* **P 17 00 47.4 -0.1**
comp=Z,13nm,0.6s
DMN Daman 56.21 275 *eP* **P 17 00 49.7 +1.4**
comp=Z,377nm,1.1s
GKN Gorkha 56.27 276 *eP* **P 17 00 50.0 +1.4**
comp=Z,353nm,1.0s
HUMO Hull Mountain 56.30 62 *eP* **P 17 00 49.2 +0.7**
comp=Z,24nm,1.3s
NEW Newport 56.36 53 ⇓P **P 17 00 48.9 +0.1**
baz=56,SNR=7.0
LVZ Lovozero 56.41 337 P P 17 00 48.2 -0.6
comp=Z,342nm,1.1s,SNR=5.1
KULLO Kullorsuaq 56.55 10 *i* P **P 17 00 50.1 +0.4**
KULLO pmax pmax
comp=Z,62nm,0.9s
VIPM Ingram Point 56.57 59 P **P 17 00 51.6 +1.1**
VIPM Ingram Point 56.57 59 P P 17 00 51.6 +1.1
DANN Dangsing 56.64 277 *eP* **P 17 00 53.1 +1.7**
comp=Z,138nm,0.6s
PHET Kaeng Krachan 56.66 251 P **P 17 00 54.2 +3.0**
comp=Z,103nm,0.8s
KEV Kevo 56.93 341 *ep* **P 17 00 49.5 -3.0**
comp=Z,9.2nm,0.7s
APA Apatity 56.98 337 ⇑*iP* **P 17 00 52.2 -0.6**
APA *i* 17 01 52.0
APA *i* S **S 17 08 39.0 -4.1**
APA pmax pmax
comp=Z,52nm,1.0s
APA MLR MLR
comp=Z,900nm,15.0s
KOLN Koldanda 57.12 277 *eP* **P 17 00 56.1 +1.4**
comp=Z,177nm,1.0s
ARCES ARCESS Array B 57.44 341 P **P 17 00 55.5 -0.6**
ARCES ARCESS Array B 57.44 341 P **P 17 00 55.5 -0.6**
comp=Z,12nm,0.6s,baz=28,slow=7.1,SNR=56
ARCES LR LR 17 28 50.3
comp=Z,326nm,19.7s,baz=30,slow=39
WALA Waterton Lakes 57.62 51 *eP* **P 17 00 58.2 +0.4**
comp=Z,1.1nm,1.2s
WDC Whiskeytown Da 57.76 63 *eP* **P 17 00 59.5 +0.8**
WDC pmax pmax
comp=Z,10.0nm,1.2s
WDC Whiskeytown Da 57.76 63 *eP* **P 17 00 59.5 +0.8**
comp=Z,10nm,1.2s
TMCR Tamitsa 58.03 332 *eP* **P 17 00 59.8 -0.5**
TMCR *e* 17 01 48.8
TMCR pmax pmax
comp=Z,73nm,1.0s
BMO Blue Mountains 58.27 57 *eP* **P 17 01 02.6 +0.2**
comp=Z,49nm,1.5s
MOD Modoc 58.30 61 *eP* **P 17 01 03.5 +0.7**
comp=Z,96nm,1.2s
AB31 Akbulak array 58.44 310 *i* P **P 17 01 03.1 -0.3**
AB31 pmax pmax
comp=Z,37nm,0.5s
ABKAR Akbulak array 58.44 310 *eP* **P 17 01 03.0 -0.4**
comp=Z,46nm,0.6s
AKTO Aktyubinsk 58.72 312 P **P 17 01 03.0 -2.3**
AKTO pmax pmax
comp=Z,38nm,1.3s
SLMT Seeley Lake 58.94 53 *eP* **P 17 01 07.5 +0.4**
comp=Z,28nm,1.1s
MSO Missoula 58.95 53 ⇑P **P 17 01 07.6 +0.5**
baz=59,SNR=14
WVOR Wild Horse Val 58.97 60 *eP* **P 17 01 08.0 +0.7**
WVOR pmax pmax
comp=Z,17nm,0.9s
WVOR Wild Horse Val 58.97 60 *eP* **P 17 01 08.0 +0.7**
comp=Z,17nm,0.9s
CHMT Chamberlain Mo 59.27 53 *eP* **P 17 01 09.5 +0.1**
comp=Z,10nm,1.0s
THN Thein Dam 59.40 286 *ex* **P 17 01 08.9 -1.3**
BEKR Beckworth 59.51 63 *eP* **P 17 01 11.3 +0.1**
comp=Z,4.1nm,0.9s
KLMR Klimovskoe 59.85 329 *eP* **P 17 01 11.2 -1.7**
KLMR pmax pmax
comp=Z,59nm,0.9s
FFC Flin Flon 59.91 41 *eP* **P 17 01 14.2 +0.8**
FFC pmax pmax
comp=Z,21nm,0.6s
FFC Flin Flon 59.91 41 *eP* **P 17 01 14.2 +0.8**
comp=Z,21nm,0.6s
MFID Camas Ranch 59.99 57 *eP* **P 17 01 14.4 +0.1**
comp=Z,8.8nm,0.8s
SUMG Summit 60.03 4 *eP* **P 17 01 14.8 +0.3**
SUMG pmax pmax
comp=Z,81nm,0.9s
SUMG Summit 60.03 4 *i* P **P 17 01 15.5 +1.0**
comp=Z,45nm,0.8s
SUMG Summit 60.03 4 *eP* **P 17 01 14.8 +0.3**
comp=Z,81nm,0.9s
PAHR Pah Rah Range 60.20 63 *eP* **P 17 01 16.1 +0.2**
comp=Z,18nm,1.4s
PAHR *e* 17 01 23.8
LRM Limekiln Ridge 60.38 53 *eP* **P 17 01 17.7 +0.6**
comp=Z,299nm,1.0s
A19A Klindworth Far 60.39 49 ⇓P **P 17 01 17.0 +0.1**
baz=60,SNR=9.8
EGMT Eagleton 60.44 50 *eP* **P 17 01 17.9 +0.6**
comp=Z,23nm,0.8s
EGMT Eagleton 60.44 50 ⇓P **P 17 01 17.8 +0.5**
baz=60,SNR=5.6
FCC Fort Churchill 60.44 34 *eP* **P 17 01 17.2 +0.3**
FCC Fort Churchill 60.44 34 *eP* **P 17 01 17.2 +0.3**
B19A Brinkman Farms 60.58 49 ⇑P **P 17 01 18.8 +0.5**
baz=60,SNR=14
DLMT Dillon 60.59 54 *eP* **P 17 01 18.8 +0.4**
comp=Z,7.5nm,0.9s
CMB Columbia Colle 60.64 65 *eP* **P 17 01 19.3 +0.6**
CMB pmax pmax
comp=Z,27nm,1.5s
CMB Columbia Colle 60.64 65 *eP* **P 17 01 19.3 +0.6**
comp=Z,26nm,1.5s
HLID Hailey 60.70 56 *eP* **P 17 01 19.7 +0.4**
comp=Z,16nm,1.3s
HLID Hailey 60.70 56 ⇓P **P 17 01 19.6 +0.4**
baz=60,SNR=15
MCMT McKenzie Canyo 60.78 54 *eP* **P 17 01 20.0 +0.1**
comp=Z,4.8nm,0.9s
NDI New Delhi 60.81 282 *ex* **P 17 01 18.5 -1.5**
A20A Cobblestone Ra 60.84 48 ⇓P **P 17 01 20.3 +0.4**
baz=61,SNR=17
STEI Steigen 60.90 343 *eP* **P 17 01 17.5 -2.5**
STEI AMB AMB 17 01 23.1
comp=Z,35nm,1.9s
C19A Slack Wire Ran 60.99 50 ⇑P **P 17 01 21.8 +0.8**
baz=61
JOF Joensuu 61.01 334 *ep* **P 17 01 19.2 -1.6**
comp=Z,16nm,0.4s
BMN Battle Mountai 61.04 61 *eP* **P 17 01 22.3 +0.7**
BMN pmax pmax
comp=Z,32nm,1.3s
BMN Battle Mountai 61.04 61 *eP* **P 17 01 22.3 +0.7**
comp=Z,32nm,1.3s
LOF Lofoten 61.05 344 *eP* **P 17 01 20.7 -0.3**
B20A Solberg Farm, 61.07 49 ⇓P **P 17 01 21.8 +0.3**
baz=61
A21A Bergtoll Ranch 61.27 48 ⇑P **P 17 01 23.6 +0.8**
baz=61,SNR=6.3
D19A Cripps Ranch, 61.44 50 ⇑P **P 17 01 24.6 +0.5**
baz=61,SNR=11
C20A Veseth Ranch, 61.54 50 ⇓P **P 17 01 25.4 +0.7**
baz=61,SNR=28
QLMT Earthquake Lak 61.56 54 *eP* **P 17 01 26.1 +0.9**
comp=Z,5.0nm,1.1s
B21A Ellsworth Farm 61.59 48 ⇑P **P 17 01 25.4 +0.4**
baz=61
NVAR Mina Array Bea 61.66 63 P **P 17 01 26.3 +0.4**
NVAR Mina Array Bea 61.66 63 P **P 17 01 26.3 +0.4**
comp=Z,6.0nm,0.8s,baz=287,slow=7.3,SNR=45
NV11 Mina Array Sit 61.75 63 *eP* **P 17 01 26.8 +0.4**
A22A Carney Farms, 61.78 47 ⇑P **P 17 01 26.6 +0.2**
baz=62,SNR=32
COEN Coen 61.81 192 *eP* **P 17 01 27.6 +0.9**
comp=Z,190nm,0.9s
MLAC Mammoth Lakes 61.84 64 ⇑P **P 17 01 28.0 +0.9**
baz=62
D20A Manuel Ranch, 61.88 50 ⇓P **P 17 01 28.0 +1.0**
baz=62,SNR=24
GCMT Greycliff 61.90 52 *eP* **P 17 01 28.4 +1.1**
comp=Z,28nm,1.1s
GCMT *e* 17 01 38.5
C21A Desert Coulee 61.94 49 ⇑P **P 17 01 28.2 +0.8**
baz=62,SNR=11
E19A Rath Farm, Rou 61.94 51 ⇓P **P 17 01 28.6 +1.1**
baz=62,SNR=19
ELK Elko 62.01 59 *eP* **P 17 01 28.9 +0.7**
comp=Z,5.3nm,0.9s
YFT Old Faithful 62.13 54 P **P 17 01 30.3 +1.3**
comp=Z,18nm,0.9s
B22A Reddig Ranch S 62.19 48 ⇓P **P 17 01 29.7 +0.6**
baz=62
F19A Roth Farm, Mol 62.25 52 ⇓P **P 17 01 30.4 +0.8**
baz=62,SNR=16
E20A Meyer Farm, Mu 62.26 51 ⇓P **P 17 01 30.0 +0.4**
baz=62
ILULI Ilulissat 62.27 10 ⇓*iP* **P 17 01 30.9 +1.8**
ILULI pmax pmax
comp=Z,55nm,0.8s
H17A Grant Village 62.31 54 *eP* **P 17 01 32.7 +2.5**
H17A Grant Village 62.31 54 ⇓P **P 17 01 31.6 +1.4**
baz=62,SNR=10.0
A23A Redstone 62.31 47 ⇑P **P 17 01 30.3 +0.4**
baz=62
KBL Kabul 62.34 292 *eP* **P 17 01 29.6 -0.9**
KBL pmax pmax
comp=Z,15nm,0.7s
KBL Kabul 62.34 292 *eP* **P 17 01 29.6 -0.9**
comp=Z,15nm,0.7s
SCO Scoresbysund 62.41 358 *i* P **P 17 01 31.0 +0.9**
SCO pmax pmax
comp=Z,26nm,1.0s
SCO Scoresbysund 62.41 358 *i* P **P 17 01 31.0 +0.9**
comp=Z,26nm,1.0s
IMW Indian Meadow 62.43 54 *eP* **P 17 01 31.9 +0.8**
comp=Z,25nm,1.2s
D21A La Casta Ranch 62.48 50 ⇓P **P 17 01 31.9 +0.8**
baz=62,SNR=20
KONS Konsvik 62.56 343 *eP* **P 17 01 31.4 +0.3**
RRI2 Red Ridge 62.58 55 *eP* **P 17 01 33.2 +1.2**
comp=Z,28nm,0.8s
TIN Tinemaha 62.58 64 ⇑P **P 17 01 32.6 +0.7**
baz=62
B23A Brockton 62.59 47 ⇑P **P 17 01 32.2 +0.5**
baz=62,SNR=10
MOR8 Moi Rana 62.59 343 *eP* **P 17 01 29.9 -1.5**
MOR8 AMB AMB 17 01 31.8
comp=Z,110nm,1.3s
MOR8 *e* 17 01 39.4
C22A Vida 62.61 48 ⇑P **P 17 01 31.9 0.0**
baz=62,SNR=5.4
SMMC Simmler 62.61 67 ⇓P **P 17 01 32.5 +0.4**
baz=62
H18A Shoshone NF, C 62.63 53 ⇑P **P 17 01 33.1 +0.8**
baz=62,SNR=7.7
TPAW Teton Pass 62.69 55 *eP* **P 17 01 34.1 +1.3**
comp=Z,49nm,1.2s
F20A Billings 62.71 51 ⇑P **P 17 01 33.5 +0.9**
baz=62
STOK Stokkvaagen 62.73 343 *eP* **P 17 01 32.1 -0.1**
E21A Keefer Ranch, 62.79 50 ⇑P **P 17 01 33.9 +0.8**
baz=62
LOHW Long Hollow 62.80 54 *eP* **P 17 01 33.7 +0.3**
comp=Z,29nm,1.3s
SNOW Snow King Moun 62.82 55 *eP* **P 17 01 34.8 +1.2**
comp=Z,11nm,0.4s
REDW Red Top Meadow 62.83 55 *eP* **P 17 01 34.4 +0.8**
comp=Z,50nm,1.3s
VES Vestal, Richgr 62.84 66 ⇓P **P 17 01 34.4 +0.9**
baz=63
D22A Cohagen 62.85 49 ⇓P **P 17 01 34.0 +0.5**
baz=63,SNR=6.2
C23A Lambert 62.92 48 ⇑P **P 17 01 34.3 +0.3**
baz=63
DGMT Dagmar 62.98 47 *eP* **P 17 01 35.0 +0.7**
comp=Z,26nm,0.6s
DGMT Dagmar 62.98 47 ⇓P **P 17 01 34.6 +0.3**
baz=63,SNR=7.8
PKM Peak Mountain 62.99 67 ⇑P **P 17 01 35.2 +0.4**
baz=63
H19A Powell 63.00 53 ⇓P **P 17 01 35.1 +0.5**
baz=63
G20A Bridger 63.05 52 ⇓P **P 17 01 35.3 +0.3**
baz=63,SNR=12
CWC Cottonwood Cre 63.07 65 ⇓P **P 17 01 35.1 -0.1**
baz=63
KAF Kangasniemi 63.10 335 *ep* **P 17 01 33.8 -1.0**
comp=Z,6.0nm,0.3s
A25A Svangstu Ranch 63.20 46 ⇑P **P 17 01 36.4 +0.7**
baz=63,SNR=7.8
F21A Absaloka Mine, 63.23 51 ⇑P **P 17 01 36.5 +0.4**
baz=63
ISA Isabella 63.33 66 ⇑P **P 17 01 36.3 -0.6**

baz=63,SNR=6.5
D23A Lindsay 63.33 49 ⇓P P 17 01 37.3 +0.6
baz=63,SNR=7.1
R11A Troy Canyon, C 63.35 62 *e*P P 17 01 37.1 0.0
R11A Troy Canyon, C 63.35 62 ⇓P P 17 01 37.4 +0.3
baz=63,SNR=18
I19A Meeteetse 63.41 53 ⇓P P 17 01 38.2 +0.8
baz=63,SNR=11
E22A Miles City 63.44 50 ⇓P P 17 01 37.7 +0.3
baz=63,SNR=9.4
ARVC Arvin 63.46 66 ⇑P P 17 01 37.2 -0.4
baz=63
C24A Savage 63.49 48 ⇓P P 17 01 37.9 +0.2
baz=63
G21A Lodge Grass 63.59 51 ⇑P P 17 01 38.3 -0.1
baz=63
B25A Knox Farm, Ray 63.62 47 ⇑P P 17 01 39.1 +0.5
baz=63
MPMC Manual Prospec 63.68 65 ⇑P P 17 01 39.4 +0.1
baz=64,SNR=15
FIA1 FINESS Array S 63.70 335 *e*P P 17 01 38.5 -0.3
FINES FINESS Array B 63.70 335 P P 17 01 38.6 -0.2
FINES FINESS Array B 63.70 335 P P 17 01 38.6 -0.2
comp=Z,400nm,0.3s,baz=33,slow=7.6,SNR=435
E23A Ismay 63.73 49 ⇓P P 17 01 39.9 +0.5
baz=64,SNR=8.9
DUG Dugway 63.78 58 *e*P P 17 01 40.2 +0.3
DUG pmax pmax
comp=Z,35nm,1.3s
DUG Dugway 63.78 58 *e*P P 17 01 40.2 +0.3
comp=Z,35nm,1.3s
DUG Dugway 63.78 58 ⇓P P 17 01 40.4 +0.5
baz=64,SNR=18
FURC Furnace Creek, 63.80 64 ⇓P P 17 01 40.1 +0.2
baz=64,SNR=11
D24A Glendive 63.82 48 ⇓P P 17 01 40.7 +0.8
baz=64,SNR=8.9
OSI Osito Adit 63.86 67 *e*P P 17 01 40.5 +0.2
comp=Z,17nm,0.5s
OSI Osito Adit 63.86 67 ⇑P P 17 01 41.0 +0.7
baz=64
J19A Crowheart 63.88 54 ⇓P P 17 01 41.2 +0.7
baz=64,SNR=16
BW06 Boulder Array 63.93 55 *e*P P 17 01 41.3 +0.3
comp=Z,20nm,1.0s
PDAR Pinedale Array 63.93 55 P P 17 01 41.2 +0.2
PDAR Pinedale Array 63.93 55 P P 17 01 41.2 +0.2
comp=Z,14nm,0.9s,baz=289,slow=2.0,SNR=90
I20A Worland 63.94 53 ⇓P P 17 01 41.4 +0.6
baz=64,SNR=11
BLG Laguna Peak 63.97 67 ⇑P P 17 01 40.9 -0.1
baz=64
H21A Big Horn, Sher 64.07 52 ⇑P P 17 02 42.1 +0.5
baz=64,SNR=20
G22A Birney 64.07 51 ⇓P P 17 01 42.0 +0.4
baz=64,SNR=6.3
A27A Ledoux Ranch, 64.10 45 ⇓P P 17 01 42.4 +0.8
baz=64
EDW2 Edwards Air Fo 64.14 66 ⇓P P 17 01 42.3 +0.1
baz=64,SNR=13
M17A Scullys Gap (B 64.17 56 ⇓P P 17 01 42.8 +0.3
baz=64,SNR=6.6
F23A Volborg 64.20 50 ⇓P P 17 01 42.6 +0.1
baz=64
E24A Baker 64.20 49 ⇓P P 17 01 42.6 +0.1
baz=64
L18A Fontenelle, Gr 64.22 55 ⇓P P 17 01 43.0 +0.2
baz=64,SNR=9.3
MOS Moscow 64.23 326 *e*P P 17 01 38.0 -4.4
MOS pmax pmax
comp=Z,90nm,1.4s
D25A Fairfield 64.30 48 ⇑P P 17 01 43.7 +0.6
baz=64
J20A Shoshoni 64.36 53 ⇑P P 17 01 43.9 +0.3
baz=64,SNR=12
SFJD Kangerlussuaq 64.43 10 *i*P P 17 01 45.4 +1.9
comp=Z,48nm,0.8s
C26A Wahner Farm, P 64.45 46 ⇑P P 17 01 44.4 +0.4
baz=64
H22A Clearmont 64.46 51 ⇑P P 17 01 44.4 +0.2
baz=64
B27A Peters Farms, 64.46 46 ⇑P P 17 01 44.5 +0.4
baz=64
I21A Big Trails, Te 64.48 52 ⇑P P 17 01 44.6 +0.2
baz=64,SNR=19
SHOC Shoshone 64.53 64 ⇑P P 17 01 44.9 +0.2
baz=64
NSS Namsos 64.53 343 *e*P P 17 01 43.8 -0.3
NSS AMB AMB 17 01 47.8
comp=Z,50nm,1.6s
G23A Biddle 64.56 50 ⇓P P 17 01 44.6 -0.2
baz=64,SNR=13
A28A Rude Farm, Bot 64.59 45 ⇑P P 17 01 44.8 -0.1
baz=64,SNR=5.3
GSC Goldstone 64.59 65 ⇑P P 17 01 45.2 0.0
baz=64,SNR=8.8
J21A Lysite 64.71 53 ⇑P P 17 01 46.0 0.0
baz=64,SNR=9.4
BFSC Mount Baldy Ra 64.77 66 ⇓P P 17 01 46.2 -0.2
baz=65,SNR=5.4
SHPR Sheep Range 64.81 63 *e*P P 17 01 46.9 +0.3
comp=Z,16nm,1.2s
C27A Sayler Ranch, 64.82 46 ⇓P P 17 01 47.1 +0.7
baz=64
D26A Manning 64.83 47 ⇓P P 17 01 46.6 +0.2
baz=65
I22A 9 Mile Ranch, 64.86 52 ⇓P P 17 01 47.3 +0.5
baz=65,SNR=10.0
B28A Dugan Ranch, T 64.87 45 ⇑P P 17 01 47.5 +0.8
baz=65,SNR=5.4
G24A Alzada 64.98 50 ⇓P P 17 01 47.1 -0.5
baz=65
ARUT Antelope Range 64.99 61 *e*P P 17 01 47.8 -0.1
ARUT pmax pmax
comp=Z,327nm,0.9s
ARUT Antelope Range 64.99 61 *e*P P 17 01 47.8 -0.1
comp=Z,327nm,0.9s
SCI San Clemente I 65.04 68 ⇑P P 17 01 47.6 -0.5
baz=65
TUQ Turquoise Moun 65.05 64 ⇓P P 17 01 48.3 0.0
baz=65,SNR=11
F25A Bowman 65.06 49 ⇓P P 17 01 48.6 +0.5
baz=65
A29A Manning Farm, 65.08 44 ⇑P P 17 01 48.3 +0.3
baz=65,SNR=10
OBN Obninsk 65.10 326 *ce*P P 17 01 47.1 -0.9
OBN 17 02 20.0
OBN *e*S S 17 10 23.2 -3.4
OBN pmax pmax
comp=Z,95nm,1.2s
OBN MLR MLR
comp=Z,200nm,20.0s
J22A Midwest 65.18 52 ⇓P P 17 01 49.2 +0.2
baz=65,SNR=13
E26A Carlson Angus 65.20 48 ⇑P P 17 01 49.1 +0.1
baz=65
HEC Hector,Ludlow 65.20 65 ⇓P P 17 01 49.2 +0.1
baz=65,SNR=6.3
D27A Center 65.22 47 ⇑P P 17 01 49.6 +0.5
baz=65
K21A Alcova 65.29 53 ⇑P P 17 01 49.7 -0.1
baz=65,SNR=18
H24A Dirks Ranch, A 65.30 50 ⇑P P 17 01 49.4 -0.3
baz=65,SNR=9.4
MURC Murrieta 65.47 67 ⇓P P 17 01 50.7 -0.1
baz=65
A30A Hoffart Farm, 65.50 44 ⇑P P 17 01 51.3 +0.5
baz=65
M20A Sweetwater, Wa 65.55 55 ⇑P P 17 01 51.9 +0.4
baz=65,SNR=11
Q16A Castle Valley 65.57 59 ⇑P P 17 01 52.0 +0.4
baz=65,SNR=6.5
G25A Newell 65.59 49 ⇑P P 17 01 51.4 -0.1
baz=65
GMRC Granite Mounta 65.64 65 ⇑P P 17 01 52.1 0.0
baz=65,SNR=14
MDND Maddock 65.65 45 *e*P P 17 01 51.7 0.0
MDND Maddock 65.65 45 ⇑P P 17 01 52.2 +0.4
baz=65,SNR=8.3
E27A Carson 65.67 47 ⇑P P 17 01 52.3 +0.3
baz=65,SNR=6.1
K22A Casper 65.67 53 ⇑P P 17 01 52.4 +0.2
baz=65,SNR=9.7
ULM Lac du Bonnet 65.69 41 P P 17 01 51.9 -0.1
ULM Lac du Bonnet 65.69 41 P P 17 01 51.9 -0.1
comp=Z,10nm,0.7s,baz=314,slow=7.9,SNR=10
LDFC Landfair 65.78 64 *e*P P 17 01 52.3 -0.7
LDFC *e* 17 02 01.0

SRU San Rafael 65.82 58 *e*P P 17 01 53.1 -0.1
SRU *e* 17 02 02.1
SRU pmax pmax
comp=Z,26nm,0.8s
SRU San Rafael 65.82 58 *e*P P 17 01 53.0 -0.1
comp=Z,26nm,0.8s
SRU *e* 17 02 02.1
O19A Miners Draw (B 65.82 56 ⇓P P 17 01 53.1 -0.1
baz=66,SNR=6.1
F27A Lemon 65.83 48 ⇑P P 17 01 53.3 +0.3
baz=66,SNR=5.3
B30A Myrvik Farm, E 65.83 44 ⇓P P 17 01 53.2 +0.3
baz=66,SNR=8.2
I24A Kuemmerle Ranc 65.87 51 ⇑P P 17 01 53.2 -0.1
baz=66
H25A Fruitdale 65.89 50 ⇑P P 17 01 53.8 +0.4
baz=66
PFO Pinyon Flat Ob 65.93 66 ⇓P P 17 01 53.4 -0.6
baz=66
G26A Maurine 65.94 49 ⇑P P 17 01 53.7 0.0
baz=66,SNR=14
N20A Spence Gulch, 65.94 55 ⇓P P 17 01 54.3 +0.3
baz=66,SNR=18
BELC Belle Mtn. Jos 65.95 65 ⇑P P 17 01 53.7 -0.4
baz=66
VRHR Novokhopersk 66.00 320 *e*P P 17 01 51.2 -2.7
VRHR pmax pmax
comp=Z,40nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,1.3s
VRHR pmax pmax
comp=E,10.0nm,0.9s
RSSD Black Hills 66.00 50 *e*P P 17 01 54.2 -0.2
RSSD pmax pmax
comp=Z,116nm,0.9s
RSSD Black Hills 66.00 50 *e*P P 17 01 54.1 -0.2
comp=Z,116nm,0.9s
109C Camp Elliot, M 66.01 67 ⇑P P 17 01 54.8 +0.5
baz=66
TBLU Trondheim 66.02 343 *e*P P 17 01 52.6 -1.2
TBLU AMB AMB 17 01 54.7
comp=Z,140nm,1.3s
K23A Bowen Ranch, D 66.09 52 ⇓P P 17 01 54.4 -0.4
baz=66
L22A Ellis Ranch, M 66.14 53 ⇓P P 17 01 55.8 +0.5
baz=66,SNR=12
D29A Pettibone, Tap 66.20 46 ⇑P P 17 01 55.5 +0.2
baz=66,SNR=5.7
J24A Dixon Ranch, L 66.21 51 ⇑P P 17 01 55.3 -0.3
baz=66
G27A Dupree 66.22 48 ⇑P P 17 01 55.3 -0.2
baz=66,SNR=12
I25A Rochford 66.23 50 ⇓P P 17 01 55.5 -0.2
baz=66,SNR=9.7
H26A Fairpoint 66.31 49 ⇑P P 17 01 56.1 -0.1
baz=66,SNR=7.5
P19A Cripple Cowboy 66.35 57 ⇑P P 17 01 57.0 +0.3
baz=66,SNR=7.5
IRM Iron Mountain 66.37 65 ⇑P P 17 01 56.9 +0.2
baz=66,SNR=13
O20A White River Ci 66.43 56 ⇑P P 17 01 57.1 -0.1
baz=66
MONP Monument Peak 66.43 67 ⇑P P 17 01 56.8 -0.5
baz=66,SNR=5.1
F28A McLaughlin 66.46 47 ⇑P P 17 01 57.2 +0.2
baz=66
L23A Garrett 66.49 53 ⇑P P 17 01 57.4 -0.1
baz=66,SNR=6.2
W13A Hualapai Mount 66.52 63 ⇑P P 17 01 58.0 +0.2
baz=66
BC3 Big Chuckawall 66.52 65 ⇑P P 17 01 57.7 0.0
baz=66,SNR=8.0
E29A Napoleon 66.53 46 ⇓P P 17 01 57.2 -0.2
baz=66
D30A Buchanan 66.58 45 ⇑P P 17 01 57.5 -0.2
baz=66
U15A North Rim 66.58 61 ⇑P P 17 01 58.7 +0.4
baz=66,SNR=19
IMYA Miami 66.65 299 *e*P P 17 01 58.5 -0.1
I26A New Underwood 66.68 50 ⇑P P 17 01 58.8 +0.3
baz=66
ABKT Ailbek 66.75 301 P P 17 01 58.6 -0.4
comp=Z,119nm,0.5s,SNR=5.9
P20A De Beque 66.78 57 ⇑P P 17 01 59.4 +0.1
baz=66
IEMG Emangholi 66.78 300 *e*P P 17 02 00.3 +0.7
DVTC Desert V Tower 66.79 67 ⇓P P 17 01 59.4 0.0
baz=67
SWSC Sam W. Stewart 66.79 66 ⇓P P 17 01 58.9 -0.3
baz=67
O21A Pagoda 66.81 55 ⇓P P 17 01 59.6 0.0
baz=67,SNR=5.2
PDMCI Parker Dam,Lak 66.90 64 ⇓P P 17 01 59.9 0.0
baz=67,SNR=7.4
E30A Jud 66.93 46 ⇓P P 17 01 59.3 -0.7
baz=67,SNR=6.8
G28A Parade 66.94 48 ⇓P P 17 02 00.1 -0.1
baz=67
F29A Eureka 66.95 47 ⇓P P 17 02 00.1 -0.1
baz=67
VSR Storozhevoye 66.96 322 *e*P P 17 01 59.8 -0.2
VSR pmax pmax
comp=N,70nm,1.0s
VSR pmax pmax
comp=Z,90nm,1.0s
VSR pmax pmax
comp=E,50nm,1.1s
N22A Wattenberg Ran 66.97 54 ⇓P P 17 02 01.0 +0.3
baz=67,SNR=8.0
Y12C Blythe 67.03 65 ⇓P P 17 02 01.5 +0.7
baz=67
J26A Sides Ranch, S 67.06 51 ⇓P P 17 02 01.2 +0.3
baz=67
I27A Quinn 67.07 49 ⇓P P 17 02 01.0 0.0
baz=67,SNR=6.4
VORD Divnogorie 67.09 321 *e*P P 17 01 59.7 -1.2
VORD pmax pmax
comp=Z,50nm,1.1s
K25A Mack Ranch, Ha 67.13 52 ⇓P P 17 02 01.8 +0.3
baz=67
MOL Molde 67.16 344 *e*P P 17 02 02.7 +1.5
H28A Mission Ridge 67.17 48 ⇓P P 17 02 01.4 -0.2
baz=67,SNR=20
N23A Red Feather La 67.19 54 ⇑P P 17 02 02.3 +0.2
baz=67,SNR=8.3
Q20A Ridgley Place, 67.20 57 ⇓P P 17 02 02.3 +0.2
baz=67
IPAY Payeh 67.23 299 *e*P P 17 02 02.9 +0.5
PV04 Paradox Valley 67.23 58 *e*P P 17 02 02.8 +0.5
IMOG Moghan 67.26 299 *e*P P 17 02 02.8 +0.2
IAKL Akhelmad 67.27 300 *e*P P 17 02 03.4 +0.7
P21A Newcastle 67.29 56 ⇓P P 17 02 03.1 +0.4
baz=67
IKRD Kardeh 67.30 300 *e*P P 17 01 58.8 -4.0
GLA Glamis 67.31 66 ⇓P P 17 02 02.6 0.0
baz=67,SNR=5.4
F30A Leola 67.35 46 ⇓P P 17 02 03.0 +0.3
baz=67
O22A Kremmling 67.36 55 ⇓P P 17 02 03.7 +0.5
baz=67
G29A Hoven 67.36 47 ⇑P P 17 02 02.6 -0.2
baz=67
M24A Cheyenne 67.41 53 ⇓P P 17 02 04.1 +0.8
baz=67
ISFR Strayin 67.41 300 *e*P P 17 02 04.1 +0.6
K26A Motz Farm, Whi 67.43 51 ⇓P P 17 02 03.7 +0.4
baz=67
CTA Charters Tower 67.50 188 P P 17 02 03.9 +0.2
CTA Charters Tower 67.50 188 P P 17 02 03.9 +0.2
comp=Z,29nm,0.9s,baz=4.2,slow=8.2,SNR=31
CTAO Charters Tower 67.50 188 *e*P P 17 02 03.6 -0.1
CTAO pmax pmax
comp=Z,38nm,1.0s
CTAO Charters Tower 67.50 188 *e*P P 17 02 03.6 -0.1
comp=Z,38nm,1.0s
HYB Hyderabad 67.53 272 ⇓*i*P P 17 02 04.5 +0.3
I28A Midland 67.57 49 ⇓P P 17 02 03.6 -0.6
baz=67,SNR=8.0
PV01 Paradox Valley 67.60 58 *e*P P 17 02 04.9 +0.2
comp=Z,996nm,1.0s
H29A Onida 67.61 48 ⇓P P 17 02 03.9 -0.4
baz=67,SNR=5.2
P22A Eagle 67.63 56 ⇓P P 17 02 05.1 +0.3
baz=67,SNR=9.7
J27A Elkhorn Farm, 67.66 50 ⇓P P 17 02 05.3 +0.5
baz=67
O23A Lake Granby, G 67.67 55 ⇑P P 17 02 05.3 +0.2
baz=67,SNR=8.5
R20A Redvale 67.68 58 ⇓P P 17 02 05.1 0.0
baz=67,SNR=8.9
Q21A Lamborn Mesa, 67.69 57 ⇓P P 17 02 05.1 0.0
baz=68,SNR=7.7
WUAZ Wupatki 67.75 61 *e*P P 17 02 04.4 -1.1
comp=Z,12nm,1.0s
WUAZ Wupatki 67.75 61 ⇓P P 17 02 06.0 +0.5
baz=68,SNR=7.5
G30A Faulkton 67.79 47 ⇑P P 17 02 05.0 -0.4
baz=68,SNR=18
SMCO Snowmass 67.80 56 *e*P P 17 02 06.6 +0.5
comp=Z,15nm,0.9s
NB2 NORSAR Subarra 67.81 341 P P 17 02 05.7 +0.4
comp=Z,123nm,1.1s,baz=24,slow=6.5
NB2 NORSAR Subarra 67.81 341 P P 17 02 05.7 +0.4
baz=24,slow=6.5
NOA NORSAR Array B 67.81 341 P P 17 02 05.3 0.0
NOA NORSAR Array B 67.81 341 P P 17 02 05.3 0.0
comp=Z,29nm,0.7s,baz=26,slow=6.3,SNR=32
NOA LR LR 17 36 25.2
comp=Z,154nm,18.5s,baz=15,slow=40
N24A Carr 67.82 54 ⇓P P 17 02 06.2 +0.3
baz=68
Y14A Wickenburg 67.83 64 ⇓P P 17 02 06.5 +0.5
baz=68
M25A Palm-Egli Farm 67.85 53 ⇓P P 17 02 07.1 +1.1
baz=68
K27A Flueckinger Fa 67.93 51 ⇓P P 17 02 06.3 -0.1
baz=68
J28A Allard Ranch, 67.94 49 ⇑P P 17 02 06.5 0.0
baz=68,SNR=9.4
I29A Vivian Onida 68.00 48 ⇓P P 17 02 06.5 -0.3
baz=68,SNR=5.1
NC602 NORSAR Array S 68.01 341 *e*P P 17 02 06.7 +0.2
R21A Cimarron 68.03 57 ⇓P P 17 02 07.6 +0.3
baz=68,SNR=23
Q22A Crested Butte, 68.05 56 ⇑P P 17 02 08.1 +0.6
baz=68,SNR=9.9
NAO01 NORSAR Array S 68.06 341 *e*P P 17 02 05.3 -1.5
comp=Z,100nm,1.1s
ISCO Idaho Springs 68.13 55 *e*P P 17 02 07.4 -0.6
ISCO pmax pmax
comp=Z,32nm,1.3s
ISCO Idaho Springs 68.13 55 *e*P P 17 02 07.4 -0.6
comp=Z,32nm,1.3s
ISCO Idaho Springs 68.13 55 ⇓P P 17 02 08.3 +0.3
baz=68,SNR=16
113A Mohawk Valley, 68.16 65 ⇓P P 17 02 08.1 +0.2
baz=68
O24A Longmont 68.20 54 ⇑P P 17 02 08.7 +0.4
baz=68
N25A Grover 68.26 53 ⇑P P 17 02 09.4 +0.7
baz=68
Z14A Wintersburg 68.26 64 ⇑P P 17 02 09.9 +1.4
baz=68
MVCO Mesa Verde 68.28 58 P P 17 02 08.3 -0.6
comp=Z,36nm,1.4s
MVCO Mesa Verde 68.28 58 ⇓P P 17 02 09.0 +0.1
baz=68,SNR=10.0
P23A Jefferson 68.30 55 ⇓P P 17 02 09.8 +0.6
baz=68
M26A McRoberts Ranc 68.31 52 ⇑P P 17 02 09.9 +1.0
baz=68
L27A T5 Ranch, Ells 68.32 51 ⇑P P 17 02 09.5 +0.5
baz=68
S21A Coal Bank Pass 68.38 58 ⇓P P 17 02 10.2 +0.6
baz=68,SNR=22
BRSD Miller 68.38 47 *e*P P 17 02 08.1 -1.0
BRSD Miller 68.38 47 ⇑P P 17 02 09.2 +0.1
baz=68
J29A Okreek 68.42 49 ⇓P P 17 02 09.3 -0.2
baz=68,SNR=5.3
X16A Lo Mia Camp, P 68.45 62 ⇑P P 17 02 10.6 +0.6
baz=68,SNR=6.5
ISAL Salakas 68.45 331 *e*P P 17 02 09.5 +0.1
ISAL AMB AMB 17 02 11.2
comp=Z,34nm,1.1s
I30A Oacoma 68.52 48 ⇑P P 17 02 09.7 -0.3
baz=68,SNR=13
IIGN Ignalina 68.60 331 *e*P P 17 02 09.8 -0.5
IIGN AMB AMB 17 02 11.5
comp=Z,48nm,1.0s
HYA Hoyanger 68.71 344 *e*P P 17 02 12.3 +1.4
HYA AMB AMB 17 02 13.4
comp=Z,154nm,1.4s
N26A Koester Ranch, 68.72 53 ⇑P P 17 02 11.7 +0.3
baz=68,SNR=5.4
MICGM Minsk 68.74 330 ⇓*i*P P 17 02 11.0 -0.2
MNK Minsk 68.75 330 ⇓*i*P P 17 02 11.0 -0.3
MNK pmax pmax
comp=Z,390nm,1.0s
NACGM Naroch 68.79 330 *e*P P 17 02 08.0 -3.4
S22A 4UR Ranch, Cre 68.87 57 ⇓P P 17 02 13.3 +0.6
baz=68,SNR=21
J30A Dallas 68.91 49 ⇓P P 17 02 12.2 -0.3
baz=69,SNR=9.2
Q24A Divide 68.97 55 ⇑P P 17 02 13.2 -0.1
baz=69,SNR=5.2
T21A Navajo Lake 68.99 58 ⇑P P 17 02 13.5 +0.2
baz=69
W18A Petrified Fore 68.99 61 ⇓P P 17 02 13.5 +0.2
baz=69
IMON Monand 69.05 296 *e*P P 17 02 14.9 +1.1
SUE Sulen 69.08 345 *e*P P 17 02 14.5 +1.4
SUE AMB AMB 17 02 15.7
comp=Z,117nm,1.0s
O26A Horse Wrangler 69.08 53 ⇑P P 17 02 13.9 +0.1
baz=69
N27A Anderson Farm, 69.10 52 ⇓P P 17 02 14.2 +0.4
baz=69,SNR=12
P25A Willow Gulch B 69.13 54 ⇓P P 17 02 14.7 +0.6
baz=69
R23A Moffat 69.13 56 ⇑P P 17 02 15.0 +0.7
baz=69,SNR=6.2
IDAH Dahanechah 69.24 296 *e*P P 17 02 15.4 +0.4
V20A Brimhall 69.27 59 ⇑P P 17 02 15.1 0.0
baz=69,SNR=6.5
X18A Snowflake 69.27 61 ⇓P P 17 02 15.8 +0.7
baz=69
OGNE Ogallala 69.28 52 *e*P P 17 02 15.1 +0.2
comp=Z,72nm,0.8s
OGNE Ogallala 69.28 52 ⇑P P 17 02 14.9 0.0
baz=69,SNR=24
WRAB Tennant Creek 69.28 200 *e*P P 17 02 14.9 +0.1
WRAB pmax pmax
comp=Z,69nm,1.3s
WRAB Tennant Creek 69.28 200 P P 17 02 15.9 +1.1
comp=Z,225nm,1.1s,SNR=9.6
WRAB Tennant Creek 69.28 200 *e*P P 17 02 14.9 +0.1
comp=Z,69nm,1.3s
WRA Warramunga Arr 69.29 200 P P 17 02 14.8 -0.1
WRA Warramunga Arr 69.29 200 P P 17 02 14.8 -0.1
comp=Z,32nm,1.1s,baz=18,slow=6.2,SNR=31
214A Organ Pipe Nat 69.31 65 ⇑P P 17 02 15.9 +0.7
baz=69
U21A Nageezi 69.31 59 ⇑P P 17 02 15.8 +0.5
baz=69
M28A Bar X Bar Ranc 69.31 51 ⇓P P 17 02 15.7 +0.7
baz=69
K30A Basset 69.31 49 ⇑P P 17 02 15.6 +0.6
baz=69
T22A Edith 69.33 58 ⇓P P 17 02 15.9 +0.4
baz=69,SNR=11
EYMN Ely 69.33 41 *e*P P 17 02 14.5 -0.5
comp=Z,11nm,1.0s
KONO Kongsberg 69.42 342 *e*P P 17 02 16.1 +0.8
KONO AMB AMB 17 02 17.9
comp=Z,126nm,1.2s
KONO Kongsberg 69.42 342 *e*P P 17 02 15.2 -0.1
KONO pmax pmax
comp=Z,329nm,1.1s
KONO Kongsberg 69.42 342 *e*P P 17 02 15.2 -0.1
comp=Z,326nm,1.1s
Q25A Bedland, Calha 69.50 55 ⇑P P 17 02 16.5 +0.1
baz=69,SNR=7.3
R24A Sanders Place, 69.50 56 ⇑P P 17 02 16.9 +0.4
baz=69,SNR=6.2
ASK Askoy 69.53 344 *e*P P 17 02 16.6 +0.7
ASK AMB AMB 17 02 17.9
comp=Z,186nm,1.2s
P26A Davis Ranch, A 69.54 54 ⇓P P 17 02 17.0 +0.4
baz=69
RUND Rundenannen 69.56 344 *e*P P 17 02 16.8 +0.6
RUND AMB AMB 17 02 18.1
comp=Z,248nm,1.1s
O27A Beecher Island 69.57 53 ⇓P P 17 02 16.9 +0.2

baz=69
BER Bergen 69.60 344 *e*P **P 17 02 17.8 +1.4**
BER AMB AMB 17 02 19.0
comp=Z,143nm,1.0s
W20A Ramah 69.72 60 ⇑P **P 17 02 17.8 -0.1**
baz=70,SNR=5.8
N28A Pribbeno Ranch 69.72 52 ⇓P **P 17 02 17.6 -0.1**
baz=70
EGD Espegrend 69.72 344 *e*P **P 17 02 17.7 +0.6**
V21A Milan 69.75 59 ⇑P **P 17 02 18.2 +0.1**
baz=70
GOF Gofitskoye 69.77 315 *e*P **P 17 02 18.2 +0.5**
GOF pmax pmax
comp=Z,190nm,1.1s
ODD1 Odda 69.79 343 *e*P **P 17 02 19.0 +1.4**
ODD1 AMB AMB 17 02 20.5
comp=Z,120nm,1.2s
T23A Casias Ranch, 69.81 57 ⇓P **P 17 02 18.6 +0.2**
baz=70
ITEG Tejag 69.81 297 *e*P **P 17 02 18.7 +0.2**
S24A Houchin Ranch, 69.86 56 ⇓P **P 17 02 19.0 +0.2**
baz=70,SNR=5.1
Q26A Hugo 69.90 54 ⇓P **P 17 02 18.8 0.0**
baz=70,SNR=8.0
FITZ Fitzroy Crossi 69.96 209 *e*P **P 17 02 20.0 +0.9**
comp=Z,18nm,0.8s
IKOO Kooshah 69.99 296 *e*P **P 17 02 19.6 0.0**
O28A Krutsinger Ran 70.00 52 ⇓P **P 17 02 19.1 -0.2**
baz=70
R25A Fountain Ranch 70.02 55 ⇑P **P 17 02 19.5 -0.1**
baz=70,SNR=6.5
DZM Mont Dzumac 70.04 168 *e*P **P 17 02 20.9 +1.3**
comp=Z,91nm,1.2s
DZM Mont Dzumac 70.04 168 *e*LR LR 17 23 30.9
comp=Z,290nm,24.4s
DZM Mont Dzumac 70.04 168 P **P 17 02 19.7 +0.1**
DZM Mont Dzumac 70.04 168 P **P 17 02 19.7 +0.1**
comp=Z,23nm,0.9s,baz=44,slow=9.1,SNR=10
DZM LR LR 17 29 10.1
comp=Z,288nm,18.4s,baz=1.1,slow=32
ECSD EROS Data Cent 70.06 47 *e*P **P 17 02 18.7 -0.8**
comp=Z,33nm,0.9s
L31A Butterfield Fa 70.07 49 ⇑P **P 17 02 19.6 0.0**
baz=70,SNR=6.3
V22A San Miguel Ran 70.10 58 ⇓P **P 17 02 20.2 0.0**
baz=70,SNR=7.2
X20A Quemado 70.12 60 ⇑P **P 17 02 21.1 +0.8**
baz=70,SNR=11
T24B San Luis 70.17 57 ⇓P **P 17 02 21.2 +0.5**
baz=70,SNR=6.9
U23A El Rito 70.22 58 ⇓P **P 17 02 21.2 +0.2**
baz=70,SNR=12
BLS5 Blasjo 70.27 343 *e*P **P 17 02 22.2 +1.6**
BLS5 AMB AMB 17 02 23.3
comp=Z,46nm,1.1s
S25A Robets Cordova 70.28 56 ⇓P **P 17 02 20.9 -0.4**
baz=70
TUC Tucson 70.30 64 *e*P **P 17 02 21.4 +0.1**
TUC pmax pmax
comp=Z,11nm,1.1s
TUC Tucson 70.30 64 *e*P **P 17 02 21.4 +0.1**
comp=Z,12nm,1.1s
R26A Arlington 70.38 55 ⇑P **P 17 02 21.8 +0.1**
baz=70,SNR=7.3
O29A 4D Ranch, Culb 70.52 52 ⇑P **P 17 02 22.2 -0.3**
baz=70
X21A Alamocita Cree 70.61 60 ⇑P **P 17 02 23.6 +0.3**
baz=70,SNR=22
V23A Ortiz Mt. (NFS 70.64 58 ⇓P **P 17 02 24.2 +0.7**
baz=70,SNR=5.6
Y20A Horse Springs, 70.64 61 ⇑P **P 17 02 24.1 +0.5**
baz=70,SNR=8.3
T25A Trinidad 70.66 56 ⇑P **P 17 02 23.7 +0.1**
baz=70,SNR=5.9
SUW Suwalki 70.70 332 *e*P **P 17 02 22.6 -0.7**
SUW pmax pmax
comp=Z,135nm,1.2s
SUW Suwalki 70.70 332 *e*P **P 17 02 22.6 -0.7**
comp=Z,135nm,1.2s
SUW Suwalki 70.70 332 *e*P **P 17 02 22.3 -1.0**
Q28A Sharon Springs 70.72 53 ⇓P **P 17 02 24.0 +0.2**
baz=70
R27A Eads 70.75 54 ⇑P **P 17 02 23.6 -0.4**
baz=70,SNR=5.3
KIV Kislovodsk 70.75 315 *ce*P **P 17 02 24.3 +0.4**
KIV *e* 17 04 59.9
KIV pmax pmax
comp=Z,98nm,1.0s
KIV MLR MLR
comp=Z,200nm,19.0s
KIV Kislovodsk 70.75 315 P **P 17 02 25.4 +1.5**
comp=Z,523nm,0.8s,SNR=15
SPMN St. Paul 70.78 43 *e*P **P 17 02 23.9 0.0**
SPMN St. Paul 70.78 43 ⇓P **P 17 02 23.9 0.0**
baz=70,SNR=5.0
O30A MW Ranch, Wils 70.87 51 ⇓P **P 17 02 24.5 -0.1**
baz=71
IANJ Anjilo 70.89 302 *e*P **P 17 02 26.4 +1.4**
GUDG Gudauri 70.97 312 P **P 17 02 26.5 +1.2**
BGNE Belgrade 70.98 49 ⇓P **P 17 02 25.1 -0.1**
baz=71
Y21A Point of Rocks 70.98 60 ⇓P **P 17 02 26.0 +0.4**
baz=71,SNR=8.1
ISHM Shahmirzad 71.01 302 *e*P **P 17 02 27.5 +1.7**
ZEI Tsey 71.02 313 *e*P **P 17 02 25.0 -0.7**
ZEI pmax pmax
comp=Z,41nm,0.9s
LAZ Ladron 71.02 60 *e*P **P 17 02 26.7 +0.8**
comp=Z,8.7nm,1.1s
X22A Bernardo 71.03 60 ⇑P **P 17 02 27.1 +1.3**
baz=71,SNR=9.1
ANMO Albuquerque 71.04 59 *e*P **P 17 02 26.5 +0.6**
comp=Z,10.0nm,1.1s
W23A Werner Place, 71.07 59 ⇓P **P 17 02 26.6 +0.5**
baz=71
T26A Comanche Natio 71.10 56 ⇑P **P 17 02 25.8 -0.4**
baz=71,SNR=11
SNART Snartemo 71.12 342 *e*P **P 17 02 26.7 +1.0**
SNART AMB AMB 17 02 30.0
comp=Z,131nm,1.4s
S27A Las Animas 71.12 55 ⇓P **P 17 02 25.7 -0.6**
baz=71,SNR=7.0
V24A Rampart Ranch, 71.17 58 ⇑P **P 17 02 27.0 +0.2**
baz=71,SNR=10
U25A Circle Dot Ran 71.19 57 ⇑P **P 17 02 26.5 -0.2**
baz=71,SNR=15
P30A Selden 71.23 52 ⇑P **P 17 02 26.2 -0.6**
baz=71,SNR=7.5
R28A Tribune 71.25 54 ⇓P **P 17 02 27.0 0.0**
baz=71
DGRG David-gareji 71.26 311 P **P 17 02 27.8 +0.9**
O31A Woolen Ranch, 71.28 51 ⇓P **P 17 02 26.6 -0.5**
baz=71
Q29A Oakley 71.31 53 ⇑P **P 17 02 26.7 -0.6**
baz=71,SNR=8.0
AKASG Malin Array Be 71.33 327 P **P 17 02 26.5 -0.6**
AKASG pmax pmax
comp=Z,22nm,0.4s
AKASG Malin Array Be 71.33 327 P **P 17 02 26.5 -0.6**
AKASG Malin Array Be 71.33 327 P **P 17 02 26.5 -0.6**
comp=Z,22nm,0.4s,baz=34,slow=6.3,SNR=177
AKASG LR LR 17 35 44.1
comp=Z,198nm,19.7s,baz=45,slow=37
KIEV Kiev 71.34 327 *e*P **P 17 02 26.3 -0.9**
KIEV pmax pmax
comp=Z,71nm,0.9s
KIEV Kiev 71.34 327 *e*P **P 17 02 26.3 -0.9**
comp=Z,71nm,0.9s
TBLG Delisi 71.38 312 P **P 17 02 29.0 +1.4**
LPM Los Pinos Moun 71.38 59 P **P 17 02 28.6 +0.6**
comp=Z,2.4nm,0.8s
ONI Oni 71.39 313 P **P 17 02 28.9 +1.1**
IFIR Firoozkooh 71.43 303 *e*P **P 17 02 29.5 +1.1**
120A U Bar Ranch, L 71.44 62 ⇑P **P 17 02 28.7 +0.4**
baz=71,SNR=11
Y22A Socorro 71.45 60 ⇑P **P 17 02 28.9 +0.5**
baz=71
X23A Hourglass Bar 71.45 59 ⇑P **P 17 02 28.6 +0.2**
baz=71
W24A Lazy 6 Ranch, 71.46 58 ⇑P **P 17 02 29.0 +0.5**
baz=71,SNR=17
V25A Rancho No Teng 71.47 57 ⇑P **P 17 02 28.6 +0.1**
baz=71,SNR=6.8
Z21A St. Cloud Mine 71.48 61 ⇓P **P 17 02 29.0 +0.4**
baz=71
ILAS Lasjerd 71.50 302 *e*P **P 17 02 30.4 +1.7**
BNM Barren Site 71.50 60 *e*P **P 17 02 29.2 +0.4**
comp=Z,13nm,1.4s
R29A Marienthal 71.56 53 ⇓P **P 17 02 28.1 -0.8**
baz=71,SNR=8.7
U26A Atchley Ranch, 71.57 56 ⇓P **P 17 02 29.0 -0.1**
baz=71
Q30A Quinter 71.66 52 ⇑P **P 17 02 28.5 -0.9**
baz=71,SNR=9.4
T27A Campo 71.67 55 ⇓P **P 17 02 29.1 -0.4**
baz=71
P31A Stockton 71.71 51 ⇓P **P 17 02 28.8 -0.9**
baz=72,SNR=8.4
S28A Manter 71.74 54 ⇑P **P 17 02 29.5 -0.5**
baz=72
KZR Kazreti 71.80 312 P **P 17 02 31.4 +1.2**
319A Douglas 71.87 63 ⇓P **P 17 02 31.1 +0.2**
baz=72,SNR=11
IDMV Damavand 71.89 303 *e*P **P 17 02 32.2 +1.1**
X24A Lazy V/L Ranch, 71.90 59 ⇓P **P 17 02 31.7 +0.5**
baz=72
Z22A Elephant Butte 71.94 60 ⇑P **P 17 02 31.5 +0.3**
baz=72,SNR=5.0
220A Playas Peak, P 71.95 62 ⇓P **P 17 02 31.3 -0.1**
baz=72,SNR=10
121A Cookes Peak, D 71.96 62 ⇑P **P 17 02 32.2 +0.7**
baz=72,SNR=9.0
T28A Walsh 71.96 55 ⇓P **P 17 02 30.8 -0.5**
baz=72,SNR=5.9
CHVG Ch'k'valeri 71.97 314 P **P 17 02 32.8 +1.7**
V26A Tequesquite Ra 71.97 57 ⇑P **P 17 02 31.1 -0.3**
baz=72,SNR=6.1
Y23A Lovelace Mesa, 71.99 59 ⇓P **P 17 02 31.6 -0.1**
baz=72,SNR=12
W25A X Bar L Ranch, 72.00 57 ⇓P **P 17 02 31.8 +0.2**
baz=72,SNR=16
P32A Huiting Farm, 72.05 51 ⇓P **P 17 02 30.6 -1.1**
baz=72,SNR=7.5
U27A Thompson Grove 72.07 56 ⇑P **P 17 02 31.3 -0.7**
baz=72,SNR=5.9
R30A Dighton 72.13 53 ⇓P **P 17 02 31.6 -0.6**
baz=72,SNR=9.0
S29A Ulysses 72.15 54 ⇓P **P 17 02 32.3 -0.1**
baz=72
BSD Bornholm Skovb 72.20 337 *e*P **P 17 02 32.6 +0.4**
BSD pmax pmax
comp=Z,48nm,1.0s
BSD Bornholm Skovb 72.20 337 *i* P **P 17 02 32.6 +0.4**
comp=Z,48nm,1.0s
AKH Akhalkalaki 72.24 312 P **P 17 02 34.9 +1.9**
122A Conniff Cattle 72.31 61 ⇑P **P 17 02 34.3 +0.8**
baz=72
221A Mesquite Ranch 72.33 62 ⇑P **P 17 02 34.4 +0.8**
baz=72
320A Kipp Ranch, An 72.35 63 ⇓P **P 17 02 34.0 +0.2**
baz=72
Y24A Capitan 72.36 59 ⇑P **P 17 02 33.9 +0.1**
baz=72,SNR=14
Z23A Rita Site, Whi 72.36 60 ⇑P **P 17 02 34.0 +0.2**
baz=72,SNR=5.9
X25A Clemmons Ranch 72.38 58 ⇓P **P 17 02 34.7 +0.8**
baz=72
MUD Monsted U'grnd 72.42 340 *i* P **P 17 02 34.9 +1.4**
MUD pmax pmax
comp=Z,22nm,0.8s
MUD Monsted U'grnd 72.42 340 *i* P **P 17 02 34.9 +1.4**
comp=Z,22nm,0.8s
U28A Matt 72.43 55 ⇓P **P 17 02 34.0 -0.1**
baz=72
SOC Sochi 72.45 316 *e*P **P 17 02 33.0 -1.0**
SOC *e*PPP PPP 17 06 53.8
SOC *e*S **S 17 11 51.1 -3.0**
SOC *e*SSS SSS 17 19 51.2
SOC pmax pmax
comp=Z,55nm,0.7s
SOC MLR MLR
comp=Z,275nm,18.0s
IVRN Varamin 72.48 303 *e*P **P 17 02 35.2 +0.8**
W26A Owens Ranch, T 72.49 57 ⇓P **P 17 02 35.0 +0.5**
baz=72
S30A Montezuma 72.49 53 ⇑P **P 17 02 33.6 -0.9**
baz=72,SNR=5.6
SCHQ Schefferville 72.52 23 *e*P **P 17 02 34.9 +0.7**
SCHQ Schefferville 72.52 23 P **P 17 02 34.0 -0.1**
comp=Z,12nm,0.7s,baz=355,slow=8.4,SNR=6.5
SCHQ LR LR 17 38 16.1
comp=Z,279nm,20.0s,baz=325,slow=39
R31A Burdett 72.53 52 ⇓P **P 17 02 33.7 -0.9**
baz=72
IR3 Iran Long-Peri 72.54 303 *e*P **P 17 02 36.0 +1.2**
V27A Dan Oppiter Fa 72.54 56 ⇓P **P 17 02 34.9 +0.1**
baz=72
GNI Garni 72.54 311 P **P 17 02 36.9 +2.1**
SNR=14
GNI Garni 72.54 311 P **P 17 02 35.4 +0.6**
comp=Z,47nm,0.9s
ANN Anapa 72.58 318 *e*P **P 17 02 33.4 -1.3**
ANN *e*'PP **pP 17 02 49.6 +1.1**
ANN *e*S **S 17 11 52.0 -3.5**
ANN pmax pmax
comp=Z,104nm,1.3s
ANN MLR MLR
comp=Z,340nm,23.0s
IMHD Mahdasht 72.59 304 *e*P **P 17 02 35.9 +0.8**
ISFB Sefidab 72.65 302 *e*P **P 17 02 36.2 +0.8**
222A Williams Famil 72.67 61 ⇓P **P 17 02 35.4 -0.2**
baz=72,SNR=6.4
LLD Lille Linde 72.71 338 *e*P P 17 02 31.7 -3.5
LLD Lille Linde 72.71 338 *i* P P 17 02 31.7 -3.5
EAK Akyaka 72.72 312 *i* P **P 17 02 37.7 +1.9**
Y25A Mesa, Roswell 72.79 59 ⇑P **P 17 02 36.2 -0.1**
baz=73,SNR=12
Z24A Sheeppen Canyo 72.82 59 ⇓P **P 17 02 36.8 +0.2**
baz=73,SNR=11
X26A CR and CF Fran 72.85 58 ⇓P **P 17 02 36.8 +0.1**
baz=73,SNR=5.8
W27A Bowe Ranch, En 72.91 57 ⇑P **P 17 02 37.7 +0.7**
baz=73
AS31 Alice Springs 72.98 199 *e*P **P 17 02 38.4 +1.2**
ASAR Alice Springs 72.98 199 P **P 17 02 38.5 +1.2**
ASAR Alice Springs 72.98 199 P **P 17 02 38.5 +1.2**
comp=Z,45nm,0.9s,baz=9.8,slow=5.8,SNR=321
DIGO Kars 73.04 312 *i* P **P 17 02 39.4 +1.5**
SCIA State Center 73.08 46 *e*P **P 17 02 37.9 +0.1**
comp=Z,17nm,0.6s
GKP Gorka Klasztor 73.17 334 *e*P **P 17 02 39.5 +1.5**
ARTV Artvin 73.19 313 *i* P **P 17 02 39.6 +0.9**
DBOC Borcka 73.20 313 *i* P **P 17 02 39.2 +0.6**
IRAZ Razeghan 73.21 304 *e*P **P 17 02 39.9 +1.0**
124A Stringfield Ra 73.22 60 ⇓P **P 17 02 38.9 -0.1**
baz=73,SNR=5.3
Z25A Roswell 73.24 59 ⇑P **P 17 02 39.5 +0.5**
baz=73
W28A Vega 73.25 56 ⇑P **P 17 02 39.3 +0.2**
baz=73
DAGI Agillar 73.28 313 *i* P **P 17 02 40.4 +1.3**
Y26A Elida 73.29 58 ⇓P **P 17 02 39.4 +0.1**
baz=73
T31A Randall Ranch, 73.32 53 ⇓P **P 17 02 38.9 -0.3**
baz=73
BEL Belsk 73.32 332 *e*P **P 17 02 39.9 +1.0**
DBAD Bademkaya 73.43 313 *i* P **P 17 02 41.2 +1.3**
DDEM Demirkent 73.50 313 *i* P **P 17 02 42.0 +1.6**
MVH1 Achvaich 73.50 348 *e*P **P 17 02 39.6 -0.3**
Z26A Caprock 73.67 59 ⇓P **P 17 02 41.7 +0.2**
baz=73,SNR=18
Y27A Causey 73.70 58 ⇑P **P 17 02 41.6 -0.1**
baz=74,SNR=12
125A Gardner Draw, 73.72 59 ⇓P **P 17 02 41.9 +0.1**
baz=74,SNR=8.7
U31A Nine Bar Ranch 73.75 54 ⇑P **P 17 02 42.4 +0.5**
baz=74
X28A Dimmitt 73.79 57 ⇓P **P 17 02 42.5 +0.3**
baz=74
MSTX Muleshoe 73.86 57 ⇑P **P 17 02 42.3 -0.3**
baz=74,SNR=8.5
EATA Eleskirt 73.90 312 *i* P **P 17 02 45.0 +1.9**
SIM Simferopol' 73.94 320 *e*P P 17 02 46.0 +3.3
SIM pmax pmax
comp=Z,35nm,1.0s
LVV L'vov 73.94 329 *i* P **P 17 02 42.4 -0.3**
MNTX Cornudas Mount 73.98 61 *e*P **P 17 02 43.2 0.0**
comp=Z,27nm,1.8s
MDO Dochfour 74.00 348 *e*P **P 17 02 43.5 +0.7**
225A Deer Hill, Car 74.01 60 ⇑P **P 17 02 43.6 0.0**
baz=74
HOMI Horasan 74.06 312 *i* P **P 17 02 45.4 +1.5**
KAC Achnashellach 74.07 349 *e*P **P 17 02 44.4 +1.1**
Z27A Tatum 74.08 58 ⇑P **P 17 02 43.8 -0.1**
baz=74,SNR=16
TUTA Tutak 74.09 311 *i* P **P 17 02 45.9 +1.9**
126A Clayton Basin, 74.10 59 ⇑P **P 17 02 44.1 +0.1**
baz=74
324A Moseley Ranch, 74.10 61 ⇓P **P 17 02 43.9 -0.2**
baz=74
X29A Tulia 74.13 56 ⇓P **P 17 02 43.9 -0.2**
baz=74,SNR=5.0
DRUM Mains of Drumt 74.23 347 *e*P **P 17 02 45.1 +0.9**
DRUM AMB AMB 17 02 45.4
comp=Z,83nm,1.9s
KSB Sheil Bridge 74.37 348 *e*P **P 17 02 45.4 +0.4**
226B Tecolote Peak, 74.42 60 ⇓P **P 17 02 45.9 0.0**
baz=74,SNR=10
ERZM Erzurum 74.44 312 *i* P **P 17 02 48.3 +2.2**
BSEG Bad Segeberg 74.44 339 *e*P **P 17 02 47.5 +2.0**
BSEG pmax pmax
comp=Z,28nm,0.9s
BSEG Bad Segeberg 74.44 339 *e*P **P 17 02 47.5 +2.0**
comp=Z,28nm,0.9s
325A Bean Ranch, Si 74.46 61 ⇑P **P 17 02 45.9 -0.4**
baz=74,SNR=5.4
KIS Kishinev 74.49 324 *e*P **P 17 02 45.0 -0.9**
KWP Kalwaria Pacla 74.56 330 *e*P **P 17 02 46.5 +0.2**
KWP pmax pmax
comp=Z,180nm,1.5s
KWP Kalwaria Pacla 74.56 330 ⇑*i*P **P 17 02 46.3 0.0**
KWP Kalwaria Pacla 74.56 330 *e*P **P 17 02 46.5 +0.2**
comp=Z,180nm,1.5s
KWP Kalwaria Pacla 74.56 330 *e*P **P 17 02 46.9 +0.6**
W31A Holland Ranch, 74.57 55 ⇓P **P 17 02 46.8 +0.2**
baz=74
Y29A Porterfield Fa 74.57 57 ⇑P **P 17 02 47.1 +0.4**
baz=74
EKAR Karacoban 74.58 312 *i* P **P 17 02 49.2 +2.4**
Z28A Tucker Farm, M 74.58 58 ⇓P **P 17 02 46.6 -0.2**
baz=74
X30A Coker Ranch, T 74.59 56 ⇑P **P 17 02 46.5 -0.3**
baz=74
KOPT Kop Dagi 74.79 313 *i* P **P 17 02 50.1 +2.0**
RUE Ruedersdorf 74.85 336 *e*P **P 17 02 48.7 +0.9**
comp=Z,79nm,0.9s
425A Indio Mountain 74.87 61 ⇓P **P 17 02 48.6 +0.1**
baz=75,SNR=12
X31A McDonald Ranch 74.96 55 ⇓P **P 17 02 49.0 +0.1**
baz=75,SNR=5.1
Z29A Hungry Hill Ra 74.99 57 ⇓P **P 17 02 49.2 +0.1**
baz=75,SNR=12
Y30A Stafford Cattl 75.00 56 ⇑P **P 17 02 49.2 +0.1**
baz=75
128A Castleberry Fa 75.01 58 ⇑P **P 17 02 49.2 0.0**
baz=75,SNR=7.2
HAKT HAKKARI 75.01 309 *i* P **P 17 02 50.7 +1.3**
OJC Ojcow 75.03 331 *e*P **P 17 02 49.5 +0.5**
326A Caldwell Ranch 75.08 60 ⇓P **P 17 02 49.7 0.0**
baz=75,SNR=8.8
LEOM Leova 75.15 324 ⇑*i*P **P 17 02 49.0 -0.7**
ILIN Lien 75.22 306 *e*P **P 17 02 51.3 +0.7**
STHS Stebnicka Huta 75.25 330 *e*P **P 17 02 51.2 +1.0**
BNGL BINGOL 75.27 312 *i* P **P 17 02 53.3 +2.5**
Y31A Rekieta Farm, 75.29 56 ⇓P **P 17 02 50.4 -0.4**
baz=75
KELT Kelkit 75.30 314 *i* P **P 17 02 52.3 +1.3**
Z30A Sanderson Ranc 75.30 57 ⇓P **P 17 02 50.5 -0.4**
baz=75,SNR=13
228A UT Block 9, Go 75.31 59 ⇓P **P 17 02 51.4 +0.3**
baz=75
BUR08 Bucovina Ar. S 75.34 327 *e*P **P 17 02 51.0 0.0**
129A Stewart Farms, 75.36 58 ⇑P **P 17 02 51.3 +0.1**
baz=75
BURAR Bucovina Array 75.36 327 ⇑*i*P **P 17 02 50.9 -0.2**
IPAR Pars 75.41 298 *e*P **P 17 02 53.4 +1.5**
IKOM Komasi 75.46 305 *e*P **P 17 02 51.8 -0.1**
426A McDonald Obser 75.52 60 ⇓P **P 17 02 52.3 -0.1**
baz=75
WMOK Wichita Mounta 75.55 54 *e*P **P 17 02 51.5 -0.7**
WMOK *e* 17 03 00.8
WMOK pmax pmax
comp=Z,14nm,1.0s
WMOK Wichita Mounta 75.55 54 *e*P **P 17 02 51.5 -0.7**
comp=Z,14nm,1.0s
WMOK *e* 17 03 00.8
NIE Niedzica 75.55 331 *e*P **P 17 02 52.8 +0.8**
UZH Uzhgorod 75.56 329 *e*P **P 17 02 50.2 -1.8**
UZH *e* 17 03 00.7
UZH *e* 17 03 06.3
KSP Ksiaz 75.58 334 *e*P **P 17 02 53.6 +1.5**
IDHR Dehrash 75.70 306 *e*P **P 17 02 53.4 +0.1**
ISRV Sarvestan 75.70 298 *e*P **P 17 02 53.3 -0.3**
328A Wristen Ranch, 75.72 59 ⇑P **P 17 02 53.2 -0.1**
baz=76,SNR=14
Y32A R-V Farms, Ver 75.72 55 ⇑P **P 17 02 53.0 -0.2**
baz=76,SNR=6.7
TESR Tescani 75.74 325 ⇑*i*P **P 17 02 52.6 -0.5**
427A Hayter Ranch, 75.76 60 ⇑P **P 17 02 53.5 -0.1**
baz=76,SNR=6.6
NRDL Niedersach Rie 75.81 338 *e*P **P 17 02 55.2 +1.9**
comp=Z,23nm,0.9s
Z31A Sharp Cattle R 75.83 56 ⇓P **P 17 02 53.5 -0.4**
baz=76,SNR=8.1
229A Bryant Ranch, 75.87 58 ⇑P **P 17 02 54.3 +0.1**
baz=76,SNR=5.4
ESK Eskdalemuir 75.88 347 *e*P **P 17 02 54.5 +0.8**
ESK AMB AMB 17 02 55.7
comp=Z,53nm,1.3s
ESK Eskdalemuir 75.88 347 *e*P **P 17 02 55.2 +1.5**
ESK pmax pmax
comp=Z,47nm,0.8s
ESK Eskdalemuir 75.88 347 P **P 17 02 55.3 +1.5**
comp=Z,361nm,0.7s,SNR=13
ESK Eskdalemuir 75.88 347 *e*P **P 17 02 55.2 +1.5**
comp=Z,47nm,0.8s
OKC Ostrava-Krasne 75.89 332 ⇓*i*P **P 17 02 55.6 +1.7**
OKC Ostrava-Krasne 75.89 332 ⇓*i*P **P 17 02 55.6 +1.7**
TRPA Tarpa 75.90 329 ⇑*i*P **P 17 02 54.1 +0.2**
TRPA Tarpa 75.90 329 ⇑*e*P **P 17 02 54.5 +0.6**
526A Mary Lane Ranc 75.93 61 ⇑P **P 17 02 55.1 +0.5**
baz=76,SNR=13
UPC Upice 75.96 334 ⇓*i*P **P 17 02 55.1 +0.8**
UPC Upice 75.96 334 ⇓*i*P **P 17 02 55.1 +0.8**
TLCR 75.98 323 ⇓*i*P **P 17 02 54.7 +0.3**
DPC Dobruska-Polom 76.01 334 *i* P **P 17 02 55.6 +1.0**
DPC *e* 17 03 03.8
DPC Dobruska-Polom 76.01 334 *i* P **P 17 02 55.6 +1.0**
DPC *e*PCP **PcP 17 03 03.8 -3.0**
BEST Besiri 76.02 311 *i* P **P 17 02 53.2 -1.7**
ERBA Erbaa 76.09 316 *i* P **P 17 02 56.8 +1.6**
CLL Collm 76.12 336 ⇑*i*P **P 17 02 54.9 -0.2**
CLL pmax pmax
comp=Z,5.0nm,1.0s
CLL Collm 76.12 336 *e*P **P 17 02 55.7 +0.6**
comp=Z,78nm,0.9s
CLL Collm 76.12 336 ⇑*i*P **P 17 02 54.9 -0.2**
comp=Z,120nm,1.0s
329A Wagon Wheel Ra 76.13 59 ⇓P **P 17 02 55.7 0.0**
baz=76,SNR=6.3
527A Woodward Ranch 76.15 61 ⇓P **P 17 02 55.5 -0.4**
baz=76,SNR=8.7
PETR Petresti 76.17 325 ⇓*i*P **P 17 02 55.3 -0.2**
131A Roby 76.17 57 ⇓P **P 17 02 56.0 +0.1**
baz=76
IKAZ Kazeroun 76.18 299 *e*P **P 17 02 56.5 +0.2**
Z32A Haskell 76.22 56 ⇓P **P 17 02 55.7 -0.4**
baz=76,SNR=7.6
BRG Berggiesshubel 76.24 335 *i* P **P 17 02 56.3 +0.4**
comp=Z,40nm,1.1s
BRG *e*PCP **pP 17 03 10.2 +0.4**
comp=Z,13nm,1.0s
BRG Berggiesshubel 76.24 335 *i* P **P 17 02 56.3 +0.4**
BRG *e* 17 03 10.2
BRG pmax pmax
comp=Z,40nm,1.1s
BRG Berggiesshubel 76.24 335 *e*P **P 17 02 57.2 +1.3**
comp=Z,24nm,0.9s
VRI Vrincioaia 76.25 325 ⇓*i*P **P 17 02 57.1 +1.1**
CFR Carcaliu 76.26 324 ⇓*i*P **P 17 02 56.0 0.0**
626A Big Bend Ranch 76.27 61 ⇓P **P 17 02 56.6 0.0**
baz=76,SNR=13
HAVZ Havza 76.27 317 *i* P **P 17 02 57.6 +1.3**
428A Kincaid Ranch, 76.27 60 ⇑P **P 17 02 56.6 +0.1**
baz=76,SNR=7.7
PLOR Plostina 76.29 325 ⇓*i*P **P 17 02 56.9 +0.6**
TUL1 Tulsa 76.29 52 ⇑P **P 17 02 56.4 0.0**
baz=76

230A Sterling City 76.33 58 ⇑P P 17 02 57.1 +0.3
baz=76
CLZ Clausthal 76.34 338 *e*P P 17 02 57.8 +1.3
CLZ pmax pmax
comp=Z,45nm,0.8s
CLZ Clausthal 76.34 338 *e*P P 17 02 57.8 +1.3
comp=Z,45nm,0.8s
KEMA Kemaliye 76.35 314 *i* P P 17 02 58.1 +1.2
PVCC Panska Ves 76.37 335 ⇓*i*P P 17 02 57.4 +0.8
PVCC Panska Ves 76.37 335 ⇓*i*P P 17 02 57.4 +0.8
GCD Castle Douglas 76.43 347 ⇓*e*P P 17 02 58.4 +1.6
GRER 76.55 325 ⇑*i*P P 17 02 58.2 +0.5
IBBN Ibbenburen 76.56 339 *e*P P 17 02 59.4 +1.8
comp=Z,54nm,0.9s
528A Cox Ranch, San 76.62 60 ⇓P P 17 02 58.7 +0.1
baz=76,SNR=7.8
ABTX Abilene, Hawle 76.63 56 ⇑P P 17 02 58.6 +0.1
baz=76
330A Mertzon 76.65 58 ⇓P P 17 02 58.1 -0.5
baz=76,SNR=6.1
TXAR Lajitas Array 76.71 61 P P 17 02 59.0 0.0
TXAR Lajitas Array 76.71 61 P P 17 02 59.0 0.0
comp=Z,16nm,0.8s,baz=297,slow=4.3,SNR=129
MARD Mardin 76.71 311 *i* P P 17 03 00.3 +1.4
TIRR Tirgusor 76.74 323 *e*P P 17 02 58.9 +0.1
TIRR pmax pmax
comp=Z,26nm,1.0s
TIRR Tirgusor 76.74 323 ⇑*i*P P 17 02 58.9 +0.1
TIRR Tirgusor 76.74 323 *e*P P 17 02 58.9 +0.1
comp=Z,26nm,1.0s
HARR Harsova 76.74 324 ⇑*i*P P 17 02 59.1 +0.3
231A Bronte 76.75 57 ⇓P P 17 02 58.6 -0.6
baz=76
TLB Topalu 76.78 324 ⇓*i*P P 17 02 59.5 +0.5
627A Terlingua Ranc 76.79 61 ⇑P P 17 02 59.1 -0.4
baz=77,SNR=12
429A Davenport Ranc 76.81 59 ⇓P P 17 02 59.2 -0.3
baz=77,SNR=5.4
VRAC Vranov 76.84 333 ⇓*i*P P 17 02 59.8 +0.5
PRU Pruhonice 76.86 334 ⇓*i*P P 17 03 00.1 +0.7
PRU MLR MLR
comp=Z,300nm,22.7s
PRU Pruhonice 76.86 334 ⇓*i*P P 17 03 00.1 +0.7
PRU AMS AMS 17 36 40.0
comp=Z,300nm,22.7s
ISR Istrita 76.94 325 ⇓*i*P P 17 03 01.2 +1.2
DRGR 76.97 328 ⇑*i*P P 17 03 00.3 +0.1
529A Stev Forest Ra 76.98 60 ⇑P P 17 03 00.3 -0.2
baz=77,SNR=9.5
PSZ Piszkesteto 76.99 330 *e*P P 17 02 59.9 -0.4
PSZ pmax pmax
comp=Z,37nm,1.1s
PSZ Piszkesteto 76.99 330 ⇑*i*P P 17 03 00.7 +0.4
PSZ Piszkesteto 76.99 330 *e*P P 17 02 59.9 -0.4
comp=Z,36nm,1.1s
PSZ Piszkesteto 76.99 330 ⇓*e*P P 17 03 02.1 +1.8
CTKT Corum 77.06 317 *i* P P 17 03 02.1 +1.2
628A Black Gap, Mar 77.06 61 ⇓P P 17 03 00.5 -0.4
baz=77,SNR=5.3
TANN Tannenbergstha 77.07 336 *e*P P 17 03 01.6 +0.9
comp=Z,11nm,0.8s
430A Baggett Ranch, 77.07 59 ⇑P P 17 03 00.5 -0.5
baz=77,SNR=14
MOX Moxa 77.10 336 *e*P P 17 03 01.7 +1.0
MOX pmax pmax
comp=Z,42nm,0.9s
MOX Moxa 77.10 336 *e*P P 17 03 01.7 +1.0
comp=Z,42nm,0.9s
MOX *e*L L 17 32 27.8
comp=Z,200nm,21.7s
WTSB Winterswijk 77.10 340 *e*P P 17 03 01.3 +0.7
comp=Z,101nm,0.9s
MALT Malatya 77.12 313 ⇑*i*P P 17 03 02.5 +1.3
331A San Angelo 77.16 58 ⇑P P 17 03 01.1 -0.3
baz=77,SNR=6.0
232A Coleman 77.17 57 ⇓P P 17 03 01.2 -0.4
baz=77,SNR=12
SFIN Scholer Farm 77.19 43 ⇓P P 17 03 01.3 -0.1
baz=77
TREC Trest 77.19 334 *e*P P 17 03 02.1 +0.8
TREC Trest 77.19 334 ⇓*e*P P 17 03 02.1 +0.8
ILGA Ilgaz 77.21 318 *i* P P 17 03 03.5 +1.7
VOIR 77.25 326 ⇑*i*P P 17 03 02.2 +0.4
MSAB Monastry St. A 77.28 323 ⇑*i*P P 17 03 02.5 +0.7
HOQ Hoqain 77.28 291 P P 17 03 03.1 +0.9
SNR=5.7
GMM Mts of Mourne 77.33 348 ⇓*e*P P 17 03 01.7 -0.2
UBBA Unterbreizbach 77.37 337 *e*P P 17 03 03.7 +1.6
comp=Z,12nm,0.7s
SULR 77.42 325 ⇓*i*P P 17 03 03.6 +1.0
ARR Arges 77.47 326 ⇑*i*P P 17 03 04.3 +1.3
PSN Preselentsi 77.47 323 *i* P P 17 03 06.7 +3.8
BUG Bochum--Univer 77.48 339 *e*P P 17 03 04.8 +2.0
comp=Z,48nm,0.9s
530A J-C Ranch, Com 77.48 59 ⇓P P 17 03 03.1 -0.2
baz=77,SNR=8.8
332A Millersview 77.49 57 ⇑P P 17 03 03.1 -0.2
baz=77,SNR=13
431A Sonora 77.51 58 ⇓P P 17 03 03.0 -0.5
baz=77,SNR=7.1
KBI1 Birley Grange 77.59 345 *e*P P 17 03 03.8 +0.4
JMDO Jabal Madar 77.65 289 P P 17 03 05.4 +1.1
SNR=6.2
BUD Budapest 77.66 331 ⇓*e*P P 17 03 06.1 +2.2
LOT Lotru 77.73 327 ⇑*i*P P 17 03 04.2 -0.3
ROTZ Rotzenmuhle 77.73 336 *e*P P 17 03 05.6 +1.3
comp=Z,34nm,0.9s
SIRR Siria 77.80 328 ⇓*i*P P 17 03 05.0 +0.3
PINB Pinarbasi 77.83 315 *i* P P 17 03 06.7 +1.3
432A Menard 77.84 58 ⇓P P 17 03 04.7 -0.6
baz=78,SNR=6.2
PKSN Nyarlorinc 77.88 330 *e*P P 17 03 06.9 +1.8
WME Myndd Eilian 77.90 347 ⇓*e*P P 17 03 06.8 +1.7
KHC Kasperske Hory 77.91 335 *i* P P 17 03 05.8 +0.5
KHC *e* 17 03 12.9
KHC Kasperske Hory 77.91 335 *i* P P 17 03 05.8 +0.5
KHC *e*PCP PcP 17 03 12.9 -2.1
KHC Kasperske Hory 77.91 335 *e*P P 17 03 05.6 +0.3
comp=Z,54nm,1.0s
531A Rocksprings 77.93 59 ⇑P P 17 03 05.3 -0.4
baz=78,SNR=8.1
PKSG 77.95 331 *e*P P 17 03 06.6 +1.1
BSY Bisya 77.96 290 P P 17 03 06.8 +0.8
SNR=6.3
WPM1 Penmaenmawr 77.98 347 ⇓*e*P P 17 03 07.3 +1.7
PKS7 Kunszentmiklos 77.99 330 ⇓*e*P P 17 03 07.8 +2.1
GRF Grafenberg Arr 78.07 336 *e*P P 17 03 07.8 +1.6
GRF pmax pmax
comp=Z,89nm,0.8s
GRF Grafenberg Arr 78.07 336 *e*P P 17 03 07.8 +1.6
comp=Z,89nm,0.8s
GRF *e*L L 17 37 55.9
comp=Z,149nm,20.7s
GRFO Grafenberg 78.07 336 *e*P P 17 03 06.9 +0.7
GRFO pmax pmax
comp=Z,106nm,0.8s
GRFO Grafenberg 78.07 336 *e*P P 17 03 06.9 +0.7
comp=Z,106nm,0.8s
YRC Rhoscolyn 78.09 347 *e*P P 17 03 07.8 +1.7
WET Wettzell 78.10 335 *e*P P 17 03 07.6 +1.2
WET pmax pmax
comp=Z,41nm,0.9s
WET Wettzell 78.10 335 *e*P P 17 03 07.6 +1.2
comp=Z,41nm,0.9s
GEC2 GERESS Array S 78.13 334 *e*P P 17 03 07.4 +0.8
GEC2 pmax pmax
comp=Z,12nm,0.8s
GEC2 GERESS Array S 78.13 334 *e*P P 17 03 07.4 +0.8
comp=Z,12nm,0.8s
GERES GERESS Array B 78.13 334 P P 17 03 06.5 -0.1
GERES GERESS Array B 78.13 334 P P 17 03 06.5 -0.1
comp=Z,8.4nm,0.5s,baz=35,slow=5.1,SNR=60
GERES LR LR 17 38 08.6
comp=Z,251nm,22.0s,baz=188,slow=36
JCT Junction City 78.13 58 *e*P P 17 03 06.7 -0.2
JCT *e* 17 03 14.8
JCT pmax pmax
comp=Z,27nm,1.2s
JCT Junction City 78.13 58 *e*P P 17 03 06.7 -0.2
comp=Z,28nm,1.2s
JCT *e* 17 03 14.8
JCT Junction City 78.13 58 ⇑P P 17 03 06.7 -0.2
baz=78,SNR=5.7
YLL Llanberis 78.13 347 ⇓*e*P P 17 03 06.5 +0.1
PKST T"s 78.19 331 *e*P P 17 03 07.3 +0.4

SOP Sopron 78.29 332 ⇓*e*P P 17 03 08.7 +1.3
CONA Conrad Observa 78.29 333 ⇑*i*P P 17 03 08.3 +0.8
comp=Z,41nm,1.0s,SNR=17
GZT Gaziantep 78.30 313 *i* P P 17 03 09.3 +1.5
BR131 Keskin Array S 78.31 317 *e*P P 17 03 07.8 0.0
comp=Z,15nm,0.8s
BRTR Keskin Array B 78.31 317 P P 17 03 08.2 +0.4
BRTR PP PP 17 06 06.9 +2.3
BRTR Keskin Array B 78.31 317 P P 17 03 08.2 +0.4
comp=Z,12nm,0.8s,baz=76,slow=2.6,SNR=50
BRTR PP PP 17 06 06.9 +2.3
comp=Z,3.8nm,0.9s,baz=48,slow=5.8,SNR=6.1
BRTR LR LR 17 45 37.2
comp=Z,81nm,19.1s,baz=221,slow=42
TNS Taunus Mts 78.31 338 *e*P P 17 03 09.7 +2.1
TNS pmax pmax
comp=Z,46nm,0.8s
TNS Taunus Mts 78.31 338 *e*P P 17 03 09.7 +2.1
comp=Z,46nm,0.8s
YRE Yr Eifi 78.33 347 ⇓*e*P P 17 03 09.2 +1.7
WHTX Lake Whitney 78.33 55 *e*P P 17 03 07.8 -0.1
WHTX Lake Whitney 78.33 55 ⇓P P 17 03 07.6 -0.3
baz=78,SNR=6.9
532A Rocksprings 78.33 58 ⇓P P 17 03 07.6 -0.5
baz=78,SNR=11
BZS Buzias 78.37 328 ⇑*i*P P 17 03 07.4 -0.5
HGN Heimansgroeve 78.42 340 *e*P P 17 03 09.2 +1.1
comp=Z,118nm,1.1s
BEBN Eben Emael 78.45 340 P P 17 03 09.4 +1.3
comp=Z,38nm,1.1s
PKS2 Kecel 78.46 330 ⇓*e*P P 17 03 10.0 +1.7
631A Perdido Creek 78.47 59 ⇑P P 17 03 08.5 -0.3
baz=78,SNR=20
AVNT Avonos 78.49 316 *i* P P 17 03 10.1 +1.2
MIAR Mount Ida 78.50 51 *e*P P 17 03 08.7 -0.1
MIAR pmax pmax
comp=Z,12nm,1.0s
MIAR Mount Ida 78.50 51 *e*P P 17 03 08.7 -0.1
comp=Z,12nm,1.0s
MEM Membach 78.55 340 P P 17 03 09.3 +0.5
comp=Z,76nm,1.1s
ANTO Ankara 78.58 318 P P 17 03 10.9 +1.7
SNR=6.3
ANTO Ankara 78.58 318 ⇓*i*P P 17 03 09.6 +0.4
AYKD Aykdinkavak 78.62 314 *i* P P 17 03 11.0 +1.5
PKS9 Tamasi 78.69 331 *e*P P 17 03 09.9 +0.3
ANDN Andirin 78.72 314 *i* P P 17 03 11.8 +1.7
SZH Strazhica 78.73 324 *i* P P 17 03 10.0 +0.1
UMR Umm Al-Rimmam 78.77 301 *e*P P 17 03 10.6 +0.2
UMR AMb AMb 17 03 13.0
comp=Z,69nm,0.7s
PARMO Parma 78.83 47 P P 17 03 10.9 +0.4
MOA Molln 78.85 334 ⇑*i*P P 17 03 11.5 +1.0
comp=Z,23nm,0.9s,SNR=7.4
632A Uvalde 78.86 59 ⇓P P 17 03 10.9 0.0
baz=79,SNR=5.7
BCLA Clavier 78.89 340 P P 17 03 11.2 +0.6
comp=Z,60nm,1.3s
ARSA Arzberg 79.00 333 ⇑*i*P P 17 03 11.9 +0.6
comp=Z,42nm,1.2s,SNR=7.4
SNF Seneffe 79.04 341 P P 17 03 13.4 +1.9
MCH1 Michaelchurch 79.05 346 *e*P P 17 03 12.3 +0.8
MCH1 AMB AMB 17 03 14.3
comp=Z,77nm,1.0s
RST Umm Al-Ruwaisa 79.22 302 *e*P P 17 03 12.9 +0.1
RST AMb AMB 17 03 15.3
comp=Z,793nm,0.8s
NAY Al-Naaiem 79.27 302 *e*P P 17 03 13.1 0.0
NAY AMb AMB 17 03 14.5
comp=Z,37nm,0.9s
WCI Wyandotte Cave 79.27 44 *e*P P 17 03 13.1 +0.1
WCI pmax pmax
comp=Z,16nm,0.7s
WCI Wyandotte Cave 79.27 44 *e*P P 17 03 13.1 +0.1
comp=Z,16nm,0.7s
BEHE Becsehely 79.29 331 ⇓*e*P P 17 03 14.6 +1.7
GIVF Givet 79.30 340 *e*P P 17 03 12.3 -0.6
comp=Z,96nm,1.0s
GIVF Givet 79.30 340 *e*P P 17 03 12.3 -0.6
GIVF pmax pmax
comp=Z,97nm,1.0s
GIVF Givet 79.30 340 *e*P P 17 03 12.3 -0.6
comp=Z,96nm,1.0s
732A Laxson Ranch, 79.33 59 ⇓P P 17 03 13.6 +0.2
baz=79,SNR=8.0
DOU Dourbes 79.35 340 P P 17 03 13.1 -0.1
comp=Z,24nm,1.2s
RJOB Jochberg 79.39 334 *e*P P 17 03 15.7 +2.2
comp=Z,24nm,0.8s
WLF Walferdange 79.39 339 P P 17 03 15.7 +2.3
WLF Walferdange 79.39 339 *e*P P 17 03 15.5 +2.1
WLF pmax pmax
comp=Z,34nm,1.0s
WLF Walferdange 79.39 339 *e*P P 17 03 16.0 +2.6
comp=Z,12nm,0.9s
WLF Walferdange 79.39 339 *e*P P 17 03 15.5 +2.1
comp=Z,34nm,1.0s
FUR Furstenfeldbru 79.44 336 *e*P P 17 03 15.7 +2.0
FUR pmax pmax
comp=Z,66nm,0.9s
FUR Furstenfeldbru 79.44 336 *e*P P 17 03 15.7 +2.0
comp=Z,66nm,0.9s
STU Stuttgart 79.45 337 *e*P P 17 03 15.8 +2.1
STU pmax pmax
comp=Z,54nm,1.0s
STU Stuttgart 79.45 337 *e*P P 17 03 15.9 +2.1
comp=Z,32nm,0.8s
STU Stuttgart 79.45 337 *e*P P 17 03 15.8 +2.1
comp=Z,54nm,1.0s
BAIF Baives 79.48 341 *e*P P 17 03 13.5 -0.3
comp=Z,106nm,1.1s
BAIF Baives 79.48 341 *e*P P 17 03 13.5 -0.3
BAIF pmax pmax
comp=Z,106nm,1.1s
BAIF Baives 79.48 341 *e*P P 17 03 13.5 -0.3
comp=Z,106nm,1.1s
MPEP Malo Peshtene 79.51 325 *i* P P 17 03 19.3 +5.1
HMNX Herstmonceux 79.52 343 *e*P P 17 03 17.0 +2.9
HMNX AMB AMB 17 03 18.8
comp=Z,190nm,1.3s
COBT Iskenderun 79.60 313 *i* P P 17 03 16.3 +1.3
LANF Langenberg 79.62 338 *e*P P 17 03 17.2 +2.5
SOKA Soboth 79.66 333 ⇓*i*P P 17 03 15.4 +0.3
comp=Z,68nm,1.1s,SNR=16
STKA Stephens Creek 79.67 191 P P 17 03 15.0 +0.1
STKA Stephens Creek 79.67 191 P P 17 03 15.0 +0.1
comp=Z,7.2nm,1.0s,baz=348,slow=10,SNR=5.3
PERS Pernice 79.67 333 *i* P P 17 03 15.7 +0.6
GULE Gulek 79.72 315 *i* P P 17 03 16.9 +1.2
KBA Koelnbreinsper 79.82 334 ⇑*i*P P 17 03 17.6 +1.5
comp=Z,154nm,1.1s,SNR=15
OBKA Obir 79.96 333 ⇑*i*P P 17 03 17.7 +1.0
comp=Z,23nm,0.7s
YAYL Yayladag 80.06 313 *i* P P 17 03 18.2 +0.7
BFO Black Forest 80.08 337 *e*P P 17 03 16.9 -0.3
BFO pmax pmax
comp=Z,55nm,0.9s
BFO Black Forest 80.08 337 *e*P P 17 03 19.0 +1.8
comp=Z,34nm,0.9s
BFO Black Forest 80.08 337 P P 17 03 17.8 +0.6
comp=Z,328nm,0.9s,SNR=7.2
BFO Black Forest 80.08 337 *e*P P 17 03 16.9 -0.3
comp=Z,54nm,0.9s
WATA Walderalm 80.11 335 ⇑*i*P P 17 03 18.1 +0.6
comp=Z,152nm,1.2s,SNR=21
MYKA Terra Mystica 80.13 333 ⇑*i*P P 17 03 17.5 -0.1
comp=Z,21nm,0.7s,SNR=6.2
VAL Valentia 80.13 350 *e*P P 17 03 16.9 -0.4
WTTA Wattenberg 80.16 335 ⇓*i*P P 17 03 18.5 +0.7
comp=Z,112nm,0.8s,SNR=29
RETA Reutte 80.20 336 ⇑*i*P P 17 03 18.6 +0.7
comp=Z,52nm,0.9s,SNR=13
DIVS Divibare 80.27 328 P P 17 03 17.5 -0.9
CDF Champ du Feu 80.28 338 *e*P P 17 03 17.9 -0.5
comp=Z,173nm,1.1s
CDF Champ du Feu 80.28 338 *e*P P 17 03 17.9 -0.5
CDF pmax pmax
comp=Z,173nm,1.1s
CDF Champ du Feu 80.28 338 *e*P P 17 03 17.9 -0.5
comp=Z,173nm,1.1s
BOLV Bolvadin 80.35 318 *i* P P 17 03 19.8 +0.9
ABTA Abfaltersbach 80.37 334 ⇑*i*P P 17 03 19.6 +0.8
comp=Z,37nm,1.1s,SNR=8.2
VTS Vitosha 80.37 325 P P 17 03 18.6 -0.4
VTS Vitosha 80.37 325 P P 17 03 18.6 -0.4
VTS Vitosha 80.37 325 ⇓*i*P P 17 03 18.9 -0.1

VTS Vitosha 80.37 325 *i* P P 17 03 20.0 +1.0
VTS Vitosha 80.37 325 P P 17 03 18.6 -0.4
ECH Echery 80.49 338 *e*P P 17 03 19.5 +0.1
ECH pmax pmax
comp=Z,69nm,1.0s
ECH Echery 80.49 338 *e*P P 17 03 21.8 +2.4
ECH Echery 80.49 338 *e*P P 17 03 19.5 +0.1
comp=Z,69nm,1.0s
VISS Visnje 80.50 332 *i* P P 17 03 19.3 -0.2
PAGF Fort de Pagny 80.53 339 *e*P P 17 03 19.6 0.0
comp=Z,68nm,0.9s
PAGF Fort de Pagny 80.53 339 *e*P P 17 03 19.6 0.0
comp=Z,68nm,0.9s
FELD Feldberg im Sc 80.59 338 *e*P P 17 03 22.3 +2.2
DAVA Damuels 80.63 336 ⇑*i*P P 17 03 20.6 +0.2
comp=Z,62nm,0.8s,SNR=13
FETA Feichten 80.63 335 ⇑*i*P P 17 03 21.2 +0.8
comp=Z,53nm,1.0s,SNR=12
BOJS Bojanci 80.64 332 *i* P P 17 03 21.9 +1.7
KIZK Mersin 80.66 315 *i* P P 17 03 20.6 +0.1
JAVS Javornik 80.67 333 *i* P P 17 03 21.6 +1.1
RDO Rodhopi 80.67 323 P P P 17 03 20.6 +0.2
RDO Rodhopi 80.67 323 P P P 17 03 20.6 +0.2
DYA Yadsworthy 80.71 346 *e*P P 17 03 20.5 0.0
DYA AMB AMB 17 03 23.5
comp=Z,90nm,0.9s
DURS Dursunbey 80.72 320 *i* P P 17 03 21.0 +0.1
MEZF Maizieres J'vi 80.74 340 *e*P P 17 03 20.7 0.0
comp=Z,126nm,0.8s
MEZF Maizieres J'vi 80.74 340 *e*P P 17 03 20.7 0.0
comp=Z,126nm,0.8s
THEF They Montfort 80.77 339 *e*P P 17 03 23.5 +2.6
MOF Molkenrain 80.83 338 *e*P P 17 03 23.7 +2.3
HAU Haudompre 80.89 339 *e*P P 17 03 21.0 -0.6
comp=Z,102nm,1.1s
HAU *e*R
comp=Z,405nm,23.0s
HAU Haudompre 80.89 339 *e*P P 17 03 21.0 -0.6
HAU pmax pmax
comp=Z,102nm,1.1s
HAU Haudompre 80.89 339 *e*P P 17 03 21.0 -0.6
comp=Z,102nm,1.1s
HINF Hinteralfeld 80.94 338 *e*P P 17 03 21.1 -0.7
comp=Z,94nm,1.2s
HINF Hinteralfeld 80.94 338 *e*P P 17 03 21.1 -0.7
HINF pmax pmax
comp=Z,94nm,1.2s
HINF Hinteralfeld 80.94 338 *e*P P 17 03 21.1 -0.7
comp=Z,94nm,1.2s
PMOR Pomariorio Ree 80.94 124 *e*P P 17 03 22.4 +0.3
comp=Z,75nm,0.9s
PMOR Pomariorio Ree 80.94 124 *e*T T 18 32 20.3
comp=Z,18nm,0.2s
BALY Balya 80.97 321 *i* P P 17 03 23.0 +0.8
MMB Musomiste 81.02 325 *i* P P 17 03 23.0 +0.6
SFTF Sexfontaines 81.02 340 *e*P P 17 03 22.0 -0.2
comp=Z,244nm,0.8s
SFTF Sexfontaines 81.02 340 *e*P P 17 03 22.0 -0.2
comp=Z,244nm,0.8s
KKB Krupnik 81.03 325 *i* P P 17 03 25.1 +2.7
NVR Nevrokopi 81.17 324 P P 17 03 23.3 +0.1
NVR Nevrokopi 81.17 324 P P 17 03 23.3 +0.1
VAH Vaihoa 81.28 124 *e*P P 17 03 23.9 0.0
comp=Z,50nm,0.9s
KHAL Karahalli 81.29 319 *i* P P 17 03 23.8 -0.2
LOMF Lomont 81.38 338 *e*P P 17 03 26.9 +2.7
SRS Serrai 81.47 324 P P 17 03 24.2 -0.6
SRS Serrai 81.47 324 P P 17 03 24.2 -0.6
SRS Serrai 81.47 324 P P 17 03 24.2 -0.6
TUE Stuetta 81.52 336 *e*P P 17 03 25.6 +0.4
comp=Z,82nm,0.9s
MANT Manisa 81.60 320 *i* P P 17 03 26.0 +0.3
JSA Saint Aubin 81.61 344 *e*P P 17 03 27.4 +2.2
JSA AMB AMB 17 03 28.4
comp=Z,103nm,1.0s
FLN La Foliniere 81.69 343 *e*P P 17 03 25.6 -0.1
comp=Z,119nm,1.0s
FLN *e*R
comp=Z,235nm,20.0s
FLN La Foliniere 81.69 343 *e*P P 17 03 25.6 -0.1
FLN pmax pmax
comp=Z,119nm,1.0s
FLN La Foliniere 81.69 343 *e*P P 17 03 25.6 -0.1
comp=Z,119nm,1.0s
KNT Kendrikon 81.71 325 P P 17 03 26.0 0.0
KNT Kendrikon 81.71 325 P P 17 03 26.0 0.0
KNT Kendrikon 81.71 325 P P 17 03 26.0 0.0
LDF La Druitiere 81.78 343 *e*P P 17 03 26.0 -0.2
comp=Z,85nm,1.0s
LDF La Druitiere 81.78 343 *e*P P 17 03 26.0 -0.2
LDF pmax pmax
comp=Z,85nm,1.0s
LDF La Druitiere 81.78 343 *e*P P 17 03 26.0 -0.2
comp=Z,85nm,1.0s
SWET Sewanee 81.86 46 *e*P P 17 03 25.9 -1.0
comp=Z,16nm,0.7s
DNZL Cakiroluk 82.05 319 *i* P P 17 03 28.5 +0.4
PPT Papeete 82.09 127 P P 17 03 27.9 -0.2
PPT Papeete 82.09 127 P P 17 03 27.9 -0.2
comp=Z,36nm,1.0s,baz=340,slow=8.5,SNR=4.2
PPT2 Papeete2 82.10 127 *e*P P 17 03 28.5 +0.2
comp=Z,30nm,1.0s
PPT2 Papeete2 82.10 127 *e*LR LR 17 29 03.1
comp=Z,323nm,22.5s,baz=324
GRR Gorron 82.12 343 *e*P P 17 03 28.2 +0.2
comp=Z,212nm,1.0s
GRR Gorron 82.12 343 *e*P P 17 03 28.2 +0.2
GRR pmax pmax
comp=Z,212nm,1.0s
GRR Gorron 82.12 343 *e*P P 17 03 28.2 +0.2
comp=Z,212nm,1.0s
PAE Paea 82.16 127 *e*P P 17 03 28.6 +0.1
comp=Z,6.5nm,1.0s
LOR Lormes 82.18 340 *e*P P 17 03 28.1 -0.3
comp=Z,219nm,1.0s
LOR *e*R
comp=Z,314nm,22.2s
LOR Lormes 82.18 340 *e*P P 17 03 28.1 -0.3
comp=Z,219nm,1.0s
GOLH Golhisar 82.19 318 *i* P P 17 03 28.9 +0.2
PHP Peshkopia 82.20 327 P P P 17 03 28.3 -0.3
PHP Peshkopia 82.20 327 P P P 17 03 28.3 -0.3
PHP Peshkopia 82.20 327 P P P 17 03 28.3 -0.3
TIAR Tiarei 82.20 126 *e*P P 17 03 28.9 +0.2
comp=Z,81nm,1.0s
CABF La Chapelle 82.25 338 *e*P P 17 03 28.9 0.0
comp=Z,113nm,1.0s
CABF La Chapelle 82.25 338 *e*P P 17 03 28.9 0.0
CABF pmax pmax
comp=Z,113nm,1.0s
CABF La Chapelle 82.25 338 *e*P P 17 03 28.9 0.0
comp=Z,113nm,1.0s
CSS Prodhromos 82.27 314 *e*P P 17 03 28.8 -0.3
comp=Z,16nm,0.6s
OG01 Vacheresse 82.36 338 *e*P P 17 03 32.2 +2.8
TVO Taravao 82.44 126 *e*P P 17 03 30.6 +0.6
comp=Z,8.5nm,0.8s
PAIG Palioui 82.45 324 P P P 17 03 29.2 -0.7
PAIG Palioui 82.45 324 P P P 17 03 29.2 -0.7
PAIG Palioui 82.45 324 P P P 17 03 29.2 -0.7
SSF Saint Saulge 82.45 340 *e*P P 17 03 29.6 -0.2
comp=Z,106nm,0.9s
SSF Saint Saulge 82.45 340 *e*P P 17 03 29.6 -0.2
SSF pmax pmax
comp=Z,106nm,0.9s
SSF Saint Saulge 82.45 340 *e*P P 17 03 29.6 -0.2
comp=Z,106nm,0.9s
HYF Humbligny 82.46 341 *e*P P 17 03 30.2 +0.4
HYF Humbligny 82.46 341 *e*P P 17 03 30.2 +0.4
TKL Tuckaleechee C 82.54 44 P P 17 03 30.4 -0.1
TKL Tuckaleechee C 82.54 44 P P 17 03 30.4 -0.1
comp=Z,7.2nm,0.8s,baz=38,slow=3.3,SNR=7.4
SGMF Saint Gilles 82.57 344 *e*P P 17 03 30.7 +0.3
comp=Z,126nm,0.8s
SGMF Saint Gilles 82.57 344 *e*P P 17 03 30.7 +0.3
SGMF pmax pmax
comp=Z,126nm,0.8s
SGMF Saint Gilles 82.57 344 *e*P P 17 03 30.7 +0.3
comp=Z,126nm,0.8s
AYDN Tasoluk 82.59 320 *i* P P 17 03 31.5 +0.8
ROSF Rostrenen 82.62 345 *e*P P 17 03 31.1 +0.5
comp=Z,226nm,0.9s
ROSF Rostrenen 82.62 345 *e*P P 17 03 31.1 +0.5
ROSF pmax pmax
comp=Z,226nm,0.9s

ROSF	Rostrenen	82.62	345	*e*P		P	17 03 31.1	+0.5
	comp=Z,226nm,0.9s							
AVF	Avril sur Loir	82.75	340	*e*P		P	17 03 31.3	0.0
	comp=Z,295nm,1.1s							
AVF	Avril sur Loir	82.75	340	*e*P		P	17 03 31.3	0.0
AVF					pmax	pmax		
	comp=Z,295nm,1.1s							
AVF	Avril sur Loir	82.75	340	*e*P		P	17 03 31.3	0.0
	comp=Z,295nm,1.1s							
SMF	Signal de Mont	82.77	340	*e*P		P	17 03 31.5	+0.1
	comp=Z,337nm,1.1s							
SMF	Signal de Mont	82.77	340	*e*P		P	17 03 31.5	+0.1
SMF					pmax	pmax		
	comp=Z,337nm,1.1s							
SMF	Signal de Mont	82.77	340	*e*P		P	17 03 31.5	+0.1
	comp=Z,337nm,1.1s							
RSL	Roselend	82.97	338	*e*P		P	17 03 35.7	+3.0
AKAS	Kas	82.99	318	*i* P		P	17 03 35.6	+2.7
QUIF	Quistinic	83.01	345	*e*P		P	17 03 32.8	+0.2
	comp=Z,54nm,0.9s							
QUIF	Quistinic	83.01	345	*e*P		P	17 03 32.8	+0.2
QUIF					pmax	pmax		
	comp=Z,54nm,0.9s							
QUIF	Quistinic	83.01	345	*e*P		P	17 03 32.8	+0.2
	comp=Z,54nm,0.9s							
NEST	Nestorio	83.07	326	P		P	17 03 33.1	-0.1
BGF	Bois d'Agland	83.08	340	*e*P		P	17 03 33.2	+0.1
	comp=Z,60nm,0.6s							
BGF	Bois d'Agland	83.08	340	*e*P		P	17 03 33.2	+0.1
BGF					pmax	pmax		
	comp=Z,61nm,0.6s							
BGF	Bois d'Agland	83.08	340	*e*P		P	17 03 33.2	+0.1
	comp=Z,60nm,0.6s							
LPL	La Plagne	83.11	337	*e*P		P	17 03 33.9	+0.4
	comp=Z,122nm,0.8s							
LPL	La Plagne	83.11	337	*e*P		P	17 03 33.9	+0.4
LPL					pmax	pmax		
	comp=Z,122nm,0.8s							
LPL	La Plagne	83.11	337	*e*P		P	17 03 33.9	+0.4
	comp=Z,122nm,0.8s							
LPG	La Plagne	83.12	337	*e*P		P	17 03 34.2	+0.6
	comp=Z,153nm,0.9s							
LPG	La Plagne	83.12	337	*e*P		P	17 03 34.2	+0.6
LPG					pmax	pmax		
	comp=Z,153nm,0.9s							
LPG	La Plagne	83.12	337	*e*P		P	17 03 34.2	+0.6
	comp=Z,153nm,0.9s							
VLC	Villacollemand	83.34	334	*e*P		P	17 03 35.4	+0.9
	comp=Z,46nm,0.9s							
PLDF	La Plantade	83.45	340	*e*P		P	17 03 38.5	+3.4
TCF	Toulx Ste Croi	83.48	341	*e*P		P	17 03 35.5	+0.4
	comp=Z,142nm,0.9s							
TCF	Toulx Ste Croi	83.48	341	*e*P		P	17 03 35.5	+0.4
TCF					pmax	pmax		
	comp=Z,142nm,0.9s							
TCF	Toulx Ste Croi	83.48	341	*e*P		P	17 03 35.5	+0.4
	comp=Z,142nm,0.9s							
AGO	Saint Agoulin	83.49	340	*e*P		P	17 03 38.8	+3.6
BNI	Bardonecchia	83.55	337	*e*P		P	17 03 36.0	+0.4
BNI					pmax	pmax		
	comp=Z,34nm,0.8s							
BNI	Bardonecchia	83.55	337	*e*P		P	17 03 36.0	+0.4
	comp=Z,34nm,0.8s							
MFF	Saint Martin d	83.69	342	*e*P		P	17 03 36.7	+0.5
	comp=Z,118nm,0.9s							
MFF	Saint Martin d	83.69	342	*e*P		P	17 03 36.7	+0.5
MFF					pmax	pmax		
	comp=Z,118nm,0.9s							
MFF	Saint Martin d	83.69	342	*e*P		P	17 03 36.7	+0.5
	comp=Z,118nm,0.9s							
PYM	Petit Puy Mans	83.81	340	*e*P		P	17 03 40.3	+3.4
MBDF	Montbardon	83.83	337	*e*P		P	17 03 37.4	+0.3
	comp=Z,71nm,0.9s							
MBDF	Montbardon	83.83	337	*e*P		P	17 03 37.4	+0.3
MBDF					pmax	pmax		
	comp=Z,71nm,0.9s							
MBDF	Montbardon	83.83	337	*e*P		P	17 03 37.4	+0.3
	comp=Z,71nm,0.9s							
SSB	Saint Sauveur	83.88	339	*e*P		P	17 03 37.6	+0.4
SSB					pmax	pmax		
	comp=Z,70nm,0.8s							
SSB	Saint Sauveur	83.88	339	*e*P		P	17 03 40.6	+3.4
SSB	Saint Sauveur	83.88	339	*e*P		P	17 03 37.6	+0.4
	comp=Z,70nm,0.8s							
ORIF	Oris-en-Rattie	83.88	338	*e*P		P	17 03 37.9	+0.6
	comp=Z,105nm,0.7s							
ORIF				*e*R				
	comp=Z,207nm,19.2s							
ORIF	Oris-en-Rattie	83.88	338	*e*P		P	17 03 37.9	+0.6
ORIF					pmax	pmax		
	comp=Z,105nm,0.7s							
ORIF	Oris-en-Rattie	83.88	338	*e*P		P	17 03 37.9	+0.6
	comp=Z,105nm,0.7s							
KMSC	Kings Mountain	84.10	43	⇑P		P	17 03 38.0	-0.5
	baz=84							
VIVF	Saint-Julien-l	84.25	339	*e*P		P	17 03 39.7	+0.6
	comp=Z,120nm,1.0s							
VIVF	Saint-Julien-l	84.25	339	*e*P		P	17 03 39.7	+0.6
VIVF					pmax	pmax		
	comp=Z,120nm,1.0s							
VIVF	Saint-Julien-l	84.25	339	*e*P		P	17 03 39.7	+0.6
	comp=Z,120nm,1.0s							
FRNF	Fournols	84.25	340	*e*P		P	17 03 42.8	+3.7
AUTN	L'Aution	84.33	336	*e*P		P	17 03 41.5	+1.7
LUCF	Luceram	84.45	336	*e*P		P	17 03 38.6	-1.6
SBF	Sospel	84.45	336	*e*P		P	17 03 40.7	+0.5
	comp=Z,162nm,0.9s							
SBF	Sospel	84.45	336	*e*P		P	17 03 40.7	+0.5
SBF					pmax	pmax		
	comp=Z,162nm,0.9s							
SBF	Sospel	84.45	336	*e*P		P	17 03 40.7	+0.5
	comp=Z,162nm,0.9s							
MVIF	Mont Vial	84.50	337	*e*P		P	17 03 41.2	+0.7
RJF	Les Rejaudoux	84.57	341	*e*P		P	17 03 41.3	+0.6
	comp=Z,213nm,1.1s							
RJF				*e*R				
	comp=Z,298nm,20.0s							
RJF	Les Rejaudoux	84.57	341	*e*P		P	17 03 41.3	+0.6
RJF					pmax	pmax		
	comp=Z,213nm,1.1s							
RJF	Les Rejaudoux	84.57	341	*e*P		P	17 03 41.3	+0.6
	comp=Z,213nm,1.1s							
REVF	Revere	84.58	336	*e*P		P	17 03 40.5	-0.3
RAYN	Ar Rayn	84.60	299	P		P	17 03 41.8	+0.5
	comp=Z,145nm,1.1s,SNR=17							
CAF	Calviac	84.80	340	*e*P		P	17 03 42.9	+1.0
	comp=Z,79nm,0.6s							
CAF	Calviac	84.80	340	*e*P		P	17 03 42.9	+1.0
CAF					pmax	pmax		
	comp=Z,79nm,0.6s							
CAF	Calviac	84.80	340	*e*P		P	17 03 42.9	+1.0
	comp=Z,79nm,0.6s							
SMRF	Simiane la Rot	84.84	338	*e*P		P	17 03 43.1	+1.0
	comp=Z,60nm,0.9s							
SMRF	Simiane la Rot	84.84	338	*e*P		P	17 03 43.1	+1.0
	comp=Z,60nm,0.9s							
FRF	La Foret Royal	84.94	337	*e*P		P	17 03 43.1	+0.5
	comp=Z,25nm,0.7s							
FRF	La Foret Royal	84.94	337	*e*P		P	17 03 43.1	+0.5
FRF					pmax	pmax		
	comp=Z,25nm,0.7s							
FRF	La Foret Royal	84.94	337	*e*P		P	17 03 43.1	+0.5
	comp=Z,25nm,0.7s							
LFF	La Frestale	85.08	341	*e*P		P	17 03 44.1	+0.9
LFF	La Frestale	85.08	341	*e*P		P	17 03 44.1	+0.9
LFF	La Frestale	85.08	341	*e*P		P	17 03 44.1	+0.9
LASF	Ste Croix	85.18	339	*e*P		P	17 03 44.8	+1.0
	comp=Z,138nm,1.2s							
LASF	Ste Croix	85.18	339	*e*P		P	17 03 44.8	+1.0
	comp=Z,138nm,1.2s							
LMR	La Mourre	85.19	337	*e*P		P	17 03 43.9	+0.1
	comp=Z,128nm,1.1s							
LMR	La Mourre	85.19	337	*e*P		P	17 03 43.9	+0.1
LMR					pmax	pmax		
	comp=Z,128nm,1.1s							
LMR	La Mourre	85.19	337	*e*P		P	17 03 43.9	+0.1
	comp=Z,128nm,1.1s							
IDI	Anoyia	85.88	320	*e*P		P	17 03 46.2	-1.3
	comp=Z,34nm,1.1s							
TIGA	Tifton	86.06	46	⇓P		P	17 03 48.8	+0.5
	baz=86							
MTLF	Montolieu	86.27	340	*e*P		P	17 03 50.2	+1.0
	comp=Z,85nm,1.0s							
MTLF	Montolieu	86.27	340	*e*P		P	17 03 50.2	+1.0
MTLF					pmax	pmax		
	comp=Z,85nm,1.0s							
MTLF	Montolieu	86.27	340	*e*P		P	17 03 50.2	+1.0
	comp=Z,85nm,1.0s							
GVD	Gavdhos	86.61	321	*e*P		P	17 03 50.4	-0.6
	comp=Z,87nm,0.8s							
TBI	Tubuai	86.87	130	*e*LR		LR	17 31 01.1	
	comp=Z,503nm,33.2s,baz=318							
TBI	Tubuai	86.87	130	*e*T		T	18 39 44.1	
	comp=Z,6.4nm,0.2s							
MLS	Moulis	86.89	340	*e*P		P	17 03 55.5	+3.3
SJAF	Saint Jean de	86.92	339	*e*P		P	17 03 56.3	+3.9
EPF	Esparros	86.99	341	*e*P		P	17 03 53.3	+0.5
	comp=Z,24nm,0.6s							
EPF	Esparros	86.99	341	*e*P		P	17 03 53.3	+0.5
EPF					pmax	pmax		
	comp=Z,24nm,0.6s							
EPF	Esparros	86.99	341	*e*P		P	17 03 53.3	+0.5
	comp=Z,24nm,0.6s							
SJPF	Ste Jean	87.25	342	*e*P		P	17 03 55.9	+1.9
SJPF	Ste Jean	87.25	342	*e*P		P	17 03 55.9	+1.9
SJPF	Ste Jean	87.25	342	*e*P		P	17 03 55.9	+1.9
ETSF	Etsaut	87.31	342	*e*P		P	17 03 55.5	+1.1
	comp=Z,20nm,0.5s							
ETSF	Etsaut	87.31	342	*e*P		P	17 03 55.5	+1.1
ETSF					pmax	pmax		
	comp=Z,20nm,0.5s							
ETSF	Etsaut	87.31	342	*e*P		P	17 03 55.5	+1.1
	comp=Z,20nm,0.5s							
URZ	Urewera	87.74	162	LR		LR	17 34 51.2	
	comp=Z,244nm,20.8s,baz=305,slow=30							
ESDC	Sonseca Array	91.11	343	P		P	17 04 11.2	-1.1
ESDC				PP		PP	17 07 46.4	-1.9
ESDC	Sonseca Array	91.11	343	P		P	17 04 11.2	-1.1
	comp=Z,0.4nm,0.3s,baz=3.8,slow=4.1,SNR=12							
ESDC				PP		PP	17 07 46.4	-1.9
	comp=Z,1.6nm,1.0s,baz=9.9,slow=9.5,SNR=4.1							
ESDC				LR		LR	17 52 05.8	
	comp=Z,115nm,19.0s,baz=5.0,slow=40							
KEST	Kesra	91.38	332	P		P	17 04 14.1	+0.5
KEST	Kesra	91.38	332	P		P	17 04 14.1	+0.5
	comp=Z,7.0nm,0.7s,baz=8.8,slow=1.8,SNR=14							
KEST				LR		LR	17 49 07.7	
	comp=Z,48nm,19.4s,baz=349,slow=38							
RPZ	Rata Peaks	91.96	168	LR		LR	17 41 41.0	
	comp=Z,240nm,20.6s,baz=41,slow=33							
RKT	Rikitea	94.81	119	*e*LR		LR	17 34 30.6	
	comp=Z,318nm,35.8s							
TORD	Torodi Ar. Bea	114.83	330	PKP		PKPdf	17 09 47.2	-1.2
TORD				PP		PP	17 10 42.4	-3.7
TORD				PKKPbc		PKKPbc	17 20 23.9	+0.4
TORD				PKKPab		PKKPab	17 20 30.4	-3.3
TORD	Torodi Ar. Bea	114.83	330	PKP		PKPdf	17 09 47.2	-1.2
	comp=Z,0.6nm,0.5s,baz=7.7,slow=2.3,SNR=10							
TORD				PP		PP	17 10 42.4	-3.7
	comp=Z,4.2nm,0.9s,baz=18,slow=5.7,SNR=9.4							
TORD				PKKPbc		PKKPbc	17 20 23.9	+0.4
	comp=Z,0.7nm,0.6s,baz=236,slow=1.5,SNR=4.7							
TORD				PKKPab		PKKPab	17 20 30.4	-3.3
	comp=Z,1.9nm,0.6s,baz=212,slow=4.1,SNR=11							
VNDA	Vanda	124.72	178	PKP		PKPdf	17 10 04.0	-1.4
VNDA	Vanda	124.72	178	PKP		PKPdf	17 10 04.0	-1.4
	comp=Z,0.8nm,0.4s,baz=311,slow=4.9,SNR=10							
H03N2	Juan Fernandez	138.21	90	T		T	19 44 13.3	
	baz=307,slow=0.7,SNR=227							
H03N1	Juan Fernandez	138.22	90	T		T	19 44 14.4	
	baz=307,slow=0.7,SNR=256							
H03N3	Juan Fernandez	138.22	90	T		T	19 44 14.3	
	baz=307,slow=0.7,SNR=270							
BDFB	Brasilia	143.51	37	PKPpre		PKPpre	17 10 38.8	
BDFB	Brasilia	143.51	37	PKhKP		PKPpre	17 10 38.8	
	comp=Z,2.2nm,0.5s,baz=284,slow=3.5,SNR=5.4							
CPUP	Villa Florida	147.68	61	PKPbc		PKPbc	17 10 51.4	-0.5
CPUP	Villa Florida	147.68	61	PKPbc		PKPbc	17 10 51.4	-0.5
	comp=Z,3.3nm,0.8s,baz=243,slow=6.7,SNR=4.5							
PLCA	Paso Flores	147.72	95	*e*PKPbc		PKPbc	17 10 51.5	-0.2
PLCA	Paso Flores	147.72	95	PKPbc		PKPbc	17 10 51.3	-0.4
	comp=Z,14nm,1.1s,baz=276,slow=3.9,SNR=12							
MAIT	Maitri	150.46	204	*e*P		PKPdf	17 10 54.8	+2.7
SNAA	Sanae	153.31	196	*e*PKPdf		PKPbc	17 11 03.4	-0.7
SNAA	Sanae	153.31	196	*e*pPKPdf		PKPab	17 11 16.1	-0.3
SNAA	Sanae	153.31	196	*e*PKPbc		PKPbc	17 11 03.2	-0.9
VNA2	Neumayer--Watz	154.75	194	*e*PKPdf		PKPbc	17 11 06.9	-0.2
VNA2	Neumayer--Watz	154.75	194	*es*PKPdf		pPKPbc	17 11 23.1	+1.3

WEL 12 17:02:03.2±0.2, 45°06S×167°39E, h92km±2km, ML3.6/11, 3C-3D, Error ellipse: s-maj=1.7km s-min=1.3km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	Deep Cove	0.45	201	PN	Pn	17 02 17.6	-0.1
DCZ				AML	AML	17 02 28.9	
DCZ				AML	AML	17 02 29.0	
DCZ				SN	Sn	17 02 29.0	+0.4
DCZ				AML	AML	17 02 29.1	
MSZ	Milford Sound	0.55	45	PN	Pn	17 02 18.6	+0.1
MSZ				SN	Sn	17 02 29.9	-0.1
MSZ				AML	AML	17 02 30.6	
MSZ				AML	AML	17 02 30.7	
MSZ				AML	AML	17 02 30.8	
MLZ	Mavora Lakes	0.62	117	⇑PN	Pn	17 02 18.9	-0.3
MLZ				SN	Sn	17 02 30.6	-0.7
MLZ				AML	AML	17 02 31.0	
WHZ	Wether Hill Ro	0.92	155	PN	Pn	17 02 22.1	-0.1
WHZ				SN	Sn	17 02 35.7	-0.7
WHZ				AML	AML	17 02 38.0	
WKZ	Wanaka	1.18	79	⇓PN	Pn	17 02 25.1	0.0
WKZ				SN	Sn	17 02 40.6	-1.2
WKZ				AML	AML	17 02 42.7	
WKZ				AML	AML	17 02 45.5	
WKZ				AML	AML	17 02 45.5	
EAZ	Earnscleugh	1.37	98	PN	Pn	17 02 27.2	-0.2
EAZ				AML	AML	17 02 45.1	
EAZ				AML	AML	17 02 45.2	
EAZ				AML	AML	17 02 45.6	
EAZ				AML	AML	17 02 45.8	
JCZ	Jackson Bay	1.39	45	⇑PN	Pn	17 02 27.2	-0.6
JCZ				AML	AML	17 02 47.8	
JCZ				AML	AML	17 02 51.1	
TUZ	Tuapeka	1.81	120	PN	Pn	17 02 32.6	-0.4
TUZ				AML	AML	17 02 53.5	
TUZ				AML	AML	17 02 54.2	
APZ	The Paps	1.82	167	PN	Pn	17 02 33.0	-0.1
SYZ	Scrubby Hill	1.92	141	⇓PN	Pn	17 02 34.2	-0.2
LBZ	Lake Benmore	2.11	72	⇓PN	Pn	17 02 35.2	-1.7
LBZ				AML	AML	17 02 59.9	
LBZ				AML	AML	17 03 00.4	
FOZ	Fox Glacier	2.23	49	PN	Pn	17 02 38.6	+0.1
ODZ	Otahua Downs	2.31	91	⇑PN	Pn	17 02 38.2	-1.3
HHSZ	Highcliff Hill	2.41	111	PN	Pn	17 02 40.3	-0.5
RPZ	Rata Peaks	2.95	64	PN	Pn	17 02 45.7	-2.5
RPZ				AML	AML	17 03 19.6	
WVZ	Waitaha Valley	3.13	52	PN	Pn	17 02 48.6	-1.8

IDC 12 17:02:30.7±6.5, 13°84N×93°78W, h0km, mb3.7/4, mb1 4.1/6, mb1mx3.9/24, mbtmp3.7/6, ML3.7/2, MS3.5/1, Ms1 3.6/1, ms1mx2.8/29, Error ellipse: s-maj=134.2km s-min=28.7km az=5.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APG	El Apazote	3.41	70	PN	Pn	17 03 26.3	+0.8
	5.7nm,0.3s,baz=272,slow=12,SNR=51						
APG				SN	Sn	17 04 08.0	+1.0
	2.8nm,0.3s,baz=203,slow=22,SNR=4.7						
TXAR	Lajitas Array	17.94	331	P	P	17 06 43.3	+0.7
	0.1nm,0.3s,baz=149,slow=9.0,SNR=5.5						
PDAR	Pinedale Array	31.89	338	P	P	17 08 57.1	-1.0
	0.6nm,0.9s,baz=147,slow=8.5,SNR=3.4						
NVAR	Mina Array Bea	32.74	323	P	P	17 09 06.8	+1.1
	1.2nm,0.9s,baz=142,slow=9.1,SNR=6.1						
NVAR				LR	LR	17 22 32.9	
	comp=Z,88nm,21.4s,baz=343,slow=37						
YKA	Yellowknife Ar	50.80	348	P	P	17 11 31.6	-1.1
	1.7nm,0.8s,baz=154,slow=7.1,SNR=3.1						
ILAR	Eielson Array	62.32	337	P	P	17 12 54.5	-0.1
	1.0nm,0.9s,baz=138,slow=4.6,SNR=7.8						

*ISCJB **12** 17:12:38.7±1.1, 1°18N±0°10×99°4E±0°1, h166km, mb3.6/6, Error ellipse: s-maj=19.2km s-min=9.8km az=145.9*
*IDC **12** 17:12:42.1±1.2, 1°41N×99°71E, h172km±10km, mb3.2/5, mb1 3.3/5, mb1mx3.1/23, mbtmp3.7/5, Error ellipse: s-maj=76.1km s-min=13.3km az=58.0*

ISC 12 17:12:40.9±1.1, 1°3N±0°1×99°6E±0°1, h166km, n12, e0879/16, mb3.5/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	Prapat	1.61	337	P	Pn	17 13 14.4	+1.4
	29nm,0.3s,baz=178,slow=6.9,SNR=47						
PSI				S	Sn	17 13 37.6	-0.2
	2.6nm,0.3s,baz=20,slow=23,SNR=7.4						
FRIM	Kepong	2.81	47	P	Pn	17 13 26.9	+0.2
IPM	Ipoh	3.47	25	P	Pn	17 13 36.1	+1.2
KGM	Kluang	3.82	79	P	Pn	17 13 40.4	+1.1
KULM	Kulim	4.10	15	P	Pn	17 13 42.8	-0.1
MYKOM	Kota Tinggi	4.31	84	P	Pn	17 13 46.8	+1.2
FITZ	Fitzroy Crossi	32.11	128	P	P	17 18 52.0	-0.6
	0.6nm,0.6s,baz=354,slow=10,SNR=3.4						
WRA	Warramunga Arr	40.11	124	P	P	17 20 01.2	+0.5
	3.9nm,0.3s,baz=301,slow=9.1,SNR=136						
WRA				PcP	PcP	17 22 02.1	0.0
	0.3nm,0.5s,baz=314,slow=2.5,SNR=3.4						
ASAR	Alice Springs	41.60	129	P	P	17 20 12.5	-0.4
	0.4nm,0.4s,baz=299,slow=7.4,SNR=25						
ASAR				PcP	PcP	17 22 07.6	+0.7
	0.3nm,0.7s,baz=306,slow=3.1,SNR=4.0						
SONM	Songino Array	46.72	6	P	P	17 20 53.1	-0.1
	0.4nm,0.4s,baz=193,slow=9.7,SNR=8.3						
SONM				PcP	PcP	17 22 23.5	-0.5
	0.3nm,0.4s,baz=194,slow=4.7,SNR=5.0						
MKAR	Makanchi Array	47.75	344	P	P	17 21 01.2	+0.1
	0.2nm,0.3s,baz=155,slow=8.6,SNR=5.8						
ZALV	Zalesovo Beam	53.86	349	P	P	17 21 46.0	-0.6
	0.9nm,0.5s,baz=152,slow=6.7,SNR=6.9						

IDC 12 17:23:59.7±3.6, 12°03S×167°06E, h74km±32km, mb3.6/6, mb1 3.9/8, mb1mx3.6/20, mbtmp3.7/8, MS3.9/5, Ms1 3.8/5, ms1mx3.5/24, Error ellipse: s-maj=26.4km s-min=25.4km az=172.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	7.45	290	P	Pn	17 25 44.5	-1.3
	19nm,0.3s,baz=144,slow=6.6,SNR=19						
HNR				S	Sn	17 27 10.2	+1.4
	7.5nm,0.3s,baz=165,slow=20,SNR=4.3						
DZM	Mont Dzumac	10.00	183	*e*Pn	Pn	17 26 19.9	-0.8
	48nm,1.1s						
DZM				*e*LR	LR	17 28 54.6	
	427nm,26.9s						
DZM	Mont Dzumac	10.00	183	P	Pn	17 26 21.3	+0.6
	0.9nm,0.3s,baz=239,slow=22,SNR=6.6						
PMG	Port Moresby	19.72	276	LR	LR	17 35 18.0	
	comp=Z,281nm,19.9s,baz=277,slow=34						
AFI	Afiamalu	20.71	98	LR	LR	17 35 20.3	
	comp=Z,128nm,19.3s,baz=245,slow=33						
CTA	Charters Tower	21.52	246	P	P	17 28 44.0	+1.1
	3.2nm,0.8s,baz=67,slow=13,SNR=3.9						
STKA	Stephens Creek	30.65	226	LR	LR	17 40 21.5	
	comp=Z,269nm,18.6s,baz=24,slow=32						
WRA	Warramunga Arr	32.37	252	P	P	17 30 21.8	-0.8
	1.3nm,1.1s,baz=85,slow=8.2,SNR=4.3						
ASAR	Alice Springs	33.52	245	P	P	17 30 32.1	-0.4
	1.6nm,0.8s,baz=72,slow=8.8,SNR=19						
ASAR				LR	LR	17 43 06.4	
	comp=Z,190nm,20.5s,baz=80,slow=34						
PPT	Papeete	42.22	103	LR	LR	17 46 19.4	
	comp=Z,236nm,19.1s,baz=2.3,slow=32						
PPT2	Papeete2	42.22	103	*e*LR	LR	17 43 40.3	
	222nm,28.5s						
TBI	Tubuai	42.78	111	*e*LR	LR	17 44 12.3	
	236nm,29.2s						
RKT	Rikitea	56.05	110	*e*LR	LR	17 50 13.9	
	150nm,27.8s						
ILAR	Eielson Array	84.04	18	P	P	17 36 22.2	+0.5
	0.5nm,0.8s,baz=232,slow=5.6,SNR=3.9						
NVAR	Mina Array Bea	85.68	49	P	P	17 36 30.3	-0.6
	0.2nm,0.3s,baz=231,slow=9.4,SNR=4.0						
MKAR	Makanchi Array	95.11	317	P	P	17 37 15.2	+0.4
	0.3nm,0.6s,baz=94,slow=6.2,SNR=4.0						

IDC 12 17:38:47.5±9.7, 14°62N×104°89W, h0km, mb3.6/4, mb1 4.1/5, mb1mx3.9/21, mbtmp3.8/5, ML3.4/1, MS4.2/19, Ms1 4.2/19, ms1mx4.0/28, Error ellipse: s-maj=207.9km s-min=85.7km az=122.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPIG	La Paz	10.73	332	LR	LR	17 44 11.2	
	comp=Z,2µm,20.0s,baz=155,slow=30						
TXAR	Lajitas Array	14.69	4	Pn	Pn	17 42 16.6	-0.3
	0.0nm,0.3s,baz=184,slow=14,SNR=20						
JTS	Juntasabangare	19.93	100	LR	LR	17 49 34.8	
	comp=Z,311nm,21.5s,baz=281,slow=32						
ANMO	Albuquerque	20.29	356	P	Pn	17 43 27.1	0.0
	2.7nm,0.8s,baz=175,slow=8.3,SNR=5.5						
NVAR	Mina Array Bea	26.52	336	P	P	17 44 27.1	-0.1
	0.3nm,0.8s,baz=161,slow=8.5,SNR=2.6						
NVAR				LR	LR	17 53 18.6	
	comp=Z,315nm,21.8s,baz=229,slow=33						
TKL	Tuckaleechee C	28.24	38	LR	LR	17 59 10.7	
	comp=Z,313nm,18.7s,baz=214,slow=43						
PDAR	Pinedale Array	28.34	353	P	P	17 44 42.9	-0.6
	0.4nm,0.5s,baz=163,slow=9.4,SNR=4.7						
ULM	Lac du Bonnet	36.29	10	LR	LR	17 59 59.7	
	comp=Z,280nm,20.5s,baz=216,slow=35						
SADO	Sadowa	37.15	31	LR	LR	18 04 09.3	
	comp=Z,186nm,18.6s,baz=38,slow=41						

comp=Z,290nm,18.7s,baz=0.0,slow=36
ANMO Albuquerque 19.71 358 P Pn 17 50 39.1 -0.2
0.1nm,0.3s,baz=90,slow=2.0,SNR=3.2
ANMO LR LR 17 57 08.0
comp=Z,132nm,20.2s,baz=294,slow=34
NVAR Mina Array Bea 25.76 336 P P 17 51 40.3 +0.9
0.1nm,0.3s,baz=163,slow=9.4,SNR=2.9
PDAR Pinedale Array 27.72 354 P P 17 51 56.6 -0.3
0.9nm,0.8s,baz=163,slow=10,SNR=3.0
LPAZ La Paz 48.39 129 P P 17 54 51.5 -0.1
2.1nm,1.0s,baz=337,slow=8.9,SNR=4.3
H03N2 Juan Fernandez 54.61 153 T T 18 54 34.7
baz=329,slow=0.7,SNR=6.6
H03N1 Juan Fernandez 54.62 153 T T 18 54 36.7
baz=329,slow=0.7,SNR=8.4
H03N3 Juan Fernandez 54.62 153 T T 18 54 38.0
baz=329,slow=0.7,SNR=11
ILAR Eielson Array 56.93 340 P P 17 55 52.3 -1.0
0.9nm,0.9s,baz=137,slow=5.4,SNR=7.7
NOA NORSAR Array B 89.11 26 P P 17 59 03.9 +0.1
0.6nm,0.8s,baz=304,slow=7.3,SNR=2.4

IDC 12 17:56:58.2±2.6, 15.02N×105.73W, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.8/21, mbtmp3.6/5, ML3.3/1, MS3.4/2, Ms1 3.4/2, ms1mx3.1/31, Error ellipse: s-maj=108.3km s-min=26.9km az=64.0, Off coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**10.01**	**335**	LR		LR	LR	18 02 16.7	
	comp=Z,221nm,20.3s,baz=200,slow=32								
TXAR	**Lajitas Array**	**14.37**	**7**	Pn			Pn	18 00 23.4	+0.2
	baz=182,slow=12,SNR=6.1								
ANMO	**Albuquerque**	**19.85**	**358**	P			Pn	18 01 33.0	+0.4
	0.1nm,0.3s,baz=147,slow=18,SNR=3.8								
ANMO				LR		LR	LR	18 08 14.6	
	comp=Z,123nm,19.0s,baz=97,slow=34								
PDAR	**Pinedale Array**	**27.85**	**354**	P			P	18 02 49.2	-0.6
	0.4nm,0.8s,baz=193,slow=3.7,SNR=3.3								
LPAZ	**La Paz**	**48.44**	**128**	P			P	18 05 43.4	-0.1
	1.1nm,0.7s,baz=313,slow=8.2,SNR=5.2								
ILAR	**Eielson Array**	**57.01**	**340**	P			P	18 06 45.3	-0.3
	0.8nm,0.9s,baz=157,slow=5.9,SNR=5.2								

*IDC **12** 18:06:00.8±43.0, 25.68N×130.32E, h0km, mb3.5/3, mb1 3.5/3, mb1mx3.3/22, mbtmp3.5/3, Error ellipse: s-maj=795.7km s-min=222.3km az=122.0*
*NIED **12** 18:06:00, 27.80N×127.70E, h5km, Mw3.9 Best double couple: M0 9.33000×10^14 NP1:φs 185.00000°, δ69.00000°, λ-151.00000°. NP2:φs 84.00000°, δ64.00000°, λ-24.00000°.*
*JMA **12** 18:06:28.3±0.4, 27.84N×127.69E, h16km±5km, M3.7*
*ISCJB **12** 18:06:29.0±1.4, 27.82N±0.05×127.72E±0.06, h24km±11km, mb3.2/3, Error ellipse: s-maj=10.5km s-min=7.4km az=41.3*

ISC 12 18:06:28.0±1.6, 27.83N±0.05×127.74E±0.06, h9km±12km, n13, σ0 71/18, mb3.4/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.82**	**166**	P			**Pg**	**18 06 44.0**	**+0.2**
JIH						*e*S	**Sg**	**18 06 54.9**	**+0.4**
JTK	**Tokunoshima**	**1.07**	**92**	P			**Pb**	**18 06 48.6**	**-0.2**
JTK						*e*S	**Sg**	**18 07 03.4**	**+0.7**
JOW	**Kunigami**	**1.10**	**154**	P			**Pb**	**18 06 48.9**	**-0.4**
JOW						*e*S	**Sb**	**18 07 03.7**	**0.0**
JAGN	**Aguni-jima**	**1.31**	**200**	P			**Pn**	**18 06 51.7**	**-0.8**
JAGN						*e*S	**Sg**	**18 07 10.4**	**+0.1**
JAMN	**Amaminishikomi**	**1.33**	**72**	P			**Pb**	**18 06 53.0**	**-0.2**
JJT2	**Tamagusuku 2**	**1.69**	**180**	P			**Pn**	**18 06 57.2**	**-0.4**
JKE	**Kume jima 2**	**1.72**	**210**	P			**Pn**	**18 06 57.5**	**-0.6**
JAM	**Amami Oshima**	**1.75**	**70**	P			**Pb**	**18 06 59.9**	**-0.3**
JZK	**Kikaishima**	**2.03**	**76**	P			**Pg**	**18 07 06.7**	**-0.3**
JMZ	**Minamidaito 2**	**3.70**	**122**	P			**Pn**	**18 07 24.5**	**-0.8**
JMZ						*e*S	**Sn**	**18 08 09.7**	**+0.6**
SONM	**Songino Array**	**25.98**	**326**	P			**P**	**18 12 02.9**	**+1.8**
	0.7nm,0.8s,baz=135,slow=8.9,SNR=5.3								
MKAR	**Makanchi Array**	**40.15**	**311**	P			**P**	**18 14 04.3**	**0.0**
	0.3nm,0.7s,baz=95,slow=9.6,SNR=3.2								
ZALV	**Zalesovo Beam**	**40.72**	**322**	P			**P**	**18 14 08.2**	**-0.6**
	0.3nm,0.4s,baz=124,slow=8.9,SNR=2.8								

IDC 12 18:11:08.9±19.0, 14.83N×105.31W, h0km, mb3.6/3, mb1 4.1/4, mb1mx3.8/21, mbtmp3.7/4, ML3.7/1, MS3.6/4, Ms1 3.6/4, ms1mx3.2/24, Error ellipse: s-maj=530.7km s-min=88.2km az=118.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**10.35**	**334**	LR		LR	LR	18 17 19.3	
	comp=Z,285nm,18.6s,baz=136,slow=36								
TXAR	**Lajitas Array**	**14.52**	**6**	Pn			Pn	18 14 36.0	+0.2
	0.1nm,0.3s,baz=185,slow=12,SNR=19								
TXAR				LR		LR	LR	18 20 20.3	
	comp=Z,178nm,18.7s,baz=215,slow=38								
ANMO	**Albuquerque**	**20.06**	**357**	P			Pn	18 15 45.1	-0.6
	2.2nm,0.8s,baz=170,slow=9.4,SNR=5.0								
ANMO				LR		LR	LR	18 23 53.0	
	comp=Z,140nm,18.1s,baz=178,slow=38								
PDAR	**Pinedale Array**	**28.08**	**353**	P			P	18 17 02.6	+0.2
	0.5nm,0.8s,baz=166,slow=12,SNR=3.0								
TKL	**Tuckaleechee C**	**28.34**	**39**	LR			LR	18 33 28.2	
	comp=Z,137nm,18.1s,baz=349,slow=47								
H03N2	**Juan Fernandez**	**54.20**	**153**	T			T	19 19 43.3	
	baz=330,slow=0.7,SNR=8.6								
H03N1	**Juan Fernandez**	**54.21**	**153**	T			T	19 19 43.4	
	baz=330,slow=0.7,SNR=14								
H03N3	**Juan Fernandez**	**54.22**	**153**	T			T	19 19 39.8	
	baz=330,slow=0.7,SNR=14								
ILAR	**Eielson Array**	**57.32**	**340**	P			P	18 20 58.0	-0.3
	0.9nm,0.9s,baz=161,slow=5.8,SNR=8.4								

GUC 12 18:19:45.4±0.6, 23.93S×67.59W, h230km, ML3.9, 3C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB04	**Plate Boundary**	**2.41**	**313**	↓*i*P			Pn	18 20 37.2	+6.9
PB04				*i*S			S	18 21 16.7	+11
PB04				AML			AML	18 21 24.2	
	comp=N,157nm,0.2s								
CEN1	**Los Morros**	**2.46**	**282**	↓*i*P			Pn	18 20 34.7	+3.8
CEN1				*i*S			S	18 21 10.8	+4.3
CEN1				AML			AML	18 21 12.7	
	comp=N,123nm,0.2s								
ANCH	**Antofagasta**	**2.60**	**275**	↑*i*P			Pn	18 20 34.0	+1.7
ANCH				*i*S			S	18 21 10.8	+1.9
PB09	**Plate Boundary**	**2.62**	**324**	↑*i*P			Pn	18 20 34.6	+1.8
PB09				AML			AML	18 21 15.8	
	comp=E,322nm,0.6s								
PB07	**Plate Boundary**	**3.05**	**316**	*e*P			Pn	18 20 39.1	+1.6
PB07				*e*S			S	18 21 20.6	+2.2
PB07				AML			AML	18 21 24.6	
	comp=E,215nm,0.4s								
PB01	**Plate Boundary**	**3.37**	**328**	↑*i*P			Pn	18 20 42.2	+1.1
PB01				*e*S			S	18 21 26.7	+1.9
PB01				AML			AML	18 21 30.8	
	comp=E,97nm,0.3s								
HMBC	**Humberstone**	**4.21**	**329**	*e*P			Pn	18 20 51.7	+0.5
HMBC				*e*S			S	18 21 44.3	+1.2

MEX 12 18:27:17.9±0.5, 16.86N×99.96W, h25km±5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.10**	**86**	*e*P			Pb	18 27 21.0	-1.5
ACX				*e*S			Sb	18 27 24.1	-1.6
CAIG	**El Cayaco**	**0.34**	**303**	*i*P			Pb	18 27 24.1	-1.5
CAIG				*i*S			Sb	18 27 29.2	-1.6
MEIG	**Mezcala**	**1.11**	**17**	*e*P			Pn	18 27 34.8	-3.2
MEIG				*i*S			Sn	18 27 48.4	-4.2
ARIG	**Puente Sto Nin**	**1.46**	**346**	*e*P			Pn	18 27 40.3	-2.5
ARIG				*i*S			Sn	18 27 57.7	-3.4
PLIG	**Platanillo**	**1.58**	**16**	*e*P			Pn	18 27 42.2	-2.4
PLIG				*e*S			Sn	18 28 01.7	-2.7
ZIIG	**Zihuatanejo**	**1.61**	**298**	*i*P			Pn	18 27 42.8	-2.1
ZIIG				*i*S			Sn	18 28 01.2	-3.6
PNIG	**Pinotepa**	**1.82**	**105**	*e*P			Pn	18 27 46.1	-1.7
PNIG				*e*S			Sn	18 28 06.9	-3.2
YAIG	**Yautepec**	**2.17**	**23**	*e*P			Pn	18 27 50.3	-2.4
YAIG				*e*S			Sn	18 28 16.0	-2.8

IDC 12 18:27:34.1±1.7, 11.42N×86.09W, h129km±22km, mb3.3/5, mb1 3.7/5, mb1mx3.4/22, mbtmp3.3/5, MS3.0/1, Ms1 3.0/1, ms1mx2.8/19, Error ellipse: s-maj=75.2km s-min=22.5km az=39.0, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**1.58**	**135**	P			Pn	18 28 03.2	0.0
	2.1nm,0.3s,baz=312,slow=20,SNR=10								
JTS				S			Sn	18 28 29.6	+4.3
	27nm,0.3s,baz=289,slow=21,SNR=7.3								
APG	**El Apazote**	**5.55**	**310**	P			Pn	18 28 49.5	-5.5
	0.4nm,0.3s,baz=155,slow=19,SNR=3.6								
APG				LR			LR	18 30 44.4	
	comp=Z,143nm,18.1s,baz=143,slow=34								
TXAR	**Lajitas Array**	**24.21**	**320**	P			P	18 32 38.0	-1.1
	1.6nm,0.8s,baz=136,slow=10,SNR=17								
PDAR	**Pinedale Array**	**37.31**	**331**	P			P	18 34 33.8	-0.4
	0.5nm,0.6s,baz=120,slow=12,SNR=5.7								
NVAR	**Mina Array Bea**	**39.35**	**319**	P			P	18 34 51.1	-0.2
	0.4nm,0.5s,baz=134,slow=8.3,SNR=4.4								
ULM	**Lac du Bonnet**	**39.54**	**350**	P			P	18 34 53.5	+1.1
	3.7nm,0.6s,baz=178,slow=6.9,SNR=4.7								
TORD	**Torodi Ar. Bea**	**85.33**	**78**	P			P	18 39 56.3	-1.3
	0.2nm,0.5s,baz=273,slow=5.7,SNR=3.1								
WRA	**Warramunga Arr**	**140.25**	**253**	PKP			PKPdf	18 46 48.5	-0.2
	0.4nm,0.8s,baz=91,slow=3.2,SNR=3.0								
CMAR	**Chiang Mai Arr**	**149.90**	**350**	PKPbc			PKPbc	18 47 11.3	+1.1
	0.3nm,0.3s,baz=341,slow=3.1,SNR=3.1								

IDC 12 18:28:59.1±1.3, 6.39S×142.89E, h0km, mb3.6/3, mb1 3.9/6, mb1mx3.7/16, mbtmp3.7/6, ML3.3/3, MS3.5/1, Ms1 3.5/1, ms1mx3.0/28, Error ellipse: s-maj=29.7km s-min=27.1km az=97.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.18**	**126**	Pn			Pn	18 30 19.0	+1.0
	1.4nm,0.3s,baz=323,slow=11,SNR=6.4								
PMG				Sn			Sn	18 31 16.9	-1.6
	0.9nm,0.3s,baz=53,slow=2.0,SNR=3.7								
WRA	**Warramunga Arr**	**15.83**	**211**	Pn			Pn	18 32 41.6	-1.9
	0.3nm,0.3s,baz=33,slow=12,SNR=13								
ASAR	**Alice Springs**	**19.23**	**206**	P			Pn	18 33 25.8	-0.2
	0.3nm,0.3s,baz=32,slow=9.6,SNR=22								
FITZ	**Fitzroy Crossi**	**20.46**	**234**	P			P	18 33 38.5	-0.1
	1.3nm,0.4s,baz=45,slow=13,SNR=8.4								
FITZ				LR			LR	18 41 52.7	
	comp=Z,141nm,21.6s,baz=268,slow=38								
MKAR	**Makanchi Array**	**75.24**	**322**	P			P	18 40 44.3	+0.4
	0.3nm,0.7s,baz=111,slow=6.8,SNR=4.3								
ILAR	**Eielson Array**	**87.47**	**24**	P			P	18 41 47.9	-0.5
	0.4nm,0.6s,baz=239,slow=4.7,SNR=4.8								

*ISCJB **12** 18:38:07.9±0.8, 15.7S±0.1×74.83W±0.09, h26km, mb3.9/5, MS3.6/1, Error ellipse: s-maj=17.3km s-min=8.7km az=35.9*
*NEIC **12** 18:38:12.7±2.4, 15.63S×74.80W, h66km±27km, mb4.0/1, Error ellipse: s-maj=37.2km s-min=12.8km az=71.0*
NEIC Felt [III] at Nazca and San Juan de Marcona.
*IDC **12** 18:38:20.0±4.1, 15.41S×74.38W, h113km±29km, mb3.4/4, mb1 3.7/6, mb1mx3.5/20, mbtmp3.5/6, MS3.7/1, Ms1 3.6/1, ms1mx2.8/13, Error ellipse: s-maj=66.0km s-min=17.6km az=31.0*

ISC 12 18:38:10.1±0.8, 15.6S±0.1×74.9W±0.1, h26km, n27, σ1 9 46/14, mb3.7/5, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.52**	**97**	*e*P			**Pn**	**18 39 45.4**	**+0.5**
	8.8nm,0.6s								
LPAZ	**La Paz**	**6.52**	**97**	P			**Pn**	**18 39 47.4**	**+2.5**
	1.1nm,0.3s,baz=268,slow=10.0,SNR=14								
LPAZ				S			**Sn**	**18 40 57.8**	**-1.0**
	0.6nm,0.3s,baz=224,slow=17,SNR=3.8								
LVC	**Limon Verde**	**8.93**	**142**	*e*P			**Pn**	**18 40 19.1**	**+1.3**
	14nm,0.6s								
ATAH	**Atahualpa**	**9.13**	**337**	P			Pn	18 40 29.6	+9.0
	0.5nm,0.3s,baz=262,slow=17,SNR=3.8								
ATAH				S			Sn	18 42 20.9	+18
	1.0nm,0.3s,baz=174,slow=4.2,SNR=3.9								
SAML	**Samuel**	**13.22**	**61**	*e*P			Pn	18 41 10.7	-5.5
	7.4nm,0.7s								
OTAV	**Otavalo**	**16.17**	**347**	P			**Pn**	**18 41 56.2**	**+0.1**
H03N1	**Juan Fernandez**	**18.09**	**191**	T			T	19 01 05.1	
	baz=14,slow=0.7,SNR=2135								
H03N2	**Juan Fernandez**	**18.09**	**191**	T			T	19 01 06.4	
	baz=14,slow=0.7,SNR=1734								
H03N3	**Juan Fernandez**	**18.11**	**191**	T			T	19 01 06.5	
	baz=14,slow=0.7,SNR=1725								
SDV	**Santo Domingo**	**24.73**	**10**	*e*P			**P**	**18 43 28.3**	**-1.5**
	5.5nm,0.8s								
TRQA	**Tormquist**	**25.06**	**155**	P			**P**	**18 43 30.6**	**-1.8**
BDFB	**Brasilia**	**25.86**	**94**	LR			LR	18 55 49.0	
	comp=Z,163nm,20.0s,baz=47,slow=41								
TXAR	**Lajitas Array**	**52.65**	**328**	P			**P**	**18 47 23.3**	**+1.0**
	0.8nm,0.8s,baz=148,slow=9.4,SNR=6.0								
PDAR	**Pinedale Array**	**66.29**	**333**	P			**P**	**18 48 56.0**	**-0.4**
	0.4nm,0.8s,baz=152,slow=8.7,SNR=4.3								
NVAR	**Mina Array Bea**	**67.44**	**324**	P			**P**	**18 49 04.5**	**+0.6**
	0.4nm,0.7s,baz=145,slow=5.4,SNR=3.8								
TORD	**Torodi Ar. Bea**	**80.94**	**74**	P			P	18 50 19.8	-3.1
	3.3nm,0.7s,baz=257,slow=4.5,SNR=18								
H11N3	**WAKE ISLAND Hyl**	**21.27**	**284**	T			T	21 10 05.0	
	baz=100,slow=0.7,SNR=7.8								
H11N2	**WAKE ISLAND Hyl**	**21.28**	**284**	T			T	21 10 05.6	
	baz=100,slow=0.7,SNR=12								
H11N1	**WAKE ISLAND Hyl**	**21.28**	**284**	T			T	21 09 57.2	
	baz=100,slow=0.7,SNR=8.9								
H11S2	**WAKE ISLAND Hyl**	**21.32**	**282**	T			T	21 10 45.0	
	baz=101,slow=0.7,SNR=9.9								
H11S1	**WAKE ISLAND Hyl**	**21.32**	**282**	T			T	21 11 01.3	
	baz=101,slow=0.7,SNR=6.6								
H11S3	**WAKE ISLAND Hyl**	**21.33**	**282**	T			T	21 10 44.3	
	baz=101,slow=0.7,SNR=12								
ASAR	**Alice Springs**	**131.86**	**216**	PKP			**PKPdf**	**18 57 20.9**	**-1.0**
	0.4nm,0.8s,baz=124,slow=1.6,SNR=4.3								
WRA	**Warramunga Arr**	**134.44**	**220**	PKP			**PKPdf**	**18 57 27.3**	**+0.5**
	0.8nm,0.8s,baz=141,slow=2.0,SNR=4.9								
ZALV	**Zalesovo Beam**	**138.61**	**18**	PKP			**PKPdf**	**18 57 31.5**	**-2.0**
	0.9nm,0.6s,baz=330,slow=2.4,SNR=4.4								
MKAR	**Makanchi Array**	**143.59**	**27**	PKP			PKPab	18 57 39.6	+0.5
	0.2nm,0.5s,baz=324,slow=2.2,SNR=3.4								
SONM	**Songino Array**	**147.88**	**358**	PKPbc			**PKPdf**	**18 57 51.7**	**+1.6**
	1.7nm,0.7s,baz=330,slow=3.0,SNR=4.6								

*ISCJB **12** 18:44:51.8±0.3, 12.98S±0.04×166.58E±0.05, h44km, mb4.6/25, MS4.0/17, Error ellipse: s-maj=7.6km s-min=6.0km az=172.7*
*NEIC **12** 18:44:51.8±0.3, 13.00S×166.72E, h35km, mb4.8/11, Error ellipse: s-maj=9.8km s-min=7.7km az=162.0*
*IDC **12** 18:44:54.4±2.1, 12.98S×166.57E, h55km±18km, mb4.2/19, mb1 4.4/21, mb1mx4.4/23, mbtmp4.5/21, ML4.8/1, MS4.1/18, Ms1 4.1/18, ms1mx4.0/29, Error ellipse: s-maj=14.4km s-min=12.7km az=81.0*
*GCMT **12** 18:44:56.2±0.3, 12.90S×166.25E, h41km, MW4.9, Moment Tensor Solution. s36,c42; s42,c61; Moment tensor: Scale 10^16 Nm; Mrr 3.05±.19; Mθθ-0.18±.14; Mφφ-2.87±.13; Mrθ-0.23±.11; Mrφ-0.74±.10; Mθφ-0.83±.09; Best double couple: M0 3.20000×10^16 NP1:φs 195.00000°, δ53.00000°, λ90.00000°. NP2:φs 14.00000°, δ37.00000°, λ90.00000°. Principal axes: T 3.1700, Plg82.0000°, Azm107.0000°; N 0.0100, Plg0.0000°, Azm14.0000°; P -3.1800, Plg8.0000°, Azm284.0000°; Data Used: II IU IC G CN. Surface wave period40 sec.*
*AUST **12** 18:45:00.5±0.0, 13.01S×166.16E, h77km Error ellipse: s-maj=2.3km s-min=1.1km az=35.0*

ISC 12 18:44:53.1±0.4, 12.95S±0.06×166.62E±0.06, h44km, n111, σ0 99/117, mb4.5/25, MS4.1/17, 1C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.42**	**297**	P			**Pn**	**18 46 39.5**	**+0.5**
HNR				S			**Sn**	**18 48 01.1**	**-0.8**
HNR	**Honiara**	**7.42**	**297**	P			**Pn**	**18 46 39.4**	**+0.5**
	290nm,0.3s,baz=188,slow=2.4,SNR=115								
HNR				S			**Sn**	**18 48 01.1**	**-0.8**
	30nm,0.3s,baz=336,slow=19,SNR=2.5								
DZM	**Mont Dzumac**	**9.07**	**181**	*e*Pn			**Pn**	**18 47 02.8**	**+1.2**
	140nm,0.4s								
DZM				*e*Sn			**Sn**	**18 48 44.4**	**+1.9**
	303nm,0.7s								
DZM				*e*LR			LR	18 49 15.0	
	2μm,24.6s								
DZM	**Mont Dzumac**	**9.07**	**181**	*e*Pn			**Pn**	**18 47 02.4**	**+0.8**
	62nm,0.4s								
DZM				S			**Sn**	**18 48 42.9**	**+0.4**
DZM	**Mont Dzumac**	**9.07**	**181**	P			**Pn**	**18 47 02.7**	**+1.1**
	9.0nm,0.3s,baz=202,slow=16,SNR=82								
DZM				S			**Sn**	**18 48 42.9**	**+0.4**
	baz=307,slow=20,SNR=1.6								
MSVF	**Nonsavu**	**12.00**	**115**	P			**Pn**	**18 47 40.2**	**-1.5**
	79nm,1.1s								
EIDS	**Eidsvold**	**19.16**	**228**	*e*P			**Pn**	**18 49 14.3**	**+0.1**
	12nm,0.5s								
EIDS	**Eidsvold**	**19.16**	**228**	P			**Pn**	**18 49 15.0**	**+0.9**
	baz=19,SNR=14								
PMG	**Port Moresby**	**19.41**	**278**	*e*P			**Pn**	**18 49 17.1**	**-0.1**
	41nm,0.9s								
PMG	**Port Moresby**	**19.41**	**278**	P			**Pn**	**18 49 16.5**	**-0.7**
	0.4nm,0.3s,baz=103,slow=7.9,SNR=7.9								
PMG				LR			LR	18 55 57.0	
	comp=Z,383nm,19.3s,baz=120,slow=34								
CTA	**Charters Tower**	**20.76**	**247**	P			Pn	18 49 32.4	-0.9
CTA	**Charters Tower**	**20.76**	**247**	P			Pn	18 49 32.4	-0.9
	15nm,0.9s,baz=73,slow=13,SNR=14								
CTA				LR			LR	18 56 45.7	
	comp=Z,698nm,18.5s,baz=97,slow=34								
CTAO	**Charters Tower**	**20.76**	**247**	*e*P			Pn	18 49 31.9	-1.3
	50nm,1.4s								
AFI	**Afiamalu**	**21.03**	**95**	P			**P**	**18 49 36.4**	**+2.9**
AFI	**Afiamalu**	**21.03**	**95**	P			**P**	**18 49 36.4**	**+2.9**
	71nm,0.9s,baz=103,slow=11,SNR=6.5								
AFI				LR			LR	18 55 25.3	
	comp=Z,271nm,21.9s,baz=139,slow=30								
RMQ	**Roma**	**21.50**	**229**	P			**P**	**18 49 40.2**	**+1.9**
	baz=21,SNR=18								
MANU	**Manus Island**	**21.93**	**298**	P			**P**	**18 49 44.1**	**+1.1**
	baz=22,SNR=3.9								
ARMA	**Armidale**	**22.23**	**216**	P			**P**	**18 49 47.3**	**+1.1**
	baz=22,SNR=4.8								
COEN	**Coen**	**22.82**	**265**	*e*P			**P**	**18 49 53.0**	**+0.4**
	137nm,0.9s								
COEN	**Coen**	**22.82**	**265**	P			**P**	**18 49 53.1**	**+0.5**
	baz=22,SNR=5.9								
QLP	**Quilpie**	**25.00**	**234**	P			**P**	**18 50 13.5**	**+0.6**
	baz=25,SNR=4.2								
CMSA	**Cobar Meteorol**	**26.70**	**223**	P			**P**	**18 50 30.0**	**+1.8**
	baz=26,SNR=9.5								
URZ	**Urewera**	**26.88**	**162**	LR			LR	18 59 01.6	
	comp=Z,518nm,21.5s,baz=339,slow=32								
MILA	**Mila**	**28.65**	**210**	P			P	18 51 05.1	+19
	baz=28,SNR=29								
STKA	**Stephens Creek**	**29.71**	**227**	*e*P			**P**	**18 50 55.5**	**+0.4**
STKA							PcP	**18 53 58.4**	**-0.2**
STKA	**Stephens Creek**	**29.71**	**227**	P			**P**	**18 50 55.9**	**+0.8**
	baz=29,SNR=7.9								
STKA	**Stephens Creek**	**29.71**	**227**	P			**P**	**18 50 55.9**	**+0.8**
	6.7nm,0.8s,baz=332,slow=4.5,SNR=11								
STKA							PcP	**18 53 58.4**	**-0.2**
	10nm,0.8s,baz=82,slow=2.2,SNR=8.8								
STKA				LR			LR	19 02 00.2	
	comp=Z,427nm,18.0s,baz=43,slow=35								
RPZ	**Rata Peaks**	**30.89**	**174**	LR			LR	19 00 52.7	
	comp=Z,444nm,21.1s,baz=340,slow=31								
TOO	**Toolangi**	**30.94**	**214**	P			**P**	**18 51 06.7**	**+0.8**
	baz=31,SNR=3.9								
WRAB	**Tennant Creek**	**31.68**	**253**	*e*P			**P**	**18 51 12.7**	**0.0**
WRA	**Warramunga Arr**	**31.69**	**253**	P			**P**	**18 51 11.8**	**-1.0**
WRA							PcP	**18 54 03.2**	**-0.7**
WRA	**Warramunga Arr**	**31.69**	**253**	P			**P**	**18 51 11.8**	**-1.0**
	3.6nm,0.8s,baz=85,slow=9.5,SNR=16								
WRA							PcP	**18 54 03.2**	**-0.7**
	1.0nm,0.7s,baz=79,slow=3.3,SNR=3.5								
WRA				LR			LR	19 03 33.4	
	comp=Z,358nm,18.9s,baz=80,slow=35								
AS31	**Alice Springs**	**32.76**	**246**	*e*P			**P**	**18 51 21.4**	**-0.8**
ASAR	**Alice Springs**	**32.76**	**246**	P			**P**	**18 51 21.2**	**-0.9**
ASAR							PcP	**18 54 06.0**	**-0.8**
ASAR							ScP	**18 57 46.7**	**-0.8**
ASAR	**Alice Springs**	**32.76**	**246**	P			**P**	**18 51 21.2**	**-0.9**
	4.6nm,0.7s,baz=70,slow=9.5,SNR=61								
ASAR							PcP	**18 54 06.0**	**-0.8**
	1.6nm,0.6s,baz=82,slow=2.2,SNR=7.9								
ASAR							ScP	**18 57 46.7**	**-0.8**
	1.6nm,1.0s,baz=70,slow=4.7,SNR=5.9								
ASAR				LR			LR	19 04 02.2	
	comp=Z,512nm,20.1s,baz=77,slow=35								
BBOO	**Buckleboo**	**34.21**	**230**	P			**P**	**18 51 35.0**	**+0.4**
	baz=34,SNR=5.4								
KNRA	**Kununurra**	**36.75**	**261**	P			**P**	**18 51 56.7**	**+0.1**
	baz=36,SNR=8.0							

	5.5nm,0.8s								
ILAR	**Eielson Array**	**85.04**	**18**	P		**P**	**18 57 22.2**	**-1.5**	
ILAR	**Eielson Array**	**85.04**	**18**	P		**P**	**18 57 22.2**	**-1.5**	
	5.2nm,0.7s,baz=245,slow=4.9,SNR=52								
ILAR				LR		LR	19 27 45.6		
	comp=Z,102nm,20.8s,baz=221,slow=30								
TAPN	**Taplejung**	**86.27**	**299**	*eP*		**P**	**18 57 31.3**	**+0.3**	
	32nm,1.2s								
ODAN	**Odare**	**86.41**	**298**	*eP*		**P**	**18 57 31.8**	**+0.2**	
	43nm,0.8s								
NVAR	**Mina Array Bea**	**86.60**	**49**	P		**P**	**18 57 31.4**	**-0.9**	
NVAR	**Mina Array Bea**	**86.60**	**49**	P		**P**	**18 57 31.4**	**-0.9**	
	1.3nm,0.7s,baz=237,slow=7.4,SNR=8.8								
EGAK	**Eagle**	**86.86**	**20**	*eP*		**P**	**18 57 33.6**	**+1.0**	
	3.2nm,0.6s								
RAMN	**Ramite**	**87.11**	**298**	*eP*		**P**	**18 57 35.2**	**+0.1**	
	16nm,0.8s								
JIRN	**Jiri**	**87.66**	**299**	*eP*		**P**	**18 57 38.1**	**+0.3**	
	21nm,0.7s								
GUN	**Gumba**	**87.99**	**299**	*eP*		**P**	**18 57 39.6**	**+0.2**	
	28nm,0.8s								
PKI	**Pulchoki**	**88.30**	**299**	*eP*		**P**	**18 57 40.8**	**0.0**	
	50nm,0.9s								
KKN	**Kakani**	**88.47**	**299**	*eP*		**P**	**18 57 41.5**	**0.0**	
	30nm,0.7s								
DMN	**Daman**	**88.57**	**299**	*eP*		**P**	**18 57 42.3**	**+0.3**	
	67nm,0.7s								
GKN	**Gorkha**	**89.07**	**299**	*eP*		**P**	**18 57 43.9**	**-0.4**	
	40nm,0.8s								
KOLN	**Koldanda**	**89.90**	**298**	*eP*		**P**	**18 57 47.6**	**-0.6**	
	14nm,0.7s								
DANN	**Dangsing**	**89.91**	**299**	*eP*		**P**	**18 57 47.6**	**-0.7**	
	30nm,0.7s								
SYO	**Syowa Base**	**90.22**	**197**⇑	*eP*		**P**	**18 57 46.4**	**-2.2**	
PDAR	**Pinedale Array**	**94.21**	**47**	P		**P**	**18 58 08.6**	**+0.7**	
PDAR					PKKPbc	**PKKPdf**	**19 15 08.4**	**-1.3**	
PDAR	**Pinedale Array**	**94.21**	**47**	P		**P**	**18 58 08.6**	**+0.7**	
	0.3nm,0.5s,baz=218,slow=5.7,SNR=2.7								
PDAR					PKKPbc	**PKKPdf**	**19 15 08.4**	**-1.3**	
	0.5nm,0.8s,baz=102,slow=6.2,SNR=4.3								
SNAA	**Sanae**	**95.28**	**183**	*eP*		**P**	**18 58 10.2**	**-1.8**	
	5.3nm,1.0s								
MK31	**Makanchi Array**	**95.49**	**317**	*e*PKPdf		**P**	**18 58 13.1**	**-0.2**	
MKAR	**Makanchi Array**	**95.49**	**317**	P		**P**	**18 58 13.4**	**+0.1**	
MKAR	**Makanchi Array**	**95.49**	**317**	P		**P**	**18 58 13.4**	**+0.1**	
	3.8nm,0.7s,baz=95,slow=6.6,SNR=38								
ZAA0	**Zalesovo Array**	**95.59**	**324**	*eP*		**P**	**18 58 12.7**	**-0.9**	
ZALV	**Zalesovo Beam**	**95.59**	**324**	P		**P**	**18 58 12.8**	**-0.8**	
ZALV	**Zalesovo Beam**	**95.59**	**324**	P		**P**	**18 58 12.8**	**-0.8**	
	2.1nm,0.6s,baz=119,slow=4.2,SNR=10								
TXAR	**Lajitas Array**	**95.98**	**61**	P		**P**	**18 58 17.0**	**+0.9**	
TXAR	**Lajitas Array**	**95.98**	**61**	P		**P**	**18 58 17.0**	**+0.9**	
	0.6nm,0.8s,baz=224,slow=5.7,SNR=4.9								
ARCES	**ARCESS Array B**	**118.38**	**345**	PKP		**PKPdf**	**19 03 33.8**	**-1.4**	
ARCES	**ARCESS Array B**	**118.38**	**345**	PKP		**PKPdf**	**19 03 33.8**	**-1.4**	
	1.1nm,0.5s,baz=74,slow=2.2,SNR=9.5								
FINES	**FINESS Array B**	**123.85**	**338**	PKP		**PKPdf**	**19 03 44.3**	**-1.6**	
FINES	**FINESS Array B**	**123.85**	**338**	PKP		**PKPdf**	**19 03 44.3**	**-1.6**	
	3.2nm,1.0s,baz=180,slow=0.4,SNR=3.6								
BOSA	**Boshof**	**124.30**	**222**	PKP		**PKPdf**	**19 03 46.9**	**-1.1**	
BOSA	**Boshof**	**124.30**	**222**	PKP		**PKPdf**	**19 03 46.9**	**-1.1**	
	2.6nm,0.5s,baz=145,slow=13,SNR=7.7								
KEST	**Kesra**	**149.44**	**322**	PKPbc		**PKPbc**	**19 04 37.8**	**-0.2**	
KEST	**Kesra**	**149.44**	**322**	PKPbc		**PKPbc**	**19 04 37.8**	**-0.2**	
	2.0nm,0.8s,baz=256,slow=4.2,SNR=3.4								
ESDC	**Sonseca Array**	**152.11**	**344**	PKPbc		**PKPbc**	**19 04 43.9**	**-0.2**	
ESDC				PKPab		**PKPab**	**19 04 53.5**	**-0.1**	
ESDC	**Sonseca Array**	**152.11**	**344**	PKPbc		**PKPbc**	**19 04 43.9**	**-0.2**	
	0.4nm,0.5s,baz=9.7,slow=3.5,SNR=4.5								
ESDC				PKPab		**PKPab**	**19 04 53.5**	**-0.1**	
	0.8nm,0.5s,baz=15,slow=3.6,SNR=9.5								
TORD	**Torodi Ar. Bea**	**165.31**	**272**	PKP		**PKPdf**	**19 04 55.3**	**+1.6**	
TORD				PKPab		**PKPab**	**19 05 51.2**	**-0.4**	
TORD	**Torodi Ar. Bea**	**165.31**	**272**	PKP		**PKPdf**	**19 04 55.3**	**+1.6**	
	0.4nm,0.8s,baz=55,slow=1.5,SNR=3.0								
TORD				PKPab		**PKPab**	**19 05 51.2**	**-0.4**	
	4.5nm,0.8s,baz=80,slow=4.9,SNR=21								

IDC ***12*** *18:50:23.0±3.0,22.36S×68.38W,h0km,mb3.7/1, mb1 3.9/3,mb1mx3.6/18,mbtmp3.8/3,ML3.9/2,Error ellipse: s-maj=75.2km s-min=52.7km az=86.0*

ISCJB ***12*** *18:50:39.2±0.9,21.22S±0.04×68.8W±0.1,h127km±10km, mb3.2/1,Error ellipse: s-maj=22.9km s-min=6.7km az=1.4*

GUC ***12*** *18:50:39.3±0.5,21.21S×68.76W,h120km±3km,ML3.4*

ISC 12 18:50:40.4±1.1,21.23S±0.04×68.9W±0.1,h124km±10km, n13,σ1s50/20,3C-3D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB01	**Plate Boundary**	**0.61**	**288**		*eP*		**Pn**	**18 50 59.0**	**-0.6**
PB01					*i*	S	**Sn**	**18 51 14.1**	**0.0**
PB01						AML	AML	18 51 17.0	
	comp=N,623nm,0.2s								
PB09	**Plate Boundary**	**0.66**	**212**⇑		*i*	P	**Pn**	**18 50 59.8**	**-0.4**
PB09					*i*	S	**Sn**	**18 51 15.1**	**+0.1**
PB09						AML	AML	18 51 17.6	
	comp=N,4μm,0.6s								
PB07	**Plate Boundary**	**1.07**	**242**⇑		*i*	P	**Pn**	**18 51 04.0**	**+0.4**
PB07					*i*	S	**Sn**	**18 51 22.6**	**+1.3**
PB07						AML	AML	18 51 24.8	
	comp=E,676nm,0.4s								
PB04	**Plate Boundary**	**1.18**	**209**⇓		*i*	P	Pn	18 51 10.2	+5.6
PB04					*e*	S	Sn	18 51 33.7	+11
PB04						AML	AML	18 51 42.3	
	comp=N,486nm,0.2s								
MACH	**Maria Elena**	**1.27**	**221**⇑		*i*	P	**Pn**	**18 51 06.0**	**+0.2**
MACH					*i*	S	**Sn**	**18 51 26.1**	**+1.1**
HMBC	**Humberstone**	**1.35**	**315**⇓		*i*	P	**Pn**	**18 51 06.4**	**-0.1**
HMBC					*i*	S	**Sn**	**18 51 27.1**	**+0.8**
HMBC						AML	AML	18 51 28.8	
	comp=E,422nm,0.7s								
PSGC	**Pisagua**	**2.01**	**324**⇓		*i*	P	**Pn**	**18 51 14.0**	**-0.3**
PSGC					*i*	S	**Sn**	**18 51 40.9**	**+0.7**
PSGC						AML	AML	18 51 46.8	
	comp=E,172nm,0.5s								
MNMC	**Minimini**	**2.20**	**342**		*e*	P	**Pn**	**18 51 16.7**	**-0.1**
MNMC					*e*	S	**Sn**	**18 51 45.1**	**+0.3**
MNMC						AML	AML	18 51 51.8	
	comp=E,337nm,0.4s								
ANCH	**Antofagasta**	**2.83**	**210**		*e*	P	**Pn**	**18 51 25.8**	**+1.2**
ANCH					*e*	S	**Sn**	**18 52 00.5**	**+1.9**
LPAZ	**La Paz**	**4.97**	**8**	Pn		P	**Pn**	**18 51 54.1**	**+0.5**
	comp=E,0.9nm,0.3s,baz=187,slow=7.1,SNR=25								
LPAZ				Sn			**Sn**	**18 52 55.0**	**+4.5**
	comp=E,0.0nm,0.3s,baz=188,slow=19,SNR=3.5								
SIV	**San Ignacio**	**9.04**	**56**	Pn		Pn		18 52 39.7	-8.4
	comp=E,1.2nm,0.3s,baz=251,slow=15,SNR=19								
TORD	**Torodi Ar. Bea**	**77.22**	**70**	P		P	**P**	**19 02 19.1**	**-2.3**
	comp=E,0.2nm,0.4s,baz=253,slow=5.0,SNR=6.6								
MKAR	**Makanchi Array**	**145.39**	**36**	PKPbc		**PKPab**	**19 10 04.2**	**0.0**	
	comp=E,0.5nm,0.9s,baz=321,slow=1.8,SNR=3.6								

ISCJB ***12*** *19:30:08.6±0.4,11.55N±0.06×86.68W±0.05,h65km, mb4.4/44,Error ellipse: s-maj=10.6km s-min=4.9km az=36.1*

NEIC ***12*** *19:30:08.8±1.2,11.41N×86.86W,h54km±10km,mb4.5/33, Error ellipse: s-maj=13.5km s-min=6.4km az=48.0*

IDC ***12*** *19:30:09.0±1.9,11.77N×86.50W,h44km±19km,mb4.1/11, mb1 4.3/12,mb1mx4.0/25,mbtmp4.3/12,ML3.2/1,MS3.7/6, Ms1 3.8/6,ms1mx3.4/42,Error ellipse: s-maj=36.1km s-min=12.7km az=50.0*

ISC 12 19:30:10.5±0.6,11.6N±0.1×86.6W±0.1,h65km,n311, σ0s88/311,mb4.5/44,107C-106D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**2.06**	**128**	P		P	**Pn**	**19 30 41.6**	**-1.3**
JTS				S			**Sn**	**19 31 07.5**	**+0.1**
JTS	**JuntasAbangare**	**2.06**	**128**	P		P	**Pn**	**19 30 41.6**	**-1.3**
	8.3nm,0.3s,baz=317,slow=19,SNR=36								
JTS				S			**Sn**	**19 31 07.5**	**+0.1**
	76nm,0.3s,baz=312,slow=16,SNR=7.6								
JTS				LR		LR		19 31 50.8	
	comp=Z,1μm,19.4s,baz=296,slow=48								
TGUH	**Tegucigalpa,Un**	**2.56**	**345**	*eP*			**Pn**	**19 30 49.4**	**-0.2**
APG	**El Apazote**	**5.08**	**313**	P			Pn	19 31 27.9	+3.5
APG				S			**Sn**	**19 32 22.0**	**+0.2**
APG	**El Apazote**	**5.08**	**313**	P			Pn	19 31 27.9	+3.5
	1.7nm,0.3s,baz=133,slow=16,SNR=5.6								
APG				S			**Sn**	**19 32 22.0**	**+0.2**
	2.0nm,0.3s,baz=126,slow=19,SNR=2.4								

SDV	**Santo Domingo**	**15.93**	**98**	*eP*			**P**	**19 33 54.6**	**+1.1**
	11nm,0.8s								
HKT	**Hockley**	**20.20**	**336**	*eP*			**P**	**19 34 37.5**	**-2.4**
	34nm,1.3s								
ATAH	**Atahualpa**	**20.30**	**156**	LR		LR	LR	19 41 10.3	
	comp=Z,220nm,18.9s,baz=167,slow=32								
732A	**Laxson Ranch,**	**21.16**	**326**	⇓P			**P**	**19 34 48.8**	**-1.6**
	baz=21,SNR=10								
LRAL	**Lakeview Retre**	**21.36**	**359**	*eP*			**P**	**19 34 54.9**	**+2.4**
	25nm,0.8s								
632A	**Uvalde**	**21.67**	**327**	⇓P			**P**	**19 34 54.1**	**-1.7**
	baz=22								
631A	**Perdido Creek**	**22.02**	**326**	⇓P			**P**	**19 34 57.9**	**-1.7**
	baz=22,SNR=11								
532A	**Rocksprings**	**22.22**	**328**	⇑P			**P**	**19 34 59.8**	**-2.1**
	baz=22,SNR=9.3								
JCT	**Junction City**	**22.45**	**329**	*eP*			**P**	**19 35 02.0**	**-2.3**
	9.9nm,0.8s								
JCT	**Junction City**	**22.45**	**329**	⇑P			**P**	**19 35 02.3**	**-2.0**
	baz=22								
531A	**Rocksprings**	**22.59**	**327**	⇑P			**P**	**19 35 04.3**	**-1.5**
	baz=23								
WHTX	**Lake Whitney**	**22.65**	**335**	*eP*			**P**	**19 35 06.3**	**-0.1**
WHTX	**Lake Whitney**	**22.65**	**335**	⇓P			**P**	**19 35 04.4**	**-2.0**
	baz=23								
432A	**Menard**	**22.77**	**330**	⇑P			**P**	**19 35 05.3**	**-2.4**
	baz=23								
530A	**J-C Ranch, Com**	**23.01**	**326**	⇓P			**P**	**19 35 08.7**	**-1.4**
	baz=23,SNR=13								
431A	**Sonora**	**23.03**	**328**	⇑P			**P**	**19 35 08.8**	**-1.5**
	baz=23,SNR=11								
332A	**Millersview**	**23.16**	**330**	⇓P			**P**	**19 35 09.7**	**-1.8**
	baz=23,SNR=19								
628A	**Black Gap, Mar**	**23.41**	**322**	⇑P			**P**	**19 35 12.4**	**-1.5**
	baz=23,SNR=15								
331A	**San Angelo**	**23.44**	**329**	⇓P			**P**	**19 35 12.6**	**-1.6**
	baz=24								
430A	**Baggett Ranch,**	**23.44**	**327**	⇓P			**P**	**19 35 12.6**	**-1.6**
	baz=24								
529A	**Stev Forest Ra**	**23.48**	**324**	⇑P			**P**	**19 35 12.6**	**-2.1**
	baz=24								
232A	**Coleman**	**23.53**	**331**	⇑P			**P**	**19 35 13.2**	**-1.8**
	baz=24,SNR=13								
SWET	**Sewanee**	**23.54**	**1**	*eP*			**P**	**19 35 16.1**	**+1.0**
	40nm,0.9s								
429A	**Davenport Ranc**	**23.68**	**326**	⇑P			**P**	**19 35 14.6**	**-1.8**
	baz=24,SNR=10								
627A	**Terlingua Ranc**	**23.69**	**321**	⇓P			**P**	**19 35 15.4**	**-1.2**
	baz=24,SNR=14								
MIAR	**Mount Ida**	**23.74**	**346**	*eP*			**P**	**19 35 16.4**	**-0.4**
	22nm,0.8s								
TXAR	**Lajitas Array**	**23.78**	**321**	P			**P**	**19 35 16.6**	**-0.8**
TXAR						PcP	**PcP**	**19 39 02.6**	**+3.1**
TXAR	**Lajitas Array**	**23.78**	**321**	P			**P**	**19 35 16.6**	**-0.8**
	6.4nm,0.7s,baz=135,slow=9.9,SNR=58								
TXAR						PcP	**PcP**	**19 39 02.6**	**+3.1**
	2.8nm,0.9s,baz=144,slow=4.5,SNR=9.1								
528A	**Cox Ranch, San**	**23.84**	**323**	⇓P			**P**	**19 35 16.2**	**-1.7**
	baz=24,SNR=6.7								
CPCT	**Cooper Cave**	**23.84**	**4**	*eP*			**P**	**19 35 19.8**	**+2.0**
231A	**Bronte**	**23.89**	**330**	⇑P			**P**	**19 35 17.0**	**-1.3**
	baz=24								
KMSC	**Kings Mountain**	**23.95**	**11**	*eP*			**P**	**19 35 20.2**	**+1.5**
KMSC	**Kings Mountain**	**23.95**	**11**	⇑P			**P**	**19 35 17.2**	**-1.5**
	baz=24								
TKL	**Tuckaleechee C**	**24.11**	**6**	P			**P**	**19 35 21.9**	**+1.7**
TKL	**Tuckaleechee C**	**24.11**	**6**	P			**P**	**19 35 21.9**	**+1.7**
	20nm,0.7s,baz=168,slow=10,SNR=17								
ABTX	**Abilene, Hawle**	**24.14**	**332**	*eP*			**P**	**19 35 19.3**	**-1.2**
ABTX	**Abilene, Hawle**	**24.14**	**332**	⇑P			**P**	**19 35 19.6**	**-1.0**
	baz=24,SNR=6.2								
428A	**Kincaid Ranch,**	**24.20**	**324**	⇑P			**P**	**19 35 20.8**	**-0.4**
	baz=24								
626A	**Big Bend Ranch**	**24.22**	**320**	⇓P			**P**	**19 35 21.0**	**-0.4**
	baz=24,SNR=14								
230A	**Sterling City**	**24.25**	**329**	⇑P			**P**	**19 35 20.2**	**-1.3**
	baz=24								
527A	**Woodward Ranch**	**24.32**	**322**	⇓P			**P**	**19 35 21.4**	**-0.9**
	baz=24,SNR=7.4								
329A	**Wagon Wheel Ra**	**24.39**	**327**	⇓P			**P**	**19 35 21.9**	**-0.9**
	baz=24								
WVT	**Waverly**	**24.47**	**358**	*eP*			**P**	**19 35 24.1**	**+0.6**
	7.4nm,0.8s								
131A	**Roby**	**24.53**	**331**	⇑P			**P**	**19 35 23.4**	**-0.7**
	baz=25								
526A	**Mary Lane Ranc**	**24.55**	**321**	⇓P			**P**	**19 35 23.7**	**-0.7**
	baz=25,SNR=6.0								
Z32A	**Haskell**	**24.64**	**333**	⇓P			**P**	**19 35 24.4**	**-0.7**
	baz=25,SNR=7.6								
229A	**Bryant Ranch,**	**24.67**	**328**	⇓P			**P**	**19 35 24.9**	**-0.5**
	baz=25								
427A	**Hayter Ranch,**	**24.70**	**323**	⇑P			**P**	**19 35 25.2**	**-0.6**
	baz=25								
130A	**Snyder**	**24.75**	**330**	⇓P			**P**	**19 35 25.1**	**-0.9**
	baz=25								
328A	**Wristen Ranch,**	**24.76**	**325**	⇓P			**P**	**19 35 25.4**	**-0.8**
	baz=25,SNR=11								
Z31A	**Sharp Cattle R**	**24.95**	**332**	⇑P			**P**	**19 35 27.0**	**-0.9**
	baz=25,SNR=5.7								
228A	**UT Block 9, Go**	**25.20**	**327**	⇓P			**P**	**19 35 29.5**	**-0.8**
	baz=25								
326A	**Caldwell Ranch**	**25.38**	**323**	⇑P			**P**	**19 35 31.6**	**-0.3**
	baz=25								
Z30A	**Sanderson Ranc**	**25.39**	**331**	⇑P			**P**	**19 35 31.0**	**-0.9**
	baz=26,SNR=6.0								
227A	**Bennet, Jal**	**25.51**	**325**	⇓P			**P**	**19 35 31.9**	**-1.1**
	baz=26								
128A	**Castleberry Fa**	**25.54**	**328**	⇓P			**P**	**19 35 32.3**	**-1.0**
	baz=26								
Y31A	**Rekieta Farm,**	**25.55**	**333**	⇓P			**P**	**19 35 32.6**	**-0.7**
	baz=26,SNR=5.7								
WMOK	**Wichita Mounta**	**25.59**	**336**	*eP*			**P**	**19 35 34.2**	**+0.5**
	42nm,1.4s								
425A	**Indio Mountain**	**25.61**	**321**	⇑P			**P**	**19 35 33.4**	**-0.7**
	baz=26								
TUL1	**Tulsa**	**25.62**	**343**	*eP*			**P**	**19 35 33.6**	**-0.3**
TUL1	**Tulsa**	**25.62**	**343**	⇓P			**P**	**19 35 33.1**	**-0.8**
	baz=26								
Z29A	**Hungry Hill Ra**	**25.65**	**330**	⇑P			**P**	**19 35 33.6**	**-0.7**
	baz=26,SNR=9.9								
LPIG	**La Paz**	**25.73**	**302**	LR		LR	LR	19 45 16.7	
	comp=Z,96nm,20.6s,baz=92,slow=35								
Y30A	**Stafford Cattl**	**25.76**	**332**	⇓P			**P**	**19 35 34.4**	**-0.9**
	baz=26,SNR=6.9								
X31A	**McDonald Ranch**	**25.99**	**334**	⇓P			**P**	**19 35 36.9**	**-0.4**
	baz=26								
325A	**Bean Ranch, Si**	**26.01**	**322**	⇑P			**P**	**19 35 37.4**	**-0.3**
	baz=26,SNR=7.1								
226B	**Tecolote Peak,**	**26.05**	**324**	⇓P			**P**	**19 35 37.8**	**-0.1**
	baz=26,SNR=9.0								
324A	**Moseley Ranch,**	**26.37**	**321**	⇑P			**P**	**19 35 40.7**	**-0.2**
	baz=26,SNR=8.8								
126A	**Clayton Basin,**	**26.39**	**325**	⇓P			**P**	**19 35 40.4**	**-0.6**
	baz=26								
Y28A	**McKinney Farm,**	**26.44**	**330**	⇓P			**P**	**19 35 40.8**	**-0.7**
	baz=26								
225A	**Deer Hill, Car**	**26.45**	**323**	⇓P			**P**	**19 35 42.0**	**+0.3**
	baz=26,SNR=5.7								
Z27A	**Tatum**	**26.46**	**327**	⇑P			**P**	**19 35 40.4**	**-1.3**
	baz=26,SNR=8.5								
MNTX	**Cornudas Mount**	**26.49**	**322**	*eP*			**P**	**19 35 40.8**	**-1.1**
	4.1nm,0.8s								
WCI	**Wyandotte Cave**	**26.55**	**1**	*eP*			**P**	**19 35 42.6**	**+0.4**
	9.6nm,0.6s								
X29A	**Tulia**	**26.61**	**331**	⇓P			**P**	**19 35 42.7**	**-0.3**
	baz=27								
MSTX	**Muleshoe**	**26.75**	**329**	*eP*			**P**	**19 35 42.8**	**-1.4**
MSTX	**Muleshoe**	**26.75**	**329**	⇑P			**P**	**19 35 43.3**	**-0.9**
	baz=27								
125A	**Gardner Draw,**	**26.76**	**324**	⇑P			**P**	**19 35 43.9**	**-0.5**
	baz=27,SNR=8.4								
Z26A	**Caprock**	**26.84**	**326**	⇓P			**P**	**19 35 44.7**	**-0.4**
	baz=27,SNR=9.2								
224A	**Cornudas Mount**	**26.84**	**322**	⇓P			**P**	**19 35 44.9**	**-0.3**
	baz=27								
Y27A	**Causey**	**26.88**	**328**	⇑P			**P**	**19 35 44.7**	**-0.7**
	baz=27,SNR=10								
W29A	**Amraillo**	**27.14**	**332**	⇓P			**P**	**19 35 47.3**	**-0.4**
	baz=27								
124A	**Stringfield Ra**	**27.25**	**323**	⇑P			**P**	**19 35 48.5**	**-0.4**
	baz=27								
Z25A	**Roswell**	**27.25**	**325**	⇓P			**P**	**19 35 48.1**	**-0.7**
	baz=27								
Y26A	**Elida**	**27.25**	**327**	⇓P			**P**	**19 35 48.8**	**-0.1**
	baz=27,SNR=5.6								
Z24A	**Sheeppen Canyo**	**27.65**	**325**	⇑P			**P**	**19 35 53.5**	**+1.1**
	baz=28,SNR=10								
Y25A	**Mesa, Roswell**	**27.72**	**326**	⇑P			**P**	**19 35 53.0**	**0.0**
	baz=28,SNR=7.4								
W27A	**Bowe Ranch, En**	**27.76**	**330**	⇓P			**P**	**19 35 52.9**	**-0.5**
	baz=28								
T31A	**Randall Ranch,**	**28.01**	**337**	⇑P			**P**	**19 35 55.0**	**-0.4**
	baz=28								
Z23A	**Rita Site, Whi**	**28.10**	**323**	⇑P			**P**	**19 35 56.6**	**+0.2**
	baz=28								
Y24A	**Capitan**	**28.13**	**325**	⇑P			**P**	**19 35 56.0**	**-0.7**
	baz=28,SNR=5.6								
221A	**Mesquite Ranch**	**28.19**	**319**	⇑P			**P**	**19 35 57.1**	**-0.1**
	baz=28								
S31A	**Mullinville**	**28.40**	**338**	⇓P			**P**	**19 35 58.6**	**-0.2**
	baz=28								
Y23A	**Lovelace Mesa,**	**28.48**	**324**	⇑P			**P**	**19 35 59.5**	**-0.4**
	baz=28								
Z22A	**Elephant Butte**	**28.53**	**322**	⇓P			**P**	**19 36 00.1**	**-0.2**
	baz=29								
121A	**Cookes Peak, D**	**28.54**	**320**	⇑P			**P**	**19 36 00.2**	**-0.2**
	baz=29								
W25A	**X Bar L Ranch,**	**28.59**	**328**	⇑P			**P**	**19 36 00.4**	**-0.3**
	baz=29								
220A	**Playas Peak, P**	**28.60**	**318**	⇑P			**P**	**19 36 01.2**	**+0.3**
	baz=29								
X24A	**Lazy VL Ranch,**	**28.61**	**326**	⇓P			**P**	**19 36 01.0**	**0.0**
	baz=29								
SFIN	**Scholer Farm**	**28.69**	**359**	⇑P			**P**	**19 36 01.2**	**-0.2**
	baz=29								
T29A	**Hugoton**	**28.70**	**335**	⇓P			**P**	**19 36 01.5**	**-0.1**
	baz=29								
V26A	**Tequesquite Ra**	**28.70**	**330**	⇑P			**P**	**19 36 01.5**	**-0.2**
	baz=29								
BNM	**Barren Site**	**28.97**	**324**	P			**P**	**19 36 04.4**	**+0.1**
	8.3nm,1.1s								
Y22A	**Socorro**	**29.01**	**323**	⇓P			**P**	**19 36 03.8**	**-0.7**
	baz=29								
T28A	**Walsh**	**29.01**	**334**	⇓P			**P**	**19 36 04.2**	**-0.2**
	baz=29								
X23A	**Hourglass Bar**	**29.03**	**325**	⇓P			**P**	**19 36 03.8**	**-0.9**
	baz=29								
W24A	**Lazy 6 Ranch,**	**29.08**	**327**	⇓P			**P**	**19 36 04.5**	**-0.6**
	baz=29								
120A	**U Bar Ranch, L**	**29.09**	**319**	⇓P			**P**	**19 36 05.0**	**-0.2**
	baz=29								
V25A	**Rancho No Teng**	**29.15**	**329**	⇓P			**P**	**19 36 05.8**	**0.0**
	baz=29								
T27A	**Campo**	**29.23**	**333**	⇑P			**P**	**19 36 05.9**	**-0.5**
	baz=29								
R30A	**Dighton**	**29.28**	**338**	⇑P			**P**	**19 36 06.0**	**-0.7**
	baz=29,SNR=5.3								
S28A	**Manter**	**29.32**	**335**	⇑P			**P**	**19 36 06.8**	**-0.3**
	baz=29								
V24A	**Rampart Ranch,**	**29.40**	**328**	⇑P			**P**	**19 36 07.9**	**-0.1**
	baz=30								
Z20A	**Nine Sixteen R**	**29.43**	**320**	⇓P			**P**	**19 36 08.3**	**0.0**
	baz=30								
W23A	**Werner Place,**	**29.44**	**326**	⇑P			**P**	**19 36 08.5**	**+0.2**
	baz=30								
ANMO	**Albuquerque**	**29.45**	**325**	P			**P**	**19 36 08.1**	**-0.4**
ANMO	**Albuquerque**	**29.45**	**325**	P			**P**	**19 36 08.1**	**-0.4**
	0.8nm,0.3s,baz=148,slow=9.6,SNR=5.2								
Y21A	**Point of Rocks**	**29.48**	**323**	⇓P			**P**	**19 36 08.5**	**-0.3**
	baz=30								
U25A	**Circle Dot Ran**	**29.49**	**330

SPMN	St. Paul	33.95 352	*e*P	P	19 36 46.4	-1.2
SPMN	St. Paul	33.95 352	⇑P	P	19 36 47.1	-0.5
	baz=34,SNR=9.4					
I30A	Oacoma	34.08 343	⇑P	P	19 36 48.5	-0.2
	baz=34,SNR=27					
W13A	Hualapai Mount	34.09 318	⇑P	P	19 36 49.3	+0.1
	baz=34					
J28A	Allard Ranch,	34.18 341	⇓P	P	19 36 49.5	-0.1
	baz=34					
SWSC	Sam W. Stewart	34.19 313	⇑P	P	19 36 50.6	+0.8
	baz=34					
O20A	White River Ci	34.28 330	*e*P	P	19 36 51.8	+1.0
O20A	White River Ci	34.28 330	⇑P	P	19 36 50.6	-0.1
	baz=34					
BC3	Big Chuckawall	34.33 314	⇓P	P	19 36 52.0	+0.8
	baz=34					
IRM	Iron Mountain	34.40 315	⇓P	P	19 36 51.9	+0.2
	baz=34					
I29A	Vivian Onida	34.43 342	⇓P	P	19 36 51.5	-0.3
	baz=35,SNR=5.1					
BRSD	Miller	34.44 344	*e*P	P	19 36 51.4	-0.4
BRSD	Miller	34.44 344	⇓P	P	19 36 51.4	-0.4
	baz=35,SNR=7.3					
M22A	Cedar Creek Ra	34.51 333	⇑P	P	19 36 52.9	+0.1
	baz=35					
MONP	Monument Peak	34.61 313	⇑P	P	19 36 54.0	+0.3
	baz=35					
I28A	Midland	34.67 341	⇑P	P	19 36 54.1	+0.2
	baz=35,SNR=7.1					
N20A	Spence Gulch,	34.83 331	⇓P	P	19 36 55.4	-0.2
	baz=35					
BELC	Belle Mtn. Jos	34.90 315	⇑P	P	19 36 56.2	+0.1
	baz=35					
H29A	Onida	34.95 343	⇑P	P	19 36 55.9	-0.4
	baz=35					
PFO	Pinyon Flat Ob	35.01 314	P	P	19 36 57.2	+0.1
	3.3nm,0.9s					
I27A	Quinn	35.02 340	⇓P	P	19 36 56.6	-0.3
	baz=35					
G30A	Faulkton	35.12 344	⇓P	P	19 36 56.8	-0.9
	baz=35,SNR=13					
H28A	Mission Ridge	35.24 342	⇑P	P	19 36 58.6	-0.2
	baz=35					
MURC	Murrieta	35.54 313	⇓P	P	19 37 02.1	+0.6
	baz=36					
G28A	Parade	35.57 342	⇑P	P	19 37 01.7	+0.1
	baz=36					
F30A	Leola	35.75 345	⇓P	P	19 37 02.9	-0.3
	baz=36					
L20A	Wamsutter	35.78 332	⇑P	P	19 37 03.3	-0.4
	baz=36					
F29A	Eureka	35.96 344	⇓P	P	19 37 04.0	-0.9
	baz=36,SNR=5.7					
GSC	Goldstone	36.16 316	⇓P	P	19 37 07.0	+0.1
	baz=36					
BFSC	Mount Baldy Ra	36.19 314	⇑P	P	19 37 07.4	+0.2
	baz=36					
F28A	McLaughlin	36.24 343	⇓P	P	19 37 07.1	-0.2
	baz=36					
G26A	Maurine	36.28 341	⇑P	P	19 37 07.5	-0.2
	baz=36,SNR=7.1					
E30A	Jud	36.35 346	⇑P	P	19 37 07.6	-0.6
	baz=36					
J21A	Lysite	36.45 334	⇓P	P	19 37 09.5	+0.1
	baz=37,SNR=5.3					
G27A	Dupree	36.47 341	⇓P	P	19 37 06.8	-2.5
	baz=36					
M17A	Scullys Gap (B	36.50 329	⇑P	P	19 37 09.4	-0.4
	baz=37,SNR=6.0					
L18A	Fontenelle, Gr	36.52 330	⇑P	P	19 37 09.9	-0.1
	baz=37					
E29A	Napoleon	36.59 345	⇑P	P	19 37 10.3	0.0
	baz=37					
F27A	Lemmon	36.62 342	⇓P	P	19 37 10.2	-0.4
	baz=37					
LRMC	Laurel Mountai	36.87 315	⇓P	P	19 37 13.5	+0.6
	baz=37					
E28A	Huff	36.88 344	⇑P	P	19 37 12.7	0.0
	baz=37					
D30A	Buchanan	36.88 346	⇑P	P	19 37 12.5	-0.2
	baz=37,SNR=6.9					
PDAR	Pinedale Array	36.94 331	P	P	19 37 12.8	-0.8
PDAR			PcP	PcP	19 39 34.8	+1.0
PDAR	Pinedale Array	36.94 331	P	P	19 37 12.8	-0.8
	2.3nm,0.5s,baz=129,slow=10,SNR=11					
PDAR			PcP	PcP	19 39 34.8	+1.0
	1.1nm,0.7s,baz=145,slow=5.0,SNR=5.4					
D29A	Pettibone, Tap	37.04 345	⇑P	P	19 37 14.0	-0.1
	baz=37					
MPMC	Manual Prospec	37.05 316	⇑P	P	19 37 15.1	+0.6
	baz=37					
J19A	Crowheart	37.09 332	⇓P	P	19 37 14.7	-0.1
	baz=37					
F25A	Bowman	37.12 340	⇓P	P	19 37 14.8	-0.1
	baz=37					
BLG	Laguna Peak	37.13 312	⇓P	P	19 37 15.4	+0.3
	baz=37					
R11A	Troy Canyon, C	37.15 321	⇓P	P	19 37 15.7	+0.4
	baz=37					
G23A	Biddle	37.17 338	⇑P	P	19 37 15.6	+0.3
	baz=37					
I20A	Worland	37.23 334	⇑P	P	19 37 16.0	+0.1
	baz=37					
C30A	Mose, Pekin	37.37 347	⇓P	P	19 37 16.7	-0.2
	baz=38					
F24A	Ekalaka	37.39 339	⇑P	P	19 37 17.0	-0.1
	baz=38					
AGMN	Agassiz Nation	37.42 350	*e*P	P	19 37 16.6	-0.6
	19nm,0.8s					
D27A	Center	37.59 343	⇑P	P	19 37 19.2	+0.4
	baz=38					
MDND	Maddock	37.77 346	*e*P	P	19 37 20.0	-0.2
MDND	Maddock	37.77 346	⇑P	P	19 37 19.7	-0.5
	baz=38,SNR=5.8					
D26A	Manning	37.79 342	⇓P	P	19 37 20.4	-0.1
	baz=38					
REDW	Red Top Meadow	38.00 331	*e*P	P	19 37 22.2	-0.4
	11nm,0.5s					
B30A	Myrvik Farm, E	38.05 347	⇓P	P	19 37 22.7	+0.1
	baz=38					
C27A	Sayler Ranch,	38.14 344	⇓P	P	19 37 23.1	-0.3
	baz=38					
TPAW	Teton Pass	38.15 331	*e*P	P	19 37 23.5	-0.3
	7.6nm,0.6s					
RRI2	Red Ridge	38.22 330	*e*P	P	19 37 24.1	-0.3
	5.9nm,0.7s					
E23A	Ismay	38.25 339	⇑P	P	19 37 24.2	-0.1
	baz=38					
B29A	Wagenman Farm,	38.29 346	⇑P	P	19 37 24.6	0.0
	baz=38					
I17A	Pilgrim Ck.	38.30 332	⇑P	P	19 37 25.2	+0.2
	baz=38					
E22A	Miles City	38.43 338	⇓P	P	19 37 25.7	-0.1
	baz=39					
D24A	Glendive	38.46 340	⇓P	P	19 37 26.0	0.0
	baz=39					
ELK	Elko	38.46 324	*e*P	P	19 37 26.9	+0.4
A30A	Hoffart Farm,	38.51 348	⇓P	P	19 37 26.3	-0.1
	baz=39					
B28A	Dugan Ranch, T	38.52 345	⇓P	P	19 37 26.6	+0.1
	baz=39					
A29A	Manning Farm,	38.69 347	⇑P	P	19 37 27.8	-0.2
	baz=39,SNR=9.5					
NVAR	Mina Array Bea	38.91 319	P	P	19 37 30.9	+0.7
NVAR			PcP	PcP	19 39 41.7	+1.8
NVAR	Mina Array Bea	38.91 319	P	P	19 37 31.0	+0.7
	2.1nm,0.7s,baz=136,slow=7.3,SNR=5.3					
NVAR			PcP	PcP	19 39 41.7	+1.8
	2.9nm,0.7s,baz=142,slow=4.2,SNR=6.8					
A28A	Rude Farm, Bot	38.92 346	⇓P	P	19 37 28.8	-1.1
	baz=39					
B26A	Jensen Ranch,	38.95 343	⇑P	P	19 37 30.0	-0.1
	baz=39					
D22A	Cohagen	39.12 339	⇓P	P	19 37 31.3	-0.4
	baz=39					
E20A	Meyer Farm, Mu	39.31 336	⇓P	P	19 37 32.6	-0.6
	baz=39					
ULM	Lac du Bonnet	39.31 351	P	P	19 37 31.9	-1.2
ULM			PcP	PcP	19 39 41.0	+0.3
ULM	Lac du Bonnet	39.31 351	P	P	19 37 31.9	-1.2
	17nm,0.8s,baz=170,slow=9.1,SNR=18					
ULM			PcP	PcP	19 39 41.0	+0.3
	1.9nm,0.6s,baz=243,slow=2.3,SNR=2.8					
C23A	Lambert	39.34 340	⇓P	P	19 37 32.8	-0.6
	baz=40					
GCMT	Greycliff	39.36 334	*e*P	P	19 37 33.4	-0.4
	3.7nm,0.7s					
C22A	Vida	39.53 339	⇓P	P	19 37 34.8	-0.2
	baz=40					
DGMT	Dagmar	39.61 342	⇑P	P	19 37 35.6	-0.1
	baz=40					
D20A	Manuel Ranch,	39.79 337	⇓P	P	19 37 37.3	0.0
	baz=40					
B23A	Brockton	39.86 341	⇑P	P	19 37 37.8	0.0
	baz=40					
HLID	Hailey	39.92 328	*e*P	P	19 37 37.8	-0.7
	2.8nm,0.7s					
HLID	Hailey	39.92 328	⇓P	P	19 37 38.5	0.0
	baz=40					
C21A	Desert Coulee	40.02 338	⇑P	P	19 37 39.2	+0.1
	baz=40					
MCMT	McKenzie Canyo	40.05 331	*e*P	P	19 37 40.2	+0.5
	5.2nm,1.0s					
D19A	Cripps Ranch,	40.14 336	⇓P	P	19 37 40.0	-0.2
	baz=40					
C20A	Veseth Ranch,	40.26 338	⇑P	P	19 37 41.0	0.0
	baz=40					
LRM	Limekiln Ridge	40.61 332	*e*P	P	19 37 45.1	+0.8
	27nm,0.8s					
A22A	Carney Farms,	40.62 340	⇓P	P	19 37 44.1	+0.1
	baz=41					
B20A	Solberg Farm,	40.87 338	⇑P	P	19 37 46.1	0.0
	baz=41					
A20A	Cobblestone Ra	41.21 339	⇓P	P	19 37 49.3	+0.4
	baz=41,SNR=5.7					
WVOR	Wild Horse Val	41.50 324	*e*P	P	19 37 50.1	-1.3
	4.7nm,0.9s					
MSO	Missoula	42.05 332	⇑P	P	19 37 55.3	-0.6
	baz=42					
BMO	Blue Mountains	42.32 327	*e*P	P	19 37 56.0	-2.2
	3.7nm,0.8s					
H03N2	Juan Fernandez	45.35 171	T	T	20 26 38.7	
	baz=348,slow=0.7,SNR=4.5					
H03N1	Juan Fernandez	45.36 171	T	T	20 26 41.5	
	baz=348,slow=0.7,SNR=6.1					
H03N3	Juan Fernandez	45.37 171	T	T	20 26 39.5	
	baz=348,slow=0.7,SNR=7.2					
SCHQ	Schefferville	45.88 16	P	P	19 38 26.5	+0.2
SCHQ	Schefferville	45.88 16	P	P	19 38 26.5	+0.2
	4.4nm,0.4s,baz=235,slow=6.0,SNR=11					
SCHQ			LR	LR	20 00 54.5	
	comp=Z,208nm,20.2s,baz=359,slow=40					
BDFB	Brasilia	46.79 124	P	P	19 38 34.2	+0.1
BDFB	Brasilia	46.79 124	P	P	19 38 34.2	+0.1
	4.5nm,0.6s,baz=292,slow=12,SNR=8.9					
YKA	Yellowknife Ar	54.67 344	P	P	19 39 31.0	-1.5
YKA	Yellowknife Ar	54.67 344	P	P	19 39 31.0	-1.5
	4.2nm,0.8s,baz=140,slow=7.4,SNR=7.6					
RES	Resolute Bay	63.27 358	P	P	19 40 31.2	-0.6
RES	Resolute Bay	63.27 358	P	P	19 40 31.2	-0.6
	3.8nm,1.0s,baz=212,slow=11,SNR=5.6					
ILAR	Eielson Array	67.16 336	P	P	19 40 56.5	-0.7
ILAR	Eielson Array	67.16 336	P	P	19 40 56.5	-0.7
	2.0nm,0.8s,baz=124,slow=4.3,SNR=13					
BPAW	Bear Paw Mtn.	68.59 335	*e*P	P	19 41 04.8	-1.5
	1.9nm,0.6s					
EKA	Eskdalemuir Ar	76.84 36	P	P	19 41 54.0	-1.3
EKA	Eskdalemuir Ar	76.84 36	P	P	19 41 54.0	-1.3
	0.4nm,0.5s,baz=254,slow=5.1,SNR=3.7					
MDT	Midelt	77.14 59	LR	LR	20 10 56.8	
	comp=Z,112nm,20.1s,baz=184,slow=32					
TORD	Torodi Ar. Bea	85.78 78	P	P	19 42 44.9	+1.4
TORD	Torodi Ar. Bea	85.78 78	P	P	19 42 44.9	+1.4
	0.3nm,0.9s,baz=261,slow=5.9,SNR=2.8					
ZALV	Zalesovo Beam	114.33 6	PKiKP	PKPdf	19 48 41.6	-1.2
ZALV	Zalesovo Beam	114.33 6	PKiKP	PKPdf	19 48 41.6	-1.2
	0.5nm,0.5s,baz=298,slow=3.1,SNR=2.8					
SONM	Songino Array	119.74 350	PKP	PKPdf	19 48 53.3	-0.3
SONM	Songino Array	119.74 350	PKP	PKPdf	19 48 53.3	-0.3
	0.3nm,0.4s,baz=332,slow=1.8,SNR=4.6					
MKAR	Makanchi Array	121.05 9	PKP	PKPdf	19 48 55.5	-0.6
MKAR	Makanchi Array	121.05 9	PKP	PKPdf	19 48 55.4	-0.6
	0.2nm,0.6s,baz=45,slow=2.2,SNR=2.7					
KSRS	Korea Array	121.46 328	PKP	PKPdf	19 48 56.9	-0.1
	2.3nm,0.8s,baz=5.0,slow=1.9,SNR=9.3					
KSAR	Wonju Array Be	121.48 328	PKP	PKPdf	19 48 56.9	-0.1
ASAR	Alice Springs	139.71 247	PKP	PKPdf	19 49 32.1	+0.3
ASAR	Alice Springs	139.71 247	PKP	PKPdf	19 49 32.1	+0.3
	1.5nm,0.9s,baz=98,slow=3.8,SNR=4.8					
WRA	Warramunga Arr	139.82 253	PKP	PKPdf	19 49 31.8	-0.3
WRA	Warramunga Arr	139.82 253	PKP	PKPdf	19 49 31.8	-0.3
	0.4nm,0.5s,baz=94,slow=2.4,SNR=3.6					
CHTO	Chiang Mai	149.31 350	*e*PKPbc	PKPbc	19 49 53.4	+0.5
CM31	Chiang Mai Arr	149.66 350	*e*PKPbc	PKPbc	19 49 54.9	+1.1
CMAR	Chiang Mai Arr	149.66 350	PKPbc	PKPbc	19 49 53.8	0.0
CMAR	Chiang Mai Arr	149.66 350	PKPbc	PKPbc	19 49 53.8	0.0
	baz=344,slow=2.9					

IDC 12 19:36:51.0±3.3, 13°.59S×166°.45E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.9/20, mbtmp3.9/7, MS3.7/2, Ms1 3.6/2, ms1mx3.2/28, Error ellipse: s-maj=117.8km s-min=27.5km az=139.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
PMG	Port Moresby	19.36 280		LR	LR	19 47 39.9	
	comp=Z,144nm,18.6s,baz=52,slow=34						
CTA	Charters Tower	20.37 249		P	Pn	19 41 31.1	-0.4
	3.0nm,0.8s,baz=80,slow=12,SNR=4.6						
STKA	Stephens Creek	29.15 227		LR	LR	19 54 03.0	
	comp=Z,191nm,19.5s,baz=205,slow=35						
WRA	Warramunga Arr	31.35 254		P	P	19 43 13.1	-0.6
	2.1nm,0.9s,baz=87,slow=9.4,SNR=7.3						
ASAR	Alice Springs	32.36 247		P	P	19 43 21.9	-0.6
	0.8nm,0.6s,baz=74,slow=9.5,SNR=19						
FITZ	Fitzroy Crossi	39.46 258		P	P	19 44 24.2	+0.8
	2.7nm,0.8s,baz=114,slow=6.1,SNR=5.1						
CMAR	Chiang Mai Arr	73.77 294		P	P	19 48 27.1	-0.6
	0.2nm,0.3s,baz=113,slow=6.0,SNR=2.4						
ILAR	Eielson Array	85.70 18		P	P	19 49 31.9	+0.4
	0.4nm,0.8s,baz=226,slow=4.9,SNR=2.8						
MKAR	Makanchi Array	95.84 317		P	P	19 50 19.4	-0.2
	0.4nm,0.7s,baz=117,slow=5.2,SNR=4.0						

*ISCJB **12** 19:43:23.8±0.6, 12°.23N±0°.05×45°.96E±0°.04, h7km, mb3.8/11, MS3.7/14, Error ellipse: s-maj=7.5km s-min=6.0km az=25.0*

*IDC **12** 19:43:24.5±1.2, 12°.01N×46°.24E, h0km, mb3.8/11, mb1 4.0/11, mb1mx3.9/24, mbtmp3.8/11, MS3.8/15, Ms1 3.8/15, ms1mx3.6/37, Error ellipse: s-maj=31.5km s-min=21.2km az=26.0*

*CSEM **12** 19:43:25.7, 12°.33N×45°.85E, h18km, ML3.8, After DHMR*
*DHMR **12** 19:43:25.7±1.2, 12°.33N×45°.85E, h19km±13km, ML3.8*

ISC 12 19:43:25.5±0.8, 12°.27N±0°.07×45°.93E±0°.06, h7km, n30, σ1§40/26, mb3.9/11, MS3.7/14, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
LBOS		1.73 338		*i* P	Pn	19 43 55.0	-1.2
LBOS				*i* S	Sn	19 44 17.4	-1.3
BDHA	Al Bayda'	1.73 348		*i* P	Pn	19 43 54.9	-1.4
BDHA				*i* S	Sn	19 44 17.7	-1.1
BDHA				AML	AML	19 44 19.3	
	comp=E,3μm,0.7s						
BDHA	Al Bayda'	1.73 348		*i* P	Pn	19 43 54.9	-1.4
BDHA				*i* S	Sn	19 44 17.7	-1.1
	comp=E,2μm,0.7s						
TRBA	At Turbah	2.01 299		*i* P	Pn	19 43 59.4	-0.7
TRBA				*i* S	Sn	19 44 24.3	-1.4
TRBA				AML	AML	19 44 27.0	
	comp=N,1μm,0.3s						
UDYN	Al 'Udayn	2.55 312		*i* P	Pn	19 44 07.5	0.0
UDYN				*i* S	Sn	19 44 39.0	+0.1
UDYN				AML	AML	19 44 51.6	
	comp=N,228nm,0.3s						
ATD	Arta Tunnel	3.10 257		Pn	Pn	19 44 14.4	-0.5
	comp=N,8.9nm,0.3s,baz=167,slow=22,SNR=17						
ATD				Sn	Sn	19 44 52.1	-0.3
	comp=N,5.8nm,0.3s,baz=112,slow=19,SNR=3.2						
MUKL	Al Mukalla	3.74 54		*i* P	Pn	19 44 24.9	+1.3
HAJJ	Hajjah	4.09 327		*i* P	Pn	19 44 28.6	-0.2
HAJJ				*i* S	Sn	19 45 18.6	+1.6
HAJJ	Hajjah	4.09 327		*i* P	Pn	19 44 28.5	-0.2
HAJJ				*i* S	Sn	19 45 18.6	+1.6
KMBO	Kilima Mbogo	15.85 214		LR	LR	19 52 55.0	
	comp=N,242nm,20.9s,baz=94,slow=36						
ASF	Jabal al Asfar	21.48 339		P	P	19 48 19.1	+4.2
	comp=N,3.4nm,1.0s,baz=185,slow=4.5,SNR=7.8						
ASF				LR	LR	19 56 00.2	
	comp=N,225nm,21.3s,baz=320,slow=35						
MMAI	Mount Meron Ar	22.79 337		LR	LR	19 57 06.2	
	comp=N,265nm,21.2s,baz=145,slow=36						
GNI	Garni	27.79 358		LR	LR	20 01 43.7	
	comp=N,248nm,19.8s,baz=105,slow=39						
BRTR	Keskin Array B	29.43 340		P	P	19 49 33.4	+3.5
	comp=N,0.3nm,0.8s,baz=193,slow=10,SNR=3.6						
BRTR				LR	LR	20 01 55.7	
	comp=N,303nm,18.8s,baz=138,slow=37						
IDI	Anoyia	29.80 324		LR	LR	20 04 28.8	
	comp=N,57nm,19.2s,baz=91,slow=42						
OPO	Ambohidratompo	30.67 178		LR	LR	20 00 40.7	
	comp=N,148nm,19.1s,baz=127,slow=34						
AKTO	Aktyubinsk	39.33 12		LR	LR	20 10 33.4	
	comp=N,187nm,18.1s,baz=193,slow=41						
AKASG	Malin Array Be	40.69 344		P	P	19 51 10.9	+4.4
	comp=N,0.2nm,0.3s,baz=162,slow=7.5,SNR=6.1						
TORD	Torodi Ar. Bea	43.12 276		P	P	19 51 28.3	+1.4
	comp=N,1.3nm,1.0s,baz=98,slow=7.9,SNR=5.2						
BVAR	Borovoye Array	45.12 21		LR	LR	20 12 42.4	
	comp=N,121nm,21.3s,baz=221,slow=39						
GERES	GERESS Array B	45.19 330		P	P	19 51 46.2	+3.0
	comp=N,1.3nm,0.9s,baz=128,slow=8.8,SNR=5.1						
GERES				LR	LR	20 11 04.2	
	comp=N,140nm,19.3s,baz=323,slow=36						
BOSA	Boshof	45.29 206		LR	LR	20 09 41.4	
	comp=N,176nm,18.4s,baz=29,slow=35						
MKAR	Makanchi Array	46.04 34		P	P	19 51 49.7	-0.1
	comp=N,0.9nm,0.8s,baz=224,slow=7.7,SNR=7.2						
MKAR				LR	LR	20 15 24.9	
	comp=N,94nm,19.0s,baz=294,slow=42						
CMAR	Chiang Mai Arr	51.35 76		P	P	19 52 29.6	-1.5
	comp=N,1.1nm,0.8s,baz=275,slow=8.8,SNR=10						
ZALV	Zalesovo Beam	51.69 28		P	P	19 52 32.0	-1.0
	comp=N,0.6nm,0.5s,baz=226,slow=7.7,SNR=4.6						
ZALV				LR	LR	20 16 19.1	
	comp=N,48nm,19.3s,baz=160,slow=38						
NOA	NORSAR Array B	54.87 340		LR	LR	20 18 16.3	
	comp=N,65nm,18.6s,baz=95,slow=38						
SONM	Songino Array	61.27 42		P	P	19 53 41.3	-0.4
	comp=N,2.3nm,1.0s,baz=238,slow=4.7,SNR=11						
SONM				LR	LR	20 22 13.6	
	comp=N,49nm,18.1s,baz=140,slow=38						
WRA	Warramunga Arr	92.64 110		P	P	19 56 37.7	-1.0
	comp=N,0.5nm,0.8s,baz=295,slow=4.1,SNR=7.0						
ASAR	Alice Springs	93.02 113		P	P	19 56 39.5	-0.9
	comp=N,3.4nm,1.2s,baz=263,slow=4.6,SNR=5.2						
NVAR	Mina Array Bea	127.46 344		PKP	PKPdf	20 02 32.9	+0.9
	comp=N,1.6nm,1.0s,baz=169,slow=1.5,SNR=6.3						

MAN 12 19:43:38, 17°.50N×120°.28E, h31km, mb3.9, ML2.7, MS2.3, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
ABRA	Dolores	0.44	70	*e*P	Pn	19 43 48.7	+0.5
ABRA				*e*S	Sb	19 43 52.7	-1.5
SIPP	Brgy, Tapao	0.46	22	⇑*i*P	Pn	19 43 49.6	+1.1
APYP	Conner	0.99	68	*e*P	Pb	19 43 57.8	+1.2
APYP				*e*S	Sn	19 44 08.4	-0.3

*WEL **12** 19:51:29.2±0.7, 37°.33S×179°.98E, h5km, ML4.1/11, Error ellipse: s-maj=5.7km s-min=5.4km az=0.0*

*IDC **12** 19:51:39.5±2.9, 36°.66S×177°.94E, h0km, mb4.0/3, mb1 4.3/3, mb1mx4.0/15, mbtmp4.0/3, Error ellipse: s-maj=66.4km s-min=26.7km az=59.0*

ISC 12 19:51:27.8±2.6, 37°.4S±0°.1×179°.7W±0°.2, h32km, n30, σ1§02/27, mb4.1/3, 3C-1D, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
MXZ	Matakaoa Point	1.61	265	⇑PN	Pn	19 51 53.9	0.0
MXZ				S*	Sn	19 52 12.5	-1.1
MXZ				AML	AML	19 52 12.9	
MXZ				AML	AML	19 52 12.9	
PUZ	Puketiti	1.76	248	PN	Pn	19 51 56.8	+0.8
PUZ				AML	AML	19 52 19.1	
PUZ				AML	AML	19 52 19.8	
CNGZ	Carnagh Statio	1.98	237	PN	Pn	19 52 01.0	+1.9
MWZ	Matawai	2.39	247	⇑PN	Pn	19 52 05.4	+0.6
MWZ				AML	AML	19 52 34.0	
MWZ				AML	AML	19 52 34.0	
MWZ				AML	AML	19 52 34.4	
MWZ				AML	AML	19 52 34.4	
PRGZ	Paritu Road	2.43	231	PN	Pn	19 52 06.9	+1.5
MHGZ	Mahia Peninsul	2.56	227	PN	Pn	19 52 08.6	+1.5
KNZ	Kokohu	2.62	232	PN	Pn	19 52 09.1	+1.2
URZ	Urewera	2.67	251	PN	Pn	19 52 09.8	+1.1
URZ				AML	AML	19 52 39.9	
URZ				AML	AML	19 52 41.9	
URZ	Urewera	2.67	251	Pn	Pn	19 52 09.8	+1.1
	11nm,0.3s,baz=42,slow=1.3,SNR=36						
URZ				Sn	Sn	19 52 39.3	-0.6
	28nm,0.3s,baz=336,slow=19,SNR=22						
CKHZ	Cape Kidnapper	3.38	228	PN	Pn	19 52 19.2	+0.8
BKZ	Black Stump Fm	3.48	239	⇓PN	Pn	19 52 20.8	+1.1
BKZ				AML	AML	19 53 00.3	
BKZ				AML	AML	19 53 01.0	
MCHZ	McNeill Hill	3.48	234	PN	Pn	19 52 21.2	+1.4
KAHZ	Kahuranaki	3.59	228	PN	Pn	19 52 21.7	+0.5
PXZ	Pawanui	3.75	225	PN	Pn	19 52 23.7	+0.2
PXZ				AML	AML	19 53 11.7	
BHHZ	Black Hill Sta	3.92	237	PN	Pn	19 52 26.7	+0.8
PNHZ	Pukenui	4.07	231	PN	Pn	19 52 28.1	+0.2
MKAZ	Moumakai	4.12	273	⇑PN	Pn	19 52 28.6	0.0
WHVZ	Whangaehu Hut	4.15	242	PN	Pn	19 52 29.8	+0.6
WNVZ	Wahianoa	4.17	241	AML	AML	19 53 16.4	
FWVZ	Far West T-bar	4.17	243	AML	AML	19 53 15.1	
FWVZ				AML	AML	19 53 16.4	
TSZ	Takapari Road	4.30	231	PN	Pn	19 52 31.0	-0.1
TSZ				AML	AML	19 53 21.9	
PRWZ	Pori Road	4.61	226	PN	Pn	19 52 35.4	+0.1
MRZ	Mangatainoka R	4.90	227	PN	Pn	19 52 38.4	-0.9
MRZ				AML	AML	19 53 33.9	
MRZ				AML	AML	19 53 34.5	
TMWZ	Te Maipa	5.03	222	PN	Pn	19 52 39.6	-1.5
MTW	Mount Morrison	5.28	224	PN	Pn	19 52 43.0	-1.4
THZ	Tophouse	7.18	231	AML	AML	19 54 28.4	
VNDA	Vanda	40.98	186	P	P	19 59 28.9	+22
	0.4nm,0.3s,baz=83,slow=6.5,SNR=10						
ASAR	Alice Springs	41.86	276	P	P	19 59 15.4	+0.3
	2.3nm,0.6s,baz=119,sl

R15V 3.98 15 eP Pn 20 04 29.5 -10
R15V i S Sn 20 05 01.2 -25
ZIIG Zihuatanejo 4.15 56 eP Pn 20 04 36.0 -6.0
ZIIG eS Sn 20 05 12.1 -19
ZIIG Zihuatanejo 4.15 56 eP Pn 20 04 36.0 -6.0
ZIIG eS Sn 20 05 12.1 -19
CJM Chamela 4.17 0 eP Pn 20 04 36.2 -6.0
CJM eS Sn 20 05 09.7 -21
CJM Chamela 4.17 0 eP Pn 20 04 36.2 -6.0
CJM eS Sn 20 05 09.7 -21
EZ5V 4.38 19 i P Pn 20 04 37.7 -7.7
EZ5V i S Sn 20 05 11.8 -25
CAIG El Cayaco 4.94 69 eP Pn 20 04 50.7 -2.1
CAIG eS Sn 20 05 35.5 -15
CAIG El Cayaco 4.94 69 eP Pn 20 04 50.7 -2.1
CAIG eS Sn 20 05 35.5 -15
ARIG Puente Sto Nin 5.41 56 eP Pn 20 04 54.5 -4.8
ARIG eS Sn 20 05 42.4 -19
MOIG Morelia 5.72 40 eP Pn 20 04 55.7 -8.0
MOIG eS Sn 20 05 45.1 -25
MOIG Morelia 5.72 40 eP Pn 20 04 55.7 -8.0
MOIG eS Sn 20 05 45.1 -25
ANIG Ahuacatlan 5.74 5 eP Pn 20 04 58.4 -5.5
ANIG i S Sn 20 05 48.4 -22
ANIG Ahuacatlan 5.74 5 eP Pn 20 04 58.4 -5.5
ANIG i S Sn 20 05 48.4 -22
MEIG Mezcala 5.85 63 i P Pn 20 05 01.8 -3.5
MEIG i S Sn 20 05 56.2 -16
MEIG Mezcala 5.85 63 i P Pn 20 05 01.8 -3.5
MEIG i S Sn 20 05 56.2 -16
PLIG Platanillo 6.16 59 i P Pn 20 05 05.3 -4.3
PLIG eS Sn 20 06 03.4 -17
PLIG Platanillo 6.16 59 i P Pn 20 05 05.3 -4.3
PLIG eS Sn 20 06 03.4 -17
IGIG Irapuato, Guan 6.49 33 eP Pn 20 05 06.8 -7.4
IGIG eS Sn 20 06 04.2 -24
YAIG Yautepec 6.75 58 i P Pn 20 05 12.8 -5.0
YAIG i S Sn 20 06 14.9 -20
YAIG Yautepec 6.75 58 i P Pn 20 05 12.8 -5.0
YAIG i S Sn 20 06 14.9 -20
PNIG Pinotepa 6.78 80 eP Pn 20 05 18.2 +0.1
PNIG i S Sn 20 06 26.4 -9.0
PNIG Pinotepa 6.78 80 eP Pn 20 05 18.2 +0.1
PNIG i S Sn 20 06 26.4 -9.0
PPM Popocatepetl 7.21 58 eP Pn 20 05 18.8 -5.7
PPM Popocatepetl 7.21 58 eP Pn 20 05 18.8 -5.7
PPM i S Sn 20 06 27.6 -20
PPM Popocatepetl 7.21 58 eP Pn 20 05 18.8 -5.7
PPM i S Sn 20 06 27.6 -20
ZAIG Zacatecas 7.79 17 i P Pn 20 05 24.9 -7.4
ZAIG i S Sn 20 06 35.9 -25
ZAIG Zacatecas 7.79 17 i P Pn 20 05 24.9 -7.4
ZAIG i S Sn 20 06 35.9 -25
MAIG Mazatlaan 7.94 351 i P Pn 20 05 31.0 -3.0
MAIG eS Sn 20 06 46.3 -18
MAIG Mazatlaan 7.94 351 i P Pn 20 05 31.0 -3.0
MAIG eS Sn 20 06 46.3 -18
TPIG Tehuac#an 8.01 66 eP Pn 20 05 31.5 -3.7
TPIG eS Sn 20 06 49.8 -16
TPIG Tehuac#an 8.01 66 eP Pn 20 05 31.5 -3.7
TPIG eS Sn 20 06 49.8 -16
VHO Vista Hermosa 8.21 77 i P Pn 20 05 38.6 +0.7
VHO i S Sn 20 07 01.4 -10
VHO Vista Hermosa 8.21 77 i P Pn 20 05 38.6 +0.7
VHO i S Sn 20 07 01.4 -10
HUIG Huatulco 8.66 86 eP Pn 20 05 47.5 +3.6
HUIG i S Sn 20 07 17.5 -4.2
HUIG Huatulco 8.66 86 eP Pn 20 05 47.5 +3.6
HUIG i S Sn 20 07 17.5 -4.2
LVIG Laguna Verde 9.36 61 eP Pn 20 05 53.6 +0.1
LVIG Laguna Verde 9.36 61 eP Pn 20 05 53.6 +0.1
LPIG La Paz 10.04 331 Pn Pn 20 06 03.3 +0.6
LPIG La Paz 10.04 331 Pn Pn 20 06 03.3 +0.6
8.7nm,0.3s,baz=164,slow=20,SNR=2.6
LNIG Linares 10.90 28 i P Pn 20 06 09.0 -5.6
LNIG Linares 10.90 28 i P Pn 20 06 09.0 -5.6
HPIG 11.58 357 eP Pn 20 06 25.0 +0.8
HPIG 11.58 357 eP Pn 20 06 25.0 +0.8
TGIG 11.59 81 eP Pn 20 06 26.7 +2.6
TGIG 11.59 81 eP Pn 20 06 26.7 +2.6
CCIG Comitan 12.50 84 eP Pn 20 06 39.3 +2.7
CCIG Comitan 12.50 84 eP Pn 20 06 39.3 +2.7
SRIG Santa Rosalia 13.68 332 eP Pn 20 06 46.4 -6.3
SRIG Santa Rosalia 13.68 332 eP Pn 20 06 46.4 -6.3
TXAR Lajitas Array 14.02 5 Pn Pn 20 06 59.5 +2.2
TXAR Lajitas Array 14.02 5 Pn Pn 20 06 59.5 +2.2
0.1nm,0.3s,baz=186,slow=10,SNR=52
APG El Apazote 14.11 89 Pn Pn 20 07 00.3 +1.5
APG El Apazote 14.11 89 Pn Pn 20 07 00.3 +1.5
baz=282,slow=9.3,SNR=15
APG LR LR 20 11 25.5
comp=Z,2μm,20.4s,baz=272,slow=32
627A Terlingua Ranc 14.16 6 ⇑P Pn 20 07 00.3 +0.9
baz=14,SNR=47
732A Laxson Ranch, 14.17 19 ⇓P Pn 20 07 00.0 +0.7
baz=14,SNR=14
626A Big Bend Ranch 14.21 3 ⇑P Pn 20 07 00.8 +0.9
baz=14,SNR=16
628A Black Gap, Mar 14.26 8 ⇓P Pn 20 07 00.9 +0.4
baz=14,SNR=6.5
631A Perdido Creek 14.64 16 ⇓P Pn 20 07 06.4 +0.6
baz=15,SNR=18
HSIG 14.68 339 eP P 20 07 11.1 -1.5
HSIG 14.68 339 eP P 20 07 11.1 -1.5
526A Mary Lane Ranc 14.71 3 ⇑P Pn 20 07 06.9 0.0
baz=15,SNR=30
527A Woodward Ranch 14.83 5 ⇑P Pn 20 07 08.9 +0.4
baz=15,SNR=16
528A Cox Ranch, San 14.93 8 ⇓P Pn 20 07 10.4 +0.6
baz=15
632A Uvalde 14.95 18 ⇓P Pn 20 07 10.3 +0.3
baz=15,SNR=11
529A Stev Forest Ra 14.98 10 ⇓P Pn 20 07 11.0 +0.6
baz=15
530A J-C Ranch, Com 15.17 12 ⇑P Pn 20 07 13.5 +0.6
baz=15,SNR=21
426A McDonald Obser 15.32 3 ⇑P Pn 20 07 15.7 +0.6
baz=16
531A Rocksprings 15.36 15 ⇑P Pn 20 07 16.1 +0.6
baz=16,SNR=23
425A Indio Mountain 15.41 0 ⇑P Pn 20 07 16.7 +0.5
baz=16,SNR=13
532A Rocksprings 15.50 17 ⇓P Pn 20 07 17.9 +0.6
baz=16,SNR=39
428A Kincaid Ranch, 15.50 8 ⇓P Pn 20 07 18.4 +1.0
baz=16,SNR=15
429A Davenport Ranc 15.52 10 ⇑P Pn 20 07 18.5 +0.9
baz=16
427A Hayter Ranch, 15.55 5 ⇓P Pn 20 07 18.5 +0.5
baz=16,SNR=13
430A Baggett Ranch, 15.80 12 ⇓P Pn 20 07 22.5 +1.3
baz=16,SNR=34
431A Sonora 15.84 14 ⇓P Pn 20 07 22.4 +0.6
baz=16,SNR=47
JCT Junction City 15.86 17 eP Pn 20 07 22.6 +0.6
JCT pmax pmax
comp=Z,145nm,1.4s
JCT Junction City 15.86 17 eP Pn 20 07 22.6 +0.6
comp=Z,145nm,1.4s
JCT Junction City 15.86 17 ⇓P Pn 20 07 22.6 +0.6
baz=16,SNR=20
326A Caldwell Ranch 15.97 3 ⇑P Pn 20 07 24.9 +1.5
baz=16,SNR=15
325A Bean Ranch, Si 15.99 0 ⇑P Pn 20 07 25.0 +1.2
baz=16,SNR=42
327A Balmorhea Ranc 16.05 5 ⇓P Pn 20 07 25.0 +0.5
baz=16
324A Moseley Ranch, 16.07 359 ⇓P Pn 20 07 24.8 0.0
baz=16,SNR=11
328A Wristen Ranch, 16.14 7 ⇑P Pn 20 07 26.1 +0.5
baz=16,SNR=14
432A Menard 16.24 16 ⇑P Pn 20 07 26.8 0.0
baz=16,SNR=28
320A Kipp Ranch, An 16.27 349 ⇓P Pn 20 07 27.6 +0.4
baz=16
MNTX Cornudas Mount 16.32 359 eP Pn 20 07 28.3 +0.5
comp=Z,54nm,1.5s
329A Wagon Wheel Ra 16.35 9 ⇓P Pn 20 07 28.1 -0.2
baz=16,SNR=11
319A Douglas 16.45 347 ⇓P Pn 20 07 29.9 +0.3
baz=17
331A San Angelo 16.49 14 ⇓P Pn 20 07 30.5 +0.5
baz=17,SNR=12

224A Cornudas Mount 16.70 359 ⇑P Pn 20 07 33.1 +0.3
baz=17
226B Tecolote Peak, 16.72 3 ⇑P Pn 20 07 33.2 +0.3
baz=17
225A Deer Hill, Car 16.73 1 ⇓P Pn 20 07 33.0 -0.2
baz=17,SNR=6.7
332A Millersview 16.73 16 ⇓P Pn 20 07 33.3 +0.2
baz=17,SNR=77
TEIG Tepich 16.73 71 eP P 20 07 35.3 -0.1
comp=Z,70nm,1.4s
221A Mesquite Ranch 16.81 352 ⇓P Pn 20 07 33.2 -1.0
baz=17
220A Playas Peak, P 16.82 350 ⇑P Pn 20 07 33.5 -0.8
baz=17
222A Williams Famil 16.82 354 ⇑P Pn 20 07 34.5 +0.1
baz=17,SNR=10
229A Bryant Ranch, 16.85 10 ⇓P Pn 20 07 33.8 -0.8
baz=17
HKT Hockley 16.88 29 eP Pn 20 07 34.8 0.0
HKT pmax pmax
comp=Z,333nm,1.9s
HKT Hockley 16.88 29 eP Pn 20 07 34.8 0.0
comp=Z,333nm,1.9s
228A UT Block 9, Go 16.89 7 ⇑P Pn 20 07 35.1 0.0
baz=17,SNR=5.9
230A Sterling City 16.90 12 ⇓P Pn 20 07 35.7 +0.5
baz=17,SNR=11
231A Bronte 17.11 14 ⇓P Pn 20 07 38.0 +0.1
baz=17
232A Coleman 17.23 16 ⇓P Pn 20 07 39.5 0.0
baz=17
TGUH Tegucigalpa,Un 17.27 92 eP P 20 07 42.0 +0.6
comp=Z,86nm,1.2s
125A Gardner Draw, 17.28 1 ⇓P Pn 20 07 39.8 -0.2
baz=17,SNR=15
123A Bell Site, Whi 17.28 357 ⇓P Pn 20 07 39.6 -0.5
baz=17
126A Clayton Basin, 17.29 3 ⇓P Pn 20 07 40.3 +0.2
baz=18
124A Stringfield Ra 17.32 359 ⇑P P 20 07 41.3 -0.8
baz=18,SNR=13
121A Cookes Peak, D 17.32 352 ⇓P Pn 20 07 40.3 -0.4
baz=18
127A Arkansas Junct 17.36 5 ⇑P Pn 20 07 41.0 -0.1
baz=18
128A Castleberry Fa 17.40 7 ⇑P P 20 07 42.4 -0.4
baz=18,SNR=22
122A Conniff Cattle 17.40 355 ⇓P Pn 20 07 40.3 -1.3
baz=18
120A U Bar Ranch, L 17.46 350 ⇑P Pn 20 07 41.1 -1.3
baz=18,SNR=10
129A Stewart Farms, 17.49 9 ⇓P Pn 20 07 43.1 +0.4
baz=18
130A Snyder 17.61 12 ⇑P P 20 07 45.1 -0.1
baz=18
TUC Tucson 17.70 344 eP P 20 07 45.7 -0.5
TUC pmax pmax
comp=Z,19nm,1.1s
TUC Tucson 17.70 344 eP P 20 07 45.7 -0.5
comp=Z,20nm,1.1s
131A Roby 17.81 13 ⇓P P 20 07 48.0 +0.7
baz=18,SNR=7.9
Z25A Roswell 17.90 1 ⇓P P 20 07 49.1 +0.7
baz=18,SNR=11
Z23A Rita Site, Whi 17.91 357 ⇓P P 20 07 48.8 +0.3
baz=18
Z26A Caprock 17.91 3 ⇓P P 20 07 48.7 +0.1
baz=18,SNR=14
ABTX Abilene, Hawle 17.93 15 eP P 20 07 49.2 +0.5
ABTX Abilene, Hawle 17.93 15 ⇑P P 20 07 50.1 +1.5
baz=18,SNR=15
Z24A Sheeppen Canyo 17.95 359 ⇑P P 20 07 49.2 +0.2
baz=18
Z22A Elephant Butte 17.95 355 ⇑P P 20 07 49.6 +0.6
baz=18,SNR=11
WHTX Lake Whitney 18.00 21 eP Pn 20 07 48.8 -0.1
WHTX Lake Whitney 18.00 21 ⇓P P 20 07 49.6 +0.2
baz=18,SNR=16
Z27A Tatum 18.01 5 ⇑P P 20 07 49.9 +0.3
baz=18,SNR=14
214A Organ Pipe Nat 18.01 338 ⇑P P 20 07 48.6 -0.9
baz=18,SNR=6.1
Z20A Nine Sixteen R 18.01 350 ⇓P P 20 07 49.6 0.0
baz=18,SNR=17
Z28A Tucker Farm, M 18.07 7 ⇓P Pn 20 07 49.4 -0.4
baz=18
Z21A St. Cloud Mine 18.07 353 ⇑P P 20 07 49.9 -0.5
baz=18
Z29A Hungry Hill Ra 18.13 9 ⇓P P 20 07 52.2 +1.3
baz=18,SNR=15
Z30A Sanderson Ranc 18.25 11 ⇓P P 20 07 53.1 +0.9
baz=18,SNR=35
Z31A Sharp Cattle R 18.48 13 ⇓P P 20 07 54.5 -0.3
baz=19
Y25A Mesa, Roswell 18.54 1 ⇑P Pn 20 07 56.2 +0.6
baz=19
Y24A Capitan 18.54 359 ⇑P P 20 07 54.8 -0.8
baz=19,SNR=10
Y23A Lovelace Mesa, 18.56 357 ⇓P Pn 20 07 56.5 +0.5
baz=19,SNR=9.3
Y26A Elida 18.57 3 ⇑P Pn 20 07 56.2 +0.2
baz=19
Y27A Causey 18.58 5 ⇓P Pn 20 07 57.2 +1.1
baz=19,SNR=34
Z32A Haskell 18.62 15 ⇓P Pn 20 07 56.4 -0.1
baz=19,SNR=26
Y22A Socorro 18.63 355 ⇓P Pn 20 07 56.3 -0.4
baz=19
Y28A McKinney Farm, 18.70 7 ⇑P Pn 20 07 57.7 +0.2
baz=19,SNR=17
MSTX Muleshoe 18.70 6 eP P 20 07 57.0 -0.1
MSTX Muleshoe 18.70 6 ⇑P Pn 20 07 57.9 +0.4
baz=19,SNR=20
Y29A Porterfield Fa 18.73 9 ⇑P Pn 20 07 57.8 -0.1
baz=19
Y20A Horse Springs, 18.76 351 ⇑P Pn 20 07 57.9 -0.5
baz=19,SNR=6.9
Y22D IRIS PASSCAL I 18.76 355 ⇑P Pn 20 07 58.0 -0.3
baz=19
Y21A Point of Rocks 18.77 353 ⇓P Pn 20 07 58.3 -0.2
baz=19
BNM Barren Site 18.81 356 eP Pn 20 08 02.1 +3.1
comp=Z,31nm,1.5s
LENM Lemitar 18.86 355 eP Pn 20 08 02.0 +2.5
comp=Z,28nm,1.5s
Y30A Stafford Cattl 18.87 11 ⇓P Pn 20 08 00.6 +1.0
baz=19,SNR=6.6
LPM Los Pinos Moun 18.97 356 eP Pn 20 08 01.7 +0.8
comp=Z,23nm,1.5s
Y31A Rekieta Farm, 19.08 12 ⇓P Pn 20 08 02.9 +0.9
baz=19,SNR=6.5
113A Mohawk Valley, 19.09 337 ⇑P Pn 20 08 01.4 -0.7
baz=19,SNR=13
LAZ Ladron 19.10 355 eP Pn 20 08 04.7 +2.1
comp=Z,14nm,1.3s
X25A Clemmons Ranch 19.14 1 ⇓P Pn 20 08 03.6 +0.7
baz=19,SNR=14
X24A Lazy VL Ranch, 19.18 359 ⇑P Pn 20 08 03.1 -0.3
baz=19
X22A Bernardo 19.20 355 ⇑P Pn 20 08 03.7 +0.1
baz=19
X26A CR and CF Fran 19.20 3 ⇑P Pn 20 08 03.4 -0.2
baz=19
X21A Alamocita Cree 19.21 353 ⇑P Pn 20 08 03.7 -0.2
baz=19,SNR=9.5
X23A Hourglass Bar 19.22 357 ⇓P Pn 20 08 04.5 +0.6
baz=19
X29A Tulia 19.30 8 ⇑P P 20 08 03.8 +0.1
baz=20
Y32A R-V Farms, Ver 19.30 14 ⇓P Pn 20 08 04.7 0.0
baz=20,SNR=10
X28A Dimmitt 19.30 7 ⇓P P 20 08 04.0 +0.1
baz=20
Z14A Wintersburg 19.34 340 ⇑P Pn 20 08 04.4 -0.8
baz=20
X27A F and S Farms, 19.34 5 ⇓P Pn 20 08 04.9 -0.4
baz=20
X20A Quemado 19.40 351 ⇓P Pn 20 08 05.4 -0.7
baz=20,SNR=8.5
X30A Coker Ranch, T 19.43 10 ⇑P Pn 20 08 05.8 -0.5
baz=20
ANMO Albuquerque 19.59 357 eP Pn 20 08 09.1 +0.7
ANMO Albuquerque 19.59 357 P Pn 20 08 08.8 +0.3
comp=Z,0.1nm,0.3s,baz=169,slow=11,SNR=8.6
ANMO LR LR 20 16 15.6
comp=Z,910nm,19.1s,baz=185,slow=38
X18A Snowflake 19.64 348 ⇓P P 20 08 06.9 -0.7
baz=20

W26A Owens Ranch, T 19.73 3 ⇓P P 20 08 08.8 +0.2
baz=20
W22A Albuquerque 19.75 356 ⇑P P 20 08 08.6 -0.1
baz=20
GLA Glamis 19.76 335 eP Pn 20 08 09.4 -0.8
GLA pmax pmax
comp=Z,43nm,1.3s
GLA Glamis 19.76 335 eP Pn 20 08 09.4 -0.8
comp=Z,42nm,1.3s
GLA Glamis 19.76 335 ⇑P P 20 08 07.6 -1.1
baz=20
W27A Bowe Ranch, En 19.76 5 ⇓P Pn 20 08 10.3 0.0
baz=20,SNR=23
W23A Werner Place, 19.79 357 ⇑P Pn 20 08 10.6 -0.2
baz=20,SNR=8.0
W24A Lazy 6 Ranch, 19.82 359 ⇑P Pn 20 08 11.2 +0.1
baz=20,SNR=16
W25A X Bar L Ranch, 19.83 1 ⇑P Pn 20 08 10.6 -0.6
baz=20,SNR=24
X16A Lo Mia Camp, P 19.87 344 ⇓P P 20 08 08.9 -1.2
baz=20,SNR=14
Y14A Wickenburg 19.88 340 ⇓P P 20 08 09.4 -0.7
baz=20
DVTC Desert V Tower 19.97 332 ⇑P Pn 20 08 11.1 -1.7
baz=20
W29A Amraillo 19.97 8 ⇓P P 20 08 11.4 +0.3
baz=20
W20A Ramah 19.97 352 ⇑P Pn 20 08 12.0 -1.1
baz=20
W28A Vega 20.03 7 ⇓P P 20 08 11.9 +0.1
baz=20
SWSC Sam W. Stewart 20.07 333 ⇑P Pn 20 08 12.1 -1.8
baz=20
WMOK Wichita Mounta 20.16 15 eP P 20 08 11.9 -1.2
WMOK pmax pmax
comp=Z,68nm,1.2s
WMOK Wichita Mounta 20.16 15 eP P 20 08 11.9 -1.2
comp=Z,68nm,1.2s
W18A Petrified Fore 20.17 349 eP Pn 20 08 14.1 -1.1
W18A Petrified Fore 20.17 349 ⇑P P 20 08 12.7 -0.6
baz=20
W30A Crocket Farms 20.20 11 ⇑P P 20 08 13.6 0.0
baz=20
JTS JuntasAbangare 20.25 102 P Pn 20 08 15.8 -0.3
JTS JuntasAbangare 20.25 102 P Pn 20 08 15.8 -0.3
comp=Z,54nm,1.0s,baz=295,slow=7.3,SNR=18
BAR Barrett 20.25 331 eP Pn 20 08 14.7 -1.3
comp=Z,130nm,2.0s
Y12C Blythe 20.25 337 ⇑P P 20 08 12.6 -1.4
baz=20
MONP Monument Peak 20.31 332 ⇑P P 20 08 13.3 -1.6
baz=20
W31A Holland Ranch, 20.32 12 ⇑P Pn 20 08 16.6 -0.4
baz=20,SNR=15
V24A Rampart Ranch, 20.33 360 ⇑P P 20 08 15.4 +0.2
baz=20
V23A Ortiz Mt. (NFS 20.38 357 ⇑P Pn 20 08 16.5 -1.2
baz=20,SNR=9.6
V26A Tequesquite Ra 20.44 3 ⇓P P 20 08 16.9 +0.7
baz=21,SNR=15
V25A Rancho No Teng 20.45 1 ⇓P Pn 20 08 17.5 -1.1
baz=21,SNR=25
V27A Dan Oppiter Fa 20.46 5 ⇓P P 20 08 16.9 +0.5
baz=21
V28A Channing 20.52 7 ⇓P P 20 08 17.6 +0.5
baz=21
BC3 Big Chuckawall 20.54 335 ⇓P P 20 08 16.2 -1.1
baz=21,SNR=15
V21A Milan 20.54 354 ⇓P P 20 08 17.0 -0.4
baz=21
V22A San Miguel Ran 20.59 356 ⇑P P 20 08 17.8 -0.1
baz=21
PDMCI Parker Dam,Lak 20.60 338 ⇓P P 20 08 17.0 -0.8
baz=21
109C Camp Elliot, M 20.63 330 ⇑P P 20 08 17.4 -0.7
baz=21
V20A Brimhall 20.63 352 ⇑P P 20 08 17.8 -0.6
baz=21
V29A Stinnett 20.73 8 ⇑P P 20 08 19.6 +0.3
baz=21,SNR=12
V30A Spur Ranch, Mi 20.75 10 ⇑P P 20 08 19.9 +0.4
baz=21
IRM Iron Mountain 20.86 336 ⇓P P 20 08 20.1 -0.5
baz=21,SNR=10
WUAZ Wupatki 20.90 345 eP P 20 08 21.7 +0.5
comp=Z,72nm,1.1s
WUAZ Wupatki 20.90 345 ⇓P P 20 08 21.7 +0.5
baz=21,SNR=22
PFO Pinyon Flat Ob 20.93 333 P Pn 20 08 21.6 -2.5
PFO Pinyon Flat Ob 20.93 333 ⇓P P 20 08 21.5 0.0
baz=21,SNR=10
PFO Pinyon Flat Ob 20.93 333 P P 20 08 21.6 +0.1
comp=Z,11nm,1.1s,baz=142,slow=8.2,SNR=16
U23A El Rito 20.96 357 ⇑P P 20 08 22.3 +0.3
baz=21
U25A Circle Dot Ran 21.02 2 ⇓P P 20 08 23.7 +1.1
baz=21,SNR=27
U24A Moreno Valley 21.02 360 ⇓P P 20 08 22.5 -0.2
baz=21
U26A Atchley Ranch, 21.04 3 ⇓P P 20 08 23.8 +1.1
baz=21
BELC Belle Mtn. Jos 21.06 334 ⇓P P 20 08 22.9 -0.1
baz=21,SNR=12
U27A Thompson Grove 21.12 5 ⇓P P 20 08 24.6 +1.0
baz=21,SNR=17
U28A Mallet 21.14 6 ⇓P P 20 08 24.7 +0.9
baz=21
U21A Nageezi 21.16 354 ⇑P P 20 08 25.1 +1.0
baz=21,SNR=12
U20A Newcomb 21.21 352 ⇑P P 20 08 24.9 +0.3
baz=21
W13A Hualapai Mount 21.24 340 ⇓P P 20 08 24.8 -0.1
baz=21
MURC Murrieta 21.26 331 ⇓P P 20 08 24.9 -0.1
baz=21
U29A Oasis Ranch, S 21.33 8 ⇑P P 20 08 26.4 +0.6
baz=22
SCI San Clemente I 21.42 328 ⇑P P 20 08 26.0 -0.7
baz=22
U31A Nine Bar Ranch 21.49 12 ⇑P P 20 08 28.8 +1.4
baz=22
U30A WK&E Inc. Balk 21.50 10 ⇑P P 20 08 29.2 +1.6
baz=22,SNR=6.0
GMRC Granite Mounta 21.60 336 ⇓P P 20 08 28.0 -0.7
baz=22,SNR=9.8
T23A Casias Ranch, 21.66 358 ⇑P P 20 08 30.3 +0.8
baz=22
T24B San Luis 21.67 359 ⇓P P 20 08 31.6 +2.0
baz=22
T22A Edith 21.68 356 ⇓P P 20 08 31.3 +1.6
baz=22,SNR=23
CIS Catalina Islan 21.69 329 ⇑P P 20 08 29.8 +0.2
baz=22
T21A Navajo Lake 21.71 355 ⇑P P 20 08 31.5 +1.5
baz=22
T25A Trinidad 21.75 1 ⇓P P 20 08 32.5 +2.1
baz=22,SNR=19
T27A Campo 21.77 5 ⇓P P 20 08 32.5 +2.0
baz=22
MIAR Mount Ida 21.78 26 eP P 20 08 29.8 -0.7
MIAR pmax pmax
comp=Z,56nm,1.4s
MIAR Mount Ida 21.78 26 eP P 20 08 29.8 -0.7
comp=Z,56nm,1.4s
T26A Comanche Natio 21.82 3 ⇓P P 20 08 32.3 +1.2
baz=22,SNR=8.8
FMP Fort Macarthur 21.88 329 ⇑P P 20 08 32.3 +0.8
baz=22
T28A Walsh 21.89 6 ⇑P P 20 08 32.4 +0.7
baz=22
HEC Hector,Ludlow 21.91 335 ⇑P P 20 08 31.7 -0.4
baz=22,SNR=9.3
U15A North Rim 22.00 344 ⇓P P 20 08 32.8 -0.4
baz=22
BFSC Mount Baldy Ra 22.00 331 ⇓P P 20 08 32.8 -0.3
baz=22
T29A Hugoton 22.02 8 ⇑P P 20 08 33.7 +0.5
baz=22
MVCO Mesa Verde 22.03 353 eP P 20 08 33.2 -0.2
comp=Z,58nm,1.4s
MVCO Mesa Verde 22.03 353 ⇑P P 20 08 33.4 0.0
baz=22,SNR=10.0
T30A Plains 22.03 10 ⇓P P 20 08 34.0 +0.7
baz=22
TUL1 Tulsa 22.14 20 ⇑P P 20 08 35.2 +0.9
baz=22
MWC Mount Wilson 22.18 330 eP P 20 08 35.9 +0.9
MWC pmax pmax

comp=Z,41nm,1.3s
MWC **Mount Wilson** 22.18 330 *eP* P 20 08 35.9 +0.9
comp=Z,41nm,1.3s
T31A **Randall Ranch,** 22.23 11 ⇓P P 20 08 36.2 +0.8
baz=22,SNR=17
S24A **Houchin Ranch,** 22.25 360 ⇑P P 20 08 36.8 +1.0
baz=22,SNR=7.7
S26A **Kim** 22.27 3 ⇓P P 20 08 36.8 +0.9
baz=22,SNR=14
S25A **Robets Cordova** 22.27 1 ⇓P P 20 08 37.6 +1.6
baz=22,SNR=14
TUQ **Turquoise Moun** 22.28 336 ⇑P P 20 08 35.1 -1.0
baz=22
SDCO **Great Sand Dun** 22.35 359 *eP* P 20 08 36.6 -0.4
comp=Z,14nm,1.0s
S27A **Las Animas** 22.37 5 ⇑P P 20 08 37.7 +0.7
baz=23
S28A **Manter** 22.37 7 ⇓P P 20 08 37.4 +0.4
baz=23,SNR=6.3
S22A **4UR Ranch, Cre** 22.40 356 ⇓P P 20 08 39.1 +1.6
baz=23,SNR=14
S29A **Ulysses** 22.50 8 ⇑P P 20 08 38.6 +0.2
baz=23
GSC **Goldstone** 22.52 334 *eP* P 20 08 38.1 -0.5
GSC pmax pmax
comp=Z,44nm,1.5s
GSC **Goldstone** 22.52 334 *eP* P 20 08 38.0 -0.5
comp=Z,44nm,1.5s
GSC **Goldstone** 22.52 334 ⇓P P 20 08 38.1 -0.5
baz=23
BLG **Laguna Peak** 22.58 329 ⇑P P 20 08 37.6 -1.6
baz=23
S30A **Montezuma** 22.62 10 ⇑P P 20 08 39.7 +0.2
baz=23
EDW2 **Edwards Air Fo** 22.68 332 ⇑P P 20 08 39.2 -1.1
baz=23
BRAL **Brewton** 22.73 43 *eP* P 20 08 41.7 +1.0
comp=Z,317nm,1.7s
R25A **Fountain Ranch** 22.76 2 ⇑P P 20 08 42.0 +0.8
baz=23,SNR=6.9
S31A **Mullinville** 22.77 12 ⇑P P 20 08 41.3 +0.1
baz=23
R24A **Sanders Place,** 22.84 360 ⇓P P 20 08 42.4 +0.3
baz=23,SNR=8.9
SHPR **Sheep Range** 22.95 339 *eP* P 20 08 43.1 0.0
comp=Z,52nm,1.6s
PV01 **Paradox Valley** 22.95 353 *eP* P 20 08 45.4 +2.2
comp=Z,2µm,1.2s
R26A **Arlington** 22.95 3 ⇑P P 20 08 43.8 +0.7
baz=23,SNR=9.6
R27A **Eads** 22.98 5 ⇓P P 20 08 43.6 +0.2
baz=23,SNR=8.8
R20A **Redvale** 22.98 353 ⇑P P 20 08 43.7 +0.2
baz=23,SNR=7.2
R21A **Cimarron** 23.07 355 ⇓P P 20 08 43.8 -0.7
baz=23
R28A **Tribune** 23.13 7 ⇑P P 20 08 44.4 -0.5
baz=23
PV04 **Paradox Valley** 23.24 352 *eP* P 20 08 45.4 -0.8
R30A **Dighton** 23.28 10 ⇓P P 20 08 46.6 +0.2
baz=24
ARVC **Arvin** 23.28 330 ⇑P P 20 08 45.1 -1.3
baz=23
R29A **Marienthal** 23.29 8 ⇑P P 20 08 46.5 0.0
baz=24
CCUT **Cedar City** 23.34 343 *eP* P 20 08 46.8 -0.4
comp=Z,14nm,1.1s
R31A **Burdett** 23.41 11 ⇑P P 20 08 48.5 +0.8
baz=24,SNR=5.5
MPMC **Manual Prospec** 23.45 334 ⇓P P 20 08 47.5 -0.9
baz=24,SNR=7.5
Q22A **Crested Butte,** 23.52 356 ⇑P P 20 08 48.5 -0.6
baz=24,SNR=7.0
Q25A **Bedland, Calha** 23.53 2 ⇑P P 20 08 49.2 +0.1
baz=24,SNR=7.2
Q21A **Lamborn Mesa,** 23.54 355 ⇓P P 20 08 48.5 -0.7
baz=24
ISA **Isabella** 23.55 332 *eP* P 20 08 49.0 -0.2
ISA pmax pmax
comp=Z,43nm,1.5s
ISA **Isabella** 23.55 332 *eP* P 20 08 49.0 -0.2
comp=Z,43nm,1.5s
ISA **Isabella** 23.55 332 ⇑P P 20 08 48.4 -0.8
baz=24,SNR=6.8
Q26A **Hugo** 23.57 3 ⇑P P 20 08 49.7 +0.4
baz=24
ARUT **Antelope Range** 23.58 343 *eP* P 20 08 49.6 0.0
ARUT **Antelope Range** 23.58 343 *eP* P 20 08 49.5 0.0
comp=Z,616nm,1.2s
KSCO **Kaye Shedlock'** 23.71 5 ⇑P P 20 08 51.1 +0.3
baz=24
Q20A **Ridgley Place,** 23.73 354 ⇑P P 20 08 50.7 -0.3
baz=24
Q29A **Oakley** 23.77 8 ⇓P P 20 08 51.5 +0.2
baz=24
Q28A **Sharon Springs** 23.84 6 ⇓P P 20 08 52.1 +0.1
baz=24
SMCO **Snowmass** 23.84 356 *eP* P 20 08 52.9 +0.5
comp=Z,19nm,1.2s
MVU **Marysvale** 23.95 346 *eP* P 20 08 55.1 +1.9
comp=Z,62nm,1.8s
Q30A **Quinter** 23.96 9 ⇓P P 20 08 54.3 +1.1
baz=24,SNR=5.1
P23A **Jefferson** 23.98 359 ⇑P P 20 08 54.0 +0.4
baz=24,SNR=5.6
SMMC **Simmler** 24.00 329 ⇓P P 20 08 53.5 0.0
baz=24
LRAL **Lakeview Retre** 24.09 40 *eP* P 20 08 53.9 -0.4
comp=Z,134nm,1.6s
Q16A **Castle Valley** 24.12 348 *eP* P 20 08 55.9 +1.1
Q16A **Castle Valley** 24.12 348 ⇓P P 20 08 54.2 -0.5
baz=24
Q31A **Ellis** 24.13 11 ⇑P P 20 08 55.9 +1.2
baz=24
SRU **San Rafael** 24.19 350 *eP* P 20 08 54.7 -0.7
SRU pmax pmax
comp=Z,19nm,0.9s
SRU **San Rafael** 24.19 350 *eP* P 20 08 54.7 -0.7
comp=Z,19nm,0.9s
P26A **Davis Ranch, A** 24.21 3 ⇑P P 20 08 56.0 +0.5
baz=24
P21A **Newcastle** 24.21 356 ⇑P P 20 08 56.6 +0.9
baz=24
P22A **Eagle** 24.24 357 ⇓P P 20 08 56.6 +0.7
baz=24
P20A **De Beque** 24.27 354 ⇓P P 20 08 57.1 +0.9
baz=24
P28A **Saint Francis** 24.35 6 ⇓P P 20 08 58.0 +1.3
baz=24
ISCO **Idaho Springs** 24.41 359 *eP* P 20 09 00.0 +2.5
ISCO pmax pmax
comp=Z,24nm,1.2s
ISCO **Idaho Springs** 24.41 359 *eP* P 20 08 60.0 +2.5
comp=Z,24nm,1.2s
ISCO **Idaho Springs** 24.41 359 ⇓P P 20 08 59.6 +2.1
baz=25,SNR=15
P19A **Cripple Cowboy** 24.47 353 ⇓P P 20 08 58.9 +0.8
baz=25
P29A **Atwood** 24.48 8 ⇑P P 20 08 58.9 +1.1
baz=25
P30A **Selden** 24.51 9 ⇓P P 20 08 59.8 +1.6
baz=25,SNR=5.6
P31A **Stockton** 24.64 11 ⇑P P 20 09 00.1 +0.8
baz=25
O24A **Longmont** 24.72 0 ⇓P P 20 09 00.7 +0.5
baz=25
O25A **Wiggins** 24.73 2 ⇓P P 20 09 01.2 +1.0
baz=25
R11A **Troy Canyon, C** 24.75 340 *eP* P 20 09 00.1 -0.4
R11A **Troy Canyon, C** 24.75 340 ⇑P P 20 09 00.1 -0.4
baz=25,SNR=6.5
O22A **Kremmling** 24.80 357 ⇑P P 20 09 01.6 +0.6
baz=25,SNR=11
O23A **Lake Granby, G** 24.82 358 ⇓P P 20 09 01.3 +0.1
baz=25
O20A **White River Ci** 24.89 354 ⇑P P 20 09 01.8 +0.1
baz=25
O26A **Horse Wrangler** 24.89 3 ⇑P P 20 09 02.4 +0.7
baz=25
O27A **Beecher Island** 24.89 5 ⇓P P 20 09 02.2 +0.5
baz=25
O28A **Krutsinger Ran** 24.89 6 ⇓P P 20 09 02.1 +0.4
baz=25
O29A **4D Ranch, Culb** 25.01 8 ⇑P P 20 09 03.2 +0.5
baz=25
O19A **Miners Draw (B** 25.15 353 ⇑P P 20 09 04.0 0.0
baz=25
O30A **MW Ranch, Wils** 25.16 9 ⇓P P 20 09 05.5 +1.5
baz=25,SNR=5.2
O31A **Woolen Ranch,** 25.26 10 ⇑P P 20 09 05.9 +1.0
baz=26
MPU **Maple Canyon** 25.27 348 *eP* P 20 09 05.4 +0.1
comp=Z,46nm,1.2s
TIGA **Tifton** 25.36 47 *eP* P 20 09 06.7 +0.8
TIGA **Tifton** 25.36 47 ⇓P P 20 09 06.9 +1.1
baz=26
N22A **Wattenberg Ran** 25.43 358 ⇓P P 20 09 07.1 +0.4
baz=26
N28A **Pribbeno Ranch** 25.47 6 ⇑P P 20 09 07.0 +0.1
baz=26
N26A **Koester Ranch,** 25.48 3 ⇑P P 20 09 07.5 +0.5
baz=26
N27A **Anderson Farm,** 25.50 4 ⇑P P 20 09 07.8 +0.7
baz=26
N23A **Red Feather La** 25.50 358 ⇓P P 20 09 07.4 0.0
baz=26
O32A **Brockman Farm,** 25.56 12 ⇑P P 20 09 07.7 +0.1
baz=26
N20A **Spence Gulch,** 25.58 354 ⇓P P 20 09 08.3 +0.2
baz=26
DAU **Daniels Canyon** 25.59 349 *eP* P 20 09 09.4 +1.2
DAU pmax pmax
comp=Z,39nm,1.0s
DAU **Daniels Canyon** 25.59 349 *eP* P 20 09 09.4 +1.2
comp=Z,39nm,1.0s
OGNE **Ogallala** 25.68 5 ⇑P P 20 09 09.8 +1.1
baz=26,SNR=6.6
DUG **Dugway** 25.70 346 *eP* P 20 09 09.0 0.0
DUG pmax pmax
comp=Z,53nm,1.4s
DUG **Dugway** 25.70 346 *eP* P 20 09 08.9 0.0
comp=Z,53nm,1.4s
DUG **Dugway** 25.70 346 ⇓P P 20 09 09.2 +0.1
baz=26
NV11 **Mina Array Sit** 25.76 336 *eP* P 20 09 08.7 -0.9
JLU **Jordanelle** 25.80 349 *eP* P 20 09 11.1 +1.0
comp=Z,66nm,1.7s
NVAR **Mina Array Bea** 25.82 336 P P 20 09 10.7 +0.5
NVAR PcP PcP 20 12 40.5 +0.8
NVAR **Mina Array Bea** 25.82 336 P P 20 09 10.7 +0.5
comp=Z,2.0nm,1.0s,baz=149,slow=6.3,SNR=8.1
NVAR PcP PcP 20 12 40.5 +0.8
comp=Z,1.5nm,0.9s,baz=164,slow=3.6,SNR=4.1
M25A **Palm-Egli Farm** 26.05 2 ⇑P P 20 09 13.3 +1.1
baz=26
M24A **Cheyenne** 26.07 0 ⇑P P 20 09 14.0 +1.6
baz=26
M20A **Sweetwater, Wa** 26.23 355 ⇑P P 20 09 14.7 +0.8
baz=26
M29A **Burnside Ranch** 26.32 7 ⇑P P 20 09 16.1 +1.5
baz=26
M19A **Rock Springs** 26.34 353 ⇓P P 20 09 15.6 +0.7
baz=26
BGU **Big Grassy Mou** 26.44 346 *eP* P 20 09 15.3 -0.5
comp=Z,22nm,1.3s
M17A **Scullys Gap (B** 26.52 351 ⇑P P 20 09 17.1 +0.6
baz=27
M30A **Dale-Ortello V** 26.52 9 ⇓P P 20 09 17.9 +1.6
baz=27
L22A **Ellis Ranch, M** 26.66 358 ⇑P P 20 09 19.3 +1.6
baz=27
SPUT **South Promonto** 26.68 348 *eP* P 20 09 18.0 0.0
comp=Z,12nm,1.0s
L23A **Garrett** 26.72 359 ⇑P P 20 09 19.2 +0.9
baz=27,SNR=5.8
L20A **Wamsutter** 26.75 355 ⇓P P 20 09 19.4 +0.7
baz=27
ELK **Elko** 26.84 343 *eP* P 20 09 19.2 -0.3
comp=Z,14nm,1.5s
L18A **Fontenelle, Gr** 26.87 352 ⇓P P 20 09 20.2 +0.5
baz=27
L30A **Spencer Herefo** 26.95 9 ⇓P P 20 09 21.5 +1.3
baz=27
L29A **Maesberg Ranch** 26.96 8 ⇑P P 20 09 22.2 +1.9
baz=27
BMN **Battle Mountai** 27.18 339 *eP* P 20 09 22.2 -0.2
BMN pmax pmax
comp=Z,49nm,1.6s
BMN **Battle Mountai** 27.18 339 *eP* P 20 09 22.2 -0.2
comp=Z,49nm,1.6s
HVU **Hansel Valley** 27.20 347 *eP* P 20 09 24.4 +1.8
HVU pmax pmax
comp=Z,16nm,1.1s
HVU **Hansel Valley** 27.20 347 *eP* P 20 09 24.4 +1.8
comp=Z,16nm,1.1s
K25A **Mack Ranch, Ha** 27.23 2 ⇑P P 20 09 24.2 +1.4
baz=27
K22A **Casper** 27.28 358 ⇑P P 20 09 24.0 +0.8
baz=28
K21A **Alcova** 27.30 357 ⇑P P 20 09 24.2 +0.7
baz=28
K24A **Anderson Ranch** 27.32 0 ⇓P P 20 09 24.8 +1.1
baz=28
K26A **Motz Farm, Whi** 27.35 3 ⇑P P 20 09 25.1 +1.3
baz=28
K23A **Bowen Ranch, D** 27.36 359 ⇑P P 20 09 25.3 +1.3
baz=28
K28A **Ten Mile Ranch** 27.50 6 ⇑P P 20 09 26.1 +1.0
baz=28
BW06 **Boulder Array** 27.63 353 *eP* P 20 09 25.9 -0.7
comp=Z,14nm,1.2s
PDAR **Pinedale Array** 27.63 353 P P 20 09 28.6 +2.1
PDAR **Pinedale Array** 27.63 353 P P 20 09 28.6 +2.1
comp=Z,3.6nm,0.9s,baz=169,slow=8.8,SNR=16
TKL **Tuckaleechee C** 27.82 39 P P 20 09 31.4 +3.3
TKL **Tuckaleechee C** 27.82 39 P P 20 09 31.4 +3.3
comp=Z,10.0nm,1.1s,baz=203,slow=4.9,SNR=4.6
TKL LR LR 20 22 44.7
comp=Z,1µm,18.1s,baz=230,slow=41
J24A **Dixon Ranch, L** 27.93 1 ⇑P P 20 09 28.9 -0.2
baz=28
J27A **Elkhorn Farm,** 27.98 5 ⇓P P 20 09 29.5 +0.1
baz=28
J21A **Lysite** 28.02 356 ⇑P P 20 09 30.0 +0.1
baz=28
J22A **Midwest** 28.04 358 ⇑P P 20 09 30.1 +0.1
baz=28
J20A **Shoshoni** 28.07 355 ⇓P P 20 09 30.6 +0.2
baz=28
J19A **Crowheart** 28.07 354 ⇓P P 20 09 30.3 -0.1
baz=28
J28A **Allard Ranch,** 28.21 6 ⇓P P 20 09 32.8 +1.2
baz=28,SNR=5.6
J30A **Dallas** 28.33 9 ⇓P P 20 09 32.8 +0.2
baz=28
REDW **Red Top Meadow** 28.39 351 *eP* P 20 09 32.2 -1.1
comp=Z,32nm,1.2s
RRI2 **Red Ridge** 28.45 350 *eP* P 20 09 33.0 -0.9
comp=Z,18nm,0.9s
I21A **Big Trails, Te** 28.47 357 ⇓P P 20 09 33.7 -0.2
baz=29
SNOW **Snow King Moun** 28.48 351 *eP* P 20 09 34.8 +0.7
comp=Z,43nm,1.3s
I22A **9 Mile Ranch,** 28.52 358 ⇓P P 20 09 34.6 +0.3
baz=29
TPAW **Teton Pass** 28.53 351 *eP* P 20 09 34.1 -0.5
comp=Z,20nm,1.0s
LOHW **Long Hollow** 28.60 352 *eP* P 20 09 34.4 -0.8
comp=Z,35nm,1.0s
I20A **Worland** 28.66 355 ⇓P P 20 09 35.6 0.0
baz=29,SNR=11
MOOW **Moose Ponds** 28.76 351 *eP* P 20 09 37.6 +1.1
comp=Z,14nm,1.1s
I27A **Quinn** 28.78 5 ⇑P P 20 09 38.1 +1.5
baz=29
I28A **Midland** 28.79 6 ⇓P P 20 09 37.9 +1.3
baz=29
I19A **Meeteetse** 28.83 354 ⇓P P 20 09 37.9 +0.8
baz=29
I17A **Pilgrim Ck.** 28.90 352 ⇑P P 20 09 39.0 +1.1
baz=29
I29A **Vivian Onida** 28.91 7 ⇓P P 20 09 39.4 +1.7
baz=29
IMW **Indian Meadow** 28.93 351 *eP* P 20 09 37.4 -0.8
comp=Z,9.6nm,1.0s
KMSC **Kings Mountain** 29.05 43 ⇑P P 20 09 40.9 +1.9
baz=29
H22A **Clearmont** 29.21 358 ⇑P P 20 09 42.4 +2.0
baz=29
H25A **Fruitdale** 29.25 2 ⇓P P 20 09 43.0 +2.3
baz=29
HLID **Hailey** 29.27 346 *eP* P 20 09 40.2 -0.9
comp=Z,17nm,1.4s
HLID **Hailey** 29.27 346 ⇓P P 20 09 42.0 +1.0
baz=29
H21A **Big Horn, Sher** 29.27 357 ⇓P P 20 09 43.3 +2.3
baz=30
H26A **Fairpoint** 29.28 3 ⇓P P 20 09 43.6 +2.6
baz=30
H24A **Dirks Ranch, A** 29.35 1 ⇓P P 20 09 44.2 +2.6
baz=30
H17A **Grant Village** 29.37 352 ⇑P P 20 09 44.0 +2.0
baz=30
H19A **Powell** 29.45 354 ⇑P P 20 09 44.9 +2.2
baz=30
H28A **Mission Ridge** 29.47 6 ⇓P P 20 09 45.5 +2.8
baz=30
SFIN **Scholer Farm** 29.49 29 ⇓P P 20 09 43.8 +1.0
baz=30
H18A **Shoshone NF, C** 29.53 353 ⇑P P 20 09 45.6 +2.2
baz=30
G23A **Biddle** 29.80 360 ⇓P P 20 09 46.0 +0.3
baz=30
G22A **Birney** 29.83 358 ⇑P P 20 09 46.0 0.0
baz=30
QLMT **Earthquake Lak** 29.92 351 *eP* P 20 09 47.9 +1.1
comp=Z,1.7nm,1.0s
G24A **Alzada** 29.93 1 ⇑P P 20 09 47.4 +0.6
baz=30
G20A **Bridger** 29.93 356 ⇑P P 20 09 46.7 -0.2
baz=30
G26A **Maurine** 29.96 4 ⇑P P 20 09 47.0 0.0
baz=30,SNR=14
G27A **Dupree** 30.09 4 ⇑P P 20 09 48.8 +0.6
baz=30
G30A **Faulkton** 30.15 8 ⇓P P 20 09 49.3 +0.6
baz=30
MCMT **McKenzie Canyo** 30.15 349 *eP* P 20 09 49.3 +0.4
comp=Z,4.1nm,1.1s
OTAV **Otavalo** 30.27 117 *eP* P 20 09 52.2 +1.7
comp=Z,36nm,1.1s
YBH **Yreka Blue Hor** 30.42 333 LR LR 20 21 25.1
comp=Z,1µm,19.4s,baz=149,slow=35
DLMT **Dillon** 30.62 350 *eP* P 20 09 52.9 -0.1
comp=Z,27nm,1.3s
F19A **Roth Farm, Mol** 30.62 355 ⇑P P 20 09 53.0 0.0
baz=31
GCMT **Greycliff** 30.63 354 *eP* P 20 09 51.5 -1.5
comp=Z,9.1nm,1.2s
LRM **Limekiln Ridge** 31.05 350 *eP* P 20 09 56.5 -0.3
comp=Z,207nm,1.2s
E20A **Meyer Farm, Mu** 31.21 356 ⇑P P 20 09 57.5 -0.5
baz=31
E19A **Rath Farm, Rou** 31.21 355 ⇑P P 20 09 57.4 -0.7
baz=31
BMO **Blue Mountains** 31.22 343 *eP* P 20 09 56.9 -1.3
comp=Z,10nm,1.3s
D21A **La Casta Ranch** 31.70 358 ⇓P P 20 10 02.4 0.0
baz=32
D26A **Manning** 31.70 3 ⇑P P 20 10 02.6 +0.2
baz=32
D22A **Cohagen** 31.76 359 ⇓P P 20 10 02.6 -0.3
baz=32
D23A **Lindsay** 31.77 360 ⇓P P 20 10 02.7 -0.3
baz=32
D20A **Manuel Ranch,** 31.79 356 ⇑P P 20 10 02.8 -0.3
baz=32,SNR=6.8
D19A **Cripps Ranch,** 31.92 355 ⇓P P 20 10 04.0 -0.3
baz=32,SNR=25
ROSC **El Rosal** 31.96 106 P P 20 10 07.5 +2.1
ROSC **El Rosal** 31.96 106 P P 20 10 07.5 +2.1
comp=Z,4.9nm,0.3s,baz=73,slow=16,SNR=11
D30A **Buchanan** 32.14 8 ⇑P P 20 10 05.9 -0.2
baz=32
CHMT **Chamberlain Mo** 32.24 349 *eP* P 20 10 06.2 -1.1
comp=Z,6.7nm,1.0s
MSO **Missoula** 32.29 349 ⇑P P 20 10 07.1 -0.5
baz=32,SNR=5.6
C22A **Vida** 32.35 359 ⇓P P 20 10 08.5 +0.5
baz=32
C23A **Lambert** 32.40 360 ⇓P P 20 10 08.5 0.0
baz=33
C20A **Veseth Ranch,** 32.40 356 ⇑P P 20 10 08.7 +0.2
baz=33,SNR=7.5
C21A **Desert Coulee** 32.47 357 ⇓P P 20 10 09.0 -0.1
baz=33
C19A **Slack Wire Ran** 32.50 355 ⇑P P 20 10 09.9 +0.6
baz=33
C26A **Wahner Farm, P** 32.52 4 ⇓P P 20 10 09.9 +0.4
baz=33
SLMT **Seeley Lake** 32.60 349 *eP* P 20 10 11.9 +1.6
comp=Z,32nm,1.4s
C30A **Mose, Pekin** 32.76 8 ⇓P P 20 10 12.6 +1.0
baz=33
MDND **Maddock** 32.76 7 ⇑P P 20 10 12.2 +0.6
baz=33
EGMT **Eagleton** 32.85 354 *eP* P 20 10 12.0 -0.5
comp=Z,32nm,1.1s
EGMT **Eagleton** 32.85 354 ⇓P P 20 10 13.0 +0.5
baz=33
B22A **Reddig Ranch S** 32.91 359 ⇑P P 20 10 13.6 +0.7
baz=33
SWMT **Swartz Lake** 32.95 349 *eP* P 20 10 13.3 -0.1
B23A **Brockton** 33.06 0 ⇓P P 20 10 15.3 +1.0
baz=33
B21A **Ellsworth Farm** 33.06 358 ⇓P P 20 10 15.2 +0.9
baz=33
DGMT **Dagmar** 33.08 1 *eP* P 20 10 16.9 +2.5
comp=Z,46nm,1.2s
DGMT **Dagmar** 33.08 1 ⇓P P 20 10 15.5 +1.2
baz=33
B20A **Solberg Farm,** 33.13 356 ⇓P P 20 10 15.8 +1.0
baz=33
B27A **Peters Farms,** 33.15 5 ⇓P P 20 10 16.3 +1.3
baz=33
B19A **Brinkman Farms** 33.21 355 ⇓P P 20 10 16.5 +1.0
baz=33
B28A **Dugan Ranch, T** 33.28 6 ⇑P P 20 10 17.5 +1.4
baz=34
B29A **Wagenman Farm,** 33.40 7 ⇓P P 20 10 18.6 +1.5
baz=34
B30A **Myrvik Farm, E** 33.51 8 ⇑P P 20 10 19.3 +1.1
baz=34
A24A **Westby** 33.53 1 ⇑P P 20 10 19.4 +1.0
baz=34
A20A **Cobblestone Ra** 33.56 357 ⇑P P 20 10 19.6 +1.0
baz=34
A25A **Svangstu Ranch** 33.58 2 ⇑P P 20 10 19.4 +0.7
baz=34
A26A **Wade Farm, Ken** 33.59 4 ⇓P P 20 10 19.1 +0.2
baz=34
A22A **Carney Farms,** 33.60 359 ⇑P P 20 10 19.0 +0.1
baz=34
A19A **Klindworth Far** 33.66 356 ⇑P P 20 10 19.5 -0.1
baz=34
A27A **Ledoux Ranch,** 33.70 5 ⇑P P 20 10 19.9 +0.1
baz=34
A28A **Rude Farm, Bot** 33.74 6 ⇓P P 20 10 21.1 +1.0
baz=34,SNR=5.4
AGMN **Agassiz Nation** 33.76 11 *eP* P 20 10 20.1 -0.2
comp=Z,52nm,1.2s
A30A **Hoffart Farm,** 34.00 8 ⇓P P 20 10 22.8 +0.5
baz=34
SDV **Santo Domingo** 34.25 97 *eP* P 20 10 25.5 +0.3
comp=Z,38nm,1.2s
NEW **Newport** 34.33 346 *eP* P 20 10 24.1 -1.3
NEW **Newport** 34.33 346 ⇑P P 20 10 25.2 -0.2
baz=34
NEW **Newport** 34.33 346 P P 20 10 24.8 -0.6
comp=Z,7.3nm,0.9s,baz=147,slow=10,SNR=6.5
EYMN **Ely** 34.43 16 *eP* P 20 10 25.2 -0.9
comp=Z,19nm,1.1s
SSPA **Standing Stone** 34.57 38 *eP* P 20 10 26.1 -1.3
comp=Z,123nm,2.0s
ATAH **Atahualpa** 34.59 128 LR LR 20 21 37.5
comp=Z,3µm,19.6s,baz=120,slow=31
ULM **Lac du Bonnet** 35.64 10 P P 20 10 38.8 +2.3
ULM **Lac du Bonnet** 35.64 10 P P 20 10 38.8 +2.3
comp=Z,11nm,1.1s,baz=192,slow=7.7,SNR=6.5
ULM LR LR 20 24 41.7
comp=Z,2µm,20.2s,baz=198,slow=35
EDM **Edmonton** 38.39 352 *eP* P 20 10 59.9 0.0
EDM **Edmonton** 38.39 352 *eP* P 20 10 59.9 0.0
FFC **Flin Flon** 39.41 3 *eP* P 20 11 09.4 +1.0
FFC pmax pmax
comp=Z,65nm,1.3s
FFC **Flin Flon** 39.41 3 *eP* P 20 11 09.4 +1.0
comp=Z,65nm,1.3s
DLBC **Dease Lake** 46.90 342 *eP* P 20 12 08.9 -0.1
YKA **Yellowknife Ar** 47.61 354 P P 20 12 14.3 0.0
YKA **Yellowknife Ar** 47.61 354 P P 20 12 14.3 0.0
comp=Z,4.1nm,0.8s,baz=168,slow=7.4,SNR=6.8
SAML **Samuel** 48.00 117 *eP* P 20 12 15.8 -2.3
comp=Z,8.2nm,0.9s

RKT	**Rikitea**	**48.11**	**218**	*e*S		**S**	**20 19 17.0**	**-0.6**
	comp=Z,326nm,29.0s							
RKT				*e*LR		LR	20 25 53.6	
	comp=Z,3µm,26.8s,baz=37							
RKT	**Rikitea**	**48.11**	**218**	*e*T		T	21 03 39.2	
	comp=Z,7.7nm,0.3s							
LPAZ	**La Paz**	**48.13**	**129**	*e*P		**P**	**20 12 19.6**	**-0.1**
	comp=Z,50nm,1.4s							
LPAZ	**La Paz**	**48.13**	**129**	P		**P**	**20 12 18.8**	**-0.9**
	comp=Z,24nm,1.2s,baz=333,slow=7.9,SNR=23							
LPAZ				LR		LR	20 29 55.7	
	comp=Z,2µm,21.9s,baz=306,slow=33							
SCHQ	**Schefferville**	**49.27**	**28**	LR		LR	20 34 36.7	
	comp=Z,776nm,19.9s,baz=115,slow=37							
HYT	**Haines Junctio**	**51.11**	**340**	*e*P		**P**	**20 12 40.4**	**-1.0**
VAH	**Vaihoa**	**51.85**	**236**	*e*T		T	21 08 15.8	
	comp=Z,7.7nm,0.4s							
PMOR	**Pomariorio Ree**	**51.94**	**237**	*e*T		T	21 08 22.1	
	comp=Z,11nm,0.2s							
PPT2	**Papeete2**	**54.71**	**235**	*e*S		**S**	**20 20 49.0**	**-0.1**
	comp=Z,296nm,26.8s							
PPT2				*e*LR		LR	20 28 47.9	
	comp=Z,2µm,25.0s,baz=49							
EGAK	**Eagle**	**55.16**	**342**	*e*P		**P**	**20 13 09.7**	**-1.2**
	comp=Z,14nm,1.0s							
SML	**Sawmill**	**55.62**	**337**	*e*P		**P**	**20 13 13.1**	**-1.3**
SML				pmax		pmax		
	comp=Z,2.0nm,0.7s							
SML	**Sawmill**	**55.62**	**337**	*e*P		**P**	**20 13 13.1**	**-1.3**
	comp=Z,2.5nm,0.7s							
ILAR	**Eielson Array**	**56.95**	**340**	P		**P**	**20 13 22.3**	**-1.5**
ILAR	**Eielson Array**	**56.95**	**340**	P		**P**	**20 13 22.3**	**-1.5**
	comp=Z,5.6nm,0.9s,baz=155,slow=5.1,SNR=21							
ILAR				LR		LR	20 39 32.8	
	comp=Z,375nm,18.0s,baz=140,slow=38							
MCK	**McKinley**	**57.01**	**338**	*e*P		**P**	**20 13 23.0**	**-1.2**
MCK				pmax		pmax		
	comp=Z,15nm,1.1s							
MCK	**McKinley**	**57.01**	**338**	*e*P		**P**	**20 13 23.0**	**-1.2**
	comp=Z,15nm,1.1s							
TRF	**Thorofare Moun**	**57.32**	**338**	*e*P		**P**	**20 13 25.2**	**-1.5**
	comp=Z,33nm,1.1s							
COLA	**College**	**57.34**	**340**	*e*P		**P**	**20 13 25.2**	**-1.2**
PPLA	**Purkeypile**	**57.72**	**337**	*e*P		**P**	**20 13 27.9**	**-1.5**
	comp=Z,41nm,1.2s							
BPAW	**Bear Paw Mtn.**	**57.95**	**338**	*e*P		**P**	**20 13 29.8**	**-1.1**
	comp=Z,16nm,1.3s							
TBI	**Tubuai**	**57.96**	**229**	*e*S		**S**	**20 21 34.0**	**+2.0**
	comp=Z,538nm,31.2s							
TBI				*e*LR		LR	20 30 14.9	
	comp=Z,2µm,27.2s,baz=53							
COLD	**Coldfoot**	**59.55**	**341**	P		**P**	**20 13 41.2**	**-0.8**
	comp=Z,29nm,1.5s							
IM04	**Indian Mountai**	**59.99**	**339**	*e*P		**P**	**20 13 42.6**	**-2.4**
CPUP	**Villa Florida**	**62.19**	**131**	*e*P		**P**	**20 13 58.5**	**-2.0**
	comp=Z,38nm,0.9s							
CPUP	**Villa Florida**	**62.19**	**131**	P		**P**	**20 13 58.9**	**-1.6**
	comp=Z,20nm,1.2s,baz=273,slow=6.5,SNR=5.5							
CPUP				LR		LR	20 38 38.7	
	comp=Z,182nm,21.5s,baz=299,slow=34							
BDFB	**Brasilia**	**64.20**	**116**	P		**P**	**20 14 13.4**	**-0.8**
BDFB	**Brasilia**	**64.20**	**116**	P		**P**	**20 14 13.4**	**-0.8**
	comp=Z,3.2nm,0.8s,baz=210,slow=8.9,SNR=4.0							
BDFB				LR		LR	20 41 28.2	
	comp=Z,860nm,21.1s,baz=104,slow=35							
PLCA	**Paso Flores**	**64.31**	**151**	*e*P		**P**	**20 14 14.4**	**+0.1**
	comp=Z,6.0nm,1.0s							
PLCA	**Paso Flores**	**64.31**	**151**	P		**P**	**20 14 13.4**	**-0.9**
	comp=Z,4.0nm,1.0s,baz=268,slow=8.0,SNR=3.7							
PLCA				LR		LR	20 35 53.3	
	comp=Z,937nm,21.5s,baz=316,slow=30							
SUMG	**Summit**	**68.56**	**17**	*e*P		**P**	**20 14 41.9**	**+0.4**
SUMG				pmax		pmax		
	comp=Z,9.0nm,1.0s							
SUMG	**Summit**	**68.56**	**17**	*i* P		**P**	**20 14 41.9**	**+0.4**
	comp=Z,9.0nm,1.0s							
SEY	**Seymchan**	**82.10**	**333**	*e*P		**P**	**20 15 59.6**	**+0.5**
PETK	**Petropavlovsk-**	**82.17**	**323**	P		**P**	**20 15 58.2**	**-1.5**
PETK	**Petropavlovsk-**	**82.17**	**323**	P		**P**	**20 15 58.1**	**-1.5**
PETK	**Petropavlovsk-**	**82.17**	**323**	P		**P**	**20 15 58.1**	**-1.5**
	comp=Z,3.0nm,0.8s,baz=121,slow=6.9,SNR=3.9							
PETK				LR		LR	20 45 18.9	
	comp=Z,158nm,20.8s,baz=268,slow=30							
H11S1	**WAKE ISLAND Hy**	**83.61**	**287**	T		T	21 48 14.9	
	baz=78,slow=0.7,SNR=7.5							
H11S2	**WAKE ISLAND Hy**	**83.61**	**287**	T		T	21 48 08.5	
	baz=78,slow=0.7,SNR=6.5							
H11S3	**WAKE ISLAND Hy**	**83.63**	**287**	T		T	21 48 10.3	
	baz=78,slow=0.7,SNR=6.6							
EKA	**Eskdalemuir Ar**	**84.18**	**34**	P		**P**	**20 16 11.8**	**+1.8**
EKA	**Eskdalemuir Ar**	**84.18**	**34**	P		**P**	**20 16 11.8**	**+1.8**
	comp=Z,3.5nm,1.1s,baz=245,slow=1.4,SNR=4.9							
TIXI	**Tiksi**	**86.05**	**345**	*e*P		**P**	**20 16 18.6**	**-0.4**
ESDC	**Sonseca Array**	**88.67**	**49**	LR		LR	20 57 51.5	
	comp=Z,252nm,18.1s,baz=295,slow=36							
NOA	**NORSAR Array B**	**88.79**	**26**	LR		LR	20 57 50.7	
	comp=Z,362nm,19.5s,baz=300,slow=36							
YAK	**Yakutsk**	**91.78**	**337**	*e*P		P	20 16 49.1	+2.7
YAK				pmax		pmax		
	comp=E,4.0nm,1.1s							
YAK				pmax		pmax		
	comp=Z,15nm,1.1s							
YAK				pmax		pmax		
	comp=N,3.0nm,1.1s							
YAK				MLR		MLR		
	comp=Z,275nm,22.0s							
YAK				MLR		MLR		
	comp=N,181nm,23.0s							
YAK				MLR		MLR		
	comp=E,174nm,23.0s							
YSS	**Yuzh-Sakhalins**	**93.34**	**321**	*e*P		**P**	**20 16 54.3**	**+0.4**
DZM	**Mont Dzumac**	**94.26**	**248**	*e*LR		LR	20 47 08.4	
	comp=E,778nm,22.6s							
FINES	**FINESS Array B**	**94.31**	**21**	LR		LR	21 05 44.0	
	comp=E,371nm,18.5s,baz=121,slow=39							
CLL	**Collm**	**94.64**	**34**	*e*PS		PS	20 29 37.0	+7.6
CLL				*e*SS		SS	20 34 42.0	+6.9
CLL				L		L	21 04 00.0	
	comp=Z,300nm,19.0s							
GERES	**GERESS Array B**	**96.31**	**36**	P		**P**	**20 17 09.1**	**+1.5**
GERES	**GERESS Array B**	**96.31**	**36**	P		**P**	**20 17 09.1**	**+1.5**
	comp=Z,1.1nm,0.9s,baz=19,slow=4.5,SNR=3.9							
GERES				LR		LR	21 06 17.9	
	comp=Z,386nm,18.2s,baz=276,slow=39							
BRTR	**Keskin Array B**	**113.09**	**34**	PKIKP		**PKiKP**	**20 22 17.4**	**+0.6**
BRTR				PP		**PP**	**20 23 06.5**	**+1.4**
BRTR	**Keskin Array B**	**113.09**	**34**	PKIKP		**PKiKP**	**20 22 17.4**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=23,slow=4.0,SNR=3.7							
BRTR				PP		**PP**	**20 23 06.5**	**+1.4**
	comp=Z,0.5nm,0.8s,baz=359,slow=9.9,SNR=3.9							
MKAR	**Makanchi Array**	**117.83**	**354**	PKIKP		**PKPdf**	**20 22 26.1**	**+0.6**
MKAR							20 23 40.0	
MKAR	**Makanchi Array**	**117.83**	**354**	PKP		**PKPdf**	**20 22 26.1**	**+0.6**
MKAR				PP		**PP**	**20 23 40.0**	**+2.3**
MKAR	**Makanchi Array**	**117.83**	**354**	PKP		**PKPdf**	**20 22 26.1**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=15,slow=5.0,SNR=5.3							
MKAR				PP		**PP**	**20 23 40.0**	**+2.3**
	comp=Z,0.6nm,0.8s,baz=27,slow=8.2,SNR=3.6							
WRA	**Warramunga Arr**	**123.42**	**256**	PKP		**PKPdf**	**20 22 34.5**	**-2.4**
WRA	**Warramunga Arr**	**123.42**	**256**	PKP		**PKPdf**	**20 22 34.5**	**-2.4**
	comp=Z,1.1nm,0.9s,baz=22,slow=1.0,SNR=7.7							
ASAR	**Alice Springs**	**124.10**	**252**	PKP		**PKPdf**	**20 22 35.7**	**-2.4**
ASAR	**Alice Springs**	**124.10**	**252**	PKP		**PKPdf**	**20 22 35.7**	**-2.4**
	comp=Z,0.8nm,0.8s,baz=117,slow=4.4,SNR=4.9							
HYB	**Hyderabad**	**147.29**	**354**	*i* PKP		**PKPab**	**20 23 25.0**	**+0.1**

*ISCJB **12** 20:07:47.3±0.5, 37.18N±0.03×16.09E±0.03, h21km±6km, Error ellipse: s-maj=5.0km s-min=3.6km az=165.9*
*CSEM **12** 20:07:48.7±0.3, 37.21N×15.99E, h20km, ML4.4/11, Error ellipse: s-maj=5.7km s-min=2.0km az=137.0*
*ROM **12** 20:07:49.0±0.2, 37.23N×15.96E, h18km±3km, MI3.4/13, Error ellipse: s-maj=3.1km s-min=1.3km az=125.0*
ISC 12 20:07:48.8±1.1, **37.24N**±0.03×**15.98E**±0.03, **h31**km±11km, **n94**, σ0.9**79**/119, **Sicily**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
AGST	**Augusta-Monte**	**0.60**	**272**	Pg		**Pb**	**20 08 00.7**	**-0.2**
AGST				Sg		**Sb**	**20 08 08.6**	**-0.6**
	2µm,0.2s							
AGST	**Augusta-Monte**	**0.60**	**272**	Pg		**Pb**	**20 08 00.7**	**-0.2**
AGST				Sg		**Sb**	**20 08 08.6**	**-0.6**
	2µm,0.2s							
MPAZ	**Palizzi**	**0.71**	**2**	Pg		**Pn**	**20 08 03.3**	**+0.4**
MPAZ				Sg		**Sb**	**20 08 12.8**	**+0.4**
	802nm,0.4s							
MPAZ	**Palizzi**	**0.71**	**2**	Pg		**Pn**	**20 08 03.3**	**+0.4**
MPAZ				Sg		**Sb**	**20 08 12.8**	**+0.4**
	802nm,0.4s							
SSY	**Sortino**	**0.73**	**264**	Pg		**Pb**	**20 08 02.6**	**-0.5**
SSY				Sg		**Sb**	**20 08 12.6**	**-0.2**
	2µm,0.3s							
SSY	**Sortino**	**0.73**	**264**	Pg		**Pb**	**20 08 02.6**	**-0.5**
SSY				Sg		**Sb**	**20 08 12.6**	**-0.2**
	2µm,0.3s							
HAVL	**Avola**	**0.74**	**248**	Pg		**Pb**	**20 08 03.1**	**-0.1**
HAVL				Sg		**Sn**	**20 08 13.5**	**+0.1**
	2µm,0.2s							
HAVL	**Avola**	**0.74**	**248**	Pg		**Pb**	**20 08 03.1**	**-0.1**
HAVL				Sg		**Sn**	**20 08 13.5**	**+0.1**
	2µm,0.2s							
HCRL	**Carlentini**	**0.76**	**274**	Pg		**Pb**	**20 08 03.2**	**-0.3**
HCRL				Sg		**Sb**	**20 08 13.4**	**-0.2**
	5µm,0.2s							
HCRL	**Carlentini**	**0.76**	**274**	Pg		**Pb**	**20 08 03.2**	**-0.3**
HCRL				Sg		**Sb**	**20 08 13.4**	**-0.2**
	5µm,0.2s							
MTTG	**Motta San Giov**	**0.80**	**343**	Pg		**Pb**	**20 08 04.3**	**+0.1**
MTTG				Sg		**Sb**	**20 08 15.1**	**+0.4**
	386nm,0.5s							
MTTG	**Motta San Giov**	**0.80**	**343**	Pg		**Pb**	**20 08 04.3**	**+0.1**
MTTG				Sg		**Sb**	**20 08 15.1**	**+0.4**
	386nm,0.5s							
SOI	**Samo**	**0.83**	**4**	Pg		**Pb**	**20 08 05.4**	**+0.5**
SOI				Sg		**Sb**	**20 08 15.8**	**0.0**
	297nm,0.4s							
SOI	**Samo**	**0.83**	**4**	Pg		**Pb**	**20 08 05.4**	**+0.5**
SOI				Sg		**Sb**	**20 08 15.8**	**0.0**
	297nm,0.4s							
MMME	**Mongiuffi-Meli**	**0.90**	**321**	Pg		**Pn**	**20 08 05.7**	**+0.2**
MMME				Sg		**Sb**	**20 08 18.2**	**+0.4**
	361nm,0.5s							
MMME	**Mongiuffi-Meli**	**0.90**	**321**	Pg		**Pn**	**20 08 05.7**	**+0.2**
MMME				Sg		**Sb**	**20 08 18.2**	**+0.4**
	361nm,0.5s							
ESLN	**Serra La Nave**	**0.92**	**300**	Pg		**Pn**	**20 08 06.4**	**+0.6**
ESLN	**Serra La Nave**	**0.92**	**300**	Pg		**Pn**	**20 08 06.4**	**+0.6**
HMDC	**Modica**	**1.00**	**254**	Pg		**Pn**	**20 08 06.9**	**+0.2**
HMDC				Sg		**Sn**	**20 08 19.9**	**+0.1**
	740nm,0.4s							
HMDC	**Modica**	**1.00**	**254**	Pg		**Pn**	**20 08 06.9**	**+0.2**
HMDC				Sg		**Sn**	**20 08 19.9**	**+0.1**
	740nm,0.4s							
HVZN	**Vizzini**	**1.01**	**267**	Pg		**Pn**	**20 08 07.1**	**+0.1**
HVZN				Sg		**Sb**	**20 08 21.1**	**+0.3**
	2µm,0.3s							
HVZN	**Vizzini**	**1.01**	**267**	Pg		**Pn**	**20 08 07.1**	**+0.1**
HVZN				Sg		**Sb**	**20 08 21.1**	**+0.3**
	2µm,0.3s							
CEL	**Celeste**	**1.02**	**356**	Pg		**Pb**	**20 08 07.8**	**-0.2**
	385nm,0.2s							
CEL	**Celeste**	**1.02**	**356**	Pg		**Pb**	**20 08 07.8**	**-0.2**
	385nm,0.2s							
ECNV	**Catenanuova**	**1.07**	**290**	Pg		**Pb**	**20 08 09.1**	**+0.3**
ECNV	**Catenanuova**	**1.07**	**290**	Pg		**Pb**	**20 08 09.1**	**+0.3**
MSRU	**Castanea**	**1.09**	**340**	Pg		**Pb**	**20 08 08.8**	**-0.3**
	501nm,0.4s							
MSRU	**Castanea**	**1.09**	**340**	Pg		**Pb**	**20 08 08.8**	**-0.3**
	501nm,0.4s							
GALF	**Gagliano Caste**	**1.22**	**293**	Pg		**Pb**	**20 08 11.3**	**0.0**
GALF	**Gagliano Caste**	**1.22**	**293**	Pg		**Pb**	**20 08 11.3**	**0.0**
MNO	**Monte Soro**	**1.23**	**305**	Pg		**Pb**	**20 08 12.8**	**+1.1**
	274nm,0.4s							
MNO	**Monte Soro**	**1.23**	**305**	Pg		**Pb**	**20 08 12.8**	**+1.1**
	274nm,0.4s							
PLAC	**Placanica**	**1.26**	**17**	Pg		**Pb**	**20 08 11.7**	**-0.4**
PLAC	**Placanica**	**1.26**	**17**	Pg		**Pb**	**20 08 11.7**	**-0.4**
RAFF	**Raffo Rosso**	**1.29**	**270**	Pg		**Pb**	**20 08 11.8**	**-0.7**
RAFF				Sg		**Sb**	**20 08 29.3**	**+0.6**
	762nm,0.5s							
RAFF	**Raffo Rosso**	**1.29**	**270**	Pg		**Pb**	**20 08 11.8**	**-0.7**
RAFF				Sg		**Sb**	**20 08 29.3**	**+0.6**
	762nm,0.5s							
JOPP	**Joppolo**	**1.37**	**357**	Pg		**Pb**	**20 08 13.4**	**-0.4**
JOPP				Sg		**Sb**	**20 08 31.4**	**+0.4**
JOPP	**Joppolo**	**1.37**	**357**	Pg		**Pb**	**20 08 13.4**	**-0.4**
JOPP				Sg		**Sb**	**20 08 31.4**	**+0.4**
RESU	**Resuttano**	**1.58**	**286**	Pg		**Pb**	**20 08 17.8**	**+0.3**
RESU	**Resuttano**	**1.58**	**286**	Pg		**Pb**	**20 08 17.8**	**+0.3**
SERS	**Sersale**	**1.88**	**17**	Pg		**Pn**	**20 08 20.4**	**+1.4**
SERS	**Sersale**	**1.88**	**17**	Pg		**Pn**	**20 08 20.4**	**+1.4**
VLS	**Valsamata**	**3.77**	**74**	*e*PN		**Pn**	**20 08 44.6**	**-0.3**
KEK	**Kerkira**	**3.88**	**49**	*e*PN		**Pn**	**20 08 45.0**	**-1.4**
BAI	**Bari**	**3.93**	**10**	*e*Pn		**Pn**	**20 08 47.7**	**+0.7**
BAI				*e*Sn		**Sn**	**20 09 29.3**	**-2.7**
SFD	**Strofades**	**4.02**	**88**	*e*PN		**Pn**	**20 08 48.0**	**-0.2**
IGT	**Igoumenitsa**	**4.12**	**55**	*e*PN		**Pn**	**20 08 48.5**	**-1.1**
PDO	**Prodromos**	**4.33**	**70**	*e*PN		**Pn**	**20 08 53.0**	**+0.4**
RLS	**Riolos of Patr**	**4.43**	**78**	*e*PN		**Pn**	**20 08 54.5**	**+0.6**
JAN	**Janina**	**4.52**	**56**	*e*PN		**Pn**	**20 08 55.0**	**-0.2**
AMT	**Artemida-Makis**	**4.57**	**85**	*e*PN		**Pn**	**20 08 56.5**	**+0.6**
DRO	**Drossia**	**4.61**	**79**	*e*PN		**Pn**	**20 08 57.0**	**+0.6**
PYL	**PYLOS**	**4.62**	**93**	*e*PN		**Pn**	**20 08 57.0**	**+0.5**
PSA1	**Psathopyrgos**	**4.80**	**75**	*e*PN		**Pn**	**20 09 00.5**	**+1.5**
EFP	**Efpalio**	**4.84**	**74**	*e*PN		**Pn**	**20 09 00.5**	**+1.0**
LAKA	**Lakka**	**4.86**	**76**	*e*PN		**Pn**	**20 09 00.5**	**+0.7**
EVR	**Evrytania**	**4.89**	**68**	*e*PN		**Pn**	**20 09 02.0**	**+1.6**
KLV	**Kalavryta, Ach**	**4.96**	**79**	*e*PN		**Pn**	**20 09 02.5**	**+1.2**
KALE	**Kalithea**	**5.01**	**75**	*e*PN		**Pn**	**20 09 04.0**	**+2.0**
NEST	**Nestorio**	**5.07**	**50**	*e*PN		**Pn**	**20 09 04.0**	**+1.2**
GUR	**Goura**	**5.10**	**80**	*e*PN		**Pn**	**20 09 04.5**	**+1.3**
DYR	**Agios Nikonas**	**5.11**	**93**	*e*PN		**Pn**	**20 09 04.5**	**+1.3**
MAKR	**Makrakomi, Fth**	**5.16**	**68**	*e*PN		**Pn**	**20 09 06.0**	**+2.0**
THL	**Klokotos Trika**	**5.28**	**62**	*e*PN		**Pn**	**20 09 06.0**	**+0.5**
AGG	**Agios Georgios**	**5.31**	**68**	*e*PN		**Pn**	**20 09 07.5**	**+1.4**
DSF	**Desfina**	**5.31**	**75**	*e*PN		**Pn**	**20 09 07.5**	**+1.4**
KZN	**Kozani**	**5.46**	**54**	*e*PN		**Pn**	**20 09 09.0**	**+0.8**
FNA	**Florina**	**5.50**	**48**	*e*PN		**Pn**	**20 09 09.5**	**+0.9**
VLI	**Veliai**	**5.59**	**93**	*e*PN		**Pn**	**20 09 12.0**	**+2.1**
LTK	**Loutraki**	**5.60**	**80**	*e*PN		**Pn**	**20 09 10.0**	**0.0**
LKR	**Lokris**	**5.72**	**74**	*e*PN		**Pn**	**20 09 12.5**	**+0.8**
KYTH	**Kithira**	**5.75**	**97**	*e*PN		**Pn**	**20 09 13.0**	**+1.0**
DIDY	**Didyma**	**5.77**	**85**	*e*PN		**Pn**	**20 09 13.0**	**+0.6**
DID	**Didima**	**5.79**	**85**	*e*PN		**Pn**	**20 09 13.0**	**+0.4**
LIT	**Litokhoron**	**5.84**	**59**	*e*PN		**Pn**	**20 09 13.0**	**-0.3**
SMIA	**Simia**	**5.94**	**72**	*e*PN		**Pn**	**20 09 15.5**	**+0.9**
NAIG	**Nisos Aigina**	**5.99**	**83**	*e*PN		**Pn**	**20 09 16.5**	**+1.1**
ANKY	**Antikythira Is**	**6.05**	**101**	*e*PN		**Pn**	**20 09 17.0**	**+0.8**
XOR	**Xorichti**	**6.06**	**67**	*e*PN		**Pn**	**20 09 16.5**	**+0.2**
NEO	**Neokhori**	**6.06**	**68**	*e*PN		**Pn**	**20 09 16.5**	**+0.2**
MRKA	**Markates**	**6.19**	**74**	*e*PN		**Pn**	**20 09 19.0**	**+0.9**
GRG	**Griva**	**6.22**	**51**	*e*PN		**Pn**	**20 09 17.0**	**-1.6**
PTL	**Penteli**	**6.31**	**80**	*e*PN		**Pn**	**20 09 19.5**	**-0.2**
AOS	**Alonnisos**	**6.51**	**70**	*e*PN		**Pn**	**20 09 22.5**	**0.0**
PAIG	**Paliouri**	**6.60**	**64**	*e*PN		**Pn**	**20 09 23.0**	**-0.7**
PLG	**Polygyros**	**6.62**	**59**	*e*PN		**Pn**	**20 09 23.0**	**-1.0**
KNT	**Kendrikon**	**6.65**	**52**	*e*PN		**Pn**	**20 09 23.5**	**-0.9**
SOH	**Sokhos**	**6.76**	**56**	*e*PN		**Pn**	**20 09 25.5**	**-0.5**
VAM	**Vamos**	**6.88**	**103**	*e*PN		**Pn**	**20 09 28.0**	**+0.4**
OUR	**Ouranopolis**	**6.97**	**61**	*e*PN		**Pn**	**20 09 28.5**	**-0.3**
SRS	**Serrai**	**7.07**	**54**	*e*PN		**Pn**	**20 09 28.5**	**-1.6**
NVR	**Nevrokopi**	**7.36**	**54**	*e*PN		**Pn**	**20 09 34.0**	**-0.2**
IDI	**Anoyia**	**7.46**	**102**	*e*PN		**Pn**	**20 09 36.0**	**+0.5**
APE	**Apeiranthos**	**7.63**	**88**	*e*PN		**Pn**	**20 09 38.0**	**+0.1**

IDC 12 20:09:56.4±1.9, **15.31N**×**105.31W**, **h0**km, **mb4.0**/6, **mb1 4.3**/9, **mb1mx4.1**/24, **mbtmp4.1**/9, **ML3.7**/3, **MS4.7**/1, **Ms1 4.7**/1, **ms1mx3.9**/26, **Error ellipse: s-maj=57.8km s-min=20.0km az=50.0, Off coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
TXAR	**Lajitas Array**	**14.04**	**6**	Pn		Pn	20 13 17.1	+0.3
	0.1nm,0.3s,baz=180,slow=15,SNR=14							
APG	**El Apazote**	**14.34**	**89**	Pn		Pn	20 13 21.6	+0.5
	0.3nm,0.3s,baz=249,slow=15,SNR=4.9							
ANMO	**Albuquerque**	**19.58**	**357**	P		P	20 14 28.3	+0.7
	0.2nm,0.3s,baz=166,slow=7.9,SNR=2.9							
JTS	**JuntasAbangare**	**20.46**	**102**	P		P	20 14 36.0	+0.1
	8.9nm,0.9s,baz=213,slow=22,SNR=4.7							
PFO	**Pinyon Flat Ob**	**20.82**	**333**	P		P	20 14 40.7	+0.9
	4.2nm,0.9s,baz=127,slow=10,SNR=4.4							
NVAR	**Mina Array Bea**	**25.73**	**336**	P		P	20 15 33.1	+4.3
	2.3nm,0.9s,baz=158,slow=9.3,SNR=5.1							
PDAR	**Pinedale Array**	**27.61**	**353**	P		P	20 15 45.4	-0.4
	2.8nm,0.9s,baz=172,slow=8.5,SNR=11							
NEW	**Newport**	**34.28**	**346**	P		P	20 16 44.2	-0.1
	0.9nm,0.3s,baz=198,slow=9.6,SNR=3.3							
DLBC	**Dease Lake**	**46.83**	**342**	LR		LR	20 37 08.2	
	comp=Z,814nm,20.0s,baz=17,slow=35							
RKT	**Rikitea**	**47.97**	**218**	*e*LR		LR	20 32 10.8	
	1µm,27.2s,baz=29							
LPAZ	**La Paz**	**48.30**	**129**	P		P	20 18 40.3	-0.3
	1.9nm,1.0s,baz=311,slow=8.6,SNR=5.3							
PMOR	**Pomariorio Ree**	**51.75**	**236**	*e*T		T	21 14 33.4	
	6.1nm,0.2s							
PPT2	**Papeete2**	**54.53**	**235**	*e*LR		LR	20 35 05.2	
	1µm,25.0s,baz=44							
H03N2	**Juan Fernandez**	**54.62**	**153**	T		T	21 18 23.0	
	baz=329,slow=0.7,SNR=15							
H03N1	**Juan Fernandez**	**54.63**	**153**	T		T	21 18 24.9	
	baz=329,slow=0.7,SNR=14							
H03N3	**Juan Fernandez**	**54.64**	**153**	T		T	21 18 24.3	
	baz=329,slow=0.7,SNR=21							
ILAR	**Eielson Array**	**56.88**	**340**	P		P	20 19 41.8	-0.9
	3.1nm,0.9s,baz=152,slow=6.1,SNR=17							
TBI	**Tubuai**	**57.80**	**229**	*e*LR		LR	20 36 46.3	
	1µm,25.0s,baz=47							
DZM	**Mont Dzumac**	**94.05**	**248**	*e*LR		LR	20 53 30.9	
	418nm,22.4s							
CMAR	**Chiang Mai Arr**	**138.81**	**324**	PKP		PKPdf	20 29 27.2	+1.6
	0.4nm,0.7s,baz=344,slow=2.6,SNR=3.6							

DHMR 12 20:29:59.5±0.4, **12.40N**×**45.78E**, **h10**km±35km, **ML3.8**, **2C, Western Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
LBOS		**1.55**	**340**	*i* P		**Pn**	**20 30 27.7**	**+0.2**
LBOS				*i* S		Sg	20 30 49.7	-0.4
BDHA	**Al Bayda'**	**1.58**	**352**	*i* P		**Pn**	**20 30 27.9**	**+0.1**
BDHA				AML		AML	20 30 42.1	
	comp=N,2µm,0.4s							
BDHA				*i* S		Sg	20 30 50.4	-0.4
TRBA	**At Turbah**	**1.82**	**297**	*i* P		**Pn**	**20 30 32.1**	**+0.9**
TRBA				*i* S		Sb	20 30 57.2	+0.8
TRBA				AML		AML	20 30 58.0	
	comp=N,780nm,0.4s							

*IDC **12** 20:34:17.9±1.2, 11.95N×46.27E, h0km, mb3.8/12, mb1 3.9/12, mb1mx3.8/26, mbtmp3.8/12, MS3.7/2, Ms1 3.7/2, ms1mx3.4/35, Error ellipse: s-maj=29.1km s-min=22.0km az=27.0*
*CSEM **12** 20:34:18.9, 12.42N×45.77E, h6km, ML3.9, After DHMR*
*DHMR **12** 20:34:18.9±0.6, 12.42N×45.77E, h6km±9km, ML3.9*
ISC 12 20:34:22.1±0.9, **12.49N**±0.06×**45.70E**±0.06, **h10**km, **n23,** σ2.**32**/22, **mb3.7**/12, **Western Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
LBOS		**1.44**	**342**	*i* P		**Pn**	**20 34 47.2**	**-1.3**
LBOS				*i* S		**Sg**	**20 35 09.2

DHBB	**Dhamar BB**	**2.61**	**329**	⇑	*i*P		**Pb**	**20 38 33.2**	**-0.1**
DHBB					*i* S		**Sb**	**20 39 06.5**	**+0.7**
ATD	**Arta Tunnel**	**2.98**	**255**		Pn		**Pn**	**20 38 34.7**	**+1.0**
	comp=Z,16nm,0.3s,baz=84,slow=13,SNR=12										
ATD					Sn		**Sb**	**20 39 13.5**	**-2.6**
	comp=Z,24nm,0.3s,baz=88,slow=23,SNR=7.9										
HAJJ	**Hajjah**	**3.97**	**328**		*i* P		Pn	20 38 51.2	+3.8		
HAJJ					*i* S		**Sb**	**20 39 39.9**	**-4.8**		
HAJJ					AML		AML	20 40 08.2			
	comp=E,922nm,0.7s										
HAJJ	**Hajjah**	**3.97**	**328**		*i* P		Pn	20 38 51.2	+3.8		
HAJJ					*i* S		**Sb**	**20 39 39.9**	**-4.8**		
	comp=E,461nm,0.7s										
KMBO	**Kilima Mbogo**	**15.82**	**213**		Pn		**Pn**	**20 41 28.0**	**-1.5**		
	comp=E,0.0nm,0.3s,baz=41,slow=18,SNR=2.7										
KMBO					LR		LR	20 47 05.9			
	comp=E,228nm,19.1s,baz=96,slow=36										
KBD	**Kabd**	**16.86**	**6**	*e*	P		**Pn**	**20 41 40.7**	**-1.8**		
KBD					AMb		AMB	20 41 48.8			
	comp=Z,23nm,1.5s										
NAY	**Al-Naaiem**	**16.90**	**4**	*e*	P		**Pn**	**20 41 41.1**	**-1.8**		
NAY					AMb		AMB	20 41 51.6			
	comp=Z,25nm,1.1s										
RST	**Umm Al-Ruwaisa**	**17.13**	**4**	*e*	P		**Pn**	**20 41 43.4**	**-2.5**		
RST					AMb		AMB	20 41 52.6			
	comp=Z,267nm,1.0s										
ASF	**Jabal al Asfar**	**21.38**	**339**		P		P	20 42 39.7	+5.5		
	comp=Z,2.8nm,1.1s,baz=93,slow=6.2,SNR=4.8										
ASF					LR		LR	20 50 21.3			
	comp=Z,372nm,21.6s,baz=330,slow=35										
MMAI	**Mount Meron Ar**	**22.68**	**337**		P		P	20 42 54.4	+6.2		
	comp=Z,1.9nm,0.9s,baz=110,slow=12,SNR=3.5										
BRTR	**Keskin Array B**	**29.33**	**341**		P		P	20 43 53.4	+3.9		
	comp=Z,0.6nm,0.7s,baz=144,slow=8.8,SNR=4.2										
AAK	**Ala-Archa**	**39.14**	**34**		P		**P**	**20 45 16.7**	**+2.3**		
	comp=Z,2.1nm,0.8s,baz=239,slow=7.6,SNR=4.4										
AKTO	**Aktyubinsk**	**39.30**	**12**		P		**P**	**20 45 17.2**	**+1.8**		
	comp=Z,0.8nm,0.4s,baz=225,slow=17,SNR=4.3										
AKASG	**Malin Array Be**	**40.59**	**344**		P		**P**	**20 45 28.3**	**+2.1**		
	comp=Z,0.4nm,0.5s,baz=162,slow=7.4,SNR=5.7										
TORD	**Torodi Ar. Bea**	**42.97**	**276**		P		P	20 45 50.0	+3.8		
	comp=Z,1.4nm,1.1s,baz=78,slow=6.0,SNR=6.2										
GERES	**GERESS Array B**	**45.08**	**330**		P		**P**	**20 46 05.8**	**+3.1**		
	comp=Z,0.7nm,0.8s,baz=120,slow=14,SNR=2.6										
MKAR	**Makanchi Array**	**46.07**	**35**		P		**P**	**20 46 10.7**	**+0.2**		
	comp=Z,1.7nm,0.8s,baz=221,slow=7.5,SNR=9.3										
CMAR	**Chiang Mai Arr**	**51.47**	**76**		P		**P**	**20 46 50.8**	**-1.6**		
	comp=Z,1.9nm,0.7s,baz=276,slow=8.1,SNR=21										
ZALV	**Zalesovo Beam**	**51.70**	**28**		P		**P**	**20 46 52.6**	**-0.9**		
	comp=Z,1.4nm,0.6s,baz=234,slow=7.5,SNR=8.0										
NOA	**NORSAR Array B**	**54.77**	**340**		LR		LR	21 12 28.3			
	comp=Z,105nm,19.8s,baz=300,slow=38										
SONM	**Songino Array**	**61.33**	**42**		P		**P**	**20 48 02.4**	**0.0**		
	comp=Z,1.4nm,0.9s,baz=261,slow=7.1,SNR=10										
WRA	**Warramunga Arr**	**92.79**	**110**		P		**P**	**20 50 58.5**	**-1.4**		
	comp=Z,2.1nm,1.0s,baz=295,slow=3.2,SNR=10										
ASAR	**Alice Springs**	**93.17**	**113**		P		**P**	**20 51 00.2**	**-1.3**		
	comp=Z,1.0nm,0.8s,baz=296,slow=5.1,SNR=5.2										
NVAR	**Mina Array Bea**	**127.36**	**344**		PKP		**PKPdf**	**20 56 53.1**	**+0.8**		
	comp=Z,0.9nm,0.9s,baz=290,slow=4.3,SNR=4.1										

DHMR 12 20:55:29.9±0.4, 12°42N×45°78E, h8km±33km, ML3.5, 1C-1D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LBOS		**1.53**	**340**	⇑	*i*P	Pn	20 55 58.1	+0.1
LBOS					*i* S	Sg	20 56 19.9	0.0
BDHA	**Al Bayda'**	**1.56**	**352**		*i* P	Pn	20 55 58.2	-0.1
BDHA					AML	AML	20 56 12.6	
	comp=N,743nm,0.3s							
BDHA					*i* S	Sg	20 56 20.7	0.0
TRBA	**At Turbah**	**1.82**	**297**	⇓	*i*P	Pn	20 56 02.5	+0.7
TRBA					*i* S	Sb	20 56 27.7	+0.9

IDC ***12*** *20:59:33.0±0.4, 14°.09S×166°.15E, h0km, mb4.8/22, mb1 4.9/26, mb1mx4.9/27, mbtmp4.8/26, ML4.1/3, MS5.2/28, Ms1 5.2/28, ms1mx5.1/36, Error ellipse: s-maj=14.6km s-min=11.8km az=89.0*

ISCJB ***12*** *20:59:33.4±1.2, 14°.07S±0°.03×166°.27E±0°.04, h12km±7km, mb5.1/83, MS5.3/187, Error ellipse: s-maj=5.9km s-min=5.2km az=151.3*

BJI ***12*** *20:59:35.9, 13°.96S×166°.68E, h33km, mB5.7/47, mb5.1/52, Ms5.5/56, Ms7 5.1/54*

MOS ***12*** *20:59:36.9±1.3, 14°.07S×166°.11E, h33km, mb5.4/20, MS5.1/21, Error ellipse: s-maj=9.6km s-min=8.4km az=25.5*

AUST ***12*** *20:59:38.0±0.7, 14°.00S×166°.48E, h40km, Error ellipse: s-maj=12.3km s-min=7.7km az=87.0*

NEIC ***12*** *20:59:38.1±0.3, 14°.08S×166°.25E, h35km, mb5.2/38, MS5.4/139, MW5.7, Error ellipse: s-maj=7.8km s-min=6.9km az=130.0, Moment Tensor Solution. s13 Moment tensor: Scale 10^17 Nm; Mrr0.83; Mθθ0.43; Mφφ-1.25; Mrθ1.03; Mrφ0.72; Mθφ-4.13; Best double couple: M0 4.50000×10^17 NP1:ϕs166.00000°, δ82.00000°, λ93.00000°. NP2:ϕs324.00000°, δ8.00000°, λ68.00000°. Principal axes: T 4.0900, Plg52.0000°, Azm79.0000°; N 0.6700, Plg3.0000°, Azm345.0000°; P -4.7500, Plg37.0000°, Azm253.0000°;*

GCMT ***12*** *20:59:39.4±0.1, 14°.09S×166°.39E, h13km, MW5.7, Moment Tensor Solution. s112,c209; s73,c81; Moment tensor: Scale 10^17 Nm; Mrr3.40±.04; Mθθ0.19±.03; Mφφ-3.60±.03; Mrθ1.00±.08; Mrφ0.47±.03; Mθφ-1.60±.08; Best double couple: M0 4.00000×10^17 NP1:ϕs161.00000°, δ59.00000°, λ77.00000°. NP2:ϕs5.00000°, δ33.00000°, λ110.00000°. Principal axes: T 3.9600, Plg73.0000°, Azm39.0000°; N 0.1000, Plg11.0000°, Azm168.0000°; P -4.0600, Plg13.0000°, Azm261.0000°; Data Used: II IU CN IC G. Surface waves: sta=113, comp=246, per= 50.*

DJA ***12*** *20:59:47.0±1.4, 14°.5S×7°×16°.6E×1°.0, h85km±16km, M5.2/16, mB5.7/7, mb5.0/16, Mw(mB)5.2/7, Mwp5.7/2*

ISC 12 20:59:38.3±0.3, 14°.11S±0°.04×166°.34E±0°.05, h34km, h34km:pP-P, n430, σ1s85/412, mb5.2/82, MS5.3/190, 22C-15D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**7.80**	**306**		Pn	**Pn**	**21 01 26.7**	**-2.8**
HNR					Sn	**Sn**	**21 02 56.3**	**-0.4**
HNR	**Honiara**	**7.80**	**306**		Pn	**Pn**	**21 01 26.7**	**-2.8**
	68nm,0.3s,baz=156,slow=3.3,SNR=19							
HNR					Sn	**Sn**	**21 02 56.3**	**-0.4**
	baz=196,slow=18,SNR=1.9							
HNR					LR	LR	21 03 47.0	
	comp=Z,11μm,21.5s,baz=132,slow=33							
DZM	**Mont Dzumac**	**7.92**	**179**	*e*	Pn	**Pn**	**21 01 30.3**	**-0.9**
	580nm,1.0s							
DZM				*e*	Sn	**Sn**	**21 02 57.8**	**-2.0**
	541nm,1.3s							
DZM				*e*	LR	LR	21 03 19.6	
	15μm,27.1s							
DZM	**Mont Dzumac**	**7.92**	**179**		Pn	**Pn**	**21 01 30.6**	**-0.7**
	12nm,0.6s							
DZM					Sn	**Sn**	**21 03 03.3**	**+3.5**
DZM	**Mont Dzumac**	**7.92**	**179**		Pn	**Pn**	**21 01 30.6**	**-0.7**
	9.0nm,0.3s,baz=18,slow=19,SNR=54							
DZM					Sn	**Sn**	**21 03 03.3**	**+3.5**
	3.2nm,0.3s,baz=351,slow=19,SNR=2.0							
DZM					LR	LR	21 04 02.2	
	comp=Z,10μm,19.2s,baz=9.1,slow=34							
MSVF	**Nonsavu**	**11.82**	**109**	*e*	P	Pn	21 02 28.4	+3.6
MSVF					pmax	pmax		
	comp=Z,223nm,1.4s							
MSVF	**Nonsavu**	**11.82**	**109**	*e*	P	Pn	21 02 28.4	+3.6
	comp=Z,223nm,1.4s							
MSVF	**Nonsavu**	**11.82**	**109**		Pn	Pn	21 02 28.4	+3.6
	comp=Z,590nm,1.3s,SNR=7.9							
TARA	**Tarawa**	**16.69**	**24**		P	**Pn**	**21 03 29.1**	**-0.7**
	comp=Z,378nm,1.4s							
EIDS	**Eidsvold**	**18.20**	**230**	*e*	P	**P**	**21 03 50.5**	**+2.0**
	comp=Z,94nm,1.2s							
EIDS	**Eidsvold**	**18.20**	**230**	⇑	P	**P**	**21 03 50.7**	**+2.3**
	baz=18,SNR=11							
PMG	**Port Moresby**	**19.35**	**282**		P	**Pn**	**21 04 04.4**	**+2.0**
	comp=Z,77nm,1.4s,comp=Z,5μmcomp=Z,14μm							
PMG	**Port Moresby**	**19.35**	**282**	*e*	P	**Pn**	**21 04 02.3**	**-0.1**
	comp=Z,113nm,1.3s							
PMG	**Port Moresby**	**19.35**	**282**		P	**P**	**21 03 57.3**	**-3.9**
	comp=Z,0.4nm,0.3s,baz=290,slow=11,SNR=3.1							
PMG					LR	LR	21 10 39.1	
	comp=Z,10μm,18.7s,baz=99,slow=35							
CTA	**Charters Tower**	**20.09**	**250**		P	**P**	**21 04 07.5**	**-1.8**
CTA	**Charters Tower**	**20.09**	**250**	⇓	P	**P**	**21 04 09.9**	**+0.6**
	baz=20							
CTA	**Charters Tower**	**20.09**	**250**		P	**P**	**21 04 07.5**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=76,slow=14,SNR=24							
CTA					LR	LR	21 10 38.1	
	comp=Z,8μm,21.6s,baz=76,slow=33							
CTAO	**Charters Tower**	**20.09**	**250**	*e*	P	**P**	**21 04 09.1**	**-0.2**
CTAO					pmax	pmax		
	comp=Z,71nm,1.0s							
CTAO					MLR	MLR		
	comp=Z,8μm,22.0s							
CTAO	**Charters Tower**	**20.09**	**250**	*e*	P	**P**	**21 04 09.1**	**-0.2**
	comp=Z,71nm,1.0s							
CTAO					LR	LR		
	comp=Z,8μm,22.0s							
RMQ	**Roma**	**20.55**	**230**		P	Pn	21 04 15.6	-1.0
	baz=21,SNR=76							
RAO	**Raoul Island**	**20.96**	**138**		LR	LR	21 09 57.7	
	comp=Z,3μm,18.5s,baz=47,slow=30							
ARMA	**Armidale**	**21.15**	**217**	*e*	P	**P**	**21 04 20.7**	**0.0**
	comp=Z,130nm,1.1s							
AFI	**Afiamalu**	**21.23**	**92**		P	**P**	**21 04 24.7**	**+3.0**
AFI	**Afiamalu**	**21.23**	**92**		P	**P**	**21 04 24.7**	**+3.0**
	comp=Z,36nm,0.8s,baz=286,slow=18,SNR=3.8							
AFI					LR	LR	21 10 27.1	
	comp=Z,10μm,21.8s,baz=277,slow=30							
MTSU	**Mount Surprise**	**21.53**	**256**	⇑	P	**P**	**21 04 24.6**	**-0.2**
	baz=22							
COEN	**Coen**	**22.48**	**268**	*e*	P	**P**	**21 04 33.0**	**-2.0**
	comp=Z,512nm,1.3s							
COEN	**Coen**	**22.48**	**268**	⇓	P	**P**	**21 04 33.5**	**-1.5**
	baz=23,SNR=10.0							
MGCD	**Mangrove Creek**	**23.53**	**213**		P	**P**	**21 04 48.0**	**+2.4**
	baz=24,SNR=6.1							
RIV	**Riverview**	**23.98**	**212**	⇑	P	**P**	**21 04 52.5**	**+2.7**
	baz=24							
QLP	**Quilpie**	**24.11**	**236**		P	**P**	**21 04 50.6**	**-0.5**
	baz=24,SNR=4.7							
CMSA	**Cobar Meteorol**	**25.67**	**224**		P	**P**	**21 05 05.5**	**+0.2**
	baz=26,SNR=7.8							
YNG	**Young**	**25.84**	**216**	⇑	P	**P**	**21 05 08.8**	**+2.0**
	baz=26							
URZ	**Urewera**	**25.88**	**160**	*e*	P	**P**	**21 05 07.1**	**0.0**
	comp=Z,60nm,1.0s							
URZ	**Urewera**	**25.88**	**160**		P	**P**	**21 05 07.1**	**0.0**
	comp=Z,23nm,0.7s,baz=217,slow=20,SNR=8.5							
CNB	**Canberra Magne**	**26.07**	**213**		P	**P**	**21 05 10.4**	**+1.5**
	baz=26,SNR=5.4							
CAN	**Canberra**	**26.27**	**213**		PFAKE		21 05 20.0	+9.3
CAN					LR	LR		
	comp=Z,4μm,21.0s							
SNZO	**South Karori**	**28.06**	**167**		PFAKE		21 05 40.0	+13
SNZO					LR	LR		
	comp=Z,5μm,19.0s							
STKA	**Stephens Creek**	**28.73**	**228**	*e*	P	**P**	**21 05 32.4**	**-0.2**
	comp=Z,7.2nm,0.9s							
STKA	**Stephens Creek**	**28.73**	**228**		P	**P**	**21 05 32.5**	**-0.2**
	baz=29,SNR=15							
STKA	**Stephens Creek**	**28.73**	**228**		P	**P**	**21 05 31.8**	**-0.9**
	comp=Z,16nm,0.9s,baz=70,slow=8.6,SNR=18							
STKA					LR	LR	21 17 12.9	
	comp=Z,13μm,18.5s,baz=54,slow=37							
RPZ	**Rata Peaks**	**29.78**	**173**		P	**P**	**21 05 40.8**	**-1.1**
RPZ	**Rata Peaks**	**29.78**	**173**		P	**P**	**21 05 40.8**	**-1.1**
	comp=Z,33nm,0.8s,baz=151,slow=0.9,SNR=18							
RPZ					LR	LR	21 16 20.3	
	comp=Z,5μm,19.5s,baz=349,slow=34							
TOO	**Toolangi**	**29.83**	**215**	⇑	P	**P**	**21 05 44.5**	**+2.0**
	baz=30							
WRAB	**Tennant Creek**	**31.10**	**255**	*e*	P	**P**	**21 05 51.6**	**-2.3**
WRAB					pmax	pmax		
	comp=Z,62nm,1.3s							
WRAB					MLR	MLR		
	comp=Z,10μm,20.0s							
WRAB	**Tennant Creek**	**31.10**	**255**	*e*	P	**P**	**21 05 51.5**	**-2.3**
	comp=Z,62nm,1.3s							
WRAB					LR	LR		
	comp=Z,10μm,20.0s							
WRA	**Warramunga Arr**	**31.11**	**255**		P	**P**	**21 05 51.9**	**-2.1**
WRA					PKiKP	**PKiKP**	**21 16 17.0**	**-2.3**
WRA	**Warramunga Arr**	**31.11**	**255**		P	**P**	**21 05 51.9**	**-2.1**
	comp=Z,26nm,0.9s,baz=86,slow=9.3,SNR=76							
WRA					PKiKP	**PKiKP**	**21 16 17.0**	**-2.3**
	comp=Z,0.2nm,0.4s,baz=341,slow=0.4,SNR=8.4							
WRA					LR	LR	21 17 41.6	
	comp=Z,10μm,19.7s,baz=80,slow=35							
HTT	**Hallett**	**31.46**	**228**	⇑	P	**P**	**21 05 58.2**	**+1.3**
	baz=32							
AS31	**Alice Springs**	**32.06**	**248**	*e*	P	**P**	**21 06 00.2**	**-2.1**
ASAR	**Alice Springs**	**32.06**	**248**		P	**P**	**21 06 00.2**	**-2.2**
ASAR	**Alice Springs**	**32.06**	**248**		P	**P**	**21 06 00.2**	**-2.2**
	comp=Z,7.9nm,0.7s,baz=74,slow=9.4,SNR=133							
ASAR					LR	LR	21 19 01.8	
	comp=Z,7μm,18.2s,baz=74,slow=37							
ASPA	**Alice Springs**	**32.06**	**248**	⇓	P	**P**	**21 06 00.8**	**-1.6**
	baz=32							
MOO	**Moorlands**	**32.72**	**207**	⇑	P	**P**	**21 06 09.8**	**+1.9**
	baz=33,SNR=4.5							
KDU	**Kakadu**	**32.96**	**268**	⇑	P	**P**	**21 06 08.3**	**-1.9**
	baz=33							
RAR	**Rarotonga**	**33.00**	**107**		LR	LR	21 16 56.3	
	comp=Z,3μm,20.0s,baz=269,slow=31							
TAU	**Tasmania Unive**	**33.05**	**206**	*e*	P	**P**	**21 06 10.4**	**-0.2**
TAU					pmax	pmax		
	comp=Z,29nm,1.1s							
TAU					MLR	MLR		
	comp=Z,4μm,19.0s							
TAU	**Tasmania Unive**	**33.05**	**206**	*e*	P	**P**	**21 06 10.4**	**-0.2**
	comp=Z,29nm,1.1s							
TAU					LR	LR		
	comp=Z,4μm,19.0s							
BBOO	**Buckleboo**	**33.26**	**231**	*e*	P	**P**	**21 06 12.3**	**-0.4**
	comp=Z,4μm,1.8s							
BBOO	**Buckleboo**	**33.26**	**231**	⇑	P	**P**	**21 06 12.5**	**-0.2**
	baz=34,SNR=8.5							
MTN	**Manton Dam**	**34.24**	**268**	⇓	P	**P**	**21 06 19.5**	**-1.9**
	baz=34,SNR=4.8							
GUMO	**Guam**	**34.78**	**321**		PFAKE		21 06 40.0	+14
GUMO					LR	LR		
	comp=Z,2μm,22.0s							
KNRA	**Kununurra**	**36.32**	**263**		P	**P**	**21 06 37.8**	**-1.5**
	baz=36,SNR=14							
FITZ	**Fitzroy Crossi**	**39.25**	**259**		P	**P**	**21 07 02.0**	**-2.0**
FITZ	**Fitzroy Crossi**	**39.25**	**259**	⇓	P	**P**	**21 07 03.1**	**-1.0**
	baz=39							
FITZ	**Fitzroy Crossi**	**39.25**	**259**		P	**P**	**21 07 02.0**	**-2.0**
	comp=Z,25nm,0.9s,baz=112,slow=7.8,SNR=38							
FITZ					LR	LR	21 23 20.2	
	comp=Z,6μm,18.7s,baz=83,slow=36							
XMAS	**Kiritimati**	**39.31**	**69**		PFAKE		21 07 20.0	+15
XMAS					LR	LR		
	comp=Z,4μm,21.0s							
SOEI	**Soe**	**41.35**	**271**	⇓	P	**P**	**21 07 21.0**	**-0.6**
	baz=42,SNR=11							
BATI	**Baumata**	**41.86**	**270**		P	**P**	**21 07 26.2**	**+0.5**
BATI	**Baumata**	**41.86**	**270**		P	**P**	**21 07 26.2**	**+0.5**
	comp=Z,293nm,1.1s,baz=181,slow=1.2,SNR=35							
BATI					LR	LR	21 25 37.0	
	comp=Z,4μm,18.5s,baz=301,slow=38							
PPT2	**Papeete2**	**42.48**	**101**	*e*	P	**P**	**21 07 31.8**	**+1.1**
	comp=Z,55nm,1.4s							
PPT2				*e*	S	**S**	**21 13 51.0**	**+0.1**
	comp=Z,2μm,24.8s							
PPT2				*e*	LQ	LQ	21 17 32.2	
	comp=Z,6μm,27.2s							
PPT2				*e*	LR	LR	21 19 19.2	
	comp=Z,9μm,28.0s,baz=259							
PPT	**Papeete**	**42.48**	**101**		LR	LR	21 23 05.0	
	comp=Z,2μm,18.6s,baz=87,slow=33							
TBI	**Tubuai**	**42.71**	**109**	*e*	S	**S**	**21 13 54.5**	**+0.4**
	comp=Z,2μm,27.0s							
TBI					LQ	LQ	21 17 38.8	
	comp=Z,5μm,28.0s							
TBI					LR	LR	21 19 26.8	
	comp=Z,7μm,26.5s,baz=282							
TVO	**Taravao**	**42.78**	**101**	*e*	P	**P**	**21 07 34.1**	**+0.9**
	comp=Z,13nm,1.0s							
PMOR	**Pomariorio Ree**	**44.24**	**97**	*e*	P	**P**	**21 07 46.1**	**+1.2**
	comp=Z,238nm,1.2s							
VAH	**Vaihoa**	**44.48**	**97**	*e*	P	**P**	**21 07 47.6**	**+0.8**
	comp=Z,98nm,1.2s							
MBWA	**Marble Bar**	**44.84**	**254**	*e*	P	**P**	**21 07 48.8**	**-0.8**
	comp=Z,80nm,1.2s							
MBWA					LR	LR		
	comp=Z,5μm,19.0s							
MIDW	**Midway**	**44.94**	**21**		PFAKE		21 08 00.0	+10
MIDW					LR	LR		
	comp=Z,3μm,19.0s							
DAV	**Davao City (W)**	**45.59**	**295**		PFAKE		21 08 10.0	+14
DAV					LR	LR		
	comp=Z,2μm,19.0s							
MEEK	**Meekatharra**	**46.20**	**247**	⇑	P	**P**	**21 07 59.3**	**-1.1**
	baz=46,SNR=17							
KAPI	**Kappang**	**46.74**	**276**		P	**P**	**21 08 06.2**	**+1.4**
	comp=Z,48nm,1.5s,comp=Z,1μm							
KAPI	**Kappang**	**46.74**	**276**	*e*	P	**P**	**21 08 04.1**	**-0.6**
	comp=Z,100nm,1.4s							
KAPI					LR	LR		
	comp=Z,2μm,20.0s							
KLBR	**Kellerberrin**	**47.63**	**240**	⇑	P	**P**	**21 08 10.3**	**-1.1**
	baz=48							
NWAO	**Narrogin (SRO)**	**48.30**	**238**	*e*	P	**P**	**21 08 14.2**	**-2.4**
	comp=Z,54nm,1.2s							
NWAO					LR	LR		
	comp=Z,3μm,20.0s							
NWAO	**Narrogin (SRO)**	**48.30**	**238**		P	**P**	**21 08 15.3**	**-1.4**
	comp=Z,29nm,0.8s,baz=62,slow=10.0,SNR=16							
MORW	**Morawa**	**48.73**	**244**	⇑	P	**P**	**21 08 18.5**	**-1.5**
	baz=49,SNR=7.9							
KIP	**Kipapa**	**49.71**	**45**		PFAKE		21 08 40.0	+13
KIP					LR	LR		
	comp=Z,3μm,21.0s							
MYLDM	**Lahad Datu**	**51.18**	**289**		P	P	21 08 42.1	+3.4
MYLDM	**Lahad Datu**	**51.18**	**289**		P	P	21 08 42.2	+3.4
MYLDM	**Lahad Datu**	**51.18**	**289**		P	P	21 08 43.3	+4.6
MYLDM	**Lahad Datu**	**51.18**	**289**		P	**P**	**21 08 41.3**	**+2.5**
	comp=Z,47nm,1.3s							
TSM	**Tawau**	**51.43**	**287**		P	**P**	**21 08 42.8**	**+2.2**
SDKM	**Sandakan**	**52.56**	**289**		P	**P**	**21 08 47.3**	**-1.8**
KKM	**Kota Kinabalu**	**53.61**	**289**		P	**P**	**21 08 59.0**	**+2.0**
KKM	**Kota Kinabalu**	**53.61**	**289**	*e*	P	**P**	**21 08 56.5**	**-0.5**
	comp=Z,86nm,1.2s							
KKM					LR	LR		
	comp=Z,1μm,21.0s							
KKM	**Kota Kinabalu**	**53.61**	**289**	⇓	P	**P**	**21 08 57.0**	**0.0**
	baz=54,SNR=5.8							
JOW	**Kunigami**	**54.99**	**318**	*e*	P	**P**	**21 09 08.3**	**+1.8**
	comp=Z,11nm,1.0s							
DRV	**Dumont d'Urvil**	**55.35**	**192**		S	S	21 16 39.0	-11
DRV					SS	**SS**	**21 20 28.0**	**-6.9**
DRV					R		21 26 00.0	
BTM	**Bintulu**	**55.52**	**284**		P	**P**	**21 09 09.1**	**-1.6**
RKT	**Rikitea**	**56.03**	**108**	*e*	S	**S**	**21 17 00.7**	**0.0**
	comp=Z,2μm,30.0s							
RKT				*e*	SS	**SS**	**21 20 48.2**	**+1.0**
	comp=Z,1μm,26.0s							
RKT				*e*	LQ	LQ	21 23 14.9	
	comp=Z,2μm,27.2s							
RKT				*e*	LR	LR	21 25 36.7	
	comp=Z,4μm,29.8s,baz=274							
RKT	**Rikitea**	**56.03**	**108**	*e*	T	T	21 09 51.5	
	comp=Z,3.5nm,0.3s							
SBUM	**Sibu**	**56.09**	**283**		P	**P**	**21 09 17.5**	**+2.7**
MAJO	**Matsushiro**	**56.95**	**333**	*e*	P	**P**	**21 09 20.3**	**-0.1**
MAJO					pmax	pmax		
	comp=Z,17nm,0.8s							
MAJO					MLR	MLR		
	comp=Z,1μm,20.0s							
MAJO	**Matsushiro**	**56.95**	**333**	*e*	P	**P**	**21 09 20.3**	**-0.1**
	comp=Z,17nm,0.8s							
MAJO					LR	LR		
	comp=Z,1μm,20.0s							
MAT	**Matsushiro**	**56.95**	**333**		P	**P**	**21 09 18.5**	**-1.9**
MAT					S	**S**	**21 17 12.2**	**-0.2**
KSM	**Kuching**	**57.61**	**281**	*e*	P	**P**	**21 09 24.6**	**-0.9**
	comp=Z,31nm,1.2s							
KSM					LR	LR		
	comp=Z,1μm,19.0s							
KSM	**Kuching**	**57.61**	**281**	⇑	P	**P**	**21 09 24.8**	**-0.7**
	baz=58,SNR=5.2							
JNU	**Nakatsue**	**57.90**	**325**	*e*	P	**P**	**21 09 26.3**	**-1.0**
	comp=Z,16nm,1.0s							
JNU	**Nakatsue**	**57.90**	**325**		P	**P**	**21 09 25.8**	**-1.4**
	comp=Z,28nm,1.0s,baz=112,slow=3.2,SNR=11							
JNU					LR	LR	21 32 27.5	
	comp=Z,830nm,18.2s,baz=317,slow=34							
YHNB	**Yeheng**	**58.40**	**311**	*e*	P	**P**	**21 09 30.7**	**-0.3**
	comp=Z,63nm,1.0s							
YHNB					LR	LR		
	comp=Z,2μm,19.0s							
TATO	**Taipei**	**58.50**	**311**		PFAKE		21 09 40.0	+8.5
TATO					LR	LR		
	comp=Z,1μm,19.0s							
QZH	**Quanzhou**	**60.62**	**310**	⇓	*i*P	**P**	**21 09 47.4**	**+1.2**
QZH					S	**S**	**21 18 02.0**	**+1.6**
QZH					LR	LR		
	comp=Z,1μm,13.0s							
QZH					LR	LR		
	com

NJ2 LR LR
comp=Z,960nm,19.3s
NJ2 LR LR
comp=Z,1μm,25.2s
QIZ Qiongzhong 64.65 299 P **P** **21 10 13.9 +0.7**
QIZ PP **PP** **21 12 36.4 +0.5**
QIZ S **S** **21 18 52.5 +1.2**
QIZ sS **sS** **21 19 07.5 -0.9**
QIZ LR LR
comp=Z,930nm,17.3s
QIZ LR LR
comp=Z,2μm,27.3s
USRK Ussuriysk Arra 65.93 334 P **P** **21 10 20.5 -0.4**
comp=Z,26nm,1.0s,baz=149,slow=5.8,SNR=26
WHN Wuhan 66.86 312 P **P** **21 10 28.4 +1.2**
WHN S **S** **21 19 21.0 +3.1**
WHN LR LR
comp=Z,2μm,17.1s
WHN LR LR
comp=Z,1μm,13.0s
WHN LR LR
comp=Z,2μm,22.2s
DL2 Dalian 67.27 323 P **P** **21 10 30.7 +1.1**
DL2 S **S** **21 19 25.4 +3.0**
DL2 AMB AMB
comp=Z,37nm,0.9s
DL2 AMB AMB
comp=Z,370nm,6.9s
DL2 LR LR
comp=Z,700nm,14.8s
DL2 LR LR
comp=Z,500nm,16.0s
DL2 LR LR
comp=Z,690nm,17.5s
MDJ Mudanjiang 67.32 332 P **P** **21 10 30.9 +1.1**
MDJ pP **pP** **21 10 40.0 -0.2**
MDJ sP **sP** **21 10 44.0 -0.1**
MDJ S **S** **21 19 25.5 +2.7**
MDJ sS **sS** **21 19 41.4 +1.4**
MDJ ScS **SKiKP** **21 20 26.5 -0.3**
MDJ AMB AMB
comp=Z,18nm,1.2s
MDJ AMB AMB
comp=Z,410nm,4.5s
MDJ LR LR
comp=Z,990nm,19.5s
MDJ LR LR
comp=Z,840nm,16.7s
MDJ LR LR
comp=Z,610nm,22.3s
MDJ Mudanjiang 67.32 332 *e*P **P** **21 10 31.5 +1.7**
comp=Z,20nm,0.9s
MDJ LR LR
comp=Z,794nm,19.0s
IPM Ipoh 67.35 281 *e*P **P** **21 10 32.3 +1.6**
comp=Z,41nm,1.4s
ADK Adak 67.35 11 PFAKE 21 10 40.0 +10
ADK LR LR
comp=Z,2μm,19.0s
PETK Petropavlovsk- 67.36 354 P **P** **21 10 28.8 -1.1**
PETK Petropavlovsk- 67.36 354 P **P** **21 10 28.8 -1.1**
PETK Petropavlovsk- 67.36 354 P **P** **21 10 28.8 -1.1**
comp=Z,8.0nm,0.6s,baz=141,slow=5.7,SNR=8.0
PETK LR LR 21 35 36.8
comp=Z,861nm,20.6s,baz=166,slow=32
COCO West Island 67.48 262 PFAKE 21 10 40.0 +8.5
COCO LR LR
comp=Z,2μm,19.0s
KULM Kulim 67.94 282 PFAKE 21 10 50.0 +16
KULM LR LR
comp=Z,956nm,20.0s
TIA Tai'an 68.28 319 ⇓P **P** **21 10 36.7 +0.6**
TIA AMB AMB
comp=Z,20nm,1.0s
CN2 Changchun 68.66 329 *e*P **P** **21 10 37.5 -0.8**
CN2 *ep*P **pP** **21 10 47.8 -0.9**
CN2 *e*S **S** **21 19 37.5 -1.4**
CN2 AMB AMB
comp=Z,20nm,1.0s
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,700nm,15.0s
CN2 LR LR
comp=Z,700nm,15.0s
CN2 LR LR
comp=Z,600nm,16.0s
PSI Prapat 68.88 279 LR LR 21 38 18.0
comp=Z,1μm,21.4s,baz=128,slow=34
KLR Kul'dur 70.08 337 *e*P P 21 10 42.8 -4.2
KLR *e*S **S** **21 19 56.5 +1.0**
KLR pmax pmax
comp=Z,200nm,2.6s
KLR smax smax
comp=N,1μm,11.0s
KLR smax smax
comp=E,800nm,11.0s
ENH Enshi 70.28 310 *e*P **P** **21 10 48.1 -0.6**
comp=E,15nm,0.8s
MIR Mirnyy 70.53 204 ⇓*i*P **P** **21 10 52.0 +2.5**
MIR *e* 21 13 30.0
MIR *e*S **S** **21 20 04.0 +3.7**
MIR *e*PS **PnS** **21 20 40.0 +9.4**
MIR *e*SS **SS** **21 24 34.0 +2.5**
MIR pmax pmax
comp=Z,47nm,1.3s
GYA Guiyang 70.62 305 ⇑*i*P **P** **21 10 52.0 +1.0**
GYA pP **pP** **21 11 03.6 +2.2**
GYA PP **PP** **21 13 31.4 +3.5**
GYA S **S** **21 20 03.2 +0.2**
GYA sS **sS** **21 20 20.8 +0.6**
GYA SKS **SKSac** **21 20 47.8 -3.2**
GYA SS **SS** **21 24 37.0 +1.6**
GYA AMB AMB
comp=Z,50nm,1.0s
GYA AMB AMB
comp=Z,270nm,5.9s
GYA LR LR
comp=Z,1μm,20.5s
GYA LR LR
comp=Z,960nm,20.3s
GYA LR LR
comp=Z,1μm,19.7s
BJT Baijiatuan 71.21 321 PFAKE 21 11 10.0 +16
BJT LR LR
comp=Z,963nm,19.0s
BJI Beijing 71.22 321 P **P** **21 10 55.3 +1.2**
BJI S **S** **21 20 12.5 +3.4**
BJI SS **SS** **21 24 47.6 +3.8**
BJI AMB AMB
comp=Z,26nm,1.2s
BJI AMB AMB
comp=Z,550nm,4.8s
BJI LR LR
comp=Z,920nm,25.9s
BJI LR LR
comp=Z,650nm,19.6s
BJI LR LR
comp=Z,1μm,24.8s
TIY Taiyuan 72.20 318 *e*P **P** **21 11 03.1 +2.9**
TIY S **S** **21 20 25.7 +5.0**
TIY AMB AMB
comp=Z,460nm,5.2s
TIY LR LR
comp=Z,890nm,14.8s
TIY LR LR
comp=Z,990nm,17.8s
TIY LR LR
comp=Z,1μm,18.5s
NANT Nan 72.45 295 P **P** **21 11 04.4 +2.4**
comp=Z,26nm,0.8s
XAN Xi'an 72.61 313 P **P** **21 11 03.6 +0.9**
XAN pP **pP** **21 11 13.2 0.0**
XAN sP **sP** **21 11 17.9 +0.8**
XAN PP **PP** **21 13 46.0 +1.3**
XAN S **S** **21 20 23.6 -1.9**
XAN SKS **SKSac** **21 21 02.1 -3.4**
XAN SS **SS** **21 25 04.3 -1.2**
XAN AMB AMB
comp=Z,5.0nm,1.0s
XAN AMB AMB
comp=Z,87nm,6.6s
XAN LR LR
comp=Z,580nm,22.0s
XAN LR LR
comp=Z,190nm,22.0s

XAN LR LR
comp=Z,340nm,21.1s
KMI Kunming 73.22 302 P **P** **21 11 08.7 +2.0**
KMI pP **pP** **21 11 18.0 +0.8**
KMI sP **sP** **21 11 23.0 +1.9**
KMI PP **PP** **21 13 51.7 +1.5**
KMI S **S** **21 20 33.2 +0.1**
KMI sS **sS** **21 20 49.5 -0.9**
KMI SKS **SKSac** **21 21 06.7 -4.1**
KMI SS **SS** **21 25 17.8 +2.4**
KMI AMB AMB
comp=Z,20nm,0.9s
KMI AMB AMB
comp=Z,390nm,3.6s
KMI LR LR
comp=Z,610nm,14.2s
KMI LR LR
comp=Z,620nm,17.0s
KMI LR LR
comp=Z,1μm,20.2s
PAYA Payao 73.39 295 P **P** **21 11 10.4 +2.9**
comp=Z,4.8nm,0.9s,comp=Z,239nm
CM31 Chiang Mai Arr 73.88 294 *e*P **P** **21 11 10.3 -0.1**
comp=Z,15nm,1.0s
CHTO Chiang Mai 74.00 295 *e*P **P** **21 11 10.9 -0.3**
CHTO pmax pmax
comp=Z,59nm,1.1s
CHTO MLR MLR
comp=Z,600nm,19.0s
CHTO Chiang Mai 74.00 295 *e*P **P** **21 11 10.8 -0.3**
comp=Z,59nm,1.1s
CHTO LR LR
comp=Z,600nm,19.0s
CHTO Chiang Mai 74.00 295 P **P** **21 11 12.8 +1.6**
comp=Z,70nm,1.1s,comp=Z,2μm
HHC Hu-ho-hao-te 74.53 320 *e*P **P** **21 11 15.3 +1.4**
HHC pP **pP** **21 11 25.6 +1.2**
HHC sP **sP** **21 11 29.3 +1.0**
HHC PP **PP** **21 14 02.0 +1.0**
HHC S **S** **21 20 48.5 +1.4**
HHC sS **sS** **21 21 03.5 -0.9**
HHC SS **SS** **21 25 36.6 +1.9**
HHC AMB AMB
comp=Z,52nm,1.0s
HHC AMB AMB
comp=Z,1μm,5.4s
HHC LR LR
comp=Z,2μm,14.7s
HHC LR LR
comp=Z,1μm,15.3s
HHC LR LR
comp=Z,2μm,16.1s
CD2 Chengdu 74.92 308 P **P** **21 11 17.0 +0.7**
CD2 pP **pP** **21 11 27.8 +1.0**
CD2 PcP **PcP** **21 11 30.9 +0.8**
CD2 sP **sP** **21 11 32.0 +1.3**
CD2 PP **PP** **21 14 07.4 +3.0**
CD2 S **S** **21 20 52.2 +0.5**
CD2 sS **sS** **21 21 09.5 +0.5**
CD2 SS **SS** **21 25 42.9 +2.0**
CD2 AMB AMB
comp=Z,310nm,1.2s
CD2 AMB AMB
comp=Z,570nm,4.3s
CD2 LR LR
comp=Z,970nm,13.7s
CD2 LR LR
comp=Z,880nm,8.3s
HIA Hailar 75.31 331 *e*P **P** **21 11 19.2 +1.1**
comp=Z,12nm,0.8s
HIA LR LR
comp=Z,1μm,19.0s
BTO Baotou 75.37 319 *e*P **P** **21 11 17.7 -1.0**
QSPA South Pole Qui 75.91 180 *e*P **P** **21 11 19.8 -1.8**
comp=Z,36nm,1.1s
QSPA LR LR
comp=Z,2μm,19.0s
LZH Lanzhou 77.24 313 ⇑P **P** **21 11 30.9 +1.4**
LZH pP **PcP** **21 11 40.5 +0.4**
LZH sP **sP** **21 11 43.7 -0.3**
LZH PP **PP** **21 14 25.4 +1.4**
LZH S **S** **21 21 18.4 +1.2**
LZH sS **sS** **21 21 34.5 -0.2**
LZH SS **SS** **21 26 16.1 0.0**
LZH AMB AMB
comp=Z,72nm,1.1s
LZH AMB AMB
comp=Z,300nm,4.2s
LZH LR LR
comp=Z,2μm,14.9s
LZH LR LR
comp=Z,2μm,15.9s
LZH LR LR
comp=Z,2μm,16.3s
SEY Seymchan 77.56 354 *e*P **P** **21 11 30.6 +0.1**
KDAK Kodiak Island 79.21 21 PFAKE 21 11 50.0 +10
KDAK LR LR
comp=Z,3μm,20.0s
YAK Yakutsk 81.18 343 *c i*P **P** **21 11 48.6 -1.6**
YAK *e**PP **PcP** **21 11 57.0 +0.6**
YAK *e* 21 14 53.1
YAK *e*PPP PPP 21 16 46.7
YAK *e*S **S** **21 21 58.9 +1.3**
YAK *e*SS **SS** **21 27 12.3 -1.4**
YAK pmax pmax
comp=Z,28nm,1.1s
YAK pmax pmax
comp=N,11nm,1.5s
YAK pmax pmax
comp=E,5.0nm,1.4s
YAK pmax pmax
comp=Z,69nm,2.5s
YAK pmax pmax
comp=N,30nm,2.2s
YAK pmax pmax
comp=E,49nm,2.1s
YAK smax smax
comp=E,94nm,3.3s
YAK smax smax
comp=N,64nm,2.5s
YAK MLR MLR
comp=Z,2μm,19.0s
SONM Songino Array 81.47 324 P **P** **21 11 51.1 -1.2**
SONM Songino Array 81.47 324 P **P** **21 11 51.1 -1.2**
comp=Z,8.8nm,1.1s,baz=149,slow=6.5,SNR=32
SONM LR LR 21 50 06.2
comp=Z,842nm,18.3s,baz=122,slow=37
GTA Gaotai 81.59 314 *e*P **P** **21 11 54.8 +1.7**
GTA pP **pP** **21 12 04.8 +1.0**
GTA sP **sP** **21 12 09.2 +1.6**
GTA S **S** **21 22 03.5 +0.3**
GTA ScS **SKKSac** **21 22 13.3 -0.3**
GTA sS **sS** **21 22 21.3 +0.5**
GTA SS **SS** **21 27 24.2 +3.0**
GTA AMB AMB
comp=Z,24nm,1.1s
GTA AMB AMB
comp=Z,430nm,5.0s
GTA LR LR
comp=Z,760nm,16.4s
GTA LR LR
comp=Z,650nm,17.8s
GTA LR LR
comp=Z,670nm,17.8s
MAW Mawson 82.12 202 P **P** **21 11 55.5 +0.2**
MAW Mawson 82.12 202 ⇓P **P** **21 11 55.8 +0.6**
baz=82
MAW Mawson 82.12 202 P **P** **21 11 55.5 +0.2**
comp=Z,8.4nm,1.0s,baz=98,slow=9.3,SNR=5.7
MAW LR LR 21 42 26.9
comp=Z,1μm,21.5s,baz=96,slow=31
SHL Shillong 82.48 299 *e*P **P** **21 12 00.6 +2.4**
PMR Palmer 83.22 20 *e*P **P** **21 12 00.1 -0.8**
PMR pmax pmax
comp=Z,13nm,1.0s
PMR Palmer 83.22 20 *e*P **P** **21 12 00.1 -0.8**
comp=Z,13nm,1.0s
TRF Thorofare Moun 84.23 18 *e*P **P** **21 12 04.0 -2.4**
comp=Z,18nm,0.9s
LSA Lhasa 84.47 302 P **P** **21 12 07.9 -0.8**
LSA Lhasa 84.47 302 *e*P **P** **21 12 08.3 -0.4**
LSA pmax pmax
comp=Z,14nm,1.0s
LSA MLR MLR
comp=Z,574nm,20.0s

LSA Lhasa 84.47 302 *e*P **P** **21 12 08.3 -0.4**
comp=Z,14nm,1.0s
LSA LR LR
comp=Z,574nm,20.0s
BPAW Bear Paw Mtn. 84.51 17 *e*P **P** **21 12 05.3 -2.2**
comp=Z,13nm,1.2s
ZAK Zakamensk 84.53 325 *e*P **P** **21 12 06.3 -1.7**
ZAK pmax pmax
comp=Z,16nm,1.2s
MCK McKinley 84.85 18 *e*P **P** **21 12 07.7 -1.5**
MCK pmax pmax
comp=Z,40nm,1.1s
MCK McKinley 84.85 18 *e*P **P** **21 12 07.7 -1.5**
comp=Z,40nm,1.1s
IRK Irkutsk 84.93 327 *e*P P 21 12 05.8 -4.1
IRK pmax pmax
comp=Z,40nm,2.2s
TLY Talaya 84.98 326 *e*P **P** **21 12 11.1 +0.9**
TLY *e*S S 21 22 23.4 -13
TLY pmax pmax
comp=Z,18nm,1.1s
TLY MLR MLR
comp=Z,287nm,14.0s
IM04 Indian Mountai 85.19 15 *e*P **P** **21 12 10.1 -0.9**
IMA2 Indian Mountai 85.29 15 *e*P **P** **21 12 10.6 -0.9**
YBH Yreka Blue Hor 85.62 45 LR LR 21 42 56.7
comp=Z,828nm,20.2s,baz=255,slow=30
COLA College 86.00 18 *e*P **P** **21 12 13.0 -1.9**
COLA pmax pmax
comp=Z,102nm,1.1s
COLA MLR MLR
comp=Z,908nm,21.0s
COLA College 86.00 18 *e*P **P** **21 12 13.0 -1.9**
comp=Z,102nm,1.1s
COLA LR LR
comp=Z,908nm,21.0s
ILAR Eielson Array 86.22 18 P P 21 12 12.4 -3.6
ILAR Eielson Array 86.22 18 P P 21 12 12.4 -3.6
comp=Z,5.5nm,0.8s,baz=240,slow=5.0,SNR=58
ILAR LR LR 21 46 42.2
comp=Z,2μm,19.3s,baz=237,slow=33
MOY Mondy 86.42 325 *e*P **P** **21 12 17.8 +0.4**
TAPN Taplejung 86.59 299 *e*P **P** **21 12 18.6 -0.5**
comp=Z,54nm,1.3s
WRAK Wrangell Islan 86.71 29 PFAKE 21 12 30.0 +11
WRAK LR LR
comp=Z,1μm,20.0s
ODAN Odare 86.72 299 *e*P **P** **21 12 18.7 -0.9**
comp=Z,38nm,1.0s
COLD Coldfoot 87.07 16 *e*P **P** **21 12 19.4 -0.8**
comp=Z,17nm,1.2s
NLWA Neilton Lookou 87.13 40 PFAKE 21 12 30.0 +9.1
NLWA LR LR
comp=Z,1μm,20.0s
PFO Pinyon Flat Ob 87.37 55 LR LR 21 44 30.3
comp=Z,3μm,19.2s,baz=173,slow=31
RAMN Ramite 87.42 298 *e*P **P** **21 12 21.7 -1.4**
comp=Z,32nm,1.2s
NVAR Mina Array Bea 87.55 50 P **P** **21 12 23.6 +0.2**
NVAR Mina Array Bea 87.55 50 P **P** **21 12 23.6 +0.2**
comp=Z,0.3nm,0.4s,baz=223,slow=6.1,SNR=3.1
NVAR LR LR 21 44 40.7
comp=Z,3μm,19.5s,baz=96,slow=31
JIRN Jiri 87.97 299 *e*P **P** **21 12 24.7 -1.2**
comp=Z,24nm,0.6s
EGAK Eagle 88.04 20 *e*P **P** **21 12 23.7 -1.1**
comp=Z,16nm,1.2s
EGAK LR LR
comp=Z,1μm,19.0s
TPH Tonopah 88.23 50 PFAKE 21 12 40.0 +13
TPH LR LR
comp=Z,2μm,19.0s
GUN Gumba 88.31 299 *e*P **P** **21 12 26.4 -1.0**
comp=Z,31nm,0.8s
PKI Pulchoki 88.61 299 *e*P **P** **21 12 27.5 -1.3**
comp=Z,29nm,0.6s
WVOR Wild Horse Val 88.69 46 PFAKE 21 12 40.0 +11
WVOR LR LR
comp=Z,1μm,19.0s
KKN Kakani 88.78 299 *e*P **P** **21 12 28.1 -1.4**
comp=Z,26nm,0.8s
DMN Daman 88.88 299 *e*P **P** **21 12 28.9 -1.1**
comp=Z,95nm,1.0s
BMN Battle Mountai 89.01 48 PFAKE 21 12 40.0 +10
BMN LR LR
comp=Z,2μm,19.0s
SYO Syowa Base 89.04 197 ⇑*e*P **P** **21 12 27.6 -2.0**
SYO Syowa Base 89.04 197 ⇓*e*P P 21 12 34.5 +4.9
TIXI Tiksi 89.19 349 *e*P **P** **21 12 29.6 -0.5**
GKN Gorkha 89.39 299 *e*P **P** **21 12 30.7 -1.6**
comp=Z,64nm,1.0s
HAWA Hanford 89.49 42 PFAKE 21 12 40.0 +7.9
HAWA LR LR
comp=Z,788nm,19.0s
KOLN Koldanda 90.21 298 *e*P **P** **21 12 34.3 -1.9**
comp=Z,9.1nm,0.8s
DANN Dangsing 90.23 299 *e*P **P** **21 12 34.3 -2.1**
comp=Z,19nm,0.8s
BMO Blue Mountains 90.43 44 PFAKE 21 12 50.0 +13
BMO LR LR
comp=Z,934nm,20.0s
TUC Tucson 91.54 57 PFAKE 21 12 50.0 +7.9
TUC LR LR
comp=Z,2μm,20.0s
WMQ Urumqi 91.66 315 P **P** **21 12 42.4 +0.1**
WMQ pP **pP** **21 12 53.0 -0.1**
WMQ sP **sP** **21 12 56.9 0.0**
WMQ PP **PP** **21 16 20.6 -0.7**
WMQ SKS **SKSac** **21 23 09.7 -3.0**
WMQ S **S** **21 23 38.3 -2.2**
WMQ AMB AMB
comp=Z,18nm,1.2s
WMQ AMB AMB
comp=Z,480nm,4.4s
WMQ LR LR
comp=Z,570nm,13.2s
WMQ LR LR
comp=Z,440nm,19.0s
WMQ LR LR
comp=Z,510nm,21.6s
NEW Newport 91.68 41 PFAKE 21 12 50.0 +7.7
NEW LR LR
comp=Z,966nm,20.0s
WUAZ Wupatki 91.94 54 PFAKE 21 13 00.0 +16
WUAZ LR LR
comp=Z,2μm,19.0s
DGAR Diego Garcia 91.96 262 PFAKE 21 12 50.0 +5.7
DGAR LR LR
comp=Z,2μm,19.0s
HLID Hailey 91.99 46 PFAKE 21 13 00.0 +16
HLID LR LR
comp=Z,2μm,19.0s
HYB Hyderabad 92.08 287 *i* P **P** **21 12 45.5 +0.7**
HYB *e*SKS **SKSac** **21 23 16.0 -0.1**
MVU Marysvale 92.12 51 PFAKE 21 13 00.0 +15
MVU LR LR
comp=Z,2μm,20.0s
DUG Dugway 92.15 49 PFAKE 21 13 00.0 +15
DUG LR LR
comp=Z,3μm,19.0s
MAIT Maitri 93.54 188 *e*P **P** **21 12 48.9 -1.6**
AHID Auburn Hatcher 94.09 47 PFAKE 21 13 00.0 +6.2
AHID LR LR
comp=Z,1μm,20.0s
SNAA Sanae 94.11 183 *e*P **P** **21 12 52.3 -0.9**
SNAA Sanae 94.11 183 *ep*P pP 21 13 03.2 -0.8
SNAA Sanae 94.11 183 *e*P **P** **21 12 50.4 -2.8**
comp=Z,15nm,1.0s
MVCO Mesa Verde 94.62 53 PFAKE 21 13 10.0 +14
MVCO LR LR
comp=Z,2μm,20.0s
VNA2 Neumayer--Watz 95.07 182 *e*P **P** **21 12 58.0 +0.5**
VNA2 Neumayer--Watz 95.07 182 *ep*P pP 21 13 06.5 -1.8
VNA2 Neumayer--Watz 95.07 182 *e*sP sP 21 13 10.8 -1.3
BW06 Boulder Array 95.19 47 PFAKE 21 13 10.0 +11
BW06 LR LR
comp=Z,1μm,20.0s
PDAR Pinedale Array 95.19 47 P **P** **21 13 00.1 +1.2**
PDAR Pinedale Array 95.19 47 P **P** **21 13 00.1 +1.2**
comp=Z,0.4nm,0.5s,baz=203,slow=2.4,SNR=4.2
PDAR LR LR 21 50 10.0
comp=Z,815nm,18.1s,baz=254,slow=32
VNA1 Neumayer--Stat 95.37 182 *e*P **P** **21 12 57.5 -1.4**
ANMO Albuquerque 95.69 56 PFAKE 21 13 10.0 +8.7
ANMO LR LR
comp=Z,2μm,20.0s

MNTX Cornudas Mount 95.84 59 PFAKE 21 13 10.0 +8.2
MNTX LR LR
comp=Z,830nm,22.0s
RLMT Red Lodge 95.97 45 PFAKE 21 13 10.0 +7.7
RLMT LR LR
comp=Z,1μm,21.0s
MK31 Makanchi Array 96.14 317 *e*P **P 21 13 01.1 -1.7**
MK31 Makanchi Array 96.14 317 *e*P **P 21 13 01.1 -1.7**
MKAR Makanchi Array 96.14 317 P **P 21 13 01.6 -1.2**
MKAR 21 16 54.7
MKAR Makanchi Array 96.14 317 P **P 21 13 01.6 -1.2**
MKAR PP **PP 21 16 54.6 -1.5**
MKAR PKiKP **PKiKP 21 17 40.8 -0.4**
MKAR PKKPbc **PKKPbc 21 29 50.5 -0.9**
MKAR Makanchi Array 96.14 317 P **P 21 13 01.6 -1.2**
comp=Z,3.7nm,0.7s,baz=96,slow=6.1,SNR=24
MKAR PP **PP 21 16 54.6 -1.5**
comp=Z,2.7nm,1.1s,baz=108,slow=6.6,SNR=4.8
MKAR PKiKP **PKiKP 21 17 40.8 -0.4**
comp=Z,0.5nm,0.9s,baz=136,slow=1.2,SNR=4.5
MKAR PKKPbc **PKKPbc 21 29 50.5 -0.9**
comp=Z,0.7nm,0.8s,baz=294,slow=3.9,SNR=4.9
EGMT Eagleton 96.34 42 PFAKE 21 13 10.0 +6.2
EGMT LR LR
comp=Z,1μm,19.0s
ZAA0 Zalesovo Array 96.36 324 *e*P **P 21 13 00.8 -2.8**
ZALV Zalesovo Beam 96.36 324 P **P 21 13 01.2 -2.4**
ZALV Zalesovo Beam 96.36 324 P **P 21 13 01.2 -2.4**
ZALV Zalesovo Beam 96.36 324 P **P 21 13 01.2 -2.4**
comp=Z,3.1nm,0.7s,baz=108,slow=4.8,SNR=19
ZALV LR LR 21 57 27.7
comp=Z,325nm,18.4s,baz=249,slow=36
TXAR Lajitas Array 96.77 62 P **P 21 13 08.1 +1.9**
TXAR PP **PP 21 17 02.9 +1.3**
TXAR Lajitas Array 96.77 62 P **P 21 13 08.1 +1.9**
comp=Z,0.2nm,0.5s,baz=295,slow=2.6,SNR=2.9
TXAR PP **PP 21 17 02.9 +1.3**
comp=Z,4.0nm,1.2s,baz=245,slow=5.4,SNR=10
TXAR LR LR 21 48 03.8
comp=Z,1μm,21.1s,baz=25,slow=30
SDCO Great Sand Dun 97.06 53 PFAKE 21 13 20.0 +12
SDCO LR LR
comp=Z,2μm,19.0s
ISCO Idaho Springs 97.41 51 PFAKE 21 13 20.0 +11
ISCO LR LR
comp=Z,2μm,19.0s
YKA Yellowknife Ar 97.41 27 P Pdif 21 13 08.9 +0.7
YKA Yellowknife Ar 97.41 27 P Pdif 21 13 08.9 +0.7
comp=Z,2.0nm,0.7s,baz=255,slow=4.7,SNR=3.3
NVS Novosibirsk 97.48 325 *e*P P 21 13 04.2 -4.4
NVS *e*S **SKSac 21 23 46.7 +3.4**
NVS pmax pmax
comp=Z,12nm,2.0s
NVS pmax pmax
comp=N,3.0nm,1.3s
NVS pmax pmax
comp=E,6.0nm,1.7s
NVS smax smax
comp=N,16nm,2.3s
LAO LASA Array 98.38 44 PFAKE 21 13 20.0 +7.0
LAO LR LR
comp=Z,1μm,20.0s
KSH Kashi 99.11 308 P **Pdif 21 13 18.4 +1.9**
KSH pP **pP 21 13 26.6 -0.7**
KSH sP **sP 21 13 34.0 +2.9**
KSH PP **PP 21 17 22.1 +2.8**
KSH S **S 21 24 43.1 -2.5**
KSH sS **sS 21 25 00.4 -3.1**
KSH SS **SS 21 31 41.5 +7.0**
KSH AMB AMB
comp=Z,71nm,4.7s
KSH LR LR
comp=Z,350nm,13.9s
KSH LR LR
comp=Z,160nm,12.5s
KSH LR LR
comp=Z,410nm,19.1s
KURK Kurchatov 99.35 320 *e*P **Pdif 21 13 16.9 -0.2**
KURK MLR MLR
comp=Z,276nm,19.0s
KURK Kurchatov 99.35 320 *e*P **Pdif 21 13 16.9 -0.2**
KURK LR LR
comp=Z,276nm,19.0s
TKM2 Tokmak 2 100.00 312 PFAKE 21 13 30.0 +9.5
TKM2 LR LR
comp=Z,513nm,19.0s
DGMT Dagmar 100.06 43 PFAKE 21 13 30.0 +10
DGMT LR LR
comp=Z,653nm,20.0s
JCT Junction City 100.29 61 PFAKE 21 13 30.0 +8.1
JCT LR LR
comp=Z,2μm,21.0s
OGNE Ogallala 100.31 50 PFAKE 21 13 30.0 +8.2
OGNE LR LR
comp=Z,2μm,20.0s
AAK Ala-Archa 100.75 311 PFAKE 21 13 30.0 +6.2
AAK LR LR
comp=Z,569nm,20.0s
EKS2 Erkin-Say 101.28 311 PFAKE 21 13 40.0 +14
EKS2 LR LR
comp=Z,563nm,19.0s
KVTX Kingsville 101.42 64 PFAKE 21 13 40.0 +13
KVTX LR LR
comp=Z,1μm,19.0s
WMOK Wichita Mounta 101.85 57 PFAKE 21 13 40.0 +11
WMOK LR LR
comp=Z,1μm,19.0s
FFC Flin Flon 102.35 36 PFAKE 21 13 40.0 +10
FFC LR LR
comp=Z,948nm,21.0s
PAYG Puerto Ayora 102.80 94 PFAKE 21 13 40.0 +6.6
PAYG LR LR
comp=Z,3μm,21.0s
KSU1 Kansas State U 104.17 53 PFAKE 21 13 50.0 +11
KSU1 LR LR
comp=Z,2μm,20.0s
ECSD EROS Data Cent 104.66 48 PFAKE 21 13 50.0 +9.0
ECSD LR LR
comp=Z,1μm,19.0s
BVAR Borovoye Array 104.70 322 P **Pdif 21 13 40.5 -0.4**
BVAR 21 18 01.0
BVAR Borovoye Array 104.70 322 Pdif **Pdif 21 13 40.5 -0.4**
BVAR PP **PP 21 18 01.0 +0.2**
BVAR Borovoye Array 104.70 322 Pdiff **Pdif 21 13 40.5 -0.4**
comp=Z,0.4nm,0.6s,baz=87,slow=6.1,SNR=3.7
BVAR PP **PP 21 18 01.0 +0.2**
comp=Z,0.8nm,0.7s,baz=88,slow=10,SNR=5.0
BRVK Borovoye 104.77 322 PFAKE 21 13 50.0 +8.8
BRVK LR LR
comp=Z,673nm,21.0s
AGMN Agassiz Nation 105.56 43 PFAKE 21 18 10.0
AGMN LR LR
comp=Z,1μm,19.0s
MIAR Mount Ida 106.08 58 PFAKE 21 18 10.0
MIAR LR LR
comp=Z,1μm,19.0s
SCIA State Center 107.00 50 PFAKE 21 18 10.0
SCIA LR LR
comp=Z,4μm,20.0s
VBMS Vicksburg 108.39 60 PFAKE 21 18 20.0
VBMS LR LR
comp=Z,1μm,21.0s
EYMN Ely 108.47 44 PFAKE 21 18 10.0
EYMN LR LR
comp=Z,1μm,19.0s
TGUH Tegucigalpa,Un 108.91 80 PFAKE 21 18 20.0
TGUH LR LR
comp=Z,823nm,20.0s
MSEY Mahe Island 108.95 260 PFAKE 21 18 20.0
MSEY LR LR
comp=Z,840nm,19.0s
TEIG Tepich 108.96 73 PFAKE 21 18 20.0
TEIG LR LR
comp=Z,1μm,20.0s
JFWS Jewell Farm 109.25 49 PFAKE 21 18 20.0
JFWS LR LR
comp=Z,2μm,19.0s
JTS JuntasAbangare 110.44 84 PFAKE 21 18 20.0
JTS LR LR
comp=Z,3μm,20.0s
BRAL Brewton 111.23 62 PFAKE 21 18 20.0
BRAL LR LR
comp=Z,992nm,20.0s
LRAL Lakeview Retre 111.41 60 PFAKE 21 18 20.0
LRAL LR LR
comp=Z,1μm,21.0s
ARU Arti 111.47 325 *i* PKiKP **PKiKP 21 18 08.3 -0.6**
ARU 21 18 48.2
ARU 21 24 45.9
ARU PS **PS 21 28 16.3 -6.1**
ABPO Ambohimpanom 111.60 243 PFAKE 21 18 20.0
ABPO LR LR
comp=Z,2μm,19.0s
KBS Kingsbay 114.00 355 PFAKE 21 18 20.0 +6.9
KBS LR LR
comp=Z,845nm,20.0s
OTAV Otavalo 114.47 96 PFAKE 21 18 30.0 +14
OTAV LR LR
comp=Z,1μm,20.0s
ACSO Alum Creek Sta 114.72 52 PFAKE 21 18 30.0 +14
ACSO LR LR
comp=Z,3μm,19.0s
BCIP Isla Barro Col 115.17 86 PFAKE 21 18 30.0 +13
BCIP LR LR
comp=Z,918nm,21.0s
BLA Blacksburg 116.84 55 PFAKE 21 18 30.0 +10
BLA LR LR
comp=Z,2μm,19.0s
ERPA Erie 116.85 50 PFAKE 21 18 30.0 +10
ERPA LR LR
comp=Z,2μm,20.0s
MCWV Mont Chateau 117.15 53 PFAKE 21 18 30.0 +10
MCWV LR LR
comp=Z,4μm,20.0s
KEV Kevo 118.90 345 PFAKE 21 18 30.0 +7.3
KEV LR LR
comp=Z,881nm,20.0s
CNNC Cliffs of the 118.97 57 PFAKE 21 18 40.0 +16
CNNC LR LR
comp=Z,1μm,20.0s
CBN Corbin 119.19 54 PFAKE 21 18 40.0 +16
CBN LR LR
comp=Z,2μm,19.0s
ARCES ARCESS Array B 119.43 345 PKP **PKPdf 21 18 21.9 -2.0**
ARCES PKKPbc **PKKPab 21 28 35.0 -2.1**
ARCES ARCESS Array B 119.43 345 PKP **PKPdf 21 18 21.9 -2.0**
comp=Z,3.4nm,0.6s,baz=78,slow=2.2,SNR=22
ARCES PKKPbc **PKKPab 21 28 35.0 -2.1**
comp=Z,5.8nm,1.0s,baz=228,slow=2.3,SNR=4.5
BINY Binghamton 119.80 49 PFAKE 21 18 40.0 +15
BINY LR LR
comp=Z,3μm,20.0s
LONY Lake Ozonia 120.42 46 PFAKE 21 18 40.0 +14
LONY LR LR
comp=Z,769nm,19.0s
NCB Newcomb 120.79 47 PFAKE 21 18 40.0 +13
NCB LR LR
comp=Z,2μm,19.0s
GTBY Guantanamo Bay 121.22 75 PFAKE 21 18 40.0 +11
GTBY LR LR
comp=Z,494nm,21.0s
LBNH Lisbon 122.36 46 PFAKE 21 18 40.0 +10
LBNH LR LR
comp=Z,1μm,19.0s
GNI Garni 123.04 309 *e*PKPdf **PKPdf 21 18 32.5 +0.6**
GNI LR LR
comp=Z,307nm,19.0s
SUR Sutherland 123.21 215 PFAKE 21 18 40.0 +7.5
SUR LR LR
comp=Z,1μm,19.0s
BOSA Boshof 123.25 221 PKP **PKPdf 21 18 32.9 +0.3**
BOSA Boshof 123.25 221 PKP **PKPdf 21 18 32.9 +0.3**
comp=Z,2.0nm,0.6s,baz=90,slow=5.1,SNR=3.7
OBN Obninsk 123.70 328 *i* PKIKP **PKPdf 21 18 32.0 -0.3**
OBN *e* 21 18 45.6
OBN PS **PS 21 30 09.0 -3.9**
OBN *e*SS SS 21 37 15.7 +15
KIV Kislovodsk 123.77 314 *i* PKIKP **PKPdf 21 18 33.0 0.0**
KIV PS **PS 21 30 07.0 -7.4**
PKME Peaks-Kenny Pk 123.94 45 PFAKE 21 18 40.0 +6.9
PKME LR LR
comp=Z,827nm,19.0s
SDV Santo Domingo 124.03 89 *e*PKPdf **PKPdf 21 18 33.0 -1.5**
SDV LR LR
comp=Z,3μm,21.0s
SDDR Presa de Saban 124.74 77 PFAKE 21 18 50.0 +14
SDDR LR LR
comp=Z,854nm,22.0s
FINES FINESS Array B 124.82 338 PKP **PKPdf 21 18 33.8 -0.5**
FINES FINESS Array B 124.82 338 PKP **PKPdf 21 18 33.8 -0.5**
comp=Z,5.6nm,0.9s,baz=23,slow=4.5,SNR=7.5
GRTK Grand Turk 125.03 74 PFAKE 21 18 50.0 +14
GRTK LR LR
comp=Z,810nm,20.0s
SAML Samuel 125.79 112 PFAKE 21 18 50.0 +12
SAML LR LR
comp=Z,882nm,21.0s
KMBO Kilima Mbogo 127.37 258 PFAKE 21 18 50.0 +9.0
KMBO LR LR
comp=Z,807nm,20.0s
LSZ Lusaka 129.35 236 PFAKE 21 19 00.0 +15
LSZ LR LR
comp=Z,855nm,20.0s
AKASG Malin Array Be 129.72 326 PKIKP **PKPdf 21 18 43.9 -0.1**
AKASG Malin Array Be 129.72 326 PKP **PKPdf 21 18 43.9 -0.1**
AKASG Malin Array Be 129.72 326 PKP **PKPdf 21 18 43.9 -0.1**
comp=Z,0.7nm,0.4s,baz=60,slow=1.8,SNR=9.2
KIEV Kiev 129.73 326 PKIKP **PKPdf 21 18 43.1 -0.9**
KIEV Kiev 129.73 326 PFAKE 21 19 00.0 +16
KIEV LR LR
comp=Z,534nm,19.0s
NB2 NORSAR Subarra 129.79 345 PKPdf **PKPdf 21 18 41.1 -2.8**
comp=Z,9.6nm,1.4s,baz=31,slow=1.9
NB2 NORSAR Subarra 129.79 345 PKPdf **PKPdf 21 18 41.1 -2.8**
baz=31,slow=1.9
NOA NORSAR Array B 129.79 345 PKP **PKPdf 21 18 44.0 0.0**
NOA NORSAR Array B 129.79 345 PKP **PKPdf 21 18 44.0 0.0**
comp=Z,0.8nm,0.5s,baz=35,slow=2.0,SNR=3.7
SPB Sao Paulo 130.05 138 PFAKE 21 19 00.0 +14
SPB LR LR
comp=Z,933nm,19.0s
BBSR BB Station 130.19 59 PFAKE 21 19 00.0 +15
BBSR LR LR
comp=Z,746nm,22.0s
KONO Kongsberg 131.40 344 PFAKE 21 19 00.0 +13
KONO LR LR
comp=Z,442nm,20.0s
BR131 Keskin Array S 131.43 311 *e*PKPdf **PKPdf 21 18 44.8 -3.0**
BRTR Keskin Array B 131.43 311 PKP **PKPdf 21 18 47.1 -0.7**
BRTR SKPbc **SKPab 21 22 15.2 +4.1**
BRTR Keskin Array B 131.43 311 PKP **PKPdf 21 18 47.1 -0.7**
comp=Z,0.6nm,0.8s,baz=90,slow=1.4,SNR=3.1
BRTR SKPbc **SKPab 21 22 15.2 +4.1**
comp=Z,0.8nm,0.7s,baz=102,slow=3.4,SNR=3.2
KIS Kishinev 131.79 322 *e* PKPdf 21 19 10.0 +22
KIS LRM MLR 21 23 30.0
comp=Z,600nm,20.0s
ANTO Ankara 132.00 311 PFAKE 21 19 00.0 +11
ANTO LR LR
comp=Z,296nm,19.0s
CSS Prodhromos 132.98 305 PFAKE 21 19 00.0 +9.3
CSS LR LR
comp=Z,459nm,19.0s
CFR Carcaliu 133.07 320 ⇓ *i*P **PKPdf 21 18 51.0 +0.5**
GRGR Grenville 133.28 87 PFAKE 21 19 00.0 +8.2
GRGR LR LR
comp=Z,531nm,19.0s
TLB Topalu 133.40 319 ⇑ *i*P PKPdf 21 18 41.6 -10
HARR Harsova 133.42 319 ⇑ *i*P PKPdf 21 18 57.1 +5.9
BUR08 Bucovina Ar. S 133.58 324 *e*PKPdf **PKPdf 21 18 51.4 -0.2**
ANWB Willy Bob 133.67 79 PFAKE 21 19 00.0 +7.6
ANWB LR LR
comp=Z,651nm,20.0s
MBAR Mbarara 133.68 255 PFAKE 21 19 00.0 +7.1
MBAR LR LR
comp=Z,1μm,22.0s
KWP Kalwaria Pacla 133.79 328 PFAKE 21 19 00.0 +8.2
KWP LR LR
comp=Z,608nm,21.0s
ISP Isparta 134.34 309 PFAKE 21 19 00.0 +6.7
ISP LR LR
comp=Z,344nm,19.0s
STHS Stebnicka Huta 134.68 328 *e*PKP **PKPdf 21 18 54.2 +0.7**
TSUM Tsumeb 134.81 224 PFAKE 21 19 10.0 +15
TSUM LR LR
comp=Z,1μm,20.0s
VOIR 134.84 322 ⇑ *i*P **PKPdf 21 18 57.2 +3.2**
BDFB Brasilia 134.97 130 PKP **PKPdf 21 18 55.0 -0.1**
BDFB Brasilia 134.97 130 PKP **PKPdf 21 18 55.0 -0.1**
comp=Z,2.0nm,0.6s,baz=165,slow=4.8,SNR=3.9
BBGH Gun Hill 135.44 86 PFAKE 21 19 10.0 +14
BBGH LR LR
comp=Z,806nm,19.0s
OKC Ostrava-Krasne 135.93 331 AMS AMS 22 34 10.0
comp=Z,500nm,20.4s
PSZ Piszkesteto 136.31 327 PFAKE 21 19 10.0 +13
PSZ LR LR
comp=Z,592nm,20.0s
SIRR Siria 136.36 324 ⇓ *i*P **PKPdf 21 18 56.8 +0.1**
DPC Dobruska-Polom 136.42 332 *e*pPKP **pPKPdf 21 19 04.6 -3.2**
DPC *es*PKP 21 19 14.0
DPC AMS AMS 22 24 20.0
BZS Buzias 136.76 324 ⇑ *i*P **PKPdf 21 18 55.9 -1.5**
PVCC Panska Ves 137.06 334 *e*pPKP **pPKPdf 21 19 11.0 +2.1**
PVCC AMS AMS 22 30 00.0
comp=Z,700nm,18.3s
BRG Berggiesshubel 137.07 334 *e*PKP **PKPdf 21 19 00.6 +2.8**
comp=Z,5.9nm,1.0s
BRG *e* 21 19 11.9
comp=Z,13nm,1.2s
BRG *e*SKP 21 22 34.0
comp=Z,8.4nm,1.2s
BRG
comp=N,545nm,17.9s
BRG
comp=E,309nm,20.8s
BRG
comp=Z,676nm,17.3s
BRG Berggiesshubel 137.07 334 *e*PKIKP **PKPdf 21 19 00.6 +2.8**
BRG *e* 21 19 11.9
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG pmax pmax
comp=Z,13nm,1.3s
BRG pmax pmax
comp=N,8.0nm,1.2s
BRG MLR MLR
comp=N,545nm,17.9s
BRG MLR MLR
comp=E,309nm,20.8s
BRG MLR MLR
comp=Z,676nm,17.3s
CLL Collm 137.12 336 *i* PKIKP PKPdf 21 19 05.4 +7.5
CLL Collm 137.12 336 *i* pPKPdf **pPKPdf 21 19 05.6 -3.4**
comp=Z,19nm,1.6s
CLL *e*PP PP 21 21 34.0 -7.7
CLL *i* SKPdf **SKiKP 21 22 32.7 -0.8**
comp=Z,12nm,1.3s
CLL *e*SS SS 21 39 36.0 -8.8
PRA Prague 137.46 333 PKPdf **PKPdf 21 18 59.0 +0.4**
PRU Pruhonice 137.47 333 *e*PKIKP **PKPdf 21 18 58.7 +0.1**
PRU *e* 21 19 08.3
PRU *e* 21 39 52.1
PRU MLR MLR
comp=Z,600nm,20.3s
PRU Pruhonice 137.47 333 *e*PKPdf **PKPdf 21 18 58.7 +0.1**
PRU *ep*PKP **pPKPdf 21 19 08.3 -1.4**
PRU *ex* x 21 34 10.3
PRU *e*SS SS 21 39 52.1 +3.0
PRU AMS AMS 22 24 40.0
comp=Z,600nm,20.3s
TREC Trest 137.55 332 AMS AMS 22 24 50.0
comp=Z,700nm,17.3s
ESK Eskdalemuir 138.09 351 PFAKE 21 19 10.0 +10
ESK LR LR
comp=Z,539nm,19.0s
CONA Conrad Observa 138.34 330 ⇑ *i*PKIKP **PKPdf 21 19 00.8 +0.4**
comp=Z,11nm,1.4s
KHC Kasperske Hory 138.53 333 *e*PKIKP **PKPdf 21 19 01.0 +0.3**
KHC *e* 21 19 08.1
KHC *e* 21 40 03.9
KHC MLR MLR
comp=Z,900nm,17.9s
KHC Kasperske Hory 138.53 333 *e*PKPdf **PKPdf 21 19 01.0 +0.3**
KHC *ep*PKP **pPKPdf 21 19 08.1 -3.6**
KHC *ex* x 21 19 24.6
KHC *e*SS SS 21 40 03.9 +2.2
KHC AMS AMS 22 29 10.0
comp=Z,900nm,17.9s
KHC Kasperske Hory 138.53 333 *e*PKPdf **PKPdf 21 18 58.5 -2.2**
SANT Santorini 138.64 310 PFAKE 21 19 10.0 +8.8
SANT LR LR
comp=Z,286nm,20.0s
GERES GERESS Array B 138.68 333 PKP **PKPdf 21 19 01.5 +0.5**
GERES SKPbc **SKiKP 21 22 37.1 +0.1**
GERES GERESS Array B 138.68 333 PKP **PKPdf 21 19 01.5 +0.5**
comp=Z,1.3nm,0.7s,baz=48,slow=2.0,SNR=6.1
GERES SKPbc **SKiKP 21 22 37.1 +0.1**
comp=Z,2.0nm,0.9s,baz=60,slow=2.4,SNR=5.9
TIR Tirane 140.21 319 PFAKE 21 19 20.0 +16
TIR LR LR
comp=Z,795nm,20.0s
MEM Membach 140.25 340 PKP **PKPdf 21 19 04.3 +0.6**
WLF Walferdange 141.01 340 PKP **PKPdf 21 19 05.0 0.0**
WLF Walferdange 141.01 340 PFAKE 21 19 20.0 +15
WLF LR LR
comp=Z,806nm,20.0s
DOU Dourbes 141.14 341 PKP **PKPdf 21 19 07.7 +2.4**
BFO Black Forest 141.33 336 PFAKE 21 19 20.0 +14
BFO LR LR
comp=Z,530nm,20.0s
ECH Echery 141.87 337 PFAKE 21 19 20.0 +13
ECH LR LR
comp=Z,460nm,20.0s
TUE Stuetta 142.40 334 *e*PKPdf **PKPdf 21 19 08.0 0.0**
TUE LR LR
comp=Z,758nm,20.0s
CUC Castrocucco 143.51 321 PFAKE 21 19 20.0 +10
CUC LR LR
comp=Z,362nm,20.0s
VLC Villacollemand 143.69 330 PFAKE 21 19 20.0 +10
VLC LR LR
comp=Z,1μm,21.0s
CEL Celeste 144.47 318 PFAKE 21 19 20.0 +8.3
CEL LR LR
comp=Z,398nm,20.0s
BNI Bardonecchia 144.66 335 *e*PKIKP **PKPab 21 19 09.2 -1.3**
BNI MLR MLR
comp=Z,908nm,19.0s
BNI Bardonecchia 144.66 335 *e*PKPpre **PKPab 21 19 09.2 -1.3**
BNI LR LR
comp=Z,908nm,19.0s
PLDF La Plantade 145.06 339 PKP **PKPbc 21 19 10.7 -1.2**
AGO Saint Agoulin 145.16 339 PKP **PKPbc 21 19 11.0 -1.1**
AUTN L'Aution 145.19 333 PKP **PKPdf 21 19 13.1 +0.2**
TOUF Mont Tournerai 145.25 333 PKP **PKPbc 21 19 11.5 -1.2**
LUCF Luceram 145.30 333 PKP **PKPbc 21 19 12.0 -0.8**
SSB Saint Sauveur 145.31 337 *e*PKP2 **PKPbc 21 19 10.8 -1.9**
SSB MLR MLR
comp=Z,436nm,19.0s
SSB Saint Sauveur 145.31 337 *e*PKPdf **PKPbc 21 19 10.8 -1.9**
SSB LR LR
comp=Z,436nm,19.0s
MVIF Mont Vial 145.39 333 PKP **PKPbc 21 19 11.8 -1.3**
PYM Petit Puy Mans 145.46 339 PKP **PKPdf 21 19 12.6 -0.6**
LBL Lubilhac 145.83 339 PKP **PKPdf 21 19 13.8 0.0**
KEST Kesra 150.16 320 PKPbc **PKPbc 21 19 25.3 -1.0**
KEST Kesra 150.16 320 PKPbc **PKPbc 21 19 25.3 -1.0**
comp=Z,11nm,1.1s,baz=245,slow=1.8,SNR=8.3
RCBR Riachuelo 150.34 130 PFAKE 21 19 30.0 +2.7
RCBR LR LR
comp=Z,1μm,21.0s
CMAH Djebel Manchou 150.71 324 P **PKPdf 21 19 22.7 +0.6**
ABSA Djebel Ababsia 150.92 323 P **PKPdf 21 19 23.9 +1.5**
CAEH 'Ain El Ouahch 150.93 325 P **PKPdf 21 19 23.7 +1.4**
CKFL Kef-Lekhel 151.27 324 P **PKPdf 21 19 24.5 +1.5**
CASM Ain Smara 151.50 324 P **PKPdf 21 19 25.4 +2.1**
DFRA Djebel Bou Aff 151.64 325 P **PKPdf 21 19 26.0 +2.5**
CTEI Djebel Teioual 151.69 324 P **PKPdf 21 19 25.8 +2.2**
PBRG Braganca 151.76 349 *e*PKPbc **PKPbc 21 19 27.8 -2.0**
SET Setif 152.15 326 P **PKPdf 21 19 26.4 +2.1**
POLO Lamas de Olo 152.36 350 *e*PKPbc **PKPbc 21 19 29.0 -2.3**
MVO Moncorvo 152.43 349 *e*PKPbc **PKPbc 21 19 28.8 -2.6**
PVRL Vila Real 152.44 350 *e*PKPbc **PKPdf 21 19 27.6 +3.1**
ESDC Sonseca Array 153.14 343 PKPbc **PKPbc 21 19 32.6 -0.4**
ESDC PKPab **PKPab 21 19 45.0 +0.5**
ESDC Sonseca Array 153.14 343 PKPbc **PKPbc 21 19 32.6 -0.4**
comp=Z,0.6nm,0.5s,baz=6.9,slow=3.1,SNR=12
ESDC PKPab **PKPab 21 19 45.0 +0.5**
comp=Z,3.7nm,0.8s,baz=14,slow=3.5,SNR=8.0
MTE Manteigas 153.27 350 *e*PKPbc **PKPbc 21 19 31.1 -2.2**
MTE Manteigas 153.27 350 PFAKE 21 19 40.0 -5.0
MTE LR LR
comp=Z,488nm,19.0s

PAB	**San Pablo**	**153.37 344**	PFAKE		21 19 40.0	-5.5
PAB			LR	LR		
	comp=Z,833nm,19.0s					
RTC	**Rabat Centre**	**159.27 344**	PFAKE		21 19 40.0	+6.3
RTC			LR	LR		
	comp=Z,681nm,20.0s					
TAM	**Tamanrasset**	**159.88 298**	*e*PKIKP	**PKPdf**	**21 19 34.3**	**-0.6**
TAM			MLR	MLR		
	comp=Z,692nm,19.0s					
TAM	**Tamanrasset**	**159.88 298**	*e*PKPdf	**PKPdf**	**21 19 34.3**	**-0.6**
TAM			LR	LR		
	comp=Z,692nm,19.0s					
TOA0	**Torodi Ar. Sit**	**165.05 268**	*e*PKPdf	**PKPdf**	**21 19 39.4**	**-0.6**
TORD	**Torodi Ar. Bea**	**165.05 268**	PKP	**PKPdf**	**21 19 39.2**	**-0.8**
TORD			PKPab	**PKPab**	**21 20 37.8**	**+0.8**
TORD	**Torodi Ar. Bea**	**165.05 268**	PKP	**PKPdf**	**21 19 39.2**	**-0.8**
	comp=Z,1.7nm,1.0s,baz=96,slow=0.7,SNR=8.7					
TORD			PKPab	**PKPab**	**21 20 37.8**	**+0.8**
	comp=Z,7.6nm,1.1s,baz=92,slow=1.7,SNR=7.8					

IDC ***12*** *21:02:23.5±0.8, 14.03S×166.52E, h0km, mb4.5/16, mb1 4.6/17, mb1mx4.5/23, mbtmp4.5/17, ML2.7/1, MS5.0/1, Ms1 5.0/1, ms1mx4.2/30, Error ellipse: s-maj=24.3km s-min=15.8km az=102.0*

ISCJB ***12*** *21:02:27.6±0.5, 14.12S±0.06×166.50E±0.09, h43km, mb4.5/18, MS5.0/1, Error ellipse: s-maj=12.5km s-min=7.8km az=170.9*

NEIC ***12*** *21:02:28.4±0.4, 14.10S×166.53E, h35km, mb4.5/6, Error ellipse: s-maj=10.2km s-min=9.8km az=90.0*

ISC 12 21:02:29.4±0.6, 14.06S±0.07×166.5E±0.1, h43km, n47, σ1s07/48, mb4.5/18, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.97**	**181**	Pn	**Pn**	**21 04 22.8**	**+0.1**
DZM				Sn	**Sn**	**21 05 53.1**	**+1.5**
DZM	**Mont Dzumac**	**7.97**	**181**	Pn	**Pn**	**21 04 22.8**	**+0.1**
	0.1nm,0.3s,baz=136,slow=23,SNR=0.7						
DZM				Sn	**Sn**	**21 05 53.1**	**+1.5**
	0.6nm,0.3s,baz=146,slow=23,SNR=1.3						
CTA	**Charters Tower**	**20.29**	**250**	P	**P**	**21 07 02.1**	**+0.3**
CTA	**Charters Tower**	**20.29**	**250**	P	**P**	**21 07 02.1**	**+0.3**
	8.6nm,0.7s,baz=74,slow=13,SNR=4.2						
CTAO	**Charters Tower**	**20.29**	**250**	*e*P	**P**	**21 07 00.4**	**-1.3**
	9.3nm,0.7s						
AFI	**Afiamalu**	**21.04**	**92**	*e*P	**P**	**21 07 09.3**	**-0.6**
URZ	**Urewera**	**25.86**	**161**	*e*P	**P**	**21 07 55.9**	**-1.1**
STKA	**Stephens Creek**	**28.90**	**228**	*e*P	**P**	**21 08 24.1**	**-0.3**
	4.9nm,1.4s						
STKA	**Stephens Creek**	**28.90**	**228**	P	**P**	**21 08 24.9**	**+0.5**
	5.6nm,0.7s,baz=64,slow=4.9,SNR=2.8						
RPZ	**Rata Peaks**	**29.80**	**173**	P	**P**	**21 08 32.3**	**+0.1**
RPZ	**Rata Peaks**	**29.80**	**173**	P	**P**	**21 08 32.3**	**+0.1**
	8.5nm,0.7s,baz=80,slow=18,SNR=2.6						
WRAB	**Tennant Creek**	**31.30**	**255**	*e*P	**P**	**21 08 44.2**	**-1.6**
	8.0nm,0.7s						
WRA	**Warramunga Arr**	**31.31**	**255**	P	**P**	**21 08 43.9**	**-2.0**
WRA	**Warramunga Arr**	**31.31**	**255**	P	**P**	**21 08 43.9**	**-2.0**
	8.6nm,0.9s,baz=85,slow=8.6,SNR=7.1						
ASAR	**Alice Springs**	**32.26**	**248**	P	**P**	**21 08 52.0**	**-2.2**
ASAR	**Alice Springs**	**32.26**	**248**	P	**P**	**21 08 52.0**	**-2.2**
	4.1nm,0.6s,baz=73,slow=9.6,SNR=7.5						
FITZ	**Fitzroy Crossi**	**39.45**	**259**	P	**P**	**21 09 54.9**	**-0.9**
	7.8nm,0.8s,baz=106,slow=8.2,SNR=5.2						
BATI	**Baumata**	**42.05**	**270**	P	**P**	**21 10 18.6**	**+1.2**
BATI	**Baumata**	**42.05**	**270**	P	**P**	**21 10 18.6**	**+1.2**
	14nm,0.4s,baz=107,slow=6.6,SNR=3.9						
MBWA	**Marble Bar**	**45.05**	**254**	*e*P	**P**	**21 10 40.4**	**-1.0**
	7.4nm,0.7s						
KAPI	**Kappang**	**46.93**	**276**	LR	LR	21 28 40.1	
	comp=Z,2μm,20.1s,baz=18,slow=34						
KSRS	**Korea Array**	**62.80**	**326**	P	**P**	**21 12 51.5**	**+0.9**
	2.3nm,0.9s,baz=139,slow=6.4,SNR=4.5						
KSAR	**Wonju Array Be**	**62.81**	**326**	P	**P**	**21 12 51.5**	**+0.8**
VNDA	**Vanda**	**63.51**	**181**	*e*P	**P**	**21 12 54.1**	**-0.7**
	3.7nm,0.9s						
VNDA	**Vanda**	**63.51**	**181**	P	**P**	**21 12 56.5**	**+1.7**
	3.2nm,1.0s,baz=332,slow=6.3,SNR=2.4						
USRK	**Ussuriysk Arra**	**65.98**	**333**	P	**P**	**21 13 12.7**	**+1.4**
	4.7nm,0.9s,baz=155,slow=8.8,SNR=4.5						
PETK	**Petropavlovsk-**	**67.33**	**354**	P	**P**	**21 13 20.2**	**+0.5**
PETK	**Petropavlovsk-**	**67.33**	**354**	P	**P**	**21 13 20.2**	**+0.5**
	4.7nm,0.8s,baz=161,slow=9.2,SNR=3.4						
CMAR	**Chiang Mai Arr**	**74.04**	**294**	P	**P**	**21 14 02.6**	**+1.3**
CMAR	**Chiang Mai Arr**	**74.04**	**294**	P	**P**	**21 14 02.6**	**+1.3**
	1.7nm,0.8s,baz=123,slow=5.3,SNR=4.1						
QSPA	**South Pole Qui**	**75.96**	**180**	*e*P	**P**	**21 14 11.2**	**-0.6**
	8.4nm,0.8s						
SONM	**Songino Array**	**81.55**	**324**	P	**P**	**21 14 43.5**	**+0.8**
SONM	**Songino Array**	**81.55**	**324**	P	**P**	**21 14 43.5**	**+0.8**
	1.9nm,0.9s,baz=144,slow=6.7,SNR=3.7						
ILAR	**Eielson Array**	**86.11**	**18**	P	**P**	**21 15 04.5**	**-0.9**
ILAR	**Eielson Array**	**86.11**	**18**	P	**P**	**21 15 04.5**	**-0.9**
	1.3nm,0.8s,baz=237,slow=5.7,SNR=6.9						
MKAR	**Makanchi Array**	**96.24**	**317**	P	**P**	**21 15 53.6**	**+0.4**
MKAR	**Makanchi Array**	**96.24**	**317**	P	**P**	**21 15 53.6**	**+0.4**
	1.4nm,0.8s,baz=103,slow=6.4,SNR=4.9						
ZALV	**Zalesovo Beam**	**96.44**	**324**	P	**P**	**21 15 53.6**	**-0.3**
ZALV	**Zalesovo Beam**	**96.44**	**324**	P	**P**	**21 15 53.6**	**-0.3**
	1.2nm,0.8s,baz=114,slow=6.5,SNR=4.7						
ARCES	**ARCESS Array B**	**119.43**	**345**	PKP	**PKPdf**	**21 21 12.9**	**-0.8**
ARCES	**ARCESS Array B**	**119.43**	**345**	PKP	**PKPdf**	**21 21 12.9**	**-0.8**
	4.4nm,1.0s,baz=297,slow=4.0,SNR=3.2						
KEST	**Kesra**	**150.25**	**321**	PKPbc	**PKPbc**	**21 22 15.9**	**-0.5**
KEST	**Kesra**	**150.25**	**321**	PKPbc	**PKPbc**	**21 22 15.9**	**-0.5**
	1.9nm,0.9s,baz=63,slow=4.5,SNR=3.0						
ESDC	**Sonseca Array**	**153.16**	**344**	PKPbc	**PKPbc**	**21 22 23.6**	**+0.7**
ESDC	**Sonseca Array**	**153.16**	**344**	PKPbc	**PKPbc**	**21 22 23.6**	**+0.7**
	0.5nm,0.7s,baz=41,slow=4.1,SNR=3.6						
TORD	**Torodi Ar. Bea**	**165.24**	**268**	PKP	**PKPdf**	**21 22 29.2**	**-0.9**
TORD	**Torodi Ar. Bea**	**165.24**	**268**	PKP	**PKPdf**	**21 22 29.2**	**-0.9**
	1.3nm,0.9s,baz=225,slow=0.1,SNR=2.9						

IDC 12 21:18:30.0±3.0, 4.74N×93.87E, h0km, mb3.4/4, mb1 3.4/5, mb1mx3.3/25, mbtmp3.3/5, ML3.6/1, Error ellipse: s-maj=104.8km s-min=31.4km az=65.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**14.51**	**20**	Pn	Pn	21 21 57.7	+0.9
	0.1nm,0.3s,baz=208,slow=14,SNR=2.6						
H08S2	**Diego Garcia H**	**24.62**	**240**	T	T	21 49 56.5	
	baz=59,slow=0.7,SNR=40						
H08S3	**Diego Garcia H**	**24.62**	**240**	T	T	21 49 56.2	
	baz=59,slow=0.7,SNR=27						
H08S1	**Diego Garcia H**	**24.64**	**240**	T	T	21 49 56.5	
	baz=59,slow=0.7,SNR=21						
MKAR	**Makanchi Array**	**43.08**	**348**	P	P	21 26 32.2	+0.4
	0.3nm,0.6s,baz=164,slow=6.4,SNR=4.1						
SONM	**Songino Array**	**44.27**	**12**	P	P	21 26 40.9	-0.6
	0.3nm,0.7s,baz=182,slow=6.0,SNR=3.4						
ASAR	**Alice Springs**	**48.17**	**128**	P	P	21 27 12.4	-0.1
	0.3nm,0.7s,baz=308,slow=6.7,SNR=3.2						
ZALV	**Zalesovo Beam**	**49.62**	**353**	P	P	21 27 22.5	-0.5
	0.4nm,0.5s,baz=185,slow=8.7,SNR=2.9						

IDC 12 21:25:57.7±2.5, 12.22S×165.77E, h0km, mb3.8/4, mb1 3.8/5, mb1mx3.7/18, mbtmp3.7/5, ML3.4/1, Error ellipse: s-maj=61.1km s-min=34.9km az=99.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.82**	**176**	Pn	Pn	21 28 20.6	+0.1
	0.3nm,0.3s,baz=324,slow=19,SNR=3.1						
WRA	**Warramunga Arr**	**31.12**	**252**	P	P	21 32 18.7	+0.4
	0.6nm,0.8s,baz=85,slow=9.2,SNR=3.7						
ASAR	**Alice Springs**	**32.30**	**245**	P	P	21 32 28.3	-0.4
	0.6nm,0.7s,baz=68,slow=9.4,SNR=6.9						
SONM	**Songino Array**	**79.62**	**324**	P	P	21 38 07.7	+0.7
	0.3nm,0.8s,baz=134,slow=6.2,SNR=3.6						
MKAR	**Makanchi Array**	**94.38**	**317**	P	P	21 39 18.7	-0.9
	0.6nm,0.6s,baz=88,slow=5.5,SNR=7.8						

IDC 12 21:52:13.4±1.6, 11.27S×165.75E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.8/19, mbtmp3.8/6, ML3.4/1, Error ellipse: s-maj=48.2km s-min=26.9km az=123.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.76**	**177**	Pn	Pn	21 54 49.8	+0.8
	0.3nm,0.3s,baz=300,slow=20,SNR=2.8						
CTA	**Charters Tower**	**20.70**	**243**	P	Pn	21 56 57.0	-0.8
	1.4nm,0.4s,baz=123,slow=18,SNR=2.1						
WRA	**Warramunga Arr**	**31.41**	**250**	P	P	21 58 35.2	-1.4
	2.0nm,0.8s,baz=83,slow=9.0,SNR=14						
SONM	**Songino Array**	**78.85**	**324**	P	P	22 04 19.2	+0.6
	0.3nm,0.8s,baz=142,slow=5.4,SNR=3.2						
ILAR	**Eielson Array**	**83.73**	**18**	P	P	22 04 43.6	-0.4
	0.5nm,0.5s,baz=235,slow=5.1,SNR=12						
MKAR	**Makanchi Array**	**93.69**	**317**	P	P	22 05 32.2	0.0
	0.5nm,0.7s,baz=94,slow=3.3,SNR=6.5						

IDC 12 22:04:21.7±8.7, 15.41S×173.02W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/19, mbtmp3.5/2, Error ellipse: s-maj=420.2km s-min=26.0km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.91**	**39**	Pn	Pn	22 04 54.4	-1.3
	26nm,0.3s,baz=42,slow=4.2,SNR=18						
AFI				Sn	Sn	22 05 13.2	-7.4
	92nm,0.3s,baz=54,slow=19,SNR=14						
H11S2	**WAKE ISLAND Hy**	**39.16**	**329**	T	T	22 53 17.5	
	baz=143,slow=0.7,SNR=3.1						
H11S3	**WAKE ISLAND Hy**	**39.17**	**329**	T	T	22 53 24.8	
	baz=143						
H11S1	**WAKE ISLAND Hy**	**39.18**	**329**	T	T	22 53 18.2	
	baz=143,slow=0.7,SNR=4.5						
H11N3	**WAKE ISLAND Hy**	**40.10**	**330**	T	T	22 54 27.1	
	baz=155,SNR=7.6						
H11N1	**WAKE ISLAND Hy**	**40.11**	**330**	T	T	22 54 26.0	
	baz=155,SNR=8.2						
H11N2	**WAKE ISLAND Hy**	**40.12**	**330**	T	T	22 54 26.7	
	baz=155,SNR=7.7						
WRA	**Warramunga Arr**	**50.20**	**257**	P	P	22 13 19.2	-0.6
	0.4nm,0.9s,baz=91,slow=7.1,SNR=3.5						
ASAR	**Alice Springs**	**50.46**	**252**	P	P	22 13 21.1	-0.7
	0.7nm,0.6s,baz=87,slow=7.8,SNR=10						
BRTR	**Keskin Array B**	**146.39**	**321**	PKPbc	PKPab	22 24 06.7	+0.7
	0.8nm,1.1s,baz=108,slow=1.8,SNR=3.7						

IDC 12 22:04:30.1±5.8, 15.14S×69.01W, h161km±88km, mb3.4/2, mb1 3.3/2, mb1mx3.0/20, mbtmp3.4/2, Error ellipse: s-maj=227.7km s-min=44.9km az=11.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.42**	**143**	P	Pn	22 05 00.1	-0.5
	113nm,0.3s,baz=289,slow=7.2,SNR=1449						
LPAZ				S	Sn	22 05 23.9	-0.2
	7.0nm,0.3s,baz=82,slow=13,SNR=4.0						
BDFB	**Brasilia**	**20.25**	**94**	P	Pn	22 08 55.2	-1.9
	1.4nm,0.4s,baz=253,slow=11,SNR=4.3						
TORD	**Torodi Ar. Bea**	**75.39**	**72**	P	P	22 15 55.6	-1.0
	0.8nm,0.6s,baz=263,slow=5.1,SNR=13						
SONM	**Songino Array**	**147.18**	**6**	PKPbc	PKPbc	22 23 54.8	+0.3
	0.2nm,0.3s,baz=310,slow=2.9,SNR=2.4						

IDC 12 22:10:55.0±0.9, 15.01S×172.46W, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.9/21, mbtmp3.8/6, MS3.7/1, Ms1 3.7/1, ms1mx3.2/33, Error ellipse: s-maj=46.9km s-min=17.4km az=134.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.28**	**31**	Pn	Pg	22 11 18.6	-1.1
	80nm,0.3s,baz=213,slow=1.5,SNR=53						
AFI				Sn	Sg	22 11 35.0	-1.4
	374nm,0.3s,baz=31,slow=20,SNR=15						
DZM	**Mont Dzumac**	**21.18**	**248**	LR	LR	22 21 30.1	
	comp=Z,192nm,20.4s,baz=33,slow=30						
URZ	**Urewera**	**24.93**	**200**	P	P	22 16 19.8	0.0
	4.2nm,0.6s,baz=37,slow=5.1,SNR=4.0						
H11S2	**WAKE ISLAND Hy**	**39.11**	**328**	T	T	22 59 05.2	
	baz=149,slow=0.7,SNR=7.4						
H11S3	**WAKE ISLAND Hy**	**39.12**	**328**	T	T	22 59 06.8	
	baz=149,slow=0.7,SNR=7.7						
H11S1	**WAKE ISLAND Hy**	**39.13**	**328**	T	T	22 59 07.6	
	baz=149,slow=0.7,SNR=5.5						
WRA	**Warramunga Arr**	**50.82**	**256**	P	P	22 19 57.0	-0.7
	0.4nm,0.4s,baz=92,slow=7.9,SNR=10						
ASAR	**Alice Springs**	**51.09**	**252**	P	P	22 19 59.1	-0.7
	1.1nm,0.4s,baz=91,slow=7.4,SNR=21						
TXAR	**Lajitas Array**	**79.64**	**56**	P	P	22 23 04.3	-0.5
	0.2nm,0.7s,baz=220,slow=9.4,SNR=2.9						
PDAR	**Pinedale Array**	**81.37**	**42**	P	P	22 23 14.6	+0.6
	0.5nm,1.0s,baz=200,slow=7.7,SNR=2.8						
ILAR	**Eielson Array**	**81.89**	**11**	P	P	22 23 17.3	+1.4
	0.4nm,0.6s,baz=223,slow=6.6,SNR=5.9						
BRTR	**Keskin Array B**	**146.42**	**322**	PKPbc	PKPab	22 30 39.1	-0.2
	0.6nm,0.6s,baz=115,slow=5.9,SNR=4.4						

MAN 12 22:16:12, 8.28N×126.27E, h98km, mb4.3, ML3.1, MS2.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.94**	**317**	*e*P	Pn	22 16 32.4	+0.8
BUTP				*e*S	Sn	22 16 47.9	+1.5
BUKP	**Musuan**	**1.26**	**252**	*e*P	Pn	22 16 35.9	+0.5
BUKP				*e*S	Sn	22 16 54.4	+1.4
MATI	**Mati**	**1.33**	**181**	*e*P	Pn	22 16 36.6	+0.5
CGP	**Cagayan de Oro**	**1.57**	**276**	*i*P	Pn	22 16 39.5	+0.5
CGP				*i*S	Sn	22 16 59.8	+0.3
SCPH	**Surigao**	**1.68**	**333**	*e*P	Pn	22 16 41.4	+1.0
SCPH				*e*S	Sn	22 17 02.7	+0.7
PAGZ	**Pagadian**	**2.89**	**262**	*e*P	Pn	22 16 57.9	+1.6

IDC 12 22:32:37.4±2.5, 7.25S×129.01E, h0km, mb3.5/1, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, ML2.9/2, Error ellipse: s-maj=199.7km s-min=33.3km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.64**	**158**	Pn	Pn	22 35 52.4	+0.1
	0.0nm,0.3s,baz=332,slow=14,SNR=4.5						
WRA				Sn	Sn	22 38 15.4	-9.3
	0.1nm,0.3s,baz=335,slow=24,SNR=5.1						
ASAR	**Alice Springs**	**16.99**	**164**	Pn	Pn	22 36 36.6	-0.1
	0.1nm,0.3s,baz=347,slow=12,SNR=9.0						
MKAR	**Makanchi Array**	**67.90**	**327**	P	P	22 43 37.9	0.0
	0.4nm,0.8s,baz=147,slow=6.2,SNR=3.6						

ISCJB ***12*** *22:47:33.2±2.1, 24.97N±0.05×122.80E±0.04, h12km±17km, mb3.4/4, Error ellipse: s-maj=9.3km s-min=4.4km az=25.3*

TAP ***12*** *22:47:33.6, 24.93N×122.67E, h10km±1km, ML3.3, C*

IDC ***12*** *22:47:34.7±1.4, 24.48N×121.61E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/25, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=68.0km s-min=24.0km az=68.0*

JMA ***12*** *22:47:34.7±0.2, 24.63N×122.62E, h55km, M2.2*

ISC 12 22:47:32.6±1.6, 24.91N±0.06×122.73E±0.04, h5km±12km, n36, σ1s22/41, mb3.4/4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.52**	**150**	P	**Pb**	**22 47 45.2**	**+1.1**
YOJ				*e*S	**Sb**	**22 47 52.8**	**+0.9**
YOJ	**Yonaguni jima**	**0.52**	**150**	P	**Pb**	**22 47 45.2**	**+1.1**
	baz=146						
YOJ				*e*S	**Sb**	**22 47 52.6**	**+0.7**
	baz=146						
TWB1	**Santiao Chiao**	**0.68**	**278**	*e*P	**Pb**	**22 47 46.5**	**-0.4**
	baz=277						
TWB1				*e*S	**Sg**	**22 47 53.3**	**-1.1**
	baz=277						
EGS		**0.73**	**265**	*e*P	**Pb**	**22 47 47.1**	**-0.5**
	baz=263						
TWC	**Suao**	**0.85**	**250**	*e*P	**Pb**	**22 47 49.5**	**-0.4**
	baz=247						
NWF	**Wu-fen Shan**	**0.87**	**281**	*e*P	**Pn**	**22 47 50.2**	**-1.4**
	baz=280						
PCYT	**Pengchaiyu**	**0.93**	**320**	*e*P	**Pn**	**22 47 51.7**	**-0.6**
	baz=322						
TWE	**Neicheng**	**0.98**	**259**	*e*P	**Pn**	**22 47 51.8**	**-1.2**
	baz=258						
ENA	**Nanau**	**1.02**	**242**	*e*P	**Pn**	**22 47 53.6**	**+0.1**
	baz=240						
TWA	**Mucha**	**1.04**	**274**	*e*P	**Pn**	**22 47 53.4**	**-0.4**
	baz=273						
IRIF	**Iriomote-Funau**	**1.08**	**122**	P	**Pb**	**22 47 53.6**	**-0.1**
ENTT	**Nioudou**	**1.09**	**256**	*e*P	**Pn**	**22 47 54.2**	**-0.3**
	baz=255						
TWS1	**Kuangyinshan**	**1.20**	**279**	*e*P	**Pn**	**22 47 58.0**	**+2.0**
	baz=279						
NSK	**Sanguang**	**1.27**	**260**	*e*P	**Pg**	**22 47 56.7**	**-0.2**
	baz=274						
HATJ	**Hateruma jima**	**1.30**	**131**	P	**Pn**	**22 47 56.1**	**-1.2**
HATJ				*e*S	**Sb**	**22 48 11.0**	**-3.4**
NNS	**Nan Shan**	**1.32**	**249**	*e*P	**Pg**	**22 47 58.0**	**+0.2**
	baz=248						
TWD	**Chiawan**	**1.32**	**232**	*e*P	**Pg**	**22 47 58.5**	**+0.6**
	baz=230						
JKRS	**Kuro-shima**	**1.34**	**120**	P	**Pn**	**22 47 57.0**	**-1.0**
JKRS				*e*S	**Sn**	**22 48 13.2**	**-3.0**
JIJ	**Ishigaki jima**	**1.40**	**113**	P	**Pn**	**22 47 59.0**	**+0.3**
JIJ				*e*S	**Sn**	**22 48 15.8**	**-1.8**
WHF	**Hehuan Shan**	**1.54**	**241**	*e*P	**Pb**	**22 48 01.9**	**+0.1**
	baz=254						
NSTT	**Nanjuang**	**1.59**	**260**	*e*P	**Pg**	**22 48 04.9**	**+1.8**
	baz=259						
ESL	**Shilin**	**1.61**	**228**	*e*P	**Pb**	**22 48 01.8**	**-1.0**
	baz=226						
TWQ1	**Liyutan**	**1.86**	**253**	*e*P	**Pg**	**22 48 08.2**	**-0.1**
	baz=252						
EHY	**Hungye**	**1.90**	**223**	*e*P	**Pn**	**22 48 04.9**	**-0.7**
	baz=221						
SMLT	**Sun Moon Lake**	**1.96**	**239**	*e*P	**Pb**	**22 48 08.7**	**0.0**
	baz=222						
TYC	**Yuchr**	**1.98**	**240**	*e*P	**Pb**	**22 48 08.5**	**-0.6**
	baz=224						
TWF1	**Yuli**	**2.03**	**220**	*e*P	**Pn**	**22 48 08.1**	**+0.7**
	baz=205						
CHN5	**Tsauling**	**2.28**	**235**	*e*P	**Pb**	**22 48 14.0**	**-0.3**
	baz=234						
CHN4	**Tsaushan**	**2.49**	**232**	*e*P	**Pb**	**22 48 16.9**	**-1.0**
	baz=214						
WTP	**Ta-pu**	**2.54**	**230**	*e*P	**Pb**	**22 48 17.2**	**-1.6**
	baz=212						
CHN1	**Nanshi**	**2.64**	**230**	*e*P	**Pb**	**22 48 20.4**	**0.0**
	baz=228						
KSRS	**Korea Array**	**13.27**	**18**	Pn	P	22 50 56.4	+4.8
	0.2nm,0.3s,baz=194,slow=12,SNR=8.2						
SONM	**Songino Array**	**26.28**	**335**	P	**P**	**22 53 10.5**	**+1.5**
	0.6nm,0.8s,baz=145,slow=10,SNR=3.1						
MKAR	**Makanchi Array**	**38.81**	**315**	P	**P**	**22 54 59.1**	**+0.8**
	0.8nm,0.8s,baz=98,slow=8.7,SNR=6.6						
ZALV	**Zalesovo Beam**	**40.42**	**326**	P	**P**	**22 55 11.8**	**+0.2**
	0.5nm,0.5s,baz=126,slow=7.5,SNR=3.9						
WRA	**Warramunga Arr**	**45.99**	**165**	P	**P**	**22 55 58.6**	**+1.7**
	0.5nm,0.8s,baz=346,slow=8.5,SNR=2.9						

NIED ***12*** *22:49:00, 28.60N×140.10E, h400km, Mw4.6 Best double couple: M0 8.26000×10^15 NP1:φ=327.00000°, δ79.00000°, λ-51.00000°. NP2:φ=71.00000°, δ40.00000°, λ-163.00000°.*

NEIC ***12*** *22:49:41.9±1.2, 28.42N×140.19E, h390km±12km, mb4.5/24, MW4.5(NIED), Error ellipse: s-maj=10.7km s-min=8.2km az=118.0*

BJI ***12*** *22:49:41.5, 28.18N×139.95E, h389km, mB4.6/26, mb4.6/37*

MOS ***12*** *22:49:44.4±1.1, 28.43N×139.95E, h419km, mb4.2/27, Error ellipse: s-maj=13.5km s-min=6.5km az=124.6*

ISCJB ***12*** *22:49:47.6±0.3, 28.50N±0.03×139.87E±0.05, h449km±3km, mb4.2/57, Error ellipse: s-maj=6.3km s-min=4.8km az=164.3*

IDC ***12*** *22:49:48.4±0.6, 28.54N×139.78E, h432km±6km, mb3.6/18, mb1 3.7/22, mb1mx3.7/29, mbtmp3.6/22, Error ellipse: s-maj=14.4km s-min=9.1km az=67.0*

JMA ***12*** *22:49:48.4±0.1, 28.57N×140.06E, h452km, M4.0*

ISC 12 22:49:47.6±0.5, 28.49N±0.05×139.90E±0.06, h430km±5km, n164, σ1s72/195, mb4.3/57, 4C-2D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.45**	**124**	P	**P**	**22 50 51.6**	**+2.4**
CBIJ				S	**S**	**22 51 41.3**	**+2.3**
JCJ	**Chichijima**	**2.45**	**124**	P	**P**	**22 50 51.5**	**+2.3**
	579nm,0.3s,baz=51,slow=2.3,SNR=239						
JCJ				S	**S**	**22 51 41.5**	**+2.4**
	317nm,0.3s,baz=279,slow=22,SNR=20						
JHHJ	**Haha-jima-NKT**	**2.74**	**132**	P	**P**	**22 50 53.9**	**+2.7**
JHHJ				S	**S**	**22 51 46.0**	**+3.3**
JHJ2	**Mitsune**	**4.61**	**359**	P	**P**	**22 51 09.0**	**+2.0**
JHJ2				*e*S	**S**	**22 52 12.3**	**+0.5**
TK02	**Tokai 2**	**5.74**	**342**	P	P	22 51 21.4	+3.3
TTO1	**TONANKAI O.B.S**	**5.77**	**333**	P	P	22 51 22.3	+4.0
JWZ	**Kozaga**	**6.18**	**325**	P	**P**	**22 51 25.4**	**+2.5**
BSO1	**Boso 1**	**6.21**	**8**	P	**P**	**22 51 25.3**	**+2.7**
BSO1				*e*S	**S**	**22 52 41.9**	**+1.3**
JIE	**Ise**	**6.49**	**336**	P	**P**	**22 51 29.2**	**+3.1**

KLR MLR MLR
comp=Z,2µm,13.0s
WHN Wuhan 22.32 282 ⇑P **P 22 54 11.7 +0.4**
WHN AMB AMB
comp=Z,100nm,1.0s
WHN LR LR
comp=Z,2µm,11.4s
WHN LR LR
comp=Z,1µm,10.4s
WHN LR LR
comp=Z,1µm,12.1s
BJT Baijiatuau 22.67 307 *e*P **P 22 54 12.3 -2.0**
comp=Z,20nm,0.8s
HIA Hailar 25.86 329 *e*P **P 22 54 41.4 -1.4**
HHC Hu-ho-hao-te 26.25 305 *e*P **P 22 54 44.6 -1.8**
HHC sP sP 22 56 37.9 -15
HHC PcP **PcP 22 57 58.5 -1.0**
HHC S **S 22 58 51.2 +4.1**
HHC PcS **PcS 23 01 38.3 -2.8**
HHC AMB AMB
comp=Z,34nm,0.8s
HHC AMB AMB
comp=Z,180nm,4.5s
HHC LR LR
comp=Z,620nm,10.7s
HHC LR LR
comp=Z,370nm,10.3s
HHC LR LR
comp=Z,630nm,12.5s
ENH Enshi 26.53 281 *e*P **P 22 54 48.1 -0.9**
comp=Z,24nm,0.8s
XAN Xi'an 26.99 290 P P **22 54 52.3 -0.7**
XAN sP sP 22 56 45.6 -14
XAN S S 22 59 07.6 +8.7
XAN AMB AMB
comp=Z,4.0nm,1.1s
XAN AMB AMB
comp=Z,27nm,4.6s
XAN LR LR
comp=Z,440nm,14.4s
XAN LR LR
comp=Z,84nm,13.6s
XAN LR LR
comp=Z,170nm,12.4s
QIZ Qiongzhong 29.01 258 *e*P **P 22 55 09.6 -1.3**
GYA Guiyang 29.51 274 *e*P **P 22 55 14.7 -0.6**
GYA pP pP 22 56 26.9 -5.0
GYA sP sP 22 57 11.5 -11
GYA PcP **PcP 22 58 07.8 -0.1**
GYA S **S 22 59 42.3 +3.8**
GYA ScP **ScP 23 01 11.2 +2.8**
GYA PcS **PcS 23 01 50.8 -1.1**
GYA ScS **ScS 23 05 06.5 +2.2**
GYA AMB AMB
comp=Z,10.0nm,0.8s
LZH Lanzhou 31.28 293 ⇑P **P 22 55 30.5 -0.1**
LZH pP pP 22 56 40.8 -7.0
LZH *e*S **S 23 00 10.6 +4.8**
LZH SS **SS 23 02 37.8 -4.1**
LZH AMB AMB
comp=Z,27nm,1.0s
LZH AMB AMB
comp=Z,140nm,4.0s
CD2 Chengdu 31.41 283 P **P 22 55 31.2 -0.4**
CD2 pP pP 22 56 43.9 -5.0
CD2 PP **PP 22 56 56.3 +2.9**
CD2 sP sP 22 57 28.2 -11
CD2 S **S 23 00 11.7 +4.1**
CD2 sS sS 23 02 21.3 -8.9
CD2 SS **SS 23 02 42.2 -2.3**
CD2 AMB AMB
comp=Z,80nm,0.9s
CD2 AMB AMB
comp=Z,460nm,4.5s
SONM Songino Array 32.31 316 P **P 22 55 39.4 +0.2**
comp=Z,13nm,0.4s,baz=126,slow=8.4,SNR=242
SONM PcP **PcP 22 58 15.2 +0.1**
comp=Z,0.5nm,0.4s,baz=122,slow=3.5,SNR=5.4
SONM ScP **ScP 23 01 15.8 -1.6**
comp=Z,0.9nm,0.7s,baz=135,slow=3.9,SNR=5.9
KMI Kunming 33.26 273 P **P 22 55 47.9 +0.1**
KMI AMB AMB
comp=Z,24nm,1.3s
YAK Yakutsk 34.22 351 *e*P **P 22 55 55.1 0.0**
GTA Gaotai 34.74 299 *e*P **P 22 55 59.3 -0.8**
GTA pP pP 22 57 12.0 -6.5
GTA sP sP 22 57 54.8 -13
GTA S **S 23 01 02.7 +4.2**
GTA sS sS 23 03 09.8 -13
GTA SS **SS 23 03 48.5 -4.1**
GTA AMB AMB
comp=Z,16nm,1.1s
GTA AMB AMB
comp=Z,160nm,5.7s
GTA LR LR
comp=Z,280nm,12.4s
GTA LR LR
comp=Z,250nm,11.4s
GTA LR LR
comp=Z,200nm,9.7s
ZAK Zakamensk 35.23 319 *e*P **P 22 56 03.4 -0.6**
ZAK pmax pmax
comp=Z,15nm,1.2s
TLY Talaya 35.59 321 *e*P **P 22 56 07.9 +1.0**
TLY pmax pmax
comp=Z,14nm,1.0s
PMG Port Moresby 38.32 168 *e*P P 22 56 25.6 -4.3
CHTO Chiang Mai 38.58 265 *e*P **P 22 56 31.8 -0.3**
CHTO pmax pmax
comp=Z,37nm,1.0s
CHTO Chiang Mai 38.58 265 *e*P **P 22 56 31.8 -0.3**
comp=Z,37nm,1.0s
CMAR Chiang Mai Arr 38.71 264 P **P 22 56 32.7 -0.5**
comp=Z,3.0nm,1.0s,baz=53,slow=8.6,SNR=18
CMAR PcP **PcP 22 58 35.8 +1.1**
comp=Z,0.6nm,0.6s,baz=128,slow=1.2,SNR=6.2
HVS Khovu-Aksy 41.21 316 *e*P **P 22 56 53.3 +0.3**
LSA Lhasa 42.37 284 *e*P **P 22 57 02.7 -0.3**
LSA pmax pmax
comp=Z,8.0nm,1.1s
LSA Lhasa 42.37 284 *e*P **P 22 57 02.7 -0.3**
comp=Z,7.6nm,1.1s
HNR Honiara 42.38 150 *e*P P 22 56 54.1 -8.6
comp=Z,5.4nm,0.9s
TIXI Tiksi 43.63 355 *e*P **P 22 57 12.3 +0.6**
KULM Kulim 43.76 246 *e*P **P 22 57 13.2 -0.5**
comp=Z,9.2nm,0.6s
WMQ Urumqi 44.12 305 P **P 22 57 16.2 +0.1**
WMQ pP pP 22 58 31.9 -6.9
WMQ sP sP 22 59 14.0 -13
WMQ AMB AMB
comp=Z,21nm,1.2s
WMQ AMB AMB
comp=Z,200nm,4.8s
WMQ LR LR
comp=Z,220nm,8.8s
WMQ LR LR
comp=Z,290nm,6.4s
WMQ LR LR
comp=Z,100nm,18.0s
TAPN Taplejung 45.83 282 *e*P **P 22 57 29.6 -0.3**
comp=Z,14nm,0.8s
ODAN Odare 46.23 281 *e*P **P 22 57 32.6 -0.3**
comp=Z,39nm,0.9s
PSI Prapat 46.62 244 P **P 22 57 35.9 0.0**
comp=Z,4.2nm,0.4s,baz=52,slow=3.7,SNR=4.8
RAMN Ramite 46.89 281 *e*P **P 22 57 37.5 -0.4**
comp=Z,50nm,0.9s
JIRN Jiri 47.06 282 *e*P **P 22 57 39.5 +0.1**
comp=Z,36nm,0.6s
ZAA0 Zalesovo Array 47.11 319 *e*P **P 22 57 37.4 -1.5**
ZALV Zalesovo Beam 47.11 319 P **P 22 57 38.1 -0.8**
ZALV 22 59 02.1
ZALV pmax pmax
comp=Z,2.0nm,0.4s
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 47.11 319 P **P 22 57 38.1 -0.8**
comp=Z,2.2nm,0.4s,baz=101,slow=7.7,SNR=23
ZALV PcP **PcP 22 59 02.1 -0.4**
comp=Z,1.3nm,0.4s,baz=117,slow=3.8,SNR=6.7
GUN Gumba 47.27 283 *e*P **P 22 57 41.1 +0.2**
comp=Z,84nm,0.7s
PKI Pulchoki 47.76 283 *e*P **P 22 57 44.0 -0.6**
comp=Z,35nm,1.0s
KKN Kakani 47.81 283 *e*P **P 22 57 44.5 -0.4**
comp=Z,58nm,1.0s
DMN Daman 48.01 283 *e*P **P 22 57 46.1 -0.3**
comp=Z,36nm,0.8s
MK31 Makanchi Array 48.03 309 *e*P **P 22 57 44.1 -1.9**
MK31 *e* 22 59 05.4
MK31 Makanchi Array 48.03 309 *e*P **P 22 57 44.1 -1.9**
MK31 *e*PcP **PcP 22 59 05.4 -0.7**
MKAR Makanchi Array 48.03 309 P **P 22 57 45.6 -0.4**
MKAR 22 59 05.8
MKAR pmax pmax
comp=Z,5.0nm,0.5s
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 48.03 309 *e*P **P 22 57 45.4 -0.6**
MKAR Makanchi Array 48.03 309 P **P 22 57 45.6 -0.4**
comp=Z,4.7nm,0.5s,baz=87,slow=10,SNR=140
MKAR PcP **PcP 22 59 05.8 -0.3**
comp=Z,0.8nm,0.4s,baz=79,slow=7.6,SNR=5.4
MKAR ScP **ScP 23 02 16.4 -2.4**
comp=Z,0.4nm,0.7s,baz=85,slow=5.1,SNR=4.9
NVS Novosibirsk 48.17 320 *e*P **P 22 57 44.3 -2.6**
NVS pmax pmax
comp=Z,14nm,1.5s
NVS pmax pmax
comp=N,4.0nm,1.1s
NVS pmax pmax
comp=E,9.0nm,1.5s
GKN Gorkha 48.31 283 *e*P **P 22 57 48.1 -0.5**
comp=E,62nm,1.0s
FITZ Fitzroy Crossi 48.33 198 *e*P **P 22 57 49.2 +0.7**
WRAB Tennant Creek 48.44 187 *e*P **P 22 57 46.4 -2.9**
WRAB pmax pmax
comp=Z,3.0nm,0.4s
WRAB Tennant Creek 48.44 187 *e*P **P 22 57 46.4 -2.9**
comp=Z,3.3nm,0.4s
WRA Warramunga Arr 48.45 187 P **P 22 57 50.0 +0.6**
comp=Z,3.3nm,0.4s,baz=2.9,slow=7.8,SNR=91
WRA PcP **PcP 22 59 09.3 +1.5**
comp=Z,0.9nm,0.4s,baz=359,slow=3.9,SNR=6.1
WRA ScP **ScP 23 02 20.0 -0.8**
comp=Z,1.4nm,0.9s,baz=4.1,slow=5.0,SNR=5.9
DANN Dangsing 48.98 284 *e*P **P 22 57 53.7 0.0**
comp=Z,27nm,0.4s
KOLN Koldanda 49.26 283 *e*P **P 22 57 55.4 -0.3**
comp=Z,37nm,0.9s
KURK Kurchatov 50.57 314 *e*P **P 22 58 04.0 -0.8**
KURK pmax pmax
comp=Z,21nm,1.2s
KURK Kurchatov 50.57 314 *e*P **P 22 58 04.0 -0.8**
comp=Z,21nm,1.2s
AS31 Alice Springs 52.17 187 *e*P **P 22 58 17.3 +0.5**
ASAR Alice Springs 52.18 187 P **P 22 58 17.8 +0.9**
comp=Z,2.2nm,0.3s,baz=21,slow=12,SNR=50
ASAR PcP **PcP 22 59 23.8 +2.1**
comp=Z,0.6nm,0.7s,baz=0.0,slow=2.9,SNR=3.1
TKM2 Tokmak 2 52.96 304 *e*P **P 22 58 22.3 -0.3**
TKM2 Tokmak 2 52.96 304 P **P 22 58 23.0 +0.4**
SNR=8.9
KSH Kashi 53.13 300 P P 22 58 27.5 +3.7
KSH pP pP 22 59 49.6 -0.7
KSH sP sP 23 00 26.8 -11
KSH PP PP 23 00 34.6 +5.5
KSH S S 23 05 30.4 +9.5
KSH sS sS 23 07 48.3 -7.9
KSH SS SS 23 09 15.0 +7.6
KSH AMB AMB
comp=Z,16nm,1.2s
KSH AMB AMB
comp=Z,80nm,5.6s
KSH LR LR
comp=Z,120nm,5.4s
KSH LR LR
comp=Z,110nm,7.1s
KSH LR LR
comp=Z,250nm,6.2s
KZA Kyzart 53.32 303 *e*P **P 22 58 26.4 +0.9**
KZA Kyzart 53.32 303 P **P 22 58 26.4 +0.9**
SNR=12
KBK Karagaybulak 53.47 304 *e*P **P 22 58 26.6 +0.4**
KBK Karagaybulak 53.47 304 P **P 22 58 26.6 +0.4**
SNR=8.6
USP Ospenovka 53.72 305 *e*P **P 22 58 27.7 -0.1**
USP Ospenovka 53.72 305 P **P 22 58 27.7 -0.1**
SNR=6.5
AAK Ala-Archa 53.80 304 P **P 22 58 28.5 -0.1**
AAK 22 59 27.9
AAK pmax pmax
comp=Z,3.0nm,0.3s
AAK pmax pmax
comp=Z,1.0nm,0.4s
AAK Ala-Archa 53.80 304 P **P 22 58 28.4 -0.2**
SNR=6.4
AAK Ala-Archa 53.80 304 *e*P **P 22 58 27.9 -0.6**
comp=Z,5.1nm,0.8s
AAK Ala-Archa 53.80 304 P **P 22 58 28.5 -0.2**
comp=Z,3.4nm,0.3s,baz=122,slow=5.1,SNR=8.8
AAK PcP **PcP 22 59 27.9 -0.1**
comp=Z,1.0nm,0.4s,baz=72,slow=9.6,SNR=3.1
EKS2 Erkin-Say 54.33 304 *e*P **P 22 58 32.1 -0.2**
EKS2 Erkin-Say 54.33 304 P **P 22 58 32.1 -0.2**
SNR=6.6
AML Almayashu 54.46 303 *e*P **P 22 58 34.3 +0.7**
AML Almayashu 54.46 303 P **P 22 58 34.3 +0.7**
SNR=17
VOSK Vostochnaya 55.31 316 *e*P **P 22 58 37.6 -1.2**
VOSK pmax pmax
comp=Z,17nm,1.0s
VOSK Vostochnaya 55.31 316 *e*P **P 22 58 37.6 -1.2**
comp=Z,16nm,1.0s
BVAR Borovoye Array 55.65 317 P **P 22 58 40.9 -0.3**
BVAR pmax pmax
comp=Z,7.0nm,0.5s
BVAR Borovoye Array 55.65 317 P **P 22 58 40.9 -0.3**
comp=Z,7.2nm,0.5s,baz=86,slow=7.5,SNR=11
BRVK Borovoye 55.71 317 *e*P **P 22 58 41.7 0.0**
BRVK pmax pmax
comp=Z,28nm,1.2s
BRVK Borovoye 55.71 317 *e*P **P 22 58 41.7 0.0**
comp=Z,28nm,1.2s
HYB Hyderabad 57.04 273 *i* P **P 22 58 51.0 -0.5**
HYB *e*S S 23 06 20.0 +7.5
COLA College 57.06 29 *e*P **P 22 58 52.6 +1.8**
ILAR Eielson Array 57.47 29 P **P 22 58 54.3 +0.6**
comp=Z,0.8nm,0.6s,baz=296,slow=8.5,SNR=8.7
PALK Pallekele 59.55 261 *e*P **P 22 59 07.9 -0.7**
KBL Kabul 59.60 295 *e*P **P 22 59 08.5 -0.4**
KBL pmax pmax
comp=Z,14nm,1.0s
KBL Kabul 59.60 295 *e*P **P 22 59 08.5 -0.4**
comp=Z,14nm,1.0s
STKA Stephens Creek 60.06 178 *e*P **P 22 59 08.6 -2.9**
STKA Stephens Creek 60.06 178 P **P 22 59 12.1 +0.6**
comp=Z,2.0nm,0.7s,baz=353,slow=9.7,SNR=2.9
SVE Sverdlovsk 60.89 322⇓*e*P **P 22 59 17.1 +0.3**
SVE pmax pmax
comp=Z,18nm,1.2s
ARU Arti 62.08 322 *d* iP **P 22 59 24.1 -0.6**
ARU *PP **pP 23 00 52.1 -2.6**
ARU 23 01 41.8
ARU S **S 23 07 16.9 +1.9**
ARU SS **SS 23 11 29.2 +2.8**
ARU pmax pmax
comp=Z,32nm,1.7s
ABKAR Akbulak array 62.67 313 *e*P **P 22 59 28.3 -0.4**
AKTO Aktyubinsk 63.62 315 *i* P **P 22 59 33.3 -1.6**
IMYA Miami 66.06 300 *e*P **P 22 59 49.7 -1.1**
IPAY Payeh 66.87 300 *e*P P 22 59 52.5 -3.4
IKRD Kardeh 67.13 301 *e*P P 22 59 52.8 -4.8
IGLO Ghaloghah 70.75 302 *e*P P 23 00 11.2 -8.3
KEV Kevo 71.00 340 *ep* **P 23 00 20.0 0.0**
comp=Z,0.5nm,0.4s
ARCES ARCESS Array B 71.56 340 P **P 23 00 24.1 +0.7**
comp=Z,1.5nm,0.5s,baz=62,slow=7.9,SNR=14
JOF Joensuu 72.93 333 *ep* **P 23 00 30.6 -0.9**
comp=Z,3.5nm,0.4s
IZEF Zefreh 73.27 299 *e*P **P 23 00 33.0 -1.4**
OBN Obninsk 74.23 324 P **P 23 00 38.0 -1.1**
OBN pmax pmax
comp=Z,8.0nm,1.3s
IHRS Heris 75.02 306 *e*P **P 23 00 43.7 -0.5**
KAF Kangasniemi 75.34 334 *ep* **P 23 00 44.7 -0.5**
comp=Z,2.7nm,0.5s
KIV Kislovodsk 75.62 312 *ce*P **P 23 00 47.2 -0.1**
KIV *e* 23 00 53.5
KIV pmax pmax
comp=Z,9.0nm,1.2s
FINES FINESS Array B 75.80 333 P **P 23 00 47.6 -0.2**
comp=Z,3.2nm,0.3s,baz=72,slow=4.8,SNR=52
IVIS Veis 76.76 302 *e*P P 23 00 49.8 -4.0
AKASG Malin Array Be 80.30 323 P **P 23 01 11.7 -0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 80.30 323 P **P 23 01 11.7 -0.7**
comp=Z,1.1nm,0.4s,baz=51,slow=5.5,SNR=19
KIEV Kiev 80.31 323 *e*P **P 23 01 12.2 -0.2**
HLID Hailey 81.20 45 *e*P **P 23 01 14.7 -2.9**
comp=Z,2.0nm,0.8s
NVAR Mina Array Bea 81.23 51 P **P 23 01 20.3 +2.4**
comp=Z,0.7nm,0.7s,baz=278,slow=6.6,SNR=3.7
NB2 NORSAR Subarra 81.56 337 P **P 23 01 18.4 -0.4**
comp=Z,1.0nm,0.5s,baz=51,slow=4.4
NOA NORSAR Array B 81.56 337 P **P 23 01 18.3 -0.6**
comp=Z,0.7nm,0.4s,baz=39,slow=5.1,SNR=8.1
RAYN Ar Rayn 82.74 293 *e*P **P 23 01 25.9 +0.3**
comp=Z,60nm,1.4s
RRI2 Red Ridge 83.23 44 *e*P **P 23 01 27.7 -0.3**
comp=Z,25nm,1.8s
TPAW Teton Pass 83.38 44 *e*P **P 23 01 30.6 +1.8**
REDW Red Top Meadow 83.51 44 *e*P **P 23 01 27.1 -2.2**
comp=Z,14nm,1.3s
LOHW Long Hollow 83.52 44 *e*P **P 23 01 27.0 -2.4**
comp=Z,5.8nm,1.0s
BRTR Keskin Array B 83.57 312 P **P 23 01 29.3 -0.3**
comp=Z,1.1nm,0.4s,baz=116,slow=3.3,SNR=9.1
BUR08 Bucovina Ar. S 84.21 322 *e*P **P 23 01 32.3 -0.3**
BW06 Boulder Array 84.63 44 *e*P P 23 01 24.6 -10
comp=Z,7.1nm,0.9s
ARUT Antelope Range 84.86 50 *e*P P 23 01 24.2 -12
ARUT pmax pmax
comp=Z,79nm,0.8s
ARUT Antelope Range 84.86 50 *e*P P 23 01 24.2 -12
comp=Z,79nm,0.8s
CCUT Cedar City 85.03 50 *e*P P 23 01 33.1 -3.9
comp=Z,39nm,2.6s
GERES GERESS Array B 89.27 328 P **P 23 01 54.7 -2.0**
comp=Z,0.2nm,0.4s,baz=8.0,slow=9.1,SNR=3.7
TORD Torodi Ar. Bea 122.14 310 PKP **PKPdf 23 07 52.7 -0.5**
comp=Z,0.4nm,0.4s,baz=49,slow=0.6,SNR=22
PLCA Paso Flores 152.26 124 PKPbc **PKPbc 23 08 54.8 +1.1**
comp=Z,0.6nm,0.5s,baz=90,slow=1.0,SNR=3.3

TAP ***12*** *22:55:17.4, 25.°11N×122.°94E, h48km±1km, ML3.5, C*
IDC ***12*** *22:55:20.8±1.1, 24.°68N×122.°18E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.5/24, mbtmp3.5/6, MS3.7/2, Ms1 3.7/2, ms1mx3.0/32, Error ellipse: s-maj=52.9km s-min=19.1km az=70.0*
ISCJB ***12*** *22:55:26.7±0.8, 24.°83N±0.°07×122.°41E±0.°10, h62km, mb3.4/5, Error ellipse: s-maj=13.5km s-min=8.4km az=26.0*

ISC 12 22:55:27.1±1.0, 24.°85N±0.°09×122.°4E±0.°1, h62km, n30, σ1s54/22, mb3.5/5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.40**	**293**	*e*P		Pn	22 55 33.5	-4.7
	baz=263						
TWB1				*e*S		**Sn**	**22 55 42.9**	**-3.5**
	baz=263						
EGS		**0.42**	**270**	*e*P		Pn	22 55 34.1	-4.3
	baz=248						
TWC	**Suao**	**0.55**	**244**	*e*P		Pn	22 55 36.4	-3.3
	baz=243						
NWF	**Wu-fen Shan**	**0.60**	**292**	*e*P		Pn	22 55 36.6	-3.7
	baz=277						
TWE	**Neicheng**	**0.67**	**259**	*e*P		**Pn**	**22 55 39.1**	**-1.9**
	baz=251						
YOJ	**Yonaguni jima**	**0.68**	**124**	*i* P		Pn	22 55 30.4	-11
	baz=174						
YOJ				*e*S		Sn	22 55 39.6	-12
	baz=174						
ENTT	**Nioudou**	**0.78**	**255**	*e*P		**Pn**	**22 55 41.1**	**-1.3**
	baz=242						
NSK	**Sanguang**	**0.96**	**260**	*e*P		**Pn**	**22 55 42.9**	**-1.8**
	baz=265						
NNS	**Nan Shan**	**1.01**	**247**	*e*P		**Pn**	**22 55 45.5**	**0.0**
	baz=239						
NSTT	**Nanjuang**	**1.28**	**261**	*e*P		**Pn**	**22 55 50.5**	**+1.6**
	baz=255						
ESL	**Shilin**	**1.35**	**221**	*e*P		**Pn**	**22 55 50.2**	**+0.4**
	baz=227						
TWQ1	**Liyutan**	**1.56**	**252**	*e*P		**Pn**	**22 55 55.1**	**+2.5**
	baz=260						
EHY	**Hungye**	**1.66**	**216**	*e*P		**Pn**	**22 55 52.5**	**-1.4**
	baz=233						
SMLT	**Sun Moon Lake**	**1.67**	**235**	*e*P		**Pn**	**22 55 55.1**	**+1.0**
	baz=227						
TYC	**Yuchr**	**1.69**	**236**	P		**Pn**	**22 55 54.1**	**-0.2**
	baz=228						
TWF1	**Yuli**	**1.79**	**214**	*e*P		**Pn**	**22 55 54.9**	**-0.9**
	baz=232						
YUS	**Yu-Shan**	**1.89**	**225**	*e*P		**Pn**	**22 55 57.4**	**-0.1**
	baz=229						
ALS	**Alishan**	**1.97**	**228**	*e*P		**Pn**	**22 55 59.5**	**+1.0**
	baz=223						
CHN5	**Tsauling**	**2.00**	**232**	*e*P		Pn	22 56 01.1	+2.4
	baz=224						
CHN4	**Tsaushan**	**2.22**	**228**	*e*P		Pn	22 56 03.6	+2.1
	baz=232						
WTP	**Ta-pu**	**2.28**	**226**	*e*P		**Pn**	**22 56 03.3**	**+0.9**
	baz=221						
TWK	**Hsinying**	**2.35**	**228**	*e*P		**Pn**	**22 56 04.6**	**+1.2**
	baz=221						
CHN1	**Nanshi**	**2.38**	**226**	*e*P		**Pn**	**22 56 03.9**	**+0.1**
	baz=230						
KSRS	**Korea Array**	**13.42**	**19**	Pn		**P**	**22 58 42.0**	**+0.1**
	0.2nm,0.3s,baz=197,slow=13,SNR=4.4						
KSRS				LR		LR	23 04 24.1	
	comp=Z,217nm,18.0s,baz=171,slow=40						
USRK	**Ussuriysk Arra**	**20.83**	**20**	P		Pn	23 00 06.9	+0.4
	1.6nm,0.6s,baz=233,slow=14,SNR=3.8						
SONM	**Songino Array**	**26.21**	**335**	P		**P**	**23 00 57.5**	**+1.5**
	0.4nm,0.8s,baz=145,slow=8.8,SNR=2.5						
SONM				LR		LR	23 11 13.6	
	comp=Z,174nm,20.0s,baz=258,slow=36						
MKAR	**Makanchi Array**	**38.64**	**315**	P		**P**	**23 02 46.7**	**+2.2**
	0.4nm,0.8s,baz=131,slow=7.1,SNR=2.7						
ZALV	**Zalesovo Beam**	**40.30**	**326**	P		**P**	**23 02 59.0**	**+0.9**
	0.4nm,0.5s,baz=124,slow=9.4,SNR=2.7						
WRA	**Warramunga Arr**	**46.01**	**164**	P		**P**	**23 03 44.1**	**-0.4**
	2.0nm,1.0s,baz=347,slow=8.7,SNR=5.6						
ASAR	**Alice Springs**	**49.50**	**166**	P		P	23 04 13.3	+1.8
	0.3nm,0.6s,baz=340,slow=7.6,SNR=3.5						

IDC 12 23:05:52.9±5.2, 5.°85S×146.°63E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/17, mbtmp3.4/4, ML3.3/1, Error ellipse: s-maj=150.7km s-min=31.3km az=106.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.41**	**219**	P		P	23 10 10.8	+0.9
	0.1nm,0.3s,baz=41,slow=10,SNR=8.8						
ASAR	**Alice Springs**	**21.54**	**213**	P		P	23 10 44.1	+0.1
	0.5nm,0.4s,baz=47,slow=8.5,SNR=9.6						
FITZ	**Fitzroy Crossi**	**23.84**	**237**	P		P	23 11 06.5	-1.4
	1.4nm,0.8s,baz=51,slow=7.9,SNR=2.7						
MKAR	**Makanchi Array**	**77.15**	**321**	P		P	23 17 49.0	+0.5
	0.1nm,0.4s,baz=125,slow=7.6,SNR=2.7						

ISCJB ***12*** *23:15:57.9±1.1, 24.°50S±0.°06×70.°1W±0.°1, h39km±20km, mb4.2/2, Error ellipse: s-maj=20.3km s-min=9.7km az=178.7*
IDC ***12*** *23:16:00.7±3.0, 24.°63S×69.°94W, h49km±23km, mb4.0/2, mb1 3.8/5, mb1mx3.5/19, mbtmp3.8/5, ML3.6/3, Error ellipse: s-maj=50.7km s-min=19.7km az=96.0*
GUC ***12*** *23:16:00.2±0.7, 24.°38S×70.°26W, h55km±14km, MD3.9, ML3.7*

ISC 12 23:15:59.2±1.1, 24.°52S±0.°06×70.°1W±0.°1, h45km±11km, n22, σ1s77/19, 4C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANCH	**Antofagasta**	**0.89**	**340**	⇓*i* P		**Pn**	**23 16 14.5**	**-0.8**
ANCH				*i* S		**Sn**	**23 16 25.3**	**-1.8**
ANCH				AML	AML	23 16 26.6		
	comp=E,4µm,0.4s						

PB10	**Plate Boundary**	**1.09**	**337**	⇑	*i* P	**Pn**	**23 16 17.0**	**-1.1**
PB10					*i* S	**Sn**	**23 16 29.8**	**-2.3**
PB10					AML	AML	23 16 31.5	
	comp=E,6μm,0.2s							
CEN1	**Los Morros**	**1.13**	**355**	⇑	*i* P	Pn	23 16 15.7	-3.1
CEN1					*i* S	Sn	23 16 27.0	-6.3
CEN1					AML	AML	23 16 27.8	
	comp=E,1μm,0.8s							
PB04	**Plate Boundary**	**2.31**	**14**	⇓	*i* P	**Pn**	**23 16 33.0**	**-1.8**
PB04					*i* S	**Sn**	**23 16 58.6**	**-3.5**
PB04					AML	AML	23 17 14.3	
	comp=E,1μm,0.6s							
MACH	**Maria Elena**	**2.34**	**7**	⇑	*i* P	**Pn**	**23 16 36.1**	**+0.7**
MACH					*i* S	**Sn**	**23 17 03.5**	**+0.5**
PB01	**Plate Boundary**	**3.51**	**9**	⇑	*i* P	**Pn**	**23 16 52.0**	**+0.7**
PB01					*i* S	**Sn**	**23 17 31.4**	**-0.3**
PB01					AML	AML	23 17 33.6	
	comp=N,314nm,0.4s							
CFAA	**Coronel Fontan**	**7.24**	**167**		P	**Pn**	**23 17 43.7**	**+1.2**
	comp=N,0.1nm,0.3s,baz=351,slow=15,SNR=11							
CFAA					S	**Sn**	**23 19 01.1**	**-2.4**
	comp=N,0.1nm,0.3s,baz=276,slow=16,SNR=1.7							
LPAZ	**La Paz**	**8.40**	**13**		P	**Pn**	**23 18 01.2**	**+2.3**
	comp=N,0.7nm,0.3s,baz=208,slow=8.6,SNR=39							
H03N1	**Juan Fernandez**	**11.77**	**219**		T	T	23 30 17.8	
	baz=42,slow=0.7,SNR=320							
H03N2	**Juan Fernandez**	**11.78**	**219**		T	T	23 30 20.1	
	baz=42,slow=0.7,SNR=280							
H03N3	**Juan Fernandez**	**11.79**	**219**		T	T	23 30 19.3	
	baz=42,slow=0.7,SNR=272							
SIV	**San Ignacio**	**11.98**	**47**		P	**Pn**	**23 18 47.8**	**+0.4**
	comp=N,0.4nm,0.3s,baz=236,slow=12,SNR=6.3							
SIV					S	Sn	23 20 52.2	-7.5
	comp=N,0.1nm,0.3s,baz=335,slow=24,SNR=1.6							
BDFB	**Brasilia**	**22.51**	**71**		P	**P**	**23 20 55.9**	**+0.6**
	comp=N,3.5nm,0.6s,baz=252,slow=9.4,SNR=6.9							
TORD	**Torodi Ar. Bea**	**79.39**	**70**		P	**P**	**23 28 01.6**	**+0.6**
	comp=N,3.1nm,0.6s,baz=256,slow=5.2,SNR=32							
TORD					pP	**pP**	**23 28 16.8**	**+2.5**
	comp=N,1.0nm,0.5s,baz=257,slow=5.4,SNR=12							
H11S2	**WAKE ISLAND Hy**	**27.12**	**275**		T	T	01 54 35.9	
	baz=110,slow=0.7,SNR=88							
H11S1	**WAKE ISLAND Hy**	**27.13**	**275**		T	T	01 54 36.0	
	baz=110,slow=0.7,SNR=125							
H11S3	**WAKE ISLAND Hy**	**27.14**	**275**		T	T	01 54 38.4	
	baz=110,slow=0.7,SNR=112							
H11N3	**WAKE ISLAND Hy**	**27.29**	**277**		T	T	01 54 45.3	
	baz=110,slow=0.7,SNR=19							
H11N2	**WAKE ISLAND Hy**	**27.30**	**277**		T	T	01 54 48.0	
	baz=110,slow=0.7,SNR=15							
H11N1	**WAKE ISLAND Hy**	**27.31**	**277**		T	T	01 54 47.0	
	baz=110,slow=0.7,SNR=16							
ZALV	**Zalesovo Beam**	**145.14**	**26**		PKPbc	**PKPab**	**23 35 31.4**	**+0.4**
	comp=N,1.9nm,0.5s,baz=297,slow=3.5,SNR=11							
MKAR	**Makanchi Array**	**148.69**	**38**		PKPbc	**PKPbc**	**23 35 41.5**	**+0.1**
	comp=N,1.5nm,0.9s,baz=334,slow=2.9,SNR=8.2							

KRSC 12 23:16:05.4±7.9, 55°.81N×160°.05E, h244^{km}±84^{km}, ML3.7, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMNR	**Kamenistaya**	**0.12**	**117**	*eP*	Pn	23 16 37.8	+0.8
BZMR	**Bezymyannaya**	**0.28**	**63**	*eP*	Pn	23 16 37.7	+0.5
TUMR	**Tumrok**	**0.53**	**174**	*eP*	Pn	23 16 37.7	-0.2
SRDR	**Sredinnyy**	**0.54**	**340**	*eP*	Pn	23 16 37.2	-0.5
ESO	**Esso**	**0.77**	**279**	*eP*	Pn	23 16 38.8	+0.2
BDR	**Baidarnaya**	**1.00**	**40**	*eP*	Pn	23 16 40.1	+0.3
SMKR	**Semkarok**	**1.11**	**45**	*eP*	Pn	23 16 41.4	+1.0
SMKR				*i* S	S	23 17 07.1	-0.9
MKZ	**Mys Kozlova**	**1.58**	**142**	*eP*	Pn	23 16 43.8	0.0
MKZ				*i* S	S	23 17 13.5	-0.4
KBTR	**Krutoberegovo**	**1.60**	**74**	*i* P	Pn	23 16 43.7	-0.2
KBTR				*i* S	S	23 17 14.1	-0.1

*NIED **12** 23:22:00.37˝.20N×142˚.20E, h23^{km}, Mw3.6 Best double couple: M$_0$2.63000×10^{14} NP1:φ$_s$175.00000°, δ86.00000°, λ-95.00000°. NP2:φ$_s$50.00000°, δ7.00000°, λ-35.00000°.*
*ISCJB **12** 23:22:36.6±1.7, 37˚.25N±0˚.07×142˚.24E±0˚.08, h23^{km}±13^{km}, mb3.4/3, Error ellipse: s-maj=11.3km s-min=9.7km az=151.5*
*JMA **12** 23:22:36.6±0.2, 37˚.21N×142˚.24E, h35^{km}, M3.8*
*IDC **12** 23:22:37.4±4.8, 36˚.02N×142˚.64E, h89^{km}±42^{km}, mb3.2/4, mb1 3.4/5, mb1mx3.2/24, mbtmp3.2/5, MS3.0/1, Ms1 3.0/1, ms1mx2.5/16, Error ellipse: s-maj=35.7km s-min=26.7km az=88.0*

ISC 12 23:22:35.4±3.0, 37°.29N±0˚.07×142°.19E±0˚.08, h5^{km}±17^{km}, n23, σ0°.88/25, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.05**	**275**	P	**Pb**	**23 22 56.0**	**-0.1**
JFK				*eS*	**Sg**	**23 23 09.5**	**+0.3**
ONAJ	**Iwakimizuishiy**	**1.12**	**261**	P	**Pb**	**23 22 56.3**	**-1.1**
JMM	**Marumori**	**1.25**	**298**	P	**Pn**	**23 22 59.2**	**-0.4**
JMM				*eS*	**Sb**	**23 23 15.3**	**-0.7**
JIO	**Ouri**	**1.34**	**331**	P	**Pn**	**23 23 00.7**	**-0.2**
JIO				*eS*	**Sb**	**23 23 18.0**	**-0.6**
JFT	**Otama**	**1.49**	**280**	P	**Pb**	**23 23 03.5**	**-0.2**
JFT				*eS*	**Sn**	**23 23 22.5**	**-0.3**
JOU	**Okura**	**1.62**	**312**	P	**Pn**	**23 23 05.3**	**+0.6**
JOU				*eS*	**Sn**	**23 23 26.3**	**+0.3**
JMK	**Ichinoseki**	**1.83**	**336**	P	**Pn**	**23 23 08.3**	**+0.7**
JYS	**Shirataka**	**1.93**	**300**	P	**Pb**	**23 23 10.7**	**-0.3**
JFY	**Yanaizu**	**1.98**	**274**	P	**Pn**	**23 23 10.3**	**+0.6**
JFY				*eS*	**Sn**	**23 23 35.5**	**+0.6**
JYK	**Kaneyama**	**2.18**	**319**	P	**Pn**	**23 23 13.0**	**+0.7**
JOM	**Ohasama**	**2.30**	**342**	P	**Pn**	**23 23 15.3**	**+1.3**
JAG	**Ashikaga**	**2.36**	**249**	P	**Pn**	**23 23 14.2**	**-0.6**
MJAR	**Matsushiro Arr**	**3.27**	**258**	P	**Pn**	**23 23 28.8**	**+1.4**
	baz=89,slow=15						
MJAR				S	**Sb**	**23 24 13.7**	**-0.5**
	2.3nm,0.3s,baz=226,slow=26,SNR=1.6						
MJAR				LR	LR	23 25 00.7	
	comp=Z,195nm,19.0s,baz=60,slow=40						
MAT	**Matsushiro**	**3.28**	**258**	P	**Pn**	**23 23 30.0**	**+2.5**
MAT				S	**Sb**	**23 24 13.9**	**-0.4**
H11N2	**WAKE ISLAND Hy**	**27.75**	**122**	T	T	23 57 17.6	
	baz=318,slow=0.7,SNR=30						
H11N1	**WAKE ISLAND Hy**	**27.76**	**122**	T	T	23 57 18.0	
	baz=318,slow=0.7,SNR=17						
H11N3	**WAKE ISLAND Hy**	**27.77**	**122**	T	T	23 57 18.8	
	baz=318,slow=0.7,SNR=15						
SONM	**Songino Array**	**28.16**	**303**	P	**P**	**23 28 29.0**	**+0.3**
	0.3nm,0.4s,baz=104,slow=8.8,SNR=4.7						
H11S1	**WAKE ISLAND Hy**	**28.48**	**124**	T	T	23 58 11.9	
	baz=320,slow=0.7,SNR=11						
H11S3	**WAKE ISLAND Hy**	**28.48**	**124**	T	T	23 58 11.5	
	baz=320,slow=0.7,SNR=14						
H11S2	**WAKE ISLAND Hy**	**28.50**	**124**	T	T	23 58 13.0	
	baz=320,slow=0.7,SNR=8.9						
MKAR	**Makanchi Array**	**44.51**	**302**	P	**P**	**23 30 47.9**	**+0.1**
	0.3nm,0.7s,baz=92,slow=8.4,SNR=3.0						
ILAR	**Eielson Array**	**48.95**	**32**	P	**P**	**23 31 21.6**	**-0.7**
	0.4nm,0.7s,baz=255,slow=6.3,SNR=4.1						

*CSEM **12** 23:26:02.3±0.2, 43˚.75N×42˚.99E, h2^{km}, mb4.3, Error ellipse: s-maj=5.7km s-min=3.1km az=43.0*
*MOS **12** 23:26:02.0±1.0, 43˚.79N×42˚.93E, h15^{km}, mb4.3/1, Error ellipse: s-maj=11.7km s-min=6.3km az=133.6*

ISC 12 23:26:02.5±0.9, 43°.77N±0˚.02×42°.98E±0˚.02, h11^{km}±8^{km}, n45, σ0°.93/83, 9C-5D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHAR	**Shatzhatmas**	**0.23**	**264**	*i* PG	**Pb**	**23 26 08.1**	**-0.6**
SHAR				*eS*	**Sg**	**23 26 12.1**	**+1.5**
SHAR	**Shatzhatmas**	**0.23**	**264**	*i* Pg	**Pb**	**23 26 08.1**	**-0.6**
SHAR				*eSg*	**Sg**	**23 26 12.1**	**+1.5**
PYA	**Pyatigorsk**	**0.27**	**12**	*i* PG	**Pg**	**23 26 08.0**	**-0.1**
PYA				*eS*	**Sg**	**23 26 11.8**	**-0.1**
PYA	**Pyatigorsk**	**0.27**	**12**	*i* Pg	**Pg**	**23 26 08.0**	**-0.1**
PYA				*eSg*	**Sg**	**23 26 11.8**	**-0.1**
KIV	**Kislovodsk**	**0.28**	**312**	*c* PG	**Pg**	**23 26 07.7**	**-0.6**
KIV				*i*		23 26 12.0	
KIV				pmax	pmax		
	comp=Z,264nm,0.4s						
KIV				smax	smax		
	comp=E,2μm,0.6s						
KIV	**Kislovodsk**	**0.28**	**312**	*i* Pg	**Pg**	**23 26 07.7**	**-0.6**
	comp=E,264nm,0.4s						
KIV				*i* Sg	**Sg**	**23 26 12.0**	**-0.2**
NCK	**Nalchik**	**0.52**	**121**	*i* PG	**Pg**	**23 26 12.8**	**+0.1**
NCK				*eS*	**Sb**	**23 26 20.5**	**-0.8**
NCK	**Nalchik**	**0.52**	**121**	*i* Pg	**Pg**	**23 26 12.8**	**+0.1**
NCK				*eSg*	**Sb**	**23 26 20.5**	**-0.8**
LSNR	**Lesken**	**0.79**	**128**	⇑ *i* PG	**Pg**	**23 26 17.6**	**-0.1**
LSNR				*eS*	**Sg**	**23 26 28.4**	**+0.4**
LSNR	**Lesken**	**0.79**	**128**	*i* Pg	**Pg**	**23 26 17.6**	**-0.1**
LSNR				*eSg*	**Sg**	**23 26 28.4**	**+0.4**
STDR	**Stavd-Durt**	**0.88**	**116**	⇓ *i* PG	**Pb**	**23 26 20.1**	**+0.3**
STDR				*eS*	**Sn**	**23 26 32.7**	**-0.9**
STDR	**Stavd-Durt**	**0.88**	**116**	*i* Pg	**Pb**	**23 26 20.1**	**+0.3**
STDR				*eSg*	**Sn**	**23 26 32.7**	**-0.9**
PRTR	**Priterechnaya**	**0.94**	**90**	⇑ *i* PG	**Pb**	**23 26 20.9**	**+0.1**
PRTR				*i* S	**Sn**	**23 26 35.0**	**-0.1**
PRTR	**Priterechnaya**	**0.94**	**90**	*i* Pg	**Pb**	**23 26 20.9**	**+0.1**
PRTR				*i* Sg	**Sn**	**23 26 35.0**	**-0.1**
DIGR	**Digorskoe uzhe**	**0.97**	**153**	⇑ *i* PG	**Pg**	**23 26 20.3**	**-0.9**
DIGR				*i* S	**Sg**	**23 26 32.9**	**-1.0**
DIGR	**Digorskoe uzhe**	**0.97**	**153**	*i* Pg	**Pg**	**23 26 20.3**	**-0.9**
DIGR				*i* Sg	**Sg**	**23 26 32.9**	**-1.0**
KORR	**Kora**	**1.04**	**130**	⇑ *i* PG	**Pb**	**23 26 22.4**	**-0.2**
KORR				*eS*	**Sg**	**23 26 36.7**	**+0.5**
KORR	**Kora**	**1.04**	**130**	*i* Pg	**Pb**	**23 26 22.4**	**-0.2**
KORR				*eSg*	**Sg**	**23 26 36.7**	**+0.5**
ZEI	**Tsey**	**1.19**	**145**	⇓ *i* PG	**Pn**	**23 26 24.2**	**-1.0**
ZEI				*i* S	**Sb**	**23 26 39.9**	**-0.6**
ZEI	**Tsey**	**1.19**	**145**	*i* Pg	**Pn**	**23 26 24.2**	**-1.0**
ZEI				*i* Sg	**Sb**	**23 26 39.9**	**-0.6**
BTKR	**Batakoyurt**	**1.20**	**109**	⇓ *i* PG	**Pn**	**23 26 23.0**	**-2.2**
BTKR				*i* S	**Sb**	**23 26 40.1**	**-0.7**
BTKR	**Batakoyurt**	**1.20**	**109**	*i* Pg	**Pn**	**23 26 23.0**	**-2.2**
BTKR				*i* Sg	**Sb**	**23 26 40.1**	**-0.7**
ONI	**Oni**	**1.23**	**163**	P	**Pg**	**23 26 25.9**	**-0.1**
ONI				S	**Sg**	**23 26 42.2**	**+0.2**
CHVG	**Ch'k'valeri**	**1.23**	**212**	P	**Pg**	**23 26 26.8**	**+0.7**
CHVG				S	**Sg**	**23 26 44.7**	**+2.5**
TRKR	**Terskaya**	**1.27**	**91**	⇓ *i* PG	**Pb**	**23 26 26.5**	**+0.1**
TRKR				*i* S	**Sg**	**23 26 44.8**	**+1.4**
TRKR	**Terskaya**	**1.27**	**91**	*i* Pg	**Pb**	**23 26 26.5**	**+0.1**
TRKR				*i* Sg	**Sg**	**23 26 44.8**	**+1.4**
GOF	**Gofitskoye**	**1.29**	**2**	*e*PG	**Pg**	**23 26 26.9**	**-0.4**
GOF				*i* S	**Sg**	**23 26 45.6**	**+1.5**
GOF				pmax	pmax		
	comp=Z,150nm,0.8s						
GOF				smax	smax		
	comp=N,500nm,0.8s						
GOF	**Gofitskoye**	**1.29**	**2**	*e*Pg	**Pg**	**23 26 26.9**	**-0.4**
	comp=N,150nm,0.8s						
GOF				*i* Sg	**Sg**	**23 26 45.6**	**+1.5**
	comp=N,500nm,0.8s						
LACR	**Lac**	**1.34**	**134**	*e*PG	**Pn**	**23 26 27.1**	**-0.2**
LACR				*eS*	**Sn**	**23 26 45.2**	**0.0**
LACR	**Lac**	**1.34**	**134**	*e*Pg	**Pn**	**23 26 27.1**	**-0.2**
LACR				*eSg*	**Sn**	**23 26 45.2**	**0.0**
VLKR	**Vladikavkaz**	**1.43**	**120**	*e*PG	**Pb**	**23 26 29.1**	**-0.1**
VLKR				*eS*	**Sg**	**23 26 48.7**	**+0.1**
VLKR	**Vladikavkaz**	**1.43**	**120**	*e*Pg	**Pb**	**23 26 29.1**	**-0.1**
VLKR				*eSg*	**Sg**	**23 26 48.7**	**+0.1**
SNJR	**Sundja**	**1.51**	**117**	*e*PG	**Pn**	**23 26 29.7**	**+0.3**
SNJR				*eS*	**Sb**	**23 26 50.3**	**+0.7**
SNJR	**Sundja**	**1.51**	**117**	*e*Pg	**Pn**	**23 26 29.7**	**+0.3**
SNJR				*eSg*	**Sb**	**23 26 50.3**	**+0.7**
GUDG	**Gudauri**	**1.70**	**139**	P	**Pb**	**23 26 33.8**	**0.0**
GUDG				S	**Sb**	**23 26 56.3**	**+1.0**
GRO	**Groznyy**	**2.06**	**102**	⇑ *i* PN	**Pb**	**23 26 38.5**	**-1.4**
GRO				*eS*	**Sb**	**23 27 06.4**	**+0.8**
GRO	**Groznyy**	**2.06**	**102**	*i* Pn	**Pb**	**23 26 38.5**	**-1.4**
GRO				*eSg*	**Sb**	**23 27 06.4**	**+0.8**
AKH	**Akhalkalaki**	**2.38**	**171**	P	**Pg**	**23 26 48.3**	**+0.1**
AKH				S	**Sg**	**23 27 19.9**	**+0.8**
TBLG	**Delisi**	**2.41**	**147**	P	**Pb**	**23 26 44.0**	**-1.9**
TBLG				S	**Sg**	**23 27 19.8**	**-0.2**
DGRG	**David-gareji**	**2.91**	**142**	P	**Pg**	**23 26 58.4**	**+0.1**
DGRG				S	**Sg**	**23 27 37.4**	**+1.4**
GNBR	**Gunib**	**3.23**	**114**	⇑ *i* PN	**Pn**	**23 26 54.5**	**+1.4**
GNBR				*i* S	**Sn**	**23 27 33.5**	**+1.9**
GNBR	**Gunib**	**3.23**	**114**	*i* Pn	**Pn**	**23 26 54.5**	**+1.4**
GNBR				*i* Sn	**Sn**	**23 27 33.5**	**+1.9**
AKTO	**Aktyubinsk**	**12.21**	**52**	⇓ Pn	Pn	23 28 48.0	-8.2
	comp=N,3.0nm,1.1s						
AKTO				⇑ Sn	Sn	23 30 59.5	-13
	comp=N,1.2nm,0.7s						
AKTO	**Aktyubinsk**	**12.21**	**52**	Pn	Pn	23 28 48.0	-8.2
	comp=N,3.0nm,1.1s						
AKTO				Sn	Sn	23 30 59.5	-13
	comp=N,1.2nm,0.7s						
AB31	**Akbulak array**	**12.90**	**59**	Pn	Pn	23 29 00.9	-4.7
	comp=N,0.2nm,0.5s,baz=259,slow=13,SNR=5.7						
AB31				⇑ Sn	Sn	23 31 20.8	-8.3
	comp=N,0.5nm,0.5s,baz=260,slow=20,SNR=5.0						

*CSEM **12** 23:41:41.8, 28˚.53N×52˚.08E, h6^{km}, ML3.3, After THR*
*IDC **12** 23:41:43.0±2.3, 28˚.52N×52˚.31E, h0^{km}, mb3.8/6, mb1 3.8/7, mb1mx3.5/27, mbtmp3.7/7, Error ellipse: s-maj=54.0km s-min=23.7km az=157.0*
*ISCJB **12** 23:41:43.8±0.9, 28˚.58N±0˚.10×52˚.18E±0˚.08, h15^{km}, mb3.7/6, Error ellipse: s-maj=16.3km s-min=6.4km az=30.8*

ISC 12 23:41:45.3±1.1, 28°.5N±0˚.1×52°.21E±0˚.09, h15^{km}, n13, σ0°.83/14, mb3.9/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**0.73**	**110**	*e*Pg	**Pg**	**23 41 58.2**	**-1.4**
GHIR				*e*Sg	**Sb**	**23 42 10.0**	**+0.3**
BNDS	**Bandar-Abbas**	**3.69**	**107**	*e*Pn	**Pn**	**23 42 43.0**	**+1.1**
KRBR	**Kerman**	**4.23**	**69**	*e*Pn	**Pn**	**23 42 50.7**	**+1.2**
NASN	**Na'in**	**4.27**	**7**	*e*Pn	**Pn**	**23 42 50.3**	**+0.2**
TABS	**Tabas**	**6.60**	**38**	*e*Pn	**Pn**	**23 43 22.9**	**+0.9**
SNGE	**Sanandaj**	**7.73**	**329**	*e*Pn	**Pn**	**23 43 36.6**	**-0.9**
BRTR	**Keskin Array B**	**18.95**	**311**	P	**Pn**	**23 46 07.2**	**+0.4**
	0.1nm,0.3s,baz=133,slow=11,SNR=3.5						
KURBB	**Kurchatov Arra**	**29.69**	**35**	P	**P**	**23 47 50.3**	**-0.2**
	0.4nm,0.5s,baz=235,slow=9.2,SNR=3.7						
MKAR	**Makanchi Array**	**29.72**	**44**	P	**P**	**23 47 50.2**	**-0.7**
	0.3nm,0.7s,baz=232,slow=8.7,SNR=3.2						
ZALV	**Zalesovo Beam**	**34.77**	**34**	P	**P**	**23 48 34.9**	**-0.1**
	0.6nm,0.4s,baz=247,slow=7.7,SNR=5.4						
FINES	**FINESS Array B**	**37.21**	**340**	P	**P**	**23 48 55.5**	**-0.3**
	1.1nm,0.6s,baz=131,slow=5.7,SNR=6.4						
ARCES	**ARCESS Array B**	**43.83**	**347**	P	**P**	**23 49 50.9**	**+0.5**
	3.2nm,0.9s,baz=128,slow=7.9,SNR=5.5						
TORD	**Torodi Ar. Bea**	**49.28**	**263**	P	**P**	**23 50 34.4**	**+0.5**
	0.8nm,0.7s,baz=61,slow=8.7,SNR=13						

*ISCJB **12** 23:49:12.4±1.5, 24˚.84N±0˚.05×122˚.67E±0˚.06, h12^{km}±9^{km}, mb3.8/8, MS3.7/7, Error ellipse: s-maj=10.8km s-min=6.1km az=37.0*
*IDC **12** 23:49:12.5±1.4, 24˚.76N×122˚.48E, h0^{km}, mb3.8/7, mb1 3.9/7, mb1mx3.7/25, mbtmp3.8/7, MS3.6/9, Ms1 3.7/9, ms1mx3.4/36, Error ellipse: s-maj=50.3km s-min=25.1km az=68.0*
*NEIC **12** 23:49:13.8±0.5, 24˚.84N×122˚.61E, h10^{km}, mb4.1/2, Error ellipse: s-maj=8.9km s-min=6.7km az=99.0*

ISC 12 23:49:14.3±2.3, 24°.80N±0˚.06×122°.56E±0˚.09, h10^{km}±14^{km}, n33, σ0°.89/30, mb3.8/8, MS3.6/7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TATO	**Taipei**	**0.99**	**280**	*e*P	**Pb**	**23 49 33.1**	**-0.3**
NACB	**Ninganchiao**	**1.08**	**235**	*e*P	**Pn**	**23 49 35.5**	**+0.1**
NACB				*eS*	**Sb**	**23 49 48.4**	**-0.7**
YHNB	**Yeheng**	**1.08**	**263**	*e*P	**Pn**	**23 49 35.2**	**-0.4**
YHNB				*eS*	**Sb**	**23 49 49.5**	**+0.2**
SSLB	**Suanglung**	**1.78**	**236**	*e*Pn	**Pb**	**23 49 46.1**	**-0.9**
SSLB				*eSn*	**Sn**	**23 50 08.6**	**+0.8**
YULB	**Yu-li**	**1.82**	**220**	*e*Pn	**Pn**	**23 49 46.0**	**+0.4**
YULB				*eSn*	**Sb**	**23 50 10.0**	**+0.5**
TPUB	**Ta-pu**	**2.31**	**230**	*e*Pn	**Pn**	**23 49 53.5**	**+1.1**
TPUB				*e*Pg	**Pg**	**23 49 59.1**	**+0.5**
TWG	**Pinlang**	**2.40**	**215**	*e*Pn	**Pn**	**23 49 53.1**	**-0.4**
TWG				Sn	**Sn**	**23 50 24.0**	**+1.0**
JNU	**Nakatsue**	**11.03**	**39**	LR	LR	23 56 03.8	
	comp=Z,96nm,20.9s,baz=229,slow=37						
KSAR	**Wonju Array Be**	**13.39**	**19**	Pn	P	23 52 35.5	+1.6
KSRS	**Korea Array**	**13.42**	**19**	Pn	**P**	**23 52 35.5**	**+1.3**
	0.2nm,0.3s,baz=192,slow=11,SNR=14						
KSRS				LR	LR	23 57 60.0	
	comp=Z,300nm,20.1s,baz=174,slow=39						
BJT	**Baijiatuan**	**16.09**	**342**	Pn	**Pn**	**23 53 00.3**	**-0.2**
USRK	**Ussuriysk Arra**	**20.82**	**19**	P	Pn	23 53 57.0	-1.3
	2.9nm,0.8s,baz=205,slow=9.3,SNR=5.2						
USRK				LR	LR	00 01 33.0	
	comp=Z,119nm,21.1s,baz=243,slow=35						
ASAJ	**Asahikawa**	**25.26**	**35**	LR	LR	00 04 55.9	
	comp=Z,206nm,18.7s,baz=256,slow=37						
SONM	**Songino Array**	**26.31**	**335**	P	**P**	**23 54 49.6**	**-0.5**
SONM	**Songino Array**	**26.31**	**335**	P	**P**	**23 54 49.7**	**-0.5**
	2.0nm,1.1s,baz=146,slow=9.0,SNR=9.6						
SONM				LR	LR	00 05 44.2	
	comp=Z,161nm,20.0s,baz=145,slow=38						
PETK	**Petropavlovsk-**	**38.66**	**34**	LR	LR	00 12 58.1	
	comp=Z,69nm,18.2s,baz=147,slow=37						
MKAR	**Makanchi Array**	**38.78**	**315**	P	**P**	**23 56 38.6**	**-0.3**
MKAR	**Makanchi Array**	**38.78**	**315**	P	**P**	**23 56 38.6**	**-0.3**
	1.8nm,0.8s,baz=108,slow=10,SNR=13						
ZALV	**Zalesovo Beam**	**40.42**	**326**	P	**P**	**23 56 51.2**	**-1.3**
ZALV	**Zalesovo Beam**	**40.42**	**326**	P	**P**	**23 56 51.2**	**-1.3**
	1.8nm,0.8s,baz=111,slow=8.1,SNR=9.2						
ZALV				LR	LR	00 14 27.3	
	comp=Z,84nm,19.7s,baz=69,slow=38						
KURK	**Kurchatov**	**42.43**	**319**	*e*P	**P**	**23 57 08.2**	**-0.8**
	5.4nm,1.4s						
KURBB	**Kurchatov Arra**	**42.45**	**319**	P	**P**	**23 57 08.5**	**-0.7**
	1.7nm,0.9s,baz=111,slow=7.8,SNR=8.4						
FITZ	**Fitzroy Crossi**	**42.75**	**176**	P	**P**	**23 57 11.8**	**-0.1**
WRAB	**Tennant Creek**	**45.92**	**164**	*e*P	**P**	**23 57 36.9**	**-0.4**
WRA	**Warramunga Arr**	**45.93**	**164**	P	**P**	**23 57 36.5**	**-0.9**
WRA	**Warramunga Arr**	**45.93**	**164**	P	**P**	**23 57 36.4**	**-0.9**
	0.8nm,0.7s,baz=346,slow=8.8,SNR=4.6						
ABKAR	**Akbulak array**	**53.91**	**314**	*e*P	**P**	**23 58 36.9**	**-0.9**
	1.1nm,0.6s						
FINES	**FINESS Array B**	**71.55**	**330**	LR	LR	00 34 27.0	
	comp=Z,102nm,18.5s,baz=194,slow=38						
BRTR	**Keskin Array B**	**73.81**	**307**	P	**P**	**00 00 51.0**	**+1.7**
BRTR	**Keskin Array B**	**73.81**	**307**	P	**P**	**00 00 51.0**	**+1.7**
	0.2nm,0.4s,baz=85,slow=4.8,SNR=3.8						
KOLS	**Kolonicke sedl**	**78.08**	**318**	*e*P	P	00 01 22.4	+9.1
NOA	**NORSAR Array**	**78.26**	**332**	LR	LR	00 38 20.5	
	comp=Z,57nm,18.5s,baz=300,slow=38						
KECS	**Kecovo**	**79.34**	**319**	*e*P	P	00 01 25.3	+5.1

*IDC **12** 23:56:49.2±1.4, 12˚.81S×166˚.39E, h0^{km}, mb4.0/9, mb1 4.2/10, mb1mx4.0/21, mbtmp4.1/10, ML4.9/1, MS3.6/1, Ms1 3.6/1, ms1mx3.0/29, Error ellipse: s-maj=51.3km s-min=21.3km az=149.0*
*ISCJB **12** 23:56:53.9±0.8, 12˚.8S±0˚.1×166˚.2E±0˚.1, h40^{km}, mb4.0/10, MS3.5/1, Error ellipse: s-maj=18.2km s-min=15.9km az=150.1*
*NEIC **12** 23:56:54.4±0.6, 12˚.91S×166˚.41E, h35^{km}, mb4.3/3, Error ellipse: s-maj=20.6km s-min=12.7km az=160.0*

ISC 12 23:56:54.9±0.7, 12°.7S±0˚.1×166°.16E±0˚.09, h40^{km}, n31, σ1°.47/27, mb4.0/10, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.92**	**298**	Pn	**Pn**	**23 58 33.8**	**-0.1**
HNR				Sn	**Sn**	**23 59 49.0**	**-2.5**
HNR	**Honiara**	**6.92**	**298**	Pn	**Pn**	**23

KSRS	Korea Array	8.09 279	P	Pn	00 20 11.2	+1.2	
	0.3nm,0.3s,baz=86,slow=13,SNR=5.0						
USRK	Ussuriysk Arra	8.90 331	P	Pn	00 20 20.0	-0.4	
	0.2nm,0.3s,baz=141,slow=14,SNR=3.2						
JCJ	Chichijima	10.08 158	P	Pn	00 20 30.3	-5.5	
	13nm,0.3s,baz=280,slow=20,SNR=20						
JCJ			S	S	00 22 15.3	-14	
	6.8nm,0.3s,baz=287,slow=19,SNR=4.6						
PETK	Petropavlovsk-	21.56 34	P	P	00 22 49.8	+1.4	
	1.6nm,0.8s,baz=236,slow=12,SNR=2.4						
SONM	Songino Array	25.80 306	P	P	00 23 26.1	-1.2	
	0.8nm,0.5s,baz=111,slow=9.8,SNR=7.6						
ZALV	Zalesovo Beam	40.21 313	P	P	00 25 31.2	-0.2	
	1.9nm,0.6s,baz=92,slow=6.7,SNR=9.0						
MK31	Makanchi Array	42.04 302	*e*P	P	00 25 45.8	-0.6	
MKAR	Makanchi Array	42.04 302	*e*P	P	00 25 46.4	0.0	
MKAR	Makanchi Array	42.04 302	P	P	00 25 46.0	-0.4	
	2.3nm,0.5s,baz=84,slow=9.8,SNR=34						
KURK	Kurchatov	44.06 308	*e*P	P	00 26 01.6	-0.9	
	6.6nm,0.6s						
TKM2	Tokmak 2	47.42 298	*e*P	P	00 26 27.2	-1.9	
	10nm,1.4s						
AAK	Ala-Archa	48.28 298	*e*P	P	00 26 34.2	-1.5	
	0.9nm,0.5s						
VOSK	Vostochnaya	48.55 312	*e*P	P	00 26 37.4	+0.1	
	6.7nm,0.6s						
EKS2	Erkin-Say	48.78 298	*e*P	P	00 26 37.1	-2.3	
BRVK	Borovoye	48.91 312	*e*P	P	00 26 40.7	+0.6	
	3.9nm,0.4s						
ILAR	Eielson Array	51.38 32	P	P	00 26 58.4	0.0	
	0.4nm,0.6s,baz=271,slow=4.6,SNR=7.0						
ABKAR	Akbulak array	56.13 309	*e*P	P	00 27 31.3	-1.7	
WRA	Warramunga Arr	56.28 184	P	P	00 27 34.1	-0.2	
	1.9nm,0.5s,baz=0.4,slow=7.4,SNR=49						
ARCES	ARCESS Array B	63.46 339	P	P	00 28 22.6	0.0	
	2.5nm,1.0s,baz=61,slow=7.3,SNR=3.1						
FINES	FINESS Array B	67.94 331	P	P	00 28 50.7	-0.6	
	1.5nm,0.8s,baz=95,slow=2.3,SNR=4.6						
AKASG	Malin Array Be	72.97 321	P	P	00 29 23.2	+1.4	
	0.4nm,0.4s,baz=45,slow=6.0,SNR=4.6						
NVAR	Mina Array Bea	77.47 51	P	P	00 29 49.0	+1.0	
	0.7nm,0.6s,baz=273,slow=5.3,SNR=3.8						
PDAR	Pinedale Array	79.95 44	P	P	00 30 01.4	-0.2	
	0.6nm,0.9s,baz=318,slow=2.0,SNR=4.1						
LPAZ	La Paz	149.29 56	PKPbc	PKPbc	00 37 41.2	+0.6	
	0.6nm,0.5s,baz=24,slow=3.8,SNR=3.7						

AUST ***13*** *00:21:26.1±17.0, 12.˚70S×166.˚88E, h0km±2km, Error ellipse: s-maj=3.9km s-min=1.3km az=41.0*

ISCJB ***13*** *00:21:28.3±2.0, 13.˚49S±0.˚04×166.˚63E±0.˚05, h2km±12km, mb5.1/65, MS4.5/25, Error ellipse: s-maj=7.6km s-min=7.0km az=22.6*

IDC ***13*** *00:21:28.8±0.6, 13.˚56S×166.˚71E, h0km, mb4.7/14, mb1 4.8/16, mb1mx4.7/20, mbtmp4.7/16, ML4.3/2, MS4.5/16, Ms1 4.5/16, ms1mx4.4/24, Error ellipse: s-maj=21.6km s-min=15.9km az=117.0*

BJI ***13*** *00:21:29.9, 13.˚30S×166.˚72E, h9km, mB5.2/29, mb5.2/39, Ms4.9/17, Ms7 4.6/24*

MOS ***13*** *00:21:33.0±1.0, 13.˚52S×166.˚54E, h33km, mb5.5/26, Error ellipse: s-maj=10.9km s-min=8.8km az=32.3*

NEIC ***13*** *00:21:35.0±0.8, 13.˚50S×166.˚59E, h40km±7km, mb5.2/32, Error ellipse: s-maj=6.4km s-min=5.6km az=131.0*

GCMT ***13*** *00:21:38.0±0.3, 13.˚52S×166.˚36E, h28km±1km, MW5.1, Moment Tensor Solution. s51,c61; s65,c95; Moment tensor: Scale 10^16Nm; Mrr4.37±.23; Mθθ0.22±.16; Mφφ-4.58±.16; Mrθ0.65±.33; Mrφ0.60±.14; Mθφ-3.55±.25; Best double couple: M0 5.80000×10^16 NP1:φs171.00000°, δ64.00000°, λ,88.00000°. NP2:φs355.00000°, δ26.00000°, λ94.00000°. Principal axes: T 5.6400, Plg71.0000°, Azm77.0000°; N 0.2800, Plg2.0000°, Azm172.0000°; P -5.9200, Plg19.0000°, Azm262.0000°; Data Used: IU II CN IC G.*

DJA ***13*** *00:21:46.5±2.8, 13˚S±10˚×16˚6E±1˚1, h138km±40km, M4.6/9, mB5.6/2, mb4.6/9, Mw(mB)5.1/2*

ISC 13 00:21:32.0±0.4, 13˚53S±0˚04×166˚65E±0˚05, h17km±2km, h16km:pP-P, n259, σ1s34/302, mb5.2/66, MS4.4/26, 13C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	Honiara	7.72	301	Pn		Pn	00 23 23.6	-0.2
HNR	Honiara	7.72	301	Pn		Pn	00 23 23.6	-0.2
	15nm,0.3s,baz=209,slow=3.5,SNR=32							
DZM	Mont Dzumac	8.50	181	*e*Pn		Pn	00 23 36.4	+1.9
	264nm,0.5s							
DZM				*e*Sn		Sn	00 25 09.7	-0.5
	89nm,0.9s							
DZM				*e*LR		LR	00 25 36.4	
	1μm,23.4s							
DZM	Mont Dzumac	8.50	181	*e*Pn		Pn	00 23 36.9	+2.4
DZM				*e*Sn		Sn	00 25 09.2	-1.0
DZM	Mont Dzumac	8.50	181	Pn		Pn	00 23 37.6	+3.1
	6.1nm,0.3s,baz=9.8,slow=21,SNR=31							
DZM				Sn		Sn	00 25 07.6	-2.5
	baz=135,slow=19,SNR=1.5							
MSVF	Nonsavu	11.75	112	*e*P		Pn	00 24 20.6	+1.4
MSVF	Nonsavu	11.75	112	*e*Pn		Pn	00 24 20.6	+1.4
TARA	Tarawa	16.04	23	*e*Pn		Pn	00 25 17.3	+0.3
	87nm,0.8s							
EIDS	Eidsvold	18.79	229	*e*Pn		P	00 25 50.5	-0.3
	78nm,1.4s							
EIDS	Eidsvold	18.79	229	P		Pn	00 25 53.4	+2.1
	baz=20,SNR=5.4							
PMG	Port Moresby	19.53	280	P		Pn	00 25 59.9	-0.3
	96nm,1.3s,1μm							
PMG	Port Moresby	19.53	280	*e*Pn		Pn	00 25 59.7	-0.5
	137nm,1.2s							
PMG	Port Moresby	19.53	280	P		Pn	00 25 59.7	-0.5
	1.1nm,0.3s,baz=102,slow=7.1,SNR=17							
CTA	Charters Tower	20.57	249	P		P	00 26 11.2	+0.9
CTA	Charters Tower	20.57	249	P		P	00 26 11.2	+0.9
	16nm,0.8s,baz=72,slow=13,SNR=14							
CTAO	Charters Tower	20.57	249	*e*P		P	00 26 10.8	+0.5
CTAO				pmax		pmax		
	comp=Z,63nm,1.2s							
CTAO	Charters Tower	20.57	249	*e*P		P	00 26 10.8	+0.5
	comp=Z,63nm,1.2s							
AFI	Afiamalu	20.97	94	LR		LR	00 32 33.1	
	comp=Z,931nm,20.2s,baz=299,slow=32							
RMQ	Roma	21.15	230	P		P	00 26 18.9	+2.5
	baz=22,SNR=13							
ARMA	Armidale	21.79	217	*e*P		P	00 26 24.6	+1.2
	comp=Z,493nm,2.9s							
ARMA	Armidale	21.79	217	P		P	00 26 29.1	+5.8
	baz=23,SNR=3.7							
OUZ	Omahuta	22.49	165	*e*P		P	00 26 31.3	+0.6
	comp=Z,97nm,1.6s							
COEN	Coen	22.80	266	*e*P		P	00 26 34.4	+0.2
	comp=Z,419nm,1.3s							
COEN	Coen	22.80	266	P		P	00 26 34.0	-0.2
	baz=23,SNR=4.6							
QLP	Quilpie	24.68	235	P		P	00 26 53.1	+0.8
	baz=25,SNR=3.3							
CMSA	Cobar Meteorol	26.29	224	P		P	00 27 08.9	+2.1
	baz=27,SNR=10							
URZ	Urewera	26.33	161	LR		LR	00 36 05.6	
	comp=Z,1μm,21.0s,baz=336,slow=33							
STKA	Stephens Creek	29.33	227	*e*P		P	00 27 33.9	-0.1
	comp=Z,8.5nm,1.2s							
STKA	Stephens Creek	29.33	227	P		P	00 27 35.0	+0.9
STKA	Stephens Creek	29.33	227	P		P	00 27 35.2	+1.1
	baz=30,SNR=4.9							
STKA	Stephens Creek	29.33	227	P		P	00 27 35.0	+0.9
	comp=Z,5.0nm,0.6s,baz=52,slow=6.5,SNR=10							
STKA				LR		LR	00 39 05.5	
	comp=Z,1μm,18.7s,baz=52,slow=36							
RPZ	Rata Peaks	30.32	174	LR		LR	00 36 54.1	
	comp=Z,370nm,22.0s,baz=1.5,slow=31							
TOO	Toolangi	30.47	214	P		P	00 27 45.8	+1.6
	baz=31,SNR=6.1							
WRAB	Tennant Creek	31.54	254	*e*P		P	00 27 52.1	-1.7
WRAB				pmax		pmax		
	comp=Z,33nm,1.4s							
WRAB	Tennant Creek	31.54	254	*e*P		P	00 27 52.0	-1.7
	comp=Z,33nm,1.4s							
WRA	Warramunga Arr	31.55	254	P		P	00 27 52.2	-1.6
WRA				PcP		PcP	00 30 45.5	-1.0
WRA				ScP		ScP	00 34 28.8	-0.4
WRA	Warramunga Arr	31.55	254	P		P	00 27 52.2	-1.6
	comp=Z,8.0nm,0.9s,baz=84,slow=8.7,SNR=24							
WRA				PcP		PcP	00 30 45.5	-1.0
	comp=Z,2.2nm,1.0s,baz=87,slow=3.6,SNR=4.7							
WRA				ScP		ScP	00 34 28.8	-0.4
	comp=Z,3.9nm,1.2s,baz=82,slow=2.9,SNR=6.5							
WRA				LR		LR	00 39 58.9	
	comp=Z,2μm,20.3s,baz=80,slow=35							
ODZ	Otahua Downs	31.60	175	*e*P		P	00 27 54.9	+1.0
	comp=Z,534nm,2.8s							
ASAR	Alice Springs	32.55	247	P		P	00 28 01.4	-1.2
ASAR				PcP		PcP	00 30 48.4	-0.9
ASAR				ScP		ScP	00 34 31.5	-1.1
ASAR	Alice Springs	32.55	247	P		P	00 28 01.4	-1.2
	comp=Z,4.6nm,0.8s,baz=73,slow=9.8,SNR=28							
ASAR				PcP		PcP	00 30 48.3	-0.9
	comp=Z,0.6nm,0.5s,baz=83,slow=2.0,SNR=4.1							
ASAR				ScP		ScP	00 34 31.5	-1.1
	comp=Z,2.1nm,1.1s,baz=104,slow=3.2,SNR=6.2							
ASAR				LR		LR	00 40 26.2	
	comp=Z,1μm,19.2s,baz=85,slow=35							
RAR	Rarotonga	32.90	108	LR		LR	00 38 55.9	
	comp=Z,906nm,19.1s,baz=270,slow=32							
KDU	Kakadu	33.28	267	P		P	00 28 08.9	-0.1
	baz=34,SNR=6.6							
MTN	Manton Dam	34.56	267	P		P	00 28 31.5	+11
	baz=35,SNR=6.9							
KNRA	Kununurra	36.69	262	P		P	00 28 37.8	-0.6
	baz=37,SNR=8.3							
FITZ	Fitzroy Crossi	39.66	258	*e*P		P	00 29 02.8	-0.6
	comp=Z,19nm,1.3s							
FITZ	Fitzroy Crossi	39.66	258	P		P	00 29 02.8	-0.6
	baz=40,SNR=4.6							
PPT2	Papeete2	42.30	101	*e*S		S	00 35 50.1	+4.3
	comp=Z,279nm,25.2s							
PPT2				*e*LQ		LQ	00 39 25.4	
	comp=Z,470nm,29.2s							
PPT2				*e*LR		LR	00 41 13.6	
	comp=Z,1μm,25.8s,baz=277							
PPT	Papeete	42.30	101	LR		LR	00 42 43.6	
	comp=Z,445nm,21.5s,baz=188,slow=30							
TBI	Tubuai	42.63	110	*e*S		S	00 35 58.2	+7.8
	comp=Z,314nm,26.8s							
TBI				*e*LQ		LQ	00 39 35.7	
	comp=Z,495nm,27.0s							
TBI				*e*LR		LR	00 41 24.8	
	comp=Z,984nm,23.0s,baz=286							
PMOR	Pomariorio Ree	44.03	98	*e*P		P	00 29 38.2	-1.0
	comp=Z,174nm,1.2s							
VAH	Vaihoa	44.27	98	*e*P		P	00 29 39.9	-1.2
	comp=Z,69nm,1.1s							
MBWA	Marble Bar	45.29	254	*e*P		P	00 29 49.7	+0.4
	comp=Z,34nm,1.3s							
MEEK	Meekatharra	46.70	246	P		P	00 30 00.4	0.0
	baz=47,SNR=19							
KAPI	Kappang	46.98	276	*e*P		P	00 30 02.0	-0.6
	comp=Z,55nm,1.3s							
NWAO	Narrogin (SRO)	48.85	238	*e*P		P	00 30 16.9	-0.1
	comp=Z,84nm,1.7s							
MORW	Morawa	49.25	243	P		P	00 30 20.0	-0.1
	baz=50,SNR=3.6							
KKM	Kota Kinabalu	53.71	288	*e*P		P	00 30 54.2	+0.4
	comp=Z,66nm,1.5s							
RKT	Rikitea	55.93	109	*e*S		S	00 38 59.3	+2.1
	comp=Z,232nm,28.2s							
RKT				*e*LR		LR	00 47 33.8	
	comp=Z,561nm,30.0s,baz=271							
SBUM	Sibu	56.26	282	*e*P		P	00 31 13.1	+1.0
	comp=Z,12nm,1.1s							
MAJO	Matsushiro	56.57	333	*e*P		P	00 31 14.5	+0.6
MAJO				pmax		pmax		
	comp=Z,24nm,1.2s							
MAJO	Matsushiro	56.57	333	*e*P		P	00 31 14.5	+0.6
	comp=Z,24nm,1.2s							
MAT	Matsushiro	56.57	333	P		P	00 31 13.7	-0.2
KSRS	Korea Array	62.41	326	P		P	00 31 54.8	+0.7
	comp=Z,3.2nm,0.9s,baz=140,slow=7.1,SNR=8.9							
KSAR	Wonju Array Be	62.42	326	P		P	00 31 54.8	+0.6
YSS	Yuzh-Sakhalins	63.91	342	*e*P		P	00 32 04.8	+0.9
YSS				pmax		pmax		
	comp=Z,40nm,1.0s							
VNDA	Vanda	64.04	181	*e*P		P	00 32 05.3	+0.8
VNDA	Vanda	64.04	181	P		P	00 32 04.6	+0.2
	comp=Z,8.2nm,1.1s,baz=345,slow=7.2,SNR=16							
VNDA				LR		LR	00 56 35.5	
	comp=Z,238nm,21.8s,baz=20,slow=33							
NJ2	Nanjing	64.40	316	*e*P		P	00 32 08.6	+1.2
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.6s							
CASY	Casey	64.41	202	*e*P		P	00 32 06.6	-0.3
	comp=Z,29nm,1.4s							
QIZ	Qiongzhong	64.63	299	P		P	00 32 05.8	-3.4
QIZ				S		S	00 40 48.0	-0.8
QIZ				LR		LR		
	comp=Z,160nm,25.4s							
USRK	Ussuriysk Arra	65.55	333	P		P	00 32 15.5	+0.8
	comp=Z,29nm,0.9s,baz=138,slow=5.9,SNR=33							
USRK				LR		LR	00 56 16.9	
	comp=Z,81nm,21.2s,baz=55,slow=32							
PETK	Petropavlovsk-	66.81	354	P		P	00 32 22.5	-0.1
PETK	Petropavlovsk-	66.81	354	P		P	00 32 22.5	-0.1
PETK	Petropavlovsk-	66.81	354	P		P	00 32 22.5	-0.1
	comp=Z,7.7nm,0.9s,baz=156,slow=11,SNR=7.5							
PETK				LR		LR	00 55 25.4	
	comp=Z,168nm,21.8s,baz=78,slow=30							
MDJ	Mudanjiang	66.94	332	P		P	00 32 24.7	+1.1
MDJ				pP		pP	00 32 27.5	-1.6
MDJ				sP		sP	00 32 29.5	-1.6
MDJ				S		S	00 41 19.5	+3.4
MDJ				AMB		AMB		
	comp=Z,32nm,1.0s							
MDJ				AMB		AMB		
	comp=Z,110nm,6.2s							
MDJ				LR		LR		
	comp=Z,130nm,21.7s							
MDJ				LR		LR		
	comp=Z,89nm,26.1s							
MDJ				LR		LR		
	comp=Z,200nm,25.5s							
MDJ	Mudanjiang	66.94	332	*e*P		P	00 32 23.3	-0.3
	comp=Z,19nm,1.0s							
CN2	Changchun	68.31	329	*e*P		P	00 32 33.3	+1.0
CN2				*ep*P		pP	00 32 37.9	+0.1
CN2				*es*P		sP	00 32 40.3	+0.5
CN2				*e*S		S	00 41 33.3	+0.7
CN2				AMB		AMB		
	comp=Z,30nm,1.0s							
CN2				AMB		AMB		
	comp=Z,200nm,3.0s							
CN2				LR		LR		
	comp=Z,200nm,22.0s							
CN2				LR		LR		
	comp=Z,200nm,22.0s							
CN2				LR		LR		
	comp=Z,200nm,20.0s							
KLR	Kul'dur	69.67	336	*e*P		P	00 32 37.2	-3.4
KLR				pmax		pmax		
	comp=E,45nm,1.6s							
KLR				pmax		pmax		
	comp=Z,94nm,1.6s							
ENH	Enshi	70.14	309	*e*P		P	00 32 43.3	-0.7
GYA	Guiyang	70.54	305	P		P	00 32 47.8	+1.2
GYA				PP		PP	00 35 26.3	+3.2
GYA				S		S	00 42 01.0	+1.2
GYA				SKS		SKSac	00 42 45.5	-2.8
GYA				SS		SS	00 46 34.2	+2.6
GYA				AMB		AMB		
	comp=Z,30nm,1.0s							
GYA				AMB		AMB		
	comp=Z,140nm,5.0s							
GYA				LR		LR		
	comp=Z,710nm,20.3s							
GYA				LR		LR		
	comp=Z,560nm,20.0s							
GYA				LR		LR		
	comp=Z,680nm,19.7s							
BJI	Beijing	70.95	321	P		P	00 32 49.2	+0.5
BJI				S		S	00 41 59.5	-4.3
BJI				AMB		AMB		
	comp=Z,13nm,1.0s							
BJI				LR		LR		
	comp=Z,290nm,20.7s							
BJI				LR		LR		
	comp=Z,190nm,28.6s							
BJI				LR		LR		
	comp=Z,270nm,26.2s							
XAN	Xi'an	72.44	313	P		P	00 32 59.3	+1.5
XAN				sP		sP	00 33 06.3	+1.0
XAN				AMB		AMB		
	comp=Z,3.0nm,1.0s							
XAN				AMB		AMB		
	comp=Z,45nm,8.1s							
NANT	Nan	72.48	295	P		P	00 33 08.1	+10
KMI	Kunming	73.16	302	P		P	00 33 05.9	+3.4
KMI				pP		pP	00 33 11.9	+3.9
KMI				sP		sP	00 33 15.5	+5.4
KMI				S		S	00 42 31.6	+1.3
KMI				SS		SS	00 47 15.1	+3.0
KMI				AMB		AMB		
	comp=Z,16nm,1.0s							
KMI				AMB		AMB		
	comp=Z,64nm,3.6s							
KMI				LR		LR		
	comp=Z,140nm,18.8s							
CHTO	Chiang Mai	74.03	294	*e*P		P	00 33 08.4	+0.9
CHTO				pmax		pmax		
	comp=Z,83nm,1.4s							
CHTO	Chiang Mai	74.03	294	*e*P		P	00 33 08.4	+0.9
	comp=Z,83nm,1.4s							
CHTO	Chiang Mai	74.03	294	P		P	00 33 11.8	+4.3
	comp=Z,57nm,1.4s							
HHC	Hu-ho-hao-te	74.28	320	*e*P		P	00 33 09.4	+0.8
HHC				PcP		PcP	00 33 24.9	+1.5
HHC				PP		PP	00 35 57.7	+2.8
HHC				S		S	00 42 42.1	0.0
HHC				sS		sS	00 42 49.4	-1.8
HHC				SKS		SKSac	00 43 12.2	-3.7
HHC				ScS		SKKSac	00 43 17.0	+0.8
HHC				SS		SS	00 47 31.1	+2.7
HHC				AMB		AMB		
	comp=Z,44nm,1.0s							
HHC				AMB		AMB		
	comp=Z,360nm,6.5s							
HHC				LR		LR		
	comp=Z,400nm,18.8s							
HHC				LR		LR		
	comp=Z,440nm,18.0s							
HHC				LR		LR		
	comp=Z,370nm,17.6s							
CD2	Chengdu	74.80	308	P		P	00 33 13.6	+1.8
CD2				AMB		AMB		
	comp=Z,20nm,0.7s							
CD2				AMB		AMB		
	comp=Z,750nm,3.9s							
HIA	Hailar	74.95	330	*e*P		P	00 33 12.0	-0.2
	comp=Z,25nm,0.9s							
QSPA	South Pole Qui	76.49	180	*e*P		P	00 33 20.8	-0.2
	comp=Z,40nm,1.1s							
SEY	Seymchan	77.03	353	*e*P		P	00 33 23.2	-0.5
LZH	Lanzhou	77.07	312	*e*P		P	00 33 27.7	+2.9
LZH				pP		pP	00 33 32.3	+2.0
LZH				sP		sP	00 33 33.7	+1.4
LZH				PP		PP	00 36 21.1	+2.5
LZH				S		S	00 43 13.5	+0.3
LZH				sS		sS	00 43 20.1	-2.3
LZH				SS		SS	00 48 16.0	+5.0
LZH				AMB		AMB		
	comp=Z,35nm,1.2s							
LZH				AMB		AMB		
	comp=Z,220nm,5.6s							
LZH				LR		LR		
	comp=Z,270nm,15.8s							
LZH				LR		LR		
	comp=Z,370nm,18.3s							
LZH				LR		LR		
	comp=Z,520nm,18.8s							
CLNS	Chul'man	78.19	338	*e*P		P	00 33 31.6	+1.2
CLNS				pmax		pmax		
	comp=Z,34nm,1.2s							
CLNS				pmax		pmax		
	comp=N,25nm,1.2s							
CLNS				pmax		pmax		
	comp=E,7.0nm,0.8s							
YAK	Yakutsk	80.71	343	*e*P		P	00 33 42.7	-1.2
YAK				pmax		pmax		
	comp=Z,25nm,0.9s							
YAK				pmax		pmax		
	comp=E,8.0nm,1.1s							
YAK				pmax		pmax		
	comp=N,11nm,1.3s							
SONM	Songino Array	81.18	324	P		P	00 33 47.1	+0.1
SONM	Songino Array	81.18	324	P		P	00 33 47.1	+0.1
	comp=N,6.7nm,0.9s,baz=134,slow=5.8,SNR=42							
SONM				LR		LR	01 11 44.2	
	comp=N,152nm,18.2s,baz=348,slow=37							
GTA	Gaotai	81.40	314	*e*P		P	00 33 49.2	+0.8
GTA				pP		pP	00 33 53.7	-0.2
GTA				sP		sP	00 33 57.2	+1.3
GTA				S		S	00 43 59.8	+0.7
GTA				sS		SKSac	00 44 07.4	0.0
GTA				SS		SS	00 49 20.0	+4.1
GTA				AMB		AMB		
	comp=N,10.0nm,1.3s							
GTA				AMB		AMB		
	comp=N,130nm,5.7s							
GTA				LR		LR		
	comp=N,190nm,11.9s							
GTA				LR		LR		
	comp=N,120nm,12.8s							
GTA				LR		LR		
	comp=N,91nm,15.2s							
SHL	Shillong	82.47	298	*e*P		P	00 33 56.5	+2.2
PMR	Palmer	82.58	20	*e*P		P	00 33 52.7	-1.1
PMR				pmax		pmax		
	comp=Z,11nm,1.0s							
PMR	Palmer	82.58	20	*e*P		P	00 33 52.7	-1.1
	comp=Z,11nm,1.0s							
MAW	Mawson	82.76	202	P		P	00 33 54.8	0.0
MAW	Mawson	82.76	202	P		P	00 33 54.8	0.0
	comp=Z,3.5nm,0.9s,baz=124,slow=9.4,SNR=4.0							
CAST	Castle Rocks	83.04	17	*e*P		P	00 33 54.7	-1.6
	comp=Z,15nm,0.9s							
TRF	Thorofare Moun	83.59	18	*e*P		P	00 33 58.5	-0.8
	comp=Z,9.2nm,0.8s							
BMRM	Bremner River	83.69	22	*e*P		P	00 34 01.5	+1.8
	comp=Z,21nm,1.1s							
MCK	McKinley	84.21	18	*e*P		P	00 34 01.2	-1.0
MCK				pmax		pmax		
	comp=Z,30nm,1.2s							
MCK	McKinley	84.21	18	*e*P		P	00 34 01.2	-1.0
	comp=Z,30nm,1.2s							
ZAK	Zakamensk	84.23	325	*i* P		P	00 34 02.0	-0.7
ZAK				pmax		pmax		
	comp=Z,22nm,1.2s							
H02S1	DAWSON INLET T	84.31	32	T		T	02 06 55.7	
	SNR=6.2							
IM04	Indian Mountai	84.56	15	*e*P		P	00 34 03.5	-0.5
IRK	Irkutsk	84.61	327	*e*P		P	00 34 03.4	-1.1
IRK				pmax		pmax		
	comp=Z,53nm,1.5s							
IMA2	Indian Mountai	84.65	15	*e*P		P	00 33 57.4	-7.2
TLY	Talaya	84.66	326	*e*P		P	00 34 04.9	+0.1
TLY				*e*S		S	00 44 24.8	-6.7
TLY				pmax		pmax		
	comp=Z,35nm,0.9s							
TLY	Talaya	84.66	326	P		P	00 34 04.5	-0.3
	comp=Z,200nm,0.9s,SNR=7.4							
COLA	College	85.36	18	*e*P		P	00 34 06.4	-1.6
COLA				pmax		pmax		
	comp=Z,101nm,1.0s							
COLA	College	85.36	18	*e*P		P	00 34 06.4	-1.6
	comp=Z,101nm,1.0s							
ILAR	Eielson Array	85.58	18	P		P	00 34 07.5	-1.6
ILAR	Eielson Array	85.58	18	P		P	00 34 07.5	-1.6
	comp=Z,9.0nm,0.9s,baz=233,slow=

	comp=Z,10.0nm,0.6s								
I07A	**Izee**	**88.06**	**44**	*e*P		**P**	**00 34 24.2**	**+2.4**	
	comp=Z,94nm,3.0s								
GUN	**Gumba**	**88.29**	**299**	*e*P		**P**	**00 34 23.4**	**-0.2**	
	comp=Z,24nm,0.9s								
PKI	**Pulchoki**	**88.59**	**299**	*e*P		**P**	**00 34 24.6**	**-0.4**	
	comp=Z,17nm,0.7s								
TIXI	**Tiksi**	**88.68**	**349**	*e*P		**P**	**00 34 23.1**	**-0.8**	
TIXI					pmax	pmax			
	comp=Z,5.0nm,1.0s								
KKN	**Kakani**	**88.76**	**299**	*e*P		**P**	**00 34 25.5**	**-0.1**	
	comp=Z,18nm,0.7s								
G08A	**Pilot Rock**	**88.85**	**43**	*e*P		**P**	**00 34 26.5**	**+1.0**	
DMN	**Daman**	**88.86**	**299**	*e*P		**P**	**00 34 26.2**	**0.0**	
	comp=Z,46nm,0.9s								
GKN	**Gorkha**	**89.37**	**299**	*e*P		**P**	**00 34 27.7**	**-0.7**	
	comp=Z,29nm,0.9s								
SYO	**Syowa Base**	**89.67**	**197**⇑	*e*P		**P**	**00 34 28.4**	**-0.4**	
HVS	**Khovu-Aksy**	**90.04**	**323**	*e*P		**P**	**00 34 30.9**	**0.0**	
HVS					pmax	pmax			
	comp=Z,72nm,1.2s								
KOLN	**Koldanda**	**90.19**	**298**	*e*P		**P**	**00 34 31.3**	**-1.0**	
DANN	**Dangsing**	**90.21**	**299**	*e*P		**P**	**00 34 31.6**	**-0.9**	
	comp=Z,16nm,0.7s								
WMQ	**Urumqi**	**91.46**	**315**	P		**P**	**00 34 37.8**	**+0.1**	
WMQ				pP		**pP**	**00 34 42.6**	**-0.7**	
WMQ				sP		**sP**	**00 34 44.8**	**-0.5**	
WMQ				SKS		**SKSac**	**00 45 07.9**	**-1.7**	
WMQ				S		**S**	**00 45 34.0**	**-2.7**	
WMQ				SS		**SS**	**00 51 43.0**	**0.0**	
WMQ				AMB		AMB			
	comp=Z,17nm,1.1s								
WMQ				AMB		AMB			
	comp=Z,160nm,5.2s								
WMQ				LR		LR			
	comp=Z,190nm,27.8s								
WMQ				LR		LR			
	comp=Z,150nm,24.8s								
WMQ				LR		LR			
	comp=Z,150nm,24.8s								
HYB	**Hyderabad**	**92.19**	**287**	*i* P		**P**	**00 34 41.0**	**-0.6**	
MAIT	**Maitri**	**94.15**	**188**	*e*P		**P**	**00 34 47.1**	**-2.4**	
MAIT	**Maitri**	**94.15**	**188**	*e*P		**P**	**00 34 47.1**	**-2.4**	
PDAR	**Pinedale Array**	**94.58**	**47**	LR		LR	01 15 23.7		
	comp=Z,201nm,18.2s,baz=102,slow=34								
SNAA	**Sanae**	**94.71**	**183**	*e*P		**P**	**00 34 50.7**	**-1.5**	
	comp=Z,25nm,1.2s								
MK31	**Makanchi Array**	**95.92**	**317**	*e*P		**P**	**00 34 57.6**	**-0.5**	
MK31	**Makanchi Array**	**95.92**	**317**	*e*P		**P**	**00 34 57.6**	**-0.5**	
MKAR	**Makanchi Array**	**95.92**	**317**	*e*P		**P**	**00 34 58.0**	**-0.1**	
MKAR	**Makanchi Array**	**95.92**	**317**	*e*P		**P**	**00 34 58.0**	**-0.1**	
MKAR				PKiKP		**PKiKP**	**00 39 35.3**	**-1.8**	
MKAR	**Makanchi Array**	**95.92**	**317**	P		**P**	**00 34 58.0**	**-0.1**	
	comp=Z,2.6nm,0.7s,baz=97,slow=6.3,SNR=21								
MKAR				PKiKP		**PKiKP**	**00 39 35.3**	**-1.8**	
	comp=Z,0.5nm,0.7s,baz=90,slow=1.2,SNR=4.2								
ZAA0	**Zalesovo Array**	**96.07**	**324**	*e*P		**P**	**00 34 57.0**	**-1.6**	
ZALV	**Zalesovo Beam**	**96.07**	**324**	P		**P**	**00 34 57.7**	**-0.8**	
ZALV	**Zalesovo Beam**	**96.07**	**324**	P		**P**	**00 34 57.7**	**-0.8**	
ZALV	**Zalesovo Beam**	**96.07**	**324**	P		**P**	**00 34 57.7**	**-0.8**	
	comp=Z,7.9nm,0.8s,baz=109,slow=4.1,SNR=35								
ZALV				LR		LR	01 18 48.2		
	comp=Z,185nm,18.8s,baz=340,slow=36								
NVS	**Novosibirsk**	**97.18**	**325**	*e*P		**P**	**00 35 01.1**	**-2.4**	
NVS				*e*S		**SKSac**	**00 45 36.4**	**-3.5**	
NVS				pmax		pmax			
	comp=E,5.0nm,1.7s								
NVS				pmax		pmax			
	comp=Z,12nm,1.7s								
NVS				smax		smax			
	comp=E,10.0nm,1.9s								
KSH	**Kashi**	**98.98**	**308**	*e*P		Pdif	00 35 14.8	+2.6	
KSH				pP		pP	00 35 17.0	-0.8	
KSH				sP		sP	00 35 22.9	+3.1	
KURK	**Kurchatov**	**99.10**	**320**	*e*P		**Pdif**	**00 35 11.3**	**-0.9**	
KURK				pmax		pmax			
	comp=Z,1.0nm,1.3s								
ARU	**Arti**	**111.16**	**326**	*i* PKiKP		**PKiKP**	**00 40 03.9**	**-0.7**	
ARU							00 40 42.8		
ARU							00 46 43.9		
ARU				SS		SS	00 56 08.8	-6.8	
ARCES	**ARCESS Array B**	**118.94**	**345**	PKP		**PKPdf**	**00 40 18.4**	**-0.9**	
ARCES	**ARCESS Array B**	**118.94**	**345**	PKP		**PKPdf**	**00 40 18.4**	**-0.9**	
	comp=Z,6.9nm,0.7s,baz=73,slow=2.0,SNR=63								
KLMR	**Klimovskoe**	**119.34**	**333**	*e*PKiKP		**PKPdf**	**00 40 17.7**	**-2.5**	
KLMR				pmax		pmax			
	comp=Z,16nm,1.5s								
VRHR	**Novokhopersk**	**122.17**	**322**	*e*PKiKP		**PKPdf**	**00 40 24.5**	**-1.4**	
VRHR				pmax		pmax			
	comp=N,8.0nm,0.7s								
VRHR				pmax		pmax			
	comp=E,9.0nm,0.7s								
VRHR				pmax		pmax			
	comp=Z,20nm,0.7s								
GNI	**Garni**	**122.91**	**309**	*e*PKPdf		**PKPdf**	**00 40 27.7**	**-0.2**	
ZEI	**Tsey**	**123.00**	**312**	*i* PKiKP		**PKPdf**	**00 40 27.2**	**-0.9**	
ZEI				pmax		pmax			
	comp=Z,8.0nm,1.1s								
OBN	**Obninsk**	**123.37**	**328**⇑	*i*PKiKP		**PKPdf**	**00 40 26.8**	**-1.2**	
OBN				*e*			00 47 17.7		
OBN				*e*PS		**PS**	**00 51 59.8**	**-6.1**	
OBN				pmax		pmax			
	comp=Z,16nm,1.2s								
VSR	**Storozhevoye**	**123.57**	**323**	*e*PKiKP		**PKPdf**	**00 40 25.9**	**-2.7**	
VSR				pmax		pmax			
	comp=N,4.0nm,0.7s								
VSR				pmax		pmax			
	comp=E,7.0nm,0.7s								
VSR				pmax		pmax			
	comp=Z,10.0nm,0.7s								
KIV	**Kislovodsk**	**123.58**	**314**⇓	*i*PKiKP		**PKPdf**	**00 40 27.7**	**-1.3**	
KIV				*e*			00 42 11.9		
KIV				*e*SS		SS	00 58 54.4	-3.6	
KIV				pmax		pmax			
	comp=Z,9.0nm,1.0s								
EAK	**Akyaka**	**123.66**	**310**	*i* P		**PKPdf**	**00 40 29.7**	**+0.4**	
BOSA	**Boshof**	**123.88**	**221**	PKP		**PKPdf**	**00 40 28.8**	**-1.4**	
BOSA	**Boshof**	**123.88**	**221**	PKP		**PKPdf**	**00 40 28.8**	**-1.4**	
	comp=Z,3.7nm,0.9s,baz=316,slow=9.6,SNR=3.2								
HAKT	**HAKKARI**	**124.15**	**306**	*i* P		**PKPdf**	**00 40 30.7**	**+0.3**	
FINES	**FINESS Array B**	**124.39**	**338**	PKP		**PKPdf**	**00 40 28.9**	**-1.0**	
FINES	**FINESS Array B**	**124.39**	**338**	PKP		**PKPdf**	**00 40 28.9**	**-1.0**	
	comp=Z,5.8nm,0.8s,baz=29,slow=4.4,SNR=9.6								
DAGI	**Agillar**	**124.82**	**311**	*i* P		**PKPdf**	**00 40 31.9**	**+0.5**	
DBOC	**Borcka**	**124.94**	**311**	*i* P		**PKPdf**	**00 40 31.6**	**0.0**	
EKAR	**Karacoban**	**125.11**	**309**	*i* P		**PKPdf**	**00 40 33.5**	**+1.3**	
ERZM	**Erzurum**	**125.50**	**310**	*i* P		**PKPdf**	**00 40 34.2**	**+1.1**	
KEMA	**Kemaliye**	**127.80**	**309**	*i* P		**PKPdf**	**00 40 37.9**	**+0.7**	
MALT	**Malatya**	**128.09**	**308**⇑	*i*P		**PKPdf**	**00 40 37.9**	**+0.1**	
NB2	**NORSAR Subarra**	**129.31**	**345**	PKPdf		**PKPdf**	**00 40 38.1**	**-1.3**	
	comp=Z,6.4nm,1.2s,baz=31,slow=1.9								
NOA	**NORSAR Array B**	**129.31**	**345**	PKP		**PKPdf**	**00 40 39.1**	**-0.3**	
NOA	**NORSAR Array B**	**129.31**	**345**	PKP		**PKPdf**	**00 40 39.1**	**-0.3**	
	comp=Z,3.0nm,0.8s,baz=31,slow=2.0,SNR=7.7								
AKASG	**Malin Array Be**	**129.41**	**326**	PKiKP		**PKPdf**	**00 40 38.8**	**-0.9**	
AKASG	**Malin Array Be**	**129.41**	**326**	PKP		**PKPdf**	**00 40 38.8**	**-0.9**	
AKASG	**Malin Array Be**	**129.41**	**326**	PKP		**PKPdf**	**00 40 38.8**	**-0.9**	
	comp=Z,2.5nm,0.7s,baz=60,slow=2.3,SNR=17								
BR131	**Keskin Array S**	**131.27**	**311**	*e*PKPdf		**PKPdf**	**00 40 42.9**	**-1.0**	
BRTR	**Keskin Array B**	**131.27**	**311**	PKP		**PKPdf**	**00 40 43.0**	**-0.8**	
BRTR				SKPbc		**SKPbc**	**00 44 08.0**	**-0.2**	
BRTR	**Keskin Array B**	**131.27**	**311**	PKP		**PKPdf**	**00 40 43.0**	**-0.8**	
	comp=Z,1.7nm,0.8s,baz=112,slow=1.6,SNR=12								
BRTR				SKPbc		**SKPbc**	**00 44 08.0**	**-0.2**	
	comp=Z,0.9nm,0.9s,baz=86,slow=5.1,SNR=4.9								
ERMK	**Ermenek**	**132.76**	**308**	*i* P		**PKPdf**	**00 40 48.2**	**+1.3**	
CFR	**Carcaliu**	**132.81**	**320**⇑	*i*P		**PKPdf**	**00 40 45.9**	**-0.5**	
BUR08	**Bucovina Ar. S**	**133.28**	**325**	*e*PKPdf		**PKPdf**	**00 40 46.4**	**-0.9**	
BURAR	**Bucovina Array**	**133.29**	**325**⇑	*i*P		**PKPdf**	**00 40 47.8**	**+0.4**	
VRI	**Vrincioaia**	**133.33**	**322**⇑	*i*P		**PKPdf**	**00 40 47.0**	**-0.4**	
STHS	**Stebnicka Huta**	**134.34**	**329**	*e*PKP		**PKPdf**	**00 40 47.7**	**-1.5**	
ARR	**Arges**	**134.85**	**322**⇑	*i*P		**PKPdf**	**00 40 51.2**	**+0.9**	
BDFB	**Brasilia**	**135.11**	**129**	PKP		**PKPdf**	**00 40 51.1**	**-0.6**	
BDFB	**Brasilia**	**135.11**	**129**	PKP		**PKPdf**	**00 40 51.1**	**-0.6**	
	comp=Z,1.3nm,0.5s,baz=198,slow=3.2,SNR=3.5								
OKC	**Ostrava-Krasne**	**135.57**	**331**	*e*PKIKP		**PKPdf**	**00 40 51.8**	**+0.4**	
OKC	**Ostrava-Krasne**	**135.57**	**331**	*e*PKPdf		**PKPdf**	**00 40 51.8**	**+0.4**	
OKC				*ex*		x	00 40 55.5		
DPC	**Dobruska-Polom**	**136.04**	**333**	*e*PKIKP		**PKPdf**	**00 40 52.1**	**-0.3**	
DPC	**Dobruska-Polom**	**136.04**	**333**	*e*PKPdf		**PKPdf**	**00 40 52.1**	**-0.3**	
SIRR	**Siria**	**136.06**	**325**⇑	*i*P		**PKPdf**	**00 40 52.1**	**-0.4**	
BZS	**Buzias**	**136.46**	**324**⇑	*i*P		**PKPdf**	**00 40 52.2**	**-1.0**	
PVCC	**Panska Ves**	**136.67**	**334**	*e*PKIKP		**PKPdf**	**00 40 54.6**	**+1.1**	
PVCC	**Panska Ves**	**136.67**	**334**	*e*PKPdf		**PKPdf**	**00 40 54.6**	**+1.1**	
BRG	**Berggiesshubel**	**136.67**	**335**	*e*PKP		**PKPdf**	**00 40 53.0**	**-0.5**	
	comp=Z,14nm,1.3s								
BRG	**Berggiesshubel**	**136.67**	**335**	*e*PKIKP		**PKPdf**	**00 40 53.0**	**-0.5**	
BRG					pmax	pmax			
	comp=Z,14nm,1.3s								
CLL	**Collm**	**136.72**	**336**⇑	*i*PKIKP		**PKPdf**	**00 40 53.7**	**+0.2**	
CLL					pmax	pmax			
	comp=Z,7.0nm,1.1s								
CLL	**Collm**	**136.72**	**336**⇑	*i*PKPdf		**PKPdf**	**00 40 53.7**	**+0.2**	
	comp=Z,11nm,1.1s								
CLL				*e*SKPdf		**SKPbc**	**00 44 26.0**	**+0.4**	
	comp=Z,76nm,2.8s								
CLL				LmV			01 41 00.0		
	comp=Z,100nm,21.0s								
PRU	**Pruhonice**	**137.09**	**334**	*e*PKIKP		**PKPdf**	**00 40 54.4**	**+0.2**	
PRU				*e*			00 41 02.9		
PRU	**Pruhonice**	**137.09**	**334**	*e*PKPdf		**PKPdf**	**00 40 54.4**	**+0.2**	
PRU				*ep*PKP		**pPKPdf**	**00 41 02.9**	**+2.9**	
VTS	**Vitosha**	**137.19**	**320**⇑	*i*P		**PKPdf**	**00 40 56.1**	**+1.2**	
CONA	**Conrad Observa**	**137.98**	**331**⇑	*i*PKPdf		**PKPdf**	**00 40 55.2**	**-0.9**	
	comp=Z,14nm,1.5s								
KHC	**Kasperske Hory**	**138.14**	**334**	*e*PKIKP		**PKPdf**	**00 40 56.6**	**+0.3**	
KHC	**Kasperske Hory**	**138.14**	**334**	*e*PKPdf		**PKPdf**	**00 40 56.6**	**+0.3**	
KHC				*ex*		x	00 40 59.7		
GERES	**GERESS Array B**	**138.31**	**333**	PKPpre		PKPpre	00 40 47.8		
GERES				PKP		**PKPdf**	**00 40 56.2**	**-0.5**	
GERES				SKPbc		**SKPbc**	**00 44 30.6**	**+0.2**	
GERES	**GERESS Array B**	**138.31**	**333**	PKhKP		PKPpre	00 40 47.8		
	comp=Z,0.2nm,0.5s,baz=159,slow=4.1,SNR=3.5								
GERES				PKP		**PKPdf**	**00 40 56.2**	**-0.5**	
	comp=Z,2.4nm,0.9s,baz=48,slow=2.0,SNR=12								
GERES				SKPbc		**SKPbc**	**00 44 30.6**	**+0.2**	
	comp=Z,0.7nm,0.7s,baz=342,slow=0.4,SNR=5.4								
FETA	**Feichten**	**140.99**	**334**	P		PKPdf	00 40 54.7	-7.0	
	comp=Z,5.0nm,1.0s								
BNI	**Bardonecchia**	**144.26**	**335**	*e*PKIKP		PKPbc	00 41 06.5	+0.8	
BNI	**Bardonecchia**	**144.26**	**335**	*e*PKPdf		PKPbc	00 41 06.5	+0.8	
SSB	**Saint Sauveur**	**144.89**	**338**	*e*PKIKP		**PKPab**	**00 41 07.1**	**-0.5**	
SSB	**Saint Sauveur**	**144.89**	**338**	*e*PKPdf		**PKPab**	**00 41 07.1**	**-0.5**	
KEST	**Kesra**	**149.90**	**321**	*e*PKPbc		**PKPbc**	**00 41 21.2**	**-0.8**	
KEST	**Kesra**	**149.90**	**321**	PKPbc		**PKPbc**	**00 41 22.5**	**+0.5**	
	comp=Z,13nm,0.8s,baz=296,slow=0.9,SNR=27								
CMAH	**Djebel Manchou**	**150.42**	**325**	P		**PKPbc**	**00 41 22.7**	**-0.5**	
CAEH	**ʿAin El Ouahch**	**150.62**	**326**	P		**PKPbc**	**00 41 25.4**	**+1.8**	
ABSA	**Djebel Ababsia**	**150.63**	**324**	P		**PKPbc**	**00 41 23.9**	**+0.1**	
CKFL	**Kef-Lakhel**	**150.97**	**325**	P		**PKPbc**	**00 41 24.5**	**-0.1**	
CASM	**Ain Smara**	**151.20**	**325**	P		**PKPbc**	**00 41 23.7**	**-1.3**	
PBRG	**Braganca**	**151.25**	**350**	*e*PKPdf		**PKPdf**	**00 41 16.6**	**-2.4**	
PBRG	**Braganca**	**151.25**	**350**	*e*PKPbc		**PKPbc**	**00 41 24.7**	**-0.3**	
DFRA	**Djebel Bou Aff**	**151.32**	**326**	P		**PKPbc**	**00 41 26.0**	**+0.6**	
CTEI	**Djebel Teioual**	**151.39**	**325**	P		**PKPbc**	**00 41 25.8**	**+0.2**	
SET	**Setif**	**151.84**	**327**	P		**PKPbc**	**00 41 26.4**	**-0.2**	
POLO	**Lamas de Olo**	**151.84**	**351**	*e*PKPbc		**PKPbc**	**00 41 26.4**	**0.0**	
MVO	**Moncorvo**	**151.92**	**350**	*e*PKPbc		**PKPbc**	**00 41 26.4**	**-0.2**	
PVRL	**Vila Real**	**151.92**	**351**	*e*PKPdf		**PKPdf**	**00 41 19.1**	**-1.0**	
PVRL	**Vila Real**	**151.92**	**351**	*e*PKPbc		**PKPbc**	**00 41 26.5**	**0.0**	
PVIS	**Viseu**	**152.50**	**351**	*e*PKPbc		**PKPbc**	**00 41 27.8**	**-0.1**	
ESDC	**Sonseca Array**	**152.67**	**344**	PKPbc		**PKPbc**	**00 41 27.8**	**-0.5**	
ESDC				PKPab		**PKPab**	**00 41 39.1**	**+0.3**	
ESDC	**Sonseca Array**	**152.67**	**344**	PKPbc		**PKPbc**	**00 41 27.8**	**-0.5**	
	comp=Z,4.1nm,0.8s,baz=17,slow=3.1,SNR=26								
ESDC				PKPab		**PKPab**	**00 41 39.1**	**+0.3**	
	comp=Z,2.2nm,0.7s,baz=13,slow=4.4,SNR=11								
MTE	**Manteigas**	**152.75**	**350**	*e*PKPbc		**PKPbc**	**00 41 28.4**	**0.0**	
PAB	**San Pablo**	**152.89**	**345**	*e*PKPbc		**PKPbc**	**00 41 27.8**	**-1.0**	
PCBR	**Castelo Branco**	**153.28**	**350**	*e*PKPbc		**PKPbc**	**00 41 29.5**	**0.0**	
PTOM	**Tomar**	**153.65**	**351**	*e*PKPdf		**PKPdf**	**00 41 22.1**	**-0.5**	
PTOM	**Tomar**	**153.65**	**351**	*e*PKPbc		**PKPbc**	**00 41 29.9**	**-0.4**	
PMRV	**Marv??o**	**153.67**	**350**	*e*PKPbc		**PKPbc**	**00 41 30.1**	**-0.3**	
PBEJ	**Beja**	**155.12**	**350**	*e*PKPab		**PKPab**	**00 41 50.0**	**+0.9**	
PNCL	**Nicolau / Gran**	**155.14**	**351**	*e*PKPab		**PKPab**	**00 41 48.1**	**-1.1**	
PCVE	**Castro Verde**	**155.53**	**350**	*e*PKPab		**PKPab**	**00 41 52.1**	**+1.2**	
PVAQ	**Vaqueiros**	**155.70**	**349**	*e*PKPdf		**PKPdf**	**00 41 24.8**	**-0.7**	
PVAQ	**Vaqueiros**	**155.70**	**349**	*e*PKPab		**PKPab**	**00 41 50.1**	**-1.5**	
TORD	**Torodi Ar. Bea**	**165.35**	**270**	PKP		**PKPdf**	**00 41 35.5**	**-1.2**	
TORD				PKPab		**PKPab**	**00 42 34.4**	**-0.1**	
TORD	**Torodi Ar. Bea**	**165.35**	**270**	PKP		**PKPdf**	**00 41 35.5**	**-1.2**	
	comp=Z,4.3nm,1.1s,baz=37,slow=1.5,SNR=15								
TORD				PKPab		**PKPab**	**00 42 34.4**	**-0.1**	
	comp=Z,1.4nm,0.9s,baz=94,slow=2.0,SNR=4.4								
DBIC	**Dimbokro**	**169.21**	**232**	PKP		**PKPdf**	**00 41 38.3**	**-1.2**	
DBIC	**Dimbokro**	**169.21**	**232**	PKP		**PKPdf**	**00 41 38.3**	**-1.2**	
	comp=Z,6.2nm,1.0s,baz=203,slow=1.2,SNR=3.6								

IDC ***13*** *00:30:21.1±1.0, 13°.51S×166°.71E, h0km, mb4.0/10, mb1 4.2/11, mb1mx4.0/19, mbtmp4.1/11, ML4.8/1, MS4.1/7, Ms1 4.0/7, ms1mx3.8/25, Error ellipse: s-maj=28.5km s-min=22.0km az=119.0*

ISCJB ***13*** *00:30:25.5±0.7, 13°.56S±0°.07×166°.60E±0°.10, h39km, mb4.1/12, MS4.0/6, Error ellipse: s-maj=15.0km s-min=8.2km az=151.5*

NEIC ***13*** *00:30:26.8±0.5, 13°.43S×166°.59E, h35km, mb4.4/5, Error ellipse: s-maj=12.0km s-min=10.2km az=86.0*

ISC 13 00:30:27.1±0.7, 13°.50S±0°.07×166°.7E±0°.1, h39km, n39, σ1s11/40, mb4.1/12, MS4.0/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.75**	**301**	Pn	**Pn**	**00 32 16.4**	**-1.1**
HNR				Sn	**Sn**	**00 33 46.1**	**+2.1**
HNR	**Honiara**	**7.75**	**301**	Pn	**Pn**	**00 32 16.4**	**-1.1**
	13nm,0.3s,baz=175,slow=3.6,SNR=5.2						
HNR				Sn	**Sn**	**00 33 46.1**	**+2.1**
	15nm,0.3s,baz=43,slow=19,SNR=2.0						
DZM	**Mont Dzumac**	**8.53**	**182**	*e*Pn	**Pn**	**00 32 29.5**	**+1.3**
	33nm,0.6s						
DZM				*e*Sn	**Sn**	**00 34 02.4**	**-0.8**
DZM	**Mont Dzumac**	**8.53**	**182**	Pn	**Pn**	**00 32 29.8**	**+1.6**
	1.2nm,0.3s,baz=203,slow=23,SNR=14						
DZM				Sn	Sn	00 34 13.2	+10
	0.5nm,0.3s,baz=131,slow=19,SNR=2.3						
PMG	**Port Moresby**	**19.57**	**280**	LR	LR	00 41 38.2	
	comp=Z,217nm,18.1s,baz=277,slow=35						
CTA	**Charters Tower**	**20.62**	**249**	P	**P**	**00 35 04.0**	**+0.6**
CTA	**Charters Tower**	**20.62**	**249**	P	**P**	**00 35 04.0**	**+0.6**
	6.1nm,0.9s,baz=92,slow=14,SNR=4.0						
CTAO	**Charters Tower**	**20.62**	**249**	*e*P	**P**	**00 35 02.0**	**-1.4**
	4.6nm,0.6s						
AFI	**Afiamalu**	**20.92**	**94**	LR	LR	00 41 16.8	
	comp=Z,415nm,18.3s,baz=314,slow=31						
URZ	**Urewera**	**26.34**	**161**	LR	LR	00 44 48.1	
	comp=Z,286nm,20.5s,baz=170,slow=33						
STKA	**Stephens Creek**	**29.38**	**227**	*e*P	**P**	**00 36 25.9**	**-0.8**
	2.2nm,1.0s						
STKA	**Stephens Creek**	**29.38**	**227**	P	**P**	**00 36 26.0**	**-0.8**
	3.8nm,1.0s,baz=137,slow=19,SNR=2.3						
STKA				LR	LR	00 48 07.3	
	comp=Z,385nm,18.9s,baz=302,slow=36						
WRAB	**Tennant Creek**	**31.59**	**254**	*e*P	**P**	**00 36 45.7**	**-0.7**
	2.6nm,0.7s						
WRA	**Warramunga Arr**	**31.60**	**254**	P	**P**	**00 36 45.0**	**-1.5**
WRA	**Warramunga Arr**	**31.60**	**254**	P	**P**	**00 36 45.0**	**-1.5**
	1.3nm,0.9s,baz=85,slow=9.4,SNR=6.6						
WRA				LR	LR	00 48 51.2	
	comp=Z,525nm,18.7s,baz=70,slow=35						
ASAR	**Alice Springs**	**32.61**	**247**	P	**P**	**00 36 53.9**	**-1.4**
ASAR	**Alice Springs**	**32.61**	**247**	P	**P**	**00 36 53.9**	**-1.4**
	1.0nm,0.7s,baz=70,slow=9.4,SNR=7.6						
ASAR				LR	LR	00 49 41.0	
	comp=Z,287nm,20.6s,baz=89,slow=36						
FITZ	**Fitzroy Crossi**	**39.71**	**258**	*e*P	**P**	**00 37 55.2**	**-0.8**
	9.7nm,1.3s						
PPT	**Papeete**	**42.26**	**101**	LR	LR	00 51 57.4	
	comp=Z,277nm,18.6s,baz=198,slow=31						
MBWA	**Marble Bar**	**45.34**	**254**	*e*P	**P**	**00 38 41.1**	**-0.7**
VNDA	**Vanda**	**64.07**	**181**	*e*P	**P**	**00 40 57.9**	**+1.3**
	9.3nm,1.6s						
VNDA	**Vanda**	**64.07**	**181**	P	**P**	**00 40 57.2**	**+0.6**
	1.0nm,0.8s,baz=28,slow=5.4,SNR=5.6						
USRK	**Ussuriysk Arra**	**65.54**	**333**	P	**P**	**00 41 07.4**	**+0.8**
	1.1nm,0.6s,baz=147,slow=3.4,SNR=2.6						
QSPA	**South Pole Qui**	**76.52**	**180**	*e*P	**P**	**00 42 13.5**	**+0.4**
	13nm,1.4s						
SONM	**Songino Array**	**81.18**	**324**	P	**P**	**00 42 38.8**	**-0.1**
SONM	**Songino Array**	**81.18**	**324**	P	**P**	**00 42 38.7**	**-0.1**
	0.5nm,0.6s,baz=154,slow=7.5,SNR=3.8						
MAW	**Mawson**	**82.81**	**202**	*e*P	**P**	**00 42 47.1**	**+0.2**
ILAR	**Eielson Array**	**85.54**	**18**	P	**P**	**00 42 58.9**	**-1.8**
ILAR	**Eielson Array**	**85.54**	**18**	P	**P**	**00 42 58.9**	**-1.8**
	0.6nm,0.8s,baz=244,slow=4.9,SNR=5.1						
MKAR	**Makanchi Array**	**95.93**	**317**	P	**P**	**00 43 50.6**	**+0.6**
MKAR	**Makanchi Array**	**95.93**	**317**	P	**P**	**00 43 50.6**	**+0.6**
	0.6nm,0.6s,baz=90,slow=5.5,SNR=6.8						
ZALV	**Zalesovo Beam**	**96.08**	**324**	P	**P**	**00 43 49.8**	**-0.6**
ZALV	**Zalesovo Beam**	**96.08**	**324**	P	**P**	**00 43 49.8**	**-0.6**
	0.6nm,0.5s,baz=89,slow=3.0,SNR=4.4						
ARCES	**ARCESS Array B**	**118.93**	**345**	PKP	**PKPdf**	**00 49 10.9**	**-0.1**
ARCES	**ARCESS Array B**	**118.93**	**345**	PKP	**PKPdf**	**00 49 10.9**	**-0.1**
	2.5nm,0.7s,baz=69,slow=2.3,SNR=14						
GERES	**GERESS Array B**	**138.30**	**333**	PKP	**PKPdf**	**00 49 49.2**	**+0.8**
GERES	**GERESS Array B**	**138.30**	**333**	PKP	**PKPdf**	**00 49 49.2**	**+0.8**
	0.3nm,0.6s,baz=116,slow=2.3,SNR=3.3						
ESDC	**Sonseca Array**	**152.66**	**344**	PKPbc	**PKPbc**	**00 50 20.5**	**+0.5**
ESDC				PKPab	**PKPab**	**00 50 31.6**	**+1.0**
ESDC	**Sonseca Array**	**152.66**	**344**	PKPbc	**PKPbc**	**00 50 20.5**	**+0.5**
	0.3nm,0.5s,baz=9.4,slow=3.5,SNR=5.3						
ESDC				PKPab	**PKPab**	**00 50 31.6**	**+1.0**
	0.6nm,0.7s,baz=13,slow=3.7,SNR=4.3						

IDC 13 00:48:17.3±4.2, 28°.54S×177°.58W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/15, mbtmp3.7/2, Error ellipse: s-maj=83.3km s-min=23.6km az=91.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.76**	**203**	Pn	Pn	00 48 35.7	+0.3
	137nm,0.3s,baz=119,slow=19,SNR=5.4						
RAO				Sn	Sn	00 48 48.2	+0.6
	282nm,0.3s,baz=163,slow=23,SNR=7.9						
ASAR	**Alice Springs**	**43.60**	**265**	P	P	00 56 22.8	-0.8
	0.7nm,1.1s,baz=102,slow=

IHRS	**Heris**	**3.43**	**1**	*e*Pn	**Pn**	**00 55 21.9 +1.9**
IHRS				*e*		00 56 27.5
	comp=Z,12µm,0.4s					
IHRS	**Heris**	**3.43**	**1**	Pn	**Pn**	**00 55 21.9 +1.9**
IHRS	**Heris**	**3.43**	**1**	*e*Pn	**Pn**	**00 55 21.9 +1.9**
MSL	**Mosul**	**3.48**	**297**	*i* P	**Pn**	**00 55 17.8 -2.7**
GHVR	**GHOM**	**3.59**	**95**	*e*Pn	**Pn**	**00 55 24.5 +2.4**
GHVR				AML	AML	00 56 44.1
	comp=E,2µm,0.7s					
GHVR				AML	AML	00 56 49.0
	comp=N,2µm,0.8s					
GHVR	**GHOM**	**3.59**	**95**	*e*Pn	**Pn**	**00 55 24.5 +2.4**
CUKT	**Cukurca**	**3.60**	**312**	*e*PN	**Pn**	**00 55 22.9 +0.7**
CUKT	**Cukurca**	**3.60**	**312**	*e*Pn	**Pn**	**00 55 22.9 +0.7**
HAKT	**HAKKARI**	**3.75**	**316**	*i* P	**Pn**	**00 55 24.8 +0.4**
HAKT				*i* S	**Sg**	**00 56 24.8 -2.7**
HAKT	**HAKKARI**	**3.75**	**316**	*i* P	**Pn**	**00 55 24.8 +0.4**
IVRN	**Varamin**	**3.92**	**87**	*e*Pn	**Pn**	**00 55 29.4 +2.9**
IVRN				*e*		00 56 46.7
	comp=Z,20µm,0.6s					
IVRN	**Varamin**	**3.92**	**87**	Pn	**Pn**	**00 55 29.6 +3.1**
IVRN	**Varamin**	**3.92**	**87**	Pn	**Pn**	**00 55 29.6 +3.1**
NSR	**Nassriya**	**3.92**	**190**	*e*P	**Pn**	**00 55 25.1 -1.5**
IMRD	**Marand**	**3.96**	**346**	*e*Pn	**Pn**	**00 55 28.4 +1.2**
IMRD				*e*		00 55 51.4
	comp=Z,10µm,0.2s					
IMRD	**Marand**	**3.96**	**346**	Pn	**Pn**	**00 55 28.8 +1.6**
IMRD	**Marand**	**3.96**	**346**	Pn	**Pn**	**00 55 28.8 +1.6**
GRMI	**Germi**	**3.99**	**11**	*e*Pn	**Pn**	**00 55 29.3 +1.7**
GRMI	**Germi**	**3.99**	**11**	*e*Pn	**Pn**	**00 55 29.3 +1.7**
IKLH	**Kolahrood**	**4.14**	**111**	*e*Pn	**Pn**	**00 55 32.5 +2.8**
IKLH				*e*		00 56 50.7
	comp=Z,41µm,0.5s					
IKLH	**Kolahrood**	**4.14**	**111**	Pn	**Pn**	**00 55 32.5 +2.8**
IKLH	**Kolahrood**	**4.14**	**111**	*e*Pn	**Pn**	**00 55 32.5 +2.8**
DAMV	**Damavand**	**4.17**	**78**	*e*Pn	**Pn**	**00 55 32.7 +2.6**
DAMV	**Damavand**	**4.17**	**78**	*e*Pn	**Pn**	**00 55 32.7 +2.6**
IDMV	**Damavand**	**4.21**	**79**	*e*Pn	**Pn**	**00 55 33.5 +2.7**
IDMV				*e*		00 56 53.2
	comp=Z,14µm,0.5s					
IDMV	**Damavand**	**4.21**	**79**	Pn	**Pn**	**00 55 33.2 +2.4**
IDMV	**Damavand**	**4.21**	**79**	Pn	**Pn**	**00 55 33.2 +2.4**
ISFB	**Sefidab**	**4.39**	**95**	*e*Pn	**Pn**	**00 55 35.0 +2.0**
ISFB				*e*		00 57 05.7
	comp=Z,10µm,0.4s					
ISFB	**Sefidab**	**4.39**	**95**	Pn	**Pn**	**00 55 34.9 +2.0**
ISFB	**Sefidab**	**4.39**	**95**	*e*Pn	**Pn**	**00 55 35.0 +2.0**
SIRT	**Sirnak**	**4.50**	**307**	*e*PN	**Pn**	**00 55 34.2 -0.3**
SIRT	**Sirnak**	**4.50**	**307**	*e*Pn	**Pn**	**00 55 34.2 -0.3**
SIRN	**S¨–rnak**	**4.51**	**307**	*i* P	**Pn**	**00 55 34.8 +0.1**
SIRN	**S¨–rnak**	**4.51**	**307**	*i* P	**Pn**	**00 55 34.8 +0.1**
GEVA	**Gevas**	**4.64**	**319**	*i* P	**Pn**	**00 55 38.3 +1.7**
GEVA				*i* S	**Sg**	**00 56 59.0 +3.6**
GEVA	**Gevas**	**4.64**	**319**	*i* P	**Pn**	**00 55 38.3 +1.7**
IFIR	**Firoozkooh**	**4.80**	**79**	*e*Pn	**Pn**	**00 55 41.5 +2.6**
IFIR				*e*		00 56 03.1
	comp=Z,4µm,0.2s					
IFIR	**Firoozkooh**	**4.80**	**79**	Pn	**Pn**	**00 55 41.5 +2.6**
IFIR	**Firoozkooh**	**4.80**	**79**	*e*Pn	**Pn**	**00 55 41.5 +2.6**
IZEF	**Zefreh**	**4.88**	**112**	*e*Pn	**Pn**	**00 55 42.9 +2.9**
IZEF				*e*		00 57 19.3
	comp=Z,10µm,0.4s					
IZEF	**Zefreh**	**4.88**	**112**	Pn	**Pn**	**00 55 43.0 +2.9**
IZEF	**Zefreh**	**4.88**	**112**	Pn	**Pn**	**00 55 43.0 +2.9**
CLDR	**Caldiran**	**4.90**	**331**	*e*PN	**Pn**	**00 55 42.9 +2.6**
CLDR	**Caldiran**	**4.90**	**331**	Pn	**Pn**	**00 55 42.0 +1.8**
CLDR	**Caldiran**	**4.90**	**331**	Pn	**Pn**	**00 55 42.0 +1.8**
IGAR	**Gharneh**	**4.91**	**119**	*e*Pn	**Pn**	**00 55 43.0 +2.7**
IGAR				*e*		00 56 48.7
	comp=Z,3µm,0.2s					
ILAS	**Lasjerd**	**4.94**	**82**	*e*Pn	**Pn**	**00 55 43.0 +2.2**
ILAS				*e*		00 57 19.3
	comp=Z,11µm,0.5s					
ILAS	**Lasjerd**	**4.94**	**82**	*e*Pn	**Pn**	**00 55 43.0 +2.2**
TATV	**Tatvan**	**5.23**	**315**	*i* P	**Pn**	**00 55 46.8 +2.2**
TATV	**Tatvan**	**5.23**	**315**	*i* P	**Pn**	**00 55 46.8 +2.2**
MZRK	**Al-Mazaregh**	**5.24**	**282**	*e*P	**Pn**	**00 55 46.0 +1.3**
MZRK				*e*S	Sg	00 57 24.6 +9.3
MZRK				AML	AML	00 57 41.3
	comp=Z,211nm,0.6s					
MZRK	**Al-Mazaregh**	**5.24**	**282**	*e*P	**Pn**	**00 55 46.0 +1.3**
	SNR=107					
ISHM	**Shahmirzad**	**5.26**	**78**	*e*Pn	**Pn**	**00 55 47.6 +2.5**
ISHM				*e*		00 57 36.1
	comp=Z,18µm,0.6s					
ISHM	**Shahmirzad**	**5.26**	**78**	*e*Pn	**Pn**	**00 55 47.6 +2.5**
NASN	**Na'in**	**5.29**	**111**	*e*Pn	**Pn**	**00 55 48.8 +3.1**
NASN	**Na'in**	**5.29**	**111**	*e*Pn	**Pn**	**00 55 48.8 +3.1**
UMR	**Umm Al-Rimmam**	**5.35**	**173**	*e*P	**Pn**	**00 55 48.6 +2.4**
UMR	**Umm Al-Rimmam**	**5.35**	**173**	*e*P	**Pn**	**00 55 48.6 +2.4**
RST	**Umm Al-Ruwaisa**	**5.37**	**180**	*e*P	**Pn**	**00 55 49.2 +2.8**
RST	**Umm Al-Ruwaisa**	**5.37**	**180**	*e*P	**Pn**	**00 55 49.2 +2.8**
BEST	**Besiri**	**5.49**	**305**	*i* P	**Pn**	**00 55 48.5 +0.4**
BTMT	**Batman**	**5.51**	**308**	*e*Pn	**Pn**	**00 55 49.6 +1.3**
GNI	**Garni**	**5.55**	**342**	Pn	**Pn**	**00 55 51.8 +2.8**
	SNR=23					
GNI	**Garni**	**5.55**	**342**	*e*PN	Pn	00 55 54.5 +5.5
GNI	**Garni**	**5.55**	**342**	*e*Pn	Pn	00 55 54.5 +5.5
GNI				*e*Sn	**Sn**	**00 56 52.8 +0.4**
GNI				Lg	Lg	00 57 25.1
GNI	**Garni**	**5.55**	**342**	P	**Pn**	**00 55 50.6 +1.6**
	comp=Z,3.0nm,0.3s					
GNI	**Garni**	**5.55**	**342**	Pn	**Pn**	**00 55 51.8 +2.8**
	SNR=23					
GNI				*e*Sn	**Sn**	**00 56 52.8 +0.4**
GNI	**Garni**	**5.55**	**342**	Pn	**Pn**	**00 55 50.6 +1.6**
	comp=Z,1.0nm,0.3s,baz=207,slow=3.8,SNR=9.5					
GNI				Pg	Pb	00 56 06.7 +3.1
	comp=Z,3.0nm,0.3s,baz=129,slow=12,SNR=10					
GNI				Lg	Lg	00 57 25.1
	baz=17,slow=18,SNR=4.0					
MARD	**Mardin**	**5.56**	**298**	*i* P	**Pn**	**00 55 50.5 +1.3**
TUTA	**Tutak**	**5.60**	**325**	*i* P	Pn	00 55 53.1 +3.3
KBSD	**Kabsdagh**	**5.62**	**294**	*e*P	**Pn**	**00 55 48.7 -1.2**
KBSD				*e*S	**Sg**	**00 57 29.8 +2.3**
KBSD				AML	AML	00 57 50.1
	comp=Z,137nm,0.6s					
NAY	**Al-Naaiem**	**5.62**	**177**	*e*P	**Pn**	**00 55 52.5 +2.5**
NAY				AML	AML	00 56 54.2
	comp=Z,208nm,0.6s					
AGRB	**Hanur-Agry**	**5.65**	**327**	*e*PN	Pn	00 55 54.2 +3.7
KBD	**Kabd**	**5.72**	**174**	*e*P	**Pn**	**00 55 53.9 +2.6**
KBD				AML	AML	00 56 56.0
	comp=Z,194nm,0.5s					
IANJ	**Anjilo**	**5.72**	**82**	*e*Pn	**Pn**	**00 55 53.0 +1.5**
IANJ				*e*		00 57 41.7
	comp=Z,4µm,0.5s					
IANJ	**Anjilo**	**5.72**	**82**	*e*Pn	**Pn**	**00 55 53.0 +1.5**
SFNV	**Sufian**	**5.78**	**287**	*e*P	**Pn**	**00 55 51.8 -0.4**
SFNV				*e*S	**Sg**	**00 57 35.0 +2.3**
SFNV				AML	AML	00 57 41.0
	comp=Z,239nm,0.6s					
EKAR	**Karacoban**	**5.86**	**320**	*i* P	**Pn**	**00 55 55.5 +2.1**
MAZI	**Mazidag**	**5.86**	**298**	*e*PN	**Pn**	**00 55 53.2 -0.2**
RDF	**Al-Radifah**	**5.96**	**175**	*e*P	Pn	00 55 57.9 +3.3
RDF				AML	AML	00 57 09.4
	comp=Z,544nm,0.7s					
RDF	**Al-Radifah**	**5.96**	**175**	*e*P	Pn	00 55 57.9 +3.3
VRTB	**Varto-Mus**	**6.13**	**316**	*e*PN	**Pn**	**00 55 58.7 +1.6**
BNGL	**BINGOL**	**6.18**	**313**	*i* P	**Pn**	**00 55 59.3 +1.6**
DIY	**Diyarbakir**	**6.21**	**301**	*e*PN	**Pn**	**00 55 58.4 +0.4**
DIY	**Diyarbakir**	**6.21**	**301**	Pn	**Pn**	**00 55 58.4 +0.4**
DIY	**Diyarbakir**	**6.21**	**301**	Pn	**Pn**	**00 55 58.4 +0.4**
DIGO	**Kars**	**6.21**	**334**	*i* P	Pn	00 56 02.2 +3.9
DIYA	**Diyarbakir**	**6.30**	**301**	*i* P	**Pn**	**00 56 02.4 +3.2**
ISAD	**Sadrabad**	**6.36**	**116**	*e*Pn	**Pn**	**00 56 01.9 +1.7**
ISAD				*e*		00 58 00.5
	comp=Z,7µm,0.6s					
ISAD	**Sadrabad**	**6.36**	**116**	Pn	**Pn**	**00 56 01.9 +1.7**
ISAD	**Sadrabad**	**6.36**	**116**	*e*Pn	**Pn**	**00 56 01.9 +1.7**
EAK	**Akyaka**	**6.37**	**336**	*i* P	Pn	00 56 05.9 +5.5
BNGB	**Bing¨ll**	**6.49**	**311**	*e*PN	**Pn**	**00 56 02.8 +0.9**
KARS	**Kars**	**6.51**	**333**	*e*PN	Pn	00 56 06.8 +4.7
BINT	**Bingol**	**6.54**	**309**	P	**Pn**	**00 56 02.8 +0.2**
BINT	**Bingol**	**6.54**	**309**	Pn	**Pn**	**00 56 02.8 +0.2**
BINT	**Bingol**	**6.54**	**309**	P	**Pn**	**00 56 02.8 +0.2**
DGRG	**David-gareji**	**6.68**	**350**	P	Pn	00 56 10.5 +6.1
ERZM	**Erzurum**	**6.71**	**320**	*i* P	Pn	00 56 11.3 +6.2
EZM	**Erzurum**	**6.71**	**320**	*e*PN	**Pn**	**00 56 07.6 +2.6**
EZM	**Erzurum**	**6.71**	**320**	Pn	**Pn**	**00 56 07.6 +2.6**
ICHK	**Chekchek**	**6.75**	**111**	*e*Pn	**Pn**	**00 56 07.8 +2.1**
ICHK				*e*		00 58 17.4
	comp=Z,5µm,0.5s					
ICHK	**Chekchek**	**6.75**	**111**	Pn	**Pn**	**00 56 07.7 +2.1**
ICHK	**Chekchek**	**6.75**	**111**	Pn	**Pn**	**00 56 07.7 +2.1**
JHLN	**Al Jahlan**	**7.01**	**279**	*e*P	**Pn**	**00 56 09.4 +0.4**
TBLG	**Delisi**	**7.06**	**346**	P	Pn	00 56 13.9 +4.3
AKH	**Akhalkalaki**	**7.07**	**338**	P	Pn	00 56 14.6 +4.7
IPAR	**Pars**	**7.19**	**133**	*e*Pn	**Pn**	**00 56 13.4 +1.6**
IPAR				*e*		00 57 40.3
	comp=Z,3µm,0.4s					
IPAR	**Pars**	**7.19**	**133**	Pn	**Pn**	**00 56 13.4 +1.6**
IPAR	**Pars**	**7.19**	**133**	*e*Pn	**Pn**	**00 56 13.4 +1.6**
KOPT	**Kop Dagi**	**7.26**	**317**	*i* P	Pn	00 56 20.2 +7.6
PTK	**Pertek**	**7.26**	**306**	*e*PN	**Pn**	**00 56 13.5 +0.9**
PTK	**Pertek**	**7.26**	**306**	Pn	**Pn**	**00 56 12.1 -0.5**
PTK	**Pertek**	**7.26**	**306**	Pn	**Pn**	**00 56 12.1 -0.5**
DAGI	**Agillar**	**7.36**	**329**	*i* P	Pn	00 56 18.4 +4.5
EPOS	**Posof**	**7.40**	**335**	*i* P	**Pn**	**00 56 15.3 +0.8**
ERZN	**Erzincan**	**7.44**	**311**	*e*PN	**Pn**	**00 56 16.9 +1.9**
ATAB	**Bozova**	**7.47**	**293**	*i* P	**Pn**	**00 56 15.7 +0.4**
ISRV	**Sarvestan**	**7.57**	**135**	*e*Pn	**Pn**	**00 56 18.3 +1.4**
ISRV				*e*		00 59 14.7
	comp=Z,6µm,0.7s					
ISRV	**Sarvestan**	**7.57**	**135**	Pn	**Pn**	**00 56 18.1 +1.2**
ISRV	**Sarvestan**	**7.57**	**135**	*e*Pn	**Pn**	**00 56 18.3 +1.4**
MALT	**Malatya**	**7.67**	**299**	P	**Pn**	**00 56 19.2 +1.1**
MALT	**Malatya**	**7.67**	**299**	*e*PN	**Pn**	**00 56 19.2 +1.1**
MALT	**Malatya**	**7.67**	**299**	Pn	**Pn**	**00 56 19.2 +1.1**
MALT	**Malatya**	**7.67**	**299**	P	**Pn**	**00 56 19.2 +1.1**
EZC	**Erzincan**	**7.77**	**311**	P	**Pn**	**00 56 21.3 +1.8**
EZC	**Erzincan**	**7.77**	**311**	*e*PN	**Pn**	**00 56 21.3 +1.8**
EZC	**Erzincan**	**7.77**	**311**	Pn	**Pn**	**00 56 21.3 +1.8**
EZC	**Erzincan**	**7.77**	**311**	P	**Pn**	**00 56 21.3 +1.8**
GUDG	**Gudauri**	**7.82**	**346**	P	Pn	00 56 24.6 +4.4
IBAF	**Bafgh**	**7.92**	**112**	*e*Pn	**Pn**	**00 56 23.7 +2.1**
IBAF				*e*		00 58 57.4
	comp=Z,4µm,1.0s					
IBAF	**Bafgh**	**7.92**	**112**	Pn	**Pn**	**00 56 23.7 +2.1**
IBAF	**Bafgh**	**7.92**	**112**	*e*Pn	**Pn**	**00 56 23.7 +2.1**
GZT	**Gaziantep**	**8.00**	**291**	*i* P	**Pn**	**00 56 22.4 -0.2**
KEMA	**Kemaliye**	**8.06**	**305**	*i* P	**Pn**	**00 56 23.7 +0.3**
KELT	**Kelkit**	**8.07**	**313**	*i* P	**Pn**	**00 56 26.5 +2.9**
ILIC	**ilic-Erzincan**	**8.10**	**307**	*e*PN	**Pn**	**00 56 24.8 +0.8**
GUMT	**Gumushane**	**8.13**	**315**	*e*PN	**Pn**	**00 56 26.2 +1.6**
GUMT	**Gumushane**	**8.13**	**315**	Pn	**Pn**	**00 56 26.1 +1.6**
GUMT	**Gumushane**	**8.13**	**315**	Pn	**Pn**	**00 56 26.1 +1.6**
ONI	**Oni**	**8.17**	**341**	P	Pn	00 56 28.9 +4.0
ZALF	**Zalf**	**8.24**	**259**	*e*P	**Pn**	**00 56 25.9 0.0**
ZEI	**Tsey**	**8.25**	**344**	*e*P	Pn	00 56 29.8 +3.7
ZEI				pmax	pmax	
	comp=Z,81nm,2.0s					
ZEI	**Tsey**	**8.25**	**344**	*e*P	Pn	00 56 29.8 +3.7
	comp=Z,81nm,2.0s					
VLKR	**Vladikavkaz**	**8.34**	**348**	*i* P	**Pn**	**00 56 26.4 -0.9**
VLKR	**Vladikavkaz**	**8.34**	**348**	*i* P	**Pn**	**00 56 26.4 -0.9**
DIGR	**Digorskoe uzhe**	**8.43**	**343**	*e*P	**Pn**	**00 56 29.3 +0.7**
DIGR	**Digorskoe uzhe**	**8.43**	**343**	*e*P	**Pn**	**00 56 29.3 +0.7**
KORR	**Kora**	**8.50**	**346**	*i* P	**Pn**	**00 56 29.5 +0.1**
KORR	**Kora**	**8.50**	**346**	*i* P	**Pn**	**00 56 29.5 +0.1**
AYKD	**Aykdinkavak**	**8.59**	**290**	*i* P	**Pn**	**00 56 30.4 -0.3**
MARH	**Ras Al Marh**	**8.70**	**267**	*e*P	**Pn**	**00 56 33.0 +0.6**
SUSE	**Susehri**	**8.75**	**310**	*i* P	Pn	00 56 37.4 +4.4
ASF	**Jabal al Asfar**	**8.82**	**255**	Pn	**Pn**	**00 56 34.6 +0.6**
ASF				Lg	Lg	00 59 06.8
ASF	**Jabal al Asfar**	**8.82**	**255**	Pn	**Pn**	**00 56 34.6 +0.6**
	comp=Z,5.4nm,0.3s,baz=12,slow=10.0,SNR=55					
ASF				Lg	Lg	00 59 06.8
	comp=Z,1.6nm,0.3s,baz=0.0,slow=20,SNR=4.2					
ASF				LR	LR	01 00 47.0
	comp=Z,1µm,21.0s,baz=20,slow=43					
COBT	**Iskenderun**	**8.86**	**284**	*i* P	**Pn**	**00 56 34.8 +0.3**
ESPY	**Espiye-Giresun**	**8.87**	**315**	*e*PN	**Pn**	**00 56 36.1 +1.7**
HTY	**Hatay**	**8.91**	**281**	*e*PN	**Pn**	**00 56 34.8 -0.3**
HTY	**Hatay**	**8.91**	**281**	Pn	**Pn**	**00 56 34.7 -0.3**
HTY	**Hatay**	**8.91**	**281**	Pn	**Pn**	**00 56 34.7 -0.3**
YAYL	**Yayladag**	**8.93**	**281**	*i* P	**Pn**	**00 56 35.9 +0.5**
ANDN	**Andirin**	**8.99**	**290**	*i* P	**Pn**	**00 56 36.3 0.0**
TRKR	**Terskaya**	**9.00**	**350**	*e*P	**Pn**	**00 56 36.4 +0.2**
TRKR	**Terskaya**	**9.00**	**350**	*e*P	**Pn**	**00 56 36.4 +0.2**
ARNB	**Al Arnab**	**9.03**	**279**	*e*P	**Pn**	**00 56 37.2 +0.5**
HWQ	**Hawqa**	**9.10**	**269**	*e*P	**Pn**	**00 56 38.2 +0.4**
GRSN	**GIRESUNGRSN**	**9.14**	**314**	*i* P	Pn	00 56 42.7 +4.5
ISFR	**Sfrayin**	**9.21**	**73**	*e*Pn	**Pn**	**00 56 41.5 +2.1**
ISFR				*e*		00 59 55.3
	comp=Z,641nm,0.6s					
ISFR	**Sfrayin**	**9.21**	**73**	*e*Pn	**Pn**	**00 56 41.5 +2.1**
BRBR	**Barbar**	**9.24**	**264**	*e*P	**Pn**	**00 56 40.5 +0.7**
SCER	**sogukcermik**	**9.27**	**305**	*i* P	Pn	00 56 46.8 +6.7
RCY	**Rachaya**	**9.32**	**265**	*e*P	**Pn**	**00 56 41.5 +0.7**
CEYT	**Ceyhan**	**9.34**	**286**	*e*PN	**Pn**	**00 56 40.5 -0.4**
CEYT	**Ceyhan**	**9.34**	**286**	Pn	**Pn**	**00 56 40.4 -0.4**
CEYT	**Ceyhan**	**9.34**	**286**	Pn	**Pn**	**00 56 40.4 -0.4**
KOZT	**Kozan**	**9.37**	**289**	*e*PN	**Pn**	**00 56 40.6 -0.7**
SVSK	**Karacayir**	**9.38**	**305**	*e*PN	**Pn**	**00 56 42.1 +0.6**
SVSK	**Karacayir**	**9.38**	**305**	Pn	**Pn**	**00 56 42.0 +0.6**
SVSK	**Karacayir**	**9.38**	**305**	Pn	**Pn**	**00 56 42.0 +0.6**
BHL	**Bhannes**	**9.40**	**267**	*e*P	**Pn**	**00 56 42.6 +0.8**
RSDY	**Resadiye-TOKAT**	**9.41**	**309**	*e*PN	**Pn**	**00 56 42.9 +0.9**
RSDY	**Resadiye-TOKAT**	**9.41**	**309**	Pn	**Pn**	**00 56 42.9 +0.9**
RSDY	**Resadiye-TOKAT**	**9.41**	**309**	Pn	**Pn**	**00 56 42.9 +0.9**
KSDI	**Kefar Szold**	**9.53**	**263**	P	Pn	00 56 45.0 +1.5
KSDI	**Kefar Szold**	**9.53**	**263**	P	Pn	00 56 45.0 +1.5
KIV	**Kislovodsk**	**9.64**	**341**	*c*eP	**Pn**	**00 56 46.3 +1.2**
KIV				*e*S	**Sn**	**00 58 38.0 +4.9**
KIV				pmax	pmax	
	comp=Z,8.0nm,1.1s					
KIV	**Kislovodsk**	**9.64**	**341**	*e*P	**Pn**	**00 56 46.3 +1.2**
	comp=Z,8.0nm,1.1s					
KIV				*e*S	**Sn**	**00 58 38.0 +4.9**
IAKL	**Akhelmad**	**9.74**	**76**	*e*Pn	**Pn**	**00 56 49.6 +2.9**
IAKL				*e*		01 01 09.1
	comp=Z,399nm,0.7s					
BNN	**Bunyan**	**9.75**	**297**	*e*PN	**Pn**	**00 56 46.3 -0.4**
BNN	**Bunyan**	**9.75**	**297**	Pn	**Pn**	**00 56 46.2 -0.4**
BNN	**Bunyan**	**9.75**	**297**	Pn	**Pn**	**00 56 46.2 -0.4**
MMAI	**Mount Meron Ar**	**9.78**	**262**	Pn	**Pn**	**00 56 47.8 +0.7**
MMAI				Lg	Lg	00 59 32.6
MMAI	**Mount Meron Ar**	**9.78**	**262**	Pn	**Pn**	**00 56 47.8 +0.7**
MMAI				Lg	Lg	00 59 32.6
MMAI	**Mount Meron Ar**	**9.78**	**262**	Pn	**Pn**	**00 56 47.8 +0.7**
	comp=Z,6.8nm,0.3s,baz=80,slow=16,SNR=45					
MMAI				Lg	Lg	00 59 32.6
	comp=Z,2.7nm,0.3s,baz=58,slow=23,SNR=2.8					
IEMG	**Emamgholi**	**9.79**	**72**	*e*Pn	**Pn**	**00 56 49.6 +2.3**
IEMG	**Emamgholi**	**9.79**	**72**	*e*Pn	**Pn**	**00 56 49.6 +2.3**
MMLI	**Mount Malkishu**	**9.92**	**259**	*e*PN	**Pn**	**00 56 49.8 +0.9**
MMLI	**Mount Malkishu**	**9.92**	**259**	Pn	**Pn**	**00 56 49.8 +0.9**
MMLI	**Mount Malkishu**	**9.92**	**259**	Pn	**Pn**	**00 56 49.8 +0.9**
SOC	**Sochi**	**10.34**	**329**	*c*P	**Pn**	**00 56 57.3 +2.7**
SOC				*e*		00 58 54.8
SOC				pmax	pmax	
	comp=Z,16nm,0.6s					
SOC				MLR	MLR	
	comp=Z,3µm,15.0s					
SOC	**Sochi**	**10.34**	**329**	*i* P	**Pn**	**00 56 57.3 +2.7**
	comp=Z,16nm,0.6s					
SOC				*e*S	**Sn**	**00 58 54.8 +4.7**
	comp=Z,3µm,15.0s					
NIG	**Nigde**	**10.45**	**292**	*e*PN	**Pn**	**00 56 55.1 -1.3**
NIG	**Nigde**	**10.45**	**292**	Pn	**Pn**	**00 56 55.1 -1.3**
NIG	**Nigde**	**10.45**	**292**	Pn	**Pn**	**00 56 55.1 -1.3**
AVNT	**Avonos**	**10.45**	**295**	*i* P	Pn	00 57 03.1 +6.8
GOF	**Gofitskoye**	**10.60**	**345**	*e*P	Pn	00 57 04.3 +6.2
GOF	**Gofitskoye**	**10.60**	**345**	*e*P	Pn	00 57 04.3 +6.2
IKL	**Isikli**	**10.90**	**281**	*e*PN	**Pn**	**00 57 01.5 -0.9**
IKL	**Isikli**	**10.90**	**281**	Pn	**Pn**	**00 57 01.4 -0.9**
IKL	**Isikli**	**10.90**	**281**	Pn	**Pn**	**00 57 01.4 -0.9**
IBND	**Bandar-abas**	**11.05**	**130**	*e*Pn	**Pn**	**00 57 05.0 +0.6**
IBND				*e*		00 59 29.0
	comp=Z,3µm,0.2s					
IBND	**Bandar-abas**	**11.05**	**130**	*e*Pn	**Pn**	**00 57 05.0 +0.6**
CORM	**Corum**	**11.12**	**302**	*e*PN	**Pn**	**00 57 05.3 -0.2**
CORM	**Corum**	**11.12**	**302**	Pn	**Pn**	**00 57 05.3 -0.2**
CORM	**Corum**	**11.12**	**302**	Pn	**Pn**	**00 57 05.3 -0.2**
CSS	**Prodhromos**	**11.19**	**274**	*e*PN	**Pn**	**00 57 05.9 -0.4**
CSS	**Prodhromos**	**11.19**	**274**	*e*Pn	**Pn**	**00 57 06.2 -0.1**
CSS	**Prodhromos**	**11.19**	**274**	*e*Pn	**Pn**	**00 57 06.2 -0.1**
RAYN	**Ar Rayn**	**11.39**	**187**	*e*Pn	**Pn**	**00 57 07.4 -1.7**
RAYN	**Ar Rayn**	**11.39**	**187**	Pn	**Pn**	**00 57 06.3 -2.8**
	comp=Z,809nm,0.9s,SNR=82					
RAYN	**Ar Rayn**	**11.39**	**187**	*e*Pn	**Pn**	**00 57 07.4 -1.7**
EIL	**Elat**	**11.41**	**246**	Pn	**Pn**	**00 57 09.8 +0.5**
EIL				Lg	Lg	01 00 31.1
EIL	**Elat**	**11.41**	**246**	Pn	**Pn**	**00 57 09.9 +0.5**
EIL				Lg	Lg	01 00 31.0
EIL	**Elat**	**11.41**	**246**	Pn	**Pn**	**00 57 09.8 +0.5**
	comp=Z,0.9nm,0.3s,baz=58,slow=8.8,SNR=11					
EIL				Lg	Lg	01 00 31.1
	comp=Z,1.5nm,0.3s,baz=252,slow=23,SNR=4.0					
EIL				LR	LR	01 02 31.0
	comp=Z,750nm,20.0s,baz=244,slow=43					
LEF	**Lefka**	**11.54**	**275**	*e*PN	**Pn**	**00 57 11.0 -0.2**
LEF	**Lefka**	**11.54**	**275**	Pn	**Pn**	**00 57 10.9 -0.2**
LEF	**Lefka**	**11.54**	**275**	Pn	**Pn**	**00 57 10.9 -0.2**
ERMK	**Ermenek**	**11.55**	**283**	*i* P	**Pn**	**00 57 14.1 +2.7**
BR131	**Keskin Array S**	**11.65**	**298**	*e*Pn	**Pn**	**00 57 12.8 +0.1**
	comp=Z,14nm,1.1s					
BR131	**Keskin Array S**	**11.65**	**298**	*e*Pn	**Pn**	**00 57 12.8 +0.1**
	comp=Z,14nm,1.1s					
BRTR	**Keskin Array B**	**11.65**	**298**	Pn	**Pn**	**00 57 13.2 +0.4**
BRTR	**Keskin Array B**	**11.65**	**298**	P	**Pn**	**00 57 13.2 +0.4**
BRTR	**Keskin Array B**	**11.65**	**298**	Pn	**Pn**	**00 57 13.2 +0.4**
	comp=Z,0.2nm,0.3s,baz=108,slow=12,SNR=18					
BRTR				LR	LR	01 01 54.6
	comp=Z,617nm,18.3s,baz=112,slow=39					
HDMB	**Hadim**	**11.92**	**284**	*e*PN	**Pn**	**00 57 15.3 -1.2**
HDMB	**Hadim**	**11.92**	**284**	Pn	**Pn**	**00 57 15.2 -1.2**
HDMB	**Hadim**	**11.92**	**284**	Pn	**Pn**	**00 57 15.2 -1.2**
BBAL	**Bala**	**11.97**	**297**	*i* P	Pn	00 57 20.7 +3.7
AFSR	**Af¨ar-Bala (A**	**11.98**	**296**	*e*PN	**Pn**	**00 57 16.3 -0.8**
BANOM	**Banah**	**12.02**	**135**	Pn	**Pn**	**00 57 17.3 -0.4**
	SNR=10.0					
BANOM	**Banah**	**12.02**	**135**	P	**Pn**	**00 57 16.6 -1.1**
	SNR=60					
BANOM	**Banah**	**12.02**	**135**	Pn	**Pn**	**00 57 17.3 -0.4**
	SNR=10.0					
ANTO	**Ankara**	**12.32**	**298**	*e*P	Pn	00 57 26.0 +4.3
ANTO	**Ankara**	**12.32**	**298**	Pn	P

KBL **Kabul** 18.16 85 *e*Pn P 00 58 40.9 +2.0
comp=Z,24nm,0.9s
KBL **Kabul** 18.16 85 *e*P P 00 58 40.9 +2.0
comp=Z,24nm,0.9s
SIVA **Sivas** 18.16 277 P P 00 58 38.6 0.0
SIVA **Sivas** 18.16 277 P P 00 58 38.6 0.0
SIVA **Sivas** 18.16 277 P P 00 58 38.6 0.0
KDZ **Kurdzhali** 18.19 298 *i* P P 00 58 44.2 +5.2
KIS **Kishinev** 18.23 317 *e*P Pn 00 58 37.0 -2.2
KIS LRM MLR 01 07 38.0
comp=Z,500nm,12.0s
RBK **Rabkut** 18.48 158 P P 00 58 39.3 -2.9
SNR=76
VAM **Vamos** 18.62 278 P Pn 00 58 44.2 +0.2
VAM **Vamos** 18.62 278 P Pn 00 58 44.2 +0.2
VAM **Vamos** 18.62 278 *e*PN Pn 00 58 44.7 +0.7
VAM *e*SN 00 58 56.0
VAM **Vamos** 18.62 278 P Pn 00 58 44.2 +0.2
VAM **Vamos** 18.62 278 P Pn 00 58 44.2 +0.2
VAM **Vamos** 18.62 278 P Pn 00 58 44.2 +0.2
VAM **Vamos** 18.62 278 *e*Pn Pn 00 58 44.7 +0.7
VAM *e*Sn Px 00 58 56.0
RZN **Rozhen** 18.71 298 *i* P Pn 00 58 46.1 +0.8
GVD **Gavdhos** 18.77 276 *e*P P 00 58 45.0 -0.4
comp=Z,219nm,1.1s
GVD **Gavdhos** 18.77 276 *e*P P 00 58 45.0 -0.4
comp=Z,219nm,1.1s
KARN **Karanos** 18.85 278 P P 00 58 46.2 -0.1
KARN **Karanos** 18.85 278 P P 00 58 46.2 -0.1
KARN **Karanos** 18.85 278 P P 00 58 46.2 -0.1
VRI **Vrincioaia** 18.87 312 ⇑*i*P P 00 58 46.5 +0.1
PLOR **Plostina** 18.91 312 ⇓*i*P Pn 00 58 47.8 +0.3
MLR **Muntele Rosu** 19.18 310 ⇓*i*P Pn 00 58 52.9 +2.0
TESR **Tescani** 19.23 313 ⇑*i*P Pn 00 58 51.5 +0.2
TESR **Tescani** 19.23 313 P P 00 58 50.6 +0.3
TESR **Tescani** 19.23 313 P P 00 58 50.6 +0.3
NVR **Nevrokopi** 19.26 296 P Pn 00 58 51.9 +0.1
NVR **Nevrokopi** 19.26 296 P Pn 00 58 51.9 +0.1
NVR **Nevrokopi** 19.26 296 P Pn 00 58 51.9 +0.1
MMB **Musomiste** 19.41 297 *i* P Pn 00 58 55.9 +2.3
SRS **Serrai** 19.41 296 P Pn 00 58 53.3 -0.3
SRS **Serrai** 19.41 296 P Pn 00 58 53.9 +0.3
SRS **Serrai** 19.41 296 P Pn 00 58 53.9 +0.3
SRS **Serrai** 19.41 296 P Pn 00 58 53.9 +0.3
LTBQ **Tobrug** 19.42 268 *i* P P 00 58 52.2 -0.3
comp=Z,154nm,1.4s,SNR=40
KYTH **Kithira** 19.50 281 P P 00 58 53.5 +0.1
KYTH **Kithira** 19.50 281 *e*PN P 00 58 45.8 -7.6
KYTH **Kithira** 19.50 281 P P 00 58 53.5 +0.1
KYTH **Kithira** 19.50 281 P P 00 58 53.5 +0.1
KYTH **Kithira** 19.50 281 *e*Pn P 00 58 45.8 -7.6
SOH **Sokhos** 19.54 295 P Pn 00 58 54.9 -0.2
SOH **Sokhos** 19.54 295 P Pn 00 58 54.9 -0.2
SOH **Sokhos** 19.54 295 P Pn 00 58 54.9 -0.2
SOH **Sokhos** 19.54 295 P Pn 00 58 54.9 -0.2
LTK **Loutraki** 19.54 286 P P 00 58 54.5 +0.7
LTK **Loutraki** 19.54 286 P P 00 58 54.5 +0.7
LTK **Loutraki** 19.54 286 P P 00 58 54.5 +0.7
VLI **Veliai** 19.56 282 P P 00 58 52.7 -1.4
VLI **Veliai** 19.56 282 *e*PN P 00 58 53.5 -0.6
VLI **Veliai** 19.56 282 P P 00 58 52.7 -1.4
VLI **Veliai** 19.56 282 P P 00 58 52.7 -1.4
VLI **Veliai** 19.56 282 P P 00 58 52.7 -1.4
VLI **Veliai** 19.56 282 *e*Pn P 00 58 53.5 -0.6
VOIR 19.73 309 P Pn 00 58 56.7 -0.7
VOIR 19.73 309 ⇑*i*P P 00 58 56.4 +0.5
VOIR 19.73 309 P Pn 00 58 56.7 -0.7
VOIR 19.73 309 P Pn 00 58 56.7 -0.7
MPEP **Malo Peshtene** 19.86 302 *i* P Pn 00 59 00.5 +8.2
DSF **Desfina** 19.90 287 P P 00 58 58.1 +0.3
DSF **Desfina** 19.90 287 P P 00 58 58.1 +0.3
DSF **Desfina** 19.90 287 P P 00 58 58.1 +0.3
KNT **Kendrikon** 19.94 295 P P 00 58 57.1 -1.0
KNT **Kendrikon** 19.94 295 P Pn 00 59 01.4 +1.6
KNT **Kendrikon** 19.94 295 P Pn 00 59 01.4 +1.6
KNT **Kendrikon** 19.94 295 P P 00 58 57.1 -1.0
KKB **Krupnik** 19.94 298 *i* P Pn 00 59 01.1 +1.2
ARR **Arges** 19.97 308 ⇑*i*P P 00 58 59.0 +0.5
ARR **Arges** 19.97 308 P Pn 00 58 59.5 -0.7
ARR **Arges** 19.97 308 P Pn 00 58 59.5 -0.7
VLX **Vlachokerasia** 20.00 284 *e*PN Pn 00 59 03.8 +3.1
VLX **Vlachokerasia** 20.00 284 *e*Pn Pn 00 59 03.8 +3.1
VTS **Vitosha** 20.02 300 P Pn 00 59 00.2 -0.8
VTS **Vitosha** 20.02 300 ⇓*i*P P 00 58 59.3 +0.1
VTS **Vitosha** 20.02 300 *i* P Pn 00 59 04.1 +3.1
VTS **Vitosha** 20.02 300 P Pn 00 59 00.2 -0.8
VTS **Vitosha** 20.02 300 P Pn 00 59 00.2 -0.8
LIT **Litokhoron** 20.08 292 P P 00 59 00.1 +0.4
LIT **Litokhoron** 20.08 292 P P 00 59 00.1 +0.4
LIT **Litokhoron** 20.08 292 P P 00 59 00.1 +0.4
LIT **Litokhoron** 20.08 292 P P 00 59 00.1 +0.4
AGG **Agios Georgios** 20.09 289 P Pn 00 59 01.8 +0.1
AGG **Agios Georgios** 20.09 289 P Pn 00 59 01.8 +0.1
AGG **Agios Georgios** 20.09 289 P Pn 00 59 01.8 +0.1
KLV **Kalavryta, Ach** 20.19 286 P P 00 59 01.4 +0.5
KLV **Kalavryta, Ach** 20.19 286 P P 00 59 01.4 +0.5
KLV **Kalavryta, Ach** 20.19 286 P P 00 59 01.4 +0.5
VAY **Valandovo** 20.21 296 P P 00 59 00.5 -0.5
VAY **Valandovo** 20.21 296 P P 00 59 00.5 -0.5
VAY **Valandovo** 20.21 296 P P 00 59 00.5 -0.5
LAKA **Lakka** 20.33 287 P P 00 59 02.1 -0.3
LAKA **Lakka** 20.33 287 P P 00 59 02.1 -0.3
LAKA **Lakka** 20.33 287 P P 00 59 02.1 -0.3
DAMY **Dhamar** 20.36 187 *e*P Pn 00 59 05.9 +0.7
DAMY **Dhamar** 20.36 187 *e*P Pn 00 59 05.9 +0.6
AKASG **Malin Array Be** 20.39 326 P P 00 59 01.2 -1.8
AKASG **Malin Array Be** 20.39 326 P P 00 59 01.2 -1.8
AKASG **Malin Array Be** 20.39 326 P P 00 59 01.2 -1.8
AKASG **Malin Array Be** 20.39 326 P P 00 59 01.2 -1.8
comp=Z,1.2nm,0.4s,baz=135,slow=11,SNR=26
KIEV **Kiev** 20.40 326 *e*P P 00 59 01.0 -2.0
KIEV pmax pmax
comp=Z,191nm,2.0s
KIEV **Kiev** 20.40 326 *e*P P 00 59 01.0 -2.0
comp=Z,191nm,2.0s
KIEV **Kiev** 20.40 326 *e*P P 00 59 01.0 -2.0
comp=Z,191nm,2.0s
PYL **PYLOS** 20.52 283 *e*PN P 00 59 01.8 -2.6
PYL **PYLOS** 20.52 283 *e*Pn P 00 59 01.8 -2.6
LOT **Lotru** 20.56 308 ⇑*i*P P 00 59 05.1 +0.2
LOT **Lotru** 20.56 308 P P 00 59 05.5 +0.6
LOT **Lotru** 20.56 308 P P 00 59 05.5 +0.6
BURAR **Bucovina Array** 20.63 315 P P 00 59 06.7 +1.0
BURAR **Bucovina Array** 20.63 315 ⇑*i*P P 00 59 03.7 -2.0
BURAR **Bucovina Array** 20.63 315 P P 00 59 06.7 +1.0
BURAR **Bucovina Array** 20.63 315 P P 00 59 06.7 +1.0
BUR08 **Bucovina Ar. S** 20.66 315 *e*P P 00 59 04.8 -1.2
BUR08 **Bucovina Ar. S** 20.66 315 *e*P P 00 59 04.8 -1.2
NEST **Nestorio** 21.21 293 P P 00 59 13.6 +1.6
OBN **Obninsk** 21.48 344 ⇑*e*P P 00 59 12.8 -1.8
OBN *i* S S 01 03 10.2 -1.8
OBN pmax pmax
comp=Z,18nm,1.0s
OBN **Obninsk** 21.48 344 *e*P P 00 59 12.8 -1.8
comp=Z,18nm,1.0s
BMR **Baia Mare** 21.68 313 P P 00 59 17.6 +0.8
BMR **Baia Mare** 21.68 313 ⇑*i*P P 00 59 17.6 +0.8
BMR **Baia Mare** 21.68 313 P P 00 59 17.6 +0.8
BMR **Baia Mare** 21.68 313 P P 00 59 17.6 +0.8
DRGR 21.77 310 P P 00 59 18.3 +0.4
DRGR 21.77 310 ⇑*i*P P 00 59 17.4 -0.5
DRGR 21.77 310 P P 00 59 18.3 +0.4
DRGR 21.77 310 P P 00 59 18.3 +0.4
MARJ **Al Marj** 21.80 271 *i* P P 00 59 18.0 -0.3
comp=Z,303nm,1.5s,SNR=39
MOS **Moscow** 21.83 346 *e*P P 00 59 13.1 -5.2
MOS *e* 00 59 50.7
MOS pmax pmax
comp=Z,74nm,1.6s
MOS MLR MLR
comp=N,1μm,16.0s
MOS MLR MLR
comp=Z,1μm,16.0s
TIR **Tirane** 22.22 295 *e*P P 00 59 19.9 -2.9
TIR **Tirane** 22.22 295 *e*P P 00 59 19.9 -2.9
comp=Z,2μm,2.9s
TIR **Tirane** 22.22 295 *e*P P 00 59 19.9 -2.9
SIRR **Siria** 22.23 308 ⇑*i*P P 00 59 23.4 +0.5
LVV **L'vov** 22.46 319 *e*P P 00 59 25.4 +0.2
LVV **L'vov** 22.46 319 P P 00 59 25.4 +0.2
LVV **L'vov** 22.46 319 *e*P P 00 59 25.4 +0.2
TRPA **Tarpa** 22.46 314 ⇓*i*P P 00 59 16.2 -9.0
LUJL **Ujela** 22.48 262 *i* P P 00 59 25.2 -0.4
comp=Z,160nm,1.4s,SNR=38
AAK **Ala-Archa** 22.75 62 LR LR 01 09 60.0
comp=Z,231nm,19.6s,baz=261,slow=41
LJBD **Adjabya** 22.79 268 *i* P P 00 59 27.8 -1.1
comp=Z,136nm,1.6s,SNR=38
UZH **Uzhgorod** 22.84 314 *e*P P 00 59 30.3 +1.1
UZH *e* 00 59 37.5
UZH *e* 00 59 46.7
UZH *e* 01 00 03.5
UZH *e*S S 01 03 33.3 -4.4
UZH **Uzhgorod** 22.84 314 P P 00 59 30.0 +0.8
UZH **Uzhgorod** 22.84 314 P P 00 59 30.0 +0.8
PLE **Pljevlja** 22.92 300 P P 00 59 30.8 +0.5
PLE **Pljevlja** 22.92 300 P P 00 59 30.8 +0.5
PLE **Pljevlja** 22.92 300 P P 00 59 30.8 +0.5
ARU **Arti** 22.96 17 *d*i P P 00 59 31.8 +1.4
ARU 00 59 56.3
ARU PPP PPP 01 00 08.0
ARU pmax pmax
comp=Z,30nm,1.7s
ARU **Arti** 22.96 17 P P 00 59 32.3 +1.9
comp=Z,236nm,1.7s,SNR=6.0
ARU **Arti** 22.96 17 *i* P P 00 59 31.8 +1.4
comp=Z,30nm,1.7s
KWP **Kalwaria Pacla** 23.09 317 *e*P P 00 59 32.4 +0.6
KWP pmax pmax
comp=Z,80nm,1.4s
KWP **Kalwaria Pacla** 23.09 317 ⇓*i*P P 00 59 27.5 -4.3
KWP **Kalwaria Pacla** 23.09 317 *e*P P 00 59 32.4 +0.6
comp=Z,80nm,1.4s
KWP **Kalwaria Pacla** 23.09 317 *e*P P 00 59 35.9 +4.1
KWP **Kalwaria Pacla** 23.09 317 *e*P P 00 59 32.3 +0.5
comp=Z,80nm,1.4s
KSH **Kashi** 23.52 70 *e*P P 00 59 35.5 -0.9
KSH pP pP 00 59 40.1 -1.4
KSH sP sP 00 59 42.1 -1.6
KSH PP PnPn 01 00 03.6 +0.5
KSH S S 01 03 42.0 -7.6
KSH sS sS 01 03 46.0 -12
KSH SS SnSn 01 04 26.0 +0.2
KSH AMB AMB
comp=Z,24nm,1.0s
KSH AMB AMB
comp=Z,160nm,3.5s
KSH LR LR
comp=Z,580nm,14.0s
KSH LR LR
comp=Z,430nm,11.6s
ATD **Arta Tunnel** 23.55 190 P P 00 59 34.3 -2.4
ATD **Arta Tunnel** 23.55 190 P P 00 59 34.3 -2.4
ATD **Arta Tunnel** 23.55 190 P P 00 59 34.3 -2.4
comp=Z,4.3nm,0.4s,baz=295,slow=14,SNR=3.3
ATD LR LR 01 09 46.0
comp=Z,327nm,18.1s,baz=156,slow=39
MICGM **Minsk** 23.71 332 *e* P 00 59 29.0 -8.9
MNK **Minsk** 23.73 332 *e*P P 00 59 29.0 -9.1
STHS **Stebnicka Huta** 23.82 315 *e*P P 00 59 38.7 -0.3
PSZ **Piszkesteto** 23.98 311 *e*P P 00 59 40.4 -0.2
PSZ pmax pmax
comp=Z,137nm,2.1s
PSZ **Piszkesteto** 23.98 311 ⇑*i*P P 00 59 43.2 +2.6
PSZ **Piszkesteto** 23.98 311 *e*P P 00 59 40.4 -0.2
comp=Z,137nm,2.1s
PSZ **Piszkesteto** 23.98 311 *e*P P 00 59 40.4 -0.2
comp=Z,137nm,2.1s
NIE **Niedzica** 24.36 315 *e*P P 00 59 46.4 +2.3
NACGM **Naroch** 24.43 331 *e* P 00 59 38.0 -6.7
BRVK **Borovoye** 24.55 35 *e*P P 00 59 46.0 +0.2
BRVK pmax pmax
comp=Z,10.0nm,0.9s
BRVK **Borovoye** 24.55 35 *e*P P 00 59 46.0 +0.2
comp=Z,10nm,0.9s
BRVK **Borovoye** 24.55 35 *e*P P 00 59 46.0 +0.2
comp=Z,10.0nm,0.9s
BVA0 **Borovoye Array** 24.58 35 *i* P P 00 59 50.6 +4.5
BVA0 pmax pmax
comp=Z,11nm,0.7s
BVAR **Borovoye Array** 24.58 35 P P 00 59 46.0 -0.1
BVAR pmax pmax
comp=Z,3.0nm,0.5s
BVAR **Borovoye Array** 24.58 35 P P 00 59 46.0 -0.1
BVAR **Borovoye Array** 24.58 35 P P 00 59 46.0 -0.1
comp=Z,3.0nm,0.5s
BVAR **Borovoye Array** 24.58 35 P P 00 59 46.0 -0.1
comp=Z,2.7nm,0.5s,baz=234,slow=10,SNR=4.4
VOSK **Vostochnaya** 24.68 36 *e*P P 00 59 48.7 +1.7
VOSK pmax pmax
comp=Z,8.0nm,1.0s
VOSK **Vostochnaya** 24.68 36 *e*P P 00 59 48.7 +1.7
comp=Z,8.4nm,1.0s
VOSK **Vostochnaya** 24.68 36 *e*P P 00 59 48.7 +1.7
comp=Z,8.0nm,1.0s
OJC **Ojcow** 25.02 316 *e*P P 00 59 51.6 +1.6
OJC pmax pmax
comp=Z,35nm,1.4s
OJC **Ojcow** 25.02 316 *e*P P 00 59 51.6 +1.6
comp=Z,35nm,1.4s
OJC **Ojcow** 25.02 316 *e*P P 00 59 51.6 +1.6
comp=Z,35nm,1.4s
CEL **Celeste** 25.12 287 *e*P P 00 59 48.8 -2.3
comp=Z,213nm,1.5s
CEL **Celeste** 25.12 287 *e*P P 00 59 48.8 -2.3
comp=Z,213nm,1.5s
CUC **Castrocucco** 25.18 291 *e*P P 00 59 50.6 -1.0
comp=Z,275nm,2.1s
CUC **Castrocucco** 25.18 291 *e*P P 00 59 50.6 -1.0
comp=Z,275nm,2.1s
SUW **Suwalki** 25.36 326 *e*P P 00 59 52.6 -0.5
SUW pmax pmax
comp=Z,66nm,1.1s
SUW **Suwalki** 25.36 326 *e*P P 00 59 52.6 -0.5
comp=Z,66nm,1.1s
SUW **Suwalki** 25.36 326 *e*P P 00 59 52.7 -0.4
SUW **Suwalki** 25.36 326 *e*P P 00 59 52.6 -0.4
comp=Z,66nm,1.1s
SOKR **Solikamsk** 25.55 12 ⇑*i*P P 01 00 00.2 +5.5
SOKR pmax pmax
comp=Z,50nm,1.9s
OKC **Ostrava-Krasne** 25.81 314 *e*P P 01 00 00.3 +3.1
OKC *e* 01 00 09.6
OKC MLR MLR
comp=Z,500nm,16.6s
OKC **Ostrava-Krasne** 25.81 314 *e*P P 01 00 00.3 +3.1
OKC *ex* x 01 00 09.6
OKC AMS AMS 01 12 40.0
comp=Z,500nm,16.6s
OKC **Ostrava-Krasne** 25.81 314 P P 01 00 00.3 +3.1
NDI **New Delhi** 26.39 95 *e*P P 01 00 03.5 +0.8
KLMR **Klimovskoe** 26.43 352 *e*P P 00 59 59.4 -3.2
KLMR pmax pmax
comp=Z,42nm,1.5s
KLMR MLR MLR
comp=Z,550nm,13.0s
CONA **Conrad Observa** 26.52 309 ⇑*i*P P 01 00 03.2 -0.6
comp=Z,18nm,1.6s
CONA **Conrad Observa** 26.52 309 P P 01 00 03.2 -0.6
comp=Z,18nm,1.6s
VRAC **Vranov** 26.53 312 ⇓*i*P P 01 00 02.5 -1.3
VRAC **Vranov** 26.53 312 P P 01 00 03.1 -0.6
VRAC **Vranov** 26.53 312 P P 01 00 03.1 -0.6
comp=Z,2.0nm,0.8s
VRAC **Vranov** 26.53 312 P P 01 00 03.1 -0.6
comp=Z,2.0nm,0.8s,baz=106,slow=12,SNR=4.8
VRAC LR LR 01 12 47.8
comp=Z,215nm,18.6s,baz=276,slow=42
ARSA **Arzberg** 26.54 307 ⇑*i*P P 01 00 04.4 +0.5
comp=Z,9.0nm,1.0s
ARSA **Arzberg** 26.54 307 P P 01 00 04.4 +0.5
comp=Z,9.0nm,1.0s
DPC **Dobruska-Polom** 27.09 314 *e*P P 01 00 08.6 -0.2
DPC *e* 01 00 17.4
DPC *e* 01 00 25.2
DPC **Dobruska-Polom** 27.09 314 *e*P P 01 00 08.6 -0.2
DPC *ep*P pP 01 00 17.4 +3.3
DPC *ex* x 01 00 25.2
DPC AMS AMS 01 13 30.0
DPC **Dobruska-Polom** 27.09 314 *e*P P 01 00 08.2 -0.6
comp=Z,41nm,0.9s
DPC **Dobruska-Polom** 27.09 314 P P 01 00 08.6 -0.2
TREC **Trest** 27.20 312 AMS AMS 01 13 50.0
comp=Z,600nm,12.0s
UPC **Upice** 27.33 314 *e*P P 01 00 05.7 -5.3
UPC *e* 01 00 14.7
UPC **Upice** 27.33 314 *e*P P 01 00 14.7 +3.7
TRI **Trieste** 27.35 303 *e*P P 01 00 08.6 -2.5
TRI pmax pmax
comp=Z,252nm,2.1s
TRI **Trieste** 27.35 303 *e*P P 01 00 08.6 -2.5
comp=Z,252nm,2.1s
TRI **Trieste** 27.35 303 *e*P P 01 00 08.6 -2.5
comp=Z,252nm,2.1s
KURBB **Kurchatov Arra** 27.74 46 P P 01 00 15.6 +1.0
comp=Z,0.7nm,0.3s,baz=252,slow=9.2,SNR=4.6
KURK **Kurchatov** 27.83 46 *i* P P 01 00 15.8 +0.4
KURK pmax pmax
comp=Z,3.0nm,1.3s
KURK **Kurchatov** 27.83 46 P P 01 00 15.6 +0.2
KURK **Kurchatov** 27.83 46 *i* P P 01 00 15.8 +0.4
comp=Z,3.0nm,1.3s
PRU **Pruhonice** 28.02 313 *e*P P 01 00 18.3 +1.2
PRU MLR MLR
comp=Z,400nm,12.5s
PRU **Pruhonice** 28.02 313 *e*P P 01 00 18.3 +1.2
PRU AMS AMS 01 14 00.0
comp=Z,400nm,12.5s
PRU **Pruhonice** 28.02 313 P P 01 00 18.3 +1.2
GERES **GERESS Array B** 28.17 310 P P 01 00 17.1 -1.5
GERES ScP ScP 01 07 13.8 +1.5
GERES **GERESS Array B** 28.17 310 P P 01 00 17.1 -1.5
comp=Z,242nm,18.5s
GERES ScP ScP 01 07 13.8 +1.5
GERES **GERESS Array B** 28.17 310 P P 01 00 17.1 -1.5
comp=Z,0.8nm,0.4s,baz=112,slow=8.1,SNR=11
GERES ScP ScP 01 07 13.8 +1.5
comp=Z,0.2nm,0.3s,baz=160,slow=3.7,SNR=3.9
GERES LR LR 01 14 41.4
comp=Z,242nm,18.5s,baz=113,slow=43
KHC **Kasperske Hory** 28.34 310 *e*P P 01 00 19.2 -0.8
KHC *e* 01 00 26.0
KHC MLR MLR
comp=Z,500nm,15.5s
KHC **Kasperske Hory** 28.34 310 *e*P P 01 00 19.2 -0.8
KHC *ep*P pP 01 00 26.0 +0.8
KHC AMS AMS 01 14 50.0
comp=Z,500nm,15.5s
KHC **Kasperske Hory** 28.34 310 *e*P P 01 00 19.8 -0.2
comp=Z,36nm,2.0s
KHC **Kasperske Hory** 28.34 310 P P 01 00 19.2 -0.8
CLL **Collm** 29.40 314 ⇑*i*P P 01 00 28.8 -0.5
CLL *e*S S 01 05 23.0 +0.7
CLL pmax pmax
comp=Z,11nm,1.8s
CLL MLR MLR
comp=Z,400nm,19.5s
CLL **Collm** 29.40 314 ⇑*i*P P 01 00 28.8 -0.5
comp=Z,18nm,1.8s
CLL *e*Plp 01 00 30.0
CLL *i* 01 00 53.3
comp=Z,24nm,1.8s
CLL *e*S S 01 05 23.0 +0.7
CLL LmV 01 14 00.0
comp=Z,400nm,19.5s
CLL **Collm** 29.40 314 *i* P P 01 00 28.8 -0.5
comp=Z,11nm,1.8s
CLL *e*S S 01 05 23.0 +0.7
comp=Z,400nm,19.5s
VLC **Villacollemand** 29.49 299 *e*P P 01 00 28.6 -1.7
comp=Z,35nm,1.2s
VLC **Villacollemand** 29.49 299 *e*P P 01 00 28.6 -1.7
comp=Z,35nm,1.2s
FETA **Feichten** 29.67 305 ⇑*i*P P 01 00 29.8 -2.2
comp=Z,7.6nm,0.5s
JOF **Joensuu** 29.71 346 *e*P P 01 00 33.1 +1.1
JOF pmax pmax
comp=Z,4.0nm,0.9s
JOF **Joensuu** 29.71 346 *ep* P 01 00 33.1 +1.1
comp=Z,3.9nm,0.9s
JOF **Joensuu** 29.71 346 *e*P P 01 00 33.1 +1.1
comp=Z,4.0nm,0.9s
FINES **FINESS Array B** 29.73 340 P P 01 00 31.4 -0.7
FINES **FINESS Array B** 29.73 340 P P 01 00 31.4 -0.7
comp=Z,3.0nm,0.5s
FINES **FINESS Array B** 29.73 340 P P 01 00 31.4 -0.7
comp=Z,2.7nm,0.5s,baz=144,slow=12,SNR=18
FINES LR LR 01 14 13.8
comp=Z,265nm,18.3s,baz=349,slow=40
FUORN **Ofenpass-Fuorn** 29.91 304 *e*P P 01 00 32.8 -1.4
comp=Z,34nm,1.8s
FUORN **Ofenpass-Fuorn** 29.91 304 *e*P P 01 00 32.8 -1.4
comp=Z,34nm,1.8s
DAVOX **Davos/Dischmat** 30.20 305 P P 01 00 35.4 -1.3
DAVOX **Davos/Dischmat** 30.20 305 P P 01 00 35.4 -1.3
comp=Z,4.0nm,0.6s
DAVOX **Davos/Dischmat** 30.20 305 P P 01 00 35.4 -1.3
comp=Z,4.3nm,0.6s,baz=153,slow=2.1,SNR=9.1
KAF **Kangasniemi** 30.21 341 *e*P P 01 00 35.3 -1.1
KAF pmax pmax
comp=Z,3.0nm,0.5s
KAF **Kangasniemi** 30.21 341 *ep* P 01 00 35.3 -1.1
comp=Z,3.0nm,0.5s
KAF **Kangasniemi** 30.21 341 *e*P P 01 00 35.3 -1.1
comp=Z,3.0nm,0.5s
DAVA **Damuels** 30.29 306 ⇑*i*P P 01 00 35.8 -1.6
comp=Z,12nm,0.8s
KEST **Kesra** 30.59 283 *e*P P 01 00 40.5 +0.4
KEST **Kesra** 30.59 283 *e*P P 01 00 40.5 +0.4
KEST **Kesra** 30.59 283 P P 01 00 41.2 +1.1
comp=Z,7.4nm,0.9s,baz=41,slow=3.2,SNR=14
SBF **Sospel** 31.59 299 *e*P P 01 00 47.5 -1.4
comp=Z,71nm,0.7s
SBF **Sospel** 31.59 299 *e*P P 01 00 47.5 -1.4
SBF pmax pmax
comp=Z,71nm,0.7s
SBF **Sospel** 31.59 299 *e*P P 01 00 47.5 -1.4
comp=Z,71nm,0.7s
SBF **Sospel** 31.59 299 *e*P P 01 00 47.5 -1.4
comp=Z,35nm,0.7s
DANN **Dangsing** 31.88 91 *e*P P 01 00 53.4 +1.6
comp=Z,106nm,1.1s
SENIN **Lac Senin/Sane** 31.90 303 *e*P P 01 00 50.2 -1.5
comp=Z,72nm,2.3s
SENIN **Lac Senin/Sane** 31.90 303 *e*P P 01 00 50.2 -1.5
comp=Z,72nm,2.3s
KOLN **Koldamda** 31.96 93 *e*P P 01 00 53.6 +1.2
comp=Z,25nm,0.9s
NVS **Novosibirsk** 32.03 40 *e*P P 01 00 53.8 +1.3
NVS pmax pmax
comp=Z,6.0nm,1.3s
NVS **Novosibirsk** 32.03 40 *e*P P 01 00 53.8 +1.3
comp=Z,6.0nm,1.3s
MBDF **Montbardon** 32.12 300 *e*P P 01 00 52.0 -1.6
comp=Z,27nm,0.7s
MBDF **Montbardon** 32.12 300 *e*P P 01 00 52.0 -1.6
MBDF pmax pmax
comp=Z,27nm,0.7s
MBDF **Montbardon** 32.12 300 *e*P P 01 00 52.0 -1.6
comp=Z,27nm,0.7s
MBDF **Montbardon** 32.12 300 *e*P P 01 00 52.0 -1.6
comp=Z,14nm,0.7s
LPG **La Plagne** 32.19 302 *e*P P 01 00 53.2 -1.2
LPG **La Plagne** 32.19 302 *e*P P 01 00 53.2 -1.2
LPG **La Plagne** 32.19 302 *e*P P 01 00 53.2 -1.2
LPG **La Plagne** 32.19 302 *e*P P 01 00 53.2 -1.2
LPL **La Plagne** 32.20 302 *e*P P 01 00 53.3 -1.1
comp=Z,18nm,0.7s
LPL **La Plagne** 32.20 302 *e*P P 01 00 53.3 -1.1
LPL pmax pmax
comp=Z,18nm,0.7s
LPL **La Plagne** 32.20 302 *e*P P 01 00 53.3 -1.1
comp=Z,18nm,0.7s
LPL **La Plagne** 32.20 302 *e*P P 01 00 53.3 -1.1
comp=Z,8.9nm,0.7s
BNI **Bardonecchia** 32.21 301 *e*P P 01 00 54.1 -0.2
BNI pmax pmax
comp=Z,33nm,0.9s
BNI **Bardonecchia** 32.21 301 *e*P P 01 00 54.1 -0.2
comp=Z,33nm,0.9s
BNI **Bardonecchia** 32.21 301 *e*P P 01 00 54.1 -0.2
comp=Z,33nm,0.9s
CDF **Champ du Feu** 32.21 307 *e*P P 01 00 52.3 -2.0
CDF **Champ du Feu** 32.21 307 *e*P P 01 00 52.3 -2.0
CDF **Champ du Feu** 32.21 307 *e*P P 01 00 52.3 -2.0
CDF **Champ du Feu** 32.21 307 *e*P P 01 00 52.3 -2.0
HINF **Hinteralfeld** 32.40 306 *e*P P 01 00 54.6 -1.3
comp=Z,5.6nm,0.6s
HINF **Hinteralfeld** 32.40 306 *e*P P 01 00 54.6 -1.3
HINF pmax pmax
comp=Z,6.0nm,0.6s

HINF	**Hinteralfeld**	**32.40**	**306**	*e*P	**P**	**01 00 54.6**	**-1.3**
	comp=Z,5.6nm,0.6s							
HINF	**Hinteralfeld**	**32.40**	**306**	*e*P	**P**	**01 00 54.6**	**-1.3**
	comp=Z,2.8nm,0.6s							
WMQ	**Urumqi**	**32.46**	**62**	*e*P	**P**	**01 00 59.1**	**+2.6**
WMQ				pP	**pP**	**01 01 03.5**	**+1.6**
WMQ				sP	**sP**	**01 01 06.1**	**+2.1**
WMQ				S	**S**	**01 06 12.6**	**+2.0**
WMQ				SS	**SnSn**	**01 08 08.7**	**+4.8**
WMQ				ScS	**ScS**	**01 11 25.8**	**+0.1**
WMQ				AMB	AMB		
	comp=Z,41nm,0.8s						
WMQ				AMB	AMB		
	comp=Z,140nm,6.0s						
WMQ				LR	LR		
	comp=Z,340nm,8.4s						
WMQ				LR	LR		
	comp=Z,270nm,7.8s						
ZAA0	**Zalesovo Array**	**32.55**	**42**	*e*P	**P**	**01 00 57.8**	**+0.7**
ZAA0	**Zalesovo Array**	**32.55**	**42**	*e*P	**P**	**01 00 57.8**	**+0.7**
ZALV	**Zalesovo Beam**	**32.55**	**42**	P	**P**	**01 00 57.8**	**+0.7**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ZALV	**Zalesovo Beam**	**32.55**	**42**	P	**P**	**01 00 57.8**	**+0.7**
ZALV	**Zalesovo Beam**	**32.55**	**42**	P	**P**	**01 00 57.8**	**+0.7**
	comp=Z,3.0nm,0.7s						
ZALV	**Zalesovo Beam**	**32.55**	**42**	P	**P**	**01 00 57.8**	**+0.7**
	comp=Z,2.5nm,0.7s,baz=258,slow=7.2,SNR=8.6						
GKN	**Gorkha**	**32.73**	**92**	*e*P	**P**	**01 01 00.3**	**+1.2**
	comp=Z,78nm,1.0s						
CABF	**La Chapelle**	**32.76**	**304**	*e*P	**P**	**01 00 57.7**	**-1.4**
	comp=Z,33nm,0.8s						
CABF	**La Chapelle**	**32.76**	**304**	*e*P	**P**	**01 00 57.7**	**-1.4**
CABF				pmax	pmax		
	comp=Z,33nm,0.8s						
CABF	**La Chapelle**	**32.76**	**304**	*e*P	**P**	**01 00 57.7**	**-1.4**
	comp=Z,33nm,0.8s						
CABF	**La Chapelle**	**32.76**	**304**	*e*P	**P**	**01 00 57.7**	**-1.4**
	comp=Z,17nm,0.8s						
HAU	**Haudompre**	**32.76**	**306**	*e*P	**P**	**01 00 57.7**	**-1.3**
HAU				*e*R			
	comp=Z,216nm,17.5s						
HAU	**Haudompre**	**32.76**	**306**	*e*P	**P**	**01 00 57.7**	**-1.3**
HAU	**Haudompre**	**32.76**	**306**	*e*P	**P**	**01 00 57.7**	**-1.3**
HAU	**Haudompre**	**32.76**	**306**	*e*P	**P**	**01 00 57.7**	**-1.3**
ORIF	**Oris-en-Rattie**	**32.76**	**300**	*e*P	**P**	**01 00 57.7**	**-1.5**
	comp=Z,41nm,1.1s						
ORIF				*e*R			
	comp=Z,299nm,19.0s						
ORIF	**Oris-en-Rattie**	**32.76**	**300**	*e*P	**P**	**01 00 57.7**	**-1.5**
ORIF				pmax	pmax		
	comp=Z,41nm,1.1s						
ORIF	**Oris-en-Rattie**	**32.76**	**300**	*e*P	**P**	**01 00 57.7**	**-1.5**
	comp=Z,41nm,1.1s						
ORIF	**Oris-en-Rattie**	**32.76**	**300**	*e*P	**P**	**01 00 57.7**	**-1.5**
	comp=Z,20nm,1.1s						
HYB	**Hyderabad**	**33.08**	**114**	*i* P	**P**	**01 01 02.0**	**-0.1**
HYB				*e*S	**S**	**01 06 24.0**	**+3.6**
HFS	**Hagfors**	**33.19**	**330**	P	**P**	**01 01 01.6**	**-0.9**
HFS	**Hagfors**	**33.19**	**330**	P	**P**	**01 01 01.6**	**-0.9**
	comp=Z,634nm,19.6s						
HFS	**Hagfors**	**33.19**	**330**	P	**P**	**01 01 01.6**	**-0.9**
	comp=Z,7.9nm,0.7s,baz=120,slow=8.8,SNR=20						
HFS				LR	LR	01 15 38.5	
	comp=Z,634nm,19.6s,baz=342,slow=38						
PAGF	**Fort de Pagny**	**33.26**	**307**	*e*P	**P**	**01 01 01.6**	**-1.7**
	comp=Z,8.8nm,1.2s						
PAGF	**Fort de Pagny**	**33.26**	**307**	*e*P	**P**	**01 01 01.6**	**-1.7**
	comp=Z,8.8nm,1.3s						
PAGF	**Fort de Pagny**	**33.26**	**307**	*e*P	**P**	**01 01 01.6**	**-1.7**
	comp=Z,4.4nm,1.2s						
DMN	**Daman**	**33.26**	**92**	*e*P	**P**	**01 01 05.3**	**+1.4**
	comp=Z,165nm,1.5s						
KKN	**Kakani**	**33.33**	**92**	*e*P	**P**	**01 01 05.6**	**+1.1**
	comp=Z,100nm,1.4s						
PKI	**Pulchoki**	**33.52**	**92**	*e*P	**P**	**01 01 07.5**	**+1.2**
	comp=Z,236nm,1.7s						
VIVF	**Saint-Julien-l**	**33.62**	**300**	*e*P	**P**	**01 01 04.5**	**-2.1**
	comp=Z,40nm,1.2s						
VIVF	**Saint-Julien-l**	**33.62**	**300**	*e*P	**P**	**01 01 04.5**	**-2.1**
VIVF				pmax	pmax		
	comp=Z,40nm,1.2s						
VIVF	**Saint-Julien-l**	**33.62**	**300**	*e*P	**P**	**01 01 04.5**	**-2.1**
	comp=Z,40nm,1.2s						
VIVF	**Saint-Julien-l**	**33.62**	**300**	*e*P	**P**	**01 01 04.5**	**-2.1**
	comp=Z,20nm,1.2s						
APA	**Apatity**	**33.65**	**351**	*e*P	P	01 01 17.0	+10
APA				MLR	MLR		
	comp=Z,1μm,17.0s						
SFTF	**Sexfontaines**	**33.66**	**306**	*e*P	**P**	**01 01 04.7**	**-2.1**
	comp=Z,48nm,1.3s						
SFTF	**Sexfontaines**	**33.66**	**306**	*e*P	**P**	**01 01 04.7**	**-2.1**
	comp=Z,48nm,1.3s						
SFTF	**Sexfontaines**	**33.66**	**306**	*e*P	**P**	**01 01 04.7**	**-2.1**
	comp=Z,24nm,1.3s						
GUN	**Gumba**	**33.78**	**91**	*e*P	**P**	**01 01 10.1**	**+1.6**
	comp=Z,128nm,1.1s						
GIVF	**Givet**	**34.09**	**310**	*e*P	**P**	**01 01 08.8**	**-1.8**
GIVF	**Givet**	**34.09**	**310**	*e*P	**P**	**01 01 08.8**	**-1.8**
GIVF	**Givet**	**34.09**	**310**	*e*P	**P**	**01 01 08.8**	**-1.8**
GIVF	**Givet**	**34.09**	**310**	*e*P	**P**	**01 01 08.8**	**-1.8**
JIRN	**Jiri**	**34.13**	**91**	*e*P	**P**	**01 01 13.0**	**+1.4**
	comp=Z,58nm,0.9s						
SMF	**Signal de Mont**	**34.30**	**303**	*e*P	**P**	**01 01 10.8**	**-1.7**
	comp=Z,18nm,0.9s						
SMF	**Signal de Mont**	**34.30**	**303**	*e*P	**P**	**01 01 10.8**	**-1.7**
SMF				pmax	pmax		
	comp=Z,18nm,0.9s						
SMF	**Signal de Mont**	**34.30**	**303**	*e*P	**P**	**01 01 10.8**	**-1.7**
	comp=Z,18nm,0.9s						
SMF	**Signal de Mont**	**34.30**	**303**	*e*P	**P**	**01 01 10.8**	**-1.7**
	comp=Z,9.0nm,0.9s						
LOR	**Lormes**	**34.34**	**304**	*e*P	**P**	**01 01 10.3**	**-2.5**
LOR				*e*R			
	comp=Z,488nm,18.2s						
LOR	**Lormes**	**34.34**	**304**	*e*P	**P**	**01 01 10.3**	**-2.5**
LOR	**Lormes**	**34.34**	**304**	*e*P	**P**	**01 01 10.3**	**-2.5**
BAIF	**Baives**	**34.48**	**309**	*e*P	**P**	**01 01 12.5**	**-1.4**
	comp=Z,40nm,1.4s						
BAIF	**Baives**	**34.48**	**309**	*e*P	**P**	**01 01 12.5**	**-1.4**
BAIF				pmax	pmax		
	comp=Z,40nm,1.4s						
BAIF	**Baives**	**34.48**	**309**	*e*P	**P**	**01 01 12.5**	**-1.4**
	comp=Z,40nm,1.4s						
BAIF	**Baives**	**34.48**	**309**	*e*P	**P**	**01 01 12.5**	**-1.4**
	comp=Z,20nm,1.4s						
SSF	**Saint Saulge**	**34.56**	**304**	*e*P	**P**	**01 01 12.7**	**-2.0**
SSF	**Saint Saulge**	**34.56**	**304**	*e*P	**P**	**01 01 12.7**	**-2.0**
SSF	**Saint Saulge**	**34.56**	**304**	*e*P	**P**	**01 01 12.7**	**-2.0**
SSF	**Saint Saulge**	**34.56**	**304**	*e*P	**P**	**01 01 12.7**	**-2.0**
AVF	**Avril sur Loir**	**34.65**	**304**	*e*P	**P**	**01 01 13.1**	**-2.3**
AVF	**Avril sur Loir**	**34.65**	**304**	*e*P	**P**	**01 01 13.1**	**-2.3**
AVF	**Avril sur Loir**	**34.65**	**304**	*e*P	**P**	**01 01 13.1**	**-2.3**
AVF	**Avril sur Loir**	**34.65**	**304**	*e*P	**P**	**01 01 13.1**	**-2.3**
NB2	**NORSAR Subarra**	**34.71**	**330**	P	**P**	**01 01 14.1**	**-1.7**
	comp=Z,1.4nm,0.6s,baz=123,slow=8.6						
NB2	**NORSAR Subarra**	**34.71**	**330**	P	**P**	**01 01 14.1**	**-1.7**
	comp=Z,1.4nm,0.6s,SNR=7.4						
NOA	**NORSAR Array B**	**34.71**	**330**	P	**P**	**01 01 14.1**	**-1.7**
NOA	**NORSAR Array B**	**34.71**	**330**	P	**P**	**01 01 14.1**	**-1.7**
	comp=Z,470nm,20.7s						
NOA	**NORSAR Array B**	**34.71**	**330**	P	**P**	**01 01 14.1**	**-1.7**
	comp=Z,1.7nm,0.7s,baz=124,slow=8.7,SNR=7.4						
NOA				LR	LR	01 16 35.9	
	comp=Z,470nm,20.7s,baz=125,slow=38						
RAMN	**Ramite**	**34.74**	**92**	*e*P	**P**	**01 01 17.8**	**+1.1**
	comp=Z,87nm,0.8s						
BGF	**Bois d'Agland**	**34.98**	**303**	*e*P	**P**	**01 01 16.3**	**-2.0**
BGF	**Bois d'Agland**	**34.98**	**303**	*e*P	**P**	**01 01 16.3**	**-2.0**
BGF	**Bois d'Agland**	**34.98**	**303**	*e*P	**P**	**01 01 16.3**	**-2.0**
BGF	**Bois d'Agland**	**34.98**	**303**	*e*P	**P**	**01 01 16.3**	**-2.0**
TCF	**Toulx Ste Croi**	**35.41**	**303**	*e*P	**P**	**01 01 20.1**	**-1.9**
	comp=Z,39nm,1.2s						
TCF	**Toulx Ste Croi**	**35.41**	**303**	*e*P	**P**	**01 01 20.1**	**-1.9**
TCF				pmax	pmax		
	comp=Z,39nm,1.2s						
TCF	**Toulx Ste Croi**	**35.41**	**303**	*e*P	**P**	**01 01 20.1**	**-1.9**
	comp=Z,39nm,1.2s						
TCF	**Toulx Ste Croi**	**35.41**	**303**	*e*P	**P**	**01 01 20.1**	**-1.9**
	comp=Z,19nm,1.2s						
ODAN	**Odare**	**35.42**	**92**	*e*P	**P**	**01 01 24.1**	**+1.5**
	comp=Z,243nm,1.7s						
CAF	**Calviac**	**35.47**	**300**	*e*P	**P**	**01 01 20.7**	**-1.9**
CAF	**Calviac**	**35.47**	**300**	*e*P	**P**	**01 01 20.7**	**-1.9**
CAF	**Calviac**	**35.47**	**300**	*e*P	**P**	**01 01 20.7**	**-1.9**
CAF	**Calviac**	**35.47**	**300**	*e*P	**P**	**01 01 20.7**	**-1.9**
TAPN	**Taplejung**	**35.50**	**91**	*e*P	**P**	**01 01 24.9**	**+1.6**
	comp=Z,79nm,1.0s						
RJF	**Les Rejaudoux**	**35.86**	**301**	*e*P	**P**	**01 01 24.4**	**-1.5**
	comp=Z,78nm,1.6s						
RJF				*e*R			
	comp=Z,342nm,19.0s						
RJF	**Les Rejaudoux**	**35.86**	**301**	*e*P	**P**	**01 01 24.4**	**-1.5**
RJF				pmax	pmax		
	comp=Z,78nm,1.6s						
RJF	**Les Rejaudoux**	**35.86**	**301**	*e*P	**P**	**01 01 24.4**	**-1.5**
	comp=Z,78nm,1.6s						
RJF	**Les Rejaudoux**	**35.86**	**301**	*e*P	**P**	**01 01 24.4**	**-1.5**
	comp=Z,39nm,1.6s						
CSOR	**Sort**	**36.22**	**296**	P	**P**	**01 01 28.3**	**-0.8**
CSOR	**Sort**	**36.22**	**296**	P	**P**	**01 01 28.3**	**-0.8**
LFF	**La Frestale**	**36.41**	**300**	*e*P	**P**	**01 01 28.8**	**-1.8**
	comp=Z,43nm,1.1s						
LFF	**La Frestale**	**36.41**	**300**	*e*P	**P**	**01 01 28.8**	**-1.8**
LFF				pmax	pmax		
	comp=Z,43nm,1.1s						
LFF	**La Frestale**	**36.41**	**300**	*e*P	**P**	**01 01 28.8**	**-1.8**
	comp=Z,43nm,1.1s						
LFF	**La Frestale**	**36.41**	**300**	*e*P	**P**	**01 01 28.8**	**-1.8**
	comp=Z,22nm,1.1s						
KEV	**Kevo**	**36.61**	**349**	*e*P	**P**	**01 01 31.3**	**-0.7**
KEV	**Kevo**	**36.61**	**349**	*e*p	**P**	**01 01 31.3**	**-0.7**
	comp=Z,0.4nm,0.3s						
KEV	**Kevo**	**36.61**	**349**	*e*P	**P**	**01 01 31.3**	**-0.7**
	comp=Z,0.4nm,0.3s						
ARCES	**ARCESS Array B**	**36.67**	**348**	P	**P**	**01 01 32.8**	**+0.2**
ARCES	**ARCESS Array B**	**36.67**	**348**	P	**P**	**01 01 32.8**	**+0.2**
	comp=Z,3.0nm,0.8s						
ARCES	**ARCESS Array B**	**36.67**	**348**	P	**P**	**01 01 32.8**	**+0.2**
	comp=Z,3.2nm,0.8s,baz=167,slow=7.0,SNR=8.3						
MFF	**Saint Martin d**	**37.05**	**303**	*e*P	**P**	**01 01 34.3**	**-1.7**
MFF	**Saint Martin d**	**37.05**	**303**	*e*P	**P**	**01 01 34.3**	**-1.7**
MFF	**Saint Martin d**	**37.05**	**303**	*e*P	**P**	**01 01 34.3**	**-1.7**
MFF	**Saint Martin d**	**37.05**	**303**	*e*P	**P**	**01 01 34.3**	**-1.7**
LDF	**La Druitiere**	**37.12**	**306**	*e*P	**P**	**01 01 33.7**	**-2.9**
	comp=Z,43nm,1.5s						
LDF	**La Druitiere**	**37.12**	**306**	*e*P	**P**	**01 01 33.7**	**-2.9**
LDF				pmax	pmax		
	comp=Z,43nm,1.5s						
LDF	**La Druitiere**	**37.12**	**306**	*e*P	**P**	**01 01 33.7**	**-2.9**
	comp=Z,43nm,1.5s						
LDF	**La Druitiere**	**37.12**	**306**	*e*P	**P**	**01 01 33.7**	**-2.9**
	comp=Z,22nm,1.5s						
FLN	**La Foliniere**	**37.37**	**307**	*e*P	**P**	**01 01 36.1**	**-2.6**
	comp=Z,47nm,1.3s						
FLN				*e*R			
	comp=Z,310nm,20.0s						
FLN	**La Foliniere**	**37.37**	**307**	*e*P	**P**	**01 01 36.1**	**-2.6**
FLN				pmax	pmax		
	comp=Z,47nm,1.3s						
FLN	**La Foliniere**	**37.37**	**307**	*e*P	**P**	**01 01 36.1**	**-2.6**
	comp=Z,47nm,1.3s						
FLN	**La Foliniere**	**37.37**	**307**	*e*P	**P**	**01 01 36.1**	**-2.6**
	comp=Z,23nm,1.3s						
LSA	**Lhasa**	**37.48**	**85**	*e*P	**P**	**01 01 42.3**	**+1.9**
LSA				pmax	pmax		
	comp=Z,46nm,1.5s						
LSA	**Lhasa**	**37.48**	**85**	*e*P	**P**	**01 01 42.3**	**+1.9**
	comp=Z,46nm,1.5s						
LSA	**Lhasa**	**37.48**	**85**	*e*P	**P**	**01 01 42.3**	**+1.9**
	comp=Z,46nm,1.5s						
GRR	**Gorron**	**37.59**	**306**	*e*P	**P**	**01 01 38.9**	**-1.7**
GRR	**Gorron**	**37.59**	**306**	*e*P	**P**	**01 01 38.9**	**-1.7**
GRR	**Gorron**	**37.59**	**306**	*e*P	**P**	**01 01 38.9**	**-1.7**
GRR	**Gorron**	**37.59**	**306**	*e*P	**P**	**01 01 38.9**	**-1.7**
EMOS	**Mosqueruela**	**37.61**	**293**	P	**P**	**01 01 41.4**	**+0.3**
EMOS	**Mosqueruela**	**37.61**	**293**	P	**P**	**01 01 41.4**	**+0.3**
EBEN	**Beniarda**	**37.66**	**290**	P	**P**	**01 01 41.9**	**+0.6**
EBEN	**Beniarda**	**37.66**	**290**	P	**P**	**01 01 41.9**	**+0.6**
TAM	**Tamanrasset**	**38.00**	**263**	*e*P	**P**	**01 01 45.2**	**+0.7**
TAM				pmax	pmax		
	comp=Z,24nm,1.4s						
TAM	**Tamanrasset**	**38.00**	**263**	*e*P	**P**	**01 01 45.2**	**+0.7**
	comp=Z,24nm,1.4s						
TAM	**Tamanrasset**	**38.00**	**263**	*e*P	**P**	**01 01 45.2**	**+0.7**
	comp=Z,24nm,1.4s						
EMUR	**La Murta**	**38.59**	**289**	P	**P**	**01 01 48.7**	**-0.5**
EMUR	**La Murta**	**38.59**	**289**	P	**P**	**01 01 48.7**	**-0.5**
ETOB	**Tobarra**	**38.69**	**290**	P	**P**	**01 01 49.7**	**-0.3**
ETOB	**Tobarra**	**38.69**	**290**	P	**P**	**01 01 49.7**	**-0.3**
SGMF	**Saint Gilles**	**38.72**	**306**	*e*P	**P**	**01 01 47.9**	**-2.2**
SGMF	**Saint Gilles**	**38.72**	**306**	*e*P	**P**	**01 01 47.9**	**-2.2**
SGMF	**Saint Gilles**	**38.72**	**306**	*e*P	**P**	**01 01 47.9**	**-2.2**
SGMF	**Saint Gilles**	**38.72**	**306**	*e*P	**P**	**01 01 47.9**	**-2.2**
QUIF	**Quistinic**	**39.12**	**305**	*e*P	**P**	**01 01 51.6**	**-1.9**
	comp=Z,7.6nm,0.4s						
QUIF	**Quistinic**	**39.12**	**305**	*e*P	**P**	**01 01 51.6**	**-1.9**
QUIF				pmax	pmax		
	comp=Z,8.0nm,0.4s						
QUIF	**Quistinic**	**39.12**	**305**	*e*P	**P**	**01 01 51.6**	**-1.9**
	comp=Z,7.6nm,0.4s						
QUIF	**Quistinic**	**39.12**	**305**	*e*P	**P**	**01 01 51.6**	**-1.9**
	comp=Z,3.8nm,0.4s						
ROSF	**Rostrenen**	**39.20**	**306**	*e*P	**P**	**01 01 51.7**	**-2.4**
ROSF	**Rostrenen**	**39.20**	**306**	*e*P	**P**	**01 01 51.7**	**-2.4**
ROSF	**Rostrenen**	**39.20**	**306**	*e*P	**P**	**01 01 51.7**	**-2.4**
ROSF	**Rostrenen**	**39.20**	**306**	*e*P	**P**	**01 01 51.7**	**-2.4**
SHL	**Shillong**	**39.63**	**91**	*e*P	**P**	**01 02 00.0**	**+1.8**
EHUE	**Huescar**	**39.65**	**289**	P	**P**	**01 01 57.6**	**-0.5**
EHUE	**Huescar**	**39.65**	**289**	P	**P**	**01 01 57.6**	**-0.5**
EHUE	**Huescar**	**39.65**	**289**	P	**P**	**01 01 57.6**	**-0.5**
EKA	**Eskdalemuir Ar**	**39.79**	**317**	P	**P**	**01 01 57.1**	**-1.8**
EKA	**Eskdalemuir Ar**	**39.79**	**317**	P	**P**	**01 01 57.1**	**-1.8**
	comp=Z,1.0nm,0.5s						
EKA	**Eskdalemuir Ar**	**39.79**	**317**	P	**P**	**01 01 57.1**	**-1.8**
	comp=Z,1.4nm,0.5s,baz=102,slow=9.0,SNR=13						
EQES	**Quesada**	**40.02**	**289**	P	**P**	**01 02 00.9**	**-0.3**
EQES	**Quesada**	**40.02**	**289**	P	**P**	**01 02 00.9**	**-0.3**
EBER	**Berja**	**40.07**	**288**	P	**P**	**01 02 02.3**	**+0.6**
EBER	**Berja**	**40.07**	**288**	P	**P**	**01 02 02.3**	**+0.6**
ESDC	**Sonseca Array**	**40.36**	**292**	P	**P**	**01 02 03.0**	**-1.0**
ESDC	**Sonseca Array**	**40.36**	**292**	P	**P**	**01 02 03.0**	**-1.0**
ESDC	**Sonseca Array**	**40.36**	**292**	P	**P**	**01 02 02.9**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=71,slow=8.1,SNR=18						
ESDC				LR	LR	01 20 42.1	
	comp=Z,122nm,18.7s,baz=85,slow=39						
EBAN	**Banos Encina**	**40.50**	**290**	P	**P**	**01 02 04.8**	**-0.3**
EBAN	**Banos Encina**	**40.50**	**290**	P	**P**	**01 02 04.8**	**-0.3**
EBAN	**Banos Encina**	**40.50**	**290**	P	**P**	**01 02 04.8**	**-0.3**
ECOG	**Cogollos-Vega**	**40.52**	**289**	P	**P**	**01 02 04.9**	**-0.4**
ECOG	**Cogollos-Vega**	**40.52**	**289**	P	**P**	**01 02 04.9**	**-0.4**
ECOG	**Cogollos-Vega**	**40.52**	**289**	P	**P**	**01 02 04.9**	**-0.4**
EGUA	**Guajares**	**40.61**	**288**	P	**P**	**01 02 05.6**	**-0.4**
EGUA	**Guajares**	**40.61**	**288**	P	**P**	**01 02 05.6**	**-0.4**
EGUA	**Guajares**	**40.61**	**288**	P	**P**	**01 02 05.6**	**-0.4**
PAB	**San Pablo**	**40.68**	**292**	*e*P	**P**	**01 02 09.3**	**+2.7**
PAB				pmax	pmax		
	comp=Z,116nm,1.3s						
PAB	**San Pablo**	**40.68**	**292**	*e*P	**P**	**01 02 09.3**	**+2.7**
	comp=Z,116nm,1.3s						
PAB	**San Pablo**	**40.68**	**292**	*e*P	**P**	**01 02 09.3**	**+2.7**
	comp=Z,116nm,1.3s						
EADA	**Adamuz**	**41.11**	**290**	P	**P**	**01 02 11.6**	**+1.4**
EADA	**Adamuz**	**41.11**	**290**	P	**P**	**01 02 11.6**	**+1.4**
ECAB	**El Cabril**	**41.78**	**290**	P	**P**	**01 02 15.4**	**-0.3**
ECAB	**El Cabril**	**41.78**	**290**	P	**P**	**01 02 15.4**	**-0.3**
GTA	**Gaotai**	**41.88**	**68**	*e*P	**P**	**01 02 18.6**	**+2.1**
GTA				pP	**pP**	**01 02 22.9**	**+1.0**
GTA				sP	**sP**	**01 02 26.2**	**+2.1**
GTA				S	**S**	**01 08 36.6**	**+2.7**
GTA				sS	**sS**	**01 08 44.9**	**+2.1**
GTA				SS	**SS**	**01 11 35.5**	**-4.7**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s						
GTA				AMB	AMB		
	comp=Z,61nm,5.2s						
GTA				LR	LR		
	comp=Z,220nm,13.3s						
GTA				LR	LR		
	comp=Z,190nm,12.3s						
EPLA	**Plasencia**	**41.90**	**293**	P	**P**	**01 02 14.8**	**-1.8**
EPLA	**Plasencia**	**41.90**	**293**	P	**P**	**01 02 14.8**	**-1.8**
EPLA	**Plasencia**	**41.90**	**293**	P	**P**	**01 02 14.8**	**-1.8**
EJIF	**Jimena Fronter**	**42.19**	**288**	P	**P**	**01 02 19.1**	**+0.1**
EJIF	**Jimena Fronter**	**42.19**	**288**	P	**P**	**01 02 19.1**	**+0.1**
EJIF	**Jimena Fronter**	**42.19**	**288**	P	**P**	**01 02 19.1**	**+0.1**
ESPR	**Espera**	**42.39**	**289**	P	**P**	**01 02 19.6**	**-1.0**
ESPR	**Espera**	**42.39**	**289**	P	**P**	**01 02 19.6**	**-1.0**
MVO	**Moncorvo**	**42.42**	**295**	*e*P	**P**	**01 02 22.2**	**+1.3**
	comp=Z,26nm,1.7s						
MVO				*e*P	**pP**	**01 02 28.7**	**+2.4**
EMIN	**Mina Concepcio**	**42.82**	**290**	P	**P**	**01 02 23.0**	**-1.0**
EMIN	**Mina Concepcio**	**42.82**	**290**	P	**P**	**01 02 23.0**	**-1.0**
EBAD	**Badajoz**	**42.86**	**292**	P	**P**	**01 02 23.6**	**-0.8**
EBAD	**Badajoz**	**42.86**	**292**	P	**P**	**01 02 23.6**	**-0.8**
PCBR	**Castelo Branco**	**42.99**	**293**	*e*P	**P**	**01 02 25.7**	**+0.2**
	comp=Z,29nm,1.4s						
PMRV	**Marv??o**	**43.01**	**293**	*e*P	**P**	**01 02 25.6**	**0.0**
	comp=Z,32nm,1.5s						
PMTG	**Montargil**	**43.72**	**292**	*e*P	**P**	**01 02 33.7**	**+2.4**
	comp=Z,20nm,1.3s						
PTOM	**Tomar**	**43.74**	**293**	*e*P	**P**	**01 02 31.5**	**0.0**
	comp=Z,45nm,1.6s						
PCVE	**Castro Verde**	**43.90**	**290**	*e*P	**P**	**01 02 32.8**	**0.0**
	comp=Z,31nm,1.9s						
SPITS	**Spitsbergen Ar**	**45.33**	**352**	P	**P**	**01 02 43.8**	**+0.1**
SPITS	**Spitsbergen Ar**	**45.33**	**352**	P	**P**	**01 02 43.8**	**+0.1**
	comp=Z,12nm,1.0s						
SPITS	**Spitsbergen Ar**	**45.33**	**352**	P	**P**	**01 02 43.8**	**+0.1**
	comp=Z,12nm,1.0s,baz=134,slow=6.2,SNR=4.9						
SONM	**Songino Array**	**45.38**	**55**	P	**P**	**01 02 45.6**	**+0.9**
SONM	**Songino Array**	**45.38**	**55**	P	**P**	**01 02 45.6**	**+0.9**
SONM	**Songino Array**	**45.38**	**55**	P	**P**	**01 02 45.6**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=259,slow=12,SNR=2.6						
LZH	**Lanzhou**	**45.76**	**71**	*e*P	**P**	**01 02 46.8**	**-1.0**
LZH				pP	**pP**	**01 02 50.1**	**-3.2**
LZH				sP	**sP**	**01 02 51.7**	**-3.7**
LZH				AMB	AMB		
	comp=Z,12nm,1.0s						
TOA0	**Torodi Ar. Sit**	**46.19**	**254**	*e*P	**P**	**01 02 51.2**	**0.0**
TOA0	**Torodi Ar. Sit**	**46.19**	**254**	*e*P	**P**	**01 02 51.2**	**0.0**
TORD	**Torodi Ar. Bea**	**46.19**	**254**	P	**P**	**01 02 51.4**	**+0.2**
TORD	**Torodi Ar. Bea**	**46.19**	**254**	P	**P**	**01 02 51.4**	**+0.2**
TORD	**Torodi Ar. Bea**	**46.19**	**254**	P	**P**	**01 02 51.4**	**+0.2**
	comp=Z,12nm,1.1s,baz=59,slow=3.6,SNR=34						
TORD				LR	LR	01 22 52.9	
	comp=Z,156nm,18.3s,baz=170,slow=37						
CD2	**Chengdu**	**47.32**	**78**	P	**P**	**01 03 01.3**	**+1.3**
CD2				pP	**pP**	**01 03 05.8**	**+0.4**
CD2				sP	**sP**	**01 03 08.3**	**+0.7**
CD2				PP	**PP**	**01 04 51.9**	**+0.8**
CD2				S	**S**	**01 09 53.7**	**+0.8**
CD2				sS	**sS**	**01 10 00.7**	**-1.2**
CD2				SS	**SS**	**01 13 14.3**	**-6.0**
CD2				AMB	AMB		
	comp=Z,20nm,0.6s						
CD2				AMB	AMB		
	comp=Z,370nm,4.7s						
CD2				LR	LR		
	comp=Z,700nm,6.9s						
CD2				LR	LR		
	comp=Z,540nm,10.1s						
CHTO	**Chiang Mai**	**48.54**	**95**	*e*P	**P**	**01 03 09.8**	**+0.3**
CHTO	**Chiang Mai**	**48.54**	**95**	*e*P	**P**	**01 03 09.8**	**+0.3**
CHTO	**Chiang Mai**	**48.54**	**95**	*e*P	**P**	**01 03 09.8**	**+0.3**
KMI	**Kunming**	**48.74**	**86**	P	**P**	**01 03 12.1**	**+0.8**
KMI				pP	**pP**	**01 03 15.3**	**-1.4**
KMI				sP	**sP**	**01 03 16.7**	**-2.1**
KMI				AMB	AMB		
	comp=Z,19nm,1.3s						
KMI				AMB	AMB		
	comp=Z,290nm,3.1s						
KMI				LR	LR		
	comp=Z,330nm,14.9s						
BORG	**Borgarnes**	**49.85**	**329**	LR	LR	01 25 23.1	
	comp=Z,345nm,18.3s,baz=112,slow=37						
HHC	**Hu-ho-hao-te**	**50.33**	**63**	*e*P	**P**	**01 03 22.8**	**-0.2**
HHC				PcP	**PcP**	**01 04 42.5**	**+0.9**
HHC				PP	**PP**	**01 05 19.0**	**+0.6**
HHC				ScP	**ScP**	**01 08 35.8**	**-0.9**
HHC				PcS	**PcS**	**01 08 37.9**	**-0.9**
HHC				ScS	**ScS**	**01 13 10.1**	**-3.5**
HHC				SS	**SS**	**01 14 02.9**	**-5.7**
HHC				AMB	AMB		
	comp=Z,26nm,1.0s						
HHC				AMB	AMB		
	comp=Z,210nm,5.8s						
HHC				LR	LR		
	comp=Z,360nm,16.2s						
HHC				LR	LR		
	comp=Z,350nm,16.8s						
HHC				LR	LR		
	comp=Z,340

USRK	**Ussuriysk Arra**	**63.46**	**53**	P		**P**	**01 04 54.2**	**-1.8**
	comp=Z,2.3nm,0.8s,baz=270,slow=7.2,SNR=2.3							
BOSA	**Boshof**	**66.40**	**201**	P		**P**	**01 05 14.1**	**-1.2**
BOSA	**Boshof**	**66.40**	**201**	P		**P**	**01 05 14.1**	**-1.2**
	comp=Z,8.0nm,1.1s							
BOSA	**Boshof**	**66.40**	**201**	P		**P**	**01 05 14.1**	**-1.2**
	comp=Z,7.5nm,1.1s,baz=19,slow=8.8,SNR=5.0							
JNU	**Nakatsue**	**67.50**	**65**	LR		LR	01 37 19.4	
	comp=Z,35nm,21.3s,baz=248,slow=38							
MJAR	**Matsushiro Arr**	**71.15**	**58**	LR		LR	01 40 11.5	
	comp=Z,59nm,18.5s,baz=325,slow=39							
PETK	**Petropavlovsk-**	**73.82**	**36**	LR		LR	01 42 16.1	
	comp=Z,86nm,18.0s,baz=88,slow=39							
IMA2	**Indian Mountai**	**78.11**	**8**	*eP*		**P**	**01 06 25.6**	**+0.6**
IMA2	**Indian Mountai**	**78.11**	**8**	*eP*		**P**	**01 06 25.5**	**+0.6**
ILAR	**Eielson Array**	**80.08**	**6**	P		**P**	**01 06 35.6**	**+0.1**
ILAR	**Eielson Array**	**80.08**	**6**	P		**P**	**01 06 35.6**	**+0.1**
	comp=Z,88nm,18.4s							
ILAR	**Eielson Array**	**80.08**	**6**	P		**P**	**01 06 35.6**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=319,slow=4.1,SNR=3.4							
ILAR				LR		LR	01 44 03.7	
	comp=Z,88nm,18.4s,baz=331,slow=37							
BATI	**Baumata**	**85.07**	**106**	P		**P**	**01 07 02.3**	**0.0**
BATI	**Baumata**	**85.07**	**106**	P		**P**	**01 07 02.3**	**0.0**
BATI	**Baumata**	**85.07**	**106**	P		**P**	**01 07 02.3**	**0.0**
	comp=Z,6.1nm,0.4s,baz=131,slow=11,SNR=2.8							
ULM	**Lac du Bonnet**	**89.09**	**337**	LR		LR	01 45 46.9	
	comp=Z,207nm,19.4s,baz=53,slow=35							
WRA	**Warramunga Arr**	**99.07**	**108**	P		**Pdif**	**01 08 07.2**	**-0.2**
WRA	**Warramunga Arr**	**99.07**	**108**	P		**Pdif**	**01 08 07.2**	**-0.2**
	comp=Z,1.0nm,0.9s							
WRA	**Warramunga Arr**	**99.07**	**108**	P		**Pdif**	**01 08 07.2**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=313,slow=3.8,SNR=3.5							
PDAR	**Pinedale Array**	**99.79**	**343**	LR		LR	01 57 34.6	
	comp=Z,113nm,19.0s,baz=53,slow=38							
ASAR	**Alice Springs**	**100.78**	**111**	P		**Pdif**	**01 08 13.0**	**-2.0**
ASAR	**Alice Springs**	**100.78**	**111**	P		**Pdif**	**01 08 13.0**	**-2.0**
ASAR	**Alice Springs**	**100.78**	**111**	P		**Pdif**	**01 08 13.0**	**-2.0**
	comp=Z,0.2nm,0.4s,baz=309,slow=4.4,SNR=3.1							

NNC ***13*** *00:55:14.2±5.0, 36°.29N×78°.78E, h0km, mb3.9, mpv4.2, Error ellipse: s-maj=57.7km s-min=19.3km az=169.0*

IDC ***13*** *00:55:37.8±2.3, 38°.14N×78°.18E, h0km, mb3.5/1, mb1 3.4/5, mb1mx3.3/28, mbtmp3.4/5, ML3.4/4, Error ellipse: s-maj=35.7km s-min=23.6km az=104.0*

BJI ***13*** *00:55:38.9, 38°.20N×78°.28E, h7km, ML3.9/7*

ISCJB ***13*** *00:55:39.1±1.3, 38°.24N±0°.09×78°.68E±0°.08, h10km, mb3.5/1, Error ellipse: s-maj=13.5km s-min=8.6km az=174.7*

ISC 13 00:55:41.2±1.7, 38°.16N±0°.10×78°.48E±0°.07, h10km, n12, σ2s65/17, 7C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSH	**Kashi**	**2.38**	**306**	Pn		**Pn**	**00 56 20.9**	**+0.5**
KSH				Sn		**Sn**	**00 56 50.1**	**+0.4**
KSH				SMN				
	760nm,0.4s							
KSH				SME				
	920nm,1.0s							
KNDC	**Almaty**	**5.18**	**348**	⇓Pn		**Pb**	**00 57 14.1**	**+2.1**
	33nm,0.7s							
KNDC				⇑Sn		**Sg**	**00 58 24.5**	**-3.1**
	206nm,0.9s							
TKM2	**Tokmak 2**	**5.24**	**336**	⇑Pn		**Pn**	**00 57 00.5**	**+0.7**
	2.9nm,0.6s							
TKM2				⇓Sn		**Sb**	**00 58 20.4**	**+4.3**
	41nm,0.9s							
AAK	**Ala-Archa**	**5.41**	**327**	Pn		**Pn**	**00 57 02.1**	**0.0**
	0.5nm,0.3s,baz=158,slow=15,SNR=6.1							
AAK				Pg		**Pb**	**00 57 16.4**	**+0.6**
	3.1nm,0.3s,baz=123,slow=11,SNR=24							
AAK				Lg		Lg	00 58 24.1	
	3.1nm,0.3s,baz=6.9,slow=22,SNR=6.7							
KK31	**Karatay Array**	**7.81**	**312**	⇓Pn		Pn	00 57 32.0	-2.9
	0.1nm,0.3s,baz=144,slow=14,SNR=5.1							
KK31				⇑Sn		**Sn**	**00 59 01.9**	**-1.6**
	7.2nm,0.7s,baz=146,slow=24,SNR=13							
KK31				⇑Lg		Lg	00 59 51.4	
	11nm,0.7s,baz=124,slow=28,SNR=2.6							
MK31	**Makanchi Array**	**9.08**	**17**	⇑Pn		**Pn**	**00 57 52.7**	**+0.4**
	0.4nm,0.3s,baz=199,slow=12,SNR=32							
MK31				⇑Sn		**Sn**	**00 59 32.9**	**-1.6**
	4.8nm,0.6s,baz=200,slow=23,SNR=5.0							
MKAR	**Makanchi Array**	**9.08**	**17**	Pn		**Pn**	**00 57 52.6**	**+0.3**
	0.6nm,0.3s,baz=200,slow=12,SNR=34							
MKAR				Sn		**Sn**	**00 59 32.7**	**-1.8**
	1.2nm,0.3s,baz=203,slow=22,SNR=6.7							
KURBB	**Kurchatov Arra**	**12.46**	**0**	⇓Sn		Sn	01 00 14.3	-43
	11nm,1.8s							
KURBB				⇑Lg		Lg	01 02 27.7	
	38nm,1.5s							
KURBB	**Kurchatov Arra**	**12.46**	**0**	Pn		Pn	00 58 36.4	-2.1
	0.1nm,0.3s,baz=187,slow=11,SNR=5.3							
ZALV	**Zalesovo Beam**	**16.39**	**13**	Pn		**Pn**	**00 59 29.9**	**-1.3**
	0.1nm,0.3s,baz=202,slow=10,SNR=2.6							
HHC	**Hu-ho-hao-te**	**25.59**	**74**	*eP*		**P**	**01 01 07.2**	**-3.4**
HHC				PP		**PnPn**	**01 01 47.6**	**+1.3**
HHC				S		S	01 05 32.8	-5.7
HHC				SS		**SnSn**	**01 06 38.2**	**+6.3**
TORD	**Torodi Ar. Bea**	**71.66**	**272**	P		P	01 07 00.0	-3.4
	0.3nm,0.5s,baz=52,slow=5.5,SNR=4.1							

IDC ***13*** *01:06:50.3±1.6, 7°.26N×124°.85E, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.7/25, mbtmp3.9/7, ML4.8/1, Error ellipse: s-maj=105.4km s-min=20.2km az=68.0*

ISCJB ***13*** *01:06:52.3±0.9, 7°.12N±0°.04×123°.59E±0°.03, h25km±7km, mb3.6/6, Error ellipse: s-maj=6.9km s-min=5.5km az=21.9*

MAN ***13*** *01:06:52, 7°.17N×123°.58E, h22km, mb4.6, ML3.5, MS3.4*

ISC 13 01:06:53.1±1.3, 7°.16N±0°.04×123°.60E±0°.04, h26km±12km, n21, σ1s14/26, mb3.6/6, 2C-6D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.65**	**85**	⇓*i*P		**Pb**	**01 07 04.9**	**-0.9**
CTBH				*i* S		**Sb**	**01 07 13.5**	**-0.9**
PAGZ	**Pagadian**	**0.71**	**343**	*e*P		**Pb**	**01 07 06.3**	**-0.7**
PAGZ				*e*S		**Sb**	**01 07 16.4**	**+0.1**
IPIL	**Ipil**	**1.19**	**301**	⇓*i*P		**Pn**	**01 07 14.1**	**+0.1**
DCPH	**Dipolog City**	**1.43**	**350**	⇓*e*P		**Pn**	**01 07 17.4**	**+0.1**
DCPH				*e*S		**Sn**	**01 07 35.4**	**+0.1**
KCP	**Kidapawan**	**1.49**	**96**	⇓*e*P		**Pn**	**01 07 18.3**	**+0.1**
KCP				*e*S		**Sn**	**01 07 37.6**	**+0.7**
ZMPH	**Zamboanga City**	**1.54**	**262**	⇓*i*P		**Pn**	**01 07 18.8**	**0.0**
ZMPH				*i* S		**Sn**	**01 07 38.0**	**+0.1**
BUKP	**Musuan**	**1.62**	**64**	*e*P		**Pn**	**01 07 20.6**	**+0.6**
CGP	**Cagayan de Oro**	**1.68**	**40**	⇑*i*P		**Pn**	**01 07 21.8**	**+1.0**
CGP				*i* S		**Sb**	**01 07 42.7**	**-1.5**
GSPH	**General Santos**	**1.72**	**128**	*e*P		**Pb**	**01 07 26.1**	**+2.1**
SNPH	**Sibulan**	**2.19**	**351**	⇑*i*P		**Pb**	**01 07 32.8**	**+0.6**
SNPH				*i* S		**Sb**	**01 08 00.9**	**+1.9**
TBP	**Tagbilaran**	**2.52**	**6**	*e*P		**Pn**	**01 07 33.5**	**+1.1**
TBP				*e*S		**Sn**	**01 08 02.7**	**+0.4**
BIPH	**Bislig**	**2.92**	**70**	⇓*e*P		**Pn**	**01 07 38.5**	**+0.6**
MSLP	**Maasin**	**3.20**	**23**	*e*P		Pn	01 07 45.2	+3.4
GUIM	**Jordan**	**3.58**	**344**	*e*P		**Pn**	**01 07 47.7**	**+0.7**
BATI	**Baumata**	**17.26**	**180**	P		**P**	**01 10 56.1**	**+2.4**
	3.4nm,0.3s,baz=23,slow=8.8,SNR=4.3							
FITZ	**Fitzroy Crossi**	**25.19**	**175**	P		**P**	**01 12 16.1**	**-0.5**
	3.1nm,0.7s,baz=12,slow=11,SNR=6.4							
WRA	**Warramunga Arr**	**28.94**	**159**	P		**P**	**01 12 48.7**	**-1.6**
	0.4nm,0.5s,baz=344,slow=9.1,SNR=7.9							
ASAR	**Alice Springs**	**32.25**	**162**	P		**P**	**01 13 18.9**	**-0.7**
	0.4nm,0.5s,baz=345,slow=7.5,SNR=8.2							
STKA	**Stephens Creek**	**42.46**	**157**	P		**P**	**01 14 44.4**	**-1.5**
	2.3nm,0.8s,baz=346,slow=8.3,SNR=3.6							
MKAR	**Makanchi Array**	**52.98**	**325**	P		P	01 16 13.9	+6.5
	0.6nm,0.9s,baz=117,slow=5.9,SNR=3.2							
KURBB	**Kurchatov Arra**	**57.19**	**328**	P		P	01 16 42.6	+4.9
	0.2nm,0.5s,baz=123,slow=6.8,SNR=3.5							

IDC ***13*** *01:13:44.9±2.6, 10°.05S×122°.01E, h70km±25km, mb3.4/6, mb1 3.6/9, mb1mx3.5/19, mbtmp3.5/9, Error ellipse: s-maj=28.6km s-min=14.8km az=59.0*

AUST ***13*** *01:13:50.0±0.0, 10°.59S×122°.42E, h85km±1km, Error ellipse: s-maj=3.0km s-min=1.4km az=323.0*

ISC 13 01:13:41.2±0.9, 10°.07S±0°.09×121°.84E±0°.09, h35km, n18, σ0s97/16, mb3.7/6, Savu Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BATI	**Baumata**	**1.80**	**94**	P		**Pn**	**01 14 11.7**	**+1.8**
	39nm,0.3s,baz=299,slow=2.0,SNR=23							
BATI				S		**Sn**	**01 14 32.2**	**+0.6**
	51nm,0.3s,baz=253,slow=19,SNR=26							
SOEI	**Soe**	**2.42**	**83**	P		Pn	01 14 21.2	+2.8
	baz=2.0,SNR=16							
KAPI	**Kappang**	**5.43**	**338**	P		Pn	01 15 05.6	+5.8
	1.6nm,0.3s,baz=126,slow=17,SNR=6.2							
KNRA	**Kununurra**	**8.75**	**130**	P		**Pn**	**01 15 44.1**	**-1.3**
	baz=8.0,SNR=18							
FITZ	**Fitzroy Crossi**	**8.79**	**156**	P		**Pn**	**01 15 46.3**	**+0.4**
	baz=8.1,SNR=10							
FITZ	**Fitzroy Crossi**	**8.79**	**156**	P		**Pn**	**01 15 46.8**	**+0.8**
	0.4nm,0.3s,baz=358,slow=11,SNR=15							
FITZ				S		Sn	01 17 15.5	-8.3
	4.3nm,0.3s,baz=150,slow=15,SNR=17							
MTN	**Manton Dam**	**9.52**	**108**	P		**Pn**	**01 15 54.6**	**-1.3**
	baz=8.8,SNR=13							
KDU	**Kakadu**	**10.75**	**105**	P		**Pn**	**01 16 11.4**	**-1.4**
	baz=10,SNR=11							
WRA	**Warramunga Arr**	**15.55**	**131**	P		Pn	01 17 13.0	-5.0
	0.6nm,0.3s,baz=302,slow=14,SNR=29							
WRA				S		Sn	01 19 52.8	-17
	1.1nm,0.3s,baz=299,slow=26,SNR=14							
MEEK	**Meekatharra**	**16.76**	**190**	P		**P**	**01 17 35.6**	**+0.3**
	baz=16,SNR=15							
ASAR	**Alice Springs**	**17.76**	**141**	P		**Pn**	**01 17 45.0**	**-0.9**
	0.3nm,0.3s,baz=323,slow=13,SNR=19							
ASAR				S		Sn	01 20 46.7	-16
	0.3nm,0.3s,baz=312,slow=22,SNR=7.1							
STKA	**Stephens Creek**	**28.38**	**143**	P		**P**	**01 19 32.9**	**+0.5**
	2.5nm,0.5s,baz=324,slow=6.7,SNR=5.5							
SONM	**Songino Array**	**59.26**	**348**	P		**P**	**01 23 38.8**	**-0.5**
	0.2nm,0.4s,baz=170,slow=9.7,SNR=2.7							
MKAR	**Makanchi Array**	**66.70**	**332**	P		**P**	**01 24 28.9**	**+0.2**
	0.7nm,0.6s,baz=137,slow=8.2,SNR=7.9							
VNDA	**Vanda**	**70.51**	**171**	P		**P**	**01 24 51.9**	**-0.1**
	0.3nm,0.5s,baz=297,slow=7.0,SNR=5.6							
ZALV	**Zalesovo Beam**	**71.06**	**338**	P		**P**	**01 24 54.9**	**-0.6**
	0.3nm,0.3s,baz=148,slow=6.8,SNR=2.7							
KURBB	**Kurchatov Arra**	**71.18**	**333**	P		**P**	**01 24 56.2**	**-0.2**
	0.2nm,0.3s,baz=142,slow=5.4,SNR=3.5							
TORD	**Torodi Ar. Bea**	**121.40**	**279**	PKP		**PKPdf**	**01 32 32.7**	**+0.8**
	0.4nm,0.8s,baz=61,slow=1.7,SNR=4.6							

IDC 13 01:59:31.1±4.8, 13°.17S×166°.61E, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.7/19, mbtmp3.8/3, MS2.9/1, Ms1 2.9/1, ms1mx2.7/25, Error ellipse: s-maj=209.7km s-min=37.5km az=138.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**7.51**	**299**	LR		LR	02 03 05.8	
	comp=Z,77nm,19.5s,baz=124,slow=29							
ASAR	**Alice Springs**	**32.66**	**247**	P		P	02 06 05.0	-0.2
	1.1nm,0.7s,baz=70,slow=9.1,SNR=9.4							
ILAR	**Eielson Array**	**85.25**	**18**	P		P	02 12 09.1	-0.2
	0.2nm,0.7s,baz=253,slow=5.6,SNR=3.5							
MKAR	**Makanchi Array**	**95.63**	**317**	P		P	02 12 59.0	+0.3
	0.8nm,0.6s,baz=93,slow=5.9,SNR=5.8							

IDC 13 01:59:31.8±16.0, 38°.04N×96°.01E, h0km, mb1 3.5/3, mb1mx3.2/28, mbtmp3.5/3, ML3.4/3, Error ellipse: s-maj=206.8km s-min=49.2km az=4.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SONM	**Songino Array**	**12.38**	**34**	Pn		Pn	02 02 29.3	-0.1
	0.5nm,0.3s,baz=220,slow=15,SNR=9.6							
MKAR	**Makanchi Array**	**13.37**	**315**	Pn		Pn	02 02 38.2	-4.6
	0.2nm,0.3s,baz=124,slow=14,SNR=4.8							
MKAR				Sn		Sn	02 05 01.2	-11
	baz=117,slow=25,SNR=2.7							
ZALV	**Zalesovo Beam**	**17.67**	**338**	P		Pn	02 03 39.3	+0.2
	0.1nm,0.3s,baz=143,slow=13,SNR=2.1							

GUC 13 02:08:09.9±0.7, 39°.06S×73°.09W, h59km±14km, ML4.1, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VLCH	**Valdivia**	**0.76**	**189**	⇑*i*P		Pn	02 08 24.6	-0.1
VLCH				*i* S		Sn	02 08 35.5	-0.2
VLCH				AML		AML	02 08 36.1	
	comp=N,22μm,0.3s							
PUYE	**Entre Lagos**	**1.67**	**167**	⇓*i*P		Pn	02 08 37.3	+0.4
PUYE				*i* S		Sn	02 08 58.0	+0.8
PUYE				AML		AML	02 09 07.8	
	comp=N,3μm,0.4s							
CCSP	**San Pedro de C**	**2.21**	**360**	⇑*i*P		Pn	02 08 44.6	+0.4
CCSP				*i* S		Sn	02 09 08.0	-2.3
CCHI	**Chillan**	**2.58**	**18**	⇑*i*P		Pn	02 08 50.2	+1.0
CCHI				*i* S		Sn	02 09 19.8	+0.4
CCHI				AML		AML	02 09 21.7	
	comp=E,382nm,0.2s							

SKHL 13 02:27:08.1±1.4, 49°.53N×142°.70E, h10km, mb3.9/2, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
UGL	**Uglegorsk**	**0.61**	**223**	*e*Pg		Pb	02 27 20.5	-0.4
UGL				AMB		AMB	02 27 20.8	
	120nm,0.4s							
UGL				*e*Sg		Sb	02 27 29.2	-0.4
UGL				A		A	02 27 32.5	
	850nm,0.3s							
UGL				A		A	02 27 32.5	
	550nm,0.3s							
TYV	**Tymovskoe**	**1.33**	**359**	*e*Pg		Pg	02 27 34.5	+0.8
TYV				AMB		AMB	02 27 35.8	
	42nm,0.7s							
TYV				AMB		AMB	02 27 35.8	
	27nm,0.7s							
TYV				AMB		AMB	02 27 35.8	
	106nm,0.7s							
TYV				*e*Sg		Sg	02 27 53.0	+1.9
TYV				A		A	02 27 57.0	
	59nm,0.6s							
OSMR	**Ostromysovka**	**2.30**	**175**	*e*Pg		Pg	02 27 53.4	+1.3
OSMR				*e*Sg		Sg	02 28 26.6	+4.8
YSS	**Yuzh-Sakhalins**	**2.58**	**179**	*e*Pg		Pg	02 27 58.4	+0.9
YSS				AMB		AMB	02 28 02.0	
	23nm,0.5s							
YSS				*e*Sg		Sg	02 28 36.0	+5.1
YSS				A		A	02 28 41.0	
	27nm,0.5s							
YSS				A		A	02 28 41.0	
	25nm,0.5s							

WEL 13 02:30:21.3±0.5, 37°.63S×176°.29E, h176km±4km, ML3.8/14, 1C-7D, Error ellipse: s-maj=5.3km s-min=4.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**0.90**	**134**	⇓PN		Pn	02 30 47.9	0.0
URZ				SN		Sn	02 31 08.3	-0.2
URZ				AML		AML	02 31 10.6	
MWZ	**Matawai**	**1.21**	**126**	PN		Pn	02 30 50.5	+0.2
MWZ				AML		AML	02 31 18.4	
MWZ				AML		AML	02 31 22.6	
RAHZ	**Arahi**	**1.43**	**154**	PN		Pn	02 30 52.8	+0.4
NMHZ	**Naumai**	**1.52**	**165**	PN		Pn	02 30 54.0	+0.7
BKZ	**Black Stump Fm**	**1.54**	**174**	⇓PN		Pn	02 30 53.0	-0.4
BKZ				SN		Sn	02 31 17.1	-1.4
BKZ				AML		AML	02 31 19.8	
MXZ	**Matakaoa Point**	**1.60**	**88**	PN		Pn	02 30 54.1	+0.2
OTVZ	**Oturere**	**1.61**	**198**	PN		Pn	02 30 54.7	+0.4
PUZ	**Puketiti**	**1.62**	**106**	PN		Pn	02 30 53.8	-0.4
PUZ				SN		Sn	02 31 19.3	-0.2
PUZ				AML		AML	02 31 30.0	
FWVZ	**Far West T-bar**	**1.73**	**199**	⇓PN		Pn	02 30 55.7	+0.2
CNGZ	**Carnagh Statio**	**1.74**	**120**	PN		Pn	02 30 55.8	+0.5
WHVZ	**Whangaehu Hut**	**1.74**	**198**	PN		Pn	02 30 55.7	0.0
KNZ	**Kokohu**	**1.77**	**142**	⇓PN		Pn	02 30 55.2	-0.3
WNVZ	**Wahianoa**	**1.78**	**198**	PN		Pn	02 30 55.9	-0.1
PRGZ	**Paritu Road**	**1.80**	**136**	PN		Pn	02 30 55.7	-0.3
MOVZ	**Moawhango**	**1.83**	**193**	PN		Pn	02 30 55.6	-0.7
MCHZ	**McNeill Hill**	**1.84**	**170**	⇑PN		Pn	02 30 56.5	+0.1
BHHZ	**Black Hill Sta**	**1.87**	**185**	PN		Pn	02 30 56.1	-0.7
MHGZ	**Mahia Peninsul**	**1.98**	**141**	PN		Pn	02 30 57.7	-0.2
CKHZ	**Cape Kidnapper**	**2.12**	**163**	PN		Pn	02 30 59.1	-0.3
KAHZ	**Kahuranaki**	**2.21**	**168**	⇓PN		Pn	02 30 59.9	-0.6
PNHZ	**Pukenui**	**2.28**	**182**	PN		Pn	02 31 00.2	-1.1
WAZ	**Wanganui**	**2.36**	**205**	⇓PN		Pn	02 31 01.8	-0.3
WPHZ	**Waipukurau**	**2.44**	**177**	PN		Pn	02 31 01.8	-1.2
PXZ	**Pawanui**	**2.44**	**170**	PN		Pn	02 31 01.8	-1.3
PXZ				AML		AML	02 31 35.4	
PXZ				AML		AML	02 31 35.4	
PXZ				AML		AML	02 31 35.6	
PXZ				AML		AML	02 31 35.6	
TSZ	**Takapari Road**	**2.44**	**186**	PN		Pn	02 31 01.7	-1.4
TSZ				AML		AML	02 31 37.7	
PRHZ	**Porangahau**	**2.65**	**174**	PN		Pn	02 31 04.0	-1.5
DVHZ	**Dannevirke**	**2.67**	**182**	PN		Pn	02 31 04.0	-1.8
PRWZ	**Pori Road**	**2.93**	**185**	PN		Pn	02 31 07.1	-1.8
MRZ	**Mangatainoka R**	**3.08**	**190**	⇓PN		Pn	02 31 08.3	-2.5
MRZ				AML		AML	02 31 47.1	
MRZ				AML		AML	02 31 48.1	
OGWZ	**Otaki Gorge**	**3.30**	**195**	PN		Pn	02 31 11.0	-2.4
HOWZ	**Holdsworth Sta**	**3.32**	**190**	PN		Pn	02 31 10.7	-3.0
KIW	**Kapiti Island**	**3.40**	**198**	PN		Pn	02 31 11.9	-2.8
KIW				AML		AML	02 31 55.0	
TMWZ	**Te Maipa**	**3.49**	**185**	PN		Pn	02 31 12.8	-3.0
MTW	**Mount Morrison**	**3.58**	**190**	PN		Pn	02 31 13.6	-3.3
MTW				AML		AML	02 31 57.4	
CAW	**Cannon Point**	**3.60**	**195**	PN		Pn	02 31 14.3	-2.9
CAW				AML		AML	02 31 57.3	
TRWZ	**Traveller**	**3.79**	**187**	PN		Pn	02 31 16.4	-3.2
PAWZ	**Paruwai Farm**	**3.81**	**190**	PN		Pn	02 31 15.4	-4.4
PAWZ				AML		AML	02 32 03.8	
MSWZ	**Moikau Station**	**3.87**	**192**	PN		Pn	02 31 16.9	-3.7
MSWZ				AML		AML	02 32 03.9	
TCW	**Tory Channel**	**3.91**	**203**	PN		Pn	02 31 17.7	-3.3
TCW				AML		AML	02 32 05.1	
TCW				AML		AML	02 32 08.0	
PLWZ	**Palliser**	**4.02**	**191**	PN		Pn	02 31 18.6	-4.0
TUWZ	**Tuamarina**	**4.21**	**205**	AML		AML	02 32 12.1	

IDC 13 03:07:30.7±1.1, 45°.06S×34°.88E, h0km, mb4.1/8, mb1 4.2/10, mb1mx3.9/22, mbtmp4.1/10, ML4.3/2, MS3.7/7, Ms1 3.7/7, ms1mx3.5/26, Error ellipse: s-maj=58.7km s-min=15.6km az=72.0, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SUR	**Sutherland**	**16.72**	**314**	Pn		Pn	03 11 25.2	-1.3
	2.2nm,0.3s,baz=135,slow=12,SNR=24							
SUR				Sn		Sn	03 14 20.0	-13
	0.3nm,0.3s,baz=204,slow=20,SNR=2.4							
SUR				LR		LR	03 16 57.2	
	comp=Z,169nm,18.3s,baz=200,slow=34							
BOSA	**Boshof**	**18.11**	**332**	P		Pn	03 11 41.8	-1.9
	0.4nm,0.3s,baz=169,slow=12,SNR=9.6							
BOSA				S		Sn	03 14 50.1	-16
	0.2nm,0.3s,baz=94,slow=18,SNR=2.7							
BOSA				LR		LR	03 17 05.3	
	comp=Z,231nm,18.7s,baz=133,slow=32							
LBTB	**Lobatse**	**21.37**	**336**	P		P	03 12 18.9	-0.8
	4.9nm,0.7s,baz=171,slow=8.2,SNR=11							
LBTB				LR		LR	03 19 14.6	
	comp=Z,207nm,20.1s,baz=130,slow=33							
MAW	**Mawson**	**26.95**	**157**	P		P	03 13 12.7	-0.6
	2.2nm,0.6s,baz=309,slow=16,SNR=4.3							
MAW				LR		LR	03 21 17.7	
	comp=Z,169nm,18.9s,baz=82,slow=31							
TSUM	**Tsumeb**	**29.52**	**325**	LR		LR	03 23 50.4	
	comp=Z,119nm,21.2s,baz=222,slow=33							
SNAA	**Sanae**	**32.15**	**201**	P		P	03 14 00.3	+0.7
	0.7nm,0.8s,baz=66,slow=8.4,SNR=8.1							
QSPA	**South Pole Qui**	**45.16**	**180**	P		P	03 15 48.3	-0.5
	5.1nm,0.7s							
H08S1	**Diego Carcia H**	**49.47**	**53**	T		T	04 10 33.9	
	baz=209,slow=0.7,SNR=13							
H08S2	**Diego Garcia H**	**49.48**	**53**	T		T	04 10 36.1	
	baz=209,slow=0.7,SNR=5.1							
H08S3	**Diego Garcia H**	**49.49**	**53**	T		T	04 10 38.9	
	baz=209,slow=0.7,SNR=11							
H08N3	**Diego Garcia H**	**49.72**	**50**	T		T	04 11 20.3	
	baz=200,slow=0.7,SNR=5.6							
H08N1	**Diego Carcia H**	**49.73**	**50**	T

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSET	**Sete Cidades**	8.60	172	*e*P	Pn	03 54 12.7	-0.4
	160nm,0.7s						
PSET	**Sete Cidades**	8.60	172	*e*P	Pn	03 54 12.7	-0.4
	160nm,0.7s						
GRON	**Grota Negra**	8.68	171	*e*P	Pn	03 54 13.3	-0.8
	30nm,0.6s						
CMLA	**Cha da Macela**	8.68	171	*e*P	Pn	03 54 14.0	-0.2
	348nm,1.6s						
CMLA	**Cha da Macela**	8.68	171	*e*P	Pn	03 54 14.0	-0.2
	348nm,1.6s						
BART	**Pico Bartolome**	8.71	169	*e*P	Pn	03 54 13.6	-1.0
	136nm,0.5s						
BART	**Pico Bartolome**	8.71	169	*e*P	Pn	03 54 13.6	-1.0
	136nm,0.5s						
PSMA	**Santa Maria**	9.49	170	*e*P	Pn	03 54 23.9	-1.3
	92nm,0.4s						
PSMN	**Pico do Norte,**	9.49	169	*e*P	Pn	03 54 23.6	-1.6
	158nm,0.8s						
PSMN	**Pico do Norte,**	9.49	169	*e*P	Pn	03 54 23.6	-1.6
	158nm,0.8s						
POLO	**Lamas de Olo**	14.89	103	*e*P	Pn	03 55 37.4	-1.8
	40nm,1.8s						
PVRL	**Vila Real**	14.99	103	*e*P	Pn	03 55 38.7	-1.7
	61nm,1.5s						
PVIS	**Viseu**	15.13	105	*e*P	Pn	03 55 40.9	-1.3
	52nm,1.7s						
PMAFR	**Mafra**	15.14	113	*e*P	Pn	03 55 39.7	-2.7
	133nm,1.8s						
PMST	**Lisbon--Monsan**	15.33	113	*e*P	Pn	03 55 43.1	-1.7
	135nm,1.6s						
PTOM	**Tomar**	15.34	109	*e*P	Pn	03 55 44.4	-0.6
	39nm,1.3s						
PBRG	**Braganca**	15.43	100	*e*P	Pn	03 55 45.2	-1.0
	57nm,1.7s						
MVO	**Moncorvo**	15.50	102	*e*P	Pn	03 55 45.5	-1.7
	42nm,1.7s						
MTE	**Manteigas**	15.51	105	*e*P	Pn	03 55 45.4	-1.9
	56nm,1.4s						
PMTG	**Montargil**	15.76	111	*e*P	Pn	03 55 48.0	-2.4
	85nm,1.7s						
PMAR	**Madeira**	15.76	146	*e*P	Pn	03 55 50.7	0.0
	89nm,1.4s						
PMAR	**Madeira**	15.76	146	*e*P	Pn	03 55 50.7	0.0
	89nm,1.4s						
PMRV	**Marv??o**	16.11	108	*e*P	Pn	03 55 54.0	-0.9
	83nm,1.7s						
PNCL	**Nicolau / Gran**	16.11	114	*e*P	Pn	03 55 53.5	-1.5
	70nm,1.3s						
EVOP	**Sao Brissos**	16.13	112	*e*P	Pn	03 55 52.8	-2.3
EVOP				pmax	pmax		
	comp=Z,10.0nm,0.4s						
EVOP	**Sao Brissos**	16.13	112	*e*P	Pn	03 55 52.8	-2.3
	comp=Z,10nm,0.4s						
EVOP	**Sao Brissos**	16.13	112	*e*P	Pn	03 55 52.8	-2.3
	comp=Z,10nm,0.4s						
EVO	**Evora**	16.20	112	*e*P	Pn	03 55 52.8	-3.2
	comp=Z,10nm,0.4s						
EVO				*e*R			
	comp=Z,284nm,19.8s						
EVO	**Evora**	16.20	112	*e*P	Pn	03 55 54.4	-1.6
	comp=Z,31nm,1.8s						
PTEO	**Sao Teotonio**	16.33	116	*e*P	P	03 55 59.5	-1.1
	comp=Z,79nm,1.9s						
PTEO	**Sao Teotonio**	16.33	116	*e*P	P	03 55 59.5	-1.1
	comp=Z,79nm,1.9s						
ROSF	**Rostrenen**	16.37	74	*e*P	Pn	03 55 56.4	-1.8
	comp=Z,57nm,1.1s						
ROSF	**Rostrenen**	16.37	74	*e*P	Pn	03 55 56.4	-1.8
ROSF				pmax	pmax		
	comp=Z,57nm,1.1s						
ROSF	**Rostrenen**	16.37	74	*e*P	Pn	03 55 56.4	-1.8
	comp=Z,57nm,1.1s						
ROSF	**Rostrenen**	16.37	74	*e*P	Pn	03 55 56.4	-1.8
	comp=Z,57nm,1.1s						
QUIF	**Quistinic**	16.46	76	*e*P	Pn	03 55 57.8	-1.6
	comp=Z,127nm,1.7s						
QUIF	**Quistinic**	16.46	76	*e*P	Pn	03 55 57.8	-1.6
QUIF				pmax	pmax		
	comp=Z,127nm,1.7s						
QUIF	**Quistinic**	16.46	76	*e*P	Pn	03 55 57.8	-1.6
	comp=Z,127nm,1.7s						
MORF	**Marmelete**	16.53	117	*e*P	Pn	03 55 59.5	-0.9
	comp=Z,60nm,2.2s						
MORF	**Marmelete**	16.53	117	*e*P	Pn	03 55 59.5	-0.9
	comp=Z,60nm,2.2s						
PFVI	**Vila Bisbo**	16.53	117	*e*P	Pn	03 55 59.6	-0.7
	comp=Z,95nm,1.7s						
PFVI	**Vila Bisbo**	16.53	117	*e*P	Pn	03 55 59.6	-0.7
	comp=Z,95nm,1.7s						
PBEJ	**Beja**	16.58	113	*e*P	Pn	03 56 00.2	-0.8
	comp=Z,37nm,2.1s						
PBEJ	**Beja**	16.58	113	*e*P	Pn	03 56 00.2	-0.8
	comp=Z,37nm,2.1s						
PCVE	**Castro Verde**	16.71	115	*e*P	Pn	03 56 01.2	-1.4
	comp=Z,32nm,1.9s						
PCVE	**Castro Verde**	16.71	115	*e*P	Pn	03 56 01.2	-1.4
	comp=Z,32nm,1.9s						
SGMF	**Saint Gilles**	16.85	75	*e*P	Pn	03 56 03.1	-1.2
	comp=Z,81nm,1.3s						
SGMF	**Saint Gilles**	16.85	75	*e*P	Pn	03 56 03.1	-1.2
SGMF				pmax	pmax		
	comp=Z,81nm,1.3s						
SGMF	**Saint Gilles**	16.85	75	*e*P	Pn	03 56 03.1	-1.2
	comp=Z,81nm,1.3s						
PBDV	**Barranco-do-Ve**	17.02	115	*e*P	Pn	03 56 06.8	+0.3
	comp=Z,72nm,1.9s						
PBDV	**Barranco-do-Ve**	17.02	115	*e*P	Pn	03 56 06.8	+0.3
	comp=Z,72nm,1.9s						
PVAQ	**Vaqueiros**	17.05	115	*e*P	Pn	03 56 07.7	+0.8
	comp=Z,34nm,2.0s						
PVAQ	**Vaqueiros**	17.05	115	*e*P	Pn	03 56 07.7	+0.8
	comp=Z,34nm,2.0s						
ESK	**Eskdalemuir**	17.57	51	*e*P	P	03 56 14.9	+0.7
ESK	**Eskdalemuir**	17.57	51	*e*Pn	P	03 56 14.9	+0.7
ESK	**Eskdalemuir**	17.57	51	*e*P	P	03 56 14.9	+0.7
EKA	**Eskdalemuir Ar**	17.60	51	P	Pn	03 56 13.9	+0.3
EKA	**Eskdalemuir Ar**	17.60	51	P	Pn	03 56 13.9	+0.3
EKA	**Eskdalemuir Ar**	17.60	51	P	Pn	03 56 13.9	+0.3
	baz=248,slow=12,SNR=10						
GRR	**Gorron**	17.98	74	*e*P	P	03 56 18.7	0.0
	comp=Z,74nm,1.2s						
GRR	**Gorron**	17.98	74	*e*P	P	03 56 18.7	0.0
GRR				pmax	pmax		
	comp=Z,74nm,1.2s						
GRR	**Gorron**	17.98	74	*e*P	P	03 56 18.7	0.0
	comp=Z,74nm,1.2s						
GRR	**Gorron**	17.98	74	*e*P	P	03 56 18.7	0.0
	comp=Z,37nm,1.2s						
PAB	**San Pablo**	18.07	104	*e*P	P	03 56 20.1	+0.2
PAB				pmax	pmax		
	comp=Z,468nm,1.9s						
PAB	**San Pablo**	18.07	104	*e*Pn	P	03 56 20.1	+0.2
	comp=Z,468nm,1.9s						
PAB	**San Pablo**	18.07	104	*e*P	P	03 56 20.1	+0.2
	comp=Z,468nm,1.9s						
FLN	**La Foliniere**	18.21	73	*e*P	Pn	03 56 20.4	-0.7
	comp=Z,142nm,1.6s						
FLN				*e*R			
	comp=Z,238nm,17.8s						
FLN	**La Foliniere**	18.21	73	*e*P	Pn	03 56 20.4	-0.7
FLN				pmax	pmax		
	comp=Z,142nm,1.6s						
FLN	**La Foliniere**	18.21	73	*e*P	Pn	03 56 20.4	-0.7
	comp=Z,142nm,1.6s						
FLN	**La Foliniere**	18.21	73	*e*P	Pn	03 56 20.4	-0.7
	comp=Z,71nm,1.6s						
ESDC	**Sonseca Array**	18.27	103	P	P	03 56 23.6	+1.5
ESDC	**Sonseca Array**	18.27	103	P	P	03 56 23.6	+1.5
ESDC	**Sonseca Array**	18.27	103	P	P	03 56 23.6	+1.5
	comp=Z,3.8nm,0.3s,baz=295,slow=13,SNR=42						
ESDC					LR	LR	04 02 17.1
	comp=Z,200nm,18.0s,baz=300,slow=33						
ESLA	**Sonseca Array**	18.27	103	*e*P	P	03 56 23.9	+1.8
	comp=Z,1.3nm,0.8s						
ESLA	**Sonseca Array**	18.27	103	*e*P	P	03 56 23.9	+1.8
	comp=Z,1.3nm,0.8s						
LDF	**La Druitiere**	18.45	73	*e*P	P	03 56 22.8	-1.2
	comp=Z,32nm,1.2s						
LDF	**La Druitiere**	18.45	73	*e*P	P	03 56 22.8	-1.2
LDF				pmax	pmax		
	comp=Z,32nm,1.2s						
LDF	**La Druitiere**	18.45	73	*e*P	P	03 56 22.8	-1.2
	comp=Z,32nm,1.2s						
LDF	**La Druitiere**	18.45	73	*e*P	P	03 56 22.8	-1.2
	comp=Z,16nm,1.2s						
MFF	**Saint Martin d**	18.65	79	⇑*i*P	Pn	03 56 27.3	+0.7
	comp=Z,56nm,1.1s						
MFF	**Saint Martin d**	18.65	79	⇑*i*P	Pn	03 56 27.3	+0.7
MFF				pmax	pmax		
	comp=Z,56nm,1.1s						
MFF	**Saint Martin d**	18.65	79	⇑*i*P	Pn	03 56 27.3	+0.7
	comp=Z,56nm,1.1s						
MFF	**Saint Martin d**	18.65	79	⇑*i*P	Pn	03 56 27.3	+0.7
	comp=Z,28nm,1.1s						
SJPF	**Ste Jean**	18.76	91	⇑*i*P	Pn	03 56 28.4	+0.5
SJPF	**Ste Jean**	18.76	91	⇑*i*P	Pn	03 56 28.4	+0.5
SJPF	**Ste Jean**	18.76	91	⇑*i*P	Pn	03 56 28.4	+0.5
SJPF	**Ste Jean**	18.76	91	⇑*i*P	Pn	03 56 28.4	+0.5
ETSF	**Etsaut**	19.29	91	⇑*i*P	Pn	03 56 34.6	+0.3
	comp=Z,47nm,0.9s						
ETSF	**Etsaut**	19.29	91	⇑*i*P	Pn	03 56 34.6	+0.3
ETSF				pmax	pmax		
	comp=Z,47nm,0.9s						
ETSF	**Etsaut**	19.29	91	⇑*i*P	Pn	03 56 34.6	+0.3
	comp=Z,47nm,0.9s						
ETSF	**Etsaut**	19.29	91	⇑*i*P	Pn	03 56 34.6	+0.3
	comp=Z,23nm,0.9s						
LFF	**La Frestale**	19.60	84	*e*P	P	03 56 36.7	+0.2
LFF	**La Frestale**	19.60	84	*e*P	P	03 56 36.7	+0.2
LFF	**La Frestale**	19.60	84	*e*P	P	03 56 36.7	+0.2
LFF	**La Frestale**	19.60	84	*e*P	P	03 56 36.7	+0.2
EPF	**Esparros**	19.87	90	*e*P	P	03 56 39.8	+0.2
	comp=Z,60nm,1.4s						
EPF	**Esparros**	19.87	90	*e*P	P	03 56 39.8	+0.2
EPF				pmax	pmax		
	comp=Z,60nm,1.4s						
EPF	**Esparros**	19.87	90	*e*P	P	03 56 39.8	+0.2
	comp=Z,60nm,1.4s						
EPF	**Esparros**	19.87	90	*e*P	P	03 56 39.8	+0.2
	comp=Z,30nm,1.4s						
MENF	**Mencas**	19.89	67	*e*P	Pn	03 56 41.4	0.0
MENF	**Mencas**	19.89	67	*e*P	Pn	03 56 41.4	0.0
RJF	**Les Rejaudoux**	20.04	83	*e*P	P	03 56 42.2	+0.8
	comp=Z,164nm,1.9s						
RJF				*e*R			
	comp=Z,472nm,21.2s						
RJF	**Les Rejaudoux**	20.04	83	*e*P	P	03 56 42.2	+0.8
RJF				pmax	pmax		
	comp=Z,164nm,1.9s						
RJF	**Les Rejaudoux**	20.04	83	*e*P	P	03 56 42.2	+0.8
	comp=Z,164nm,1.9s						
RJF	**Les Rejaudoux**	20.04	83	*e*P	P	03 56 42.2	+0.8
	comp=Z,82nm,1.9s						
TCF	**Toulx Ste Croi**	20.31	79	⇑*i*P	Pn	03 56 45.7	-0.8
	comp=Z,130nm,1.1s						
TCF	**Toulx Ste Croi**	20.31	79	⇑*i*P	Pn	03 56 45.7	-0.8
TCF				pmax	pmax		
	comp=Z,131nm,1.1s						
TCF	**Toulx Ste Croi**	20.31	79	⇑*i*P	Pn	03 56 45.7	-0.8
	comp=Z,130nm,1.1s						
TCF	**Toulx Ste Croi**	20.31	79	⇑*i*P	Pn	03 56 45.7	-0.8
	comp=Z,65nm,1.1s						
HYF	**Humbligny**	20.44	77	*e*P	Pn	03 56 46.9	-1.0
HYF	**Humbligny**	20.44	77	*e*P	Pn	03 56 46.9	-1.0
HYF	**Humbligny**	20.44	77	*e*P	Pn	03 56 46.9	-1.0
CAF	**Calviac**	20.51	83	⇑*i*P	P	03 56 47.3	+0.7
	comp=Z,73nm,1.2s						
CAF	**Calviac**	20.51	83	⇑*i*P	P	03 56 47.3	+0.7
CAF				pmax	pmax		
	comp=Z,73nm,1.2s						
CAF	**Calviac**	20.51	83	⇑*i*P	P	03 56 47.3	+0.7
	comp=Z,73nm,1.2s						
CAF	**Calviac**	20.51	83	⇑*i*P	P	03 56 47.3	+0.7
	comp=Z,36nm,1.2s						
BGF	**Bois d'Agland**	20.70	78	⇑*i*P	Pn	03 56 49.9	-1.0
	comp=Z,107nm,1.2s						
BGF	**Bois d'Agland**	20.70	78	⇑*i*P	Pn	03 56 49.9	-1.0
BGF				pmax	pmax		
	comp=Z,107nm,1.2s						
BGF	**Bois d'Agland**	20.70	78	⇑*i*P	Pn	03 56 49.9	-1.0
	comp=Z,107nm,1.2s						
BGF	**Bois d'Agland**	20.70	78	⇑*i*P	Pn	03 56 49.9	-1.0
	comp=Z,54nm,1.2s						
FRNF	**Fournols**	20.74	82	*e*P	Pn	03 56 50.5	-1.0
FRNF	**Fournols**	20.74	82	*e*P	Pn	03 56 50.5	-1.0
AVF	**Avril sur Loir**	21.00	78	⇑*i*P	P	03 56 52.6	+0.9
	comp=Z,98nm,1.3s						
AVF	**Avril sur Loir**	21.00	78	⇑*i*P	P	03 56 52.6	+0.9
AVF				pmax	pmax		
	comp=Z,98nm,1.3s						
AVF	**Avril sur Loir**	21.00	78	⇑*i*P	P	03 56 52.6	+0.9
	comp=Z,98nm,1.3s						
AVF	**Avril sur Loir**	21.00	78	⇑*i*P	P	03 56 52.6	+0.9
	comp=Z,49nm,1.3s						
SSF	**Saint Saulge**	21.05	77	⇑*i*P	P	03 56 53.4	+1.0
	comp=Z,63nm,1.2s						
SSF	**Saint Saulge**	21.05	77	⇑*i*P	P	03 56 53.4	+1.0
SSF				pmax	pmax		
	comp=Z,63nm,1.2s						
SSF	**Saint Saulge**	21.05	77	⇑*i*P	P	03 56 53.4	+1.0
	comp=Z,63nm,1.2s						
SSF	**Saint Saulge**	21.05	77	⇑*i*P	P	03 56 53.4	+1.0
	comp=Z,32nm,1.2s						
MTLF	**Montolieu**	21.07	88	⇑*i*P	P	03 56 53.1	+0.6
	comp=Z,116nm,1.5s						
MTLF	**Montolieu**	21.07	88	⇑*i*P	P	03 56 53.1	+0.6
MTLF				pmax	pmax		
	comp=Z,116nm,1.5s						
MTLF	**Montolieu**	21.07	88	⇑*i*P	P	03 56 53.1	+0.6
	comp=Z,116nm,1.5s						
MTLF	**Montolieu**	21.07	88	⇑*i*P	P	03 56 53.1	+0.6
	comp=Z,58nm,1.5s						
BAIF	**Baives**	21.22	68	⇑*i*P	P	03 56 55.0	+0.9
	comp=Z,36nm,1.0s						
BAIF	**Baives**	21.22	68	⇑*i*P	P	03 56 55.0	+0.9
BAIF				pmax	pmax		
	comp=Z,36nm,1.0s						
BAIF	**Baives**	21.22	68	⇑*i*P	P	03 56 55.0	+0.9
	comp=Z,36nm,1.0s						
BAIF	**Baives**	21.22	68	⇑*i*P	P	03 56 55.0	+0.9
	comp=Z,18nm,1.0s						
SNF	**Seneffe**	21.25	67	P	P	03 56 56.0	+1.6
SNF	**Seneffe**	21.25	67	P	P	03 56 56.0	+1.6
LOR	**Lormes**	21.26	76	⇑*i*P	P	03 56 55.4	+0.8
	comp=Z,108nm,1.3s						
LOR				*e*R			
	comp=Z,278nm,17.8s						
LOR	**Lormes**	21.26	76	⇑*i*P	P	03 56 55.4	+0.8
	comp=Z,108nm,1.3s						
LOR	**Lormes**	21.26	76	⇑*i*P	P	03 56 55.4	+0.8
	comp=Z,54nm,1.3s						
SMF	**Signal de Mont**	21.35	78	⇑*i*P	P	03 56 56.4	+0.8
	comp=Z,85nm,1.3s						
SMF	**Signal de Mont**	21.35	78	⇑*i*P	P	03 56 56.4	+0.8
SMF				pmax	pmax		
	comp=Z,85nm,1.3s						
SMF	**Signal de Mont**	21.35	78	⇑*i*P	P	03 56 56.4	+0.8
	comp=Z,85nm,1.3s						
SMF	**Signal de Mont**	21.35	78	⇑*i*P	P	03 56 56.4	+0.8
	comp=Z,43nm,1.3s						
DOU	**Dourbes**	21.46	68	P	P	03 56 57.5	+0.7
	comp=Z,18nm,2.1s						
DOU	**Dourbes**	21.46	68	P	P	03 56 57.4	+0.7
	comp=Z,18nm,2.1s						
GIVF	**Givet**	21.61	68	⇑*i*P	P	03 56 59.4	+1.1
	comp=Z,111nm,1.3s						
GIVF	**Givet**	21.61	68	⇑*i*P	P	03 56 59.4	+1.1
GIVF				pmax	pmax		
	comp=Z,111nm,1.3s						
GIVF	**Givet**	21.61	68	⇑*i*P	P	03 56 59.4	+1.1
	comp=Z,111nm,1.3s						
GIVF	**Givet**	21.61	68	⇑*i*P	P	03 56 59.4	+1.1
	comp=Z,56nm,1.3s						
MEZF	**Maizieres J'vi**	21.89	73	⇑*i*P	P	03 57 02.0	+0.7
	comp=Z,100nm,1.3s						
MEZF	**Maizieres J'vi**	21.89	73	⇑*i*P	P	03 57 02.0	+0.7
	comp=Z,100nm,1.3s						
MEZF	**Maizieres J'vi**	21.89	73	⇑*i*P	P	03 57 02.0	+0.7
	comp=Z,50nm,1.3s						
BCLA	**Clavier**	21.91	67	P	P	03 57 01.4	0.0
	comp=Z,18nm,1.9s						
BCLA	**Clavier**	21.91	67	P	P	03 57 01.4	0.0
	comp=Z,18nm,1.9s						
SFTF	**Sexfontaines**	21.91	73	*e*P	P	03 57 02.3	+0.7
	comp=Z,96nm,1.1s						
SFTF	**Sexfontaines**	21.91	73	*e*P	P	03 57 02.3	+0.7
	comp=Z,96nm,1.1s						
SFTF	**Sexfontaines**	21.91	73	*e*P	P	03 57 02.3	+0.7
	comp=Z,48nm,1.1s						
LASF	**Ste Croix**	21.98	85	⇑*i*P	P	03 57 02.4	+0.1
	comp=Z,138nm,1.4s						
LASF	**Ste Croix**	21.98	85	⇑*i*P	P	03 57 02.4	+0.1
	comp=Z,138nm,1.4s						
LASF	**Ste Croix**	21.98	85	⇑*i*P	P	03 57 02.4	+0.1
	comp=Z,69nm,1.4s						
MDT	**Midelt**	21.98	120	P	P	03 57 04.1	+1.5
MDT	**Midelt**	21.98	120	P	P	03 57 04.1	+1.5
MDT	**Midelt**	21.98	120	P	P	03 57 04.1	+1.5
	comp=Z,6.6nm,0.9s,baz=324,slow=11,SNR=12						
MDT					LR	LR	04 03 50.1
	comp=Z,180nm,18.8s,baz=325,slow=32						
SSB	**Saint Sauveur**	22.12	81	*e*P	P	03 57 04.7	+0.8
SSB				pmax	pmax		
	comp=Z,37nm,1.5s						
SSB	**Saint Sauveur**	22.12	81	*e*P	P	03 57 04.7	+0.8
	comp=Z,37nm,1.5s						
SSB	**Saint Sauveur**	22.12	81	*e*P	P	03 57 04.7	+0.8
	comp=Z,37nm,1.5s						
VIVF	**Saint-Julien-l**	22.32	82	⇑*i*P	P	03 57 07.4	+1.4
	comp=Z,94nm,1.4s						
VIVF	**Saint-Julien-l**	22.32	82	⇑*i*P	P	03 57 07.4	+1.4
VIVF				pmax	pmax		
	comp=Z,94nm,1.4s						
VIVF	**Saint-Julien-l**	22.32	82	⇑*i*P	P	03 57 07.4	+1.4
	comp=Z,94nm,1.4s						
VIVF	**Saint-Julien-l**	22.32	82	⇑*i*P	P	03 57 07.4	+1.4
	comp=Z,47nm,1.4s						
PAGF	**Fort de Pagny**	22.32	72	*e*P	P	03 57 06.6	+0.6
	comp=Z,34nm,1.4s						
PAGF	**Fort de Pagny**	22.32	72	*e*P	P	03 57 06.6	+0.6
	comp=Z,34nm,1.4s						
PAGF	**Fort de Pagny**	22.32	72	*e*P	P	03 57 06.6	+0.6
	comp=Z,17nm,1.4s						
THEF	**They Montfort**	22.54	73	*e*P	P	03 57 08.5	+0.2
THEF	**They Montfort**	22.54	73	*e*P	P	03 57 08.5	+0.2
HAU	**Haudompre**	22.81	74	⇑*i*P	P	03 57 11.2	0.0
	comp=Z,36nm,1.1s						
HAU				*e*R			
	comp=Z,247nm,22.0s						
HAU	**Haudompre**	22.81	74	⇑*i*P	P	03 57 11.2	0.0
HAU				pmax	pmax		
	comp=Z,37nm,1.1s						
HAU	**Haudompre**	22.81	74	⇑*i*P	P	03 57 11.2	0.0
	comp=Z,36nm,1.1s						
HAU	**Haudompre**	22.81	74	⇑*i*P	P	03 57 11.2	0.0
	comp=Z,18nm,1.1s						
CABF	**La Chapelle**	22.88	77	⇑*i*P	P	03 57 12.2	+0.2
	comp=Z,229nm,1.8s						
CABF	**La Chapelle**	22.88	77	⇑*i*P	P	03 57 12.2	+0.2
CABF				pmax	pmax		
	comp=Z,229nm,1.8s						
CABF	**La Chapelle**	22.88	77	⇑*i*P	P	03 57 12.2	+0.2
	comp=Z,229nm,1.8s						
CABF	**La Chapelle**	22.88	77	⇑*i*P	P	03 57 12.2	+0.2
	comp=Z,114nm,1.8s						
RUP	**Ruppelstein**	23.08	69	*e*P	P	03 57 15.7	+1.7
ORIF	**Oris-en-Rattie**	23.13	81	⇑*i*P	P	03 57 15.3	+0.7
	comp=Z,27nm,1.0s						
ORIF				*e*R			
	comp=Z,312nm,22.0s						
ORIF	**Oris-en-Rattie**	23.13	81	⇑*i*P	P	03 57 15.3	+0.7
ORIF				pmax	pmax		
	comp=Z,27nm,1.0s						
ORIF	**Oris-en-Rattie**	23.13	81	⇑*i*P	P	03 57 15.3	+0.7
	comp=Z,27nm,1.0s						
ORIF	**Oris-en-Rattie**	23.13	81	⇑*i*P	P	03 57 15.3	+0.7
	comp=Z,14nm,1.0s						
HINF	**Hinteralfeld**	23.18	74	⇑*i*P	P	03 57 15.2	+0.2
	comp=Z,158nm,1.9s						
HINF	**Hinteralfeld**	23.18	74	⇑*i*P	P	03 57 15.2	+0.2
HINF				pmax	pmax		
	comp=Z,158nm,1.9s						
HINF	**Hinteralfeld**	23.18	74	⇑*i*P	P	03 57 15.2	+0.2
	comp=Z,158nm,1.9s						
HINF	**Hinteralfeld**	23.18	74	⇑*i*P	P	03 57 15.2	+0.2
	comp=Z,79nm,1.9s						
SMRF	**Simiane la Rot**	23.19	84	*e*P	P	03 57 16.3	+1.2
SMRF	**Simiane la Rot**	23.19	84	*e*P	P	03 57 16.3	+1.2
SMRF	**Simiane la Rot**	23.19	84	*e*P	P	03 57 16.3	+1.2
LOMF	**Lomont**	23.24	75	*e*P	P	03 57 17.9	+2.3
LOMF	**Lomont**	23.24	75	*e*P	P	03 57 17.9	+2.3
ECH	**Echery**	23.32	73	*e*P	P	03 57 16.8	+0.4
ECH				pmax	pmax		
	comp=Z,149nm,2.1s						
ECH	**Echery**	23.32	73	*e*P	P	03 57 17.4	+1.0
ECH	**Echery**	23.32	73	*e*P	P	03 57 16.8	+0.4
	comp=Z,149nm,2.1s						
ECH	**Echery**	23.32	73	*e*P	P	03 57 16.8	+0.4
	comp=Z,149nm,2.1s						
MOF	**Molkenrain**	23.36	74	*e*P	P	03 57 17.4	+0.6
MOF	**Molkenrain**	23.36	74	*e*P	P	03 57 17.4	+0.6
CDF	**Champ du Feu**	23.37	72	⇑*i*P	P	03 57 17.3	+0.4
	comp=Z,90nm,1.6s						
CDF	**Champ du Feu**	23.37	72	⇑*i*P	P	03 57 17.3	+0.4
CDF				pmax	pmax		
	comp=Z,90nm,1.5s						
CDF	**Champ du Feu**	23.37	72	⇑*i*P	P	03 57 17.3	+0.4
	comp=Z,90nm,1.5s						
CDF	**Champ du Feu**	23.37	72	⇑*i*P	P	03 57 17.3	+0.4
	comp=Z,45nm,1.6s						
ABH	**Alteburg**	23.38	69	*e*P	P	03 57 18.6	+1.6
LPL	**La Plagne**	23.56	80	*e*P	P	03 57 19.9	+0.9
	comp=Z,49nm,1.4s						
LPL

GRF **Grafenberg Arr** 25.77 68 *e*P P 03 57 40.1 +1.1
GRF pmax pmax
comp=Z,3.0nm,0.9s
GRF Grafenberg Arr 25.77 68 *e*P P 03 57 40.1 +1.1
comp=Z,3.0nm,0.9s
FETA Feichten 25.91 75⇑ *i*P P 03 57 41.5 +1.0
comp=Z,12nm,1.0s
FETA Feichten 25.91 75 P P 03 57 41.5 +1.0
comp=Z,12nm,1.0s
SCHQ Schefferville 26.20 303 LR LR 04 05 41.5
comp=Z,231nm,20.8s,baz=321,slow=31
NOA NORSAR Array B 26.62 43 LR LR 04 06 47.9
comp=Z,57nm,19.3s,baz=270,slow=33
CLL Collm 26.72 64 *i* P P 03 57 47.5 -0.1
CLL pmax pmax
comp=Z,18nm,0.9s
CLL Collm 26.72 64 *i* P P 03 57 47.5 -0.1
comp=Z,4.0nm,0.9s
CLL Collm 26.72 64 *i* P P 03 57 47.5 -0.1
comp=Z,18nm,0.9s
ABTA Abfaltersbach 27.16 75⇑ *i*P P 03 57 52.6 +0.9
comp=Z,9.6nm,1.1s
ABTA Abfaltersbach 27.16 75 P P 03 57 52.6 +0.9
comp=Z,9.6nm,1.1s
BRG Berggiesshubel 27.36 65 *e*P P 03 57 54.3 +1.0
comp=Z,52nm,2.2s
BRG *e* 03 58 05.3
comp=Z,6.4nm,1.2s
BRG Berggiesshubel 27.36 65 *e*P P 03 57 54.3 +1.0
BRG pmax pmax
comp=Z,52nm,2.2s
BRG pmax pmax
comp=Z,6.0nm,1.2s
BRG Berggiesshubel 27.36 65 *e*P P 03 57 54.3 +1.0
comp=Z,6.0nm,1.2s
KHC Kasperske Hory 27.37 69 *e*P P 03 57 53.2 -0.4
KHC *e* 03 57 57.4
KHC MLR MLR
comp=Z,300nm,18.3s
KHC Kasperske Hory 27.37 69 *e*P P 03 57 53.2 -0.4
KHC *ep*P **pP** 03 57 57.4 -1.8
KHC *es*P **sP** 03 58 05.2 +3.6
KHC AMS AMS 04 08 20.0
comp=Z,300nm,18.3s
KHC Kasperske Hory 27.37 69 *e*P P 03 57 53.2 -0.4
GERES GERESS Array B 27.50 70 P P 03 57 54.9 +0.1
GERES GERESS Array B 27.50 70 P P 03 57 54.9 +0.1
GERES GERESS Array B 27.50 70 P P 03 57 54.9 +0.1
comp=Z,2.1nm,0.8s,baz=280,slow=7.9,SNR=13
GERES LR LR 04 08 34.8
comp=Z,217nm,18.2s,baz=69,slow=36
HFS Hagfors 27.60 45 LR LR 04 08 44.7
comp=Z,67nm,19.3s,baz=327,slow=36
PVCC Panska Ves 27.79 66 *e*P P 03 58 00.3 +3.1
PVCC Panska Ves 27.79 66 *e*P P 03 58 00.3 +3.1
PVCC Panska Ves 27.79 66 P P 03 58 00.3 +3.1
PRU Pruhonice 27.86 67 AMS AMS 04 08 20.0
comp=Z,300nm,19.3s
TREC Trest 28.58 68 AMS AMS 04 09 40.0
comp=Z,300nm,16.5s
FRB Frobisher Bay 28.66 322 LR LR 04 06 27.9
comp=Z,236nm,18.4s,baz=150,slow=30
UPC Upice 28.71 66 *e*P P 03 58 07.3 +1.9
UPC Upice 28.71 66 *e*P P 03 58 07.3 +1.9
UPC Upice 28.71 66 P P 03 58 07.3 +1.9
DPC Dobruska-Polom 28.93 66 *e*P P 03 58 08.2 +0.8
DPC Dobruska-Polom 28.93 66 *e*P P 03 58 08.2 +0.8
DPC Dobruska-Polom 28.93 66 P P 03 58 08.2 +0.8
VRAC Vranov 29.29 68 LR LR 04 09 51.8
comp=Z,290nm,18.2s,baz=110,slow=36
KEST Kesra 29.34 98 P P 03 58 12.2 +0.9
KEST Kesra 29.34 98 P P 03 58 12.1 +0.9
KEST Kesra 29.34 98 P P 03 58 12.2 +0.9
comp=Z,4.2nm,0.9s,baz=264,slow=5.1,SNR=6.1
KEST LR LR 04 08 01.6
comp=Z,133nm,20.4s,baz=285,slow=32
OKC Ostrava-Krasne 30.18 67 AMS AMS 04 10 10.0
comp=Z,300nm,16.7s
WES Weston 31.43 279 *e*P P 03 58 29.7 +0.2
WES pmax pmax
comp=Z,20nm,1.0s
WES Weston 31.43 279 *e*P P 03 58 29.7 +0.2
comp=Z,20nm,1.0s
WES Weston 31.43 279 *e*P P 03 58 29.7 +0.2
comp=Z,20nm,1.0s
MDV Middlebury 32.10 283 *e*P P 03 58 37.1 +1.7
MDV Middlebury 32.10 283 *e*P P 03 58 37.1 +1.7
STHS Stebnicka Huta 32.23 67 *e*P P 03 58 38.8 +2.2
STHS Stebnicka Huta 32.23 67 *e*P P 03 58 38.8 +2.2
comp=Z,3.8nm,0.9s
LONY Lake Ozonia 32.83 284 *e*P P 03 58 42.9 +1.0
comp=Z,14nm,1.1s
LONY Lake Ozonia 32.83 284 *e*P P 03 58 42.8 +1.0
comp=Z,14nm,1.1s
UZH Uzhgorod 33.10 68 *e*P P 03 58 42.1 -2.0
UZH *e* 03 58 50.5
UZH Uzhgorod 33.10 68 *e*P P 03 58 42.1 -2.0
FINES FINESS Array B 33.77 44 LR LR 04 11 00.2
comp=Z,66nm,19.9s,baz=159,slow=34
ARCES ARCESS Array B 34.66 30 P P 03 58 57.8 +0.4
ARCES ARCESS Array B 34.66 30 P P 03 58 57.8 +0.4
ARCES ARCESS Array B 34.66 30 P P 03 58 57.8 +0.4
comp=Z,3.0nm,1.0s,baz=270,slow=9.0,SNR=3.5
TAM Tamanrasset 35.40 120 *e*P P 03 59 06.2 +1.8
TAM pmax pmax
comp=Z,5.0nm,1.4s
TAM Tamanrasset 35.40 120 *e*P P 03 59 06.2 +1.8
comp=Z,5.3nm,1.4s
TAM Tamanrasset 35.40 120 *e*P P 03 59 06.2 +1.8
comp=Z,5.0nm,1.4s
SADO Sadowa 35.82 287 P P 03 59 06.2 -1.5
SADO Sadowa 35.82 287 P P 03 59 06.2 -1.5
SADO Sadowa 35.82 287 P P 03 59 06.2 -1.5
comp=Z,8.3nm,1.1s,baz=49,slow=3.2,SNR=3.4
SPITS Spitsbergen Ar 35.99 14 P P 03 59 06.9 -1.9
SPITS Spitsbergen Ar 35.99 14 P P 03 59 06.9 -1.9
SPITS Spitsbergen Ar 35.99 14 P P 03 59 06.9 -1.9
comp=Z,7.7nm,0.9s,baz=77,slow=9.0,SNR=2.7
KIEV Kiev 36.88 62 *e*P P 03 59 16.7 +0.1
KIEV pmax pmax
comp=Z,6.0nm,0.9s
KIEV Kiev 36.88 62 *e*P P 03 59 16.7 +0.1
comp=Z,5.7nm,0.9s
KIEV Kiev 36.88 62 *e*P P 03 59 16.7 +0.1
comp=Z,6.0nm,0.9s
AKASG Malin Array Be 36.89 62 P P 03 59 16.6 -0.1
AKASG Malin Array Be 36.89 62 P P 03 59 16.6 -0.1
AKASG Malin Array Be 36.89 62 P P 03 59 16.6 -0.1
AKASG Malin Array Be 36.89 62 P P 03 59 16.6 -0.1
comp=Z,3.0nm,0.7s,baz=286,slow=8.2,SNR=16
OBN Obninsk 40.02 53⇓ *e*P P 03 59 42.5 -0.4
OBN *e*S S 04 05 43.1 -4.3
OBN pmax pmax
comp=Z,6.0nm,0.6s
OBN Obninsk 40.02 53 *e*P P 03 59 42.5 -0.4
comp=Z,6.0nm,0.6s
TOA0 Torodi Ar. Sit 41.12 134 *e*P P 03 59 52.6 +0.2
TOA0 Torodi Ar. Sit 41.12 134 *e*P P 03 59 52.6 +0.2
TORD Torodi Ar. Bea 41.12 134 P P 03 59 52.5 0.0
TORD Torodi Ar. Bea 41.12 134 P P 03 59 52.5 0.0
TORD Torodi Ar. Bea 41.12 134 P P 03 59 52.5 0.0
comp=Z,7.4nm,0.8s,baz=328,slow=8.3,SNR=27
TORD LR LR 04 15 50.7
comp=Z,246nm,18.4s,baz=305,slow=34
SFIN Scholer Farm 43.00 284 ⇓P P 04 00 08.2 +0.6
baz=43
CPCT Cooper Cave 43.75 277 *e*P P 04 00 15.1 +1.4
CPCT Cooper Cave 43.75 277 *e*P P 04 00 15.1 +1.4
DBIC Dimbokro 44.01 147 *e*P P 04 00 16.9 +1.0
comp=Z,5.8nm,0.9s
DBIC Dimbokro 44.01 147 *e*P P 04 00 16.9 +1.0
comp=Z,6.0nm,0.9s
DBIC Dimbokro 44.01 147 P P 04 00 16.3 +0.4
comp=Z,6.5nm,1.0s,baz=324,slow=7.1,SNR=4.5
DBIC LR LR 04 17 18.3
comp=Z,127nm,18.2s,baz=316,slow=34
BR131 Keskin Array S 44.04 76 *e*P P 04 00 16.9 +0.8
comp=Z,2.4nm,0.8s
BR131 Keskin Array S 44.04 76 *e*P P 04 00 17.0 +0.8
comp=Z,2.4nm,0.8s
BRTR Keskin Array B 44.04 76 P P 04 00 17.3 +1.1
BRTR Keskin Array B 44.04 76 P P 04 00 17.3 +1.1
BRTR Keskin Array B 44.04 76 P P 04 00 17.3 +1.1
comp=Z,3.4nm,0.9s,baz=298,slow=6.2,SNR=14
BRTR LR LR 04 17 51.2
comp=Z,51nm,20.6s,baz=305,slow=35

ULM Lac du Bonnet 44.34 301 LR LR 04 16 53.4
comp=Z,141nm,19.7s,baz=54,slow=34
LIC Lamto 44.35 147 *e*P P 04 00 20.2 +1.5
comp=Z,13nm,1.0s
LIC *e*R
comp=Z,172nm,18.8s
LIC Lamto 44.35 147 *e*P P 04 00 20.2 +1.5
comp=Z,13nm,1.0s
LIC Lamto 44.35 147 *e*P P 04 00 20.2 +1.5
comp=Z,13nm,1.0s
SPMN St. Paul 44.52 293 ⇓P P 04 00 19.9 +0.1
baz=44
SWET Sewanee 44.84 277 *e*P P 04 00 23.3 +0.8
comp=Z,8.2nm,0.7s
SWET Sewanee 44.84 277 *e*P P 04 00 23.3 +0.8
comp=Z,8.2nm,0.7s
WVT Waverly 45.65 280 *e*P P 04 00 29.6 +0.7
WVT pmax pmax
comp=Z,7.0nm,1.0s
WVT Waverly 45.65 280 *e*P P 04 00 29.6 +0.7
comp=Z,7.0nm,1.0s
WVT Waverly 45.65 280 *e*P P 04 00 29.6 +0.7
comp=Z,7.0nm,1.0s
SIUC Southern Illin 45.76 282 *e*P P 04 00 30.6 +0.9
comp=Z,15nm,0.8s
SIUC Southern Illin 45.76 282 *e*P P 04 00 30.6 +0.9
comp=Z,15nm,0.8s
FFC Flin Flon 46.09 309 *e*P P 04 00 32.4 +0.3
FFC pmax pmax
comp=Z,22nm,0.9s
FFC Flin Flon 46.09 309 *e*P P 04 00 32.4 +0.3
comp=Z,22nm,0.9s
FFC Flin Flon 46.09 309 *e*P P 04 00 32.4 +0.3
comp=Z,22nm,0.9s
A30A Hoffart Farm, 46.31 300 ⇑P P 04 00 33.7 -0.2
baz=46
B30A Myrik Farm, E 46.54 300 ⇓P P 04 00 35.9 +0.1
baz=46
A29A Manning Farm, 46.88 301 ⇓P P 04 00 38.5 +0.1
baz=47
C30A Mose, Pekin 46.95 299 ⇓P P 04 00 38.9 -0.1
baz=47
B29A Wagenman Farm, 47.15 300 ⇑P P 04 00 40.6 +0.1
baz=47
A28A Rude Farm, Bot 47.49 301 ⇑P P 04 00 43.3 +0.1
baz=47
MDND Maddock 47.57 300 ⇓P P 04 00 43.7 -0.1
baz=47
ECSD EROS Data Cent 47.62 293 *e*P P 04 00 44.8 +0.5
comp=Z,164nm,3.0s
ECSD EROS Data Cent 47.62 293 *e*P P 04 00 44.8 +0.5
comp=Z,164nm,3.0s
B28A Dugan Ranch, T 47.76 301 ⇑P P 04 00 45.5 +0.3
baz=48
E30A Jud 47.76 298 ⇑P P 04 00 45.2 -0.1
baz=48
KIV Kislovodsk 47.91 66⇓ *e*P P 04 00 45.4 -1.1
KIV *e*S S 04 07 39.4 -3.5
KIV pmax pmax
comp=Z,5.0nm,0.7s
KIV MLR MLR
comp=Z,100nm,16.0s
KIV Kislovodsk 47.91 66 *e*P P 04 00 45.4 -1.1
comp=Z,5.0nm,0.7s
D29A Pettibone, Tap 47.92 299 ⇓P P 04 00 46.3 -0.2
baz=48
C28A Hausauer Farms 48.10 300 ⇓P P 04 00 47.9 0.0
baz=48
E29A Napoleon 48.18 298 ⇑P P 04 00 48.9 +0.4
baz=48
D28A Regan 48.45 299 ⇓P P 04 00 50.9 +0.2
baz=48
A26A Wade Farm, Ken 48.55 302 ⇑P P 04 00 51.6 +0.2
baz=48
G30A Faulkton 48.55 296 ⇓P P 04 00 51.5 +0.1
baz=48
E28A Huff 48.81 299 ⇓P P 04 00 53.6 +0.1
baz=49
A25A Svangstu Ranch 49.16 302 ⇓P P 04 00 56.5 +0.5
baz=49
YKA Yellowknife Ar 49.17 322 P P 04 00 55.0 -0.9
YKA Yellowknife Ar 49.17 322 P P 04 00 55.0 -0.9
YKA Yellowknife Ar 49.17 322 P P 04 00 55.0 -0.9
comp=Z,5.9nm,0.9s,baz=55,slow=8.6,SNR=5.3
F28A McLaughlin 49.23 298 ⇑P P 04 00 57.0 +0.4
baz=49
ZEI Tsey 49.25 67 *e*P P 04 00 57.8 +0.8
ZEI pmax pmax
comp=Z,11nm,1.2s
ZEI Tsey 49.25 67 *e*P P 04 00 57.8 +0.8
comp=Z,11nm,1.2s
E27A Carson 49.41 299 ⇑P P 04 00 58.1 +0.1
baz=49
H29A Onida 49.46 296 ⇓P P 04 00 58.5 +0.1
baz=49
J30A Dallas 49.65 294 ⇑P P 04 00 59.8 -0.1
baz=49
D26A Manning 49.65 300 ⇑P P 04 01 00.1 +0.2
baz=49
G28A Parade 49.67 297 ⇓P P 04 01 00.3 +0.2
baz=49
BGNE Belgrade 49.77 291 ⇓P P 04 01 01.0 +0.2
baz=50
I29A Vivian Onida 49.81 295 ⇓P P 04 01 01.4 +0.3
baz=50
H28A Mission Ridge 49.93 296 ⇓P P 04 01 02.0 0.0
baz=50
E26A Carlson Angus 49.94 299 ⇓P P 04 01 02.4 +0.3
baz=50
F27A Lemmon 49.96 298 ⇑P P 04 01 02.4 +0.2
baz=50
KSU1 Kansas State U 49.97 288 *e*P P 04 01 02.0 -0.3
comp=Z,24nm,1.1s
KSU1 Kansas State U 49.97 288 *e*P P 04 01 02.0 -0.3
comp=Z,24nm,1.1s
J29A Okreek 50.13 295 ⇓P P 04 01 03.6 0.0
baz=50
G27A Dupree 50.15 298 ⇓P P 04 01 04.1 +0.5
baz=50
A23A Redstone 50.18 303 ⇑P P 04 01 04.0 +0.2
baz=50
N32A Stuken Farm, 50.19 291 ⇑P P 04 01 04.1 +0.1
baz=50
M31A Lambtecht Ranc 50.33 292 ⇑P P 04 01 05.0 -0.1
baz=50
F26A Lodgepole 50.37 299 ⇑P P 04 01 05.3 -0.1
baz=50
MIAR Mount Ida 50.44 281 *e*P P 04 01 06.0 +0.1
MIAR pmax pmax
comp=Z,12nm,0.9s
MIAR Mount Ida 50.44 281 *e*P P 04 01 06.0 +0.1
comp=Z,12nm,0.9s
MIAR Mount Ida 50.44 281 *e*P P 04 01 06.0 +0.1
comp=Z,12nm,0.9s
O32A Brockman Farm, 50.45 290 ⇓P P 04 01 05.8 -0.2
baz=50
B23A Brockton 50.48 303 ⇓P P 04 01 07.1 +0.9
baz=50,SNR=6.6
G26A Maurine 50.60 298 ⇑P P 04 01 07.0 0.0
baz=50
H27A Howes 50.61 297 ⇑P P 04 01 07.8 +0.6
baz=50
J28A Allard Ranch, 50.70 295 ⇑P P 04 01 08.1 +0.2
baz=50,SNR=5.3
D24A Glendive 50.74 301 ⇑P P 04 01 08.8 +0.7
baz=50
A22A Carney Farms, 50.76 304 ⇓P P 04 01 08.6 +0.3
baz=50
I27A Quinn 50.88 296 ⇑P P 04 01 09.5 +0.3
baz=51
C23A Lambert 50.91 302 ⇓P P 04 01 09.7 +0.3
baz=51
P32A Huiting Farm, 51.00 290 ⇑P P 04 01 09.9 -0.2
baz=51
ARU Arti 51.12 45*c* *i*P P 04 01 11.0 +0.3
ARU S S 04 08 28.5 +1.2
ARU pmax pmax
comp=Z,8.0nm,1.7s
ARU Arti 51.12 45 *i* P P 04 01 11.0 +0.3
comp=Z,8.0nm,1.7s
ARU S S 04 08 28.5 +1.2
K28A Ten Mile Ranch 51.14 294 ⇑P P 04 01 11.0 -0.3
baz=51
G25A Newell 51.15 298 ⇑P P 04 01 10.6 -0.7
baz=51
TUL1 Tulsa 51.17 284 *e*P P 04 01 10.3 -1.1
TUL1 Tulsa 51.17 284 ⇑P P 04 01 10.8 -0.6
baz=51

TUL1 Tulsa 51.17 284 *e*P P 04 01 10.3 -1.1
D23A Lindsay 51.24 301 ⇑P P 04 01 12.3 +0.4
baz=51
A21A Bergtoll Ranch 51.34 304 ⇓P P 04 01 13.3 +0.7
baz=51
C22A Vida 51.35 302 ⇑P P 04 01 13.3 +0.6
baz=51
M29A Burnside Ranch 51.38 293 ⇓P P 04 01 13.2 +0.2
baz=51
F24A Ekalaka 51.45 299 ⇑P P 04 01 13.7 +0.3
baz=51
P31A Stockton 51.56 290 ⇓P P 04 01 14.7 +0.3
baz=51
E23A Ismay 51.63 300 ⇑P P 04 01 15.3 +0.5
baz=51
O30A MW Ranch, Wils 51.64 291 ⇑P P 04 01 14.9 -0.1
baz=51
N29A Votaw Ranch, W 51.67 292 ⇓P P 04 01 15.2 0.0
baz=51
K27A Flueckinger Fa 51.70 295 ⇓P P 04 01 15.2 -0.2
baz=52
D22A Cohagen 51.82 302 ⇑P P 04 01 16.7 +0.4
baz=52
Q31A Ellis 51.85 289 ⇓P P 04 01 16.2 -0.3
baz=52
J26A Sides Ranch, S 51.90 296 ⇓P P 04 01 17.0 +0.1
baz=52
I25A Rochford 51.94 297 ⇓P P 04 01 17.4 +0.1
baz=52
C21A Desert Coulee 52.02 303 ⇑P P 04 01 17.9 +0.2
baz=52
E22A Miles City 52.05 301 ⇑P P 04 01 17.8 -0.1
baz=52
H24A Dirks Ranch, A 52.07 298 ⇑P P 04 01 18.3 +0.2
baz=52
F23A Volborg 52.09 300 ⇓P P 04 01 18.0 -0.2
baz=52
P30A Selden 52.11 290 ⇑P P 04 01 17.9 -0.6
baz=52
J25A Sunshine Ranch 52.31 296 ⇑P P 04 01 20.3 +0.3
baz=52
N28A Pribbeno Ranch 52.33 292 ⇓P P 04 01 20.1 0.0
baz=52
R31A Burdett 52.33 289 ⇓P P 04 01 19.6 -0.5
baz=52
D21A La Casta Ranch 52.35 302 ⇑P P 04 01 20.4 +0.3
baz=52
G23A Biddle 52.35 299 ⇓P P 04 01 20.2 0.0
baz=52
I24A Kuemmerle Ranc 52.58 297 ⇑P P 04 01 22.1 +0.1
baz=52
C20A Veseth Ranch, 52.61 303 ⇑P P 04 01 22.2 +0.2
baz=52
S31A Mullinville 52.67 288 ⇓P P 04 01 22.9 +0.2
baz=52
B19A Brinkman Farms 52.77 304 ⇓P P 04 01 23.3 0.0
baz=52
O28A Krutsinger Ran 52.78 292 ⇓P P 04 01 23.2 -0.3
baz=52
EDM Edmonton 52.79 311 *e*P P 04 01 22.9 -0.4
EDM Edmonton 52.79 311 *e*P P 04 01 22.9 -0.4
EDM Edmonton 52.79 311 *e*P P 04 01 22.9 -0.4
R30A Dighton 52.82 289 ⇓P P 04 01 23.5 -0.3
baz=53,SNR=6.7
M26A McRoberts Ranc 52.92 294 ⇓P P 04 01 25.2 +0.7
baz=53
Q29A Oakley 52.94 290 ⇑P P 04 01 24.3 -0.3
baz=53
D20A Manuel Ranch, 53.00 302 ⇑P P 04 01 25.2 +0.2
baz=53
T31A Randall Ranch, 53.09 288 ⇓P P 04 01 25.4 -0.4
baz=53,SNR=5.6
O27A Beecher Island 53.20 292 ⇓P P 04 01 26.7 +0.1
baz=53
C19A Slack Wire Ran 53.20 303 ⇓P P 04 01 26.5 0.0
baz=53
H22A Clearmont 53.24 299 ⇑P P 04 01 27.0 +0.1
baz=53
K24A Anderson Ranch 53.30 296 ⇓P P 04 01 27.2 -0.1
baz=53
S30A Montezuma 53.30 289 ⇑P P 04 01 26.8 -0.5
baz=53
R29A Marienthal 53.30 290 ⇑P P 04 01 27.0 -0.3
baz=53
E20A Meyer Farm, Mu 53.30 302 ⇑P P 04 01 27.4 +0.2
baz=53
EGMT Eagleton 53.46 304 ⇑P P 04 01 28.1 -0.2
baz=53
H21A Big Horn, Sher 53.65 299 ⇑P P 04 01 29.6 -0.3
baz=53
T30A Plains 53.67 288 ⇓P P 04 01 30.0 0.0
baz=54
F20A Billings 53.69 301 ⇑P P 04 01 30.0 -0.1
baz=53,SNR=5.8
I22A 9 Mile Ranch, 53.70 298 ⇓P P 04 01 30.2 0.0
baz=53
O26A Horse Wrangler 53.70 293 ⇑P P 04 01 30.7 +0.4
baz=54
E19A Rath Farm, Rou 53.71 302 ⇓P P 04 01 30.3 0.0
baz=53
S29A Ulysses 53.74 289 ⇑P P 04 01 30.5 -0.1
baz=54
AKTO Aktyubinsk 53.78 52 LR LR 04 27 08.7
comp=Z,57nm,18.2s,baz=145,slow=39
K23A Bowen Ranch, D 53.78 297 ⇑P P 04 01 31.3 +0.3
baz=54
R28A Tribune 53.79 290 ⇓P P 04 01 30.8 -0.1
baz=54
KSCO Kaye Shedlock' 53.94 291 ⇑P P 04 01 32.1 0.0
baz=54
J22A Midwest 53.95 298 ⇓P P 04 01 31.9 -0.3
baz=54
M24A Cheyenne 53.98 295 ⇑P P 04 01 32.8 +0.3
baz=54
G20A Bridger 54.03 300 ⇓P P 04 01 32.3 -0.4
baz=54
U30A WK&E Inc. Balk 54.05 288 ⇑P P 04 01 32.2 -0.7
baz=54
T29A Hugoton 54.12 289 ⇓P P 04 01 33.2 -0.2
baz=54
F19A Roth Farm, Mol 54.13 301 ⇓P P 04 01 33.1 -0.3
baz=54
L23A Garrett 54.18 296 ⇑P P 04 01 33.2 -0.7
baz=54
I21A Big Trails, Te 54.23 299 ⇑P P 04 01 34.0 -0.2
baz=54
S28A Manter 54.27 289 ⇑P P 04 01 34.5 0.0
baz=54
O25A Wiggins 54.29 293 ⇓P P 04 01 34.5 -0.1
baz=54
H20A Greybull 54.30 300 ⇑P P 04 01 34.3 -0.2
baz=54,SNR=7.5
W31A Holland Ranch, 54.36 286 ⇓P P 04 01 35.5 +0.4
baz=54
K22A Casper 54.40 297 ⇓P P 04 01 35.1 -0.3
baz=54
R27A Eads 54.46 291 ⇓P P 04 01 35.6 -0.3
baz=54,SNR=6.1
V30A Spur Ranch, Mi 54.52 287 ⇓P P 04 01 37.2 +1.0
baz=54
WHTX Lake Whitney 54.56 281 *e*P P 04 01 36.8 +0.3
WHTX Lake Whitney 54.56 281 ⇓P P 04 01 37.0 +0.5
baz=54
WHTX Lake Whitney 54.56 281 *e*P P 04 01 36.8 +0.3
Q26A Hugo 54.57 292 ⇓P P 04 01 37.1 +0.4
baz=54
J21A Lysite 54.58 298 ⇓P P 04 01 36.3 -0.5
baz=54
P25A Willow Gulch B 54.65 293 ⇓P P 04 01 37.4 +0.1
baz=54
I20A Worland 54.67 299 ⇑P P 04 01 37.3 0.0
baz=54
T28A Walsh 54.68 289 ⇑P P 04 01 37.3 -0.1
baz=54
L22A Ellis Ranch, M 54.68 296 ⇑P P 04 01 37.3 -0.2
baz=54
X31A McDonald Ranch 54.70 285 ⇓P P 04 01 37.9 +0.3
baz=54,SNR=12
Y32A R-V Farms, Ver 54.71 284 ⇑P P 04 01 38.0 +0.4
baz=54
H19A Powell 54.79 300 ⇑P P 04 01 38.4 +0.2
baz=54
K21A Alcova 54.85 297 ⇑P P 04 01 38.8 0.0
baz=55
R26A Arlington 54.87 291 ⇓P P 04 01 39.2 +0.3
baz=55
J20A Shoshoni 54.97 298 ⇓P P 04 01 39.7 +0.2
baz=55,SNR=7.6

N23A **Red Feather La** 55.01 295 ⇑P P 04 01 40.3 +0.4
baz=55,SNR=6.5
V29A **Stinnett** 55.01 287 ⇓P P 04 01 40.5 +0.7
baz=55
T27A **Campo** 55.11 289 ⇓P P 04 01 41.0 +0.4
baz=55
H10N2 **ASCENSION HYDR** 55.13 165 T T 05 00 55.9
baz=350,slow=0.7,SNR=10
H10N3 **ASCENSION HYDR** 55.14 165 T T 05 00 55.7
baz=350,slow=0.7,SNR=9.6
I19A **Meeteetse** 55.14 300 ⇑P P 04 01 41.0 +0.1
baz=55
Z32A **Haskell** 55.15 284 ⇓P P 04 01 40.3 -0.5
baz=55,SNR=9.3
H10N1 **ASCENSION HYDR** 55.15 164 T T 05 00 56.7
baz=350,slow=0.7,SNR=9.2
H18A **Shoshone NF, C** 55.19 301 ⇓P P 04 01 40.9 -0.3
baz=55
WALA **Waterton Lakes** 55.25 307 eP P 04 01 41.0 -0.5
comp=Z,0.7nm,1.1s
WALA **Waterton Lakes** 55.25 307 eP P 04 01 41.0 -0.5
comp=Z,0.6nm,1.1s
S26A **Kim** 55.28 290 ⇓P P 04 01 41.5 -0.3
baz=55
Y31A **Rekieta Farm,** 55.29 285 ⇑P P 04 01 41.6 -0.2
baz=55,SNR=5.6
O23A **Lake Granby, G** 55.37 294 ⇑P P 04 01 43.1 +0.5
baz=55
N22A **Wattenberg Ran** 55.38 295 ⇓P P 04 01 43.1 +0.5
baz=55
X30A **Coker Ranch, T** 55.41 286 ⇓P P 04 01 43.0 +0.3
baz=55,SNR=5.3
ISCO **Idaho Springs** 55.41 294 ⇓P P 04 01 43.2 +0.2
baz=55
ABKAR **Akbulak array** 55.46 53 eP P 04 01 43.9 +1.1
comp=Z,3.0nm,0.8s
ABKAR **Akbulak array** 55.46 53 eP P 04 01 43.9 +1.1
comp=Z,3.0nm,0.8s
R25A **Fountain Ranch** 55.50 291 ⇑P P 04 01 43.7 +0.3
baz=55
W29A **Amraillo** 55.53 287 ⇓P P 04 01 44.4 +0.8
baz=55,SNR=6.2
U27A **Thompson Grove** 55.55 289 ⇓P P 04 01 44.0 +0.3
baz=55
Z31A **Sharp Cattle R** 55.59 284 ⇑P P 04 01 43.6 -0.4
baz=55,SNR=6.3
Q24A **Divide** 55.59 292 ⇑P P 04 01 44.2 0.0
baz=55
J19A **Crowheart** 55.60 299 ⇓P P 04 01 44.1 -0.1
baz=55
T26A **Comanche Natio** 55.61 290 ⇓P P 04 01 44.7 +0.4
baz=55
ABTX **Abilene, Hawle** 55.67 283 ⇑P P 04 01 44.4 -0.1
baz=56
Y30A **Stafford Cattl** 55.76 285 ⇑P P 04 01 45.8 +0.5
baz=56
P23A **Jefferson** 55.80 293 ⇑P P 04 01 46.3 +0.5
baz=56
O22A **Kremmling** 55.80 294 ⇓P P 04 01 46.2 +0.5
baz=56
L20A **Wamsutter** 55.87 297 ⇑P P 04 01 46.3 +0.2
baz=56,SNR=6.3
S25A **Robets Cordova** 55.88 291 ⇓P P 04 01 47.3 +1.1
baz=56
X29A **Tulia** 55.96 286 ⇓P P 04 01 47.1 +0.4
baz=56
YBMT **Yellow Bay** 55.96 306 eP P 04 01 45.5 -1.1
comp=Z,1.7nm,0.8s
YBMT **Yellow Bay** 55.96 306 eP P 04 01 45.5 -1.1
comp=Z,1.7nm,0.8s
R24A **Sanders Place,** 55.98 292 ⇓P P 04 01 47.2 +0.2
baz=56
CHMT **Chamberlain Mo** 56.06 304 eP P 04 01 47.5 +0.1
CHMT **Chamberlain Mo** 56.06 304 eP P 04 01 47.5 +0.1
M20A **Sweetwater, Wa** 56.07 297 ⇓P P 04 01 47.7 +0.1
baz=56
232A **Coleman** 56.11 282 ⇓P P 04 01 47.5 -0.2
baz=56
131A **Roby** 56.14 284 ⇑P P 04 01 47.4 -0.5
baz=56
I17A **Pilgrim Ck.** 56.16 300 ⇓P P 04 01 48.4 +0.2
baz=56
U26A **Atchley Ranch,** 56.16 289 ⇓P P 04 01 48.7 +0.4
baz=56
T25A **Trinidad** 56.17 290 ⇓P P 04 01 48.9 +0.6
baz=56
H10S1 **ASCENSION HYDR** 56.19 165 T T 05 02 16.5
baz=350,slow=0.7,SNR=20
PDAR **Pinedale Array** 56.19 299 P P 04 01 47.6 -0.8
PDAR **Pinedale Array** 56.19 299 P P 04 01 47.6 -0.8
PDAR **Pinedale Array** 56.19 299 P P 04 01 47.6 -0.8
comp=Z,1.7nm,0.8s,baz=58,slow=7.5,SNR=14
PDAR LR LR 04 22 55.4
comp=Z,97nm,18.2s,baz=64,slow=33
H10S3 **ASCENSION HYDR** 56.20 165 T T 05 02 12.3
baz=350,slow=0.7,SNR=17
H10S2 **ASCENSION HYDR** 56.21 165 T T 05 02 16.1
baz=350,slow=0.7,SNR=21
P22A **Eagle** 56.26 294 ⇓P P 04 01 49.3 +0.4
baz=56
Z30A **Sanderson Ranc** 56.27 285 ⇑P P 04 01 48.6 -0.3
baz=56
Y29A **Porterfield Fa** 56.29 286 ⇓P P 04 01 49.2 +0.1
baz=56
MOOW **Moose Ponds** 56.35 300 eP P 04 01 49.7 +0.2
MOOW **Moose Ponds** 56.35 300 eP P 04 01 49.7 +0.2
IMW **Indian Meadow** 56.39 300 eP P 04 01 50.1 +0.3
IMW **Indian Meadow** 56.39 300 eP P 04 01 50.1 +0.3
R23A **Moffat** 56.47 292 ⇑P P 04 01 51.0 +0.5
baz=56
332A **Millersview** 56.48 282 ⇑P P 04 01 50.2 -0.2
baz=56,SNR=11
N20A **Spence Gulch,** 56.49 296 ⇑P P 04 01 50.8 +0.3
baz=56,SNR=9.7
MSO **Missoula** 56.50 305 ⇑P P 04 01 50.2 -0.2
baz=56
W27A **Bowe Ranch, En** 56.50 288 ⇑P P 04 01 50.6 +0.1
baz=56,SNR=7.2
231A **Bronte** 56.54 283 ⇓P P 04 01 50.7 -0.1
baz=56
DLMT **Dillon** 56.54 303 eP P 04 01 51.3 +0.5
DLMT **Dillon** 56.54 303 eP P 04 01 51.3 +0.5
V26A **Tequesquite Ra** 56.54 289 ⇓P P 04 01 50.7 -0.2
baz=56
130A **Snyder** 56.58 284 ⇑P P 04 01 51.0 0.0
baz=56
U25A **Circle Dot Ran** 56.60 290 ⇓P P 04 01 52.1 +0.8
baz=56,SNR=7.0
TPAW **Teton Pass** 56.62 300 eP P 04 01 51.6 +0.1
TPAW **Teton Pass** 56.62 300 eP P 04 01 51.6 +0.1
REDW **Red Top Meadow** 56.64 300 eP P 04 01 51.7 +0.1
REDW **Red Top Meadow** 56.64 300 eP P 04 01 51.7 +0.1
Y28A **McKinney Farm,** 56.65 286 ⇑P P 04 01 51.2 -0.4
baz=56
Z29A **Hungry Hill Ra** 56.67 285 ⇑P P 04 01 51.4 -0.3
baz=56,SNR=7.3
P21A **Newcastle** 56.73 294 ⇑P P 04 01 53.1 +0.8
baz=56
X27A **F and S Farms,** 56.77 287 ⇑P P 04 01 54.1 +1.6
baz=57
Q22A **Crested Butte,** 56.77 293 ⇑P P 04 01 53.3 +0.6
baz=56
432A **Menard** 56.83 282 ⇑P P 04 01 52.4 -0.5
baz=57
T24B **San Luis** 56.84 291 ⇑P P 04 01 54.5 +1.3
baz=57
S23A **Nye Farm, Mont** 56.87 292 ⇑P P 04 01 53.4 +0.1
baz=57
O20A **White River Ci** 56.88 295 ⇑P P 04 01 53.3 0.0
baz=57
MSTX **Muleshoe** 56.96 286 eP P 04 01 54.0 +0.2
MSTX **Muleshoe** 56.96 286 ⇓P P 04 01 53.8 0.0
baz=57,SNR=11
MSTX **Muleshoe** 56.96 286 eP P 04 01 54.0 +0.2
331A **San Angelo** 56.99 282 ⇓P P 04 01 54.2 +0.1
baz=57
R22A **Saguache, Gunn** 57.04 293 ⇑P P 04 01 55.4 +0.7
baz=57
V25A **Rancho No Teng** 57.06 289 ⇓P P 04 01 55.0 +0.3
baz=57
JCT **Junction City** 57.08 281 eP P 04 01 54.2 -0.4
JCT pmax pmax
comp=Z,4.0nm,0.7s
JCT **Junction City** 57.08 281 eP P 04 01 54.2 -0.4
comp=Z,4.0nm,0.7s
JCT **Junction City** 57.08 281 ⇑P P 04 01 54.6 -0.1
baz=57

JCT **Junction City** 57.08 281 eP P 04 01 54.2 -0.4
comp=Z,4.0nm,0.7s
230A **Sterling City** 57.10 283 ⇓P P 04 01 55.1 +0.2
baz=57
Z28A **Tucker Farm, M** 57.11 285 ⇓P P 04 01 54.8 -0.1
baz=57,SNR=7.1
129A **Stewart Farms,** 57.16 284 ⇓P P 04 01 55.0 -0.2
baz=57,SNR=7.5
Q21A **Lamborn Mesa,** 57.21 294 ⇑P P 04 01 56.4 +0.7
baz=57
Y27A **Causey** 57.27 286 ⇑P P 04 01 55.8 -0.3
baz=57
X26A **CR and CF Fran** 57.30 287 ⇓P P 04 01 57.1 +0.8
baz=57
W25A **X Bar L Ranch,** 57.33 288 ⇑P P 04 01 56.5 0.0
baz=57
O19A **Miners Draw (B** 57.33 296 ⇓P P 04 01 56.6 +0.1
baz=57,SNR=5.9
P20A **De Beque** 57.34 295 ⇓P P 04 01 56.5 0.0
baz=57
532A **Rocksprings** 57.36 281 ⇓P P 04 01 56.6 -0.1
baz=57
S22A **4UR Ranch, Cre** 57.37 292 ⇑P P 04 01 57.1 +0.1
baz=57
330A **Mertzon** 57.44 283 ⇑P P 04 01 57.3 +0.1
baz=57
NEW **Newport** 57.47 308 eP P 04 01 56.9 -0.2
NEW **Newport** 57.47 308 ⇑P P 04 01 56.9 -0.2
baz=57
NEW **Newport** 57.47 308 eP P 04 01 56.9 -0.2
NEW **Newport** 57.47 308 P P 04 01 56.2 -0.9
comp=Z,9.2nm,1.0s,baz=43,slow=5.8,SNR=6.1
NEW LR LR 04 24 47.6
comp=Z,134nm,18.8s,baz=80,slow=34
R21A **Cimarron** 57.47 293 ⇑P P 04 01 57.5 -0.1
baz=57
431A **Sonora** 57.50 282 ⇑P P 04 01 57.8 +0.2
baz=57
229A **Bryant Ranch,** 57.52 284 ⇓P P 04 01 58.6 +0.8
baz=57
V24A **Rampart Ranch,** 57.56 289 ⇑P P 04 01 59.5 +1.3
baz=57
128A **Castleberry Fa** 57.58 285 ⇓P P 04 01 58.8 +0.5
baz=57
Q20A **Ridgley Place,** 57.60 294 ⇑P P 04 01 58.6 +0.3
baz=57
M17A **Scullys Gap (B** 57.61 298 ⇑P P 04 01 58.4 -0.1
baz=57
P19A **Cripple Cowboy** 57.63 295 ⇓P P 04 01 58.7 +0.1
baz=57
632A **Uvalde** 57.67 280 ⇑P P 04 01 58.9 +0.1
baz=58,SNR=6.8
531A **Rocksprings** 57.78 281 ⇑P P 04 01 59.5 -0.1
baz=58,SNR=6.0
DLBC **Dease Lake** 57.79 323 P P 04 02 00.3 +1.0
DLBC **Dease Lake** 57.79 323 P P 04 02 00.3 +1.0
DLBC **Dease Lake** 57.79 323 P P 04 02 00.3 +1.0
comp=Z,3.9nm,0.7s,baz=188,slow=2.9,SNR=6.9
T22A **Edith** 57.85 292 ⇑P P 04 02 00.9 +0.6
baz=58
430A **Baggett Ranch,** 57.86 282 ⇑P P 04 02 00.7 +0.5
baz=58
X25A **Clemmons Ranch** 57.88 288 ⇑P P 04 02 00.6 +0.3
baz=58
329A **Wagon Wheel Ra** 57.93 283 ⇑P P 04 02 01.0 +0.3
baz=58
W24A **Lazy 6 Ranch,** 57.95 289 ⇑P P 04 02 01.5 +0.6
baz=58,SNR=6.9
S21A **Coal Bank Pass** 58.04 293 ⇓P P 04 02 02.3 +0.6
baz=58
127A **Arkansas Junct** 58.13 285 ⇑P P 04 02 02.4 +0.3
baz=58
V23A **Ortiz Mt. (NFS** 58.14 290 ⇑P P 04 02 03.2 +0.9
baz=58
Z26A **Caprock** 58.18 286 ⇑P P 04 02 03.7 +1.2
baz=58
Y25A **Mesa, Roswell** 58.26 287 ⇑P P 04 02 03.0 -0.1
baz=58
631A **Perdido Creek** 58.26 281 ⇓P P 04 02 02.8 -0.1
baz=58
T21A **Navajo Lake** 58.27 292 ⇓P P 04 02 03.7 +0.5
baz=58
732A **Laxson Ranch,** 58.28 280 ⇓P P 04 02 03.0 -0.1
baz=58
530A **J-C Ranch, Com** 58.32 282 ⇓P P 04 02 03.3 -0.1
baz=58,SNR=10.0
429A **Davenport Ranc** 58.41 283 ⇑P P 04 02 03.9 -0.1
baz=58
W23A **Werner Place,** 58.47 289 ⇑P P 04 02 05.5 +0.9
baz=58
227A **Bennet, Jal** 58.49 285 ⇑P P 04 02 04.9 +0.3
baz=58
V22A **San Miguel Ran** 58.51 291 ⇑P P 04 02 05.5 +0.6
baz=58
328A **Wristen Ranch,** 58.55 284 ⇑P P 04 02 05.1 +0.1
baz=58
B08A **Colville Reser** 58.62 309 eP P 04 02 04.7 -0.5
B08A **Colville Reser** 58.62 309 eP P 04 02 04.7 -0.5
HLID **Hailey** 58.64 302 eP P 04 02 06.6 +1.0
HLID **Hailey** 58.64 302 ⇓P P 04 02 05.8 +0.2
baz=58
HLID **Hailey** 58.64 302 eP P 04 02 06.6 +1.0
BRVK **Borovoye** 58.66 44 eP P 04 02 05.7 +0.4
BRVK pmax pmax
comp=Z,5.0nm,1.7s
BRVK **Borovoye** 58.66 44 eP P 04 02 05.7 +0.4
comp=Z,5.0nm,1.7s
Z25A **Roswell** 58.67 287 ⇑P P 04 02 06.6 +0.7
baz=58
U21A **Nageezi** 58.69 291 ⇓P P 04 02 06.2 +0.1
baz=58
Y24A **Capitan** 58.75 288 ⇑P P 04 02 07.2 +0.7
baz=58
ANMO **Albuquerque** 58.80 289 eP P 04 02 05.5 -1.4
X23A **Hourglass Bar** 58.84 289 ⇑P P 04 02 08.0 +0.8
baz=59
428A **Kincaid Ranch,** 58.88 283 ⇓P P 04 02 07.4 +0.1
baz=59,SNR=6.8
529A **Stev Forest Ra** 58.94 282 ⇓P P 04 02 07.7 0.0
baz=59,SNR=9.4
125A **Gardner Draw,** 59.01 286 ⇓P P 04 02 08.2 0.0
baz=59
226B **Tecolote Peak,** 59.03 285 ⇑P P 04 02 08.9 +0.6
baz=59,SNR=8.0
Z24A **Sheeppen Canyo** 59.06 287 ⇓P P 04 02 08.7 0.0
baz=59
HYT **Haines Junctio** 59.24 328 eP P 04 02 10.6 +1.2
HYT **Haines Junctio** 59.24 328 eP P 04 02 10.6 +1.2
U20A **Newcomb** 59.27 292 ⇑P P 04 02 10.9 +0.8
baz=59
427A **Hayter Ranch,** 59.28 284 ⇑P P 04 02 10.1 0.0
baz=59,SNR=5.3
528A **Cox Ranch, San** 59.30 283 ⇑P P 04 02 10.2 0.0
baz=59,SNR=9.6
326A **Caldwell Ranch** 59.38 285 ⇓P P 04 02 11.4 +0.6
baz=59,SNR=8.6
BNM **Barren Site** 59.40 289 eP P 04 02 12.5 +1.4
comp=Z,6.5nm,1.2s
BNM **Barren Site** 59.40 289 eP P 04 02 12.5 +1.4
comp=Z,6.5nm,1.2s
225A **Deer Hill, Car** 59.45 286 ⇑P P 04 02 12.1 +0.7
baz=59
124A **Stringfield Ra** 59.51 287 ⇑P P 04 02 12.6 +0.7
baz=59,SNR=11
ILAR **Eielson Array** 59.67 334 P P 04 02 12.2 0.0
ILAR **Eielson Array** 59.67 334 P P 04 02 12.2 0.0
ILAR **Eielson Array** 59.67 334 P P 04 02 12.2 0.0
comp=Z,0.3nm,0.6s,baz=42,slow=6.0,SNR=7.4
ILAR LR LR 04 30 15.1
comp=Z,89nm,18.2s,baz=121,slow=38
DUG **Dugway** 59.67 298 eP P 04 02 12.7 -0.1
DUG pmax pmax
comp=Z,4.0nm,0.8s
DUG **Dugway** 59.67 298 eP P 04 02 12.7 -0.1
comp=Z,3.6nm,0.8s
DUG **Dugway** 59.67 298 ⇑P P 04 02 13.2 +0.4
baz=59,SNR=7.2
DUG **Dugway** 59.67 298 eP P 04 02 12.7 -0.1
comp=Z,4.0nm,0.8s
Z23A **Rita Site, Whi** 59.68 288 ⇑P P 04 02 13.6 +0.7
baz=60
Y22A **Socorro** 59.75 289 ⇓P P 04 02 14.4 +1.0
baz=60,SNR=6.3
628A **Black Gap, Mar** 59.79 282 ⇑P P 04 02 13.9 +0.3
baz=60
426A **McDonald Obser** 59.82 284 ⇑P P 04 02 14.7 +0.7
baz=60,SNR=14
527A **Woodward Ranch** 59.86 283 ⇓P P 04 02 14.4 +0.2
baz=60,SNR=10

224A **Cornudas Mount** 59.94 286 ⇑P P 04 02 14.9 +0.2
baz=60
X21A **Alamocita Cree** 59.97 290 ⇑P P 04 02 15.9 +0.9
baz=60,SNR=6.5
325A **Bean Ranch, Si** 60.01 285 ⇓P P 04 02 15.5 +0.2
baz=60
627A **Terlingua Ranc** 60.15 283 ⇑P P 04 02 16.6 +0.5
baz=60,SNR=17
Z22A **Elephant Butte** 60.16 288 ⇓P P 04 02 17.1 +0.8
baz=60,SNR=5.5
526A **Mary Lane Ranc** 60.24 283 ⇓P P 04 02 17.0 +0.2
baz=60
324A **Moseley Ranch,** 60.31 286 ⇓P P 04 02 17.1 -0.1
baz=60
X20A **Quemado** 60.38 290 ⇓P P 04 02 18.0 +0.2
baz=60
425A **Indio Mountain** 60.38 285 ⇓P P 04 02 17.9 +0.2
baz=60
TXAR **Lajitas Array** 60.41 283 P P 04 02 18.4 +0.6
TXAR **Lajitas Array** 60.41 283 P P 04 02 18.5 +0.6
TXAR **Lajitas Array** 60.41 283 P P 04 02 18.4 +0.6
comp=Z,4.1nm,0.9s,baz=71,slow=7.1,SNR=23
TXAR LR LR 04 27 36.4
comp=Z,189nm,18.1s,baz=20,slow=35
626A **Big Bend Ranch** 60.59 283 ⇑P P 04 02 19.4 +0.3
baz=60,SNR=7.1
Z21A **St. Cloud Mine** 60.60 289 ⇑P P 04 02 19.0 -0.3
baz=60
Y20A **Horse Springs,** 60.69 290 ⇑P P 04 02 18.5 -1.4
baz=60
222A **Williams Famil** 60.97 287 ⇓P P 04 02 22.4 +0.6
baz=61
TIXI **Tiksi** 61.09 8 eP P 04 02 22.3 +0.6
TIXI pmax pmax
comp=Z,10.0nm,1.7s
TIXI **Tiksi** 61.09 8 eP P 04 02 22.3 +0.6
comp=Z,10.0nm,1.7s
121A **Cookes Peak, D** 61.16 288 ⇓P P 04 02 23.7 +0.7
baz=61
X18A **Snowflake** 61.33 291 ⇑P P 04 02 25.2 +1.0
baz=61
WUAZ **Wupatki** 61.63 293 ⇑P P 04 02 26.7 +0.5
baz=61
U15A **North Rim** 61.65 294 ⇑P P 04 02 26.5 +0.1
baz=61
120A **U Bar Ranch, L** 61.70 288 ⇑P P 04 02 27.4 +0.7
baz=62
220A **Playas Peak, P** 62.04 288 ⇓P P 04 02 29.6 +0.6
baz=62
X16A **Lo Mia Camp, P** 62.36 292 ⇑P P 04 02 31.6 +0.5
baz=62
320A **Kipp Ranch, An** 62.40 287 ⇑P P 04 02 31.0 -0.4
baz=62
R11A **Troy Canyon, C** 62.51 298 ⇑P P 04 02 32.1 0.0
baz=62
MOD **Modoc** 63.09 303 eP P 04 02 36.4 +0.5
comp=Z,35nm,1.3s
MOD **Modoc** 63.09 303 eP P 04 02 36.4 +0.5
comp=Z,35nm,1.3s
W13A **Hualapai Mount** 63.49 294 ⇓P P 04 02 39.3 +0.7
baz=63
Y14A **Wickenburg** 63.66 292 ⇓P P 04 02 40.2 +0.5
baz=63
NVAR **Mina Array Bea** 64.11 299 P P 04 02 42.6 -0.1
NVAR **Mina Array Bea** 64.11 299 P P 04 02 42.6 -0.1
NVAR **Mina Array Bea** 64.11 299 P P 04 02 42.6 -0.1
comp=Z,0.3nm,0.4s,baz=55,slow=6.7,SNR=3.6
KURK **Kurchatov** 64.14 43 eP P 04 02 43.5 +1.1
KURK pmax pmax
comp=Z,6.0nm,2.5s
KURK **Kurchatov** 64.14 43 eP P 04 02 43.5 +1.1
comp=Z,6.0nm,2.5s
YBH **Yreka Blue Hor** 64.59 304 LR LR 04 27 20.8
comp=Z,93nm,19.2s,baz=231,slow=33
ZALV **Zalesovo Beam** 64.67 37 LR LR 04 33 39.4
comp=Z,32nm,18.2s,baz=340,slow=38
214A **Organ Pipe Nat** 64.81 291 ⇓P P 04 02 48.9 +1.7
baz=65
KKAR **Karatay Array** 65.01 53 eP P 04 02 49.2 +0.9
KKAR pmax pmax
comp=Z,1.0nm,0.3s
KKAR **Karatay Array** 65.01 53 eP P 04 02 49.2 +0.9
comp=Z,0.5nm,0.3s
KKAR **Karatay Array** 65.01 53 eP P 04 02 49.2 +0.9
comp=Z,1.0nm,0.3s
MPMC **Manual Prospec** 65.13 297 ⇓P P 04 02 49.8 +0.4
baz=65
GSC **Goldstone** 65.19 296 ⇓P P 04 02 50.1 +0.5
baz=65
ISA **Isabella** 66.00 297 eP P 04 02 55.7 +0.8
ISA pmax pmax
comp=Z,8.0nm,1.3s
ISA **Isabella** 66.00 297 eP P 04 02 55.6 +0.8
comp=Z,8.1nm,1.3s
ISA **Isabella** 66.00 297 ⇓P P 04 02 55.2 +0.3
baz=66
ISA **Isabella** 66.00 297 eP P 04 02 55.7 +0.8
comp=Z,8.0nm,1.3s
EKS2 **Erkin-Say** 67.10 52 eP P 04 03 03.5 +1.6
EKS2 pmax pmax
comp=Z,6.0nm,0.9s
EKS2 **Erkin-Say** 67.10 52 eP P 04 03 03.5 +1.6
comp=Z,5.0nm,0.9s
EKS2 **Erkin-Say** 67.10 52 eP P 04 03 03.5 +1.6
comp=Z,6.0nm,0.9s
AAK **Ala-Archa** 67.51 51 eP P 04 03 04.4 -0.1
AAK pmax pmax
comp=Z,15nm,1.7s
AAK **Ala-Archa** 67.51 51 eP P 04 03 04.4 -0.1
comp=Z,15nm,1.7s
AAK **Ala-Archa** 67.51 51 LR LR 04 36 43.3
comp=Z,59nm,18.2s,baz=300,slow=40
TKM2 **Tokmak 2** 67.91 51 eP P 04 03 08.5 +1.4
TKM2 pmax pmax
comp=Z,6.0nm,1.3s
TKM2 **Tokmak 2** 67.91 51 eP P 04 03 08.5 +1.4
comp=Z,6.0nm,1.3s
TKM2 **Tokmak 2** 67.91 51 eP P 04 03 08.5 +1.4
comp=Z,6.0nm,1.3s
MK31 **Makanchi Array** 68.61 44 eP P 04 03 12.5 +1.3
MK31 **Makanchi Array** 68.61 44 eP P 04 03 12.5 +1.3
MK31 **Makanchi Array** 68.61 44 eP P 04 03 12.5 +1.3
MKAR **Makanchi Array** 68.61 44 P P 04 03 11.9 +0.7
MKAR **Makanchi Array** 68.61 44 P P 04 03 11.9 +0.7
MKAR **Makanchi Array** 68.61 44 P P 04 03 11.9 +0.7
MKAR **Makanchi Array** 68.61 44 P P 04 03 11.9 +0.7
comp=Z,1.2nm,0.6s,baz=314,slow=5.6,SNR=13
YAK **Yakutsk** 70.39 11 eP P 04 03 25.4 +3.6
YAK pmax pmax
comp=N,40nm,1.1s
YAK pmax pmax
comp=E,25nm,1.1s
YAK **Yakutsk** 70.39 11 eP P 04 03 25.4 +3.6
comp=E,40nm,1.1s
KSH **Kashi** 70.46 53 P P 04 03 26.5 +3.6
KSH pP pP 04 03 28.4 -0.6
KSH sP sP 04 03 29.9 -1.3
KSH PcP **PcP** **04 03 42.5 -1.7**
KSH PP **PP** **04 06 00.8 +2.3**
KSH S **S** **04 12 38.0 +3.1**
KSH AMB AMB
comp=E,87nm,3.1s
KSH LR LR
comp=E,110nm,4.6s
KSH LR LR
comp=E,130nm,5.6s
KSH LR LR
comp=E,92nm,7.0s
LPAZ **La Paz** 72.42 221 P P **04 03 34.6 -0.7**
LPAZ **La Paz** 72.42 221 P P **04 03 34.6 -0.7**
LPAZ **La Paz** 72.42 221 P P **04 03 34.6 -0.7**
comp=E,2.0nm,1.1s,baz=344,slow=6.7,SNR=3.1
WMQ **Urumqi** 73.38 43 eP P 04 03 43.8 +3.6
WMQ pP pP 04 03 48.5 +2.2
WMQ sP sP 04 03 50.8 +2.2
WMQ S **SKiKP** **04 13 11.3 +1.3**
WMQ ScS **ScS** **04 13 48.6 +0.7**
WMQ SS **SS** **04 17 55.8 +6.5**
WMQ AMB AMB
comp=E,12nm,0.5s
SONM **Songino Array** 77.83 30 P P **04 04 05.0 -0.7**
SONM **Songino Array** 77.83 30 P P **04 04 05.0 -0.7**
SONM **Songino Array** 77.83 30 P P **04 04 05.0 -0.7**
comp=E,1.4nm,0.9s,baz=320,slow=6.4,SNR=9.5
HIA **Hailar** 80.54 21 eP P 04 04 20.7 +0.4

GTA	**Gaotai**	**82.38**	**39**	*e*P	**P**	**04 04 32.3**	**+1.9**
GTA				pP	**pP**	**04 04 36.3**	**-0.3**
GTA				sP	**sP**	**04 04 39.9**	**+1.0**
GTA				AMB	AMB		
	comp=E,4.0nm,1.1s						
KLR	**Kul'dur**	**83.06**	**14**	*e*P	**P**	**04 04 30.8**	**-2.8**
HHC	**Hu-ho-hao-te**	**85.73**	**30**	*e*P	**P**	**04 04 45.9**	**-1.5**
HHC				sP	**sP**	**04 04 52.0**	**-3.9**
HHC				PP	**PP**	**04 08 05.3**	**-0.5**
HHC				SKS	**SKSac**	**04 15 07.8**	**-4.3**
HHC				S	**SKKSac**	**04 15 15.1**	**-4.0**
HHC				AMB	AMB		
	comp=E,15nm,1.0s						
HHC				AMB	AMB		
	comp=E,270nm,7.5s						
HHC				LR	LR		
	comp=E,270nm,17.4s						
HHC				LR	LR		
	comp=E,650nm,17.6s						
HHC				LR	LR		
	comp=E,280nm,17.7s						
LZH	**Lanzhou**	**86.90**	**38**	*e*P	**P**	**04 04 54.6**	**+1.2**
LZH				pP	**pP**	**04 04 59.4**	**-0.2**
LZH				sP	**sP**	**04 05 01.4**	**-0.4**
LZH				AMB	AMB		
	comp=E,13nm,1.1s						
CN2	**Changchun**	**87.03**	**19**	*e*P	**P**	**04 04 53.1**	**-0.5**
CN2				AMB	AMB		
	comp=E,10.0nm,0.5s						
MDJ	**Mudanjiang**	**87.13**	**16**	P	P	04 04 58.8	+4.7
MDJ				AMB	AMB		
	comp=E,7.0nm,1.1s						
MDJ				AMB	AMB		
	comp=E,140nm,6.4s						
BOSA	**Boshof**	**88.46**	**136**	LR	LR	04 47 10.5	
	comp=E,78nm,18.4s,baz=88,slow=37						
CD2	**Chengdu**	**91.27**	**40**	P	**P**	**04 05 14.6**	**+0.7**
CD2				AMB	AMB		
	comp=E,10.0nm,0.5s						
KMI	**Kunming**	**95.69**	**44**	P	P	04 05 37.9	+3.4
KMI				AMB	AMB		
	comp=E,10.0nm,1.1s						
NJ2	**Nanjing**	**96.17**	**28**	*e*P	**P**	**04 05 35.3**	**-1.0**
GYA	**Guiyang**	**96.38**	**41**	*e*P	**P**	**04 05 38.0**	**+0.5**
GYA				AMB	AMB		
	comp=E,10.0nm,1.0s						
VNDA	**Vanda**	**148.51**	**184**	PKPbc	**PKPab**	**04 11 55.6**	**-1.5**
VNDA	**Vanda**	**148.51**	**184**	PKPbc	**PKPab**	**04 11 55.6**	**-1.5**
VNDA	**Vanda**	**148.51**	**184**	PKPbc	**PKPab**	**04 11 55.6**	**-1.5**
	comp=E,2.3nm,0.9s,baz=266,slow=2.8,SNR=12						
WRAB	**Tennant Creek**	**149.64**	**36**	PKP2	**PKPbc**	**04 11 56.9**	**-1.2**
WRA	**Warramunga Arr**	**149.64**	**36**	PKPbc	**PKPbc**	**04 11 57.5**	**-0.6**
WRA	**Warramunga Arr**	**149.64**	**36**	PKPbc	**PKPbc**	**04 11 57.5**	**-0.6**
WRA	**Warramunga Arr**	**149.64**	**36**	PKPbc	**PKPbc**	**04 11 57.5**	**-0.6**
	comp=E,3.3nm,1.1s,baz=320,slow=2.6,SNR=9.9						
ASAR	**Alice Springs**	**152.75**	**40**	PKPbc	**PKPbc**	**04 12 03.9**	**-1.4**
ASAR	**Alice Springs**	**152.75**	**40**	PKPbc	**PKPbc**	**04 12 03.8**	**-1.4**
ASAR	**Alice Springs**	**152.75**	**40**	PKPbc	**PKPbc**	**04 12 03.8**	**-1.4**
	comp=E,1.1nm,0.8s,baz=345,slow=2.1,SNR=9.2						

IDC ***13*** *03:57:44.9±2.1, 22.°06S×69.°22W, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.7/18, mbtmp3.6/5, ML3.9/2, Error ellipse: s-maj=54.1km s-min=31.6km az=14.0*
ISCJB ***13*** *03:57:59.2±0.6, 21.°15S±0.°04×68.°8W±0.°1, h102km±8km, mb3.3/2, Error ellipse: s-maj=17.3km s-min=6.9km az=0.7*
GUC ***13*** *03:58:00.4±0.7, 21.°17S×69.°20W, h105km±3km, ML3.8*
ISC 13 03:58:00.7±0.9, 21.°09S±0.°04×68.°9W±0.°1, h97km±9km, n18, σ2s12/21, 4C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**Plate Boundary**	**0.54**	**275**	↑*i*	P	**03 58 16.1**	**-0.4**
PB01				*i*	S	**03 58 27.9**	**-0.6**
PB01				AML	AML	03 58 28.8	
	comp=E,16μm,0.2s						
PB09	**Plate Boundary**	**0.76**	**203**	↓*i*	P	**03 58 18.1**	**-0.6**
PB09				*i*	S	**03 58 31.7**	**-0.4**
PB09				AML	AML	03 58 33.4	
	comp=N,7μm,0.4s						
PB04	**Plate Boundary**	**1.28**	**204**	↓*i*	P	03 58 27.8	+3.6
PB04				*i*	S	**03 58 47.6**	**+5.8**
PB04				AML	AML	03 58 53.2	
	comp=N,777nm,0.3s						
MACH	**Maria Elena**	**1.35**	**215**	↑*i*	P	**03 58 24.2**	**-1.0**
MACH				*i*	S	**03 58 41.7**	**-2.0**
PSGC	**Pisagua**	**1.87**	**323**	↑*i*	P	**03 58 31.4**	**-0.2**
PSGC				*i*	S	**03 58 54.6**	**-0.5**
PSGC				AML	AML	03 58 58.5	
	comp=E,462nm,0.5s						
MNMC	**Minimini**	**2.05**	**342**	↑*i*	P	**03 58 35.2**	**+1.1**
MNMC				*i*	S	**03 59 01.6**	**+2.0**
MNMC				AML	AML	03 59 05.0	
	comp=E,1μm,0.3s						
CEN1	**Los Morros**	**2.58**	**207**	↓*i*	P	**03 58 42.3**	**+1.5**
CEN1				*i*	S	**03 59 14.2**	**+2.5**
CEN1				AML	AML	03 59 31.8	
	comp=N,123nm,0.4s						
PB10	**Plate Boundary**	**2.85**	**212**	*e*P	P	**03 58 42.9**	**-1.5**
PB10				AML	AML	03 59 36.8	
	comp=E,435nm,0.7s						
ANCH	**Antofagasta**	**2.92**	**208**	*e*P	**Pn**	**03 58 43.5**	**-1.9**
LPAZ	**La Paz**	**4.84**	**9**	Pn	**Pn**	**03 59 14.7**	**+2.9**
	comp=E,1.8nm,0.3s,baz=204,slow=6.3,SNR=52						
SIV	**San Ignacio**	**9.00**	**57**	Pn	**Pn**	**04 00 05.3**	**-2.7**
	comp=E,0.5nm,0.3s,baz=249,slow=13,SNR=6.1						
H03N1	**Juan Fernandez**	**15.16**	**214**	T	T	04 16 22.8	
	baz=36						
H03N2	**Juan Fernandez**	**15.17**	**214**	T	T	04 16 17.2	
	baz=36						
H03N3	**Juan Fernandez**	**15.18**	**214**	T	T	04 16 51.8	
	baz=36						
BDFB	**Brasilia**	**20.56**	**78**	P	**P**	**04 02 30.5**	**-1.3**
	comp=E,1.6nm,0.5s,baz=253,slow=11,SNR=5.5						
TXAR	**Lajitas Array**	**60.29**	**325**	P	**P**	**04 07 59.3**	**0.0**
	comp=E,0.1nm,0.4s,baz=161,slow=11,SNR=2.9						
TORD	**Torodi Ar. Bea**	**77.23**	**70**	P	**P**	**04 09 45.0**	**+0.3**
	comp=E,0.7nm,0.8s,baz=260,slow=5.7,SNR=11						
MKAR	**Makanchi Array**	**145.31**	**36**	PKPbc	**PKPab**	**04 17 27.0**	**-0.3**
	comp=E,0.3nm,0.6s,baz=333,slow=4.8,SNR=3.3						

MAN 13 04:00:03, 9.°31N×125.°82E, h22km, mb4.6, ML3.5, MS3.4, Mindanao

MEX 13 04:14:11.5±0.5, 16.°68N×99.°17W, h16km±6km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.69**	**286**	*e*P	Pg	04 14 20.6	-4.5
ACX				*i*	Sg	04 14 29.7	-4.6
PNIG	**Pinotepa**	**1.03**	**106**	*e*P	Pb	04 14 27.5	-3.6
PNIG				*i*	Sb	04 14 39.9	-4.6
CAIG	**El Cayaco**	**1.12**	**290**	*e*P	Pb	04 14 28.8	-3.7
CAIG				*i*	Sb	04 14 41.6	-5.2
MEIG	**Mezcala**	**1.32**	**341**	*e*P	Pn	04 14 31.5	-3.9
MEIG				*i*	Sn	04 14 47.2	-5.5
PLIG	**Platanillo**	**1.74**	**349**	*e*P	Pn	04 14 38.0	-3.1
PLIG				*e*S	Sn	04 14 57.9	-5.3
ARIG	**Puente Sto Nin**	**1.96**	**325**	*e*P	Pn	04 14 41.4	-2.7
ARIG				*i*	Sn	04 15 02.7	-5.6
YAIG	**Yautepec**	**2.18**	**2**	*e*P	Pn	04 14 44.9	-2.4
YAIG				*e*S	Sn	04 15 09.5	-4.6

ISK ***13*** *04:22:56.2, 37.°05N×36.°12E, h13km, ML3.6*
IDC ***13*** *04:22:56.4±0.9, 37.°06N×36.°03E, h0km, mb3.9/6, mb1 3.8/11, mb1mx3.6/30, mbtmp3.8/11, ML3.2/5, MS2.9/6, Ms1 3.0/6, ms1mx2.8/39, Error ellipse: s-maj=17.9km s-min=12.2km az=89.0*
CSEM ***13*** *04:22:56.8±0.1, 37.°09N×36.°11E, h5km, ML3.6, Error ellipse: s-maj=4.3km s-min=3.0km az=114.0*
DDA ***13*** *04:22:56.5, 37.°05N×36.°06E, h24km, MD3.7*
ISC 13 04:22:57.1±1.1, 37.°09N±0.°02×36.°08E±0.°02, h6km±8km, n103, σ0s96/114, mb4.0/5, MS3.0/4, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEYT	**Ceyhan**	**0.28**	**253**	*e*Pg	**Pg**	**04 23 03.0**	**+0.5**
CEYT	**Ceyhan**	**0.28**	**253**	*e*Pg	**Pg**	**04 23 03.0**	**+0.5**
KOZT	**Kozan**	**0.44**	**332**	*e*PG	**Pg**	**04 23 05.9**	**+0.4**
KOZT				*e*SG	**Sb**	**04 23 13.9**	**-0.1**
KOZT	**Kozan**	**0.44**	**332**	*e*Pg	**Pg**	**04 23 05.9**	**+0.4**
KOZT				*e*Sg	**Sb**	**04 23 14.0**	**-0.1**
ANDN	**Andirin**	**0.53**	**23**	*i* P	**Pg**	**04 23 07.0**	**-0.3**
ANDN	**Andirin**	**0.53**	**23**	*i* P	**Pg**	**04 23 07.0**	**-0.3**
COBT	**Iskenderun**	**0.59**	**166**	*i* P	**Pg**	**04 23 08.4**	**-0.1**
COBT				*i* S	**Sg**	**04 23 16.2**	**+0.1**
COBT	**Iskenderun**	**0.59**	**166**	*i* P	**Pg**	**04 23 08.4**	**-0.1**
COBT				*i* S	**Sg**	**04 23 16.2**	**+0.1**
AYKD	**Aykdinkavak**	**0.66**	**61**	*i* P	**Pg**	**04 23 09.5**	**-0.3**
AYKD				*i* S	**Sb**	**04 23 21.2**	**+0.6**
HTY	**Hatay**	**0.97**	**177**	*e*PG	**Pg**	**04 23 14.3**	**-1.4**
HTY				*e*SG	**Sg**	**04 23 28.2**	**-0.1**
HTY	**Hatay**	**0.97**	**177**	*e*Pg	**Pg**	**04 23 14.3**	**-1.4**
HTY				*e*Sg	**Sg**	**04 23 28.2**	**-0.1**
YAYL	**Yayladag**	**1.06**	**179**	*i* P	**Pg**	**04 23 16.8**	**-0.6**
YAYL				*i* S	**Sn**	**04 23 34.0**	**+0.2**
YAYL	**Yayladag**	**1.06**	**179**	*i* P	**Pg**	**04 23 16.8**	**-0.6**
YAYL				*i* S	**Sn**	**04 23 34.0**	**+0.2**
GULE	**Gulek**	**1.06**	**281**	*i* P	**Pg**	**04 23 16.3**	**-1.1**
GULE	**Gulek**	**1.06**	**281**	*i* P	**Pg**	**04 23 16.3**	**-1.1**
GZT	**Gaziantep**	**1.21**	**77**	*i* P	**Pb**	**04 23 20.1**	**-0.5**
GZT				*i* S	**Sn**	**04 23 38.2**	**+0.6**
NIG	**Nigde**	**1.55**	**311**	*e*PN	**Pn**	**04 23 25.0**	**-0.5**
NIG	**Nigde**	**1.55**	**311**	*e*Pn	**Pn**	**04 23 25.0**	**-0.5**
PINB	**Pinarbasi**	**1.60**	**9**	*i* P	**Pn**	**04 23 26.5**	**+0.2**
PINB	**Pinarbasi**	**1.60**	**9**	*i* P	**Pn**	**04 23 26.5**	**+0.2**
KIZK	**Mersin**	**1.67**	**249**	*i* P	**Pn**	**04 23 26.5**	**-0.4**
KIZK	**Mersin**	**1.67**	**249**	*i* P	**Pn**	**04 23 26.5**	**-0.4**
BNN	**Bunyan**	**1.77**	**354**	*e*PN	**Pn**	**04 23 28.1**	**-0.3**
BNN	**Bunyan**	**1.77**	**354**	*e*Pn	**Pn**	**04 23 28.1**	**-0.3**
BSTP	**Nigde**	**1.79**	**299**	*i* P	**Pb**	**04 23 29.8**	**-0.6**
ATAB	**Bozova**	**1.81**	**77**	*i* P	**Pg**	**04 23 31.7**	**0.0**
ATAB	**Bozova**	**1.81**	**77**	*i* P	**Pg**	**04 23 31.7**	**0.0**
DARE	**Darende-Malaty**	**1.85**	**37**	*e*PN	**Pn**	**04 23 28.4**	**-1.1**
DARE	**Darende-Malaty**	**1.85**	**37**	*e*Pn	**Pn**	**04 23 28.4**	**-1.1**
AVNT	**Avonos**	**1.94**	**330**	*i* P	**Pn**	**04 23 31.7**	**+0.8**
AVNT	**Avonos**	**1.94**	**330**	*i* P	**Pn**	**04 23 31.7**	**+0.8**
IKL	**Isikli**	**2.11**	**247**	*e*PN	**Pn**	**04 23 32.2**	**-0.7**
IKL	**Isikli**	**2.11**	**247**	*e*Pn	**Pn**	**04 23 32.2**	**-0.7**
EREN	**Erenkoy**	**2.19**	**225**	*e*PN	**Pn**	**04 23 33.4**	**-0.7**
EREN	**Erenkoy**	**2.19**	**225**	*e*Pn	**Pn**	**04 23 33.4**	**-0.7**
MALT	**Malatya**	**2.22**	**56**	*e*PN	**Pn**	**04 23 34.2**	**-0.5**
MALT	**Malatya**	**2.22**	**56**	*e*Pn	**Pn**	**04 23 34.2**	**-0.5**
SULT	**Sultanhani-AKS**	**2.32**	**299**	*e*PN	**Pn**	**04 23 35.9**	**0.0**
SULT	**Sultanhani-AKS**	**2.32**	**299**	*e*Pn	**Pn**	**04 23 35.9**	**0.0**
YOZ	**Yozgat**	**2.61**	**347**	*e*PN	**Pn**	**04 23 39.7**	**-0.3**
YOZ	**Yozgat**	**2.61**	**347**	*e*Pn	**Pn**	**04 23 39.7**	**-0.3**
PHNC	**Paralimni**	**2.67**	**219**	P	**Pb**	**04 23 44.1**	**-1.1**
	4.8nm,0.7s						
PHNC	**Paralimni**	**2.67**	**219**	P	**Pb**	**04 23 44.1**	**-1.1**
	4.8nm,0.7s						
ELZG	**Elazig**	**2.69**	**58**	*i* P	**Pb**	**04 23 47.2**	**+1.4**
ELZG				*i* S	**Sg**	**04 24 24.3**	**+0.7**
LFK	**Lefkose**	**2.74**	**229**	*e*PN	**Pn**	**04 23 41.1**	**-0.6**
LFK	**Lefkose**	**2.74**	**229**	*e*Pn	**Pn**	**04 23 41.1**	**-0.6**
HDMB	**Hadim**	**2.88**	**269**	*e*PN	**Pn**	**04 23 43.6**	**-0.2**
HDMB	**Hadim**	**2.88**	**269**	*e*Pn	**Pn**	**04 23 43.6**	**-0.2**
SVSK	**Karacayir**	**2.91**	**14**	*e*PN	**Pn**	**04 23 44.1**	**+0.1**
SVSK	**Karacayir**	**2.91**	**14**	*e*Pn	**Pn**	**04 23 44.1**	**+0.1**
MAMC	**Mammari**	**3.01**	**231**	P	**Pn**	**04 23 47.6**	**+2.3**
MAMC	**Mammari**	**3.01**	**231**	P	**Pn**	**04 23 47.6**	**+2.3**
ILIC	**Ilic-Erzincan**	**3.06**	**39**	*e*PN	**Pn**	**04 23 46.0**	**-0.2**
ILIC	**Ilic-Erzincan**	**3.06**	**39**	*e*Pn	**Pn**	**04 23 46.0**	**-0.2**
KONT	**Konya--Tatoy**	**3.08**	**287**	*e*PN	**Pn**	**04 23 46.0**	**-0.3**
KONT	**Konya--Tatoy**	**3.08**	**287**	*e*Pn	**Pn**	**04 23 46.0**	**-0.3**
CSS	**Prodhromos**	**3.08**	**227**	P	**Pn**	**04 23 47.7**	**+1.3**
	1.4nm,0.9s						
CSS	**Prodhromos**	**3.08**	**227**	*e*PN	**Pn**	**04 23 46.3**	**0.0**
CSS	**Prodhromos**	**3.08**	**227**	*e*Pn	**Pn**	**04 23 46.3**	**0.0**
CSS	**Prodhromos**	**3.08**	**227**	P	**Pn**	**04 23 47.7**	**+1.3**
	1.4nm,0.9s						
AKDN	**Akdeniz- K¯-br**	**3.09**	**235**	*e*PN	**Pn**	**04 23 46.5**	**+0.1**
AKDN	**Akdeniz- K¯-br**	**3.09**	**235**	*e*Pn	**Pn**	**04 23 46.5**	**+0.1**
PTK	**Pertek**	**3.17**	**55**	*e*PN	**Pn**	**04 23 47.5**	**-0.3**
PTK	**Pertek**	**3.17**	**55**	*e*Pn	**Pn**	**04 23 47.5**	**-0.3**
TOKT	**Tokat**	**3.24**	**6**	*e*PN	**Pn**	**04 23 48.4**	**-0.2**
TOKT	**Tokat**	**3.24**	**6**	*e*Pn	**Pn**	**04 23 48.4**	**-0.2**
LEF	**Lefka**	**3.25**	**234**	*e*PN	**Pn**	**04 23 48.6**	**0.0**
LEF	**Lefka**	**3.25**	**234**	*e*Pn	**Pn**	**04 23 48.6**	**0.0**
BRTR	**Keskin Array B**	**3.25**	**325**	Pn	**Pn**	**04 23 49.9**	**+1.0**
	0.5nm,0.3s,baz=150,slow=18,SNR=18						
BRTR				Pg	**Pb**	**04 23 57.0**	**+1.7**
	1.1nm,0.3s,baz=147,slow=16,SNR=17						
BRTR				Lg	Lg	04 24 41.0	
	0.9nm,0.3s,baz=150,slow=30,SNR=3.4						
CORM	**Corum**	**3.28**	**340**	*e*PN	**Pn**	**04 23 49.7**	**+0.5**
CORM	**Corum**	**3.28**	**340**	*e*Pn	**Pn**	**04 23 49.7**	**+0.5**
AFSR	**Af ar-Bala (A**	**3.34**	**316**	*e*PN	**Pn**	**04 23 50.4**	**+0.4**
AFSR	**Af ar-Bala (A**	**3.34**	**316**	*e*Pn	**Pn**	**04 23 50.4**	**+0.4**
DIY	**Diyarbakir**	**3.39**	**75**	*e*PN	**Pn**	**04 23 50.2**	**-0.5**
DIY	**Diyarbakir**	**3.39**	**75**	*e*Pn	**Pn**	**04 23 50.2**	**-0.5**
ALFC	**Alevga**	**3.42**	**237**	P	**Pn**	**04 23 49.8**	**-1.2**
	3.2nm,0.6s						
ALFC	**Alevga**	**3.42**	**237**	P	**Pn**	**04 23 49.8**	**-1.2**
	3.2nm,0.6s						
RSDY	**Resadiye-TOKAT**	**3.44**	**16**	*e*PN	**Pn**	**04 23 51.2**	**-0.1**
RSDY	**Resadiye-TOKAT**	**3.44**	**16**	*e*Pn	**Pn**	**04 23 51.2**	**-0.1**
SZAC	**Souni-Zanaja**	**3.49**	**229**	P	**Pn**	**04 23 51.9**	**-0.1**
	3.5nm,0.6s						
SZAC	**Souni-Zanaja**	**3.49**	**229**	P	**Pn**	**04 23 51.9**	**-0.1**
	3.5nm,0.6s						
MAZI	**Mazidag**	**3.50**	**83**	*e*PN	**Pn**	**04 23 51.5**	**-0.7**
MAZI	**Mazidag**	**3.50**	**83**	*e*Pn	**Pn**	**04 23 51.5**	**-0.7**
AKMC	**Akamas**	**3.67**	**237**	P	**Pn**	**04 23 56.0**	**+1.5**
AKMC	**Akamas**	**3.67**	**237**	P	**Pn**	**04 23 56.0**	**+1.5**
EZC	**Erzincan**	**3.69**	**43**	*e*PN	**Pn**	**04 23 54.9**	**0.0**
EZC	**Erzincan**	**3.69**	**43**	*e*Pn	**Pn**	**04 23 54.9**	**0.0**
PPCY	**Paphos**	**3.75**	**235**	P	**Pn**	**04 23 57.6**	**+2.1**
PPCY	**Paphos**	**3.75**	**235**	P	**Pn**	**04 23 57.6**	**+2.1**
MMAI	**Mount Meron Ar**	**4.11**	**188**	Pn	**Pn**	**04 24 01.5**	**+1.0**
	4.3nm,0.3s,baz=1.3,slow=13,SNR=13						
MMAI				Sn	**Sn**	**04 24 48.4**	**-0.6**
	3.1nm,0.3s,baz=16,slow=16,SNR=2.7						
MMAI				Lg	Lg	04 25 06.5	
	4.6nm,0.3s,baz=18,slow=28,SNR=3.8						
MMAI				LR	LR	04 25 51.9	
	comp=Z,108nm,21.4s,baz=110,slow=43						
ASF	**Jabal al Asfar**	**4.96**	**172**	Pn	**Pn**	**04 24 13.3**	**+1.1**
	0.3nm,0.3s,baz=351,slow=18,SNR=2.3						
ASF				Pg	**Pb**	**04 24 26.4**	**+2.1**
	0.8nm,0.3s,baz=310,slow=18,SNR=7.3						
ASF				Lg	Lg	04 25 37.4	
	1.7nm,0.3s,baz=307,slow=20,SNR=3.6						
ASF				LR	LR	04 26 21.6	
	comp=Z,108nm,21.3s,baz=328,slow=42						
EIL	**Elat**	**7.46**	**188**	Pn	**Pn**	**04 24 45.4**	**-1.2**
	0.9nm,0.3s,baz=309,slow=17,SNR=2.6						
EIL				Sn	**Sn**	**04 26 16.9**	**+5.3**
	0.2nm,0.3s,baz=102,slow=19,SNR=1.7						
EIL				LR	LR	04 28 17.1	
	comp=Z,95nm,18.1s,baz=235,slow=43						
IDI	**Anoyia**	**9.22**	**262**	Pn	**Pn**	**04 25 10.1**	**-0.7**
	0.9nm,0.3s,baz=84,slow=16,SNR=5.1						
GERES	**GERESS Array B**	**20.07**	**313**	LR	LR	04 35 36.8	
	comp=Z,30nm,19.8s,baz=94,slow=38						
AKTO	**Aktyubinsk**	**20.61**	**43**	P	**P**	**04 27 36.0**	**-0.9**
	0.6nm,0.3s,baz=245,slow=17,SNR=4.5						
DAVOX	**Davos/Dischmat**	**21.67**	**305**	LR	LR	04 36 31.5	
	comp=Z,76nm,19.4s,baz=262,slow=38						
FINES	**FINESS Array B**	**25.17**	**349**	P	**P**	**04 28 22.7**	**-0.3**
	7.0nm,1.1s,baz=163,slow=10,SNR=3.6						
NOA	**NORSAR Array B**	**28.63**	**335**	LR	LR	04 42 22.5	
	comp=Z,27nm,18.0s,baz=255,slow=41						
KURBB	**Kurchatov Arra**	**32.99**	**52**	P	**P**	**04 29 33.5**	**+0.8**
	0.8nm,0.2s,baz=267,slow=9.1,SNR=3.7						
MKAR	**Makanchi Array**	**35.26**	**59**	P	**P**	**04 29 53.7**	**+1.2**
	2.2nm,0.9s,baz=267,slow=9.1,SNR=9.0						
ZALV	**Zalesovo Beam**	**37.24**	**47**	P	**P**	**04 30 09.3**	**0.0**
	0.4nm,0.3s,baz=260,slow=8.6,SNR=2.9						
TORD	**Torodi Ar. Bea**	**38.87**	**241**	P	**P**	**04 30 22.0**	**-1.5**
	0.8nm,0.9s,baz=52,slow=8.5,SNR=4.7						
JCJ	**Chichijima**	**85.74**	**59**	LR	LR	05 15 32.2	
	comp=Z,133nm,19.8s,baz=74,slow=37						

IDC 13 04:33:02.1±17.0, 19.°43S×178.°29W, h483km±156km, mb2.7/3, mb1 3.0/3, mb1mx2.8/18, mbtmp2.7/3, Error ellipse: s-maj=293.5km s-min=61.9km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.49**	**261**	P	P	04 40 29.8	-0.1
	0.3nm,0.4s,baz=97,slow=7.5,SNR=13						
ASAR	**Alice Springs**	**44.51**	**256**	P	P	04 40 29.9	-0.1
	0.3nm,0.5s,baz=100,slow=7.3,SNR=5.6						
ILAR	**Eielson Array**	**87.33**	**13**	P	P	04 44 56.5	0.0
	0.2nm,0.5s,baz=211,slow=4.8,SNR=5.2						
BRTR	**Keskin Array B**	**145.91**	**313**	PKPbc	PKPdf	04 51 46.6	+0.8
	0.4nm,0.7s,baz=76,slow=6.1,SNR=2.7						

DHMR 13 04:42:17.1±1.2, 12.°38N×45.°78E, h28km±101km, ML3.7, 1C, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDHA	**Al Bayda'**	**1.60**	**353**	*i* P	Pn	04 42 44.9	+1.0
BDHA				*i* S	Sb	04 43 06.1	-0.4
TRBA	**At Turbah**	**1.83**	**298**	↑*i* P	Pn	04 42 47.9	+0.9
TRBA				*i* S	Sb	04 43 12.5	-0.5
TRBA				AML	AML	04 43 14.2	
	comp=N,2μm,0.3s						
UDYN	**Al 'Udayn**	**2.37**	**312**	*i* P	Pb	04 42 57.1	-2.2
UDYN				*i* S	Sb	04 43 27.8	-0.5
UDYN				AML	AML	04 43 38.3	
	comp=E,294nm,0.6s						

MEX 13 04:44:32.8±0.4, 17.°24N×100.°42W, h35km±10km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.24**	**144**	*i* P	Pn	04 44 38.6	-1.8
CAIG				*i* S	Sn	04 44 43.1	-3.2
ACX	**Acapulco**	**0.65**	**125**	*i* P	Pn	04 44 41.6	-4.0
ACX				*i* S	Sn	04 44 50.3	-4.4
MEIG	**Mezcala**	**1.02**	**48**	*e*P	Pn	04 44 49.0	-1.7
MEIG				*i* S	Sn	04 45 01.5	-2.4
ARIG	**Puente Sto Nin**	**1.03**	**4**	*e*P	Pn	04 44 48.8	-2.0
ARIG				*e*S	Sn	04 45 01.8	-2.3
ZIIG	**Zihuatanejo**	**1.07**	**290**	*e*P	Pn	04 44 49.3	-1.9
ZIIG				*i* S	Sn	04 45 03.2	-1.6
PLIG	**Platanillo**	**1.44**	**37**	*i* P	Pn	04 44 55.1	-1.3
PLIG				*e*S	Sn	04 45 12.3	-1.9
YAIG	**Yautepec**	**2.06**	**38**	*i* P	Pn	04 45 03.7	-1.4
YAIG				*i* S	Sn	04 45 28.2	-1.5
PNIG	**Pinotepa**	**2.35**	**111**	*i* P	Pn	04 45 07.5	-1.4
PNIG				*i* S	Sn	04 45 35.4	-1.2

IDC ***13*** *04:48:58.7±0.6, 12.°28S×165.°57E, h0km, mb4.5/16, mb1 4.6/18, mb1mx4.5/22, mbtmp4.5/18, ML4.7/2, MS4.2/9, Ms1 4.2/9, ms1mx3.8/33, Error ellipse: s-maj=22.2km s-min=15.3km az=103.0*
ISCJB ***13*** *04:49:02.7±0.3, 12.°39S±0.°05×165.°53E±0.°07, h33km, mb4.8/41, MS4.2/12, Error ellipse: s-maj=9.3km s-min=6.8km az=2.7*
BJI ***13*** *04:49:03.3, 12.°83S×165.°25E, h35km, mB5.2/20, mb4.9/30, Ms4.9/9, Ms7 4.5/16*
NEIC ***13*** *04:49:04.3±0.3, 12.°29S×165.°53E, h35km, mb4.9/17, Error ellipse: s-maj=8.4km s-min=6.2km az=116.0*
GCMT ***13*** *04:49:04.2±0.3, 12.°15S×165.°42E, h14km±1km, MW4.9, Moment Tensor Solution. s25,c28; s52,c72; Moment tensor: Scale 10^16Nm; Mrr=2.83±.22; Mθθ=0.54±.15; Mφφ=2.29±.15; Mrθ=0.96±.40; Mrφ=-0.62±.09; Mθφ=-0.03±.28; Best double couple: M0=2.80000×10^16 NP1:φs327.00000°, δ50.00000°, λ=-109.00000°. NP2:φs176.00000°, δ43.00000°, λ=-68.00000°. Principal axes: T 2.5100, Plg4.0000°, Azm71.0000°; N 0.5800, Plg15.0000°, Azm340.0000°; P -3.0900, Plg75.0000°, Azm175.0000°; Data Used: IU CN II G IC. Surface wave period40 sec.*
**ISC 13 04:49:04.6±0.4, 12.°37S±0.°05×165.°53E±0.°08, h35km, n99, σ1s24/112, mb4.9/41, MS4.2/13, 1C-1D, Santa Cruz Isl

0.8nm,0.3s,baz=131,slow=8.5,SNR=3.8

KSAR	**Wonju Array Be**	**60.86**	**326**	P	**P**	04 59 12.3	-1.3
NJ2	**Nanjing**	**62.81**	**316**	*e*P	**P**	04 59 29.1	+2.2
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s						
QIZ	**Qiongzhong**	**63.12**	**299**	P	**P**	04 59 30.4	+1.2
QIZ				S	**S**	05 07 58.0	-0.2
QIZ				LR	LR		
	comp=Z,100nm,25.1s						
USRK	**Ussuriysk Array**	**64.03**	**334**	P	**P**	04 59 32.4	-2.3
	3.2nm,0.8s,baz=136,slow=11,SNR=2.1						
VNDA	**Vanda**	**65.17**	**181**	P	**P**	04 59 41.5	-0.3
VNDA	**Vanda**	**65.17**	**181**	P	**P**	04 59 41.5	-0.3
	1.0nm,0.7s,baz=339,slow=6.4,SNR=6.4						
FX1	**Attu Island--F**	**65.32**	**5**	*e*P	**P**	04 59 43.1	+0.3
SBA	**Scott Base**	**65.49**	**180**	*e*P	**P**	04 59 45.4	+1.7
	5.2nm,1.1s						
PETK	**Petropavlovsk-**	**65.56**	**355**	P	**P**	04 59 43.8	-0.6
PETK	**Petropavlovsk-**	**65.56**	**355**	P	**P**	04 59 43.8	-0.6
	4.5nm,1.0s,baz=108,slow=9.5,SNR=4.1						
CN2	**Changchun**	**66.76**	**330**	*e*P	P	04 59 56.3	+3.9
CN2				AMB	AMB		
	comp=Z,10.0nm,0.3s						
ENH	**Enshi**	**68.56**	**310**	*e*P	**P**	**05 00 03.8**	**-0.3**
	10nm,0.9s						
GYA	**Guiyang**	**68.98**	**305**	P	**P**	**05 00 08.8**	**+1.9**
GYA				pP	**pP**	**05 00 19.4**	**+1.6**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s						
GYA				AMB	AMB		
	comp=Z,130nm,5.0s						
GYA				LR	LR		
	comp=Z,580nm,19.9s						
BJI	**Beijing**	**69.37**	**322**	P	**P**	**05 00 09.8**	**+0.9**
BJI				S	**S**	**05 09 16.4**	**+3.0**
BJI				AMB	AMB		
	comp=Z,16nm,0.5s						
BJI				LR	LR		
	comp=N,130nm,14.6s						
BJI				LR	LR		
	comp=E,160nm,21.6s						
BJI				LR	LR		
	comp=Z,83nm,22.1s						
KMI	**Kunming**	**71.63**	**302**	P	**P**	**05 00 24.8**	**+1.5**
KMI				pP	**pP**	**05 00 35.4**	**+1.3**
KMI				sP	**sP**	**05 00 39.5**	**+1.3**
KMI				AMB	AMB		
	comp=Z,18nm,1.3s						
KMI				LR	LR		
	comp=Z,71nm,27.6s						
HHC	**Hu-ho-hao-te**	**72.70**	**320**	*e*P	**P**	**05 00 30.3**	**+1.1**
HHC				sP	**sP**	**05 00 44.5**	**+0.4**
HHC				PcP	**PcP**	**05 00 47.4**	**+1.0**
HHC				PP	**PP**	**05 03 15.0**	**+3.6**
HHC				S	**S**	**05 09 52.3**	**0.0**
HHC				sS	**sS**	**05 10 09.8**	**-0.5**
HHC				SKS	**SKSac**	**05 10 28.3**	**-3.6**
HHC				ScS	**SKKSac**	**05 10 32.3**	**+0.2**
HHC				SS	**SS**	**05 14 33.8**	**+1.1**
HHC				AMB	AMB		
	comp=Z,43nm,1.0s						
HHC				AMB	AMB		
	comp=Z,370nm,7.0s						
HHC				LR	LR		
	comp=N,320nm,17.5s						
HHC				LR	LR		
	comp=E,430nm,17.9s						
HHC				LR	LR		
	comp=Z,240nm,17.5s						
CD2	**Chengdu**	**73.23**	**308**	P	**P**	**05 00 34.3**	**+1.8**
CD2				AMB	AMB		
	comp=Z,30nm,0.6s						
LZH	**Lanzhou**	**75.48**	**313**	*e*P	**P**	**05 00 48.3**	**+2.6**
LZH				pP	**pP**	**05 00 57.0**	**+0.4**
LZH				sP	**sP**	**05 01 01.5**	**+0.9**
LZH				AMB	AMB		
	comp=Z,17nm,1.0s						
LZH				AMB	AMB		
	comp=Z,99nm,6.7s						
QSPA	**South Pole Qui**	**77.64**	**180**	*e*P	**P**	**05 00 57.5**	**+0.2**
	3.7nm,0.8s						
SONM	**Songino Array**	**79.60**	**324**	P	**P**	**05 01 08.0**	**-0.3**
SONM	**Songino Array**	**79.60**	**324**	P	**P**	**05 01 08.0**	**-0.3**
	2.0nm,0.8s,baz=136,slow=5.5,SNR=8.6						
GTA	**Gaotai**	**79.82**	**314**	*e*P	**P**	**05 01 11.0**	**+1.3**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.4s						
PMR	**Palmer**	**81.86**	**20**	*e*P	**P**	**05 01 17.8**	**-2.1**
	7.3nm,1.0s						
TRF	**Thorofare Moun**	**82.84**	**18**	*e*P	**P**	**05 01 23.1**	**-2.1**
	6.0nm,0.9s						
MAW	**Mawson**	**83.42**	**202**	P	**P**	**05 01 28.8**	**+0.8**
MAW	**Mawson**	**83.42**	**202**	P	**P**	**05 01 28.8**	**+0.8**
	2.1nm,0.6s,baz=125,slow=8.7,SNR=4.6						
IMA2	**Indian Mountai**	**83.83**	**16**	*e*P	**P**	**05 01 29.9**	**-0.3**
ILAR	**Eielson Array**	**84.83**	**19**	P	**P**	**05 01 34.2**	**-1.0**
ILAR	**Eielson Array**	**84.83**	**19**	P	**P**	**05 01 34.2**	**-1.0**
	3.6nm,0.7s,baz=240,slow=5.4,SNR=49						
DOT	**Dot Lake**	**84.98**	**20**	*e*P	**P**	**05 01 36.1**	**+0.1**
	75nm,2.1s						
COLD	**Coldfoot**	**85.62**	**16**	*e*P	**P**	**05 01 39.7**	**+0.7**
	46nm,2.3s						
HYT	**Haines Junctio**	**85.67**	**24**	*e*P	**P**	**05 01 38.7**	**-0.9**
EGAK	**Eagle**	**86.69**	**20**	*e*P	**P**	**05 01 43.9**	**-0.5**
	6.8nm,0.8s						
NVAR	**Mina Array Bea**	**87.04**	**50**	P	**P**	**05 01 46.5**	**-0.5**
NVAR	**Mina Array Bea**	**87.04**	**50**	P	**P**	**05 01 46.5**	**-0.5**
	0.6nm,0.5s,baz=241,slow=7.0,SNR=3.6						
WMQ	**Urumqi**	**89.87**	**315**	*e*P	**P**	**05 02 02.3**	**+2.2**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.5s						
WMQ				AMB	AMB		
	comp=Z,150nm,4.4s						
WMQ				LR	LR		
	comp=N,150nm,6.2s						
WMQ				LR	LR		
	comp=E,140nm,7.0s						
WMQ				LR	LR		
	comp=Z,54nm,20.0s						
MFID	**Camas Ranch**	**90.32**	**46**	*e*P	**P**	**05 02 03.9**	**+1.6**
	35nm,2.3s						
SYO	**Syowa Base**	**90.46**	**197**⇑	*e*P	**P**	**05 02 01.4**	**-0.9**
SYO	**Syowa Base**	**90.46**	**197**⇓	*e*PcP	**PcP**	**05 02 03.8**	**+0.4**
MK31	**Makanchi Array**	**94.33**	**317**	*e*P	**P**	**05 02 20.4**	**-0.2**
MKAR	**Makanchi Array**	**94.33**	**317**	*e*P	**P**	**05 02 20.6**	**0.0**
MKAR	**Makanchi Array**	**94.33**	**317**	P	**P**	**05 02 20.4**	**-0.2**
	3.8nm,0.7s,baz=94,slow=6.1,SNR=19						
ZALV	**Zalesovo Beam**	**94.50**	**324**	P	**P**	**05 02 20.5**	**-0.6**
ZALV	**Zalesovo Beam**	**94.50**	**324**	P	**P**	**05 02 20.5**	**-0.6**
	2.1nm,0.7s,baz=108,slow=3.9,SNR=8.7						
SNAA	**Sanae**	**95.79**	**184**	*e*P	**P**	**05 02 26.4**	**-0.6**
	0.6nm,0.5s						
YKA	**Yellowknife Ar**	**96.24**	**27**	P	**P**	**05 02 27.1**	**-1.8**
YKA	**Yellowknife Ar**	**96.24**	**27**	P	**P**	**05 02 27.1**	**-1.8**
	1.2nm,0.6s,baz=258,slow=4.2,SNR=3.8						
KSH	**Kashi**	**97.41**	**309**	*e*P	Pdif	05 02 37.8	+2.8
KSH				pP	pP	05 02 49.9	+3.8
KSH				sP	sP	05 02 56.8	+6.7
ARCES	**ARCESS Array B**	**117.55**	**345**	PKP	**PKPdf**	**05 07 45.3**	**-0.9**
ARCES	**ARCESS Array B**	**117.55**	**345**	PKP	**PKPdf**	**05 07 45.3**	**-0.9**
	1.0nm,0.5s,baz=48,slow=1.3,SNR=13						
FINES	**FINESS Array B**	**122.91**	**338**	PKP	**PKPdf**	**05 07 55.7**	**-1.0**
FINES	**FINESS Array B**	**122.91**	**338**	PKP	**PKPdf**	**05 07 55.7**	**-1.0**
	6.6nm,1.0s,baz=98,slow=2.8,SNR=4.9						
BOSA	**Boshof**	**124.01**	**223**	PKP	**PKPdf**	**05 07 59.3**	**-0.8**
BOSA	**Boshof**	**124.01**	**223**	PKP	**PKPdf**	**05 07 59.3**	**-0.8**
	3.2nm,0.9s,baz=117,slow=2.3,SNR=4.4						
AKASG	**Malin Array Be**	**127.84**	**326**	PKP	**PKPdf**	**05 08 05.9**	**-0.6**
AKASG	**Malin Array Be**	**127.84**	**326**	PKP	**PKPdf**	**05 08 05.9**	**-0.6**
	0.3nm,0.5s,baz=44,slow=2.2,SNR=3.8						
BRTR	**Keskin Array B**	**129.69**	**312**	PKP	**PKPdf**	**05 08 09.3**	**-1.3**
BRTR	**Keskin Array B**	**129.69**	**312**	PKP	**PKPdf**	**05 08 09.3**	**-1.3**
	0.4nm,0.5s,baz=147,slow=5.7,SNR=3.7						
GERES	**GERESS Array B**	**136.78**	**333**	PKP	**PKPdf**	**05 08 24.4**	**+0.8**
GERES	**GERESS Array B**	**136.78**	**333**	PKP	**PKPdf**	**05 08 24.4**	**+0.8**
	1.0nm,0.7s,baz=46,slow=4.2,SNR=5.9						
KEST	**Kesra**	**148.32**	**321**	PKPbc	**PKPbc**	**05 08 48.7**	**+0.9**
KEST	**Kesra**	**148.32**	**321**	PKPbc	**PKPbc**	**05 08 48.7**	**+0.9**
	3.9nm,0.9s,baz=44,slow=2.3,SNR=5.7						
ESDC	**Sonseca Array**	**151.26**	**343**	PKPbc	**PKPbc**	**05 08 54.6**	**-0.2**
ESDC	**Sonseca Array**	**151.26**	**343**	PKPbc	**PKPbc**	**05 08 54.6**	**-0.2**
	0.5nm,0.5s,baz=35,slow=1.8,SNR=6.5						
TORD	**Torodi Ar. Bea**	**164.21**	**275**	PKP	**PKPdf**	**05 09 04.3**	**-1.0**
TORD				PKPab	**PKPab**	**05 09 58.8**	**-0.5**
TORD	**Torodi Ar. Bea**	**164.21**	**275**	PKP	**PKPdf**	**05 09 04.3**	**-1.0**
	0.4nm,0.7s,baz=100,slow=0.1,SNR=4.4						
TORD				PKPab	**PKPab**	**05 09 58.8**	**-0.5**
	0.8nm,0.8s,baz=89,slow=5.3,SNR=4.4						

DHMR 13 04:51:54.4±0.7, 12.47N×45.78E, *h*2km±45km, ML3.5, 1C-1D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BDHA	**Al Bayda'**	**1.52**	**352**	*i*	P		Pn	04 52 22.3	-0.6
BDHA				*i*	S		Sg	04 52 44.8	+1.0
TRBA	**At Turbah**	**1.79**	**295**	*i*	P		Pn	04 52 27.4	+0.7
TRBA				*i*	S		Sg	04 52 52.4	-0.2
TRBA					AML		AML	04 52 52.8	
	comp=N,841nm,0.4s								
UDYN	**Al 'Udayn**	**2.31**	**310**	*i*	P		Pn	04 52 35.0	+1.2
UDYN				*i*	S		Sb	04 53 06.7	+0.4
UDYN					AML		AML	04 53 28.7	
	comp=N,257nm,0.7s								

*IDC **13** 04:54:15.3±0.7, 12.31S×165.60E, h0km, mb4.5/13, mb1 4.6/15, mb1mx4.4/23, mbtmp4.5/15, ML4.7/2, Error ellipse: s-maj=23.9km s-min=16.9km az=120.0*
*ISCJB **13** 04:54:18.5±0.5, 12.32S±0.07×165.54E±0.08, h33km, mb4.5/17, Error ellipse: s-maj=11.0km s-min=9.8km az=165.3*
*NEIC **13** 04:54:20.6±0.4, 12.30S×165.64E, h35km, mb4.6/8, Error ellipse: s-maj=11.9km s-min=9.2km az=122.0*
*AUST **13** 04:54:55.5, 12.36S×163.42E, h200km*

ISC 13 04:54:20.7±0.5, 12.29S±0.08×165.59E±0.08, h35km, n71, σ1§09/68, mb4.5/17, 1C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.23**	**297**	Pn		**Pn**	**Pn**	**04 55 50.0**	**-0.2**
HNR				Sn		**Sn**	**Sn**	**04 56 58.0**	**-2.2**
HNR	**Honiara**	**6.23**	**297**	Pn		**Pn**	**Pn**	**04 55 50.0**	**-0.2**
	27nm,0.3s,baz=184,slow=13,SNR=3.5								
HNR				Sn			**Sn**	**04 56 58.0**	**-2.2**
	2.9nm,0.3s,baz=96,slow=19,SNR=3.2								
DZM	**Mont Dzumac**	**9.76**	**175**	*e*Pn			**Pn**	**04 56 38.1**	**-0.7**
	14nm,0.3s								
DZM				*e*LR		LR	LR	04 58 49.0	
	278nm,24.3s								
DZM	**Mont Dzumac**	**9.76**	**175**	Pn		**Pn**	**Pn**	**04 56 38.0**	**-0.7**
DZM	**Mont Dzumac**	**9.76**	**175**	Pn		**Pn**	**Pn**	**04 56 38.0**	**-0.7**
	3.6nm,0.3s,baz=147,slow=23,SNR=24								
EIDS	**Eidsvold**	**18.89**	**224**	P			**Pn**	**04 58 40.0**	**+1.0**
	7.2nm,0.8s								
CTA	**Charters Tower**	**20.11**	**245**	P		**P**	**P**	**04 58 52.1**	**+0.4**
CTA	**Charters Tower**	**20.11**	**245**	P		**P**	**P**	**04 58 52.1**	**+0.4**
	7.6nm,0.7s,baz=70,slow=14,SNR=11								
CTAO	**Charters Tower**	**20.11**	**245**	*e*P			Pn	04 58 52.7	-1.0
	18nm,0.8s								
RMQ	**Roma**	**21.21**	**226**	P		**P**	**P**	**04 59 07.7**	**+4.1**
	baz=20,SNR=6.4								
COEN	**Coen**	**21.89**	**263**	*e*P		**P**	**P**	**04 59 13.5**	**+2.6**
	69nm,0.8s								
COEN	**Coen**	**21.89**	**263**	P		**P**	**P**	**04 59 13.5**	**+2.6**
	baz=20,SNR=4.0								
STKA	**Stephens Creek**	**29.45**	**225**	P		**P**	**P**	**05 00 21.3**	**0.0**
STKA	**Stephens Creek**	**29.45**	**225**	P		P	05 00 30.8	+10
	baz=28,SNR=4.5								
STKA	**Stephens Creek**	**29.45**	**225**	P		**P**	**P**	**05 00 21.3**	**0.0**
	4.9nm,0.9s,baz=48,slow=7.6,SNR=3.6								
WRAB	**Tennant Creek**	**30.92**	**252**	*e*P			**P**	**05 00 33.6**	**-0.9**
	11nm,1.2s								
WRA	**Warramunga Arr**	**30.93**	**252**	P		**P**	**P**	**05 00 33.4**	**-1.2**
WRA	**Warramunga Arr**	**30.93**	**252**	P		P	**P**	**05 00 33.4**	**-1.2**
	3.7nm,0.7s,baz=84,slow=9.0,SNR=30								
RPZ	**Rata Peaks**	**31.67**	**172**	P		**P**	**P**	**05 00 40.9**	**+0.2**
RPZ	**Rata Peaks**	**31.67**	**172**	P		**P**	**P**	**05 00 40.9**	**+0.2**
	5.9nm,0.6s,baz=333,slow=11,SNR=5.6								
ASAR	**Alice Springs**	**32.12**	**245**	P		**P**	**P**	**05 00 43.5**	**-1.5**
ASAR				PcP		**PcP**	**PcP**	**05 03 33.1**	**-0.7**
ASAR	**Alice Springs**	**32.12**	**245**	P		**P**	**P**	**05 00 43.5**	**-1.5**
	5.1nm,0.7s,baz=69,slow=9.5,SNR=51								
ASAR				PcP			**PcP**	**05 03 33.1**	**-0.7**
	0.7nm,0.7s,baz=62,slow=2.7,SNR=4.6								
KDU	**Kakadu**	**32.32**	**266**	P		**P**	**P**	**05 00 46.2**	**-0.7**
	baz=30,SNR=12								
MTN	**Manton Dam**	**33.62**	**265**	P		**P**	**P**	**05 00 58.0**	**-0.2**
	baz=32,SNR=3.6								
KNRA	**Kununurra**	**35.87**	**260**	P		**P**	**P**	**05 01 17.5**	**0.0**
	baz=34,SNR=4.1								
PALU	**Palau**	**36.57**	**301**	P		P		05 01 39.3	+16
	baz=35,SNR=3.6								
FITZ	**Fitzroy Crossi**	**38.93**	**256**	*e*P		**P**	**P**	**05 01 42.2**	**-1.3**
	20nm,1.4s								
FITZ	**Fitzroy Crossi**	**38.93**	**256**	P		**P**	**P**	**05 01 43.1**	**-0.4**
	baz=37,SNR=4.6								
FITZ	**Fitzroy Crossi**	**38.93**	**256**	P		**P**	**P**	**05 01 43.0**	**-0.5**
	5.8nm,1.0s,baz=103,slow=6.9,SNR=7.7								
PPT2	**Papeete2**	**43.56**	**103**	*e*LR		LR	LR	05 14 55.8	
	513nm,28.2s								
TBI	**Tubuai**	**44.02**	**111**	*e*LR		LR	LR	05 15 18.7	
	316nm,32.2s								
MEEK	**Meekatharra**	**46.27**	**245**	P		**P**	**P**	**05 02 43.3**	**+0.1**
	baz=44,SNR=5.3								
KKM	**Kota Kinabalu**	**52.35**	**288**	P		**P**	**P**	**05 03 31.3**	**+1.4**
	baz=50,SNR=4.2								
RKT	**Rikitea**	**57.31**	**110**	*e*LR		LR	LR	05 21 27.6	
	220nm,29.2s								
KSRS	**Korea Array**	**60.81**	**326**	P		**P**	**P**	**05 04 30.1**	**+0.7**
	1.1nm,0.5s,baz=124,slow=6.6,SNR=4.6								
KSAR	**Wonju Array Be**	**60.83**	**326**	P		**P**	**P**	**05 04 30.1**	**+0.6**
PETK	**Petropavlovsk-**	**65.48**	**355**	P		**P**	**P**	**05 05 00.3**	**+0.2**
PETK	**Petropavlovsk-**	**65.48**	**355**	P		**P**	**P**	**05 05 00.3**	**+0.2**
	20nm,1.2s,baz=116,slow=8.8,SNR=5.0								
CHTO	**Chiang Mai**	**72.59**	**294**	P		P	P	05 05 40.0	-5.0
	22nm,1.0s								
QSPA	**South Pole Qui**	**77.72**	**180**	P		P	P	05 06 08.9	-5.0
	13nm,1.8s								
SONM	**Songino Array**	**79.57**	**324**	P		**P**	**P**	**05 06 25.0**	**+0.7**
SONM	**Songino Array**	**79.57**	**324**	P		**P**	**P**	**05 06 25.0**	**+0.7**
	3.1nm,1.0s,baz=123,slow=5.3,SNR=7.4								
ILAR	**Eielson Array**	**84.73**	**19**	P		**P**	**P**	**05 06 50.6**	**-0.2**
ILAR	**Eielson Array**	**84.73**	**19**	P		**P**	**P**	**05 06 50.6**	**-0.2**
	1.8nm,0.8s,baz=227,slow=5.1,SNR=13								
DOT	**Dot Lake**	**84.89**	**20**	P		**P**	**P**	**05 06 49.6**	**-2.0**
	1.9nm,0.7s								
NVAR	**Mina Array Bea**	**86.94**	**50**	P		**P**	**P**	**05 07 02.1**	**-0.5**
NVAR	**Mina Array Bea**	**86.94**	**50**	P		**P**	**P**	**05 07 02.1**	**-0.5**
	0.2nm,0.3s,baz=246,slow=6.7,SNR=3.8								
SYO	**Syowa Base**	**90.56**	**197**⇑	*e*P		**P**	**P**	**05 07 17.3**	**-1.6**
MK31	**Makanchi Array**	**94.32**	**317**	*e*P		P	P	05 07 33.0	-3.7
MKAR	**Makanchi Array**	**94.32**	**317**	*e*P		**P**	**P**	**05 07 37.6**	**+0.9**
MKAR	**Makanchi Array**	**94.32**	**317**	P		**P**	**P**	**05 07 37.6**	**+0.9**
	4.1nm,0.8s,baz=92,slow=6.4,SNR=14								
ZALV	**Zalesovo Beam**	**94.47**	**324**	P		**P**	**P**	**05 07 37.1**	**0.0**
ZALV	**Zalesovo Beam**	**94.47**	**324**	P		**P**	**P**	**05 07 37.1**	**0.0**
	2.2nm,0.9s,baz=124,slow=4.2,SNR=7.2								
ARCES	**ARCESS Array B**	**117.49**	**345**	PKP		**PKPdf**	**PKPdf**	**05 13 01.5**	**-0.8**
ARCES	**ARCESS Array B**	**117.49**	**345**	PKP		**PKPdf**	**PKPdf**	**05 13 01.5**	**-0.8**
	3.0nm,0.8s,baz=62,slow=2.1,SNR=13								
FINES	**FINESS Array B**	**122.86**	**338**	PKP		**PKPdf**	**PKPdf**	**05 13 12.7**	**-0.1**
FINES	**FINESS Array B**	**122.86**	**338**	PKP		**PKPdf**	**PKPdf**	**05 13 12.7**	**-0.1**
	4.7nm,1.0s,baz=194,slow=5.9,SNR=3.6								
BOSA	**Boshof**	**124.11**	**223**	PKP		**PKPdf**	**PKPdf**	**05 13 16.3**	**-0.1**
BOSA	**Boshof**	**124.11**	**223**	PKP		**PKPdf**	**PKPdf**	**05 13 16.3**	**-0.1**
	2.5nm,0.9s,baz=124,slow=3.6,SNR=3.2								
AKASG	**Malin Array Be**	**127.81**	**326**	PKP		**PKPdf**	**PKPdf**	**05 13 21.4**	**-1.2**
AKASG	**Malin Array Be**	**127.81**	**326**	PKP		**PKPdf**	**PKPdf**	**05 13 21.4**	**-1.2**
	0.2nm,0.3s,baz=50,slow=2.0,SNR=4.7								
BRTR	**Keskin Array B**	**129.68**	**312**	PKP		**PKPdf**	**PKPdf**	**05 13 27.4**	**+0.7**
BRTR	**Keskin Array B**	**129.68**	**312**	PKP		**PKPdf**	**PKPdf**	**05 13 27.4**	**+0.7**
	0.4nm,0.5s,baz=172,slow=2.4,SNR=4.7								
GERES	**GERESS Array B**	**136.74**	**333**	PKP		**PKPdf**	**PKPdf**	**05 13 40.9**	**+1.2**
GERES	**GERESS Array B**	**136.74**	**333**	PKP		**PKPdf**	**PKPdf**	**05 13 40.9**	**+1.2**
	0.3nm,0.3s,baz=4.4,slow=1.3,SNR=5.1								
KEST	**Kesra**	**148.30**	**321**	PKPbc		**PKPbc**	**PKPbc**	**05 14 04.4**	**+0.6**
KEST	**Kesra**	**148.30**	**321**	PKPbc		**PKPbc**	**PKPbc**	**05 14 04.4**	**+0.6**
	2.5nm,0.9s,baz=135,slow=1.4,SNR=3.5								
ESDC	**Sonseca Array**	**151.20**	**343**	PKPbc		**PKPbc**	**PKPbc**	**05 14 11.4**	**+0.6**
ESDC	**Sonseca Array**	**151.20**	**343**	PKPbc		**PKPbc**	**PKPbc**	**05 14 11.4**	**+0.6**
	1.2nm,0.7s,baz=25,slow=3.8,SNR=5.4								
TORD	**Torodi Ar. Bea**	**164.26**	**275**	PKP		**PKPdf**	**PKPdf**	**05 14 22.0**	**+0.5**
TORD				PKPab		**PKPab**	**PKPab**	**05 15 15.6**	**-0.1**
TORD	**Torodi Ar. Bea**	**164.26**	**275**	PKP		**PKPdf**	**PKPdf**	**05 14 22.0**	**+0.5**
	2.2nm,1.2s,baz=79,slow=1.7,SNR=4.7								
TORD				PKPab		**PKPab**	**PKPab**	**05 15 15.5**	**-0.1**
	0.9nm,1.0s,baz=90,slow=5.5,SNR=2.9								

GUC 13 05:35:45.7±0.7, 32.89S×69.05W, h12km±6km, MD3.6, ML2.6,3C-1D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**1.32**	**279**⇑	*i*	P		Pn	05 36 08.7	-1.4
JACH				*i*	S		Sb	05 36 26.4	-1.1
CLCH	**Cerro Calan**	**1.35**	**248**⇓	*i*	P		Pn	05 36 09.3	-1.2
CLCH				*i*	S		Sb	05 36 27.4	-0.9
LMEL	**Las Melosas**	**1.36**	**225**	*e*	P		Pn	05 36 09.4	-1.3
LMEL				*i*	S		Sb	05 36 28.1	-0.8
LMEL					AML		AML	05 36 29.5	
	comp=N,215nm,0.1s								
LACH	**Col Las Americ**	**1.36**	**245**	*e*	P		Pn	05 36 09.8	-0.9
LACH				*i*	S		Sb	05 36 28.1	-0.7
LACH					AML		AML	05 36 29.5	
	comp=E,154nm,0.4s								
PCH	**Pirque**	**1.43**	**239**⇑	*i*	P		Pn	05 36 10.8	-0.8
PCH				*i*	S		Sn	05 36 29.8	-0.6
ANTU	**Antumapu**	**1.49**	**243**⇑	*i*	P		Pn	05 36 11.9	-0.5
ANTU				*i*	S		Sn	05 36 31.4	-0.4
ANTU					AML		AML	05 36 32.4	
	comp=E,156nm,0.6s								
RCDM	**Rinconada Maip**	**1.59**	**247**	*e*	P		Pn	05 36 13.0	-0.8
RCDM				*i*	S		Sn	05 36 34.4	+0.1
RCDM					AML		AML	05 36 35.6	
	comp=N,117nm,0.5s								
CHCH	**Chadas Angostu**	**1.70**	**232**	*e*	P		Pn	05 36 15.3	0.0
TACH	**Talagante**	**1.76**	**244**	*e*	P		Pn	05 36 16.1	0.0
CHNG	**Los Chungos**	**2.30**	**295**	*e*	P		Pn	05 36 24.9	+1.4
CHNG				*e*	S		Sb	05 36 55.6	0.0
CMCH	**Combarbala**	**2.38**	**315**	*e*	P		Pn	05 36 26.1	+1.3
CMCH				*i*	S		Sb	05 36 58.2	0.0
TLL	**Tololo Astrono**	**3.10**	**331**	*e*	P		Pn	05 36 35.9	+1.1
TLL				*e*	S		Sn	05 37 14.1	+2.0

*SZGRF **13** 05:37:12.7, 51.50N×169.25W, h33km, mb5.7, MS5.7, Fox Islands, Aleutian Islands, United States*
*IDC **13** 05:37:19.6±0.5, 52.78N×167.12W, h0km, mb5.3/28, mb1 5.4/30, mb1mx5.4/32, mbtmp5.3/30, ML4.2/2, MS6.1/42, Ms1 6.1/42, ms1mx6.0/54, Error ellipse: s-maj=16.4km s-min=9.2km az=174.0*
*BJI **13** 05:37:19.6, 52.95N×167.34W, h7km, mB6.4/54, mb6.0/57, Ms6.5/75, Ms7 6.3/73*
*ISCJB **13** 05:37:21.4±0.4, 52.68N±0.02×166.93W±0.01, h19km±2km, mb5.9/499, MS6.2/272, Error ellipse: s-maj=2.9km s-min=1.5km az=6.7*
*MOS **13** 05:37:23.3±1.1, 52.76N×167.02W, h33km, mb6.3/146, MS6.2/77, Error ellipse: s-maj=6.5km s-min=3.7km az=91.2*
*NEIC **13** 05:37:23.7±0.1, 52.75N×167.00W, h24km, mb6.0/268, ME6.2, MS6.1/153, MW6.2, MW6.5, Error ellipse: s-maj=2.6km s-min=1.5km az=174.0, Moment Tensor Solution. s75 Moment tensor: Scale 10¹⁸Nm; Mrr1.66; Mθθ-1.57; Mϕϕ-0.09; Mrθ1.34; Mrϕ-1.42; Mθϕ0.84; Best double couple: M₀2.70000×10¹⁸ NP1:ϕ₁240.00000°, δ26.00000°, λ92.00000°. NP2:ϕ₂58.00000°, δ64.00000°, λ89.00000°. Principal axes: T 2.2000, Plg71.0000°, Azm326.0000°; N 0.7700, Plg0.0000°, Azm30.5800°; P -2.9700, Plg18.0000°, Azm148.0000°; Broadband fault plane solution: P waves. NP1:ϕ₁240.00000°, δ10.00000°, λ90.00000°. NP2:ϕ₂60.00000°, δ80.00000°, λ90.00000°. Principal axes: T Plg55.0000°, Azm330.0000°; N Plg0.0000°, Azm0.0000°; P Plg35.0000°, Azm150.0000°; Complex earthquake, with at least one event occurring about 4 seconds after the onset observed on broadband displacement seismograms. Depth based on first event. Energy computed from BB mechanism.*
NEIC Felt at Akutan and Unalaska.
*BGS **13** 05:37:23.6±1.6,

KINC Kanaga Island 6.27 267 P Pn 05 38 54.6 +0.6
KIKV Kanaga Island 6.30 266 P Pn 05 38 55.4 +0.9
ANPB Aniakchak Plen 6.49 47 P Pn 05 38 57.8 +0.7
TAPA Tanaga Point A 6.71 267 P Pn 05 39 01.6 +1.5
TAFP Tanaga Falls P 6.79 268 P Pn 05 39 02.9 +1.6
TASE Tanaga Southea 6.84 267 P Pn 05 39 03.5 +1.5
GAEA Gareloi East 7.28 267 P Pn 05 39 08.6 +0.6
GANE Gareloi Northe 7.29 268 P Pn 05 39 10.1 +2.0
GALAA Gareloi Lava P 7.30 267 P Pn 05 39 09.2 +1.0
CHIR Chirikof Islan 7.35 60 P Pn 05 39 08.1 -0.8
CERAA Semis' Rag'd T 8.21 270 P Pn 05 39 21.7 +1.0
CESW Semis' Southwe 8.29 270 P Pn 05 39 22.5 +0.8
CETU Semis' Tuman 8.32 270 P Pn 05 39 23.6 +1.4
KJL Kejulik 8.41 46 P Pn 05 39 24.8 +1.4
CAHL Cahill 8.53 47 P Pn 05 39 26.2 +1.2
AMKA Amchitka 8.56 266 P Pn 05 39 26.4 +1.0
KELA Mount Kelaz 8.57 44 P Pn 05 39 27.0 +1.4
KABR Katmai Barrier 8.72 47 P Pn 05 39 29.0 +1.3
KAKN Katmai Knife C 8.78 46 P Pn 05 39 29.9 +1.5
LSPA Little Sitkin 8.88 271 P Pn 05 39 31.8 +2.0
LSSE Little Sitkin 8.89 271 P Pn 05 39 31.9 +1.9
LSNW Little Sitkin 8.91 271 P Pn 05 39 31.9 +1.6
LSSA Little Sitkin 8.92 271 P Pn 05 39 31.6 +1.2
OHAK Old Harbor 9.08 55 P Pn 05 39 32.0 -0.5
MCNL McNeil River 9.60 43 P Pn 05 39 40.4 +0.7
KDAK Kodiak Island 9.66 53 P Pn 05 39 40.3 -0.1
SVW2 Sparrevohn 10.45 32 eP Pn 05 39 53.1 +1.8
RSO Redoubt South 11.02 40 eP Pn 05 40 00.2 +1.0
SMY Shemya 11.47 278 eP Pn 05 40 08.5 +3.2
SMY Shemya 11.47 278 eP Pn 05 40 08.5 +3.2
SPU Mount Spurr 11.74 38 eP Pn 05 40 09.4 +0.5
FX1 Attu Island--F 12.02 279 Pn Pn 05 40 12.6 -0.1
FX1 Sn Sn 05 42 12.5 -14
FX1 Attu Island--F 12.02 279 Pn Pn 05 40 12.6 -0.1
6.9nm,0.3s,baz=150,slow=2.3,SNR=64
FX1 Sn Sn 05 42 12.5 -14
5.8nm,0.3s,baz=230,slow=15,SNR=3.1
FX1 LR LR 05 43 36.9
comp=Z,37µm,20.4s,baz=334,slow=32
SEW Seward 12.18 46 eP Pn 05 40 13.1 -1.9
PPLA Purkeypile 12.86 32 eP Pn 05 40 26.9 +2.6
TNA Tin City 12.90 358 eP Pn 05 40 27.2 +2.6
776nm,1.4s
PMR Palmer 13.11 40 eP Pn 05 40 28.5 +0.9
PMR Palmer 13.11 40 eP Pn 05 40 28.5 +0.9
CAST Castle Rocks 13.28 30 eP Pn 05 40 31.2 +1.3
MID Middleton Isla 13.31 52 eP Pn 05 40 29.0 -1.4
MID Middleton Isla 13.31 52 eP Pn 05 40 29.0 -1.4
TRF Thorofare Moun 13.87 33 eP Pn Pn 05 40 39.0 +0.9
BPAW Bear Paw Mtn. 14.11 30 eP Pn Pn 05 40 42.0 +0.7
DIV Divide 14.27 45 eP Pn Pn 05 40 40.5 -3.0
RAGM Ragged Mountai 14.45 49 eP Pn Pn 05 40 43.2 -2.8
MCK McKinley 14.51 33 eP Pn Pn 05 40 47.0 +0.3
MCK McKinley 14.51 33 eP Pn Pn 05 40 47.0 +0.3
BMRM Bremner River 14.71 47 eP Pn Pn 05 40 46.2 -3.3
IM04 Indian Mountai 14.86 21 eP Pn Pn 05 40 53.1 +1.6
IMA2 Indian Mountai 14.96 21 eP Pn Pn 05 40 52.6 -0.3
PAX Paxson 15.30 39 eP Pn Pn 05 40 55.4 -2.1
PAX pmax pmax
comp=Z,236nm,1.0s
PAX Paxson 15.30 39 eP Pn Pn 05 40 55.4 -2.1
comp=Z,236nm,1.0s
COLA College 15.62 31 eP Pn Pn 05 41 00.3 -1.2
COLA pmax pmax
comp=Z,549nm,1.4s
COLA College 15.62 31 eP Pn Pn 05 41 00.3 -1.2
comp=Z,549nm,1.4s
ILAR Eielson Array 15.86 33 Pn Pn 05 41 01.6 -3.0
ILAR e 06 16 30.2
ILAR Eielson Array 15.86 33 Pn Pn 05 41 01.6 -3.0
comp=Z,0.2nm,0.3s,baz=234,slow=11,SNR=29
ILAR LR LR 05 47 58.1
comp=Z,67µm,18.0s,baz=238,slow=40
ILAR P3KPbc 06 16 30.2
comp=Z,0.0nm,0.3s,baz=31,slow=3.7,SNR=8.8
MENT Mentasta 15.97 41 eP Pn Pn 05 41 06.2 +0.1
DOT Dot Lake 16.20 39 eP Pn Pn 05 41 06.5 -2.5
comp=Z,2µm,2.3s
COLD Coldfoot 16.71 23 eP Pn 05 41 16.0 +0.6
comp=Z,1µm,1.4s
EGAK Eagle 17.87 37 eP Pn Pn 05 41 29.9 0.0
comp=Z,155nm,0.7s
HYT Haines Junctio 17.95 51 eP Pn P 05 41 31.8 +0.3
DAWY Dawson 18.22 41 eP Pn P 05 41 34.4 +0.1
SIT Sitka 18.62 64 eP Pn Pn 05 41 40.1 +1.0
SIT pmax pmax
comp=Z,582nm,1.2s
SIT Sitka 18.62 64 eP Pn Pn 05 41 40.1 +1.0
comp=Z,582nm,1.2s
SKAG Skagway 18.77 56 eP Pn Pn 05 41 42.2 +1.3
comp=Z,429nm,1.1s
CRAG Craig 19.94 69 eP Pn Pn 05 41 54.7 -0.2
comp=Z,619nm,1.1s
WRAK Wrangell Islan 20.29 66 eP Pn 05 41 58.8 -0.1
comp=Z,364nm,1.1s
WRAK LR LR
comp=Z,54µm,19.0s
PET Petropavlovsk 20.63 285 i P P 05 42 00.2 -0.5
H02S1 DAWSON INLET T 20.68 75 T T 06 03 50.5
SNR=70
PEA0B Petropavlovsk- 21.18 285 eP P P 05 42 06.8 +0.2
PETK Petropavlovsk- 21.18 285 P P P 05 42 06.6 0.0
PETK Petropavlovsk- 21.18 285 P P P 05 42 06.6 0.0
PETK ScP ScP 05 49 51.1 +3.7
PETK Petropavlovsk- 21.18 285 P P P 05 42 06.6 0.0
comp=Z,158nm,0.5s,baz=95,slow=13,SNR=59
PETK ScP ScP 05 49 51.1 +3.7
comp=Z,15nm,1.1s,baz=81,slow=4.7,SNR=3.5
DLBC Dease Lake 21.46 60 eP P 05 42 10.6 +0.9
DLBC Dease Lake 21.46 60 P P 05 42 10.4 +0.7
comp=Z,81nm,1.0s,baz=274,slow=11,SNR=31
INK Inuvik 22.27 33 P P 05 42 17.6 -0.5
INK Inuvik 22.27 33 P P 05 42 17.6 -0.5
comp=Z,111nm,0.8s,baz=182,slow=8.0
SKR Severo-Kuril's 22.80 280⇑ i P P 05 42 20.0 -4.0
SKR e 05 42 57.0
SKR eS S 05 46 32.0 -0.2
SKR pmax pmax
comp=N,220nm,1.0s
SKR pmax pmax
comp=E,220nm,1.0s
SKR pmax pmax
comp=Z,490nm,1.0s
SKR pmax pmax
comp=N,6µm,18.0s
SKR pmax pmax
comp=E,12µm,18.0s
SKR pmax pmax
comp=Z,17µm,18.0s
SKR smax smax
comp=E,20µm,16.0s
SKR MLR MLR
comp=N,75µm,18.0s
SKR MLR MLR
comp=E,40µm,18.0s
SKR MLR MLR
comp=Z,34µm,18.0s
BBB Bella Bella 23.51 76 P P 05 42 31.3 +0.2
BBB Bella Bella 23.51 76 P P 05 42 31.3 +0.2
comp=Z,56nm,1.1s,baz=270,slow=9.1,SNR=3.8
BBB LR LR 05 51 08.0
comp=Z,48µm,18.2s,baz=288,slow=35
SEY Seymchan 23.52 312 c i P P 05 42 30.9 -0.3
MIDW Midway 25.66 202 eP P 05 42 51.5 +0.4
comp=Z,633nm,1.3s
MIDW LR LR
comp=Z,39µm,19.0s
NLWA Neilton Lookou 27.86 84 eP P 05 43 13.0 +2.1
comp=Z,276nm,1.5s
NLWA LR LR
comp=Z,37µm,20.0s
A05A Maple Falls 28.23 79 eP P 05 43 15.4 +1.3
comp=Z,131nm,1.1s
E03A Lebam 28.45 85 eP P 05 43 18.1 +2.0
comp=Z,194nm,0.9s
F03A Seaside 28.75 86 eP P 05 43 22.3 +3.5
comp=Z,163nm,1.0s
YKW3 Yellowknife Ar 28.91 49 eP P 05 43 19.9 -0.1
comp=Z,4.6nm,1.4s
YKA Yellowknife Ar 28.92 50 P P 05 43 20.8 +0.7
YKA PcP PcP 05 46 28.9 +0.3
YKA Yellowknife Ar 28.92 50 P P 05 43 20.8 +0.7
comp=Z,7.9nm,0.6s,baz=276,slow=8.3,SNR=26
YKA PcP PcP 05 46 28.9 +0.3
comp=Z,4.2nm,0.5s,baz=277,slow=2.4,SNR=4.7
D05A Enumclaw 29.09 83 eP P 05 43 24.2 +2.3
comp=Z,870nm,1.8s
LON Longmire 29.41 83 eP P 05 43 26.4 +1.6
LON pmax pmax
comp=Z,353nm,2.1s
LON Longmire 29.41 83 eP P 05 43 26.4 +1.6
comp=Z,353nm,2.1s
COR Corvallis 29.59 88 eP P 05 43 28.6 +2.4
COR pmax pmax
comp=Z,2µm,1.2s
COR Corvallis 29.59 88 eP P 05 43 28.6 +2.4
comp=Z,2µm,1.2s
WPW White Pass 29.59 83 P P 05 43 28.0 +1.6
TWW Teanaway 29.79 82 P P 05 43 30.0 +1.8
ASR Mount Adams--S 29.83 84 P P 05 43 30.0 +1.5
LTY Liberty 29.86 82 eP P 05 43 29.7 +1.0
comp=Z,746nm,2.5s
KEBM Edson Butte 29.89 92 eP P 05 43 35.7 +6.6
comp=Z,292nm,1.3s
ETW Entiat 29.90 81 P P 05 43 30.5 +1.3
WTV Waterville 30.08 80 P P 05 43 31.1 +0.4
VLL Laurance Lake 30.12 85 P P 05 43 32.8 +1.7
KUR Kuril'sk 30.14 274 c i P P 05 43 24.7 -6.4
KUR i S S 05 48 29.5 +0.4
KUR pmax pmax
comp=Z,322nm,1.0s
B08A Colville Reser 30.16 79 eP P 05 43 31.6 +0.3
comp=Z,148nm,1.4s
SAW Saint Andrews 30.41 80 P P 05 43 34.5 +0.9
G06A Carlson Farm, 30.87 85 eP P 05 43 39.0 +1.3
comp=Z,709nm,2.4s
HUMO Hull Mountain 30.88 91 eP P 05 43 40.0 +2.3
comp=Z,211nm,1.6s
KRMB Red Mountain 30.93 94 eP P 05 43 43.5 +5.3
comp=Z,798nm,2.3s
HAWA Hanford 30.96 82 eP P 05 43 39.3 +1.0
comp=Z,139nm,1.1s
HAWA LR LR
comp=Z,29µm,19.0s
OD2 Odessa Site #2 30.97 80 P P 05 43 39.4 +0.9
C09A Chrisman Ranch 31.04 79 eP P 05 43 39.7 +0.6
comp=Z,106nm,1.2s
KHMM Horse Mountain 31.42 95 eP P 05 43 47.8 +5.2
comp=Z,187nm,1.3s
PINOR Pine Mountain 31.48 88 eP P 05 43 45.4 +2.4
comp=Z,220nm,1.4s
NEW Newport 31.51 78 eP P 05 43 43.6 +0.3
comp=Z,203nm,1.4s
NEW LR LR
comp=Z,23µm,20.0s
NEW Newport 31.51 78 ⇑P P 05 43 43.4 +0.1
baz=31,SNR=52
YBH Yreka Blue Hor 31.53 92 eP P 05 43 45.3 +1.8
comp=Z,107nm,1.1s
EDM Edmonton 31.68 67 eP P 05 43 45.3 +0.6
EDM Edmonton 31.68 67 eP P 05 43 45.3 +0.6
E09A Wood Farm, Sta 31.73 81 eP P 05 43 45.6 +0.5
comp=Z,600nm,2.0s
G08A Pilot Rock 31.86 84 eP P 05 43 46.8 +0.4
comp=Z,125nm,1.4s
YUK Yuzh-Kuril'sk 31.99 273 ⇑ i P P 05 43 40.5 -6.9
YUK i S S 05 48 48.1 -10
YUK i SSS SSS 05 51 11.3
YUK pmax pmax
comp=Z,7µm,5.1s
YUK pmax pmax
comp=Z,1µm,1.4s
YUK pmax pmax
comp=N,89nm,0.7s
YUK pmax pmax
comp=E,125nm,0.7s
YUK MLR MLR
comp=N,11µm,21.0s
YUK MLR MLR
comp=E,27µm,21.0s
YUK MLR MLR
comp=Z,36µm,21.0s
KIP Kipapa 31.99 164 eP P 05 43 46.7 -0.9
KIP pmax pmax
comp=Z,529nm,1.7s
KIP Kipapa 31.99 164 eP P 05 43 48.0 +0.4
comp=Z,604nm,1.4s
KIP LR LR
comp=Z,42µm,19.0s
K05A Summer Lake 32.07 89 eP P 05 43 50.6 +2.3
comp=Z,355nm,1.1s
HON Honolulu 32.09 164 eP P 05 43 49.0 +0.6
HON Honolulu 32.09 164 eP P 05 43 49.0 +0.6
I07A Izee 32.16 86 eP P 05 43 49.8 +0.6
comp=Z,229nm,1.5s
KIPM Iron Peak 32.22 96 eP P 05 43 52.9 +3.2
comp=Z,246nm,1.3s
KCPM Cahto Peak 32.23 96 eP P 05 43 51.8 +2.0
comp=Z,272nm,1.7s
WDC Whiskeytown Da 32.32 94 eP P 05 43 52.2 +1.8
WDC pmax pmax
comp=Z,114nm,1.1s
WDC Whiskeytown Da 32.32 94 eP P 05 43 52.2 +1.8
comp=Z,114nm,1.1s
YSS Yuzh-Sakhalins 32.37 280 α i P P 05 43 51.0 +0.3
YSS e 05 44 56.0
YSS i S S 05 49 08.0 +4.1
YSS eSSS SSS 05 51 16.0
YSS pmax pmax
comp=Z,80nm,1.0s
YSS pmax pmax
comp=Z,6µm,12.0s
YSS smax smax
comp=E,110nm,16.0s
YSS MLR MLR
comp=Z,43µm,19.0s
YSS MLR MLR
comp=N,26µm,17.0s
YSS MLR MLR
comp=E,34µm,18.0s
F10A Beach Ranch, E 32.55 82 eP P 05 43 53.0 +0.5
comp=E,64nm,0.9s
MOD Modoc 32.90 90 eP P 05 43 57.3 +1.7
comp=E,597nm,1.1s
HOPS Hopland 32.98 97 eP P 05 43 58.2 +2.0
comp=E,244nm,1.3s
WALA Waterton Lakes 33.05 75 eP P 05 43 56.7 -0.2
comp=E,8.9nm,1.5s
BMO Blue Mountains 33.09 83 eP P 05 43 57.4 +0.2
comp=E,297nm,1.8s
BMO LR LR
comp=Z,27µm,21.0s
BSMT Bassoo Peak 33.09 77 eP P 05 43 57.8 +0.4
J08A Circle Bar Ran 33.19 87 eP P 05 43 59.1 +1.1
comp=Z,211nm,1.4s
TIXI Tiksi 33.20 329 c i P P 05 43 57.3 -0.4
TIXI pmax pmax
comp=Z,192nm,2.5s
TIXI MLR MLR
comp=Z,79µm,16.0s
BLMT Blacktail Moun 33.27 77 eP P 05 43 59.4 +0.5
JTMT Jette 33.44 77 eP P 05 44 00.9 +0.6
YBMT Yellow Bay 33.55 77 eP P 05 44 01.2 0.0
comp=Z,74nm,1.0s
WVOR Wild Horse Val 33.60 88 eP P 05 44 02.7 +0.9
WVOR pmax pmax
comp=Z,168nm,1.0s
WVOR MLR MLR
comp=Z,22µm,20.0s
WVOR Wild Horse Val 33.60 88 eP P 05 44 02.7 +0.9
comp=Z,168nm,1.0s
WVOR LR LR
comp=Z,22µm,20.0s
OHCM Honcut 33.72 95 eP P 05 44 04.5 +1.9
SWMT Swartz Lake 33.73 77 eP P 05 44 02.9 +0.1
ASAJ Asahikawa 33.92 276 eP P 05 44 03.5 -0.9
comp=Z,206nm,1.1s
ASAJ Asahikawa 33.92 276 LR LR 05 56 11.8
comp=Z,63µm,21.7s,baz=112,slow=34
YAK Yakutsk 34.04 311 eP P 05 44 03.8 -1.3
YAK e*PP pP 05 44 11.8 +1.5
YAK e 05 45 23.8
YAK ePPP PPP 05 45 37.5
YAK e 05 46 42.7
YAK eS S 05 49 26.3 -3.2
YAK eSS SnSn 05 51 33.3 -3.1
YAK eSSS SSS 05 52 04.2
YAK e 05 54 31.0
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=Z,240nm,1.1s
YAK pmax pmax
comp=E,173nm,1.2s
YAK pmax pmax
comp=Z,5µm,8.1s
YAK pmax pmax
comp=N,172nm,2.4s
YAK pmax pmax
comp=E,4µm,5.6s
YAK smax smax
comp=N,2µm,19.1s
YAK smax smax
comp=E,16µm,20.0s
YAK MLR MLR
comp=Z,66µm,16.0s
YAK MLR MLR
comp=E,53µm,16.0s
YAK MLR MLR
comp=N,45µm,17.0s
POHA Pohakuloa 34.08 161 eP P 05 44 06.1 0.0
comp=N,3µm,2.5s
POHA LR LR
comp=Z,28µm,20.0s
BEKR Beckworth 34.08 93 eP P 05 44 07.2 +1.2
comp=Z,84nm,1.4s
MSO Missoula 34.09 78 eP P 05 44 06.2 +0.3
comp=Z,356nm,1.6s
MSO Missoula 34.09 78 ⇓P P 05 44 05.7 -0.2
baz=34,SNR=37
SLMT Seeley Lake 34.16 77 eP P 05 44 06.6 0.0
CHMT Chamberlain Mo 34.46 78 eP P 05 44 08.9 -0.4
PAHR Pah Rah Range 34.77 93 eP P 05 44 13.5 +1.6
comp=Z,217nm,1.0s
CMB Columbia Colle 35.21 96 eP P 05 44 17.9 +2.3
CMB pmax pmax
comp=Z,172nm,1.3s
CMB Columbia Colle 35.21 96 eP P 05 44 17.9 +2.3
comp=Z,172nm,1.3s
SAO San Andreas Ge 35.40 98 eP P 05 44 19.1 +1.9
SAO pmax pmax
comp=Z,1µm,2.3s
SAO San Andreas Ge 35.40 98 eP P 05 44 19.1 +1.9
comp=Z,1µm,2.3s
WAKR Walker 35.49 94 eP P 05 44 20.0 +1.9
LRM Limekiln Ridge 35.49 79 eP P 05 44 18.2 0.0
HLID Hailey 35.53 83 eP P 05 44 18.5 +0.1
comp=Z,177nm,1.4s
HLID LR LR
comp=Z,27µm,20.0s
HLID Hailey 35.53 83 ⇑P P 05 44 18.8 +0.4
baz=35,SNR=45
BMN Battle Mountai 35.64 90 eP P 05 44 20.8 +1.4
BMN pmax pmax
comp=Z,117nm,1.3s
BMN MLR MLR
comp=Z,22µm,20.0s
BMN Battle Mountai 35.64 90 eP P 05 44 20.8 +1.4
comp=Z,117nm,1.3s
BMN LR LR
comp=Z,22µm,20.0s
DLMT Dillon 35.65 80 eP P 05 44 19.9 +0.5
comp=Z,211nm,1.4s
MCMT McKenzie Canyo 35.78 80 eP P 05 44 21.2 +0.5
comp=Z,182nm,1.7s
EGMT Eagleton 35.97 74 eP P 05 44 22.7 +0.6
comp=Z,1µm,1.8s
EGMT LR LR
comp=Z,27µm,19.0s
EGMT Eagleton 35.97 74 ⇑P P 05 44 21.7 -0.4
baz=36,SNR=27
A19A Klindworth Far 36.12 72 ⇑P P 05 44 23.1 -0.2
baz=36,SNR=19
NVAR Mina Array Bea 36.22 93 P P 05 44 25.6 +1.1
NVAR PcP PcP 05 46 50.7 +1.2
NVAR Mina Array Bea 36.22 93 P P 05 44 25.6 +1.1
comp=Z,22nm,0.7s,baz=299,slow=8.4,SNR=100
NVAR PcP PcP 05 46 50.7 +1.2
comp=Z,19nm,0.9s,baz=309,slow=2.9,SNR=4.0
NVAR LR LR 05 55 50.7
comp=Z,8µm,21.1s,baz=229,slow=30
B19A Brinkman Farms 36.23 73 ⇓P P 05 44 24.5 +0.2
baz=36,SNR=35
NV11 Mina Array Sit 36.31 93 eP P 05 44 26.3 +1.1
MLAC Mammoth Lakes 36.41 95 ⇓P P 05 44 28.2 +2.1
baz=36
C19A Slack Wire Ran 36.53 74 ⇓P P 05 44 27.5 +0.6
baz=36,SNR=74
A20A Cobblestone Ra 36.62 72 ⇓P P 05 44 26.9 -0.6
baz=36,SNR=20
QLMT Earthquake Lak 36.63 80 eP P 05 44 28.1 +0.2
MTUM Tungsten Hills 36.75 95 eP P 05 44 30.9 +1.9
B20A Solberg Farm, 36.78 72 ⇑P P 05 44 29.1 +0.2
baz=37
PTRM Twissleman Ran 36.88 99 eP P 05 44 32.5 +2.6
D19A Cripps Ranch, 36.92 75 ⇑P P 05 44 30.6 +0.4
baz=37,SNR=74
YMR Madison River 37.00 79 eP P 05 44 31.4 +0.3
comp=Z,10µm,1.2s
TPH Tonopah 37.10 93 PFAKE 05 44 40.0 +8.0
TPH LR LR
comp=Z,11µm,19.0s
A21A Bergtoll Ranch 37.14 71 ⇓P P 05 44 32.0 0.0
baz=37
YNR Norris Junctio 37.14 79 eP P 05 44 33.1 +0.8
comp=Z,225nm,1.1s
C20A Veseth Ranch, 37.15 73 ⇑P P 05 44 32.3 +0.2
baz=37,SNR=85
TIN Tinemaha 37.15 95 ⇓P P 05 44 33.7 +1.4
baz=37,SNR=10
GCMT Greycliff 37.17 77 eP P 05 44 32.8 +0.4
comp=Z,296nm,1.8s
YFT Old Faithful 37.19 80 eP P 05 44 34.3 +1.6
comp=Z,330nm,1.5s
SMMC Simmler 37.24 99 ⇓P P 05 44 34.9 +1.9
baz=37,SNR=29
FFC Flin Flon 37.29 60 eP P 05 44 32.0 -1.2
FFC pmax pmax
comp=Z,287nm,1.4s
FFC MLR MLR
comp=Z,23µm,19.0s
FFC Flin Flon 37.29 60 eP P 05 44 31.9 -1.2
comp=Z,287nm,1.4s
FFC LR LR
comp=Z,23µm,19.0s
E19A Rath Farm, Rou 37.34 76 ⇓P P 05 44 34.3 +0.6
baz=37,SNR=46
B21A Ellsworth Farm 37.37 72 ⇓P P 05 44 33.9 0.0
baz=37,SNR=18
H17A Grant Village 37.38 80 eP P 05 44 35.9 +1.6
H17A Grant Village 37.38 80 ⇓P P 05 44 35.4 +1.0
baz=37,SNR=77
D20A Manuel Ranch, 37.39 74 ⇑P P 05 44 34.5 +0.4
baz=37,SNR=46
D20A ⇓S S 05 50 19.7 -1.7
baz=37
LKWY Lake 37.39 79 eP P 05 44 35.3 +0.8
LKWY pmax pmax
comp=Z,96nm,0.9s
LKWY MLR MLR
comp=Z,18µm,20.0s
LKWY Lake 37.39 79 eP P 05 44 35.3 +0.8
comp=Z,96nm,0.9s
LKWY LR LR
comp=Z,18µm,20.0s
VES Vestal, Richgr 37.43 97 ⇓P P 05 44 35.6 +1.1
baz=37,SNR=47
IMW Indian Meadow 37.44 81 eP P 05 44 35.6 +0.8
comp=Z,88nm,1.0s
FLWY Flagg Ranch 37.48 80 eP P 05 44 35.8 +0.7
comp=Z,237nm,1.4s
RRI2 Red Ridge 37.52 82 eP P 05 44 36.4 +0.9
comp=Z,180nm,1.1s
HVU Hansel Valley 37.54 85 eP P 05 44 36.8 +1.2
HVU pmax pmax
comp=Z,77nm,1.1s
HVU Hansel Valley 37.54 85 eP P 05 44 36.8 +1.2
comp=Z,77nm,1.1s
F19A Roth Farm, Mol 37.56 77 ⇓P P 05 44 35.9 +0.2
baz=37,SNR=24
C21A Desert Coulee 37.62 73 ⇑P P 05 44 36.1 0.0
baz=38,SNR=25
PKM Peak Mountain 37.63 99 ⇑P P 05 44 38.1 +1.7
baz=38,SNR=18
MOOW Moose Ponds 37.64 81 eP P 05 44 36.8 +0.3
comp=Z,54nm,1.1s
CWC Cottonwood Cre 37.64 96 ⇓P P 05 44 37.9 +1.4

	baz=38,SNR=40									
I17A	**Pilgrim Ck.**	37.64	80	⇑	P		P	05 44 37.1	+0.6	
	baz=38,SNR=8.6									
TPAW	**Teton Pass**	37.66	81		*e*P		P	05 44 37.5	+0.8	
	comp=Z,156nm,1.3s									
E20A	**Meyer Farm, Mu**	37.70	75	⇓	P		P	05 44 36.6	-0.2	
	baz=38,SNR=47									
KLR	**Kul'dur**	37.72	290	⇓	*i*P		P	05 44 31.5	-5.3	
KLR					*e*S		S	05 50 14.0	-12	
KLR					pmax		pmax			
	comp=E,70nm,1.8s									
KLR					pmax		pmax			
	comp=Z,230nm,1.8s									
KLR					pmax		pmax			
	comp=E,2µm,12.0s									
KLR					pmax		pmax			
	comp=Z,7µm,12.0s									
A22A	**Carney Farms,**	37.72	70	⇑	P		P	05 44 36.9	0.0	
	baz=38,SNR=23									
RLMT	**Red Lodge**	37.76	78		*e*P		P	05 44 37.5	0.0	
	comp=Z,452nm,1.6s									
RLMT					LR		LR			
	comp=Z,13µm,20.0s									
H18A	**Shoshone NF, C**	37.77	79	⇓	P		P	05 44 37.6	0.0	
	baz=38,SNR=18									
REDW	**Red Top Meadow**	37.79	81		*e*P		P	05 44 38.7	+0.9	
	comp=Z,168nm,1.1s									
SNOW	**Snow King Moun**	37.79	81		*e*P		P	05 44 38.8	+0.9	
	comp=Z,93nm,1.3s									
LOHW	**Long Hollow**	37.80	81		*e*P		P	05 44 38.2	+0.4	
	comp=Z,49nm,1.0s									
BGU	**Big Grassy Mou**	37.89	86		*e*P		P	05 44 39.6	+1.1	
	comp=Z,151nm,1.3s									
ISA	**Isabella**	37.92	97		*e*P		P	05 44 39.6	+0.8	
ISA					pmax		pmax			
	comp=Z,215nm,1.3s									
ISA	**Isabella**	37.92	97		*e*P		P	05 44 39.6	+0.8	
	comp=Z,215nm,1.3s									
ISA	**Isabella**	37.92	97	⇑	P		P	05 44 39.5	+0.7	
	baz=38,SNR=78									
R11A	**Troy Canyon, C**	37.92	91		*e*P		P	05 44 39.9	+1.0	
R11A	**Troy Canyon, C**	37.92	91	⇓	P		P	05 44 39.5	+0.6	
	baz=38,SNR=114									
AHID	**Auburn Hatcher**	37.98	82		*e*P		P	05 44 39.8	+0.4	
	comp=Z,124nm,1.1s									
AHID					LR		LR			
	comp=Z,26µm,20.0s									
SBC	**Santa Barbara**	38.00	100	⇓	P		P	05 44 40.4	+1.0	
	baz=38									
SPUT	**South Promonto**	38.02	85		*e*P		P	05 44 41.1	+1.5	
	comp=Z,365nm,2.0s									
B22A	**Reddig Ranch S**	38.02	71	⇑	P		P	05 44 39.0	-0.5	
	baz=38,SNR=16									
CLNS	**Chul'man**	38.04	304		*e*P		P	05 44 38.2	-1.3	
CLNS					*e**PP		pP	05 44 54.9	+10	
CLNS					*e*			05 46 06.2		
CLNS					*e*			05 46 55.3		
CLNS					*e*S		S	05 50 21.5	-9.4	
CLNS					*e*SS		**SnSn**	**05 53 09.4**	**-3.9**	
CLNS					pmax		pmax			
	comp=Z,51nm,1.1s									
CLNS					pmax		pmax			
	comp=E,48nm,1.2s									
CLNS					pmax		pmax			
	comp=N,33nm,1.1s									
CLNS					pmax		pmax			
	comp=Z,49nm,1.1s									
CLNS					pmax		pmax			
	comp=N,22nm,0.8s									
CLNS					pmax		pmax			
	comp=E,29nm,0.9s									
CLNS					smax		smax			
	comp=E,4µm,15.9s									
CLNS					smax		smax			
	comp=N,1µm,14.1s									
CLNS					MLR		MLR			
	comp=Z,46µm,17.0s									
CLNS					MLR		MLR			
	comp=E,29µm,16.0s									
CLNS					MLR		MLR			
	comp=N,48µm,18.0s									
F20A	**Billings**	38.06	76	⇑	P		P	05 44 39.9	+0.1	
	baz=38,SNR=28									
ARVC	**Arvin**	38.07	98	⇑	P		P	05 44 40.3	+0.4	
	baz=38									
D21A	**La Casta Ranch**	38.07	74	⇑	P		P	05 44 39.7	-0.2	
	baz=38,SNR=25									
H19A	**Powell**	38.18	78	⇑	P		P	05 44 40.8	-0.1	
	baz=38,SNR=66									
MPMC	**Manual Prospec**	38.25	96	⇑	P		P	05 44 42.9	+1.2	
	baz=38,SNR=108									
E21A	**Keefer Ranch,**	38.30	75	⇓	P		P	05 44 41.3	-0.5	
	baz=38									
A23A	**Redstone**	38.33	70	⇑	P		P	05 44 41.4	-0.7	
	baz=38,SNR=14									
G20A	**Bridger**	38.34	77	⇓	P		P	05 44 41.8	-0.4	
	baz=38,SNR=53									
FURC	**Furnace Creek,**	38.36	95	⇓	P		P	05 44 43.7	+1.4	
	baz=38,SNR=50									
C22A	**Vida**	38.37	72	⇓	P		P	05 44 41.9	-0.4	
	baz=38,SNR=15									
DUG	**Dugway**	38.47	87		*e*P		P	05 44 44.1	+0.7	
DUG					pmax		pmax			
	comp=Z,197nm,1.3s									
DUG					MLR		MLR			
	comp=Z,18µm,19.0s									
DUG	**Dugway**	38.47	87		*e*P		P	05 44 44.1	+0.7	
	comp=Z,197nm,1.3s									
DUG					LR		LR			
	comp=Z,18µm,19.0s									
DUG	**Dugway**	38.47	87	⇓	P		P	05 44 43.8	+0.4	
	baz=38,SNR=38									
OSI	**Osito Adit**	38.48	98	⇑	P		P	05 44 44.6	+1.2	
	baz=38									
D22A	**Cohagen**	38.50	73	⇑	P		P	05 44 43.3	-0.2	
	baz=38,SNR=46									
B23A	**Brockton**	38.52	71	⇓	P		P	05 44 42.8	-0.8	
	baz=38,SNR=25									
LRMC	**Laurel Mountai**	38.52	97	⇑	P		P	05 44 44.6	+0.7	
	baz=38									
I19A	**Meeteetse**	38.53	79	⇓	P		P	05 44 43.7	-0.2	
	baz=38,SNR=19									
BLG	**Laguna Peak**	38.62	99	⇑	P		P	05 44 45.5	+0.9	
	baz=38,SNR=9.1									
H11N2	**WAKE ISLAND Hy**	38.65	222		T		T	06 26 33.0		
	baz=26,slow=0.7,SNR=898									
F21A	**Absaloka Mine,**	38.65	76	⇑	P		P	05 44 43.6	-1.2	
	baz=38									
H11N3	**WAKE ISLAND Hy**	38.66	222		T		T	06 26 33.5		
	baz=26,slow=0.7,SNR=900									
H11N1	**WAKE ISLAND Hy**	38.67	222		T		T	06 26 24.2		
	baz=26,slow=0.7,SNR=753									
LAO	**LASA Array**	38.72	74		*e*P		P	05 44 45.5	+0.2	
	comp=Z,812nm,1.8s									
LAO					LR		LR			
	comp=Z,24µm,19.0s									
EDW2	**Edwards Air Fo**	38.74	98	⇑	P		P	05 44 46.5	+0.8	
	baz=39,SNR=37									
C23A	**Lambert**	38.74	72	⇑	P		P	05 44 45.2	-0.3	
	baz=39,SNR=69									
H20A	**Greybull**	38.87	78	⇑	P		P	05 44 46.4	-0.2	
	baz=39,SNR=24									
BW06	**Boulder Array**	38.91	81		*e*P		P	05 44 46.8	-0.4	
	comp=Z,135nm,1.1s									
BW06					LR		LR			
	comp=Z,19µm,19.0s									
PDAR	**Pinedale Array**	38.91	81		P		P	05 44 47.2	0.0	
PDAR					*e*			06 14 48.4		
PDAR	**Pinedale Array**	38.91	81		P		P	05 44 47.2	0.0	
	comp=Z,56nm,1.1s,baz=302,slow=5.2,SNR=160									
PDAR					LR		LR	05 59 21.6		
	comp=Z,15µm,19.4s,baz=206,slow=34									
PDAR					P3KPbc			06 14 48.4		
	comp=Z,0.7nm,0.6s,baz=134,slow=5.2,SNR=4.0									
J19A	**Crowheart**	38.93	80	⇓	P		P	05 44 47.5	+0.2	
	baz=39,SNR=28									
G21A	**Lodge Grass**	38.93	76	⇑	P		P	05 44 47.0	-0.2	
	baz=39,SNR=15									
DECC	**Green Verdugo**	38.97	99	⇓	P		P	05 44 48.4	+0.9	
	baz=39									
DGMT	**Dagmar**	38.97	70		*e*P		P	05 44 47.7	+0.3	
	comp=Z,479nm,1.4s									
DGMT					LR		LR			
	comp=Z,41nm,19.0s									
DGMT	**Dagmar**	38.97	70	⇓	P		P	05 44 47.2	-0.2	
	baz=39,SNR=15									
M17A	**Scullys Gap (B**	39.00	84	⇑	P		P	05 44 47.9	-0.1	
	baz=39,SNR=39									
E22A	**Miles City**	39.01	74	⇓	P		P	05 44 47.1	-0.7	
	baz=39									
JLU	**Jordanelle**	39.05	85		*e*P		P	05 44 49.0	+0.6	
	comp=Z,226nm,1.7s									
D23A	**Lindsay**	39.06	73	⇑	P		P	05 44 48.0	-0.2	
	baz=39,SNR=38									
NLU	**North Lily Min**	39.06	86		*e*P		P	05 44 49.4	+0.9	
	comp=Z,262nm,1.8s									
I20A	**Worland**	39.09	79	⇑	P		P	05 44 48.4	-0.2	
	baz=39,SNR=57									
SHOC	**Shoshone**	39.09	95	⇑	P		P	05 44 50.0	+1.4	
	baz=39,SNR=41									
PASC	**Pasadena Art C**	39.11	99		*e*P		P	05 44 49.4	+0.7	
	comp=Z,88nm,1.0s									
L18A	**Fontenelle, Gr**	39.11	83	⇓	P		P	05 44 48.6	-0.3	
	baz=39,SNR=36									
MWC	**Mount Wilson**	39.15	98		*e*P		P	05 44 50.8	+1.6	
MWC					pmax		pmax			
	comp=Z,257nm,1.2s									
MWC	**Mount Wilson**	39.15	98		*e*P		P	05 44 50.8	+1.6	
	comp=Z,257nm,1.2s									
WAKE	**Wake Island**	39.15	222		PFAKE			05 45 00.0	+11	
WAKE					LR		LR			
	comp=Z,16µm,20.0s									
GSC	**Goldstone**	39.17	96		*e*P		P	05 44 50.1	+0.8	
GSC					pmax		pmax			
	comp=Z,198nm,0.8s									
GSC	**Goldstone**	39.17	96		*e*P		P	05 44 50.1	+0.8	
	comp=Z,198nm,0.8s									
GSC	**Goldstone**	39.17	96	⇓	P		P	05 44 50.5	+1.2	
	baz=39,SNR=107									
MPU	**Maple Canyon**	39.29	86		*e*P		P	05 44 51.3	+0.9	
	comp=Z,123nm,1.3s									
C24A	**Savage**	39.32	72	⇑	P		P	05 44 50.3	-0.1	
	baz=39,SNR=35									
RRX	**Edison Barstow**	39.34	97	⇓	P		P	05 44 52.0	+1.4	
	baz=39,SNR=8.2									
A25A	**Svangstu Ranch**	39.35	69	⇑	P		P	05 44 50.0	-0.5	
	baz=39,SNR=12									
E23A	**Ismay**	39.36	74	⇓	P		P	05 44 51.1	+0.4	
	baz=39,SNR=19									
H21A	**Big Horn, Sher**	39.36	77	⇓	P		P	05 44 50.6	-0.2	
	baz=39,SNR=26									
FMP	**Fort Macarthur**	39.36	99	⇑	P		P	05 44 50.9	+0.2	
	baz=39									
SHPR	**Sheep Range**	39.37	93		*e*P		P	05 44 51.8	+0.8	
BFSC	**Mount Baldy Ra**	39.38	98	⇓	P		P	05 44 52.0	+0.9	
	baz=39,SNR=100									
J20A	**Shoshoni**	39.46	79	⇑	P		P	05 44 51.8	+0.2	
	baz=39,SNR=12									
G22A	**Birney**	39.47	76	⇑	P		P	05 44 51.5	-0.3	
	baz=39,SNR=20									
CIS	**Catalina Islan**	39.50	100	⇑	P		P	05 44 52.9	+0.9	
	baz=39,SNR=17									
ARUT	**Antelope Range**	39.59	90		*e*P		P	05 44 53.6	+0.8	
ARUT					pmax		pmax			
	comp=Z,2µm,1.2s									
ARUT	**Antelope Range**	39.59	90		*e*P		P	05 44 53.6	+0.8	
	comp=Z,2µm,1.2s									
FCC	**Fort Churchill**	39.59	51		*e*P		P	05 44 53.0	+0.6	
FCC					pmax		pmax			
	comp=Z,7.0nm,0.9s									
FCC	**Fort Churchill**	39.59	51		*e*P		P	05 44 53.0	+0.6	
	comp=Z,6.6nm,0.9s									
D24A	**Glendive**	39.60	72	⇓	P		P	05 44 52.8	+0.2	
	baz=39,SNR=37									
TUQ	**Turquoise Moun**	39.62	95	⇑	P		P	05 44 54.1	+1.0	
	baz=40,SNR=44									
B25A	**Knox Farm, Ray**	39.66	70	⇑	P		P	05 44 52.0	-1.2	
	baz=40,SNR=7.7									
I21A	**Big Trails, Te**	39.67	78	⇓	P		P	05 44 52.6	-0.8	
	baz=40,SNR=31									
SCI	**San Clemente I**	39.72	100	⇓	P		P	05 44 54.8	+1.1	
	baz=40,SNR=21									
F23A	**Volborg**	39.72	75	⇓	P		P	05 44 53.2	-0.6	
	baz=40,SNR=45									
HEC	**Hector,Ludlow**	39.78	96	⇑	P		P	05 44 55.5	+1.2	
	baz=40,SNR=22									
H22A	**Clearmont**	39.78	77	⇑	P		P	05 44 53.9	-0.5	
	baz=40									
CCUT	**Cedar City**	39.79	90		*e*P		P	05 44 55.6	+1.0	
BBRC	**Big Bear Solar**	39.81	97	⇑	P		P	05 44 56.0	+1.2	
	baz=40									
H11S1	**WAKE ISLAND Hy**	39.83	221		T		T	06 28 22.3		
	baz=24,slow=0.7,SNR=4098									
J21A	**Lysite**	39.84	79	⇓	P		P	05 44 54.5	-0.4	
	baz=40,SNR=68									
H11S2	**WAKE ISLAND Hy**	39.85	221		T		T	06 28 12.6		
	baz=24,slow=0.7,SNR=1198									
H11S3	**WAKE ISLAND Hy**	39.85	221		T		T	06 28 04.8		
	baz=24,slow=0.7,SNR=1800									
MVU	**Marysvale**	39.88	88		*e*P		P	05 44 56.6	+1.3	
	comp=Z,678nm,2.8s									
MVU					LR		LR			
	comp=Z,26µm,20.0s									
M19A	**Rock Springs**	39.89	82	⇓	P		P	05 44 55.0	-0.4	
	baz=40,SNR=18									
E24A	**Baker**	39.91	73	⇓	P		P	05 44 54.7	-0.6	
	baz=40,SNR=18									
ALE	**Alert**	39.95	11		P		P	05 44 54.0	-1.2	
	comp=Z,1µm,1.4s,SNR=94									
A26A	**Wade Farm, Ken**	39.98	69	⇑	P		P	05 44 54.6	-1.2	
	baz=40,SNR=29									
TMUT	**Trail Mountain**	39.99	87		*e*P		P	05 44 57.6	+1.3	
	comp=Z,196nm,1.2s									
G23A	**Biddle**	40.01	75	⇓	P		P	05 44 55.8	-0.4	
	baz=40,SNR=23									
L20A	**Wamsutter**	40.09	81	⇓	P		P	05 44 56.8	-0.1	
	baz=40,SNR=24									
MURC	**Murrieta**	40.09	98	⇑	P		P	05 44 58.1	+1.2	
	baz=40,SNR=16									
I22A	**9 Mile Ranch,**	40.10	78	⇓	P		P	05 44 56.7	-0.3	
	baz=40,SNR=19									
B26A	**Jensen Ranch,**	40.14	69	⇓	P		P	05 44 56.8	-0.3	
	baz=40,SNR=13									
D25A	**Fairfield**	40.16	72	⇑	P		P	05 44 56.8	-0.5	
	baz=40									
F24A	**Ekalaka**	40.21	74	⇓	P		P	05 44 57.4	-0.4	
	baz=40,SNR=38									
GMRC	**Granite Mounta**	40.22	96	⇓	P		P	05 44 58.8	+0.8	
	baz=40,SNR=83									
USRK	**Usuyuk Arra**	40.24	283		P		P	05 44 56.6	-1.3	
	comp=Z,62nm,0.9s,baz=54,slow=9.1,SNR=39									
USRK					PcP		**PcP**	05 47 01.8	+0.2	
	comp=Z,16nm,0.9s,baz=48,slow=2.1,SNR=2.6									
USRK					ScP		**ScP**	05 50 49.0	-0.7	
	comp=Z,1.3nm,0.6s,baz=144,slow=6.8,SNR=2.7									
USRK					LR		LR	06 02 50.5		
	comp=Z,31µm,19.7s,baz=53,slow=38									
Q16A	**Castle Valley**	40.25	87		*e*P		P	05 44 59.1	+0.7	
Q16A	**Castle Valley**	40.25	87	⇑	P		P	05 44 58.8	+0.4	
	baz=40,SNR=32									
LDFC	**Landfair**	40.35	95		*e*P		P	05 45 00.0	+0.9	
	comp=Z,248nm,0.9s									
H23A	**Clabaugh Cattl**	40.37	76	⇓	P		P	05 44 58.7	-0.4	
	baz=40									
K21A	**Alcova**	40.37	80	⇓	P		P	05 44 58.6	-0.8	
	baz=40,SNR=87									
J22A	**Midwest**	40.38	78	⇑	P		P	05 44 58.7	-0.7	
	baz=40,SNR=75									
A27A	**Ledoux Ranch,**	40.40	68	⇓	P		P	05 44 58.9	-0.3	
	baz=40,SNR=20									
E25A	**Miller Ranch,**	40.46	72	⇓	P		P	05 44 59.4	-0.5	
	baz=40,SNR=35									
M20A	**Sweetwater, Wa**	40.48	82	⇑	P		P	05 44 59.4	-0.9	
	baz=40									
C26A	**Wahner Farm, P**	40.50	70	⇓	P		P	05 44 59.7	-0.5	
	baz=40									
G24A	**Alzada**	40.52	75	⇑	P		P	05 44 59.6	-0.8	
	baz=40									
PFO	**Pinyon Flat Ob**	40.54	98		*e*P		P	05 45 01.6	+0.9	
	comp=Z,172nm,1.2s									
PFO	**Pinyon Flat Ob**	40.54	98	⇑	P		P	05 45 01.2	+0.6	
	baz=40,SNR=34									
PFO	**Pinyon Flat Ob**	40.54	98	LR			LR	05 57 54.2		
	comp=Z,17µm,21.3s,baz=317,slow=30									
BELC	**Belle Mtn. Jos**	40.54	97	⇓	P		P	05 45 01.0	+0.3	
	baz=40,SNR=78									
O19A	**Miners Draw (B**	40.64	84	⇑	P		P	05 45 01.4	-0.2	
	baz=40,SNR=52									
109C	**Camp Elliot, M**	40.64	99	⇓	P		P	05 45 02.7	+1.2	
	baz=41,SNR=54									
I23A	**Meade Ranch, G**	40.67	77	⇑	P		P	05 45 00.6	-1.1	
	baz=40									
B27A	**Peters Farms,**	40.67	69	⇓	P		P	05 45 00.6	-0.9	
	baz=40,SNR=18									
D26A	**Manning**	40.73	71	⇑	P		P	05 45 01.3	-0.8	
	baz=41									
F25A	**Bowman**	40.75	73	⇑	P		P	05 45 02.0	-0.2	
	baz=41,SNR=15									
H24A	**Dirks Ranch, A**	40.76	75	⇓	P		P	05 45 01.7	-0.7	
	baz=41,SNR=22									
K22A	**Casper**	40.80	79	⇓	P		P	05 45 02.0	-0.8	
	baz=41,SNR=32									
N20A	**Spence Gulch,**	40.83	83	⇓	P		P	05 45 03.4	+0.2	
	baz=41,SNR=38									
C27A	**Sayler Ranch,**	40.90	70	⇑	P		P	05 45 02.3	-1.1	
	baz=41									
VLA	**Vladivostok**	40.92	282	⇓	*i*P		P	05 45 02.0	-1.6	
VLA					*e*			05 46 35.9		
VLA					*e*			05 47 01.8		
VLA					*e*S		S	05 51 13.4	-0.9	
VLA					pmax		pmax			
	comp=Z,399nm,1.2s									
J23A	**Dilts Ranch, B**	40.94	78	⇑	P		P	05 45 03.4	-0.5	
	baz=41									
IRM	**Iron Mountain**	40.95	96	⇓	P		P	05 45 05.1	+1.1	
	baz=41,SNR=91									
RWWY	**Rawlins**	40.95	81		*e*P		P	05 45 09.0	+4.7	
	comp=Z,349nm,1.5s									
A28A	**Rude Farm, Bot**	40.97	68	⇓	P		P	05 45 03.6	-0.4	
	baz=41,SNR=38									
E26A	**Carlson Angus**	41.02	72	⇑	P		P	05 45 03.2	-1.3	
	baz=41									
BAR	**Barrett**	41.05	99		*e*P		P	05 45 05.9	+1.1	
	comp=Z,252nm,1.2s									
MONP	**Monument Peak**	41.05	98	⇓	P		P	05 45 05.8	+0.8	
	baz=41,SNR=54									
W13A	**Hualapai Mount**	41.08	94	⇑	P		P	05 45 06.3	+1.0	
	baz=41,SNR=38									
BC3	**Big Chuckawall**	41.11	97	⇑	P		P	05 45 06.3	+0.9	
	baz=41,SNR=25									
P19A	**Cripple Cowboy**	41.13	85	⇓	P		P	05 45 05.9	+0.2	
	baz=41,SNR=88									
B28A	**Dugan Ranch, T**	41.16	68	⇑	P		P	05 45 04.9	-0.6	
	baz=41,SNR=25									
MAJO	**Matsushiro**	41.16	269		*e*P		P	05 45 06.2	+0.5	
MAJO					pmax		pmax			
	comp=Z,353nm,0.8s									
MAJO					MLR		MLR			
	comp=Z,42µm,20.0s									
MAJO	**Matsushiro**	41.16	269		*e*P		P	05 45 06.2	+0.5	
	comp=Z,353nm,0.8s									
MAJO					LR		LR			
	comp=Z,42µm,20.0s									
MJAR	**Matsushiro Arr**	41.16	269		P		P	05 45 06.1	+0.5	
MJAR	**Matsushiro Arr**	41.16	269		P		P	05 45 06.1	+0.5	
	comp=Z,65nm,0.7s,baz=21,slow=4.1,SNR=65									
U15A	**North Rim**	41.17	91	⇓	P		P	05 45 06.5	+0.5	
	baz=41,SNR=60									
G25A	**Newell**	41.18	74	⇓	P		P	05 45 05.4	-0.4	
	baz=41,SNR=16									
D27A	**Center**	41.22	71	⇑	P		P	05 45 05.2	-0.9	
	baz=41									
L22A	**Ellis Ranch, M**	41.22	80	⇑	P		P	05 45 05.5	-0.8	
	baz=41,SNR=35									
I24A	**Kuemmerle Ranc**	41.22	77	⇑	P		P	05 45 05.6	-0.7	
	baz=41									
F26A	**Lodgepole**	41.24	73	⇓	P		P	05 45 06.1	-0.2	
	baz=41,SNR=18									
K23A	**Bowen Ranch, D**	41.27	79	⇑	P		P	05 45 06.3	-0.4	
	baz=41,SNR=18									
O20A	**White River Ci**	41.27	83		*e*P		P	05 45 06.7	-0.1	
O20A	**White River Ci**	41.27	83	⇑	P		P	05 45 06.4	-0.4	
	baz=41,SNR=90									
H25A	**Fruitdale**	41.39	75	⇓	P		P	05 45 07.0	-0.6	
	baz=41,SNR=25									
SWSC	**Sam W. Stewart**	41.40	98	⇑	P		P	05 45 08.7	+1.1	
	baz=41,SNR=26									
DVTC	**Desert V Tower**	41.41	98	⇓	P		P	05 45 08.9	+1.1	
	baz=41									
MDJ	**Mudanjiang**	41.42	285		P		P	05 45 06.5	-1.2	
MDJ					pP		pP	05 45 09.6	-3.2	
MDJ					sP		sP	05 45 11.1	-3.8	
MDJ					PcP		PcP	05 47 05.4	0.0	
MDJ					AMB		AMB			
	comp=Z,75nm,0.9s									
MDJ					AMB		AMB			
	comp=Z,4µm,7.2s									
MDJ					LR		LR			
	comp=Z,27µm,21.0s									
MDJ					LR		LR			
	comp=Z,17µm,22.6s									
MDJ					LR		LR			
	comp=Z,39µm,22.1s									
MDJ	**Mudanjiang**	41.42	285		*e*P		P	05 45 05.8	-1.9	
	comp=Z,71nm,0.8s									
MDJ					LR		LR			
	comp=Z,25µm,19.0s									
RSSD	**Black Hills**	41.42	76		*e*P		P	05 45 07.1	-0.9	
RSSD					pmax		pmax			
	comp=Z,1µm,1.8s									
RSSD	**Black Hills**	41.42	76		*e*P		P	05 45 07.1	-0.9	
	comp=Z,1µm,1.8s									
PDMCI	**Parker Dam,Lak**	41.46	95	⇑	P		P	05 45 08.8	+0.6	
	baz=41,SNR=37									
M22A	**Cedar Creek Ra**	41.49	81	⇓	P		P	05 45 08.1

O22A Kremmling 42.28 82 ⇑P P 05 45 14.5 -0.6
baz=42,SNR=46
B30A Myrvik Farm, E 42.30 67 ⇓P P 05 45 14.0 -0.8
baz=42,SNR=23
WUAZ Wupatki 42.33 91 eP P 05 45 16.1 +0.7
WUAZ comp=Z,239nm,1.3s LR LR
comp=Z,19µm,21.0s
WUAZ Wupatki 42.33 91 ⇑P P 05 45 16.0 +0.6
baz=42,SNR=32
PV01 Paradox Valley 42.33 86 eP P 05 45 15.2 -0.3
comp=Z,8µm,0.9s
F28A McLaughlin 42.33 72 ⇑P P 05 45 14.5 -0.7
baz=42,SNR=22
D29A Pettibone, Tap 42.35 70 ⇓P P 05 45 14.4 -0.8
baz=42,SNR=13
Y14A Wickenburg 42.40 94 ⇑P P 05 45 16.7 +0.9
baz=42,SNR=67
K25A Mack Ranch, Ha 42.40 78 ⇑P P 05 45 15.1 -0.8
baz=42
R20A Redvale 42.41 86 ⇓P P 05 45 16.0 -0.1
baz=42,SNR=39
J26A Sides Ranch, S 42.46 76 ⇓P P 05 45 15.9 -0.4
baz=42
Q21A Lamborn Mesa, 42.49 85 ⇓P P 05 45 16.5 -0.2
baz=42,SNR=44
P22A Eagle 42.50 83 ⇓P P 05 45 16.7 -0.2
baz=42
M24A Cheyenne 42.52 80 ⇑P P 05 45 17.0 +0.1
baz=42
E29A Napoleon 42.59 70 ⇓P P 05 45 16.6 -0.7
baz=42,SNR=16
L25A Engebretsen Ra 42.62 78 ⇑P P 05 45 17.6 -0.1
baz=42,SNR=23
I27A Quinn 42.62 75 ⇓P P 05 45 17.2 -0.4
baz=42,SNR=18
C30A Mose, Pekin 42.63 68 ⇓P P 05 45 16.7 -0.8
baz=42,SNR=21
O23A Lake Granby, G 42.63 82 ⇑P P 05 45 18.1 +0.1
baz=42,SNR=79
SMCO Snowmass 42.63 84 eP P 05 45 16.5 -1.7
comp=Z,122nm,1.4s
ULM Lac du Bonnet 42.70 64 eP P 05 45 18.0 0.0
comp=Z,98nm,1.1s
ULM Lac du Bonnet 42.70 64 P P 05 45 17.4 -0.6
comp=Z,18nm,0.7s,baz=302,slow=9.0,SNR=17
ULM LR LR 06 03 06.4
comp=Z,30µm,21.7s,baz=306,slow=36
G28A Parade 42.70 73 ⇓P P 05 45 18.1 -0.1
baz=42,SNR=17
113A Mohawk Valley, 42.74 96 ⇑P P 05 45 19.1 +0.5
baz=43,SNR=26
K26A Motz Farm, Whi 42.76 77 ⇑P P 05 45 18.1 -0.7
baz=43,SNR=12
D30A Buchanan 42.80 69 ⇓P P 05 45 17.8 -1.1
baz=43,SNR=21
R21A Cimarron 42.80 85 ⇓P P 05 45 19.3 0.0
baz=43,SNR=42
Z14A Wintersburg 42.83 95 ⇓P P 05 45 19.8 +0.5
baz=43,SNR=24
H28A Mission Ridge 42.87 73 ⇓P P 05 45 19.4 -0.2
baz=43,SNR=9.4
Q22A Crested Butte, 42.87 84 ⇓P P 05 45 19.8 -0.1
baz=43,SNR=36
N24A Carr 42.87 80 ⇑P P 05 45 19.9 +0.1
baz=43,SNR=19
F29A Eureka 42.90 71 ⇓P P 05 45 19.1 -0.7
baz=43,SNR=20
MVCO Mesa Verde 42.96 87 eP P 05 45 20.6 -0.1
MVCO comp=Z,150nm,1.3s LR LR
comp=Z,13µm,19.0s
MVCO Mesa Verde 42.96 87 ⇓P P 05 45 20.8 +0.2
baz=43,SNR=22
M25A Palm-Egli Farm 43.00 79 ⇑P P 05 45 21.0 +0.2
baz=43,SNR=16
X16A Lo Mia Camp, P 43.02 92 ⇓P P 05 45 22.0 +0.9
baz=43,SNR=49
E30A Jud 43.05 70 ⇑P P 05 45 19.7 -1.3
baz=43,SNR=17
ISCO Idaho Springs 43.07 82 eP P 05 45 22.0 +0.5
ISCO comp=Z,162nm,1.6s pmax pmax
ISCO MLR MLR
comp=Z,23µm,20.0s
ISCO Idaho Springs 43.07 82 eP P 05 45 22.0 +0.5
comp=Z,162nm,1.6s
ISCO LR LR
comp=Z,23µm,20.0s
ISCO Idaho Springs 43.07 82 ⇑P P 05 45 21.8 +0.2
baz=43,SNR=25
J27A Elkhorn Farm, 43.12 76 ⇓P P 05 45 21.1 -0.6
baz=43
O24A Longmont 43.19 81 ⇓P P 05 45 22.8 +0.5
baz=43,SNR=15
P23A Jefferson 43.20 83 ⇓P P 05 45 22.7 +0.1
baz=43,SNR=51
L26A Underwood Farm 43.21 78 ⇑P P 05 45 22.0 -0.5
baz=43
K27A Flueckinger Fa 43.31 76 ⇑P P 05 45 22.4 -0.8
baz=43
N25A Grover 43.36 80 ⇑P P 05 45 23.3 -0.4
baz=43
F30A Leola 43.36 71 ⇓P P 05 45 22.6 -0.9
baz=43,SNR=10
R22A Saguache, Gunn 43.37 85 ⇓P P 05 45 24.0 0.0
baz=43,SNR=58
H29A Onida 43.37 73 ⇓P P 05 45 22.6 -1.0
baz=43,SNR=67
J28A Allard Ranch, 43.48 75 ⇓P P 05 45 23.9 -0.7
baz=43,SNR=26
Q23A Hartsel 43.49 83 ⇓P P 05 45 25.3 +0.3
baz=43
U20A Newcomb 43.49 88 ⇑P P 05 45 25.4 +0.6
baz=43,SNR=12
M26A McRoberts Ranc 43.52 78 ⇑P P 05 45 24.4 -0.6
baz=43
W18A Petrified Fore 43.59 90 eP P 05 45 27.6 +1.9
W18A Petrified Fore 43.59 90 ⇓P P 05 45 26.3 +0.6
baz=44,SNR=7.9
S22A 4UR Ranch, Cre 43.63 85 ⇑P P 05 45 26.4 +0.3
baz=44,SNR=72
L27A T5 Ranch, Ells 43.64 77 ⇓P P 05 45 25.1 -0.8
baz=44
I29A Vivian Onida 43.67 74 ⇓P P 05 45 25.3 -0.7
baz=44,SNR=13
P24A Kohler Place, 43.67 82 ⇓P P 05 45 26.2 -0.1
baz=44
T21A Navajo Lake 43.69 87 ⇑P P 05 45 26.9 +0.4
baz=44,SNR=33
G30A Faulkton 43.70 72 ⇑P P 05 45 25.5 -0.7
baz=44,SNR=49
AGMN Agassiz Nation 43.76 66 eP P 05 45 25.4 -1.3
AGMN comp=Z,209nm,1.3s LR LR
comp=Z,21µm,21.0s
O25A Wiggins 43.77 81 ⇑P P 05 45 27.1 0.0
baz=44,SNR=13
K28A Ten Mile Ranch 43.82 76 ⇑P P 05 45 26.7 -0.6
baz=44,SNR=14
X18A Snowflake 43.85 91 ⇑P P 05 45 28.6 +0.8
baz=44,SNR=38
N26A Koester Ranch, 43.87 79 ⇑P P 05 45 27.3 -0.4
baz=44
Q24A Divide 43.87 83 ⇑P P 05 45 28.1 +0.1
baz=44,SNR=16
214A Organ Pipe Nat 43.89 96 ⇓P P 05 45 28.5 +0.6
baz=44,SNR=40
V20A Brimhall 43.91 89 ⇑P P 05 45 28.6 +0.3
baz=44,SNR=57
M27A Reverse DX Ran 43.93 78 ⇓P P 05 45 27.6 -0.6
baz=44
R23A Moffat 43.95 84 ⇓P P 05 45 28.7 0.0
baz=44,SNR=15
U21A Nageezi 43.98 87 ⇓P P 05 45 29.3 +0.4
baz=44,SNR=168
J29A Okreek 44.02 74 ⇑P P 05 45 28.4 -0.4
baz=44,SNR=50
T22A Edith 44.06 86 ⇓P P 05 45 29.9 +0.4
baz=44,SNR=94
P25A Willow Gulch B 44.12 81 ⇓P P 05 45 29.9 0.0
baz=44,SNR=49
L28A Connealy Angus 44.16 77 ⇑P P 05 45 29.3 -0.7
baz=44
S23A Nye Farm, Mont 44.16 85 ⇑P P 05 45 30.4 +0.1
baz=44,SNR=15
O26A Horse Wrangler 44.17 80 ⇓P P 05 45 30.0 -0.3
baz=44

BRSD Miller 44.21 72 eP P 05 45 29.6 -0.8
BRSD Miller 44.21 72 ⇓P P 05 45 29.5 -0.8
baz=44,SNR=18
I30A Oacoma 44.24 73 ⇑P P 05 45 30.0 -0.6
baz=44,SNR=10
N27A Anderson Farm, 44.29 79 ⇓P P 05 45 31.2 0.0
baz=44,SNR=19
CN2 Changchun 44.32 287 eP P 05 45 30.4 -0.8
CN2 ePP PcP 05 47 15.1 0.0
CN2 eS S 05 51 59.6 -4.7
CN2 eSS SS 05 55 11.8 -11
CN2 LR LR
comp=Z,17µm,18.0s
CN2 LR LR
comp=Z,18µm,18.0s
CN2 LR LR
comp=Z,21µm,18.0s
W20A Ramah 44.34 89 ⇓P P 05 45 31.8 +0.1
baz=44,SNR=88
R24A Sanders Place, 44.36 83 ⇑P P 05 45 32.3 +0.4
baz=44,SNR=36
V21A Milan 44.41 88 ⇓P P 05 45 32.1 -0.1
baz=44,SNR=29
HIA Hailar 44.41 296 eP P 05 45 31.5 -0.4
comp=Z,79nm,0.8s
HIA LR LR
comp=Z,45µm,19.0s
K29A Lazy Trails An 44.41 75 ⇑P P 05 45 31.7 -0.3
baz=44,SNR=19
SDCO Great Sand Dun 44.44 84 eP P 05 45 32.4 -0.2
comp=Z,134nm,1.3s
SDCO LR LR
comp=Z,13µm,20.0s
Q25A Bedland, Calha 44.45 82 ⇓P P 05 45 32.7 +0.2
baz=44,SNR=26
OGNE Ogallala 44.50 78 eP P 05 45 32.5 -0.3
comp=Z,479nm,1.6s
OGNE LR LR
comp=Z,10µm,20.0s
OGNE Ogallala 44.50 78 ⇑P P 05 45 32.3 -0.5
baz=44,SNR=20
U22A Llaves 44.51 87 ⇑P P 05 45 33.2 +0.1
baz=44,SNR=64
J30A Dallas 44.56 74 ⇓P P 05 45 32.6 -0.6
baz=44,SNR=38
T23A Casias Ranch, 44.57 85 ⇓P P 05 45 33.7 +0.1
baz=44,SNR=38
P26A Davis Ranch, A 44.58 81 ⇓P P 05 45 33.2 -0.4
baz=44,SNR=65
M28A Bar X Bar Ranc 44.62 77 ⇑P P 05 45 33.2 -0.5
baz=44
S24A Houchin Ranch, 44.68 84 ⇑P P 05 45 34.7 +0.2
baz=44,SNR=60
O27A Beecher Island 44.70 79 ⇑P P 05 45 34.2 -0.3
baz=45,SNR=30
X20A Quemado 44.73 90 ⇓P P 05 45 35.4 +0.5
baz=45,SNR=65
L29A Maesberg Ranch 44.74 76 ⇓P P 05 45 34.0 -0.6
baz=45
V22A San Miguel Ran 44.78 87 ⇑P P 05 45 35.2 -0.1
baz=45,SNR=32
W21A San Fidel 44.86 89 ⇓P P 05 45 35.7 -0.2
baz=45,SNR=36
TUC Tucson 44.87 94 eP P 05 45 36.1 +0.3
TUC pmax pmax
comp=Z,115nm,1.1s
TUC MLR MLR
comp=Z,9µm,20.0s
TUC Tucson 44.87 94 eP P 05 45 36.0 +0.3
comp=Z,115nm,1.1s
TUC LR LR
comp=Z,9µm,20.0s
K30A Basset 44.88 75 ⇓P P 05 45 35.4 -0.3
baz=45,SNR=24
Q26A Hugo 44.88 82 ⇑P P 05 45 35.5 -0.4
baz=45,SNR=33
R25A Fountain Ranch 44.91 83 ⇓P P 05 45 36.0 -0.2
baz=45,SNR=25
U23A El Rito 44.94 86 ⇓P P 05 45 36.7 +0.2
baz=45,SNR=45
T24B San Luis 44.95 85 ⇑P P 05 45 37.1 +0.4
baz=45,SNR=14
N28A Pribbeno Ranch 44.96 78 ⇑P P 05 45 35.8 -0.6
baz=45
M29A Burnside Ranch 44.99 77 ⇓P P 05 45 36.1 -0.6
baz=45,SNR=14
P27A Ficken Ranch, 45.04 80 ⇓P P 05 45 36.9 -0.3
baz=45,SNR=7.9
S25A Robets Cordova 45.14 84 ⇑P P 05 45 38.1 0.0
baz=45,SNR=54
O28A Krutsinger Ran 45.17 79 ⇑P P 05 45 37.4 -0.7
baz=45
X21A Alamocita Cree 45.23 89 ⇓P P 05 45 39.6 +0.8
baz=45,SNR=147
Y20A Horse Springs, 45.23 90 ⇑P P 05 45 39.1 +0.3
baz=45,SNR=74
L30A Spencer Herefo 45.26 76 ⇑P P 05 45 38.3 -0.5
baz=45,SNR=15
R26A Arlington 45.32 82 ⇓P P 05 45 39.2 -0.2
baz=45,SNR=29
V23A Ortiz Mt. (NFS 45.33 87 ⇑P P 05 45 40.3 +0.6
baz=45,SNR=47
KSCO Kaye Shedlock' 45.36 81 eP P 05 45 39.5 -0.3
KSCO Kaye Shedlock' 45.36 81 ⇓P P 05 45 39.4 -0.3
baz=45,SNR=31
W22A Albuquerque 45.36 88 ⇑P P 05 45 40.2 +0.4
baz=45,SNR=6.3
JCJ Chichijima 45.40 256 LR LR 06 02 10.7
comp=Z,32µm,22.0s,baz=45,slow=33
N29A Votaw Ranch, W 45.42 77 ⇑P P 05 45 39.3 -0.8
baz=45
M30A Dale-Ortello V 45.42 76 ⇑P P 05 45 39.1 -1.0
baz=45
T25A Trinidad 45.49 84 ⇓P P 05 45 40.9 0.0
baz=45,SNR=101
P28A Saint Francis 45.53 80 ⇓P P 05 45 41.2 +0.2
baz=45,SNR=25
Y21A Point of Rocks 45.59 90 ⇓P P 05 45 42.6 +0.8
baz=46,SNR=54
Z20A Nine Sixteen R 45.64 91 ⇓P P 05 45 42.6 +0.6
baz=46,SNR=40
LAZ Ladron 45.65 89 eP P 05 45 42.7 +0.5
comp=Z,68nm,1.2s
X22A Bernardo 45.66 89 ⇓P P 05 45 42.9 +0.7
baz=46,SNR=27
ANMO Albuquerque 45.70 88 eP P 05 45 42.5 0.0
comp=Z,146nm,1.4s
ANMO LR LR
comp=Z,16µm,20.0s
R27A Eads 45.72 82 ⇓P P 05 45 42.7 +0.1
baz=46,SNR=81
W23A Werner Place, 45.74 87 ⇓P P 05 45 43.0 +0.2
baz=46,SNR=60
S26A Kim 45.74 83 ⇑P P 05 45 42.4 -0.3
baz=46,SNR=61
Q28A Sharon Springs 45.80 80 ⇓P P 05 45 42.9 -0.2
baz=46,SNR=28
V24A Rampart Ranch, 45.90 86 ⇓P P 05 45 44.3 +0.2
baz=46,SNR=61
LENM Lemitar 45.91 89 eP P 05 45 45.5 +1.3
T26A Comanche Natio 45.96 83 ⇓P P 05 45 43.8 -0.7
baz=46,SNR=49
U25A Circle Dot Ran 45.98 85 ⇑P P 05 45 44.8 +0.1
baz=46,SNR=65
ECSD EROS Data Cent 45.98 72 eP P 05 45 42.5 -2.0
comp=Z,172nm,1.4s
ECSD LR LR
comp=Z,31µm,20.0s
P29A Atwood 46.00 79 ⇓P P 05 45 44.0 -0.7
baz=46,SNR=44
Y22D IRIS PASSCAL I 46.01 89 ⇑P P 05 45 45.5 +0.6
baz=46,SNR=7.6
120A U Bar Ranch, L 46.01 92 ⇓P P 05 45 45.2 +0.2
baz=46,SNR=34
LPM Los Pinos Moun 46.02 89 eP P 05 45 45.8 +0.8
S27A Las Animas 46.05 82 ⇑P P 05 45 44.4 -0.8
baz=46
M31A Lambtecht Ranc 46.07 76 ⇓P P 05 45 44.2 -1.0
baz=46,SNR=9.0
Z21A St. Cloud Mine 46.07 91 ⇑P P 05 45 45.8 +0.3
baz=46,SNR=57
Y22A Socorro 46.07 89 ⇓P P 05 45 45.7 +0.2
baz=46,SNR=123
X23A Hourglass Bar 46.11 88 ⇑P P 05 45 45.6 -0.2
baz=46
BNM Barren Site 46.13 89 eP P 05 45 46.3 +0.3
comp=Z,126nm,1.2s
CIT Chita 46.15 303 eP P 05 45 45.8 +0.1

CIT e 05 46 02.1
CIT pmax pmax
comp=Z,397nm,3.7s
O30A MW Ranch, Wils 46.16 78 ⇓P P 05 45 45.4 -0.5
baz=46
W24A Lazy 6 Ranch, 46.16 87 ⇓P P 05 45 46.2 0.0
baz=46,SNR=70
V25A Rancho No Teng 46.22 86 ⇑P P 05 45 46.4 -0.2
baz=46,SNR=50
R28A Tribune 46.28 81 ⇑P P 05 45 46.4 -0.6
baz=46,SNR=42
EYMN Ely 46.37 64 eP P 05 45 46.5 -1.0
comp=Z,538nm,1.8s
EYMN LR LR
comp=Z,18µm,21.0s
U26A Atchley Ranch, 46.38 84 ⇑P P 05 45 47.7 -0.2
baz=46,SNR=73
N31A Bailey Ranch, 46.41 76 ⇑P P 05 45 46.9 -1.0
baz=46
Q29A Oakley 46.42 80 ⇓P P 05 45 47.5 -0.5
baz=46,SNR=8.7
319A Douglas 46.43 94 ⇑P P 05 45 48.6 +0.4
baz=46,SNR=12
P30A Selden 46.45 79 ⇓P P 05 45 47.6 -0.6
baz=46,SNR=42
BGNE Belgrade 46.52 75 eP P 05 45 48.1 -0.5
BGNE Belgrade 46.52 75 ⇓P P 05 45 47.8 -0.9
baz=46,SNR=8.8
220A Playas Peak, P 46.52 93 ⇓P P 05 45 49.4 +0.4
baz=46,SNR=96
121A Cookes Peak, D 46.53 91 ⇓P P 05 45 49.6 +0.5
baz=46,SNR=51
Z22A Elephant Butte 46.54 90 ⇑P P 05 45 49.8 +0.7
baz=46,SNR=48
T27A Campo 46.56 83 ⇓P P 05 45 49.1 -0.1
baz=46,SNR=20
X24A Lazy Vi Ranch, 46.58 88 ⇓P P 05 45 49.5 0.0
baz=46,SNR=37
O31A Woolen Ranch, 46.61 77 ⇑P P 05 45 48.7 -0.8
baz=46,SNR=13
Y23A Lovelace Mesa, 46.63 89 ⇓P P 05 45 50.4 +0.5
baz=46,SNR=98
R29A Marienthal 46.63 80 ⇓P P 05 45 49.6 -0.1
baz=46,SNR=24
S28A Manter 46.71 82 ⇓P P 05 45 50.3 0.0
baz=47,SNR=51
W25A X Bar L Ranch, 46.73 86 ⇓P P 05 45 50.9 +0.4
baz=47,SNR=129
V26A Tequesquite Ra 46.75 85 ⇑P P 05 45 50.9 +0.2
baz=47,SNR=136
KSRS Korea Array 46.80 278 P P 05 45 51.5 +0.6
comp=Z,149nm,1.1s,baz=53,slow=7.7,SNR=65
KSRS LR LR 06 06 11.5
comp=Z,21µm,19.5s,baz=58,slow=37
Q30A Quinter 46.82 79 ⇑P P 05 45 50.7 -0.4
baz=47,SNR=8.2
N32A Stulken Farm, 46.83 76 ⇑P P 05 45 50.1 -1.1
baz=47
KSAR Wonju Array Be 46.84 278 P P 05 45 51.5 +0.4
T28A Walsh 46.89 82 ⇑P P 05 45 51.4 -0.4
baz=47,SNR=38
122A Conniff Cattle 46.90 91 ⇓P P 05 45 52.6 +0.7
baz=47,SNR=34
221A Mesquite Ranch 46.90 92 ⇓P P 05 45 52.5 +0.6
baz=47,SNR=13
320A Kipp Ranch, An 46.92 93 ⇑P P 05 45 52.8 +0.7
baz=47,SNR=63
U27A Thompson Grove 46.92 84 ⇑P P 05 45 51.9 -0.2
baz=47,SNR=64
P31A Stockton 46.98 78 ⇓P P 05 45 51.7 -0.6
baz=47,SNR=21
Z23A Rita Site, Whi 46.98 89 ⇓P P 05 45 52.9 +0.4
baz=47,SNR=27
Y24A Capitan 47.01 88 ⇑P P 05 45 53.4 +0.6
baz=47,SNR=80
X25A Clemmons Ranch 47.07 87 ⇑P P 05 45 53.4 +0.2
baz=47,SNR=5.3
O32A Brockman Farm, 47.16 77 ⇑P P 05 45 53.0 -0.7
baz=47
S29A Ulysses 47.16 81 ⇑P P 05 45 53.5 -0.3
baz=47,SNR=26
R30A Dighton 47.24 80 ⇑P P 05 45 54.0 -0.4
baz=47,SNR=19
W26A Owens Ranch, T 47.24 86 ⇑P P 05 45 54.4 -0.1
baz=47,SNR=37
222A Williams Famil 47.25 91 ⇑P P 05 45 54.9 +0.3
baz=47,SNR=31
SPMN St. Paul 47.26 68 eP P 05 45 53.5 -0.9
SPMN St. Paul 47.26 68 ⇓P P 05 45 53.4 -1.0
baz=47,SNR=13
Q31A Ellis 47.30 79 ⇑P P 05 45 54.5 -0.3
baz=47,SNR=18
U28A Mallet 47.31 83 ⇓P P 05 45 54.6 -0.4
baz=47,SNR=42
V27A Dan Oppiter Fa 47.35 84 ⇓P P 05 45 55.0 -0.4
baz=47,SNR=48
T29A Hugoton 47.36 82 ⇓P P 05 45 55.0 -0.4
baz=47,SNR=20
P32A Huiting Farm, 47.38 77 ⇑P P 05 45 54.5 -0.9
baz=47,SNR=15
123A Bell Site, Whi 47.39 90 ⇓P P 05 45 55.8 +0.1
baz=47
Z24A Sheeppen Canyo 47.46 89 ⇓P P 05 45 56.5 +0.1
baz=47,SNR=115
Y25A Mesa, Roswell 47.46 88 ⇓P P 05 45 56.3 0.0
baz=47,SNR=103
S30A Montezuma 47.54 81 ⇑P P 05 45 56.2 -0.6
baz=47
INCN Inchon 47.56 279 P P 05 45 57.9 +1.0
baz=26
INCN Inchon 47.56 279 eP P 05 45 57.5 +0.7
comp=Z,549nm,1.1s
INCN LR LR
comp=Z,14µm,21.0s
X26A CR and CF Fran 47.57 86 ⇑P P 05 45 56.9 -0.2
baz=47,SNR=40
W27A Bowe Ranch, En 47.68 85 ⇓P P 05 45 57.3 -0.7
baz=48,SNR=21
R31A Burdett 47.68 79 ⇑P P 05 45 57.3 -0.5
baz=48,SNR=27
223A Chaparral, Ant 47.73 91 ⇑P P 05 45 58.6 +0.3
baz=48,SNR=6.5
V28A Channing 47.73 84 ⇓P P 05 45 57.5 -0.8
baz=48,SNR=17
124A Stringfield Ra 47.84 89 ⇑P P 05 45 59.5 +0.1
baz=48,SNR=70
U29A Oasis Ranch, S 47.84 82 ⇑P P 05 45 58.7 -0.5
baz=48
Z25A Roswell 47.89 88 ⇓P P 05 45 59.5 -0.1
baz=48,SNR=74
T30A Plains 47.89 81 ⇓P P 05 45 59.1 -0.4
baz=48,SNR=9.4
JNU Nakatsue 47.91 272 eP P 05 46 00.4 +0.7
comp=Z,122nm,1.1s
X27A F and S Farms, 47.94 86 ⇓P P 05 45 59.6 -0.4
baz=48
Y26A Elida 47.99 87 ⇑P P 05 46 00.1 -0.3
baz=48
P33A Williams Farm, 48.03 77 ⇓P P 05 45 59.8 -0.7
baz=48
W28A Vega 48.07 84 ⇓P P 05 46 00.6 -0.4
baz=48
V29A Stinnett 48.07 83 ⇑P P 05 46 00.3 -0.7
baz=48
S31A Mullinville 48.14 80 ⇓P P 05 46 00.7 -0.7
baz=48,SNR=7.3
U30A WK&E Inc. Balk 48.16 82 ⇓P P 05 46 01.1 -0.5
baz=48,SNR=24
224A Cornudas Mount 48.23 90 ⇓P P 05 46 02.5 +0.3
baz=48,SNR=111
Z26A Caprock 48.34 88 ⇓P P 05 46 03.1 0.0
baz=48,SNR=93
125A Gardner Draw, 48.35 89 ⇑P P 05 46 03.5 +0.3
baz=48,SNR=46
T31A Randall Ranch, 48.37 81 ⇑P P 05 46 02.4 -0.8
baz=48,SNR=28
Y27A Causey 48.42 86 ⇑P P 05 46 03.6 -0.1
baz=48,SNR=89
S32A Newby Ranch, P 48.42 80 ⇑P P 05 46 02.9 -0.6
baz=48
W29A Amraillo 48.50 84 ⇓P P 05 46 03.5 -0.7
baz=48
X28A Dimmitt 48.57 85 ⇓P P 05 46 04.4 -0.4
baz=48,SNR=38
MNTX Cornudas Mount 48.58 90 eP P 05 46 05.0 +0.3
comp=Z,74nm,0.9s
MNTX LR LR
comp=Z,14µm,21.0s

MSTX **Muleshoe** 48.60 86 *e*P P 05 46 04.2 -0.8
MSTX **Muleshoe** 48.60 86 ⇑P P 05 46 04.8 -0.2
baz=48,SNR=73
KBS **Kingsbay** 48.62 0⇑ *i*P P 05 46 05.0 +0.5
KBS *e* 05 46 05.3
KBS *e*S S 05 53 03.6 -1.5
KBS AMS AMS 06 08 58.0
comp=Z,33µm,16.9s
KBS **Kingsbay** 48.62 0 *e*P P 05 46 05.0 +0.5
KBS pmax pmax
comp=Z,236nm,1.2s
KBS MLR MLR
comp=Z,19µm,21.0s
KBS **Kingsbay** 48.62 0 *e*P P 05 46 05.0 +0.5
comp=Z,236nm,1.2s
KBS LR LR
comp=Z,19µm,21.0s
225A **Deer Hill, Car** 48.63 89 ⇑P P 05 46 05.8 +0.4
baz=48,SNR=109
V30A **Spur Ranch, Mi** 48.65 83 ⇓P P 05 46 04.8 -0.6
baz=48
324A **Moseley Ranch,** 48.69 91 ⇑P P 05 46 05.9 +0.1
baz=49,SNR=31
126A **Clayton Basin,** 48.75 88 ⇑P P 05 46 06.0 -0.2
baz=49,SNR=79
U31A **Nine Bar Ranch** 48.75 82 ⇑P P 05 46 05.6 -0.5
baz=49,SNR=23
Z27A **Tatum** 48.78 87 ⇑P P 05 46 06.1 -0.3
baz=49,SNR=93
GDL2 **Guadalupe Moun** 48.85 89 *e*P P 05 46 07.4 +0.5
KSU1 **Kansas State U** 48.89 77 *e*P P 05 46 05.9 -1.2
comp=Z,87nm,1.1s
KSU1 LR LR
comp=Z,13µm,20.0s
X29A **Tulia** 48.92 85 ⇓P P 05 46 07.2 -0.3
baz=49
Y28A **McKinney Farm,** 48.96 86 ⇑P P 05 46 07.3 -0.5
baz=49,SNR=50
226B **Tecolote Peak,** 49.05 89 ⇓P P 05 46 08.7 +0.1
baz=49,SNR=117
325A **Bean Ranch, Si** 49.06 90 ⇑P P 05 46 08.7 0.0
baz=49,SNR=132
SCIA **State Center** 49.08 72 *e*P P 05 46 07.6 -0.9
comp=Z,502nm,1.5s
SCIA LR LR
comp=Z,33µm,20.0s
W30A **Crocket Farms** 49.11 83 ⇓P P 05 46 08.3 -0.5
baz=49
127A **Arkansas Junct** 49.13 88 ⇑P P 05 46 08.5 -0.6
baz=49,SNR=42
DAG **Danmarks Havn** 49.23 9 *i*P P 05 46 08.8 -0.4
DAG pmax pmax
comp=Z,200nm,0.9s
DAG MLR MLR
comp=Z,30µm,18.0s
DAG **Danmarks Havn** 49.23 9 *i*P P 05 46 08.8 -0.4
comp=Z,235nm,0.9s
Z28A **Tucker Farm, M** 49.30 86 ⇓P P 05 46 09.6 -0.8
baz=49,SNR=46
Y29A **Porterfield Fa** 49.34 85 ⇑P P 05 46 10.1 -0.6
baz=49,SNR=35
X30A **Coker Ranch, T** 49.42 84 ⇓P P 05 46 10.6 -0.7
baz=49,SNR=33
425A **Indio Mountain** 49.46 91 ⇓P P 05 46 12.0 +0.3
baz=49,SNR=93
W31A **Holland Ranch,** 49.48 83 ⇓P P 05 46 11.3 -0.4
baz=49,SNR=29
DL2 **Dalian** 49.62 284 P P 05 46 13.8 +1.2
DL2 S S 05 53 20.5 +0.5
DL2 AMB AMB
comp=Z,360nm,1.1s
DL2 AMB AMB
comp=Z,4µm,9.8s
DL2 LR LR
comp=Z,11µm,20.6s
DL2 LR LR
comp=Z,9µm,20.6s
227A **Bennet, Jal** 49.63 88 ⇑P P 05 46 12.9 0.0
baz=50
128A **Castleberry Fa** 49.70 87 ⇓P P 05 46 13.2 -0.3
baz=50,SNR=154
326A **Caldwell Ranch** 49.70 90 ⇑P P 05 46 13.5 +0.1
baz=50,SNR=84
Z29A **Hungry Hill Ra** 49.73 86 ⇓P P 05 46 13.3 -0.3
baz=50,SNR=107
Y30A **Stafford Cattl** 49.80 85 ⇓P P 05 46 13.6 -0.5
baz=50,SNR=32
X31A **McDonald Ranch** 49.84 83 ⇑P P 05 46 13.8 -0.6
baz=50,SNR=24
327A **Balmorhea Ranc** 49.96 89 ⇑P P 05 46 15.3 -0.1
baz=50
228A **UT Block 9, Go** 49.98 88 ⇑P P 05 46 15.4 -0.2
baz=50,SNR=34
SUMG **Summit** 50.02 18 *e*P P 05 46 15.3 -0.4
SUMG pmax pmax
comp=Z,284nm,1.0s
SUMG **Summit** 50.02 18 *i*P P 05 46 15.8 +0.1
comp=Z,167nm,0.8s
SUMG **Summit** 50.02 18 *e*P P 05 46 15.3 -0.4
comp=Z,284nm,1.0s
Z30A **Sanderson Ranc** 50.06 85 ⇑P P 05 46 15.7 -0.5
baz=50,SNR=99
129A **Stewart Farms,** 50.07 87 ⇓P P 05 46 15.8 -0.4
baz=50,SNR=31
426A **McDonald Obser** 50.12 90 ⇑P P 05 46 16.8 -0.1
baz=50,SNR=56
Y31A **Rekieta Farm,** 50.12 84 ⇑P P 05 46 16.3 -0.3
baz=50,SNR=9.9
JFWS **Jewell Farm** 50.14 69 *e*P P 05 46 14.2 -2.3
JFWS pmax pmax
comp=Z,133nm,1.0s
JFWS MLR MLR
comp=Z,43µm,19.0s
JFWS **Jewell Farm** 50.14 69 *e*P P 05 46 14.2 -2.3
comp=Z,132nm,1.0s
JFWS LR LR
comp=Z,43µm,19.0s
328A **Wristen Ranch,** 50.36 89 ⇑P P 05 46 17.7 -0.7
baz=50,SNR=64
427A **Hayter Ranch,** 50.38 89 ⇓P P 05 46 18.5 -0.1
baz=50,SNR=67
WMOK **Wichita Mounta** 50.49 82 *e*P P 05 46 18.1 -1.2
WMOK pmax pmax
comp=Z,81nm,1.0s
WMOK MLR MLR
comp=Z,17µm,21.0s
WMOK **Wichita Mounta** 50.49 82 *e*P P 05 46 18.1 -1.2
comp=Z,81nm,1.0s
WMOK LR LR
comp=Z,17µm,21.0s
526A **Mary Lane Ranc** 50.52 91 ⇓P P 05 46 19.8 +0.1
baz=50,SNR=83
229A **Bryant Ranch,** 50.56 87 ⇓P P 05 46 19.5 -0.5
baz=50,SNR=5.4
Y32A **R-V Farms, Ver** 50.59 84 ⇑P P 05 46 19.7 -0.5
baz=50,SNR=64
Z31A **Sharp Cattle R** 50.64 85 ⇓P P 05 46 19.6 -0.9
baz=50,SNR=55
130A **Snyder** 50.64 86 ⇑P P 05 46 20.1 -0.4
baz=50,SNR=38
IRK **Irkutsk** 50.65 307 *e*P P 05 46 19.2 -1.1
IRK *e* 05 56 11.3
IRK pmax pmax
comp=Z,357nm,1.6s
527A **Woodward Ranch** 50.75 90 ⇑P P 05 46 21.0 -0.5
baz=51,SNR=95
329A **Wagon Wheel Ra** 50.79 88 ⇓P P 05 46 21.2 -0.6
baz=51,SNR=103
HOPEN **Hopen** 50.82 356 *e*P P 05 46 22.5 +1.2
HOPEN *e*S S 05 53 38.1 +2.3
HOPEN AMS AMS 06 09 26.6
comp=Z,27µm,17.1s
626A **Big Bend Ranch** 50.85 91 ⇓P P 05 46 22.1 -0.1
baz=51,SNR=110
428A **Kincaid Ranch,** 50.90 89 ⇓P P 05 46 22.4 -0.1
baz=51,SNR=89
131A **Roby** 50.93 85 ⇓P P 05 46 22.3 -0.5
baz=51,SNR=49
230A **Sterling City** 51.04 87 ⇓P P 05 46 23.2 -0.4
baz=51,SNR=48
Z32A **Haskell** 51.05 84 ⇑P P 05 46 23.3 -0.3
baz=51,SNR=104
XMAS **Kiritimati** 51.12 168 *e*P P 05 46 25.7 +1.6
comp=Z,392nm,1.6s
XMAS LR LR
comp=Z,16µm,20.0s
LPIG **La Paz** 51.12 101 LR LR 06 06 04.5
comp=Z,5µm,18.3s,baz=175,slow=34

528A **Cox Ranch, San** 51.24 90 ⇑P P 05 46 24.9 -0.2
baz=51,SNR=118
TXAR **Lajitas Array** 51.29 91 P P 05 46 25.5 0.0
TXAR P'P' 06 16 41.7
TXAR *e* 06 23 55.0
TXAR **Lajitas Array** 51.29 91 P P 05 46 25.5 0.0
comp=Z,19nm,0.6s,baz=302,slow=5.2,SNR=145
TXAR LR LR 06 07 55.3
comp=Z,7µm,18.0s,baz=5.0,slow=36
TXAR PKPPKP P'P'df 06 16 41.7 -26
comp=Z,1.0nm,1.0s,baz=190,slow=4.6,SNR=3.8
TXAR P4KPbc 06 23 55.0
comp=Z,0.3nm,0.9s,baz=195,slow=5.6,SNR=2.7
TLY **Talaya** 51.30 307 *c i*P P 05 46 24.9 -0.3
TLY *e* 05 48 24.5
TLY *e*S S 05 54 00.3 +17
TLY pmax pmax
comp=Z,295nm,1.2s
TLY MLR MLR
comp=Z,28µm,19.0s
TLY **Talaya** 51.30 307 P P 05 46 25.7 +0.5
comp=Z,1µm,0.7s,SNR=23
330A **Mertzon** 51.34 87 ⇑P P 05 46 25.2 -0.6
baz=51,SNR=83
627A **Terlingua Ranc** 51.38 91 ⇑P P 05 46 25.9 -0.3
baz=51,SNR=93
ABTX **Abilene, Hawle** 51.42 85 *e*P P 05 46 25.7 -0.6
ABTX **Abilene, Hawle** 51.42 85 ⇑P P 05 46 25.9 -0.5
baz=51,SNR=71
SFJD **Kangerlussuaq** 51.42 27 *i*P P 05 46 26.4 +0.6
comp=Z,86nm,0.9s
SFJD **Kangerlussuaq** 51.42 27 *e*P P 05 46 25.5 -0.4
comp=Z,275nm,1.3s
SFJD LR LR
comp=Z,19µm,19.0s
429A **Davenport Ranc** 51.45 89 ⇑P P 05 46 25.9 -0.8
baz=51,SNR=138
TUL1 **Tulsa** 51.49 79 *e*P P 05 46 26.1 -0.7
TUL1 **Tulsa** 51.49 79 ⇓P P 05 46 26.0 -0.7
baz=51
231A **Bronte** 51.49 86 ⇑P P 05 46 25.8 -1.2
baz=51,SNR=26
529A **Stev Forest Ra** 51.61 89 ⇓P P 05 46 27.6 -0.2
baz=52,SNR=86
628A **Black Gap, Mar** 51.66 90 ⇑P P 05 46 28.0 -0.2
baz=52,SNR=186
430A **Baggett Ranch,** 51.74 88 ⇑P P 05 46 28.0 -0.8
baz=52,SNR=111
331A **San Angelo** 51.86 87 ⇑P P 05 46 28.7 -1.0
baz=52,SNR=62
232A **Coleman** 51.93 86 ⇑P P 05 46 29.2 -1.0
baz=52,SNR=33
BJI **Beijing** 52.06 289 P P 05 46 31.3 +0.4
BJI PP PP 05 48 25.8 -3.1
BJI S S 05 53 52.6 -1.2
BJI AMB AMB
comp=Z,140nm,0.6s
BJI AMB AMB
comp=Z,3µm,4.4s
BJI LR LR
comp=Z,43µm,19.3s
BJI LR LR
comp=Z,28µm,20.0s
BJI LR LR
comp=Z,36µm,20.7s
BJT **Baijiatuau** 52.07 289 *e*P P 05 46 30.5 -0.6
comp=Z,418nm,1.0s
BJT LR LR
comp=Z,51µm,19.0s
530A **J-C Ranch, Com** 52.13 89 ⇓P P 05 46 31.1 -0.6
baz=52,SNR=193
431A **Sonora** 52.19 87 ⇑P P 05 46 31.1 -1.1
baz=52,SNR=150
332A **Millersview** 52.23 86 ⇓P P 05 46 31.5 -0.9
baz=52,SNR=60
ZAK **Zakamensk** 52.30 306 ⇓ *i*P P 05 46 32.2 -0.6
ZAK *e* 05 56 22.9
ZAK pmax pmax
comp=Z,86nm,1.3s
SONM **Songino Array** 52.37 302 P P 05 46 33.1 -0.2
SONM ScP ScP 05 51 40.5 +0.2
SONM P'P' 06 16 40.3
SONM *e* 06 24 03.0
SONM **Songino Array** 52.37 302 P P 05 46 33.1 -0.2
comp=Z,97nm,1.2s,baz=54,slow=7.2,SNR=99
SONM ScP ScP 05 51 40.5 +0.2
comp=Z,2.5nm,0.8s,baz=66,slow=3.6,SNR=2.1
SONM LR LR 06 09 38.7
comp=Z,33µm,19.6s,baz=53,slow=37
SONM PKPPKP P'P'df 06 16 40.3 -30
comp=Z,0.3nm,0.4s,baz=190,slow=2.6,SNR=2.4
SONM P4KPbc 06 24 03.0
comp=Z,0.3nm,0.4s,baz=95,slow=3.0,SNR=3.7
432A **Menard** 52.55 87 ⇑P P 05 46 33.8 -1.0
baz=52,SNR=78
MOY **Mondy** 52.59 308 *e*P P 05 46 34.9 0.0
MOY pmax pmax
comp=Z,310nm,1.6s
531A **Rocksprings** 52.60 88 ⇓P P 05 46 34.1 -1.1
baz=52,SNR=89
JCT **Junction City** 52.83 87 *e*P P 05 46 35.9 -1.0
JCT pmax pmax
comp=Z,248nm,1.0s
JCT MLR MLR
comp=Z,10µm,19.0s
JCT **Junction City** 52.83 87 *e*P P 05 46 35.9 -1.0
comp=Z,248nm,1.0s
JCT LR LR
comp=Z,10µm,19.0s
JCT **Junction City** 52.83 87 ⇑P P 05 46 35.8 -1.1
baz=53,SNR=106
SLM **Saint Louis** 52.94 73 *e*P P 05 46 36.1 -1.4
SLM pmax pmax
comp=Z,574nm,1.7s
SLM **Saint Louis** 52.94 73 *e*P P 05 46 36.1 -1.4
comp=Z,574nm,1.7s
BJO **Bjornoya** 53.00 358 *e*P P 05 46 38.7 +1.3
532A **Rocksprings** 53.01 87 ⇑P P 05 46 37.2 -1.1
baz=53,SNR=57
631A **Perdido Creek** 53.12 89 ⇓P P 05 46 37.7 -1.3
baz=53,SNR=118
WHTX **Lake Whitney** 53.19 84 *e*P P 05 46 39.1 -0.4
WHTX **Lake Whitney** 53.19 84 ⇓P P 05 46 39.0 -0.4
baz=53,SNR=77
KRAR **Krasnoyarsk** 53.38 316 *e*P P 05 46 39.9 -0.6
KRAR pmax pmax
comp=Z,181nm,1.1s
KRAR MLR MLR
comp=Z,38µm,16.0s
632A **Uvalde** 53.53 88 ⇑P P 05 46 41.0 -1.0
baz=53,SNR=44
SFIN **Scholer Farm** 53.58 69 *e*P P 05 46 41.0 -1.3
SFIN **Scholer Farm** 53.58 69 ⇑P P 05 46 40.4 -1.9
baz=53
MIAR **Mount Ida** 53.75 79 *e*P P 05 46 42.9 -0.6
MIAR pmax pmax
comp=Z,324nm,1.8s
MIAR MLR MLR
comp=Z,8µm,19.0s
MIAR **Mount Ida** 53.75 79 *e*P P 05 46 42.9 -0.6
comp=Z,324nm,1.8s
MIAR LR LR
comp=Z,8µm,19.0s
TARA **Tarawa** 53.85 205 PFAKE 05 47 00.0 +16
TARA LR LR
comp=Z,22µm,20.0s
JOW **Kunigami** 53.96 268 *e*P P 05 46 45.5 +0.3
732A **Laxson Ranch,** 53.97 89 ⇓P P 05 46 44.7 -0.6
baz=54,SNR=66
TIA **Tai'an** 54.07 284 ⇑P P 05 46 45.8 -0.1
TIA AMB AMB
comp=Z,290nm,1.3s
TIA LR LR
comp=Z,19µm,19.6s
TIA LR LR
comp=Z,17µm,20.9s
TIA LR LR
comp=Z,22µm,22.0s
HHC **Hu-ho-hao-te** 54.15 292 *e*P P 05 46 47.3 +0.8
HHC PcP PcP 05 47 52.8 +1.8
HHC PP PP 05 48 49.5 +1.6
HHC ScP ScP 05 51 49.1 +1.0
HHC PcS PcS 05 51 50.8 +0.4
HHC S S 05 54 19.8 -2.7
HHC ScS ScS 05 56 31.8 -3.2
HHC SS SKiKP 05 58 00.0 +2.9

HHC AMB AMB
comp=Z,230nm,1.3s
HHC AMB AMB
comp=Z,15µm,7.6s
HHC LR LR
comp=Z,32µm,16.2s
SIUC **Southern Illin** 54.15 73 *e*P P 05 46 44.4 -2.1
SCHQ **Schefferville** 54.18 45 P P 05 46 46.4 -0.1
SCHQ **Schefferville** 54.18 45 P P 05 46 46.4 -0.1
comp=Z,64nm,1.0s,baz=313,slow=7.0,SNR=16
SCHQ LR LR 06 13 20.4
comp=Z,18µm,19.5s,baz=316,slow=40
GUMO **Guam** 54.55 243 *e*P P 05 46 46.9 -2.6
comp=Z,401nm,1.3s
GUMO LR LR
comp=Z,12µm,19.0s
PARMO **Parma** 54.55 74 *e*P P 05 46 48.1 -1.3
SCO **Scoresbysund** 54.56 14 *i*P P 05 46 49.5 +0.6
SCO pmax pmax
comp=Z,53nm,1.0s
SCO MLR MLR
comp=Z,30µm,16.0s
SCO **Scoresbysund** 54.56 14 *i*P P 05 46 49.5 +0.6
comp=Z,53nm,1.0s
BLO **Bloomington** 54.72 70 *e*P P 05 46 48.7 -1.9
BLO pmax pmax
comp=Z,261nm,1.6s
BLO **Bloomington** 54.72 70 *e*P P 05 46 48.6 -1.9
comp=Z,261nm,1.6s
HBAR **Harrisburg** 54.78 76 *e*P P 05 46 49.9 -1.1
USIN **University of** 54.88 72 *e*P P 05 46 50.6 -1.1
GLAT **Glass** 55.10 74 *e*P P 05 46 52.2 -1.1
BTO **Baotou** 55.18 293 *e*P P 05 46 54.3 +0.3
BTO S S 05 54 41.9 +5.6
SSE **Sheshan** 55.20 277 P P 05 46 54.9 +0.8
SSE sP **sP** 05 47 04.0 +2.5
SSE S S 05 54 41.1 +4.4
SSE sS **sS** 05 54 49.3 +3.9
SSE AMB AMB
comp=Z,200nm,1.2s
SSE AMB AMB
comp=Z,2µm,4.3s
SSE LR LR
comp=Z,13µm,24.4s
SSE LR LR
comp=Z,6µm,24.3s
SSE LR LR
comp=Z,18µm,22.1s
HALT **Halls** 55.31 75 *e*P P 05 46 53.5 -1.3
KNTN **Kanton** 55.43 186 *e*P P 05 46 57.0 +1.2
WCI **Wyandotte Cave** 55.49 71 *e*P P 05 46 54.9 -1.3
WCI pmax pmax
comp=Z,210nm,1.5s
WCI **Wyandotte Cave** 55.49 71 *e*P P 05 46 54.9 -1.3
comp=Z,210nm,1.5s
HKT **Hockley** 55.61 84 *e*P P 05 46 56.9 -0.1
HKT **Hockley** 55.61 84 *e*P P 05 46 56.9 -0.1
JMIC **Jan Mayen** 55.65 8 *e*P P 05 46 58.8 +2.0
JMIC AMS AMS 06 12 46.2
comp=Z,17µm,19.5s
TIY **Taiyuan** 55.78 289 *e*P P 05 47 00.0 +1.7
TIY S S 05 54 49.3 +4.9
TIY AMB AMB
comp=Z,670nm,1.4s
TIY LR LR
comp=Z,15µm,19.1s
TIY LR LR
comp=Z,16µm,17.2s
TIY LR LR
comp=Z,29µm,18.5s
NJ2 **Nanjing** 55.93 280 *e*P P 05 46 58.1 -1.3
NJ2 pP **pP** 05 47 02.1 -2.6
NJ2 PP **PP** 05 49 03.1 -0.8
NJ2 S S 05 54 51.0 +4.6
NJ2 AMB AMB
comp=Z,320nm,1.0s
NJ2 AMB AMB
comp=Z,4µm,9.3s
NJ2 LR LR
comp=Z,23µm,20.0s
NJ2 LR LR
comp=Z,15µm,21.0s
NJ2 LR LR
comp=Z,17µm,26.0s
ACSO **Alum Creek Sta** 56.00 67 *e*P P 05 46 58.7 -1.1
ACSO LR LR
comp=Z,21µm,19.0s
WVT **Waverly** 56.04 73 *e*P P 05 46 58.6 -1.6
WVT pmax pmax
comp=Z,156nm,1.4s
WVT **Waverly** 56.04 73 *e*P P 05 46 58.5 -1.6
comp=Z,156nm,1.4s
KVTX **Kingsville** 56.09 88 *e*P P 05 47 01.8 +1.3
KVTX LR LR
comp=Z,8µm,20.0s
HVS **Khovu-Aksy** 56.34 312 *c i*P P 05 47 02.1 0.0
HVS pmax pmax
comp=Z,987nm,1.1s
HVS MLR MLR
comp=Z,62µm,15.0s
ERPA **Erie** 56.36 63 *e*P P 05 47 01.9 -0.4
ERPA LR LR
comp=Z,20µm,20.0s
VBMS **Vicksburg** 57.20 79 *e*P P 05 47 08.0 -0.4
comp=Z,232nm,1.1s
VBMS LR LR
comp=Z,10µm,20.0s
NRS **Narsarsuaq** 57.34 29 *i*P P 05 47 09.5 +0.6
NRS pmax pmax
comp=Z,54nm,1.0s
KEV **Kevo** 57.42 354 *e*P P 05 47 07.3 -2.1
KEV pmax pmax
comp=Z,54nm,0.5s
KEV **Kevo** 57.42 354 *e*p P 05 47 07.3 -2.1
comp=Z,54nm,0.5s
KEV **Kevo** 57.42 354 *e*P P 05 47 08.3 -1.1
KEV LR LR
comp=Z,27µm,19.0s
LONY **Lake Ozonia** 57.50 58 *e*P P 05 47 08.2 -2.1
LONY LR LR
comp=Z,16µm,20.0s
ARCES **ARCESS Array B** 57.72 355 P P 05 47 10.4 -1.2
ARCES **ARCESS Array B** 57.72 355 P P 05 47 10.4 -1.2
comp=Z,47nm,0.6s,baz=1.4,slow=7.7,SNR=64
SWET **Sewanee** 57.79 73 *e*P P 05 47 10.9 -1.7
FRNY **Flat Rock** 57.86 57 *e*P P 05 47 11.7 -1.1
comp=Z,66nm,0.9s
TRO **Tromso** 57.89 358 *e*P P 05 47 12.1 -0.6
TRO AMB AMB 05 47 19.0
comp=Z,402nm,1.3s
NVS **Novosibirsk** 58.11 320⇑ *i*P P 05 47 12.6 -1.9
NVS *e*S S 05 55 07.8 -6.7
NVS pmax pmax
comp=N,41nm,1.4s
NVS pmax pmax
comp=E,101nm,1.4s
NVS pmax pmax
comp=Z,163nm,1.4s
NVS smax smax
comp=N,153nm,4.1s
NVS smax smax
comp=E,321nm,4.1s
MCWV **Mont Chateau** 58.13 65 *e*P P 05 47 09.8 -5.1
comp=E,264nm,1.4s
MCWV LR LR
comp=Z,18µm,19.0s
NCB **Newcomb** 58.13 58 *e*P P 05 47 14.4 -0.5
comp=Z,233nm,1.3s
NCB LR LR
comp=Z,21µm,19.0s
ZAA0 **Zalesovo Array** 58.14 319 *e*P P 05 47 13.6 -1.1
ZALV **Zalesovo Beam** 58.14 319 P P 05 47 13.8 -0.9
ZALV **Zalesovo Beam** 58.14 319 P P 05 47 13.8 -0.9
ZALV **Zalesovo Beam** 58.14 319 P P 05 47 13.8 -0.9
comp=Z,29nm,0.8s,baz=44,slow=6.6,SNR=46
ZALV LR LR 06 13 50.3
comp=Z,38µm,20.0s,baz=43,slow=38
TZTN **Tazewell** 58.23 70 *e*P P 05 47 14.7 -1.0
KTK1 **Kautokeino** 58.36 356 *e*P P 05 47 17.1 +1.1
CPCT **Cooper Cave** 58.44 72 *e*P P 05 47 15.2 -1.8
BINY **Binghamton** 58.45 61 *e*P P 05 47 16.6 -0.5
comp=Z,290nm,1.4s
BINY LR LR
comp=Z,20µm,19.0s
SSPA **Standing Stone** 58.52 63 *e*P P 05 47 16.3 -1.3
comp=Z,223nm,1.3s

LVZ	**Lovozero**	**58.63**	**351**	*c*	*i*	P	**P**	**05 47 17.3**	**-0.7**
LVZ						pmax	pmax			
	comp=Z,322nm,1.0s									
LVZ						MLR	MLR			
	comp=Z,16µm,16.0s									
LVZ	**Lovozero**	**58.63**	**351**			P	**P**	**05 47 17.9**	**-0.1**
	comp=Z,3µm,0.8s,SNR=18									
MDV	**Middlebury**	**58.65**	**57**	*e*	P		**P**	**05 47 17.6**	**-0.8**
LRAL	**Lakeview Retre**	**58.70**	**75**	*e*	P		**P**	**05 47 16.8**	**-2.2**
	comp=Z,40nm,1.0s									
LRAL						LR	LR			
	comp=Z,12µm,21.0s									
TKL	**Tuckaleechee C**	**58.72**	**71**	*e*	P		**P**	**05 47 17.6**	**-1.4**
ACCN	**Adirondack Com**	**58.83**	**58**	*e*	P		**P**	**05 47 19.1**	**-0.7**
APA	**Apatity**	**59.07**	**351**	⇑	*i*	P	**P**	**05 47 21.0**	**0.0**
APA					*i*	S	S	05 55 17.0	-10	
APA					*i*	PS	**PnS**	**05 55 33.0**	**-6.0**	
APA						MLR	MLR			
	comp=Z,30µm,17.0s									
LBNH	**Lisbon**	**59.12**	**57**	*e*	P		**P**	**05 47 20.5**	**-1.2**
LBNH						pmax	pmax			
	comp=Z,47nm,0.9s									
LBNH						MLR	MLR			
	comp=Z,30µm,19.0s									
LBNH	**Lisbon**	**59.12**	**57**	*e*	P		**P**	**05 47 20.5**	**-1.2**
	comp=Z,47nm,0.9s									
LBNH						LR	LR			
	comp=Z,30µm,19.0s									
TRY	**Troy**	**59.30**	**59**	*e*	P		**P**	**05 47 21.9**	**-1.0**
	comp=Z,152nm,1.1s									
HNH	**Hanover**	**59.32**	**57**	*e*	P		**P**	**05 47 22.5**	**-0.5**
PQI	**Presque Isle**	**59.33**	**52**	*e*	P		**P**	**05 47 22.2**	**-0.9**
	comp=Z,139nm,1.1s									
TATO	**Taipei**	**59.45**	**272**			PFAKE		05 47 40.0	+16	
TATO						LR	LR			
	comp=Z,33µm,22.0s									
LOF	**Lofoten**	**59.48**	**360**	*e*	P		**P**	**05 47 23.6**	**-0.1**
BLA	**Blacksburg**	**59.53**	**68**	*e*	P		**P**	**05 47 23.1**	**-1.6**
BLA						pmax	pmax			
	comp=Z,144nm,1.0s									
BLA						MLR	MLR			
	comp=Z,31µm,19.0s									
BLA	**Blacksburg**	**59.53**	**68**	*e*	P		**P**	**05 47 23.1**	**-1.6**
	comp=Z,144nm,1.0s									
BLA						LR	LR			
	comp=Z,31µm,19.0s									
STEI	**Steigen**	**59.67**	**359**	*e*	P		**P**	**05 47 24.4**	**-0.7**
WHN	**Wuhan**	**59.70**	**282**		P		**P**	**05 47 25.4**	**-0.5**
WHN					PP		**PP**	**05 49 37.0**	**-0.4**	
WHN					S		**S**	**05 55 33.6**	**-2.2**	
WHN					LR	LR				
	comp=Z,27µm,16.6s									
WHN						LR	LR			
	comp=Z,20µm,14.3s									
WHN						LR	LR			
	comp=Z,42µm,16.8s									
PKME	**Peaks-Kenny Pk**	**59.71**	**54**			PFAKE		05 47 40.0	+14	
PKME						LR	LR			
	comp=Z,19µm,20.0s									
YHNB	**Yeheng**	**59.75**	**272**	*e*	P		**P**	**05 47 26.0**	**-0.3**
	comp=Z,93nm,0.8s									
YHNB						LR	LR			
	comp=Z,34µm,22.0s									
VWCC	**Virginia Weste**	**59.76**	**67**	*e*	P		**P**	**05 47 25.1**	**-1.2**
FFD	**Franklin Falls**	**59.81**	**57**	*e*	P		**P**	**05 47 25.3**	**-1.1**
	comp=Z,72nm,0.9s									
BORG	**Borgarnes**	**59.91**	**16**			PFAKE		05 47 40.0	+13	
BORG						LR	LR			
	comp=Z,24µm,20.0s									
SDMD	**Soldier's Deli**	**59.96**	**63**	*e*	P		**P**	**05 47 26.6**	**-0.9**
NACB	**Ninganchiao**	**59.98**	**271**	*e*	P		**P**	**05 47 29.3**	**+1.4**
	comp=Z,188nm,1.0s									
WVL	**Waterville**	**60.03**	**55**	*e*	P		**P**	**05 47 27.1**	**-0.8**
	comp=Z,314nm,1.4s									
BRAL	**Brewton**	**60.12**	**77**			PFAKE		05 47 40.0	+11	
BRAL						LR	LR			
	comp=Z,12µm,20.0s									
QUA2	**Belchertown**	**60.30**	**58**	*e*	P		**P**	**05 47 28.5**	**-1.3**
	comp=Z,239nm,1.2s									
XAN	**Xi'an**	**60.38**	**288**			P	**P**	**05 47 30.0**	**-0.6**
XAN						PP	PP	05 49 49.0	+5.6	
XAN						AMB	AMB			
	comp=Z,63nm,1.0s									
XAN						AMB	AMB			
	comp=Z,920nm,9.0s									
XAN						LR	LR			
	comp=Z,15µm,21.3s									
XAN						LR	LR			
	comp=Z,6µm,21.7s									
XAN						LR	LR			
	comp=Z,10µm,17.8s									
KMSC	**Kings Mountain**	**60.49**	**70**	*e*	P		**P**	**05 47 29.3**	**-1.9**
KMSC	**Kings Mountain**	**60.49**	**70**	⇓	P		**P**	**05 47 28.9**	**-2.3**
	baz=60									
GOGA	**Godfrey**	**60.50**	**73**	*e*	P		**P**	**05 47 28.9**	**-2.4**
GOGA	**Godfrey**	**60.50**	**73**	*e*	P		**P**	**05 47 28.9**	**-2.4**
CPNY	**Central Park**	**60.52**	**61**	*e*	P		**P**	**05 47 30.7**	**-0.7**
	comp=Z,223nm,1.4s									
CBN	**Corbin**	**60.52**	**65**	*e*	P		**P**	**05 47 30.4**	**-1.0**
	comp=Z,171nm,1.3s									
CBN						LR	LR			
	comp=Z,19µm,20.0s									
HRV	**Adam Dziewonsk**	**60.55**	**58**	*e*	P		**P**	**05 47 30.6**	**-0.9**
HRV						pmax	pmax			
	comp=Z,79nm,1.0s									
HRV	**Adam Dziewonsk**	**60.55**	**58**	*e*	P		**P**	**05 47 30.6**	**-0.9**
	comp=Z,79nm,1.0s									
JSRW	**J. Sargeant Re**	**60.61**	**66**	*e*	P		**P**	**05 47 30.6**	**-1.4**
SSLB	**Suanglung**	**60.66**	**271**	*e*	P		**P**	**05 47 32.2**	**-0.4**
	comp=Z,909nm,1.4s									
YLE	**Yale**	**60.69**	**60**	*e*	P		**P**	**05 47 32.3**	**-0.1**
	comp=Z,245nm,1.1s									
YULB	**Yu-li**	**60.75**	**271**	*e*	P		**P**	**05 47 32.5**	**-0.7**
	comp=Z,441nm,1.4s									
WES	**Weston**	**60.76**	**58**	*e*	P		**P**	**05 47 32.4**	**-0.5**
WES						pmax	pmax			
	comp=Z,235nm,1.0s									
WES	**Weston**	**60.76**	**58**	*e*	P		**P**	**05 47 32.4**	**-0.5**
	comp=Z,235nm,1.0s									
BRYW	**Bryant College**	**60.98**	**58**	*e*	P		**P**	**05 47 33.6**	**-0.8**
	comp=Z,89nm,0.8s									
EMMW	**East Machias**	**61.01**	**54**	*e*	P		**P**	**05 47 32.8**	**-1.8**
	comp=Z,133nm,1.0s									
KONS	**Konsvik**	**61.12**	**360**	*e*	P		**P**	**05 47 34.4**	**-0.6**
TPUB	**Ta-pu**	**61.22**	**271**	*e*	P		**P**	**05 47 36.3**	**0.0**
	comp=Z,208nm,1.1s									
QZH	**Quanzhou**	**61.24**	**274**	⇑	*i*	P	**P**	**05 47 34.0**	**-2.4**
QZH						S	**S**	**05 55 54.3**	**-1.3**	
QZH						AMB	AMB			
	comp=Z,260nm,1.0s									
QZH						AMB	AMB			
	comp=Z,6µm,5.1s									
QZH						LR	LR			
	comp=Z,18µm,15.1s									
QZH						LR	LR			
	comp=Z,20µm,17.8s									
QZH						LR	LR			
	comp=Z,27µm,22.0s									
STOK	**Stokkvaagen**	**61.28**	**360**	*e*	P		**P**	**05 47 37.3**	**+1.2**
TWG	**Pinlang**	**61.31**	**270**	*e*	P		**P**	**05 47 36.2**	**-0.7**
	comp=Z,608nm,1.1s									
MOR8	**Moi Rana**	**61.44**	**359**	*e*	P		**P**	**05 47 35.2**	**-2.0**
MOR8						AMB	AMB	05 47 42.2		
	comp=Z,128nm,1.0s									
GTA	**Gaotai**	**61.61**	**298**	⇑	P		**P**	**05 47 38.3**	**-0.6**
GTA						pP	**pP**	**05 47 42.4**	**-1.9**	
GTA						sP	**sP**	**05 47 46.1**	**-0.2**	
GTA						PP	**PP**	**05 49 55.3**	**+1.1**	
GTA						S	**S**	**05 55 57.9**	**-2.3**	
GTA						sS	**sS**	**05 56 06.1**	**-3.0**	
GTA						SS	**SS**	**06 00 00.8**	**-0.1**	
GTA						AMB	AMB			
	comp=Z,100nm,1.5s									
GTA						AMB	AMB			
	comp=Z,2µm,5.0s									
GTA						LR	LR			
	comp=Z,21µm,18.3s									
GTA						LR	LR			
	comp=Z,58µm,18.1s									
GTA						LR	LR			
	comp=Z,67µm,18.1s									
LZH	**Lanzhou**	**61.80**	**293**	⇑	P		**P**	**05 47 41.0**	**+0.7**
LZH						pP	**pP**	**05 47 47.3**	**+1.6**	
LZH						sP	**sP**	**05 47 51.3**	**+3.6**	
LZH						PP	**PP**	**05 49 56.6**	**+0.6**	
LZH						S	**S**	**05 56 05.0**	**+2.2**	
LZH						sS	**sS**	**05 56 14.0**	**+2.3**	
LZH						SS	**SS**	**06 00 01.0**	**-3.1**	
LZH						AMB	AMB			
	comp=Z,580nm,1.0s									
LZH						AMB	AMB			
	comp=Z,3µm,4.6s									
LZH						LR	LR			
	comp=Z,34µm,17.4s									
LZH						LR	LR			
	comp=Z,32µm,18.5s									
LZH						LR	LR			
	comp=Z,52µm,18.6s									
TMCR	**Tamitsa**	**61.85**	**348**	*e*	P		**P**	**05 47 38.1**	**-1.8**
TMCR					*e*			05 49 53.8		
TMCR						pmax	pmax			
	comp=Z,485nm,1.2s									
TIGA	**Tifton**	**61.85**	**74**	*e*	P		**P**	**05 47 41.1**	**+0.6**
TIGA	**Tifton**	**61.85**	**74**	⇓	P		**P**	**05 47 38.5**	**-2.0**
	baz=62									
CNNC	**Cliffs of the**	**62.37**	**67**			PFAKE		05 48 00.0	+16	
CNNC						LR	LR			
	comp=Z,33µm,19.0s									
SOKR	**Solikamsk**	**62.62**	**337**	*c*	*i*	P	**P**	**05 47 44.0**	**-1.2**
SOKR								05 50 02.1		
SOKR						S	**S**	**05 56 15.3**	**+3.3**	
SOKR						pmax	pmax			
	comp=Z,480nm,1.1s									
SOKR						MLR	MLR			
	comp=Z,31µm,19.0s									
ENH	**Enshi**	**62.78**	**285**	*e*	P		**P**	**05 47 46.7**	**-0.1**
	comp=Z,120nm,0.8s									
KURK	**Kurchatov**	**63.07**	**320**	*c*	*i*	P	**P**	**05 47 47.2**	**-1.2**
KURK						pmax	pmax			
	comp=Z,106nm,1.7s									
KURK						MLR	MLR			
	comp=Z,44µm,20.0s									
KURK	**Kurchatov**	**63.07**	**320**			P	**P**	**05 47 47.6**	**-0.8**
	SNR=131									
KURK	**Kurchatov**	**63.07**	**320**	*e*	P		**P**	**05 47 47.5**	**-0.8**
	comp=Z,191nm,1.1s									
KURK						P'P'		06 16 43.7		
KURK						LR	LR			
	comp=Z,43µm,19.0s									
KURK	**Kurchatov**	**63.07**	**320**			P	**P**	**05 47 48.3**	**-0.1**
	comp=Z,2µm,0.9s,SNR=32									
NSS	**Namsos**	**63.09**	**1**	*e*	P		**P**	**05 47 47.1**	**-1.1**
NSS						AMB	AMB	05 47 54.1		
	comp=Z,231nm,1.3s									
NSS						AMS	AMS	06 14 54.6		
	comp=Z,8µm,23.5s									
KURBB	**Kurchatov Arra**	**63.18**	**319**			P	**P**	**05 47 48.6**	**-0.5**
	comp=Z,198nm,1.2s,baz=47,slow=7.2,SNR=92									
KURBB						PKPPKP	P'P'df	06 16 43.7	-11	
	comp=Z,1.5nm,0.9s,baz=244,slow=3.4,SNR=5.5									
JOF	**Joensuu**	**63.82**	**351**	*e*	P		**P**	**05 47 51.0**	**-2.1**
JOF						pmax	pmax			
	comp=Z,69nm,0.5s									
JOF	**Joensuu**	**63.82**	**351**	*e*	p		**P**	**05 47 51.0**	**-2.1**
	comp=Z,69nm,0.5s									
SVE	**Sverdlovsk**	**64.06**	**333**	*d*	*i*	P	**P**	**05 47 55.3**	**+0.5**
SVE					*e*	S	S	05 56 46.7	+17	
SVE						pmax	pmax			
	comp=Z,440nm,1.0s									
SVE						pmax	pmax			
	comp=Z,5µm,17.1s									
BVA0	**Borovoye Array**	**64.26**	**326**			P	**P**	**05 47 55.5**	**-0.7**
BVA0						pmax	pmax			
	comp=Z,281nm,1.1s									
BVAR	**Borovoye Array**	**64.26**	**326**			PKPPKP		06 16 45.1		
	comp=Z,0.4nm,0.4s,baz=178,slow=4.2,SNR=2.7									
BVAR						LR	LR	06 19 09.4		
	comp=Z,52µm,18.1s,baz=46,slow=39									
BRVK	**Borovoye**	**64.27**	**326**	*c*	*i*	P	**P**	**05 47 55.6**	**-0.6**
BRVK						pmax	pmax			
	comp=Z,172nm,1.7s									
BRVK						MLR	MLR			
	comp=Z,69µm,21.0s									
BRVK	**Borovoye**	**64.27**	**326**			P	**P**	**05 47 56.1**	**-0.2**
	SNR=128									
BRVK	**Borovoye**	**64.27**	**326**	*e*	P		**P**	**05 47 55.7**	**-0.5**
	comp=Z,291nm,1.1s									
BRVK						LR	LR			
	comp=Z,51µm,19.0s									
VOSK	**Vostochnaya**	**64.30**	**325**			P	**P**	**05 47 56.0**	**-0.5**
VOSK						pmax	pmax			
	comp=Z,97nm,1.3s									
TBLU	**Trondheim**	**64.36**	**1**	*e*	P		**P**	**05 47 54.2**	**-2.4**
TBLU						AMB	AMB	05 48 01.4		
	comp=Z,195nm,0.0s									
TBLU					*e*	S		**S**	**05 56 28.8**	**-4.8**
TBLU						AMS	AMS	06 16 40.6		
	comp=Z,10µm,20.9s									
WMQ	**Urumqi**	**64.45**	**309**			P	**P**	**05 47 57.3**	**-0.4**
WMQ						PcP	**PcP**	**05 48 31.8**	**-0.1**	
WMQ						PP	**PP**	**05 50 21.0**	**+2.0**	
WMQ						PcS		05 52 34.0		
WMQ						S	S	05 56 26.5	-9.1	
WMQ						SS	**SS**	**06 00 39.0**	**-5.9**	
WMQ						AMB	AMB			
	comp=Z,170nm,1.2s									
WMQ						AMB	AMB			
	comp=Z,7µm,11.0s									
WMQ						LR	LR			
	comp=Z,45µm,19.8s									
WMQ						LR	LR			
	comp=Z,39µm,19.2s									
WMQ						LR	LR			
	comp=Z,32µm,19.2s									
SOFL	**Sornfelli, Far**	**64.47**	**10**			AMS	AMS	06 17 57.1		
	comp=Z,25µm,18.4s									
MK31	**Makanchi Array**	**64.61**	**315**	*i*	P		**P**	**05 47 57.2**	**-1.4**
MK31						pmax	pmax			
	comp=Z,162nm,0.8s									
MK31	**Makanchi Array**	**64.61**	**315**	*e*	P		**P**	**05 47 57.5**	**-1.1**
MKAR	**Makanchi Array**	**64.61**	**315**		P		**P**	**05 47 57.4**	**-1.3**
MKAR	**Makanchi Array**	**64.61**	**315**		P		**P**	**05 47 57.4**	**-1.3**
MKAR						P'P'		06 16 35.0		
MKAR				⇑	*e*			06 16 58.9		
MKAR	**Makanchi Array**	**64.61**	**315**			P	**P**	**05 47 57.4**	**-1.3**
	comp=Z,42nm,0.7s,baz=56,slow=7.2,SNR=145									
MKAR						PKPPKP	P'P'df	06 16 35.1	-17	
	comp=Z,1.0nm,1.0s,baz=163,slow=1.5,SNR=4.1									
MKAR						PKP2bc		06 16 58.9		
	comp=Z,1.3nm,0.9s,baz=256,slow=1.9,SNR=6.5									
MKAR						LR	LR	06 17 13.0		
	comp=Z,41µm,18.6s,baz=33,slow=37									
KLMR	**Klimovskoe**	**64.82**	**346**	*c*	*i*	P	**P**	**05 47 59.0**	**-0.7**
KLMR						PPP	PPP	05 51 52.6		
KLMR					*e*	S	**S**	**05 56 35.0**	**-4.4**	
KLMR						pmax	pmax			
	comp=Z,484nm,1.4s									
KLMR						pmax	pmax			
	comp=Z,751nm,1.6s									
KLMR						MLR	MLR			
	comp=Z,22µm,20.0s									
ARU	**Arti**	**64.96**	**334**	*c*	*i*	P	**P**	**05 48 00.1**	**-0.6**
ARU								05 48 39.3		
ARU								05 50 25.7		
ARU						PPP	PPP	05 51 58.3		
ARU						S	**S**	**05 56 42.9**	**+1.6**	
ARU								05 57 56.9		
ARU						pmax	pmax			
	comp=Z,3µm,10.1s									
ARU						smax	smax			
	comp=N,3µm,17.6s									
ARU	**Arti**	**64.96**	**334**			P	**P**	**05 48 00.1**	**-0.6**
	comp=N,2µm,1.0s,SNR=29									
MOL	**Molde**	**64.98**	**3**	*e*	P		P	05 48 11.9	+11	
MOL						AMB	AMB	05 48 19.2		
	comp=Z,245nm,1.9s									
KAF	**Kangasniemi**	**65.04**	**353**	*e*	P		**P**	**05 47 59.3**	**-1.8**
KAF						pmax	pmax			
	comp=Z,172nm,0.5s									
KAF	**Kangasniemi**	**65.04**	**353**	*e*	p		**P**	**05 47 59.3**	**-1.8**
	comp=Z,172nm,0.5s									
TAOE	**Nuku Hiva Isla**	**65.47**	**151**	*e*	P		**P**	**05 48 04.8**	**+0.3**
	comp=Z,453nm,1.2s									
TAOE					*e*	S	**S**	**05 56 46.2**	**-2.4**	
	comp=Z,8µm,28.5s									
TAOE					*e*	LQ	LQ	06 04 33.8		
	comp=Z,7µm,25.5s									
TAOE					*e*	LR	LR	06 07 35.1		
	comp=Z,34µm,24.4s									
DOMB	**Dombas**	**65.55**	**2**	*e*	P		**P**	**05 48 04.3**	**-0.2**
CD2	**Chengdu**	**65.64**	**289**	⇓	*i*	P	**P**	**05 48 06.3**	**+0.7**
CD2						PP	**PP**	**05 50 32.5**	**+2.8**	
CD2						S	S	05 56 40.3	-10	
CD2						SS	**SS**	**06 00 58.4**	**-5.6**	
CD2						AMB	AMB			
	comp=Z,370nm,1.0s									
CD2						AMB	AMB			
	comp=Z,8µm,8.8s									
CD2						LR	LR			
	comp=Z,24µm,20.2s									
CD2						LR	LR			
	comp=Z,30µm,17.8s									
FIA1	**FINESS Array S**	**65.72**	**353**	*e*	P		**P**	**05 48 03.7**	**-1.7**
FINES	**FINESS Array B**	**65.72**	**353**		P		**P**	**05 48 04.6**	**-0.9**
FINES	**FINESS Array B**	**65.72**	**353**		P		**P**	**05 48 04.6**	**-0.9**
	comp=Z,116nm,0.5s,baz=23,slow=7.5,SNR=296									
FINES						LR	LR	06 20 09.0		
	comp=Z,19µm,20.0s,baz=16,slow=39									
GZH	**Guangzhou**	**65.80**	**277**		P		**P**	**05 48 03.8**	**-2.8**
GZH					S		**S**	**05 56 54.5**	**+2.0**	
GZH					AMB	AMB				
	comp=Z,12µm,10.6s									
GZH					LR	LR				
	comp=Z,26µm,20.8s									
GZH					LR	LR				
	comp=Z,21µm,21.4s									
GZH					LR	LR				
	comp=Z,32µm,24.3s									
HYA	**Hoyanger**	**66.34**	**4**	*e*	P		**P**	**05 48 09.3**	**-0.2**
HYA					AMB	AMB	05 48 19.1			
	comp=Z,232nm,1.9s									
HYA					eS	S	**S**	**05 56 58.4**	**+0.5**	
SUE	**Sulen**	**66.39**	**4**	*e*	P		**P**	**05 48 09.8**	**0.0**
SUE					AMB	AMB	05 48 16.2			
	comp=Z,126nm,1.4s									
SUE					AMS	AMS	06 17 22.9			
	comp=Z,5µm,19.6s									
AFI	**Afiamalu**	**66.47**	**185**		LR	LR	06 13 58.6			
	comp=Z,11µm,18.1s,baz=7.4,slow=33									
NB2	**NORSAR Subarra**	**66.59**	**1**		P		**PcP**	**05 48 43.4**	**+3.0**	
	comp=Z,7.1nm,0.7s,baz=0.1,slow=6.9									
NB2	**NORSAR Subarra**	**66.59**	**1**		P		**PcP**	**05 48 43.4**	**+3.0**	
	baz=0.1,slow=6.9									
NOA	**NORSAR Array B**	**66.59**	**1**		P		**P**	**05 48 10.4**	**-0.8**
NOA				⇑	*e*			06 16 44.5		
NOA	**NORSAR Array B**	**66.59**	**1**		P		**P**	**05 48 10.4**	**-0.8**
	comp=Z,29nm,0.6s,baz=360,slow=6.2,SNR=94									
NOA					PKP2bc			06 16 44.5		
	comp=Z,1.6nm,0.8s,baz=171,slow=3.6,SNR=3.0									
NOA					LR	LR		06 20 28.7		
	comp=Z,12µm,19.3s,baz=355,slow=39									
NAO01	**NORSAR Array S**	**66.78**	**1**	*e*	P		**P**	**05 48 11.6**	**-0.8**
	comp=Z,104nm,1.1s									
LRW	**Lerwick**	**66.93**	**8**	⇑	*e*	P	**P**	**05 48 12.5**	**-0.7**
LRW					AMB	AMB	05 48 18.7			
	comp=Z,151nm,1.6s									
LRW				*e*				05 57 14.3		
LRW					AMS	AMS	06 17 22.2			
	comp=Z,11µm,19.4s									
ASK	**Askoy**	**66.98**	**4**	*e*	P		**P**	**05 48 12.8**	**-0.8**
ASK					AMB	AMB	05 48 19.6			
	comp=Z,350nm,1.2s									
PUL	**Pulkovo**	**67.01**	**351**	*e*	P		**P**	**05 48 13.8**	**0.0**
PUL					pmax	pmax				
	comp=Z,545nm,1.2s									
PUL					MLR	MLR				
	comp=Z,9µm,18.0s									
RUND	**Rundenannen**	**67.06**	**4**	*e*	P		**P**	**05 48 12.6**	**-1.6**
BER	**Bergen**	**67.09**	**4**	*e*	P		**P**	**05 48 14.1**	**-0.2**
BER					AMB	AMB	05 48 19.1			
	comp=Z,161nm,1.2s									
BER					eS		**S**	**05 57 09.2**	**+2.2**	
BER					eSS		**SS**	**06 01 26.2**	**+1.5**	
EGD	**Espegrend**	**67.19**	**4**	*e*	P		**P**	**05 48 14.3**	**-0.7**
EGD					AMB	AMB	05 48 19.6			
	comp=Z,218nm,1.6s									
GYA	**Guiyang**	**67.27**	**284**	⇑	*i*	P	**P**	**05 48 16.8**	**+0.7**
GYA					pP		**pP**	**05 48 21.3**	**-0.2**	
GYA					PP		**PP**	**05 50 45.8**	**+1.7**	
GYA					ScP			05 52 43.9		
GYA					S		**S**	**05 57 11.1**	**+0.6**	
GYA					SKS		**SKSac**	**05 58 06.5**	**-6.5**	
GYA					SS		**SS**	**06 01 27.0**	**-2.6**	
GYA					AMB	AMB				
	comp=Z,110nm,1.0s									
GYA					LR	LR				
	comp=Z,9µm,16.5s									
GYA					LR	LR				
	comp=Z,13µm,18.7s									
GYA					LR	LR				
	comp=Z,15µm,19.3s									
TEIG	**Tepich**	**67.38**	**86**	*e*	P		**P**	**05 48 15.5**	**-1.2**
	comp=Z,154nm,1.2s									
TEIG					LR	LR				
	comp=Z,6µm,20.0s									
HFS	**Hagfors**	**67.51**	**360**		LR	LR	06 22 00.2			
	comp=Z,12µm,18.1s,baz=0.4,slow=40									
AUQP	**San Andres**	**67.61**	**263**	*e*	P		P	05 48 21.5	+3.3	
ODD1	**Odda**	**67.61**	**3**	*e*	P		**P**	**05 48 18.1**	**+0.4**	
ODD1					AMB	AMB	05 48 23.7			
	comp=Z,236nm,0.0s									
LQP	**Lukban**	**67.68**	**264**	*e*	P		**P**	**05 48 20.7**	**+1.8**
PLP	**Palo**	**67.91**	**259**	⇓	*e*	P	P	05 48 16.9	-3.3	
KONO	**Kongsberg**	**67.96**	**2**	*e*	P		**P**	**05 48 19.7**	**-0.1**
KONO					AMB	AMB	05 48 26.8			
	comp=Z,401nm,0.9s									
KONO					eS		**S**	**05 57 13.5**	**-4.1**	
KONO	**Kongsberg**	**67.96**	**2**	*e*	P		**P**	**05 48 19.4**	**-0.4**
KONO					pmax	pmax				
	comp=Z,1µm,1.2s									
KONO					MLR	MLR				
	comp=Z,12µm,20.0s									
KONO	**Kongsberg**	**67.96**	**2**	*e*	P		**P**	**05 48 19.4**	**-0.4**
	comp=Z,1µm,1.2s									
KONO					LR	LR				
	comp=Z,12µm,20.0s									
BOAC	**Boac**	**68.00**	**263**	*e*	P		P	05 48 28.0	+7.3	
KMY	**Karmoy**	**68.25**	**4**	*e*	P		**P**	**05 48 22.1**	**+0.4**	
VSU	**Vasula**	**68.62**	**352**	*c*	*i*	P	**P**	**05 48 23.5**	**-0.4**
VSU						pmax	pmax			
	comp=Z,1µm,1.3s									
VSU						MLR	MLR			
	comp=Z,55µm,20.0s			

TKM2 pmax pmax
comp=Z,230nm,1.1s
TKM2 MLR MLR
comp=Z,36µm,19.0s
TKM2 Tokmak 2 70.57 316 P **P** **05 48 36.3 -0.2**
SNR=42
TKM2 Tokmak 2 70.57 316 *e*P **P** **05 48 36.5 0.0**
comp=Z,230nm,1.1s
TKM2 LR LR
comp=Z,36µm,19.0s
KMI Kunming 70.58 286 P **P** **05 48 37.4 +0.5**
KMI pP **pP** **05 48 43.3 +1.0**
KMI sP **sP** **05 48 45.6 +1.3**
KMI PcP **PcP** **05 48 58.8 +0.8**
KMI S **S** **05 57 51.8 +1.8**
KMI sS **sS** **05 58 00.9 +2.0**
KMI SKS **SKSac** **05 58 36.0 -2.3**
KMI AMB AMB
comp=Z,76nm,2.0s
KMI AMB AMB
comp=Z,3µm,4.6s
KMI LR LR
comp=Z,12µm,22.3s
KMI LR LR
comp=Z,10µm,19.9s
KMI LR LR
comp=Z,12µm,19.9s
USP Ospenovka 70.74 317 *i* P **P** **05 48 37.3 -0.1**
USP Ospenovka 70.74 317 P **P** **05 48 37.3 -0.1**
SNR=41
OBN Obninsk 70.78 346*c i*P **P** **05 48 36.6 -0.7**
OBN *i* S S 05 57 56.8 +5.9
OBN pmax pmax
comp=Z,451nm,1.7s
OBN Obninsk 70.78 346 P **P** **05 48 36.5 -0.7**
comp=Z,2µm,1.0s,SNR=14
DAV Davao City (W) 70.81 256 PFAKE **05 48 50.0 +12**
DAV LR LR
comp=Z,37µm,21.0s
ULHL Ulahol 70.85 315 *i* P **P** **05 48 38.9 +0.7**
ULHL Ulahol 70.85 315 P **P** **05 48 38.9 +0.7**
SNR=18
CHMS Chumysh 70.86 317 *i* P **P** **05 48 38.9 +0.8**
CHMS Chumysh 70.86 317 P **P** **05 48 38.9 +0.8**
SNR=18
PGBU Glenifferbraes 70.88 10 *e*P **P** **05 48 37.7 -0.2**
PGBU AMB AMB 05 48 45.5
comp=Z,228nm,2.6s
PGBU *e* 05 57 58.4
PGBU AMB AMB 06 21 48.2
comp=Z,15µm,19.0s
AB31 Akbulak array 70.89 330 *i* P **P** **05 48 37.2 -0.9**
AB31 pmax pmax
comp=Z,27nm,0.4s
ABKAR Akbulak array 70.89 330 *e*P **P** **05 48 37.7 -0.4**
comp=Z,193nm,1.1s
EDI Edinburgh 70.91 10 AMB AMB 05 48 38.9
comp=Z,225nm,1.3s
EDI AMS AMS 06 20 10.7
comp=Z,8µm,18.5s
QIZ Qiongzhong 71.00 277 P **P** **05 48 38.9 -0.3**
QIZ sP **sP** **05 48 43.4 -3.2**
QIZ PP **PP** **05 51 16.1 -0.2**
QIZ S **S** **05 57 54.8 +0.4**
QIZ sS **sS** **05 57 59.8 -3.6**
QIZ SS **SS** **06 02 27.8 +0.7**
QIZ AMB AMB
comp=Z,110nm,2.4s
QIZ LR LR
comp=Z,12µm,18.7s
QIZ LR LR
comp=Z,11µm,21.5s
QIZ Qiongzhong 71.00 277 PFAKE **05 48 50.0 +11**
QIZ LR LR
comp=Z,12µm,22.0s
KBK Karagaybulak 71.06 317 *i* P **P** **05 48 39.5 0.0**
KBK Karagaybulak 71.06 317 P **P** **05 48 39.5 0.0**
SNR=26
MUD Monsted U'grnd 71.15 2⇑*i*P **P** **05 48 40.4 +0.9**
MUD pmax pmax
comp=Z,99nm,1.2s
MUD MLR MLR
comp=Z,12µm,19.0s
MUD Monsted U'grnd 71.15 2⇑*i*P **P** **05 48 40.4 +0.9**
comp=Z,99nm,1.2s
AAK Ala-Archa 71.27 317 *e*P **P** **05 48 40.5 -0.2**
AAK pmax pmax
comp=Z,244nm,1.0s
AAK Ala-Archa 71.27 317 P **P** **05 48 40.3 -0.4**
SNR=148
AAK Ala-Archa 71.27 317 P **P** **05 48 40.6 -0.1**
SNR=69
AAK Ala-Archa 71.27 317 *e*P **P** **05 48 40.5 -0.2**
comp=Z,244nm,1.0s
AAK Ala-Archa 71.27 317 LR LR 06 22 17.8
comp=Z,26µm,19.1s,baz=140,slow=38
MSVF Nonsavu 71.34 195 *e*P **P** **05 48 42.3 +1.2**
MSVF pmax pmax
comp=Z,86nm,1.0s
MSVF MLR MLR
comp=Z,13µm,19.0s
MSVF Nonsavu 71.34 195 *e*P **P** **05 48 42.3 +1.2**
comp=Z,86nm,1.0s
MSVF LR LR
comp=Z,13µm,19.0s
MSVF Nonsavu 71.34 195 P **P** **05 48 43.0 +1.9**
comp=Z,508nm,1.1s,SNR=5.7
KZA Kyzart 71.41 316 *i* P **P** **05 48 42.1 +0.2**
KZA Kyzart 71.41 316 P **P** **05 48 42.1 +0.2**
SNR=20
ESK Eskdalemuir 71.50 10⇑*e*P **P** **05 48 41.9 +0.2**
ESK AMB AMB 05 48 48.8
comp=Z,178nm,1.2s
ESK *e* 05 57 20.9
ESK AMS AMS 06 20 25.7
comp=Z,10µm,19.2s
ESK Eskdalemuir 71.50 10 *e*P **P** **05 48 41.6 -0.1**
ESK pmax pmax
comp=Z,158nm,1.0s
ESK MLR MLR
comp=Z,12µm,19.0s
ESK Eskdalemuir 71.50 10 *e*P **P** **05 48 41.6 -0.1**
comp=Z,158nm,1.0s
ESK LR LR
comp=Z,12µm,19.0s
ESK Eskdalemuir 71.50 10 P **P** **05 48 42.1 +0.4**
comp=Z,843nm,1.0s,SNR=17
EKS2 Erkin-Say 71.54 317 *e*P **P** **05 48 42.2 -0.1**
EKS2 pmax pmax
comp=Z,186nm,1.0s
EKS2 MLR MLR
comp=Z,23µm,19.0s
EKS2 Erkin-Say 71.54 317 P **P** **05 48 42.4 +0.1**
SNR=40
EKS2 Erkin-Say 71.54 317 *e*P **P** **05 48 42.2 -0.1**
comp=Z,186nm,1.0s
EKS2 LR LR
comp=Z,23µm,19.0s
ISAL Salakas 71.54 352 *e*P **P** **05 48 41.9 0.0**
ISAL AMB AMB 05 48 48.9
comp=Z,134nm,1.0s
PPT Papeete 71.60 162 LR LR 06 13 13.0
comp=Z,12µm,20.7s,baz=314,slow=30
PPT2 Papeete2 71.62 162 *e*P **P** **05 48 43.6 +0.8**
PPT2 *e*S **S** **05 57 58.4 -3.0**
comp=Z,48µm,26.8s
PPT2 Papeete2 71.62 162 *e*LR LR 06 10 20.1
comp=Z,60µm,30.5s,baz=350
TIAR Tiarei 71.63 162 *e*P **P** **05 48 43.5 +0.7**
comp=Z,330nm,1.0s
PAE Paea 71.69 163 *e*P **P** **05 48 43.6 +0.5**
comp=Z,31nm,1.4s
BBSR BB Station 71.74 61 *e*P **P** **05 48 43.9 +0.4**
comp=Z,164nm,1.3s
BBSR LR LR
comp=Z,7µm,20.0s
IIGN Ignalina 71.75 352 *e*P **P** **05 48 42.8 -0.4**
IIGN AMB AMB 05 48 49.5
comp=Z,142nm,1.0s
GAL1 Galloway 71.78 11⇑*e*P **P** **05 48 43.5 +0.1**
GAL1 AMB AMB 05 48 50.2
comp=Z,244nm,1.2s
GAL1 *e* 05 57 04.0
GAL1 AMS AMS 06 22 16.3
comp=Z,15µm,18.4s

TVO Taravao 71.86 162 *e*P **P** **05 48 45.1 +0.8**
comp=Z,76nm,1.3s
COP Copenhagen 71.97 0⇑*i*P **P** **05 48 44.9 +0.5**
COP pmax pmax
comp=Z,58nm,1.0s
COP MLR MLR
comp=Z,4µm,18.0s
COP Copenhagen 71.97 0⇑*i*P **P** **05 48 44.9 +0.5**
comp=Z,58nm,0.9s
AML Almayashu 72.01 317 *i* P **P** **05 48 45.8 +0.3**
AML Almayashu 72.01 317 P **P** **05 48 45.8 +0.3**
SNR=38
NACGM Naroch 72.15 352 *e*P P 05 48 42.0 -3.6
KESW Keswick, Cumbr 72.23 10⇑*e*P **P** **05 48 46.0 -0.1**
KESW AMB AMB 05 48 53.1
comp=Z,269nm,1.3s
KESW *e* 05 57 51.1
KESW AMS AMS 06 21 26.9
comp=Z,11µm,18.9s
GMM Mts of Mourne 72.26 12 *e*P **P** **05 48 46.4 +0.2**
LLD Lille Linde 72.32 0 *i* P P 05 48 52.7 +6.2
comp=Z,176nm,0.9s
MICGM Minsk 72.44 351⇑*i*P **P** **05 48 47.0 -0.3**
MNK Minsk 72.45 351⇑*i*P **P** **05 48 47.0 -0.4**
MNK *e* 05 51 28.0
MNK *e*PPP PPP 05 53 16.0
MNK *e*S **SKiKP** **05 58 16.0 -5.2**
MNK *e* 05 58 50.0
MNK pmax pmax
comp=N,470nm,1.0s
MNK pmax pmax
comp=Z,510nm,1.0s
MNK MLR MLR
comp=Z,39µm,18.0s
MNK MLR MLR
comp=N,12µm,18.0s
MNK MLR MLR
comp=Z,21µm,18.0s
MNK MLR MLR
comp=N,15µm,20.0s
MNK MLR MLR
comp=E,27µm,18.0s
MNK MLR MLR
comp=E,22µm,16.0s
KK31 Karatay Array 72.49 320 *i* P **P** **05 48 47.5 -0.4**
KK31 pmax pmax
comp=Z,455nm,1.3s
KKAR Karatay Array 72.49 320 *e*P **P** **05 48 47.3 -0.6**
KKAR pmax pmax
comp=Z,261nm,1.1s
KKAR Karatay Array 72.49 320 *e*P **P** **05 48 47.2 -0.6**
comp=Z,261nm,1.1s
BSD Bornholm Skovb 72.53 359⇑*i*P **P** **05 48 47.4 -0.4**
BSD pmax pmax
comp=Z,58nm,0.9s
BSD MLR MLR
comp=Z,11µm,16.0s
BSD Bornholm Skovb 72.53 359⇑*i*P **P** **05 48 47.4 -0.4**
comp=Z,58nm,0.9s
TGUH Tegucigalpa,Un 72.72 89 *e*P **P** **05 48 49.5 -0.1**
comp=Z,618nm,1.6s
TGUH LR LR
comp=Z,6µm,19.0s
HPK Haverah Park 73.00 9 *e*P **P** **05 48 50.5 -0.1**
HPK AMB AMB 05 48 58.0
comp=Z,260nm,1.4s
HPK *e* 05 58 06.9
HPK AMS AMS 06 24 22.1
comp=Z,11µm,18.7s
PMG Port Moresby 73.19 228 P **P** **05 48 53.0 +0.8**
comp=Z,174nm,1.1s,comp=Z,4µm
PMG Port Moresby 73.19 228 *e*P **P** **05 48 51.7 -0.5**
comp=Z,267nm,1.3s
PMG Port Moresby 73.19 228 LR LR 06 14 29.7
comp=Z,11µm,21.4s,baz=44,slow=30
KSH Kashi 73.20 314 P P 05 48 56.0 +3.7
KSH PcP **PcP** **05 49 10.1 +1.3**
KSH S **S** **05 58 13.6 -5.9**
KSH AMB AMB
comp=Z,1µm,1.8s
KSH LR LR
comp=Z,18µm,17.6s
KSH LR LR
comp=Z,34µm,17.9s
KSH LR LR
comp=Z,15µm,22.1s
WME Myndd Eilian 73.28 11⇑*e*P **P** **05 48 51.7 -0.6**
SUW Suwalki 73.31 354 *e*P **P** **05 48 51.9 -0.5**
SUW *e**SS **SKSac** **05 58 50.6 -6.9**
SUW *e* 05 59 05.7
SUW Suwalki 73.31 354 *e*P **P** **05 48 52.0 -0.5**
comp=Z,1µm,1.1s
SUW Suwalki 73.31 354 *e*P **P** **05 48 51.9 -0.6**
SUW *e*S **SKiKP** **05 58 27.5 +5.0**
SUW *e*sS **SKSac** **05 58 50.6 -6.9**
SUW *e*ScS **ScS** **05 59 05.7 +5.8**
SUW LMZ LR 06 23 15.8
WLF1 Llynfaes 73.37 11⇑*e*P **P** **05 48 52.8 0.0**
WLF1 AMB AMB 05 48 59.6
comp=Z,149nm,1.4s
WLF1 AMS AMS 06 23 12.7
comp=Z,13µm,19.0s
YRC Rhoscolyn 73.39 11 *e*P **P** **05 48 53.4 +0.5**
WPM1 Penmaenmawr 73.46 11⇑*e*P **P** **05 48 52.6 -0.8**
YLL Llanberis 73.54 11⇑*e*P **P** **05 48 54.1 +0.2**
LSA Lhasa 73.60 297 P **P** **05 48 54.6 -0.6**
LSA S **SKiKP** **05 58 24.0 -0.3**
LSA LR LR
comp=Z,8µm,15.8s
LSA LR LR
comp=Z,10µm,16.8s
LSA LR LR
comp=Z,23µm,16.8s
LSA Lhasa 73.60 297 *e*P **P** **05 48 55.9 +0.7**
LSA pmax pmax
comp=Z,424nm,1.1s
LSA MLR MLR
comp=Z,17µm,19.0s
LSA Lhasa 73.60 297 *e*P **P** **05 48 55.9 +0.7**
comp=Z,424nm,1.1s
LSA LR LR
comp=Z,17µm,19.0s
LMK Market Rasen 73.62 8 AMS AMS 06 21 27.5
comp=Z,7µm,19.3s
VOR Voronezh 73.62 343 *e*P **P** **05 48 53.0 -1.4**
VOR pmax pmax
comp=Z,300nm,1.4s
YRE Yr Eifl 73.67 11⇑*e*P **P** **05 48 54.8 +0.1**
BSEG Bad Segeberg 73.70 2 *e*P **P** **05 48 55.5 +0.8**
BSEG pmax pmax
comp=Z,38nm,0.9s
BSEG Bad Segeberg 73.70 2 *e*P **P** **05 48 55.5 +0.8**
comp=Z,38nm,0.9s
KBI1 Birley Grange 73.71 9⇑*e*P **P** **05 48 54.4 -0.5**
VRHR Novokhopersk 73.79 342 *e*P **P** **05 48 53.6 -1.8**
VRHR *e*PP **pP** **05 48 58.6 -2.2**
VRHR *e*S **SKiKP** **05 58 21.8 -1.6**
VRHR *e*SS **SS** **06 03 09.6 +1.6**
VRHR pmax pmax
comp=Z,100nm,0.6s
VRHR pmax pmax
comp=N,9.0nm,0.3s
VRHR pmax pmax
comp=E,7.0nm,0.3s
VRHR smax smax
comp=E,190nm,2.0s
VRHR smax smax
comp=Z,10.0nm,0.4s
VRHR smax smax
comp=N,30nm,0.6s
STNC Stoke 73.80 9⇑*e*P **P** **05 48 56.2 +0.8**
STNC AMB AMB 05 49 02.8
comp=Z,441nm,1.2s
STNC *e* 05 58 07.3
STNC AMS AMS 06 26 51.4
comp=Z,9µm,18.2s
RAR Rarotonga 73.88 173 LR LR 06 20 37.9
comp=Z,6µm,18.3s,baz=2.9,slow=35
FOEL Foel Wylfa 73.90 10 *e*P **P** **05 48 56.1 +0.1**
FOEL AMB AMB 05 49 03.4
comp=Z,432nm,1.1s
FOEL *e* 05 58 33.8
FOEL AMS AMS 06 25 57.0
comp=Z,12µm,18.6s
VAL Valentia 73.91 15 *e*P **P** **05 48 56.4 +0.4**
VAL *e*S S 05 58 34.1 +7.4

SWI Sorong 73.98 246 P **P** **05 48 57.9 +1.0**
comp=Z,239nm,1.1s,comp=Z,5µm
SWI Sorong 73.98 246 P **P** **05 48 57.7 +0.8**
baz=74,SNR=3.8
VSR Storozhevoye 74.13 343 *e*P **P** **05 48 56.6 -0.7**
VSR *e**PP **pP** **05 49 01.6 -1.2**
VSR *e*S **S** **05 58 27.6 -1.7**
VSR pmax pmax
comp=N,30nm,0.6s
VSR pmax pmax
comp=Z,90nm,0.6s
VSR pmax pmax
comp=E,3.0nm,0.3s
VSR smax smax
comp=N,650nm,4.2s
VSR smax smax
comp=Z,110nm,2.1s
VSR smax smax
comp=E,620nm,4.2s
VSR MLR MLR
comp=N,21µm,22.0s
VSR MLR MLR
comp=E,9µm,22.0s
VSR MLR MLR
comp=Z,35µm,22.0s
GKP Gorka Klasztor 74.33 357 *e*P **P** **05 48 59.0 +0.5**
GKP *e*S **S** **05 58 29.8 -1.7**
GKP *e* 05 59 19.3
GKP Gorka Klasztor 74.33 357 *e*P **P** **05 48 58.9 +0.4**
GKP *e*pP **pP** **05 49 03.0 -0.9**
GKP *e*S **S** **05 58 29.8 -1.7**
GKP *e*ScS ScS 05 59 19.2 +11
GKP LMZ LR 06 15 23.9
VORD Divnogorie 74.34 343 *e*P **P** **05 48 58.1 -0.5**
VORD *e*S **S** **05 58 36.9 +5.2**
VORD pmax pmax
comp=Z,80nm,0.8s
VORD pmax pmax
comp=E,20nm,0.4s
VORD smax smax
comp=E,300nm,3.6s
VORD smax smax
comp=Z,110nm,3.6s
VORD MLR MLR
comp=E,12µm,23.0s
VORD MLR MLR
comp=Z,33µm,23.0s
LPW Lampeter 74.57 11 *e*P **P** **05 48 59.0 -0.9**
LPW AMB AMB 05 49 05.6
comp=Z,755nm,3.7s
LPW AMS AMS 06 24 03.8
comp=Z,105µm,19.5s
MCH1 Michaelchurch 74.80 10⇑*e*P **P** **05 49 00.9 -0.3**
MCH1 AMB AMB 05 49 09.0
comp=Z,257nm,2.7s
MCH1 *e* 05 58 37.9
MCH1 AMS AMS 06 26 33.1
comp=Z,13µm,18.3s
FAKI Fak Fak 75.13 244⇓P **P** **05 49 05.7 +2.1**
baz=75,SNR=4.2
NRDL Niedersach Rie 75.14 2 *e*P **P** **05 49 03.8 +0.7**
comp=Z,9µm,2.9s
RUE Ruedersdorf 75.18 360 *e*P **P** **05 49 03.7 +0.4**
comp=Z,351nm,1.2s
IBBN Ibbenburen 75.26 3 *e*P **P** **05 49 05.2 +1.3**
comp=Z,156nm,1.2s
MTDJ Mount Denham 75.39 79 *e*P **P** **05 49 05.0 -0.2**
comp=Z,92nm,1.3s
MTDJ LR LR
comp=Z,7µm,20.0s
SWN1 Swindon 75.40 10 *e*P **P** **05 49 05.3 +0.6**
SWN1 AMB AMB 05 49 12.8
comp=Z,453nm,2.6s
SWN1 *e* 05 58 52.3
SWN1 AMS AMS 06 27 07.1
comp=Z,9µm,20.1s
GTBY Guantanamo Bay 75.51 76 PFAKE 05 49 20.0 +14
GTBY LR LR
comp=Z,10µm,20.0s
WTSB Winterswijk 75.56 4 *e*P **P** **05 49 06.1 +0.5**
comp=Z,141nm,1.2s
PANO Nakornpanom 75.59 279 P **P** **05 49 07.9 +1.6**
comp=Z,156nm,1.2s,comp=Z,5µm
HTL Hartland 75.62 11 *e*P **P** **05 49 06.0 0.0**
HTL AMB AMB 05 49 13.8
comp=Z,188nm,2.8s
HTL AMS AMS 06 24 43.2
comp=Z,11µm,19.8s
BEL Belsk 75.62 355 *e*P **P** **05 49 06.8 +0.9**
BEL Belsk 75.62 355 *e*P **P** **05 49 06.8 +0.9**
BEL *e*pP **pP** **05 49 10.7 -0.7**
BEL LMZ LR 06 16 57.9
WOL Wolverton 75.66 9 *e*P **P** **05 49 05.8 -0.4**
WOL AMB AMB 05 49 14.0
comp=Z,405nm,2.7s
WOL AMS AMS 06 27 26.6
comp=Z,10µm,19.9s
NONG Nongkai 75.76 281 P **P** **05 49 08.0 +0.7**
comp=Z,130nm,2.4s,comp=Z,4µm
CLZ Clausthal 75.80 2 *e*P **P** **05 49 07.9 +0.9**
CLZ pmax pmax
comp=Z,556nm,1.6s
CLZ Clausthal 75.80 2 *e*P **P** **05 49 07.9 +0.9**
comp=Z,556nm,1.6s
ELSH Elham, Standar 76.03 8 AMS AMS 06 26 19.7
comp=Z,7µm,19.9s
AKASG Malin Array Be 76.06 349 P **P** **05 49 07.4 -1.0**
AKASG Malin Array Be 76.06 349 P **P** **05 49 07.4 -1.0**
AKASG P'P' 06 16 27.1
AKASG Malin Array Be 76.06 349 P **P** **05 49 07.4 -1.0**
comp=Z,87nm,0.5s,baz=13,slow=6.0,SNR=266
AKASG PKPPKP P'P'df 06 16 27.1 -5.8
comp=Z,0.5nm,0.6s,baz=192,slow=1.5,SNR=4.2
AKASG LR LR 06 30 41.9
comp=Z,19µm,18.1s,baz=15,slow=42
KIEV Kiev 76.06 349 *e*P **P** **05 49 07.5 -1.0**
KIEV pmax pmax
comp=Z,387nm,0.9s
KIEV MLR MLR
comp=Z,17µm,19.0s
KIEV Kiev 76.06 349 *e*P **P** **05 49 07.5 -1.0**
comp=Z,387nm,0.9s
KIEV LR LR
comp=Z,17µm,19.0s
SKNT Sakolnakorn 76.11 280 P **P** **05 49 09.9 +0.6**
comp=Z,438nm,1.3s,comp=Z,7µm
BUG Bochum--Univer 76.11 4 *e*P **P** **05 49 08.8 +0.1**
comp=Z,33nm,0.8s
KDM Kudat 76.16 263 P **P** **05 49 10.3 +0.8**
DYA Yadsworthy 76.23 11⇑*e*P **P** **05 49 09.7 +0.2**
DYA AMB AMB 05 49 14.6
comp=Z,176nm,1.4s
DYA AMS AMS 06 26 47.2
comp=Z,9µm,19.0s
HMNX Herstmonceux 76.24 8 *e*P **P** **05 49 09.9 +0.4**
HMNX AMB AMB 05 49 16.7
comp=Z,276nm,1.3s
HMNX AMS AMS 06 26 34.2
comp=Z,9µm,18.6s
CLL Collm 76.36 0⇑*i*P **P** **05 49 09.4 -0.7**
CLL *e*S **S** **05 58 53.0 -1.0**
CLL pmax pmax
comp=Z,4.0nm,1.1s
CLL MLR MLR
comp=Z,10µm,21.8s
CLL Collm 76.36 0 *e*P **P** **05 49 10.3 +0.2**
comp=Z,294nm,1.6s
CLL Collm 76.36 0⇑*i*P **P** **05 49 09.4 -0.7**
comp=Z,160nm,1.1s
CLL *e*PPP PPP 05 53 50.0
CLL *e*S **S** **05 58 53.0 -1.0**
comp=N,2µm,10.8s
CLL *e*S **S** **05 58 53.0 -1.0**
comp=E,2µm,15.4s
CLL *e*SSS SSS 06 07 12.0
SHL Shillong 76.44 294 *e*P **P** **05 49 12.0 +0.7**
SHL *i* x x 05 58 59.0
UBPT Khong Chiam 76.53 277 P **P** **05 49 13.3 +1.7**
UBPT Khong Chiam 76.53 277 P **P** **05 49 12.5 +0.9**
comp=E,272nm,1.5s,comp=E,8µm
MYLDM Lahad Datu 76.53 261 P **P** **05 49 14.0 +2.4**
MYLDM Lahad Datu 76.53 261 P P 05 49 15.9 +4.3
UCC Uccle 76.61 6 P **P** **05 49 12.3 +0.8**
GRTK Grand Turk 76.61 72 PFAKE 05 49 20.0 +8.0
GRTK LR LR
comp=Z,18µm,20.0s

BEBN	**Eben Emael**	**76.68**	**5**	P		**P**	**05 49 12.6**	**+0.6**
	comp=Z,60nm,1.5s								
HGN	**Heimansgroeve**	**76.73**	**5**	*e*P		**P**	**05 49 12.7**	**+0.5**
	comp=Z,267nm,1.5s								
HGN				*e*S		S	05 59 06.8	+8.8	
KSP	**Ksiaz**	**76.78**	**358**	*e*P		**P**	**05 49 13.1**	**+0.5**
KSP				*e*pP		**pP**	**05 49 18.0**	**-0.1**
KSP				*e*S		**S**	**05 59 03.2**	**+4.4**
KSP				*e*sS		**SKSac**	**05 59 20.6**	**-3.0**
KSP				LMZ		LR	06 16 14.9		
BRG	**Berggiesshubel**	**76.79**	**359**	*i* P		**P**	**05 49 13.2**	**+0.6**
	comp=Z,124nm,1.4s								
BRG				PP		**PP**	**05 52 05.0**	**+0.5**
BRG				S		**S**	**05 59 04.0**	**+5.2**
BRG	**Berggiesshubel**	**76.79**	**359**	*i* P		**P**	**05 49 13.2**	**+0.6**
BRG							05 52 05.0		
BRG				S		**S**	**05 59 04.0**	**+5.2**
BRG				SS		**SS**	**06 03 52.0**	**-1.3**
BRG				pmax		pmax			
	comp=Z,124nm,1.4s								
BRG				pmax		pmax			
	comp=Z,216nm,1.3s								
BRG				MLR		MLR			
	comp=N,8µm,21.2s								
BRG				MLR		MLR			
	comp=E,7µm,18.6s								
BRG				MLR		MLR			
	comp=Z,10µm,20.8s								
BRG	**Berggiesshubel**	**76.79**	**359**	*e*P		**P**	**05 49 13.0**	**+0.4**
	comp=Z,112nm,1.4s								
UBBA	**Unterbreizbach**	**76.81**	**2**	*e*P		**P**	**05 49 13.2**	**+0.6**
	comp=Z,51nm,1.5s								
MEM	**Membach**	**76.88**	**5**	P		**P**	**05 49 13.6**	**+0.4**
	comp=Z,172nm,1.4s								
SDKM	**Sandakan**	**76.95**	**262**	P		**P**	**05 49 14.6**	**+0.5**
MOX	**Moxa**	**77.01**	**1**	*e*P		**P**	**05 49 14.5**	**+0.6**
MOX				pmax		pmax			
	comp=Z,36nm,0.7s								
MOX	**Moxa**	**77.01**	**1**	*e*P		**P**	**05 49 14.5**	**+0.6**
	comp=Z,36nm,0.7s								
MOX				*e*L		L	06 19 18.9		
	comp=Z,2µm,21.0s								
JTS	**JuntasAbangare**	**77.06**	**90**	*e*P		**P**	**05 49 14.4**	**-0.4**
	comp=Z,114nm,0.8s								
JTS				LR		LR			
	comp=Z,7µm,22.0s								
UPC	**Upice**	**77.12**	**358**	*e*P		**P**	**05 49 14.8**	**+0.3**
UPC				*e*			05 49 19.1		
UPC	**Upice**	**77.12**	**358**	*e*P		**P**	**05 49 14.8**	**+0.3**
UPC				*ex*		x	05 49 19.1		
PVCC	**Panska Ves**	**77.13**	**359**	*e*P		**P**	**05 49 15.2**	**+0.7**
PVCC				*e*			05 49 19.1		
PVCC				MLR		MLR			
	comp=Z,12µm,16.5s								
PVCC	**Panska Ves**	**77.13**	**359**	AMS		AMS	05 34 00.0		
	comp=Z,12µm,16.5s								
PVCC				*e*P		**P**	**05 49 15.2**	**+0.7**
PVCC				*ex*		x	05 49 19.1		
PVCC				*e*S		S	05 59 10.0	+7.5	
TLE	**Tual**	**77.13**	**242**	P		**P**	**05 49 15.3**	**+0.3**
	baz=77,SNR=3.8								
KKM	**Kota Kinabalu**	**77.22**	**263**	P		**P**	**05 49 16.8**	**+1.1**
KKM	**Kota Kinabalu**	**77.22**	**263**	P		**P**	**05 49 16.6**	**+0.9**
	comp=Z,398nm,1.6s,comp=Z,5µm								
KKM	**Kota Kinabalu**	**77.22**	**263**	P		**P**	**05 49 16.2**	**+0.5**
	comp=Z,147nm,2.0s,comp=Z,5µm								
KKM	**Kota Kinabalu**	**77.22**	**263**	*e*P		**P**	**05 49 16.7**	**+1.0**
	comp=Z,141nm,1.2s								
KKM				LR		LR			
	comp=Z,11µm,21.0s								
KKM	**Kota Kinabalu**	**77.22**	**263**	⇑P		**P**	**05 49 17.2**	**+1.5**
	baz=77,SNR=32								
TANN	**Tannenbergstha**	**77.25**	**0**	*e*P		**P**	**05 49 16.0**	**+0.7**
	comp=Z,12nm,0.8s								
TBI	**Tubual**	**77.26**	**164**	*e*LR		LR	06 12 45.3		
	comp=Z,36µm,33.8s,baz=345								
DPC	**Dobruska-Polom**	**77.28**	**358**	*e*P		**P**	**05 49 15.5**	**+0.1**
DPC				*e*			05 49 20.1		
DPC				*e*			05 52 14.6		
DPC				*e*S		**S**	**05 59 07.1**	**+2.9**
DPC				*e*			06 04 01.5		
DPC	**Dobruska-Polom**	**77.28**	**358**	*e*P		**P**	**05 49 15.5**	**+0.1**
DPC				*e*pP		**pP**	**05 49 20.1**	**-0.8**
DPC				*e*PP		PP	05 52 14.6	+5.9	
DPC				*e*S		**S**	**05 59 07.1**	**+2.9**
DPC				*e*SS		**SS**	**06 04 01.5**	**+0.7**
DPC				*e*PKKP		**PKKPdf**	**06 08 02.8**	**-1.5**
DPC				AMS		AMS	06 34 00.0		
OJC	**Ojcow**	**77.28**	**356**	*i* P		**P**	**05 49 16.1**	**+0.7**
OJC				*e*pP		**PcP**	**05 49 29.8**	**+3.8**
OJC				*e*PP		**PP**	**05 52 09.8**	**+1.1**
OJC				*e*SKSac		**SKSac**	**05 59 24.0**	**-3.3**
OJC				L		L	06 26 02.0		
	comp=Z,21µm,19.8s								
TAPN	**Taplejung**	**77.30**	**298**	*e*P		**P**	**05 49 15.7**	**-0.6**
	comp=Z,507nm,0.9s								
LOEI	**Loei**	**77.31**	**282**	P		**P**	**05 49 14.8**	**-1.3**
	comp=Z,88nm,2.4s,comp=Z,3µm								
DOU	**Dourbes**	**77.32**	**6**	P		**P**	**05 49 15.4**	**-0.2**
	comp=Z,68nm,1.4s								
MSAI	**Masihi**	**77.33**	**247**	P		P	05 49 20.0	+3.9	
	comp=Z,36nm,0.8s,comp=Z,1µm								
GIVF	**Givet**	**77.33**	**5**	*e*P		**P**	**05 49 15.5**	**-0.2**
	comp=Z,363nm,1.2s								
GIVF	**Givet**	**77.33**	**5**	*e*P		**P**	**05 49 15.5**	**-0.2**
GIVF				pmax		pmax			
	comp=Z,363nm,1.2s								
GIVF	**Givet**	**77.33**	**5**	*e*P		**P**	**05 49 15.5**	**-0.2**
	comp=Z,363nm,1.2s								
BAIF	**Baives**	**77.33**	**6**	*e*P		**P**	**05 49 15.7**	**0.0**
	comp=Z,269nm,1.1s								
BAIF	**Baives**	**77.33**	**6**	*e*P		**P**	**05 49 15.7**	**0.0**
BAIF				pmax		pmax			
	comp=Z,269nm,1.1s								
BAIF	**Baives**	**77.33**	**6**	*e*P		**P**	**05 49 15.7**	**0.0**
	comp=Z,269nm,1.1s								
TNS	**Taunus Mts**	**77.37**	**3**	*e*P		**P**	**05 49 16.6**	**+0.6**
TNS				pmax		pmax			
	comp=Z,149nm,1.5s								
TNS	**Taunus Mts**	**77.37**	**3**	*e*P		**P**	**05 49 16.6**	**+0.6**
	comp=Z,149nm,1.5s								
LVV	**L'vov**	**77.42**	**353**	⇓*i*P		**P**	**05 49 16.4**	**+0.2**
LVV				*e*S		**S**	**05 59 05.0**	**-0.7**
LVV				MLR		MLR			
	comp=Z,14µm,19.0s								
RAC	**Raciborz**	**77.49**	**357**	*e*P		**P**	**05 49 16.9**	**+0.4**
RAC				*e*S		**S**	**05 59 11.6**	**+5.2**
RAC				MLR		MLR			
	comp=Z,21µm,19.8s								
PRA	**Prague**	**77.59**	**359**	P		**P**	**05 49 18.0**	**+0.9**
PRA				PP		PP	05 52 18.0	+6.8	
PRA				S		**S**	**05 59 10.0**	**+2.5**
PRA				AMS		AMS	06 34 30.0		
TSM	**Tawau**	**77.61**	**261**	P		**P**	**05 49 18.7**	**+1.0**
JSA	**Saint Aubin**	**77.66**	**10**	*e*P		**P**	**05 49 17.3**	**-0.2**
JSA				AMB		AMB	05 49 24.6		
	comp=Z,139nm,1.3s								
JSA				*e*			05 59 12.3		
JSA				AMS		AMS	06 25 56.6		
	comp=Z,11µm,20.5s								
PRU	**Pruhonice**	**77.67**	**359**	*e*P		**P**	**05 49 17.8**	**+0.2**
PRU				*e*			05 49 21.9		
PRU				*e*			05 52 17.8		
PRU				*e*S		**S**	**05 59 08.9**	**+0.5**
PRU				*e*			06 04 02.8		
PRU				MLR		MLR			
	comp=Z,12µm,16.3s								
PRU	**Pruhonice**	**77.67**	**359**	*e*P		**P**	**05 49 17.8**	**+0.2**
PRU				*ex*		x	05 49 21.9		
PRU				*e*PP		PP	05 52 17.8	+5.9	
PRU				*e*S		**S**	**05 59 08.9**	**+0.5**
PRU				*e*SS		**SS**	**06 04 02.8**	**-3.8**
PRU				*e*PKKP		**PKKPdf**	**06 08 08.5**	**+4.9**
PRU				AMS		AMS	06 33 50.0		
	comp=Z,12µm,16.3s								
CHTO	**Chiang Mai**	**77.67**	**285**	*e*P		**P**	**05 49 18.1**	**0.0**
CHTO				pmax		pmax			
	comp=Z,2µm,1.6s								
CHTO				MLR		MLR			
	comp=Z,15µm,19.0s								
CHTO	**Chiang Mai**	**77.67**	**285**	P		**P**	**05 49 18.6**	**+0.5**
	SNR=29								
CHTO	**Chiang Mai**	**77.67**	**285**	P		**P**	**05 49 18.8**	**+0.7**
	comp=Z,632nm,2.8s,comp=Z,19µm				comp=Z,93µm				
CHTO	**Chiang Mai**	**77.67**	**285**	*e*P		**P**	**05 49 18.1**	**0.0**
	comp=Z,2µm,1.6s								
CHTO				LR		LR			
	comp=Z,15µm,19.0s								
CHTO	**Chiang Mai**	**77.67**	**285**	P		**P**	**05 49 18.4**	**+0.3**
	comp=Z,433nm,1.8s,comp=Z,19µm								
KWP	**Kalwaria Pacla**	**77.70**	**354**	*e*P		**P**	**05 49 18.1**	**+0.3**
KWP				pmax		pmax			
	comp=Z,177nm,0.7s								
KWP				MLR		MLR			
	comp=Z,15µm,20.0s								
KWP	**Kalwaria Pacla**	**77.70**	**354**	*e*P		**P**	**05 49 18.1**	**+0.3**
	comp=Z,177nm,0.7s								
KWP				LR		LR			
	comp=Z,15µm,20.0s								
KWP	**Kalwaria Pacla**	**77.70**	**354**	*e*P		**P**	**05 49 17.9**	**+0.1**
KWP				*e*pP		**pP**	**05 49 22.7**	**-0.6**
KWP				*e*S		S	05 59 17.3	+8.5	
KWP				LMZ		LR	06 32 26.6		
OKC	**Ostrava-Krasne**	**77.73**	**357**	*e*P		**P**	**05 49 18.4**	**+0.5**
OKC				*e*			05 49 22.7		
OKC				*e*			05 52 17.8		
OKC				*e*S		**S**	**05 59 14.7**	**+5.6**
OKC				MLR		MLR			
	comp=Z,13µm,19.5s								
OKC	**Ostrava-Krasne**	**77.73**	**357**	AMS		AMS	05 27 00.0		
	comp=Z,13µm,19.5s								
OKC				*e*P		**P**	**05 49 18.4**	**+0.5**
OKC				*ex*		x	05 49 22.7		
OKC				*e*PP		PP	05 52 17.8	+5.3	
OKC				*e*S		**S**	**05 59 14.7**	**+5.6**
GUN	**Gumba**	**77.82**	**300**	*e*P		**P**	**05 49 19.1**	**-0.2**
	comp=Z,1µm,1.2s								
WLF	**Walferdange**	**77.83**	**5**	P		**P**	**05 49 19.6**	**+1.1**
	comp=Z,94nm,1.3s								
WLF	**Walferdange**	**77.83**	**5**	*e*P		**P**	**05 49 19.3**	**+0.8**
WLF				pmax		pmax			
	comp=Z,177nm,1.3s								
WLF				MLR		MLR			
	comp=Z,11µm,20.0s								
WLF	**Walferdange**	**77.83**	**5**	*e*P		**P**	**05 49 19.5**	**+1.0**
	comp=Z,130nm,1.4s								
WLF	**Walferdange**	**77.83**	**5**	*e*P		**P**	**05 49 19.3**	**+0.8**
	comp=Z,178nm,1.3s								
WLF				LR		LR			
	comp=Z,11µm,20.0s								
JIRN	**Jiri**	**77.86**	**300**	*e*P		**P**	**05 49 19.4**	**-0.1**
	comp=Z,604nm,0.9s								
ODAN	**Odare**	**77.86**	**298**	*e*P		**P**	**05 49 18.7**	**-0.6**
	comp=Z,1µm,1.7s								
ROTZ	**Rotzenmuhle**	**77.89**	**1**	*e*P		**P**	**05 49 20.0**	**+1.1**
	comp=Z,24nm,0.9s								
CM31	**Chiang Mai Arr**	**77.95**	**285**	*e*P		**P**	**05 49 20.3**	**+0.7**
	comp=Z,127nm,1.0s								
GRF	**Grafenberg Arr**	**77.96**	**1**	*e*P		**P**	**05 49 20.3**	**+1.1**
GRF				pmax		pmax			
	comp=Z,452nm,1.6s								
GRF	**Grafenberg Arr**	**77.96**	**1**	*e*P		**P**	**05 49 20.3**	**+1.1**
	comp=Z,452nm,1.6s								
GRF				*e*L		L	06 20 18.3		
	comp=Z,6µm,21.7s								
GRFO	**Grafenberg**	**77.96**	**1**	*e*P		**P**	**05 49 20.1**	**+0.9**
GRFO				pmax		pmax			
	comp=Z,279nm,1.1s								
GRFO	**Grafenberg**	**77.96**	**1**	*e*P		**P**	**05 49 20.1**	**+0.9**
	comp=Z,279nm,1.1s								
DZM	**Mont Dzumac**	**77.98**	**205**	*e*P		**P**	**05 49 20.3**	**+0.7**
	comp=Z,329nm,1.4s								
DZM				*e*S		**S**	**05 59 09.9**	**-2.4**
	comp=Z,14µm,27.4s								
DZM				*e*SS		**SS**	**06 04 13.6**	**-0.6**
	comp=Z,7µm,26.8s								
DZM				*e*LQ		LQ	06 09 53.0		
	comp=Z,17µm,24.2s								
DZM				*e*LR		LR	06 13 19.2		
	comp=Z,21µm,22.1s								
DZM	**Mont Dzumac**	**77.98**	**205**	*e*P		**P**	**05 49 20.2**	**+0.6**
	comp=Z,144nm,1.2s								
DZM	**Mont Dzumac**	**77.98**	**205**	LR		LR	06 17 36.1		
	comp=Z,15µm,19.9s,baz=27,slow=31								
STHS	**Stebnicka Huta**	**78.01**	**355**	*e*P		**P**	**05 49 20.8**	**+1.3**
AAI	**Ambon**	**78.02**	**247**	P		**P**	**05 49 21.9**	**+2.0**
	comp=Z,164nm,0.9s,comp=Z,4µm								
NIE	**Niedzica**	**78.06**	**355**	*i* P		**P**	**05 49 20.8**	**+1.0**
NIE				*e*pP		**PcP**	**05 49 34.2**	**+4.8**
NIE				*e*SKSac		**SKSac**	**05 59 29.8**	**-3.2**
NIE				L		L	06 25 13.0		
	comp=Z,11µm,19.6s								
CHAI	**Chaiyaphum**	**78.14**	**281**	P		**P**	**05 49 22.9**	**+2.2**
	comp=Z,21nm,1.0s								
RAMN	**Ramite**	**78.21**	**299**	*e*P		**P**	**05 49 20.8**	**-0.5**
	comp=Z,601nm,0.8s								
KKN	**Kakani**	**78.24**	**300**	*e*P		**P**	**05 49 21.1**	**-0.3**
	comp=Z,562nm,1.1s								
FLN	**La Foliniere**	**78.25**	**9**	*e*P		**P**	**05 49 20.3**	**-0.5**
	comp=Z,396nm,1.3s								
FLN				*e*R					
	comp=Z,19µm,20.5s								
FLN	**La Foliniere**	**78.25**	**9**	*e*P		**P**	**05 49 20.3**	**-0.5**
FLN				pmax		pmax			
	comp=Z,397nm,1.3s								
FLN	**La Foliniere**	**78.25**	**9**	*e*P		**P**	**05 49 20.3**	**-0.5**
	comp=Z,396nm,1.3s								
NLAI	**Namlea**	**78.27**	**249**	P		P	05 49 32.1	+11	
VRAC	**Vranov**	**78.31**	**358**	⇑*i*P		**P**	**05 49 22.2**	**+1.0**
VRAC	**Vranov**	**78.31**	**358**	LR		LR	06 24 52.0		
	comp=Z,7µm,21.3s,baz=9.9,slow=36								
PKI	**Pulchoki**	**78.34**	**300**	*e*P		**P**	**05 49 21.5**	**-0.6**
	comp=Z,732nm,1.1s								
PKIN	**Phulchoki**	**78.35**	**300**	*e*P		**P**	**05 49 22.0**	**-0.1**
	comp=Z,123nm,0.7s								
TREC	**Trest**	**78.35**	**358**	*e*P		**P**	**05 49 22.0**	**+0.6**
TREC				*e*			05 49 25.9		
TREC				*e*			05 52 21.6		
TREC				*e*S		S	05 59 22.3	+6.5	
TREC				MLR		MLR			
	comp=Z,18µm,16.9s								
TREC	**Trest**	**78.35**	**358**	*e*P		**P**	**05 49 22.0**	**+0.6**
TREC				*ex*		x	05 49 25.9		
TREC				*e*PP		**PP**	**05 52 21.6**	**+4.0**
TREC				*e*S		S	05 59 22.3	+6.5	
TREC				*ex*		x	06 04 04.7		
TREC				*e*PKKP		**PKKPbc**	**06 08 12.2**	**-4.4**
TREC				AMS		AMS	06 34 10.0		
	comp=Z,18µm,16.9s								
ROSF	**Rostrenen**	**78.38**	**11**	*e*P		**P**	**05 49 21.4**	**-0.1**
	comp=Z,367nm,1.5s								
ROSF	**Rostrenen**	**78.38**	**11**	*e*P		**P**	**05 49 21.4**	**-0.1**
ROSF				pmax		pmax			
	comp=Z,367nm,1.5s								
ROSF	**Rostrenen**	**78.38**	**11**	*e*P		**P**	**05 49 21.4**	**-0.1**
	comp=Z,367nm,1.5s								
GKN	**Gorkha**	**78.40**	**301**	*e*P		**P**	**05 49 21.8**	**-0.4**
	comp=Z,357nm,0.8s								
LDF	**La Druitiere**	**78.45**	**9**	*e*P		**P**	**05 49 21.4**	**-0.6**
	comp=Z,352nm,1.4s								
LDF	**La Druitiere**	**78.45**	**9**	*e*P		**P**	**05 49 21.4**	**-0.6**
LDF				pmax		pmax			
	comp=Z,352nm,1.4s								
LDF	**La Druitiere**	**78.45**	**9**	*e*P		**P**	**05 49 21.4**	**-0.6**
	comp=Z,352nm,1.4s								
DMN	**Daman**	**78.47**	**300**	*e*P		**P**	**05 49 22.5**	**-0.2**
	comp=Z,1µm,1.4s								
SDDR	**Presa de Saban**	**78.50**	**74**	*e*P		**P**	**05 49 21.8**	**-0.9**
	comp=Z,77nm,1.0s								
SDDR				LR		LR			
	comp=Z,12µm,21.0s								
WET	**Wettzell**	**78.52**	**0**	*e*P		**P**	**05 49 23.4**	**+1.0**
WET				pmax		pmax			
	comp=Z,17nm,0.9s								
WET	**Wettzell**	**78.52**	**0**	*e*P		**P**	**05 49 23.4**	**+1.0**
	comp=Z,17nm,0.9s								
KHC	**Kasperske Hory**	**78.53**	**360**	*e*P		**P**	**05 49 22.4**	**0.0**
KHC				*e*			05 49 33.9		
KHC				*e*			05 52 20.7		
KHC				*e*S		S	05 59 23.9	+6.1	
KHC				MLR		MLR			
	comp=Z,11µm,18.6s								
KHC	**Kasperske Hory**	**78.53**	**360**	*e*P		**P**	**05 49 22.4**	**0.0**
KHC				*ex*		x	05 49 27.0		
KHC				*ex*		x	05 49 33.9		
KHC				*e*PP		**PP**	**05 52 20.7**	**+1.5**
KHC				*e*S		S	05 59 23.9	+6.1	
KHC				*ex*		x	06 04 06.2		
KHC				*e*PKKP		**PKKPbc**	**06 08 16.1**	**-0.1**
KHC				AMS		AMS	06 27 30.0		
	comp=Z,11µm,18.6s								
KHC	**Kasperske Hory**	**78.53**	**360**	*e*P		**P**	**05 49 22.4**	**0.0**
	comp=Z,319nm,1.3s								
SGMF	**Saint Gilles**	**78.54**	**11**	*e*P		**P**	**05 49 22.2**	**-0.2**
	comp=Z,357nm,1.5s								
SGMF	**Saint Gilles**	**78.54**	**11**	*e*P		**P**	**05 49 22.2**	**-0.2**
SGMF				pmax		pmax			
	comp=Z,357nm,1.5s								
SGMF	**Saint Gilles**	**78.54**	**11**	*e*P		**P**	**05 49 22.2**	**-0.2**
	comp=Z,357nm,1.5s								
DANN	**Dangsing**	**78.58**	**302**	*e*P		**P**	**05 49 23.1**	**-0.2**
	comp=Z,878nm,0.7s								
GRR	**Gorron**	**78.59**	**9**	*e*P		**P**	**05 49 22.4**	**-0.3**
	comp=Z,403nm,1.3s								
GRR	**Gorron**	**78.59**	**9**	*e*P		**P**	**05 49 22.4**	**-0.3**
GRR				pmax		pmax			
	comp=Z,403nm,1.3s								
GRR	**Gorron**	**78.59**	**9**	*e*P		**P**	**05 49 22.4**	**-0.3**
	comp=Z,403nm,1.3s								
LANF	**Langenberg**	**78.59**	**3**	*e*P		**P**	**05 49 23.6**	**+0.9**
UZH	**Uzhgorod**	**78.73**	**354**	⇓*i*P		**P**	**05 49 23.0**	**-0.4**
UZH				*i* S		**S**	**05 59 16.0**	**-3.8**
QUIF	**Quistinic**	**78.80**	**11**	*e*P		**P**	**05 49 23.7**	**-0.2**
	comp=Z,328nm,1.6s								
QUIF	**Quistinic**	**78.80**	**11**	*e*P		**P**	**05 49 23.7**	**-0.2**
QUIF				pmax		pmax			
	comp=Z,328nm,1.6s								
QUIF	**Quistinic**	**78.80**	**11**	*e*P		**P**	**05 49 23.7**	**-0.2**
	comp=Z,328nm,1.6s								
GEC2	**GERESS Array S**	**78.82**	**360**	*e*P		**P**	**05 49 24.8**	**+0.7**
GEC2				pmax		pmax			
	comp=Z,21nm,0.8s								
GEC2	**GERESS Array S**	**78.82**	**360**	*e*P		**P**	**05 49 24.8**	**+0.7**
	comp=Z,21nm,0.8s								
GERES	**GERESS Array B**	**78.82**	**360**	P		**P**	**05 49 24.4**	**+0.3**
GERES				P'P'			06 16 25.3		
GERES	**GERESS Array B**	**78.82**	**360**	P		**P**	**05 49 24.4**	**+0.3**
	comp=Z,34nm,1.0s,baz=14,slow=4.5,SNR=80								
GERES				PKPPKP		**P'P'df**	**06 16 25.3**	**-2.9**
	comp=Z,0.6nm,0.7s,baz=211,slow=1.6,SNR=4.0								
STU	**Stuttgart**	**78.84**	**3**	*e*P		**P**	**05 49 24.4**	**+0.3**
STU				pmax		pmax			
	comp=Z,240nm,1.1s								
STU	**Stuttgart**	**78.84**	**3**	*e*P		**P**	**05 49 24.7**	**+0.6**
	comp=Z,36nm,0.9s								
STU	**Stuttgart**	**78.84**	**3**	*e*P		**P**	**05 49 24.4**	**+0.3**
	comp=Z,240nm,1.1s								
PAGF	**Fort de Pagny**	**78.92**	**5**	*e*P		**P**	**05 49 24.8**	**+0.3**
	comp=Z,127nm,1.2s								
PAGF	**Fort de Pagny**	**78.92**	**5**	*e*P		**P**	**05 49 24.8**	**+0.3**
	comp=Z,127nm,1.2s								
MEZF	**Maizieres J'vi**	**78.94**	**5**	*e*P		**P**	**05 49 24.8**	**+0.2**
	comp=Z,336nm,1.2s								
MEZF	**Maizieres J'vi**	**78.94**	**5**	*e*P		**P**	**05 49 24.8**	**+0.2**
	comp=Z,336nm,1.3s								
LUWI	**Luwuk**	**78.97**	**253**	P		**P**	**05 49 25.0**	**-0.3**
	baz=79,SNR=4.9								
COEN	**Coen**	**79.00**	**229**	*e*P		**P**	**05 49 24.7**	**-0.6**
	comp=Z,2µm,1.8s								
DHRM	**DHARAMSHALA**	**79.06**	**310**	*e*P		**P**	**05 49 25.6**	**-0.3**
DHRM				AMB		AMB	05 49 32.0		
	comp=Z,505nm,1.8s								
SMOL	**Smolenice**	**79.08**	**357**	*e*P		**P**	**05 49 26.7**	**+1.3**
KOLN	**Koldanda**	**79.13**	**302**	*e*P		**P**	**05 49 26.0**	**-0.3**
	comp=Z,377nm,1.0s								
CDF	**Champ du Feu**	**79.14**	**4**	*e*P		**P**	**05 49 25.7**	**-0.1**
	comp=Z,363nm,1.3s								
CDF	**Champ du Feu**	**79.14**	**4**	*e*P		**P**	**05 49 25.7**	**-0.1**
CDF				pmax		pmax			
	comp=Z,363nm,1.3s								
CDF	**Champ du Feu**	**79.14**	**4**	*e*P		**P**	**05 49 25.7**	**-0.1**
	comp=Z,363nm,1.3s								
TRPA	**Tarpa**	**79.21**	**354**	⇑*i*P		**P**	**05 49 27.1**	**+1.0**
TRPA	**Tarpa**	**79.21**	**354**	⇑*e*P		**P**	**05 49 27.1**	**+1.0**
SFTF	**Sexfontaines**	**79.23**	**5**	*e*P		**P**	**05 49 26.2**	**0.0**
	comp=Z,575nm,1.2s								
SFTF	**Sexfontaines**	**79.23**	**5**	*e*P		**P**	**05 49 26.2**	**0.0**
	comp=Z,575nm,1.2s								
BFO	**Black Forest**	**79.26**	**3**	*e*P		**P**	**05 49 26.5**	**+0.1**
BFO				pmax		pmax			
	comp=Z,180nm,1.3s								
BFO				MLR		MLR			
	comp=Z,10µm,19.0s								
BFO	**Black Forest**	**79.26**	**3**	*e*P		**P**	**05 49 27.0**	**+0.6**
	comp=Z,31nm,1.0s								
BFO	**Black Forest**	**79.26**	**3**	*e*P		**P**	**05 49 26.5**	**+0.1**
	comp=Z,180nm,1.3s								
BFO				LR		LR			
	comp=Z,10µm,19.0s								
THEF	**They Montfort**	**79.26**	**5**	*e*P		**P**	**05 49 27.2**	**+0.8**
ECH	**Echery**	**79.33**	**4**	*e*P		**P**	**05 49 27.0**	**+0.2**
ECH				pmax		pmax			
	comp=Z,178nm,1.2s								
ECH				MLR		MLR			
	comp=Z,10µm,20.0s								
ECH	**Echery**	**79.33**	**4**	*e*P		**P**	**05 49 27.6**	**+0.8**
ECH	**Echery**	**79.33**	**4**	*e*P		**P**	**05 49 27.0**	**+0.2**
	comp=Z,178nm,1.2s								
ECH				LR		LR			
	comp=Z,10µm,20.0s								
LGTI	**Lohaghat**	**79.46**	**305**	*e*P		**P**	**05 49 27.2**	**-0.6**
BUR08	**Bucovina Ar. S**	**79.48**	**352**	*e*P		**P**	**05 49 27.8**	**+0.1**
FUR	**Furstenfeldbru**	**79.49**	**1**	*e*P		**P**	**05 49 28.6**	**+0.9**
FUR				pmax		pmax			
	comp=Z,39nm,0.9s								
**

comp=Z,545nm,1.4s
ARCR ARCALIA 80.11 352 ⇓ *i* P **P 05 49 32.1 +1.1**
RETA Reutte 80.16 2 ⇓ *i* P **P 05 49 32.3 +0.9**
comp=Z,203nm,1.2s,SNR=54
PKSG 80.17 356 ⇑ *e* P **P 05 49 32.9 +1.6**
LOMF Lomont 80.17 4 *e* P **P 05 49 32.6 +1.1**
SSF Saint Saulge 80.27 7 *e* P **P 05 49 31.9 0.0**
comp=Z,223nm,1.0s
SSF Saint Saulge 80.27 7 *e* P **P 05 49 31.9 0.0**
SSF pmax pmax
comp=Z,223nm,1.0s
SSF Saint Saulge 80.27 7 *e* P **P 05 49 31.9 0.0**
comp=Z,223nm,1.0s
PKST T"s 80.31 357 ⇑ *e* P **P 05 49 33.4 +1.2**
WATA Walderalm 80.32 1 ⇓ *i* P **P 05 49 33.0 +0.7**
comp=Z,159nm,1.0s,SNR=38
LEOM Leova 80.34 349 ⇓ *i* P **P 05 49 32.4 +0.2**
DAVA Damuels 80.34 2 ⇑ *i* P **P 05 49 33.3 +0.8**
comp=Z,70nm,1.2s,SNR=12
KBL Kabul 80.37 316 *e* P **P 05 49 32.0 -0.9**
KBL pmax pmax
comp=Z,453nm,1.1s
KBL Kabul 80.37 316 *e* P **P 05 49 32.0 -0.9**
comp=Z,453nm,1.1s
KBL Kabul 80.37 316 P **P 05 49 32.3 -0.6**
baz=80,SNR=17
KIV Kislovodsk 80.38 339 *c i* P **P 05 49 33.5 +0.8**
KIV *e* 05 52 34.5
KIV *i* S S 05 59 47.3 +10
KIV pmax pmax
comp=Z,181nm,1.0s
KIV Kislovodsk 80.38 339 P **P 05 49 34.7 +2.0**
comp=Z,1μm,1.0s,SNR=40
CHBT CHBT 80.39 278 P **P 05 49 34.4 +1.5**
comp=Z,169nm,1.5s,comp=Z,5μm
CHBT CHBT 80.39 278 P **P 05 49 34.1 +1.2**
comp=Z,169nm,1.3s,comp=Z,5μm
ARSA Arzberg 80.39 358 *i* P **P 05 49 33.8 +1.2**
comp=Z,259nm,1.2s,SNR=60
WTTA Wattenberg 80.40 1 ⇓ *i* P **P 05 49 33.6 +0.8**
comp=Z,118nm,1.1s,SNR=24
MFF Saint Martin d 80.42 9 *e* P **P 05 49 32.7 0.0**
comp=Z,646nm,1.4s
MFF Saint Martin d 80.42 9 *e* P **P 05 49 32.7 0.0**
MFF pmax pmax
comp=Z,646nm,1.4s
MFF Saint Martin d 80.42 9 *e* P **P 05 49 32.7 0.0**
comp=Z,646nm,1.4s
TESR Tescani 80.47 350 ⇑ *i* P **P 05 49 33.0 0.0**
PKS7 Kunszentmiklos 80.48 356 ⇓ *e* P **P 05 49 35.1 +2.1**
RKT Rikitea 80.50 150 *e* P **P 05 49 33.2 0.0**
comp=Z,119nm,1.5s
RKT Rikitea 80.50 150 *e* PP PP 05 52 36.0 -1.0
comp=Z,874nm,25.8s
RKT *e* S **S 05 59 36.0 -2.8**
comp=Z,6μm,39.2s
RKT *e* SS **SS 06 04 51.1 -0.7**
comp=Z,6μm,25.2s
RKT *e* LR LR 06 14 26.5
comp=Z,34μm,32.5s,baz=341
DRGR 80.53 353 ⇑ *i* P **P 05 49 33.7 +0.3**
AVF Avril sur Loir 80.53 7 *e* P **P 05 49 33.0 -0.3**
comp=Z,316nm,1.2s
AVF Avril sur Loir 80.53 7 *e* P **P 05 49 33.0 -0.3**
AVF pmax pmax
comp=Z,316nm,1.2s
AVF Avril sur Loir 80.53 7 *e* P **P 05 49 33.0 -0.3**
comp=Z,316nm,1.2s
KBA Koelnbreinsper 80.59 360 ⇑ *i* P **P 05 49 35.4 +1.6**
comp=Z,824nm,1.1s,SNR=45
PKSN Nyarlorinc 80.60 355 ⇑ *e* P **P 05 49 35.2 +1.6**
ANN Anapa 80.62 343 *d i* P **P 05 49 32.5 -1.3**
ANN *i* *P **pP** **05 49 38.6 -0.7**
ANN *i* 05 52 37.8
ANN *i* S **S 05 59 40.3 +0.4**
ANN pmax pmax
comp=Z,212nm,2.0s
ANN pmax pmax
comp=N,22nm,1.0s
ANN pmax pmax
comp=E,18nm,1.0s
ANN pmax pmax
comp=N,309nm,4.9s
ANN pmax pmax
comp=E,159nm,4.9s
ANN pmax pmax
comp=Z,1μm,4.9s
ANN smax smax
comp=N,4μm,14.8s
ANN smax smax
comp=E,4μm,14.8s
FETA Feichten 80.63 2 ⇑ *i* P **P 05 49 35.2 +1.2**
comp=E,226nm,1.1s,SNR=64
SMF Signal de Mont 80.71 6 *e* P **P 05 49 34.0 -0.3**
comp=E,412nm,1.2s
SMF Signal de Mont 80.71 6 *e* P **P 05 49 34.0 -0.3**
SMF pmax pmax
comp=Z,412nm,1.2s
SMF Signal de Mont 80.71 6 *e* P **P 05 49 34.0 -0.3**
comp=Z,412nm,1.2s
BGF Bois d'Agland 80.73 7 *e* P **P 05 49 34.2 -0.2**
comp=Z,470nm,1.4s
BGF Bois d'Agland 80.73 7 *e* P **P 05 49 34.2 -0.2**
BGF pmax pmax
comp=Z,470nm,1.4s
BGF Bois d'Agland 80.73 7 *e* P **P 05 49 34.2 -0.2**
comp=Z,470nm,1.4s
GHRR 80.83 350 ⇑ *i* P **P 05 49 35.4 +0.5**
DAVOX Davos/Dischmat 80.85 2 LR LR 06 26 59.2
comp=Z,11μm,20.7s,baz=356,slow=37
CABF La Chapelle 80.88 5 *e* P **P 05 49 35.7 +0.4**
comp=Z,406nm,1.2s
CABF La Chapelle 80.88 5 *e* P **P 05 49 35.7 +0.4**
CABF pmax pmax
comp=Z,406nm,1.2s
CABF La Chapelle 80.88 5 *e* P **P 05 49 35.7 +0.4**
comp=Z,406nm,1.2s
ABTA Abfaltersbach 80.92 0 *i* P **P 05 49 36.1 +0.6**
comp=Z,325nm,1.2s,SNR=50
TCF Toulx Ste Croi 80.94 8 *e* P **P 05 49 35.3 -0.3**
comp=Z,111nm,0.9s
TCF Toulx Ste Croi 80.94 8 *e* P **P 05 49 35.3 -0.3**
TCF pmax pmax
comp=Z,111nm,0.9s
TCF Toulx Ste Croi 80.94 8 *e* P **P 05 49 35.3 -0.3**
comp=Z,111nm,0.9s
SOKA Soboth 80.97 359 ⇑ *i* P **P 05 49 37.0 +1.2**
comp=Z,540nm,1.2s,SNR=83
PKS9 Tamasi 80.98 356 *e* P P 05 49 40.6 +4.9
PERS Pernice 81.01 359 *i* P **P 05 49 37.2 +1.2**
MYKA Terra Mystica 81.03 360 ⇑ *i* P **P 05 49 36.7 +0.6**
comp=Z,134nm,1.2s,SNR=19
SIM Simferopol' 81.04 345 *c e* P P 05 49 39.6 +3.5
SIM *e* S S 05 59 55.0 +11
SIM *e* PS **PnS** **06 00 31.0 +0.1**
SIM *e* PPS PPS 06 00 55.0
SIM pmax pmax
comp=Z,800nm,4.1s
BCIP Isla Barro Col 81.06 87 PFAKE 05 49 50.0 +13
BCIP LR LR
comp=Z,4μm,21.0s
VRI Vrincioaia 81.10 350 ⇑ *i* P **P 05 49 36.6 +0.2**
PLOR Plostina 81.12 350 ⇑ *i* P **P 05 49 36.9 +0.4**
SIRR Siria 81.12 354 ⇑ *i* P **P 05 49 37.4 +0.9**
BOK Bokaro 81.13 298 *e* P **P 05 49 35.9 -1.0**
BOK AMB AMB 05 49 45.0
comp=Z,302nm,2.3s
BEHE Becsehely 81.14 357 ⇑ *e* P **P 05 49 37.9 +1.3**
TUE Stuetta 81.14 3 *e* P **P 05 49 37.5 +0.7**
comp=Z,397nm,1.5s
TUE LR LR
comp=Z,10μm,19.0s
OBKA Obir 81.15 359 ⇓ *i* P **P 05 49 37.8 +1.0**
comp=Z,278nm,1.1s,SNR=30
KOGS Kog 81.18 358 *i* P **P 05 49 37.9 +1.2**
ZEI Tsey 81.21 338 *e* P **P 05 49 38.0 +0.7**
ZEI pmax pmax
comp=Z,124nm,1.1s
AGO Saint Agoulin 81.25 7 *e* P **P 05 49 39.3 +2.1**
AGPR Aguadilla, PR 81.32 71 *e* P **P 05 49 38.0 +0.1**
comp=Z,465nm,1.2s
SOC Sochi 81.36 341 *c i* P **P 05 49 38.8 +1.0**
SOC *e* 05 52 48.7
SOC *e* S S 05 59 55.5 +7.8
SOC pmax pmax
comp=Z,519nm,1.2s
SOC pmax pmax
comp=Z,4μm,4.3s
SOC MLR MLR
comp=Z,13μm,21.0s
SOC MLR MLR
comp=N,8μm,21.0s
SOC MLR MLR
comp=E,13μm,21.0s
BTM Bintulu 81.36 264 P **P 05 49 38.9 +0.7**
PLDF La Plantade 81.37 7 *e* P **P 05 49 40.1 +2.2**
GUDG Gudauri 81.38 337 P P 05 49 45.8 +7.6
DEV Deva 81.42 353 ⇓ *i* P **P 05 49 38.8 +0.8**
CADS Cadrg 81.44 359 *i* P **P 05 49 38.3 +0.1**
ONI Oni 81.50 338 P **P 05 49 39.8 +1.2**
TLCR 81.54 349 ⇑ *i* P **P 05 49 39.5 +0.8**
PYM Petit Puy Mans 81.54 7 *e* P **P 05 49 40.8 +2.0**
MLR Muntele Rosu 81.55 351 ⇑ *i* P **P 05 49 39.2 +0.3**
GRER 81.55 350 ⇑ *i* P **P 05 49 40.1 +1.3**
NDI New Delhi 81.59 307 *e* P **P 05 49 38.0 -1.2**
ABKT Ailbek 81.59 326 P **P 05 49 40.9 +1.7**
comp=E,2μm,1.2s,SNR=50
LJU Ljubljana 81.61 359 *i* P **P 05 49 39.6 +0.5**
LRS Lares 81.62 71 *e* P **P 05 49 38.9 -0.7**
CFR Carcaliu 81.63 349 ⇑ *i* P **P 05 49 39.5 +0.4**
VOY Vojsko 81.63 359 *e* P **P 05 49 39.2 -0.1**
VOIR 81.69 351 ⇓ *i* P **P 05 49 40.2 +0.6**
CHVG Ch'k'valeri 81.69 339 P **P 05 49 42.2 +2.6**
CRPR Cabo Rojo, PR 81.69 71 *e* P **P 05 49 40.3 +0.5**
comp=E,144nm,1.3s
BZS Buzias 81.77 354 ⇑ *i* P **P 05 49 40.3 +0.4**
LOT Lotru 81.78 352 ⇑ *i* P **P 05 49 39.8 -0.3**
ARR Arges 81.79 352 ⇑ *i* P **P 05 49 41.8 +1.7**
ISR Istrita 81.86 350 ⇑ *i* P **P 05 49 41.7 +1.2**
RJF Les Rejaudoux 81.86 8 *e* P **P 05 49 40.1 -0.3**
comp=E,328nm,1.3s
RJF *e* R
comp=E,20μm,21.0s
RJF Les Rejaudoux 81.86 8 *e* P **P 05 49 40.1 -0.3**
RJF pmax pmax
comp=Z,329nm,1.3s
RJF Les Rejaudoux 81.86 8 *e* P **P 05 49 40.1 -0.3**
comp=Z,328nm,1.3s
PHET Kaeng Krachan 81.89 281 P **P 05 49 42.5 +1.6**
comp=Z,162nm,0.8s,comp=Z,2μm
CELP Cerrillos 81.94 71 *e* P **P 05 49 41.1 -0.1**
PGRA Graciosa 81.95 31 *e* P P 05 49 45.6 +4.6
comp=Z,148nm,1.7s
OBIP Obispado Ponce 81.95 71 *e* P **P 05 49 41.2 -0.1**
comp=Z,196nm,1.1s
SECR 81.99 351 ⇓ *i* P **P 05 49 42.9 +1.8**
LPL La Plagne 82.00 4 *e* P **P 05 49 42.5 +1.1**
comp=Z,172nm,1.1s
LPL La Plagne 82.00 4 *e* P **P 05 49 42.5 +1.1**
LPL pmax pmax
comp=Z,172nm,1.1s
LPL La Plagne 82.00 4 *e* P **P 05 49 42.5 +1.1**
comp=Z,172nm,1.1s
TBLG Delisi 82.01 337 P **P 05 49 43.2 +1.9**
LPG La Plagne 82.02 4 *e* P **P 05 49 42.8 +1.2**
comp=Z,393nm,1.4s
LPG La Plagne 82.02 4 *e* P **P 05 49 42.8 +1.2**
LPG pmax pmax
comp=Z,393nm,1.4s
LPG La Plagne 82.02 4 *e* P **P 05 49 42.8 +1.2**
comp=Z,393nm,1.4s
LBL Lubilhac 82.07 7 *e* P **P 05 49 43.4 +1.8**
SSB Saint Sauveur 82.12 6 *e* P **P 05 49 42.2 +0.4**
SSB pmax pmax
comp=Z,104nm,1.1s
SSB MLR MLR
comp=Z,9μm,19.0s
SSB Saint Sauveur 82.12 6 *e* P **P 05 49 42.2 +0.4**
comp=Z,104nm,1.1s
SSB LR LR
comp=Z,9μm,19.0s
DGRG David-gareji 82.12 336 P **P 05 49 43.9 +2.0**
HARR Harsova 82.13 349 ⇑ *i* P **P 05 49 42.0 +0.2**
SISC Sisak 82.15 358 P **P 05 49 43.2 +1.4**
LFF La Frestale 82.16 9 *e* P **P 05 49 41.9 0.0**
comp=Z,534nm,1.3s
LFF La Frestale 82.16 9 *e* P **P 05 49 41.9 0.0**
LFF pmax pmax
comp=Z,535nm,1.3s
LFF La Frestale 82.16 9 *e* P **P 05 49 41.9 0.0**
comp=Z,534nm,1.3s
RAO Raoul Island 82.17 190 LR LR 06 25 08.6
comp=Z,8μm,18.8s,baz=24,slow=35
CBYP Canovanas 82.20 70 *e* P **P 05 49 41.4 -1.2**
comp=Z,153nm,1.3s
TLB Topalu 82.22 349 ⇑ *i* P **P 05 49 43.2 +0.9**
GRN Grenoble 82.22 5 *e* P **P 05 49 43.8 +1.4**
GDM Grand'Maison 82.28 5 *e* P **P 05 49 44.3 +1.5**
CAF Calviac 82.29 8 *e* P **P 05 49 42.7 0.0**
comp=Z,245nm,1.1s
CAF Calviac 82.29 8 *e* P **P 05 49 42.7 0.0**
CAF pmax pmax
comp=Z,245nm,1.1s
CAF Calviac 82.29 8 *e* P **P 05 49 42.7 0.0**
comp=Z,245nm,1.1s
TIRR Tirgusor 82.31 349 *e* P **P 05 49 42.8 +0.1**
TIRR pmax pmax
comp=Z,217nm,1.3s
TIRR Tirgusor 82.31 349 ⇑ *i* P **P 05 49 43.0 +0.3**
TIRR Tirgusor 82.31 349 *e* P **P 05 49 42.8 +0.1**
comp=Z,217nm,1.3s
TTSI Tana Toraja 82.31 255 P **P 05 49 43.2 +0.1**
comp=Z,187nm,1.3s,comp=Z,4μm
KZR Kazreti 82.42 337 P P 05 49 50.0 +6.5
BNI Bardonecchia 82.46 5 *e* P **P 05 49 45.4 +1.6**
BNI pmax pmax
comp=Z,218nm,1.0s
BNI MLR MLR
comp=Z,12μm,19.0s
BNI Bardonecchia 82.46 5 *e* P **P 05 49 45.4 +1.6**
comp=Z,218nm,1.0s
BNI LR LR
comp=Z,12μm,19.0s
SBUM Sibu 82.48 264 P **P 05 49 45.3 +1.3**
SBUM Sibu 82.48 264 P **P 05 49 45.0 +1.0**
comp=Z,104nm,2.6s,comp=Z,4μmcomp=Z,26μm
PAYG Puerto Ayora 82.49 101 PFAKE 05 50 00.0 +16
PAYG LR LR
comp=Z,4μm,22.0s
MTP Monte Pirata 82.51 70 *e* P **P 05 49 43.9 -0.3**
comp=Z,233nm,1.1s
VIVF Saint-Julien-l 82.55 6 *e* P **P 05 49 44.2 +0.2**
comp=Z,188nm,1.1s
VIVF Saint-Julien-l 82.55 6 *e* P **P 05 49 44.2 +0.2**
VIVF pmax pmax
comp=Z,188nm,1.1s
VIVF Saint-Julien-l 82.55 6 *e* P **P 05 49 44.2 +0.2**
comp=Z,188nm,1.1s
ORIF Oris-en-Rattie 82.56 5 *e* P **P 05 49 44.8 +0.6**
comp=Z,130nm,0.9s
ORIF *e* R
comp=Z,16μm,18.8s
ORIF Oris-en-Rattie 82.56 5 *e* P **P 05 49 44.8 +0.6**
ORIF pmax pmax
comp=Z,130nm,0.9s
ORIF Oris-en-Rattie 82.56 5 *e* P **P 05 49 44.8 +0.6**
comp=Z,130nm,0.9s
BKB Balikpapan 82.61 258 P P 05 49 47.4 +2.7
comp=Z,347nm,1.2s,comp=Z,8μm
AKH Akhalkalaki 82.61 337 P P **05 49 44.6 -0.1**
STVI Saint Thomas 82.65 69 *e* P **P 05 49 44.9 0.0**
comp=Z,272nm,1.5s
EPOS Posof 82.70 338 *i* P P 05 49 40.5 -4.5
MSAB Monastry St. A 82.73 349 ⇑ *i* P **P 05 49 45.8 +0.8**
MBDF Montbardon 82.79 4 *e* P **P 05 49 46.6 +1.1**
comp=Z,625nm,1.3s
MBDF Montbardon 82.79 4 *e* P **P 05 49 46.6 +1.1**
MBDF pmax pmax
comp=Z,625nm,1.3s
MBDF Montbardon 82.79 4 *e* P **P 05 49 46.6 +1.1**
comp=Z,625nm,1.3s
SURF Saint Ours 83.04 4 *e* P **P 05 49 49.2 +2.4**
CTA Charters Tower 83.06 224 LR LR 06 21 12.9
comp=Z,5μm,21.0s,baz=20,slow=32
CTAO Charters Tower 83.06 224 *e* P **P 05 49 46.7 -0.1**
CTAO pmax pmax
comp=Z,56nm,1.1s
CTAO MLR MLR
comp=Z,6μm,19.0s
CTAO Charters Tower 83.06 224 *e* P **P 05 49 46.7 -0.1**
comp=Z,56nm,1.1s
CTAO LR LR
comp=Z,6μm,19.0s
SPSI Sidrap Palu 83.08 254 P **P 05 49 47.9 +0.8**
comp=Z,71nm,1.6s,comp=Z,3μm
NVLJ Novalja 83.09 359 P **P 05 49 47.4 +0.6**
DBOC Borcka 83.09 339 *i* P **P 05 49 48.0 +1.0**
PSN Preselentsi 83.10 349 P **P 05 49 47.6 +0.7**
ARTV Artvin 83.19 338 *i* P **P 05 49 48.7 +1.0**
MJSI Majene 83.21 255 P **P 05 49 49.7 +1.9**
comp=Z,267nm,1.4s,comp=Z,6μm
BNSI Bone 83.23 254 P **P 05 49 50.4 +2.5**
CDVI St. Croix 83.24 70 *e* P **P 05 49 47.6 -0.4**
comp=Z,104nm,0.9s
LASF Ste Croix 83.27 7 *e* P **P 05 49 48.5 +0.7**
comp=Z,499nm,1.7s
LASF Ste Croix 83.27 7 *e* P **P 05 49 48.5 +0.7**
comp=Z,499nm,1.7s
EAK Akyaka 83.28 337 *i* P **P 05 49 49.6 +1.5**
DAGI Agillar 83.29 338 *i* P **P 05 49 49.4 +1.3**
DBAD Bademkaya 83.40 339 *i* P **P 05 49 49.9 +1.3**
SMRF Simiane la Rot 83.48 5 *e* P **P 05 49 50.1 +1.2**
comp=Z,197nm,1.6s
SMRF Simiane la Rot 83.48 5 *e* P **P 05 49 50.1 +1.2**
comp=Z,497nm,1.5s
VLC Villacollemand 83.48 2 *e* P **P 05 49 50.1 +1.2**
comp=Z,259nm,1.3s
VLC LR LR
comp=Z,10μm,21.0s
DDEM Demirkent 83.51 338 *i* P **P 05 49 50.3 +1.1**
GNI Garni 83.51 336 P P **P 05 49 51.4 +2.1**
SNR=37
GNI Garni 83.51 336 *e* P **P 05 49 50.9 +1.6**
comp=Z,279nm,1.3s
GNI LR LR
comp=Z,17μm,19.0s
TOUF Mont Tournerai 83.53 4 *e* P **P 05 49 50.6 +1.3**
AUTN L'Aution 83.55 4 *e* P **P 05 49 51.0 +1.5**
SAOF Saorge 83.57 4 *e* P **P 05 49 50.3 +1.0**
DIGO Kars 83.59 337 *i* P **P 05 49 51.4 +1.6**
OSSF Osses 83.62 10 *e* P **P 05 49 50.0 +0.4**
MVIF Mont Vial 83.64 4 *e* P **P 05 49 51.5 +1.6**
LUCF Luceram 83.65 4 *e* P **P 05 49 48.2 -1.6**
PRD Provadia 83.66 349 P P **P 05 49 50.2 +0.4**
SBF Sospel 83.68 4 *e* P **P 05 49 50.0 0.0**
comp=Z,407nm,1.1s
SBF Sospel 83.68 4 *e* P **P 05 49 50.0 0.0**
SBF pmax pmax
comp=Z,407nm,1.1s
SBF Sospel 83.68 4 *e* P **P 05 49 50.0 0.0**
comp=Z,407nm,1.1s
SZH Strazhica 83.75 351 P P **P 05 49 49.4 -0.9**
PSET Sete Cidades 83.75 30 *e* P P 05 49 56.1 +5.7
comp=Z,274nm,1.2s
SJPF Ste Jean 83.77 10 *e* P **P 05 49 50.9 +0.6**
comp=Z,256nm,1.5s
SJPF Ste Jean 83.77 10 *e* P **P 05 49 50.9 +0.6**
SJPF pmax pmax
comp=Z,256nm,1.5s
SJPF Ste Jean 83.77 10 *e* P **P 05 49 50.9 +0.6**
comp=Z,256nm,1.5s
REVF Revere 83.80 4 *e* P **P 05 49 52.1 +1.5**
ATE Arette 83.85 10 *e* P **P 05 49 51.0 +0.2**
PVL Pavlikeni 83.86 351 P P **P 05 49 52.5 +1.7**
MPEP Malo Peshtene 83.86 352 P P **P 05 49 51.5 +0.7**
LARF Larrau 83.86 10 *e* P **P 05 49 51.4 +0.5**
CMLA Cha da Macela 83.87 30 *e* P **P 05 49 52.6 +1.6**
comp=Z,149nm,1.2s
CMLA Cha da Macela 83.87 30 PFAKE 05 50 00.0 +9.0
CMLA LR LR
comp=Z,15μm,21.0s
MTLF Montolieu 83.87 8 *e* P **P 05 49 51.2 +0.3**
comp=Z,190nm,1.1s
MTLF Montolieu 83.87 8 *e* P **P 05 49 51.2 +0.3**
MTLF pmax pmax
comp=Z,190nm,1.1s
MTLF Montolieu 83.87 8 *e* P **P 05 49 51.2 +0.3**
comp=Z,190nm,1.1s
MACK Trabzon 83.89 340 *i* P **P 05 49 52.3 +1.3**
REYF Montagne du Re 83.90 10 *e* P **P 05 49 51.3 +0.2**
PGAV Gavieira, Arco 83.92 16 *e* P **P 05 49 51.1 -0.2**
comp=Z,228nm,1.7s
PGAV Gavieira, Arco 83.92 16 *e* PP PP 05 53 12.6 +8.7
PGAV Gavieira, Arco 83.92 16 *e* LR LR 06 18 23.9
comp=Z,15μm,18.0s
KAPI Kappang 83.94 254 P **P 05 49 51.9 +0.4**
SNR=16
KAPI Kappang 83.94 254 P **P 05 49 51.2 -0.3**
comp=Z,178nm,3.5s,comp=Z,6μm
KAPI Kappang 83.94 254 *e* P **P 05 49 50.8 -0.7**
comp=Z,461nm,1.5s
KAPI LR LR
comp=Z,6μm,22.0s
FRF La Foret Royal 83.95 5 *e* P **P 05 49 51.6 +0.3**
comp=Z,633nm,1.6s
FRF La Foret Royal 83.95 5 *e* P **P 05 49 51.6 +0.3**
FRF pmax pmax
comp=Z,633nm,1.6s
FRF La Foret Royal 83.95 5 *e* P **P 05 49 51.6 +0.3**
comp=Z,633nm,1.6s
LABF Labassere 83.97 10 *e* P **P 05 49 54.0 +2.6**
MTN Manton Dam 84.01 240 P P **P 05 49 51.9 +0.1**
baz=84,SNR=11
EPF Esparros 84.01 9 *e* P **P 05 49 51.2 -0.5**
comp=Z,115nm,1.0s
EPF Esparros 84.01 9 *e* P **P 05 49 51.2 -0.5**
EPF pmax pmax
comp=Z,115nm,1.0s
EPF Esparros 84.01 9 *e* P **P 05 49 51.2 -0.5**
comp=Z,115nm,1.0s
ETSF Etsaut 84.05 10 *e* P **P 05 49 52.4 +0.5**
comp=Z,628nm,1.4s
ETSF Etsaut 84.05 10 *e* P **P 05 49 52.4 +0.5**
ETSF pmax pmax
comp=Z,628nm,1.4s
ETSF Etsaut 84.05 10 *e* P **P 05 49 52.4 +0.5**
comp=Z,628nm,1.4s
VIEF Viey 84.12 10 *e* P **P 05 49 53.0 +0.7**
MLS Moulis 84.15 9 *e* P **P 05 49 52.4 +0.1**
LMR La Mourre 84.17 5 *e* P **P 05 49 52.7 +0.3**
comp=Z,630nm,1.6s
LMR La Mourre 84.17 5 *e* P **P 05 49 52.7 +0.3**
LMR pmax pmax
comp=Z,630nm,1.6s
LMR La Mourre 84.17 5 *e* P **P 05 49 52.7 +0.3**
comp=Z,630nm,1.6s
GRSN GIRESUNGRSN 84.21 341 *e* P **P 05 49 53.3 +0.6**
PCAB Cabril 84.21 16 *e* P **P 05 49 53.2 +0.5**
comp=Z,164nm,1.8s
RESF Ens 84.23 9 *e* P **P 05 49 54.1 +1.2**
HOMI Horasan 84.28 338 *i* P **P 05 49 55.0 +1.7**
LRDF Laroque-de-Fa 84.30 8 *e* P **P 05 49 54.2 +1.1**
EATA Eleskirt 84.32 338 *i* P **P 05 49 55.3 +1.7**
PBRG Braganca 84.32 15 *e* P **P 05 49 53.8 +0.6**
comp=Z,111nm,1.2s
PBRG Braganca 84.32 15 *e* PP PP 05 53 07.2 +0.1
DYDN Diyadin 84.34 337 *i* P **P 05 49 55.5 +1.9**
KSM Kuching 84.41 265 P P **P 05 49 55.1 +1.2**
KSM Kuching 84.41 265 P P **P 05 49 55.0 +1.0**
comp=Z,171nm,1.1s,comp=Z,5μm
KSM Kuching 84.41 265 *e* P **P 05 49 54.0 0.0**
comp=Z,160nm,1.0s
KSM LR LR
comp=Z,6μm,20.0s
KSM Kuching 84.41 265 P P **P 05 49 54.7 +0.8**
baz=84,SNR=10
JMB Yambol 84.48 350 P P **P 05 49 54.0 +0.1**
CARF Carcanieres 84.48 8 *e* P **P 05 49 54.5 +0.4**
HAVZ Havza 84.54 343 *i* P **P 05 49 55.7 +1.3**
POLO Lamas de Olo 84.58 16 *e* P **P 05 49 54.6 0.0**
comp=Z,72nm,1.7s
POLO Lamas de Olo 84.58 16 *e* PP PP 05 53 08.7 -0.5
KOPT Kop Dagi 84.62 339 *i* P **P 05 49 57.1 +2.0**
PGB Panagyurishte 84.63 352 P P **P 05 49 54.3 -0.5**
VTS Vitosha 84.67 352 P P **P 05 49 54.8 -0.3**
VTS Vitosha 84.67 352 P P **P 05 49 54.8 -0.3**
VTS Vitosha 84.67 352 ⇑ *i* P **P 05 49 55.0 -0.1**
VTS Vitosha 84.67 352 P P **P 05 49 54.3 -0.8**
VTS Vitosha 84.67 352 P P **P 05 49 54.8 -0.3**
TUTA Tutak 84.68 337 *i* P **P 05 49 56.8 +1.4**
PVRL Vila Real 84.68 16 *e* P **P 05 49 55.9 +0.8**
comp=Z,214nm,1.7s
PSMN Pico do Norte, 84.71 30 *e* P P 05 49 58.8 +3.6
comp=Z,143nm,1.5s
ERBA Erbaa 84.73 342 *i* P **P 05 49 57.6 +2.2**
KELT Kelkit 84.75 340 *i* P **P 05 49 57.2 +1.5**

VALF Valcebollere 84.79 8 eP P 05 49 56.5 +0.8
MVO Moncorvo 84.90 15 eP P 05 49 56.6 +0.4
comp=Z,143nm,1.3s
MVO Moncorvo 84.90 15 ePP PP 05 53 12.0 +0.1
MVO eS S 06 00 27.1 +3.2
MVO Moncorvo 84.90 15 eLR LR 06 18 43.5
comp=Z,15µm,18.0s
ILGA Ilgaz 84.91 344 iP P 05 49 58.4 +1.9
SUSE Susehri 84.91 341 iP P 05 49 57.3 +0.9
ANWB Willy Bob 84.99 67 PFAKE 05 50 10.0 +13
ANWB LR LR
comp=Z,10µm,21.0s
PLD Plovdiv 85.02 351 P P 05 49 56.8 +0.1
PLD Plovdiv 85.02 351 P P 05 49 56.8 +0.1
PLD Plovdiv 85.02 351 P P 05 49 56.6 -0.1
PLD Plovdiv 85.02 351 P P 05 49 56.8 +0.1
EUZM Uzumlu 85.09 340 iP P 05 49 59.0 +1.8
TOKA Tokat 85.13 342 iP P 05 49 59.1 +1.8
CTKT Corum 85.14 344 eP P 05 49 58.7 +1.1
SOEI Soe 85.19 247 ⇑P P 05 49 59.8 +1.8
baz=85,SNR=3.1
PVIS Viseu 85.20 16 eP P 05 49 58.4 +0.7
comp=Z,148nm,1.8s
KKB Krupnik 85.40 352 P P 05 49 59.2 +0.6
KDZ Kurdzhali 85.40 351 P P 05 50 00.2 +1.5
SKO Skopje 85.41 354 iP P 05 50 01.0 +2.4
RZN Rozhen 85.43 351 P P 05 50 00.2 +1.2
SCER sogukcermik 85.46 342 iP P 05 50 00.8 +1.7
BNGL BİNGOL 85.49 338 iP P 05 50 01.4 +2.0
ELDT Eldivan 85.50 345 iP P 05 50 01.3 +1.9
MTE Manteigas 85.57 16 eP P 05 49 59.6 +0.1
comp=Z,143nm,1.9s
MTE Manteigas 85.57 16 eS S 06 00 32.7 +2.2
MTE Manteigas 85.57 16 eLR LR 06 19 03.5
comp=Z,13µm,18.0s
MTE Manteigas 85.57 16 eP P 05 49 58.9 -0.6
comp=Z,25nm,0.9s
MTE LR LR
comp=Z,13µm,19.0s
ELBA Catalca 85.57 348 iP P 05 50 00.5 +1.1
MMB Musomiste 85.62 352 P P 05 50 00.2 +0.4
DGPR DIGLIPUR 85.64 286 eP P 05 49 58.7 -1.5
DGPR AMB AMB 05 50 33.0
comp=Z,236nm,2.1s
GEVA Gevas 85.66 337 iP P 05 50 01.4 +1.2
TATV Tatvan 85.66 337 iP P 05 50 01.6 +1.4
KTGM Kuala Trenggan 85.73 273 P P 05 50 01.9 +1.3
KEMA Kemaliye 85.76 340 iP P 05 50 02.1 +1.5
NVR Nevrokopi 85.84 352 P P 05 50 00.6 -0.3
NVR Nevrokopi 85.84 352 eP P 05 50 01.4 +0.5
NVR Nevrokopi 85.84 352 P P 05 50 00.6 -0.3
RDO Rodhopi 85.89 351 P P 05 49 59.9 -1.1
RDO Rodhopi 85.89 351 eP P 05 50 00.5 -0.5
RDO Rodhopi 85.89 351 P P 05 49 59.9 -1.1
EIDS Eidsvold 85.91 217 eP P 05 50 00.7 -0.4
comp=Z,578nm,2.4s
VAY Valandovo 85.98 353 iP P 05 50 01.3 -0.2
BHPL Bhopal 86.00 304 eP P 05 50 00.0 -1.9
BHPL AMB AMB 05 50 09.2
comp=Z,344nm,2.7s
ALN Alexandroupoli 86.09 350 P P 05 50 02.3 +0.3
ALN Alexandroupoli 86.09 350 P P 05 50 02.3 +0.3
ALN Alexandroupoli 86.09 350 eP P 05 50 02.0 0.0
ALN Alexandroupoli 86.09 350 P P 05 50 02.3 +0.3
SRS Serrai 86.10 352 P P 05 50 00.4 -1.7
SRS Serrai 86.10 352 P P 05 50 00.4 -1.7
SRS Serrai 86.10 352 eP P 05 50 02.9 +0.8
SRS Serrai 86.10 352 P P 05 50 00.4 -1.7
KNT Kendrikon 86.11 353 P P 05 50 02.9 +0.7
KNT Kendrikon 86.11 353 P P 05 50 02.9 +0.7
KNT Kendrikon 86.11 353 eP P 05 50 01.7 -0.5
KNT Kendrikon 86.11 353 P P 05 50 02.9 +0.7
PCBR Castelo Branco 86.12 16 eP P 05 50 02.0 -0.2
comp=Z,62nm,2.3s
TIR Tirane 86.13 355 PFAKE 05 50 10.0 +7.8
TIR LR LR
comp=Z,17µm,21.0s
KAVA Kavala 86.14 351 P P 05 50 02.5 +0.2
KAVA Kavala 86.14 351 eP P 05 50 02.9 +0.6
KAVA Kavala 86.14 351 P P 05 50 02.5 +0.2
PTOM Tomar 86.18 16 eP P 05 50 02.4 -0.1
comp=Z,132nm,1.8s
ANTO Ankara 86.21 345 eP P 05 50 03.1 +0.3
ANTO pmax pmax
comp=Z,114nm,0.8s
ANTO MLR MLR
comp=Z,13µm,19.0s
ANTO Ankara 86.21 345 P P 05 50 04.3 +1.5
SNR=54
ANTO Ankara 86.21 345 ⇑iP P 05 50 04.3 +1.5
ANTO Ankara 86.21 345 eP P 05 50 03.1 +0.3
comp=Z,114nm,0.8s
ANTO LR LR
comp=Z,13µm,19.0s
BR131 Keskin Array S 86.21 344 eP P 05 50 03.2 +0.4
comp=Z,59nm,0.8s
BRTR Keskin Array B 86.21 344 P P 05 50 03.0 +0.2
BRTR ⇑e 06 15 45.4
BRTR Keskin Array B 86.21 344 P P 05 50 03.0 +0.2
comp=Z,22nm,0.8s,baz=12,slow=2.4,SNR=75
BRTR PKP2bc 06 15 45.4
comp=Z,0.9nm,0.7s,baz=45,slow=3.7,SNR=3.8
BRTR LR LR 06 32 55.3
comp=Z,7µm,20.7s,baz=188,slow=39
HAKT HAKKARI 86.22 336 iP P 05 50 03.5 +0.4
GRG Griva 86.35 353 P P 05 50 04.0 +0.6
GRG Griva 86.35 353 P P 05 50 04.0 +0.6
GRG Griva 86.35 353 eP P 05 50 05.0 +1.6
GRG Griva 86.35 353 P P 05 50 04.0 +0.6
BIA Bitola 86.37 354 eP P 05 50 01.4 -2.1
SOH Sokhos 86.41 352 eP P 05 50 04.4 +0.7
BBAL Bala 86.48 345 iP P 05 50 05.4 +1.2
PMRV Marv??o 86.54 16 eP P 05 50 03.6 -0.7
comp=Z,67nm,1.8s
PMRV Marv??o 86.54 16 ePP PP 05 53 36.0 +11
PMRV eS S 06 00 41.7 +1.8
PMRV Marv??o 86.54 16 eLR LR 06 19 33.0
comp=Z,12µm,18.0s
SMTH Samothraki Isl 86.56 350 eP P 05 50 05.0 +0.6
SIRN S¯–rnak 86.59 337 iP P 05 50 05.7 +1.0
FNA Florina 86.60 354 P P 05 50 05.2 +0.6
FNA Florina 86.60 354 P P 05 50 05.2 +0.6
FNA Florina 86.60 354 eP P 05 50 04.7 +0.1
FNA Florina 86.60 354 P P 05 50 05.2 +0.6
PKDT Phuket 86.61 278 P P 05 50 06.5 +1.5
comp=Z,220nm,1.1s,comp=Z,5µm
PMAFR Mafra 86.67 17 eP P 05 50 05.4 +0.4
comp=Z,248nm,2.2s
PMAFR Mafra 86.67 17 ePP PP 05 53 31.4 +5.2
MALT Malatya 86.69 340 ⇓iP P 05 50 06.5 +1.3
DIYA Diyarbakir 86.71 339 iP P 05 50 07.0 +1.7
PINB Pinarbasi 86.74 342 iP P 05 50 07.0 +1.4
PMTG Montargil 86.75 16 eP P 05 50 05.0 -0.3
comp=Z,62nm,2.3s
PMTG Montargil 86.75 16 ePP PP 05 53 27.4 +0.7
ESDC Sonseca Array 86.81 13 P P 05 50 05.5 -0.2
ESDC Sonseca Array 86.81 13 P P 05 50 05.5 -0.2
comp=Z,7.5nm,0.6s,baz=344,slow=4.5,SNR=27
ESDC LR LR 06 31 56.8
comp=Z,12µm,18.4s,baz=340,slow=38
ESLA Sonseca Array 86.81 13 eP P 05 50 05.4 -0.3
comp=Z,29nm,1.4s
SDV Santo Domingo 86.83 80 eP P 05 50 05.2 -1.1
comp=Z,28nm,0.9s
OUR Ouranopolis 86.84 352 P P 05 50 04.2 -1.5
OUR Ouranopolis 86.84 352 P P 05 50 04.2 -1.5
OUR Ouranopolis 86.84 352 eP P 05 50 05.3 -0.4
OUR Ouranopolis 86.84 352 P P 05 50 04.2 -1.5
PLG Polygyros 86.85 352 eP P 05 50 01.4 -4.4
PAB San Pablo 86.89 13 eP P 05 50 04.5 -1.6
PAB pmax pmax
comp=Z,1µm,1.8s
PAB MLR MLR
comp=Z,17µm,21.0s
PAB San Pablo 86.89 13 eP P 05 50 04.5 -1.6
comp=Z,1µm,1.8s
PAB LR LR
comp=Z,17µm,21.0s
PBKI Pangkalan Bun 86.89 261 P P 05 50 10.3 +4.0
comp=Z,294nm,0.8s,comp=Z,5µmcomp=Z,0.9nm
PMST Lisbon--Monsan 86.90 17 eP P 05 50 06.5 +0.4
comp=Z,215nm,1.3s
NGP Nagpur 86.90 301 ex P 05 50 03.6 -2.7
NGP AMB AMB 05 50 11.6
comp=Z,195nm,2.0s
NGP ex SKSac 06 00 30.3 -2.5
AVNT Avonos 86.93 343 iP P 05 50 07.4 +1.0
LIS Lisbon 86.93 17 eP P 05 50 04.5 -1.7
LIS AMS AMS 06 29 55.5
comp=N,11µm,19.7s
LIS Lisbon 86.93 17 eP P 05 50 04.5 -1.7
LIS Lisbon 86.93 17 eP P 05 50 04.5 -1.7
PACT Alcochete 86.94 17 eP P 05 50 06.4 +0.2
comp=N,232nm,1.7s
PBA Port Blair 86.96 285 eP P 05 50 06.4 -0.2
PBA AMB AMB 05 50 13.6
comp=Z,150nm,3.3s
NEST Nestorio 86.99 354 eP P 05 50 09.1 +2.5
KZN Kozani 87.05 353 P P 05 50 00.9 -6.0
KZN Kozani 87.05 353 P P 05 50 00.9 -6.0
KZN Kozani 87.05 353 eP P 05 50 02.0 -4.9
KZN Kozani 87.05 353 P P 05 50 00.9 -6.0
BALY Balya 87.05 349 iP P 05 50 07.1 +0.2
DURS Dursunbey 87.09 348 iP P 05 50 07.4 +0.3
MARD Mardin 87.14 338 iP P 05 50 08.8 +1.3
LIA Limnos Island 87.16 351 eP P 05 49 53.6 -14
LIT Litokhoron 87.20 353 eP P 05 50 06.2 -1.3
KULM Kulim 87.27 275 P P 05 50 09.5 +1.3
KULM Kulim 87.27 275 P P 05 50 09.1 +0.9
comp=Z,140nm,1.2s,comp=Z,4µm
KULM Kulim 87.27 275 eP P 05 50 08.0 -0.1
comp=Z,194nm,1.3s
KULM LR LR
comp=Z,8µm,19.0s
PAIG Paliouri 87.27 352 eP P 05 50 07.3 -0.5
EVOP Sao Brissos 87.29 16 eP P 05 50 07.4 -0.5
EVOP pmax pmax
comp=Z,137nm,1.4s
EVOP Sao Brissos 87.29 16 eP P 05 50 07.4 -0.5
comp=Z,136nm,1.4s
EVO Evora 87.31 16 eP P 05 50 07.4 -0.6
comp=Z,136nm,1.4s
EVO eR
comp=Z,27µm,19.8s
EVO Evora 87.31 16 eP P 05 50 08.0 0.0
comp=Z,53nm,1.4s
EVO Evora 87.31 16 ePP PP 05 53 41.1 +10
VIS Vishakhapatnam 87.44 296 eP P 05 50 08.0 -1.0
VIS AMB AMB 05 50 17.7
comp=Z,145nm,4.6s
GDZ Gediz 87.46 347 iP P 05 50 09.4 +0.4
ATAB Bozova 87.53 340 iP P 05 50 10.9 +1.7
DEMI Demirci 87.61 348 iP P 05 50 10.3 +0.7
BOLV Bolvadin 87.62 346 iP P 05 50 10.7 +1.0
PNCL Nicolau / Gran 87.63 17 eP P 05 50 09.5 -0.1
comp=Z,105nm,1.8s
PNCL Nicolau / Gran 87.63 17 ePP PP 05 53 34.0 +0.2
KDHN Kadinhani 87.63 345 iP P 05 50 10.5 +0.7
CUC Castrocucco 87.64 358 eP P 05 50 09.2 -0.4
comp=Z,122nm,1.3s
CUC LR LR
comp=Z,10µm,20.0s
IPM Ipoh 87.68 274 P P 05 50 10.7 +0.5
IPM Ipoh 87.68 274 P P 05 50 10.5 +0.3
comp=Z,111nm,1.7s,comp=Z,4µm
IPM Ipoh 87.68 274 eP P 05 50 09.6 -0.5
comp=Z,106nm,1.0s
PRK Paraskevi 87.69 350 eP P 05 50 08.8 -1.1
JAN Janina 87.75 354 eP P 05 50 16.6 +6.4
THL Klokotos Trika 87.77 353 P P 05 50 08.8 -1.4
THL Klokotos Trika 87.77 353 eP P 05 50 10.3 +0.1
ROSC El Rosal 87.78 85 eP P 05 50 11.5 +0.3
ROSC El Rosal 87.78 85 P P 05 50 11.0 -0.2
comp=Z,11nm,0.8s,baz=27,slow=2.3,SNR=7.1
ROSC LR LR 06 35 18.8
comp=Z,3µm,18.6s,baz=356,slow=40
ANDN Andirin 87.81 342 iP P 05 50 11.8 +1.1
PBEJ Beja 87.83 16 eP P 05 50 11.8 +1.3
comp=Z,59nm,1.5s
PBEJ Beja 87.83 16 ePP PP 05 53 37.4 +2.0
XOR Xorichti 87.87 352 P P 05 50 10.4 -0.4
XOR Xorichti 87.87 352 eP P 05 50 10.9 +0.1
XOR Xorichti 87.87 352 P P 05 50 10.4 -0.4
AKHS Akhisar 87.88 348 iP P 05 50 10.9 +0.1
AYKD Aydinkavak 87.89 341 iP P 05 50 12.1 +1.2
AOS Ajonnisos 88.01 352 eP P 05 50 11.8 +0.4
SKIA Skiathos 88.05 352 eP P 05 50 11.2 -0.4
MYKOM Kota Tinggi 88.08 270 P P 05 50 10.6 -1.4
MYKOM Kota Tinggi 88.08 270 P P 05 50 13.6 +1.6
comp=Z,117nm,1.1s,comp=Z,4µm
VSL Villasalto 88.11 3 PFAKE 05 50 20.0 +8.1
VSL LR LR
comp=Z,10µm,19.0s
KULA Kula-Manisa 88.13 348 P P 05 50 11.9 -0.2
KULA Kula-Manisa 88.13 348 P P 05 50 11.9 -0.2
PTEO Sao Teotonio 88.14 17 eP P 05 50 11.9 -0.1
comp=Z,107nm,1.8s
KHAL Kahalli 88.17 347 iP P 05 50 12.6 +0.3
PCVE Castro Verde 88.18 17 eP P 05 50 12.2 0.0
comp=Z,68nm,1.5s
PCVE Castro Verde 88.18 17 ePP PP 05 53 47.5 +9.2
KGM Kluang 88.23 271 P P 05 50 14.2 +1.4
FRIM Kepong 88.29 273 P P 05 50 14.0 +0.9
MAKR Makrakomi, Fth 88.31 353 P P 05 50 12.5 -0.4
MAKR Makrakomi, Fth 88.31 353 eP P 05 50 12.5 -0.4
MAKR Makrakomi, Fth 88.31 353 P P 05 50 12.5 -0.4
AKL Akola 88.33 303 ⇑iP P 05 50 13.2 0.0
AKL ix SKSac 06 00 42.2 +0.8
WRAB Tennant Creek 88.36 234 eP P 05 50 12.4 -0.7
WRAB pmax pmax
comp=Z,128nm,1.5s
WRAB MLR MLR
comp=Z,8µm,22.0s
WRAB Tennant Creek 88.36 234 eP P 05 50 12.4 -0.7
comp=Z,128nm,1.5s
WRAB LR LR
comp=Z,8µm,22.0s
WRA Warramunga Arr 88.37 234 P P 05 50 11.9 -1.3
WRA PP PP 05 53 36.2 -5.1
WRA Warramunga Arr 88.37 234 P P 05 50 11.9 -1.3
comp=Z,11nm,1.0s,baz=37,slow=5.5,SNR=27
WRA PP PP 05 53 36.2 -5.1
comp=Z,3.0nm,0.9s,baz=39,slow=6.6,SNR=3.1
WRA LR LR 06 23 31.3
comp=Z,8µm,21.7s,baz=25,slow=31
MORF Marmelete 88.39 17 eP P 05 50 13.4 +0.1
comp=Z,103nm,1.6s
MORF Marmelete 88.39 17 ePP PP 05 53 49.2 +9.2
MORF Marmelete 88.39 17 eP P 05 50 11.6 -1.7
MORF eS SKSac 06 00 33.5 -7.9
GULE Gulek 88.39 343 iP P 05 50 14.5 +1.0
EVR Evrytania 88.43 353 P P 05 50 14.2 +0.7
EVR Evrytania 88.43 353 eP P 05 50 12.1 -1.4
EVR Evrytania 88.43 353 P P 05 50 14.2 +0.7
PVAQ Vaqueiros 88.46 16 eP P 05 50 13.6 +0.1
comp=Z,84nm,1.5s
PVAQ Vaqueiros 88.46 16 ePP PP 05 53 42.4 +1.9
PVAQ eS S 06 00 50.0 -8.3
PVAQ Vaqueiros 88.46 16 eLR LR 06 20 34.6
comp=Z,15µm,18.0s
PFVI Vila Bisbo 88.53 17 eP P 05 50 13.8 -0.1
comp=Z,139nm,1.4s
PFVI Vila Bisbo 88.53 17 ePP PP 05 53 51.7 +11
ISP Isparta 88.56 346 eP P 05 50 14.6 +0.4
ISP pmax pmax
comp=Z,171nm,1.5s
ISP MLR MLR
comp=Z,15µm,21.0s
ISP Isparta 88.56 346 ⇑iP P 05 50 14.0 -0.2
ISP Isparta 88.56 346 eP P 05 50 14.6 +0.4
comp=Z,171nm,1.5s
ISP LR LR
comp=Z,15µm,21.0s
CHOS Chios island 88.57 350 eP P 05 50 16.0 +1.8
PBDV Barranco-do-Ve 88.58 17 eP P 05 50 14.6 +0.4
comp=Z,106nm,2.0s
PBDV Barranco-do-Ve 88.58 17 ePP PP 05 53 50.1 +8.6
COBT Iskenderun 88.86 341 eP P 05 50 16.3 +0.6
DSF Desfina 88.87 353 P P 05 50 15.2 -0.4
DSF Desfina 88.87 353 P P 05 50 15.2 -0.4
DNZL Cakiroluk 88.89 347 iP P 05 50 16.7 +0.9
OTAV Otavalo 88.92 91 eP P 05 50 16.1 -0.5
comp=Z,30nm,0.8s
OTAV LR LR
comp=Z,3µm,20.0s
AYDN Tasoluk 89.07 348 iP P 05 50 17.1 +0.5
PTL Penteli 89.12 351 eP P 05 50 16.3 -0.4
OUZ Omahuta 89.19 196 eP P 05 50 17.1 +0.5
comp=Z,144nm,1.7s
ATH Athens Observa 89.21 352 eP P 05 50 16.6 -0.5
KLV Kalavryta, Ach 89.27 353 P P 05 50 16.9 -0.5
KLV Kalavryta, Ach 89.27 353 P P 05 50 16.9 -0.5
KIZK Mersin 89.29 343 eP P 05 50 17.1 -0.4
RLS Riolos of Patr 89.30 353 eP P 05 50 15.7 -1.8
ERMK Ermenek 89.34 344 iP P 05 50 17.7 -0.3
YAYL Yayladag 89.36 341 iP P 05 50 18.8 +0.8
CEL Celeste 89.37 358 PFAKE 05 50 30.0 +12
CEL LR LR
comp=Z,7µm,20.0s
GRGR Grenville 89.52 71 PFAKE 05 50 30.0 +11
GRGR LR LR
comp=Z,7µm,20.0s
BDRM Kayabasi 89.71 349 eP P 05 50 18.6 -0.8
DID Didima 89.71 352 P P 05 50 18.5 -1.0
DID Didima 89.71 352 P P 05 50 18.5 -1.0
DIDY Didyma 89.75 352 P P 05 50 18.7 -1.0
BHJ Bhuj 89.78 310 eP P 05 50 19.0 -1.0
BHJ AMB AMB 05 50 27.9
comp=Z,211nm,1.7s
GAZI Gazipasa 89.84 344 iP P 05 50 19.6 -0.5
BBGH Gun Hill 89.90 68 PFAKE 05 50 30.0 +9.4
BBGH LR LR
comp=Z,14µm,22.0s
APE Apeiranthos 89.93 350 eP P 05 50 19.3 -1.2
AKAS Kas 90.25 347 iP P 05 50 21.9 -0.2
HYB Hyderabad 90.25 300 iP P 05 50 21.0 -1.3
comp=Z,240nm,1.0s
HYB eSKS SKSac 06 00 52.0 -0.9
HYB eS SKSac 06 00 58.0 +5.1
HYB LR LR 06 14 00.0
comp=Z,13nm,16.0s
HYB Hyderabad 90.25 300 eP P 05 50 21.2 -1.1
HYB AMB AMB 05 50 29.4
comp=Z,271nm,0.0s
PSI Prapat 90.28 275 ⇓P P 05 50 22.5 0.0
baz=90,SNR=12
ARMA Armidale 90.31 215 eP P 05 50 23.0 +0.8
comp=Z,45nm,1.0s
ARMA Armidale 90.31 215 ⇓P P 05 50 23.9 +1.7
baz=90,SNR=11
LATR Latur 90.47 302 ex P 05 50 25.8 +2.6
comp=Z,329nm,1.6s
SANT Santorini 90.63 350 PFAKE 05 50 30.0 +6.2
SANT LR LR
comp=Z,8µm,19.0s
MAMC Mammari 90.73 344 P P 05 50 25.3 +1.1
PHNC Paralimni 90.75 343 P P 05 50 25.7 +1.4
comp=Z,3.5nm,0.9s
EBNR Beni Rached 90.80 9 P P 05 50 28.0 +3.4
PMPST Porto Santo, M 90.81 24 eP P 05 50 25.1 +0.5
comp=Z,173nm,1.6s
PMPS Porto Santo 90.83 24 eP P 05 50 25.8 +1.1
comp=Z,293nm,1.6s
PMOZ Porto Moniz, M 90.83 25 eP P 05 50 23.2 -1.7
comp=Z,180nm,2.0s
PMOZ Porto Moniz, M 90.83 25 eS S 06 01 13.3 -7.5
PMOZ Porto Moniz, M 90.83 25 eLR LR 06 20 13.6
comp=Z,5µm,20.0s
ALFC Alevga 90.84 344 P P 05 50 24.1 -0.7
comp=Z,2.9nm,0.8s
DFRA Djebel Bou Aff 90.90 6 P P 05 50 28.8 +3.7
CSS Prodhromos 90.91 343 P P 05 50 25.0 -0.1
comp=Z,1.7nm,1.0s
CSS Prodhromos 90.91 343 P P 05 50 25.4 +0.3
CSS LR LR
comp=Z,7µm,19.0s
PMAR Madeira 91.00 25 eP P 05 50 26.3 +0.5
comp=Z,403nm,1.5s
AKMC Akamas 91.02 344 P P 05 50 23.9 -1.7
EMHD Djebel Mahouad 91.02 8 P P 05 50 27.0 +1.3
EANR 'Ain N'Sour 91.10 10 P P 05 50 26.5 +0.5
PPCY Paphos 91.15 344 P P 05 50 24.2 -2.0
SZAC Souni-Zanaja 91.19 344 P P 05 50 24.4 -2.0
CASM Ain Smara 91.22 5 P P 05 50 26.7 +0.2
KARP Karpathos 91.25 349 eP P 05 50 24.0 -2.7
FITZ Fitzroy Crossi 91.29 241 eP P 05 50 25.6 -1.2
comp=Z,52nm,1.0s
FITZ Fitzroy Crossi 91.29 241 ⇑P P 05 50 26.4 -0.4
baz=91,SNR=20
CKHR Kef el Ahmar 91.40 6 P P 05 50 28.8 +1.3
CTEI Djebel Teioual 91.41 5 P P 05 50 28.2 +0.7
URZ Urewera 91.65 192 LR LR 06 30 35.7
comp=Z,12µm,18.5s,baz=27,slow=35
VAM Vamos 91.71 351 eP P 05 50 28.5 -0.3
AS31 Alice Springs 91.74 232 eP P 05 50 29.5 +0.6
ASAR Alice Springs 91.74 232 P P 05 50 28.2 -0.7
ASAR Alice Springs 91.74 232 P P 05 50 28.2 -0.7
comp=Z,11nm,1.0s,baz=28,slow=4.8,SNR=28
ASAR LR LR 06 31 03.0
comp=Z,9µm,20.1s,baz=30,slow=35
POO Poona 91.75 304 eP P 05 50 27.5 -1.8
POO AMB AMB 05 50 37.9
comp=Z,180nm,6.7s
IDI Anoyia 91.76 350 LR LR 06 35 49.1
comp=Z,8µm,20.7s,baz=164,slow=38
KEST Kesra 91.87 3 eP P 05 50 29.4 -0.2
KEST Kesra 91.87 3 P P 05 50 30.6 +1.0
comp=Z,3.8nm,0.6s,baz=333,slow=2.3,SNR=13
RTC Rabat Centre 91.94 16 PFAKE 05 50 40.0 +10
RTC LR LR
comp=Z,7µm,19.0s
LHSI Lahat 92.71 267 P P 05 50 35.6 +2.0
comp=Z,156nm,1.1s
MDSI Maura Dua 92.83 266 P P 05 50 32.5 -1.6
comp=Z,42nm,1.2s,comp=Z,1µm
MASI Maura Aman, Be 92.95 269 P P 05 50 37.4 +2.6
comp=Z,249nm,1.0s
KBD Kabd 93.02 330 eP P 05 50 34.3 -0.6
KBD AMb AMB 05 50 43.7
comp=Z,61nm,1.3s
BANOM Banah 93.08 322 P P 05 50 33.1 -2.2
SNR=6.4
NAY Al-Naaiem 93.08 331 eP P 05 50 34.4 -0.8
NAY AMb AMB 05 50 43.8
comp=Z,63nm,1.2s
KSI Kapahiang 93.13 268 P P 05 50 38.1 +2.5
comp=Z,134nm,0.5s
RDF Al-Radifah 93.29 330 eP P 05 50 35.8 -0.4
RDF AMb AMB 05 50 44.3
comp=Z,125nm,1.2s
CMSA Cobar Meteorol 93.49 219 P P 05 50 39.0 +2.2
baz=94,SNR=5.9
RPN Rapa Nui 94.00 131 PFAKE 05 50 50.0 +11
RPN LR LR
comp=Z,6µm,19.0s
UOSS Wadi Hilu 94.00 321 P P 05 50 38.7 -0.8
comp=Z,209nm,0.6s,SNR=9.1
HATD Hatta, Dubai 94.14 321 P P 05 50 40.3 +0.1
SNR=14
ASHO Ashiyiah 94.30 321 P P 05 50 40.3 -0.6
SNR=13
GOA Goa 94.33 302 eP P 05 50 39.8 -1.2
GOA AMB AMB 05 50 47.8
comp=Z,99nm,0.0s
SNZO South Karori 94.98 194 PFAKE 05 50 50.0 +6.8
SNZO LR LR
comp=Z,7µm,20.0s
SMDO Samad 94.99 319 P P 05 50 44.0 -0.2
SNR=24
WBK Wadi Bani Khal 95.02 318 P P 05 50 44.7 +0.5
SNR=18
ARQ Araqi 95.34 321 P P 05 50 45.0 -0.7
SNR=26
STKA Stephens Creek 95.41 222 LR LR 06 26 59.3
comp=Z,7µm,21.3s,baz=275,slow=31
JMDO Jabal Madar 95.58 319 P P 05 50 46.5 -0.3
SNR=16
BSY Bisya 95.61 320 P P 05 50 46.6 -0.4
SNR=20
CAN Canberra 95.68 215 PFAKE 05 51 00.0 +13
CAN LR LR
comp=Z,6µm,19.0s
EIL Elat 95.76 341 LR LR 06 43 51.5
comp=Z,8µm,18.4s,baz=211,slow=42
MBWA Marble Bar 96.98 244 PFAKE 05 51 00.0 +7.1
MBWA LR LR
comp=Z,5µm,20.0s
PALK Pallekele 97.43 292 eP Pdif 05 50 55.4 0.0
comp=Z,66nm,1.2s
TRD Trivandrum 98.49 296 eP P 05 50 59.4 -0.6
TRD AMB AMB 05 51 00.6

	comp=Z,37nm,3.9s									
TAU	**Tasmania Unive**	**103.07**	**213**		PFAKE			05 51 30.0	+10	
TAU					LR	LR				
	comp=Z,4μm,19.0s									
COCO	**West Island**	**103.33**	**267**		PFAKE			05 51 30.0	+8.6	
COCO					LR	LR				
	comp=Z,4μm,22.0s									
TAM	**Tamanrasset**	**104.54**	**7**		PFAKE			05 51 40.0	+13	
TAM					LR	LR				
	comp=Z,5μm,20.0s									
SAML	**Samuel**	**105.43**	**84**		PFAKE			05 56 00.0		
SAML					LR	LR				
	comp=Z,7μm,21.0s									
NWAO	**Narrogin (SRO)**	**107.68**	**239**		PFAKE			05 56 00.0		
NWAO					LR	LR				
	comp=Z,5μm,22.0s									
LPAZ	**La Paz**	**108.13**	**93**		PKKP	PKKPbc		06 07 08.0	+8.2	
	comp=Z,1.4nm,0.9s,baz=180,slow=3.0,SNR=4.7									
LVC	**Limon Verde**	**112.48**	**98**		PFAKE			05 56 10.0		
LVC					LR	LR				
	comp=Z,3μm,22.0s									
TORD	**Torodi Ar. Bea**	**113.69**	**12**		Pdif	**Pdif**		**05 52 08.3**	**+0.7**	
TORD					PKiKP	**PKiKP**		**05 55 58.7**	**-1.3**	
TORD					PKKPbc	**PKKPbc**		**06 06 40.8**	**-0.1**	
TORD					SKKPbc	SKKPbc		06 10 15.9	-5.1	
TORD	**Torodi Ar. Bea**	**113.69**	**12**		Pdiff	**Pdif**		**05 52 08.3**	**+0.7**	
	comp=Z,0.1nm,0.4s,baz=6.1,slow=2.6,SNR=2.9									
TORD					PKiKP	**PKiKP**		**05 55 58.7**	**-1.3**	
	comp=Z,2.4nm,0.7s,baz=342,slow=2.6,SNR=26									
TORD					PKKPbc	**PKKPbc**		**06 06 40.8**	**-0.1**	
	comp=Z,2.5nm,0.9s,baz=172,slow=2.0,SNR=7.5									
TORD					SKKPbc	SKKPbc		06 10 15.9	-5.1	
	comp=Z,1.1nm,0.9s,baz=225,slow=1.4,SNR=2.8									
DGAR	**Diego Garcia**	**114.11**	**291**		PFAKE			05 56 10.0	+9.2	
DGAR					LR	LR				
	comp=Z,7μm,19.0s									
H03N2	**Juan Fernandez**	**114.71**	**113**		T	T		08 02 06.6		
	baz=320,slow=0.7,SNR=76									
H03N1	**Juan Fernandez**	**114.72**	**113**		T	T		08 02 00.3		
	baz=320,slow=0.7,SNR=92									
H03N3	**Juan Fernandez**	**114.72**	**113**		T	T		08 02 10.5		
	baz=320,slow=0.7,SNR=65									
LCO	**Las Campanas**	**116.18**	**104**		PFAKE			05 56 20.0	+15	
LCO					LR	LR				
	comp=Z,4μm,20.0s									
RCBR	**Riachuelo**	**118.54**	**59**		PFAKE			05 56 20.0	+11	
RCBR					LR	LR				
	comp=Z,8μm,21.0s									
TIC	**Toumodi**	**118.91**	**21**	*e*PKIKP	**PKPdf**			**05 56 10.2**	**+0.1**	
	comp=Z,58nm,1.2s									
DBIC	**Dimbokro**	**118.92**	**20**	PKP	**PKPdf**			**05 56 09.8**	**-0.4**	
DBIC				PKKPbc	**PKKPab**			**06 06 26.6**	**-2.8**	
DBIC	**Dimbokro**	**118.92**	**20**	PKP	**PKPdf**			**05 56 09.8**	**-0.4**	
	comp=Z,1.7nm,0.5s,baz=28,slow=2.5,SNR=5.3									
DBIC				PKKPbc	**PKKPab**			**06 06 26.6**	**-2.8**	
	comp=Z,7.8nm,1.0s,baz=182,slow=6.2,SNR=4.6									
KIC	**Kosan Boka**	**119.25**	**20**	*e*PKIKP	**PKPdf**			**05 56 10.7**	**-0.1**	
	comp=Z,219nm,2.1s									
LIC	**Lamto**	**119.32**	**21**	*e*PKIKP	**PKPdf**			**05 56 10.4**	**-0.5**	
	comp=Z,19nm,0.7s									
LIC				*eR*						
	comp=Z,17μm,22.2s									
LIC	**Lamto**	**119.32**	**21**	*e*PKIKP	**PKPdf**			**05 56 10.8**	**-0.1**	
	comp=Z,32nm,0.7s									
LIC	**Lamto**	**119.32**	**21**	*e*PKPdf	**PKPdf**			**05 56 10.4**	**-0.5**	
BDFB	**Brasilia**	**119.77**	**76**	PKP	**PKPdf**			**05 56 11.2**	**-0.5**	
BDFB	**Brasilia**	**119.77**	**76**	PKP	**PKPdf**			**05 56 11.2**	**-0.5**	
	comp=Z,6.0nm,1.0s,baz=90,slow=3.0,SNR=6.2									
MSEY	**Mahe Island**	**120.77**	**308**		PFAKE			05 56 30.0	+16	
MSEY					LR	LR				
	comp=Z,12μm,20.0s									
CPUP	**Villa Florida**	**122.26**	**92**	PKP	**PKPdf**			**05 56 15.7**	**-0.4**	
CPUP				PKKPbc	**PKKPbc**			**06 06 10.3**	**+0.2**	
CPUP	**Villa Florida**	**122.26**	**92**	PKP	**PKPdf**			**05 56 15.7**	**-0.4**	
	comp=Z,2.5nm,0.8s,baz=297,slow=1.5,SNR=3.9									
CPUP				PKKPbc	**PKKPbc**			**06 06 10.3**	**+0.2**	
	comp=Z,2.4nm,0.8s,baz=139,slow=9.3,SNR=4.3									
PLCA	**Paso Flores**	**124.59**	**113**	PKP	**PKPdf**			**05 56 19.6**	**-0.6**	
PLCA	**Paso Flores**	**124.59**	**113**	PKP	**PKPdf**			**05 56 19.6**	**-0.6**	
	comp=Z,16nm,1.0s,baz=320,slow=2.8,SNR=11									
KMBO	**Kilima Mbogo**	**124.76**	**330**	P	**PKPdf**			**05 56 23.0**	**+1.4**	
	SNR=7.8									
KMBO	**Kilima Mbogo**	**124.76**	**330**	PKP	**PKPdf**			**05 56 21.6**	**-0.1**	
KMBO					LR	LR				
	comp=Z,8μm,19.0s									
KMBO	**Kilima Mbogo**	**124.76**	**330**	PKP	**PKPdf**			**05 56 21.6**	**-0.1**	
	comp=Z,7.6nm,0.9s,baz=338,slow=2.7,SNR=12									
SPB	**Sao Paulo**	**126.24**	**82**		PFAKE			05 56 40.0	+16	
SPB					LR	LR				
	comp=Z,3μm,19.0s									
TRQA	**Tornquist**	**127.70**	**105**		PFAKE			05 56 40.0	+14	
TRQA					LR	LR				
	comp=Z,4μm,20.0s									
ASCN	**Ascension**	**130.09**	**37**		PFAKE			05 56 40.0	+8.5	
ASCN					LR	LR				
	comp=Z,3μm,22.0s									
SBA	**Scott Base**	**131.30**	**187**		PFAKE			05 56 40.0	+8.2	
SBA					LR	LR				
	comp=Z,4μm,19.0s									
VNDA	**Vanda**	**131.40**	**189**	PKP	**PKPdf**			**05 56 33.0**	**+1.0**	
VNDA	**Vanda**	**131.40**	**189**	PKP	**PKPdf**			**05 56 33.0**	**+1.0**	
	comp=Z,2.1nm,0.9s,baz=88,slow=4.6,SNR=4.8									
CASY	**Casey**	**133.91**	**214**		PFAKE			05 56 50.0	+13	
CASY					LR	LR				
	comp=Z,5μm,20.0s									
RER	**Riviere de l'E**	**134.58**	**297**		PFAKE			05 56 50.0	+10	
RER					LR	LR				
	comp=Z,6μm,22.0s									
ABPO	**Ambohimpanom**	**137.14**	**309**		PFAKE			05 57 00.0	+15	
ABPO					LR	LR				
	comp=Z,12μm,20.0s									
EFI	**East Falkland**	**138.06**	**118**		PFAKE			05 57 00.0	+15	
EFI					LR	LR				
	comp=Z,6μm,19.0s									
MIR	**Mirnyy**	**140.32**	**218**	*e*PKIKP	PKPdf			05 56 54.0	+5.2	
MIR				*e*				05 57 09.0		
MIR					pmax	pmax				
	comp=Z,42nm,1.0s									
LSZ	**Lusaka**	**140.76**	**336**		PFAKE			05 57 00.0	+8.6	
LSZ					LR	LR				
	comp=Z,10μm,20.0s									
PMSA	**Palmer Station**	**140.84**	**139**		PFAKE			05 57 00.0	+10	
PMSA					LR	LR				
	comp=Z,13μm,20.0s									
QSPA	**South Pole Qui**	**142.48**	**180**		PFAKE			05 57 00.0	+7.2	
QSPA					LR	LR				
	comp=Z,5μm,20.0s									
PAF	**Port-aux-Franc**	**144.68**	**252**		PFAKE			05 57 10.0	+13	
PAF					LR	LR				
	comp=Z,6μm,22.0s									
TSUM	**Tsumeb**	**146.37**	**352**		PFAKE			05 57 10.0	+6.8	
TSUM					LR	LR				
	comp=Z,8μm,20.0s									
MAW	**Mawson**	**152.05**	**219**	PKPbc	**PKPbc**			**05 57 14.9**	**-0.2**	
MAW	**Mawson**	**152.05**	**219**	PKPbc	**PKPbc**			**05 57 14.9**	**-0.2**	
	comp=Z,42nm,1.0s,baz=108,slow=1.5,SNR=24									
BOSA	**Boshof**	**154.27**	**335**	PKP	**PKPdf**			**05 57 13.6**	**+0.4**	
BOSA				PKPbc	**PKPbc**			**05 57 21.3**	**-0.1**	
BOSA	**Boshof**	**154.27**	**335**	PKP	**PKPdf**			**05 57 13.6**	**+0.4**	
	comp=Z,4.9nm,0.7s,baz=7.6,slow=3.9,SNR=5.1									
BOSA				PKPbc	**PKPbc**			**05 57 21.3**	**-0.1**	
	comp=Z,21nm,1.0s,baz=26,slow=2.8,SNR=10.0									
TRIS	**Tristan da Cun**	**156.37**	**59**		PFAKE			05 57 30.0	-14	
TRIS					LR	LR				
	comp=Z,5μm,19.0s									
SUR	**Sutherland**	**158.91**	**341**		PFAKE			05 57 30.0	+11	
SUR					LR	LR				
	comp=Z,9μm,20.0s									

NEIC 13 05:42:37.3, 52.59N×166.93W, h3km, ML3.5(AEIC), **After AEIC., Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**1.01**	**324**	P	Pg	05 42 56.8	+0.1
OKFG				S	Sb	05 43 11.9	+0.6
OKSO	**Okmok South**	**1.07**	**316**	P	Pg	05 42 57.8	-0.1
OKCE	**Okmok Cone E**	**1.12**	**319**	P	Pb	05 42 59.4	-0.1
OKCE				S	Sn	05 43 15.8	-0.2
MGOD	**Makushin Gods**	**1.21**	**1**	P	Pg	05 43 00.4	-0.1
MSOM	**Makushin Julie**	**1.23**	**359**	P	Pg	05 43 00.6	-0.3
NIKH	**Nikolski High**	**1.23**	**289**	P	Pg	05 43 00.3	-0.6
NIKH				S	Sb	05 43 17.9	+0.4
UNV	**Unalaska Valle**	**1.28**	**11**	P	Pg	05 43 01.6	-0.3
UNV				S	Sn	05 43 22.0	+2.2
MSW	**Makushin Switc**	**1.33**	**4**	P	Pn	05 43 02.2	-0.6
MTBL	**Makushin Table**	**1.39**	**6**	P	Pn	05 43 03.4	-0.3
AKRB	**Akutan Reef Bi**	**1.62**	**18**	P	Pn	05 43 06.0	-0.8
AKGG	**Akutan Green G**	**1.70**	**19**	P	Pn	05 43 08.1	+0.1

IDC ***13*** *05:54:09.5±0.9, 52.84N×167.19W, h0km, mb4.2/18, mb1 4.3/20, mb1mx4.2/31, mbtmp4.2/20, ML3.8/2, Error ellipse: s-maj=26.6km s-min=11.9km az=177.0*
ISCJB ***13*** *05:54:10.4±0.4, 52.48N±0.04×166.91W±0.05, h25km, mb4.2/21, Error ellipse: s-maj=6.3km s-min=3.9km az=161.0*
NEIC ***13*** *05:54:11.8, 52.59N×166.93W, h14km, mb3.9/3, ML3.9(AEIC), After AEIC.*

ISC 13 05:54:12.7±0.7, 52.64N±0.07×166.96W±0.05, h25km, n81, σ1ŝ25/78, mb4.3/21, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.96**	**324**	P	**Pn**	**05 54 30.7**	**+0.1**
OKFG				S	Sn	**05 54 45.5**	**+2.0**
OKSO	**Okmok South**	**1.02**	**315**	P	**Pn**	**05 54 31.5**	**+0.1**
OKSO				S	Sn	**05 54 47.1**	**+2.1**
OKCE	**Okmok Cone E**	**1.07**	**318**	P	**Pn**	**05 54 32.2**	**+0.1**
MREP	**Makushin Rep't**	**1.18**	**6**	P	**Pb**	**05 54 34.5**	**0.0**
NIKH	**Nikolski High**	**1.20**	**287**	P	**Pn**	05 54 33.7	-0.1
NIKH				S	**Sb**	**05 54 51.0**	**+1.2**
UNV	**Unalaska Valle**	**1.24**	**13**	P	**Pb**	05 54 34.4	-1.0
UNV				S	**Sb**	**05 54 52.0**	**+1.1**
MSW	**Makushin Switc**	**1.28**	**5**	P	**Pb**	05 54 35.2	-0.9
ZRO	**Akutan Zero**	**1.57**	**22**	P	**Pb**	05 54 39.5	-1.5
LVA	**Lava Point**	**1.62**	**20**	P	**Pb**	05 54 40.2	-1.7
AKUT	**Akutan**	**1.66**	**25**	P	**Pn**	**05 54 39.9**	**-0.2**
AKSA	**Akutan Strait**	**1.68**	**26**	P	**Pn**	05 54 39.9	-0.6
SSBA	**Shishaldin**	**2.72**	**37**	P	Pb	05 54 56.8	-3.9
FALS	**False Pass**	**3.06**	**42**	P	**Pn**	**05 55 00.3**	**+0.9**
SDPT	**Sand Point**	**4.69**	**52**	P	**Pn**	**05 55 23.5**	**+1.8**
SPIA	**Saint Paul Isl**	**4.93**	**339**	P	**Pn**	**05 55 27.1**	**+2.0**
GSMY	**Great Sitkin M**	**5.61**	**268**	P	**Pn**	**05 55 35.7**	**+1.2**
GSTD	**Great Sitkin T**	**5.66**	**268**	P	**Pn**	**05 55 35.9**	**+0.7**
GSCK	**Great Sitkin C**	**5.68**	**267**	P	**Pn**	**05 55 36.0**	**+0.6**
ETKA	**Kagalaska Isla**	**5.86**	**266**	P	**Pn**	**05 55 39.3**	**+1.5**
ADK	**Adak**	**6.02**	**267**	P	**Pn**	**05 55 40.9**	**+0.8**
KIKV	**Kanaga Island**	**6.32**	**267**	P	**Pn**	**05 55 46.1**	**+1.9**
GANE	**Gareloi Northe**	**7.31**	**268**	P	**Pn**	**05 55 59.7**	**+1.9**
CESW	**Semis' Southwe**	**8.30**	**270**	P	**Pn**	**05 56 12.5**	**+1.1**
AMKA	**Amchitka**	**8.57**	**267**	P	**Pn**	**05 56 15.3**	**+0.3**
FX1	**Attu Island--F**	**12.04**	**279**	Pn	**Pn**	**05 57 02.2**	**-0.3**
FX1	**Attu Island--F**	**12.04**	**279**	Pn	**Pn**	**05 57 02.2**	**-0.3**
	1.3nm,0.3s,baz=75,slow=20,SNR=9.9						
BPAW	**Bear Paw Mtn.**	**14.16**	**30**	*e*Pn	**Pn**	**05 57 33.2**	**+1.8**
	4.1nm,0.7s						
IMA2	**Indian Mountai**	**15.02**	**21**	*e*Pn	**P**	**05 57 45.2**	**-3.1**
IMA2				*e*Pn	Pn	05 57 45.6	+2.5
IMA2				*e*Pn	Pn	05 57 45.8	+2.6
ILAR	**Eielson Array**	**15.91**	**32**	Pn	**Pn**	**05 57 52.7**	**-2.0**
ILAR	**Eielson Array**	**15.91**	**32**	Pn	**Pn**	**05 57 52.7**	**-2.0**
	0.3nm,0.3s,baz=223,slow=10,SNR=14						
DOT	**Dot Lake**	**16.25**	**38**	*e*Pn	**P**	**05 58 00.1**	**-1.7**
	3.9nm,0.3s						
COLD	**Coldfoot**	**16.77**	**23**	*e*Pn	**P**	**05 58 07.4**	**-0.2**
	6.6nm,0.7s						
EGAK	**Eagle**	**17.92**	**37**	*e*Pn	**P**	**05 58 19.6**	**-0.7**
	3.8nm,0.6s						
HYT	**Haines Junctio**	**17.98**	**51**	*e*Pn	**P**	**05 58 23.1**	**+2.0**
DAWY	**Dawson**	**18.26**	**40**	*e*Pn	**P**	**05 58 23.8**	**-0.3**
PETK	**Petropavlovsk-**	**21.21**	**285**	P	**P**	**05 58 55.5**	**-0.8**
PETK	**Petropavlovsk-**	**21.21**	**285**	P	**P**	**05 58 55.5**	**-0.8**
	5.2nm,0.4s,baz=93,slow=13,SNR=5.4						
DLBC	**Dease Lake**	**21.48**	**60**	P	**P**	**05 59 00.3**	**+1.1**
DLBC	**Dease Lake**	**21.48**	**60**	P	**P**	**05 59 00.3**	**+1.1**
	2.1nm,0.9s,baz=54,slow=19,SNR=2.2						
YKA	**Yellowknife Ar**	**28.95**	**49**	P	**P**	**06 00 10.9**	**+1.4**
YKA	**Yellowknife Ar**	**28.95**	**49**	P	**P**	**06 00 10.9**	**+1.4**
	1.5nm,0.6s,baz=275,slow=9.1,SNR=4.1						
NVAR	**Mina Array Bea**	**36.20**	**93**	P	**P**	**06 01 15.7**	**+2.3**
NVAR	**Mina Array Bea**	**36.20**	**93**	P	**P**	**06 01 15.7**	**+2.3**
	2.2nm,0.8s,baz=291,slow=7.6,SNR=11						
H11N2	**WAKE ISLAND Hy**	**38.61**	**222**	T	T	06 43 00.8	
	baz=27,slow=0.7,SNR=67						
H11N3	**WAKE ISLAND Hy**	**38.62**	**222**	T	T	06 43 01.3	
	baz=27,slow=0.7,SNR=76						
H11N1	**WAKE ISLAND Hy**	**38.63**	**222**	T	T	06 43 02.2	
	baz=27,slow=0.7,SNR=60						
PDAR	**Pinedale Array**	**38.90**	**81**	P	**P**	**06 01 36.8**	**+0.5**
PDAR	**Pinedale Array**	**38.90**	**81**	P	**P**	**06 01 36.8**	**+0.5**
	1.0nm,0.7s,baz=306,slow=3.2,SNR=6.9						
H11S1	**WAKE ISLAND Hy**	**39.79**	**221**	T	T	06 44 36.5	
	baz=24,slow=0.7,SNR=16						
H11S2	**WAKE ISLAND Hy**	**39.80**	**221**	T	T	06 44 29.4	
	baz=24,slow=0.7,SNR=13						
H11S3	**WAKE ISLAND Hy**	**39.81**	**221**	T	T	06 44 30.3	
	baz=24,slow=0.7,SNR=12						
MJAR	**Matsushiro Arr**	**41.18**	**269**	P	**P**	**06 01 55.2**	**+0.3**
MJAR	**Matsushiro Arr**	**41.18**	**269**	P	**P**	**06 01 55.2**	**+0.3**
	1.1nm,0.3s,baz=27,slow=4.6,SNR=4.7						
KSRS	**Korea Array**	**46.83**	**278**	P	**P**	**06 02 40.4**	**+0.2**
	2.4nm,0.7s,baz=52,slow=7.3,SNR=7.2						
KSAR	**Wonju Array Be**	**46.86**	**278**	P	**P**	**06 02 40.4**	**-0.1**
TXAR	**Lajitas Array**	**51.27**	**91**	P	**P**	**06 03 15.1**	**+0.6**
TXAR	**Lajitas Array**	**51.27**	**91**	P	**P**	**06 03 15.1**	**+0.6**
	1.0nm,0.5s,baz=305,slow=5.6,SNR=14						
SONM	**Songino Array**	**52.42**	**302**	P	**P**	**06 03 23.1**	**+0.3**
SONM	**Songino Array**	**52.42**	**302**	P	**P**	**06 03 23.1**	**+0.3**
	0.7nm,0.4s,baz=38,slow=7.3,SNR=5.9						
KEV	**Kevo**	**57.49**	**354**	*ep*	**P**	**06 03 57.2**	**-1.8**
	0.5nm,0.5s						
ARCES	**ARCESS Array B**	**57.80**	**355**	P	**P**	**06 03 60.0**	**-1.2**
ARCES	**ARCESS Array B**	**57.80**	**355**	P	**P**	**06 03 60.0**	**-1.2**
	1.9nm,0.5s,baz=5.1,slow=7.4,SNR=14						
JOF	**Joensuu**	**63.89**	**351**	*ep*	**P**	**06 04 40.7**	**-1.9**
	2.8nm,0.5s						
MKAR	**Makanchi Array**	**64.68**	**315**	P	**P**	**06 04 47.1**	**-1.0**
MKAR	**Makanchi Array**	**64.68**	**315**	P	**P**	**06 04 47.1**	**-1.0**
	2.3nm,0.8s,baz=48,slow=6.1,SNR=20						
KAF	**Kangasniemi**	**65.11**	**353**	*ep*	**P**	**06 04 49.7**	**-0.9**
	8.1nm,0.5s						
FINES	**FINESS Array B**	**65.79**	**353**	P	**P**	**06 04 54.2**	**-0.8**
FINES	**FINESS Array B**	**65.79**	**353**	P	**P**	**06 04 54.2**	**-0.8**
	6.3nm,0.4s,baz=31,slow=8.4,SNR=32						
NB2	**NORSAR Subarra**	**66.66**	**1**	P	**P**	**06 05 00.3**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=0.4,slow=6.2						
NOA	**NORSAR Array B**	**66.66**	**1**	P	**P**	**06 05 00.3**	**-0.4**
NOA	**NORSAR Array B**	**66.66**	**1**	P	**P**	**06 05 00.3**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=0.8,slow=6.2,SNR=5.1						
HFS	**Hagfors**	**67.58**	**360**	P	**P**	**06 05 05.5**	**-1.0**
HFS	**Hagfors**	**67.58**	**360**	P	**P**	**06 05 05.5**	**-1.0**
	comp=Z,5.3nm,0.4s,baz=29,slow=3.3,SNR=37						
AKTO	**Aktyubinsk**	**70.50**	**331**	P	**P**	**06 05 22.8**	**-2.0**
AKTO	**Aktyubinsk**	**70.50**	**331**	P	**P**	**06 05 22.8**	**-2.0**
	comp=Z,1.4nm,0.5s,baz=16,slow=7.4,SNR=4.3						
AKASG	**Malin Array Be**	**76.13**	**349**	P	**P**	**06 05 56.8**	**-1.1**
AKASG	**Malin Array Be**	**76.13**	**349**	P	**P**	**06 05 56.8**	**-1.1**
	comp=Z,3.1nm,0.5s,baz=13,slow=5.8,SNR=12						
GERES	**GERESS Array B**	**78.89**	**360**	P	**P**	**06 06 13.8**	**+0.3**
GERES	**GERESS Array B**	**78.89**	**360**	P	**P**	**06 06 13.8**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=12,slow=5.1,SNR=5.2						
BRTR	**Keskin Array B**	**86.29**	**344**	P	**P**	**06 06 53.1**	**+0.9**
BRTR	**Keskin Array B**	**86.29**	**344**	P	**P**	**06 06 53.1**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=46,slow=4.2,SNR=5.9						

BJI ***13*** *05:56:19.9, 52.70N×166.80W, h7km, mB5.5/6, mb5.2/16*
IDC ***13*** *05:56:21.4±0.7, 52.69N×167.06W, h0km, mb4.5/28, mb1 4.7/30, mb1mx4.6/36, mbtmp4.5/30, ML3.8/2, Error ellipse: s-maj=19.9km s-min=10.7km az=173.0*
ISCJB ***13*** *05:56:23.7±0.1, 52.52N±0.03×167.00W±0.03, h25km, mb4.7/91, MS6.2/2, Error ellipse: s-maj=4.0km s-min=2.2km az=17.1*
NEIC ***13*** *05:56:24.2, 52.59N×166.93W, h10km, mb4.7/43, After AEIC.*
MOS ***13*** *05:56:25.2±1.2, 52.67N×167.05W, h33km, mb5.1/39, Error ellipse: s-maj=11.1km s-min=5.5km az=94.5*

ISC 13 05:56:25.1±0.4, 52.61N±0.05×166.97W±0.04, h25km, n530, σ0ŝ97/539, mb4.8/91, 110C-121D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.98**	**325**	P	**Pn**	**05 56 43.4**	**+0.1**
OKFG				S	**Sn**	**05 56 57.4**	**+1.0**
OKSO	**Okmok South**	**1.04**	**317**	P	**Pn**	**05 56 44.1**	**+0.1**
OKSO				S	**Sn**	**05 57 00.5**	**+2.6**
OKCE	**Okmok Cone E**	**1.09**	**319**	P	**Pb**	**05 56 45.5**	**+0.1**
MGOD	**Makushin Gods**	**1.19**	**3**	P	**Pn**	**05 56 46.6**	**+0.4**
NIKH	**Nikolski High**	**1.20**	**288**	P	**Pn**	**05 56 46.0**	**-0.2**
NIKH				S	**Sb**	**05 57 04.6**	**+2.4**
MSOM	**Makushin Julie**	**1.21**	**1**	P	**Pb**	**05 56 47.0**	**-0.3**
MSOM	**Makushin Julie**	**1.21**	**1**	P	**Pb**	**05 56 47.0**	**-0.3**
UNV	**Unalaska Valle**	**1.27**	**13**	P	**Pn**	**05 56 47.4**	**+0.2**
UNV				S	**Sb**	**05 57 06.2**	**+2.0**
MSW	**Makushin Switc**	**1.31**	**5**	P	**Pn**	**05 56 48.6**	**+0.8**
MCIR	**Makushin Cirqu**	**1.34**	**2**	P	**Pb**	**05 56 49.4**	**-0.2**
ZRO	**Akutan Zero**	**1.60**	**21**	P	**Pn**	**05 56 52.0**	**+0.2**
AKRB	**Akutan Reef Bi**	**1.62**	**19**	P	**Pn**	**05 56 52.3**	**+0.3**
LVA	**Lava Point**	**1.65**	**19**	P	**Pn**	**05 56 52.9**	**+0.3**
AKUT	**Akutan**	**1.69**	**25**	P	**Pn**	**05 56 52.7**	**-0.3**
AKGG	**Akutan Green G**	**1.70**	**20**	P	**Pn**	**05 56 52.8**	**-0.3**
WESN	**West Dahl Nort**	**2.42**	**35**	P	**Pn**	**05 57 03.5**	**+0.4**
FALS	**False Pass**	**3.09**	**42**	*e*Pn	**Pb**	**05 57 18.2**	**-1.0**
DTNA	**Dutton South F**	**3.78**	**46**	P	**Pn**	**05 57 22.5**	**+0.9**
GSMY	**Great Sitkin M**	**5.60**	**268**	P	**Pn**	**05 57 47.8**	**+1.0**
GSTD	**Great Sitkin T**	**5.66**	**268**	P	**Pn**	**05 57 48.5**	**+1.0**
GSCK	**Great Sitkin C**	**5.67**	**268**	P	**Pn**	**05 57 48.7**	**+1.0**
ETKA	**Kagalaska Isla**	**5.85**	**266**	P	**Pn**	**05 57 50.9**	**+0.8**
ADAG	**Mount Adagdak**	**5.95**	**268**	P	**Pn**	**05 57 53.6**	**+2.2**
ADK	**Adak**	**6.01**	**267**	P	**Pn**	**05 57 53.0**	**+0.7**
ADK	**Adak**	**6.01**	**267**	P	**Pn**	**05 57 53.0**	**+0.7**
GAEA	**Gareloi East**	**7.29**	**268**	P	**Pn**	**05 58 12.2**	**+2.3**
GANE	**Gareloi Northe**	**7.30**	**268**	P	**Pn**	**05 58 11.2**	**+1.2**
AMKA	**Amchitka**	**8.56**	**267**	*e*Pn	**Pn**	**05 58 28.0**	**+0.6**
	111nm,0.4s						
AMKA				*e*Sn	**Sn**	**05 59 60.0**	**-3.1**
FX1	**Attu Island--F**	**12.04**	**279**	Pn	**Pn**	**05 59 16.8**	**+1.8**
FX1	**Attu Island--F**	**12.04**	**279**	Pn	**Pn**	**05 59 16.8**	**+1.8**
	2.1nm,0.3s,baz=54,slow=19,SNR=11						
PPLA	**Purkeypile**	**12.94**	**31**	*e*Pn	**Pn**	**05 59 30.3**	**+3.0**
CAST	**Castle Rocks**	**13.36**	**30**	*e*Pn	**Pn**	**05 59 35.9**	**+3.0**
BPAW	**Bear Paw Mtn.**	**14.19**	**30**	*e*Pn	**Pn**	**05 59 45.6**	**+1.4**
RAGM	**Ragged Mountai**	**14.51**	**49**	*e*Pn	**P**	**05 59 55.0**	**0.0**
BMRM	**Bremner River**	**14.77**	**47**	*e*Pn	**P**	**05 59 57.4**	**-0.6**
IM04	**Indian Mountai**	**14.95**	**21**	*e*Pn	**P**	**05 59 57.3**	**-2.6**
IMA2	**Indian Mountai**	**15.05**	**21**	*e*P	**P**	**05 59 58.7**	**-2.3**
COLA	**College**	**15.70**	**31**	*e*P	**Pn**	**06 00 04.1**	**-0.2**
COLA				pmax	pmax		
	comp=Z,71nm,1.5s						
COLA	**College**	**15.70**	**31**	*e*Pn	**Pn**	**06 00 04.1**	**-0.2**
	comp=Z,7.1nm,1.5s						
ILAR	**Eielson Array**	**15.94**	**32**	Pn	**Pn**	**06 00 05.5**	**-1.9**
ILAR	**Eielson Array**	**15.94**	**32**	Pn	**Pn**	**06 00 05.5**	**-1.9**
	comp=Z,0.2nm,0.3s,baz

D22A **Cohagen** 38.52 73 ⇑P P 06 03 45.8 +0.6
baz=38
I19A **Meeteetse** 38.53 79 ⇑P P 06 03 46.1 +0.5
baz=38
B23A **Brockton** 38.54 71 ⇑P P 06 03 45.7 +0.4
baz=38
H11N2 **WAKE ISLAND Hy** 38.58 222 T T 06 44 47.0
baz=27,slow=0.7,SNR=6.4
H11N3 **WAKE ISLAND Hy** 38.59 222 T T 06 44 49.8
baz=27,slow=0.7,SNR=8.1
H11N1 **WAKE ISLAND Hy** 38.60 222 T T 06 44 48.7
baz=27,slow=0.7,SNR=8.6
EDW2 **Edwards Air Fo** 38.72 97 ⇑P P 06 03 48.6 +1.6
baz=39
C23A **Lambert** 38.76 72 ⇑P P 06 03 47.8 +0.5
baz=39
H20A **Greybull** 38.88 78 ⇑P P 06 03 48.5 +0.2
baz=39
PDAR **Pinedale Array** 38.91 81 P P 06 03 48.7 -0.1
PDAR **Pinedale Array** 38.91 81 P P 06 03 48.7 -0.1
comp=Z,4.1nm,0.8s,baz=302,slow=5.2,SNR=19
J19A **Crowheart** 38.93 80 ⇓P P 06 03 49.9 +1.1
baz=39
E22A **Miles City** 39.03 74 ⇑P P 06 03 50.5 +1.0
baz=39
SHOC **Shoshone** 39.07 95 ⇓P P 06 03 51.6 +1.7
baz=39
I20A **Worland** 39.10 79 ⇓P P 06 03 50.6 +0.5
baz=39
L18A **Fontenelle, Gr** 39.12 82 ⇑P P 06 03 51.3 +0.9
baz=39
GSC **Goldstone** 39.15 96 *e*P P 06 03 51.7 +1.0
GSC pmax pmax
comp=Z,9.0nm,0.9s
GSC **Goldstone** 39.15 96 *e*P P 06 03 51.7 +1.0
comp=Z,8.6nm,0.9s
GSC **Goldstone** 39.15 96 ⇓P P 06 03 52.3 +1.6
baz=39
C24A **Savage** 39.34 72 ⇑P P 06 03 52.6 +0.5
baz=39
BFSC **Mount Baldy Ra** 39.35 98 ⇓P P 06 03 53.9 +1.5
baz=39
A25A **Svangstu Ranch** 39.37 69 ⇓P P 06 03 52.7 +0.5
baz=39
E23A **Ismay** 39.38 73 ⇑P P 06 03 53.1 +0.7
baz=39
J20A **Shoshoni** 39.47 79 ⇓P P 06 03 54.2 +1.0
baz=39
G22A **Birney** 39.49 76 ⇓P P 06 03 54.1 +0.7
baz=39
D24A **Glendive** 39.62 72 ⇓P P 06 03 55.4 +1.0
baz=39
I21A **Big Trails, Te** 39.68 78 ⇓P P 06 03 55.2 +0.1
baz=40
F23A **Volborg** 39.74 75 ⇓P P 06 03 55.7 +0.4
baz=40
H11S1 **WAKE ISLAND Hy** 39.76 221 T T 06 46 15.3
baz=25,slow=0.7,SNR=9.2
H11S2 **WAKE ISLAND Hy** 39.78 221 T T 06 46 16.2
baz=25,slow=0.7,SNR=8.1
H11S3 **WAKE ISLAND Hy** 39.78 221 T T 06 46 17.7
baz=25,slow=0.7,SNR=8.8
J21A **Lysite** 39.85 79 ⇓P P 06 03 57.4 +0.9
baz=40
E24A **Baker** 39.92 73 ⇑P P 06 03 57.6 +0.7
baz=40
A26A **Wade Farm, Ken** 40.01 68 ⇑P P 06 03 57.7 +0.2
baz=40
MURC **Murrieta** 40.07 98 ⇑P P 06 03 59.6 +1.4
baz=40
GMRC **Granite Mounta** 40.20 95 ⇓P P 06 04 00.4 +1.0
baz=40
USRK **Uusuriysk Arra** 40.27 283 P P 06 03 58.4 -1.3
comp=Z,1.9nm,0.5s,baz=57,slow=5.3,SNR=4.8
K21A **Alcova** 40.38 80 ⇑P P 06 04 01.2 +0.3
baz=40
J22A **Midwest** 40.39 78 ⇓P P 06 04 01.0 0.0
baz=40,SNR=5.9
E25A **Miller Ranch,** 40.48 72 ⇑P P 06 04 02.6 +1.0
baz=40
M20A **Sweetwater, Wa** 40.49 82 ⇓P P 06 04 02.6 +0.7
baz=40
O19A **Miners Draw (B** 40.64 84 ⇓P P 06 04 04.3 +1.2
baz=40
B27A **Peters Farms,** 40.70 69 ⇓P P 06 04 03.7 +0.4
baz=40
H24A **Dirks Ranch, A** 40.78 75 ⇓P P 06 04 04.5 +0.4
baz=41
K22A **Casper** 40.80 79 ⇓P P 06 04 04.3 -0.1
baz=41
N20A **Spence Gulch,** 40.84 83 ⇑P P 06 04 05.1 +0.3
baz=41
IRM **Iron Mountain** 40.93 96 ⇑P P 06 04 06.5 +1.2
baz=41
A28A **Rude Farm, Bot** 41.00 67 ⇓P P 06 04 05.9 +0.1
baz=41
BAR **Barrett** 41.02 99 *e*P P 06 04 07.1 +1.0
comp=Z,8.6nm,1.3s
MONP **Monument Peak** 41.03 98 ⇓P P 06 04 07.3 +0.9
baz=41
E26A **Carlson Angus** 41.05 72 ⇓P P 06 04 06.2 0.0
baz=41
W13A **Hualapai Mount** 41.06 94 ⇑P P 06 04 07.7 +1.1
baz=41
P19A **Cripple Cowboy** 41.13 85 ⇑P P 06 04 08.1 +0.9
baz=41
U15A **North Rim** 41.15 91 ⇑P P 06 04 08.7 +1.3
baz=41
MAJO **Matsushiro** 41.17 269 *e*P P 06 04 07.6 +0.3
MJAR **Matsushiro Arr** 41.17 269 P P 06 04 07.3 +0.1
MJAR **Matsushiro Arr** 41.17 269 P P 06 04 07.3 +0.1
comp=Z,1.7nm,0.4s,baz=34,slow=6.2,SNR=8.5
B28A **Dugan Ranch, T** 41.19 68 ⇑P P 06 04 07.2 -0.1
baz=41
L22A **Ellis Ranch, M** 41.22 80 ⇓P P 06 04 08.9 +1.0
baz=41
G27A **Dupree** 41.38 73 ⇑P P 06 04 13.8 +4.9
baz=42
PDMCI **Parker Dam,Lak** 41.44 95 ⇑P P 06 04 10.6 +1.1
baz=41
M22A **Cedar Creek Ra** 41.50 81 ⇑P P 06 04 10.4 +0.2
baz=41
A29A **Manning Farm,** 41.57 67 ⇓P P 06 04 10.7 +0.2
baz=41
P20A **De Beque** 41.58 84 ⇑P P 06 04 11.6 +0.8
baz=41
Y12C **Blythe** 41.59 96 ⇓P P 06 04 11.6 +1.0
baz=42
E27A **Carson** 41.59 71 ⇓P P 06 04 10.7 +0.1
baz=41
L23A **Garrett** 41.61 79 ⇓P P 06 04 10.7 -0.4
baz=41,SNR=5.4
G26A **Maurine** 41.62 73 ⇑P P 06 04 11.1 +0.2
baz=41
F27A **Lemmon** 41.63 72 ⇑P P 06 04 11.4 +0.4
baz=41
I25A **Rochford** 41.67 76 ⇓P P 06 04 11.5 0.0
baz=42
O21A **Pagoda** 41.69 83 ⇑P P 06 04 12.4 +0.6
baz=42
D28A **Regan** 41.74 70 ⇑P P 06 04 12.3 +0.4
baz=42
MDND **Maddock** 41.94 68 ⇑P P 06 04 13.3 -0.1
baz=42
N22A **Wattenberg Ran** 41.95 81 ⇑P P 06 04 14.5 +0.6
baz=42
P21A **Newcastle** 42.13 84 ⇑P P 06 04 16.0 +0.6
baz=42
O22A **Kremmling** 42.28 82 ⇑P P 06 04 17.0 +0.3
baz=42
B30A **Myrvik Farm, E** 42.33 67 ⇑P P 06 04 16.7 +0.1
baz=42
F28A **McLaughlin** 42.35 72 ⇓P P 06 04 17.1 +0.2
baz=42
O23A **Lake Granby, G** 42.63 82 ⇓P P 06 04 20.2 +0.7
baz=42,SNR=13
I27A **Quinn** 42.63 75 ⇓P P 06 04 19.6 +0.4
baz=42
SMCO **Snowmass** 42.63 84 P P 06 04 21.3 +1.6
comp=Z,2.4nm,1.0s
C30A **Mose, Pekin** 42.65 68 ⇓P P 06 04 19.1 -0.1
baz=42
R21A **Cimarron** 42.80 85 ⇓P P 06 04 21.6 +0.8
baz=43
Z14A **Wintersburg** 42.81 95 ⇓P P 06 04 21.5 +0.9
baz=43
D30A **Buchanan** 42.82 69 ⇓P P 06 04 20.5 -0.1
baz=43

Q22A **Crested Butte,** 42.87 84 ⇑P P 06 04 21.5 0.0
baz=43
X16A **Lo Mia Camp, P** 43.01 92 ⇓P P 06 04 23.4 +0.9
baz=43
ISCO **Idaho Springs** 43.07 82 ⇓P P 06 04 23.8 +0.7
baz=43
T21A **Navajo Lake** 43.69 86 ⇑P P 06 04 28.8 +0.9
baz=44
I29A **Vivian Onida** 43.69 74 ⇑P P 06 04 27.2 -0.5
baz=44
G30A **Faulkton** 43.72 72 ⇓P P 06 04 27.8 -0.2
baz=44
V20A **Brimhall** 43.90 88 ⇑P P 06 04 30.3 +0.6
baz=44
U21A **Nageezi** 43.98 87 ⇓P P 06 04 31.1 +0.7
baz=44
T22A **Edith** 44.06 86 ⇑P P 06 04 31.8 +0.8
baz=44
P25A **Willow Gulch B** 44.12 81 ⇑P P 06 04 32.2 +0.8
baz=44
SDCO **Great Sand Dun** 44.44 84 *e*P P 06 04 34.4 +0.3
comp=Z,2.8nm,1.0s
Q25A **Bedland, Calha** 44.45 82 ⇑P P 06 04 34.7 +0.7
baz=44
U22A **Llaves** 44.50 87 ⇑P P 06 04 35.2 +0.7
baz=44
OGNE **Ogallala** 44.51 78 ⇑P P 06 04 34.8 +0.4
baz=44
J30A **Dallas** 44.58 74 ⇓P P 06 04 35.1 +0.3
baz=44
P26A **Davis Ranch, A** 44.59 81 ⇓P P 06 04 35.6 +0.5
baz=44
S24A **Houchin Ranch,** 44.68 84 ⇓P P 06 04 36.7 +0.6
baz=44
O27A **Beecher Island** 44.71 79 ⇑P P 06 04 36.7 +0.7
baz=44
X20A **Quemado** 44.72 90 ⇓P P 06 04 37.0 +0.7
baz=45
V22A **San Miguel Ran** 44.77 87 ⇑P P 06 04 37.3 +0.6
baz=45
TUC **Tucson** 44.85 94 *e*P P 06 04 37.8 +0.6
TUC pmax pmax
comp=Z,9.0nm,1.3s
TUC **Tucson** 44.85 94 *e*P P 06 04 37.8 +0.6
comp=Z,8.7nm,1.3s
K30A **Basset** 44.89 75 ⇓P P 06 04 37.3 -0.1
baz=45
U23A **El Rito** 44.94 86 ⇓P P 06 04 38.7 +0.7
baz=45
S25A **Robets Cordova** 45.14 83 ⇓P P 06 04 39.9 +0.4
baz=45
O28A **Krutsinger Ran** 45.18 79 ⇓P P 06 04 40.1 +0.4
baz=45
X21A **Alamocita Cree** 45.22 89 ⇓P P 06 04 42.0 +1.7
baz=45
R26A **Arlington** 45.32 82 ⇓P P 06 04 41.2 +0.3
baz=45
V23A **Ortiz Mt. (NFS** 45.33 87 ⇓P P 06 04 42.1 +1.0
baz=45
W22A **Albuquerque** 45.36 88 ⇑P P 06 04 42.1 +0.8
baz=45
KSCO **Kaye Shedlock'** 45.37 81 ⇓P P 06 04 42.1 +0.8
baz=45
T25A **Trinidad** 45.49 84 ⇓P P 06 04 42.8 +0.5
baz=45
P28A **Saint Francis** 45.53 79 ⇓P P 06 04 42.9 +0.3
baz=45
LAZ **Ladron** 45.64 89 *e*P P 06 04 44.1 +0.6
X22A **Bernardo** 45.65 89 ⇑P P 06 04 44.6 +1.0
baz=46
ANMO **Albuquerque** 45.69 88 PcP PcP 06 06 20.8 -0.9
ANMO **Albuquerque** 45.69 88 PcP PcP 06 06 20.8 -0.9
comp=Z,2.1nm,0.9s,baz=282,slow=4.0,SNR=5.1
R27A **Eads** 45.73 82 ⇑P P 06 04 44.8 +0.7
baz=46
W23A **Werner Place,** 45.73 87 ⇑P P 06 04 45.1 +0.7
baz=46
S26A **Kim** 45.75 83 ⇑P P 06 04 44.7 +0.4
baz=46
Q28A **Sharon Springs** 45.81 80 ⇑P P 06 04 44.8 +0.1
baz=46
V24A **Rampart Ranch,** 45.89 86 ⇓P P 06 04 46.0 +0.4
baz=46
T26A **Comanche Natio** 45.96 83 ⇓P P 06 04 46.4 +0.3
baz=46
U25A **Circle Dot Ran** 45.97 85 ⇓P P 06 04 47.0 +0.8
baz=46
P29A **Atwood** 46.01 79 ⇑P P 06 04 46.9 +0.7
baz=46
Z21A **St. Cloud Mine** 46.06 90 ⇑P P 06 04 48.3 +1.4
baz=46
Y22A **Socorro** 46.06 89 ⇓P P 06 04 48.2 +1.4
baz=46
BNM **Barren Site** 46.12 89 *e*P P 06 04 48.2 +0.8
comp=Z,10nm,1.4s
W24A **Lazy 6 Ranch,** 46.15 87 ⇓P P 06 04 48.5 +0.9
baz=46
V25A **Rancho No Teng** 46.22 86 ⇑P P 06 04 48.8 +0.7
baz=46
R28A **Tribune** 46.28 81 ⇑P P 06 04 49.1 +0.6
baz=46
U26A **Atchley Ranch,** 46.38 84 ⇑P P 06 04 50.1 +0.8
baz=46
220A **Playas Peak, P** 46.51 93 ⇓P P 06 04 50.9 +0.6
baz=46
121A **Cookes Peak, D** 46.52 91 ⇓P P 06 04 51.2 +0.7
baz=46
Z22A **Elephant Butte** 46.53 90 ⇓P P 06 04 51.2 +0.7
baz=46
Y23A **Lovelace Mesa,** 46.62 89 ⇓P P 06 04 52.1 +0.8
baz=46
S28A **Manter** 46.72 82 ⇓P P 06 04 52.4 +0.5
baz=46
W25A **X Bar L Ranch,** 46.73 86 ⇓P P 06 04 52.9 +0.9
baz=47
V26A **Tequesquite Ra** 46.75 85 ⇓P P 06 04 52.3 +0.1
baz=47,SNR=6.9
KSRS **Korea Array** 46.83 278 P P 06 04 52.9 +0.3
comp=Z,6.5nm,0.9s,baz=51,slow=7.1,SNR=16
KSRS PcP PcP 06 06 25.2 0.0
comp=Z,1.7nm,0.8s,baz=53,slow=5.6,SNR=4.3
KSAR **Wonju Array Be** 46.86 278 P P 06 04 52.9 0.0
KSAR PcP PcP 06 06 25.2 -0.2
T28A **Walsh** 46.89 82 ⇑P P 06 04 53.7 +0.4
baz=47
320A **Kipp Ranch, An** 46.90 93 ⇑P P 06 04 54.2 +0.7
baz=47
U27A **Thompson Grove** 46.92 84 ⇓P P 06 04 53.8 +0.3
baz=47
Z23A **Rita Site, Whi** 46.97 89 ⇑P P 06 04 54.6 +0.7
baz=47
Y24A **Capitan** 47.00 88 ⇓P P 06 04 55.2 +0.9
baz=47
R30A **Dighton** 47.24 80 ⇑P P 06 04 56.2 +0.2
baz=47
U28A **Mallet** 47.31 83 ⇑P P 06 04 56.6 +0.1
baz=47
Z24A **Sheeppen Canyo** 47.45 89 ⇑P P 06 04 58.8 +1.1
baz=47
Y25A **Mesa, Roswell** 47.46 87 ⇓P P 06 04 58.5 +0.7
baz=47
X26A **CR and CF Fran** 47.57 86 ⇓P P 06 04 59.4 +0.8
baz=47
R31A **Burdett** 47.69 79 ⇑P P 06 04 60.0 +0.6
baz=48
124A **Stringfield Ra** 47.83 89 ⇑P P 06 05 01.1 +0.3
baz=48
Z25A **Roswell** 47.88 88 ⇓P P 06 05 01.3 +0.3
baz=48
U30A **WK&E Inc. Balk** 48.16 82 ⇓P P 06 05 03.3 +0.2
baz=48
224A **Cornudas Mount** 48.22 90 ⇓P P 06 05 04.4 +0.7
baz=48
Z26A **Caprock** 48.33 88 ⇓P P 06 05 05.3 +0.8
baz=48
125A **Gardner Draw,** 48.34 89 ⇑P P 06 05 05.8 +1.2
baz=48
T31A **Randall Ranch,** 48.38 81 ⇓P P 06 05 04.9 +0.2
baz=48
Y27A **Causey** 48.41 86 ⇓P P 06 05 06.1 +0.9
baz=48
MNTX **Cornudas Mount** 48.56 90 *e*P P 06 05 06.5 +0.3
comp=Z,2.5nm,0.9s
MSTX **Muleshoe** 48.59 86 ⇑P P 06 05 07.2 +0.7
baz=48
225A **Deer Hill, Car** 48.62 89 ⇓P P 06 05 07.9 +1.1
baz=48
126A **Clayton Basin,** 48.74 88 ⇓P P 06 05 07.8 +0.2
baz=49
Z27A **Tatum** 48.77 87 ⇑P P 06 05 07.8 0.0
baz=49
325A **Bean Ranch, Si** 49.04 90 ⇓P P 06 05 10.7 +0.7
baz=49
127A **Arkansas Junct** 49.12 88 ⇓P P 06 05 11.6 +1.0
baz=49
Z28A **Tucker Farm, M** 49.29 86 ⇑P P 06 05 11.9 +0.1
baz=49
Y29A **Porterfield Fa** 49.34 85 ⇓P P 06 05 12.2 +0.1
baz=49
X30A **Coker Ranch, T** 49.42 84 ⇑P P 06 05 12.8 0.0
baz=49
425A **Indio Mountain** 49.45 91 ⇑P P 06 05 13.7 +0.6
baz=49
W31A **Holland Ranch,** 49.49 83 ⇓P P 06 05 13.4 +0.1
baz=49
326A **Caldwell Ranch** 49.69 89 ⇑P P 06 05 15.2 +0.4
baz=50
128A **Castleberry Fa** 49.69 87 ⇓P P 06 05 15.0 +0.1
baz=50
Z29A **Hungry Hill Ra** 49.73 86 ⇓P P 06 05 15.1 0.0
baz=50
Y30A **Stafford Cattl** 49.80 85 ⇑P P 06 05 15.6 -0.1
baz=50
Z30A **Sanderson Ranc** 50.06 85 ⇑P P 06 05 17.2 -0.4
baz=50,SNR=6.6
129A **Stewart Farms,** 50.06 87 ⇓P P 06 05 17.6 -0.1
baz=50
SUMG **Summit** 50.11 18 *e*P P 06 05 18.3 +0.4
SUMG pmax pmax
comp=Z,11nm,0.5s
SUMG **Summit** 50.11 18 *e*P P 06 05 18.3 +0.4
comp=Z,11nm,0.5s
426A **McDonald Obser** 50.11 90 ⇓P P 06 05 18.1 -0.1
baz=50
Y31A **Rekieta Farm,** 50.12 84 ⇓P P 06 05 18.3 +0.2
baz=50
328A **Wristen Ranch,** 50.35 88 ⇓P P 06 05 19.9 0.0
baz=50
427A **Hayter Ranch,** 50.37 89 ⇓P P 06 05 20.3 +0.2
baz=50
WMOK **Wichita Mounta** 50.49 82 *e*P P 06 05 20.3 -0.6
WMOK pmax pmax
comp=Z,5.0nm,1.0s
WMOK **Wichita Mounta** 50.49 82 *e*P P 06 05 20.2 -0.6
comp=Z,4.9nm,1.0s
526A **Mary Lane Ranc** 50.50 91 ⇑P P 06 05 21.9 +0.7
baz=50
Y32A **R-V Farms, Ver** 50.59 83 ⇓P P 06 05 21.8 +0.2
baz=50
130A **Snyder** 50.63 86 ⇓P P 06 05 21.9 -0.1
baz=50
Z31A **Sharp Cattle R** 50.64 85 ⇓P P 06 05 21.7 -0.3
baz=50
527A **Woodward Ranch** 50.74 90 ⇑P P 06 05 23.0 +0.1
baz=51
329A **Wagon Wheel Ra** 50.79 88 ⇓P P 06 05 22.9 -0.3
baz=51
626A **Big Bend Ranch** 50.84 91 ⇑P P 06 05 24.1 +0.5
baz=51
428A **Kincaid Ranch,** 50.89 89 ⇑P P 06 05 24.2 +0.2
baz=51
131A **Roby** 50.93 85 ⇓P P 06 05 24.2 0.0
baz=51
230A **Sterling City** 51.04 87 ⇑P P 06 05 25.2 +0.2
baz=51
Z32A **Haskell** 51.05 84 ⇑P P 06 05 24.3 -0.8
baz=51,SNR=5.9
528A **Cox Ranch, San** 51.23 90 ⇓P P 06 05 27.0 +0.5
baz=51
TXAR **Lajitas Array** 51.28 91 P P 06 05 26.8 -0.2
TXAR **Lajitas Array** 51.28 91 P P 06 05 26.8 -0.2
comp=Z,4.9nm,0.7s,baz=302,slow=5.2,SNR=27
330A **Mertzon** 51.33 87 ⇑P P 06 05 27.7 +0.4
baz=51
627A **Terlingua Ranc** 51.36 91 ⇑P P 06 05 27.7 +0.2
baz=51
TLY **Talaya** 51.37 307 *e*P P 06 05 28.0 +0.7
TLY pmax pmax
comp=Z,13nm,1.2s
ABTX **Abilene, Hawle** 51.42 85 ⇑P P 06 05 28.0 +0.1
baz=51
429A **Davenport Ranc** 51.45 88 ⇓P P 06 05 28.1 0.0
baz=51
231A **Bronte** 51.49 86 ⇓P P 06 05 28.0 -0.3
baz=51
529A **Stev Forest Ra** 51.60 89 ⇑P P 06 05 29.0 -0.2
baz=52,SNR=5.2
628A **Black Gap, Mar** 51.65 90 ⇑P P 06 05 29.4 -0.2
baz=52,SNR=5.2
430A **Baggett Ranch,** 51.73 88 ⇓P P 06 05 29.6 -0.7
baz=52,SNR=6.9
331A **San Angelo** 51.86 87 ⇑P P 06 05 30.7 -0.4
baz=52
232A **Coleman** 51.93 86 ⇑P P 06 05 31.3 -0.4
baz=52
530A **J-C Ranch, Com** 52.12 88 ⇓P P 06 05 33.0 -0.1
baz=52,SNR=9.4
431A **Sonora** 52.19 87 ⇓P P 06 05 33.1 -0.6
baz=52,SNR=10
332A **Millersview** 52.22 86 ⇓P P 06 05 33.4 -0.5
baz=52
ZAK **Zakamensk** 52.37 306 *e*P P 06 05 34.4 -0.4
ZAK *e* 06 06 46.4
ZAK pmax pmax
comp=Z,4.0nm,1.2s
SONM **Songino Array** 52.43 302 P P 06 05 35.1 -0.2
SONM PcP PcP 06 06 45.4 -0.4
SONM **Songino Array** 52.43 302 P P 06 05 35.2 -0.2
comp=Z,3.7nm,0.6s,baz=70,slow=5.9,SNR=20
SONM PcP PcP 06 06 45.4 -0.4
comp=Z,3.7nm,1.0s,baz=59,slow=3.8,SNR=5.5
432A **Menard** 52.55 87 ⇓P P 06 05 35.7 -0.6
baz=52
531A **Rocksprings** 52.59 88 ⇑P P 06 05 36.1 -0.5
baz=52
JCT **Junction City** 52.82 87 *e*P P 06 05 37.6 -0.7
JCT pmax pmax
comp=Z,7.0nm,0.8s
JCT **Junction City** 52.82 87 *e*P P 06 05 37.6 -0.7
comp=Z,7.4nm,0.8s
JCT **Junction City** 52.82 87 ⇓P P 06 05 37.6 -0.7
baz=53,SNR=5.0
532A **Rocksprings** 53.01 87 ⇓P P 06 05 39.2 -0.6
baz=53
631A **Perdido Creek** 53.11 88 ⇑P P 06 05 39.2 -1.2
baz=53,SNR=7.7
WHTX **Lake Whitney** 53.19 84 ⇓P P 06 05 40.5 -0.4
baz=53,SNR=6.1
632A **Uvalde** 53.52 88 ⇑P P 06 05 42.9 -0.6
baz=53
732A **Laxson Ranch,** 53.97 89 ⇑P P 06 05 46.1 -0.5
baz=54
HVS **Khovu-Aksy** 56.41 312 ⇓*e*P P 06 06 04.3 +0.1
HVS pmax pmax
comp=Z,48nm,1.3s
KEV **Kevo** 57.52 354 *e*P P 06 06 09.7 -1.9
KEV pmax pmax
comp=Z,12nm,0.7s
KEV **Kevo** 57.52 354 *e*p P 06 06 09.7 -1.9
comp=Z,12nm,0.7s
ARCES **ARCESS Array B** 57.83 355 P P 06 06 11.6 -2.2
ARCES **ARCESS Array B** 57.83 355 P P 06 06 11.6 -2.2
comp=Z,6.8nm,0.8s,baz=7.1,slow=9.4,SNR=14
ZALV **Zalesovo Beam** 58.22 319 P P 06 06 16.6 -0.1
ZALV **Zalesovo Beam** 58.22 319 P P 06 06 16.6 -0.1
ZALV **Zalesovo Beam** 58.22 319 P P 06 06 16.6 -0.1
comp=Z,3.7nm,0.6s,baz=33,slow=6.8,SNR=11
WHN **Wuhan** 59.73 282 *e*P P 06 06 27.8 +0.2
GTA **Gaotai** 61.66 299 *e*P P 06 06 40.8 0.0
GTA pP pP 06 06 48.6 0.0
GTA sP sP 06 06 51.5 -0.1
GTA AMB AMB
comp=Z,17nm,0.8s
LZH **Lanzhou** 61.85 293 ⇑P P 06 06 43.3 +1.2
LZH AMB AMB
comp=Z,36nm,1.0s
LZH AMB AMB
comp=Z,160nm,5.0s
KURK **Kurchatov** 63.16 320 ⇓*i*P P 06 06 50.5 +0.1
KURK pmax pmax
comp=Z,6.0nm,1.2s
JOF **Joensuu** 63.92 351 *e*P P 06 06 53.2 -2.0
JOF pmax pmax
comp=Z,11nm,0.6s
JOF **Joensuu** 63.92 351 *e*p P 06 06 53.2 -2.0

comp=Z,11nm,0.6s
SVE **Sverdlovsk** 64.15 333 *e*P P 06 06 57.4 +0.6
BVA0 **Borovoye Array** 64.35 326 *i* P P 06 06 55.5 -2.7
BVA0 pmax pmax
comp=Z,8.0nm,0.8s
BRVK **Borovoye** 64.36 326⇓ *e*P P 06 06 58.7 +0.4
BRVK pmax pmax
comp=Z,11nm,1.2s
BRVK **Borovoye** 64.36 326 *e*P P 06 06 58.1 -0.1
WMQ **Urumqi** 64.53 309 *e*P P 06 06 59.9 +0.3
MK31 **Makanchi Array** 64.69 315 *e*P P 06 06 59.6 -1.0
MK31 **Makanchi Array** 64.69 315 *e*P P 06 06 59.6 -1.0
MKAR **Makanchi Array** 64.69 315 P P 06 06 59.5 -1.1
MKAR **Makanchi Array** 64.69 315 P P 06 06 59.5 -1.1
MKAR **Makanchi Array** 64.69 315 P P 06 06 59.5 -1.1
comp=Z,7.5nm,0.7s,baz=50,slow=6.6,SNR=70
KLMR **Klimovskoe** 64.92 346 *e*P P 06 06 59.2 -2.6
KLMR pmax pmax
comp=Z,11nm,0.8s
ARU **Arti** 65.06 334 *c i*P P 06 07 02.8 0.0
ARU 06 09 24.6
ARU S S 06 15 44.2 +1.0
ARU SS SS 06 19 51.6 -2.8
ARU pmax pmax
comp=Z,24nm,1.2s
KAF **Kangasniemi** 65.14 353 *e*P P 06 07 02.0 -1.2
KAF pmax pmax
comp=Z,27nm,0.6s
KAF **Kangasniemi** 65.14 353 *e*p P 06 07 02.0 -1.2
comp=Z,27nm,0.6s
FINES **FINESS Array B** 65.82 353 P P 06 07 07.2 -0.4
FINES **FINESS Array B** 65.82 353 P P 06 07 07.2 -0.4
comp=Z,21nm,0.6s,baz=20,slow=8.9,SNR=52
NB2 **NORSAR Subarra** 66.69 1 P P 06 07 12.9 -0.4
comp=Z,7.1nm,0.7s,baz=360,slow=6.2
NOA **NORSAR Array B** 66.69 1 P P 06 07 12.6 -0.7
NOA **NORSAR Array B** 66.69 1 P P 06 07 12.6 -0.7
comp=Z,5.0nm,0.7s,baz=0.9,slow=6.4,SNR=16
HFS **Hagfors** 67.61 360 P P 06 07 18.7 -0.4
HFS **Hagfors** 67.61 360 P P 06 07 18.7 -0.4
comp=Z,14nm,0.5s,baz=42,slow=4.5,SNR=42
AKTO **Aktyubinsk** 70.52 331 P P 06 07 36.2 -1.1
AKTO **Aktyubinsk** 70.52 331 P P 06 07 36.2 -1.1
AKTO **Aktyubinsk** 70.52 331 P P 06 07 36.2 -1.1
comp=Z,4.8nm,0.7s,baz=40,slow=7.9,SNR=13
TKM2 **Tokmak 2** 70.65 316 *i* P P 06 07 38.6 +0.1
TKM2 pmax pmax
comp=Z,9.0nm,0.9s
TKM2 **Tokmak 2** 70.65 316 P P 06 07 39.1 +0.7
SNR=8.5
USP **Ospenovka** 70.82 317 *i* P P 06 07 40.0 +0.7
USP **Ospenovka** 70.82 317 P P 06 07 40.0 +0.7
SNR=6.0
OBN **Obninsk** 70.89 346⇓ *i*P P 06 07 39.0 -0.4
OBN pmax pmax
comp=Z,20nm,1.2s
OBN MLR MLR
comp=Z,12μm,17.0s
AB31 **Akbulak array** 70.99 330 *ce*P P 06 07 40.2 +0.1
AB31 pmax pmax
comp=Z,3.0nm,0.4s
ABKAR **Akbulak array** 70.99 330 *e*P P 06 07 39.9 -0.2
comp=Z,2.7nm,0.6s
KBK **Karagaybulak** 71.14 317 *i* P P 06 07 41.6 +0.2
KBK **Karagaybulak** 71.14 317 P P 06 07 41.6 +0.2
SNR=5.9
AAK **Ala-Archa** 71.35 317 *c i*P P 06 07 43.0 +0.3
AAK **Ala-Archa** 71.35 317 P P 06 07 43.4 +0.7
SNR=7.5
AAK **Ala-Archa** 71.35 317 *e*P P 06 07 42.9 +0.3
comp=Z,8.7nm,0.8s
AAK **Ala-Archa** 71.35 317 P P 06 07 42.9 +0.3
comp=Z,10nm,0.8s,baz=107,slow=2.6,SNR=19
EKS2 **Erkin-Say** 71.62 317 *i* P P 06 07 45.3 +1.1
EKS2 **Erkin-Say** 71.62 317 P P 06 07 45.3 +1.1
SNR=7.3
KK31 **Karatay Array** 72.57 320 *ce*P P 06 07 49.5 -0.3
KK31 pmax pmax
comp=Z,2.0nm,0.4s
KKAR **Karatay Array** 72.57 320 *e*P P 06 07 49.9 +0.1
KKAR pmax pmax
comp=Z,11nm,1.0s
KKAR **Karatay Array** 72.57 320 *e*P P 06 07 49.9 +0.1
comp=Z,11nm,1.0s
SUW **Suwalki** 73.41 354 *e*P P 06 07 54.7 +0.2
SUW **Suwalki** 73.41 354 *e*P P 06 07 54.6 +0.1
LSA **Lhasa** 73.65 297 *e*P P 06 07 57.8 +0.9
LSA pmax pmax
comp=Z,8.0nm,0.7s
LSA **Lhasa** 73.65 297 *e*P P 06 07 57.8 +0.9
comp=Z,8.2nm,0.7s
VRHR **Novokhopersk** 73.89 342 *e*P P 06 07 56.0 -1.4
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VSR **Storozhevoye** 74.23 343 *e*P P 06 07 59.4 +0.1
VSR pmax pmax
comp=N,10.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR pmax pmax
comp=E,2.0nm,0.3s
VORD **Divnogorie** 74.44 343 *e*P P 06 07 59.6 -1.0
VORD pmax pmax
comp=E,6.0nm,0.7s
VORD pmax pmax
comp=Z,10.0nm,0.7s
AKASG **Malin Array Be** 76.16 349 P P 06 08 10.1 -0.3
AKASG **Malin Array Be** 76.16 349 P P 06 08 10.1 -0.3
AKASG **Malin Array Be** 76.16 349 P P 06 08 10.1 -0.3
comp=Z,10nm,0.5s,baz=13,slow=5.9,SNR=43
KIEV **Kiev** 76.17 349 *e*P P 06 08 10.2 -0.3
KIEV pmax pmax
comp=Z,10.0nm,0.6s
KIEV **Kiev** 76.17 349 *e*P P 06 08 10.2 -0.3
comp=Z,10.0nm,0.6s
CLL **Collm** 76.46 0 *i* P P 06 08 12.1 -0.1
CLL pmax pmax
comp=Z,160nm,1.3s
CLL **Collm** 76.46 0 *i* P P 06 08 12.1 -0.1
comp=Z,11nm,1.3s
BRG **Berggiesshubel** 76.89 359 *i* P P 06 08 15.3 +0.7
comp=Z,12nm,1.2s
BRG **Berggiesshubel** 76.89 359 *i* P P 06 08 15.3 +0.7
BRG pmax pmax
comp=Z,12nm,1.2s
UPC **Upice** 77.23 358 *e*P P 06 08 17.8 +1.3
UPC **Upice** 77.23 358 *e*P P 06 08 17.8 +1.3
PVCC **Panska Ves** 77.23 359 *e*P P 06 08 18.0 +1.5
PVCC **Panska Ves** 77.23 359 *e*P P 06 08 18.0 +1.5
TAPN **Taplejung** 77.36 298 *e*P P 06 08 18.2 +0.2
comp=Z,21nm,0.7s
DPC **Dobruska-Polom** 77.38 358 *e*P P 06 08 18.7 +1.3
DPC *e* 06 08 22.4
DPC **Dobruska-Polom** 77.38 358 *e*P P 06 08 18.7 +1.3
DPC *e*pP pP 06 08 22.4 -3.1
GIVF **Givet** 77.43 5 *e*P P 06 08 18.3 +0.6
GIVF **Givet** 77.43 5 *e*P P 06 08 18.3 +0.6
GIVF **Givet** 77.43 5 *e*P P 06 08 18.3 +0.6
BAIF **Baives** 77.43 6 *e*P P 06 08 18.5 +0.8
BAIF **Baives** 77.43 6 *e*P P 06 08 18.5 +0.8
BAIF **Baives** 77.43 6 *e*P P 06 08 18.5 +0.8
PRU **Pruhonice** 77.77 359 *e*P P 06 08 21.5 +1.9
PRU **Pruhonice** 77.77 359 *e*P P 06 08 21.5 +1.9
KWP **Kalwaria Pacla** 77.81 354 *e*P P 06 08 21.1 +1.3
KWP **Kalwaria Pacla** 77.81 354 *e*P P 06 08 21.0 +1.3
OKC **Ostrava-Krasne** 77.84 357 *e*P P 06 08 21.2 +1.3
OKC **Ostrava-Krasne** 77.84 357 *e*P P 06 08 21.2 +1.3
GUN **Gumba** 77.89 300 *e*P P 06 08 21.4 +0.4
comp=Z,25nm,0.7s
JIRN **Jiri** 77.92 300 *e*P P 06 08 21.6 +0.3
comp=Z,25nm,0.6s
STHS **Stebnicka Huta** 78.11 355 *e*P P 06 08 23.4 +1.9
STHS pmax pmax
comp=Z,10.0nm,0.7s
STHS **Stebnicka Huta** 78.11 355 *e*P P 06 08 23.4 +1.9
RAMN **Ramite** 78.27 299 *e*P P 06 08 23.1 +0.1
comp=Z,40nm,0.8s
KKN **Kakani** 78.30 300 *e*P P 06 08 23.4 +0.3
PKI **Pulchoki** 78.41 300 *e*P P 06 08 23.9 0.0
PKIN **Phulchoki** 78.41 300 *e*P P 06 08 24.3 +0.5
VRAC **Vranov** 78.41 358 P P 06 08 24.3 +1.2
comp=Z,2.7nm,0.5s,baz=354,slow=7.8,SNR=5.5
GKN **Gorkha** 78.46 301 *e*P P 06 08 24.2 +0.2
comp=Z,36nm,0.7s
ROSF **Rostrenen** 78.48 11 *e*P P 06 08 24.8 +1.3
ROSF **Rostrenen** 78.48 11 *e*P P 06 08 24.8 +1.3
ROSF **Rostrenen** 78.48 11 *e*P P 06 08 24.8 +1.3
DMN **Daman** 78.53 301 *e*P P 06 08 24.9 +0.4
LDF **La Druitiere** 78.55 9 *e*P P 06 08 24.1 +0.2
LDF **La Druitiere** 78.55 9 *e*P P 06 08 24.1 +0.2
LDF **La Druitiere** 78.55 9 *e*P P 06 08 24.1 +0.2
KHC **Kasperske Hory** 78.64 360 *e*P P 06 08 25.1 +0.7
KHC pmax pmax
comp=Z,10.0nm,1.1s
KHC **Kasperske Hory** 78.64 360 *e*P P 06 08 25.7 +1.3
KHC **Kasperske Hory** 78.64 360 *e*P P 06 08 25.1 +0.7
comp=Z,10nm,1.1s
DANN **Dangsing** 78.64 302 *e*P P 06 08 25.7 +0.6
comp=Z,76nm,0.7s
GRR **Gorron** 78.69 9 *e*P P 06 08 26.4 +1.7
comp=Z,14nm,0.8s
GRR **Gorron** 78.69 9 *e*P P 06 08 26.4 +1.7
GRR pmax pmax
comp=Z,14nm,0.8s
GRR **Gorron** 78.69 9 *e*P P 06 08 26.4 +1.7
comp=Z,14nm,0.8s
GERES **GERESS Array B** 78.92 360 P P 06 08 26.8 +0.7
GERES **GERESS Array B** 78.92 360 P P 06 08 26.8 +0.7
comp=Z,2.5nm,0.8s,baz=5.7,slow=3.0,SNR=13
PAGF **Fort de Pagny** 79.02 5 *e*P P 06 08 27.9 +1.4
PAGF **Fort de Pagny** 79.02 5 *e*P P 06 08 27.9 +1.4
KOLN **Koldanda** 79.19 302 *e*P P 06 08 28.3 +0.3
comp=Z,17nm,0.7s
SFTF **Sexfontaines** 79.33 5 *e*P P 06 08 29.1 +0.9
comp=Z,18nm,0.9s
SFTF **Sexfontaines** 79.33 5 *e*P P 06 08 29.1 +0.9
comp=Z,18nm,0.9s
LOR **Lormes** 80.19 6 *e*P P 06 08 32.9 0.0
LOR **Lormes** 80.19 6 *e*P P 06 08 32.9 0.0
SSF **Saint Saulge** 80.37 7 *e*P P 06 08 34.5 +0.6
SSF **Saint Saulge** 80.37 7 *e*P P 06 08 34.5 +0.6
SSF **Saint Saulge** 80.37 7 *e*P P 06 08 34.5 +0.6
KIV **Kislovodsk** 80.48 339⇓ *e*P P 06 08 35.5 +0.9
KIV pmax pmax
comp=Z,10.0nm,0.8s
KIV MLR MLR
comp=Z,11μm,19.0s
MFF **Saint Martin d** 80.52 9 *e*P P 06 08 34.9 +0.2
comp=Z,11nm,0.6s
MFF **Saint Martin d** 80.52 9 *e*P P 06 08 34.9 +0.2
MFF pmax pmax
comp=Z,11nm,0.6s
MFF **Saint Martin d** 80.52 9 *e*P P 06 08 34.9 +0.2
comp=Z,11nm,0.6s
AVF **Avril sur Loir** 80.63 7 *e*P P 06 08 35.2 -0.1
comp=Z,13nm,0.9s
AVF **Avril sur Loir** 80.63 7 *e*P P 06 08 35.2 -0.1
AVF pmax pmax
comp=Z,13nm,0.9s
AVF **Avril sur Loir** 80.63 7 *e*P P 06 08 35.2 -0.1
comp=Z,13nm,0.9s
SMF **Signal de Mont** 80.81 6 *e*P P 06 08 36.9 +0.7
comp=Z,10.0nm,0.7s
SMF **Signal de Mont** 80.81 6 *e*P P 06 08 36.9 +0.7
SMF pmax pmax
comp=Z,10.0nm,0.7s
SMF **Signal de Mont** 80.81 6 *e*P P 06 08 36.9 +0.7
comp=Z,10.0nm,0.7s
BGF **Bois d'Agland** 80.83 7 *e*P P 06 08 36.9 +0.6
BGF **Bois d'Agland** 80.83 7 *e*P P 06 08 36.9 +0.6
BGF **Bois d'Agland** 80.83 7 *e*P P 06 08 36.9 +0.6
DAVOX **Davos/Dischmat** 80.95 2 P P 06 08 37.8 +0.6
DAVOX **Davos/Dischmat** 80.95 2 P P 06 08 37.8 +0.6
comp=Z,5.2nm,0.8s,baz=355,slow=15,SNR=3.7
CABF **La Chapelle** 80.98 5 *e*P P 06 08 38.4 +1.1
CABF **La Chapelle** 80.98 5 *e*P P 06 08 38.4 +1.1
CABF **La Chapelle** 80.98 5 *e*P P 06 08 38.4 +1.1
TCF **Toulx Ste Croi** 81.05 8 *e*P P 06 08 38.0 +0.5
TCF **Toulx Ste Croi** 81.05 8 *e*P P 06 08 38.0 +0.5
TCF **Toulx Ste Croi** 81.05 8 *e*P P 06 08 38.0 +0.5
ZEI **Tsey** 81.31 338 *e*P P 06 08 37.1 -2.1
ZEI pmax pmax
comp=Z,10.0nm,1.6s
RJF **Les Rejaudoux** 81.96 8 *e*P P 06 08 43.0 +0.6
RJF **Les Rejaudoux** 81.96 8 *e*P P 06 08 43.0 +0.6
RJF **Les Rejaudoux** 81.96 8 *e*P P 06 08 43.0 +0.6
LPG **La Plagne** 82.12 4 *e*P P 06 08 45.2 +1.6
LPG **La Plagne** 82.12 4 *e*P P 06 08 45.2 +1.6
LPG **La Plagne** 82.12 4 *e*P P 06 08 45.2 +1.6
LFF **La Frestale** 82.26 9 *e*P P 06 08 44.8 +0.9
comp=Z,11nm,0.6s
LFF **La Frestale** 82.26 9 *e*P P 06 08 44.8 +0.9
LFF pmax pmax
comp=Z,11nm,0.6s
LFF **La Frestale** 82.26 9 *e*P P 06 08 44.8 +0.9
comp=Z,11nm,0.6s
CAF **Calviac** 82.39 8 *e*P P 06 08 45.5 +0.9
comp=Z,9.6nm,0.8s
CAF **Calviac** 82.39 8 *e*P P 06 08 45.5 +0.9
CAF pmax pmax
comp=Z,10.0nm,0.8s
CAF **Calviac** 82.39 8 *e*P P 06 08 45.5 +0.9
comp=Z,9.6nm,0.8s
VIVF **Saint-Julien-l** 82.65 6 *e*P P 06 08 47.0 +1.0
VIVF **Saint-Julien-l** 82.65 6 *e*P P 06 08 47.0 +1.0
VIVF **Saint-Julien-l** 82.65 6 *e*P P 06 08 47.0 +1.0
MBDF **Montbardon** 82.89 4 *e*P P 06 08 49.3 +1.9
comp=Z,16nm,0.7s
MBDF **Montbardon** 82.89 4 *e*P P 06 08 49.3 +1.9
MBDF pmax pmax
comp=Z,16nm,0.7s
MBDF **Montbardon** 82.89 4 *e*P P 06 08 49.3 +1.9
comp=Z,16nm,0.7s
SMRF **Simiane la Rot** 83.58 5 *e*P P 06 08 53.0 +2.2
SMRF **Simiane la Rot** 83.58 5 *e*P P 06 08 53.0 +2.2
SBF **Sospel** 83.78 4 *e*P P 06 08 53.3 +1.4
SBF **Sospel** 83.78 4 *e*P P 06 08 53.3 +1.4
SBF **Sospel** 83.78 4 *e*P P 06 08 53.3 +1.4
SJPF **Ste Jean** 83.86 10 *e*P P 06 08 53.6 +1.3
SJPF **Ste Jean** 83.86 10 *e*P P 06 08 53.6 +1.3
SJPF **Ste Jean** 83.86 10 *e*P P 06 08 53.6 +1.3
MTLF **Montolieu** 83.97 8 *e*P P 06 08 53.8 +1.0
comp=Z,17nm,0.8s
MTLF **Montolieu** 83.97 8 *e*P P 06 08 53.8 +1.0
MTLF pmax pmax
comp=Z,17nm,0.8s
MTLF **Montolieu** 83.97 8 *e*P P 06 08 53.8 +1.0
comp=Z,17nm,0.8s
FRF **La Foret Royal** 84.05 5 *e*P P 06 08 54.3 +1.1
FRF **La Foret Royal** 84.05 5 *e*P P 06 08 54.3 +1.1
FRF **La Foret Royal** 84.05 5 *e*P P 06 08 54.3 +1.1
ETSF **Etsaut** 84.15 10 *e*P P 06 08 55.1 +1.3
comp=Z,20nm,0.9s
ETSF **Etsaut** 84.15 10 *e*P P 06 08 55.1 +1.3
ETSF pmax pmax
comp=Z,20nm,0.9s
ETSF **Etsaut** 84.15 10 *e*P P 06 08 55.1 +1.3
comp=Z,20nm,0.9s
BR131 **Keskin Array S** 86.31 344 *e*P P 06 09 05.6 +0.8
comp=Z,2.7nm,0.6s
BRTR **Keskin Array B** 86.31 344 P P 06 09 05.3 +0.5
BRTR **Keskin Array B** 86.31 344 P P 06 09 05.3 +0.5
comp=Z,4.5nm,0.7s,baz=24,slow=2.4,SNR=12
ESDC **Sonseca Array** 86.91 13 P P 06 09 07.3 -0.3
ESDC **Sonseca Array** 86.91 13 P P 06 09 07.3 -0.3
comp=Z,1.0nm,0.6s,baz=350,slow=5.9,SNR=3.2
WRA **Warramunga Arr** 88.32 234 P P 06 09 13.4 -1.0
WRA **Warramunga Arr** 88.32 234 P P 06 09 13.4 -1.0
comp=Z,1.3nm,1.1s,baz=31,slow=5.8,SNR=4.7
ASAR **Alice Springs** 91.69 232 P P 06 09 31.1 +1.1
ASAR **Alice Springs** 91.69 232 P P 06 09 31.1 +1.1
comp=Z,0.7nm,0.7s,baz=26,slow=4.4,SNR=4.4
MMAI **Mount Meron Ar** 92.52 341 P P 06 09 33.6 -0.4
MMAI **Mount Meron Ar** 92.52 341 P P 06 09 33.6 -0.4
comp=Z,0.8nm,0.4s,baz=12,slow=7.4,SNR=3.6

IDC 13 05:58:13.7±1.9,15°24S×172°06W,h0km,mb3.9/2, mb1 4.2/2,mb1mx3.7/20,mbtmp3.9/2,Error ellipse: s-maj=68.4km s-min=22.4km az=121.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.35**	**12**	Pn	Pb	05 58 40.4	+0.3
	38nm,0.3s,baz=76,slow=1.6,SNR=13						
AFI				Sn	Sn	05 58 58.8	0.0
	484nm,0.3s,baz=3.5,slow=19,SNR=54						
ASAR	**Alice Springs**	**51.39**	**252**	P	P	06 07 20.4	-0.3
	1.8nm,0.7s,baz=83,slow=8.3,SNR=8.4						
NVAR	**Mina Array Bea**	**73.35**	**41**	P	P	06 09 47.4	-0.4
	0.2nm,0.4s,baz=234,slow=5.5,SNR=3.0						
BRTR	**Keskin Array B**	**146.84**	**322**	PKPbc	PKPbc	06 17 58.0	-0.4
	0.4nm,0.5s,baz=74,slow=4.6,SNR=2.0						

IDC 13 06:00:25.8±1.5,12°31S×165°51E,h0km,mb4.3/7, mb1 4.3/8,mb1mx4.1/20,mbtmp4.2/8,ML3.8/1,Error ellipse: s-maj=46.3km s-min=24.3km az=126.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.16**	**297**	Sn	Sn	06 03 10.0	+0.6
	9.0nm,0.3s,baz=108,slow=20,SNR=4.8						
DZM	**Mont Dzumac**	**9.75**	**175**	Pn	Pn	06 02 47.9	+0.4
	0.9nm,0.3s,baz=94,slow=22,SNR=9.7						
CTA	**Charters Tower**	**20.03**	**245**	P	Pn	06 05 01.8	-0.5
	6.2nm,0.7s,baz=65,slow=11,SNR=8.1						
WRA	**Warramunga Arr**	**30.85**	**252**	P	P	06 06 43.7	-0.3
	2.1nm,0.7s,baz=84,slow=9.3,SNR=16						
ASAR	**Alice Springs**	**32.03**	**245**	P	P	06 06 53.8	-0.7
	3.0nm,0.8s,baz=71,slow=9.6,SNR=25						
SONM	**Songino Array**	**79.54**	**324**	P	P	06 12 35.4	+0.6
	1.1nm,1.0s,baz=108,slow=4.7,SNR=3.2						
ILAR	**Eielson Array**	**84.78**	**19**	P	P	06 13 01.4	-0.2
	0.9nm,0.7s,baz=236,slow=4.5,SNR=14						
MKAR	**Makanchi Array**	**94.28**	**317**	P	P	06 13 47.5	+0.4
	1.8nm,0.8s,baz=106,slow=5.5,SNR=6.6						
ZALV	**Zalesovo Beam**	**94.44**	**324**	P	P	06 13 47.1	-0.6
	0.9nm,0.3s,baz=72,slow=4.7,SNR=2.8						

*IDC **13** 06:01:50.1±1.1,52°.88N×167°.08W,h0km,mb4.0/14, mb1 4.1/15,mb1mx4.0/30,mbtmp3.9/15,ML3.5/1,Error ellipse: s-maj=31.3km s-min=16.3km az=7.0*
*NEIC **13** 06:01:53.2,52°.59N×166°.93W,h23km,ML3.4(AEIC),After AEIC.*

ISC 13 06:01:53.5±0.8,52°.72N±0°.09×166°.91W±0°.05,h25km,n47, σ1°09/50,mb4.2/16,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.92**	**319**	P	**Pn**	**06 02 11.4**	**+0.5**
OKFG				S	**Sn**	**06 02 23.9**	**+0.5**
OKSO	**Okmok South**	**0.99**	**311**	P	**Pb**	**06 02 12.1**	**+0.1**
OKSO				S	**Sn**	**06 02 27.2**	**+2.1**
OKSP	**Okmok Steeple**	**0.99**	**303**	P	**Pb**	**06 02 12.1**	**0.0**
OKCE	**Okmok Cone E**	**1.04**	**314**	P	**Pb**	**06 02 13.3**	**+0.5**
MREP	**Makushin Rep't**	**1.10**	**5**	P	**Pb**	**06 02 14.7**	**+0.8**
UNV	**Unalaska Valle**	**1.16**	**12**	*e*Pn	**Pb**	**06 02 14.4**	**-0.4**
NIKH	**Nikolski High**	**1.21**	**283**	P	**Pn**	**06 02 13.8**	**-1.0**
NIKH				S	**Sb**	**06 02 31.5**	**+0.6**
MCIR	**Makushin Cirqu**	**1.24**	**0**	P	**Pb**	**06 02 16.7**	**+0.5**
MTBL	**Makushin Table**	**1.26**	**6**	P	**Pb**	**06 02 16.7**	**+0.1**
AKRB	**Akutan Reef Bi**	**1.50**	**19**	P	**Pb**	**06 02 19.4**	**-1.3**
AKUT	**Akutan**	**1.58**	**25**	*e*Pn	**Pn**	**06 02 20.1**	**+0.3**
AKGG	**Akutan Green G**	**1.58**	**20**	P	**Pb**	**06 02 20.5**	**-1.5**
AMKA	**Amchitka**	**8.61**	**267**	*e*Pn	**Pn**	**06 03 56.1**	**-0.2**
IMA2	**Indian Mountai**	**14.94**	**21**	P	**P**	**06 05 29.3**	**+1.1**
ILAR	**Eielson Array**	**15.83**	**33**	Pn	**Pn**	**06 05 33.4**	**-1.1**
ILAR	**Eielson Array**	**15.83**	**33**	Pn	**Pn**	**06 05 33.4**	**-1.1**
	0.1nm,0.3s,baz=230,slow=10,SNR=4.8						
HYT	**Haines Junctio**	**17.91**	**51**	P	**P**	**06 06 04.4**	**+3.2**
PETK	**Petropavlovsk-**	**21.22**	**285**	P	**P**	**06 06 35.9**	**-1.3**
PETK	**Petropavlovsk-**	**21.22**	**285**	P	**P**	**06 06 35.9**	**-1.3**
	4.4nm,0.4s,baz=86,slow=12,SNR=21						
NVAR	**Mina Array Bea**	**36.17**	**93**	P	**P**	**06 08 56.3**	**+2.3**
NVAR	**Mina Array Bea**	**36.17**	**93**	P	**P**	**06 08 56.3**	**+2.3**
	0.5nm,0.7s,baz=280,slow=5.4,SNR=2.6						
PDAR	**Pinedale Array**	**38.86**	**81**	P	**P**	**06 09 17.1**	**+0.4**
PDAR	**Pinedale Array**	**38.86**	**81**	P	**P**	**06 09 17.1**	**+0.4**
	0.5nm,0.6s,baz=290,slow=5.4,SNR=4.0						
KSRS	**Korea Array**	**46.85**	**278**	P	**P**	**06 10 21.4**	**+0.2**
	1.6nm,0.7s,baz=51,slow=9.6,SNR=4.7						
KSAR	**Wonju Array Be**	**46.88**	**278**	P	**P**	**06 10 21.4**	**-0.1**
TXAR	**Lajitas Array**	**51.24**	**91**	P	**P**	**06 10 55.5**	**+0.4**
TXAR	**Lajitas Array**	**51.24**	**91**	P	**P**	**06 10 55.5**	**+0.4**
	0.6nm,0.6s,baz=302,slow=5.2,SNR=5.8						
SONM	**Songino Array**	**52.40**	**302**	P	**P**	**06 11 03.5**	**0.0**
SONM	**Songino Array**	**52.40**	**302**	P	**P**	**06 11 03.6**	**0.0**
	0.3nm,0.4s,baz=43,slow=8.7,SNR=4.0						
ARCES	**ARCESS Array B**	**57.72**	**355**	P	**P**	**06 11 40.4**	**-1.0**
ARCES	**ARCESS Array B**	**57.72**	**355**	P	**P**	**06 11 40.4**	**-1.0**
	2.9nm,0.8s,baz=23,slow=7.2,SNR=7.7						
KURK	**Kurchatov**	**63.10**	**320**	P	**P**	**06 12 18.3**	**-0.1**
KURBB	**Kurchatov Arra**	**63.21**	**320**	P	**P**	**06 12 18.3**	**-0.8**
	0.7nm,0.9s,baz=45,slow=7.4,SNR=5.2						
JOF	**Joensuu**	**63.82**	**351**	*ep*	**P**	**06 12 21.2**	**-1.8**
	2.0nm,0.5s						
MKAR	**Makanchi Array**	**64.64**	**315**	P	**P**	**06 12 27.5**	**-1.2**
MKAR	**Makanchi Array**	**64.64**	**315**	P	**P**	**06 12 27.5**	**-1.2**
	0.7nm,0.5s,baz=45,slow=5.8,SNR=6.7						
KAF	**Kangasniemi**	**65.04**	**353**	*ep*	**P**	**06 12 29.4**	**-1.6**
	5.0nm,0.5s						
FINES	**FINESS Array B**	**65.72**	**353**	P	**P**	**06 12 34.5**	**-0.8**
FINES	**FINESS Array B**	**65.72**	**353**	P	**P**	**06 12 34.5**	**-0.8**
	2.8nm,0.5s,baz=23,slow=7.5,SNR=24						
NOA	**NORSAR Array B**	**66.58**	**1**	P	**P**	**06 12 40.3**	**-0.7**
NOA	**NORSAR Array B**	**66.58**	**1**	P	**P**	**06 12 40.3**	**-0.7**
	0.3nm,0.4s,baz=347,slow=5.0,SNR=2.9						
HFS	**Hagfors**	**67.50**	**360**	P	**P**	**06 12 46.1**	**-0.7**
HFS	**Hagfors**	**67.50**	**360**	P	**P**	**06 12 46.1**	**-0.7**
	3.4nm,0.4s,baz=28,slow=3.4,SNR=23						
AAK	**Ala-Archa**	**71.30**	**317**	P	**P**	**06 13 10.9**	**+0.1**
AAK	**Ala-Archa**	**71.30**	**317**	P	**P**	**06 13 10.9**	**+0.1**
	1.0nm,0.3s,baz=160,slow=12,SNR=5.0						
AKASG	**Malin Array Be**	**76.06**	**350**	P	**P**	**06 13 37.7**	**-0.6**
AKASG	**Malin Array Be**	**76.06**	**350**	P	**P**	**06 13 37.7**	**-0.6**
	1.4nm,0.5s,baz=15,slow=6.0,SNR=7.2						

*ISCJB **13** 06:03:03.0±0.6,52°.42N±0°.05×166°.92W±0°.07,h25km, mb4.1/17,Error ellipse: s-maj=7.3km s-min=5.9km az=158.8*
*IDC **13** 06:03:03.1±1.1,52°.92N×167°.13W,h0km,mb4.1/17, mb1 4.2/19,mb1mx4.1/33,mbtmp4.1/19,ML3.3/2,Error ellipse: s-maj=29.7km s-min=13.7km az=173.0*
*NEIC **13** 06:03:04.7,52°.59N×166°.93W,h8km,mb3.7/1, ML3.7(AEIC),After AEIC.*

ISC 13 06:03:05.6±0.8,52°.59N±0°.08×166°.92W±0°.05,h25km,n61, σ1°02/57,mb4.2/17,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**1.02**	**324**	P	**Pn**	**06 03 23.2**	**-1.0**
OKFG				S	**Sn**	**06 03 38.4**	**+0.6**
OKSP	**Okmok Steeple**	**1.06**	**309**	P	**Pn**	**06 03 25.1**	**+0.1**
OKSO	**Okmok South**	**1.08**	**316**	P	**Pn**	**06 03 24.8**	**-0.3**
OKSO				S	**Sn**	**06 03 40.3**	**+1.0**
OKCE	**Okmok Cone E**	**1.13**	**318**	P	**Pb**	**06 03 26.3**	**-0.1**
MGOD	**Makushin Gods**	**1.21**	**1**	P	**Pn**	**06 03 26.6**	**-0.3**
MREP	**Makushin Rep't**	**1.23**	**5**	P	**Pn**	**06 03 27.6**	**+0.5**
NIKH	**Nikolski High**	**1.24**	**289**	P	**Pn**	**06 03 26.7**	**-0.6**
NIKH				S	**Sb**	**06 03 46.3**	**+2.5**
UNV	**Unalaska Valle**	**1.28**	**11**	*e*Pn	**Pn**	**06 03 28.3**	**+0.4**
MTBL	**Makushin Table**	**1.39**	**6**	P	**Pn**	**06 03 29.9**	**+0.4**
AKRB	**Akutan Reef Bi**	**1.62**	**18**	P	**Pn**	**06 03 33.0**	**+0.4**
AKRB				S	**Sb**	**06 03 55.9**	**+1.0**
AKUT	**Akutan**	**1.69**	**23**	P	**Pn**	**06 03 33.8**	**+0.3**
AKGG	**Akutan Green G**	**1.70**	**19**	P	**Pn**	**06 03 33.8**	**+0.1**
AMKA	**Amchitka**	**8.60**	**267**	*e*Pn	**Pn**	**06 05 08.8**	**+0.5**
FX1	**Attu Island--F**	**12.08**	**279**	Pn	**Pn**	**06 05 57.5**	**+1.6**
FX1	**Attu Island--F**	**12.08**	**279**	Pn	**Pn**	**06 05 57.5**	**+1.6**
	0.4nm,0.3s,baz=281,slow=11,SNR=5.2						
IMA2	**Indian Mountai**	**15.05**	**21**	*e*Pn	**Pn**	**06 06 38.0**	**+1.5**
ILAR	**Eielson Array**	**15.94**	**32**	Pn	**Pn**	**06 06 46.2**	**-1.7**
ILAR	**Eielson Array**	**15.94**	**32**	Pn	**Pn**	**06 06 46.2**	**-1.7**
	0.1nm,0.3s,baz=228,slow=9.7,SNR=3.7						
COLD	**Coldfoot**	**16.80**	**23**	*e*Pn	**P**	**06 07 01.2**	**+0.4**
	5.5nm,0.9s						
HYT	**Haines Junctio**	**17.99**	**51**	*e*Pn	**P**	**06 07 16.2**	**+2.1**
DAWY	**Dawson**	**18.28**	**40**	*e*Pn	**P**	**06 07 17.3**	**+0.1**
PETK	**Petropavlovsk-**	**21.25**	**286**	P	**P**	**06 07 49.0**	**-0.5**
PETK	**Petropavlovsk-**	**21.25**	**286**	P	**P**	**06 07 49.0**	**-0.5**
	3.3nm,0.4s,baz=83,slow=12,SNR=11						
INK	**Inuvik**	**22.34**	**33**	P

	2.2nm,0.4s,baz=222,slow=9.0							
NVAR	**Mina Array Bea**	**36.17**	**93**	P	P	06 10 10.1	+4.1	
NVAR	**Mina Array Bea**	**36.17**	**93**	P	P	06 10 10.1	+4.1	
	0.5nm,0.5s,baz=286,slow=6.5,SNR=2.9							
H11N2	**WAKE ISLAND Hy**	**38.59**	**222**	T	T	06 52 02.8		
	baz=27,slow=0.7,SNR=5.4							
H11N3	**WAKE ISLAND Hy**	**38.60**	**222**	T	T	06 52 03.1		
	baz=27,slow=0.7,SNR=5.8							
H11N1	**WAKE ISLAND Hy**	**38.61**	**222**	T	T	06 52 02.1		
	baz=27,slow=0.7,SNR=4.3							
PDAR	**Pinedale Array**	**38.89**	**81**	P	P	**06 10 30.5**	**+1.5**	
PDAR	**Pinedale Array**	**38.89**	**81**	P	P	**06 10 30.5**	**+1.5**	
	0.5nm,0.7s,baz=294,slow=4.5,SNR=3.0							
H11S1	**WAKE ISLAND Hy**	**39.77**	**221**	T	T	06 53 26.0		
	baz=25							
H11S2	**WAKE ISLAND Hy**	**39.78**	**221**	T	T	06 53 27.0		
	baz=25							
H11S3	**WAKE ISLAND Hy**	**39.79**	**221**	T	T	06 53 31.5		
	baz=25							
MJAR	**Matsushiro Arr**	**41.20**	**270**	P	P	**06 10 48.2**	**+0.1**	
MJAR	**Matsushiro Arr**	**41.20**	**270**	P	P	**06 10 48.2**	**+0.1**	
	1.0nm,0.3s,baz=37,slow=6.3,SNR=4.7							
KSRS	**Korea Array**	**46.86**	**278**	P	P	**06 11 34.3**	**+0.9**	
	2.9nm,0.8s,baz=51,slow=7.3,SNR=8.2							
KSAR	**Wonju Array Be**	**46.90**	**278**	P	P	**06 11 34.3**	**+0.7**	
TXAR	**Lajitas Array**	**51.25**	**91**	P	P	**06 12 08.2**	**+1.0**	
TXAR	**Lajitas Array**	**51.25**	**91**	P	P	**06 12 08.2**	**+1.0**	
	0.5nm,0.7s,baz=309,slow=5.7,SNR=2.5							
SONM	**Songino Array**	**52.47**	**302**	P	P	**06 12 16.0**	**-0.1**	
SONM	**Songino Array**	**52.47**	**302**	P	P	**06 12 16.0**	**-0.1**	
	0.5nm,0.3s,baz=54,slow=7.3,SNR=6.3							
ARCES	**ARCESS Array B**	**57.85**	**355**	P	P	**06 12 53.3**	**-1.1**	
ARCES	**ARCESS Array B**	**57.85**	**355**	P	P	**06 12 53.3**	**-1.1**	
	2.6nm,0.9s,baz=18,slow=6.6,SNR=5.4							
ZALV	**Zalesovo Beam**	**58.26**	**319**	P	P	**06 12 56.4**	**-1.1**	
ZALV	**Zalesovo Beam**	**58.26**	**319**	P	P	**06 12 56.4**	**-1.1**	
	0.9nm,0.4s,baz=57,slow=10,SNR=2.4							
KURK	**Kurchatov**	**63.19**	**320**	P	P	**06 13 31.0**	**-0.1**	
KURBB	**Kurchatov Arra**	**63.30**	**320**	P	P	**06 13 31.0**	**-0.8**	
	2.1nm,1.0s,baz=46,slow=7.7,SNR=9.9							
MKAR	**Makanchi Array**	**64.73**	**315**	P	P	**06 13 40.4**	**-1.0**	
MKAR	**Makanchi Array**	**64.73**	**315**	P	P	**06 13 40.4**	**-1.0**	
	1.9nm,0.8s,baz=53,slow=7.0,SNR=7.6							
FINES	**FINESS Array B**	**65.84**	**353**	P	P	**06 13 47.7**	**-0.6**	
FINES	**FINESS Array B**	**65.84**	**353**	P	P	**06 13 47.7**	**-0.6**	
	3.5nm,0.5s,baz=14,slow=6.1,SNR=8.2							
HFS	**Hagfors**	**67.63**	**360**	P	P	**06 13 58.9**	**-0.7**	
HFS	**Hagfors**	**67.63**	**360**	P	P	**06 13 58.9**	**-0.7**	
	2.8nm,0.5s,baz=29,slow=4.1,SNR=10							
AKTO	**Aktyubinsk**	**70.55**	**331**	P	P	**06 14 16.4**	**-1.6**	
AKTO	**Aktyubinsk**	**70.55**	**331**	P	P	**06 14 16.4**	**-1.6**	
	1.9nm,0.7s,baz=45,slow=4.3,SNR=3.1							
AAK	**Ala-Archa**	**71.38**	**317**	P	P	**06 14 23.0**	**-0.4**	
AAK	**Ala-Archa**	**71.38**	**317**	P	P	**06 14 23.0**	**-0.4**	
	3.2nm,0.7s,baz=203,slow=1.9,SNR=7.5							
AKASG	**Malin Array Be**	**76.18**	**350**	P	P	**06 14 50.4**	**-0.7**	
AKASG	**Malin Array Be**	**76.18**	**350**	P	P	**06 14 50.4**	**-0.7**	
	3.1nm,0.6s,baz=13,slow=5.6,SNR=9.5							

*ISCJB **13** 06:07:34.4±0.9, 41.°03N±0.°05×50.°54E±0.°04, h19km±9km, mb3.6/6, Error ellipse: s-maj=8.2km s-min=5.2km az=164.5*

*IDC **13** 06:07:34.0±1.7, 41.°21N×50.°03E, h0km, mb3.6/5, mb1 3.7/8, mb1mx3.6/27, mbtmp3.7/8, ML4.0/3, Error ellipse: s-maj=32.3km s-min=17.5km az=148.0*

*AZER **13** 06:07:34.7±2.4, 40.°95N×50.°13E, h3km, Error ellipse: s-maj=3.5km s-min=1.3km az=238.0*

*CSEM **13** 06:07:36.3±0.3, 40.°97N×50.°41E, h20km, mb4.1, Error ellipse: s-maj=8.3km s-min=5.5km az=144.0*

*MOS **13** 06:07:39.5±2.6, 41.°71N×50.°28E, h18km, mb4.1/3, Error ellipse: s-maj=15.4km s-min=12.4km az=9.8*

ISC 13 06:07:34.5±1.4, 41.°15N±0.°03×50.°33E±0.°04, h10km±10km, n50, σ1§52/71, mb3.6/6, 7C-13D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDR	**Nardaran**	**0.62**	**205**	⇓P	**Pg**	**06 07 44.3**	**-2.2**
	SNR=4.7						
NDR				⇓S	**Sg**	06 07 54.5	-0.2
NDR	**Nardaran**	**0.62**	**205**	P	**Pg**	06 07 44.3	-2.2
	SNR=4.7						
NDR				S	**Sg**	06 07 54.5	-0.2
GALA	**Gala**	**0.75**	**191**	⇑P	**Pg**	06 07 48.2	-0.7
GALA				⇓S	**Sb**	06 08 00.2	+0.3
GALA	**Gala**	**0.75**	**191**	P	**Pg**	06 07 48.2	-0.7
GALA				S	**Sb**	06 08 00.2	+0.3
GOBA	**Gobu**	**0.87**	**212**	⇓P	**Pg**	06 07 50.4	-0.9
	SNR=8.0						
GOBA	**Gobu**	**0.87**	**212**	P	**Pg**	06 07 50.4	-0.9
	SNR=8.0						
PQL	**Pirkuli**	**1.36**	**255**	⇓P	**Pb**	06 08 00.5	+0.2
	SNR=11						
PQL				⇑S	**Sg**	06 08 19.7	+1.2
PQL	**Pirkuli**	**1.36**	**255**	P	**Pb**	06 08 00.5	+0.2
	SNR=11						
PQL				S	**Sg**	06 08 19.7	+1.2
QUBA	**Quba, Azerbaij**	**1.40**	**279**	⇓P	**Pg**	06 08 02.1	+0.7
	SNR=6.8						
QUBA				⇑S	**Sg**	06 08 20.3	+0.6
QUBA	**Quba, Azerbaij**	**1.40**	**279**	P	**Pg**	06 08 02.2	+0.7
	SNR=6.8						
QUBA				S	**Sg**	06 08 20.3	+0.6
ALIB	**Äli-Bayra**	**1.56**	**221**	⇓P	**Pb**	06 08 03.6	+0.1
	SNR=9.3						
ALIB	**Äli-Bayra**	**1.56**	**221**	P	**Pb**	06 08 03.6	+0.1
	SNR=9.3						
IML	**Ismayilli**	**1.67**	**259**	⇓S	**Sb**	06 08 26.3	-0.2
IML	**Ismayilli**	**1.67**	**259**	S	**Sb**	06 08 26.3	-0.2
KSMR	**Kasumkent**	**1.72**	**286**	*e*PG	**Pb**	06 08 07.0	+0.7
KSMR				*e*S	**Sg**	06 08 32.2	+2.3
KSMR				pmax	pmax		
	comp=Z,96nm,0.4s						
KSMR	**Kasumkent**	**1.72**	**286**	*e*Pg	**Pb**	06 08 07.0	+0.7
	comp=Z,96nm,0.4s						
KSMR				*e*Sg	**Sg**	06 08 32.2	+2.3
DRN	**Derbent**	**1.74**	**301**	⇓*i*PG	**Pb**	06 08 06.8	+0.2
DRN				*i* S	**Sg**	06 08 32.0	+1.4
DRN				pmax	pmax		
	comp=Z,175nm,0.4s						
DRN	**Derbent**	**1.74**	**301**	*i* Pg	**Pb**	06 08 06.8	+0.2
	comp=Z,175nm,0.4s						
DRN				*i* Sg	**Sg**	06 08 32.0	+1.4
AKT	**Akhty**	**1.99**	**281**	*e*PN	**Pb**	06 08 11.0	+0.1
AKT				pmax	pmax		
	comp=Z,44nm,0.4s						
AKT	**Akhty**	**1.99**	**281**	*e*Pn	**Pb**	06 08 11.0	+0.1
	comp=Z,44nm,0.4s						
SEKA	**Sheki**	**2.37**	**273**	⇓Pg	**Pn**	06 08 14.1	+0.6
	SNR=15						
SEKA				⇓S	**Sb**	06 08 45.2	-1.4
SEKA	**Sheki**	**2.37**	**273**	Pg	**Pn**	06 08 14.1	+0.6
	SNR=15						
SEKA				S	**Sb**	06 08 45.2	-1.4
GNBR	**Gunib**	**2.81**	**297**	⇑*i*PN	**Pb**	06 08 25.4	+0.5
GNBR				*i* S	**Sg**	06 09 03.4	-1.4
GNBR	**Gunib**	**2.81**	**297**	*i* Pn	**Pb**	06 08 25.4	+0.5
GNBR				*i* Sb	**Sg**	06 09 03.4	-1.4
GANJ	**Ganja**	**3.08**	**262**	⇓Pn	**Pn**	06 08 23.7	+0.4
GANJ	**Ganja**	**3.08**	**262**	Pn	**Pn**	06 08 23.7	+0.4
DBC	**Dubki**	**3.21**	**307**	⇓*i*PN	**Pb**	06 08 28.9	-2.8
DBC				*i* S	**Sb**	06 09 09.9	-1.0
DBC	**Dubki**	**3.21**	**307**	*i* Pn	**Pb**	06 08 28.9	-2.8
DBC				*i* Sb	**Sb**	06 09 09.9	-1.0
AB31	**Akbulak array**	**10.56**	**37**	P	**Pn**	06 10 07.7	+1.8
	comp=Z,0.8nm,0.5s,baz=218,slow=11,SNR=13						
AB31				⇑S	**Sn**	06 12 04.0	-0.2
	comp=Z,2.3nm,0.7s,baz=213,slow=22						
AB31	**Akbulak array**	**10.56**	**37**	P	**Pn**	06 10 07.7	+1.8
	comp=Z,0.8nm,0.5s,baz=218,SNR=13						
AKTK	**Aktyubinsk**	**10.72**	**27**	P	**Pn**	06 10 08.7	+0.6
AKTO	**Aktyubinsk**	**10.72**	**27**	⇑P	**Pn**	06 10 09.4	+1.3
	comp=Z,4.7nm,0.9s						
AKTO				⇑S	**Sn**	06 12 03.4	-4.7
	comp=Z,3.5nm,0.6s						
AKTO	**Aktyubinsk**	**10.72**	**27**	P	**Pn**	06 10 08.7	+0.6
AKTO						06 12 05.2	
AKTO	**Aktyubinsk**	**10.72**	**27**	P	**Pn**	06 10 09.4	+1.3
	comp=Z,4.7nm,0.9s						
AKTO	**Aktyubinsk**	**10.72**	**27**	Pn	**Pn**	06 10 08.7	+0.6
	comp=Z,0.4nm,0.3s,baz=215,slow=12,SNR=4.2						
AKTO				Sn	**Sn**	06 12 05.2	-2.9
	comp=Z,0.3nm,0.3s,baz=34,slow=18,SNR=2.9						
AKASG	**Malin Array Be**	**17.47**	**310**	P	**Pn**	**06 11 35.9**	**-2.3**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKASG	**Malin Array Be**	**17.47**	**310**	P	**Pn**	**06 11 35.9**	**-2.3**
	comp=Z,1.5nm,0.3s,baz=119,slow=11,SNR=8.1						
BVAR	**Borovoye Array**	**18.03**	**42**	P	**P**	**06 11 47.8**	**+2.2**
BVAR	**Borovoye Array**	**18.03**	**42**	P	**P**	**06 11 47.8**	**+2.2**
BVAR	**Borovoye Array**	**18.03**	**42**	P	**P**	**06 11 47.8**	**+2.2**
	comp=Z,0.4nm,0.3s,baz=246,slow=11,SNR=3.4						
KURBB	**Kurchatov Arra**	**21.68**	**55**	P	**P**	**06 12 27.6**	**+2.3**
	comp=Z,1.9nm,0.8s,baz=257,slow=11,SNR=13						
KURK	**Kurchatov**	**21.76**	**54**	P	**P**	**06 12 27.6**	**+1.5**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	**21.76**	**54**	P	**P**	**06 12 27.6**	**+1.5**
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**23.58**	**65**	P	**P**	**06 12 47.5**	**+2.2**
MKAR	**Makanchi Array**	**23.58**	**65**	P	**P**	**06 12 47.5**	**+2.2**
MKAR	**Makanchi Array**	**23.58**	**65**	P	**P**	**06 12 47.5**	**+2.2**
	comp=Z,1.0nm,0.7s,baz=284,slow=5.8,SNR=6.9						
FINES	**FINESS Array B**	**25.08**	**332**	P	**P**	**06 12 58.4**	**-0.6**
	comp=Z,3.1nm,0.4s,baz=134,slow=9.9,SNR=16						
NB2	**NORSAR Subarra**	**30.93**	**323**	P	**P**	**06 13 50.5**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=117,slow=9.3						
NOA	**NORSAR Array B**	**30.93**	**323**	P	**P**	**06 13 50.5**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=118,slow=8.6,SNR=4.5						
TORD	**Torodi Ar. Bea**	**50.63**	**251**	P	**P**	**06 16 33.8**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=52,slow=5.5,SNR=3.2						

IDC 13 06:34:16.2±2.0, 4.°85S×152.°58E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/18, mbtmp3.8/4, Error ellipse: s-maj=117.4km s-min=25.9km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.25**	**228**	P	P	06 39 25.8	+0.3
	0.9nm,0.4s,baz=54,slow=10,SNR=14						
ASAR	**Alice Springs**	**25.96**	**222**	P	P	06 39 51.0	+0.2
	0.3nm,0.5s,baz=58,slow=9.0,SNR=7.0						
FITZ	**Fitzroy Crossi**	**29.44**	**241**	P	P	06 40 21.5	-0.4
	1.6nm,0.3s,baz=59,slow=7.6,SNR=10						
ILAR	**Eielson Array**	**82.29**	**22**	P	P	06 46 39.4	0.0
	0.5nm,0.8s,baz=254,slow=5.5,SNR=6.3						
TORD	**Torodi Ar. Bea**	**150.11**	**288**	PKPbc	PKPbc	06 54 09.7	-0.4
	0.6nm,0.6s,baz=87,slow=2.2,SNR=7.2						

DJA 13 06:42:35.6±0.4, 1.°S±2.°×122.°2E±, h7km±3km, M3.8/6, MLv3.8/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**0.43**	**270**	P	Pg	06 42 44.2	+0.2
APSI				S	Sg	06 42 50.4	+0.7
LUWI	**Luwuk**	**0.70**	**101**	P	Pg	06 42 48.4	-0.8
LUWI				S	Sg	06 42 58.4	+0.1
MRSI	**Marisa**	**1.39**	**354**	P	Pn	06 43 00.1	-1.3
MRSI				S	Sb	06 43 19.7	0.0
TOLI	**Toli-Toli**	**2.39**	**327**	P	Pn	06 43 14.7	-0.6
TOLI				S	Sn	06 43 45.3	+0.4
KMSI	**Cibinong**	**2.41**	**52**	P	Pn	06 43 15.7	+0.3
KMSI				S	Sn	06 43 46.4	+1.2
TTSI	**Tana Toraja**	**3.10**	**227**	P	Pn	06 43 26.1	+1.1
TTSI				S	Sn	06 44 03.8	+1.5
SPSI	**Sidrap Palu**	**3.81**	**217**	P	Pn	06 43 35.3	+0.5
SPSI				S	Sn	06 44 20.6	+0.7
BNSI	**Bone**	**3.99**	**210**	P	Pn	06 43 38.2	+1.0
BNSI				S	Sn	06 44 26.5	+2.3
MJSI	**Majene**	**4.06**	**230**	P	Pn	06 43 38.0	-0.2
SGKI	**Sangatta, Kali**	**4.49**	**275**	P	Pn	06 43 43.5	-0.7
BKSI	**Bulukumba**	**4.80**	**204**	P	Pn	06 43 49.4	+1.1
BKSI				S	Sn	06 44 45.2	+1.0

*IDC **13** 06:46:41.7±1.1, 52.°75N×167.°14W, h0km, mb4.0/17, mb1 4.1/19, mb1mx4.0/32, mbtmp4.0/19, ML3.5/2, Error ellipse: s-maj=28.6km s-min=13.1km az=177.0*

*NEIC **13** 06:46:42.5, 52.°35N×166.°84W, h26km, ML3.5(AEIC), After AEIC.*

ISC 13 06:46:43.5±1.8, 52.°57N±0.°08×166.°94W±0.°05, h15km±10km, n73, σ0§91/72, mb4.2/20, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**1.02**	**325**	P	**Pn**	**06 47 03.3**	**0.0**
OKFG				S	**Sn**	06 47 18.9	+1.6
OKTU	**Okmok Mt. Tuli**	**1.05**	**321**	P	**Pg**	06 47 04.4	+0.6
OKSP	**Okmok Steeple**	**1.06**	**310**	P	**Pg**	06 47 04.0	-0.1
OKSO	**Okmok South**	**1.08**	**317**	P	**Pb**	06 47 03.7	-0.1
OKSO				S	**Sn**	06 47 20.5	+1.8
OKCE	**Okmok Cone E**	**1.13**	**320**	P	**Pg**	06 47 05.0	-0.3
NIKH	**Nikolski High**	**1.23**	**290**	P	**Pn**	06 47 19.5	-0.6
NIKH				S	**Sg**	06 47 23.8	+0.6
MREP	**Makushin Rep't**	**1.24**	**5**	P	**Pg**	06 47 07.4	-0.1
UNV	**Unalaska Valle**	**1.30**	**11**	*e*Pn	**Pb**	06 47 07.7	+0.1
UNV				*e*Sn	**Sg**	06 47 25.8	+0.3
MCIR	**Makushin Cirqu**	**1.38**	**1**	P	**Pg**	06 47 09.8	-0.3
MTBL	**Makushin Table**	**1.41**	**6**	P	**Pb**	06 47 09.6	+0.2
ZRO	**Akutan Zero**	**1.62**	**20**	P	**Pn**	06 47 12.3	+0.8
AKRB	**Akutan Reef Bi**	**1.64**	**18**	P	**Pb**	06 47 13.1	-0.4
AKRB				S	**Sg**	06 47 36.9	+0.4
LVA	**Lava Point**	**1.68**	**18**	P	**Pb**	06 47 13.3	-0.7
AKUT	**Akutan**	**1.71**	**24**	*e*Pn	**Pn**	06 47 12.7	0.0
AKGG	**Akutan Green G**	**1.72**	**19**	P	**Pb**	06 47 14.1	-0.8
AKSA	**Akutan Strait**	**1.73**	**25**	P	**Pn**	06 47 13.4	+0.4
AKSA				S	**Sb**	06 47 36.4	-0.1
SSBA	**Shishaldin**	**2.77**	**36**	P	**Pn**	06 47 28.4	+1.2
FALS	**False Pass**	**3.10**	**41**	*e*Pn	**Pn**	06 47 32.5	+0.7
GSCK	**Great Sitkin C**	**5.69**	**268**	P	**Pn**	06 48 06.9	-0.5
ADK	**Adak**	**6.03**	**267**	*e*Pn	**Pn**	06 48 11.4	-0.7
	56nm,0.6s						
AMKA	**Amchitka**	**8.58**	**267**	*e*Pn	**Pn**	06 48 46.4	-0.6
	37nm,0.7s						
FX1	**Attu Island--F**	**12.07**	**279**	Pn	**Pn**	06 49 35.6	+0.9
FX1	**Attu Island--F**	**12.07**	**279**	Pn	**Pn**	06 49 35.6	+0.9
	0.6nm,0.3s,baz=270,slow=23,SNR=9.1						
IM04	**Indian Mountai**	**14.97**	**21**	*e*P	**P**	06 50 20.8	+1.0
IMA2	**Indian Mountai**	**15.07**	**21**	*e*Pn	**P**	06 50 19.1	-1.9
ILAR	**Eielson Array**	**15.96**	**32**	Pn	**Pn**	06 50 26.1	-1.1
ILAR	**Eielson Array**	**15.96**	**32**	Pn	**Pn**	06 50 26.1	-1.1
	0.2nm,0.3s,baz=235,slow=11,SNR=11						
HYT	**Haines Junctio**	**18.01**	**51**	Pn	Pn	06 50 43.0	-10
PETK	**Petropavlovsk-**	**21.24**	**286**	P	**P**	06 51 29.0	+0.4
PETK	**Petropavlovsk-**	**21.24**	**286**	P	**P**	06 51 29.0	+0.4
	2.9nm,0.5s,baz=87,slow=11,SNR=14						
INK	**Inuvik**	**22.37**	**33**	P	**P**	06 51 39.6	-0.9
INK	**Inuvik**	**22.37**	**33**	P	**P**	06 51 39.6	-0.9
	baz=268,slow=3.6						
NVAR	**Mina Array Bea**	**36.18**	**93**	P	**P**	06 53 47.1	+1.7
NVAR	**Mina Array Bea**	**36.18**	**93**	P	**P**	06 53 47.2	+1.7
	0.5nm,0.6s,baz=304,slow=9.7,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**38.57**	**222**	T	T	07 35 38.4	
	baz=27						
H11N3	**WAKE ISLAND Hy**	**38.58**	**222**	T	T	07 35 44.6	
	baz=27						
H11N1	**WAKE ISLAND Hy**	**38.59**	**222**	T	T	07 35 39.4	
	baz=27						
PDAR	**Pinedale Array**	**38.90**	**81**	P	**P**	06 54 09.6	+1.1
PDAR	**Pinedale Array**	**38.90**	**81**	P	**P**	06 54 09.6	+1.1
	0.5nm,0.8s,baz=330,slow=5.2,SNR=3.0						
H11S1	**WAKE ISLAND Hy**	**39.75**	**221**	T	T	07 37 16.9	
	baz=24,slow=0.7,SNR=14						
H11S2	**WAKE ISLAND Hy**	**39.76**	**221**	T	T	07 37 04.8	
	baz=24,slow=0.7,SNR=5.3						
H11S3	**WAKE ISLAND Hy**	**39.77**	**221**	T	T	07 37 25.3	
	baz=24,slow=0.7,SNR=5.2						
LENM	**Lemitar**	**45.88**	**89**	P	**P**	06 55 03.5	-1.8
	9.8nm,1.0s						
KSRS	**Korea Array**	**46.85**	**278**	P	**P**	06 55 13.0	+0.4
	1.8nm,0.9s,baz=63,slow=6.0,SNR=3.9						
KSAR	**Wonju Array Be**	**46.88**	**278**	P	**P**	06 55 13.0	+0.1
TXAR	**Lajitas Array**	**51.26**	**91**	P	**P**	06 55 47.8	+1.1
TXAR	**Lajitas Array**	**51.26**	**91**	P	**P**	06 55 47.8	+1.1
	0.8nm,0.5s,baz=304,slow=5.8,SNR=12						
SONM	**Songino Array**	**52.46**	**302**	P	**P**	06 55 55.2	-0.3
SONM	**Songino Array**	**52.46**	**302**	P	**P**	06 55 55.2	-0.3
	0.6nm,0.7s,baz=77,slow=9.0,SNR=4.6						
ARCES	**ARCESS Array B**	**57.86**	**355**	P	**P**	06 56 32.9	-1.0
ARCES	**ARCESS Array B**	**57.86**	**355**	P	**P**	06 56 32.9	-1.0
	3.8nm,0.8s,baz=22,slow=8.1,SNR=5.6						
ZALV	**Zalesovo Beam**	**58.26**	**319**	P	**P**	06 56 35.7	-1.2
ZALV	**Zalesovo Beam**	**58.26**	**319**	P	**P**	06 56 35.7	-1.2
	0.5nm,0.3s,baz=54,slow=7.3,SNR=3.7						
KURK	**Kurchatov**	**63.20**	**320**	P	**P**	**06 57 10.5**	**-0.1**
KURBB	**Kurchatov Arra**	**63.30**	**320**	P	**P**	**06 57 10.5**	**-0.8**
	1.4nm,0.7s,baz=48,slow=7.7,SNR=16						
JOF	**Joensuu**	**63.96**	**351**	*ep*	**P**	**06 57 13.7**	**-1.7**
	1.7nm,0.5s						
BVAR	**Borovoye Array**	**64.39**	**326**	P	**P**	**06 57 16.9**	**-1.4**
BVAR	**Borovoye Array**	**64.39**	**326**	P	**P**	**06 57 16.9**	**-1.4**
	0.9nm,0.5s,baz=50,slow=7.8,SNR=6.2						
MKAR	**Makanchi Array**	**64.73**	**315**	P	**P**	**06 57 19.5**	**-1.3**
MKAR	**Makanchi Array**	**64.73**	**315**	P	**P**	**06 57 19.5**	**-1.3**
	1.9nm,0.7s,baz=50,slow=5.7,SNR=14						
KAF	**Kangasniemi**	**65.18**	**353**	*ep*	**P**	**06 57 22.1**	**-1.2**
	4.1nm,0.6s						
FINES	**FINESS Array B**	**65.86**	**353**	P	**P**	**06 57 26.9**	**-0.8**
FINES	**FINESS Array B**	**65.86**	**353**	P	**P**	**06 57 26.9**	**-0.8**
	3.0nm,0.5s,baz=14,slow=7.1,SNR=16						
NOA	**NORSAR Array B**	**66.73**	**1**	P	**P**	**06 57 33.3**	**-0.1**
NOA	**NORSAR Array B**	**66.73**	**1**	P	**P**	**06 57 33.3**	**-0.1**
	0.5nm,0.7s,baz=336,slow=7.7,SNR=3.3						
HFS	**Hagfors**	**67.64**	**360**	P	**P**	**06 57 38.5**	**-0.6**
HFS	**Hagfors**	**67.64**	**360**	P	**P**	**06 57 38.5**	**-0.6**
	2.7nm,0.5s,baz=66,slow=4.9,SNR=16						
AAK	**Ala-Archa**	**71.39**	**317**	P	**P**	**06 58 02.5**	**-0.3**
AAK	**Ala-Archa**	**71.39**	**317**	P	**P**	**06 58 02.5**	**-0.3**
	2.5nm,0.6s,baz=50,slow=7.9,SNR=7.2						
AKASG	**Malin Array Be**	**76.20**	**349**	P	**P**	**06 58 30.3**	**-0.3**
AKASG	**Malin Array Be**	**76.20**	**349**	P	**P**	**06 58 30.3**	**-0.3**
	0.7nm,0.3s,baz=14,slow=6.1,SNR=5.5						
BRTR	**Keskin Array B**	**86.35**	**344**	P	**P**	**06 59 25.6**	**+0.7**
BRTR	**Keskin Array B**	**86.35**	**344**	P	**P**	**06 59 25.6**	**+0.7**
	1.1nm,0.8s,baz=7.6,slow=2.2,SNR=6.1						

IDC 13 06:54:27.1±1.3, 11.°54S×166.°71E, h0km, mb4.1/6, mb1 4.3/8, mb1mx4.0/22, mbtmp4.2/8, ML5.1/1, Error ellipse: s-maj=41.2km s-min=23.8km az=137.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.97**	**287**	P	Pn	06 56 11.8	+1.2
	38nm,0.3s,baz=132,slow=5.5,SNR=8.5						
HNR				Sn	Sn	06 57 24.1	-6.6
	7.9nm,0.3s,baz=170,slow=18,SNR=2.1						
DZM	**Mont Dzumac**	**10.48**	**181**	Pn	Pn	06 56 59.1	+0.3
	0.1nm,0.3s,baz=126,slow=19,SNR=2.0						
DZM				Sn	Sn	06 59 01.1	+4.0
	0.1nm,0.3s,baz=307,slow=20,SNR=2.3						
CTA	**Charters Tower**	**21.42**	**244**	P	P	06 59 18.8	+1.9
	3.1nm,0.6s,baz=45,slow=11,SNR=4.9						
WRA	**Warramunga Arr**	**32.21**	**251**	P	P	07 00 57.1	-0.2
	2.1nm,0.8s,baz=80,slow=9.2,SNR=11						
ASAR	**Alice Springs**	**33.42**	**244**	P	P	07 01 07.3	-0.6
	1.6nm,0.8s,baz=77,slow=9.4,SNR=14						
ASAR				PcP	PcP	07 03 49.5	0.0
	0.5nm,0.5s,baz=81,slow=2.1,SNR=6.2						
FITZ	**Fitzroy Crossi**	**40.17**	**256**	P	P	07 02 04.4	-1.0
	1.3nm,0.9s,baz=83,slow=9.3,SNR=3.7						
ILAR	**Eielson Array**	**83.68**	**18**	P	P	07 06 57.9	+0.6
	0.8nm,0.7s,baz=236,slow=5.2,SNR=18						
MKAR	**Makanchi Array**	**94.53**	**317**	P	P	07 07 49.0	-0.7
	1.1nm,0.7s,baz=91,slow=5

1.3nm,0.6s,baz=13,slow=5.9,SNR=4.1
BRTR Keskin Array B 86.28 344 P **P** 07 10 38.3 -0.9
BRTR Keskin Array B 86.28 344 P **P** 07 10 38.3 -0.9
0.4nm,0.5s,baz=35,slow=5.3,SNR=2.6

MAN 13 07:19:26,9.75N×124.99E,h65km,mb4.1,ML3.0,MS2.7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.49**	**86**	*eP*	Pn	07 19 40.7	+2.4
SCPH				*eS*	Sn	07 19 50.9	+3.6
BUTP	**Butuan**	**0.99**	**141**	*eP*	Pn	07 19 39.0	-5.2
BUTP				*eS*	Sn	07 19 50.3	-7.4
BUKP	**Musuan**	**1.86**	**178**	*eP*	Pn	07 19 56.9	+1.2
PAGZ	**Pagadian**	**2.47**	**220**	*eP*	Pn	07 20 05.1	+1.2

IDC 13 07:19:53.5±1.7,5.57S×155.08E,h0km,mb3.7/5, mb1 3.8/5,mb1mx3.6/18,mbtmp3.7/5,MS3.4/1,Ms1 3.4/1, ms1mx3.4/37,Error ellipse: s-maj=56.5km s-min=29.6km az=99.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.73**	**244**	LR	LR	07 24 46.6	
	comp=Z,265nm,21.2s,baz=343,slow=34						
WRA	**Warramunga Arr**	**24.72**	**233**	P	P	07 25 17.1	+0.3
	0.5nm,0.3s,baz=56,slow=10,SNR=18						
ASAR	**Alice Springs**	**27.19**	**226**	P	P	07 25 39.5	+0.2
	0.2nm,0.3s,baz=57,slow=9.4,SNR=7.5						
SONM	**Songino Array**	**68.20**	**327**	P	P	07 30 57.7	+1.7
	0.6nm,0.4s,baz=136,slow=6.3,SNR=3.7						
MKAR	**Makanchi Array**	**82.40**	**319**	P	P	07 32 17.3	-0.4
	0.3nm,0.6s,baz=103,slow=6.3,SNR=5.5						
QSPA	**South Pole Qui**	**84.39**	**180**	P	P	07 32 27.6	-0.2
	0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**152.71**	**288**	PKPbc	PKPbc	07 39 52.0	-1.4
	0.2nm,0.7s,baz=104,slow=1.5,SNR=2.9						

IDC 13 07:28:28.9±1.0,52.62N×167.03W,h0km,mb4.1/15, mb1 4.2/17,mb1mx4.1/30,mbtmp4.1/17,ML3.2/2,Error ellipse: s-maj=29.4km s-min=12.5km az=180.0
MOS 13 07:28:31.9±1.2,52.60N×166.95W,h33km,mb4.7/10, Error ellipse: s-maj=16.8km s-min=9.4km az=101.8
NEIC 13 07:28:32.9,52.59N×166.93W,h14km,mb4.2/8, ML3.5(AEIC),After AEIC.

ISC 13 07:28:30.7±1.5,52.52N±0.06×166.84W±0.04,h14km±8km, n96,σ1°31/98,mb4.2/28,3C-4D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**1.10**	**324**	P	Pb	07 28 51.7	+0.1
OKFG				S	Sn	07 29 07.7	+0.9
OKTU	**Okmok Mt. Tuli**	**1.13**	**320**	P	Pg	07 28 52.7	+0.2
OKSP	**Okmok Steeple**	**1.15**	**310**	P	Pb	07 28 52.7	+0.4
OKSO	**Okmok South**	**1.16**	**317**	P	Pn	07 28 52.4	-0.1
OKSO				S	Sg	07 29 09.0	+0.8
OKCE	**Okmok Cone E**	**1.21**	**319**	P	Pb	07 28 53.7	+0.2
MREP	**Makushin Rep't**	**1.29**	**2**	P	Pn	07 28 54.7	+0.3
MSOM	**Makushin Julie**	**1.30**	**357**	P	Pn	07 28 54.4	0.0
MSOM	**Makushin Julie**	**1.30**	**357**	P	Pn	07 28 54.4	0.0
NIKH	**Nikolski High**	**1.31**	**291**	P	Pn	07 28 54.0	-0.5
NIKH				S	Sg	07 29 13.2	+0.3
UNV	**Unalaska Valle**	**1.34**	**8**	P	Pn	07 28 55.4	+0.4
UNV				S	Sg	07 29 14.1	+0.1
MCIR	**Makushin Cirqu**	**1.44**	**359**	P	Pn	07 28 56.5	+0.2
MTBL	**Makushin Table**	**1.46**	**4**	P	Pn	07 28 57.2	+0.6
AKRB	**Akutan Reef Bi**	**1.68**	**16**	P	Pn	07 28 60.0	+0.4
AKRB				S	Sb	07 29 23.1	+0.8
AKUT	**Akutan**	**1.74**	**21**	*e*Pn	Pn	07 28 60.0	-0.5
AKSA	**Akutan Strait**	**1.76**	**22**	P	Pn	07 29 00.1	-0.6
SSLW	**Shishaldin Wes**	**2.77**	**35**	P	Pn	07 29 15.2	+0.5
FALS	**False Pass**	**3.10**	**40**	*e*Pn	Pb	07 29 24.3	-1.2
GSMY	**Great Sitkin M**	**5.68**	**269**	P	Pn	07 29 56.4	+1.8
ADK	**Adak**	**6.09**	**268**	P	Pn	07 30 01.8	+1.6
ADK	**Adak**	**6.09**	**268**	P	Pn	07 30 01.8	+1.6
AMKA	**Amchitka**	**8.64**	**268**	*e*Pn	Pn	07 30 36.0	+0.8
	39nm,0.7s						
FX1	**Attu Island--F**	**12.14**	**280**	Pn	Pn	07 31 24.7	+1.7
FX1	**Attu Island--F**	**12.14**	**280**	Pn	Pn	07 31 24.7	+1.7
	0.5nm,0.3s,baz=11,slow=11,SNR=9.2						
BPAW	**Bear Paw Mtn.**	**14.23**	**29**	*e*P	Pn	07 31 52.7	+1.1
	6.8nm,1.0s						
BMRM	**Bremner River**	**14.78**	**46**	*e*P	P	07 32 05.3	+0.3
	8.9nm,0.8s						
IM04	**Indian Mountai**	**15.00**	**21**	*e*P	P	07 32 06.8	-0.7
IMA2	**Indian Mountai**	**15.10**	**21**	*e*P	P	07 32 06.4	-2.3
ILAR	**Eielson Array**	**15.98**	**32**	Pn	Pn	07 32 14.8	+0.1
ILAR	**Eielson Array**	**15.98**	**32**	Pn	Pn	07 32 14.8	+0.1
	0.0nm,0.3s,baz=237,slow=12,SNR=7.2						
COLD	**Coldfoot**	**16.85**	**23**	*e*P	P	07 32 28.7	+0.8
	9.0nm,1.1s						
EGAK	**Eagle**	**17.97**	**37**	*e*P	P	07 32 41.8	+1.5
	3.4nm,0.8s						
HYT	**Haines Junctio**	**18.00**	**51**	*e*P	P	07 32 43.4	+2.7
PETK	**Petropavlovsk-**	**21.32**	**286**	P	P	07 33 14.2	-2.6
PETK	**Petropavlovsk-**	**21.32**	**286**	P	P	07 33 14.2	-2.6
PETK	**Petropavlovsk-**	**21.32**	**286**	P	P	07 33 14.2	-2.6
	3.2nm,0.8s,baz=79,slow=9.0,SNR=5.0						
DLBC	**Dease Lake**	**21.48**	**59**	P	P	07 33 19.0	+0.4
DLBC	**Dease Lake**	**21.48**	**59**	P	P	07 33 19.0	+0.4
	0.8nm,0.4s,baz=311,slow=9.3,SNR=1.9						
INK	**Inuvik**	**22.38**	**32**	*e*P	P	07 33 26.8	-1.2
	7.9nm,1.1s						
INK	**Inuvik**	**22.38**	**32**	P	P	07 33 26.2	-1.8
	5.7nm,1.0s,baz=228,slow=11,SNR=8.6						
SEY	**Seymchan**	**27.71**	**312**↓	*e*P	P	07 33 41.1	-0.7
TIXI	**Tiksi**	**33.41**	**329**↓	*i*P	P	07 35 07.6	-0.7
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.7s						
MCMT	**McKenzie Canyo**	**35.73**	**80**	*e*P	P	07 35 29.0	+0.1
	comp=Z,12nm,2.0s						
NVAR	**Mina Array Bea**	**36.12**	**93**	P	P	07 35 34.3	+2.0
NVAR	**Mina Array Bea**	**36.12**	**93**	P	P	07 35 34.3	+2.0
	comp=Z,1.7nm,0.8s,baz=295,slow=8.5,SNR=9.6						
H11N2	**WAKE ISLAND Hy**	**38.57**	**222**	T	T	08 17 22.5	
	baz=26,slow=0.7,SNR=11						
H11N3	**WAKE ISLAND Hy**	**38.58**	**222**	T	T	08 17 23.1	
	baz=26,slow=0.7,SNR=15						
H11N1	**WAKE ISLAND Hy**	**38.59**	**222**	T	T	08 17 23.3	
	baz=26,slow=0.7,SNR=10						
PDAR	**Pinedale Array**	**38.85**	**81**	P	P	07 35 56.2	+0.8
PDAR	**Pinedale Array**	**38.85**	**81**	P	P	07 35 56.2	+0.8
	comp=Z,1.4nm,0.9s,baz=299,slow=4.8,SNR=8.9						
GSC	**Goldstone**	**39.06**	**96**	*e*P	P	07 35 58.5	+1.4
GSC				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GSC	**Goldstone**	**39.06**	**96**	*e*P	P	07 35 58.5	+1.4
	comp=Z,5.4nm,1.0s						
H11S1	**WAKE ISLAND Hy**	**39.75**	**221**	T	T	08 18 49.2	
	baz=24,slow=0.7,SNR=11						
H11S2	**WAKE ISLAND Hy**	**39.76**	**221**	T	T	08 18 51.9	
	baz=24,slow=0.7,SNR=9.6						
H11S3	**WAKE ISLAND Hy**	**39.77**	**221**	T	T	08 18 52.7	
	baz=24,slow=0.7,SNR=7.7						
KSRS	**Korea Array**	**46.92**	**278**	P	P	07 37 00.8	+0.2
	comp=Z,1.9nm,1.0s,baz=63,slow=6.7,SNR=6.3						
KSAR	**Wonju Array Be**	**46.95**	**278**	P	P	07 37 00.8	0.0
TXAR	**Lajitas Array**	**51.20**	**91**	P	P	07 37 34.0	+0.4
TXAR	**Lajitas Array**	**51.20**	**91**	P	P	07 37 34.0	+0.4
	comp=Z,2.1nm,0.9s,baz=300,slow=5.6,SNR=14						
TLY	**Talaya**	**51.49**	**307**	*e*P	P	07 37 34.3	-1.1
TLY				pmax	pmax		
	comp=Z,9.0nm,0.9s						
SONM	**Songino Array**	**52.54**	**302**	P	P	07 37 43.4	0.0
SONM	**Songino Array**	**52.54**	**302**	P	P	07 37 43.4	0.0
	comp=Z,2.9nm,1.1s,baz=56,slow=7.4,SNR=13						
HVS	**Khovu-Aksy**	**56.53**	**312**↑	*i*P	P	07 38 12.5	+0.2
HVS				pmax	pmax		
	comp=Z,20nm,1.0s						
ZALV	**Zalesovo Beam**	**58.34**	**319**	P	P	07 38 23.1	-1.8
ZALV	**Zalesovo Beam**	**58.34**	**319**	P	P	07 38 23.1	-1.8
ZALV	**Zalesovo Beam**	**58.34**	**319**	P	P	07 38 23.1	-1.8
	comp=Z,0.7nm,0.4s,baz=33,slow=8.9,SNR=4.4						
KURK	**Kurchatov**	**63.28**	**320**↑	*e*P	P	07 38 57.8	-0.7
KURK				pmax	pmax		
	comp=Z,5.0nm,2.5s						
JOF	**Joensuu**	**64.02**	**351**	*e*P	P	07 39 02.7	-0.5
JOF				pmax	pmax		
	comp=Z,3.0nm,0.6s						
JOF	**Joensuu**	**64.02**	**351**	*ep*	P	07 39 02.7	-0.5
	comp=Z,2.6nm,0.6s						
MKAR	**Makanchi Array**	**64.81**	**315**	P	P	07 39 07.7	-1.0
MKAR	**Makanchi Array**	**64.81**	**315**	P	P	07 39 07.7	-1.0
MKAR	**Makanchi Array**	**64.81**	**315**	P	P	07 39 07.7	-1.0
	comp=Z,2.2nm,0.8s,baz=49,slow=6.6,SNR=22						
ARU	**Arti**	**65.18**	**334**	*d*P	P	07 39 10.7	-0.1
ARU						07 41 32.9	
ARU				S	S	07 47 53.0	+0.1
ARU				SS	SS	07 52 01.0	-3.3
ARU				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KAF	**Kangasniemi**	**65.24**	**353**	*e*P	P	07 39 09.2	-1.9
KAF				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KAF	**Kangasniemi**	**65.24**	**353**	*ep*	P	07 39 09.2	-1.9
	comp=Z,5.5nm,0.8s						
FINES	**FINESS Array B**	**65.92**	**353**	P	P	07 39 14.8	-0.7
FINES	**FINESS Array B**	**65.92**	**353**	P	P	07 39 14.8	-0.7
	comp=Z,4.1nm,0.7s,baz=30,slow=8.8,SNR=7.2						
NB2	**NORSAR Subarra**	**66.78**	**1**	P	P	07 39 21.0	-0.1
	comp=Z,1.1nm,0.7s,baz=360,slow=6.5						
NOA	**NORSAR Array B**	**66.78**	**1**	P	P	07 39 20.9	-0.3
NOA	**NORSAR Array B**	**66.78**	**1**	P	P	07 39 20.9	-0.3
	comp=Z,2.6nm,0.9s,baz=1.0,slow=6.6,SNR=4.0						
OBN	**Obninsk**	**70.99**	**346**↑	*i*P	P	07 39 47.1	-0.2
OBN				*e*		07 42 21.2	
OBN				*e*S	S	07 48 54.7	-7.6
OBN				*e*SS	SS	07 53 40.1	+6.1
OBN				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ABKAR	**Akbulak array**	**71.11**	**330**	*e*P	P	07 39 47.8	-0.4
	comp=Z,1.0nm,0.7s						
AAK	**Ala-Archa**	**71.47**	**317**	*e*P	P	07 39 50.9	+0.2
AAK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
AAK	**Ala-Archa**	**71.47**	**317**	*e*P	P	07 39 50.9	+0.2
	comp=Z,6.1nm,1.3s						
AKASG	**Malin Array Be**	**76.26**	**350**	P	P	07 40 17.8	-0.6
AKASG	**Malin Array Be**	**76.26**	**350**	P	P	07 40 17.8	-0.6
AKASG	**Malin Array Be**	**76.26**	**350**	P	P	07 40 17.8	-0.6
	comp=Z,3.5nm,0.6s,baz=12,slow=5.8,SNR=15						
DPC	**Dobruska-Polom**	**77.47**	**358**	*e*P	P	07 40 25.3	0.0
DPC	**Dobruska-Polom**	**77.47**	**358**	*e*P	P	07 40 25.3	0.0
KHC	**Kasperske Hory**	**78.72**	**360**	*e*P	P	07 40 31.3	-1.0
KHC	**Kasperske Hory**	**78.72**	**360**	*e*P	P	07 40 31.3	-1.0
GERES	**GERESS Array B**	**79.01**	**360**	P	P	07 40 35.0	+1.1
GERES	**GERESS Array B**	**79.01**	**360**	P	P	07 40 35.0	+1.1
	comp=Z,0.5nm,0.2s,baz=352,slow=5.4,SNR=4.2						
KIV	**Kislovodsk**	**80.59**	**339**↓	*e*P	P	07 40 43.4	+0.9
KIV				*e*		07 43 41.0	
KIV				pmax	pmax		
	comp=Z,7.0nm,1.2s						
BR131	**Keskin Array S**	**86.42**	**344**	*e*P	P	07 41 13.9	+1.2
	comp=Z,2.2nm,0.8s						
BRTR	**Keskin Array B**	**86.42**	**344**	P	P	07 41 13.8	+1.2
BRTR	**Keskin Array B**	**86.42**	**344**	P	P	07 41 13.8	+1.2
	comp=Z,2.8nm,0.8s,baz=63,slow=1.7,SNR=12						

IDC 13 07:31:25.8±0.9,11.47S×166.16E,h0km,mb4.1/8, mb1 4.3/9,mb1mx4.1/21,mbtmp4.1/9,ML4.4/1,Error ellipse: s-maj=30.6km s-min=22.6km az=105.0
ISCJB 13 07:31:30.3±0.9,11.68S±0.08×166.1E±0.1,h37km, mb4.2/11,Error ellipse: s-maj=20.2km s-min=10.4km az=166.9
NEIC 13 07:31:31.5±3.0,11.46S×166.08E,h35km±25km,mb4.3/7, Error ellipse: s-maj=21.2km s-min=16.7km az=195.0

ISC 13 07:31:31.7±0.8,11.56S±0.08×166.1E±0.2,h37km,n25, σ0°93/28,mb4.3/11,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.45**	**178**	*e*Pn	Pn	07 34 00.2	+1.1
	11nm,0.6s						
DZM				Sn	Sn	07 35 53.5	-1.6
DZM	**Mont Dzumac**	**10.45**	**178**	Pn	Pn	07 34 00.4	+1.2
	2.9nm,0.3s,baz=360,slow=17,SNR=7.7						
DZM				Sn	Sn	07 35 53.5	-1.6
	0.5nm,0.3s,baz=356,slow=17,SNR=4.5						
CTA	**Charters Tower**	**20.87**	**244**	P	Pn	07 36 12.2	-1.1
CTA	**Charters Tower**	**20.87**	**244**	P	Pn	07 36 12.2	-1.1
	6.1nm,0.5s,baz=60,slow=11,SNR=8.8						
CTAO	**Charters Tower**	**20.87**	**244**	*e*P	Pn	07 36 15.7	+2.3
	7.7nm,0.7s						
WRAB	**Tennant Creek**	**31.62**	**251**	*e*P	P	07 37 50.5	-0.9
	14nm,1.4s						
WRA	**Warramunga Arr**	**31.63**	**251**	P	P	07 37 51.1	-0.4
WRA				PcP	PcP	07 40 43.0	-0.3
WRA	**Warramunga Arr**	**31.63**	**251**	P	P	07 37 51.1	-0.4
	3.0nm,0.7s,baz=84,slow=9.1,SNR=25						
WRA				PcP	PcP	07 40 43.0	-0.3
	0.5nm,0.8s,baz=73,slow=3.0,SNR=5.3						
ASAR	**Alice Springs**	**32.87**	**244**	P	P	07 38 01.6	-0.8
ASAR				PcP	PcP	07 40 47.1	+0.5
ASAR	**Alice Springs**	**32.87**	**244**	P	P	07 38 01.6	-0.8
	4.3nm,0.7s,baz=68,slow=9.6,SNR=53						
ASAR				PcP	PcP	07 40 47.1	+0.5
	0.8nm,0.6s,baz=84,slow=2.2,SNR=8.3						
FITZ	**Fitzroy Crossi**	**39.58**	**256**	*e*P	P	07 38 60.0	+0.2
	4.6nm,0.9s						
MBWA	**Marble Bar**	**45.36**	**252**	*e*P	P	07 39 47.5	+0.7
	7.5nm,0.8s						
VNDA	**Vanda**	**65.98**	**181**	*e*P	P	07 42 14.3	+0.4
	1.1nm,1.0s						
VNDA	**Vanda**	**65.98**	**181**	P	P	07 42 13.9	+0.1
	0.4nm,0.6s,baz=29,slow=4.7,SNR=5.3						
SBA	**Scott Base**	**66.28**	**180**	*e*P	P	07 42 18.0	+2.3
	2.6nm,1.0s						
QSPA	**South Pole Qui**	**78.44**	**180**	*e*P	P	07 43 28.5	-0.1
	5.7nm,1.1s						
QSPA	**South Pole Qui**	**78.44**	**180**	P	P	07 43 28.9	+0.3
	2.8nm,0.8s						
SONM	**Songino Array**	**79.28**	**324**	P	P	07 43 34.2	+0.7
SONM	**Songino Array**	**79.28**	**324**	P	P	07 43 34.2	+0.7
	0.4nm,0.5s,baz=116,slow=6.6,SNR=2.8						
ILAR	**Eielson Array**	**83.89**	**18**	P	P	07 43 56.5	-0.8
ILAR	**Eielson Array**	**83.89**	**18**	P	P	07 43 56.5	-0.8
	0.3nm,0.6s,baz=272,slow=5.2,SNR=7.0						
MKAR	**Makanchi Array**	**94.13**	**317**	P	P	07 44 46.1	-0.4
MKAR	**Makanchi Array**	**94.13**	**317**	P	P	07 44 46.1	-0.4
	1.2nm,0.7s,baz=92,slow=6.2,SNR=12						
ARCES	**ARCESS Array B**	**116.92**	**345**	PKP	**PKPdf**	07 50 11.1	-0.9
ARCES	**ARCESS Array B**	**116.92**	**345**	PKP	**PKPdf**	07 50 11.1	-0.9
	5.2nm,1.1s,baz=60,slow=4.8,SNR=4.2						

MAN 13 07:32:42,9.39N×126.18E,h30km,mb4.1,ML2.9,MS2.6, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.69**	**233**	*e*P	Pb	07 32 55.6	0.0
BUTP				*e*S	Sb	07 33 03.9	-1.1
SCPH	**Surigao**	**0.79**	**300**	*e*P	Pb	07 32 57.5	+0.3
SCPH				*e*S	Sn	07 33 08.6	+0.7
BIPH	**Bislig**	**1.21**	**172**↑	*i*P	Pn	07 33 02.5	-0.4
BIPH				*i* S	Sn	07 33 17.1	-1.3
BUKP	**Musuan**	**1.87**	**216**	*e*P	Pn	07 33 13.5	+1.5
BUKP				*e*S	Sn	07 33 35.6	+0.9

CASC 13 07:35:35.1±1.7,13.81N×93.48W,h78km±125km,MD4.3, mb4.5(NEIC)
ISCJB 13 07:35:38.8±0.3,14.54N±0.04×93.06W±0.03,h33km, mb4.5/62,MS5.1/3,Error ellipse: s-maj=6.8km s-min=2.9km az=34.2
MEX 13 07:35:41.5±1.1,14.54N×93.48W,h14km±26km,MD4.6
NEIC 13 07:35:41.5,14.54N×93.48W,h14km,mb4.5/53, MD4.6(MEX),After MEX.
IDC 13 07:35:43.5±2.7,14.53N×92.92W,h73km±22km,mb4.1/20, mb1 4.2/23,mb1mx4.1/32,mbtmp4.1/23,MS3.4/1, Ms1 3.4/1,ms1mx3.3/38,Error ellipse: s-maj=31.3km s-min=11.6km az=51.0
BJI 13 07:35:44.6,14.80N×92.90W,h60km,Ms7 5.0/2

ISC 13 07:35:38.9±0.4,14.34N±0.05×93.36W±0.03,h36km,n470, σ1°60/479,mb4.5/62,MS5.0/3,160C-159D,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.36**	**6**	*i* P	**Pn**	**07 35 59.0**	**-2.3**
PCIG				*e*S	**Sn**	**07 36 14.3**	**-3.8**
PCIG		**1.36**	**6**	*i* P	**Pn**	**07 35 59.0**	**-2.3**
PCIG				*e*S	**Sn**	**07 36 14.3**	**-3.8**
JAT	**Jato**	**1.67**	**91**↑	*e*P	**Pn**	**07 36 05.9**	**+0.3**
CCIG	**Comitan**	**2.26**	**31**	*e*P	**Pn**	**07 36 14.6**	**+0.7**
CCIG				*e*S	**Sn**	**07 36 39.4**	**-1.3**
CCIG	**Comitan**	**2.26**	**31**	*e*P	**Pn**	**07 36 14.6**	**+0.7**
CCIG				*e*S	**Sn**	**07 36 39.4**	**-1.3**
TGIG		**2.43**	**5**	*e*P	**Pn**	**07 36 16.3**	**+0.1**
TGIG				*i* S	**Sn**	**07 36 41.9**	**-2.8**
TGIG		**2.43**	**5**	*e*P	**Pn**	**07 36 16.3**	**+0.1**
TGIG				*i* S	**Sn**	**07 36 41.9**	**-2.8**
FUG	**Fuego 3**	**2.44**	**87**	*e*P	**Pn**	**07 36 16.4**	**0.0**
PCG	**Pacaya**	**2.67**	**89**	*e*P	**Pn**	**07 36 19.6**	**0.0**
APG	**El Apazote**	**2.88**	**76**	P	**Pn**	**07 36 21.5**	**-1.0**
APG				S	**Sn**	**07 36 58.0**	**+2.0**
APG	**El Apazote**	**2.88**	**76**	P	**Pn**	**07 36 21.5**	**-1.0**
	91nm,0.3s,baz=249,slow=6.7,SNR=548						
APG				S	**Sn**	**07 36 58.0**	**+2.0**
	102nm,0.3s,baz=276,slow=17,SNR=7.4						
APG				LR	LR	07 37 10.0	
	comp=Z,679nm,18.6s,baz=261,slow=36						
NBG	**Las Nubes**	**2.93**	**85**	*e*P	**Pn**	**07 36 24.1**	**+0.9**
HUIG	**Huatulco**	**3.01**	**298**	*e*P	**Pn**	**07 36 22.7**	**-1.3**
HUIG				*i* S	**Sn**	**07 36 56.0**	**-2.9**
HUIG	**Huatulco**	**3.01**	**298**	*e*P	**Pn**	**07 36 22.7**	**-1.3**
HUIG				*i* S	**Sn**	**07 36 56.0**	**-2.9**
RBDL	**Robledal**	**3.57**	**93**	*e*P	**Pn**	**07 36 30.7**	**-1.2**
RBDL				⇑*e*S	**Sn**	**07 37 14.9**	**+1.9**
MRL	**Marmol**	**3.62**	**78**⇓	*e*P	**Pn**	**07 36 33.3**	**+0.6**
RTR	**El Retiro**	**3.63**	**97**	*e*P	**Pn**	**07 36 31.7**	**-1.1**
SBLS	**San Blas**	**3.66**	**97**	*e*P	**Pn**	**07 36 31.7**	**-1.5**
SNJE	**San Jose**	**3.68**	**97**	*e*P	**Pn**	**07 36 32.0**	**-1.3**
BOQS	**Boqueron**	**4.01**	**98**	*e*P	**Pn**	**07 36 35.9**	**-2.1**
SNET	**Serv Nac Est T**	**4.06**	**99**	*e*P	**Pn**	**07 36 35.5**	**-3.1**
LFU	**La Fuente**	**4.17**	**98**	*e*P	**Pn**	**07 36 38.7**	**-1.3**
VHO	**Vista Hermosa**	**4.23**	**310**	*e*P	**Pn**	**07 36 41.1**	**0.0**
VHO				*e*S	**Sn**	**07 37 26.8**	**-2.5**
VHO	**Vista Hermosa**	**4.23**	**310**	*e*P	**Pn**	**07 36 41.1**	**0.0**
VHO				*e*S	**Sn**	**07 37 26.8**	**-2.5**
LBRS	**Las Brisas**	**4.24**	**98**	*e*P	**Pn**	**07 36 38.2**	**-2.7**
LBRS				*e*S	**Sn**	**07 37 28.1**	**-1.1**
LFRS	**El Faro**	**4.24**	**99**	*e*P	**Pn**	**07 36 39.2**	**-1.8**
PNIG	**Pinotepa**	**5.03**	**295**	*e*P	**Pn**	**07 36 51.9**	**+0.1**
PNIG				*i* S	**Sn**	**07 37 47.0**	**-1.7**
PNIG	**Pinotepa**	**5.03**	**295**	*e*P	**Pn**	**07 36 51.9**	**+0.1**
PNIG				*i* S	**Sn**	**07 37 47.0**	**-1.7**
TGUH	**Tegucigalpa,Un**	**5.91**	**92**	*e*Pn	**Pn**	**07 37 03.3**	**-0.7**
TEIG	**Tepich**	**7.61**	**39**	*e*Pn	**Pn**	**07 37 26.0**	**-1.2**
JTS	**JuntasAbangare**	**9.15**	**115**	*e*Pn	**Pn**	**07 37 50.2**	**+1.7**
JTS				S	Sn	07 39 41.5	+11
JTS	**JuntasAbangare**	**9.15**	**115**	P	**Pn**	**07 37 49.8**	**+1.4**
	1.3nm,0.3s,baz=310,slow=22,SNR=6.9						
JTS				S	Sn	07 39 41.5	+11
	0.5nm,0.3s,baz=144,slow=22,SNR=1.7						
732A	**Laxson Ranch,**	**15.57**	**338**	⇓P	**Pn**	**07 39 17.4**	**+1.7**
	baz=15,SNR=17						
HKT	**Hockley**	**15.70**	**352**	*e*P	**Pn**	**07 39 16.7**	**-0.6**
	65nm,1.7s						
632A	**Uvalde**	**16.22**	**340**	⇓P	**Pn**	**07 39 25.0**	**+1.0**
	baz=16,SNR=12						
631A	**Perdido Creek**	**16.41**	**337**	⇑P	**P**	**07 39 28.0**	**-1.0**
	baz=16						
532A	**Rocksprings**	**16.83**	**340**	⇓P	**P**	**07 39 33.5**	**-0.1**
	baz=17,SNR=20						
531A	**Rocksprings**	**17.08**	**338**	⇑P	**P**	**07 39 36.7**	**+0.2**
	baz=17,SNR=35						
JCT	**Junction City**	**17.12**	**341**	*e*P	**P**	**07 39 36.3**	**-0.6**
	19nm,0.8s						
JCT	**Junction City**	**17.12**	**341**	⇑P	**P**	**07 39 36.3**	**-0.6**
	baz=17,SNR=9.2						
530A	**J-C Ranch, Com**	**17.36**	**336**	⇓P	**P**	**07 39 40.2**	**+0.6**
	baz=17,SNR=15						
628A	**Black Gap, Mar**	**17.46**	**331**	⇑P	**P**	**07 39 42.1**	**+1.5**
	baz=17,SNR=15						
432A	**Menard**	**17.48**	**341**	⇓P	**P**	**07 39 41.3**	**+0.4**
	baz=17,SNR=11						
431A	**Sonora**	**17.58**	**339**	⇑P	**P**	**07 39 42.2**	**+0.3**
	baz=17,SNR=19						
627A	**Terlingua Ranc**	**17.67**	**330**	⇑P	**P**	**07 39 44.7**	**+1.7**
	baz=18,SNR=25						
529A	**Stev Forest Ra**	**17.70**	**334**	⇑P	**P**	**07 39 44.9**	**+1.6**
	baz=18,SNR=49						
TXAR	**Lajitas Array**	**17.70**	**329**	P	**P**	**07 39 44.9**	**+

	baz=20,SNR=18						
324A	**Moseley Ranch,** baz=20,SNR=16	20.33	329	⇓P	Pn	07 40 14.2	-0.2
Y32A	**R-V Farms, Ver** baz=20,SNR=18	20.34	345	⇓P	P	07 40 12.9	+0.8
OTAV	**Otavalo** 6.9nm,1.1s	20.35	132	*eP*	Pn	07 40 18.5	+3.4
127A	**Arkansas Junct** baz=20,SNR=24	20.40	335	⇑P	Pn	07 40 14.2	-0.9
GDL2	**Guadalupe Moun** 26nm,0.9s	20.42	332	*eP*	Pn	07 40 16.6	+1.2
MNTX	**Cornudas Mount** 13nm,0.7s	20.48	330	*eP*	Pn	07 40 16.0	0.0
Y31A	**Rekieta Farm,** baz=20,SNR=23	20.51	343	⇓P	P	07 40 14.6	+0.7
225A	**Deer Hill, Car** baz=20,SNR=22	20.56	331	⇑P	Pn	07 40 17.0	-0.1
Z28A	**Tucker Farm, M** baz=20,SNR=37	20.57	338	⇓P	Pn	07 40 16.0	-1.1
Y30A	**Stafford Cattl** baz=20,SNR=32	20.61	342	⇑P	P	07 40 16.2	+1.0
126A	**Clayton Basin,** baz=20,SNR=26	20.65	334	⇓P	Pn	07 40 17.4	-0.7
Y29A	**Porterfield Fa** baz=21,SNR=28	20.84	340	⇓P	P	07 40 18.4	+0.8
224A	**Cornudas Mount** baz=21,SNR=16	20.86	330	⇓P	Pn	07 40 19.6	-1.0
WMOK	**Wichita Mounta** 8.0nm,0.8s	20.89	347	*eP*	P	07 40 16.9	-1.2
Z27A	**Tatum** baz=21,SNR=83	20.90	336	⇑P	P	07 40 19.6	+1.2
125A	**Gardner Draw,** baz=21,SNR=26	20.94	332	⇓P	Pn	07 40 20.6	-0.8
ROSC	**El Rosal**	20.98	115	*eP*	Pn	07 40 22.9	+0.5
ROSC	**El Rosal** 17nm,0.8s,baz=109,slow=2.9,SNR=17	20.98	115	P	Pn	07 40 21.0	-1.3
X31A	**McDonald Ranch** baz=21,SNR=35	21.07	345	⇑P	P	07 40 20.4	+0.4
Y28A	**McKinney Farm,** baz=21,SNR=57	21.08	339	⇓P	P	07 40 21.2	+0.9
X30A	**Coker Ranch, T** baz=21,SNR=35	21.14	343	⇑P	P	07 40 21.5	+0.8
Z26A	**Caprock** baz=21,SNR=50	21.17	335	⇓P	P	07 40 22.5	+1.3
MSTX	**Muleshoe**	21.32	338	*eP*	P	07 40 23.5	+0.7
MSTX	**Muleshoe** baz=21,SNR=9.4	21.32	338	⇓P	P	07 40 23.5	+0.7
124A	**Stringfield Ra** baz=21,SNR=23	21.34	331	⇑P	P	07 40 25.0	+1.8
X29A	**Tulia** baz=21	21.39	341	⇑P	P	07 40 23.7	+0.2
Y27A	**Causey** baz=21,SNR=24	21.39	337	⇓P	P	07 40 24.1	+0.5
Z25A	**Roswell** baz=21,SNR=15	21.49	333	⇓P	P	07 40 26.4	+1.7
W31A	**Holland Ranch,** baz=21,SNR=12	21.59	345	⇑P	P	07 40 26.5	+1.0
TUL1	**Tulsa**	21.59	355	*eP*	P	07 40 26.3	+0.8
TUL1	**Tulsa** baz=22	21.59	355	⇓P	P	07 40 25.1	-0.4
X28A	**Dimmitt** baz=22	21.62	340	⇑P	P	07 40 26.7	+0.7
123A	**Bell Site, Whi** baz=22,SNR=7.5	21.68	329	⇑P	P	07 40 28.5	+1.9
Y26A	**Elida** baz=22,SNR=11	21.68	336	⇓P	P	07 40 28.3	+1.6
222A	**Williams Famil** baz=22,SNR=19	21.69	327	⇑P	P	07 40 28.8	+2.0
W30A	**Crocket Farms** baz=22	21.74	344	⇓P	P	07 40 28.3	+1.0
Z24A	**Sheeppen Canyo** baz=22,SNR=48	21.82	332	⇓P	P	07 40 30.8	+2.5
SWET	**Sewanee** 12nm,0.7s	21.84	17	*eP*	P	07 40 27.5	-0.7
320A	**Kipp Ranch, An** baz=22,SNR=9.6	21.90	323	⇑P	P	07 40 32.0	+2.9
221A	**Mesquite Ranch** baz=22,SNR=7.8	21.98	326	⇑P	P	07 40 32.9	+3.0
W29A	**Amraillo** baz=22,SNR=18	22.00	342	⇑P	P	07 40 30.3	+0.3
Y25A	**Mesa, Roswell** baz=22,SNR=33	22.03	334	⇑P	P	07 40 32.0	+1.6
X27A	**F and S Farms,** baz=22,SNR=37	22.05	338	⇓P	P	07 40 30.9	+0.3
122A	**Conniff Cattle** baz=22	22.10	328	⇑P	P	07 40 33.3	+2.1
Z23A	**Rita Site, Whi** baz=22,SNR=33	22.17	330	⇑P	P	07 40 34.1	+2.1
X26A	**CR and CF Fran** baz=22,SNR=18	22.23	337	⇓P	P	07 40 33.6	+1.0
WVT	**Waverly** 12nm,0.9s	22.26	12	*eP*	P	07 40 31.3	-1.4
220A	**Playas Peak, P** baz=22,SNR=18	22.32	324	⇓P	P	07 40 36.0	+2.5
V30A	**Spur Ranch, Mi** baz=22	22.32	344	⇓P	P	07 40 34.9	+1.4
Y24A	**Capitan** baz=22,SNR=34	22.36	333	⇑P	P	07 40 35.8	+1.7
319A	**Douglas** baz=22	22.37	322	⇑P	P	07 40 36.6	+2.5
121A	**Cookes Peak, D** baz=22,SNR=24	22.38	326	⇓P	P	07 40 36.9	+2.6
W27A	**Bowe Ranch, En** baz=22,SNR=24	22.41	339	⇓P	P	07 40 35.5	+1.0
PARMO	**Parma**	22.46	8	*eP*	P	07 40 35.3	+0.4
Z22A	**Elephant Butte** baz=22,SNR=16	22.52	329	⇓P	P	07 40 38.0	+2.2
X25A	**Clemmons Ranch** baz=22,SNR=14	22.54	335	⇑P	P	07 40 37.2	+1.3
Y23A	**Lovelace Mesa,** baz=22,SNR=22	22.64	332	⇓P	P	07 40 39.5	+2.5
V29A	**Stinnett** baz=22	22.66	343	⇓P	P	07 40 37.5	+0.4
W26A	**Owens Ranch, T** baz=22	22.68	337	⇓P	P	07 40 38.2	+0.8
U31A	**Nine Bar Ranch** baz=23	22.69	346	⇓P	P	07 40 37.4	-0.1
V28A	**Channing** baz=23,SNR=24	22.75	341	⇑P	P	07 40 38.7	+0.6
120A	**U Bar Ranch, L** baz=23,SNR=12	22.85	325	⇑P	P	07 40 42.0	+2.7
X24A	**Lazy VL Ranch,** baz=23,SNR=8.8	22.90	334	⇑P	P	07 40 41.4	+1.6
SDV	**Santo Domingo** 14nm,0.7s	22.91	101	*eP*	P	07 40 39.8	-0.2
TKL	**Tuckaleechee C**	22.91	20	P	P	07 40 37.7	-1.9
TKL	**Tuckaleechee C** 3.0nm,0.8s,baz=164,slow=13,SNR=3.6	22.91	20	P	P	07 40 37.7	-1.9
Z21A	**St. Cloud Mine** baz=23,SNR=9.1	22.93	328	⇓P	P	07 40 42.4	+2.4
U30A	**WK&E Inc. Balk** baz=23,SNR=17	23.04	345	⇑P	P	07 40 42.2	+1.1
W25A	**X Bar L Ranch,** baz=23,SNR=24	23.06	336	⇓P	P	07 40 42.6	+1.2
Y22A	**Socorro** baz=23,SNR=17	23.08	330	⇑P	P	07 40 43.8	+2.2
BNM	**Barren Site** 14nm,0.8s	23.09	331	*eP*	P	07 40 44.0	+2.3
U29A	**Oasis Ranch, S** baz=23	23.13	344	⇑P	P	07 40 42.2	+0.3
Y22D	**IRIS PASSCAL I** baz=23	23.17	330	⇑P	P	07 40 44.8	+2.4
LPM	**Los Pinos Moun**	23.22	331	*eP*	P	07 40 45.0	+1.9
Z20A	**Nine Sixteen R** baz=23,SNR=8.8	23.26	326	⇓P	P	07 40 46.5	+3.1
LENM	**Lemitar**	23.27	330	*eP*	P	07 40 48.2	+4.7
V26A	**Tequesquite Ra** baz=23,SNR=8.5	23.32	338	⇑P	P	07 40 45.5	+1.6
U28A	**Mallet** baz=23,SNR=12	23.34	342	⇑P	P	07 40 44.9	+0.8
T31A	**Randall Ranch,** baz=23	23.35	347	⇑P	P	07 40 44.7	+0.6
KMSC	**Kings Mountain**	23.37	26	*eP*	P	07 40 42.7	-1.6
KMSC				*e*		07 40 58.7	
KMSC	**Kings Mountain** baz=23	23.37	26	⇓P	P	07 40 41.9	-2.4
W24A	**Lazy 6 Ranch,** baz=23,SNR=28	23.44	335	⇓P	P	07 40 46.9	+1.8
Y21A	**Point of Rocks** baz=23,SNR=8.0	23.48	329	⇑P	P	07 40 48.1	+2.5
T30A	**Plains** baz=23,SNR=9.9	23.50	346	⇑P	P	07 40 46.6	+1.0
LAZ	**Ladron** 9.0nm,1.2s	23.54	330	*eP*	P	07 40 48.3	+2.2
X22A	**Bernardo** baz=23	23.56	331	⇑P	P	07 40 48.9	+2.6
U27A	**Thompson Grove** baz=23,SNR=22	23.56	341	⇑P	P	07 40 47.1	+0.9
SIUC	**Southern Illin** 21nm,0.9s	23.57	8	*eP*	P	07 40 46.2	+0.1
V25A	**Rancho No Teng** baz=24,SNR=13	23.67	337	⇑P	P	07 40 49.2	+1.8
ANMO	**Albuquerque** 5.9nm,0.8s	23.67	332	*eP*	P	07 40 48.5	+1.1
ANMO	**Albuquerque** 3.2nm,0.7s,baz=142,slow=12,SNR=18	23.67	332	P	P	07 40 48.9	+1.5
W23A	**Werner Place,** baz=24,SNR=8.7	23.71	333	⇓P	P	07 40 49.8	+2.0
Y20A	**Horse Springs,** baz=24,SNR=20	23.76	328	⇓P	P	07 40 51.0	+2.7
S32A	**Newby Ranch, P** baz=24,SNR=7.7	23.79	349	⇑P	P	07 40 48.9	+0.7
T29A	**Hugoton** baz=24,SNR=17	23.80	344	⇓P	P	07 40 48.9	+0.5
S31A	**Mullinville** baz=24	23.81	348	⇓P	P	07 40 49.4	+0.9
V24A	**Rampart Ranch,** baz=24,SNR=27	23.83	335	⇑P	P	07 40 51.2	+2.2
U26A	**Atchley Ranch,** baz=24,SNR=22	23.84	339	⇑P	P	07 40 50.5	+1.5
X21A	**Alamocita Cree** baz=24,SNR=14	23.89	329	⇑P	P	07 40 51.6	+2.2
TUC	**Tucson** 20nm,1.1s	23.93	321	*eP*	P	07 40 51.8	+2.0
W22A	**Albuquerque** baz=24	23.96	332	⇑P	P	07 40 52.3	+2.2
T28A	**Walsh** baz=24	23.99	343	⇓P	P	07 40 50.5	+0.2
S30A	**Montezuma** baz=24,SNR=5.5	24.05	346	⇓P	P	07 40 51.4	+0.7
U25A	**Circle Dot Ran** baz=24,SNR=15	24.09	338	⇓P	P	07 40 52.6	+1.3
T27A	**Campo** baz=24	24.12	341	⇓P	P	07 40 52.1	+0.7
S29A	**Ulysses** baz=24,SNR=17	24.19	345	⇑P	P	07 40 52.5	+0.4
V23A	**Ortiz Mt. (NFS** baz=24,SNR=21	24.22	334	⇓P	P	07 40 54.5	+2.0
X20A	**Quemado** baz=24,SNR=19	24.32	328	⇓P	P	07 40 56.3	+2.8
SLM	**Saint Louis** 29nm,0.6s	24.36	6	*eP*	P	07 40 51.9	-1.6
S28A	**Manter** baz=24,SNR=9.2	24.37	343	⇑P	P	07 40 53.8	+0.1
R31A	**Burdett** baz=24,SNR=9.5	24.47	348	⇑P	P	07 40 54.7	+0.2
T26A	**Comanche Natio** baz=24,SNR=10.0	24.50	340	⇓P	P	07 40 56.4	+1.3
WCI	**Wyandotte Cave** 12nm,0.8s	24.60	13	*eP*	P	07 40 54.3	-1.5
R30A	**Dighton** baz=24,SNR=17	24.62	347	⇑P	P	07 40 56.5	+0.5
V22A	**San Miguel Ran** baz=24,SNR=5.4	24.68	333	⇓P	P	07 40 58.7	+1.9
U23A	**El Rito** baz=25	24.73	335	⇓P	P	07 40 59.4	+2.3
S27A	**Las Animas** baz=25	24.74	342	⇑P	P	07 40 58.3	+1.1
T25A	**Trinidad** baz=25	24.75	339	⇓P	P	07 40 59.1	+1.8
W20A	**Ramah** baz=25,SNR=10	24.78	329	⇑P	P	07 41 00.2	+2.5
S26A	**Kim** baz=25	24.87	341	⇓P	P	07 41 00.1	+1.9
V21A	**Milan** baz=25,SNR=8.1	24.92	332	⇑P	P	07 41 01.2	+2.3
R29A	**Marienthal** baz=25,SNR=6.9	24.95	345	⇓P	P	07 40 59.9	+0.9
T24B	**San Luis** baz=25,SNR=8.1	25.04	337	⇓P	P	07 41 02.3	+2.3
U22A	**Llaves** baz=25,SNR=8.1	25.05	334	⇑P	P	07 41 02.2	+2.1
R28A	**Tribune** baz=25,SNR=20	25.05	344	⇑P	P	07 41 00.7	+0.9
X18A	**Snowflake** baz=25,SNR=8.9	25.07	326	⇓P	P	07 41 03.0	+2.7
Q31A	**Ellis** baz=25	25.14	349	⇑P	P	07 41 01.1	+0.5
S25A	**Robets Cordova** baz=25,SNR=13	25.22	339	⇑P	P	07 41 03.4	+1.8
T23A	**Casias Ranch,** baz=25,SNR=8.4	25.27	336	⇓P	P	07 41 03.8	+1.7
R27A	**Eads** baz=25,SNR=10.0	25.27	342	⇑P	P	07 41 03.3	+1.4
V20A	**Brimhall** baz=25,SNR=5.7	25.30	330	⇑P	P	07 41 04.5	+2.1
Q29A	**Oakley** baz=25,SNR=13	25.36	346	⇑P	P	07 41 02.9	+0.2
U21A	**Nageezi** baz=25	25.44	332	⇑P	P	07 41 05.8	+2.1
R26A	**Arlington** baz=25,SNR=6.4	25.48	341	⇑P	P	07 41 05.7	+1.8
S24A	**Houchin Ranch,** baz=25,SNR=5.8	25.48	338	⇓P	P	07 41 05.9	+1.8
P32A	**Huiting Farm,** baz=26	25.60	351	⇓P	P	07 41 05.2	+0.4
T22A	**Edith** baz=26	25.61	334	⇑P	P	07 41 07.4	+2.3
R25A	**Fountain Ranch** baz=26,SNR=9.9	25.61	340	⇑P	P	07 41 07.4	+2.3
P31A	**Stockton** baz=26,SNR=5.1	25.63	349	⇓P	P	07 41 06.5	+1.4
SDCO	**Great Sand Dun** 9.5nm,1.1s	25.68	337	*eP*	P	07 41 07.3	+1.4
Q28A	**Sharon Springs** baz=26	25.73	345	⇑P	P	07 41 06.5	+0.5
U20A	**Newcomb** baz=26	25.80	331	⇑P	P	07 41 09.1	+2.3
X16A	**Lo Mia Camp, P** baz=26,SNR=7.7	25.82	324	⇓P	P	07 41 09.4	+2.5
P30A	**Selden** baz=26,SNR=7.5	25.82	348	⇑P	P	07 41 07.4	+0.5
S23A	**Nye Farm, Mont** baz=26,SNR=5.9	25.84	337	⇓P	P	07 41 09.5	+2.2
T21A	**Navajo Lake** baz=26	25.86	333	⇓P	P	07 41 09.9	+2.6
KSCO	**Kaye Shedlock'** baz=26	25.90	343	⇓P	P	07 41 08.8	+1.2
R24A	**Sanders Place,** baz=26,SNR=7.6	25.97	339	⇑P	P	07 41 10.0	+1.6
Z14A	**Wintersburg** baz=26	25.98	320	⇓P	P	07 41 11.0	+2.8
P29A	**Atwood** baz=26,SNR=13	26.03	347	⇓P	P	07 41 09.2	+0.4
Q26A	**Hugo** baz=26	26.07	342	⇑P	P	07 41 10.5	+1.3
P28A	**Saint Francis** baz=26,SNR=5.1	26.20	345	⇑P	P	07 41 10.8	+0.5
R23A	**Moffat** baz=26,SNR=11	26.20	337	⇓P	P	07 41 12.4	+1.9
S22A	**4UR Ranch, Cre** baz=26,SNR=6.7	26.20	335	⇑P	P	07 41 12.2	+1.7
O31A	**Woolen Ranch,** baz=26	26.24	350	⇓P	P	07 41 10.6	0.0
Q25A	**Beaind, Calha** baz=26	26.29	341	⇑P	P	07 41 12.4	+1.1
P27A	**Ficken Ranch,** baz=26	26.39	344	⇑P	P	07 41 12.5	+0.4
O30A	**MW Ranch, Wils** baz=26	26.40	348	⇑P	P	07 41 12.4	+0.3
Y14A	**Wickenburg** baz=26	26.40	321	⇑P	P	07 41 14.0	+1.9
MVCO	**Mesa Verde** 11nm,0.8s	26.47	332	*eP*	P	07 41 15.4	+2.5
MVCO	**Mesa Verde** baz=26,SNR=10	26.47	332	⇓P	P	07 41 14.7	+1.8
WUAZ	**Wupatki** baz=26	26.58	326	⇓P	P	07 41 16.2	+2.3
R22A	**Saguache, Gunn** baz=26,SNR=6.9	26.59	336	⇑P	P	07 41 15.9	+1.8
P26A	**Davis Ranch, A** baz=26	26.61	343	⇑P	P	07 41 14.4	+0.3
O28A	**Krutsinger Ran** baz=27	26.72	346	⇑P	P	07 41 15.7	+0.6
Q22A	**Crested Butte,** baz=27,SNR=7.1	27.20	336	⇓P	P	07 41 21.4	+1.8
R20A	**Redvale** baz=27	27.23	333	⇓P	P	07 41 22.4	+2.7
P23A	**Jefferson** baz=27,SNR=8.2	27.25	339	⇓P	P	07 41 21.9	+1.8
PV01	**Paradox Valley** 1um,1.2s	27.26	333	*eP*	P	07 41 22.5	+2.5
PDMCI	**Parker Dam,Lak** baz=27	27.34	320	⇓P	P	07 41 23.2	+2.7
PV15	**Paradox Valley**	27.40	334	*eP*	P	07 41 24.3	+3.0
Q21A	**Lamborn Mesa,**	27.43	335	⇓P	P	07 41 23.3	+1.8
	baz=27						
SMCO	**Snowmass** 3.9nm,0.9s	27.49	337	*eP*	P	07 41 23.5	+1.2
ISCO	**Idaho Springs** 6.3nm,1.2s	27.55	339	*eP*	P	07 41 23.8	+1.1
ISCO	**Idaho Springs** baz=27	27.55	339	⇓P	P	07 41 23.7	+1.1
N27A	**Anderson Farm,** baz=27,SNR=5.3	27.55	345	⇓P	P	07 41 23.7	+1.2
OGNE	**Ogallala** baz=27	27.56	346	⇑P	P	07 41 23.1	+0.5
O24A	**Longmont** baz=28	27.66	340	⇑P	P	07 41 24.4	+0.9
W13A	**Hualapai Mount** baz=28	27.72	322	⇑P	P	07 41 26.8	+2.6
U15A	**North Rim** baz=28,SNR=5.1	27.75	326	⇑P	P	07 41 27.0	+2.4
N26A	**Koester Ranch,** baz=28	27.76	344	⇑P	P	07 41 25.5	+1.1
BC3	**Big Chuckawall** baz=28	27.77	318	⇑P	P	07 41 27.2	+2.7
P22A	**Eagle** baz=28	27.78	337	⇓P	P	07 41 26.2	+1.6
Q20A	**Ridgley Place,** baz=28	27.83	335	⇓P	P	07 41 27.3	+2.3
IRM	**Iron Mountain** baz=28	27.89	319	⇓P	P	07 41 28.0	+2.5
MONP	**Monument Peak** baz=28	27.95	315	⇑P	P	07 41 28.9	+2.7
P21A	**Newcastle** baz=28	27.98	336	⇓P	P	07 41 27.4	+0.9
O23A	**Lake Granby, G** baz=28	28.02	339	⇓P	P	07 41 28.1	+1.2
O22A	**Kremmling** baz=28	28.20	338	⇑P	P	07 41 29.1	+0.7
N24A	**Carr** baz=28	28.24	341	⇑P	P	07 41 29.5	+0.8
P20A	**De Beque** baz=28	28.33	335	⇑P	P	07 41 31.3	+1.7
BELC	**Belle Mtn. Jos** baz=28	28.33	318	⇑P	P	07 41 32.1	+2.5
PFO	**Pinyon Flat Ob** baz=28	28.40	317	⇑P	P	07 41 33.1	+2.9
GMRC	**Granite Mounta** baz=28	28.61	319	⇑P	P	07 41 34.9	+2.9
N23A	**Red Feather La** baz=28	28.64	340	⇓P	P	07 41 33.4	+1.1
N22A	**Wattenberg Ran** baz=29	28.73	339	⇓P	P	07 41 34.8	+1.6
K30A	**Basset** baz=29	28.74	350	⇑P	P	07 41 33.6	+0.6
M24A	**Cheyenne** baz=29	28.80	342	⇑P	P	07 41 35.1	+1.4
O20A	**White River Ci** baz=29	28.81	336	⇓P	P	07 41 35.3	+1.5
HEC	**Hector,Ludlow** baz=29	29.06	319	⇓P	P	07 41 38.8	+2.8
Q16A	**Castle Valley** baz=29	29.09	331	⇓P	P	07 41 38.7	+2.4
CCUT	**Cedar City** 7.3nm,1.2s	29.16	326	*eP*	P	07 41 40.2	+3.2
L25A	**Engebretsen Ra** baz=29	29.19	344	⇓P	P	07 41 38.1	+1.0
O19A	**Miners Draw (B** baz=29	29.31	335	⇓P	P	07 41 40.2	+2.0
J30A	**Dallas** baz=29	29.36	351	⇑P	P	07 41 38.1	-0.3
ARUT	**Antelope Range** 494nm,1.5s	29.38	326	*eP*	P	07 41 42.1	+3.2
N20A	**Spence Gulch,** baz=29,SNR=6.1	29.42	337	⇓P	P	07 41 41.0	+1.8
ECSD	**EROS Data Cent** 4.9nm,0.8s	29.42	355	*eP*	P	07 41 37.6	-1.3
K25A	**Mack Ranch, Ha** baz=30	29.59	344	⇑P	P	07 41 41.8	+1.1
L23A	**Garrett** baz=30,SNR=6.5	29.66	341	⇑P	P	07 41 42.4	+1.0
J28A	**Allard Ranch,** baz=30	29.76	348	⇑P	P	07 41 42.8	+0.7
L22A	**Ellis Ranch, M** baz=30	29.82	340	⇑P	P	07 41 43.9	+1.1
J26A	**Sides Ranch, S** baz=30,SNR=5.2	30.05	346	⇓P	P	07 41 45.6	+0.9
I29A	**Vivian Onida** baz=30	30.17	350	⇓P	P	07 41 45.9	+0.3
EDW2	**Edwards Air Fo** baz=30	30.18	317	⇑P	P	07 41 48.5	+2.7
K23A	**Bowen Ranch, D** baz=30	30.22	342	⇑P	P	07 41 47.0	+0.8
K22A	**Casper** baz=30	30.41	341	⇓P	P	07 41 49.4	+1.5
I27A	**Quinn** baz=30	30.54	348	⇑P	P	07 41 49.4	+0.4
MPMC	**Manual Prospec** baz=30	30.57	319	⇓P	P	07 41 51.7	+2.3
K21A	**Alcova** baz=30	30.63	340	⇓P	P	07 41 50.8	+0.9
H29A	**Onida** baz=31	30.74	350	⇑P	P	07 41 50.6	0.0
SPMN	**St. Paul**	30.79	1	*eP*	P	07 41 49.5	-1.5
I25A	**Rochford** baz=31,SNR=5.4	30.88	345	⇓P	P	07 41 52.8	+0.7
M17A	**Scullys Gap (B** baz=31	30.93	334	⇑P	P	07 41 54.1	+1.5
R11A	**Troy Canyon, C**	30.96	325	*eP*	P	07 41 55.1	+2.3
R11A	**Troy Canyon, C** baz=31	30.96	325	⇑P	P	07 41 55.2	+2.3
L18A	**Fontenelle, Gr** baz=31	31.05	335	⇓P	P	07 41 54.8	+1.1
RSSD	**Black Hills** 21nm,0.8s	31.05	345	*eP*	P	07 41 54.7	+1.1
G30A	**Faulkton** baz=31,SNR=5.1	31.08	352	⇑P	P	07 41 52.7	-0.9
J22A	**Midwest** baz=31	31.08	341	⇓P	P	07 41 54.6	+0.8
SBC	**Santa Barbara** baz=31	31.09	315	⇑P	P	07 41 57.0	+3.2
J21A	**Lysite** baz=31	31.33	340	⇓P	P	07 41 57.5	+1.4
PKM	**Peak Mountain** baz=31	31.41	315	⇓P	P	07 41 59.4	+2.6
H25A	**Fruitdale** baz=31	31.41	346	⇑P	P	07 41 57.5	+0.9
VES	**Vestal, Richgr** baz=31	31.46	318	⇑P	P	07 42 00.3	+3.2
I22A	**9 Mile Ranch,** baz=31	31.52	342	⇑P	P	07 41 59.1	+1.4
J20A	**Shoshoni** baz=31	31.55	339	⇓P	P	07 41 59.0	+1.0
PDAR	**Pinedale Array**	31.58	337	P	P	07 41 58.9	+0.6
PDAR				PcP	PcP	07 44 49.8	-0.5
PDAR	**Pinedale Array** 1.4nm,0.7s,baz=135,slow=9.3,SNR=10	31.58	337	P	P	07 41 58.9	+0.6
PDAR	0.4nm,0.6s,baz=143,slow=3.2,SNR=3.3			PcP	PcP	07 44 49.8	-0.5
I21A	**Big Trails, Te** baz=32	31.70	341	⇓P	P	07 42 00.1	+0.9
H24A	**Dirks Ranch, A** baz=32,SNR=11	31.76	345	⇑P	P	07 42 00.9	+1.1
G27A	**Dupree** baz=32	31.78	348	⇓P	P	07 42 00.0	+0.2
J19A	**Crowheart** baz=32	31.82	338	⇑P	P	07 42 01.3	+0.9
F29A	**Eureka** baz=32	31.86	351	⇑P	P	07 42 00.3	-0.2
G25A	**Newell** baz=32	31.91	346	⇑P	P	07 42 01.2	+0.3
I20A	**Worland** baz=32,SNR=8.2	32.09	340	⇑P	P	07 42 04.2	+1.5
HVU	**Hansel Valley** 5.9nm,0.8s	32.10	332	*eP*	P	07 42 04.6	+1.8
H22A	**Clearmont** baz=32	32.12	342	⇓P	P	07 42 04.4	+1.5
G24A	**Alzada** baz=32	32.27	345	⇓P	P	07 42 05.0	+0.8
H21A	**Big Horn, Sher** baz=32,SNR=8.8	32.35	342	⇑P	P	07 42 05.8	+0.8
G23A	**Biddle** baz=32,SNR=8.3	32.41	344	⇓P	P	07 42 06.0	+0.7
I19A	**Meeteetse** baz=32,SNR=6.6	32.47	339	⇓P	P	07 42 07.8	+1.7
ELK	**Elko** 3.3nm,0.8s	32.50	328	*eP*	P	07 42 08.7	+2.3
H20A	**Greybull** baz=32,SNR=8.3	32.53	340	⇑P	P	07 42 07.5	+1.1
REDW	**Red Top Meadow** 10nm,0.8s	32.58	336	*eP*	P	07 42 08.8	+1.7
NVAR	**Mina Array Bea**	32.58	322	P	P	07 42 09.9	+2.7

NVAR			PcP	PcP	07 44 53.9	+0.8
NVAR	**Mina Array Bea**	**32.58 322**	P	**P**	**07 42 09.9**	**+2.7**
	5.9nm,0.7s,baz=136,slow=8.7,SNR=42					
NVAR			PcP	PcP	07 44 53.9	+0.8
	1.2nm,0.7s,baz=150,slow=3.0,SNR=4.9					
F25A	**Bowman**	**32.61 347**	⇓P	**P**	**07 42 07.5**	**+0.3**
	baz=32					
SNOW	**Snow King Moun**	**32.63 336**	*e*P	**P**	**07 42 09.5**	**+1.9**
	42nm,1.0s					
G22A	**Birney**	**32.67 343**	⇑P	**P**	**07 42 08.2**	**+0.5**
	baz=32,SNR=8.6					
LOHW	**Long Hollow**	**32.70 337**	*e*P	**P**	**07 42 09.8**	**+1.8**
	7.3nm,0.8s					
E28A	**Huff**	**32.72 351**	⇓P	**P**	**07 42 07.7**	**-0.3**
	baz=33,SNR=6.2					
E27A	**Carson**	**32.72 349**	⇓P	**P**	**07 42 08.3**	**+0.3**
	baz=33					
TPAW	**Teton Pass**	**32.73 336**	*e*P	**P**	**07 42 09.9**	**+1.5**
	28nm,1.4s					
RRI2	**Red Ridge**	**32.76 335**	*e*P	**P**	**07 42 10.9**	**+2.2**
	6.3nm,0.8s					
F24A	**Ekalaka**	**32.77 346**	⇑P	**P**	**07 42 09.0**	**+0.5**
	baz=33					
MOOW	**Moose Ponds**	**32.87 336**	*e*P	**P**	**07 42 10.8**	**+1.2**
	4.1nm,0.8s					
F23A	**Volborg**	**32.89 344**	⇑P	**P**	**07 42 10.2**	**+0.7**
	baz=33,SNR=6.0					
E26A	**Carlson Angus**	**32.93 348**	⇓P	**P**	**07 42 10.2**	**+0.4**
	baz=33					
G21A	**Lodge Grass**	**32.94 342**	⇑P	**P**	**07 42 10.8**	**+0.7**
	baz=33					
I17A	**Pilgrim Ck.**	**32.95 337**	⇓P	**P**	**07 42 11.9**	**+1.6**
	baz=33					
D30A	**Buchanan**	**32.98 353**	⇑P	**P**	**07 42 09.5**	**-0.7**
	baz=33					
H19A	**Powell**	**33.02 339**	⇓P	**P**	**07 42 12.5**	**+1.7**
	baz=33,SNR=6.4					
IMW	**Indian Meadow**	**33.07 336**	*e*P	**P**	**07 42 12.6**	**+1.2**
	6.2nm,0.8s					
FLWY	**Flagg Ranch**	**33.13 337**	*e*P	**P**	**07 42 13.5**	**+1.6**
	21nm,1.4s					
E25A	**Miller Ranch,**	**33.15 347**	⇑P	**P**	**07 42 12.2**	**+0.4**
	baz=33					
G20A	**Bridger**	**33.25 341**	⇓P	**P**	**07 42 13.8**	**+1.0**
	baz=33					
H18A	**Shoshone NF, C**	**33.26 339**	⇓P	**P**	**07 42 14.2**	**+1.2**
	baz=33,SNR=26					
D28A	**Regan**	**33.30 351**	⇑P	**P**	**07 42 13.1**	**0.0**
	baz=33					
E24A	**Baker**	**33.41 346**	⇓P	**P**	**07 42 14.8**	**+0.8**
	baz=33,SNR=5.1					
D26A	**Manning**	**33.46 349**	⇓P	**P**	**07 42 14.1**	**-0.4**
	baz=33					
C30A	**Mose, Pekin**	**33.53 354**	⇓P	**P**	**07 42 14.3**	**-0.8**
	baz=33					
E23A	**Ismay**	**33.59 345**	⇓P	**P**	**07 42 15.9**	**+0.3**
	baz=34					
E22A	**Miles City**	**33.70 344**	⇑P	**P**	**07 42 17.0**	**+0.4**
	baz=34,SNR=7.0					
F20A	**Billings**	**33.75 341**	⇑P	**P**	**07 42 18.2**	**+1.1**
	baz=34					
D25A	**Fairfield**	**33.75 348**	⇓P	**P**	**07 42 17.7**	**+0.6**
	baz=34					
MDND	**Maddock**	**33.81 352**	*e*P	**P**	**07 42 16.1**	**-1.4**
MDND	**Maddock**	**33.81 352**	⇓P	**P**	**07 42 17.3**	**-0.2**
	baz=34					
AGMN	**Agassiz Nation**	**33.92 357**	*e*P	**P**	**07 42 16.8**	**-1.6**
	11nm,0.9s					
D24A	**Glendive**	**33.93 347**	⇓P	**P**	**07 42 19.4**	**+0.7**
	baz=34					
QLMT	**Earthquake Lak**	**34.04 337**	*e*P	**P**	**07 42 22.7**	**+2.9**
F19A	**Roth Farm, Mol**	**34.05 340**	⇓P	**P**	**07 42 20.6**	**+0.9**
	baz=34					
E21A	**Keefer Ranch,**	**34.10 343**	⇑P	**P**	**07 42 20.9**	**+0.8**
	baz=34					
D23A	**Lindsay**	**34.19 346**	⇓P	**P**	**07 42 21.7**	**+0.8**
	baz=34					
GCMT	**Greycliff**	**34.23 340**	*e*P	**P**	**07 42 22.0**	**+0.6**
	4.0nm,0.7s					
HLID	**Hailey**	**34.25 332**	*e*P	**P**	**07 42 23.1**	**+1.5**
	3.9nm,0.8s					
HLID	**Hailey**	**34.25 332**	⇑P	**P**	**07 42 23.5**	**+1.9**
	baz=34,SNR=11					
B30A	**Myrvik Farm, E**	**34.26 354**	⇑P	**P**	**07 42 21.0**	**-0.3**
	baz=34					
C24A	**Savage**	**34.35 347**	⇑P	**P**	**07 42 22.6**	**+0.4**
	baz=34					
E20A	**Meyer Farm, Mu**	**34.37 342**	⇓P	**P**	**07 42 23.3**	**+0.8**
	baz=34					
D22A	**Cohagen**	**34.42 344**	⇓P	**P**	**07 42 23.8**	**+1.0**
	baz=34,SNR=13					
B28A	**Dugan Ranch, T**	**34.50 352**	⇑P	**P**	**07 42 23.6**	**+0.1**
	baz=34					
E19A	**Rath Farm, Rou**	**34.54 341**	⇓P	**P**	**07 42 24.9**	**+1.0**
	baz=34					
D21A	**La Casta Ranch**	**34.56 343**	⇓P	**P**	**07 42 25.0**	**+1.0**
	baz=34					
MCMT	**McKenzie Canyo**	**34.60 335**	*e*P	**P**	**07 42 27.2**	**+2.5**
	5.4nm,0.8s					
A30A	**Hoffart Farm,**	**34.74 354**	⇓P	**P**	**07 42 24.9**	**-0.6**
	baz=35					
C23A	**Lambert**	**34.78 346**	⇑P	**P**	**07 42 25.8**	**-0.1**
	baz=35					
A29A	**Manning Farm,**	**34.82 353**	⇑P	**P**	**07 42 26.0**	**-0.2**
	baz=35,SNR=6.6					
C22A	**Vida**	**34.89 345**	⇓P	**P**	**07 42 27.7**	**+0.7**
	baz=35					
D20A	**Manuel Ranch,**	**34.91 342**	⇓P	**P**	**07 42 27.6**	**+0.6**
	baz=35					
A28A	**Rude Farm, Bot**	**34.94 352**	⇑P	**P**	**07 42 27.1**	**-0.2**
	baz=35					
DLMT	**Dillon**	**34.94 336**	*e*P	**P**	**07 42 29.4**	**+1.9**
	4.7nm,0.6s					
DGMT	**Dagmar**	**35.19 347**	⇑P	**P**	**07 42 30.1**	**+0.7**
	baz=35					
A26A	**Wade Farm, Ken**	**35.19 350**	⇓P	**P**	**07 42 29.4**	**0.0**
	baz=35,SNR=6.0					
D19A	**Cripps Ranch,**	**35.20 342**	⇑P	**P**	**07 42 30.5**	**+1.0**
	baz=35,SNR=6.0					
LRM	**Limekiln Ridge**	**35.27 337**	*e*P	**P**	**07 42 32.2**	**+1.8**
C21A	**Desert Coulee**	**35.28 344**	⇓P	**P**	**07 42 31.3**	**+1.1**
	baz=35					
B23A	**Brockton**	**35.36 347**	⇓P	**P**	**07 42 32.0**	**+1.1**
	baz=35					
A25A	**Svangstu Ranch**	**35.42 349**	⇑P	**P**	**07 42 32.2**	**+0.8**
	baz=35					
C20A	**Veseth Ranch,**	**35.43 343**	⇑P	**P**	**07 42 32.7**	**+1.1**
	baz=35					
B22A	**Reddig Ranch S**	**35.44 345**	⇓P	**P**	**07 42 32.4**	**+0.8**
	baz=35					
C19A	**Slack Wire Ran**	**35.76 342**	⇑P	**P**	**07 42 35.7**	**+1.3**
	baz=36					
ULM	**Lac du Bonnet**	**35.87 357**	P	**P**	**07 42 33.0**	**-2.2**
ULM	**Lac du Bonnet**	**35.87 357**	P	**P**	**07 42 33.0**	**-2.2**
	3.9nm,0.9s,baz=203,slow=7.8,SNR=3.6					
MOD	**Modoc**	**36.02 325**	*e*P	**P**	**07 42 38.8**	**+1.9**
	10nm,0.6s					
J08A	**Circle Bar Ran**	**36.05 328**	*e*P	**P**	**07 42 39.1**	**+2.1**
	16nm,0.7s					
B20A	**Solberg Farm,**	**36.09 343**	⇓P	**P**	**07 42 38.5**	**+1.2**
	baz=36					
EGMT	**Eagleton**	**36.23 341**	*e*P	**P**	**07 42 40.1**	**+1.6**
	30nm,1.4s					
EGMT	**Eagleton**	**36.23 341**	⇓P	**P**	**07 42 39.7**	**+1.2**
	baz=36					
B19A	**Brinkman Farms**	**36.37 342**	⇑P	**P**	**07 42 40.4**	**+0.8**
	baz=36,SNR=7.5					
CHMT	**Chamberlain Mo**	**36.48 337**	*e*P	**P**	**07 42 41.6**	**+0.8**
	3.6nm,0.7s					
MSO	**Missoula**	**36.68 336**	*e*P	**P**	**07 42 43.3**	**+1.0**
	6.6nm,0.9s					
MSO	**Missoula**	**36.68 336**	⇓P	**P**	**07 42 43.4**	**+1.1**
	baz=36,SNR=6.6					
A19A	**Klindworth Far**	**36.74 343**	⇓P	**P**	**07 42 43.9**	**+1.1**
	baz=37					
F10A	**Beach Ranch, E**	**37.39 332**	*e*P	**P**	**07 42 49.3**	**+1.0**
	15nm,0.8s					
E09A	**Wood Farm, Sta**	**38.21 332**	*e*P	**P**	**07 42 56.6**	**+1.5**
	80nm,2.6s					
NEW	**Newport**	**39.12 335**	*e*P	**P**	**07 43 05.0**	**+2.2**
	7.8nm,1.2s					
NEW	**Newport**	**39.12 335**	P	**P**	**07 43 03.9**	**+1.1**
	1.9nm,0.7s,baz=141,slow=13,SNR=4.7					
C09A	**Chrisman Ranch**	**39.24 333**	*e*P	**P**	**07 43 05.5**	**+1.7**
	5.9nm,0.7s					
LPAZ	**La Paz**	**39.34 140**	P	**P**	**07 43 05.3**	**-0.3**
LPAZ	**La Paz**	**39.34 140**	P	**P**	**07 43 05.3**	**-0.3**
	0.8nm,0.7s,baz=299,slow=9.9,SNR=5.2					

LON	**Longmire**	**40.12 329**	*e*P	**P**	**07 43 12.4**	**+1.2**
	4.5nm,0.8s					
EDM	**Edmonton**	**41.89 342**	*e*P	**P**	**07 43 26.0**	**+0.3**
SIV	**San Ignacio**	**43.89 132**	P	**P**	**07 43 40.8**	**-1.5**
SIV	**San Ignacio**	**43.89 132**	P	**P**	**07 43 40.8**	**-1.5**
	2.7nm,0.6s,baz=312,slow=8.4,SNR=11					
YKA	**Yellowknife Ar**	**50.40 347**	P	**P**	**07 44 32.6**	**+0.3**
YKA	**Yellowknife Ar**	**50.40 347**	P	**P**	**07 44 32.6**	**+0.3**
	12nm,0.7s,baz=153,slow=7.3,SNR=14					
DLBC	**Dease Lake**	**51.81 336**	*e*P	**P**	**07 44 45.8**	**+2.7**
DLBC	**Dease Lake**	**51.81 336**	P	**P**	**07 44 45.0**	**+1.9**
	4.0nm,0.8s,baz=155,slow=12,SNR=6.1					
BDFB	**Brasilia**	**53.82 122**	P	**P**	**07 44 57.8**	**-0.9**
BDFB	**Brasilia**	**53.82 122**	P	**P**	**07 44 57.8**	**-0.9**
	4.3nm,0.8s,baz=293,slow=5.4,SNR=7.0					
INK	**Inuvik**	**59.74 344**	*e*P	**P**	**07 45 40.1**	**+0.4**
	6.7nm,0.8s					
INK	**Inuvik**	**59.74 344**	P	**P**	**07 45 39.9**	**+0.2**
	8.1nm,0.7s,baz=146,slow=6.7,SNR=17					
RES	**Resolute Bay**	**60.34 360**	*e*P	**P**	**07 45 43.3**	**-0.5**
	8.1nm,0.6s					
RES	**Resolute Bay**	**60.34 360**	P	**P**	**07 45 42.3**	**-1.5**
	11nm,0.8s,baz=172,slow=7.2,SNR=6.7					
SPITS	**Spitsbergen Ar**	**80.02 11**	P	**P**	**07 47 43.9**	**-0.2**
SPITS	**Spitsbergen Ar**	**80.02 11**	P	**P**	**07 47 43.9**	**-0.2**
	9.1nm,1.0s,baz=280,slow=0.9,SNR=5.4					
ESDC	**Sonseca Array**	**80.54 51**	P	**P**	**07 47 45.3**	**-2.4**
ESDC	**Sonseca Array**	**80.54 51**	P	**P**	**07 47 45.3**	**-2.4**
	1.4nm,0.5s,baz=292,slow=5.6,SNR=8.1					
NB2	**NORSAR Subarra**	**84.47 28**	P	**P**	**07 48 08.0**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=290,slow=5.3					
NOA	**NORSAR Array B**	**84.47 28**	P	**P**	**07 48 07.8**	**0.0**
NOA	**NORSAR Array B**	**84.47 28**	P	**P**	**07 48 07.8**	**0.0**
	comp=Z,1.3nm,0.7s,baz=291,slow=5.2,SNR=4.6					
ARCES	**ARCESS Array B**	**86.22 18**	P	**P**	**07 48 16.0**	**-0.3**
ARCES	**ARCESS Array B**	**86.22 18**	P	**P**	**07 48 16.0**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=330,slow=4.6,SNR=5.0					
DBIC	**Dimbokro**	**86.93 84**	P	**P**	**07 48 18.1**	**-2.7**
DBIC	**Dimbokro**	**86.93 84**	P	**P**	**07 48 18.1**	**-2.7**
	comp=Z,4.0nm,0.9s,baz=299,slow=9.3,SNR=3.4					
FINES	**FINESS Array B**	**90.75 25**	P	**P**	**07 48 37.3**	**-0.6**
FINES	**FINESS Array B**	**90.75 25**	P	**P**	**07 48 37.3**	**-0.6**
	comp=Z,7.3nm,1.0s,baz=260,slow=14,SNR=3.4					
TORD	**Torodi Ar. Bea**	**91.58 76**	P	**P**	**07 48 40.9**	**-1.9**
TORD	**Torodi Ar. Bea**	**91.58 76**	P	**P**	**07 48 40.9**	**-1.9**
	comp=Z,0.5nm,0.7s,baz=316,slow=4.5,SNR=3.5					
BJI	**Beijing**	**119.32 334**	PKP	**PKPdf**	**07 54 25.8**	**+1.1**
HHC	**Hu-ho-hao-te**	**120.42 338**	*e*PKP	**PKPdf**	**07 54 27.5**	**+0.5**
HHC			PP	**PP**	**07 55 56.0**	**+3.5**
HHC			SKS	**SKSdf**	**08 01 35.3**	**-1.3**
HHC			SKKS	**SKKSac**	**08 02 43.9**	**-7.0**
HHC			SS	**SKKSdf**	**08 12 15.9**	**+0.1**
HHC			LR	LR		
	comp=Z,400nm,20.2s					
WMQ	**Urumqi**	**122.11 359**	*e*PKP	**PKPdf**	**07 54 31.8**	**+1.7**
WMQ			LR	LR		
	comp=Z,280nm,17.4s					
NJ2	**Nanjing**	**124.49 327**	*e*P	**Pdif**	**07 51 10.1**	**+0.4**
NJ2			AMB	AMB		
	comp=Z,30nm,0.6s					
KSH	**Kashi**	**125.50 10**	PKP	PKPdf	07 54 47.0	+10
KSH			sPKP		07 54 52.8	
KSH			PP	PP	07 56 32.9	+6.3
KSH			PKS	**PKSdf**	**07 58 14.6**	**+1.0**
KSH			SKKS		08 03 24.0	
KSH	**Kashi**	**125.50 10**	SS	SS	08 13 29.5	+7.3
KSH			PPMZ			
	comp=Z,470nm,9.2s					
KSH			LR	LR		
	comp=N,220nm,8.7s					
KSH			LR	LR		
	comp=E,120nm,6.1s					
KSH			LR	LR		
	comp=Z,450nm,15.9s					
CD2	**Chengdu**	**132.09 340**	PKP	**PKPdf**	**07 54 50.8**	**+1.3**
WRA	**Warramunga Arr**	**134.19 256**	PKP	**PKPdf**	**07 54 53.0**	**-0.6**
WRA	**Warramunga Arr**	**134.19 256**	PKP	**PKPdf**	**07 54 53.0**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=69,slow=1.7,SNR=5.9					
GYA	**Guiyang**	**135.01 334**	*e*Pdif	**Pdif**	**07 51 55.4**	**-1.4**
GYA			PKP	**PKPdf**	**07 54 55.8**	**+0.6**
GYA			sPKP		07 55 21.0	
GYA			PP	**PP**	**07 57 33.4**	**+4.7**

NEIC 13 07:40:23.1, 52.44N×166.98W, h30km, mb4.2/1, ML4.2(AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**1.12**	**330**	P	Pn	07 40 42.5	-0.3
OKFG				S	Sn	07 40 57.5	+0.2
OKSP	**Okmok Steeple**	**1.14**	**316**	P	Pn	07 40 43.1	0.0
OKTU	**Okmok Mt. Tuli**	**1.14**	**326**	P	Pn	07 40 43.5	+0.3
OKSO	**Okmok South**	**1.16**	**323**	P	Pn	07 40 42.9	-0.5
OKSO				S	Sn	07 40 58.4	0.0
NIKH	**Nikolski High**	**1.26**	**296**	P	Pn	07 40 44.1	-0.6
NIKH				S	Sb	07 41 02.1	0.0
MREP	**Makushin Rep't**	**1.38**	**6**	P	Pn	07 40 46.8	+0.4
UNV	**Unalaska Valle**	**1.44**	**11**	*e*Pn	Pb	07 40 48.2	-1.1
UNV				S	Sb	07 41 07.0	-0.1
MSW	**Makushin Switc**	**1.48**	**4**	P	Pn	07 40 48.5	+0.7
MTBL	**Makushin Table**	**1.54**	**7**	P	Pn	07 40 48.9	+0.2
AKUT	**Akutan**	**1.84**	**23**	*e*Pn	Pb	07 40 55.0	-1.2
IM04	**Indian Mountai**	**15.11**	**21**	*e*P	P	07 43 59.9	+0.8
IMA2	**Indian Mountai**	**15.21**	**21**	*e*P	P	07 44 01.5	+1.2
DAWY	**Dawson**	**18.42**	**40**	*e*P	Pn	07 44 37.9	+1.9
ISA	**Isabella**	**37.88**	**97**	*e*P	P	07 47 36.3	-1.1
	5.0nm,1.4s						

IDC 13 07:40:41.4±1.2, 52.49N×167.31W, h0km, mb3.8/8, mb1 4.0/10, mb1mx3.8/29, mbtmp3.8/10, ML3.2/2, Error ellipse: s-maj=38.1km s-min=15.9km az=179.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**11.86**	**280**	Pn	Pn	07 43 34.6	+3.1
	0.3nm,0.3s,baz=65,slow=18,SNR=5.8						
ILAR	**Eielson Array**	**16.15**	**33**	Pn	Pn	07 44 30.1	+0.6
	0.1nm,0.3s,baz=238,slow=7.2,SNR=5.2						
PETK	**Petropavlovsk-**	**21.04**	**286**	P	P	07 45 28.0	+1.4
	3.0nm,0.6s,baz=83,slow=11,SNR=4.2						
NVAR	**Mina Array Bea**	**36.41**	**93**	P	P	07 47 48.9	+1.2
	0.6nm,0.6s,baz=303,slow=7.0,SNR=4.1						
KSRS	**Korea Array**	**46.64**	**278**	P	P	07 49 12.7	+1.5
	0.8nm,0.7s,baz=60,slow=7.1,SNR=3.2						
TXAR	**Lajitas Array**	**51.48**	**91**	P	P	07 49 46.9	-1.7
	0.5nm,0.7s,baz=299,slow=5.9,SNR=5.8						
SONM	**Songino Array**	**52.31**	**302**	P	P	07 49 54.4	-0.2
	0.2nm,0.4s,baz=54,slow=7.7,SNR=3.8						
MKAR	**Makanchi Array**	**64.63**	**315**	P	P	07 51 19.9	-0.4
	1.2nm,0.7s,baz=48,slow=7.2,SNR=11						
FINES	**FINESS Array B**	**65.91**	**353**	P	P	07 51 26.8	-1.6
	1.7nm,0.7s,baz=24,slow=10,SNR=6.4						
BRTR	**Keskin Array B**	**86.37**	**344**	P	P	07 53 26.3	+0.9
	1.2nm,0.8s,baz=90,slow=2.5,SNR=4.7						

IDC 13 07:41:05.7±0.5, 52.68N×167.22W, h0km, mb4.7/37, mb1 4.8/39, mb1mx4.8/43, mbtmp4.7/39, ML4.1/2, MS4.8/7, Ms1 4.8/7, ms1mx4.4/48, Error ellipse: s-maj=16.3km s-min=8.4km az=176.0

SZGRF 13 07:41:07.7, 51.60N×164.51W, h33km, mb5.0, South of Alaska

ISCJB 13 07:41:09.7±0.4, 52.62N±0.03×167.12W±0.02, h35km±3km, mb5.0/218, MS5.0/18, Error ellipse: s-maj=4.5km s-min=2.1km az=7.9

MOS 13 07:41:09.7±1.1, 52.71N×167.15W, h33km, mb5.5/64, Error ellipse: s-maj=7.8km s-min=4.9km az=85.6

NEIC 13 07:41:12.1±0.3, 52.72N×167.17W, h39km±3km, mb5.0/141, ML4.6(AEIC), Error ellipse: s-maj=4.4km s-min=2.3km az=177.0

GCMT 13 07:41:13.3±0.3, 52.41N×167.15W, h22km±1km, MW5.3, Moment Tensor Solution. s27,c30; s84,c128; Moment tensor: Scale 10^{17}Nm; M_{rr}1.19±.09; $M_{\theta\theta}$-0.86±.05; $M_{\phi\phi}$-0.33±.05; $M_{r\theta}$0.64±.06; $M_{\theta\phi}$-0.32±.02; $M_{\phi r}$0.06±.06; Best double couple: $M_0$1.30000×10^{17} NP1:ϕ_s74.00000°, δ60.00000°, λ.98.00000°. NP2:ϕ_s239.00000°, δ31.00000°, λ77.00000°. Principal axes: T 1.3700, Plg74.0000°, Azm4.0000°; N -0.2100, Plg7.0000°, Azm250.0000°; P -1.1700, Plg15.0000°, Azm158.0000°; Data Used: IU II G CN IC. Surface wave period40 sec.

BJI 13 07:41:13.8, 53.37N×167.95W, h41km, mB5.4/19, mb5.2/46, Ms5.2/25, Ms7 4.9/25

ISC 13 07:41:11.6±0.4, 52.63N±0.05×167.13W±0.03, h40km±2km, h40km:pP-P, n904, σ1.906/954, mb5.1/217, MS5.0/18, 195C-170D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.92**	**329**	P	Pn	**07 41 27.7**	**-0.3**
OKFG				S	Sn	**07 41 44.4**	**+4.4**
OKSO	**Okmok South**	**0.96**	**320**	P	Pn	**07 41 28.2**	**-0.5**
OKSO				S	Sn	**07 41 44.6**	**+3.5**
OKCE	**Okmok Cone E**	**1.02**	**322**	P	Pn	**07 41 29.6**	**+0.2**
OKWE	**Okmok W'ng Wal**	**1.08**	**322**	P	Pn	**07 41 30.4**	**+0.2**
NIKH	**Nikolski High**	**1.10**	**289**	P	Pn	**07 41 29.7**	**-0.8**
NIKH				S	Sn	**07 41 47.4**	**+2.9**
MGOD	**Makushin Gods**	**1.18**	**7**	P	Pn	**07 41 30.9**	**-0.7**
MREP	**Makushin Rep't**	**1.21**	**11**	P	Pn	**07 41 30.6**	**-1.4**
UNV	**Unalaska Valle**	**1.28**	**17**	P	Pn	**07 41 31.7**	**-1.2**
UNV				S	Sn	**07 41 52.2**	**+3.4**
MSW	**Makushin Switc**	**1.31**	**9**	P	Pn	**07 41 33.1**	**-0.2**
MCIR	**Makushin Cirqu**	**1.33**	**6**	P	Pn	**07 41 33.5**	**-0.3**
AKRB	**Akutan Reef Bi**	**1.63**	**22**	P	Pn	**07 41 36.9**	**-0.9**
AKUT	**Akutan**	**1.71**	**28**	P	Pn	**07 41 36.6**	**-2.3**
AKUT				S	Sn	**07 42 00.9**	**+1.4**
BRPK	**Brown Peak**	**2.85**	**44**	P	Pn	**07 41 52.7**	**-1.9**
FALS	**False Pass**	**3.14**	**43**	*e*Pn	Pn	**07 41 58.2**	**-0.3**
FALS				*e*Sn	Sn	**07 42 37.6**	**+3.0**
SDPT	**Sand Point**	**4.78**	**53**	P	Pn	**07 42 19.6**	**-1.3**
SDPT				S	Sn	**07 43 13.6**	**-1.3**
SPIA	**Saint Paul Isl**	**4.90**	**340**	P	Pn	**07 42 24.4**	**+1.8**
GSTR	**Great Sitkin T**	**5.50**	**268**	*e*Pn	Pn	**07 42 32.3**	**+1.4**
GSTR				*e*Sn	Sn	**07 43 36.4**	**+3.5**
GSMY	**Great Sitkin M**	**5.51**	**267**	P	Pn	**07 42 30.1**	**-0.9**
GSTD	**Great Sitkin T**	**5.56**	**268**	P	Pn	**07 42 31.0**	**-0.7**
GSCK	**Great Sitkin C**	**5.58**	**267**	P	Pn	**07 42 31.8**	**-0.2**
ETKA	**Kagalaska Isla**	**5.75**	**266**	P	Pn	**07 42 35.1**	**+0.8**
VNHG	**Veniaminof 1**	**5.88**	**49**	P	Pn	**07 42 35.3**	**-0.9**
ADK	**Adak**	**5.92**	**267**	P	Pn	**07 42 36.2**	**-0.4**
ADK	**Adak**	**5.92**	**267**	P	Pn	**07 42 36.2**	**-0.4**
KIKV	**Kanaga Island**	**6.21**	**267**	P	Pn	**07 42 41.6**	**+0.9**
CHGN	**Chignik**	**6.27**	**51**	*e*Pn	Pn	**07 42 40.0**	**-1.5**
TAFL	**Tanaga Flats**	**6.68**	**267**	P	Pn	**07 42 47.8**	**+0.7**
GANE	**Gareloi Northe**	**7.20**	**268**	P	Pn	**07 42 55.2**	**+0.9**
CHIR	**Chirikof Islan**	**7.46**	**60**	P	Pn	**07 42 55.3**	**-2.5**
CESW	**Semis' Southwe**	**8.20**	**270**	P	Pn	**07 43 08.1**	**+0.2**
AMKA	**Amchitka**	**8.47**	**267**	P	Pn	**07 43 10.7**	**-0.8**
CAHL	**Cahill**	**8.65**	**46**	P	Pn	**07 43 13.8**	**-0.3**
KABR	**Katmai Barrier**	**8.84**	**47**	P	Pn	**07 43 15.7**	**-1.0**
OHAK	**Old Harbor**	**9.20**	**54**	P	Pn	**07 43 19.6**	**-1.9**
KDAK	**Kodiak Island**	**9.78**	**52**	*e*Pn	Pn	**07 43 27.7**	**-1.7**
	20nm,0.4s						
SVW2	**Sparrevohn**	**10.57**	**32**	*e*Pn	Pn	**07 43 39.6**	**-0.7**
RSO	**Redoubt South**	**11.14**	**40**	*e*Pn	Pn	**07 43 49.0**	**+0.8**
SPU	**Mount Spurr**	**11.86**	**38**	*e*Pn	Pn	**07 43 58.6**	**+0.7**
FX1	**Attu Island--F**	**11.95**	**279**	*e*Pn	Pn	**07 44 00.7**	**+1.6**
FX1	**Attu Island--F**	**11.95**	**279**	Pn	Pn	**07 43 59.9**	**+0.8**
	2.3nm,0.3s,baz=71,slow=21,SNR=13						
SEW	**Seward**	**12.30**	**46**	*e*Pn	Pn	07 44 00.3	-3.6
PPLA	**Purkeypile**	**12.98**	**32**	*e*Pn	Pn	**07 44 15.8**	**+2.5**
PMR	**Palmer**	**13.23**	**40**	*e*P	Pn	**07 44 15.2**	**-1.4**
PMR	**Palmer**	**13.23**	**40**	*e*Pn	Pn	**07 44 15.2**	**-1.4**
CAST	**Castle Rocks**	**13.39**	**30**	*e*Pn	Pn	**07 44 19.3**	**+0.5**
TRF	**Thorofare Moun**	**13.98**	**33**	*e*Pn	Pn	**07 44 28.4**	**+1.4**
BPAW	**Bear Paw Mtn.**	**14.22**	**30**	*e*Pn	Pn	**07 44 30.0**	**-0.2**
DIV	**Divide**	**14.39**	**45**	*e*Pn	Pn	07 44 29.0	-3.3
RAGM	**Ragged Mountai**	**14.57**	**49**	*e*Pn	Pn	**07 44 35.2**	**+0.4**
MCK	**McKinley**	**14.62**	**33**	*e*P	Pn	**07 44 37.2**	**+1.7**
MCK	**McKinley**	**14.62**	**33**	*e*Pn	Pn	**07 44 37.2**	**+1.7**
BMRM	**Bremner River**	**14.83**	**47**	*e*Pn	Pn	**07 44 37.3**	**-1.0**
	137nm,1.1s						
IM04	**Indian Mountai**	**14.97**	**21**	*e*Pn	Pn	**07 44 42.2**	**+2.2**
IMA2	**Indian Mountai**	**15.07**	**21**	*e*P	Pn	**07 44 43.5**	**+2.0**
PAX	**Paxson**	**15.42**	**39**	*e*P	Pn	**07 44 44.2**	**-1.9**
PAX				pmax	pmax		
	comp=Z,17nm,0.8s						
PAX	**Paxson**	**15.42**	**39**	*e*P	Pn	**07 44 44.2**	**-1.9**
	comp=Z,17nm,0.8s						
COLA	**College**	**15.74**	**31**	*e*P	Pn	**07 44 49.3**	**-0.7**
COLA				pmax	pmax		
	comp=Z,44nm,1.1s						

BLMT **Blacktail Moun** 33.37 76 *e*P P 07 47 47.5 +1.5
comp=Z,13nm,0.9s
WVOR **Wild Horse Val** 33.69 88 *e*P P 07 47 50.8 +2.0
comp=Z,13nm,0.9s
OHCM **Honcut** 33.80 95 *e*P P 07 47 51.3 +1.8
ASAJ **Asahikawa** 33.85 276 *e*P P 07 47 49.9 0.0
comp=Z,21nm,1.2s
ASAJ **Asahikawa** 33.85 276 P P 07 47 49.9 0.0
comp=Z,21nm,0.9s,baz=84,slow=6.6,SNR=5.4
YAK **Yakutsk** 34.03 311 *e*P P 07 47 49.9 -1.4
MSO **Missoula** 34.20 78 *e*P P 07 47 53.4 +0.4
comp=Z,19nm,1.3s
MSO **Missoula** 34.20 78 ⇑P P 07 47 53.3 +0.3
baz=34
SLMT **Seeley Lake** 34.26 77 *e*P P 07 47 54.6 +1.0
CHMT **Chamberlain Mo** 34.56 77 *e*P P 07 47 55.9 -0.4
PAHR **Pah Rah Range** 34.85 92 *e*P P 07 47 59.9 +1.1
comp=Z,42nm,1.1s
MFID **Camas Ranch** 34.85 84 *e*P P 07 47 59.5 +0.8
comp=Z,6.9nm,0.9s
CMB **Columbia Colle** 35.29 95 *e*P P 07 48 03.6 +1.1
CMB pmax pmax
comp=Z,16nm,1.1s
CMB **Columbia Colle** 35.29 95 *e*P P 07 48 03.6 +1.1
comp=Z,16nm,1.1s
RES **Resolute Bay** 35.54 26 P P 07 48 04.6 +0.4
RES **Resolute Bay** 35.54 26 P P 07 48 04.6 +0.4
comp=Z,5.5nm,0.8s,baz=270,slow=11,SNR=3.2
WAKR **Walker** 35.57 94 *e*P P 07 48 07.0 +2.0
HLID **Hailey** 35.63 83 *e*P P 07 48 06.0 +0.5
comp=Z,7.4nm,1.1s
HLID **Hailey** 35.63 83 ⇑P P 07 48 05.9 +0.5
baz=36
DLMT **Dillon** 35.75 79 *e*P P 07 48 05.0 -1.4
comp=Z,16nm,1.4s
MCMT **McKenzie Canyo** 35.88 80 *e*P P 07 48 07.2 -0.5
comp=Z,6.9nm,1.0s
EGMT **Eagleton** 36.08 74 *e*P P 07 48 09.2 0.0
comp=Z,34nm,1.0s
EGMT **Eagleton** 36.08 74 ⇑P P 07 48 09.2 0.0
baz=36
A19A **Klindworth Far** 36.23 72 ⇑P P 07 48 10.4 0.0
baz=36
NVAR **Mina Array Bea** 36.30 93 P P 07 48 12.8 +1.5
NVAR PcP PcP 07 50 34.3 -1.1
NVAR **Mina Array Bea** 36.30 93 P P 07 48 12.8 +1.5
comp=Z,8.1nm,0.8s,baz=298,slow=8.1,SNR=26
NVAR PcP PcP 07 50 34.3 -1.1
comp=Z,0.7nm,0.4s,baz=297,slow=4.0,SNR=4.7
B19A **Brinkman Farms** 36.34 73 ⇓P P 07 48 11.0 -0.4
baz=36,SNR=8.5
NV11 **Mina Array Sit** 36.39 93 *e*P P 07 48 13.0 +1.0
C19A **Slack Wire Ran** 36.64 74 ⇓P P 07 48 13.7 -0.2
baz=36,SNR=11
A20A **Cobblestone Ra** 36.73 71 ⇓P P 07 48 14.9 +0.2
baz=37
QLMT **Earthquake Lak** 36.73 79 *e*P P 07 48 15.4 +0.5
ELK **Elko** 36.75 88 *e*P P 07 48 17.0 +1.8
comp=Z,19nm,1.5s
MTUM **Tungsten Hills** 36.83 95 *e*P P 07 48 17.9 +2.1
B20A **Solberg Farm,** 36.89 72 ⇑P P 07 48 15.6 -0.4
baz=37
PTRM **Twissleman Ran** 36.95 98 *e*P P 07 48 18.6 +1.9
D19A **Cripps Ranch,** 37.02 74 ⇓P P 07 48 17.2 0.0
baz=37,SNR=10
YMR **Madison River** 37.10 79 *e*P P 07 48 17.6 -0.5
comp=Z,31nm,1.3s
A21A **Bergtoll Ranch** 37.25 71 ⇑P P 07 48 19.1 +0.1
baz=37
C20A **Veseth Ranch,** 37.26 73 ⇓P P 07 48 19.3 +0.1
baz=37,SNR=13
GCMT **Greycliff** 37.27 77 *e*P P 07 48 19.7 +0.3
comp=Z,5.7nm,0.9s
SMMC **Simmler** 37.31 99 ⇑P P 07 48 21.5 +1.8
baz=37,SNR=6.8
E19A **Rath Farm, Rou** 37.44 75 ⇑P P 07 48 21.2 +0.4
baz=37,SNR=5.4
B21A **Ellsworth Farm** 37.47 72 ⇓P P 07 48 20.9 0.0
baz=37
H17A **Grant Village** 37.48 79 ⇓P P 07 48 21.5 +0.2
baz=37
LKWY **Lake** 37.49 79 *e*P P 07 48 28.4 +6.9
LKWY **Lake** 37.49 79 *e*P P 07 48 28.4 +6.9
D20A **Manuel Ranch,** 37.50 74 ⇓P P 07 48 21.5 +0.3
baz=37
VES **Vestal, Richgr** 37.51 97 ⇓P P 07 48 22.2 +0.8
baz=37
IMW **Indian Meadow** 37.54 80 *e*P P 07 48 22.9 +1.0
comp=Z,14nm,1.1s
FLWY **Flagg Ranch** 37.58 80 *e*P P 07 48 23.4 +1.2
comp=Z,37nm,1.4s
RRI2 **Red Ridge** 37.62 81 *e*P P 07 48 23.8 +1.3
comp=Z,16nm,1.0s
HVU **Hansel Valley** 37.64 84 *e*P P 07 48 25.0 +2.4
HVU pmax pmax
comp=Z,8.0nm,1.2s
HVU **Hansel Valley** 37.64 84 *e*P P 07 48 25.0 +2.4
comp=Z,7.5nm,1.2s
F19A **Roth Farm, Mol** 37.67 76 ⇓P P 07 48 23.0 +0.3
baz=38
PKM **Peak Mountain** 37.70 99 ⇓P P 07 48 24.3 +1.1
baz=38
CWC **Cottonwood Cre** 37.72 95 ⇑P P 07 48 24.4 +1.0
baz=38,SNR=10
C21A **Desert Coulee** 37.73 73 ⇑P P 07 48 23.3 +0.1
baz=38
MOOW **Moose Ponds** 37.74 80 *e*P P 07 48 26.6 +3.1
comp=Z,6.6nm,1.2s
TPAW **Teton Pass** 37.76 81 *e*P P 07 48 24.3 +0.6
comp=Z,17nm,1.3s
E20A **Meyer Farm, Mu** 37.80 75 ⇑P P 07 48 23.6 -0.2
baz=38
A22A **Carney Farms,** 37.83 70 ⇑P P 07 48 23.5 -0.5
baz=38
H18A **Shoshone NF, C** 37.87 78 ⇓P P 07 48 24.6 -0.1
baz=38
REDW **Red Top Meadow** 37.89 81 *e*P P 07 48 25.9 +1.2
comp=Z,24nm,1.4s
SNOW **Snow King Moun** 37.89 81 *e*P P 07 48 25.7 +0.9
comp=Z,7.5nm,1.0s
LOHW **Long Hollow** 37.90 80 *e*P P 07 48 24.8 -0.1
comp=Z,5.3nm,1.1s
BGU **Big Grassy Mou** 37.98 86 *e*P P 07 48 26.4 +0.9
comp=Z,11nm,1.2s
ISA **Isabella** 38.00 97 *e*P P 07 48 25.8 +0.3
ISA pmax pmax
comp=Z,19nm,0.9s
ISA **Isabella** 38.00 97 *e*P P 07 48 25.8 +0.3
comp=Z,19nm,0.9s
ISA **Isabella** 38.00 97 ⇑P P 07 48 25.9 +0.3
baz=38,SNR=12
R11A **Troy Canyon, C** 38.01 91 *e*P P 07 48 26.6 +0.8
R11A **Troy Canyon, C** 38.01 91 ⇓P P 07 48 26.4 +0.6
baz=38,SNR=15
B22A **Reddig Ranch S** 38.13 71 ⇑P P 07 48 26.4 -0.1
baz=38
ARVC **Arvin** 38.14 98 ⇓P P 07 48 27.3 +0.6
baz=38
D21A **La Casta Ranch** 38.18 74 ⇓P P 07 48 27.2 +0.2
baz=38
H19A **Powell** 38.28 78 ⇑P P 07 48 27.8 -0.1
baz=38,SNR=11
MPMC **Manual Prospec** 38.33 95 ⇑P P 07 48 29.0 +0.5
baz=38,SNR=21
G20A **Bridger** 38.44 77 ⇓P P 07 48 29.3 0.0
baz=38,SNR=9.4
A23A **Redstone** 38.44 70 ⇑P P 07 48 28.6 -0.5
baz=38
FURC **Furnace Creek,** 38.44 94 ⇓P P 07 48 30.4 +1.2
baz=38
H11N2 **WAKE ISLAND Hy** 38.53 221 T T 08 29 57.1
baz=26,slow=0.7,SNR=174
H11N3 **WAKE ISLAND Hy** 38.54 221 T T 08 29 57.6
baz=26,slow=0.7,SNR=216
H11N1 **WAKE ISLAND Hy** 38.55 221 T T 08 29 58.4
baz=26,slow=0.7,SNR=3.7
DUG **Dugway** 38.56 87 *e*P P 07 48 30.9 +0.6
DUG pmax pmax
comp=Z,9.0nm,0.9s
DUG **Dugway** 38.56 87 *e*P P 07 48 30.9 +0.6
comp=Z,9.2nm,0.9s
DUG **Dugway** 38.56 87 ⇓P P 07 48 30.6 +0.3
baz=38,SNR=10
D22A **Cohagen** 38.61 73 ⇑P P 07 48 30.5 0.0
baz=38,SNR=7.4
B23A **Brockton** 38.62 71 ⇓P P 07 48 30.6 -0.1
baz=38,SNR=7.2

I19A **Meeteetse** 38.63 79 ⇓P P 07 48 31.2 +0.2
baz=38
EDW2 **Edwards Air Fo** 38.81 97 ⇓P P 07 48 32.3 -0.2
baz=39
C23A **Lambert** 38.85 72 ⇑P P 07 48 32.9 +0.3
baz=39,SNR=11
H20A **Greybull** 38.97 78 ⇓P P 07 48 33.1 -0.6
baz=40
BW06 **Boulder Array** 39.01 81 *e*P P 07 48 33.8 -0.4
comp=Z,19nm,1.2s
PDAR **Pinedale Array** 39.01 81 P P 07 48 34.0 -0.1
PDAR **Pinedale Array** 39.01 81 P P 07 48 34.0 -0.1
comp=Z,6.0nm,0.9s,baz=300,slow=4.9,SNR=28
J19A **Crowheart** 39.03 80 ⇑P P 07 48 34.2 -0.1
baz=39
G21A **Lodge Grass** 39.03 76 ⇑P P 07 48 34.1 -0.1
baz=39
M17A **Scullys Gap (B** 39.09 83 ⇓P P 07 48 34.5 -0.4
baz=39
E22A **Miles City** 39.12 74 ⇑P P 07 48 34.7 -0.1
baz=39,SNR=6.6
JLU **Jordanelle** 39.14 85 *e*P P 07 48 36.4 +1.0
comp=Z,10nm,1.1s
NLU **North Lily Min** 39.15 86 *e*P P 07 48 35.6 +0.2
comp=Z,16nm,1.3s
SHOC **Shoshone** 39.17 95 ⇓P P 07 48 36.4 +1.1
baz=39,SNR=14
I20A **Worland** 39.19 78 ⇑P P 07 48 35.7 +0.2
baz=39,SNR=7.9
L18A **Fontenelle, Gr** 39.21 82 ⇓P P 07 48 35.8 0.0
baz=39
MWC **Mount Wilson** 39.22 98 *e*P P 07 48 37.1 +1.1
MWC pmax pmax
comp=Z,42nm,1.2s
MWC **Mount Wilson** 39.22 98 *e*P P 07 48 37.1 +1.1
comp=Z,42nm,1.2s
GSC **Goldstone** 39.25 96 *e*P P 07 48 37.1 +1.0
GSC pmax pmax
comp=Z,27nm,0.9s
GSC **Goldstone** 39.25 96 *e*P P 07 48 37.1 +1.0
comp=Z,27nm,0.9s
GSC **Goldstone** 39.25 96 ⇑P P 07 48 37.1 +1.0
baz=39,SNR=24
C24A **Savage** 39.43 71 ⇑P P 07 48 37.7 +0.3
baz=39,SNR=7.5
BFSC **Mount Baldy Ra** 39.45 98 ⇑P P 07 48 38.2 +0.4
baz=39
SHPR **Sheep Range** 39.45 93 *e*P P 07 48 39.8 +1.9
A25A **Svangstu Ranch** 39.46 69 ⇑P P 07 48 37.5 -0.1
baz=39
H21A **Big Horn, Sher** 39.46 77 ⇑P P 07 48 37.5 -0.3
baz=39
E23A **Ismay** 39.46 73 ⇑P P 07 48 37.7 0.0
baz=39
J20A **Shoshoni** 39.56 79 ⇓P P 07 48 38.6 -0.1
baz=39
CIS **Catalina Islan** 39.58 99 ⇓P P 07 48 39.8 +1.1
baz=40
G22A **Birney** 39.58 76 ⇓P P 07 48 38.6 -0.1
baz=39
ARUT **Antelope Range** 39.67 90 *e*P P 07 48 41.6 +1.9
ARUT pmax pmax
comp=Z,188nm,1.0s
ARUT **Antelope Range** 39.67 90 *e*P P 07 48 41.6 +1.9
comp=Z,188nm,1.0s
TUQ **Turquoise Moun** 39.69 95 ⇓P P 07 48 39.6 -0.2
baz=40
D24A **Glendive** 39.70 72 ⇓P P 07 48 39.9 +0.2
baz=40,SNR=8.2
H11S1 **WAKE ISLAND Hy** 39.71 221 T T 08 31 24.9
baz=24,slow=0.7,SNR=112
H11S2 **WAKE ISLAND Hy** 39.73 221 T T 08 31 26.0
baz=24,slow=0.7,SNR=75
H11S3 **WAKE ISLAND Hy** 39.73 221 T T 08 31 26.8
baz=24,slow=0.7,SNR=94
I21A **Big Trails, Te** 39.77 78 ⇓P P 07 48 40.3 -0.1
baz=40
B25A **Knox Farm, Ray** 39.77 70 ⇑P P 07 48 40.2 0.0
baz=40
SCI **San Clemente I** 39.78 100 ⇓P P 07 48 41.8 +1.3
baz=40
F23A **Volborg** 39.82 74 ⇑P P 07 48 40.6 -0.2
baz=40
HEC **Hector,Ludlow** 39.85 96 ⇓P P 07 48 42.1 +1.0
baz=40
CCUT **Cedar City** 39.87 90 *e*P P 07 48 43.0 +1.6
comp=Z,11nm,1.1s
H22A **Clearmont** 39.89 76 ⇓P P 07 48 41.6 +0.2
baz=40
J21A **Lysite** 39.94 79 ⇑P P 07 48 42.0 +0.1
baz=40,SNR=15
E24A **Baker** 40.01 73 ⇓P P 07 48 41.8 -0.5
baz=40
TMUT **Trail Mountain** 40.08 86 *e*P P 07 48 44.4 +1.1
comp=Z,16nm,1.0s
A26A **Wade Farm, Ken** 40.09 68 ⇑P P 07 48 42.6 -0.3
baz=40,SNR=6.3
G23A **Biddle** 40.12 75 ⇑P P 07 48 43.2 0.0
baz=40
MURC **Murrieta** 40.17 98 ⇓P P 07 48 44.5 +0.8
baz=40
USRK **Ussuriysk Arra** 40.17 283 P P 07 48 41.0 -2.5
comp=Z,4.2nm,0.9s,baz=79,slow=8.1,SNR=4.9
L20A **Wamsutter** 40.18 81 ⇓P P 07 48 44.1 +0.1
baz=40
I22A **9 Mile Ranch,** 40.20 77 ⇓P P 07 48 44.1 +0.1
baz=40
B26A **Jensen Ranch,** 40.25 69 ⇑P P 07 48 44.1 0.0
baz=40
GMRC **Granite Mounta** 40.29 95 ⇓P P 07 48 45.5 +0.7
baz=40,SNR=13
F24A **Ekalaka** 40.32 74 ⇓P P 07 48 44.7 -0.2
baz=40
Q16A **Castle Valley** 40.34 87 ⇓P P 07 48 45.9 +0.6
baz=40
LDFC **Landfair** 40.43 95 *e*P P 07 48 47.3 +1.4
comp=Z,36nm,0.8s
K21A **Alcova** 40.47 80 ⇑P P 07 48 45.9 -0.4
baz=40,SNR=13
J22A **Midwest** 40.48 78 ⇑P P 07 48 46.2 -0.1
baz=40,SNR=13
A27A **Ledoux Ranch,** 40.51 68 ⇑P P 07 48 45.9 -0.4
baz=40
E25A **Miller Ranch,** 40.57 72 ⇑P P 07 48 46.4 -0.5
baz=40
PFO **Pinyon Flat Ob** 40.61 97 *e*P P 07 48 48.2 +0.8
comp=Z,27nm,1.1s
PFO **Pinyon Flat Ob** 40.61 97 P P 07 48 46.5 -0.9
comp=Z,3.4nm,0.6s,baz=304,slow=5.7,SNR=5.2
C26A **Walker Farm, P** 40.61 70 ⇑P P 07 48 46.7 -0.5
baz=40
SRU **San Rafael** 40.62 86 *e*P P 07 48 49.1 +1.6
SRU pmax pmax
comp=Z,20nm,1.2s
SRU **San Rafael** 40.62 86 *e*P P 07 48 49.1 +1.6
comp=Z,20nm,1.2s
BELC **Belle Mtn. Jos** 40.62 97 ⇑P P 07 48 48.0 +0.5
baz=41,SNR=11
109C **Camp Elliot, M** 40.72 99 ⇑P P 07 48 48.2 0.0
baz=41
O19A **Miners Draw (B** 40.73 84 ⇓P P 07 48 48.4 -0.1
baz=41,SNR=14
B27A **Peters Farms,** 40.78 69 ⇓P P 07 48 48.1 -0.5
baz=41
VLA **Vladivostok** 40.85 282 ⇑*e*P P 07 48 48.5 -0.7
VLA *e*S S 07 54 57.5 +0.1
VLA pmax pmax
comp=Z,45nm,0.8s
H24A **Dirks Ranch, A** 40.87 75 ⇓P P 07 48 48.4 -1.0
baz=41
K22A **Casper** 40.90 79 ⇓P P 07 48 48.5 -1.2
baz=41
N20A **Spence Gulch,** 40.93 82 ⇓P P 07 48 50.4 +0.3
baz=41
C27A **Sayler Ranch,** 41.01 70 ⇓P P 07 48 50.5 0.0
baz=41
IRM **Iron Mountain** 41.02 96 ⇑P P 07 48 51.3 +0.6
baz=41,SNR=12
MJAR **Matsushiro Arr** 41.07 269 P P 07 48 50.2 -0.8
MJAR **Matsushiro Arr** 41.07 269 P P 07 48 50.2 -0.8
comp=Z,6.1nm,0.8s,baz=50,slow=5.9,SNR=13
MAJO **Matsushiro** 41.07 269 *e*P P 07 48 51.7 +0.6
MAJO pmax pmax
comp=Z,39nm,1.0s
MAJO **Matsushiro** 41.07 269 *e*P P 07 48 51.7 +0.6
comp=Z,39nm,1.0s
MAT **Matsushiro** 41.07 269 P P 07 48 52.5 +1.4
A28A **Rude Farm, Bot** 41.08 67 ⇓P P 07 48 50.5 -0.6
baz=41,SNR=7.0
BAR **Barrett** 41.12 99 *e*P P 07 48 53.0 +1.4
comp=Z,34nm,1.2s
MONP **Monument Peak** 41.13 98 ⇑P P 07 48 52.6 +0.8
baz=41
E26A **Carlson Angus** 41.13 72 ⇑P P 07 48 51.7 +0.1
baz=41
W13A **Hualapai Mount** 41.16 93 ⇑P P 07 48 52.4 +0.4
baz=41,SNR=12
BC3 **Big Chuckawall** 41.18 96 ⇓P P 07 48 52.7 +0.5
baz=41
P19A **Cripple Cowboy** 41.23 84 ⇓P P 07 48 53.2 +0.6
baz=41
U15A **North Rim** 41.25 91 ⇓P P 07 48 53.8 +0.9
baz=41,SNR=7.0
B28A **Dugan Ranch, T** 41.27 68 ⇓P P 07 48 52.4 -0.2
baz=41,SNR=8.3
G25A **Newell** 41.28 74 ⇑P P 07 48 53.0 +0.2
baz=41
L22A **Ellis Ranch, M** 41.31 80 ⇑P P 07 48 53.4 +0.1
baz=41
F26A **Lodgepole** 41.35 73 ⇑P P 07 48 53.4 0.0
baz=41
MDJ **Mudanjiang** 41.36 285 P P 07 48 54.3 +1.0
MDJ AMB AMB
comp=Z,9.0nm,1.0s
MDJ AMB AMB
comp=Z,440nm,8.4s
O20A **White River Ci** 41.37 83 *e*P P 07 48 52.8 -0.9
O20A **White River Ci** 41.37 83 ⇑P P 07 48 53.7 0.0
baz=41,SNR=15
K23A **Bowen Ranch, D** 41.37 78 ⇑P P 07 48 53.6 0.0
baz=41
G27A **Dupree** 41.46 73 ⇓P P 07 48 58.8 +4.6
baz=42
SWSC **Sam W. Stewart** 41.47 98 ⇓P P 07 48 55.4 +1.1
baz=41
H25A **Fruitdale** 41.50 75 ⇑P P 07 48 54.7 +0.1
baz=41
RSSD **Black Hills** 41.53 76 *e*P P 07 48 54.9 -0.1
RSSD pmax pmax
comp=Z,33nm,1.0s
RSSD **Black Hills** 41.53 76 *e*P P 07 48 54.9 -0.1
comp=Z,33nm,1.0s
PDMC **Parker Dam,Lak** 41.54 95 ⇑P P 07 48 55.5 +0.6
baz=42
M22A **Cedar Creek Ra** 41.59 81 ⇑P P 07 48 55.3 -0.3
baz=42
C28A **Hausauer Farms** 41.65 69 ⇑P P 07 48 55.3 -0.4
baz=42
A29A **Manning Farm,** 41.66 67 ⇓P P 07 48 55.4 -0.3
baz=42,SNR=9.6
P20A **De Beque** 41.67 84 ⇑P P 07 48 55.8 -0.3
baz=42
E27A **Carson** 41.67 71 ⇓P P 07 48 55.6 -0.4
baz=42
Y12C **Blythe** 41.68 96 ⇓P P 07 48 57.2 +1.1
baz=42,SNR=10
G26A **Maurine** 41.70 73 ⇑P P 07 48 55.9 -0.3
baz=42,SNR=5.3
L23A **Garrett** 41.70 79 ⇓P P 07 48 56.1 -0.3
baz=42,SNR=9.6
F27A **Lemmon** 41.72 72 ⇑P P 07 48 55.9 -0.5
baz=42
O21A **Pagoda** 41.79 83 ⇓P P 07 48 56.7 -0.5
baz=42
D28A **Regan** 41.83 70 ⇓P P 07 48 57.1 0.0
baz=42,SNR=5.9
PV09 **Paradox Valley** 41.84 86 *e*P P 07 48 59.7 +2.0
GLA **Glamis** 41.98 97 *e*P P 07 49 01.1 +2.5
GLA pmax pmax
comp=Z,21nm,0.9s
GLA **Glamis** 41.98 97 *e*P P 07 49 01.1 +2.5
comp=Z,20nm,0.9s
GLA **Glamis** 41.98 97 ⇑P P 07 48 59.7 +1.1
baz=42
PV10 **Paradox Valley** 41.98 86 *e*P P 07 48 59.7 +0.9
comp=Z,304nm,0.9s
H26A **Fairpoint** 41.98 74 ⇑P P 07 48 57.7 -0.8
baz=42
MDND **Maddock** 42.02 68 *e*P P 07 48 59.2 +0.4
MDND **Maddock** 42.02 68 ⇓P P 07 48 58.6 -0.2
baz=42,SNR=9.4
N22A **Wattenberg Ran** 42.04 81 ⇓P P 07 48 59.1 -0.2
baz=42
Q20A **Ridgley Place,** 42.07 85 ⇓P P 07 48 59.8 +0.4
baz=42
E28A **Huff** 42.09 71 ⇑P P 07 48 59.1 -0.2
baz=42
PV05 **Paradox Valley** 42.13 86 *e*P P 07 49 02.8 +2.7
P21A **Newcastle** 42.23 83 ⇑P P 07 49 01.1 +0.3
baz=42
N23A **Red Feather La** 42.29 81 ⇑P P 07 49 01.5 +0.2
baz=42
PV15 **Paradox Valley** 42.34 86 *e*P P 07 49 01.6 -0.1
O22A **Kremmling** 42.38 82 ⇑P P 07 49 02.1 +0.1
baz=42
WUAZ **Wupatki** 42.41 91 *e*P P 07 49 03.9 +1.7
comp=Z,19nm,1.0s
WUAZ **Wupatki** 42.41 91 ⇓P P 07 49 02.8 +0.6
baz=42
B30A **Myrvik Farm, E** 42.41 67 ⇓P P 07 49 01.5 -0.5
baz=42,SNR=6.0
PV01 **Paradox Valley** 42.42 86 *e*P P 07 49 03.0 +0.7
comp=Z,3µm,1.0s
F28A **McLaughlin** 42.44 72 ⇓P P 07 49 02.2 0.0
baz=42
D29A **Pettibone, Tap** 42.46 69 ⇓P P 07 49 02.1 -0.2
baz=42
Y14A **Wickenburg** 42.48 94 ⇓P P 07 49 03.6 +1.0
baz=42,SNR=9.8
R20A **Redvale** 42.50 86 ⇓P P 07 49 03.4 +0.4
baz=42,SNR=7.2
Q21A **Lamborn Mesa,** 42.58 84 ⇑P P 07 49 03.9 +0.3
baz=42
P22A **Eagle** 42.60 83 ⇑P P 07 49 03.8 0.0
baz=42
E29A **Napoleon** 42.70 70 ⇑P P 07 49 04.0 -0.3
baz=42
O23A **Lake Granby, G** 42.73 82 ⇑P P 07 49 04.8 -0.1
baz=43,SNR=8.7
SMCO **Snowmass** 42.73 83 *e*P P 07 49 05.6 +0.6
comp=Z,13nm,1.3s
C30A **Mose, Pekin** 42.74 68 ⇑P P 07 49 04.2 -0.3
baz=42
G28A **Parade** 42.81 73 ⇑P P 07 49 05.4 +0.2
baz=43
ULM **Lac du Bonnet** 42.81 63 P P 07 49 05.2 +0.1
ULM **Lac du Bonnet** 42.81 63 P P 07 49 05.2 +0.1
comp=Z,5.0nm,0.7s,baz=268,slow=12,SNR=5.8
R21A **Cimarron** 42.89 85 ⇓P P 07 49 06.3 +0.1
baz=43,SNR=7.3
Z14A **Wintersburg** 42.91 95 ⇓P P 07 49 07.0 +0.9
baz=43
D30A **Buchanan** 42.91 69 ⇑P P 07 49 05.8 -0.2
baz=43,SNR=8.1
Q22A **Crested Butte,** 42.97 84 ⇑P P 07 49 06.2 -0.6
baz=43
N24A **Carr** 42.97 80 ⇓P P 07 49 06.5 -0.2
baz=43
F29A **Eureka** 43.01 71 ⇑P P 07 49 06.7 -0.1
baz=43
MVCO **Mesa Verde** 43.05 87 *e*P P 07 49 09.1 +1.6
comp=Z,22nm,1.2s
MVCO **Mesa Verde** 43.05 87 ⇑P P 07 49 07.3 -0.2
baz=43
X16A **Lo Mia Camp, P** 43.10 92 ⇑P P 07 49 08.9 +1.0
baz=43
E30A **Jud** 43.16 70 ⇑P P 07 49 07.3 -0.7
baz=43
ISCO **Idaho Springs** 43.16 82 *e*P P 07 49 08.6 +0.1
ISCO pmax pmax
comp=Z,20nm,1.6s
ISCO **Idaho Springs** 43.16 82 *e*P P 07 49 08.6 +0.1
comp=Z,20nm,1.6s
ISCO **Idaho Springs** 43.16 82 ⇑P P 07 49 08.7 +0.3
baz=43
J27A **Elkhorn Farm,** 43.23 75 ⇓P P 07 49 08.9 +0.2
baz=43
P23A **Jefferson** 43.29 82 ⇓P P 07 49 09.8 +0.3
baz=43
K27A **Flueckinger Fa** 43.42 76 ⇑P P 07 49 09.9 -0.3
baz=43
R22A **Saguache, Gunn** 43.46 84 ⇓P P 07 49 11.1 +0.3
baz=43
H29A **Onida** 43.48 73 ⇓P P 07 49 10.4 -0.2
baz=43,SNR=9.1
J28A **Allard Ranch,** 43.58 75 ⇓P P 07 49 11.4 0.0

baz=43
W18A Petrified Fore 43.67 90 *e*P P 07 49 14.8 +2.4
comp=Z,12nm,1.0s
W18A Petrified Fore 43.67 90 ⇑P P 07 49 13.1 +0.6
baz=44
S22A 4UR Ranch, Cre 43.72 85 ⇓P P 07 49 13.5 +0.5
baz=44,SNR=13
I29A Vivian Onida 43.78 73 ⇓P P 07 49 12.9 0.0
baz=44
T21A Navajo Lake 43.78 86 ⇓P P 07 49 13.9 +0.6
baz=44
G30A Faulkton 43.80 71 ⇓P P 07 49 13.0 -0.2
baz=44,SNR=8.6
AGMN Agassiz Nation 43.88 66 *e*P P 07 49 13.2 -0.5
comp=Z,12nm,0.8s
K28A Ten Mile Ranch 43.93 76 ⇑P P 07 49 14.6 +0.3
baz=44
X18A Snowflake 43.94 91 ⇑P P 07 49 15.8 +1.2
baz=44
214A Organ Pipe Nat 43.96 96 ⇑P P 07 49 15.9 +1.3
baz=44
N26A Koester Ranch, 43.97 79 ⇓P P 07 49 15.2 +0.5
baz=44
Q24A Divide 43.97 82 ⇓P P 07 49 15.4 +0.4
baz=44
V20A Brimhall 44.00 88 ⇓P P 07 49 16.0 +0.9
baz=44
R23A Moffat 44.05 84 ⇑P P 07 49 15.8 +0.3
baz=44
U21A Nageezi 44.08 87 ⇑P P 07 49 16.2 +0.5
baz=44,SNR=20
J29A Okreek 44.13 74 ⇓P P 07 49 15.9 +0.1
baz=44,SNR=6.9
T22A Edith 44.15 86 ⇑P P 07 49 16.9 +0.5
baz=44,SNR=7.7
P25A Willow Gulch B 44.21 81 ⇑P P 07 49 16.3 -0.5
baz=44
CN2 Changchun 44.26 287 *e*P P 07 49 15.8 -1.0
CN2 *ep*P **pP** 07 49 27.8 -0.4
CN2 *es*P **sP** 07 49 33.3 +0.4
CN2 *e*S **S** 07 55 49.3 +1.8
CN2 AMB AMB
comp=Z,10.0nm,0.5s
CN2 AMB AMB
comp=Z,200nm,10.0s
CN2 LR LR
comp=Z,900nm,16.0s
CN2 LR LR
comp=Z,900nm,16.0s
CN2 LR LR
comp=Z,900nm,14.0s
BRSD Miller 44.31 72 *e*P P 07 49 17.0 -0.3
BRSD Miller 44.31 72 ⇑P P 07 49 16.8 -0.5
baz=44
N27A Anderson Farm, 44.39 79 ⇓P P 07 49 17.1 -1.0
baz=44
W20A Ramah 44.42 89 ⇓P P 07 49 19.1 +0.5
baz=44,SNR=10
R24A Sanders Place, 44.46 83 ⇑P P 07 49 19.1 +0.3
baz=44
SDCO Great Sand Dun 44.53 84 *e*P P 07 49 19.7 +0.3
comp=Z,11nm,1.1s
Q25A Bedland, Calha 44.54 82 ⇓P P 07 49 19.8 +0.4
baz=44
U22A Llaves 44.60 87 ⇓P P 07 49 20.5 +0.6
baz=44,SNR=9.8
J30A Dallas 44.66 74 ⇑P P 07 49 20.1 0.0
baz=44
T23A Casias Ranch, 44.66 85 ⇑P P 07 49 21.2 +0.7
baz=44
P26A Davis Ranch, A 44.68 81 ⇓P P 07 49 21.1 +0.7
baz=44
S24A Houchin Ranch, 44.77 84 ⇑P P 07 49 21.7 +0.4
baz=45,SNR=8.9
X20A Quemado 44.81 90 ⇓P P 07 49 23.1 +1.4
baz=45
TUC Tucson 44.95 94 *e*P P 07 49 23.7 +1.1
TUC pmax pmax
comp=Z,23nm,1.3s
TUC Tucson 44.95 94 *e*P P 07 49 23.6 +1.1
comp=Z,23nm,1.3s
R25A Fountain Ranch 45.01 83 ⇑P P 07 49 24.3 +1.3
baz=45
U23A El Rito 45.03 86 ⇑P P 07 49 24.4 +1.0
baz=45,SNR=14
T24B San Luis 45.04 85 ⇑P P 07 49 24.2 +0.7
baz=45
P27A Ficken Ranch, 45.14 80 ⇑P P 07 49 24.4 +0.3
baz=45
S25A Robets Cordova 45.23 83 ⇓P P 07 49 25.2 +0.4
baz=45
O28A Krutsinger Ran 45.27 79 ⇑P P 07 49 25.1 +0.1
baz=45
JCJ Chichijima 45.30 256 LR LR 08 06 01.3
comp=Z,876nm,19.1s,baz=288,slow=33
X21A Alamocita Cree 45.31 89 ⇑P P 07 49 26.9 +1.3
baz=45,SNR=19
Y20A Horse Springs, 45.32 90 ⇓P P 07 49 26.4 +0.7
baz=45,SNR=9.3
L30A Spencer Herefo 45.36 75 ⇓P P 07 49 25.9 +0.2
baz=45
R26A Arlington 45.42 82 ⇑P P 07 49 26.5 +0.3
baz=45
V23A Ortiz Mt. (NFS 45.42 87 ⇑P P 07 49 27.3 +0.8
baz=45
W22A Albuquerque 45.45 88 ⇓P P 07 49 27.6 +0.9
baz=45
KSCO Kaye Shedlock' 45.46 81 *e*P P 07 49 27.1 +0.5
KSCO Kaye Shedlock' 45.46 81 ⇑P P 07 49 27.2 +0.5
baz=45
M30A Dale-Ortello V 45.52 76 ⇑P P 07 49 27.6 +0.6
baz=45
T25A Trinidad 45.58 84 ⇓P P 07 49 27.9 +0.2
baz=46,SNR=12
P28A Saint Francis 45.63 79 ⇑P P 07 49 28.2 +0.3
baz=46
Y21A Point of Rocks 45.68 90 ⇓P P 07 49 29.9 +1.4
baz=46
Z20A Nine Sixteen R 45.73 91 ⇑P P 07 49 29.5 +0.7
baz=46
LAZ Ladron 45.74 89 *e*P P 07 49 29.7 +0.8
comp=Z,7.4nm,1.1s
X22A Bernardo 45.75 89 ⇑P P 07 49 29.4 +0.5
baz=46
ANMO Albuquerque 45.79 88 *e*P P 07 49 29.4 +0.1
comp=Z,12nm,1.3s
ANMO PcP PcP 07 51 06.9 +0.6
ANMO Albuquerque 45.79 88 P P 07 49 29.8 +0.5
comp=Z,6.8nm,1.1s,baz=328,slow=8.6,SNR=7.5
ANMO PcP PcP 07 51 06.9 +0.6
comp=Z,2.6nm,0.8s,baz=262,slow=1.7,SNR=4.1
R27A Eads 45.82 82 ⇑P P 07 49 29.7 +0.3
baz=46
W23A Werner Place, 45.83 87 ⇓P P 07 49 30.0 +0.4
baz=46,SNR=7.6
S26A Kim 45.84 83 ⇑P P 07 49 29.5 -0.1
baz=46
Q28A Sharon Springs 45.90 80 ⇑P P 07 49 29.9 -0.2
baz=46
V24A Rampart Ranch, 45.99 86 ⇑P P 07 49 30.9 -0.1
baz=46
LENM Lemitar 46.00 89 *e*P P 07 49 33.8 +2.8
T26A Comanche Natio 46.06 83 ⇑P P 07 49 31.3 -0.1
baz=46
U25A Circle Dot Ran 46.07 85 ⇓P P 07 49 32.0 +0.5
baz=46,SNR=10
120A U Bar Ranch, L 46.09 92 ⇓P P 07 49 32.3 +0.6
baz=46
ECSD EROS Data Cent 46.09 72 *e*P P 07 49 30.1 -1.3
comp=Z,10nm,1.0s
P29A Atwood 46.10 79 ⇑P P 07 49 31.7 +0.1
baz=46
LPM Los Pinos Moun 46.11 88 *e*P P 07 49 33.1 +1.2
Z21A St. Cloud Mine 46.16 90 ⇑P P 07 49 33.2 +1.0
baz=46,SNR=8.9
Y22A Socorro 46.16 89 ⇑P P 07 49 32.7 +0.5
baz=46,SNR=18
BNM Barren Site 46.22 89 *e*P P 07 49 33.4 +0.6
comp=Z,11nm,0.9s
W24A Lazy 6 Ranch, 46.25 87 ⇓P P 07 49 33.2 +0.2
baz=46,SNR=8.4
O30A MW Ranch, Wils 46.26 78 ⇑P P 07 49 32.5 -0.3
baz=46
V25A Rancho No Teng 46.31 85 ⇑P P 07 49 33.3 -0.2
baz=46
R28A Tribune 46.38 81 ⇓P P 07 49 33.8 0.0
baz=46
U26A Atchley Ranch, 46.48 84 ⇑P P 07 49 35.1 +0.4
baz=46,SNR=12
Q29A Oakley 46.52 80 ⇑P P 07 49 34.9 0.0
baz=46
P30A Selden 46.55 78 ⇓P P 07 49 34.9 -0.2
baz=46
220A Playas Peak, P 46.60 92 ⇑P P 07 49 36.1 +0.4
baz=46
121A Cookes Peak, D 46.62 91 ⇑P P 07 49 37.1 +1.2
baz=46
BGNE Belgrade 46.62 75 *e*P P 07 49 35.5 -0.1
BGNE Belgrade 46.62 75 ⇑P P 07 49 35.4 -0.1
baz=46
Z22A Elephant Butte 46.62 90 ⇑P P 07 49 36.6 +0.8
baz=46
Y23A Lovelace Mesa, 46.72 88 ⇑P P 07 49 37.2 +0.6
baz=47,SNR=14
R29A Marienthal 46.73 80 ⇑P P 07 49 36.8 +0.2
baz=47
KSRS Korea Array 46.73 278 P P 07 49 35.8 -0.7
comp=Z,13nm,0.9s,baz=57,slow=7.3,SNR=36
KSRS PcP PcP 07 51 09.8 +0.5
comp=Z,2.4nm,0.8s,baz=58,slow=3.2,SNR=4.4
KSAR Wonju Array Be 46.76 278 P P 07 49 35.8 -0.9
KSAR PcP PcP 07 51 09.8 +0.3
S28A Manter 46.81 82 ⇑P P 07 49 37.6 +0.4
baz=47
W25A X Bar L Ranch, 46.82 86 ⇓P P 07 49 37.6 +0.3
baz=47,SNR=17
V26A Tequesquite Ra 46.84 85 ⇑P P 07 49 37.8 +0.2
baz=47,SNR=11
122A Conniff Cattle 46.98 90 ⇓P P 07 49 38.5 -0.1
baz=47
221A Mesquite Ranch 46.98 92 ⇑P P 07 49 38.6 -0.1
baz=47
T28A Walsh 46.99 82 ⇓P P 07 49 38.5 -0.1
baz=47
320A Kipp Ranch, An 47.00 93 ⇑P P 07 49 39.5 +0.7
baz=47
U27A Thompson Grove 47.02 83 ⇓P P 07 49 38.5 -0.3
baz=47,SNR=7.6
Z23A Rita Site, Whi 47.06 89 ⇓P P 07 49 39.8 +0.6
baz=47
P31A Stockton 47.08 78 ⇑P P 07 49 39.0 -0.2
baz=47
Y24A Capitan 47.10 88 ⇑P P 07 49 39.9 +0.3
baz=47,SNR=11
X25A Clemmons Ranch 47.16 87 ⇓P P 07 49 40.1 +0.1
baz=47,SNR=6.6
S29A Ulysses 47.26 81 ⇓P P 07 49 40.7 0.0
baz=47
W26A Owens Ranch, T 47.33 86 ⇑P P 07 49 41.8 +0.5
baz=47,SNR=8.0
222A Williams Famil 47.33 91 ⇑P P 07 49 41.5 +0.1
baz=47
R30A Dighton 47.34 80 ⇑P P 07 49 41.2 0.0
baz=47
SPMN St. Paul 47.37 68 ⇑P P 07 49 41.0 -0.3
baz=47
U28A Mallet 47.41 83 ⇑P P 07 49 41.3 -0.5
baz=47
V27A Dan Oppiter Fa 47.45 84 ⇓P P 07 49 41.8 -0.4
baz=47
T29A Hugoton 47.46 82 ⇓P P 07 49 41.8 -0.4
baz=47
P32A Huiting Farm, 47.48 77 ⇓P P 07 49 41.6 -0.7
baz=47
Z24A Sheeppen Canyo 47.55 88 ⇓P P 07 49 43.0 -0.1
baz=47,SNR=11
Y25A Mesa, Roswell 47.55 87 ⇓P P 07 49 43.5 +0.5
baz=47,SNR=18
S30A Montezuma 47.64 81 ⇓P P 07 49 43.0 -0.6
baz=48
X26A CR and CF Fran 47.66 86 ⇓P P 07 49 43.5 -0.5
baz=48,SNR=8.2
W27A Bowe Ranch, En 47.77 85 ⇓P P 07 49 44.0 -0.7
baz=48
R31A Burdett 47.78 79 ⇓P P 07 49 44.1 -0.6
baz=48
V28A Channing 47.82 84 ⇓P P 07 49 44.5 -0.6
baz=48
JNU Nakatsue 47.83 271 *e*P P 07 49 46.0 +0.9
comp=Z,15nm,1.1s
JNU Nakatsue 47.83 271 P P 07 49 44.9 -0.2
comp=Z,13nm,1.0s,baz=64,slow=6.6,SNR=3.0
124A Stringfield Ra 47.92 89 ⇓P P 07 49 46.6 +0.6
baz=48,SNR=6.8
U29A Oasis Ranch, S 47.94 82 ⇑P P 07 49 46.0 +0.1
baz=48
Z25A Roswell 47.98 88 ⇓P P 07 49 46.6 +0.3
baz=48,SNR=10
T30A Plains 47.99 81 ⇓P P 07 49 46.4 +0.1
baz=48
X27A F and S Farms, 48.03 85 ⇓P P 07 49 46.2 -0.6
baz=48
Y26A Elida 48.08 87 ⇑P P 07 49 47.4 +0.2
baz=48
U30A WK&E Inc. Balk 48.26 82 ⇑P P 07 49 47.9 -0.5
baz=48
224A Cornudas Mount 48.31 90 ⇓P P 07 49 48.7 -0.3
baz=48
Z26A Caprock 48.43 87 ⇓P P 07 49 50.0 +0.1
baz=48,SNR=11
125A Gardner Draw, 48.44 89 ⇓P P 07 49 50.1 +0.2
baz=48
T31A Randall Ranch, 48.47 81 ⇓P P 07 49 49.4 -0.5
baz=48
Y27A Causey 48.51 86 ⇓P P 07 49 50.4 0.0
baz=48,SNR=10
MNTX Cornudas Mount 48.66 90 *e*P P 07 49 51.7 +0.2
comp=Z,5.7nm,0.8s
X28A Dimmitt 48.67 85 ⇑P P 07 49 51.5 -0.1
baz=48
MSTX Muleshoe 48.69 86 *e*P P 07 49 52.0 +0.2
MSTX Muleshoe 48.69 86 ⇓P P 07 49 51.8 0.0
baz=49,SNR=8.3
KBS Kingsbay 48.70 0 ⇑*i*P P 07 49 51.9 +0.7
KBS pmax pmax
comp=Z,51nm,2.5s
KBS Kingsbay 48.70 0 *e*P P 07 49 51.1 -0.1
225A Deer Hill, Car 48.72 89 ⇓P P 07 49 52.5 +0.4
baz=49,SNR=14
324A Moseley Ranch, 48.78 90 ⇑P P 07 49 52.7 +0.1
baz=49
126A Clayton Basin, 48.84 88 ⇓P P 07 49 52.7 -0.2
baz=49
U31A Nine Bar Ranch 48.85 81 ⇓P P 07 49 52.4 -0.5
baz=49
Z27A Tatum 48.87 87 ⇑P P 07 49 53.3 +0.1
baz=49,SNR=11
X29A Tulia 49.02 85 ⇑P P 07 49 53.8 -0.4
baz=49
Y28A McKinney Farm, 49.05 86 ⇑P P 07 49 54.1 -0.4
baz=49
226B Tecolote Peak, 49.14 89 ⇓P P 07 49 55.7 +0.5
baz=49,SNR=14
325A Bean Ranch, Si 49.14 90 ⇑P P 07 49 55.4 +0.1
baz=49,SNR=17
127A Arkansas Junct 49.22 88 ⇑P P 07 49 55.7 -0.2
baz=49
DAG Danmarks Havn 49.33 9 *i*P P 07 49 54.1 -1.9
comp=Z,40nm,0.9s
Z28A Tucker Farm, M 49.39 86 ⇓P P 07 49 56.8 -0.4
baz=49,SNR=9.9
Y29A Porterfield Fa 49.43 85 ⇓P P 07 49 57.1 -0.4
baz=49,SNR=7.4
SPITS Spitsbergen Ar 49.44 359 P P 07 49 55.9 -1.0
SPITS Spitsbergen Ar 49.44 359 P P 07 49 55.9 -1.0
comp=Z,20nm,1.0s,baz=15,slow=6.9,SNR=7.7
SPITS LR LR 08 11 04.4
comp=Z,1μm,19.1s,baz=45,slow=36
X30A Coker Ranch, T 49.52 84 ⇑P P 07 49 57.9 -0.2
baz=49
425A Indio Mountain 49.54 91 ⇑P P 07 49 58.7 +0.3
baz=50,SNR=12
W31A Holland Ranch, 49.58 83 ⇓P P 07 49 58.3 -0.2
baz=49
326A Caldwell Ranch 49.78 89 ⇓P P 07 50 00.1 -0.1
baz=50
128A Castleberry Fa 49.79 87 ⇑P P 07 50 00.1 -0.1
baz=50,SNR=22
Z29A Hungry Hill Ra 49.82 86 ⇓P P 07 50 00.2 -0.3
baz=50,SNR=13
Y30A Stafford Cattl 49.89 85 ⇓P P 07 50 01.0 +0.1
baz=50,SNR=7.6
X31A McDonald Ranch 49.93 83 ⇑P P 07 50 01.3 +0.1
baz=50
SUMG Summit 50.12 18 *e*P P 07 50 02.9 +0.4
SUMG Summit 50.12 18 *i*P P 07 50 03.2 +0.6
comp=Z,32nm,0.9s
SUMG Summit 50.12 18 *e*P P 07 50 02.9 +0.4
Z30A Sanderson Ranc 50.16 85 ⇑P P 07 50 02.3 -0.6
baz=50,SNR=12
426A McDonald Obser 50.21 90 ⇑P P 07 50 02.7 -0.8
baz=50
Y31A Rekieta Farm, 50.22 84 ⇑P P 07 50 03.1 -0.3
baz=50
328A Wristen Ranch, 50.45 88 ⇓P P 07 50 04.3 -0.9
baz=50
427A Hayter Ranch, 50.46 89 ⇓P P 07 50 05.0 -0.4
baz=50
WMOK Wichita Mounta 50.59 82 *e*P P 07 50 05.4 -0.7
WMOK pmax pmax
comp=Z,13nm,1.0s
WMOK Wichita Mounta 50.59 82 *e*P P 07 50 05.4 -0.7
comp=Z,13nm,1.0s
526A Mary Lane Ranc 50.60 91 ⇑P P 07 50 05.5 -1.0
baz=50
229A Bryant Ranch, 50.65 87 ⇑P P 07 50 05.8 -0.9
baz=50
Y32A R-V Farms, Ver 50.69 83 ⇓P P 07 50 05.9 -1.0
baz=51
130A Snyder 50.73 86 ⇓P P 07 50 06.3 -0.9
baz=51
Z31A Sharp Cattle R 50.73 85 ⇓P P 07 50 06.3 -1.0
baz=51
527A Woodward Ranch 50.83 90 ⇑P P 07 50 07.6 -0.6
baz=51
329A Wagon Wheel Ra 50.88 88 ⇑P P 07 50 07.8 -0.6
baz=51
626A Big Bend Ranch 50.93 91 ⇑P P 07 50 09.0 +0.1
baz=51,SNR=6.0
428A Kincaid Ranch, 50.99 89 ⇓P P 07 50 09.2 -0.1
baz=51,SNR=13
131A Roby 51.03 85 ⇓P P 07 50 09.2 -0.3
baz=51,SNR=11
230A Sterling City 51.13 87 ⇑P P 07 50 09.5 -0.8
baz=51,SNR=12
Z32A Haskell 51.14 84 ⇓P P 07 50 09.7 -0.6
baz=51,SNR=8.5
TLY Talaya 51.29 307 *e*P P 07 50 10.5 -0.7
TLY Talaya 51.29 307 P P 07 50 11.5 +0.3
comp=Z,115nm,1.1s,SNR=5.7
528A Cox Ranch, San 51.32 89 ⇑P P 07 50 12.0 +0.1
baz=51,SNR=12
TXAR Lajitas Array 51.38 91 P P 07 50 11.8 -0.5
TXAR Lajitas Array 51.38 91 P P 07 50 11.8 -0.5
comp=Z,4.9nm,0.6s,baz=302,slow=5.5,SNR=38
330A Mertzon 51.43 87 ⇓P P 07 50 11.6 -0.9
baz=51
627A Terlingua Ranc 51.46 91 ⇑P P 07 50 12.1 -0.8
baz=51
ABTX Abilene, Hawle 51.51 85 *e*P P 07 50 12.8 -0.3
ABTX Abilene, Hawle 51.51 85 ⇑P P 07 50 12.2 -1.0
baz=51
SFJD Kangerlussuaq 51.54 27 *i*P P 07 50 12.1 -0.6
comp=Z,18nm,1.0s
SFJD Kangerlussuaq 51.54 27 P P 07 50 13.3 +0.5
SFJD Kangerlussuaq 51.54 27 P P 07 50 13.3 +0.5
comp=Z,21nm,1.0s,baz=342,slow=10,SNR=4.0
429A Davenport Ranc 51.54 88 ⇓P P 07 50 12.9 -0.5
baz=51
231A Bronte 51.58 86 ⇑P P 07 50 13.0 -0.7
baz=52
TUL1 Tulsa 51.59 79 ⇓P P 07 50 12.5 -1.1
baz=51
529A Stev Forest Ra 51.70 89 ⇑P P 07 50 14.6 +0.1
baz=52,SNR=16
628A Black Gap, Mar 51.74 90 ⇑P P 07 50 14.8 -0.1
baz=52,SNR=17
430A Baggett Ranch, 51.83 88 ⇓P P 07 50 15.0 -0.5
baz=52,SNR=13
331A San Angelo 51.95 87 ⇓P P 07 50 16.0 -0.4
baz=52,SNR=9.1
BJI Beijing 52.00 289 P P 07 50 16.1 -0.5
BJI AMB AMB
comp=Z,26nm,1.0s
BJI AMB AMB
comp=Z,150nm,4.5s
BJI LR LR
comp=Z,600nm,16.8s
BJI LR LR
comp=Z,1μm,16.1s
BJI LR LR
comp=Z,900nm,20.3s
232A Coleman 52.02 85 ⇓P P 07 50 16.8 -0.2
baz=52
530A J-C Ranch, Com 52.22 88 ⇓P P 07 50 18.2 -0.2
baz=52,SNR=13
431A Sonora 52.28 87 ⇑P P 07 50 18.4 -0.5
baz=52,SNR=16
332A Millersview 52.32 86 ⇓P P 07 50 18.6 -0.5
baz=52,SNR=7.6
SONM Songino Array 52.34 302 P P 07 50 19.1 -0.1
SONM PcP PcP 07 51 29.9 +0.1
SONM ScP ScP 07 55 27.4 +4.0
SONM Songino Array 52.34 302 P P 07 50 19.1 -0.1
comp=Z,15nm,1.0s,baz=54,slow=7.3,SNR=49
SONM PcP PcP 07 51 29.9 +0.1
comp=Z,4.7nm,0.8s,baz=45,slow=2.8,SNR=5.0
SONM ScP ScP 07 55 27.4 +4.0
comp=Z,6.1nm,0.9s,baz=64,slow=3.4,SNR=4.2
432A Menard 52.64 86 ⇓P P 07 50 20.8 -0.8
baz=52,SNR=10.0
531A Rocksprings 52.69 88 ⇓P P 07 50 21.3 -0.6
baz=53,SNR=11
JCT Junction City 52.92 87 *e*P P 07 50 22.8 -0.8
JCT pmax pmax
comp=Z,30nm,1.2s
JCT Junction City 52.92 87 *e*P P 07 50 22.8 -0.8
comp=Z,30nm,1.2s
JCT Junction City 52.92 87 ⇑P P 07 50 22.5 -1.1
baz=53,SNR=11
532A Rocksprings 53.10 87 ⇑P P 07 50 24.4 -0.6
baz=53
631A Perdido Creek 53.20 88 ⇓P P 07 50 24.9 -0.8
baz=53,SNR=10
WHTX Lake Whitney 53.28 84 *e*P P 07 50 25.8 -0.4
WHTX Lake Whitney 53.28 84 ⇑P P 07 50 25.6 -0.6
baz=53,SNR=9.4
632A Uvalde 53.62 88 ⇓P P 07 50 27.9 -0.8
baz=54
SFIN Scholer Farm 53.69 69 ⇓P P 07 50 27.4 -1.6
baz=54
732A Laxson Ranch, 54.06 88 ⇑P P 07 50 31.1 -0.8
baz=54,SNR=9.2
HHC Hu-ho-hao-te 54.10 292 *e*P P 07 50 32.3 +0.1
HHC PcP PcP 07 51 37.9 +1.3
HHC PP PP 07 52 34.8 +1.1
HHC ScP ScP 07 55 31.4 +0.2
HHC PcS PcS 07 55 35.8 -0.2
HHC S S 07 58 02.8 -3.0
HHC ScS ScS 08 00 15.5 -2.5
HHC AMB AMB
comp=Z,75nm,1.0s
HHC LR LR
comp=Z,490nm,17.1s
HHC LR LR
comp=Z,800nm,17.7s
HHC LR LR
comp=Z,740nm,17.0s
OLIL Olney 54.22 71 *e*P P 07 50 31.9 -1.0
comp=Z,208nm,2.5s
SCHQ Schefferville 54.30 45 *e*P P 07 50 33.2 -0.1
comp=Z,53nm,1.3s
SCHQ Schefferville 54.30 45 P P 07 50 33.5 +0.1
comp=Z,17nm,0.9s,baz=296,slow=7.0,SNR=8.5
PARMO Parma 54.66 74 *e*P P 07 50 37.0 +0.9
BTO Baotou 55.13 293 *e*P P 07 50 40.0 +0.3
HKT Hockley 55.70 84 *e*P P 07 50 44.9 +1.2
HKT pmax pmax
comp=Z,27nm,1.4s
HKT Hockley 55.70 84 *e*P P 07 50 44.9 +1.2
comp=Z,27nm,1.4s
NJ2 Nanjing 55.86 280 *e*P P 07 50 46.4 +1.5
NJ2 AMB AMB
comp=Z,20nm,0.8s
WVT Waverly 56.15 73 *e*P P 07 50 45.8 -1.1
WVT pmax pmax
comp=Z,10.0nm,1.0s
WVT Waverly 56.15 73 *e*P P 07 50 45.8 -1.1
comp=Z,9.9nm,1.0s
HVS Khovu-Aksy 56.33 312⇓*e*P P 07 50 47.8 -0.3
HVS pmax pmax
comp=Z,97nm,1.0s
KEV Kevo 57.49 354 *ep* P 07 50 54.2 -1.7

comp=Z,9.9nm,0.7s
ARCES ARCESS Array B 57.80 355 P P 07 50 57.0 -1.1
ARCES ARCESS Array B 57.80 355 P P 07 50 57.0 -1.1
comp=Z,20nm,0.9s,baz=2.1,slow=6.7,SNR=21
ZAA0 Zalesovo Array 58.15 319 *eP* **P 07 51 00.1 -0.7**
ZALV Zalesovo Beam 58.15 319 P P 07 51 00.1 -0.7
ZALV 07 51 52.4
ZALV Zalesovo Beam 58.15 319 P P 07 51 00.1 -0.7
ZALV PcP **PcP 07 51 52.4 +0.4**
ZALV Zalesovo Beam 58.15 319 P P 07 51 00.1 -0.7
comp=Z,9.7nm,0.9s,baz=32,slow=5.8,SNR=18
ZALV PcP **PcP 07 51 52.4 +0.4**
comp=Z,2.5nm,0.7s,baz=344,slow=9.2,SNR=3.6
ZALV LR LR 08 17 22.1
comp=Z,914nm,19.9s,baz=339,slow=38
SSPA Standing Stone 58.64 63 *eP* **P 07 51 03.2 -1.1**
comp=Z,62nm,1.9s
LVZ Lovozero 58.70 351 *jiP* **P 07 51 03.8 -0.6**
LVZ pmax pmax
comp=Z,46nm,1.0s
TKL Tuckaleechee C 58.83 71 P P 07 51 04.7 -1.1
TKL Tuckaleechee C 58.83 71 P P 07 51 04.7 -1.1
comp=Z,5.1nm,1.1s,baz=3.4,slow=17,SNR=2.6
ACCN Adirondack Com 58.95 58 *eP* **P 07 51 05.8 -0.7**
comp=Z,40nm,1.4s
WHN Wuhan 59.64 282 ⇑*iP* **P 07 51 12.0 +0.6**
BLA Blacksburg 59.65 67 *eP* **P 07 51 10.5 -1.0**
BLA pmax pmax
comp=Z,13nm,0.8s
BLA Blacksburg 59.65 67 *eP* **P 07 51 10.4 -1.0**
comp=Z,13nm,0.8s
XAN Xi'an 60.33 288 P P 07 51 16.3 +0.1
XAN pP **pP 07 51 24.3 -3.7**
XAN sP **sP 07 51 28.3 -4.3**
XAN AMB AMB
comp=Z,9.0nm,1.5s
SSLB Suanglung 60.58 271 *eP* **P 07 51 18.1 +0.1**
comp=Z,49nm,1.1s
KMSC Kings Mountain 60.60 70 ⇑P **P 07 51 16.5 -1.5**
baz=60
JSRW J. Sargeant Re 60.72 65 *eP* **P 07 51 19.0 +0.2**
GTA Gaotai 61.57 298 *eP* **P 07 51 24.5 -0.2**
GTA pP **pP 07 51 34.8 -1.7**
GTA sP **sP 07 51 38.8 -2.3**
GTA S **S 07 59 39.8 -3.8**
GTA sS sS 07 59 57.6 -5.6
GTA SS **SS 08 03 41.8 -2.7**
GTA AMB AMB
comp=Z,23nm,1.0s
GTA AMB AMB
comp=Z,190nm,4.7s
GTA LR LR
comp=Z,1μm,18.1s
GTA LR LR
comp=Z,1μm,18.5s
GTA LR LR
comp=Z,2μm,18.1s
LZH Lanzhou 61.76 293 ⇑P **P 07 51 26.3 +0.3**
LZH pP **pP 07 51 36.3 -1.5**
LZH sP **sP 07 51 40.0 -2.5**
LZH AMB AMB
comp=Z,110nm,1.3s
LZH AMB AMB
comp=Z,880nm,5.3s
LZH LR LR
comp=Z,920nm,13.0s
LZH LR LR
comp=Z,760nm,14.8s
LZH LR LR
comp=Z,1μm,16.9s
TIGA Tifton 61.96 74 ⇑P **P 07 51 25.8 -1.4**
baz=62
ENH Enshi 62.72 285 *eP* **P 07 51 32.1 -0.2**
comp=Z,4.7nm,0.6s
KURK Kurchatov 63.08 319 *diP* **P 07 51 34.3 -0.1**
KURK pmax pmax
comp=Z,19nm,1.2s
KURK Kurchatov 63.08 319 *eP* **P 07 51 33.7 -0.7**
comp=Z,27nm,1.4s
KURK Kurchatov 63.08 319 P **P 07 51 34.5 +0.1**
comp=Z,157nm,1.5s,SNR=17
JOF Joensuu 63.89 351 *ep* **P 07 51 38.3 -1.2**
comp=Z,11nm,0.7s
BRVK Borovoye 64.29 326 *ciP* **P 07 51 42.2 -0.1**
BRVK pmax pmax
comp=Z,55nm,1.7s
BRVK Borovoye 64.29 326 *eP* **P 07 51 42.2 -0.1**
comp=Z,40nm,1.2s
VOSK Vostochnaya 64.32 325 *eP* **P 07 51 42.1 -0.5**
VOSK pmax pmax
comp=Z,28nm,1.1s
VOSK Vostochnaya 64.32 325 *eP* **P 07 51 42.1 -0.5**
comp=Z,28nm,1.1s
WMQ Urumqi 64.44 309 P **P 07 51 43.3 -0.3**
WMQ pP **pP 07 51 56.3 +0.9**
WMQ sP **sP 07 52 01.5 +1.4**
WMQ PP **PP 07 54 07.1 +2.0**
WMQ S **S 08 00 16.3 -2.9**
WMQ sS **sS 08 00 37.5 -1.4**
WMQ ScS **SKSac 08 01 29.6 -4.7**
WMQ AMB AMB
comp=Z,23nm,1.0s
WMQ LR LR
comp=Z,2μm,17.2s
WMQ LR LR
comp=Z,1μm,14.8s
WMQ LR LR
comp=Z,940nm,19.6s
MKAR Makanchi Array 64.61 315 *eP* **P 07 51 43.8 -0.8**
MKAR Makanchi Array 64.61 315 *eP* **P 07 51 43.8 -0.8**
MKAR Makanchi Array 64.61 315 P **P 07 51 43.5 -1.1**
comp=Z,12nm,0.8s,baz=52,slow=6.3,SNR=45
ARU Arti 65.00 334 *ciP* **P 07 51 47.0 +0.1**
ARU 07 54 06.8
ARU PPP PPP 07 55 40.8
ARU S **S 08 00 26.8 +1.2**
ARU SS **SS 08 04 33.6 -3.2**
ARU pmax pmax
comp=Z,74nm,1.7s
KAF Kangasniemi 65.11 353 *ep* **P 07 51 45.8 -1.7**
comp=Z,22nm,0.8s
CD2 Chengdu 65.59 289 P **P 07 51 51.8 +0.6**
CD2 pP **pP 07 52 03.5 +0.4**
CD2 sP **sP 07 52 08.1 +0.4**
CD2 PP **PP 07 54 17.8 +2.4**
CD2 S **S 08 00 31.1 -2.5**
CD2 sS **sS 08 00 50.8 -2.6**
CD2 SS **SS 08 04 46.1 -1.2**
CD2 AMB AMB
comp=Z,80nm,1.0s
CD2 AMB AMB
comp=Z,390nm,4.3s
CD2 LR LR
comp=Z,970nm,12.5s
CD2 LR LR
comp=Z,980nm,16.7s
FIA1 FINESS Array S 65.79 353 *eP* **P 07 51 51.3 -0.6**
FINES FINESS Array B 65.79 353 P P 07 51 51.1 -0.8
FINES FINESS Array B 65.79 353 P P 07 51 51.1 -0.8
comp=Z,14nm,0.6s,baz=18,slow=7.0,SNR=30
FINES LR LR 08 25 40.5
comp=Z,853nm,18.7s,baz=174,slow=41
NB2 NORSAR Subarra 66.67 1 P P 07 51 57.0 -0.6
comp=Z,0.7nm,0.7s,baz=2.6,slow=6.2
NOA NORSAR Array B 66.67 1 P P 07 51 57.1 -0.6
NOA NORSAR Array B 66.67 1 P P 07 51 57.1 -0.6
comp=Z,8.5nm,0.8s,baz=1.0,slow=6.5,SNR=15
GYA Guiyang 67.21 284 P P 07 52 02.4 +0.7
GYA pP **pP 07 52 15.0 +1.4**
GYA PP **PP 07 54 32.5 +2.8**
GYA ScP 07 56 30.8
GYA S **S 08 00 51.5 -2.0**
GYA SKS **SKSac 08 01 52.3 -3.6**
GYA AMB AMB
comp=Z,20nm,1.0s
GYA AMB AMB
comp=Z,120nm,5.2s
GYA LR LR
comp=Z,620nm,20.5s
GYA LR LR
comp=Z,530nm,20.0s
GYA LR LR
comp=Z,560nm,19.7s
VSU Vasula 68.70 352 *iP* **P 07 52 10.1 -0.2**
VSU pmax pmax
comp=Z,97nm,0.9s
KMI Kunming 70.52 286 P P 07 52 23.8 +1.4
KMI pP **pP 07 52 36.3 +1.9**
KMI sP **sP 07 52 43.0 +4.0**
KMI AMB AMB
comp=Z,12nm,1.0s
TKM2 Tokmak 2 70.57 316 *iP* **P 07 52 22.5 +0.1**
TKM2 Tokmak 2 70.57 316 P P 07 52 22.6 +0.1
SNR=14
TKM2 Tokmak 2 70.57 316 *eP* **P 07 52 21.8 -0.6**
comp=Z,22nm,1.1s
USP Ospenovka 70.74 317 *iP* **P 07 52 23.7 +0.4**
USP Ospenovka 70.74 317 P P 07 52 23.7 +0.4
SNR=18
OBN Obninsk 70.84 346 ⇓*eP* **P 07 52 23.1 -0.5**
OBN *eS* **S 08 01 37.4 +2.1**
OBN pmax pmax
comp=Z,83nm,1.7s
OBN MLR MLR
comp=Z,800nm,16.0s
CHMS Chumysh 70.86 317 *iP* **P 07 52 24.9 +0.9**
CHMS Chumysh 70.86 317 P P 07 52 24.9 +0.9
SNR=9.2
ABKAR Akbulak array 70.92 329 *eP* **P 07 52 24.1 -0.1**
comp=Z,17nm,1.0s
KBK Karagaybulak 71.06 316 *iP* **P 07 52 26.2 +0.8**
KBK Karagaybulak 71.06 316 P P 07 52 26.2 +0.8
SNR=11
AAK Ala-Archa 71.27 317 *ciP* **P 07 52 26.8 +0.2**
AAK pmax pmax
comp=Z,109nm,1.7s
AAK Ala-Archa 71.27 317 P P 07 52 26.9 +0.3
SNR=19
AAK Ala-Archa 71.27 317 *eP* **P 07 52 25.9 -0.8**
comp=Z,20nm,0.8s
AAK Ala-Archa 71.27 317 LR LR 08 25 59.2
comp=Z,868nm,18.6s,baz=18,slow=38
KZA Kyzart 71.41 316 *iP* **P 07 52 28.8 +1.0**
KZA Kyzart 71.41 316 P P 07 52 28.8 +1.0
SNR=5.6
EKS2 Erkin-Say 71.54 317 *eP* **P 07 52 28.6 +0.4**
EKS2 pmax pmax
comp=Z,67nm,1.5s
EKS2 Erkin-Say 71.54 317 P P 07 52 28.6 +0.4
SNR=19
EKS2 Erkin-Say 71.54 317 *eP* **P 07 52 28.6 +0.4**
comp=Z,67nm,1.5s
ESK Eskdalemuir 71.60 10 *eP* **P 07 52 28.7 +0.5**
ESK pmax pmax
comp=Z,23nm,1.0s
ESK Eskdalemuir 71.60 10 *eP* **P 07 52 28.7 +0.5**
comp=Z,23nm,1.0s
ISAL Salakas 71.61 352 *eP* **P 07 52 28.4 +0.1**
ISAL AMB AMB 07 52 29.8
comp=Z,18nm,1.0s
IIGN Ignalina 71.82 352 *eP* **P 07 52 29.1 -0.4**
IIGN AMB AMB 07 52 32.6
comp=Z,17nm,1.0s
AML Almayashu 72.02 317 *iP* **P 07 52 32.5 +1.1**
AML Almayashu 72.02 317 P P 07 52 32.5 +1.1
SNR=16
NACGM Naroch 72.22 352 *e* **P 07 52 29.0 -2.9**
KKAR Karatay Array 72.50 320 *eP* **P 07 52 33.7 -0.1**
comp=Z,40nm,1.2s
MICGM Minsk 72.51 351 *e* **P 07 52 32.0 -1.7**
KSH Kashi 73.20 314 P P 07 52 42.1 +3.9
KSH pP **PcP 07 52 54.9 +0.3**
KSH sP sP 07 53 00.3 +5.5
KSH PP PP 07 55 29.3 +8.4
KSH S **S 08 02 00.0 -3.2**
KSH SS **SS 08 06 48.3 +4.2**
KSH AMB AMB
comp=Z,220nm,2.7s
KSH LR LR
comp=Z,470nm,14.6s
KSH LR LR
comp=Z,1μm,16.5s
KSH LR LR
comp=Z,320nm,14.7s
SUW Suwalki 73.38 354 *eP* **P 07 52 38.5 -0.3**
SUW pmax pmax
comp=Z,114nm,0.7s
SUW Suwalki 73.38 354 *eP* **P 07 52 38.5 -0.3**
comp=Z,114nm,0.7s
SUW Suwalki 73.38 354 *eP* **P 07 52 38.9 +0.1**
LSA Lhasa 73.56 297 *eP* **P 07 52 42.0 +1.1**
LSA pmax pmax
comp=Z,45nm,1.1s
LSA Lhasa 73.56 297 *eP* **P 07 52 42.0 +1.1**
comp=Z,45nm,1.1s
BEL Belsk 75.70 355 *eP* **P 07 52 53.6 +1.3**
AKASG Malin Array Be 76.12 349 P P 07 52 54.1 -0.6
AKASG Malin Array Be 76.12 349 P P 07 52 54.1 -0.6
AKASG Malin Array Be 76.12 349 P P 07 52 54.1 -0.6
comp=Z,35nm,1.0s,baz=12,slow=5.8,SNR=55
AKASG LR LR 08 31 06.1
comp=Z,535nm,19.0s,baz=200,slow=39
KIEV Kiev 76.13 349 *eP* **P 07 52 54.3 -0.5**
KIEV pmax pmax
comp=Z,46nm,1.2s
KIEV Kiev 76.13 349 *eP* **P 07 52 54.2 -0.5**
comp=Z,46nm,1.2s
SHL Shillong 76.39 294 *eP* **P 07 52 57.0 +0.1**
SHL *ex* x 07 58 11.0
CLL Collm 76.44 360 *iP* **P 07 52 56.6 +0.1**
comp=Z,21nm,1.2s
CLL *i* (pP) **PcP 07 53 05.7 -2.4**
KSP Ksiaz 76.86 358 *eP* **P 07 52 59.8 +0.9**
BRG Berggiesshubel 76.87 359 *iP* **P 07 52 58.8 -0.1**
comp=Z,21nm,1.3s
MEM Membach 76.97 4 P **P 07 52 59.8 +0.3**
comp=Z,17nm,1.2s
MEM Membach 76.97 4 *eP* **P 07 53 00.3 +0.8**
MEM pmax pmax
comp=Z,29nm,1.1s
MEM Membach 76.97 4 *eP* **P 07 53 00.3 +0.8**
comp=Z,29nm,1.1s
BCLA Clavier 77.13 5 P **P 07 53 00.3 -0.1**
comp=Z,11nm,1.1s
UPC Upice 77.21 358 *eP* **P 07 53 01.8 +0.9**
PVCC Panska Ves 77.21 359 *eP* **P 07 53 01.9 +1.0**
PVCC *ex* x 07 53 04.3
DPC Dobruska-Polom 77.36 358 *eP* **P 07 53 02.5 +0.7**
DPC pmax pmax
comp=Z,266nm,1.3s
DPC Dobruska-Polom 77.36 358 *eP* **P 07 53 02.9 +1.1**
DPC *epP* **pP 07 53 14.0 +0.1**
DPC Dobruska-Polom 77.36 358 *eP* **P 07 53 02.5 +0.7**
comp=Z,266nm,1.3s
OJC Ojcow 77.36 355 *eP* **P 07 53 02.4 +0.7**
OJC pmax pmax
comp=Z,26nm,1.1s
OJC Ojcow 77.36 355 *eP* **P 07 53 02.4 +0.7**
comp=Z,26nm,1.1s
OJC Ojcow 77.36 355 *eP* **P 07 53 01.8 +0.1**
DOU Dourbes 77.41 5 P **P 07 53 03.2 +1.2**
GIVF Givet 77.42 5 *eP* **P 07 53 02.1 +0.1**
comp=Z,68nm,1.2s
GIVF Givet 77.42 5 *eP* **P 07 53 02.1 +0.1**
GIVF pmax pmax
comp=Z,69nm,1.2s
GIVF Givet 77.42 5 *eP* **P 07 53 02.1 +0.1**
comp=Z,68nm,1.2s
BAIF Baives 77.43 6 *eP* **P 07 53 02.4 +0.3**
comp=Z,35nm,1.1s
BAIF Baives 77.43 6 *eP* **P 07 53 02.4 +0.3**
BAIF pmax pmax
comp=Z,35nm,1.1s
BAIF Baives 77.43 6 *eP* **P 07 53 02.4 +0.3**
comp=Z,35nm,1.1s
KRLC Kraliky 77.62 357 *eP* **P 07 53 04.2 +1.0**
PRU Pruhonice 77.75 359 *eP* **P 07 53 04.8 +0.9**
KWP Kalwaria Pacla 77.78 353 *eP* **P 07 53 04.7 +0.6**
KWP pmax pmax
comp=Z,67nm,1.0s
KWP Kalwaria Pacla 77.78 353 *eP* **P 07 53 04.7 +0.6**
comp=Z,67nm,1.0s
KWP Kalwaria Pacla 77.78 353 *eP* **P 07 53 05.0 +0.9**
OKC Ostrava-Krasne 77.81 357 *eP* **P 07 53 05.2 +1.0**
OKC *ex* x 07 53 08.4
CMAR Chiang Mai Arr 77.89 284 P **P 07 53 05.0 -0.1**
CMAR Chiang Mai Arr 77.89 284 P **P 07 53 05.0 -0.1**
comp=Z,1.7nm,0.3s,baz=28,slow=6.5,SNR=15
GRF Grafenberg Arr 78.05 1 *eP* **P 07 53 06.8 +1.2**
comp=Z,15nm,0.9s
GRFO Grafenberg 78.05 1 *eP* **P 07 53 06.9 +1.3**
GRFO pmax pmax
comp=Z,34nm,1.2s
GRFO Grafenberg 78.05 1 *eP* **P 07 53 06.9 +1.3**
comp=Z,34nm,1.2s
STHS Stebnicka Huta 78.08 354 *eP* **P 07 53 07.1 +1.3**
NIE Niedzica 78.13 355 *eP* **P 07 53 06.6 +0.5**
FLN La Foliniere 78.35 9 *eP* **P 07 53 06.9 -0.3**
comp=Z,61nm,1.4s
FLN La Foliniere 78.35 9 *eP* **P 07 53 06.9 -0.3**
FLN pmax pmax
comp=Z,61nm,1.4s
FLN La Foliniere 78.35 9 *eP* **P 07 53 06.9 -0.3**
comp=Z,61nm,1.4s
VRAC Vranov 78.39 358 ⇓*iP* **P 07 53 08.9 +1.4**
ROSF Rostrenen 78.48 11 *eP* **P 07 53 08.1 +0.2**
comp=Z,98nm,1.6s
ROSF Rostrenen 78.48 11 *eP* **P 07 53 08.1 +0.2**
ROSF pmax pmax
comp=Z,98nm,1.6s
ROSF Rostrenen 78.48 11 *eP* **P 07 53 08.1 +0.2**
comp=Z,98nm,1.6s
LDF La Druitiere 78.55 9 *eP* **P 07 53 08.1 -0.3**
comp=Z,54nm,1.2s
LDF La Druitiere 78.55 9 *eP* **P 07 53 08.1 -0.3**
comp=Z,54nm,1.2s
KHC Kasperske Hory 78.62 360 *eP* **P 07 53 09.9 +1.2**
KHC pmax pmax
comp=Z,53nm,1.5s
KHC Kasperske Hory 78.62 360 *eP* **P 07 53 10.0 +1.2**
KHC *ex* x 07 53 13.4
KHC *epP* **pP 07 53 21.1 +0.2**
KHC Kasperske Hory 78.62 360 *eP* **P 07 53 09.9 +1.2**
comp=Z,53nm,1.5s
SGMF Saint Gilles 78.64 10 *eP* **P 07 53 08.9 +0.1**
comp=Z,39nm,1.1s
SGMF Saint Gilles 78.64 10 *eP* **P 07 53 08.9 +0.1**
SGMF pmax pmax
comp=Z,39nm,1.1s
SGMF Saint Gilles 78.64 10 *eP* **P 07 53 08.9 +0.1**
comp=Z,39nm,1.1s
LANF Langenberg 78.68 3 *eP* **P 07 53 09.2 +0.1**
GRR Gorron 78.68 9 *eP* **P 07 53 09.1 0.0**
comp=Z,46nm,1.2s
GRR Gorron 78.68 9 *eP* **P 07 53 09.1 0.0**
GRR pmax pmax
comp=Z,46nm,1.2s
GRR Gorron 78.68 9 *eP* **P 07 53 09.1 0.0**
comp=Z,46nm,1.2s
GEC2 GERESS Array S 78.90 359 *eP* **P 07 53 11.0 +0.6**
GEC2 pmax pmax
comp=Z,2μm,1.1s
GEC2 GERESS Array S 78.90 359 *eP* **P 07 53 11.0 +0.6**
comp=Z,2μm,1.1s
GERES GERESS Array B 78.90 359 P **P 07 53 09.7 -0.8**
GERES GERESS Array B 78.90 359 P **P 07 53 09.7 -0.8**
comp=Z,5.1nm,1.0s,baz=9.9,slow=3.1,SNR=23
QUIF Quistinic 78.90 11 *eP* **P 07 53 10.6 +0.3**
QUIF Quistinic 78.90 11 *eP* **P 07 53 10.6 +0.3**
QUIF Quistinic 78.90 11 *eP* **P 07 53 10.6 +0.3**
PAGF Fort de Pagny 79.01 5 *eP* **P 07 53 11.5 +0.6**
comp=Z,18nm,1.1s
PAGF Fort de Pagny 79.01 5 *eP* **P 07 53 11.5 +0.6**
comp=Z,18nm,1.1s
KECS Kecovo 79.06 355 *eP* **P 07 53 11.9 +0.7**
THN Thein Dam 79.17 310 *eP* **P 07 53 09.6 -2.4**
CDF Champ du Feu 79.22 4 *eP* **P 07 53 12.3 +0.1**
CDF Champ du Feu 79.22 4 *eP* **P 07 53 12.3 +0.1**
CDF Champ du Feu 79.22 4 *eP* **P 07 53 12.3 +0.1**
SFTF Sexfontaines 79.32 5 *eP* **P 07 53 12.8 +0.2**
comp=Z,38nm,0.9s
SFTF Sexfontaines 79.32 5 *eP* **P 07 53 12.8 +0.2**
comp=Z,38nm,0.9s
BFO Black Forest 79.35 3 *eP* **P 07 53 13.5 +0.7**
BFO pmax pmax
comp=Z,13nm,1.1s
BFO Black Forest 79.35 3 *eP* **P 07 53 13.5 +0.7**
comp=Z,13nm,1.1s
THEF They Montfort 79.35 5 *eP* **P 07 53 13.0 +0.2**
ECH Echery 79.42 4 *eP* **P 07 53 14.0 +0.9**
ECH pmax pmax
comp=Z,18nm,1.1s
ECH Echery 79.42 4 *eP* **P 07 53 13.7 +0.6**
ECH Echery 79.42 4 *eP* **P 07 53 14.0 +0.9**
comp=Z,18nm,1.1s
BUR08 Bucovina Ar. S 79.55 352 *eP* **P 07 53 13.6 -0.4**
BURAR Bucovina Array 79.58 352 ⇑*iP* **P 07 53 14.0 -0.1**
HAU Haudompre 79.59 4 *eP* **P 07 53 14.1 0.0**
comp=Z,47nm,1.3s
HAU Haudompre 79.59 4 *eP* **P 07 53 14.1 0.0**
HAU pmax pmax
comp=Z,47nm,1.3s
HAU Haudompre 79.59 4 *eP* **P 07 53 14.1 0.0**
comp=Z,47nm,1.3s
PSZ Piszkesteto 79.65 355 *eP* **P 07 53 15.9 +1.4**
PSZ pmax pmax
comp=Z,42nm,1.2s
PSZ Piszkesteto 79.65 355 ⇑*iP* **P 07 53 16.4 +1.9**
PSZ Piszkesteto 79.65 355 *eP* **P 07 53 15.9 +1.4**
comp=Z,42nm,1.2s
MOF Molkenrain 79.78 4 *eP* **P 07 53 15.4 +0.2**
FELD Feldberg im Sc 79.79 3 *eP* **P 07 53 15.4 +0.1**
CONA Conrad Observa 79.79 358 ⇑*iP* **P 07 53 16.3 +1.1**
comp=Z,30nm,1.1s,SNR=8.5
HINF Hinteralfeld 79.80 4 *eP* **P 07 53 15.4 +0.1**
comp=Z,23nm,1.0s
HINF Hinteralfeld 79.80 4 *eP* **P 07 53 15.4 +0.1**
HINF pmax pmax
comp=Z,23nm,1.0s
HINF Hinteralfeld 79.80 4 *eP* **P 07 53 15.4 +0.1**
comp=Z,23nm,1.0s
MOA Molln 79.89 359 ⇑*iP* **P 07 53 17.4 +1.7**
comp=Z,16nm,1.1s
ARCR ARCALIA 80.18 352 ⇓*iP* **P 07 53 19.4 +2.1**
LOR Lormes 80.19 6 *eP* **P 07 53 17.5 +0.2**
comp=Z,57nm,1.2s
LOR Lormes 80.19 6 *eP* **P 07 53 17.5 +0.2**
comp=Z,57nm,1.2s
RETA Reutte 80.25 1 ⇑*iP* **P 07 53 18.5 +0.8**
comp=Z,17nm,1.2s
LOMF Lomont 80.27 4 *eP* **P 07 53 18.2 +0.4**
SSF Saint Saulge 80.37 6 *eP* **P 07 53 18.6 +0.3**
comp=Z,44nm,1.1s
SSF Saint Saulge 80.37 6 *eP* **P 07 53 18.6 +0.3**
SSF pmax pmax
comp=Z,44nm,1.1s
SSF Saint Saulge 80.37 6 *eP* **P 07 53 18.6 +0.3**
comp=Z,44nm,1.1s
KBL Kabul 80.37 316 *eP* **P 07 53 18.3 -0.4**
comp=Z,50nm,1.0s
WATA Walderalm 80.41 1 ⇑*iP* **P 07 53 19.7 +1.0**
comp=Z,19nm,0.9s
KIV Kislovodsk 80.42 339 ⇑*eP* **P 07 53 20.1 +1.3**
KIV *e* 07 56 18.4
KIV *eS* **S 08 03 25.9 +4.1**
KIV pmax pmax
comp=Z,49nm,1.7s
KIV MLR MLR
comp=Z,700nm,16.0s
ARSA Arzberg 80.47 358 ⇑*iP* **P 07 53 20.3 +1.4**
comp=Z,26nm,1.2s,SNR=7.0
WTTA Wattenberg 80.48 1 ⇑*iP* **P 07 53 20.1 +1.0**
comp=Z,24nm,1.0s,SNR=6.2
MFF Saint Martin d 80.52 9 *eP* **P 07 53 19.4 +0.3**
comp=Z,86nm,1.2s
MFF Saint Martin d 80.52 9 *eP* **P 07 53 19.4 +0.3**
MFF pmax pmax
comp=Z,86nm,1.2s
MFF Saint Martin d 80.52 9 *eP* **P 07 53 19.4 +0.3**
comp=Z,86nm,1.2s
AVF Avril sur Loir 80.63 7 *eP* **P 07 53 19.8 +0.2**
comp=Z,61nm,1.3s
AVF Avril sur Loir 80.63 7 *eP* **P 07 53 19.8 +0.2**
AVF pmax pmax
comp=Z,61nm,1.3s
AVF Avril sur Loir 80.63 7 *eP* **P 07 53 19.8 +0.2**
comp=Z,61nm,1.3s
NCK Nalchik 80.66 338 *eP* **P 07 53 21.9 +2.0**
KBA Koelnbreinsper 80.67 360 ⇑*iP* **P 07 53 21.2 +1.1**
comp=Z,84nm,1.2s
KKR Kurukshetra 80.70 308 *eP* **P 07 53 21.0 +0.7**
FETA Feichten 80.71 1 ⇑*iP* **P 07 53 21.3 +0.9**
comp=Z,29nm,1.0s,SNR=8.8
SMF Signal de Mont 80.80 6 *eP* **P 07 53 20.7 +0.1**
comp=Z,54nm,1.1s
SMF Signal de Mont 80.80 6 *eP* **P 07 53 20.7 +0.1**

SMF pmax pmax
comp=Z,54nm,1.1s
SMF Signal de Mont 80.80 6 *e*P **P 07 53 20.7 +0.1**
comp=Z,54nm,1.1s
BGF Bois d'Agland 80.82 7 *e*P **P 07 53 20.8 +0.1**
comp=Z,42nm,1.1s
BGF Bois d'Agland 80.82 7 *e*P **P 07 53 20.8 +0.1**
BGF pmax pmax
comp=Z,42nm,1.1s
BGF Bois d'Agland 80.82 7 *e*P **P 07 53 20.8 +0.1**
comp=Z,42nm,1.1s
CABF La Chapelle 80.97 5 *e*P **P 07 53 22.3 +0.7**
comp=Z,57nm,1.2s
CABF La Chapelle 80.97 5 *e*P **P 07 53 22.3 +0.7**
CABF pmax pmax
comp=Z,57nm,1.2s
CABF La Chapelle 80.97 5 *e*P **P 07 53 22.3 +0.7**
comp=Z,57nm,1.2s
ABTA Abfaltersbach 81.00 0⇑*i*P **P 07 53 22.5 +0.7**
comp=Z,28nm,1.1s,SNR=7.0
TCF Toulx Ste Croi 81.04 7 *e*P **P 07 53 21.9 0.0**
comp=Z,44nm,1.4s
TCF Toulx Ste Croi 81.04 7 *e*P **P 07 53 21.9 0.0**
TCF pmax pmax
comp=Z,44nm,1.4s
TCF Toulx Ste Croi 81.04 7 *e*P **P 07 53 21.9 0.0**
comp=Z,44nm,1.4s
SOKA Soboth 81.06 358⇑*i*P **P 07 53 22.8 +0.7**
comp=Z,54nm,1.2s,SNR=14
PERS Pernice 81.10 358 *i*P **P 07 53 23.1 +0.8**
MYKA Terra Mystica 81.12 359⇑*i*P **P 07 53 22.9 +0.5**
comp=Z,24nm,1.1s
OBKA Obir 81.23 359⇑*i*P **P 07 53 23.8 +0.8**
comp=Z,27nm,1.1s
KOGS Kog 81.26 358 *e*P **P 07 53 24.5 +1.5**
SOC Sochi 81.41 341 *c i*P **P 07 53 24.5 +0.6**
SOC *e**PP **PcP 07 53 32.1 +2.2**
SOC *e*S **S 08 03 29.4 -2.4**
SOC pmax pmax
comp=Z,58nm,1.1s
PLDF La Plantade 81.46 7 *e*P **P 07 53 25.0 +0.8**
CADS Cadrg 81.52 359 *e*P **P 07 53 25.2 +0.7**
BISR Bishrakh 81.55 307 *e*P **P 07 53 25.5 +0.7**
ABKT Ailbek 81.61 325 P **P 07 53 25.0 -0.1**
comp=Z,204nm,1.2s,SNR=6.3
RTK Rohtak 81.67 308 *e*P **P 07 53 25.7 +0.2**
BHGR Bahadurgarh 81.70 307 *e*P **P 07 53 25.9 +0.2**
BHGR AMB AMB 07 53 27.1
comp=Z,45nm,1.0s
VOIR 81.76 351⇑*i*P **P 07 53 28.5 +2.7**
AYAN Aya Nagar 81.78 307 *e*P **P 07 53 25.9 -0.2**
AYAN AMB AMB 07 53 27.0
comp=Z,16nm,0.9s
BZS Buzias 81.85 354⇑*i*P **P 07 53 26.3 +0.1**
ARR Arges 81.86 352⇓*i*P **P 07 53 28.1 +1.8**
RJF Les Rejaudoux 81.96 8 *e*P **P 07 53 26.7 -0.1**
comp=Z,30nm,1.2s
RJF Les Rejaudoux 81.96 8 *e*P **P 07 53 26.7 -0.1**
RJF pmax pmax
comp=Z,30nm,1.2s
RJF Les Rejaudoux 81.96 8 *e*P **P 07 53 26.7 -0.1**
comp=Z,30nm,1.2s
SONA Sohna 81.99 307 *e*P **P 07 53 26.7 -0.5**
SONA AMB AMB 07 53 28.3
comp=Z,22nm,1.2s
LPL La Plagne 82.09 4 *e*P **P 07 53 28.9 +1.2**
LPL La Plagne 82.09 4 *e*P **P 07 53 28.9 +1.2**
LPL La Plagne 82.09 4 *e*P **P 07 53 28.9 +1.2**
LPG La Plagne 82.11 4 *e*P **P 07 53 29.3 +1.4**
comp=Z,27nm,1.1s
LPG La Plagne 82.11 4 *e*P **P 07 53 29.3 +1.4**
LPG pmax pmax
comp=Z,27nm,1.1s
LPG La Plagne 82.11 4 *e*P **P 07 53 29.3 +1.4**
comp=Z,27nm,1.1s
LFF La Frestale 82.25 9 *e*P **P 07 53 28.6 +0.3**
LFF La Frestale 82.25 9 *e*P **P 07 53 28.6 +0.3**
LFF La Frestale 82.25 9 *e*P **P 07 53 28.6 +0.3**
KUDL Kundal 82.37 307 *e*P **P 07 53 28.9 -0.3**
KUDL AMB AMB 07 53 30.6
comp=Z,44nm,1.5s
CAF Calviac 82.38 8 *e*P **P 07 53 29.3 +0.3**
comp=Z,52nm,1.3s
CAF Calviac 82.38 8 *e*P **P 07 53 29.3 +0.3**
CAF pmax pmax
comp=Z,52nm,1.3s
CAF Calviac 82.38 8 *e*P **P 07 53 29.3 +0.3**
comp=Z,52nm,1.3s
BNI Bardonecchia 82.55 4 *e*P **P 07 53 32.0 +2.0**
BNI pmax pmax
comp=Z,31nm,1.3s
BNI Bardonecchia 82.55 4 *e*P **P 07 53 32.0 +2.0**
comp=Z,31nm,1.3s
VIVF Saint-Julien-I 82.64 6 *e*P **P 07 53 31.0 +0.6**
comp=Z,43nm,1.3s
VIVF Saint-Julien-I 82.64 6 *e*P **P 07 53 31.0 +0.6**
VIVF pmax pmax
comp=Z,43nm,1.3s
VIVF Saint-Julien-I 82.64 6 *e*P **P 07 53 31.0 +0.6**
comp=Z,43nm,1.3s
ORIF Oris-en-Rattie 82.65 5 *e*P **P 07 53 31.2 +0.7**
comp=Z,29nm,1.0s
ORIF Oris-en-Rattie 82.65 5 *e*P **P 07 53 31.2 +0.7**
ORIF pmax pmax
comp=Z,29nm,1.0s
ORIF Oris-en-Rattie 82.65 5 *e*P **P 07 53 31.2 +0.7**
comp=Z,29nm,1.0s
KHET Khetri 82.76 308 *e*P **P 07 53 31.0 -0.3**
KHET AMB AMB 07 53 31.9
comp=Z,26nm,1.4s
MBDF Montbardon 82.88 4 *e*P **P 07 53 33.0 +1.2**
comp=Z,26nm,0.8s
MBDF Montbardon 82.88 4 *e*P **P 07 53 33.0 +1.2**
MBDF pmax pmax
comp=Z,26nm,0.8s
MBDF Montbardon 82.88 4 *e*P **P 07 53 33.0 +1.2**
comp=Z,26nm,0.8s
LASF Ste Croix 83.36 7 *e*P **P 07 53 34.7 +0.6**
LASF Ste Croix 83.36 7 *e*P **P 07 53 34.7 +0.6**
SMRF Simiane la Rot 83.57 5 *e*P **P 07 53 34.7 -0.5**
SMRF Simiane la Rot 83.57 5 *e*P **P 07 53 34.7 -0.5**
SBF Sospel 83.77 4 *e*P **P 07 53 36.8 +0.5**
comp=Z,74nm,1.1s
SBF Sospel 83.77 4 *e*P **P 07 53 36.8 +0.5**
SBF pmax pmax
comp=Z,74nm,1.1s
SBF Sospel 83.77 4 *e*P **P 07 53 36.8 +0.5**
comp=Z,74nm,1.1s
MTLF Montolieu 83.97 8 *e*P **P 07 53 37.9 +0.7**
comp=Z,20nm,0.9s
MTLF Montolieu 83.97 8 *e*P **P 07 53 37.9 +0.7**
MTLF pmax pmax
comp=Z,20nm,0.9s
MTLF Montolieu 83.97 8 *e*P **P 07 53 37.9 +0.7**
comp=Z,20nm,0.9s
FRF La Foret Royal 84.04 5 *e*P **P 07 53 37.1 -0.5**
FRF La Foret Royal 84.04 5 *e*P **P 07 53 37.1 -0.5**
FRF La Foret Royal 84.04 5 *e*P **P 07 53 37.1 -0.5**
EPF Esparros 84.11 9 *e*P **P 07 53 37.9 -0.1**
EPF Esparros 84.11 9 *e*P **P 07 53 37.9 -0.1**
EPF Esparros 84.11 9 *e*P **P 07 53 37.9 -0.1**
ETSF Etsaut 84.15 10 *e*P **P 07 53 38.0 -0.2**
comp=Z,87nm,1.4s
ETSF Etsaut 84.15 10 *e*P **P 07 53 38.0 -0.2**
ETSF pmax pmax
comp=Z,87nm,1.4s
ETSF Etsaut 84.15 10 *e*P **P 07 53 38.0 -0.2**
comp=Z,87nm,1.4s
LMR La Mourre 84.26 5 *e*P **P 07 53 39.2 +0.5**
comp=Z,149nm,1.6s
LMR La Mourre 84.26 5 *e*P **P 07 53 39.2 +0.5**
LMR pmax pmax
comp=Z,149nm,1.6s
LMR La Mourre 84.26 5 *e*P **P 07 53 39.2 +0.5**
comp=Z,149nm,1.6s
ANTO Ankara 86.27 345 *e*P **P 07 53 50.6 +1.7**
ANTO pmax pmax
comp=Z,49nm,1.3s
ANTO Ankara 86.27 345 *e*P **P 07 53 50.6 +1.7**
comp=Z,49nm,1.3s
BR131 Keskin Array S 86.27 344 *e*P **P 07 53 49.9 +1.0**
comp=Z,13nm,0.9s
BRTR Keskin Array B 86.27 344 P **P 07 53 49.7 +0.7**
BRTR Keskin Array B 86.27 344 P **P 07 53 49.7 +0.7**
comp=Z,10nm,0.8s,baz=40,slow=2.1,SNR=36
ESDC Sonseca Array 86.92 13 P **P 07 53 52.5 +0.4**
ESDC Sonseca Array 86.92 13 P **P 07 53 52.5 +0.4**
comp=Z,1.4nm,0.6s,baz=348,slow=4.3,SNR=9.2
KULM Kulim 87.19 275 *e*P **P 07 53 54.4 +0.8**
WRA Warramunga Arr 88.25 233 P **P 07 53 57.8 -0.6**
WRA Warramunga Arr 88.25 233 P **P 07 53 57.8 -0.6**
comp=Z,1.6nm,0.9s,baz=32,slow=5.6,SNR=6.2
PSI Prapat 90.20 275 P **P 07 54 08.1 +0.1**
PSI Prapat 90.20 275 P **P 07 54 08.1 +0.1**
comp=Z,8.7nm,1.0s,baz=17,slow=11,SNR=4.5
HYB Hyderabad 90.22 300 *i*P **P 07 54 06.5 -1.5**
ASAR Alice Springs 91.62 232 P **P 07 54 13.4 -0.7**
ASAR Alice Springs 91.62 232 P **P 07 54 13.4 -0.7**
comp=Z,1.2nm,0.9s,baz=28,slow=5.0,SNR=5.1
MMAI Mount Meron Ar 92.47 341 P **P 07 54 18.9 +0.6**
MMAI Mount Meron Ar 92.47 341 P **P 07 54 18.8 +0.6**
comp=Z,3.4nm,0.7s,baz=3.2,slow=4.5,SNR=9.7
RAYN Ar Rayn 99.01 330 *e*P Pdif 07 54 48.3 +0.2
comp=Z,13nm,1.2s
TORD Torodi Ar. Bea 113.79 12 PP PP 08 00 38.0 -0.1
TORD PKKPbc **PKKPbc 08 10 26.5 +0.3**
TORD PKKPab **PKKPab 08 10 38.7 +0.7**
TORD Torodi Ar. Bea 113.79 12 PP PP 08 00 38.0 -0.1
comp=Z,0.8nm,0.9s,baz=1.0,slow=3.7,SNR=3.7
TORD PKKPbc **PKKPbc 08 10 26.5 +0.3**
comp=Z,0.7nm,1.0s,baz=158,slow=1.6,SNR=2.9
TORD PKKPab **PKKPab 08 10 38.7 +0.7**
comp=Z,0.7nm,0.7s,baz=173,slow=2.3,SNR=4.0
H03N2 Juan Fernandez 114.75 113 T T 10 05 11.4
baz=320,slow=0.7,SNR=5.5
H03N1 Juan Fernandez 114.77 113 T T 10 05 13.9
baz=320,slow=0.7,SNR=8.0
H03N3 Juan Fernandez 114.77 113 T T 10 05 15.0
baz=320,slow=0.7,SNR=5.0
QSPA South Pole Qui 142.39 180 *e*PKPdf **PKPdf 08 00 41.2 +2.9**
TSUM Tsumeb 146.44 352 *e*PKPdf **PKPdf 08 00 47.2 +0.3**
TSUM PKPbc **PKPdf 08 00 47.6 +0.7**
TSUM Tsumeb 146.44 352 PKPbc **PKPdf 08 00 47.6 +0.7**
comp=Z,4.7nm,0.8s,baz=4.8,slow=7.6,SNR=7.4
LBTB Lobatse 150.79 336 *e*PKPbc **PKPbc 08 00 59.5 +0.1**
LBTB Lobatse 150.79 336 PKPbc **PKPbc 08 01 00.3 +0.9**
comp=Z,18nm,0.9s,baz=64,slow=3.1,SNR=16
MAW Mawson 151.93 219 *e*PKPbc **PKPbc 08 01 02.0 +1.5**
MAW Mawson 151.93 219 PKPbc **PKPbc 08 01 00.9 +0.4**
comp=Z,3.1nm,0.8s,baz=72,slow=20,SNR=3.6
BOSA Boshof 154.31 334 *e*PKPab **PKPab 08 01 21.6 +0.3**
BOSA Boshof 154.31 334 PKPbc **PKPbc 08 01 10.5 +3.3**
comp=Z,5.0nm,0.9s,baz=319,slow=1.6,SNR=3.8
BOSA PKPab **PKPab 08 01 21.6 +0.3**
comp=Z,7.0nm,0.9s,baz=42,slow=5.1,SNR=6.8

IDC 13 07:44:19.5±29.0, 16°33'S×173°72'W, h0km, mb4.4/4, mb1 4.6/4, mb1mx4.0/21, mbtmp4.4/4, MS3.0/1, Ms1 3.0/1, ms1mx2.9/39, Error ellipse: s-maj=569.5km s-min=159.1km az=85.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.05**	**38**	LR	LR	07 45 42.6	
	comp=Z,239nm,18.4s,baz=322,slow=27						
STKA	**Stephens Creek**	**43.31**	**241**	P	P	07 52 23.8	+0.4
	2.4nm,0.5s,baz=76,slow=11,SNR=5.3						
WRA	**Warramunga Arr**	**49.34**	**255**	P	P	07 53 10.3	-0.6
	1.3nm,0.5s,baz=96,slow=6.8,SNR=38						
ASAR	**Alice Springs**	**49.54**	**253**	P	P	07 53 12.1	-0.4
	15nm,0.5s,baz=88,slow=8.3,SNR=279						
FITZ	**Fitzroy Crossi**	**57.72**	**259**	P	P	07 54 13.0	+0.4
	3.6nm,1.0s,baz=77,slow=8.1,SNR=4.3						

*BJI **13** 07:46:19.4, 52°.60N×167°.20W, h10km, mB5.3/16, mb5.2/42, Ms5.3/18, Ms7 5.0/18*
*IDC **13** 07:46:19.5±0.5, 52°.76N×167°.23W, h0km, mb4.6/37, mb1 4.7/39, mb1mx4.7/42, mbtmp4.6/39, ML4.0/2, Error ellipse: s-maj=16.0km s-min=8.6km az=172.0*
*MOS **13** 07:46:22.9±1.0, 52°.62N×167°.19W, h33km, mb5.5/49, Error ellipse: s-maj=9.4km s-min=5.3km az=87.6*
*ISCJB **13** 07:46:22.7±0.4, 52°.55N±0°.03×167°.16W±0°.02, h34km±3km, mb4.9/165, MS5.0/9, Error ellipse: s-maj=4.4km s-min=2.2km az=1.4*
*SZGRF **13** 07:46:23.6, 51°.99N×164°.17W, h33km, mb4.9, South of Alaska*
*NEIC **13** 07:46:25.3±0.3, 52°.66N×167°.18W, h38km±2km, mb5.0/98, ML4.5(AEIC), Error ellipse: s-maj=4.3km s-min=2.1km az=169.0*
ISC 13 07:46:23.2±0.4, 52°.61N±0°.05×167°.16W±0°.03, h26km±2km, n744, σ1¥02/797, mb5.0/165, MS5.2/9, 148C-132D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKFG	**Magazine Ridge**	**0.93**	**331**	P	**Pb**	**07 46 40.8**	**+0.2**
OKFG				S	**Sn**	**07 46 57.4**	**+4.4**
OKSE	**Okmok Steeple**	**0.94**	**314**	P	**Pb**	**07 46 41.5**	**+0.6**
OKTU	**Okmok Mt. Tuli**	**0.95**	**326**	P	**Pb**	**07 46 41.7**	**+0.7**
OKSO	**Okmok South**	**0.97**	**322**	P	**Pb**	**07 46 41.3**	**0.0**
OKSO				S	**Sn**	**07 46 57.2**	**+3.2**
OKCE	**Okmok Cone E**	**1.02**	**324**	P	**Pb**	**07 46 42.6**	**+0.4**
NIKH	**Nikolski High**	**1.09**	**290**	P	**Pn**	**07 46 42.6**	**-0.2**
NIKH				S	**Sb**	**07 46 59.9**	**+2.6**
MSOM	**Makushin Julie**	**1.22**	**6**	P	**Pn**	**07 46 44.4**	**-0.1**
MSOM	**Makushin Julie**	**1.22**	**6**	P	**Pn**	**07 46 44.4**	**-0.1**
MREP	**Makushin Rep't**	**1.23**	**11**	P	**Pn**	**07 46 45.2**	**+0.5**
UNV	**Unalaska Valle**	**1.30**	**17**	P	**Pn**	**07 46 46.2**	**+0.5**
UNV				S	**Sb**	**07 47 05.2**	**+1.9**
MCIR	**Makushin Cirqu**	**1.36**	**7**	P	**Pn**	**07 46 47.1**	**+0.6**
MTBL	**Makushin Table**	**1.40**	**12**	P	**Pn**	**07 46 47.4**	**+0.4**
ZRO	**Akutan Zero**	**1.65**	**25**	P	**Pn**	**07 46 50.1**	**-0.3**
AKRB	**Akutan Reef Bi**	**1.66**	**23**	P	**Pn**	**07 46 51.1**	**+0.5**
LVA	**Lava Point**	**1.70**	**23**	P	**Pn**	**07 46 51.6**	**+0.5**
AKGG	**Akutan Green G**	**1.74**	**23**	P	**Pn**	**07 46 52.0**	**+0.3**
AKUT	**Akutan**	**1.74**	**28**	P	**Pn**	**07 46 51.2**	**-0.4**
WESE	**West Dahl East**	**2.42**	**38**	P	**Pn**	**07 47 01.0**	**0.0**
SSBA	**Shishaldin**	**2.82**	**38**	P	**Pn**	**07 47 06.3**	**-0.3**
SSBA				S	**Sn**	**07 47 42.2**	**+2.5**
SSLW	**Shishaldin Wes**	**2.82**	**39**	P	**Pn**	**07 47 06.4**	**-0.1**
BRPK	**Brown Peak**	**2.88**	**43**	P	**Pn**	**07 47 07.2**	**-0.1**
FALS	**False Pass**	**3.17**	**43**	*e*Pn	**Pn**	**07 47 12.0**	**+0.7**
FALS				*e*Sn	**Sn**	**07 47 50.4**	**+2.3**
DRIA	**Deer Island**	**3.75**	**49**	P	**Pn**	**07 47 19.1**	**-0.1**
DT1	**Dutton Round H**	**3.82**	**47**	P	**Pn**	**07 47 20.3**	**+0.1**
SDPT	**Sand Point**	**4.81**	**52**	P	**Pn**	**07 47 33.1**	**-0.6**
SPIA	**Saint Paul Isl**	**4.92**	**340**	P	**Pn**	**07 47 37.7**	**+2.5**
GSTR	**Great Sitkin T**	**5.48**	**268**	*e*Pn	**Pn**	**07 47 44.4**	**+1.3**
GSMY	**Great Sitkin M**	**5.49**	**268**	P	**Pn**	**07 47 44.2**	**+1.1**
GSTD	**Great Sitkin T**	**5.54**	**268**	P	**Pn**	**07 47 45.0**	**+1.2**
GSTD				S	**Sn**	**07 48 49.0**	**+2.3**
GSCK	**Great Sitkin C**	**5.56**	**267**	P	**Pn**	**07 47 45.1**	**+1.1**
ETKA	**Kagalaska Isla**	**5.73**	**266**	P	**Pn**	**07 47 47.4**	**+0.9**
ADAG	**Mount Adagdak**	**5.83**	**268**	P	**Pn**	**07 47 49.7**	**+1.9**
ADK	**Adak**	**5.90**	**267**	P	**Pn**	**07 47 49.5**	**+0.8**
ADK	**Adak**	**5.90**	**267**	P	**Pn**	**07 47 49.5**	**+0.8**
KIKV	**Kanaga Island**	**6.20**	**267**	P	**Pn**	**07 47 54.1**	**+1.2**
CHGN	**Chignik**	**6.30**	**51**	*e*Pn	**Pn**	**07 47 55.0**	**+0.8**
CHGN				*e*Sn	**Sn**	**07 49 06.1**	**+0.8**
TAPA	**Tanaga Point A**	**6.60**	**267**	P	**Pn**	**07 47 60.0**	**+1.6**
TASE	**Tanaga Southea**	**6.73**	**268**	P	**Pn**	**07 48 02.1**	**+1.9**
GANE	**Gareloi Northe**	**7.18**	**268**	P	**Pn**	**07 48 08.2**	**+1.8**
CHIR	**Chirikof Islan**	**7.49**	**60**	P	**Pn**	**07 48 09.9**	**-0.7**
CERAA	**Semis' Rag'd T**	**8.11**	**270**	P	**Pn**	**07 48 19.9**	**+0.8**
CESW	**Semis' Southwe**	**8.18**	**270**	P	**Pn**	**07 48 21.4**	**+1.3**
AMKA	**Amchitka**	**8.45**	**267**	P	**Pn**	**07 48 24.5**	**+0.8**
SII	**Sitkinak Islan**	**8.51**	**57**	P	**Pn**	**07 48 24.2**	**-0.3**
ANCK	**Angle Creek**	**8.68**	**45**	P	**Pn**	**07 48 27.3**	**+0.4**
LSPA	**Little Sitkin**	**8.78**	**271**	P	**Pn**	**07 48 29.4**	**+1.2**
LSNW	**Little Sitkin**	**8.81**	**272**	P	**Pn**	**07 48 30.4**	**+1.8**
LSSA	**Little Sitkin**	**8.81**	**271**	P	**Pn**	**07 48 30.5**	**+1.8**
KABR	**Katmai Barrier**	**8.87**	**47**	P	**Pn**	**07 48 29.8**	**+0.3**
OHAK	**Old Harbor**	**9.22**	**54**	*e*Pn	**Pn**	**07 48 35.2**	**+0.9**
KDAK	**Kodiak Island**	**9.81**	**52**	*e*Pn	**Pn**	**07 48 41.5**	**-0.8**
RSO	**Redoubt South**	**11.17**	**40**	*e*Pn	**Pn**	**07 49 03.8**	**+2.7**
	78nm,0.9s						
FX1	**Attu Island--F**	**11.93**	**279**	*e*Pn	**Pn**	**07 49 14.2**	**+2.9**
FX1	**Attu Island--F**	**11.93**	**279**	Pn	**Pn**	**07 49 12.8**	**+1.4**
	2.6nm,0.3s,baz=45,slow=21,SNR=16						
PMR	**Palmer**	**13.26**	**40**	*e*P	**Pn**	**07 49 31.1**	**+1.6**
PMR	**Palmer**	**13.26**	**40**	*e*Pn	**Pn**	**07 49 31.1**	**+1.6**
CAST	**Castle Rocks**	**13.42**	**30**	*e*Pn	**Pn**	**07 49 34.6**	**+3.0**
BPAW	**Bear Paw Mtn.**	**14.25**	**30**	*e*Pn	**Pn**	**07 49 44.3**	**+1.3**
RAGM	**Ragged Mountai**	**14.60**	**49**	*e*Pn	**P**	**07 49 51.6**	**-2.3**
MCK	**McKinley**	**14.65**	**33**	*e*P	**Pn**	**07 49 50.8**	**+2.3**
MCK	**McKinley**	**14.65**	**33**	*e*Pn	**Pn**	**07 49 50.8**	**+2.3**
BMRM	**Bremner River**	**14.86**	**47**	*e*Pn	**Pn**	**07 49 53.6**	**+2.3**
IM04	**Indian Mountai**	**14.99**	**21**	*e*P	**P**	**07 49 56.0**	**-2.3**
IMA2	**Indian Mountai**	**15.09**	**21**	*e*P	**P**	**07 49 57.4**	**-2.1**
PAX	**Paxson**	**15.45**	**39**	*e*P	**Pn**	**07 49 58.5**	**-0.7**
PAX				pmax	pmax		
	comp=Z,15nm,0.9s						
PAX	**Paxson**	**15.45**	**39**	*e*P	**Pn**	**07 49 58.5**	**-0.7**
	comp=Z,15nm,0.9s						
COLA	**College**	**15.77**	**31**	*e*P	**Pn**	**07 50 03.1**	**0.0**
COLA				pmax	pmax		
	comp=Z,21nm,0.8s						
COLA	**College**	**15.77**	**31**	*e*P	**Pn**	**07 50 03.0**	**0.0**
	comp=Z,21nm,0.8s						
ILAR	**Eielson Array**	**16.01**	**33**	Pn	**Pn**	**07 50 03.4**	**-2.8**
ILAR				ScP	**ScP**	**07 58 34.8**	**+0.7**
ILAR	**Eielson Array**	**16.01**	**33**	Pn	**Pn**	**07 50 03.4**	**-2.8**
	comp=Z,0.3nm,0.3s,baz=225,slow=11,SNR=14						
ILAR				ScP	**ScP**	**07 58 34.8**	**+0.7**
	comp=Z,0.0nm,0.3s,baz=260,slow=2.9,SNR=6.8						
MENT	**Mentasta**	**16.12**	**41**	*e*P	**Pn**	**07 50 09.2**	**+1.4**
DOT	**Dot Lake**	**16.35**	**38**	*e*P	**Pn**	**07 50 11.0**	**+0.4**
	comp=Z,14nm,0.7s						
COLD	**Coldfoot**	**16.85**	**23**	*e*P	**P**	**07 50 18.6**	**-0.1**
	comp=Z,34nm,0.8s						
EGAK	**Eagle**	**18.02**	**37**	*e*P	**Pn**	**07 50 30.9**	**-0.5**
	comp=Z,19nm,0.6s						
HYT	**Haines Junctio**	**18.10**	**51**	*e*P	**P**	**07 50 35.6**	**+2.9**
DAWY	**Dawson**	**18.37**	**41**	*e*P	**P**	**07 50 35.2**	**-0.4**
SKAG	**Skagway**	**18.92**	**56**	*e*P	**Pn**	**07 50 43.3**	**+1.0**
	comp=Z,30nm,0.8s						
H02S1	**DAWSON INLET T**	**20.81**	**74**	T	T	08 12 28.4	
PEA0B	**Petropavlovsk-**	**21.10**	**285**	*e*P	**P**	**07 51 06.6**	**+1.2**
PETK	**Petropavlovsk-**	**21.10**	**285**	P	**P**	**07 51 05.0**	**-0.4**
PETK	**Petropavlovsk-**	**21.10**	**285**	P	**P**	**07 51 05.0**	**-0.4**
PETK	**Petropavlovsk-**	**21.10**	**285**	P	**P**	**07 51 05.0**	**-0.4**
	comp=Z,23nm,0.5s,baz=88,slow=12,SNR=64						
DLBC	**Dease Lake**	**21.60**	**60**	*e*P	**P**	**07 51 13.6**	**+2.8**
DLBC	**Dease Lake**	**21.60**	**60**	P	**P**	**07 51 12.0**	**+1.2**
	comp=Z,30nm,1.1s,baz=273,slow=12,SNR=7.4						
INK	**Inuvik**	**22.41**	**33**	*e*P	**P**	**07 51 16.6**	**-2.7**
	comp=Z,16nm,0.6s						
INK	**Inuvik**	**22.41**	**33**	P	**P**	**07 51 16.9**	**-2.4**
	comp=Z,25nm,0.8s,baz=235,slow=11,SNR=18						
SEY	**Seymchan**	**23.51**	**312**⇓*i*P		**P**	**07 51 30.2**	**-0.4**
YKA	**Yellowknife Ar**	**29.07**	**49**	P	**P**	**07 52 21.1**	**+0.3**
YKA	**Yellowknife Ar**	**29.07**	**49**	P	**P**	**07 52 21.1**	**+0.3**
	comp=Z,2.9nm,0.7s,baz=270,slow=7.8,SNR=3.3						
B08A	**Colville Reser**	**30.28**	**79**	*e*P	**P**	**07 52 33.0**	**+1.2**
	comp=Z,6.9nm,1.0s						
HAWA	**Hanford**	**31.07**	**82**	*e*P	**P**	**07 52 39.5**	**+0.6**
	comp=Z,9.6nm,1.1s						
NEW	**Newport**	**31.64**	**77**	*e*P	**P**	**07 52 44.0**	**+0.2**
	comp=Z,4.8nm,0.7s						
NEW	**Newport**	**31.64**	**77**	⇑P	**P**	**07 52 44.7**	**+0.9**
	baz=32						
NEW	**Newport**	**31.64**	**77**	P	**P**	**07 52 43.5**	**-0.3**
	comp=Z,3.6nm,0.8s,baz=292,slow=13,SNR=5.6						
EDM	**Edmonton**	**31.81**	**67**	*e*P	**P**	**07 52 45.7**	**+0.4**
EDM	**Edmonton**	**31.81**	**67**	*e*P	**P**	**07 52 45.7**	**+0.4**
E09A	**Wood Farm, Sta**	**31.85**	**81**	*e*P	**P**	07 52 49.2	+3.6
	comp=Z,125nm,2.9s						
K05A	**Summer Lake**	**32.17**	**89**	*e*P	**P**	07 52 53.7	+5.0
	comp=Z,44nm,1.4s						
K05A				*e*pP	pP	07 52 57.9	+1.4
I07A	**Izee**	**32.28**	**86**	*e*P	**P**	**07 52 51.2**	**+1.7**
	comp=Z,7.5nm,0.8s						
MOD	**Modoc**	**33.00**	**90**	*e*P	**P**	**07 52 56.4**	**+0.4**
	comp=Z,33nm,0.9s						
WALA	**Waterton Lakes**	**33.18**	**74**	*e*P	**P**	**07 52 59.7**	**+2.3**
	comp=Z,0.4nm,1.2s						
BSMT	**Bassoo Peak**	**33.22**	**77**	*e*P	**P**	**07 53 00.6**	**+2.7**
TIXI	**Tiksi**	**33.23**	**329**⇓*i*P		**P**	**07 52 57.2**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,11nm,0.8s						
J08A	**Circle Bar Ran**	**33.30**	**86**	*e*P	**P**	**07 53 00.5**	**+2.0**
	comp=Z,6.6nm,0.8s						
ASAJ	**Asahikawa**	**33.83**	**276**	P	**P**	**07 53 01.4**	**-1.6**
ASAJ	**Asahikawa**	**33.83**	**276**	P	**P**	**07 53 01.4**	**-1.6**
	comp=Z,17nm,1.0s,baz=61,slow=18,SNR=4.2						
MSO	**Missoula**	**34.22**	**78**	⇓P	**P**	**07 53 06.9**	**+0.4**
	baz=34						
CHMT	**Chamberlain Mo**	**34.59**	**77**	*e*P	**P**	**07 53 09.4**	**-0.3**
	comp=Z,2.4nm,0.8s						
PAHR	**Pah Rah Range**	**34.87**	**92**	*e*P	**P**	**07 53 13.1**	**+1.0**
	comp=Z,30nm,1.1s						
MFID	**Camas Ranch**	**34.87**	**84**	*e*P	**P**	**07 53 12.8**	**+0.6**
	comp=Z,6.6nm,1.2s						
CMB	**Columbia Colle**	**35.30**	**95**	*e*P	**P**	**07 53 17.9**	**+2.1**
CMB				pmax	pmax		
	comp=Z,11nm,1.2s						
CMB	**Columbia Colle**	**35.30**	**95**	*e*P	**P**	**07 53 17.9**	**+2.1**
	comp=Z,11nm,1.2s						
RES	**Resolute Bay**	**35.57**	**26**	P	**P**	**07 53 16.1**	**-1.5**
RES	**Resolute Bay**	**35.57**	**26**	P	**P**	**07 53 16.1**	**-1.5**
	comp=Z,5.4nm,0.8s,baz=257,slow=14,SNR=4.1						
WAKR	**Walker**	**35.58**	**94**	*e*P	**P**	**07 53 19.9**	**+1.5**
HLID	**Hailey**	**35.65**	**83**	*e*P	**P**	**07 53 19.9**	**+1.0**
	comp=Z,12nm,1.5s						
HLID	**Hailey**	**35.65**	**83**	⇑P	**P**	**07 53 19.5**	**+0.6**
	baz=36						
MCMT	**McKenzie Canyo**	**35.90**	**80**	*e*P	**P**	**07 53 21.4**	**+0.3**
EGMT	**Eagleton**	**36.10**	**74**	*e*P	**P**	**07 53 22.8**	**+0.1**
	comp=Z,28nm,1.0s						
EGMT	**Eagleton**	**36.10**	**74**	⇑P	**P**	**07 53 23.0**	**+0.3**
	baz=36						
A19A	**Klindworth Far**	**36.26**	**72**	⇑P	**P**	**07 53 23.9**	**-0.1**
	baz=36						
NVAR	**Mina Array Bea**	**36.32**	**93**	P	**P**	**07 53 25.6**	**+0.9**
NVAR				PcP	**PcP**	**07 55 49.3**	**+0.2**
NVAR	**Mina Array Bea**	**36.32**	**93**	P	**P**	**07 53 25.6**	**+0.9**
	comp=Z,4.1nm,0.7s,baz=300,slow=8.8,SNR=19						
NVAR				PcP	**PcP**	**07 55 49.3**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=304,slow=6.4,SNR=2.8						
B19A

R11A **Troy Canyon, C** 38.03 91 *e*P P 07 53 40.7 +1.5
R11A **Troy Canyon, C** 38.03 91 ⇑P P 07 53 40.2 +1.0
baz=38
ARVC **Arvin** 38.16 98 ⇓P P 07 53 40.8 +0.7
baz=38
D21A **La Casta Ranch** 38.20 74 ⇑P P 07 53 41.1 +0.7
baz=38
H19A **Powell** 38.30 78 ⇑P P 07 53 41.7 +0.3
baz=38
MPMC **Manual Prospec** 38.35 95 ⇓P P 07 53 42.4 +0.5
baz=38
FURC **Furnace Creek,** 38.46 94 ⇓P P 07 53 43.0 +0.5
baz=38
G20A **Bridger** 38.46 77 ⇑P P 07 53 42.6 -0.1
baz=38
A23A **Redstone** 38.47 70 ⇓P P 07 53 42.7 +0.1
baz=38
H11N2 **WAKE ISLAND Hy** 38.50 221 T T 08 35 02.2
baz=26,slow=0.7,SNR=21
H11N3 **WAKE ISLAND Hy** 38.51 221 T T 08 35 03.4
baz=26,slow=0.7,SNR=19
H11N1 **WAKE ISLAND Hy** 38.52 221 T T 08 35 03.6
baz=26,slow=0.7,SNR=19
DUG **Dugway** 38.58 86 *e*P P 07 53 44.5 +0.7
DUG pmax pmax
comp=Z,6.0nm,0.9s
DUG **Dugway** 38.58 86 *e*P P 07 53 44.5 +0.7
comp=Z,5.8nm,0.9s
DUG **Dugway** 38.58 86 ⇑P P 07 53 44.3 +0.5
baz=38
D22A **Cohagen** 38.63 73 ⇑P P 07 53 43.8 -0.2
baz=38
B23A **Brockton** 38.65 70 ⇑P P 07 53 43.9 -0.2
baz=38
EDW2 **Edwards Air Fo** 38.83 97 ⇓P P 07 53 46.7 +0.9
baz=39
C23A **Lambert** 38.87 71 ⇑P P 07 53 46.4 +0.4
baz=39,SNR=8.1
BW06 **Boulder Array** 39.03 81 *e*P P 07 53 47.6 0.0
comp=Z,9.2nm,1.1s
PDAR **Pinedale Array** 39.03 81 P P 07 53 47.8 +0.1
PDAR **Pinedale Array** 39.03 81 P P 07 53 47.8 +0.1
comp=Z,4.6nm,1.0s,baz=305,slow=4.7,SNR=15
J19A **Crowheart** 39.05 80 ⇑P P 07 53 47.7 0.0
baz=39
M17A **Scullys Gap (B** 39.12 83 ⇓P P 07 53 48.5 +0.1
baz=39
E22A **Miles City** 39.14 74 ⇓P P 07 53 48.6 +0.3
baz=39
JLU **Jordanelle** 39.16 85 *e*P P 07 53 49.4 +0.6
comp=Z,19nm,1.6s
SHOC **Shoshone** 39.19 95 ⇓P P 07 53 49.4 +0.7
baz=39
D23A **Lindsay** 39.19 72 ⇓P P 07 53 49.1 +0.4
baz=39
I20A **Worland** 39.22 78 ⇓P P 07 53 49.2 +0.2
baz=39
L18A **Fontenelle, Gr** 39.23 82 ⇑P P 07 53 49.5 +0.2
baz=39
GSC **Goldstone** 39.27 96 *e*P P 07 53 50.3 +0.8
GSC pmax pmax
comp=Z,20nm,0.9s
GSC **Goldstone** 39.27 96 *e*P P 07 53 50.3 +0.8
comp=Z,20nm,0.9s
GSC **Goldstone** 39.27 96 ⇑P P 07 53 49.8 +0.3
baz=39,SNR=14
C24A **Savage** 39.45 71 ⇑P P 07 53 51.0 +0.1
baz=39
BFSC **Mount Baldy Ra** 39.47 98 ⇓P P 07 53 51.5 +0.3
baz=39
SHPR **Sheep Range** 39.47 93 *e*P P 07 53 51.1 -0.1
A25A **Svangstu Ranch** 39.48 69 ⇓P P 07 53 51.2 +0.1
baz=39
H21A **Big Horn, Sher** 39.48 77 ⇑P P 07 53 51.0 -0.3
baz=39
J20A **Shoshoni** 39.58 79 ⇓P P 07 53 51.9 -0.2
baz=39
G22A **Birney** 39.60 76 ⇓P P 07 53 52.0 -0.3
baz=39
H11S1 **WAKE ISLAND Hy** 39.68 221 T T 08 36 27.3
baz=24,slow=0.7,SNR=6.4
H11S2 **WAKE ISLAND Hy** 39.70 221 T T 08 36 28.9
baz=24,slow=0.7,SNR=5.3
H11S3 **WAKE ISLAND Hy** 39.70 221 T T 08 36 28.0
baz=24,slow=0.7,SNR=11
D24A **Glendive** 39.73 72 ⇓P P 07 53 53.7 +0.5
baz=40
I21A **Big Trails, Te** 39.79 78 ⇑P P 07 53 54.6 +0.7
baz=40
B25A **Knox Farm, Ray** 39.80 70 ⇓P P 07 53 54.6 +0.9
baz=40
F23A **Volborg** 39.85 74 ⇑P P 07 53 54.7 +0.5
baz=40
CCUT **Cedar City** 39.89 90 *e*P P 07 53 55.3 +0.4
comp=Z,6.8nm,1.2s
J21A **Lysite** 39.97 79 ⇑P P 07 53 55.4 +0.1
baz=40,SNR=5.0
ALE **Alert** 40.08 11 P P 07 53 55.9 +0.3
comp=Z,118nm,0.7s,SNR=8.0
TMUT **Trail Mountain** 40.10 86 *e*P P 07 53 59.6 +2.9
comp=Z,15nm,1.1s
A26A **Wade Farm, Ken** 40.11 68 ⇓P P 07 53 56.3 0.0
baz=40
USRK **Ussuriysk Arra** 40.16 283 P P 07 53 55.2 -1.5
comp=Z,3.6nm,0.6s,baz=60,slow=8.4,SNR=6.1
L20A **Wamsutter** 40.21 81 ⇑P P 07 53 57.6 +0.2
baz=40
I22A **9 Mile Ranch,** 40.23 77 ⇑P P 07 53 57.9 +0.5
baz=40
GMRC **Granite Mounta** 40.31 95 ⇑P P 07 53 59.1 +0.8
baz=40,SNR=8.3
F24A **Ekalaka** 40.34 74 ⇑P P 07 53 58.8 +0.5
baz=40
LDFC **Landfair** 40.45 94 *e*P P 07 53 59.4 +0.1
comp=Z,34nm,1.0s
K21A **Alcova** 40.49 80 ⇑P P 07 53 59.6 -0.2
baz=40
J22A **Midwest** 40.51 78 ⇓P P 07 53 59.6 -0.2
baz=40,SNR=5.7
E25A **Miller Ranch,** 40.60 72 ⇑P P 07 54 00.6 +0.2
baz=40
PFO **Pinyon Flat Ob** 40.63 97 *e*P P 07 54 01.2 +0.3
comp=Z,12nm,1.0s
PFO **Pinyon Flat Ob** 40.63 97 P P 07 54 01.1 +0.3
comp=Z,5.9nm,0.9s,baz=340,slow=2.9,SNR=4.6
BELC **Belle Mtn. Jos** 40.63 96 ⇑P P 07 54 00.8 -0.1
baz=41,SNR=6.3
SRU **San Rafael** 40.64 86 *e*P P 07 54 03.0 +2.1
SRU pmax pmax
comp=Z,16nm,1.3s
SRU **San Rafael** 40.64 86 *e*P P 07 54 03.0 +2.1
comp=Z,16nm,1.3s
O19A **Miners Draw (B** 40.76 84 ⇑P P 07 54 01.8 -0.1
baz=41
B27A **Peters Farms,** 40.81 69 ⇑P P 07 54 02.2 +0.1
baz=41
K22A **Casper** 40.92 79 ⇓P P 07 54 02.6 -0.7
baz=41
N20A **Spence Gulch,** 40.95 82 ⇓P P 07 54 02.9 -0.7
baz=41
C27A **Sayler Ranch,** 41.04 70 ⇑P P 07 54 03.3 -0.7
baz=41
IRM **Iron Mountain** 41.04 96 ⇓P P 07 54 04.8 +0.7
baz=41
MJAR **Matsushiro Arr** 41.05 269 P P 07 54 04.3 +0.1
MJAR **Matsushiro Arr** 41.05 269 P P 07 54 04.3 +0.1
comp=Z,7.2nm,0.9s,baz=55,slow=6.5,SNR=12
MAJO **Matsushiro** 41.05 269 *e*P P 07 54 04.8 +0.6
MAJO pmax pmax
comp=Z,29nm,0.9s
MAJO **Matsushiro** 41.05 269 *e*P P 07 54 04.8 +0.6
comp=Z,29nm,0.9s
MAT **Matsushiro** 41.05 269 P P 07 54 04.5 +0.3
A28A **Rude Farm, Bot** 41.11 67 ⇓P P 07 54 04.5 -0.1
baz=41
BAR **Barrett** 41.14 99 *e*P P 07 54 05.0 +0.1
comp=Z,17nm,1.0s
MONP **Monument Peak** 41.14 98 ⇑P P 07 54 05.8 +0.6
baz=41
E26A **Carlson Angus** 41.16 72 ⇓P P 07 54 05.2 +0.2
baz=41
W13A **Hualapai Mount** 41.18 93 ⇑P P 07 54 06.1 +0.6
baz=41
BC3 **Big Chuckawall** 41.20 96 ⇓P P 07 54 06.1 +0.5
baz=41
P19A **Cripple Cowboy** 41.25 84 ⇑P P 07 54 06.8 +0.7
baz=41
U15A **North Rim** 41.27 91 ⇓P P 07 54 07.0 +0.7
baz=41
B28A **Dugan Ranch, T** 41.30 68 ⇑P P 07 54 06.1 +0.1
baz=41
L22A **Ellis Ranch, M** 41.34 80 ⇓P P 07 54 07.1 +0.4
baz=41
O20A **White River Ci** 41.39 83 *e*P P 07 54 07.2 +0.1
O20A **White River Ci** 41.39 83 ⇓P P 07 54 07.0 -0.1
baz=41,SNR=12
G27A **Dupree** 41.49 73 ⇑P P 07 54 12.1 +4.4
baz=42
DVTC **Desert V Tower** 41.50 98 ⇓P P 07 54 08.5 +0.5
baz=41,SNR=8.9
H25A **Fruitdale** 41.52 75 ⇓P P 07 54 08.3 +0.2
baz=41
PDMCI **Parker Dam,Lak** 41.56 95 ⇓P P 07 54 08.7 +0.4
baz=42
M22A **Cedar Creek Ra** 41.61 81 ⇑P P 07 54 09.0 0.0
baz=42
C28A **Hausauer Farms** 41.67 69 ⇑P P 07 54 09.4 +0.2
baz=42
A29A **Manning Farm,** 41.68 67 ⇓P P 07 54 08.5 -0.7
baz=42,SNR=5.6
P20A **De Beque** 41.69 84 ⇑P P 07 54 09.6 0.0
baz=42
E27A **Carson** 41.70 71 ⇓P P 07 54 09.4 0.0
baz=42
Y12C **Blythe** 41.70 95 ⇓P P 07 54 10.0 +0.5
baz=42
L23A **Garrett** 41.73 79 ⇑P P 07 54 09.4 -0.5
baz=42,SNR=5.8
G26A **Maurine** 41.73 73 ⇓P P 07 54 09.7 0.0
baz=42
F27A **Lemmon** 41.74 72 ⇓P P 07 54 09.8 0.0
baz=42
O21A **Pagoda** 41.81 83 ⇓P P 07 54 10.4 -0.2
baz=42
D28A **Regan** 41.85 70 ⇓P P 07 54 10.6 -0.1
baz=42
PV10 **Paradox Valley** 42.00 86 *e*P P 07 54 13.8 +1.6
comp=Z,170nm,0.8s
MDND **Maddock** 42.05 68 *e*P P 07 54 12.8 +0.6
MDND **Maddock** 42.05 68 ⇓P P 07 54 11.8 -0.4
baz=42,SNR=5.2
N22A **Wattenberg Ran** 42.06 81 ⇑P P 07 54 12.6 -0.1
baz=42
Q20A **Ridgley Place,** 42.09 85 ⇓P P 07 54 12.4 -0.5
baz=42
E28A **Huff** 42.12 71 ⇑P P 07 54 12.3 -0.5
baz=42
N23A **Red Feather La** 42.31 81 ⇓P P 07 54 14.5 -0.3
baz=42
PV15 **Paradox Valley** 42.36 86 *e*P P 07 54 16.2 +1.0
O22A **Kremmling** 42.40 82 ⇑P P 07 54 15.1 -0.4
baz=42
B30A **Myrvik Farm, E** 42.44 67 ⇑P P 07 54 15.1 -0.3
baz=42
Y14A **Wickenburg** 42.49 94 ⇑P P 07 54 16.4 +0.3
baz=42
R20A **Redvale** 42.52 86 ⇓P P 07 54 16.2 -0.2
baz=42
O23A **Lake Granby, G** 42.75 82 ⇑P P 07 54 18.4 +0.1
baz=43,SNR=5.4
SMCO **Snowmass** 42.75 83 *e*P P 07 54 20.5 +2.0
comp=Z,11nm,1.3s
113A **Mohawk Valley,** 42.83 96 ⇓P P 07 54 19.2 +0.4
baz=43
ULM **Lac du Bonnet** 42.84 63 P P 07 54 17.8 -0.8
ULM **Lac du Bonnet** 42.84 63 P P 07 54 17.8 -0.8
comp=Z,3.3nm,0.7s,baz=303,slow=8.7,SNR=3.4
D30A **Buchanan** 42.93 69 ⇑P P 07 54 19.4 -0.1
baz=43
Q22A **Crested Butte,** 42.99 84 ⇑P P 07 54 20.2 -0.1
baz=43
N24A **Carr** 42.99 80 ⇑P P 07 54 20.4 +0.2
baz=43
F29A **Eureka** 43.03 71 ⇑P P 07 54 20.1 -0.2
baz=43
MVCO **Mesa Verde** 43.07 87 ⇑P P 07 54 21.1 +0.1
baz=43
X16A **Lo Mia Camp, P** 43.12 92 ⇓P P 07 54 21.4 +0.1
baz=43
E30A **Jud** 43.18 70 ⇑P P 07 54 21.3 -0.2
baz=43
ISCO **Idaho Springs** 43.19 82 *e*P P 07 54 22.5 +0.6
ISCO pmax pmax
comp=Z,1.0nm,0.6s
ISCO **Idaho Springs** 43.19 82 *e*P P 07 54 22.4 +0.6
comp=Z,1.5nm,0.6s
ISCO **Idaho Springs** 43.19 82 ⇓P P 07 54 22.1 +0.2
baz=43
J27A **Elkhorn Farm,** 43.25 75 ⇑P P 07 54 22.5 +0.3
baz=43
O24A **Longmont** 43.31 81 ⇓P P 07 54 23.1 +0.3
baz=43
P23A **Jefferson** 43.31 82 ⇑P P 07 54 23.0 0.0
baz=43
R22A **Saguache, Gunn** 43.48 84 ⇑P P 07 54 24.8 +0.5
baz=43,SNR=5.3
H29A **Onida** 43.50 73 ⇑P P 07 54 24.0 0.0
baz=43
J28A **Allard Ranch,** 43.60 75 ⇓P P 07 54 25.2 +0.2
baz=43
W18A **Petrified Fore** 43.69 90 *e*P P 07 54 26.1 +0.2
comp=Z,16nm,1.3s
W18A **Petrified Fore** 43.69 90 ⇓P P 07 54 26.5 +0.6
baz=44
S22A **4UR Ranch, Cre** 43.74 85 ⇓P P 07 54 26.7 +0.3
baz=44,SNR=8.8
I29A **Vivian Onida** 43.80 73 ⇓P P 07 54 27.0 +0.5
baz=44
T21A **Navajo Lake** 43.80 86 ⇓P P 07 54 27.4 +0.6
baz=44
G30A **Faulkton** 43.83 71 ⇓P P 07 54 26.0 -0.7
baz=44,SNR=6.2
X18A **Snowflake** 43.96 91 ⇓P P 07 54 28.9 +0.9
baz=44
Q24A **Divide** 43.99 82 ⇓P P 07 54 28.8 +0.4
baz=44
V20A **Brimhall** 44.02 88 ⇑P P 07 54 29.1 +0.6
baz=44
R23A **Moffat** 44.07 84 ⇓P P 07 54 29.3 +0.2
baz=44
U21A **Nageezi** 44.09 87 ⇓P P 07 54 29.8 +0.6
baz=44,SNR=12
J29A **Okreek** 44.15 74 ⇓P P 07 54 29.3 0.0
baz=44
T22A **Edith** 44.17 86 ⇓P P 07 54 30.5 +0.7
baz=44,SNR=8.1
P25A **Willow Gulch B** 44.24 81 ⇓P P 07 54 30.3 +0.1
baz=44,SNR=5.3
CN2 **Changchun** 44.25 287 *e*P P 07 54 29.1 -0.9
CN2 *e*S S 08 00 56.6 -5.2
CN2 AMB AMB
comp=Z,50nm,0.9s
CN2 AMB AMB
comp=Z,200nm,10.0s
CN2 LR LR
comp=Z,1μm,15.0s
CN2 LR LR
comp=Z,800nm,15.0s
CN2 LR LR
comp=Z,700nm,14.0s
BRSD **Miller** 44.34 72 *e*P P 07 54 30.3 -0.4
W20A **Ramah** 44.44 89 ⇑P P 07 54 31.9 -0.1
baz=44
R24A **Sanders Place,** 44.48 83 ⇓P P 07 54 32.8 +0.6
baz=44
K29A **Lazy Trails An** 44.54 75 ⇓P P 07 54 33.0 +0.6
baz=44
U22A **Llaves** 44.62 86 ⇑P P 07 54 33.7 +0.4
baz=44
T23A **Casias Ranch,** 44.68 85 ⇑P P 07 54 34.7 +0.8
baz=45
J30A **Dallas** 44.69 74 ⇑P P 07 54 34.0 +0.5
baz=44
P26A **Davis Ranch, A** 44.70 80 ⇓P P 07 54 34.5 +0.6
baz=45
S24A **Houdin Ranch,** 44.79 84 ⇓P P 07 54 35.3 +0.5
baz=45
X20A **Quemado** 44.83 90 ⇓P P 07 54 35.8 +0.7
baz=45
V22A **San Miguel Ran** 44.89 87 ⇓P P 07 54 36.1 +0.6
baz=45
TUC **Tucson** 44.96 94 *e*P P 07 54 36.7 +0.7
TUC pmax pmax
comp=Z,13nm,1.3s
TUC **Tucson** 44.96 94 *e*P P 07 54 36.7 +0.7
comp=Z,13nm,1.3s
R25A **Fountain Ranch** 45.03 83 ⇓P P 07 54 37.5 +1.0
baz=45
U23A **El Rito** 45.05 86 ⇑P P 07 54 37.9 +1.1
baz=45
S25A **Robets Cordova** 45.25 83 ⇑P P 07 54 38.9 +0.6
baz=45,SNR=6.1
O28A **Krutsinger Ran** 45.29 79 ⇑P P 07 54 39.2 +0.7
baz=45
X21A **Alamocita Cree** 45.33 89 ⇑P P 07 54 40.2 +1.2
baz=45,SNR=8.4
Y20A **Horse Springs,** 45.34 90 ⇑P P 07 54 40.3 +1.2
baz=45
L30A **Spencer Herefo** 45.38 75 ⇓P P 07 54 40.4 +1.2
baz=45
R26A **Arlington** 45.44 82 ⇑P P 07 54 39.9 +0.1
baz=45
V23A **Ortiz Mt. (NFS** 45.44 87 ⇓P P 07 54 40.4 +0.5
baz=45
KSCO **Kaye Shedlock'** 45.48 81 ⇓P P 07 54 40.5 +0.5
baz=45
T25A **Trinidad** 45.60 84 ⇑P P 07 54 41.6 +0.4
baz=46,SNR=8.5
P28A **Saint Francis** 45.65 79 ⇑P P 07 54 41.6 +0.2
baz=46
Y21A **Point of Rocks** 45.70 90 ⇓P P 07 54 42.3 +0.3
baz=46
Z20A **Nine Sixteen R** 45.75 91 ⇑P P 07 54 43.3 +1.1
baz=46
LAZ **Ladron** 45.76 89 *e*P P 07 54 43.6 +1.2
comp=Z,5.9nm,1.1s
X22A **Bernardo** 45.77 89 ⇑P P 07 54 43.3 +0.9
baz=46
ANMO **Albuquerque** 45.81 88 *e*P P 07 54 43.8 +1.0
comp=Z,9.9nm,1.3s
ANMO PcP PcP 07 56 20.3 +0.4
ANMO **Albuquerque** 45.81 88 P P 07 54 43.8 +1.0
comp=Z,1.9nm,0.8s,baz=352,slow=8.6,SNR=3.2
ANMO PcP PcP 07 56 20.3 +0.4
comp=Z,2.5nm,0.9s,baz=267,slow=3.8,SNR=4.0
R27A **Eads** 45.84 81 ⇓P P 07 54 43.5 +0.6
baz=46,SNR=6.4
W23A **Werner Place,** 45.85 87 ⇓P P 07 54 43.4 +0.3
baz=46
S26A **Kim** 45.86 83 ⇓P P 07 54 42.9 -0.2
baz=46
Q28A **Sharon Springs** 45.93 80 ⇓P P 07 54 43.8 +0.2
baz=46
V24A **Rampart Ranch,** 46.01 86 ⇑P P 07 54 44.6 +0.2
baz=46
T26A **Comanche Natio** 46.08 83 ⇓P P 07 54 45.1 +0.2
baz=46
U25A **Circle Dot Ran** 46.09 85 ⇓P P 07 54 45.2 +0.2
baz=46,SNR=6.5
120A **U Bar Ranch, L** 46.11 92 ⇓P P 07 54 46.4 +1.2
baz=46
ECSD **EROS Data Cent** 46.12 71 *e*P P 07 54 43.6 -1.3
comp=Z,7.1nm,0.9s
P29A **Atwood** 46.12 79 ⇑P P 07 54 45.8 +0.7
baz=46
LPM **Los Pinos Moun** 46.13 88 *e*P P 07 54 46.6 +1.4
Z21A **St. Cloud Mine** 46.17 90 ⇓P P 07 54 46.1 +0.4
baz=46
Y22A **Socorro** 46.18 89 ⇓P P 07 54 46.5 +0.9
baz=46,SNR=9.3
BNM **Barren Site** 46.24 89 *e*P P 07 54 47.1 +0.9
W24A **Lazy 6 Ranch,** 46.27 87 ⇑P P 07 54 46.4 0.0
baz=46
V25A **Rancho No Teng** 46.33 85 ⇑P P 07 54 47.3 +0.4
baz=46
R28A **Tribune** 46.40 81 ⇑P P 07 54 47.0 -0.2
baz=46
U26A **Atchley Ranch,** 46.50 84 ⇓P P 07 54 48.4 +0.2
baz=46,SNR=8.1
Q29A **Oakley** 46.55 80 ⇑P P 07 54 48.0 -0.4
baz=46
121A **Cookes Peak, D** 46.64 91 ⇓P P 07 54 49.2 -0.1
baz=46
T27A **Campo** 46.68 83 ⇑P P 07 54 49.4 -0.1
baz=46
KSRS **Korea Array** 46.72 278 P P 07 54 50.0 +0.4
comp=Z,14nm,0.9s,baz=56,slow=7.5,SNR=32
KSRS PcP PcP 07 56 23.3 +0.6
comp=Z,3.2nm,1.0s,baz=46,slow=3.5,SNR=3.9
Y23A **Lovelace Mesa,** 46.73 88 ⇑P P 07 54 50.4 +0.3
baz=47
KSAR **Wonju Array Be** 46.75 278 P P 07 54 50.0 +0.1
KSAR PcP PcP 07 56 23.3 +0.4
S28A **Manter** 46.83 82 ⇑P P 07 54 50.9 +0.3
baz=47
W25A **X Bar L Ranch,** 46.84 86 ⇑P P 07 54 51.0 +0.2
baz=47,SNR=11
V26A **Tequesquite Ra** 46.87 85 ⇑P P 07 54 51.2 +0.2
baz=47,SNR=7.7
T28A **Walsh** 47.01 82 ⇓P P 07 54 52.0 -0.1
baz=47
320A **Kipp Ranch, An** 47.02 93 ⇑P P 07 54 52.4 +0.1
baz=47
U27A **Thompson Grove** 47.04 83 ⇓P P 07 54 52.2 -0.1
baz=47
P31A **Stockton** 47.10 78 ⇓P P 07 54 52.2 -0.5
baz=47
Y24A **Capitan** 47.12 88 ⇑P P 07 54 53.0 -0.1
baz=47
X25A **Clemmons Ranch** 47.18 87 ⇑P P 07 54 53.3 -0.2
baz=47
W26A **Owens Ranch, T** 47.35 85 ⇓P P 07 54 54.7 0.0
baz=47
R30A **Dighton** 47.36 80 ⇑P P 07 54 54.5 -0.2
baz=47
T29A **Hugoton** 47.48 82 ⇑P P 07 54 55.5 -0.2
baz=47
P32A **Huiting Farm,** 47.50 77 ⇑P P 07 54 55.5 -0.2
baz=47
Z24A **Sheeppen Canyo** 47.57 88 ⇑P P 07 54 56.8 +0.2
baz=48
Y25A **Mesa, Roswell** 47.57 87 ⇓P P 07 54 57.0 +0.5
baz=48,SNR=9.6
S30A **Montezuma** 47.66 81 ⇓P P 07 54 56.6 -0.5
baz=48
X26A **CR and CF Fran** 47.68 86 ⇑P P 07 54 56.9 -0.5
baz=48
W27A **Bowe Ranch, En** 47.79 85 ⇑P P 07 54 57.4 -0.8
baz=48
R31A **Burdett** 47.80 79 ⇑P P 07 54 57.7 -0.5
baz=48
JNU **Nakatsue** 47.81 271 P P 07 54 58.9 +0.6
JNU **Nakatsue** 47.81 271 P P 07 54 58.9 +0.6
comp=Z,16nm,1.1s,baz=25,slow=9.9,SNR=4.3
V28A **Channing** 47.84 84 ⇑P P 07 54 58.4 -0.2
baz=48
124A **Stringfield Ra** 47.94 89 ⇑P P 07 54 59.0 -0.6
baz=48
Z25A **Roswell** 47.99 88 ⇑P P 07 54 59.8 0.0
baz=48
T30A **Plains** 48.01 81 ⇑P P 07 54 59.6 -0.2
baz=48
224A **Cornudas Mount** 48.33 90 ⇓P P 07 55 02.4 -0.1
baz=48
Z26A **Caprock** 48.45 87 ⇑P P 07 55 03.2 -0.1
baz=48
125A **Gardner Draw,** 48.46 89 ⇓P P 07 55 03.3 -0.1
baz=48
T31A **Randall Ranch,** 48.49 80 ⇓P P 07 55 03.1 -0.4
baz=48
Y27A **Causey** 48.53 86 ⇑P P 07 55 04.0 +0.1
baz=48
X28A **Dimmitt** 48.69 85 ⇑P P 07 55 05.4 +0.3
baz=49
MSTX **Muleshoe** 48.71 86 *e*P P 07 55 05.3 0.0
MSTX **Muleshoe** 48.71 86 ⇓P P 07 55 05.8 +0.5
baz=49,SNR=8.8
225A **Deer Hill, Car** 48.74 89 ⇓P P 07 55 06.2 +0.6
baz=49
324A **Moseley Ranch,** 48.80 90 ⇑P P 07 55 06.0 -0.1
baz=49
126A **Clayton Basin,** 48.85 88 ⇑P P 07 55 06.6 +0.2
baz=49
Z27A **Tatum** 48.89 87 ⇓P P 07 55 06.7 0.0
baz=49
Y28A **McKinney Farm,** 49.07 86 ⇓P P 07 55 08.0 0.0
baz=49
226B **Tecolote Peak,** 49.16 89 ⇓P P 07 55 09.1 +0.3
baz=49
325A **Bean Ranch, Si** 49.16 90 ⇑P P 07 55 09.1 +0.3
baz=49
127A **Arkansas Junct** 49.24 88 ⇑P P 07 55 09.4 0.0
baz=49
DAG **Danmarks Havn** 49.35 9 *i*P P 07 55 09.0 -0.5

	comp=Z,37nm,0.9s									
Z28A	**Tucker Farm, M**	**49.41**	**86**	⇓	P		**P**		07 55 10.8	+0.1
	baz=49									
Y29A	**Porterfield Fa**	**49.45**	**85**	⇓	P		**P**		07 55 11.1	+0.1
	baz=49									
SPITS	**Spitsbergen Ar**	**49.46**	**359**		P		**P**		07 55 09.5	-0.9
SPITS	**Spitsbergen Ar**	**49.46**	**359**		P		**P**		07 55 09.5	-0.9
	comp=Z,6.9nm,0.7s,baz=52,slow=5.4,SNR=14									
X30A	**Coker Ranch, T**	**49.54**	**84**	⇑	P		**P**		07 55 11.8	+0.3
	baz=49									
425A	**Indio Mountain**	**49.56**	**91**	⇑	P		**P**		07 55 12.3	+0.5
	baz=50,SNR=8.1									
W31A	**Holland Ranch,**	**49.60**	**83**	⇓	P		**P**		07 55 12.4	+0.4
	baz=50									
326A	**Caldwell Ranch**	**49.80**	**89**	⇓	P		**P**		07 55 13.6	0.0
	baz=50									
128A	**Castleberry Fa**	**49.81**	**87**	⇑	P		**P**		07 55 14.1	+0.4
	baz=50,SNR=9.2									
Z29A	**Hungry Hill Ra**	**49.84**	**86**	⇓	P		**P**		07 55 14.1	+0.2
	baz=50,SNR=8.3									
Y30A	**Stafford Cattl**	**49.91**	**85**	⇓	P		**P**		07 55 13.9	-0.5
	baz=50									
X31A	**McDonald Ranch**	**49.95**	**83**	⇑	P		**P**		07 55 14.2	-0.5
	baz=50									
SUMG	**Summit**	**50.15**	**18**	*e*	P		**P**		07 55 15.6	-0.5
SUMG					pmax		pmax			
	comp=Z,19nm,0.6s									
SUMG	**Summit**	**50.15**	**18**	*i*	P		**P**		07 55 16.7	+0.6
	comp=Z,23nm,0.9s									
SUMG	**Summit**	**50.15**	**18**	*e*	P		**P**		07 55 15.6	-0.5
	comp=Z,19nm,0.6s									
Z30A	**Sanderson Ranc**	**50.17**	**85**	⇑	P		**P**		07 55 16.2	-0.2
	baz=50,SNR=8.6									
129A	**Stewart Farms,**	**50.18**	**86**	⇓	P		**P**		07 55 15.8	-0.7
	baz=50									
328A	**Wristen Ranch,**	**50.47**	**88**	⇑	P		**P**		07 55 18.4	-0.2
	baz=50									
427A	**Hayter Ranch,**	**50.48**	**89**	⇓	P		**P**		07 55 18.5	-0.3
	baz=50									
WMOK	**Wichita Mounta**	**50.61**	**82**	*e*	P		**P**		07 55 19.1	-0.5
WMOK					pmax		pmax			
	comp=Z,7.0nm,1.0s									
WMOK	**Wichita Mounta**	**50.61**	**82**	*e*	P		**P**		07 55 19.1	-0.5
	comp=Z,7.4nm,1.0s									
526A	**Mary Lane Ranc**	**50.62**	**91**	⇑	P		**P**		07 55 19.5	-0.4
	baz=50									
Y32A	**R-V Farms, Ver**	**50.71**	**83**	⇑	P		**P**		07 55 19.5	-0.8
	baz=51									
130A	**Snyder**	**50.75**	**86**	⇓	P		**P**		07 55 20.1	-0.7
	baz=51									
Z31A	**Sharp Cattle R**	**50.75**	**84**	⇑	P		**P**		07 55 19.8	-0.9
	baz=51									
527A	**Woodward Ranch**	**50.85**	**90**	⇓	P		**P**		07 55 21.2	-0.4
	baz=51									
329A	**Wagon Wheel Ra**	**50.90**	**88**	⇑	P		**P**		07 55 21.5	-0.4
	baz=51									
626A	**Big Bend Ranch**	**50.95**	**91**	⇓	P		**P**		07 55 21.8	-0.6
	baz=51									
428A	**Kincaid Ranch,**	**51.01**	**89**	⇑	P		**P**		07 55 22.2	-0.5
	baz=51									
131A	**Roby**	**51.05**	**85**	⇑	P		**P**		07 55 22.3	-0.7
	baz=51									
230A	**Sterling City**	**51.15**	**87**	⇓	P		**P**		07 55 23.5	-0.3
	baz=51,SNR=10									
Z32A	**Haskell**	**51.16**	**84**	⇑	P		**P**		07 55 23.3	-0.6
	baz=51									
TLY	**Talaya**	**51.28**	**307**	*e*	P		**P**		07 55 24.8	+0.3
TLY					pmax		pmax			
	comp=Z,16nm,0.9s									
528A	**Cox Ranch, San**	**51.34**	**89**	⇓	P		**P**		07 55 25.0	-0.3
	baz=51									
TXAR	**Lajitas Array**	**51.39**	**91**		P		**P**		07 55 25.6	-0.1
TXAR	**Lajitas Array**	**51.39**	**91**		P		**P**		07 55 25.6	-0.1
	comp=Z,5.5nm,0.7s,baz=298,slow=5.3,SNR=27									
330A	**Mertzon**	**51.45**	**87**	⇑	P		**P**		07 55 25.9	-0.1
	baz=51									
627A	**Terlingua Ranc**	**51.48**	**91**	⇓	P		**P**		07 55 26.2	-0.1
	baz=51									
ABTX	**Abilene, Hawle**	**51.53**	**85**	⇑	P		**P**		07 55 26.4	-0.2
	baz=51									
429A	**Davenport Ranc**	**51.56**	**88**	⇑	P		**P**		07 55 26.6	-0.2
	baz=52,SNR=7.7									
SFJD	**Kangerlussuaq**	**51.56**	**27**	*i*	P		**P**		07 55 25.5	-0.8
	comp=Z,16nm,0.9s									
SFJD	**Kangerlussuaq**	**51.56**	**27**		P		**P**		07 55 25.7	-0.6
SFJD	**Kangerlussuaq**	**51.56**	**27**		P		**P**		07 55 25.7	-0.6
	comp=Z,20nm,0.9s,baz=297,slow=5.9,SNR=4.5									
231A	**Bronte**	**51.60**	**86**	⇑	P		**P**		07 55 26.9	-0.3
	baz=52									
529A	**Stev Forest Ra**	**51.71**	**89**	⇓	P		**P**		07 55 27.9	-0.1
	baz=52									
628A	**Black Gap, Mar**	**51.76**	**90**	⇓	P		**P**		07 55 28.4	+0.1
	baz=52,SNR=10									
430A	**Baggett Ranch,**	**51.85**	**88**	⇑	P		**P**		07 55 28.6	-0.4
	baz=52,SNR=8.6									
331A	**San Angelo**	**51.97**	**87**	⇑	P		**P**		07 55 29.3	-0.6
	baz=52,SNR=9.8									
BJI	**Beijing**	**51.99**	**289**		P		**P**		07 55 30.0	+0.2
BJI					AMB		AMB			
	comp=Z,31nm,0.9s									
BJT	**Baijiatuan**	**52.01**	**289**	*e*	P		**P**		07 55 30.1	+0.1
	comp=Z,30nm,0.9s									
232A	**Coleman**	**52.04**	**85**	⇑	P		**P**		07 55 29.6	-0.8
	baz=52									
530A	**J-C Ranch, Com**	**52.23**	**88**	⇓	P		**P**		07 55 31.2	-0.7
	baz=52,SNR=12									
431A	**Sonora**	**52.30**	**87**	⇓	P		**P**		07 55 31.6	-0.8
	baz=52,SNR=16									
SONM	**Songino Array**	**52.33**	**302**		P		**P**		07 55 32.2	-0.3
SONM					PcP		**PcP**		07 56 43.8	+0.5
SONM					ScP		**ScP**		08 00 40.9	+2.6
SONM	**Songino Array**	**52.33**	**302**		P		**P**		07 55 32.2	-0.3
	comp=Z,12nm,1.0s,baz=53,slow=7.3,SNR=32									
SONM					PcP		**PcP**		07 56 43.8	+0.5
	comp=Z,4.3nm,0.9s,baz=74,slow=3.1,SNR=4.3									
SONM					ScP		**ScP**		08 00 40.9	+2.6
	comp=Z,0.6nm,0.6s,baz=46,slow=4.3,SNR=4.7									
332A	**Millersview**	**52.34**	**86**	⇓	P		**P**		07 55 31.9	-0.8
	baz=52									
432A	**Menard**	**52.66**	**86**	⇑	P		**P**		07 55 34.3	-0.8
	baz=52,SNR=7.4									
531A	**Rocksprings**	**52.71**	**88**	⇓	P		**P**		07 55 34.1	-1.2
	baz=53									
JCT	**Junction City**	**52.94**	**87**	*e*	P		**P**		07 55 36.8	-0.2
JCT					pmax		pmax			
	comp=Z,19nm,1.1s									
JCT	**Junction City**	**52.94**	**87**	*e*	P		**P**		07 55 36.8	-0.2
	comp=Z,20nm,1.1s									
JCT	**Junction City**	**52.94**	**87**	⇓	P		**P**		07 55 36.4	-0.6
	baz=53,SNR=8.0									
532A	**Rocksprings**	**53.12**	**87**	⇓	P		**P**		07 55 37.2	-1.2
	baz=53									
631A	**Perdido Creek**	**53.22**	**88**	⇑	P		**P**		07 55 37.9	-1.3
	baz=53,SNR=9.2									
WHTX	**Lake Whitney**	**53.30**	**84**	⇑	P		**P**		07 55 38.4	-1.3
	baz=53									
632A	**Uvalde**	**53.64**	**88**	⇑	P		**P**		07 55 41.4	-0.8
	baz=54									
SFIN	**Scholer Farm**	**53.71**	**69**	⇑	P		**P**		07 55 41.0	-1.6
	baz=54									
732A	**Laxson Ranch,**	**54.08**	**88**	⇑	P		**P**		07 55 44.7	-0.7
	baz=54									
HHC	**Hu-ho-hao-te**	**54.09**	**292**	*e*	P		**P**		07 55 46.1	+0.6
HHC					PcP		**PcP**		07 56 51.6	+1.6
HHC					PP		**PP**		07 57 48.3	+1.5
HHC					ScP		**ScP**		08 00 46.4	+0.3
HHC					PcS		**PcS**		08 00 49.9	+0.4
HHC					S		**S**		08 03 17.6	-2.6
HHC					ScS		**ScS**		08 05 30.6	-2.3
HHC					SS		**SKiKP**		08 06 57.6	+2.4
HHC					AMB		AMB			
	comp=Z,83nm,0.8s									
HHC					LR		LR			
	comp=Z,610nm,17.4s									
HHC					LR		LR			
	comp=Z,580nm,16.4s									
HHC					LR		LR			
	comp=Z,610nm,16.1s									
SCHQ	**Schefferville**	**54.33**	**44**		P		**P**		07 55 46.5	-0.4
SCHQ	**Schefferville**	**54.33**	**44**		P		**P**		07 55 46.5	-0.4
	comp=Z,6.5nm,0.9s,baz=341,slow=9.2,SNR=2.9									
PARMO	**Parma**	**54.68**	**74**	*e*	P				07 55 53.1	+3.4
SCO	**Scoresbysund**	**54.69**	**14**	*i*	P		**P**		07 55 49.7	+0.5
	comp=Z,18nm,1.0s									
NJ2	**Nanjing**	**55.85**	**279**	*e*	P		**P**		07 55 58.1	0.0
NJ2					AMB		AMB			
	comp=Z,10.0nm,0.7s									
WVT	**Waverly**	**56.17**	**73**	*e*	P		**P**		07 55 59.1	-1.3
WVT					pmax		pmax			
	comp=Z,11nm,1.3s									
WVT	**Waverly**	**56.17**	**73**	*e*	P		**P**		07 55 59.1	-1.3
	comp=Z,11nm,1.3s									
HVS	**Khovu-Aksy**	**56.33**	**312**	⇓	*e*	P	**P**		07 56 01.4	-0.1
HVS					pmax		pmax			
	comp=Z,83nm,1.2s									
KEV	**Kevo**	**57.51**	**354**		*e*	p	**P**		07 56 07.5	-1.9
	comp=Z,17nm,0.7s									
ARCES	**ARCESS Array B**	**57.82**	**355**		P		**P**		07 56 10.6	-1.0
ARCES					PcP		**PcP**		07 57 03.9	0.0
ARCES	**ARCESS Array B**	**57.82**	**355**		P		**P**		07 56 10.6	-1.0
	comp=Z,15nm,0.8s,baz=5.0,slow=9.5,SNR=26									
ARCES					PcP		**PcP**		07 57 03.9	0.0
	comp=Z,11nm,0.9s,baz=20,slow=3.9,SNR=6.4									
ZAA0	**Zalesovo Array**	**58.15**	**319**	*e*	P		**P**		07 56 13.7	-0.5
ZALV	**Zalesovo Beam**	**58.15**	**319**		P		**P**		07 56 13.2	-0.9
ZALV	**Zalesovo Beam**	**58.15**	**319**		P		**P**		07 56 13.2	-0.9
ZALV	**Zalesovo Beam**	**58.15**	**319**		P		**P**		07 56 13.2	-0.9
	comp=Z,5.4nm,0.6s,baz=31,slow=6.7,SNR=16									
LVZ	**Lovozero**	**58.72**	**351**	*c*	*i*	P	**P**		07 56 17.9	0.0
LVZ					pmax		pmax			
	comp=Z,96nm,2.5s									
WHN	**Wuhan**	**59.62**	**282**		P		P		07 56 32.3	+7.6
XAN	**Xi'an**	**60.32**	**288**		P		**P**		07 56 29.5	0.0
XAN					pP		**pP**		07 56 37.3	-0.4
XAN					sP		**sP**		07 56 40.3	-0.5
XAN					AMB		AMB			
	comp=Z,8.0nm,1.1s									
SSLB	**Suanglung**	**60.56**	**271**	*e*	P		**P**		07 56 31.0	-0.2
	comp=Z,42nm,1.1s									
GTA	**Gaotai**	**61.57**	**298**	*e*	P		**P**		07 56 37.6	-0.4
GTA					pP		**pP**		07 56 44.8	-1.4
GTA					sP		**sP**		07 56 48.0	-1.4
GTA					S		**S**		08 04 55.4	-2.7
GTA					sS		**sS**		08 05 08.3	-3.4
GTA					SS		**SS**		08 08 57.5	-1.3
GTA					AMB		AMB			
	comp=Z,21nm,1.0s									
GTA					LR		LR			
	comp=Z,1μm,15.7s									
GTA					LR		LR			
	comp=Z,850nm,16.9s									
GTA					LR		LR			
	comp=Z,2μm,15.4s									
LZH	**Lanzhou**	**61.75**	**293**	*e*	P		**P**		07 56 40.0	+0.7
LZH					pP		**pP**		07 56 45.8	-1.7
LZH					sP		**sP**		07 56 48.3	-2.4
LZH					AMB		AMB			
	comp=Z,46nm,0.9s									
LZH					AMB		AMB			
	comp=Z,180nm,4.5s									
LZH					LR		LR			
	comp=Z,670nm,13.6s									
LZH					LR		LR			
	comp=Z,550nm,13.3s									
LZH					LR		LR			
	comp=Z,810nm,16.2s									
KURK	**Kurchatov**	**63.09**	**319**	*c*	*i*	P	**P**		07 56 47.4	-0.4
KURK					pmax		pmax			
	comp=Z,20nm,1.2s									
KURK	**Kurchatov**	**63.09**	**319**	*e*	P		**P**		07 56 47.1	-0.6
	comp=Z,11nm,0.8s									
KURK	**Kurchatov**	**63.09**	**319**		P		**P**		07 56 47.2	-0.6
	comp=Z,186nm,0.6s,SNR=13									
JOF	**Joensuu**	**63.91**	**351**	*ep*			**P**		07 56 52.1	-0.9
	comp=Z,11nm,0.5s									
BRVK	**Borovoye**	**64.30**	**326**	*e*	P		**P**		07 56 55.8	+0.1
BRVK					pmax		pmax			
	comp=Z,26nm,1.1s									
BRVK	**Borovoye**	**64.30**	**326**	*e*	P		**P**		07 56 55.8	+0.1
	comp=Z,26nm,1.1s									
VOSK	**Vostochnaya**	**64.33**	**325**	*e*	P		**P**		07 56 55.7	-0.3
VOSK	**Vostochnaya**	**64.33**	**325**	*e*	P		**P**		07 56 55.7	-0.3
WMQ	**Urumqi**	**64.44**	**309**		P		**P**		07 56 57.4	+0.5
WMQ					pP		**pP**		07 57 05.3	+0.1
WMQ					sP		**sP**		07 57 08.4	+0.1
WMQ					S		**S**		08 05 31.0	-2.9
WMQ					sS		**sS**		08 05 45.8	-1.7
WMQ					ScS		**SKSac**		08 06 46.3	-2.9
WMQ					AMB		AMB			
	comp=Z,22nm,0.6s									
WMQ					AMB		AMB			
	comp=Z,560nm,11.8s									
WMQ					LR		LR			
	comp=Z,2μm,17.0s									
WMQ					LR		LR			
	comp=Z,1μm,19.2s									
WMQ					LR		LR			
	comp=Z,910nm,19.6s									
MKAR	**Makanchi Array**	**64.61**	**315**	*e*	P		**P**		07 56 57.2	-0.8
MKAR	**Makanchi Array**	**64.61**	**315**	*e*	P		**P**		07 56 57.2	-0.8
MKAR	**Makanchi Array**	**64.61**	**315**		P		**P**		07 56 57.2	-0.8
	comp=Z,14nm,0.7s,baz=50,slow=5.9,SNR=57									
ARU	**Arti**	**65.02**	**334**	*d*	*i*	P	**P**		07 57 00.1	-0.3
ARU									07 59 19.8	
ARU					S		**S**		08 05 40.2	-0.2
ARU					SS		**SS**		08 09 56.0	+4.6
ARU					pmax		pmax			
	comp=Z,43nm,1.0s									
ARU					MLR		MLR			
	comp=Z,1μm,16.0s									
KAF	**Kangasniemi**	**65.13**	**353**	*ep*			**P**		07 56 59.3	-1.7
	comp=Z,30nm,0.6s									
CD2	**Chengdu**	**65.58**	**289**	⇓	*i*	P	**P**		07 57 05.8	+1.3
CD2					pP		**pP**		07 57 14.5	+1.7
CD2					sP		**sP**		07 57 18.0	+2.1
CD2					PP		**PP**		07 59 31.8	+3.2
CD2					S		**S**		08 05 46.4	-1.7
CD2					sS		**sS**		08 06 00.8	-1.0
CD2					SS		**SS**		08 10 01.3	-0.3
CD2					AMB		AMB			
	comp=Z,60nm,0.5s									
CD2					AMB		AMB			
	comp=Z,400nm,4.3s									
CD2					LR		LR			
	comp=Z,1μm,13.1s									
CD2					LR		LR			
	comp=Z,1μm,15.5s									
FIA1	**FINESS Array S**	**65.81**	**353**	*e*	P		**P**		07 57 04.8	-0.6
FINES	**FINESS Array B**	**65.81**	**353**		P		**P**		07 57 04.9	-0.5
FINES	**FINESS Array B**	**65.81**	**353**		P		**P**		07 57 04.9	-0.5
	comp=Z,19nm,0.5s,baz=22,slow=7.2,SNR=72									
NB2	**NORSAR Subarra**	**66.70**	**1**		P		**P**		07 57 10.7	-0.5
	comp=Z,8.5nm,0.7s,baz=0.5,slow=6.2									
NOA	**NORSAR Array B**	**66.70**	**1**		P		**P**		07 57 10.9	-0.3
NOA	**NORSAR Array B**	**66.70**	**1**		P		**P**		07 57 10.9	-0.3
	comp=Z,9.8nm,0.8s,baz=0.7,slow=6.3,SNR=20									
GYA	**Guiyang**	**67.19**	**284**		P		**P**		07 57 15.3	+0.3
GYA					pP		**pP**		07 57 24.3	+1.0
GYA					PP		**PP**		07 59 45.6	+2.7
GYA					ScP				08 01 44.0	
GYA					S		**S**		08 06 05.3	-2.7
GYA					SKS		**SKSac**		08 07 06.0	-4.7
GYA					SS		**SS**		08 10 25.4	-1.6
GYA					AMB		AMB			
	comp=Z,10.0nm,1.0s									
GYA					AMB		AMB			
	comp=Z,110nm,5.4s									
GYA					LR		LR			
	comp=Z,420nm,20.2s									
GYA					LR		LR			
	comp=Z,330nm,20.3s									
GYA					LR		LR			
	comp=Z,460nm,19.0s									
VSU	**Vasula**	**68.72**	**352**	*ce*	P		**P**		07 57 23.6	-0.3
VSU					pmax		pmax			
	comp=Z,195nm,1.1s									
KMI	**Kunming**	**70.51**	**286**		P		**P**		07 57 34.8	-1.0
KMI					pP		**pP**		07 57 44.0	-0.1
KMI					sP		**sP**		07 57 47.8	+0.6
KMI					PP		**PP**		08 00 14.4	+2.7
KMI					S		**S**		08 06 45.4	-2.1
KMI					sS		**sS**		08 06 59.8	-1.5
KMI					SS		**SS**		08 11 17.8	-0.6
KMI					AMB		AMB			
	comp=Z,10.0nm,0.7s									
TKM2	**Tokmak 2**	**70.57**	**316**	*i*	P		**P**		07 57 36.3	+0.4
TKM2	**Tokmak 2**	**70.57**	**316**		P		**P**		07 57 36.4	+0.4
	SNR=14									
TKM2	**Tokmak 2**	**70.57**	**316**	*e*	P		**P**		07 57 36.3	+0.4
	comp=Z,32nm,1.3s									
USP	**Ospenovka**	**70.75**	**317**		P		**P**		07 57 37.4	+0.7
	SNR=17									
CHMS	**Chumysh**	**70.86**	**317**		P		**P**		07 57 38.1	+0.7
	SNR=7.3									
ABKAR	**Akbulak array**	**70.93**	**329**	*e*	P		**P**		07 57 37.7	0.0
	comp=Z,19nm,0.9s									
KBK	**Karagaybulak**	**71.06**	**316**		P		**P**		07 57 39.4	+0.5
	SNR=14									
AAK	**Ala-Archa**	**71.27**	**317**	*c*	*i*	P	**P**		07 57 40.3	+0.2
AAK					pmax		pmax			
	comp=Z,61nm,0.7s									
AAK	**Ala-Archa**	**71.27**	**317**		P		**P**		07 57 40.7	+0.6
	SNR=24									
AAK	**Ala-Archa**	**71.27**	**317**	*e*	P		**P**		07 57 40.6	+0.6
	comp=Z,26nm,0.8s									
KZA	**Kyzart**	**71.41**	**316**		P		**P**		07 57 41.8	+0.6
	SNR=9.3									
EKS2	**Erkin-Say**	**71.55**	**317**	*e*	P		**P**		07 57 42.4	+0.7
EKS2					pmax		pmax			
	comp=Z,20nm,0.8s									
EKS2	**Erkin-Say**	**71.55**	**317**		P		**P**		07 57 42.5	+0.7
	SNR=22									
EKS2	**Erkin-Say**	**71.55**	**317**	*e*	P		**P**		07 57 42.4	+0.7
	comp=Z,20nm,0.8s									
ESK	**Eskdalemuir**	**71.63**	**10**	*e*	P		**P**		07 57 42.1	+0.3
ESK					pmax		pmax			
	comp=Z,28nm,1.1s									
ESK	**Eskdalemuir**	**71.63**	**10**	*e*	P		**P**		07 57 42.1	+0.3
	comp=Z,28nm,1.1s									
AML	**Almayashu**	**72.02**	**317**		P		**P**		07 57 45.6	+0.7
	SNR=17									
KKAR	**Karatay Array**	**72.50**	**320**	*e*	P		**P**		07 57 47.3	0.0
KKAR					pmax		pmax			
	comp=Z,83nm,1.3s									
KKAR	**Karatay Array**	**72.50**	**320**	*e*	P		**P**		07 57 47.3	0.0
	comp=Z,83nm,1.3s									
TGUH	**Tegucigalpa,Un**	**72.83**	**89**	*e*	P		**P**		07 57 50.3	+0.8
	comp=Z,19nm,1.0s									
KSH	**Kashi**	**73.20**	**314**		P		P		07 57 55.6	+4.0
KSH					pP		**PcP**		07 58 04.6	-3.5
KSH					sP		sP		07 58 06.8	+3.7
KSH					PcP		pP		07 58 13.4	+13
KSH					PP		**PP**		08 00 39.3	+5.1
KSH					SS		SS		08 12 08.1	+10
KSH					AMB		AMB			
	comp=Z,58nm,1.1s									
KSH					LR		LR			
	comp=Z,430nm,11.9s									
KSH					LR		LR			
	comp=Z,600nm,12.8s									
KSH					LR		LR			
	comp=Z,1μm,15.9s									
SUW	**Suwalki**	**73.40**	**354**	*e*	P		**P**		07 57 52.0	-0.3
SUW	**Suwalki**	**73.40**	**354**	*e*	P		**P**		07 57 52.0	-0.3
SUW	**Suwalki**	**73.40**	**354**	*e*	P		**P**		07 57 52.3	0.0
LSA	**Lhasa**	**73.55**	**297**	*e*	P		**P**		07 57 55.2	+0.9
LSA					pmax		pmax			
	comp=Z,33nm,1.1s									
LSA	**Lhasa**	**73.55**	**297**	*e*	P		**P**		07 57 55.1	+0.9
	comp=Z,33nm,1.1s									
AKASG	**Malin Array Be**	**76.14**	**349**		P		**P**		07 58 07.7	-0.6
AKASG	**Malin Array Be**	**76.14**	**349**		P		**P**		07 58 07.7	-0.6
AKASG	**Malin Array Be**	**76.14**	**349**		P		**P**		07 58 07.7	-0.6
	comp=Z,27nm,0.8s,baz=11,slow=5.7,SNR=48									
KIEV	**Kiev**	**76.15**	**349**	*e*	P		**P**		07 58 07.5	-0.8
KIEV					pmax		pmax			
	comp=Z,22nm,0.7s									
KIEV	**Kiev**	**76.15**	**349**	*e*	P		**P**		07 58 07.5	-0.8
	comp=Z,22nm,0.7s									
CLL	**Collm**	**76.46**	**360**	*i*	P		**P**		07 58 10.2	+0.1
	comp=Z,14nm,1.1s									
KSP	**Ksiaz**	**76.89**	**358**	*e*	P		**P**		07 58 13.3	+0.8
BRG	**Berggiesshubel**	**76.89**	**359**	*i*	P		**P**		07 58 13.3	+0.8
	comp=Z,14nm,1.1s									
BRG					*e*				07 58 18.0	
	comp=Z,12nm,1.2s									
MEM	**Membach**	**77.00**	**4**		P		**P**		07 58 14.2	+1.1
	comp=Z,6.9nm,1.1s									
BCLA	**Clavier**	**77.15**	**5**		P		**P**		07 58 14.4	+0.4
	comp=Z,6.6nm,1.0s									
UPC	**Upice**	**77.23**	**358**	*e*	P		**P**		07 58 13.6	-0.8
PVCC	**Panska Ves**	**77.23**	**359**	*e*	P		**P**		07 58 15.0	+0.6
TAPN	**Taplejung**	**77.26**	**298**	*e*	P		**P**		07 58 15.4	0.0
	comp=Z,22nm,0.8s									
DPC	**Dobruska-Polom**	**77.38**	**358**	*e*	P		**P**		07 58 16.1	+0.7
DPC					pmax		pmax			
	comp=Z,105nm,0.9s									
DPC	**Dobruska-Polom**	**77.38**	**358**	*e*	P		**P**		07 58 16.0	+0.7
DPC					*ex*		x		07 58 20.7	
DPC	**Dobruska-Polom**	**77.38**	**358**	*e*	P		**P**		07 58 16.

	comp=Z,16nm,1.2s							
SGMF	**Saint Gilles**	**78.66**	**10**	*eP*		**P**	**07 58 22.6**	**+0.2**
	comp=Z,36nm,1.2s							
SGMF	**Saint Gilles**	**78.66**	**10**	*eP*		**P**	**07 58 22.6**	**+0.2**
SGMF				pmax	pmax			
	comp=Z,36nm,1.2s							
SGMF	**Saint Gilles**	**78.66**	**10**	*eP*		**P**	**07 58 22.6**	**+0.2**
	comp=Z,36nm,1.2s							
GRR	**Gorron**	**78.71**	**9**	*eP*		**P**	**07 58 22.8**	**+0.1**
	comp=Z,28nm,1.1s							
GRR	**Gorron**	**78.71**	**9**	*eP*		**P**	**07 58 22.8**	**+0.1**
GRR				pmax	pmax			
	comp=Z,28nm,1.1s							
GRR	**Gorron**	**78.71**	**9**	*eP*		**P**	**07 58 22.8**	**+0.1**
	comp=Z,28nm,1.1s							
GEC2	**GERESS Array S**	**78.92**	**359**	*eP*		**P**	**07 58 24.8**	**+0.8**
GEC2	**GERESS Array S**	**78.92**	**359**	*eP*		**P**	**07 58 24.8**	**+0.8**
	comp=Z,608nm,0.3s							
GERES	**GERESS Array B**	**78.92**	**359**	P		**P**	**07 58 24.4**	**+0.5**
GERES	**GERESS Array B**	**78.92**	**359**	P		**P**	**07 58 24.4**	**+0.5**
	comp=Z,4.0nm,0.8s,baz=3.8,slow=4.0,SNR=18							
QUIF	**Quistinic**	**78.93**	**11**	*eP*		**P**	**07 58 23.9**	**0.0**
QUIF	**Quistinic**	**78.93**	**11**	*eP*		**P**	**07 58 23.9**	**0.0**
QUIF	**Quistinic**	**78.93**	**11**	*eP*		**P**	**07 58 23.9**	**0.0**
PAGF	**Fort de Pagny**	**79.03**	**5**	*eP*		**P**	**07 58 25.2**	**+0.7**
	comp=Z,9.9nm,0.9s							
PAGF	**Fort de Pagny**	**79.03**	**5**	*eP*		**P**	**07 58 25.2**	**+0.7**
	comp=Z,9.9nm,0.9s							
KECS	**Kecovo**	**79.08**	**355**	*eP*		**P**	**07 58 25.4**	**+0.7**
KOLN	**Koldanda**	**79.09**	**302**	*eP*		**P**	**07 58 25.6**	**+0.2**
	comp=Z,25nm,0.8s							
CDF	**Champ du Feu**	**79.25**	**4**	*eP*		**P**	**07 58 25.9**	**+0.1**
CDF	**Champ du Feu**	**79.25**	**4**	*eP*		**P**	**07 58 25.9**	**+0.1**
CDF	**Champ du Feu**	**79.25**	**4**	*eP*		**P**	**07 58 25.9**	**+0.1**
SFTF	**Sexfontaines**	**79.35**	**5**	*eP*		**P**	**07 58 26.5**	**+0.3**
SFTF	**Sexfontaines**	**79.35**	**5**	*eP*		**P**	**07 58 26.5**	**+0.3**
ECH	**Echery**	**79.44**	**4**	*eP*		**P**	**07 58 26.8**	**+0.1**
ECH				pmax	pmax			
	comp=Z,15nm,1.0s							
ECH	**Echery**	**79.44**	**4**	*eP*		**P**	**07 58 26.8**	**+0.1**
	comp=Z,15nm,1.0s							
BUR08	**Bucovina Ar. S**	**79.57**	**352**	*eP*		**P**	**07 58 26.9**	**-0.7**
HAU	**Haudompre**	**79.61**	**4**	*eP*		**P**	**07 58 28.0**	**+0.3**
	comp=Z,19nm,0.9s							
HAU	**Haudompre**	**79.61**	**4**	*eP*		**P**	**07 58 28.0**	**+0.3**
HAU				pmax	pmax			
	comp=Z,19nm,0.9s							
HAU	**Haudompre**	**79.61**	**4**	*eP*		**P**	**07 58 28.0**	**+0.3**
	comp=Z,19nm,0.9s							
PSZ	**Piszkesteto**	**79.67**	**355**	*eP*		**P**	**07 58 29.5**	**+1.5**
PSZ				pmax	pmax			
	comp=Z,21nm,1.1s							
PSZ	**Piszkesteto**	**79.67**	**355**	*eP*		**P**	**07 58 29.5**	**+1.5**
	comp=Z,21nm,1.1s							
CONA	**Conrad Observa**	**79.81**	**358**	⇑ *iP*		**P**	**07 58 29.8**	**+0.9**
	comp=Z,20nm,1.0s,SNR=7.0							
HINF	**Hinteralfeld**	**79.83**	**4**	*eP*		**P**	**07 58 29.0**	**+0.1**
	comp=Z,29nm,1.2s							
HINF	**Hinteralfeld**	**79.83**	**4**	*eP*		**P**	**07 58 29.0**	**+0.1**
HINF				pmax	pmax			
	comp=Z,29nm,1.2s							
HINF	**Hinteralfeld**	**79.83**	**4**	*eP*		**P**	**07 58 29.0**	**+0.1**
	comp=Z,29nm,1.2s							
LOR	**Lormes**	**80.21**	**6**	*eP*		**P**	**07 58 31.1**	**+0.2**
	comp=Z,47nm,1.2s							
LOR	**Lormes**	**80.21**	**6**	*eP*		**P**	**07 58 31.1**	**+0.2**
	comp=Z,47nm,1.2s							
RETA	**Reutte**	**80.27**	**1**	⇑ *iP*		**P**	**07 58 32.1**	**+0.8**
	comp=Z,15nm,1.2s							
KBL	**Kabul**	**80.37**	**316**	*eP*		**P**	**07 58 32.0**	**-0.2**
KBL	**Kabul**	**80.37**	**316**	*eP*		**P**	**07 58 32.0**	**-0.2**
SSF	**Saint Saulge**	**80.39**	**6**	*eP*		**P**	**07 58 32.2**	**+0.3**
	comp=Z,25nm,1.0s							
SSF	**Saint Saulge**	**80.39**	**6**	*eP*		**P**	**07 58 32.2**	**+0.3**
SSF				pmax	pmax			
	comp=Z,25nm,1.0s							
SSF	**Saint Saulge**	**80.39**	**6**	*eP*		**P**	**07 58 32.2**	**+0.3**
	comp=Z,25nm,1.0s							
KIV	**Kislovodsk**	**80.44**	**339**	⇓ *iP*		**P**	**07 58 33.3**	**+1.0**
KIV				pmax	pmax			
	comp=Z,29nm,1.2s							
ARSA	**Arzberg**	**80.50**	**358**	⇑ *iP*		**P**	**07 58 34.0**	**+1.5**
	comp=Z,15nm,1.3s							
WTTA	**Wattenberg**	**80.50**	**1**	⇑ *iP*		**P**	**07 58 33.7**	**+1.1**
	comp=Z,25nm,1.3s							
MFF	**Saint Martin d**	**80.55**	**9**	*eP*		**P**	**07 58 33.1**	**+0.4**
	comp=Z,42nm,1.0s							
MFF	**Saint Martin d**	**80.55**	**9**	*eP*		**P**	**07 58 33.1**	**+0.4**
MFF				pmax	pmax			
	comp=Z,42nm,1.0s							
MFF	**Saint Martin d**	**80.55**	**9**	*eP*		**P**	**07 58 33.1**	**+0.4**
	comp=Z,42nm,1.0s							
AVF	**Avril sur Loir**	**80.65**	**7**	*eP*		**P**	**07 58 33.4**	**+0.2**
	comp=Z,40nm,1.3s							
AVF	**Avril sur Loir**	**80.65**	**7**	*eP*		**P**	**07 58 33.4**	**+0.2**
AVF				pmax	pmax			
	comp=Z,41nm,1.3s							
AVF	**Avril sur Loir**	**80.65**	**7**	*eP*		**P**	**07 58 33.4**	**+0.2**
	comp=Z,40nm,1.3s							
KBA	**Koelnbreinsper**	**80.69**	**360**	⇑ *iP*		**P**	**07 58 34.7**	**+1.0**
	comp=Z,48nm,1.0s							
FETA	**Feichten**	**80.74**	**1**	⇑ *iP*		**P**	**07 58 34.8**	**+0.9**
	comp=Z,19nm,1.0s,SNR=7.6							
SMF	**Signal de Mont**	**80.83**	**6**	*eP*		**P**	**07 58 34.4**	**+0.2**
	comp=Z,32nm,1.0s							
SMF	**Signal de Mont**	**80.83**	**6**	*eP*		**P**	**07 58 34.4**	**+0.2**
SMF				pmax	pmax			
	comp=Z,32nm,1.0s							
SMF	**Signal de Mont**	**80.83**	**6**	*eP*		**P**	**07 58 34.4**	**+0.2**
	comp=Z,32nm,1.0s							
BGF	**Bois d'Agland**	**80.84**	**7**	*eP*		**P**	**07 58 34.5**	**+0.2**
BGF	**Bois d'Agland**	**80.84**	**7**	*eP*		**P**	**07 58 34.5**	**+0.2**
BGF	**Bois d'Agland**	**80.84**	**7**	*eP*		**P**	**07 58 34.5**	**+0.2**
CABF	**La Chapelle**	**80.99**	**5**	*eP*		**P**	**07 58 35.9**	**+0.7**
	comp=Z,42nm,1.2s							
CABF	**La Chapelle**	**80.99**	**5**	*eP*		**P**	**07 58 35.9**	**+0.7**
CABF				pmax	pmax			
	comp=Z,42nm,1.2s							
CABF	**La Chapelle**	**80.99**	**5**	*eP*		**P**	**07 58 35.9**	**+0.7**
	comp=Z,42nm,1.2s							
ABTA	**Abfaltersbach**	**81.03**	**0**	⇑ *iP*		**P**	**07 58 36.2**	**+0.8**
	comp=Z,19nm,1.2s							
TCF	**Toulx Ste Croi**	**81.06**	**7**	*eP*		**P**	**07 58 35.7**	**+0.2**
	comp=Z,12nm,0.9s							
TCF	**Toulx Ste Croi**	**81.06**	**7**	*eP*		**P**	**07 58 35.7**	**+0.2**
TCF				pmax	pmax			
	comp=Z,12nm,0.9s							
TCF	**Toulx Ste Croi**	**81.06**	**7**	*eP*		**P**	**07 58 35.7**	**+0.2**
	comp=Z,12nm,0.9s							
SOKA	**Soboth**	**81.08**	**358**	⇑ *iP*		**P**	**07 58 36.5**	**+0.9**
	comp=Z,30nm,1.1s,SNR=6.5							
TUE	**Stuetta**	**81.26**	**2**	*eP*		**P**	**07 58 37.2**	**+0.5**
	comp=Z,18nm,1.3s							
RJF	**Les Rejaudoux**	**81.98**	**8**	*eP*		**P**	**07 58 40.4**	**0.0**
RJF	**Les Rejaudoux**	**81.98**	**8**	*eP*		**P**	**07 58 40.4**	**0.0**
RJF	**Les Rejaudoux**	**81.98**	**8**	*eP*		**P**	**07 58 40.4**	**0.0**
LPL	**La Plagne**	**82.12**	**4**	*eP*		**P**	**07 58 42.8**	**+1.5**
LPL	**La Plagne**	**82.12**	**4**	*eP*		**P**	**07 58 42.8**	**+1.5**
LPL	**La Plagne**	**82.12**	**4**	*eP*		**P**	**07 58 42.8**	**+1.5**
LPG	**La Plagne**	**82.14**	**4**	*eP*		**P**	**07 58 43.2**	**+1.7**
LPG	**La Plagne**	**82.14**	**4**	*eP*		**P**	**07 58 43.2**	**+1.7**
LPG	**La Plagne**	**82.14**	**4**	*eP*		**P**	**07 58 43.2**	**+1.7**
LFF	**La Frestale**	**82.28**	**9**	*eP*		**P**	**07 58 42.2**	**+0.3**
LFF	**La Frestale**	**82.28**	**9**	*eP*		**P**	**07 58 42.2**	**+0.3**
LFF	**La Frestale**	**82.28**	**9**	*eP*		**P**	**07 58 42.2**	**+0.3**
CAF	**Calviac**	**82.41**	**8**	*eP*		**P**	**07 58 43.0**	**+0.4**
	comp=Z,29nm,1.1s							
CAF	**Calviac**	**82.41**	**8**	*eP*		**P**	**07 58 43.0**	**+0.4**
CAF				pmax	pmax			
	comp=Z,29nm,1.1s							
CAF	**Calviac**	**82.41**	**8**	*eP*		**P**	**07 58 43.0**	**+0.4**
	comp=Z,29nm,1.1s							
BNI	**Bardonecchia**	**82.58**	**4**	*eP*		**P**	**07 58 45.6**	**+2.0**
BNI				pmax	pmax			
	comp=Z,18nm,1.0s							
BNI	**Bardonecchia**	**82.58**	**4**	*eP*		**P**	**07 58 45.6**	**+2.0**
	comp=Z,18nm,1.0s							
VIVF	**Saint-Julien-l**	**82.66**	**6**	*eP*		**P**	**07 58 44.7**	**+0.7**
	comp=Z,21nm,1.0s							
VIVF	**Saint-Julien-l**	**82.66**	**6**	*eP*		**P**	**07 58 44.7**	**+0.7**
VIVF				pmax	pmax			
	comp=Z,21nm,1.0s							
VIVF	**Saint-Julien-l**	**82.66**	**6**	*eP*		**P**	**07 58 44.7**	**+0.7**
	comp=Z,21nm,1.0s							
ORIF	**Oris-en-Rattie**	**82.67**	**5**	*eP*		**P**	**07 58 44.9**	**+0.8**
	comp=Z,41nm,1.2s							
ORIF	**Oris-en-Rattie**	**82.67**	**5**	*eP*		**P**	**07 58 44.9**	**+0.8**
ORIF				pmax	pmax			
	comp=Z,41nm,1.2s							
ORIF	**Oris-en-Rattie**	**82.67**	**5**	*eP*		**P**	**07 58 44.9**	**+0.8**
	comp=Z,41nm,1.2s							
MBDF	**Montbardon**	**82.91**	**4**	*eP*		**P**	**07 58 46.7**	**+1.3**
	comp=Z,26nm,0.8s							
MBDF	**Montbardon**	**82.91**	**4**	*eP*		**P**	**07 58 46.7**	**+1.3**
MBDF				pmax	pmax			
	comp=Z,26nm,0.8s							
MBDF	**Montbardon**	**82.91**	**4**	*eP*		**P**	**07 58 46.7**	**+1.3**
	comp=Z,26nm,0.8s							
LASF	**Ste Croix**	**83.39**	**7**	*eP*		**P**	**07 58 49.0**	**+1.3**
	comp=Z,90nm,1.4s							
LASF	**Ste Croix**	**83.39**	**7**	*eP*		**P**	**07 58 49.0**	**+1.3**
	comp=Z,90nm,1.4s							
SMRF	**Simiane la Rot**	**83.59**	**5**	*eP*		**P**	**07 58 50.2**	**+1.4**
SMRF	**Simiane la Rot**	**83.59**	**5**	*eP*		**P**	**07 58 50.2**	**+1.4**
SBF	**Sospel**	**83.80**	**4**	*eP*		**P**	**07 58 50.2**	**+0.3**
	comp=Z,84nm,1.1s							
SBF	**Sospel**	**83.80**	**4**	*eP*		**P**	**07 58 50.2**	**+0.3**
SBF				pmax	pmax			
	comp=Z,84nm,1.1s							
SBF	**Sospel**	**83.80**	**4**	*eP*		**P**	**07 58 50.2**	**+0.3**
	comp=Z,84nm,1.1s							
KAPI	**Kappang**	**83.81**	**253**	P		**P**	**07 58 52.3**	**+2.2**
KAPI	**Kappang**	**83.81**	**253**	P		**P**	**07 58 52.3**	**+2.2**
	comp=Z,9.4nm,1.0s,baz=102,slow=20,SNR=2.5							
SJPF	**Ste Jean**	**83.89**	**10**	*eP*		**P**	**07 58 51.1**	**+0.8**
	comp=Z,33nm,1.2s							
SJPF	**Ste Jean**	**83.89**	**10**	*eP*		**P**	**07 58 51.1**	**+0.8**
SJPF				pmax	pmax			
	comp=Z,33nm,1.2s							
SJPF	**Ste Jean**	**83.89**	**10**	*eP*		**P**	**07 58 51.1**	**+0.8**
	comp=Z,33nm,1.2s							
MTLF	**Montolieu**	**83.99**	**8**	*eP*		**P**	**07 58 51.6**	**+0.8**
	comp=Z,75nm,1.4s							
MTLF	**Montolieu**	**83.99**	**8**	*eP*		**P**	**07 58 51.6**	**+0.8**
MTLF				pmax	pmax			
	comp=Z,75nm,1.4s							
MTLF	**Montolieu**	**83.99**	**8**	*eP*		**P**	**07 58 51.6**	**+0.8**
	comp=Z,75nm,1.4s							
FRF	**La Foret Royal**	**84.06**	**5**	*eP*		**P**	**07 58 51.9**	**+0.8**
	comp=Z,70nm,1.4s							
FRF	**La Foret Royal**	**84.06**	**5**	*eP*		**P**	**07 58 51.9**	**+0.8**
FRF				pmax	pmax			
	comp=Z,70nm,1.4s							
FRF	**La Foret Royal**	**84.06**	**5**	*eP*		**P**	**07 58 51.9**	**+0.8**
	comp=Z,70nm,1.4s							
ETSF	**Etsaut**	**84.17**	**10**	*eP*		**P**	**07 58 52.4**	**+0.6**
	comp=Z,37nm,1.1s							
ETSF	**Etsaut**	**84.17**	**10**	*eP*		**P**	**07 58 52.4**	**+0.6**
ETSF				pmax	pmax			
	comp=Z,37nm,1.1s							
ETSF	**Etsaut**	**84.17**	**10**	*eP*		**P**	**07 58 52.4**	**+0.6**
	comp=Z,37nm,1.1s							
LMR	**La Mourre**	**84.28**	**5**	*eP*		**P**	**07 58 53.1**	**+0.9**
LMR	**La Mourre**	**84.28**	**5**	*eP*		**P**	**07 58 53.1**	**+0.9**
LMR	**La Mourre**	**84.28**	**5**	*eP*		**P**	**07 58 53.1**	**+0.9**
ANTO	**Ankara**	**86.28**	**345**	*eP*		**P**	**07 59 03.8**	**+1.4**
ANTO				pmax	pmax			
	comp=Z,23nm,1.1s							
ANTO	**Ankara**	**86.28**	**345**	*eP*		**P**	**07 59 03.8**	**+1.4**
	comp=Z,23nm,1.1s							
BR131	**Keskin Array S**	**86.29**	**344**	*eP*		**P**	**07 59 03.6**	**+1.1**
	comp=Z,7.4nm,0.8s							
BRTR	**Keskin Array B**	**86.29**	**344**	P		**P**	**07 59 03.1**	**+0.6**
BRTR	**Keskin Array B**	**86.29**	**344**	P		**P**	**07 59 03.1**	**+0.6**
	comp=Z,9.1nm,0.8s,baz=64,slow=2.9,SNR=29							
ESDC	**Sonseca Array**	**86.94**	**19**	P		**P**	**07 59 05.5**	**-0.1**
ESDC	**Sonseca Array**	**86.94**	**13**	P		**P**	**07 59 05.6**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=349,slow=3.8,SNR=7.1							
WRA	**Warramunga Arr**	**88.22**	**233**	P		**P**	**07 59 10.8**	**-1.0**
WRA	**Warramunga Arr**	**88.22**	**233**	P		**P**	**07 59 10.8**	**-1.0**
	comp=Z,1.6nm,0.9s,baz=32,slow=6.1,SNR=7.8							
HYB	**Hyderabad**	**90.22**	**300**	*i* P		**P**	**07 59 20.0**	**-1.4**
ASAR	**Alice Springs**	**91.59**	**232**	P		**P**	**07 59 27.8**	**+0.3**
ASAR	**Alice Springs**	**91.59**	**232**	P		**P**	**07 59 27.8**	**+0.3**
	comp=Z,1.4nm,0.9s,baz=38,slow=5.0,SNR=5.1							
KEST	**Kesra**	**91.98**	**3**	P		**P**	**07 59 29.4**	**0.0**
KEST	**Kesra**	**91.98**	**3**	P		**P**	**07 59 29.4**	**0.0**
	comp=Z,1.9nm,0.9s,baz=18,slow=20,SNR=2.1							
MMAI	**Mount Meron Ar**	**92.49**	**341**	P		**P**	**07 59 30.0**	**-1.8**
MMAI	**Mount Meron Ar**	**92.49**	**341**	P		**P**	**07 59 30.0**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=356,slow=10.0,SNR=4.7							
MDT	**Midelt**	**93.58**	**15**	P		**P**	**07 59 37.0**	**+0.1**
MDT	**Midelt**	**93.58**	**15**	P		**P**	**07 59 37.0**	**+0.1**
	comp=Z,2.8nm,1.0s,baz=26,slow=7.3,SNR=2.9							
TORD	**Torodi Ar. Bea**	**113.81**	**12**	PKiKP		**PKiKP**	**08 04 58.8**	**-0.7**
TORD				PKKPab		**PKKPab**	**08 15 52.4**	**+1.0**
TORD	**Torodi Ar. Bea**	**113.81**	**12**	PKiKP		**PKiKP**	**08 04 58.8**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=338,slow=2.2,SNR=3.8							
TORD				PKKPab		**PKKPab**	**08 15 52.4**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=175,slow=2.3,SNR=2.6							
H03N2	**Juan Fernandez**	**114.76**	**113**	T		T	10 10 33.6	
	baz=315							
H03N1	**Juan Fernandez**	**114.78**	**113**	T		T	10 10 34.7	
	baz=315							
H03N3	**Juan Fernandez**	**114.78**	**113**	T		T	10 10 33.6	
	baz=315							
TSUM	**Tsumeb**	**146.46**	**352**	PKPbc		**PKPbc**	**08 06 01.5**	**-0.4**
TSUM	**Tsumeb**	**146.46**	**352**	PKPbc		**PKPbc**	**08 06 01.5**	**-0.4**
	comp=Z,3.7nm,0.7s,baz=315,slow=8.4,SNR=6.1							
LBTB	**Lobatse**	**150.80**	**336**	*e*PKPbc		**PKPbc**	**08 06 13.5**	**+0.5**
LBTB	**Lobatse**	**150.80**	**336**	PKPbc		**PKPbc**	**08 06 13.7**	**+0.7**
	comp=Z,13nm,0.9s,baz=56,slow=1.2,SNR=11							
MAW	**Mawson**	**151.90**	**219**	*e*PKPbc		**PKPbc**	**08 06 13.8**	**-0.3**
MAW	**Mawson**	**151.90**	**219**	PKPbc		**PKPbc**	**08 06 17.1**	**+3.1**
	comp=Z,3.4nm,0.8s,baz=94,slow=19,SNR=4.3							
BOSA	**Boshof**	**154.32**	**334**	PKPbc		**PKPbc**	**08 06 20.8**	**0.0**
BOSA				PKPab		**PKPab**	**08 06 35.4**	**+0.5**
BOSA	**Boshof**	**154.32**	**334**	PKPbc		**PKPbc**	**08 06 20.8**	**0.0**
	comp=Z,3.0nm,0.9s,baz=16,slow=7.4,SNR=2.5							
BOSA				PKPab		**PKPab**	**08 06 35.4**	**+0.5**
	comp=Z,8.5nm,1.0s,baz=346,slow=6.4,SNR=5.7							
SUR	**Sutherland**	**158.98**	**341**	PKPab		**PKPab**	**08 06 55.0**	**+0.1**
SUR	**Sutherland**	**158.98**	**341**	PKPab		**PKPab**	**08 06 55.0**	**+0.1**
	comp=Z,5.4nm,0.8s,baz=24,slow=20,SNR=3.2							

DJA 13 07:51:33.2±1.2, 8°S±7.°×107°E±°, h10km, M3.5/5, MLv3.5/5, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.73**	**47**	P	Pg	07 51 47.2	-0.2
CISI				S	Sg	07 51 56.7	-0.3
LEM	**Lembang**	**1.27**	**15**	P	Pn	07 51 57.0	-0.2
LEM				S	Sb	07 52 13.4	-0.6
SKJI	**Sukabumi**	**1.27**	**326**	P	Pn	07 51 55.2	-1.8
SKJI				S	Sb	07 52 12.5	-1.2
DBJI	**Dramaga**	**1.59**	**341**	P	Pn	07 52 00.2	-1.2
KPJI	**Karang Pucung**	**1.79**	**66**	P	Pn	07 52 03.1	-1.1

IDC 13 07:52:51.7±1.6, 14°14S×166°50E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.8/19, mbtmp3.8/6, ML3.3/1, Error ellipse: s-maj=52.2km s-min=26.4km az=98.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.88**	**180**	Pn	Pn	07 54 49.5	+1.7
	0.4nm,0.3s,baz=334,slow=18,SNR=6.6						
DZM				Sn	Sn	07 56 18.8	+0.9
	baz=344,slow=8.8,SNR=2.0						
ASAR	**Alice Springs**	**32.19**	**248**	P	P	07 59 20.6	-1.1
	0.5nm,0.6s,baz=75,slow=9.3,SNR=6.5						
USRK	**Ussuriysk Arra**	**66.03**	**334**	P	P	08 03 41.7	+1.5
	2.5nm,0.9s,baz=146,slow=10,SNR=3.9						
SONM	**Songino Array**	**81.58**	**324**	P	P	08 05 11.4	-0.1
	0.3nm,0.3s,baz=134,slow=4.2,SNR=2.9						
ILAR	**Eielson Array**	**86.20**	**18**	P	P	08 05 33.2	-1.4
	0.4nm,0.6s,baz=237,slow=5.0,SNR=5.5						
MKAR	**Makanchi Array**	**96.27**	**317**	P	P	08 06 22.7	+0.6
	0.2nm,0.5s,baz=108,slow=4.7,SNR=3.2						

IDC 13 07:52:53.8±1.6, 12°.20N×124°.71E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/23, mbtmp3.9/5, Error ellipse: s-maj=171.4km s-min=20.8km az=68.0
MAN 13 07:52:54, 12°.34N×123°.78E, h39km, mb4.8, ML3.7, MS3.6
MAN INTENSITY II - MASBATE MASBATE.
ISC 13 07:52:53.3±3.5, 12°.32N±0°.04×123°.78E±0°.04, h15km±26km, n30, σ0°94/28, mb3.8/5, 3C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNP	**Catarman**	**0.88**	**77**	*eP*		**Pb**	**07 53 10.2**	**-0.1**
CNP				*eS*		**Sn**	**07 53 23.8**	**+0.1**
RCP	**Roxas**	**1.26**	**234**	⇓ *eP*		**Pn**	**07 53 16.2**	**-0.3**
RCP				*eS*		**Sb**	**07 53 33.9**	**+1.0**
PVCP	**Virac**	**1.32**	**16**	⇑ *iP*		**Pn**	**07 53 16.9**	**-0.3**
AUQP	**San Andres**	**1.48**	**313**	*eP*		**Pb**	**07 53 20.6**	**+0.1**
OCLP	**Ormoc**	**1.49**	**147**	*eP*		**Pn**	**07 53 20.3**	**+0.6**
PLP	**Palo**	**1.64**	**134**	⇓ *iP*		**Pn**	**07 53 21.2**	**-0.4**
PLP				*i* S		**Sb**	**07 53 43.2**	**-0.5**
OTRP	**Odiongan**	**1.72**	**272**	*eP*		**Pn**	**07 53 22.0**	**-0.8**
LLP	**Lapu-Lapu**	**1.99**	**175**	⇑ *eP*		**Pn**	**07 53 26.3**	**-0.2**
LLP				*eS*		**Sb**	**07 53 54.1**	**+0.2**
GUIM	**Jordan**	**2.05**	**215**	*eP*		**Pn**	**07 53 27.9**	**+0.7**
GQP	**Guinayangan**	**2.05**	**321**	⇑ *eP*		**Pn**	**07 53 28.4**	**+1.2**
BOAC	**Boac**	**2.21**	**301**	*eP*		**Pn**	**07 53 29.6**	**+0.2**
MSLP	**Maasin**	**2.41**	**154**	*eP*		**Pn**	**07 53 33.5**	**+1.3**
SJMP	**San Jose**	**2.61**	**273**	*eP*		**Pn**	**07 53 35.5**	**+0.6**
TBP	**Tagbilaran**	**2.61**	**178**	*eP*		**Pn**	**07 53 35.4**	**+0.4**
LQP	**Lukban**	**2.82**	**309**	*eP*		**Pn**	**07 53 38.5**	**+0.4**
SNPH	**Sibulan**	**3.00**	**190**	⇓ *iP*		**Pb**	**07 53 45.2**	**-1.3**
SNPH				*i* S		Sb	07 54 33.0	+10
SCPH	**Surigao**	**3.02**	**146**	*eP*		**Pn**	**07 53 42.3**	**+1.7**
CUYO	**Cuyo Island**	**3.08**	**242**	*eP*		**Pn**	**07 53 42.9**	**+1.5**
LUBP	**Lubang**	**3.73**	**293**	*eP*		**Pn**	**07 53 51.0**	**+0.6**
DCPH	**Dipolog City**	**3.73**	**187**	*eP*		Pn	07 53 46.6	-3.8
ENPP	**El Nido**	**4.41**	**256**	*eP*		**Pn**	**07 54 00.3**	**+0.5**
BUKP	**Musuan**	**4.58**	**164**	*eP*		**Pn**	**07 54 04.6**	**+2.4**
WRA	**Warramunga Arr**	**33.70**	**162**	P		**P**	**07 59 32.8**	**-1.3**
	1.1nm,0.6s,baz=343,slow=9.2,SNR=8.7							
ASAR	**Alice Springs**	**37.10**	**165**	P		**P**	**08 00 03.4**	**0.0**
	1.2nm,0.6s,baz=348,slow=7.1,SNR=15							
SONM	**Songino Array**	**38.28**	**341**	P		P	08 00 19.6	+6.3
	0.5nm,0.4s,baz=146,slow=8.0,SNR=3.0							
H11N1	**WAKE ISLAND Hy**	**41.99**	**74**	T		T	08 44 27.6	
	baz=270							
H11N2	**WAKE ISLAND Hy**	**42.00**	**74**	T		T	08 44 29.3	
	baz=270							
H11N3	**WAKE ISLAND Hy**	**42.01**	**74**	T		T	08 44 33.5	
	baz=270							
STKA	**Stephens Creek**	**47.14**	**159**	P		**P**	**08 01 25.1**	**0.0**
	2.7nm,0.7s,baz=336,slow=10.0,SNR=2.7							
MKAR	**Makanchi Array**	**48.93**	**323**	P		P	08 01 46.3	+7.3
	0.8nm,0.8s,baz=121,slow=7.3,SNR=5.1							

ISCJB 13 07:55:39.5±0.7, 3°.82S±0°.05×34°.74E±0°.04, h22km, Error ellipse: s-maj=7.6km s-min=6.0km az=20.5
PRE 13 07:55:39.5±1.8, 3°.88S×34°.78E, h10km, ML4.3
BUL 13 07:55:43.1±1.3, 4°.12S×35°.26E, h0km±14km, MD3.5
ISC 13 07:55:39.2±1.0, 4°01S±0°.05×34°77E±0°.05, h22km, n8, σ1°48/15, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op

MEX.

*MEX **13** 08:25:48.7±0.7, 14°.52N×93°.53W, h9^{km}±18^{km}, MD4.4*

ISC 13 08:25:47.7±0.8, 14°.36N±0°.06×93°.37W±0°.05, h36^{km}, n225, σ1^{s}48/226, mb4.0/5, 90C-101D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.34	6	*e*P	Pn	08 26 07.4	-2.6
PCIG				*i* S	Sn	08 26 22.7	-3.9
PCIG		1.34	6	*e*P	Pn	08 26 07.4	-2.6
PCIG				*i* S	Sn	08 26 22.7	-3.9
JAT	Jato	1.68	91	*e*P	Pn	08 26 13.8	-0.7
CCIG	Comitan	2.25	32	*e*P	Pn	08 26 22.7	+0.1
CCIG				*e*S	Sn	08 26 49.0	-0.2
CCIG	Comitan	2.25	32	*e*P	Pn	08 26 22.7	+0.1
CCIG				*e*S	Sn	08 26 49.0	-0.2
TGIG		2.42	6	*e*P	Pn	08 26 24.3	-0.5
TGIG				*e*S	Sn	08 26 51.0	-2.1
TGIG		2.42	6	*e*P	Pn	08 26 24.3	-0.5
TGIG				*e*S	Sn	08 26 51.0	-2.1
FUG	Fuego 3	2.45	88	*e*P	Pn	08 26 23.9	-1.4
FUG				*e*S	Sn	08 26 56.0	+1.9
NBG	Las Nubes	2.93	85	*e*P	Pn	08 26 32.2	+0.2
HUIG	Huatulco	3.00	298	*e*P	Pn	08 26 30.6	-2.1
HUIG				*e*S	Sn	08 27 03.3	-4.1
HUIG	Huatulco	3.00	298	*e*P	Pn	08 26 30.6	-2.1
HUIG				*e*S	Sn	08 27 03.3	-4.1
RBDL	Robledal	3.58	94	*e*P	Pn	08 26 38.8	-2.0
MRL	Marmol	3.62	78	*e*P	Pn	08 26 41.4	-0.1
RTR	El Retiro	3.64	97	*e*P	Pn	08 26 40.0	-1.7
SBLS	San Blas	3.67	98	*e*P	Pn	08 26 39.7	-2.5
SBLS				*e*S	Sn	08 27 20.5	-3.9
BOQS	Boqueron	4.01	98	*e*P	Pn	08 26 45.0	-1.9
VHO	Vista Hermosa	4.22	310	*e*P	Pn	08 26 47.6	-2.1
VHO				*i* S	Sn	08 27 33.9	-4.0
VHO	Vista Hermosa	4.22	310	*e*P	Pn	08 26 47.6	-2.1
VHO				*i* S	Sn	08 27 33.9	-4.0
LBRS	Las Brisas	4.24	98	*e*P	Pn	08 26 47.2	-2.7
PNIG	Pinotepa	5.02	294	*e*P	Pn	08 26 59.8	-0.8
PNIG				*e*S	Sn	08 27 53.7	-3.6
PNIG	Pinotepa	5.02	294	*e*P	Pn	08 26 59.8	-0.8
PNIG				*e*S	Sn	08 27 53.7	-3.6
CNCH	Conchagua	5.48	101	*e*P	Pn	08 27 04.4	-2.6
732A	Laxson Ranch, baz=15	15.55	338	⇓P	Pn	08 29 25.8	+1.4
632A	Uvalde baz=16	16.20	340	⇑P	Pn	08 29 33.6	+0.9
631A	Perdido Creek baz=16	16.40	337	⇓P	Pn	08 29 36.1	+1.0
532A	Rocksprings baz=17	16.81	340	⇓P	Pn	08 29 41.3	+0.9
531A	Rocksprings baz=17,SNR=7.3	17.07	338	⇑P	Pn	08 29 44.5	+0.9
JCT	Junction City baz=17	17.10	341	⇓P	Pn	08 29 44.7	+0.6
530A	J-C Ranch, Com baz=17	17.35	336	⇓P	P	08 29 48.4	+0.1
628A	Black Gap, Mar baz=17	17.44	331	⇓P	P	08 29 50.5	+1.3
432A	Menard baz=17	17.47	341	⇓P	Pn	08 29 48.8	+0.1
431A	Sonora baz=17	17.56	339	⇑P	P	08 29 50.6	+0.1
627A	Terlingua Ranc baz=18,SNR=9.2	17.65	330	⇑P	P	08 29 53.5	+1.9
529A	Stev Forest Ra baz=18,SNR=15	17.69	334	⇓P	P	08 29 52.6	+0.7
TXAR	Lajitas Array	17.69	329 P		P	08 29 53.2	+1.2
TXAR	Lajitas Array 0.1nm,0.3s,baz=148,slow=12,SNR=13	17.69	329 P		P	08 29 53.2	+1.2
430A	Baggett Ranch, baz=18,SNR=8.2	17.88	337	⇓P	P	08 29 54.9	+0.8
332A	Millersview baz=18	17.92	342	⇑P	Pn	08 29 54.2	0.0
528A	Cox Ranch, San baz=18	17.96	333	⇑P	P	08 29 56.6	+1.5
429A	Davenport Ranc baz=18,SNR=20	17.99	336	⇓P	P	08 29 56.2	+0.8
331A	San Angelo baz=18,SNR=7.9	18.07	340	⇓P	Pn	08 29 56.1	+0.1
626A	Big Bend Ranch baz=18,SNR=11	18.10	328	⇑P	P	08 29 59.1	+2.5
527A	Woodward Ranch baz=18,SNR=9.3	18.33	331	⇑P	Pn	08 30 01.3	+1.9
428A	Kincaid Ranch, baz=18	18.41	334	⇑P	Pn	08 30 01.4	+1.3
330A	Mertzon baz=18	18.42	338	⇑P	P	08 30 00.3	+0.3
526A	Mary Lane Ranc baz=18	18.49	329	⇑P	Pn	08 30 03.5	+2.2
231A	Bronte baz=18	18.61	341	⇓P	P	08 30 02.5	+0.3
329A	Wagon Wheel Ra baz=19	18.79	337	⇓P	Pn	08 30 05.0	+0.2
427A	Hayter Ranch, baz=19	18.83	332	⇑P	Pn	08 30 06.8	+1.5
230A	Sterling City baz=19,SNR=8.8	18.83	339	⇑P	Pn	08 30 05.5	+0.2
426A	McDonald Obser baz=19,SNR=8.4	18.96	331	⇓P	Pn	08 30 08.3	+1.2
328A	Wristen Ranch, baz=19,SNR=7.7	19.03	335	⇑P	Pn	08 30 08.2	+0.6
ABTX	Abilene, Hawle baz=19	19.06	344	⇑P	P	08 30 07.5	+0.5
130A	Snyder baz=19	19.43	340	⇓P	P	08 30 12.1	+1.0
326A	Caldwell Ranch baz=19	19.48	332	⇑P	Pn	08 30 13.8	+0.6
425A	Indio Mountain baz=19	19.53	329	⇑P	Pn	08 30 15.9	+2.1
228A	UT Block 9, Go baz=19	19.58	336	⇓P	Pn	08 30 14.7	+0.3
Z32A	Haskell baz=20,SNR=6.0	19.66	345	⇓P	P	08 30 14.1	+0.5
129A	Stewart Farms, baz=20,SNR=7.3	19.77	338	⇓P	Pn	08 30 16.3	-0.3
227A	Bennet, Jal baz=20	19.78	334	⇓P	Pn	08 30 16.5	-0.1
Z31A	Sharp Cattle R baz=20	19.85	343	⇓P	P	08 30 16.6	+0.9
128A	Castleberry Fa baz=20,SNR=13	19.99	337	⇑P	Pn	08 30 18.8	-0.3
325A	Bean Ranch, Si baz=20	20.00	330	⇑P	Pn	08 30 19.5	+0.2
Z30A	Sanderson Ranc baz=20,SNR=7.6	20.12	341	⇑P	P	08 30 19.4	+0.8
226B	Tecolote Peak, baz=20	20.21	333	⇓P	Pn	08 30 21.7	0.0
Z29A	Hungry Hill Ra baz=20,SNR=7.5	20.29	339	⇓P	P	08 30 21.5	+1.0
324A	Moseley Ranch, baz=20	20.31	329	⇑P	Pn	08 30 23.7	+0.7
Y32A	R-V Farms, Ver baz=20	20.32	345	⇑P	P	08 30 20.9	+0.2
127A	Arkansas Junct baz=20,SNR=5.8	20.38	335	⇓P	Pn	08 30 23.5	-0.2
Y31A	Rekieta Farm, baz=20,SNR=5.3	20.49	343	⇑P	P	08 30 23.7	+1.0
225A	Deer Hill, Car baz=20	20.54	331	⇓P	P	08 30 25.1	+1.8
Z28A	Tucker Farm, M baz=20,SNR=10	20.55	338	⇓P	P	08 30 24.4	+1.0
Y30A	Stafford Cattl baz=20	20.59	342	⇑P	P	08 30 24.2	+0.4
126A	Clayton Basin, baz=20	20.63	334	⇓P	P	08 30 25.5	+1.3
224A	Cornudas Mount baz=21,SNR=8.0	20.84	330	⇑P	P	08 30 28.5	+1.9
Z27A	Tatum baz=21,SNR=34	20.89	336	⇓P	P	08 30 27.9	+0.9
125A	Gardner Draw, baz=21,SNR=9.6	20.92	332	⇑P	P	08 30 29.0	+1.5
X31A	McDonald Ranch baz=21	21.05	345	⇑P	P	08 30 28.6	0.0
Y28A	McKinney Farm, baz=21,SNR=19	21.06	339	⇓P	P	08 30 29.4	+0.5
X30A	Coker Ranch, T baz=21,SNR=6.7	21.12	343	⇓P	P	08 30 29.7	+0.3
Z26A	Caprock baz=21,SNR=13	21.16	335	⇓P	P	08 30 30.7	+0.8
MSTX	Muleshoe baz=21	21.30	338	⇓P	P	08 30 31.6	+0.2
124A	Stringfield Ra baz=21,SNR=7.2	21.32	331	⇓P	P	08 30 33.7	+1.8
X29A	Tulia baz=21,SNR=5.2	21.37	341	⇑P	P	08 30 32.5	+0.4
Y27A	Causey baz=21	21.37	337	⇑P	P	08 30 32.7	+0.5
Z25A	Roswell baz=21	21.48	333	⇓P	P	08 30 34.6	+1.3
W31A	Holland Ranch, baz=22	21.57	345	⇓P	P	08 30 35.1	+0.9
X28A	Dimmitt baz=22	21.60	340	⇓P	P	08 30 35.2	+0.6
123A	Bell Site, Whi baz=22	21.66	329	⇑P	P	08 30 37.1	+1.8
Z24A	Sheeppen Canyo baz=22,SNR=10	21.81	332	⇓P	P	08 30 38.4	+1.5
320A	Kipp Ranch, An baz=22	21.88	323	⇑P	P	08 30 41.2	+3.4
221A	Mesquite Ranch baz=22	21.96	326	⇓P	P	08 30 41.6	+3.0
W29A	Amarillo baz=22	21.98	342	⇓P	P	08 30 38.6	-0.1
Y25A	Mesa, Roswell baz=22	22.02	334	⇑P	P	08 30 40.2	+1.1
X27A	F and S Farms, baz=22,SNR=6.5	22.03	338	⇑P	P	08 30 39.8	+0.5
Z23A	Rita Site, Whi baz=22,SNR=11	22.16	330	⇓P	P	08 30 42.4	+1.7
X26A	CR and CF Fran baz=22	22.21	337	⇑P	P	08 30 41.7	+0.5
220A	Playas Peak, P baz=22	22.30	324	⇑P	P	08 30 45.2	+3.0
Y24A	Capitan baz=22,SNR=8.4	22.34	333	⇑P	P	08 30 43.9	+1.1
319A	Douglas baz=22	22.35	322	⇓P	P	08 30 46.8	+4.0
121A	Cookes Peak, D baz=22,SNR=6.6	22.36	326	⇓P	P	08 30 46.0	+3.0
W27A	Bowe Ranch, En baz=22,SNR=6.1	22.39	339	⇑P	P	08 30 43.4	+0.3
Z22A	Elephant Butte baz=22,SNR=5.7	22.51	329	⇓P	P	08 30 46.7	+2.3
X25A	Clemmons Ranch baz=22	22.52	335	⇓P	P	08 30 45.6	+0.9
Y23A	Lovelace Mesa, baz=22,SNR=11	22.62	332	⇑P	P	08 30 47.4	+1.7
V28A	Channing baz=23	22.74	341	⇓P	P	08 30 47.2	+0.3
120A	U Bar Ranch, L baz=23	22.84	325	⇓P	P	08 30 50.8	+2.8
Z21A	St. Cloud Mine baz=23	22.91	328	⇓P	P	08 30 50.8	+2.1
U30A	WK&E Inc. Balk baz=23,SNR=6.0	23.02	345	⇓P	P	08 30 50.6	+0.9
W25A	X Bar L Ranch, baz=23,SNR=11	23.05	336	⇑P	P	08 30 51.3	+1.2
Y22A	Socorro baz=23,SNR=5.3	23.06	330	⇓P	P	08 30 52.4	+2.2
Z20A	Nine Sixteen R baz=23	23.24	326	⇓P	P	08 30 55.7	+3.6
V26A	Tequesquite Ra baz=23	23.30	338	⇑P	P	08 30 54.4	+1.7
U28A	Mallet baz=23	23.32	342	⇓P	P	08 30 54.1	+1.4
W24A	Lazy 6 Ranch, baz=23,SNR=7.9	23.42	335	⇓P	P	08 30 55.4	+1.5
Y21A	Point of Rocks baz=23	23.46	329	⇑P	P	08 30 56.0	+1.7
T30A	Plains baz=23	23.48	346	⇑P	P	08 30 55.3	+1.0
U27A	Thompson Grove baz=23	23.54	341	⇑P	P	08 30 55.1	+0.2
X22A	Bernardo baz=23	23.54	331	⇓P	P	08 30 56.5	+1.5
V25A	Rancho No Teng baz=24	23.65	337	⇑P	P	08 30 56.6	+0.6
W23A	Weaver Place, baz=24	23.70	333	⇓P	P	08 30 58.3	+1.8
Y20A	Horse Springs, baz=24,SNR=5.6	23.74	328	⇑P	P	08 30 59.2	+2.2
S32A	Newby Ranch, P baz=24	23.77	349	⇓P	P	08 30 57.6	+0.6
T29A	Hugoton baz=24	23.78	344	⇑P	P	08 30 57.9	+0.8
V24A	Rampart Ranch, baz=24,SNR=6.6	23.81	335	⇑P	P	08 30 59.0	+1.4
U26A	Atchley Ranch, baz=24	23.83	339	⇓P	P	08 30 58.8	+1.0
X21A	Alamocita Cree baz=24	23.87	329	⇓P	P	08 31 00.1	+2.0
T28A	Walsh baz=24	23.97	343	⇑P	P	08 30 59.7	+0.7
S30A	Montezuma baz=24	24.03	346	⇑P	P	08 30 59.9	+0.4
U25A	Circle Dot Ran baz=24	24.07	338	⇑P	P	08 31 00.5	+0.5
S29A	Ulysses baz=24	24.17	345	⇓P	P	08 31 00.5	-0.3
V23A	Ortiz Mt. (NFS baz=24,SNR=6.8	24.20	334	⇓P	P	08 31 03.0	+1.7
X20A	Quemado baz=24,SNR=6.6	24.30	328	⇓P	P	08 31 04.2	+2.1
S28A	Manter baz=24	24.35	343	⇑P	P	08 31 02.3	-0.1
R31A	Burdett baz=24	24.45	348	⇓P	P	08 31 03.3	+0.1
T26A	Comanche Natio baz=24	24.48	340	⇑P	P	08 31 05.1	+1.3
R30A	Dighton baz=24,SNR=6.6	24.60	347	⇑P	P	08 31 04.4	-0.3
V22A	San Miguel Ran baz=24	24.66	333	⇑P	P	08 31 07.3	+1.8
U23A	El Rito baz=25	24.71	335	⇑P	P	08 31 07.4	+1.6
T25A	Trinidad baz=25	24.73	339	⇑P	P	08 31 08.1	+2.1
W20A	Ramah baz=25	24.77	329	⇑P	P	08 31 08.1	+1.7
S26A	Kim baz=25	24.85	341	⇓P	P	08 31 07.4	+0.5
R29A	Marienthal baz=25	24.94	345	⇓P	P	08 31 07.7	-0.1
T24B	San Luis baz=25	25.02	337	⇑P	P	08 31 10.2	+1.4
U22A	Llaves baz=25	25.03	334	⇑P	P	08 31 09.8	+1.0
R28A	Tribune baz=25,SNR=5.7	25.03	344	⇓P	P	08 31 08.8	+0.2
X18A	Snowflake baz=25	25.05	326	⇑P	P	08 31 11.7	+2.7
S25A	Robles Cordova baz=25	25.21	339	⇓P	P	08 31 11.0	+0.7
T23A	Casias Ranch, baz=25	25.25	336	⇓P	P	08 31 11.9	+1.1
R27A	Eads baz=25	25.25	342	⇑P	P	08 31 11.0	+0.4
Q30A	Quinter baz=25	25.26	347	⇑P	P	08 31 10.5	-0.1
V20A	Brimhall baz=25	25.29	330	⇑P	P	08 31 13.2	+2.1
Q29A	Oakley baz=25	25.34	346	⇑P	P	08 31 11.3	0.0
R26A	Arlington baz=25	25.46	341	⇑P	P	08 31 13.9	+1.4
S24A	Houchin Ranch, baz=25	25.47	338	⇑P	P	08 31 14.1	+1.3
R25A	Fountain Ranch baz=26	25.59	340	⇓P	P	08 31 15.7	+2.0
P30A	Selden baz=26	25.81	348	⇑P	P	08 31 15.8	+0.2
T21A	Navajo Lake baz=26	25.84	333	⇓P	P	08 31 17.2	+1.2
KSCO	Kaye Shedlock' baz=26	25.88	343	⇑P	P	08 31 16.6	+0.3
R24A	Sanders Place, baz=26	25.95	339	⇓P	P	08 31 18.3	+1.2
P29A	Atwood baz=26	26.01	347	⇓P	P	08 31 17.3	-0.1
P28A	Saint Francis baz=26	26.18	345	⇓P	P	08 31 19.3	+0.3
R23A	Moffat baz=26	26.18	337	⇓P	P	08 31 20.7	+1.5
S22A	4UR Ranch, Cre baz=26	26.18	335	⇓P	P	08 31 21.0	+1.7
Q25A	Bedland, Calha baz=26	26.28	341	⇓P	P	08 31 20.8	+0.8
P27A	Ficken Ranch, baz=26	26.37	344	⇑P	P	08 31 21.4	+0.6
O30A	MW Ranch, Wils baz=26	26.38	348	⇓P	P	08 31 21.1	+0.3
R22A	Saguache, Gunn baz=26	26.57	336	⇓P	P	08 31 24.8	+2.0
O27A	Beecher Island baz=27	26.94	344	⇑P	P	08 31 26.5	+0.6
Q22A	Crested Butte, baz=27	27.18	336	⇑P	P	08 31 30.2	+2.0
P23A	Jefferson baz=27	27.23	339	⇑P	P	08 31 30.8	+2.1
IRM	Iron Mountain baz=28	27.87	319	⇓P	P	08 31 37.8	+3.6
O22A	Kremmling baz=28	28.18	338	⇓P	P	08 31 38.5	+1.3
N20A	Spence Gulch, baz=29	29.40	337	⇓P	P	08 31 49.7	+1.7
SCI	San Clemente I baz=29	29.46	313	⇓P	P	08 31 53.1	+4.9
L23A	Garrett baz=30	29.64	341	⇓P	P	08 31 50.5	+0.4
J28A	Allard Ranch, baz=30	29.74	348	⇓P	P	08 31 50.5	-0.2
J26A	Sides Ranch, S baz=30	30.03	346	⇓P	P	08 31 54.1	+0.8
LRMC	Laurel Mountai baz=30	30.32	318	⇓P	P	08 32 00.5	+4.5
L20A	Wamsutter baz=30	30.45	338	⇑P	P	08 31 58.3	+1.2
I24A	Kuemmerle Ranc baz=31	30.94	344	⇑P	P	08 32 01.5	+0.1
G30A	Faulkton baz=31	31.06	352	⇑P	P	08 32 01.8	-0.5
J21A	Lysite baz=31	31.31	340	⇓P	P	08 32 06.8	+2.1
PDAR	Pinedale Array	31.56	337 P		P	08 32 07.2	+0.2
PDAR	Pinedale Array 0.6nm,0.9s,baz=125,slow=7.8,SNR=4.3	31.56	337 P		P	08 32 07.2	+0.2
H24A	Dirks Ranch, A baz=32	31.75	345	⇑P	P	08 32 08.9	+0.5
I20A	Worland baz=32	32.08	340	⇑P	P	08 32 12.7	+1.3
H21A	Big Horn, Sher baz=32	32.33	342	⇓P	P	08 32 14.5	+0.9
G23A	Biddle baz=32	32.39	344	⇑P	P	08 32 15.1	+1.1
H20A	Greybull baz=32	32.51	340	⇑P	P	08 32 15.7	+0.5
NVAR	Mina Array Bea	32.57	322 P		P	08 32 18.6	+2.8
NVAR	Mina Array Bea 1.5nm,0.8s,baz=141,slow=9.0,SNR=10.0	32.57	322 P		P	08 32 18.6	+2.8
G22A	Birney baz=32	32.65	343	⇓P	P	08 32 17.3	+0.9
F23A	Volborg baz=33	32.87	344	⇓P	P	08 32 19.0	+0.7
E26A	Carlson Angus baz=33	32.91	348	⇑P	P	08 32 18.8	+0.2
I17A	Pilgrim Ck. baz=33	32.93	337	⇑P	P	08 32 20.9	+1.9
D30A	Buchanan baz=33	32.96	353	⇑P	P	08 32 19.1	+0.2
H19A	Powell baz=33	33.00	339	⇓P	P	08 32 21.2	+1.7
E25A	Miller Ranch, baz=33	33.13	347	⇓P	P	08 32 21.6	+1.1
H18A	Shoshone NF, C baz=33	33.24	339	⇓P	P	08 32 22.4	+0.7
E24A	Baker baz=33	33.39	346	⇑P	P	08 32 22.9	+0.1
D26A	Manning baz=33	33.44	349	⇓P	P	08 32 24.2	+1.0
E22A	Miles City baz=34	33.68	344	⇑P	P	08 32 26.1	+0.8
F19A	Roth Farm, Mol baz=34	34.03	340	⇓P	P	08 32 30.2	+1.8
HLID	Hailey baz=34	34.23	332	⇓P	P	08 32 32.0	+1.7
B30A	Myrvik Farm, E baz=34	34.24	354	⇓P	P	08 32 30.2	+0.1
C24A	Savage baz=34	34.33	347	⇓P	P	08 32 31.8	+0.9
E20A	Meyer Farm, Mu baz=34	34.36	342	⇑P	P	08 32 32.1	+0.9
B29A	Wagenman Farm, baz=34	34.36	353	⇓P	P	08 32 31.0	-0.2
D22A	Cohagen baz=34	34.40	344	⇑P	P	08 32 32.1	+0.6
B28A	Dugan Ranch, T baz=34	34.48	352	⇑P	P	08 32 32.3	+0.2
E19A	Rath Farm, Rou baz=34	34.52	341	⇑P	P	08 32 33.5	+0.9
D21A	La Casta Ranch baz=34	34.54	343	⇑P	P	08 32 33.4	+0.6
A30A	Hoffart Farm, baz=35	34.72	354	⇓P	P	08 32 33.9	-0.4
A29A	Manning Farm, baz=35	34.80	353	⇓P	P	08 32 35.0	+0.1
D20A	Manuel Ranch, baz=35	34.89	342	⇑P	P	08 32 36.3	+0.5
A28A	Rude Farm, Bot baz=35	34.92	352	⇓P	P	08 32 36.1	+0.1
D19A	Cripps Ranch, baz=35	35.18	342	⇑P	P	08 32 39.4	+1.1
B23A	Brockton baz=35	35.34	347	⇑P	P	08 32 39.9	+0.3
SIV	San Ignacio	43.91	132 P		Pn	08 33 49.7	-1.6
SIV	San Ignacio 1.3nm,0.8s,baz=311,slow=5.2,SNR=4.2	43.91	132 P		P	08 33 49.7	-1.6
YKA	Yellowknife Ar	50.38	347 P		P	08 34 41.1	+0.1
YKA	Yellowknife Ar 2.7nm,0.7s,baz=154,slow=7.7,SNR=3.6	50.38	347 P		P	08 34 41.1	+0.1
ILAR	Eielson Array	61.99	337 P		P	08 36 04.7	+0.7
ILAR	Eielson Array 0.7nm,0.6s,baz=126,slow=4.6,SNR=3.3	61.99	337 P		P	08 36 04.7	+0.7

*IDC **13** 08:25:54.1±0.6, 52°.76N×167°.12W, h0^{km}, mb4.5/27, mb1 4.6/29, mb1mx4.6/33, mbtmp4.5/29, ML4.1/2, MS4.4/1, Ms1 4.4/1, ms1mx3.5/56, Error ellipse: s-maj=18.4km s-min=9.8km az=173.0*

*ISCJB **13** 08:25:57.7±0.4, 52°.63N±0°.03×167°.03W±0°.02, h36^{km}±3^{km}, mb4.7/108, MS4.6/7, Error ellipse: s-maj=4.8km s-min=2.4km az=178.2*

*MOS **13** 08:25:57.9±1.0, 52°.75N×167°.08W, h33^{km}, mb5.2/44, Error ellipse: s-maj=10.7km s-min=5.4km az=93.8*

*BJI **13** 08:26:00.9, 53°.17N×167°.78W, h39^{km}, mB5.0/6, mb5.0/30, Ms4.8/14, Ms7 4.5/14*

*NEIC **13** 08:26:00.3±0.3, 52°.77N×167°.06W, h38^{km}±2^{km}, mb4.7/51, ML4.3(AEIC), Error ellipse: s-maj=5.4km s-min=2.3km az=162.0*

ISC 13 08:25:59.9±0.5, 52°.65N±0°.06×167°.03W±0°.04, h43^{km}±3^{km}, n620, σ1^{s}00/649, mb4.7/109, MS4.4/7, 145C-126D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	Magazine Ridge	0.93	325	P	Pn	08 26 14.5	-2.0
OKFG				S	Sn	08 26 31.1	+2.3
OKTU	Okmok Mt. Tuli	0.96	321	P	Pn	08 26 15.7	-1.3
OKSP	Okmok Steeple	0.97	309	P	Pn	08 26 15.9	-1.2
OKSO	Okmok South	0.98	317	P	Pn	08 26 15.2	-2.1
OKCE	Okmok Cone E	1.04	319	P	Pn	08 26 16.8	-1.2
MGOD	Makushin Gods	1.15	5	P	Pn	08 26 17.9	-1.8
NIKH	Nikolski High	1.15	287	P	Pn	08 26 17.8	-1.8
NIKH				S	Sn	08 26 33.9	-0.2
MREP	Makushin Rep't	1.18	8	P	Pn	08 26 18.5	-1.5
UNV	Unalaska Valle	1.24	15	P	Pn	08 26 18.6	-2.2
UNV				S	Sn	08 26 38.8	+2.5
MCIR	Makushin Cirqu	1.31	4	P	Pn	08 26 20.6	-1.2
MTBL	Makushin Table	1.34	9	P	Pn	08 26 20.6	-1.6
ZRO	Akutan Zero	1.58	23	P	Pn	08 26 23.7	-1.7
AKRB	Akutan Reef Bi	1.59	21	P	Pn	08 26 24.3	-1.3
LVA	Lava Point	1.63	21	P	Pn	08 26 24.9	-1.2
AKUT	Akutan	1.67	26	P	Pn	08 26 25.1	-1.5
AKUT				S	Sn	08 26 46.9	+0.1
AKGG	Akutan Green G	1.67	21	P	Pn	08 26 25.6	-1.1
WESE	West Dahl East	2.34	38	P	Pn	08 26 34.7	-1.2
WESN	West Dahl Nort	2.41	36	P	Pn	08 26 36.1	-0.8
SSBA	Shishaldin	2.74	38	P	Pn	08 26 40.2	-1.2
SSLW	Shishaldin Wes	2.74	38	P	Pn	08 26 40.2	-1.1
BRPK	Brown Peak	2.80	43	P	Pn	08 26 41.2	-1.0
ISNN	Isanotski Nort	2.92	40	P	Pn	08 26 43.6	-0.2
FALS	False Pass	3.08	43	*e*Pn	Pn	08 26 48.6	+2.7
FALS				*e*Sn	Sn	08 27 21.5	0.0
DRIA	Deer Island	3.66	49	P	Pn	08 26 52.7	-1.3
DT1	Dutton Round H	3.74	47	P	Pn	08 26 53.7	-1.3
DTNA	Dutton South F	3.78	47	P	Pn	08 26 54.6	-0.9
SDPT	Sand Point	4.72	52	P	Pn	08 27 06.7	-1.7
SPIA	Saint Paul Isl	4.90	339	P	Pn	08 27 10.2	-0.8

GSTR Great Sitkin T 5.56 268 ePn Pn 08 27 20.2 +0.2
GSMY Great Sitkin M 5.57 267 P Pn 08 27 20.2 0.0
GSTD Great Sitkin T 5.62 268 P Pn 08 27 21.1 +0.2
GSCK Great Sitkin C 5.64 267 P Pn 08 27 21.1 0.0
ETKA Kagalaska Isla 5.81 266 P Pn 08 27 23.9 +0.5
VNHG Veniaminof 1 5.82 49 P Pn 08 27 23.3 -0.3
ADAG Mount Adagdak 5.91 267 P Pn 08 27 25.8 +1.0
ADK Adak 5.98 266 P Pn 08 27 25.7 -0.1
ADK Adak 5.98 266 P Pn 08 27 25.6 -0.1
CHGN Chignik 6.21 50 ePn Pn 08 27 27.4 -1.6
KIRH Kanaga Island 6.22 267 P Pn 08 27 30.3 +1.2
KIKV Kanaga Island 6.28 267 P Pn 08 27 30.5 +0.7
TAPA Tanaga Point A 6.68 267 P Pn 08 27 36.6 +1.2
TASE Tanaga Southea 6.81 268 P Pn 08 27 38.3 +1.1
GAEA Gareloi East 7.25 268 P Pn 08 27 44.1 +0.9
GANE Gareloi Northe 7.26 268 P Pn 08 27 43.9 +0.5
CERAA Semis' Rag'd T 8.19 270 P Pn 08 27 55.9 -0.1
CESW Semis' Southwe 8.26 270 P Pn 08 27 57.8 +0.8
AMKA Amchitka 8.53 267 P Pn 08 28 00.7 0.0
KABR Katmai Barrier 8.79 47 P Pn 08 28 04.2 0.0
LSNW Little Sitkin 8.88 271 P Pn 08 28 06.0 +0.5
LSSA Little Sitkin 8.89 271 P Pn 08 28 06.7 +1.0
OHAK Old Harbor 9.14 54 ePn Pn 08 28 06.7 -2.3
SVW2 Sparrevohn 10.52 32 ePn Pn 08 28 30.9 +3.0
RSO Redoubt South 11.09 39 ePn Pn 08 28 37.3 +1.5
SPU Mount Spurr 11.81 38 ePn Pn 08 28 44.5 -1.0
FX1 Attu Island--F 12.00 279 ePn Pn 08 28 49.7 +1.6
FX1 Attu Island--F 12.00 279 Pn Pn 08 28 48.6 +0.5
2.3nm,0.3s,baz=90,slow=1.8,SNR=15
SEW Seward 12.25 46 ePn Pn 08 28 48.1 -3.3
PPLA Purkeypile 12.93 32 ePn Pn 08 29 03.0 +2.1
PMR Palmer 13.18 40 eP Pn 08 29 03.6 -0.5
PMR Palmer 13.18 40 ePn Pn 08 29 03.5 -0.5
CAST Castle Rocks 13.34 30 ePn Pn 08 29 07.9 +1.5
TRF Thorofare Moun 13.94 33 ePn Pn 08 29 13.7 -0.9
BPAW Bear Paw Mtn. 14.18 30 ePn Pn 08 29 18.1 +0.3
RAGM Ragged Mountai 14.51 49 ePn Pn 08 29 23.7 +1.4
BMRM Bremner River 14.77 47 ePn Pn 08 29 22.4 -3.4
IM04 Indian Mountai 14.92 21 ePn Pn 08 29 29.8 +2.1
IMA2 Indian Mountai 15.03 21 ePn Pn 08 29 30.7 +1.6
PAX Paxson 15.37 39 eP Pn 08 29 32.5 -1.1
PAX pmax pmax
comp=Z,9.0nm,0.5s
PAX Paxson 15.37 39 ePn Pn 08 29 32.5 -1.1
comp=Z,9.0nm,0.5s
COLA College 15.69 31 eP Pn 08 29 37.4 -0.2
COLA pmax pmax
comp=Z,55nm,0.9s
COLA College 15.69 31 eP Pn 08 29 37.4 -0.2
comp=Z,55nm,0.9s
ILAR Eielson Array 15.93 33 Pn Pn 08 29 36.8 -3.9
ILAR Eielson Array 15.93 33 Pn Pn 08 29 36.8 -3.9
comp=Z,0.6nm,0.3s,baz=226,slow=12,SNR=44
MENT Mentasta 16.04 41 eP Pn 08 29 41.3 -0.8
DOT Dot Lake 16.27 38 eP Pn 08 29 43.5 -1.6
comp=Z,9.4nm,0.8s
COLD Coldfoot 16.78 23 eP P 08 29 52.2 -0.9
comp=Z,16nm,0.7s
EGAK Eagle 17.94 37 eP Pn 08 30 04.1 -1.7
comp=Z,9.4nm,0.6s
HYT Haines Junctio 18.01 51 eP P 08 30 08.2 +1.3
DAWY Dawson 18.28 41 eP P 08 30 08.7 -1.0
SKAG Skagway 18.83 56 eP Pn 08 30 17.6 +1.0
comp=Z,20nm,0.7s
H02S1 DAWSON INLET T 20.72 75 T T 08 51 59.4
SNR=3.9
PETK Petropavlovsk- 21.17 285 P P 08 30 41.0 -0.2
PETK Petropavlovsk- 21.17 285 P P 08 30 41.0 -0.2
PETK Petropavlovsk- 21.17 285 P P 08 30 41.0 -0.2
comp=Z,11nm,0.3s,baz=87,slow=11,SNR=43
DLBC Dease Lake 21.51 60 eP P 08 30 48.1 +3.2
DLBC Dease Lake 21.51 60 P P 08 30 45.9 +0.9
comp=Z,10nm,1.1s,baz=245,slow=10,SNR=6.3
DLBC LR LR 08 38 49.1
comp=Z,976nm,18.6s,baz=176,slow=36
INK Inuvik 22.33 33 P P 08 30 50.7 -2.8
INK Inuvik 22.33 33 P P 08 30 50.7 -2.8
baz=198,slow=20
SEY Seymchan 23.54 312 eP P 08 31 05.8 0.0
YKA Yellowknife Ar 28.98 49 P P 08 31 55.9 +1.0
YKA PcP PcP 08 35 03.2 +0.8
YKA Yellowknife Ar 28.98 49 P P 08 31 55.9 +1.0
comp=Z,1.9nm,0.6s,baz=276,slow=9.1,SNR=10
YKA PcP PcP 08 35 03.2 +0.8
comp=Z,0.9nm,0.6s,baz=282,slow=2.8,SNR=4.2
NEW Newport 31.55 78 ⇓P P 08 32 18.1 +0.2
baz=31
E09A Wood Farm, Sta 31.77 81 eP P 08 32 22.1 +2.3
comp=Z,21nm,1.8s
I07A Izee 32.20 86 eP P 08 32 25.1 +1.5
comp=Z,8.6nm,1.1s
J08A Circle Bar Ran 33.22 86 eP P 08 32 33.9 +1.3
comp=Z,6.1nm,0.8s
TIXI Tiksi 33.24 329 ⇓iP P 08 32 31.8 -0.5
TIXI pmax pmax
comp=Z,2.0nm,0.6s
WVOR Wild Horse Val 33.63 88 eP P 08 32 37.1 +0.8
WVOR pmax pmax
comp=Z,5.0nm,0.9s
WVOR Wild Horse Val 33.63 88 eP P 08 32 37.1 +0.8
comp=Z,5.0nm,0.9s
MSO Missoula 34.13 78 ⇓P P 08 32 40.6 +0.1
baz=34
PAHR Pah Rah Range 34.79 92 eP P 08 32 48.1 +1.8
comp=Z,7.8nm,1.0s
WAKR Walker 35.51 94 eP P 08 32 55.1 +2.6
HLID Hailey 35.57 83 ⇑P P 08 32 53.2 +0.2
baz=35
MCMT McKenzie Canyo 35.82 80 eP P 08 32 55.6 +0.3
comp=Z,1.0nm,0.5s
EGMT Eagleton 36.02 74 ⇓P P 08 32 56.0 -0.6
baz=36
NVAR Mina Array Bea 36.24 93 P P 08 33 00.2 +1.3
NVAR PcP PcP 08 35 24.3 +1.1
NVAR Mina Array Bea 36.24 93 P P 08 33 00.2 +1.3
comp=Z,3.5nm,0.7s,baz=295,slow=8.0,SNR=19
NVAR PcP PcP 08 35 24.3 +1.1
comp=Z,0.6nm,0.5s,baz=279,slow=2.8,SNR=4.6
C19A Slack Wire Ran 36.57 74 ⇓P P 08 33 01.8 +0.4
baz=36
A20A Cobblestone Ra 36.66 72 ⇓P P 08 33 02.1 -0.1
baz=36
MTUM Tungsten Hills 36.77 95 eP P 08 33 05.3 +2.0
B20A Solberg Farm, 36.82 72 ⇓P P 08 33 03.2 -0.3
baz=37
D19A Cripps Ranch, 36.96 75 ⇓P P 08 33 04.8 +0.1
baz=37
A21A Bergtoll Ranch 37.19 71 ⇓P P 08 33 06.4 -0.2
baz=37
C20A Veseth Ranch, 37.20 73 ⇓P P 08 33 06.5 -0.1
baz=37
SMMC Simmler 37.26 99 ⇓P P 08 33 07.9 +0.6
baz=37
E19A Rath Farm, Rou 37.38 76 ⇓P P 08 33 08.1 -0.1
baz=37
B21A Ellsworth Farm 37.41 72 ⇑P P 08 33 08.3 -0.2
baz=37
D20A Manuel Ranch, 37.43 74 ⇓P P 08 33 08.6 -0.1
baz=37
VES Vestal, Richgr 37.45 97 ⇓P P 08 33 09.6 +0.7
baz=37
IMW Indian Meadow 37.48 80 eP P 08 33 10.5 +1.1
comp=Z,6.4nm,1.1s
F19A Roth Farm, Mol 37.60 76 ⇑P P 08 33 10.2 0.0
baz=37
E20A Meyer Farm, Mu 37.74 75 ⇑P P 08 33 11.6 +0.2
baz=38
H18A Shoshone NF, C 37.81 79 ⇑P P 08 33 12.2 +0.1
baz=38
ISA Isabella 37.94 97 eP P 08 33 14.2 +1.1
ISA pmax pmax
comp=Z,9.0nm,1.2s
ISA Isabella 37.94 97 eP P 08 33 14.2 +1.1
comp=Z,8.7nm,1.2s
ISA Isabella 37.94 97 ⇓P P 08 33 13.8 +0.7
baz=38
R11A Troy Canyon, C 37.95 91 ⇓P P 08 33 14.0 +0.6
baz=38
F20A Billings 38.10 76 ⇓P P 08 33 14.6 +0.2
baz=38
H19A Powell 38.22 78 ⇓P P 08 33 16.3 +0.8
baz=38
MPMC Manual Prospec 38.27 96 ⇑P P 08 33 16.7 +0.6
baz=38
A23A Redstone 38.38 70 ⇓P P 08 33 16.4 -0.2
baz=38
G20A Bridger 38.38 77 ⇑P P 08 33 16.7 -0.1
baz=38
FURC Furnace Creek, 38.38 95 ⇓P P 08 33 16.9 +0.1
baz=38
D22A Cohagen 38.55 73 ⇓P P 08 33 18.2 +0.1
baz=38
B23A Brockton 38.56 71 ⇑P P 08 33 18.2 0.0
baz=38
H11N2 WAKE ISLAND Hy 38.59 222 T T 09 14 46.5
baz=26,slow=0.7,SNR=277
H11N3 WAKE ISLAND Hy 38.59 222 T T 09 14 44.9
baz=26,slow=0.7,SNR=212
H11N1 WAKE ISLAND Hy 38.61 222 T T 09 14 46.6
baz=26,slow=0.7,SNR=124
C23A Lambert 38.79 72 ⇓P P 08 33 20.5 +0.4
baz=39
A24A Westby 38.90 69 ⇑P P 08 33 21.2 +0.2
baz=39
BW06 Boulder Array 38.95 81 eP P 08 33 22.0 +0.3
comp=Z,8.2nm,1.3s
PDAR Pinedale Array 38.95 81 P P 08 33 22.1 +0.4
PDAR Pinedale Array 38.95 81 P P 08 33 22.1 +0.4
comp=Z,2.3nm,0.6s,baz=296,slow=3.5,SNR=22
J19A Crowheart 38.96 80 ⇓P P 08 33 22.1 +0.3
baz=39
G21A Lodge Grass 38.97 76 ⇑P P 08 33 22.0 +0.3
baz=39
E22A Miles City 39.06 74 ⇓P P 08 33 22.3 0.0
baz=39
D23A Lindsay 39.10 72 ⇓P P 08 33 22.1 -0.6
baz=39
SHOC Shoshone 39.11 95 ⇑P P 08 33 24.1 +1.2
baz=39
I20A Worland 39.13 79 ⇑P P 08 33 22.7 -0.4
baz=39
L18A Fontenelle, Gr 39.15 82 ⇑P P 08 33 23.3 0.0
baz=39
GSC Goldstone 39.19 96 eP P 08 33 25.3 +1.7
GSC pmax pmax
comp=Z,5.0nm,0.7s
GSC Goldstone 39.19 96 eP P 08 33 25.3 +1.7
comp=Z,4.7nm,0.7s
GSC Goldstone 39.19 96 ⇓P P 08 33 24.8 +1.1
baz=39
C24A Savage 39.37 72 ⇓P P 08 33 25.3 +0.4
baz=39
A25A Svangstu Ranch 39.40 69 ⇑P P 08 33 25.1 0.0
baz=39
BFSC Mount Baldy Ra 39.40 98 ⇑P P 08 33 26.4 +1.0
baz=39
H21A Big Horn, Sher 39.40 77 ⇓P P 08 33 26.2 +0.9
baz=39
J20A Shoshoni 39.49 79 ⇓P P 08 33 26.7 +0.6
baz=39
G22A Birney 39.52 76 ⇑P P 08 33 25.7 -0.6
baz=39
D24A Glendive 39.64 72 ⇑P P 08 33 27.9 +0.7
baz=40
I21A Big Trails, Te 39.71 78 ⇑P P 08 33 27.9 -0.1
baz=40
B25A Knox Farm, Ray 39.71 70 ⇑P P 08 33 28.0 +0.2
baz=40
F23A Voorg 39.76 75 ⇑P P 08 33 28.3 +0.1
baz=40
H11S1 WAKE ISLAND Hy 39.77 221 T T 09 16 14.8
baz=24,slow=0.7,SNR=133
H11S2 WAKE ISLAND Hy 39.78 221 T T 09 16 15.3
baz=24,slow=0.7,SNR=106
H11S3 WAKE ISLAND Hy 39.78 221 T T 09 16 16.1
baz=24,slow=0.7,SNR=113
J21A Lysite 39.88 79 ⇓P P 08 33 29.1 -0.4
baz=40
E24A Baker 39.95 73 ⇓P P 08 33 30.1 +0.3
baz=40
G23A Biddle 40.06 75 ⇓P P 08 33 30.7 -0.1
baz=40
L20A Wamsutter 40.12 81 ⇓P P 08 33 31.0 -0.5
baz=40
USRK Ussuriysk Arra 40.23 283 P P 08 33 31.0 -1.0
comp=Z,2.3nm,0.7s,baz=57,slow=9.4,SNR=8.5
GMRC Granite Mounta 40.24 95 ⇓P P 08 33 32.8 +0.4
baz=40
F24A Ekalaka 40.26 74 ⇓P P 08 33 31.9 -0.5
baz=40
LDFC Landfair 40.37 95 eP P 08 33 34.6 +1.1
comp=Z,14nm,1.1s
K21A Alcova 40.41 80 ⇓P P 08 33 33.8 0.0
baz=40
J22A Midwest 40.42 78 ⇓P P 08 33 34.1 +0.3
baz=40
BELC Belle Mtn. Jos 40.56 97 ⇑P P 08 33 35.8 +0.7
baz=40
O19A Miners Draw (B 40.67 84 ⇑P P 08 33 36.4 +0.4
baz=40
B27A Peters Farms, 40.72 69 ⇓P P 08 33 36.2 +0.1
baz=40
D26A Manning 40.78 71 ⇓P P 08 33 36.4 -0.2
baz=41
K22A Casper 40.84 79 ⇓P P 08 33 37.1 -0.2
baz=41
N20A Spence Gulch, 40.87 83 ⇓P P 08 33 37.7 0.0
baz=41
RWWY Rawlins 40.99 81 eP P 08 33 42.3 +3.6
comp=Z,3.3nm,0.8s
A28A Rude Farm, Bot 41.02 67 ⇑P P 08 33 38.6 0.0
baz=41
BAR Barrett 41.07 99 eP P 08 33 40.1 +1.0
comp=Z,8.4nm,1.1s
E26A Carson Angus 41.07 72 ⇓P P 08 33 39.3 +0.2
baz=41
W13A Hualapai Mount 41.10 94 ⇓P P 08 33 40.0 +0.4
baz=41
BC3 Big Chuckawall 41.13 97 ⇓P P 08 33 40.5 +0.7
baz=41
MJAR Matsushiro Arr 41.13 269 P P 08 33 39.7 +0.1
MJAR Matsushiro Arr 41.13 269 P P 08 33 39.7 +0.1
comp=Z,6.1nm,0.8s,baz=354,slow=13,SNR=13
MAJO Matsushiro 41.13 269 eP P 08 33 41.2 +1.6
MAJO pmax pmax
comp=Z,23nm,0.8s
MAJO Matsushiro 41.13 269 eP P 08 33 41.2 +1.6
comp=Z,23nm,0.8s
MAT Matsushiro 41.13 269 P P 08 33 40.1 +0.5
P19A Cripple Cowboy 41.17 85 ⇑P P 08 33 40.5 +0.4
baz=41
U15A North Rim 41.19 91 ⇑P P 08 33 40.8 +0.4
baz=41
B28A Dugan Ranch, T 41.21 68 ⇑P P 08 33 40.2 +0.1
baz=41
G25A Newell 41.22 74 ⇓P P 08 33 40.3 0.0
baz=41
O20A White River Ci 41.31 83 ⇓P P 08 33 41.2 0.0
baz=41,SNR=5.4
K23A Bowen Ranch, D 41.31 78 ⇑P P 08 33 41.0 -0.2
baz=41
G27A Dupree 41.40 73 ⇑P P 08 33 46.5 +4.8
baz=42
DVTC Desert V Tower 41.43 98 ⇓P P 08 33 42.2 +0.1
baz=41
H25A Fruitdale 41.44 75 ⇓P P 08 33 42.0 -0.1
baz=41
PDMCI Parker Dam,Lak 41.48 95 ⇑P P 08 33 43.3 +0.8
baz=41
M22A Cedar Creek Ra 41.53 81 ⇑P P 08 33 43.0 -0.2
baz=41
J24A Dixon Ranch, L 41.55 77 ⇑P P 08 33 43.0 -0.1
baz=41
C28A Hausauer Farms 41.59 69 ⇓P P 08 33 43.2 0.0
baz=41
A29A Manning Farm, 41.59 67 ⇓P P 08 33 43.2 -0.1
baz=41
P20A De Beque 41.61 84 ⇑P P 08 33 44.0 +0.3
baz=42
E27A Carson 41.61 71 ⇑P P 08 33 43.6 +0.1
baz=41
Y12C Blythe 41.63 96 ⇓P P 08 33 44.5 +0.9
baz=42
G26A Maurine 41.64 73 ⇓P P 08 33 43.9 +0.1
baz=42
L23A Garrett 41.64 79 ⇑P P 08 33 44.1 +0.1
baz=42
F27A Lemmon 41.66 72 ⇑P P 08 33 44.0 +0.1
baz=42
I25A Rochford 41.70 76 ⇑P P 08 33 44.4 0.0
baz=42
O21A Pagoda 41.73 83 ⇓P P 08 33 44.9 +0.1
baz=42
D28A Regan 41.76 70 ⇓P P 08 33 44.9 +0.2
baz=42
MDND Maddock 41.96 68 eP P 08 33 46.7 +0.4
MDND Maddock 41.96 68 ⇑P P 08 33 46.1 -0.2
baz=42
N22A Wattenberg Ran 41.98 81 ⇓P P 08 33 46.9 +0.1
baz=42
P21A Newcastle 42.16 84 ⇑P P 08 33 48.7 +0.4
baz=42
O22A Kremmling 42.31 82 ⇑P P 08 33 49.4 -0.2
baz=42
B30A Myrvik Farm, E 42.35 67 ⇑P P 08 33 49.2 -0.2
baz=42
PV01 Paradox Valley 42.36 86 eP P 08 33 49.9 0.0
comp=Z,409nm,0.8s
F28A McLaughlin 42.38 72 ⇑P P 08 33 49.6 -0.1
baz=42
D29A Pettibone, Tap 42.39 69 ⇓P P 08 33 49.1 -0.7
baz=42
Y14A Wickenburg 42.42 94 ⇑P P 08 33 51.2 +1.0
baz=42
R20A Redvale 42.44 86 ⇓P P 08 33 50.9 +0.4
baz=42
E29A Napoleon 42.64 70 ⇑P P 08 33 51.7 -0.2
baz=42
O23A Lake Granby, G 42.66 82 ⇑P P 08 33 52.6 +0.2
baz=42
C30A Mose, Pekin 42.67 68 ⇓P P 08 33 52.0 -0.1
baz=42
ULM Lac du Bonnet 42.75 64 P P 08 33 51.8 -0.9
ULM Lac du Bonnet 42.75 64 P P 08 33 51.8 -0.9
comp=Z,2.1nm,0.6s,baz=289,slow=13,SNR=3.5
D30A Buchanan 42.84 69 ⇑P P 08 33 53.3 -0.2
baz=43
Z14A Wintersburg 42.85 95 ⇑P P 08 33 53.7 +0.1
baz=43
J27A Elkhorn Farm, 43.17 75 ⇓P P 08 33 56.5 +0.3
baz=43
H29A Onida 43.41 73 ⇑P P 08 33 57.6 -0.5
baz=43
I29A Vivian Onida 43.71 74 ⇑P P 08 34 00.3 -0.2
baz=44
G30A Faulkton 43.74 72 ⇓P P 08 34 00.5 -0.2
baz=44
V20A Brimhall 43.94 88 ⇓P P 08 34 02.7 +0.1
baz=44
U21A Nageezi 44.02 87 ⇑P P 08 34 03.4 +0.2
baz=44,SNR=6.3
J29A Okreek 44.06 74 ⇑P P 08 34 03.1 -0.2
baz=44
T22A Edith 44.09 86 ⇑P P 08 34 04.1 +0.2
baz=44
P25A Willow Gulch B 44.15 81 ⇑P P 08 34 04.3 0.0
baz=44
CN2 Changchun 44.31 287 eP P 08 34 03.8 -1.4
CN2 eS S 08 40 34.9 -1.1
CN2 AMB AMB
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,200nm,14.0s
N27A Anderson Farm, 44.33 79 ⇑P P 08 34 05.0 -0.6
baz=44
W20A Ramah 44.36 89 ⇑P P 08 34 06.1 0.0
baz=44
R24A Sanders Place, 44.40 83 ⇓P P 08 34 05.7 -0.5
baz=44
V21A Milan 44.44 88 ⇓P P 08 34 06.8 +0.2
baz=44
K29A Lazy Trails An 44.45 75 ⇑P P 08 34 05.9 -0.6
baz=44
Q25A Bedland, Calha 44.48 82 ⇓P P 08 34 07.1 +0.2
baz=44
U22A Llaves 44.54 87 ⇑P P 08 34 07.3 -0.1
baz=44
J30A Dallas 44.60 74 ⇑P P 08 34 07.4 -0.2
baz=44
T23A Casias Ranch, 44.60 85 ⇓P P 08 34 08.3 +0.3
baz=44
P26A Davis Ranch, A 44.62 81 ⇓P P 08 34 07.8 -0.2
baz=44
S24A Houchin Ranch, 44.71 84 ⇓P P 08 34 09.2 +0.2
baz=45
O27A Beecher Island 44.74 79 ⇓P P 08 34 08.9 0.0
baz=45
X20A Quemado 44.76 90 ⇓P P 08 34 09.6 +0.4
baz=45
V22A San Miguel Ran 44.81 87 ⇑P P 08 34 09.9 +0.3
baz=45
Q26A Hugo 44.91 81 ⇓P P 08 34 10.3 0.0
baz=45
R25A Fountain Ranch 44.95 83 ⇓P P 08 34 10.9 +0.3
baz=45
U23A El Rito 44.97 86 ⇓P P 08 34 11.2 +0.3
baz=45,SNR=6.4
S25A Robets Cordova 45.17 83 ⇑P P 08 34 12.4 0.0
baz=45
X21A Alamocita Cree 45.25 89 ⇓P P 08 34 14.4 +1.2
baz=45,SNR=7.4
Y20A Horse Springs, 45.26 90 ⇑P P 08 34 13.7 +0.5
baz=45
R26A Arlington 45.35 82 ⇓P P 08 34 13.9 +0.1
baz=45
V23A Ortiz Mt. (NFS 45.36 87 ⇑P P 08 34 14.4 +0.4
baz=45
T25A Trinidad 45.52 84 ⇓P P 08 34 15.7 +0.5
baz=45
Y21A Point of Rocks 45.62 90 ⇓P P 08 34 16.7 +0.6
baz=46
Z20A Nine Sixteen R 45.67 91 ⇑P P 08 34 16.7 +0.3
baz=46
LAZ Ladron 45.68 89 eP P 08 34 17.9 +1.4
comp=Z,3.5nm,1.2s
ANMO Albuquerque 45.73 88 eP P 08 34 17.7 +0.8
comp=Z,5.6nm,1.3s
R27A Eads 45.76 82 ⇑P P 08 34 17.5 +0.5
baz=46
W23A Werner Place, 45.77 87 ⇑P P 08 34 17.7 +0.4
baz=46
S26A Kim 45.78 83 ⇑P P 08 34 17.3 +0.1
baz=46
V24A Rampart Ranch, 45.93 86 ⇑P P 08 34 19.0 +0.5
baz=46
T26A Comanche Natio 45.99 83 ⇑P P 08 34 19.0 +0.1
baz=46
U25A Circle Dot Ran 46.01 85 ⇑P P 08 34 19.3 +0.3
baz=46,SNR=5.8
ECSD EROS Data Cent 46.03 72 eP P 08 34 17.8 -1.1
comp=Z,112nm,3.0s
P29A Atwood 46.04 79 ⇑P P 08 34 19.2 +0.1
baz=46
Z21A St. Cloud Mine 46.10 90 ⇑P P 08 34 20.2 +0.4
baz=46
Y22A Socorro 46.10 89 ⇓P P 08 34 20.3 +0.6
baz=46,SNR=5.7
BNM Barren Site 46.16 89 eP P 08 34 21.8 +1.5
comp=Z,4.9nm,1.0s
W24A Lazy 6 Ranch, 46.19 87 ⇑P P 08 34 20.6 +0.1
baz=46
O30A MW Ranch, Wils 46.20 78 ⇑P P 08 34 20.2 -0.1
baz=46
V25A Rancho No Teng 46.25 85 ⇑P P 08 34 21.0 0.0
baz=46
R28A Tribune 46.31 81 ⇓P P 08 34 21.3 0.0
baz=46
P30A Selden 46.48 78 ⇑P P 08 34 22.3 -0.3
baz=46
220A Playas Peak, P 46.55 93 ⇓P P 08 34 23.5 +0.2
baz=46
121A Cookes Peak, D 46.56 91 ⇑P P 08 34 23.9 +0.5
baz=46
Y23A Lovelace Mesa, 46.66 89 ⇑P P 08 34 24.9 +0.8
baz=46
S28A Manter 46.75 82 ⇑P P 08 34 25.3 +0.5
baz=47
W25A X Bar L Ranch, 46.76 86 ⇓P P 08 34 25.0 +0.1
baz=47,SNR=6.3
V26A Tequesquite Ra 46.78 85 ⇑P P 08 34 25.2 +0.1
baz=47,SNR=7.2
KSRS Korea Array 46.79 278 P P 08 34 26.0 +1.1
comp=Z,9.5nm,0.8s,baz=52,slow=7.4,SNR=28
KSRS PcP PcP 08 35 58.5 +1.0
comp=Z,1.9nm,0.7s,baz=48,slow=5.8,SNR=4.4
KSAR Wonju Array Be 46.82 278 P P 08 34 26.0 +0.8
KSAR PcP PcP 08 35 58.5 +0.9

T28A	**Walsh**	**46.92**	**82**	⇓P		**P**		**08 34 26.2**	**0.0**
	baz=47										
320A	**Kipp Ranch, An**	**46.94**	**93**	⇑P		**P**		**08 34 26.7**	**+0.3**
	baz=47										
U27A	**Thompson Grove**	**46.95**	**84**	⇓P		**P**		**08 34 26.5**	**+0.1**
	baz=47										
P31A	**Stockton**	**47.02**	**78**	⇑P		**P**		**08 34 26.9**	**+0.1**
	baz=47										
Y24A	**Capitan**	**47.04**	**88**	⇑P		**P**		**08 34 27.3**	**+0.1**
	baz=47										
X25A	**Clemmons Ranch**	**47.10**	**87**	⇑P		**P**		**08 34 27.9**	**+0.3**
	baz=47										
U28A	**Mallet**	**47.34**	**83**	⇓P		**P**		**08 34 29.4**	**-0.1**
	baz=47										
P32A	**Huiting Farm,**	**47.41**	**77**	⇑P		**P**		**08 34 29.2**	**-0.6**
	baz=47										
Z24A	**Sheeppen Canyo**	**47.49**	**89**	⇑P		**P**		**08 34 31.2**	**+0.5**
	baz=47										
Y25A	**Mesa, Roswell**	**47.49**	**87**	⇓P		**P**		**08 34 30.5**	**-0.1**
	baz=47,SNR=6.1										
X26A	**CR and CF Fran**	**47.60**	**86**	⇑P		**P**		**08 34 31.2**	**-0.2**
	baz=48										
W27A	**Bowe Ranch, En**	**47.71**	**85**	⇓P		**P**		**08 34 32.3**	**0.0**
	baz=48										
V28A	**Channing**	**47.76**	**84**	⇓P		**P**		**08 34 32.6**	**0.0**
	baz=48										
124A	**Stringfield Ra**	**47.87**	**89**	⇑P		**P**		**08 34 34.1**	**+0.5**
	baz=48										
Z25A	**Roswell**	**47.92**	**88**	⇓P		**P**		**08 34 34.4**	**+0.5**
	baz=48										
X27A	**F and S Farms,**	**47.97**	**86**	⇑P		**P**		**08 34 34.4**	**+0.1**
	baz=48										
224A	**Cornudas Mount**	**48.26**	**90**	⇑P		**P**		**08 34 36.9**	**+0.4**
	baz=48										
Z26A	**Caprock**	**48.37**	**88**	⇓P		**P**		**08 34 37.9**	**+0.5**
	baz=48,SNR=5.5										
125A	**Gardner Draw,**	**48.38**	**89**	⇓P		**P**		**08 34 37.7**	**+0.2**
	baz=48										
T31A	**Randall Ranch,**	**48.41**	**81**	⇑P		**P**		**08 34 37.6**	**+0.1**
	baz=48										
Y27A	**Causey**	**48.45**	**86**	⇑P		**P**		**08 34 37.9**	**-0.1**
	baz=48										
X28A	**Dimmitt**	**48.60**	**85**	⇑P		**P**		**08 34 39.1**	**-0.1**
	baz=48										
MSTX	**Muleshoe**	**48.63**	**86**	*e*P		**P**		**08 34 39.9**	**+0.5**
MSTX	**Muleshoe**	**48.63**	**86**	⇑P		**P**		**08 34 39.7**	**+0.3**
	baz=48										
225A	**Deer Hill, Car**	**48.66**	**89**	⇑P		**P**		**08 34 40.0**	**+0.3**
	baz=49										
324A	**Moseley Ranch,**	**48.72**	**91**	⇓P		**P**		**08 34 40.7**	**+0.5**
	baz=49										
126A	**Clayton Basin,**	**48.78**	**88**	⇑P		**P**		**08 34 40.4**	**-0.1**
	baz=49										
Z27A	**Tatum**	**48.81**	**87**	⇑P		**P**		**08 34 40.6**	**-0.2**
	baz=49										
X29A	**Tulia**	**48.96**	**85**	⇓P		**P**		**08 34 41.9**	**0.0**
	baz=49										
Y28A	**McKinney Farm,**	**48.99**	**86**	⇑P		**P**		**08 34 42.2**	**0.0**
	baz=49										
226B	**Tecolote Peak,**	**49.08**	**89**	⇓P		**P**		**08 34 43.2**	**+0.4**
	baz=49										
325A	**Bean Ranch, Si**	**49.08**	**90**	⇓P		**P**		**08 34 43.2**	**+0.2**
	baz=49,SNR=6.4										
DAG	**Danmarks Havn**	**49.30**	**9**	*i* P		**P**		**08 34 42.9**	**-0.8**
DAG				pmax	pmax						
	comp=Z,14nm,0.9s										
DAG	**Danmarks Havn**	**49.30**	**9**	*i* P		**P**		**08 34 42.9**	**-0.8**
	comp=Z,16nm,0.9s										
Z28A	**Tucker Farm, M**	**49.33**	**86**	⇓P		**P**		**08 34 44.5**	**-0.2**
	baz=49										
X30A	**Coker Ranch, T**	**49.46**	**84**	⇓P		**P**		**08 34 45.4**	**-0.2**
	baz=49										
425A	**Indio Mountain**	**49.48**	**91**	⇓P		**P**		**08 34 46.0**	**+0.1**
	baz=49										
W31A	**Holland Ranch,**	**49.52**	**83**	⇑P		**P**		**08 34 46.0**	**-0.1**
	baz=49										
326A	**Caldwell Ranch**	**49.73**	**89**	⇓P		**P**		**08 34 48.2**	**+0.4**
	baz=50										
128A	**Castleberry Fa**	**49.73**	**87**	⇓P		**P**		**08 34 47.7**	**0.0**
	baz=50,SNR=7.0										
Z29A	**Hungry Hill Ra**	**49.76**	**86**	⇑P		**P**		**08 34 47.8**	**-0.2**
	baz=50										
Y30A	**Stafford Cattl**	**49.83**	**85**	⇑P		**P**		**08 34 48.2**	**-0.3**
	baz=50										
228A	**UT Block 9, Go**	**50.01**	**88**	⇑P		**P**		**08 34 49.2**	**-0.7**
	baz=50										
SUMG	**Summit**	**50.08**	**18**	*e*P		**P**		**08 34 50.8**	**+0.5**
SUMG				pmax	pmax						
	comp=Z,443nm,3.0s										
SUMG	**Summit**	**50.08**	**18**	*i* P		**P**		**08 34 50.5**	**+0.2**
	comp=Z,14nm,0.8s										
SUMG	**Summit**	**50.08**	**18**	*e*P		**P**		**08 34 50.8**	**+0.5**
	comp=Z,443nm,3.0s										
Z30A	**Sanderson Ranc**	**50.09**	**85**	⇑P		**P**		**08 34 50.0**	**-0.5**
	baz=50										
129A	**Stewart Farms,**	**50.10**	**87**	⇑P		**P**		**08 34 50.0**	**-0.5**
	baz=50										
426A	**McDonald Obser**	**50.15**	**90**	⇑P		**P**		**08 34 50.7**	**-0.4**
	baz=50										
Y31A	**Rekieta Farm,**	**50.16**	**84**	⇑P		**P**		**08 34 49.8**	**-1.2**
	baz=50										
328A	**Wristen Ranch,**	**50.39**	**88**	⇓P		**P**		**08 34 52.8**	**+0.1**
	baz=50										
427A	**Hayter Ranch,**	**50.40**	**89**	⇓P		**P**		**08 34 53.1**	**+0.2**
	baz=50										
526A	**Mary Lane Ranc**	**50.54**	**91**	⇓P		**P**		**08 34 54.6**	**+0.5**
	baz=50										
229A	**Bryant Ranch,**	**50.59**	**87**	⇑P		**P**		**08 34 54.8**	**+0.5**
	baz=50										
Y32A	**R-V Farms, Ver**	**50.62**	**83**	⇓P		**P**		**08 34 54.5**	**+0.1**
	baz=50										
130A	**Snyder**	**50.67**	**86**	⇓P		**P**		**08 34 54.7**	**-0.1**
	baz=50										
Z31A	**Sharp Cattle R**	**50.67**	**85**	⇓P		**P**		**08 34 54.8**	**0.0**
	baz=50										
527A	**Woodward Ranch**	**50.77**	**90**	⇑P		**P**		**08 34 55.8**	**0.0**
	baz=51										
329A	**Wagon Wheel Ra**	**50.82**	**88**	⇓P		**P**		**08 34 56.2**	**+0.2**
	baz=51										
626A	**Big Bend Ranch**	**50.88**	**91**	⇓P		**P**		**08 34 57.0**	**+0.5**
	baz=51										
428A	**Kincaid Ranch,**	**50.93**	**89**	⇑P		**P**		**08 34 57.2**	**+0.3**
	baz=51,SNR=5.6										
131A	**Roby**	**50.97**	**85**	⇓P		**P**		**08 34 57.2**	**+0.1**
	baz=51										
230A	**Sterling City**	**51.07**	**87**	⇓P		**P**		**08 34 57.9**	**0.0**
	baz=51										
Z32A	**Haskell**	**51.08**	**84**	⇑P		**P**		**08 34 57.6**	**-0.3**
	baz=51										
528A	**Cox Ranch, San**	**51.26**	**90**	⇓P		**P**		**08 34 59.5**	**+0.1**
	baz=51										
TXAR	**Lajitas Array**	**51.32**	**91**	P		**P**		**08 35 00.1**	**+0.3**
TXAR	**Lajitas Array**	**51.32**	**91**	P		**P**		**08 35 00.1**	**+0.3**
	comp=Z,2.7nm,0.6s,baz=305,slow=5.3,SNR=41										
TLY	**Talaya**	**51.32**	**307**	*e*P		**P**		**08 34 58.9**	**-0.5**
TLY				pmax	pmax						
	comp=Z,6.0nm,0.7s										
330A	**Mertzon**	**51.37**	**87**	⇓P		**P**		**08 35 00.2**	**0.0**
	baz=51										
627A	**Terlingua Ranc**	**51.40**	**91**	⇓P		**P**		**08 35 00.7**	**+0.2**
	baz=51										
ABTX	**Abilene, Hawle**	**51.45**	**85**	⇓P		**P**		**08 35 00.9**	**+0.3**
	baz=51										
429A	**Davenport Ranc**	**51.48**	**88**	⇑P		**P**		**08 35 01.1**	**+0.1**
	baz=51										
231A	**Bronte**	**51.52**	**86**	⇓P		**P**		**08 35 01.1**	**-0.1**
	baz=51										
TUL1	**Tulsa**	**51.53**	**79**	⇓P		**P**		**08 35 01.3**	**+0.1**
	baz=51										
529A	**Stev Forest Ra**	**51.64**	**89**	⇓P		**P**		**08 35 02.2**	**+0.1**
	baz=52										
628A	**Black Gap, Mar**	**51.68**	**90**	⇑P		**P**		**08 35 02.3**	**-0.2**
	baz=52,SNR=6.4										
430A	**Baggett Ranch,**	**51.77**	**88**	⇓P		**P**		**08 35 02.7**	**-0.4**
	baz=52,SNR=5.1										
331A	**San Angelo**	**51.89**	**87**	⇑P		**P**		**08 35 03.8**	**-0.2**
	baz=52										
BJI	**Beijing**	**52.05**	**289**	P		**P**		**08 35 04.3**	**-0.7**
BJI				AMB	AMB						
	comp=Z,26nm,0.8s										
530A	**J-C Ranch, Com**	**52.16**	**88**	⇓P		**P**		**08 35 05.7**	**-0.3**
	baz=52,SNR=8.2										
431A	**Sonora**	**52.22**	**87**	⇑P		**P**		**08 35 06.4**	**-0.1**
	baz=52,SNR=11										
332A	**Millersview**	**52.26**	**86**	⇓P		**P**		**08 35 06.4**	**-0.3**
	baz=52										
ZAK	**Zakamensk**	**52.32**	**306**	*e*P		**P**		**08 35 07.0**	**0.0**
ZAK				*e*				08 36 19.0			
	comp=Z,3.0nm,1.4s										
SONM	**Songino Array**	**52.38**	**302**	P		**P**		**08 35 07.4**	**-0.1**
SONM	**Songino Array**	**52.38**	**302**	P		**P**		**08 35 07.4**	**-0.1**
	comp=Z,1.7nm,0.4s,baz=59,slow=6.7,SNR=18										
432A	**Menard**	**52.58**	**87**	⇑P		**P**		**08 35 08.6**	**-0.6**
	baz=52										
531A	**Rocksprings**	**52.63**	**88**	⇑P		**P**		**08 35 08.9**	**-0.5**
	baz=52										
JCT	**Junction City**	**52.86**	**87**	*e*P		**P**		**08 35 10.3**	**-0.9**
JCT				pmax	pmax						
	comp=Z,5.0nm,0.7s										
JCT	**Junction City**	**52.86**	**87**	*e*P		**P**		**08 35 10.3**	**-0.9**
	comp=Z,5.1nm,0.7s										
JCT	**Junction City**	**52.86**	**87**	⇓P		**P**		**08 35 10.7**	**-0.4**
	baz=53										
532A	**Rocksprings**	**53.04**	**87**	⇓P		**P**		**08 35 12.0**	**-0.6**
	baz=53										
631A	**Perdido Creek**	**53.14**	**88**	⇑P		**P**		**08 35 12.5**	**-0.7**
	baz=53,SNR=6.3										
632A	**Uvalde**	**53.56**	**88**	⇑P		**P**		**08 35 15.8**	**-0.5**
	baz=53										
SFIN	**Scholer Farm**	**53.62**	**69**	⇑P		**P**		**08 35 15.6**	**-1.0**
	baz=53										
732A	**Laxson Ranch,**	**54.00**	**89**	⇑P		**P**		**08 35 19.6**	**+0.1**
	baz=54										
HHC	**Hu-ho-hao-te**	**54.15**	**292**	*e*P		**P**		**08 35 18.3**	**-2.3**
HHC				PcP		**PcP**		**08 36 23.8**	**-0.9**
HHC				PP		**PP**		**08 37 20.5**	**-1.6**
HHC				ScP		**ScP**		**08 40 16.4**	**-2.7**
HHC				PcS		**PcS**		**08 40 22.0**	**-2.2**
HHC				S		S		08 42 48.1	-6.1
HHC				ScS		**ScS**		**08 45 01.0**	**-5.1**
HHC				SS		**SKiKP**		**08 46 28.8**	**+0.8**
HHC				LR		LR					
	comp=Z,200nm,16.9s										
HHC				LR		LR					
	comp=Z,290nm,16.1s										
HHC				LR		LR					
	comp=Z,370nm,17.1s										
SCHQ	**Schefferville**	**54.24**	**45**	P		**P**		**08 35 20.6**	**-0.4**
SCHQ	**Schefferville**	**54.24**	**45**	P		**P**		**08 35 20.6**	**-0.4**
	comp=Z,5.3nm,0.9s,baz=328,slow=9.6,SNR=4.9										
NJ2	**Nanjing**	**55.92**	**280**	*e*P		**P**		**08 35 32.6**	**-0.7**
NJ2				AMB	AMB						
	comp=Z,10.0nm,0.6s										
HVS	**Khovu-Aksy**	**56.36**	**312**	⇓*e*P		**P**		**08 35 36.0**	**-0.3**
HVS				pmax	pmax						
	comp=Z,27nm,1.0s										
KEV	**Kevo**	**57.48**	**354**	*e*P		**P**		**08 35 41.8**	**-2.0**
KEV				pmax	pmax						
	comp=Z,10.0nm,0.7s										
KEV	**Kevo**	**57.48**	**354**	*e*p		**P**		**08 35 41.8**	**-2.0**
	comp=Z,10nm,0.7s										
ARCES	**ARCESS Array B**	**57.78**	**355**	P		**P**		**08 35 45.1**	**-0.9**
ARCES				PcP		**PcP**		**08 36 39.0**	**+0.8**
ARCES	**ARCESS Array B**	**57.78**	**355**	P		**P**		**08 35 45.1**	**-0.9**
	comp=Z,2.7nm,0.4s,baz=16,slow=6.2,SNR=29										
ARCES				PcP		**PcP**		**08 36 39.0**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=33,slow=5.4,SNR=4.5										
ZALV	**Zalesovo Beam**	**58.17**	**319**	P		**P**		**08 35 48.5**	**-0.4**
ZALV	**Zalesovo Beam**	**58.17**	**319**	P		**P**		**08 35 48.5**	**-0.4**
ZALV	**Zalesovo Beam**	**58.17**	**319**	P		**P**		**08 35 48.5**	**-0.4**
	comp=Z,1.9nm,0.4s,baz=32,slow=7.0,SNR=8.0										
WHN	**Wuhan**	**59.69**	**282**	P		**P**		**08 36 00.1**	**+0.3**
KMSC	**Kings Mountain**	**60.54**	**70**	⇑P		**P**		**08 36 04.1**	**-1.4**
	baz=60										
GTA	**Gaotai**	**61.61**	**298**	*e*P		**P**		**08 36 12.8**	**-0.2**
GTA				pP		**pP**		**08 36 24.9**	**-0.5**
GTA				sP		**sP**		**08 36 30.1**	**-0.3**
GTA				AMB	AMB						
	comp=Z,11nm,0.6s										
LZH	**Lanzhou**	**61.80**	**293**	⇑P		**P**		**08 36 15.1**	**+0.8**
LZH				pP		**pP**		**08 36 24.6**	**-2.1**
LZH				sP		**sP**		**08 36 30.0**	**-1.7**
LZH				AMB	AMB						
	comp=Z,19nm,0.9s										
TMCR	**Tamitsa**	**61.90**	**348**	*e*P		**P**		**08 36 13.7**	**-0.6**
TMCR				*e*				08 38 29.2			
TMCR				pmax	pmax						
	comp=Z,35nm,1.3s										
KURK	**Kurchatov**	**63.10**	**320**	*c i*P		**P**		**08 36 22.1**	**-0.4**
KURK				pmax	pmax						
	comp=Z,5.0nm,1.2s										
KURK	**Kurchatov**	**63.10**	**320**	*e*P		**P**		**08 36 22.3**	**-0.2**
	comp=Z,2.2nm,0.6s										
JOF	**Joensuu**	**63.88**	**351**	*e*P		**P**		**08 36 26.7**	**-0.7**
JOF				pmax	pmax						
	comp=Z,8.0nm,0.5s										
JOF	**Joensuu**	**63.88**	**351**	*e*p		**P**		**08 36 26.7**	**-0.7**
	comp=Z,7.9nm,0.5s										
SVE	**Sverdlovsk**	**64.10**	**333**	*e*P		**P**		**08 36 29.8**	**+0.8**
BVA0	**Borovoye Array**	**64.29**	**326**	*i* P		**P**		**08 36 29.1**	**-1.3**
BVA0				pmax	pmax						
	comp=Z,6.0nm,0.9s										
BVAR	**Borovoye Array**	**64.29**	**326**	P		**P**		**08 36 30.6**	**+0.2**
BVAR						08 37 05.6					
BVAR	**Borovoye Array**	**64.29**	**326**	P		**P**		**08 36 30.6**	**+0.2**
BVAR				PcP		**PcP**		**08 37 05.6**	**+0.9**
BVAR	**Borovoye Array**	**64.29**	**326**	P		**P**		**08 36 30.6**	**+0.2**
	comp=Z,3.6nm,0.6s,baz=53,slow=7.9,SNR=14										
BVAR				PcP		**PcP**		**08 37 05.6**	**+0.9**
	comp=Z,2.2nm,0.6s,baz=58,slow=4.1,SNR=4.6										
BRVK	**Borovoye**	**64.30**	**326**	*d i*P		**P**		**08 36 30.8**	**+0.4**
BRVK				pmax	pmax						
	comp=Z,8.0nm,1.2s										
WMQ	**Urumqi**	**64.47**	**309**	P		**P**		**08 36 31.9**	**+0.1**
WMQ				pP		**pP**		**08 36 44.8**	**+0.5**
WMQ				sP		**sP**		**08 36 50.1**	**+0.9**
WMQ				AMB	AMB						
	comp=Z,17nm,0.5s										
WMQ				LR		LR					
	comp=Z,320nm,14.2s										
WMQ				LR		LR					
	comp=Z,290nm,13.8s										
WMQ				LR		LR					
	comp=Z,180nm,20.2s										
MK31	**Makanchi Array**	**64.64**	**315**	*i* P		**P**		**08 36 31.3**	**-1.5**
MK31				pmax	pmax						
	comp=Z,4.0nm,0.7s										
MK31	**Makanchi Array**	**64.64**	**315**	*e*P		**P**		**08 36 31.6**	**-1.2**
MKAR	**Makanchi Array**	**64.64**	**315**	*e*P		**P**		**08 36 32.1**	**-0.7**
MKAR	**Makanchi Array**	**64.64**	**315**	*e*P		**P**		**08 36 32.1**	**-0.7**
MKAR	**Makanchi Array**	**64.64**	**315**	P		**P**		**08 36 32.0**	**-0.7**
	comp=Z,5.1nm,0.7s,baz=48,slow=6.1,SNR=59										
KLMR	**Klimovskoe**	**64.87**	**346**	*e*P		**P**		**08 36 31.2**	**-2.8**
KLMR				pmax	pmax						
	comp=Z,19nm,1.1s										
ARU	**Arti**	**65.01**	**334**	*d i*P		**P**		**08 36 35.1**	**+0.2**
ARU								08 38 56.8			
ARU				S		**S**		**08 45 16.7**	**+3.3**
ARU				pmax	pmax						
	comp=Z,29nm,1.2s										
KAF	**Kangasniemi**	**65.10**	**353**	*e*P		**P**		**08 36 33.6**	**-1.8**
KAF				pmax	pmax						
	comp=Z,20nm,0.5s										
KAF	**Kangasniemi**	**65.10**	**353**	*e*p		**P**		**08 36 33.6**	**-1.8**
	comp=Z,20nm,0.5s										
CD2	**Chengdu**	**65.64**	**289**	P		**P**		**08 36 40.6**	**+1.1**
CD2				pP		**pP**		**08 36 52.9**	**+0.9**
CD2				sP		**sP**		**08 36 57.8**	**+0.8**
CD2				PP		**PP**		**08 39 06.8**	**+2.9**
CD2				S		**S**		**08 45 19.9**	**-2.1**
CD2				sS		**sS**		**08 45 40.4**	**-2.4**
CD2				SS		**SS**		**08 49 35.1**	**-0.8**
CD2				AMB	AMB						
	comp=Z,50nm,0.8s										
CD2				LR		LR					
	comp=Z,490nm,8.3s										
CD2				LR		LR					
	comp=Z,560nm,10.7s										
FINES	**FINESS Array B**	**65.78**	**353**	P		**P**		**08 36 39.2**	**-0.6**
FINES	**FINESS Array B**	**65.78**	**353**	P		**P**		**08 36 39.2**	**-0.6**
	comp=Z,13nm,0.5s,baz=18,slow=6.9,SNR=81										
NB2	**NORSAR Subarra**	**66.65**	**1**	P		**P**		**08 36 44.4**	**-1.1**
	comp=Z,3.7nm,0.5s,baz=0.5,slow=6.2										
NOA	**NORSAR Array B**	**66.65**	**1**	P		**P**		**08 36 45.2**	**-0.3**
NOA	**NORSAR Array B**	**66.65**	**1**	P		**P**		**08 36 45.2**	**-0.3**
	comp=Z,4.5nm,0.7s,baz=0.7,slow=6.3,SNR=11										
GYA	**Guiyang**	**67.26**	**284**	P		**P**		**08 36 50.8**	**+0.8**
GYA				pP		**pP**		**08 37 04.3**	**+1.7**
GYA				PP		**PP**		**08 39 20.6**	**+2.4**
GYA				ScP				08 41 18.3			
GYA				S		**S**		**08 45 40.0**	**-1.8**
GYA				SKS		**SKSac**		**08 46 40.5**	**-3.5**
GYA				SS		**SS**		**08 50 01.8**	**+0.4**
GYA				AMB	AMB						
	comp=Z,10.0nm,1.0s										
GYA				AMB	AMB						
	comp=Z,110nm,5.6s										
GYA				LR	LR						
	comp=Z,410nm,19.8s										
GYA				LR	LR						
	comp=Z,340nm,20.0s										
GYA				LR	LR						
	comp=Z,430nm,19.4s										
VSU	**Vasula**	**68.68**	**352**	⇓*e*P		**P**		**08 36 58.4**	**+0.2**
VSU				pmax	pmax						
	comp=Z,71nm,0.8s										
AKTO	**Aktyubinsk**	**70.47**	**331**	P		**P**		**08 37 07.7**	**-1.7**
AKTO				pmax	pmax						
	comp=Z,8.0nm,0.8s										
AKTO	**Aktyubinsk**	**70.47**	**331**	P		**P**		**08 37 08.1**	**-1.4**
AKTO	**Aktyubinsk**	**70.47**	**331**	P		**P**		**08 37 08.1**	**-1.4**
	comp=Z,6.0nm,0.7s,baz=36,slow=6.4,SNR=27										
KMI	**Kunming**	**70.57**	**286**	P		**P**		**08 37 08.6**	**-2.1**
KMI				AMB	AMB						
	comp=Z,16nm,0.8s										
TKM2	**Tokmak 2**	**70.59**	**316**	*e*P		**P**		**08 37 10.9**	**+0.3**
TKM2				pmax	pmax						
	comp=Z,4.0nm,0.6s										
TKM2	**Tokmak 2**	**70.59**	**316**	P		**P**		**08 37 11.4**	**+0.8**
	SNR=6.6										
TKM2	**Tokmak 2**	**70.59**	**316**	*e*P		**P**		**08 37 10.9**	**+0.3**
	comp=Z,3.7nm,0.6s										
USP	**Ospenovka**	**70.77**	**317**	*i* P		**P**		**08 37 12.4**	**+0.9**
USP	**Ospenovka**	**70.77**	**317**	P		**P**		**08 37 12.4**	**+0.9**
	SNR=6.0										
OBN	**Obninsk**	**70.84**	**346**	⇓*i* P		**P**		**08 37 11.1**	**-0.4**
OBN				*e*				08 39 49.1			
OBN				pmax	pmax						
	comp=Z,32nm,1.7s										
OBN				MLR	MLR						
	comp=Z,200nm,18.0s										
AB31	**Akbulak array**	**70.93**	**330**	*i* P		**P**		**08 37 11.9**	**-0.4**
AB31				pmax	pmax						
	comp=Z,2.0nm,0.4s										
ABKAR	**Akbulak array**	**70.93**	**330**	*e*P		**P**		**08 37 12.2**	**0.0**
	comp=Z,2.2nm,0.3s										
KBK	**Karagaybulak**	**71.08**	**316**	*i* P		**P**		**08 37 14.0**	**+0.5**
KBK	**Karagaybulak**	**71.08**	**316**	P		**P**		**08 37 14.0**	**+0.5**
	SNR=8.9										
AAK	**Ala-Archa**	**71.29**	**317**	*c i*P		**P**		**08 37 15.3**	**+0.5**
AAK				pmax	pmax						
	comp=Z,25nm,0.7s										
AAK	**Ala-Archa**	**71.29**	**317**	P		**P**		**08 37 15.7**	**+0.9**
	SNR=11										
AAK	**Ala-Archa**	**71.29**	**317**	*e*P		**P**		**08 37 14.8**	**0.0**
	comp=Z,10nm,0.7s										
AAK	**Ala-Archa**	**71.29**	**317**	P		**P**		**08 37 14.7**	**0.0**
	comp=Z,10.0nm,0.7s,baz=123,slow=2.7,SNR=31										
EKS2	**Erkin-Say**	**71.57**	**317**	*e*P		**P**		**08 37 17.1**	**+0.7**
EKS2				pmax	pmax						
	comp=Z,5.0nm,0.6s										
EKS2	**Erkin-Say**	**71.57**	**317**	P		**P**		**08 37 17.4**	**+1.0**
	SNR=6.1										
EKS2	**Erkin-Say**	**71.57**	**317**	*e*P		**P**		**08 37 17.1**	**+0.7**
	comp=Z,5.4nm,0.6s										
AML	**Almayashu**	**72.04**	**317**	*i* P		**P**		**08 37 20.9**	**+1.3**
AML	**Almayashu**	**72.04**	**317**	P		**P**		**08 37 20.9**	**+1.3**
	SNR=7.4										
KK31	**Karatay Array**	**72.52**	**320**	*i* P		**P**		**08 37 21.8**	**-0.1**
KK31				pmax	pmax						
	comp=Z,4.0nm,0.6s										
KKAR	**Karatay Array**	**72.52**	**320**	*e*P		**P**		**08 37 21.9**	**-0.1**
KKAR				pmax	pmax						
	comp=Z,14nm,1.0s										
KKAR	**Karatay Array**	**72.52**	**320**	*e*P		**P**		**08 37 21.9**	**-0.1**
	comp=Z,14nm,1.0s										
KSH	**Kashi**	**73.23**	**314**	P		P		08 37 30.3	+4.0
KSH				pP		pP		08 37 40.5	+1.5
KSH				sP		sP		08 37 47.4	+3.5
KSH				PP		**PP**		**08 40 13.0**	**+3.8**
KSH				S		**SKiKP**		**08 46 55.0**	**+1.1**
KSH				SS		**SS**		**08 51 37.4**	**+5.1**
KSH				AMB	AMB						
	comp=Z,220nm,

	comp=Z,10.0nm,0.8s								
SGMF	**Saint Gilles**	**78.61**	**11**	⇑*iP*		**P**		**08 37 57.0**	**+0.3**
	comp=Z,9.7nm,0.8s								
GRR	**Gorron**	**78.65**	**9**	*e*P		**P**		**08 37 57.3**	**+0.4**
	comp=Z,19nm,1.0s								
GRR	**Gorron**	**78.65**	**9**	*e*P		**P**		**08 37 57.3**	**+0.4**
GRR				pmax		pmax			
	comp=Z,19nm,1.0s								
GRR	**Gorron**	**78.65**	**9**	*e*P		**P**		**08 37 57.3**	**+0.4**
	comp=Z,19nm,1.0s								
GERES	**GERESS Array B**	**78.88**	**360**	P		**P**		**08 37 58.9**	**+0.6**
GERES	**GERESS Array B**	**78.88**	**360**	P		**P**		**08 37 58.9**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=358,slow=4.0,SNR=14								
PAGF	**Fort de Pagny**	**78.98**	**5**	*e*P		**P**		**08 37 59.5**	**+0.8**
PAGF	**Fort de Pagny**	**78.98**	**5**	*e*P		**P**		**08 37 59.5**	**+0.8**
SFTF	**Sexfontaines**	**79.30**	**5**	*e*P		**P**		**08 38 01.0**	**+0.5**
SFTF	**Sexfontaines**	**79.30**	**5**	*e*P		**P**		**08 38 01.0**	**+0.5**
BUR08	**Bucovina Ar. S**	**79.54**	**352**	*e*P		**P**		**08 38 02.5**	**+0.6**
HAU	**Haudompre**	**79.56**	**5**	*e*P		**P**		**08 38 02.2**	**+0.3**
HAU	**Haudompre**	**79.56**	**5**	*e*P		**P**		**08 38 02.2**	**+0.3**
HAU	**Haudompre**	**79.56**	**5**	*e*P		**P**		**08 38 02.2**	**+0.3**
CONA	**Conrad Observa**	**79.77**	**358**	⇑*iP*		**P**		**08 38 04.4**	**+1.3**
	comp=Z,6.0nm,0.7s								
HINF	**Hinteralfeld**	**79.78**	**4**	*e*P		**P**		**08 38 03.4**	**+0.3**
	comp=Z,17nm,1.0s								
HINF	**Hinteralfeld**	**79.78**	**4**	*e*P		**P**		**08 38 03.4**	**+0.3**
HINF				pmax		pmax			
	comp=Z,17nm,1.0s								
HINF	**Hinteralfeld**	**79.78**	**4**	*e*P		**P**		**08 38 03.4**	**+0.3**
	comp=Z,17nm,1.0s								
LOR	**Lormes**	**80.16**	**6**	⇑*iP*		**P**		**08 38 05.5**	**+0.3**
	comp=Z,31nm,1.2s								
LOR	**Lormes**	**80.16**	**6**	⇑*iP*		**P**		**08 38 05.5**	**+0.3**
	comp=Z,31nm,1.2s								
SSF	**Saint Saulge**	**80.34**	**7**	⇑*iP*		**P**		**08 38 06.7**	**+0.6**
	comp=Z,28nm,1.1s								
SSF	**Saint Saulge**	**80.34**	**7**	⇑*iP*		**P**		**08 38 06.7**	**+0.6**
SSF				pmax		pmax			
	comp=Z,28nm,1.1s								
SSF	**Saint Saulge**	**80.34**	**7**	⇑*iP*		**P**		**08 38 06.7**	**+0.6**
	comp=Z,28nm,1.1s								
KBL	**Kabul**	**80.40**	**316**	*e*P		**P**		**08 38 06.8**	**-0.1**
KBL				pmax		pmax			
	comp=Z,16nm,1.0s								
KBL	**Kabul**	**80.40**	**316**	*e*P		**P**		**08 38 06.8**	**-0.1**
	comp=Z,16nm,1.0s								
KIV	**Kislovodsk**	**80.43**	**339**	⇓*iP*		**P**		**08 38 07.8**	**+1.0**
KIV				*eS*		**S**		**08 48 10.5**	**+1.0**
KIV				pmax		pmax			
	comp=Z,9.0nm,0.8s								
ARSA	**Arzberg**	**80.45**	**358**	⇑*iP*		**P**		**08 38 08.2**	**+1.4**
	comp=Z,6.5nm,0.7s								
WTTA	**Wattenberg**	**80.46**	**1**	⇑*iP*		**P**		**08 38 08.1**	**+1.1**
	comp=Z,9.0nm,0.7s								
MFF	**Saint Martin d**	**80.49**	**9**	*e*P		**P**		**08 38 07.5**	**+0.6**
	comp=Z,32nm,1.1s								
MFF	**Saint Martin d**	**80.49**	**9**	*e*P		**P**		**08 38 07.5**	**+0.6**
MFF				pmax		pmax			
	comp=Z,32nm,1.1s								
MFF	**Saint Martin d**	**80.49**	**9**	*e*P		**P**		**08 38 07.5**	**+0.6**
	comp=Z,32nm,1.1s								
AVF	**Avril sur Loir**	**80.60**	**7**	⇑*iP*		**P**		**08 38 07.9**	**+0.4**
	comp=Z,26nm,1.1s								
AVF	**Avril sur Loir**	**80.60**	**7**	⇑*iP*		**P**		**08 38 07.9**	**+0.4**
AVF				pmax		pmax			
	comp=Z,26nm,1.1s								
AVF	**Avril sur Loir**	**80.60**	**7**	⇑*iP*		**P**		**08 38 07.9**	**+0.4**
	comp=Z,26nm,1.1s								
FETA	**Feichten**	**80.69**	**2**	⇑*iP*		**P**		**08 38 09.3**	**+1.1**
	comp=Z,11nm,0.9s								
SMF	**Signal de Mont**	**80.78**	**6**	⇑*iP*		**P**		**08 38 08.8**	**+0.3**
	comp=Z,20nm,0.9s								
SMF	**Signal de Mont**	**80.78**	**6**	⇑*iP*		**P**		**08 38 08.8**	**+0.3**
SMF				pmax		pmax			
	comp=Z,20nm,0.9s								
SMF	**Signal de Mont**	**80.78**	**6**	⇑*iP*		**P**		**08 38 08.8**	**+0.3**
	comp=Z,20nm,0.9s								
BGF	**Bois d'Agland**	**80.79**	**7**	*e*P		**P**		**08 38 09.1**	**+0.5**
BGF	**Bois d'Agland**	**80.79**	**7**	*e*P		**P**		**08 38 09.1**	**+0.5**
BGF	**Bois d'Agland**	**80.79**	**7**	*e*P		**P**		**08 38 09.1**	**+0.5**
CABF	**La Chapelle**	**80.94**	**5**	*e*P		**P**		**08 38 10.5**	**+1.0**
CABF	**La Chapelle**	**80.94**	**5**	*e*P		**P**		**08 38 10.5**	**+1.0**
CABF	**La Chapelle**	**80.94**	**5**	*e*P		**P**		**08 38 10.5**	**+1.0**
TCF	**Toulx Ste Croi**	**81.01**	**8**	*e*P		**P**		**08 38 10.1**	**+0.3**
TCF	**Toulx Ste Croi**	**81.01**	**8**	*e*P		**P**		**08 38 10.1**	**+0.3**
TCF	**Toulx Ste Croi**	**81.01**	**8**	*e*P		**P**		**08 38 10.1**	**+0.3**
SOKA	**Soboth**	**81.04**	**359**	⇑*iP*		**P**		**08 38 11.0**	**+1.0**
	comp=Z,14nm,1.1s								
FUORN	**Ofenpass-Fuorn**	**81.08**	**2**	*e*P		**P**		**08 38 12.0**	**+1.6**
	comp=Z,10nm,0.9s								
ZEI	**Tsey**	**81.26**	**337**	*e*P		**P**		**08 38 10.1**	**-1.3**
ZEI				pmax		pmax			
	comp=Z,12nm,1.6s								
RJF	**Les Rejaudoux**	**81.93**	**8**	*e*P		**P**		**08 38 14.9**	**+0.3**
RJF	**Les Rejaudoux**	**81.93**	**8**	*e*P		**P**		**08 38 14.9**	**+0.3**
RJF	**Les Rejaudoux**	**81.93**	**8**	*e*P		**P**		**08 38 14.9**	**+0.3**
LPL	**La Plagne**	**82.07**	**4**	*e*P		**P**		**08 38 17.1**	**+1.5**
LPL	**La Plagne**	**82.07**	**4**	*e*P		**P**		**08 38 17.1**	**+1.5**
LPL	**La Plagne**	**82.07**	**4**	*e*P		**P**		**08 38 17.1**	**+1.5**
LPG	**La Plagne**	**82.09**	**4**	*e*P		**P**		**08 38 17.6**	**+1.8**
LPG	**La Plagne**	**82.09**	**4**	*e*P		**P**		**08 38 17.6**	**+1.8**
LPG	**La Plagne**	**82.09**	**4**	*e*P		**P**		**08 38 17.6**	**+1.8**
LFF	**La Frestale**	**82.22**	**9**	*e*P		**P**		**08 38 16.8**	**+0.7**
LFF	**La Frestale**	**82.22**	**9**	*e*P		**P**		**08 38 16.8**	**+0.7**
LFF	**La Frestale**	**82.22**	**9**	*e*P		**P**		**08 38 16.8**	**+0.7**
CAF	**Calviac**	**82.35**	**8**	*e*P		**P**		**08 38 17.4**	**+0.5**
	comp=Z,16nm,0.9s								
CAF	**Calviac**	**82.35**	**8**	*e*P		**P**		**08 38 17.4**	**+0.5**
CAF				pmax		pmax			
	comp=Z,16nm,0.9s								
CAF	**Calviac**	**82.35**	**8**	*e*P		**P**		**08 38 17.4**	**+0.5**
	comp=Z,16nm,0.9s								
VIVF	**Saint-Julien-l**	**82.61**	**6**	*e*P		**P**		**08 38 19.1**	**+0.9**
VIVF	**Saint-Julien-l**	**82.61**	**6**	*e*P		**P**		**08 38 19.1**	**+0.9**
VIVF	**Saint-Julien-l**	**82.61**	**6**	*e*P		**P**		**08 38 19.1**	**+0.9**
ORIF	**Oris-en-Rattie**	**82.62**	**5**	*e*P		**P**		**08 38 19.3**	**+1.0**
ORIF	**Oris-en-Rattie**	**82.62**	**5**	*e*P		**P**		**08 38 19.3**	**+1.0**
ORIF	**Oris-en-Rattie**	**82.62**	**5**	*e*P		**P**		**08 38 19.3**	**+1.0**
MBDF	**Montbardon**	**82.86**	**4**	*e*P		**P**		**08 38 21.1**	**+1.5**
	comp=Z,21nm,1.0s								
MBDF	**Montbardon**	**82.86**	**4**	*e*P		**P**		**08 38 21.1**	**+1.5**
MBDF				pmax		pmax			
	comp=Z,21nm,1.0s								
MBDF	**Montbardon**	**82.86**	**4**	*e*P		**P**		**08 38 21.1**	**+1.5**
	comp=Z,21nm,1.0s								
SBF	**Sospel**	**83.75**	**4**	*e*P		**P**		**08 38 24.9**	**+0.8**
	comp=Z,25nm,0.7s								
SBF	**Sospel**	**83.75**	**4**	*e*P		**P**		**08 38 24.9**	**+0.8**
SBF				pmax		pmax			
	comp=Z,25nm,0.7s								
SBF	**Sospel**	**83.75**	**4**	*e*P		**P**		**08 38 24.9**	**+0.8**
	comp=Z,25nm,0.7s								
SJPF	**Ste Jean**	**83.83**	**10**	*e*P		**P**		**08 38 25.6**	**+1.1**
SJPF	**Ste Jean**	**83.83**	**10**	*e*P		**P**		**08 38 25.6**	**+1.1**
SJPF	**Ste Jean**	**83.83**	**10**	*e*P		**P**		**08 38 25.6**	**+1.1**
MTLF	**Montolieu**	**83.94**	**8**	*e*P		**P**		**08 38 26.1**	**+1.1**
MTLF	**Montolieu**	**83.94**	**8**	*e*P		**P**		**08 38 26.1**	**+1.1**
MTLF	**Montolieu**	**83.94**	**8**	*e*P		**P**		**08 38 26.1**	**+1.1**
EPF	**Esparros**	**84.08**	**9**	*e*P		**P**		**08 38 26.0**	**+0.2**
EPF	**Esparros**	**84.08**	**9**	*e*P		**P**		**08 38 26.0**	**+0.2**
EPF	**Esparros**	**84.08**	**9**	*e*P		**P**		**08 38 26.0**	**+0.2**
ETSF	**Etsaut**	**84.11**	**10**	*e*P		**P**		**08 38 27.3**	**+1.3**
ETSF	**Etsaut**	**84.11**	**10**	*e*P		**P**		**08 38 27.3**	**+1.3**
ETSF	**Etsaut**	**84.11**	**10**	*e*P		**P**		**08 38 27.3**	**+1.3**
BR131	**Keskin Array S**	**86.27**	**344**	*e*P		**P**		**08 38 38.1**	**+1.2**
	comp=Z,3.3nm,0.7s								
BRTR	**Keskin Array B**	**86.27**	**344**	P		**P**		**08 38 38.1**	**+1.2**
BRTR	**Keskin Array B**	**86.27**	**344**	P		**P**		**08 38 38.1**	**+1.2**
	comp=Z,2.9nm,0.6s,baz=48,slow=1.8,SNR=15								
ESDC	**Sonseca Array**	**86.88**	**13**	P		**P**		**08 38 39.8**	**0.0**
ESDC	**Sonseca Array**	**86.88**	**13**	P		**P**		**08 38 39.8**	**0.0**
	comp=Z,1.1nm,0.6s,baz=341,slow=4.4,SNR=4.9								
WRA	**Warramunga Arr**	**88.31**	**233**	P		**P**		**08 38 46.3**	**-0.4**
WRA	**Warramunga Arr**	**88.31**	**233**	P		**P**		**08 38 46.3**	**-0.4**
	comp=Z,2.8nm,1.2s,baz=35,slow=5.7,SNR=7.3								
HYB	**Hyderabad**	**90.26**	**300**	*i* P		**P**		**08 38 55.0**	**-1.1**
ASAR	**Alice Springs**	**91.68**	**232**	P		**P**		**08 39 02.3**	**-0.1**
ASAR	**Alice Springs**	**91.68**	**232**	P		**P**		**08 39 02.3**	**-0.1**
	comp=Z,1.1nm,1.0s,baz=29,slow=5.0,SNR=5.9								
TORD	**Torodi Ar. Bea**	**113.75**	**12**	PKiKP		**PKiKP**		**08 44 33.4**	**-0.4**
TORD	**Torodi Ar. Bea**	**113.75**	**12**	PKiKP		**PKiKP**		**08 44 33.4**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=322,slow=3.7,SNR=4.4								
H03N2	**Juan Fernandez**	**114.71**	**113**	T		T		10 49 52.4	
	baz=320,slow=0.7,SNR=6.9								
H03N1	**Juan Fernandez**	**114.72**	**113**	T		T		10 49 54.1	
	baz=320,slow=0.7,SNR=9.2								
H03N3	**Juan Fernandez**	**114.72**	**113**	T		T		10 49 51.3	
	baz=320,slow=0.7,SNR=7.0								
LBTB	**Lobatse**	**150.79**	**336**	*e*PKPbc		**PKPbc**		**08 45 48.7**	**+1.3**
MAW	**Mawson**	**151.98**	**219**	*e*PKPbc		**PKPbc**		**08 45 48.8**	**+0.1**
MAW	**Mawson**	**151.98**	**219**	PKPbc		**PKPbc**		**08 45 48.0**	**-0.7**
	comp=Z,4.6nm,0.8s,baz=58,slow=2.6,SNR=5.1								
BOSA	**Boshof**	**154.32**	**334**	PKPab		**PKPab**		**08 46 08.3**	**-1.0**
BOSA	**Boshof**	**154.32**	**334**	PKPab		**PKPab**		**08 46 08.3**	**-1.0**
	comp=Z,3.4nm,0.7s,baz=93,slow=11,SNR=7.1								

IDC 13 08:30:38.6±5.4, 10°30S×76°64W, h122km±38km, mb3.3/3, mb1 3.6/4, mb1mx3.3/21, mbtmp3.4/4, MS3.2/1, Ms1 3.2/1, ms1mx2.9/17, Error ellipse: s-maj=71.6km s-min=30.0km az=31.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
ATAH	**Atahualpa**	**3.59**	**331**	P		Pn	08 31 32.9	-0.4
	8.0nm,0.3s,baz=161,slow=4.9,SNR=93							
ATAH				S		Sn	08 32 16.0	+0.4
	10nm,0.3s,baz=292,slow=5.7,SNR=5.1							
ATAH				LR		LR	08 33 06.1	
	comp=Z,345nm,19.6s,baz=85,slow=41							
H03N1	**Juan Fernandez**	**23.12**	**185**	T		T	08 58 20.0	
	baz=1.8							
H03N2	**Juan Fernandez**	**23.12**	**185**	T		T	08 58 25.5	
	baz=1.8							
H03N3	**Juan Fernandez**	**23.14**	**185**	T		T	08 58 22.7	
	baz=1.8,SNR=3.9							
TXAR	**Lajitas Array**	**47.25**	**327**	P		P	08 38 59.9	+0.1
	0.3nm,0.5s,baz=150,slow=8.7,SNR=6.5							
PDAR	**Pinedale Array**	**60.78**	**333**	P		P	08 40 36.8	-1.2
	0.3nm,0.5s,baz=104,slow=6.3,SNR=4.0							
DBIC	**Dimbokro**	**73.44**	**80**	P		P	08 41 58.4	+0.1
	1.1nm,0.6s,baz=233,slow=3.1,SNR=3.3							
ASAR	**Alice Springs**	**134.92**	**221**	PKP		PKPdf	08 49 42.9	-1.3
	0.4nm,0.7s,baz=133,slow=1.9,SNR=5.1							
WRA	**Warramunga Arr**	**137.18**	**225**	PKP		PKPdf	08 49 48.0	-0.4
	0.9nm,0.6s,baz=132,slow=1.9,SNR=9.0							
SONM	**Songino Array**	**142.50**	**357**	PKhKP		PKPpre	08 49 54.0	
	0.2nm,0.3s,baz=39,slow=5.5,SNR=3.7							
KSRS	**Korea Array**	**145.07**	**325**	PKPbc		PKPdf	08 50 02.3	+0.3
	1.8nm,0.8s,baz=57,slow=3.8,SNR=4.3							

IDC 13 08:34:16.7±1.1, 52°91N×167°06W, h0km, mb4.0/15, mb1 4.2/17, mb1mx4.0/31, mbtmp4.0/17, ML3.3/2, Error ellipse: s-maj=30.0km s-min=13.0km az=169.0
ISCJB 13 08:34:18.9±0.9, 52°50N±0°07×166°92W±0°06, h41km±6km, mb4.1/20, Error ellipse: s-maj=12.0km s-min=4.9km az=165.4
NEIC 13 08:34:21.5±0.7, 52°68N×167°02W, h41km±5km, mb4.0/3, ML3.7(AEIC), Error ellipse: s-maj=10.9km s-min=3.9km az=162.0

ISC 13 08:34:23.0±1.4, 52°7N±0°1×167°01W±0°05, h53km±11km, n83, σ1°55/82, mb4.0/20, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
OKFG	**Magazine Ridge**	**0.89**	**323**	P		**Pn**	**08 34 37.0**	**-2.4**
OKFG				S		**Sn**	**08 34 53.4**	**+2.1**
OKTU	**Okmok Mt. Tuli**	**0.92**	**318**	P		**Pn**	**08 34 38.3**	**-1.5**
OKSP	**Okmok Steeple**	**0.95**	**306**	P		**Pn**	**08 34 38.2**	**-2.0**
OKSO	**Okmok South**	**0.95**	**314**	P		**Pn**	**08 34 38.0**	**-2.2**
OKSO				S		**Sn**	**08 34 55.1**	**+2.3**
OKCE	**Okmok Cone E**	**1.00**	**316**	P		**Pn**	**08 34 39.7**	**-1.2**
MREP	**Makushin Rep't**	**1.11**	**8**	P		**Pn**	**08 34 41.2**	**-1.2**
NIKH	**Nikolski High**	**1.15**	**284**	P		**Pn**	**08 34 40.3**	**-2.5**
NIKH				S		**Sn**	**08 34 58.4**	**+0.9**
UNV	**Unalaska Valle**	**1.18**	**15**	P		**Pn**	**08 34 40.7**	**-2.5**
UNV				S		**Sn**	**08 34 60.0**	**+1.7**
MCIR	**Makushin Cirqu**	**1.25**	**3**	P		**Pn**	**08 34 43.2**	**-1.0**
MTBL	**Makushin Table**	**1.28**	**9**	P		**Pn**	**08 34 43.6**	**-1.1**
ZRO	**Akutan Zero**	**1.52**	**24**	P		**Pn**	**08 34 45.9**	**-1.9**
AKRB	**Akutan Reef Bi**	**1.53**	**21**	P		**Pn**	**08 34 46.6**	**-1.4**
LVA	**Lava Point**	**1.57**	**22**	P		**Pn**	**08 34 47.3**	**-1.2**
AKUT	**Akutan**	**1.61**	**27**	P		**Pn**	**08 34 47.1**	**-1.9**
AKGG	**Akutan Green G**	**1.61**	**22**	P		**Pn**	**08 34 48.0**	**-1.1**
WESE	**West Dahl East**	**2.28**	**38**	P		**Pn**	**08 34 57.2**	**-1.1**
WESN	**West Dahl Nort**	**2.36**	**37**	P		**Pn**	**08 34 57.4**	**-1.9**
SSBA	**Shishaldin**	**2.69**	**39**	P		**Pn**	**08 35 02.2**	**-1.6**
SSLW	**Shishaldin Wes**	**2.69**	**39**	P		**Pn**	**08 35 02.5**	**-1.3**
FALS	**False Pass**	**3.03**	**43**	*e*Pn		**Pn**	**08 35 09.8**	**+1.3**
FALS				*e*Sn		**Sn**	**08 35 42.5**	**-1.0**
DTNA	**Dutton South F**	**3.73**	**47**	P		**Pn**	**08 35 16.6**	**-1.4**
SDPT	**Sand Point**	**4.67**	**53**	P		**Pn**	**08 35 28.6**	**-2.3**
SPIA	**Saint Paul Isl**	**4.85**	**339**	P		**Pn**	**08 35 34.2**	**+0.9**
GSCK	**Great Sitkin C**	**5.65**	**267**	P		**Pn**	**08 35 42.8**	**-1.6**
ADK	**Adak**	**5.98**	**266**	P		**Pn**	**08 35 47.9**	**-1.2**
AMKA	**Amchitka**	**6.54**	**266**	P		**Pn**	**08 36 21.6**	**-2.4**
FX1	**Attu Island--F**	**12.00**	**279**	Pn		**Pn**	**08 37 11.3**	**+0.2**
FX1	**Attu Island--F**	**12.00**	**279**	Pn		**Pn**	**08 37 11.3**	**+0.2**
	0.6nm,0.3s,baz=273,slow=20,SNR=8.7							
PPLA	**Purkeypile**	**12.87**	**32**	*e*Pn		**Pn**	**08 37 25.2**	**+2.1**
CAST	**Castle Rocks**	**13.29**	**30**	*e*Pn		**Pn**	**08 37 30.4**	**+1.8**
BPAW	**Bear Paw Mtn.**	**14.12**	**30**	*e*Pn		**Pn**	**08 37 40.9**	**+1.0**
BMRM	**Bremner River**	**14.72**	**47**	*e*Pn		**Pn**	**08 37 48.3**	**+0.4**
	27nm,1.4s							
IM04	**Indian Mountai**	**14.86**	**21**	*e*P		**P**	**08 37 55.1**	**+0.7**
IMA2	**Indian Mountai**	**14.96**	**21**	*e*P		**P**	**08 37 56.5**	**+0.9**
ILAR	**Eielson Array**	**15.87**	**33**	Pn		**Pn**	**08 37 57.9**	**-4.7**
ILAR	**Eielson Array**	**15.87**	**33**	Pn		**Pn**	**08 37 57.9**	**-4.7**
	0.1nm,0.3s,baz=241,slow=9.2,SNR=5.7							
COLD	**Coldfoot**	**16.72**	**23**	*e*P		**P**	**08 38 15.5**	**+0.7**
	7.4nm,1.0s							
HYT	**Haines Junctio**	**17.96**	**51**	*e*P		**P**	**08 38 30.6**	**+1.9**
DAWY	**Dawson**	**18.23**	**41**	*e*P		**P**	**08 38 31.3**	**-0.3**
PETK	**Petropavlovsk-**	**21.16**	**285**	P		**P**	**08 39 03.0**	**-0.4**
PETK	**Petropavlovsk-**	**21.16**	**285**	P		**P**	**08 39 03.0**	**-0.4**
	3.2nm,0.4s,baz=89,slow=13,SNR=15							
DLBC	**Dease Lake**	**21.47**	**60**	P		**P**	**08 39 06.9**	**+0.1**
DLBC	**Dease Lake**	**21.47**	**60**	P		**P**	**08 39 06.9**	**+0.1**
	2.1nm,1.0s,baz=189,slow=19,SNR=2.0							
INK	**Inuvik**	**22.28**	**33**	P		**P**	**08 39 13.2**	**-2.1**
INK	**Inuvik**	**22.28**	**33**	P		**P**	**08 39 13.2**	**-2.1**
	2.9nm,0.3s,baz=180,slow=20							
YKA	**Yellowknife Ar**	**28.93**	**50**	P		**P**	**08 40 17.4**	**+0.8**
YKA	**Yellowknife Ar**	**28.93**	**50**	P		**P**	**08 40 17.4**	**+0.8**
	1.2nm,0.6s,baz=276,slow=8.2,SNR=5.7							
ELK	**Elko**	**36.68**	**88**	*e*P		**P**	**08 41 27.4**	**+2.7**
	3.7nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**38.64**	**222**	T		T	09 23 14.0	
	baz=27,slow=0.7,SNR=36							
H11N3	**WAKE ISLAND Hy**	**38.65**	**222**	T		T	09 23 15.9	
	baz=27,slow=0.7,SNR=44							
H11N1	**WAKE ISLAND Hy**	**38.66**	**222**	T		T	09 23 19.5	
	baz=27,slow=0.7,SNR=31							
PDAR	**Pinedale Array**	**38.93**	**81**	P		**P**	**08 41 44.0**	**+0.4**
PDAR	**Pinedale Array**	**38.93**	**81**	P		**P**	**08 41 44.0**	**+0.4**
	0.6nm,0.7s,baz=287,slow=2.4,SNR=6.1							
H11S1	**WAKE ISLAND Hy**	**39.82**	**221**	T		T	09 24 41.6	
	baz=25,slow=0.7,SNR=20							
H11S2	**WAKE ISLAND Hy**	**39.84**	**221**	T		T	09 24 42.8	
	baz=25,slow=0.7,SNR=14							
H11S3	**WAKE ISLAND Hy**	**39.84**	**221**	T		T	09 24 41.0	
	baz=25,slow=0.7,SNR=14							
CBIJ	**Chichi jima**	**45.38**	**256**	P		**P**	**08 42 37.9**	**+1.8**
JCJ	**Chichijima**	**45.38**	**256**	P		**P**	**08 42 37.9**	**+1.8**
	baz=128,slow=9.5							
SPITS	**Spitsbergen Ar**	**49.36**	**359**	P		**P**	**08 43 05.5**	**-0.9**
SPITS	**Spitsbergen Ar**	**49.36**	**359**	P		**P**	**08 43 05.5**	**-0.9**
	5.3nm,0.9s,baz=26,slow=4.7,SNR=4.0							
SUMG	**Summit**	**50.02**	**18**	*i* P		**P**	**08 43 13.4**	**+1.5**
TXAR	**Lajitas Array**	**51.31**	**91**	P		**P**	**08 43 21.8**	**0.0**
TXAR	**Lajitas Array**	**51.31**	**91**	P		**P**	**08 43 21.8**	**0.0**
	1.0nm,0.7s,baz=296,slow=8.0,SNR=4.6							
SONM	**Songino Array**	**52.35**	**302**	P		**P**	**08 43 29.3**	**-0.1**
SONM	**Songino Array**	**52.35**	**302**	P		**P**	**08 43 29.3**	**-0.1**
	0.2nm,0.3s,baz=44,slow=4.7,SNR=4.6							
SCHQ	**Schefferville**	**54.19**	**45**	P		**P**	**08 43 41.2**	**-1.4**
SCHQ	**Schefferville**	**54.19**	**45**	P		**P**	**08 43 41.2**	**-1.4**
	5.4nm,1.0s,baz=278,slow=15,SNR=2.5							
KEV	**Kevo**	**57.42**	**354**	*ep*		**P**	**08 44 04.2**	**-1.2**
	0.5nm,0.4s							
ARCES	**ARCESS Array B**	**57.72**	**355**	P		**P**	**08 44 07.3**	**-0.3**
ARCES	**ARCESS Array B**	**57.72**	**355**	P		**P**	**08 44 07.3**	**-0.3**
	4.2nm,1.0s,baz=12,slow=6.2,SNR=7.9							
JOF	**Joensuu**	**63.82**	**351**	*ep*		**P**	**08 44 48.9**	**-0.2**
	1.8nm,0.4s							
MKAR	**Makanchi Array**	**64.60**	**315**	P		**P**	**08 44 53.7**	**-0.8**
MKAR	**Makanchi Array**	**64.60**	**315**	P		**P**	**08 44 53.7**	**-0.8**
	0.3nm,0.5s,baz=35,slow=5.3,SNR=4.1							
KAF	**Kangasniemi**	**65.04**	**353**	*ep*		**P**	**08 44 56.4**	**-0.7**
	3.8nm,0.5s							
FINES	**FINESS Array B**	**65.72**	**353**	P		**P**	**08 45 01.7**	**+0.2**
FINES	**FINESS Array B**	**65.72**	**353**	P		**P**	**08 45 01.7**	**+0.2**
	2.6nm,0.5s,baz=20,slow=6.8,SNR=24							
NOA	**NORSAR Array B**	**66.59**	**1**	P		**P**	**08 45 07.2**	**+0.1**
NOA	**NORSAR Array B**	**66.59**	**1**	P		**P**	**08 45 07.2**	**+0.1**
	0.6nm,0.6s,baz=360,slow=6.2,SNR=3.2							
ABKAR	**Akbulak array**	**70.89**	**330**	*e*P		**P**	**08 45 34.6**	**+0.7**
	0.6nm,0.3s							
AKASG	**Malin Array Be**	**76.06**	**349**	P		**P**	**08 46 03.5**	**-0.8**
AKASG	**Malin Array Be**	**76.06**	**349**	P		**P**	**08 46 03.6**	**-0.8**
	1.1nm,0.4s,baz=9.9,slow=5.5,SNR=5.2							
BRTR	**Keskin Array B**	**86.21**	**344**	P		**P**	**08 46 59.4**	**+0.8**
BRTR	**Keskin Array B**	**86.21**	**344**	P		**P**	**08 46 59.4**	**+0.8**
	0.4nm,0.4s,baz=356,slow=3.5,SNR=3.7							

BJI 13 08:38:48.3, 32°20N×115°30W, h6km, Ms7 4.4/2
IDC 13 08:38:50.9±1.9, 32°25N×115°39W, h0km, mb3.5/1, mb1 3.7/5, mb1mx3.5/28, mbtmp3.3/5, ML3.5/4, Error ellipse: s-maj=36.4km s-min=10.1km az=36.0
ISCJB 13 08:38:51.7±0.5, 32°23N±0°02×115°30W±0°02, h13km±3km, mb3.5/1, MS4.4/2, Error ellipse: s-maj=3.5km s-min=2.9km az=35.0
NEIC 13 08:38:53.3, 32°20N×115°33W, h6km, ML4.3(PAS), ML4.4(ECX), After ECX.
NEIC Felt [II] at Mexicali. Also felt at San Luis Rio Colorado, Sonora. Felt [II] at San Diego, California. Also felt at Borrego Springs, Calexico, Chula Vista, El Centro and Lakeside. Felt at Yuma, Arizona.
*ECX 13 08:38:53.3±0.6, 32°20N×115°33W, h6km, MD4

WMQ	**Urumqi**	**101.47**	**343**	*e*P	**Pdif**	**08 52 43.8**	**+0.1**
WMQ				LR	LR		
	comp=E,130nm,20.2s						
CD2	**Chengdu**	**107.12**	**325**	Pdif	**Pdif**	**08 53 07.0**	**-2.1**

IDC 13 08:44:19.8±1.5, 1.68S×99.22E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.4/22, mbtmp3.7/3, Error ellipse: s-maj=82.0km s-min=31.6km az=43.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**27.28**	**257**	T	T	09 18 08.0	
	baz=78,slow=0.7,SNR=12						
H08S3	**Diego Garcia H**	**27.28**	**257**	T	T	09 18 12.6	
	baz=78,slow=0.7,SNR=11						
H08S1	**Diego Carcia H**	**27.30**	**257**	T	T	09 18 09.2	
	baz=78,slow=0.7,SNR=8.0						
H01W3	**Cape Leeuwin H**	**35.84**	**159**	T	T	09 29 10.8	
	baz=328						
H01W2	**Cape Leeuwin H**	**35.85**	**159**	T	T	09 29 10.9	
	baz=328						
H01W1	**Cape Leeuwin H**	**35.85**	**159**	T	T	09 29 11.6	
	baz=328						
WRA	**Warramunga Arr**	**38.82**	**120**	P	P	08 51 46.7	-0.2
	0.4nm,0.8s,baz=302,slow=9.1,SNR=3.4						
MKAR	**Makanchi Array**	**50.52**	**345**	P	P	08 53 20.2	+0.3
	0.5nm,0.7s,baz=154,slow=7.5,SNR=4.5						
TORD	**Torodi Ar. Bea**	**97.71**	**283**	P	P	08 57 56.9	-0.7
	0.3nm,0.7s,baz=101,slow=2.2,SNR=3.9						
TXAR	**Lajitas Array**	**144.92**	**36**	PKP	PKPdf	09 03 59.5	-0.4
	0.2nm,0.5s,baz=187,slow=0.7,SNR=5.8						

ISCJB 13 08:54:58.0±1.2, 22.74N±0.08×93.5E±0.2, h58km, mb3.7/3, Error ellipse: s-maj=29.1km s-min=9.6km az=166.7
IDC 13 08:55:04.5±5.3, 23.12N×94.26E, h91km±42km, mb3.3/3, mb1 3.5/4, mb1mx3.1/26, mbtmp3.3/4, Error ellipse: s-maj=161.7km s-min=20.8km az=60.0

ISC 13 08:55:00.4±1.5, 22.8N±0.1×93.6E±0.2, h58km, n6, σ0 91/7, mb3.7/3, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**1.97**	**9**	*e*P	**Pn**	**08 55 32.0**	**+0.4**
IMP				*e*S	**Sn**	**08 55 55.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**6.62**	**130**	P	**Pn**	**08 56 36.0**	**+0.9**
	0.5nm,0.3s,baz=310,slow=13,SNR=4.6						
LSA	**Lhasa**	**7.19**	**343**	P	**Pn**	**08 56 43.9**	**+0.5**
MKAR	**Makanchi Array**	**25.60**	**342**	P	**P**	**09 00 24.3**	**+0.1**
	1.6nm,0.6s,baz=149,slow=9.6,SNR=18						
WRA	**Warramunga Arr**	**58.20**	**134**	P	**P**	**09 04 47.7**	**-1.2**
	0.6nm,1.0s,baz=321,slow=7.4,SNR=7.1						
ASAR	**Alice Springs**	**60.58**	**137**	P	**P**	**09 05 04.5**	**-0.7**
	0.3nm,0.4s,baz=321,slow=6.7,SNR=7.6						

IDC 13 09:15:10.8±0.6, 3.37N×127.75E, h0km, mb4.1/14, mb1 4.2/15, mb1mx4.1/25, mbtmp4.1/15, ML4.3/1, Error ellipse: s-maj=35.5km s-min=12.5km az=83.0
ISCJB 13 09:15:15.5±0.4, 3.51N±0.04×127.75E±0.05, h45km, mb4.1/18, Error ellipse: s-maj=6.8km s-min=5.7km az=8.1
NEIC 13 09:15:15.8±0.3, 3.35N×127.69E, h35km, mb4.3/5, Error ellipse: s-maj=13.3km s-min=5.8km az=83.0
DJA 13 09:15:19.6±0.7, 4.1N±5.5×125.8E±7.1, h70km, M4.8/8, mb4.9/8, mB5.2/4, MLv4.9/8, Mw(mB)4.5/4
AUST 13 09:15:38.3, 1.50N×127.50E, h100km

ISC 13 09:15:17.5±0.5, 3.49N±0.05×127.61E±0.06, h45km, n62, σ1 99/57, mb4.2/18, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**2.08**	**275**	P	**Pn**	**09 15 51.5**	**+1.5**
SGSI				S	**Sn**	**09 16 15.5**	**+0.7**
TNTI	**Ternate**	**2.71**	**185**	P	**Pn**	**09 16 00.6**	**+2.0**
TNTI				S	**Sn**	**09 16 33.5**	**+3.3**
LBMI	**Labuha**	**4.10**	**181**	P	**Pn**	**09 16 19.7**	**+1.9**
LBMI				S	**Sn**	**09 17 09.4**	**+4.9**
KMSI	**Cibinong**	**4.64**	**231**	P	**Pn**	**09 16 27.3**	**+2.2**
KMSI				S	**Sn**	**09 17 23.4**	**+5.7**
SWI	**Sorong**	**5.66**	**140**	P	**Pn**	**09 16 41.2**	**+2.0**
	184nm,0.6s,2μm0.8nm						
SWI	**Sorong**	**5.66**	**140**	P	**Pn**	**09 16 41.7**	**+2.5**
	baz=4.4,SNR=12						
MRSI	**Marisa**	**6.40**	**242**	P	**Pn**	**09 16 52.4**	**+3.0**
	219nm,0.6s,2μm0.8nm						
LUWI	**Luwuk**	**6.60**	**227**	P	Pn	09 16 55.8	+3.7
	136nm,0.8s,3μm1.1nm						
LUWI	**Luwuk**	**6.60**	**227**	P	Pn	09 16 56.0	+3.9
	baz=5.4,SNR=6.8						
APSI	**Ampana**	**7.39**	**234**	P	**Pn**	**09 17 05.0**	**+2.1**
	164nm,0.8s						
FAKI	**Fak Fak**	**7.88**	**144**	P	**Pn**	**09 17 11.8**	**+2.2**
	26nm,0.6s,485nm0.1nm						
FAKI	**Fak Fak**	**7.88**	**144**	P	**Pn**	**09 17 12.2**	**+2.6**
	baz=6.5,SNR=7.5						
BNDI	**Bandanaira**	**8.28**	**164**	P	Pn	09 17 08.6	-6.5
	baz=6.5,SNR=4.1						
TTSI	**Tana Toraja**	**10.13**	**230**	P	**Pn**	**09 17 42.2**	**+1.7**
	24nm,0.8s						
SPSI	**Sidrap Palu**	**10.78**	**227**	P	**Pn**	**09 17 50.2**	**+0.9**
	26nm,0.6s						
BKSI	**Bulukumba**	**11.51**	**221**	P	Pn	09 18 03.5	+4.1
KAPI	**Kappang**	**11.53**	**223**	*e*Pn	**Pn**	**09 17 57.3**	**-2.3**
KAPI				*e*Sn	**Sn**	**09 20 04.8**	**-2.3**
KAPI	**Kappang**	**11.53**	**223**	Pn	**Pn**	**09 17 58.3**	**-1.3**
	1.8nm,0.3s,baz=50,slow=6.9,SNR=6.2						
KAPI				Sn	Sn	09 20 00.9	-6.2
	1.4nm,0.3s,baz=41,slow=20,SNR=3.3						
JAY	**Jayapura**	**14.39**	**114**	P	**P**	**09 18 46.6**	**+2.0**
	baz=14,SNR=4.3						
KDU	**Kakadu**	**16.78**	**163**	P	**Pn**	**09 19 07.3**	**-2.1**
	baz=15,SNR=4.7						
KNRA	**Kununurra**	**19.08**	**177**	P	**P**	**09 19 35.0**	**-1.4**
	baz=17,SNR=4.4						
FITZ	**Fitzroy Crossi**	**21.54**	**185**	P	**P**	**09 20 00.9**	**-2.3**
FITZ	**Fitzroy Crossi**	**21.54**	**185**	P	**P**	**09 20 03.3**	**+0.2**
	baz=20,SNR=7.0						
FITZ	**Fitzroy Crossi**	**21.54**	**185**	P	**P**	**09 20 00.9**	**-2.3**
	0.7nm,0.5s,baz=8.1,slow=14,SNR=5.7						
WRAB	**Tennant Creek**	**24.20**	**164**	*e*P	**P**	**09 20 27.5**	**-2.5**
	5.6nm,0.8s						
WRA	**Warramunga Arr**	**24.21**	**164**	P	**P**	**09 20 27.4**	**-2.8**
WRA	**Warramunga Arr**	**24.21**	**164**	P	**P**	**09 20 27.4**	**-2.8**
	4.2nm,0.7s,baz=344,slow=10,SNR=40						
ASAR	**Alice Springs**	**27.68**	**167**	P	**P**	**09 20 59.0**	**-2.6**
ASAR	**Alice Springs**	**27.68**	**167**	P	**P**	**09 20 59.0**	**-2.6**
	0.7nm,0.6s,baz=351,slow=6.6,SNR=9.7						
MEEK	**Meekatharra**	**31.19**	**196**	P	**P**	**09 21 31.0**	**-1.6**
	baz=29,SNR=4.6						
KSAR	**Wonju Array Be**	**33.79**	**0**	P	**P**	**09 21 56.4**	**+1.1**
KSRS	**Korea Array**	**33.80**	**0**	P	**P**	**09 21 56.4**	**+1.0**
	2.8nm,0.8s,baz=178,slow=10,SNR=8.6						
NWAO	**Narrogin (SRO)**	**37.53**	**194**	P	**P**	**09 22 27.1**	**-0.2**
NWAO	**Narrogin (SRO)**	**37.53**	**194**	P	**P**	**09 22 27.1**	**-0.2**
	3.1nm,0.6s,baz=336,slow=18,SNR=2.5						
STKA	**Stephens Creek**	**37.60**	**160**	*e*P	**P**	**09 22 25.8**	**-2.2**
	0.8nm,0.6s						
STKA	**Stephens Creek**	**37.60**	**160**	P	**P**	**09 22 26.4**	**-1.6**
	baz=36,SNR=7.1						
STKA	**Stephens Creek**	**37.60**	**160**	P	**P**	**09 22 26.4**	**-1.7**
	5.1nm,0.5s,baz=328,slow=10,SNR=10						
USRK	**Ussuriysk Arra**	**40.73**	**5**	P	**P**	**09 22 54.5**	**+0.6**
	3.5nm,0.8s,baz=194,slow=10.0,SNR=7.4						
H11S3	**WAKE ISLAND Hy**	**41.03**	**66**	T	T	10 06 18.4	
	baz=254,slow=0.6,SNR=21						
H11S2	**WAKE ISLAND Hy**	**41.05**	**66**	T	T	10 06 17.6	
	baz=254,slow=0.6,SNR=14						
H11S1	**WAKE ISLAND Hy**	**41.05**	**66**	T	T	10 06 18.2	
	baz=254,slow=0.6,SNR=12						
H11N1	**WAKE ISLAND Hy**	**41.57**	**64**	T	T	10 07 07.9	
	baz=243						
H11N2	**WAKE ISLAND Hy**	**41.58**	**64**	T	T	10 07 08.8	
	baz=243						
H11N3	**WAKE ISLAND Hy**	**41.59**	**64**	T	T	10 07 10.5	
	baz=243						
SONM	**Songino Array**	**47.81**	**341**	P	**P**	**09 23 51.2**	**+0.5**
SONM	**Songino Array**	**47.81**	**341**	P	**P**	**09 23 51.2**	**+0.5**
	1.7nm,0.6s,baz=153,slow=8.4,SNR=10.0						
PETK	**Petropavlovsk-**	**55.33**	**22**	P	**P**	**09 24 47.1**	**+0.5**
PETK	**Petropavlovsk-**	**55.33**	**22**	P	**P**	**09 24 47.1**	**+0.5**
	2.2nm,0.8s,baz=191,slow=7.0,SNR=5.3						
MK31	**Makanchi Array**	**58.25**	**325**	*e*P	**P**	**09 25 08.3**	**+0.7**
MKAR	**Makanchi Array**	**58.25**	**325**	P	**P**	**09 25 08.3**	**+0.7**
MKAR	**Makanchi Array**	**58.25**	**325**	P	**P**	**09 25 08.3**	**+0.7**
	4.3nm,0.6s,baz=124,slow=8.5,SNR=38						
ZALV	**Zalesovo Beam**	**61.20**	**333**	P	**P**	**09 25 27.4**	**-0.2**
ZALV	**Zalesovo Beam**	**61.20**	**333**	P	**P**	**09 25 27.4**	**-0.2**
	0.5nm,0.3s,baz=152,slow=6.5,SNR=3.2						
KURK	**Kurchatov**	**62.41**	**327**	*e*P	**P**	**09 25 36.0**	**+0.1**
	4.4nm,0.6s						
KKAR	**Karatay Array**	**64.00**	**317**	*e*P	**P**	**09 25 47.0**	**+0.4**
	2.1nm,0.8s						
BVAR	**Borovoye Array**	**68.00**	**327**	P	**P**	**09 26 12.3**	**+0.3**
BVAR	**Borovoye Array**	**68.00**	**327**	P	**P**	**09 26 12.3**	**+0.3**
	0.7nm,0.6s,baz=124,slow=6.5,SNR=3.6						
ABKAR	**Akbulak array**	**72.89**	**321**	*e*P	**P**	**09 26 41.5**	**-0.5**
	4.3nm,1.1s						
VNDA	**Vanda**	**83.08**	**173**	P	**P**	**09 27 36.4**	**-1.5**
VNDA	**Vanda**	**83.08**	**173**	P	**P**	**09 27 36.4**	**-1.5**
	0.8nm,0.7s,baz=315,slow=6.9,SNR=9.8						
ILAR	**Eielson Array**	**84.94**	**25**	P	**P**	**09 27 47.5**	**-0.2**
ILAR	**Eielson Array**	**84.94**	**25**	P	**P**	**09 27 47.5**	**-0.2**
	0.4nm,0.9s,baz=252,slow=5.6,SNR=2.9						

IDC 13 09:18:24.8±1.1, 13.11S×166.46E, h0km, mb4.1/9, mb1 4.3/11, mb1mx4.1/22, mbtmp4.1/11, ML4.1/2, MS3.6/2, Ms1 3.6/2, ms1mx3.1/30, Error ellipse: s-maj=32.6km s-min=22.0km az=113.0
ISCJB 13 09:18:26.6±0.7, 13.13S±0.06×166.23E±0.10, h20km, mb4.1/11, MS3.8/1, Error ellipse: s-maj=14.8km s-min=7.6km az=157.7
NEIC 13 09:18:30.5±0.6, 13.05S×166.37E, h35km, mb4.2/4, Error ellipse: s-maj=16.4km s-min=11.6km az=96.0

ISC 13 09:18:28.4±0.7, 13.08S±0.07×166.3E±0.1, h20km, n33, σ1 97/35, mb4.2/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.23**	**299**	Pn	**Pn**	**09 20 14.3**	**+1.3**
HNR				Sn	**Sn**	**09 21 33.5**	**-1.1**
HNR	**Honiara**	**7.23**	**299**	Pn	**Pn**	**09 20 14.3**	**+1.3**
	10nm,0.3s,baz=155,slow=6.2,SNR=5.3						
HNR				Sn	**Sn**	**09 21 33.4**	**-1.1**
	baz=204,slow=18,SNR=3.6						
HNR				LR	LR	09 22 40.6	
	comp=Z,200nm,19.4s,baz=235,slow=35						
DZM	**Mont Dzumac**	**8.95**	**179**	Pn	**Pn**	**09 20 37.0**	**+0.3**
DZM				Sn	**Sn**	**09 22 15.7**	**-1.4**
DZM	**Mont Dzumac**	**8.95**	**179**	Pn	**Pn**	**09 20 37.0**	**+0.3**
	0.7nm,0.3s,baz=45,slow=16,SNR=8.3						
DZM				Sn	**Sn**	**09 22 15.7**	**-1.4**
	0.3nm,0.3s,baz=314,slow=5.7,SNR=2.0						
CTA	**Charters Tower**	**20.45**	**247**	P	Pn	09 23 06.5	-0.6
CTA	**Charters Tower**	**20.45**	**247**	P	Pn	09 23 06.5	-0.6
	3.6nm,0.7s,baz=73,slow=18,SNR=2.5						
CTAO	**Charters Tower**	**20.45**	**247**	*e*P	Pn	09 23 06.1	-0.9
	12nm,1.2s						
STKA	**Stephens Creek**	**29.41**	**226**	*e*P	**P**	**09 24 30.9**	**+0.2**
	1.0nm,0.8s						
WRA	**Warramunga Arr**	**31.38**	**253**	P	**P**	**09 24 46.9**	**-1.3**
WRA				PcP	**PcP**	**09 27 41.9**	**0.0**
WRA	**Warramunga Arr**	**31.38**	**253**	P	**P**	**09 24 46.9**	**-1.3**
	0.9nm,1.0s,baz=84,slow=9.1,SNR=3.7						
WRA				PcP	**PcP**	**09 27 41.9**	**0.0**
	0.5nm,0.8s,baz=80,slow=4.9,SNR=3.7						
ASAR	**Alice Springs**	**32.45**	**246**	P	**P**	**09 24 57.0**	**-0.6**
ASAR	**Alice Springs**	**32.45**	**246**	P	**P**	**09 24 57.0**	**-0.6**
	4.7nm,0.7s,baz=72,slow=9.3,SNR=28						
FITZ	**Fitzroy Crossi**	**39.45**	**257**	LR	LR	09 39 42.5	
	comp=Z,148nm,18.9s,baz=142,slow=32						
MJAR	**Matsushiro Arr**	**56.02**	**333**	P	**P**	**09 28 05.2**	**-0.6**
MJAR	**Matsushiro Arr**	**56.02**	**333**	P	**P**	**09 28 05.2**	**-0.6**
	1.1nm,0.6s,baz=176,slow=8.9,SNR=4.1						
ASAJ	**Asahikawa**	**60.88**	**341**	*e*P	**P**	**09 28 38.8**	**-0.8**
	1.9nm,0.5s						
VNDA	**Vanda**	**64.49**	**181**	*e*P	**P**	**09 29 05.5**	**+2.2**
	3.7nm,1.5s						
CMAR	**Chiang Mai Arr**	**73.44**	**294**	P	**P**	**09 30 01.0**	**+1.1**
CMAR	**Chiang Mai Arr**	**73.44**	**294**	P	**P**	**09 30 01.0**	**+1.1**
	1.7nm,0.6s,baz=124,slow=4.7,SNR=8.7						
SONM	**Songino Array**	**80.63**	**324**	P	**P**	**09 30 40.4**	**+0.5**
SONM	**Songino Array**	**80.63**	**324**	P	**P**	**09 30 40.4**	**+0.5**
	0.6nm,0.7s,baz=148,slow=5.6,SNR=3.9						
ILAR	**Eielson Array**	**85.25**	**18**	P	**P**	**09 31 01.9**	**-1.4**
ILAR	**Eielson Array**	**85.25**	**18**	P	**P**	**09 31 01.9**	**-1.4**
	0.5nm,0.8s,baz=242,slow=4.9,SNR=9.3						
MKAR	**Makanchi Array**	**95.38**	**317**	P	**P**	**09 31 52.3**	**+0.8**
MKAR	**Makanchi Array**	**95.38**	**317**	P	**P**	**09 31 52.3**	**+0.8**
	0.8nm,0.7s,baz=91,slow=6.5,SNR=8.0						
ZALV	**Zalesovo Beam**	**95.52**	**324**	P	**P**	**09 31 51.6**	**-0.3**
ZALV	**Zalesovo Beam**	**95.52**	**324**	P	**P**	**09 31 51.6**	**-0.3**
	0.8nm,0.3s,baz=122,slow=7.1,SNR=2.9						
ARCES	**ARCESS Array B**	**118.43**	**345**	PKP	**PKPdf**	**09 37 12.3**	**-1.8**
ARCES	**ARCESS Array B**	**118.43**	**345**	PKP	**PKPdf**	**09 37 12.3**	**-1.8**
	4.3nm,0.9s,baz=66,slow=2.3,SNR=3.5						
KEST	**Kesra**	**149.35**	**321**	PKPbc	**PKPbc**	**09 38 17.6**	**+1.0**
KEST	**Kesra**	**149.35**	**321**	PKPbc	**PKPbc**	**09 38 17.6**	**+1.0**
	1.9nm,0.7s,baz=62,slow=8.4,SNR=4.8						
ESDC	**Sonseca Array**	**152.15**	**344**	PKPab	**PKPab**	**09 38 32.8**	**+0.3**
ESDC	**Sonseca Array**	**152.15**	**344**	PKPab	**PKPab**	**09 38 32.8**	**+0.3**
	0.5nm,0.4s,baz=18,slow=4.1,SNR=3.5						

GUC 13 09:23:43.6±0.6, 33.60S×72.06W, h40km±2km, MD3.6, ML2.9, 5C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.65**	**123**	*i* P	Pn	09 23 56.4	+0.1
LNV				*i* S	Sn	09 24 06.0	+0.5
IHA	**Instituto Hidr**	**0.67**	**32**	*i* P	Pn	09 23 56.6	-0.1
IHA				*i* S	Sn	09 24 06.7	+0.6
RCDM	**Rinconada Maip**	**1.05**	**84**	*i* P	Pn	09 24 02.5	+0.6
RCDM				*i* S	Sn	09 24 16.9	+1.4
RCDM				AML	AML	09 24 19.4	
	comp=N,805nm,0.2s						
ANTU	**Antumapu**	**1.19**	**89**	*i* P	Pn	09 24 04.9	+1.0
ANTU				*i* S	Sn	09 24 20.8	+1.9
ANTU				AML	AML	09 24 21.1	
	comp=E,742nm,0.5s						
STL	**Santa Lucia**	**1.20**	**82**	*i* S	Sn	09 24 21.1	+2.1
STL				AML	AML	09 24 22.3	
	comp=N,88nm,0.3s						
CHCH	**Chadas Angostu**	**1.22**	**106**	*i* P	Pn	09 24 05.2	+0.9
CHCH				*i* S	Sn	09 24 21.7	+2.1
CLCH	**Cerro Calan**	**1.29**	**81**	*e*P	Pn	09 24 06.5	+1.2
CLCH				*i* S	Sn	09 24 24.1	+2.7
CLCH				AML	AML	09 24 26.6	
	comp=E,282nm,0.6s						
SJCH	**San Jose de Ma**	**1.43**	**92**	*i* P	Pn	09 24 07.5	+0.4
SJCH				*i* S	Sn	09 24 25.8	+1.0
SJCH				AML	AML	09 24 26.5	
	comp=E,311nm,0.4s						
LMEL	**Las Melosas**	**1.57**	**100**	*i* P	Pn	09 24 10.5	+1.3
LMEL				*i* S	Sn	09 24 30.6	+2.1
LMEL				AML	AML	09 24 32.9	
	comp=N,1μm,0.1s						

ISCJB 13 09:49:53.0±2.0, 52.32N±0.06×166.89W±0.08, h27km±15km, mb3.8/10, Error ellipse: s-maj=10.2km s-min=8.0km az=158.8
IDC 13 09:49:52.7±1.2, 52.71N×167.33W, h0km, mb3.8/9, mb1 3.9/11, mb1mx3.8/27, mbtmp3.8/11, ML3.0/2, Error ellipse: s-maj=37.2km s-min=16.0km az=4.0
NEIC 13 09:49:54.0, 52.35N×166.84W, h27km, ML3.2(AEIC), After AEIC.

ISC 13 09:49:53.5±2.0, 52.51N±0.08×167.00W±0.05, h7km±11km, n44, σ1 49/43, mb3.9/10, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKFG	**Magazine Ridge**	**1.06**	**329**	P	**Pn**	**09 50 14.8**	**+0.1**
OKFG				S	**Sn**	**09 50 32.2**	**+2.5**
OKTU	**Okmok Mt. Tuli**	**1.08**	**325**	P	**Pn**	**09 50 15.9**	**+0.8**
OKSP	**Okmok Steeple**	**1.08**	**314**	P	**Pn**	**09 50 15.6**	**+0.4**
OKSO	**Okmok South**	**1.11**	**321**	P	**Pb**	**09 50 15.3**	**+0.4**
OKSO				S	**Sn**	**09 50 32.3**	**+1.4**
OKCE	**Okmok Cone E**	**1.16**	**323**	P	**Pn**	**09 50 16.6**	**+0.4**
NIKH	**Nikolski High**	**1.22**	**293**	P	**Pg**	**09 50 16.6**	**-0.3**
NIKH				S	**Sn**	**09 50 34.1**	**+0.4**
MGOD	**Makushin Gods**	**1.29**	**3**	P	**Pn**	**09 50 18.0**	**0.0**
UNV	**Unalaska Valle**	**1.38**	**12**	P	**Pg**	**09 50 19.7**	**-0.1**
UNV				S	**Sn**	**09 50 39.1**	**+1.7**
MCIR	**Makushin Cirqu**	**1.45**	**2**	P	**Pg**	**09 50 21.6**	**+0.3**
MTBL	**Makushin Table**	**1.48**	**7**	P	**Pb**	**09 50 21.1**	**-0.2**
ZRO	**Akutan Zero**	**1.70**	**21**	P	**Pn**	**09 50 23.6**	**+0.1**
AKRB	**Akutan Reef Bi**	**1.72**	**18**	P	**Pn**	**09 50 24.3**	**+0.5**
LVA	**Lava Point**	**1.75**	**19**	P	**Pn**	**09 50 24.8**	**+0.5**
AKUT	**Akutan**	**1.79**	**24**	*e*Pn	**Pn**	**09 50 24.5**	**-0.2**
AKUT				*e*Sn	**Sn**	**09 50 47.6**	**0.0**
FX1	**Attu Island--F**	**12.04**	**280**	Pn	**Pn**	**09 52 44.9**	**-0.4**
FX1	**Attu Island--F**	**12.04**	**280**	Pn	**Pn**	**09 52 44.9**	**-0.4**
	0.2nm,0.3s,baz=90,slow=9.1,SNR=2.0						
ILAR	**Eielson Array**	**16.04**	**32**	Pn	**Pn**	**09 53 37.7**	**-1.5**
ILAR	**Eielson Array**	**16.04**	**32**	Pn	**Pn**	**09 53 37.7**	**-1.5**
	0.0nm,0.3s,baz=237,slow=10,SNR=4.1						
PETK	**Petropavlovsk-**	**21.23**	**286**	P	**P**	**09 54 42.8**	**+3.2**
PETK	**Petropavlovsk-**	**21.23**	**286**	P	**P**	**09 54 42.8**	**+3.2**
	2.6nm,0.6s,baz=81,slow=12,SNR=5.2						
NVAR	**Mina Array Bea**	**36.22**	**93**	P	**P**	**09 56 58.0**	**+1.0**
NVAR	**Mina Array Bea**	**36.22**	**93**	P	**P**	**09 56 58.0**	**+1.0**
	0.8nm,0.7s,baz=305,slow=9.0,SNR=4.6						
H11N2	**WAKE ISLAND Hy**	**38.50**	**222**	T	T	10 38 46.7	
	baz=21						
H11N3	**WAKE ISLAND Hy**	**38.50**	**222**	T	T	10 38 45.6	
	baz=21						
H11N1	**WAKE ISLAND Hy**	**38.51**	**222**	T	T	10 38 44.7	
	baz=21						
PDAR	**Pinedale Array**	**38.95**	**81**	P	**P**	**09 57 23.2**	**+3.1**
PDAR	**Pinedale Array**	**38.95**	**81**	P	**P**	**09 57 23.2**	**+3.1**
	0.4nm,0.9s,baz=328,slow=5.3,SNR=3.9						
H11S1	**WAKE ISLAND Hy**	**39.67**	**221**	T	T	10 40 21.3	
	baz=22						
H11S2	**WAKE ISLAND Hy**	**39.69**	**221**	T	T	10 40 22.4	
	baz=22						
H11S3	**WAKE ISLAND Hy**	**39.69**	**221**	T	T	10 40 22.6	
	baz=22						
KSRS	**Korea Array**	**46.83**	**278**	P	**P**	**09 58 22.9**	**-0.8**
	0.7nm,0.5s,baz=60,slow=7.4,SNR=3.1						
KSAR	**Wonju Array Be**	**46.86**	**278**	P	**P**	**09 58 22.9**	**-1.0**
TXAR	**Lajitas Array**	**51.29**	**91**	P	**P**	**09 58 59.8**	**+1.6**
TXAR	**Lajitas Array**	**51.29**	**91**	P	**P**	**09 58 59.8**	**+1.6**
	0.4nm,0.6s,baz=302,slow=5.1,SNR=6.7						
SONM	**Songino Array**	**52.47**	**302**	P	**P**	**09 59 06.2**	**-0.5**
SONM	**Songino Array**	**52.47**	**302**	P	**P**	**09 59 06.2**	**-0.5**
	0.5nm,0.7s,baz=57,slow=5.3,SNR=3.9						
MKAR	**Makanchi Array**	**64.75**	**315**	P	**P**	**10 00 31.1**	**-1.1**
MKAR	**Makanchi Array**	**64.75**	**315**	P	**P**	**10 00 31.1**	**-1.1**
	1.0nm,0.9s,baz=54,slow=6.3,SNR=6.8						
FINES	**FINESS Array B**	**65.92**	**353**	P	**P**	**10 00 38.3**	**-1.1**
FINES	**FINESS Array B**	**65.92**	**353**	P	**P**	**10 00 38.3**	**-1.1**
	2.8nm,0.8s,baz=24,slow=12,SNR=5.2						
AKASG	**Malin Array Be**	**76.26**	**349**	P	**P**	**10 01 39.6**	**-2.7**
AKASG	**Malin Array Be**	**76.26**	**349**	P	**P**	**10 01 39.6**	**-2.7**
	0.8nm,0.5s,baz=15,slow=5.9,SNR=4.5						
BRTR	**Keskin Array B**	**86.41**	**344**	P	**P**	**10 02 36.1**	**-0.4**
BRTR	**Keskin Array B**	**86.41**	**344**	P	**P**	**10 02 36.1**	**-0.4**
	1.0nm,0.8s,baz=354,slow=5.0,SNR=4.4						

ISCJB 13 09:50:15.3±2.0, 31.11N±0.15×142.25E±0.5, h37km, mb3.4/2, Error ellipse: s-maj=61.7km s-min=6.5km az=164.4
JMA 13 09:50:15.1±0.7, 31.57N×142.43E, h0km, M3.7
IDC 13 09:50:20.5±4.4, 30.82N×141.19E, h36km±64km, mb3.2/2, mb1 3.5/4, mb1mx3.2/24, mbtmp3.4/4, ML3.3/2, Error ellipse: s-maj=259.0km s-min=24.4km az=72.0

ISC 13 09:50:17.1±2.5, 31.1N±0.1×142.2E±0.5, h37km, n7, σ1 66/10, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.86**	**315**	P	**Pn**	**09 51 00.5**	**+0.4**
JCJ	**Chichijima**	**4.01**	**181**	Pn	**Pn**	**09 51 17.4**	**+1.4**
	2.5nm,0.3s,baz=30,slow=20,SNR=3.3						
JCJ				Sn	**Sn**	**09 51 59.8**	**-2.0**
	5.8nm,0.3s,baz=300,slow=20,SNR=3.0						
JOD2	**Odawara 2**	**4.91**	**328**	P	**Pn**	**09 51 28.8**	**+0.6**
JHU	**Hanno**	**5.33**	**333**	P	**Pn**	**09 51 33.6**	**-0.4**
JHU				S	**Sn**	**09 52 31.2**	**-2.9**
**

PETK	**Petropavlovsk-**	**21.20**	**285**	P		**P**	**09 59 13.2**	**-0.5**	
PETK	**Petropavlovsk-**	**21.20**	**285**	P		**P**	**09 59 13.2**	**-0.5**	
	9.3nm,0.6s,baz=84,slow=12,SNR=35								
DLBC	**Dease Lake**	**21.48**	**60**	P		**P**	**09 59 20.7**	**+3.9**	
DLBC	**Dease Lake**	**21.48**	**60**	P		**P**	**09 59 20.7**	**+3.9**	
	4.7nm,0.9s,baz=282,slow=11,SNR=5.6								
INK	**Inuvik**	**22.31**	**33**	P		**P**	**09 59 23.9**	**-1.5**	
INK	**Inuvik**	**22.31**	**33**	P		**P**	**09 59 23.9**	**-1.5**	
	4.7nm,0.5s,baz=277,slow=8.1								
YKA	**Yellowknife Ar**	**28.95**	**49**	P		**P**	**10 00 28.2**	**+1.1**	
YKA	**Yellowknife Ar**	**28.95**	**49**	P		**P**	**10 00 28.2**	**+1.1**	
	2.1nm,0.8s,baz=274,slow=9.1,SNR=6.7								
MOD	**Modoc**	**32.89**	**90**	*e*P		P	10 00 57.9	-4.4	
	42nm,1.2s								
MCMT	**McKenzie Canyo**	**35.79**	**80**	*e*P		**P**	**10 01 28.0**	**+0.5**	
	0.9nm,0.7s								
NVAR	**Mina Array Bea**	**36.21**	**93**	P		**P**	**10 01 31.9**	**+0.8**	
NVAR	**Mina Array Bea**	**36.21**	**93**	P		**P**	**10 01 31.9**	**+0.8**	
	1.9nm,0.8s,baz=288,slow=8.9,SNR=12								
H11N2	**WAKE ISLAND Hy**	**38.61**	**222**	T		T	10 43 20.8		
	baz=27,slow=0.7,SNR=99								
H11N3	**WAKE ISLAND Hy**	**38.62**	**222**	T		T	10 43 21.3		
	baz=27,slow=0.7,SNR=97								
H11N1	**WAKE ISLAND Hy**	**38.63**	**222**	T		T	10 43 20.5		
	baz=27,slow=0.7,SNR=77								
PDAR	**Pinedale Array**	**38.91**	**81**	P		**P**	**10 01 54.4**	**+0.4**	
PDAR	**Pinedale Array**	**38.91**	**81**	P		**P**	**10 01 54.4**	**+0.4**	
	1.0nm,0.6s,baz=302,slow=4.2,SNR=9.8								
GSC	**Goldstone**	**39.16**	**96**	*e*P		**P**	**10 01 57.6**	**+1.7**	
	4.6nm,0.9s								
H11S1	**WAKE ISLAND Hy**	**39.79**	**221**	T		T	10 44 44.2		
	baz=25,slow=0.7,SNR=36								
H11S2	**WAKE ISLAND Hy**	**39.81**	**221**	T		T	10 44 45.8		
	baz=25,slow=0.7,SNR=29								
H11S3	**WAKE ISLAND Hy**	**39.81**	**221**	T		T	10 44 47.3		
	baz=25,slow=0.7,SNR=21								
USRK	**Ussuriysk Arra**	**40.26**	**283**	P		**P**	**10 02 04.1**	**-0.8**	
	1.0nm,0.5s,baz=72,slow=9.3,SNR=4.5								
MAJO	**Matsushiro**	**41.17**	**269**	*e*P		**P**	**10 02 13.7**	**+1.2**	
	14nm,1.0s								
MAT	**Matsushiro**	**41.17**	**269**	P		**P**	**10 02 12.6**	**+0.2**	
MJAR	**Matsushiro Arr**	**41.17**	**269**	P		**P**	**10 02 12.5**	**+0.1**	
MJAR	**Matsushiro Arr**	**41.17**	**269**	P		**P**	**10 02 12.5**	**+0.1**	
	2.1nm,0.6s,baz=15,slow=3.5,SNR=8.4								
PV01	**Paradox Valley**	**42.32**	**86**	*e*P		**P**	**10 02 21.7**	**-0.5**	
	288nm,0.7s								
KSRS	**Korea Array**	**46.82**	**278**	P		**P**	**10 02 58.1**	**+0.4**	
	3.9nm,0.8s,baz=55,slow=7.0,SNR=11								
KSAR	**Wonju Array Be**	**46.85**	**278**	P		**P**	**10 02 58.1**	**+0.2**	
JNU	**Nakatsue**	**47.92**	**272**	P		**P**	**10 03 06.5**	**+0.1**	
JNU	**Nakatsue**	**47.92**	**272**	P		**P**	**10 03 06.5**	**+0.1**	
	3.3nm,0.7s,baz=346,slow=19,SNR=2.9								
SUMG	**Summit**	**50.07**	**18**	*i* P		**P**	**10 03 23.1**	**+0.3**	
	11nm,0.9s								
SUMG	**Summit**	**50.07**	**18**	*e*P		**P**	**10 03 23.1**	**+0.3**	
	16nm,0.9s								
TXAR	**Lajitas Array**	**51.28**	**91**	P		**P**	**10 03 32.3**	**+0.1**	
TXAR	**Lajitas Array**	**51.28**	**91**	P		**P**	**10 03 32.3**	**+0.1**	
	1.1nm,0.6s,baz=300,slow=5.5,SNR=20								
SONM	**Songino Array**	**52.40**	**302**	P		**P**	**10 03 39.5**	**-0.9**	
SONM	**Songino Array**	**52.40**	**302**	P		**P**	**10 03 39.5**	**-0.9**	
	0.9nm,0.4s,baz=57,slow=7.3,SNR=12								
SCHQ	**Schefferville**	**54.22**	**45**	P		**P**	**10 03 54.0**	**+0.6**	
SCHQ	**Schefferville**	**54.22**	**45**	P		**P**	**10 03 54.0**	**+0.6**	
	7.5nm,1.1s,baz=235,slow=16,SNR=2.4								
KEV	**Kevo**	**57.48**	**354**	*e*p		**P**	**10 04 15.2**	**-1.3**	
	5.4nm,0.7s								
ARCES	**ARCESS Array B**	**57.78**	**355**	P		**P**	**10 04 17.6**	**-1.1**	
ARCES	**ARCESS Array B**	**57.78**	**355**	P		**P**	**10 04 17.6**	**-1.1**	
	4.9nm,0.8s,baz=16,slow=5.5,SNR=13								
JOF	**Joensuu**	**63.88**	**351**	*e*p		**P**	**10 04 58.8**	**-1.3**	
	3.9nm,0.5s								
MK31	**Makanchi Array**	**64.66**	**315**	*e*P		**P**	**10 05 04.4**	**-1.2**	
MKAR	**Makanchi Array**	**64.66**	**315**	P		**P**	**10 05 04.5**	**-1.1**	
MKAR	**Makanchi Array**	**64.66**	**315**	P		**P**	**10 05 04.5**	**-1.1**	
	3.7nm,0.7s,baz=50,slow=6.5,SNR=20								
KAF	**Kangasniemi**	**65.10**	**353**	*e*p		**P**	**10 05 06.5**	**-1.6**	
	12nm,0.6s								
FINES	**FINESS Array B**	**65.78**	**353**	P		**P**	**10 05 11.8**	**-0.7**	
FINES	**FINESS Array B**	**65.78**	**353**	P		**P**	**10 05 11.8**	**-0.7**	
	14nm,0.8s,baz=18,slow=7.1,SNR=41								
NOA	**NORSAR Array B**	**66.65**	**1**	P		**P**	**10 05 17.6**	**-0.6**	
NOA	**NORSAR Array B**	**66.65**	**1**	P		**P**	**10 05 17.6**	**-0.6**	
	3.3nm,0.9s,baz=0.6,slow=6.4,SNR=7.0								
ABKAR	**Akbulak array**	**70.95**	**330**	*e*P		**P**	**10 05 44.9**	**-0.1**	
AAK	**Ala-Archa**	**71.31**	**317**	*e*P		**P**	**10 05 47.9**	**+0.2**	
EKS2	**Erkin-Say**	**71.59**	**317**	*e*P		**P**	**10 05 49.7**	**+0.5**	
LSA	**Lhasa**	**73.63**	**297**	*e*P		**P**	**10 06 03.1**	**+1.1**	
	8.4nm,0.8s								
AKASG	**Malin Array Be**	**76.12**	**349**	P		**P**	**10 06 14.6**	**-0.8**	
AKASG	**Malin Array Be**	**76.12**	**349**	P		**P**	**10 06 14.6**	**-0.8**	
	5.0nm,0.5s,baz=10,slow=5.5,SNR=15								
KIEV	**Kiev**	**76.12**	**349**	*e*P		**P**	**10 06 14.6**	**-0.9**	
	7.8nm,1.0s								
KWP	**Kalwaria Pacla**	**77.76**	**354**	*e*P		**P**	**10 06 25.4**	**+0.6**	
	26nm,1.1s								
CMAR	**Chiang Mai Arr**	**77.97**	**285**	P		**P**	**10 06 26.9**	**+0.5**	
CMAR	**Chiang Mai Arr**	**77.97**	**285**	P		**P**	**10 06 26.9**	**+0.5**	
	0.9nm,0.4s,baz=10,slow=5.5,SNR=9.9								
GERES	**GERESS Array B**	**78.88**	**360**	P		**P**	**10 06 31.5**	**+0.5**	
GERES	**GERESS Array B**	**78.88**	**360**	P		**P**	**10 06 31.5**	**+0.5**	
	1.3nm,0.7s,baz=353,slow=5.4,SNR=9.2								
BRTR	**Keskin Array B**	**86.27**	**344**	P		**P**	**10 07 10.3**	**+0.5**	
BRTR	**Keskin Array B**	**86.27**	**344**	P		**P**	**10 07 10.3**	**+0.5**	
	2.0nm,0.8s,baz=56,slow=2.4,SNR=8.8								
WRA	**Warramunga Arr**	**88.34**	**234**	P		**P**	**10 07 18.8**	**-0.8**	
WRA	**Warramunga Arr**	**88.34**	**234**	P		**P**	**10 07 18.8**	**-0.8**	
	0.9nm,1.1s,baz=36,slow=5.6,SNR=3.1								
ASAR	**Alice Springs**	**91.71**	**232**	P		**P**	**10 07 34.8**	**-0.6**	
ASAR	**Alice Springs**	**91.71**	**232**	P		**P**	**10 07 34.8**	**-0.6**	
	0.5nm,0.9s,baz=38,slow=4.7,SNR=3.2								
H03N2	**Juan Fernandez**	**114.68**	**113**	T		T	12 18 25.8		
	baz=317								
H03N1	**Juan Fernandez**	**114.69**	**113**	T		T	12 18 25.3		
	baz=317								
H03N3	**Juan Fernandez**	**114.69**	**113**	T		T	12 18 28.6		
	baz=317								

IDC 13 09:56:02.8±9.2, 2°.60N×128°.82E, h199km±80km, mb3.5/7, mb1 3.7/7, mb1mx3.3/22, mbtmp3.5/7, Error ellipse: s-maj=95.0km s-min=16.8km az=59.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.81**	**189**	P		P	10 00 28.0	-1.0
	1.1nm,0.7s,baz=22,slow=12,SNR=3.8							
WRA	**Warramunga Arr**	**23.05**	**167**	P		P	10 00 51.2	+0.3
	2.4nm,0.7s,baz=345,slow=10.0,SNR=26							
ASAR	**Alice Springs**	**26.57**	**170**	P		P	10 01 22.9	+0.2
	1.4nm,0.5s,baz=355,slow=7.9,SNR=36							
ASAR				PcP		PcP	10 04 41.5	-0.5
	0.4nm,0.4s,baz=352,slow=2.0,SNR=9.1							
CMAR	**Chiang Mai Arr**	**33.24**	**300**	P		P	10 02 22.2	+0.7
	1.2nm,0.5s,baz=125,slow=7.5,SNR=2.4							
STKA	**Stephens Creek**	**36.37**	**161**	P		P	10 02 48.0	0.0
	6.0nm,0.8s,baz=336,slow=8.8,SNR=14							
MKAR	**Makanchi Array**	**59.67**	**325**	P		P	10 05 45.9	-0.4
	0.9nm,0.4s,baz=124,slow=7.5,SNR=5.2							
VNDA	**Vanda**	**82.06**	**173**	P		P	10 08 00.2	-0.2
	1.1nm,0.8s,baz=317,slow=6.0,SNR=8.4							

IDC 13 09:59:53.6±1.4, 37°.55N×70°.44E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.4/27, mbtmp3.5/4, ML3.7/2, Error ellipse: s-maj=44.6km s-min=24.7km az=139.0
NNC 13 10:00:02.6±7.9, 37°.62N×71°.00E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=85.5km s-min=57.9km az=26.0

ISC 13 09:59:58.0±1.4, 36°.88N±0°.10×71°.1E±0°.2, h106km, n24, σ1s89/23, 2C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
THN	**Thein Dam**	**5.83**	**138**	*e*P		Pn	10 01 26.7	+4.7
THN				*e*S		**Sn**	**10 02 31.5**	**+4.1**
KK31	**Karatay Array**	**6.23**	**356**	⇑P		**Pn**	**10 01 27.5**	**0.0**
	2.2nm,0.2s,baz=181,slow=13,SNR=167							
KK31				⇓S		Sn	10 02 30.0	-7.3
	14nm,0.3s,baz=181,slow=23							
TKM2	**Tokmak 2**	**6.94**	**28**	⇑P		**Pn**	**10 01 37.2**	**0.0**
	1.3nm,0.3s							
SDNR	**Sundarnagar**	**7.22**	**136**	*ex*		**Sn**	**10 02 56.0**	**-5.5**
SDNR				*e*S		**Sn**	**10 03 01.0**	**-0.5**
SMLA	**Simla**	**7.62**	**137**	*i* P		Pn	10 01 51.8	+5.5
SMLA				*i* S		**Sn**	**10 03 11.5**	**+0.6**
KHET	**Khetri**	**9.63**	**154**	*e*P		Pn	10 02 18.6	+5.0
KHET				*e*S		**Sn**	**10 03 58.7**	**-1.2**
KHET				AML		AML	10 04 03.1	
	comp=E,101nm,0.5s							
KHET				AML		AML	10 04 04.6	
	comp=N,91nm,0.3s							
AYAN	**Aya Nagar**	**9.78**	**147**	*e*S		**Sn**	**10 04 03.1**	**-0.4**
KUDL	**Kundal**	**9.81**	**151**	*e*P		Pn	10 02 21.6	+5.5
KUDL				*e*S		**Sn**	**10 04 03.5**	**-0.9**
KUDL				AML		AML	10 04 20.4	
	comp=E,10nm,0.3s							
KUDL				AML		AML	10 04 23.7	
	comp=N,9.9nm,0.6s							
SONA	**Sohna**	**9.96**	**148**	*e*S		**Sn**	**10 04 05.6**	**-2.4**
SONA				AML		AML	10 04 13.8	
	comp=N,16nm,0.2s							
SONA				AML		AML	10 04 14.5	
	comp=E,35nm,0.4s							
MKAR	**Makanchi Array**	**12.92**	**36**	Pn		**Pn**	**10 02 56.9**	**-0.7**
	comp=E,0.1nm,0.3s,baz=228,slow=15,SNR=6.7							
DANN	**Dangsing**	**13.62**	**125**	*e*P		**Pn**	**10 03 08.9**	**+1.9**
	comp=E,19nm,0.3s							
KOLN	**Koldanda**	**13.90**	**127**	*e*P		**Pn**	**10 03 12.3**	**+1.6**
	comp=E,13nm,0.4s							
GKN	**Gorkha**	**14.42**	**124**	*e*P		**Pn**	**10 03 18.7**	**+1.4**
	comp=E,12nm,0.3s							
AB31	**Akbulak array**	**14.80**	**330**	P		**Pn**	**10 03 22.2**	**+0.4**
	comp=E,0.7nm,0.6s,baz=170,slow=9.4,SNR=13							
DMN	**Daman**	**14.99**	**124**	*e*P		**P**	**10 03 26.6**	**-0.9**
	comp=E,9.8nm,0.3s							
PKIN	**Phulchoki**	**15.21**	**124**	*e*P		**P**	**10 03 29.4**	**-0.5**
	comp=E,9.3nm,0.3s							
PKI	**Pulchoki**	**15.22**	**123**	*e*P		**P**	**10 03 29.6**	**-0.5**
GUN	**Gumba**	**15.32**	**121**	*e*P		**P**	**10 03 30.2**	**-1.0**
	comp=E,15nm,0.4s							
JIRN	**Jiri**	**15.69**	**122**	*e*P		**P**	**10 03 34.9**	**-0.5**
	comp=E,31nm,0.4s							
RAMN	**Ramite**	**16.43**	**123**	*e*P		**P**	**10 03 43.4**	**0.0**
	comp=E,19nm,0.4s							
TAPN	**Taplejung**	**16.94**	**119**	*e*P		**P**	**10 03 50.4**	**+1.3**
	comp=E,12nm,0.4s							
ZALV	**Zalesovo Beam**	**19.53**	**25**	P		**Pn**	**10 04 17.6**	**-1.5**
	comp=E,0.6nm,0.3s,baz=222,slow=11,SNR=7.2							
TORD	**Torodi Ar. Bea**	**65.83**	**269**	P		P	10 10 37.8	+5.4
	comp=E,0.4nm,0.8s,baz=48,slow=5.2,SNR=5.9							
WRA	**Warramunga Arr**	**82.10**	**122**	P		P	10 12 20.5	+14
	comp=E,0.2nm,0.8s,baz=325,slow=4.9,SNR=3.0							

DJA 13 10:13:09.4±0.6, 2°.5S×12°.0E±°, h10km, M3.7/7, MLv3.7/7
IDC 13 10:13:12.3±1.8, 2°.06S×120°.99E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.4/20, mbtmp3.3/3, ML3.3/1, Error ellipse: s-maj=53.3km s-min=23.1km az=99.0
ISCJB 13 10:13:13.6±0.9, 1°.78S±0°.09×120°.7E±0°.1, h33km, mb3.8/3, Error ellipse: s-maj=19.4km s-min=6.7km az=39.2

ISC 13 10:13:15.1±1.2, 1°.99S±0°.09×120°.65E±0°.08, h33km, n12, σ2s49/15, mb3.5/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TTSI	**Tana Toraja**	**1.33**	**218**	P		**Pn**	**10 13 37.7**	**+0.3**
TTSI				S		**Sb**	**10 13 58.3**	**+2.0**
SPSI	**Sidrap Palu**	**2.15**	**204**	P		**Pb**	**10 13 51.4**	**-2.0**
SPSI				S		**Sb**	**10 14 24.4**	**+4.8**
MJSI	**Majene**	**2.27**	**227**	P		**Pn**	**10 13 52.0**	**+1.6**
MJSI				S		**Sb**	**10 14 21.1**	**-2.1**
LUWI	**Luwuk**	**2.33**	**66**	P		**Pn**	**10 13 50.3**	**-0.8**
KKSI	**Kolaka, Sulawe**	**2.39**	**155**	P		**Pn**	**10 13 58.3**	**+0.8**
BNSI	**Bone**	**2.45**	**193**	P		**Pb**	**10 13 56.1**	**-2.8**
MRSI	**Marisa**	**2.77**	**28**	P		Pn	10 13 51.0	-6.2
KAPI	**Kappang**	**3.13**	**197**	Pn		**Pn**	**10 14 03.9**	**+1.7**
	3.8nm,0.3s,baz=22,slow=11,SNR=11							
KAPI				Sn		**Sb**	**10 14 43.8**	**-4.2**
	1.1nm,0.3s,baz=37,slow=20,SNR=2.1							
BKSI	**Bulukumba**	**3.35**	**189**	P		**Pb**	**10 14 11.5**	**-2.3**
WRA	**Warramunga Arr**	**22.30**	**144**	P		**P**	**10 18 09.4**	**-0.6**
	1.4nm,0.8s,baz=321,slow=11,SNR=8.6							
ASAR	**Alice Springs**	**25.08**	**150**	P		**P**	**10 18 36.2**	**-0.6**
	0.2nm,0.4s,baz=328,slow=7.9,SNR=7.3							
PETK	**Petropavlovsk-**	**63.04**	**24**	P		**P**	**10 23 40.6**	**+1.7**
	10nm,1.1s,baz=191,slow=5.9,SNR=2.8							

NIED 13 10:15:00, 44°.70N×149°.40E, h35km, Mw5.6 Best double couple: M0 2.45000×10^17 NP1:φs 11.00000°, δ61.00000°, λ73.00000°. NP2:φs 223.00000°, δ33.00000°, λ117.00000°.
JMA 13 10:15:09.9±0.8, 44°.72N×149°.44E, h30km, M5.3
SKHL 13 10:15:10.2±0.5, 44°.41N×149°.53E, h43km±11km, mb6.1/6, mbh5.8/3, Ms5.2/5, msh5.9/4
ISCJB 13 10:15:11.3±0.3, 44°.52N±0°.02×149°.24E±0°.02, h37km±3km, mb5.6/410, MS5.2/223, Error ellipse: s-maj=3.6km s-min=1.8km az=166.6
BJI 13 10:15:11.3, 44°.56N×149°.33E, h45km, mB5.7/50, mb5.5/63, Ms5.3/72, Ms7 5.2/66
BGS 13 10:15:11.4±1.4, 44°.45N×149°.49E, h33km, mb5.8, MS5.2
MOS 13 10:15:12.3±0.9, 44°.59N×149°.16E, h43km, mb5.9/127, MS5.2/83, Error ellipse: s-maj=6.0km s-min=3.8km az=105.1
IDC 13 10:15:13.0±0.3, 44°.62N×149°.09E, h38km±2km, mb4.9/33, mb1 4.9/40, mb1mx4.9/41, mbtmp4.9/40, ML4.4/7, MS5.0/33, Ms1 5.0/33, ms1mx5.0/42, Error ellipse: s-maj=9.6km s-min=7.5km az=120.0
NEIC 13 10:15:13.4±0.4, 44°.58N×149°.13E, h40km±3km, mb5.6/237, MS5.2/141, MW5.4, MW5.7, Error ellipse: s-maj=3.7km s-min=2.0km az=157.0, Moment Tensor Solution. s36 Moment tensor: Scale 10^17Nm; Mrr 1.42; Mθθ -0.51; Mφφ -0.91; Mrθ 0.52; Mrφ -0.92; Mθφ 0.84; Best double couple: M0 1.80000×10^17 NP1:φs 224.00000°, δ29.00000°, λ99.00000°. NP2:φs 34.00000°, δ62.00000°, λ85.00000°. Principal axes: T 1.7200, Plg73.0000°, Azm293.0000°; N 0.2200, Plg4.0000°, Azm36.0000°; P -1.9400, Plg16.0000°, Azm127.0000°;
GCMT 13 10:15:15.9±0.1, 44°.54N×149°.38E, h32km, MW5.6, Moment Tensor Solution. s91,c174; s19,c19; Moment tensor: Scale 10^17Nm; Mrr 2.15±.05; Mθθ -0.99±.03; Mφφ -1.16±.03; Mrθ 0.81±.05; Mrφ -1.46±.02; Mθφ 1.47±.05; Best double couple: M0 2.90000×10^17 NP1:φs 34.00000°, δ63.00000°, λ80.00000°. NP2:φs 235.00000°, δ29.00000°, λ108.00000°. Principal axes: T 2.7300, Plg70.0000°, Azm283.0000°; N 0.3200, Plg9.0000°, Azm38.0000°; P -3.0500, Plg17.0000°, Azm131.0000°; Data Used: II IU IC G CN. Surface waves: sta=105, comp=207, per= 50.
NEIC 13 10:15:15.6±0.0, 43°.98N×149°.74E, h28km, Moment Tensor Solution. s135 Moment tensor: Scale 10^17Nm; Mrr 2.03; Mθθ -0.77; Mφφ -1.26; Mrθ 1.64; Mrφ -0.81; Mθφ 2.77; Best double couple: M0 3.80000×10^17 NP1:φs 221.00000°, δ16.00000°, λ99.00000°. NP2:φs 32.00000°, δ74.00000°, λ88.00000°. Principal axes: T 3.8500, Plg60.0000°, Azm298.0000°; N -0.1800, Plg2.0000°, Azm32.0000°; P -3.6700, Plg29.0000°, Azm123.0000°;
SZGRF 13 10:15:17.6, 46°.38N×147°.94E, h33km, mb5.7, MS5.3, Northwest of Kuril Islands, Russia
DJA 13 10:15:23.6±1.9, 44°.1N×147°.7E±°, h41km±19km, M5.7/14, mB6.1/11, mb5.6/14, Mw(mB)5.8/11

ISC 13 10:15:13.4±0.2, 44°.55N±0°.03×149°.21E±0°.03, h42km±1km, h41km: pP-P, n1653, σ1s15/1772, mb5.7/410, MS5.2/224, 392C-270D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**1.18**	**306**	⇑*i* PN		**Pn**	**10 15 32.4**	**-1.0**
KUR				*e*S		**Sn**	**10 15 49.3**	**+1.1**
KUR				pmax		pmax		
	comp=E,2μm,0.3s							
KUR				pmax		pmax		
	comp=Z,6μm,0.6s							
KUR				pmax		pmax		
	comp=N,1μm,0.6s							
KUR				smax		smax		
	comp=E,6μm,0.5s							
KUR	**Kuril'sk**	**1.18**	**306**	⇑*i* P		**Pn**	**10 15 32.4**	**-1.0**
KUR				*e*S		**Sn**	**10 15 49.4**	**+1.2**
YUK	**Yuzh-Kuril'sk**	**2.46**	**259**	*d i* PN		**Pn**	**10 15 50.1**	**-0.9**
YUK				*i* S		**Sn**	**10 16 19.8**	**0.0**
YUK				pmax		pmax		
	comp=Z,2μm,0.8s							
YUK				pmax		pmax		
	comp=N,857nm,0.4s							
YUK				pmax		pmax		
	comp=E,898nm,0.4s							
YUK				smax		smax		
	comp=N,755nm,0.7s							
YUK				smax		smax		
	comp=E,4.0nm,0.7s							
YUK				smax		smax		
	comp=N,18μm,2.6s							
YUK				smax		smax		
	comp=E,10μm,2.6s							
YUK	**Yuzh-Kuril'sk**	**2.46**	**259**	⇓*i* P		**Pn**	**10 15 50.2**	**-0.8**
YUK				AMB		AMB	10 15 58.7	
	comp=E,860nm,0.4s							
YUK				AMB		AMB	10 15 58.7	
	comp=E,900nm,0.4s							
YUK				AMB		AMB	10 15 58.7	
	comp=E,2μm,0.8s							
YUK				*i* S		**Sn**	**10 16 19.8**	**0.0**
YUK				A		A	10 16 26.9	
	comp=E,18μm,2.6s							
YUK				A		A	10 16 26.9	
	comp=E,10μm,2.6s							
YUK				AMS		AMS	10 16 58.2	
	comp=E,21μm,13.0s							
YUK				AMS		AMS	10 16 58.2	
	comp=E,28μm,13.0s							
NEM2	**Nemuro 2**	**2.77**	**246**	P		**Pn**	**10 15 54.1**	**-1.2**
NEM2				*e*S		**Sn**	**10 16 27.0**	**-0.5**
JRA	**Rausu**	**3.00**	**260**	P		**Pn**	**10 15 58.9**	**+0.4**
JRA				*e*S		**Sn**	**10 16 35.8**	**+2.6**
JNK	**Nakash**	**3.38**	**255**	P		**Pn**	**10 16 04.0**	**+0.3**
JAK	**Akkeshi**	**3.62**	**246**	P		**Pn**	**10 16 06.4**	**-0.6**
JAK				*e*S		**Sn**	**10 16 50.1**	**+1.7**
JTKR	**Abashiri--Toko**	**3.85**	**263**	P		**Pn**	**10 16 10.6**	**+0.4**
JAR	**Ashorobuto**	**4.13**	**254**	P		**Pn**	**10 16 14.7**	**+0.8**
JOB	**Onbets**	**4.23**	**249**	P		**Pn**	**10 16 15.3**	**0.0**
JOB				*e*S		**Sn**	**10 17 05.5**	**+2.0**
JMP	**Maruseppu**	**4.24**	**265**	P		**Pn**	**10 16 16.3**	**+0.8**
JCH	**Churui**	**4.67**	**248**	P		**Pn**	**10 16 21.9**	**+0.5**
JCH				*e*S		**Sn**	**10 17 15.2**	**+0.9**
JKK2	**Kamakawa 2**	**4.70**	**264**	P		**Pn**	**10 16 24.1**	**+2.3**
JSE	**Soyaes**	**4.74**	**277**	P		**Pn**	**10 16 24.2**	**+1.9**
ASAJ	**Asahikawa**	**4.77**	**267**	P		**Pn**	**10 16 25.0**	**+2.3**
ASAJ	**Asahikawa**	**4.77**	**267**	*e*Pn		**Pn**	**10 16 24.7**	**+2.0**
ASAJ				Sn		**Sn**	**10 17 17.1**	**+0.4**
ASAJ	**Asahikawa**	**4.77**	**267**	Pn		**Pn**	**10 16 24.8**	**+2.1**
	comp=E,18nm,0.3s,baz=75,slow=14,SNR=69							
ASAJ				Sn		**Sn**	**10 17 17.0**	**+0.4**
	baz=82,slow=14,SNR=1.9							
ASAJ				LR		LR	10 18 30.1	
	comp=E,51μm,18.8s,baz=307,slow=42							
JFR	**Furan**	**4.98**	**256**	P		**Pn**	**10 16 28.4**	**+2.7**
JEM	**Erimo**	**5.09**	**242**	P		**Pn**	**10 16 27.8**	**+0.6**
YSS	**Yuzh-Sakhalins**	**5.12**	**300**	K *i* PN		**Pn**	**10 16 28.2**	**+0.7**
YSS				pmax		pmax		
	comp=Z,120nm,1.0s							
YSS				pmax		pmax		
	comp=Z,2μm,4.0s							
YSS				MLR		MLR		
	comp=Z,38μm,15.0s							
YSS				MLR		MLR		
	comp=E,28μm,14.0s							
YSS	**Yuzh-Sakhalins**	**5.12**	**300**	⇓*i* P		**Pn**	**10 16 28.2**	**+0.7**
YSS				AMB		AMB	10 16 29.2	
	comp=E,120nm,1.0s							
YSS				AMB		AMB	10 16 31.0	
	comp=E,2μm,4.0s							
YSS				*e*S		**Sn**	**10 17 24.0**	**-1.3**
YSS				*e*LR		LR	10 17 54.0	
YSS				AMS		AMS	10 18 34.0	
	comp=E,38μm,15.0s							
YSS				AMS		AMS	10 18 34.0	
	comp=E,28μm,14.0s							
JAB	**Ashibetsu**	**5.15**	**261**	P		**Pn**	**10 16 30.7**	**+2.8**
JNBK	**Urakawa-nobuka**	**5.22**	**246**	P		**Pn**	**10 16 28.4**	**-0.6**
JWK2	**Keihoku**	**5.25**	**281**	P		Pn	10 16 33.4	+4.1
JBT2	**Biratori 2**	**5.28**	**253**	P		**Pn**	**10 16 30.3**	**+0.6**
JEW	**Eniwo**	**5.88**	**256**	P		**Pn**	**10 16 40.1**	**+2.1**
JNB	**Noboribetsu**	**6.30**	**254**	P		**Pn**	**10 16 44.3**	**+0.6**
JNB				*e*S		**Sn**	**10 17 55.1**	**+0.8**
JSK	**Shakotan**	**6.42**	**262**	P		Pn	10 16 49.5	+4.1
JKB	**Kayabe**	**6.54**	**249**	P		**Pn**	**10 16 46.7**	**-0.3**
JKB				*e*S		**Sn**	**10 17 56.9**	**-3.4**
UGL	**Uglegorsk**	**6.67**	**315**	*e*PN		**Pn**	**10 16 51.3**	**+2.5**
UGL				S		**Sn**	**10 18 08.5**	**+5.0**
UGL				pmax		pmax		
	comp=Z,3μm,4.0s							
UGL				pmax		pmax		

comp=E,62nm,1.0s
TYV AMB AMB 10 17 08.5
comp=E,110nm,1.0s
TYV AMB AMB 10 17 08.5
comp=E,62nm,0.8s
OFUJ Ofunato 7.85 228 P **Pn 10 17 02.7 -2.3**
OFUJ *e*S Sn 10 18 23.6 -8.9
JRG Rokugo 8.21 234 P **Pn 10 17 08.0 -1.9**
JYW Yuwa 8.36 236 P **Pn 10 17 11.3 -0.7**
JOG2 Oga 2 8.38 240 P **Pn 10 17 11.5 -0.8**
JIO Ouri 8.48 227 P Pn 10 17 09.4 -4.2
JIO *e*S Sn 10 18 38.8 -9.1
TEY Ternei 8.98 278 *e*P Pn 10 17 23.7 +3.2
TEY AMB AMB 10 17 24.2
comp=E,5μm,4.0s
TEY AMB AMB 10 17 24.2
comp=E,4μm,4.0s
TEY AMB AMB 10 17 24.2
comp=E,129nm,1.3s
TEY AMB AMB 10 17 24.2
comp=E,129nm,1.3s
TEY AMB AMB 10 17 24.2
comp=E,2μm,4.0s
JYA Atsumi 9.28 233 P **Pn 10 17 23.5 -1.1**
JFK Kawauchi 9.55 224 P **Pn 10 17 25.8 -2.6**
JFK *e*S Sn 10 19 03.9 -10
OKH Okha 9.90 338 *e*PN **Pn 10 17 36.1 +3.1**
OKH *e*S Sn 10 19 36.0 +13
OKH pmax pmax
comp=Z,3μm,3.0s
OKH smax smax
comp=N,8μm,6.0s
OKH Okha 9.90 338 *e*P **Pn 10 17 36.1 +3.1**
OKH AMB AMB 10 17 37.0
comp=N,3μm,3.0s
OKH A A 10 19 39.0
comp=N,8μm,6.0s
OKH A A 10 19 39.0
comp=N,4μm,6.0s
OKH AMS AMS 10 21 48.4
comp=N,12μm,18.0s
OKH AMS AMS 10 21 48.4
comp=N,9μm,17.0s
OKH AMS AMS 10 21 48.4
comp=N,12μm,15.0s
JFY Yanaizu 10.12 228 P **Pn 10 17 33.9 -2.3**
PETK Petropavlovsk- 10.22 30 PN **Pn 10 17 37.7 +0.2**
PETK Petropavlovsk- 10.22 30 Pn **Pn 10 17 37.6 +0.2**
PETK Sn **Sn 10 19 33.0 +2.4**
PETK Petropavlovsk- 10.22 30 Pn **Pn 10 17 37.6 +0.2**
comp=N,3.6nm,0.3s,baz=192,slow=13,SNR=37
PETK Sn **Sn 10 19 33.0 +2.4**
comp=N,0.3nm,0.3s,baz=124,slow=15,SNR=1.9
PETK LR LR 10 21 31.4
comp=N,7μm,20.9s,baz=81,slow=37
NKL Nikolayevsk 10.27 330⇓ *i*P **Pn 10 17 40.0 +1.9**
NKL AMB AMB 10 17 42.2
comp=N,430nm,1.8s
NKL AMB AMB 10 17 42.2
comp=N,240nm,1.8s
NKL AMB AMB 10 17 42.2
comp=N,860nm,1.8s
NKL AMB AMB 10 17 43.0
comp=N,1μm,3.5s
NKL AMB AMB 10 17 43.0
comp=N,1μm,3.5s
NKL AMB AMB 10 17 43.0
comp=N,2μm,3.5s
NKL A A 10 19 59.0
comp=N,2μm,11.0s
NKL A A 10 19 59.0
comp=N,2μm,8.0s
NKL *e*L L 10 20 35.0
NKL AMS AMS 10 23 04.0
comp=N,2μm,11.0s
NKL AMS AMS 10 23 04.0
comp=N,5μm,15.0s
NKL AMS AMS 10 23 04.0
comp=N,6μm,15.0s
PET Petropavlovsk 10.51 33 *i* PN **Pn 10 17 41.9 +0.5**
MAJO Matsushiro 11.57 230 *e*PN Pn 10 17 52.1 -3.9
MAJO Matsushiro 11.57 230 *e*Pn Pn 10 17 52.1 -3.9
MAT Matsushiro 11.57 230 P **Pn 10 17 53.4 -2.6**
MAT S Sn 10 20 10.8 +7.0
MJAR Matsushiro Arr 11.57 230 Pn **Pn 10 17 53.4 -2.6**
MJAR Matsushiro Arr 11.57 230 Pn **Pn 10 17 53.4 -2.6**
comp=N,6.3nm,0.3s,baz=27,slow=12,SNR=119
USRK Ussuriysk Arra 12.33 274 Pn **Pn 10 18 06.7 +0.4**
comp=N,2.7nm,0.3s,baz=88,slow=13,SNR=60
USRK LR LR 10 23 03.3
comp=N,13μm,19.3s,baz=78,slow=38
VLA Vladivostok 12.60 270*d i* PN **Pn 10 18 11.6 +1.7**
VLA pmax pmax
comp=Z,168nm,1.4s
KLR Kul'dur 12.82 298 *e*PN **Pn 10 18 10.8 -2.2**
KLR *e*S Sn 10 20 40.5 +6.3
KLR pmax pmax
comp=E,600nm,1.6s
KLR pmax pmax
comp=Z,690nm,1.6s
KLR pmax pmax
comp=E,2μm,6.5s
KLR pmax pmax
comp=Z,2μm,6.5s
KLR smax smax
comp=N,2μm,9.5s
KLR smax smax
comp=E,2μm,9.5s
KLR MLR MLR
comp=Z,28μm,12.0s
MDJ Mudanjiang 13.99 277 P **Pn 10 18 29.8 +0.9**
MDJ S **Sn 10 21 02.3 -0.3**
MDJ PcS **PcS 10 27 26.8 +4.6**
MDJ AMB AMB
comp=Z,51nm,1.0s
MDJ AMB AMB
comp=Z,2μm,6.5s
MDJ LR LR
comp=Z,7μm,22.6s
MDJ LR LR
comp=Z,5μm,23.7s
MDJ LR LR
comp=Z,12μm,21.4s
MDJ Mudanjiang 13.99 277 *e*Pn **Pn 10 18 28.7 -0.2**
comp=Z,306nm,1.6s
ZEA Zeya 17.00 311⇑ *e*P **Pn 10 19 07.6 -0.2**
ZEA AMB AMB 10 19 11.2
comp=Z,180nm,1.4s
ZEA AMB AMB 10 19 11.2
comp=Z,290nm,1.4s
ZEA AMB AMB 10 19 11.2
comp=Z,160nm,1.2s
ZEA AMB AMB 10 19 14.0
comp=Z,800nm,5.0s
ZEA AMB AMB 10 19 14.0
comp=Z,2μm,6.0s
ZEA AMB AMB 10 19 14.0
comp=Z,1μm,6.0s
ZEA A A 10 22 24.0
comp=Z,1μm,9.0s
ZEA A A 10 22 24.0
comp=Z,1μm,8.0s
CN2 Changchun 17.06 276 *e*P **Pn 10 19 07.8 -0.9**
CN2 *ep*P **pP 10 19 17.1 -3.0**
CN2 *es*P **sP 10 19 23.3 -2.1**
CN2 *e*S **Sn 10 22 17.3 +0.1**
CN2 AMB AMB
comp=Z,30nm,0.9s
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,4μm,17.0s
CN2 LR LR
comp=Z,8μm,17.0s
CN2 LR LR
comp=Z,10μm,17.0s
KSRS Korea Array 17.54 254 P **Pn 10 19 12.2 -2.5**
comp=Z,0.5nm,0.3s,baz=63,slow=12,SNR=21
KSRS PcP **PcP 10 23 54.3 +1.4**
baz=51,slow=0.8,SNR=4.8
KSRS LR LR 10 26 17.5
comp=Z,9μm,18.5s,baz=56,slow=38
KSAR Wonju Array Be 17.57 254 P **Pn 10 19 12.2 -2.9**
KSAR PcP **PcP 10 23 54.2 +1.3**
FX1 Attu Island--F 17.80 54 *e*Pn **P 10 19 18.1 -0.1**
FX1 S Sn 10 22 23.7 -11

FX1 Attu Island--F 17.80 54 P **P 10 19 18.0 -0.1**
comp=Z,9.4nm,0.3s,baz=309,slow=3.5,SNR=26
FX1 S Sn 10 22 23.7 -11
comp=Z,4.9nm,0.3s,baz=233,slow=20,SNR=5.6
JNU Nakatsue 18.24 238 *e*Pn **P 10 19 20.4 -2.7**
comp=Z,158nm,1.4s
JNU Nakatsue 18.24 238 P **P 10 19 21.5 -1.7**
comp=Z,0.5nm,0.3s,baz=36,slow=8.0,SNR=7.4
JNU LR LR 10 27 32.7
comp=Z,6μm,18.8s,baz=39,slow=41
SMY Shemya 18.30 55 *e*P **Pn 10 19 25.5 +1.7**
SMY pmax pmax
comp=Z,1μm,1.4s
SMY Shemya 18.30 55 *e*Pn **Pn 10 19 25.5 +1.7**
comp=Z,1μm,1.4s
CBIJ Chichi jima 18.31 200 P **P 10 19 23.1 -0.9**
CBIJ S Sn 10 22 31.9 -16
JCJ Chichijima 18.31 200 P **P 10 19 23.1 -0.9**
comp=Z,7.7nm,0.3s,baz=265,slow=20,SNR=5.5
JCJ S Sn 10 22 31.9 -16
comp=Z,12nm,0.3s,baz=287,slow=19,SNR=6.9
JCJ LR LR 10 25 53.0
comp=Z,2μm,20.4s,baz=180,slow=35
INCN Inchon 18.41 255 *e*Pn **Pn 10 19 25.9 +0.5**
comp=Z,150nm,1.2s
SEY Seymchan 18.51 5⇓ *e*P **P 10 19 25.3 -0.5**
SNY Shenyang 18.87 271⇑ P **P 10 19 29.1 -0.8**
SNY S **Sn 10 22 56.3 -4.6**
SNY AMB AMB
comp=Z,110nm,1.7s
SNY AMB AMB
comp=Z,2μm,6.1s
SNY LR LR
comp=Z,4μm,15.5s
SNY LR LR
comp=Z,7μm,18.0s
SNY LR LR
comp=Z,8μm,19.4s
CLNS Chul'man 19.58 318 *e*P **P 10 19 37.6 -0.1**
CLNS *e*S **S 10 23 09.4 -6.9**
CLNS pmax pmax
comp=Z,111nm,1.0s
CLNS pmax pmax
comp=E,83nm,1.2s
CLNS pmax pmax
comp=N,101nm,1.2s
CLNS smax smax
comp=E,421nm,11.1s
CLNS smax smax
comp=N,522nm,11.5s
CLNS MLR MLR
comp=Z,10μm,15.0s
CLNS MLR MLR
comp=E,9μm,13.0s
HIA Hailar 20.61 294 *e*P **P 10 19 48.6 -0.3**
comp=E,26nm,0.6s
HIA LR LR
comp=Z,10μm,19.0s
YAK Yakutsk 20.89 334 *e*P **P 10 19 48.9 -2.9**
YAK *e* 10 20 05.3
YAK *e*S **S 10 23 37.2 -4.9**
YAK *e*SSS SSS 10 24 06.6
YAK *e* 10 31 10.9
YAK pmax pmax
comp=Z,145nm,1.0s
YAK pmax pmax
comp=E,73nm,1.2s
YAK pmax pmax
comp=N,80nm,1.2s
YAK smax smax
comp=N,1μm,3.0s
YAK smax smax
comp=E,523nm,2.5s
YAK MLR MLR
comp=E,4μm,19.0s
YAK MLR MLR
comp=N,5μm,18.0s
YAK MLR MLR
comp=Z,7μm,19.0s
AMKA Amchitka 21.17 60 *e*P **P 10 19 56.0 +1.1**
comp=Z,90nm,0.9s
ADK Adak 23.71 60 *e*P **P 10 20 21.1 -0.1**
ADK pmax pmax
comp=Z,210nm,1.3s
ADK MLR MLR
comp=Z,4μm,22.0s
ADK Adak 23.71 60 *e*P **P 10 20 21.1 -0.1**
comp=Z,210nm,1.3s
ADK LR LR
comp=Z,4μm,22.0s
JOW Kunigami 24.42 231 *e*P **P 10 20 28.2 +0.2**
comp=Z,86nm,1.2s
BJI Beijing 24.75 271 P **P 10 20 30.5 -0.4**
BJI S **S 10 24 50.8 +0.7**
BJI AMB AMB
comp=Z,160nm,1.6s
BJI AMB AMB
comp=Z,2μm,4.5s
BJI LR LR
comp=Z,3μm,17.1s
BJI LR LR
comp=Z,7μm,20.3s
BJI LR LR
comp=Z,7μm,20.3s
BJT Baijiatuau 24.76 271 *e*P **P 10 20 30.5 -0.5**
comp=Z,130nm,0.9s
BJT LR LR
comp=Z,9μm,20.0s
TIA Tai'an 25.70 262⇑ P **P 10 20 39.5 0.0**
TIA pP pP 10 20 56.6 +5.8
TIA S **S 10 25 06.0 +0.7**
TIA AMB AMB
comp=Z,200nm,1.1s
TIA AMB AMB
comp=Z,1μm,8.0s
TIA LR LR
comp=Z,3μm,16.1s
TIA LR LR
comp=Z,5μm,18.9s
TIA LR LR
comp=Z,5μm,18.6s
SSE Sheshan 25.75 248 P **P 10 20 40.6 +0.6**
SSE pP **pP 10 20 51.3 +0.1**
SSE sP **sP 10 20 56.6 +0.4**
SSE S **S 10 25 07.3 +1.2**
SSE sS **sS 10 25 25.6 +0.6**
SSE AMB AMB
comp=Z,58nm,1.4s
SSE AMB AMB
comp=Z,840nm,6.0s
SSE LR LR
comp=Z,2μm,24.1s
SSE LR LR
comp=Z,3μm,23.4s
SSE LR LR
comp=Z,4μm,21.1s
NJ2 Nanjing 26.73 253 *e*P **P 10 20 48.1 -0.8**
NJ2 pP **pP 10 20 59.5 -0.7**
NJ2 sP **sP 10 21 04.8 -0.4**
NJ2 S **S 10 25 25.0 +3.4**
NJ2 sS **sS 10 25 43.0 +2.5**
NJ2 AMB AMB
comp=Z,80nm,1.1s
NJ2 AMB AMB
comp=Z,930nm,6.2s
NJ2 LR LR
comp=Z,6μm,21.6s
NJ2 LR LR
comp=Z,7μm,17.2s
NJ2 LR LR
comp=Z,11μm,17.9s
HHC Hu-ho-hao-te 27.75 276 *e*P **P 10 20 58.8 +0.7**
HHC PP **PnPn 10 21 48.3 +3.0**
HHC PcP **PcP 10 24 16.3 +2.5**
HHC S **S 10 25 35.5 -2.4**
HHC SS **SnSn 10 26 56.4 +3.8**
HHC ScP **ScP 10 27 51.0 0.0**
HHC PcS **PcS 10 27 55.9 +0.1**
HHC ScS **ScS 10 31 42.1 -1.1**
HHC AMB AMB
comp=Z,230nm,1.3s
HHC AMB AMB
comp=Z,2μm,5.1s
HHC LR LR
comp=Z,4μm,13.5s
HHC LR LR
comp=Z,15μm,14.9s
HHC LR LR
comp=Z,18μm,13.0s
TIY Taiyuan 28.35 269 *e*P **P 10 21 04.3 +0.8**
TIY S S 10 25 38.9 -8.4
TIY LR LR
comp=Z,1μm,18.4s
TIY LR LR
comp=Z,2μm,14.6s
TIY LR LR
comp=Z,4μm,19.7s
H11N2 WAKE ISLAND Hy 28.80 144 T T 10 52 05.4
baz=336,slow=0.7,SNR=3126
H11N1 WAKE ISLAND Hy 28.81 144 T T 10 51 56.6
baz=336,slow=0.7,SNR=2051
H11N3 WAKE ISLAND Hy 28.82 144 T T 10 51 55.6
baz=336,slow=0.7,SNR=2167
TIXI Tiksi 28.90 347⇓ *i*P P 10 21 04.7 -3.1
TIXI pmax pmax
comp=Z,23nm,0.6s
TIXI MLR MLR
comp=Z,3μm,16.0s
BTO Baotou 28.93 276 *e*P **P 10 21 07.5 -1.2**
WAKE Wake Island 29.09 144 PFAKE 10 21 20.0 +10
WAKE LR LR
comp=Z,3μm,19.0s
SONM Songino Array 29.54 292 P **P 10 21 14.2 +0.2**
SONM PcP **PcP 10 24 18.5 +0.3**
SONM ScP **ScP 10 27 58.8 +2.3**
SONM Songino Array 29.54 292 P **P 10 21 14.2 +0.2**
comp=Z,30nm,1.0s,baz=80,slow=8.8,SNR=76
SONM PcP **PcP 10 24 18.5 +0.3**
comp=Z,8.3nm,1.0s,baz=98,slow=2.2,SNR=4.4
SONM ScP **ScP 10 27 58.8 +2.3**
comp=Z,1.5nm,0.9s,baz=108,slow=4.7,SNR=3.0
SONM LR LR 10 34 14.8
comp=Z,8μm,18.1s,baz=79,slow=39
TATO Taipei 29.78 238 P **P 10 21 17.3 +1.2**
TATO LR LR
comp=Z,7μm,19.0s
H11S1 WAKE ISLAND Hy 29.81 145 T T 10 53 17.1
baz=338,slow=0.7,SNR=2759
H11S3 WAKE ISLAND Hy 29.82 145 T T 10 53 27.1
baz=338,slow=0.7,SNR=2953
H11S2 WAKE ISLAND Hy 29.83 145 T T 10 53 28.3
baz=338,slow=0.7,SNR=2731
YHNB Yeheng 30.07 238 PFAKE 10 21 30.0 +11
YHNB LR LR
comp=Z,7μm,20.0s
IRK Irkutsk 30.40 301 *e*P P 10 21 18.0 -3.4
IRK pmax pmax
comp=Z,26nm,1.7s
WHN Wuhan 30.72 255⇑ P **P 10 21 24.1 -0.3**
WHN S **S 10 26 29.0 +4.6**
WHN LR LR
comp=Z,5μm,18.1s
WHN LR LR
comp=Z,14μm,18.5s
WHN LR LR
comp=Z,13μm,17.9s
TLY Talaya 30.82 300 *e*P **P 10 21 23.2 -2.0**
TLY *e* 10 22 20.8
TLY *e*S S 10 26 32.0 +6.3
TLY *e*SS **SnSn 10 28 15.9 +8.9**
TLY MLR MLR
comp=Z,7μm,15.0s
GUMO Guam 31.08 188 PFAKE 10 21 40.0 +12
GUMO LR LR
comp=Z,3μm,21.0s
MIDW Midway 31.19 110 PFAKE 10 21 40.0 +11
MIDW LR LR
comp=Z,3μm,21.0s
ZAK Zakamensk 31.19 297 *e*P **P 10 21 26.6 -1.9**
ZAK pmax pmax
comp=Z,14nm,1.0s
TPUB Ta-pu 31.55 237 *e*P **P 10 21 32.1 +0.4**
comp=Z,288nm,1.6s
QZH Quanzhou 31.60 242⇑ *i*P P 10 21 28.6 -3.5
QZH sP sP 10 21 47.1 -1.4
QZH S **S 10 26 40.0 +1.9**
QZH sS sS 10 26 58.0 +0.9
QZH AMB AMB
comp=Z,1μm,5.4s
QZH LR LR
comp=Z,2μm,14.3s
QZH LR LR
comp=Z,4μm,18.4s
QZH LR LR
comp=Z,5μm,21.2s
TWG Pinlang 31.65 236 *e*P **P 10 21 32.6 0.0**
comp=Z,381nm,1.4s
MOY Mondy 32.47 300 *e*P **P 10 21 40.3 +0.6**
MOY pmax pmax
comp=Z,33nm,1.6s
XAN Xi'an 32.60 265 P **P 10 21 40.6 -0.4**
XAN pP **pP 10 21 51.8 -0.6**
XAN sP **sP 10 21 57.9 +0.5**
XAN PP **PnPn 10 22 52.3 +2.8**
XAN PcP **PcP 10 24 24.3 -2.2**
XAN S **S 10 26 53.0 -0.9**
XAN SS **SnSn 10 28 53.1 +2.4**
XAN ScS **ScS 10 31 59.8 -6.7**
XAN AMB AMB
comp=Z,15nm,1.3s
XAN AMB AMB
comp=Z,98nm,13.8s
XAN LR LR
comp=Z,2μm,17.5s
XAN LR LR
comp=Z,410nm,19.4s
XAN LR LR
comp=Z,870nm,18.5s
ENH Enshi 34.27 259 *e*P **P 10 21 54.9 -0.6**
comp=Z,37nm,0.8s
LZH Lanzhou 35.23 272⇑ *i*P **P 10 22 04.9 +1.0**
LZH pP **pP 10 22 18.1 +2.8**
LZH sP **sP 10 22 23.3 +3.0**
LZH PP **PP 10 23 24.0 -0.2**
LZH S **S 10 27 35.1 +0.5**
LZH sS **sS 10 27 54.1 +0.4**
LZH SS **SnSn 10 29 50.0 -4.4**
LZH AMB AMB
comp=Z,320nm,1.4s
LZH AMB AMB
comp=Z,1μm,4.1s
LZH LR LR
comp=Z,3μm,16.0s
LZH LR LR
comp=Z,4μm,15.8s
LZH LR LR
comp=Z,5μm,17.1s
SVW2 Sparrevohn 35.97 43 *e*P **P 10 22 10.7 +0.9**
comp=Z,54nm,0.8s
HKC Hong Kong Obse 36.30 244 P **P 10 22 15.0 +2.0**
GTA Gaotai 36.62 280⇑ P **P 10 22 16.5 +0.7**
GTA pP **pP 10 22 28.6 +1.3**
GTA sP **sP 10 22 34.5 +2.3**
GTA PcP **PcP 10 24 39.4 +1.3**
GTA S **S 10 27 56.0 +0.1**
GTA sS **sS 10 28 16.4 +1.4**
GTA SS **SnSn 10 30 24.3 -3.8**
GTA ScS **ScS 10 32 28.3 +0.2**
GTA AMB AMB
comp=Z,140nm,1.1s
GTA AMB AMB
comp=Z,850nm,5.7s
GTA LR LR
comp=Z,4μm,15.4s
GTA LR LR
comp=Z,3μm,15.7s
GTA LR LR
comp=Z,5μm,17.3s
BCPH Baguio City Da 37.03 230⇑ *i*P **P 10 22 18.4 -1.0**
HVS Khovu-Aksy 37.06 300*d i*P **P 10 22 19.9 +0.6**
HVS pmax pmax
comp=Z,234nm,1.4s
HVS MLR MLR
comp=Z,16μm,16.0s
IM04 Indian Mountai 37.13 35 *e*P **P 10 22 19.7 0.0**
IMA2 Indian Mountai 37.18 35 *e*P **P 10 22 19.6 -0.6**
OHAK Old Harbor 37.28 49 *e*P **P 10 22 20.5 -0.5**
comp=Z,49nm,0.9s
RSO Redoubt South 37.36 44 *e*P **P 10 22 22.3 +0.5**
KDAK Kodiak Island 37.61 48 *e*P **P 10 22 22.6 -1.1**
comp=Z,78nm,0.8s

KDAK LR LR
comp=Z,3µm,21.0s
PPLA Purkeypile 37.62 40 *e*P **P 10 22 25.1 +1.2**
comp=Z,463nm,1.4s
CAST Castle Rocks 37.67 39 *e*P **P 10 22 22.3 -2.0**
comp=Z,130nm,1.3s
SPU Mount Spurr 37.68 43 *e*P **P 10 22 25.2 +0.8**
CD2 Chengdu 37.96 265 P **P 10 22 27.0 -0.1**
CD2 pP **pP 10 22 38.4 -0.2**
CD2 PP **PnPn 10 23 57.1 +1.3**
CD2 S **S 10 28 14.8 -1.4**
CD2 sS **sS 10 28 34.0 -1.3**
CD2 SS **SnSn 10 30 52.3 -8.1**
CD2 AMB AMB
comp=Z,290nm,0.9s
CD2 AMB AMB
comp=Z,640nm,4.7s
CD2 LR LR
comp=Z,2µm,16.0s
CD2 LR LR
comp=Z,2µm,19.6s
BPAW Bear Paw Mtn. 38.18 38 *e*P **P 10 22 29.2 +0.6**
comp=Z,84nm,1.2s
TRF Thorofare Moun 38.48 39 *e*P **P 10 22 31.5 +0.2**
comp=Z,302nm,1.8s
GYA Guiyang 38.55 257⇑ *i*P **P 10 22 31.8 -0.4**
GYA pP **pP 10 22 46.0 +2.3**
GYA sP **sP 10 22 52.1 +3.4**
GYA PP **PnPn 10 24 06.5 +3.4**
GYA PcP **PcP 10 24 47.0 +2.8**
GYA S **S 10 28 24.6 -0.8**
GYA ScP **ScP 10 28 29.0 +0.3**
GYA sS **sS 10 28 47.3 +2.7**
GYA SS **SnSn 10 31 07.3 -7.7**
GYA AMB AMB
comp=Z,80nm,1.0s
GYA AMB AMB
comp=Z,300nm,4.8s
GYA LR LR
comp=Z,2µm,17.7s
GYA LR LR
comp=Z,3µm,16.8s
GYA LR LR
comp=Z,4µm,17.7s
COLD Coldfoot 38.68 33 *e*P **P 10 22 33.1 +0.5**
comp=Z,47nm,0.9s
SEW Seward 39.02 44 *e*P **P 10 22 35.3 -0.3**
comp=Z,48nm,0.8s
PMR Palmer 39.07 42 *e*P **P 10 22 35.2 -0.8**
PMR pmax pmax
comp=Z,78nm,1.4s
PMR Palmer 39.07 42 *e*P **P 10 22 35.2 -0.8**
comp=Z,78nm,1.4s
MCK McKinley 39.09 38 *e*P **P 10 22 36.2 +0.1**
MCK pmax pmax
comp=Z,49nm,1.0s
MCK McKinley 39.09 38 *e*P **P 10 22 36.2 +0.1**
comp=Z,49nm,1.0s
COLA College 39.55 37 *e*P **P 10 22 40.5 +0.7**
COLA pmax pmax
comp=Z,89nm,1.0s
COLA MLR MLR
comp=Z,2µm,20.0s
COLA College 39.55 37 *e*P **P 10 22 40.5 +0.7**
comp=Z,89nm,1.0s
COLA LR LR
comp=Z,2µm,20.0s
ILAR Eielson Array 39.96 37 P **P 10 22 43.0 -0.4**
ILAR Eielson Array 39.96 37 P **P 10 22 43.0 -0.4**
comp=Z,27nm,0.8s,baz=267,slow=7.8,SNR=152
PAX Paxson 40.68 40 *e*P **P 10 22 50.5 +1.0**
PAX pmax pmax
comp=Z,385nm,2.9s
PAX Paxson 40.68 40 *e*P **P 10 22 50.5 +1.0**
comp=Z,385nm,2.9s
DIV Divide 40.72 42 *e*P **P 10 22 50.3 +0.5**
comp=Z,286nm,1.7s
DOT Dot Lake 41.26 38 *e*P **P 10 22 53.5 -0.6**
comp=Z,30nm,0.8s
BMRM Bremner River 41.31 43 *e*P **P 10 22 55.2 +0.6**
comp=Z,139nm,1.4s
RAGM Ragged Mountai 41.35 43 *e*P **P 10 22 55.7 +0.8**
comp=Z,104nm,1.0s
QIZ Qiongzhong 41.45 245 P **P 10 22 57.5 +1.3**
QIZ PP **PP 10 24 33.8 +1.4**
QIZ S **S 10 29 10.8 +2.2**
QIZ sS **sS 10 29 29.8 +1.9**
QIZ LR LR
comp=Z,2µm,20.1s
QIZ LR LR
comp=Z,3µm,19.8s
QIZ Qiongzhong 41.45 245 PFAKE 10 23 10.0 +14
QIZ LR LR
comp=Z,3µm,22.0s
MENT Mentasta 41.48 39 *e*P **P 10 22 56.7 +0.8**
ZALV Zalesovo Beam 41.70 307 P **P 10 22 57.0 -0.8**
ZALV *SP **sP 10 23 11.5 -2.9**
ZALV 10 24 54.0
ZALV MLR MLR
comp=Z,4µm,20.1s
ZALV Zalesovo Beam 41.70 307 P **P 10 22 57.0 -0.8**
ZALV sP **sP 10 23 11.5 -2.9**
ZALV PcP **PcP 10 24 54.0 +0.3**
ZALV ScP **ScP 10 28 40.2 -0.2**
ZALV Zalesovo Beam 41.70 307 P **P 10 22 57.0 -0.8**
comp=Z,4.2nm,0.6s,baz=76,slow=6.3,SNR=5.9
ZALV sP **sP 10 23 11.5 -2.9**
comp=Z,5.2nm,0.7s,baz=93,slow=5.0,SNR=5.5
ZALV PcP **PcP 10 24 54.0 +0.3**
comp=Z,25nm,0.9s,baz=66,slow=3.7,SNR=11
ZALV ScP **ScP 10 28 40.2 -0.2**
comp=Z,3.9nm,1.0s,baz=107,slow=5.1,SNR=3.5
ZALV LR LR 10 41 23.8
comp=Z,4µm,20.1s,baz=70,slow=38
KMI Kunming 42.14 258 P **P 10 23 02.0 0.0**
KMI pP **pP 10 23 12.9 -0.7**
KMI sP **sP 10 23 17.3 -1.2**
KMI PP **PP 10 24 41.3 +1.4**
KMI S **S 10 29 19.9 +0.9**
KMI sS **sS 10 29 38.1 -0.3**
KMI SS **SS 10 32 23.3 -4.3**
KMI AMB AMB
comp=Z,120nm,1.2s
KMI AMB AMB
comp=Z,760nm,4.7s
KMI LR LR
comp=Z,2µm,17.9s
KMI LR LR
comp=Z,2µm,16.9s
KMI LR LR
comp=Z,3µm,20.0s
NVS Novosibirsk 42.38 308 *e*P **P 10 23 01.4 -1.9**
NVS *e* 10 24 54.3
NVS *e* 10 32 58.5
NVS pmax pmax
comp=Z,21nm,1.5s
NVS pmax pmax
comp=N,5.0nm,1.0s
NVS pmax pmax
comp=E,17nm,1.2s
EGAK Eagle 42.41 37 *e*P **P 10 23 03.1 -0.3**
comp=E,106nm,1.1s
EGAK LR LR
comp=Z,2µm,20.0s
DAV Davao City (W) 42.64 216 PFAKE 10 23 20.0 +14
DAV LR LR
comp=Z,1µm,20.0s
WMQ Urumqi 43.18 292 P **P 10 23 10.5 +0.4**
WMQ pP **pP 10 23 22.8 +1.1**
WMQ sP **sP 10 23 28.3 +1.6**
WMQ PP **PP 10 24 53.4 +2.7**
WMQ PcP **PcP 10 24 59.8 +0.9**
WMQ ScP **ScP 10 28 46.0 -0.6**
WMQ PcS **PcS 10 28 51.1 -0.3**
WMQ S **S 10 29 34.3 +0.6**
WMQ sS **sS 10 29 53.8 +0.7**
WMQ SS SS 10 32 39.8 -7.4
WMQ ScS **ScS 10 33 04.5 -2.1**
WMQ AMB AMB
comp=Z,100nm,1.1s
WMQ AMB AMB
comp=Z,1µm,5.0s
WMQ LR LR
comp=Z,7µm,17.4s
WMQ LR LR
comp=Z,5µm,17.0s
WMQ LR LR
comp=Z,4µm,18.8s
DAWY Dawson 43.26 37 *e*P **P 10 23 10.4 0.0**
HYT Haines Junctio 44.74 42 *e*P **P 10 23 23.8 +1.4**
INK Inuvik 44.96 31 P **P 10 23 23.2 -0.6**
INK Inuvik 44.96 31 P **P 10 23 23.2 -0.6**
comp=Z,25nm,0.5s,baz=295,slow=4.0
MK31 Makanchi Array 45.53 298 *e*P **P 10 23 28.6 -0.1**
MK31 Makanchi Array 45.53 298 *e*P **P 10 23 28.6 -0.1**
MKAR Makanchi Array 45.53 298 P **P 10 23 28.6 -0.1**
MKAR pmax pmax
comp=Z,51nm,0.9s
MKAR pmax pmax
comp=N,3.0nm,1.1s
MKAR MLR MLR
comp=Z,7µm,19.5s
MKAR Makanchi Array 45.53 298 *e*P **P 10 23 28.6 -0.1**
MKAR ScP **ScP 10 28 54.9 -1.2**
MKAR Makanchi Array 45.53 298 P **P 10 23 28.6 -0.1**
comp=Z,51nm,0.9s,baz=73,slow=8.2,SNR=148
MKAR ScP **ScP 10 28 54.9 -1.2**
comp=Z,3.1nm,1.1s,baz=42,slow=4.4,SNR=3.4
MKAR LR LR 10 43 41.8
comp=Z,7µm,19.4s,baz=65,slow=38
SGSI Sangihe 45.73 214 P **P 10 23 30.0 -0.6**
comp=Z,104nm,1.0s
PANO Nakornpanom 46.24 248 P **P 10 23 36.1 +1.5**
comp=Z,60nm,1.9s,comp=Z,1µm
KURK Kurchatov 46.31 304*c* *i*P **P 10 23 34.2 -0.6**
KURK pmax pmax
comp=Z,23nm,1.0s
KURK MLR MLR
comp=Z,2µm,17.0s
KURK Kurchatov 46.31 304 P **P 10 23 34.9 +0.1**
SNR=22
KURK Kurchatov 46.31 304 *e*P **P 10 23 33.2 -1.6**
comp=Z,17nm,0.7s
KURK PcP **PcP 10 25 09.9 +0.5**
KURK ScP **ScP 10 28 59.4 +0.2**
KURK LR LR
comp=Z,787nm,22.0s
KURK Kurchatov 46.31 304 P **P 10 23 34.0 -0.8**
comp=Z,258nm,1.0s,SNR=21
KURBB Kurchatov Arra 46.40 304 P **P 10 23 34.4 -1.1**
comp=Z,22nm,0.9s,baz=70,slow=8.4,SNR=56
KURBB PcP **PcP 10 25 09.9 +0.2**
comp=Z,10nm,0.8s,baz=69,slow=3.4,SNR=6.0
KURBB ScP **ScP 10 28 59.4 -0.2**
comp=Z,1.9nm,1.0s,baz=62,slow=3.8,SNR=3.7
NONG Nongkai 46.58 251 P **P 10 23 38.0 +0.8**
comp=Z,106nm,1.1s,comp=Z,7µm
SKNT Sakolnakorn 46.79 249 P **P 10 23 39.5 +0.6**
comp=Z,115nm,1.2s,comp=Z,2µm
SIT Sitka 46.87 46 *e*pP pP 10 23 51.6 +0.8
KDM Kudat 46.91 227 P **P 10 23 38.2 -1.7**
KDM Kudat 46.91 227 P **P 10 23 39.9 +0.1**
UBPT Khong Chiam 47.03 246 P **P 10 23 39.8 -1.0**
comp=Z,46nm,1.3s
UBPT Khong Chiam 47.03 246 P **P 10 23 42.2 +1.4**
comp=Z,109nm,1.4s
MYLDM Lahad Datu 47.55 224 P **P 10 23 45.9 +1.1**
MYLDM Lahad Datu 47.55 224 P **P 10 23 46.2 +1.3**
MYLDM Lahad Datu 47.55 224 P P 10 23 48.7 +3.9
comp=Z,83nm,1.4s,comp=Z,1µm
LSA Lhasa 47.65 272 P **P 10 23 47.0 +0.9**
LSA Lhasa 47.65 272 *e*P **P 10 23 46.7 +0.6**
LSA pmax pmax
comp=Z,38nm,1.0s
LSA MLR MLR
comp=Z,4µm,20.0s
LSA Lhasa 47.65 272 *e*P **P 10 23 46.7 +0.6**
comp=Z,38nm,1.0s
LSA LR LR
comp=Z,4µm,20.0s
SDKM Sandakan 47.81 225 P **P 10 23 47.0 +0.1**
TARA Tarawa 47.87 147 *e*pP **pP 10 24 03.1 +4.1**
TARA LR LR
comp=Z,2µm,22.0s
SWI Sorong 47.96 205 P **P 10 23 46.0 -2.0**
comp=Z,103nm,1.4s,comp=Z,2µm
KKM Kota Kinabalu 47.97 227 P **P 10 23 49.2 +1.0**
KKM Kota Kinabalu 47.97 227 P **P 10 23 50.2 +2.0**
KKM Kota Kinabalu 47.97 227 P **P 10 23 50.5 +2.3**
comp=Z,45nm,1.6s,comp=Z,895nm
KKM Kota Kinabalu 47.97 227 *e*P **P 10 23 49.4 +1.1**
comp=Z,108nm,1.6s
KKM LR LR
comp=Z,2µm,20.0s
LOEI Loei 48.24 252 P **P 10 23 48.1 -2.1**
comp=Z,62nm,1.0s
IMP Imphal 48.58 265 *ex* **P 10 23 51.0 -1.8**
TSM Tawau 48.63 224 P **P 10 23 54.2 +1.1**
WRAK Wrangell Islan 48.63 47 PFAKE 10 24 10.0 +17
WRAK LR LR
comp=Z,1µm,20.0s
CHTO Chiang Mai 48.93 255 *e*P **P 10 23 56.1 +0.6**
CHTO pmax pmax
comp=Z,239nm,1.0s
CHTO MLR MLR
comp=Z,3µm,19.0s
CHTO Chiang Mai 48.93 255 P **P 10 23 56.1 +0.6**
SNR=14
CHTO Chiang Mai 48.93 255 P **P 10 23 54.5 -1.0**
comp=Z,323nm,1.1s,comp=Z,4µm
CHTO Chiang Mai 48.93 255 *e*P **P 10 23 56.0 +0.6**
comp=Z,239nm,1.0s
CHTO LR LR
comp=Z,3µm,19.0s
CHTO Chiang Mai 48.93 255 P **P 10 23 55.7 +0.2**
comp=Z,323nm,1.1s,comp=Z,4µm
KIP Kipapa 48.94 100 *e*pP **pP 10 24 08.4 +1.1**
KIP LR LR
comp=Z,3µm,19.0s
LBMI Labuha 48.97 209 P P 10 23 49.6 -6.1
comp=Z,147nm,1.5s,comp=Z,2µm
DLBC Dease Lake 49.08 43 *e*P **P 10 23 57.2 +0.9**
DLBC *e*pP **pP 10 24 08.4 +0.4**
CM31 Chiang Mai Arr 49.17 255 *e*P **P 10 23 57.7 +0.3**
comp=Z,9.3nm,0.6s
CMAR Chiang Mai Arr 49.17 255 ScP **ScP 10 29 14.2 +2.3**
CMAR Chiang Mai Arr 49.17 255 ScP **ScP 10 29 14.2 +2.3**
comp=Z,105nm,0.4s,baz=29,slow=4.1,SNR=3.5
KMSI Cibinong 49.18 214 P P 10 24 04.1 +6.7
comp=Z,172nm,1.2s
SHL Shillong 49.56 267 *e*P **P 10 24 00.0 -0.5**
FAKI Fak Fak 49.64 202 P **P 10 24 00.5 -0.3**
comp=Z,84nm,1.8s,comp=Z,1µm
VOSK Vostochnaya 49.94 309 P **P 10 24 02.4 -0.4**
VOSK pmax pmax
comp=Z,9.0nm,0.9s
VOSK Vostochnaya 49.94 309 *e*P **P 10 24 02.1 -0.7**
comp=Z,19nm,0.8s
MRSI Marisa 50.12 217 P **P 10 24 05.9 +1.4**
comp=Z,196nm,1.3s,comp=Z,3µm
BVA0 Borovoye Array 50.14 309 P **P 10 24 03.4 -0.9**
BVA0 pmax pmax
comp=Z,32nm,1.3s
BVAR Borovoye Array 50.14 309 P **P 10 24 03.5 -0.8**
BVAR *PP **pP 10 24 14.8 -1.4**
BVAR 10 25 23.7
BVAR pmax pmax
comp=Z,13nm,0.9s
BVAR Borovoye Array 50.14 309 P **P 10 24 03.5 -0.8**
BVAR pP **pP 10 24 14.8 -1.4**
BVAR PcP **PcP 10 25 23.7 +0.5**
BVAR ScP **ScP 10 29 17.4 +1.9**
BVAR Borovoye Array 50.14 309 P **P 10 24 03.5 -0.8**
comp=Z,13nm,0.9s,baz=69,slow=8.4,SNR=31
BVAR pP **pP 10 24 14.8 -1.4**
comp=Z,9.6nm,0.8s,baz=76,slow=14,SNR=7.6
BVAR PcP **PcP 10 25 23.7 +0.5**
comp=Z,10nm,0.9s,baz=74,slow=2.9,SNR=4.2
BVAR ScP **ScP 10 29 17.4 +1.9**
comp=Z,0.7nm,0.7s,baz=70,slow=8.3,SNR=2.6
BRVK Borovoye 50.19 310*c* *i*P **P 10 24 03.1 -1.5**
BRVK pmax pmax
comp=Z,22nm,0.8s
BRVK MLR MLR
comp=Z,6µm,18.0s
BRVK Borovoye 50.19 310 P **P 10 24 03.5 -1.2**
SNR=15
BRVK Borovoye 50.19 310 *e*P **P 10 24 04.3 -0.3**
comp=Z,23nm,0.9s
BRVK LR LR
comp=Z,4µm,19.0s
CHBT CHBT 50.94 247 P **P 10 24 10.0 -0.7**
comp=Z,114nm,1.2s,comp=Z,2µm
CHBT CHBT 50.94 247 P **P 10 24 11.8 +1.1**
comp=Z,132nm,1.1s,comp=Z,2µm
ULHL Ulahol 51.41 295 *i* P **P 10 24 15.1 +0.8**
ULHL Ulahol 51.41 295 P **P 10 24 15.1 +0.8**
SNR=11
TAPN Taplejung 51.47 272 *e*P **P 10 24 15.5 +0.5**
comp=Z,134nm,0.9s
TKM2 Tokmak 2 51.50 296 *e*P **P 10 24 15.4 +0.5**
TKM2 pmax pmax
comp=Z,157nm,1.2s
TKM2 MLR MLR
comp=Z,1µm,20.0s
TKM2 Tokmak 2 51.50 296 P **P 10 24 15.4 +0.5**
SNR=82
TKM2 Tokmak 2 51.50 296 *e*P **P 10 24 15.4 +0.5**
comp=Z,157nm,1.2s
TKM2 LR LR
comp=Z,1µm,20.0s
ODAN Odare 51.99 272 *e*P **P 10 24 19.2 +0.4**
comp=Z,84nm,0.8s
CHMS Chumysh 52.00 296 *i* P **P 10 24 18.8 +0.3**
CHMS Chumysh 52.00 296 P **P 10 24 18.8 +0.3**
SNR=16
BTM Bintulu 52.02 228 P **P 10 24 19.1 +0.3**
USP Ospenovka 52.03 297 *i* P **P 10 24 19.2 +0.5**
USP Ospenovka 52.03 297 P **P 10 24 19.2 +0.5**
SNR=54
KBK Karagaybulak 52.04 296 *i* P **P 10 24 19.5 +0.5**
KBK Karagaybulak 52.04 296 P **P 10 24 19.5 +0.5**
SNR=21
KZA Kyzart 52.13 295 *i* P **P 10 24 21.2 +1.3**
KZA Kyzart 52.13 295 P **P 10 24 21.1 +1.3**
SNR=78
AAK Ala-Archa 52.35 296*c* *i*P **P 10 24 21.1 -0.1**
AAK pmax pmax
comp=Z,240nm,1.2s
AAK MLR MLR
comp=Z,4µm,17.0s
AAK Ala-Archa 52.35 296 P **P 10 24 21.4 +0.2**
SNR=37
AAK Ala-Archa 52.35 296 P **P 10 24 21.4 +0.2**
SNR=50
AAK Ala-Archa 52.35 296 *e*P **P 10 24 21.2 0.0**
comp=Z,102nm,1.2s
AAK LR LR
comp=Z,2µm,21.0s
AAK Ala-Archa 52.35 296 P **P 10 24 21.4 +0.2**
comp=Z,53nm,1.0s,baz=82,slow=4.6,SNR=85
JIRN Jiri 52.37 274 *e*P **P 10 24 22.3 +0.5**
comp=Z,212nm,1.0s
GUN Gumba 52.45 274 *e*P **P 10 24 22.6 +0.3**
comp=Z,262nm,0.7s
RAMN Ramite 52.50 273 *e*P **P 10 24 22.8 +0.2**
EKS2 Erkin-Say 52.79 296 *e*P **P 10 24 24.9 +0.4**
EKS2 pmax pmax
comp=Z,121nm,1.3s
EKS2 MLR MLR
comp=Z,3µm,19.0s
EKS2 Erkin-Say 52.79 296 P **P 10 24 24.9 +0.4**
SNR=48
EKS2 Erkin-Say 52.79 296 *e*P **P 10 24 24.9 +0.4**
comp=Z,122nm,1.3s
EKS2 LR LR
comp=Z,3µm,19.0s
KKN Kakani 52.94 274 *e*P **P 10 24 26.1 +0.2**
comp=Z,237nm,1.1s
KSH Kashi 52.95 292 P P 10 24 30.3 +4.7
KSH pP pP 10 24 42.3 +4.8
KSH sP sP 10 24 48.8 +6.4
KSH PP PP 10 26 33.0 +7.8
KSH S **S 10 31 57.1 +5.1**
KSH sS sS 10 32 17.8 +6.0
KSH SS **SKiKP 10 35 37.4 -3.4**
KSH AMB AMB
comp=Z,620nm,2.8s
KSH LR LR
comp=Z,650nm,13.8s
KSH LR LR
comp=Z,530nm,8.3s
KSH LR LR
comp=Z,1µm,24.5s
PKI Pulchoki 52.98 274 *e*P **P 10 24 26.4 +0.1**
comp=Z,312nm,1.2s
PKIN Phulchoki 52.99 274 *e*P **P 10 24 26.5 +0.3**
comp=Z,101nm,0.9s
AML Almayashu 53.11 296 *i* P **P 10 24 27.7 +0.5**
AML Almayashu 53.11 296 P **P 10 24 27.6 +0.5**
SNR=51
SBUM Sibu 53.11 229 P **P 10 24 27.9 +1.0**
SBUM Sibu 53.11 229 P **P 10 24 29.1 +2.2**
SBUM Sibu 53.11 229 *e*P **P 10 24 27.9 +1.0**
comp=Z,23nm,1.1s
DMN Daman 53.17 274 *e*P **P 10 24 28.1 +0.5**
comp=Z,387nm,1.1s
GKN Gorkha 53.28 275 *e*P **P 10 24 28.5 +0.3**
comp=Z,468nm,1.2s
SVE Sverdlovsk 53.57 317⇓ *i*P **P 10 24 29.5 -0.3**
SVE *e*PPP PPP 10 27 45.8
SVE pmax pmax
comp=Z,66nm,1.4s
SVE MLR MLR
comp=Z,6µm,17.0s
SVE MLR MLR
comp=E,4µm,17.0s
DANN Dangsing 53.70 276 *e*P **P 10 24 32.2 +0.7**
comp=E,710nm,1.3s
PMG Port Moresby 53.74 183 P **P 10 24 32.0 +0.7**
PMG Port Moresby 53.74 183 P **P 10 24 32.0 +0.7**
comp=E,9.5nm,0.8s,baz=58,slow=11,SNR=3.2
PMG LR LR 10 44 42.3
comp=E,375nm,22.0s,baz=29,slow=33
RES Resolute Bay 53.77 17 *e*P **P 10 24 30.8 -0.1**
comp=E,68nm,0.8s
RES Resolute Bay 53.77 17 P **P 10 24 30.8 -0.1**
comp=E,58nm,0.7s,baz=313,slow=9.0,SNR=22
RES LR LR 10 50 45.1
comp=E,2µm,19.5s,baz=313,slow=40
SOKR Solikamsk 54.08 321*d* *i*P **P 10 24 33.3 -0.1**
KOLN Koldanda 54.15 275 *e*P **P 10 24 35.2 +0.5**
comp=E,214nm,1.0s
KBS Kingsbay 54.24 351 *e*P **P 10 24 32.9 -1.5**
KBS AMS AMS 10 48 43.9
comp=Z,1µm,8.7s
KBS Kingsbay 54.24 351⇑ *e*P **P 10 24 33.0 -1.3**
KBS pmax pmax
comp=Z,62nm,2.5s
KBS MLR MLR
comp=Z,1µm,16.0s
KBS Kingsbay 54.24 351 PFAKE 10 24 50.0 +16
KBS LR LR
comp=Z,2µm,20.0s
SPA0 Spitsbergen Ar 54.28 349 *e*P **P 10 24 32.6 -2.1**
YKA Yellowknife Ar 54.30 35 P **P 10 24 35.1 +0.1**
YKA pP **pP 10 24 45.1 -1.9**
YKA Yellowknife Ar 54.30 35 P **P 10 24 35.1 +0.1**
comp=Z,25nm,0.8s,baz=300,slow=7.0,SNR=29
YKA pP **pP 10 24 45.1 -1.9**
comp=Z,21nm,0.8s,baz=301,slow=7.2,SNR=7.4
HNR Honiara 54.60 167 LR LR 10 45 19.0
comp=Z,2µm,20.1s,baz=334,slow=33
KK31 Karatay Array 54.65 298 *i* P **P 10 24 37.5 -0.4**
KK31 pmax pmax
comp=Z,34nm,0.8s
KKAR Karatay Array 54.65 298 *e*P **P 10 24 37.7 -0.2**
KKAR Karatay Array 54.65 298 *e*P **P 10 24 37.7 -0.2**
ARU Arti 54.77 317*c* *i*P **P 10 24 36.6 -1.9**
ARU 10 25 38.4
ARU 10 26 38.4
ARU S **S 10 32 13.7 -2.2**
ARU pmax pmax
comp=Z,69nm,1.7s
ARU MLR MLR
comp=Z,5µm,17.0s
KSM Kuching 54.97 230 P **P 10 24 41.8 +1.3**
KSM Kuching 54.97 230 *e*P **P 10 24 41.5 +1.0**
comp=Z,89nm,1.2s
KSM LR LR
comp=Z,962nm,21.0s
LGTI Lohaghat 55.54 279 *e*P **P 10 24 45.1 +0.7**
KAPI Kappang 55.98 216 P **P 10 24 47.0 -0.7**
KAPI *e*pP **pP 10 25 02.3 +2.6**
KAPI LR LR
comp=Z,593nm,20.0s
KAPI Kappang 55.98 216 P **P 10 24 47.0 -0.7**

comp=Z,15nm,0.7s,baz=42,slow=9.3,SNR=9.1
KTGM **Kuala Trenggan** 56.06 240 P P 10 24 50.1 +1.8
SDNR **Sundarnagar** 56.65 283 ex P 10 24 53.0 +0.6
SMLA **Simla** 56.73 283 i P P 10 24 53.8 +1.0
THN **Thein Dam** 56.98 285 eP P 10 24 54.6 -0.1
PKDT **Phuket** 57.16 246 P P 10 24 58.1 +2.0
comp=Z,60nm,1.1s,comp=Z,8µm
NLWA **Neilton Lookou** 57.38 54 eP P 10 24 59.1 +1.8
comp=Z,41nm,1.0s
NLWA LR LR
comp=Z,1µm,20.0s
A05A **Maple Falls** 57.53 51 eP P 10 24 59.4 +1.1
comp=Z,119nm,1.7s
KULM **Kulim** 57.64 242 P P 10 25 00.4 +0.9
KULM **Kulim** 57.64 242 eP P 10 25 00.5 +0.9
comp=Z,84nm,1.2s
KULM LR LR
comp=Z,1µm,20.0s
AB31 **Akbulak array** 57.71 309 i P P 10 24 59.3 -0.3
AB31 pmax pmax
comp=Z,30nm,0.6s
ABKAR **Akbulak array** 57.71 309 eP P 10 24 59.5 -0.2
IPM **Ipoh** 58.03 241 P P 10 25 03.1 +0.8
IPM **Ipoh** 58.03 241 eP P 10 25 02.6 +0.3
comp=Z,108nm,1.7s
IPM epP pP 10 25 18.2 +3.9
NDI **New Delhi** 58.13 280 eP P 10 25 02.5 -0.3
AKTO **Aktyubinsk** 58.13 311 i P P 10 25 00.7 -1.8
AKTO pmax pmax
comp=Z,31nm,1.3s
AKTO **Aktyubinsk** 58.13 311 P P 10 25 00.6 -2.0
AKTO **Aktyubinsk** 58.13 311 P P 10 25 00.6 -2.0
comp=Z,9.6nm,0.7s,baz=64,slow=8.3,SNR=22
APA **Apatity** 58.25 336⇓ i P P 10 25 04.0 +0.9
APA pmax pmax
comp=Z,20nm,0.9s
APA MLR MLR
comp=Z,2µm,20.0s
MYKOM **Kota Tinggi** 58.41 237 P P 10 25 06.4 +1.5
KEV **Kevo** 58.48 340 eP P 10 25 01.6 -3.0
KEV pmax pmax
comp=Z,7.0nm,0.6s
KEV **Kevo** 58.48 340 ep P 10 25 01.6 -3.0
comp=Z,7.3nm,0.6s
KEV **Kevo** 58.48 340 PFAKE 10 25 20.0 +15
KEV LR LR
comp=Z,2µm,19.0s
COEN **Coen** 58.49 187 eP P 10 25 06.6 +1.4
comp=Z,326nm,1.3s
KGM **Kluang** 58.55 237 P P 10 25 07.6 +1.7
D05A **Enumclaw** 58.56 53 eP P 10 25 07.0 +1.4
comp=Z,60nm,0.9s
FRIM **Kepong** 58.62 240 P P 10 25 06.8 +0.4
LON **Longmire** 58.91 53 eP P 10 25 08.8 +0.7
LON pmax pmax
comp=Z,21nm,1.2s
LON **Longmire** 58.91 53 eP P 10 25 08.8 +0.7
comp=Z,21nm,1.2s
TMCR **Tamitsa** 58.98 332 eP P 10 25 08.3 +0.1
TMCR pmax pmax
comp=Z,80nm,1.2s
ARCES **ARCESS Array B** 59.01 340 P P 10 25 05.8 -2.5
ARCES **ARCESS Array B** 59.01 340 P P 10 25 05.8 -2.5
comp=Z,9.2nm,0.8s,baz=53,slow=8.1,SNR=19
ARCES LR LR 10 55 43.0
comp=Z,1µm,18.9s,baz=35,slow=41
ARE0 **ARCESS Array S** 59.01 340 eP P 10 25 06.7 -1.7
NLW **Nelson Butte** 59.01 51 P P 10 25 09.6 +0.7
TWW **Teanaway** 59.23 53 P P 10 25 11.6 +1.3
ETW **Entiat** 59.28 52 P P 10 25 11.3 +0.6
LTY **Liberty** 59.28 52 eP P 10 25 10.7 0.0
comp=Z,38nm,1.4s
B08A **Colville Reser** 59.41 51 eP P 10 25 11.8 +0.2
comp=Z,28nm,0.9s
WTV **Waterville** 59.44 52 P P 10 25 12.0 +0.3
KEBM **Edson Butte** 59.57 58 P P 10 25 14.2 +1.5
VLL **Laurance Lake** 59.70 55 P P 10 25 14.7 +1.0
EDM **Edmonton** 59.80 44 eP P 10 25 14.2 +0.1
EDM **Edmonton** 59.80 44 eP P 10 25 14.2 +0.1
KULLO **Kullorsuaq** 59.84 8 i P P 10 25 13.0 -1.0
KULLO pmax pmax
comp=Z,55nm,0.8s
VFP **Flag Point** 59.91 55 P P 10 25 16.3 +1.1
KBL **Kabul** 60.30 291 eP P 10 25 17.3 -0.8
KBL pmax pmax
comp=Z,169nm,1.0s
KBL **Kabul** 60.30 291 eP P 10 25 17.2 -0.8
comp=Z,169nm,1.0s
OD2 **Odessa Site #2** 60.30 51 P P 10 25 17.9 +0.3
C09A **Chrisman Ranch** 60.31 51 eP P 10 25 17.8 +0.1
comp=Z,110nm,1.6s
HAWA **Hanford** 60.41 53 eP P 10 25 19.3 +1.0
comp=Z,105nm,1.6s
HAWA LR LR
comp=Z,1µm,19.0s
G06A **Carlson Farm,** 60.44 54 eP P 10 25 19.8 +1.2
comp=Z,104nm,1.4s
TRO **Tromso** 60.46 342 eP P 10 25 17.1 -1.1
TRO AMS AMS 10 56 02.2
comp=Z,1µm,18.3s
KLMR **Klimovskoe** 60.55 328 eP P 10 25 15.4 -3.6
KLMR SS SS 10 37 34.9 +5.7
KLMR pmax pmax
comp=Z,140nm,1.3s
KLMR MLR MLR
comp=Z,3µm,20.0s
HUMO **Hull Mountain** 60.56 58 epP pP 10 25 34.1 +2.5
NEW **Newport** 60.68 50 eP P 10 25 20.8 +0.6
comp=Z,41nm,0.9s
NEW LR LR
comp=Z,987nm,20.0s
NEW **Newport** 60.68 50 ⇑P P 10 25 20.3 0.0
baz=60,SNR=14
NEW **Newport** 60.68 50 P P 10 25 19.9 -0.3
comp=Z,16nm,1.0s,baz=304,slow=6.6,SNR=15
E09A **Wood Farm, Sta** 61.12 52 eP P 10 25 23.7 +0.5
comp=Z,48nm,0.8s
YBH **Yreka Blue Hor** 61.21 59 eP P 10 25 25.4 +1.5
comp=Z,58nm,1.3s
G08A **Pilot Rock** 61.37 53 eP P 10 25 25.5 +0.5
NGP **Nagpur** 61.49 272 eP P 10 25 25.2 -0.8
NGP ex x 10 25 36.1
comp=Z,175nm,1.2s
NGP ex x 10 27 36.9
K05A **Summer Lake** 61.73 57 eP P 10 25 29.1 +1.5
comp=Z,314nm,1.8s
I07A **Izee** 61.76 55 eP P 10 25 28.7 +1.0
comp=Z,26nm,1.0s
WALA **Waterton Lakes** 61.95 48 eP P 10 25 29.1 +0.2
comp=Z,2.0nm,1.0s
F10A **Beach Ranch, E** 61.96 52 eP P 10 25 29.7 +0.7
comp=Z,26nm,0.8s
WDC **Whiskeytown Da** 61.98 60 eP P 10 25 29.0 -0.1
WDC pmax pmax
comp=Z,43nm,0.9s
WDC **Whiskeytown Da** 61.98 60 eP P 10 25 29.0 -0.1
comp=Z,43nm,0.9s
JOF **Joensuu** 62.06 333 eP P 10 25 27.6 -1.6
JOF pmax pmax
comp=Z,14nm,0.6s
JOF **Joensuu** 62.06 333 ep P 10 25 27.6 -1.6
comp=Z,14nm,0.6s
BSMT **Bassoo Peak** 62.20 49 eP P 10 25 31.7 +1.1
BLMT **Blacktail Moun** 62.33 49 eP P 10 25 32.7 +1.2
JTMT **Jette** 62.53 49 eP P 10 25 33.6 +0.8
MOD **Modoc** 62.57 57 eP P 10 25 34.2 +1.0
comp=Z,199nm,1.0s
BMO **Blue Mountains** 62.58 53 eP P 10 25 33.1 0.0
comp=Z,56nm,1.5s
BMO LR LR
comp=Z,1µm,21.0s
YBMT **Yellow Bay** 62.61 49 eP P 10 25 30.5 -2.8
comp=Z,57nm,1.4s
STEI **Steigen** 62.63 342 eP P 10 25 30.4 -2.5
J08A **Circle Bar Ran** 62.79 55 eP P 10 25 35.4 +0.8
comp=Z,53nm,1.0s
SWMT **Swartz Lake** 62.83 49 eP P 10 25 35.3 +0.5
LOF **Lofoten** 62.83 343 eP P 10 25 32.2 -2.0
SUMG **Summit** 63.05 3 eP P 10 25 35.7 -0.5
SUMG pmax pmax
comp=Z,743nm,2.4s
SUMG **Summit** 63.05 3 i P P 10 25 35.3 -0.9
comp=Z,28nm,0.8s
SUMG **Summit** 63.05 3 eP P 10 25 35.7 -0.5
comp=Z,742nm,2.4s
XMAS **Kiritimati** 63.17 116 eP P 10 25 36.9 -0.4
comp=Z,156nm,1.2s
XMAS LR LR
comp=Z,4µm,20.0s
WVOR **Wild Horse Val** 63.25 56 eP P 10 25 38.3 +0.7
WVOR pmax pmax
comp=Z,125nm,1.5s
WVOR MLR MLR
comp=Z,908nm,21.0s
WVOR **Wild Horse Val** 63.25 56 eP P 10 25 38.3 +0.7
comp=Z,125nm,1.5s
WVOR LR LR
comp=Z,908nm,21.0s
SLMT **Seeley Lake** 63.26 49 eP P 10 25 38.0 +0.3
MSO **Missoula** 63.27 50 eP P 10 25 38.0 +0.3
comp=Z,42nm,1.0s
MSO **Missoula** 63.27 50 ⇓P P 10 25 37.8 +0.1
baz=63,SNR=23
OHCM **Honcut** 63.38 60 eP P 10 25 38.9 +0.6
CHMT **Chamberlain Mo** 63.59 49 eP P 10 25 40.2 +0.3
BEKR **Beckworth** 63.75 59 eP P 10 25 41.4 +0.3
comp=Z,29nm,1.1s
BEKR epP pP 10 25 53.9 +0.6
BEKR esP sP 10 25 58.1 +0.1
FFC **Flin Flon** 64.17 38 eP P 10 25 43.7 +0.4
FFC pmax pmax
comp=Z,185nm,1.0s
FFC MLR MLR
comp=Z,535nm,19.0s
FFC **Flin Flon** 64.17 38 eP P 10 25 43.6 +0.4
comp=Z,185nm,1.0s
FFC LR LR
comp=Z,535nm,19.0s
FFC **Flin Flon** 64.17 38 P P 10 25 43.0 -0.3
comp=Z,363nm,1.2s,SNR=16
KAF **Kangasniemi** 64.25 334 eP P 10 25 41.5 -2.2
KAF pmax pmax
comp=Z,10.0nm,0.7s
KAF **Kangasniemi** 64.25 334 ep P 10 25 41.5 -2.2
comp=Z,10.0nm,0.7s
HYB **Hyderabad** 64.28 269⇑ i P P 10 25 43.0 -1.6
HYB e 10 25 55.0
MFID **Camas Ranch** 64.29 54 eP P 10 25 45.0 +0.5
comp=Z,62nm,1.6s
CTA **Charters Tower** 64.38 183 P P 10 25 44.5 -0.5
CTA **Charters Tower** 64.38 183 P P 10 25 44.5 -0.5
comp=Z,3.1nm,0.6s,baz=6.0,slow=6.7,SNR=3.4
CTA LR LR 10 48 54.0
comp=Z,824nm,21.0s,baz=285,slow=31
CTAO **Charters Tower** 64.38 183 eP P 10 25 44.6 -0.4
CTAO pmax pmax
comp=Z,28nm,1.2s
CTAO MLR MLR
comp=Z,992nm,22.0s
CTAO **Charters Tower** 64.38 183 eP P 10 25 44.6 -0.4
comp=Z,28nm,1.2s
CTAO LR LR
comp=Z,992nm,22.0s
PAHR **Pah Rah Range** 64.44 59 eP P 10 25 46.5 +0.9
comp=Z,70nm,1.2s
STOK **Stokkvaagen** 64.45 342 eP P 10 25 42.9 -2.1
PUL **Pulkovo** 64.65 331⇑ eP P 10 25 46.8 +0.5
PUL pmax pmax
comp=Z,144nm,1.6s
PUL MLR MLR
comp=Z,940nm,16.0s
MOS **Moscow** 64.67 324 eP P 10 25 45.2 -1.4
MOS pmax pmax
comp=Z,300nm,1.7s
MOS pmax pmax
comp=Z,166nm,1.4s
MOS MLR MLR
comp=Z,3µm,18.0s
LRM **Limekiln Ridge** 64.70 50 eP P 10 25 47.6 +0.3
A19A **Klindworth Far** 64.71 46 ⇑P P 10 25 47.1 0.0
baz=64,SNR=27
EGMT **Eagleton** 64.76 47 eP P 10 25 48.2 +0.8
comp=Z,86nm,0.9s
EGMT LR LR
comp=Z,1µm,22.0s
EGMT **Eagleton** 64.76 47 ⇑P P 10 25 47.4 -0.1
baz=64,SNR=11
FIA1 **FINESS Array S** 64.83 334 eP P 10 25 46.2 -1.3
FINES **FINESS Array B** 64.83 334 P P 10 25 45.9 -1.6
FINES **FINESS Array B** 64.83 334 P P 10 25 45.9 -1.6
comp=Z,16nm,0.6s,baz=42,slow=7.5,SNR=24
FINES LR LR 10 57 12.0
comp=Z,2µm,18.1s,baz=45,slow=39
CMB **Columbia Colle** 64.85 61 eP P 10 25 48.9 +0.8
CMB pmax pmax
comp=Z,41nm,0.9s
CMB **Columbia Colle** 64.85 61 eP P 10 25 48.9 +0.8
comp=Z,41nm,0.9s
B19A **Brinkman Farms** 64.91 46 ⇑P P 10 25 48.4 +0.1
baz=65,SNR=36
DLMT **Dillon** 64.91 50 eP P 10 25 49.1 +0.6
comp=Z,50nm,1.3s
SAO **San Andreas Ge** 64.96 62 epP pP 10 26 06.1 +5.1
HLID **Hailey** 65.01 53 eP P 10 25 49.6 +0.4
comp=Z,24nm,1.0s
HLID LR LR
comp=Z,845nm,21.0s
HLID **Hailey** 65.01 53 ⇓P P 10 25 49.7 +0.4
baz=65,SNR=11
IMYA **Miami** 65.07 297 eP P 10 25 50.4 +0.6
MCMT **McKenzie Canyo** 65.11 51 eP P 10 25 49.9 -0.1
comp=Z,7.8nm,1.0s
MCMT epP pP 10 26 02.7 +0.6
MCMT esP sP 10 26 07.4 +0.5
WAKR **Walker** 65.15 60 eP P 10 25 51.4 +1.1
A20A **Cobblestone Ra** 65.16 45 ⇓P P 10 25 50.4 +0.4
baz=65,SNR=27
BMN **Battle Mountai** 65.31 57 eP P 10 25 52.3 +1.1
BMN pmax pmax
comp=Z,34nm,0.9s
BMN MLR MLR
comp=Z,1µm,22.0s
BMN **Battle Mountai** 65.31 57 eP P 10 25 52.3 +1.1
comp=Z,34nm,0.9s
BMN LR LR
comp=Z,1µm,22.0s
C19A **Slack Wire Ran** 65.31 47 ⇑P P 10 25 51.7 +0.7
baz=65,SNR=35
IEMG **Emamgholi** 65.33 299 eP P 10 25 51.8 +0.3
B20A **Solberg Farm,** 65.39 46 ⇓P P 10 25 51.8 +0.3
baz=65,SNR=27
ISRO **Mashad** 65.49 297 eP P 10 25 52.7 +0.3
OBN **Obninsk** 65.54 324⇑ i P P 10 25 51.6 -0.6
OBN eS S 10 34 29.7 -4.2
OBN pmax pmax
comp=Z,186nm,1.2s
OBN MLR MLR
comp=Z,3µm,18.0s
ILULI **Ilulissat** 65.56 8 i P P 10 25 51.4 -0.7
ILULI pmax pmax
comp=Z,47nm,0.9s
A21A **Bergtoll Ranch** 65.59 45 ⇑P P 10 25 53.2 +0.4
baz=65
WRAB **Tennant Creek** 65.59 195 eP P 10 25 52.3 -0.6
WRAB pmax pmax
comp=Z,91nm,1.3s
WRAB MLR MLR
comp=Z,759nm,21.0s
WRAB **Tennant Creek** 65.59 195 eP P 10 25 52.3 -0.6
comp=Z,91nm,1.3s
WRAB LR LR
comp=Z,759nm,21.0s
WRA **Warramunga Arr** 65.61 195 P P 10 25 52.4 -0.6
WRA pP pP 10 26 05.8 +0.6
WRA ⇑e 10 54 35.2
WRA P'P'ab P'P'ab 10 54 39.0 +4.9
WRA **Warramunga Arr** 65.61 195 P P 10 25 52.4 -0.6
comp=Z,14nm,0.7s,baz=15,slow=6.7,SNR=59
WRA pP pP 10 26 05.8 +0.6
comp=Z,34nm,1.0s,baz=12,slow=6.3,SNR=13
WRA PKP2bc 10 54 35.2
comp=Z,1.6nm,1.1s,baz=203,slow=2.4,SNR=5.5
WRA PKP2ab 10 54 39.1
comp=Z,1.6nm,1.1s,baz=199,slow=2.6,SNR=5.4
WRA LR LR 10 55 15.6
comp=Z,424nm,18.7s,baz=0.0,slow=37
IMOG **Moghan** 65.70 297 eP P 10 25 53.5 -0.5
IAKL **Akhelmad** 65.76 298 eP P 10 25 55.0 +0.6
D19A **Cripps Ranch,** 65.77 47 ⇓P P 10 25 54.4 +0.4
baz=66,SNR=28
IKRD **Kardeh** 65.81 298 eP P 10 25 51.2 -3.4
ISHV **Shirvan** 65.85 299 eP P 10 25 55.3 +0.5
C20A **Veseth Ranch,** 65.87 46 ⇓P P 10 25 55.3 +0.7
baz=66,SNR=40
QLMT **Earthquake Lak** 65.89 50 eP P 10 25 55.5 +0.6
NVAR **Mina Array Bea** 65.89 59 P P 10 25 55.4 +0.3
NVAR pP pP 10 26 08.2 +0.9
NVAR sP sP 10 26 12.2 +0.1
NVAR **Mina Array Bea** 65.89 59 P P 10 25 55.4 +0.3
comp=Z,6.7nm,0.7s,baz=291,slow=6.0,SNR=37
NVAR pP pP 10 26 08.2 +0.9
comp=Z,7.7nm,0.7s,baz=230,slow=34,SNR=17
NVAR sP sP 10 26 12.2 +0.1
comp=Z,35nm,0.9s,baz=300,slow=7.3,SNR=14
NVAR LR LR 10 52 27.8
comp=Z,629nm,20.8s,baz=265,slow=34
B21A **Ellsworth Farm** 65.91 45 ⇓P P 10 25 55.1 +0.3
baz=66,SNR=13
ISFR **Sfrayin** 65.96 299 eP P 10 25 56.2 +0.6
FITZ **Fitzroy Crossi** 65.96 205 P P 10 25 55.7 +0.5
FITZ sP sP 10 26 10.3 -1.9
FITZ **Fitzroy Crossi** 65.96 205 P P 10 25 55.7 +0.5
comp=Z,11nm,0.8s,baz=12,slow=6.8,SNR=19
FITZ sP sP 10 26 10.3 -1.9
comp=Z,21nm,0.8s,baz=12,slow=8.9,SNR=12
NV11 **Mina Array Sit** 65.98 59 eP P 10 25 56.0 +0.4
VRHR **Novokhopersk** 66.02 319 eP P 10 25 53.9 -1.5
VRHR pmax pmax
comp=N,70nm,0.9s
VRHR pmax pmax
comp=E,50nm,0.9s
VRHR pmax pmax
comp=Z,170nm,0.9s
VRHR MLR MLR
comp=N,490nm,22.0s
VRHR MLR MLR
comp=E,810nm,22.0s
VRHR MLR MLR
comp=Z,4µm,22.0s
MLAC **Mammoth Lakes** 66.06 60 ⇓P P 10 25 56.7 +0.5
baz=66
A22A **Carney Farms,** 66.10 44 ⇓P P 10 25 55.8 -0.2
baz=66,SNR=45
D20A **Manuel Ranch,** 66.20 47 ⇓P P 10 25 57.3 +0.6
baz=66,SNR=52
GCMT **Greycliff** 66.23 49 eP P 10 25 57.6 +0.6
comp=Z,27nm,0.8s
YMR **Madison River** 66.25 50 eP P 10 25 57.8 +0.5
comp=Z,33nm,0.8s
C21A **Desert Coulee** 66.26 46 ⇓P P 10 25 57.7 +0.6
baz=66
E19A **Rath Farm, Rou** 66.27 48 ⇓P P 10 25 57.8 +0.6
baz=66,SNR=27
ELK **Elko** 66.29 56 eP P 10 25 58.7 +1.0
comp=Z,94nm,2.1s
YNR **Norris Junctio** 66.37 50 eP P 10 25 59.1 +1.0
comp=Z,23nm,0.8s
MTUM **Tungsten Hills** 66.40 60 eP P 10 25 59.5 +1.1
PTRM **Twissleman Ran** 66.43 63 eP P 10 26 00.5 +2.2
YFT **Old Faithful** 66.46 50 eP P 10 26 00.3 +1.7
comp=Z,40nm,1.0s
B22A **Reddig Ranch S** 66.51 45 ⇑P P 10 25 58.8 +0.2
baz=66,SNR=11
F19A **Roth Farm, Mol** 66.58 48 ⇓P P 10 25 59.5 +0.3
baz=66,SNR=41
E20A **Meyer Farm, Mu** 66.59 47 ⇑P P 10 25 59.7 +0.4
baz=66,SNR=18
LKWY **Lake** 66.62 50 eP P 10 26 01.2 +1.5
LKWY pmax pmax
comp=Z,14nm,0.8s
LKWY MLR MLR
comp=Z,1µm,20.0s
LKWY **Lake** 66.62 50 eP P 10 26 01.2 +1.5
comp=Z,14nm,0.8s
LKWY LR LR
comp=Z,1µm,20.0s
A23A **Redstone** 66.63 44 ⇑P P 10 25 59.3 -0.1
baz=66
H17A **Grant Village** 66.64 50 eP P 10 26 02.0 +2.2
H17A **Grant Village** 66.64 50 ⇑P P 10 26 01.6 +1.8
baz=66,SNR=16
IMW **Indian Meadow** 66.75 51 P P 10 26 00.3 -0.3
comp=Z,39nm,1.0s
FLWY **Flagg Ranch** 66.77 51 eP P 10 26 01.9 +1.3
comp=Z,33nm,0.9s
SMMC **Simmler** 66.78 63 ⇑P P 10 26 01.1 +0.5
baz=67
TPH **Tonopah** 66.78 59 PFAKE 10 26 10.0 +9.2
TPH LR LR
comp=Z,725nm,21.0s
TIN **Tinemaha** 66.80 60 ⇓P P 10 26 01.5 +0.7
baz=67
D21A **La Casta Ranch** 66.81 46 ⇓P P 10 26 00.8 +0.2
baz=67,SNR=14
VSU **Vasula** 66.86 331⇑ eP P 10 26 00.1 -0.5
VSU pmax pmax
comp=Z,286nm,1.4s
VSU MLR MLR
comp=Z,3µm,18.0s
RLMT **Red Lodge** 66.88 49 PFAKE 10 26 10.0 +8.7
RLMT LR LR
comp=Z,929nm,19.0s
RRI2 **Red Ridge** 66.89 51 eP P 10 26 02.5 +1.0
comp=Z,69nm,0.8s
B23A **Brockton** 66.91 44 ⇓P P 10 26 01.2 +0.1
baz=67,SNR=36
POO **Poona** 66.91 274⇑ i P P 10 26 00.0 -1.6
C22A **Vida** 66.93 45 ⇓P P 10 26 01.2 -0.2
baz=67
I17A **Pilgrim Ck.** 66.94 51 ⇓P P 10 26 03.0 +1.3
baz=67,SNR=15
H18A **Shoshone NF, C** 66.95 50 ⇑P P 10 26 01.8 0.0
baz=67,SNR=18
MOOW **Moose Ponds** 66.96 51 eP P 10 26 02.7 +0.9
comp=Z,58nm,1.3s
TPAW **Teton Pass** 67.01 51 eP P 10 26 03.3 +1.1
comp=Z,96nm,1.3s
VES **Vestal, Richgr** 67.03 62 ⇓P P 10 26 01.9 -0.2
baz=67
F20A **Billings** 67.03 48 ⇓P P 10 26 02.3 +0.2
baz=67,SNR=9.9
HVU **Hansel Valley** 67.07 54 eP P 10 26 03.5 +1.0
HVU pmax pmax
comp=Z,34nm,1.1s
HVU **Hansel Valley** 67.07 54 eP P 10 26 03.5 +1.0
comp=Z,34nm,1.1s
VSR **Storozhevoye** 67.08 320 eP P 10 26 01.6 -0.6
VSR pmax pmax
comp=N,80nm,0.8s
VSR pmax pmax
comp=E,60nm,0.8s
VSR pmax pmax
comp=Z,110nm,0.8s
VSR MLR MLR
comp=N,1µm,16.0s
VSR MLR MLR
comp=E,1µm,16.0s
VSR MLR MLR
comp=Z,3µm,16.0s
A24A **Westby** 67.09 43 ⇑P P 10 26 02.5 +0.2
baz=67
E21A **Keefer Ranch,** 67.11 47 ⇓P P 10 26 03.0 +0.5
baz=67,SNR=5.3
LOHW **Long Hollow** 67.12 51 eP P 10 26 03.8 +0.9
comp=Z,88nm,1.5s
SNOW **Snow King Moun** 67.14 51 eP P 10 26 04.1 +1.1
comp=Z,54nm,1.0s
REDW **Red Top Meadow** 67.15 51 eP P 10 26 03.9 +0.8
comp=Z,84nm,1.4s
PKM **Peak Mountain** 67.16 63 ⇑P P 10 26 03.0 -0.1
baz=67
D22A **Cohagen** 67.17 46 ⇓P P 10 26 03.0 +0.1
baz=67,SNR=17
VORD **Divnogorie** 67.19 320 eP P 10 26 02.6 -0.3
VORD pmax pmax
comp=E,110nm,0.9s
VORD pmax pmax
comp=Z,120nm,0.9s
VORD MLR MLR
comp=E,1µm,17.0s
VORD MLR MLR
comp=Z,3µm,17.0s
C23A **Lambert** 67.25 45 ⇓P P 10 26 03.4 +0.1
baz=67,SNR=15
CWC **Cottonwood Cre** 67.28 61 ⇓P P 10 26 04.2 +0.3
baz=67
DGMT **Dagmar** 67.30 44 eP P 10 26 03.9 +0.2
comp=Z,168nm,1.2s
DGMT LR LR

comp=Z,1µm,22.0s
DGMT Dagmar 67.30 44 ⇓P P 10 26 03.6 -0.1
baz=67,SNR=21
H19A Powell 67.32 49 ⇓P P 10 26 04.7 +0.6
baz=67,SNR=13
MSVF Nonsavu 67.34 150 PFAKE 10 26 20.0 +16
MSVF LR LR
comp=Z,1µm,22.0s
G20A Bridger 67.38 48 ⇓P P 10 26 04.0 -0.4
baz=67,SNR=14
AHID Auburn Hatcher 67.39 52 PFAKE 10 26 20.0 +15
AHID LR LR
comp=Z,1µm,22.0s
LAO LASA Array 67.46 46 *e*P P 10 26 05.3 +0.6
comp=Z,84nm,1.1s
LAO LR LR
comp=Z,1µm,21.0s
IDAH Dahanechah 67.47 294 *e*P P 10 26 05.5 +0.2
BGU Big Grassy Mou 67.47 54 *e*P P 10 26 07.4 +2.4
comp=Z,19nm,1.2s
A25A Svangstu Ranch 67.51 43 ⇑P P 10 26 05.2 +0.2
baz=67,SNR=11
ISA Isabella 67.52 62 *e*P P 10 26 05.2 -0.2
ISA *e**PP pP 10 26 16.2 -1.4
ISA pmax pmax
comp=Z,28nm,1.1s
ISA Isabella 67.52 62 *e*P P 10 26 05.2 -0.2
comp=Z,28nm,1.1s
ISA *e*pP pP 10 26 16.2 -1.4
ISA Isabella 67.52 62 ⇑P P 10 26 05.8 +0.4
baz=67
F21A Absaloka Mine, 67.56 47 ⇑P P 10 26 05.7 +0.3
baz=67
R11A Troy Canyon, C 67.60 58 *e*P P 10 26 03.5 -2.4
R11A Troy Canyon, C 67.60 58 ⇑P P 10 26 06.0 +0.1
baz=67,SNR=12
ARVC Arvin 67.64 62 ⇓P P 10 26 05.9 -0.1
baz=68
D23A Lindsay 67.66 45 ⇓P P 10 26 06.4 +0.4
baz=67,SNR=33
I19A Meeteetse 67.73 50 ⇓P P 10 26 07.2 +0.5
baz=68,SNR=11
SFJD Kangerlussuaq 67.75 8 *i* P P 10 26 05.1 -1.0
comp=Z,31nm,1.0s
SFJD Kangerlussuaq 67.75 8 *e*P P 10 26 04.8 -1.4
comp=Z,62nm,1.0s
SFJD LR LR
comp=Z,2µm,19.0s
E22A Miles City 67.77 46 ⇓P P 10 26 06.8 +0.1
baz=68,SNR=17
C24A Savage 67.81 45 ⇑P P 10 26 07.2 +0.3
baz=68,SNR=12
MPMC Manual Prospec 67.89 61 ⇓P P 10 26 07.7 -0.1
baz=68,SNR=16
G21A Lodge Grass 67.91 48 ⇓P P 10 26 07.6 -0.1
baz=68
B25A Knox Farm, Ray 67.94 43 ⇓P P 10 26 08.3 +0.5
baz=68
H20A Greybull 67.98 49 ⇑P P 10 26 07.8 -0.3
baz=68,SNR=5.2
FURC Furnace Creek, 68.02 60 ⇑P P 10 26 08.6 +0.3
baz=68,SNR=10
E23A Ismay 68.06 46 ⇓P P 10 26 08.7 +0.2
baz=68,SNR=27
DUG Dugway 68.07 55 *e*P P 10 26 09.4 +0.6
DUG pmax pmax
comp=Z,44nm,1.0s
DUG MLR MLR
comp=Z,789nm,20.0s
DUG Dugway 68.07 55 *e*P P 10 26 09.4 +0.6
comp=Z,44nm,1.0s
DUG LR LR
comp=Z,789nm,20.0s
DUG Dugway 68.07 55 ⇓P P 10 26 09.1 +0.3
baz=68,SNR=15
ITEG Tejag 68.10 295 *e*P P 10 26 09.3 +0.2
AFI Afiamalu 68.13 139 LR LR 10 49 55.5
comp=Z,1µm,21.1s,baz=52,slow=30
D24A Glendive 68.14 45 ⇓P P 10 26 09.2 +0.2
baz=68,SNR=30
DZM Mont Dzumac 68.15 163 *e*P P 10 26 21.4 +12
comp=Z,123nm,1.6s
DZM Mont Dzumac 68.15 163 *e*LR LR 10 46 52.2
comp=Z,2µm,22.2s
J19A Crowheart 68.21 50 ⇓P P 10 26 10.3 +0.6
baz=68,SNR=20
IKOO Kooshah 68.23 294 *e*P P 10 26 09.9 -0.2
BW06 Boulder Array 68.25 51 *e*P P 10 26 09.8 -0.3
comp=Z,38nm,1.1s
BW06 LR LR
comp=Z,905nm,21.0s
PDAR Pinedale Array 68.25 51 P P 10 26 09.9 -0.1
PDAR pP pP 10 26 22.5 +0.2
PDAR Pinedale Array 68.25 51 P P 10 26 09.9 -0.1
comp=Z,8.9nm,0.8s,baz=300,slow=2.9,SNR=42
PDAR pP pP 10 26 22.5 +0.2
comp=Z,14nm,0.7s,baz=276,slow=3.4,SNR=13
PDAR LR LR 10 56 06.8
comp=Z,578nm,21.5s,baz=336,slow=36
I20A Worland 68.26 49 ⇑P P 10 26 10.6 +0.7
baz=68,SNR=16
C25A Freed Ranch, W 68.27 44 ⇓P P 10 26 10.2 +0.4
baz=68
B26A Jensen Ranch, 68.32 43 ⇓P P 10 26 10.6 +0.5
baz=68,SNR=6.5
EDW2 Edwards Air Fo 68.33 62 ⇓P P 10 26 10.4 +0.1
baz=68,SNR=12
H21A Big Horn, Sher 68.40 48 ⇓P P 10 26 10.9 +0.1
baz=68,SNR=22
G22A Birney 68.40 47 ⇓P P 10 26 10.8 0.0
baz=68,SNR=13
A27A Ledoux Ranch, 68.40 42 ⇑P P 10 26 11.1 +0.6
baz=68,SNR=25
M17A Scullys Gap (B 68.48 53 ⇓P P 10 26 11.4 0.0
baz=68
DECC Green Verdugo 68.51 63 ⇑P P 10 26 11.5 0.0
baz=68
E24A Baker 68.53 45 ⇓P P 10 26 11.6 +0.2
baz=68,SNR=8.2
F23A Volborg 68.53 47 ⇓P P 10 26 11.4 -0.1
baz=68,SNR=37
L18A Fontenelle, Gr 68.54 52 ⇑P P 10 26 11.4 -0.4
baz=68,SNR=12
JLU Jordanelle 68.60 54 *e*P P 10 26 07.8 -4.4
comp=Z,47nm,1.3s
D25A Fairfield 68.62 44 ⇓P P 10 26 12.2 +0.2
baz=68,SNR=7.8
NLU North Lily Min 68.66 55 *e*P P 10 26 13.4 +0.8
comp=Z,37nm,1.1s
J20A Shoshoni 68.68 50 ⇑P P 10 26 12.7 +0.2
baz=68,SNR=11
MWC Mount Wilson 68.70 63 *e*pP pP 10 26 24.6 -0.6
C26A Wahner Farm, P 68.77 43 ⇓P P 10 26 13.2 +0.3
baz=68,SNR=6.1
B27A Peters Farms, 68.77 42 ⇓P P 10 26 13.1 +0.2
baz=68,SNR=14
H22A Clearmont 68.79 48 ⇓P P 10 26 13.2 0.0
baz=69,SNR=5.8
GSC Goldstone 68.80 61 *e*P P 10 26 13.8 +0.4
GSC pmax pmax
comp=Z,50nm,1.3s
GSC Goldstone 68.80 61 *e*P P 10 26 13.8 +0.4
comp=Z,50nm,1.3s
GSC Goldstone 68.80 61 ⇑P P 10 26 13.5 +0.1
baz=69,SNR=5.6
I21A Big Trails, Te 68.81 49 ⇓P P 10 26 13.5 +0.1
baz=69,SNR=38
DAU Daniels Canyon 68.83 54 *e*P P 10 26 14.9 +1.1
DAU Daniels Canyon 68.83 54 *e*P P 10 26 14.9 +1.1
MPU Maple Canyon 68.87 54 *e*P P 10 26 14.8 +0.9
comp=Z,30nm,0.9s
G23A Biddle 68.88 47 ⇑P P 10 26 13.7 -0.1
baz=69,SNR=21
A28A Rude Farm, Bot 68.90 41 ⇓P P 10 26 13.8 +0.1
baz=69,SNR=15
F24A Ekalaka 68.94 46 ⇑P P 10 26 14.2 +0.2
baz=69,SNR=26
BFSC Mount Baldy Ra 68.95 62 ⇓P P 10 26 14.2 -0.1
baz=69,SNR=6.1
E25A Miller Ranch, 69.03 45 ⇓P P 10 26 14.7 +0.2
baz=69,SNR=31
J21A Lysite 69.03 49 ⇓P P 10 26 14.8 0.0
baz=69,SNR=17
SHPR Sheep Range 69.05 59 *e*P P 10 26 15.4 +0.5
D26A Manning 69.14 44 ⇑P P 10 26 15.3 +0.1
baz=69,SNR=9.1
B28A Dugan Ranch, T 69.17 42 ⇑P P 10 26 15.5 +0.2
baz=69,SNR=20

I22A 9 Mile Ranch, 69.19 49 ⇓P P 10 26 16.0 +0.3
baz=69,SNR=18
SCI San Clemente I 69.19 64 ⇑P P 10 26 16.4 +0.7
baz=69
ARUT Antelope Range 69.26 57 *e*P P 10 26 16.6 +0.3
ARUT pmax pmax
comp=Z,274nm,0.8s
ARUT Antelope Range 69.26 57 *e*P P 10 26 16.6 +0.3
comp=Z,274nm,0.8s
TUQ Turquoise Moun 69.26 60 ⇓P P 10 26 16.5 +0.2
baz=69,SNR=8.5
ISAL Salakas 69.28 329 *e*P P 10 26 15.9 0.0
ISAL AMB AMB 10 26 17.7
comp=Z,55nm,1.1s
G24A Alzada 69.31 46 ⇓P P 10 26 16.3 -0.1
baz=69
M19A Rock Springs 69.31 52 ⇓P P 10 26 16.5 -0.1
baz=69
AS31 Alice Springs 69.31 195 *e*P P 10 26 16.7 +0.3
ASAR Alice Springs 69.32 195 P P 10 26 16.8 +0.4
ASAR pP pP 10 26 27.2 -1.5
ASAR sP sP 10 26 30.9 -2.6
ASAR ⇑*e* 10 54 24.5
ASAR Alice Springs 69.32 195 P P 10 26 16.8 +0.4
comp=Z,11nm,0.7s,baz=11,slow=5.0,SNR=100
ASAR pP pP 10 26 27.2 -1.5
comp=Z,16nm,0.9s,baz=13,slow=5.8,SNR=8.2
ASAR sP sP 10 26 30.9 -2.6
comp=Z,14nm,0.8s,baz=11,slow=5.9,SNR=12
ASAR LR LR 10 54 24.3
comp=Z,275nm,19.4s,baz=12,slow=34
ASAR PKP2bc 10 54 24.5
comp=Z,4.6nm,1.1s,baz=184,slow=3.0,SNR=17
A29A Manning Farm, 69.38 41 ⇓P P 10 26 16.6 0.0
baz=69,SNR=44
NB2 NORSAR Subarra 69.38 340 P P 10 26 15.2 -1.3
comp=Z,216nm,1.4s,baz=30,slow=6.5
NB2 NORSAR Subarra 69.38 340 P P 10 26 15.2 -1.3
baz=30,slow=6.5
NOA NORSAR Array B 69.38 340 P P 10 26 14.9 -1.5
NOA NORSAR Array B 69.38 340 P P 10 26 14.9 -1.5
comp=Z,35nm,0.6s,baz=30,slow=6.4,SNR=106
NOA LR LR 11 02 54.5
comp=Z,957nm,18.4s,baz=30,slow=41
GOF Gofitskoye 69.38 313 *e*P P 10 26 17.9 +1.2
GOF pmax pmax
comp=Z,600nm,1.3s
F25A Bowman 69.39 45 ⇑P P 10 26 16.9 0.0
baz=69,SNR=12
BBRC Big Bear Solar 69.40 62 ⇑P P 10 26 17.3 0.0
baz=69
HEC Hector,Ludlow 69.40 61 ⇑P P 10 26 17.4 +0.3
baz=69,SNR=11
IIGN Ignalina 69.42 329 *e*P P 10 26 16.4 -0.4
IIGN AMB AMB 10 26 18.1
comp=Z,67nm,0.8s
L20A Wamsutter 69.43 51 ⇓P P 10 26 17.3 0.0
baz=69,SNR=11
MICGM Minsk 69.45 328⇑*e*P P 10 26 14.0 -2.9
CCUT Cedar City 69.46 57 *e*P P 10 26 18.1 +0.5
comp=Z,44nm,1.1s
MNK Minsk 69.47 328⇑*e*P P 10 26 14.0 -3.0
MNK pmax pmax
comp=Z,580nm,1.0s
MNK MLR MLR
comp=Z,6µm,20.0s
J22A Midwest 69.51 49 ⇓P P 10 26 17.7 0.0
baz=69,SNR=39
E26A Carlson Angus 69.52 44 ⇓P P 10 26 17.5 -0.1
baz=69
MVU Marysvale 69.52 56 *e*P P 10 26 18.7 +0.7
comp=Z,18nm,0.9s
MVU LR LR
comp=Z,1µm,22.0s
D27A Center 69.54 43 ⇑P P 10 26 18.0 +0.3
baz=69
NACGM Naroch 69.56 329 *e*P P 10 26 14.0 -3.6
NC602 NORSAR Array S 69.56 339 *e*P P 10 26 16.1 -1.4
NC602 *e*S S 10 35 16.7 -5.3
TMUT Trail Mountain 69.59 55 *e*P P 10 26 19.6 +1.2
comp=Z,26nm,1.0s
EIDS Eidsvold 69.60 178 *e*pP pP 10 26 26.9 -3.5
K21A Alcova 69.61 50 ⇓P P 10 26 18.3 -0.2
baz=69,SNR=14
H24A Dirks Ranch, A 69.63 47 ⇑P P 10 26 17.9 -0.5
baz=69,SNR=20
NAO01 NORSAR Array S 69.63 340 *e*P P 10 26 17.1 -0.8
comp=Z,45nm,0.9s
B29A Wagenman Farm, 69.64 41 ⇓P P 10 26 18.5 +0.3
baz=69,SNR=19
MURC Murrieta 69.65 63 ⇓P P 10 26 18.5 -0.1
baz=70
PALK Pallekele 69.65 260 *e*P P 10 26 18.5 -0.3
comp=Z,36nm,1.2s
C28A Hausauer Farms 69.67 42 ⇑P P 10 26 18.9 +0.4
baz=69,SNR=14
ISHM Shahmirzad 69.68 300 *e*P P 10 26 19.5 +0.5
A30A Hoffart Farm, 69.80 40 ⇓P P 10 26 19.2 0.0
baz=70,SNR=16
F26A Lodgepole 69.84 45 ⇓P P 10 26 19.4 -0.2
baz=70,SNR=28
GMRC Granite Mounta 69.85 61 ⇓P P 10 26 19.9 -0.1
baz=70,SNR=7.8
Q16A Castle Valley 69.86 55 *e*P P 10 26 20.6 +0.6
Q16A Castle Valley 69.86 55 ⇑P P 10 26 20.1 +0.1
baz=70
G25A Newell 69.91 46 ⇑P P 10 26 19.7 -0.3
baz=70,SNR=11
D28A Regan 69.95 43 ⇑P P 10 26 20.1 -0.1
baz=70,SNR=10.0
MDND Maddock 69.96 42 *e*P P 10 26 21.0 +0.8
MDND Maddock 69.96 42 ⇑P P 10 26 20.4 +0.2
baz=70,SNR=5.5
ULM Lac du Bonnet 69.96 38 *e*P P 10 26 19.8 -0.4
comp=Z,67nm,1.5s
ULM Lac du Bonnet 69.96 38 P P 10 26 19.7 -0.4
comp=Z,14nm,0.9s,baz=311,slow=7.0,SNR=12
ULM LR LR 10 59 49.3
comp=Z,751nm,20.6s,baz=321,slow=38
E27A Carson 69.99 44 ⇑P P 10 26 20.4 -0.1
baz=70,SNR=19
K22A Casper 70.00 50 ⇓P P 10 26 20.7 -0.1
baz=70,SNR=17
LDFC Landfair 70.00 60 *e*P P 10 26 21.3 +0.5
comp=Z,122nm,1.0s
J23A Dilts Ranch, B 70.02 48 ⇓P P 10 26 20.5 -0.4
baz=70
SRU San Rafael 70.11 54 *e*P P 10 26 21.9 +0.4
SRU pmax pmax
comp=Z,47nm,0.9s
SRU San Rafael 70.11 54 *e*P P 10 26 21.9 +0.4
comp=Z,47nm,0.9s
PFO Pinyon Flat Ob 70.11 62 *e*P P 10 26 21.3 -0.2
comp=Z,46nm,1.3s
PFO LR LR
comp=Z,1µm,20.0s
PFO Pinyon Flat Ob 70.11 62 ⇑P P 10 26 21.5 0.0
baz=70
IFIR Firoozkooh 70.12 301 *e*P P 10 26 22.2 +0.5
O19A Miners Draw (B 70.13 53 ⇓P P 10 26 21.4 -0.2
baz=70,SNR=8.0
B30A Myrvik Farm, E 70.13 41 ⇓P P 10 26 21.1 -0.2
baz=70,SNR=37
BELC Belle Mtn. Jos 70.15 62 ⇓P P 10 26 21.6 -0.1
baz=70
F27A Lemmon 70.15 45 ⇑P P 10 26 21.2 -0.3
baz=70,SNR=14
109C Camp Elliot, M 70.17 63 ⇓P P 10 26 21.8 +0.1
baz=70
I24A Kuemmerle Ranc 70.20 48 ⇓P P 10 26 21.4 -0.5
baz=70,SNR=5.5
H25A Fruitdale 70.21 46 ⇑P P 10 26 21.9 -0.1
baz=70,SNR=8.0
N20A Spence Gulch, 70.26 52 ⇑P P 10 26 22.8 +0.3
baz=70,SNR=14
G26A Maurine 70.26 45 ⇓P P 10 26 22.0 -0.2
baz=70,SNR=32
RWWY Rawlins 70.27 51 *e*P P 10 26 28.4 +5.8
comp=Z,42nm,1.0s
E28A Huff 70.32 43 ⇓P P 10 26 22.3 -0.2
baz=70,SNR=9.1
KIV Kislovodsk 70.32 313⇑*e*P P 10 26 23.1 +0.5
KIV *e* 10 28 58.2
KIV *i* S S 10 35 34.9 +3.2
KIV pmax pmax
comp=Z,457nm,1.2s
KIV MLR MLR
comp=Z,5µm,20.0s
KIV Kislovodsk 70.32 313 P P 10 26 23.2 +0.6
comp=Z,2µm,0.7s,SNR=25
RSSD Black Hills 70.33 47 *e*P P 10 26 22.6 -0.2
RSSD pmax pmax
comp=Z,148nm,0.9s
RSSD Black Hills 70.33 47 *e*P P 10 26 22.6 -0.2
comp=Z,148nm,0.9s
GUDG Gudauri 70.38 311 P P 10 26 24.1 +0.9
K23A Bowen Ranch, D 70.42 49 ⇓P P 10 26 22.8 -0.5
baz=70,SNR=5.8
HYA Hoyanger 70.45 342 *e*P P 10 26 22.8 -0.1
L22A Ellis Ranch, M 70.47 50 ⇑P P 10 26 24.0 +0.3
baz=70,SNR=23
ZEI Tsey 70.47 311 *e*P P 10 26 22.5 -1.2
ZEI pmax pmax
comp=Z,105nm,1.0s
D29A Pettibone, Tap 70.52 43 ⇑P P 10 26 23.5 -0.2
baz=70,SNR=7.4
J24A Dixon Ranch, L 70.54 48 ⇓P P 10 26 23.7 -0.3
baz=70
G27A Dupree 70.54 45 ⇓P P 10 26 23.4 -0.4
baz=70,SNR=22
I25A Rochford 70.56 47 ⇓P P 10 26 23.7 -0.4
baz=70,SNR=16
IRM Iron Mountain 70.58 61 ⇑P P 10 26 24.5 +0.2
baz=70,SNR=8.5
DGRG David-gareji 70.58 309 P P 10 26 24.9 +0.8
BAR Barrett 70.58 63 *e*P P 10 26 25.0 +0.7
comp=Z,32nm,1.0s
C30A Mose, Pekin 70.59 41 ⇓P P 10 26 23.8 -0.3
baz=70,SNR=14
MONP Monument Peak 70.61 63 ⇓P P 10 26 24.2 -0.5
baz=70
H26A Fairpoint 70.64 46 ⇓P P 10 26 24.0 -0.6
baz=70,SNR=11
P19A Cripple Cowboy 70.66 53 ⇑P P 10 26 24.7 -0.2
baz=70,SNR=15
BC3 Big Chuckawall 70.72 62 ⇑P P 10 26 25.0 -0.2
baz=70,SNR=6.5
MBWA Marble Bar 70.73 209 *e*P P 10 26 25.5 +0.4
comp=Z,61nm,1.3s
MBWA LR LR
comp=Z,440nm,19.0s
TBLG Delisi 70.74 310 P P 10 26 26.2 +1.1
O20A White River Ci 70.74 52 *e*P P 10 26 25.5 +0.1
O20A White River Ci 70.74 52 ⇓P P 10 26 25.0 -0.3
baz=70
W13A Hualapai Mount 70.75 60 ⇑P P 10 26 25.5 -0.1
baz=71,SNR=7.5
F28A McLaughlin 70.78 44 ⇑P P 10 26 25.1 -0.2
baz=70
M22A Cedar Creek Ra 70.81 51 ⇓P P 10 26 25.5 -0.3
baz=71,SNR=12
L23A Garrett 70.81 50 ⇑P P 10 26 25.1 -0.7
baz=71,SNR=9.4
E29A Napoleon 70.84 43 ⇓P P 10 26 25.2 -0.4
baz=71,SNR=7.1
U15A North Rim 70.84 58 ⇓P P 10 26 26.5 +0.3
baz=71,SNR=17
ONI Oni 70.85 311 P P 10 26 26.9 +1.1
SUE Sulen 70.86 343 *e*P P 10 26 25.4 0.0
SUE AMB AMB 10 26 27.2
comp=Z,75nm,1.7s
SUE *e*S S 10 35 36.7 -0.4
SUE AMS AMS 11 01 27.2
comp=Z,924nm,16.8s
K24A Anderson Ranch 70.87 49 ⇑P P 10 26 25.2 -0.9
baz=71
D30A Buchanan 70.89 42 ⇑P P 10 26 25.2 -0.7
baz=71,SNR=14
J25A Sunshine Ranch 70.95 48 ⇑P P 10 26 25.7 -0.8
baz=71,SNR=12
DVTC Desert V Tower 70.96 63 ⇑P P 10 26 26.5 -0.2
baz=71
SWSC Sam W. Stewart 70.97 62 ⇑P P 10 26 26.8 +0.2
baz=71
H27A Howes 70.99 46 ⇑P P 10 26 26.3 -0.3
baz=71,SNR=9.0
KONO Kongsberg 70.99 340 *e*P P 10 26 26.1 -0.2
KONO AMB AMB 10 26 29.8
comp=Z,64nm,1.3s
KONO AMS AMS 10 58 01.7
comp=Z,1µm,22.0s
KONO Kongsberg 70.99 340 PFAKE 10 26 40.0 +14
KONO LR LR
comp=Z,1µm,19.0s
IBAF Bafgh 70.99 296 *e*P P 10 26 26.8 -0.2
I26A New Underwood 71.00 47 ⇓P P 10 26 26.7 -0.1
baz=71,SNR=14
P20A De Beque 71.08 53 ⇑P P 10 26 27.1 -0.3
baz=71,SNR=7.1
PDMCI Parker Dam,Lak 71.11 60 ⇓P P 10 26 27.3 -0.1
baz=71,SNR=8.4
O21A Pagoda 71.12 52 ⇓P P 10 26 27.6 -0.2
baz=71
KZR Kazreti 71.15 310 P P 10 26 28.5 +0.8
IGZV Ghazvin 71.17 303 *e*P P 10 26 28.8 +0.7
IVRN Varamin 71.17 301 *e*P P 10 26 28.2 +0.3
Y12C Blythe 71.24 61 ⇑P P 10 26 28.4 +0.2
baz=71,SNR=6.1
E30A Jud 71.25 43 ⇑P P 10 26 27.7 -0.4
baz=71,SNR=18
G28A Parade 71.27 45 ⇓P P 10 26 27.9 -0.4
baz=71,SNR=11
F29A Eureka 71.27 44 ⇓P P 10 26 28.1 -0.2
baz=71,SNR=6.4
L24A Wheatland 71.28 49 ⇑P P 10 26 28.4 -0.1
baz=71
ISFB Sefidab 71.28 300 *e*P P 10 26 28.1 -0.5
IR3 Iran Long-Peri 71.29 301 *e*P P 10 26 30.1 +1.5
N22A Wattenberg Ran 71.29 51 ⇑P P 10 26 29.0 +0.2
baz=71,SNR=7.0
RUND Rundenannen 71.31 342 *e*P P 10 26 27.3 -0.9
PV09 Paradox Valley 71.33 54 *e*P P 10 26 29.9 +0.8
BER Bergen 71.34 342 *e*P P 10 26 28.4 +0.1
BER *e*S S 10 35 43.5 +0.8
BER AMS AMS 11 01 16.2
comp=Z,1µm,19.7s
IMHD Mahdasht 71.36 302 *e*P P 10 26 29.3 +0.2
AGMN Agassiz Nation 71.38 40 *e*P P 10 26 28.1 -0.7
comp=Z,70nm,1.1s
AGMN LR LR
comp=Z,1µm,22.0s
J26A Sides Ranch, S 71.39 47 ⇓P P 10 26 28.8 -0.3
baz=71,SNR=13
I27A Quinn 71.39 46 ⇓P P 10 26 29.0 -0.1
baz=71,SNR=18
K25A Mack Ranch, Ha 71.45 48 ⇑P P 10 26 28.5 -1.1
baz=71
H28A Mission Ridge 71.50 45 ⇑P P 10 26 29.6 0.0
baz=71,SNR=19
PHWY Pilot Hill 71.50 50 *e*P P 10 26 29.9 -0.1
comp=Z,83nm,1.9s
Q20A Ridgley Place, 71.51 53 ⇑P P 10 26 30.0 0.0
baz=71
GLA Glamis 71.51 62 *e*P P 10 26 31.8 +1.9
GLA pmax pmax
comp=Z,49nm,0.9s
GLA Glamis 71.51 62 *e*P P 10 26 31.8 +1.9
comp=Z,49nm,0.9s
GLA Glamis 71.51 62 ⇓P P 10 26 30.0 +0.1
baz=71
N23A Red Feather La 71.51 51 ⇑P P 10 26 30.4 +0.3
baz=71,SNR=14
PV04 Paradox Valley 71.53 54 *e*P P 10 26 30.9 +0.7
SUW Suwalki 71.57 330 *e*P P 10 26 29.6 -0.2
SUW pmax pmax
comp=Z,220nm,1.2s
SUW Suwalki 71.57 330 *e*P P 10 26 29.6 -0.2
comp=Z,220nm,1.2s
SUW Suwalki 71.57 330 *e*P P 10 26 27.9 -1.9
P21A Newcastle 71.60 52 ⇑P P 10 26 30.6 0.0
baz=71,SNR=8.2
PV05 Paradox Valley 71.63 55 *e*P P 10 26 31.2 +0.3
F30A Leola 71.67 43 ⇓P P 10 26 30.0 -0.7
baz=71,SNR=7.9
O22A Kremmling 71.68 51 ⇓P P 10 26 31.1 -0.1
baz=72,SNR=8.0
L25A Engebretsen Ra 71.72 49 ⇑P P 10 26 30.8 -0.3
baz=72
IR5 Iran Long-Peri 71.73 302 *e*P P 10 26 31.1 -0.3
M24A Cheyenne 71.73 50 ⇑P P 10 26 31.7 +0.4
baz=72,SNR=14
IMEH Mehriz 71.74 296 *e*P P 10 26 31.3 -0.3
K26A Motz Farm, Whi 71.76 48 ⇓P P 10 26 30.7 -0.7
baz=72,SNR=7.8

AKASG	**Malin Array Be**	71.80	325	P	P	10 26 29.9	-1.4
AKASG	comp=Z,79nm,0.8s			pmax	pmax		
AKASG	comp=Z,2μm,19.2s			MLR	MLR		
AKASG	**Malin Array Be**	71.80	325	P	P	10 26 29.9	-1.4
AKASG	**Malin Array Be**	71.80	325	P	P	10 26 29.9	-1.4
	comp=Z,78nm,0.8s,baz=37,slow=6.0,SNR=213						
AKASG				LR	LR	11 01 17.7	
	comp=Z,2μm,19.2s,baz=45,slow=39						
KIEV	**Kiev**	71.81	325	*e*P	P	10 26 30.7	-0.7
KIEV				pmax	pmax		
	comp=Z,123nm,0.9s						
KIEV				MLR	MLR		
	comp=Z,1μm,22.0s						
KIEV	**Kiev**	71.81	325	*e*P	P	10 26 30.6	-0.7
	comp=Z,123nm,0.9s						
KIEV				LR	LR		
	comp=Z,1μm,22.0s						
GNI	**Garni**	71.81	309	P	P	10 26 33.7	+1.9
	SNR=35						
GNI	**Garni**	71.81	309	*e*P	P	10 26 32.9	+1.1
	comp=Z,174nm,1.1s						
GNI				LR	LR		
	comp=Z,1μm,20.0s						
PV01	**Paradox Valley**	71.90	54	*e*P	P	10 26 32.5	0.0
	comp=Z,2μm,0.8s						
H29A	**Onida**	71.94	45	⇑P	P	10 26 31.9	-0.4
	baz=72,SNR=15						
P22A	**Eagle**	71.94	52	⇑P	P	10 26 32.7	0.0
	baz=72,SNR=16						
R20A	**Redvale**	71.98	54	⇑P	P	10 26 32.9	+0.1
	baz=72,SNR=13						
ISAD	**Sadrabad**	71.99	297	*e*P	P	10 26 32.6	-0.5
J27A	**Elkhorn Farm,**	71.99	47	⇓P	P	10 26 32.5	-0.2
	baz=72,SNR=11						
EPOS	**Posof**	71.99	311	*i* P	P	10 26 28.3	-4.6
O23A	**Lake Granby, G**	72.00	51	⇑P	P	10 26 33.7	+0.6
	baz=72,SNR=17						
Q21A	**Lamborn Mesa,**	72.00	53	⇑P	P	10 26 33.3	+0.3
	baz=72,SNR=9.9						
WUAZ	**Wupatki**	72.00	58	*e*P	P	10 26 33.8	+0.8
	comp=Z,21nm,1.0s						
WUAZ				LR	LR		
	comp=Z,1μm,21.0s						
WUAZ	**Wupatki**	72.00	58	⇓P	P	10 26 33.5	+0.5
	baz=72						
Y14A	**Wickenburg**	72.06	60	⇓P	P	10 26 33.4	+0.2
	baz=72,SNR=12						
SMCO	**Snowmass**	72.11	52	*e*P	P	10 26 34.4	+0.5
	comp=Z,46nm,0.9s						
G30A	**Faulkton**	72.11	44	⇑P	P	10 26 32.7	-0.7
	baz=72,SNR=34						
SOC	**Sochi**	72.13	314	*c i*P	P	10 26 33.5	+0.1
SOC				*e**PP	pP	10 26 43.1	-2.7
SOC				*e*		10 26 49.4	
SOC				*e*PPP	PPP	10 30 51.3	
SOC				*e*S	S	10 35 54.0	+1.6
SOC				*e*		10 36 33.7	
SOC				pmax	pmax		
	comp=Z,108nm,0.7s						
N24A	**Carr**	72.14	50	⇓P	P	10 26 34.2	+0.4
	baz=72,SNR=7.6						
M25A	**Palm-Egli Farm**	72.17	49	⇑P	P	10 26 34.4	+0.5
	baz=72,SNR=9.2						
IZEF	**Zefreh**	72.19	299	*e*P	P	10 26 34.8	+0.5
K27A	**Flueckinger Fa**	72.25	47	⇓P	P	10 26 33.9	-0.4
	baz=72						
J28A	**Allard Ranch,**	72.27	46	⇑P	P	10 26 34.3	0.0
	baz=72,SNR=38						
L26A	**Underwood Farm**	72.28	48	⇑P	P	10 26 34.3	-0.2
	baz=72						
I29A	**Vivian Onida**	72.32	45	⇓P	P	10 26 34.1	-0.5
	baz=72,SNR=14						
R21A	**Cimarron**	72.33	53	⇑P	P	10 26 35.6	+0.5
	baz=72,SNR=22						
Q22A	**Crested Butte,**	72.36	53	⇑P	P	10 26 35.2	-0.1
	baz=72,SNR=17						
113A	**Mohawk Valley,**	72.36	61	⇓P	P	10 26 35.3	+0.3
	baz=72						
IKLH	**Kolahrood**	72.38	299	*e*P	P	10 26 36.8	+1.4
ANN	**Anapa**	72.42	316	*d i*P	P	10 26 34.8	-0.3
ANN				*e**PP	pP	10 26 46.9	-0.5
ANN				*e*		10 26 51.7	
ANN				*e*		10 29 15.4	
ANN				*e*S	S	10 35 56.6	+1.0
ANN				*e*SS	SS	10 40 35.4	+1.9
ANN				pmax	pmax		
	comp=Z,289nm,1.4s						
ANN				smax	smax		
	comp=N,192nm,11.1s						
ISCO	**Idaho Springs**	72.45	51	*e*P	P	10 26 36.1	+0.3
ISCO				pmax	pmax		
	comp=Z,29nm,0.9s						
ISCO				MLR	MLR		
	comp=Z,996nm,22.0s						
ISCO	**Idaho Springs**	72.45	51	*e*P	P	10 26 36.1	+0.3
	comp=Z,29nm,0.9s						
ISCO				LR	LR		
	comp=Z,996nm,22.0s						
ISCO	**Idaho Springs**	72.45	51	⇑P	P	10 26 35.8	0.0
	baz=72,SNR=15						
Z14A	**Wintersburg**	72.48	60	⇓P	P	10 26 35.8	+0.1
	baz=72						
O24A	**Longmont**	72.52	51	⇑P	P	10 26 36.6	+0.6
	baz=72						
MVCO	**Mesa Verde**	72.57	55	*e*P	P	10 26 36.7	+0.2
	comp=Z,37nm,0.8s						
MVCO				LR	LR		
	comp=Z,850nm,21.0s						
MVCO	**Mesa Verde**	72.57	55	⇑P	P	10 26 36.5	+0.1
	baz=72,SNR=12						
N25A	**Grover**	72.59	50	⇓P	P	10 26 36.6	+0.2
	baz=72						
P23A	**Jefferson**	72.61	52	⇓P	P	10 26 37.4	+0.6
	baz=72,SNR=7.3						
M26A	**McRoberts Ranc**	72.64	49	⇑P	P	10 26 37.2	+0.5
	baz=72,SNR=14						
L27A	**T5 Ranch, Ells**	72.65	48	⇑P	P	10 26 36.3	-0.4
	baz=72						
DBOC	**Borcka**	72.67	311	*i* P	P	10 26 37.7	+0.9
BRSD	**Miller**	72.70	44	*e*pP	pP	10 26 48.9	-0.3
BRSD	**Miller**	72.70	44	⇓P	P	10 26 36.4	-0.4
	baz=72						
X16A	**Lo Mia Camp, P**	72.70	59	⇓P	P	10 26 37.6	+0.3
	baz=72,SNR=20						
K28A	**Ten Mile Ranch**	72.70	47	⇑P	P	10 26 36.7	-0.3
	baz=72,SNR=14						
DAGI	**Agillar**	72.73	311	*i* P	P	10 26 38.0	+0.9
J29A	**Okreek**	72.75	46	⇓P	P	10 26 36.5	-0.6
	baz=72,SNR=26						
I30A	**Oacoma**	72.84	45	⇓P	P	10 26 37.3	-0.4
	baz=73,SNR=5.8						
R22A	**Saguache, Gunn**	72.88	53	⇑P	P	10 26 39.3	+0.9
	baz=73,SNR=15						
Q23A	**Hartsel**	72.94	52	⇓P	P	10 26 39.4	+0.6
	baz=73						
DDEM	**Demirkent**	72.94	311	*i* P	P	10 26 39.3	+0.9
M27A	**Reverse DX Ran**	73.00	48	⇓P	P	10 26 39.0	+0.2
	baz=73,SNR=6.3						
P24A	**Kohler Place,**	73.04	51	⇑P	P	10 26 39.7	+0.5
	baz=73,SNR=5.5						
N26A	**Koester Ranch,**	73.05	49	⇓P	P	10 26 39.4	+0.3
	baz=73,SNR=5.3						
O25A	**Wiggins**	73.06	50	⇑P	P	10 26 39.4	+0.2
	baz=73,SNR=5.9						
L28A	**Connealy Angus**	73.12	47	⇑P	P	10 26 39.3	-0.2
	baz=73						
U20A	**Newcomb**	73.13	55	⇓P	P	10 26 40.0	+0.3
	baz=73						
S22A	**4UR Ranch, Cre**	73.17	53	⇑P	P	10 26 40.3	+0.2
	baz=73,SNR=16						
K29A	**Lazy Trails An**	73.21	46	⇓P	P	10 26 39.9	0.0
	baz=73,SNR=24						
J30A	**Dallas**	73.23	45	⇑P	P	10 26 39.6	-0.4
	baz=73,SNR=23						
W18A	**Petrified Fore**	73.26	57	*e*pP	pP	10 26 53.6	+0.7
W18A	**Petrified Fore**	73.26	57	⇓P	P	10 26 40.6	+0.1
	baz=73						
EATA	**Eleskirt**	73.26	310	*i* P	P	10 26 42.2	+1.6
T21A	**Navajo Lake**	73.28	54	⇓P	P	10 26 40.7	+0.1
	baz=73						
Q24A	**Divide**	73.28	52	⇑P	P	10 26 40.7	-0.1
	baz=73,SNR=6.8						
TUTA	**Tutak**	73.40	309	*i* P	P	10 26 43.0	+1.7
O26A	**Horse Wrangler**	73.41	50	⇓P	P	10 26 41.4	+0.2
	baz=73,SNR=5.6						
BSD	**Bornholm Skovb**	73.42	335	*i* P	P	10 26 40.3	-0.5
BSD				pmax	pmax		
	comp=Z,98nm,0.8s						
BSD	**Bornholm Skovb**	73.42	335	*i* P	P	10 26 40.3	-0.5
	comp=Z,98nm,0.8s						
N27A	**Anderson Farm,**	73.43	49	⇓P	P	10 26 41.5	+0.2
	baz=73,SNR=14						
R23A	**Moffat**	73.44	53	⇑P	P	10 26 42.2	+0.6
	baz=73,SNR=15						
P25A	**Willow Gulch B**	73.45	51	⇑P	P	10 26 41.3	-0.2
	baz=73						
214A	**Organ Pipe Nat**	73.50	61	⇑P	P	10 26 42.3	+0.5
	baz=73						
X18A	**Snowflake**	73.53	58	⇓P	P	10 26 42.5	+0.3
	baz=73,SNR=6.2						
V20A	**Brimhall**	73.55	56	⇓P	P	10 26 42.3	0.0
	baz=73,SNR=9.9						
EYMN	**Ely**	73.60	38	*e*P	P	10 26 41.8	-0.3
	comp=Z,131nm,1.4s						
EYMN				LR	LR		
	comp=Z,1μm,19.0s						
U21A	**Nageezi**	73.60	55	⇑P	P	10 26 42.6	+0.1
	baz=73,SNR=10						
OGNE	**Ogallala**	73.60	48	*e*P	P	10 26 42.4	0.0
	comp=Z,162nm,0.9s						
OGNE				LR	LR		
	comp=Z,830nm,20.0s						
OGNE	**Ogallala**	73.60	48	⇑P	P	10 26 42.2	-0.2
	baz=73,SNR=40						
L29A	**Maesberg Ranch**	73.63	47	⇑P	P	10 26 42.0	-0.4
	baz=73						
T22A	**Edith**	73.63	54	⇓P	P	10 26 43.3	+0.5
	baz=73,SNR=8.8						
M28A	**Bar X Bar Ranc**	73.64	48	⇓P	P	10 26 42.1	-0.4
	baz=73						
K30A	**Basset**	73.64	46	⇑P	P	10 26 42.2	-0.3
	baz=73,SNR=22						
COP	**Copenhagen**	73.67	336	*i* P	P	10 26 41.8	-0.5
COP				pmax	pmax		
	comp=Z,58nm,0.8s						
COP	**Copenhagen**	73.67	336	*i* P	P	10 26 41.8	-0.5
	comp=Z,58nm,0.7s						
S23A	**Nye Farm, Mont**	73.67	53	⇑P	P	10 26 43.9	+0.9
	baz=74						
R24A	**Sanders Place,**	73.82	52	⇓P	P	10 26 43.8	0.0
	baz=74,SNR=14						
Q25A	**Bedland, Calha**	73.82	51	⇓P	P	10 26 43.6	-0.2
	baz=74,SNR=16						
ERZM	**Erzurum**	73.85	310	*i* P	P	10 26 45.8	+1.8
P26A	**Davis Ranch, A**	73.87	50	⇑P	P	10 26 43.8	-0.2
	baz=74						
O27A	**Beecher Island**	73.90	49	⇑P	P	10 26 43.9	-0.2
	baz=74						
MUD	**Monsted U'grnd**	73.90	338	*i* P	P	10 26 43.5	-0.1
MUD				pmax	pmax		
	comp=Z,34nm,0.9s						
MUD	**Monsted U'grnd**	73.90	338	*i* P	P	10 26 43.5	-0.1
	comp=Z,34nm,0.9s						
EKAR	**Karacoban**	73.92	309	*i* P	P	10 26 46.2	+1.8
SIM	**Simferopol'**	73.92	318	*de*P	P	10 26 47.5	+3.5
SIM				*e*S	S	10 36 14.0	+1.3
SIM				pmax	pmax		
	comp=Z,146nm,1.0s						
SIM				pmax	pmax		
	comp=Z,150nm,8.5s						
SIM				MLR	MLR		
	comp=Z,2μm,17.0s						
SDCO	**Great Sand Dun**	73.93	53	*e*P	P	10 26 45.0	+0.5
	comp=Z,12nm,0.8s						
SDCO				LR	LR		
	comp=Z,977nm,20.0s						
M29A	**Burnside Ranch**	73.96	47	⇓P	P	10 26 43.6	-0.8
	baz=74						
W20A	**Ramah**	73.99	56	⇓P	P	10 26 44.8	-0.1
	baz=74,SNR=14						
V21A	**Milan**	74.04	55	⇑P	P	10 26 45.2	+0.1
	baz=74,SNR=9.8						
N28A	**Pribbeno Ranch**	74.05	48	⇑P	P	10 26 44.3	-0.6
	baz=74,SNR=7.9						
U22A	**Llaves**	74.10	55	⇓P	P	10 26 45.6	+0.1
	baz=74,SNR=10						
L30A	**Spencer Herefo**	74.10	46	⇓P	P	10 26 44.5	-0.6
	baz=74						
T23A	**Casias Ranch,**	74.12	54	⇑P	P	10 26 46.0	+0.4
	baz=74						
S24A	**Houchin Ranch,**	74.17	53	⇓P	P	10 26 46.1	+0.2
	baz=74,SNR=5.5						
BEL	**Belsk**	74.18	330	*e*P	P	10 26 46.0	+0.7
BEL	**Belsk**	74.18	330	*e*P	P	10 26 46.0	+0.7
HAKT	**HAKKARI**	74.19	307	*i* P	P	10 26 46.8	+0.8
Q26A	**Hugo**	74.22	51	⇓P	P	10 26 45.8	-0.3
	baz=74,SNR=8.4						
GKP	**Gorka Klasztor**	74.23	332	*e*P	P	10 26 45.5	-0.1
GKP	**Gorka Klasztor**	74.23	332	*e*P	P	10 26 45.5	-0.1
BANOM	**Banah**	74.26	291	P	P	10 26 46.8	+0.5
	SNR=18						
P27A	**Ficken Ranch,**	74.29	50	⇓P	P	10 26 46.3	-0.2
	baz=74,SNR=6.9						
M30A	**Dale-Ortello V**	74.32	47	⇑P	P	10 26 45.7	-0.8
	baz=74						
O28A	**Krutsinger Ran**	74.32	49	⇓P	P	10 26 46.0	-0.5
	baz=74,SNR=6.0						
R25A	**Fountain Ranch**	74.34	52	⇑P	P	10 26 46.4	-0.4
	baz=74,SNR=8.5						
ECSD	**EROS Data Cent**	74.37	43	*e*P	P	10 26 46.6	0.0
	comp=Z,118nm,1.2s						
ECSD				LR	LR		
	comp=Z,2μm,20.0s						
V22A	**San Miguel Ran**	74.39	55	⇑P	P	10 26 47.1	-0.1
	baz=74,SNR=11						
L31A	**Butterfield Fa**	74.39	46	⇓P	P	10 26 46.5	-0.4
	baz=74						
X20A	**Quemado**	74.39	57	⇓P	P	10 26 47.5	+0.3
	baz=74,SNR=20						
N29A	**Votaw Ranch, W**	74.44	48	⇑P	P	10 26 46.6	-0.6
	baz=74,SNR=5.2						
T24B	**San Luis**	74.48	53	⇓P	P	10 26 48.2	+0.4
	baz=74,SNR=7.3						
U23A	**El Rito**	74.52	54	⇓P	P	10 26 48.2	+0.3
	baz=74,SNR=36						
TUC	**Tucson**	74.53	60	*e*P	P	10 26 48.5	+0.6
TUC				pmax	pmax		
	comp=Z,36nm,1.0s						
TUC				MLR	MLR		
	comp=Z,789nm,19.0s						
TUC	**Tucson**	74.53	60	*e*P	P	10 26 48.5	+0.6
	comp=Z,36nm,1.0s						
TUC				LR	LR		
	comp=Z,789nm,19.0s						
LVV	**L'vov**	74.58	327	⇓*i*P	P	10 26 47.6	-0.2
LVV				*e*S	SKiKP	10 36 13.0	+3.3
LVV				MLR	MLR		
	comp=Z,2μm,20.0s						
S25A	**Robets Cordova**	74.60	52	⇑P	P	10 26 48.0	-0.3
	baz=74						
BNGL	**BINGOL**	74.64	310	*i* P	P	10 26 50.3	+1.7
ARMA	**Armidale**	74.64	178	*e*pP	pP	10 27 05.5	+4.8
KSCO	**Kaye Shedlock'**	74.65	50	*e*P	P	10 26 48.5	0.0
KSCO	**Kaye Shedlock'**	74.65	50	⇓P	P	10 26 48.4	-0.2
	baz=74,SNR=14						
WBK	**Wadi Bani Khal**	74.67	287	P	P	10 26 50.2	+1.5
	SNR=15						
R26A	**Arlington**	74.70	51	⇓P	P	10 26 48.3	-0.5
	baz=74,SNR=15						
P28A	**Saint Francis**	74.73	49	⇓P	P	10 26 48.4	-0.5
	baz=74						
GRSN	**GIRESUNGRSN**	74.78	313	*i* P	P	10 26 49.6	+0.5
KIS	**Kishinev**	74.81	322	⇑*i*P	P	10 26 48.0	-1.1
	comp=Z,700nm,2.0s						
KIS				LRM	MLR	11 02 06.0	
	comp=Z,5μm,19.0s						
KELT	**Kelkit**	74.81	312	*i* P	P	10 26 50.6	+1.0
X21A	**Alamocita Cree**	74.89	57	⇑P	P	10 26 50.6	+0.5
	baz=75,SNR=23						
Y20A	**Horse Springs,**	74.90	57	⇑P	P	10 26 51.0	+0.8
	baz=75,SNR=13						
M31A	**Lambtecht Ranc**	74.92	46	⇑P	P	10 26 49.2	-0.7
	baz=75						
V23A	**Ortiz Mt. (NFS**	74.93	55	⇑P	P	10 26 51.4	+1.1
	baz=75,SNR=16						
T25A	**Trinidad**	74.98	53	⇑P	P	10 26 50.6	0.0
	baz=75,SNR=8.7						
UOSS	**Wadi Hilu**	74.98	290	P	P	10 26 50.0	-0.5
	comp=Z,426nm,1.2s,SNR=15						
SMDO	**Samad**	74.99	288	P	P	10 26 51.6	+0.9
	SNR=13						
W22A	**Albuquerque**	75.00	56	⇑P	P	10 26 51.2	+0.5
	baz=75						
Q28A	**Sharon Springs**	75.05	50	⇓P	P	10 26 50.3	-0.5
	baz=75						
R27A	**Eads**	75.07	51	⇑P	P	10 26 50.3	-0.6
	baz=75,SNR=18						
SPMN	**St. Paul**	75.07	40	*e*P	P	10 26 50.3	-0.4
SPMN	**St. Paul**	75.07	40	⇑P	P	10 26 49.9	-0.8
	baz=75,SNR=12						
HATD	**Hatta, Dubai**	75.11	290	P	P	10 26 51.6	+0.4
	SNR=30						
HOQ	**Hoqain**	75.15	288	P	P	10 26 51.8	+0.4
	SNR=15						
P29A	**Atwood**	75.15	49	⇓P	P	10 26 50.7	-0.6
	baz=75,SNR=11						
S26A	**Kim**	75.17	52	⇑P	P	10 26 50.9	-0.6
	baz=75						
IAS	**Iasi**	75.20	323	⇓*i*P	P	10 26 52.6	+1.3
O30A	**MW Ranch, Wils**	75.20	48	⇓P	P	10 26 50.7	-0.8
	baz=75,SNR=14						
KWP	**Kalwaria Pacla**	75.25	327	⇑*e*P	P	10 26 52.1	+0.5
KWP	**Kalwaria Pacla**	75.25	327	⇓*i*P	P	10 26 52.6	+1.0
KWP	**Kalwaria Pacla**	75.25	327	*e*P	P	10 26 52.1	+0.5
	comp=Z,571nm,1.1s						
KWP				LR	LR		
	comp=Z,4μm,20.0s						
KWP	**Kalwaria Pacla**	75.25	327	*e*P	P	10 26 52.1	+0.5
ASHO	**Ashiyiah**	75.25	290	P	P	10 26 52.5	+0.4
	SNR=27						
Y21A	**Point of Rocks**	75.26	57	⇓P	P	10 26 52.7	+0.5
	baz=75,SNR=14						
LAZ	**Ladron**	75.30	56	*e*P	P	10 26 53.0	+0.5
	comp=Z,15nm,0.9s						
BGNE	**Belgrade**	75.30	46	*e*P	P	10 26 51.9	-0.2
BGNE	**Belgrade**	75.30	46	⇓P	P	10 26 51.4	-0.7
	baz=75,SNR=6.3						
X22A	**Bernardo**	75.31	56	⇑P	P	10 26 53.5	+1.1
	baz=75,SNR=9.8						
N31A	**Bailey Ranch,**	75.31	47	⇓P	P	10 26 51.3	-0.9
	baz=75,SNR=5.2						
Z20A	**Nine Sixteen R**	75.32	58	⇓P	P	10 26 52.8	+0.3
	baz=75,SNR=14						
ANMO	**Albuquerque**	75.33	55	*e*P	P	10 26 52.9	+0.3
	comp=Z,21nm,0.9s						
ANMO				LR	LR		
	comp=Z,898nm,21.0s						
W23A	**Werner Place,**	75.36	55	⇓P	P	10 26 53.4	+0.6
	baz=75,SNR=18						
T26A	**Comanche Natio**	75.41	52	⇓P	P	10 26 52.5	-0.6
	baz=75						
JMDO	**Jabal Madar**	75.42	287	P	P	10 26 53.7	+0.7
	SNR=27						
S27A	**Las Animas**	75.44	51	⇓P	P	10 26 52.2	-0.9
	baz=75						
LEOM	**Leova**	75.46	322	⇓*i*P	P	10 26 53.6	+0.8
V24A	**Rampart Ranch,**	75.47	54	⇓P	P	10 26 53.9	+0.4
	baz=75,SNR=6.5						
U25A	**Circle Dot Ran**	75.50	53	⇑P	P	10 26 53.4	-0.2
	baz=75,SNR=7.2						
MVH1	**Achvaich**	75.51	346	⇑*i*P	P	10 26 52.6	-0.3
P30A	**Selden**	75.56	48	⇑P	P	10 26 53.1	-0.6
	baz=75,SNR=14						
LENM	**Lemitar**	75.56	56	*e*P	P	10 26 54.7	+0.8
	comp=Z,7.7nm,1.1s						
R28A	**Tribune**	75.58	50	⇓P	P	10 26 53.2	-0.6
	baz=75,SNR=6.1						
O31A	**Woolen Ranch,**	75.61	47	⇑P	P	10 26 53.2	-0.7
	baz=75						
Q29A	**Oakley**	75.64	49	⇓P	P	10 26 53.4	-0.7
	baz=75,SNR=16						
Y22D	**IRIS PASSCAL I**	75.66	56	⇑P	P	10 26 54.0	-0.4
	baz=76						
LPM	**Los Pinos Moun**	75.67	56	*e*P	P	10 26 55.5	+1.0
MCD	**Coleburn Disti**	75.67	345	⇑*i*P	P	10 26 53.6	-0.2
120A	**U Bar Ranch, L**	75.69	58	⇓P	P	10 26 55.2	+0.5
	baz=76,SNR=16						
N32A	**Stulken Farm,**	75.70	46	⇓P	P	10 26 53.4	-1.0
	baz=76						
Y22A	**Socorro**	75.73	56	⇑P	P	10 26 55.3	+0.4
	baz=76,SNR=7.4						
X23A	**Hourglass Bar**	75.74	55	⇓P	P	10 26 55.5	+0.5
	baz=76,SNR=19						
ERBA	**Erbaa**	75.74	314	*i* P	P	10 26 55.8	+1.1
Z21A	**St. Cloud Mine**	75.74	57	⇑P	P	10 26 55.5	+0.5
	baz=76,SNR=29						
W24A	**Lazy 6 Ranch,**	75.76	55	⇑P	P	10 26 55.8	+0.7
	baz=76,SNR=30						
V25A	**Rancho No Teng**	75.77	54	⇑P	P	10 26 55.7	+0.6
	baz=76,SNR=7.0						
BNM	**Barren Site**	75.78	56	*e*P	P	10 26 55.9	+0.6
	comp=Z,24nm,1.1s						
BSY	**Bisya**	75.78	288	P	P	10 26 55.8	+0.7
	SNR=30						
BSEG	**Bad Segeberg**	75.80	336	*e*P	P	10 26 54.4	-0.2
BSEG				pmax	pmax		
	comp=Z,65nm,1.0s						
BSEG	**Bad Segeberg**	75.80	336	*e*P	P	10 26 54.4	-0.2
	comp=Z,65nm,1.0s						
BUR08	**Bucovina Ar. S**	75.84	325	*e*P	P	10 26 55.3	+0.2
ARQ	**Araqi**	75.84	289	P	P	10 26 56.4	+0.9
	SNR=14						
KEMA	**Kemaliye**	75.85	312	*i* P	P	10 26 56.1	+0.7
BURAR	**Bucovina Array**	75.86	325	⇑*i*P	P	10 26 55.6	+0.4
MME1	**Meikle Cairn**	75.86	345	⇑*i*P	P	10 26 54.5	-0.5
OJC	**Ojcow**	75.86	329	⇑*i*P	P	10 26 55.2	+0.1
OJC	**Ojcow**	75.86	329	*e*P	P	10 26 55.4	+0.3
	comp=Z,273nm,1.2s						
OJC	**Ojcow**	75.86	329	*i* P	P	10 26 55.2	+0.1
U26A	**Atchley Ranch,**	75.88	53	⇓P	P	10 26 55.5	-0.2
	baz=76						
R29A	**Marienthal**	75.88	50	⇓P	P	10 26 55.2	-0.3
	baz=76,SNR=6.0						
KOLS	**Kolonicke sedl**	75.98	327	*e*P	P	10 26 56.1	+0.3
KOLS				pmax	pmax		
	comp=Z,124nm,1.2s						
KOLS	**Kolonicke sedl**	75.98	327	*e*P	P	10 26 56.1	+0.3
Q30A	**Quinter**	75.98	49	⇑P	P	10 26 55.5	-0.6
	baz=76,SNR=16						
STHS	**Stebnicka Huta**	75.98	328	*e*P	P	10 26 57.1	+1.3
STHS				pmax	pmax		
	comp=Z,113nm,1.1s						
STHS	**Stebnicka Huta**	75.98	328	*e*P	P	10 26 57.1	+1.3
T27A	**Campo**	75.98	52	⇑P	P	10 26 55.7	-0.5
	baz=76						
HAVZ	**Havza**	75.99	314	*i* P	P	10 26 57.0	+0.9
MDO	**Dochfour**	76.00	346	⇑*i*P	P	10 26 55.3	-0.4
MARD	**Mardin**	76.01	309

baz=76,SNR=12
V26A Tequesquite Ra 76.28 53 ⇑P P 10 26 58.0 0.0
baz=76
T28A Walsh 76.28 51 ⇑P P 10 26 57.3 -0.6
baz=76,SNR=6.2
W25A X Bar L Ranch, 76.30 54 ⇑P P 10 26 58.5 +0.4
baz=76,SNR=17
KPL Plockton 76.32 346⇑ eP P 10 26 57.6 0.0
KPL AMB AMB 10 26 58.9
comp=Z,189nm,0.9s
NIE Niedzica 76.33 328⇑ iP P 10 26 58.3 +0.5
NIE Niedzica 76.33 328 i P P 10 26 58.3 +0.5
SCHQ Schefferville 76.36 21 P P 10 26 57.6 -0.3
SCHQ pP PcP 10 27 08.7 -0.9
SCHQ Schefferville 76.36 21 P P 10 26 57.6 -0.3
comp=Z,17nm,0.7s,baz=349,slow=6.0,SNR=13
SCHQ pP PcP 10 27 08.7 -0.9
comp=Z,22nm,0.9s,baz=352,slow=6.2,SNR=5.8
SCHQ LR LR 11 03 05.2
comp=Z,1μm,20.6s,baz=132,slow=38
P32A Huiting Farm, 76.38 47 ⇓P P 10 26 56.9 -1.3
baz=76,SNR=13
STKA Stephens Creek 76.38 187 eP P 10 26 59.6 +1.6
comp=Z,38nm,1.9s
STKA pP pP 10 27 10.1 -0.5
STKA Stephens Creek 76.38 187 P P 10 26 59.2 +1.2
comp=Z,7.7nm,0.7s,baz=333,slow=6.6,SNR=14
STKA pP pP 10 27 10.0 -0.5
comp=Z,18nm,1.0s,baz=327,slow=7.6,SNR=6.8
STKA LR LR 11 02 10.4
comp=Z,757nm,20.3s,baz=4.5,slow=37
U27A Thompson Grove 76.38 52 ⇓P P 10 26 58.3 -0.2
baz=76,SNR=8.3
Q31A Ellis 76.41 48 ⇓P P 10 26 57.6 -0.8
baz=76
R30A Dighton 76.45 49 ⇓P P 10 26 58.1 -0.7
baz=76,SNR=9.0
S29A Ulysses 76.47 50 ⇓P P 10 26 58.5 -0.4
baz=76
PETR Petresti 76.49 322⇓ iP P 10 27 01.5 +2.8
BMR Baia Mare 76.51 326⇑ iP P 10 26 59.1 +0.3
CFR Carcaliu 76.51 321⇓ iP P 10 26 59.0 +0.2
TRPA Tarpa 76.53 326⇓ iP P 10 27 00.0 +1.1
TRPA Tarpa 76.53 326⇑ eP P 10 26 59.6 +0.7
RAC Raciborz 76.56 330 eP P 10 26 59.9 +0.9
RAC MLR MLR
comp=Z,2μm,17.4s
122A Conniff Cattle 76.57 57 ⇓P P 10 27 00.1 +0.5
baz=76,SNR=6.9
221A Mesquite Ranch 76.58 58 ⇑P P 10 27 00.2 +0.6
baz=76
MALT Malatya 76.58 311⇓ iP P 10 27 01.2 +1.7
KSP Ksiaz 76.58 331⇑ iP P 10 26 59.4 +0.2
KSP eS S 10 36 41.0 -1.1
KSP MLR MLR
comp=Z,5μm,18.0s
KSP Ksiaz 76.58 331 eP P 10 26 59.3 +0.1
320A Kipp Ranch, An 76.59 59 ⇑P P 10 27 00.2 +0.4
baz=76,SNR=8.5
VRI Vrincioaia 76.59 323⇓ iP P 10 27 01.4 +2.0
ARCR ARCALIA 76.63 325⇑ iP P 10 27 01.4 +1.9
Z23A Rita Site, Whi 76.64 56 ⇓P P 10 27 00.2 +0.3
baz=76,SNR=6.3
PLOR Plostina 76.64 323⇓ iP P 10 27 00.4 +0.7
Y24A Capitan 76.64 55 ⇑P P 10 27 00.1 0.0
baz=76,SNR=23
X25A Clemmons Ranch 76.67 55 ⇑P P 10 27 00.5 +0.3
baz=76,SNR=6.3
T29A Hugoton 76.71 51 ⇑P P 10 26 59.7 -0.6
baz=76
U28A Mallet 76.75 52 ⇑P P 10 26 60.0 -0.6
baz=76
OKC Ostrava-Krasne 76.78 330 eP P 10 27 00.5 +0.2
OKC e 10 27 05.2
OKC MLR MLR
comp=Z,2μm,16.5s
OKC Ostrava-Krasne 76.78 330⇑ eP P 10 27 00.5 +0.2
OKC ex x 10 27 05.2
OKC AMS AMS 11 04 40.0
comp=Z,2μm,16.5s
W26A Owens Ranch, T 76.79 54 ⇓P P 10 27 01.1 +0.3
baz=77
CTKT Corum 76.80 315 i P P 10 27 02.0 +1.2
S30A Montezuma 76.82 50 ⇑P P 10 27 00.4 -0.4
baz=77
V27A Dan Oppiter Fa 76.85 53 ⇑P P 10 27 00.8 -0.3
baz=77,SNR=5.7
R31A Burdett 76.86 49 ⇑P P 10 27 00.1 -0.9
baz=77
GRER 76.87 322⇓ iP P 10 27 03.8 +2.9
222A Williams Famil 76.92 58 ⇑P P 10 27 02.0 +0.4
baz=77
TIRR Tirgusor 76.95 321 eP P 10 27 01.8 +0.5
TIRR Tirgusor 76.95 321 eP P 10 27 01.8 +0.5
comp=Z,120nm,1.2s
UPC Upice 76.96 331 eP P 10 27 01.7 +0.3
UPC Upice 76.96 331⇑ eP P 10 27 01.7 +0.3
HARR Harsova 76.98 321⇓ iP P 10 27 03.0 +1.5
P33A Williams Farm, 76.99 47 ⇓P P 10 27 01.1 -0.6
baz=77
DPC Dobruska-Polom 76.99 331 eP P 10 27 02.0 +0.4
DPC e 10 27 06.5
DPC Dobruska-Polom 76.99 331 eP P 10 27 02.0 +0.4
DPC ex x 10 27 06.5
DPC AMS AMS 11 05 20.0
DPC Dobruska-Polom 76.99 331 eP P 10 27 02.0 +0.4
comp=Z,1μm,1.2s
TLB Topalu 77.02 321⇓ iP P 10 27 02.5 +0.8
ILGA Ilgaz 77.02 316 i P P 10 27 03.8 +1.7
KECS Kecovo 77.03 328 eP P 10 27 02.0 +0.2
KECS pmax pmax
comp=Z,43nm,1.0s
KECS Kecovo 77.03 328 eP P 10 27 02.0 +0.2
123A Bell Site, Whi 77.06 57 ⇓P P 10 27 02.8 +0.4
baz=77
KRLC Kraliky 77.06 331 eP P 10 27 02.4 +0.4
KRLC Kraliky 77.06 331⇑ eP P 10 27 02.4 +0.4
Y25A Mesa, Roswell 77.08 55 ⇑P P 10 27 02.5 0.0
baz=77,SNR=9.9
DOPR Dopca 77.09 324⇓ iP P 10 27 04.2 +2.0
Z24A Sheeppen Canyo 77.10 56 ⇓P P 10 27 02.6 -0.1
baz=77,SNR=12
ESY Stoneypath 77.11 344⇑ eP P 10 27 01.6 -0.5
NRDL Niedersach Rie 77.13 336 eP P 10 27 02.4 +0.3
comp=Z,45nm,1.0s
X26A CR and CF Fran 77.15 54 ⇓P P 10 27 02.8 -0.1
baz=77,SNR=9.5
EAB Aberfoyle 77.18 345⇑ eP P 10 27 02.5 0.0
V28A Channing 77.20 52 ⇓P P 10 27 02.8 -0.3
baz=77
T30A Plains 77.21 50 ⇑P P 10 27 02.3 -0.8
baz=77
W27A Bowe Ranch, En 77.22 53 ⇓P P 10 27 03.4 +0.2
baz=77,SNR=6.5
U29A Oasis Ranch, S 77.23 51 ⇓P P 10 27 02.5 -0.7
baz=77
ISR Istrita 77.26 322⇑ iP P 10 27 04.7 +1.5
CLL Collm 77.27 334⇑ iP P 10 27 02.8 -0.2
CLL eS S 10 36 40.0 -10
CLL MLR MLR
comp=Z,1μm,19.5s
CLL Collm 77.27 334 eP P 10 27 02.9 -0.1
comp=Z,244nm,1.2s
CLL Collm 77.27 334⇑ iP P 10 27 02.8 -0.2
comp=Z,282nm,1.2s
CLL ePIp 10 27 18.0
comp=Z,300nm,17.6s
CLL eS S 10 36 40.0 -10
CLL eSS SS 10 41 48.0 +1.2
CLL LmH 11 00 00.0
comp=N,1μm,21.0s
CLL LmH 11 00 00.0
comp=E,2μm,20.8s
CLL L L 11 05 00.0
comp=Z,1μm,19.5s
EBL Broad Law 77.33 344⇑ eP P 10 27 02.5 -0.8
BRG Berggiesshubel 77.34 333⇑ iP P 10 27 03.4 -0.1
comp=Z,107nm,1.2s
BRG e 10 27 13.9
comp=Z,20nm,0.8s
BRG S S 10 36 48.0 -2.3
BRG
comp=N,2μm,17.2s
BRG
comp=E,626nm,21.4s
BRG
comp=Z,2μm,16.6s
BRG Berggiesshubel 77.34 333⇑ iP P 10 27 03.3 -0.1
BRG e 10 27 13.9
BRG S S 10 36 48.0 -2.3
BRG pmax pmax
comp=Z,107nm,1.2s
BRG MLR MLR
comp=N,2μm,17.2s
BRG MLR MLR
comp=E,626nm,21.4s
BRG MLR MLR
comp=Z,2μm,16.6s
BRG Berggiesshubel 77.34 333 eP P 10 27 03.5 0.0
comp=Z,56nm,1.0s
S31A Mullinville 77.37 49 ⇑P P 10 27 03.2 -0.7
baz=77
SCIA State Center 77.40 43 eP P 10 27 04.2 +0.3
comp=Z,159nm,1.2s
SCIA LR LR
comp=Z,2μm,20.0s
PINB Pinarbasi 77.40 312 i P P 10 27 05.3 +1.0
223A Chaparral, Ant 77.40 57 ⇑P P 10 27 04.5 +0.2
baz=77
PVCC Panska Ves 77.43 332 eP P 10 27 04.4 +0.4
PVCC MLR MLR
comp=Z,1μm,15.3s
PVCC Panska Ves 77.43 332⇑ eP P 10 27 04.4 +0.4
PVCC AMS AMS 11 06 30.0
comp=Z,1μm,15.3s
X27A F and S Farms, 77.49 54 ⇓P P 10 27 04.8 +0.1
baz=77,SNR=7.5
124A Stringfield Ra 77.50 56 ⇓P P 10 27 05.0 0.0
baz=77,SNR=5.5
V29A Stinnett 77.51 52 ⇑P P 10 27 04.1 -0.7
baz=77
U30A WK&E Inc. Balk 77.52 51 ⇑P P 10 27 04.1 -0.7
baz=77
Z25A Roswell 77.52 56 ⇑P P 10 27 04.9 0.0
baz=77,SNR=10
W28A Vega 77.56 53 ⇑P P 10 27 05.6 +0.4
baz=77
PGBU Glenifferbraes 77.57 345⇑ iP P 10 27 04.3 -0.3
PGBU AMB AMB 10 27 06.2
comp=Z,277nm,1.3s
Y26A Elida 77.59 55 ⇑P P 10 27 05.2 -0.2
baz=77
S32A Newby Ranch, P 77.60 49 ⇓P P 10 27 04.2 -1.0
baz=77,SNR=6.4
CLZ Clausthal 77.62 335 eP P 10 27 05.1 +0.1
CLZ pmax pmax
comp=Z,139nm,1.1s
CLZ Clausthal 77.62 335 eP P 10 27 05.1 +0.1
comp=Z,139nm,1.1s
KBD Kabd 77.63 299 eP P 10 27 05.2 -0.3
KBD AMb AMB 10 27 06.9
comp=Z,84nm,1.0s
T31A Randall Ranch, 77.64 50 ⇓P P 10 27 04.4 -1.0
baz=77,SNR=6.9
VOIR 77.66 323⇓ iP P 10 27 06.3 +0.9
PSZ Piszkesteto 77.72 328 eP P 10 27 06.2 +0.5
PSZ pmax pmax
comp=Z,188nm,1.2s
PSZ MLR MLR
comp=Z,4μm,20.0s
PSZ Piszkesteto 77.72 328⇓ iP P 10 27 06.8 +1.1
PSZ Piszkesteto 77.72 328 eP P 10 27 06.2 +0.5
comp=Z,188nm,1.2s
PSZ LR LR
comp=Z,4μm,20.0s
PSZ Piszkesteto 77.72 328⇑ eP P 10 27 06.4 +0.7
GZT Gaziantep 77.75 311 i P P 10 27 08.0 +1.9
VRAC Vranov 77.78 330⇓ iP P 10 27 06.9 +1.0
QRN Al-Qurain 77.79 298 eP P 10 27 06.0 -0.4
QRN AMb AMB 10 27 08.2
comp=Z,177nm,0.8s
ESK Eskdalemuir 77.79 344⇑ eP P 10 27 05.5 -0.4
ESK AMB AMB 10 27 06.5
comp=Z,115nm,1.4s
ESK AMS AMS 11 05 32.9
comp=Z,994nm,18.8s
ESK Eskdalemuir 77.79 344 eP P 10 27 05.9 0.0
ESK pmax pmax
comp=Z,134nm,1.2s
ESK MLR MLR
comp=Z,1μm,21.0s
ESK Eskdalemuir 77.79 344 eP P 10 27 05.9 0.0
comp=Z,134nm,1.2s
ESK LR LR
comp=Z,1μm,21.0s
ESK Eskdalemuir 77.79 344 P P 10 27 05.7 -0.2
comp=Z,474nm,1.3s,SNR=12
KSU1 Kansas State U 77.80 47 eP P 10 27 05.4 -0.8
comp=Z,46nm,1.0s
KSU1 epP PcP 10 27 16.8 +0.7
KSU1 LR LR
comp=Z,2μm,19.0s
RST Umm Al-Ruwaisa 77.84 299 eP P 10 27 06.0 -0.6
RST AMb AMB 10 27 08.1
comp=Z,1μm,1.0s
NAY Al-Naaiem 77.86 299 eP P 10 27 06.2 -0.5
NAY AMb AMB 10 27 08.0
comp=Z,114nm,1.1s
PRA Prague 77.87 332 ⇑P P 10 27 07.0 +0.6
ARR Arges 77.89 324⇑ iP P 10 27 08.8 +2.1
224A Cornudas Mount 77.90 57 ⇓P P 10 27 07.1 0.0
baz=78,SNR=13
PRU Pruhonice 77.90 332⇑ iP P 10 27 06.8 +0.2
PRU eS S 10 36 52.6 -3.8
PRU MLR MLR
comp=Z,2μm,16.9s
PRU Pruhonice 77.90 332⇑ iP P 10 27 06.8 +0.2
PRU eS S 10 36 52.6 -3.8
PRU ex x 10 42 15.8
PRU AMS AMS 11 05 10.0
comp=Z,2μm,16.9s
ECK Cauldkaine Hil 77.91 344⇑ iP P 10 27 06.3 -0.3
Z26A Caprock 77.96 55 ⇑P P 10 27 07.0 -0.4
baz=78,SNR=27
IBBN Ibbenburen 77.97 337 eP P 10 27 06.9 0.0
comp=Z,174nm,1.2s
W29A Amraillo 77.98 52 ⇓P P 10 27 07.1 -0.3
baz=78
125A Gardner Draw, 78.00 56 ⇓P P 10 27 07.5 -0.1
baz=78,SNR=16
Y27A Causey 78.00 54 ⇓P P 10 27 07.6 0.0
baz=78,SNR=17
XAL Allendale 78.03 344⇑ eP P 10 27 07.0 -0.2
JFWS Jewell Farm 78.03 40 epP pP 10 27 21.5 +1.6
JFWS LR LR
comp=Z,2μm,21.0s
BR131 Keskin Array S 78.05 315 eP P 10 27 08.1 +0.4
comp=Z,37nm,1.0s
BRTR Keskin Array B 78.05 315 P P 10 27 08.2 +0.4
BRTR sP sP 10 27 23.5 -1.5
BRTR Keskin Array B 78.05 315 P P 10 27 08.2 +0.4
comp=Z,23nm,0.9s,baz=69,slow=4.1,SNR=96
BRTR sP sP 10 27 23.5 -1.5
comp=Z,14nm,0.8s,baz=80,slow=2.8,SNR=6.0
BRTR LR LR 11 07 49.3
comp=Z,1μm,18.1s,baz=210,slow=40
U31A Nine Bar Ranch 78.08 50 ⇑P P 10 27 07.7 -0.2
baz=78
X28A Dimmitt 78.10 53 ⇓P P 10 27 07.7 -0.4
baz=78,SNR=5.6
AYKD Aykdinkavak 78.11 311 i P P 10 27 09.2 +1.1
AVNT Avonos 78.13 313 i P P 10 27 08.4 +0.1
SMOL Smolenice 78.14 330 eP P 10 27 09.4 +1.4
SMOL Smolenice 78.14 330 eP P 10 27 09.4 +1.4
MSTX Muleshoe 78.17 54 eP P 10 27 08.4 -0.1
MSTX Muleshoe 78.17 54 ⇓P P 10 27 07.7 -0.8
baz=78,SNR=8.4
TREC Trest 78.17 331 eP P 10 27 08.5 +0.4
TREC MLR MLR
comp=Z,2μm,18.6s
TREC Trest 78.17 331⇑ eP P 10 27 08.5 +0.4
TREC AMS AMS 11 06 00.0
comp=Z,2μm,18.6s
LOT Lotru 78.19 324⇓ iP P 10 27 07.1 -1.3
DEV Deva 78.20 325⇑ iP P 10 27 09.6 +1.3
TANN Tannenbergstha 78.22 333 eP P 10 27 08.6 +0.2
comp=Z,32nm,1.1s
MNTX Cornudas Mount 78.25 57 eP P 10 27 08.9 0.0
comp=Z,41nm,1.1s
MNTX LR LR
comp=Z,479nm,20.0s
MOX Moxa 78.29 334 eP P 10 27 08.4 -0.3
MOX pmax pmax
comp=Z,67nm,1.0s
MOX MLR MLR
comp=Z,2μm,18.4s
MOX Moxa 78.29 334 eP P 10 27 08.4 -0.3
comp=Z,67nm,1.0s
MOX eL L 11 05 34.1
comp=Z,2μm,18.4s
225A Deer Hill, Car 78.29 56 ⇓P P 10 27 09.4 +0.1
baz=78,SNR=12
GCD Castle Douglas 78.36 345⇑ iP P 10 27 08.3 -0.7
324A Moseley Ranch, 78.37 57 ⇓P P 10 27 09.4 -0.3
baz=78,SNR=11
ANTO Ankara 78.37 315 eP P 10 27 10.4 +0.9
ANTO pmax pmax
comp=Z,98nm,1.0s
ANTO MLR MLR
comp=Z,1μm,20.0s
ANTO Ankara 78.37 315 P P 10 27 10.6 +1.2
SNR=19
ANTO Ankara 78.37 315⇓ iP P 10 27 10.3 +0.9
ANTO Ankara 78.37 315 eP P 10 27 10.4 +0.9
comp=Z,98nm,1.0s
ANTO LR LR
comp=Z,1μm,20.0s
Z27A Tatum 78.38 55 ⇓P P 10 27 09.4 -0.3
baz=78,SNR=35
126A Clayton Basin, 78.38 56 ⇓P P 10 27 09.2 -0.4
baz=78,SNR=7.1
BUD Budapest 78.42 328⇑ eP P 10 27 10.1 +0.6
X29A Tulia 78.44 53 ⇑P P 10 27 09.8 -0.1
baz=78,SNR=8.9
KESW Keswick, Cumbr 78.46 344⇑ eP P 10 27 09.5 -0.1
KESW AMB AMB 10 27 11.3
comp=Z,228nm,1.1s
KESW AMS AMS 11 05 52.6
comp=Z,1μm,18.1s
GDL2 Guadalupe Moun 78.50 56 eP P 10 27 11.0 +0.7
GAL1 Galloway 78.51 345⇑ eP P 10 27 09.5 -0.3
GAL1 AMB AMB 10 27 10.4
comp=Z,133nm,1.3s
GAL1 AMS AMS 11 04 49.4
comp=Z,877nm,22.7s
Y28A McKinney Farm, 78.51 54 ⇑P P 10 27 09.8 -0.6
baz=78
WTSB Winterswijk 78.54 337 eP P 10 27 09.9 -0.1
comp=Z,176nm,1.1s
W30A Crocket Farms 78.54 52 ⇑P P 10 27 10.6 +0.1
baz=78
PKSN Nyarlorinc 78.58 327⇓ eP P 10 27 11.8 +1.4
UBBA Unterbreizbach 78.63 335 eP P 10 27 10.3 -0.2
comp=Z,56nm,1.2s
226B Tecolote Peak, 78.70 56 ⇓P P 10 27 11.3 -0.2
baz=78,SNR=23
PKS7 Kunszentmiklos 78.72 328⇓ eP P 10 27 12.1 +0.9
325A Bean Ranch, Si 78.73 57 ⇑P P 10 27 11.3 -0.4
baz=78,SNR=10.0
127A Arkansas Junct 78.75 55 ⇓P P 10 27 10.9 -0.9
baz=78
HPK Haverah Park 78.75 343⇑ iP P 10 27 11.2 +0.1
HPK AMB AMB 10 27 12.8
comp=Z,179nm,1.1s
ROTZ Rotzenmuhle 78.86 333 eP P 10 27 12.1 +0.2
comp=Z,83nm,1.1s
BUG Bochum-Univer 78.88 337 eP P 10 27 11.4 -0.5
comp=Z,114nm,1.1s
Y29A Porterfield Fa 78.88 53 ⇑P P 10 27 12.3 -0.1
baz=79
Z28A Tucker Farm, M 78.88 54 ⇑P P 10 27 12.2 -0.2
baz=79
W31A Holland Ranch, 78.89 51 ⇓P P 10 27 12.1 -0.2
baz=79,SNR=8.2
X30A Coker Ranch, T 78.91 52 ⇑P P 10 27 12.3 -0.2
baz=79,SNR=6.0
BZS Buzias 78.94 325⇓ iP P 10 27 12.7 +0.3
KHC Kasperske Hory 78.96 332⇑ iP P 10 27 12.9 +0.4
KHC e 10 27 16.5
KHC e 10 27 30.8
KHC eS S 10 37 10.8 +2.9
KHC MLR MLR
comp=Z,2μm,14.9s
KHC Kasperske Hory 78.96 332⇑ iP P 10 27 12.9 +0.4
KHC ex x 10 27 16.5
KHC esP sP 10 27 30.8 +1.0
KHC eS S 10 37 10.8 +2.9
KHC ex x 10 42 39.3
KHC AMS AMS 11 05 50.0
comp=Z,2μm,14.9s
KHC Kasperske Hory 78.96 332 eP P 10 27 12.2 -0.3
comp=Z,182nm,1.1s
PKST T*s 78.97 329⇑ eP P 10 27 12.7 +0.1
SZH Strazhica 78.99 322 P P 10 27 13.3 +0.6
COBT Iskenderun 79.07 311 i P P 10 27 14.3 +0.8
425A Indio Mountain 79.13 57 ⇑P P 10 27 13.7 -0.2
baz=79,SNR=15
SOP Sopron 79.16 330⇑ eP P 10 27 14.5 +0.9
PKS2 Kecel 79.17 327⇑ eP P 10 27 13.9 +0.3
GEC2 GERESS Array S 79.17 332 eP P 10 27 13.3 -0.4
GEC2 pmax pmax
comp=Z,80nm,1.2s
GEC2 GERESS Array S 79.17 332 eP P 10 27 13.3 -0.4
comp=Z,80nm,1.2s
GEC2 GERESS Array S 79.17 332 eP P 10 27 13.6 -0.1
GERES GERESS Array B 79.17 332 P P 10 27 13.6 -0.1
GERES pP PcP 10 27 24.1 +2.1
GERES GERESS Array B 79.17 332 P P 10 27 13.6 -0.1
comp=Z,15nm,0.6s,baz=46,slow=3.9,SNR=104
GERES pP PcP 10 27 24.1 +2.1
comp=Z,9.2nm,0.8s,baz=28,slow=6.0,SNR=7.0
GERES LR LR 11 06 32.0
comp=Z,2μm,18.3s,baz=31,slow=39
WET Wettzell 79.18 333 eP P 10 27 13.9 +0.2
WET pmax pmax
comp=Z,141nm,1.1s
WET Wettzell 79.18 333 eP P 10 27 13.9 +0.2
comp=Z,141nm,1.1s
CONA Conrad Observa 79.20 330 i P P 10 27 14.6 +0.7
comp=Z,405nm,1.6s,SNR=48
GRF Grafenberg Arr 79.24 334 eP P 10 27 14.1 +0.1
GRF pmax pmax
comp=Z,166nm,1.1s
GRF Grafenberg Arr 79.24 334 eP P 10 27 14.1 +0.1
comp=Z,166nm,1.1s
GRF eL L 11 09 42.1
comp=Z,1μm,18.9s
GRFO Grafenberg 79.24 334 eP P 10 27 14.5 +0.5
GRFO pmax pmax
comp=Z,265nm,1.2s
GRFO Grafenberg 79.24 334 eP P 10 27 14.5 +0.5
comp=Z,265nm,1.2s
227A Bennet, Jal 79.27 56 ⇓P P 10 27 13.9 -0.7
baz=79
X31A McDonald Ranch 79.28 52 ⇑P P 10 27 14.1 -0.3
baz=79,SNR=7.4
GULE Gulek 79.29 312 i P P 10 27 15.5 +0.8
Z29A Hungry Hill Ra 79.29 54 ⇓P P 10 27 14.4 -0.2
baz=79,SNR=18
128A Castleberry Fa 79.30 55 ⇓P P 10 27 14.4 -0.3
baz=79,SNR=22
Y30A Stafford Cattl 79.31 53 ⇓P P 10 27 14.6 -0.1
baz=79
GMM Mts of Mourne 79.33 345⇑ iP P 10 27 13.3 -1.1
326A Caldwell Ranch 79.36 56 ⇓P P 10 27 14.8 -0.3
baz=79,SNR=23
KBI1 Birley Grange 79.39 343⇑ iP P 10 27 14.6 -0.1
PKS9 Tamasi 79.44 328⇓ eP P 10 27 15.4 +0.3
CAN Canberra 79.50 180 PFAKE 10 27 30.0 +15
CAN LR LR
comp=Z,723nm,22.0s
YAYL Yayladag 79.51 311 i P P 10 27 16.4 +0.6
228A UT Block 9, Go 79.60 55 ⇓P P 10 27 16.0 -0.3
baz=79,SNR=6.7
Z30A Sanderson Ranc 79.61 53 ⇓P P 10 27 15.9 -0.5
baz=79,SNR=11
SEYT Eskypehyr 79.61 316 i P P 10 27 16.8 +0.5
Y31A Rekieta Farm, 79.61 52 ⇓P P 10 27 15.7 -0.6
baz=79
327A Balmorhea Ranc 79.61 56 ⇓P P 10 27 16.3 -0.1
baz=79
TNS Taunus Mts 79.62 336 eP P 10 27 15.8 -0.3
TNS pmax pmax
comp=Z,70nm,1.1s
TNS Taunus Mts 79.62 336 eP P 10 27 15.8 -0.3
comp=Z,70nm,1.1s
129A Stewart Farms, 79.66 54 ⇑P P 10 27 16.6 -0.1
baz=79,SNR=6.4

STNC Stoke 79.69 343⇑ eP P 10 27 16.4 +0.1
STNC AMB AMB 10 27 18.2
comp=Z,170nm,1.9s
426A McDonald Obser 79.79 57 ⇓P P 10 27 17.0 -0.6
baz=80,SNR=11
WME Myndd Eilian 79.82 344⇑ iP P 10 27 16.6 -0.5
MOA Molln 79.83 331 i P P 10 27 17.6 +0.3
comp=Z,432nm,2.5s,SNR=17
HGN Heimansgroeve 79.86 337 eP P 10 27 17.2 0.0
comp=Z,135nm,1.0s
HGN eS **SKiKP 10 36 11.2 -6.7**
WMOK Wichita Mounta 79.87 51 eP P 10 27 17.3 -0.4
WMOK pmax pmax
comp=Z,22nm,0.8s
WMOK MLR MLR
comp=Z,875nm,19.0s
WMOK Wichita Mounta 79.87 51 eP P 10 27 17.2 -0.4
comp=Z,22nm,0.8s
WMOK LR LR
comp=Z,875nm,19.0s
WPM1 Penmaenmawr 79.88 344⇑ iP P 10 27 17.0 -0.4
MPEP Malo Peshtene 79.88 323 P P 10 27 17.4 -0.2
BEBN Eben Emael 79.90 337 P P 10 27 17.5 0.0
comp=Z,58nm,1.3s
ARSA Arzberg 79.90 330 i P P 10 27 18.1 +0.4
comp=Z,271nm,1.9s,SNR=31
WLF1 Llynfaes 79.94 344⇑ eP P 10 27 17.0 -0.7
WLF1 AMB AMB 10 27 18.2
comp=Z,86nm,1.6s
MEM Membach 79.97 337 P P 10 27 17.8 -0.2
comp=Z,94nm,1.6s
MEM Membach 79.97 337 eP P 10 27 18.4 +0.5
MEM Membach 79.97 337 eP P 10 27 18.4 +0.5
328A Wristen Ranch, 80.00 56 ⇑P P 10 27 18.3 -0.3
baz=80,SNR=25
427A Hayter Ranch, 80.04 56 ⇑P P 10 27 18.5 -0.3
baz=80,SNR=17
Y32A R-V Farms, Ver 80.04 52 ⇓P P 10 27 18.4 -0.2
baz=80
YLL Llanberis 80.04 344⇑ iP P 10 27 17.8 -0.4
FOEL Foel Wylfa 80.08 343⇑ eP P 10 27 18.6 +0.1
FOEL AMB AMB 10 27 20.3
comp=Z,241nm,1.3s
FOEL AMS AMS 11 06 59.8
comp=Z,1μm,21.3s
Z31A Sharp Cattle R 80.14 53 ⇑P P 10 27 18.6 -0.6
baz=80,SNR=9.2
229A Bryant Ranch, 80.17 55 ⇑P P 10 27 19.2 -0.2
baz=80,SNR=8.1
BOLV Bolvadin 80.17 316 i P P 10 27 20.4 +1.0
526A Mary Lane Ranc 80.19 57 ⇑P P 10 27 19.5 -0.2
baz=80,SNR=25
130A Snyder 80.20 54 ⇓P P 10 27 19.4 -0.2
baz=80
KIZK Mersin 80.23 312 i P P 10 27 19.5 -0.1
YRE Yr Eifl 80.24 344⇑ iP P 10 27 19.1 -0.2
UCC Uccle 80.25 338 P P 10 27 19.3 0.0
RAR Rarotonga 80.32 133 LR LR 10 54 20.1
comp=Z,987nm,21.3s,baz=276,slow=29
KOGS Kog 80.32 329 i P P 10 27 19.5 -0.3
BCLA Clavier 80.34 338 P P 10 27 19.8 -0.1
comp=Z,80nm,1.4s
HLM1 Long Mynd 80.37 343 eP P 10 27 19.4 -0.6
HLM1 AMB AMB 10 27 21.0
comp=Z,114nm,1.4s
329A Wagon Wheel Ra 80.42 55 ⇓P P 10 27 20.5 -0.3
baz=80,SNR=19
527A Woodward Ranch 80.42 57 ⇑P P 10 27 20.7 -0.2
baz=80,SNR=13
RJOB Jochberg 80.43 332 eP P 10 27 20.7 +0.2
comp=Z,53nm,1.0s
131A Roby 80.47 53 ⇑P P 10 27 21.0 -0.1
baz=80
KDZ Kurdzhali 80.51 321 P P 10 27 22.0 +1.0
626A Big Bend Ranch 80.53 58 ⇓P P 10 27 21.0 -0.4
baz=80,SNR=24
Z32A Haskell 80.53 52 ⇓P P 10 27 20.8 -0.4
baz=80,SNR=8.7
SNF Seneffe 80.53 338 P P 10 27 20.9 0.0
FUR Furstenfeldbru 80.56 333 eP P 10 27 21.9 +0.7
FUR pmax pmax
comp=Z,160nm,1.1s
FUR Furstenfeldbru 80.56 333 eP P 10 27 21.9 +0.7
comp=Z,160nm,1.1s
PERS Pernice 80.57 330 i P P 10 27 21.4 +0.1
GDZ Gediz 80.61 317 i P P 10 27 22.2 +0.4
TUL1 Tulsa 80.62 48 eP P 10 27 21.2 -0.5
TUL1 Tulsa 80.62 48 ⇓P P 10 27 21.1 -0.6
baz=80
230A Sterling City 80.63 54 ⇓P P 10 27 21.6 -0.3
baz=80,SNR=11
SKP1 Kophill 80.67 342⇑ eP P 10 27 20.6 -1.0
STU Stuttgart 80.69 334 eP P 10 27 21.9 +0.1
STU pmax pmax
comp=Z,150nm,1.2s
STU Stuttgart 80.69 334 eP P 10 27 22.3 +0.5
comp=Z,78nm,1.0s
STU Stuttgart 80.69 334 eP P 10 27 21.9 +0.1
comp=Z,150nm,1.2s
VTS Vitosha 80.73 323 ⇓iP P 10 27 23.0 +0.7
VTS Vitosha 80.73 323 P P 10 27 22.5 +0.2
ELSH Elham, Standar 80.75 340 eP P 10 27 21.6 -0.4
ELSH AMB AMB 10 27 23.8
comp=Z,247nm,1.2s
ELSH AMS AMS 11 09 33.5
comp=Z,878nm,15.4s
ERMK Ermenek 80.75 313 i P P 10 27 22.5 -0.2
GIVF Givet 80.76 338⇑ iP P 10 27 21.9 -0.2
comp=Z,183nm,1.2s
GIVF Givet 80.76 338⇑ iP P 10 27 21.9 -0.2
GIVF pmax pmax
comp=Z,183nm,1.2s
GIVF Givet 80.76 338⇑ iP P 10 27 21.9 -0.2
comp=Z,183nm,1.2s
WLF Walferdange 80.79 337 P P 10 27 23.0 +0.7
comp=Z,80nm,1.9s
WLF Walferdange 80.79 337 eP P 10 27 22.7 +0.4
WLF pmax pmax
comp=Z,58nm,1.0s
WLF MLR MLR
comp=Z,2μm,19.0s
WLF Walferdange 80.79 337 eP P 10 27 23.9 +1.6
comp=Z,17nm,0.9s
WLF Walferdange 80.79 337 eP P 10 27 22.7 +0.4
comp=Z,58nm,1.0s
WLF LR LR
comp=Z,2μm,19.0s
KBA Koelnbreinsper 80.81 331 i P P 10 27 23.8 +1.1
comp=Z,336nm,1.5s,SNR=12
DOU Dourbes 80.83 338 P P 10 27 22.4 -0.1
comp=Z,50nm,1.7s
OBKA Obir 80.88 330⇑ iP P 10 27 22.8 -0.2
comp=Z,429nm,3.0s,SNR=7.3
MCH1 Michaelchurch 80.88 343⇑ iP P 10 27 22.2 -0.5
MCH1 AMB AMB 10 27 23.6
comp=Z,170nm,1.3s
MCH1 AMS AMS 11 06 38.3
comp=Z,856nm,21.5s
528A Cox Ranch, San 80.90 57 ⇓P P 10 27 23.6 +0.2
baz=81,SNR=20
LANF Langenberg 80.92 335 eP P 10 27 22.9 -0.2
ABTX Abilene, Hawle 80.94 53 eP P 10 27 23.4 -0.1
ABTX Abilene, Hawle 80.94 53 ⇑P P 10 27 23.2 -0.3
baz=81,SNR=8.1
330A Mertzon 80.95 55 ⇑P P 10 27 23.3 -0.3
baz=81,SNR=13
BAIF Baives 80.96 338⇑ iP P 10 27 23.1 -0.1
comp=Z,331nm,1.5s
BAIF Baives 80.96 338⇑ iP P 10 27 23.1 -0.1
BAIF pmax pmax
comp=Z,331nm,1.5s
BAIF Baives 80.96 338⇑ iP P 10 27 23.1 -0.1
comp=Z,331nm,1.5s
TXAR Lajitas Array 80.97 58 P P 10 27 23.8 0.0
TXAR pP **pP 10 27 36.2 -0.1**
TXAR PKKPbc **PKKPbc 10 46 01.3 +2.5**
TXAR Lajitas Array 80.97 58 P P 10 27 23.8 0.0
comp=Z,14nm,0.6s,baz=301,slow=3.3,SNR=84
TXAR pP **pP 10 27 36.2 -0.1**
comp=Z,49nm,0.8s,baz=302,slow=3.0,SNR=21
TXAR PKKPbc **PKKPbc 10 46 01.3 +2.5**
comp=Z,1.1nm,0.9s,baz=149,slow=2.9,SNR=7.8
TXAR LR LR 11 03 02.4
comp=Z,568nm,21.0s,baz=35,slow=35
LPW Lampeter 80.99 344⇑ eP P 10 27 22.7 -0.6
LPW AMB AMB 10 27 24.1
comp=Z,762nm,1.4s
BALY Balya 81.00 318 i P P 10 27 23.8 +0.1
DEMI Demirci 81.02 317 i P P 10 27 24.1 +0.2
MENF Mencas 81.04 339 eP P 10 27 23.5 -0.1
627A Terlingua Ranc 81.05 57 ⇑P P 10 27 23.9 -0.3
baz=81,SNR=17
231A Bronte 81.06 54 ⇑P P 10 27 23.7 -0.4
baz=81,SNR=8.9
ISP Isparta 81.08 315 eP P 10 27 23.1 -1.1
ISP pmax pmax
comp=Z,22nm,0.8s
ISP MLR MLR
comp=Z,1μm,20.0s
ISP Isparta 81.08 315 eP P 10 27 23.1 -1.1
comp=Z,22nm,0.8s
ISP LR LR
comp=Z,1μm,20.0s
SWN1 Swindon 81.08 342 eP P 10 27 23.3 -0.5
SWN1 AMB AMB 10 27 25.6
comp=Z,334nm,2.5s
429A Davenport Ranc 81.09 56 ⇓P P 10 27 24.1 -0.3
baz=81,SNR=7.9
MYKA Terra Mystica 81.10 331⇑ iP P 10 27 23.7 -0.4
comp=Z,298nm,1.9s,SNR=15
WOL Wolverton 81.14 342⇑ eP P 10 27 23.3 -0.8
WOL AMB AMB 10 27 24.9
comp=Z,158nm,1.1s
KHAL Karahalli 81.17 316 i P P 10 27 24.7 0.0
WATA Walderalm 81.19 332⇑ iP P 10 27 24.9 +0.3
comp=Z,254nm,1.4s,SNR=39
HMNX Herstmonceux 81.20 341⇑ eP P 10 27 25.0 +0.6
HMNX AMB AMB 10 27 26.1
comp=Z,392nm,1.3s
WTTA Wattenberg 81.23 332⇑ iP P 10 27 25.3 +0.3
comp=Z,505nm,1.7s
529A Stev Forest Ra 81.26 56 ⇑P P 10 27 25.0 -0.3
baz=81,SNR=27
BATH Bath 81.26 342 eP P 10 27 23.6 -1.2
BATH AMB AMB 10 27 25.6
comp=Z,134nm,1.5s
LJU Ljubljana 81.29 330 i P P 10 27 24.4 -0.7
MMB Musomiste 81.31 322 P P 10 27 25.8 +0.5
RETA Reutte 81.32 333⇑ iP P 10 27 25.5 +0.2
comp=Z,362nm,1.7s,SNR=38
628A Black Gap, Mar 81.33 57 ⇓P P 10 27 25.4 -0.2
baz=81,SNR=10.0
BFO Black Forest 81.34 335 eP P 10 27 24.8 -0.6
BFO pmax pmax
comp=Z,85nm,1.2s
BFO MLR MLR
comp=Z,1μm,19.0s
BFO Black Forest 81.34 335 eP P 10 27 25.0 -0.3
comp=Z,71nm,1.2s
BFO Black Forest 81.34 335 eP P 10 27 24.8 -0.6
comp=Z,85nm,1.2s
BFO LR LR
comp=Z,1μm,19.0s
430A Baggett Ranch, 81.36 55 ⇑P P 10 27 25.3 -0.5
baz=81,SNR=15
SLM Saint Louis 81.37 43 eP P 10 27 25.4 -0.2
SLM pmax pmax
comp=Z,70nm,0.9s
SLM Saint Louis 81.37 43 eP P 10 27 25.4 -0.2
comp=Z,70nm,0.9s
GAZI Gazipasa 81.38 313 i P P 10 27 25.7 -0.1
ABTA Abfaltersbach 81.39 332 i P P 10 27 25.7 +0.1
comp=Z,98nm,1.5s,SNR=14
RBK Rabkut 81.41 286 P P 10 27 25.7 -0.5
SNR=9.0
CADS Cadrg 81.41 331 i P P 10 27 24.1 -1.7
331A San Angelo 81.45 54 ⇓P P 10 27 25.7 -0.5
baz=81,SNR=8.3
232A Coleman 81.48 53 ⇑P P 10 27 25.8 -0.6
baz=81,SNR=20
SFIN Scholer Farm 81.48 40 eP P 10 27 25.7 -0.4
SFIN Scholer Farm 81.48 40 ⇓P P 10 27 25.5 -0.6
baz=81,SNR=9.7
VOY Vojsko 81.52 330 eP P 10 27 25.6 -0.8
CDF Champ du Feu 81.59 335⇑ iP P 10 27 26.5 -0.2
comp=Z,369nm,1.4s
CDF Champ du Feu 81.59 335⇑ iP P 10 27 26.5 -0.2
CDF pmax pmax
comp=Z,369nm,1.4s
CDF Champ du Feu 81.59 335⇑ iP P 10 27 26.5 -0.2
comp=Z,369nm,1.4s
PLE Pljevlja 81.72 326⇑ iP P 10 27 27.5 -0.1
FETA Feichten 81.74 333 i P P 10 27 28.0 +0.4
comp=Z,218nm,1.7s,SNR=31
530A J-C Ranch, Com 81.77 56 ⇓P P 10 27 28.1 +0.1
baz=81,SNR=11
DAVA Damuels 81.78 333 i P P 10 27 28.0 +0.2
comp=Z,255nm,1.6s,SNR=22
332A Millersview 81.79 54 ⇓P P 10 27 27.8 -0.3
baz=82,SNR=25
ECH Echery 81.80 335 eP P 10 27 27.4 -0.3
ECH pmax pmax
comp=Z,173nm,1.5s
ECH MLR MLR
comp=Z,1μm,20.0s
ECH Echery 81.80 335 eP P 10 27 27.4 -0.3
ECH Echery 81.80 335 eP P 10 27 27.4 -0.3
comp=Z,173nm,1.5s
ECH LR LR
comp=Z,1μm,20.0s
431A Sonora 81.81 55 ⇑P P 10 27 27.5 -0.7
baz=82,SNR=15
CSS Prodhromos 81.81 312 eP P 10 27 28.7 +0.7
comp=Z,68nm,0.9s
CSS LR LR
comp=Z,1μm,19.0s
FELD Feldberg im Sc 81.85 335 eP P 10 27 27.9 -0.3
TRI Trieste 81.85 330 eP P 10 27 27.4 -0.6
TRI Trieste 81.85 330 eP P 10 27 27.4 -0.6
IVA Berane 81.90 325⇑ iP P 10 27 28.4 -0.1
PAGF Fort de Pagny 81.91 336⇑ iP P 10 27 28.6 +0.3
comp=Z,185nm,1.4s
PAGF Fort de Pagny 81.91 336⇑ iP P 10 27 28.6 +0.3
comp=Z,185nm,1.4s
SKO Skopje 82.00 323 eP P 10 27 31.0 +2.2
GOLH Golhisar 82.01 316 i P P 10 27 29.1 -0.1
VAL Valandovo 82.04 322 i P P 10 27 28.3 -0.8
PVY Plav 82.10 325 eP P 10 27 28.6 -1.0
THEF They Montfort 82.13 336 eP P 10 27 29.0 -0.5
MOF Molkenrain 82.13 335 eP P 10 27 29.0 -0.6
ABTO Aybut 82.13 286 P P 10 27 30.3 +0.3
SNR=12
HTL Hartland 82.14 344⇑ iP P 10 27 29.6 +0.2
HTL AMB AMB 10 27 30.6
comp=Z,152nm,1.4s
HTL AMS AMS 11 08 03.0
comp=Z,1μm,19.2s
432A Menard 82.14 54 ⇓P P 10 27 29.5 -0.4
baz=82,SNR=7.3
MEZF Maizieres J'vi 82.15 337⇑ iP P 10 27 29.7 +0.2
comp=Z,377nm,1.3s
MEZF Maizieres J'vi 82.15 337⇑ iP P 10 27 29.7 +0.2
comp=Z,377nm,1.3s
531A Rocksprings 82.22 55 ⇑P P 10 27 29.9 -0.4
baz=82,SNR=13
HAU Haudompre 82.22 336⇑ iP P 10 27 29.7 -0.3
comp=Z,180nm,1.3s
HAU eR
comp=Z,1μm,21.0s
HAU Haudompre 82.22 336⇑ iP P 10 27 29.7 -0.3
HAU pmax pmax
comp=Z,180nm,1.3s
HAU Haudompre 82.22 336⇑ iP P 10 27 29.7 -0.3
comp=Z,180nm,1.3s
HINF Hinteralfeld 82.25 335⇑ iP P 10 27 29.7 -0.4
comp=Z,146nm,1.5s
HINF Hinteralfeld 82.25 335⇑ iP P 10 27 29.7 -0.4
HINF pmax pmax
comp=Z,146nm,1.5s
HINF Hinteralfeld 82.25 335⇑ iP P 10 27 29.7 -0.4
comp=Z,146nm,1.5s
VAL Valentia 82.26 347⇓ iP P 10 27 31.0 +1.0
NKY Niksic 82.32 325 eP P 10 27 29.8 -0.9
OLIL Olney 82.32 42 eP P 10 27 30.1 -0.5
OLIL epP **pP 10 27 42.4 -0.8**
SFTF Sexfontaines 82.42 337⇑ iP P 10 27 30.9 -0.1
comp=Z,373nm,1.2s
SFTF Sexfontaines 82.42 337⇑ iP P 10 27 30.9 -0.1
comp=Z,373nm,1.2s
BRY Bratogost 82.42 326 eP P 10 27 30.3 -1.0
JCT Junction City 82.42 54 eP P 10 27 31.1 -0.3
JCT pmax pmax
comp=Z,66nm,0.9s
JCT MLR MLR
comp=Z,962nm,21.0s
JCT Junction City 82.42 54 eP P 10 27 31.1 -0.3
comp=Z,66nm,0.9s
JCT LR LR
comp=Z,962nm,21.0s
JCT Junction City 82.42 54 ⇓P P 10 27 31.0 -0.4
baz=82,SNR=18
NWAO Narrogin (SRO) 82.43 207 P P 10 27 30.3 -0.7
NWAO pP **pP 10 27 44.4 +0.9**
NWAO LR LR
comp=Z,312nm,20.0s
NWAO Narrogin (SRO) 82.43 207 P P 10 27 30.3 -0.7
comp=Z,29nm,1.0s,baz=47,slow=7.9,SNR=8.1
NWAO pP **pP 10 27 44.4 +0.9**
comp=Z,26nm,0.9s,baz=30,slow=4.1,SNR=4.6
NVLJ Novalja 82.43 329 P P 10 27 29.8 -1.2
AYDN Tasoluk 82.51 317 i P P 10 27 32.4 +0.7
TTG Podgorica 82.53 325⇑ iP P 10 27 30.9 -0.7
DYA Yadsworthy 82.55 343⇑ eP P 10 27 31.3 -0.3
DYA AMB AMB 10 27 32.4
comp=Z,196nm,1.4s
DYA AMS AMS 11 08 44.9
comp=Z,875nm,18.4s
SIUC Southern Illin 82.58 43 eP P 10 27 32.0 0.0
comp=Z,144nm,1.1s
532A Rocksprings 82.62 55 ⇓P P 10 27 31.9 -0.5
baz=82,SNR=22
WHTX Lake Whitney 82.64 52 eP P 10 27 32.4 0.0
WHTX Lake Whitney 82.64 52 ⇑P P 10 27 32.2 -0.3
baz=82,SNR=6.9
LOMF Lomont 82.67 335 eP P 10 27 32.3 -0.1
TUE Stuetta 82.67 333 eP P 10 27 32.8 +0.2
comp=Z,165nm,1.4s
TUE LR LR
comp=Z,1μm,19.0s
BLO Bloomington 82.71 40 eP P 10 27 32.5 -0.1
BLO pmax pmax
comp=Z,188nm,2.0s
BLO Bloomington 82.71 40 eP P 10 27 32.5 -0.1
comp=Z,188nm,2.0s
631A Perdido Creek 82.76 56 ⇑P P 10 27 32.7 -0.3
baz=83,SNR=38
DRME Dracevica, Mon 82.76 325⇑ iP P 10 27 32.6 -0.2
AKAS Kas 82.77 315 i P P 10 27 32.8 -0.4
TURN Turunc 82.77 316 i P P 10 27 34.7 +1.7
HCY Herceg Novi 82.82 326⇑ iP P 10 27 32.9 -0.3
MIAR Mount Ida 82.83 48 eP P 10 27 33.3 -0.1
MIAR pmax pmax
comp=Z,65nm,0.8s
MIAR MLR MLR
comp=Z,815nm,20.0s
MIAR Mount Ida 82.83 48 eP P 10 27 33.2 -0.1
comp=Z,65nm,0.8s
MIAR LR LR
comp=Z,815nm,20.0s
RAYN Ar Rayn 83.00 296 eP P 10 27 34.2 -0.3
comp=Z,53nm,1.3s
RAYN Ar Rayn 83.00 296 P P 10 27 34.5 +0.1
comp=Z,152nm,1.2s,SNR=15
LONY Lake Ozonia 83.06 30 PFAKE 10 27 50.0 +16
LONY LR LR
comp=Z,1μm,21.0s
ERPA Erie 83.13 35 eP P 10 27 34.4 -0.4
comp=Z,89nm,1.3s
ERPA LR LR
comp=Z,1μm,19.0s
USIN University of 83.14 42 eP P 10 27 35.3 +0.5
comp=Z,94nm,1.1s
USIN epP **pP 10 27 47.6 +0.2**
PARMO Parma 83.15 44 eP P 10 27 35.6 +0.6
632A Uvalde 83.15 55 ⇑P P 10 27 34.9 -0.2
baz=83,SNR=12
TIR Tirane 83.17 324 eP P 10 27 35.5 +0.5
TIR pmax pmax
comp=Z,1μm,2.5s
TIR MLR MLR
comp=Z,2μm,21.0s
TIR Tirane 83.17 324 eP P 10 27 35.5 +0.5
comp=Z,1μm,2.5s
TIR LR LR
comp=Z,2μm,21.0s
PPT Papeete 83.18 123 LR LR 11 05 00.6
comp=Z,1μm,18.2s,baz=316,slow=36
BDRM Kayabasi 83.19 317 i P P 10 27 35.2 0.0
PPT2 Papeete2 83.20 123 eP P 10 27 43.8 +8.4
comp=Z,56nm,1.4s
PPT2 Papeete2 83.20 123 eS S 10 37 57.1 +4.5
comp=Z,348nm,25.5s
PPT2 Papeete2 83.20 123 eLR LR 10 53 45.7
comp=Z,3μm,25.8s,baz=324
PAE Paea 83.25 123 eP P 10 27 43.7 +8.2
comp=Z,10nm,1.1s
TIAR Tiarei 83.31 122 eP P 10 27 44.1 +8.2
comp=Z,67nm,0.9s
JSA Saint Aubin 83.35 342⇑ iP P 10 27 35.6 -0.1
JSA AMB AMB 10 27 36.6
comp=Z,150nm,1.6s
FLN La Foliniere 83.35 340⇑ iP P 10 27 35.7 -0.1
comp=Z,118nm,0.8s
FLN eR
comp=Z,1μm,18.5s
FLN La Foliniere 83.35 340⇑ iP P 10 27 35.7 -0.1
FLN pmax pmax
comp=Z,119nm,0.8s
FLN La Foliniere 83.35 340⇑ iP P 10 27 35.7 -0.1
comp=Z,118nm,0.8s
PQI Presque Isle 83.40 25 eP P 10 27 35.4 -0.6
comp=Z,40nm,0.9s
LDF La Druitiere 83.42 340⇑ iP P 10 27 36.0 -0.1
comp=Z,324nm,1.4s
LDF La Druitiere 83.42 340⇑ iP P 10 27 36.0 -0.1
LDF pmax pmax
comp=Z,324nm,1.4s
LDF La Druitiere 83.42 340⇑ iP P 10 27 36.0 -0.1
comp=Z,324nm,1.4s
ACSO Alum Creek Sta 83.44 38 eP P 10 27 36.6 +0.2
comp=Z,69nm,1.0s
ACSO LR LR
comp=Z,841nm,19.0s
ALLY Alegheny Colle 83.46 35 eP P 10 27 36.1 -0.4
comp=Z,155nm,1.4s
CABF La Chapelle 83.56 335⇑ iP P 10 27 37.1 +0.1
comp=Z,59nm,0.9s
CABF La Chapelle 83.56 335⇑ iP P 10 27 37.1 +0.1
CABF pmax pmax
comp=Z,59nm,0.9s
CABF La Chapelle 83.56 335⇑ iP P 10 27 37.1 +0.1
comp=Z,59nm,0.9s
HBAR Harrisburg 83.56 45 eP P 10 27 37.3 +0.2
WCI Wyandotte Cave 83.57 41 eP P 10 27 36.6 -0.6
WCI pmax pmax
comp=Z,63nm,1.0s
WCI Wyandotte Cave 83.57 41 eP P 10 27 36.6 -0.6
comp=Z,63nm,1.0s
LOR Lormes 83.60 337⇑ iP P 10 27 37.0 -0.1
comp=Z,194nm,1.4s
LOR eR
comp=Z,2μm,19.5s
LOR Lormes 83.60 337⇑ iP P 10 27 37.0 -0.1
comp=Z,194nm,1.4s
732A Laxson Ranch, 83.62 56 ⇓P P 10 27 37.4 0.0
baz=83,SNR=18
GLAT Glass 83.69 44 eP P 10 27 34.9 -2.8
NCB Newcomb 83.75 30 PFAKE 10 27 50.0 +12
NCB LR LR
comp=Z,1μm,20.0s
GRR Gorron 83.79 340⇑ iP P 10 27 38.1 +0.1
comp=Z,271nm,1.1s
GRR Gorron 83.79 340⇑ iP P 10 27 38.1 +0.1
GRR pmax pmax
comp=Z,271nm,1.1s
GRR Gorron 83.79 340⇑ iP P 10 27 38.1 +0.1
comp=Z,271nm,1.1s
SSF Saint Saulge 83.89 337⇑ iP P 10 27 38.6 0.0
comp=Z,40nm,0.8s
SSF Saint Saulge 83.89 337⇑ iP P 10 27 38.6 0.0
SSF pmax pmax
comp=Z,40nm,0.8s
SSF Saint Saulge 83.89 337⇑ iP P 10 27 38.6 0.0
comp=Z,40nm,0.8s
HYF Humbligny 83.94 338 eP P 10 27 39.3 +0.5
HYF Humbligny 83.94 338 eP P 10 27 39.3 +0.5
MDV Middlebury 84.09 29 eP P 10 27 38.1 -1.5
comp=Z,52μm,0.7s
SMF Signal de Mont 84.18 337⇑ iP P 10 27 40.2 +0.1

SMF Signal de Mont 84.18 337⇑*i*P P 10 27 40.2 +0.1
SMF pmax pmax
comp=Z,226nm,0.9s
SMF Signal de Mont 84.18 337⇑*i*P P 10 27 40.2 +0.1
comp=Z,226nm,0.9s
AVF Avril sur Loir 84.18 337⇑*i*P P 10 27 40.2 +0.2
comp=Z,518nm,1.4s
AVF Avril sur Loir 84.18 337⇑*i*P P 10 27 40.2 +0.2
AVF pmax pmax
comp=Z,518nm,1.4s
AVF Avril sur Loir 84.18 337⇑*i*P P 10 27 40.2 +0.2
comp=Z,518nm,1.4s
PKME Peaks-Kenny Pk 84.27 26 *e*P P 10 27 41.0 +0.5
comp=Z,47nm,1.0s
PKME *e*pP **pP** 10 27 51.9 -1.2
PKME LR LR
comp=Z,1μm,20.0s
SGMF Saint Gilles 84.31 341 *e*P P 10 27 40.8 +0.1
comp=Z,232nm,1.0s
SGMF Saint Gilles 84.31 341 *e*P P 10 27 40.8 +0.1
SGMF pmax pmax
comp=Z,232nm,1.0s
SGMF Saint Gilles 84.31 341 *e*P P 10 27 40.8 +0.1
comp=Z,232nm,1.0s
LBNH Lisbon 84.31 28 *e*P P 10 27 40.6 -0.2
LBNH pmax pmax
comp=Z,24nm,1.0s
LBNH MLR MLR
comp=Z,2μm,20.0s
LBNH Lisbon 84.31 28 *e*P P 10 27 40.6 -0.2
comp=Z,24nm,1.0s
LBNH LR LR
comp=Z,2μm,20.0s
LPL La Plagne 84.35 335⇑*i*P P 10 27 41.7 +0.5
comp=Z,150nm,1.2s
LPL La Plagne 84.35 335⇑*i*P P 10 27 41.7 +0.5
LPL pmax pmax
comp=Z,150nm,1.2s
LPL La Plagne 84.35 335⇑*i*P P 10 27 41.7 +0.5
comp=Z,150nm,1.2s
LPG La Plagne 84.36 334⇑*i*P P 10 27 41.9 +0.5
comp=Z,137nm,1.0s
LPG La Plagne 84.36 334⇑*i*P P 10 27 41.9 +0.5
LPG pmax pmax
comp=Z,137nm,1.0s
LPG La Plagne 84.36 334⇑*i*P P 10 27 41.9 +0.5
comp=Z,137nm,1.0s
VLC Villacollemand 84.37 332 *e*P P 10 27 41.9 +0.8
comp=Z,270nm,1.6s
VLC LR LR
comp=Z,1μm,19.0s
NATX Nacogdoches 84.37 50 PFAKE 10 27 50.0 +8.7
NATX LR LR
comp=Z,968nm,20.0s
ROSF Rostrenen 84.40 342⇑*i*P P 10 27 40.9 -0.2
comp=Z,349nm,1.3s
ROSF Rostrenen 84.40 342⇑*i*P P 10 27 40.9 -0.2
ROSF pmax pmax
comp=Z,349nm,1.3s
ROSF Rostrenen 84.40 342⇑*i*P P 10 27 40.9 -0.2
comp=Z,349nm,1.3s
ACCN Adirondack Com 84.46 30 *e*P P 10 27 41.0 -0.5
WVT Waverly 84.52 43 *e*P P 10 27 41.4 -0.5
WVT pmax pmax
comp=Z,28nm,0.8s
WVT Waverly 84.52 43 *e*P P 10 27 41.4 -0.5
comp=Z,28nm,0.8s
BGF Bois d'Agland 84.53 337⇑*i*P P 10 27 42.1 +0.2
comp=Z,244nm,1.4s
BGF Bois d'Agland 84.53 337⇑*i*P P 10 27 42.1 +0.2
BGF pmax pmax
comp=Z,244nm,1.4s
BGF Bois d'Agland 84.53 337⇑*i*P P 10 27 42.1 +0.2
comp=Z,244nm,1.4s
BST Brest 84.60 342 *e*P P 10 27 42.9 +0.8
BINY Binghamton 84.63 32 *e*P P 10 27 42.2 -0.3
comp=Z,23nm,1.1s
BINY LR LR
comp=Z,2μm,19.0s
HNH Hanover 84.66 29 *e*P P 10 27 42.4 -0.1
comp=Z,58nm,1.1s
SANT Santorini 84.71 318 PFAKE 10 27 50.0 +7.0
SANT LR LR
comp=Z,1μm,19.0s
QUIF Quistinic 84.77 342⇑*i*P P 10 27 43.3 +0.3
comp=Z,77nm,0.7s
QUIF Quistinic 84.77 342⇑*i*P P 10 27 43.3 +0.3
QUIF pmax pmax
comp=Z,77nm,0.7s
QUIF Quistinic 84.77 342⇑*i*P P 10 27 43.3 +0.3
comp=Z,77nm,0.7s
WVL Waterville 84.78 27 *e*P P 10 27 43.0 -0.1
comp=Z,463nm,1.6s
BNI Bardonecchia 84.78 334 *e*P P 10 27 43.7 +0.4
BNI pmax pmax
comp=Z,45nm,1.1s
BNI MLR MLR
comp=Z,2μm,19.0s
BNI Bardonecchia 84.78 334 *e*P P 10 27 43.7 +0.4
comp=Z,45nm,1.1s
BNI LR LR
comp=Z,2μm,19.0s
GDM Grand'Maison 84.82 335 *e*P P 10 27 43.7 +0.2
GRN Grenoble 84.90 335 *e*P P 10 27 44.4 +0.6
OG22 Abries 84.91 334 *e*P P 10 27 43.6 -0.4
AGO Saint Agoulin 84.92 337 *e*P P 10 27 44.1 +0.3
TCF Toulx Ste Croi 84.96 338⇑*i*P P 10 27 44.4 +0.4
comp=Z,102nm,1.0s
TCF Toulx Ste Croi 84.96 338⇑*i*P P 10 27 44.4 +0.4
TCF pmax pmax
comp=Z,102nm,1.0s
TCF Toulx Ste Croi 84.96 338⇑*i*P P 10 27 44.4 +0.4
comp=Z,102nm,1.0s
TRY Troy 85.03 30 *e*P P 10 27 43.7 -0.7
comp=Z,32nm,1.0s
MBDF Montbardon 85.05 334⇑*i*P P 10 27 44.7 0.0
comp=Z,109nm,0.9s
MBDF Montbardon 85.05 334⇑*i*P P 10 27 44.7 0.0
MBDF pmax pmax
comp=Z,109nm,0.9s
MBDF Montbardon 85.05 334⇑*i*P P 10 27 44.7 0.0
comp=Z,109nm,0.9s
FFD Franklin Falls 85.09 29 *e*P P 10 27 44.7 0.0
comp=Z,86nm,1.1s
HKT Hockley 85.09 52 *e*P P 10 27 44.8 -0.1
HKT pmax pmax
comp=Z,16nm,1.4s
HKT Hockley 85.09 52 *e*P P 10 27 44.8 -0.1
comp=Z,16nm,1.4s
ORIF Oris-en-Rattie 85.15 335⇑*i*P P 10 27 45.7 +0.6
comp=Z,122nm,0.8s
ORIF *e*R
comp=Z,1μm,22.8s
ORIF Oris-en-Rattie 85.15 335⇑*i*P P 10 27 45.7 +0.6
ORIF pmax pmax
comp=Z,122nm,0.8s
ORIF Oris-en-Rattie 85.15 335⇑*i*P P 10 27 45.7 +0.6
comp=Z,122nm,0.8s
SSB Saint Sauveur 85.22 336 *e*P P 10 27 45.4 0.0
SSB pmax pmax
comp=Z,77nm,1.1s
SSB MLR MLR
comp=Z,925nm,20.0s
SSB Saint Sauveur 85.22 336 *e*P P 10 27 45.7 +0.3
SSB Saint Sauveur 85.22 336 *e*P P 10 27 45.4 0.0
comp=Z,77nm,1.1s
SSB LR LR
comp=Z,925nm,20.0s
SSPA Standing Stone 85.23 34 *e*P P 10 27 45.1 -0.3
comp=Z,32nm,1.0s
SSPA *e*pP **pP** 10 27 57.3 -0.7
PYM Petit Puy Mans 85.23 337 *e*P P 10 27 45.6 +0.1
MCWV Mont Chateau 85.25 36 *e*P P 10 27 45.6 0.0
comp=Z,130nm,1.4s
MCWV LR LR
comp=Z,2μm,19.0s
SURF Saint Ours 85.26 334 *e*P P 10 27 45.6 -0.2
MFF Saint Martin d 85.28 339⇑*i*P P 10 27 45.4 -0.2
comp=Z,118nm,0.8s
MFF Saint Martin d 85.28 339⇑*i*P P 10 27 45.4 -0.2
MFF pmax pmax
comp=Z,118nm,0.8s
MFF Saint Martin d 85.28 339⇑*i*P P 10 27 45.4 -0.2
comp=Z,118nm,0.8s
EMMW East Machias 85.34 25 *e*P P 10 27 45.3 -0.5
comp=Z,88nm,1.1s

SAOF Saorge 85.46 333 *e*P P 10 27 47.0 +0.4
AUTN L'Aution 85.50 333 *e*P P 10 27 47.6 +0.6
TOUF Mont Tournerai 85.54 334 *e*P P 10 27 47.8 +0.6
VIVF Saint-Julien-l 85.57 336⇑*i*P P 10 27 47.6 +0.5
comp=Z,258nm,1.4s
VIVF Saint-Julien-l 85.57 336⇑*i*P P 10 27 47.6 +0.5
VIVF pmax pmax
comp=Z,258nm,1.4s
VIVF Saint-Julien-l 85.57 336⇑*i*P P 10 27 47.6 +0.5
comp=Z,258nm,1.4s
OG25 Le Caire 85.59 334 *e*P P 10 27 47.6 +0.3
SBF Sospel 85.61 333⇑*i*P P 10 27 47.0 -0.4
comp=Z,455nm,1.5s
SBF Sospel 85.61 333⇑*i*P P 10 27 47.0 -0.4
SBF pmax pmax
comp=Z,455nm,1.5s
SBF Sospel 85.61 333⇑*i*P P 10 27 47.0 -0.4
comp=Z,455nm,1.5s
LUCF Luceram 85.61 333 *e*P P 10 27 48.1 +0.7
LBL Lubilhac 85.64 337 *e*P P 10 27 47.9 +0.4
MVIF Mont Vial 85.67 334 *e*P P 10 27 47.4 -0.4
KVTX Kingsville 85.72 55 PFAKE 10 28 00.0 +12
KVTX LR LR
comp=Z,663nm,20.0s
REVF Revere 85.75 333 *e*P P 10 27 48.7 +0.7
DGAR Diego Garcia 85.83 255 PFAKE 10 28 00.0 +11
DGAR LR LR
comp=Z,1μm,19.0s
IDI Anoyia 85.86 317 *e*P P 10 27 47.2 -1.5
comp=Z,80nm,1.0s
CALN Calern 85.89 334 *e*P P 10 27 49.6 +0.7
QUA2 Belchertown 85.89 30 *e*P P 10 27 48.2 -0.5
comp=Z,127nm,1.5s
HRV Adam Dziewonsk 85.97 29 *e*P P 10 27 49.0 -0.1
HRV pmax pmax
comp=Z,44nm,1.1s
HRV Adam Dziewonsk 85.97 29 *e*P P 10 27 49.0 -0.1
comp=Z,44nm,1.1s
CUC Castrocucco 85.97 326 PFAKE 10 28 00.0 +11
CUC LR LR
comp=Z,2μm,20.0s
RJF Les Rejaudoux 86.05 338 *e*P P 10 27 49.9 +0.4
comp=Z,187nm,1.4s
RJF *e*R
comp=Z,3μm,19.8s
RJF Les Rejaudoux 86.05 338 *e*P P 10 27 49.9 +0.4
RJF pmax pmax
comp=Z,187nm,1.4s
RJF Les Rejaudoux 86.05 338 *e*P P 10 27 49.9 +0.4
comp=Z,187nm,1.4s
SMRF Simiane la Rot 86.09 335⇑*i*P P 10 27 50.3 +0.6
comp=Z,157nm,1.3s
SMRF Simiane la Rot 86.09 335⇑*i*P P 10 27 50.3 +0.6
comp=Z,157nm,1.3s
FRF La Foret Royal 86.14 334⇑*i*P P 10 27 49.7 -0.2
comp=Z,194nm,1.2s
FRF La Foret Royal 86.14 334⇑*i*P P 10 27 49.7 -0.2
FRF pmax pmax
comp=Z,194nm,1.2s
FRF La Foret Royal 86.14 334⇑*i*P P 10 27 49.7 -0.2
comp=Z,194nm,1.2s
WES Weston 86.16 29 *e*P P 10 27 50.2 +0.2
WES pmax pmax
comp=Z,120nm,1.1s
WES Weston 86.16 29 *e*P P 10 27 50.2 +0.2
comp=Z,120nm,1.1s
SWET Sewanee 86.17 42 *e*P P 10 27 50.2 -0.1
URZ Urewera 86.20 158 LR LR 11 04 14.6
comp=Z,588nm,18.7s,baz=4.3,slow=34
TZTN Tazewell 86.21 40 *e*P P 10 27 50.4 -0.1
comp=Z,82nm,1.3s
TZTN *e*pP **pP** 10 28 03.6 +0.5
VBMS Vicksburg 86.25 47 *e*P P 10 27 51.4 +0.8
comp=Z,74nm,1.2s
VBMS LR LR
comp=Z,1μm,19.0s
CAF Calviac 86.25 337⇑*i*P P 10 27 51.3 +0.8
comp=Z,135nm,1.1s
CAF Calviac 86.25 337⇑*i*P P 10 27 51.3 +0.8
CAF pmax pmax
comp=Z,135nm,1.1s
CAF Calviac 86.25 337⇑*i*P P 10 27 51.3 +0.8
comp=Z,135nm,1.1s
LMR La Mourre 86.38 334⇑*i*P P 10 27 51.0 -0.1
comp=Z,276nm,1.1s
LMR La Mourre 86.38 334⇑*i*P P 10 27 51.0 -0.1
LMR pmax pmax
comp=Z,276nm,1.1s
LMR La Mourre 86.38 334⇑*i*P P 10 27 51.0 -0.1
comp=Z,276nm,1.1s
BRYW Bryant College 86.50 29 *e*P P 10 27 51.9 +0.1
comp=Z,42nm,0.9s
LASF Ste Croix 86.52 336⇑*i*P P 10 27 52.4 +0.6
LASF Ste Croix 86.52 336⇑*i*P P 10 27 52.4 +0.6
LFF La Frestale 86.60 338 *e*P P 10 27 52.1 0.0
comp=Z,268nm,0.9s
LFF La Frestale 86.60 338 *e*P P 10 27 52.1 0.0
LFF pmax pmax
comp=Z,268nm,0.9s
LFF La Frestale 86.60 338 *e*P P 10 27 52.1 0.0
comp=Z,268nm,0.9s
CPCT Cooper Cave 86.65 41 *e*P P 10 27 52.4 -0.2
TKL Tuckaleechee C 86.83 41 *e*P P 10 27 53.3 -0.2
BLA Blacksburg 87.06 38 *e*P P 10 27 53.9 -0.7
BLA pmax pmax
comp=Z,65nm,1.1s
BLA MLR MLR
comp=Z,846nm,19.0s
BLA Blacksburg 87.06 38 *e*P P 10 27 53.9 -0.7
comp=Z,65nm,1.1s
BLA LR LR
comp=Z,846nm,19.0s
TAU Tasmania Unive 87.09 181 PFAKE 10 28 10.0 +16
TAU LR LR
comp=Z,756nm,22.0s
LRAL Lakeview Retre 87.40 44 *e*P P 10 27 55.9 -0.4
comp=Z,16nm,0.9s
LRAL LR LR
comp=Z,693nm,19.0s
CEL Celeste 87.42 325 PFAKE 10 28 10.0 +14
CEL LR LR
comp=Z,1μm,22.0s
CBN Corbin 87.51 35 PFAKE 10 28 10.0 +13
CBN LR LR
comp=Z,1μm,20.0s
MTLF Montolieu 87.67 337⇑*i*P P 10 27 58.0 +0.6
MTLF Montolieu 87.67 337⇑*i*P P 10 27 58.0 +0.6
MTLF Montolieu 87.67 337⇑*i*P P 10 27 58.0 +0.6
TBI Tubuai 87.72 126 *e*S S 10 38 38.5 +1.8
comp=Z,593nm,26.2s
TBI *e*SS **SS** 10 44 23.3 -1.2
comp=Z,260nm,27.2s
TBI Tubuai 87.72 126 *e*LR LR 10 55 40.1
comp=Z,2μm,26.0s,baz=318
JSRW J. Sargeant Re 87.73 36 *e*P P 10 27 57.7 -0.1
KMSC Kings Mountain 88.38 39 *e*P P 10 28 00.8 -0.1
KMSC *e*pP **pP** 10 28 13.5 -0.1
KMSC Kings Mountain 88.38 39 ⇓P P 10 28 00.7 -0.1
baz=88,SNR=8.4
EPF Esparros 88.48 338⇑*i*P P 10 28 00.5 -0.8
comp=Z,51nm,1.1s
EPF Esparros 88.48 338⇑*i*P P 10 28 00.5 -0.8
EPF pmax pmax
comp=Z,51nm,1.1s
EPF Esparros 88.48 338⇑*i*P P 10 28 00.5 -0.8
comp=Z,51nm,1.1s
SNZO South Karori 88.49 161 PFAKE 10 28 10.0 +9.2
SNZO LR LR
comp=Z,1μm,20.0s
SJPF Ste Jean 88.81 339 *e*P P 10 28 02.4 -0.4
comp=Z,46nm,1.2s
SJPF Ste Jean 88.81 339 *e*P P 10 28 02.4 -0.4
SJPF pmax pmax
comp=Z,46nm,1.2s
SJPF Ste Jean 88.81 339 *e*P P 10 28 02.4 -0.4
comp=Z,46nm,1.2s
ETSF Etsaut 88.84 338 *e*P P 10 28 03.8 +0.8
comp=Z,60nm,0.8s
ETSF Etsaut 88.84 338 *e*P P 10 28 03.8 +0.8
ETSF pmax pmax
comp=Z,60nm,0.8s
ETSF Etsaut 88.84 338 *e*P P 10 28 03.8 +0.8
comp=Z,60nm,0.8s
VSL Villasalto 88.85 330 PFAKE 10 28 10.0 +7.0
VSL LR LR
comp=Z,992nm,21.0s

BRAL Brewton 88.99 46 PFAKE 10 28 20.0 +16
BRAL LR LR
comp=Z,649nm,19.0s
CNNC Cliffs of the 89.81 37 PFAKE 10 28 20.0 +12
CNNC LR LR
comp=Z,2μm,20.0s
TIGA Tifton 90.38 43 *e*P P **10 28 10.3 0.0**
TIGA Tifton 90.38 43 ⇓P P **10 28 10.7 +0.4**
baz=90
PBRG Braganca 91.37 342 *e*P P **10 28 13.9 -0.9**
comp=Z,33nm,1.3s
PGAV Gavieira, Arco 91.53 343 *e*P P **10 28 14.9 -0.7**
comp=Z,43nm,1.6s
PGAV Gavieira, Arco 91.53 343 *e*LR LR 11 11 27.9
comp=Z,961nm,18.0s
POLO Lamas de Olo 92.00 343 *e*P P **10 28 16.6 -1.2**
comp=Z,25nm,1.2s
MVO Moncorvo 92.04 342 *e*P P **10 28 16.7 -1.2**
comp=Z,38nm,1.3s
MVO Moncorvo 92.04 342 *e*LR LR 11 07 58.1
comp=Z,828nm,18.0s
PVRL Vila Real 92.08 343 *e*P P **10 28 17.0 -1.1**
comp=Z,42nm,1.1s
KEST Kesra 92.19 328 *e*P P **10 28 18.3 -0.5**
KEST Kesra 92.19 328 P P **10 28 18.8 0.0**
comp=Z,9.7nm,1.1s,baz=259,slow=2.7,SNR=8.4
KEST LR LR 11 13 50.5
comp=Z,713nm,19.6s,baz=195,slow=38
PVIS Viseu 92.66 343 *e*P P **10 28 20.5 -0.3**
comp=Z,38nm,1.7s
ESDC Sonseca Array 92.74 340 P P **10 28 20.2 -1.0**
ESDC Sonseca Array 92.74 340 P P **10 28 20.2 -1.0**
comp=Z,2.6nm,0.6s,baz=14,slow=4.1,SNR=11
ESDC LR LR 11 14 19.7
comp=Z,917nm,20.7s,baz=15,slow=38
MTE Manteigas 92.89 342 *e*P P **10 28 20.9 -1.0**
comp=Z,30nm,1.3s
MTE Manteigas 92.89 342 *e*LR LR 11 07 45.8
comp=Z,1μm,18.0s
MTE Manteigas 92.89 342 PFAKE 10 28 30.0 +8.1
MTE LR LR
comp=Z,1μm,20.0s
PAB San Pablo 92.96 340 PFAKE 10 28 30.0 +7.8
PAB LR LR
comp=Z,2μm,20.0s
PCAS Casmilo, Conde 93.42 343 *e*P P **10 28 23.4 -0.8**
comp=Z,58nm,1.5s
PMRV Marv??o 93.78 342 *e*P P **10 28 24.9 -1.0**
comp=Z,23nm,1.6s
PMRV Marv??o 93.78 342 *e*LR LR 11 12 22.2
comp=Z,2μm,18.0s
EVO Evora 94.78 342 *e*P P **10 28 29.5 -1.0**
comp=Z,14nm,1.1s
EVO *e*R
comp=Z,2μm,18.5s
EVOP Sao Brissos 94.81 342 *e*P P **10 28 29.5 -1.1**
EVOP pmax pmax
comp=Z,14nm,1.0s
EVOP Sao Brissos 94.81 342 *e*P P **10 28 29.5 -1.1**
comp=Z,14nm,1.0s
PBEJ Beja 95.23 342 *e*P P **10 28 32.2 -0.4**
comp=Z,21nm,1.5s
PCVE Castro Verde 95.65 342 *e*P P **10 28 33.4 -1.1**
comp=Z,29nm,1.7s
PVAQ Vaqueiros 95.79 342 *e*LR LR 11 10 20.3
comp=Z,1μm,18.0s
MSEY Mahe Island 95.91 269 PFAKE 10 28 50.0 +14
MSEY LR LR
comp=Z,746nm,20.0s
RKT Rikitea 96.41 116 *e*SKSac **SKSac** **10 39 13.1 +1.9**
comp=Z,266nm,34.8s
RKT *e*SP **SP** **10 41 18.5 +3.2**
comp=Z,376nm,33.0s
RKT *e*SS **SS** **10 46 32.6 +3.1**
comp=Z,546nm,26.5s
RKT Rikitea 96.41 116 *e*LR LR 10 59 48.0
comp=Z,1μm,24.0s,baz=316
TEIG Tepich 96.92 53 PFAKE 10 28 50.0 +9.5
TEIG LR LR
comp=Z,419nm,20.0s
BBSR BB Station 97.44 28 PFAKE 10 28 50.0 +7.2
BBSR LR LR
comp=Z,659nm,20.0s
RTC Rabat Centre 98.86 340 PFAKE 10 29 00.0 +11
RTC LR LR
comp=Z,853nm,21.0s
TGUH Tegucigalpa,Un 102.38 56 PFAKE 10 29 20.0 +15
TGUH LR LR
comp=Z,510nm,20.0s
GTBY Guantanamo Bay 104.14 43 PFAKE 10 29 20.0 +7.2
GTBY LR LR
comp=Z,720nm,20.0s
GRTK Grand Turk 104.63 39 PFAKE 10 29 30.0 +15
GRTK LR LR
comp=Z,769nm,20.0s
TAM Tamanrasset 105.21 326 PFAKE 10 33 40.0
TAM LR LR
comp=Z,865nm,21.0s
KMBO Kilima Mbogo 106.32 285 PFAKE 10 33 50.0
KMBO LR LR
comp=Z,753nm,20.0s
JTS JuntasAbangare 106.73 56 PFAKE 10 33 50.0
JTS LR LR
comp=Z,647nm,20.0s
SDDR Presa de Saban 106.76 40 PFAKE 10 33 50.0
SDDR LR LR
comp=Z,854nm,20.0s
MBAR Mbarara 110.37 290 PFAKE 10 33 50.0
MBAR LR LR
comp=Z,255nm,20.0s
BCIP Isla Barro Col 110.61 53 PFAKE 10 33 50.0
BCIP LR LR
comp=Z,515nm,22.0s
ABPO Ambohimpanom 111.53 264 PFAKE 10 34 00.0
ABPO LR LR
comp=Z,607nm,20.0s
ANWB Willy Bob 111.92 32 PFAKE 10 34 00.0
ANWB LR LR
comp=Z,879nm,21.0s
CASY Casey 114.43 196 PFAKE 10 34 00.0 +13
CASY LR LR
comp=Z,419nm,20.0s
TORD Torodi Ar. Bea 115.44 325 PKP **PKPdf** **10 33 49.9 -1.2**
TORD PKKP **PKKPdf** **10 44 46.2 -0.1**
TORD Torodi Ar. Bea 115.44 325 PKP **PKPdf** **10 33 49.9 -1.2**
comp=Z,2.8nm,0.9s,baz=0.9,slow=2.5,SNR=11
TORD PKKP **PKKPdf** **10 44 46.2 -0.1**
comp=Z,1.3nm,0.8s,baz=232,slow=2.9,SNR=5.1
BBGH Gun Hill 116.91 32 PFAKE 10 34 10.0 +16
BBGH LR LR
comp=Z,1μm,20.0s
GRGR Grenville 117.01 34 PFAKE 10 34 10.0 +16
GRGR LR LR
comp=Z,682nm,19.0s
OTAV Otavalo 118.60 57 PFAKE 10 34 10.0 +12
OTAV LR LR
comp=Z,346nm,19.0s
VNDA Vanda 122.05 177 *e*PKPdf **PKPdf** **10 34 01.8 0.0**
VNDA PKP **PKPdf** **10 34 02.0 +0.2**
VNDA pPKP **pPKPdf** **10 34 12.4 -2.5**
VNDA PKKPbc **PKKPbc** **10 43 59.9 -0.2**
VNDA Vanda 122.05 177 PKP **PKPdf** **10 34 02.0 +0.2**
comp=Z,2.8nm,0.9s,baz=314,slow=4.4,SNR=17
VNDA pPKP **pPKPdf** **10 34 12.4 -2.5**
comp=Z,2.4nm,0.7s,baz=349,slow=4.6,SNR=7.1
VNDA PKKPbc **PKKPbc** **10 43 59.9 -0.2**
comp=Z,5.6nm,1.1s,baz=212,slow=2.8,SNR=12
LSZ Lusaka 122.60 281 PFAKE 10 34 20.0 +15
LSZ LR LR
comp=Z,817nm,20.0s
SBA Scott Base 122.61 176 PFAKE 10 34 10.0 +7.2
SBA LR LR
comp=Z,374nm,19.0s
DBIC Dimbokro 123.92 328 PKP **PKPdf** **10 34 06.8 -0.5**
DBIC pPKP **pPKPdf** **10 34 18.3 -2.1**
DBIC Dimbokro 123.92 328 PKP **PKPdf** **10 34 06.8 -0.5**
comp=Z,9.6nm,0.9s,baz=358,slow=2.3,SNR=8.4
DBIC pPKP **pPKPdf** **10 34 18.3 -2.1**
comp=Z,9.0nm,1.0s,baz=38,slow=7.4,SNR=3.3
TIC Toumodi 124.00 329 *e*PKP1 **PKPdf** **10 34 06.5 -1.0**
comp=Z,61nm,1.2s
KIC Kosan Boka 124.16 328 *e*PKP1 **PKPdf** **10 34 06.6 -1.2**
comp=Z,63nm,1.2s
ATAH Atahualpa 124.38 63 PKP **PKPdf** **10 34 09.5 +0.8**
ATAH Atahualpa 124.38 63 PKP **PKPdf** **10 34 09.5 +0.8**
comp=Z,5.8nm,0.8s,baz=72,slow=3.2,SNR=3.1

LIC	**Lamto**	**124.39**	**328**	*e*PKIKP	**PKPdf**	**10 34 07.1**	**-1.2**
LIC				*e*R			
	comp=Z,678nm,21.5s						
LIC	**Lamto**	**124.39**	**328**	*e*PKP1	**PKPdf**	**10 34 07.4**	**-0.9**
	comp=Z,9.0nm,0.4s						
LIC	**Lamto**	**124.39**	**328**	*e*PKPdf	**PKPdf**	**10 34 07.1**	**-1.2**
MAW	**Mawson**	**128.93**	**209**	PKP	**PKPdf**	**10 34 15.5**	**+0.4**
MAW	**Mawson**	**128.93**	**209**	PKP	**PKPdf**	**10 34 15.5**	**+0.4**
	comp=Z,1.9nm,0.6s,baz=70,slow=9.4,SNR=4.4						
TSUM	**Tsumeb**	**132.64**	**286**	PFAKE		10 34 40.0	+16
TSUM				LR	LR		
	comp=Z,941nm,22.0s						
BOSA	**Boshof**	**133.17**	**270**	PKP	**PKPdf**	**10 34 23.9**	**-0.7**
BOSA				SKPbc	**SKPab**	**10 37 50.3**	**-0.8**
BOSA	**Boshof**	**133.17**	**270**	PKP	**PKPdf**	**10 34 23.9**	**-0.7**
	comp=Z,4.3nm,1.1s,baz=62,slow=2.1,SNR=4.6						
BOSA				SKPbc	**SKPab**	**10 37 50.3**	**-0.8**
	comp=Z,5.6nm,1.0s,baz=59,slow=5.9,SNR=3.5						
QSPA	**South Pole Qui**	**134.29**	**180**	*e*PKPdf	**PKPdf**	**10 34 25.5**	**+0.1**
QSPA				LR	LR		
	comp=Z,557nm,21.0s						
SAML	**Samuel**	**134.79**	**48**	PFAKE		10 34 40.0	+12
SAML				LR	LR		
	comp=Z,699nm,21.0s						
LPAZ	**La Paz**	**137.80**	**60**	PKPpre	PKPpre	10 34 24.7	
LPAZ				*e*PKPdf	**PKPdf**	**10 34 33.7**	**-0.5**
LPAZ				PKP	**PKPdf**	**10 34 34.3**	**+0.1**
LPAZ	**La Paz**	**137.80**	**60**	PKhKP	PKPpre	10 34 24.7	
	comp=Z,0.4nm,0.4s,baz=31,slow=6.1,SNR=4.4						
LPAZ				PKP	**PKPdf**	**10 34 34.3**	**+0.1**
	comp=Z,3.5nm,0.7s,baz=27,slow=2.3,SNR=9.1						
RCBR	**Riachuelo**	**141.17**	**8**	PFAKE		10 34 50.0	+10
RCBR				LR	LR		
	comp=Z,557nm,19.0s						
H03N2	**Juan Fernandez**	**141.48**	**90**	T	T	13 12 37.5	
	baz=302,slow=0.7,SNR=28						
H03N3	**Juan Fernandez**	**141.49**	**90**	T	T	13 12 29.7	
	baz=302,slow=0.7,SNR=34						
H03N1	**Juan Fernandez**	**141.49**	**90**	T	T	13 12 32.7	
	baz=302,slow=0.7,SNR=35						
SIV	**San Ignacio**	**141.74**	**52**	PKPpre	PKPpre	10 34 34.4	
SIV				PKP	**PKPdf**	**10 34 38.4**	**-2.2**
SIV				pPKP	pPKPdf	10 34 50.6	-3.2
SIV	**San Ignacio**	**141.74**	**52**	PKhKP	PKPpre	10 34 34.4	
	comp=Z,4.6nm,0.8s,baz=288,slow=3.8,SNR=4.6						
SIV				PKP	**PKPdf**	**10 34 38.4**	**-2.2**
	comp=Z,4.6nm,0.8s,baz=331,slow=1.2,SNR=11						
SIV				pPKP	pPKPdf	10 34 50.6	-3.2
	comp=Z,4.8nm,0.7s,baz=348,slow=0.9,SNR=6.3						
LVC	**Limon Verde**	**141.91**	**68**	PFAKE		10 34 50.0	+8.9
LVC				LR	LR		
	comp=Z,1µm,19.0s						
LCO	**Las Campanas**	**144.85**	**77**	*e*P	PKPbc	10 34 45.2	0.0
LCO	**Las Campanas**	**144.85**	**77**	*e*P	PKPbc	10 34 45.2	0.0
TLL	**Tololo Astrono**	**145.47**	**79**	*e*PKIKP	**PKPdf**	**10 34 46.7**	**-0.4**
TLL	**Tololo Astrono**	**145.47**	**79**	*e*P	**PKPdf**	**10 34 46.7**	**-0.4**
TLL	**Tololo Astrono**	**145.47**	**79**	*e*P	**PKPdf**	**10 34 46.7**	**-0.4**
MAIT	**Maitri**	**146.54**	**204**	*e*P	**PKPdf**	**10 34 46.5**	**-0.8**
BDFB	**Brasilia**	**147.70**	**32**	PKPbc	**PKPdf**	**10 34 51.7**	**+0.7**
BDFB	**Brasilia**	**147.70**	**32**	PKPbc	**PKPdf**	**10 34 51.7**	**+0.7**
	comp=Z,19nm,0.8s,baz=3.6,slow=2.4,SNR=15						
CFAA	**Coronel Fontan**	**148.09**	**79**	PKPbc	**PKPdf**	**10 34 52.2**	**+1.1**
CFAA				pPKPbc	**pPKPbc**	**10 35 06.7**	**-0.7**
CFAA	**Coronel Fontan**	**148.09**	**79**	PKPbc	**PKPdf**	**10 34 52.2**	**+1.1**
	baz=275,slow=3.8						
CFAA				pPKPbc	**pPKPbc**	**10 35 06.7**	**-0.7**
SNAA	**Sanae**	**149.66**	**197**	*e*P	**PKPbc**	**10 34 56.7**	**-0.5**
SNAA	**Sanae**	**149.66**	**197**	PKP	**PKPdf**	**10 34 51.7**	**-0.8**
SNAA				*e*PKPdf	**PKPbc**	**10 34 52.1**	**-5.1**
SNAA				*e*PKPbc	**PKPbc**	**10 34 56.7**	**-0.5**
SNAA				PKPbc	**PKPbc**	**10 34 56.9**	**-0.3**
SNAA				PKPab	PKPab	10 35 02.3	-0.3
SNAA				pPKPbc	**pPKPbc**	**10 35 09.2**	**-1.0**
SNAA	**Sanae**	**149.66**	**197**	PKP	**PKPdf**	**10 34 51.7**	**-0.8**
	comp=Z,3.0nm,1.1s,baz=10,slow=4.4,SNR=4.8						
SNAA				PKPbc	**PKPbc**	**10 34 56.9**	**-0.3**
	comp=Z,13nm,1.1s,baz=129,slow=2.3,SNR=37						
SNAA				PKPab	**PKPab**	**10 35 02.3**	**-0.3**
	comp=Z,3.2nm,0.8s,baz=192,slow=6.7,SNR=9.9						
SNAA				pPKPbc	**pPKPbc**	**10 35 09.3**	**-1.0**
	comp=Z,11nm,1.0s,baz=99,slow=6.0,SNR=9.2						
PLCA	**Paso Flores**	**150.70**	**97**	PKP	**PKPdf**	**10 34 53.8**	**-1.4**
PLCA				*e*PKPdf	PKPbc	10 34 54.5	-6.1
PLCA				*e*PKPbc	**PKiKP**	**10 35 00.5**	**-0.8**
PLCA				PKPbc	**PKPbc**	**10 35 00.7**	**0.0**
PLCA				PKPab	PKPab	10 35 07.4	-0.4
PLCA				pPKPbc	**pPKPbc**	**10 35 14.7**	**+1.0**
PLCA	**Paso Flores**	**150.70**	**97**	PKP	**PKPdf**	**10 34 53.7**	**-1.4**
	comp=Z,8.3nm,1.2s,baz=14,slow=4.2,SNR=3.1						
PLCA				PKPbc	**PKPbc**	**10 35 00.7**	**0.0**
	comp=Z,30nm,1.1s,baz=283,slow=3.2,SNR=20						
PLCA				PKPab	**PKPab**	**10 35 07.4**	**-0.4**
	comp=Z,13nm,0.9s,baz=250,slow=4.1,SNR=6.6						
PLCA				pPKPbc	**pPKPbc**	**10 35 14.7**	**+1.0**
	comp=Z,34nm,0.8s,baz=253,slow=2.9,SNR=14						
VNA2	**Neumayer--Watz**	**151.17**	**196**	*e*P	**PKPbc**	**10 35 01.4**	**+0.7**
VNA1	**Neumayer--Stat**	**151.56**	**196**	*e*P	**PKPbc**	**10 35 02.3**	**+0.7**
CPUP	**Villa Florida**	**151.94**	**58**	*e*PKPdf	**PKPdf**	**10 34 57.1**	**-0.2**
CPUP				PKP	**PKPdf**	**10 34 57.3**	**0.0**
CPUP				*e*PKPbc	**PKiKP**	**10 35 02.8**	**-1.4**
CPUP				PKPbc	**PKPbc**	**10 35 03.7**	**-0.1**
CPUP				PKPab	PKPab	10 35 11.6	-1.6
CPUP				pPKPbc	**pPKPbc**	**10 35 17.3**	**+0.5**
CPUP	**Villa Florida**	**151.94**	**58**	PKP	**PKPdf**	**10 34 57.3**	**0.0**
	comp=Z,1.1nm,0.5s,baz=72,slow=3.5,SNR=4.9						
CPUP				PKPbc	**PKPbc**	**10 35 03.7**	**-0.1**
	comp=Z,1.6nm,0.4s,baz=248,slow=1.1,SNR=9.3						
CPUP				PKPab	**PKPab**	**10 35 11.6**	**-1.6**
	comp=Z,7.1nm,0.6s,baz=332,slow=3.3,SNR=8.1						
CPUP				pPKPbc	**pPKPbc**	**10 35 17.3**	**+0.5**
	comp=Z,7.1nm,0.6s,baz=274,slow=1.5,SNR=7.2						

*ISCJB **13** 10:22:12.6±0.6,59.°76N±0.°03×23.°02E±0.°06, h0km, Error ellipse: s-maj=4.9km s-min=4.6km az=143.1*
*IDC **13** 10:22:12.2±3.7,59.°54N×23.°30E, h0km, mb1 3.3/3, mb1mx3.1/26, mbtmp3.1/3, ML2.8/2, Error ellipse: s-maj=48.9km s-min=11.4km az=161.0*
*CSEM **13** 10:22:13.5±0.3,59.°77N×23.°05E, h2km, ML1.1, Error ellipse: s-maj=6.5km s-min=5.9km az=100.0, Mining explosion.*
*HEL **13** 10:22:14.1±0.1,59.°74N×23.°02E, h0km, ML2.0, Explosion*

ISC 13 10:22:12.8±0.9, 59.°76N±0.°03×22.°98E±0.°03, h0km, n17, σ0$77/30, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.85**	**56**	*e*P	**Pg**	**10 22 28.9**	**-0.2**
MEF				*e*S	**Sg**	**10 22 39.7**	**-0.3**
MEF	**Metsahovi**	**0.85**	**56**	*e*P	**Pg**	**10 22 28.7**	**-0.3**
	SNR=90						
MEF				*e*S	**Sg**	**10 22 39.5**	**-0.5**
	9.2nm,0.2s,SNR=90						
MTSE	**Matsula**	**1.13**	**157**	*e*P	**Pg**	**10 22 33.9**	**-0.5**
MTSE				*e*S	**Sg**	**10 22 48.8**	**-0.3**
MTSE	**Matsula**	**1.13**	**157**	*e*P	**Pg**	**10 22 34.8**	**+0.4**
	SNR=90						
MTSE				S	**Sg**	**10 22 48.7**	**-0.3**
RAF	**Rauma**	**1.41**	**335**	*e*P	**Pn**	**10 22 39.4**	**-0.2**
RAF				*e*S	**Sb**	**10 22 58.6**	**+0.2**
RAF	**Rauma**	**1.41**	**335**	*e*P	**Pn**	**10 22 39.9**	**+0.3**
	SNR=50						
RAF				*e*S	**Sn**	**10 22 59.0**	**+0.2**
	SNR=50						
AAL	**Aland**	**1.56**	**287**	*e*P	**Pn**	**10 22 42.1**	**+0.4**
AAL				*e*S	**Sn**	**10 23 02.3**	**-0.3**
AAL	**Aland**	**1.56**	**287**	P	**Pn**	**10 22 42.1**	**+0.4**
AAL				S	**Sn**	**10 23 02.3**	**-0.3**
PVF	**Pernaja**	**1.64**	**60**	*e*P	**Pn**	**10 22 43.1**	**+0.2**
PVF				*e*S	**Sn**	**10 23 03.5**	**-1.2**
PVF	**Pernaja**	**1.64**	**60**	P	**Pn**	**10 22 43.0**	**+0.2**
PVF				S	**Sn**	**10 23 03.5**	**-1.2**
SLIT	**Slitere, Latvi**	**2.17**	**190**	*e*S	**Sb**	**10 23 20.3**	**+0.2**
	SNR=50						
FIA0	**FINESS Array S**	**2.28**	**41**	*e*P	**Pn**	**10 22 53.4**	**+1.7**
FIA0				*e*SG	**Sb**	**10 23 24.4**	**+0.9**
FIA0				MSG		10 23 26.4	
	comp=Z,4.1nm,0.2s						
FIA0	**FINESS Array S**	**2.28**	**41**	P	**Pn**	**10 22 53.3**	**+1.7**
FIA0				Sg	**Sb**	**10 23 24.3**	**+0.9**
FINES	**FINESS Array B**	**2.28**	**41**	Pn	**Pn**	**10 22 53.1**	**+1.4**
	comp=Z,1.1nm,0.3s,baz=224,slow=15,SNR=38						
FINES				Sn	**Sb**	**10 23 23.5**	**+0.1**
	comp=Z,1.8nm,0.3s,baz=237,slow=24,SNR=14						
KEF	**Keuruu**	**2.59**	**20**	MSG		10 23 34.7	
	comp=Z,6.4nm,0.1s						
NOA	**NORSAR Array B**	**5.97**	**287**	Pn	**Pn**	**10 23 43.0**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=34,slow=14,SNR=2.4						
NOA				Sn	**Sn**	**10 24 50.4**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=245,slow=5.3,SNR=2.5						
ARCES	**ARCESS Array B**	**9.88**	**5**	Pn	**Pn**	**10 24 35.1**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=182,slow=14,SNR=13						

*ISCJB **13** 10:28:52.1±0.7,3.°86S±0.°05×34.°73E±0.°04, h22km, Error ellipse: s-maj=7.5km s-min=5.9km az=19.7*
*PRE **13** 10:28:53.0±2.2,3.°83S×34.°80E, h10km, ML4.8*
*BUL **13** 10:28:55.1±2.1,4.°13S×35.°28E, h0km±22km, MD3.2*

ISC 13 10:28:51.6±1.0, 4.°01S±0.°06×34.°78E±0.°05, h22km, n8, σ1$24/14, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAUS	**Longido**	**2.29**	**57**	*i* P	**Pn**	**10 29 29.3**	**+1.0**
MAUS				*i* S	**Sn**	**10 29 57.0**	**+1.1**
DODT	**Dodoma, Tanzan**	**2.37**	**156**	*i* P	**Pb**	**10 29 32.2**	**-1.5**
DODT				*i* S	**Sb**	**10 30 03.2**	**+0.6**
KMBO	**Kilima Mbogo**	**3.78**	**41**	*e*P	**Pn**	**10 29 48.6**	**-0.2**
KMBO				*e*S	**Sn**	**10 30 33.0**	**+0.2**
KMBO	**Kilima Mbogo**	**3.78**	**41**	*i* P	**Pn**	**10 29 49.4**	**+0.6**
KMBO				*i* S	**Sn**	**10 30 31.5**	**-1.3**
KIG	**Kigali**	**5.13**	**293**	*e*P	Pn	10 30 11.4	+4.0
KIG				*e*S	**Sn**	**10 31 06.1**	**0.0**
KIG				AML	AML	10 31 39.4	
	comp=Z,617nm,0.4s						
MBAR	**Mbarara**	**5.27**	**310**	*e*P	**Pn**	**10 30 10.3**	**+1.0**
MBAR				*e*S	**Sn**	**10 31 09.4**	**-0.1**
MBAR	**Mbarara**	**5.27**	**310**	*i* P	**Pn**	**10 30 10.8**	**+1.5**
MBAR				*i* S	**Sn**	**10 31 07.1**	**-2.5**
LSZ	**Lusaka**	**12.94**	**210**	*e*S	**Sn**	**10 34 18.9**	**+0.9**

*NIED **13** 10:29:00, 44.°70N×149.°50E, h44km, Mw4.5 Best double couple: M0 6.38000×10^15 NP1:φ=222.00000°, δ=86.00000°, λ=-175.00000°. NP2:φ=131.00000°, δ=85.00000°, λ=-4.00000°.*
*JMA **13** 10:29:39.3±0.8, 44.°67N×149.°49E, h30km, M4.8*
*ISCJB **13** 10:29:40.8±0.7, 44.°47N±0.°04×149.°28E±0.°05, h37km±5km, mb4.5/47, Error ellipse: s-maj=8.0km s-min=5.4km az=142.4*
*IDC **13** 10:29:42.3±0.5, 44.°68N×149.°07E, h28km±2km, mb4.0/17, mb1 4.1/22, mb1mx4.1/29, mbtmp3.9/22, ML3.3/5, Error ellipse: s-maj=17.0km s-min=11.8km az=150.0*
*MOS **13** 10:29:42.6±0.9, 44.°63N×149.°23E, h46km, mb4.9/27, Error ellipse: s-maj=8.9km s-min=7.0km az=109.2*
*NEIC **13** 10:29:44.0±0.9, 44.°57N×149.°20E, h47km±8km, mb4.8/21, Error ellipse: s-maj=12.2km s-min=6.1km az=154.0*
*BJI **13** 10:29:44.9, 44.°60N×149.°10E, h50km, mB5.1/6, mb4.8/14, Ms4.8/2, Ms7 4.5/2*

ISC 13 10:29:41.7±0.5, 44.°52N±0.°06×149.°22E±0.°05, h31km±2km, h31km:pP-P,n207, σ1$28/225, mb4.6/47, 4C-8D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.20**	**307**	*i*PN	**Pn**	**10 30 01.8**	**-0.5**
KUR				*e*S	**Sn**	**10 30 16.9**	**-0.6**
KUR				pmax	pmax		
	comp=N,326nm,0.2s						
KUR				pmax	pmax		
	comp=Z,1µm,0.8s						
KUR				pmax	pmax		
	comp=E,343nm,0.3s						
KUR				smax	smax		
	comp=N,2µm,0.5s						
KUR				smax	smax		
	comp=E,2µm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.46**	**260**	*i*PN	**Pn**	**10 30 21.0**	**+1.4**
YUK				*i* S	**Sb**	**10 30 52.1**	**-2.9**
YUK				pmax	pmax		
	comp=N,75nm,0.2s						
YUK				pmax	pmax		
	comp=Z,207nm,0.2s						
YUK				pmax	pmax		
	comp=E,83nm,0.1s						
YUK				smax	smax		
	comp=N,638nm,0.6s						
YUK				smax	smax		
	comp=E,498nm,0.3s						
NEM2	**Nemuro 2**	**2.76**	**247**	P	**Pn**	**10 30 23.6**	**-0.2**
NEM2				*e*S	**Sn**	**10 30 56.6**	**+0.6**
JRA	**Rausu**	**3.00**	**260**	P	**Pn**	**10 30 28.6**	**+1.5**
JNK	**Nakash**	**3.37**	**256**	P	**Pn**	**10 30 33.7**	**+1.5**
JAK	**Akkeshi**	**3.61**	**247**	P	**Pn**	**10 30 35.6**	**+0.1**
JAK				*e*S	**Sn**	**10 31 18.3**	**+1.3**
JTKR	**Abashiri--Toko**	**3.85**	**264**	P	**Pn**	**10 30 41.5**	**+2.7**
JAR	**Ashorobuto**	**4.12**	**255**	P	**Pn**	**10 30 44.5**	**+2.0**
JAR				*e*S	**Sn**	**10 31 33.7**	**+4.1**
JOB	**Onbets**	**4.22**	**249**	P	**Pn**	**10 30 45.1**	**+1.2**
JOB				*e*S	**Sn**	**10 31 34.8**	**+2.7**
JMP	**Maruseppu**	**4.24**	**265**	P	**Pn**	**10 30 47.2**	**+3.0**
JCH	**Churui**	**4.66**	**248**	P	**Pn**	**10 30 51.1**	**+1.2**
JKK2	**Kamakawa 2**	**4.70**	**264**	P	Pn	10 30 54.4	+4.0
ASAJ	**Asahikawa**	**4.77**	**268**	*e*Pn	Pn	10 30 55.9	+4.5
ASAJ				Sn	**Sn**	**10 31 49.6**	**+4.0**
ASAJ	**Asahikawa**	**4.77**	**268**	Pn	Pn	10 30 55.8	+4.5
	comp=E,2.7nm,0.3s,baz=78,slow=8.6,SNR=12						
ASAJ				Sn	**Sn**	**10 31 49.6**	**+4.0**
	comp=E,0.8nm,0.3s,baz=157,slow=18,SNR=2.6						
JFR	**Furan**	**4.98**	**257**	P	**Pn**	**10 30 57.3**	**+3.0**
JEM	**Erimo**	**5.08**	**243**	P	**Pn**	**10 30 57.6**	**+1.9**
YSS	**Yuzh-Sakhalins**	**5.14**	**301**	*e*PN	**Pn**	**10 30 59.0**	**+2.5**
YSS				*e*S	**Sn**	**10 31 57.5**	**+2.8**
YSS				smax	smax		
	comp=E,80nm,0.9s						
JAB	**Ashibetsu**	**5.15**	**261**	P	Pn	10 31 02.7	+6.1
JNBK	**Urakawa-nobuka**	**5.21**	**247**	P	**Pn**	**10 30 58.0**	**+0.5**
JBT2	**Biratori 2**	**5.27**	**253**	P	**Pn**	**10 31 00.3**	**+2.0**
JNB	**Noboribetsu**	**6.29**	**254**	P	**Pn**	**10 31 13.8**	**+1.5**
JNB				*e*S	**Sn**	**10 32 23.8**	**+0.7**
JKB	**Kayabe**	**6.53**	**249**	P	**Pn**	**10 31 16.2**	**+0.6**
JKB				*e*S	**Sn**	**10 32 26.8**	**-2.2**
JYM2	**Yakumo 2**	**6.88**	**253**	P	**Pn**	**10 31 21.5**	**+1.1**
JANG	**Nango**	**7.04**	**237**	P	**Pn**	**10 31 21.1**	**-1.5**
JANG				*e*S	Sn	10 32 35.1	-6.5
JTM	**Tenmabayashi**	**7.07**	**241**	P	**Pn**	**10 31 23.1**	**+0.1**
JTM				*e*S	**Sn**	**10 32 38.5**	**-3.7**
JSR	**Shiriuchi**	**7.11**	**248**	P	**Pn**	**10 31 23.5**	**0.0**
JTH	**Tanohata**	**7.12**	**233**	P	**Pn**	**10 31 21.7**	**-2.0**
JTH				*e*S	Sn	10 32 36.1	-7.4
JOSM	**Okushiri--Mats**	**7.51**	**255**	P	**Pn**	**10 31 30.6**	**+1.6**
OFUJ	**Ofunato**	**7.83**	**229**	P	**Pn**	**10 31 33.1**	**-0.3**
OFUJ				*e*S	Sn	10 32 52.8	-8.1
JRG	**Rokugo**	**8.19**	**234**	P	**Pn**	**10 31 38.1**	**-0.2**
JIO	**Ouri**	**8.46**	**227**	P	**Pn**	**10 31 41.1**	**-0.9**
JIO				*e*S	Sn	10 33 07.5	-8.8
JFY	**Yanaizu**	**10.10**	**229**	P	**Pn**	**10 32 05.1**	**+0.5**
PETK	**Petropavlovsk-**	**10.25**	**30**	PN	**Pn**	**10 32 07.0**	**+0.4**
PETK	**Petropavlovsk-**	**10.25**	**30**	Pn	**Pn**	**10 32 07.0**	**+0.4**
PETK	**Petropavlovsk-**	**10.25**	**30**	Pn	**Pn**	**10 32 07.0**	**+0.4**
	comp=E,0.3nm,0.3s,baz=82,slow=40,SNR=3.1						
MAJO	**Matsushiro**	**11.55**	**230**	*i* PN	Pn	10 32 28.1	+3.7
MJAR	**Matsushiro Arr**	**11.55**	**230**	Pn	**Pn**	**10 32 23.6**	**-0.8**
MJAR	**Matsushiro Arr**	**11.55**	**230**	Pn	**Pn**	**10 32 23.6**	**-0.8**
	comp=E,0.4nm,0.3s,baz=27,slow=13,SNR=6.6						
USRK	**Ussuriysk Arra**	**12.34**	**275**	Pn	**Pn**	**10 32 34.9**	**-0.3**
	comp=E,0.2nm,0.3s,baz=141,slow=39,SNR=4.4						
VLA	**Vladivostok**	**12.60**	**270**	*e*PN	Pn	10 32 43.8	+5.1
VLA				pmax	pmax		
	comp=Z,31nm,0.6s						
KLR	**Kul'dur**	**12.84**	**298**	*e*PN	**Pn**	**10 32 44.8**	**+2.8**
KSRS	**Korea Array**	**17.53**	**254**	P	**P**	**10 33 46.1**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=60,slow=11,SNR=6.9						
KSRS				sP	**sP**	**10 33 55.8**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=60,slow=10,SNR=5.3						
KSAR	**Wonju Array Be**	**17.56**	**254**	P	**P**	**10 33 46.1**	**+1.3**
KSAR				sP	**sP**	**10 33 55.8**	**-1.3**
FX1	**Attu Island--F**	**17.82**	**53**	P	**P**	**10 33 47.9**	**+0.3**
FX1	**Attu Island--F**	**17.82**	**53**	P	**P**	**10 33 47.9**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=256,slow=12,SNR=5.6						
SEY	**Seymchan**	**18.54**	**5**	*e*P	**P**	**10 33 55.4**	**-0.1**
YAK	**Yakutsk**	**20.93**	**334**	*e*P	**P**	**10 34 18.6**	**-2.8**
YAK				pmax	pmax		
	comp=N,27nm,1.1s						
YAK				pmax	pmax		
	comp=E,27nm,1.4s						
YAK				pmax	pmax		
	comp=Z,54nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**28.77**	**144**	T	T	11 06 25.2	
	baz=336,slow=0.7,SNR=9.3						
H11N1	**WAKE ISLAND Hy**	**28.78**	**144**	T	T	11 06 32.6	
	baz=336,slow=0.7,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**28.78**	**144**	T	T	11 06 28.4	
	baz=336,slow=0.7,SNR=8.2						
TIXI	**Tiksi**	**28.93**	**347**	*e*P	**P**	**10 35 34.6**	**-3.0**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SONM	**Songino Array**	**29.56**	**292**	P	**P**	**10 35 43.8**	**+0.2**
SONM	**Songino Array**	**29.56**	**292**	P	**P**	**10 35 43.8**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=73,slow=6.9,SNR=12						
H11S1	**WAKE ISLAND Hy**	**29.78**	**145**	T	T	11 07 57.8	
	baz=14						
H11S3	**WAKE ISLAND Hy**	**29.78**	**145**	T	T	11 07 44.8	
	baz=14						
H11S2	**WAKE ISLAND Hy**	**29.79**	**145**	T	T	11 07 40.5	
	baz=14						
WHN	**Wuhan**	**30.72**	**255**	P	P	**10 35 54.0**	**+0.2**
LZH	**Lanzhou**	**35.23**	**272**	*e*P	**P**	**10 36 34.6**	**+1.2**
LZH				pP	pP	10 36 48.9	+6.4
LZH				sP	sP	10 36 55.8	+9.5
LZH				AMB	AMB		
	comp=Z,36nm,1.1s						
LZH				AMB	AMB		
	comp=Z,160nm,5.0s						
GTA	**Gaotai**	**36.63**	**280**	*e*P	**P**	**10 36 46.5**	**+1.2**
GTA				AMB	AMB		
	comp=Z,13nm,0.9s						
IMA2	**Indian Mountai**	**37.21**	**34**	*e*P	**P**	**10 36 50.0**	**+0.1**
COLD	**Coldfoot**	**38.70**	**33**	*e*P	**P**	**10 37 03.1**	**+0.7**
	comp=Z,1.0nm,0.5s						
COLA	**College**	**39.57**	**37**	*i* P	**P**	**10 37 10.5**	**+0.9**
ILAR	**Eielson Array**	**39.99**	**37**	P	**P**	**10 37 12.8**	**-0.3**
ILAR	**Eielson Array**	**39.99**	**37**	P	**P**	**10 37 12.8**	**-0.3**
	comp=Z,2.3nm,1.1s,baz=274,slow=7.6,SNR=14						
ZALV	**Zalesovo Beam**	**41.73**	**307**	PcP	**PcP**	**10 39 23.0**	**-0.4**
ZALV	**Zalesovo Beam**	**41.73**	**307**	PcP	**PcP**	**10 39 23.0**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=48,slow=4.3,SNR=4.4						
WMQ	**Urumqi**	**43.20**	**292**	*e*P	**P**	**10 37 40.4**	**+0.7**
WMQ				AMB	AMB		
	comp=Z,12nm,0.8s						
WMQ				AMB	AMB		
	comp=Z,430nm,6.8s						
HYT	**Haines Junctio**	**44.77**	**42**	*e*P	**P**	**10 37 53.8**	**+1.6**
INK	**Inuvik**	**44.99**	**31**	P	**P**	**10 37 53.7**	**+0.1**
INK	**Inuvik**	**44.99**	**31**	P	**P**	**10 37 53.7**	**+0.1**
	comp=Z,3.9nm,0.9s						
MK31	**Makanchi Array**	**45.55**	**298**	*e*P	**P**	**10 37 58.4**	**0.0**
MK31	**Makanchi Array**	**45.55**	**298**	*e*P	**P**	**10 37 58.4**	**0.0**
MKAR	**Makanchi Array**	**45.55**	**298**	P	**P**	**10 37 58.4**	**0.0**
MKAR				*SP	**sP**	**10 38 10.0**	**-1.4**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**45.55**	**298**	P	**P**	**10 37 58.4**	**0.0**
MKAR				sP	**sP**	**10 38 10.0**	**-1.4**
MKAR	**Makanchi Array**	**45.55**	**298**	P	**P**	**10 37 58.4**	**0.0**
	comp=Z,3.9nm,0.8s,baz=72,slow=9.1,SNR=20						
MKAR				sP	**sP**	**10 38 10.0**	**-1.4**
	comp=Z,1.4nm,0.8s,baz=57,slow=7.7,SNR=3.4						
KURK	**Kurchatov**	**46.34**	**304**	*e*P	**P**	**10 38 04.3**	**-0.2**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KURK	**Kurchatov**	**46.34**	**304**	*e*P	**P**	**10 38 04.2**	**-0.2**
TAPN	**Taplejung**	**51.48**	**272**	*e*P	**P**	**10 38 45.0**	**+0.4**
	comp=Z,13nm,0.7s						
TKM2	**Tokmak 2**	**51.52**	**296**	*e*P	**P**	**10 38 45.1**	**+0.5**
TKM2				pmax	pmax		
	comp=Z,8.0nm,1.1s						
TKM2	**Tokmak 2**	**51.52**	**296**	*e*P	**P**	**10 38 45.0**	**+0.5**
	comp=Z,7.5nm,1.1s						
AAK	**Ala-Archa**	**52.37**	**296**	*e*

KIV	**Kislovodsk**	**70.35**	**313**	⇓	*eP*	**P**	**10 40 53.1**	**+0.7**
KIV					*eS*	**S**	**10 49 58.8**	**-3.8**
KIV					pmax	pmax		
	comp=Z,19nm,1.0s							
ZEI	**Tsey**	**70.50**	**311**		*eP*	**P**	**10 40 51.7**	**-1.8**
ZEI					pmax	pmax		
	comp=Z,8.0nm,0.9s							
AKASG	**Malin Array Be**	**71.83**	**325**		*eP*	**P**	**10 41 00.3**	**-0.7**
AKASG					pmax	pmax		
	comp=Z,6.0nm,0.7s							
AKASG	**Malin Array Be**	**71.83**	**325**		P	**P**	**10 41 00.4**	**-0.7**
AKASG	**Malin Array Be**	**71.83**	**325**		P	**P**	**10 41 00.4**	**-0.7**
	comp=Z,5.2nm,0.7s,baz=37,slow=6.0,SNR=18							
KWP	**Kalwaria Pacla**	**75.28**	**327**		*eP*	**P**	**10 41 21.9**	**+0.5**
KWP					pmax	pmax		
	comp=Z,25nm,1.0s							
KWP	**Kalwaria Pacla**	**75.28**	**327**		*eP*	**P**	**10 41 21.9**	**+0.5**
	comp=Z,26nm,1.0s							
BUR08	**Bucovina Ar. S**	**75.87**	**325**		*eP*	**P**	**10 41 25.0**	**+0.1**
BURAR	**Bucovina Array**	**75.89**	**325**	⇓	*iP*	**P**	**10 41 23.7**	**-1.3**
DPC	**Dobruska-Polom**	**77.03**	**331**		*eP*	**P**	**10 41 31.3**	**-0.1**
DPC					*e*		10 41 40.0	
DPC	**Dobruska-Polom**	**77.03**	**331**		*eP*	**P**	**10 41 31.3**	**-0.1**
DPC					*e*PCP	**pP**	**10 41 40.0**	**-1.2**
CLL	**Collm**	**77.31**	**334**		*i* P	**P**	**10 41 32.5**	**-0.4**
CLL	**Collm**	**77.31**	**334**		*i* P	**P**	**10 41 32.5**	**-0.4**
	comp=Z,14nm,0.9s							
BRG	**Berggiesshubel**	**77.38**	**333**		*eP*	**P**	**10 41 33.2**	**0.0**
	comp=Z,6.5nm,1.1s							
BRG	**Berggiesshubel**	**77.38**	**333**		*eP*	**P**	**10 41 33.2**	**0.0**
BRG					pmax	pmax		
	comp=Z,7.0nm,1.1s							
DRGR		**77.57**	**326**	⇓	*iP*	**P**	**10 41 34.1**	**-0.4**
VOIR		**77.69**	**323**	⇓	*iP*	**P**	**10 41 36.1**	**+0.9**
VRAC	**Vranov**	**77.81**	**330**	⇑	*iP*	**P**	**10 41 36.8**	**+1.1**
ARR	**Arges**	**77.92**	**324**	⇓	*iP*	**P**	**10 41 39.3**	**+2.8**
PRU	**Pruhonice**	**77.94**	**332**		*eP*	**P**	**10 41 36.9**	**+0.5**
PRU	**Pruhonice**	**77.94**	**332**		*eP*	**P**	**10 41 36.9**	**+0.5**
BR131	**Keskin Array S**	**78.08**	**315**		*eP*	**P**	**10 41 38.0**	**+0.5**
	comp=Z,0.7nm,0.4s							
BRTR	**Keskin Array B**	**78.08**	**315**		P	**P**	**10 41 37.6**	**0.0**
BRTR					pP	**PcP**	**10 41 45.1**	**-2.1**
BRTR	**Keskin Array B**	**78.08**	**315**		P	**P**	**10 41 37.6**	**0.0**
	comp=Z,1.7nm,0.7s,baz=93,slow=4.2,SNR=9.4							
BRTR					pP	**PcP**	**10 41 45.1**	**-2.1**
	comp=Z,1.0nm,0.7s,baz=32,slow=4.8,SNR=3.9							
KHC	**Kasperske Hory**	**79.00**	**332**		*eP*	**P**	**10 41 42.6**	**+0.3**
KHC	**Kasperske Hory**	**79.00**	**332**		*eP*	**P**	**10 41 42.6**	**+0.3**
KHC	**Kasperske Hory**	**79.00**	**332**		*eP*	**P**	**10 41 42.6**	**+0.3**
	comp=Z,3.7nm,0.6s							
GERES	**GERESS Array B**	**79.20**	**332**		P	**P**	**10 41 43.1**	**-0.4**
GERES	**GERESS Array B**	**79.20**	**332**		P	**P**	**10 41 43.1**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=27,slow=6.1,SNR=11							
TXAR	**Lajitas Array**	**80.98**	**58**		P	**P**	**10 41 53.2**	**-0.3**
TXAR					sP	**sP**	**10 42 06.6**	**-0.4**
TXAR	**Lajitas Array**	**80.98**	**58**		P	**P**	**10 41 53.2**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=292,slow=3.7,SNR=7.5							
TXAR					sP	**sP**	**10 42 06.6**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=295,slow=4.0,SNR=10.0							
CDF	**Champ du Feu**	**81.62**	**335**		*eP*	**P**	**10 41 56.0**	**-0.5**
CDF	**Champ du Feu**	**81.62**	**335**		*eP*	**P**	**10 41 56.0**	**-0.5**
CDF	**Champ du Feu**	**81.62**	**335**		*eP*	**P**	**10 41 56.0**	**-0.5**
FLN	**La Foliniere**	**83.39**	**340**		*eP*	**P**	**10 42 05.3**	**-0.3**
FLN	**La Foliniere**	**83.39**	**340**		*eP*	**P**	**10 42 05.3**	**-0.3**
FLN	**La Foliniere**	**83.39**	**340**		*eP*	**P**	**10 42 05.3**	**-0.3**
LDF	**La Druitiere**	**83.46**	**340**		*eP*	**P**	**10 42 05.6**	**-0.4**
LDF	**La Druitiere**	**83.46**	**340**		*eP*	**P**	**10 42 05.6**	**-0.4**
LDF	**La Druitiere**	**83.46**	**340**		*eP*	**P**	**10 42 05.6**	**-0.4**
CABF	**La Chapelle**	**83.59**	**335**		*eP*	**P**	**10 42 06.3**	**-0.5**
CABF	**La Chapelle**	**83.59**	**335**		*eP*	**P**	**10 42 06.3**	**-0.5**
CABF	**La Chapelle**	**83.59**	**335**		*eP*	**P**	**10 42 06.3**	**-0.5**
LOR	**Lormes**	**83.64**	**337**		*eP*	**P**	**10 42 07.2**	**+0.2**
	comp=Z,6.6nm,0.7s							
LOR	**Lormes**	**83.64**	**337**		*eP*	**P**	**10 42 07.2**	**+0.2**
	comp=Z,6.6nm,0.7s							
GRR	**Gorron**	**83.83**	**340**		*eP*	**P**	**10 42 07.8**	**0.0**
	comp=Z,9.7nm,0.7s							
GRR	**Gorron**	**83.83**	**340**		*eP*	**P**	**10 42 07.8**	**0.0**
GRR					pmax	pmax		
	comp=Z,10.0nm,0.7s							
GRR	**Gorron**	**83.83**	**340**		*eP*	**P**	**10 42 07.8**	**0.0**
	comp=Z,9.7nm,0.7s							
SMF	**Signal de Mont**	**84.21**	**337**		*eP*	**P**	**10 42 10.8**	**+0.9**
	comp=Z,19nm,0.9s							
SMF	**Signal de Mont**	**84.21**	**337**		*eP*	**P**	**10 42 10.8**	**+0.9**
SMF					pmax	pmax		
	comp=Z,19nm,0.9s							
SMF	**Signal de Mont**	**84.21**	**337**		*eP*	**P**	**10 42 10.8**	**+0.9**
	comp=Z,19nm,0.9s							
AVF	**Avril sur Loir**	**84.22**	**337**		*eP*	**P**	**10 42 10.9**	**+1.0**
AVF	**Avril sur Loir**	**84.22**	**337**		*eP*	**P**	**10 42 10.9**	**+1.0**
AVF	**Avril sur Loir**	**84.22**	**337**		*eP*	**P**	**10 42 10.9**	**+1.0**
SGMF	**Saint Gilles**	**84.35**	**341**		*eP*	**P**	**10 42 10.7**	**+0.2**
	comp=Z,16nm,0.8s							
SGMF	**Saint Gilles**	**84.35**	**341**		*eP*	**P**	**10 42 10.7**	**+0.2**
SGMF					pmax	pmax		
	comp=Z,16nm,0.8s							
SGMF	**Saint Gilles**	**84.35**	**341**		*eP*	**P**	**10 42 10.7**	**+0.2**
	comp=Z,16nm,0.8s							
LPL	**La Plagne**	**84.39**	**335**		*eP*	**P**	**10 42 11.4**	**+0.4**
LPL	**La Plagne**	**84.39**	**335**		*eP*	**P**	**10 42 11.4**	**+0.4**
LPL	**La Plagne**	**84.39**	**335**		*eP*	**P**	**10 42 11.4**	**+0.4**
LPG	**La Plagne**	**84.40**	**334**		*eP*	**P**	**10 42 11.5**	**+0.3**
LPG	**La Plagne**	**84.40**	**334**		*eP*	**P**	**10 42 11.5**	**+0.3**
LPG	**La Plagne**	**84.40**	**334**		*eP*	**P**	**10 42 11.5**	**+0.3**
ROSF	**Rostrenen**	**84.43**	**342**		*eP*	**P**	**10 42 11.1**	**+0.2**
	comp=Z,48nm,1.3s							
ROSF	**Rostrenen**	**84.43**	**342**		*eP*	**P**	**10 42 11.1**	**+0.2**
ROSF					pmax	pmax		
	comp=Z,48nm,1.3s							
ROSF	**Rostrenen**	**84.43**	**342**		*eP*	**P**	**10 42 11.1**	**+0.2**
	comp=Z,48nm,1.3s							
QUIF	**Quistinic**	**84.80**	**342**		*eP*	**P**	**10 42 12.8**	**0.0**
	comp=Z,11nm,0.9s							
QUIF	**Quistinic**	**84.80**	**342**		*eP*	**P**	**10 42 12.8**	**0.0**
QUIF					pmax	pmax		
	comp=Z,11nm,0.9s							
QUIF	**Quistinic**	**84.80**	**342**		*eP*	**P**	**10 42 12.8**	**0.0**
	comp=Z,11nm,0.9s							
TCF	**Toulx Ste Croi**	**84.99**	**338**		*eP*	**P**	**10 42 14.6**	**+0.8**
TCF	**Toulx Ste Croi**	**84.99**	**338**		*eP*	**P**	**10 42 14.6**	**+0.8**
TCF	**Toulx Ste Croi**	**84.99**	**338**		*eP*	**P**	**10 42 14.6**	**+0.8**
MBDF	**Montbardon**	**85.08**	**334**		*eP*	**P**	**10 42 14.1**	**-0.4**
	comp=Z,8.6nm,0.8s							
MBDF	**Montbardon**	**85.08**	**334**		*eP*	**P**	**10 42 14.1**	**-0.4**
MBDF					pmax	pmax		
	comp=Z,9.0nm,0.8s							
MBDF	**Montbardon**	**85.08**	**334**		*eP*	**P**	**10 42 14.1**	**-0.4**
	comp=Z,8.6nm,0.8s							
ORIF	**Oris-en-Rattie**	**85.19**	**335**		*eP*	**P**	**10 42 15.3**	**+0.4**
	comp=Z,12nm,0.7s							
ORIF	**Oris-en-Rattie**	**85.19**	**335**		*eP*	**P**	**10 42 15.3**	**+0.4**
ORIF					pmax	pmax		
	comp=Z,13nm,0.7s							
ORIF	**Oris-en-Rattie**	**85.19**	**335**		*eP*	**P**	**10 42 15.3**	**+0.4**
	comp=Z,12nm,0.7s							
MFF	**Saint Martin d**	**85.32**	**339**		*eP*	**P**	**10 42 15.1**	**-0.3**
	comp=Z,12nm,0.8s							
MFF	**Saint Martin d**	**85.32**	**339**		*eP*	**P**	**10 42 15.1**	**-0.3**
MFF					pmax	pmax		
	comp=Z,12nm,0.8s							
MFF	**Saint Martin d**	**85.32**	**339**		*eP*	**P**	**10 42 15.1**	**-0.3**
	comp=Z,12nm,0.8s							
SBF	**Sospel**	**85.65**	**333**		*eP*	**P**	**10 42 16.6**	**-0.6**
	comp=Z,25nm,0.7s							
SBF	**Sospel**	**85.65**	**333**		*eP*	**P**	**10 42 16.6**	**-0.6**
SBF					pmax	pmax		
	comp=Z,25nm,0.7s							
SBF	**Sospel**	**85.65**	**333**		*eP*	**P**	**10 42 16.6**	**-0.6**
	comp=Z,25nm,0.7s							
H03N2	**Juan Fernandez**	**141.47**	**90**		T	T	13 26 59.3	
	baz=302,slow=0.7,SNR=3.9							
H03N3	**Juan Fernandez**	**141.49**	**90**		T	T	13 27 02.9	
	baz=302,slow=0.7,SNR=4.7							
H03N1	**Juan Fernandez**	**141.49**	**90**		T	T	13 27 03.1	
	baz=302,slow=0.7,SNR=4.7							

NEIC ***13*** *10:32:18.0, 36°.11S×178°.57E, h137km, MG4.2(WEL), After WEL.*
WEL ***13*** *10:32:18.5±0.5, 36°.11S×178°.53E, h134km±8km, ML4.2/7, Error ellipse: s-maj=4.9km s-min=4.5km az=90.0*
ISC 13 10:32:13.9±3.6, 36°.2S±0°.2×178°.6E±0°.1, h188km±15km, n43, σ1°88/52, 4C-2D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.42**	**190**	⇓	PN	**Pn**	**10 32 46.5**	**+0.8**
MXZ					SN	**Sn**	**10 33 07.2**	**-3.4**
MXZ					AML	AML	10 33 12.0	
MXZ					AML	AML	10 33 12.1	
MXZ					AML	AML	10 33 15.6	
MXZ	**Matakaoa Point**	**1.42**	**190**		Pn	**Pn**	**10 32 46.5**	**+0.8**
MXZ					SN	**Sn**	**10 33 07.2**	**-3.4**
PUZ	**Puketiti**	**1.93**	**188**	⇓	PN	**Pn**	**10 32 52.6**	**+1.9**
PUZ					SN	**Sn**	**10 33 16.1**	**-3.4**
PUZ					AML	AML	10 33 32.4	
PUZ	**Puketiti**	**1.93**	**188**		Pn	**Pn**	**10 32 52.6**	**+1.9**
PUZ					SN	**Sn**	**10 33 16.1**	**-3.4**
MWZ	**Matawai**	**2.33**	**202**	⇑	PN	**Pn**	**10 32 57.2**	**+2.1**
MWZ					SN	**Sn**	**10 33 28.3**	**+0.9**
URZ					AML	AML	10 33 29.9	
URZ	**Urewera**	**2.41**	**209**		Pn	**Pn**	**10 32 57.5**	**+1.6**
URZ					Sn	**Sn**	**10 33 29.1**	**+0.2**
PRRZ	**Plateau Road**	**2.93**	**217**		PN	**Pn**	**10 33 04.3**	**+2.4**
PRRZ	**Plateau Road**	**2.93**	**217**		Pn	**Pn**	**10 33 04.3**	**+2.4**
MKAZ	**Moumakai**	**2.93**	**250**		PN	**Pn**	**10 33 03.8**	**+1.8**
MKAZ	**Moumakai**	**2.93**	**250**		Pn	**Pn**	**10 33 03.8**	**+1.8**
KNZ	**Kokohu**	**2.95**	**194**		PN	**Pn**	**10 33 04.3**	**+2.1**
KNZ	**Kokohu**	**2.95**	**194**		Pn	**Pn**	**10 33 04.3**	**+2.1**
RAHZ	**Arahi**	**3.00**	**203**		PN	**Pn**	**10 33 05.0**	**+2.1**
RAHZ	**Arahi**	**3.00**	**203**		Pn	**Pn**	**10 33 05.0**	**+2.1**
MHGZ	**Mahia Peninsul**	**3.04**	**190**		PN	**Pn**	**10 33 05.9**	**+2.7**
MHGZ	**Mahia Peninsul**	**3.04**	**190**		Pn	**Pn**	**10 33 05.9**	**+2.7**
NMHZ	**Naumai**	**3.26**	**206**	⇑	PN	**Pn**	**10 33 08.5**	**+2.5**
NMHZ	**Naumai**	**3.26**	**206**		Pn	**Pn**	**10 33 08.6**	**+2.5**
BKZ	**Black Stump Fm**	**3.44**	**209**		PN	**Pn**	**10 33 10.1**	**+1.9**
BKZ					AML	AML	10 34 02.8	
BKZ					AML	AML	10 34 06.0	
BKZ	**Black Stump Fm**	**3.44**	**209**		Pn	**Pn**	**10 33 10.1**	**+1.9**
KAHZ	**Kahuranaki**	**3.88**	**200**		PN	**Pn**	**10 33 15.3**	**+1.6**
KAHZ	**Kahuranaki**	**3.88**	**200**		Pn	**Pn**	**10 33 15.3**	**+1.6**
PNHZ	**Pukenui**	**4.20**	**206**		PN	**Pn**	**10 33 18.6**	**+0.9**
PNHZ	**Pukenui**	**4.20**	**206**		Pn	**Pn**	**10 33 18.6**	**+0.9**
TSZ	**Takapari Road**	**4.42**	**208**		PN	**Pn**	**10 33 21.0**	**+0.5**
TSZ					AML	AML	10 34 29.7	
TSZ					AML	AML	10 34 31.0	
TSZ	**Takapari Road**	**4.42**	**208**		Pn	**Pn**	**10 33 21.0**	**+0.5**
MRZ	**Mangatainoka R**	**5.08**	**207**		PN	**Pn**	**10 33 29.0**	**0.0**
MRZ					AML	AML	10 34 55.3	
MRZ	**Mangatainoka R**	**5.08**	**207**		Pn	**Pn**	**10 33 29.0**	**0.0**
HOWZ	**Holdsworth Sta**	**5.31**	**206**		PN	**Pn**	**10 33 32.1**	**+0.1**
HOWZ	**Holdsworth Sta**	**5.31**	**206**		Pn	**Pn**	**10 33 32.1**	**+0.1**
TMWZ	**Te Maipa**	**5.38**	**203**		PN	**Pn**	**10 33 32.8**	**0.0**
TMWZ	**Te Maipa**	**5.38**	**203**		Pn	**Pn**	**10 33 32.8**	**0.0**
NNZ	**Nelson**	**6.50**	**217**		Pn	**Pn**	**10 33 47.8**	**+0.4**
THZ	**Tophouse**	**7.14**	**217**		Pn	**Pn**	**10 33 56.0**	**+0.2**
KHZ	**Kahutara**	**7.38**	**211**		Pn	**Pn**	**10 33 58.4**	**-0.4**
LTZ	**Lake Taylor**	**8.23**	**215**		Pn	**Pn**	**10 34 09.9**	**-0.1**

***IDC* 13 10:58:03.5±0.6, 16°.26S×173°.39W, h0km, mb4.1/11, mb1 4.4/11, mb1mx4.2/21, mbtmp4.1/11, MS3.7/2, Ms1 3.7/2, ms1mx3.4/35, Error ellipse: s-maj=26.2km s-min=16.2km az=131.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.81**	**34**		Pn	Pn	10 58 46.2	-3.7
	7.8nm,0.3s,baz=195,slow=12,SNR=24							
AFI					Sn	Sn	10 59 15.6	-9.0
	114nm,0.3s,baz=66,slow=20,SNR=11							
AFI					LR	LR	10 59 37.7	
	comp=Z,746nm,18.6s,baz=249,slow=34							
DZM	**Mont Dzumac**	**19.90**	**250**		LR	LR	11 08 41.7	
	comp=Z,392nm,18.2s,baz=27,slow=32							
URZ	**Urewera**	**23.46**	**199**		P	P	11 03 13.1	-1.5
	5.4nm,0.4s,baz=56,slow=7.3,SNR=10							
STKA	**Stephens Creek**	**43.62**	**241**		P	P	11 06 09.7	-0.3
	1.5nm,0.6s,baz=82,slow=13,SNR=3.8							
WRA	**Warramunga Arr**	**49.66**	**257**		P	P	11 06 56.3	-1.3
	0.7nm,0.4s,baz=91,slow=5.9,SNR=26							
WRA					PcP	PcP	11 08 20.6	+1.6
	0.2nm,0.5s,baz=96,slow=3.2,SNR=3.4							
ASAR	**Alice Springs**	**49.86**	**253**		P	P	11 06 58.1	-0.9
	6.4nm,0.5s,baz=89,slow=8.3,SNR=206							
ASAR					PcP	PcP	11 08 20.9	+1.2
	5.2nm,1.4s,baz=96,slow=4.2,SNR=2.5							
VNDA	**Vanda**	**62.52**	**186**		P	P	11 08 29.5	+0.9
	0.7nm,0.9s,baz=2.6,slow=6.6,SNR=3.3							
VNDA					PcP	PcP	11 09 07.7	0.0
	0.4nm,0.9s,baz=342,slow=4.5,SNR=4.3							
PETK	**Petropavlovsk-**	**73.45**	**342**		P	P	11 09 38.2	+0.6
	2.5nm,0.9s,baz=126,slow=12,SNR=2.8							
NVAR	**Mina Array Bea**	**74.96**	**42**		P	P	11 09 47.1	+0.1
	2.1nm,0.8s,baz=229,slow=10,SNR=14							
TXAR	**Lajitas Array**	**81.08**	**56**		P	P	11 10 21.0	-0.1
	0.6nm,0.9s,baz=237,slow=7.6,SNR=4.0							
PDAR	**Pinedale Array**	**82.90**	**42**		P	P	11 10 29.9	-0.7
	2.5nm,0.7s,baz=219,slow=3.2,SNR=26							
ILAR	**Eielson Array**	**83.28**	**11**		P	P	11 10 31.1	-0.6
	0.7nm,0.6s,baz=222,slow=5.7,SNR=16							
SONM	**Songino Array**	**95.49**	**318**		P	P	11 11 29.5	-1.0
	0.2nm,0.7s,baz=29,slow=3.6,SNR=2.4							
ROSC	**El Rosal**	**100.03**	**88**		P	Pdif	11 11 52.1	0.0
	5.4nm,0.3s,baz=72,slow=17,SNR=2.6							
KMBO	**Kilima Mbogo**	**145.16**	**243**		PKPbc	PKPdf	11 17 44.5	0.0
	1.8nm,0.5s,baz=84,slow=2.5,SNR=6.7							
BRTR	**Keskin Array B**	**146.82**	**320**		PKPbc	PKPbc	11 17 47.5	-0.7
	3.3nm,0.9s,baz=39,slow=3.4,SNR=14							
GERES	**GERESS Array B**	**146.99**	**351**		PKPbc	PKPbc	11 17 48.0	-0.3
	0.3nm,0.3s,baz=40,slow=1.7,SNR=4.5							
TORD	**Torodi Ar. Bea**	**174.33**	**122**		PKPab	PKPab	11 19 46.8	-1.6
	1.5nm,1.0s,baz=230,slow=3.5,SNR=5.2							

IDC ***13*** *11:14:41.3±0.7, 9°.68S×159°.37E, h0km, mb4.0/9, mb1 4.2/9, mb1mx4.0/17, mbtmp4.0/9, Error ellipse: s-maj=23.0km s-min=8.0km az=155.0*
ISCJB ***13*** *11:14:43.2±0.6, 9°.7S±0°.1×159°.5E±0°.1, h26km, mb4.0/11, Error ellipse: s-maj=22.1km s-min=10.2km az=136.9*
NEIC ***13*** *11:14:45.3±1.1, 9°.69S×159°.60E, h30km±10km, mb4.3/2, Error ellipse: s-maj=23.1km s-min=9.0km az=124.0*
ISC 13 11:14:44.7±0.7, 9°.7S±0°.1×159°.6E±0°.1, h26km, n31, σ0°75/25, mb4.0/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
HNR	**Honiara**	**0.47**	**53**		Pg	**Pb**	**11 14 54.5**	**0.0**
HNR					Lg	Lg	11 15 01.3	
HNR	**Honiara**	**0.47**	**53**		Pg	**Pb**	**11 14 54.5**	**0.0**
	baz=203,slow=5.2							
HNR					Lg	Lg	11 15 01.3	
	5µm,0.3s,baz=157,slow=15,SNR=55							
CTA	**Charters Tower**	**16.48**	**230**		Pn	**P**	**11 18 36.0**	**-0.8**
CTA	**Charters Tower**	**16.48**	**230**		Pn	**P**	**11 18 36.0**	**-0.8**
	0.1nm,0.3s,baz=44,slow=17,SNR=2.1							
CTAO	**Charters Tower**	**16.48**	**230**	*eP*		**P**	**11 18 39.2**	**+2.4**
WRAB	**Tennant Creek**	**26.37**	**244**	*eP*		**P**	**11 20 19.2**	**0.0**
	2.4nm,0.7s							
WRA	**Warramunga Arr**	**26.39**	**244**		P	**P**	**11 20 19.3**	**0.0**
WRA	**Warramunga Arr**	**26.39**	**244**		P	**P**	**11 20 19.3**	**0.0**
	2.2nm,0.9s,baz=72,slow=10.0,SNR=12							
STKA	**Stephens Creek**	**27.64**	**214**		P	**P**	**11 20 30.8**	**+0.4**
STKA	**Stephens Creek**	**27.64**	**214**		P	**P**	**11 20 30.8**	**+0.4**
	2.8nm,0.6s,baz=48,slow=13,SNR=6.5							
ASAR	**Alice Springs**	**28.16**	**237**		P	**P**	**11 20 34.1**	**-1.1**
ASAR	**Alice Springs**	**28.16**	**237**		P	**P**	**11 20 34.1**	**-1.1**
	1.0nm,0.8s,baz=60,slow=10,SNR=18							
H11S2	**WAKE ISLAND Hy**	**28.90**	**14**		T	T	11 49 36.4	
	baz=195,slow=0.7,SNR=2.6							
H11S3	**WAKE ISLAND Hy**	**28.90**	**14**		T	T	11 49 34.1	
	baz=195,slow=0.7,SNR=4.2							
H11S1	**WAKE ISLAND Hy**	**28.91**	**14**		T	T	11 49 38.0	
	baz=195							
H11N1	**WAKE ISLAND Hy**	**30.12**	**14**		T	T	11 51 11.8	
	baz=196,slow=0.7,SNR=11							
H11N3	**WAKE ISLAND Hy**	**30.13**	**14**		T	T	11 51 00.8	
	baz=196,slow=0.7,SNR=9.1							
H11N2	**WAKE ISLAND Hy**	**30.14**	**14**		T	T	11 51 06.6	
	baz=196,slow=0.7,SNR=12							
MJAR	**Matsushiro Arr**	**50.20**	**338**		P	**P**	**11 23 38.6**	**+0.1**
MJAR	**Matsushiro Arr**	**50.20**	**338**		P	**P**	**11 23 38.6**	**+0.1**
	0.7nm,0.5s,baz=157,slow=5.4,SNR=4.0							
PETK	**Petropavlovsk-**	**62.59**	**359**		P	**P**	**11 25 06.9**	**+0.4**
PETK	**Petropavlovsk-**	**62.59**	**359**		P	**P**	**11 25 06.9**	**+0.4**
	2.9nm,0.8s,baz=158,slow=10,SNR=6.4							
VNDA	**Vanda**	**67.80**	**179**	*eP*		**P**	**11 25 40.4**	**+0.4**
VNDA	**Vanda**	**67.80**	**179**		P	**P**	**11 25 40.0**	**0.0**
	0.5nm,0.8s,baz=327,slow=5.1,SNR=9.4							
SONM	**Songino Array**	**74.08**	**326**		P	**P**	**11 26 18.6**	**-0.1**
SONM	**Songino Array**	**74.08**	**326**		P	**P**	**11 26 18.6**	**-0.1**
	1.1nm,0.6s,baz=137,slow=6.0,SNR=6.3							
MCK	**McKinley**	**82.94**	**21**	*eP*		**P**	**11 27 06.9**	**-0.2**
	6.4nm,0.9s							
ILAR	**Eielson Array**	**84.28**	**20**		P	**P**	**11 27 13.1**	**-0.9**
ILAR	**Eielson Array**	**84.28**	**20**		P	**P**	**11 27 13.1**	**-0.9**
	0.5nm,0.5s,baz=244,slow=5.5,SNR=17							
MKAR	**Makanchi Array**	**88.43**	**318**		P	**P**	**11 27 35.0**	**+0.3**
MKAR	**Makanchi Array**	**88.43**	**318**		P	**P**	**11 27 35.0**	**+0.3**
	0.5nm,0.6s,baz=84,slow=6.3,SNR=4.8							

ISCJB ***13*** *11:25:02.5±1.9, 52°.34N±0°.05×166°.77W±0°.08, h25km±14km, mb3.9/13, Error ellipse: s-maj=9.0km s-min=8.0km az=172.2*
IDC ***13*** *11:25:02.5±1.2, 52°.78N×166°.94W, h0km, mb3.8/13, mb1 3.9/15, mb1mx3.8/32, mbtmp3.8/15, ML3.1/1, Error ellipse: s-maj=32.5km s-min=14.8km az=179.0*
NEIC ***13*** *11:25:03.0, 52°.35N×166°.84W, h20km, ML3.3(AEIC), After AEIC.*
ISC 13 11:25:07.1±1.8, 52°.5N±0°.1×166°.84W±0°.06, h41km±15km, n49, σ1°48/49, mb3.8/13, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
OKTU	**Okmok Mt. Tuli**	**1.12**	**320**		P	**Pn**	**11 25 25.7**	**-0.6**
OKSP	**Okmok Steeple**	**1.14**	**310**		P	**Pn**	**11 25 25.9**	**-0.6**
OKSO	**Okmok South**	**1.15**	**316**		P	**Pn**	**11 25 26.0**	**-0.7**
OKSO					S	**Sn**	**11 25 42.4**	**+1.2**
OKCE	**Okmok Cone E**	**1.20**	**319**		P	**Pn**	**11 25 26.9**	**-0.5**
OKCE					S	**Sn**	**11 25 45.4**	**+2.9**
MGOD	**Makushin Gods**	**1.26**	**359**		P	**Pn**	**11 25 27.7**	**-0.6**
MREP	**Makushin Rep't**	**1.28**	**2**		P	**Pn**	**11 25 27.6**	**-1.0**
MSOM	**Makushin Julie**	**1.28**	**357**		P	**Pn**	**11 25 27.4**	**-1.1**
MSOM					S	**Sn**	**11 25 46.6**	**+2.1**
NIKH	**Nikolski High**	**1.30**	**290**		P	**Pn**	**11 25 27.7**	**-1.6**
NIKH					S	**Sn**	**11 25 45.4**	**+0.5**
UNV	**Unalaska Valle**	**1.33**	**9**		P	**Pn**	**11 25 28.3**	**-0.8**
UNV					S	**Sn**	**11 25 48.8**	**+3.2**
MCIR	**Makushin Cirqu**	**1.42**	**359**		P	**Pn**	**11 25 30.3**	**-0.1**
MTBL	**Makushin Table**	**1.44**	**4**		P	**Pn**	**11 25 29.8**	**-0.9**
AKRB	**Akutan Reef Bi**	**1.66**	**16**		P	**Pn**	**11 25 32.5**	**-1.3**
AKRB					S	**Sn**	**11 25 56.6**	**+2.7**
AKUT	**Akutan**	**1.73**	**21**		P	**Pn**	**11 25 34.0**	**-0.5**
FX1	**Attu Island--F**	**12.13**	**280**		Pn	**Pn**	**11 27 58

CN IC G. Surface waves: sta=125, comp=285, per= 50.
DJA ***13*** *11:38:10.7±0.3,3°N±2°×12°8E±°, h52km±3km, M6.2/6, mB6.5/6, mb6.3/6, MLv6.3/2, Mw(mB)6.2/6, Mwp6.0/5*
BKK ***13*** *11:38:10.9±0.5,3°N±3°×12°8E±°, h56km±4km, M5.9/54, mb5.8/54, mB6.2/43, MLv6.5/5, Mw(mB)5.8/43, Mwp5.8/8*
NEIC ***13*** *11:38:19.3±0.0,2.86N×128.40E, h38km Best double couple: NP1:ϕ±193.00000°, δ±48.00000°, λ:-11.00000°. NP2:ϕ±291.00000°, δ±81.00000°, λ:-137.00000°. Principal axes: T 1.3800, Plg21.0000°, Azm55.0000°; N -0.3400, Plg46.0000°, Azm301.0000°; P -1.0400, Plg35.0000°, Azm161.0000°;*

ISC 13 11:38:06.8±0.2, 2°99N±0°02×128°25E±0°03, h42km±1km, h42km:pP-P, n952, σ1$67/1012, mb5.7/182, MS5.6/216, 57C-38D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GAMI	**Galela, Maluku**	**1.23**	**202**	P			Px	11 38 37.5	
TNTI	**Ternate**	**2.37**	**202**	P			**Pn**	**11 38 43.2**	**0.0**
TNTI				S			**Sn**	**11 39 12.6**	**+1.6**
TNTI	**Ternate**	**2.37**	**202**	*e*Pn			**Pn**	**11 38 41.4**	**-1.8**
SGSI	**Sangihe**	**2.81**	**284**	P			**Pn**	**11 38 48.8**	**-0.4**
SGSI				S			**Sn**	**11 39 22.0**	**+0.2**
LBMI	**Labuha**	**3.68**	**192**	P			**Pn**	**11 39 03.7**	**+2.5**
LBMI				S			**Sn**	**11 39 45.4**	**+2.1**
MATI	**Mati**	**4.41**	**333**	*e*P			Pn	11 39 17.7	+6.5
MATI				*e*S			**Sn**	**11 40 04.2**	**+2.9**
GSPH	**General Santos**	**4.51**	**313**	*e*P			**Pn**	**11 39 13.8**	**+1.1**
GSPH				*e*S			**Sn**	**11 40 06.5**	**+2.6**
DAV	**Davao City (W)**	**4.85**	**327**	P			Pn	11 39 21.7	+4.4
	SNR=170								
DAV	**Davao City (W)**	**4.85**	**327**	⇑*e*P			Pn	11 39 21.9	+4.6
DAV	**Davao City (W)**	**4.85**	**327**	P			Pn	11 39 20.7	+3.4
DAV	**Davao City (W)**	**4.85**	**327**	*e*Pn			Pn	11 39 21.3	+4.0
DAV				*e*Sn			**Sn**	**11 40 13.8**	**+1.5**
SWI	**Sorong**	**4.87**	**142**	P			**Pn**	**11 39 17.7**	**+0.2**
SWI				S			**Sn**	**11 40 15.9**	**+3.3**
SWI	**Sorong**	**4.87**	**142**	⇑P			**Pn**	**11 39 18.5**	**+1.0**
	baz=4.8,SNR=159								
KMSI	**Cibinong**	**4.89**	**241**	P			**Pn**	**11 39 18.6**	**+0.7**
KMSI				S			**Sn**	**11 40 15.9**	**+2.6**
DMPH	**Davao City--Mi**	**4.90**	**326**	⇑*e*P			Pn	11 39 24.2	+6.2
DMPH				*e*S			**Sn**	**11 40 17.6**	**+4.1**
KCP	**Kidapawan**	**5.09**	**322**	⇑*i*P			Pn	11 39 25.5	+4.9
KCP				*i* S			Sn	11 40 11.4	-6.8
BIPH	**Bislig**	**5.50**	**340**	⇓*e*P			**Pn**	**11 39 28.9**	**+2.8**
BIPH				*e*S			**Sn**	**11 40 29.2**	**+1.1**
CTBH	**Cotabato--PC H**	**5.80**	**317**	*e*P			**Pn**	**11 39 32.5**	**+2.2**
CTBH				*i* S			**Sn**	**11 40 37.7**	**+2.2**
BUKP	**Musuan**	**5.80**	**327**	*e*P			Pn	11 39 34.4	+4.0
BUKP				*e*S			Sn	11 40 42.1	+6.3
NLAI	**Namlea**	**6.29**	**191**	P			**Pn**	**11 39 38.7**	**+1.6**
	4μm,1.0s,32μm48μm								
NLAI				S			Sn	11 40 54.8	+7.1
	4μm,1.0s,32μm48μm								
MSAI	**Masohi**	**6.33**	**174**	P			Pn	11 39 42.9	+5.3
MSAI				S			**Sn**	**11 40 51.7**	**+3.1**
CGP	**Cagayan de Oro**	**6.48**	**327**	⇑*e*P			Pn	11 39 45.0	+5.3
CGP				*e*S			Sn	11 41 00.3	+7.9
BUTP	**Butuan**	**6.49**	**336**	*e*P			Pn	11 39 45.0	+5.1
AAI	**Ambon**	**6.63**	**180**	P			**Pn**	**11 39 44.6**	**+2.9**
	2μm,1.7s,25μm								
MRSI	**Marisa**	**6.78**	**249**	P			**Pn**	**11 39 44.8**	**+1.0**
LUWI	**Luwuk**	**6.78**	**234**	P			**Pn**	**11 39 43.6**	**-0.2**
	4μm,0.9s,77μm132μm								
LUWI	**Luwuk**	**6.78**	**234**	P			**Pn**	**11 39 44.1**	**+0.2**
	baz=6.6,SNR=113								
PAGZ	**Pagadian**	**6.84**	**315**	*e*P			**Pn**	**11 39 45.9**	**+1.3**
FAKI	**Fak Fak**	**7.10**	**146**	P			**Pn**	**11 39 49.3**	**+1.1**
	1μm,1.0s,16μm58μm								
FAKI	**Fak Fak**	**7.10**	**146**	⇓P			**Pn**	**11 39 49.6**	**+1.4**
	baz=7.0,SNR=159								
SCPH	**Surigao**	**7.29**	**338**	*e*P			Pn	11 39 54.3	+3.5
ZMPH	**Zamboanga City**	**7.32**	**303**	⇓*i*P			**Pn**	**11 39 51.3**	**+0.2**
ZMPH				*i* S			**Sn**	**11 41 10.1**	**-2.9**
DCPH	**Dipolog City**	**7.39**	**319**	*e*P			Pn	11 39 57.6	+5.4
IPIL	**Ipil**	**7.40**	**310**	*e*P			**Pn**	**11 39 53.1**	**+0.9**
BNDI	**Bandanaira**	**7.64**	**167**	P			Pn	11 39 59.2	+3.6
TOLI	**Toli-Toli**	**7.68**	**256**	P			**Pn**	**11 39 55.4**	**-0.7**
	5μm,0.8s,46μm69μm								
MSLP	**Maasin**	**7.86**	**335**	*e*P			Pn	11 40 03.9	+5.3
TBP	**Tagbilaran**	**7.96**	**327**	*e*P			**Pn**	**11 40 00.8**	**+0.8**
SNPH	**Sibulan**	**8.04**	**322**	*i* P			Pn	11 40 10.7	+10
LLP	**Lapu-Lapu**	**8.43**	**330**	*e*P			Pn	11 40 10.2	+3.7
LLP				*e*S			Sn	11 41 50.9	+10
PLP	**Palo**	**8.75**	**338**	*e*P			Pn	11 40 15.6	+4.7
OCLP	**Ormoc**	**8.79**	**336**	*e*P			Pn	11 40 16.7	+5.3
GUIM	**Jordan**	**9.44**	**324**	*e*P			Pn	11 40 23.7	+3.4
TLE	**Tual**	**9.67**	**152**	P			Pn	11 40 27.2	+3.8
TLE	**Tual**	**9.67**	**152**	⇑P			**Pn**	**11 40 24.5**	**+1.1**
	baz=9.6,SNR=43								
KKSI	**Kolaka, Sulawe**	**9.70**	**223**	P			**Pn**	**11 40 22.0**	**-1.8**
MYLDM	**Lahad Datu**	**9.97**	**283**	P			**Pn**	**11 40 30.7**	**+3.2**
MYLDM	**Lahad Datu**	**9.97**	**283**	P			**Pn**	**11 40 30.7**	**+3.2**
RCP	**Roxas**	**10.12**	**328**	⇓*e*P			Pn	11 40 33.9	+4.3
BBSI	**Bau Bau**	**10.15**	**214**	P			**Pn**	**11 40 31.7**	**+1.7**
TTSI	**Tana Toraja**	**10.34**	**235**	P			**Pn**	**11 40 31.7**	**-0.9**
TSM	**Tawau**	**10.44**	**277**	P			**Pn**	**11 40 33.9**	**-0.1**
SPSI	**Sidrap Palu**	**10.93**	**231**	P			**Pn**	**11 40 39.8**	**-0.9**
BNSI	**Bone**	**10.96**	**228**	P			**Pn**	**11 40 39.5**	**-1.6**
SGKI	**Sangatta, Kali**	**11.20**	**252**	P			Pn	11 40 41.4	-3.0
PVCP	**Virac**	**11.29**	**339**	⇑*e*P			**Pn**	**11 40 44.7**	**-1.0**
SAUI	**Saumlaki**	**11.31**	**164**	P			**Pn**	**11 40 47.6**	**+1.7**
MJSI	**Majene**	**11.31**	**235**	P			**Pn**	**11 40 46.5**	**+0.5**
SDKM	**Sandakan**	**11.34**	**284**	P			**Pn**	**11 40 47.4**	**+1.1**
SMKI	**Samarinda**	**11.55**	**253**	P			**Pn**	**11 40 51.3**	**+2.1**
BKSI	**Bulukumba**	**11.58**	**225**	P			**Pn**	**11 40 48.5**	**-1.1**
KAPI	**Kappang**	**11.63**	**227**	P			**Pn**	**11 40 48.1**	**-2.2**
	SNR=42								
KAPI	**Kappang**	**11.63**	**227**	P			**Pn**	**11 40 48.7**	**-1.6**
KAPI	**Kappang**	**11.63**	**227**	*e*Pn			**Pn**	**11 40 47.7**	**-2.5**
	355nm,0.8s								
KAPI				Sn			Sn	11 42 51.9	-7.0
KAPI				*e*Sn			Sn	11 42 56.9	-2.0
KAPI	**Kappang**	**11.63**	**227**	Pn			**Pn**	**11 40 47.5**	**-2.8**
	18nm,0.3s,baz=35,slow=7.1,SNR=42								
KAPI				Sn			Sn	11 42 51.9	-7.0
	8.2nm,0.3s,baz=49,slow=19,SNR=3.8								
KDM	**Kudat**	**12.03**	**289**	P			P	11 41 02.4	-5.3
BKB	**Balikpapan**	**12.11**	**250**	P			**Pn**	**11 40 56.7**	**-0.1**
GQP	**Guinayangan**	**12.27**	**332**	⇑*e*P			Pn	11 41 02.6	+3.6
KKM	**Kota Kinabalu**	**12.38**	**285**	P			**Pn**	**11 41 01.8**	**+1.2**
KKM	**Kota Kinabalu**	**12.38**	**285**	P			**Pn**	**11 41 02.9**	**+2.3**
KKM	**Kota Kinabalu**	**12.38**	**285**	*e*Pn			**Pn**	**11 41 00.9**	**+0.4**
KKM	**Kota Kinabalu**	**12.38**	**285**	⇓P			**Pn**	**11 41 01.2**	**+0.6**
	baz=12,SNR=23								
LQP	**Lukban**	**12.89**	**329**	⇓*e*P			Pn	11 41 12.5	+4.8
MMRI	**Maumere**	**13.01**	**207**	P			**Pn**	**11 41 10.5**	**+1.4**
MMRI	**Maumere**	**13.01**	**207**	*e*Pn			**Pn**	**11 41 10.2**	**+1.1**
JAY	**Jayapura**	**13.60**	**114**	P			**P**	**11 41 23.8**	**-1.4**
BATI	**Baumata**	**13.88**	**199**	P			Pn	11 41 24.5	+3.5
BATI	**Baumata**	**13.88**	**199**	Pn			**Pn**	**11 41 24.1**	**+3.0**
BATI	**Baumata**	**13.88**	**199**	Pn			**Pn**	**11 41 24.1**	**+3.0**
	15nm,0.3s,baz=191,slow=1.2,SNR=76								
MTKI	**Muara Teweh, K**	**13.91**	**254**	P			**Pn**	**11 41 21.5**	**+0.1**
BALP	**Baler**	**14.28**	**333**	*e*P			**P**	**11 41 30.4**	**-2.3**
WSI	**Waingapu**	**14.86**	**212**	P			**Pn**	**11 41 34.9**	**+0.7**
BTM	**Bintulu**	**15.15**	**271**	P			**Pn**	**11 41 38.0**	**0.0**
BCPH	**Baguio City Da**	**15.30**	**331**	⇑*i*P			**Pn**	**11 41 42.1**	**+2.0**
WBSI	**Waikabubak, Su**	**15.34**	**215**	P			**Pn**	**11 41 40.9**	**+0.4**
BOLP	**Bolinao**	**15.63**	**329**	*e*P			**P**	**11 41 46.3**	**-1.5**
MTN	**Manton Dam**	**15.98**	**170**	⇓P			**Pn**	**11 41 48.4**	**-0.4**
	baz=16,SNR=4.0								
SBUM	**Sibu**	**16.02**	**268**	P			**Pn**	**11 41 50.0**	**+0.8**
SBUM	**Sibu**	**16.02**	**268**	P			**Pn**	**11 41 49.4**	**+0.1**
SBUM	**Sibu**	**16.02**	**268**	*e*Pn			**Pn**	**11 41 47.9**	**-1.4**
	1μm,1.0s								
KDU	**Kakadu**	**16.13**	**165**	⇑P			**Pn**	**11 41 49.1**	**-1.4**
	baz=16,SNR=18								
APYP	**Conner**	**16.30**	**336**	*e*P			**P**	**11 41 55.5**	**+0.3**
ABRA	**Dolores**	**16.34**	**334**	*e*P			**P**	**11 41 56.2**	**+0.6**
MMPI	**Merauke**	**16.61**	**133**	P			**P**	**11 42 01.3**	**+2.6**
MTNI	**Mataram**	**16.68**	**226**	P			**Pn**	**11 41 56.8**	**-0.9**
SIPP	**Brgy, Tapao**	**16.70**	**333**	⇑*e*P			**P**	**11 42 01.1**	**+1.5**
STKI	**Sintang**	**17.02**	**260**	P			**Pn**	**11 42 02.4**	**+0.6**
SRBI	**Singaraja**	**17.03**	**230**	P			**Pn**	**11 42 02.2**	**+0.2**
KMMI	**Kalianget**	**17.40**	**235**	P			**Pn**	**11 42 06.2**	**-0.3**
DNP	**Denpasar**	**17.41**	**228**	P			**P**	**11 42 08.5**	**+0.9**
PBKI	**Pangkalan Bun**	**17.51**	**251**	P			**Pn**	**11 42 06.7**	**-1.3**
ABJI	**Asem Bagus**	**17.61**	**232**	P			**Pn**	**11 42 09.3**	**+0.1**
NBBI	**Negara**	**17.66**	**230**	P			**Pn**	**11 42 08.6**	**-1.2**
BYJI	**Banyuwangi**	**17.77**	**231**	P			**P**	**11 42 12.8**	**+1.3**
KSM	**Kuching**	**17.99**	**266**	P			**Pn**	**11 42 14.1**	**+0.2**
KSM	**Kuching**	**17.99**	**266**	P			**Pn**	**11 42 14.0**	**+0.2**
KSM	**Kuching**	**17.99**	**266**	*e*Pn			**Pn**	**11 42 13.2**	**-0.6**
	788nm,0.9s								
KSM				*e*Sn			**S**	**11 45 36.6**	**-1.8**
KSM	**Kuching**	**17.99**	**266**	P			**Pn**	**11 42 13.3**	**-0.6**
	baz=18,SNR=76								
BLJI	**Banyuglugur**	**18.09**	**234**	P			**P**	**11 42 14.4**	**-0.7**
GMJI	**Gumukmas**	**18.52**	**233**	P			**Pn**	**11 42 21.3**	**+1.0**
KNRA	**Kununurra**	**18.55**	**178**	P			**P**	**11 42 19.8**	**-0.2**
	baz=18,SNR=236								
GRJI	**Gresik**	**18.56**	**238**	P			**Pn**	**11 42 21.1**	**+0.3**
KRKI	**Karangkates**	**19.26**	**235**	P			**Pn**	**11 42 29.1**	**-0.1**
GUMO	**Guam**	**19.51**	**56**	*e*P			**Pn**	**11 42 32.6**	**+0.5**
	922nm,1.3s								
SJI	**Sawahan**	**19.59**	**237**	P			**Pn**	**11 42 32.9**	**-0.4**
NGJI	**Ngawi**	**19.66**	**238**	P			**Pn**	**11 42 34.7**	**+0.7**
PWJI	**Pagerwojo**	**19.72**	**236**	P			**Pn**	**11 42 34.3**	**-0.3**
PCJI	**Pacitan**	**20.33**	**237**	P			**P**	**11 42 40.0**	**+0.4**
WOJI	**Wonogiri, Jawa**	**20.36**	**238**	P			Pn	11 42 42.6	+0.4
UGM	**Wanagama**	**20.73**	**238**	P			Pn	11 42 49.1	+2.4
UGM	**Wanagama**	**20.73**	**238**	*e*Pn			**P**	**11 42 45.0**	**+1.0**
UGM	**Wanagama**	**20.73**	**238**	P			**P**	**11 42 42.8**	**-1.2**
	baz=21,SNR=19								
YOGI	**Yogyakarta**	**20.88**	**239**	P			**P**	**11 42 46.8**	**+1.2**
TWG	**Pinlang**	**20.91**	**341**	*e*P			**P**	**11 42 43.9**	**-1.9**
FITZ	**Fitzroy Crossi**	**21.11**	**187**	*e*P			**P**	**11 42 45.5**	**-2.5**
	73nm,0.6s								
FITZ				*e*S			**S**	**11 46 39.1**	**-1.6**
FITZ	**Fitzroy Crossi**	**21.11**	**187**	⇓P			**P**	**11 42 45.5**	**-2.5**
	baz=21,SNR=132								
FITZ	**Fitzroy Crossi**	**21.11**	**187**	P			**P**	**11 42 46.3**	**-1.6**
	74nm,0.8s,baz=13,slow=10,SNR=80								
FITZ				LR			LR	11 51 47.0	
	comp=Z,4μm,20.6s,baz=15,slow=39								
BJII	**Banjamegara**	**21.15**	**241**	P			**P**	**11 42 48.9**	**+0.3**
YULB	**Yu-li**	**21.37**	**342**	*e*P			**P**	**11 42 51.3**	**+0.5**
	159nm,0.8s								
YULB				*e*S			**S**	**11 46 46.3**	**+0.4**
TGJI	**Tegal**	**21.46**	**243**	P			**P**	**11 42 50.4**	**-1.4**
TPUB	**Ta-pu**	**21.50**	**341**	*e*P			**P**	**11 42 51.5**	**-0.7**
TPUB				*e*S			**S**	**11 46 47.9**	**-0.5**
KPJI	**Karang Pucung**	**21.84**	**242**	P			**P**	**11 42 54.5**	**-1.3**
SSLB	**Suanglung**	**21.85**	**342**	*e*P			**P**	**11 42 55.7**	**-0.2**
	339nm,0.9s								
CLJI	**Cilicap**	**21.94**	**241**	P			**P**	**11 42 57.7**	**+0.8**
NACB	**Ninganchiao**	**22.02**	**344**	*e*P			**P**	**11 42 59.3**	**+1.6**
	283nm,1.2s								
COEN	**Coen**	**22.41**	**139**	*e*P			**P**	**11 43 00.7**	**-1.3**
	1μm,1.0s								
PMG	**Port Moresby**	**22.51**	**123**	P			P	11 43 09.1	+6.1
PMG	**Port Moresby**	**22.51**	**123**	*e*P			**P**	**11 43 03.7**	**+0.7**
	43nm,0.8s								
PMG				ScP			**ScP**	**11 50 30.9**	**+0.4**
PMG				LR			LR		
	comp=Z,10μm,20.0s								
PMG	**Port Moresby**	**22.51**	**123**	P			**P**	**11 43 02.7**	**-0.3**
	comp=Z,39nm,0.8s,baz=266,slow=6.1,SNR=11								
PMG				ScP			**ScP**	**11 50 30.9**	**+0.4**
	comp=Z,23nm,0.9s,baz=266,slow=16,SNR=3.6								
YHNB	**Yeheng**	**22.55**	**344**	*e*P			**P**	**11 43 05.5**	**+2.0**
	comp=Z,239nm,0.7s								
YHNB				LR			LR		
	comp=Z,9μm,21.0s								
PPBI	**Pangkal Pinang**	**22.69**	**257**	P			**P**	**11 43 04.0**	**-1.0**
LEM	**Lembang**	**22.79**	**245**	P			**P**	**11 43 07.8**	**+1.6**
LEM	**Lembang**	**22.79**	**245**	⇑P			**P**	**11 43 06.4**	**+0.3**
	baz=23,SNR=26								
TATO	**Taipei**	**22.81**	**344**	*e*P			**P**	**11 43 07.5**	**+1.4**
	comp=Z,968nm,1.0s								
TATO				LR			LR		
	comp=Z,7μm,20.0s								
CISI	**Cisompet, Garu**	**22.92**	**243**	P			**P**	**11 43 06.2**	**-1.3**
CISI	**Cisompet, Garu**	**22.92**	**243**	P			**P**	**11 43 06.5**	**-1.0**
	baz=23,SNR=6.9								
CBJI	**Citeko**	**23.32**	**246**	P			**P**	**11 43 12.5**	**+1.1**
DBJI	**Dramaga**	**23.46**	**246**	P			**P**	**11 43 13.8**	**+1.0**
WRAB	**Tennant Creek**	**23.55**	**166**	*e*P			**P**	**11 43 11.9**	**-1.6**
WRAB				pmax			pmax		
	comp=Z,961nm,1.1s								
WRAB				MLR			MLR		
	comp=Z,10μm,19.0s								
WRAB	**Tennant Creek**	**23.55**	**166**	*e*P			**P**	**11 43 11.8**	**-1.6**
	comp=Z,961nm,1.1s								
WRAB				LR			LR		
	comp=Z,10μm,19.0s								
WRA	**Warramunga Arr**	**23.56**	**166**	P			**P**	**11 43 12.6**	**-1.0**
WRA				S			**S**	**11 47 28.6**	**+3.7**
WRA				*e*				12 16 28.1	
WRA	**Warramunga Arr**	**23.56**	**166**	P			**P**	**11 43 12.6**	**-1.0**
	comp=Z,618nm,1.0s,baz=345,slow=10,SNR=193								
WRA				S			**S**	**11 47 28.6**	**+3.7**
	comp=Z,73nm,1.1s,baz=342,slow=15,SNR=7.2								
WRA				P3KPbc				12 16 28.1	
	comp=Z,0.6nm,0.8s,baz=169,slow=3.9,SNR=3.1								
JOW	**Kunigami**	**23.71**	**0**	*e*P			**P**	**11 43 14.5**	**-0.5**
	comp=Z,252nm,1.1s								
QZH	**Quanzhou**	**23.73**	**338**	⇑*i*P			**P**	**11 43 13.3**	**-1.9**
QZH				AMB			AMB		
	comp=Z,630nm,0.9s								
QZH				AMB			AMB		
	comp=Z,14μm,4.5s								
QZH				LR			LR		
	comp=Z,12μm,16.8s								
QZH				LR			LR		
	comp=Z,9μm,18.7s								
QZH				LR			LR		
	comp=Z,25μm,19.2s								
SKJI	**Sukabumi**	**23.82**	**245**	P			**P**	**11 43 14.3**	**-1.8**
SBJI	**Serang**	**23.87**	**248**	P			**P**	**11 43 15.8**	**-0.8**
QIZ	**Qiongzhong**	**24.05**	**313**	P			**P**	**11 43 19.6**	**+1.4**
QIZ				sP			**sP**	**11 43 31.8**	**-2.9**
QIZ				S			**S**	**11 47 35.0**	**+2.1**
QIZ				sS			**sS**	**11 47 50.9**	**-0.9**
QIZ				AMB			AMB		
	comp=Z,160nm,0.9s								
QIZ				LR			LR		
	comp=Z,19μm,18.0s								
QIZ				LR			LR		
	comp=Z,7μm,18.6s								
QIZ				LR			LR		
	comp=Z,9μm,20.9s								
QIZ	**Qiongzhong**	**24.05**	**313**	*e*P			**P**	**11 43 20.1**	**+1.9**
	comp=Z,647nm,1.6s								
QIZ				LR			LR		
	comp=Z,9μm,21.0s								
PMBI	**Palembang**	**24.19**	**256**	P			**P**	**11 43 20.8**	**+1.2**
MYKOM	**Kota Tinggi**	**24.41**	**268**	P			**P**	**11 43 22.1**	**+0.5**
MYKOM	**Kota Tinggi**	**24.41**	**268**	P			**P**	**11 43 21.2**	**-0.3**
BLSI	**Bandar Lampung**	**24.43**	**250**	P			**P**	**11 43 21.7**	**-0.1**
BTDF	**Bukit Timah Da**	**24.51**	**267**	⇑P			**P**	**11 43 22.7**	**+0.2**
	baz=24,SNR=25								
BTDF				⇑P			**P**	**11 43 22.7**	**+0.2**
	baz=24,SNR=25								
KLI	**Kotabumi**	**24.64**	**252**	P			**P**	**11 43 23.0**	**-0.6**
GZH	**Guangzhou**	**24.65**	**325**	P			**P**	**11 43 28.3**	**+4.7**
GZH				pP			**pP**	**11 43 34.9**	**-0.1**
GZH				S			**S**	**11 47 48.3**	**+5.9**
GZH				LR			LR		
	comp=Z,22μm,22.9s								
GZH				LR			LR		
	comp=Z,28μm,22.1s								
GZH				LR			LR		
	comp=Z,46μm,22.4s								
KGM	**Kluang**	**24.93**	**268**	P			**P**	**11 43 27.3**	**+1.0**
RABL	**Rabaul**	**24.94**	**106**	⇑P			**P**	**11 43 27.8**	**+1.4**
	baz=25,SNR=5.3								
KTGM	**Kuala Trenggan**	**25.16**	**276**	P			**P**	**11 43 28.9**	**+0.6**
MDSI	**Maura Dua**	**25.17**	**253**	P			**P**	**11 43 28.4**	**-0.1**
KASI	**Kota Agung**	**25.19**	**250**	P			**P**	**11 43 28.9**	**+0.3**
MBWA	**Marble Bar**	**25.41**	**199**	P			**P**	**11 43 29.6**	**-0.9**
	SNR=42								
MBWA	**Marble Bar**	**25.41**	**199**	*e*P			**P**	**11 43 28.8**	**-1.7**
MBWA				LR			LR		
	comp=Z,5μm,21.0s								
LWLI	**Liwa**	**25.44**	**252**	P			**P**	**11 43 31.1**	**0.0**
UBPT	**Khong Chiam**	**25.55**	**300**	P			**P**	**11 43 36.1**	**+4.2**
UBPT	**Khong Chiam**	**25.55**	**300**	P			**P**	**11 43 33.0**	**+1.1**
	comp=Z,578nm,2.0s,comp=Z,10μm								
LHSI	**Lahat**	**25.62**	**255**	P			**P**	**11 43 33.8**	**+1.2**
RGRI	**Rengat**	**26.12**	**263**	P			**P**	**11 43 37.6**	**+0.5**
XMI	**Christmas Isla**	**26.13**	**239**	P			**P**	**11 43 36.9**	**-0.3**
	baz=26,SNR=9.1								
XMIS	**Christmas Isla**	**26.18**	**239**	*e*P			**P**	**11 43 36.5**	**-1.1**
	comp=Z,2μm,0.8s								
XMIS	**Christmas Isla**	**26.18**	**239**	⇓P			**P**	**11 43 36.4**	**-1.2**
	baz=26,SNR=6.6								
MTSU	**Mount Surprise**	**26.29**	**144**	⇓P			**P**	**11 43 38.7**	**+0.2**
	baz=26								
MNAI	**Manna**	**26.31**	**254**	P			**P**	**11 43 40.1**	**+1.3**
MNAI	**Manna**	**26.31**	**254**	⇓P			**P**	**11 43 39.2**	**+0.4**
	baz=26,SNR=8.6								
KSI	**Kapahiang**	**26.48**	**256**	P			**P**	**11 43 40.4**	**0.0**
FRIM	**Kepong**	**26.59**	**271**	P			**P**	**11 43 41.6**	**+0.2**
MASI	**Maura Aman, Be**	**26.70**	**257**	P			**P**	**11 43 43.1**	**+0.7**
AS13	**Alice Springs**	**27.04**	**169**	⇓P			**P**	**11 43 43.6**	**-1.7**
	baz=27								
AS04	**Alice Springs**	**27.06**	**168**	⇓P			**P**	**11 43 44.1**	**-1.4**
	baz=27								
AS31	**Alice Springs**	**27.06**	**169**	*e*P			**P**	**11 43 43.6**	**-1.8**
ASAR	**Alice Springs**	**27.06**	**169**	P			**P**	**11 43 43.8**	**-1.7**
ASAR				PcP			**PcP**	**11 47 06.9**	**+0.8**
ASAR				ScP			**ScP**	**11 50 41.9**	**-1.3**
ASAR				*e*				12 16 18.4	
ASAR	**Alice Springs**	**27.06**	**169**	P			**P**	**11 43 43.8**	**-1.7**
	comp=Z,25nm,0.7s,baz=357,slow=7.8,SNR=148								
ASAR				PcP			**PcP**	**11 47 06.9**	**+0.8**
	comp=Z,17nm,0.6s,baz=352,slow=2.3,SNR=5.5								
ASAR				ScP			**ScP**	**11 50 41.9**	**-1.3**
	comp=Z,17nm,0.8s,baz=343,slow=2.6,SNR=8.6								
ASAR				LR			LR	11 55 01.1	
	comp=Z,5μm,20.6s,baz=119,slow=38								
ASAR				P3KPbc				12 16 18.4	
	comp=Z,0.6nm,0.8s,baz=172,slow=4.4,SNR=6.1								
AS01	**Alice Springs**	**27.07**	**168**	⇓P			**P**	**11 43 44.0**	**-1.5**
	baz=27								
SDSI	**Sungai Dareh**	**27.09**	**262**	P			P	11 43 50.9	+5.0
AS09	**Alice Springs**	**27.10**	**168**	⇑P			**P**	**11 43 44.2**	**-1.6**
	baz=27								
PANO	**Nakornpanom**	**27.14**	**303**	P			**P**	**11 43 48.7**	**+2.4**
	comp=Z,183nm,1.0s,comp=Z,2μm								
IPM	**Ipoh**	**27.21**	**274**	P			**P**	**11 43 46.5**	**-0.4**
IPM	**Ipoh**	**27.21**	**274**	P			**P**	**11 43 47.3**	**+0.4**
IPM	**Ipoh**	**27.21**	**274**	*e*P			**P**	**11 43 46.4**	**-0.5**
KRJI	**Kerinci**	**27.25**	**260**	P			**P**	**11 43 49.8**	**+2.4**
CHBT	**CHBT**	**27.42**	**292**	P			**P**	**11 43 51.6**	**+2.9**
CHBT	**CHBT**	**27.42**	**292**	P			**P**	**11 43 50.0**	**+1.3**
	comp=Z,203nm,0.9s,comp=

CHTO MLR MLR
comp=Z,4μm,20.0s
CHTO Chiang Mai 32.70 301 P P 11 44 39.1 +3.6
SNR=44
CHTO Chiang Mai 32.70 301 *e*P **P** **11 44 35.7 +0.2**
comp=Z,670nm,1.1s
CHTO LR LR
comp=Z,4μm,20.0s
CHTO Chiang Mai 32.70 301 P **P** **11 44 36.8 +1.3**
comp=Z,413nm,1.2s,comp=Z,12μm
KMI Kunming 32.98 314 P **P** **11 44 40.4 +2.3**
KMI pP **pP** **11 44 50.9 +1.3**
KMI sP **sP** **11 44 54.9 +0.2**
KMI PP **PP** **11 45 55.8 +2.5**
KMI S **S** **11 49 55.8 +1.9**
KMI sS **sS** **11 50 13.3 +0.2**
KMI AMB AMB
comp=Z,100nm,0.7s
KMI AMB AMB
comp=Z,500nm,6.3s
KMI LR LR
comp=Z,2μm,18.8s
KMI LR LR
comp=Z,5μm,20.4s
KMI LR LR
comp=Z,9μm,20.0s
QLP Quilpie 33.21 153 P **P** **11 44 38.7 -1.1**
baz=33,SNR=24
HNR Honiara 33.91 112 P **P** **11 44 45.5 -0.6**
HNR Honiara 33.91 112 P **P** **11 44 45.5 -0.6**
comp=Z,13nm,0.3s,baz=153,slow=4.5,SNR=3.1
HNR LR LR 11 57 27.6
comp=Z,7μm,20.5s,baz=289,slow=34
MORW Morawa 33.96 199 P **P** **11 44 44.0 -2.3**
baz=34,SNR=39
KSAR Wonju Array Be 34.29 359 P **P** **11 44 49.0 -0.1**
KSAR S **S** **11 50 18.8 +5.4**
KSAR ScP **ScP** **11 51 07.2 +0.5**
KSRS Korea Array 34.30 360 P **P** **11 44 49.0 -0.2**
comp=Z,59nm,0.8s,baz=176,slow=9.7,SNR=101
KSRS S **S** **11 50 18.8 +5.2**
comp=Z,4.5nm,1.0s,baz=196,slow=18,SNR=4.6
KSRS ScP **ScP** **11 51 07.2 +0.5**
comp=Z,7.5nm,0.9s,baz=188,slow=3.5,SNR=7.3
KSRS LR LR 11 58 04.2
comp=Z,7μm,21.4s,baz=184,slow=35
INCN Inchon 34.36 358 *e*P **P** **11 44 51.4 +1.7**
comp=Z,129nm,1.2s
INCN LR LR
comp=Z,10μm,22.0s
TIA Tai'an 34.62 344 ⇑P **P** **11 44 53.0 +1.0**
TIA S **S** **11 50 18.6 0.0**
TIA PcS **PcS** **11 51 11.0 -1.3**
TIA SS **SnSn** **11 52 38.6 +4.9**
TIA AMB AMB
comp=Z,100nm,0.8s
TIA LR LR
comp=Z,4μm,17.0s
TIA LR LR
comp=Z,2μm,16.0s
TIA LR LR
comp=Z,5μm,19.5s
MAJO Matsushiro 34.63 14 *e*P **P** **11 44 50.7 -1.4**
MAJO pmax pmax
comp=Z,678nm,2.0s
MAJO MLR MLR
comp=Z,21μm,22.0s
MAJO Matsushiro 34.63 14 *e*P **P** **11 44 50.7 -1.4**
comp=Z,678nm,2.0s
MAJO LR LR
comp=Z,21μm,22.0s
MAT Matsushiro 34.63 14 P **P** **11 44 51.0 -1.1**
MAT S **S** **11 50 14.0 -4.8**
MJAR Matsushiro Arr 34.63 14 P **P** **11 44 50.6 -1.5**
MJAR S **S** **11 50 15.4 -3.4**
MJAR ScP **ScP** **11 51 08.1 +0.2**
MJAR Matsushiro Arr 34.63 14 P **P** **11 44 50.6 -1.5**
comp=Z,48nm,0.8s,baz=192,slow=9.6,SNR=68
MJAR S **S** **11 50 15.4 -3.4**
comp=Z,7.9nm,0.9s,baz=195,slow=15,SNR=6.2
MJAR ScP **ScP** **11 51 08.1 +0.2**
comp=Z,12nm,0.9s,baz=197,slow=4.8,SNR=7.0
MJAR LR LR 11 56 53.1
comp=Z,17μm,21.8s,baz=195,slow=32
COCO West Island 34.67 244 *e*P **P** **11 44 52.4 -0.3**
COCO MLR MLR
comp=Z,2μm,21.0s
COCO West Island 34.67 244 *e*P **P** **11 44 52.4 -0.3**
COCO LR LR
comp=Z,2μm,21.0s
BLDU Ballidu 35.18 197 ⇓P **P** **11 44 54.7 -2.1**
baz=35,SNR=50
RMQ Roma 35.38 147 ⇑P **P** **11 44 58.2 -0.5**
baz=35,SNR=19
XAN Xi'an 35.77 332 P **P** **11 45 01.6 -0.4**
XAN PP **PnPn** **11 46 22.4 -0.5**
XAN PcP **PcP** **11 47 30.8 +1.6**
XAN ScS ScS 11 55 13.3 -4.0
XAN AMB AMB
comp=Z,52nm,1.0s
XAN AMB AMB
comp=Z,330nm,6.9s
XAN LR LR
comp=Z,6μm,38.2s
XAN LR LR
comp=Z,2μm,29.4s
XAN LR LR
comp=Z,3μm,32.3s
KLBR Kellerberrin 35.81 195 P **P** **11 44 59.9 -2.3**
baz=36,SNR=78
EIDS Eidsvold 35.84 143 *e*P **P** **11 45 01.9 -0.7**
comp=Z,76nm,0.9s
EIDS Eidsvold 35.84 143 P **P** **11 45 01.8 -0.7**
baz=36,SNR=17
CD2 Chengdu 36.14 323 P **P** **11 45 06.3 +1.1**
CD2 PP **PP** **11 46 30.8 +2.8**
CD2 S **S** **11 50 41.6 -0.6**
CD2 sS **ScP** **11 51 08.3 -5.3**
CD2 AMB AMB
comp=Z,100nm,0.9s
CD2 AMB AMB
comp=Z,670nm,6.7s
CD2 LR LR
comp=Z,10μm,20.8s
CD2 LR LR
comp=Z,11μm,23.8s
PBA Port Blair 36.22 286 *e*P P 11 45 05.0 -1.0
DL2 Dalian 36.26 351 P **P** **11 45 06.1 +0.1**
DL2 S **S** **11 50 43.0 -0.6**
DL2 AMB AMB
comp=Z,160nm,0.9s
DL2 AMB AMB
comp=Z,2μm,6.5s
DL2 LR LR
comp=Z,3μm,21.6s
DL2 LR LR
comp=Z,4μm,17.8s
DGPR DIGLIPUR 36.35 288 *ex* pP 11 45 18.1 -0.7
BBOO Buckleboo 36.36 169 *e*P **P** **11 45 05.2 -1.8**
comp=Z,2μm,0.7s
BBOO Buckleboo 36.36 169 P **P** **11 45 05.2 -1.8**
baz=36,SNR=61
STKA Stephens Creek 36.92 161 *e*P **P** **11 45 10.3 -1.5**
STKA S **S** **11 50 48.9 -5.0**
STKA ScP **ScP** **11 51 16.3 -0.1**
STKA Stephens Creek 36.92 161 P **P** **11 45 10.2 -1.5**
baz=37,SNR=130
STKA Stephens Creek 36.92 161 P **P** **11 45 10.2 -1.5**
comp=Z,100nm,0.7s,baz=329,slow=8.8,SNR=76
STKA S **S** **11 50 48.9 -5.0**
comp=Z,12nm,1.0s,baz=221,slow=19,SNR=3.8
STKA ScP **ScP** **11 51 16.3 -0.1**
comp=Z,15nm,1.1s,baz=336,slow=2.6,SNR=2.9
STKA LR LR 12 02 38.6
comp=Z,8μm,19.6s,baz=326,slow=40
NWAO Narrogin (SRO) 37.21 195 P **P** **11 45 14.4 +0.2**
SNR=12
NWAO Narrogin (SRO) 37.21 195 *e*P **P** **11 45 12.2 -1.9**
comp=Z,212nm,1.1s
NWAO ScP **ScP** **11 51 16.6 -0.7**
NWAO LR LR
comp=Z,3μm,20.0s
NWAO Narrogin (SRO) 37.21 195 P **P** **11 45 12.5 -1.7**
comp=Z,133nm,0.9s,baz=26,slow=10.0,SNR=49
NWAO ScP **ScP** **11 51 16.6 -0.7**
comp=Z,62nm,1.2s,baz=23,slow=7.7,SNR=3.6

TIY Taiyuan 37.48 339 *e*P **P** **11 45 17.5 +1.0**
TIY S **S** **11 51 04.3 +1.8**
TIY ScS **ScS** **11 55 21.8 -5.0**
TIY AMB AMB
comp=Z,2μm,4.8s
TIY LR LR
comp=Z,5μm,17.0s
TIY LR LR
comp=Z,1μm,13.3s
TIY LR LR
comp=Z,6μm,20.0s
HTT Hallett 37.60 165 ⇑P **P** **11 45 16.4 -1.1**
baz=38
CMSA Cobar Meteorol 38.13 156 P **P** **11 45 21.2 -0.8**
baz=38,SNR=25
BJT Baijiatuan 38.46 345 *e*P **P** **11 45 23.9 -0.6**
comp=Z,299nm,0.8s
BJT LR LR
comp=Z,2μm,19.0s
BJI Beijing 38.48 345 P **P** **11 45 24.0 -0.7**
BJI PP **PnPn** **11 46 56.3 +0.7**
BJI S **S** **11 51 13.1 -4.2**
BJI AMB AMB
comp=Z,140nm,1.2s
BJI AMB AMB
comp=Z,1μm,5.9s
BJI LR LR
comp=Z,3μm,25.6s
BJI LR LR
comp=Z,3μm,28.0s
BJI LR LR
comp=Z,4μm,30.5s
RKGY Rocky Gully 38.87 195 P **P** **11 45 27.7 -0.4**
baz=39,SNR=32
SNY Shenyang 38.90 354 ⇑P **P** **11 45 27.8 -0.4**
SNY S **S** **11 51 21.4 -2.2**
SNY AMB AMB
comp=Z,86nm,1.1s
SNY AMB AMB
comp=Z,1μm,4.9s
SNY LR LR
comp=Z,4μm,31.6s
SNY LR LR
comp=Z,8μm,17.7s
SNY LR LR
comp=Z,9μm,22.0s
IMP Imphal 39.53 306 *ex* **P** **11 45 33.0 -0.9**
IMP *e*4 x 11 47 23.0
LZH Lanzhou 39.92 329 ⇑P **P** **11 45 38.5 +1.4**
LZH pP **pP** **11 45 46.8 -2.0**
LZH sP **sP** **11 45 51.5 -2.3**
LZH PP **PnPn** **11 47 16.3 +3.3**
LZH S **S** **11 51 40.3 +0.8**
LZH SS **SS** **11 54 36.0 -1.3**
LZH AMB AMB
comp=Z,310nm,1.4s
LZH AMB AMB
comp=Z,1μm,5.0s
LZH LR LR
comp=Z,5μm,14.8s
LZH LR LR
comp=Z,3μm,11.4s
LZH LR LR
comp=Z,5μm,14.8s
ARMA Armidale 40.02 148 *e*P **P** **11 45 37.3 -0.7**
ARMA Armidale 40.02 148 P **P** **11 45 37.2 -0.7**
baz=40,SNR=46
VLA Vladivostok 40.09 4 *i* P **P** **11 45 38.6 +0.4**
VLA pmax pmax
comp=Z,265nm,1.4s
HHC Hu-ho-hao-te 40.59 340 *e*P **P** **11 45 43.5 +1.0**
HHC PP **PnPn** **11 47 22.3 +1.5**
HHC PcP **PcP** **11 47 45.0 +0.9**
HHC ScP **ScP** **11 51 31.1 +0.7**
HHC PcS **PcS** **11 51 33.8 -1.0**
HHC S **S** **11 51 52.3 +3.1**
HHC SS **SS** **11 54 48.8 -1.7**
HHC ScS **ScS** **11 55 43.8 -1.0**
HHC AMB AMB
comp=Z,89nm,1.3s
HHC AMB AMB
comp=Z,3μm,5.7s
HHC LR LR
comp=Z,10μm,16.9s
HHC LR LR
comp=Z,3μm,15.5s
HHC LR LR
comp=Z,9μm,16.6s
H11S3 WAKE ISLAND Hy 40.65 65 T T 12 29 04.3
baz=252,slow=0.7,SNR=64
H11S2 WAKE ISLAND Hy 40.67 65 T T 12 29 12.0
baz=252,slow=0.7,SNR=63
H11S1 WAKE ISLAND Hy 40.67 65 T T 12 29 10.5
baz=252,slow=0.7,SNR=54
CN2 Changchun 40.72 357 *e*P **P** **11 45 45.4 +2.0**
CN2 *ep*P **pP** **11 45 55.4 +0.3**
CN2 *es*P **sP** **11 45 59.1 -1.0**
CN2 *e*S **S** **11 51 56.8 +6.0**
CN2 SS **SS** **11 54 54.5 +1.7**
CN2 AMB AMB
comp=Z,20nm,0.9s
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,2μm,18.0s
CN2 LR LR
comp=Z,3μm,18.0s
CN2 LR LR
comp=Z,2μm,19.0s
WAKE Wake Island 40.87 64 PFAKE 11 46 00.0 +15
WAKE LR LR
comp=Z,5μm,20.0s
BTO Baotou 40.91 339 *e*P **P** **11 45 46.6 +1.4**
USRK Ussuriysk Arra 41.17 4 P **P** **11 45 47.2 +0.1**
comp=Z,138nm,0.8s,baz=180,slow=7.0,SNR=127
USRK ScP **ScP** **11 51 39.4 +6.9**
comp=Z,3.6nm,1.0s,baz=96,slow=7.2,SNR=4.7
USRK LR LR 12 00 32.1
comp=Z,6μm,21.4s,baz=176,slow=33
H11N1 WAKE ISLAND Hy 41.22 63 T T 12 29 46.9
baz=253,slow=0.7,SNR=49
H11N2 WAKE ISLAND Hy 41.23 63 T T 12 29 47.8
baz=253,slow=0.7,SNR=30
H11N3 WAKE ISLAND Hy 41.23 63 T T 12 29 48.8
baz=253,slow=0.7,SNR=43
MDJ Mudanjiang 41.48 1 P **P** **11 45 51.8 +2.2**
MDJ pP **pP** **11 46 00.8 -0.5**
MDJ sP **sP** **11 46 04.8 -1.5**
MDJ PcP **PcP** **11 47 47.6 +0.9**
MDJ S **S** **11 52 00.3 -1.7**
MDJ sS **sS** **11 52 22.1 +0.5**
MDJ AMB AMB
comp=Z,210nm,1.1s
MDJ AMB AMB
comp=Z,1μm,9.0s
MDJ LR LR
comp=Z,8μm,27.8s
MDJ LR LR
comp=Z,4μm,18.1s
MDJ LR LR
comp=Z,9μm,22.2s
MDJ Mudanjiang 41.48 1 *e*P **P** **11 45 49.8 +0.2**
comp=Z,265nm,1.1s
MDJ LR LR
comp=Z,9μm,21.0s
ARPS Mount Arapiles 41.53 163 P **P** **11 45 49.4 -0.7**
baz=42,SNR=86
SHL Shillong 41.54 306 *e*P **P** **11 45 50.5 -0.1**
SHL *i* x x 11 52 10.0
MGCD Mangrove Creek 41.99 151 ⇓P **P** **11 45 54.4 +0.4**
baz=42
RIV Riverview 42.52 151 ⇑P **P** **11 45 59.3 +1.1**
baz=42
CAN Canberra 42.78 155 *e*P **P** **11 46 00.3 -0.1**
CAN pmax pmax
comp=Z,87nm,1.0s
CAN MLR MLR
comp=Z,8μm,20.0s
CAN Canberra 42.78 155 *e*P **P** **11 46 00.3 -0.1**
comp=Z,87nm,1.0s
CAN LR LR
comp=Z,8μm,20.0s
CAN Canberra 42.78 155 ⇑P **P** **11 46 00.6 +0.1**
baz=43
ASAJ Asahikawa 42.88 15 *e*P **P** **11 46 02.1 +1.0**
comp=Z,499nm,2.2s

ASAJ ScP **ScP** **11 51 40.2 +0.9**
ASAJ Asahikawa 42.88 15 P **P** **11 46 01.7 +0.7**
comp=Z,92nm,0.7s,baz=226,slow=10,SNR=62
ASAJ ScP **ScP** **11 51 40.2 +0.9**
comp=Z,15nm,1.1s,baz=258,slow=15,SNR=3.6
ASAJ LR LR 12 04 30.7
comp=Z,10μm,19.6s,baz=211,slow=37
CNB Canberra Magne 42.94 154 P **P** **11 46 03.3 +1.6**
baz=43,SNR=6.6
TOO Toolangi 43.41 160 P **P** **11 46 05.3 -0.1**
baz=43,SNR=34
YUK Yuzh-Kuril'sk 43.75 18*c* *i*P P 11 46 04.2 -3.8
YUK *i* 11 47 45.0
YUK *i* S **S** **11 52 30.7 -4.8**
YUK *i* SS **ScS** **11 55 59.5 -4.3**
YUK pmax pmax
comp=Z,2μm,2.0s
YUK pmax pmax
comp=N,207nm,1.1s
YUK pmax pmax
comp=Z,494nm,1.1s
YUK pmax pmax
comp=E,264nm,1.4s
YUK MLR MLR
comp=N,1μm,21.0s
YUK MLR MLR
comp=E,3μm,21.0s
YUK MLR MLR
comp=Z,5μm,21.0s
LSA Lhasa 44.07 311 P **P** **11 46 13.0 +1.6**
LSA S **S** **11 52 41.3 -0.3**
LSA LR LR
comp=Z,1μm,24.1s
LSA LR LR
comp=Z,2μm,29.2s
LSA LR LR
comp=Z,3μm,29.2s
LSA Lhasa 44.07 311 *e*P **P** **11 46 13.2 +1.7**
LSA pmax pmax
comp=Z,206nm,1.1s
LSA MLR MLR
comp=Z,4μm,22.0s
LSA Lhasa 44.07 311 *e*P **P** **11 46 13.2 +1.7**
comp=Z,206nm,1.1s
LSA LR LR
comp=Z,4μm,22.0s
MILA Mila 44.33 156 P **P** **11 46 13.3 +0.4**
baz=44,SNR=8.8
GTA Gaotai 44.52 328 ⇑P **P** **11 46 15.0 +0.5**
GTA pP **pP** **11 46 24.4 -1.9**
GTA sP **sP** **11 46 28.5 -2.8**
GTA ScP **ScP** **11 51 47.1 +0.9**
GTA S **S** **11 52 47.3 +0.1**
GTA ScS **SS** **11 56 08.4 +0.4**
GTA AMB AMB
comp=Z,50nm,1.3s
GTA AMB AMB
comp=Z,700nm,5.2s
GTA LR LR
comp=Z,5μm,19.2s
GTA LR LR
comp=Z,6μm,20.9s
GTA LR LR
comp=Z,10μm,20.9s
TARA Tarawa 44.67 91 PFAKE 11 46 30.0 +14
TARA LR LR
comp=Z,8μm,19.0s
DZM Mont Dzumac 44.87 126 *e*S **S** **11 52 58.3 +5.7**
comp=Z,2μm,24.9s
DZM *e*LR LR 11 58 55.5
comp=Z,7μm,32.2s
DZM Mont Dzumac 44.87 126 *e*P **P** **11 46 18.8 +1.3**
comp=Z,22nm,0.8s
DZM Mont Dzumac 44.87 126 P **P** **11 46 15.3 -2.2**
comp=Z,2.7nm,0.6s,baz=280,slow=23,SNR=11
YSS Yuzh-Sakhalins 45.57 14*αe*P **P** **11 46 22.5 0.0**
YSS *e* 11 48 10.0
YSS *e*S **S** **11 53 00.0 -1.9**
YSS *e*SS **ScS** **11 56 10.0 -5.3**
YSS pmax pmax
comp=Z,110nm,0.9s
TAPN Taplejung 45.68 306 *e*P **P** **11 46 24.8 +0.7**
comp=Z,411nm,0.9s
ODAN Odare 45.73 305 *e*P **P** **11 46 25.1 +0.6**
comp=Z,307nm,0.7s
BOK Bokaro 45.84 301 *e*P **P** **11 46 25.5 +0.4**
KLR Kul'dur 46.17 3 *e*P P 11 46 23.0 -4.2
KLR *e* 11 56 12.5
KLR pmax pmax
comp=Z,370nm,1.8s
KLR pmax pmax
comp=Z,1μm,8.0s
VIS Vishakhapatnam 46.40 292 *e*P **P** **11 46 30.2 +0.7**
VIS AMB AMB 11 46 46.9
comp=Z,82nm,1.6s
RAMN Ramite 46.42 305 *e*P **P** **11 46 30.7 +0.8**
comp=Z,279nm,0.7s
HIA Hailar 46.68 352 *e*P **P** **11 46 32.2 +1.0**
comp=Z,184nm,1.5s
HIA LR LR
comp=Z,7μm,21.0s
JIRN Jiri 47.03 306 *e*P **P** **11 46 35.5 +0.7**
comp=Z,325nm,0.8s
GUN Gumba 47.39 306 *e*P **P** **11 46 38.1 +0.5**
comp=Z,666nm,1.0s
PALK Pallekele 47.53 277 P **P** **11 46 39.4 +1.0**
SNR=9.9
PALK Pallekele 47.53 277 *e*P **P** **11 46 38.7 +0.3**
comp=Z,43nm,0.8s
PKI Pulchoki 47.63 305 *e*P **P** **11 46 39.5 0.0**
PKIN Phulchoki 47.65 305 *e*P **P** **11 46 39.7 +0.2**
KKN Kakani 47.83 305 *e*P **P** **11 46 41.1 +0.3**
comp=Z,211nm,0.9s
DMN Daman 47.90 305 *e*P **P** **11 46 42.0 +0.6**
comp=Z,302nm,0.9s
MOO Moorlands 48.36 161 P **P** **11 46 45.0 +0.7**
baz=48,SNR=7.3
GKN Gorkha 48.43 305 *e*P **P** **11 46 45.7 +0.3**
comp=Z,226nm,1.0s
SONM Songino Array 48.49 340 P **P** **11 46 44.7 -0.8**
SONM ScP **ScP** **11 52 03.5 +0.9**
SONM ⇑*e* 12 18 10.3
SONM P'P'ab **P'P'ab** **12 18 42.0 -2.5**
SONM Songino Array 48.49 340 P **P** **11 46 44.7 -0.8**
comp=Z,22nm,0.9s,baz=157,slow=8.3,SNR=47
SONM ScP **ScP** **11 52 03.5 +0.9**
comp=Z,5.2nm,0.9s,baz=169,slow=3.1,SNR=4.0
SONM LR LR 12 07 55.4
comp=Z,5μm,22.0s,baz=158,slow=37
SONM PKP2bc 12 18 10.3
comp=Z,0.8nm,1.0s,baz=254,slow=1.1,SNR=4.4
SONM PKP2ab 12 18 42.0
comp=Z,0.7nm,1.0s,baz=348,slow=2.1,SNR=3.9
TAU Tasmania Unive 48.83 161 *e*P **P** **11 46 47.2 -0.7**
TAU pmax pmax
comp=Z,113nm,1.1s
TAU MLR MLR
comp=Z,5μm,20.0s
TAU Tasmania Unive 48.83 161 *e*P **P** **11 46 47.2 -0.7**
comp=Z,113nm,1.1s
TAU LR LR
comp=Z,5μm,20.0s
KOLN Koldanda 49.19 305 *e*P **P** **11 46 52.1 +0.8**
comp=Z,736nm,0.7s
DANN Dangsing 49.28 305 *e*P **P** **11 46 52.6 +0.5**
comp=Z,889nm,0.7s
CIT Chita 50.39 348 *e*P **P** **11 47 00.2 +0.4**
CIT *e* 11 48 59.3
CIT pmax pmax
comp=Z,236nm,2.4s
HYB Hyderabad 50.79 290 *i* P **P** **11 47 03.0 -0.4**
HYB *e* 11 47 12.5
HYB *e*S **S** **11 54 16.0 -0.7**
HYB Hyderabad 50.79 290 *e*P **P** **11 47 03.1 -0.3**
HYB AMB AMB 11 47 07.4
comp=Z,128nm,1.2s
NGP Nagpur 51.12 295 *e*P **P** **11 47 04.9 -0.9**
NGP *ex* x 11 47 23.1
comp=Z,174nm,1.7s
NGP *ex* x 11 54 17.4
TRD Trivandrum 51.29 278 *e*P **P** **11 47 06.5 -0.7**
TRD AMB AMB 11 47 09.9
comp=Z,167nm,5.8s
TRD ⇓*ex* x 11 47 27.4
TRD *ex* x 11 54 37.4
ZAK Zakamensk 51.73 340 *e*P **P** **11 47 09.5 -0.5**

ZAK e 11 48 23.7
ZAK e 11 56 49.5
ZAK pmax pmax
comp=Z,26nm,1.2s
LGTI Lohaghat 52.55 305 *e*P **P 11 47 18.3 +2.0**
TLY Talaya 52.71 341 *c i*P **P 11 47 16.8 -0.3**
TLY *e*S **S 11 54 40.2 -1.8**
TLY *e* 11 57 02.1
TLY pmax pmax
comp=Z,53nm,0.9s
TLY MLR MLR
comp=Z,4μm,18.0s
TLY Talaya 52.71 341 P **P 11 47 17.0 -0.1**
comp=Z,109nm,1.2s,SNR=7.7
LATR Latur 52.84 291⇓ *ex* P 11 47 07.9 -11
LATR *ex* x 11 47 10.1
comp=Z,239nm,1.2s
AKL Akola 52.87 294 *e*P **P 11 47 18.3 -0.5**
AKL AMP 11 47 22.0
comp=Z,253nm,1.1s
AKL *i* x x 11 54 42.2
IRK Irkutsk 53.00 342 *e*P **P 11 47 19.3 +0.1**
IRK pmax pmax
comp=Z,74nm,1.6s
BHPL Bhopal 53.09 297 *e*P **P 11 47 20.6 +0.1**
BHPL AMB AMB 11 47 23.4
comp=Z,100nm,0.0s
MSVF Nonsavu 53.22 115 *e*P **P 11 47 23.2 +1.7**
MSVF pmax pmax
comp=Z,92nm,1.1s
MSVF MLR MLR
comp=Z,3μm,22.0s
MSVF Nonsavu 53.22 115 *e*P **P 11 47 23.2 +1.7**
comp=Z,92nm,1.1s
MSVF LR LR
comp=Z,3μm,22.0s
MSVF Nonsavu 53.22 115 P P 11 47 25.0 +3.5
comp=Z,243nm,1.0s,SNR=6.5
MOY Mondy 53.60 339 *e*P **P 11 47 23.8 0.0**
MOY pmax pmax
comp=Z,103nm,2.0s
MNGI Mangalore 53.73 284 *ex* **sP 11 47 45.4 +3.2**
MNGI *ex* x 11 56 00.1
CLNS Chul'man 53.76 358 *e*P **P 11 47 24.3 -0.5**
CLNS *e* 11 48 28.9
CLNS *e* 11 49 25.3
CLNS *e*PPP PPP 11 50 35.6
CLNS *e*S **S 11 54 54.7 -1.4**
CLNS *e* 11 57 04.0
CLNS *e*SS **SKiKP 11 58 33.3 -2.3**
CLNS pmax pmax
comp=Z,22nm,0.8s
CLNS pmax pmax
comp=N,17nm,0.7s
CLNS pmax pmax
comp=E,15nm,0.8s
CLNS pmax pmax
comp=Z,15nm,0.9s
CLNS pmax pmax
comp=N,22nm,1.0s
CLNS pmax pmax
comp=E,22nm,1.0s
CLNS smax smax
comp=E,465nm,14.2s
CLNS smax smax
comp=N,774nm,9.6s
CLNS MLR MLR
comp=N,5μm,19.0s
CLNS MLR MLR
comp=E,7μm,18.0s
WMQ Urumqi 54.20 325 P **P 11 47 29.0 +0.7**
WMQ PcP **PcP 11 48 32.8 +0.5**
WMQ PP **PP 11 49 32.8 +2.4**
WMQ ScP **ScP 11 52 24.0 -3.4**
WMQ PcS **PcS 11 52 30.6 -1.2**
WMQ S **S 11 54 59.9 -2.7**
WMQ sS **sS 11 55 27.0 +4.3**
WMQ ScS **ScS 11 57 09.3 -5.0**
WMQ AMB AMB
comp=E,410nm,1.2s
WMQ AMB AMB
comp=E,4μm,4.2s
WMQ LR LR
comp=E,9μm,22.2s
WMQ LR LR
comp=E,6μm,22.2s
WMQ LR LR
comp=E,9μm,27.6s
DDI Dehra Dun 54.63 305 *e*P **P 11 47 31.6 -0.1**
DDI AMB AMB 11 47 34.3
comp=Z,629nm,0.4s
DDI *ex* x 11 48 00.0
NDI New Delhi 54.80 303 *ex* P 11 47 29.5 -3.3
NDI *ex* x 11 55 05.5
GOA Goa 54.98 287 *e*P **P 11 47 32.1 -2.2**
GOA AMB AMB 11 47 51.3
comp=Z,120nm,3.0s
KAAM Kaadhehdhoo 55.28 269 P **P 11 47 36.6 +0.1**
baz=55,SNR=10
POO Poona 55.40 290 *e*P **P 11 47 35.8 -1.5**
POO AMB AMB 11 47 53.0
comp=Z,141nm,5.1s
PETK Petropavlovsk- 55.56 21 P **P 11 47 38.2 +0.4**
PETK pmax pmax
comp=Z,46nm,0.8s
PETK pmax pmax
comp=N,9.0nm,0.9s
PETK MLR MLR
comp=Z,3μm,18.7s
PETK Petropavlovsk- 55.56 21 P **P 11 47 38.2 +0.4**
PETK ScP **ScP 11 52 33.6 +0.6**
PETK Petropavlovsk- 55.56 21 P **P 11 47 38.2 +0.4**
comp=Z,46nm,0.8s,baz=182,slow=4.2,SNR=64
PETK ScP **ScP 11 52 33.6 +0.6**
comp=Z,9.3nm,0.9s,baz=223,slow=4.4,SNR=4.2
PETK LR LR 12 13 23.9
comp=Z,3μm,18.7s,baz=212,slow=38
SMLA Simla 55.63 306 *i* P **P 11 47 39.5 +0.8**
SMLA AMB AMB 11 47 43.8
comp=Z,2μm,0.5s
SMLA *i* x x 11 55 23.7
PET Petropavlovsk 55.84 22 *i* P **P 11 47 40.3 +0.5**
SDNR Sundarnagar 55.91 306 *e*P **P 11 47 42.0 +1.2**
HVS Khovu-Aksy 56.05 334 *d i*P **P 11 47 41.8 +0.3**
HVS pmax pmax
comp=Z,262nm,0.8s
HVS MLR MLR
comp=Z,16μm,21.0s
BOM Bombay 56.42 291 *ex* **PcP 11 48 46.2 +4.9**
BOM *ex* x 11 52 41.3
DGAR Diego Garcia 56.63 259 *d i*P **P 11 47 46.0 -0.1**
DGAR Diego Garcia 56.63 259 PFAKE 11 48 00.0 +14
DGAR LR LR
comp=Z,2μm,21.0s
DHRM DHARAMSHALA 56.70 307 *e*P **P 11 47 45.4 -1.2**
DHRM AMB AMB 11 48 04.8
comp=Z,630nm,3.0s
THN Thein Dam 57.23 307 *ex* **P 11 47 47.4 -2.7**
THN *ex* x 11 55 41.0
MIDW Midway 57.48 58 PFAKE 11 48 00.0 +8.1
MIDW LR LR
comp=Z,5μm,20.0s
YAK Yakutsk 58.91 1 *e*P **P 11 48 00.1 -1.2**
YAK *e**PP 12 48 10.9
YAK *e* 12 48 51.1
YAK *e* 12 50 08.1
YAK *e* 12 57 44.4
YAK pmax pmax
comp=N,28nm,1.1s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK pmax pmax
comp=Z,7μm,25.5s
YAK pmax pmax
comp=Z,23nm,1.0s
YAK pmax pmax
comp=E,13nm,1.1s
YAK pmax pmax
comp=N,10.0nm,0.9s
YAK smax smax
comp=N,431nm,3.5s
YAK smax smax
comp=E,366nm,3.0s
MK31 Makanchi Array 59.03 325 *ce*P **P 11 48 02.9 +0.4**
MK31 pmax pmax
comp=Z,94nm,0.5s
MK31 Makanchi Array 59.03 325 *e*P **P 11 48 02.4 -0.1**
MKAR Makanchi Array 59.03 325 P **P 11 48 02.3 -0.2**
MKAR pmax pmax
comp=Z,87nm,0.8s
MKAR pmax pmax
comp=N,5.0nm,0.8s
MKAR MLR MLR
comp=Z,4μm,20.5s
MKAR Makanchi Array 59.03 325 P **P 11 48 02.3 -0.2**
MKAR ScP **ScP 11 52 48.5 -0.1**
MKAR P'P' 12 17 35.2
MKAR ⇑*e* 12 17 49.0
MKAR P'P'ab **P'P'ab 12 18 00.8 +0.1**
MKAR Makanchi Array 59.03 325 ⇑P **P 11 48 02.6 +0.1**
baz=59
MKAR Makanchi Array 59.03 325 P **P 11 48 02.3 -0.2**
comp=Z,87nm,0.8s,baz=120,slow=7.8,SNR=86
MKAR ScP **ScP 11 52 48.4 -0.1**
comp=Z,5.4nm,0.8s,baz=104,slow=5.2,SNR=5.0
MKAR LR LR 12 14 39.9
comp=Z,4μm,20.5s,baz=266,slow=37
MKAR PKPPKP **P'P'df 12 17 35.2 -1.6**
comp=Z,0.8nm,0.8s,baz=238,slow=4.9,SNR=3.6
MKAR PKP2bc 12 17 49.0
comp=Z,2.3nm,0.9s,baz=290,slow=3.5,SNR=4.8
MKAR PKP2ab 12 18 00.8
comp=Z,2.6nm,1.0s,baz=294,slow=3.9,SNR=4.6
KSH Kashi 59.64 315 P **P 11 48 09.0 +2.0**
KSH pP **pP 11 48 19.1 -0.1**
KSH sP **sP 11 48 25.3 +1.2**
KSH PP **PP 11 50 22.0 +3.0**
KSH S **S 11 56 18.1 +3.5**
KSH sS **sS 11 56 35.4 +0.4**
KSH ScS **ScS 11 57 54.0 -0.2**
KSH AMB AMB
comp=Z,550nm,2.6s
KSH LR LR
comp=Z,2μm,14.9s
KSH LR LR
comp=Z,510nm,12.4s
KSH LR LR
comp=Z,4μm,24.1s
BHJ Bhuj 60.07 295 *e*P **P 11 48 09.1 -0.9**
BHJ AMB AMB 11 48 13.5
comp=Z,162nm,2.7s
RPZ Rata Peaks 60.29 145 *e*P **P 11 48 11.2 0.0**
comp=Z,87nm,0.9s
AAA Alma-Ata 60.57 319 *e*P **P 11 48 14.0 +0.8**
AAA *e*S **S 11 56 26.3 0.0**
AAA pmax pmax
comp=Z,4μm,6.3s
AAA smax smax
comp=E,4μm,14.7s
AAA MLR MLR
comp=Z,3μm,21.0s
ULHL Ulahol 60.59 318 *i* P **P 11 48 14.5 +1.0**
ULHL Ulahol 60.59 318 P **P 11 48 14.5 +1.0**
SNR=6.0
RAO Raoul Island 60.67 126 PFAKE 11 48 30.0 +16
RAO LR LR
comp=Z,2μm,19.0s
KHZ Kahutara 60.96 143 *e*P **P 11 48 14.9 -0.8**
comp=Z,56nm,1.0s
SNZO South Karori 61.03 141 PFAKE 11 48 30.0 +14
SNZO LR LR
comp=Z,5μm,22.0s
KZA Kyzart 61.19 317 *i* P **P 11 48 18.4 +0.6**
KZA Kyzart 61.19 317 P **P 11 48 18.4 +0.6**
SNR=101
TKM2 Tokmak 2 61.31 318 *e*P **P 11 48 18.6 +0.2**
TKM2 pmax pmax
comp=Z,447nm,1.5s
TKM2 MLR MLR
comp=Z,4μm,22.0s
TKM2 Tokmak 2 61.31 318 P **P 11 48 18.7 +0.3**
SNR=93
TKM2 Tokmak 2 61.31 318 *e*P **P 11 48 18.6 +0.2**
comp=Z,447nm,1.5s
TKM2 LR LR
comp=Z,4μm,22.0s
KBK Karagaybulak 61.63 318 *i* P **P 11 48 20.6 +0.1**
KBK Karagaybulak 61.63 318 P **P 11 48 20.6 +0.1**
SNR=24
AFI Afiamalu 61.78 107 P **P 11 48 22.7 +0.9**
AFI LR LR
comp=Z,3μm,21.0s
AFI Afiamalu 61.78 107 P **P 11 48 22.7 +0.9**
comp=Z,31nm,0.9s,baz=270,slow=17,SNR=2.6
CHMS Chumysh 61.90 318 *i* P **P 11 48 22.2 0.0**
CHMS Chumysh 61.90 318 P **P 11 48 22.2 0.0**
SNR=13
AAK Ala-Archa 61.92 318⇑ *e*P **P 11 48 22.8 +0.3**
AAK pmax pmax
comp=Z,168nm,1.7s
AAK MLR MLR
comp=Z,14μm,21.0s
AAK Ala-Archa 61.92 318 P **P 11 48 23.1 +0.6**
SNR=31
AAK Ala-Archa 61.92 318 P **P 11 48 22.7 +0.3**
SNR=30
AAK Ala-Archa 61.92 318 *e*P **P 11 48 22.6 0.0**
comp=Z,1μm,2.1s
AAK LR LR
comp=Z,5μm,22.0s
AAK Ala-Archa 61.92 318 P **P 11 48 22.9 +0.3**
comp=Z,32nm,0.8s,baz=109,slow=4.9,SNR=31
ZAA0 Zalesovo Array 61.94 333 *e*P **P 11 48 20.9 -1.2**
ZALV Zalesovo Beam 61.94 333 P **P 11 48 20.9 -1.2**
ZALV S **S 11 56 42.0 -1.1**
ZALV pmax pmax
comp=Z,13nm,0.7s
ZALV smax smax
comp=N,5.0nm,0.9s
ZALV MLR MLR
comp=Z,3μm,21.6s
ZALV Zalesovo Beam 61.94 333 P **P 11 48 20.9 -1.2**
ZALV S **S 11 56 42.0 -1.1**
ZALV P'P' 12 17 31.9
ZALV ⇑*e* 12 17 38.8
ZALV P'P'ab **P'P'ab 12 17 49.4 +1.1**
ZALV Zalesovo Beam 61.94 333 P **P 11 48 20.9 -1.2**
comp=Z,13nm,0.7s,baz=106,slow=5.3,SNR=35
ZALV S **S 11 56 42.0 -1.1**
comp=Z,5.1nm,0.9s,baz=110,slow=21,SNR=7.9
ZALV LR LR 12 16 52.1
comp=Z,3μm,21.6s,baz=323,slow=38
ZALV PKPPKP **P'P'df 12 17 31.9 +0.1**
comp=Z,1.3nm,0.7s,baz=330,slow=5.1,SNR=4.0
ZALV PKP2bc 12 17 38.8
comp=Z,3.9nm,0.8s,baz=306,slow=5.2,SNR=10
ZALV PKP2ab 12 17 49.4
comp=Z,3.1nm,0.8s,baz=299,slow=3.1,SNR=4.7
FX1 Attu Island--F 61.98 29 P **P 11 48 23.2 +0.8**
FX1 Attu Island--F 61.98 29 P **P 11 48 23.2 +0.8**
comp=Z,92nm,0.8s,baz=100,slow=2.3,SNR=22
FX1 LR LR 12 10 51.9
comp=Z,4μm,21.3s,baz=250,slow=32
USP Ospenovka 62.18 318 *i* P **P 11 48 24.1 0.0**
USP Ospenovka 62.18 318 P **P 11 48 24.1 0.0**
SNR=78
AML Almayashu 62.27 317 *i* P **P 11 48 25.8 +0.7**
AML Almayashu 62.27 317 P **P 11 48 25.8 +0.7**
SNR=113
EKS2 Erkin-Say 62.42 317 *e*P **P 11 48 26.2 +0.4**
EKS2 pmax pmax
comp=Z,116nm,0.8s
EKS2 MLR MLR
comp=Z,2μm,21.0s
EKS2 Erkin-Say 62.42 317 P **P 11 48 26.5 +0.7**
SNR=100
EKS2 Erkin-Say 62.42 317 *e*P **P 11 48 26.2 +0.4**
comp=Z,116nm,0.8s
EKS2 LR LR
comp=Z,2μm,21.0s
SEY Seymchan 62.42 12⇓ *e*P **P 11 48 27.7 +2.5**
MCQ Macquarie Isla 62.69 160⇑ P **P 11 48 27.4 +0.3**
baz=63,SNR=10.0
KBL Kabul 63.18 307 *e*P **P 11 48 31.0 0.0**
KBL pmax pmax
comp=Z,121nm,1.0s
KBL Kabul 63.18 307 *e*P **P 11 48 31.0 0.0**
comp=Z,121nm,1.0s
KBL Kabul 63.18 307 ⇓P **P 11 48 31.1 0.0**
baz=63,SNR=6.5
KURBB Kurchatov Arra 63.18 327 P **P 11 48 29.9 -0.6**
comp=Z,77nm,0.8s,baz=124,slow=6.0,SNR=122
KURBB PP PP 11 51 06.8 +17
comp=Z,21nm,1.2s,baz=124,slow=8.9,SNR=4.5
KURBB S **S 11 56 59.2 +0.3**
comp=Z,0.6nm,0.2s,baz=127,slow=11,SNR=4.0
KURK Kurchatov 63.18 327 P **P 11 48 29.9 -0.6**
KURK S **S 11 56 59.2 +0.3**
KURK pmax pmax
comp=Z,79nm,0.8s
KURK pmax pmax
comp=Z,21nm,1.2s
KURK smax smax
comp=N,1.0nm,0.3s
KURK Kurchatov 63.18 327 P **P 11 48 30.3 -0.2**
SNR=48
KURK Kurchatov 63.18 327 *e*P **P 11 48 29.4 -1.1**
comp=N,96nm,0.8s
KURK PP PP 11 51 06.8 +17
KURK S **S 11 56 59.2 +0.3**
KURK LR LR
comp=Z,1μm,20.0s
KURK Kurchatov 63.18 327 P **P 11 48 30.8 +0.3**
comp=Z,870nm,0.8s,SNR=80
NVS Novosibirsk 63.22 333⇓ *i*P **P 11 48 28.4 -2.2**
NVS *e* 11 48 41.9
NVS *e*S S 11 56 52.9 -6.3
NVS *e* 11 57 22.9
NVS pmax pmax
comp=Z,51nm,0.8s
NVS pmax pmax
comp=N,17nm,0.7s
NVS smax smax
comp=E,116nm,2.8s
NVS smax smax
comp=N,45nm,2.7s
KK31 Karatay Array 64.81 317 *ce*P **P 11 48 40.9 -0.5**
KK31 pmax pmax
comp=Z,523nm,1.4s
KKAR Karatay Array 64.81 317 *e*P **P 11 48 41.0 -0.4**
KKAR pmax pmax
comp=Z,88nm,0.8s
KKAR Karatay Array 64.81 317 *e*P **P 11 48 41.0 -0.4**
comp=Z,88nm,0.8s
ADK Adak 66.73 34 *e*P **P 11 48 53.9 +0.4**
ADK pmax pmax
comp=Z,671nm,1.4s
ADK MLR MLR
comp=Z,4μm,22.0s
ADK Adak 66.73 34 *e*P **P 11 48 53.9 +0.4**
comp=Z,671nm,1.4s
ADK LR LR
comp=Z,4μm,22.0s
VOSK Vostochnaya 68.32 327 P **P 11 49 02.8 -0.8**
VOSK pmax pmax
comp=Z,40nm,1.5s
TIXI Tiksi 68.57 0 *c i*P **P 11 49 03.5 -1.2**
TIXI pmax pmax
comp=Z,18nm,0.6s
TIXI MLR MLR
comp=Z,7μm,20.0s
BVA0 Borovoye Array 68.77 327 P **P 11 49 04.7 -1.7**
BVA0 pmax pmax
comp=Z,214nm,1.3s
BVAR Borovoye Array 68.77 327 P **P 11 49 05.7 -0.7**
BVAR pmax pmax
comp=Z,35nm,0.7s
BVAR Borovoye Array 68.77 327 P **P 11 49 05.7 -0.7**
BVAR Borovoye Array 68.77 327 P **P 11 49 05.7 -0.7**
comp=Z,35nm,0.7s,baz=129,slow=6.1,SNR=38
BRVK Borovoye 68.84 327 *c i*P **P 11 49 05.9 -0.9**
BRVK pmax pmax
comp=Z,79nm,1.0s
BRVK MLR MLR
comp=Z,3μm,21.0s
BRVK Borovoye 68.84 327 P **P 11 49 06.8 -0.1**
SNR=40
BRVK Borovoye 68.84 327 *e*P **P 11 49 05.8 -1.1**
comp=Z,375nm,1.3s
BRVK LR LR
comp=Z,3μm,21.0s
WBK Wadi Bani Khal 69.74 293 P **P 11 49 14.4 +1.3**
SNR=14
DRV Dumont d'Urvil 70.00 175 P P 11 49 03.0 -11
DRV Dumont d'Urvil 70.00 175 PP PP 11 51 49.0 0.0
DRV S S 11 58 11.0 -10
DRV L L 12 05 00.0
DRV R 12 11 00.0
IDAH Dahanechah 70.25 304 *e*P **P 11 49 17.2 +0.9**
CASY Casey 70.27 188 *e*P **P 11 49 15.6 +0.2**
comp=Z,54nm,0.9s
CASY LR LR
comp=Z,1μm,20.0s
JMDO Jabal Madar 70.52 293 P **P 11 49 18.9 +1.1**
SNR=21
SMDO Samad 70.63 293 P **P 11 49 19.6 +1.1**
SNR=13
IMYA Miami 70.69 307 *e*P **P 11 49 18.7 -0.1**
IKOO Kooshah 70.92 303 *e*P **P 11 49 20.5 +0.1**
ISRO Mashad 71.19 307 *e*P **P 11 49 22.6 +0.9**
ITEG Tejag 71.20 304 *e*P **P 11 49 23.8 +1.8**
IMOG Moghan 71.26 307 *e*P **P 11 49 22.6 +0.2**
HOQ Hoqain 71.35 294 P **P 11 49 24.9 +2.1**
SNR=6.3
BSY Bisya 71.38 293 P **P 11 49 24.6 +1.6**
SNR=20
IPAY Payeh 71.59 307 *e*P **P 11 49 24.0 -0.3**
IAKL Akhelmad 71.81 307 *e*P **P 11 49 26.0 +0.3**
IKRD Kardeh 72.03 308 *e*P P 11 49 22.7 -4.3
IEMG Emamgholi 72.03 308 *e*P **P 11 49 27.2 +0.2**
ARQ Araqi 72.05 293 P **P 11 49 28.9 +1.9**
SNR=25
UOSS Wadi Hilu 72.47 295 P **P 11 49 31.0 +1.5**
comp=Z,228nm,0.6s,SNR=5.5
ISFR Sfrayin 72.48 308 *e*P **P 11 49 29.9 +0.2**
HATD Hatta, Dubai 72.53 295 P **P 11 49 31.3 +1.4**
SNR=13
ASHO Ashiyiah 72.58 295 P **P 11 49 31.6 +1.3**
SNR=10
ISHV Shirvan 72.80 308 *e*P **P 11 49 34.0 +2.5**
NAZ Nazwa, Dubai 72.97 295 P **P 11 49 34.1 +1.6**
SNR=8.8
MRIV Mauritius Mete 73.07 248 *e*P **P 11 49 34.0 +0.9**
MSEY Mahe Island 73.10 264 *e*P **P 11 49 34.0 +0.4**
comp=Z,70nm,1.3s
MSEY LR LR
comp=Z,876nm,19.0s
UNV Unalaska Valle 73.17 34 *e*P **P 11 49 33.6 +0.5**
ASUD Al Ashush, Dub 73.24 295 P **P 11 49 36.5 +2.5**
SNR=7.4
AKUT Akutan 73.68 34 *e*P **P 11 49 36.1 +0.1**
AB31 Akbulak array 73.68 321 *ce*P **P 11 49 35.0 -1.2**
AB31 pmax pmax
comp=Z,24nm,0.6s
ABKAR Akbulak array 73.68 321 *e*P **P 11 49 34.9 -1.3**
comp=Z,26nm,0.6s
ABKAR Akbulak array 73.68 321 ⇑P **P 11 49 35.4 -0.8**
baz=74
KIP Kipapa 73.78 69 *e*P **P 11 49 40.4 +3.1**
KIP pmax pmax
comp=Z,207nm,1.7s
KIP MLR MLR
comp=Z,1μm,17.0s
KIP Kipapa 73.78 69 *e*P **P 11 49 37.1 -0.1**
comp=Z,110nm,1.0s
KIP LR LR
comp=Z,3μm,19.0s
MIR Mirnyy 73.80 194 *e*P **P 11 49 38.0 +1.6**
MIR pmax pmax
comp=Z,125nm,1.5s
RBK Rabkut 73.89 287 P **P 11 49 38.8 +0.7**
SNR=19
XMAS Kiritimati 74.23 89 PFAKE 11 49 50.0 +10
XMAS LR LR
comp=Z,5μm,22.0s
RAR Rarotonga 74.35 113 LR LR 12 19 55.0
comp=Z,982nm,20.1s,baz=266,slow=34
ABTO Aybut 74.76 287 P **P 11 49 43.3 +0.2**
SNR=16
RER Riviere de l'E 74.83 247 *e*P **P 11 49 41.3 -2.3**
comp=Z,89nm,0.9s
RER LR LR
comp=Z,2μm,21.0s
AKTO Aktyubinsk 75.18 321 P **P 11 49 42.8 -2.1**
AKTO pmax pmax
comp=Z,25nm,0.7s
AKTO Aktyubinsk 75.18 321 P **P 11 49 42.8 -2.1**

AKTO Aktyubinsk 75.18 321 P **P** **11 49 42.8 -2.1**
comp=Z,24nm,0.7s,baz=103,slow=8.8,SNR=27
FALS False Pass 75.20 34 *e*P **P** **11 49 45.6 +0.8**
SVE Sverdlovsk 75.39 328⇑ *e*P **P** **11 49 44.9 -1.0**
SVE *e*S S 11 59 16.3 -6.3
SVE *e*SS **SS** **12 04 16.4 +3.0**
SVE *e*SSS SSS 12 07 27.9
SVE pmax pmax
comp=Z,203nm,1.3s
SVE MLR MLR
comp=Z,3µm,23.0s
IANJ Anjilo 75.52 306 *e*P **P** **11 49 47.0 -0.5**
ISHM Shahmirzad 76.07 306 *e*P **P** **11 49 50.7 +0.1**
ARU Arti 76.37 328*c i*P **P** **11 49 49.7 -1.8**
ARU 11 52 42.7
ARU S **S** **11 59 32.3 -1.2**
ARU SSS SSS 12 07 43.8
ARU pmax pmax
comp=Z,40nm,1.0s
ARU MLR MLR
comp=Z,2µm,21.0s
IFIR Firoozkooh 76.48 306 *e*P **P** **11 49 55.0 +2.0**
SDPT Sand Point 76.96 34 *e*P **P** **11 49 54.8 -0.1**
comp=Z,286nm,1.1s
IDMV Damavand 77.06 306 *e*P **P** **11 49 58.0 +1.7**
IVRN Varamin 77.25 305 *e*P **P** **11 49 57.9 +0.8**
SOKR Solikamsk 78.11 330⇓ *i*P **P** **11 50 02.2 +1.1**
SOKR S **S** **11 59 48.0 -4.1**
SOKR pmax pmax
comp=Z,20nm,1.1s
SOKR MLR MLR
comp=Z,4µm,26.0s
CHGN Chignik 78.31 33 *e*P **P** **11 50 02.4 +0.1**
IRAZ Razeghan 78.76 305 *e*P **P** **11 50 08.3 +2.7**
QRN Al-Qurain 80.09 299 *e*P **P** **11 50 12.6 -0.1**
NAY Al-Naaiem 80.70 299 *e*P **P** **11 50 15.2 -0.7**
NAY AMb AMB 11 50 22.4
comp=Z,92nm,0.7s
RST Umm Al-Ruwaisa 80.92 299 *e*P **P** **11 50 17.1 -0.1**
RST AMb AMB 11 50 23.2
comp=Z,974nm,0.8s
OHAK Old Harbor 81.25 33 *e*P **P** **11 50 18.9 +0.7**
comp=Z,111nm,1.0s
KDAK Kodiak Island 81.71 32 *e*P **P** **11 50 21.4 +0.7**
comp=Z,96nm,0.9s
KDAK LR LR
comp=Z,4µm,22.0s
RSO Redoubt South 81.99 29 *e*P **P** **11 50 21.2 -1.1**
comp=Z,189nm,0.9s
RAYN Ar Rayn 82.17 293 P **P** **11 50 24.0 +0.1**
comp=Z,584nm,1.0s,SNR=24
IM04 Indian Mountai 82.39 24 *e*P **P** **11 50 24.5 +0.3**
IMA2 Indian Mountai 82.44 24 *e*P **P** **11 50 24.8 +0.2**
ABPO Ambohimpanom 82.49 250 *e*P **P** **11 50 25.7 -0.1**
ABPO pmax pmax
comp=Z,32nm,0.9s
ABPO MLR MLR
comp=Z,2µm,22.0s
ABPO Ambohimpanom 82.49 250 *e*P **P** **11 50 25.7 -0.1**
comp=Z,32nm,0.9s
ABPO LR LR
comp=Z,2µm,22.0s
VNDA Vanda 82.50 173 *e*P **P** **11 50 23.1 -1.4**
comp=Z,56nm,0.8s
VNDA Vanda 82.50 173 P **P** **11 50 23.0 -1.4**
comp=Z,60nm,0.8s,baz=318,slow=6.1,SNR=159
VNDA LR LR 12 24 49.3
comp=Z,2µm,20.9s,baz=332,slow=34
PPLA Purkeypile 82.60 27 *e*P **P** **11 50 26.4 +0.9**
comp=Z,222nm,1.6s
DGRG David-gareji 82.69 311 P **P** **11 50 27.3 +1.0**
GNI Garni 83.12 310 P **P** **11 50 30.3 +1.6**
SNR=9.8
GNI Garni 83.12 310 *e*P **P** **11 50 31.4 +2.7**
comp=Z,102nm,1.0s
GNI LR LR
comp=Z,1µm,21.0s
GNI Garni 83.12 310 P **P** **11 50 30.9 +2.2**
comp=Z,18nm,0.9s,baz=328,slow=14,SNR=6.9
TBLG Delisi 83.18 311 P **P** **11 50 31.4 +2.6**
BPAW Bear Paw Mtn. 83.29 26 *e*P **P** **11 50 27.5 -1.4**
comp=Z,414nm,1.8s
SBA Scott Base 83.40 172 *e*P **P** **11 50 28.4 -0.7**
SBA pmax pmax
comp=Z,44nm,0.9s
SBA MLR MLR
comp=Z,2µm,19.0s
SBA Scott Base 83.40 172 *e*P **P** **11 50 28.4 -0.7**
comp=Z,44nm,0.9s
SBA LR LR
comp=Z,2µm,19.0s
GUDG Gudauri 83.40 312 P P 11 50 26.8 -3.3
KZR Kazreti 83.41 311 P **P** **11 50 32.8 +2.7**
PPT Papeete 83.44 108 P **P** **11 50 30.1 -0.5**
PPT Papeete 83.44 108 P **P** **11 50 30.1 -0.5**
comp=Z,14nm,0.9s,baz=11,slow=17,SNR=2.4
PPT LR LR 12 25 13.9
comp=Z,1µm,19.2s,baz=94,slow=34
PPT2 Papeete2 83.44 108 *e*P **P** **11 50 33.4 +2.8**
comp=Z,68nm,1.5s
PPT2 Papeete2 83.44 108 *e*S **S** **12 00 52.3 +2.7**
comp=Z,2µm,30.2s
PPT2 *e*SS **SS** **12 06 19.6 +3.5**
comp=Z,1µm,33.5s
PPT2 *e*LQ LQ 12 13 22.0
comp=Z,9µm,35.8s
PPT2 *e*LR LR 12 16 54.4
comp=Z,2µm,24.5s
TRF Thorofare Moun 83.52 27 *e*P **P** **11 50 30.0 -0.3**
comp=Z,86nm,1.0s
SEW Seward 83.58 30 *e*P **P** **11 50 30.9 +0.6**
comp=Z,279nm,1.6s
MAW Mawson 83.59 201 P **P** **11 50 29.4 -0.8**
MAW Mawson 83.59 201 ⇓P **P** **11 50 30.5 +0.3**
baz=84,SNR=24
MAW Mawson 83.59 201 P **P** **11 50 29.4 -0.8**
comp=Z,56nm,1.1s,baz=56,slow=5.8,SNR=28
MAW LR LR 12 27 19.2
comp=Z,1µm,19.6s,baz=62,slow=35
TVO Taravao 83.77 108 *e*P **P** **11 50 35.1 +2.8**
comp=Z,24nm,1.2s
ZEI Tsey 83.83 313 *e*P **P** **11 50 31.2 -1.2**
ZEI pmax pmax
comp=Z,33nm,0.7s
PMR Palmer 83.87 28 *e*P **P** **11 50 31.3 -0.5**
PMR pmax pmax
comp=Z,138nm,1.2s
PMR Palmer 83.87 28 *e*P **P** **11 50 31.2 -0.5**
comp=Z,138nm,1.2s
COLD Coldfoot 83.98 23 *e*P **P** **11 50 33.2 +0.9**
comp=Z,89nm,1.0s
TBI Tubuai 84.10 114 *e*S **S** **12 00 54.8 -1.1**
comp=Z,2µm,29.8s
TBI Tubuai 84.10 114 *e*LQ LQ 12 13 39.0
comp=Z,5µm,39.5s
TBI *e*LR LR 12 17 09.2
comp=Z,4µm,27.2s
MCK McKinley 84.15 26 *e*P **P** **11 50 33.1 -0.2**
MCK pmax pmax
comp=Z,744nm,1.9s
MCK McKinley 84.15 26 *e*P **P** **11 50 33.0 -0.2**
comp=Z,744nm,1.9s
ONI Oni 84.16 312 P **P** **11 50 35.2 +1.3**
GEVA Gevas 84.39 308 *i*P **P** **11 50 36.9 +1.7**
GOF Gofitskoye 84.51 315 *e*P **P** **11 50 37.3 +1.8**
TUTA Tutak 84.59 309 *i*P P 11 50 40.8 +4.4
COLA College 84.72 25 *e*P **P** **11 50 35.2 -0.8**
COLA pmax pmax
comp=Z,66nm,0.9s
COLA MLR MLR
comp=Z,2µm,21.0s
COLA College 84.72 25 *e*P **P** **11 50 35.2 -0.8**
comp=Z,66nm,0.9s
COLA LR LR
comp=Z,2µm,21.0s
KIV Kislovodsk 84.75 314*de*P **P** **11 50 37.1 +0.3**
KIV *e* 11 53 51.0
KIV *i*S **S** **12 00 58.8 -3.0**
KIV *e*SS **SS** **12 06 27.8 -6.4**
KIV pmax pmax
comp=Z,18nm,0.7s
KIV MLR MLR
comp=Z,2µm,23.0s
KIV Kislovodsk 84.75 314 P **P** **11 50 37.6 +0.8**
comp=Z,186nm,0.7s,SNR=6.3
PMOR Pomariorio Ree 84.84 105 *e*P **P** **11 50 40.3 +2.6**
comp=Z,77nm,1.2s
EATA Eleskirt 84.84 310 *i*P **P** **11 50 38.7 +1.0**
ATD Arta Tunnel 84.91 281 P **P** **11 50 37.2 -0.9**
ATD Arta Tunnel 84.91 281 P **P** **11 50 37.2 -0.9**
comp=Z,24nm,0.9s,baz=333,slow=6.8,SNR=7.0
ILAR Eielson Array 85.12 25 P **P** **11 50 36.9 -1.2**
ILAR PP **PP** **11 53 56.0 +0.4**
ILAR Eielson Array 85.12 25 P **P** **11 50 36.9 -1.2**
comp=Z,3.7nm,0.5s,baz=246,slow=5.3,SNR=78
ILAR PP **PP** **11 53 56.0 +0.4**
comp=Z,6.4nm,1.1s,baz=268,slow=6.7,SNR=5.1
ILAR LR LR 12 27 14.9
comp=Z,2µm,21.7s,baz=269,slow=35
CHVG Ch'k'valeri 85.17 312 P **P** **11 50 41.6 +2.8**
EKAR Karacoban 85.17 309 *i*P **P** **11 50 42.1 +2.9**
ARTV Artvin 85.28 311 *i*P **P** **11 50 39.1 -0.7**
DAGI Agillar 85.29 311 *i*P **P** **11 50 39.7 +0.1**
HOMI Horasan 85.30 310 *i*P **P** **11 50 42.7 +2.8**
DDEM Demirkent 85.41 311 *i*P **P** **11 50 40.6 +0.4**
DIV Divide 85.45 29 *e*P **P** **11 50 40.5 +0.5**
comp=Z,353nm,1.2s
DBAD Bademkaya 85.46 311 *i*P **P** **11 50 40.9 +0.4**
DBOC Borcka 85.48 311 *i*P **P** **11 50 43.1 +2.6**
VRHR Novokhopersk 85.57 321 *e*P **P** **11 50 39.6 -1.0**
VRHR *e* 12 00 57.3
VRHR *e*S **S** **12 01 04.8 -4.6**
VRHR pmax pmax
comp=N,40nm,0.9s
VRHR pmax pmax
comp=E,60nm,0.9s
VRHR pmax pmax
comp=Z,150nm,0.9s
VRHR pmax pmax
comp=Z,260nm,1.4s
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,30nm,0.5s
VRHR pmax pmax
comp=N,110nm,1.8s
VRHR pmax pmax
comp=E,160nm,1.8s
VRHR pmax pmax
comp=Z,110nm,1.8s
VRHR smax smax
comp=E,500nm,3.3s
VRHR smax smax
comp=Z,50nm,0.4s
VRHR smax smax
comp=N,460nm,3.3s
VRHR MLR MLR
comp=N,340nm,29.0s
VRHR MLR MLR
comp=E,5µm,29.0s
VRHR MLR MLR
comp=Z,2µm,29.0s
PAX Paxson 85.66 27 *e*P **P** **11 50 42.1 +1.1**
PAX pmax pmax
comp=Z,115nm,1.3s
PAX Paxson 85.66 27 *e*P **P** **11 50 42.1 +1.1**
comp=Z,115nm,1.3s
ERZM Erzurum 85.71 310 *i*P P 11 50 45.8 +3.9
BMRM Bremner River 86.02 29 *e*P **P** **11 50 42.9 +0.1**
comp=Z,108nm,1.0s
MARD Mardin 86.19 307 *i*P **P** **11 50 47.3 +3.1**
DOT Dot Lake 86.31 27 *e*P **P** **11 50 43.5 -0.6**
comp=Z,20nm,0.8s
MZRK Al-Mazaregh 86.32 306 *e*P **P** **11 50 45.2 +0.5**
KBSD Kabsdagh 86.39 307 *e*P **P** **11 50 46.3 +1.3**
MENT Mentasta 86.46 27 *e*P **P** **11 50 45.7 +0.8**
KLMR Klimovskoe 86.79 331 *e*P **P** **11 50 44.3 -2.1**
KLMR 11 54 17.1
KLMR *e*S **SKSac** **12 01 06.1 -3.7**
KLMR pmax pmax
comp=Z,81nm,1.1s
KLMR MLR MLR
comp=Z,3µm,19.0s
SOC Sochi 86.90 313 *e*P **P** **11 50 45.7 -1.7**
SOC *e**SP sP 11 50 58.9 -6.0
SOC *e*S **SKSac** **12 01 08.3 -2.9**
SOC *e*SSS SSS 12 10 38.4
SOC pmax pmax
comp=Z,45nm,0.9s
SOC MLR MLR
comp=Z,2µm,20.0s
VORD Divnogorie 87.04 321 *e*P **P** **11 50 48.4 +0.5**
VORD *e**SP **sP** **11 51 03.0 -2.4**
VORD *e*S **SKKSac** **12 01 19.1 -1.5**
VORD pmax pmax
comp=E,20nm,0.8s
VORD pmax pmax
comp=Z,70nm,0.8s
VORD pmax pmax
comp=Z,110nm,1.1s
VORD pmax pmax
comp=E,10.0nm,0.4s
VORD smax smax
comp=E,290nm,3.5s
VORD smax smax
comp=Z,60nm,3.5s
VORD MLR MLR
comp=E,2µm,23.0s
VORD MLR MLR
comp=Z,2µm,23.0s
VSR Storozhevoye 87.12 321 *e*P **P** **11 50 48.1 -0.1**
VSR *e**SP **sP** **11 51 03.4 -2.4**
VSR *e*S **SKKSac** **12 01 19.4 -1.8**
VSR pmax pmax
comp=N,20nm,1.0s
VSR pmax pmax
comp=E,60nm,1.0s
VSR pmax pmax
comp=Z,110nm,1.0s
VSR pmax pmax
comp=N,20nm,1.0s
VSR pmax pmax
comp=E,80nm,1.0s
VSR pmax pmax
comp=Z,110nm,1.0s
VSR smax smax
comp=N,730nm,5.0s
VSR smax smax
comp=E,410nm,5.0s
VSR smax smax
comp=Z,210nm,5.0s
VSR MLR MLR
comp=N,1µm,22.0s
VSR MLR MLR
comp=E,2µm,22.0s
VSR MLR MLR
comp=Z,2µm,22.0s
KELT Kelkit 87.33 310 *i*P **P** **11 50 50.0 +0.2**
TMCR Tamitsa 87.43 334 *e*P **P** **11 50 51.0 +1.6**
TMCR *e* 11 54 16.8
TMCR pmax pmax
comp=Z,22nm,0.4s
EGAK Eagle 87.57 25 *e*P **P** **11 50 49.9 -0.2**
comp=Z,17nm,0.9s
EGAK LR LR
comp=Z,2µm,22.0s
MOS Moscow 87.91 326 *e*P **P** **11 50 49.7 -2.2**
MOS *e* 11 51 07.8
MOS *e*S **SKSac** **12 01 23.5 +6.7**
MOS *i*PS PnS 12 02 26.9 -11
MOS *i* 12 02 54.7
MOS pmax pmax
comp=Z,95nm,1.0s
MOS pmax pmax
comp=Z,100nm,1.2s
MOS MLR MLR
comp=Z,4µm,21.0s
KEMA Kemaliye 87.94 309 *i*P **P** **11 50 52.8 +0.2**
MALT Malatya 88.03 308⇓ *i*P **P** **11 50 54.7 +1.6**
GRSN GIRESUNGRSN 88.05 311 *i*P **P** **11 50 54.0 +1.0**
JHLN Al Jahlan 88.12 305 *e*P **P** **11 50 55.0 +1.5**
SUSE Susehri 88.13 310 *i*P **P** **11 50 55.9 +2.3**
DAWY Dawson 88.37 26 *e*P **P** **11 50 53.7 -0.3**
ANN Anapa 88.50 315 *e*P P 11 50 50.7 -4.3
ANN *e**PP **PcP** **11 51 01.2 +4.6**
ANN *e*S **SKSac** **12 01 15.8 -5.0**
ANN *e**SS **SKKSac** **12 01 32.7 +0.9**
ANN pmax pmax
comp=Z,100nm,1.0s
OBN Obninsk 88.54 325⇑ *e*P **P** **11 50 54.8 -0.1**
OBN *e* 11 54 20.5
OBN *i*S **SKSac** **12 01 27.2 +6.6**
OBN *e*PS **PS** **12 02 52.3 +5.8**
OBN *e*SS **SS** **12 07 33.0 +4.2**
OBN pmax pmax
comp=Z,71nm,1.0s
OBN MLR MLR
comp=Z,4µm,21.0s
GZT Gaziantep 88.75 307 *i*P **P** **11 50 59.8 +3.2**
SCER sogukcermik 88.97 310 *i*P P 11 51 01.1 +3.5
APA Apatity 89.12 336⇓ *i*P **P** **11 50 59.4 +2.0**
APA *i* 12 01 22.0
APA *i*S **S** **12 01 42.0 -0.8**
APA MLR MLR
comp=Z,5µm,29.0s
ZALF Zalf 89.17 303 *e*P **P** **11 51 01.1 +2.6**
ASF Jabal al Asfar 89.58 302 P **P** **11 50 59.9 -0.6**
ASF Jabal al Asfar 89.58 302 P **P** **11 50 59.9 -0.6**
comp=Z,21nm,0.9s,baz=45,slow=2.8,SNR=25
HAWK Haweek 89.85 304 *e*P P 11 51 05.7 +4.0
ARNB Al Arnab 90.12 306 *e*P P 11 51 09.0 +6.1
INK Inuvik 90.29 22 *e*P **P** **11 51 01.9 -0.9**
comp=Z,23nm,1.4s
INK PKKPbc **PKKPdf** **12 08 31.9 +1.7**
INK Inuvik 90.29 22 P **P** **11 51 01.8 -1.1**
comp=Z,4.4nm,0.6s,baz=47,slow=3.5,SNR=8.8
INK PKKPbc **PKKPdf** **12 08 31.9 +1.7**
comp=Z,2.8nm,0.8s,baz=83,slow=6.5,SNR=3.9
BRBR Barbar 90.30 303 *e*P P 11 51 07.3 +3.4
JOF Joensuu 90.53 333 *e*P **P** **11 51 01.3 -2.8**
JOF pmax pmax
comp=Z,15nm,0.7s
JOF Joensuu 90.53 333 *e*p **P** **11 51 01.3 -2.8**
comp=Z,15nm,0.7s
MMAI Mount Meron Ar 90.78 303 P **P** **11 51 06.7 +0.7**
MMAI Mount Meron Ar 90.78 303 P **P** **11 51 06.7 +0.7**
comp=Z,16nm,0.9s,baz=82,slow=6.2,SNR=13
SIM Simferopol' 90.84 315 *e*P P 11 51 10.6 +4.6
SIM *e* 11 54 43.0
SIM *e* 12 01 33.0
SIM *e*S **S** **12 01 57.0 -2.7**
SIM pmax pmax
comp=Z,37nm,0.8s
SIM pmax pmax
comp=Z,250nm,9.6s
GULE Gulek 90.98 307 *i*P **P** **11 51 09.1 +2.1**
KMBO Kilima Mbogo 91.06 269 P **P** **11 51 09.7 +1.8**
SNR=7.8
KMBO Kilima Mbogo 91.06 269 *e*P **P** **11 51 09.0 +1.1**
comp=Z,28nm,1.2s
KMBO LR LR
comp=Z,874nm,20.0s
KMBO Kilima Mbogo 91.06 269 P **P** **11 51 07.3 -0.6**
comp=Z,7.2nm,0.9s,baz=59,slow=4.8,SNR=11
KEV Kevo 91.10 340 *e*P **P** **11 51 05.3 -1.3**
KEV pmax pmax
comp=Z,8.0nm,0.8s
KEV Kevo 91.10 340 *e*p **P** **11 51 05.3 -1.3**
comp=Z,8.2nm,0.8s
KEV Kevo 91.10 340 PFAKE 11 51 20.0 +13
KEV LR LR
comp=Z,5µm,22.0s
EIL Elat 91.41 300 P **P** **11 51 09.2 +0.2**
EIL Elat 91.41 300 ⇓P **P** **11 51 09.7 +0.7**
baz=91,SNR=4.4
EIL Elat 91.41 300 P **P** **11 51 09.2 +0.2**
comp=Z,6.4nm,0.8s,baz=342,slow=5.4,SNR=5.7
SPITS Spitsbergen Ar 91.50 349 P **P** **11 51 06.8 -1.5**
SPITS Spitsbergen Ar 91.50 349 P **P** **11 51 06.8 -1.5**
comp=Z,12nm,0.8s,baz=91,slow=8.3,SNR=7.7
BR131 Keskin Array S 91.66 310 *e*P **P** **11 51 10.5 +0.4**
comp=Z,9.9nm,0.8s
BRTR Keskin Array B 91.66 310 P **P** **11 51 08.6 -1.5**
BRTR PP PP 11 54 43.8 -5.1
BRTR PKKPbc **PKKPbc** **12 08 30.9 +0.4**
BRTR Keskin Array B 91.66 310 P **P** **11 51 08.6 -1.5**
comp=Z,5.7nm,0.8s,baz=111,slow=3.5,SNR=26
BRTR PP PP 11 54 43.8 -5.1
comp=Z,3.9nm,0.9s,baz=81,slow=8.1,SNR=4.3
BRTR PKKPbc **PKKPbc** **12 08 30.9 +0.4**
comp=Z,0.3nm,0.3s,baz=240,slow=4.8,SNR=2.3
BRTR LR LR 12 37 53.9
comp=Z,585nm,21.5s,baz=62,slow=39
ARCES ARCESS Array B 91.67 340 P **P** **11 51 06.9 -2.3**
ARCES PKiKP **PKiKP** **11 55 59.6 -0.7**
ARCES ARCESS Array B 91.67 340 P **P** **11 51 06.9 -2.3**
comp=Z,15nm,0.8s,baz=103,slow=5.4,SNR=23
ARCES PKiKP **PKiKP** **11 55 59.6 -0.7**
comp=Z,3.1nm,0.8s,baz=85,slow=2.0,SNR=3.6
ARCES LR LR 12 37 51.1
comp=Z,3µm,21.6s,baz=76,slow=39
ARE0 ARCESS Array S 91.67 340 *e*P **P** **11 51 10.2 +0.9**
KBS Kingsbay 92.00 350 PFAKE 11 51 20.0 +9.4
KBS LR LR
comp=Z,3µm,21.0s
ANTO Ankara 92.30 310 PFAKE 11 51 20.0 +7.1
ANTO LR LR
comp=Z,760nm,20.0s
CSS Prodhromos 92.34 305 *e*P **P** **11 51 14.2 +1.0**
comp=Z,32nm,0.8s
CSS LR LR
comp=Z,777nm,22.0s
WRAK Wrangell Islan 92.73 33 PFAKE 11 51 30.0 +16
WRAK LR LR
comp=Z,1µm,20.0s
QSPA South Pole Qui 92.90 180 *e*P **P** **11 51 14.0 -1.1**
comp=Z,58nm,1.0s
QSPA LR LR
comp=Z,2µm,19.0s
QSPA South Pole Qui 92.90 180 P **P** **11 51 14.0 -1.1**
comp=Z,38nm,0.9s
KAF Kangasniemi 92.95 333 *e*P **P** **11 51 15.1 -0.2**
KAF pmax pmax
comp=Z,7.0nm,0.6s
KAF Kangasniemi 92.95 333 *e*p **P** **11 51 15.1 -0.2**
comp=Z,6.5nm,0.6s
GAZI Gazipasa 93.04 306 *i*P **P** **11 51 17.2 +0.9**
H12S1 DAWSON INLET T 93.18 36 T T 13 34 51.1
FINES FINESS Array B 93.20 332 P **P** **11 51 14.2 -2.3**
FINES FINESS Array B 93.20 332 P **P** **11 51 14.2 -2.3**
comp=Z,5.2nm,0.6s,baz=48,slow=5.2,SNR=12
FINES LR LR 12 36 25.0
comp=Z,3µm,21.7s,baz=78,slow=38
AKASG Malin Array Be 93.42 321 P **P** **11 51 15.8 -1.9**
AKASG pmax pmax
comp=Z,14nm,0.8s
AKASG pmax pmax
comp=Z,4.0nm,0.9s
AKASG Malin Array Be 93.42 321 P **P** **11 51 15.8 -1.9**
AKASG PP PP 11 55 26.0 +24
AKASG Malin Array Be 93.42 321 P **P** **11 51 15.8 -1.9**
comp=Z,14nm,0.8s,baz=70,slow=4.3,SNR=37
AKASG PP PP 11 55 26.0 +24
comp=Z,3.5nm,0.9s,baz=64,slow=7.9,SNR=5.3
AKASG LR LR 12 39 41.7
comp=Z,1µm,18.2s,baz=60,slow=40
KIEV Kiev 93.43 321 *e*P **P** **11 51 17.6 -0.2**
KIEV pmax pmax
comp=Z,21nm,1.0s
KIEV MLR MLR
comp=Z,2µm,20.0s
KIEV Kiev 93.43 321 *e*P **P** **11 51 17.6 -0.2**
comp=Z,21nm,1.0s
KIEV LR LR
comp=Z,2µm,20.0s
VSU Vasula 93.48 329 *i*P **P** **11 51 17.8 0.0**
VSU pmax pmax
comp=Z,106nm,1.4s
VSU MLR MLR
comp=Z,8µm,23.0s
DLBC Dease Lake 93.60 31 *e*P **P** **11 51 19.4 +0.9**
DLBC Dease Lake 93.60 31 P **P** **11 51 19.1 +0.6**
comp=Z,4.8nm,0.9s,baz=301,slow=4.6,SNR=4.5
MICGM Minsk 93.60 325 *e*P **P** **11 51 18.0 -0.5**
MNK Minsk 93.63 325 *e*P **P** **11 51 18.0 -0.6**
MNK *e* 12 01 48.0
MNK *e*S S 12 02 14.0 -10
MNK MLR MLR
comp=Z,5µm,20.0s
NACGM Naroch 94.16 325 *e*P P 11 51 15.0 -6.0
ISP Isparta 94.29 308 PFAKE 11 51 30.0 +7.8
ISP LR LR
comp=Z,1µm,22.0s
TLCR 94.54 316⇑ *i*P **P** **11 51 24.5 +1.5**
TIRR Tirgusor 94.94 315⇓ *i*P **P** **11 51 25.4 +0.6**
CFR Carcaliu 95.02 316⇑ *i*P **P** **11 51 25.3 +0.1**

TLB **Topalu** **95.18 315** ⇓*i*P **P** **11 51 26.1 +0.2**
TESR **Tescani** **95.81 317** ⇓*i*P **P** **11 51 29.7 +0.9**
VRI **Vrincioaia** **95.88 317** ⇑*i*P **P** **11 51 30.6 +1.5**
PLOR **Plostina** **95.93 317** ⇓*i*P **P** **11 51 31.3 +1.9**
BURAR **Bucovina Array** **96.56 318** ⇓*i*P **P** **11 51 33.3 +1.0**
BUR08 **Bucovina Ar. S** **96.57 318** *e*P **P** **11 51 33.6 +1.2**
LVV **L'vov** **96.86 321** *e*P **P** **11 51 36.3 +2.8**
LVV *e* 11 55 36.3
LVV *e*PPP PPP 11 57 36.7
LVV *e* 12 02 05.7
LVV *i* S **S** **12 02 56.3 +3.7**
LVV *e*PS **PS** **12 04 24.3 +5.6**
LVV *e*SS **SS** **12 09 28.5 +0.1**
RKT **Rikitea** **97.39 113** *e*SS SS 12 09 33.7 -3.8
comp=Z,1μm,31.8s
RKT **Rikitea** **97.39 113** *e*LR LR 12 23 22.8
comp=Z,3μm,26.8s
ARR **Arges** **97.41 316** ⇓*i*P **P** **11 51 34.6 -1.6**
MBAR **Mbarara** **97.53 270** P **P** **11 51 37.6 +0.1**
MBAR LR LR
comp=Z,533nm,19.0s
MBAR **Mbarara** **97.53 270** P **P** **11 51 37.6 +0.1**
comp=Z,1.8nm,0.2s,baz=45,slow=2.9,SNR=1.7
KWP **Kalwaria Pacla** **97.74 321** ⇑*i*P Pdif 11 51 39.2 +1.7
KWP **Kalwaria Pacla** **97.74 321** PFAKE 11 51 50.0 +12
KWP LR LR
comp=Z,2μm,20.0s
KOLS **Kolonicke sedl** **98.19 320** *e*P Pdif 11 51 41.9 +2.4
KOLS **Kolonicke sedl** **98.19 320** *e*P Pdif 11 51 41.9 +2.4
UZH **Uzhgorod** **98.25 320** *e*P Pdif 11 51 42.7 +2.9
UZH *e* 11 51 57.9
UZH *e* 12 02 11.3
UZH *e*S **S** **12 03 03.1 -1.3**
SANT **Santorini** **98.50 307** PFAKE 11 51 50.0 +8.7
SANT LR LR
comp=Z,1μm,20.0s
STHS **Stebnicka Huta** **98.72 321** *e*P Pdif 11 51 44.6 +2.7
STHS **Stebnicka Huta** **98.72 321** PDIF Pdif 11 51 44.6 +2.7
VTS **Vitosha** **99.00 314** ⇑*i*P **Pdif** **11 51 44.4 +0.9**
IDI **Anoyia** **99.15 306** P **Pdif** **11 51 40.6 -3.6**
IDI **Anoyia** **99.15 306** P **Pdif** **11 51 40.6 -3.6**
comp=Z,16nm,0.8s,baz=7.6,slow=15,SNR=2.8
HFS **Hagfors** **99.38 333** P **Pdif** **11 51 42.1 -2.5**
HFS **Hagfors** **99.38 333** P **Pdif** **11 51 42.1 -2.5**
comp=Z,11nm,0.9s,baz=113,slow=3.4,SNR=7.0
YKA **Yellowknife Ar** **99.54 25** P **Pdif** **11 51 44.0 -1.2**
YKA **Yellowknife Ar** **99.54 25** P **Pdif** **11 51 44.0 -1.2**
comp=Z,1.5nm,0.6s,baz=297,slow=4.5,SNR=6.0
NLWA **Neilton Lookou** **99.81 41** PFAKE 11 52 00.0 +13
NLWA LR LR
comp=Z,3μm,21.0s
PSZ **Piszkesteto** **99.98 320** PFAKE 11 52 00.0 +12
PSZ LR LR
comp=Z,1μm,21.0s
NB2 **NORSAR Subarra** **100.12 334** P **Pdif** **11 51 45.9 -2.0**
comp=Z,8.3nm,0.8s,baz=66,slow=4.6
NB2 **NORSAR Subarra** **100.12 334** P **Pdif** **11 51 45.9 -2.0**
baz=66,slow=4.6
NOA **NORSAR Array B** **100.12 334** P **Pdif** **11 51 45.8 -2.1**
NOA PP **PP** **11 55 55.5 +2.1**
NOA PKiKP **PKiKP** **11 56 12.2 -3.1**
NOA **NORSAR Array B** **100.12 334** P **Pdif** **11 51 45.8 -2.1**
comp=Z,7.5nm,0.8s,baz=66,slow=4.6,SNR=16
NOA PP **PP** **11 55 55.4 +2.1**
comp=Z,1.6nm,0.8s,baz=67,slow=8.1,SNR=4.1
NOA PKiKP **PKiKP** **11 56 12.2 -3.1**
comp=Z,2.3nm,0.8s,baz=75,slow=4.3,SNR=3.7
LSZ **Lusaka** **100.48 255** *e*Pdif **Pdif** **11 51 49.8 -0.8**
comp=Z,12nm,1.1s
LSZ LR LR
comp=Z,1μm,20.0s
OKC **Ostrava-Krasne** **100.53 322** *ex* SKKSac 12 03 09.2 +9.0
OKC AMS AMS 12 50 20.0
comp=Z,2μm,21.0s
MAIT **Maitri** **101.33 198** *e*P **Pdif** **11 51 51.9 -1.1**
KONO **Kongsberg** **101.45 333** PFAKE 11 52 10.0 +16
KONO LR LR
comp=Z,4μm,22.0s
DPC **Dobruska-Polom** **101.49 323** *e*PP PP 11 56 03.4 -0.7
DPC *ex* x 11 56 12.2
DPC *ex* x 11 56 22.4
DPC *e*SDIF 12 03 29.9
DPC AMS AMS 12 40 10.0
UPC **Upice** **101.62 323** *e*PP PP 11 56 08.4 +3.3
UPC *ep*PKP PKiKP 11 56 24.7 +6.4
TIR **Tirane** **101.72 313** PFAKE 11 52 10.0 +15
TIR LR LR
comp=Z,1μm,20.0s
YBH **Yreka Blue Hor** **102.09 46** PP PP 11 56 10.7 +1.6
YBH **Yreka Blue Hor** **102.09 46** PP PP 11 56 10.7 +1.6
comp=Z,1.1nm,0.7s,baz=293,slow=7.7,SNR=3.1
TREC **Trest** **102.35 322** AMS AMS 12 40 10.0
comp=Z,2μm,20.5s
PVCC **Panska Ves** **102.48 323** *e*PP PP 11 56 15.3 +3.8
PVCC *ep*PKP PKiKP 11 56 31.2 +11
PVCC AMS AMS 12 40 50.0
comp=Z,3μm,18.5s
PRU **Pruhonice** **102.69 323** *e*PP PP 11 56 16.8 +3.7
PRU *ep*PKP PKiKP 11 56 32.0 +12
PRU *e*SDIF 12 03 41.4
PRU *ex* x 12 11 05.9
PRU AMS AMS 12 41 00.0
comp=Z,2μm,19.3s
PRA **Prague** **102.73 323** PP PP 11 56 18.0 +4.7
PRA AMS AMS 12 41 30.0
BRG **Berggiesshubel** **102.73 324** *e*PDIF **Pdif** **11 52 01.3 +1.6**
comp=Z,6.8nm,1.0s
BRG *e* 11 52 17.1
comp=Z,13nm,1.2s
BRG PP **PKiKP** **11 56 17.0 -3.3**
BRG *e*PKS PP 11 56 31.0 +18
comp=Z,164nm,2.2s
BRG SKS 12 02 01.0
BRG SDIFF **Sdif** **12 03 41.0 -0.9**
BRG
comp=N,1μm,17.5s
BRG
comp=E,2μm,20.0s
BRG
comp=Z,3μm,20.8s
BRG **Berggiesshubel** **102.73 324** *e*P **Pdif** **11 52 01.3 +1.6**
BRG 11 56 17.0
BRG S **Sdif** **12 03 41.0 -0.9**
BRG pmax pmax
comp=Z,7.0nm,1.0s
BRG pmax pmax
comp=Z,13nm,1.2s
BRG pmax pmax
comp=Z,164nm,2.2s
BRG MLR MLR
comp=N,1μm,17.5s
BRG MLR MLR
comp=E,2μm,20.0s
BRG MLR MLR
comp=Z,3μm,20.8s
BOSA **Boshof** **102.83 241** Pdif **Pdif** **11 52 01.4 +0.6**
BOSA **Boshof** **102.83 241** Pdiff **Pdif** **11 52 01.4 +0.6**
comp=Z,2.0nm,0.8s,baz=166,slow=4.2,SNR=2.3
HAWA **Hanford** **102.94 41** PFAKE 11 52 10.0 +9.2
HAWA LR LR
comp=Z,3μm,20.0s
CLL **Collm** **103.13 324** *e*P **Pdif** **11 51 57.0 -4.4**
CLL *e* 12 02 39.0
CLL *e*S **Sdif** **12 03 45.0 -0.1**
CLL MLR MLR
comp=Z,2μm,21.6s
CLL **Collm** **103.13 324** *e*PP PP 11 56 15.0 -1.2
CLL *e*(pPP) 11 56 24.0
CLL *es*PP 11 56 32.0
CLL *e*PPP PPP 11 58 26.0
CLL *e*SKSac **SKSac** **12 02 39.0 +1.1**
CLL *e*Sdif **Sdif** **12 03 45.0 -0.1**
CLL *e*PS **PS** **12 05 19.0 -6.8**
CLL *e*PPS PPS 12 06 14.0
CLL *e*SS **SS** **12 11 01.0 +5.5**
CLL L L 12 49 00.0
comp=Z,2μm,21.6s
SOKA **Soboth** **103.51 319** ⇑*i*sPKiKP sPKiKP 11 56 36.5 -3.4
comp=Z,52nm,1.6s
KHC **Kasperske Hory** **103.58 322** *e*PP PP 11 56 18.8 -1.0
KHC *ex* x 11 56 23.3
KHC *ex* x 11 56 36.4
KHC *e*SKS 12 02 39.8
KHC *e*SDIF **Sdif** **12 03 49.4 +0.2**
KHC *e*SKKP 12 11 26.0
KHC AMS AMS 12 41 30.0
comp=Z,3μm,23.7s
GERES **GERESS Array B** **103.61 322** Pdif **Pdif** **11 52 02.8 -1.0**
GERES PP **PP** **11 56 17.3 -2.7**
GERES PKKP **PKKPdf** **12 08 09.0 +3.0**
GERES **GERESS Array B** **103.61 322** Pdiff **Pdif** **11 52 02.8 -1.0**
comp=Z,0.5nm,0.2s,baz=72,slow=4.3,SNR=6.1
GERES PP **PP** **11 56 17.3 -2.7**
comp=Z,0.6nm,0.2s,baz=80,slow=7.2,SNR=4.9
GERES PKKP **PKKPdf** **12 08 09.0 +3.0**
comp=Z,0.4nm,0.4s,baz=329,slow=1.7,SNR=3.5
NEW **Newport** **103.86 39** PKKPbc PKKPbc 12 07 53.0 -4.0
NEW LR LR
comp=Z,3μm,22.0s
NEW **Newport** **103.86 39** PKKPbc PKKPbc 12 07 53.0 -4.0
comp=Z,1.4nm,0.5s,baz=37,slow=5.1,SNR=3.1
WVOR **Wild Horse Val** **104.80 45** PFAKE 11 52 20.0 +11
WVOR LR LR
comp=Z,2μm,20.0s
SNAA **Sanae** **104.88 194** *e*Pdif **Pdif** **11 52 09.0 +0.1**
comp=Z,6.5nm,1.1s
SNAA PKKPbc **PKKPbc** **12 07 50.9 -3.8**
SNAA **Sanae** **104.88 194** PKKPbc PKKPbc 12 07 50.9 -3.8
comp=Z,1.7nm,0.8s,baz=345,slow=1.2,SNR=13
BMO **Blue Mountains** **104.93 42** PFAKE 11 52 20.0 +10
BMO LR LR
comp=Z,3μm,22.0s
CUC **Castrocucco** **105.05 313** PFAKE 11 56 40.0
CUC LR LR
comp=Z,2μm,22.0s
WTTA **Wattenberg** **105.47 321** ⇓*i*sPKiKP sPKiKP 11 56 39.3 -4.3
comp=Z,21nm,0.9s
CEL **Celeste** **105.49 311** PFAKE 11 56 40.0
CEL LR LR
comp=Z,843nm,22.0s
FETA **Feichten** **106.14 321** ⇑*i*PKiKP **PKiKP** **11 56 29.0 +2.1**
comp=Z,6.4nm,1.0s
NVAR **Mina Array Bea** **106.26 49** Pdif **Pdif** **11 52 16.4 +0.4**
NVAR PKiKP **PKiKP** **11 56 29.2 +1.8**
NVAR PKKPbc **PKKPbc** **12 07 48.5 -1.1**
NVAR **Mina Array Bea** **106.26 49** Pdiff **Pdif** **11 52 16.4 +0.4**
comp=Z,0.6nm,0.7s,baz=270,slow=5.4,SNR=3.6
NVAR PKiKP **PKiKP** **11 56 29.2 +1.8**
comp=Z,1.0nm,0.7s,baz=252,slow=1.8,SNR=3.7
NVAR PKKPbc **PKKPbc** **12 07 48.5 -1.1**
comp=Z,0.8nm,0.7s,baz=146,slow=4.2,SNR=4.9
SUR **Sutherland** **106.31 237** PFAKE 11 56 40.0
SUR LR LR
comp=Z,1μm,19.0s
BMN **Battle Mountai** **106.44 46** PFAKE 11 56 40.0
BMN LR LR
comp=Z,3μm,20.0s
DAVA **Damuels** **106.57 321** ⇑*i*PKiKP **PKiKP** **11 56 30.3 +2.7**
comp=Z,7.6nm,0.9s
BFO **Black Forest** **107.09 323** PFAKE 11 56 40.0
BFO LR LR
comp=Z,2μm,21.0s
TPH **Tonopah** **107.18 49** PFAKE 11 56 40.0
TPH LR LR
comp=Z,1μm,19.0s
TUE **Stuetta** **107.23 321** PFAKE 11 56 40.0
TUE LR LR
comp=Z,3μm,22.0s
HLID **Hailey** **107.33 43** PFAKE 11 56 40.0
HLID LR LR
comp=Z,3μm,21.0s
VLC **Villacollemand** **107.46 318** PFAKE 11 56 40.0
VLC LR LR
comp=Z,2μm,21.0s
WLF **Walferdange** **107.79 325** PFAKE 11 56 40.0
WLF LR LR
comp=Z,2μm,22.0s
ECH **Echery** **107.85 323** PFAKE 11 56 40.0
ECH LR LR
comp=Z,2μm,21.0s
HINF **Hinteralfeld** **108.21 323** *e*PKiKP **PKiKP** **11 56 30.1 -0.5**
comp=Z,5.3nm,0.5s
HINF **Hinteralfeld** **108.21 323** *e*PKPdf **PKiKP** **11 56 30.1 -0.5**
GIVF **Givet** **108.34 326** *e*PKiKP **PKiKP** **11 56 30.2 -0.5**
GIVF **Givet** **108.34 326** *e*PKPdf **PKiKP** **11 56 30.2 -0.5**
HAU **Haudompre** **108.43 323** *e*PKiKP **PKiKP** **11 56 30.3 -0.6**
HAU **Haudompre** **108.43 323** *e*PKPdf **PKiKP** **11 56 30.3 -0.6**
EGMT **Eagleton** **108.47 37** PFAKE 11 56 40.0
EGMT LR LR
comp=Z,2μm,20.0s
PAGF **Fort de Pagny** **108.55 324** *e*PKiKP **PKiKP** **11 56 30.6 -0.5**
PAGF **Fort de Pagny** **108.55 324** *e*PKPdf **PKiKP** **11 56 30.6 -0.5**
BAIF **Baives** **108.71 326** *e*PKiKP **PKiKP** **11 56 30.9 -0.4**
BAIF **Baives** **108.71 326** *e*PKPdf **PKiKP** **11 56 30.9 -0.4**
PFO **Pinyon Flat Ob** **109.12 53** PP PP 11 57 02.4 +1.1
PFO LR LR
comp=Z,1μm,21.0s
PFO **Pinyon Flat Ob** **109.12 53** PP PP 11 57 02.4 +1.1
comp=Z,1.3nm,0.3s,baz=275,slow=8.1,SNR=4.3
FFC **Flin Flon** **109.17 28** PFAKE 11 56 40.0
FFC LR LR
comp=Z,2μm,22.0s
CABF **La Chapelle** **109.21 322** *e*PKiKP **PKiKP** **11 56 32.0 -0.5**
comp=Z,39nm,1.2s
CABF **La Chapelle** **109.21 322** *e*PKPdf **PKiKP** **11 56 32.0 -0.5**
LPG **La Plagne** **109.28 321** *e*PKiKP **PKiKP** **11 56 32.4 -0.6**
comp=Z,11nm,0.8s
LPG **La Plagne** **109.28 321** *e*PKPdf **PKiKP** **11 56 32.4 -0.6**
BNI **Bardonecchia** **109.52 320** PFAKE 11 56 40.0
BNI LR LR
comp=Z,3μm,22.0s
LKWY **Lake** **109.58 40** PFAKE 11 56 50.0
LKWY LR LR
comp=Z,4μm,21.0s
ESK **Eskdalemuir** **109.60 333** PFAKE 11 56 40.0
ESK LR LR
comp=Z,2μm,21.0s
DUG **Dugway** **109.69 45** PFAKE 11 56 50.0
DUG LR LR
comp=Z,2μm,21.0s
AHID **Auburn Hatcher** **109.87 42** PFAKE 11 56 50.0
AHID LR LR
comp=Z,2μm,20.0s
VSL **Villasalto** **109.90 314** PFAKE 11 56 50.0
VSL LR LR
comp=Z,2μm,20.0s
RLMT **Red Lodge** **110.07 39** PFAKE 11 56 50.0
RLMT LR LR
comp=Z,2μm,22.0s
SFJD **Kangerlussuaq** **110.17 360** PFAKE 11 56 50.0
SFJD LR LR
comp=Z,2μm,21.0s
LOR **Lormes** **110.26 323** *e*PKiKP **PKiKP** **11 56 34.0 -0.4**
LOR **Lormes** **110.26 323** *e*PKPdf **PKiKP** **11 56 34.0 -0.4**
TSUM **Tsumeb** **110.49 251** PFAKE 11 56 50.0
TSUM LR LR
comp=Z,1μm,22.0s
SMF **Signal de Mont** **110.57 323** *e*PKiKP **PKiKP** **11 56 34.4 -0.6**
SMF **Signal de Mont** **110.57 323** *e*PKiKP **PKiKP** **11 56 34.4 -0.6**
SMF **Signal de Mont** **110.57 323** *e*PKPdf **PKiKP** **11 56 34.4 -0.6**
SSF **Saint Saulge** **110.57 323** *e*PKiKP **PKiKP** **11 56 35.2 +0.2**
comp=Z,9.2nm,0.8s
SSF **Saint Saulge** **110.57 323** *e*PKiKP **PKiKP** **11 56 35.2 +0.2**
SSF **Saint Saulge** **110.57 323** *e*PKPdf **PKiKP** **11 56 35.2 +0.2**
MVU **Marysvale** **110.74 47** PFAKE 11 56 50.0
MVU LR LR
comp=Z,3μm,22.0s
SSB **Saint Sauveur** **110.77 321** PFAKE 11 56 50.0
SSB LR LR
comp=Z,1μm,20.0s
AVF **Avril sur Loir** **110.79 323** *e*PKiKP **PKiKP** **11 56 35.1 -0.3**
AVF **Avril sur Loir** **110.79 323** *e*PKiKP **PKiKP** **11 56 35.1 -0.3**
AVF **Avril sur Loir** **110.79 323** *e*PKPdf **PKiKP** **11 56 35.1 -0.3**
BW06 **Boulder Array** **110.90 42** PFAKE 11 56 50.0
BW06 LR LR
comp=Z,3μm,22.0s
PDAR **Pinedale Array** **110.90 42** PKiKP **PKiKP** **11 56 37.1 +1.1**
PDAR PP **PP** **11 57 14.9 +1.1**
PDAR PKKPbc **PKKPbc** **12 07 33.9 -1.1**
PDAR PKKPab **PKKPab** **12 07 42.2 -2.5**
PDAR **Pinedale Array** **110.90 42** PKiKP **PKiKP** **11 56 37.1 +1.1**
comp=Z,0.6nm,0.7s,baz=193,slow=2.8,SNR=4.5
PDAR PP **PP** **11 57 14.9 +1.1**
comp=Z,1.0nm,0.9s,baz=239,slow=10,SNR=4.2
PDAR PKKPbc **PKKPbc** **12 07 33.9 -1.1**
comp=Z,1.9nm,0.9s,baz=116,slow=3.9,SNR=7.2
PDAR PKKPab **PKKPab** **12 07 42.2 -2.5**
comp=Z,4.7nm,0.9s,baz=119,slow=5.2,SNR=12
LAO **LASA Array** **111.22 37** PFAKE 11 56 50.0
LAO LR LR
comp=Z,2μm,21.0s
KEST **Kesra** **111.26 310** PP PP 11 57 18.4 +1.9
KEST PKKPab **PKKPab** **12 07 43.3 +0.3**
KEST **Kesra** **111.26 310** PP PP 11 57 18.4 +1.9
comp=Z,4.5nm,0.8s,baz=62,slow=5.1,SNR=6.8
KEST PKKPab **PKKPab** **12 07 43.3 +0.3**
comp=Z,2.8nm,0.8s,baz=319,slow=1.7,SNR=5.9
DGMT **Dagmar** **111.50 35** PFAKE 11 56 50.0
DGMT LR LR
comp=Z,2μm,22.0s
TCF **Toulx Ste Croi** **111.73 323** *e*PKiKP **PKiKP** **11 56 37.0 -0.2**
TCF **Toulx Ste Croi** **111.73 323** *e*PKiKP **PKiKP** **11 56 37.0 -0.2**
TCF **Toulx Ste Croi** **111.73 323** *e*PKPdf **PKiKP** **11 56 37.0 -0.2**
FLN **La Foliniere** **112.00 326** *e*PKiKP **PKiKP** **11 56 37.1 -0.5**
FLN **La Foliniere** **112.00 326** *e*PKiKP **PKiKP** **11 56 37.1 -0.5**
FLN **La Foliniere** **112.00 326** *e*PKPdf **PKiKP** **11 56 37.1 -0.5**
GRR **Gorron** **112.42 326** *e*PKiKP **PKiKP** **11 56 38.4 0.0**
GRR **Gorron** **112.42 326** *e*PKiKP **PKiKP** **11 56 38.4 0.0**
GRR **Gorron** **112.42 326** *e*PKPdf **PKiKP** **11 56 38.4 0.0**
WUAZ **Wupatki** **112.46 50** PFAKE 11 56 50.0
WUAZ LR LR
comp=Z,2μm,20.0s
CAF **Calviac** **112.48 322** *e*PKiKP **PKiKP** **11 56 38.6 -0.1**
CAF **Calviac** **112.48 322** *e*PKiKP **PKiKP** **11 56 38.6 -0.1**
CAF **Calviac** **112.48 322** *e*PKPdf **PKiKP** **11 56 38.6 -0.1**
MFF **Saint Martin d** **112.97 324** *e*PKiKP **PKiKP** **11 56 39.3 -0.2**
comp=Z,16nm,0.8s
MFF **Saint Martin d** **112.97 324** *e*PKiKP **PKiKP** **11 56 39.3 -0.2**
MFF **Saint Martin d** **112.97 324** *e*PKPdf **PKiKP** **11 56 39.3 -0.2**
SGMF **Saint Gilles** **113.43 327** *e*PKiKP **PKiKP** **11 56 40.2 -0.1**
SGMF **Saint Gilles** **113.43 327** *e*PKiKP **PKiKP** **11 56 40.2 -0.1**
SGMF **Saint Gilles** **113.43 327** *e*PKPdf **PKiKP** **11 56 40.2 -0.1**
PV01 **Paradox Valley** **113.53 46** *e*PKPdf **PKiKP** **11 56 40.6 -0.5**
RSSD **Black Hills** **113.83 39** *e*PKiKP **PKiKP** **11 56 40.8 -0.8**
RSSD **Black Hills** **113.83 39** *e*PKPdf **PKiKP** **11 56 40.8 -0.8**
MVCO **Mesa Verde** **113.95 47** PFAKE 11 56 50.0
MVCO LR LR
comp=Z,2μm,20.0s
QUIF **Quistinic** **113.96 326** *e*PKiKP **PKiKP** **11 56 41.3 0.0**
QUIF **Quistinic** **113.96 326** *e*PKiKP **PKiKP** **11 56 41.3 0.0**
QUIF **Quistinic** **113.96 326** *e*PKPdf **PKiKP** **11 56 41.3 0.0**
TUC **Tucson** **114.05 53** PFAKE 11 56 50.0 +7.9
TUC LR LR
comp=Z,2μm,21.0s
ULM **Lac du Bonnet** **114.87 30** PKP PKPdf 11 56 42.1 -0.9
ULM PKKPbc **PKKPbc** **12 07 22.7 +1.0**
ULM **Lac du Bonnet** **114.87 30** PKP PKPdf 11 56 42.1 -0.9
comp=Z,3.1nm,0.6s,baz=162,slow=6.0,SNR=4.1
ULM PKKPbc **PKKPbc** **12 07 22.7 +1.0**
comp=Z,6.6nm,0.9s,baz=225,slow=4.3,SNR=3.0
ISCO **Idaho Springs** **114.88 43** *e*PKiKP PKPdf 11 56 44.4 +0.6
ISCO MLR MLR
comp=Z,2μm,20.0s
ISCO **Idaho Springs** **114.88 43** *e*PKPdf PKPdf 11 56 44.4 +0.6
ISCO LR LR
comp=Z,2μm,20.0s
SDCO **Great Sand Dun** **115.88 45** PFAKE 11 57 00.0 +14
SDCO LR LR
comp=Z,2μm,22.0s
AGMN **Agassiz Nation** **116.12 31** PFAKE 11 57 00.0 +14
AGMN LR LR
comp=Z,3μm,22.0s
ANMO **Albuquerque** **116.39 48** PKP **PKPdf** **11 56 45.4 -1.3**
ANMO LR LR
comp=Z,2μm,21.0s
ANMO **Albuquerque** **116.39 48** PKP **PKPdf** **11 56 45.4 -1.3**
comp=Z,0.5nm,0.5s,baz=313,slow=2.1,SNR=3.1
BNM **Barren Site** **116.59 49** *e*PKPdf **PKPdf** **11 56 47.7 +0.5**
PMSA **Palmer Station** **117.70 174** PFAKE 11 57 00.0 +12
PMSA LR LR
comp=Z,5μm,21.0s
ECSD **EROS Data Cent** **118.52 36** *e*PKPdf **PKPdf** **11 56 48.9 -1.4**
ECSD LR LR
comp=Z,2μm,22.0s
MNTX **Cornudas Mount** **118.54 51** *e*PKPdf **PKPdf** **11 56 50.9 +0.2**
MNTX LR LR
comp=Z,2μm,21.0s
EYMN **Ely** **118.55 29** PFAKE 11 57 00.0 +10
EYMN LR LR
comp=Z,2μm,22.0s
TAM **Tamanrasset** **118.58 298** PFAKE 11 57 00.0 +8.8
TAM LR LR
comp=Z,642nm,22.0s
BGNE **Belgrade** **118.94 38** *e*PKPdf **PKPdf** **11 56 50.5 -0.7**
ESDC **Sonseca Array** **119.01 319** PKP **PKPdf** **11 56 52.1 +0.7**
ESDC PP **PP** **11 58 11.0 +0.3**
ESDC PKKPbc **PKKPbc** **12 07 06.0 -0.8**
ESDC **Sonseca Array** **119.01 319** PKP **PKPdf** **11 56 52.1 +0.7**
comp=Z,0.9nm,0.5s,baz=56,slow=2.7,SNR=3.4
ESDC PP **PP** **11 58 11.0 +0.3**
comp=Z,2.1nm,0.8s,baz=57,slow=7.2,SNR=4.9
ESDC PKKPbc **PKKPbc** **12 07 06.0 -0.8**
comp=Z,1.7nm,0.7s,baz=249,slow=4.0,SNR=6.5
PAB **San Pablo** **119.33 319** PFAKE 11 57 00.0 +7.9
PAB LR LR
comp=Z,2μm,20.0s
MSTX **Muleshoe** **119.56 48** *e*PKPdf **PKPdf** **11 56 53.2 +0.5**
MVO **Moncorvo** **120.12 322** *e*PKP **PKPdf** **11 56 55.7 +2.2**
POLO **Lamas de Olo** **120.46 323** *e*PKP **PKPdf** **11 56 56.2 +2.0**
PVRL **Vila Real** **120.47 323** *e*PKP **PKPdf** **11 56 57.1 +2.9**
TXAR **Lajitas Array** **120.84 53** PKP **PKPdf** **11 56 55.1 -0.2**
TXAR PKKPbc **PKKPab** **12 07 01.2 +0.3**
TXAR SKKPbc SKKPbc 12 10 43.6 -1.2
TXAR **Lajitas Array** **120.84 53** PKP **PKPdf** **11 56 55.1 -0.2**
comp=Z,4.8nm,0.8s,baz=343,slow=0.3,SNR=22
TXAR PKKPbc **PKKPab** **12 07 01.2 +0.3**
comp=Z,1.6nm,0.8s,baz=118,slow=7.0,SNR=11
TXAR SKKPbc SKKPbc 12 10 43.6 -1.2
comp=Z,0.5nm,0.9s,baz=119,slow=3.4,SNR=2.8
MTE **Manteigas** **120.88 322** *e*PKP **PKPdf** **11 56 56.4 +1.4**
MTE **Manteigas** **120.88 322** PFAKE 11 57 10.0 +15
MTE LR LR
comp=Z,2μm,22.0s
PVIS **Viseu** **120.92 322** *e*PKP **PKPdf** **11 56 57.1 +2.0**
SCHQ **Schefferville** **121.04 10** PKP **PKPdf** **11 56 53.0 -1.9**
SCHQ **Schefferville** **121.04 10** PKP **PKPdf** **11 56 53.0 -1.9**
comp=Z,6.0nm,0.9s,baz=352,slow=2.8,SNR=3.8
PCBR **Castelo Branco** **121.17 321** *e*PKP **PKPdf** **11 56 57.4 +1.9**
KSU1 **Kansas State U** **121.22 40** *e*PKPdf **PKPdf** **11 56 55.3 -0.3**
KSU1 LR LR
comp=Z,3μm,21.0s
PMRV **Marv??o** **121.35 321** *e*PKP **PKPdf** **11 56 58.8 +2.9**
SCIA **State Center** **121.61 35** PFAKE 11 57 10.0 +14
SCIA LR LR
comp=Z,3μm,21.0s
PTOM **Tomar** **121.88 321** *e*PKP **PKPdf** **11 56 59.5 +2.6**
PMTG **Montargil** **122.09 321** *e*PKP **PKPdf** **11 56 59.7 +2.4**
WMOK **Wichita Mounta** **122.09 45** *e*PKiKP **PKPdf** **11 56 57.1 -0.4**
WMOK MLR MLR
comp=Z,3μm,20.0s
WMOK **Wichita Mounta** **122.09 45** *e*PKPdf **PKPdf** **11 56 57.1 -0.4**
WMOK LR LR
comp=Z,3μm,20.0s
EVO **Evora** **122.26 320** ⇑*i*PKiKP **PKPdf** **11 57 00.5 +2.9**
comp=Z,44nm,1.2s
EVO **Evora** **122.26 320** *e*PKP **PKPdf** **11 57 00.3 +2.7**
EVOP **Sao Brissos** **122.34 320** ⇑*i*PKiKP **PKPdf** **11 57 00.5 +2.7**
EVOP **Sao Brissos** **122.34 320** ⇑*i*PKPdf **PKPdf** **11 57 00.5 +2.7**
PBEJ **Beja** **122.46 320** *e*PKP **PKPdf** **11 57 00.9 +2.9**
JFWS **Jewell Farm** **122.62 33** *e*PKiKP **PKPdf** **11 56 57.2 -1.0**
JFWS MLR MLR
comp=Z,3μm,22.0s
JFWS **Jewell Farm** **122.62 33** *e*PKPdf **PKPdf** **11 56 57.2 -1.0**
JFWS LR LR
comp=Z,3μm,22.0s
PCVE **Castro Verde** **122.80 319** *e*PKP **PKPdf** **11 57 00.7 +2.0**
PBDV **Barranco-do-Ve** **122.95 319** *e*PKP **PKPdf** **11 57 01.2 +2.2**
PTEO **Sao Teotonio** **123.29 320** *e*PKP **PKPdf** **11 57 02.1 +2.5**
JCT **Junction City** **123.38 50** *e*PKiKP **PKPdf** **11 57 00.0 -0.1**
JCT MLR MLR
comp=Z,2μm,22.0s
JCT **Junction City** **123.38 50** *e*PKPdf **PKPdf** **11 57 00.0 -0.1**
JCT LR LR
comp=Z,2μm,22.0s
MORF **Marmelete** **123.38 319** *e*PKP **PKPdf** **11 57 02.8 +2.9**
PFVI **Vila Bisbo** **123.60 319** *e*PKP **PKPdf** **11 57 02.6 +2.4**
RTC **Rabat Centre** **123.99 315** PFAKE 11 57 10.0 +8.9
RTC LR LR
comp=Z,1μm,22.0s
TOA0 **Torodi Ar. Sit** **124.59 288** *e*PKPdf **PKPdf** **11 57 02.9 +0.2**
TORD **Torodi Ar. Bea** **124.59 288** PKP **PKPdf** **11 57 01.9 -0.8**
TORD PP **PP** **11 58 49.6 -0.1**
TORD PKKPbc **PKKPab** **12 06 45.1 +0.3**

TORD SKKPbc SKKPbc 12 10 27.6 -4.3
TORD Torodi Ar. Bea 124.59 288 PKP **PKPdf 11 57 01.9 -0.8**
comp=Z,18nm,0.8s,baz=51,slow=1.8,SNR=56
TORD PP **PP 11 58 49.6 -0.1**
comp=Z,6.2nm,1.0s,baz=65,slow=6.7,SNR=3.6
TORD PKKPbc **PKKPab 12 06 45.1 +0.3**
comp=Z,1.2nm,0.8s,baz=267,slow=2.4,SNR=7.9
TORD SKKPbc SKKPbc 12 10 27.6 -4.3
comp=Z,2.1nm,1.1s,baz=247,slow=5.4,SNR=4.0
MIAR Mount Ida 125.81 43 *e*PKIKP **PKPdf 11 57 05.4 +0.8**
MIAR MLR MLR
comp=Z,3μm,22.0s
MIAR Mount Ida 125.81 43 *e*PKPdf **PKPdf 11 57 05.4 +0.8**
MIAR LR LR
comp=Z,3μm,22.0s
KVTX Kingsville 126.20 53 PFAKE 11 57 20.0 +15
KVTX LR LR
comp=Z,1μm,20.0s
USHA Ushuaia 126.56 168 PKP **PKPdf 11 57 05.4 +0.1**
USHA Ushuaia 126.56 168 PKP **PKPdf 11 57 05.4 +0.1**
comp=Z,30nm,0.9s,baz=240,slow=2.4,SNR=4.8
NATX Nacogdoches 126.58 46 PFAKE 11 57 20.0 +14
NATX LR LR
comp=Z,3μm,21.0s
OLIL Olney 126.64 35 *e*PKPdf **PKPdf 11 57 06.0 0.0**
HKT Hockley 126.65 49 *e*PKIKP **PKPdf 11 57 08.3 +2.1**
HKT Hockley 126.65 49 *e*PKPdf **PKPdf 11 57 08.3 +2.1**
ERPA Erie 128.32 27 PFAKE 11 57 20.0 +11
ERPA LR LR
comp=Z,2μm,20.0s
ACSO Alum Creek Sta 128.35 30 *e*PKPdf **PKPdf 11 57 09.8 +0.6**
ACSO LR LR
comp=Z,2μm,21.0s
LONY Lake Ozonia 128.40 21 PFAKE 11 57 20.0 +11
LONY LR LR
comp=Z,4μm,22.0s
WVT Waverly 128.54 38 *e*PKIKP **PKPdf 11 57 10.1 +0.4**
WVT Waverly 128.54 38 *e*PKPdf **PKPdf 11 57 10.1 +0.4**
NCB Newcomb 129.09 21 PFAKE 11 57 20.0 +9.4
NCB LR LR
comp=Z,3μm,22.0s
VBMS Vicksburg 129.24 43 PFAKE 11 57 20.0 +8.9
VBMS LR LR
comp=Z,3μm,22.0s
PKME Peaks-Kenny Pk 129.48 16 PFAKE 11 57 20.0 +8.8
PKME LR LR
comp=Z,3μm,22.0s
BINY Binghamton 129.94 23 PFAKE 11 57 20.0 +7.7
BINY LR LR
comp=Z,3μm,22.0s
MCWV Mont Chateau 130.33 28 PFAKE 11 57 20.0 +7.0
MCWV LR LR
comp=Z,2μm,21.0s
SSPA Standing Stone 130.44 26 *e*PKPdf **PKPdf 11 57 13.0 -0.2**
CPCT Cooper Cave 130.97 36 *e*PKPdf **PKPdf 11 57 15.1 +0.7**
LRAL Lakeview Retre 131.07 40 PFAKE 11 57 30.0 +15
LRAL LR LR
comp=Z,3μm,21.0s
TKL Tuckaleechee C 131.26 35 *e*PKPdf **PKPdf 11 57 15.3 +0.4**
BLA Blacksburg 131.94 31 PFAKE 11 57 30.0 +14
BLA LR LR
comp=Z,3μm,22.0s
KIC Kosan Boka 132.16 281 *e*PKIKP **PKPdf 11 57 18.3 +1.1**
comp=Z,47nm,1.0s
DBIC Dimbokro 132.22 282 PKP **PKPdf 11 57 18.2 +0.9**
DBIC *e*PKPdf **PKiKP 11 57 18.6 +0.2**
DBIC PP PP 11 59 48.2 +8.3
DBIC SKPbc **SKPbc 12 00 39.5 -1.1**
DBIC Dimbokro 132.22 282 PKP **PKPdf 11 57 18.2 +0.9**
comp=Z,12nm,0.9s,baz=104,slow=3.1,SNR=10
DBIC PP PP 11 59 48.2 +8.3
comp=Z,6.6nm,1.0s,baz=57,slow=6.9,SNR=3.7
DBIC SKPbc **SKPbc 12 00 39.5 -1.1**
comp=Z,25nm,1.0s,baz=78,slow=5.9,SNR=6.2
BRAL Brewton 132.31 42 PFAKE 11 57 30.0 +13
BRAL LR LR
comp=Z,3μm,21.0s
TIC Toumodi 132.38 282 *e*PKIKP **PKPdf 11 57 18.5 +0.9**
comp=Z,11nm,0.2s
LIC Lamto 132.46 281 *e*PKIKP **PKPdf 11 57 17.4 -0.3**
comp=Z,22nm,0.7s
LIC Lamto 132.46 281 *e*PKIKP **PKPdf 11 57 18.7 +1.0**
comp=Z,36nm,0.7s
LIC Lamto 132.46 281 *e*PKPdf **PKPdf 11 57 17.4 -0.3**
CBN Corbin 132.65 28 PFAKE 11 57 30.0 +13
CBN LR LR
comp=Z,2μm,19.0s
JSRW J. Sargeant Re 132.82 28 *e*PKPdf **PKPdf 11 57 18.8 +1.0**
KMSC Kings Mountain 133.01 34 *e*PKPdf **PKPdf 11 57 20.4 +2.1**
CNNC Cliffs of the 134.76 31 PFAKE 11 57 30.0 +8.5
CNNC LR LR
comp=Z,2μm,21.0s
TEIG Tepich 137.38 56 PFAKE 11 57 40.0 +13
TEIG LR LR
comp=Z,2μm,22.0s
APG El Apazote 137.70 64 PKPpre PKPpre 11 57 20.1
APG PKP **PKPdf 11 57 26.1 -1.7**
APG SKPbc **SKPbc 12 00 56.0 -2.4**
APG El Apazote 137.70 64 PKhKP PKPpre 11 57 20.1
baz=148,slow=14
APG PKP **PKPdf 11 57 26.1 -1.7**
comp=Z,5.6nm,0.6s,baz=230,slow=7.9,SNR=1.9
APG SKPbc **SKPbc 12 00 56.0 -2.4**
comp=Z,11nm,0.5s,baz=204,slow=6.1,SNR=6.6
PLCA Paso Flores 138.77 158 PKPpre PKPpre 11 57 24.4
PLCA PKP **PKPdf 11 57 28.7 -0.2**
PLCA SKPbc **SKPbc 12 01 00.2 -0.2**
PLCA Paso Flores 138.77 158 PKhKP PKPpre 11 57 24.4
comp=Z,4.9nm,0.8s,baz=201,slow=14,SNR=3.5
PLCA PKP **PKPdf 11 57 28.7 -0.2**
comp=Z,9.0nm,0.9s,baz=198,slow=4.9,SNR=9.9
PLCA SKPbc **SKPbc 12 01 00.2 -0.2**
comp=Z,7.7nm,0.9s,baz=227,slow=4.0,SNR=4.3
TGUH Tegucigalpa,Un 140.92 63 PFAKE 11 57 50.0 +17
TGUH LR LR
comp=Z,1μm,21.0s
PAYG Puerto Ayora 141.42 87 PFAKE 11 57 50.0 +16
PAYG LR LR
comp=Z,2μm,21.0s
ASCN Ascension 142.47 261 PFAKE 11 57 50.0 +14
ASCN LR LR
comp=Z,439nm,20.0s
BBSR BB Station 142.75 18 PFAKE 11 57 50.0 +14
BBSR LR LR
comp=Z,1μm,21.0s
TRQA Tornquist 143.86 166 *e*PKPdf PKPbc 11 57 36.1 +0.4
TRQA LR LR
comp=Z,2μm,19.0s
JTS JuntasAbangare 144.41 68 PKP PKPbc 11 57 38.2 +0.1
JTS LR LR
comp=Z,2μm,21.0s
JTS JuntasAbangare 144.41 68 PKP PKPbc 11 57 38.2 +0.1
comp=Z,43nm,0.7s,baz=323,slow=3.7,SNR=26
TLL Tololo Astrono 147.50 148 *e*PKP2 **PKPbc 11 57 48.2 +0.9**
TLL Tololo Astrono 147.50 148 *e*P **PKPbc 11 57 48.2 +0.9**
TLL Tololo Astrono 147.50 148 *e*P **PKPbc 11 57 48.2 +0.9**
CFAA Coronel Fontan 147.57 153 PKPbc **PKPbc 11 57 46.7 -0.5**
CFAA Coronel Fontan 147.57 153 PKPbc **PKPbc 11 57 46.7 -0.5**
comp=Z,8.9nm,0.9s,baz=207,slow=3.4,SNR=60
STH Stony Hill 147.63 49 *i* P **PKPbc 11 57 47.8 +0.1**
GTBY Guantanamo Bay 147.68 44 PFAKE 11 58 00.0 +10
GTBY LR LR
comp=Z,2μm,22.0s
GWJ Greenwich 147.69 49 *i* P **PKPbc 11 57 48.3 +0.3**
HOJ Hope 147.72 49 *i* P **PKPbc 11 57 47.7 -0.2**
LCO Las Campanas 148.46 147 PFAKE 11 58 00.0 +6.7
LCO LR LR
comp=Z,1μm,20.0s
LCO Las Campanas 148.46 147 *e*P **PKPbc 11 57 49.4 -0.6**
GRTK Grand Turk 149.13 37 PFAKE 11 58 00.0 +4.2
GRTK LR LR
comp=Z,2μm,21.0s
BCIP Isla Barro Col 149.51 66 *e*PKPbc **PKPbc 11 57 54.2 +1.5**
BCIP *e*PKPab **PKPab 11 57 58.3 +0.7**
BCIP LR LR
comp=Z,2μm,22.0s
SDDR Presa de Saban 150.91 41 *e*PKPbc **PKPbc 11 57 55.8 -0.2**
SDDR LR LR
comp=Z,2μm,22.0s
OTAV Otavalo 153.12 84 PFAKE 11 58 10.0 -3.3
OTAV LR LR
comp=Z,1μm,20.0s
ATAH Atahualpa 153.15 100 PKP **PKPdf 11 57 54.0 -0.2**
ATAH PKPbc **PKiKP 11 58 03.0 +1.2**
ATAH Atahualpa 153.15 100 PKP **PKPdf 11 57 54.0 -0.2**
comp=Z,5.3nm,0.8s,baz=143,slow=4.6,SNR=3.3
ATAH PKPbc **PKiKP 11 58 03.0 +1.2**
comp=Z,19nm,0.8s,baz=140,slow=8.3,SNR=3.6
LVC Limon Verde 154.35 141 *e*PKPbc **PKPbc 11 58 04.2 +0.4**
LVC LR LR
comp=Z,1μm,19.0s
STVI Saint Thomas 155.12 31 *e*PKPdf **PKPdf 11 57 55.9 -0.4**
STVI *e*PKPbc PKPdf 11 58 04.1 +7.8
ROSC El Rosal 156.13 71 PKP **PKPdf 11 57 57.7 -0.6**
ROSC PKPab **PKPab 11 58 25.4 -0.6**
ROSC El Rosal 156.13 71 PKP **PKPdf 11 57 57.7 -0.6**
comp=Z,3.7nm,0.4s,baz=262,slow=16,SNR=2.9
ROSC PKPab **PKPab 11 58 25.4 -0.6**
comp=Z,13nm,0.7s,baz=269,slow=17,SNR=6.7
CPUP Villa Florida 156.18 168 PKP PKP 11 57 57.9
CPUP *e*PKPdf **PKPdf 11 57 60.0 +2.5**
CPUP PKPab **PKPab 11 58 25.5 +0.4**
CPUP Villa Florida 156.18 168 PKP **PKPdf 11 57 57.9 +0.4**
comp=Z,3.5nm,0.6s,baz=138,slow=0.8,SNR=6.5
CPUP PKPab **PKPab 11 58 25.5 +0.4**
comp=Z,9.9nm,0.6s,baz=167,slow=3.2,SNR=7.2
ANWB Willy Bob 157.21 25 PFAKE 11 58 10.0 +11
ANWB LR LR
comp=Z,2μm,22.0s
SDV Santo Domingo 157.79 58 *e*PKPdf **PKPdf 11 58 00.3 +0.1**
SPB Sao Paulo 159.09 191 PFAKE 11 58 10.0 +8.8
SPB LR LR
comp=Z,1μm,20.0s
LPAZ La Paz 159.16 130 PKP PKP 11 58 02.3
LPAZ *e*PKPdf **PKPdf 11 58 02.9 +0.7**
LPAZ PKPab **PKPab 11 58 38.3 -0.8**
LPAZ La Paz 159.16 130 PKP **PKPdf 11 58 02.3 0.0**
comp=Z,4.1nm,0.9s,baz=232,slow=1.0,SNR=9.9
LPAZ PKPab **PKPab 11 58 38.3 -0.8**
comp=Z,21nm,0.7s,baz=214,slow=3.5,SNR=16
GRGR Grenville 162.04 33 PFAKE 11 58 20.0 +15
GRGR LR LR
comp=Z,1μm,21.0s
BBGH Gun Hill 162.20 26 PFAKE 11 58 20.0 +15
BBGH LR LR
comp=Z,2μm,21.0s
RCBR Riachuelo 163.95 259 *e*PKPdf **PKPdf 11 58 06.9 +0.2**
RCBR LR LR
comp=Z,1μm,19.0s
SIV San Ignacio 164.15 145 PKP **PKPdf 11 58 07.7 +1.0**
SIV PKPab **PKPab 11 59 00.1 -0.1**
SIV PP PP 12 02 55.6 +11
SIV San Ignacio 164.15 145 PKP **PKPdf 11 58 07.7 +1.0**
comp=Z,5.7nm,0.8s,baz=205,slow=1.3,SNR=17
SIV PKPab **PKPab 11 59 00.1 -0.1**
comp=Z,9.7nm,0.8s,baz=230,slow=4.3,SNR=6.6
SIV PP PP 12 02 55.6 +11
comp=Z,2.9nm,0.9s,baz=206,slow=9.3,SNR=3.9
BDFB Brasilia 166.90 196 PKP **PKPdf 11 58 09.5 +0.4**
BDFB PKPab **PKPab 11 59 12.5 +0.3**
BDFB PP **PP 12 02 59.8 +1.1**
BDFB Brasilia 166.90 196 PKP **PKPdf 11 58 09.5 +0.4**
comp=Z,3.4nm,0.5s,baz=260,slow=5.7,SNR=5.3
BDFB PKPab **PKPab 11 59 12.5 +0.3**
comp=Z,12nm,1.0s,baz=147,slow=2.2,SNR=5.4
BDFB PP **PP 12 02 59.8 +1.1**
comp=Z,6.5nm,0.8s,baz=94,slow=3.0,SNR=3.8
SAML Samuel 167.18 118 *e*PKPdf **PKPdf 11 58 10.0 +0.7**
SAML LR LR
comp=Z,2μm,22.0s

*NEIC **13** 11:45:38.7, 52°.35N×166°.84W, h13km, ML3.5(AEIC), After AEIC.*
*ISCJB **13** 11:45:39.4±0.7, 52°.39N±0°.06×166°.83W±0°.07, h25km, mb3.9/9, Error ellipse: s-maj=8.5km s-min=6.1km az=179.3*
*IDC **13** 11:45:39.1±1.5, 52°.78N×167°.00W, h0km, mb4.0/9, mb1 4.1/10, mb1mx3.9/29, mbtmp3.9/10, ML3.5/1, MS3.5/1, Ms1 3.6/1, ms1mx3.1/48, Error ellipse: s-maj=37.3km s-min=21.5km az=5.0*
ISC 13 11:45:42.0±0.8, 52°.58N±0°.08×166°.85W±0°.05, h25km, n45, σ1°12/43, mb3.9/9, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKFG	**Magazine Ridge**	**1.05**	**323**	P	**Pn**	**11 46 00.8**	**-0.3**
OKFG				S	**Sn**	**11 46 16.6**	**+1.6**
OKTU	**Okmok Mt. Tuli**	**1.08**	**319**	P	**Pn**	**11 46 01.2**	**-0.4**
OKSP	**Okmok Steeple**	**1.11**	**308**	P	**Pn**	**11 46 01.8**	**-0.1**
OKSO	**Okmok South**	**1.11**	**315**	P	**Pn**	**11 46 01.3**	**-0.7**
OKSO				S	**Sb**	**11 46 18.2**	**+1.5**
OKCE	**Okmok Cone E**	**1.17**	**317**	P	**Pb**	**11 46 02.7**	**-0.7**
MGDI	**Makushin Gods**	**1.22**	**359**	P	**Pb**	**11 46 04.0**	**-0.4**
MREP	**Makushin Rep't**	**1.24**	**3**	P	**Pb**	**11 46 04.1**	**-0.6**
NIKH	**Nikolski High**	**1.28**	**289**	P	**Pn**	**11 46 03.2**	**-1.0**
NIKH				S	**Sb**	**11 46 22.3**	**+0.8**
UNV	**Unalaska Valle**	**1.29**	**9**	P	**Pb**	**11 46 04.4**	**-1.1**
UNV				S	**Sb**	**11 46 24.0**	**+2.4**
MCIR	**Makushin Cirqu**	**1.38**	**359**	P	**Pb**	**11 46 05.9**	**-1.2**
MTBL	**Makushin Table**	**1.40**	**4**	P	**Pb**	**11 46 06.4**	**-1.0**
ZRO	**Akutan Zero**	**1.60**	**19**	P	**Pb**	**11 46 09.6**	**-1.3**
AKRB	**Akutan Reef Bi**	**1.62**	**16**	P	**Pb**	**11 46 09.8**	**-1.4**
LVA	**Lava Point**	**1.66**	**17**	P	**Pb**	**11 46 10.2**	**-1.6**
AKUT	**Akutan**	**1.69**	**22**	P	**Pb**	**11 46 10.5**	**-1.8**
AKGG	**Akutan Green G**	**1.70**	**17**	P	**Pn**	**11 46 10.0**	**-0.1**
SSBA	**Shishaldin**	**2.73**	**35**	P	**Pn**	**11 46 25.4**	**+1.2**
FALS	**False Pass**	**3.06**	**40**	P	**Pn**	**11 46 29.7**	**+1.1**
AMKA	**Amchitka**	**8.64**	**268**	*e*Pn	**Pn**	**11 47 45.6**	**+0.4**
	21nm,0.4s						
ILAR	**Eielson Array**	**15.93**	**32**	Pn	**Pn**	**11 49 22.4**	**-1.7**
ILAR	**Eielson Array**	**15.93**	**32**	Pn	**Pn**	**11 49 22.4**	**-1.7**
	0.1nm,0.3s,baz=216,slow=11,SNR=7.0						
ILAR				LR	LR	11 54 42.2	
	comp=Z,160nm,20.4s,baz=5.0,slow=34						
PETK	**Petropavlovsk-**	**21.29**	**286**	P	**P**	**11 50 25.9**	**-0.5**
PETK	**Petropavlovsk-**	**21.29**	**286**	P	**P**	**11 50 25.9**	**-0.5**
	2.3nm,0.5s,baz=83,slow=13,SNR=7.2						
INK	**Inuvik**	**22.33**	**33**	P	**P**	**11 50 36.1**	**-1.3**
INK	**Inuvik**	**22.33**	**33**	P	**P**	**11 50 36.1**	**-1.3**
	2.2nm,0.7s,baz=219,slow=10.0,SNR=12						
H11N2	**WAKE ISLAND Hy**	**38.61**	**222**	T	T	12 34 39.2	
	baz=26						
H11N3	**WAKE ISLAND Hy**	**38.62**	**222**	T	T	12 34 37.7	
	baz=26						
H11N1	**WAKE ISLAND Hy**	**38.63**	**222**	T	T	12 34 38.4	
	baz=26						
PDAR	**Pinedale Array**	**38.85**	**81**	P	**P**	**11 53 06.6**	**+1.5**
PDAR	**Pinedale Array**	**38.85**	**81**	P	**P**	**11 53 06.6**	**+1.5**
	0.7nm,0.5s,baz=298,slow=1.9,SNR=7.7						
H11S1	**WAKE ISLAND Hy**	**39.79**	**221**	T	T	12 36 05.0	
	baz=23						
H11S2	**WAKE ISLAND Hy**	**39.80**	**221**	T	T	12 36 10.0	
	baz=23						
H11S3	**WAKE ISLAND Hy**	**39.80**	**221**	T	T	12 36 08.4	
	baz=23						
TXAR	**Lajitas Array**	**51.20**	**91**	P	**P**	**11 54 44.7**	**+1.4**
TXAR	**Lajitas Array**	**51.20**	**91**	P	**P**	**11 54 44.7**	**+1.4**
	1.1nm,0.7s,baz=299,slow=5.8,SNR=7.6						
MKAR	**Makanchi Array**	**64.77**	**315**	P	**P**	**11 56 17.9**	**-0.1**
MKAR	**Makanchi Array**	**64.77**	**315**	P	**P**	**11 56 17.9**	**-0.1**
	1.6nm,0.9s,baz=38,slow=7.2,SNR=4.2						
FINES	**FINESS Array B**	**65.86**	**353**	P	**P**	**11 56 24.3**	**-0.4**
FINES	**FINESS Array B**	**65.86**	**353**	P	**P**	**11 56 24.3**	**-0.4**
	2.7nm,0.7s,baz=15,slow=5.8,SNR=5.6						
HFS	**Hagfors**	**67.64**	**360**	P	**P**	**11 56 35.5**	**-0.6**
HFS	**Hagfors**	**67.64**	**360**	P	**P**	**11 56 35.5**	**-0.6**
	3.8nm,0.9s,baz=29,slow=3.3,SNR=6.9						
AKASG	**Malin Array Be**	**76.20**	**350**	P	**P**	**11 57 27.7**	**+0.1**
AKASG	**Malin Array Be**	**76.20**	**350**	P	**P**	**11 57 27.7**	**+0.1**
	0.3nm,0.3s,baz=12,slow=5.6,SNR=2.1						
GERES	**GERESS Array B**	**78.95**	**360**	P	**P**	**11 57 43.2**	**+0.1**
GERES	**GERESS Array B**	**78.95**	**360**	P	**P**	**11 57 43.2**	**+0.1**
	0.3nm,0.3s,baz=0.0,slow=5.4,SNR=2.6						

IDC 13 11:52:07.0±8.7, 15°.63S×172°.89W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.5/22, mbtmp3.6/3, ML2.4/1, Error ellipse: s-maj=377.4km s-min=27.0km az=137.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.02**	**32**	Pn	Pn	11 52 40.9	-1.5
	82nm,0.3s,baz=179,slow=1.3,SNR=99						
AFI				Sn	Sn	11 52 59.0	-10
	118nm,0.3s,baz=32,slow=19,SNR=10.0						
WRA	**Warramunga Arr**	**50.27**	**257**	P	P	12 01 04.9	-0.7
	0.4nm,0.9s,baz=97,slow=8.3,SNR=6.4						
ASAR	**Alice Springs**	**50.51**	**252**	P	P	12 01 06.8	-0.6
	0.8nm,0.9s,baz=89,slow=7.4,SNR=11						
BRTR	**Keskin Array B**	**146.64**	**321**	PKPbc	PKPab	12 11 52.2	-0.1
	0.9nm,0.8s,baz=90,slow=2.9,SNR=2.9						

WEL 13 11:53:29.1±0.5, 43°.86S×178°.66E, h12km, ML3.7/20, 1C-3D, Error ellipse: s-maj=5.3km s-min=2.8km az=90.0, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRWZ	**Traveller**	**3.29**	**317**	PN	Pn	11 54 19.5	-1.0
TRWZ				SN	Sn	11 54 58.1	-1.6
PLWZ	**Palliser**	**3.40**	**311**	PN	Pn	11 54 20.9	-1.0
PLWZ				SN	Sn	11 54 59.3	-2.9
MSWZ	**Moikau Station**	**3.51**	**313**	PN	Pn	11 54 22.1	-1.4
MSWZ				SN	Sn	11 55 00.5	-4.4
MTW	**Mount Morrison**	**3.57**	**318**	PN	Pn	11 54 22.9	-1.3
MTW				SN	Sn	11 55 02.5	-3.8
BFZ	**Birch Farm**	**3.65**	**330**	PN	Pn	11 54 24.1	-1.2
HOWZ	**Holdsworth Sta**	**3.77**	**321**	PN	Pn	11 54 25.8	-1.2
HOWZ				SN	Sn	11 55 07.7	-3.6
CAW	**Cannon Point**	**3.82**	**315**	PN	Pn	11 54 26.6	-1.2
CAW				SN	Sn	11 55 09.5	-3.1
PRWZ	**Pori Road**	**3.86**	**328**	⇓PN	Pn	11 54 27.6	-0.7
PRWZ				SN	Sn	11 55 12.0	-1.6
MRZ	**Mangatainoka R**	**3.93**	**323**	⇑PN	Pn	11 54 28.0	-1.2
OGWZ	**Otaki Gorge**	**3.99**	**318**	PN	Pn	11 54 29.0	-1.1
OGWZ				SN	Sn	11 55 17.4	+0.6
DVHZ	**Dannevirke**	**4.01**	**332**	PN	Pn	11 54 29.1	-1.3
KHZ	**Kahutara**	**4.01**	**289**	AML	AML	11 55 25.2	
PXZ	**Pawanui**	**4.05**	**340**	⇓PN	Pn	11 54 29.6	-1.3
PXZ				SN	Sn	11 55 18.7	+0.4
POWZ	**Post Office Ro**	**4.08**	**327**	PN	Pn	11 54 30.7	-0.6
KIW	**Kapiti Island**	**4.09**	**316**	PN	Pn	11 54 30.5	-0.8
TCW	**Tory Channel**	**4.18**	**308**	PN	Pn	11 54 31.8	-0.8
KAHZ	**Kahuranaki**	**4.28**	**341**	⇓PN	Pn	11 54 33.0	-1.1
TSZ	**Takapari Road**	**4.30**	**331**	PN	Pn	11 54 33.1	-1.2
PNHZ	**Pukenui**	**4.35**	**334**	PN	Pn	11 54 33.9	-1.1
MQZ	**McQueen's Vall**	**4.35**	**270**	PN	Pn	11 54 33.9	-1.0
DUWZ	**D'Urville Isla**	**4.65**	**309**	PN	Pn	11 54 39.1	-0.1
LTZ	**Lake Taylor**	**4.78**	**281**	PN	Pn	11 54 40.8	-0.3
WAZ	**Wanganui**	**4.94**	**325**	PN	Pn	11 54 43.2	+0.2
NMHZ	**Naumai**	**4.96**	**343**	PN	Pn	11 54 42.4	-1.0
BKZ	**Black Stump Fm**	**4.96**	**340**	PN	Pn	11 54 41.6	-1.9
TUVZ	**Tukino**	**5.11**	**333**	AML	AML	11 54 46.4	
TRVZ	**Turoa**	**5.12**	**332**	AML	AML	11 55 24.6	
WHVZ	**Whangaehu Hut**	**5.12**	**332**	PN	Pn	11 54 45.2	-0.7
FWVZ	**Far West T-bar**	**5.16**	**332**	PN	Pn	11 54 46.3	-0.1
WPVZ	**Whakapapa**	**5.21**	**332**	AML	AML	11 54 48.5	
MWZ	**Matawai**	**5.59**	**351**	PN	Pn	11 54 49.9	-2.2
TUZ	**Tuapeka**	**6.74**	**249**	AML	AML	11 55 02.1	
EAZ	**Earnscleugh**	**6.82**	**255**	AML	AML	11 55 15.2	

*ISCJB **13** 12:11:49.9±0.9, 37°.27N±0°.03×20°.78E±0°.06, h5km±4km, Error ellipse: s-maj=8.5km s-min=4.1km az=146.8*
*CSEM **13** 12:11:51.7±0.5, 37°.34N×20°.86E, h15km, MD3.5, Error ellipse: s-maj=10.5km s-min=5.1km az=62.0*
*ATH **13** 12:11:52.2, 37°.32N×20°.89E, h13km±1km, MD3.5/28*
*THE **13** 12:11:52.3, 37°.32N×20°.84E, h23km, ML3.5/3, Error ellipse: s-maj=1.2km s-min=0.5km az=235.0*
ISC 13 12:11:51.9±1.2, 37°.32N±0°.03×20°.84E±0°.04, h14km±8km, n80, σ0°93/102, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFD	**Strofades**	**0.16**	**117**	P	**Pb**	**12 11 56.9**	**+0.3**
SFD				S	**Sb**	**12 12 00.5**	**+0.8**
SFD	**Strofades**	**0.16**	**117**	*e*Pg	**Pg**	**12 11 55.6**	**-0.3**
SFD	**Strofades**	**0.16**	**117**	*e*Pg	**Pg**	**12 11 55.6**	**-0.3**
SFD	**Strofades**	**0.16**	**117**	P	**Pb**	**12 11 56.9**	**+0.3**
SFD				S	**Sb**	**12 12 00.5**	**+0.8**
VTN	**Vitineika**	**0.65**	**25**	P	**Pb**	**12 12 05.2**	**+0.2**
VTN				S	**Sb**	**12 12 14.8**	**+0.8**
VTN	**Vitineika**	**0.65**	**25**	P	**Pb**	**12 12 05.2**	**+0.2**
VTN				S	**Sb**	**12 12 14.8**	**+0.8**
AMT	**Artemida-Makis**	**0.72**	**73**	P	**Pg**	**12 12 05.7**	**-0.3**
AMT				S	**Sb**	**12 12 16.4**	**+0.3**
AMT	**Artemida-Makis**	**0.72**	**73**	*e*PB	**Pg**	**12 12 05.8**	**-0.3**
AMT	**Artemida-Makis**	**0.72**	**73**	*e*Pb	**Pg**	**12 12 05.8**	**-0.3**
AMT				S	**Sb**	**12 12 16.4**	**+0.3**
KFL	**Anninata**	**0.79**	**357**	P	**Pb**	**12 12 06.9**	**-0.4**
KFL				S	**Sb**	**12 12 18.4**	**+0.6**
KFL	**Anninata**	**0.79**	**357**	P	**Pb**	**12 12 06.9**	**-0.4**
KFL				S	**Sb**	**12 12 18.4**	**+0.6**
PYL	**PYLOS**	**0.84**	**120**	P	**Pb**	**12 12 08.0**	**-0.2**
PYL				S	**Sg**	**12 12 19.9**	**+0.7**
PYL	**PYLOS**	**0.84**	**120**	*e*PB	**Pb**	**12 12 08.0**	**-0.2**
PYL	**PYLOS**	**0.84**	**120**	P	**Pb**	**12 12 08.0**	**-0.2**
PYL				S	**Sg**	**12 12 19.9**	**+0.7**
VLS	**Valsamata**	**0.87**	**347**	P	**Pg**	**12 12 08.8**	**-0.1**
VLS				S	**Sg**	**12 12 20.7**	**+0.4**
VLS	**Valsamata**	**0.87**	**347**	*e*PG	**Pg**	**12 12 08.7**	**-0.1**
VLS	**Valsamata**	**0.87**	**347**	*e*Pg	**Pg**	**12 12 08.7**	**-0.1**
VLS				S	**Sg**	**12 12 20.7**	**+0.4**
ITM	**Ithomi**	**0.88**	**99**	P	**Pb**	**12 12 08.5**	**-0.4**
ITM				S	**Sb**	**12 12 20.7**	**+0.1**
ITM	**Ithomi**	**0.88**	**99**	*e*PG	**Pb**	**12 12 08.0**	**-0.9**
ITM	**Ithomi**	**0.88**	**99**	*e*Pg	**Pb**	**12 12 08.0**	**-0.9**
ITM	**Ithomi**	**0.88**	**99**	P	**Pb**	**12 12 08.5**	**-0.4**
ITM				S	**Sb**	**12 12 20.7**	**+0.1**
RLS	**Riolos of Patr**	**0.89**	**34**	P	**Pb**	**12 12 08.6**	**-0.4**
RLS				S	**Sn**	**12 12 21.8**	**-0.7**
RLS	**Riolos of Patr**	**0.89**	**34**	*e*PB	**Pb**	**12 12 08.7**	**-0.3**
RLS	**Riolos of Patr**	**0.89**	**34**	P	**Pb**	**12 12 08.6**	**-0.4**
RLS				S	**Sn**	**12 12 21.8**	**-0.7**
DRO	**Drossia**	**0.94**	**48**	P	**Pb**	**12 12 09.1**	**-0.8**
DRO				S	**Sg**	**12 12 22.5**	**+0.2**
DRO	**Drossia**	**0.94**	**48**	*e*PB	**Pb**	**12 12 09.6**	**-0.3**
DRO	**Drossia**	**0.94**	**48**	P	**Pb**	**12 12 09.1**	**-0.8**
DRO	**Drossia**	**0.94**	**48**	*e*Pb	**Pb**	**12 12 09.6**	**-0.3**
DRO				S	**Sg**	**12 12 22.5**	**+0.2**
AXS	**Araxos**	**0.97**	**26**	P	**Pb**	**12 12 09.7**	**-0.7**
AXS				S	**Sg**	**12 12 23.5**	**+0.1**
AXS	**Araxos**	**0.97**	**26**	P	**Pb**	**12 12 09.7**	**-0.7**
AXS				S	**Sg**	**12 12 23.5**	**+0.1**
VLX	**Vlachokerasia**	**1.23**	**87**	P	**Pn**	**12 12 13.6**	**-1.1**
VLX				S	**Sb**	**12 12 29.6**	**-1.1**
VLX	**Vlachokerasia**	**1.23**	**87**	*e*PG	**Pn**	**12 12 14.5**	**-0.2**
VLX	**Vlachokerasia**	**1.23**	**87**	P	**Pn**	**12 12 13.6**	**-1.1**
VLX	**Vlachokerasia**	**1.23**	**87**	*e*Pb	**Pn**	**12 12 14.5**	**-0.2**
VLX				S	**Sb**	**12 12 29.6**	**-1.1**
KLV	**Kalavryta, Ach**	**1.27**	**55**	P	**Pn**	**12 12 13.9**	**-1.3**
KLV	**Kalavryta, Ach**	**1.27**	**55**	*e*PB	**Pn**	**12 12 15.0**	**-0.2**
KLV	**Kalavryta, Ach**	**1.27**	**55**	P	**Pn**	**12 12 13.9**	**-1.3**
KLV	**Kalavryta, Ach**	**1.27**	**55**	*e*P

SMIA	**Simia**	**2.43**	**50**	*e*PB	**Pn**	**12 12 32.7**	**+1.5**
SMIA	**Simia**	**2.43**	**50**	*e*Pb	**Pn**	**12 12 32.7**	**+1.5**
MRKA	**Markates**	**2.57**	**57**	*e*PB	**Pn**	**12 12 35.0**	**+1.9**
MRKA	**Markates**	**2.57**	**57**	*e*Pb	**Pn**	**12 12 35.0**	**+1.9**
XOR	**Xorichti**	**2.75**	**42**	*e*PB	**Pn**	**12 12 38.2**	**+2.6**
XOR	**Xorichti**	**2.75**	**42**	*e*Pb	**Pn**	**12 12 38.2**	**+2.6**
AOS	**Alonnisos**	**3.02**	**51**	*e*PN	**Pn**	**12 12 41.1**	**+1.8**
AOS	**Alonnisos**	**3.02**	**51**	*e*Pn	**Pn**	**12 12 41.1**	**+1.8**
NEST	**Nestorio**	**3.09**	**3**	*e*PB	**Pb**	**12 12 44.3**	**-2.4**
NEST	**Nestorio**	**3.09**	**3**	*e*Pb	**Pb**	**12 12 44.3**	**-2.4**

IDC 13 12:17:06.2±2.3, 2°88N×128°51E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/20, mbtmp3.4/3, Error ellipse: s-maj=146.7km s-min=28.4km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.40**	**166**	P	P	12 22 16.9	0.0
	0.9nm,0.4s,baz=346,slow=10,SNR=19						
ASAR	**Alice Springs**	**26.91**	**169**	P	P	12 22 48.6	-0.7
	0.2nm,0.5s,baz=350,slow=8.7,SNR=3.0						
MKAR	**Makanchi Array**	**59.26**	**325**	P	P	12 27 10.1	+0.5
	0.1nm,0.3s,baz=134,slow=6.2,SNR=2.4						

IDC 13 12:28:27.6±0.8, 14°84S×173°06W, h0km, mb4.0/8, mb1 4.3/8, mb1mx4.1/22, mbtmp4.0/8, Error ellipse: s-maj=37.0km s-min=20.6km az=122.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.55**	**53**	Pn	Pn	12 28 48.2	-8.5
	252nm,0.3s,baz=233,slow=15,SNR=218						
AFI				Sn	Sn	12 29 01.4	-16
	967nm,0.3s,baz=54,slow=19,SNR=38						
URZ	**Urewera**	**24.89**	**199**	P	P	12 33 52.8	+0.6
	5.2nm,0.7s,baz=334,slow=5.9,SNR=3.5						
H11S2	**WAKE ISLAND Hy**	**38.66**	**328**	T	T	13 16 24.2	
	baz=149,slow=0.7,SNR=11						
H11S3	**WAKE ISLAND Hy**	**38.67**	**328**	T	T	13 16 26.2	
	baz=149,slow=0.7,SNR=24						
H11S1	**WAKE ISLAND Hy**	**38.68**	**328**	T	T	13 16 25.8	
	baz=149,slow=0.7,SNR=11						
H11N3	**WAKE ISLAND Hy**	**39.60**	**330**	T	T	13 17 27.7	
	baz=151						
H11N1	**WAKE ISLAND Hy**	**39.60**	**330**	T	T	13 17 32.5	
	baz=151						
H11N2	**WAKE ISLAND Hy**	**39.61**	**330**	T	T	13 17 30.7	
	baz=151						
WRA	**Warramunga Arr**	**50.29**	**256**	P	P	12 37 26.1	-0.3
	0.5nm,0.5s,baz=92,slow=6.7,SNR=12						
ASAR	**Alice Springs**	**50.59**	**251**	P	P	12 37 28.4	-0.3
	3.2nm,0.8s,baz=84,slow=8.3,SNR=24						
VNDA	**Vanda**	**63.96**	**186**	P	P	12 39 01.7	-0.5
	2.2nm,0.9s,baz=359,slow=5.9,SNR=12						
NVAR	**Mina Array Bea**	**73.70**	**42**	P	P	12 40 03.0	-0.8
	0.3nm,0.3s,baz=238,slow=8.4,SNR=1.8						
PDAR	**Pinedale Array**	**81.64**	**42**	P	P	12 40 49.5	+1.4
	0.3nm,0.6s,baz=185,slow=4.5,SNR=2.7						
ILAR	**Eielson Array**	**81.84**	**11**	P	P	12 40 47.4	-0.9
	0.5nm,0.7s,baz=231,slow=6.7,SNR=12						
MAW	**Mawson**	**88.42**	**199**	P	P	12 41 21.5	+0.2
	3.5nm,0.7s,baz=160,slow=4.1,SNR=5.0						
GERES	**GERESS Array B**	**145.64**	**352**	PKPbc	PKPbc	12 48 08.4	0.0
	0.3nm,0.2s,baz=16,slow=4.2,SNR=6.4						
BRTR	**Keskin Array B**	**145.93**	**322**	PKPbc	PKPbc	12 48 09.6	-0.1
	3.6nm,1.0s,baz=96,slow=2.2,SNR=9.7						

IDC 13 12:41:18.1±0.9, 12°16S×165°60E, h0km, mb4.1/11, mb1 4.3/13, mb1mx4.2/24, mbtmp4.2/13, ML4.3/2, MS3.5/1, Ms1 3.5/1, ms1mx3.2/30, Error ellipse: s-maj=25.8km s-min=19.0km az=120.0

ISCJB 13 12:41:21.5±0.6, 12°19S±0°08×165°44E±0°08, h33km, mb4.2/12, Error ellipse: s-maj=12.5km s-min=9.4km az=138.1

NEIC 13 12:41:23.7±0.5, 12°15S×165°52E, h35km, mb4.1/2, Error ellipse: s-maj=12.7km s-min=10.8km az=113.0

ISC 13 12:41:23.6±0.7, 12°21S±0°08×165°47E±0°10, h35km, n32, σ0s88/36, mb4.2/12, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.08**	**296**	Pn	**Pn**	**12 42 51.6**	**+0.5**
HNR				Sn	**Sn**	**12 43 58.5**	**-1.1**
HNR	**Honiara**	**6.08**	**296**	Pn	**Pn**	**12 42 51.6**	**+0.5**
	7.8nm,0.3s,baz=204,slow=5.5,SNR=5.1						
HNR				Sn	**Sn**	**12 43 58.5**	**-1.1**
	19nm,0.3s,baz=167,slow=22,SNR=9.5						
HNR				LR	LR	12 44 58.0	
	comp=Z,467nm,20.1s,baz=297,slow=36						
DZM	**Mont Dzumac**	**9.85**	**175**	*e*Pn	**Pn**	**12 43 43.6**	**+0.7**
DZM				Sn	**Sn**	**12 45 31.0**	**-1.3**
DZM	**Mont Dzumac**	**9.85**	**175**	Pn	**Pn**	**12 43 43.4**	**+0.5**
	2.1nm,0.3s,baz=21,slow=16,SNR=22						
DZM				Sn	**Sn**	**12 45 31.0**	**-1.3**
	baz=240,slow=20,SNR=1.4						
CTA	**Charters Tower**	**20.03**	**245**	P	Pn	12 45 55.9	+0.2
CTA	**Charters Tower**	**20.03**	**245**	P	Pn	12 45 55.9	+0.2
	5.5nm,0.7s,baz=68,slow=8.3,SNR=8.3						
CTAO	**Charters Tower**	**20.03**	**245**	*e*P	**P**	**12 45 52.4**	**-1.4**
	5.1nm,0.6s						
WRAB	**Tennant Creek**	**30.83**	**252**	*e*P	**P**	**12 47 37.4**	**+0.8**
	2.8nm,0.8s						
WRA	**Warramunga Arr**	**30.84**	**252**	P	**P**	**12 47 36.8**	**+0.1**
WRA	**Warramunga Arr**	**30.84**	**252**	P	**P**	**12 47 36.8**	**+0.1**
	2.6nm,0.7s,baz=81,slow=9.4,SNR=24						
ASAR	**Alice Springs**	**32.04**	**245**	P	**P**	**12 47 47.3**	**0.0**
ASAR				PcP	**PcP**	**12 50 37.0**	**+0.4**
ASAR	**Alice Springs**	**32.04**	**245**	P	**P**	**12 47 47.3**	**0.0**
	4.1nm,0.8s,baz=70,slow=9.3,SNR=47						
ASAR				PcP	**PcP**	**12 50 37.0**	**+0.4**
	0.6nm,0.7s,baz=85,slow=2.7,SNR=5.3						
FITZ	**Fitzroy Crossi**	**38.83**	**256**	*e*P	**P**	**12 48 46.7**	**+1.1**
FITZ	**Fitzroy Crossi**	**38.83**	**256**	P	**P**	**12 48 45.1**	**-0.6**
	3.8nm,1.0s,baz=74,slow=11,SNR=4.5						
MJAR	**Matsushiro Arr**	**54.88**	**333**	P	**P**	**12 50 49.9**	**-0.8**
MJAR	**Matsushiro Arr**	**54.88**	**333**	P	**P**	**12 50 49.9**	**-0.8**
	0.9nm,0.7s,baz=171,slow=8.0,SNR=4.5						
ASAJ	**Asahikawa**	**59.80**	**341**	P	**P**	**12 51 25.2**	**-0.1**
ASAJ	**Asahikawa**	**59.80**	**341**	P	**P**	**12 51 25.2**	**-0.1**
	5.4nm,0.7s,baz=203,slow=11,SNR=4.6						
USRK	**Ussuriysk Arra**	**63.86**	**334**	P	**P**	**12 51 52.9**	**+0.2**
	1.7nm,0.6s,baz=139,slow=6.8,SNR=4.2						
VNDA	**Vanda**	**65.33**	**181**	*e*P	**P**	**12 52 03.3**	**+1.5**
VNDA	**Vanda**	**65.33**	**181**	P	**P**	**12 52 02.0**	**+0.2**
	0.5nm,0.9s,baz=343,slow=6.8,SNR=3.1						
CMAR	**Chiang Mai Arr**	**72.33**	**294**	P	**P**	**12 52 48.2**	**+1.8**
CMAR	**Chiang Mai Arr**	**72.33**	**294**	P	**P**	**12 52 48.2**	**+1.8**
	2.0nm,0.7s,baz=130,slow=4.9,SNR=10						
COLA	**College**	**84.47**	**18**	*e*P	**P**	**12 53 51.7**	**-0.6**
	23nm,0.8s						
ILAR	**Eielson Array**	**84.70**	**19**	P	**P**	**12 53 52.5**	**-1.0**
ILAR	**Eielson Array**	**84.70**	**19**	P	**P**	**12 53 52.5**	**-1.0**
	1.2nm,0.6s,baz=265,slow=5.5,SNR=18						
NVAR	**Mina Array Bea**	**86.98**	**50**	P	**P**	**12 54 05.2**	**-0.6**
NVAR	**Mina Array Bea**	**86.98**	**50**	P	**P**	**12 54 05.2**	**-0.6**
	0.7nm,0.7s,baz=243,slow=7.9,SNR=2.8						
ARCES	**ARCESS Array B**	**117.39**	**345**	PKP	**PKPdf**	**13 00 05.0**	**0.0**
ARCES	**ARCESS Array B**	**117.39**	**345**	PKP	**PKPdf**	**13 00 05.0**	**0.0**
	1.5nm,0.6s,baz=25,slow=0.3,SNR=9.3						
TORD	**Torodi Ar. Bea**	**164.14**	**275**	PKPab	**PKPab**	**13 02 18.4**	**+0.3**
TORD	**Torodi Ar. Bea**	**164.14**	**275**	PKPab	**PKPab**	**13 02 18.4**	**+0.3**
	0.8nm,0.9s,baz=121,slow=2.7,SNR=4.0						

IDC 13 12:47:14.6±0.4, 38°67N×70°80E, h0km, mb4.6/33, mb1 4.7/38, mb1mx4.7/40, mbtmp4.6/38, ML4.5/5, MS4.4/21, Ms1 4.4/21, ms1mx4.2/49, Error ellipse: s-maj=9.6km s-min=6.8km az=137.0

MOS 13 12:47:18.5±0.9, 38°86N×70°78E, h33km, mb5.0/63, MS4.4/26, Error ellipse: s-maj=6.2km s-min=4.3km az=116.2

ISCJB 13 12:47:18.2±0.1, 38°67N±0°02×70°74E±0°02, h33km, mb4.8/116, MS4.5/40, Error ellipse: s-maj=2.5km s-min=2.1km az=174.5

NNC 13 12:47:19.7±1.9, 39°00N×70°57E, h0km, mb5.3, mpv5.2, Error ellipse: s-maj=14.1km s-min=10.9km az=16.0

NEIC 13 12:47:20.5±0.2, 38°79N×70°70E, h35km, mb5.0/43, Error ellipse: s-maj=4.9km s-min=3.9km az=172.0

NEIC Felt at Dushanbe.

GCMT 13 12:47:20.4±0.4, 38°.76N×70°.71E, h20km±2km, MW5.0, Moment Tensor Solution. s12,c12; s68,c93; Moment tensor: Scale 10^16 Nm; Mrr-0.13±.38; Mθθ-4.22±.26; Mφφ4.35±.26; Mrθ-0.04±.61; Mrφ0.34±.19; Mθφ0.45±.48; Best double couple: M0 4.30000×10^16 NP1:φs317.00000°, δ87.00000°, λ176.00000°. NP2:φs47.00000°, δ86.00000°, λ3.00000°. Principal axes: T 4.4100, Plg6.0000°, Azm272.0000°; N -0.1700, Plg84.0000°, Azm100.0000°; P -4.2300, Plg1.0000°, Azm2.0000°; Data Used: IU IC G II CN.

DJA 13 12:47:20.0±0.4, 39°N±7°×7°1E±°, h10km, M5.6/7, mB5.4/1, mb5.1/7, MLv5.9/2, Mw(mB)4.8/1

BJI 13 12:47:21.8, 38°.86N×71°.27E, h30km, mB5.0/35, mb4.9/43, ML4.9/4, Ms4.9/40, Ms7 4.7/39

TEH 13 12:47:22.0, 38°.88N×70°.64E, h35km, ML5.0

SZGRF 13 12:47:23.7, 40°.25N×70°.96E, h33km, mb4.6, Tajikistan

ISC 13 12:47:19.3±0.5, 38°78N±0°.03×70°70E±0°.03, h27km±3km, h27km:pP-P, n485, σ1s48/475, mb4.9/116, MS4.5/41, 20C-26D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.06**	**33**	*i* PN	Pn	12 48 22.8	+2.9
AML	**Almayashu**	**4.06**	**33**	P	Pn	12 48 22.9	+2.9
	SNR=49						
KSH	**Kashi**	**4.17**	**78**	Pg	**Pn**	**12 48 18.4**	**-2.8**
KSH				Sg	**Sn**	**12 49 08.8**	**-0.3**
KSH				SMN			
	comp=Z,3μm,0.7s						
KSH				SME			
	comp=Z,3μm,0.7s						
KK31	**Karatay Array**	**4.32**	**358**	Pn	Pn	12 48 26.2	+3.0
	180nm,0.6s,baz=190,slow=15,SNR=1973						
KK31				⇓Pg	Pb	12 48 36.7	+2.2
	309nm,0.6s,baz=166,slow=12,SNR=8.0						
KK31				⇓Sn	Sb	12 49 19.4	-6.9
	571nm,0.7s,baz=198,slow=27						
KK31				⇑Lg	Lg	12 49 33.1	
	1μm,0.8s,baz=184,slow=30,SNR=7.2						
KK31	**Karatay Array**	**4.32**	**358**	*i* PN	Pn	12 48 26.2	+3.0
KK31				pmax	pmax		
	comp=Z,112nm,0.3s						
KKAR	**Karatay Array**	**4.32**	**358**	*e*PN	Pn	12 48 25.9	+2.7
KKAR				*e*		12 49 14.1	
KKAR	**Karatay Array**	**4.32**	**358**	*e*Pn	Pn	12 48 25.9	+2.7
KKAR				*e*Sn	**Sn**	**12 49 14.1**	**+1.4**
KBL	**Kabul**	**4.43**	**198**	*e*PN	**Pn**	**12 48 27.1**	**+2.2**
KBL				*e*		12 49 21.1	
KBL	**Kabul**	**4.43**	**198**	*e*Pn	**Pn**	**12 48 27.1**	**+2.2**
KBL				*e*Sn	**Sn**	**12 49 21.1**	**+5.3**
EKS2	**Erkin-Say**	**4.53**	**30**	*e*PN	**Pn**	**12 48 28.3**	**+2.1**
EKS2	**Erkin-Say**	**4.53**	**30**	P	Pn	12 48 29.5	+3.3
	SNR=42						
EKS2	**Erkin-Say**	**4.53**	**30**	*e*Pn	**Pn**	**12 48 28.3**	**+2.1**
EKS2				*e*Sn	**Sn**	**12 49 15.7**	**-2.4**
KZA	**Kyzart**	**4.79**	**45**	*i* PN	**Pn**	**12 48 32.4**	**+2.4**
KZA	**Kyzart**	**4.79**	**45**	P	**Pn**	**12 48 32.4**	**+2.4**
	SNR=27						
AAK	**Ala-Archa**	**4.81**	**36**	*c i* PN	**Pn**	**12 48 32.2**	**+2.1**
AAK				pmax	pmax		
	comp=Z,964nm,0.8s						
AAK	**Ala-Archa**	**4.81**	**36**	P	**Pn**	**12 48 32.6**	**+2.5**
	SNR=280						
AAK	**Ala-Archa**	**4.81**	**36**	P	Pn	12 48 33.6	+3.5
	SNR=49						
AAK	**Ala-Archa**	**4.81**	**36**	Pn	**Pn**	**12 48 32.0**	**+1.9**
	comp=Z,5μm,0.5s						
AAK	**Ala-Archa**	**4.81**	**36**	*e*Pn	**Pn**	**12 48 32.3**	**+2.1**
AAK				*e*Sn	**Sn**	**12 49 24.6**	**-0.5**
AAK				Sn	**Sn**	**12 49 30.0**	**+5.0**
AAK				Lg	Lg	12 49 50.3	
AAK	**Ala-Archa**	**4.81**	**36**	Pn	**Pn**	**12 48 32.4**	**+2.3**
	comp=Z,36nm,0.3s,baz=211,slow=12,SNR=195						
AAK				Sn	**Sn**	**12 49 30.0**	**+5.0**
	comp=Z,18nm,0.3s,baz=186,slow=10,SNR=2.7						
AAK				Lg	Lg	12 49 50.3	
	comp=Z,34nm,0.3s,baz=140,slow=22,SNR=5.9						
AAK				LR	LR	12 50 46.9	
	comp=Z,3μm,21.7s,baz=214,slow=44						
CEP	**Cherat**	**5.04**	**168**	P	**Pn**	**12 48 34.6**	**+1.4**
KBK	**Karagaybulak**	**5.04**	**38**	P	Pn	12 48 38.6	+5.3
	SNR=539						
CHMS	**Chumysh**	**5.22**	**35**	*i* PN	Pn	12 48 40.2	+4.6
CHMS	**Chumysh**	**5.22**	**35**	P	Pn	12 48 40.1	+4.6
	SNR=41						
USP	**Osenovka**	**5.33**	**31**	*i* PN	Pn	12 48 40.4	+3.3
USP	**Ospenovka**	**5.33**	**31**	P	Pn	12 48 40.4	+3.3
	SNR=191						
ULHL	**Ulahol**	**5.46**	**49**	*i* PN	Pn	12 48 43.7	+4.6
ULHL	**Ulahol**	**5.46**	**49**	P	Pn	12 48 43.7	+4.6
	SNR=8.3						
CHCP	**Chirah Chowk**	**5.51**	**157**	P	**Pn**	**12 48 41.6**	**+2.0**
TKM2	**Tokmak 2**	**5.56**	**40**	⇓Pn	**Pn**	**12 48 42.9**	**+2.5**
	comp=Z,249nm,0.7s						
TKM2				⇓Sn	**Sn**	**12 49 46.5**	**+3.0**
	comp=Z,404nm,0.7s						
TKM2				⇓Lg	Lg	12 50 13.0	
	comp=Z,482nm,0.8s						
TKM2	**Tokmak 2**	**5.56**	**40**	*e*PN	**Pn**	**12 48 42.9**	**+2.5**
TKM2				pmax	pmax		
	comp=Z,6.0nm,1.2s						
TKM2	**Tokmak 2**	**5.56**	**40**	P	Pn	12 48 44.8	+4.3
	SNR=191						
TKM2	**Tokmak 2**	**5.56**	**40**	*e*Pn	**Pn**	**12 48 42.9**	**+2.5**
	comp=Z,5.6nm,1.2s						
THW	**Thamme Wali**	**6.03**	**172**	P	**Pn**	**12 48 47.3**	**+0.6**
KNDC	**Almaty**	**6.49**	**45**	⇓Pn	Pn	12 48 56.6	+3.5
	comp=Z,314nm,0.9s						
KNDC				⇓Lg	Lg	12 50 42.0	
	comp=Z,2μm,1.6s						
AAA	**Alma-Ata**	**6.52**	**44**	*eP**	Px	12 49 17.0	
AAA				pmax	pmax		
	comp=Z,270nm,0.9s						
JMU	**Jammu**	**6.95**	**149**	*e*4	Px	12 49 37.5	
JMU				*e*S	**Sn**	**12 50 17.5**	**+0.2**
THN	**Thein Dam**	**7.54**	**146**	*e*P	**Pn**	**12 49 05.5**	**-1.8**
THN				*e*S	**Sn**	**12 50 31.9**	**+0.1**
DHRM	**DHARAMSHALA**	**7.95**	**143**	*e*P	**Pn**	**12 49 11.3**	**-2.0**
DHRM				*e*S	**Sn**	**12 50 39.6**	**-2.9**
DHRM				AML	AML	12 50 45.6	
	comp=E,2μm,0.4s						
DHRM				AML	AML	12 50 46.6	
	comp=N,1μm,0.5s						
BHK	**Bhakra**	**8.71**	**146**	*e*4	Pn	12 49 28.4	+4.9
BHK				*e*4	Sn	12 51 12.2	+11
IMYA	**Miami**	**8.76**	**257**	*e*P	Pn	12 49 21.1	-3.2
SDNR	**Sundarnagar**	**8.89**	**143**	*e*4	**Pn**	**12 49 26.0**	**0.0**
SDNR				*e*S	**Sn**	**12 51 05.0**	**-0.3**
ISRO	**Mashad**	**9.25**	**258**	*e*P	Pn	12 49 27.5	-3.4
SMLA	**Simla**	**9.29**	**143**	*i* P	**Pn**	**12 49 30.0**	**-1.5**
SMLA				*e*S	Sn	12 51 09.8	-5.3
SMLA				AML	AML	12 51 17.6	
	comp=N,487nm,0.8s						
SMLA				AML	AML	12 51 18.8	
	comp=E,534nm,0.5s						
IMOG	**Moghan**	**9.41**	**257**	*e*P	Pn	12 49 30.9	-2.5
IPAY	**Payeh**	**9.57**	**260**	*e*P	Pn	12 49 32.2	-3.2
IEMG	**Emamgholi**	**9.59**	**266**	*e*P	Pn	12 49 33.0	-2.8
IAKL	**Akhelmad**	**9.71**	**261**	*e*P	Pn	12 49 34.6	-2.8
ISFR	**Sfrayin**	**10.18**	**264**	*e*P	**Pn**	**12 49 41.6**	**-2.2**
ISHV	**Shirvan**	**10.31**	**267**	*e*P	**Pn**	**12 49 44.3**	**-1.2**
DDI	**Dehra Dun**	**10.39**	**142**	*ex*	Pn	12 49 41.5	-5.0
DDI				*e*P	**Pn**	**12 49 45.2**	**-1.3**
DDI				*e*S	**Sn**	**12 51 39.0**	**-3.0**
DDI				*e*S	**Sn**	**12 51 40.0**	**-2.0**
DDI				AML	AML	12 52 29.2	
	comp=E,671nm,0.6s						
DDI				AML	AML	12 52 31.4	
	comp=N,416nm,0.1s						
IMON	**Monand**	**10.53**	**241**	*e*P	**Pn**	**12 49 48.3**	**-0.3**
IDAH	**Dahanechah**	**10.66**	**239**	*e*P	**Pn**	**12 49 50.8**	**+0.4**
ITEG	**Tejag**	**11.33**	**242**	*e*P	**Pn**	**12 49 58.7**	**-0.8**
NDI	**New Delhi**	**11.43**	**150**	*e*P	Pn	12 49 57.0	-3.8
NDI				*e*4		12 51 58.5	
MK31	**Makanchi Array**	**11.68**	**43**	Pn	**Pn**	**12 50 05.0**	**+0.8**
	comp=N,43nm,0.9s,baz=232,slow=14,SNR=197						
MK31				⇑Lg	Lg	12 53 22.1	
	comp=N,79nm,1.1s						
MK31	**Makanchi Array**	**11.68**	**43**	*e*P	**Pn**	**12 50 04.8**	**+0.6**
MK31	**Makanchi Array**	**11.68**	**43**	*e*Pn	**Pn**	**12 50 04.8**	**+0.6**
MKAR	**Makanchi Array**	**11.68**	**43**	P	**Pn**	**12 50 03.9**	**-0.2**
MKAR						12 52 10.9	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR				MLR	MLR		
	comp=Z,2μm,18.5s						
MKAR	**Makanchi Array**	**11.68**	**43**	*e*Pn	**Pn**	**12 50 04.9**	**+0.7**
MKAR				Sn	**Sn**	**12 52 10.9**	**-2.8**
MKAR				Lg	Lg	12 53 23.8	
MKAR	**Makanchi Array**	**11.68**	**43**	Pn	**Pn**	**12 50 03.9**	**-0.2**
	comp=Z,1.7nm,0.3s,baz=230,slow=12,SNR=94						
MKAR				Sn	**Sn**	**12 52 10.9**	**-2.8**
	baz=215,slow=22,SNR=2.4						
MKAR				Lg	Lg	12 53 23.8	
	comp=Z,0.7nm,0.3s,baz=223,slow=33,SNR=3.3						
MKAR				LR	LR	12 54 40.5	
	comp=Z,2μm,18.5s,baz=235,slow=38						
LGTI	**Lohaghat**	**12.21**	**137**	*ex*	Pn	12 50 04.9	-6.4
LGTI				*e*4	x	12 52 42.1	
AJM	**Ajmer**	**12.70**	**164**	*e*4	Px	12 51 06.0	
AB31	**Akbulak array**	**13.01**	**327**	P	**Pn**	**12 50 20.4**	**-1.8**
	comp=Z,28nm,0.5s,baz=148,slow=13,SNR=851						
AB31				⇑S	**Sn**	**12 52 41.1**	**-4.8**
	comp=Z,150nm,0.8s,baz=145,slow=22						
AB31	**Akbulak array**	**13.01**	**327**	*e*P	**Pn**	**12 50 20.3**	**-1.8**
AB31						12 52 39.1	
AB31				pmax	pmax		
	comp=Z,34nm,0.4s						
AB31				smax	smax		
	comp=N,56nm,0.5s						
ABKAR	**Akbulak array**	**13.01**	**327**	*e*Pn	**Pn**	**12 50 20.4**	**-1.8**
ABKAR				*e*Sn	Sn	12 52 40.5	-5.4
KURBB	**Kurchatov Arra**	**13.08**	**23**	Pn	**Pn**	**12 50 20.2**	**-2.9**
	comp=N,28nm,1.0s						
KURBB				⇓Lg	Lg	12 54 13.8	
	comp=N,430nm,1.4s						
KURBB	**Kurchatov Arra**	**13.08**	**23**	Pn	**Pn**	**12 50 20.7**	**-2.4**
	comp=N,1.0nm,0.3s,baz=217,slow=13,SNR=64						
KURBB				Sn	Sn	12 52 29.5	-18
	comp=N,0.1nm,0.3s,baz=209,slow=24,SNR=3.4						
KURBB				Lg	Lg	12 53 57.6	
	comp=N,0.8nm,0.3s,baz=218,slow=30,SNR=4.5						
KURK	**Kurchatov**	**13.19**	**23**	⇓Pn	**Pn**	**12 50 21.8**	**-2.9**
	comp=N,12nm,1.1s						
KURK	**Kurchatov**	**13.19**	**23**	*d i*P	**Pn**	**12 50 22.8**	**-1.8**
KURK	**Kurchatov**	**13.19**	**23**	P	**Pn**	**12 50 24.0**	**-0.6**
	SNR=9.6						
KURK	**Kurchatov**	**13.19**	**23**	*e*Pn	**Pn**	**12 50 22.6**	**-2.0**
KURK				Sn	Sn	12 52 29.5	-21
KURK				Lg	Lg	12 53 57.6	
KURK	**Kurchatov**	**13.19**	**23**	Pn	**Pn**	**12 50 22.2**	**-2.4**
	comp=N,117nm,0.9s,SNR=12						
WMQ	**Urumqi**	**13.73**	**63**	P	**Pn**	**12 50 31.6**	**-0.6**
WMQ				pP	**P**	**12 50 39.0**	**-1.5**
WMQ				sP		12 50 43.8	
WMQ				S	**Sn**	**12 53 03.6**	**-0.2**
WMQ				sS	S	12 53 14.6	-11
WMQ				SS	**SnSn**	**12 53 19.6**	**+3.6**
WMQ				PcS	**PcS**	**12 59 28.6**	**-1.4**
WMQ				ScS	**ScS**	**13 03 00.4**	**-3.4**
WMQ				AMB	AMB		
	comp=N,44nm,0.8s						
WMQ				AMB	AMB		
	comp=N,410nm,3.6s						
WMQ				LR	LR		
	comp=N,9μm,7.8s						
WMQ				LR	LR		
	comp=N,5μm,8.0s						
WMQ				LR	LR		
	comp=N,2μm,18.4s						
IANJ	**Anjilo**	**13.79**	**261**	*e*P	**Pn**	**12 50 31.7**	**-1.5**
VOSK	**Vostochnaya**	**13.95**	**1**	⇑Pn	**Pn**	**12 50 34.2**	**-0.8**
	comp=N,31nm,0.8s						
VOSK				⇑Lg	Lg	12 54 31.6	
	comp=N,366nm,1.7s						
VOSK	**Vostochnaya**	**13.95**	**1**	*e*P	**Pn**	**12 50 33.8**	**-1.2**
VOSK	**Vostochnaya**	**13.95**	**1**	*e*Pn	**Pn**	**12 50 33.8**	**-1.2**
BVA0	**Borovoye Array**	**14.25**	**359**	⇓Pn	**Pn**	**12 50 39.0**	**-0.1**
	comp=N,27nm,0.8s,baz=160,slow=10,SNR=7.9						
BVA0				⇑Lg	Lg	12 54 41.1	
	comp=N,489nm,2.1s						
BVA0	**Borovoye Array**	**14.25**	**359**	*e*P	**Pn**	**12 50 39.0**	**-0.1**
BVA0				pmax	pmax		
	comp=Z,36nm,1.3s						
BVAR	**Borovoye Array**	**14.25**	**359**	P	**Pn**	**12 50 38.2**	**-0.9**
BVAR						12 53 14.6	
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BVAR				smax	smax		
	comp=N,1.0nm,0.3s						
BVAR				MLR	MLR		
	comp=Z,3μm,19.8s						
BVAR	**Borovoye Array**	**14.25**	**359**	Pn	**Pn**	**12 50 38.2**	**-0.9**
BVAR				Sn	**Sn**	**12 53 14.6**	**-1.6**
BVAR				Lg	Lg	12 54 41.8	
BVAR	**Borovoye Array**	**14.25**	**359**	Pn	**Pn**	**12 50 38.2**	**-0.9**
	comp=Z,2.3nm,0.3s,baz=167,slow=14,SNR=33						
BVAR				Sn	**Sn**	**12 53 14.6**	**-1

ZAA0	**Zalesovo Array**	**17.98**	**28**	*e*Pn	**Pn**	12 51 26.0	**-1.1**
ZAA0				*e*Sn	**Sn**	12 54 46.2	**-0.4**
ZALV	**Zalesovo Beam**	**17.98**	**28**	P	**Pn**	12 51 26.0	**-1.0**
ZALV				S	**S**	12 54 49.6	**-2.7**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV				MLR	MLR		
	comp=Z,909nm,21.6s						
ZALV	**Zalesovo Beam**	**17.98**	**28**	P	**Pn**	12 51 26.0	**-1.0**
ZALV				S	**S**	12 54 49.6	**-2.7**
ZALV				Lg	Lg	12 56 47.9	
	comp=Z,0.1nm,0.3s,baz=217,slow=31,SNR=2.0						
ZALV				LR	LR	12 58 57.9	
	comp=Z,909nm,21.6s,baz=245,slow=39						
ISRB	**Sarab**	**18.10**	**274**	*e*P	**P**	12 51 29.4	**+0.3**
NVS	**Novosibirsk**	**18.17**	**24**	*e*P	**Pn**	12 51 27.6	**-1.8**
NVS				*e*		12 54 50.4	
TAPN	**Taplejung**	**18.22**	**124**	*e*P	Pn	12 51 24.8	-5.7
	comp=Z,118nm,0.8s						
ODAN	**Odare**	**18.35**	**125**	*e*P	P	12 51 27.4	-4.6
	comp=Z,132nm,0.6s						
IHRS	**Heris**	**18.50**	**276**	*e*P	**Pn**	12 51 34.2	**+0.4**
ASHO	**Ashiyiah**	**18.74**	**226**	P	**P**	12 51 35.9	**-0.1**
	SNR=10.0						
AKL	**Akola**	**18.82**	**161**	*e*P	**P**	12 51 34.7	**-2.2**
AKL				*i* x	x	12 55 06.0	
WBK	**Wadi Bani Khal**	**18.98**	**215**	P	**Pn**	12 51 39.6	**+0.2**
	SNR=22						
NGP	**Nagpur**	**18.98**	**155**	*e*P	**P**	12 51 35.0	**-3.7**
NGP				*ex*	x	12 54 56.3	
LSA	**Lhasa**	**19.15**	**112**	P	**Pn**	12 51 42.3	**+0.3**
LSA	**Lhasa**	**19.15**	**112**	*e*P	**Pn**	12 51 42.6	**+0.6**
LSA				pmax	pmax		
	comp=Z,27nm,0.7s						
LSA	**Lhasa**	**19.15**	**112**	*e*P	**Pn**	12 51 42.5	**+0.6**
	comp=Z,27nm,0.7s						
SVE	**Sverdlovsk**	**19.24**	**343**⇑	*i*P	**Pn**	12 51 42.3	**-0.1**
SVE				*e*S	**Sn**	12 55 15.7	**-1.4**
SVE				pmax	pmax		
	comp=Z,58nm,1.2s						
SVE				MLR	MLR		
	comp=Z,3μm,11.0s						
ARU	**Arti**	**19.41**	**339**	*d*P	**Pn**	12 51 45.0	**+0.6**
ARU				S	**Sn**	12 55 23.5	**+2.4**
ARU				pmax	pmax		
	comp=Z,28nm,0.8s						
ARU	**Arti**	**19.41**	**339**	Pn	**Pn**	12 51 45.7	**+1.3**
	comp=Z,325nm,0.8s,SNR=10						
IMRD	**Marand**	**19.48**	**278**	*e*P	**Pn**	12 51 46.2	**+0.6**
DGRG	**David-gareji**	**19.53**	**286**	P	**Pn**	12 51 45.8	**-0.2**
ARQ	**Araqi**	**19.57**	**222**	P	**Pn**	12 51 48.0	**+1.5**
	SNR=8.5						
JMDO	**Jabal Madar**	**19.59**	**217**	P	**P**	12 51 44.9	**-0.4**
	SNR=16						
BSY	**Bisya**	**19.71**	**220**	P	**Pn**	12 51 48.2	**0.0**
	SNR=15						
BOK	**Bokaro**	**19.75**	**135**	*e*P	**P**	12 51 44.6	**-2.4**
BOK				*ex*	x	12 55 13.3	
IGHG	**Ghaleghazi**	**19.86**	**265**	*e*P	**Pn**	12 51 51.2	**+1.0**
TBLG	**Delisi**	**20.01**	**287**	P	**Pn**	12 51 51.4	**-0.2**
GNI	**Garni**	**20.07**	**282**	P	Pn	12 51 53.4	**+0.9**
	SNR=19						
GNI	**Garni**	**20.07**	**282**	*e*P	Pn	12 51 52.8	**+0.3**
	comp=Z,78nm,0.8s						
GNI				S	Sn	12 55 40.5	**+2.9**
GNI	**Garni**	**20.07**	**282**	P	Pn	12 51 52.9	**+0.4**
	comp=Z,53nm,0.7s,baz=54,slow=8.7,SNR=27						
GNI				S	Sn	12 55 40.5	**+2.9**
	comp=Z,5.0nm,0.3s,baz=198,slow=19,SNR=2.0						
GNI				LR	LR	12 59 31.4	
	comp=Z,356nm,20.5s,baz=215,slow=36						
GUDG	**Gudauri**	**20.21**	**289**	P	Pn	12 51 54.9	**+0.6**
KZR	**Kazreti**	**20.25**	**286**	P	Pn	12 51 54.7	**+0.1**
HVS	**Khovu-Aksy**	**20.34**	**45***d*	*i*P	**P**	12 51 53.0	**-0.4**
HVS				pmax	pmax		
	comp=Z,81nm,1.1s						
ZEI	**Tsey**	**20.65**	**290**	*e*P	**P**	12 51 55.9	**-1.0**
ZEI				pmax	pmax		
	comp=Z,47nm,0.8s						
EAK	**Akyaka**	**20.89**	**284**	*i* P	Pn	12 52 02.2	0.0
AKH	**Akhalkalaki**	**20.95**	**286**	P	Pn	12 52 02.6	-0.2
ONI	**Oni**	**20.97**	**289**	P	Pn	12 52 02.4	-0.5
UMR	**Umm Al-Rimmam**	**21.08**	**251**	*e*P	**P**	12 52 01.8	**+0.4**
HAKT	**HAKKARI**	**21.23**	**275**	*i* P	**P**	12 52 04.7	**+1.5**
KBD	**Kabd**	**21.30**	**250**	*e*P	**P**	12 52 04.4	**+0.7**
KBD				AMb	AMB	12 52 10.3	
	comp=Z,112nm,1.7s						
GOF	**Gofitskoye**	**21.45**	**296**	*e*P	**P**	12 52 07.2	**+1.9**
GOF				pmax	pmax		
	comp=Z,130nm,1.3s						
EPOS	**Posof**	**21.52**	**286**	*i* P	P	12 52 02.3	-3.9
RDF	**Al-Radifah**	**21.54**	**250**	*e*P	**P**	12 52 07.1	**+0.8**
RDF				AMb	AMB	12 52 12.9	
	comp=Z,197nm,1.2s						
NAY	**Al-Naaiem**	**21.59**	**251**	*e*P	**P**	12 52 07.4	**+0.5**
NAY				AMb	AMB	12 52 12.8	
	comp=Z,220nm,1.1s						
KIV	**Kislovodsk**	**21.59**	**293**⇑	*e*P	**P**	12 52 09.1	**+2.1**
KIV				*e*S	**S**	12 56 01.5	**-3.4**
KIV				pmax	pmax		
	comp=Z,30nm,0.9s						
KIV				MLR	MLR		
	comp=Z,1μm,20.0s						
KIV	**Kislovodsk**	**21.59**	**293**	P	**P**	12 52 07.6	**+0.6**
	comp=Z,369nm,0.6s,SNR=5.2						
TUTA	**Tutak**	**21.62**	**280**	*i* P	**P**	12 52 09.7	**+2.2**
EATA	**Eleskirt**	**21.81**	**282**	*i* P	**P**	12 52 12.2	**+2.5**
ARTV	**Artvin**	**22.13**	**285**	*i* P	**P**	12 52 14.8	**+1.9**
DAGI	**Agillar**	**22.15**	**285**	*i* P	**P**	12 52 15.4	**+2.4**
SHL	**Shillong**	**22.19**	**120**	*e*P	**P**	12 52 10.3	**-3.2**
SHL				*ex*	x	12 56 15.0	
HYB	**Hyderabad**	**22.36**	**160**	*i* P	**P**	12 52 13.0	**-2.3**
HYB				*e*		12 56 25.0	
GTA	**Gaotai**	**22.57**	**79**	*e*P	**P**	12 52 16.6	**-0.9**
GTA				pP	**pP**	12 52 23.6	**-1.4**
GTA				sP	**sP**	12 52 26.8	**-1.6**
GTA				S	S	12 56 17.0	-6.4
GTA				sS	**sS**	12 56 32.3	**-3.7**
GTA				SS	**SnSn**	12 56 58.1	**+4.9**
GTA				AMB	AMB		
	comp=Z,24nm,1.3s						
GTA				AMB	AMB		
	comp=Z,140nm,4.0s						
GTA				LR	LR		
	comp=Z,2μm,14.7s						
GTA				LR	LR		
	comp=Z,2μm,14.5s						
GTA				LR	LR		
	comp=Z,1μm,11.9s						
SOKR	**Solikamsk**	**22.64**	**341**⇑	*i*P	**P**	12 52 18.1	**+0.3**
SOKR				pmax	pmax		
	comp=Z,50nm,1.4s						
SOKR				MLR	MLR		
	comp=Z,2μm,18.0s						
VRHR	**Novokhopersk**	**23.81**	**311**	*e*P	sP	12 52 43.2	+2.3
VRHR				pmax	pmax		
	comp=N,20nm,0.9s						
VRHR				pmax	pmax		
	comp=E,70nm,0.9s						
VRHR				pmax	pmax		
	comp=Z,90nm,0.9s						
VRHR				MLR	MLR		
	comp=Z,810nm,15.0s						
VRHR				MLR	MLR		
	comp=N,70nm,8.0s						
VRHR				MLR	MLR		
	comp=E,850nm,15.0s						
IMP	**Imphal**	**24.10**	**119**	*ex*	**P**	12 52 32.0	**-0.7**
KELT	**Kelkit**	**24.25**	**283**	*i* P	**P**	12 52 36.7	**+2.5**
MOY	**Mondy**	**24.73**	**49**	*e*P	**P**	12 52 40.4	**+2.1**
MOY				pmax	pmax		
	comp=Z,69nm,2.2s						
VORD	**Divnogorie**	**25.17**	**309**	*e*P	**P**	12 52 41.8	**-0.3**
VORD				*e*		12 53 19.6	
VORD				pmax	pmax		
	comp=E,30nm,0.8s						
VORD				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VORD				pmax	pmax		
	comp=E,240nm,1.3s						
VORD				pmax	pmax		
	comp=Z,60nm,1.3s						
VORD				MLR	MLR		
	comp=E,2μm,22.0s						
VORD				MLR	MLR		
	comp=Z,2μm,22.0s						
MALT	**Malatya**	**25.18**	**279**⇓	*i*P	**P**	12 52 44.9	**+2.4**
VSR	**Storozhevoye**	**25.32**	**310**	*e*P	**P**	12 52 43.4	**-0.1**
VSR				*e*PP	**pP**	12 52 51.5	**+0.1**
VSR				*e*		12 53 22.8	
VSR				*e*PPP	PPP	12 53 32.5	
VSR				pmax	pmax		
	comp=Z,30nm,0.8s						
VSR				pmax	pmax		
	comp=N,4.0nm,0.4s						
VSR				pmax	pmax		
	comp=E,30nm,0.8s						
VSR				pmax	pmax		
	comp=N,70nm,1.0s						
VSR				pmax	pmax		
	comp=E,80nm,1.0s						
VSR				pmax	pmax		
	comp=Z,70nm,1.0s						
VSR				MLR	MLR		
	comp=N,1μm,12.0s						
VSR				MLR	MLR		
	comp=E,630nm,12.0s						
VSR				MLR	MLR		
	comp=Z,790nm,12.0s						
RBK	**Rabkut**	**25.62**	**219**	P	**P**	12 52 45.9	**-0.7**
	SNR=7.5						
ZAK	**Zakamensk**	**25.74**	**53**	*e*P	**P**	12 52 47.1	**-0.3**
ZAK				pmax	pmax		
	comp=Z,15nm,1.1s						
GZT	**Gaziantep**	**26.05**	**277**	*i* P	**P**	12 52 52.4	**+2.0**
ABTO	**Aybut**	**26.20**	**220**	P	**P**	12 52 51.4	**-0.4**
	SNR=17						
RAYN	**Ar Rayn**	**26.27**	**242**	*e*P	**P**	12 52 52.5	**+0.1**
	comp=Z,29nm,0.9s						
RAYN	**Ar Rayn**	**26.27**	**242**	P	**P**	12 52 52.5	**+0.1**
	comp=Z,186nm,0.9s,SNR=12						
TLY	**Talaya**	**26.30**	**50**	*e*P	**P**	12 52 56.9	**+4.5**
TLY				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TLY				MLR	MLR		
	comp=Z,754nm,17.0s						
LZH	**Lanzhou**	**26.38**	**85**	*e*P	**P**	12 52 54.4	**+0.9**
LZH				pP	pP	12 53 05.3	+3.9
LZH				sP	sP	12 53 11.6	+6.8
LZH				PP	**PnPn**	12 53 36.0	**+2.6**
LZH				*e*S	**S**	12 57 22.0	**-3.2**
LZH				sS	**sS**	12 57 39.0	**+0.6**
LZH				AMB	AMB		
	comp=Z,63nm,1.2s						
LZH				AMB	AMB		
	comp=Z,140nm,4.0s						
LZH				LR	LR		
	comp=Z,2μm,10.2s						
LZH				LR	LR		
	comp=Z,2μm,10.8s						
LZH				LR	LR		
	comp=Z,2μm,11.6s						
IRK	**Irkutsk**	**26.83**	**49**	*e*P	**P**	12 52 55.8	**-1.4**
IRK				*e*		12 54 00.2	
IRK				pmax	pmax		
	comp=Z,49nm,2.1s						
SONM	**Songino Array**	**27.30**	**59**	P	**P**	12 53 00.8	**-0.9**
SONM				Lg	Lg	13 01 33.9	
SONM	**Songino Array**	**27.30**	**59**	P	**P**	12 53 00.8	**-0.9**
	comp=Z,4.2nm,0.8s,baz=263,slow=9.1,SNR=24						
SONM				Lg	Lg	13 01 33.9	
	comp=Z,0.2nm,0.3s,baz=269,slow=23,SNR=2.7						
SONM				LR	LR	13 04 45.7	
	comp=Z,2μm,19.9s,baz=266,slow=38						
SIM	**Simferopol'**	**27.76**	**295**	P	P	12 53 10.4	+4.8
SIM				MLR	MLR		
	comp=Z,600nm,18.0s						
MOS	**Moscow**	**27.77**	**319**	*e*P	**P**	12 53 04.6	**-0.9**
MOS				*e*		12 53 53.6	
MOS				*e*		12 54 09.7	
MOS				*e*SS	SS	12 59 11.5	-32
MOS				MLR	MLR		
	comp=Z,800nm,10.0s						
OBN	**Obninsk**	**28.08**	**317**⇑	*e*P	**P**	12 53 08.9	**+0.6**
OBN				*e*S	**S**	12 57 50.0	**-1.3**
OBN				pmax	pmax		
	comp=Z,68nm,2.5s						
OBN				MLR	MLR		
	comp=Z,500nm,13.0s						
CD2	**Chengdu**	**28.13**	**96**	P	**P**	12 53 10.1	**+1.0**
CD2				pP	pP	12 53 21.8	+4.7
CD2				sP	sP	12 53 25.9	+5.5
CD2				PP	**PnPn**	12 54 02.8	**+5.5**
CD2				S	**S**	12 57 53.1	**+0.4**
CD2				AMB	AMB		
	comp=Z,30nm,0.5s						
CD2				AMB	AMB		
	comp=Z,370nm,4.1s						
CD2				LR	LR		
	comp=Z,1μm,10.1s						
CD2				LR	LR		
	comp=Z,750nm,10.1s						
ASF	**Jabal al Asfar**	**28.19**	**267**	P	**P**	12 53 09.4	**-0.3**
ASF	**Jabal al Asfar**	**28.19**	**267**	P	**P**	12 53 09.4	**-0.3**
	comp=Z,1.9nm,0.7s,baz=77,slow=14,SNR=8.7						
ASF				LR	LR	13 06 59.6	
	comp=Z,502nm,18.5s,baz=277,slow=42						
BR131	**Keskin Array S**	**28.58**	**284**	*e*P	**P**	12 53 14.7	**+1.5**
	comp=Z,11nm,1.0s						
BRTR	**Keskin Array B**	**28.58**	**284**	P	**P**	12 53 14.3	**+1.2**
BRTR	**Keskin Array B**	**28.58**	**284**	P	**P**	12 53 14.3	**+1.2**
	comp=Z,7.1nm,1.0s,baz=95,slow=7.9,SNR=28						
MMAI	**Mount Meron Ar**	**29.04**	**270**	LR	LR	13 06 05.7	
	comp=Z,292nm,18.2s,baz=50,slow=39						
KLMR	**Klimovskoe**	**29.39**	**329**	*e*P	**P**	12 53 18.6	**-1.3**
KLMR				pmax	pmax		
	comp=Z,19nm,1.4s						
KLMR				MLR	MLR		
	comp=Z,707nm,10.0s						
KMI	**Kunming**	**30.24**	**107**	P	**P**	12 53 31.0	**+3.0**
KMI				pP	pP	12 53 41.8	+5.8
KMI				sP	sP	12 53 45.9	+6.5
KMI				S	**S**	12 58 26.0	**-0.2**
KMI				AMB	AMB		
	comp=Z,11nm,0.8s						
KMI				AMB	AMB		
	comp=Z,140nm,6.7s						
KMI				LR	LR		
	comp=Z,1μm,17.5s						
KMI				LR	LR		
	comp=Z,570nm,18.4s						
KMI				LR	LR		
	comp=Z,500nm,15.3s						
HHC	**Hu-ho-hao-te**	**31.26**	**73**	*e*P	**P**	12 53 36.9	**+0.1**
HHC				PP	**PnPn**	12 54 40.6	**+1.4**
HHC				PcP	**PcP**	12 56 31.6	**+0.9**
HHC				S	**S**	12 58 39.1	**-2.7**
HHC				ScP	**ScP**	13 00 10.3	**-1.5**
HHC				PcS	**PcS**	13 00 14.8	**-0.2**
HHC				ScS	**ScS**	13 04 06.1	**-3.1**
HHC				AMB	AMB		
	comp=Z,51nm,0.8s						
HHC				AMB	AMB		
	comp=Z,310nm,5.1s						
HHC				LR	LR		
	comp=Z,2μm,13.0s						
HHC				LR	LR		
	comp=Z,2μm,13.2s						
HHC				LR	LR		
	comp=Z,2μm,12.5s						
AKASG	**Malin Array Be**	**31.37**	**306**	P	**P**	12 53 37.3	**-0.2**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AKASG	**Malin Array Be**	**31.37**	**306**	P	**P**	12 53 37.2	**-0.2**
AKASG	**Malin Array Be**	**31.37**	**306**	P	**P**	12 53 37.2	**-0.2**
	comp=Z,4.7nm,0.6s,baz=113,slow=8.2,SNR=25						
KIEV	**Kiev**	**31.38**	**306**	*e*P	**P**	12 53 37.6	**0.0**
KIEV				pmax	pmax		
	comp=Z,14nm,0.8s						
KIEV	**Kiev**	**31.38**	**306**	*e*P	**P**	12 53 37.6	**0.0**
	comp=Z,14nm,0.8s						
GYA	**Guiyang**	**32.49**	**101**⇑	*i*P	**P**	12 53 47.4	**-0.3**
GYA				pP	pP	12 54 01.0	+5.3
GYA				PcP	**PcP**	12 56 37.4	**+3.1**
GYA				S	**S**	12 59 02.8	**+1.6**
GYA				ScP	**ScP**	13 00 17.0	**+0.8**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s						
GYA				AMB	AMB		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=Z,870nm,17.8s						
GYA				LR	LR		
	comp=Z,650nm,18.0s						
GYA				LR	LR		
	comp=Z,760nm,17.2s						
ENH	**Enshi**	**32.87**	**93**	*e*P	**P**	12 53 51.4	**+0.4**
	comp=Z,19nm,0.8s						
VRI	**Vrincioaia**	**32.93**	**297**⇓	*i*P	**P**	12 53 52.2	**+0.9**
TESR	**Tescani**	**32.95**	**298**⇓	*i*P	**P**	12 53 51.6	**+0.1**
PLOR	**Plostina**	**32.99**	**297**⇓	*i*P	**P**	12 53 52.5	**+0.7**
MLR	**Muntele Rosu**	**33.51**	**296**⇑	*i*P	**P**	12 53 55.1	**-1.4**
MLR	**Muntele Rosu**	**33.51**	**296**	LR	LR	13 09 40.7	
	comp=Z,175nm,19.2s,baz=242,slow=40						
JOF	**Joensuu**	**33.79**	**329**	*e*P	**P**	12 53 58.5	**0.0**
JOF				pmax	pmax		
	comp=Z,9.0nm,0.6s						
JOF	**Joensuu**	**33.79**	**329**	*ep*	**P**	12 53 58.5	**0.0**
	comp=Z,9.0nm,0.6s						
BURAR	**Bucovina Array**	**33.89**	**300**⇑	*i*P	**P**	12 54 00.9	**+1.2**
BUR08	**Bucovina Ar. S**	**33.90**	**300**	*e*P	**P**	12 54 00.5	**+0.7**
LOEI	**Loei**	**34.03**	**120**	P	P	12 54 06.0	+4.9
	comp=Z,26nm,0.9s,comp=Z,898nm						
VOIR		**34.14**	**296**⇓	*i*P	**P**	12 54 03.8	**+1.9**
ARR	**Arges**	**34.44**	**296**⇓	*i*P	**P**	12 54 06.6	**+2.1**
LVV	**L'vov**	**34.65**	**304**	*e*P	**P**	12 54 06.3	**+0.2**
BJI	**Beijing**	**34.87**	**73**	P	**P**	12 54 06.6	**-1.6**
BJI				AMB	AMB		
	comp=Z,10.0nm,0.6s						
BJI				LR	LR		
	comp=Z,2μm,19.1s						
BJI				LR	LR		
	comp=Z,680nm,21.0s						
BJI				LR	LR		
	comp=Z,690nm,22.7s						
NONG	**Nongkai**	**34.94**	**117**	P	**P**	12 54 12.1	**+3.1**
	comp=Z,29nm,1.3s,comp=Z,4μm						
APA	**Apatity**	**35.45**	**336**⇓	*i*P	P	12 54 16.2	+3.4
APA				*i*		12 55 36.0	
APA				*i* S	**S**	12 59 48.0	**+2.2**
APA				*i* SS	**SnSn**	13 02 04.0	**-2.1**
APA				MLR	MLR		
	comp=Z,3μm,13.0s						
FIA1	**FINESS Array S**	**35.48**	**324**	*e*P	**P**	12 54 13.9	**+0.8**
FINES	**FINESS Array B**	**35.48**	**324**	P	**P**	12 54 12.9	**-0.2**
FINES	**FINESS Array B**	**35.48**	**324**	P	**P**	12 54 12.9	**-0.2**
	comp=Z,3.9nm,0.5s,baz=104,slow=8.0,SNR=16						
FINES				LR	LR	13 10 04.1	
	comp=Z,668nm,19.2s,baz=295,slow=38						
KWP	**Kalwaria Pacla**	**35.51**	**304**	*e*P	**P**	12 54 16.1	**+2.5**
KWP				pmax	pmax		
	comp=Z,43nm,1.1s						
KWP	**Kalwaria Pacla**	**35.51**	**304**	*e*P	**P**	12 54 16.1	**+2.5**
	comp=Z,43nm,1.1s						
KAF	**Kangasniemi**	**35.60**	**326**	*e*P	P	12 54 19.1	+5.0
KAF				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KAF	**Kangasniemi**	**35.60**	**326**	*ep*	P	12 54 19.1	+5.0
	comp=Z,6.9nm,0.7s						
CHAI	**Chaiyaphum**	**35.66**	**121**	P	P	12 54 18.4	+3.3
	comp=Z,4.1nm,1.2s						
UZH	**Uzhgorod**	**35.81**	**302**	*e*P	**P**	12 54 17.1	**+1.0**
KOLS	**Kolonicke sedl**	**35.81**	**303**	*e*PP	PP	12 55 39.5	+1.9
VTS	**Vitosha**	**35.84**	**292**⇓	*i*P	P	12 54 21.4	+4.7
SKNT	**Sakolnakorn**	**36.27**	**117**	P	**P**	12 54 22.6	**+2.2**
	comp=Z,44nm,1.2s,comp=Z,2μm						
PHET	**Kaeng Krachan**	**36.34**	**127**	P	P	12 54 25.0	+4.0
	comp=Z,500nm,0.8s						
WHN	**Wuhan**	**36.55**	**89**	P	**P**	12 54 23.1	**+0.4**
WHN				pP	**pP**	12 54 33.3	**+2.5**
WHN				S	**S**	13 00 03.0	**-0.5**
WHN				LR	LR		
	comp=Z,2μm,15.1s						
PANO	**Nakornpanom**	**36.59**	**116**	P	**P**	12 54 25.6	**+2.5**
	comp=Z,31nm,1.7s						
NIE	**Niedzica**	**37.07**	**303**	*e*P	**P**	12 54 28.9	**+1.9**
NIE	**Niedzica**	**37.07**	**303**	*e*P	**P**	12 54 28.9	**+1.9**
KEV	**Kevo**	**38.60**	**337**	*e*P	**P**	12 54 40.0	**+0.4**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KEV	**Kevo**	**38.60**	**337**	*ep*	**P**	12 54 40.0	**+0.4**
	comp=Z,0.7nm,0.3s						
ARCES	**ARCESS Array B**	**38.96**	**337**	P	**P**	12 54 43.0	**+0.5**
ARCES	**ARCESS Array B**	**38.96**	**337**	P	**P**	12 54 43.1	**+0.5**
	comp=Z,4.5nm,0.6s,baz=110,slow=7.8,SNR=12						
ARCES				LR	LR	13 11 41.3	
	comp=Z,2μm,18.1s,baz=122,slow=38						
QIZ	**Qiongzhong**	**39.14**	**109**	P	**P**	12 54 47.3	**+2.7**
QIZ				S	**S**	13 00 46.1	**+3.2**
QIZ				LR	LR		
	comp=Z,1μm,20.7s						
QIZ				LR	LR		
	comp=Z,860nm,14.4s						
NJ2	**Nanjing**	**39.45**	**85**	*e*P	**P**	12 54 49.1	**+2.0**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s						
VRAC	**Vranov**	**39.51**	**304**	LR	LR	13 12 36.4	
	comp=Z,420nm,20.9s,baz=85,slow=38						
DPC	**Dobruska-Polom**	**39.59**	**305**	*e*P	**P**	12 54 49.1	**+1.0**
DPC	**Dobruska-Polom**	**39.59**	**305**	*e*P	**P**	12 54 49.1	**+1.0**
DPC				*ex*	x	12 54 53.9	
UPC	**Upice**	**39.78**	**305**	*e*P	**P**	12 54 51.0	**+1.4**
UPC	**Upice**	**39.78**	**305**	*e*P	**P**	12 54 51.0	**+1.4**
UPC				*ex*	x	12 54 55.1	
CONA	**Conrad Observa**	**40.15**	**301**⇑	*i*P	**P**	12 54 54.3	**+1.5**
	comp=Z,16nm,1.2s						
TREC	**Trest**	**40.23**	**304**	*e*P	**P**	12 54 55.0	**+1.6**
TREC	**Trest**	**40.23**	**304**	*e*P	**P**	12 54 55.0	**+1.6**
PVCC	**Panska Ves**	**40.69**	**306**	*e*P	P	12 55 02.3	+5.1
PVCC	**Panska Ves**	**40.69**	**306**	*e*P	P	12 55 02.3	+5.1
PRU	**Pruhonice**	**40.76**	**305**	*e*P	**P**	12 54 58.7	**+0.9**
PRU	**Pruhonice**	**40.76**	**305**	*e*P	**P**	12 54 58.7	**+0.9**
PRU				*ex*	x	12 55 03.3	
CN2	**Changchun**	**40.81**	**65**	*e*P	**P**	12 55 00.3	**+2.0**
CN2				*e*S	**S**	13 01 07.5	**0.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.4s						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=Z,700nm,18.0s						
CN2				LR	LR		
	comp=Z,900nm,18.0s						
CN2				LR	LR		
	comp=Z,1μm,19.0s						
BRG	**Berggiesshubel**	**41.05**	**306**	*e*P	**P**	12 55 01.4	**+1.2**
	comp=Z,17nm,1.0s						
BRG	**Berggiesshubel**	**41.05**	**306**	*e*P	**P**	12 55 01.4	**+1.2**
BRG				pmax	pmax		
	comp=Z,17nm,1.0s						
HFS	**Hagfors**	**41.14**	**320**	LR	LR	13 12 08.5	
	comp=Z,417nm,18.6s,baz=278,slow=36						
MOA	**Molln**	**41.22**	**302**⇑	*i*P	**P**	12 55 02.6	**+1.0**
	comp=Z,9.7nm,1.1s						
GERES	**GERESS Array B**	**41.45**	**303**	P	**P**	12 55 05.1	**+1.5**
GERES				PP	**PP**	12 56 40.6	**+1.3**
GERES	**GERESS Array B**	**41.45**	**303**	P	**P**	12 55 05.1	**+1.5**
	comp=Z,2.1nm,0.6s,baz=64,slow=9.1,SNR=12						
GERES				PP	**PP**	12 56 40.7	**+1.3**
	comp=Z,0.4nm,0.4s,baz=58,slow=9.3,SNR=2.4						
G

YAK pmax pmax
comp=E,19nm,1.3s
YAK pmax pmax
comp=N,5.0nm,1.4s
YAK MLR MLR
comp=N,329nm,13.0s
YAK MLR MLR
comp=Z,465nm,12.0s
YAK MLR MLR
comp=E,264nm,11.0s
NOA NORSAR Array B 42.43 322 P **P** **12 55 11.2 -0.2**
NOA NORSAR Array B 42.43 322 P **P** **12 55 11.2 -0.2**
comp=E,15nm,0.6s,baz=94,slow=8.1,SNR=23
NOA LR LR 13 15 06.3
comp=E,424nm,19.6s,baz=115,slow=39
GRF Grafenberg Arr 42.93 305 *eP* **P** **12 55 17.5 +1.9**
GRF pmax pmax
comp=Z,10.0nm,0.9s
GRF Grafenberg Arr 42.93 305 *eP* **P** **12 55 17.5 +1.9**
comp=Z,10.0nm,0.9s
KONO Kongsberg 43.18 319 *eP* **P** **12 55 18.1 +0.7**
KONO pmax pmax
comp=Z,38nm,0.6s
KONO Kongsberg 43.18 319 *eP* **P** **12 55 18.1 +0.7**
comp=Z,38nm,0.6s
MDJ Mudanjiang 43.53 63 P **P** **12 55 21.4 +0.9**
MDJ AMB AMB
comp=Z,5.0nm,1.0s
MDJ AMB AMB
comp=Z,120nm,7.2s
TIXI Tiksi 43.76 23 *eP* **P** **12 55 21.7 -0.2**
TIXI pmax pmax
comp=Z,41nm,2.5s
TIXI MLR MLR
comp=Z,439nm,15.0s
KLR Kul'dur 44.03 56 *eP* **P** **12 55 22.0 -2.4**
DAVA Damuels 44.24 302 *i P* **P** **12 55 26.7 +0.3**
comp=Z,16nm,0.9s
KSAR Wonju Array Be 44.38 73 P **P** **12 55 27.1 -0.2**
KSRS Korea Array 44.41 73 P **P** **12 55 27.1 -0.4**
comp=Z,7.7nm,1.1s,baz=286,slow=6.9,SNR=10
KSRS LR LR 13 16 00.2
comp=Z,585nm,18.7s,baz=193,slow=39
SSLB Suanglung 44.93 94 *eP* **P** **12 55 33.5 +1.6**
comp=Z,46nm,1.4s
TPUB Ta-pu 44.94 95 *eP* **P** **12 55 32.1 +0.2**
BFO Black Forest 45.05 303 *eP* **P** **12 55 33.0 +0.4**
BFO pmax pmax
comp=Z,10.0nm,1.0s
BFO Black Forest 45.05 303 *eP* **P** **12 55 33.0 +0.4**
comp=Z,9.9nm,1.0s
SPITS Spitsbergen Ar 45.23 346 LR LR 13 17 41.2
comp=Z,371nm,18.2s,baz=95,slow=40
USRK Ussuriysk Arra 45.30 63 P **P** **12 55 33.7 -0.9**
comp=Z,1.3nm,0.5s,baz=270,slow=10,SNR=3.0
USRK LR LR 13 16 31.6
comp=Z,924nm,19.5s,baz=277,slow=39
VLA Vladivostok 45.52 64 *eP* **P** **12 55 34.5 -1.8**
VLA *e* 12 57 12.7
VLA *e* 12 57 22.1
VLA *eS* S 13 02 11.6 -4.9
VLA pmax pmax
comp=Z,34nm,1.4s
CDF Champ du Feu 45.72 304 *eP* **P** **12 55 38.0 0.0**
CDF Champ du Feu 45.72 304 *eP* **P** **12 55 38.0 0.0**
CDF Champ du Feu 45.72 304 *eP* **P** **12 55 38.0 0.0**
HINF Hinteralfeld 46.13 303 *eP* **P** **12 55 41.0 -0.2**
HINF Hinteralfeld 46.13 303 *eP* **P** **12 55 41.0 -0.2**
HINF Hinteralfeld 46.13 303 *eP* **P** **12 55 41.0 -0.2**
PAGF Fort de Pagny 46.69 304 *eP* **P** **12 55 46.2 +0.7**
PAGF Fort de Pagny 46.69 304 *eP* **P** **12 55 46.2 +0.7**
SBF Sospel 46.76 298 *eP* **P** **12 55 45.9 -0.3**
comp=Z,60nm,0.9s
SBF Sospel 46.76 298 *eP* **P** **12 55 45.9 -0.3**
SBF pmax pmax
comp=Z,60nm,0.9s
SBF Sospel 46.76 298 *eP* **P** **12 55 45.9 -0.3**
comp=Z,60nm,0.9s
LPG La Plagne 46.77 300 *eP* **P** **12 55 46.9 +0.4**
comp=Z,26nm,0.9s
LPG La Plagne 46.77 300 *eP* **P** **12 55 46.9 +0.4**
LPG pmax pmax
comp=Z,26nm,0.9s
LPG La Plagne 46.77 300 *eP* **P** **12 55 46.9 +0.4**
comp=Z,26nm,0.9s
LPL La Plagne 46.78 300 *eP* **P** **12 55 47.0 +0.5**
LPL La Plagne 46.78 300 *eP* **P** **12 55 47.0 +0.5**
LPL La Plagne 46.78 300 *eP* **P** **12 55 47.0 +0.5**
CABF La Chapelle 46.93 302 *eP* **P** **12 55 47.6 +0.1**
comp=Z,22nm,0.9s
CABF La Chapelle 46.93 302 *eP* **P** **12 55 47.6 +0.1**
CABF pmax pmax
comp=Z,22nm,0.9s
CABF La Chapelle 46.93 302 *eP* **P** **12 55 47.6 +0.1**
comp=Z,22nm,0.9s
BNI Bardonecchia 46.95 299 *eP* **P** **12 55 48.1 +0.4**
BNI pmax pmax
comp=Z,19nm,1.1s
BNI Bardonecchia 46.95 299 *eP* **P** **12 55 48.1 +0.4**
comp=Z,19nm,1.1s
MBDF Montbardon 46.97 299 *eP* **P** **12 55 47.7 -0.2**
comp=Z,61nm,1.3s
MBDF Montbardon 46.97 299 *eP* **P** **12 55 47.7 -0.2**
MBDF pmax pmax
comp=Z,61nm,1.3s
MBDF Montbardon 46.97 299 *eP* **P** **12 55 47.7 -0.2**
comp=Z,61nm,1.3s
MEZF Maizieres J'vi 47.14 304 *eP* **P** **12 55 49.6 +0.6**
MEZF Maizieres J'vi 47.14 304 *eP* **P** **12 55 49.6 +0.6**
SFTF Sexfontaines 47.22 304 *eP* **P** **12 55 49.9 +0.3**
SFTF Sexfontaines 47.22 304 *eP* **P** **12 55 49.9 +0.3**
BAIF Baives 47.32 306 *eP* **P** **12 55 51.1 +0.7**
comp=Z,52nm,1.2s
BAIF Baives 47.32 306 *eP* **P** **12 55 51.1 +0.7**
BAIF pmax pmax
comp=Z,52nm,1.2s
BAIF Baives 47.32 306 *eP* **P** **12 55 51.1 +0.7**
comp=Z,52nm,1.2s
FRF La Foret Royal 47.39 297 *eP* **P** **12 55 51.1 +0.1**
FRF La Foret Royal 47.39 297 *eP* **P** **12 55 51.1 +0.1**
FRF La Foret Royal 47.39 297 *eP* **P** **12 55 51.1 +0.1**
ORIF Oris-en-Rattie 47.53 299 *eP* **P** **12 55 52.3 +0.1**
ORIF Oris-en-Rattie 47.53 299 *eP* **P** **12 55 52.3 +0.1**
ORIF Oris-en-Rattie 47.53 299 *eP* **P** **12 55 52.3 +0.1**
SMRF Simiane la Rot 48.01 298 *eP* **P** **12 55 55.1 -0.8**
comp=Z,116nm,1.4s
SMRF Simiane la Rot 48.01 298 *eP* **P** **12 55 55.1 -0.8**
comp=Z,116nm,1.4s
KEST Kesra 48.12 286 P **P** **12 55 56.2 -0.7**
KEST Kesra 48.12 286 P **P** **12 55 56.2 -0.7**
comp=Z,2.3nm,0.7s,baz=90,slow=7.1,SNR=4.3
LOR Lormes 48.23 303 *eP* **P** **12 55 57.0 -0.5**
LOR Lormes 48.23 303 *eP* **P** **12 55 57.0 -0.5**
JNU Nakatsue 48.29 77 P **P** **12 55 57.3 -0.9**
JNU Nakatsue 48.29 77 P **P** **12 55 57.3 -0.9**
comp=Z,20nm,1.0s,baz=262,slow=7.1,SNR=4.0
VIVF Saint-Julien-l 48.37 300 *eP* **P** **12 55 59.1 +0.5**
VIVF Saint-Julien-l 48.37 300 *eP* **P** **12 55 59.1 +0.5**
VIVF Saint-Julien-l 48.37 300 *eP* **P** **12 55 59.1 +0.5**
SMF Signal de Mont 48.41 302 *eP* **P** **12 55 58.8 -0.1**
SMF Signal de Mont 48.41 302 *eP* **P** **12 55 58.8 -0.1**
SMF Signal de Mont 48.41 302 *eP* **P** **12 55 58.8 -0.1**
SSF Saint Saulge 48.52 303 *eP* **P** **12 55 59.5 -0.2**
comp=Z,11nm,0.8s
SSF Saint Saulge 48.52 303 *eP* **P** **12 55 59.5 -0.2**
SSF pmax pmax
comp=Z,11nm,0.8s
SSF Saint Saulge 48.52 303 *eP* **P** **12 55 59.5 -0.2**
comp=Z,11nm,0.8s
AVF Avril sur Loir 48.70 302 *eP* **P** **12 56 01.0 0.0**
comp=Z,37nm,1.0s
AVF Avril sur Loir 48.70 302 *eP* **P** **12 56 01.0 0.0**
AVF pmax pmax
comp=Z,37nm,1.0s
AVF Avril sur Loir 48.70 302 *eP* **P** **12 56 01.0 0.0**
comp=Z,37nm,1.0s
BGF Bois d'Agland 49.09 302 *eP* **P** **12 56 04.9 +0.8**
BGF Bois d'Agland 49.09 302 *eP* **P** **12 56 04.9 +0.8**
BGF Bois d'Agland 49.09 302 *eP* **P** **12 56 04.9 +0.8**
LASF Ste Croix 49.16 299 *eP* **P** **12 56 03.8 -0.9**
LASF Ste Croix 49.16 299 *eP* **P** **12 56 03.8 -0.9**
TCF Toulx Ste Croi 49.59 302 *eP* **P** **12 56 08.3 +0.3**
comp=Z,22nm,0.9s
TCF Toulx Ste Croi 49.59 302 *eP* **P** **12 56 08.3 +0.3**
TCF pmax pmax
comp=Z,22nm,0.9s
TCF Toulx Ste Croi 49.59 302 *eP* **P** **12 56 08.3 +0.3**
comp=Z,22nm,0.9s
CAF Calviac 50.11 300 *eP* **P** **12 56 12.5 +0.6**
CAF Calviac 50.11 300 *eP* **P** **12 56 12.5 +0.6**
CAF Calviac 50.11 300 *eP* **P** **12 56 12.5 +0.6**
KMBO Kilima Mbogo 50.21 226 P **P** **12 56 14.9 +1.6**
SNR=6.9
KMBO Kilima Mbogo 50.21 226 *eP* **P** **12 56 14.3 +1.0**
KMBO Kilima Mbogo 50.21 226 P **P** **12 56 14.1 +0.9**
comp=Z,9.3nm,1.1s,baz=23,slow=9.4,SNR=12
RJF Les Rejaudoux 50.36 301 *eP* **P** **12 56 14.4 +0.6**
RJF Les Rejaudoux 50.36 301 *eP* **P** **12 56 14.4 +0.6**
RJF Les Rejaudoux 50.36 301 *eP* **P** **12 56 14.4 +0.6**
JMIC Jan Mayen 50.41 335 LR LR 13 17 52.9
comp=Z,640nm,18.3s,baz=205,slow=36
LDF La Druitiere 50.44 306 *eP* **P** **12 56 14.0 -0.3**
comp=Z,18nm,0.8s
LDF La Druitiere 50.44 306 *eP* **P** **12 56 14.0 -0.3**
LDF pmax pmax
comp=Z,19nm,0.8s
LDF La Druitiere 50.44 306 *eP* **P** **12 56 14.0 -0.3**
comp=Z,18nm,0.8s
FLN La Foliniere 50.61 306 *eP* **P** **12 56 15.2 -0.4**
FLN La Foliniere 50.61 306 *eP* **P** **12 56 15.2 -0.4**
FLN La Foliniere 50.61 306 *eP* **P** **12 56 15.2 -0.4**
GRR Gorron 50.96 306 *eP* **P** **12 56 17.9 -0.4**
comp=Z,22nm,1.0s
GRR Gorron 50.96 306 *eP* **P** **12 56 17.9 -0.4**
GRR pmax pmax
comp=Z,22nm,1.0s
GRR Gorron 50.96 306 *eP* **P** **12 56 17.9 -0.4**
comp=Z,22nm,1.0s
LFF La Frestale 51.00 301 *eP* **P** **12 56 18.1 -0.5**
LFF La Frestale 51.00 301 *eP* **P** **12 56 18.1 -0.5**
LFF La Frestale 51.00 301 *eP* **P** **12 56 18.1 -0.5**
MFF Saint Martin d 51.05 303 *eP* **P** **12 56 18.7 -0.2**
MFF Saint Martin d 51.05 303 *eP* **P** **12 56 18.7 -0.2**
MFF Saint Martin d 51.05 303 *eP* **P** **12 56 18.7 -0.2**
YSS Yuzh-Sakhalins 51.73 56 *eP* **P** **12 56 25.0 +1.0**
SGMF Saint Gilles 52.08 306 *eP* **P** **12 56 26.5 -0.1**
comp=Z,26nm,1.0s
SGMF Saint Gilles 52.08 306 *eP* **P** **12 56 26.5 -0.1**
SGMF pmax pmax
comp=Z,26nm,1.0s
SGMF Saint Gilles 52.08 306 *eP* **P** **12 56 26.5 -0.1**
comp=Z,26nm,1.0s
MAJO Matsushiro 52.37 70 *eP* **P** **12 56 28.6 -0.4**
MAJO pmax pmax
comp=Z,16nm,0.8s
MAJO Matsushiro 52.37 70 *eP* **P** **12 56 28.6 -0.4**
comp=Z,16nm,0.8s
MAT Matsushiro 52.37 70 P **P** **12 56 28.2 -0.8**
MJAR Matsushiro Arr 52.37 70 P **P** **12 56 28.3 -0.7**
MJAR Matsushiro Ar 52.37 70 P **P** **12 56 28.3 -0.7**
comp=Z,12nm,0.9s,baz=288,slow=9.6,SNR=18
KKM Kota Kinabalu 52.42 116 P **P** 12 56 34.8 +5.2
comp=Z,24nm,0.8s
KKM Kota Kinabalu 52.42 116 *eP* **P** **12 56 30.3 +0.6**
comp=Z,15nm,0.7s
ROSF Rostrenen 52.51 306 *eP* **P** **12 56 29.6 -0.2**
comp=Z,72nm,1.3s
ROSF Rostrenen 52.51 306 *eP* **P** **12 56 29.6 -0.2**
ROSF pmax pmax
comp=Z,72nm,1.3s
ROSF Rostrenen 52.51 306 *eP* **P** **12 56 29.6 -0.2**
comp=Z,72nm,1.3s
QUIF Quistinic 52.58 306 *eP* **P** **12 56 30.0 -0.3**
QUIF Quistinic 52.58 306 *eP* **P** **12 56 30.0 -0.3**
QUIF Quistinic 52.58 306 *eP* **P** **12 56 30.0 -0.3**
ETSF Etsaut 52.58 299 *eP* **P** **12 56 30.9 +0.4**
ETSF Etsaut 52.58 299 *eP* **P** **12 56 30.9 +0.4**
ETSF Etsaut 52.58 299 *eP* **P** **12 56 30.9 +0.4**
ASAJ Asahikawa 52.59 60 P **P** **12 56 30.1 -0.3**
ASAJ Asahikawa 52.59 60 P **P** **12 56 30.1 -0.3**
comp=Z,8.1nm,0.9s,baz=338,slow=11,SNR=3.7
ASAJ LR LR 13 19 29.5
comp=Z,615nm,19.2s,baz=297,slow=37
SJPF Ste Jean 52.96 299 *eP* **P** **12 56 33.1 -0.1**
SJPF Ste Jean 52.96 299 *eP* **P** **12 56 33.1 -0.1**
SJPF Ste Jean 52.96 299 *eP* **P** **12 56 33.1 -0.1**
ESDC Sonseca Array 56.20 296 P **P** **12 56 57.5 +0.7**
ESDC Sonseca Array 56.20 296 P **P** **12 56 57.6 +0.7**
comp=Z,4.5nm,0.7s,baz=58,slow=7.6,SNR=11
TAM Tamanrasset 57.10 274 *eP* **P** **12 57 04.8 +1.2**
TAM pmax pmax
comp=Z,5.0nm,0.8s
TAM Tamanrasset 57.10 274 *eP* **P** **12 57 04.8 +1.2**
comp=Z,4.8nm,0.8s
PETK Petropavlovsk- 58.52 45 P **P** **12 57 12.4 -0.5**
PETK pmax pmax
comp=Z,9.0nm,1.0s
PETK Petropavlovsk- 58.52 45 P **P** **12 57 12.4 -0.5**
PETK Petropavlovsk- 58.52 45 P **P** **12 57 12.4 -0.5**
comp=Z,9.0nm,1.0s,baz=269,slow=7.3,SNR=4.9
SUMG Summit 58.83 341 *eP* **P** **12 57 16.7 +1.4**
SUMG pmax pmax
comp=Z,13nm,0.6s
SUMG Summit 58.83 341 *i P* **P** **12 57 17.2 +1.9**
comp=Z,12nm,0.7s
SUMG Summit 58.83 341 *eP* **P** **12 57 16.7 +1.4**
comp=Z,13nm,0.6s
OPO Ambohidratompo 61.15 206 P **P** **12 57 31.1 -0.4**
OPO Ambohidratompo 61.15 206 P **P** **12 57 31.1 -0.4**
comp=Z,6.6nm,1.1s,baz=334,slow=7.1,SNR=3.3
TOA0 Torodi Ar. Sit 65.55 267 *eP* **P** **12 57 59.7 -1.0**
TORD Torodi Ar. Bea 65.55 267 P **P** **12 57 59.8 -0.9**
TORD Torodi Ar. Bea 65.55 267 P **P** **12 57 59.8 -0.9**
comp=Z,7.1nm,0.6s,baz=52,slow=6.3,SNR=79
FX1 Attu Island--F 66.81 40 *eP* **P** **12 58 07.6 -0.6**
BATI Baumata 69.29 123 P **P** **12 58 22.6 -1.7**
BATI Baumata 69.29 123 P **P** **12 58 22.6 -1.7**
comp=Z,18nm,0.5s,baz=33,slow=3.4,SNR=3.3
COLD Coldfoot 69.85 16 *eP* **P** **12 58 26.7 -0.3**
comp=Z,11nm,0.9s
IMA2 Indian Mountai 70.03 18 *eP* **P** **12 58 27.6 -0.7**
IM04 Indian Mountai 70.08 18 *eP* **P** **12 58 27.8 -0.7**
INK Inuvik 71.70 9 *eP* **P** **12 58 39.3 +1.1**
INK Inuvik 71.70 9 P **P** **12 58 38.3 +0.1**
comp=Z,6.8nm,0.7s,baz=355,slow=6.5,SNR=19
BPAW Bear Paw Mtn. 72.30 18 *eP* **P** **12 58 44.3 +2.4**
comp=Z,8.5nm,1.0s
COLA College 72.36 16 *eP* **P** **12 58 43.5 +1.3**
COLA pmax pmax
comp=Z,56nm,0.9s
COLA College 72.36 16 *eP* **P** **12 58 43.5 +1.3**
comp=Z,56nm,0.9s
ILAR Eielson Array 72.66 16 P **P** **12 58 43.6 -0.4**
ILAR Eielson Array 72.66 16 P **P** **12 58 43.6 -0.4**
comp=Z,1.9nm,0.9s,baz=326,slow=4.8,SNR=19
PPLA Purkeypile 73.01 19 *eP* **P** **12 58 46.5 +0.2**
comp=Z,6.0nm,0.7s
TRF Thorofare Moun 73.02 18 *eP* **P** **12 58 48.1 +1.7**
comp=Z,16nm,1.6s
DBIC Dimbokro 74.59 266 P **P** **12 58 55.8 -0.4**
DBIC Dimbokro 74.59 266 P **P** **12 58 55.8 -0.4**
comp=Z,5.7nm,0.9s,baz=14,slow=5.8,SNR=4.1
DAWY Dawson 74.76 13 *eP* **P** **12 58 57.0 +0.5**
PMR Palmer 74.89 18 *eP* **P** **12 58 56.4 -0.7**
PMR pmax pmax
comp=Z,8.0nm,0.9s
PMR Palmer 74.89 18 *eP* **P** **12 58 56.4 -0.7**
comp=Z,7.8nm,0.9s
RSO Redoubt South 74.89 21 *eP* **P** **12 58 56.5 -0.9**
comp=Z,12nm,0.3s
LIC Lamto 75.00 266 *eP* P 12 58 54.7 -3.8
LIC Lamto 75.00 266 *eP* P 12 58 54.7 -3.8
TSUM Tsumeb 76.14 231 *eP* **P** **12 59 04.9 -0.1**
comp=Z,11nm,1.0s
LBTB Lobatse 76.21 221 *eP* **P** **12 59 05.1 -0.1**
comp=Z,20nm,1.1s
FITZ Fitzroy Crossi 76.44 127 *eP* **P** **12 59 06.1 -0.5**
FITZ Fitzroy Crossi 76.44 127 P **P** **12 59 05.2 -1.4**
comp=Z,6.7nm,1.0s,baz=333,slow=6.1,SNR=7.6
HYT Haines Junctio 78.10 14 *eP* **P** **12 59 17.2 +1.7**
YKA Yellowknife Ar 78.98 3 P **P** **12 59 19.9 -0.3**
YKA Yellowknife Ar 78.98 3 P **P** **12 59 19.9 -0.3**
comp=Z,7.3nm,0.7s,baz=351,slow=5.6,SNR=15
BOSA Boshof 79.34 220 *eP* **P** **12 59 23.0 +0.4**
BOSA Boshof 79.34 220 P **P** **12 59 22.6 0.0**
comp=Z,14nm,1.0s,baz=22,slow=5.4,SNR=6.2
SCHQ Schefferville 79.91 337 P **P** **12 59 25.9 +0.5**
SCHQ Schefferville 79.91 337 P **P** **12 59 25.9 +0.5**
comp=Z,8.8nm,0.6s,baz=60,slow=8.1,SNR=2.5
DLBC Dease Lake 81.61 11 P **P** **12 59 35.3 +0.9**
comp=Z,3.5nm,1.0s,baz=284,slow=4.2,SNR=4.5
WRA Warramunga Arr 83.40 122 P **P** **12 59 42.7 -1.6**
WRA Warramunga Arr 83.40 122 P **P** **12 59 42.7 -1.6**
comp=Z,3.6nm,0.5s,baz=322,slow=4.7,SNR=46
WRAB Tennant Creek 83.40 122 *eP* **P** **12 59 43.2 -1.0**
WRAB pmax pmax
comp=Z,10.0nm,0.8s
WRAB Tennant Creek 83.40 122 *eP* **P** **12 59 43.2 -1.0**
comp=Z,10.0nm,0.8s
PMG Port Moresby 85.45 106 P **P** **12 59 55.2 +0.4**
PMG Port Moresby 85.45 106 P **P** **12 59 55.2 +0.4**
comp=Z,11nm,0.7s,baz=297,slow=6.8,SNR=4.1
ASAR Alice Springs 85.75 125 P **P** **12 59 54.5 -1.5**
ASAR Alice Springs 85.75 125 P **P** **12 59 54.5 -1.5**
comp=Z,5.2nm,1.0s,baz=310,slow=4.6,SNR=23
FFC Flin Flon 86.66 356 *eP* **P** **13 00 00.1 0.0**
FFC Flin Flon 86.66 356 *eP* **P** **13 00 00.1 0.0**
EDM Edmonton 88.31 2 *eP* **P** **13 00 09.1 +0.9**
EDM Edmonton 88.31 2 *eP* **P** **13 00 09.1 +0.9**
ULM Lac du Bonnet 90.56 351 P **P** **13 00 17.7 -1.0**
ULM Lac du Bonnet 90.56 351 P **P** **13 00 17.7 -1.0**
comp=Z,2.3nm,0.6s,baz=333,slow=4.5,SNR=2.5
CTA Charters Tower 91.70 114 P **P** **13 00 24.6 +0.3**
CTA Charters Tower 91.70 114 P **P** **13 00 24.6 +0.3**
comp=Z,6.3nm,0.8s,baz=292,slow=6.1,SNR=6.3
EYMN Ely 92.21 348 *eP* **P** **13 00 27.5 +1.1**
comp=Z,3.1nm,0.6s
BSMT Bassoo Peak 93.61 4 *eP* **P** **13 00 33.0 -0.2**
comp=Z,4.3nm,0.9s
SLMT Seeley Lake 94.28 3 *eP* **P** **13 00 37.5 +1.4**
comp=Z,5.8nm,0.6s
CHMT Chamberlain Mo 94.61 3 *eP* **P** **13 00 38.8 +1.1**
comp=Z,2.0nm,0.5s
PDAR Pinedale Array 98.83 0 LR LR 13 50 18.2
comp=Z,265nm,20.4s,baz=113,slow=38
TXAR Lajitas Array 112.04 355 PKKPbc PKKPbc 13 16 41.4 -1.9
TXAR Lajitas Array 112.04 355 PKKPbc PKKPbc 13 16 41.4 -1.9
comp=Z,0.2nm,0.4s,baz=188,slow=5.5,SNR=2.7
CPUP Villa Florida 135.01 270 PKP **PKPdf** **13 06 36.0 0.0**
CPUP Villa Florida 135.01 270 PKP **PKPdf** **13 06 36.0 0.0**
comp=Z,0.7nm,0.5s,baz=315,slow=1.4,SNR=2.9
LPAZ La Paz 137.64 290 PKP **PKPdf** **13 06 41.4 -0.6**
LPAZ La Paz 137.64 290 PKP **PKPdf** **13 06 41.4 -0.6**
comp=Z,0.7nm,0.3s,baz=11,slow=3.7,SNR=6.3
PLCA Paso Flores 150.30 254 PKPbc **PKPbc** **13 07 07.3 -0.4**
PLCA Paso Flores 150.30 254 PKPbc **PKPbc** **13 07 07.3 -0.4**
comp=Z,4.6nm,1.0s,baz=126,slow=4.3,SNR=3.0

ISCJB ***13*** *13:02:41.9±0.7, 3.88S±0.05×34.74E±0.04, h22km, Error ellipse: s-maj=7.6km s-min=5.8km az=15.1*
PRE ***13*** *13:02:41.3±1.3, 3.97S×34.79E, h10km, ML4.5*
BUL ***13*** *13:02:45.8±2.9, 4.19S×35.26E, h0km±31km, MD3.2*
ISC 13 13:02:41.6±1.0, 4.06S±0.06×34.78E±0.05, h22km, n8, σ1°25/15, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAUS	**Longido**	**2.33**	**56**	*i* P	**Pn**	**13 03 18.6**	**-0.1**
MAUS				*i* S	**Sn**	**13 03 44.9**	**-1.8**
DODT	**Dodoma, Tanzan**	**2.33**	**155**	*i* P	**Pb**	**13 03 24.4**	**+1.5**
DODT				*i* S	**Sb**	**13 03 51.5**	**+0.1**
KMBO	**Kilima Mbogo**	**3.82**	**40**	*eP*	**Pn**	**13 03 39.4**	**+0.1**
KMBO				*eS*	**Sn**	**13 04 23.6**	**-0.2**
KMBO	**Kilima Mbogo**	**3.82**	**40**	*i* P	**Pn**	**13 03 39.5**	**+0.1**
KMBO				*i* S	**Sn**	**13 04 24.3**	**+0.5**
KIG	**Kigali**	**5.15**	**294**	*eP*	**Pn**	**13 03 58.0**	**+0.4**
KIG				*eS*	**Sn**	**13 04 56.1**	**-0.3**
KIG				AML	AML	13 05 27.7	
	comp=Z,309nm,0.4s						
MBAR	**Mbarara**	**5.30**	**310**	*eP*	**Pn**	**13 04 00.8**	**+1.1**
MBAR				*eS*	**Sn**	**13 04 59.3**	**-0.9**
MBAR	**Mbarara**	**5.30**	**310**	*i* P	**Pn**	**13 04 01.1**	**+1.4**
MBAR				*i* S	**Sn**	**13 04 58.7**	**-1.5**
LSZ	**Lusaka**	**12.89**	**210**	*eS*	**Sn**	**13 08 04.3**	**-2.5**

ISCJB ***13*** *13:03:31.8±0.5, 63.40N±0.02×145.11W±0.05, h10km±4km, mb3.7/9, Error ellipse: s-maj=3.6km s-min=3.2km az=1.5*
NEIC ***13*** *13:03:32.4, 63.34N×145.16W, h6km, ML3.6(AEIC), MW3.8(USGS), After AEIC.*
IDC ***13*** *13:03:33.2±2.3, 63.40N×145.17W, h14km±13km, mb3.6/9, mb1 3.8/11, mb1mx3.7/28, mbtmp3.6/11, ML3.4/2, Error ellipse: s-maj=23.1km s-min=10.9km az=39.0*
ISC 13 13:03:32.2±1.1, 63.37N±0.02×145.17W±0.03, h7km±8km, n82, σ0°99/91, mb3.9/9, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAX	**Paxson**	**0.42**	**199**	P	**Pg**	**13 03 39.7**	**-0.7**
PAX				S	**Sg**	**13 03 45.2**	**-0.8**
DDM	**Donnelly Dome**	**0.52**	**324**	P	**Pg**	**13 03 43.2**	**+1.0**
DDM				S	**Sb**	**13 03 50.9**	**-0.6**
DOT	**Dot Lake**	**0.57**	**60**	P	**Pg**	**13 03 43.3**	**+0.1**
DOT				S	**Sg**	**13 03 51.0**	**+0.3**
MENT	**Mentasta**	**0.79**	**123**	P	**Pg**	**13 03 46.6**	**-0.8**
SCRK	**Sand Creek**	**0.81**	**41**	P	**Pg**	**13 03 47.9**	**+0.2**
SCRK				S	**Sg**	**13 03 58.5**	**+0.4**
HARP	**HAARP**	**0.97**	**179**	P	**Pg**	**13 03 49.7**	**-1.0**
DHY	**Denali Highway**	**1.04**	**254**	P	**Pg**	**13 03 50.9**	**-1.2**
HDA	**Harding Lake**	**1.30**	**324**	P	**Pn**	**13 03 56.3**	**-0.5**
WANC	**Wrangell North**	**1.47**	**159**	P	**Pn**	**13 03 57.9**	**-1.6**
BCA3	**Beaver Creek A**	**1.57**	**100**	P	**Pn**	**13 03 59.6**	**-0.9**
IL1	**Eielson Array**	**1.59**	**333**	P	**Pn**	**13 04 00.1**	**-0.7**
ILAR	**Eielson Array**	**1.59**	**333**	Pn	**Pn**	**13 04 00.1**	**-0.7**
ILAR				Pg	**Pb**	**13 04 02.4**	**+0.4**
ILAR				Lg	Lg	13 04 23.0	
ILAR	**Eielson Array**	**1.59**	**333**	Pn	**Pn**	**13 04 00.1**	**-0.7**
	74nm,0.3s,baz=155,slow=14,SNR=357						
ILAR				Pg	**Pb**	**13 04 02.4**	**+0.4**
	78nm,0.3s,baz=152,slow=16,SNR=541						
ILAR				Lg	Lg	13 04 23.0	
	642nm,0.3s,baz=148,slow=29,SNR=62						
RND	**Reindeer**	**1.66**	**273**	P	**Pb**	**13 04 02.8**	**-0.3**
WRH	**Wood River Hil**	**1.70**	**312**	P	**Pn**	**13 04 02.0**	**-0.2**
MCK	**McKinley**	**1.72**	**284**	P	**Pb**	**13 04 03.8**	**-0.4**
CCB	**Clear Creek Bu**	**1.73**	**319**	P	**Pn**	**13 04 01.6**	**-1.0**
SCM	**Sheep Creek Mo**	**1.84**	**214**	P	**Pn**	**13 04 03.9**	**-0.4**
COLA	**College**	**1.91**	**323**	P	**Pn**	**13 04 04.6**	**-0.6**
KLU	**Klutina**	**1.92**	**191**	P	**Pn**	**13 04 05.2**	**-0.1**
BWN	**Browne**	**2.07**	**295**	P	**Pn**	**13 04 07.0**	**-0.3**
MDM	**Murphy Dome**	**2.08**	**321**	P	**Pn**	**13 04 06.9**	**-0.6**
NEA	**Nenana**	**2.10**	**307**	P	**Pn**	**13 04 07.5**	**-0.4**
MCARA	**McCarthy VSAT**	**2.23**	**152**	P	**Pn**	**13 04 10.3**	**+0.7**
EGAK	**Eagle**	**2.26**	**50**	*eP*g	**Pg**	**13 04 14.6**	**-0.8**
EGAK				*eS*g	**Sg**	**13 04 43.4**	**-1.3**
DIV	**Divide**	**2.27**	**187**	P	**Pn**	**13 04 10.4**	**+0.3**
TRF	**Thorofare Moun**	**2.30**	**274**	P	**Pn**	**13 04 12.2**	**+1.5**
VLZ	**Valdez**	**2.31**	**194**	P	**Pn**	**13 04 10.4**	**-0.2**
BMRM	**Bremner River**	**2.43**	**173**	P	**Pn**	**13 04 11.7**	**-0.6**
PTPK	**Patty Peak**	**2.53**	**149**	P	**Pn**	**13 04 14.6**	**+0.7**
PMR	**Palmer**	**2.56**	**228**	P	**Pn**	**13 04 15.2**	**+1.1**
KTH	**Kantishna Hill**	**2.59**	**277**	P	**Pn**	**13 04 15.6**	**+1.1**
GLI	**Glacier Island**	**2.66**	**201**	P	**Pn**	**13 04 16.6**	**+1.1**
DAWY	**Dawson**	**2.67**	**72**	P	**Pn**	**13 04 15.5**	**-0.1**
BPAW	**Bear Paw Mtn.**	**2.69**	**288**	P	**Pn**	**13 04 15.6**	**-0.2**
KIAG	**Kiagna River**	**2.79**	**150**	P	**Pn**	**13 04 18.6**	**+1.2**
GOAT	**Goat Mountain**	**2.81**	**175**	P	**Pn**	**13 04 18.8**	**+1.2**
EYAK	**Cordova Ski Ar**	**2.85**	**186**	P	**Pn**	**13 04 19.3**	**+1.3**
MLY	**Manley**	**2.95**	**307**	P	**Pn**	**13 04 19.2**	**-0.3**
RAGM	**Ragged Mountai**	**3.00**	**175**	P	**Pn**	**13 04 21.5**	**+1.3**
KHIT	**Khitrov Hills**	**3.08**	**162**	P	**Pn**	**13 04 22.9**	**+1.6**
NICHA	**Nichawak Mount**	**3.20**	**169**	P	**Pn**	**13 04 24.3**	**+1.4**
FYU	**Fort Yukon**	**3.21**	**360**	P	**Pn**	**13 04 24.0**	**+1.0**
PPLA	**Purkeypile**	**3.22**	**265**	P	**Pn**	**13 04 25.0**	**+1.7**
BARK	**Barkley Ridge**	**3.24**	**156**	P	**Pn**	**13 04 25.2**	**+1.7**
SKT	**Skwentna**	**3.25**	**247**	P	**Pn**	**13 04 25.7**	**+2.2**
KULT	**Kultieth River**	**3.34**	**159**	P	**Pn**	**13 04 26.4**	**+1.5**
SEW	**Seward**	**3.86**	**214**	P	**Pn**	**13 04 33.7**	**+1.8**
BM3	**Burnt Mountain**	**4.07**	**3**	P	**Pn**	**13 04 35.6**	**+0.7**
COLD	**Coldfoot**	**4.41**	**334**	P	**Pn**	**13 04 40.0**	**+0.6**
**HYT

INK	**Inuvik**	**6.88**	**39**	*e*P		**Pn**	**13 05 13.5**	**+0.2**
INK				Sn		**Sn**	**13 06 30.6**	**-1.1**
INK				Lg		Lg	13 07 08.3	
INK	**Inuvik**	**6.88**	**39**	Pn		**Pn**	**13 05 13.1**	**-0.2**
	0.7nm,0.3s,baz=254,slow=17,SNR=24							
INK				Sn		**Sn**	**13 06 30.6**	**-1.1**
	0.9nm,0.3s,baz=168,slow=14,SNR=3.2							
INK				Lg		Lg	13 07 08.3	
	1.6nm,0.3s,baz=129,slow=31,SNR=4.6							
OHAK	**Old Harbor**	**7.36**	**217**	*e*P		**Pn**	**13 05 21.2**	**+1.2**
	23nm,1.0s							
DLBC	**Dease Lake**	**8.87**	**117**	Pn		**Pn**	**13 05 42.5**	**+1.7**
DLBC				Lg		Lg	13 08 13.2	
DLBC	**Dease Lake**	**8.87**	**117**	Pn		**Pn**	**13 05 42.5**	**+1.7**
	0.1nm,0.3s,baz=326,slow=15,SNR=2.7							
DLBC				Lg		Lg	13 08 13.2	
	0.5nm,0.3s,baz=37,slow=20,SNR=7.4							
PDAR	**Pinedale Array**	**29.11**	**118**	P		**P**	**13 09 34.2**	**+0.8**
PDAR	**Pinedale Array**	**29.11**	**118**	P		**P**	**13 09 34.2**	**+0.8**
	0.5nm,0.8s,baz=12,slow=5,0,SNR=4.3							
TXAR	**Lajitas Array**	**43.13**	**122**	P		**P**	**13 11 33.5**	**+0.4**
TXAR	**Lajitas Array**	**43.13**	**122**	P		**P**	**13 11 33.5**	**+0.4**
	0.3nm,0.8s,baz=336,slow=8.3,SNR=3.4							
SONM	**Songino Array**	**55.69**	**309**	P		**P**	**13 13 08.6**	**-0.2**
SONM	**Songino Array**	**55.69**	**309**	P		**P**	**13 13 08.6**	**-0.2**
	1.1nm,0.9s,baz=28,slow=6.5,SNR=5.3							
ZALV	**Zalesovo Beam**	**56.71**	**327**	P		**P**	**13 13 13.8**	**-2.0**
ZALV	**Zalesovo Beam**	**56.71**	**327**	P		**P**	**13 13 13.8**	**-2.0**
	0.5nm,0.4s,baz=20,slow=4.6,SNR=3.5							
EKA	**Eskdalemuir Ar**	**58.02**	**24**	P		**P**	**13 13 25.2**	**+0.2**
EKA	**Eskdalemuir Ar**	**58.02**	**24**	P		**P**	**13 13 25.2**	**+0.2**
	0.7nm,0.5s,baz=332,slow=5.8,SNR=5.9							
MKAR	**Makanchi Array**	**63.94**	**326**	P		**P**	**13 14 04.1**	**-1.3**
MKAR	**Makanchi Array**	**63.94**	**326**	P		**P**	**13 14 04.1**	**-1.3**
	0.6nm,0.6s,baz=42,slow=6.4,SNR=6.5							
AKASG	**Malin Array Be**	**66.19**	**4**	P		**P**	**13 14 19.9**	**0.0**
AKASG	**Malin Array Be**	**66.19**	**4**	P		**P**	**13 14 19.9**	**0.0**
	0.3nm,0.4s,baz=356,slow=5.8,SNR=2.9							
ESDC	**Sonseca Array**	**72.75**	**30**	P		**P**	**13 15 01.3**	**+0.6**
ESDC	**Sonseca Array**	**72.75**	**30**	P		**P**	**13 15 01.3**	**+0.6**
	0.3nm,0.4s,baz=345,slow=4.6,SNR=4.1							
CMAR	**Chiang Mai Arr**	**84.59**	**301**	P		**P**	**13 16 05.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**84.59**	**301**	P		**P**	**13 16 05.8**	**-0.3**
	0.8nm,0.6s,baz=7.6,slow=5.9,SNR=6.4							

IDC 13 13:26:55.8±1.9, 2°98′N×128°12′E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/22, mbtmpg3.7/5, Error ellipse: s-maj=102.8km s-min=25.3km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.09**	**187**	P	P	13 31 42.0	-0.1
	2.2nm,1.0s,baz=12,slow=9.3,SNR=2.8						
WRA	**Warramunga Arr**	**23.59**	**165**	P	P	13 32 08.4	0.0
	1.2nm,0.5s,baz=345,slow=10,SNR=20						
ASAR	**Alice Springs**	**27.08**	**168**	P	P	13 32 40.2	-0.2
	0.3nm,0.7s,baz=347,slow=7.2,SNR=4.9						
STKA	**Stephens Creek**	**36.96**	**161**	P	P	13 34 06.7	-0.2
	3.5nm,1.0s,baz=328,slow=9.5,SNR=3.9						
MKAR	**Makanchi Array**	**58.96**	**325**	P	P	13 36 57.4	+0.2
	0.4nm,0.6s,baz=126,slow=7.3,SNR=3.8						

*ISCJB **13** 13:27:41.1±0.3, 37°.57N±0°.03×18°.36E±0°.02, h63km±9km, mb3.9/3, Error ellipse: s-maj=4.2km s-min=2.4km az=10.5*
*ROM **13** 13:27:41.9±0.3, 37°.53N×18°.35E, h49km±5km, Ml3.9/4, Error ellipse: s-maj=4.1km s-min=2.9km az=170.0*
*CSEM **13** 13:27:42.2±0.1, 37°.53N×18°.36E, h40km, ML3.8/7, Error ellipse: s-maj=3.4km s-min=1.8km az=12.0*
*THE **13** 13:27:43.0, 37°.56N×18°.46E, h31km±40km, ML3.8/7, Error ellipse: s-maj=40.4km s-min=1.0km az=0.0*
*PDG **13** 13:27:44.8±0.3, 38°.14N×18°.35E, h8km±1km, MD4.1/1, ML4.0/9, Error ellipse: s-maj=3.3km s-min=1.1km az=90.0*
*IDC **13** 13:27:48.6±9.8, 38°.49N×19°.99E, h0km, mb3.9/3, mb1 3.9/4, mb1mx3.5/27, mbtmpg3.9/4, ML3.2/1, Error ellipse: s-maj=194.3km s-min=29.3km az=59.0*

ISC 13 13:27:41.9±1.1, 37°.55N±0°.03×18°.33E±0°.02, h44km±18km, n191, σ1$31/282, mb4.0/3, 11C-9D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOI	**Samo**	**1.88**	**287**	Pg	**Pn**	**13 28 12.9**	**+1.4**
SOI				Sg	**Sn**	**13 28 33.6**	**-0.4**
SOI	**Samo**	**1.88**	**287**	Pg	**Pn**	**13 28 12.9**	**+1.4**
SOI				Sg	**Sn**	**13 28 33.6**	**-0.4**
MPAZ	**Palizzi**	**1.89**	**283**	Pg	**Pn**	**13 28 13.0**	**+1.4**
MPAZ				Sg	**Sn**	**13 28 34.4**	**+0.2**
MPAZ	**Palizzi**	**1.89**	**283**	Pg	**Pn**	**13 28 13.0**	**+1.4**
MPAZ				Sg	**Sn**	**13 28 34.4**	**+0.2**
VLS	**Valsamata**	**1.90**	**70**	P	**Pn**	**13 28 11.1**	**-0.6**
VLS				S	**Sn**	**13 28 33.1**	**-1.3**
VLS	**Valsamata**	**1.90**	**70**	*e*PN	**Pn**	**13 28 11.3**	**-0.4**
VLS	**Valsamata**	**1.90**	**70**	P	**Pn**	**13 28 11.1**	**-0.6**
VLS				S	**Sn**	**13 28 33.1**	**-1.3**
SERS	**Sersale**	**1.97**	**320**	Pg	**Pn**	**13 28 13.8**	**+0.9**
SERS				Sg	**Sn**	**13 28 36.3**	**-0.1**
SERS	**Sersale**	**1.97**	**320**	Pg	**Pn**	**13 28 13.8**	**+0.9**
SERS				Sg	**Sn**	**13 28 36.3**	**-0.1**
GRI	**Girifalco**	**1.97**	**311**	Pg	**Pn**	**13 28 14.3**	**+1.5**
GRI	**Girifalco**	**1.97**	**311**	Pg	**Pn**	**13 28 14.3**	**+1.5**
KFL	**Anninata**	**2.02**	**73**	P	**Pn**	**13 28 12.9**	**-0.6**
KFL				S	**Sn**	**13 28 36.7**	**-0.9**
KFL	**Anninata**	**2.02**	**73**	P	**Pn**	**13 28 12.9**	**-0.6**
KFL				S	**Sn**	**13 28 36.7**	**-0.9**
CEL	**Celeste**	**2.06**	**291**	Pg	**Pn**	**13 28 15.3**	**+1.3**
CEL				Sg	**Sn**	**13 28 39.1**	**+0.7**
	531nm,0.7s						
CEL	**Celeste**	**2.06**	**291**	Pg	**Pn**	**13 28 15.3**	**+1.3**
CEL				Sg	**Sn**	**13 28 39.1**	**+0.7**
	531nm,0.7s						
VTN	**Vitineika**	**2.29**	**80**	P	**Pn**	**13 28 16.6**	**-0.5**
VTN				S	**Sn**	**13 28 44.0**	**-0.1**
VTN	**Vitineika**	**2.29**	**80**	P	**Pn**	**13 28 16.6**	**-0.5**
VTN				S	**Sn**	**13 28 44.0**	**-0.1**
KEK	**Kerkira**	**2.45**	**28**	P	**Pn**	**13 28 19.7**	**+0.4**
KEK				S	**Sn**	**13 28 48.1**	**+0.1**
KEK	**Kerkira**	**2.45**	**28**	Pg	**Pn**	**13 28 19.7**	**+0.4**
KEK				Sg	**Sn**	**13 28 47.9**	**-0.1**
KEK	**Kerkira**	**2.45**	**28**	*e*PN	**Pn**	**13 28 19.6**	**+0.3**
KEK	**Kerkira**	**2.45**	**28**	P	**Pn**	**13 28 19.7**	**+0.4**
KEK				S	**Sn**	**13 28 48.1**	**+0.1**
PDO	**Prodromos**	**2.48**	**64**	P	**Pn**	**13 28 20.4**	**+0.6**
PDO				S	**Sn**	**13 28 49.3**	**+0.4**
PDO	**Prodromos**	**2.48**	**64**	*e*PB	**Pn**	**13 28 20.4**	**+0.6**
PDO	**Prodromos**	**2.48**	**64**	P	**Pn**	**13 28 20.4**	**+0.6**
PDO				S	**Sn**	**13 28 49.3**	**+0.4**
AXS	**Araxos**	**2.50**	**74**	P	**Pn**	**13 28 19.7**	**-0.2**
AXS				S	**Sn**	**13 28 48.8**	**-0.3**
AXS	**Araxos**	**2.50**	**74**	P	**Pn**	**13 28 19.7**	**-0.2**
AXS				S	**Sn**	**13 28 48.8**	**-0.3**
SCTE	**Santa Cesarea**	**2.52**	**2**	Pg	**Pn**	**13 28 21.3**	**+1.0**
SCTE				Sg	**Sn**	**13 28 50.1**	**+0.2**
SCTE	**Santa Cesarea**	**2.52**	**2**	Pg	**Pn**	**13 28 21.3**	**+1.0**
SCTE				Sg	**Sn**	**13 28 50.1**	**+0.2**
IGT	**Igoumenitsa**	**2.53**	**38**	P	**Pn**	**13 28 20.8**	**+0.4**
IGT				S	**Sn**	**13 28 50.3**	**+0.3**
IGT	**Igoumenitsa**	**2.53**	**38**	*e*PN	**Pn**	**13 28 20.4**	**0.0**
IGT	**Igoumenitsa**	**2.53**	**38**	P	**Pn**	**13 28 20.8**	**+0.4**
IGT				S	**Sn**	**13 28 50.3**	**+0.3**
RLS	**Riolos of Patr**	**2.54**	**77**	P	**Pn**	**13 28 20.1**	**-0.4**
RLS				S	**Sn**	**13 28 49.9**	**-0.2**
RLS	**Riolos of Patr**	**2.54**	**77**	*e*PN	**Pn**	**13 28 20.6**	**+0.1**
RLS	**Riolos of Patr**	**2.54**	**77**	P	**Pn**	**13 28 20.1**	**-0.4**
RLS				S	**Sn**	**13 28 49.9**	**-0.2**
SRN	**Sarande**	**2.67**	**29**	P	**Pn**	**13 28 22.6**	**+0.3**
SRN				S	**Sn**	**13 28 53.3**	**-0.1**
SRN	**Sarande**	**2.67**	**29**	P	**Pn**	**13 28 22.6**	**+0.3**
SRN				S	**Sn**	**13 28 53.3**	**-0.1**
AMT	**Artemida-Makis**	**2.68**	**89**	P	**Pn**	**13 28 22.3**	**-0.3**
AMT				S	**Sn**	**13 28 52.7**	**-1.2**
AMT	**Artemida-Makis**	**2.68**	**89**	*e*PN	**Pn**	**13 28 22.2**	**-0.3**
AMT	**Artemida-Makis**	**2.68**	**89**	P	**Pn**	**13 28 22.3**	**-0.3**
AMT				S	**Sn**	**13 28 52.7**	**-1.2**
DRO	**Drossia**	**2.71**	**80**	P	**Pn**	**13 28 23.3**	**+0.4**
DRO				S	**Sn**	**13 28 53.8**	**-0.6**
DRO	**Drossia**	**2.71**	**80**	*e*PB	**Pn**	**13 28 23.4**	**+0.5**
DRO	**Drossia**	**2.71**	**80**	P	**Pn**	**13 28 23.3**	**+0.4**
DRO				S	**Sn**	**13 28 53.8**	**-0.6**
PYL	**PYLOS**	**2.80**	**102**	P	**Pn**	**13 28 23.1**	**-1.0**
PYL	**PYLOS**	**2.80**	**102**	*e*PN	**Pn**	**13 28 23.1**	**-1.0**
PYL	**PYLOS**	**2.80**	**102**	P	**Pn**	**13 28 23.1**	**-1.0**
ECNV	**Catenanuova**	**2.88**	**272**	Pg	**Pn**	**13 28 26.0**	**+0.8**
	720nm,1.1s						
ECNV	**Catenanuova**	**2.88**	**272**	Pg	**Pn**	**13 28 26.0**	**+0.8**
	720nm,1.1s						
ITM	**Ithomi**	**2.89**	**96**	P	**Pn**	**13 28 24.9**	**-0.4**
ITM				S	**Sn**	**13 28 58.2**	**-0.6**
ITM	**Ithomi**	**2.89**	**96**	*e*PN	**Pn**	**13 28 25.0**	**-0.4**
ITM	**Ithomi**	**2.89**	**96**	P	**Pn**	**13 28 24.9**	**-0.4**
ITM				S	**Sn**	**13 28 58.2**	**-0.6**
JAN	**Janina**	**2.89**	**42**	P	**Pn**	**13 28 26.3**	**+0.9**
JAN				S	**Sn**	**13 28 59.3**	**+0.4**
JAN	**Janina**	**2.89**	**42**	*e*PB	**Pn**	**13 28 26.5**	**+1.1**
JAN	**Janina**	**2.89**	**42**	P	**Pn**	**13 28 26.3**	**+0.9**
JAN				S	**Sn**	**13 28 59.3**	**+0.4**
HMDC	**Modica**	**2.89**	**259**	Pg	**Pn**	**13 28 24.4**	**-1.0**
HMDC				Sg	**Sn**	**13 28 55.6**	**-3.4**
HMDC	**Modica**	**2.89**	**259**	Pg	**Pn**	**13 28 24.4**	**-1.0**
HMDC				Sg	**Sn**	**13 28 55.6**	**-3.4**
ORI	**Oriolo Calabro**	**2.91**	**330**	Pg	**Pn**	**13 28 27.3**	**+1.6**
	374nm,0.4s						
ORI	**Oriolo Calabro**	**2.91**	**330**	Pg	**Pn**	**13 28 27.3**	**+1.6**
	374nm,0.4s						
EFP	**Efpalio**	**2.96**	**72**	P	**Pn**	**13 28 26.7**	**+0.4**
EFP				S	**Sn**	**13 29 00.0**	**-0.5**
EFP	**Efpalio**	**2.96**	**72**	P	**Pn**	**13 28 26.7**	**+0.4**
EFP				S	**Sn**	**13 29 00.0**	**-0.5**
LAKA	**Lakka**	**2.97**	**75**	P	**Pn**	**13 28 26.8**	**+0.4**
LAKA	**Lakka**	**2.97**	**75**	P	**Pn**	**13 28 26.8**	**+0.4**
EVR	**Evrytania**	**3.06**	**62**	*e*PB	**Pn**	**13 28 29.7**	**+1.9**
MESG	**Mesagne**	**3.06**	**353**	Pg	**Pn**	**13 28 28.8**	**+1.1**
MESG				Sg	**Sn**	**13 29 01.8**	**-1.3**
MESG	**Mesagne**	**3.06**	**353**	Pg	**Pn**	**13 28 28.8**	**+1.1**
MESG				Sg	**Sn**	**13 29 01.8**	**-1.3**
KLV	**Kalavryta, Ach**	**3.06**	**80**	P	**Pn**	**13 28 27.9**	**+0.1**
KLV				S	**Sn**	**13 29 02.9**	**-0.4**
KLV	**Kalavryta, Ach**	**3.06**	**80**	*e*PN	**Pn**	**13 28 28.3**	**+0.5**
KLV	**Kalavryta, Ach**	**3.06**	**80**	P	**Pn**	**13 28 27.9**	**+0.1**
KLV				S	**Sn**	**13 29 02.9**	**-0.4**
KALE	**Kalithea**	**3.12**	**73**	P	**Pn**	**13 28 28.9**	**+0.2**
KALE	**Kalithea**	**3.12**	**73**	P	**Pn**	**13 28 28.9**	**+0.2**
CUC	**Castrocucco**	**3.14**	**322**	Pg	**Pn**	**13 29 01.1**	**+1.3**
CUC				Sg	**Sn**	**13 29 06.0**	**+1.0**
CUC	**Castrocucco**	**3.14**	**322**	Pg	**Pn**	**13 28 30.1**	**+1.3**
CUC				Sg	**Sn**	**13 29 06.0**	**+1.0**
RAFF	**Raffo Rosso**	**3.18**	**265**	Pg	**Pn**	**13 28 29.4**	**+0.1**
RAFF				Sg	**Sn**	**13 29 05.1**	**-0.9**
	230nm,0.4s						
RAFF	**Raffo Rosso**	**3.18**	**265**	Pg	**Pn**	**13 28 29.4**	**+0.1**
RAFF				Sg	**Sn**	**13 29 05.1**	**-0.9**
	230nm,0.4s						
MAKR	**Makrakomi, Fth**	**3.33**	**63**	*e*PB	**Pn**	**13 28 33.4**	**+2.0**
PE1	**Pezze di Greco**	**3.33**	**348**	*e*Pn	**Pn**	**13 28 32.1**	**+0.7**
PE1				*e*Sn	**Sn**	**13 29 10.1**	**+0.4**
MATE	**Matera**	**3.35**	**338**	Pg	**Pn**	**13 28 32.7**	**+1.1**
MATE	**Matera**	**3.35**	**338**	Pg	**Pn**	**13 28 32.7**	**+1.1**
MGR	**Morigerati**	**3.38**	**321**	Pg	**Pn**	**13 28 33.0**	**+1.0**
MGR	**Morigerati**	**3.38**	**321**	Pg	**Pn**	**13 28 33.0**	**+1.0**
NOCI	**Noci**	**3.38**	**343**	Pg	**Pn**	**13 28 32.8**	**+0.6**
NOCI				Sg	**Sn**	**13 29 09.2**	**-1.9**
NOCI	**Noci**	**3.38**	**343**	Pg	**Pn**	**13 28 32.8**	**+0.6**
NOCI				Sg	**Sn**	**13 29 09.2**	**-1.9**
BULG	**Bulgheria - Ca**	**3.42**	**319**	Pg	**Pn**	**13 28 34.7**	**+2.0**
BULG	**Bulgheria - Ca**	**3.42**	**319**	Pg	**Pn**	**13 28 34.7**	**+2.0**
DSF	**Desfina**	**3.43**	**74**	P	**Pn**	**13 28 32.5**	**-0.3**
DSF	**Desfina**	**3.43**	**74**	P	**Pn**	**13 28 32.5**	**-0.3**
AGG	**Agios Georgios**	**3.47**	**64**	P	**Pn**	**13 28 34.6**	**+1.2**
AGG	**Agios Georgios**	**3.47**	**64**	P	**Pn**	**13 28 34.6**	**+1.2**
THL	**Klokotos Trika**	**3.52**	**54**	P	**Pn**	**13 28 35.1**	**+1.1**
THL				S	**Sn**	**13 29 14.4**	**0.0**
THL	**Klokotos Trika**	**3.52**	**54**	*e*PN	**Pn**	**13 28 35.6**	**+1.6**
THL	**Klokotos Trika**	**3.52**	**54**	P	**Pn**	**13 28 35.1**	**+1.1**
THL				S	**Sn**	**13 29 14.4**	**0.0**
NEST	**Nestorio**	**3.56**	**36**	P	**Pn**	**13 28 35.1**	**+0.4**
NEST				S	**Sn**	**13 29 19.7**	**+1.1**
NEST	**Nestorio**	**3.56**	**36**	*e*PN	**Pn**	**13 28 36.6**	**+1.9**
NEST	**Nestorio**	**3.56**	**36**	P	**Pn**	**13 28 35.1**	**+0.4**
NEST				S	**Sn**	**13 29 19.7**	**+1.1**
LTK	**Loutraki**	**3.70**	**81**	P	**Pn**	**13 28 36.1**	**-0.4**
LTK				S	**Sn**	**13 29 18.3**	**-0.6**
LTK	**Loutraki**	**3.70**	**81**	P	**Pn**	**13 28 36.1**	**-0.4**
LTK				S	**Sn**	**13 29 18.3**	**-0.6**
BAI	**Bari**	**3.73**	**343**	*e*Pn	**Pn**	**13 28 37.6**	**+0.7**
BAI				*e*Sn	**Sn**	**13 29 17.6**	**-1.9**
VLI	**Veliai**	**3.77**	**101**	P	**Pn**	**13 28 38.2**	**+0.7**
VLI				S	**Sn**	**13 29 21.2**	**+0.6**
VLI	**Veliai**	**3.77**	**101**	*e*PN	**Pn**	**13 28 38.2**	**+0.7**
VLI	**Veliai**	**3.77**	**101**	P	**Pn**	**13 28 38.2**	**+0.7**
VLI				S	**Sn**	**13 29 21.2**	**+0.6**
LKR	**Lokris**	**3.84**	**72**	*e*PN	**Pn**	**13 28 37.8**	**-0.6**
KZN	**Kozani**	**3.85**	**43**	P	**Pn**	**13 28 40.3**	**+1.7**
KZN				S	**Sn**	**13 29 23.4**	**+0.9**
KZN	**Kozani**	**3.85**	**43**	P	**Pn**	**13 28 40.3**	**+1.7**
KZN				S	**Sn**	**13 29 23.4**	**+0.9**
CDT	**Castel del Mon**	**3.88**	**336**	*e*Pn	**Pn**	**13 28 39.4**	**+0.5**
CDT				*e*Sn	**Sn**	**13 29 20.9**	**-2.3**
DIDY	**Didyma**	**3.88**	**90**	P	**Pn**	**13 28 38.3**	**-0.8**
DIDY	**Didyma**	**3.88**	**90**	P	**Pn**	**13 28 38.3**	**-0.8**
DID	**Didima**	**3.90**	**89**	P	**Pn**	**13 28 38.6**	**-0.7**
DID	**Didima**	**3.90**	**89**	*e*PN	**Pn**	**13 28 38.9**	**-0.4**
DID	**Didima**	**3.90**	**89**	P	**Pn**	**13 28 38.6**	**-0.7**
KYTH	**Kithira**	**3.98**	**107**	P	**Pn**	**13 28 40.5**	**+0.2**
KYTH	**Kithira**	**3.98**	**107**	*e*PN	**Pn**	**13 28 40.7**	**+0.4**
KYTH	**Kithira**	**3.98**	**107**	P	**Pn**	**13 28 40.5**	**+0.2**
FNA	**Florina**	**4.01**	**35**	P	**Pn**	**13 28 41.9**	**+1.2**
FNA				S	**Sn**	**13 29 26.9**	**+0.5**
FNA	**Florina**	**4.01**	**35**	*e*PN	**Pn**	**13 28 42.1**	**+1.4**
FNA	**Florina**	**4.01**	**35**	P	**Pn**	**13 28 41.9**	**+1.2**
FNA				S	**Sn**	**13 29 26.9**	**+0.5**
LIT	**Litokhoron**	**4.13**	**51**	P	**Pn**	**13 28 43.6**	**+1.2**
LIT				S	**Sn**	**13 29 29.1**	**-0.3**
LIT	**Litokhoron**	**4.13**	**51**	*e*PN	**Pn**	**13 28 43.5**	**+1.2**
LIT	**Litokhoron**	**4.13**	**51**	P	**Pn**	**13 28 43.6**	**+1.2**
LIT				S	**Sn**	**13 29 29.1**	**-0.3**
BIA	**Bitola**	**4.17**	**33**	*e*Sn	**Sn**	**13 29 31.4**	**+0.8**
XOR	**Xorichti**	**4.23**	**63**	P	**Pn**	**13 28 44.4**	**+0.7**
XOR				S	**Sn**	**13 29 31.7**	**-0.1**
XOR	**Xorichti**	**4.23**	**63**	*e*PN	**Pn**	**13 28 44.6**	**+0.9**
XOR	**Xorichti**	**4.23**	**63**	P	**Pn**	**13 28 44.4**	**+0.7**
XOR				S	**Sn**	**13 29 31.7**	**-0.1**
ATHU	**Athens Univers**	**4.34**	**83**	P	**Pn**	**13 28 45.8**	**+0.5**
ATHU	**Athens Univers**	**4.34**	**83**	P	**Pn**	**13 28 45.8**	**+0.5**
ULC	**Ulcinj**	**4.47**	**9**	⇑*i*Pn	**Pn**	**13 28 46.9**	**-0.1**
ULC				*e*Sn	**Sn**	**13 29 34.1**	**-3.7**
ULC	**Ulcinj**	**4.47**	**9**	⇑*i*Pn	**Pn**	**13 28 46.9**	**-0.1**
ULC				*e*Sn	**Sn**	**13 29 34.1**	**-3.7**
GRG	**Griva**	**4.64**	**42**	P	**Pn**	**13 28 50.0**	**+0.5**
GRG	**Griva**	**4.64**	**42**	*e*PN	**Pn**	**13 28 49.8**	**+0.3**
GRG	**Griva**	**4.64**	**42**	P	**Pn**	**13 28 50.0**	**+0.5**
AOS	**Alonnisos**	**4.65**	**68**	P	**Pn**	**13 28 50.7**	**+1.1**
AOS	**Alonnisos**	**4.65**	**68**	*e*PN	**Pn**	**13 28 50.9**	**+1.3**
AOS	**Alonnisos**	**4.65**	**68**	P	**Pn**	**13 28 50.7**	**+1.1**
DRME	**Dracevica, Mon**	**4.68**	**8**	⇑*i*Pn	**Pn**	**13 28 50.2**	**+0.2**
DRME				*e*Sn	**Sn**	**13 29 39.9**	**-3.1**
DRME	**Dracevica, Mon**	**4.68**	**8**	⇑*i*Pn	**Pn**	**13 28 50.2**	**+0.2**
DRME				*e*Sn	**Sn**	**13 29 39.9**	**-3.1**
HORT	**Hortiatis**	**4.80**	**49**	P	**Pn**	**13 28 51.7**	**0.0**
HORT	**Hortiatis**	**4.80**	**49**	*e*PN	**Pn**	**13 28 51.7**	**0.0**
HORT	**Hortiatis**	**4.80**	**49**	P	**Pn**	**13 28 51.7**	**0.0**
PAIG	**Paliouri**	**4.81**	**59**	P	**Pn**	**13 28 51.9**	**+0.2**
PAIG	**Paliouri**	**4.81**	**59**	*e*PN	**Pn**	**13 28 51.8**	**+0.1**
PAIG	**Paliouri**	**4.81**	**59**	P	**Pn**	**13 28 51.9**	**+0.2**
PLG	**Polygyros**	**4.88**	**53**	P	**Pn**	**13 28 53.0**	**+0.2**
PLG	**Polygyros**	**4.88**	**53**	*e*PN	**Pn**	**13 28 53.0**	**+0.2**
PLG	**Polygyros**	**4.88**	**53**	P	**Pn**	**13 28 53.0**	**+0.2**
HCY	**Herceg Novi**	**4.90**	**1**	⇓*i*Pn	**Pn**	**13 28 52.5**	**-0.4**
HCY				*e*Sn	**Sn**	**13 29 44.3**	**-4.0**
HCY	**Herceg Novi**	**4.90**	**1**	⇓*i*Pn	**Pn**	**13 28 52.5**	**-0.4**
HCY				*e*Sn	**Sn**	**13 29 44.3**	**-4.0**
PDG	**Podgorica**	**4.93**	**8**	⇓*i*Pn	**Pn**	**13 28 53.6**	**+0.3**
PDG				*e*Sn	**Sn**	**13 29 45.8**	**-3.2**
TTG	**Podgorica**	**4.93**	**8**	⇓*i*Pn	**Pn**	**13 28 53.6**	**+0.3**
TTG				*e*Sn	**Sn**	**13 29 45.8**	**-3.2**
VAY	**Valandovo**	**5.00**	**40**	*e*Pn	**Pn**	**13 28 54.5**	**+0.2**
VAY				*e*Sn	**Sn**	**13 29 49.7**	**-1.0**
SKO	**Skopje**	**5.03**	**27**	*e*Sn	**Sn**	**13 29 52.2**	**+0.7**
SKO				*e*Lg	Lg	13 29 52.3	
	comp=N,132nm,0.5s						
SKO				*e*Lg	Lg	13 29 53.4	
	comp=E,101nm,0.4s						
KNT	**Kendrikon**	**5.05**	**43**	*e*PN	**Pn**	**13 28 55.3**	**+0.2**
SOH	**Sokhos**	**5.09**	**48**	P	**Pn**	**13 28 56.5**	**+0.9**
SOH	**Sokhos**	**5.09**	**48**	*e*PN	**Pn**	**13 28 56.7**	**+1.1**
SOH	**Sokhos**	**5.09**	**48**	P	**Pn**	**13 28 56.5**	**+0.9**
PVY	**Plav**	**5.19**	**13**	⇑*i*Pn	**Pn**	**13 28 58.3**	**+1.2**
PVY				*e*Sn	**Sn**	**13 29 52.7**	**-3.1**
PVY	**Plav**	**5.19**	**13**	⇑*i*Pn	**Pn**	**13 28 58.3**	**+1.2**
PVY				*e*Sn	**Sn**	**13 29 52.7**	**-3.1**
OUR	**Ouranopolis**	**5.21**	**56**	P	**Pn**	**13 28 57.9**	**+0.7**
OUR	**Ouranopolis**	**5.21**	**56**	*e*PN	**Pn**	**13 28 57.0**	**-0.2**
OUR	**Ouranopolis**	**5.21**	**56**	P	**Pn**	**13 28 57.9**	**+0.7**
NKME	**Niksic**	**5.24**	**5**	⇓*i*Pn	**Pn**	**13 28 57.8**	**+0.2**
NKME				*e*Sn	**Sn**	**13 29 53.0**	**-3.7**
NKME	**Niksic**	**5.24**	**5**	⇓*i*Pn	**Pn**	**13 28 57.8**	**+0.2**
NKME				*e*Sn	**Sn**	**13 29 53.0**	**-3.7**
NKY	**Niksic**	**5.29**	**5**	⇑*i*Pn	**Pn**	**13 28 57.9**	**-0.4**
NKY				*e*Sn	**Sn**	**13 29 54.5**	**-3.5**
NKY	**Niksic**	**5.29**	**5**	⇑*i*Pn	**Pn**	**13 28 57.9**	**-0.4**
NKY				*e*Sn	**Sn**	**13 29 54.5**	**-3.5**
BRY	**Bratogost**	**5.35**	**2**	⇑*i*Pn	**Pn**	**13 28 58.9**	**-0.4**
BRY				*e*Sn	**Sn**	**13 29 55.8**	**-3.9**
BRY	**Bratogost**	**5.35**	**2**	⇑*i*Pn	**Pn**	**13 28 58.9**	**-0.4**
BRY				*e*Sn	**Sn**	**13 29 55.8**	**-3.9**
SRS	**Serrai**	**5.42**	**47**	*e*PN	**Pn**	**13 28 59.3**	**-0.8**
BEY	**Berane**	**5.45**	**12**	⇓*i*Pn	**Pn**	**13 29 01.6**	**+1.0**
IVA	**Berane**	**5.45**	**12**	⇓*i*Pn	**Pn**	**13 29 01.6**	**+1.0**
IVA				*e*Sn	**Sn**	**13 29 58.4**	**-3.7**
NVR	**Nevrokopi**	**5.72**	**47**	P	**Pn**	**13 29 05.3**	**+1.0**
NVR	**Nevrokopi**	**5.72**	**47**	*e*PN	**Pn**	**13 29 04.8**	**+0.5**
NVR	**Nevrokopi**	**5.72**	**47**	P	**Pn**	**13 29 05.3**	**+1.0**
IDI	**Anoyia**	**5.75**	**111**	P	**Pn**	**13 29 06.2**	**+1.5**
IDI	**Anoyia**	**5.75**	**111**	P	**Pn**	**13 29 06.2**	**+

DBIC				LR	LR	13 55 09.3		
	comp=Z,297nm,19.9s,baz=246,slow=32							
BBTS	**Babate**	**21.74**	**348**	P	**P**	**13 51 59.6**	**+3.1**	
	5.8nm,0.4s,baz=129,slow=14,SNR=2.8							
BBTS				LR	LR	13 58 37.8		
	comp=Z,148nm,19.6s,baz=83,slow=32							
TORD	**Torodi Ar. Bea**	**23.93**	**34**	P	**P**	**13 52 17.1**	**-2.1**	
	5.6nm,1.0s,baz=214,slow=11,SNR=17							
TORD				LR	LR	14 00 39.5		
	comp=Z,264nm,18.1s,baz=240,slow=34							
TSUM	**Tsumeb**	**31.23**	**116**	LR	LR	14 04 05.5		
	comp=Z,382nm,19.2s,baz=334,slow=33							
BDFB	**Brasilia**	**36.46**	**253**	P	**P**	**13 54 09.8**	**-0.6**	
	1.6nm,0.4s,baz=68,slow=5.4,SNR=3.5							
BOSA	**Boshof**	**41.29**	**126**	LR	LR	14 08 14.7		
	comp=Z,203nm,18.0s,baz=348,slow=31							
KEST	**Kesra**	**46.73**	**24**	LR	LR	14 15 30.7		
	comp=Z,104nm,18.9s,baz=329,slow=36							
CPUP	**Villa Florida**	**47.39**	**240**	LR	LR	14 14 43.4		
	comp=Z,192nm,19.1s,baz=237,slow=35							
VIVF	**Saint-Julien-l**	**53.47**	**15**	*eP*	P	13 56 29.9	+4.7	
	60nm,1.5s							
ORIF	**Oris-en-Rattie**	**53.84**	**16**	*eP*	P	13 56 33.1	+5.1	
MBDF	**Montbardon**	**53.91**	**16**	*eP*	P	13 56 33.0	+4.4	
	14nm,0.9s							
LPG	**La Plagne**	**54.62**	**16**	*eP*	P	13 56 38.2	+4.3	
LPL	**La Plagne**	**54.63**	**16**	*eP*	P	13 56 37.8	+3.9	
QUIF	**Quistinic**	**54.96**	**7**	*eP*	P	13 56 39.5	+3.6	
SSF	**Saint Saulge**	**55.28**	**13**	*eP*	P	13 56 43.7	+5.4	
ROSF	**Rostrenen**	**55.35**	**7**	*eP*	P	13 56 45.3	+6.5	
	25nm,1.3s							
CABF	**La Chapelle**	**55.47**	**15**	*eP*	**P**	**13 56 42.9**	**+3.1**	
GERES	**GERESS Array B**	**59.72**	**19**	P	**P**	**13 57 10.4**	**+0.7**	
	1.6nm,0.6s,baz=197,slow=6.8,SNR=9.4							
GERES				LR	LR	14 22 30.6		
	comp=Z,102nm,18.0s,baz=96,slow=36							
BRTR	**Keskin Array B**	**62.46**	**38**	P	**P**	**13 57 29.1**	**+0.5**	
	0.4nm,0.6s,baz=245,slow=6.2,SNR=3.3							
ROSC	**El Rosal**	**63.36**	**279**	LR	LR	14 23 43.5		
	comp=Z,105nm,19.8s,baz=20,slow=35							
AKASG	**Malin Array Be**	**67.30**	**27**	P	**P**	**13 57 59.1**	**-0.6**	
	1.1nm,0.6s,baz=227,slow=6.3,SNR=5.2							
NOA	**NORSAR Array B**	**69.95**	**12**	LR	LR	14 32 36.2		
	comp=Z,41nm,18.7s,baz=235,slow=39							
FINES	**FINESS Array B**	**74.09**	**18**	P	**P**	**13 58 42.9**	**+2.0**	
	3.0nm,0.7s,baz=199,slow=4.0,SNR=4.1							
ULM	**Lac du Bonnet**	**91.27**	**320**	LR	LR	14 35 45.2		
	comp=Z,166nm,18.7s,baz=47,slow=32							

MEX 13 13:47:59.0±0.3, 16°16'N×97°96'W, h11km±4km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.28**	**324**	*i* P	Pg	13 48 04.3	-0.5
PNIG				*i* S	Sg	13 48 08.6	-0.1
VHO	**Vista Hermosa**	**1.48**	**52**	*eP*	Pn	13 48 22.5	-3.4
VHO				*eS*	Sn	13 48 40.3	-5.2
HUIG	**Huatulco**	**1.82**	**102**	*eP*	Pn	13 48 27.0	-3.3
HUIG				*eS*	Sn	13 48 48.6	-4.9
CAIG	**El Cayaco**	**2.38**	**292**	*eP*	Pn	13 48 35.4	-2.7
CAIG				*eS*	Sn	13 49 03.0	-4.4

IDC 13 14:02:54.9±1.8, 12°05'S×165°45'E, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.5/20, mbtmp3.5/4, ML3.4/1, MS3.9/1, Ms1 3.9/1, ms1mx3.2/20, Error ellipse: s-maj=51.8km s-min=33.5km az=128.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.01**	**175**	Pn	Pn	14 05 20.6	+0.3
	0.3nm,0.3s,baz=156,slow=20,SNR=3.9						
URZ	**Urewera**	**28.10**	**160**	LR	LR	14 18 38.4	
	comp=Z,224nm,19.0s,baz=170,slow=34						
WRA	**Warramunga Arr**	**30.88**	**251**	P	P	14 09 13.6	+0.2
	0.4nm,0.8s,baz=84,slow=9.4,SNR=3.8						
ASAR	**Alice Springs**	**32.09**	**245**	P	P	14 09 23.8	-0.3
	0.6nm,0.8s,baz=77,slow=8.9,SNR=6.1						
ILAR	**Eielson Array**	**84.55**	**19**	P	P	14 15 29.6	0.0
	0.2nm,0.7s,baz=231,slow=5.5,SNR=4.6						

*ISCJB **13** 14:26:36.4±0.6, 33°12'N±0°06'×138°3'E±0°1, h300km, mb3.2/9, Error ellipse: s-maj=14.2km s-min=8.2km az=3.1*
*IDC **13** 14:26:37.4±1.3, 33°16'N×138°18'E, h291km±13km, mb3.0/9, mb1 3.1/12, mb1mx3.1/28, mbtmp3.0/12, Error ellipse: s-maj=18.6km s-min=14.7km az=94.0*
*JMA **13** 14:26:37.2±0.4, 33°24'N×138°24'E, h306km±4km, M3.0*
ISC 13 14:26:38.2±0.9, 33°24'N±0°10'×138°2'E±0°1, h300km, n20, σ0°63/22, mb3.1/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**0.81**	**331**	P	**Pn**	**14 27 17.7**	**+0.3**
TTO5	**TONANKAI O.B.S**	**1.10**	**337**	P	**Pn**	**14 27 19.0**	**+0.3**
TTO2	**TONANKAI O.B.S**	**1.12**	**296**	P	**Pn**	**14 27 19.2**	**+0.5**
TTO1	**TONANKAI O.B.S**	**1.27**	**288**	P	**Pn**	**14 27 19.8**	**+0.3**
JHMK	**Hamakita**	**1.62**	**346**	P	**Pn**	**14 27 21.5**	**-0.4**
HMMJ	**Hamamatsu 2**	**1.67**	**345**	P	**Pn**	**14 27 22.3**	**-0.1**
HMMJ				S	**S**	**14 27 57.3**	**-0.3**
MJAR	**Matsushiro Arr**	**3.29**	**360**	P	**Pn**	**14 27 36.8**	**-0.1**
	0.9nm,0.3s,baz=184,slow=12,SNR=11						
MJAR				S	**S**	**14 28 22.7**	**-1.1**
	0.4nm,0.3s,baz=176,slow=20,SNR=4.3						
MAT	**Matsushiro**	**3.30**	**360**	P	**Pn**	**14 27 36.8**	**0.0**
MAT				S	**S**	**14 28 23.9**	**+0.2**
JCJ	**Chichijima**	**7.01**	**150**	P	Pn	14 28 14.4	-5.3
	2.5nm,0.3s,baz=261,slow=19,SNR=5.9						
JCJ				S	S	14 29 30.6	-11
	14nm,0.3s,baz=270,slow=22,SNR=8.9						
KSRS	**Korea Array**	**9.41**	**299**	P	**Pn**	**14 28 49.2**	**+0.3**
	0.4nm,0.3s,baz=110,slow=13,SNR=12						
ASAJ	**Asahikawa**	**11.38**	**16**	P	**P**	**14 29 14.4**	**-0.6**
	0.6nm,0.3s,baz=229,slow=11,SNR=7.2						
PETK	**Petropavlovsk-**	**24.27**	**29**	P	**P**	**14 31 29.3**	**+0.9**
	2.3nm,0.9s,baz=213,slow=11,SNR=5.1						
SONM	**Songino Array**	**28.01**	**311**	P	**P**	**14 32 03.3**	**+1.2**
	1.3nm,0.7s,baz=119,slow=8.6,SNR=10.0						
CMAR	**Chiang Mai Arr**	**38.06**	**257**	P	**P**	**14 33 27.7**	**-0.9**
	0.4nm,0.5s,baz=43,slow=8.6,SNR=4.0						
ZALV	**Zalesovo Beam**	**42.67**	**316**	P	**P**	**14 34 05.3**	**-0.4**
	0.4nm,0.4s,baz=108,slow=9.3,SNR=3.4						
MKAR	**Makanchi Array**	**44.04**	**305**	P	**P**	**14 34 16.5**	**-0.3**
	0.3nm,0.3s,baz=85,slow=9.1,SNR=11						
WRA	**Warramunga Arr**	**53.01**	**185**	P	**P**	**14 35 23.9**	**-1.0**
	0.4nm,0.5s,baz=360,slow=7.7,SNR=11						
ILAR	**Eielson Array**	**54.08**	**31**	P	**P**	**14 35 32.8**	**+0.8**
	0.4nm,0.8s,baz=283,slow=6.7,SNR=5.2						
ASAR	**Alice Springs**	**56.74**	**185**	P	**P**	**14 35 51.7**	**+0.3**
	0.3nm,0.8s,baz=0.5,slow=6.0,SNR=3.5						
FINES	**FINESS Array B**	**70.94**	**332**	P	**P**	**14 37 22.8**	**-0.1**
	3.1nm,0.9s,baz=46,slow=6.0,SNR=3.3						

JSN 13 14:27:42.6±0.7, 18°08'N×76°76'W, h17km±3km, MD3.5, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWJ	**Greenwich**	**0.03**	**97**	*i* P	Pg	14 27 45.7	-0.1
STH	**Stony Hill**	**0.05**	**268**	*i* P	Pg	14 27 45.4	-0.4
STH				*i* S	Sg	14 27 47.4	-0.5
HOJ	**Hope**	**0.07**	**172**	*i* P	Pg	14 27 45.4	-0.6
MCJ	**Malvern**	**0.90**	**260**	*i* P	Pb	14 27 58.8	-1.0
MBJ	**Montego Bay**	**1.10**	**287**	*i* S	Sb	14 28 15.6	-1.7

MAN 13 14:33:26, 15°69'N×122°10'E, h33km, mb4.6, ML3.5, MS3.4, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.50**	**276**	*eP*	Pn	14 33 38.0	+1.1
BALP				*eS*	Sn	14 33 45.8	+1.3
CAUP	**Cauayan**	**1.28**	**348**	*eP*	Pb	14 33 58.1	+8.6
PALP	**Palanan**	**1.41**	**13**	*iP*	Pn	14 33 48.9	-0.4
APYP	**Conner**	**2.31**	**339**	*eP*	Pn	14 34 04.3	+2.5

IDC 13 14:41:30.4±4.9, 12°53S×165°75E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/19, mbtmp3.7/3, MS3.0/1, Ms1 3.0/1, ms1mx2.7/30, Error ellipse: s-maj=219.6km s-min=39.5km az=138.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.47**	**298**	LR	LR	14 44 56.7	
	comp=Z,120nm,18.9s,baz=212,slow=32						
ASAR	**Alice Springs**	**32.15**	**245**	P	P	14 47 59.8	-0.3
	0.5nm,0.8s,baz=63,slow=10,SNR=4.8						
ILAR	**Eielson Array**	**84.91**	**18**	P	P	14 54 06.6	-0.3
	0.3nm,0.6s,baz=240,slow=5.1,SNR=7.4						
MKAR	**Makanchi Array**	**94.60**	**317**	P	P	14 54 53.7	+0.5
	0.5nm,0.7s,baz=100,slow=6.0,SNR=4.3						

*PRE **13** 14:44:08.7±1.6, 4°09S×34°90E, h10km, ML4.6*
*ISCJB **13** 14:44:11.4±0.7, 3°85S±0°05×34°81E±0°04, h22km, Error ellipse: s-maj=7.4km s-min=5.9km az=16.4*
*BUL **13** 14:44:14.7±1.4, 4°13S×35°35E, h0km±15km, MD2.8*
ISC 13 14:44:11.0±1.0, 4°00S±0°06×34°86E±0°05, h22km, n8, σ1°02/14, Lake Victoria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAUS	**Longido**	**2.22**	**56**	*i* P	**Pb**	**14 44 50.1**	**-0.5**
MAUS				*i* S	**Sn**	**14 45 13.3**	**-0.2**
DODT	**Dodoma, Tanzan**	**2.35**	**158**	*i* P	**Pb**	**14 44 52.8**	**0.0**
DODT				*i* S	**Sb**	**14 45 20.9**	**-0.5**
KMBO	**Kilima Mbogo**	**3.72**	**40**	*eP*	**Pn**	**14 45 07.9**	**+0.6**
KMBO				*eS*	**Sn**	**14 45 51.0**	**+0.3**
KMBO	**Kilima Mbogo**	**3.72**	**40**	*i* P	**Pn**	**14 45 08.1**	**+0.7**
KMBO				*i* S	**Sn**	**14 45 50.3**	**-0.4**
KIG	**Kigali**	**5.20**	**293**	*eP*	**Pn**	**14 45 28.0**	**+0.3**
KIG				*eS*	**Sn**	**14 46 27.8**	**+0.7**
KIG				AML	AML	14 46 58.0	
	comp=Z,321nm,0.5s						
MBAR	**Mbarara**	**5.32**	**309**	*eP*	**Pn**	**14 45 29.0**	**-0.3**
MBAR				*eS*	**Sn**	**14 46 30.3**	**+0.1**
MBAR	**Mbarara**	**5.32**	**309**	*i* P	**Pn**	**14 45 31.3**	**+1.9**
MBAR				*i* S	**Sn**	**14 46 27.8**	**-2.3**
LSZ	**Lusaka**	**12.99**	**210**	*eS*	Sn	14 49 30.3	-8.3

*NEIC **13** 14:45:39.2, 52°35N×166°84W, h14km, ML3.6(AEIC), After AEIC.*
*ISCJB **13** 14:45:40.1±0.6, 52°40N±0°05×166°87W±0°07, h25km, mb4.0/14, MS3.5/1, Error ellipse: s-maj=.8.1km s-min=5.4km az=158.2*
*IDC **13** 14:45:40.3±1.4, 52°87N×167°06W, h0km, mb4.0/14, mb1 4.1/15, mb1mx3.9/30, mbtmp3.9/15, ML3.6/1, MS3.6/1, Ms1 3.6/1, ms1mx2.8/39, Error ellipse: s-maj=34.5km s-min=17.8km az=174.0*
ISC 13 14:45:42.9±0.8, 52°56N±0°08×166°93W±0°05, h25km, n62, σ1°12/58, mb4.0/14, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**1.03**	**326**	P	**Pn**	**14 46 00.7**	**-1.1**
OKFG				S	**Sn**	**14 46 17.3**	**+1.9**
OKTU	**Okmok Mt. Tuli**	**1.06**	**321**	P	**Pn**	**14 46 01.7**	**-0.5**
OKSP	**Okmok Steeple**	**1.07**	**311**	P	**Pn**	**14 46 01.6**	**-0.8**
OKSO	**Okmok South**	**1.09**	**318**	P	**Pn**	**14 46 01.6**	**-1.0**
OKCE	**Okmok Cone E**	**1.14**	**320**	P	**Pn**	**14 46 02.6**	**-0.7**
MGOD	**Makushin Gods**	**1.23**	**2**	P	**Pn**	**14 46 03.8**	**-0.7**
NIKH	**Nikolski High**	**1.24**	**290**	P	**Pn**	**14 46 03.5**	**-1.0**
NIKH				S	**Sb**	**14 46 21.4**	**+0.4**
UNV	**Unalaska Valle**	**1.31**	**11**	P	**Pn**	**14 46 04.8**	**-0.7**
UNV				S	**Sb**	**14 46 25.4**	**+2.2**
MCIR	**Makushin Cirqu**	**1.39**	**1**	P	**Pn**	**14 46 06.8**	**+0.1**
MTBL	**Makushin Table**	**1.42**	**6**	P	**Pn**	**14 46 06.9**	**-0.2**
ZRO	**Akutan Zero**	**1.64**	**20**	P	**Pn**	**14 46 10.2**	**+0.1**
LVA	**Lava Point**	**1.69**	**18**	P	**Pn**	**14 46 11.1**	**+0.3**
AKUT	**Akutan**	**1.72**	**23**	P	**Pn**	**14 46 11.2**	**0.0**
AKGG	**Akutan Green G**	**1.73**	**19**	P	**Pn**	**14 46 11.7**	**+0.3**
SSBA	**Shishaldin**	**2.77**	**36**	P	**Pn**	**14 46 26.2**	**+0.5**
FALS	**False Pass**	**3.11**	**41**	*eP*	**Pb**	**14 46 35.5**	**-1.9**
SDPT	**Sand Point**	**4.73**	**51**	P	**Pn**	**14 46 52.3**	**-0.1**
SPIA	**Saint Paul Isl**	**5.00**	**339**	P	**Pn**	**14 46 57.7**	**+1.4**
GSCK	**Great Sitkin C**	**5.69**	**268**	P	**Pn**	**14 47 06.4**	**+0.7**
ADK	**Adak**	**6.03**	**267**	P	**Pn**	**14 47 10.2**	**-0.2**
AMKA	**Amchitka**	**8.58**	**268**	P	**Pn**	**14 47 45.9**	**+0.5**
IM04	**Indian Mountai**	**14.98**	**21**	*eP*	**P**	**14 49 18.9**	**+0.9**
IMA2	**Indian Mountai**	**15.08**	**21**	*eP*	**P**	**14 49 20.4**	**+1.2**
ILAR	**Eielson Array**	**15.97**	**32**	Pn	**Pn**	**14 49 23.5**	**-2.1**
ILAR	**Eielson Array**	**15.97**	**32**	Pn	**Pn**	**14 49 23.5**	**-2.1**
	0.1nm,0.3s,baz=227,slow=10,SNR=6.8						
DAWY	**Dawson**	**18.31**	**40**	*eP*	**P**	**14 49 55.2**	**+0.4**
PEA0B	**Petropavlovsk-**	**21.25**	**286**	*eP*	**P**	**14 50 28.6**	**+1.8**
PETK	**Petropavlovsk-**	**21.25**	**286**	P	**P**	**14 50 26.0**	**-0.8**
PETK	**Petropavlovsk-**	**21.25**	**286**	P	**P**	**14 50 26.0**	**-0.8**
	4.2nm,0.6s,baz=90,slow=14,SNR=32						
INK	**Inuvik**	**22.38**	**33**	P	**P**	**14 50 36.5**	**-2.2**
INK	**Inuvik**	**22.38**	**33**	P	**P**	**14 50 36.5**	**-2.2**
	5.8nm,1.0s,baz=243,slow=8.8,SNR=6.3						
NVAR	**Mina Array Bea**	**36.18**	**93**	LR	LR	15 06 54.5	
	comp=Z,77nm,18.5s,baz=235,slow=35						
H11N2	**WAKE ISLAND Hy**	**38.56**	**222**	T	T	15 34 45.4	
	baz=26,slow=0.7,SNR=12						
H11N3	**WAKE ISLAND Hy**	**38.57**	**222**	T	T	15 34 51.6	
	baz=26,slow=0.7,SNR=19						
H11N1	**WAKE ISLAND Hy**	**38.58**	**222**	T	T	15 34 42.7	
	baz=26,slow=0.7,SNR=11						
PDAR	**Pinedale Array**	**38.90**	**81**	P	**P**	**14 53 07.6**	**+1.2**
PDAR	**Pinedale Array**	**38.90**	**81**	P	**P**	**14 53 07.6**	**+1.2**
	0.4nm,0.6s,baz=349,slow=3.2,SNR=3.9						
H11S1	**WAKE ISLAND Hy**	**39.74**	**221**	T	T	15 35 47.3	
	baz=25,slow=0.7,SNR=10.0						
H11S2	**WAKE ISLAND Hy**	**39.76**	**221**	T	T	15 35 51.3	
	baz=25,slow=0.7,SNR=4.6						
H11S3	**WAKE ISLAND Hy**	**39.76**	**221**	T	T	15 35 51.6	
	baz=25,slow=0.7,SNR=3.9						
KSRS	**Korea Array**	**46.86**	**278**	P	**P**	**14 54 11.5**	**+0.9**
	1.7nm,0.8s,baz=53,slow=8.3,SNR=4.5						
KSAR	**Wonju Array Be**	**46.89**	**278**	P	**P**	**14 54 11.5**	**+0.7**
TXAR	**Lajitas Array**	**51.26**	**91**	P	**P**	**14 54 46.4**	**+1.8**
TXAR	**Lajitas Array**	**51.26**	**91**	P	**P**	**14 54 46.4**	**+1.8**
	0.4nm,0.6s,baz=296,slow=5.1,SNR=5.5						
SONM	**Songino Array**	**52.47**	**302**	P	**P**	**14 54 53.5**	**+0.1**
SONM	**Songino Array**	**52.47**	**302**	P	**P**	**14 54 53.5**	**+0.1**
	0.3nm,0.3s,baz=90,slow=7.5,SNR=3.7						
ARCES	**ARCESS Array B**	**57.87**	**355**	P	**P**	**14 55 30.4**	**-1.5**
ARCES	**ARCESS Array B**	**57.87**	**355**	P	**P**	**14 55 30.4**	**-1.5**
	8.2nm,1.1s,baz=6.0,slow=6.0,SNR=5.6						
ZALV	**Zalesovo Beam**	**58.27**	**319**	P	**P**	**14 55 33.9**	**-0.9**
ZALV	**Zalesovo Beam**	**58.27**	**319**	P	**P**	**14 55 33.9**	**-0.9**
	0.4nm,0.4s,baz=29,slow=6.3,SNR=2.5						
MKAR	**Makanchi Array**	**64.74**	**315**	P	**P**	**14 56 18.0**	**-0.7**
MKAR	**Makanchi Array**	**64.74**	**315**	P	**P**	**14 56 18.0**	**-0.7**
	1.3nm,0.8s,baz=51,slow=7.9,SNR=11						
FINES	**FINESS Array B**	**65.87**	**353**	P	**P**	**14 56 25.0**	**-0.7**
FINES	**FINESS Array B**	**65.87**	**353**	P	**P**	**14 56 25.0**	**-0.7**
	2.2nm,0.5s,baz=20,slow=6.8,SNR=16						
NOA	**NORSAR Array B**	**66.74**	**1**	P	**P**	**14 56 30.6**	**-0.8**
NOA	**NORSAR Array B**	**66.74**	**1**	P	**P**	**14 56 30.6**	**-0.8**
	1.2nm,0.9s,baz=359,slow=6.4,SNR=2.8						
HFS	**Hagfors**	**67.66**	**360**	P	**P**	**14 56 36.6**	**-0.5**
HFS	**Hagfors**	**67.66**	**360**	P	**P**	**14 56 36.6**	**-0.5**
	2.2nm,0.4s,baz=72,slow=4.7,SNR=9.3						
AKASG	**Malin Array Be**	**76.21**	**350**	P	**P**	**14 57 28.1**	**-0.4**
AKASG	**Malin Array Be**	**76.21**	**350**	P	**P**	**14 57 28.1**	**-0.4**
	1.3nm,0.5s,baz=15,slow=5.3,SNR=6.3						
BRTR	**Keskin Array B**	**86.36**	**344**	P	**P**	**14 58 23.5**	**+0.7**
BRTR	**Keskin Array B**	**86.36**	**344**	P	**P**	**14 58 23.5**	**+0.7**
	0.6nm,0.8s,baz=7.8,slow=3.2,SNR=3.4						

*IDC **13** 14:50:53.5±0.7, 12°32S×165°56E, h0km, mb4.3/14, mb1 4.5/16, mb1mx4.3/23, mbtmp4.3/16, ML3.7/2, MS3.8/8, Ms1 3.8/8, ms1mx3.5/27, Error ellipse: s-maj=24.2km s-min=16.5km az=116.0*
*ISCJB **13** 14:50:56.9±0.4, 12°35S±0°07×165°41E±0°07, h33km, mb4.5/19, MS3.8/6, Error ellipse: s-maj=10.1km s-min=9.3km az=10.9*
*NEIC **13** 14:50:56.1±3.9, 12°32S×165°56E, h17km±23km, mb4.8/8, Error ellipse: s-maj=9.9km s-min=8.4km az=101.0*
ISC 13 14:50:59.0±0.5, 12°33S±0°08×165°48E±0°09, h35km, n60, σ0°63/57, mb4.4/19, MS3.7/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.15**	**297**	Pn	**Pn**	**14 52 27.1**	**-0.2**
HNR				Sn	**Sn**	**14 53 35.6**	**-0.8**
HNR	**Honiara**	**6.15**	**297**	Pn	**Pn**	**14 52 27.1**	**-0.2**
	5.2nm,0.3s,baz=98,slow=15,SNR=6.4						
HNR				Sn	**Sn**	**14 53 35.6**	**-0.8**
	23nm,0.3s,baz=244,slow=23,SNR=5.7						
DZM	**Mont Dzumac**	**9.73**	**175**	*ePn*	**Pn**	**14 53 17.1**	**+0.4**
	1.3nm,0.2s						
DZM				*eLR*	LR	14 55 34.6	
	388nm,25.8s						
DZM	**Mont Dzumac**	**9.73**	**175**	Pn	**Pn**	**14 53 15.3**	**-1.4**
DZM	**Mont Dzumac**	**9.73**	**175**	Pn	**Pn**	**14 53 15.3**	**-1.4**
	0.2nm,0.3s,baz=24,slow=20,SNR=6.5						
DZM				LR	LR	14 56 13.8	
	comp=Z,316nm,21.9s,baz=210,slow=33						
PMG	**Port Moresby**	**18.22**	**277**	LR	LR	15 01 29.4	
	comp=Z,224nm,19.1s,baz=300,slow=35						
CTA	**Charters Tower**	**19.99**	**245**	P	**P**	**14 55 28.7**	**+0.1**
CTA	**Charters Tower**	**19.99**	**245**	P	**P**	**14 55 28.7**	**+0.1**
	8.8nm,0.9s,baz=12,SNR=8.4						
CTAO	**Charters Tower**	**19.99**	**245**	*eP*	Pn	14 55 29.7	-0.9
	8.4nm,0.9s						
AFI	**Afiamalu**	**22.21**	**97**	LR	LR	15 02 19.8	
	comp=Z,136nm,21.6s,baz=66,slow=31						
STKA	**Stephens Creek**	**29.34**	**225**	*eP*	**P**	**14 57 00.3**	**+1.7**
STKA	**Stephens Creek**	**29.34**	**225**	P	**P**	**14 56 59.5**	**+0.8**
	6.6nm,1.0s,baz=17,slow=11,SNR=4.6						
STKA				LR	LR	15 06 52.0	
	comp=Z,318nm,18.8s,baz=24,slow=33						
WRA	**Warramunga Arr**	**30.82**	**252**	P	**P**	**14 57 11.7**	**-0.2**
WRA	**Warramunga Arr**	**30.82**	**252**	P	**P**	**14 57 11.7**	**-0.2**
	3.4nm,0.9s,baz=81,slow=9.0,SNR=17						
WRA				LR	LR	15 08 47.6	
	comp=Z,144nm,18.3s,baz=310,slow=35						
AS31	**Alice Springs**	**32.00**	**245**	*eP*	**P**	**14 57 21.5**	**-0.8**
ASAR	**Alice Springs**	**32.00**	**245**	P	**P**	**14 57 21.8**	**-0.5**
ASAR	**Alice Springs**	**32.00**	**245**	P	**P**	**14 57 21.8**	**-0.5**
	3.3nm,0.8s,baz=71,slow=9.3,SNR=32						
ASAR				LR	LR	15 09 57.8	
	comp=Z,169nm,19.0s,baz=56,slow=36						
PPT	**Papeete**	**43.66**	**103**	LR	LR	15 13 05.6	
	comp=Z,104nm,21.6s,baz=184,slow=31						
PPT2	**Papeete2**	**43.66**	**103**	*eLR*	LR	15 11 27.3	
	239nm,28.8s						
TBI	**Tubuai**	**44.11**	**111**	*eLR*	LR	15 11 42.8	
	239nm,32.5s						
RKT	**Rikitea**	**57.40**	**110**	*eLR*	LR	15 17 56.4	
	137nm,33.0s						
USRK	**Ussuriysk Arra**	**63.97**	**334**	P	**P**	**15 01 29.0**	**+0.3**
	2.0nm,0.8s,baz=152,slow=9.7,SNR=3.6						
VNDA	**Vanda**	**65.22**	**181**	P	**P**	**15 01 36.4**	**0.0**
	2.0nm,1.0s						
VNDA	**Vanda**	**65.22**	**181**	P	**P**	**15 01 36.6**	**+0.3**
	0.7nm,0.6s,baz=306,slow=5.3,SNR=12						
VNDA				LR	LR	15 26 47.9	
	comp=Z,115nm,20.2s,baz=275,slow=33						
FX1	**Attu Island--F**	**65.28**	**5**	P	**P**	**15 01 37.0**	**0.0**
FX1	**Attu Island--F**	**65.28**	**5**	P	**P**	**15 01 37.0**	**0.0**
	18nm,0.7s,baz=165,slow=8.1,SNR=6.7						
PETK	**Petropavlovsk-**	**65.51**	**355**	P	**P**	**15 01 38.8**	**+0.2**
PETK	**Petropavlovsk-**	**65.51**	**355**	P	**P**	**15 01 38.8**	**+0.2**
	2.5nm,0.8s,baz=152,slow=6.4,SNR=2.9						
CMAR	**Chiang Mai Arr**	**72.39**	**294**	P	**P**	**15 02 22.8**	**+0.7**
CMAR	**Chiang Mai Arr**	**72.39**	**294**	P	**P**	**15 02 22.8**	**+0.7**
	1.8nm,0.8s,baz=127,slow=4.7,SNR=11						
SONM	**Songino Array**	**79.54**	**324**	P	**P**	**15 03 03.0**	**+0.6**
SONM	**Songino Array**	**79.54**	**324**	P	**P**	**15 03 02.9**	**+0.6**
	1.2nm,0.8s,baz=140,slow=6.8,SNR=8.5						
PMR	**Palmer**	**81.84**	**20**	*eP*	**P**	**15 03 13.1**	**-1.1**
	4.9nm,0.8s						
TRF	**Thorofare Moun**	**82.81**	**18**	*eP*	**P**	**15 03 18.3**	**-1.2**
	6.6nm,0.8s						
IMA2	**Indian Mountai**	**83.80**	**16**	*eP*	**P**	**15 03 24.6**	**+0.2**
COLA	**College**	**84.58**	**18**	*eP*	**P**	**15 03 27.5**	**-0.8**
	37nm,0.8s						
ILAR	**Eielson Array**	**84.80**	**19**	P	**P**	**15 03 28.7**	**-0.7**
ILAR	**Eielson Array**	**84.80**	**19**	P	**P**	**15 03 28.7**	**-0.7**
	1.8nm,0.6s,baz=

0.1nm,0.3s,baz=359,slow=26,SNR=5.5
MKAR Makanchi Array 67.71 325 P P 15 22 42.5 +5.5
0.1nm,0.3s,baz=110,slow=8.2,SNR=3.1

*KRSC **13** 15:17:26.6±2.0, 52°.77N×159°.89E, h42km±41km, ML3.9*
*ISCJB **13** 15:17:27.8±0.5, 52°.80N±0°.03×159°.82E±0°.05, h48km, mb3.3/2, Error ellipse: s-maj=5.4km s-min=2.9km az=140.3*
*IDC **13** 15:17:29.1±2.5, 52°.65N×159°.47E, h73km±19km, mb2.9/2, mb1 3.3/3, mb1mx2.9/27, mbtmp3.2/3, Error ellipse: s-maj=50.0km s-min=19.8km az=4.0*

ISC 13 15:17:29.0±1.1, 52°.81N±0°.04×159°.79E±0°.04, h48km, n40, σ1.812/53, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLC	**Nalytchevo**	**0.45**	**324**	*i* P	**Pn**	**15 17 38.9**	**-0.6**
NLC				*i* S	**Sn**	**15 17 46.1**	**-1.0**
UGLR	**Uglovaya**	**0.71**	**305**	*e*P	**Pn**	**15 17 42.1**	**-0.8**
PET	**Petropavlovsk**	**0.72**	**288**	*i* P	**Pn**	**15 17 42.0**	**-0.9**
PET				*i* S	**Sn**	**15 17 51.9**	**-1.1**
SDLR	**Sedlovina**	**0.72**	**311**	*e*P	**Pn**	**15 17 42.2**	**-0.9**
SDLR				*i* S	**Sn**	**15 17 53.1**	**-0.1**
SMAR	**Somma**	**0.75**	**308**	*e*P	**Pn**	**15 17 41.8**	**-1.7**
AVH	**Avacha**	**0.78**	**306**	*i* P	**Pn**	**15 17 43.3**	**-0.5**
AVH				*i* S	**Sn**	**15 17 54.6**	**0.0**
KRER	**Koryakskii**	**0.80**	**309**	*i* P	**Pn**	**15 17 43.6**	**-0.6**
KRER				*i* S	**Sn**	**15 17 55.3**	**+0.1**
KOK	**Koryaka**	**0.85**	**305**	*i* P	**Pn**	**15 17 44.1**	**-0.6**
RUS	**Russkaya**	**0.86**	**245**	*i* P	**Pn**	**15 17 43.9**	**-0.9**
RUS				*i* S	**Sn**	**15 17 55.5**	**-0.8**
KRX	**Arik**	**0.88**	**309**	*i* P	**Pn**	**15 17 44.4**	**-0.8**
KRX				*i* S	**Sn**	**15 17 56.1**	**-1.0**
MTVR	**Mutnovka**	**1.03**	**252**	*i* P	**Pn**	**15 17 46.5**	**-0.7**
MTVR				*i* S	**Sn**	**15 17 59.1**	**-1.5**
GRL	**Gorelyy**	**1.07**	**257**	*i* P	**Pn**	**15 17 47.4**	**-0.4**
GRL				*i* S	**Sn**	**15 18 00.8**	**-0.9**
ASAK	**Asacha**	**1.23**	**250**	*i* P	**Pn**	**15 17 49.4**	**-0.4**
ASAK				*i* S	**Sn**	**15 18 05.1**	**-0.2**
PETK	**Petropavlovsk-** 86nm,0.3s,baz=107,slow=16,SNR=4200	**1.30**	**284**	P	**Pn**	**15 17 50.0**	**-0.7**
PETK				S	**Sn**	**15 18 05.5**	**-1.5**
	34nm,0.3s,baz=98,slow=11,SNR=10						
GNL	**Ganaly**	**1.42**	**309**	*i* P	**Pn**	**15 17 51.9**	**-0.6**
GNL				*i* S	**Sn**	**15 18 11.1**	**+1.0**
APC	**Apacha**	**1.60**	**275**	*i* P	**Pn**	**15 17 54.7**	**-0.1**
APC				*i* S	**Sn**	**15 18 13.8**	**-0.4**
MKZ	**Mys Kozlova**	**2.10**	**33**	*e*P	**Pn**	**15 18 01.4**	**-0.2**
MKZ				*i* S	**Sn**	**15 18 25.0**	**-1.5**
PAU	**Pauzhetka**	**2.27**	**235**	*i* P	**Pn**	**15 18 04.5**	**+0.5**
PAU				*i* S	**Sn**	**15 18 32.4**	**+1.6**
TUMR	**Tumrok**	**2.49**	**5**	*e*P	**Pn**	**15 18 07.9**	**+0.8**
TUMR				*i* S	**Sn**	**15 18 35.2**	**-1.1**
SKR	**Severo-Kuril's**	**3.12**	**228**	*e*P	**Pn**	**15 18 16.4**	**+0.8**
SKR				*i* S	**Sn**	**15 18 50.7**	**-0.9**
BZMR	**Bezymyannaya**	**3.16**	**7**	*e*P	**Pn**	**15 18 18.3**	**+1.9**
KIRR	**Kirishev**	**3.17**	**6**	*e*P	**Pn**	**15 18 17.1**	**+0.6**
KPT	**Kopyto**	**3.18**	**4**	*e*P	**Pn**	**15 18 17.1**	**+0.6**
BZGR	**Bezymyannyi-Gr**	**3.18**	**9**	*e*P	**Pn**	**15 18 15.6**	**-1.0**
ESO	**Esso**	**3.19**	**349**	*e*P	**Pn**	**15 18 16.1**	**-0.5**
KOZ	**Kozyrevsk**	**3.26**	**1**	*e*P	**Pn**	**15 18 17.5**	**-0.1**
KRSR	**Krestovskiy**	**3.45**		*e*P	**Pn**	**15 18 20.8**	**+0.6**
SRDR	**Sredinnyy**	**3.52**	**359**	*e*P	**Pn**	**15 18 21.4**	**+0.2**
KLY	**Klyuchi**	**3.55**	**8**	*e*P	**Pn**	**15 18 21.0**	**-0.5**
KLY				*i* S	**Sn**	**15 19 02.7**	**+0.6**
KBTR	**Krutoberegovo**	**3.84**	**26**	*i* P	**Pn**	**15 18 26.9**	**+1.4**
KBTR				*i* S	**Sn**	**15 19 09.6**	**+0.3**
BKI	**Bering**	**4.37**	**54**	*e*P	**Pn**	**15 18 32.1**	**-0.6**
BKI				*i* S	**Sn**	**15 19 17.6**	**-4.7**
FX1	**Attu Island--F** 2.1nm,0.3s,baz=248,slow=20,SNR=14	**8.10**	**84**	P	**Pn**	**15 19 25.1**	**+1.1**
FX1				S	Sn	15 20 48.4	-5.7
	5.8nm,0.3s,baz=292,slow=22,SNR=11						
ILAR	**Eielson Array** 0.2nm,0.6s,baz=288,slow=6.2,SNR=4.0	**29.15**	**45**	P	**P**	**15 23 26.4**	**+1.3**
H11N2	**WAKE ISLAND Hy 33.47 168** baz=354,slow=0.7,SNR=74			T	T	15 59 56.3	
H11N3	**WAKE ISLAND Hy 33.49 168** baz=354,slow=0.7,SNR=51			T	T	15 59 55.3	
H11N1	**WAKE ISLAND Hy 33.49 168** baz=354,slow=0.7,SNR=88			T	T	15 59 45.5	
H11S1	**WAKE ISLAND Hy 34.65 168** baz=354,slow=0.7,SNR=12			T	T	16 01 27.3	
H11S3	**WAKE ISLAND Hy 34.66 168** baz=354,slow=0.7,SNR=13			T	T	16 01 27.1	
H11S2	**WAKE ISLAND Hy 34.67 168** baz=354,slow=0.7,SNR=9.0			T	T	16 01 29.6	
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=44,slow=4.6,SNR=4.1	**48.11**	**296**	P	P	15 25 59.5	-4.3

IDC 13 15:37:34.9±1.2, 12°.10S×165°.80E, h0km, mb4.0/7, mb1 4.2/9, mb1mx4.0/21, mbtmp4.1/9, ML4.5/2, MS3.8/1, Ms1 3.8/1, ms1mx2.9/34, Error ellipse: s-maj=31.1km s-min=22.3km az=119.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara** 27nm,0.3s,baz=120,slow=20,SNR=16	**6.33**	**294**	Pn	Pn	15 39 11.5	+1.9
HNR				Sn	Sn	15 40 23.5	+0.8
	baz=198,slow=20,SNR=2.0						
DZM	**Mont Dzumac** 1.3nm,0.3s,baz=2.4,slow=17,SNR=15	**9.94**	**177**	Pn	Pn	15 40 00.2	+0.9
CTA	**Charters Tower** 2.8nm,0.6s,baz=77,slow=15,SNR=6.6	**20.38**	**245**	P	Pn	15 42 14.7	-0.8
STKA	**Stephens Creek** 5.1nm,1.1s,baz=69,slow=8.6,SNR=3.6	**29.73**	**225**	P	P	15 43 42.9	-0.2
WRA	**Warramunga Arr** 1.0nm,0.7s,baz=85,slow=9.6,SNR=11	**31.19**	**251**	P	P	15 43 55.8	-0.4
ASAR	**Alice Springs** 2.8nm,0.7s,baz=70,slow=9.4,SNR=32	**32.38**	**245**	P	P	15 44 06.2	-0.4
BATI	**Baumata** comp=Z,110nm,19.4s,slow=32	**41.36**	**268**	LR	LR	15 59 43.5	
KSRS	**Korea Array** 0.4nm,0.5s,baz=155,slow=8.9,SNR=4.1	**60.77**	**326**	P	P	15 47 47.5	-1.2
SONM	**Songino Array** 0.3nm,0.5s,baz=116,slow=3.4,SNR=3.2	**79.54**	**324**	P	P	15 49 44.9	+1.0
ILAR	**Eielson Array** 0.2nm,0.5s,baz=228,slow=5.2,SNR=6.1	**84.48**	**18**	P	P	15 50 10.6	+1.2
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=97,slow=5.0,SNR=4.4	**94.32**	**317**	P	P	15 50 56.2	-0.3
ARCES	**ARCESS Array B** 1.8nm,0.6s,baz=87,slow=2.7,SNR=7.5	**117.36**	**345**	PKP	PKPdf	15 56 20.3	-1.6

IDC 13 15:46:47.5±1.2, 12°.35S×165°.59E, h0km, mb4.1/7, mb1 4.2/9, mb1mx4.0/21, mbtmp4.1/9, ML3.7/2, MS3.4/5, Ms1 3.4/5, ms1mx3.1/33, Error ellipse: s-maj=34.9km s-min=24.0km az=130.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara** 4.4nm,0.3s,baz=55,slow=18,SNR=9.8	**6.25**	**297**	Pn	Pn	15 48 20.9	-0.2
HNR				Sn	Sn	15 49 29.6	-3.8
	7.2nm,0.3s,baz=37,slow=23,SNR=5.7						
HNR				LR	LR	15 50 25.2	
	comp=Z,266nm,19.3s,baz=20,slow=35						
DZM	**Mont Dzumac** 0.3nm,0.3s,baz=291,slow=14,SNR=3.7	**9.70**	**175**	Pn	Pn	15 49 09.2	+0.7
DZM				LR	LR	15 51 56.2	
	comp=Z,164nm,20.6s,baz=213,slow=32						
PMG	**Port Moresby** comp=Z,150nm,19.6s,baz=327,slow=33	**18.33**	**277**	LR	LR	15 56 58.8	
CTA	**Charters Tower** 4.6nm,0.7s,baz=77,slow=12,SNR=6.2	**20.08**	**245**	P	Pn	15 51 24.0	-0.5
AFI	**Afiamalu** comp=Z,81nm,20.1s,baz=267,slow=28	**22.10**	**97**	LR	LR	15 57 12.3	
STKA	**Stephens Creek** comp=Z,168nm,19.5s,baz=24,slow=33	**29.40**	**225**	LR	LR	16 03 06.0	
WRA	**Warramunga Arr** 1.9nm,0.8s,baz=82,slow=8.8,SNR=9.7	**30.91**	**252**	P	P	15 53 05.8	-0.4
ASAR	**Alice Springs** 1.9nm,0.8s,baz=71,slow=9.3,SNR=21	**32.09**	**245**	P	P	15 53 15.8	-0.9
CMAR	**Chiang Mai Arr** 0.9nm,0.8s,baz=126,slow=4.9,SNR=6.5	**72.49**	**294**	P	P	15 58 17.0	+0.3
SONM	**Songino Array** 0.4nm,0.5s,baz=126,slow=7.3,SNR=4.4	**79.62**	**324**	P	P	15 58 58.0	+1.1
ILAR	**Eielson Array** 742nm,0.4s,baz=225,slow=5.0,SNR=17	**84.79**	**19**	P	P	15 59 23.0	-0.5
MKAR	**Makanchi Array** 1.2nm,0.7s,baz=97,slow=6.3,SNR=12	**94.36**	**317**	P	P	16 00 09.1	-0.2
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=85,slow=3.2,SNR=4.5	**94.52**	**324**	P	P	16 00 09.3	-0.4
ARCES	**ARCESS Array B** 3.3nm,0.9s,baz=74,slow=2.8,SNR=6.1	**117.55**	**345**	PKP	PKPdf	16 05 34.6	-0.4
TORD	**Torodi Ar. Bea** 0.5nm,0.8s,baz=98,slow=1.1,SNR=2.5	**164.27**	**275**	PKP	PKPdf	16 06 53.9	-0.2

IDC 13 15:48:21.1±6.7, 10°.84N×144°.21E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/24, mbtmp3.4/4, MS4.1/1, Ms1 4.1/1, ms1mx2.8/29, Error ellipse: s-maj=264.4km s-min=26.0km az=82.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy 23.02** baz=255,slow=0.7,SNR=94		**68**	T	T	16 16 37.2	
H11S1	**WAKE ISLAND Hy 23.03** baz=255,slow=0.7,SNR=34		**68**	T	T	16 16 38.7	
H11S2	**WAKE ISLAND Hy 23.03** baz=255,slow=0.7,SNR=91		**68**	T	T	16 16 37.8	
H11N1	**WAKE ISLAND Hy 23.56** baz=252,slow=0.7,SNR=14		**65**	T	T	16 17 20.8	
H11N2	**WAKE ISLAND Hy 23.57** baz=252,slow=0.7,SNR=8.5		**65**	T	T	16 17 20.8	
H11N3	**WAKE ISLAND Hy 23.58** baz=252,slow=0.7,SNR=22		**65**	T	T	16 17 21.6	
WRA	**Warramunga Arr** 0.5nm,0.6s,baz=21,slow=9.8,SNR=8.3	**32.10**	**198**	P	P	15 54 49.8	-0.4
ASAR	**Alice Springs** 0.3nm,0.9s,baz=15,slow=14,SNR=4.1	**35.75**	**196**	P	P	15 55 22.3	+0.4
SONM	**Songino Array** 0.3nm,0.5s,baz=146,slow=7.6,SNR=4.2	**48.63**	**327**	P	P	15 57 06.7	-0.2
RPZ	**Rata Peaks** comp=Z,148nm,19.5s,baz=65,slow=30	**59.54**	**158**	LR	LR	16 18 09.2	
MKAR	**Makanchi Array** 0.5nm,0.8s,baz=92,slow=8.0,SNR=3.7	**63.03**	**317**	P	P	15 58 50.2	0.0

IDC 13 16:01:52.5±3.2, 12°.40S×166°.18E, h97km±26km, mb3.5/4, mb1 3.8/6, mb1mx3.5/19, mbtmp3.8/6, MS3.4/3, Ms1 3.4/3, ms1mx3.0/31, Error ellipse: s-maj=30.2km s-min=18.4km az=62.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara** 16nm,0.3s,baz=162,slow=2.7,SNR=28	**6.79**	**295**	P	Pn	16 03 29.9	+0.3
HNR				S	Sn	16 04 46.7	+1.3
	9.4nm,0.3s,baz=180,slow=19,SNR=2.8						
DZM	**Mont Dzumac** 3.1nm,0.3s,baz=53,slow=18,SNR=13	**9.62**	**179**	P	Pn	16 04 06.3	-2.0
DZM				S	Sn	16 05 58.6	+3.9
	0.5nm,0.3s,baz=143,slow=20,SNR=3.0						
PMG	**Port Moresby** comp=Z,99nm,19.8s,baz=99,slow=33	**18.91**	**277**	LR	LR	16 12 09.7	
AFI	**Afiamalu** comp=Z,80nm,21.4s,baz=253,slow=32	**21.52**	**96**	LR	LR	16 13 31.0	
STKA	**Stephens Creek** comp=Z,114nm,20.9s,baz=206,slow=31	**29.78**	**225**	LR	LR	16 17 19.8	
WRA	**Warramunga Arr** 0.7nm,0.9s,baz=82,slow=8.7,SNR=4.6	**31.44**	**252**	P	P	16 08 04.8	-0.2
ASAR	**Alice Springs** 0.9nm,0.7s,baz=68,slow=9.2,SNR=16	**32.59**	**245**	P	P	16 08 14.4	-0.7
CMAR	**Chiang Mai Arr** 0.4nm,0.7s,baz=100,slow=5.0,SNR=2.6	**73.04**	**294**	P	P	16 13 12.4	-0.1
SONM	**Songino Array** 0.2nm,0.4s,baz=144,slow=5.2,SNR=2.9	**80.00**	**324**	P	P	16 13 50.8	-0.5
ILAR	**Eielson Array** 0.3nm,0.6s,baz=243,slow=5.1,SNR=6.6	**84.66**	**18**	P	P	16 14 15.3	+0.3
MKAR	**Makanchi Array** 0.9nm,0.8s,baz=107,slow=4.2,SNR=5.1	**94.79**	**317**	P	P	16 15 03.9	+0.5
TORD	**Torodi Ar. Bea** 0.6nm,0.9s,baz=77,slow=2.9,SNR=3.8	**164.84**	**275**	PKPab	PKPab	16 22 43.5	+0.7

DHMR 13 16:05:17.8±1.4, 12°.38N×45°.82E, h28km±999km, ML3.5, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDHA	**Al Bayda'**	**1.61**	**351**	*i* P	Pn	16 05 45.1	+0.4
BDHA				*i* S	Sb	16 06 07.4	0.0
TRBA	**At Turbah**	**1.86**	**297**	*i* P	Pn	16 05 49.4	+1.2
TRBA				*i* S	Sb	16 06 14.1	-0.6
TRBA				AML	AML	16 06 14.9	
	comp=N,1μm,0.4s						
UDYN	**Al 'Udayn**	**2.40**	**312**	*i* P	Pb	16 05 58.7	-1.9
UDYN				*i* S	Sb	16 06 29.0	-0.8
UDYN				AML	AML	16 06 45.1	
	comp=Z,216nm,0.8s						

*BJI **13** 16:31:33.3, 15°.30N×92°.30W, h142km, mB5.2/5*
*NEIC **13** 16:31:33.3, 15°.27N×92°.81W, h126km, mb4.6/32, MD4.5(MEX), After MEX.*
*MEX **13** 16:31:33.0±0.4, 15°.27N×92°.82W, h128km±4km, MD4.5*
*IDC **13** 16:31:37.0±1.3, 15°.40N×92°.07W, h156km±9km, mb3.8/15, mb1 4.1/17, mb1mx3.9/26, mbtmp3.9/17, MS3.3/1, Ms1 3.3/1, ms1mx2.8/28, Error ellipse: s-maj=25.7km s-min=10.2km az=54.0*

ISC 13 16:31:32.2±0.7, 15°.17N±0°.04×92°.71W±0°.03, h122km±5km, n298, σ2.908/312, mb4.5/41, 83C-83D, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.72**	**317**	*e*P	**Pn**	**16 31 51.0**	**-0.9**
PCIG				*i* S	**Sn**	**16 32 05.2**	**-1.6**
PCIG		**0.72**	**317**	*e*P	**Pn**	**16 31 51.0**	**-0.9**
PCIG				*i* S	**Sn**	**16 32 05.2**	**-1.6**
CCIG	**Comitan**	**1.23**	**27**	*e*P	**Pn**	**16 31 56.5**	**-0.4**
CCIG				*i* S	**Sn**	**16 32 15.1**	**-0.8**
CCIG	**Comitan**	**1.23**	**27**	*e*P	**Pn**	**16 31 56.5**	**-0.4**
CCIG				*i* S	**Sn**	**16 32 15.1**	**-0.8**
JAT	**Jato**	**1.34**	**129**	*e*P	**Pn**	**16 31 57.9**	**-0.1**
JAT	**Jato**	**1.34**	**129**	*e*P	**Pn**	**16 31 57.9**	**-0.1**
TGIG		**1.64**	**346**	*e*P	**Pn**	**16 32 00.4**	**-1.1**
TGIG				*i* S	**Sn**	**16 32 21.4**	**-2.5**
TGIG		**1.64**	**346**	*e*P	**Pn**	**16 32 00.4**	**-1.1**
TGIG				*i* S	**Sn**	**16 32 21.4**	**-2.5**
FUG	**Fuego 3**	**1.95**	**111**	*e*P	**Pn**	**16 32 05.3**	**0.0**
FUG	**Fuego 3**	**1.95**	**111**	*e*P	**Pn**	**16 32 05.3**	**0.0**
APG	**El Apazote**	**2.18**	**94**	P	**Pn**	**16 32 06.6**	**-1.6**
APG				S	**Sn**	**16 32 32.6**	**-3.1**
APG	**El Apazote** 559nm,0.3s,baz=272,slow=8.7,SNR=3644	**2.18**	**94**	P	**Pn**	**16 32 06.6**	**-1.6**
APG				S	**Sn**	**16 32 32.6**	**-3.1**
	428nm,0.3s,baz=301,slow=14,SNR=90						
APG				LR	LR	16 32 50.7	
	comp=Z,992nm,18.5s,baz=258,slow=46						
PCG	**Pacaya**	**2.18**	**111**	*e*P	**Pn**	**16 32 08.1**	**-0.1**
PCG				*e*S	**Sn**	**16 32 34.5**	**-1.3**
PCG	**Pacaya**	**2.18**	**111**	*e*P	**Pn**	**16 32 08.1**	**-0.1**
PCG				*e*S	**Sn**	**16 32 34.5**	**-1.3**
NBG	**Las Nubes**	**2.36**	**104**	*e*P	**Pn**	**16 32 10.9**	**+0.4**
NBG	**Las Nubes**	**2.36**	**104**	*e*P	**Pn**	**16 32 10.9**	**+0.4**
IXG	**Ixpaco**	**2.40**	**114**	*e*P	**Pn**	**16 32 11.1**	**+0.2**
IXG	**Ixpaco**	**2.40**	**114**	*e*P	**Pn**	**16 32 11.1**	**+0.2**
MRL	**Marmol**	**2.92**	**92**	*e*P	**Pn**	**16 32 17.4**	**-0.3**
MRL				*e*S	Sn	16 32 43.8	-8.8
MRL	**Marmol**	**2.92**	**92**	*e*P	**Pn**	**16 32 17.4**	**-0.3**
MRL				*e*S	Sn	16 32 43.8	-8.8
RBDL	**Robledal**	**3.11**	**109**	*e*P	**Pn**	**16 32 19.0**	**-1.1**
RBDL	**Robledal**	**3.11**	**109**	*e*P	**Pn**	**16 32 19.0**	**-1.1**
RTR	**El Retiro**	**3.23**	**113**	*e*P	**Pn**	**16 32 21.1**	**-0.7**
RTR	**El Retiro**	**3.23**	**113**	*e*P	**Pn**	**16 32 21.1**	**-0.7**
SBLS	**San Blas**	**3.27**	**114**	*e*P	**Pn**	**16 32 21.8**	**-0.5**
SBLS	**San Blas**	**3.27**	**114**	*e*P	**Pn**	**16 32 21.8**	**-0.5**
SNJE	**San Jose**	**3.28**	**113**	*e*P	**Pn**	**16 32 21.2**	**-1.1**
SNJE	**San Jose**	**3.28**	**113**	*e*P	**Pn**	**16 32 21.2**	**-1.1**
HUIG	**Huatulco**	**3.33**	**281**	*e*P	**Pn**	**16 32 21.6**	**-1.3**
HUIG				*i* S	**Sn**	**16 32 58.2**	**-3.8**
HUIG	**Huatulco**	**3.33**	**281**	*e*P	**Pn**	**16 32 21.6**	**-1.3**
HUIG				*i* S	**Sn**	**16 32 58.2**	**-3.8**
SCIG	**Sabancuy**	**4.05**	**21**	*e*P	**Pn**	**16 32 31.5**	**-0.8**
SCIG				*i* S	**Sn**	**16 33 17.1**	**-1.9**
SNVI	**San Vicente**	**4.06**	**112**	*e*P	**Pn**	**16 32 32.1**	**-0.6**
SNVI				*e*S	**Sn**	**16 33 17.1**	**-2.6**
SNVI	**San Vicente**	**4.06**	**112**	*e*P	**Pn**	**16 32 32.1**	**-0.6**
SNVI				*e*S	**Sn**	**16 33 17.1**	**-2.6**
VHO	**Vista Hermosa**	**4.30**	**297**	*i* P	**Pn**	**16 32 33.7**	**-2.2**
VHO				*i* S	**Sn**	**16 33 21.7**	**-3.7**
VHO	**Vista Hermosa**	**4.30**	**297**	*i* P	**Pn**	**16 32 33.7**	**-2.2**
VHO				*i* S	**Sn**	**16 33 21.7**	**-3.7**
PNIG	**Pinotepa**	**5.35**	**284**	*e*P	**Pn**	**16 32 49.0**	**-0.9**
PNIG				*i* S	Sn	16 33 46.5	-4.0
PNIG	**Pinotepa**	**5.35**	**284**	*e*P	**Pn**	**16 32 50.0**	**0.0**
PNIG				*i* S	Sn	16 33 46.5	-4.0
TGUH	**Tegucigalpa,Un** 674nm,1.2s	**5.38**	**101**	*e*P	**Pn**	**16 32 49.8**	**-0.5**
TEIG	**Tepich** 560nm,0.4s	**6.57**	**39**	*e*P	**Pn**	**16 33 03.4**	**-2.9**
JTS	**JuntasAbangare** 305nm,0.6s	**8.99**	**122**	*e*P	**Pn**	**16 33 38.5**	**-0.6**
JTS				S	Sn	16 35 09.0	-10
JTS	**JuntasAbangare** 15nm,0.3s,baz=298,slow=6.6,SNR=51	**8.99**	**122**	P	**Pn**	**16 33 38.4**	**-0.6**
JTS				S	Sn	16 35 09.0	-10
	3.8nm,0.3s,baz=264,slow=19,SNR=3.5						
732A	**Laxson Ranch,** baz=15	**15.07**	**335**	⇑P	**P**	**16 35 02.0**	**+0.9**
732A				⇓S	Sn	16 37 36.5	-9.1
	baz=15						
632A	**Uvalde** baz=16,SNR=7.1	**15.69**	**337**	⇓P	**P**	**16 35 09.5**	**+1.6**
632A				⇑S	Sn	16 37 48.9	-12
	baz=16						
631A	**Perdido Creek** baz=16,SNR=7.7	**15.92**	**334**	⇓P	**P**	**16 35 12.3**	**+1.8**
631A				⇓S	Sn	16 37 55.3	-11
	baz=16						
532A	**Rocksprings** baz=16,SNR=11	**16.29**	**337**	⇓P	**P**	**16 35 17.0**	**+2.4**
532A				⇓S	Sn	16 38 04.3	-11
	baz=16						
JCT	**Junction City** baz=16	**16.57**	**338**	⇓P	**P**	**16 35 20.1**	**+2.4**
531A	**Rocksprings** baz=16	**16.57**	**336**	⇑P	**P**	**16 35 21.0**	**+3.2**
531A				⇓S	Sn	16 38 11.4	-10
	baz=16						
530A	**J-C Ranch, Com** baz=17	**16.89**	**333**	⇑P	**P**	**16 35 23.9**	**+2.7**
432A	**Menard** baz=17	**16.93**	**339**	⇑P	**P**	**16 35 24.4**	**+2.7**
432A				⇑S	Sn	16 38 17.4	-13
	baz=17						
431A	**Sonora** baz=17	**17.05**	**336**	⇑P	**Pn**	**16 35 25.7**	**+2.5**
529A	**Stev Forest Ra** baz=17	**17.26**	**331**	⇓P	**Pn**	**16 35 28.6**	**+2.8**
627A	**Terlingua Ranc** baz=17,SNR=6.9	**17.29**	**327**	⇑P	**Pn**	**16 35 29.4**	**+3.2**
WHTX	**Lake Whitney**	**17.29**	**346**	*e*P	Pn	16 35 33.0	+7.0
WHTX	**Lake Whitney** baz=17	**17.29**	**346**	⇑P	**Pn**	**16 35 27.5**	**+1.4**
TXAR	**Lajitas Array**	**17.34**	**326**	P	**Pn**	**16 35 30.3**	**+3.5**
TXAR				PcP	**PcP**	**16 40 04.9**	**+2.9**
TXAR	**Lajitas Array** 0.2nm,0.3s,baz=144,slow=11,SNR=22	**17.34**	**326**	P	**Pn**	**16 35 30.3**	**+3.5**
TXAR				PcP	**PcP**	**16 40 04.9**	**+2.9**
	0.2nm,0.3s,baz=151,slow=2.9,SNR=4.0						
TXAR				LR	LR	16 44 55.8	
	comp=Z,87nm,18.1s,baz=25,slow=46						
332A	**Millersview** baz=17	**17.37**	**339**	⇑P	**Pn**	**16 35 28.8**	**+1.8**
430A	**Baggett Ranch,** baz=17	**17.40**	**335**	⇓P	**Pn**	**16 35 29.2**	**+1.8**
GTBY	**Guantanamo Bay**	**17.43**	**72**	*e*P	**Pn**	**16 35 28.6**	**+0.8**
429A	**Davenport Ranc** baz=18	**17.54**	**333**	⇑P	**Pn**	**16 35 31.4**	**+2.3**
331A	**San Angelo** baz=18	**17.54**	**338**	⇑P	**Pn**	**16 35 31.1**	**+1.9**
528A	**Cox Ranch, San** baz=18,SNR=7.4	**17.56**	**330**	⇑P	**Pn**	**16 35 31.7**	**+2.3**
626A	**Big Bend Ranch** baz=18,SNR=13	**17.77**	**326**	⇑P	**Pn**	**16 35 34.6**	**+2.7**
232A	**Coleman** baz=18	**17.80**	**340**	⇓P	**Pn**	**16 35 33.3**	**+1.1**
330A	**Mertzon** baz=18,SNR=5.5	**17.92**	**336**	⇑P	**Pn**	**16 35 34.6**	**+1.0**
527A	**Woodward Ranch** baz=18,SNR=8.8	**17.96**	**328**	⇑P	**Pn**	**16 35 36.6**	**+2.3**
231A	**Bronte** baz=18	**18.07**	**339**	⇑P	**Pn**	**16 35 36.0**	**+0.5**
526A	**Mary Lane Ranc** baz=18	**18.14**	**327**	⇓P	**Pn**	**16 35 38.4**	**+2.0**
TIGA	**Tifton**	**18.21**	**26**	*e*P	**Pn**	**16 35 36.9**	**-0.2**
TIGA	**Tifton** baz=18,SNR=12	**18.21**	**26**	⇓P	**Pn**	**16 35 37.0**	**-0.1**
329A	**Wagon Wheel Ra** baz=18	**18.32**	**334**	⇓P	**Pn**	**16 35 39.8**	**+1.4**
230A	**Sterling City** baz=18	**18.32**	**337**	⇓P	**Pn**	**16 35 38.9**	**+0.5**
427A	**Hayter Ranch,** baz=18	**18.43**	**330**	⇑P	**Pn**	**16 35 41.2**	**+1.5**
ABTX	**Abilene, Hawle** baz=18	**18.48**	**341**	⇓P	**Pn**	**16 35 40.7**	**+0.4**
LRAL	**Lakeview Retre** 27nm,0.8s	**18.52**	**15**	*e*P	**Pn**	**16 35 40.0**	**-0.7**
328A	**Wristen Ranch,** baz=18,SNR=13	**18.59**	**332**	⇑P	**Pn**	**16 35 42.8**	**+1.2**
426A	**McDonald Obser** baz=18	**18.59**	**328**	⇓P	**Pn**	**16 35 43.7**	**+1.9**
131A	**Roby** baz=19	**18.77**	**340**	⇑P	**Pn**	**16 35 43.6**	**-0.1**
Z32A	**Haskell** baz=19	**19.07**	**342**	⇑P	**Pn**	**16 35 46.4**	**-0.8**
326A	**Caldwell Ranch** baz=19,SNR=31	**19.09**	**329**	⇑P	**

	28nm,0.6s							
X29A	**Tulia**	20.83	339	⇑P	P	16 36 05.5	+1.3	
	baz=21							
TUL1	**Tulsa**	20.84	353	⇓P	P	16 36 04.4	+0.3	
	baz=21							
SWET	**Sewanee**	20.87	16	*e*P	P	16 36 04.2	-0.2	
	16nm,0.7s							
Y27A	**Causey**	20.89	335	⇓P	P	16 36 07.0	+2.1	
	baz=21							
124A	**Stringfield Ra**	20.94	329	⇑P	Pn	16 36 08.6	-0.9	
	baz=21,SNR=29							
W31A	**Holland Ranch,**	20.96	343	⇑P	P	16 36 06.9	+1.4	
	baz=21							
Z25A	**Roswell**	21.06	331	⇓P	P	16 36 08.4	+1.8	
	baz=21,SNR=9.2							
X28A	**Dimmitt**	21.07	338	⇓P	P	16 36 08.0	+1.2	
	baz=21							
Y26A	**Elida**	21.20	334	⇑P	P	16 36 10.6	+2.4	
	baz=21							
123A	**Bell Site, Whi**	21.31	327	⇓P	P	16 36 12.8	+3.5	
	baz=21							
Z24A	**Sheeppen Canyo**	21.41	330	⇓P	P	16 36 13.3	+2.8	
	baz=21,SNR=32							
X27A	**F and S Farms,**	21.53	336	⇑P	P	16 36 13.0	+1.3	
	baz=22							
Y25A	**Mesa, Roswell**	21.58	332	⇑P	P	16 36 15.0	+2.7	
	baz=22,SNR=27							
320A	**Kipp Ranch, An**	21.64	321	⇑P	P	16 36 17.0	+4.1	
	baz=22							
221A	**Mesquite Ranch**	21.67	323	⇓P	P	16 36 16.9	+3.7	
	baz=22							
X26A	**CR and CF Fran**	21.73	335	⇓P	P	16 36 15.9	+2.0	
	baz=22							
122A	**Conniff Cattle**	21.75	326	⇑P	P	16 36 17.7	+3.6	
	baz=22							
Z23A	**Rita Site, Whi**	21.79	328	⇑P	P	16 36 17.6	+3.2	
	baz=22,SNR=22							
W27A	**Bowe Ranch, En**	21.88	337	⇓P	P	16 36 16.8	+1.4	
	baz=22,SNR=5.5							
TKL	**Tuckaleechee C**	21.92	20	*e*P	P	16 36 15.4	-0.2	
TKL	**Tuckaleechee C**	21.92	20	P	P	16 36 15.0	-0.7	
	13nm,0.8s,baz=195,slow=15,SNR=9.6							
Y24A	**Capitan**	21.93	331	⇑P	P	16 36 18.1	+2.1	
	baz=22,SNR=26							
220A	**Playas Peak, P**	22.03	322	⇑P	P	16 36 20.4	+3.3	
	baz=22,SNR=9.0							
121A	**Cookes Peak, D**	22.06	324	⇑P	P	16 36 20.7	+3.4	
	baz=22,SNR=8.0							
V29A	**Stinnett**	22.07	341	⇓P	P	16 36 18.8	+1.5	
	baz=22							
X25A	**Clemmons Ranch**	22.08	333	⇓P	P	16 36 19.3	+1.9	
	baz=22,SNR=14							
Z22A	**Elephant Butte**	22.16	327	⇓P	P	16 36 21.1	+2.8	
	baz=22							
Y23A	**Lovelace Mesa,**	22.23	330	⇓P	P	16 36 21.7	+2.6	
	baz=22,SNR=16							
KMSC	**Kings Mountain**	22.36	25	*e*P	P	16 36 20.0	-0.1	
KMSC	**Kings Mountain**	22.36	25	⇑P	P	16 36 20.4	+0.3	
	baz=22,SNR=8.3							
U30A	**WK&E Inc. Balk**	22.42	343	⇓P	P	16 36 22.1	+1.3	
	baz=22,SNR=7.1							
X24A	**Lazy VL Ranch,**	22.45	332	⇓P	P	16 36 23.7	+2.4	
	baz=22							
SDV	**Santo Domingo**	22.47	104	*e*P	P	16 36 18.1	-3.6	
	10nm,0.6s							
120A	**U Bar Ranch, L**	22.56	323	⇑P	P	16 36 26.1	+3.7	
	baz=22							
W25A	**X Bar L Ranch,**	22.58	334	⇓P	P	16 36 24.4	+1.9	
	baz=22,SNR=8.3							
Z21A	**St. Cloud Mine**	22.58	326	⇑P	P	16 36 26.3	+3.7	
	baz=22							
SIUC	**Southern Illin**	22.66	7	*e*P	P	16 36 24.1	+1.0	
	18nm,0.6s							
BNM	**Barren Site**	22.69	329	P	P	16 36 25.4	+1.7	
	17nm,1.0s							
Y22A	**Socorro**	22.69	328	⇓P	P	16 36 26.7	+3.0	
	baz=23							
T31A	**Randall Ranch,**	22.70	345	⇓P	P	16 36 24.6	+1.1	
	baz=23							
U28A	**Mallet**	22.76	340	⇓P	P	16 36 25.9	+1.7	
	baz=23							
TZTN	**Tazewell**	22.80	19	*e*P	P	16 36 23.9	-0.5	
	30nm,1.1s							
V26A	**Tequesquite Ra**	22.81	336	⇑P	P	16 36 26.5	+1.8	
	baz=23							
LPM	**Los Pinos Moun**	22.82	329	*e*P	P	16 36 27.8	+2.9	
	16nm,1.0s							
T30A	**Plains**	22.87	344	⇑P	P	16 36 26.7	+1.4	
	baz=23							
LENM	**Lemitar**	22.88	328	*e*P	P	16 36 29.3	+3.8	
	9.9nm,1.0s							
W24A	**Lazy 6 Ranch,**	22.98	333	⇑P	P	16 36 29.3	+2.8	
	baz=23,SNR=17							
U27A	**Thompson Grove**	23.01	339	⇓P	P	16 36 28.2	+1.6	
	baz=23,SNR=7.3							
Y21A	**Point of Rocks**	23.12	327	⇓P	P	16 36 32.0	+4.2	
	baz=23,SNR=7.0							
S31A	**Mullinville**	23.15	346	⇓P	P	16 36 28.9	+1.1	
	baz=23							
X22A	**Bernardo**	23.16	329	⇑P	P	16 36 31.7	+3.5	
	baz=23							
V25A	**Rancho No Teng**	23.17	335	⇑P	P	16 36 30.7	+2.4	
	baz=23,SNR=12							
T29A	**Hugoton**	23.19	342	⇓P	P	16 36 30.2	+1.9	
	baz=23							
ANMO	**Albuquerque**	23.25	330	P	P	16 36 30.1	+1.2	
ANMO	**Albuquerque**	23.25	330	P	P	16 36 30.1	+1.2	
	3.5nm,0.6s,baz=149,slow=11,SNR=11							
W23A	**Werner Place,**	23.28	331	⇑P	P	16 36 32.8	+3.5	
	baz=23							
U26A	**Atchley Ranch,**	23.32	337	⇓P	P	16 36 31.5	+1.9	
	baz=23,SNR=10							
V24A	**Rampart Ranch,**	23.35	333	⇑P	P	16 36 32.7	+2.7	
	baz=23,SNR=7.5							
T28A	**Walsh**	23.40	341	⇓P	P	16 36 31.8	+1.5	
	baz=23							
S30A	**Montezuma**	23.41	344	⇓P	P	16 36 32.0	+1.8	
	baz=23							
Y20A	**Horse Springs,**	23.42	326	⇑P	P	16 36 34.6	+4.0	
	baz=23							
X21A	**Alamocita Cree**	23.51	327	⇓P	P	16 36 35.2	+3.8	
	baz=23,SNR=12							
W22A	**Albuquerque**	23.55	330	⇑P	P	16 36 34.9	+3.2	
	baz=24							
T27A	**Campo**	23.55	340	⇓P	P	16 36 33.8	+2.2	
	baz=24							
S29A	**Ulysses**	23.57	343	⇑P	P	16 36 33.5	+1.8	
	baz=24							
U25A	**Circle Dot Ran**	23.58	336	⇑P	P	16 36 34.4	+2.4	
	baz=24,SNR=8.0							
S28A	**Manter**	23.77	342	⇑P	P	16 36 34.9	+1.4	
	baz=24							
V23A	**Ortiz Mt. (NFS**	23.77	332	⇓P	P	16 36 37.6	+3.9	
	baz=24,SNR=9.4							
R31A	**Burdett**	23.80	347	⇓P	P	16 36 35.3	+1.6	
	baz=24,SNR=5.7							
X20A	**Quemado**	23.96	326	⇓P	P	16 36 39.7	+4.2	
	baz=24							
R30A	**Dighton**	23.97	345	⇓P	P	16 36 37.2	+1.9	
	baz=24,SNR=8.8							
KSU1	**Kansas State U**	24.08	353	*e*P	P	16 36 35.4	-0.8	
	41nm,0.9s							
S27A	**Las Animas**	24.17	340	⇑P	P	16 36 39.2	+2.0	
	baz=24							
T25A	**Trinidad**	24.22	337	⇓P	P	16 36 40.8	+3.0	
	baz=24,SNR=6.6							
V22A	**San Miguel Ran**	24.25	331	⇑P	P	16 36 41.5	+3.5	
	baz=24,SNR=7.7							
U23A	**El Rito**	24.26	333	⇓P	P	16 36 41.6	+3.4	
	baz=24,SNR=19							
R29A	**Marienthal**	24.33	344	⇓P	P	16 36 40.8	+2.3	
	baz=24							
W20A	**Ramah**	24.41	327	⇓P	P	16 36 43.1	+3.6	
	baz=24,SNR=6.8							
R28A	**Tribune**	24.44	343	⇑P	P	16 36 41.2	+1.6	
	baz=24							
Q31A	**Ellis**	24.46	347	⇓P	P	16 36 40.6	+1.0	
	baz=24							
V21A	**Milan**	24.51	330	⇓P	P	16 36 43.5	+3.1	
	baz=24							
T24B	**San Luis**	24.54	335	⇓P	P	16 36 43.2	+2.5	
	baz=24							
Q30A	**Quinter**	24.62	346	⇓P	P	16 36 43.2	+2.0	
	baz=25,SNR=9.9							
R27A	**Eads**	24.69	341	⇑P	P	16 36 43.9	+2.0	
	baz=25							
S25A	**Robets Cordova**	24.69	337	⇑P	P	16 36 44.6	+2.6	
	baz=25,SNR=5.6							
Q29A	**Oakley**	24.72	344	⇑P	P	16 36 44.3	+2.1	
	baz=25							
VWCC	**Virginia Weste**	24.72	25	*e*P	P	16 36 42.7	+0.6	
X18A	**Snowflake**	24.75	324	⇑P	P	16 36 47.0	+4.4	
	baz=25							
P32A	**Huiting Farm,**	24.90	349	⇑P	P	16 36 44.2	+0.5	
	baz=25							
R26A	**Arlington**	24.91	340	⇑P	P	16 36 46.4	+2.5	
	baz=25							
V20A	**Brimhall**	24.91	328	⇓P	P	16 36 47.3	+3.2	
	baz=25,SNR=5.7							
P31A	**Stockton**	24.95	348	⇑P	P	16 36 46.0	+1.8	
	baz=25							
U21A	**Nageezi**	25.02	331	⇓P	P	16 36 48.7	+3.7	
	baz=25							
R25A	**Fountain Ranch**	25.07	338	⇓P	P	16 36 48.1	+2.7	
	baz=25							
T22A	**Edith**	25.15	333	⇑P	P	16 36 49.3	+3.1	
	baz=25							
P30A	**Selden**	25.16	346	⇑P	P	16 36 48.5	+2.4	
	baz=25							
SDCO	**Great Sand Dun**	25.18	336	*e*P	P	16 36 49.0	+2.4	
	1.4nm,0.8s							
CELP	**Cerrillos**	25.20	80	P	P	16 36 45.2	-1.4	
P29A	**Atwood**	25.38	345	⇓P	P	16 36 50.6	+2.5	
	baz=25							
U20A	**Newcomb**	25.39	329	⇑P	P	16 36 51.8	+3.4	
	baz=25							
T21A	**Navajo Lake**	25.42	331	⇓P	P	16 36 52.0	+3.3	
	baz=25							
O32A	**Brockman Farm,**	25.46	350	⇓P	P	16 36 49.6	+0.8	
	baz=25							
Q26A	**Hugo**	25.50	340	⇑P	P	16 36 51.7	+2.4	
	baz=26							
X16A	**Lo Mia Camp, P**	25.54	322	⇑P	P	16 36 53.7	+4.0	
	baz=25							
O31A	**Wooden Ranch,**	25.55	348	⇓P	P	16 36 51.3	+1.7	
	baz=26							
P28A	**Saint Francis**	25.57	344	⇓P	P	16 36 51.6	+1.8	
	baz=26							
SFIN	**Scholer Farm**	25.59	10	⇓P	P	16 36 50.9	+1.1	
	baz=26							
R23A	**Moffat**	25.69	336	⇑P	P	16 36 53.6	+2.4	
	baz=26							
S22A	**4UR Ranch, Cre**	25.73	334	⇓P	P	16 36 54.3	+2.8	
	26nm,SNR=5.5							
Q25A	**Bedland, Calha**	25.74	339	⇑P	P	16 36 53.6	+2.1	
	baz=26							
MVCO	**Mesa Verde**	26.05	330	*e*P	P	16 36 57.0	+2.6	
	25nm,0.8s							
MVCO	**Mesa Verde**	26.05	330	⇓P	P	16 36 57.7	+3.3	
	baz=26,SNR=12							
MTP	**Monte Pirata**	26.18	80	*e*P	P	16 36 52.5	-3.0	
	18nm,0.6s							
P23A	**Jefferson**	26.72	337	⇓P	P	16 37 03.6	+3.1	
	baz=27							
ISCO	**Idaho Springs**	27.01	338	⇓P	P	16 37 06.8	+3.7	
	baz=27							
PV04	**Paradox Valley**	27.19	331	*e*P	P	16 37 07.6	+3.1	
Q16A	**Castle Valley**	28.69	329	*e*P	P	16 37 21.4	+3.5	
PDAR	**Pinedale Array**	31.07	336	P	P	16 37 40.5	+1.6	
PDAR				PcP	PcP	16 40 33.2	+1.5	
PDAR	**Pinedale Array**	31.07	336	P	P	16 37 40.5	+1.6	
	1.1nm,0.9s,baz=153,slow=6.9,SNR=5.3							
PDAR				PcP	PcP	16 40 33.2	+1.5	
	1.3nm,0.6s,baz=136,slow=5.2,SNR=9.8							
REDW	**Red Top Meadow**	32.09	335	*e*P	P	16 37 50.2	+2.3	
	18nm,1.3s							
SNOW	**Snow King Moun**	32.14	335	*e*P	P	16 37 51.3	+3.0	
	7.3nm,0.4s							
LOHW	**Long Hollow**	32.20	335	*e*P	P	16 37 51.2	+2.4	
	6.2nm,1.2s							
NVAR	**Mina Array Bea**	32.33	321	P	P	16 37 54.1	+4.1	
NVAR				PcP	PcP	16 40 37.4	+2.2	
NVAR	**Mina Array Bea**	32.33	321	P	P	16 37 54.1	+4.1	
	4.8nm,0.9s,baz=131,slow=8.9,SNR=14							
NVAR				PcP	PcP	16 40 37.4	+2.2	
	2.0nm,0.9s,baz=141,slow=2.4,SNR=3.6							
HLID	**Hailey**	33.82	331	*e*P	P	16 38 05.0	+2.2	
	6.7nm,0.8s							
HLID	**Hailey**	33.82	331	⇑P	P	16 38 05.5	+2.6	
	baz=34,SNR=6.9							
MCMT	**McKenzie Canyo**	34.12	334	*e*P	P	16 38 08.9	+3.4	
	3.4nm,0.9s							
ULM	**Lac du Bonnet**	35.08	356	P	P	16 38 12.7	-0.6	
ULM				PcP	PcP	16 40 42.8	+0.4	
ULM	**Lac du Bonnet**	35.08	356	P	P	16 38 12.7	-0.6	
	1.8nm,0.5s,baz=193,slow=11,SNR=3.0							
ULM				PcP	PcP	16 40 42.8	+0.4	
	3.8nm,0.6s,baz=311,slow=12,SNR=4.9							
WVOR	**Wild Horse Val**	35.14	326	*e*P	P	16 38 17.3	+3.2	
	8.9nm,1.0s							
PKME	**Peaks-Kenny Pk**	35.92	29	*e*P	P	16 38 19.6	-1.0	
SAML	**Samuel**	37.83	127	*e*P	P	16 38 35.0	-2.1	
	21nm,0.9s							
LPAZ	**La Paz**	39.58	141	P	P	16 38 52.2	-0.2	
LPAZ	**La Paz**	39.58	141	P	P	16 38 52.2	-0.2	
	1.2nm,0.6s,baz=328,slow=8.1,SNR=8.3							
LON	**Longmire**	39.73	328	*e*P	P	16 38 55.1	+2.3	
	7.0nm,0.5s							
YKA	**Yellowknife Ar**	49.73	347	P	P	16 40 11.7	0.0	
YKA				PcP	PcP	16 41 31.1	+0.3	
YKA	**Yellowknife Ar**	49.73	347	P	P	16 40 11.6	0.0	
	3.5nm,0.6s,baz=149,slow=7.4,SNR=12							
YKA				PcP	PcP	16 41 31.1	+0.3	
	2.1nm,0.7s,baz=156,slow=2.9,SNR=5.1							
CPUP	**Villa Florida**	53.72	140	P	P	16 40 41.0	-0.7	
CPUP	**Villa Florida**	53.72	140	P	P	16 40 41.0	-0.7	
	0.3nm,0.3s,baz=306,slow=3.2,SNR=4.7							
BDFB	**Brasilia**	53.73	123	P	P	16 40 40.8	-1.4	
BDFB	**Brasilia**	53.73	123	P	P	16 40 40.8	-1.4	
	4.7nm,0.5s,baz=281,slow=4.3,SNR=7.2							
BMRM	**Bremner River**	58.82	333	*e*P	P	16 41 20.1	+2.5	
	9.5nm,0.7s							
EGAK	**Eagle**	59.37	338	P	P	16 41 20.4	-0.9	
	6.3nm,1.1s							
PAX	**Paxson**	60.11	335	*e*P	P	16 41 27.6	+1.1	
	12nm,0.9s							
ILAR	**Eielson Array**	61.50	337	P	P	16 41 37.1	+1.5	
ILAR	**Eielson Array**	61.50	337	P	P	16 41 37.1	+1.5	
	9.8nm,0.6s,baz=131,slow=5.0,SNR=67							
MCK	**McKinley**	61.85	335	*e*P	P	16 41 39.7	+1.6	
	8.2nm,1.0s							
TRF	**Thorofare Moun**	62.29	335	*e*P	P	16 41 42.6	+1.4	
	20nm,0.8s							
RSO	**Redoubt South**	62.30	331	*e*P	P	16 41 43.0	+1.6	
	20nm,0.7s							
BPAW	**Bear Paw Mtn.**	62.83	335	*e*P	P	16 41 45.6	+1.0	
	14nm,1.1s							
PPLA	**Purkeypile**	62.88	334	*e*P	P	16 41 46.3	+1.2	
	5.3nm,0.7s							
IMA2	**Indian Mountai**	64.62	337	*e*P	P	16 41 57.2	+0.7	
ESDC	**Sonseca Array**	79.53	52	P	P	16 43 22.9	-2.9	
ESDC	**Sonseca Array**	79.53	52	P	P	16 43 22.9	-2.9	
	1.1nm,0.6s,baz=285,slow=5.7,SNR=8.4							
NB2	**NORSAR Subarra**	83.45	28	P	P	16 43 45.2	-0.7	
	comp=Z,1.5nm,0.7s,baz=292,slow=5.3							
NOA	**NORSAR Array B**	83.45	28	P	P	16 43 45.2	-0.7	
NOA	**NORSAR Array B**	83.45	28	P	P	16 43 45.2	-0.7	
	comp=Z,1.6nm,0.6s,baz=290,slow=5.1,SNR=9.8							
ARCES	**ARCESS Array B**	85.24	18	P	P	16 43 54.0	-0.8	
ARCES	**ARCESS Array B**	85.24	18	P	P	16 43 54.0	-0.8	
	comp=Z,2.1nm,0.6s,baz=308,slow=4.0,SNR=8.7							
FINES	**FINESS Array B**	89.73	25	P	P	16 44 14.7	-1.7	
FINES	**FINESS Array B**	89.73	25	P	P	16 44 14.7	-1.7	
	comp=Z,3.5nm,0.9s,baz=297,slow=0.9,SNR=7.2							
TORD	**Torodi Ar. Bea**	90.77	76	P	P	16 44 18.3	-3.9	
TORD	**Torodi Ar. Bea**	90.77	76	P	P	16 44 18.3	-3.9	
	comp=Z,0.2nm,0.4s,baz=289,slow=3.2,SNR=3.1							
CN2	**Changchun**	111.74	331	*e*PKP	PKiKP	16 49 50.3	-2.4	
SONM	**Songino Array**	114.99	346	PKiKP	PKPdf	16 50 00.4	+1.4	
SONM	**Songino Array**	114.99	346	PKiKP	PKPdf	16 50 00.4	+1.4	
	comp=Z,0.3nm,0.5s,baz=314,slow=3.0,SNR=3.9							
KSRS	**Korea Array**	115.19	325	PKP	PKPdf	16 50 01.6	+2.2	
	comp=Z,1.2nm,0.7s,baz=4.1,slow=1.8,SNR=4.5							
KSAR	**Wonju Array Be**	115.22	325	PKP	PKPdf	16 50 01.6	+2.1	
MKAR	**Makanchi Array**	118.16	4	PKP	PKPdf	16 50 04.2	-0.8	
MKAR	**Makanchi Array**	118.16	4	PKP	PKPdf	16 50 04.2	-0.8	
	comp=Z,0.5nm,0.9s,baz=335,slow=3.4,SNR=3.5							
BJI	**Beijing**	118.84	335	PKP	PKPdf	16 50 03.8	-2.6	
HHC	**Hu-ho-hao-te**	119.88	339	*e*PKP	PKPdf	16 50 06.0	-2.6	
HHC				sPKP		16 51 03.8		
HHC				PP	PP	16 51 35.3	+2.6	
HHC				PKS	PKSdf	16 53 41.3	-4.1	
HHC				SKS	SKSdf	16 57 00.5	-9.1	
HHC				SKKS	SKKSac	16 58 10.8	-11	
HHC				SS	SS	17 07 43.1	-4.9	
HHC				PPMZ				
	comp=Z,220nm,9.0s							
HHC				LR	LR			
	comp=Z,170nm,20.1s							
HHC				LR	LR			
	comp=Z,220nm,21.3s							
HHC				LR	LR			
	comp=Z,120nm,20.1s							
WMQ	**Urumqi**	121.29	360	*e*PKP	PKPdf	16 50 11.1	-0.1	
WMQ				PPMZ				
	comp=Z,130nm,5.4s							
BOSA	**Boshof**	121.47	114	PKP	PKPdf	16 50 11.8	-0.1	
BOSA	**Boshof**	121.47	114	PKP	PKPdf	16 50 11.8	-0.1	
	comp=Z,2.1nm,0.6s,baz=289,slow=12,SNR=5.0							
GTA	**Gaotai**	124.45	348	*e*PKP	PKPdf	16 50 19.3	+1.9	
KSH	**Kashi**	124.58	11	PKP	PKPdf	16 50 16.0	-1.7	
KSH				PP	PP	16 52 05.8	+1.5	
KSH				PKS	PKSdf	16 53 52.9	-1.5	
KSH				SKS	SKSdf	16 57 08.4	-10	
KSH				SKKS	SKKSac	16 58 42.5	-10	
KSH				SS	SS	17 08 44.9	-2.4	
KSH				PPMZ				
	comp=Z,120nm,4.4s							
KSH				LR	LR			
	comp=Z,180nm,6.3s							
KSH				LR	LR			
	comp=Z,110nm,5.4s							
KSH				LR	LR			
	comp=Z,77nm,6.0s							
CD2	**Chengdu**	131.52	341	PKP	PKPdf	16 50 30.5	-0.5	
GYA	**Guiyang**	134.53	335	*e*Pdif	Pdif	16 47 35.3	-2.4	
GYA				sPKP		16 51 28.8		
GYA				PP	PP	16 53 12.0	+2.6	
GYA				PPMZ				
	comp=Z,70nm,7.8s							
WRA	**Warramunga Arr**	135.00	257	PKP	PKPdf	16 50 39.1	+1.4	
WRA	**Warramunga Arr**	135.00	257	PKP	PKPdf	16 50 39.1	+1.4	
	comp=Z,1.1nm,0.8s,baz=76,slow=1.9,SNR=4.5							
ASAR	**Alice Springs**	135.39	252	PKPpre	PKPpre	16 50 34.1		
ASAR				PKP	PKPdf	16 50 39.3	+0.9	
ASAR	**Alice Springs**	135.39	252	PKhKP	PKPpre	16 50 34.1		
	comp=Z,0.3nm,0.7s,baz=114,slow=3.8,SNR=3.7							
ASAR				PKP	PKPdf	16 50 39.3	+0.9	
	comp=Z,0.5nm,0.9s,baz=88,slow=2.3,SNR=4.7							
CHTO	**Chiang Mai**	144.33	341	*e*PKP	PKPbc	16 50 54.0	+0.7	
CM31	**Chiang Mai Arr**	144.66	341	*e*PKP	PKPdf	16 50 55.4	0.0	
CMAR	**Chiang Mai Arr**	144.66	341	PKP	PKPbc	16 50 55.2	+0.9	
CMAR	**Chiang Mai Arr**	144.66	341	PKP	PKPbc	16 50 55.2	+0.9	
	comp=Z,8.3nm,0.8s,baz=339,slow=3.6,SNR=68							

IDC 13 16:38:41.8±0.7, 15°30S×171°86W, h0km, mb4.2/8, mb1 4.3/8, mb1mx4.0/23, mbtmp4.2/8, MS3.8/5, Ms1 3.8/5, ms1mx3.3/42, Error ellipse: s-maj=33.2km s-min=18.2km az=146.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	1.39	3	Pn	Pb	16 39 13.3	+4.6
	37nm,0.3s,baz=16,slow=7.7,SNR=25						
AFI				Sn	Sn	16 39 35.0	+7.3
	471nm,0.3s,baz=167,slow=23,SNR=52						
RAR	**Rarotonga**	12.89	119	LR	LR	16 45 09.8	
	comp=Z,210nm,19.4s,baz=275,slow=30						
PPT	**Papeete**	21.49	99	LR	LR	16 50 37.2	
	comp=Z,145nm,18.5s,baz=223,slow=33						
PPT2	**Papeete2**	21.49	99	*e*LR	LR	16 48 06.4	
	199nm,25.5s						
DZM	**Mont Dzumac**	21.62	249	*e*LR	LR	16 49 03.0	
	229nm,26.9s						
DZM	**Mont Dzumac**	21.62	249	P	P	16 43 34.3	+0.5
	6.0nm,0.8s,baz=341,slow=17,SNR=3.2						
TBI	**Tubuai**	22.58	114	*e*LR	LR	16 48 38.0	
	180nm,27.0s						
URZ	**Urewera**	24.86	201	P	P	16 44 06.7	+0.6
	8.5nm,0.4s,baz=43,slow=6.9,SNR=18						
HNR	**Honiara**	28.14	279	LR	LR	16 54 06.3	
	comp=Z,140nm,19.2s,baz=103,slow=33						
STKA	**Stephens Creek**	45.38	240	P	P	16 47 02.0	-0.2
	6.0nm,0.8s,baz=71,slow=6.2,SNR=5.2						
WRA	**Warramunga Arr**	51.32	257	P	P	16 47 47.9	-0.4
	0.3nm,0.4s,baz=337,slow=32,SNR=5.1						
ASAR	**Alice Springs**	51.56	252	P	P	16 47 50.0	-0.2
	6.5nm,0.9s,baz=89,slow=7.5,SNR=52						
RPN	**Rapa Nui**	58.95	113	P	P	16 48 43.5	+0.1
	2.6nm,0.7s,baz=265,slow=2.1,SNR=5.1						
TXAR	**Lajitas Array**	79.32	56	P	P	16 50 49.0	-1.0
	0.4nm,0.8s,baz=217,slow=6.1,SNR=4.1						
PDAR	**Pinedale Array**	81.20	41	P	P	16 51 00.2	+0.3
	0.3nm,0.5s,baz=242,slow=4.7,SNR=3.9						
ILAR	**Eielson Array**	82.07	11	P	P	16 51 04.3	+0.7
	0.7nm,0.6s,baz=220,slow=6.2,SNR=10						
PLCA	**Paso Flores**	88.47	132	LR	LR	17 20 53.0

LANU	**Lannavaara**	**1.08**	**21**	*e*P		**Pg**	**17 03 44.5**	**-1.3**
LANU				*e*SN		**Sn**	**17 04 04.2**	**+1.0**
LANU	**Lannavaara**	**1.08**	**21**	P		**Pg**	**17 03 44.4**	**-1.3**
LANU				Sn		**Sn**	**17 04 04.1**	**+1.0**
NIKU	**Nikkaluokta**	**1.10**	**319**	*e*P		**Pg**	**17 03 45.2**	**-0.9**
NIKU	**Nikkaluokta**	**1.10**	**319**	P		**Pg**	**17 03 45.2**	**-0.9**
KALU	**Kalix**	**1.54**	**140**	*e*P		**Pn**	**17 03 53.4**	**-0.4**
KALU	**Kalix**	**1.54**	**140**	P		**Pn**	**17 03 53.3**	**-0.4**
SJUU	**Sjulsmark**	**1.57**	**170**	*e*P		**Pn**	**17 03 53.9**	**-0.2**
SJUU	**Sjulsmark**	**1.57**	**170**	P		**Pn**	**17 03 53.9**	**-0.2**
HEF	**Hetta**	**1.71**	**36**	*e*P		**Pn**	**17 03 55.8**	**-0.4**
HEF				*e*S		**Sn**	**17 04 18.0**	**-0.7**
HEF				MSG			17 04 22.8	
	comp=Z,14nm,0.2s							
HEF	**Hetta**	**1.71**	**36**	P		**Pn**	**17 03 55.7**	**-0.4**
HEF				S		**Sn**	**17 04 17.9**	**-0.7**
LILU	**Lilltraesk**	**1.83**	**195**	*e*P		**Pn**	**17 03 58.1**	**+0.4**
LILU	**Lilltraesk**	**1.83**	**195**	P		**Pn**	**17 03 58.0**	**+0.4**
KIF	**Kilpisjarvi**	**1.96**	**359**	*e*P		**Pb**	**17 04 00.9**	**-0.7**
KIF				*e*SG		**Sg**	**17 04 27.9**	**-0.1**
KIF				MSG			17 04 32.0	
	comp=Z,20nm,0.1s							
KIF	**Kilpisjarvi**	**1.96**	**359**	P		**Pb**	**17 04 00.9**	**-0.7**
KIF				Sg		**Sg**	**17 04 27.9**	**-0.1**
RNF	**Rovaniemi**	**2.06**	**100**	*e*P		**Pn**	**17 04 01.7**	**+0.9**
RNF				*e*SG		**Sg**	**17 04 31.2**	**+0.1**
RNF	**Rovaniemi**	**2.06**	**100**	P		**Pn**	**17 04 01.7**	**+0.9**
RNF				Sg		**Sg**	**17 04 31.1**	**+0.1**
KTK1	**Kautokeino**	**2.15**	**23**	*e*P		**Pn**	**17 04 03.5**	**+1.4**
KTK1				*e*Sg		**Sb**	**17 04 32.5**	**+0.5**
KTK1	**Kautokeino**	**2.15**	**23**	*e*P		**Pn**	**17 04 03.5**	**+1.4**
	SNR=50							
KTK1				*e*Sg		**Sb**	**17 04 32.5**	**+0.5**
	SNR=90							
SGF	**Sodankyl**	**2.21**	**77**	*e*P		**Pn**	**17 04 04.1**	**+1.3**
SGF				*e*SG		**Sb**	**17 04 34.6**	**+1.0**
SGF	**Sodankyl**	**2.21**	**77**	P		**Pn**	**17 04 04.1**	**+1.3**
SGF				Sg		**Sb**	**17 04 34.6**	**+1.0**
SVAU	**Svanoeiden**	**2.63**	**193**	*e*P		**Pn**	**17 04 09.5**	**+0.8**
SVAU	**Svanoeiden**	**2.63**	**193**	P		**Pn**	**17 04 09.4**	**+0.8**
TRO	**Tromso**	**2.70**	**345**	*e*P		**Pn**	**17 04 11.0**	**+1.4**
TRO				*e*Sg		**Sb**	**17 04 47.0**	**-0.7**
TRO				AML		AML	17 04 54.9	
	comp=Z,11nm,0.2s							
TRO	**Tromso**	**2.70**	**345**	*e*P		**Pn**	**17 04 11.0**	**+1.4**
	SNR=50							
MOR8	**Moi Rana**	**2.74**	**254**	*e*Pg		**Pn**	**17 04 11.0**	**+0.9**
MOR8				*e*Sg		**Sn**	**17 04 45.6**	**+1.7**
OUL	**Oulu**	**2.83**	**132**	*e*P		**Pn**	**17 04 12.1**	**+0.8**
OUL	**Oulu**	**2.83**	**132**	P		**Pn**	**17 04 12.1**	**+0.8**
ARE0	**ARCESS Array S**	**3.02**	**32**	*e*P		**Pn**	**17 04 14.7**	**+0.7**
ARE0	**ARCESS Array S**	**3.02**	**32**	*e*P		**Pn**	**17 04 14.7**	**+0.7**
	SNR=50							
ARA0	**ARCESS Array S**	**3.02**	**32**	Pn		**Pn**	**17 04 14.2**	**+0.2**
	baz=215,slow=14							
ARA0				Sn		**Sn**	**17 04 51.7**	**+0.9**
	baz=183,slow=18							
ARA0				Lg		Lg	17 04 58.8	
	baz=217,slow=37							
ARA0	**ARCESS Array S**	**3.02**	**32**	Pn		**Pn**	**17 04 14.2**	**+0.2**
	baz=215,slow=14							
ARA0				Sn		**Sn**	**17 04 51.7**	**+0.9**
	baz=183,slow=18							
ARA0				Lg		Lg	17 04 58.8	
	baz=217,slow=37							
ARA0	**ARCESS Array S**	**3.02**	**32**	*e*P		**Pn**	**17 04 14.6**	**+0.6**
ARA0				*e*S		**Sn**	**17 04 50.7**	**-0.2**
ARA0	**ARCESS Array S**	**3.02**	**32**	Pn		**Pn**	**17 04 14.2**	**+0.2**
	baz=215,slow=14,SNR=50							
ARA0	**ARCESS Array S**	**3.02**	**32**	P		**Pn**	**17 04 14.6**	**+0.6**
ARA0				S		**Sn**	**17 04 50.6**	**-0.2**
ARA0				Sn		**Sn**	**17 04 51.7**	**+0.9**
	baz=183,slow=17,SNR=50							
ARA0				Lg		Lg	17 04 58.8	
	baz=217,slow=28,SNR=9.7							
ARCES	**ARCESS Array B**	**3.02**	**32**	Pn		**Pn**	**17 04 13.8**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=219,slow=14,SNR=21							
ARCES				Sn		**Sn**	**17 04 52.4**	**+1.6**
	comp=Z,2.0nm,0.3s,baz=219,slow=21,SNR=19							
LOF	**Lofoten**	**3.03**	**294**	*e*P		**Pn**	**17 04 14.4**	**+0.2**
LOF				*e*Sg		**Sn**	**17 04 51.8**	**+0.7**
LOF				AML		AML	17 05 05.8	
	comp=Z,4.6nm,0.2s							
LOF	**Lofoten**	**3.03**	**294**	*e*P		**Pn**	**17 04 14.4**	**+0.2**
	SNR=50							
STOK	**Stokkvaagen**	**3.23**	**261**	*e*P		**Pn**	**17 04 18.8**	**+1.9**
FIA0	**FINESS Array S**	**6.06**	**156**	Pn		**Pn**	**17 04 56.7**	**+1.0**
	baz=345,slow=14							
FIA0				Sn		**Sn**	**17 06 05.2**	**-0.5**
	baz=350,slow=28							
FIA0	**FINESS Array S**	**6.06**	**156**	Pn		**Pn**	**17 04 56.7**	**+1.0**
	baz=345,slow=14							
FIA0				Sn		**Sn**	**17 06 05.2**	**-0.5**
	baz=350,slow=28							
FIA0	**FINESS Array S**	**6.06**	**156**	Pn		**Pn**	**17 04 56.7**	**+1.0**
	baz=345,slow=13,SNR=50							
FIA0				Sn		**Sn**	**17 06 05.2**	**-0.5**
	baz=350,slow=25,SNR=50							
FINES	**FINESS Array B**	**6.06**	**156**	Pn		**Pn**	**17 04 56.4**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=345,slow=12,SNR=5.5							
FINES				Sn		**Sn**	**17 06 04.0**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=346,slow=22,SNR=5.8							
NOA	**NORSAR Array B**	**7.38**	**220**	Pn		**Pn**	**17 05 13.6**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=28,slow=15,SNR=2.5							
NOA				Sn		**Sn**	**17 06 35.7**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=15,slow=14,SNR=2.6							
HFS	**Hagfors**	**7.65**	**208**	Pn		**Pn**	**17 05 18.1**	**+0.5**
	baz=20,slow=14							
HFS				Sn		**Sn**	**17 06 43.0**	**-1.8**
	baz=31,slow=28							
HFS	**Hagfors**	**7.65**	**208**	Pn		**Pn**	**17 05 18.1**	**+0.5**
	baz=20,slow=14							
HFS				Sn		**Sn**	**17 06 43.0**	**-1.8**
	baz=31,slow=28							
HFS	**Hagfors**	**7.65**	**208**	Pn		**Pn**	**17 05 18.1**	**+0.5**
	baz=20,slow=14,SNR=50							
HFS				Sn		**Sn**	**17 06 43.0**	**-1.8**
	baz=31,slow=27,SNR=50							

*IDC **13** 17:06:29.5±2.1, 10.97S×113.52E, h0km, mb3.4/5, mb1 3.7/7, mb1mx3.5/22, mbtmp3.6/7, ML3.7/2, MS3.2/1, Ms1 3.2/1, ms1mx2.7/20, Error ellipse: s-maj=79.6km s-min=20.0km az=43.0*

*ISCJB **13** 17:06:31.5±0.7, 10.93S±0.05×113.41E±0.05, h25km, mb3.4/5, Error ellipse: s-maj=7.3km s-min=5.7km az=135.9*

*DJA **13** 17:06:36.9±0.8, 11.5°S±5.5°×113.3°E±5.5°, h65km±47km, M4.1/14, MLv4.1/14*

ISC 13 17:06:32.5±1.0, 10.97S±0.08×113.44E±0.06, h25km, n25, σ1=3.03/29, mb3.8/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GMJI	**Gumukmas**	**2.68**	**360**	P		**Pn**	**17 07 14.0**	**0.0**
GMJI				S		**Sn**	**17 07 44.1**	**-1.5**
NBBI	**Negara**	**2.83**	**24**	P		Pb	17 07 18.0	-4.3
NBBI				S		**Sn**	**17 07 50.4**	**+1.0**
DNP	**Denpasar**	**2.87**	**38**	P		**Pn**	**17 07 17.5**	**+0.9**
BYJI	**Banyuwangi**	**2.88**	**18**	P		**Pn**	**17 07 17.1**	**+0.3**
BYJI				S		**Sn**	**17 07 49.8**	**-0.8**
KRKI	**Karangkates**	**2.96**	**341**	S		**Sn**	**17 07 51.2**	**-1.4**
BLJI	**Banyuglugur**	**3.21**	**3**	P		**Pn**	**17 07 20.8**	**-0.5**
BLJI				S		**Sn**	**17 07 57.1**	**-1.6**
ABJI	**Asem Bagus**	**3.25**	**14**	P		**Pn**	**17 07 21.9**	**+0.1**
PWJI	**Pagerwojo**	**3.34**	**331**	P		**Pn**	**17 07 23.4**	**+0.2**
PWJI				S		**Sn**	**17 08 00.9**	**-1.2**
SRBI	**Singaraja**	**3.35**	**31**	P		**Pn**	**17 07 24.2**	**+0.9**
SRBI				S		**Sn**	**17 08 02.2**	**-0.1**
MTNI	**Mataram**	**3.55**	**49**	P		**Pn**	**17 07 27.6**	**+1.6**
PCJI	**Pacitan**	**3.55**	**321**	P		**Pn**	**17 07 26.4**	**+0.4**
PCJI				S		**Sn**	**17 08 06.2**	**-1.0**
SJI	**Sawahan**	**3.61**	**333**	P		**Pn**	**17 07 27.1**	**+0.1**
SJI				S		**Sn**	**17 08 07.7**	**-1.2**
KMMI	**Kalianget**	**3.93**	**8**	P		**Pn**	**17 07 30.9**	**-0.3**
WOJI	**Wonogiri, Jawa**	**3.98**	**321**	P		**Pn**	**17 07 32.5**	**+0.5**
UGM	**Wanagama**	**4.18**	**316**	P		**Pn**	**17 07 35.7**	**+0.9**
BATI	**Baumata**	**10.07**	**87**	Pn		**Pn**	**17 08 54.6**	**-1.1**
	3.7nm,0.3s,baz=267,slow=2.7,SNR=7.6							
BATI				Sn		Sn	17 10 38.4	-10
	1.1nm,0.3s,baz=232,slow=19,SNR=3.6							
FITZ	**Fitzroy Crossi**	**13.77**	**122**	Pn		**Pn**	**17 09 44.3**	**-1.9**
	0.1nm,0.3s,baz=315,slow=13,SNR=2.6							
FITZ				Sn		Sn	17 12 01.6	-17
	0.3nm,0.3s,baz=167,slow=20,SNR=7.7							
FITZ				LR		LR	17 13 29.2	
	comp=Z,87nm,19.3s,baz=346,slow=31							
WRA	**Warramunga Arr**	**22.01**	**116**	P		**P**	**17 11 25.0**	**-0.1**
	0.6nm,1.0s,baz=290,slow=11,SNR=5.1							
WRA				S		S	17 15 17.3	-10
	0.2nm,0.7s,baz=292,slow=16,SNR=4.5							
ASAR	**Alice Springs**	**23.22**	**126**	P		**P**	**17 11 38.0**	**+0.1**
	0.2nm,0.5s,baz=302,slow=9.5,SNR=4.4							
H08S2	**Diego Garcia H**	**40.52**	**271**	T		T	17 57 38.1	
	baz=96,slow=0.7,SNR=5.5							
H08S3	**Diego Garcia H**	**40.54**	**271**	T		T	17 57 48.5	
	baz=96,slow=0.7,SNR=7.3							
H08S1	**Diego Garcia H**	**40.54**	**271**	T		T	17 57 42.9	
	baz=96,slow=0.7,SNR=4.4							
SONM	**Songino Array**	**58.87**	**354**	P		**P**	**17 16 30.4**	**+1.1**
	0.5nm,0.6s,baz=170,slow=8.2,SNR=4.8							
MKAR	**Makanchi Array**	**63.89**	**337**	P		**P**	**17 17 04.8**	**+1.7**
	0.4nm,0.5s,baz=143,slow=7.3,SNR=6.8							
ZALV	**Zalesovo Beam**	**69.08**	**342**	P		**P**	**17 17 36.7**	**+0.6**
	0.7nm,0.4s,baz=144,slow=5.3,SNR=5.3							

*IDC **13** 17:16:08.0±0.7, 52.78N×167.05W, h0km, mb4.1/21, mb1 4.3/23, mb1mx4.2/31, mbtmp4.1/23, ML3.7/2, MS3.7/15, Ms1 3.7/15, ms1mx3.5/49, Error ellipse: s-maj=21.1km s-min=11.3km az=171.0*

*ISCJB **13** 17:16:09.4±0.4, 52.56N±0.04×166.90W±0.04, h25km, mb4.3/37, MS3.7/15, Error ellipse: s-maj=6.4km s-min=3.3km az=157.1*

*NEIC **13** 17:16:10.6, 52.59N×166.96W, h24km, mb3.9/4, ML3.9(AEIC), After AEIC.*

*BJI **13** 17:16:10.8, 53.32N×167.32W, h12km, mB4.6/2, mb4.2/8*

*MOS **13** 17:16:11.9±1.1, 52.87N×167.07W, h33km, mb4.8/14, Error ellipse: s-maj=13.8km s-min=8.1km az=90.9*

ISC 13 17:16:11.7±0.5, 52.68N±0.06×166.96W±0.04, h25km, n148, σ1=3.00/145, mb4.5/41, MS3.7/15, 7C-2D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OKFG	**Magazine Ridge**	**0.93**	**322**	P		**Pb**	**17 16 28.8**	**-0.4**
OKFG				S		**Sn**	**17 16 44.1**	**+2.3**
OKTU	**Okmok Mt. Tuli**	**0.96**	**318**	P		**Pn**	**17 16 29.5**	**-0.2**
OKSP	**Okmok Steeple**	**0.99**	**306**	P		**Pn**	**17 16 29.4**	**-0.7**
OKCE	**Okmok Cone E**	**1.04**	**316**	P		**Pn**	**17 16 30.3**	**-0.5**
MGOD	**Makushin Gods**	**1.12**	**3**	P		**Pn**	**17 16 31.0**	**-0.8**
MREP	**Makushin Rep't**	**1.14**	**6**	P		**Pn**	**17 16 31.8**	**-0.3**
NIKH	**Nikolski High**	**1.19**	**285**	P		**Pn**	**17 16 31.7**	**-1.0**
NIKH				S		**Sn**	**17 16 48.7**	**+0.6**
UNV	**Unalaska Valle**	**1.20**	**13**	*e*Pn		**Pn**	**17 16 31.6**	**-1.3**
MCIR	**Makushin Cirqu**	**1.27**	**2**	P		**Pn**	**17 16 33.9**	**-0.1**
MTBL	**Makushin Table**	**1.30**	**7**	P		**Pn**	**17 16 34.1**	**-0.3**
ZRO	**Akutan Zero**	**1.53**	**22**	P		**Pn**	**17 16 37.3**	**-0.2**
AKRB	**Akutan Reef Bi**	**1.55**	**20**	P		**Pn**	**17 16 37.8**	**+0.2**
AKRB				S		**Sb**	**17 17 00.1**	**+1.3**
LVA	**Lava Point**	**1.58**	**20**	P		**Pn**	**17 16 38.2**	**0.0**
AKUT	**Akutan**	**1.62**	**25**	*e*Pn		**Pn**	**17 16 38.2**	**-0.5**
AKGG	**Akutan Green G**	**1.63**	**20**	P		**Pn**	**17 16 38.9**	**+0.1**
WESS	**West Dahl East**	**2.29**	**37**	P		**Pn**	**17 16 49.0**	**+1.1**
WESN	**West Dahl Nort**	**2.36**	**36**	P		**Pn**	**17 16 49.5**	**+0.6**
SSBA	**Shishaldin**	**2.69**	**38**	P		**Pn**	**17 16 53.2**	**-0.2**
SSLW	**Shishaldin Wes**	**2.69**	**38**	P		**Pn**	**17 16 53.7**	**+0.3**
FALS	**False Pass**	**3.03**	**43**	*e*Pn		**Pn**	**17 16 57.7**	**-0.3**
DRIA	**Deer Island**	**3.60**	**49**	P		**Pn**	**17 17 05.7**	**-0.2**
DTNA	**Dutton South F**	**3.72**	**46**	P		**Pn**	**17 17 08.1**	**+0.5**
SDPT	**Sand Point**	**4.66**	**52**	P		**Pn**	**17 17 20.1**	**-0.4**
SPIA	**Saint Paul Isl**	**4.89**	**338**	P		**Pn**	**17 17 25.4**	**+1.9**
GSTR	**Great Sitkin T**	**5.61**	**268**	P		**Pn**	**17 17 36.1**	**+2.6**
GSMY	**Great Sitkin M**	**5.61**	**267**	P		**Pn**	**17 17 34.4**	**+0.8**
GSTD	**Great Sitkin T**	**5.67**	**267**	P		**Pn**	**17 17 34.7**	**+0.4**
GSCK	**Great Sitkin C**	**5.68**	**267**	P		**Pn**	**17 17 35.3**	**+0.8**
VNHG	**Veniaminof 1**	**5.76**	**49**	P		**Pn**	**17 17 36.6**	**+0.9**
ADK	**Adak**	**6.03**	**266**	*e*P		**Pn**	**17 17 39.5**	**+0.4**
ADK				*e*			17 18 46.6	
ADK				pmax		pmax		
	comp=Z,195nm,0.8s							
ADK	**Adak**	**6.03**	**266**	*e*Pn		**Pn**	**17 17 39.5**	**+0.4**
	comp=Z,195nm,0.8s							
ADK				*e*Sn		**Sn**	**17 18 46.6**	**-0.7**
CHGN	**Chignik**	**6.16**	**51**	*e*Pn		**Pn**	**17 17 40.3**	**-0.6**
AMKA	**Amchitka**	**8.58**	**267**	*e*Pn		**Pn**	**17 18 15.0**	**+0.8**
	comp=Z,80nm,0.4s							
RSO	**Redoubt South**	**11.03**	**39**	*e*Pn		**Pn**	**17 18 48.7**	**+0.8**
	comp=Z,17nm,0.8s							
FX1	**Attu Island--F**	**12.04**	**279**	Pn		**Pn**	**17 19 02.4**	**+0.8**
FX1	**Attu Island--F**	**12.04**	**279**	Pn		**Pn**	**17 19 02.4**	**+0.8**
	comp=Z,1.7nm,0.3s,baz=191,slow=20,SNR=32							
FX1				LR		LR	17 23 11.0	
	comp=Z,230nm,21.9s,baz=111,slow=35							
PPLA	**Purkeypile**	**12.88**	**32**	*e*Pn		**Pn**	**17 19 15.4**	**+2.3**
	comp=Z,28nm,1.4s							
BMRM	**Bremner River**	**14.72**	**47**	*e*Pn		**Pn**	**17 19 36.6**	**-1.5**
	comp=Z,14nm,0.9s							
IM04	**Indian Mountai**	**14.88**	**21**	*e*Pn		**P**	**17 19 46.0**	**+0.3**
IMA2	**Indian Mountai**	**14.98**	**21**	*e*Pn		**P**	**17 19 46.6**	**-0.3**
PAX	**Paxson**	**15.31**	**39**	*e*P		**Pn**	**17 19 45.5**	**-0.5**
PAX				pmax		pmax		
	comp=Z,3.0nm,0.7s							
PAX	**Paxson**	**15.31**	**39**	*e*Pn		**Pn**	**17 19 45.5**	**-0.5**
	comp=Z,3.2nm,0.7s							
PAX				*e*Sn		Sn	17 22 18.7	-16
COLA	**College**	**15.64**	**31**	*i* P		**Pn**	**17 19 51.1**	**+1.0**
ILAR	**Eielson Array**	**15.88**	**33**	Pn		**Pn**	**17 19 52.1**	**-1.2**
ILAR	**Eielson Array**	**15.88**	**33**	Pn		**Pn**	**17 19 52.1**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=234,slow=12,SNR=9.6							
COLD	**Coldfoot**	**16.73**	**23**	*e*Pn		**Pn**	**17 20 04.9**	**+0.8**
	comp=Z,17nm,1.3s							
EGAK	**Eagle**	**17.89**	**37**	*e*Pn		**Pn**	**17 20 19.0**	**+0.5**
	comp=Z,5.8nm,0.8s							
HYT	**Haines Junctio**	**17.95**	**51**	*e*Pn		**P**	**17 20 21.7**	**+1.9**
DAWY	**Dawson**	**18.23**	**41**	*e*Pn		**Pn**	**17 20 22.7**	**0.0**
PETK	**Petropavlovsk-**	**21.20**	**285**	P		**P**	**17 20 54.5**	**-0.7**
PETK	**Petropavlovsk-**	**21.20**	**285**	P		**P**	**17 20 54.5**	**-0.7**
PETK	**Petropavlovsk-**	**21.20**	**285**	P		**P**	**17 20 54.5**	**-0.7**
	comp=Z,10.0nm,0.7s,baz=83,slow=12,SNR=26							
PETK				LR		LR	17 28 29.7	
	comp=Z,88nm,21.6s,baz=93,slow=35							
INK	**Inuvik**	**22.28**	**33**	P		**P**	**17 21 03.9**	**-2.8**
INK	**Inuvik**	**22.28**	**33**	P		**P**	**17 21 03.9**	**-2.8**
	comp=Z,6.3nm,0.7s,baz=217,slow=6.9,SNR=7.3							
BBB	**Bella Bella**	**23.50**	**76**	LR		LR	17 27 53.2	
	comp=Z,100nm,21.2s,baz=160,slow=30							
SEY	**Seymchan**	**23.55**	**312**	*i* *e*P		**P**	**17 21 19.3**	**-0.4**
YKA	**Yellowknife Ar**	**28.92**	**49**	P		**P**	**17 22 08.3**	**-0.1**
YKA	**Yellowknife Ar**	**28.92**	**49**	P		**P**	**17 22 08.3**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=273,slow=8.6,SNR=2.6							
KUR	**Kuril'sk**	**30.16**	**274**	*i* P		**P**	**17 22 21.6**	**+2.1**
YBH	**Yreka Blue Hor**	**31.51**	**92**	LR		LR	17 32 53.2	
	comp=Z,170nm,18.2s,baz=233,slow=32							
TIXI	**Tiksi**	**33.23**	**329**	*i* P		**P**	**17 22 45.5**	**-0.7**
ASAJ	**Asahikawa**	**33.95**	**276**	LR		LR	17 34 45.0	
	comp=Z,108nm,19.8s,baz=147,slow=33							
NVAR	**Mina Array Bea**	**36.20**	**93**	P		**P**	**17 23 13.0**	**+0.5**
NVAR	**Mina Array Bea**	**36.20**	**93**	P		**P**	**17 23 13.0**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=315,slow=8.5,SNR=6.1							
H11N2	**WAKE ISLAND Hy**	**38.64**	**222**	T		T	18 05 11.2	
	baz=27,slow=0.7,SNR=154							
H11N3	**WAKE ISLAND Hy**	**38.65**	**222**	T		T	18 05 11.7	
	baz=27,slow=0.7,SNR=155							
H11N1	**WAKE ISLAND Hy**	**38.66**	**222**	T		T	18 05 12.6	
	baz=27,slow=0.7,SNR=103							
PDAR	**Pinedale Array**	**38.90**	**81**	P		**P**	**17 23 35.7**	**+0.4**
PDAR	**Pinedale Array**	**38.90**	**81**	P		**P**	**17 23 35.7**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=295,slow=5.1,SNR=13							
PDAR				LR		LR	17 38 15.3	
	comp=Z,101nm,18.4s,baz=99,slow=34							
H11S1	**WAKE ISLAND Hy**	**39.82**	**221**	T		T	18 06 25.4	
	baz=24,slow=0.7,SNR=198							
H11S2	**WAKE ISLAND Hy**	**39.84**	**221**	T		T	18 06 41.4	
	baz=24,slow=0.7,SNR=131							
H11S3	**WAKE ISLAND Hy**	**39.84**	**221**	T		T	18 06 52.9	
	baz=24,slow=0.7,SNR=79							
MAJO	**Matsushiro**	**41.18**	**269**	P		**P**	**17 23 55.0**	**+1.0**
MAJO				pmax		pmax		
	comp=Z,14nm,0.8s							
MAJO	**Matsushiro**	**41.18**	**269**	P		**P**	**17 23 55.0**	**+1.0**
	comp=Z,14nm,0.8s							
MAT	**Matsushiro**	**41.18**	**269**	P		**P**	**17 23 54.7**	**+0.7**
MJAR	**Matsushiro Arr**	**41.18**	**269**	P		**P**	**17 23 54.7**	**+0.7**
MJAR	**Matsushiro Arr**	**41.18**	**269**	P		**P**	**17 23 54.7**	**+0.7**
	comp=Z,5.4nm,1.0s,baz=35,slow=4.6,SNR=11							
MJAR				LR		LR	17 41 42.7	
	comp=Z,55nm,18.6s,baz=70,slow=37							
KSRS	**Korea Array**	**46.83**	**278**	P		**P**	**17 24 40.0**	**+0.7**
	comp=Z,5.4nm,0.9s,baz=52,slow=7.8,SNR=14							
KSRS				LR		LR	17 42 31.0	
	comp=Z,35nm,20.1s,baz=273,slow=34							
KSAR	**Wonju Array Be**	**46.86**	**278**	P		**P**	**17 24 40.0**	**+0.5**
FRB	**Frobisher Bay**	**47.86**	**36**	LR		LR	17 47 19.6	
	comp=Z,185nm,19.4s,baz=20,slow=39							
SUMG	**Summit**	**50.04**	**18**	*i* P		**P**	**17 25 04.8**	**+0.8**
SUMG				*i*			17 25 16.1	
SUMG				pmax		pmax		
	comp=Z,2.0nm,0.3s							
SUMG	**Summit**	**50.04**	**18**	*i* P		**P**	**17 25 04.8**	**+0.8**
	comp=Z,2.2nm,0.3s							
SUMG				*i*			17 25 16.1	
TXAR	**Lajitas Array**	**51.27**	**91**	P		**P**	**17 25 13.6**	**+0.1**
TXAR	**Lajitas Array**	**51.27**	**91**	P		**P**	**17 25 13.6**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=297,slow=5.8,SNR=24							
TXAR				LR		LR	17 45 24.2	
	comp=Z,64nm,18.3s,baz=215,slow=34							
SONM	**Songino Array**	**52.40**	**302**	P		**P**	**17 25 21.2**	**-0.5**
SONM	**Songino Array**	**52.40**	**302**	P		**P**	**17 25 21.2**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=70,slow=7.0,SNR=9.4							
SONM				LR		LR	17 50 13.6	
	comp=Z,122nm,18.1s,baz=48,slow=39							
HVS	**Khovu-Aksy**	**56.37**	**312**	*i* P		**P**	**17 25 48.9**	**-1.6**
HVS				pmax		pmax		
	comp=Z,11nm,0.8s							
KEV	**Kevo**	**57.45**	**354**	*e*P		**P**	**17 25 57.1**	**-0.6**
KEV				pmax		pmax		
	comp=Z,3.0nm,0.7s							
KEV	**Kevo**	**57.45**	**354**	*e*p		**P**	**17 25 57.1**	**-0.6**
	comp=Z,3.3nm,0.7s							
ARCES	**ARCESS Array B**	**57.76**	**355**	P		**P**	**17 25 58.8**	**-1.1**
ARCES	**ARCESS Array B**	**57.76**	**355**	P		**P**	**17 25 58.8**	**-1.1**
	comp=Z,5.0nm,1.1s,baz=22,slow=5.8,SNR=9.1							
ZALV	**Zalesovo Beam**	**58.18**	**319**	P		**P**	**17 26 02.4**	**-0.7**
ZALV	**Zalesovo Beam**	**58.18**	**319**	P		**P**	**17 26 02.4**	**-0.7**
ZALV	**Zalesovo Beam**	**58.18**	**319**	P		**P**	**17 26 02.4**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=42,slow=6.6,SNR=4.5							
ZALV				LR		LR	17 52 51.8	
	comp=Z,92nm,18.6s,baz=69,slow=38							
WHN	**Wuhan**	**59.73**	**282**	*e*P		**P**	**17 26 15.3**	**+1.2**
XAN	**Xi'an**	**60.41**	**288**	P		**P**	**17 26 18.8**	**-0.1**
XAN				pP		**pP**	**17 26 24.8**	**-1.9**
XAN				sP		**sP**	**17 26 27.8**	**-1.9**
XAN				AMB		AMB		
	comp=Z,3.0nm,1.2s							
XAN				AMB		AMB		
	comp=Z,28nm,7.4s							
GTA	**Gaotai**	**61.64**	**298**	*e*P		**P**	**17 26 26.8**	**-0.4**
GTA				pP		pP	17 26 30.9	-4.2
GTA				sP		**sP**	**17 26 34.5**	**-3.6**
GTA				AMB		AMB		
	comp=Z,2.0nm,0.8s							
KURK	**Kurchatov**	**

IDC 13 17:33:33.4±1.1, 77°30N×7°33E, h0km, mb3.5/4, mb1 3.8/6, mb1mx3.5/27, mbtmp3.6/6, ML3.2/2, MS2.7/3, Ms1 2.8/3, ms1mx2.6/42, Error ellipse: s-maj=20.2km s-min=14.6km az=55.0, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPITS	**Spitsbergen Ar**	**2.12**	**61**	Pn	Pn	17 34 07.8	-2.2
	baz=236,slow=13,SNR=380						
SPITS				Sn	Sn	17 34 31.2	-5.8
	baz=221,slow=19,SNR=17						
ARCES	**ARCESS Array B**	**9.31**	**137**	Pn	Pn	17 35 47.3	-1.2
	0.1nm,0.3s,baz=333,slow=12,SNR=9.2						
ARCES				Sn	Sn	17 37 27.3	-6.5
	0.1nm,0.3s,baz=335,slow=21,SNR=2.2						
ARCES				LR	LR	17 39 50.8	
	comp=Z,37nm,18.4s,baz=36,slow=41						
NOA	**NORSAR Array B**	**16.39**	**173**	LR	LR	17 42 48.3	
	comp=Z,17nm,20.0s,baz=335,slow=34						
HFS	**Hagfors**	**17.39**	**169**	LR	LR	17 44 37.8	
	comp=Z,50nm,18.6s,baz=83,slow=38						
ILAR	**Eielson Array**	**37.27**	**342**	P	P	17 40 45.9	-0.3
	0.3nm,0.7s,baz=350,slow=5.7,SNR=4.9						
MKAR	**Makanchi Array**	**41.58**	**91**	P	P	17 41 24.2	+1.8
	1.0nm,0.9s,baz=331,slow=7.0,SNR=4.5						
TORD	**Torodi Ar. Bea**	**64.22**	**186**	P	P	17 44 09.8	+0.1
	0.7nm,0.7s,baz=0.6,slow=5.7,SNR=4.8						
TXAR	**Lajitas Array**	**66.04**	**297**	P	P	17 44 21.0	-0.6
	0.3nm,0.7s,baz=28,slow=5.7,SNR=3.6						

MAN 13 17:43:04.7±1.0, 1N×125°69E, h35km, mb4.6, ML3.5, MS3.4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMPH	**Davao City--Mi**	**0.20**	**291**	*e*P	Pn	17 43 13.7	+2.9
DMPH				*e*S	Sn	17 43 18.0	+2.6
MATI	**Mati**	**0.56**	**97**	*e*P	Pn	17 43 17.1	+1.5
MATI				*e*S	Sn	17 43 26.5	+2.8
BUKP	**Musuan**	**1.06**	**324**	*e*P	Pn	17 43 23.3	+0.8
BUKP				*e*S	Sn	17 43 38.0	+1.9
GSPH	**General Santos**	**1.18**	**219**	*e*P	Pn	17 43 23.1	-1.1
PAGZ	**Pagadian**	**2.44**	**290**	*e*P	Pn	17 43 41.2	-0.1

IDC 13 17:47:10.3±0.9, 17°35S×172°23W, h0km, mb4.0/6, mb1 4.4/6, mb1mx4.1/21, mbtmp4.0/6, MS3.4/2, Ms1 3.4/2, ms1mx3.1/32, Error ellipse: s-maj=45.3km s-min=22.9km az=142.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.45**	**7**	Pn	Pn	17 48 01.9	-3.5
	8.2nm,0.3s,baz=173,slow=20,SNR=8.0						
AFI				Sn	Sn	17 48 40.3	-6.8
	37nm,0.3s,baz=356,slow=21,SNR=12						
RAR	**Rarotonga**	**12.37**	**110**	LR	LR	17 53 10.5	
	comp=Z,194nm,19.5s,baz=268,slow=29						
DZM	**Mont Dzumac**	**20.61**	**253**	*e*LR	LR	17 57 26.7	
	174nm,24.4s						
PPT2	**Papeete2**	**21.61**	**94**	*e*LR	LR	17 56 52.5	
	169nm,25.0s						
PPT	**Papeete**	**21.61**	**94**	LR	LR	17 57 30.7	
	comp=Z,92nm,20.5s,baz=250,slow=29						
TBI	**Tubuai**	**22.15**	**109**	*e*LR	LR	17 56 59.6	
	172nm,28.0s						
RKT	**Rikitea**	**35.36**	**106**	*e*LR	LR	18 03 03.2	
	134nm,28.8s						
WRA	**Warramunga Arr**	**50.52**	**258**	P	P	17 56 10.2	-0.6
	2.8nm,0.8s,baz=92,slow=6.3,SNR=15						
ASAR	**Alice Springs**	**50.61**	**253**	P	P	17 56 11.7	+0.3
	6.1nm,0.6s,baz=89,slow=8.6,SNR=97						
VNDA	**Vanda**	**61.57**	**186**	P	P	17 57 28.6	-0.3
	0.6nm,0.9s,baz=352,slow=8.7,SNR=4.7						
NVAR	**Mina Array Bea**	**75.03**	**41**	P	P	17 58 54.4	+0.2
	0.7nm,0.5s,baz=237,slow=8.1,SNR=4.1						
TXAR	**Lajitas Array**	**80.77**	**55**	P	P	17 59 26.5	+0.3
	2.2nm,1.1s,baz=216,slow=6.2,SNR=6.3						
ILAR	**Eielson Array**	**84.14**	**11**	P	P	17 59 42.5	-0.4
	0.4nm,0.6s,baz=224,slow=5.3,SNR=5.0						
KMBO	**Kilima Mbogo**	**145.64**	**241**	PKPbc	PKPdf	18 06 52.1	0.0
	0.8nm,0.2s,baz=72,slow=4.9,SNR=3.6						
GERES	**GERESS Array B**	**148.22**	**353**	PKPbc	PKPdf	18 06 56.5	+1.3
	1.0nm,1.0s,baz=347,slow=1.8,SNR=4.1						
BRTR	**Keskin Array B**	**148.37**	**320**	PKPbc	PKPbc	18 06 59.7	+0.5
	0.9nm,0.8s,baz=291,slow=1.1,SNR=4.6						

DJA ***13*** *17:57:28.8±0.7, 13°S±9°×16°7E±°, h10km, M5.0/13, mB5.3/2, mb5.0/13, Mw(mB)4.7/2*

IDC ***13*** *17:57:30.0±0.6, 13°22S×166°64E, h0km, mb4.8/17, mb1 4.9/19, mb1mx4.7/26, mbtmp4.8/19, ML4.0/2, MS4.1/17, Ms1 4.1/17, ms1mx4.1/24, Error ellipse: s-maj=19.8km s-min=14.5km az=97.0*

MOS ***13*** *17:57:32.9±0.9, 13°20S×166°57E, h33km, mb5.2/14, Error ellipse: s-maj=11.4km s-min=9.6km az=19.9*

ISCJB ***13*** *17:57:34.5±0.3, 13°21S±0°04×166°61E±0°06, h44km, mb5.0/43, MS4.1/17, Error ellipse: s-maj=8.3km s-min=6.2km az=2.9*

NEIC ***13*** *17:57:36.1±1.2, 13°21S×166°59E, h44km±10km, mb5.0/21, Error ellipse: s-maj=7.7km s-min=6.4km az=59.0*

GCMT ***13*** *17:57:39.0±0.3, 13°19S×166°31E, h33km, MW4.9, Moment Tensor Solution. s40,c51; s41,c59; Moment tensor: Scale 10^16 Nm; Mrr 3.17±.16; Mθθ -0.58±.11; Mφφ -2.59±.10; Mrθ 0.47±.13; Mrφ 0.09±.08; Mθφ 0.69±.08; Best double couple: M0 3.00000×10^16 NP1: φ 5.00000°, δ 52.00000°, λ 99.00000°. NP2: φ 171.00000°, δ 39.00000°, λ 79.00000°. Principal axes: T 3.3100, Plg 80.0000°, Azm 316.0000°; N -0.6400, Plg 7.0000°, Azm 180.0000°; P -2.6700, Plg 7.0000°, Azm 89.0000°; Data Used: IU IC G CN II. Surface wave period 40 sec.*

AUST ***13*** *17:58:02.7±0.0, 13°47S×166°20E, h28km Error ellipse: s-maj=1.6km s-min=1.1km az=40.0*

ISC 13 17:57:36.3±0.4, 13°19S±0°05×166°57E±0°07, h44km, n147, σ 1°23/152, mb5.1/43, MS4.2/17, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.49**	**299**	Pn	**Pn**	**17 59 22.6**	**-0.4**
HNR				Sn	**Sn**	**18 00 43.4**	**-3.3**
HNR	**Honiara**	**7.49**	**299**	Pn	**Pn**	**17 59 22.6**	**-0.4**
	13nm,0.3s,baz=194,slow=3.0,SNR=40						
HNR				Sn	**Sn**	**18 00 43.4**	**-3.3**
	20nm,0.3s,baz=32,slow=23,SNR=13						
DZM	**Mont Dzumac**	**8.83**	**181**	*e*Pn	**Pn**	**17 59 41.9**	**+0.3**
	168nm,1.0s						
DZM				*e*LR	LR	18 01 48.3	
	2μm,24.1s						
DZM	**Mont Dzumac**	**8.83**	**181**	Pn	**Pn**	**17 59 41.6**	**+0.1**
DZM				Sn	**Sn**	**18 01 17.5**	**-2.4**
DZM	**Mont Dzumac**	**8.83**	**181**	Pn	**Pn**	**17 59 41.6**	**+0.1**
	1.1nm,0.3s,baz=73,slow=19,SNR=28						
DZM				Sn	**Sn**	**18 01 17.5**	**-2.4**
	baz=108,slow=20,SNR=1.3						
DZM				LR	LR	18 02 40.7	
	comp=Z,2μm,21.6s,baz=38,slow=35						
MSVF	**Nonsavu**	**11.96**	**114**	*e*P	Pn	18 00 29.8	+5.5
MSVF				pmax	pmax		
	comp=Z,40nm,1.1s						
MSVF	**Nonsavu**	**11.96**	**114**	*e*Pn	Pn	18 00 29.8	+5.5
	comp=Z,40nm,1.1s						
EIDS	**Eidsvold**	**18.96**	**228**	*e*P	**Pn**	**18 01 55.7**	**+0.7**
	comp=Z,30nm,1.0s						
EIDS	**Eidsvold**	**18.96**	**228**	P	**Pn**	**18 01 56.4**	**+1.5**
	baz=18,SNR=3.8						
PMG	**Port Moresby**	**19.40**	**279**	P	**Pn**	**18 02 00.4**	**+0.1**
	comp=Z,52nm,1.2s,comp=Z,798nm						
PMG	**Port Moresby**	**19.40**	**279**	P	**P**	**18 01 59.0**	**+0.2**
PMG	**Port Moresby**	**19.40**	**279**	P	**P**	**18 01 59.0**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=109,slow=8.5,SNR=11						
CTA	**Charters Tower**	**20.62**	**248**	P	**P**	**18 02 12.7**	**+0.5**
CTA				PcP	**PcP**	**18 06 22.6**	**+0.9**
CTA	**Charters Tower**	**20.62**	**248**	P	**P**	**18 02 12.7**	**+0.5**
	comp=Z,10nm,0.7s,baz=87,slow=12,SNR=13						
CTA				PcP	**PcP**	**18 06 22.6**	**+0.9**
	comp=Z,3.4nm,0.8s,baz=201,slow=3.6,SNR=3.3						
CTAO	**Charters Tower**	**20.62**	**248**	*e*P	**P**	**18 02 12.8**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,15nm,0.8s						
CTAO	**Charters Tower**	**20.62**	**248**	*e*P	**P**	**18 02 12.8**	**+0.6**
	comp=Z,15nm,0.8s						
AFI	**Afiamalu**	**21.07**	**94**	P	**P**	**18 02 16.0**	**-1.1**
	comp=Z,51nm,1.1s						
AFI	**Afiamalu**	**21.07**	**94**	LR	LR	18 08 16.1	
	comp=Z,298nm,20.8s,baz=272,slow=31						
RMQ	**Roma**	**21.31**	**229**	P	**P**	**18 02 21.4**	**+1.9**
	baz=21,SNR=37						
RAO	**Raoul Island**	**21.52**	**140**	P	**P**	**18 02 20.9**	**-0.7**
ARMA	**Armidale**	**22.01**	**216**	*e*P	**P**	**18 02 28.2**	**+1.2**
	comp=Z,30nm,1.1s						
ARMA	**Armidale**	**22.01**	**216**	P	**P**	**18 02 28.6**	**+1.6**
	baz=22,SNR=12						
COEN	**Coen**	**22.75**	**265**	*e*P	**P**	**18 02 35.4**	**+0.3**
	comp=Z,287nm,1.2s						
COEN	**Coen**	**22.75**	**265**	P	**P**	**18 02 35.8**	**+0.8**
	baz=22,SNR=5.2						
MGCD	**Mangrove Creek**	**24.41**	**213**	P	**P**	**18 02 52.3**	**+1.5**
	baz=24,SNR=7.7						
QLP	**Quilpie**	**24.82**	**234**	P	**P**	**18 02 55.2**	**+0.7**
	baz=24,SNR=4.2						
CMSA	**Cobar Meteorol**	**26.48**	**223**	P	**P**	**18 03 11.1**	**+1.5**
	baz=26,SNR=9.8						
URZ	**Urewera**	**26.67**	**161**	LR	LR	18 12 29.3	
	comp=Z,642nm,20.0s,baz=326,slow=34						
SNZO	**South Karori**	**28.90**	**167**	P	**P**	**18 03 29.0**	**-2.1**
	comp=Z,101nm,1.3s						
STKA	**Stephens Creek**	**29.50**	**227**	*e*P	**P**	**18 03 36.5**	**-0.1**
	comp=Z,4.7nm,1.3s						
STKA				PcP	**PcP**	**18 06 41.5**	**+0.2**
STKA	**Stephens Creek**	**29.50**	**227**	P	**P**	**18 03 37.5**	**+0.9**
	baz=29,SNR=5.0						
STKA	**Stephens Creek**	**29.50**	**227**	P	**P**	**18 03 37.3**	**+0.7**
	comp=Z,5.0nm,0.8s,baz=306,slow=24,SNR=6.4						
STKA				PcP	**PcP**	**18 06 41.5**	**+0.2**
	comp=Z,7.4nm,0.8s,baz=357,slow=3.2,SNR=6.7						
STKA				LR	LR	18 15 34.9	
	comp=Z,522nm,18.2s,baz=204,slow=37						
RPZ	**Rata Peaks**	**30.66**	**174**	P	**P**	**18 03 46.8**	**+0.1**
RPZ	**Rata Peaks**	**30.66**	**174**	P	**P**	**18 03 46.8**	**+0.1**
	comp=Z,7.6nm,0.7s,baz=292,slow=19,SNR=2.9						
RPZ				LR	LR	18 14 28.2	
	comp=Z,445nm,21.6s,baz=340,slow=33						
TOO	**Toolangi**	**30.71**	**214**	P	**P**	**18 03 48.3**	**+1.1**
	baz=30,SNR=6.2						
WRAB	**Tennant Creek**	**31.56**	**253**	*e*P	**P**	**18 03 53.3**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,23nm,1.5s						
WRAB	**Tennant Creek**	**31.56**	**253**	*e*P	**P**	**18 03 53.3**	**-1.6**
	comp=Z,23nm,1.5s						
WRA	**Warramunga Arr**	**31.57**	**253**	P	**P**	**18 03 53.5**	**-1.5**
WRA				PcP	**PcP**	**18 06 47.0**	**+0.1**
WRA				ScP	**ScP**	**18 10 31.7**	**+5.0**
WRA	**Warramunga Arr**	**31.57**	**253**	P	**P**	**18 03 53.5**	**-1.5**
	comp=Z,5.5nm,0.8s,baz=91,slow=12,SNR=35						
WRA				PcP	**PcP**	**18 06 47.0**	**+0.1**
	comp=Z,3.1nm,0.8s,baz=82,slow=2.9,SNR=7.4						
WRA				ScP	**ScP**	**18 10 31.7**	**+5.0**
	comp=Z,1.3nm,1.0s,baz=83,slow=3.7,SNR=3.5						
AS31	**Alice Springs**	**32.62**	**247**	*e*P	**P**	**18 04 02.8**	**-1.4**
AS31				*e*PcP	**PcP**	**18 06 49.2**	**-0.5**
ASAR	**Alice Springs**	**32.62**	**247**	P	**P**	**18 04 03.0**	**-1.2**
ASAR				PcP	**PcP**	**18 06 49.5**	**-0.3**
ASAR				ScP	**ScP**	**18 10 33.7**	**+3.4**
ASAR	**Alice Springs**	**32.62**	**247**	P	**P**	**18 04 03.0**	**-1.2**
	comp=Z,11nm,0.7s,baz=74,slow=9.3,SNR=152						
ASAR				PcP	**PcP**	**18 06 49.5**	**-0.3**
	comp=Z,4.5nm,0.8s,baz=81,slow=2.9,SNR=16						
ASAR				ScP	**ScP**	**18 10 33.7**	**+3.4**
	comp=Z,1.9nm,1.1s,baz=116,slow=4.3,SNR=4.2						
RAR	**Rarotonga**	**33.08**	**109**	P	P	18 04 01.1	-7.0
TAU	**Tasmania Unive**	**33.97**	**206**	*e*P	**P**	**18 04 14.8**	**-0.7**
TAU	**Tasmania Unive**	**33.97**	**206**	*e*P	**P**	**18 04 14.8**	**-0.7**
KNRA	**Kununurra**	**36.66**	**261**	P	**P**	**18 04 39.0**	**-0.1**
	baz=36,SNR=5.2						
SWI	**Sorong**	**37.05**	**286**	P	**P**	**18 04 42.8**	**+0.4**
	baz=37,SNR=3.6						
FITZ	**Fitzroy Crossi**	**39.65**	**258**	P	**P**	**18 05 04.2**	**-0.1**
	baz=39,SNR=4.1						
BATI	**Baumata**	**42.08**	**269**	P	**P**	**18 05 25.4**	**+1.0**
BATI	**Baumata**	**42.08**	**269**	P	**P**	**18 05 25.4**	**+1.0**
	comp=Z,43nm,0.9s,baz=197,slow=0.9,SNR=11						
PPT	**Papeete**	**42.44**	**102**	LR	LR	18 21 40.4	
	comp=Z,172nm,18.2s,baz=358,slow=34						
PPT2	**Papeete2**	**42.44**	**102**	*e*S	S	18 11 58.4	+12
	comp=Z,123nm,26.8s						
PPT2				*e*LR	LR	18 17 57.0	
	comp=Z,711nm,26.5s,baz=264						
TBI	**Tubuai**	**42.82**	**110**	*e*LR	LR	18 17 59.0	
	comp=Z,470nm,26.8s						
MBWA	**Marble Bar**	**45.31**	**253**	*e*P	**P**	**18 05 49.7**	**-0.6**
	comp=Z,48nm,1.6s						
JCJ	**Chichijima**	**46.52**	**330**	LR	LR	18 22 49.3	
	comp=Z,206nm,20.4s,baz=115,slow=33						
MEEK	**Meekatharra**	**46.77**	**246**	P	**P**	**18 06 02.1**	**+0.3**
	baz=46,SNR=24						
KAPI	**Kappang**	**46.87**	**276**	P	**P**	**18 06 03.6**	**+1.0**
	comp=Z,28nm,1.4s						
KAPI	**Kappang**	**46.87**	**276**	*e*P	**P**	**18 06 01.3**	**-1.3**
	comp=Z,18nm,1.3s						
KLBR	**Kerberrin**	**48.28**	**239**	P	**P**	**18 06 13.1**	**-0.3**
	baz=48,SNR=5.7						
NWAO	**Narrogin (SRO)**	**48.97**	**238**	*e*P	**P**	**18 06 17.7**	**-1.0**
MORW	**Morawa**	**49.34**	**243**	P	**P**	**18 06 21.6**	**+0.1**
	baz=49,SNR=14						
KKM	**Kota Kinabalu**	**53.53**	**288**	*e*P	**P**	**18 06 52.8**	**-0.4**
RKT	**Rikitea**	**56.11**	**109**	*e*LR	LR	18 24 03.0	
	comp=Z,305nm,30.8s						
MJAR	**Matsushiro Arr**	**56.23**	**333**	P	**P**	**18 07 11.6**	**-0.6**
MJAR	**Matsushiro Arr**	**56.23**	**333**	P	**P**	**18 07 11.6**	**-0.6**
	comp=Z,21nm,1.2s,baz=166,slow=7.0,SNR=18						
MAJO	**Matsushiro**	**56.23**	**333**	*e*P	**P**	**18 07 11.2**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,45nm,1.4s						
MAJO	**Matsushiro**	**56.23**	**333**	*e*P	**P**	**18 07 11.2**	**-1.0**
	comp=Z,45nm,1.4s						
MAT	**Matsushiro**	**56.23**	**333**	P	**P**	**18 07 11.7**	**-0.5**
JNU	**Nakatsue**	**57.28**	**324**	P	**P**	**18 07 20.3**	**+0.5**
JNU	**Nakatsue**	**57.28**	**324**	P	**P**	**18 07 20.3**	**+0.5**
	comp=Z,24nm,0.8s,baz=90,slow=2.8,SNR=14						
KSM	**Kuching**	**57.65**	**280**	P	**P**	**18 07 24.1**	**+1.4**
	comp=Z,28nm,1.4s						
KSM	**Kuching**	**57.65**	**280**	*e*P	**P**	**18 07 22.6**	**-0.1**
	comp=Z,49nm,1.4s						
KSM	**Kuching**	**57.65**	**280**	P	**P**	**18 07 23.6**	**+0.9**
	baz=57,SNR=6.1						
ASAJ	**Asahikawa**	**61.07**	**340**	P	**P**	**18 07 47.0**	**+1.3**
ASAJ	**Asahikawa**	**61.07**	**340**	P	**P**	**18 07 47.0**	**+1.3**
	comp=Z,7.7nm,0.9s,baz=216,slow=14,SNR=5.8						
KSRS	**Korea Array**	**62.09**	**326**	P	**P**	**18 07 53.4**	**+0.7**
	comp=Z,6.6nm,0.9s,baz=143,slow=7.3,SNR=15						
KSRS				LR	LR	18 34 28.9	
	comp=Z,53nm,18.1s,baz=352,slow=36						
KSAR	**Wonju Array Be**	**62.10**	**326**	P	**P**	**18 07 53.4**	**+0.6**
VNDA	**Vanda**	**64.38**	**181**	*e*P	**P**	**18 08 07.2**	**-0.1**
	comp=Z,21nm,1.4s						
VNDA	**Vanda**	**64.38**	**181**	P	**P**	**18 08 07.5**	**+0.3**
	comp=Z,5.1nm,1.0s,baz=355,slow=6.6,SNR=15						
VNDA				LR	LR	18 33 11.6	
	comp=Z,170nm,18.9s,baz=281,slow=33						
VLA	**Vladivostok**	**64.40**	**332**	*e*P	P	18 08 03.7	-4.2
VLA				pmax	pmax		
	comp=Z,36nm,1.6s						
SBA	**Scott Base**	**64.67**	**180**	*e*P	**P**	**18 08 10.2**	**+1.0**
SBA				pmax	pmax		
	comp=Z,32nm,1.4s						
SBA	**Scott Base**	**64.67**	**180**	*e*P	**P**	**18 08 10.2**	**+1.0**
	comp=Z,32nm,1.4s						
CASY	**Casey**	**64.69**	**202**	*e*P	**P**	**18 08 08.7**	**-0.8**
	comp=Z,38nm,1.4s						
USRK	**Ussuriysk Arra**	**65.21**	**333**	P	**P**	**18 08 14.7**	**+1.6**
	comp=Z,21nm,0.9s,baz=144,slow=6.0,SNR=37						
USRK				LR	LR	18 33 43.7	
	comp=Z,76nm,19.1s,baz=288,slow=33						
PETK	**Petropavlovsk-**	**66.47**	**354**	LR	LR	18 31 20.4	
	comp=Z,73nm,20.1s,baz=206,slow=30						
MDJ	**Mudanjiang**	**66.61**	**332**	*e*P	**P**	**18 08 23.1**	**+1.0**
	comp=Z,31nm,1.0s						
KLR	**Kul'dur**	**69.33**	**336**	*e*P	**P**	**18 08 36.0**	**-3.1**
KLR				pmax	pmax		
	comp=Z,92nm,1.8s						
BJT	**Baijiatuan**	**70.64**	**321**	*e*P	**P**	**18 08 48.2**	**+0.9**
LOEI	**Loei**	**71.30**	**294**	P	**P**	**18 08 53.7**	**+1.8**
	comp=Z,56nm,1.9s,comp=Z,3μm						
CM31	**Chiang Mai Arr**	**73.70**	**294**	*e*P	P	18 09 01.0	-5.1
	comp=Z,10nm,0.7s						
CHTO	**Chiang Mai**	**73.83**	**294**	P	P	18 09 01.2	-5.7
	comp=Z,65nm,1.5s						
CHTO	**Chiang Mai**	**73.83**	**294**	P	P	18 09 01.2	-5.7
HIA	**Hailar**	**74.62**	**330**	*e*P	**P**	**18 09 10.9**	**0.0**
	comp=Z,7.5nm,0.6s						
QSPA	**South Pole Qui**	**76.83**	**180**	*e*P	**P**	**18 09 23.2**	**-0.3**
	comp=Z,25nm,1.2s						
YAK	**Yakutsk**	**80.37**	**343**	*e*P	**P**	**18 09 41.5**	**-1.1**
YAK				pmax	pmax		
	comp=Z,12nm,0.9s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.3s						
YAK				MLR	MLR		
	comp=Z,233nm,19.0s						
YAK				MLR	MLR		
	comp=E,85nm,18.0s						
YAK				MLR	MLR		
	comp=N,146nm,17.0s						
SONM	**Songino Array**	**80.86**	**324**	P	**P**	**18 09 46.7**	**+0.9**
SONM	**Songino Array**	**80.86**	**324**	P	**P**	**18 09 46.7**	**+0.9**
	comp=N,10nm,1.0s,baz=135,slow=4.8,SNR=54						
SONM				LR	LR	18 47 46.8	
	comp=N,104nm,18.4s,baz=69,slow=37						
ZAK	**Zakamensk**	**83.91**	**325**	*e*P	**P**	**18 10 01.6**	**0.0**
ZAK				pmax	pmax		
	comp=Z,22nm,1.3s						
MCK	**McKinley**	**83.91**	**18**	P	**P**	**18 09 59.8**	**-1.4**
MCK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
MCK	**McKinley**	**83.91**	**18**	P	**P**	**18 09 59.8**	**-1.4**
	comp=Z,7.6nm,1.2s						
LSA	**Lhasa**	**84.17**	**302**	*e*P	**P**	**18 10 04.6**	**+0.7**
LSA				pmax	pmax		
	comp=Z,24nm,1.4s						
LSA	**Lhasa**	**84.17**	**302**	*e*P	**P**	**18 10 04.6**	**+0.7**
	comp=Z,24nm,1.4s						
TLY	**Talaya**	**84.34**	**326**	*i* P	**P**	**18 10 03.8**	**+0.1**
TLY	**Talaya**	**84.34**	**326**	P	**P**	**18 10 04.9**	**+1.2**
	comp=Z,132nm,1.0s,SNR=5.8						
COLA	**College**	**85.06**	**18**	P	**P**	**18 10 06.1**	**-0.8**
COLA	**College**	**85.06**	**18**	P	**P**	**18 10 06.1**	**-0.8**
ILAR	**Eielson Array**	**85.28**	**18**	P	**P**	**18 10 07.0**	**-1.1**
ILAR	**Eielson Array**	**85.28**	**18**	P	**P**	**18 10 07.0**	**-1.1**
	comp=Z,2.0nm,0.6s,baz=247,slow=5.1,SNR=25						
ILAR				LR	LR	18 42 45.1	
	comp=Z,174nm,19.0s,baz=234,slow=32						
TAPN	**Taplejung**	**86.34**	**299**	*e*P	**P**	**18 10 15.2**	**+0.6**
	comp=Z,70nm,1.3s						
ODAN	**Odare**	**86.47**	**298**	*e*P	**P**	**18 10 15.8**	**+0.6**
	comp=Z,62nm,1.0s						
NVAR	**Mina Array Bea**	**86.79**	**49**	P	**P**	**18 10 17.6**	**+1.2**
NVAR	**Mina Array Bea**	**86.79**	**49**	P	**P**	**18 10 17.6**	**+1.2**
	comp=Z,0.6nm,0.4s,baz=246,slow=7.4,SNR=3.9						
NVAR				LR	LR	18 41 58.4	
	comp=Z,300nm,19.3s,baz=106,slow=31						
RAMN	**Ramite**	**87.17**	**298**	*e*P	**P**	**18 10 19.0**	**+0.4**
	comp=Z,45nm,1.2s						
JIRN	**Jiri**	**87.72**	**299**	*e*P	**P**	**18 10 21.8**	**+0.4**
	comp=Z,16nm,0.7s						
GUN	**Gumba**	**88.06**	**299**	*e*P	**P**	**18 10 23.4**	**+0.5**
	comp=Z,36nm,0.9s						
PKI	**Pulchoki**	**88.36**	**299**	*e*P	**P**	**18 10 24.5**	**+0.1**
	comp=Z,36nm,0.8s						
PKIN	**Phulchoki**	**88.38**	**299**	*e*P	**P**	**18 10 25.0**	**+0.6**
KKN	**Kakani**	**88.53**	**299**	*e*P	**P**	**18 10 25.4**	**+0.4**
	comp=Z,31nm,0.8s						
DMN	**Daman**	**88.63**	**299**	*e*P	**P**	**18 10 26.1**	**+0.5**
	comp=Z,114nm,1.1s						
GKN	**Gorkha**	**89.14**	**299**	*e*P	**P**	**18 10 27.7**	**-0.1**
	comp=Z,61nm,1.0s						
HVS	**Khovu-Aksy**	**89.73**	**323**	*c i*P	**P**	**18 10 30.2**	**+0.3**
HVS				pmax	pmax		
	comp=Z,158nm,1.5s						
KOLN	**Koldanda**	**89.97**	**298**	*e*P	**P**	**18 10 31.6**	**-0.1**
	comp=Z,27nm,1.1s						
DANN	**Dangsing**	**89.98**	**299**	*e*P	**P**	**18 10 31.5**	**-0.4**
	comp=Z,65nm,1.2s						
PDAR	**Pinedale Array**	**94.41**	**47**	LR	LR	18 48 46.1	
	comp=Z,78nm,18.8s,baz=136,slow=33						
MKAR	**Makanchi Array**	**95.62**	**317**	P	**P**	**18 10 57.7**	**+0.5**
MKAR	**Makanchi Array**	**95.62**	**317**	P	**P**	**18 10 57.6**	**+0.5**
MKAR	**Makanchi Array**	**95.62**	**317**	P	**P**	**18 10 57.6**	**+0.5**
	comp=Z,10nm,0.7s,baz=96,slow=6.4,SNR=79						
MKAR				LR	LR	18 56 11.8	
	comp=Z,47nm,19.8s,baz=263,slow=37						
ZALV	**Zalesovo Beam**	**95.75**	**324**	P	**P**	**18 10 57.0**	**-0.5**
ZALV	**Zalesovo Beam**	**95.75**	**324**	P	**P**	**18 10 57.0**	**-0.5**
ZALV	**Zalesovo Beam**	**95.75**	**324**	P	**P**	**18 10 57.0**	**-0.5**
	comp=Z,9.4nm,0.9s,baz=108,slow=4.8,SNR=30						
ZALV				LR	LR	18 53 04.4	
	comp=Z,100nm,18.4s,baz=69,slow=35						
NVS	**Novosibirsk**	**96.86**	**325**	*e*P	**P

ARA0	**ARCESS Array S**	**9.35**	**139**	Pn		**Pn**	**18 02 43.5**	**+0.8**
	baz=336,slow=11							
ARA0	**ARCESS Array S**	**9.35**	**139**	Pn		**Pn**	**18 02 43.5**	**+0.8**
	baz=336,slow=11,SNR=50							
SUMG	**Summit**	**12.61**	**271**	*i* P		**Pn**	**18 03 26.9**	**-0.7**
	comp=Z,16nm,1.0s							
SUMG	**Summit**	**12.61**	**271**	*i* P		**Pn**	**18 03 26.9**	**-0.7**
	comp=Z,16nm,1.0s							

IDC ***13*** *18:06:00.3±1.1, 10.87S×165.17E, h0km, mb4.0/7, mb1 4.2/9, mb1mx4.0/22, mbtmp4.1/9, ML4.0/2, Error ellipse: s-maj=26.7km s-min=23.9km az=111.0*
ISCJB ***13*** *18:06:03.7±0.8, 11.0S±0.1×165.1E±0.0, h31km, mb4.0/9, Error ellipse: s-maj=17.0km s-min=9.7km az=35.3*
NEIC ***13*** *18:06:05.0±5.7, 10.87S×165.16E, h31km±38km, mb4.6/4, Error ellipse: s-maj=23.9km s-min=15.4km az=56.0*
ISC 13 18:06:05.0±0.8, 10.9S±0.1×165.2E±0.1, h31km, n28, σ1§17/25, mb4.0/9, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**5.38**	**285**	Pn		**Pn**	**18 07 23.2**	**0.0**
HNR				Sn		**Sn**	**18 08 24.5**	**+0.5**
HNR	**Honiara**	**5.38**	**285**	Pn		**Pn**	**18 07 23.2**	**0.0**
	9.5nm,0.3s,baz=169,slow=4.2,SNR=9.4							
HNR				Sn		**Sn**	**18 08 24.5**	**+0.5**
	7.3nm,0.3s,baz=208,slow=19,SNR=3.1							
DZM	**Mont Dzumac**	**11.18**	**174**	Pn		**Pn**	**18 08 42.1**	**-0.8**
DZM	**Mont Dzumac**	**11.18**	**174**	Pn		**Pn**	**18 08 42.1**	**-0.8**
	0.5nm,0.3s,baz=24,slow=18,SNR=15							
CTA	**Charters Tower**	**20.40**	**241**	P		Pn	18 10 40.8	-1.1
CTA	**Charters Tower**	**20.40**	**241**	P		Pn	18 10 40.8	-1.1
	19nm,0.9s,baz=68,slow=12,SNR=13							
CTAO	**Charters Tower**	**20.40**	**241**	*e*P		**P**	**18 10 40.4**	**+0.8**
	34nm,1.0s							
STKA	**Stephens Creek**	**30.19**	**223**	P		**P**	**18 12 13.4**	**+0.7**
	0.9nm,1.0s							
H11N1	**WAKE ISLAND Hy**	**30.46**	**3**	T		T	18 44 05.2	
	baz=186,slow=0.7							
H11N3	**WAKE ISLAND Hy**	**30.47**	**3**	T		T	18 44 16.0	
	baz=186,slow=0.7							
H11N2	**WAKE ISLAND Hy**	**30.48**	**3**	T		T	18 44 13.4	
	baz=186,slow=0.7							
WRA	**Warramunga Arr**	**31.04**	**249**	P		**P**	**18 12 18.9**	**-1.4**
WRA	**Warramunga Arr**	**31.04**	**249**	P		**P**	**18 12 18.9**	**-1.4**
	2.0nm,0.9s,baz=78,slow=9.2,SNR=5.7							
AS31	**Alice Springs**	**32.38**	**243**	*e*P		**P**	**18 12 29.8**	**-2.4**
ASAR	**Alice Springs**	**32.39**	**243**	P		**P**	**18 12 30.8**	**-1.4**
ASAR	**Alice Springs**	**32.39**	**243**	P		**P**	**18 12 30.8**	**-1.4**
	1.6nm,0.8s,baz=63,slow=10,SNR=21							
VNDA	**Vanda**	**66.64**	**181**	*e*P		**P**	**18 16 53.3**	**+1.2**
	11nm,1.8s							
VNDA	**Vanda**	**66.64**	**181**	P		**P**	**18 16 53.6**	**+1.4**
	1.3nm,0.9s,baz=2.4,slow=4.7,SNR=6.3							
SBA	**Scott Base**	**66.95**	**180**	*e*P		**P**	**18 16 55.7**	**+1.6**
	5.0nm,1.1s							
SONM	**Songino Array**	**78.23**	**324**	P		**P**	**18 18 02.6**	**+0.8**
SONM	**Songino Array**	**78.23**	**324**	P		**P**	**18 18 02.6**	**+0.8**
	0.7nm,1.0s,baz=116,slow=6.6,SNR=5.1							
QSPA	**South Pole Qui**	**79.11**	**180**	P		**P**	**18 18 07.5**	**+1.0**
	6.0nm,1.2s							
ILAR	**Eielson Array**	**83.54**	**19**	P		**P**	**18 18 29.6**	**-0.1**
ILAR	**Eielson Array**	**83.54**	**19**	P		**P**	**18 18 29.6**	**-0.1**
	0.5nm,0.6s,baz=229,slow=6.3,SNR=7.6							
MKAR	**Makanchi Array**	**93.05**	**317**	P		**P**	**18 19 15.1**	**-0.7**
MKAR	**Makanchi Array**	**93.05**	**317**	P		**P**	**18 19 15.1**	**-0.7**
	0.4nm,0.9s,baz=90,slow=8.1,SNR=2.7							
TORD	**Torodi Ar. Bea**	**163.72**	**280**	PKP		**PKPdf**	**18 26 04.6**	**-1.4**
TORD	**Torodi Ar. Bea**	**163.72**	**280**	PKP		**PKPdf**	**18 26 04.6**	**-1.4**
	0.6nm,1.0s,baz=90,slow=1.4,SNR=2.7							

IDC 13 18:20:49.9±3.4, 18.29S×173.44W, h0km, mb3.7/4, mb1 4.1/4, mb1mx3.7/19, mbtmp3.7/4, MS3.1/1, Ms1 3.1/1, ms1mx2.7/31, Error ellipse: s-maj=181.0km s-min=28.6km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**4.64**	**20**	Pn		Pn	18 21 54.8	-6.6
	2.2nm,0.3s,baz=100,slow=19,SNR=4.0							
AFI				Sn		Sn	18 22 41.9	-14
	19nm,0.3s,baz=56,slow=23,SNR=7.6							
AFI				LR		LR	18 22 55.9	
	comp=Z,211nm,20.0s,baz=57,slow=27							
WRA	**Warramunga Arr**	**49.21**	**259**	P		P	18 29 39.9	-0.5
	0.4nm,0.4s,baz=97,slow=7.8,SNR=22							
ASAR	**Alice Springs**	**49.24**	**254**	P		P	18 29 40.5	0.0
	1.0nm,0.7s,baz=93,slow=8.1,SNR=30							
PDAR	**Pinedale Array**	**84.44**	**42**	P		P	18 33 24.4	-0.3
	0.5nm,0.9s,baz=216,slow=4.8,SNR=3.7							
ILAR	**Eielson Array**	**85.27**	**11**	P		P	18 33 27.6	-0.5
	0.4nm,0.7s,baz=230,slow=6.3,SNR=8.2							
BRTR	**Keskin Array B**	**148.32**	**318**	PKPbc		PKPbc	18 40 39.1	+0.5
	0.3nm,0.4s,baz=57,slow=4.9,SNR=3.6							

AUST ***13*** *18:46:38.3, 8.93S×111.90E, h100km*
ISCJB ***13*** *18:47:26.4±1.1, 8.08S±0.05×107.31E±0.04, h31km±10km, Error ellipse: s-maj=7.9km s-min=6.3km az=14.7*
DJA ***13*** *18:47:29.0±0.6, 8˚S±4˚×107˚7E±˚, h29km±5km, M4.0/15, MLv4.0/15*
ISC 13 18:47:25.6±1.6, 8.10S±0.06×107.31E±0.04, h23km±17km, n20, σ1§46/23, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.74**	**43**	P		**Pn**	**18 47 41.7**	**+1.1**
CISI				S		**Sb**	**18 47 48.0**	**-1.5**
CISI	**Cisompet, Garu**	**0.74**	**43**	P		**Pn**	**18 47 41.0**	**+0.4**
	baz=4.3,SNR=1000							
LEM	**Lembang**	**1.30**	**14**	P		Pn	18 47 41.8	-6.7
LEM				S		**Sn**	**18 48 04.1**	**-1.1**
LEM	**Lembang**	**1.30**	**14**	P		**Pb**	**18 47 50.9**	**+1.4**
	baz=4.7,SNR=51							
SKJI	**Sukabumi**	**1.32**	**326**	P		**Pn**	**18 47 49.2**	**+0.7**
SKJI				S		**Sn**	**18 48 05.0**	**-0.4**
DBJI	**Dramaga**	**1.63**	**340**	P		**Pb**	**18 47 54.9**	**-0.1**
DBJI				S		**Sn**	**18 48 10.9**	**-2.3**
CLJI	**Cilicap**	**1.73**	**77**	P		**Pb**	**18 47 57.9**	**+1.2**
KPJI	**Karang Pucung**	**1.78**	**65**	P		**Pb**	**18 47 57.3**	**-0.2**
KPJI				S		**Sn**	**18 48 15.7**	**-1.1**
TGJI	**Tegal**	**2.18**	**56**	P		**Pb**	**18 48 02.7**	**-1.6**
BJII	**Banjamegara**	**2.50**	**72**	P		**Pn**	**18 48 06.1**	**+1.2**
XMI	**Christmas Isla**	**2.83**	**214**	P		**Pn**	**18 48 09.5**	**+0.2**
	baz=6.3,SNR=9.9							
XMIS	**Christmas Isla**	**2.88**	**215**	P		**Pn**	**18 48 10.0**	**0.0**
	baz=6.3,SNR=29							
WOJI	**Wonogiri, Jawa**	**3.59**	**86**	P		**Pn**	**18 48 19.2**	**-0.6**
KASI	**Kota Agung**	**3.79**	**312**	P		**Pn**	**18 48 23.7**	**+1.2**
PCJI	**Pacitan**	**3.83**	**92**	P		**Pn**	**18 48 24.7**	**+1.6**
SJI	**Sawahan**	**4.43**	**86**	P		**Pn**	**18 48 34.1**	**+2.6**
LWLI	**Liwa**	**4.45**	**313**	P		**Pn**	**18 48 33.9**	**+2.2**
PWJI	**Pagerwojo**	**4.45**	**89**	P		**Pn**	**18 48 33.6**	**+1.9**
MDSI	**Maura Dua**	**4.75**	**319**	P		**Pn**	**18 48 37.1**	**+1.3**
MNAI	**Manna**	**5.70**	**310**	P		Pn	18 48 52.5	+3.6
	baz=10.0,SNR=3.4							

IDC ***13*** *19:02:07.4±1.4, 52.70N×167.10W, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.8/28, mbtmp3.8/11, ML3.2/1, MS3.5/4, Ms1 3.5/4, ms1mx3.0/51, Error ellipse: s-maj=41.2km s-min=15.9km az=176.0*
NEIC ***13*** *19:02:07.2, 52.35N×166.84W, h26km, ML3.5(AEIC), After AEIC.*
ISCJB ***13*** *19:02:08.7±0.6, 52.50N±0.05×166.85W±0.06, h25km, mb3.8/10, MS3.5/4, Error ellipse: s-maj=7.5km s-min=5.0km az=172.0*
ISC 13 19:02:11.1±0.8, 52.65N±0.09×166.94W±0.05, h25km, n59, σ1§34/53, mb3.8/10, MS3.2/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OKFG	**Magazine Ridge**	**0.96**	**323**	P		**Pb**	**19 02 27.8**	**-1.2**
OKFG				S		**Sn**	**19 02 44.3**	**+2.4**
OKTU	**Okmok Mt. Tuli**	**0.99**	**318**	P		**Pn**	**19 02 29.0**	**-0.4**
OKSP	**Okmok Steeple**	**1.02**	**307**	P		**Pn**	**19 02 29.2**	**-0.6**
OKSO	**Okmok South**	**1.02**	**314**	P		**Pn**	**19 02 28.7**	**-1.2**
OKSO				S		**Sn**	**19 02 46.0**	**+2.6**
OKCE	**Okmok Cone E**	**1.07**	**317**	P		**Pn**	**19 02 29.9**	**-0.7**
MREP	**Makushin Rep't**	**1.17**	**6**	P		**Pb**	**19 02 31.7**	**-0.9**
MSOM	**Makushin Julie**	**1.17**	**360**	P		**Pb**	**19 02 32.0**	**-0.6**
NIKH	**Nikolski High**	**1.21**	**286**	P		**Pn**	**19 02 31.2**	**-1.1**
NIKH				S		**Sb**	**19 02 49.5**	**+1.1**
UNV	**Unalaska Valle**	**1.23**	**12**	*e*Pn		**Pb**	**19 02 32.3**	**-1.3**
MSW	**Makushin Switc**	**1.27**	**4**	P		**Pb**	**19 02 33.5**	**-0.8**
MCIR	**Makushin Cirqu**	**1.30**	**1**	P		**Pb**	**19 02 34.5**	**-0.5**
MTBL	**Makushin Table**	**1.33**	**7**	P		**Pb**	**19 02 34.4**	**-1.0**
ZRO	**Akutan Zero**	**1.56**	**21**	P		**Pb**	**19 02 37.4**	**-1.8**
AKRB	**Akutan Reef Bi**	**1.57**	**19**	P		**Pb**	**19 02 37.5**	**-1.9**
LVA	**Lava Point**	**1.61**	**19**	P		**Pn**	**19 02 37.5**	**-0.4**
AKUT	**Akutan**	**1.64**	**25**	*e*Pn		**Pn**	**19 02 37.3**	**-1.0**
AKGG	**Akutan Green G**	**1.65**	**20**	P		**Pn**	**19 02 38.4**	**-0.1**
AKSA	**Akutan Strait**	**1.66**	**26**	P		**Pn**	**19 02 37.8**	**-0.9**
SSLN	**Shishaldin Nor**	**2.78**	**38**	P		**Pn**	**19 02 52.9**	**-1.2**
FALS	**False Pass**	**3.04**	**42**	*e*Pn		**Pn**	**19 02 59.8**	**+2.3**
SDPT	**Sand Point**	**4.67**	**52**	P		**Pn**	**19 03 19.6**	**-0.4**
SPIA	**Saint Paul Isl**	**4.92**	**339**	P		**Pn**	**19 03 24.9**	**+1.5**
GSCK	**Great Sitkin C**	**5.69**	**267**	P		**Pn**	**19 03 34.5**	**+0.6**
ADK	**Adak**	**6.03**	**267**	P		**Pn**	**19 03 39.5**	**+0.9**
AMKA	**Amchitka**	**8.59**	**267**	*e*Pn		**Pn**	**19 04 14.5**	**+0.9**
	25nm,0.5s							
FX1	**Attu Island--F**	**12.05**	**279**	Pn		**Pn**	**19 05 02.8**	**+1.7**
FX1	**Attu Island--F**	**12.05**	**279**	Pn		**Pn**	**19 05 02.8**	**+1.7**
	0.6nm,0.3s,baz=72,slow=18,SNR=11							
IMA2	**Indian Mountai**	**15.00**	**21**	*e*Pn		**P**	**19 05 46.8**	**+0.3**
COLD	**Coldfoot**	**16.75**	**23**	*e*Pn		**Pn**	**19 06 02.1**	**-1.6**
HYT	**Haines Junctio**	**17.96**	**51**	*e*Pn		**P**	**19 06 22.2**	**+2.9**
PETK	**Petropavlovsk-**	**21.22**	**285**	P		**P**	**19 06 51.4**	**-3.4**
PETK	**Petropavlovsk-**	**21.22**	**285**	P		**P**	**19 06 51.4**	**-3.4**
	1.7nm,0.7s,baz=87,slow=13,SNR=3.3							
PETK					LR	LR	19 14 40.3	
	comp=Z,38nm,19.2s,baz=258,slow=36							
DLBC	**Dease Lake**	**21.46**	**60**	LR		LR	19 15 32.0	
	comp=Z,58nm,18.1s,baz=359,slow=37							
INK	**Inuvik**	**22.30**	**33**	P		**P**	**19 07 06.7**	**+0.5**
INK	**Inuvik**	**22.30**	**33**	P		**P**	**19 07 06.7**	**+0.5**
	1.4nm,0.5s,baz=245,slow=8.5							
YBH	**Yreka Blue Hor**	**31.50**	**92**	LR		LR	19 18 16.2	
	comp=Z,90nm,20.3s,baz=183,slow=31							
H11N2	**WAKE ISLAND Hy**	**38.63**	**222**	T		T	19 50 59.6	
	baz=27,slow=0.7,SNR=31							
H11N3	**WAKE ISLAND Hy**	**38.63**	**222**	T		T	19 51 00.2	
	baz=27,slow=0.7,SNR=35							
H11N1	**WAKE ISLAND Hy**	**38.64**	**222**	T		T	19 51 09.8	
	baz=27,slow=0.7,SNR=30							
PDAR	**Pinedale Array**	**38.89**	**81**	P		**P**	**19 09 35.3**	**+0.7**
PDAR	**Pinedale Array**	**38.89**	**81**	P		**P**	**19 09 35.3**	**+0.7**
	0.4nm,0.8s,baz=333,slow=2.0,SNR=3.9							
H11S1	**WAKE ISLAND Hy**	**39.81**	**221**	T		T	19 52 34.2	
	baz=24,slow=0.7,SNR=32							
H11S2	**WAKE ISLAND Hy**	**39.82**	**221**	T		T	19 52 35.3	
	baz=24,slow=0.7,SNR=14							
H11S3	**WAKE ISLAND Hy**	**39.82**	**221**	T		T	19 52 35.6	
	baz=24,slow=0.7,SNR=13							
KSRS	**Korea Array**	**46.84**	**278**	P		**P**	**19 10 39.4**	**+0.7**
	1.8nm,0.9s,baz=46,slow=8.9,SNR=5.0							
KSAR	**Wonju Array Be**	**46.87**	**278**	P		**P**	**19 10 39.4**	**+0.5**
TXAR	**Lajitas Array**	**51.26**	**91**	P		**P**	**19 11 13.3**	**+0.5**
TXAR	**Lajitas Array**	**51.26**	**91**	P		**P**	**19 11 13.3**	**+0.5**
	0.3nm,0.5s,baz=299,slow=5.2,SNR=4.3							
SONM	**Songino Array**	**52.42**	**302**	P		**P**	**19 11 20.8**	**-0.4**
SONM	**Songino Array**	**52.42**	**302**	P		**P**	**19 11 20.8**	**-0.4**
	0.5nm,0.9s,baz=46,slow=6.4,SNR=3.6							
ARCES	**ARCESS Array B**	**57.79**	**355**	P		**P**	**19 12 00.0**	**+0.5**
ARCES	**ARCESS Array B**	**57.79**	**355**	P		**P**	**19 12 00.0**	**+0.5**
	2.6nm,0.8s,baz=27,slow=8.1,SNR=2.7							
FINES	**FINESS Array B**	**65.78**	**353**	P		**P**	**19 12 52.4**	**-1.0**
FINES	**FINESS Array B**	**65.78**	**353**	P		**P**	**19 12 52.4**	**-1.0**
	0.9nm,0.6s,baz=38,slow=7.1,SNR=6.1							
AKASG	**Malin Array Be**	**76.12**	**349**	P		**P**	**19 13 55.3**	**-1.0**
AKASG	**Malin Array Be**	**76.12**	**349**	P		**P**	**19 13 55.3**	**-1.0**
	0.9nm,0.6s,baz=2.3,slow=5.0,SNR=5.2							
BRTR	**Keskin Array B**	**86.28**	**344**	P		**P**	**19 14 51.1**	**+0.5**
BRTR	**Keskin Array B**	**86.28**	**344**	P		**P**	**19 14 51.1**	**+0.5**
	0.9nm,0.9s,baz=318,slow=1.7,SNR=4.4							
RPZ	**Rata Peaks**	**97.85**	**196**	LR		LR	19 57 02.7	
	comp=Z,186nm,18.5s,baz=148,slow=34							

IDC 13 19:16:14.5±2.0, 4.77S×128.74E, h0km, mb3.4/1, mb1 3.7/3, mb1mx3.4/19, mbtmp3.5/3, ML3.4/2, Error ellipse: s-maj=136.9km s-min=28.7km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.04**	**161**	Pn		Pn	19 20 00.6	-1.0
	0.1nm,0.3s,baz=339,slow=13,SNR=7.1							
ASAR	**Alice Springs**	**19.44**	**166**	P		P	19 20 43.2	+0.4
	0.3nm,0.3s,baz=351,slow=10.0,SNR=29							
MKAR	**Makanchi Array**	**65.69**	**327**	P		P	19 27 00.9	0.0
	0.2nm,0.5s,baz=133,slow=5.6,SNR=3.3							

IDC 13 19:40:09.3±3.7, 15.94S×172.40W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.8/20, mbtmp3.8/4, MS3.3/2, Ms1 3.3/2, ms1mx3.0/33, Error ellipse: s-maj=203.4km s-min=27.3km az=146.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**2.10**	**17**	Pn		Pn	19 40 36.0	-10
	36nm,0.3s,baz=18,slow=3.1,SNR=30							
AFI				Sn		Sn	19 40 50.5	-22
	317nm,0.3s,baz=210,slow=20,SNR=32							
AFI				LR		LR	19 41 21.1	
	comp=Z,352nm,21.2s,baz=92,slow=34							
WRA	**Warramunga Arr**	**50.66**	**257**	P		P	19 49 09.8	-1.0
	0.6nm,0.7s,baz=89,slow=6.9,SNR=6.7							
ASAR	**Alice Springs**	**50.87**	**252**	P		P	19 49 12.1	-0.2
	3.0nm,0.9s,baz=86,slow=8.1,SNR=34							
ASAJ	**Asahikawa**	**72.51**	**328**	LR		LR	20 17 53.3	
	comp=Z,40nm,20.4s,baz=180,slow=31							
NVAR	**Mina Array Bea**	**74.09**	**41**	P		P	19 51 47.0	-0.7
	0.3nm,0.3s,baz=221,slow=6.8,SNR=4.3							
ILAR	**Eielson Array**	**82.79**	**11**	P		P	19 52 33.6	-1.3
	0.2nm,0.5s,baz=218,slow=5.7,SNR=4.5							
GERES	**GERESS Array B**	**146.81**	**353**	PKPbc		PKPbc	19 59 54.0	+0.4
	0.6nm,0.7s,baz=8.1,slow=1.9,SNR=5.2							
BRTR	**Keskin Array B**	**147.18**	**321**	PKPbc		PKPab	19 59 56.0	-0.7
	2.8nm,0.8s,baz=100,slow=1.6,SNR=14							

IDC 13 19:53:44.2±0.9, 3.19N×128.28E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/22, mbtmp3.8/8, MS3.4/1, Ms1 3.4/1, ms1mx2.7/38, Error ellipse: s-maj=42.1km s-min=17.3km az=78.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.31**	**187**	LR		LR	20 07 11.9	
	comp=Z,106nm,19.9s,baz=230,slow=38							
WRA	**Warramunga Arr**	**23.74**	**166**	P		P	19 58 58.6	+0.2
	0.7nm,0.4s,baz=343,slow=10.0,SNR=11							
ASAR	**Alice Springs**	**27.25**	**169**	P		P	19 59 30.6	+0.3
	0.3nm,0.6s,baz=352,slow=7.3,SNR=6.3							
ASAR				PcP		PcP	20 02 49.3	-1.3
	0.2nm,0.5s,baz=359,slow=2.2,SNR=4.1							
CMAR	**Chiang Mai Arr**	**32.48**	**300**	P		P	20 00 17.6	+0.7
	0.1nm,0.3s,baz=115,slow=7.4,SNR=4.6							
KSRS	**Korea Array**	**34.11**	**359**	P		P	20 00 30.6	-0.1
	1.1nm,0.8s,baz=172,slow=9.5,SNR=3.6							
H11S3	**WAKE ISLAND Hy**	**40.55**	**65**	T		T	20 44 42.6	
	baz=254,slow=0.7,SNR=7.2							
H11S2	**WAKE ISLAND Hy**	**40.56**	**65**	T		T	20 44 34.6	
	baz=254,slow=0.7,SNR=4.8							
H11S1	**WAKE ISLAND Hy**	**40.56**	**65**	T		T	20 44 44.0	
	baz=254,slow=0.7,SNR=3.6							
USRK	**Ussuriysk Arra**	**40.98**	**4**	P		P	20 01 28.0	-0.8
	1.6nm,0.5s,baz=183,slow=8.3,SNR=5.4							
ASAJ	**Asahikawa**	**42.68**	**15**	P		P	20 01 43.5	+0.6
	12nm,1.1s,baz=198,slow=6.4,SNR=7.1							
SONM	**Songino Array**	**48.31**	**340**	P		P	20 02 28.1	+0.5
	0.2nm,0.5s,baz=146,slow=8.2,SNR=3.0							
MKAR	**Makanchi Array**	**58.88**	**325**	P		P	20 03 44.2	-0.8
	1.0nm,0.4s,baz=115,slow=8.3,SNR=29							

MOS ***13*** *20:13:09.7±1.4, 49.93N×156.94E, h75km, mb4.3/1, Error ellipse: s-maj=39.2km s-min=13.2km az=75.6*
KRSC 13 20:13:10.0±6.6, 49.93N×157.05E, h113km±57km, ML4.2, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.96**	**322**	*i* PN		Pn	20 13 27.5	-3.5
SKR					*e*S	Sn	20 13 40.5	-6.4
SKR					pmax	pmax		
	comp=Z,620nm,0.5s							
SKR					pmax	pmax		
	comp=N,370nm,0.3s							
SKR					pmax	pmax		
	comp=E,130nm,0.3s							
SKR					smax	smax		
	comp=N,3μm,0.2s							
SKR					smax	smax		
	comp=E,2μm,0.2s							
SKR	**Severo-Kuril's**	**0.96**	**322**	*i* P		Pn	20 13 30.3	-0.7
SKR				*i* S		Sn	20 13 43.8	-3.1
PAU	**Pauzhetka**	**1.55**	**354**	PN		Pn	20 13 37.5	0.0
PAU				S		Sn	20 13 56.3	-2.1
PAU	**Pauzhetka**	**1.55**	**354**	*i* P		Pn	20 13 37.5	0.0
PAU				*i* S		Sn	20 13 56.3	-2.1
ASAK	**Asacha**	**2.51**	**12**	*e*P		Pn	20 13 50.1	+0.3
ASAK				*e*S		Sn	20 14 20.3	0.0
MTVR	**Mutnovka**	**2.65**	**15**	*e*P		Pn	20 13 52.9	+1.2
MTVR				*e*S		Sn	20 14 23.1	-0.6
RUS	**Russkaya**	**2.67**	**20**	PN		Pn	20 13 53.2	+1.5
RUS				S		Sn	20 14 23.5	-0.2
RUS	**Russkaya**	**2.67**	**20**	*e*P		Pn	20 13 53.2	+1.5
RUS				*e*S		Sn	20 14 23.5	-0.2
APC	**Apacha**	**3.00**	**1**	*e*P		Pn	20 13 57.5	+1.5
UGLR	**Uglovaya**	**3.46**	**18**	*e*P		Pn	20 14 03.9	+1.6
AVH	**Avacha**	**3.50**	**17**	*e*P		Pn	20 14 04.2	+1.4
AVH				*e*S		Sn	20 14 42.4	-1.2
KOK	**Koryaka**	**3.51**	**16**	*e*P		Pn	20 14 05.1	+2.2
SMAR	**Somma**	**3.51**	**17**	*e*P		Pn	20 14 04.1	+1.0
SMAR				*e*S		Sn	20 14 42.7	-1.4
KRER	**Koryakskii**	**3.54**	**17**	*e*P		Pn	20 14 04.2	+0.7
KRER				*e*S		Sn	20 14 42.2	-2.6
SDLR	**Sedlovina**	**3.54**	**18**	*e*P		Pn	20 14 04.3	+0.9
SDLR				*e*S		Sn	20 14 42.4	-2.3
NLC	**Nalytchevo**	**3.55**	**23**	PN		Pn	20 14 02.6	-0.6
NLC				S		Sn	20 14 42.4	-2.0
NLC	**Nalytchevo**	**3.55**	**23**	*e*P		Pn	20 14 02.6	-0.6
NLC				*e*S		Sn	20 14 42.4	-2.0
GNL	**Ganaly**	**3.81**	**8**	*e*P		Pn	20 14 07.2	+0.3
MKZ	**Mys Kozlova**	**5.45**	**30**	PN		Pn	20 14 31.8	+3.0
MKZ	**Mys Kozlova**	**5.45**	**30**	*e*P		Pn	20 14 31.8	+3.0
MKZ				*e*S		Sn	20 15 27.5	-2.7
KBTR	**Krutoberegovo**	**7.18**	**27**	PN		Pn	20 14 53.6	+1.4
KBTR	**Krutoberegovo**	**7.18**	**27**	*e*P		Pn	20 14 53.6	+1.4
BKI	**Bering**	**7.58**	**42**	*e*S		Sn	20 16 20.1	-1.6
KUR	**Kuril'sk**	**7.78**	**236**	*i* PN		Pn	20 15 02.0	+1.6

IDC ***13*** *20:21:35.5±1.4, 53.82S×141.20E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.9/15, mbtmp3.8/6, Error ellipse: s-maj=98.6km s-min=19.3km az=85.0*
NEIC ***13*** *20:21:36.5±0.8, 53.97S×140.59E, h10km, mb4.4/6, Error ellipse: s-maj=44.7km s-min=12.7km az=88.0*
ISC 13 20:21:36.6±0.9, 53.97S±0.09×140.6E±0.3, h10km, n30, σ1§35/21, mb4.1/9, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CASY	**Casey**	**19.13**	**218**	*e*P		**P**	**20 25 58.4**	**-1.1**
	11nm,1.0s							
STKA	**Stephens Creek**	**22.10**	**2**	P		**P**	**20 26 32.3**	**+0.5**
STKA	**Stephens Creek**	**22.10**	**2**	P		**P**	**20 26 32.3**	**+0.5**
	9.1nm,1.0s,baz=184,slow=12,SNR=8.6							
VNDA	**Vanda**	**24.87**	**169**	*e*P		**P**	**20 26 58.1**	**-0.7**
	17nm,1.4s							
VNDA	**Vanda**	**24.87**	**169**	P		**P**	**20 26 59.2**	**+0.

50.
NEIC ***13*** *20:22:11.6±0.0,52.4°46N×167.7°58W,h10km,Moment Tensor Solution. s140 Moment tensor: Scale 10¹⁸Nm; Mrr4.21; Mθθ-3.99; Mφφ-0.22; Mrθ3.27; Mrφ-1.39; Mθφ1.09; Best double couple: M₀5.50000×10¹⁸ NP1:φ252.00000°, δ26.00000°, λ90.00000°. NP2:φ72.00000°, δ64.00000°, λ90.00000°. Principal axes: T 5.4100, Plg70.0000°, Azm341.0000°; N 0.2300, Plg0.0000°, Azm71.0000°; P -5.6500, Plg19.0000°, Azm161.0000°;*
DJA ***13*** *20:22:34.6±3.9,53°N±8°×16°8W±1°4,h370km±43km, M5.8/15,mB6.2/13,mb5.5/15,Mw(mB)5.9/13*
ISC 13 20:21:52.9±0.3,52.53N±0.03×167.17W±0.02,h14km±1km, h14km:pP-P,n1931,σ1929/2046,mb5.8/467,MS6.4/265, 456C-252D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKFG	**Magazine Ridge**	**0.99**	**333**	P	**Pn**	**20 22 12.6**	**+0.2**
OKFG				S	**Sn**	**20 22 28.1**	**+2.0**
OKSP	**Okmok Steeple**	**0.99**	**317**	P	**Pn**	**20 22 12.6**	**+0.2**
OKTU	**Okmok Mt. Tuli**	**1.00**	**328**	P	**Pn**	**20 22 12.7**	**+0.1**
OKSO	**Okmok South**	**1.02**	**324**	P	**Pb**	**20 22 12.5**	**+0.1**
OKSO				S	**Sn**	**20 22 28.7**	**+1.8**
OKCE	**Okmok Cone E**	**1.08**	**326**	P	**Pg**	**20 22 13.8**	**+0.1**
NIKH	**Nikolski High**	**1.12**	**294**	P	**Pb**	**20 22 14.0**	**0.0**
NIKH				S	**Sn**	**20 22 30.9**	**+1.7**
MGOD	**Makushin Gods**	**1.28**	**8**	P	**Pn**	**20 22 15.9**	**-0.5**
MREP	**Makushin Rep't**	**1.30**	**11**	P	**Pn**	**20 22 16.7**	**0.0**
UNV	**Unalaska Valle**	**1.38**	**17**	P	**Pn**	**20 22 17.1**	**-0.5**
UNV				S	**Sn**	**20 22 35.2**	**-0.4**
MCIR	**Makushin Cirqu**	**1.43**	**6**	P	**Pb**	**20 22 19.3**	**-0.1**
MTBL	**Makushin Table**	**1.47**	**11**	P	**Pn**	**20 22 19.0**	**-0.1**
ZRO	**Akutan Zero**	**1.72**	**24**	P	**Pn**	**20 22 21.7**	**-0.7**
AKRB	**Akutan Reef Bi**	**1.73**	**22**	P	**Pn**	**20 22 22.5**	**0.0**
LVA	**Lava Point**	**1.77**	**22**	P	**Pn**	**20 22 23.1**	**0.0**
AKUT	**Akutan**	**1.81**	**27**	P	**Pn**	**20 22 23.6**	**0.0**
AKUT				S	**Sn**	**20 22 46.4**	**+0.1**
AKGG	**Akutan Green G**	**1.81**	**22**	P	**Pn**	**20 22 24.0**	**+0.4**
WESE	**West Dahl East**	**2.48**	**37**	P	**Pn**	**20 22 33.6**	**+0.7**
WESN	**West Dahl Nort**	**2.56**	**36**	P	**Pn**	**20 22 35.0**	**+1.1**
SSBA	**Shishaldin**	**2.88**	**38**	P	**Pn**	**20 22 38.7**	**+0.2**
SSBA				S	**Sn**	**20 23 15.1**	**+2.2**
SSLW	**Shishaldin Ws**	**2.88**	**38**	P	**Pn**	**20 22 39.2**	**+0.8**
BRPK	**Brown Peak**	**2.94**	**43**	P	**Pn**	**20 22 40.2**	**+1.1**
ISNN	**Isanotski Nort**	**3.06**	**40**	P	**Pn**	**20 22 42.1**	**+1.3**
FALS	**False Pass**	**3.22**	**42**	P	**Pn**	**20 22 43.4**	**+0.3**
DRIA	**Deer Island**	**3.80**	**48**	P	**Pn**	**20 22 51.4**	**+0.5**
DT1	**Dutton Round H**	**3.88**	**46**	P	**Pn**	**20 22 51.9**	**-0.1**
DTNA	**Dutton South F**	**3.92**	**46**	P	**Pn**	**20 22 52.6**	**0.0**
DOL	**Dolgoi Island**	**4.09**	**48**	P	**Pn**	**20 22 56.0**	**+1.0**
PS4A	**Pavlof South-4**	**4.22**	**46**	P	**Pn**	**20 22 58.1**	**+1.4**
PVV	**Pavlof Volcano**	**4.26**	**46**	P	**Pn**	**20 22 58.9**	**+1.6**
SDPT	**Sand Point**	**4.86**	**52**	P	**Pn**	**20 23 05.1**	**-0.3**
SPIA	**Saint Paul Isl**	**4.98**	**340**	P	**Pn**	**20 23 09.5**	**+2.3**
GSTR	**Great Sitkin T**	**5.47**	**269**	*e*P	**Pn**	**20 23 14.9**	**+1.0**
GSTR				*e*Sn	**Sn**	**20 24 20.5**	**+3.8**
GSMY	**Great Sitkin M**	**5.48**	**268**	P	**Pn**	**20 23 15.2**	**+1.2**
GSTD	**Great Sitkin T**	**5.53**	**269**	P	**Pn**	**20 23 16.4**	**+1.6**
GSCK	**Great Sitkin C**	**5.55**	**269**	P	**Pn**	**20 23 16.4**	**+1.4**
ETKA	**Kagalaska Isla**	**5.72**	**267**	P	**Pn**	**20 23 19.2**	**+1.9**
ADAG	**Mount Adagdak**	**5.82**	**268**	P	**Pn**	**20 23 21.2**	**+2.5**
ADK	**Adak**	**5.89**	**267**	P	**Pn**	**20 23 21.3**	**+1.7**
ADK	**Adak**	**5.89**	**267**	P	**Pn**	**20 23 21.3**	**+1.7**
VNHG	**Veniaminof 1**	**5.96**	**48**	P	**Pn**	**20 23 21.8**	**+1.2**
KIRH	**Kanaga Island**	**6.14**	**268**	P	Pn	20 23 26.3	+3.3
KINC	**Kanaga Island**	**6.15**	**268**	P	Pn	20 23 26.5	+3.3
KIKV	**Kanaga Island**	**6.19**	**268**	P	**Pn**	**20 23 26.9**	**+3.2**
KICM	**Kanaga Island**	**6.20**	**268**	P	**Pn**	**20 23 26.9**	**+3.1**
CHGN	**Chignik**	**6.35**	**50**	*e*Pn	**Pn**	**20 23 25.5**	**-0.4**
CHGN				*e*Sn	**Sn**	**20 24 33.6**	**-4.5**
TAPA	**Tanaga Point A**	**6.59**	**268**	P	**Pn**	**20 23 31.4**	**+2.1**
TAFP	**Tanaga Falls P**	**6.68**	**269**	P	Pn	20 23 34.1	+3.6
ANPB	**Aniakchak Plen**	**6.70**	**47**	P	**Pn**	**20 23 33.1**	**+2.4**
TASE	**Tanaga Southea**	**6.72**	**268**	P	**Pn**	**20 23 33.6**	**+2.5**
ANNW	**Aniakchak Nort**	**6.82**	**46**	P	**Pn**	**20 23 34.8**	**+2.3**
GAEA	**Gareloi East**	**7.17**	**269**	P	**Pn**	**20 23 39.9**	**+2.7**
GANE	**Gareloi Northe**	**7.18**	**269**	P	**Pn**	**20 23 39.9**	**+2.6**
CERA	**Semis' Rag'd T**	**8.10**	**271**	P	**Pn**	**20 23 51.9**	**+1.9**
CEAP	**Semis' Anvil P**	**8.15**	**272**	P	**Pn**	**20 23 52.9**	**+2.3**
CESW	**Semis' Southwe**	**8.18**	**271**	P	**Pn**	**20 23 52.7**	**+1.7**
CETU	**Semis' Tuman**	**8.21**	**271**	P	**Pn**	**20 23 53.3**	**+1.8**
AMKA	**Amchitka**	**8.44**	**268**	P	**Pn**	**20 23 56.1**	**+1.5**
CAHL	**Cahill**	**8.73**	**46**	P	**Pn**	**20 23 59.4**	**+0.7**
KELA	**Mount Kelaz**	**8.77**	**43**	P	**Pn**	**20 24 01.5**	**+2.2**
LSSE	**Little Sitkin**	**8.78**	**272**	P	**Pn**	**20 24 01.8**	**+2.5**
LSNW	**Little Sitkin**	**8.81**	**272**	P	**Pn**	**20 24 01.7**	**+2.0**
LSSA	**Little Sitkin**	**8.81**	**272**	P	**Pn**	**20 24 01.2**	**+1.5**
KABR	**Katmai Barrier**	**8.93**	**46**	P	**Pn**	**20 24 01.6**	**+0.2**
KAKN	**Katmai Knife C**	**8.98**	**45**	P	**Pn**	**20 24 04.8**	**+2.7**
OHAK	**Old Harbor**	**9.27**	**54**	P	**Pn**	**20 24 05.0**	**-1.0**
KDAK	**Kodiak Island** 222nm,0.9s	**9.86**	**52**	*e*Pn	**Pn**	**20 24 11.7**	**-2.3**
RSO	**Redoubt South** 617nm,1.2s	**11.23**	**39**	*e*Pn	**Pn**	**20 24 33.2**	**+0.3**
SMY	**Shemya**	**11.39**	**278**	*e*P	**Pn**	**20 24 35.8**	**+0.8**
SMY				pmax	pmax		
	comp=Z,2μm,1.7s						
SMY	**Shemya**	**11.39**	**278**	*e*Pn	**Pn**	**20 24 35.8**	**+0.8**
	comp=Z,2μm,1.7s						
FX1	**Attu Island--F**	**11.94**	**279**	*e*Pn	**Pn**	**20 24 43.3**	**+0.8**
FX1	**Attu Island--F**	**11.94**	**279**	Pn	**Pn**	**20 24 44.0**	**+1.5**
	comp=Z,5.8nm,0.3s,baz=84,slow=15,SNR=23						
FX1				LR	LR	20 28 54.3	
	comp=Z,178μm,21.9s,baz=331,slow=36						
SEW	**Seward**	**12.39**	**45**	*e*Pn	Pn	20 24 45.3	-3.2
	comp=Z,200nm,0.5s						
PPLA	**Purkeypile**	**13.07**	**32**	*e*Pn	**Pn**	**20 24 58.2**	**+0.2**
	comp=Z,928nm,1.2s						
TNA	**Tin City**	**13.07**	**359**	*e*Pn	**Pn**	**20 25 00.8**	**+2.9**
	comp=Z,696nm,1.4s						
PMR	**Palmer**	**13.32**	**40**	*e*P	Pn	20 24 55.3	-6.0
PMR				pmax	pmax		
	comp=Z,1μm,1.9s						
PMR	**Palmer**	**13.32**	**40**	*e*Pn	Pn	20 24 55.3	-6.0
	comp=Z,1μm,1.9s						
MID	**Middleton Isla**	**13.51**	**51**	*e*P	**Pn**	**20 25 01.4**	**-2.5**
MID				pmax	pmax		
	comp=Z,504nm,1.1s						
MID	**Middleton Isla**	**13.51**	**51**	*e*Pn	**Pn**	**20 25 01.4**	**-2.5**
	comp=Z,504nm,1.1s						
TRF	**Thorofare Moun**	**14.08**	**32**	*e*Pn	**Pn**	**20 25 10.0**	**-1.8**
	comp=Z,30nm,1.0s						
BPAW	**Bear Paw Mtn.**	**14.32**	**30**	*e*Pn	**Pn**	**20 25 14.3**	**-0.6**
	comp=Z,205nm,0.7s						
DIV	**Divide**	**14.47**	**45**	*e*Pn	Pn	20 25 13.4	-3.7
	comp=Z,380nm,1.1s						
MCK	**McKinley**	**14.71**	**33**	*e*P	**Pn**	**20 25 18.7**	**-1.7**
MCK				pmax	pmax		
	comp=Z,59nm,0.6s						
MCK	**McKinley**	**14.71**	**33**	*e*Pn	**Pn**	**20 25 18.7**	**-1.7**
	comp=Z,59nm,0.6s						
BMRM	**Bremner River**	**14.91**	**47**	*e*Pn	Pn	20 25 19.1	-4.0
	comp=Z,519nm,1.1s						
IM04	**Indian Mountai**	**15.06**	**21**	*e*Pn	**Pn**	**20 25 22.9**	**-2.1**
IMA2	**Indian Mountai**	**15.16**	**21**	*e*Pn	**Pn**	**20 25 26.8**	**+0.4**
PAX	**Paxson**	**15.51**	**39**	*e*P	**Pn**	**20 25 27.6**	**-3.4**
PAX				*e*		20 28 26.6	
PAX				pmax	pmax		
	comp=Z,6μm,2.3s						
PAX	**Paxson**	**15.51**	**39**	*e*Pn	**Pn**	**20 25 27.6**	**-3.4**
	comp=Z,6μm,2.3s						
PAX				*e*Sn	**Sn**	**20 28 26.6**	**+4.1**
COLA	**College**	**15.83**	**31**	*e*P	**Pn**	**20 25 30.9**	**-4.1**
COLA				pmax	pmax		
	comp=Z,712nm,0.9s						
COLA	**College**	**15.83**	**31**	*e*Pn	**Pn**	**20 25 30.9**	**-4.1**
	comp=Z,712nm,0.9s						
ILAR	**Eielson Array**	**16.07**	**32**	Pn	**Pn**	**20 25 37.0**	**-1.2**
ILAR				ScP	**ScP**	**20 34 07.2**	**-0.1**
ILAR	**Eielson Array**	**16.07**	**32**	Pn	**Pn**	**20 25 37.0**	**-1.2**
	comp=Z,1.1nm,0.3s,baz=230,slow=12,SNR=95						
ILAR				ScP	**ScP**	**20 34 07.2**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=267,slow=3.0,SNR=7.5						
MENT	**Mentasta**	**16.18**	**41**	*e*Pn	**Pn**	**20 25 40.6**	**+1.0**
DOT	**Dot Lake**	**16.41**	**38**	*e*Pn	**Pn**	**20 25 40.5**	**-2.0**
	comp=Z,5μm,1.1s						
COLD	**Coldfoot**	**16.92**	**23⇑**	*e*Pn	**Pn**	**20 25 47.9**	**-0.9**
	comp=Z,146nm,1.3s						
EGAK	**Eagle**	**18.08**	**37**	*e*Pn	**Pn**	**20 26 02.0**	**-1.3**
	comp=Z,699nm,0.9s						
HYT	**Haines Junctio**	**18.14**	**51**	*e*Pn	**P**	**20 26 04.9**	**+0.4**
DAWY	**Dawson**	**18.42**	**40**	*e*Pn	**P**	**20 26 05.4**	**-2.1**
SIT	**Sitka**	**18.80**	**63**	*e*P	**Pn**	**20 26 13.4**	**+1.3**
SIT				pmax	pmax		
	comp=Z,739nm,1.2s						
SIT	**Sitka**	**18.80**	**63**	*e*Pn	**Pn**	**20 26 13.4**	**+1.3**
	comp=Z,739nm,1.2s						
SKAG	**Skagway**	**18.96**	**56**	*e*Pn	**Pn**	**20 26 16.0**	**+1.9**
	comp=Z,326nm,0.9s						
SKAG				*e*Sn	**S**	**20 29 50.1**	**+2.0**
CRAG	**Craig**	**20.10**	**68**	*e*P	Pn	20 26 28.2	+0.5
	comp=Z,627nm,1.2s						
WRAK	**Wrangell Islan**	**20.46**	**65**	*e*P	Pn	20 26 32.0	+0.1
	comp=Z,320nm,1.1s						
PET	**Petropavlovsk**	**20.57**	**285**	*i* P	**P**	**20 26 30.1**	**-0.9**
H02S1	**DAWSON INLET T** SNR=14	**20.83**	**74**	T	T	20 48 07.3	
PEA0B	**Petropavlovsk-**	**21.12**	**286**	*e*P	**P**	**20 26 36.9**	**0.0**
PETK	**Petropavlovsk-**	**21.12**	**286**	P	**P**	**20 26 36.8**	**-0.1**
PETK	**Petropavlovsk-**	**21.12**	**286**	P	**P**	**20 26 36.8**	**-0.1**
PETK				S	Sn	20 30 34.9	-3.1
PETK	**Petropavlovsk-**	**21.12**	**286**	P	**P**	**20 26 36.8**	**-0.1**
	comp=Z,81nm,0.7s,baz=97,slow=12,SNR=43						
PETK				S	Sn	20 30 34.9	-3.1
	comp=Z,2.7nm,0.4s,baz=56,slow=11,SNR=4.4						
DLBC	**Dease Lake**	**21.64**	**59**	P	**P**	**20 26 44.2**	**+1.7**
DLBC	**Dease Lake**	**21.64**	**59**	P	**P**	**20 26 44.2**	**+1.7**
	comp=Z,31nm,0.8s,baz=268,slow=12,SNR=26						
DLBC				LR	LR	20 34 57.1	
	comp=Z,75μm,21.5s,baz=287,slow=36						
INK	**Inuvik**	**22.48**	**33**	LR	LR	20 36 36.0	
	comp=Z,143μm,19.0s,baz=233,slow=40						
SKR	**Severo-Kuril's**	**22.73**	**280**	*i* P	**P**	**20 26 50.0**	**-4.1**
SKR				*e*		20 27 32.0	
SKR				*i* S	**S**	**20 31 02.0**	**0.0**
SKR				pmax	pmax		
	comp=E,220nm,1.0s						
SKR				pmax	pmax		
	comp=Z,250nm,1.0s						
SKR				pmax	pmax		
	comp=N,5μm,14.0s						
SKR				pmax	pmax		
	comp=E,11μm,14.0s						
SKR				pmax	pmax		
	comp=Z,16μm,14.0s						
SKR				smax	smax		
	comp=N,59μm,18.0s						
SKR				smax	smax		
	comp=E,12μm,18.0s						
SKR				MLR	MLR		
	comp=Z,60μm,20.0s						
SKR				MLR	MLR		
	comp=N,88μm,18.0s						
SKR				MLR	MLR		
	comp=E,52μm,20.0s						
SEY	**Seymchan**	**23.56**	**312**	*c* iP	**P**	**20 27 01.4**	**-1.1**
BBB	**Bella Bella**	**23.66**	**75**	P	**P**	**20 27 05.2**	**+1.7**
BBB	**Bella Bella**	**23.66**	**75**	P	**P**	**20 27 05.2**	**+1.7**
	comp=E,58nm,1.1s,baz=289,slow=9.5,SNR=4.6						
BBB				LR	LR	20 35 41.5	
	comp=E,89μm,18.8s,baz=288,slow=35						
MIDW	**Midway**	**25.45**	**201**	*e*P	**P**	**20 27 19.5**	**-0.6**
	comp=E,526nm,1.5s						
MIDW				LR	LR		
	comp=Z,43μm,20.0s						
PGC	**Sidney**	**27.70**	**80**	P	**P**	**20 27 44.6**	**+4.3**
NLWA	**Neilton Lookou**	**27.99**	**83**	*e*P	**P**	**20 27 45.0**	**+1.9**
	comp=Z,249nm,1.4s						
NLWA				LR	LR		
	comp=Z,72μm,19.0s						
YKW3	**Yellowknife Ar**	**29.11**	**49**	*e*P	**P**	**20 27 53.0**	**+0.3**
	comp=Z,2.2nm,1.3s						
YKA	**Yellowknife Ar**	**29.12**	**49**	P	**P**	**20 27 53.2**	**+0.4**
YKA				PcP	**PcP**	**20 30 59.9**	**-0.1**
YKA	**Yellowknife Ar**	**29.12**	**49**	P	**P**	**20 27 53.2**	**+0.4**
	comp=Z,5.8nm,0.6s,baz=274,slow=8.9,SNR=18						
YKA				PcP	**PcP**	**20 30 59.9**	**-0.1**
	comp=Z,12nm,0.8s,baz=282,slow=2.9,SNR=6.4						
LON	**Longmire**	**29.54**	**83**	P	**P**	**20 27 57.9**	**+1.1**
LON				pmax	pmax		
	comp=Z,159nm,1.6s						
LON	**Longmire**	**29.54**	**83**	P	**P**	**20 27 57.9**	**+1.1**
	comp=Z,159nm,1.6s						
COR	**Corvallis**	**29.70**	**88**	*e*P	**P**	**20 27 59.9**	**+1.7**
COR				pmax	pmax		
	comp=Z,1μm,0.9s						
COR	**Corvallis**	**29.70**	**88**	*e*P	**P**	**20 27 59.9**	**+1.7**
	comp=Z,1μm,0.9s						
WPW	**White Pass**	**29.72**	**83**	P	**P**	**20 28 00.1**	**+1.6**
NLW	**Nelson Butte**	**29.82**	**80**	P	**P**	**20 28 00.9**	**+1.5**
ASR	**Mount Adams--S**	**29.96**	**84**	P	**P**	**20 28 01.7**	**+1.1**
KEBM	**Edson Butte**	**30.00**	**91**	*e*P	**P**	**20 28 02.6**	**+1.7**
	comp=Z,211nm,1.3s						
ETW	**Emtiat**	**30.04**	**80**	P	**P**	**20 28 02.2**	**+1.0**
VLL	**Laurance Lake**	**30.25**	**85**	P	**P**	**20 28 04.6**	**+1.5**
BROR	**Big Rock Looko**	**30.39**	**88**	P	**P**	**20 28 05.9**	**+1.7**
KBO	**Bosley Butte**	**30.43**	**92**	*e*P	**P**	**20 28 06.1**	**+1.3**
	comp=Z,255nm,1.4s						
VFP	**Flag Point**	**30.45**	**85**	P	**P**	**20 28 06.4**	**+1.4**
SAW	**Saint Andrews**	**30.55**	**80**	P	**P**	**20 28 06.3**	**+0.6**
HUMO	**Hull Mountain**	**30.98**	**91**	*e*P	**P**	**20 28 10.9**	**+1.3**
	comp=Z,269nm,1.7s						
KRMB	**Red Mountain**	**31.02**	**93**	*e*P	**P**	**20 28 11.1**	**+1.0**
	comp=Z,146nm,1.5s						
HAWA	**Hanford**	**31.09**	**82**	*e*P	**P**	**20 28 11.0**	**+0.6**
	comp=Z,106nm,1.1s						
HAWA				LR	LR		
	comp=Z,51μm,20.0s						
OD2	**Odessa Site #2**	**31.11**	**80**	P	**P**	**20 28 11.2**	**+0.6**
KTRM	**Thompson Ridge**	**31.13**	**92**	P	**P**	**20 28 12.9**	**+2.0**
KHMM	**Horse Mountain**	**31.52**	**94**	*e*P	**P**	**20 28 16.3**	**+1.9**
	comp=Z,253nm,1.2s						
YBH	**Yreka Blue Hor**	**31.63**	**92**	*e*P	**P**	**20 28 17.1**	**+1.8**
	comp=Z,96nm,1.1s						
NEW	**Newport**	**31.66**	**77**	*e*P	**P**	**20 28 15.9**	**+0.4**
	comp=Z,74nm,1.0s						
NEW				LR	LR		
	comp=Z,47μm,20.0s						
NEW	**Newport**	**31.66**	**77**	⇑P	**P**	**20 28 15.4**	**-0.1**
	baz=32,SNR=25						
EDM	**Edmonton**	**31.85**	**67**	*e*P	**P**	**20 28 17.3**	**+0.3**
EDM	**Edmonton**	**31.85**	**67**	*e*P	**P**	**20 28 17.3**	**+0.3**
KIP	**Kipapa**	**31.85**	**164**	*ce*P	**P**	**20 28 18.1**	**+0.9**
KIP				pmax	pmax		
	comp=Z,219nm,1.0s						
KIP	**Kipapa**	**31.85**	**164**	*e*P	**P**	**20 28 17.9**	**+0.7**
	comp=Z,670nm,1.5s						
KIP				LR	LR		
	comp=Z,38μm,19.0s						
YUK	**Yuzh-Kuril'sk**	**31.89**	**274**	⇑*i* P	P	20 28 10.6	-6.9
YUK				*i* S	S	20 33 16.2	-11
YUK				*e*SS	**SnSn**	**20 35 15.5**	**-0.2**
YUK				pmax	pmax		
	comp=Z,4μm,3.5s						
YUK				pmax	pmax		
	comp=N,332nm,1.5s						
YUK				pmax	pmax		
	comp=E,468nm,1.5s						
YUK				pmax	pmax		
	comp=Z,852nm,1.5s						
YUK				MLR	MLR		
	comp=N,6μm,22.0s						
YUK				MLR	MLR		
	comp=E,25μm,22.0s						
YUK				MLR	MLR		
	comp=Z,43μm,22.0s						
HON	**Honolulu**	**31.95**	**164**	*e*P	**P**	**20 28 18.9**	**+0.8**
HON	**Honolulu**	**31.95**	**164**	*e*P	**P**	**20 28 18.9**	**+0.8**
YSS	**Yuzh-Sakhalins**	**32.29**	**280**	*α i*P	**P**	**20 28 20.0**	**-1.0**
YSS				*e*		20 28 34.0	
YSS				*e*		20 31 10.0	
YSS				*e*S	**S**	**20 33 30.0**	**-3.9**
YSS				pmax	pmax		
	comp=Z,110nm,1.2s						
YSS				pmax	pmax		
	comp=Z,5μm,10.0s						
YSS				MLR	MLR		
	comp=Z,52μm,19.0s						
YSS				MLR	MLR		
	comp=N,27μm,18.0s						
YSS				MLR	MLR		
	comp=E,39μm,18.0s						
KIPM	**Iron Peak**	**32.31**	**96**	P	**P**	**20 28 22.3**	**+0.9**
	comp=E,48nm,0.4s						
KCPM	**Cahto Peak**	**32.32**	**96**	*e*P	**P**	**20 28 22.8**	**+1.3**
	comp=E,98nm,1.1s						
WDC	**Whiskeytown Da**	**32.42**	**94**	*e*P	**P**	**20 28 23.0**	**+0.9**
WDC				pmax	pmax		
	comp=Z,119nm,1.1s						
WDC	**Whiskeytown Da**	**32.42**	**94**	*e*P	**P**	**20 28 23.0**	**+0.9**
	comp=Z,119nm,1.1s						
LTIM	**Timbered Crate**	**32.70**	**92**	P	**P**	**20 28 26.7**	**+1.9**
MOD	**Modoc**	**33.01**	**90**	*e*P	**P**	**20 28 28.9**	**+1.4**
	comp=Z,960nm,1.2s						
HOPS	**Hopland**	**33.06**	**96**	*e*P	**P**	**20 28 29.1**	**+1.3**
	comp=Z,198nm,1.2s						
WALA	**Waterton Lakes**	**33.20**	**74**	*e*P	**P**	**20 28 28.9**	**-0.2**
	comp=Z,3.1nm,1.1s						
BMO	**Blue Mountains**	**33.22**	**83**	*e*P	**P**	**20 28 29.5**	**+0.3**
	comp=Z,183nm,1.6s						
BMO				LR	LR		
	comp=Z,45μm,20.0s						
BSMT	**Bassoo Peak**	**33.24**	**77**	P	**P**	**20 28 30.2**	**+0.7**
TIXI	**Tiksi**	**33.29**	**329**	*c i*P	**P**	**20 28 28.3**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,196nm,1.2s						
TIXI				MLR	MLR		
	comp=Z,127μm,16.0s						
BLMT	**Blacktail Moun**	**33.42**	**76**	*e*P	**P**	**20 28 31.7**	**+0.6**
	comp=Z,55nm,0.8s						
WVOR	**Wild Horse Val**	**33.72**	**88**	*e*P	**P**	**20 28 34.6**	**+0.9**
WVOR				pmax	pmax		
	comp=Z,99nm,1.0s						
WVOR	**Wild Horse Val**	**33.72**	**88**	*e*P	**P**	**20 28 34.6**	**+0.9**
	comp=Z,99nm,1.0s						
ASAJ	**Asahikawa**	**33.84**	**276**	*e*P	**P**	**20 28 33.9**	**-0.5**
	comp=Z,152nm,1.3s						
YAK	**Yakutsk**	**34.08**	**311**	*e*P	**P**	**20 28 34.1**	**-2.3**
YAK				*e**PP	**pP**	**20 28 43.2**	**+2.5**
YAK				*e*		20 29 57.6	
YAK				*e*PPP	PPP	20 30 12.6	
YAK				*e*		20 31 10.8	
YAK				*e*S	**S**	**20 33 59.1**	**-2.2**
YAK				*e*SS	**SnSn**	**20 36 09.5**	**+1.2**
YAK				*e*		20 38 57.1	
YAK				pmax	pmax		
	comp=Z,84nm,1.1s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,58nm,1.3s						
YAK				pmax	pmax		
	comp=E,2μm,5.3s						
YAK				pmax	pmax		
	comp=N,228nm,2.8s						
YAK				pmax	pmax		
	comp=Z,4μm,5.8s						
YAK				smax	smax		
	comp=N,3μm,19.4s						
YAK				smax	smax		
	comp=E,19μm,20.1s						
YAK				MLR	MLR		
	comp=N,85μm,18.0s						
YAK				MLR	MLR		
	comp=Z,121μm,17.0s						
YAK				MLR	MLR		
	comp=E,86μm,16.0s						
MSO	**Missoula**	**34.24**	**78**	⇑P	**P**	**20 28 38.5**	**+0.4**
	baz=34,SNR=23						
PAHR	**Pah Rah Range**	**34.87**	**92**	*e*P	**P**	**20 28 44.8**	**+1.1**
	comp=E,336nm,1.2s						
CMB	**Columbia Colle**	**35.30**	**95**	*e*P	**P**	**20 28 48.1**	**+0.8**
CMB				pmax	pmax		
	comp=Z,165nm,1.4s						
CMB	**Columbia Colle**	**35.30**	**95**	*e*P	**P**	**20 28 48.1**	**+0.8**
	comp=Z,165nm,1.4s						
SAO	**San Andreas Ge**	**35.48**	**98**	*e*P	**P**	**20 28 49.2**	**+0.4**
SAO				pmax	pmax		
	comp=Z,238nm,1.4s						
SAO	**San Andreas Ge**	**35.48**	**98**	*e*P	**P**	**20 28 49.2**	**+0.4**
	comp=Z,238nm,1.4s						
WAKR	**Walker**	**35.58**	**94**	*e*P	**P**	**20 28 51.3**	**+1.4**
	comp=Z,153nm,1.1s						
HLID	**Hailey**	**35.66**	**83**	*e*P	**P**	**20 28 50.6**	**+0.1**
	comp=Z,118nm,1.4s						
HLID				LR	LR		
	comp=Z,48μm,20.0s						
HLID	**Hailey**	**35.66**	**83**	⇑P	**P**	**20 28 50.4**	**-0.1**
	baz=36,SNR=32						
BMN	**Battle Mountai**	**35.75**	**89**	*e*P	**P**	**20 28 51.5**	**+0.2**
BMN				pmax	pmax		
	comp=Z,413nm,1.8s						
BMN	**Battle Mountai**	**35.75**	**89**	*e*P	**P**	**20 28 51.5**	**+0.2**
	comp=Z,413nm,1.8s						
DLMT	**Dillon**	**35.79**	**79**	*e*P	**P**	**20 28 50.9**	**-0.6**
	comp=Z,75nm,1.2s						
MCMT	**McKenzie Canyo**	**35.92**	**80**	*e*P	**P**	**20 28 52.6**	**-0.2**
	comp=Z,69nm,1.3s						
EGMT	**Eagleton**	**36.13**	**74**	*e*P	**P**	**20 28 54.3**	**-0.1**
	comp=Z,153nm,0.9s						
EGMT				LR	LR		
	comp=Z,50μm,19.0s						
EGMT	**Eagleton**	**36.13**	**74**	⇑P	**P**	**20 28 54.1**	**-0.2**
	baz=36,SNR=52						
A19A	**Klindworth Far**	**36.28**	**72**	⇑P	**P**	**20 28 55.7**	**+0.1**

comp=Z,63nm,1.0s
FLWY Flagg Ranch 37.62 80 *e*P **P 20 29 08.6 +1.4**
comp=Z,218nm,1.3s
RRI2 Red Ridge 37.65 81 *e*P **P 20 29 08.4 +0.8**
comp=Z,278nm,1.4s
KLR Kul'dur 37.67 290 *e*P P 20 29 01.0 -6.3
KLR *e* 20 37 56.5
KLR pmax pmax
comp=E,140nm,1.8s
KLR pmax pmax
comp=Z,380nm,1.8s
PKM Peak Mountain 37.71 99 ⇓P **P 20 29 09.1 +1.0**
baz=38
F19A Roth Farm, Mol 37.71 76 ⇑P **P 20 29 08.2 +0.4**
baz=38,SNR=5.7
CWC Cottonwood Cre 37.73 95 ⇑P **P 20 29 09.7 +1.5**
baz=38
MOOW Moose Ponds 37.78 80 *e*P **P 20 29 09.2 +0.6**
comp=Z,73nm,1.5s
C21A Desert Coulee 37.78 72 ⇑P **P 20 29 08.0 -0.4**
baz=38,SNR=11
I17A Pilgrim Ck. 37.78 80 ⇓P **P 20 29 09.6 +1.0**
baz=38
TPAW Teton Pass 37.80 81 *e*P **P 20 29 09.0 +0.2**
comp=Z,112nm,1.4s
E20A Meyer Farm, Mu 37.85 75 ⇑P **P 20 29 09.1 +0.1**
baz=38,SNR=25
A22A Carney Farms, 37.88 70 ⇓P **P 20 29 09.4 +0.2**
baz=38,SNR=17
RLMT Red Lodge 37.91 77 *e*P **P 20 29 10.6 +0.9**
comp=Z,94nm,1.1s
RLMT LR LR
comp=Z,22µm,19.0s
H18A Shoshone NF, C 37.91 78 ⇑P **P 20 29 10.2 +0.5**
baz=38,SNR=7.5
REDW Red Top Meadow 37.93 81 *e*P **P 20 29 10.4 +0.6**
comp=Z,216nm,1.5s
SNOW Snow King Moun 37.93 81 *e*P **P 20 29 10.4 +0.5**
comp=Z,140nm,1.5s
LOHW Long Hollow 37.94 80 *e*P **P 20 29 10.8 +0.8**
comp=Z,78nm,1.4s
ISA Isabella 38.01 97 *e*P **P 20 29 10.8 +0.4**
ISA pmax pmax
comp=Z,146nm,1.1s
ISA Isabella 38.01 97 *e*P **P 20 29 10.8 +0.4**
comp=Z,146nm,1.1s
ISA Isabella 38.01 97 ⇓P **P 20 29 11.1 +0.7**
baz=38,SNR=35
BGU Big Grassy Mou 38.02 86 *e*P **P 20 29 11.6 +1.1**
comp=Z,226nm,1.6s
R11A Troy Canyon, C 38.03 91 *e*P **P 20 29 11.2 +0.5**
R11A Troy Canyon, C 38.03 91 ⇑P **P 20 29 10.9 +0.2**
baz=38,SNR=29
CLNS Chul'man 38.05 304 *e*P **P 20 29 07.4 -3.1**
CLNS *e**PP **pP 20 29 17.3 +2.5**
CLNS *e* 20 31 24.3
CLNS *e*S **S 20 34 56.3 -5.9**
CLNS pmax pmax
comp=Z,31nm,1.2s
CLNS pmax pmax
comp=E,23nm,1.0s
CLNS pmax pmax
comp=N,8.0nm,0.8s
CLNS pmax pmax
comp=Z,17nm,1.3s
CLNS pmax pmax
comp=N,25nm,1.1s
CLNS pmax pmax
comp=E,27nm,1.2s
CLNS smax smax
comp=E,7µm,16.7s
CLNS smax smax
comp=N,3µm,16.7s
CLNS MLR MLR
comp=Z,71µm,18.0s
CLNS MLR MLR
comp=E,56µm,17.0s
CLNS MLR MLR
comp=N,57µm,17.0s
SBC Santa Barbara 38.08 99 ⇓P **P 20 29 11.9 +1.0**
baz=38
AHID Auburn Hatcher 38.12 82 *e*P **P 20 29 11.0 -0.4**
comp=N,146nm,1.3s
AHID LR LR
comp=Z,58µm,19.0s
SPUT South Promonto 38.14 85 *e*P **P 20 29 11.2 -0.4**
comp=Z,224nm,1.8s
ARVC Arvin 38.15 98 ⇓P **P 20 29 12.7 +1.1**
baz=38
B22A Reddig Ranch S 38.18 71 ⇑P **P 20 29 11.7 0.0**
baz=38,SNR=7.5
F20A Billings 38.21 76 ⇓P **P 20 29 12.7 +0.6**
baz=38
D21A La Casta Ranch 38.23 73 ⇓P **P 20 29 12.1 0.0**
baz=38,SNR=10
H19A Powell 38.32 78 ⇓P **P 20 29 13.3 +0.3**
baz=38,SNR=10
MPMC Manual Prospec 38.34 95 ⇓P **P 20 29 14.3 +1.0**
baz=38,SNR=38
H11N2 WAKE ISLAND Hy 38.45 222 T T 21 10 58.3
baz=26,slow=0.7,SNR=266
E21A Keefer Ranch, 38.45 74 ⇓P **P 20 29 14.7 +0.6**
baz=38
H11N3 WAKE ISLAND Hy 38.45 221 T T 21 11 02.7
baz=26,slow=0.7,SNR=461
FURC Furnace Creek, 38.46 94 ⇑P **P 20 29 14.4 +0.3**
baz=38,SNR=24
H11N1 WAKE ISLAND Hy 38.46 222 T T 21 11 05.0
baz=26,slow=0.7,SNR=307
G20A Bridger 38.48 77 ⇓P **P 20 29 13.4 -1.0**
baz=38,SNR=5.8
A23A Redstone 38.49 70 ⇓P **P 20 29 13.5 -0.8**
baz=38,SNR=9.5
C22A Vida 38.53 72 ⇓P **P 20 29 13.8 -0.8**
baz=38,SNR=8.2
OSI Osito Adit 38.56 98 P **P 20 29 15.2 +0.1**
comp=Z,286nm,1.3s
OSI Osito Adit 38.56 98 ⇓P **P 20 29 16.3 +1.2**
baz=38
DUG Dugway 38.59 86 PFAKE 20 29 30.0 +15
DUG LR LR
comp=Z,26µm,19.0s
DUG Dugway 38.59 86 ⇑P **P 20 29 16.2 +0.8**
baz=38
LRMC Laurel Mountai 38.61 96 ⇑P **P 20 29 15.4 -0.1**
baz=38,SNR=8.4
D22A Cohagen 38.66 73 ⇓P **P 20 29 14.7 -1.0**
baz=38,SNR=15
I19A Meeteetse 38.67 79 ⇑P **P 20 29 15.9 -0.2**
baz=38
B23A Brockton 38.68 70 ⇓P **P 20 29 14.8 -1.0**
baz=38,SNR=24
BLG Laguna Peak 38.70 99 ⇓P **P 20 29 16.7 +0.5**
baz=39,SNR=6.6
F21A Absaloka Mine, 38.80 75 ⇓P **P 20 29 17.3 +0.3**
baz=39
EDW2 Edwards Air Fo 38.83 97 ⇓P **P 20 29 17.8 +0.5**
baz=39,SNR=9.7
LAO LASA Array 38.88 73 *e*P P 20 29 13.5 -4.1
comp=Z,124nm,1.3s
LAO LR LR
comp=Z,48µm,19.0s
C23A Lambert 38.90 71 ⇓P **P 20 29 17.4 -0.4**
baz=39,SNR=50
H20A Greybull 39.01 78 ⇑P **P 20 29 18.7 -0.1**
baz=39
A24A Westby 39.01 69 ⇑P **P 20 29 18.5 -0.2**
baz=39,SNR=12
BW06 Boulder Array 39.05 81 *e*P **P 20 29 19.1 -0.2**
comp=Z,113nm,1.2s
BW06 LR LR
comp=Z,28µm,20.0s
PDAR Pinedale Array 39.05 81 P **P 20 29 19.4 +0.1**
PDAR ScP **S 20 35 18.4 +0.4**
PDAR Pinedale Array 39.05 81 P **P 20 29 19.4 +0.1**
comp=Z,31nm,0.9s,baz=309,slow=5.7,SNR=37
PDAR ScP **S 20 35 18.4 +0.4**
comp=Z,3.9nm,1.1s,baz=318,slow=1.2,SNR=3.8
PDAR LR LR 20 44 45.5
comp=Z,22µm,18.0s,baz=320,slow=35
DECC Green Verdugo 39.05 98 ⇑P **P 20 29 19.8 +0.7**
baz=39
J19A Crowheart 39.07 80 ⇓P **P 20 29 20.0 +0.6**
baz=39,SNR=9.0
G21A Lodge Grass 39.08 76 ⇓P **P 20 29 19.6 +0.2**
baz=39
M17A Scullys Gap (B 39.13 83 ⇑P **P 20 29 20.0 0.0**
baz=39,SNR=15
DGMT Dagmar 39.13 70 *e*P **P 20 29 17.8 -1.8**
comp=Z,1µm,2.1s
DGMT LR LR
comp=Z,96µm,19.0s
DGMT Dagmar 39.13 70 ⇑P **P 20 29 20.0 +0.3**
baz=39,SNR=6.8
E22A Miles City 39.17 74 ⇑P **P 20 29 20.5 +0.5**
baz=39
JLU Jordanelle 39.17 85 *e*P **P 20 29 19.3 -1.0**
comp=Z,259nm,1.7s
NLU North Lily Min 39.18 86 *e*P **P 20 29 21.1 +0.7**
comp=Z,261nm,1.7s
SHOC Shoshone 39.19 94 ⇓P **P 20 29 21.1 +0.9**
baz=39,SNR=9.8
PASC Pasadena Art C 39.19 98 *e*P **P 20 29 21.1 +0.9**
comp=Z,183nm,1.3s
D23A Lindsay 39.22 72 ⇑P **P 20 29 21.0 +0.6**
baz=39,SNR=18
MWC Mount Wilson 39.23 98 *e*P **P 20 29 20.8 0.0**
MWC pmax pmax
comp=Z,328nm,1.3s
MWC Mount Wilson 39.23 98 *e*P **P 20 29 20.8 0.0**
comp=Z,328nm,1.3s
I20A Worland 39.23 78 ⇓P **P 20 29 21.0 +0.3**
baz=39,SNR=7.1
L18A Fontenelle, Gr 39.24 82 ⇓P **P 20 29 21.2 +0.3**
baz=39,SNR=12
GSC Goldstone 39.26 96 *e*P **P 20 29 21.6 +0.6**
GSC pmax pmax
comp=Z,278nm,1.2s
GSC Goldstone 39.26 96 *e*P **P 20 29 21.6 +0.6**
comp=Z,278nm,1.2s
GSC Goldstone 39.26 96 ⇑P **P 20 29 21.6 +0.6**
baz=39,SNR=73
MPU Maple Canyon 39.41 86 P **P 20 29 23.0 +0.7**
comp=Z,158nm,1.6s
FMP Fort Macarthur 39.44 99 ⇑P **P 20 29 22.6 +0.3**
baz=39
BFSC Mount Baldy Ra 39.46 98 ⇑P **P 20 29 23.4 +0.7**
baz=39,SNR=35
C24A Savage 39.48 71 ⇑P **P 20 29 23.2 +0.6**
baz=39,SNR=10.0
H21A Big Horn, Sher 39.50 77 ⇑P **P 20 29 22.4 -0.5**
baz=39
A25A Svangstu Ranch 39.51 69 ⇑P **P 20 29 22.8 -0.1**
baz=39,SNR=27
E23A Ismay 39.51 73 ⇓P **P 20 29 23.4 +0.5**
baz=39,SNR=7.1
CIS Catalina Islan 39.58 99 ⇓P **P 20 29 24.0 +0.4**
baz=40,SNR=5.5
J20A Shoshoni 39.60 79 ⇑P **P 20 29 23.9 +0.1**
baz=39,SNR=7.0
G22A Birney 39.62 75 ⇑P **P 20 29 22.9 -1.0**
baz=39
H11S1 WAKE ISLAND Hy 39.63 221 T T 21 12 22.6
baz=24,slow=0.7,SNR=613
H11S2 WAKE ISLAND Hy 39.64 221 T T 21 12 24.8
baz=24,slow=0.7,SNR=475
H11S3 WAKE ISLAND Hy 39.64 221 T T 21 12 22.5
baz=24,slow=0.7,SNR=684
ARUT Antelope Range 39.70 90 *e*P **P 20 29 25.5 +0.8**
ARUT pmax pmax
comp=Z,4µm,1.6s
ARUT Antelope Range 39.70 90 *e*P **P 20 29 25.5 +0.8**
comp=Z,4µm,1.6s
TUQ Turquoise Moun 39.71 95 ⇑P **P 20 29 25.2 +0.5**
baz=40,SNR=24
D24A Glendive 39.76 72 ⇓P **P 20 29 25.4 +0.5**
baz=40,SNR=40
FCC Fort Churchill 39.79 51 *e*P **P 20 29 24.7 -0.3**
FCC pmax pmax
comp=Z,7.0nm,0.9s
FCC Fort Churchill 39.79 51 *e*P **P 20 29 24.7 -0.3**
comp=Z,6.5nm,0.9s
SCI San Clemente I 39.79 100 ⇓P **P 20 29 25.8 +0.5**
baz=40
I21A Big Trails, Te 39.81 78 ⇓P **P 20 29 25.3 -0.3**
baz=40,SNR=7.7
B25A Knox Farm, Ray 39.83 70 ⇓P **P 20 29 25.9 +0.4**
baz=40,SNR=5.7
HEC Hector,Ludlow 39.87 96 ⇑P **P 20 29 26.6 +0.6**
baz=40,SNR=11
F23A Volborg 39.87 74 ⇑P **P 20 29 25.9 0.0**
baz=40
BBRC Big Bear Solar 39.89 97 ⇓P **P 20 29 27.5 +1.1**
baz=40
CCUT Cedar City 39.90 90 *e*P **P 20 29 27.5 +1.2**
comp=Z,301nm,1.8s
H22A Clearmont 39.93 76 ⇓P **P 20 29 25.6 -0.9**
baz=40
J21A Lysite 39.98 79 ⇑P **P 20 29 26.7 -0.3**
baz=40,SNR=12
MVU Marsvale 39.99 88 *e*P **P 20 29 28.1 +0.8**
comp=Z,28nm,1.0s
M19A Rock Springs 40.02 82 ⇑P **P 20 29 27.6 +0.2**
baz=40
C25A Freed Ranch, W 40.06 70 ⇑P **P 20 29 27.1 -0.3**
baz=40,SNR=5.5
E24A Baker 40.06 73 ⇓P **P 20 29 28.0 +0.6**
baz=40
A26A Wade Farm, Ken 40.15 68 ⇑P **P 20 29 28.4 +0.3**
baz=40
ALE Alert 40.15 11 P **P 20 29 27.9 +0.2**
comp=Z,685nm,0.8s,SNR=31
G23A Biddle 40.17 75 ⇓P **P 20 29 28.3 0.0**
baz=40
USRK Ussuriysk Arra 40.17 283 P **P 20 29 26.6 -1.7**
comp=Z,17nm,0.7s,baz=54,slow=6.6,SNR=30
USRK PcP **PcP 20 31 33.4 +1.2**
comp=Z,16nm,0.8s,baz=37,slow=3.6,SNR=5.2
USRK LR LR 20 44 42.8
comp=Z,43µm,20.9s,baz=54,slow=34
MURC Murrieta 40.18 98 ⇓P **P 20 29 29.0 +0.5**
baz=40,SNR=22
L20A Wamsutter 40.22 81 ⇑P **P 20 29 29.1 +0.1**
baz=40
I22A 9 Mile Ranch, 40.25 77 ⇑P **P 20 29 29.0 -0.2**
baz=40
B26A Jensen Ranch, 40.30 69 ⇑P **P 20 29 29.5 +0.1**
baz=40
GMRC Granite Mounta 40.31 95 ⇑P **P 20 29 30.0 +0.2**
baz=40,SNR=50
D25A Fairfield 40.32 71 ⇑P **P 20 29 29.8 +0.2**
baz=40
F24A Ekalaka 40.37 74 ⇑P **P 20 29 29.7 -0.3**
baz=40
Q16A Castle Valley 40.37 87 ⇓P **P 20 29 31.2 +0.9**
baz=40
LDFC Landfair 40.44 94 *e*P **P 20 29 31.4 +0.6**
comp=Z,284nm,0.8s
K21A Alcova 40.51 79 ⇓P **P 20 29 31.3 -0.1**
baz=40,SNR=8.5
H23A Clabaugh Cattl 40.52 76 ⇑P **P 20 29 32.0 +0.7**
baz=40
J22A Midwest 40.52 78 ⇑P **P 20 29 30.9 -0.5**
baz=40,SNR=17
A27A Ledoux Ranch, 40.57 68 ⇓P **P 20 29 30.6 -1.0**
baz=40,SNR=9.7
M20A Swetwater, Wa 40.62 81 ⇓P **P 20 29 31.8 -0.5**
baz=40,SNR=8.4
PFO Pinyon Flat Ob 40.62 97 *e*P **P 20 29 32.7 +0.4**
comp=Z,151nm,1.2s
PFO LR LR
comp=Z,20µm,19.0s
PFO Pinyon Flat Ob 40.62 97 ⇑P **P 20 29 32.6 +0.4**
baz=40,SNR=12
E25A Miller Ranch, 40.62 72 ⇓P **P 20 29 31.4 -0.7**
baz=40
BELC Belle Mtn. Jos 40.63 96 ⇓P **P 20 29 32.6 +0.2**
baz=40,SNR=43
C26A Wahner Farm, P 40.67 70 ⇑P **P 20 29 32.2 -0.2**
baz=40
G24A Alzada 40.67 74 ⇓P **P 20 29 32.2 -0.3**
baz=40
109C Camp Elliot, M 40.73 99 ⇓P **P 20 29 33.7 +0.7**
baz=41,SNR=8.5
O19A Miners Draw (B 40.77 84 ⇓P **P 20 29 33.7 +0.2**
baz=41
I23A Meade Ranch, G 40.82 77 ⇓P **P 20 29 33.9 +0.1**
baz=41
B27A Peters Farms, 40.84 68 ⇓P **P 20 29 33.5 -0.3**
baz=41,SNR=7.5
VLA Vladivostok 40.85 282*c i*P **P 20 29 33.1 -0.8**
VLA *e* 20 31 07.8
VLA *e*S **S 20 35 43.6 -0.8**
VLA pmax pmax
comp=Z,272nm,1.2s
D26A Manning 40.90 71 ⇑P **P 20 29 34.1 -0.2**
baz=41
F25A Bowman 40.90 73 ⇑P **P 20 29 34.5 +0.1**
baz=41
H24A Dirks Ranch, A 40.91 75 ⇓P **P 20 29 33.9 -0.7**
baz=41
K22A Casper 40.94 79 ⇑P **P 20 29 33.5 -1.4**
baz=41
N20A Spence Gulch, 40.97 82 ⇑P **P 20 29 35.4 +0.2**
baz=41,SNR=8.3
IRM Iron Mountain 41.04 95 ⇑P **P 20 29 35.9 +0.3**
baz=41,SNR=35
MAJO Matsushiro 41.05 269 *e*P **P 20 29 35.6 -0.1**
MAJO pmax pmax
comp=Z,283nm,1.0s
MAJO MLR MLR
comp=Z,52µm,20.0s
MAJO Matsushiro 41.05 269 *e*P **P 20 29 35.6 -0.1**
comp=Z,283nm,1.0s
MAJO LR LR
comp=Z,52µm,20.0s
MAT Matsushiro 41.05 269 P **P 20 29 36.1 +0.4**
MAT S **S 20 35 42.8 -4.8**
J23A Dilts Ranch, B 41.08 77 ⇓P **P 20 29 35.9 -0.2**
baz=41
RWWY Rawlins 41.09 81 *e*P **P 20 29 39.4 +3.1**
comp=Z,212nm,1.2s
BAR Barrett 41.13 98 *e*P **P 20 29 37.2 +0.8**
comp=Z,254nm,1.2s
MONP Monument Peak 41.14 98 ⇑P **P 20 29 36.9 +0.2**
baz=41,SNR=37
A28A Rude Farm, Bot 41.14 67 ⇑P **P 20 29 35.5 -0.8**
baz=41,SNR=31
W13A Hualapai Mount 41.18 93 ⇑P **P 20 29 37.6 +0.6**
baz=41,SNR=45
E26A Carlson Angus 41.18 72 ⇑P **P 20 29 35.9 -0.8**
baz=41,SNR=11
BC3 Big Chuckawall 41.20 96 ⇑P **P 20 29 37.2 +0.2**
baz=41,SNR=16
P19A Cripple Cowboy 41.26 84 ⇑P **P 20 29 37.9 +0.3**
baz=41
U15A North Rim 41.27 91 ⇓P **P 20 29 38.4 +0.6**
baz=41,SNR=8.6
B28A Dugan Ranch, T 41.33 68 ⇑P **P 20 29 37.8 0.0**
baz=41,SNR=9.9
G25A Newell 41.33 74 ⇓P **P 20 29 37.5 -0.4**
baz=41
L22A Ellis Ranch, M 41.35 80 ⇑P **P 20 29 38.5 +0.2**
baz=41,SNR=7.0
MDJ Mudanjiang 41.36 285 P **P 20 29 36.8 -1.3**
MDJ pP **pP 20 29 40.8 -1.7**
MDJ sP **sP 20 29 42.1 -2.1**
MDJ PP **PP 20 31 12.8 -0.6**
MDJ AMB AMB
comp=Z,2µm,9.3s
MDJ LR LR
comp=Z,48µm,19.6s
MDJ LR LR
comp=Z,19µm,16.5s
MDJ LR LR
comp=Z,41µm,21.7s
MDJ Mudanjiang 41.36 285 *e*P **P 20 29 36.2 -1.9**
comp=Z,47nm,0.9s
MDJ LR LR
comp=Z,42µm,19.0s
I24A Kuemmerle Ranc 41.37 76 ⇑P **P 20 29 38.1 -0.3**
baz=41
D27A Center 41.38 70 ⇑P **P 20 29 38.1 -0.2**
baz=41
F26A Lodgepole 41.40 73 ⇑P **P 20 29 38.8 +0.3**
baz=41
O20A White River Ci 41.40 83 *e*P **P 20 29 36.9 -1.8**
O20A White River Ci 41.40 83 ⇑P **P 20 29 37.6 -1.2**
baz=41,SNR=17
K23A Bowen Ranch, D 41.41 78 ⇓P **P 20 29 38.9 +0.1**
baz=41,SNR=11
SWSC Sam W. Stewart 41.48 97 ⇑P **P 20 29 39.7 +0.5**
baz=41,SNR=27
DVTC Desert V Tower 41.49 98 ⇓P **P 20 29 40.1 +0.7**
baz=41,SNR=20
H25A Fruitdale 41.55 75 ⇓P **P 20 29 39.2 -0.5**
baz=41
PDMCI Parker Dam,Lak 41.56 94 ⇓P **P 20 29 40.4 +0.5**
baz=41,SNR=21
M22A Cedar Creek Ra 41.63 80 ⇑P **P 20 29 40.6 -0.1**
baz=41,SNR=10
J24A Dixon Ranch, L 41.66 77 ⇓P **P 20 29 40.8 +0.1**
baz=42
Y12C Blythe 41.70 95 ⇓P **P 20 29 41.8 +0.8**
baz=42,SNR=34
P20A De Beque 41.70 84 ⇓P **P 20 29 41.2 0.0**
baz=42
C28A Hausauer Farms 41.70 69 ⇓P **P 20 29 40.9 0.0**
baz=42
A29A Manning Farm, 41.72 67 ⇑P **P 20 29 39.9 -1.1**
baz=42,SNR=38
E27A Carson 41.73 71 ⇓P **P 20 29 40.6 -0.6**
baz=42,SNR=9.5
L23A Garrett 41.75 79 ⇑P **P 20 29 41.4 -0.2**
baz=42,SNR=8.8
G26A Maurine 41.75 73 ⇑P **P 20 29 40.7 -0.7**
baz=42,SNR=5.2
F27A Lemmon 41.77 72 ⇑P **P 20 29 41.0 -0.6**
baz=42,SNR=5.9
I25A Rochford 41.81 75 ⇓P **P 20 29 41.1 -0.9**
baz=42
O21A Pagoda 41.82 83 ⇓P **P 20 29 42.1 -0.2**
baz=42
D28A Regan 41.88 70 ⇓P **P 20 29 42.4 0.0**
baz=42
B29A Wagenman Farm, 41.89 67 ⇑P **P 20 29 41.8 -0.6**
baz=42
K24A Anderson Ranch 41.92 78 ⇑P **P 20 29 42.5 -0.4**
baz=42
GLA Glamis 41.99 96 *e*P **P 20 29 44.0 +0.5**
GLA pmax pmax
comp=Z,244nm,1.2s
GLA Glamis 41.99 96 *e*P **P 20 29 44.0 +0.5**
comp=Z,244nm,1.2s
GLA Glamis 41.99 96 ⇓P **P 20 29 44.0 +0.5**
baz=42,SNR=45
H26A Fairpoint 42.03 74 ⇑P **P 20 29 43.4 -0.3**
baz=42
MDND Maddock 42.08 68 *e*P **P 20 29 42.5 -1.5**
MDND Maddock 42.08 68 ⇓P **P 20 29 43.5 -0.5**
baz=42,SNR=14
N22A Wattenberg Ran 42.08 81 ⇓P **P 20 29 44.5 +0.1**
baz=42,SNR=8.1
PV04 Paradox Valley 42.08 86 *e*P **P 20 29 42.8 -1.5**
G27A Dupree 42.10 73 ⇑P **P 20 29 43.6 -0.6**
baz=42
Q20A Ridgley Place, 42.10 85 ⇑P **P 20 29 43.9 -0.5**
baz=42
E28A Huff 42.15 70 ⇓P **P 20 29 44.5 -0.1**
baz=42,SNR=10
A30A Hoffart Farm, 42.23 66 ⇓P **P 20 29 44.5 -0.7**
baz=42
L24A Wheatland 42.25 79 ⇑P **P 20 29 45.2 -0.4**
baz=42
P21A Newcastle 42.26 83 ⇓P **P 20 29 46.1 +0.3**
baz=42,SNR=18
I26A New Underwood 42.32 75 ⇓P **P 20 29 45.9 -0.2**
baz=42
N23A Red Feather La 42.33 81 ⇓P **P 20 29 46.7 +0.2**
baz=42,SNR=9.0
PHWY Pilot Hill 42.38 80 P **P 20 29 45.9 -1.0**
comp=Z,44nm,1.3s
O22A Kremmling 42.41 82 ⇓P **P 20 29 47.0 -0.1**
baz=42,SNR=20
WUAZ Wupatki 42.43 91 *e*P **P 20 29 47.6 +0.4**
comp=Z,226nm,1.3s
WUAZ Wupatki 42.43 91 ⇓P **P 20 29 47.9 +0.7**
baz=42,SNR=22
H27A Howes 42.43 74 ⇑P **P 20 29 46.4 -0.5**
baz=42
PV01 Paradox Valley 42.45 86 *e*P **P 20 29 46.9 -0.4**
comp=Z,4µm,0.7s
B30A Myrvik Farm, E 42.47 67 ⇓P **P 20 29 46.9 -0.3**
baz=42,SNR=9.6
F28A McLaughlin 42.49 71 ⇑P **P 20 29 47.8 +0.4**
baz=42,SNR=8.0
Y14A Wickenburg 42.49 94 ⇑P **P 20 29 48.1 +0.6**
baz=42,SNR=28
D29A Pettibone, Tap 42.51 69 ⇓P **P 20 29 46.5 -1.0**
baz=42
R20A Redvale 42.53 86 ⇓P **P 20 29 47.7 -0.3**
baz=42
K25A Mack Ranch, Ha 42.55 77 ⇓P **P 20 29 47.7 -0.3**
baz=42

J26A **Sides Ranch, S** 42.61 76 ⇓P P 20 29 48.0 -0.4
baz=42
Q21A **Lamborn Mesa,** 42.61 84 ⇓P P 20 29 48.5 -0.2
baz=42
P22A **Eagle** 42.63 83 ⇑P P 20 29 48.6 -0.3
baz=42
M24A **Cheyenne** 42.66 79 ⇑P P 20 29 48.9 -0.1
baz=42
E29A **Napoleon** 42.76 70 ⇑P P 20 29 50.2 +0.6
baz=42
L25A **Engebretsen Ra** 42.76 78 ⇓P P 20 29 49.3 -0.4
baz=43
O23A **Lake Granby, G** 42.76 81 ⇓P P 20 29 50.2 +0.2
baz=43,SNR=26
SMCO **Snowmass** 42.76 83 *e*P P 20 29 49.4 -0.8
I27A **Quinn** 42.77 74 ⇑P P 20 29 49.1 -0.7
baz=43
C30A **Mose, Pekin** 42.80 68 ⇑P P 20 29 49.4 -0.4
baz=43,SNR=14
113A **Mohawk Valley,** 42.83 96 ⇓P P 20 29 50.6 +0.4
baz=43,SNR=17
G28A **Parade** 42.86 72 ⇓P P 20 29 50.1 -0.3
baz=43,SNR=7.2
ULM **Lac du Bonnet** 42.88 63 *e*P P 20 29 49.7 -0.7
comp=Z,51nm,0.9s
ULM **Lac du Bonnet** 42.88 63 P P 20 29 50.0 -0.3
comp=Z,43nm,0.9s,baz=302,slow=9.9,SNR=15
ULM LR LR 20 47 39.8
comp=Z,61µm,20.7s,baz=86,slow=36
K26A **Motz Farm, Whi** 42.91 77 ⇑P P 20 29 50.5 -0.4
baz=43
R21A **Cimarron** 42.92 85 ⇓P P 20 29 51.4 +0.1
baz=43
D30A **Buchanan** 42.96 69 ⇑P P 20 29 50.7 -0.5
baz=43,SNR=20
N24A **Carr** 43.01 80 ⇑P P 20 29 52.2 +0.3
baz=43,SNR=7.3
H28A **Mission Ridge** 43.03 73 ⇑P P 20 29 50.6 -1.2
baz=43
F29A **Eureka** 43.06 71 ⇑P P 20 29 51.6 -0.5
baz=43,SNR=8.0
MVCO **Mesa Verde** 43.08 87 PFAKE 20 30 00.0 +7.4
MVCO LR LR
comp=Z,23µm,20.0s
MVCO **Mesa Verde** 43.08 87 ⇑P P 20 29 52.5 0.0
baz=43
X16A **Lo Mia Camp, P** 43.12 92 ⇓P P 20 29 53.7 +0.8
baz=43,SNR=13
M25A **Palm-Egli Farm** 43.14 79 ⇑P P 20 29 53.3 +0.4
baz=43,SNR=6.9
ISCO **Idaho Springs** 43.20 82 *e*P P 20 29 53.4 -0.2
ISCO pmax pmax
comp=Z,19nm,1.3s
ISCO MLR MLR
comp=Z,40µm,20.0s
ISCO **Idaho Springs** 43.20 82 *e*P P 20 29 53.4 -0.2
comp=Z,19nm,1.3s
ISCO LR LR
comp=Z,40µm,20.0s
ISCO **Idaho Springs** 43.20 82 ⇓P P 20 29 53.8 +0.2
baz=43
E30A **Jud** 43.21 70 ⇑P P 20 29 53.6 +0.4
baz=43,SNR=6.8
J27A **Elkhorn Farm,** 43.27 75 ⇓P P 20 29 53.7 -0.2
baz=43
O24A **Longmont** 43.33 81 ⇑P P 20 29 55.0 +0.6
baz=43
P23A **Jefferson** 43.33 82 ⇓P P 20 29 55.6 +1.0
baz=43,SNR=16
L26A **Underwood Farm** 43.36 77 ⇓P P 20 29 54.2 -0.4
baz=43
G29A **Hoven** 43.37 72 ⇑P P 20 29 55.2 +0.7
baz=43,SNR=10
K27A **Fluckinger Fa** 43.46 76 ⇓P P 20 29 54.7 -0.7
baz=43
R22A **Saguache, Gunn** 43.49 84 ⇓P P 20 29 56.6 +0.7
baz=43,SNR=28
N25A **Grover** 43.50 79 ⇓P P 20 29 55.8 +0.1
baz=43
F30A **Leola** 43.52 70 ⇓P P 20 29 55.4 -0.3
baz=43
H29A **Onida** 43.53 73 ⇓P P 20 29 55.7 0.0
baz=43,SNR=11
U20A **Newcomb** 43.61 88 ⇑P P 20 29 57.2 +0.5
baz=44
Q23A **Hartsel** 43.63 83 ⇓P P 20 29 58.2 +1.3
baz=43,SNR=5.3
J28A **Allard Ranch,** 43.63 75 ⇑P P 20 29 56.6 0.0
baz=43,SNR=8.2
M26A **McRoberts Ranc** 43.67 78 ⇑P P 20 29 56.7 -0.4
baz=44
W18A **Petrified Fore** 43.70 90 *e*P P 20 29 57.4 0.0
W18A **Petrified Fore** 43.70 90 ⇓P P 20 29 58.0 +0.5
baz=44,SNR=14
S22A **4UR Ranch, Cre** 43.76 85 ⇑P P 20 29 58.4 +0.3
baz=44,SNR=17
L27A **T5 Ranch, Ells** 43.79 77 ⇓P P 20 29 58.0 0.0
baz=44
P24A **Kohler Place,** 43.80 82 ⇓P P 20 29 58.6 +0.4
baz=44
T21A **Navajo Lake** 43.81 86 ⇓P P 20 29 58.8 +0.4
baz=44,SNR=12
I29A **Vivian Onida** 43.83 73 ⇓P P 20 29 59.3 +1.1
baz=44,SNR=7.4
G30A **Faulkton** 43.86 71 ⇑P P 20 29 59.8 +1.4
baz=44,SNR=18
O25A **Wiggins** 43.91 80 ⇓P P 20 29 59.4 +0.4
baz=44,SNR=7.9
AGMN **Agassiz Nation** 43.94 66 *e*P P 20 29 57.6 -1.4
comp=Z,156nm,1.1s
AGMN LR LR
comp=Z,46µm,20.0s
X18A **Snowflake** 43.96 91 ⇓P P 20 30 00.4 +0.8
baz=44,SNR=9.0
K28A **Ten Mile Ranch** 43.97 76 ⇑P P 20 29 59.7 +0.2
baz=44
214A **Organ Pipe Nat** 43.98 96 ⇓P P 20 30 00.1 +0.5
baz=44,SNR=18
Q24A **Divide** 44.00 82 ⇑P P 20 30 00.0 0.0
baz=44,SNR=16
N26A **Koester Ranch,** 44.01 79 ⇑P P 20 30 00.0 +0.2
baz=44
V20A **Brimhall** 44.02 88 ⇓P P 20 30 00.3 +0.2
baz=44,SNR=17
M27A **Reverse DX Ran** 44.08 78 ⇑P P 20 30 00.3 0.0
baz=44
R23A **Moffat** 44.08 84 ⇑P P 20 30 00.9 +0.3
baz=44,SNR=16
U21A **Nageezi** 44.10 87 ⇓P P 20 30 01.1 +0.4
baz=44,SNR=59
J29A **Okreek** 44.17 74 ⇓P P 20 30 00.6 -0.4
baz=44,SNR=16
T22A **Edith** 44.18 86 ⇓P P 20 30 02.2 +0.8
baz=44,SNR=31
P25A **Willow Gulch B** 44.25 81 ⇑P P 20 30 02.2 +0.4
baz=44,SNR=25
CN2 **Changchun** 44.26 287 *e*P P 20 30 00.6 -1.0
CN2 *e*pP **pP** 20 30 05.1 -1.0
CN2 *e*sP **sP** 20 30 07.8 0.0
CN2 *e*PP **PcP** 20 31 48.4 +2.6
CN2 *e*S **S** 20 36 30.9 -3.8
CN2 SS SS 20 39 40.6 -12
CN2 LR LR
comp=Z,59µm,19.0s
CN2 LR LR
comp=Z,43µm,19.0s
CN2 LR LR
comp=Z,45µm,18.0s
S23A **Nye Farm, Mont** 44.28 84 ⇓P P 20 30 01.6 -0.6
baz=44
L28A **Connealy Angus** 44.31 76 ⇑P P 20 30 02.0 -0.2
baz=44
O26A **Horse Wrangler** 44.31 80 ⇓P P 20 30 02.5 +0.2
baz=44
BRSD **Miller** 44.37 72 *e*P P 20 30 01.8 -0.7
BRSD **Miller** 44.37 72 ⇑P P 20 30 01.7 -0.8
baz=44,SNR=10
HIA **Hailar** 44.39 296 *e*P P 20 30 01.2 -1.4
comp=Z,102nm,1.1s
HIA LR LR
comp=Z,47µm,19.0s
I30A **Oacoma** 44.40 73 ⇑P P 20 30 02.0 -0.8
baz=44
N27A **Anderson Farm,** 44.43 78 ⇓P P 20 30 03.2 0.0
baz=44,SNR=7.2
W20A **Ramah** 44.45 89 ⇑P P 20 30 04.0 +0.4
baz=44,SNR=12
R24A **Sanders Place,** 44.49 83 ⇓P P 20 30 04.1 +0.3
baz=44,SNR=22
V21A **Milan** 44.52 88 ⇑P P 20 30 04.1 0.0
baz=44,SNR=21
SDCO **Great Sand Dun** 44.56 84 *e*P P 20 30 04.7 +0.2
comp=Z,97nm,1.2s
SDCO LR LR
comp=Z,25µm,20.0s
Q25A **Bedland, Calha** 44.58 82 ⇑P P 20 30 04.5 0.0
baz=44,SNR=24
U22A **Llaves** 44.63 86 ⇓P P 20 30 05.2 +0.2
baz=44,SNR=15
T23A **Casias Ranch,** 44.70 85 ⇑P P 20 30 05.9 +0.4
baz=44,SNR=10
J30A **Dallas** 44.71 74 ⇓P P 20 30 04.9 -0.4
baz=44,SNR=10
P26A **Davis Ranch, A** 44.72 80 ⇓P P 20 30 05.8 +0.2
baz=44,SNR=36
M28A **Bar X Bar Ranc** 44.77 77 ⇓P P 20 30 05.4 -0.4
baz=45
S24A **Houchin Ranch,** 44.81 84 ⇓P P 20 30 07.1 +0.7
baz=45,SNR=38
X20A **Quemado** 44.84 90 ⇓P P 20 30 07.2 +0.6
baz=45,SNR=33
O27A **Beecher Island** 44.85 79 ⇓P P 20 30 06.6 +0.1
baz=45
L29A **Maesberg Ranch** 44.89 76 ⇓P P 20 30 06.7 0.0
baz=45
V22A **San Miguel Ran** 44.90 87 ⇓P P 20 30 07.2 +0.1
baz=45,SNR=13
TUC **Tucson** 44.96 94 *e*P P 20 30 07.3 -0.2
TUC pmax pmax
comp=Z,528nm,1.9s
TUC **Tucson** 44.96 94 *e*P P 20 30 07.3 -0.2
comp=Z,528nm,1.9s
W21A **San Fidel** 44.97 88 ⇑P P 20 30 07.9 +0.2
baz=45
KULLO **Kullorsuaq** 45.00 21 *i* P P 20 30 07.7 +0.6
KULLO pmax pmax
comp=Z,52nm,0.9s
KULLO MLR MLR
comp=Z,57µm,18.0s
Q26A **Hugo** 45.01 81 ⇑P P 20 30 08.3 +0.4
baz=45,SNR=14
K30A **Basset** 45.03 74 ⇑P P 20 30 08.1 +0.2
baz=45,SNR=7.6
R25A **Fountain Ranch** 45.05 83 ⇑P P 20 30 08.6 +0.5
baz=45,SNR=20
U23A **El Rito** 45.06 86 ⇓P P 20 30 09.1 +0.7
baz=45,SNR=14
T24B **San Luis** 45.08 85 ⇓P P 20 30 09.6 +1.0
baz=45,SNR=6.7
M29A **Burnside Ranch** 45.14 77 ⇑P P 20 30 08.4 -0.4
baz=45
P27A **Ficken Ranch,** 45.18 80 ⇑P P 20 30 09.4 +0.1
baz=45
S25A **Robets Cordova** 45.27 83 ⇓P P 20 30 10.5 +0.5
baz=45,SNR=34
O28A **Krutsinger Ran** 45.31 79 ⇓P P 20 30 10.1 -0.1
baz=45,SNR=6.5
X21A **Alamocita Cree** 45.34 89 ⇓P P 20 30 11.4 +0.8
baz=45,SNR=46
Y20A **Horse Springs,** 45.34 90 ⇑P P 20 30 11.5 +0.8
baz=45,SNR=8.1
L30A **Spencer Herefo** 45.41 75 ⇑P P 20 30 10.9 0.0
baz=45
V23A **Ortiz Mt. (NFS** 45.45 87 ⇓P P 20 30 12.1 +0.6
baz=45,SNR=14
R26A **Arlington** 45.45 82 ⇓P P 20 30 11.6 +0.2
baz=45,SNR=46
W22A **Albuquerque** 45.48 88 ⇑P P 20 30 12.1 +0.4
baz=45
KSCO **Kaye Shedlock'** 45.50 80 *e*P P 20 30 11.6 -0.1
KSCO **Kaye Shedlock'** 45.50 80 ⇑P P 20 30 12.1 +0.4
baz=45,SNR=23
N29A **Votaw Ranch, W** 45.56 77 ⇑P P 20 30 12.4 +0.3
baz=45
U24A **Moreno Valley** 45.56 85 ⇑P P 20 30 13.5 +1.0
baz=45
M30A **Dale-Ortello V** 45.57 76 ⇓P P 20 30 12.0 -0.1
baz=45
T25A **Trinidad** 45.62 84 ⇑P P 20 30 13.2 +0.4
baz=45,SNR=43
P28A **Saint Francis** 45.67 79 ⇑P P 20 30 13.0 0.0
baz=46,SNR=18
Y21A **Point of Rocks** 45.70 90 ⇓P P 20 30 14.3 +0.8
baz=46,SNR=13
Z20A **Nine Sixteen R** 45.75 91 ⇓P P 20 30 14.4 +0.6
baz=46,SNR=17
LAZ **Ladron** 45.76 89 *e*P P 20 30 14.5 +0.5
comp=Z,198nm,1.8s
X22A **Bernardo** 45.77 88 ⇓P P 20 30 15.1 +1.1
baz=46,SNR=16
L31A **Butterfield Fa** 45.79 75 ⇑P P 20 30 13.6 -0.3
baz=46
ANMO **Albuquerque** 45.81 88 *e*P P 20 30 14.0 -0.3
comp=Z,79nm,1.3s
ANMO *e*PcP **PcP** 20 31 54.8 +3.1
ANMO *e*ScP **ScP** 20 35 42.2 -1.8
ANMO LR LR
comp=Z,25µm,19.0s
R27A **Eads** 45.85 81 ⇑P P 20 30 14.6 +0.1
baz=46,SNR=41
W23A **Werner Place,** 45.86 87 ⇑P P 20 30 15.1 +0.4
baz=46,SNR=16
S26A **Kim** 45.88 83 ⇓P P 20 30 14.3 -0.4
baz=46,SNR=62
O29A **4D Ranch, Culb** 45.89 78 ⇓P P 20 30 14.7 -0.1
baz=46,SNR=7.7
Q28A **Sharon Springs** 45.94 80 ⇓P P 20 30 15.1 -0.1
baz=46
V24A **Rampart Ranch,** 46.02 86 ⇓P P 20 30 16.6 +0.6
baz=46,SNR=23
LENM **Lemitar** 46.02 89 *e*P P 20 30 16.7 +0.7
comp=Z,102nm,1.2s
T26A **Comanche Natio** 46.09 83 ⇑P P 20 30 16.5 0.0
baz=46,SNR=28
U25A **Circle Dot Ran** 46.10 85 ⇓P P 20 30 17.2 +0.6
baz=46,SNR=52
120A **U Bar Ranch, L** 46.11 92 ⇓P P 20 30 17.7 +1.0
baz=46,SNR=24
Y22D **IRIS PASSCAL I** 46.12 89 ⇑P P 20 30 17.7 +1.0
baz=46
LPM **Los Pinos Moun** 46.13 88 *e*P P 20 30 17.5 +0.6
comp=Z,134nm,1.3s
P29A **Atwood** 46.14 79 ⇑P P 20 30 17.0 +0.3
baz=46,SNR=21
ECSD **EROS Data Cent** 46.14 71 *e*P P 20 30 15.0 -1.6
comp=Z,53nm,0.9s
ECSD LR LR
comp=Z,60µm,20.0s
CIT **Chita** 46.16 303 *e*P P 20 30 15.6 -1.1
CIT *e* 20 30 31.1
CIT *e* 20 31 51.8
CIT *e* 20 32 04.9
CIT *e* 20 32 52.0
CIT pmax pmax
comp=Z,300nm,3.3s
Z21A **St. Cloud Mine** 46.18 90 ⇓P P 20 30 18.1 +0.9
baz=46,SNR=18
S27A **Las Animas** 46.18 82 ⇓P P 20 30 17.3 +0.2
baz=46
Y22A **Socorro** 46.18 89 ⇓P P 20 30 18.1 +0.9
baz=46,SNR=44
M31A **Lambtecht Ranc** 46.22 76 ⇑P P 20 30 17.9 +0.6
baz=46
X23A **Hourglass Bar** 46.22 88 ⇓P P 20 30 17.4 -0.2
baz=46,SNR=19
BNM **Barren Site** 46.24 89 ⇓*e*P P 20 30 18.4 +0.6
comp=Z,80nm,1.0s
W24A **Lazy 6 Ranch,** 46.28 87 ⇓P P 20 30 18.4 +0.4
baz=46,SNR=16
O30A **MW Ranch, Wils** 46.30 77 ⇓P P 20 30 17.9 -0.1
baz=46,SNR=8.0
V25A **Rancho No Teng** 46.34 85 ⇑P P 20 30 18.9 +0.4
baz=46,SNR=32
R28A **Tribune** 46.41 81 ⇑P P 20 30 18.9 0.0
baz=46,SNR=28
U26A **Atchley Ranch,** 46.51 84 ⇓P P 20 30 19.9 +0.1
baz=46,SNR=46
319A **Douglas** 46.53 93 ⇓P P 20 30 20.3 +0.4
baz=46,SNR=12
EYMN **Ely** 46.55 64 *e*P P 20 30 18.4 -1.3
comp=Z,101nm,1.1s
EYMN LR LR
comp=Z,42µm,21.0s
SNY **Shenyang** 46.55 286 ⇑P P 20 30 19.6 -0.2
SNY SS SS 20 40 15.8 -18
SNY AMB AMB
comp=Z,170nm,1.5s
SNY LR LR
comp=Z,43µm,17.8s
SNY LR LR
comp=Z,48µm,18.2s
SNY LR LR
comp=Z,47µm,16.5s
N31A **Bailey Ranch,** 46.55 76 ⇓P P 20 30 19.4 -0.5
baz=46
Q29A **Oakley** 46.56 79 ⇓P P 20 30 19.8 -0.3
baz=46
P30A **Selden** 46.59 78 ⇑P P 20 30 20.1 -0.1
baz=46,SNR=20
220A **Playas Peak, P** 46.62 92 ⇓P P 20 30 21.1 +0.4
baz=46,SNR=28
121A **Cookes Peak, D** 46.64 91 ⇑P P 20 30 21.1 +0.2
baz=46,SNR=31
Z22A **Elephant Butte** 46.65 90 ⇑P P 20 30 21.3 +0.4
baz=46,SNR=18
BGNE **Belgrade** 46.67 75 *e*P P 20 30 19.7 -1.0
BGNE **Belgrade** 46.67 75 ⇑P P 20 30 20.3 -0.5
baz=46,SNR=7.7
T27A **Campo** 46.69 83 ⇑P P 20 30 21.1 0.0
baz=46,SNR=24
X24A **Lazy VL Ranch,** 46.69 87 ⇓P P 20 30 21.6 +0.3
baz=46
KSRS **Korea Array** 46.72 278 P P 20 30 21.6 +0.5
comp=Z,70nm,0.9s,baz=55,slow=7.3,SNR=117
KSRS LR LR 20 50 37.2
comp=Z,25µm,19.4s,baz=56,slow=37
Y23A **Lovelace Mesa,** 46.74 88 ⇓P P 20 30 22.4 +0.7
baz=47,SNR=48
KSAR **Wonju Array Be** 46.75 278 P P 20 30 21.6 +0.2
O31A **Woolen Ranch,** 46.75 77 ⇓P P 20 30 21.5 0.0
baz=46,SNR=5.1
R29A **Marienthal** 46.77 80 ⇑P P 20 30 21.6 0.0
baz=47,SNR=21
S28A **Manter** 46.85 81 ⇓P P 20 30 22.4 +0.1
baz=47
W25A **X Bar L Ranch,** 46.85 86 ⇓P P 20 30 22.7 +0.3
baz=47,SNR=44
V26A **Tequesquite Ra** 46.88 85 ⇑P P 20 30 22.7 0.0
baz=47,SNR=69
Q30A **Quinter** 46.96 79 ⇓P P 20 30 23.1 -0.1
baz=47,SNR=17
N32A **Stulken Farm,** 46.98 76 ⇓P P 20 30 23.1 -0.1
baz=47
122A **Conniff Cattle** 47.01 90 ⇓P P 20 30 25.0 +1.4
baz=47
221A **Mesquite Ranch** 47.01 92 ⇑P P 20 30 24.3 +0.7
baz=47
320A **Kipp Ranch, An** 47.02 93 ⇓P P 20 30 24.3 +0.6
baz=47
T28A **Walsh** 47.02 82 ⇓P P 20 30 23.7 0.0
baz=47,SNR=31
U27A **Thompson Grove** 47.05 83 ⇑P P 20 30 23.9 0.0
baz=47,SNR=29
Z23A **Rita Site, Whi** 47.09 89 ⇑P P 20 30 25.0 +0.7
baz=47
P31A **Stockton** 47.12 78 ⇓P P 20 30 24.2 -0.2
baz=47,SNR=6.9
Y24A **Capitan** 47.12 88 ⇑P P 20 30 25.0 +0.3
baz=47,SNR=40
X25A **Clemons Ranch** 47.19 87 ⇓P P 20 30 25.7 +0.6
baz=47,SNR=22
S29A **Ulysses** 47.30 81 ⇑P P 20 30 25.8 0.0
baz=47,SNR=5.6
O32A **Brockman Farm,** 47.31 76 ⇑P P 20 30 25.2 -0.6
baz=47
222A **Williams Famil** 47.35 91 ⇑P P 20 30 26.6 +0.3
baz=47,SNR=9.0
W26A **Owens Ranch, T** 47.36 85 ⇑P P 20 30 27.0 +0.6
baz=47,SNR=20
R30A **Dighton** 47.38 80 ⇓P P 20 30 26.5 +0.1
baz=47
SPMN **St. Paul** 47.43 68 *e*P P 20 30 26.0 -0.6
SPMN **St. Paul** 47.43 68 ⇑P P 20 30 25.6 -1.0
baz=47,SNR=5.8
Q31A **Ellis** 47.44 78 ⇑P P 20 30 26.7 -0.2
baz=47
U28A **Mallet** 47.44 83 ⇑P P 20 30 26.4 -0.6
baz=47
INCN **Inchon** 47.48 279 P P 20 30 28.4 +1.2
SNR=15
INCN **Inchon** 47.48 279 *e*P P 20 30 27.4 +0.2
comp=Z,921nm,1.4s
INCN LR LR
comp=Z,17µm,21.0s
V27A **Dan Oppiter Fa** 47.48 84 ⇓P P 20 30 27.2 -0.1
baz=47,SNR=12
T29A **Hugoton** 47.49 82 ⇑P P 20 30 27.5 +0.1
baz=47,SNR=17
123A **Bell Site, Whi** 47.50 90 ⇓P P 20 30 28.1 +0.6
baz=47
P32A **Huiting Farm,** 47.52 77 ⇑P P 20 30 26.8 -0.7
baz=47
Z24A **Sheeppen Canyo** 47.57 88 ⇓P P 20 30 28.5 +0.3
baz=47,SNR=31
Y25A **Mesa, Roswell** 47.58 87 ⇑P P 20 30 28.4 +0.3
baz=47,SNR=43
S30A **Montezuma** 47.68 80 ⇓P P 20 30 28.6 -0.1
baz=48,SNR=18
X26A **CR and CF Fran** 47.69 86 ⇑P P 20 30 29.1 +0.1
baz=48,SNR=40
W27A **Bowe Ranch, En** 47.80 85 ⇑P P 20 30 29.6 -0.2
baz=48,SNR=17
JNU **Nakatsue** 47.81 272 P P 20 30 29.9 +0.1
JNU **Nakatsue** 47.81 272 P P 20 30 29.9 +0.1
comp=Z,52nm,1.0s,baz=46,slow=6.8,SNR=17
R31A **Burdett** 47.82 79 ⇑P P 20 30 29.8 0.0
baz=48,SNR=12
223A **Chaparral, Ant** 47.83 91 ⇑P P 20 30 30.5 +0.4
baz=48
V28A **Channing** 47.86 84 ⇑P P 20 30 30.0 -0.2
baz=48
124A **Stringfield Ra** 47.95 89 ⇑P P 20 30 31.6 +0.5
baz=48,SNR=35
U29A **Oasis Ranch, S** 47.97 82 ⇓P P 20 30 31.0 -0.1
baz=48,SNR=13
Z25A **Roswell** 48.00 88 ⇑P P 20 30 31.7 +0.3
baz=48,SNR=26
T30A **Plains** 48.02 81 ⇑P P 20 30 31.3 -0.1
baz=48
X27A **F and S Farms,** 48.06 85 ⇓P P 20 30 31.9 +0.1
baz=48
Y26A **Elida** 48.11 87 ⇑P P 20 30 32.4 +0.2
baz=48,SNR=12
W28A **Vega** 48.20 84 ⇑P P 20 30 32.5 -0.3
baz=48
V29A **Stinnett** 48.20 83 ⇑P P 20 30 32.6 -0.2
baz=48
S31A **Mullinville** 48.28 80 ⇑P P 20 30 33.6 +0.2
baz=48,SNR=9.0
U30A **WK&E Inc. Balk** 48.29 82 ⇑P P 20 30 33.2 -0.3
baz=48,SNR=19
224A **Cornudas Mount** 48.34 90 ⇓P P 20 30 34.5 +0.5
baz=48,SNR=53
Z26A **Caprock** 48.46 87 ⇓P P 20 30 35.2 +0.3
baz=48,SNR=59
125A **Gardner Draw,** 48.46 88 ⇓P P 20 30 35.4 +0.5
baz=48,SNR=31
T31A **Randall Ranch,** 48.51 80 ⇑P P 20 30 34.5 -0.6
baz=48,SNR=25
Y27A **Causey** 48.54 86 ⇓P P 20 30 35.3 -0.3
baz=48,SNR=43
S32A **Newby Ranch, P** 48.56 79 ⇑P P 20 30 35.1 -0.4
baz=48
W29A **Amraillo** 48.63 84 ⇑P P 20 30 35.7 -0.4
baz=48
MNTX **Cornudas Mount** 48.69 90 *e*P P 20 30 36.8 +0.3
comp=Z,267nm,1.6s
MNTX LR LR
comp=Z,20µm,21.0s
X28A **Dimmitt** 48.70 85 ⇑P P 20 30 36.4 -0.3
baz=48
MSTX **Muleshoe** 48.72 86 *e*P P 20 30 36.2 -0.7
MSTX **Muleshoe** 48.72 86 ⇓P P 20 30 36.8 -0.1
baz=48,SNR=43
225A **Deer Hill, Car** 48.74 89 ⇓P P 20 30 37.4 +0.3
baz=49,SNR=41
V30A **Spur Ranch, Mi** 48.78 82 ⇑P P 20 30 37.3 0.0
baz=49
KBS **Kingsbay** 48.80 0 *e*P P 20 30 36.5 -0.3
KBS AMS AMS 20 53 46.7
comp=Z,48µm,17.0s
KBS **Kingsbay** 48.80 0 ⇓*i*P P 20 30 36.8 0.0
KBS pmax pmax
comp=Z,196nm,2.5s

KBS MLR MLR
comp=Z,55µm,18.0s
KBS Kingsbay 48.80 0 *eP* **P 20 30 35.0 -1.8**
comp=Z,76nm,1.0s
KBS LR LR
comp=Z,33µm,19.0s
324A Moseley Ranch, 48.80 90 ⇓P **P 20 30 37.6 0.0**
baz=49,SNR=14
126A Clayton Basin, 48.86 88 ⇑P **P 20 30 38.1 +0.1**
baz=49,SNR=33
U31A Nine Bar Ranch 48.88 81 ⇓P **P 20 30 37.8 -0.2**
baz=49
Z27A Tatum 48.90 87 ⇓P **P 20 30 38.0 -0.2**
baz=49,SNR=45
COWI Conover 48.94 65 *eP* **P 20 30 36.3 -2.0**
comp=Z,49nm,1.0s
COWI LR LR
comp=Z,34µm,21.0s
GDL2 Guadalupe Moun 48.96 89 *eP* **P 20 30 38.3 -0.5**
comp=Z,46nm,1.2s
KSU1 Kansas State U 49.04 76 *eP* **P 20 30 39.0 -0.2**
comp=Z,52nm,0.9s
KSU1 LR LR
comp=Z,26µm,19.0s
X29A Tulia 49.05 85 ⇑P **P 20 30 39.2 -0.1**
baz=49
Y28A McKinney Farm, 49.08 85 ⇓P **P 20 30 39.3 -0.4**
baz=49,SNR=29
325A Bean Ranch, Si 49.16 90 ⇓P **P 20 30 40.7 +0.3**
baz=49,SNR=60
226B Tecolote Peak, 49.17 89 ⇓P **P 20 30 40.6 +0.3**
baz=49,SNR=64
CLNB Carlsbad 49.21 88 *eP* **P 20 30 40.5 -0.2**
comp=Z,6.0nm,1.0s
W30A Crocket Farms 49.23 83 ⇓P **P 20 30 40.7 0.0**
baz=49
SCIA State Center 49.24 71 *eP* **P 20 30 39.7 -0.9**
comp=Z,99nm,1.1s
SCIA LR LR
comp=Z,65µm,20.0s
127A Arkansas Junct 49.25 87 ⇓P **P 20 30 40.7 -0.2**
baz=49,SNR=13
Z28A Tucker Farm, M 49.42 86 ⇑P **P 20 30 41.8 -0.5**
baz=49,SNR=34
DAG Danmarks Havn 49.42 9 *i* P **P 20 30 40.4 -1.2**
DAG pmax pmax
comp=Z,180nm,0.8s
DAG MLR MLR
comp=Z,46µm,17.0s
DAG Danmarks Havn 49.42 9 *i* P **P 20 30 40.4 -1.2**
comp=Z,237nm,0.8s
DAG
comp=Z,45µm,16.0s
Y29A Porterfield Fa 49.46 85 ⇓P **P 20 30 42.2 -0.4**
baz=49,SNR=13
X30A Coker Ranch, T 49.55 84 ⇑P **P 20 30 43.2 0.0**
baz=49,SNR=14
DL2 Dalian 49.55 284 P **P 20 30 43.1 +0.1**
DL2 S **S 20 37 49.3 -1.0**
DL2 AMB AMB
comp=Z,190nm,0.9s
DL2 AMB AMB
comp=Z,4µm,9.8s
DL2 LR LR
comp=Z,14µm,17.6s
DL2 LR LR
comp=Z,20µm,18.0s
425A Indio Mountain 49.56 91 ⇑P **P 20 30 44.1 +0.6**
baz=49,SNR=35
W31A Holland Ranch, 49.62 83 ⇑P **P 20 30 43.5 -0.1**
baz=49,SNR=14
227A Bennet, Jal 49.74 88 ⇑P **P 20 30 44.6 -0.1**
baz=50
326A Caldwell Ranch 49.81 89 ⇓P **P 20 30 45.4 +0.2**
baz=50,SNR=14
128A Castleberry Fa 49.82 87 ⇑P **P 20 30 45.2 -0.1**
baz=50,SNR=67
Z29A Hungry Hill Ra 49.85 86 ⇓P **P 20 30 45.3 -0.2**
baz=50,SNR=20
Y30A Stafford Cattl 49.92 84 ⇓P **P 20 30 45.8 -0.2**
baz=50,SNR=20
X31A McDonald Ranch 49.97 83 ⇑P **P 20 30 46.0 -0.4**
baz=50,SNR=14
327A Balmorhea Ranc 50.07 89 ⇓P **P 20 30 47.3 +0.2**
baz=50
228A UT Block 9, Go 50.10 87 ⇓P **P 20 30 46.9 -0.5**
baz=50,SNR=12
Z30A Sanderson Ranc 50.19 85 ⇑P **P 20 30 47.7 -0.3**
baz=50,SNR=45
129A Stewart Farms, 50.19 86 ⇓P **P 20 30 47.5 -0.5**
baz=50,SNR=17
SUMG Summit 50.22 18 *eP* **P 20 30 47.6 -0.6**
SUMG pmax pmax
comp=Z,139nm,0.8s
SUMG Summit 50.22 18 *i* P **P 20 30 48.4 +0.2**
comp=Z,133nm,0.9s
SUMG
comp=Z,48µm,17.0s
SUMG Summit 50.22 18 *eP* **P 20 30 47.6 -0.6**
comp=Z,140nm,0.8s
426A McDonald Obser 50.23 90 ⇑P **P 20 30 48.6 0.0**
baz=50,SNR=32
Y31A Rekieta Farm, 50.25 84 ⇑P **P 20 30 48.0 -0.5**
baz=50
JFWS Jewell Farm 50.30 68 *eP* **P 20 30 47.1 -1.6**
JFWS pmax pmax
comp=Z,75nm,0.7s
JFWS MLR MLR
comp=Z,106µm,19.0s
JFWS Jewell Farm 50.30 68 *eP* **P 20 30 47.1 -1.6**
comp=Z,75nm,0.7s
JFWS LR LR
comp=Z,106µm,19.0s
328A Wristen Ranch, 50.48 88 ⇓P **P 20 30 49.7 -0.6**
baz=50,SNR=43
427A Hayter Ranch, 50.49 89 ⇑P **P 20 30 50.2 -0.2**
baz=50,SNR=38
WMOK Wichita Mounta 50.62 82 *eP* **P 20 30 50.3 -1.0**
WMOK pmax pmax
comp=Z,104nm,1.1s
WMOK Wichita Mounta 50.62 82 *eP* **P 20 30 50.3 -1.0**
comp=Z,104nm,1.1s
526A Mary Lane Ranc 50.62 90 ⇓P **P 20 30 51.7 +0.3**
baz=50,SNR=32
IRK Irkutsk 50.67 307 ⇑*i*P **P 20 30 49.4 -2.0**
IRK *e* 20 32 10.4
IRK *eS* **S 20 38 06.4 +0.8**
IRK *e* 20 40 35.2
IRK pmax pmax
comp=Z,390nm,2.3s
229A Bryant Ranch, 50.68 87 ⇑P **P 20 30 51.5 -0.3**
baz=50
Y32A R-V Farms, Ver 50.72 83 ⇑P **P 20 30 51.4 -0.6**
baz=50,SNR=24
130A Snyder 50.76 86 ⇑P **P 20 30 51.8 -0.5**
baz=51,SNR=16
Z31A Sharp Cattle R 50.76 84 ⇓P **P 20 30 51.8 -0.6**
baz=51,SNR=26
527A Woodward Ranch 50.86 90 ⇑P **P 20 30 53.2 0.0**
baz=51,SNR=33
329A Wagon Wheel Ra 50.91 88 ⇑P **P 20 30 53.2 -0.4**
baz=51,SNR=48
626A Big Bend Ranch 50.96 91 ⇑P **P 20 30 53.9 0.0**
baz=51,SNR=43
XMAS Kiritimati 50.96 167 *eP* **P 20 30 54.0 +0.1**
comp=Z,163nm,1.5s
HOPEN Hopen 50.99 356 *eP* **P 20 30 55.7 +2.3**
HOPEN AMS AMS 20 54 17.5
comp=Z,34µm,17.2s
131A Roby 51.06 85 ⇑P **P 20 30 54.3 -0.3**
baz=51,SNR=36
230A Sterling City 51.16 86 ⇑P **P 20 30 55.1 -0.3**
baz=51,SNR=40
Z32A Haskell 51.17 84 ⇑P **P 20 30 55.1 -0.3**
baz=51,SNR=51
TLY Talaya 51.32 307 *c i*P **P 20 30 55.4 -0.9**
TLY *e* 20 32 53.2
TLY *eS* **S 20 38 15.9 +1.2**
TLY *e* 20 40 45.0
TLY pmax pmax
comp=Z,183nm,1.2s
TLY MLR MLR
comp=Z,37µm,17.0s
TLY Talaya 51.32 307 P **P 20 30 55.1 -1.2**
comp=Z,722nm,1.0s,SNR=31
528A Cox Ranch, San 51.35 89 ⇑P **P 20 30 56.9 0.0**
baz=51,SNR=46
TXAR Lajitas Array 51.40 91 P **P 20 30 57.4 +0.2**
TXAR ScP **ScP 20 36 06.5 -1.1**
TXAR P'P' 21 01 36.6
TXAR Lajitas Array 51.40 91 P **P 20 30 57.4 +0.2**
comp=Z,64nm,0.8s,baz=298,slow=5.3,SNR=278
TXAR ScP **ScP 20 36 06.5 -1.1**
comp=Z,2.2nm,0.8s,baz=316,slow=2.5,SNR=5.8
TXAR LR LR 20 50 46.8
comp=Z,12µm,20.7s,baz=120,slow=34
TXAR PKPPKP **P'P'df 21 01 36.6 -2.3**
comp=Z,0.6nm,0.8s,baz=48,slow=1.3,SNR=3.1
330A Mertzon 51.46 87 ⇓P **P 20 30 56.9 -0.7**
baz=51,SNR=18
627A Terlingua Ranc 51.48 90 ⇓P **P 20 30 58.0 +0.1**
baz=51,SNR=35
ABTX Abilene, Hawle 51.55 85 *eP* **P 20 30 57.6 -0.7**
ABTX Abilene, Hawle 51.55 85 ⇑P **P 20 30 58.4 +0.2**
baz=51,SNR=25
429A Davenport Ranc 51.57 88 ⇓P **P 20 30 58.3 -0.2**
baz=51,SNR=53
231A Bronte 51.61 86 ⇑P **P 20 30 58.1 -0.6**
baz=51,SNR=16
TUL1 Tulsa 51.63 79 *eP* **P 20 30 57.9 -0.8**
TUL1 Tulsa 51.63 79 ⇓P **P 20 30 58.0 -0.8**
baz=51
SFJD Kangerlussuaq 51.63 27 *i* P **P 20 30 59.6 +1.3**
comp=Z,77nm,0.9s
SFJD
comp=Z,26µm,18.0s
SFJD Kangerlussuaq 51.63 27 *eP* **P 20 30 58.3 0.0**
comp=Z,128nm,1.0s
SFJD LR LR
comp=Z,36µm,20.0s
529A Stev Forest Ra 51.72 89 ⇓P **P 20 30 59.7 +0.1**
baz=52,SNR=58
430A Baggett Ranch, 51.85 88 ⇓P **P 20 31 00.3 -0.3**
baz=52,SNR=70
331A San Angelo 51.98 86 ⇓P **P 20 31 00.8 -0.7**
baz=52,SNR=46
BJI Beijing 52.01 289 P **P 20 31 01.8 +0.3**
BJI S **S 20 38 24.8 +0.5**
BJI AMB AMB
comp=Z,120nm,0.9s
BJI AMB AMB
comp=Z,7µm,10.2s
BJI LR LR
comp=Z,35µm,19.4s
BJI LR LR
comp=Z,63µm,17.1s
BJI LR LR
comp=Z,43µm,20.5s
BJT Baijiatuau 52.03 289 *eP* **P 20 31 01.5 -0.1**
comp=Z,131nm,0.8s
BJT LR LR
comp=Z,66µm,19.0s
232A Coleman 52.05 85 ⇓P **P 20 31 01.4 -0.6**
baz=52,SNR=29
530A J-C Ranch, Com 52.24 88 ⇑P **P 20 31 03.3 -0.2**
baz=52,SNR=121
431A Sonora 52.31 87 ⇓P **P 20 31 03.5 -0.5**
baz=52
ZAK Zakamensk 52.32 306 *eP* **P 20 31 02.8 -1.1**
ZAK *e* 20 40 54.3
ZAK pmax pmax
comp=Z,52nm,1.3s
332A Millersview 52.35 86 ⇓P **P 20 31 03.5 -0.7**
baz=52,SNR=58
SONM Songino Array 52.37 302 P **P 20 31 03.9 -0.4**
SONM PcP **PcP 20 32 15.1 0.0**
SONM ScP **ScP 20 36 12.1 +0.5**
SONM Songino Array 52.37 302 P **P 20 31 03.9 -0.4**
comp=Z,74nm,1.1s,baz=50,slow=8.0,SNR=182
SONM PcP **PcP 20 32 15.1 0.0**
comp=Z,24nm,1.0s,baz=82,slow=2.8,SNR=3.8
SONM ScP **ScP 20 36 12.1 +0.5**
comp=Z,6.7nm,1.1s,baz=48,slow=4.5,SNR=4.3
HDIL Hopedale 52.37 70 *eP* **P 20 31 01.5 -2.7**
comp=Z,245nm,1.0s
HDIL LR LR
comp=Z,71µm,19.0s
MOY Mondy 52.61 308 *eP* **P 20 31 04.7 -1.3**
MOY pmax pmax
comp=Z,274nm,3.6s
432A Menard 52.67 86 ⇑P **P 20 31 05.9 -0.7**
baz=52,SNR=34
531A Rocksprings 52.71 88 ⇑P **P 20 31 06.4 -0.6**
baz=53,SNR=54
JCT Junction City 52.95 87 *eP* **P 20 31 07.4 -1.3**
JCT pmax pmax
comp=Z,352nm,1.4s
JCT MLR MLR
comp=Z,11µm,20.0s
JCT Junction City 52.95 87 *eP* **P 20 31 07.4 -1.3**
comp=Z,352nm,1.4s
JCT LR LR
comp=Z,11µm,20.0s
JCT Junction City 52.95 87 ⇓P **P 20 31 07.9 -0.8**
baz=53,SNR=45
SLM Saint Louis 53.09 73 *eP* **P 20 31 11.1 +1.5**
SLM pmax pmax
comp=Z,237nm,1.4s
SLM Saint Louis 53.09 73 *eP* **P 20 31 11.1 +1.5**
comp=Z,237nm,1.4s
532A Rocksprings 53.13 87 ⇑P **P 20 31 09.0 -1.1**
baz=53,SNR=16
BJO Bjornoya 53.17 358 *eP* **P 20 31 12.2 +2.5**
BJO *ePP* **PP 20 33 07.3 -1.9**
BJO *eSS* **SKiKP 20 42 29.4 +3.2**
631A Perdido Creek 53.23 88 ⇓P **P 20 31 09.9 -0.8**
baz=53,SNR=60
WHTX Lake Whitney 53.31 84 *eP* **P 20 31 09.9 -1.4**
WHTX Lake Whitney 53.31 84 ⇓P **P 20 31 11.1 -0.2**
baz=53,SNR=24
KRAR Krasnoyarsk 53.44 316 *c i*P P 20 31 16.3 +4.5
KRAR pmax pmax
comp=Z,84nm,1.3s
KRAR MLR MLR
comp=Z,57µm,17.0s
TARA Tarawa 53.64 205 P **P 20 31 13.5 -0.3**
comp=Z,279nm,1.5s
TARA LR LR
comp=Z,31µm,19.0s
632A Uvalde 53.65 88 ⇑P **P 20 31 13.0 -0.8**
baz=54,SNR=28
SFIN Scholer Farm 53.74 69 *eP* **P 20 31 13.0 -1.3**
SFIN Scholer Farm 53.74 69 ⇓P **P 20 31 13.8 -0.6**
baz=54,SNR=9.2
JOW Kunigami 53.85 268 *eP* **P 20 31 15.1 -0.2**
comp=Z,276nm,1.5s
MIAR Mount Ida 53.89 79 *eP* **P 20 31 14.3 -1.2**
MIAR pmax pmax
comp=Z,89nm,1.2s
MIAR MLR MLR
comp=Z,15µm,19.0s
MIAR Mount Ida 53.89 79 *eP* **P 20 31 14.3 -1.2**
comp=Z,89nm,1.2s
MIAR LR LR
comp=Z,15µm,19.0s
TIA Tai'an 54.01 284 ⇑P **P 20 31 15.9 -0.5**
TIA PP **PP 20 33 22.4 +4.9**
TIA S **S 20 38 56.3 +4.5**
TIA AMB AMB
comp=Z,150nm,1.2s
TIA AMB AMB
comp=Z,7µm,9.1s
TIA LR LR
comp=Z,20µm,18.7s
TIA LR LR
comp=Z,20µm,19.9s
TIA LR LR
comp=Z,25µm,20.7s
732A Laxson Ranch, 54.09 88 ⇑P **P 20 31 16.4 -0.6**
baz=54,SNR=20
HHC Hu-ho-hao-te 54.11 292 *eP* **P 20 31 17.5 +0.3**
HHC PcP **PcP 20 32 22.8 +1.0**
HHC PP **PP 20 33 20.4 +1.9**
HHC ScP **ScP 20 36 19.0 -0.2**
HHC PcS **PcS 20 36 21.4 +0.2**
HHC S **S 20 38 50.8 -2.4**
HHC ScS **ScS 20 41 02.6 -3.4**
HHC SS **SKiKP 20 42 30.8 +2.5**
HHC LR LR
comp=Z,47µm,16.5s
HHC LR LR
comp=Z,50µm,16.2s
HHC LR LR
comp=Z,40µm,16.7s
OLIL Olney 54.27 71 *eP* **P 20 31 17.1 -1.1**
comp=Z,178nm,1.1s
SIUC Southern Illin 54.31 73 *eP* **P 20 31 20.4 +2.0**
comp=Z,45nm,0.8s
GUMO Guam 54.37 243 PFAKE 20 31 30.0 +11
GUMO LR LR
comp=Z,14µm,20.0s
SCHQ Schefferville 54.38 44 *eP* **P 20 31 18.1 -0.7**
comp=Z,319nm,1.4s
SCHQ Schefferville 54.38 44 P **P 20 31 19.0 +0.2**
comp=Z,97nm,1.0s,baz=310,slow=8.6,SNR=26
SCHQ LR LR 20 56 56.2
comp=Z,38µm,20.4s,baz=318,slow=39
SCO Scoresbysund 54.76 14 *i* P **P 20 31 21.1 -0.2**
SCO pmax pmax
comp=Z,70nm,0.9s
SCO MLR MLR
comp=Z,36µm,20.0s
SCO Scoresbysund 54.76 14 *i* P **P 20 31 21.1 -0.2**
comp=Z,70nm,0.9s
SCO
comp=Z,36µm,19.0s
BLO Bloomington 54.88 70 *eP* **P 20 31 23.8 +1.1**
BLO pmax pmax
comp=Z,62nm,0.9s
BLO Bloomington 54.88 70 *eP* **P 20 31 23.8 +1.1**
comp=Z,62nm,0.9s
H06S1 SOCORRO T 54.92 106 T T 21 31 19.0
SNR=7.6
USIN University of 55.04 71 *eP* **P 20 31 22.5 -1.3**
comp=Z,232nm,1.1s
SSE Sheshan 55.12 277 P **P 20 31 24.8 +0.4**
SSE pP **pP 20 31 29.5 +0.5**
SSE S **S 20 39 06.9 +0.2**
SSE sS **sS 20 39 16.4 +2.3**
SSE ScS **ScS 20 41 12.8 -0.3**
SSE AMB AMB
comp=Z,110nm,1.5s
SSE AMB AMB
comp=Z,5µm,9.6s
SSE LR LR
comp=Z,6µm,18.4s
SSE LR LR
comp=Z,15µm,18.4s
SSE LR LR
comp=Z,24µm,19.3s
BTO Baotou 55.15 293 *eP* **P 20 31 24.9 +0.2**
BTO S **S 20 39 05.6 -1.5**
NATX Nacogdoches 55.17 82 *eP* **P 20 31 24.6 -0.2**
comp=Z,322nm,1.5s
NATX LR LR
comp=Z,31µm,20.0s
WCI Wyandotte Cave 55.65 70 *eP* **P 20 31 29.6 +1.3**
WCI pmax pmax
comp=Z,54nm,1.1s
WCI Wyandotte Cave 55.65 70 *eP* **P 20 31 29.6 +1.3**
comp=Z,54nm,1.1s
TIY Taiyuan 55.73 289 *eP* **P 20 31 29.9 +1.0**
TIY S **S 20 39 10.3 -4.7**
TIY AMB AMB
comp=Z,190nm,1.0s
TIY LR LR
comp=Z,36µm,15.9s
TIY LR LR
comp=Z,22µm,16.6s
TIY LR LR
comp=Z,30µm,18.6s
HKT Hockley 55.74 84 *eP* **P 20 31 28.7 -0.1**
HKT pmax pmax
comp=Z,181nm,1.4s
HKT Hockley 55.74 84 *eP* **P 20 31 28.7 -0.1**
comp=Z,181nm,1.4s
JMIC Jan Mayen 55.84 8 *eP* **P 20 31 30.9 +1.8**
JMIC AMS AMS 20 58 44.6
comp=Z,34µm,18.2s
NJ2 Nanjing 55.86 280 *eP* **P 20 31 28.8 -0.9**
NJ2 pP **pP 20 31 32.8 -1.5**
NJ2 sP **sP 20 31 35.1 -0.9**
NJ2 PP **PP 20 33 35.1 +1.0**
NJ2 S **S 20 39 19.0 +2.5**
NJ2 sS **sS 20 39 23.0 -0.9**
NJ2 AMB AMB
comp=Z,50nm,1.0s
NJ2 AMB AMB
comp=Z,5µm,9.6s
NJ2 LR LR
comp=Z,20µm,17.9s
NJ2 LR LR
comp=Z,28µm,19.4s
NJ2 LR LR
comp=Z,24µm,18.1s
ACSO Alum Creek Sta 56.17 66 P **P 20 31 33.0 +1.1**
comp=Z,50nm,1.1s
ACSO LR LR
comp=Z,50µm,19.0s
WVT Waverly 56.20 73 *eP* **P 20 31 30.0 -2.1**
WVT pmax pmax
comp=Z,77nm,1.0s
WVT Waverly 56.20 73 *eP* **P 20 31 30.0 -2.1**
comp=Z,78nm,1.0s
KVTX Kingsville 56.21 88 PFAKE 20 31 40.0 +7.7
KVTX LR LR
comp=Z,20µm,20.0s
HVS Khovu-Aksy 56.38 312 *c i*P **P 20 31 32.4 -0.9**
HVS pmax pmax
comp=Z,425nm,1.2s
HVS MLR MLR
comp=Z,93µm,16.0s
ERPA Erie 56.54 63 *eP* **P 20 31 34.1 -0.4**
comp=Z,120nm,1.0s
ERPA LR LR
comp=Z,37µm,22.0s
ALLY Alegheny Colle 56.77 63 *eP* **P 20 31 35.5 -0.7**
comp=Z,201nm,0.9s
VBMS Vicksburg 57.34 78 *eP* **P 20 31 40.8 +0.6**
comp=Z,65nm,0.3s
VBMS LR LR
comp=Z,16µm,19.0s
NRS Narsarsuaq 57.55 29 *i* P **P 20 31 41.8 +0.5**
NRS pmax pmax
comp=Z,50nm,0.9s
NRS MLR MLR
comp=Z,19µm,17.0s
KEV Kevo 57.59 354 *eP* **P 20 31 39.5 -2.0**
KEV pmax pmax
comp=Z,91nm,0.7s
KEV Kevo 57.59 354 *ep* **P 20 31 39.5 -2.0**
comp=Z,91nm,0.7s
KEV Kevo 57.59 354 *eP* **P 20 31 39.6 -1.8**
comp=Z,87nm,0.7s
KEV LR LR
comp=Z,38µm,19.0s
LONY Lake Ozonia 57.69 58 *eP* **P 20 31 41.4 -1.3**
comp=Z,59nm,1.0s
LONY LR LR
comp=Z,46µm,20.0s
ARCES ARCESS Array B 57.89 355 P **P 20 31 42.4 -1.3**
ARCES PcP **PcP 20 32 35.6 -0.2**
ARCES P'P'ab **P'P'ab 21 02 04.8 +2.7**
ARCES ARCESS Array B 57.89 355 P **P 20 31 42.4 -1.3**
comp=Z,98nm,0.8s,baz=8.8,slow=8.2,SNR=50
ARCES PcP **PcP 20 32 35.6 -0.2**
comp=Z,69nm,0.9s,baz=59,slow=4.3,SNR=4.2
ARCES LR LR 20 59 09.1
comp=Z,49µm,18.9s,baz=3.2,slow=39
ARCES PKP2ab 21 02 04.8
comp=Z,2.2nm,0.8s,baz=221,slow=4.8,SNR=3.6
ARE0 ARCESS Array S 57.89 355 *eP* **P 20 31 42.1 -1.6**
SWET Sewanee 57.94 73 *eP* **P 20 31 43.9 -0.7**
comp=Z,232nm,1.9s
FRNY Flat Rock 58.05 57 *eP* **P 20 31 43.6 -1.5**
comp=Z,72nm,1.0s
TRO Tromso 58.07 357 *eP* **P 20 31 45.0 +0.1**
TRO *eScP* **ScP 20 36 35.1 -0.8**
TRO *eS* **S 20 39 45.0 +0.3**
TRO *eSS* SS 20 43 43.3 +8.4
TRO AMS AMS 20 59 20.5
comp=Z,15µm,19.0s
NVS Novosibirsk 58.18 320 ⇑*i*P **P 20 31 43.4 -2.5**
NVS *e* 20 32 41.1
NVS *eS* **S 20 39 45.2 -1.3**
NVS *e* 20 41 28.6
NVS pmax pmax
comp=Z,151nm,1.7s
NVS pmax pmax
comp=N,107nm,2.2s
NVS pmax pmax

comp=E,76nm,1.3s
NVS smax smax
comp=E,96nm,2.8s
ZAA0 Zalesovo Array 58.20 319 *e*P **P** **20 31 44.6 -1.5**
ZALV Zalesovo Beam 58.20 319 P **P** **20 31 44.4 -1.7**
ZALV Zalesovo Beam 58.20 319 P **P** **20 31 44.4 -1.7**
ZALV P'P' 21 01 25.8
ZALV Zalesovo Beam 58.20 319 P **P** **20 31 44.4 -1.7**
comp=E,28nm,0.7s,baz=38,slow=6.4,SNR=85
ZALV LR LR 20 58 08.6
comp=E,40μm,20.0s,baz=39,slow=38
ZALV PKPPKP P'P'df 21 01 25.8 -7.8
comp=E,0.3nm,0.4s,baz=217,slow=7.1,SNR=3.9
MCWV Mont Chateau 58.31 65 *e*P **P** **20 31 46.0 -1.1**
comp=E,91nm,0.9s
MCWV LR LR
comp=Z,50μm,19.0s
NCB Newcomb 58.32 58 PFAKE 20 32 00.0 +13
NCB LR LR
comp=Z,53μm,19.0s
TZTN Tazewell 58.39 70 *e*P **P** **20 31 45.5 -2.2**
comp=Z,102nm,1.2s
KTK1 Kautokeino 58.53 356 *e*P **P** **20 31 48.4 +0.3**
CPCT Cooper Cave 58.60 72 *e*P **P** **20 31 47.1 -2.0**
BINY Binghamton 58.63 60 *e*P **P** **20 31 48.6 -0.7**
comp=Z,135nm,1.1s
BINY LR LR
comp=Z,46μm,20.0s
SSPA Standing Stone 58.70 63 *e*P **P** **20 31 48.6 -1.1**
comp=Z,97nm,1.0s
LVZ Lovozero 58.79 351 *c i*P **P** **20 31 48.7 -1.3**
LVZ pmax pmax
comp=Z,234nm,0.8s
LVZ Lovozero 58.79 351 P **P** **20 31 49.5 -0.5**
comp=Z,2μm,0.8s,SNR=18
MDV Middlebury 58.84 57 *e*P **P** **20 31 50.2 -0.5**
LRAL Lakeview Retre 58.85 75 *e*P **P** **20 31 48.1 -2.8**
comp=Z,30nm,0.9s
LRAL LR LR
comp=Z,22μm,20.0s
TKL Tuckaleechee C 58.89 71 *e*P **P** **20 31 48.7 -2.4**
ACCN Adirondack Com 59.02 58 *e*P **P** **20 31 51.3 -0.6**
comp=Z,100nm,1.1s
APA Apatity 59.23 351 *i* P **P** **20 31 53.0 0.0**
APA *i* 20 32 42.0
APA *i* 20 34 14.0
APA *i* PPP PPP 20 35 28.0
APA *i* S **S** **20 39 58.0 -1.9**
APA *i* PS **PnS** **20 40 14.0 +2.0**
APA MLR MLR
comp=Z,30μm,15.0s
LBNH Lisbon 59.31 56 *e*P **P** **20 31 53.5 -0.4**
LBNH pmax pmax
comp=Z,38nm,0.9s
LBNH Lisbon 59.31 56 *e*P **P** **20 31 53.5 -0.4**
comp=Z,38nm,0.9s
TATO Taipei 59.35 272 P **P** **20 31 52.6 -1.8**
comp=Z,917nm,1.3s
TATO LR LR
comp=Z,33μm,21.0s
TRY Troy 59.48 59 *e*P **P** **20 31 54.6 -0.5**
comp=Z,173nm,1.2s
HNH Hanover 59.51 57 *e*P **P** **20 31 55.0 -0.2**
comp=Z,132nm,1.3s
PQI Presque Isle 59.52 52 *e*P **P** **20 31 53.0 -2.3**
comp=Z,85nm,1.0s
WHN Wuhan 59.63 282 ⇑P **P** **20 31 56.3 0.0**
WHN S **S** **20 40 02.4 -3.7**
WHN AMB AMB
comp=Z,1μm,2.1s
WHN LR LR
comp=Z,27μm,14.8s
WHN LR LR
comp=Z,48μm,15.3s
WHN LR LR
comp=Z,46μm,19.4s
YHNB Yeheng 59.65 272 PFAKE 20 32 10.0 +13
YHNB LR LR
comp=Z,34μm,22.0s
LOF Lofoten 59.66 360 *e*P **P** **20 31 56.8 +0.9**
LOF *e*PP **PP** **20 34 04.8 -2.2**
LOF *e*S **S** **20 40 06.2 +0.8**
LOF AMS AMS 20 59 16.9
comp=Z,17μm,19.1s
BLA Blacksburg 59.70 67 *e*P **P** **20 31 56.0 -0.8**
BLA pmax pmax
comp=Z,84nm,0.8s
BLA MLR MLR
comp=Z,66μm,19.0s
BLA Blacksburg 59.70 67 *e*P **P** **20 31 56.0 -0.8**
comp=Z,84nm,0.8s
BLA LR LR
comp=Z,66μm,19.0s
STEI Steigen 59.84 359 *e*P **P** **20 31 55.5 -1.7**
NACB Ninganchiao 59.88 271 *e*P **P** **20 31 58.6 +0.5**
comp=Z,126nm,1.3s
PKME Peaks-Kenny Pk 59.91 54 *e*P **P** **20 31 57.4 -0.5**
comp=Z,67nm,0.9s
PKME LR LR
comp=Z,45μm,21.0s
VWCC Virginia Weste 59.93 67 *e*P **P** **20 31 57.6 -0.7**
FFD Franklin Falls 60.00 57 *e*P **P** **20 31 58.7 0.0**
comp=Z,78nm,0.9s
BORG Borgarnes 60.11 16 PFAKE 20 32 10.0 +11
BORG LR LR
comp=Z,32nm,19.0s
SDMD Soldier's Deli 60.14 63 *e*P **P** **20 31 58.9 -0.8**
comp=Z,99nm,1.1s
WVL Waterville 60.22 55 *e*P **P** **20 31 59.4 -0.8**
comp=Z,113nm,1.1s
BRAL Brewton 60.27 77 PFAKE 20 32 10.0 +9.4
BRAL LR LR
comp=Z,24μm,19.0s
XAN Xi'an 60.34 288 P **P** **20 32 00.6 -0.6**
XAN sP **sP** **20 32 06.9 -0.5**
XAN PcP **PcP** **20 32 44.9 -1.3**
XAN PP **PP** **20 34 16.8 +2.9**
XAN S **S** **20 40 15.5 +0.3**
XAN ScS SKKSac 20 41 47.3 -3.9
XAN AMB AMB
comp=Z,1μm,12.8s
XAN LR LR
comp=Z,19μm,16.0s
XAN LR LR
comp=Z,15μm,18.0s
XAN LR LR
comp=Z,16μm,17.3s
BRNJ Basking Ridge 60.46 61 *e*P **P** **20 32 04.2 +2.4**
comp=Z,23μm,1.0s
QUA2 Belchertown 60.49 58 *e*P **P** **20 32 01.0 -1.0**
comp=Z,156nm,1.1s
SSLB Suanglung 60.56 271 *e*P **P** **20 32 02.1 -0.7**
comp=Z,311nm,1.2s
YULB Yu-li 60.64 271 *e*P **P** **20 32 04.3 +1.0**
comp=Z,181nm,1.3s
KMSC Kings Mountain 60.66 70 *e*P **P** **20 32 01.9 -1.4**
KMSC Kings Mountain 60.66 70 ⇓P **P** **20 32 02.3 -1.0**
baz=60
CBN Corbin 60.70 65 *e*P **P** **20 32 04.0 +0.5**
comp=Z,94nm,1.1s
CBN LR LR
comp=Z,36μm,21.0s
CPNY Central Park 60.70 60 *e*P **P** **20 32 06.6 +3.1**
comp=Z,184nm,1.3s
HRV Adam Dziewonsk 60.73 58 *e*P **P** **20 32 03.1 -0.6**
HRV pmax pmax
comp=Z,117nm,1.3s
HRV Adam Dziewonsk 60.73 58 *e*P **P** **20 32 03.1 -0.6**
comp=Z,117nm,1.3s
JSRW J. Sargeant Re 60.78 65 *e*P **P** **20 32 03.6 -0.5**
WES Weston 60.94 57 *e*P **P** **20 32 05.2 +0.1**
WES pmax pmax
comp=Z,218nm,1.0s
WES Weston 60.94 57 *e*P **P** **20 32 05.2 +0.1**
comp=Z,218nm,1.0s
TPUB Ta-pu 61.12 271 *e*P **P** **20 32 06.5 0.0**
comp=Z,222nm,1.5s
BRYW Bryant College 61.17 58 *e*P **P** **20 32 06.5 -0.2**
comp=Z,359nm,1.4s
EMMW East Machias 61.21 53 *e*P **P** **20 32 06.3 -0.5**
comp=Z,93nm,0.9s
GTA Gaotai 61.60 298 ⇑P **P** **20 32 08.9 -0.9**
GTA pP **pP** **20 32 13.3 -1.0**
GTA sP **sP** **20 32 16.0 -0.1**
GTA S **S** **20 40 27.8 -3.5**
GTA sS **sS** **20 40 37.0 -1.8**
GTA SS **SS** **20 44 29.3 -2.6**
GTA AMB AMB
comp=Z,120nm,1.1s
GTA AMB AMB
comp=Z,5μm,6.4s
GTA LR LR
comp=Z,42μm,18.5s
GTA LR LR
comp=Z,53μm,18.5s
GTA LR LR
comp=Z,59μm,21.4s
LZH Lanzhou 61.77 293 ⇑P **P** **20 32 11.4 +0.4**
LZH pP **pP** **20 32 15.0 -0.6**
LZH sP **sP** **20 32 16.8 -0.5**
LZH PP **PP** **20 34 30.0 +3.4**
LZH S **S** **20 40 34.3 +0.6**
LZH sS **sS** **20 40 43.0 +1.8**
LZH SS SS 20 44 27.1 -7.7
LZH AMB AMB
comp=Z,260nm,1.1s
LZH AMB AMB
comp=Z,3μm,8.0s
LZH LR LR
comp=Z,61μm,16.7s
LZH LR LR
comp=Z,48μm,16.5s
LZH LR LR
comp=Z,65μm,18.0s
TMCR Tamitsa 62.00 348 *e*P **P** **20 32 11.0 -0.9**
TMCR *e* 20 34 27.4
TMCR *e*S **S** **20 40 38.1 +2.8**
TMCR pmax pmax
comp=Z,226nm,1.4s
TIGA Tifton 62.01 74 ⇑P **P** **20 32 11.9 -0.5**
baz=62
CNNC Cliffs of the 62.54 67 PFAKE 20 32 30.0 +14
CNNC LR LR
comp=Z,80μm,19.0s
SOKR Solikamsk 62.74 337 *c i*P **P** **20 32 16.0 -0.9**
SOKR 20 34 30.6
SOKR PPP PPP 20 36 15.0
SOKR S **S** **20 40 47.7 +2.9**
SOKR pmax pmax
comp=Z,130nm,1.0s
SOKR MLR MLR
comp=Z,53μm,18.0s
KURK Kurchatov 63.14 319 *c i*P **P** **20 32 18.8 -0.9**
KURK pmax pmax
comp=Z,133nm,1.2s
KURK MLR MLR
comp=Z,35μm,14.0s
KURK Kurchatov 63.14 319 P **P** **20 32 19.2 -0.5**
SNR=57
KURK Kurchatov 63.14 319 *e*P **P** **20 32 18.5 -1.2**
comp=Z,105nm,1.0s
KURK *e*S **S** **20 40 45.2 -4.9**
KURK LR LR
comp=Z,43μm,20.0s
KURK Kurchatov 63.14 319 P **P** **20 32 18.9 -0.8**
comp=Z,1μm,0.7s,SNR=64
NSS Namsos 63.27 0 *e*P **P** **20 32 18.9 -1.4**
NSS AMB AMB 20 32 24.8
comp=Z,129nm,0.7s
NSS *e*S S 20 40 58.5 +7.2
NSS AMS AMS 21 01 29.9
comp=Z,15μm,15.4s
JOF Joensuu 63.98 351 *e*P **P** **20 32 23.1 -2.0**
JOF pmax pmax
comp=Z,95nm,0.8s
JOF Joensuu 63.98 351 *e*p **P** **20 32 23.1 -2.0**
comp=Z,95nm,0.8s
SGCP Mt. Cagua 64.06 266 *e*P **P** **20 32 25.4 -0.8**
SVE Sverdlovsk 64.17 333 ⇓*i*P **P** **20 32 26.2 -0.2**
SVE *e*PPP PPP 20 36 25.8
SVE *e* 20 42 21.6
SVE pmax pmax
comp=Z,231nm,1.0s
SVE pmax pmax
comp=Z,4μm,16.5s
SVE MLR MLR
comp=N,29μm,18.0s
BRVK Borovoye 64.35 326 *c i*P **P** **20 32 27.2 -0.5**
BRVK pmax pmax
comp=Z,163nm,1.2s
BRVK MLR MLR
comp=Z,74μm,16.0s
BRVK Borovoye 64.35 326 P **P** **20 32 27.5 -0.2**
SNR=70
BRVK Borovoye 64.35 326 *e*P **P** **20 32 26.7 -1.0**
comp=Z,147nm,0.9s
BRVK LR LR
comp=Z,68μm,19.0s
BRVK Borovoye 64.35 326 P **P** **20 32 27.0 -0.7**
comp=Z,891nm,1.0s,SNR=71
WMQ Urumqi 64.48 309 P **P** **20 32 28.3 -0.5**
WMQ pP **pP** **20 32 33.0 -0.4**
WMQ sP **sP** **20 32 35.3 +0.2**
WMQ PcP **PcP** **20 33 02.5 -0.5**
WMQ PP **PP** **20 34 51.8 +1.7**
WMQ PcS 20 37 05.1
WMQ S **S** **20 41 04.8 -2.4**
WMQ sS **sS** **20 41 12.5 -2.2**
WMQ ScS **SKSac** **20 42 18.3 -4.2**
WMQ AMB AMB
comp=Z,99nm,1.2s
WMQ AMB AMB
comp=Z,6μm,10.0s
WMQ LR LR
comp=Z,40μm,18.6s
TBLU Trondheim 64.54 1 *e*P **P** **20 32 25.8 -2.9**
TBLU *i* 20 40 13.8
TBLU *e*SS SS 20 45 23.0 +6.6
TBLU AMS AMS 21 01 11.9
comp=Z,17μm,19.2s
MK31 Makanchi Array 64.66 315 *e*P **P** **20 32 28.6 -1.3**
MK31 Makanchi Array 64.66 315 *e*P **P** **20 32 28.6 -1.3**
MKAR Makanchi Array 64.66 315 P **P** **20 32 28.4 -1.5**
MKAR S **S** **20 41 06.2 -3.0**
MKAR Makanchi Array 64.66 315 P **P** **20 32 28.4 -1.5**
MKAR S **S** **20 41 06.2 -3.0**
MKAR P'P' 21 01 17.8
MKAR Makanchi Array 64.66 315 P **P** **20 32 28.4 -1.5**
comp=Z,65nm,0.8s,baz=47,slow=5.5,SNR=192
MKAR S **S** **20 41 06.2 -3.0**
comp=Z,1.9nm,1.0s,baz=20,slow=4.6,SNR=3.1
MKAR PKPPKP **P'P'df** **21 01 17.8 -5.1**
comp=Z,1.8nm,1.0s,baz=76,slow=1.5,SNR=4.7
MKAR LR LR 21 02 00.3
comp=Z,54μm,18.0s,baz=35,slow=37
APYP Conner 64.84 267 *e*P **P** **20 32 30.3 -1.1**
KLMR Klimovskoe 64.97 346 *c i*P **P** **20 32 30.0 -1.6**
KLMR 20 34 51.2
KLMR PPP PPP 20 36 33.1
KLMR *e*S **S** **20 41 16.8 +4.4**
KLMR SS **SS** **20 45 30.0 +7.0**
KLMR pmax pmax
comp=Z,205nm,1.3s
KLMR pmax pmax
comp=Z,625nm,1.9s
ARU Arti 65.08 334 *c i*P **P** **20 32 31.5 -0.9**
ARU 20 33 11.3
ARU 20 35 00.9
ARU S **S** **20 41 15.9 +2.0**
ARU 20 42 22.9
ARU SS **SS** **20 45 26.9 +1.9**
ARU pmax pmax
comp=Z,219nm,1.2s
ARU pmax pmax
comp=Z,6μm,18.5s
ARU smax smax
comp=N,5μm,19.7s
ARU Arti 65.08 334 P **P** **20 32 31.8 -0.6**
comp=N,1μm,0.8s,SNR=96
MOL Molde 65.17 3 *e*P **P** **20 32 33.0 +0.2**
MOL AMB AMB 20 32 40.2
comp=Z,155nm,2.4s
MOL AMS AMS 21 00 41.0
comp=Z,13μm,18.5s
CAUP Cauayan 65.19 266 *e*P P 20 32 38.1 +4.4
KAF Kangasniemi 65.20 353 *e*P **P** **20 32 31.3 -1.8**
KAF pmax pmax
comp=Z,170nm,0.7s
KAF Kangasniemi 65.20 353 *e*p **P** **20 32 31.3 -1.8**
comp=Z,170nm,0.7s
ABRA Dolores 65.33 267 *e*P **P** **20 32 34.8 +0.2**
TAOE Nuku Hiva Isla 65.37 150 *e*S **S** **20 41 15.7 -2.8**
comp=Z,41μm,24.0s
TAOE *e*SS SS 20 45 20.7 -11
comp=Z,9μm,25.5s
TAOE *e*LR LR 20 52 03.5
comp=Z,31μm,27.1s,baz=354
CD2 Chengdu 65.60 289 ⇑*i*P **P** **20 32 36.6 +0.4**
CD2 pP **pP** **20 32 43.0 +2.2**
CD2 sP **sP** **20 32 45.3 +2.8**
CD2 PP **PP** **20 35 04.4 +4.2**
CD2 S **S** **20 41 20.8 -0.3**
CD2 sS **sS** **20 41 28.3 -0.4**
CD2 SS **SS** **20 45 35.1 +0.6**
CD2 AMB AMB
comp=Z,260nm,1.2s
CD2 AMB AMB
comp=Z,9μm,10.7s
CD2 LR LR
comp=Z,26μm,20.8s
CD2 LR LR
comp=Z,47μm,17.8s
GZH Guangzhou 65.71 277 P **P** **20 32 33.8 -3.2**
GZH S **S** **20 41 18.4 -4.2**
GZH ScS SKSac 20 42 23.8 -8.4
GZH AMB AMB
comp=Z,11μm,9.8s
GZH LR LR
comp=Z,25μm,19.2s
GZH LR LR
comp=Z,24μm,17.3s
GZH LR LR
comp=Z,36μm,21.4s
HKC Hong Kong Obse 65.80 275 P **P** **20 32 35.0 -2.5**
FIA1 FINESS Array S 65.88 353 *e*P **P** **20 32 36.1 -1.4**
FINES FINESS Array B 65.88 353 P **P** **20 32 36.5 -1.0**
FINES P'P'ab **P'P'ab** **21 01 31.4 +2.0**
FINES FINESS Array B 65.88 353 P **P** **20 32 36.5 -1.0**
comp=Z,132nm,0.7s,baz=24,slow=7.6,SNR=180
FINES PKP2ab 21 01 31.4
comp=Z,6.7nm,0.9s,baz=100,slow=6.4,SNR=5.2
FINES LR LR 21 04 49.1
comp=Z,25μm,19.7s,baz=13,slow=39
BALP Baler 66.27 265 *e*P **P** **20 32 40.3 -0.3**
AFI Afiamalu 66.29 185 LR LR 21 01 53.4
comp=Z,20μm,18.3s,baz=4.7,slow=36
PVCP Virac 66.37 261 *e*P **P** **20 32 42.1 +0.9**
HYA Hoyanger 66.53 4 *e*P **P** **20 32 41.8 +0.2**
SUE Sulen 66.58 4 *e*P **P** **20 32 42.5 +0.6**
SUE *e*S **S** **20 41 35.1 +3.1**
SUE AMS AMS 21 03 05.5
comp=Z,11μm,18.1s
NB2 NORSAR Subarra 66.77 1 P **P** **20 32 42.5 -0.8**
comp=Z,121nm,1.2s,baz=0.8,slow=6.5
NB2 NORSAR Subarra 66.77 1 P **P** **20 32 42.5 -0.8**
baz=0.8,slow=6.5
NOA NORSAR Array B 66.77 1 P **P** **20 32 42.2 -1.1**
NOA P'P' 21 01 14.3
NOA NORSAR Array B 66.77 1 P **P** **20 32 42.2 -1.1**
comp=Z,46nm,0.8s,baz=0.3,slow=6.3,SNR=83
NOA PKPPKP P'P'df 21 01 14.3 -6.4
comp=Z,1.0nm,0.8s,baz=145,slow=3.8,SNR=2.9
NOA LR LR 21 02 52.9
comp=Z,19μm,19.4s,baz=5.0,slow=37
BOLP Bolinao 66.79 267 *e*P P 20 32 36.5 -7.4
NAO01 NORSAR Array S 66.96 1 *e*P **P** **20 32 43.0 -1.4**
comp=Z,17nm,0.8s
LRW Lerwick 67.12 8 ⇑*e*P **P** **20 32 44.5 -0.9**
LRW AMB AMB 20 32 52.3
comp=Z,133nm,2.2s
LRW AMS AMS 21 01 54.6
comp=Z,19μm,19.3s
GQP Guinayangan 67.16 263 ⇑*e*P **P** **20 32 46.2 0.0**
PUL Pulkovo 67.17 351 *i* P **P** **20 32 45.5 -0.2**
PUL pmax pmax
comp=Z,140nm,1.0s
GYA Guiyang 67.21 284 ⇑*i*P **P** **20 32 46.8 +0.1**
GYA PP **PP** **20 35 18.0 +3.5**
GYA ScP 20 37 17.3
GYA S **S** **20 41 42.8 +1.9**
GYA SKS **SKSac** **20 42 41.6 -2.1**
GYA AMB AMB
comp=Z,130nm,1.0s
GYA AMB AMB
comp=Z,4μm,11.9s
GYA LR LR
comp=Z,18μm,17.8s
GYA LR LR
comp=Z,22μm,19.5s
GYA LR LR
comp=Z,27μm,18.6s
BER Bergen 67.27 4 *e*P **P** **20 32 44.2 -2.2**
TEIG Tepich 67.50 86 PFAKE 20 33 00.0 +12
TEIG LR LR
comp=Z,11μm,19.0s
LQP Lukban 67.55 264 ⇓*e*P **P** **20 32 50.0 +0.9**
HFS Hagfors 67.69 360 LR LR 21 04 10.2
comp=Z,21μm,18.6s,baz=17,slow=38
ODD1 Odda 67.80 3 *e*P **P** **20 32 49.2 -0.5**
ODD1 AMB AMB 20 32 54.9
comp=Z,111nm,1.3s
HNR Honiara 67.84 215 LR LR 20 58 29.3
comp=Z,9μm,18.6s,baz=133,slow=32
KONO Kongsberg 68.14 2 *e*P **P** **20 32 51.1 -0.8**
KONO AMB AMB 20 32 53.6
comp=Z,157nm,1.6s
KONO *e*S **S** **20 41 53.9 +3.0**
KONO *e*S S 20 41 58.2 +7.3
KONO Kongsberg 68.14 2 *e*P **P** **20 32 51.4 -0.5**
KONO pmax pmax
comp=Z,268nm,0.8s
KONO MLR MLR
comp=Z,18μm,20.0s
KONO Kongsberg 68.14 2 *e*P **P** **20 32 51.4 -0.5**
comp=Z,268nm,0.8s
KONO LR LR
comp=Z,18μm,20.0s
KMY Karmoy 68.44 4 *e*P **P** **20 32 53.0 -0.7**
KMY *i* 20 42 06.5
LUBP Lubang 68.63 265 *e*P **P** **20 32 54.4 -1.2**
MSLP Maasin 68.66 259 *e*P **P** **20 32 54.4 -1.3**
SOR Soroa 68.76 80 *e*P **P** **20 32 54.6 -1.6**
VSU Vasula 68.79 352 *c i*P **P** **20 32 55.5 -0.4**
VSU pmax pmax
comp=Z,725nm,1.0s
VSU MLR MLR
comp=Z,78μm,18.0s
SJMP San Jose 69.09 263 *e*P **P** **20 32 58.8 +0.4**
PMOR Pomariorio Ree 69.29 160 *e*P **P** **20 33 00.1 +0.7**
comp=Z,214nm,1.3s
KAC Achnashellach 69.33 10 *e*P **P** **20 32 58.8 -0.5**
KPL Plockton 69.45 11 ⇑*e*P **P** **20 32 59.1 -0.9**
KPL AMB AMB 20 33 04.3
comp=Z,170nm,2.6s
KPL *e* 20 41 53.7
KPL AMS AMS 21 06 22.2
comp=Z,38μm,18.1s
MCD Coleburn Disti 69.46 9 ⇑*e*P **P** **20 32 59.6 -0.5**
MDO Dochfour 69.49 10 ⇑*e*P **P** **20 32 59.8 -0.5**
HOMB Homborsund 69.50 2 *e*P **P** **20 32 59.0 -1.3**
VAH Vaihoa 69.58 160 *e*P **P** **20 33 01.6 +0.4**
comp=Z,132nm,1.0s
GUIM Jordan 69.63 261 *e*P **P** **20 33 01.4 -0.3**
AAA Alma-Ata 69.76 316 *e*P **P** **20 33 01.5 -0.8**
AAA *e*S S 20 42 04.4 -6.3
AAA pmax pmax
comp=Z,6μm,15.5s
AAA smax smax
comp=N,56μm,17.4s
BUSP Coron 70.00 264 *e*P **P** **20 33 04.1 +0.1**
MOS Moscow 70.17 345 *α i*P **P** **20 33 03.5 -1.0**
MOS *e* 20 33 17.2
MOS *e* 20 35 41.7
MOS *e*PPP PPP 20 37 21.7
MOS *e*S **S** **20 42 17.4 +2.5**
MOS pmax pmax
comp=Z,228nm,0.8s
MOS pmax pmax
comp=Z,400nm,1.2s
DRUM Mains of Drumt 70.19 9 *e*P **P** **20 33 03.7 -1.0**
DRUM AMB AMB 20 33 08.8
comp=Z,206nm,1.1s
DRUM AMS AMS 21 03 59.9
comp=Z,17μm,19.9s
BUKP Musuan 70.32 257 *e*P **P** **20 33 06.3 +0.2**
KMI Kunming 70.53 286 P **P** **20 33 07.6 +0.1**

KMI pP **pP** **20 33 15.8 +3.7**
KMI sP sP 20 33 21.6 +7.8
KMI PcP **PcP** **20 33 26.6 -2.1**
KMI PP **PP** **20 35 44.4 +1.1**
KMI S **S** **20 42 20.3 -0.2**
KMI AMB AMB
comp=Z,6µm,11.2s
KMI LR LR
comp=Z,14µm,16.8s
KMI LR LR
comp=Z,21µm,16.4s
KMI LR LR
comp=Z,17µm,19.0s
TKM2 Tokmak 2 **70.62 316** *e*P **P** **20 33 07.3 -0.5**
TKM2 pmax pmax
comp=Z,240nm,1.5s
TKM2 MLR MLR
comp=Z,47µm,19.0s
TKM2 Tokmak 2 **70.62 316** P **P** **20 33 07.8 0.0**
SNR=29
TKM2 Tokmak 2 **70.62 316** *e*P **P** **20 33 07.3 -0.5**
comp=Z,240nm,1.5s
TKM2 LR LR
comp=Z,47µm,19.0s
DAV Davao City (W) **70.66 256** PFAKE 20 33 20.0 +12
DAV LR LR
comp=Z,49µm,21.0s
EAB Aberfoyle **70.72 10**⇑ *e*P **P** **20 33 07.1 -0.8**
USP Ospenovka **70.80 317** *i* P **P** **20 33 08.6 -0.1**
USP Ospenovka **70.80 317** P **P** **20 33 08.6 -0.1**
SNR=74
QIZ Qiongzhong **70.91 276** P **P** **20 33 10.5 +0.9**
QIZ pP **pP** **20 33 13.9 -0.3**
QIZ S **S** **20 42 25.8 +1.2**
QIZ sS **sS** **20 42 31.9 -0.3**
QIZ LR LR
comp=Z,13µm,17.5s
QIZ LR LR
comp=Z,15µm,18.9s
QIZ Qiongzhong **70.91 276** PFAKE 20 33 20.0 +10
QIZ LR LR
comp=Z,16µm,19.0s
CHMS Chumysh **70.91 317** *i* P **P** **20 33 09.3 0.0**
CHMS Chumysh **70.91 317** P **P** **20 33 09.3 0.0**
SNR=41
OBN Obninsk **70.93 346**⇑ *e*P **P** **20 33 08.0 -1.1**
OBN *i* S **S** **20 42 29.0 +5.2**
OBN pmax pmax
comp=Z,312nm,1.2s
OBN Obninsk **70.93 346** P **P** **20 33 08.4 -0.7**
comp=Z,1µm,0.6s,SNR=11
ABKAR Akbulak array **70.99 329** *e*P **P** **20 33 08.7 -0.9**
comp=Z,96nm,0.9s
ABKAR *e*PP **PP** **20 35 42.4 -3.9**
PGBU Glenifferbraes **71.08 10**⇑ *e*P **P** **20 33 09.6 -0.4**
PGBU AMB AMB 20 33 14.5
comp=Z,158nm,2.5s
PGBU *e* 20 41 48.3
PGBU AMS AMS 21 07 11.4
comp=Z,26µm,17.9s
MGV Manicaragua **71.09 78** *e*P **P** **20 33 08.9 -1.7**
EDI Edinburgh **71.10 9** AMS AMS 21 04 43.0
comp=Z,18µm,19.9s
KBK Karagaybulak **71.11 316** *i* P **P** **20 33 10.7 0.0**
KBK Karagaybulak **71.11 316** P **P** **20 33 10.7 0.0**
SNR=56
MSVF Nonsavu **71.14 195** *e*P **P** **20 33 11.7 +0.8**
MSVF pmax pmax
comp=Z,100nm,1.4s
MSVF MLR MLR
comp=Z,15µm,20.0s
MSVF Nonsavu **71.14 195** *e*P **P** **20 33 11.7 +0.8**
comp=Z,100nm,1.4s
MSVF LR LR
comp=Z,15µm,20.0s
ESY Stoneypath **71.16 9**⇑ *e*P **P** **20 33 09.7 -0.9**
EBL Broad Law **71.27 9**⇑ *i*P **P** **20 33 10.8 -0.4**
AAK Ala-Archa **71.32 317** *c i*P **P** **20 33 11.9 -0.1**
AAK pmax pmax
comp=Z,378nm,1.3s
AAK MLR MLR
comp=Z,85µm,16.0s
AAK Ala-Archa **71.32 317** P **P** **20 33 12.4 +0.4**
SNR=43
AAK Ala-Archa **71.32 317** P **P** **20 33 11.2 -0.8**
SNR=65
AAK Ala-Archa **71.32 317** *e*P **P** **20 33 11.5 -0.5**
comp=Z,167nm,0.9s
AAK LR LR
comp=Z,39µm,19.0s
KZA Kyzart **71.46 316** *i* P **P** **20 33 13.6 +0.5**
KZA Kyzart **71.46 316** P **P** **20 33 13.6 +0.5**
SNR=7.5
PPT Papeete **71.46 162** LR LR 20 57 40.8
comp=Z,14µm,20.7s,baz=324,slow=30
PPT2 Papeete2 **71.48 162** *e*P **P** **20 33 12.4 -0.5**
comp=Z,76nm,1.2s
PPT2 Papeete2 **71.48 162** *e*PP PP 20 35 45.3 -6.6
comp=Z,828nm,24.5s
PPT2 *e*S **S** **20 42 29.3 -1.7**
comp=Z,49µm,25.8s
PPT2 *e*SS **SS** **20 47 06.6 +0.1**
comp=Z,6µm,27.8s
PPT2 *e*LQ LQ 20 51 37.3
comp=Z,13µm,23.5s
PPT2 *e*LR LR 20 54 46.5
comp=Z,54µm,30.2s,baz=351
TIAR Tiarei **71.49 162** *e*P **P** **20 33 13.5 +0.6**
comp=Z,223nm,0.8s
PAE Paea **71.55 162** *e*P **P** **20 33 14.8 +1.6**
comp=Z,34nm,1.3s
EKS2 Erkin-Say **71.60 317** *e*P **P** **20 33 13.3 -0.3**
EKS2 pmax pmax
comp=Z,146nm,0.8s
EKS2 MLR MLR
comp=Z,21µm,20.0s
EKS2 Erkin-Say **71.60 317** P **P** **20 33 14.3 +0.7**
SNR=7.6
EKS2 Erkin-Say **71.60 317** *e*P **P** **20 33 13.2 -0.3**
comp=Z,146nm,0.8s
EKS2 *e*PP PP 20 35 37.6 -14
EKS2 LR LR
comp=Z,21µm,20.0s
EKA Eskdalemuir Ar **71.69 10** PKPPKP **P'P'df** **21 01 16.5 +4.5**
comp=Z,2.9nm,1.0s,baz=133,slow=5.9,SNR=4.6
EKA LR LR 21 05 25.7
comp=Z,23µm,19.6s,baz=325,slow=36
ESK Eskdalemuir **71.70 10**⇑ *e*P **P** **20 33 13.3 -0.5**
ESK AMB AMB 20 33 18.4
comp=Z,183nm,2.5s
ESK *e* 20 42 33.7
ESK AMS AMS 21 05 07.1
comp=Z,20µm,19.4s
ESK Eskdalemuir **71.70 10** *e*P **P** **20 33 13.3 -0.5**
ESK pmax pmax
comp=Z,75nm,0.8s
ESK MLR MLR
comp=Z,23µm,19.0s
ESK Eskdalemuir **71.70 10** *e*P **P** **20 33 13.3 -0.5**
comp=Z,75nm,0.8s
ESK LR LR
comp=Z,23µm,19.0s
ESK Eskdalemuir **71.70 10** P **P** **20 33 13.1 -0.7**
comp=Z,556nm,0.9s,SNR=17
ISAL Salakas **71.70 352** *e*P **P** **20 33 13.4 -0.4**
ISAL AMB AMB 20 33 18.3
comp=Z,98nm,1.0s
TVO Taravao **71.73 162** *e*P **P** **20 33 15.4 +1.0**
comp=Z,29nm,1.0s
ECK Cauldkaine Hil **71.84 10**⇑ *i*P **P** **20 33 13.8 -0.9**
IIGN Ignalina **71.91 352** *e*P **P** **20 33 14.1 -1.0**
IIGN AMB AMB 20 33 19.0
comp=Z,118nm,0.9s
BBSR BB Station **71.93 60** PFAKE 20 33 30.0 +14
BBSR LR LR
comp=Z,17µm,20.0s
GAL1 Galloway **71.98 11**⇑ *e*P **P** **20 33 15.0 -0.5**
GAL1 AMB AMB 20 33 19.9
comp=Z,149nm,2.6s
GAL1 *e* 20 42 07.2
GAL1 AMS AMS 21 07 56.5
comp=Z,29µm,17.2s
GCD Castle Douglas **72.07 10**⇑ *e*P **P** **20 33 15.4 -0.7**
AML Almayashu **72.07 317** *i* P **P** **20 33 18.0 +1.2**
AML Almayashu **72.07 317** P **P** **20 33 18.0 +1.2**
SNR=43

COP Copenhagen **72.15 0** *i* P **P** **20 33 15.6 -0.8**
COP pmax pmax
comp=Z,39nm,0.8s
COP MLR MLR
comp=Z,6µm,19.0s
COP Copenhagen **72.15 0** *i* P **P** **20 33 15.6 -0.8**
comp=Z,39nm,0.8s
COP
comp=Z,6µm,19.0s
XAL Allendale **72.25 9** *e*P **P** **20 33 17.0 -0.1**
NACGM Naroch **72.31 352** *e*P P 20 33 14.0 -3.5
KESW Keswick, Cumbr **72.43 10**⇑ *e*P **P** **20 33 17.9 -0.3**
KESW AMB AMB 20 33 22.8
comp=Z,211nm,2.6s
KESW *e* 20 42 23.8
KESW AMS AMS 21 05 48.8
comp=Z,20µm,19.5s
GMM Mts of Mourne **72.45 11**⇑ *i*P **P** **20 33 17.6 -0.7**
KKAR Karatay Array **72.55 320** *e*P **P** **20 33 18.5 -0.7**
KKAR pmax pmax
comp=Z,110nm,0.9s
KKAR Karatay Array **72.55 320** *e*P **P** **20 33 18.5 -0.7**
comp=Z,110nm,0.9s
MICGM Minsk **72.60 351**⇑ *e*P **P** **20 33 17.0 -2.2**
MNK Minsk **72.61 351**⇑ *e*P **P** **20 33 17.0 -2.3**
MNK *e* 20 36 00.0
MNK *e*PPP PPP 20 37 40.0
MNK *e*S **S** **20 42 40.0 -3.2**
MNK *e*PS **PnS** **20 43 20.0 +6.3**
MNK *e*SS **SS** **20 47 16.0 -5.0**
MNK *e*SSS SSS 20 50 30.0
MNK pmax pmax
comp=Z,470nm,1.2s
MNK pmax pmax
comp=N,480nm,1.4s
BSD Bornholm Skovb **72.71 359** *i* P **P** **20 33 21.6 +1.8**
BSD pmax pmax
comp=Z,44nm,0.8s
BSD MLR MLR
comp=Z,15µm,19.0s
BSD Bornholm Skovb **72.71 359** *i* P **P** **20 33 21.6 +1.8**
comp=Z,44nm,0.8s
BSD
comp=Z,15µm,18.0s
TGUH Tegucigalpa,Un **72.83 89** *e*P **P** **20 33 21.7 +0.5**
comp=Z,179nm,1.1s
PMG Port Moresby **72.98 228** P **P** **20 33 22.4 +0.5**
comp=Z,53nm,1.6s,comp=Z,3µm
PMG Port Moresby **72.98 228** *e*P **P** **20 33 21.6 -0.4**
comp=Z,141nm,1.1s
PMG Port Moresby **72.98 228** P **P** **20 33 22.3 +0.3**
comp=Z,21nm,0.8s,baz=20,slow=5.4,SNR=9.8
PMG LR LR 20 58 55.5
comp=Z,15µm,21.7s,baz=42,slow=30
CCCC Cccc **73.11 77** *e*P P 20 33 19.3 -3.4
HPK Haverah Park **73.20 9**⇑ *e*P **P** **20 33 21.8 -1.0**
HPK AMB AMB 20 33 27.6
comp=Z,208nm,1.6s
HPK AMS AMS 21 08 55.5
comp=Z,17µm,18.9s
KSH Kashi **73.25 314** P P 20 33 27.4 +3.9
KSH pP pP 20 33 32.3 +4.2
KSH sP sP 20 33 34.9 +5.1
KSH PcP **PcP** **20 33 44.6 +4.7**
KSH PP PP 20 36 14.3 +8.2
KSH S **SKiKP** **20 42 55.1 +0.8**
KSH sS sS 20 43 04.5 +5.6
KSH AMB AMB
comp=Z,2µm,3.5s
KSH LR LR
comp=Z,18µm,20.3s
RGN Rugen **73.29 360** P P 20 33 19.9 -3.3
WME Myndd Eilian **73.47 11**⇑ *i*P **P** **20 33 23.7 -0.7**
SUW Suwalki **73.47 354** *e*P **P** **20 33 23.5 -0.9**
SUW *e* 20 43 26.1
SUW *e* 20 43 38.1
SUW MLR MLR
comp=Z,29µm,18.6s
SUW Suwalki **73.47 354** *e*P **P** **20 33 23.3 -1.0**
comp=Z,440nm,0.9s
SUW Suwalki **73.47 354** *e*P **P** **20 33 23.5 -0.9**
SUW *e*pP **pP** **20 33 27.9 -1.1**
SUW *e*S **SKiKP** **20 42 59.4 +5.3**
SUW *e*sS sS 20 43 08.6 +7.9
SUW *e*SKSac **SKSac** **20 43 26.0 -3.9**
SUW *e*ScS **ScS** **20 43 38.0 +5.5**
SUW LMZ LR 21 08 07.4
WLF1 Llynfaes **73.57 11**⇑ *e*P **P** **20 33 23.9 -1.0**
WLF1 AMB AMB 20 33 29.3
comp=Z,124nm,2.3s
WLF1 *e* 20 42 19.8
WLF1 AMS AMS 21 08 45.8
comp=Z,25µm,17.4s
LSA Lhasa **73.58 297** P **P** **20 33 26.3 +0.3**
LSA S **SKiKP** **20 42 53.9 -1.6**
LSA LR LR
comp=Z,14µm,19.8s
LSA LR LR
comp=Z,22µm,16.4s
LSA LR LR
comp=Z,39µm,17.8s
LSA Lhasa **73.58 297** *e*P **P** **20 33 26.5 +0.4**
LSA *e*S **S** **20 43 00.5 +4.5**
LSA pmax pmax
comp=Z,198nm,1.1s
LSA MLR MLR
comp=Z,22µm,19.0s
LSA Lhasa **73.58 297** *e*P **P** **20 33 26.5 +0.4**
comp=Z,198nm,1.1s
LSA *e*S **S** **20 43 00.5 +4.5**
LSA LR LR
comp=Z,22µm,19.0s
WPM1 Penmaenmawr **73.65 10**⇑ *i*P **P** **20 33 24.8 -0.7**
RAR Rarotonga **73.71 173** LR LR 21 02 24.8
comp=Z,6µm,18.9s,baz=270,slow=33
YLL Llanberis **73.74 11**⇑ *e*P **P** **20 33 25.4 -0.6**
VOR Voronezh **73.77 343** P **P** **20 33 25.0 -1.1**
VOR pmax pmax
comp=Z,300nm,1.4s
YRE Yr Eifl **73.87 11**⇑ *e*P **P** **20 33 26.1 -0.6**
BSEG Bad Segeberg **73.88 2** *e*P **P** **20 33 26.9 +0.2**
BSEG pmax pmax
comp=Z,50nm,1.0s
BSEG Bad Segeberg **73.88 2** *e*P **P** **20 33 26.9 +0.2**
comp=Z,50nm,1.0s
KBI1 Birley Grange **73.90 9**⇑ *i*P **P** **20 33 26.1 -0.8**
VRHR Novokhopersk **73.93 342** *e*P **P** **20 33 25.1 -2.0**
VRHR *e*S **SKiKP** **20 42 55.8 +1.0**
VRHR pmax pmax
comp=N,40nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,70nm,0.9s
VRHR smax smax
comp=N,180nm,3.5s
VRHR smax smax
comp=E,210nm,3.5s
VRHR smax smax
comp=Z,190nm,3.5s
BATP Bataraza **73.97 263** *e*P **P** **20 33 27.4 -0.5**
STNC Stoke **74.00 9**⇑ *e*P **P** **20 33 27.6 +0.1**
STNC AMB AMB 20 33 32.5
comp=Z,315nm,2.5s
STNC *e* 20 42 34.5
STNC AMS AMS 21 10 53.8
comp=Z,18µm,18.3s
FOEL Foel Wylfa **74.09 10**⇑ *e*P **P** **20 33 27.7 -0.4**
FOEL AMB AMB 20 33 33.0
comp=Z,330nm,1.2s
FOEL *e* 20 42 50.7
FOEL AMS AMS 21 10 30.2
comp=Z,22µm,18.8s
VAL Valentia **74.11 15** *e*P **P** **20 33 26.1 -2.0**
VAL *e*S S 20 43 17.6 +17
VSR Storozhevoye **74.27 343** *e*P **P** **20 33 28.2 -0.9**
VSR *e*S **S** **20 43 00.6 -1.4**
VSR pmax pmax
comp=N,110nm,1.3s
VSR pmax pmax
comp=E,30nm,1.3s
VSR pmax pmax
comp=Z,160nm,1.3s
VSR smax smax
comp=E,190nm,3.2s

VSR smax smax
comp=Z,320nm,3.2s
VSR smax smax
comp=N,100nm,1.1s
VSR MLR MLR
comp=N,21µm,22.0s
VSR MLR MLR
comp=E,14µm,22.0s
VSR MLR MLR
comp=Z,43µm,22.0s
HLGC Holguin **74.36 76** *e*P **P** **20 33 31.2 +1.1**
LMGC Las Mercedes **74.43 77** *e*P P 20 33 34.7 +4.2
VORD Divnogorie **74.48 343** *e*P **P** **20 33 29.2 -1.1**
VORD *e*S **S** **20 43 01.8 -2.7**
VORD pmax pmax
comp=E,20nm,1.1s
VORD pmax pmax
comp=Z,90nm,1.1s
VORD smax smax
comp=E,400nm,4.8s
VORD smax smax
comp=Z,210nm,4.8s
VORD MLR MLR
comp=E,20µm,20.0s
VORD MLR MLR
comp=Z,32µm,20.0s
HLM1 Long Mynd **74.49 10**⇑ *e*P **P** **20 33 29.5 -0.9**
HLM1 AMB AMB 20 33 35.1
comp=Z,208nm,2.5s
GKP Gorka Klasztor **74.50 357** *e*P **P** **20 33 30.2 -0.2**
GKP *e*S **S** **20 43 09.1 +4.5**
GKP MLR MLR
comp=Z,39µm,16.9s
GKP Gorka Klasztor **74.50 357** *e*P **P** **20 33 30.2 -0.2**
GKP *e*pP **pP** **20 33 34.1 -0.9**
GKP *e*S **S** **20 43 09.1 +4.5**
GKP LMZ LR 21 16 16.6
LPW Lampeter **74.76 11**⇑ *e*P **P** **20 33 31.3 -0.6**
LPW AMB AMB 20 33 36.2
comp=Z,692nm,3.0s
LPW AMS AMS 21 09 25.5
comp=Z,203µm,18.9s
MCH1 Michaelchurch **75.00 10**⇑ *e*P **P** **20 33 32.9 -0.4**
MCH1 AMB AMB 20 33 38.0
comp=Z,219nm,2.4s
MCH1 AMS AMS 21 11 06.8
comp=Z,22µm,18.1s
SSW Stow on the Wo **75.14 9**⇑ *i*P **P** **20 33 34.0 -0.2**
MOAC Moa **75.19 75** *e*P P 20 33 39.1 +4.2
NRDL Niedersach Rie **75.32 2** *e*P **P** **20 33 35.0 -0.1**
comp=Z,63nm,1.2s
RUE Ruedersdorf **75.36 359** *e*P **P** **20 33 35.2 -0.1**
comp=Z,157nm,1.2s
OLDB Oldbury-Upon-S **75.37 10** *e*P **P** **20 33 35.2 -0.3**
OLDB AMB AMB 20 33 40.1
comp=Z,196nm,2.5s
IBBN Ibbenburen **75.45 3** *e*P **P** **20 33 36.1 +0.2**
comp=Z,229nm,1.5s
SKP1 Kophill **75.48 9**⇑ *i*P **P** **20 33 35.4 -0.8**
PANO Nakornpanom **75.52 279** P **P** **20 33 37.8 +1.0**
comp=Z,137nm,1.6s
SWN1 Swindon **75.60 9**⇑ *e*P **P** **20 33 36.8 0.0**
SWN1 AMB AMB 20 33 41.8
comp=Z,299nm,2.7s
SWN1 *e* 20 43 05.6
SWN1 AMS AMS 21 11 40.4
comp=Z,18µm,19.2s
BATH Bath **75.61 10**⇑ *e*P **P** **20 33 36.4 -0.5**
BATH AMB AMB 20 33 42.7
comp=Z,188nm,2.7s
GTBY Guantanamo Bay **75.66 76** P **P** **20 33 39.4 +1.8**
comp=Z,164nm,1.3s
GTBY LR LR
comp=Z,23µm,19.0s
NONG Nongkai **75.69 281** P **P** **20 33 38.1 +0.3**
comp=Z,107nm,0.7s,comp=Z,8µm
WTSB Winterswijk **75.75 4** *e*P **P** **20 33 37.4 -0.2**
comp=Z,132nm,1.3s
BEL Belsk **75.79 355** *e*P **P** **20 33 38.0 +0.2**
BEL *e*SS **S** **20 43 24.5 +5.5**
BEL MLR MLR
comp=Z,28µm,17.9s
BEL Belsk **75.79 355** *e*P **P** **20 33 38.0 +0.2**
BEL *e*pP **pP** **20 33 42.1 -0.4**
BEL *e*sS **S** **20 43 24.4 +5.5**
BEL LMZ LR 21 15 29.7
HTL Hartland **75.82 11**⇑ *e*P **P** **20 33 37.6 -0.4**
HTL AMB AMB 20 33 42.8
comp=Z,174nm,2.6s
HTL AMS AMS 21 10 07.8
comp=Z,19µm,17.5s
WOL Wolverton **75.85 9**⇑ *e*P **P** **20 33 37.4 -0.9**
WOL AMB AMB 20 33 44.1
comp=Z,393nm,2.1s
WOL *e* 20 43 00.2
WOL AMS AMS 21 07 33.4
comp=Z,19µm,19.9s
IMP Imphal **75.87 292** *e*4 **P** **20 33 37.0 -1.9**
CLZ Clausthal **75.98 2** *e*P **P** **20 33 39.3 +0.3**
CLZ pmax pmax
comp=Z,46nm,1.0s
CLZ Clausthal **75.98 2** *e*P **P** **20 33 39.3 +0.3**
comp=Z,46nm,1.0s
MASC Masc **75.99 75** *e*P **P** **20 33 37.2 -2.3**
SKNT Sakolnakorn **76.03 280** P **P** **20 33 39.9 +0.1**
comp=Z,186nm,1.6s,comp=Z,5µm
AKASG Malin Array Be **76.21 349** P **P** **20 33 39.0 -1.3**
AKASG S **S** **20 43 21.7 -1.9**
AKASG Malin Array Be **76.21 349** P **P** **20 33 39.0 -1.3**
AKASG S **S** **20 43 21.7 -1.9**
AKASG Malin Array Be **76.21 349** P **P** **20 33 39.0 -1.3**
comp=Z,78nm,0.7s,baz=12,slow=5.7,SNR=172
AKASG S **S** **20 43 21.7 -1.9**
comp=Z,0.3nm,0.4s,baz=11,slow=12,SNR=4.6
AKASG LR LR 21 11 54.1
comp=Z,32µm,18.5s,baz=10.0,slow=40
KIEV Kiev **76.22 349** *e*P **P** **20 33 38.6 -1.7**
KIEV pmax pmax
comp=Z,118nm,0.8s
KIEV MLR MLR
comp=Z,34µm,19.0s
KIEV Kiev **76.22 349** *e*P **P** **20 33 38.6 -1.7**
comp=Z,118nm,0.8s
KIEV LR LR
comp=Z,34µm,19.0s
ELSH Elham, Standar **76.22 8**⇑ *e*P **P** **20 33 39.4 -1.0**
ELSH AMB AMB 20 33 44.9
comp=Z,228nm,2.7s
ELSH AMS AMS 21 10 42.9
comp=Z,13µm,19.8s
BUG Bochum--Univer **76.30 4** *e*P **P** **20 33 40.5 -0.2**
comp=Z,70nm,1.1s
MYLDM Lahad Datu **76.39 261** P P **20 33 44.1 +2.3**
MYLDM Lahad Datu **76.39 261** P P **20 33 44.4 +2.6**
comp=Z,107nm,2.0s,comp=Z,6µm
SHL Shillong **76.41 294** *e*P **P** **20 33 41.3 -0.8**
SHL AMB AMB 20 33 47.6
comp=Z,189nm,3.7s
SHL *ex* x 20 43 28.0
SHL *ex* x 21 10 33.4
DYA Yadsworthy **76.43 11**⇑ *e*P **P** **20 33 41.0 -0.5**
DYA AMB AMB 20 33 46.1
comp=Z,149nm,2.6s
DYA AMS AMS 21 12 52.3
comp=Z,20µm,17.4s
HMNX Herstmonceux **76.44 8**⇑ *e*P **P** **20 33 41.4 -0.1**
HMNX AMB AMB 20 33 46.4
comp=Z,186nm,2.6s
HMNX AMS AMS 21 17 17.6
comp=Z,19µm,17.1s
UBPT Khong Chiam **76.44 277** P P **20 33 42.6 +0.5**
comp=Z,225nm,1.7s
UBPT Khong Chiam **76.44 277** P **P** **20 33 42.6 +0.5**
comp=Z,225nm,1.7s
CLL Collm **76.53 360**⇑ *i*P **P** **20 33 41.5 -0.6**
CLL *e*S **S** **20 43 27.0 -0.2**
CLL pmax pmax
comp=Z,14nm,1.2s
CLL MLR MLR
comp=Z,26µm,18.9s
CLL Collm **76.53 360** *e*P **P** **20 33 41.7 -0.4**
comp=Z,28nm,1.0s
CLL Collm **76.53 360**⇑ *i*P **P** **20 33 41.5 -0.6**
comp=Z,116nm,1.2s
CLL *e*Plp 20 33 46.0
comp=Z,4µm,14.6s

CLL ePmax 20 33 48.0
CLL ePPP PPP 20 38 15.0
CLL eS **S** **20 43 27.0 -0.2**
comp=N,4µm,12.8s
CLL eS **S** **20 43 27.0 -0.2**
comp=E,3µm,17.0s
CLL eSS SS 20 48 32.0 +11
CLL eSSS SSS 20 51 54.0
CLL e 20 53 31.0
CLL Lmax 21 09 00.0
CLL Lm MLR 21 09 00.0
comp=N,20µm,18.8s
CLL Lm MLR 21 09 00.0
comp=E,8µm,20.7s
CLL Lm MLR 21 09 00.0
comp=Z,26µm,18.9s
GRTK Grand Turk **76.77 72** PFAKE 20 34 00.0 +16
GRTK LR LR
comp=Z,35µm,19.0s
UCC Uccle **76.80 6** P **P** **20 33 43.5 -0.1**
SDKM Sandakan **76.81 262** P **P** **20 33 44.8 +0.5**
BEBN Eben Emael **76.87 5** P **P** **20 33 43.9 0.0**
comp=Z,22nm,1.4s
HGN Heimansgroeve **76.91 4** eP **P** **20 33 43.9 -0.3**
comp=Z,162nm,1.3s
HGN eS S 20 43 42.5 +11
HGN eSS SS 20 49 19.4 +53
KSP Ksiaz **76.96 358**⇑ eP **P** **20 33 44.2 -0.3**
KSP eS **S** **20 43 30.4 -1.5**
KSP eSS **SS** **20 48 29.0 +1.9**
KSP MLR MLR
comp=Z,42µm,19.9s
KSP Ksiaz **76.96 358** eP **P** **20 33 44.4 -0.1**
KSP epP **pP** **20 33 48.6 -0.6**
KSP eS **S** **20 43 32.9 +1.0**
KSP LMZ LR 21 17 51.3
BRG Berggiesshubel **76.97 359** *i* P **P** **20 33 44.4 -0.2**
comp=Z,96nm,1.3s
BRG *i* 20 33 48.5
comp=Z,112nm,1.1s
BRG S **S** **20 43 32.0 +0.1**
BRG ePKKP **PKKPbc** **20 52 50.5 0.0**
comp=Z,22nm,1.9s
BRG ePKPPKP P'P'df 21 00 52.3 -10
comp=Z,21nm,1.8s
BRG
comp=N,19µm,18.7s
BRG
comp=E,7µm,20.4s
BRG
comp=Z,23µm,18.7s
BRG Berggiesshubel **76.97 359** *i* P **P** **20 33 44.4 -0.2**
BRG S **S** **20 43 32.0 +0.1**
BRG pmax pmax
comp=Z,96nm,1.3s
BRG pmax pmax
comp=Z,112nm,1.2s
BRG pmax pmax
comp=Z,22nm,1.9s
BRG pmax pmax
comp=Z,21nm,1.8s
BRG MLR MLR
comp=N,19µm,18.7s
BRG MLR MLR
comp=E,7µm,20.4s
BRG MLR MLR
comp=Z,23µm,18.7s
BRG Berggiesshubel **76.97 359** eP **P** **20 33 44.5 0.0**
comp=Z,45nm,1.1s
UBBA Unterbreizbach **77.00 2** eP **P** **20 33 44.7 +0.1**
comp=Z,55nm,1.5s
MEM Membach **77.07 4** P **P** **20 33 44.9 -0.3**
comp=Z,62nm,1.4s
SNF Seneffe **77.08 6** P **P** **20 33 45.6 +0.5**
KKM Kota Kinabalu **77.09 263** PFAKE 20 34 00.0 +14
KKM LR LR
comp=Z,13µm,20.0s
TBI Tubuai **77.12 163** ePP PP 20 36 26.4 -13
comp=Z,1µm,26.0s
TBI eS **S** **20 43 33.5 -0.4**
comp=Z,24µm,31.5s
TBI eSS **SS** **20 48 31.8 -0.4**
comp=Z,5µm,26.2s
TBI eLQ LQ 20 53 43.0
comp=Z,10µm,26.2s
TBI eLR LR 20 57 13.1
comp=Z,31µm,33.2s,baz=343
JTS JuntasAbangare **77.17 90** PFAKE 20 34 00.0 +14
JTS LR LR
comp=Z,13µm,20.0s
MOX Moxa **77.19 1** eP **P** **20 33 46.0 +0.1**
MOX pmax pmax
comp=Z,51nm,1.1s
MOX MLR MLR
comp=Z,16µm,18.1s
MOX Moxa **77.19 1** eP **P** **20 33 46.0 +0.1**
comp=Z,51nm,1.1s
MOX eL L 21 18 52.1
comp=Z,16µm,18.1s
BCLA Clavier **77.22 5** P **P** **20 33 45.6 -0.4**
comp=Z,42nm,1.5s
LOEI Loei **77.25 282** P **P** **20 33 44.9 -1.7**
comp=Z,293nm,2.6s,comp=Z,6µm
TAPN Taplejung **77.29 298** eP **P** **20 33 46.9 -0.2**
comp=Z,311nm,1.1s
UPC Upice **77.30 358** eP **P** **20 33 45.6 -0.9**
UPC e 20 33 51.0
UPC Upice **77.30 358**⇑ eP **P** **20 33 45.6 -0.9**
UPC epP **pP** **20 33 51.0 -0.1**
PVCC Panska Ves **77.30 359** eP **P** **20 33 46.3 -0.2**
PVCC e 20 34 04.0
PVCC eS **S** **20 43 38.7 +3.1**
PVCC eSS **SS** **20 48 37.4 +5.1**
PVCC MLR MLR
comp=Z,22µm,16.9s
PVCC Panska Ves **77.30 359**⇑ eP **P** **20 33 46.3 -0.2**
PVCC epP **pP** **20 33 49.8 -1.3**
PVCC ex x 20 34 04.0
PVCC eS **S** **20 43 38.7 +3.1**
PVCC eSS **SS** **20 48 37.4 +5.1**
PVCC ePKKP PKKPbc 20 52 43.2 -6.6
PVCC AMS AMS 21 18 40.0
comp=Z,22µm,16.9s
TANN Tannenbergstha **77.43 0** eP **P** **20 33 47.4 +0.2**
comp=Z,27nm,1.2s
DPC Dobruska-Polom **77.45 358**⇑ *i*P **P** **20 33 47.6 +0.2**
DPC e 20 33 52.1
DPC eS **S** **20 43 36.5 -0.8**
DPC eSS **SS** **20 48 32.5 -2.1**
DPC Dobruska-Polom **77.45 358**⇑ *i*P **P** **20 33 47.6 +0.2**
DPC epP **pP** **20 33 52.1 +0.1**
DPC eS **S** **20 43 36.5 -0.8**
DPC eSS **SS** **20 48 32.5 -2.1**
DPC ePKKP **PKKPdf** **20 52 32.1 -2.9**
DPC AMS AMS 21 18 30.0
OJC Ojcow **77.45 355**⇑ *i*P **P** **20 33 47.3 0.0**
OJC e*PP **pP** **20 33 52.1 +0.1**
OJC eS **S** **20 43 42.8 +5.5**
OJC MLR MLR
comp=Z,29µm,19.7s
OJC Ojcow **77.45 355** *i* P **P** **20 33 47.3 0.0**
OJC epP **pP** **20 33 52.1 +0.1**
OJC eS **S** **20 43 42.8 +5.5**
OJC L L 21 09 25.0
comp=Z,29µm,19.7s
TSM Tawau **77.47 261** P **P** **20 33 49.9 +2.0**
DOU Dourbes **77.51 5** P **P** **20 33 47.5 -0.1**
comp=Z,38nm,1.5s
GIVF Givet **77.52 5**⇑ *i*P **P** **20 33 47.5 -0.2**
comp=Z,319nm,1.2s
GIVF Givet **77.52 5**⇑ *i*P **P** **20 33 47.5 -0.2**
GIVF pmax pmax
comp=Z,319nm,1.2s
GIVF Givet **77.52 5**⇑ *i*P **P** **20 33 47.5 -0.2**
comp=Z,319nm,1.2s
BAIF Baives **77.52 6**⇑ *i*P **P** **20 33 47.7 0.0**
comp=Z,209nm,1.1s
BAIF Baives **77.52 6**⇑ *i*P **P** **20 33 47.7 0.0**
BAIF pmax pmax
comp=Z,209nm,1.1s
BAIF Baives **77.52 6**⇑ *i*P **P** **20 33 47.7 0.0**
comp=Z,209nm,1.1s
TNS Taunus Mts **77.55 3** eP **P** **20 33 48.0 +0.1**
TNS pmax pmax
comp=Z,40nm,1.1s
TNS Taunus Mts **77.55 3** eP **P** **20 33 48.0 +0.1**
comp=Z,40nm,1.1s
LVV L'vov **77.58 353**⇓ *i*P **P** **20 33 47.5 -0.5**
LVV eS **S** **20 43 37.0 -1.7**
LVV MLR MLR
comp=Z,28µm,19.0s
CHTO Chiang Mai **77.61 285** eP **P** **20 33 48.0 -0.7**
CHTO eS **S** **20 43 39.8 -0.1**
CHTO pmax pmax
comp=Z,621nm,1.5s
CHTO MLR MLR
comp=Z,15µm,19.0s
CHTO Chiang Mai **77.61 285** P **P** **20 33 48.8 +0.1**
SNR=25
CHTO Chiang Mai **77.61 285** P **P** **20 33 49.2 +0.5**
CHTO Chiang Mai **77.61 285** eP **P** **20 33 48.0 -0.7**
comp=Z,621nm,1.5s
CHTO eS **S** **20 43 39.8 -0.1**
CHTO LR LR
comp=Z,15µm,19.0s
CHTO Chiang Mai **77.61 285** P **P** **20 33 48.4 -0.3**
comp=Z,226nm,1.0s,comp=Z,22µm
RAC Raciborz **77.66 356** eP **P** **20 33 49.1 +0.7**
RAC eS S 20 43 33.4 -6.1
PRA Prague **77.76 359**⇑ P **P** **20 33 49.0 0.0**
PRA S **S** **20 43 44.0 +3.4**
PRA AMS AMS 21 11 00.0
DZM Mont Dzumac **77.77 205** eP **P** **20 33 51.6 +2.2**
comp=Z,252nm,1.8s
DZM eS **S** **20 43 38.6 -2.7**
comp=Z,17µm,28.4s
DZM Mont Dzumac **77.77 205** eLQ LQ 20 54 00.0
comp=Z,66µm,29.0s
DZM eLR LR 20 57 45.6
comp=Z,21µm,21.9s
DZM Mont Dzumac **77.77 205** eP **P** **20 33 50.2 +0.9**
comp=Z,570nm,2.0s
DZM Mont Dzumac **77.77 205** P **P** **20 33 51.5 +2.2**
comp=Z,14nm,1.1s,baz=60,slow=14,SNR=6.4
DZM LR LR 21 02 02.4
comp=Z,19µm,18.9s,baz=2.8,slow=31
GUN Gumba **77.82 300** eP **P** **20 33 50.0 -0.2**
comp=Z,1µm,1.6s
PRU Pruhonice **77.84 359**⇑ *i*P **P** **20 33 49.2 -0.3**
PRU e 20 33 54.1
PRU e 20 34 06.7
PRU eS **S** **20 43 42.5 +1.0**
PRU eSS **SS** **20 48 39.6 -0.9**
PRU MLR MLR
comp=Z,18µm,17.9s
PRU Pruhonice **77.84 359**⇑ *i*P **P** **20 33 49.2 -0.3**
PRU epP **pP** **20 33 54.1 0.0**
PRU ex x 20 34 06.7
PRU eS **S** **20 43 42.5 +1.0**
PRU eSS **SS** **20 48 39.6 -0.9**
PRU ePKKP PKKPdf 20 52 41.0 +6.7
PRU AMS AMS 21 10 10.0
comp=Z,18µm,17.9s
ODAN Odare **77.85 298** eP **P** **20 33 49.8 -0.4**
comp=Z,498nm,1.7s
JIRN Jiri **77.86 300** eP **P** **20 33 50.3 -0.1**
JSA Saint Aubin **77.86 10**⇑ eP **P** **20 33 49.0 -0.6**
JSA AMB AMB 20 33 55.3
comp=Z,153nm,4.1s
JSA AMS AMS 21 12 02.4
comp=Z,19µm,17.5s
KWP Kalwaria Pacla **77.87 353** eP **P** **20 33 50.0 +0.3**
KWP e*PP **pP** **20 33 54.0 -0.4**
KWP eS **S** **20 43 43.5 +1.7**
KWP e 20 43 58.3
KWP MLR MLR
comp=Z,41µm,16.8s
KWP Kalwaria Pacla **77.87 353**⇑ *i*P **P** **20 33 50.0 +0.3**
KWP Kalwaria Pacla **77.87 353** PFAKE 20 34 00.0 +10
KWP LR LR
comp=Z,22µm,21.0s
KWP Kalwaria Pacla **77.87 353** eP **P** **20 33 49.9 +0.3**
KWP epP **pP** **20 33 53.9 -0.4**
KWP eS **S** **20 43 43.5 +1.7**
KWP eSKSac **SKSac** **20 43 58.3 -4.5**
KWP LMZ LR 21 16 58.0
CM31 Chiang Mai Arr **77.89 284** eP **P** **20 33 49.9 -0.4**
comp=Z,39nm,0.8s
CMAR Chiang Mai Arr **77.89 284** P **P** **20 33 50.0 -0.2**
CMAR S **S** **20 43 45.5 +2.6**
CMAR Chiang Mai Arr **77.89 284** P **P** **20 33 50.0 -0.2**
comp=Z,21nm,0.8s,baz=23,slow=5.5,SNR=100
CMAR S **S** **20 43 45.5 +2.6**
comp=Z,0.7nm,0.8s,baz=24,slow=9.7,SNR=6.6
CMAR LR LR 21 11 11.8
comp=Z,20µm,19.0s,baz=43,slow=38
OKC Ostrava-Krasne **77.91 356**⇑ *i*P **P** **20 33 50.0 +0.2**
OKC e 20 33 54.5
OKC eS **S** **20 43 43.6 +1.4**
OKC MLR MLR
comp=Z,20µm,17.8s
OKC Ostrava-Krasne **77.91 356**⇑ *i*P **P** **20 33 50.0 +0.2**
OKC epP **pP** **20 33 54.5 0.0**
OKC eS **S** **20 43 43.6 +1.4**
OKC AMS AMS 21 12 50.0
comp=Z,20µm,17.8s
WLF Walferdange **78.02 4** P **P** **20 33 51.0 +0.5**
comp=Z,124nm,2.3s
WLF Walferdange **78.02 4** eP **P** **20 33 50.5 0.0**
WLF pmax pmax
comp=Z,103nm,1.2s
WLF MLR MLR
comp=Z,19µm,20.0s
WLF Walferdange **78.02 4** eP **P** **20 33 51.0 +0.5**
comp=Z,29nm,1.0s
WLF Walferdange **78.02 4** eP **P** **20 33 50.5 0.0**
comp=Z,103nm,1.2s
WLF LR LR
comp=Z,19µm,20.0s
CHAI Chaiyaphum **78.06 280** P **P** **20 33 51.3 +0.1**
comp=Z,13nm,1.5s,comp=Z,203nm
ROTZ Rotzenmuhle **78.08 0** eP **P** **20 33 51.4 +0.6**
comp=Z,30nm,1.1s
GRF Grafenberg Arr **78.14 1** eP **P** **20 33 51.8 +0.6**
GRF pmax pmax
comp=Z,79nm,1.1s
GRF MLR MLR
comp=Z,11µm,19.1s
GRF Grafenberg Arr **78.14 1** eP **P** **20 33 51.8 +0.6**
comp=Z,79nm,1.1s
GRF eL L 21 22 00.2
comp=Z,11µm,19.1s
GRFO Grafenberg **78.14 1** eP **P** **20 33 51.4 +0.3**
GRFO pmax pmax
comp=Z,70nm,0.8s
GRFO Grafenberg **78.14 1** eP **P** **20 33 51.4 +0.3**
comp=Z,70nm,0.8s
STHS Stebnicka Huta **78.18 354** eP **P** **20 33 52.6 +1.2**
STHS pmax pmax
comp=Z,103nm,0.9s
STHS Stebnicka Huta **78.18 354** eP **P** **20 33 52.5 +1.2**
RAMN Ramite **78.20 299** eP **P** **20 33 51.7 -0.5**
comp=Z,427nm,1.1s
NIE Niedzica **78.23 355**⇑ *i*P **P** **20 33 52.0 +0.3**
NIE e*PP **pP** **20 33 57.0 +0.7**
NIE eS S 20 43 52.2 +6.5
NIE MLR MLR
comp=Z,20µm,19.3s
NIE Niedzica **78.23 355** *i* P **P** **20 33 52.0 +0.3**
NIE epP **pP** **20 33 57.0 +0.7**
NIE eS S 20 43 52.2 +6.5
NIE L L 21 09 54.0
comp=Z,20µm,19.3s
KKN Kakani **78.23 300** eP **P** **20 33 52.1 -0.2**
comp=Z,1µm,1.8s
PKI Pulchoki **78.34 300** eP **P** **20 33 52.6 -0.4**
comp=Z,577nm,1.4s
PKIN Phulchoki **78.34 300** eP **P** **20 33 52.4 -0.6**
GKN Gorkha **78.40 301** eP **P** **20 33 52.9 -0.2**
comp=Z,574nm,1.1s
FLN La Foliniere **78.45 9**⇑ *i*P **P** **20 33 52.4 -0.4**
comp=Z,233nm,1.2s
FLN eR
comp=Z,29µm,20.8s
FLN La Foliniere **78.45 9**⇑ *i*P **P** **20 33 52.4 -0.4**
FLN pmax pmax
comp=Z,233nm,1.2s
FLN La Foliniere **78.45 9**⇑ *i*P **P** **20 33 52.4 -0.4**
comp=Z,233nm,1.2s
DMN Daman **78.47 300** eP **P** **20 33 53.5 -0.2**
comp=Z,459nm,1.2s
VRAC Vranov **78.49 357**⇑ *i*P **P** **20 33 53.6 +0.5**
TREC Trest **78.52 358** eP **P** **20 33 52.8 -0.5**
TREC e 20 33 57.8
TREC e 20 34 11.4
TREC eS **S** **20 43 49.4 +0.5**
TREC MLR MLR
comp=Z,23µm,16.5s
TREC Trest **78.52 358**⇑ eP **P** **20 33 52.8 -0.5**
TREC epP **pP** **20 33 57.8 -0.2**
TREC ex x 20 34 11.4
TREC eS **S** **20 43 49.4 +0.5**
TREC AMS AMS 21 18 50.0
comp=Z,23µm,16.5s
ROSF Rostrenen **78.58 11**⇑ *i*P **P** **20 33 53.5 -0.1**
comp=Z,140nm,1.2s
ROSF Rostrenen **78.58 11**⇑ *i*P **P** **20 33 53.5 -0.1**
ROSF pmax pmax
comp=Z,140nm,1.2s
ROSF Rostrenen **78.58 11**⇑ *i*P **P** **20 33 53.5 -0.1**
comp=Z,140nm,1.2s
DANN Dangsing **78.58 302** eP **P** **20 33 54.3 0.0**
comp=Z,756nm,1.0s
KOLS Kolonicke sedl **78.59 354** eP **P** **20 33 53.9 +0.2**
KOLS pmax pmax
comp=Z,141nm,1.4s
KOLS Kolonicke sedl **78.59 354** eP **P** **20 33 53.9 +0.2**
KOLS eS **S** **20 43 52.8 +3.2**
KOLS e 20 49 20.2
LDF La Druitiere **78.65 9**⇑ *i*P **P** **20 33 53.4 -0.6**
comp=Z,122nm,0.9s
LDF La Druitiere **78.65 9**⇑ *i*P **P** **20 33 53.4 -0.6**
LDF pmax pmax
comp=Z,122nm,0.9s
LDF La Druitiere **78.65 9**⇑ *i*P **P** **20 33 53.4 -0.6**
comp=Z,122nm,0.9s
SDDR Presa de Saban **78.65 74** eP **P** **20 33 52.9 -1.6**
comp=Z,122nm,1.4s
SDDR LR LR
comp=Z,23µm,20.0s
WET Wettzell **78.70 360** eP **P** **20 33 54.8 +0.5**
WET pmax pmax
comp=Z,33nm,1.2s
WET Wettzell **78.70 360** eP **P** **20 33 54.8 +0.5**
comp=Z,33nm,1.2s
KHC Kasperske Hory **78.71 360**⇑ *i*P **P** **20 33 54.6 +0.2**
KHC e 20 33 59.2
KHC e 20 34 12.6
KHC eS **S** **20 43 52.8 +1.9**
KHC eSS **SS** **20 48 49.8 -3.8**
KHC MLR MLR
comp=Z,22µm,18.9s
KHC Kasperske Hory **78.71 360**⇑ *i*P **P** **20 33 54.6 +0.2**
KHC epP **pP** **20 33 59.2 +0.2**
KHC ex x 20 34 12.6
KHC eS **S** **20 43 52.8 +1.9**
KHC eSS **SS** **20 48 49.8 -3.8**
KHC ePKKP PKKPbc 20 52 57.7 +11
KHC AMS AMS 21 10 40.0
comp=Z,22µm,18.9s
KHC Kasperske Hory **78.71 360** eP **P** **20 33 54.4 0.0**
comp=Z,169nm,1.4s
SGMF Saint Gilles **78.74 10**⇑ *i*P **P** **20 33 54.3 -0.1**
comp=Z,286nm,1.4s
SGMF Saint Gilles **78.74 10**⇑ *i*P **P** **20 33 54.3 -0.1**
SGMF pmax pmax
comp=Z,286nm,1.4s
SGMF Saint Gilles **78.74 10**⇑ *i*P **P** **20 33 54.3 -0.1**
comp=Z,286nm,1.4s
LANF Langenberg **78.77 3** eP **P** **20 33 54.4 -0.3**
GRR Gorron **78.78 9**⇑ *i*P **P** **20 33 54.4 -0.3**
comp=Z,378nm,1.5s
GRR Gorron **78.78 9**⇑ *i*P **P** **20 33 54.4 -0.3**
GRR pmax pmax
comp=Z,378nm,1.5s
GRR Gorron **78.78 9**⇑ *i*P **P** **20 33 54.4 -0.3**
comp=Z,378nm,1.5s
COEN Coen **78.81 229** eP **P** **20 33 54.7 -0.4**
comp=Z,1µm,1.5s
UZH Uzhgorod **78.89 354** eP **P** **20 33 55.0 -0.3**
UZH *i* S **S** **20 43 47.0 -5.8**
UZH MLR MLR
comp=Z,5µm,18.0s
GEC2 GERESS Array S **79.00 359** eP **P** **20 33 56.2 +0.2**
GEC2 pmax pmax
comp=Z,23nm,1.0s
GEC2 GERESS Array S **79.00 359** eP **P** **20 33 56.2 +0.2**
comp=Z,23nm,1.0s
GERES GERESS Array B **79.00 359** P **P** **20 33 56.0 0.0**
GERES P'P' 21 00 52.5
GERES GERESS Array B **79.00 359** P **P** **20 33 56.0 0.0**
comp=Z,22nm,0.8s,baz=29,slow=6.2,SNR=74
GERES PKPPKP P'P'df 21 00 52.5 -6.4
comp=Z,0.4nm,0.9s,baz=294,slow=4.2,SNR=3.6
QUIF Quistinic **79.00 11**⇑ *i*P **P** **20 33 55.8 -0.1**
comp=Z,191nm,1.4s
QUIF Quistinic **79.00 11**⇑ *i*P **P** **20 33 55.8 -0.1**
QUIF pmax pmax
comp=Z,191nm,1.4s
QUIF Quistinic **79.00 11**⇑ *i*P **P** **20 33 55.8 -0.1**
comp=Z,191nm,1.4s
STU Stuttgart **79.03 2** eP **P** **20 33 56.1 +0.1**
STU pmax pmax
comp=Z,83nm,0.9s
STU Stuttgart **79.03 2** eP **P** **20 33 56.2 +0.1**
comp=Z,25nm,0.9s
STU Stuttgart **79.03 2** eP **P** **20 33 56.1 +0.1**
comp=Z,83nm,0.9s
DHRM DHARAMSHALA **79.09 309** eP **P** **20 33 57.2 +0.2**
DHRM AMB AMB 20 34 03.3
comp=Z,255nm,3.3s
PAGF Fort de Pagny **79.11 5**⇑ *i*P **P** **20 33 56.9 +0.4**
comp=Z,124nm,1.3s
PAGF Fort de Pagny **79.11 5**⇑ *i*P **P** **20 33 56.9 +0.4**
comp=Z,124nm,1.3s
MEZF Maizieres J'vi **79.12 5**⇑ *i*P **P** **20 33 56.7 +0.1**
comp=Z,353nm,1.5s
MEZF Maizieres J'vi **79.12 5**⇑ *i*P **P** **20 33 56.7 +0.1**
comp=Z,353nm,1.5s
KOLN Koldanda **79.13 302** eP **P** **20 33 57.2 0.0**
comp=Z,200nm,0.9s
KECS Kecovo **79.15 355** eP **P** **20 33 57.2 +0.5**
KECS pmax pmax
comp=Z,56nm,1.1s
KECS Kecovo **79.15 355** eP **P** **20 33 57.2 +0.5**
THN Thein Dam **79.22 310** ex x 20 33 54.0
SMOL Smolenice **79.25 357** eP **P** **20 33 59.1 +1.8**
SMOL Smolenice **79.25 357** eP **P** **20 33 59.1 +1.8**
CDF Champ du Feu **79.32 4**⇑ *i*P **P** **20 33 57.7 -0.1**
comp=Z,189nm,1.2s
CDF Champ du Feu **79.32 4**⇑ *i*P **P** **20 33 57.7 -0.1**
CDF pmax pmax
comp=Z,189nm,1.2s
CDF Champ du Feu **79.32 4**⇑ *i*P **P** **20 33 57.7 -0.1**
comp=Z,189nm,1.2s
TRPA Tarpa **79.37 353**⇑ *i*P **P** **20 33 58.3 +0.4**
TRPA Tarpa **79.37 353**⇑ eP **P** **20 33 58.3 +0.4**
GOF Gofitskoye **79.38 339** eP **P** **20 33 58.6 +0.6**
GOF pmax pmax
comp=Z,600nm,1.3s
SFTF Sexfontaines **79.42 5**⇑ *i*P **P** **20 33 58.2 0.0**
comp=Z,440nm,1.3s
SFTF Sexfontaines **79.42 5**⇑ *i*P **P** **20 33 58.2 0.0**
comp=Z,440nm,1.3s
BFO Black Forest **79.44 3** eP **P** **20 33 57.8 -0.5**
BFO pmax pmax
comp=Z,92nm,1.3s
BFO MLR MLR
comp=Z,17µm,19.0s
BFO Black Forest **79.44 3** eP **P** **20 33 58.5 +0.1**
comp=Z,34nm,1.1s
BFO Black Forest **79.44 3** eP **P** **20 33 57.8 -0.5**
comp=Z,92nm,1.3s
BFO LR LR
comp=Z,17µm,19.0s
THEF They Montfort **79.45 5** eP **P** **20 33 58.4 0.0**
LGTI Lohaghat **79.48 305** ex x 20 34 00.0
ECH Echery **79.51 4** eP **P** **20 33 58.2 -0.5**
ECH pmax pmax
comp=Z,87nm,1.0s
ECH MLR MLR
comp=Z,16µm,20.0s
ECH Echery **79.51 4** eP **P** **20 33 58.6 -0.1**
ECH Echery **79.51 4** eP **P** **20 33 58.2 -0.5**
comp=Z,87nm,1.0s

ECH LR LR
comp=Z,16µm,20.0s
SMLA Simla 79.61 308 *i* P **P** **20 33 59.4 -0.1**
SMLA AMB AMB 20 34 03.9
comp=Z,476nm,1.1s
SMLA *i* x x 20 43 56.4
BURAR Bucovina Array 79.67 352⇑ *i*P **P** **20 33 59.3 -0.4**
FUR Furstenfeldbru 79.67 1 *e*P **P** **20 34 00.1 +0.5**
FUR pmax pmax
comp=Z,106nm,1.2s
FUR Furstenfeldbru 79.67 1 *e*P **P** **20 34 00.1 +0.5**
comp=Z,106nm,1.2s
HAU Haudompre 79.69 4⇑ *i*P **P** **20 33 59.6 -0.1**
comp=Z,231nm,1.3s
HAU *e*R
comp=Z,17µm,19.0s
HAU Haudompre 79.69 4⇑ *i*P **P** **20 33 59.6 -0.1**
HAU pmax pmax
comp=Z,231nm,1.3s
HAU Haudompre 79.69 4⇑ *i*P **P** **20 33 59.6 -0.1**
comp=Z,231nm,1.3s
PSZ Piszkesteto 79.75 355 *e*P **P** **20 34 00.3 +0.2**
PSZ pmax pmax
comp=Z,824nm,1.9s
PSZ MLR MLR
comp=Z,20µm,20.0s
PSZ Piszkesteto 79.75 355⇑ *i*P **P** **20 34 00.8 +0.7**
PSZ Piszkesteto 79.75 355 *e*P **P** **20 34 00.3 +0.2**
comp=Z,824nm,1.9s
PSZ LR LR
comp=Z,20µm,20.0s
PSZ Piszkesteto 79.75 355⇑ *e*P **P** **20 34 00.7 +0.7**
BMR Baia Mare 79.76 353⇓ *i*P **P** **20 34 00.6 +0.6**
PRAR RASCA 79.83 351⇓ *i*P **P** **20 34 00.2 -0.3**
DDI Dehra Dun 79.84 307 *e*P **P** **20 34 00.0 -0.8**
DDI AMB AMB 20 34 04.3
comp=Z,976nm,3.7s
IAS Iasi 79.86 350⇓ *i*P **P** **20 34 00.2 -0.4**
MOF Molkenrain 79.88 4 *e*P **P** **20 34 00.8 0.0**
CONA Conrad Observa 79.88 358⇑ *i*P **P** **20 34 01.3 +0.5**
comp=Z,2µm,3.0s,SNR=54
FELD Feldberg im Sc 79.88 3 *e*P **P** **20 34 00.5 -0.4**
HINF Hinteralfeld 79.90 4⇑ *i*P **P** **20 34 00.7 -0.2**
comp=Z,137nm,1.1s
HINF Hinteralfeld 79.90 4⇑ *i*P **P** **20 34 00.7 -0.2**
HINF pmax pmax
comp=Z,137nm,1.1s
HINF Hinteralfeld 79.90 4⇑ *i*P **P** **20 34 00.7 -0.2**
comp=Z,137nm,1.1s
KIS Kishinev 79.91 349 *i*P **P** **20 33 59.0 -1.9**
comp=Z,700nm,2.0s
KIS Kishinev 79.91 349 *e*PP PP 20 37 06.0 +4.5
KIS Kishinev 79.91 349 *i* PS 20 44 44.0
KIS *i* SS SS 20 49 36.0 +24
KIS LRM MLR 21 17 20.0
comp=Z,58µm,16.0s
MOA Molln 79.99 359⇑ *i*P **P** **20 34 00.9 -0.4**
comp=Z,2µm,4.5s,SNR=32
RJOB Jochberg 80.11 0 *e*P **P** **20 34 02.3 +0.3**
comp=Z,21nm,1.0s
SOP Sopron 80.11 357⇑ *e*P **P** **20 34 02.8 +0.8**
HYF Humbligny 80.19 7⇑ *i*P **P** **20 34 02.7 +0.3**
HYF Humbligny 80.19 7⇑ *i*P **P** **20 34 02.7 +0.3**
BUD Budapest 80.22 356⇑ *e*P **P** **20 34 03.4 +0.9**
ARCR ARCALIA 80.27 352⇑ *i*P **P** **20 34 03.5 +0.7**
LOR Lormes 80.28 6⇑ *i*P **P** **20 34 02.8 -0.1**
comp=Z,379nm,1.4s
LOR *e*R
comp=Z,22µm,20.2s
LOR Lormes 80.28 6⇑ *i*P **P** **20 34 02.8 -0.1**
comp=Z,379nm,1.4s
CHBT CHBT 80.31 278 P **P** **20 34 04.1 +0.7**
comp=Z,154nm,1.7s,comp=Z,5µm
CHBT CHBT 80.31 278 P **P** **20 34 04.1 +0.7**
comp=Z,154nm,1.7s,comp=Z,5µm
PKSG 80.34 356⇓ *e*P **P** **20 34 04.6 +1.4**
RETA Reutte 80.34 1⇑ *i*P **P** **20 34 03.5 +0.1**
comp=Z,2µm,3.2s,SNR=24
LOMF Lomont 80.36 4 *e*P **P** **20 34 03.4 0.0**
RKT Rikitea 80.40 150 *e*PP PP 20 36 53.2 -14
comp=Z,1µm,25.8s
RKT *e*S **S** **20 44 06.0 -3.0**
comp=Z,6µm,41.2s
RKT *e*SS **SS** **20 49 19.3 -2.1**
comp=Z,5µm,26.2s
RKT *e*LR LR 20 59 12.2
comp=Z,29µm,29.0s,baz=341
KBL Kabul 80.42 316 *e*P **P** **20 34 02.7 -1.5**
KBL pmax pmax
comp=Z,316nm,1.1s
KBL Kabul 80.42 316 *e*P **P** **20 34 02.6 -1.5**
comp=Z,316nm,1.1s
SSF Saint Saulge 80.46 6⇑ *i*P **P** **20 34 03.9 0.0**
comp=Z,303nm,1.3s
SSF Saint Saulge 80.46 6⇑ *i*P **P** **20 34 03.9 0.0**
SSF pmax pmax
comp=Z,303nm,1.3s
SSF Saint Saulge 80.46 6⇑ *i*P **P** **20 34 03.9 0.0**
comp=Z,303nm,1.3s
PKST T''s 80.49 356⇓ *e*P **P** **20 34 05.3 +1.3**
LEOM Leova 80.49 349⇓ *i*P **P** **20 34 03.7 -0.3**
WATA Walderalm 80.50 1⇑ *i*P **P** **20 34 04.4 +0.1**
comp=Z,951nm,2.4s,SNR=31
KIV Kislovodsk 80.50 339⇑ *e*P **P** **20 34 04.1 -0.2**
KIV *e* 20 37 04.5
KIV *i* S **S** **20 44 13.9 +3.7**
KIV *e*SS **SS** **20 49 27.3 +6.5**
KIV pmax pmax
comp=Z,206nm,1.2s
KIV MLR MLR
comp=Z,14µm,20.0s
KIV Kislovodsk 80.50 339 P **P** **20 34 04.9 +0.6**
comp=Z,755nm,1.1s,SNR=45
DAVA Damuels 80.53 2 *i* P **P** **20 34 04.6 +0.2**
comp=Z,1µm,3.2s,SNR=18
ARSA Arzberg 80.57 358⇑ *i*pP **P** **20 34 05.1 +0.6**
comp=Z,2µm,3.2s,SNR=56
WTTA Wattenberg 80.58 1 *i* pP **P** **20 34 05.2 +0.5**
comp=Z,302nm,1.7s,SNR=39
MFF Saint Martin d 80.62 9⇑ *i*P **P** **20 34 04.7 0.0**
comp=Z,288nm,1.1s
MFF Saint Martin d 80.62 9⇑ *i*P **P** **20 34 04.7 0.0**
MFF pmax pmax
comp=Z,288nm,1.1s
MFF Saint Martin d 80.62 9⇑ *i*P **P** **20 34 04.7 0.0**
comp=Z,288nm,1.1s
TESR Tescani 80.63 350⇑ *i*P **P** **20 34 04.2 -0.6**
PKS7 Kunszentmiklos 80.65 356⇓ *e*P **P** **20 34 06.2 +1.4**
AVF Avril sur Loir 80.72 7⇑ *i*P **P** **20 34 05.1 -0.1**
comp=Z,237nm,1.1s
AVF Avril sur Loir 80.72 7⇑ *i*P **P** **20 34 05.1 -0.1**
AVF pmax pmax
comp=Z,237nm,1.1s
AVF Avril sur Loir 80.72 7⇑ *i*P **P** **20 34 05.1 -0.1**
comp=Z,237nm,1.1s
ANN Anapa 80.76 343 *d*P **P** **20 34 04.7 -0.8**
ANN *i* *PP **pP** **20 34 09.8 -0.3**
ANN *e* 20 37 09.7
ANN *e*S **S** **20 44 13.4 +0.8**
ANN *e*SS **SS** **20 49 17.4 -6.9**
ANN pmax pmax
comp=N,85nm,2.1s
ANN pmax pmax
comp=Z,387nm,2.1s
ANN pmax pmax
comp=E,45nm,1.0s
ANN pmax pmax
comp=N,1µm,8.5s
ANN pmax pmax
comp=E,379nm,8.5s
ANN pmax pmax
comp=Z,4µm,8.5s
ANN smax smax
comp=N,9µm,20.3s
ANN smax smax
comp=E,7µm,20.3s
KBA Koelnbreinsper 80.77 360⇑ *i*pP **P** **20 34 06.7 +0.9**
comp=E,2µm,2.7s,SNR=26
PKSN Nyarlorinc 80.77 355⇓ *e*P **P** **20 34 07.0 +1.5**
FETA Feichten 80.81 1⇑ *i*pP **P** **20 34 06.4 +0.5**
comp=E,2µm,4.6s,SNR=55
SMF Signal de Mont 80.90 6⇑ *i*P **P** **20 34 06.0 -0.2**
comp=E,365nm,1.2s
SMF Signal de Mont 80.90 6⇑ *i*P **P** **20 34 06.0 -0.2**
SMF pmax pmax
comp=Z,365nm,1.2s
SMF Signal de Mont 80.90 6⇑ *i*P **P** **20 34 06.0 -0.2**
comp=Z,365nm,1.2s
BGF Bois d'Agland 80.92 7⇑ *i*P **P** **20 34 06.2 -0.1**
comp=Z,220nm,1.1s
BGF Bois d'Agland 80.92 7⇑ *i*P **P** **20 34 06.2 -0.1**
BGF pmax pmax
comp=Z,220nm,1.1s
BGF Bois d'Agland 80.92 7⇑ *i*P **P** **20 34 06.2 -0.1**
comp=Z,220nm,1.1s
GHRR 80.99 350⇓ *i*P **P** **20 34 07.0 +0.3**
CABF La Chapelle 81.07 5⇑ *i*P **P** **20 34 07.7 +0.5**
comp=Z,285nm,1.1s
CABF La Chapelle 81.07 5⇑ *i*P **P** **20 34 07.7 +0.5**
CABF pmax pmax
comp=Z,285nm,1.0s
CABF La Chapelle 81.07 5⇑ *i*P **P** **20 34 07.7 +0.5**
comp=Z,285nm,1.0s
ABTA Abfaltersbach 81.10 0⇓ *i*P **P** **20 34 07.3 -0.1**
comp=Z,2µm,3.2s,SNR=25
BOK Bokaro 81.11 298 *e*P **P** **20 34 08.0 +0.3**
BOK AMB AMB 20 34 14.1
comp=Z,202nm,0.9s
TCF Toulx Ste Croi 81.14 7⇑ *i*P **P** **20 34 07.4 -0.1**
comp=Z,233nm,1.3s
TCF Toulx Ste Croi 81.14 7⇑ *i*P **P** **20 34 07.4 -0.1**
TCF pmax pmax
comp=Z,233nm,1.3s
TCF Toulx Ste Croi 81.14 7⇑ *i*P **P** **20 34 07.4 -0.1**
comp=Z,233nm,1.3s
PKS9 Tamasi 81.15 356⇓ *e*P **P** **20 34 08.4 +0.9**
SOKA Soboth 81.15 358⇑ *i*P **P** **20 34 08.2 +0.5**
comp=Z,2µm,2.6s,SNR=114
BCIP Isla Barro Col 81.17 87 PFAKE 20 34 20.0 +12
BCIP LR LR
comp=Z,5µm,20.0s
SIM Simferopol' 81.19 345 *c*e P 20 34 11.4 +3.6
SIM *e*S S 20 44 26.0 +8.9
SIM pmax pmax
comp=Z,53nm,0.9s
SIM pmax pmax
comp=Z,2µm,9.8s
PERS Pernice 81.19 358 *i* P **P** **20 34 08.1 +0.3**
PKS2 Kecel 81.20 356⇑ *e*P P 20 34 12.3 +4.5
MYKA Terra Mystica 81.21 359⇑ *i*P **P** **20 34 07.9 -0.1**
comp=Z,2µm,3.2s,SNR=19
BTM Bintulu 81.23 264 P **P** **20 34 09.1 +0.7**
VRI Vrincioaia 81.26 350⇓ *i*P **P** **20 34 09.8 +1.6**
PLOR Plostina 81.28 350⇓ *i*P **P** **20 34 08.4 +0.1**
DOPR Dopca 81.29 351⇑ *i*P **P** **20 34 09.7 +1.4**
BEHE Becsehely 81.32 357⇓ *e*P **P** **20 34 09.3 +0.9**
OBKA Obir 81.33 359⇑ *i*P **P** **20 34 08.9 +0.3**
comp=Z,2µm,3.0s,SNR=21
TUE Stuetta 81.33 2 *e*P **P** **20 34 09.2 +0.4**
comp=Z,245nm,1.4s
TUE LR LR
comp=Z,16µm,19.0s
ZEI Tsey 81.33 337 *e*P **P** **20 34 08.9 0.0**
ZEI pmax pmax
comp=Z,309nm,2.2s
KOGS Kog 81.35 358 *i* P **P** **20 34 08.8 +0.2**
OG01 Vacheresse 81.38 4 *e*P **P** **20 34 09.3 +0.4**
AGO Saint Agoulin 81.44 7 *e*P **P** **20 34 09.3 +0.2**
AGPR Aguadilla, PR 81.49 71 P **P** **20 34 09.3 -0.4**
comp=Z,308nm,1.2s
SOC Sochi 81.49 341 *c i*P **P** **20 34 09.6 +0.2**
SOC *e* 20 37 15.1
SOC *e*S **S** **20 44 22.8 +2.5**
SOC pmax pmax
comp=Z,153nm,0.9s
SOC pmax pmax
comp=Z,598nm,2.2s
GUDG Gudauri 81.50 337 P **P** **20 34 10.6 +0.8**
PLDF La Plantade 81.56 6 *e*P **P** **20 34 10.0 +0.2**
NDI New Delhi 81.61 307 *e*4 P 20 34 05.0 -5.3
NDI *ex* x 20 44 21.0
CADS Cadrg 81.61 359 *i* P **P** **20 34 09.5 -0.6**
ONI Oni 81.63 338 P **P** **20 34 11.0 +0.7**
ONI S S 20 44 28.5 +6.6
TLCR 81.69 349⇓ *i*P **P** **20 34 10.2 -0.2**
MLR Muntele Rosu 81.71 351⇑ *i*P **P** **20 34 11.6 +0.9**
GRER 81.71 350⇓ *i*P **P** **20 34 12.0 +1.5**
PYM Petit Puy Mans 81.73 7 *e*P **P** **20 34 10.7 -0.1**
LRS Lares 81.78 71 *e*P **P** **20 34 10.9 -0.5**
CFR Carcaliu 81.78 349⇑ *i*P **P** **20 34 10.6 -0.3**
LJU Ljubljana 81.79 359 *i* P **P** **20 34 11.1 +0.1**
LJU *e*S **S** **20 44 22.7 -0.7**
LJU *e*SS SS 20 49 49.7 +10
LJU *e* 20 53 50.5
PHET Kaeng Krachan 81.81 280 P **P** **20 34 12.2 +0.7**
comp=Z,166nm,1.1s,comp=Z,2µm
VOY Vojsko 81.81 359 *e*P **P** **20 34 10.4 -0.8**
VOY *e* 20 34 14.4
VOY *e* 20 34 20.8
CHVG Ch'k'valeri 81.82 339 P **P** **20 34 12.4 +1.3**
VOIR 81.85 351⇓ *i*P **P** **20 34 11.9 +0.5**
CRPR Cabo Rojo, PR 81.85 71 *e*P **P** **20 34 12.0 +0.3**
comp=Z,309nm,1.7s
BZS Buzias 81.94 354⇑ *i*P **P** **20 34 11.7 0.0**
ARR Arges 81.95 352⇓ *i*P **P** **20 34 12.4 +0.5**
RAO Raoul Island 81.98 189 LR LR 21 09 35.6
comp=Z,12µm,18.4s,baz=18,slow=35
ISR Istrita 82.02 350⇓ *i*P P 20 34 17.6 +5.4
MTUR Matau 82.05 351⇓ *i*P **P** **20 34 14.2 +1.7**
RJF Les Rejaudoux 82.06 8⇑ *i*P **P** **20 34 12.1 -0.3**
comp=Z,161nm,1.1s
RJF *e*R
comp=Z,33µm,21.2s
RJF Les Rejaudoux 82.06 8⇑ *i*P **P** **20 34 12.1 -0.3**
RJF pmax pmax
comp=Z,161nm,1.1s
RJF Les Rejaudoux 82.06 8⇑ *i*P **P** **20 34 12.1 -0.3**
comp=Z,161nm,1.1s
FRNF Fournols 82.06 7 *e*P **P** **20 34 12.6 +0.2**
CELP Cerrillos 82.10 71 *e*P **P** **20 34 13.2 +0.2**
OBIP Obispado Ponce 82.11 71 *e*P **P** **20 34 12.4 -0.6**
comp=Z,452nm,1.6s
TBLG Delisi 82.14 336 P **P** **20 34 13.3 +0.5**
TBLG S **S** **20 44 32.5 +5.5**
SECR 82.15 351⇓ *i*P **P** **20 34 11.7 -1.2**
PGRA Graciosa 82.16 31 *e*P P 20 34 17.4 +4.4
comp=Z,245nm,1.8s
PGOR Pogoanele 82.18 350⇑ *i*P **P** **20 34 13.8 +0.8**
LPL La Plagne 82.19 4⇑ *i*P **P** **20 34 14.4 +1.1**
comp=Z,180nm,1.3s
LPL La Plagne 82.19 4⇑ *i*P **P** **20 34 14.4 +1.1**
LPL pmax pmax
comp=Z,180nm,1.3s
LPL La Plagne 82.19 4⇑ *i*P **P** **20 34 14.4 +1.1**
comp=Z,180nm,1.3s
LPG La Plagne 82.21 4⇑ *i*P **P** **20 34 14.7 +1.2**
comp=Z,240nm,1.4s
LPG La Plagne 82.21 4⇑ *i*P **P** **20 34 14.7 +1.2**
LPG pmax pmax
comp=Z,240nm,1.4s
LPG La Plagne 82.21 4⇑ *i*P **P** **20 34 14.7 +1.2**
comp=Z,240nm,1.4s
DGRG David-gareji 82.24 336 P **P** **20 34 14.2 +0.7**
DGRG S S 20 44 42.7 +14
LBL Lubilhac 82.27 7 *e*P **P** **20 34 13.8 +0.2**
HARR Harsova 82.29 349⇑ *i*P **P** **20 34 14.2 +0.6**
SSB Saint Sauveur 82.31 6 *e*P **P** **20 34 14.0 +0.2**
SSB pmax pmax
comp=Z,63nm,1.0s
SSB MLR MLR
comp=Z,14µm,19.0s
SSB Saint Sauveur 82.31 6 *e*P **P** **20 34 13.8 +0.1**
SSB Saint Sauveur 82.31 6 *e*P **P** **20 34 13.9 +0.2**
comp=Z,63nm,1.0s
SSB LR LR
comp=Z,14µm,19.0s
BOJS Bojanci 82.32 358 *i* P **P** **20 34 13.8 0.0**
BOJS *e*S **S** **20 44 27.3 -1.4**
SISC Sisak 82.33 357 P **P** **20 34 14.6 +0.8**
SBUM Sibu 82.35 264 P **P** **20 34 15.7 +1.4**
SBUM Sibu 82.35 264 P **P** **20 34 15.0 +0.7**
comp=Z,156nm,1.3s,comp=Z,4µm
LFF La Frestale 82.35 9⇑ *i*P **P** **20 34 14.0 +0.1**
comp=Z,271nm,0.9s
LFF La Frestale 82.35 9⇑ *i*P **P** **20 34 14.0 +0.1**
LFF pmax pmax
comp=Z,271nm,0.9s
LFF La Frestale 82.35 9⇑ *i*P **P** **20 34 14.0 +0.1**
comp=Z,271nm,0.9s
CBYP Canovanas 82.36 70 *e*P **P** **20 34 14.4 0.0**
comp=Z,32nm,0.9s
TLB Topalu 82.38 349⇑ *i*P **P** **20 34 14.7 +0.7**
GRN Grenoble 82.41 5 *e*P **P** **20 34 15.0 +0.6**
TIRR Tirgusor 82.46 349 *e*P **P** **20 34 14.2 -0.3**
TIRR pmax pmax
comp=Z,77nm,1.1s
TIRR Tirgusor 82.46 349⇑ *i*P **P** **20 34 14.6 +0.1**
TIRR Tirgusor 82.46 349 *e*P **P** **20 34 14.2 -0.3**
comp=Z,78nm,1.1s
GDM Grand'Maison 82.47 5 *e*P **P** **20 34 15.7 +1.0**
CAF Calviac 82.48 8⇑ *i*P **P** **20 34 14.7 +0.1**
comp=Z,195nm,1.0s
CAF Calviac 82.48 8⇑ *i*P **P** **20 34 14.7 +0.1**
CAF pmax pmax
comp=Z,195nm,1.0s
CAF Calviac 82.48 8⇑ *i*P **P** **20 34 14.7 +0.1**
comp=Z,195nm,1.0s
PAYG Puerto Ayora 82.56 101 PFAKE 20 34 30.0 +15
PAYG LR LR
comp=Z,7µm,19.0s
BNI Bardonecchia 82.65 4 *e*P **P** **20 34 16.7 +1.0**
BNI pmax pmax
comp=Z,150nm,1.0s
BNI MLR MLR
comp=Z,20µm,20.0s
BNI Bardonecchia 82.65 4 *e*P **P** **20 34 16.7 +1.0**
comp=Z,150nm,1.0s
BNI LR LR
comp=Z,20µm,20.0s
MTP Monte Pirata 82.68 70 *e*P **P** **20 34 16.0 0.0**
comp=Z,105nm,1.0s
VIVF Saint-Julien-l 82.74 6⇑ *i*P **P** **20 34 16.4 +0.4**
comp=Z,114nm,0.9s
VIVF Saint-Julien-l 82.74 6⇑ *i*P **P** **20 34 16.4 +0.4**
VIVF pmax pmax
comp=Z,114nm,0.9s
VIVF Saint-Julien-l 82.74 6⇑ *i*P **P** **20 34 16.4 +0.4**
comp=Z,114nm,0.9s
AKH Akhalkalaki 82.74 337 P **P** **20 34 17.2 +0.9**
AKH S S 20 44 46.8 +13
ORIF Oris-en-Rattie 82.74 5⇑ *i*P **P** **20 34 16.7 +0.6**
comp=Z,164nm,1.1s
ORIF *e*R
comp=Z,31µm,20.8s
ORIF Oris-en-Rattie 82.74 5⇑ *i*P **P** **20 34 16.7 +0.6**
ORIF pmax pmax
comp=Z,164nm,1.1s
ORIF Oris-en-Rattie 82.74 5⇑ *i*P **P** **20 34 16.7 +0.6**
comp=Z,164nm,1.1s
STVI Saint Thomas 82.82 69 *e*P **P** **20 34 17.0 +0.3**
comp=Z,384nm,1.7s
EPOS Posof 82.83 338 *i* P P 20 34 11.7 -4.9
CTA Charters Tower 82.86 223 P **P** **20 34 16.0 -0.7**
CTA Charters Tower 82.86 223 P **P** **20 34 16.0 -0.7**
comp=Z,7.9nm,0.8s,baz=304,slow=3.6,SNR=10
CTA LR LR 21 06 28.4
comp=Z,8µm,18.1s,baz=22,slow=32
CTAO Charters Tower 82.86 223 *e*P P 20 34 12.8 -3.9
CTAO pmax pmax
comp=Z,193nm,1.6s
CTAO MLR MLR
comp=Z,8µm,19.0s
CTAO Charters Tower 82.86 223 *e*P P 20 34 12.8 -3.9
comp=Z,193nm,1.6s
CTAO LR LR
comp=Z,8µm,19.0s
MSAB Monastry St. A 82.89 349⇓ *i*P **P** **20 34 17.5 +0.8**
OG22 Abries 82.89 4 *e*P **P** **20 34 17.9 +0.9**
MBDF Montbardon 82.98 4⇑ *i*P **P** **20 34 18.6 +1.2**
comp=Z,464nm,1.2s
MBDF Montbardon 82.98 4⇑ *i*P **P** **20 34 18.6 +1.2**
MBDF pmax pmax
comp=Z,464nm,1.2s
MBDF Montbardon 82.98 4⇑ *i*P **P** **20 34 18.6 +1.2**
comp=Z,464nm,1.2s
BCA Borcka 83.13 339 *e*P **P** **20 34 18.0 -0.1**
SURF Saint Ours 83.23 4 *e*P **P** **20 34 20.2 +1.5**
PSN Preselentsi 83.25 349 P **P** **20 34 20.2 +1.6**
NVLJ Novalja 83.27 359 P **P** **20 34 18.6 0.0**
UDBI Udbina 83.28 358 P **P** **20 34 18.9 0.0**
OG25 Le Caire 83.30 5 *e*P **P** **20 34 19.8 +0.8**
ARTV Artvin 83.31 338 *i* P **P** **20 34 20.0 +0.7**
DAGI Agillar 83.42 338 *i* P **P** **20 34 20.5 +0.8**
LASF Ste Croix 83.46 7⇑ *i*P **P** **20 34 20.4 +0.7**
LASF Ste Croix 83.46 7⇑ *i*P **P** **20 34 20.4 +0.7**
DBAD Bademkaya 83.53 338 *i* P **P** **20 34 21.1 +0.9**
DIVS Divibare 83.55 355 P **P** **20 34 19.9 -0.4**
KARS Kars 83.58 337 *e*P **P** **20 34 22.0 +1.4**
GNI Garni 83.63 336 P **P** **20 34 22.1 +1.3**
SNR=61
GNI Garni 83.63 336 *e*P **P** **20 34 21.5 +0.7**
comp=Z,2µm,2.3s
GNI LR LR
comp=Z,33µm,19.0s
DDEM Demirkent 83.63 338 *i* P **P** **20 34 21.6 +0.8**
VLC Villacollemand 83.66 2 *e*P **P** **20 34 19.9 -0.9**
comp=Z,242nm,1.4s
VLC LR LR
comp=Z,19µm,20.0s
SMRF Simiane la Rot 83.67 5⇑ *i*P **P** **20 34 22.0 +1.2**
comp=Z,189nm,1.1s
SMRF Simiane la Rot 83.67 5⇑ *i*P **P** **20 34 22.0 +1.2**
comp=Z,189nm,1.1s
DIGO Kars 83.71 337 *i* P **P** **20 34 22.5 +1.2**
TOUF Mont Tournerai 83.71 4 *e*P **P** **20 34 21.8 +0.6**
AUTN L'Aution 83.74 4 *e*P **P** **20 34 21.6 +0.2**
SAOF Saorge 83.75 4 *e*P **P** **20 34 21.2 0.0**
KAPI Kappang 83.78 253 P **P** **20 34 21.7 +0.1**
SNR=17
KAPI Kappang 83.78 253 P **P** **20 34 21.7 +0.1**
comp=Z,130nm,1.2s,comp=Z,4µm
KAPI Kappang 83.78 253 *e*P **P** **20 34 21.6 -0.1**
comp=Z,278nm,1.6s
KAPI LR LR
comp=Z,7µm,22.0s
OSSF Osses 83.82 10 *e*P **P** **20 34 21.1 -0.4**
PRD Povoadia 83.82 349 P **P** **20 34 22.8 +1.3**
MVIF Mont Vial 83.83 4 *e*P **P** **20 34 22.1 +0.4**
LUCF Luceram 83.84 4 *e*P **P** **20 34 21.8 +0.1**
SBF Sospel 83.87 4⇑ *i*P **P** **20 34 22.2 +0.3**
comp=Z,235nm,0.9s
SBF Sospel 83.87 4⇑ *i*P **P** **20 34 22.2 +0.3**
SBF pmax pmax
comp=Z,235nm,0.9s
SBF Sospel 83.87 4⇑ *i*P **P** **20 34 22.2 +0.3**
comp=Z,235nm,0.9s
ORDF Ordiarp 83.89 10 *e*P **P** **20 34 21.4 -0.5**
SZH Strazhica 83.91 350 P **P** **20 34 23.6 +1.6**
SJPF Ste Jean 83.96 10⇑ *i*P **P** **20 34 22.2 -0.1**
comp=Z,65nm,0.9s
SJPF Ste Jean 83.96 10⇑ *i*P **P** **20 34 22.2 -0.1**
SJPF pmax pmax
comp=Z,65nm,0.9s
SJPF Ste Jean 83.96 10⇑ *i*P **P** **20 34 22.2 -0.1**
comp=Z,65nm,0.9s
PSET Sete Cidades 83.96 30 *e*P **P** **20 34 20.9 -1.5**
comp=Z,300nm,2.0s
REVF Revere 83.99 4 *e*P **P** **20 34 22.7 +0.2**
PVL Pavlikeni 84.02 351 P **P** **20 34 26.8 +4.3**
MPEP Malo Peshtene 84.03 352 P **P** **20 34 21.3 -1.3**
ATE Arette 84.04 10 *e*P **P** **20 34 22.9 +0.2**
LARF Larrau 84.06 10 *e*P **P** **20 34 23.7 +0.9**
MTLF Montolieu 84.06 8⇑ *i*P **P** **20 34 23.3 +0.5**
comp=Z,202nm,1.1s
MTLF Montolieu 84.06 8⇑ *i*P **P** **20 34 23.3 +0.5**
MTLF pmax pmax
comp=Z,202nm,1.1s
MTLF Montolieu 84.06 8⇑ *i*P **P** **20 34 23.3 +0.5**
comp=Z,202nm,1.1s
CMLA Cha da Macela 84.08 30 *e*P **P** **20 34 20.9 -2.1**
comp=Z,278nm,2.0s
CMLA Cha da Macela 84.08 30 PFAKE 20 34 30.0 +7.0
CMLA LR LR
comp=Z,22µm,20.0s
REYF Montagne du Re 84.09 10 *e*P **P** **20 34 22.6 -0.5**
BZK Bozkurt 84.12 344 *e*P P 20 34 27.0 +3.9
PGAV Gavieira, Arco 84.12 16 *e*P **P** **20 34 23.7 +0.5**
comp=Z,155nm,2.2s
PGAV Gavieira, Arco 84.12 16 *e*PP PP 20 37 35.5 -1.0
PGAV *e*S **S** **20 44 51.0 +3.6**
PGAV Gavieira, Arco 84.12 16 *e*LR LR 21 06 50.8
comp=Z,22µm,20.0s
FRF La Foret Royal 84.14 5⇑ *i*P **P** **20 34 23.5 +0.3**
comp=Z,358nm,1.5s
FRF La Foret Royal 84.14 5⇑ *i*P **P** **20 34 23.5 +0.3**

FRF pmax pmax
comp=Z,358nm,1.5s
FRF La Foret Royal 84.14 5⇑ iP P 20 34 23.5 +0.3
comp=Z,358nm,1.5s
LABF Labassere 84.16 9 eP P 20 34 23.2 -0.2
EPF Esparros 84.20 9⇑ iP P 20 34 23.1 -0.5
comp=Z,158nm,1.1s
EPF Esparros 84.20 9⇑ iP P 20 34 23.1 -0.5
EPF pmax pmax
comp=Z,158nm,1.1s
EPF Esparros 84.20 9⇑ iP P 20 34 23.1 -0.5
comp=Z,158nm,1.1s
DIKM Dikmen 84.20 343 eP P 20 34 25.2 +1.7
ETSF Etsaut 84.24 10⇑ iP P 20 34 24.4 +0.6
comp=Z,244nm,1.1s
ETSF Etsaut 84.24 10⇑ iP P 20 34 24.4 +0.6
ETSF pmax pmax
comp=Z,244nm,1.1s
ETSF Etsaut 84.24 10⇑ iP P 20 34 24.4 +0.6
comp=Z,244nm,1.1s
ESPY Espiye-Giresun 84.26 341 eP P 20 34 23.3 -0.5
KSM Kuching 84.28 265 P P 20 34 25.6 +1.4
KSM Kuching 84.28 265 P P 20 34 24.8 +0.5
comp=Z,83nm,1.2s,comp=Z,4µm
KSM Kuching 84.28 265 eP P 20 34 24.4 +0.2
comp=Z,316nm,1.4s
KSM LR LR
comp=Z,6µm,20.0s
VIEF Viey 84.32 9 eP P 20 34 24.2 0.0
GRSN GIRESUNGRSN 84.34 341 iP P 20 34 25.5 +1.2
MLS Moulis 84.35 9 eP P 20 34 24.5 +0.2
PLE Pljevlja 84.35 355 ||iP P 20 34 24.5 +0.1
LMR La Mourre 84.36 5⇑ iP P 20 34 24.8 +0.5
LMR La Mourre 84.36 5⇑ iP P 20 34 24.8 +0.5
LMR La Mourre 84.36 5⇑ iP P 20 34 24.8 +0.5
HOMI Horasan 84.41 338 iP P 20 34 26.1 +1.2
PCAB Cabril 84.41 16 eP P 20 34 25.0 +0.4
comp=Z,130nm,1.8s
RESF Ens 84.42 9 eP P 20 34 25.6 +0.8
DYDN Diyadin 84.46 337 iP P 20 34 27.6 +2.5
BOYT Boyabat 84.49 344 iP P 20 34 28.1 +3.1
LRDF Laroque-de-Fa 84.49 8 eP P 20 34 25.8 +0.8
PBRG Braganca 84.52 15 eP P 20 34 25.1 -0.1
comp=Z,128nm,2.0s
PBRG Braganca 84.52 15 ePP PP 20 37 40.4 +0.8
PBRG eS **S 20 44 51.2 -0.1**
GUMT Gumushane 84.54 340 eP P 20 34 26.2 +0.8
SALF Salau 84.55 9 eP P 20 34 23.5 -1.9
AGRB Hanur-Agry 84.60 337 eP P 20 34 26.1 +0.3
KVT Kavak 84.62 343 eP P 20 34 26.5 +0.9
ERZM Erzurum 84.66 338 iP P 20 34 27.0 +0.8
EZM Erzurum 84.66 338 eP P 20 34 27.6 +1.4
CARF Carcanieres 84.68 8 eP P 20 34 26.2 +0.1
POLO Lamas de Olo 84.78 15 eP P 20 34 26.8 +0.2
comp=Z,64nm,2.0s
POLO Lamas de Olo 84.78 15 ePP PP 20 37 47.5 +5.7
POLO eS **S 20 44 50.6 -3.3**
IVA Berane 84.78 355 ||iP P 20 34 25.8 -0.7
CLDR Caldiran 84.78 336 eP P 20 34 26.7 -0.1
PGB Panagyurishte 84.79 352 iP P 20 34 30.9 +4.3
BRY Bratogost 84.82 356 ||iP P 20 34 26.0 -0.8
VTS Vitosha 84.83 352 P P 20 34 25.2 -1.7
VTS Vitosha 84.83 352 P P 20 34 25.2 -1.7
VTS Vitosha 84.83 352⇑ iP P 20 34 26.3 -0.6
VTS Vitosha 84.83 352 P P 20 34 25.3 -1.7
VTS Vitosha 84.83 352 P P 20 34 25.2 -1.7
PTO Porto 84.87 16 eP P 20 34 28.9 +2.0
comp=Z,144nm,1.8s
NKY Niksic 84.88 355 eP P 20 34 26.5 -0.6
PVRL Vila Real 84.89 15 eP P 20 34 26.2 -0.8
comp=Z,179nm,1.9s
PSMA Santa Maria 84.91 30 eP P 20 34 25.8 -1.3
comp=Z,188nm,1.8s
PSMN Pico do Norte, 84.92 30 eP P 20 34 23.0 -4.2
comp=Z,167nm,1.9s
NKME Niksic 84.93 355 ||iP P 20 34 26.6 -0.7
SJAF Saint Jean de 84.97 7 eP P 20 34 27.8 +0.4
VALF Valcebollere 84.98 8 eP P 20 34 28.2 +0.5
TOS Tosya 85.01 344 eP P 20 34 29.6 +1.8
SAFT Safranbolu 85.03 345 eP P 20 34 28.5 +0.8
RSDY Resadiye-TOKAT 85.04 341 eP P 20 34 29.3 +1.5
SUSE Susehri 85.05 341 iP P 20 34 28.5 +0.5
ILGA Ilgaz 85.05 344 iP P 20 34 30.0 +1.9
PVY Plav 85.05 355 ||iP P 20 34 27.6 -0.4
MVO Moncorvo 85.10 15 eS S 20 44 51.7 -5.4
MVO Moncorvo 85.10 15 eLR LR 21 05 56.9
comp=Z,20µm,18.0s
ANWB Willy Bob 85.16 67 PFAKE 20 34 40.0 +11
ANWB LR LR
comp=Z,21µm,21.0s
PLD Plovdiv 85.18 351 P P 20 34 24.2 -4.2
PLD Plovdiv 85.18 351 P P 20 34 24.2 -4.2
PLD Plovdiv 85.18 351 P P 20 34 28.7 +0.3
PLD Plovdiv 85.18 351 P P 20 34 24.2 -4.2
EZC Erzincan 85.25 340 eP P 20 34 28.8 -0.3
TTG Podgorica 85.25 355 eP P 20 34 28.1 -0.7
TOKT Tokat 85.26 342 eP P 20 34 30.3 +1.4
TOKA Tokat 85.27 342 iP P 20 34 30.7 +1.7
HCY Herceg Novi 85.27 356 eP P 20 34 28.2 -0.7
CTKT Corum 85.28 343 iP P 20 34 31.0 +1.8
ERZN Erzincan 85.33 339 eP P 20 34 30.6 +1.2
VRTB Varto-Mus 85.35 338 eP P 20 34 30.2 +0.6
PVIS Viseu 85.40 16 eP P 20 34 30.0 +0.3
comp=Z,139nm,1.7s
DRME Dracevica, Mon 85.50 355 ||iP P 20 34 30.0 0.0
SILT Sile 85.56 347 eP P 20 34 34.7 +4.3
KDZ Kurdzhali 85.56 351 P P 20 34 29.2 -1.2
SVSK Karacayir 85.56 342 eP P 20 34 31.9 +1.6
SKO Skopje 85.58 354 eP P 20 34 28.5 -1.9
DGPR DIGLİPUR 85.58 286 eP P 20 34 30.4 -0.4
DGPR AMB AMB 20 34 33.8
comp=Z,125nm,3.0s
SCER sogukcermik 85.59 341 iP P 20 34 31.8 +1.1
RZN Rozhen 85.59 351 P P 20 34 31.2 +0.4
PUK Puka 85.60 355 P P 20 34 35.3 +4.7
PUK iP P **20 34 35.4 +4.7**
BNGL BINGOL 85.62 338 iP P 20 34 32.5 +1.5
BNGB Bing˜¶l 85.69 339 eP P 20 34 31.0 -0.2
ILIC ilic-Erzincan 85.70 340 eP P 20 34 32.7 +1.4
EIDS Eidsvold 85.70 217 eP P 20 34 33.4 +2.4
comp=Z,129nm,1.6s
ULC Ulcinj 85.72 355 ||iP P 20 34 31.0 -0.2
ISK Istanbul-Kandi 85.72 348 P P 20 34 29.4 -1.7
ISK Istanbul-Kandi 85.72 348 P P 20 34 29.4 -1.7
ISK Istanbul-Kandi 85.72 348 P P 20 34 29.4 -1.7
BATI Baumata 85.73 247 P P 20 34 31.1 -0.3
BATI Baumata 85.73 247 P P 20 34 31.1 -0.3
comp=Z,12nm,0.6s,baz=77,slow=6.1,SNR=5.2
CORM Corum 85.75 343 eP P 20 34 33.2 +1.8
MTE Manteigas 85.77 15 eP P 20 34 31.6 +0.1
comp=Z,78nm,1.8s
MTE Manteigas 85.77 15 ePP PP 20 37 50.6 +0.8
MTE eS **SKSac 20 44 51.6 -5.0**
MTE Manteigas 85.77 15 eLR LR 21 06 17.8
comp=Z,22µm,18.0s
MTE Manteigas 85.77 15 eP P 20 34 31.6 +0.1
comp=Z,170nm,1.9s
MTE LR LR
comp=Z,17µm,20.0s
MMB Musomiste 85.78 352 P P 20 34 32.0 +0.5
HRT Hereke 85.88 347 eP P 20 34 33.5 +1.4
KEMA Kemaliye 85.89 340 iP P 20 34 33.2 +1.1
SPNC Sapanca-Adapaz 85.93 347 eP P 20 34 37.1 +4.9
PHP Peshkopia 85.93 354 P P 20 34 31.9 -0.4
PHP Peshkopia 85.93 354 P P 20 34 31.9 -0.4
PHP Peshkopia 85.93 354 P P 20 34 31.9 -0.4
PCAS Casmilo, Conde 85.95 16 eP P 20 34 32.5 +0.2
PCAS Casmilo, Conde 85.95 16 eS SKSac 20 44 55.0 -2.5
NVR Nevrokopi 86.01 352 P P 20 34 32.5 -0.1
NVR Nevrokopi 86.01 352 eP P 20 34 32.5 -0.1
NVR Nevrokopi 86.01 352 P P 20 34 32.5 -0.1
MDUB Mudurnu 86.01 346 eP P 20 34 33.4 +0.6
BHPL Bhopal 86.01 304 eP P 20 34 32.4 -0.6
BHPL AMB AMB 20 34 39.1
comp=Z,233nm,4.0s
RDO Rodhopi 86.05 350 P P 20 34 32.5 -0.3
RDO Rodhopi 86.05 350 eP P 20 34 32.1 -0.7
RDO Rodhopi 86.05 350 P P 20 34 32.5 -0.3
PTK Pertek 86.06 340 eP P 20 34 33.0 -0.1
VAY Valandovo 86.14 353 P P 20 34 32.9 -0.3
VAY Valandovo 86.14 353 P P 20 34 32.9 -0.3
VAY Valandovo 86.14 353 P P 20 34 32.9 -0.3

VAY Valandovo 86.14 353 eP P 20 34 32.8 -0.4
GULT Gulveren 86.15 347 eP P 20 34 33.9 +0.5
ALN Alexandroupoli 86.24 350 eP P 20 34 34.1 +0.4
ADVT Abdulvahap 86.25 347 eP P 20 34 36.3 +2.5
SRS Serrai 86.26 352 P P 20 34 33.9 0.0
SRS Serrai 86.26 352 P P 20 34 33.9 0.0
SRS Serrai 86.26 352 eP P 20 34 36.0 +2.1
SRS Serrai 86.26 352 P P 20 34 33.9 0.0
KNT Kendrikon 86.28 352 P P 20 34 33.9 0.0
KNT Kendrikon 86.28 352 P P 20 34 33.9 0.0
KNT Kendrikon 86.28 352 eP P 20 34 35.1 +1.2
KNT Kendrikon 86.28 352 P P 20 34 33.9 0.0
KAVA Kavala 86.30 351 P P 20 34 33.9 -0.1
KAVA Kavala 86.30 351 P P 20 34 33.9 -0.1
TIR Tirane 86.30 355 eP P 20 34 35.0 +1.0
TIR pmax pmax
comp=Z,170nm,1.0s
TIR MLR MLR
comp=Z,28µm,19.0s
TIR Tirane 86.30 355 eP P 20 34 35.0 +1.0
comp=Z,170nm,1.0s
TIR LR LR
comp=Z,28µm,19.0s
SART Tekirdag 86.32 349 iP P 20 34 36.8 +2.6
PCBR Castelo Branco 86.33 16 eP P 20 34 37.2 +3.0
comp=Z,63nm,1.7s
HAKT HAKKARI 86.34 336 iP P 20 34 35.1 +0.6
ANTO Ankara 86.35 345 eP P 20 34 35.1 +0.7
ANTO pmax pmax
comp=Z,140nm,0.8s
ANTO MLR MLR
comp=Z,16µm,19.0s
ANTO Ankara 86.35 345 P P 20 34 36.0 +1.6
SNR=37
ANTO Ankara 86.35 345 eP P 20 34 33.1 -1.3
ANTO Ankara 86.35 345 ||iP P 20 34 36.2 +1.8
ANTO Ankara 86.35 345 eP P 20 34 35.1 +0.7
comp=Z,140nm,0.8s
ANTO LR LR
comp=Z,16µm,19.0s
BR131 Keskin Array S 86.36 344 eP P 20 34 34.9 +0.4
comp=Z,113nm,0.9s
BRTR Keskin Array B 86.36 344 P P 20 34 34.9 +0.4
BRTR PKKPbc PKKPbc 20 52 35.4 +5.8
BRTR P'P' 21 00 47.0
BRTR Keskin Array B 86.36 344 P P 20 34 34.9 +0.4
comp=Z,100nm,0.8s,baz=34,slow=2.4,SNR=120
BRTR PKKPbc PKKPbc 20 52 35.4 +5.8
comp=Z,0.4nm,0.7s,baz=204,slow=3.2,SNR=2.6
BRTR PKPPKP **P'P'df 21 00 47.0 +2.0**
comp=Z,1.2nm,0.9s,baz=321,slow=1.6,SNR=4.1
BRTR LR LR 21 21 28.1
comp=Z,9µm,19.4s,baz=199,slow=42
PTOM Tomar 86.39 16 eP P 20 34 34.2 -0.3
comp=Z,62nm,1.1s
PTOM Tomar 86.39 16 ePP PP 20 37 59.7 +5.0
CAVI Cavuskoy 86.47 347 eP P 20 34 35.1 +0.2
FNG Fond-Bernard 86.51 68 eP P 20 34 36.4 +1.0
PKDT Phuket 86.53 278 P P 20 34 37.8 +2.3
comp=Z,167nm,1.0s,comp=Z,4µm
BIA Bitola 86.53 354 eP P 20 34 33.8 -1.5
LKG Breislack 86.54 68 eP P 20 34 38.0 +2.3
ECG Echelle 86.54 68 eP P 20 34 38.3 +2.6
DOG Dongo Capester 86.57 68 eP P 20 34 39.7 +3.9
ULDT Uludag 86.62 348 iP P 20 34 37.3 +1.4
CUKT Cukurca 86.66 336 eP P 20 34 34.7 -1.3
BORA Eskisehir 86.70 347 iP P 20 34 36.7 +0.6
SIRT Sirnak 86.70 337 eP P 20 34 35.1 -1.1
AFSR Af˙ar-Bala (A 86.72 344 eP P 20 34 36.4 +0.1
PMRV Marv??o 86.74 16 eP P 20 34 36.1 -0.1
comp=Z,51nm,1.6s
PMRV Marv??o 86.74 16 ePP PP 20 38 00.4 +2.8
PMRV eS S 20 45 06.2 -6.9
PMRV Marv??o 86.74 16 eLR LR 21 08 12.7
comp=Z,20µm,16.0s
FNA Florina 86.77 354 P P 20 34 35.7 -0.7
FNA Florina 86.77 354 P P 20 34 35.7 -0.7
FNA Florina 86.77 354 eP P 20 34 37.7 +1.3
FNA Florina 86.77 354 P P 20 34 35.7 -0.7
DARE Darende-Malaty 86.77 341 eP P 20 34 37.5 +1.0
THE Thessaloniki 86.80 352 P P 20 34 36.0 -0.4
THE Thessaloniki 86.80 352 P P 20 34 36.0 -0.4
THE Thessaloniki 86.80 352 P P 20 34 36.0 -0.4
BNN Bunyan 86.81 342 eP P 20 34 37.7 +1.0
MALT Malatya 86.83 340 eP P 20 34 36.0 -0.8
MALT Malatya 86.83 340 ||iP P 20 34 38.4 +1.6
DIYA Diyarbakir 86.83 339 iP P 20 34 38.0 +1.2
DIY Diyarbakir 86.84 339 eP P 20 34 38.1 +1.3
PMAFR Mafra 86.88 17 eP P 20 34 36.5 -0.4
comp=Z,168nm,2.4s
PMAFR Mafra 86.88 17 ePP PP 20 38 00.0 +1.3
PMAFR eS **S 20 45 09.9 -4.5**
PBA Port Blair 86.90 285 eP P 20 34 38.9 +1.5
PBA AMB AMB 20 34 41.4
comp=Z,111nm,2.7s
NGP Nagpur 86.90 301 ex P 20 34 34.4 -3.0
NGP AMB AMB 20 34 40.3
comp=Z,132nm,0.5s
PMTG Montargil 86.95 16 eP P 20 34 36.3 -0.9
comp=Z,47nm,1.7s
PMTG Montargil 86.95 16 ePP PP 20 37 56.8 -2.5
PMTG eS S 20 45 05.9 -9.2
SVRH Sivrihisar-ESK 86.97 346 eP P 20 34 37.9 +0.4
SDV Santo Domingo 86.97 79 eP P 20 34 37.5 -0.4
comp=Z,26nm,1.0s
SDV LR LR
comp=Z,2µm,20.0s
ESKT Eskisehir 86.99 346 eP P 20 34 38.0 +0.4
SEYT Eskypehyr 86.99 346 iP P 20 34 39.0 +1.4
OUR Ouranopolis 87.00 351 eP P 20 34 38.8 +1.4
ESDC Sonseca Array 87.02 13 P P 20 34 37.5 -0.1
ESDC PP **PP 20 38 01.1 +1.3**
ESDC Sonseca Array 87.02 13 P P 20 34 37.5 -0.1
comp=Z,11nm,0.7s,baz=344,slow=4.4,SNR=49
ESDC PP **PP 20 38 01.1 +1.3**
comp=Z,4.7nm,0.8s,baz=353,slow=8.5,SNR=7.1
ESDC LR LR 21 16 20.4
comp=Z,13µm,18.5s,baz=330,slow=38
ESLA Sonseca Array 87.02 13 eP P 20 34 36.9 -0.7
comp=Z,10.0nm,1.0s
PAB San Pablo 87.09 13 eP P 20 34 37.4 -0.6
PAB pmax pmax
comp=Z,167nm,1.1s
PAB MLR MLR
comp=Z,21µm,21.0s
PAB San Pablo 87.09 13 eP P 20 34 37.4 -0.6
comp=Z,167nm,1.1s
PAB LR LR
comp=Z,21µm,21.0s
PMST Lisbon–Monsan 87.11 17 eP P 20 34 40.7 +2.7
comp=Z,107nm,2.8s
LIS Lisbon 87.13 17 eP P 20 34 38.9 +0.8
LIS AMS AMS 21 14 29.8
comp=N,22µm,17.9s
LIS Lisbon 87.13 17 eP P 20 34 38.9 +0.8
LIS Lisbon 87.13 17 eP P 20 34 38.9 +0.8
PACT Alcochete 87.14 17 eP P 20 34 38.0 -0.1
comp=N,232nm,1.2s
PACT Alcochete 87.14 17 ePP PP 20 38 00.4 -0.4
NEST Nestorio 87.16 354 eP P 20 34 38.9 +0.6
KULM Kulim 87.17 275 P P 20 34 39.6 +1.0
KULM Kulim 87.17 275 P P 20 34 39.3 +0.7
comp=N,166nm,1.3s,comp=N,4µm
KULM Kulim 87.17 275 eP P 20 34 38.8 +0.1
comp=N,249nm,1.4s
KULM LR LR
comp=Z,8µm,20.0s
MAZI Mazidag 87.21 338 eP P 20 34 37.9 -0.8
BALY Balya 87.21 349 iP P 20 34 38.3 -0.2
KZN Kozani 87.21 353 P P 20 34 38.0 -0.6
KZN Kozani 87.21 353 P P 20 34 38.0 -0.6
KZN Kozani 87.21 353 P P 20 34 38.0 -0.6
MARD Mardin 87.27 338 iP P 20 34 40.0 +1.0
VIS Vishakhapatnam 87.42 296 eP P 20 34 39.5 -0.3
VIS AMB AMB 20 34 47.0
comp=Z,72nm,6.0s
KIZT Kizilcal 87.47 345 eP P 20 34 40.4 +0.5
EVOP Sao Brissos 87.50 16⇑ iP P 20 34 39.1 -0.8
EVOP pmax pmax
comp=Z,91nm,1.2s
EVOP Sao Brissos 87.50 16⇑ iP P 20 34 39.1 -0.8
comp=Z,91nm,1.2s
EVO Evora 87.51 16⇑ iP P 20 34 39.1 -0.9
comp=Z,91nm,1.2s

EVO eR
comp=Z,33µm,20.0s
EVO Evora 87.51 16 eP P 20 34 39.2 -0.8
comp=Z,59nm,1.3s
EVO Evora 87.51 16 ePP PP 20 38 04.3 +0.5
IPM Ipoh 87.58 274 P P 20 34 41.1 +0.5
IPM Ipoh 87.58 274 P P 20 34 40.9 +0.3
comp=Z,99nm,1.0s,comp=Z,4µm
IPM Ipoh 87.58 274 eP P 20 34 40.4 -0.3
comp=Z,221nm,1.4s
GDZ Gediz 87.61 347 iP P 20 34 40.7 +0.1
KBSD Kabsdagh 87.62 338 eP P 20 34 35.8 -4.8
AYVA Ayvalik 87.74 349 iP P 20 34 40.0 -1.0
DEMI Demirci 87.76 348 iP P 20 34 41.1 -0.1
NIG Nigde 87.76 343 eP P 20 34 42.2 +0.7
CUC Castrocucco 87.81 358 eP P 20 34 38.0 -3.4
comp=Z,58nm,1.1s
CUC LR LR
comp=Z,18µm,19.0s
PNCL Nicolau / Gran 87.83 17 eP P 20 34 41.9 +0.4
comp=Z,92nm,1.2s
PNCL Nicolau / Gran 87.83 17 ePP PP 20 38 06.9 +0.5
PNCL eS **S 20 45 26.6 +3.0**
SULT Sultanhani-AKS 87.86 344 eP P 20 34 41.8 0.0
ROSC El Rosal 87.91 85 P P 20 34 43.6 +0.9
ROSC El Rosal 87.91 85 P P 20 34 43.6 +0.9
comp=Z,4.0nm,0.3s,baz=83,slow=19,SNR=3.1
ROSC LR LR 21 19 42.0
comp=Z,4µm,18.4s,baz=359,slow=40
GZT Gaziantep 87.93 341 iP P 20 34 43.4 +1.2
THL Klokotos Trika 87.93 353 eP P 20 34 40.2 -1.7
ANDN Andirin 87.95 342 iP P 20 34 43.3 +1.0
MYKOM Kota Tinggi 87.97 270 P P 20 34 44.0 +1.5
SHUT Suhut-Afyon 87.99 346 eP P 20 34 42.4 0.0
AYKD Aykdinkavak 88.02 341 iP P 20 34 43.2 +0.8
PBAR Barrancos 88.02 16 eP P 20 34 42.0 -0.4
comp=Z,83nm,1.5s
PBAR Barrancos 88.02 16 ePP PP 20 38 07.5 -0.4
PBAR eS **SKSac 20 45 12.0 +1.7**
PBEJ Beja 88.03 16 eP P 20 34 43.0 +0.5
comp=Z,42nm,1.6s
AKHS Akhisar 88.03 348 iP P 20 34 41.8 -0.7
XOR Xorichti 88.03 352 eP P 20 34 43.8 +1.3
IGT Igoumenitsa 88.08 354 eP P 20 34 42.4 -0.3
KGM Kluang 88.12 271 P P 20 34 44.3 +1.1
WRAB Tennant Creek 88.16 233 eP P 20 34 42.1 -1.0
WRAB pmax pmax
comp=Z,127nm,1.5s
WRAB MLR MLR
comp=Z,9µm,21.0s
WRAB Tennant Creek 88.16 233 eP P 20 34 42.1 -1.0
comp=Z,127nm,1.5s
WRAB LR LR
comp=Z,9µm,21.0s
WRA Warramunga Arr 88.17 233 P P 20 34 42.4 -0.8
WRA Warramunga Arr 88.17 233 P P 20 34 42.4 -0.8
comp=Z,3.3nm,0.6s,baz=33,slow=5.8,SNR=20
WRA LR LR 21 10 40.0
comp=Z,8µm,21.1s,baz=30,slow=33
FRIM Kepong 88.19 273 P P 20 34 43.6 0.0
SFNV Sufian 88.28 338 eP P 20 34 45.4 +1.7
VSL Villasalto 88.30 3 eP P 20 34 43.6 -0.1
comp=Z,42nm,0.8s
VSL LR LR
comp=Z,18µm,19.0s
KONT Konya--Tatoy 88.30 345 eP P 20 34 42.0 -1.8
KHAL Karahalli 88.32 347 iP P 20 34 43.6 -0.3
AKL Akola 88.33 303 eP P 20 34 44.2 0.0
AKL AMB AMB 20 34 49.4
comp=Z,135nm,0.0s
PTEO Sao Teotonio 88.35 17 eP P 20 34 44.8 +0.8
comp=Z,106nm,1.3s
PCVE Castro Verde 88.38 16 eP P 20 34 44.1 0.0
comp=Z,61nm,2.1s
PCVE Castro Verde 88.38 16 ePP PP 20 38 11.4 +0.6
PCVE eS **S 20 45 29.1 +0.2**
AGG Agios Georgios 88.45 353 eP P 20 34 43.6 -0.9
MAKR Makrakomi, Fth 88.47 353 eP P 20 34 44.0 -0.6
KARA Karaisali 88.50 342 eP P 20 34 43.6 -1.1
SMIA Simia 88.52 352 eP P 20 34 44.5 -0.3
EVR Evrytania 88.59 353 eP P 20 34 45.6 +0.4
MORF Marmelete 88.59 17 eP P 20 34 44.7 -0.5
comp=Z,123nm,1.6s
MORF Marmelete 88.59 17 ePP PP 20 38 15.3 +2.7
MORF eS **S 20 45 30.4 -0.6**
MORF Marmelete 88.59 17 eP P 20 34 45.8 +0.6
MORF e 20 38 13.9
MORF eS **SKSac 20 45 14.7 +0.8**
CEYT Ceyhan 88.62 342 eP P 20 34 45.6 +0.4
PVAQ Vaqueiros 88.66 16 eP P 20 34 45.5 +0.1
comp=Z,69nm,1.7s
PVAQ Vaqueiros 88.66 16 ePP PP 20 38 14.9 +1.9
PVAQ eS **SKSac 20 45 16.9 +2.7**
PVAQ Vaqueiros 88.66 16 eLR LR 21 05 47.9
comp=Z,20µm,18.0s
ISP Isparta 88.71 346 P P 20 34 45.4 -0.4
ISP Isparta 88.71 346 eP P 20 34 46.0 +0.2
ISP pmax pmax
comp=Z,64nm,0.9s
ISP MLR MLR
comp=Z,20µm,19.0s
ISP Isparta 88.71 346 eP P 20 34 43.6 -2.2
ISP Isparta 88.71 346 eP P 20 34 46.0 +0.2
comp=Z,64nm,0.9s
ISP LR LR
comp=Z,20µm,19.0s
MZRK Al-Mazaregh 88.72 338 eP P 20 34 46.1 +0.3
PFVI Vila Bisbo 88.73 17 eP P 20 34 46.2 +0.4
comp=Z,169nm,1.7s
PFVI Vila Bisbo 88.73 17 ePP PP 20 38 13.5 -0.1
PFVI eS **SKSac 20 45 19.8 +5.2**
PBDV Barranco-do-Ve 88.78 16 eP P 20 34 46.5 +0.4
comp=Z,124nm,2.4s
PBDV Barranco-do-Ve 88.78 16 ePP PP 20 38 14.6 +0.5
PBDV eS S 20 45 26.4 -6.3
DRWC Darouich 88.82 341 eP P 20 34 45.8 +2.1
SLMH Al Salmeh 88.95 340 eP P 20 34 45.3 -1.6
SLMH eP **pP 20 34 50.5 -1.1**
PDO Prodromos 88.95 353 eP P 20 34 46.5 -0.3
SUTC Sutluce-Ispart 88.97 346 eP P 20 34 48.5 +1.4
OUZ Omahuta 88.99 196 eP P 20 34 51.1 +4.5
comp=Z,261nm,1.7s
COBT Iskenderun 89.00 341 iP P 20 34 44.4 -2.8
OTAV Otavalo 89.03 91 eP P 20 34 48.2 +0.2
comp=Z,25nm,0.9s
OTAV LR LR
comp=Z,6µm,20.0s
DESF Desfina 89.03 352 eP P 20 34 46.5 -0.8
DSF Desfina 89.04 352 eP P 20 34 46.6 -0.7
BCK Bucak 89.05 346 eP P 20 34 49.2 +1.8
KSRV Kasrt alli 89.06 339 eP P 20 34 51.4 +4.0
EFP Efpalio 89.07 353 eP P 20 34 38.1 -9.2
AYDN Tasoluk 89.23 348 iP P 20 34 48.3 +0.1
HDMB Hadim 89.24 344 eP P 20 34 47.7 -0.8
LAKA Lakka 89.25 353 eP P 20 34 43.7 -4.5
PTL Penteli 89.28 351 eP P 20 34 48.0 -0.4
JHLN Al Jahlan 89.36 339 eP P 20 34 49.4 +0.5
GOLH Golhisar 89.42 347 iP P 20 34 48.6 -0.6
BTCH Batrach 89.42 341 eP P 20 34 48.5 -0.6
KLV Kalavryta, Ach 89.43 353 eP P 20 34 48.9 -0.2
ERMK Ermenek 89.48 344 iP P 20 34 50.1 +0.5
YAYL Yayladag 89.49 341 iP P 20 34 50.1 +0.6
GUR Goura 89.52 352 eP P 20 34 49.3 -0.3
CEL Celeste 89.54 358 eP P 20 34 49.1 -0.6
comp=Z,41nm,0.9s
CEL LR LR
comp=Z,14µm,19.0s
DRO Drossia 89.56 353 eP P 20 34 50.0 +0.3
GRGR Grenville 89.68 70 PFAKE 20 35 00.0 +9.5
GRGR LR LR
comp=Z,17µm,20.0s
ARNB Al Arnab 89.69 341 iP P 20 34 51.4 +1.0
IKL Isikli 89.75 343 eP P 20 34 50.5 0.0
BHJ Bhuj 89.81 310 eP P 20 34 51.4 +0.4
BHJ AMB AMB 20 34 58.0
comp=Z,164nm,2.4s
DID Didima 89.88 352 eP P 20 34 49.7 -1.5
DIDY Didyma 89.91 352 eP P 20 34 50.0 -1.4
BBGH Gun Hill 90.06 68 PFAKE 20 35 00.0 +7.7
BBGH LR LR
comp=Z,29µm,21.0s
ARMA Armidale 90.11 215 eP P 20 34 53.6 +1.5
comp=Z,318nm,1.8s
HYB Hyderabad 90.25 300 iP P 20 34 51.5 -1.7

HYB				*e*PP	**PP**	**20 38 30.0**	**+3.5**
HYB				*e*SKS	**SKSac**	**20 45 26.0**	**+1.9**
HYB				LR	LR	21 00 00.0	
	comp=Z,18nm,20.0s						
HYB	**Hyderabad**	**90.25**	**300**	*e*P	**P**	**20 34 53.0**	**-0.2**
HYB				AMB	AMB	20 34 57.7	
	comp=Z,140nm,1.6s						
EREN	**Erenkoy**	**90.35**	**343**	*e*P	**P**	**20 34 54.1**	**+0.8**
AKAS	**Kas**	**90.40**	**347**	*i* P	P	20 34 49.9	-3.9
LATR	**Latur**	**90.47**	**302**	*ex*	P	20 34 50.2	-3.9
	comp=Z,237nm,1.9s						
VLI	**Veliai**	**90.68**	**352**	*e*P	**P**	**20 34 53.9**	**-1.0**
LFK	**Lefkose**	**90.71**	**343**	*e*P	**P**	**20 34 53.0**	**-2.2**
SANT	**Santorini**	**90.78**	**350**	PFAKE		20 35 10.0	+15
SANT				LR	LR		
	comp=Z,16μm,19.0s						
MAMC	**Mammari**	**90.87**	**343**	P	**P**	**20 34 55.0**	**-0.8**
PHNC	**Paralimni**	**90.89**	**343**	P	**P**	**20 34 54.7**	**-1.2**
	comp=Z,2.3nm,1.0s						
HAWK	**Haweek**	**90.90**	**341**	*e*P	**P**	**20 34 55.9**	**-0.2**
LEF	**Lefka**	**90.97**	**344**	*e*P	**P**	**20 34 56.0**	**-0.3**
ALFC	**Alevga**	**90.99**	**344**	P	**P**	**20 34 55.5**	**-0.9**
	comp=Z,3.4nm,0.7s						
EBNR	**Beni Rached**	**91.00**	**9**	P	**P**	**20 34 57.0**	**+0.5**
PMPST	**Porto Santo, M**	**91.02**	**24**	*e*P	**P**	**20 34 56.6**	**+0.1**
	comp=Z,183nm,2.4s						
PMPS	**Porto Santo**	**91.04**	**24**	*e*P	**P**	**20 34 58.2**	**+1.6**
	comp=Z,208nm,1.1s						
PMOZ	**Porto Moniz, M**	**91.04**	**25**	*e*P	**P**	**20 34 56.9**	**+0.1**
	comp=Z,130nm,2.7s						
PMOZ	**Porto Moniz, M**	**91.04**	**25**	*e*S	S	20 45 36.1	-18
PMOZ	**Porto Moniz, M**	**91.04**	**25**	*e*LR	LR	21 06 02.4	
	comp=Z,11μm,20.0s						
CSS	**Prodhromos**	**91.05**	**343**	P	**P**	**20 34 55.3**	**-1.4**
	comp=Z,1.3nm,1.0s						
CSS	**Prodhromos**	**91.05**	**343**	P	**P**	**20 34 56.5**	**-0.2**
CSS	**Prodhromos**	**91.05**	**343**	*e*P	**P**	**20 34 56.1**	**-0.6**
	comp=Z,102nm,0.9s						
CSS				LR	LR		
	comp=Z,10μm,20.0s						
FITZ	**Fitzroy Crossi**	**91.11**	**241**	P	**P**	**20 34 57.1**	**+0.1**
FITZ	**Fitzroy Crossi**	**91.11**	**241**	P	**P**	**20 34 57.1**	**+0.1**
	comp=Z,9.2nm,0.8s,baz=48,slow=5.3,SNR=7.2						
ECHA	**Ech Chlef**	**91.12**	**9**	P	**P**	**20 34 58.2**	**+1.3**
AKMC	**Akamas**	**91.16**	**344**	P	**P**	**20 34 56.2**	**-1.0**
EMHD	**Djebel Mahouad**	**91.22**	**8**	P	P	20 34 54.0	-3.6
EANR	**'Ain N'Sour**	**91.29**	**10**	P	**P**	**20 35 00.0**	**+2.2**
PPCY	**Paphos**	**91.30**	**344**	P	**P**	**20 34 56.8**	**-1.0**
SZAC	**Souni-Zanaja**	**91.33**	**344**	P	**P**	**20 34 56.0**	**-2.0**
	comp=Z,2.0nm,0.9s						
MARH	**Ras Al Marh**	**91.36**	**341**	*e*P	**P**	**20 34 58.9**	**+0.4**
URZ	**Urewera**	**91.45**	**192**	LR	LR	21 15 21.3	
	comp=Z,16μm,18.4s,baz=21,slow=35						
AS31	**Alice Springs**	**91.54**	**232**	*e*P	**P**	**20 35 01.3**	**+2.4**
ASAR	**Alice Springs**	**91.55**	**232**	P	**P**	**20 34 57.6**	**-1.3**
ASAR	**Alice Springs**	**91.55**	**232**	P	**P**	**20 34 57.7**	**-1.3**
	comp=Z,3.4nm,0.9s,baz=30,slow=4.5,SNR=16						
ASAR				LR	LR	21 16 50.7	
	comp=Z,12μm,19.6s,baz=30,slow=36						
POO	**Poona**	**91.77**	**304**	*e*P	**P**	**20 35 00.6**	**+0.3**
POO				AMB	AMB	20 35 05.5	
	comp=Z,142nm,0.0s						
ETRT	**Tiaret**	**91.87**	**9**	P	P	20 35 04.2	+3.6
TOTH	**TOTAH**	**92.02**	**340**	*e*P	**P**	**20 35 03.5**	**+2.2**
KEST	**Kesra**	**92.05**	**3**	P	**P**	**20 35 01.4**	**0.0**
KEST	**Kesra**	**92.05**	**3**	P	**P**	**20 35 01.4**	**0.0**
	comp=Z,7.8nm,0.9s,baz=352,slow=2.2,SNR=13						
BRBR	**Barbar**	**92.06**	**341**	*e*P	**P**	**20 35 02.0**	**+0.3**
RTC	**Rabat Centre**	**92.14**	**16**	PFAKE		20 35 10.0	+8.3
RTC				LR	LR		
	comp=Z,11μm,20.0s						
ZALF	**Zalf**	**92.25**	**340**	*e*P	**P**	**20 35 03.1**	**+0.8**
SALA	**Sala**	**92.58**	**340**	*e*P	**P**	**20 35 04.1**	**+0.1**
UMR	**Umm Al-Rimmam**	**92.76**	**330**	*e*P	**P**	**20 35 03.9**	**-0.7**
UMR				AMb	AMB	20 35 15.9	
	comp=Z,151nm,1.6s						
TCHB	**Talchebab**	**92.78**	**341**	*e*P	**P**	**20 35 06.4**	**+1.7**
MDRS	**Chennai**	**92.91**	**296**	*e*P	**P**	**20 35 06.7**	**+1.2**
MDRS				AMB	AMB	20 35 11.6	
	comp=Z,45nm,2.7s						
RST	**Umm Al-Ruwaisa**	**93.03**	**331**	*e*P	**P**	**20 35 04.6**	**-1.3**
RST				AMb	AMB	20 35 08.8	
	comp=Z,486nm,0.9s						
BANOM	**Banah**	**93.16**	**322**	P	**P**	**20 35 05.9**	**-0.7**
	SNR=12						
NAY	**Al-Naaiem**	**93.19**	**330**	*e*P	**P**	**20 35 05.2**	**-1.5**
NAY				AMb	AMB	20 35 09.2	
	comp=Z,56nm,1.1s						
RDF	**Al-Radifah**	**93.39**	**330**	*e*P	**P**	**20 35 07.2**	**-0.4**
RDF				AMb	AMB	20 35 11.8	
	comp=Z,142nm,1.2s						
QRN	**Al-Qurain**	**93.45**	**330**	*e*P	**P**	**20 35 07.1**	**-0.8**
QRN				AMb	AMB	20 35 12.4	
	comp=Z,161nm,1.9s						
RPN	**Rapa Nui**	**93.97**	**131**	PFAKE		20 35 20.0	+10
RPN				LR	LR		
	comp=Z,9μm,19.0s						
UOSS	**Wadi Hilu**	**94.08**	**321**	P	**P**	**20 35 08.5**	**-2.3**
	comp=Z,155nm,1.2s,SNR=9.4						
GOA	**Goa**	**94.33**	**302**	*e*P	**P**	**20 35 11.5**	**-0.5**
GOA				AMB	AMB	20 35 18.4	
	comp=Z,72nm,1.0s						
ASHO	**Ashiyiah**	**94.37**	**321**	P	**P**	**20 35 11.0**	**-1.2**
	SNR=12						
SNZO	**South Karori**	**94.78**	**194**	PFAKE		20 35 30.0	+17
SNZO				LR	LR		
	comp=Z,10μm,19.0s						
HOQ	**Hoqain**	**94.87**	**320**	P	**P**	**20 35 13.8**	**-0.7**
	SNR=9.0						
SMDO	**Samad**	**95.05**	**319**	P	**P**	**20 35 15.2**	**-0.2**
	SNR=13						
WBK	**Wadi Bani Khal**	**95.08**	**318**	P	**P**	**20 35 15.9**	**+0.5**
	SNR=11						
STKA	**Stephens Creek**	**95.20**	**222**	P	**P**	**20 35 17.3**	**+1.8**
STKA	**Stephens Creek**	**95.20**	**222**	P	**P**	**20 35 17.3**	**+1.8**
	comp=Z,4.6nm,1.0s,baz=282,slow=9.0,SNR=3.0						
STKA				LR	LR	21 11 25.2	
	comp=Z,10μm,20.6s,baz=17,slow=31						
ARQ	**Araqi**	**95.41**	**320**	P	**P**	**20 35 16.2**	**-0.8**
	SNR=27						
CAN	**Canberra**	**95.47**	**215**	PFAKE		20 35 30.0	+13
CAN				LR	LR		
	comp=Z,7μm,19.0s						
JMDO	**Jabal Madar**	**95.65**	**319**	P	**P**	**20 35 17.9**	**-0.2**
	SNR=14						
BSY	**Bisya**	**95.67**	**320**	P	**P**	**20 35 17.8**	**-0.3**
	SNR=22						
MBWA	**Marble Bar**	**96.80**	**244**	PFAKE		20 35 30.0	+7.0
MBWA				LR	LR		
	comp=Z,5μm,20.0s						
PALK	**Pallekele**	**97.40**	**292**	*e*P	**P**	**20 35 25.9**	**-0.2**
	comp=Z,46nm,1.2s						
RPZ	**Rata Peaks**	**97.69**	**196**	LR	LR	21 13 00.2	
	comp=Z,6μm,19.8s,baz=352,slow=31						
TRD	**Trivandrum**	**98.47**	**296**	*e*P	**P**	**20 35 30.9**	**0.0**
TRD				AMB	AMB	20 35 32.6	
	comp=Z,28nm,5.5s						
RBK	**Rabkut**	**101.58**	**320**	P	**Pdif**	**20 35 44.2**	**-0.6**
	SNR=6.8						
ABTO	**Aybut**	**102.08**	**321**	P	**Pdif**	**20 35 46.6**	**-0.3**
	SNR=8.0						
TAU	**Tasmania Unive**	**102.86**	**213**	PFAKE		20 36 00.0	+10
TAU				LR	LR		
	comp=Z,6μm,20.0s						
COCO	**West Island**	**103.21**	**267**	PFAKE		20 36 00.0	+8.2
COCO				LR	LR		
	comp=Z,4μm,19.0s						
TAM	**Tamanrasset**	**104.73**	**7**	PFAKE		20 36 10.0	+11
TAM				LR	LR		
	comp=Z,8μm,20.0s						
SAML	**Samuel**	**105.56**	**84**	*e*PKPdf	**PKiKP**	**20 40 17.7**	**+2.1**
SAML				LR	LR		
	comp=Z,11μm,21.0s						
NWAO	**Narrogin (SRO)**	**107.49**	**239**	PFAKE		20 40 30.0	
NWAO				LR	LR		
	comp=Z,6μm,19.0s						
LVC	**Limon Verde**	**112.56**	**98**	PFAKE		20 40 40.0	
LVC				LR	LR		
	comp=Z,4μm,19.0s						
TORD	**Torodi Ar. Bea**	**113.89**	**12**	Pdif	**Pdif**	**20 36 39.5**	**0.0**
TORD				PKiKP	**PKiKP**	**20 40 30.5**	**-0.9**
TORD				PKiKPbc	**PKKPbc**	**20 51 10.4**	**-0.7**
TORD	**Torodi Ar. Bea**	**113.89**	**12**	Pdiff	**Pdif**	**20 36 39.5**	**0.0**
	comp=Z,0.2nm,0.8s,baz=304,slow=1.0,SNR=2.5						
TORD				PKiKP	**PKiKP**	**20 40 30.5**	**-0.9**
	comp=Z,1.3nm,0.6s,baz=341,slow=2.4,SNR=14						
TORD				PKKPbc	**PKKPbc**	**20 51 10.4**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=155,slow=4.8,SNR=3.8						
DGAR	**Diego Garcia**	**114.07**	**290**	PFAKE		20 40 40.0	+8.3
DGAR				LR	LR		
	comp=Z,7μm,19.0s						
H03N2	**Juan Fernandez**	**114.74**	**113**	T	T	22 45 57.9	
	baz=320,slow=0.7,SNR=17						
H03N1	**Juan Fernandez**	**114.75**	**113**	T	T	22 45 57.3	
	baz=320,slow=0.7,SNR=15						
H03N3	**Juan Fernandez**	**114.76**	**113**	T	T	22 45 59.9	
	baz=320,slow=0.7,SNR=17						
LCO	**Las Campanas**	**116.25**	**104**	PFAKE		20 40 50.0	+14
LCO				LR	LR		
	comp=Z,7μm,19.0s						
RCBR	**Riachuelo**	**118.73**	**59**	PFAKE		20 40 50.0	+9.3
RCBR				LR	LR		
	comp=Z,11μm,20.0s						
TIC	**Toumodi**	**119.12**	**20**	*e*PKP1	**PKPdf**	**20 40 42.5**	**+1.0**
	comp=Z,34nm,1.0s						
DBIC	**Dimbokro**	**119.13**	**20**	PKPdf	**PKPdf**	**20 40 40.6**	**-0.9**
DBIC				PKP	**PKPdf**	**20 40 42.1**	**+0.6**
DBIC	**Dimbokro**	**119.13**	**20**	PKP	**PKPdf**	**20 40 42.1**	**+0.6**
	comp=Z,2.4nm,0.6s,baz=146,slow=3.6,SNR=5.0						
KIC	**Kosan Boka**	**119.45**	**20**	*e*PKP1	**PKPdf**	**20 40 43.4**	**+1.3**
	comp=Z,34nm,1.1s						
LIC	**Lamto**	**119.52**	**21**	*e*PKIKP	**PKPdf**	**20 40 42.5**	**+0.3**
LIC				*e*R			
	comp=Z,31μm,20.2s						
LIC	**Lamto**	**119.52**	**21**	*e*PKP1	**PKPdf**	**20 40 43.3**	**+1.1**
	comp=Z,19nm,0.7s						
LIC	**Lamto**	**119.52**	**21**	*e*PKPdf	**PKPdf**	**20 40 42.5**	**+0.3**
BDFB	**Brasilia**	**119.92**	**76**	PKP	**PKPdf**	**20 40 43.9**	**+0.9**
BDFB	**Brasilia**	**119.92**	**76**	PKP	**PKPdf**	**20 40 43.9**	**+0.9**
	comp=Z,2.7nm,0.7s,baz=191,slow=5.2,SNR=3.9						
MSEY	**Mahe Island**	**120.80**	**308**	PFAKE		20 41 00.0	+15
MSEY				LR	LR		
	comp=Z,10μm,20.0s						
CPUP	**Villa Florida**	**122.36**	**92**	PKP	**PKPdf**	**20 40 46.5**	**-0.7**
CPUP				*e*PKPdf	**PKiKP**	**20 40 47.5**	**+0.1**
CPUP	**Villa Florida**	**122.36**	**92**	PKP	**PKPdf**	**20 40 46.5**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=305,slow=4.6,SNR=4.9						
PLCA	**Paso Flores**	**124.62**	**113**	PKP	**PKPdf**	**20 40 50.6**	**-0.6**
PLCA	**Paso Flores**	**124.62**	**113**	PKP	**PKPdf**	**20 40 50.6**	**-0.6**
	comp=Z,12nm,1.1s,baz=275,slow=3.7,SNR=6.5						
KMBO	**Kilima Mbogo**	**124.86**	**330**	P	**PKPdf**	**20 40 54.4**	**+1.6**
	SNR=9.1						
KMBO	**Kilima Mbogo**	**124.86**	**330**	PKP	**PKPdf**	**20 40 52.9**	**+0.1**
KMBO				*e*PKPdf	**PKiKP**	**20 40 53.6**	**+0.5**
KMBO				LR	LR		
	comp=Z,14μm,19.0s						
KMBO	**Kilima Mbogo**	**124.86**	**330**	PKP	**PKPdf**	**20 40 52.9**	**+0.1**
	comp=Z,12nm,1.0s,baz=14,slow=5.2,SNR=16						
DRV	**Dumont d'Urvil**	**125.39**	**203**	PP	PP	20 42 29.0	-14
DRV				SKS	SKSdf	20 47 50.0	-12
DRV				SKKS	SKKSac	20 49 25.0	-15
DRV				SP	SP	20 52 31.0	-10
DRV				SS	SS	20 59 20.0	-21
MBAR	**Mbarara**	**126.12**	**338**	PFAKE		20 41 10.0	+15
MBAR				LR	LR		
	comp=Z,778nm,22.0s						
SPB	**Sao Paulo**	**126.37**	**82**	PFAKE		20 41 10.0	+15
SPB				LR	LR		
	comp=Z,9μm,21.0s						
TRQA	**Tornquist**	**127.76**	**106**	*e*PKPdf	**PKPdf**	**20 40 57.3**	**+0.1**
MSKU	**Masuku**	**129.29**	**359**	PFAKE		20 41 10.0	+9.0
MSKU				LR	LR		
	comp=Z,3.0nm,22.0s						
ASCN	**Ascension**	**130.30**	**36**	PFAKE		20 41 10.0	+7.2
ASCN				LR	LR		
	comp=Z,5μm,19.0s						
SBA	**Scott Base**	**131.11**	**187**	*e*PKIKP	**PKPdf**	**20 41 04.4**	**+2.0**
SBA				MLR	MLR		
	comp=Z,6μm,19.0s						
SBA	**Scott Base**	**131.11**	**187**	*e*PKPdf	**PKPdf**	**20 41 04.4**	**+2.0**
SBA				*e*SKP		20 44 25.4	
SBA				LR	LR		
	comp=Z,6μm,19.0s						
VNDA	**Vanda**	**131.21**	**189**	PKP	**PKPdf**	**20 41 01.5**	**-1.1**
VNDA				*e*PKPdf	**PKiKP**	**20 41 01.8**	**-1.8**
VNDA				*e*SKP		20 44 24.8	
VNDA				SKPbc	**SKPbc**	**20 44 25.7**	**-0.9**
VNDA	**Vanda**	**131.21**	**189**	PKP	**PKPdf**	**20 41 01.5**	**-1.1**
	comp=Z,1.2nm,1.0s,baz=329,slow=1.6,SNR=5.0						
VNDA				SKPbc	**SKPbc**	**20 44 25.7**	**-0.9**
	comp=Z,3.0nm,1.0s,baz=346,slow=4.2,SNR=4.2						
CASY	**Casey**	**133.70**	**214**	PFAKE		20 41 20.0	+12
CASY				LR	LR		
	comp=Z,7μm,20.0s						
RER	**Riviere de l'E**	**134.57**	**297**	PFAKE		20 41 20.0	+9.3
RER				LR	LR		
	comp=Z,5μm,20.0s						
ABPO	**Ambohimpanom**	**137.17**	**308**	*e*PKIKP	**PKPdf**	**20 41 12.8**	**-2.9**
ABPO				MLR	MLR		
	comp=Z,15μm,19.0s						
ABPO	**Ambohimpanom**	**137.17**	**308**	*e*PKPpre	**PKPdf**	**20 41 12.8**	**-2.9**
ABPO				LR	LR		
	comp=Z,15μm,19.0s						
EFI	**East Falkland**	**138.07**	**118**	PFAKE		20 41 30.0	+14
EFI				LR	LR		
	comp=Z,10μm,19.0s						
SHEL	**Horse Pasture**	**140.66**	**29**	PFAKE		20 41 30.0	+8.0
SHEL				LR	LR		
	comp=Z,5μm,19.0s						
PMSA	**Palmer Station**	**140.78**	**139**	PFAKE		20 41 30.0	+9.4
PMSA				LR	LR		
	comp=Z,10μm,19.0s						
LSZ	**Lusaka**	**140.88**	**336**	*e*PKPpre	PKPpre	20 41 15.5	
LSZ				*e*PP	**PP**	**20 44 19.7**	**-2.6**
LSZ				LR	LR		
	comp=Z,11μm,20.0s						
QSPA	**South Pole Qui**	**142.30**	**180**	*e*PKPpre	PKPpre	20 41 17.8	
QSPA				PKPpre	PKPpre	20 41 18.3	
QSPA				*e*PKPdf	**PKPdf**	**20 41 25.0**	**+1.5**
QSPA				LR	LR		
	comp=Z,9μm,19.0s						
QSPA	**South Pole Qui**	**142.30**	**180**	PKhKP	PKPpre	20 41 18.3	
PAF	**Port-aux-Franc**	**144.52**	**252**	PFAKE		20 41 40.0	+12
PAF				LR	LR		
	comp=Z,13μm,19.0s						
TSUM	**Tsumeb**	**146.53**	**352**	*e*PKPdf	**PKPbc**	**20 41 33.2**	**-0.5**
LBTB	**Lobatse**	**150.87**	**336**	*e*PKPbc	**PKPbc**	**20 41 45.5**	**+0.7**
LBTB				*e*PP	**PP**	**20 45 21.9**	**+0.4**
MAW	**Mawson**	**151.84**	**218**	PKPbc	**PKPbc**	**20 41 45.6**	**0.0**
MAW	**Mawson**	**151.84**	**218**	PKPbc	**PKPbc**	**20 41 45.6**	**0.0**
	comp=Z,20nm,1.0s,baz=324,slow=1.9,SNR=22						
BOSA	**Boshof**	**154.39**	**334**	PKP	**PKPdf**	**20 41 43.2**	**-1.1**
BOSA				*e*PKPdf	**PKPdf**	**20 41 43.5**	**-0.9**
BOSA				PKPbc	**PKiKP**	**20 41 52.9**	**+0.2**
BOSA				PKPab	**PKPab**	**20 42 06.7**	**-0.1**
BOSA				*e*PP	**PP**	**20 45 42.2**	**+0.7**
BOSA	**Boshof**	**154.39**	**334**	PKP	**PKPdf**	**20 41 43.2**	**-1.1**
	comp=Z,5.1nm,0.9s,baz=27,slow=2.3,SNR=4.8						
BOSA				PKPbc	**PKiKP**	**20 41 52.9**	**+0.2**
	comp=Z,19nm,0.9s,baz=35,slow=1.7,SNR=6.9						
BOSA				PKPab	**PKPab**	**20 42 06.7**	**-0.1**
	comp=Z,35nm,0.8s,baz=18,slow=3.4,SNR=8.2						
TRIS	**Tristan da Cun**	**156.56**	**59**	PFAKE		20 42 00.0	+13
TRIS				LR	LR		
	comp=Z,7μm,21.0s						
SUR	**Sutherland**	**159.04**	**341**	PFAKE		20 42 00.0	+10
SUR				LR	LR		
	comp=Z,18μm,20.0s						
SYO	**Syowa Base**	**159.24**	**207**	*e*PKPdf	**PKPdf**	**20 41 50.6**	**+1.6**
SYO	**Syowa Base**	**159.24**	**207**	*e*PKPab	**PKPab**	**20 42 27.4**	**+0.9**
SNAA	**Sanae**	**159.58**	**166**	*e*PKPdf	**PKPdf**	**20 41 48.6**	**-0.9**
SNAA				PKP	**PKPdf**	**20 41 49.1**	**-0.4**
SNAA	**Sanae**	**159.58**	**166**	PKP	**PKPdf**	**20 41 49.1**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=180,slow=20,SNR=3.3						
MAIT	**Maitri**	**161.68**	**179**	*e*P	**PKPdf**	**20 41 51.0**	**-0.7**

JMA 13 20:27:53.4±0.5, 33.66N×141.71E, h20km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.16**	**329**	P	Pb	20 28 14.6	+0.5
BSO3	**Boso 3**	**1.51**	**319**	P	Pb	20 28 20.0	-0.4
JHJ2	**Mitsune**	**1.68**	**251**	P	Pb	20 28 22.9	-0.7
JHCJ	**Hachijojimakas**	**1.70**	**250**	P	Pn	20 28 22.8	+0.8
BSO4	**Boso 4**	**1.75**	**320**	P	Pb	20 28 23.9	-0.7
KTR	**Katsuura**	**1.88**	**323**	P	Pn	20 28 25.7	+1.3
JIM2	**Oshima 3**	**2.16**	**300**	P	Pn	20 28 28.5	+0.1
JKO	**Kozu shima**	**2.20**	**285**	P	Pn	20 28 29.8	+1.0
JIZS	**Izushimoda**	**2.57**	**295**	P	Pn	20 28 34.5	+0.6
JOD2	**Odawara 2**	**2.69**	**307**	P	Pn	20 28 35.9	+0.3
JYN	**Shimob**	**3.19**	**306**	P	Pn	20 28 43.8	+1.3
MAT	**Matsushiro**	**4.06**	**316**	P	Pn	20 28 55.9	+1.4

IDC 13 20:28:38.2±1.2, 54.03S×140.83E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.7/13, mbtmp3.7/4, Error ellipse: s-maj=111.1km s-min=20.3km az=84.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**22.15**	**2**	P	P	20 33 36.0	+0.5
	3.2nm,0.8s,baz=160,slow=15,SNR=4.3						
VNDA	**Vanda**	**24.78**	**169**	P	P	20 34 00.9	-0.3
	0.4nm,0.6s,baz=324,slow=9.0,SNR=3.0						
H01W1	**Cape Leeuwin H**	**26.73**	**305**	T	T	21 02 10.9	
	baz=142,slow=0.7,SNR=27						
H01W2	**Cape Leeuwin H**	**26.74**	**305**	T	T	21 02 11.4	
	baz=142,slow=0.7,SNR=36						
H01W3	**Cape Leeuwin H**	**26.75**	**305**	T	T	21 02 11.6	
	baz=142,slow=0.7,SNR=29						
ASAR	**Alice Springs**	**30.77**	**348**	P	P	20 34 54.9	-0.4
	1.2nm,0.8s,baz=168,slow=9.9,SNR=16						
QSPA	**South Pole Qui**	**36.08**	**180**	P	P	20 35 41.5	+0.2
	1.1nm,0.7s						
H08S2	**Diego Garcia H**	**71.18**	**283**	T	T	21 57 42.7	
	baz=144,slow=0.7,SNR=7.5						
H08S1	**Diego Garcia H**	**71.19**	**283**	T	T	21 57 43.5	
	baz=144,slow=0.7,SNR=5.3						
H08S3	**Diego Garcia H**	**71.20**	**283**	T	T	21 57 45.2	
	baz=144,slow=0.7,SNR=6.9						
H08N1	**Diego Carcia H**	**73.09**	**283**	T	T	21 59 58.9	
	baz=227,slow=0.7,SNR=14						
H08N3	**Diego Garcia H**	**73.10**	**283**	T	T	21 59 57.6	
	baz=227,slow=0.7,SNR=6.5						
H08N2	**Diego Garcia H**	**73.11**	**283**	T	T	21 59 59.1	
	baz=227,slow=0.7,SNR=14						
GERES	**GERESS Array B**	**147.29**	**283**	PKPbc	PKPbc	20 48 22.1	-0.7
	0.2nm,0.4s,baz=158,slow=2.9,SNR=2.6						

IDC 13 20:43:13.0±11.0, 14.85S×173.26W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/19, mbtmp3.6/3, Error ellipse: s-maj=523.9km s-min=34.0km az=139.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.71**	**57**	Pn	Pn	20 43 36.3	-8.0
	33nm,0.3s,baz=248,slow=3.1,SNR=12						
AFI				Sn	Sn	20 43 50.7	-16
	170nm,0.3s,baz=217,slow=20,SNR=25						
WRA	**Warramunga Arr**	**50.10**	**256**	P	P	20 52 10.2	-0.2
	0.6nm,0.9s,baz=88,slow=6.9,SNR=5.2						
ASAR	**Alice Springs**	**50.41**	**251**	P	P	20 52 12.2	-0.6
	1.1nm,0.6s,baz=86,slow=8.2,SNR=17						
ILAR	**Diengon Array**	**81.88**	**11**	P	P	20 55 33.1	-0.8
	0.2nm,0.7s,baz=223,slow=3.7,SNR=3.9						
BRTR	**Keskin Array B**	**145.81**	**322**	PKPbc	PKPab	21 02 55.8	+0.7
	1.3nm,0.8s,baz=24,slow=3.9,SNR=5.3						

MAN 13 20:45:09, 17.63N×120.07E, h17km, mb4.7, ML3.6, MS3.6, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIPP	**Brgy, Tapao**	**0.47**	**52**	*e*P	Pg	20 45 18.3	-0.1
ABRA	**Dolores**	**0.61**	**88**	*e*P	Pg	20 45 20.8	-0.3
PIP	**Pasuquin**	**0.86**	**37**	*i* P	Pb	20 45 25.6	0.0
APYP	**Conner**	**1.14**	**78**	*e*P	Pn	20 45 28.9	-1.2
APYP				*e*S	Sn	20 45 45.6	+0.3
CAUP	**Cauayan**	**1.81**	**112**	*e*P	Pb	20 45 40.9	-0.7
PALP	**Palanan**	**2.32**	**104**	*e*P	Pn	20 45 46.9	+0.5
BALP	**Baler**	**2.37**	**142**	*e*P	Pn	20 45 47.0	-0.1

IDC ***13*** *20:48:08.9±3.0, 13.23S×166.95E, h20km±17km, mb4.9/17, mb1 5.0/19, mb1mx4.9/22, mbtmp4.9/19, ML3.6/1, Error ellipse: s-maj=20.5km s-min=14.3km az=112.0*

MOS ***13*** *20:48:09.4±0.9, 13.19S×166.86E, h33km, mb5.2/16, Error ellipse: s-maj=10.5km s-min=9.7km az=5.5*

NEIC ***13*** *20:48:11.9±1.1, 13.13S×166.91E, h43km±9km, mb5.2/33, Error ellipse: s-maj=8.6km s-min=6.8km az=97.0*

ISCJB ***13*** *20:48:11.2±1.8, 13.15S±0.04×166.85E±0.06, h47km±14km, mb5.2/70, MS5.5/4, Error ellipse: s-maj=9.9km s-min=7.2km az=2.5*

BJI ***13*** *20:48:13.4, 12.61S×166.65E, h40km, mB5.5/8, mb5.4/43, Ms5.3/8, Ms7 5.5/11*

DJA ***13*** *20:48:21.0±1.3, 13°S±5°×16°7E±°, h106km±13km, M5.2/24, mb5.2/24*

AUST ***13*** *20:48:37.8±0.6, 13°45S×166°63E, h278km, Error ellipse: s-maj=1.1km s-min=0.9km az=

baz=29,SNR=13
STKA Stephens Creek 29.77 227 P **P** **20 54 14.4 -0.4**
comp=Z,7.1nm,0.6s,baz=52,slow=9.3,SNR=16
STKA PcP **PcP** **20 57 17.3 -0.8**
comp=Z,14nm,0.8s,baz=23,slow=3.5,SNR=11
STKA ScP **ScP** **21 01 00.6 +2.9**
comp=Z,6.5nm,1.0s,baz=121,slow=5.9,SNR=3.5
TOO Toolangi 30.92 214 P **P** **20 54 26.1 +1.1**
baz=31,SNR=7.4
WRAB Tennant Creek 31.90 253 *eP* **P** **20 54 32.0 -1.7**
WRAB pmax pmax
comp=Z,23nm,1.0s
WRAB Tennant Creek 31.90 253 P **P** **20 54 32.0 -1.7**
comp=Z,166nm,0.7s,SNR=7.9
WRAB Tennant Creek 31.90 253 *eP* **P** **20 54 31.9 -1.7**
comp=Z,24nm,1.0s
WRA Warramunga Arr 31.91 253 P **P** **20 54 32.2 -1.6**
WRA PcP **PcP** **20 57 23.2 -0.7**
WRA ScP **ScP** **21 01 04.5 -0.4**
WRA Warramunga Arr 31.91 253 P **P** **20 54 32.2 -1.6**
comp=Z,20nm,0.7s,baz=85,slow=9.9,SNR=148
WRA PcP **PcP** **20 57 23.2 -0.7**
comp=Z,5.8nm,0.9s,baz=83,slow=3.1,SNR=8.2
WRA ScP **ScP** **21 01 04.5 -0.4**
comp=Z,2.8nm,1.1s,baz=74,slow=3.4,SNR=5.5
AS31 Alice Springs 32.94 247 *eP* **P** **20 54 41.1 -1.7**
AS31 *e*PcP **PcP** **20 57 25.6 -1.1**
ASAR Alice Springs 32.94 247 P **P** **20 54 41.4 -1.5**
ASAR PcP **PcP** **20 57 25.9 -0.9**
ASAR ScP **ScP** **21 01 09.5 +1.0**
ASAR Alice Springs 32.94 247 P **P** **20 54 41.4 -1.5**
comp=Z,20nm,0.6s,baz=73,slow=9.5,SNR=209
ASAR PcP **PcP** **20 57 25.9 -0.9**
comp=Z,9.7nm,0.8s,baz=78,slow=2.5,SNR=17
ASAR ScP **ScP** **21 01 09.5 +1.0**
comp=Z,3.1nm,0.9s,baz=84,slow=3.7,SNR=10
KDU Kakadu 33.56 267 P **P** **20 54 47.8 -0.5**
baz=33,SNR=8.3
MOO Moorlands 33.82 207 P **P** **20 54 51.4 +1.3**
baz=34,SNR=6.2
TAU Tasmania Unive 34.14 206 *eP* **P** **20 54 53.1 +0.2**
TAU pmax pmax
comp=Z,35nm,0.9s
TAU Tasmania Unive 34.14 206 *eP* **P** **20 54 53.1 +0.2**
comp=Z,35nm,0.9s
BBOO Buckleboo 34.29 230 P **P** **20 54 54.5 +0.1**
baz=34,SNR=6.5
KNRA Kununurra 37.01 261 P **P** **20 55 17.2 -0.7**
baz=37,SNR=13
PALU Palau 38.13 300 P **P** **20 55 28.0 +0.6**
baz=38,SNR=3.6
FITZ Fitzroy Crossi 39.99 258 P **P** **20 55 42.6 -0.4**
baz=40,SNR=10
MBWA Marble Bar 45.65 253 *eP* **P** **20 56 28.4 -0.5**
comp=Z,69nm,1.1s
MBWA *e*PcP **PcP** **20 58 05.8 -0.9**
CBIJ Chichi jima 46.67 329 P **P** **20 56 36.9 +0.2**
JCJ Chichijima 46.67 329 P **P** **20 56 36.9 +0.2**
comp=Z,49nm,0.4s,baz=230,slow=6.7,SNR=12
MEEK Meekatharra 47.09 246 P **P** **20 56 40.0 -0.1**
baz=47,SNR=60
KAPI Kappang 47.21 275 P **P** **20 56 40.3 -0.8**
comp=Z,420nm,0.9s,SNR=7.7
KAPI Kappang 47.21 275 P **P** **20 56 40.7 -0.5**
comp=Z,82nm,1.1s
KAPI Kappang 47.21 275 *eP* **P** **20 56 40.1 -1.0**
comp=Z,115nm,1.3s
KLBR Kellerberrin 48.59 239 P **P** **20 56 50.6 -1.0**
baz=48,SNR=5.6
NWAO Narrogin (SRO) 49.27 238 *eP* **P** **20 56 55.7 -1.2**
comp=Z,31nm,0.7s
NWAO Narrogin (SRO) 49.27 238 P **P** **20 56 55.7 -1.2**
comp=Z,42nm,0.7s,baz=88,slow=8.7,SNR=31
BLDU Ballidu 49.30 241 P **P** **20 56 56.4 -0.7**
baz=49,SNR=5.9
MORW Morawa 49.65 243 P **P** **20 56 59.4 -0.4**
baz=49,SNR=14
RKGY Rocky Gully 49.84 236 P **P** **20 57 01.5 +0.4**
baz=49,SNR=5.7
GIRL Giralia 50.79 251 P **P** **20 57 09.4 +0.8**
baz=50,SNR=3.5
MYLDM Lahad Datu 51.42 288 P **P** **20 57 14.6 +1.2**
TSM Tawau 51.70 286 P **P** **20 57 16.4 +1.0**
SDKM Sandakan 52.80 288 P **P** **20 57 24.2 +0.5**
KKM Kota Kinabalu 53.85 288 P **P** **20 57 32.5 +1.0**
KKM Kota Kinabalu 53.85 288 *eP* **P** **20 57 31.4 -0.1**
BTM Bintulu 55.85 283 P **P** **20 57 46.9 +1.0**
MAJO Matsushiro 56.37 332 *eP* **P** **20 57 48.5 -0.6**
MAJO pmax pmax
comp=Z,13nm,0.6s
MAJO Matsushiro 56.37 332 *eP* **P** **20 57 48.5 -0.6**
comp=Z,13nm,0.6s
MAT Matsushiro 56.37 332 P **P** **20 57 48.7 -0.4**
SBUM Sibu 56.44 282 P **P** **20 57 50.8 +0.7**
SBUM Sibu 56.44 282 P **P** **20 57 50.8 +0.7**
comp=Z,50nm,0.8s
JNU Nakatsue 57.46 324 *eP* **P** **20 57 57.0 0.0**
comp=Z,12nm,0.7s
KSM Kuching 57.99 280 P **P** **20 58 01.4 +0.3**
KSM Kuching 57.99 280 P **P** **20 58 01.3 +0.3**
comp=Z,35nm,1.2s
KSM Kuching 57.99 280 *eP* **P** **20 58 00.6 -0.4**
comp=Z,50nm,1.2s
KSM Kuching 57.99 280 P **P** **20 58 01.3 +0.3**
baz=58,SNR=10
TPUB Ta-pu 58.01 308 *eP* **P** **20 57 59.7 -1.3**
comp=Z,31nm,0.8s
YHNB Yeheng 58.22 310 *eP* **P** **20 58 02.2 -0.3**
comp=Z,121nm,1.4s
CISI Cisompet, Garu 58.30 269 P **P** **20 58 02.7 -0.6**
baz=58,SNR=4.0
KSRS Korea Array 62.26 326 P **P** **20 58 30.3 +0.5**
comp=Z,7.7nm,0.7s,baz=138,slow=6.9,SNR=23
KSAR Wonju Array Be 62.27 326 P **P** **20 58 30.3 +0.4**
YSS Yuzh-Sakhalins 63.64 342 *eP* **P** **20 58 41.5 +2.7**
MYKOM Kota Tinggi 64.28 278 P **P** **20 58 44.6 +0.9**
MYKOM Kota Tinggi 64.28 278 P **P** **20 58 45.0 +1.3**
comp=Z,32nm,1.0s
NJ2 Nanjing 64.33 316 *eP* **P** **20 58 43.5 -0.1**
NJ2 sP **sP** **20 58 56.6 -1.6**
NJ2 AMB AMB
comp=Z,60nm,1.0s
VNDA Vanda 64.41 181 *eP* **P** **20 58 43.6 +0.1**
comp=Z,18nm,1.4s
VNDA Vanda 64.41 181 P **P** **20 58 43.8 +0.3**
comp=Z,13nm,1.3s,baz=356,slow=8.0,SNR=16
QIZ Qiongzhong 64.69 299 P **P** **20 58 46.8 +0.5**
QIZ AMB AMB
comp=Z,52nm,1.0s
SBA Scott Base 64.69 180 *eP* **P** **20 58 46.3 +1.0**
SBA pmax pmax
comp=Z,8.0nm,0.8s
SBA Scott Base 64.69 180 *eP* **P** **20 58 46.3 +1.0**
comp=Z,8.5nm,0.8s
CASY Casey 64.84 202 *eP* **P** **20 58 45.6 -0.8**
comp=Z,48nm,1.3s
KGM Kluang 64.85 279 P **P** **20 58 48.4 +1.0**
KGM Kluang 64.85 279 P **P** **20 58 48.4 +1.0**
USRK Ussuriysk Arra 65.34 333 P **P** **20 58 51.2 +1.3**
comp=Z,24nm,1.0s,baz=130,slow=6.7,SNR=39
KTGM Kuala Trenggan 65.95 282 P **P** **20 58 55.5 +0.9**
KTGM Kuala Trenggan 65.95 282 P **P** **20 58 55.7 +1.2**
WHN Wuhan 66.65 312 ⇑P **P** **20 58 58.6 -0.1**
WHN AMB AMB
comp=Z,50nm,0.7s
MDJ Mudanjiang 66.75 332 P **P** **20 59 00.0 +1.0**
MDJ pP **pP** **20 59 09.8 +0.2**
MDJ sP **sP** **20 59 13.5 -0.1**
MDJ PcP **PcP** **20 59 28.3 +0.5**
MDJ PP **PP** **21 01 27.4 +0.9**
MDJ S **S** **21 07 50.0 +1.3**
MDJ AMB AMB
comp=Z,23nm,0.9s
MDJ Mudanjiang 66.75 332 *eP* **P** **20 58 59.3 +0.3**
comp=Z,23nm,1.0s
FRIM Kepong 66.81 279 P **P** **20 59 00.2 +0.1**
PPI Padang Panjang 67.06 275 P **P** **20 59 02.0 +0.4**
baz=67,SNR=11
IPM Ipoh 67.72 280 P **P** **20 59 06.1 +0.2**
IPM Ipoh 67.72 280 P **P** **20 59 06.3 +0.5**
IPM Ipoh 67.72 280 P **P** **20 59 06.1 +0.2**
comp=Z,75nm,1.0s
CN2 Changchun 68.14 329 *eP* **P** **20 59 08.3 +0.5**
CN2 *e*S **S** **21 08 02.9 -2.5**
CN2 AMB AMB
comp=Z,60nm,0.8s
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,5μm,14.0s
CN2 LR LR
comp=Z,3μm,14.0s
CN2 LR LR
comp=Z,4μm,16.0s
KULM Kulim 68.31 281 P **P** **20 59 09.9 +0.4**
KULM Kulim 68.31 281 P **P** **20 59 09.9 +0.4**
comp=Z,39nm,1.2s
KULM Kulim 68.31 281 *eP* **P** **20 59 09.3 -0.2**
comp=Z,57nm,1.4s
PANO Nakornpanom 68.50 295 P **P** **20 59 11.3 +0.7**
comp=Z,42nm,1.7s
SKNT Sakolnakorn 69.00 294 P **P** **20 59 13.8 +0.1**
comp=Z,83nm,0.9s
PSI Prapat 69.30 278 P **P** **20 59 15.0 -0.9**
baz=69,SNR=13
NONG Nongkai 70.14 295 P **P** **20 59 21.0 +0.3**
comp=Z,64nm,0.8s,comp=Z,6μm
CHAI Chaiyaphum 70.40 292 P **P** **20 59 22.3 -0.1**
comp=Z,9.2nm,0.8s
GYA Guiyang 70.55 304 ⇑*iP* **P** **20 59 23.1 -0.2**
GYA pP **pP** **20 59 35.6 +1.6**
GYA PP **PP** **21 02 04.0 +4.0**
GYA S **S** **21 08 34.5 -0.4**
GYA sS **sS** **21 08 52.9 +0.4**
GYA AMB AMB
comp=Z,20nm,0.8s
GYA AMB AMB
comp=Z,140nm,5.9s
GYA LR LR
comp=Z,670nm,19.8s
GYA LR LR
comp=Z,550nm,20.0s
BJT Baijiatuau 70.83 321 *eP* **P** **20 59 24.7 +0.1**
BJI Beijing 70.84 321 P **P** **20 59 24.9 +0.3**
BJI AMB AMB
comp=Z,27nm,0.8s
PHET Kaeng Krachan 71.55 289 P **P** **20 59 30.7 +1.3**
comp=Z,58nm,0.9s
LOEI Loei 71.61 294 P **P** **20 59 28.0 -1.7**
comp=Z,56nm,0.7s,comp=Z,3μm
XAN Xi'an 72.39 312 P **P** **20 59 34.4 +0.3**
XAN pP **pP** **20 59 43.5 -1.4**
XAN AMB AMB
comp=Z,13nm,0.8s
KMI Kunming 73.20 302 P **P** **20 59 40.5 +1.2**
KMI pP **PcP** **20 59 53.1 -2.7**
KMI sP **sP** **20 59 56.9 +2.8**
KMI AMB AMB
comp=Z,90nm,1.0s
CM31 Chiang Mai Arr 74.01 294 *eP* **P** **20 59 44.7 +0.8**
comp=Z,30nm,0.8s
CMAR Chiang Mai Arr 74.01 294 P **P** **20 59 44.8 +0.8**
CMAR Chiang Mai Arr 74.01 294 P **P** **20 59 44.8 +0.8**
comp=Z,26nm,0.8s,baz=124,slow=4.5,SNR=145
CHTO Chiang Mai 74.13 294 *eP* **P** **20 59 44.8 +0.1**
CHTO pmax pmax
comp=Z,117nm,1.0s
CHTO Chiang Mai 74.13 294 P **P** **20 59 45.1 +0.4**
comp=Z,164nm,1.4s
CHTO Chiang Mai 74.13 294 *eP* **P** **20 59 44.8 +0.1**
comp=Z,117nm,1.0s
CHTO Chiang Mai 74.13 294 P **P** **20 59 45.1 +0.4**
comp=Z,164nm,1.4s
HHC Hu-ho-hao-te 74.18 320 *eP* **P** **20 59 45.0 +0.4**
HHC PcP **PcP** **21 00 00.4 +0.9**
HHC PP **PP** **21 02 32.1 +1.3**
HHC S **S** **21 09 14.8 -1.0**
HHC SKS **SKSac** **21 09 45.8 -4.0**
HHC ScS **SKKSac** **21 09 49.6 -0.5**
HHC LR LR
comp=Z,2μm,18.0s
HIA Hailar 74.77 330 *eP* **P** **20 59 48.0 +0.2**
comp=Z,16nm,0.7s
CD2 Chengdu 74.79 307 P **P** **20 59 48.8 +0.5**
CD2 pP **pP** **20 59 59.6 +0.5**
CD2 sP **sP** **21 00 03.8 +0.7**
CD2 PP **PP** **21 02 38.5 +2.4**
CD2 S **S** **21 09 21.8 -1.1**
CD2 sS **sS** **21 09 39.8 -0.9**
CD2 AMB AMB
comp=Z,70nm,0.9s
SEY Seymchan 76.70 353 *iP* **P** **20 59 58.8 +0.4**
QSPA South Pole Qui 76.86 180 *eP* **P** **20 59 59.4 -0.3**
comp=Z,16nm,0.8s
LZH Lanzhou 77.02 312 *eP* **P** **21 00 02.8 +1.7**
LZH AMB AMB
comp=Z,75nm,1.0s
LZH AMB AMB
comp=Z,350nm,5.0s
YAK Yakutsk 80.44 343 *eP* **P** **21 00 17.2 -1.8**
YAK pmax pmax
comp=Z,13nm,0.9s
SONM Songino Array 81.04 324 P **P** **21 00 23.0 +0.2**
SONM Songino Array 81.04 324 P **P** **21 00 23.0 +0.2**
comp=Z,6.1nm,0.7s,baz=136,slow=6.0,SNR=26
GTA Gaotai 81.34 314 *eP* **P** **21 00 25.8 +1.2**
GTA pP **pP** **21 00 34.1 -1.4**
GTA sP **sP** **21 00 39.1 -0.3**
GTA AMB AMB
comp=Z,48nm,1.1s
TRF Thorofare Moun 83.16 18 *eP* **P** **21 00 32.8 -0.8**
comp=Z,4.1nm,0.7s
MAW Mawson 83.20 202 P **P** **21 00 33.3 -0.3**
MAW Mawson 83.20 202 P **P** **21 00 33.7 0.0**
baz=83,SNR=7.7
MAW Mawson 83.20 202 P **P** **21 00 33.3 -0.3**
comp=Z,3.4nm,0.5s,baz=124,slow=6.1,SNR=12
MCK McKinley 83.78 18 *eP* **P** **21 00 35.7 -0.9**
MCK pmax pmax
comp=Z,12nm,1.1s
MCK McKinley 83.78 18 *eP* **P** **21 00 35.7 -0.9**
comp=Z,12nm,1.1s
ZAK Zakamensk 84.08 325 *eP* **P** **21 00 38.0 -0.6**
ZAK pmax pmax
comp=Z,14nm,1.2s
PAX Paxson 84.33 20 *eP* **P** **21 00 36.6 -2.9**
PAX pmax pmax
comp=Z,2.0nm,1.0s
PAX Paxson 84.33 20 *eP* **P** **21 00 36.6 -2.9**
comp=Z,1.6nm,1.0s
LSA Lhasa 84.44 302 *eP* **P** **21 00 41.9 +0.6**
LSA pmax pmax
comp=Z,9.0nm,0.6s
LSA Lhasa 84.44 302 *eP* **P** **21 00 41.9 +0.6**
comp=Z,9.4nm,0.6s
TLY Talaya 84.51 326 *eP* **P** **21 00 40.5 0.0**
TLY pmax pmax
comp=Z,18nm,0.8s
TLY Talaya 84.51 326 P **P** **21 00 40.6 0.0**
comp=Z,138nm,0.8s,SNR=5.0
CMB Columbia Colle 84.84 49 *eP* **P** **21 00 41.4 -1.2**
CMB Columbia Colle 84.84 49 *eP* **P** **21 00 41.4 -1.2**
COLA College 84.94 18 *eP* **P** **21 00 41.6 -0.7**
COLA pmax pmax
comp=Z,51nm,0.9s
COLA College 84.94 18 *eP* **P** **21 00 41.6 -0.7**
comp=Z,51nm,0.9s
ILAR Eielson Array 85.15 18 P **P** **21 00 42.8 -0.7**
ILAR Eielson Array 85.15 18 P **P** **21 00 42.8 -0.7**
comp=Z,3.9nm,0.6s,baz=242,slow=5.0,SNR=52
ISA Isabella 85.46 52 P **P** **21 00 46.1 +0.3**
ISA Isabella 85.46 52 P **P** **21 00 46.1 +0.3**
COLD Coldfoot 86.02 15 *eP* **P** **21 00 48.2 +0.5**
comp=Z,6.1nm,1.0s
NVAR Mina Array Bea 86.51 49 P **P** **21 00 52.4 +1.2**
NVAR Mina Array Bea 86.51 49 P **P** **21 00 52.4 +1.2**
comp=Z,1.7nm,0.6s,baz=230,slow=7.0,SNR=4.8
TAPN Taplejung 86.63 299 *eP* **P** **21 00 51.9 -0.2**
comp=Z,64nm,1.3s
ODAN Odare 86.76 298 *eP* **P** **21 00 52.5 -0.1**
comp=Z,66nm,0.9s
EGAK Eagle 86.96 20 *eP* **P** **21 00 51.9 -0.6**
comp=Z,10nm,1.0s
RAMN Ramite 87.47 298 *eP* **P** **21 00 55.7 -0.4**
comp=Z,11nm,0.6s
PALK Palikele 87.98 278 P **P** **21 01 00.4 +1.9**
comp=Z,16nm,1.4s
JIRN Jiri 88.01 299 *eP* **P** **21 00 58.6 -0.2**
comp=Z,25nm,0.7s
GUN Gumba 88.34 299 *eP* **P** **21 01 00.0 -0.4**
comp=Z,34nm,0.8s
TIXI Tiksi 88.38 349 *eP* **P** **21 00 58.6 -0.4**
TIXI pmax pmax
comp=Z,3.0nm,1.0s
PKI Pulchoki 88.66 299 *eP* **P** **21 01 01.2 -0.6**
PKIN Phulchoki 88.67 299 *eP* **P** **21 01 01.6 -0.2**
comp=Z,12nm,0.7s
KKN Kakani 88.82 299 *eP* **P** **21 01 02.1 -0.4**
comp=Z,39nm,0.8s
DMN Daman 88.92 299 *eP* **P** **21 01 02.7 -0.3**
comp=Z,91nm,0.9s
GKN Gorkha 89.43 299 *eP* **P** **21 01 04.3 -0.9**
comp=Z,56nm,0.9s
HVS Khovu-Aksy 89.92 323 *dP* **P** **21 01 07.0 +0.1**
HVS pmax pmax
comp=Z,64nm,1.0s
SYO Syowa Base 90.10 197 ⇑*iP* **P** **21 01 05.4 -1.9**
SYO Syowa Base 90.10 197 ⇓*iPcP* **P** **21 01 07.0 -0.3**
KOLN Koldanda 90.26 298 *eP* **P** **21 01 07.6 -1.6**
comp=Z,19nm,0.9s
DANN Dangsing 90.27 299 *eP* **P** **21 01 08.1 -1.2**
comp=Z,30nm,0.7s
WMQ Urumqi 91.39 315 P **P** **21 01 13.8 -0.1**
WMQ pP **pP** **21 01 24.3 -0.6**
WMQ sP **sP** **21 01 28.3 -0.5**
WMQ AMB AMB
comp=Z,17nm,1.0s
WMQ LR LR
comp=Z,3μm,19.0s
HYB Hyderabad 92.34 287 *iP* **P** **21 01 17.0 -1.8**
SNAA Sanae 95.08 183 *eP* **P** **21 01 29.8 -0.6**
SNAA Sanae 95.08 183 *eP* **P** **21 01 29.2 -1.2**
comp=Z,14nm,1.3s
TXAR Lajitas Array 95.83 61 PKKP 21 18 23.8
comp=Z,0.5nm,0.7s,baz=120,slow=3.2,SNR=7.3
MK31 Makanchi Array 95.84 317 *eP* **P** **21 01 33.6 -0.6**
MK31 Makanchi Array 95.84 317 *eP* **P** **21 01 33.6 -0.6**
MKAR Makanchi Array 95.84 317 P **P** **21 01 34.0 -0.3**
MKAR 21 05 31.9
MKAR Makanchi Array 95.84 317 P **P** **21 01 34.0 -0.3**
MKAR PP **PP** **21 05 31.9 +5.2**
MKAR Makanchi Array 95.84 317 P **P** **21 01 34.0 -0.3**
comp=Z,10nm,0.7s,baz=97,slow=6.5,SNR=53
MKAR PP **PP** **21 05 31.9 +5.2**
comp=Z,1.6nm,0.9s,baz=98,slow=8.7,SNR=4.8
ZAA0 Zalesovo Array 95.93 324 *eP* **P** **21 01 32.8 -1.6**
ZALV Zalesovo Beam 95.93 324 P **P** **21 01 33.0 -1.4**
ZALV Zalesovo Beam 95.93 324 P **P** **21 01 33.0 -1.4**
ZALV Zalesovo Beam 95.93 324 P **P** **21 01 33.0 -1.4**
comp=Z,6.6nm,0.7s,baz=112,slow=4.4,SNR=32
VNA2 Neumayer--Watz 96.03 182 *eP* P 21 01 30.8 -3.9
YKA Yellowknife Ar 96.32 27 P **P** **21 01 34.5 -1.4**
YKA Yellowknife Ar 96.32 27 P **P** **21 01 34.5 -1.4**
comp=Z,1.0nm,0.6s,baz=259,slow=4.6,SNR=4.9
KSH Kashi 98.97 308 *eP* Pdif 21 01 52.1 +3.4
KSH pP pP 21 02 05.8 +6.1
KSH sP sP 21 02 10.8 +7.2
ARCES ARCESS Array B 118.66 346 PKP **PKPdf** **21 06 53.9 -1.2**
ARCES ARCESS Array B 118.66 346 PKP **PKPdf** **21 06 53.9 -1.2**
comp=Z,3.8nm,0.7s,baz=60,slow=2.2,SNR=12
FINES FINESS Array B 124.15 338 PKP **PKPdf** **21 07 06.1 +0.3**
FINES FINESS Array B 124.15 338 PKP **PKPdf** **21 07 06.1 +0.3**
comp=Z,2.3nm,0.9s,baz=44,slow=4.4,SNR=6.0
BOSA Boshof 124.33 221 PKP **PKPdf** **21 07 06.7 -0.7**
BOSA Boshof 124.33 221 PKP **PKPdf** **21 07 06.7 -0.7**
comp=Z,7.7nm,0.9s,baz=95,slow=2.5,SNR=8.1
KMBO Kilima Mbogo 128.11 258 PKP **PKPdf** **21 07 15.0 -0.2**
KMBO Kilima Mbogo 128.11 258 PKP **PKPdf** **21 07 15.0 -0.2**
comp=Z,0.5nm,0.2s,baz=315,slow=4.3,SNR=4.7
NB2 NORSAR Subarra 129.03 345 PKPdf **PKPdf** **21 07 14.4 -0.8**
comp=Z,1.4nm,0.9s,baz=31,slow=1.9
NOA NORSAR Array B 129.03 345 PKP **PKPdf** **21 07 14.4 -0.8**
NOA NORSAR Array B 129.03 345 PKP **PKPdf** **21 07 14.4 -0.8**
comp=Z,0.8nm,0.7s,baz=343,slow=1.8,SNR=4.4
BRTR Keskin Array B 131.23 312 PKP **PKPdf** **21 07 20.0 -0.2**
BRTR PP **PP** **21 09 38.9 +0.7**
BRTR Keskin Array B 131.23 312 PKP **PKPdf** **21 07 20.0 -0.2**
comp=Z,0.6nm,0.5s,baz=148,slow=9.7,SNR=3.8
BRTR PP **PP** **21 09 38.9 +0.7**
comp=Z,2.4nm,1.0s,baz=74,slow=4.4,SNR=6.6
EKA Eskdalemuir Ar 137.22 352 SKPbc **SKPbc** **21 11 03.0 +1.5**
EKA Eskdalemuir Ar 137.22 352 SKPbc **SKPbc** **21 11 03.0 +1.5**
comp=Z,3.1nm,1.0s,baz=19,slow=4.6,SNR=4.5
GERES GERESS Array B 138.10 334 SKPbc **SKiKP** **21 11 07.2 -1.3**
GERES GERESS Array B 138.10 334 SKPbc **SKiKP** **21 11 07.2 -1.3**
comp=Z,0.8nm,0.8s,baz=64,slow=2.3,SNR=5.4
KEST Kesra 149.78 322 PKPbc **PKPbc** **21 07 56.9 -1.3**
KEST Kesra 149.78 322 PKPbc **PKPbc** **21 07 56.9 -1.3**
comp=Z,3.6nm,0.9s,baz=268,slow=5.5,SNR=5.7
POLO Lamas de Olo 151.52 352 *e*PKPbc **PKPbc** **21 08 02.2 +0.1**
PVRL Vila Real 151.60 351 *e*PKPbc **PKPbc** **21 08 02.5 +0.3**
ESDC Sonseca Array 152.39 345 PKPbc **PKPbc** **21 08 04.1 0.0**
ESDC PKPab **PKPab** **21 08 14.7 +0.5**
ESDC Sonseca Array 152.39 345 PKPbc **PKPbc** **21 08 04.1 0.0**
comp=Z,1.0nm,0.6s,baz=14,slow=3.4,SNR=9.6
ESDC PKPab **PKPab** **21 08 14.7 +0.5**
comp=Z,3.9nm,0.6s,baz=15,slow=4.1,SNR=24
MTE Manteigas 152.44 351 *e*PKPbc **PKPbc** **21 08 03.9 -0.3**
PTOM Tomar 153.33 352 *e*PKPbc **PKPbc** **21 08 06.9 +0.8**
TORD Torodi Ar. Bea 165.61 272 PKP **PKPdf** **21 08 12.4 -0.9**
TORD PKPab **PKPab** **21 09 12.0 -0.2**
TORD PP **PP** **21 12 58.5 -1.1**
TORD Torodi Ar. Bea 165.61 272 PKP **PKPdf** **21 08 12.4 -0.9**
comp=Z,2.7nm,1.1s,baz=38,slow=2.4,SNR=9.2
TORD PKPab **PKPab** **21 09 12.0 -0.2**
comp=Z,7.6nm,0.8s,baz=84,slow=4.9,SNR=24
TORD PP **PP** **21 12 58.5 -1.1**
comp=Z,1.5nm,0.9s,baz=129,slow=7.8,SNR=4.1
DBIC Dimbokro 169.65 232 PKPab **PKPab** **21 09 29.4 -0.5**
DBIC Dimbokro 169.65 232 PKPab **PKPab** **21 09 29.4 -0.5**
comp=Z,4.3nm,0.8s,baz=114,slow=5.0,SNR=4.7

IDC 13 20:59:45.8±6.4, 14°98S×172°44W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.6/20, mbtmp3.8/2, Error ellipse: s-maj=256.6km s-min=18.5km az=134.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.24**	**31**	Pn	Pb	21 00 10.0	-0.2
	16nm,0.3s,baz=137,slow=4.4,SNR=13						
AFI				Sn	Sn	21 00 29.3	+1.3
	65nm,0.3s,baz=79,slow=14,SNR=19						
WRA	**Warramunga Arr**	**50.84**	**256**	P	P	21 08 48.3	-0.4
	0.5nm,0.9s,baz=94,slow=6.0,SNR=3.3						
ASAR	**Alice Springs**	**51.12**	**252**	P	P	21 08 50.5	-0.2
	1.5nm,0.6s,baz=85,slow=8.3,SNR=17						
BRTR	**Keskin Array B**	**146.40**	**322**	PKPbc	PKPbc	21 19 29.3	+0.1
	1.0nm,0.8s,baz=343,slow=4.5,SNR=3.9						

*IDC **13** 21:05:03.7±1.8, 52°68N×167°19W, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.7/30, mbtmp3.8/10, ML3.2/2, Error ellipse: s-maj=45.0km s-min=18.1km az=169.0*
*ISCJB **13** 21:05:04.2±1.9, 52°28N±0°06×166°88W±0°09, h31km±14km, mb3.9/8, Error ellipse: s-maj=10.9km s-min=7.5km az=144.6*
*NEIC **13** 21:05:04.8, 52°35N×166°84W, h21km, ML3.1(AEIC), After AEIC.*

ISC 13 21:05:08.2±1.1, 52°5N±0°2×166°99W±0°07, h39km±8km, n42, σ1°913/42, mb3.9/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKFG	**Magazine Ridge**	**1.10**	**330**	P	**Pn**	**21 05 26.3**	**-0.8**
OKFG				S	**Sn**	**21 05 42.9**	**+1.9**
OKSP	**Okmok Steeple**	**1.11**	**315**	P	**Pn**	**21 05 26.7**	**-0.6**
OKTU	**Okmok Mt. Tuli**	**1.12**	**326**	P	**Pn**	**21 05 27.3**	**-0.1**
OKSO	**Okmok South**	**1.14**	**322**	P	**Pn**	**21 05 26.7**	**-1.0**
OKCE	**Okmok Cone E**	**1.20**	**324**	P	**Pn**	**21 05 27.9**	**-0.5**
NIKH	**Nikolski High**	**1.24**	**295**	P	**Pn**	**21 05 27.9**	**-1.1**
NIKH				S	**Sn**	**21 05 45.0**	**+0.5**
MGOD	**Makushin Gods**	**1.33**	**3**	P	**Pn**	**21 05 29.4**	**-0.9**
MREP	**Makushin Rep't**	**1.35**	**6**	P	**Pn**	**21 05 30.2**	**-0.4**
UNV	**Unalaska Valle**	**1.41**	**12**	P	**Pn**	**21 05 30.9**	**-0.5**
UNV				S	**Sn**	**21 05 50.8**	**+2.1**
MCIR	**Makushin Cirqu**	**1.49**	**2**	P	**Pn**	**21 05 31.8**	**-0.7**
MTBL	**Makushin Table**	**1.52**	**7**	P	**Pn**	**21 05 32.4**	**-0.6**
MTBL				S	**Sn**	**21 05 53.3**	**+1.9**
ZRO	**Akutan Zero**	**1.74**	**20**	P	**Pn**	**21 05 35.0**	**-0.9**
AKRB	**Akutan Reef Bi**	**1.75**	**18**	P	**Pn**	**21 05 35.8**	**-0.3**
AKRB				S	**Sn**	**21 05 58.9**	**+1.7**
LVA	**Lava Point**	**1.79**	**18**	P	**Pn**	**21 05 35.9**	**-0.8**
AKUT	**Akutan**	**1.82**	**23**	*e*Pn	**Pn**	**21 05 36.3**	**-0.8**
AKUT				*e*Sn	**Sn**	**21 05 58.8**	**0.0**

FX1	**Attu Island--F**	**12.05 280**	Pn		**Pn**	**21 07 57.4**	**+0.1**
FX1	**Attu Island--F**	**12.05 280**	Pn		**Pn**	**21 07 57.4**	**+0.1**
	0.3nm,0.3s,baz=86,slow=15,SNR=4.9						
IMA2	**Indian Mountai**	**15.19 21**	*e*Pn		**P**	**21 08 42.7**	**-1.5**
ILAR	**Eielson Array**	**16.07 32**	Pn		**Pn**	**21 08 48.9**	**-2.1**
ILAR	**Eielson Array**	**16.07 32**	Pn		**Pn**	**21 08 48.9**	**-2.1**
	0.1nm,0.3s,baz=219,slow=12,SNR=3.3						
PETK	**Petropavlovsk-**	**21.24 286**	P		**P**	**21 09 50.7**	**+0.2**
PETK	**Petropavlovsk-**	**21.24 286**	P		**P**	**21 09 50.7**	**+0.2**
	2.0nm,0.5s,baz=83,slow=12,SNR=10.0						
INK	**Inuvik**	**22.47 32**	P		**P**	**21 10 01.7**	**-1.9**
INK	**Inuvik**	**22.47 32**	P		**P**	**21 10 01.7**	**-1.9**
	1.3nm,0.4s,baz=234,slow=9.2,SNR=5.2						
H11N2	**WAKE ISLAND Hy**	**38.47 222**	T		T	21 54 06.1	
	baz=27,slow=0.7						
H11N3	**WAKE ISLAND Hy**	**38.48 222**	T		T	21 54 05.8	
	baz=27,slow=0.7						
H11N1	**WAKE ISLAND Hy**	**38.49 222**	T		T	21 54 06.8	
	baz=27,slow=0.7						
H11S1	**WAKE ISLAND Hy**	**39.65 221**	T		T	21 55 27.8	
	baz=23,slow=0.7						
H11S2	**WAKE ISLAND Hy**	**39.66 221**	T		T	21 55 29.2	
	baz=23,slow=0.7						
H11S3	**WAKE ISLAND Hy**	**39.66 221**	T		T	21 55 41.9	
	baz=23						
TXAR	**Lajitas Array**	**51.29 91**	P		**P**	**21 14 10.3**	**+2.0**
TXAR	**Lajitas Array**	**51.29 91**	P		**P**	**21 14 10.3**	**+2.0**
	0.3nm,0.6s,baz=309,slow=5.7,SNR=4.5						
MKAR	**Makanchi Array**	**64.78 315**	P		**P**	**21 15 42.4**	**-0.1**
MKAR	**Makanchi Array**	**64.78 315**	P		**P**	**21 15 42.4**	**-0.1**
	0.7nm,0.6s,baz=41,slow=6.2,SNR=5.4						
FINES	**FINESS Array B**	**65.96 353**	P		**P**	**21 15 49.7**	**-0.1**
FINES	**FINESS Array B**	**65.96 353**	P		**P**	**21 15 49.7**	**-0.1**
	2.7nm,0.8s,baz=15,slow=5.8,SNR=9.2						
HFS	**Hagfors**	**67.75 360**	P		**P**	**21 16 01.2**	**0.0**
HFS	**Hagfors**	**67.75 360**	P		**P**	**21 16 01.2**	**0.0**
	1.3nm,0.5s,baz=4.6,slow=3.6,SNR=8.2						
AKASG	**Malin Array Be**	**76.29 349**	P		**P**	**21 16 52.8**	**+0.3**
AKASG	**Malin Array Be**	**76.29 349**	P		**P**	**21 16 52.8**	**+0.3**
	0.4nm,0.4s,baz=9.8,slow=5.2,SNR=4.1						
BRTR	**Keskin Array B**	**86.45 344**	P		**P**	**21 17 47.2**	**+0.6**
BRTR	**Keskin Array B**	**86.45 344**	P		**P**	**21 17 47.2**	**+0.6**
	0.7nm,0.8s,baz=28,slow=6.5,SNR=3.3						

JMA 13 21:15:42.9±0.2, 37.57N×143.03E, h39km, M3.7, Off east coast of Honshu

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.59 304**	P	Pn	21 16 09.7	+1.1
JIO			*e*S	Sn	21 16 29.1	+1.2
JFK	**Kawauchi**	**1.73 264**	P	Pn	21 16 11.1	+0.6
JMM	**Marumori**	**1.80 280**	P	Pn	21 16 12.3	+0.9
JMK	**Ichinoseki**	**1.98 315**	P	Pn	21 16 15.1	+1.2
JOU	**Okura**	**2.03 294**	P	Pn	21 16 16.3	+1.7
JFT	**Otama**	**2.14 269**	P	Pn	21 16 18.0	+1.9
JFT			*e*S	Sn	21 16 43.6	+2.1
JOM	**Ohasama**	**2.34 325**	P	Pn	21 16 19.9	+1.1
JOM			*e*S	Sn	21 16 47.7	+1.4
JYK	**Kaneyama**	**2.50 303**	P	Pn	21 16 23.0	+2.0
JRG	**Rokugo**	**2.62 315**	P	Pn	21 16 24.8	+2.1
JRG			*e*S	Sn	21 16 55.9	+2.7
JANG	**Nango**	**3.04 338**	S	Sn	21 17 03.3	-0.3
JAG	**Ashikaga**	**3.08 249**	P	Pn	21 16 30.9	+1.8
JAH	**Hinai**	**3.21 325**	P	Pn	21 16 32.8	+2.0
BSO1	**Boso 1**	**3.35 210**	P	Pn	21 16 33.7	+1.7
BSO1			S	Sn	21 17 12.2	+2.1
JRY	**Ryogami san**	**3.66 246**	P	Pn	21 16 38.9	+1.9
JRY			S	Sn	21 17 19.8	+0.9

*IDC **13** 21:19:48.3±0.6, 15.02S×173.03W, h0km, mb4.2/12, mb1 4.4/12, mb1mx4.3/22, mbtmp4.2/12, Error ellipse: s-maj=25.8km s-min=18.1km az=131.0*
*NEIC **13** 21:19:49.6±0.4, 15.02S×173.06W, h10km, mb4.5/6, Error ellipse: s-maj=17.6km s-min=9.1km az=140.0*
*ISCJB **13** 21:19:51.0±0.5, 15.05S±0.1×173.2W±0.1, h29km, mb4.3/16, Error ellipse: s-maj=18.1km s-min=10.5km az=139.1*

ISC 13 21:19:52.7±0.5, 15.05S±0.1×173.0W±0.1, h29km, n69, σ0.95/64, mb4.3/16, 5C-1D, Tonga Islands

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.65 48**	*e*Pn	Pn	21 20 11.4	-8.5
AFI			*e*Sn	Sn	21 20 25.0	-15
AFI	**Afiamalu**	**1.65 48**	Pn	Pn	21 20 11.4	-8.5
	59nm,0.3s,baz=36,slow=3.9,SNR=48					
AFI			Sn	Sn	21 20 26.2	-14
	604nm,0.3s,baz=18,slow=20,SNR=29					
MSVF	**Nonsavu**	**8.97 251**	Pn	**Pn**	**21 22 00.6**	**+0.1**
	87nm,1.4s					
DZM	**Mont Dzumac**	**20.66 247**	P	**P**	**21 24 29.5**	**-1.0**
URZ	**Urewera**	**24.73 199**	*e*P	**P**	**21 25 11.0**	**-0.6**
	8.8nm,0.7s					
URZ	**Urewera**	**24.73 199**	P	**P**	**21 25 11.0**	**-0.6**
	7.9nm,0.9s,baz=13,slow=13,SNR=3.5					
H11S2	**WAKE ISLAND Hy**	**38.83 328**	T	T	22 07 44.1	
	baz=150,slow=0.7,SNR=7.5					
H11S3	**WAKE ISLAND Hy**	**38.84 328**	T	T	22 07 47.5	
	baz=150,slow=0.7,SNR=4.4					
H11S1	**WAKE ISLAND Hy**	**38.84 328**	T	T	22 07 45.3	
	baz=150,slow=0.7,SNR=3.4					
H11N3	**WAKE ISLAND Hy**	**39.76 330**	T	T	22 08 50.8	
	baz=148,slow=0.7					
H11N1	**WAKE ISLAND Hy**	**39.77 330**	T	T	22 08 59.5	
	baz=148,slow=0.7					
H11N2	**WAKE ISLAND Hy**	**39.78 330**	T	T	22 08 52.2	
	baz=148,slow=0.7					
STKA	**Stephens Creek**	**44.52 240**	*e*P	**P**	**21 28 01.4**	**-0.6**
WRAB	**Tennant Creek**	**50.26 256**	*e*P	**P**	**21 28 45.5**	**-1.3**
	4.1nm,0.9s					
WRA	**Warramunga Arr**	**50.27 256**	P	**P**	**21 28 44.9**	**-2.0**
WRA			PcP	**PcP**	**21 30 06.6**	**+0.9**
WRA	**Warramunga Arr**	**50.27 256**	P	**P**	**21 28 44.9**	**-2.0**
	1.4nm,0.6s,baz=88,slow=6.8,SNR=12					
WRA			PcP	**PcP**	**21 30 06.6**	**+0.9**
	1.3nm,1.0s,baz=80,slow=3.6,SNR=3.1					
AS31	**Alice Springs**	**50.56 252**	*e*P	**P**	**21 28 47.2**	**-1.9**
ASAR	**Alice Springs**	**50.56 252**	P	**P**	**21 28 47.5**	**-1.6**
ASAR	**Alice Springs**	**50.56 252**	P	**P**	**21 28 47.5**	**-1.6**
	6.6nm,0.6s,baz=87,slow=8.1,SNR=83					
VNDA	**Vanda**	**63.78 186**	*e*P	**P**	**21 30 21.9**	**+0.3**
	3.0nm,1.1s					
VNDA	**Vanda**	**63.78 186**	P	**P**	**21 30 22.6**	**+0.9**
	1.2nm,0.9s,baz=14,slow=8.9,SNR=6.4					
JNU	**Nakatsue**	**71.80 313**	P	**P**	**21 31 13.3**	**+0.4**
JNU	**Nakatsue**	**71.80 313**	P	**P**	**21 31 13.3**	**+0.4**
	15nm,1.0s,baz=74,slow=7.0,SNR=4.0					
NVAR	**Mina Array Bea**	**73.82 42**	P	**P**	**21 31 24.9**	**-0.1**
NVAR	**Mina Array Bea**	**73.82 42**	P	**P**	**21 31 24.9**	**-0.1**
	0.9nm,0.5s,baz=211,slow=8.1,SNR=2.6					
QSPA	**South Pole Qui**	**75.02 180**	*e*P	**P**	**21 31 32.3**	**+0.9**
	16nm,1.2s					
KSRS	**Korea Array**	**76.14 315**	P	**P**	**21 31 38.6**	**+0.5**
	0.9nm,0.5s,baz=128,slow=8.0,SNR=5.0					
KSAR	**Wonju Array Be**	**76.16 315**	P	**P**	**21 31 38.6**	**+0.3**
HLID	**Hailey**	**79.12 39**	*e*P	**P**	**21 31 54.5**	**-0.3**
	2.6nm,0.9s					
TXAR	**Lajitas Array**	**80.11 56**	P	**P**	**21 31 59.9**	**-0.6**
TXAR	**Lajitas Array**	**80.11 56**	P	**P**	**21 31 59.9**	**-0.6**
	0.8nm,1.0s,baz=239,slow=3.0,SNR=4.4					
TRF	**Thorofare Moun**	**80.20 10**	*e*P	**P**	**21 31 59.4**	**-0.8**
	12nm,1.3s					
PDAR	**Pinedale Array**	**81.75 42**	P	**P**	**21 32 09.1**	**-0.1**
PDAR	**Pinedale Array**	**81.75 42**	P	**P**	**21 32 09.1**	**-0.1**
	0.5nm,0.6s,baz=228,slow=3.5,SNR=3.9					
ILAR	**Eielson Array**	**82.01 11**	P	**P**	**21 32 08.8**	**-0.9**
ILAR	**Eielson Array**	**82.01 11**	P	**P**	**21 32 08.8**	**-0.9**
	0.5nm,0.5s,baz=225,slow=5.9,SNR=9.6					
MAW	**Mawson**	**88.26 199**	P	**P**	**21 32 42.1**	**+1.1**
	1.4nm,0.5s,baz=142,slow=8.2,SNR=4.8					
CMAR	**Chiang Mai Arr**	**92.83 288**	P	**P**	**21 33 05.2**	**+1.9**
CMAR	**Chiang Mai Arr**	**92.83 288**	P	**P**	**21 33 05.2**	**+1.9**
	2.1nm,1.1s,baz=92,slow=2.3,SNR=9.3					
BVAR	**Borovoye Array**	**117.80 322**	PKP	**PKPdf**	**21 38 37.5**	**+1.3**
BVAR	**Borovoye Array**	**117.80 322**	PKP	**PKPdf**	**21 38 37.5**	**+1.3**
	0.5nm,0.7s,baz=96,slow=6.5,SNR=3.9					
ARCES	**ARCESS Array B**	**124.29 352**	PKP	**PKPdf**	**21 38 47.6**	**-0.7**
ARCES	**ARCESS Array B**	**124.29 352**	PKP	**PKPdf**	**21 38 47.6**	**-0.7**
	4.9nm,1.0s,baz=354,slow=9.0,SNR=3.9					
AKASG	**Malin Array Be**	**140.13 338**	PKP	**PKPdf**	**21 39 19.6**	**+1.0**
AKASG	**Malin Array Be**	**140.13 338**	PKP	**PKPdf**	**21 39 19.6**	**+1.0**
	0.3nm,0.3s,baz=39,slow=2.1,SNR=4.5					
BRG	**Berggiesshubel**	**143.80 353**	*e*(P)	**PKPdf**	**21 39 24.9**	**-0.2**
	1.8nm,0.7s					
UPC	**Upice**	**143.86 350**	*e*PKP	PKPab	21 39 21.5	-0.8
PRU	**Pruhonice**	**144.59 352**	*e*PKP	**PKPdf**	**21 39 26.4**	**-0.1**
KHC	**Kasperske Hory**	**145.56 352**	*e*PKP	**PKPab**	**21 39 28.7**	**0.0**
KHC			*ex*	x	21 39 39.7	
KHC			*ex*	x	21 39 48.1	
MLR	**Muntele Rosu**	**145.67 336**	PKPbc	**PKPab**	**21 39 30.2**	**+0.8**
MLR	**Muntele Rosu**	**145.67 336**	PKPbc	**PKPab**	**21 39 30.2**	**+0.8**
	1.6nm,1.0s,baz=106,slow=24,SNR=2.9					
GERES	**GERESS Array B**	**145.82 352**	PKPbc	**PKPbc**	**21 39 29.5**	**+0.1**
GERES	**GERESS Array B**	**145.82 352**	PKPbc	**PKPbc**	**21 39 29.5**	**+0.1**
	3.6nm,0.9s,baz=29,slow=2.2,SNR=15					
KMBO	**Kilima Mbogo**	**146.01 244**	PKPbc	**PKPab**	**21 39 32.5**	**+0.8**
KMBO	**Kilima Mbogo**	**146.01 244**	PKPbc	**PKPab**	**21 39 32.5**	**+0.8**
	6.0nm,0.9s,baz=53,slow=24,SNR=3.6					
BRTR	**Keskin Array B**	**146.09 322**	PKPbc	**PKPab**	**21 39 31.4**	**+0.3**
BRTR	**Keskin Array B**	**146.09 322**	PKPbc	**PKPab**	**21 39 31.4**	**+0.3**
	9.6nm,0.8s,baz=111,slow=2.1,SNR=36					
CONA	**Conrad Observa**	**146.38 349**	⇑*i*pPKPdf	**PKPab**	**21 39 32.2**	**+0.3**
	12nm,1.2s					
MOA	**Molln**	**146.72 351**	⇑*i*PKPab	**PKPbc**	**21 39 32.2**	**+0.2**
	8.4nm,1.1s,SNR=5.5					
SOKA	**Soboth**	**147.73 350**	⇑*i*pPKPdf	**PKPbc**	**21 39 35.0**	**+0.1**
	7.8nm,1.0s					
DAVA	**Damuels**	**147.74 356**	⇓*i*PKPab	**PKPbc**	**21 39 35.4**	**+0.4**
	8.8nm,0.9s					
FETA	**Feichten**	**147.95 355**	⇑*i*PKiKP	**PKPbc**	**21 39 36.1**	**+0.5**
	8.2nm,1.0s					
ABTA	**Abfaltersbach**	**148.04 353**	⇑*i*pPKPdf	**PKPbc**	**21 39 35.8**	**0.0**
	11nm,1.1s,SNR=6.0					
DAVOX	**Davos/Dischmat**	**148.25 356**	PKPbc	**PKPbc**	**21 39 37.0**	**+0.6**
DAVOX	**Davos/Dischmat**	**148.25 356**	PKPbc	**PKPbc**	**21 39 37.0**	**+0.6**
	6.7nm,0.9s,baz=24,slow=6.0,SNR=7.8					
ESDC	**Sonseca Array**	**153.64 19**	PKPbc	**PKPbc**	**21 39 48.5**	**-0.7**
ESDC	**Sonseca Array**	**153.64 19**	PKPbc	**PKPbc**	**21 39 48.5**	**-0.7**
	0.2nm,0.6s,baz=325,slow=3.6,SNR=4.2					
TORD	**Torodi Ar. Bea**	**174.56 109**	PKP	**PKPdf**	**21 39 58.9**	**-1.8**
TORD			PKPab	**PKPab**	**21 41 33.5**	**-0.6**
TORD	**Torodi Ar. Bea**	**174.56 109**	PKP	**PKPdf**	**21 39 58.9**	**-1.8**
	0.9nm,1.0s,baz=241,slow=1.5,SNR=4.7					
TORD			PKPab	**PKPab**	**21 41 33.5**	**-0.6**
	0.7nm,1.0s,baz=263,slow=1.2,SNR=2.9					

*IDC **13** 21:29:59.2±1.0, 11.78S×165.94E, h0km, mb3.9/9, mb1 4.1/11, mb1mx4.0/20, mbtmp4.0/11, ML4.1/2, Error ellipse: s-maj=31.4km s-min=23.3km az=100.0*
*ISCJB **13** 21:30:01.9±0.6, 11.87S±0.09×165.83E±0.08, h30km, mb4.0/12, Error ellipse: s-maj=14.9km s-min=9.1km az=34.9*
*NEIC **13** 21:30:04.2±0.4, 11.87S×165.94E, h35km, mb4.2/4, Error ellipse: s-maj=11.4km s-min=9.4km az=43.0*

ISC 13 21:30:03.7±0.6, 11.88S±0.08×165.88E±0.09, h30km, n33, σ1.9/19/38, mb4.0/12, Santa Cruz Islands

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.32 292**	Pn	**Pn**	**21 31 35.0**	**+0.2**
HNR			Sn	**Sn**	**21 32 44.0**	**-2.0**
HNR	**Honiara**	**6.32 292**	Pn	**Pn**	**21 31 35.0**	**+0.2**
	12nm,0.3s,baz=313,slow=8.7,SNR=4.9					
HNR			Sn	**Sn**	**21 32 44.0**	**-2.0**
	12nm,0.3s,baz=211,slow=23,SNR=5.9					
DZM	**Mont Dzumac**	**10.15 177**	*e*Pn	**Pn**	**21 32 27.0**	**-0.5**
DZM	**Mont Dzumac**	**10.15 177**	Pn	**Pn**	**21 32 29.5**	**+2.0**
	0.6nm,0.3s,baz=27,slow=14,SNR=11					
DZM			Sn	**Sn**	**21 34 16.8**	**-3.6**
	0.1nm,0.3s,baz=343,slow=19,SNR=2.0					
AFI	**Afiamalu**	**21.88 98**	P	**P**	**21 34 53.4**	**-1.0**
URZ	**Urewera**	**28.12 161**	*e*P	**P**	**21 35 53.2**	**+0.3**
STKA	**Stephens Creek**	**29.93 225**	*e*P	**P**	**21 36 09.9**	**+0.8**
STKA	**Stephens Creek**	**29.93 225**	P	**P**	**21 36 09.6**	**+0.4**
	3.8nm,0.8s,baz=45,slow=10.0,SNR=1.5					
WRAB	**Tennant Creek**	**31.31 251**	*e*P	**P**	**21 36 21.4**	**-0.2**
	1.7nm,0.6s					
WRA	**Warramunga Arr**	**31.32 251**	P	**P**	**21 36 21.5**	**-0.2**
WRA	**Warramunga Arr**	**31.32 251**	P	**P**	**21 36 21.5**	**-0.2**
	1.2nm,0.9s,baz=83,slow=9.2,SNR=5.9					
ASAR	**Alice Springs**	**32.54 244**	P	**P**	**21 36 31.9**	**-0.4**
ASAR			PcP	**PcP**	**21 39 18.9**	**+0.2**
ASAR	**Alice Springs**	**32.54 244**	P	**P**	**21 36 31.9**	**-0.4**
	0.9nm,0.8s,baz=73,slow=8.9,SNR=8.2					
ASAR			PcP	**PcP**	**21 39 18.9**	**+0.2**
	0.6nm,0.7s,baz=74,slow=1.4,SNR=5.6					
MBWA	**Marble Bar**	**45.05 252**	*e*P	**P**	**21 38 17.9**	**+0.7**
	8.0nm,0.9s					
VNDA	**Vanda**	**65.66 181**	*e*P	**P**	**21 40 45.8**	**+1.1**
	0.5nm,0.4s					
VNDA	**Vanda**	**65.66 181**	P	**P**	**21 40 46.4**	**+1.7**
	0.5nm,0.8s,baz=347,slow=8.7,SNR=2.7					
CMAR	**Chiang Mai Arr**	**72.56 294**	P	**P**	**21 41 30.0**	**+1.5**
CMAR	**Chiang Mai Arr**	**72.56 294**	P	**P**	**21 41 30.0**	**+1.5**
	1.7nm,1.0s,baz=127,slow=5.2,SNR=9.9					
QSPA	**South Pole Qui**	**78.13 180**	*e*P	**P**	**21 41 59.6**	**-0.2**
	3.7nm,1.0s					
SONM	**Songino Array**	**79.41 324**	P	**P**	**21 42 07.7**	**+0.6**
SONM	**Songino Array**	**79.41 324**	P	**P**	**21 42 07.7**	**+0.6**
	0.4nm,0.4s,baz=121,slow=5.6,SNR=4.7					
ILAR	**Eielson Array**	**84.26 18**	P	**P**	**21 42 29.9**	**-2.2**
ILAR	**Eielson Array**	**84.26 18**	P	**P**	**21 42 29.9**	**-2.2**
	0.1nm,0.5s,baz=261,slow=4.5,SNR=2.9					
MKAR	**Makanchi Array**	**94.22 317**	P	**P**	**21 43 20.5**	**+0.6**
MKAR	**Makanchi Array**	**94.22 317**	P	**P**	**21 43 20.5**	**+0.6**
	1.0nm,0.7s,baz=96,slow=6.0,SNR=7.1					
ZALV	**Zalesovo Beam**	**94.31 324**	P	**P**	**21 43 19.8**	**-0.3**
ZALV	**Zalesovo Beam**	**94.31 324**	P	**P**	**21 43 19.8**	**-0.3**
	0.4nm,0.3s,baz=104,slow=3.6,SNR=3.3					
ARCES	**ARCESS Array B**	**117.17 345**	PKP	**PKPdf**	**21 48 45.0**	**-0.3**
ARCES	**ARCESS Array B**	**117.17 345**	PKP	**PKPdf**	**21 48 45.0**	**-0.3**
	3.5nm,1.0s,baz=93,slow=1.9,SNR=10					
KEST	**Kesra**	**148.15 322**	PKPbc	**PKPbc**	**21 49 48.0**	**+0.9**
KEST	**Kesra**	**148.15 322**	PKPbc	**PKPbc**	**21 49 48.0**	**+0.9**
	1.8nm,0.8s,baz=112,slow=3.2,SNR=4.0					
TORD	**Torodi Ar. Bea**	**164.50 276**	PKP	**PKPdf**	**21 50 05.2**	**-0.3**
TORD	**Torodi Ar. Bea**	**164.50 276**	PKP	**PKPdf**	**21 50 05.2**	**-0.3**
	0.7nm,0.9s,baz=77,slow=0.6,SNR=3.3					

IDC 13 21:44:30.9±7.4, 14.96S×172.76W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/20, mbtmp3.8/2, Error ellipse: s-maj=390.0km s-min=24.0km az=143.0, Samoa Islands

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.41 42**	Pn	Pn	21 44 57.0	-1.0
	12nm,0.3s,baz=97,slow=2.3,SNR=8.9					
AFI			Sn	Sg	21 45 11.9	-4.5
	81nm,0.3s,baz=102,slow=19,SNR=21					
H11S2	**WAKE ISLAND Hy**	**38.91 328**	T	T	22 33 22.1	
	baz=158,slow=0.7,SNR=3.9					
H11S3	**WAKE ISLAND Hy**	**38.92 328**	T	T	22 33 25.6	
	baz=158,slow=0.7,SNR=4.5					
H11S1	**WAKE ISLAND Hy**	**38.93 328**	T	T	22 33 26.9	
	baz=158					
WRA	**Warramunga Arr**	**50.55 256**	P	P	21 53 30.5	-1.1
	0.7nm,0.9s,baz=91,slow=9.4,SNR=2.4					
ASAR	**Alice Springs**	**50.84 252**	P	P	21 53 33.5	-0.3
	2.4nm,0.9s,baz=87,slow=8.2,SNR=11					
BRTR	**Keskin Array B**	**146.20 322**	PKPbc	PKPab	22 04 14.6	+0.1
	1.7nm,0.9s,baz=128,slow=2.4,SNR=6.5					

IDC 13 21:47:11.6±3.1, 5.93S×147.69E, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, ML3.2/2, MS3.9/1, Ms1 3.9/1, ms1mx3.7/31, Error ellipse: s-maj=70.5km s-min=33.3km az=95.0, Eastern New Guinea region

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.50 189**	Pn	Pn	21 48 08.6	+1.3
	3.1nm,0.3s,baz=358,slow=8.3,SNR=7.3					
PMG			Sn	Sn	21 48 49.2	-0.2
	3.5nm,0.3s,baz=0.0,slow=20,SNR=3.9					
PMG			LR	LR	21 49 51.6	
	comp=Z,1μm,18.2s,baz=216,slow=46					
WRA	**Warramunga Arr**	**19.04 222**	P	P	21 51 35.0	-0.5
	0.2nm,0.3s,baz=48,slow=11,SNR=11					
ASAR	**Alice Springs**	**22.07 216**	P	P	21 52 08.3	-0.1
	1.2nm,0.6s,baz=48,slow=9.2,SNR=21					
FITZ	**Fitzroy Crossi**	**24.69 239**	P	P	21 52 34.6	0.0
	1.7nm,0.5s,baz=66,slow=7.7,SNR=9.1					
TORD	**Torodi Ar. Bea**	**145.74 285**	PKPbc	PKPdf	22 06 52.7	-0.5
	0.3nm,0.9s,baz=71,slow=3.1,SNR=2.7					

*NNC **13** 22:04:32.2±5.5, 37.51N×69.72E, h0km, mb4.5, mpv4.4, Error ellipse: s-maj=58.9km s-min=47.8km az=45.0*
*IDC **13** 22:04:39.1±2.3, 37.96N×70.76E, h0km, mb3.3/1, mb1 3.4/6, mb1mx3.3/30, mbtmp3.4/6, ML3.6/5, Error ellipse: s-maj=41.8km s-min=21.2km az=142.0*
*ISCJB **13** 22:04:46.4±1.6, 38.7N±0.1×69.74E±0.10, h27km, mb3.3/1, Error ellipse: s-maj=19.7km s-min=11.0km az=2.2*

ISC 13 22:04:46.3±1.6, 38.5N±0.1×69.8E±0.1, h27km, n18, σ1.1/83/18, 2C-2D, Tajikistan

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.61 6**	P	**Pn**	**22 05 56.1**	**+1.9**
	6.8nm,0.3s,baz=183,slow=13,SNR=196					
KK31			⇑S	**Sb**	**22 07 03.8**	**+2.2**
	55nm,0.7s,baz=177,slow=28					
AML	**Almayashu**	**4.66 38**	P	**Pn**	**22 05 56.1**	**+0.9**
	SNR=27					
EKS2	**Erkin-Say**	**5.11 35**	P	**Pn**	**22 06 02.8**	**+1.5**
	SNR=14					
AAK	**Ala-Archa**	**5.43 39**	P	**Pn**	**22 06 06.9**	**+1.3**
	SNR=15					
KZA	**Kyzart**	**5.45 48**	P	**Pn**	**22 06 07.7**	**+1.5**
	SNR=11					
KBK	**Karagaybulak**	**5.67 42**	P	**Pn**	**22 06 10.8**	**+1.8**
	SNR=29					
CHMS	**Chumysh**	**5.83 38**	P	**Pn**	**22 06 12.1**	**+1.1**
	SNR=7.7					
USP	**Ospenovka**	**5.91 35**	P	**Pn**	**22 06 13.3**	**+1.1**
	SNR=11					
TKM2	**Tokmak 2**	**6.20 43**	⇓P	**Pn**	**22 06 17.0**	**+0.7**
	30nm,0.5s					
TKM2	**Tokmak 2**	**6.20 43**	P	**Pn**	**22 06 17.4**	**+1.1**
	SNR=23					
MKAR	**Makanchi Array**	**12.33 44**	Pn	Pn	22 07 36.2	-3.9
	0.1nm,0.3s,baz=232,slow=14,SNR=6.7					
AB31	**Akbulak array**	**12.88 330**	⇑P	**Pn**	**22 07 49.0**	**+1.5**
	1.6nm,0.5s,baz=154,slow=14,SNR=46					
KURBB	**Kurchatov Arra**	**13.58 24**	Pn	Pn	22 07 53.2	-3.9
	0.1nm,0.3s,baz=214,slow=12,SNR=5.0					
KURBB			Lg	Lg	22 11 43.8	
	0.1nm,0.3s,baz=207,slow=24,SNR=4.2					
BVAR	**Borovoye Array**	**14.52 1**	Pn	**Pn**	**22 08 09.1**	**-0.7**
	0.2nm,0.3s,baz=175,slow=7.2,SNR=3.6					
AKTO	**Aktyubinsk**	**14.58 329**	⇓P	**P**	**22 08 14.9**	**-1.9**
	2.1nm,0.5s					
AKTO	**Aktyubinsk**	**14.58 329**	Pn	**P**	**22 08 15.3**	**-1.5**
	0.5nm,0.3s,baz=139,slow=15,SNR=8.3					
AKTO			Sn	**Sn**	**22 10 49.2**	**-2.0**
	0.1nm,0.3s,baz=9.0,slow=19,SNR=2.5					
ZALV	**Zalesovo Beam**	**18.53 29**	P	**P**	**22 08 57.0**	**-3.5**
	0.5nm,0.3s,baz=223,slow=9.9,SNR=3.3					
TORD	**Torodi Ar. Bea**	**64.87 267**	P	**P**	**22 15 24.9**	**+1.6**
	0.3nm,0.9s,baz=36,slow=5.6,SNR=2.3					

*AUST **13** 22:11:10.9, 11.47S×166.98E, h25km*
*IDC **13** 22:11:19.5±0.5, 12.24S×165.51E, h0km, mb4.6/20, mb1 4.7/23, mb1mx4.6/26, mbtmp4.6/23, ML4.1/3, MS4.1/2, Ms1 4.1/2, ms1mx3.9/28, Error ellipse: s-maj=18.5km s-min=14.0km az=96.0*
*NEIC **13** 22:11:20.2±3.0, 12.48S×165.58E, h12km±18km, mb4.7/16, Error ellipse: s-maj=7.1km s-min=6.4km az=218.0*
*ISCJB **13** 22:11:22.4±0.3, 12.41S±0.05×165.51E±0.06, h33km, mb4.7/32, Error ellipse: s-maj=8.6km s-min=7.6km az=24.5*

ISC 13 22:11:24.2±0.4, 12.34S±0.07×165.53E±0.06, h35km, n108, σ1.9/27/113, mb4.6/32, Santa Cruz Islands

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.20 297**	Pn	**Pn**	**22 12 52.5**	**-0.7**
HNR			Sn	**Sn**	**22 13 59.8**	**-3.2**
HNR	**Honiara**	**6

	2.3nm,1.2s								
VNDA	**Vanda**	65.21	181	P		P	22 22 01.9	+0.4	
	0.7nm,0.8s,baz=19,slow=5.2,SNR=4.6								
FX1	**Attu Island--F**	65.28	5	*eP*		P	22 22 01.5	-0.8	
SBA	**Scott Base**	65.52	180	*eP*		P	22 22 00.8	-2.7	
	3.9nm,1.0s								
PETK	**Petropavlovsk-**	65.53	355	P		P	22 22 03.4	-0.5	
PETK	**Petropavlovsk-**	65.53	355	P		P	22 22 03.4	-0.5	
	4.1nm,0.8s,baz=186,slow=4.3,SNR=4.3								
PSI	**Prapat**	67.84	278	P		P	22 22 19.3	-0.3	
	baz=69,SNR=3.2								
CMAR	**Chiang Mai Arr**	72.44	294	P		P	22 22 48.4	+0.8	
CMAR	**Chiang Mai Arr**	72.44	294	P		P	22 22 48.4	+0.8	
	4.6nm,0.7s,baz=127,slow=4.8,SNR=38								
QSPA	**South Pole Qui**	77.67	180	*eP*		P	22 23 17.3	+0.2	
	5.9nm,0.8s								
KDAK	**Kodiak Island**	77.85	21	*eP*		P	22 23 14.4	-3.5	
	21nm,0.8s								
SONM	**Songino Array**	79.58	324	P		P	22 23 28.5	+0.7	
SONM	**Songino Array**	79.58	324	P		P	22 23 28.5	+0.7	
	3.2nm,0.9s,baz=138,slow=5.2,SNR=17								
LSA	**Lhasa**	82.86	302	*eP*		P	22 23 46.1	+0.1	
	4.7nm,0.9s								
IMA2	**Indian Mountai**	83.80	16	*eP*		P	22 23 50.3	+0.7	
COLA	**College**	84.57	18	*eP*		P	22 23 53.0	-0.4	
	43nm,0.8s								
ILAR	**Eielson Array**	84.80	19	P		P	22 23 53.9	-0.7	
ILAR	**Eielson Array**	84.80	19	P		P	22 23 53.9	-0.7	
	3.2nm,0.8s,baz=218,slow=5.6,SNR=33								
TAPN	**Taplejung**	85.05	299	*eP*		P	22 23 57.9	+0.8	
	13nm,0.8s								
ODAN	**Odare**	85.19	299	*eP*		P	22 23 58.7	+1.0	
	38nm,0.7s								
RAMN	**Ramite**	85.89	299	*eP*		P	22 24 01.4	+0.2	
JIRN	**Jiri**	86.43	299	*eP*		P	22 24 04.7	+0.7	
	9.6nm,0.6s								
EGAK	**Eagle**	86.65	20	*eP*		P	22 24 04.0	+0.2	
	5.9nm,0.6s								
GUN	**Gumba**	86.77	299	*eP*		P	22 24 06.3	+0.7	
NVAR	**Mina Array Bea**	87.01	50	P		P	22 24 06.9	+0.5	
NVAR	**Mina Array Bea**	87.01	50	P		P	22 24 06.9	+0.5	
	1.0nm,0.5s,baz=257,slow=6.4,SNR=3.8								
PKI	**Pulchoki**	87.08	299	*eP*		P	22 24 07.6	+0.5	
KKN	**Kakani**	87.24	299	*eP*		P	22 24 08.2	+0.4	
DMN	**Daman**	87.34	299	*eP*		P	22 24 08.9	+0.6	
	36nm,1.0s								
GKN	**Gorkha**	87.85	299	*eP*		P	22 24 10.6	0.0	
	40nm,1.1s								
KOLN	**Koldanda**	88.68	299	*eP*		P	22 24 14.4	-0.2	
DANN	**Dangsing**	88.69	299	*eP*		P	22 24 14.4	-0.4	
	35nm,1.0s								
BSMT	**Bassoo Peak**	92.23	42	*eP*		P	22 24 30.5	-0.3	
	2.3nm,0.9s								
MK31	**Makanchi Array**	94.32	317	*eP*		P	22 24 40.6	+0.5	
MKAR	**Makanchi Array**	94.32	317	P		P	22 24 40.5	+0.3	
MKAR	**Makanchi Array**	94.32	317	P		P	22 24 40.5	+0.3	
	7.2nm,0.7s,baz=91,slow=6.5,SNR=49								
ZALV	**Zalesovo Beam**	94.48	324	P		P	22 24 40.0	-0.6	
ZALV	**Zalesovo Beam**	94.48	324	P		P	22 24 40.0	-0.6	
	4.7nm,0.8s,baz=118,slow=4.0,SNR=21								
PDAR	**Pinedale Array**	94.58	47	P		P	22 24 43.4	+1.7	
PDAR	**Pinedale Array**	94.58	47	P		P	22 24 43.4	+1.7	
	0.6nm,0.8s,baz=249,slow=1.7,SNR=4.1								
SNAA	**Sanae**	95.82	184	P		P	22 24 47.0	+0.3	
SNAA	**Sanae**	95.82	184	P		P	22 24 47.0	+0.3	
	0.7nm,0.8s,baz=188,slow=6.0,SNR=3.9								
YKA	**Yellowknife Ar**	96.21	27	P		P	22 24 47.7	-0.7	
YKA	**Yellowknife Ar**	96.21	27	P		P	22 24 47.7	-0.7	
	1.4nm,0.6s,baz=261,slow=4.8,SNR=3.9								
ARCES	**ARCESS Array B**	117.53	345	PKP		PKPdf	22 30 06.0	+0.2	
ARCES	**ARCESS Array B**	117.53	345	PKP		PKPdf	22 30 06.0	+0.2	
	7.1nm,0.9s,baz=83,slow=1.8,SNR=17								
FINES	**FINESS Array B**	122.89	338	PKP		PKPdf	22 30 16.1	-0.2	
FINES	**FINESS Array B**	122.89	338	PKP		PKPdf	22 30 16.1	-0.2	
	2.6nm,0.8s,baz=45,slow=0.6,SNR=5.7								
AKASG	**Malin Array Be**	127.82	326	PKP		PKPdf	22 30 26.4	+0.3	
AKASG	**Malin Array Be**	127.82	326	PKP		PKPdf	22 30 26.4	+0.3	
	1.0nm,0.7s,baz=51,slow=2.8,SNR=4.7								
NOA	**NORSAR Array B**	127.89	344	PKP		PKPdf	22 30 26.8	+0.9	
NOA	**NORSAR Array B**	127.89	344	PKP		PKPdf	22 30 26.8	+0.9	
	0.9nm,0.8s,baz=41,slow=4.7,SNR=2.7								
GERES	**GERESS Array B**	136.76	333	PKP		PKPdf	22 30 43.8	+0.7	
GERES	**GERESS Array B**	136.76	333	PKP		PKPdf	22 30 43.8	+0.7	
	0.8nm,0.7s,baz=48,slow=1.5,SNR=6.9								
KEST	**Kesra**	148.30	321	PKPbc		PKPbc	22 31 07.8	+0.5	
KEST	**Kesra**	148.30	321	PKPbc		PKPbc	22 31 07.8	+0.5	
	3.6nm,1.0s,baz=256,slow=2.8,SNR=4.6								
ESDC	**Sonseca Array**	151.23	343	PKPbc		PKPbc	22 31 15.1	+0.7	
ESDC				PKPab		PKPab	22 31 23.4	+1.2	
ESDC	**Sonseca Array**	151.23	343	PKPbc		PKPbc	22 31 15.1	+0.7	
	2.0nm,0.8s,baz=19,slow=2.5,SNR=9.7								
ESDC				PKPab		PKPab	22 31 23.4	+1.2	
	1.3nm,0.6s,baz=10,slow=4.3,SNR=10								
TORD	**Torodi Ar. Bea**	164.22	275	PKP		PKPdf	22 31 25.4	+0.5	
TORD				PKPab		PKPab	22 32 19.6	+0.7	
TORD	**Torodi Ar. Bea**	164.22	275	PKP		PKPdf	22 31 25.4	+0.5	
	2.0nm,1.0s,baz=30,slow=1.3,SNR=6.4								
TORD				PKPab		PKPab	22 32 19.6	+0.7	
	4.4nm,1.0s,baz=89,slow=5.4,SNR=13								

IDC 13 22:17:37.5±18.0, 24°28S×179°61E, h464km±134km, mb3.6/3, mb1 3.7/4, mb1mx3.2/18, mbtmp3.5/4, Error ellipse: s-maj=224.4km s-min=67.2km az=135.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
DZM	**Mont Dzumac**	12.31	278	P	P	22 20 20.3		+0.6
	0.3nm,0.3s,baz=100,slow=18,SNR=3.9							
CTA	**Charters Tower**	31.12	271	P	P	22 23 17.3		+0.4
	4.0nm,0.4s,baz=93,slow=8.6,SNR=12							
ASAR	**Alice Springs**	41.62	261	P	P	22 24 44.2		+0.2
	3.8nm,0.9s,baz=99,slow=8.2,SNR=22							
WRA	**Warramunga Arr**	42.03	267	P	P	22 24 46.1		-1.2
	4.4nm,0.6s,baz=102,slow=8.2,SNR=19							
AKASG	**Malin Array Be**	145.10	327	PKPbc	PKPdf	22 36 21.2		+0.2
	0.1nm,0.3s,baz=38,slow=3.9,SNR=4.1							

*ISCJB **13** 22:20:26.3±0.4, 22°69S×12°79W, h0km, mb4.1/23, mb1 4.2/23, mb1mx4.2/30, mbtmp4.1/23, Error ellipse: s-maj=16.0km s-min=13.1km az=154.0*
*NEIC **13** 22:20:27.7±0.3, 22°76S×12°77W, h10km, mb4.3/10, Error ellipse: s-maj=9.7km s-min=6.9km az=163.0*

ISC 13 22:20:28.0±0.5, 22.71S±0.1×12.78W±0.08, h10km, n56, σ0.875/53, mb4.2/24, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
H10S2	**ASCENSION HYDR**	13.79	352	T	T	22 37 59.3		
	baz=172,slow=0.7,SNR=61							
H10S3	**ASCENSION HYDR**	13.80	352	T	T	22 37 59.7		
	baz=172,slow=0.7,SNR=52							
H10S1	**ASCENSION HYDR**	13.81	352	T	T	22 37 59.8		
	baz=172,slow=0.7,SNR=48							
TSUM	**Tsumeb**	28.54	89	*eP*	P	22 26 23.3		-1.0
	2.6nm,0.7s							
TSUM	**Tsumeb**	28.54	89	P	P	22 26 24.2		-0.1
	1.4nm,0.6s,baz=278,slow=7.1,SNR=3.3							
DBIC	**Dimbokro**	30.21	16	*eP*	P	22 26 38.5		-0.4
	3.8nm,0.8s							
DBIC	**Dimbokro**	30.21	16	P	P	22 26 38.2		-0.6
	2.6nm,0.9s,baz=165,slow=12,SNR=2.7							
BDFB	**Brasilia**	33.95	276	P	P	22 27 12.1		+0.1
BDFB	**Brasilia**	33.95	276	P	P	22 27 12.1		+0.1
	2.6nm,0.6s,baz=94,slow=8.7,SNR=4.8							
BOSA	**Boshof**	34.68	108	*eP*	P	22 27 17.6		-0.5
	22nm,1.5s							
BOSA	**Boshof**	34.68	108	P	P	22 27 18.5		+0.3
	3.6nm,0.7s,baz=276,slow=8.1,SNR=6.3							
LBTB	**Lobatse**	35.09	102	*eP*	P	22 27 21.0		-0.7
	3.3nm,0.5s							
LBTB	**Lobatse**	35.09	102	P	P	22 27 22.2		+0.5
	3.8nm,0.6s,baz=270,slow=9.6,SNR=7.5							
TORD	**Torodi Ar. Bea**	38.35	23	P	P	22 27 49.4		0.0
TORD	**Torodi Ar. Bea**	38.35	23	P	P	22 27 49.4		0.0
	2.5nm,0.5s,baz=200,slow=8.5,SNR=36							
LSZ	**Lusaka**	39.34	87	*eP*	P	22 27 57.9		0.0
	2.3nm,0.8s							
LSZ	**Lusaka**	39.34	87	P	P	22 27 58.8		+0.9
	1.6nm,0.8s,baz=245,slow=8.1,SNR=4.7							
CPUP	**Villa Florida**	40.55	256	*eP*	P	22 28 07.1		-0.6
	29nm,1.2s							
CPUP	**Villa Florida**	40.55	256	P	P	22 28 08.8		+1.2
	0.7nm,0.3s,baz=50,slow=9.3,SNR=5.4							
SIV	**San Ignacio**	45.90	269	P	P	22 28 52.6		+1.5
SIV	**San Ignacio**	45.90	269	P	P	22 28 52.6		+1.5
	2.7nm,0.8s,baz=133,slow=9.3,SNR=7.5							
SNAA	**Sanae**	49.31	176	*eP*	P	22 29 16.7		-0.2
	5.1nm,0.9s							
SNAA	**Sanae**	49.31	176	P	P	22 29 16.9		0.0
	1.2nm,0.8s,baz=341,slow=9.2,SNR=9.5							
CFAA	**Coronel Fontan**	49.69	247	P	P	22 29 19.6		-0.8
CFAA	**Coronel Fontan**	49.69	247	P	P	22 29 19.6		-0.8
	0.8nm,1.1s,baz=98,slow=7.1,SNR=5.7							
LPAZ	**La Paz**	52.33	267	*eP*	P	22 29 40.3		-0.8
	1.3nm,0.7s							
LPAZ	**La Paz**	52.33	267	P	P	22 29 40.1		-1.0
	1.3nm,0.9s,baz=109,slow=9.0,SNR=3.8							
KEST	**Kesra**	61.78	20	*eP*	P	22 30 46.4		-0.6
ESDC	**Sonseca Array**	62.60	8	P	P	22 30 52.9		+0.5
ESDC	**Sonseca Array**	62.60	8	P	P	22 30 52.9		+0.5
	0.9nm,0.7s,baz=184,slow=7.5,SNR=7.3							
MAW	**Mawson**	63.75	156	P	P	22 31 00.3		+0.7
	4.2nm,0.8s,baz=279,slow=9.1,SNR=11							
SDV	**Santo Domingo**	64.75	292	*eP*	P	22 31 07.5		+0.3
	6.0nm,0.8s							
ROSC	**El Rosal**	66.04	287	*eP*	P	22 31 15.3		-0.7
ROSC	**El Rosal**	66.04	287	P	P	22 31 16.5		+0.6
	3.5nm,0.3s,baz=105,slow=20,SNR=3.8							
EIL	**Elat**	69.42	43	P	P	22 31 37.9		+1.4
EIL	**Elat**	69.42	43	P	P	22 31 37.9		+1.4
	3.7nm,0.8s,baz=98,slow=0.5,SNR=5.2							
MMAI	**Mount Meron Ar**	71.99	41	P	P	22 31 53.4		+1.2
MMAI	**Mount Meron Ar**	71.99	41	P	P	22 31 53.4		+1.2
	2.6nm,0.8s,baz=268,slow=5.3,SNR=4.4							
GERES	**GERESS Array B**	75.06	18	P	P	22 32 09.2		-0.6
GERES	**GERESS Array B**	75.06	18	P	P	22 32 09.2		-0.6
	0.7nm,0.8s,baz=189,slow=5.8,SNR=3.9							
BRTR	**Keskin Array B**	75.72	35	P	P	22 32 14.6		+0.7
BRTR	**Keskin Array B**	75.72	35	P	P	22 32 14.6		+0.7
	1.2nm,0.9s,baz=204,slow=4.7,SNR=5.0							
MLR	**Muntele Rosu**	76.47	27	P	P	22 32 17.6		-0.4
MLR	**Muntele Rosu**	76.47	27	P	P	22 32 17.6		-0.4
	1.0nm,0.7s,baz=189,slow=11,SNR=3.3							
VNDA	**Vanda**	79.94	179	*eP*	P	22 32 36.4		-0.3
	0.9nm,0.7s							
VNDA	**Vanda**	79.94	179	P	P	22 32 37.6		+0.9
	0.8nm,0.8s,baz=201,slow=4.2,SNR=7.2							
AKASG	**Malin Array Be**	81.95	25	P	P	22 32 47.3		-0.4
AKASG	**Malin Array Be**	81.95	25	P	P	22 32 47.3		-0.4
	0.6nm,0.5s,baz=222,slow=5.0,SNR=11							
HFS	**Hagfors**	85.33	13	P	P	22 33 04.8		0.0
HFS	**Hagfors**	85.33	13	P	P	22 33 04.9		0.0
	6.1nm,1.1s,baz=178,slow=40,SNR=2.7							
ASAR	**Alice Springs**	123.66	143	PKP	PKPdf	22 39 25.7		-1.0
ASAR	**Alice Springs**	123.66	143	PKP	PKPdf	22 39 25.7		-1.0
	0.9nm,0.8s,baz=201,slow=1.7,SNR=5.9							
SONM	**Songino Array**	125.94	47	PKP	PKPdf	22 39 29.9		-0.4
SONM	**Songino Array**	125.94	47	PKP	PKPdf	22 39 29.9		-0.4
	0.6nm,0.8s,baz=127,slow=0.7,SNR=3.5							
ILAR	**Eielson Array**	128.48	337	PKP	PKPdf	22 39 34.3		-0.2
ILAR	**Eielson Array**	128.48	337	PKP	PKPdf	22 39 34.3		-0.2
	0.6nm,0.8s,baz=15,slow=2.0,SNR=8.7							

*ISCJB **13** 22:29:35.7±0.4, 47°51N±0.05×147°5E±0.1, h375km, mb3.5/14, Error ellipse: s-maj=12.4km s-min=4.4km az=26.1*
*MOS **13** 22:29:37.4±1.2, 47°69N×147°62E, h388km, mb3.7/10, Error ellipse: s-maj=22.5km s-min=11.4km az=82.3*
*IDC **13** 22:29:38.8±1.6, 47°67N×147°63E, h390km±18km, mb3.2/12, mb1 3.4/16, mb1mx3.2/28, mbtmp3.2/16, Error ellipse: s-maj=24.9km s-min=12.4km az=162.0*

ISC 13 22:29:36.2±0.6, 47°41N±0.07×147°5E±0.1, h375km, n42, σ1.946/44, mb3.6/14, 2C, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
KUR	**Kuril'sk**	2.19	174	*i* Pn	Pn	22 30 34.5		+3.3
JRA	**Rausu**	3.86	207	P	Pn	22 30 48.7		+3.3
NEM2	**Nemuro 2**	4.24	198	P	Pn	22 30 49.8		+0.7
NEM2				*e*S	S	22 31 48.1		0.0
JTKR	**Abashiri--Toko**	4.27	218	P	Pn	22 30 53.7		+4.2
JMP	**Maruseppu**	4.49	222	P	Pn	22 30 55.7		+4.0
ASAJ	**Asahikawa**	4.77	228	P	Pn	22 30 59.8		+5.2
ASAJ	**Asahikawa**	4.77	228	P	Pn	22 30 59.6		+5.0
	1.0nm,0.3s,baz=75,slow=12,SNR=7.6							
JAK	**Akkeshi**	4.85	205	P	Pn	22 30 56.9		+1.5
JAK				*e*S	S	22 31 59.1		-0.5
JAR	**Ashorobuto**	4.89	214	P	Pn	22 30 59.2		+3.3
JCH	**Churui**	5.63	213	P	Pn	22 31 05.6		+1.7
JCH				*e*S	S	22 32 13.3		-1.8
JNBK	**Urakawa-nobuka**	6.15	215	P	Pn	22 31 11.0		+1.4
JNBK				*e*S	S	22 32 23.6		-2.0
JKB	**Kayabe**	7.21	222	P	P	22 31 23.4		+0.8
JKB				*e*S	S	22 32 44.7		-2.8
JOT	**Ohata**	7.61	220	P	P	22 31 28.0		+0.9
JOT				*e*S	S	22 32 52.5		-3.5
JANG	**Nango**	8.26	214	P	P	22 31 35.7		+0.4
JANG				*e*S	S	22 33 05.6		-4.6
PETK	**Petropavlovsk-**	8.65	45	*e*PN	Pn	22 31 37.9		-0.3
PETK	**Petropavlovsk-**	8.65	45	P	Pn	22 31 37.6		-0.6
	0.2nm,0.3s,baz=229,slow=13,SNR=4.4							
USRK	**Ussuriysk Arra**	11.31	259	P	Pn	22 32 12.7		+3.1
	0.3nm,0.3s,baz=66,slow=14,SNR=5.2							
SEY	**Seymchan**	15.79	8	*i* P	P	22 32 58.6		+0.7
KSRS	**Korea Array**	17.52	243	P	Pn	22 33 21.6		+0.7
	0.4nm,0.3s,baz=46,slow=10,SNR=4.5							
TIXI	**Tiksi**	25.85	347	*i* P	P	22 34 36.1		+1.5
TIXI				pmax	pmax			
	comp=Z,1.0nm,0.6s							
COLA	**College**	38.00	39	*i* P	P	22 36 19.5		+0.2
ILAR	**Eielson Array**	38.42	39	P	P	22 36 22.4		-0.5
	comp=Z,1.8nm,0.7s,baz=267,slow=8.3,SNR=26							
ZALV	**Zalesovo Beam**	39.10	304	PcP	PcP	22 38 29.2		-0.2
	comp=Z,0.7nm,0.5s,baz=35,slow=3.5,SNR=2.4							
INK	**Inuvik**	43.14	32	P	P	22 37 00.1		-0.6
	comp=Z,2.1nm,0.4s,baz=271,slow=5.1,SNR=8.9							
MKAR	**Makanchi Array**	43.22	294	*eP*	P	22 37 03.8		+2.0
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**	43.22	294	P	P	22 37 03.3		+1.5
	comp=Z,0.5nm,0.6s,baz=65,slow=6.7,SNR=5.9							
MKAR				PcP	PcP	22 38 43.4		+0.2
	comp=Z,0.3nm,0.7s,baz=56,slow=2.8,SNR=2.9							
KURK	**Kurchatov**	43.79	301	*ce*P	P	22 37 07.0		+0.9
KURBB	**Kurchatov Arra**	43.88	301	P	P	22 37 07.5		+0.7
	comp=Z,0.7nm,0.4s,baz=72,slow=8.8,SNR=6.5							
KURBB				PcP	PcP	22 38 45.1		-0.2
	comp=Z,0.1nm,0.4s,baz=70,slow=3.5,SNR=4.5							
YKA	**Yellowknife Ar**	52.63	35	P	P	22 38 11.3		-1.4
	comp=Z,0.6nm,0.4s,baz=301,slow=7.1,SNR=3.0							
ARCES	**ARCESS Array B**	55.92	339	P	P	22 38 36.0		0.0
	comp=Z,2.4nm,0.7s,baz=46,slow=7.7,SNR=5.6							
JOF	**Joensuu**	58.99	331	*eP*	P	22 38 55.8		-1.4
JOF				pmax	pmax			
	comp=Z,3.0nm,0.6s							
JOF	**Joensuu**	58.99	331	*ep*	P	22 38 55.8		-1.4
	comp=Z,3.1nm,0.6s							
FINES	**FINESS Array B**	61.75	332	P	P	22 39 15.3		-0.4
	comp=Z,2.8nm,0.5s,baz=37,slow=7.6,SNR=25							
NB2	**NORSAR Subarra**	66.29	338	P	P	22 39 44.7		-0.3
	comp=Z,1.1nm,0.6s,baz=30,slow=6.5							
NOA	**NORSAR Array B**	66.29	338	P	P	22 39 44.5		-0.5
	comp=Z,1.5nm,0.6s,baz=28,slow=6.5,SNR=8.4							
PDAR	**Pinedale Array**	67.37	51	P	P	22 39 52.4		0.0
	comp=Z,1.1nm,0.7s,baz=21,slow=1.8,SNR=9.7							
AKASG	**Malin Array Be**	68.80	323	P	P	22 40 00.6		-0.1
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	68.80	323	P	P	22 40 00.6		-0.1
	comp=Z,0.9nm,0.5s,baz=36,slow=6.5,SNR=6.0							
CLL	**Collm**	74.20	332	*eP*	P	22 40 32.0		-0.5
GERES	**GERESS Array B**	76.10	331	P	P	22 40 43.0		-0.4
	comp=Z,0.3nm,0.3s,baz=38,slow=5.0,SNR=3.3							
TXAR	**Lajitas Array**	80.41	57	P	P	22 41 07.8		+0.7
	comp=Z,0.9nm,0.8s,baz=287,slow=3.7,SNR=8.5							
RPN	**Rapa Nui**	118.06	100	PKP	PKPdf	22 47 38.6		-0.2
	comp=Z,2.1nm,0.6s,baz=122,slow=1.1,SNR=6.3							

IDC 13 22:31:59.9±1.1, 49°70S×73°25W, h0km, mb4.0/7, mb1 4.1/7, mb1mx4.0/17, mbtmp4.0/7, Error ellipse: s-maj=58.0km s-min=18.0km az=99.0, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
CPUP	**Villa Florida**	26.38	34	P	P	22 37 37.7		0.0
	2.6nm,0.8s,baz=184,slow=14,SNR=5.5							
LPAZ	**La Paz**	33.58	9	P	P	22 38 42.4		0.0
	4.3nm,1.0s,baz=150,slow=10,SNR=10.0							
SIV	**San Ignacio**	35.04	21	P	P	22 38 54.6		+0.2
	2.6nm,0.9s,baz=205,slow=10,SNR=4.4							
SNAA	**Sanae**	37.79	151	P	P	22 39 17.3		0.0
	1.2nm,1.0s,baz=288,slow=9.0,SNR=6.2							
QSPA	**South Pole Qui**	40.55	180	P	P	22 39 39.8		-0.8
	2.6nm,0.9s							
VNDA	**Vanda**	48.59	194	P	P	22 40 45.7		+1.3
	0.8nm,0.8s,baz=146,slow=7.3,SNR=5.4							
TORD	**Torodi Ar. Bea**	90.44	70	P	P	22 45 03.5		+0.2
	0.8nm,0.9s,baz=250,slow=7.1,SNR=3.8							
ILAR	**Eielson Array**	127.49	329	PKP	PKPdf	22 51 04.3		-1.0
	0.5nm,0.8s,baz=174,slow=1.7,SNR=3.4							
CMAR	**Chiang Mai Arr**	148.21	166	PKPbc	PKPbc	22 51 46.5		-1.3
	0.8nm,0.7s,baz=212,slow=4.7,SNR=7.6							

*ISCJB **13** 22:38:41.3±0.6, 22°6S±0.1×12°7W±0.1, h9km, mb4.1/11, Error ellipse: s-maj=17.1km s-min=13.5km az=139.7*
*IDC **13** 22:38:42.0±0.7, 22°63S×12°73W, h0km, mb4.1/9, mb1 4.1/9, mb1mx3.9/23, mbtmp4.1/9, Error ellipse: s-maj=26.4km s-min=19.4km az=106.0*
*NEIC **13** 22:38:43.2±0.5, 22°62S×12°68W, h10km, mb4.5/3, Error ellipse: s-maj=16.0km s-min=10.9km az=145.0*

ISC 13 22:38:43.1±0.6, 22°6S±0.1×12°7W±0.1, h9km, n25, σ0.881/22, mb4.1/11, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
SHEL	**Horse Pasture**	9.31	46	Pn	Pn	22 40 56.2		-1.5
H10S2	**ASCENSION HYDR**	13.70	352	T	T	22 55 58.0		
	baz=172,slow=0.7,SNR=14							
H10S3	**ASCENSION HYDR**	13.71	352	T	T	22 55 59.3		
	baz=172,slow=0.7,SNR=12							
H10S1	**ASCENSION HYDR**	13.72	352	T	T	22 55 59.4		
	baz=172,slow=0.7,SNR=15							
TSUM	**Tsumeb**	28.46	89	*eP*	P	22 44 39.3		+0.5
	2.1nm,0.8s							
BDFB	**Brasilia**	34.02	275	P	P	22 45 27.0		-0.9
BDFB	**Brasilia**	34.02	275	P	P	22 45 27.0		-0.9
	3.4nm,0.9s,baz=138,slow=12,SNR=3.8							
TORD	**Torodi Ar. Bea**	38.23	23	P	P	22 46 04.8		+1.2
TORD	**Torodi Ar. Bea**	38.23	23	P	P	22 46 04.8		+1.2
	3.6nm,0.9s,baz=199,slow=9.0,SNR=16							
SIV	**San Ignacio**	45.98	269	P	P	22 47 07.8		+0.7
SIV	**San Ignacio**	45.98	269	P	P	22 47 07.8		+0.7
	1.5nm,0.7s,baz=117,slow=8.0,SNR=4.4							
SNAA	**Sanae**	49.41	176	*eP*	P	22 47 32.5		-0.5
SNAA	**Sanae**	49.41	176	P	P	22 47 31.8		-1.2
	0.2nm,0.3s,baz=330,slow=14,SNR=3.6							
ESDC	**Sonseca Array**	62.49	8	P	P	22 49 07.3		+0.3
ESDC	**Sonseca Array**	62.49	8	P	P	22 49 07.3		+0.3
	0.6nm,0.7s,baz=186,slow=8.1,SNR=4.8							
MAW	**Mawson**	63.81	156	P	P	22 49 15.8		+0.5
	2

s-min=5.5km az=148.6
*NEIC **13** 23:17:06.1±0.4, 11°.98N×46°.03E, h10km, mb4.3/5, Error ellipse: s-maj=11.2km s-min=7.3km az=133.0*
*OMAN **13** 23:17:09.1±0.0, 11°.89N×46°.28E, h19km, Error ellipse: s-maj=15.4km s-min=1.2km az=307.0*
*DHMR **13** 23:17:15.2±0.9, 12°.63N×45°.45E, h8km±4km, ML4.3*

ISC 13 23:17:07.0±0.5, **12°.13N**±0°.05×**45°.96E**±0°.05, **h13km, n96, σ1°59/107, mb3.9/19, MS4.1/6, 1C-2D, Western Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDHA	**Al Bayda'**	**1.88**	**348**	*i* P	**Pb**	**23 17 40.5**	**-0.8**
BDHA				*i* S	**Sn**	**23 17 59.2**	**-3.6**
BDHA				AML	AML	23 17 59.5	
	comp=E,17μm,0.6s						
BDHA	**Al Bayda'**	**1.88**	**348**	*i* P	**Pb**	**23 17 40.5**	**-0.8**
BDHA				*i* S	**Sn**	**23 17 59.2**	**-3.6**
	comp=E,9μm,0.6s						
TRBA	**At Turbah**	**2.11**	**302**	*i* P	**Pn**	**23 17 41.1**	**-1.1**
TRBA				*i* S	**Sn**	**23 18 02.7**	**-5.8**
TRBA				AML	AML	23 18 06.8	
	comp=N,8μm,0.5s						
UDYN	**Al 'Udayn**	**2.67**	**314**	*i* P	**Pn**	**23 17 49.8**	**-0.1**
UDYN				*i* S	**Sn**	**23 18 16.4**	**-5.7**
UDYN				AML	AML	23 18 31.6	
	comp=E,2μm,0.7s						
ATD	**Arta Tunnel**	**3.10**	**259**	Pn	**Pn**	**23 17 54.7**	**-1.1**
ATD				Sn	**Sn**	**23 18 32.1**	**-0.6**
ATD	**Arta Tunnel**	**3.10**	**259**	Pn	**Pn**	**23 17 54.7**	**-1.1**
ATD				Sn	**Sn**	**23 18 32.2**	**-0.6**
ATD	**Arta Tunnel**	**3.10**	**259**	Pn	**Pn**	**23 17 54.7**	**-1.1**
	comp=E,62nm,0.3s,baz=126,slow=4.4,SNR=85						
ATD				Sn	**Sn**	**23 18 32.1**	**-0.6**
	comp=E,66nm,0.3s,baz=296,slow=24,SNR=14						
SANA	**San'a**	**3.66**	**333**	*i* S	**Sn**	**23 18 45.8**	**-1.1**
MUKL	**Al Mukalla**	**3.80**	**52**	*i* S	**Sg**	**23 19 07.5**	**-1.7**
HAJJ	**Hajjah**	**4.22**	**327**	*i* P	**Pn**	**23 18 13.3**	**+1.9**
HAJJ				*i* S	**Sn**	**23 18 58.5**	**-2.2**
HAJJ				AML	AML	23 19 26.6	
	comp=N,832nm,0.5s						
HAJJ	**Hajjah**	**4.22**	**327**	*i* P	**Pn**	**23 18 13.3**	**+1.9**
HAJJ				*i* S	**Sn**	**23 18 58.5**	**-2.2**
	comp=N,416nm,0.5s						
JMDO	**Jabal Madar**	**15.43**	**47**	P	**Pn**	**23 20 45.0**	**+0.4**
	SNR=5.4						
HOQ	**Hoqain**	**15.69**	**42**	⇑P	**P**	**23 20 50.5**	**-1.6**
	SNR=11						
HOQ	**Hoqain**	**15.69**	**42**	P	**P**	**23 20 50.5**	**-1.6**
	SNR=11						
ASHO	**Ashiyiah**	**15.73**	**36**	P	**P**	**23 20 50.4**	**-2.1**
	SNR=6.5						
ASHO	**Ashiyiah**	**15.73**	**36**	P	**P**	**23 20 50.4**	**-2.1**
	SNR=6.5						
KMBO	**Kilima Mbogo**	**15.75**	**214**	P	**Pn**	**23 20 50.6**	**+1.6**
	SNR=9.3						
KMBO	**Kilima Mbogo**	**15.75**	**214**	*e*Pn	**Pn**	**23 20 46.7**	**-2.3**
	comp=N,56nm,1.6s						
KMBO	**Kilima Mbogo**	**15.75**	**214**	*e*Pn	**Pn**	**23 20 46.7**	**-2.3**
	comp=N,56nm,1.6s						
KMBO	**Kilima Mbogo**	**15.75**	**214**	P	**Pn**	**23 20 50.6**	**+1.6**
	SNR=9.3						
KMBO	**Kilima Mbogo**	**15.75**	**214**	Pn	**Pn**	**23 20 47.9**	**-1.2**
	comp=N,0.1nm,0.3s,baz=35,slow=14,SNR=12						
KMBO				Lg	Lg	23 25 11.0	
	comp=N,0.1nm,0.3s,baz=82,slow=18,SNR=3.1						
KMBO				LR	LR	23 26 36.8	
	comp=N,836nm,18.8s,baz=279,slow=36						
SMDO	**Samad**	**15.83**	**45**	⇓P	**Pn**	**23 20 50.9**	**+0.9**
	SNR=22						
SMDO	**Samad**	**15.83**	**45**	P	**Pn**	**23 20 50.8**	**+0.9**
	SNR=22						
WBK	**Wadi Bani Khal**	**16.20**	**48**	⇓P	**P**	**23 20 57.3**	**-0.4**
	SNR=5.6						
RDF	**Al-Radifah**	**16.78**	**5**	*e*P	**P**	**23 21 06.6**	**+2.5**
RDF				AMb	AMB	23 21 10.7	
	comp=Z,43nm,1.3s						
RDF	**Al-Radifah**	**16.78**	**5**	*e*P	**P**	**23 21 06.6**	**+2.5**
	comp=Z,43nm,1.3s						
NAY	**Al-Naaiem**	**17.08**	**4**	*e*P	**Pn**	**23 21 06.3**	**+0.7**
NAY				AMb	AMB	23 21 12.8	
	comp=Z,49nm,1.0s						
MBAR	**Mbarara**	**19.70**	**231**	P	**P**	**23 21 35.9**	**-0.6**
MBAR	**Mbarara**	**19.70**	**231**	P	**P**	**23 21 35.9**	**-0.6**
MBAR	**Mbarara**	**19.70**	**231**	P	**P**	**23 21 35.9**	**-0.6**
	baz=55,slow=11,SNR=5.0						
EIL	**Elat**	**20.23**	**331**	Lg	Lg	23 27 34.0	
	comp=Z,4.8nm,0.9s,baz=61,slow=16,SNR=4.8						
ASF	**Jabal al Asfar**	**21.62**	**339**	P	**P**	**23 21 60.0**	**+2.9**
ASF				Lg	Lg	23 28 18.3	
ASF	**Jabal al Asfar**	**21.62**	**339**	P	**P**	**23 21 60.0**	**+2.9**
	comp=Z,2.3nm,0.9s,baz=27,slow=1.8,SNR=3.8						
ASF				Lg	Lg	23 28 18.3	
	comp=Z,0.9nm,0.6s,baz=311,slow=21,SNR=3.2						
ASF				LR	LR	23 30 01.9	
	comp=Z,642nm,18.6s,baz=114,slow=36						
MMAI	**Mount Meron Ar**	**22.93**	**337**	P	**P**	**23 22 14.8**	**+3.7**
MMAI	**Mount Meron Ar**	**22.93**	**337**	P	**P**	**23 22 14.8**	**+3.7**
	comp=Z,2.5nm,0.8s,baz=134,slow=8.3,SNR=4.9						
MMAI				LR	LR	23 30 54.7	
	comp=Z,461nm,18.6s,baz=150,slow=36						
GNI	**Garni**	**27.93**	**358**	LR	LR	23 34 44.8	
	comp=Z,470nm,18.1s,baz=346,slow=38						
BRTR	**Keskin Array B**	**29.57**	**341**	P	**P**	**23 23 14.2**	**+2.4**
BRTR				PcP	**PcP**	**23 26 16.9**	**+0.2**
BRTR	**Keskin Array B**	**29.57**	**341**	P	**P**	**23 23 14.2**	**+2.4**
BRTR	**Keskin Array B**	**29.57**	**341**	PcP	**PcP**	**23 26 17.0**	**+0.2**
BRTR	**Keskin Array B**	**29.57**	**341**	P	**P**	**23 23 14.2**	**+2.4**
	comp=Z,0.7nm,0.6s,baz=158,slow=9.4,SNR=5.2						
BRTR				PcP	**PcP**	**23 26 16.9**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=140,slow=4.9,SNR=4.1						
BRTR				LR	LR	23 35 14.1	
	comp=Z,405nm,18.3s,baz=144,slow=37						
LSZ	**Lusaka**	**32.41**	**213**	*e*P	**P**	**23 23 36.0**	**-1.1**
	comp=Z,4.0nm,0.9s						
LSZ	**Lusaka**	**32.41**	**213**	*e*P	**P**	**23 23 36.0**	**-1.1**
	comp=Z,4.0nm,0.9s						
LSZ	**Lusaka**	**32.41**	**213**	P	**P**	**23 23 37.5**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=26,slow=11,SNR=5.4						
ABKAR	**Akbulak array**	**38.79**	**15**	*e*P	**P**	**23 24 30.9**	**-0.5**
	comp=Z,1.6nm,0.7s						
ABKAR	**Akbulak array**	**38.79**	**15**	*e*P	**P**	**23 24 30.9**	**-0.5**
	comp=Z,1.6nm,0.7s						
AAK	**Ala-Archa**	**39.21**	**34**	*e*P	**P**	**23 24 35.9**	**+0.7**
	comp=Z,4.6nm,0.9s						
AAK	**Ala-Archa**	**39.21**	**34**	*e*P	**P**	**23 24 35.9**	**+0.7**
	comp=Z,4.6nm,0.9s						
AAK	**Ala-Archa**	**39.21**	**34**	P	**P**	**23 24 36.2**	**+1.0**
	comp=Z,3.6nm,0.9s,baz=184,slow=12,SNR=4.4						
AKASG	**Malin Array Be**	**40.83**	**344**	P	**P**	**23 24 48.9**	**+0.6**
AKASG	**Malin Array Be**	**40.83**	**344**	P	**P**	**23 24 48.9**	**+0.6**
AKASG	**Malin Array Be**	**40.83**	**344**	P	**P**	**23 24 48.9**	**+0.6**
	comp=Z,0.3nm,0.2s,baz=162,slow=7.3,SNR=8.4						
TORD	**Torodi Ar. Bea**	**43.16**	**276**	P	**P**	**23 25 09.2**	**+1.3**
TORD				PcP	**PcP**	**23 26 57.6**	**+0.1**
TORD	**Torodi Ar. Bea**	**43.16**	**276**	P	**P**	**23 25 09.2**	**+1.3**
TORD	**Torodi Ar. Bea**	**43.16**	**276**	PcP	**PcP**	**23 26 57.6**	**+0.1**
TORD	**Torodi Ar. Bea**	**43.16**	**276**	P	**P**	**23 25 09.2**	**+1.3**
	comp=Z,1.6nm,0.7s,baz=90,slow=7.5,SNR=22						
TORD				PcP	**PcP**	**23 26 57.6**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=83,slow=3.3,SNR=6.7						
BOSA	**Boshof**	**45.18**	**206**	LR	LR	23 44 32.1	
	comp=Z,472nm,18.9s,baz=97,slow=36						
GERES	**GERESS Array B**	**45.33**	**330**	P	**P**	**23 25 25.2**	**+0.3**
GERES	**GERESS Array B**	**45.33**	**330**	P	**P**	**23 25 25.2**	**+0.3**
GERES	**GERESS Array B**	**45.33**	**330**	P	**P**	**23 25 25.2**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=140,slow=7.7,SNR=7.2						
MK31	**Makanchi Array**	**46.14**	**34**	*e*P	**P**	**23 25 30.5**	**-0.8**
MK31	**Makanchi Array**	**46.14**	**34**	*e*P	**P**	**23 25 30.5**	**-0.8**
MKAR	**Makanchi Array**	**46.14**	**34**	P	**P**	**23 25 30.8**	**-0.5**
MKAR	**Makanchi Array**	**46.14**	**34**	P	**P**	**23 25 30.8**	**-0.5**
MKAR	**Makanchi Array**	**46.14**	**34**	P	**P**	**23 25 30.8**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=223,slow=8.1,SNR=6.3						
DBIC	**Dimbokro**	**50.37**	**269**	*e*P	**P**	**23 26 04.1**	**-0.3**
	comp=Z,6.6nm,0.9s						
DBIC	**Dimbokro**	**50.37**	**269**	*e*P	**P**	**23 26 04.1**	**-0.3**
	comp=Z,6.6nm,0.9s						
DBIC	**Dimbokro**	**50.37**	**269**	P	**P**	**23 26 06.1**	**+1.8**
	comp=Z,3.0nm,0.7s,baz=90,slow=5.1,SNR=3.6						
FINES	**FINESS Array B**	**51.32**	**348**	P	**P**	**23 26 11.2**	**+0.4**
FINES	**FINESS Array B**	**51.32**	**348**	P	**P**	**23 26 11.2**	**+0.4**
FINES	**FINESS Array B**	**51.32**	**348**	P	**P**	**23 26 11.2**	**+0.4**
	comp=Z,6.8nm,0.9s,baz=177,slow=2.4,SNR=4.3						
CMAR	**Chiang Mai Arr**	**51.35**	**76**	P	**P**	**23 26 10.9**	**-0.8**
CMAR				PcP	**PcP**	**23 27 25.1**	**-1.6**
CMAR	**Chiang Mai Arr**	**51.35**	**76**	P	**P**	**23 26 10.9**	**-0.8**
CMAR	**Chiang Mai Arr**	**51.35**	**76**	PcP	**PcP**	**23 27 25.0**	**-1.6**
CMAR	**Chiang Mai Arr**	**51.35**	**76**	P	**P**	**23 26 10.9**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=271,slow=8.0,SNR=15						
CMAR				PcP	**PcP**	**23 27 25.1**	**-1.6**
	comp=Z,0.9nm,0.5s,baz=265,slow=5.2,SNR=4.9						
ESDC	**Sonseca Array**	**51.78**	**311**	P	**P**	**23 26 15.2**	**+0.5**
ESDC	**Sonseca Array**	**51.78**	**311**	P	**P**	**23 26 15.2**	**+0.5**
ESDC	**Sonseca Array**	**51.78**	**311**	P	**P**	**23 26 15.2**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=115,slow=5.8,SNR=4.5						
ZALV	**Zalesovo Beam**	**51.80**	**28**	P	**P**	**23 26 13.3**	**-1.2**
ZALV	**Zalesovo Beam**	**51.80**	**28**	P	**P**	**23 26 13.3**	**-1.2**
ZALV	**Zalesovo Beam**	**51.80**	**28**	P	**P**	**23 26 13.3**	**-1.2**
	comp=Z,1.2nm,0.6s,baz=237,slow=8.3,SNR=8.0						
NOA	**NORSAR Array B**	**55.01**	**340**	P	**P**	**23 26 38.2**	**+0.2**
NOA	**NORSAR Array B**	**55.01**	**340**	P	**P**	**23 26 38.2**	**+0.2**
NOA	**NORSAR Array B**	**55.01**	**340**	P	**P**	**23 26 38.2**	**+0.2**
	comp=Z,1.2nm,0.9s,baz=133,slow=7.2,SNR=3.3						
SONM	**Songino Array**	**61.36**	**42**	P	**P**	**23 27 22.2**	**-0.7**
SONM	**Songino Array**	**61.36**	**42**	P	**P**	**23 27 22.2**	**-0.7**
SONM	**Songino Array**	**61.36**	**42**	P	**P**	**23 27 22.2**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=245,slow=6.6,SNR=6.9						
FRB	**Frobisher Bay**	**89.62**	**336**	LR	LR	00 08 46.0	
	comp=Z,579nm,19.2s,baz=110,slow=35						
WRA	**Warramunga Arr**	**92.57**	**110**	P	**P**	**23 30 18.9**	**-0.1**
WRA	**Warramunga Arr**	**92.57**	**110**	P	**P**	**23 30 18.9**	**-0.1**
WRA	**Warramunga Arr**	**92.57**	**110**	P	**P**	**23 30 18.9**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=294,slow=3.7,SNR=5.6						
ASAR	**Alice Springs**	**92.94**	**113**	P	**P**	**23 30 20.7**	**+0.1**
ASAR	**Alice Springs**	**92.94**	**113**	P	**P**	**23 30 20.7**	**+0.1**
ASAR	**Alice Springs**	**92.94**	**113**	P	**P**	**23 30 20.7**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=286,slow=5.0,SNR=8.5						
TXAR	**Lajitas Array**	**129.42**	**325**	PKP	**PKPdf**	**23 36 16.6**	**+0.3**
TXAR	**Lajitas Array**	**129.42**	**325**	PKIKP	**PKPdf**	**23 36 16.6**	**+0.3**
TXAR	**Lajitas Array**	**129.42**	**325**	PKP	**PKPdf**	**23 36 16.6**	**+0.3**
	comp=Z,0.1nm,0.6s,baz=77,slow=1.9,SNR=3.2						

*IDC **13** 23:17:20.6±2.5, 3°.54S×129°.47E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.4/19, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=188.3km s-min=27.7km az=69.0*
*DJA **13** 23:17:21.5±0.6, 3°.5±9°×12°.9E±°, h29km±8km, M3.3/6, MLv3.3/6*

ISC 13 23:17:24.6±1.5, **3°.6S**±0°.2×**129°.3E**±0°.1, **h35km, n8, σ1°72/6, Seram**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.44**	**300**	P	**Pn**	**23 17 33.1**	**-1.4**
BNDI	**Bandanaira**	**1.12**	**148**	P	**Pn**	**23 17 43.7**	**-0.1**
AAI	**Ambon**	**1.12**	**264**	P	**Pn**	**23 17 44.4**	**+0.5**
NLAI	**Namlea**	**2.23**	**278**	P	**Pn**	**23 17 58.8**	**-0.3**
FAKI	**Fak Fak**	**3.00**	**78**	P	Pn	23 18 04.5	-5.2
WRA	**Warramunga Arr**	**17.00**	**164**	Pn	**Pn**	**23 21 17.9**	**-1.9**
	0.1nm,0.3s,baz=347,slow=13,SNR=2.8						
ASAR	**Alice Springs**	**20.47**	**168**	P	Pn	23 22 00.9	-0.8
	1.5nm,0.5s,baz=348,slow=10,SNR=21						
MKAR	**Makanchi Array**	**65.00**	**326**	P	**P**	**23 28 03.0**	**+1.8**
	0.2nm,0.6s,baz=129,slow=5.9,SNR=3.0						

*IDC **13** 23:36:07.4±0.6, 15°.04S×173°.65W, h0km, mb4.4/12, mb1 4.7/12, mb1mx4.5/18, mbtmp4.4/12, MS3.8/1, Ms1 3.8/1, ms1mx3.4/37, Error ellipse: s-maj=33.6km s-min=18.1km az=135.0*
*ISCJB **13** 23:36:11.4±0.3, 15°.25S±0°.10×173°.79W±0°.07, h42km, mb4.7/45, MS3.6/1, Error ellipse: s-maj=15.6km s-min=6.4km az=149.2*
*SZGRF **13** 23:36:11.6, 15°.74S×170°.93W, h33km, Samoa Islands region*
*NEIC **13** 23:36:11.6±3.1, 15°.37S×173°.61W, h33km±21km, mb4.8/32, Error ellipse: s-maj=11.5km s-min=5.7km az=139.0*

ISC 13 23:36:12.5±0.5, **15°.4S**±0°.1×**173°.6W**±0°.1, **h42km, n348, σ0°67/337, mb4.7/45, 107C-121D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.31**	**51**	*e*Pn	Pn	23 36 37.7	-10
AFI				Sn	Sn	23 36 57.2	-18
AFI	**Afiamalu**	**2.31**	**51**	Pn	Pn	23 36 37.9	-10
	58nm,0.3s,baz=53,slow=18,SNR=12						
AFI				Sn	Sn	23 36 57.2	-18
	627nm,0.3s,baz=191,slow=23,SNR=24						
MSVF	**Nonsavu**	**8.31**	**252**	*e*Pn	**Pn**	**23 38 10.7**	**+0.1**
	28nm,1.0s						
DZM	**Mont Dzumac**	**20.00**	**248**	*e*P	Pn	23 40 42.6	-1.1
PPT	**Papeete**	**23.17**	**99**	LR	LR	23 48 50.6	
	comp=Z,221nm,19.3s,baz=346,slow=33						
H11S2	**WAKE ISLAND Hy**	**38.82**	**329**	T	T	00 24 35.9	
	baz=152,slow=0.7,SNR=63						
H11S3	**WAKE ISLAND Hy**	**38.83**	**329**	T	T	00 24 27.0	
	baz=152,slow=0.7,SNR=67						
H11S1	**WAKE ISLAND Hy**	**38.84**	**329**	T	T	00 24 29.8	
	baz=152,slow=0.7,SNR=60						
H11N3	**WAKE ISLAND Hy**	**39.77**	**331**	T	T	00 25 37.1	
	baz=152,slow=0.7,SNR=37						
H11N1	**WAKE ISLAND Hy**	**39.77**	**331**	T	T	00 25 35.0	
	baz=152,slow=0.7,SNR=66						
H11N2	**WAKE ISLAND Hy**	**39.79**	**331**	T	T	00 25 39.7	
	baz=152,slow=0.7,SNR=48						
TAU	**Tasmania Unive**	**43.19**	**223**	*e*P	**P**	**23 44 08.9**	**-0.4**
WRAB	**Tennant Creek**	**49.62**	**257**	*e*P	**P**	**23 45 00.2**	**+0.1**
	22nm,1.5s						
WRA	**Warramunga Arr**	**49.63**	**257**	P	**P**	**23 45 00.8**	**+0.5**
WRA	**Warramunga Arr**	**49.63**	**257**	P	**P**	**23 45 00.8**	**+0.5**
	3.6nm,0.9s,baz=90,slow=7.2,SNR=9.8						
AS31	**Alice Springs**	**49.91**	**252**	*e*P	**P**	**23 45 02.0**	**-0.3**
ASAR	**Alice Springs**	**49.91**	**252**	P	**P**	**23 45 02.9**	**+0.6**
ASAR	**Alice Springs**	**49.91**	**252**	P	**P**	**23 45 02.9**	**+0.6**
	13nm,0.9s,baz=85,slow=8.3,SNR=89						
MBWA	**Marble Bar**	**63.15**	**254**	*e*P	**P**	**23 46 36.6**	**+0.1**
SBA	**Scott Base**	**63.27**	**185**	P	**P**	**23 46 35.7**	**-0.7**
VNDA	**Vanda**	**63.39**	**186**	*e*P	**P**	**23 46 36.0**	**-1.2**
VNDA	**Vanda**	**63.39**	**186**	P	P	23 46 40.8	+3.7
	1.0nm,0.9s,baz=20,slow=6.5,SNR=5.4						
PETK	**Petropavlovsk-**	**72.53**	**342**	P	**P**	**23 47 34.5**	**-0.2**
PETK	**Petropavlovsk-**	**72.53**	**342**	P	**P**	**23 47 34.5**	**-0.2**
	6.9nm,1.5s,baz=122,slow=11,SNR=3.5						
HEC	**Hector,Ludlow**	**73.80**	**46**	⇓P	**P**	**23 47 42.8**	**-0.1**
	baz=74						
NVAR	**Mina Array Bea**	**74.45**	**42**	P	**P**	**23 47 46.5**	**-0.2**
NVAR	**Mina Array Bea**	**74.45**	**42**	P	**P**	**23 47 46.5**	**-0.2**
	1.5nm,0.6s,baz=216,slow=7.6,SNR=5.3						
QSPA	**South Pole Qui**	**74.68**	**180**	*e*P	**P**	**23 47 47.5**	**0.0**
	3.9nm,0.9s						
214A	**Organ Pipe Nat**	**74.87**	**50**	⇑P	**P**	**23 47 49.8**	**+0.8**
	baz=75						
Y14A	**Wickenburg**	**75.70**	**48**	⇓P	**P**	**23 47 54.5**	**+0.7**
	baz=76						
R11A	**Troy Canyon, C**	**76.19**	**43**	⇑P	**P**	**23 47 57.4**	**+0.7**
	baz=76						
TUC	**Tucson**	**76.54**	**51**	*e*P	**P**	**23 47 59.9**	**+1.2**
	4.1nm,0.9s						
I07A	**Izee**	**77.01**	**37**	*e*P	**P**	**23 48 01.6**	**+0.5**
	48nm,2.3s						
X16A	**Lo Mia Camp, P**	**77.06**	**49**	⇑P	**P**	**23 48 02.0**	**+0.3**
	baz=77						
J08A	**Circle Bar Ran**	**77.18**	**38**	*e*P	**P**	**23 48 03.0**	**+0.9**
	14nm,1.2s						
U15A	**North Rim**	**77.44**	**46**	⇑P	**P**	**23 48 04.2**	**+0.3**
	baz=78						
WUAZ	**Wupatki**	**77.64**	**48**	⇑P	**P**	**23 48 05.5**	**+0.6**
	baz=78						
ELK	**Elko**	**77.71**	**41**	*e*P	**P**	**23 48 05.6**	**+0.3**
	6.9nm,1.1s						
320A	**Kipp Ranch, An**	**77.81**	**53**	⇓P	**P**	**23 48 07.0**	**+1.1**
	baz=78						
G08A	**Pilot Rock**	**78.04**	**36**	*e*P	**P**	**23 48 07.7**	**+0.8**
	8.5nm,1.4s						
220A	**Playas Peak, P**	**78.06**	**52**	⇑P	**P**	**23 48 08.6**	**+1.3**
	baz=78						
X18A	**Snowflake**	**78.20**	**49**	⇑P	**P**	**23 48 08.7**	**+0.6**
	baz=78						
120A	**U Bar Ranch, L**	**78.27**	**51**	⇓P	**P**	**23 48 08.8**	**+0.4**
	baz=78						
Z20A	**Nine Sixteen R**	**78.55**	**51**	⇓P	**P**	**23 48 10.7**	**+0.7**
	baz=79						
221A	**Mesquite Ranch**	**78.68**	**52**	⇓P	**P**	**23 48 12.1**	**+1.5**
	baz=79						
121A	**Cookes Peak, D**	**78.90**	**52**	⇑P	**P**	**23 48 13.0**	**+1.0**
	baz=79						
DUG	**Dugway**	**78.99**	**43**	*e*P	**P**	**23 48 13.1**	**+0.9**
	9.9nm,1.1s						
DUG	**Dugway**	**78.99**	**43**	⇑P	**P**	**23 48 12.9**	**+0.7**
	baz=79						
Y20A	**Horse Springs,**	**79.07**	**50**	⇓P	**P**	**23 48 13.8**	**+0.9**
	baz=79						
222A	**Williams Famil**	**79.24**	**52**	⇑P	**P**	**23 48 15.1**	**+1.3**
	baz=79						
X20A	**Quemado**	**79.27**	**50**	⇑P	**P**	**23 48 15.1**	**+1.1**
	baz=79						
Z21A	**St. Cloud Mine**	**79.33**	**51**	⇑P	**P**	**23 48 15.5**	**+1.2**
	baz=80						
DIV	**Divide**	**79.42**	**13**	*e*P	**P**	**23 48 13.9**	**0.0**
	20nm,1.0s						
Q16A	**Castle Valley**	**79.44**	**45**	⇓P	**P**	**23 48 15.6**	**+0.8**
	baz=80						
W20A	**Ramah**	**79.53**	**49**	⇑P	**P**	**23 48 16.3**	**+0.8**
	baz=80						
BMRM	**Bremner River**	**79.54**	**14**	*e*P	**P**	**23 48 14.4**	**-0.2**
	16nm,1.0s						
122A	**Conniff Cattle**	**79.57**	**52**	⇓P	**P**	**23 48 16.8**	**+1.2**
	baz=80						
TMUT	**Trail Mountain**	**79.61**	**44**	*e*P	**P**	**23 48 17.2**	**+1.3**
Y21A	**Point of Rocks**	**79.64**	**50**	⇑P	**P**	**23 48 16.7**	**+0.6**
	baz=80						
HLID	**Hailey**	**79.75**	**39**	*e*P	**P**	**23 48 16.6**	**+0.3**
	9.1nm,0.9s						
HLID	**Hailey**	**79.75**	**39**	⇓P	**P**	**23 48 17.1**	**+0.8**
	baz=80						
X21A	**Alamocita Cree**	**79.75**	**50**	⇑P	**P**	**23 48 17.3**	**+0.6**
	baz=80						
HVU	**Hansel Valley**	**79.83**	**42**	*e*P	**P**	**23 48 17.7**	**+0.9**
	8.3nm,0.9s						
Z22A	**Elephant Butte**	**79.84**	**51**	⇓P	**P**	**23 48 17.9**	**+0.9**
	baz=80						
V20A	**Brimhall**	**79.86**	**49**	⇓P	**P**	**23 48 17.8**	**+0.6**
	baz=80						
U20A	**Newcomb**	**80.09**	**48**	⇓P	**P**	**23 48 19.1**	**+0.8**
	baz=80						
Y22A	**Socorro**	**80.14**	**51**	⇑P	**P**	**23 48 19.3**	**+0.6**
	baz=80						
324A	**Moseley Ranch,**	**80.20**	**54**	⇓P	**P**	**23 48 19.3**	**+0.3**
	baz=80,SNR=5.4						
425A	**Indio Mountain**	**80.32**	**54**	⇓P	**P**	**23 48 20.0**	**+0.4**
	baz=80						
Z23A	**Rita Site, Whi**	**80.40**	**52**	⇓P	**P**	**23 48 20.1**	**+0.1**
	baz=80						
224A	**Cornudas Mount**	**80.44**	**53**	⇓P	**P**	**23 48 20.9**	**+0.6**
	baz=81,SNR=8.2						
MVCO	**Mesa Verde**	**80.49**	**47**	⇓P	**P**	**23 48 20.7**	**+0.2**
	baz=81						
626A	**Big Bend Ranch**	**80.50**	**56**	⇓P	**P**	**23 48 21.6**	**+1.0**
	baz=81						
325A	**Bean Ranch, Si**	**80.57**	**54**	⇓P	**P**	**23 48 21.3**	**+0.3**
	baz=81,SNR=10						
TRF	**Thorofare Moun**	**80.63**	**10**	*e*P	**P**	**23 48 19.8**	**-0.8**
	16nm,1.0s						
U21A	**Nageezi**	**80.73**	**48**	⇑P	**P**	**23 48 23.0**	**+1.1**
	baz=81						
526A	**Mary Lane Ranc**	**80.73**	**55**	⇑P	**P**	**23 48 22.7**	**+0.8**
	baz=81,SNR=5.0						
124A	**Stringfield Ra**	**80.75**	**52**	⇑P	**P**	**23 48 23.2**	**+1.1**
	baz=81						
PV04	**Paradox Valley**	**80.75**	**46**	*e*P	**P**	**23 48 20.6**	**-1.3**
TXAR	**Lajitas Array**	**80.78**	**56**	P	**P**	**23 48 22.8**	**+0.7**
TXAR	**Lajitas Array**	**80.78**	**56**	P	**P**	**23 48 22.8**	**+0.7**
	2.7nm,0.9s,baz=232,slow=4.4,SNR=22						
NEW	**Newport**	**80.81**	**34**	⇓P	**P**	**23 48 22.2**	**+0.4**
	baz=81						
Y23A	**Lovelace Mesa,**	**80.82**	**51**	⇓P	**P**	**23 48 22.8**	**+0.5**
	baz=81						
ANMO	**Albuquerque**	**80.95**	**50**	*e*P	**P**	**23 48 24.1**	**

baz=82
R22A **Saguache, Gunn** 82.18 47 ⇑P P 23 48 30.5 +0.9
baz=82,SNR=7.8
QLMT **Earthquake Lak** 82.24 39 *e*P P 23 48 29.5 -0.1
0.2nm,0.2s
529A **Stev Forest Ra** 82.25 56 ⇑P P 23 48 30.3 +0.5
baz=82,SNR=5.9
328A **Wristen Ranch,** 82.27 55 ⇓P P 23 48 30.3 +0.4
baz=82,SNR=5.8
P21A **Newcastle** 82.28 46 ⇑P P 23 48 30.3 +0.3
baz=82
N20A **Spence Gulch,** 82.33 44 ⇑P P 23 48 30.6 +0.4
baz=82
COLA **College** 82.37 11 *e*P P 23 48 28.6 -0.9
93nm,0.8s
PDAR **Pinedale Array** 82.39 42 P P 23 48 30.2 -0.3
PDAR **Pinedale Array** 82.39 42 P P 23 48 30.2 -0.3
3.4nm,0.9s,baz=221,slow=3.6,SNR=22
U24A **Moreno Valley** 82.45 49 ⇓P P 23 48 32.0 +1.0
baz=83
SMCO **Snowmass** 82.45 46 *e*P P 23 48 31.9 +0.8
9.5nm,1.1s
ILAR **Eielson Array** 82.46 11 P P 23 48 29.1 -0.9
ILAR **Eielson Array** 82.46 11 P P 23 48 29.1 -0.9
3.1nm,0.9s,baz=206,slow=6.2,SNR=22
IM04 **Indian Mountai** 82.46 8 *e*P P 23 48 29.6 -0.4
Y26A **Elida** 82.50 52 ⇓P P 23 48 31.4 +0.3
baz=83
H17A **Grant Village** 82.55 40 ⇑P P 23 48 32.4 +1.1
baz=83
W25A **X Bar L Ranch,** 82.55 51 ⇑P P 23 48 31.7 +0.3
baz=83
IMA2 **Indian Mountai** 82.56 8 *e*P P 23 48 30.1 -0.6
T24B **San Luis** 82.65 49 ⇓P P 23 48 32.6 +0.6
baz=83
M20A **Sweetwater, Wa** 82.68 44 ⇑P P 23 48 32.6 +0.6
baz=83
V25A **Rancho No Teng** 82.69 50 ⇓P P 23 48 32.4 +0.2
baz=83,SNR=7.8
429A **Davenport Ranc** 82.70 56 ⇑P P 23 48 32.7 +0.6
baz=83,SNR=15
Z27A **Tatum** 82.72 53 ⇑P P 23 48 33.0 +0.7
baz=83
228A **UT Block 9, Go** 82.73 54 ⇑P P 23 48 32.4 +0.1
baz=83
X26A **CR and CF Fran** 82.76 51 ⇓P P 23 48 32.9 +0.4
baz=83
P22A **Eagle** 82.79 46 ⇑P P 23 48 33.0 +0.3
baz=83
R23A **Moffat** 82.82 47 ⇑P P 23 48 33.2 +0.3
baz=83
L20A **Wamsutter** 82.82 43 ⇑P P 23 48 33.2 +0.5
baz=83,SNR=11
J19A **Crowheart** 82.95 42 ⇓P P 23 48 33.2 -0.1
baz=83,SNR=6.1
329A **Wagon Wheel Ra** 82.96 55 ⇑P P 23 48 34.1 +0.6
baz=83,SNR=8.4
530A **J-C Ranch, Com** 82.96 56 ⇓P P 23 48 33.9 +0.4
baz=83
Y27A **Causey** 82.98 52 ⇑P P 23 48 34.1 +0.4
baz=83
128A **Castleberry Fa** 83.01 54 ⇓P P 23 48 34.4 +0.7
baz=83,SNR=6.4
W26A **Owens Ranch, T** 83.02 51 ⇑P P 23 48 34.2 +0.4
baz=83
S24A **Houchin Ranch,** 83.02 48 ⇑P P 23 48 34.4 +0.4
baz=83,SNR=7.2
U25A **Circle Dot Ran** 83.08 49 ⇑P P 23 48 34.5 +0.4
baz=83,SNR=8.3
O22A **Kremmling** 83.19 45 ⇑P P 23 48 35.3 +0.5
baz=83,SNR=9.8
H18A **Shoshone NF, C** 83.25 40 ⇓P P 23 48 35.2 +0.3
baz=83
229A **Bryant Ranch,** 83.28 54 ⇓P P 23 48 36.0 +0.9
baz=83
430A **Baggett Ranch,** 83.28 56 ⇑P P 23 48 35.8 +0.6
baz=83
V26A **Tequesquite Ra** 83.29 50 ⇑P P 23 48 35.3 +0.1
baz=83
631A **Perdido Creek** 83.30 57 ⇑P P 23 48 36.0 +0.8
baz=83
MSTX **Muleshoe** 83.32 52 *e*P P 23 48 36.0 +0.6
MSTX **Muleshoe** 83.32 52 ⇓P P 23 48 35.6 +0.2
baz=83,SNR=8.1
P23A **Jefferson** 83.33 46 ⇑P P 23 48 35.9 +0.4
baz=84
X27A **F and S Farms,** 83.34 52 ⇓P P 23 48 35.8 +0.3
baz=84
Z28A **Tucker Farm, M** 83.34 53 ⇓P P 23 48 35.9 +0.4
baz=84
R24A **Sanders Place,** 83.35 48 ⇓P P 23 48 36.3 +0.8
baz=84,SNR=6.0
I19A **Meeteetse** 83.36 41 ⇑P P 23 48 35.7 +0.2
baz=84,SNR=5.1
T25A **Trinidad** 83.39 49 ⇑P P 23 48 35.8 +0.1
baz=84
129A **Stewart Farms,** 83.49 54 ⇑P P 23 48 36.7 +0.5
baz=84
W27A **Bowe Ranch, En** 83.53 51 ⇑P P 23 48 36.5 +0.1
baz=84,SNR=7.0
N22A **Wattenberg Ran** 83.53 45 ⇓P P 23 48 37.2 +0.7
baz=84,SNR=10
732A **Laxson Ranch,** 83.55 58 ⇓P P 23 48 36.9 +0.5
baz=84
U26A **Atchley Ranch,** 83.57 50 ⇓P P 23 48 36.7 0.0
baz=84,SNR=8.0
531A **Rocksprings** 83.61 56 ⇓P P 23 48 37.9 +1.0
baz=84
J20A **Shoshoni** 83.62 42 ⇓P P 23 48 37.0 +0.3
baz=84,SNR=14
Q24A **Divide** 83.63 47 ⇑P P 23 48 37.8 +0.7
baz=84
EGAK **Eagle** 83.64 13 *e*P P 23 48 36.3 +0.2
8.6nm,1.0s
O23A **Lake Granby, G** 83.64 45 ⇓P P 23 48 37.6 +0.5
baz=84
ISCO **Idaho Springs** 83.67 46 *e*P P 23 48 38.0 +0.8
5.7nm,1.1s
ISCO **Idaho Springs** 83.67 46 ⇓P P 23 48 37.5 +0.3
baz=84
H19A **Powell** 83.67 40 ⇓P P 23 48 37.4 +0.4
baz=84,SNR=9.5
Y28A **McKinney Farm,** 83.69 52 ⇓P P 23 48 37.6 +0.4
baz=84
M22A **Cedar Creek Ra** 83.71 44 ⇓P P 23 48 37.7 +0.3
baz=84
GCMT **Greycliff** 83.79 39 *e*P P 23 48 37.0 -0.5
3.8nm,0.9s
230A **Sterling City** 83.80 55 ⇑P P 23 48 38.3 +0.6
baz=84
K21A **Alcova** 83.83 43 ⇑P P 23 48 38.0 +0.1
baz=84,SNR=10
Z29A **Hungry Hill Ra** 83.86 53 ⇓P P 23 48 38.5 +0.4
baz=84
I20A **Worland** 83.87 41 ⇑P P 23 48 38.1 +0.1
baz=84
R25A **Fountain Ranch** 83.90 48 ⇑P P 23 48 38.7 +0.4
baz=84
N23A **Red Feather La** 83.92 45 ⇓P P 23 48 38.7 +0.2
baz=84,SNR=8.3
X28A **Dimmitt** 83.97 52 ⇑P P 23 48 38.7 0.0
baz=84
632A **Uvalde** 83.98 57 ⇓P P 23 48 39.3 +0.6
baz=84
T26A **Comanche Natio** 84.00 49 ⇓P P 23 48 39.0 +0.1
baz=84
J21A **Lysite** 84.03 42 ⇑P P 23 48 39.3 +0.4
baz=84,SNR=29
L22A **Ellis Ranch, M** 84.10 44 ⇓P P 23 48 39.6 +0.4
baz=84,SNR=8.3
532A **Rocksprings** 84.11 57 ⇑P P 23 48 39.6 +0.2
baz=84
Y29A **Porterfield Fa** 84.12 53 ⇓P P 23 48 40.1 +0.7
baz=84
331A **San Angelo** 84.12 55 ⇑P P 23 48 39.6 +0.1
baz=84
130A **Snyder** 84.18 54 ⇓P P 23 48 40.2 +0.5
baz=84
O24A **Longmont** 84.18 46 ⇓P P 23 48 40.3 +0.6
baz=84
H20A **Greybull** 84.20 41 ⇓P P 23 48 39.6 0.0
baz=84
Q25A **Bedland, Calha** 84.25 47 ⇑P P 23 48 40.2 +0.1
baz=84
U27A **Thompson Grove** 84.25 50 ⇑P P 23 48 40.6 +0.5
baz=84
F19A **Roth Farm, Mol** 84.27 39 ⇑P P 23 48 40.0 +0.1
baz=84,SNR=8.3
S26A **Kim** 84.27 49 ⇓P P 23 48 40.4 +0.2
baz=84
K22A **Casper** 84.31 43 ⇑P P 23 48 40.4 +0.1
baz=84
Z30A **Sanderson Ranc** 84.31 53 ⇓P P 23 48 40.4 0.0
baz=84,SNR=9.6
JCT **Junction City** 84.32 56 *e*P P 23 48 41.0 +0.6
6.6nm,1.0s
JCT **Junction City** 84.32 56 ⇑P P 23 48 41.0 +0.6
baz=84
X29A **Tulia** 84.32 52 ⇓P P 23 48 40.8 +0.4
baz=84
I21A **Big Trails, Te** 84.34 42 ⇑P P 23 48 40.4 -0.1
baz=84,SNR=13
G20A **Bridger** 84.42 40 ⇑P P 23 48 40.8 +0.1
baz=85
PHWY **Pilot Hill** 84.43 45 *e*P P 23 48 41.3 +0.2
7.5nm,1.0s
231A **Bronte** 84.44 55 ⇓P P 23 48 41.4 +0.4
baz=84
432A **Menard** 84.47 56 ⇓P P 23 48 41.4 +0.2
baz=85
P25A **Willow Gulch B** 84.56 47 ⇓P P 23 48 42.0 +0.4
baz=85,SNR=5.2
R26A **Arlington** 84.56 48 ⇓P P 23 48 41.7 +0.1
baz=85,SNR=8.1
T27A **Campo** 84.59 49 ⇓P P 23 48 42.1 +0.4
baz=85
N24A **Carr** 84.62 45 ⇓P P 23 48 42.7 +0.8
baz=85
L23A **Garrett** 84.62 44 ⇑P P 23 48 42.2 +0.3
baz=85,SNR=11
W29A **Amraillo** 84.62 52 ⇑P P 23 48 42.2 +0.2
baz=85
E19A **Rath Farm, Rou** 84.66 39 ⇑P P 23 48 42.1 +0.3
baz=85,SNR=6.5
131A **Roby** 84.66 54 ⇑P P 23 48 42.6 +0.4
baz=85
U28A **Mallet** 84.68 50 ⇓P P 23 48 42.5 +0.3
baz=85
J22A **Midwest** 84.69 42 ⇓P P 23 48 42.1 0.0
baz=85,SNR=14
332A **Millersview** 84.69 56 ⇓P P 23 48 42.4 0.0
baz=85
Y30A **Stafford Cattl** 84.72 53 ⇓P P 23 48 42.8 +0.4
baz=85
F20A **Billings** 84.73 40 ⇓P P 23 48 42.4 +0.2
baz=85
Q26A **Hugo** 84.77 47 ⇓P P 23 48 42.7 0.0
baz=85
O25A **Wiggins** 84.84 46 ⇓P P 23 48 43.0 0.0
baz=85
H21A **Big Horn, Sher** 84.88 41 ⇓P P 23 48 43.2 +0.1
baz=85
I22A **9 Mile Ranch,** 84.90 42 ⇓P P 23 48 43.4 +0.2
baz=85,SNR=9.1
M24A **Cheyenne** 84.93 45 ⇑P P 23 48 43.8 +0.3
baz=85
D19A **Cripps Ranch,** 84.94 38 ⇑P P 23 48 43.1 -0.2
baz=85
X30A **Coker Ranch, T** 84.95 52 ⇓P P 23 48 43.7 +0.1
baz=85
K23A **Bowen Ranch, D** 84.95 43 ⇓P P 23 48 43.4 -0.1
baz=85,SNR=6.6
232A **Coleman** 84.95 55 ⇑P P 23 48 44.0 +0.4
baz=85
R27A **Eads** 85.03 48 ⇓P P 23 48 44.0 +0.1
baz=85
E20A **Meyer Farm, Mu** 85.07 39 ⇑P P 23 48 44.1 +0.2
baz=85
Z31A **Sharp Cattle R** 85.09 54 ⇑P P 23 48 44.6 +0.3
baz=85
L24A **Wheatland** 85.11 44 ⇓P P 23 48 45.0 +0.8
baz=85
C19A **Slack Wire Ran** 85.11 38 ⇑P P 23 48 44.5 +0.5
baz=85,SNR=6.7
P26A **Davis Ranch, A** 85.15 47 ⇓P P 23 48 44.9 +0.3
baz=85
N25A **Grover** 85.16 46 ⇑P P 23 48 45.3 +0.8
baz=85
ABTX **Abilene, Hawle** 85.23 54 *e*P P 23 48 44.3 -0.6
ABTX **Abilene, Hawle** 85.23 54 ⇑P P 23 48 45.7 +0.7
baz=85
Y31A **Rekieta Farm,** 85.24 53 ⇑P P 23 48 45.4 +0.4
baz=85
H22A **Clearmont** 85.30 41 ⇓P P 23 48 45.2 0.0
baz=85
D20A **Manuel Ranch,** 85.35 39 ⇑P P 23 48 45.7 +0.5
baz=86,SNR=5.5
O26A **Horse Wrangler** 85.46 46 ⇓P P 23 48 46.5 +0.4
baz=86
K24A **Anderson Ranch** 85.48 44 ⇓P P 23 48 46.5 +0.4
baz=86
B19A **Brinkman Farms** 85.52 37 ⇑P P 23 48 46.7 +0.6
baz=86
V30A **Spur Ranch, Mi** 85.59 51 ⇓P P 23 48 47.4 +0.7
baz=86
Z32A **Haskell** 85.61 54 ⇑P P 23 48 47.9 +1.1
baz=86
G22A **Birney** 85.62 41 ⇑P P 23 48 47.4 +0.7
baz=86
X31A **McDonald Ranch** 85.70 53 ⇑P P 23 48 47.7 +0.4
baz=86
C20A **Veseth Ranch,** 85.72 38 ⇑P P 23 48 47.5 +0.4
baz=86,SNR=5.5
R28A **Tribune** 85.76 49 ⇑P P 23 48 48.0 +0.4
baz=86
J24A **Dixon Ranch, L** 85.84 43 ⇑P P 23 48 48.2 +0.3
baz=86
Y32A **R-V Farms, Ver** 85.89 53 ⇑P P 23 48 48.8 +0.6
baz=86
W31A **Holland Ranch,** 85.94 52 ⇓P P 23 48 48.8 +0.4
baz=86
D21A **La Casta Ranch** 86.03 39 ⇑P P 23 48 48.9 +0.2
baz=86
G23A **Biddle** 86.18 41 ⇓P P 23 48 49.6 +0.1
baz=86
F23A **Volborg** 86.40 41 ⇑P P 23 48 50.9 +0.4
baz=86
H24A **Dirks Ranch, A** 86.52 42 ⇑P P 23 48 51.5 +0.3
baz=87
RSSD **Black Hills** 86.59 43 *e*P P 23 48 51.4 -0.3
39nm,1.3s
WHTX **Lake Whitney** 86.73 56 ⇓P P 23 48 53.1 +0.8
baz=87
I25A **Rochford** 86.74 43 ⇓P P 23 48 52.6 +0.2
baz=87
E23A **Ismay** 86.81 40 ⇑P P 23 48 52.9 +0.4
baz=87
P30A **Selden** 87.35 48 ⇓P P 23 48 56.0 +0.8
baz=88
J27A **Elkhorn Farm,** 87.57 44 ⇓P P 23 48 56.4 +0.1
baz=88
MAW **Mawson** 87.75 199 P P 23 48 59.3 +2.7
2.1nm,0.7s,baz=119,slow=7.9,SNR=6.4
INK **Inuvik** 88.29 14 P P 23 48 58.7 -0.2
INK **Inuvik** 88.29 14 P P 23 48 58.7 -0.2
3.8nm,0.9s,baz=200,slow=7.0,SNR=4.7
D26A **Manning** 88.82 40 ⇓P P 23 49 02.8 +0.8
baz=89
YKA **Yellowknife Ar** 90.16 23 P P 23 49 07.2 -0.7
YKA **Yellowknife Ar** 90.16 23 P P 23 49 07.2 -0.7
3.9nm,0.9s,baz=240,slow=4.5,SNR=7.2
CMAR **Chiang Mai Arr** 92.39 288 P P 23 49 21.4 +2.1
CMAR **Chiang Mai Arr** 92.39 288 P P 23 49 21.4 +2.1
0.6nm,0.3s,baz=87,slow=4.0,SNR=5.0
ARCES **ARCESS Array B** 124.54 352 PKP PKPdf 23 55 07.2 +0.6
ARCES **ARCESS Array B** 124.54 352 PKP PKPdf 23 55 07.2 +0.6
4.1nm,0.8s,baz=343,slow=2.8,SNR=5.1
FINES **FINESS Array B** 131.86 347 PKP PKPdf 23 55 22.6 +1.8
FINES **FINESS Array B** 131.86 347 PKP PKPdf 23 55 22.6 +1.8
4.5nm,1.0s,baz=170,slow=13,SNR=2.6
NOA **NORSAR Array B** 134.26 357 PKP PKPdf 23 55 26.2 +0.8
NOA **NORSAR Array B** 134.26 357 PKP PKPdf 23 55 26.2 +0.8
1.4nm,0.9s,baz=17,slow=1.7,SNR=3.7
AKASG **Malin Array Be** 140.22 337 PKP PKPdf 23 55 37.1 +0.5
AKASG **Malin Array Be** 140.22 337 PKP PKPdf 23 55 37.1 +0.5
0.2nm,0.3s,baz=27,slow=2.5,SNR=5.6
CLL **Collm** 143.75 353 *e*PKPdf PKPdf 23 55 42.0 -0.9
comp=Z,5.0nm,1.0s
BRG **Berggiesshubel** 144.06 352 *e*P PKPdf 23 55 41.5 -2.0
comp=Z,2.2nm,0.6s
DPC **Dobruska-Polom** 144.19 349 *e*PKP PKPdf 23 55 43.9 +0.1
PRU **Pruhonice** 144.83 351 *e*PKP PKPdf 23 55 45.9 +1.0
ARCR **ARCALIA** 145.01 338 ⇓*i*P PKPdf 23 55 46.7 +1.4
KMBO **Kilima Mbogo** 145.34 245 PKPbc PKPab 23 55 48.8 +1.6
KMBO **Kilima Mbogo** 145.34 245 PKPbc PKPab 23 55 48.8 +1.6
comp=Z,0.6nm,0.3s,baz=56,slow=4.1,SNR=3.2
GRF **Grafenberg Arr** 145.54 354 *e*PKPbc PKPab 23 55 47.4 +0.9
PSZ **Piszkesteto** 145.67 344 *e*PKPdf PKPab 23 55 46.3 -0.8
MLR **Muntele Rosu** 145.74 335 ⇑*i*P PKPab 23 55 49.2 +1.6
WLF **Walferdange** 145.79 0 *e*PKPdf PKPab 23 55 46.9 -0.6
KHC **Kasperske Hory** 145.81 352 *i* PKP PKPab 23 55 48.3 +0.7
KHC **Kasperske Hory** 145.81 352 *e*PKPdf PKPab 23 55 47.1 -0.5
BR131 **Keskin Array S** 145.99 321 *e*PKPdf PKPab 23 55 48.2 -0.5
BRTR **Keskin Array B** 145.99 321 PKPbc PKPab 23 55 49.3 +0.6
BRTR **Keskin Array B** 145.99 321 PKPbc PKPab 23 55 49.3 +0.6
comp=Z,3.8nm,0.9s,baz=142,slow=2.5,SNR=12
GERES **GERESS Array B** 146.07 351 PKPbc PKPab 23 55 48.5 -0.1
GERES **GERESS Array B** 146.07 351 PKPbc PKPab 23 55 48.5 -0.1
comp=Z,2.0nm,0.8s,baz=3.7,slow=3.0,SNR=7.0
VOIR 146.14 336 ⇓*i*P PKPab 23 55 50.3 +1.3
LANF **Langenberg** 146.46 358 PKP PKPab 23 55 50.1 +0.1
CONA **Conrad Observa** 146.59 348 ⇓*i*PKPab PKPab 23 55 50.9 +0.3
comp=Z,18nm,1.3s,SNR=6.3
STU **Stuttgart** 146.60 357 *e*PKPdf PKPdf 23 55 47.2 -0.7
MOA **Molln** 146.96 350 ⇓*i*PKPab PKPab 23 55 51.4 -0.6
comp=Z,15nm,1.1s
BFO **Black Forest** 147.09 358 *e*PKPdf PKPbc 23 55 48.9 -2.0
BFO *e*PKPbc PKiKP 23 55 51.8 -1.6
BZS **Buzias** 147.22 340 ⇓*i*P PKPab 23 55 51.3 -1.8
THEF **They Montfort** 147.23 0 PKP PKPab 23 55 52.5 -0.5
ECH **Echery** 147.24 359 PKP PKPab 23 55 52.3 -0.8
ECH **Echery** 147.24 359 *e*PKPdf PKPbc 23 55 49.7 -1.6
FELD **Feldberg im Sc** 147.55 358 PKP PKPbc 23 55 50.9 -1.5
MOF **Molkenrain** 147.60 359 PKP PKPdf 23 55 49.5 -0.2
RETA **Reutte** 147.76 354 ⇓*i*PKPab PKPab 23 55 53.8 -1.5
comp=Z,18nm,1.3s,SNR=5.6
WTTA **Wattenberg** 147.90 353 ⇓*i*PKiKP PKiKP 23 55 54.2 -1.1
comp=Z,20nm,1.3s
SOKA **Soboth** 147.95 349 ⇓*i*PKPbc PKPab 23 55 53.6 -2.4
comp=Z,16nm,1.0s,SNR=5.1
DAVA **Damuels** 148.04 355 ⇑*i*PKiKP PKiKP 23 55 54.2 -1.3
comp=Z,22nm,1.1s,SNR=6.9
MYKA **Terra Mystica** 148.24 350 ⇓*i*PKiKP PKiKP 23 55 54.5 -1.3
comp=Z,17nm,1.3s
ABTA **Abfaltersbach** 148.29 352 ⇓*i*PKPbc PKPbc 23 55 54.5 +0.2
comp=Z,16nm,1.1s
AGO **Saint Agoulin** 149.29 4 PKP PKPbc 23 55 56.7 -0.1
PLDF **La Plantade** 149.40 4 PKP PKPbc 23 55 57.3 +0.2
LBL **Lubilhac** 150.11 4 PKP PKPbc 23 55 58.1 -0.8
BNI **Bardonecchia** 150.41 360 *e*PKPbc PKPbc 23 56 00.4 +0.7
ESDC **Sonseca Array** 154.15 19 PKPbc PKPbc 23 56 08.0 -0.2
ESDC PKPab PKPab 23 56 21.9 +0.1
ESDC **Sonseca Array** 154.15 19 PKPbc PKPbc 23 56 08.0 -0.2
comp=Z,1.1nm,0.9s,baz=337,slow=5.6,SNR=4.1
ESDC PKPab PKPab 23 56 21.9 +0.1
comp=Z,0.5nm,0.8s,baz=345,slow=2.0,SNR=7.2
TORD **Torodi Ar. Bea** 174.96 115 PKP PKPdf 23 56 19.1 +0.4
TORD **Torodi Ar. Bea** 174.96 115 PKP PKPdf 23 56 19.2 +0.4
comp=Z,2.6nm,1.3s,baz=216,slow=1.2,SNR=4.1

IDC ***13*** *23:42:59.4±1.8, 39°.22N×20°.93E, h0km, mb3.5/3, mb1 3.4/4, mb1mx3.3/26, mbtmp3.4/4, ML3.1/1, Error ellipse: s-maj=97.8km s-min=25.0km az=140.0*
SKO ***13*** *23:42:59.7, 38°.61N×21°.60E, h0km*
ISCJB ***13*** *23:43:01.7±0.3, 38°.87N±0°.01×21°.46E±0°.02, h1km±2km, mb3.5/3, Error ellipse: s-maj=2.3km s-min=1.9km az=168.3*
CSEM ***13*** *23:43:02.3±0.1, 38°.85N×21°.47E, h2km, ML3.1/12, Error ellipse: s-maj=2.2km s-min=1.8km az=86.0*
ATH ***13*** *23:43:02.6, 38°.85N×21°.48E, h14km, MD3.2/41, ML3.1*
THE ***13*** *23:43:02.5, 38°.86N×21°.46E, h4km, ML3.1/12, Error ellipse: s-maj=0.9km s-min=0.4km az=205.0*

ISC 13 23:43:02.9±0.9, 38.85N±0.01×21.48E±0.01, h10km±6km, n189, σ0°89/273, mb3.5/3, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVO	**Paravola**	**0.24**	**170**	P	**Pg**	**23 43 07.4**	**-0.4**
PVO				S	**Sg**	**23 43 11.0**	**-0.1**
PVO	**Paravola**	**0.24**	**170**	P	**Pg**	**23 43 07.4**	**-0.4**
PVO				S	**Sg**	**23 43 11.0**	**-0.1**
EVR	**Evrytania**	**0.27**	**76**	P	**Pg**	**23 43 07.8**	**-0.6**
EVR				S	**Sg**	**23 43 12.5**	**+0.4**
EVR	**Evrytania**	**0.27**	**76**	*e*PG	**Pg**	**23 43 08.0**	**-0.4**
EVR				*e*SG	**Sg**	**23 43 12.5**	**+0.4**
EVR	**Evrytania**	**0.27**	**76**	P	**Pg**	**23 43 07.8**	**-0.6**
EVR				S	**Sg**	**23 43 11.2**	**-0.9**
EVR				*e*Sg	**Sg**	**23 43 12.5**	**+0.4**
PDO	**Prodromos**	**0.34**	**222**	P	**Pg**	**23 43 08.6**	**-1.1**
PDO				S	**Sg**	**23 43 13.4**	**-0.8**
PDO	**Prodromos**	**0.34**	**222**	*e*PB	**Pg**	**23 43 09.9**	**+0.2**
PDO				*e*SB	**Sg**	**23 43 14.5**	**+0.3**
PDO	**Prodromos**	**0.34**	**222**	P	**Pg**	**23 43 08.6**	**-1.1**
PDO	**Prodromos**	**0.34**	**222**	*e*Pb	**Pg**	**23 43 09.9**	**+0.2**
PDO				S	**Sg**	**23 43 13.4**	**-0.8**
PDO				*e*Sb	**Sg**	**23 43 14.5**	**+0.3**
MAKR	**Makrakomi, Fth**	**0.54**	**72**	P	**Pg**	**23 43 12.9**	**-0.5**
MAKR				S	**Sg**	**23 43 21.6**	**+1.1**
MAKR	**Makrakomi, Fth**	**0.54**	**72**	*e*PB	**Pg**	**23 43 12.9**	**-0.5**
MAKR				*e*SB	**Sg**	**23 43 21.2**	**+0.7**
MAKR	**Makrakomi, Fth**	**0.54**	**72**	P	**Pg**	**23 43 12.9**	**-0.5**
MAKR				S	**Sg**	**23 43 20.9**	**+0.4**
MAKR				*e*Sb	**Sg**	**23 43 21.2**	**+0.7**
EFP	**Efpalio**	**0.54**	**141**	P	**Pg**	**23 43 12.5**	**-0.9**
EFP				S	**Sg**	**23 43 21.6**	**+0.9**
EFP	**Efpalio**	**0.54**	**141**	*e*PB	**Pg**	**23 43 12.5**	**-0.9**
EFP				*e*SB	**Sg**	**23 43 21.5**	**+0.9**
EFP	**Efpalio**	**0.54**	**141**	P	**Pg**	**23 43 12.6**	**-0.9**
EFP				*e*Sb	**Sg**	**23 43 21.5**	**+0.9**
PSA1	**Psathopyrgos**	**0.62**	**149**	*e*PB	**Pg**	**23 43 14.9**	**0.0**
PSA1				*e*SB	**Sb**	**23 43 23.9**	**-0.6**
UPR	**University Cam**	**0.62**	**157**	P	**Pg**	**23 43 15.5**	**+0.6**
UPR	**University Cam**	**0.62**	**157**	P	**Pg**	**23 43 15.5**	**+0.6**
AXS	**Araxos**	**0.66**	**187**	P	**Pg**	**23 43 14.9**	**-0.8**
AXS	**Araxos**	**0.66**	**187**	P	**Pg**	**23 43 14.9**	**-0.8**
AXS				S	**Sb**	**23 43 25.8**	**0.0**
AGG	**Agios Georgios**	**0.69**	**75**	P	**Pg**	**23 43 15.7**	**-0.5**
AGG				S	**Sg**	**23 43 26.0**	**+0.8**
AGG	**Agios Georgios**	**0.69**	**75**	*e*PB	**Pg**	**23 43 15.8**	**-0.5**
AGG				*e*SB	**Sg**	**23 43 26.1**	**+0.8**
AGG	**Agios Georgios**	**0.69**	**75**	P	**Pg**	**23 43 15.7**	**-0.5**
AGG				S	**Sg**	**23 43 26.0**	**+0.8**
KALE	**Kalithea**	**0.69**	**131**	P	**Pg**	**23 43 15.3**	**-1.1**
KALE				S	**Sb**	**23 43 26.8**	**-0.1**
KALE	**Kalithea**	**0.69**	**131**	*e*PB	**Pg**	**23 43 15.2**	**-1.1**
KALE	**Kalithea**	**0.69**	**131**	P	**Pg**	**23 43 15.3**	**-1.1**
KALE				S	**Sb**	**23 43 26.8**	**-0.1**
LAKA	**Lakka**	**0.73**	**147**	P	**Pg**	**23 43 16.9**	**-0.1**
LAKA	**Lakka**	**0.73**	**147**	*e*PB	**Pg**	**23 43 17.1**	**+0.1**
LAKA				*e*SB	**Sg**	**23 43 26.5**	**0.0**
LAKA	**Lakka**	**0.73**	**147**	P	**Pg**	**23 43 16.9**	**-0.1**
LAKA				*e*Sb	**Sg**	**23 43 26.5**	**0.0**
LAKA				S	**Sb**	**23 43 28.8**	**+1.0**
RLS	**Riolos of Patr**	**0.79**	**180**	P	**Pg**	**23 43 17.5**	**-0.7**
RLS	**Riolos of Patr**	**0.79**	**180**	*e*PG	**Pg**	**23 43 17.6**	**-0.7**
RLS				*e*SB	**Sg**	**23 43 29.2**	**+0.6**
RLS	**Riolos of Patr**	**0.79**	**180**	P	**Pg**	**23 43 17.5**	**-0.7**
RLS				*e*Sb	**Sg**	**23 43 29.2**	**+0.6**
RLS				S	**Sb**	**23 43 30.5**	**+0.9**
THL	**Klokotos Trika**	**0.83**	**30**	P	**Pg**	**23 43 17.4**	**-1.5**
THL				S	**Sg**	**23 43 30.3**	**+0.7**
THL	**Klokotos Trika**	**0.83**	**30**	*e*PG	**Pg**	**23 43 17.8**	**-1.1**
THL				*e*SB	**Sg**	**23 43 30.6**	**+1.0**
THL	**Klokotos Trika**	**0.83**	**30**	P	**Pg**	**23 43 17.4**	**-1.5**
THL	**Klokotos Trika**	**0.83**	**30**	*e*Pg	**Pg**	**23 43 17.8**	**-1.1**
THL				S	**Sg**	**23 43 29.0**	**-0.6**
THL				*e*Sb	**Sg**	**23 43 30.6**	**+1.0**
KFL	**Anninata**	**0.92**	**216**	P	**Pg**	**23 43 19.2**	**-1.4**
KFL	**Anninata**	**0.92**	**216**	P	**Pg**	**23 43 19.2**	**-1.2**
DRO	**Drossia**	**0.92**	**168**	P	**Pg**	**23 43 19.8**	**-0.8**
DRO	**Drossia**	**0.92**	**168**	*e*PB	**Pg**	**23 43 20.0**	**-0.6**
DRO				*e*SB	**Sb**	**23 43 33.5**	**+0.3**
DRO	**Drossia**	**0.92**	**168**	*e*Pb	**Pg**	**23 43 20.0**	**-0.6**
DRO				*e*Sb	**Sb**	**23 43 33.5**	**+0.3**
DRO				S	**Sn**	**23 43 34.8**	**-0.4**
AXAR	**Agios Charalam**	**0.93**	**95**	P	**Pg**	**23 43 20.2**	**-0.6**
AXAR				S	**Sg**	**23 43 33.5**	**+0.6**
AXAR	**Agios Charalam**	**0.93**	**95**	P	**Pg**	**23 43 20.2**	**-0.6**
AXAR				S	**Sg**	**23 43 33.5**	**+0.6**
DSF	**Desfina**	**0.94**	**118**	P	**Pg**	**23 43 19.7**	**-1.2**
DSF				S	**Sb**	**23 43 34.4**	**+0.6**
DSF	**Desfina**	**0.94**	**118**	*e*PG	**Pg**	**23 43 19.6**	**-1.3**
DSF	**Desfina**	**0.94**	**118**	P	**Pg**	**23 43 19.7**	**-1.2**
DSF				S	**Sg**	**23 43 32.0**	**-1.1**
DESF	**Desfina**	**0.94**	**118**	*e*PG	**Pg**	**23 43 19.7**	**-1.3**

DESF					*e*SB	**Sb**	**23 43 34.1 +0.2**
JAN	**Janina**	**0.94**	**329**		P	**Pg**	**23 43 19.9 -1.1**
JAN	**Janina**	**0.94**	**329**		*e*PB	**Pg**	**23 43 20.4 -0.6**
JAN					*e*SB	**Sg**	**23 43 33.8 +0.6**
JAN	**Janina**	**0.94**	**329**		P	**Pg**	**23 43 19.9 -1.1**
JAN	**Janina**	**0.94**	**329**		*e*Pb	**Pg**	**23 43 20.4 -0.6**
JAN					S	**Sg**	**23 43 33.6 +0.4**
KLV	**Kalavryta, Ach**	**0.97**	**146**		P	**Pg**	**23 43 20.8 -0.7**
KLV	**Kalavryta, Ach**	**0.97**	**146**		*e*PN	**Pg**	**23 43 20.9 -0.6**
KLV	**Kalavryta, Ach**	**0.97**	**146**		*e*Pb	**Pg**	**23 43 20.9 -0.6**
KLV					S	**Sn**	**23 43 37.4 +0.9**
VLS	**Valsamata**	**0.97**	**226**		P	**Pg**	**23 43 19.7 -1.8**
VLS	**Valsamata**	**0.97**	**226**		*e*PG	**Pg**	**23 43 20.7 -0.8**
VLS	**Valsamata**	**0.97**	**226**		P	**Pg**	**23 43 19.7 -1.8**
VLS	**Valsamata**	**0.97**	**226**		*e*Pg	**Pg**	**23 43 20.7 -0.8**
IGT	**Igoumenitsa**	**1.12**	**308**		P	**Pg**	**23 43 23.8 -0.6**
IGT					S	**Sb**	**23 43 39.9 +0.9**
IGT	**Igoumenitsa**	**1.12**	**308**		*e*PN	**Pg**	**23 43 23.8 -0.6**
IGT	**Igoumenitsa**	**1.12**	**308**		P	**Pg**	**23 43 23.7 -0.6**
IGT					S	**Sb**	**23 43 39.8 +0.8**
GUR	**Goura**	**1.14**	**143**		P	**Pg**	**23 43 23.9 -1.0**
GUR	**Goura**	**1.14**	**143**		*e*PB	**Pg**	**23 43 24.3 -0.6**
GUR					*e*SB	**Sb**	**23 43 40.1 +0.3**
GUR	**Goura**	**1.14**	**143**		P	**Pg**	**23 43 23.9 -1.0**
GUR	**Goura**	**1.14**	**143**		*e*Pb	**Pg**	**23 43 24.3 -0.6**
GUR					*e*Sb	**Sb**	**23 43 40.1 +0.3**
GUR					S	**Sn**	**23 43 41.5 +0.6**
LKR	**Lokris**	**1.21**	**99**		P	**Pg**	**23 43 24.9 -1.3**
LKR					S	**Sn**	**23 43 43.0 +0.6**
LKR	**Lokris**	**1.21**	**99**		*e*PB	**Pg**	**23 43 25.4 -0.8**
LKR	**Lokris**	**1.21**	**99**		*e*Pb	**Pg**	**23 43 25.4 -0.8**
LKR					S	**Sn**	**23 43 43.0 +0.6**
FYTO	**Fytoko, Volos**	**1.27**	**64**		P	**Pn**	**23 43 26.2 -0.5**
FYTO					S	**Sb**	**23 43 44.2 +0.9**
FYTO	**Fytoko, Volos**	**1.27**	**64**		P	**Pn**	**23 43 26.2 -0.5**
FYTO					S	**Sb**	**23 43 44.2 +0.9**
AMT	**Artemida-Makis**	**1.33**	**172**		*e*PB	**Pn**	**23 43 27.6 0.0**
AMT					*e*SB	**Sn**	**23 43 46.2 +0.8**
AMT	**Artemida-Makis**	**1.33**	**172**		*e*Pb	**Pn**	**23 43 27.6 0.0**
AMT					*e*Sb	**Sn**	**23 43 46.2 +0.8**
AMT					S	**Sg**	**23 43 49.5 +3.8**
SMIA	**Simia**	**1.35**	**88**		P	**Pn**	**23 43 28.1 +0.1**
SMIA					S	**Sn**	**23 43 46.9 +0.9**
SMIA	**Simia**	**1.35**	**88**		*e*PB	**Pn**	**23 43 28.1 +0.1**
SMIA	**Simia**	**1.35**	**88**		P	**Pn**	**23 43 28.1 +0.1**
SMIA					S	**Sn**	**23 43 46.9 +0.9**
XOR	**Xorichti**	**1.43**	**68**		P	**Pn**	**23 43 28.7 -0.3**
XOR					S	**Sb**	**23 43 48.3 +0.2**
XOR	**Xorichti**	**1.43**	**68**		*e*PG	**Pn**	**23 43 28.8 -0.3**
XOR					*e*SB	**Sb**	**23 43 48.8 +0.7**
XOR	**Xorichti**	**1.43**	**68**		P	**Pn**	**23 43 28.7 -0.3**
XOR					S	**Sb**	**23 43 48.3 +0.2**
LTK	**Loutraki**	**1.44**	**125**		*e*PB	**Pn**	**23 43 29.8 +0.7**
LTK					*e*SB	**Sb**	**23 43 48.5 +0.4**
LTK	**Loutraki**	**1.44**	**125**		*e*Pb	**Pn**	**23 43 29.8 +0.7**
LTK					*e*Sb	**Sb**	**23 43 48.5 +0.4**
NEO	**Neokhori**	**1.44**	**71**		P	**Pn**	**23 43 28.8 -0.3**
NEO					S	**Sb**	**23 43 48.5 +0.3**
NEO	**Neokhori**	**1.44**	**71**		*e*PG	**Pn**	**23 43 28.9 -0.2**
NEO	**Neokhori**	**1.44**	**71**		P	**Pn**	**23 43 28.8 -0.3**
NEO					S	**Sb**	**23 43 48.5 +0.3**
KZN	**Kozani**	**1.47**	**9**		P	**Pn**	**23 43 29.1 -0.5**
KZN					S	**Sn**	**23 43 48.9 -0.1**
KZN	**Kozani**	**1.47**	**9**		*e*PG	**Pn**	**23 43 29.7 +0.1**
KZN					*e*SB	**Sb**	**23 43 50.3 +1.1**
KZN	**Kozani**	**1.47**	**9**		P	**Pn**	**23 43 29.1 -0.5**
KZN					S	**Sn**	**23 43 48.9 -0.1**
KZN					*e*Sb	**Sb**	**23 43 50.3 +1.1**
LIT	**Litokhoron**	**1.47**	**32**		P	**Pn**	**23 43 29.3 -0.3**
LIT					S	**Sn**	**23 43 50.0 +1.0**
LIT	**Litokhoron**	**1.47**	**32**		*e*PG	**Pn**	**23 43 29.7 +0.1**
LIT					*e*SB	**Sb**	**23 43 50.3 +1.0**
LIT	**Litokhoron**	**1.47**	**32**		P	**Pn**	**23 43 29.4 -0.2**
LIT	**Litokhoron**	**1.47**	**32**		*e*Pg	**Pn**	**23 43 29.7 +0.1**
LIT					S	**Sn**	**23 43 50.0 +1.0**
KEK	**Kerkira**	**1.56**	**304**		P	**Pn**	**23 43 31.8 +1.0**
KEK	**Kerkira**	**1.56**	**304**		*e*PB	**Pb**	**23 43 32.5 +0.6**
KEK					*e*SB	**Sg**	**23 43 53.7 +0.6**
KEK	**Kerkira**	**1.56**	**304**		P	**Pn**	**23 43 31.8 +1.0**
KEK	**Kerkira**	**1.56**	**304**		*e*Pb	**Pb**	**23 43 32.5 +0.6**
KEK					*e*Sb	**Sg**	**23 43 53.7 +0.6**
SKIA	**Skiathos**	**1.58**	**78**		P	**Pn**	**23 43 31.2 +0.1**
SKIA	**Skiathos**	**1.58**	**78**		*e*PB	**Pb**	**23 43 32.6 +0.3**
SKIA	**Skiathos**	**1.58**	**78**		P	**Pn**	**23 43 31.2 +0.1**
SKIA	**Skiathos**	**1.58**	**78**		*e*Pb	**Pb**	**23 43 32.6 +0.3**
NEST	**Nestorio**	**1.59**	**348**		P	**Pn**	**23 43 31.2 -0.1**
NEST	**Nestorio**	**1.59**	**348**		*e*PG	**Pn**	**23 43 32.2 +0.9**
NEST					*e*SB	**Sg**	**23 43 54.5 +0.3**
NEST	**Nestorio**	**1.59**	**348**		P	**Pn**	**23 43 31.2 -0.1**
NEST	**Nestorio**	**1.59**	**348**		*e*Pg	**Pn**	**23 43 32.2 +0.9**
NEST					*e*Sb	**Sg**	**23 43 54.5 +0.3**
VLX	**Vlachokerasia**	**1.64**	**154**		*e*PG	**Pb**	**23 43 33.3 -0.1**
MRKA	**Markates**	**1.66**	**94**		P	**Pn**	**23 43 31.9 -0.2**
MRKA					S	**Sn**	**23 43 54.4 +0.9**
MRKA	**Markates**	**1.66**	**94**		*e*PB	**Pn**	**23 43 32.2 +0.1**
MRKA	**Markates**	**1.66**	**94**		P	**Pn**	**23 43 31.9 -0.2**
MRKA	**Markates**	**1.66**	**94**		*e*Pb	**Pn**	**23 43 32.2 +0.1**
MRKA					S	**Sn**	**23 43 54.4 +0.9**
ITM	**Ithomi**	**1.71**	**168**		*e*PG	**Pb**	**23 43 34.9 +0.5**
ITM	**Ithomi**	**1.71**	**168**		*e*Pg	**Pb**	**23 43 34.9 +0.5**
ERET	**Eretria**	**1.87**	**102**		P	**Pn**	**23 43 35.4 +0.3**
ERET	**Eretria**	**1.87**	**102**		*e*Pb	**Pb**	**23 43 35.4 +0.3**
NAIG	**Nisos Aigina**	**1.92**	**124**		*e*PN	**Pn**	**23 43 36.6 +0.8**
NAIG	**Nisos Aigina**	**1.92**	**124**		*e*Pn	**Pn**	**23 43 36.6 +0.8**
FNA	**Florina**	**1.93**	**358**		P	**Pn**	**23 43 36.6 +0.7**
FNA	**Florina**	**1.93**	**358**		P	**Pn**	**23 43 36.6 +0.7**
DID	**Didima**	**1.93**	**134**		*e*PN	**Pb**	**23 43 37.7 -0.6**
DID	**Didima**	**1.93**	**134**		*e*Pn	**Pb**	**23 43 37.7 -0.6**
DIDY	**Didyma**	**1.94**	**135**		*e*PN	**Pn**	**23 43 37.7 +1.6**
DIDY	**Didyma**	**1.94**	**135**		*e*Pn	**Pn**	**23 43 37.7 +1.6**
PYL	**PYLOS**	**1.96**	**174**		*e*PG	**Pb**	**23 43 38.4 -0.4**
PYL	**PYLOS**	**1.96**	**174**		*e*Pg	**Pb**	**23 43 38.4 -0.4**
ATH	**Athens Observa**	**1.97**	**116**		*e*PN	**Pn**	**23 43 37.5 +1.1**
ATH	**Athens Observa**	**1.97**	**116**		*e*Pn	**Pn**	**23 43 37.5 +1.1**
PAIG	**Paliouri**	**2.02**	**57**		P	**Pn**	**23 43 36.5 -0.5**
PAIG	**Paliouri**	**2.02**	**57**		*e*PB	**Pn**	**23 43 36.5 -0.5**
PAIG	**Paliouri**	**2.02**	**57**		*e*Pb	**Pn**	**23 43 36.5 -0.5**
ATHU	**Athens Univers**	**2.02**	**115**		P	**Pn**	**23 43 36.8 -0.3**
ATHU					S	**Sn**	**23 44 03.6 +1.2**
ATU	**Athens Univers**	**2.02**	**115**		P	**Pn**	**23 43 36.8 -0.3**
ATHU					S	**Sn**	**23 44 03.6 +1.2**
PTL	**Penteli**	**2.04**	**112**		P	**Pn**	**23 43 38.1 +0.7**
PTL					S	**Sn**	**23 44 04.2 +1.2**
PTL	**Penteli**	**2.04**	**112**		*e*PN	**Pn**	**23 43 38.3 +0.9**
PTL	**Penteli**	**2.04**	**112**		P	**Pn**	**23 43 38.1 +0.7**
PTL					S	**Sn**	**23 44 04.2 +1.2**
THE	**Thessaloniki**	**2.12**	**32**		P	**Pn**	**23 43 37.6 -0.8**
THE	**Thessaloniki**	**2.12**	**32**		P	**Pn**	**23 43 37.6 -0.8**
HORT	**Hortiatis**	**2.15**	**35**		P	**Pn**	**23 43 38.1 -0.8**
HORT	**Hortiatis**	**2.15**	**35**		*e*PN	**Pn**	**23 43 39.8 +0.9**
HORT	**Hortiatis**	**2.15**	**35**		P	**Pn**	**23 43 38.1 -0.8**
HORT	**Hortiatis**	**2.15**	**35**		*e*Pn	**Pn**	**23 43 39.8 +0.9**
PLG	**Polygyros**	**2.15**	**44**		*e*PB	**Pn**	**23 43 38.6 -0.3**
PLG	**Polygyros**	**2.15**	**44**		*e*Pb	**Pn**	**23 43 38.6 -0.3**
BIA	**Bitola**	**2.17**	**357**		*e*Pn	**Pn**	**23 43 40.3 +1.1**
DYR	**Agios Nikonas**	**2.19**	**162**		*e*PG	**Pb**	**23 43 42.3 -0.5**
DYR	**Agios Nikonas**	**2.19**	**162**		*e*Pg	**Pb**	**23 43 42.3 -0.5**
OUR	**Ouranopolis**	**2.44**	**52**		P	**Pn**	**23 43 42.6 -0.2**
OUR	**Ouranopolis**	**2.44**	**52**		*e*PB	**Pn**	**23 43 43.1 +0.3**
OUR	**Ouranopolis**	**2.44**	**52**		P	**Pn**	**23 43 42.6 -0.2**
OUR	**Ouranopolis**	**2.44**	**52**		*e*Pb	**Pn**	**23 43 43.1 +0.3**
SOH	**Sokhos**	**2.44**	**36**		P	**Pn**	**23 43 43.3 +0.4**
SOH	**Sokhos**	**2.44**	**36**		*e*PB	**Pn**	**23 43 43.9 +1.0**
SOH	**Sokhos**	**2.44**	**36**		P	**Pn**	**23 43 43.3 +0.4**
SOH	**Sokhos**	**2.44**	**36**		*e*Pb	**Pn**	**23 43 43.9 +1.0**
KNT	**Kendrikon**	**2.55**	**25**		P	**Pn**	**23 43 44.6 +0.2**
KNT	**Kendrikon**	**2.55**	**25**		*e*PN	**Pn**	**23 43 45.9 +1.5**
KNT	**Kendrikon**	**2.55**	**25**		P	**Pn**	**23 43 44.6 +0.2**
KNT	**Kendrikon**	**2.55**	**25**		*e*Pn	**Pn**	**23 43 45.9 +1.5**
VAY	**Valandovo**	**2.60**	**18**		*e*Pn	**Pn**	**23 43 45.4 +0.3**
SRS	**Serrai**	**2.79**	**35**		P	**Pn**	**23 43 47.7 +0.1**
SRS	**Serrai**	**2.79**	**35**		*e*PN	**Pn**	**23 43 47.9 +0.3**
SRS	**Serrai**	**2.79**	**35**		*e*Pn	**Pn**	**23 43 47.9 +0.3**
LIA	**Limnos Island**	**3.06**	**69**		P	**Pn**	**23 43 51.2 -0.1**
LIA	**Limnos Island**	**3.06**	**69**		P	**Pn**	**23 43 51.2 -0.1**
NVR	**Nevrokopi**	**3.09**	**36**		P	**Pn**	**23 43 51.8 -0.1**
NVR	**Nevrokopi**	**3.09**	**36**		*e*PN	**Pn**	**23 43 52.6 +0.7**
NVR	**Nevrokopi**	**3.09**	**36**		P	**Pn**	**23 43 51.8 -0.1**
NVR	**Nevrokopi**	**3.09**	**36**		*e*Pn	**Pn**	**23 43 52.6 +0.7**
KAVA	**Kavala**	**3.17**	**47**		P	**Pn**	**23 43 52.2 -0.7**
KAVA	**Kavala**	**3.17**	**47**		*e*PN	**Pn**	**23 43 53.3 +0.4**
KAVA	**Kavala**	**3.17**	**47**		P	**Pn**	**23 43 52.2 -0.7**
KAVA	**Kavala**	**3.17**	**47**		*e*Pn	**Pn**	**23 43 53.3 +0.4**
CHOS	**Chios island**	**3.62**	**96**		*e*PN	**Pn**	**23 44 01.5 +2.4**
CHOS	**Chios island**	**3.62**	**96**		*e*Pn	**Pn**	**23 44 01.5 +2.4**
APE	**Apeiranthos**	**3.67**	**118**		P	**Pn**	**23 44 00.7 +0.9**
APE	**Apeiranthos**	**3.67**	**118**		P	**Pn**	**23 44 00.7 +0.9**
PRK	**Paraskevi**	**3.76**	**82**		P	**Pn**	**23 44 01.2 +0.3**
PRK	**Paraskevi**	**3.76**	**82**		*e*PN	**Pn**	**23 44 01.5 +0.6**
PRK	**Paraskevi**	**3.76**	**82**		P	**Pn**	**23 44 01.2 +0.3**
PRK	**Paraskevi**	**3.76**	**82**		*e*Pn	**Pn**	**23 44 01.5 +0.6**
RDO	**Rodhopi**	**3.87**	**52**		P	**Pn**	**23 44 02.1 -0.4**
RDO	**Rodhopi**	**3.87**	**52**		*e*PN	**Pn**	**23 44 04.9 +2.4**
RDO	**Rodhopi**	**3.87**	**52**		P	**Pn**	**23 44 02.1 -0.4**
RDO	**Rodhopi**	**3.87**	**52**		*e*Pn	**Pn**	**23 44 04.9 +2.4**
IVAS	**Ivanjica**	**4.82**	**348**		*e*Pn	Pn	23 44 20.0 +4.3
DIVS	**Divibare**	**5.36**	**348**		*e*Pn	**Pn**	**23 44 25.1 +2.1**
UDBI	**Udbina**	**7.10**	**325**		*e*Pn	**Pn**	**23 44 47.8 +0.9**
UDBI					Sn	**Sn**	**23 46 06.1 -1.5**
UDBI	**Udbina**	**7.10**	**325**		*e*Pn	**Pn**	**23 44 47.8 +0.9**
NVLJ	**Novalja**	**7.54**	**321**		*e*Pn	**Pn**	**23 44 52.3 -0.6**
NVLJ					Sn	**Sn**	**23 46 14.5 -4.0**
BRTR	**Keskin Array B**	**9.47**	**81**		Pn	**Pn**	**23 45 22.6 +3.0**
	0.2nm,0.3s,baz=268,slow=12,SNR=7.2						
TORD	**Torodi Ar. Bea**	**31.02**	**220**		P	**P**	**23 49 19.1 -1.9**
	0.2nm,0.4s,baz=38,slow=8.6,SNR=8.1						
MKAR	**Makanchi Array**	**44.31**	**59**		P	**P**	**23 51 12.1 -0.9**
	0.2nm,0.3s,baz=282,slow=6.6,SNR=4.6						
ZALV	**Zalesovo Beam**	**44.68**	**49**		P	**P**	**23 51 14.3 -1.4**
	0.5nm,0.5s,baz=280,slow=8.3,SNR=2.9						

IDC 13 23:48:55.9±6.7, 52.73N×166.96W, h0km, mb4.0/9, mb1 4.0/11, mb1mx3.8/29, mbtmp4.0/11, ML3.4/2, Error ellipse: s-maj=153.7km s-min=17.9km az=159.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**12.03**	**279**	Pn	Pn	23 51 52.2	+3.8
	0.8nm,0.3s,baz=272,slow=18,SNR=2.0						
ILAR	**Eielson Array**	**15.84**	**33**	Pn	Pn	23 52 39.9	-0.1
	0.1nm,0.3s,baz=232,slow=10,SNR=3.0						
PETK	**Petropavlovsk-**	**21.18**	**285**	P	P	23 53 44.2	+1.5
	2.4nm,0.4s,baz=93,slow=10,SNR=9.2						
INK	**Inuvik**	**22.24**	**33**	P	P	23 53 53.5	-0.4
	2.6nm,0.9s,baz=243,slow=9.0,SNR=4.1						
KEV	**Kevo**	**57.40**	**354**	*e*p	P	23 58 41.0	-4.5
	2.7nm,0.6s						
ARCES	**ARCESS Array B**	**57.70**	**355**	P	P	23 58 47.2	-0.5
	3.7nm,0.9s,baz=13,slow=8.3,SNR=7.8						
ZALV	**Zalesovo Beam**	**58.13**	**319**	P	P	23 58 51.2	+0.3
	0.4nm,0.6s,baz=32,slow=8.5,SNR=3.1						
JOF	**Joensuu**	**63.80**	**351**	*e*p	P	23 59 27.9	-1.3
	1.6nm,0.6s						
MKAR	**Makanchi Array**	**64.61**	**315**	P	P	23 59 33.7	-1.2
	1.0nm,0.7s,baz=55,slow=7.9,SNR=6.6						
KAF	**Kangasniemi**	**65.02**	**353**	*e*p	P	23 59 36.1	-1.1
	3.9nm,0.6s						
FINES	**FINESS Array B**	**65.70**	**353**	P	P	23 59 41.5	-0.1
	3.7nm,0.6s,baz=23,slow=7.5,SNR=15						
NOA	**NORSAR Array B**	**66.57**	**1**	P	P	23 59 46.6	-0.7
	0.8nm,0.7s,baz=360,slow=6.7,SNR=2.8						
AKASG	**Malin Array Be**	**76.04**	**349**	P	P	00 00 44.9	+0.2
	0.9nm,0.3s,baz=8.5,slow=5.4,SNR=5.3						
BRTR	**Keskin Array B**	**86.20**	**344**	P	P	00 01 40.1	+1.0
	0.8nm,0.8s,baz=19,slow=3.8,SNR=3.4						

IDC 13 23:49:18.8±0.7, 52.73N×167.05W, h0km, mb4.4/25, mb1 4.5/27, mb1mx4.4/33, mbtmp4.3/27, ML3.9/2, MS4.2/1, Ms1 4.2/1, ms1mx3.4/46, Error ellipse: s-maj=20.2km s-min=11.6km az=171.0

NEIC 13 23:49:19.7±1.3, 52.63N×166.80W, h8km±6km, mb4.2/6, ML4.1(AEIC), Error ellipse: s-maj=9.2km s-min=3.8km az=160.0

ISCJB 13 23:49:21.0±0.3, 52.68N±0.05×166.88W±0.05, h25km, mb4.6/68, MS4.1/2, Error ellipse: s-maj=7.1km s-min=3.6km az=160.9

SZGRF 13 23:49:21.4, 51.72N×164.03W, h33km, mb4.7, South of Alaska

BJI 13 23:49:21.3, 53.30N×167.10W, h20km, mB5.1/3, mb5.0/10, Ms4.7/1

MOS 13 23:49:22.9±1.2, 52.90N×166.99W, h33km, mb5.0/23, Error ellipse: s-maj=13.3km s-min=7.0km az=91.5

ISC 13 23:49:22.4±0.5, 52.72N±0.06×166.87W±0.04, h25km, n242, σ1§13/246, mb4.8/73, 10C-6D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.94**	**318**	P	**Pb**	**23 49 40.5**	**+0.5**
OKFG				S	**Sn**	**23 49 56.4**	**+3.8**
OKSO	**Okmok South**	**1.01**	**310**	P	**Pn**	**23 49 41.0**	**-0.1**
OKCE	**Okmok Cone E**	**1.06**	**313**	P	**Pb**	**23 49 42.5**	**+0.4**
MREP	**Makushin Rep't**	**1.10**	**4**	P	**Pb**	**23 49 43.5**	**+0.7**
UNV	**Unalaska Valle**	**1.15**	**11**	*e*Pn	**Pn**	**23 49 43.3**	**+0.4**
UNV				*e*Sn	**Sn**	**23 49 56.6**	**-1.3**
NIKH	**Nikolski High**	**1.23**	**283**	P	**Pn**	**23 49 41.6**	**-2.4**
NIKH				S	**Sb**	**23 50 01.0**	**+0.6**
AKRB	**Akutan Reef Bi**	**1.50**	**18**	P	**Pb**	**23 49 49.1**	**-0.4**
LVA	**Lava Point**	**1.53**	**19**	P	**Pb**	**23 49 48.1**	**-0.1**
AKUT	**Akutan**	**1.56**	**24**	*e*Pn	**Pn**	**23 49 48.2**	**-0.4**
FALS	**False Pass**	**2.96**	**42**	*e*Pn	**Pn**	**23 50 07.3**	**-0.5**
ATKA	**Atka Island**	**4.51**	**266**	*e*Pn	**Pn**	**23 50 29.8**	**+0.7**
SDPT	**Sand Point**	**4.60**	**52**	*e*Pn	**Pn**	**23 50 28.9**	**-1.4**
SPIA	**Saint Paul Isl**	**4.88**	**338**	*e*Pn	Pn	23 50 37.8	+3.8
GSCK	**Great Sitkin C**	**5.74**	**267**	P	**Pn**	**23 50 45.3**	**-0.7**
ADK	**Adak**	**6.08**	**266**	*e*P	**Pn**	**23 50 50.6**	**0.0**
ADK				*e*		23 52 00.3	
ADK	**Adak**	**6.08**	**266**	*e*Pn	**Pn**	**23 50 50.6**	**0.0**
ADK				*e*Sn	**Sn**	**23 52 00.3**	**+1.0**
CHGN	**Chignik**	**6.09**	**51**	*e*Pn	**Pn**	**23 50 52.5**	**+1.7**
OHAK	**Old Harbor**	**9.02**	**55**	*e*Pn	**Pn**	**23 51 29.2**	**-1.6**
KDAK	**Kodiak Island**	**9.60**	**52**	*e*Pn	**Pn**	**23 51 37.6**	**-1.2**
	36nm,1.4s						
SVW2	**Sparrevohn**	**10.41**	**32**	*e*Pn	Pn	23 51 56.6	+6.7
FX1	**Attu Island--F**	**12.09**	**279**	Pn	**Pn**	**23 52 15.1**	**+2.2**
FX1	**Attu Island--F**	**12.09**	**279**	Pn	**Pn**	**23 52 15.1**	**+2.2**
	2.7nm,0.3s,baz=60,slow=13,SNR=5.3						
PPLA	**Purkeypile**	**12.82**	**32**	*e*Pn	**Pn**	**23 52 22.2**	**-0.8**
SML	**Sawmill**	**13.50**	**40**	P	**Pn**	**23 52 31.2**	**-0.9**
SML	**Sawmill**	**13.50**	**40**	Pn	**Pn**	**23 52 31.2**	**-0.9**
BPAW	**Bear Paw Mtn.**	**14.07**	**30**	*e*Pn	**Pn**	**23 52 37.7**	**-2.1**
	5.6nm,0.6s						
BMRM	**Bremner River**	**14.65**	**47**	*e*Pn	**Pn**	**23 52 49.0**	**+1.1**
IM04	**Indian Mountai**	**14.82**	**21**	*e*Pn	**Pn**	**23 52 50.1**	**-0.1**
IMA2	**Indian Mountai**	**14.93**	**21**	*e*Pn	**Pn**	**23 52 51.2**	**-0.4**
PAX	**Paxson**	**15.25**	**39**	*e*P	**Pn**	**23 52 56.7**	**+0.8**
PAX				pmax	pmax		
	comp=Z,10.0nm,1.3s						
PAX	**Paxson**	**15.25**	**39**	*e*Pn	**Pn**	**23 52 56.7**	**+0.8**
	comp=Z,10.0nm,1.3s						
COLA	**College**	**15.58**	**31**	*i* P	**Pn**	**23 53 01.8**	**+1.8**
ILAR	**Eielson Array**	**15.82**	**32**	Pn	**Pn**	**23 53 02.5**	**-0.8**
ILAR				ScP	**ScP**	**00 01 34.5**	**+1.2**
ILAR	**Eielson Array**	**15.82**	**32**	Pn	**Pn**	**23 53 02.5**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=227,slow=10,SNR=8.1						
ILAR				ScP	**ScP**	**00 01 34.5**	**+1.2**
	comp=Z,0.0nm,0.3s,baz=273,slow=4.9,SNR=5.0						
DOT	**Dot Lake**	**16.15**	**38**	*e*Pn	**Pn**	**23 53 05.2**	**-2.3**
	comp=Z,5.7nm,0.8s						
HYT	**Haines Junctio**	**17.89**	**51**	*e*Pn	**Pn**	**23 53 28.5**	**-0.9**
PEA0B	**Petropavlovsk-**	**21.24**	**285**	*e*P	**P**	**23 54 05.6**	**-0.8**
PETK	**Petropavlovsk-**	**21.24**	**285**	P	**P**	**23 54 05.5**	**-0.9**
PETK	**Petropavlovsk-**	**21.24**	**285**	P	**P**	**23 54 05.5**	**-0.9**
PETK	**Petropavlovsk-**	**21.24**	**285**	P	**P**	**23 54 05.5**	**-0.9**
	comp=Z,9.6nm,0.4s,baz=92,slow=13,SNR=24						
DLBC	**Dease Lake**	**21.39**	**60**	P	**P**	**23 54 11.5**	**+3.5**
DLBC	**Dease Lake**	**21.39**	**60**	P	**P**	**23 54 11.5**	**+3.5**
	comp=Z,5.8nm,0.9s,baz=256,slow=12,SNR=5.6						
INK	**Inuvik**	**22.22**	**33**	*e*P	**P**	**23 54 14.9**	**-1.7**
	comp=Z,13nm,0.8s						
INK	**Inuvik**	**22.22**	**33**	P	**P**	**23 54 16.2**	**-0.4**
	comp=Z,6.8nm,0.6s,baz=237,slow=9.0,SNR=11						
SEY	**Seymchan**	**23.57**	**312**	*i* P	**P**	**23 54 30.9**	**+0.3**
YKA	**Yellowknife Ar**	**28.86**	**50**	P	**P**	**23 55 19.1**	**+0.7**
YKA	**Yellowknife Ar**	**28.86**	**50**	P	**P**	**23 55 19.1**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=273,slow=7.5,SNR=4.9						
TIXI	**Tiksi**	**33.23**	**329**	*e*P	**P**	**23 55 57.1**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s						

YAK	**Yakutsk**	**34.09**	**311**	*i* P		**P**	**23 56 02.4**	**-2.0**
RES	**Resolute Bay**	**35.39**	**26**	P		**P**	**23 56 15.9**	**+0.3**
RES	**Resolute Bay**	**35.39**	**26**	P		**P**	**23 56 15.9**	**+0.3**
	comp=Z,3.5nm,0.5s,baz=263,slow=8.1,SNR=4.5							
MCMT	**McKenzie Canyo**	**35.71**	**81**	*e*P		**P**	**23 56 18.2**	**-0.8**
NVAR	**Mina Array Bea**	**36.15**	**93**	P		**P**	**23 56 25.1**	**+2.4**
NVAR	**Mina Array Bea**	**36.15**	**93**	P		**P**	**23 56 25.1**	**+2.4**
	comp=Z,1.5nm,0.6s,baz=307,slow=8.9,SNR=4.8							
RRI2	**Red Ridge**	**37.45**	**82**	*e*P		P	23 56 37.0	+3.2
	comp=Z,5.9nm,1.2s							
H11N2	**WAKE ISLAND Hy**	**38.70**	**222**	T		T	00 38 18.1	
	baz=27,slow=0.7,SNR=178							
H11N3	**WAKE ISLAND Hy**	**38.71**	**222**	T		T	00 38 19.8	
	baz=27,slow=0.7,SNR=166							
H11N1	**WAKE ISLAND Hy**	**38.72**	**222**	T		T	00 38 20.5	
	baz=27,slow=0.7,SNR=98							
PDAR	**Pinedale Array**	**38.84**	**81**	P		**P**	**23 56 46.5**	**+1.0**
PDAR	**Pinedale Array**	**38.84**	**81**	P		**P**	**23 56 46.5**	**+1.0**
	comp=Z,2.5nm,0.7s,baz=308,slow=4.4,SNR=17							
H11S1	**WAKE ISLAND Hy**	**39.88**	**221**	T		T	00 39 42.1	
	baz=25,slow=0.7,SNR=100							
H11S2	**WAKE ISLAND Hy**	**39.90**	**221**	T		T	00 39 51.5	
	baz=25,slow=0.7,SNR=59							
H11S3	**WAKE ISLAND Hy**	**39.90**	**221**	T		T	00 39 43.6	
	baz=25,slow=0.7,SNR=51							
USRK	**Ussuriysk Arra**	**40.31**	**283**	P		**P**	**23 56 55.5**	**-1.8**
	comp=Z,1.6nm,0.7s,baz=79,slow=10,SNR=3.8							
O20A	**White River Ci

comp=N,4.0nm,0.4s
VSR pmax pmax
comp=E,3.0nm,0.4s
VORD Divnogorie 74.36 343 *e*P **P 00 00 57.4 0.0**
VORD pmax pmax
comp=E,10.0nm,0.6s
VORD pmax pmax
comp=Z,8.0nm,0.6s
AKASG Malin Array Be 76.06 350 P **P 00 01 07.3 +0.1**
AKASG Malin Array Be 76.06 350 P **P 00 01 07.3 +0.1**
comp=Z,4.7nm,0.4s,baz=12,slow=5.8,SNR=25
CLL Collm 76.35 0 ⇓*i*P **P 00 01 09.9 +1.0**
CLL pmax pmax
comp=Z,5.0nm,1.1s
CLL Collm 76.35 0 ⇓*i*P **P 00 01 09.9 +1.0**
comp=Z,8.0nm,1.1s
GIVF Givet 77.31 5 *e*P **P 00 01 15.1 +0.7**
GIVF Givet 77.31 5 *e*P **P 00 01 15.1 +0.7**
BAIF Baives 77.32 6 *e*P **P 00 01 15.2 +0.8**
comp=Z,17nm,1.0s
BAIF Baives 77.32 6 *e*P **P 00 01 15.2 +0.8**
comp=Z,17nm,1.0s
TAPN Taplejung 77.36 299 *e*P **P 00 01 15.5 +0.1**
comp=Z,15nm,0.6s
KWP Kalwaria Pacla 77.70 354 *e*P **P 00 01 18.3 +1.7**
KWP Kalwaria Pacla 77.70 354 *e*P **P 00 01 18.2 +1.7**
GUN Gumba 77.88 300 *e*P **P 00 01 18.8 +0.5**
comp=Z,16nm,0.5s
JIRN Jiri 77.92 300 *e*P **P 00 01 19.0 +0.4**
comp=Z,25nm,0.7s
GRF Grafenberg Arr 77.95 1 *e*P **P 00 01 19.8 +1.8**
GRF pmax pmax
comp=Z,6.0nm,0.8s
GRF Grafenberg Arr 77.95 1 *e*P **P 00 01 19.8 +1.8**
comp=Z,6.0nm,0.8s
CMAR Chiang Mai Arr 78.02 285 P **P 00 01 18.6 -0.2**
CMAR Chiang Mai Arr 78.02 285 P **P 00 01 18.6 -0.2**
comp=Z,1.5nm,0.7s,baz=23,slow=5.6,SNR=10
FLN La Foliniere 78.24 9 *e*P **P 00 01 19.7 +0.2**
FLN La Foliniere 78.24 9 *e*P **P 00 01 19.7 +0.2**
RAMN Ramite 78.27 299 *e*P **P 00 01 20.4 0.0**
comp=Z,26nm,0.7s
KKN Kakani 78.30 301 *e*P **P 00 01 20.6 +0.1**
ROSF Rostrenen 78.36 11 *e*P **P 00 01 20.7 +0.5**
ROSF Rostrenen 78.36 11 *e*P **P 00 01 20.7 +0.5**
PKI Pulchoki 78.40 300 *e*P **P 00 01 21.2 0.0**
comp=Z,36nm,1.1s
PKIN Phulchoki 78.41 300 *e*P **P 00 01 21.9 +0.8**
LDF La Druitiere 78.44 9 *e*P **P 00 01 20.9 +0.3**
LDF La Druitiere 78.44 9 *e*P **P 00 01 20.9 +0.3**
GKN Gorkha 78.46 301 *e*P **P 00 01 21.3 0.0**
comp=Z,24nm,0.7s
SGMF Saint Gilles 78.52 11 *e*P **P 00 01 21.6 +0.5**
SGMF Saint Gilles 78.52 11 *e*P **P 00 01 21.6 +0.5**
KHC Kasperske Hory 78.53 360 *e*P **P 00 01 22.0 +0.8**
KHC Kasperske Hory 78.53 360 *e*P **P 00 01 22.0 +0.8**
DMN Daman 78.53 301 *e*P **P 00 01 22.2 +0.4**
comp=Z,6.9nm,0.3s
GRR Gorron 78.57 9 *e*P **P 00 01 21.9 +0.6**
GRR Gorron 78.57 9 *e*P **P 00 01 21.9 +0.6**
DANN Dangsing 78.63 302 *e*P **P 00 01 22.8 +0.4**
comp=Z,58nm,0.6s
UZH Uzhgorod 78.73 354 *e*P **P 00 01 21.3 -0.9**
UZH *e* 00 01 27.5
QUIF Quistinic 78.78 11 *e*P **P 00 01 23.1 +0.6**
comp=Z,14nm,1.1s
QUIF Quistinic 78.78 11 *e*P **P 00 01 23.1 +0.6**
comp=Z,14nm,1.1s
GERES GERESS Array B 78.81 360 P **P 00 01 24.4 +1.5**
GERES GERESS Array B 78.81 360 P **P 00 01 24.4 +1.5**
comp=Z,1.8nm,0.7s,baz=15,slow=4.2,SNR=12
PAGF Fort de Pagny 78.91 5 *e*P **P 00 01 24.4 +1.2**
comp=Z,5.7nm,1.0s
PAGF Fort de Pagny 78.91 5 *e*P **P 00 01 24.4 +1.2**
comp=Z,5.7nm,1.0s
CDF Champ du Feu 79.12 4 *e*P **P 00 01 25.2 +0.7**
CDF Champ du Feu 79.12 4 *e*P **P 00 01 25.2 +0.7**
KOLN Koldanda 79.19 302 *e*P **P 00 01 25.6 +0.2**
comp=Z,14nm,0.7s
SFTF Sexfontaines 79.22 6 *e*P **P 00 01 25.6 +0.7**
SFTF Sexfontaines 79.22 6 *e*P **P 00 01 25.6 +0.7**
GOF Gofitskoye 79.27 339 *e*P **P 00 01 27.1 +1.8**
BUR08 Bucovina Ar. S 79.49 352 *e*P **P 00 01 25.6 -0.9**
HAU Haudompre 79.49 5 *e*P **P 00 01 27.1 +0.7**
HAU Haudompre 79.49 5 *e*P **P 00 01 27.1 +0.7**
HINF Hinteralfeld 79.70 4 *e*P **P 00 01 28.1 +0.5**
HINF Hinteralfeld 79.70 4 *e*P **P 00 01 28.1 +0.5**
CONA Conrad Observa 79.70 358 ⇑*i*pP **P 00 01 29.2 +1.5**
comp=Z,14nm,1.2s
LOR Lormes 80.08 6 *e*P **P 00 01 30.3 +0.7**
comp=Z,20nm,1.2s
LOR Lormes 80.08 6 *e*P **P 00 01 30.3 +0.7**
comp=Z,20nm,1.2s
SSF Saint Saulge 80.26 7 *e*P **P 00 01 31.4 +0.8**
SSF Saint Saulge 80.26 7 *e*P **P 00 01 31.4 +0.8**
KIV Kislovodsk 80.40 339 ⇓*i*P **P 00 01 32.6 +1.1**
KIV pmax pmax
comp=Z,4.0nm,0.6s
MFF Saint Martin d 80.41 9 *e*P **P 00 01 32.2 +0.8**
comp=Z,22nm,1.0s
MFF Saint Martin d 80.41 9 *e*P **P 00 01 32.2 +0.8**
comp=Z,22nm,1.0s
AVF Avril sur Loir 80.52 7 *e*P **P 00 01 32.5 +0.5**
comp=Z,14nm,1.1s
AVF Avril sur Loir 80.52 7 *e*P **P 00 01 32.5 +0.5**
comp=Z,14nm,1.0s
KBA Koelnbreinsper 80.58 360 ⇑*i*pP **P 00 01 34.6 +2.0**
comp=Z,24nm,1.1s
FETA Feichten 80.62 2 ⇑*i*pP **P 00 01 34.2 +1.5**
comp=Z,11nm,1.0s
SMF Signal de Mont 80.70 6 *e*P **P 00 01 33.6 +0.6**
comp=Z,21nm,1.0s
SMF Signal de Mont 80.70 6 *e*P **P 00 01 33.6 +0.6**
comp=Z,21nm,1.0s
BGF Bois d'Agland 80.71 7 *e*P **P 00 01 33.7 +0.7**
comp=Z,34nm,1.3s
BGF Bois d'Agland 80.71 7 *e*P **P 00 01 33.7 +0.7**
comp=Z,34nm,1.3s
CABF La Chapelle 80.87 5 *e*P **P 00 01 35.1 +1.1**
comp=Z,14nm,1.1s
CABF La Chapelle 80.87 5 *e*P **P 00 01 35.1 +1.1**
comp=Z,14nm,1.1s
ABTA Abfaltersbach 80.91 0 ⇑*i*pP **P 00 01 35.1 +0.9**
comp=Z,17nm,1.2s
TCF Toulx Ste Croi 80.93 8 *e*P **P 00 01 34.6 +0.4**
TCF Toulx Ste Croi 80.93 8 *e*P **P 00 01 34.6 +0.4**
SOKA Soboth 80.97 359 ⇑*i*pP **P 00 01 35.9 +1.4**
comp=Z,16nm,1.2s
RJF Les Rejaudoux 81.85 8 *e*P **P 00 01 39.6 +0.5**
comp=Z,22nm,1.2s
RJF Les Rejaudoux 81.85 8 *e*P **P 00 01 39.6 +0.5**
comp=Z,22nm,1.2s
LPL La Plagne 81.99 5 *e*P **P 00 01 42.0 +1.9**
LPL La Plagne 81.99 5 *e*P **P 00 01 42.0 +1.9**
LPG La Plagne 82.01 5 *e*P **P 00 01 42.2 +1.9**
LPG La Plagne 82.01 5 *e*P **P 00 01 42.2 +1.9**
LFF La Frestale 82.14 9 *e*P **P 00 01 41.4 +0.8**
comp=Z,10nm,0.6s
LFF La Frestale 82.14 9 *e*P **P 00 01 41.4 +0.8**
comp=Z,10nm,0.6s
CAF Calviac 82.27 8 *e*P **P 00 01 42.2 +0.8**
comp=Z,9.6nm,0.9s
CAF Calviac 82.27 8 *e*P **P 00 01 42.2 +0.8**
comp=Z,9.6nm,0.9s
VIVF Saint-Julien-l 82.53 6 *e*P **P 00 01 43.8 +1.1**
VIVF Saint-Julien-l 82.53 6 *e*P **P 00 01 43.8 +1.1**
ORIF Oris-en-Rattie 82.54 5 *e*P **P 00 01 44.2 +1.3**
ORIF Oris-en-Rattie 82.54 5 *e*P **P 00 01 44.2 +1.3**
MBDF Montbardon 82.78 5 *e*P **P 00 01 46.0 +1.8**
comp=Z,10nm,0.7s
MBDF Montbardon 82.78 5 *e*P **P 00 01 46.0 +1.8**
comp=Z,10nm,0.7s
LASF Ste Croix 83.25 7 *e*P **P 00 01 47.9 +1.4**
LASF Ste Croix 83.25 7 *e*P **P 00 01 47.9 +1.4**
SMRF Simiane la Rot 83.47 5 *e*P **P 00 01 49.1 +1.5**
SMRF Simiane la Rot 83.47 5 *e*P **P 00 01 49.1 +1.5**
SBF Sospel 83.67 4 *e*P **P 00 01 49.6 +0.9**
comp=Z,65nm,1.3s
SBF Sospel 83.67 4 *e*P **P 00 01 49.6 +0.9**
comp=Z,65nm,1.3s
MTLF Montolieu 83.86 8 *e*P **P 00 01 50.6 +1.0**
MTLF Montolieu 83.86 8 *e*P **P 00 01 50.6 +1.0**
FRF La Foret Royal 83.94 5 *e*P **P 00 01 51.0 +1.1**
FRF La Foret Royal 83.94 5 *e*P **P 00 01 51.0 +1.1**
EPF Esparros 83.99 9 *e*P **P 00 01 50.5 +0.2**
comp=Z,13nm,1.0s
EPF Esparros 83.99 9 *e*P **P 00 01 50.5 +0.2**
comp=Z,13nm,1.0s
ETSF Etsaut 84.03 10 *e*P **P 00 01 51.8 +1.3**
comp=Z,9.0nm,0.8s
ETSF Etsaut 84.03 10 *e*P **P 00 01 51.8 +1.3**
comp=Z,9.0nm,0.8s
LMR La Mourre 84.16 5 *e*P **P 00 01 52.1 +1.0**
BRTR Keskin Array B 86.23 344 P **P 00 02 02.9 +1.2**
BRTR Keskin Array B 86.23 344 P **P 00 02 02.9 +1.2**
comp=Z,4.5nm,0.9s,baz=4.9,slow=2.4,SNR=15
ESDC Sonseca Array 86.79 13 P **P 00 02 04.3 -0.1**
ESDC Sonseca Array 86.79 13 P **P 00 02 04.3 -0.1**
comp=Z,0.8nm,0.7s,baz=344,slow=4.3,SNR=5.2
WRA Warramunga Arr 88.43 234 P **P 00 02 12.6 +0.4**
WRA Warramunga Arr 88.43 234 P **P 00 02 12.6 +0.4**
comp=Z,0.6nm,0.9s,baz=37,slow=6.4,SNR=2.6
ASAR Alice Springs 91.80 232 P **P 00 02 26.2 -1.7**
ASAR Alice Springs 91.80 232 P **P 00 02 26.2 -1.7**
comp=Z,0.3nm,0.6s,baz=17,slow=6.8,SNR=3.1
MAW Mawson 152.10 219 PKPbc **PKPbc 00 09 13.3 -0.6**
MAW Mawson 152.10 219 PKPbc **PKPbc 00 09 13.3 -0.6**
comp=Z,1.2nm,0.7s,baz=63,slow=2.3,SNR=3.7
BOSA Boshof 154.30 335 PKPab **PKPab 00 09 34.8 +0.6**
BOSA Boshof 154.30 335 PKPab **PKPab 00 09 34.8 +0.6**
comp=Z,3.2nm,0.8s,baz=5.7,slow=4.7,SNR=3.9

IDC ***13*** *23:56:11.2±0.8, 15.°64S×171.°58W, h0km, mb4.1/8, mb1 4.4/8, mb1mx4.1/22, mbtmp4.1/8, Error ellipse: s-maj=30.9km s-min=17.1km az=126.0*
ISCJB ***13*** *23:56:14.7±0.6, 15.°67S±0.°06×171.°7W±0.°1, h33km, mb4.1/10, Error ellipse: s-maj=17.4km s-min=8.3km az=13.5*
NEIC ***13*** *23:56:16.4±2.0, 15.°61S×171.°65W, h36km±18km, mb4.4/3, Error ellipse: s-maj=20.6km s-min=9.8km az=133.0*
ISC 13 23:56:16.6±0.7, 15.°63S±0.°08×171.°7W±0.°2, h35km, n33, σ0961/29, mb4.1/10, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
AFI	**Afiamalu**	**1.72**	**356**	*e*Pn		**Pn**		**23 56 43.3**	**-0.8**
AFI				*e*Sn		**Sn**		**23 57 04.3**	**-0.5**
AFI	**Afiamalu**	**1.72**	**356**	Pn		**Pn**		**23 56 43.8**	**-0.3**
	199nm,0.3s,baz=120,slow=1.4,SNR=138								
AFI				Sn		**Sn**		**23 57 05.1**	**+0.3**
	851nm,0.3s,baz=344,slow=20,SNR=49								
URZ	**Urewera**	**24.63**	**202**	*e*P		**P**		**00 01 34.5**	**+0.7**
	18nm,0.9s								
URZ	**Urewera**	**24.63**	**202**	P		**P**		**00 01 33.9**	**+0.1**
	3.3nm,0.4s,baz=20,slow=7.3,SNR=2.7								
H11S2	**WAKE ISLAND Hy**	**40.05**	**327**	T		T		00 46 13.5	
	baz=148,slow=0.7,SNR=5.3								
H11S3	**WAKE ISLAND Hy**	**40.07**	**327**	T		T		00 46 04.1	
	baz=148,slow=0.7,SNR=42								
H11S1	**WAKE ISLAND Hy**	**40.07**	**327**	T		T		00 46 16.7	
	baz=148,slow=0.7,SNR=7.9								
CTAO	**Charters Tower**	**40.24**	**257**	*e*P		**P**		**00 03 49.9**	**-0.4**
H11N3	**WAKE ISLAND Hy**	**40.97**	**328**	T		T		00 47 09.9	
	baz=147,slow=0.7,SNR=15								
H11N1	**WAKE ISLAND Hy**	**40.98**	**328**	T		T		00 47 22.7	
	baz=147,slow=0.7,SNR=8.0								
H11N2	**WAKE ISLAND Hy**	**40.99**	**328**	T		T		00 47 10.5	
	baz=147,slow=0.7,SNR=10								
STKA	**Stephens Creek**	**45.39**	**241**	*e*P		**P**		**00 04 31.9**	**0.0**
STKA	**Stephens Creek**	**45.39**	**241**	P		**P**		**00 04 32.7**	**+0.7**
	6.1nm,0.9s,baz=70,slow=10,SNR=5.2								
WRAB	**Tennant Creek**	**51.43**	**257**	*e*P		**P**		**00 05 18.8**	**+0.1**
	2.1nm,0.5s								
WRA	**Warramunga Arr**	**51.44**	**257**	P		**P**		**00 05 18.5**	**-0.2**
WRA	**Warramunga Arr**	**51.44**	**257**	P		**P**		**00 05 18.5**	**-0.2**
	2.0nm,0.8s,baz=94,slow=9.8,SNR=9.4								
AS31	**Alice Springs**	**51.65**	**252**	*e*P		**P**		**00 05 19.7**	**-0.6**
ASAR	**Alice Springs**	**51.65**	**252**	P		**P**		**00 05 20.7**	**+0.4**
ASAR	**Alice Springs**	**51.65**	**252**	P		**P**		**00 05 20.7**	**+0.4**
	6.0nm,0.9s,baz=85,slow=8.3,SNR=42								
NVAR	**Mina Array Bea**	**73.38**	**41**	P		**P**		**00 07 45.8**	**+0.4**
NVAR	**Mina Array Bea**	**73.38**	**41**	P		**P**		**00 07 45.8**	**+0.4**
	0.9nm,0.7s,baz=237,slow=8.0,SNR=3.4								
QSPA	**South Pole Qui**	**74.42**	**180**	*e*P		**P**		**00 07 49.1**	**-1.8**
	2.2nm,0.9s								
TXAR	**Lajitas Array**	**79.34**	**55**	P		**P**		**00 08 19.1**	**-0.1**
TXAR	**Lajitas Array**	**79.34**	**55**	P		**P**		**00 08 19.1**	**-0.1**
	0.7nm,0.9s,baz=224,slow=7.6,SNR=6.9								
ANMO	**Albuquerque**	**79.66**	**49**	P		**P**		**00 08 20.8**	**-0.2**
ANMO	**Albuquerque**	**79.66**	**49**	P		**P**		**00 08 20.8**	**-0.2**
	1.1nm,0.8s,baz=337,slow=7.7,SNR=3.4								
ILAR	**Eielson Array**	**82.36**	**10**	P		**P**		**00 08 34.8**	**+0.3**
ILAR	**Eielson Array**	**82.36**	**10**	P		**P**		**00 08 34.8**	**+0.3**
	1.0nm,0.7s,baz=219,slow=5.8,SNR=14								
MAW	**Mawson**	**88.11**	**198**	P		**P**		**00 09 03.4**	**+0.1**
GERES	**GERESS Array B**	**146.59**	**354**	PKPbc		**PKPdf**		**00 15 53.6**	**+0.5**
GERES	**GERESS Array B**	**146.59**	**354**	PKPbc		**PKPdf**		**00 15 53.6**	**+0.5**
	1.2nm,0.8s,baz=19,slow=6.4,SNR=4.9								
BRTR	**Keskin Array B**	**147.39**	**322**	PKPbc		**PKPdf**		**00 15 55.7**	**+1.0**
BRTR	**Keskin Array B**	**147.39**	**322**	PKPbc		**PKPdf**		**00 15 55.7**	**+1.0**
	0.8nm,0.7s,baz=88,slow=3.6,SNR=5.3								

IDC 13 23:57:57.9±4.9, 1.°42N×99.°48E, h106km±17km, mb3.4/3, mb1 3.7/3, mb1mx3.2/23, mbtmp3.4/3, Error ellipse: s-maj=202.0km s-min=24.3km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PSI	**Prapat**	**1.48**	**338**	P		Pn		23 58 23.1	-1.4
	5.0nm,0.3s,baz=184,slow=8.4,SNR=13								
PSI				S		Sn		23 58 42.4	-2.1
	3.7nm,0.3s,baz=257,slow=24,SNR=17								
H08S2	**Diego Garcia H**	**28.38**	**251**	T		T		00 31 02.1	
	baz=77,slow=0.7								
H08S3	**Diego Garcia H**	**28.39**	**251**	T		T		00 31 13.0	
	baz=77								
H08S1	**Diego Carcia H**	**28.40**	**251**	T		T		00 31 00.6	
	baz=77,slow=0.7								
WRA	**Warramunga Arr**	**40.24**	**124**	P		P		00 05 24.5	-0.2
	2.5nm,0.6s,baz=301,slow=9.0,SNR=5.1								
MKAR	**Makanchi Array**	**47.61**	**344**	P		P		00 06 23.2	0.0
	0.2nm,0.4s,baz=164,slow=8.9,SNR=5.4								
ZALV	**Zalesovo Beam**	**53.73**	**349**	P		P		00 07 08.7	-0.2
	0.6nm,0.4s,baz=164,slow=6.8,SNR=3.9								

IDC ***14*** *00:00:09.1±0.6, 15.°20S×173.°41W, h0km, mb4.3/13, mb1 4.5/13, mb1mx4.3/23, mbtmp4.3/13, MS3.9/3, Ms1 3.9/3, ms1mx3.5/26, Error ellipse: s-maj=28.3km s-min=15.4km az=134.0*
ISCJB ***14*** *00:00:12.9±0.3, 15.°17S±0.°09×173.°58W±0.°10, h33km, mb4.7/33, MS4.4/4, Error ellipse: s-maj=17.4km s-min=8.4km az=44.1*
NEIC ***14*** *00:00:12.1±0.4, 15.°07S×173.°01W, h10km, mb4.7/17, Error ellipse: s-maj=20.1km s-min=9.4km az=138.0*
SZGRF ***14*** *00:00:13.8, 16.°50S×177.°86W, h33km, Fiji Islands region*
BJI ***14*** *00:00:14.7, 14.°59S×173.°04W, h22km, mB5.4/9, mb4.9/13, Ms5.3/4, Ms7 4.9/4*
ISC 14 00:00:13.8±0.5, 15.°4S±0.°1×173.°2W±0.°1, h29km, n108, σ1951/92, mb4.7/33, MS4.4/4, 7C-6D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
AFI	**Afiamalu**	**2.02**	**42**	*e*Pn		Pn		00 00 39.9	-6.0
AFI				*e*Sn		Sn		00 00 59.6	-11
AFI	**Afiamalu**	**2.02**	**42**	Pn		Pn		00 00 40.1	-5.9
	217nm,0.3s,baz=24,slow=1.9,SNR=20								
AFI				Sn		Sn		00 00 59.6	-11
	423nm,0.3s,baz=57,slow=23,SNR=13								
MSVF	**Nonsavu**	**8.72**	**253**	*e*Pn		Pn		00 02 23.1	+4.9
KNTN	**Kanton**	**12.64**	**7**	*e*Pn		Pn		00 03 04.5	-7.2
RAR	**Rarotonga**	**13.97**	**116**	LR		LR		00 07 13.3	
	comp=Z,316nm,20.0s,baz=294,slow=30								
DZM	**Mont Dzumac**	**20.39**	**248**	*e*LR		LR		00 10 13.4	
	448nm,24.6s								
DZM	**Mont Dzumac**	**20.39**	**248**	*e*P		Pn		00 04 53.9	+3.1
	6.0nm,0.7s								
DZM	**Mont Dzumac**	**20.39**	**248**	P		**P**		**00 04 47.4**	**-1.2**
	3.9nm,0.7s,baz=50,slow=18,SNR=4.5								
PPT2	**Papeete2**	**22.73**	**99**	*e*LR		LR		00 10 31.9	
	407nm,24.5s								
TBI	**Tubuai**	**23.70**	**113**	*e*LR		LR		00 11 04.8	
	362nm,26.5s								
URZ	**Urewera**	**24.32**	**199**	P		**P**		**00 05 29.1**	**+0.1**
	3.5nm,0.5s,baz=114,slow=19,SNR=5.1								
EIDS	**Eidsvold**	**34.84**	**248**	*e*P		P		00 07 08.4	+5.9
	46nm,1.8s								
H11S2	**WAKE ISLAND Hy**	**39.09**	**329**	T		T		00 48 57.5	
	baz=152								
H11S3	**WAKE ISLAND Hy**	**39.10**	**329**	T		T		00 49 00.5	
	baz=152								
H11S1	**WAKE ISLAND Hy**	**39.10**	**329**	T		T		00 49 02.6	
	baz=152								
H11N3	**WAKE ISLAND Hy**	**40.03**	**330**	T		T		00 50 14.7	
	baz=152,slow=0.7,SNR=7.9								
H11N1	**WAKE ISLAND Hy**	**40.03**	**330**	T		T		00 50 11.8	
	baz=152,slow=0.7,SNR=12								
H11N2	**WAKE ISLAND Hy**	**40.05**	**330**	T		T		00 50 16.0	
	baz=152,slow=0.7,SNR=7.8								
STKA	**Stephens Creek**	**44.22**	**240**	*e*P		**P**		**00 08 19.4**	**-1.3**
	14nm,2.0s								
STKA	**Stephens Creek**	**44.22**	**240**	P		**P**		**00 08 17.6**	**-3.0**
	5.5nm,0.8s,baz=100,slow=9.5,SNR=7.1								
BBOO	**Buckleboo**	**48.99**	**240**	*e*P		**P**		**00 08 56.3**	**-1.8**
	1µm,1.6s								
WRAB	**Tennant Creek**	**50.04**	**257**	*e*P		**P**		**00 09 03.7**	**-2.5**
	32nm,2.0s								
WRA	**Warramunga Arr**	**50.05**	**257**	P		**P**		**00 09 03.4**	**-2.9**
WRA	**Warramunga Arr**	**50.05**	**257**	P		**P**		**00 09 03.4**	**-2.9**
	4.3nm,0.8s,baz=91,slow=7.5,SNR=18								
AS31	**Alice Springs**	**50.31**	**252**	*e*P		P		00 09 04.8	-3.5
ASAR	**Alice Springs**	**50.31**	**252**	P		**P**		**00 09 05.8**	**-2.5**
ASAR	**Alice Springs**	**50.31**	**252**	P		**P**		**00 09 05.8**	**-2.5**
	12nm,0.6s,baz=87,slow=8.2,SNR=126								
FITZ	**Fitzroy Crossi**	**58.42**	**258**	P		**P**		**00 10 07.1**	**-0.2**
	2.1nm,0.9s,baz=106,slow=7.4,SNR=3.6								
SBA	**Scott Base**	**63.26**	**185**	*e*P		P		00 10 43.2	+4.0
VNDA	**Vanda**	**63.38**	**186**	*e*P		**P**		**00 10 42.3**	**+2.2**
	0.7nm,0.6s								
VNDA	**Vanda**	**63.38**	**186**	P		**P**		**00 10 42.3**	**+2.2**
	0.8nm,0.7s,baz=8.3,slow=4.7,SNR=7.3								
MJAR	**Matsushiro Arr**	**69.09**	**320**	LR		LR		00 33 51.3	
	comp=Z,19nm,21.6s,baz=115,slow=29								
PETK	**Petropavlovsk-**	**72.71**	**342**	P		**P**		**00 11 37.5**	**-1.4**
PETK	**Petropavlovsk-**	**72.71**	**342**	P		**P**		**00 11 37.5**	**-1.4**
	3.2nm,0.7s,baz=150,slow=9.9,SNR=3.9								
QSPA	**South Pole Qui**	**74.63**	**180**	*e*P		**P**		**00 11 52.2**	**+1.9**
	59nm,2.5s								
KSRS	**Korea Array**	**76.32**	**315**	LR		LR		00 45 13.6	
	comp=Z,72nm,19.0s,baz=168,slow=36								
DIV	**Divide**	**79.36**	**13**	*e*P		**P**		**00 12 16.6**	**-0.1**
	12nm,0.8s								
BMRM	**Bremner River**	**79.48**	**14**	*e*P		**P**		**00 12 16.9**	**-0.4**
	14nm,1.0s								
HLID	**Hailey**	**79.50**	**39**	*e*P		**P**		**00 12 17.6**	**-0.4**
	5.2nm,0.9s								
NJ2	**Nanjing**	**80.34**	**307**	*e*P		**P**		**00 12 24.6**	**+2.0**
NJ2					AMB	AMB			
	comp=Z,10.0nm,0.7s								
TXAR	**Lajitas Array**	**80.44**	**56**	P		**P**		**00 12 23.1**	**-0.2**
TXAR	**Lajitas Array**	**80.44**	**56**	P		**P**		**00 12 23.1**	**-0.2**
	1.0nm,0.9s,baz=210,slow=7.2,SNR=9.4								
TRF	**Thorofare Moun**	**80.60**	**10**	*e*P		**P**		**00 12 22.2**	**-1.3**
	7.9nm,1.0s								
ANMO	**Albuquerque**	**80.64**	**50**	P		**P**		**00 12 24.1**	**-0.4**
ANMO	**Albuquerque**	**80.64**	**50**	P		**P**		**00 12 24.1**	**-0.4**
	0.8nm,0.4s,baz=229,slow=4.7,SNR=4.5								
CN2	**Changchun**	**81.23**	**320**	*e*P		P		00 12 29.8	+2.7
RRI2	**Red Ridge**	**81.30**	**41**	*e*P		**P**		**00 12 28.5**	**+0.7**
MSO	**Missoula**	**81.56**	**37**	*e*P		**P**		**00 12 29.1**	**+0.2**
	43nm,2.2s								
REDW	**Red Top Meadow**	**81.60**	**41**	*e*P		**P**		**00 12 28.7**	**-0.7**
TPAW	**Teton Pass**	**81.61**	**41**	*e*P		**P**		**00 12 30.1**	**+0.6**
	5.3nm,0.9s								
IMW	**Indian Meadow**	**81.82**	**40**	*e*P		**P**		**00 12 31.3**	**+0.7**
	3.3nm,0.6s								
LOHW	**Long Hollow**	**81.89**	**41**	*e*P		**P**		**00 12 31.3**	**+0.5**
	31nm,2.3s								
QLMT	**Earthquake Lak**	**81.99**	**39**	*e*P		**P**		**00 12 32.6**	**+1.2**
BW06	**Boulder Array**	**82.13**	**42**	*e*P		**P**		**00 12 29.9**	**-2.3**
PDAR	**Pinedale Array**	**82.13**	**42**	P		**P**		**00 12 32.0**	**-0.1**
PDAR	**Pinedale Array**	**82.13**	**42**	P		**P**		**00 12 32.0**	**-0.1**
	1.7nm,0.8s,baz=227,slow=3.5,SNR=11								
SMCO	**Snowmass**	**82.17**	**46**	*e*P		**P**		**00 12 33.5**	**+0.9**
COLA	**College**	**82.33**	**11**	*e*P		**P**		**00 12 30.8**	**-1.6**
	29nm,0.8s								
ILAR	**Eielson Array**	**82.42**	**11**	P		**P**		**00 12 31.1**	**-1.8**
ILAR	**Eielson Array**	**82.42**	**11**	P		**P**		**00 12 31.1**	**-1.8**
	1.1nm,0.7s,baz=218,slow=5.2,SNR=12								
IMA2	**Indian Mountai**	**82.55**	**8**	*e*P		**P**		**00 12 32.5**	**-1.1**
SDCO	**Great Sand Dun**	**82.56**	**48**	*e*P		**P**		**00 12 35.0**	**+0.4**
	2.6nm,0.6s								
GCMT	**Greycliff**	**83.55**	**39**	*e*P		**P**		**00 12 39.3**	**-0.1**
	1.3nm,0.7s								
BJI	**Beijing**	**85.64**	**313**	P		**P**		**00 12 49.3**	**-0.5**
BJI					AMB	AMB			
	comp=Z,13nm,0.6s								
MAW	**Mawson**	**87.85**	**199**	*e*P		**P**		**00 13 00.4**	**+0.3**
MAW	**Mawson**	**87.85**	**199**	P		**P**		**00 13 00.6**	**+0.4**
	4.6nm,1.1s,baz=144,slow=6.0,SNR=7.8								
GYA	**Guiyang**	**88.24**	**298**	*e*P		P		00 13 06.0	+3.0
GYA					PP	**PP**		**00 16 34.3**	**+3.6**
GYA					SKS	**SKSac**		**00 23 31.8**	**+1.6**
GYA					S	**S**		**00 23 48.4**	**+2.1**
GYA					SS	**SS**		**00 29 40.0**	**+3.9**
GYA					AMB	AMB			
	comp=Z,10.0nm,1.0s								
GYA					AMB	AMB			
	comp=Z,90nm,5.9s								
GYA					LR	LR			
	comp=N,470nm,21.8s								
GYA					LR	LR			
	comp=E,350nm,22.0s								
GYA					LR	LR			
	comp=Z,430nm,20.2s								
HHC	**Hu-ho-hao-te**	**89.19**	**313**	*e*P

KHC	**Kasperske Hory**	**145.92 352**	*i* PKP	**PKPbc**	**00 19 50.5**	**-0.1**
KHC			*ep*PKP	**pPKPdf**	**00 19 57.7**	**-1.9**
KHC	**Kasperske Hory**	**145.92 352**	*e*PKP	**PKPab**	**00 19 50.7**	**-0.4**
MLR	**Muntele Rosu**	**145.97 336**⇑	*i*P	**PKPbc**	**00 19 50.6**	**-0.4**
ISR	**Istrita**	**146.03 335**⇑	*i*P	**PKPbc**	**00 19 51.0**	**-0.1**
GERES	**GERESS Array B**	**146.19 352**	PKPbc	**PKPdf**	**00 19 50.4**	**-0.1**
GERES	**GERESS Array B**	**146.19 352**	PKPbc	**PKPdf**	**00 19 50.4**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=114,slow=1.6,SNR=13					
BR131	**Keskin Array S**	**146.30 321**	*e*PKPdf	**PKPbc**	**00 19 51.6**	**-0.7**
BRTR	**Keskin Array B**	**146.30 321**	PKPbc	**PKPbc**	**00 19 51.9**	**-0.4**
BRTR	**Keskin Array B**	**146.30 321**	PKPbc	**PKPbc**	**00 19 51.9**	**-0.4**
	comp=Z,6.0nm,0.9s,baz=96,slow=1.8,SNR=16					
VOIR		**146.36 337**⇑	*i*P	**PKPdf**	**00 19 49.9**	**-1.0**
ARR	**Arges**	**146.58 337**⇓	*i*P	**PKPab**	**00 19 52.9**	**-0.9**
MOA	**Molln**	**147.07 351**⇑	*i*PKPbc	**PKPbc**	**00 19 53.7**	**-0.3**
	comp=Z,12nm,1.2s					
BZS	**Buzias**	**147.42 341**⇓	*i*P	**PKPbc**	**00 19 54.4**	**-0.6**
ARSA	**Arzberg**	**147.44 349**⇑	*i*PKPbc	**PKPbc**	**00 19 54.2**	**-0.8**
	comp=Z,11nm,1.3s					
ABTA	**Abfaltersbach**	**148.40 353**	*i* PKPbc	**PKPbc**	**00 19 57.0**	**-0.8**
	SNR=5.1					
VTS	**Vitosha**	**149.47 336**⇓	*i*P	**PKPbc**	**00 20 01.1**	**+0.4**
TORD	**Torodi Ar. Bea**	**174.54 114**	PKP	**PKPdf**	**00 20 20.0**	**-1.8**
TORD	**Torodi Ar. Bea**	**174.54 114**	PKP	**PKPdf**	**00 20 20.0**	**-1.8**
	comp=Z,0.7nm,1.0s,baz=209,slow=2.5,SNR=3.2					

IDC 14 00:07:57.1±3.8,**28°.63S**×**177°.72W**,**h0**km,**mb3.5**/2,
mb1 3.8/2,**mb1mx3.5**/16,**mbtmp3.5**/2,**Error ellipse:**
s-maj=76.0km s-min=20.6km az=83.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.64 196**		Pn	Pn	00 08 13.9	+0.4
	215nm,0.3s,baz=87,slow=19,SNR=20						
RAO				Sn	Sn	00 08 24.2	-0.2
	579nm,0.3s,baz=55,slow=19,SNR=22						
ASAR	**Alice Springs**	**43.48 265**		P	P	00 16 01.9	-0.5
	0.3nm,0.4s,baz=98,slow=7.8,SNR=4.8						
WRA	**Warramunga Arr**	**44.31 270**		P	P	00 16 09.2	+0.1
	0.5nm,0.3s,baz=112,slow=6.6,SNR=2.2						
FINES	**FINESS Array B**	**143.57 341**		PKP	PKPbc	00 27 31.7	+1.2
	6.2nm,1.1s,baz=62,slow=2.5,SNR=9.3						

ISCJB ***14*** *00:26:18.7*±*1.1, 19°.24N*±*0°.09*×*63°.53W*±*0°.04, h41*km*, Error ellipse: s-maj=13.5km s-min=4.4km az=15.8*
RSPR ***14*** *00:26:21.5, 19°.22N*×*63°.58W, h34*km±*31*km*, MD3.8/9*
NEIC ***14*** *00:26:21.5, 19°.22N*×*63°.58W, h34*km*, MD3.8(RSPR), After RSPR.*

ISC 14 00:26:22.1±2.6,**19°.1N**±**0°.2**×**63°.60W**±**0°.08**,**h41**km,**n37**,
σ**0°.90**/**44**,**15C-10D**,**Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBVI	**Tortola**	**1.17 236**	⇓	*e*P	**Pn**	**00 26 39.9**	**-2.0**
TBVI	**Tortola**	**1.17 236**	⇓	*e*P	**Pn**	**00 26 39.9**	**-2.0**
STVI	**Saint Thomas**	**1.47 241**	⇑	*e*P	**Pn**	**00 26 44.9**	**-1.2**
STVI	**Saint Thomas**	**1.47 241**	⇑	*e*P	**Pn**	**00 26 45.2**	**-0.8**
STVI				*e*S	**Sn**	**00 27 04.8**	**+0.6**
STVI	**Saint Thomas**	**1.47 241**	⇑	*e*P	**Pn**	**00 26 45.2**	**-0.8**
STVI				*e*S	**Sn**	**00 27 04.8**	**+0.6**
SABA	**Saba**	**1.49 167**	⇓	*e*P	**Pn**	**00 26 46.2**	**-0.2**
SABA	**Saba**	**1.49 167**	⇓	*e*P	**Pn**	**00 26 46.2**	**-0.2**
SABA				*e*S	**Sn**	**00 27 06.3**	**+1.7**
CDVI	**St. Croix**	**1.72 220**	⇓	*e*P	**Pn**	**00 26 49.2**	**-0.3**
CDVI	**St. Croix**	**1.72 220**	⇓	*e*P	**Pn**	**00 26 49.2**	**-0.3**
MTP	**Monte Pirata**	**2.09 242**	⇓	*e*P	**Pn**	**00 26 53.6**	**-1.1**
MTP	**Monte Pirata**	**2.09 242**	⇓	*e*P	**Pn**	**00 26 53.6**	**-1.1**
MTP				*e*S	**Sn**	**00 27 19.8**	**+0.3**
CBYP	**Canovanas**	**2.28 250**	⇑	*e*P	**Pn**	**00 26 57.0**	**-0.3**
CBYP	**Canovanas**	**2.28 250**	⇑	*e*P	**Pn**	**00 26 57.0**	**-0.3**
HUMP	**Col San Antoni**	**2.33 247**	⇓	*e*P	**Pn**	**00 26 57.8**	**0.0**
HUMP	**Col San Antoni**	**2.33 247**	⇓	*e*P	**Pn**	**00 26 57.8**	**0.0**
CPD	**Cerro la Pandu**	**2.43 245**	⇑	*e*P	**Pn**	**00 26 58.9**	**-0.4**
CPD	**Cerro la Pandu**	**2.43 245**	⇑	*e*P	**Pn**	**00 26 58.9**	**-0.4**
CELP	**Cerrillos**	**3.00 251**	⇑	*e*P	**Pn**	**00 27 06.9**	**-0.1**
CELP	**Cerrillos**	**3.00 251**	⇑	*e*P	**Pn**	**00 27 06.9**	**-0.1**
OBIP	**Obispado Ponce**	**3.03 251**		*e*Pn	**Pn**	**00 27 07.5**	**0.0**
OBIP				*e*Sn	**Sn**	**00 27 43.1**	**+0.5**
AOPR	**Arecibo Observ**	**3.07 257**	⇑	*e*P	**Pn**	**00 27 08.7**	**+0.5**
AOPR	**Arecibo Observ**	**3.07 257**	⇑	*e*P	**Pn**	**00 27 08.7**	**+0.5**
LRS	**Lares**	**3.17 256**		*e*Pn	**Pn**	**00 27 09.9**	**+0.3**
LRS				*e*Sn	**Sn**	**00 27 47.6**	**+1.5**
SEG	**Port Louis**	**3.33 143**		*e*P	**Pn**	**00 27 09.8**	**-1.8**
LZG	**Guadaloupe-1**	**3.40 149**		*e*P	**Pn**	**00 27 11.8**	**-0.9**
LSP	**Las Mesas**	**3.42 255**	⇑	*e*P	**Pn**	**00 27 13.7**	**+0.8**
LSP	**Las Mesas**	**3.42 255**	⇑	*e*P	**Pn**	**00 27 13.7**	**+0.8**
CRPR	**Cabo Rojo, PR**	**3.49 253**	⇑	*e*P	**Pn**	**00 27 13.9**	**0.0**
CRPR	**Cabo Rojo, PR**	**3.49 253**	⇑	*e*P	**Pn**	**00 27 13.9**	**0.0**
SSG	**Sans Toucher**	**3.50 148**		*e*P	**Pn**	**00 27 12.9**	**-1.1**
MLG	**Mont-d'or**	**3.50 149**		*e*P	**Pn**	**00 27 12.8**	**-1.3**
FNG	**Fond-Bernard**	**3.52 148**		*e*P	**Pn**	**00 27 14.0**	**-0.3**
BCG	**Bois Riant Cap**	**3.53 147**		*e*P	**Pn**	**00 27 13.1**	**-1.3**
CRG	**Carmichael**	**3.53 148**		*e*P	**Pn**	**00 27 14.5**	**-0.1**
ECG	**Echelle**	**3.55 148**		*e*P	**Pn**	**00 27 14.1**	**-0.7**
PHG	**Guadaloupe-2**	**3.58 148**		*e*P	**Pn**	**00 27 14.6**	**-0.6**
SDDR	**Presa de Saban**	**7.27 270**		*e*Pn	**Pn**	**00 28 05.3**	**-0.5**
	16nm,0.5s						
SDDR				*e*Sn	**Sn**	**00 29 26.1**	**-1.1**

IDC 14 00:44:58.0±2.2,**10°.34S**×**165°.93E**,**h0**km,**mb3.9**/4,
mb1 4.1/5,**mb1mx3.8**/21,**mbtmp4.0**/5,**ML3.9**/1,**Error ellipse: s-maj=59.4km s-min=27.9km az=115.0,Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**11.68 178**		Pn	Pn	00 47 46.2	-0.1
	0.8nm,0.3s,baz=296,slow=15,SNR=7.5						
CTA	**Charters Tower**	**21.30 241**		P	P	00 49 45.6	-1.0
	2.7nm,0.6s,baz=66,slow=10.0,SNR=3.5						
WRA	**Warramunga Arr**	**31.90 249**		P	P	00 51 25.9	+0.4
	0.4nm,0.5s,baz=81,slow=9.4,SNR=3.3						
ASAR	**Alice Springs**	**33.28 242**		P	P	00 51 37.8	+0.2
	1.4nm,0.8s,baz=66,slow=10,SNR=12						
PETK	**Petropavlovsk-**	**63.58 354**		P	P	00 55 30.3	-0.1
	4.2nm,0.5s,baz=145,slow=3.6,SNR=6.2						

IDC ***14*** *00:55:06.2*±*0.5, 12°.70S*×*166°.43E, h0*km*, mb4.9/21, mb1 5.0/24, mb1mx5.0/27, mbtmp5.0/24, ML3.9/2, MS4.7/27, Ms1 4.7/27, ms1mx4.6/34, Error ellipse: s-maj=13.3km s-min=12.8km az=131.0*
BJI ***14*** *00:55:10.5, 12°.09S*×*166°.08E, h11*km*, mB5.5/38, mb5.3/46, Ms5.0/40, Ms7 4.6/43*
ISCJB ***14*** *00:55:10.2*±*0.2, 12°.70S*±*0°.03*×*166°.25E*±*0°.04, h33*km*, mb5.2/84, MS4.8/47, Error ellipse: s-maj=5.8km s-min=4.3km az=2.2*
MOS ***14*** *00:55:10.6*±*1.2, 12°.71S*×*166°.20E, h33*km*, mb5.6/28, MS4.9/6, Error ellipse: s-maj=9.7km s-min=8.0km az=40.2*
NEIC ***14*** *00:55:10.5*±*0.6, 12°.65S*×*166°.27E, h25*km*±4*km*, mb5.4/36, Error ellipse: s-maj=5.3km s-min=4.6km az=108.0*
AUST ***14*** *00:55:11.3*±*2.7, 12°.63S*×*166°.49E, h41*km*±22*km*, Error ellipse: s-maj=14.9km s-min=7.6km az=83.0*
GCMT ***14*** *00:55:13.5*±*0.1, 12°.79S*×*166°.10E, h16*km*, MW5.4 Best double couple: NP1:*φ*s120.00000°, δ68.00000°, λ69.00000°. NP2:*φ*s345.00000°, δ30.00000°, λ131.00000°. Principal axes: T 1.5100, Plg61.0000°, Azm358.0000°; N 0.1400, Plg19.0000°, Azm128.0000°; P -1.6500, Plg20.0000°, Azm225.0000°; Data Used: II IU IC G CN.*
DJA ***14*** *00:55:15.1*±*1.5, 13°.S*×*16°.6E*±*°, h51*km*±19*km*, M5.2/18, mB5.7/7, mb5.2/18, Mw(mB)5.2/7*

ISC 14 00:55:10.9±0.4,**12°.72S**±**0°.04**×**166°.35E**±**0°.05**,**h25**km±1km,
h25km:**pP-P**,**n353**,σ**1°.62**/376,**mb5.3**/84,**MS4.7**/48,
21C-20D,**Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.08 297**		Pn	**Pn**	**00 56 52.2**	**-0.7**
HNR				Sn	**Sn**	**00 58 10.4**	**-2.3**
HNR	**Honiara**	**7.08 297**		Pn	**Pn**	**00 56 52.2**	**-0.7**
	119nm,0.3s,baz=173,slow=4.6,SNR=57						
HNR				Sn	**Sn**	**00 58 10.4**	**-2.3**
	111nm,0.3s,baz=201,slow=22,SNR=6.0						
DZM	**Mont Dzumac**	**9.30 179**		*e*Pn	**Pn**	**00 57 24.1**	**+0.5**
	382nm,1.2s						
DZM				*e*LR	LR	00 59 32.0	
	9μm,26.6s						
DZM	**Mont Dzumac**	**9.30 179**		*e*Pn	**Pn**	**00 57 24.0**	**+0.5**
DZM				*e*Sn	**Sn**	**00 59 08.5**	**+1.0**
DZM	**Mont Dzumac**	**9.30 179**		Pn	**Pn**	**00 57 23.7**	**+0.2**
	1.5nm,0.3s,baz=8.3,slow=19,SNR=14						
DZM				Sn	Sn	00 59 21.0	+13
	3.1nm,0.3s,baz=336,slow=20,SNR=2.2						
MSVF	**Nonsavu**	**12.34 115**		*e*P	**Pn**	**00 58 06.9**	**+1.7**
MSVF	**Nonsavu**	**12.34 115**		*e*Pn	**Pn**	**00 58 06.9**	**+1.7**
MSVF	**Nonsavu**	**12.34 115**		Pn	P	00 58 13.3	-3.8
	566nm,1.4s,SNR=5.8						
TARA	**Tarawa**	**15.43 25**		*e*P	**Pn**	**00 58 46.5**	**-0.5**
	171nm,0.8s						
PMG	**Port Moresby**	**19.12 278**		P	**P**	**00 59 32.2**	**0.0**
	112nm,1.2s,2μm						
PMG	**Port Moresby**	**19.12 278**		*e*P	**P**	**00 59 31.1**	**-1.1**
	189nm,1.3s						
PMG				S	**S**	**01 03 11.0**	**+3.4**
PMG	**Port Moresby**	**19.12 278**		P	**P**	**00 59 32.1**	**-0.1**
	0.8nm,0.3s,baz=132,slow=4.7,SNR=22						
PMG				S	**S**	**01 03 11.0**	**+3.4**
	0.7nm,0.3s,baz=270,slow=14,SNR=1.9						
EIDS	**Eidsvold**	**19.12 227**		*e*P	**P**	**00 59 31.6**	**-0.6**
	1μm,2.6s						
EIDS	**Eidsvold**	**19.12 227**	⇑	P	**Pn**	**00 59 33.7**	**+0.5**
	baz=19,SNR=11						
CTA	**Charters Tower**	**20.61 247**		P	**P**	**00 59 48.1**	**-0.4**
CTA	**Charters Tower**	**20.61 247**	⇓	P	**P**	**00 59 48.5**	**+0.1**
	baz=21						
CTA	**Charters Tower**	**20.61 247**		P	**P**	**00 59 48.1**	**-0.4**
	75nm,1.1s,baz=73,slow=13,SNR=34						
CTA				LR	LR	01 06 44.6	
	comp=Z,4μm,20.7s,baz=69,slow=34						
CTAO	**Charters Tower**	**20.61 247**		*e*P	**P**	**00 59 48.2**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,120nm,1.1s						
CTAO	**Charters Tower**	**20.61 247**		*e*P	**P**	**00 59 48.2**	**-0.3**
	comp=Z,120nm,1.1s						
PATS	**Pohai**	**21.00 337**	⇑	P	**P**	**00 59 50.6**	**-2.0**
	baz=21,SNR=7.6						
AFI	**Afiamalu**	**21.32 96**		LR	LR	01 06 54.8	
	comp=Z,2μm,18.4s,baz=119,slow=33						
RMQ	**Roma**	**21.46 228**	⇑	P	**P**	**00 59 58.4**	**+0.8**
	baz=22,SNR=67						
MTSU	**Mount Surprise**	**21.90 253**	⇓	P	**P**	**01 00 02.5**	**0.0**
	baz=22,SNR=33						
RAO	**Raoul Island**	**22.01 141**		LR	LR	01 06 52.5	
	comp=Z,867nm,19.6s,baz=324,slow=32						
ARMA	**Armidale**	**22.27 215**		*e*P	**P**	**01 00 06.2**	**-0.1**
	comp=Z,79nm,1.0s						
ARMA	**Armidale**	**22.27 215**	⇑	P	**P**	**01 00 06.2**	**-0.1**
	baz=22,SNR=29						
COEN	**Coen**	**22.58 264**		*e*P	**P**	**01 00 09.6**	**-0.2**
	comp=Z,766nm,1.2s						
COEN	**Coen**	**22.58 264**	⇑	P	**P**	**01 00 09.3**	**-0.5**
	baz=23,SNR=4.9						
KNTN	**Kanton**	**23.84 67**		*e*P	**P**	**01 00 24.5**	**+2.1**
	comp=Z,138nm,1.4s						
MGCD	**Mangrove Creek**	**24.70 212**	⇓	P	**P**	**01 00 30.2**	**+0.1**
	baz=25,SNR=8.0						
QLP	**Quilpie**	**24.92 233**	⇓	P	**P**	**01 00 32.0**	**-0.2**
	baz=25,SNR=20						
RIV	**Riverview**	**25.17 211**	⇓	P	**P**	**01 00 35.0**	**+0.8**
	baz=25						
CMSA	**Cobar Meteorol**	**26.69 222**	⇑	P	**P**	**01 00 48.8**	**+0.7**
	baz=27,SNR=34						
URZ	**Urewera**	**27.19 161**		*e*P	**P**	**01 00 53.8**	**+1.3**
	comp=Z,20nm,1.0s						
URZ	**Urewera**	**27.19 161**		LR	LR	01 09 57.6	
	comp=Z,1μm,19.4s,baz=341,slow=33						
CNB	**Canberra Magne**	**27.25 211**	⇑	P	**P**	**01 00 53.2**	**0.0**
	baz=28,SNR=6.0						
BKZ	**Black Stump Fm**	**27.84 163**		*e*P	**P**	**01 00 57.8**	**-0.6**
	comp=Z,52nm,1.5s						
BFZ	**Birch Farm**	**29.18 164**		*e*P	**P**	**01 01 07.3**	**-3.0**
	comp=Z,181nm,2.0s						
STKA	**Stephens Creek**	**29.68 226**		*e*P	**P**	**01 01 14.5**	**-0.2**
STKA	**Stephens Creek**	**29.68 226**		P	**P**	**01 01 14.6**	**-0.2**
	baz=30,SNR=40						
STKA	**Stephens Creek**	**29.68 226**		P	**P**	**01 01 14.1**	**-0.7**
	comp=Z,38nm,0.8s,baz=35,slow=6.9,SNR=31						
STKA				LR	LR	01 13 13.3	
	comp=Z,4μm,18.3s,baz=45,slow=36						
KHZ	**Kahutara**	**30.25 169**		*e*P	**P**	**01 01 19.3**	**-0.3**
	comp=Z,422nm,2.4s						
TOO	**Toolangi**	**30.98 213**		P	**P**	**01 01 26.5**	**+0.2**
	baz=31,SNR=5.9						
RPZ	**Rata Peaks**	**31.16 173**		*e*P	**P**	**01 01 28.7**	**+1.0**
RPZ	**Rata Peaks**	**31.16 173**		P	**P**	**01 01 27.4**	**-0.4**
	comp=Z,27nm,0.6s,baz=75,slow=15,SNR=15						
WRAB	**Tennant Creek**	**31.50 253**		*e*P	**P**	**01 01 28.9**	**-2.1**
WRAB				pmax	pmax		
	comp=Z,240nm,2.8s						
WRAB	**Tennant Creek**	**31.50 253**		P	**P**	**01 01 29.0**	**-2.1**
	comp=Z,85nm,1.2s,SNR=7.6						
WRAB	**Tennant Creek**	**31.50 253**		*e*P	**P**	**01 01 28.9**	**-2.1**
	comp=Z,240nm,2.8s						
WRA	**Warramunga Arr**	**31.51 253**		P	**P**	**01 01 29.1**	**-2.0**
WRA				PcP	**PcP**	**01 04 25.6**	**+1.7**
WRA				ScP	**ScP**	**01 08 10.2**	**+4.5**
WRA	**Warramunga Arr**	**31.51 253**		P	**P**	**01 01 29.1**	**-2.0**
	comp=Z,17nm,1.0s,baz=83,slow=8.8,SNR=26						
WRA				PcP	**PcP**	**01 04 25.6**	**+1.7**
	comp=Z,4.0nm,1.1s,baz=72,slow=2.2,SNR=5.0						
WRA				ScP	**ScP**	**01 08 10.2**	**+4.5**
	comp=Z,0.4nm,0.3s,baz=81,slow=4.0,SNR=3.1						
WRA				LR	LR	01 13 13.4	
	comp=Z,2μm,19.8s,baz=80,slow=34						
HTT	**Hallett**	**32.41 226**	⇓	P	**P**	**01 01 38.8**	**-0.2**
	baz=33						
ODZ	**Otahua Downs**	**32.43 174**		*e*P	**P**	**01 01 41.6**	**+2.7**
AS17	**Alice Springs**	**32.53 246**	⇑	P	**P**	**01 01 38.8**	**-1.4**
	baz=33						
AS31	**Alice Springs**	**32.61 246**		*e*P	**P**	**01 01 38.5**	**-2.4**
ASAR	**Alice Springs**	**32.61 246**		P	**P**	**01 01 39.0**	**-1.8**
ASAR				ScP	**ScP**	**01 08 12.7**	**+3.3**
ASAR	**Alice Springs**	**32.61 246**		P	**P**	**01 01 39.0**	**-1.8**
	comp=Z,18nm,0.8s,baz=76,slow=9.4,SNR=126						
ASAR				ScP	**ScP**	**01 08 12.7**	**+3.3**
	comp=Z,0.8nm,0.9s,baz=92,slow=3.2,SNR=3.2						
ASAR				LR	LR	01 14 22.8	
	comp=Z,2μm,19.8s,baz=75,slow=35						
KDU	**Kakadu**	**33.03 266**		P	**P**	**01 01 43.1**	**-1.4**
	baz=33,SNR=5.6						
RAR	**Rarotonga**	**33.43 109**		LR	LR	01 11 22.2	
	comp=Z,702nm,19.2s,baz=135,slow=29						
MOO	**Moorlands**	**33.97 206**	⇑	P	**P**	**01 01 53.1**	**+0.7**
	baz=34						
BBOO	**Buckleboo**	**34.16 229**		*e*P	**P**	**01 01 54.0**	**-0.1**
	comp=Z,716nm,0.8s						
BBOO	**Buckleboo**	**34.16 229**		P	**P**	**01 01 53.6**	**-0.6**
	baz=34,SNR=17						
TAU	**Tasmania Unive**	**34.30 205**		*e*P	**P**	**01 01 55.8**	**+0.6**
TAU				pmax	pmax		
	comp=Z,434nm,2.5s						
TAU	**Tasmania Unive**	**34.30 205**		*e*P	**P**	**01 01 55.8**	**+0.6**
	comp=Z,434nm,2.5s						
KNRA	**Kununurra**	**36.53 261**		P	**P**	**01 02 14.1**	**-0.6**
	baz=37,SNR=22						
FITZ	**Fitzroy Crossi**	**39.55 257**		*e*P	**P**	**01 02 39.5**	**-0.8**
FITZ	**Fitzroy Crossi**	**39.55 257**		P	**P**	**01 02 39.5**	**-0.8**
	baz=40,SNR=19						
FITZ	**Fitzroy Crossi**	**39.55 257**		P	**P**	**01 02 39.4**	**-0.8**
	comp=Z,71nm,1.2s,baz=94,slow=8.7,SNR=32						
NLAI	**Namlea**	**39.94 280**		P	**P**	**01 02 45.3**	**+1.8**
	comp=Z,89nm,1.3s,comp=Z,1μm						
LBMI	**Labuha**	**40.33 284**		P	**P**	**01 02 48.2**	**+1.4**
	comp=Z,107nm,1.0s,comp=Z,3μm						
BATI	**Baumata**	**41.88 269**		P	**P**	**01 02 59.7**	**+0.2**
	comp=Z,27nm,1.0s						
BATI	**Baumata**	**41.88 269**		P	**P**	**01 02 58.9**	**-0.7**
BATI	**Baumata**	**41.88 269**		P	**P**	**01 02 58.9**	**-0.7**
	comp=Z,22nm,0.8s,baz=55,slow=9.5,SNR=4.2						
PPT	**Papeete**	**42.75 102**		LR	LR	01 19 03.1	
	comp=Z,773nm,18.1s,baz=268,slow=34						
PPT2	**Papeete2**	**42.75 102**		*e*S	S	01 09 42.6	+13
	comp=Z,461nm,27.0s						
PPT2				*e*LQ	LQ	01 13 24.2	
	comp=Z,6μm,27.2s						
PPT2				*e*LR	LR	01 15 13.9	
	comp=Z,2μm,27.2s,baz=279						
TBI	**Tubuai**	**43.18 111**		*e*S	S	01 09 46.7	+11
	comp=Z,213nm,43.0s						
TBI				*e*LQ	LQ	01 13 34.4	
	comp=Z,2μm,32.5s						
TBI				*e*LR	LR	01 15 28.7	
	comp=Z,828nm,24.8s,baz=294						
SGSI	**Sangihe**	**43.70 289**		P	**P**	**01 03 14.5**	**+0.2**
	comp=Z,147nm,1.2s						
BBSI	**Bau Bau**	**43.77 275**		P	**P**	**01 03 14.8**	**-0.1**
KMSI	**Cibinong**	**44.05 284**		P	P	01 03 22.9	+5.8
MBWA	**Marble Bar**	**45.25 253**		*e*P	**P**	**01 03 26.6**	**0.0**
	comp=Z,320nm,1.2s						
KAPI	**Kappang**	**46.61 275**		*e*P	**P**	**01 03 36.3**	**-1.1**
	comp=Z,39nm,1.2s						
MEEK	**Meekatharra**	**46.77 245**	⇓	P	**P**	**01 03 38.4**	**-0.2**
	baz=47,SNR=11						
KLBR	**Kellerberrin**	**48.34 239**	⇓	P	**P**	**01 03 49.8**	**-0.8**
	baz=48,SNR=13						
BLDU	**Ballidu**	**49.03 240**	⇓	P	**P**	**01 03 55.4**	**-0.6**
	baz=49						
NWAO	**Narrogin (SRO)**	**49.05 237**		*e*P	**P**	**01 03 55.5**	**-0.5**
MORW	**Morawa**	**49.36 243**	⇑	P	**P**	**01 03 58.4**	**-0.2**
	baz=50,SNR=9.2						
MJAR	**Matsushiro Arr**	**55.72 333**		P	**P**	**01 04 44.2**	**-1.2**
MJAR	**Matsushiro Arr**	**55.72 333**		P	**P**	**01 04 44.2**	**-1.2**
	comp=Z,13nm,0.9s,baz=170,slow=8.7,SNR=32						
MJAR				LR	LR	01 28 31.1	
	comp=Z,302nm,18.0s,baz=155,slow=36						
MAJO	**Matsushiro**	**55.72 333**		*e*P	**P**	**01 04 44.7**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,67nm,1.3s						
MAJO	**Matsushiro**	**55.72 333**		*e*P	**P**	**01 04 44.7**	**-0.7**
	comp=Z,67nm,1.3s						
MAT	**Matsushiro**	**55.72 333**		P	**P**	**01 04 44.3**	**-1.1**
MAT				S	**S**	**01 12 27.4**	**-3.2**
RKT	**Rikitea**	**56.47 109**		*e*S	S	01 12 51.2	+10
	comp=Z,275nm,29.8s						
RKT				*e*LQ	LQ	01 19 04.2	
	comp=Z,869nm,28.8s						
RKT				*e*LR	LR	01 21 19.4	
	comp=Z,534nm,25.2s						
DRV	**Dumont d'Urvil**	**56.70 192**		S	S	01 12 28.0	-15
DRV				SS	**SS**	**01 16 28.0**	**-2.7**
DRV				L	L	01 18 00.0	
DRV				R		01 21 00.0	
JNU	**Nakatsue**	**56.77 324**		*e*P	**P**	**01 04 53.0**	**-0.1**
JNU	**Nakatsue**	**56.77 324**		P	**P**	**01 04 51.8**	**-1.3**
	comp=Z,25nm,0.8s,baz=88,slow=3.3,SNR=11						
TPUB	**Ta-pu**	**57.29 309**		*e*P	**P**	**01 04 55.6**	**-1.3**
	comp=Z,130nm,1.2s						
SSLB	**Suanglung**	**57.32 309**		*e*P	**P**	**01 04 55.2**	**-1.9**
YHNB	**Yeheng**	**57.50 310**		*e*P	**P**	**01 04 56.2**	**-2.3**
	comp=Z,140nm,1.3s						
YUK	**Yuzh-Kuril'sk**	**59.48 343**		*d* iP	P	01 05 05.1	-6.6
ASAJ	**Asahikawa**	**60.56 341**		*e*P	**P**	**01 05 17.9**	**-1.2**
	comp=Z,14nm,0.7s						
ASAJ	**Asahikawa**	**60.56 341**		P	**P**	**01 05 19.6**	**+0.5**
	comp=Z,33nm,0.6s,baz=198,slow=10,SNR=12						
ASAJ				LR	LR	01 29 19.3	
	comp=Z,810nm,19.5s,baz=165,slow=34						
SSE	**Sheshan**	**61.46 316**		P	**P**	**01 05 26.9**	**+1.4**
SSE				pP	**pP**	**01 05 36.3**	**+2.9**
SSE				PcP	**PcP**	**01 06 07.4**	**0.0**
SSE				S	**S**	**01 13 47.4**	**+1.9**
SSE				AMB	AMB		
	comp=Z,25nm,1.0s						
SSE				AMB	AMB		
	comp=Z,120nm,8.8s						
SSE				LR	LR		
	comp=Z,200nm,15.9s						
SSE				LR	LR		
	comp=Z,240nm,15.9s						
SSE				LR	LR		
	comp=Z,310nm,15.6s						
KSRS	**Korea Array**	**61.58 326**		P	**P**	**01 05 26.1**	**-0.1**
	comp=Z,5.2nm,0.8s,baz=137,slow=7.1,SNR=16						
KSAR	**Wonju Array Be**	**61.59 326**		P	**P**	**01 05 26.1**	**-0.2**
YSS	**Yuzh-Sakhalins**	**63.05 342**	⇑	*e*P	**P**

CN2 LR LR
comp=E,200nm,16.0s
CN2 LR LR
comp=E,400nm,18.0s
SKNT Sakolnakorn 68.31 294 P P 01 06 15.4 +5.0
comp=E,66nm,1.1s,comp=E,2µm
CHBT CHBT 68.34 289 P P 01 06 23.6 +13
KLR Kul'dur 68.81 336 *e*P P 01 06 09.5 -3.4
KLR *e* 01 15 10.0
KLR *e* 01 19 45.5
NONG Nongkai 69.45 295 P P 01 06 22.4 +4.9
comp=E,32nm,1.1s,comp=E,3µm
GYA Guiyang 69.84 304 ⇑P **P** **01 06 21.3 +1.3**
GYA pP **pP** **01 06 29.8 +1.8**
GYA PP **PP** **01 08 56.4 +1.6**
GYA ScP 01 10 43.3
GYA S **S** **01 15 27.0 -1.5**
GYA SKS **SKSac** **01 16 13.4 -6.4**
GYA SS **SS** **01 19 57.8 0.0**
GYA AMB AMB
comp=E,20nm,0.8s
GYA AMB AMB
comp=E,140nm,5.6s
GYA LR LR
comp=E,970nm,19.7s
GYA LR LR
comp=E,850nm,20.2s
GYA LR LR
comp=E,1µm,19.0s
BJT Baijiatuau 70.14 321 *e*P **P** **01 06 20.6 -0.7**
comp=E,55nm,1.1s
BJI Beijing 70.15 321 P **P** **01 06 21.3 0.0**
BJI PP **PP** **01 08 57.3 +0.3**
BJI S **S** **01 15 31.8 +0.6**
BJI AMB AMB
comp=E,13nm,1.4s
BJI AMB AMB
comp=E,330nm,5.0s
BJI LR LR
comp=E,280nm,22.2s
BJI LR LR
comp=E,280nm,19.0s
BJI LR LR
comp=E,260nm,24.1s
PHET Kaeng Krachan 70.88 289 P P 01 06 40.1 +14
LOEI Loei 70.92 294 P **P** **01 06 26.0 -0.6**
comp=E,52nm,1.0s,comp=E,2µm
XAN Xi'an 71.68 313 P **P** **01 06 30.6 -0.3**
XAN S **S** **01 15 50.9 +1.5**
XAN AMB AMB
comp=E,5.0nm,0.8s
XAN AMB AMB
comp=E,70nm,7.2s
XAN LR LR
comp=E,100nm,15.9s
XAN LR LR
comp=E,84nm,17.9s
XAN LR LR
comp=E,130nm,22.8s
MIR Mirnyy 71.79 204 *e*P **P** **01 06 31.0 +0.1**
MIR *e* 01 06 36.0
MIR pmax pmax
comp=Z,56nm,1.5s
KMI Kunming 72.49 302 P **P** **01 06 36.3 +0.1**
KMI pP **pP** **01 06 48.4 +4.2**
KMI PP **PP** **01 09 20.4 +2.7**
KMI S **S** **01 15 59.0 -0.4**
KMI AMB AMB
comp=Z,16nm,1.6s
KMI AMB AMB
comp=Z,300nm,4.8s
KMI LR LR
comp=Z,200nm,20.0s
KMI LR LR
comp=Z,370nm,19.2s
KMI LR LR
comp=Z,320nm,19.6s
CM31 Chiang Mai Arr 73.32 294 *e*P **P** **01 06 41.1 +0.2**
comp=Z,19nm,0.8s
CMAR Chiang Mai Arr 73.32 294 P **P** **01 06 40.2 -0.7**
CMAR Chiang Mai Arr 73.32 294 P **P** **01 06 40.2 -0.7**
comp=Z,13nm,0.5s,baz=126,slow=3.9,SNR=5.5
CHTO Chiang Mai 73.44 294 *e*P **P** **01 06 39.7 -2.0**
CHTO pmax pmax
comp=Z,172nm,1.2s
CHTO Chiang Mai 73.44 294 *e*P **P** **01 06 39.6 -2.0**
comp=Z,172nm,1.2s
CHTO Chiang Mai 73.44 294 P **P** **01 06 43.4 +1.8**
comp=Z,151nm,1.1s,comp=Z,2µm
HHC Hu-ho-hao-te 73.48 320 *e*P **P** **01 06 41.9 +0.3**
HHC pP **pP** **01 06 49.8 +0.2**
HHC sP **sP** **01 06 53.0 +0.4**
HHC PP **PP** **01 09 28.0 +2.3**
HHC S **S** **01 16 09.4 -0.4**
HHC sS **sS** **01 16 22.4 -0.7**
HHC SKS **SKSac** **01 16 42.1 -4.5**
HHC ScS **SKKSac** **01 16 45.9 -0.9**
HHC AMB AMB
comp=Z,34nm,1.1s
HHC AMB AMB
comp=Z,600nm,5.3s
HHC LR LR
comp=Z,1µm,16.9s
HHC LR LR
comp=Z,1µm,16.1s
HHC LR LR
comp=Z,860nm,16.3s
CD2 Chengdu 74.08 307 P **P** **01 06 45.5 +0.3**
CD2 pP **pP** **01 06 54.3 +1.0**
CD2 sP **sP** **01 06 57.9 +1.7**
CD2 PP **PP** **01 09 32.9 +1.9**
CD2 S **S** **01 16 15.5 -1.4**
CD2 sS **sS** **01 16 30.1 -0.1**
CD2 SS **SS** **01 21 03.0 +0.5**
CD2 AMB AMB
comp=Z,40nm,1.0s
CD2 AMB AMB
comp=Z,190nm,3.7s
CD2 LR LR
comp=Z,410nm,10.1s
CD2 LR LR
comp=Z,370nm,16.7s
HIA Hailar 74.11 330 *e*P **P** **01 06 44.2 -0.7**
comp=Z,69nm,1.2s
BTO Baotou 74.33 319 *e*P **P** **01 06 46.4 -0.1**
SEY Seymchan 76.19 353⇓*e*P **P** **01 06 56.3 -0.3**
LZH Lanzhou 76.31 312 ⇑P **P** **01 06 59.4 +1.3**
LZH pP **pP** **01 07 04.4 -1.8**
LZH sP **sP** **01 07 09.3 +0.2**
LZH S **S** **01 16 40.1 -1.6**
LZH sS sS 01 16 49.6 -5.5
LZH AMB AMB
comp=Z,180nm,1.4s
LZH AMB AMB
comp=Z,250nm,4.1s
LZH LR LR
comp=Z,540nm,16.1s
LZH LR LR
comp=Z,320nm,14.0s
LZH LR LR
comp=Z,790nm,16.8s
QSPA South Pole Qui 77.30 180 *e*P **P** **01 07 03.0 -0.2**
comp=Z,46nm,1.1s
CLNS Chul'man 77.34 338 *e*P **P** **01 07 03.2 0.0**
CLNS pmax pmax
comp=Z,9.0nm,1.0s
CLNS pmax pmax
comp=N,29nm,1.1s
CLNS pmax pmax
comp=E,7.0nm,0.9s
CIT Chita 78.89 330 *e*P **P** **01 07 12.4 +0.4**
CIT *e* 01 07 23.3
CIT pmax pmax
comp=Z,157nm,1.9s
YAK Yakutsk 79.86 343 *e*P **P** **01 07 14.5 -2.4**
YAK *e* 01 07 21.2
YAK *e* 01 10 22.2
YAK *e*S **S** **01 17 16.5 -1.9**
YAK *e**SS **ScS** **01 17 39.3 -0.1**
YAK *e*SS **SS** **01 22 29.8 +1.4**
YAK pmax pmax
comp=Z,32nm,1.2s
YAK pmax pmax
comp=E,6.0nm,1.5s
YAK pmax pmax
comp=N,7.0nm,1.6s
YAK pmax pmax
comp=Z,7.0nm,0.6s
YAK pmax pmax
comp=N,8.0nm,0.8s
YAK pmax pmax
comp=E,31nm,2.1s
YAK smax smax
comp=N,87nm,3.5s
YAK smax smax
comp=E,81nm,3.7s
YAK MLR MLR
comp=Z,466nm,22.0s
YAK MLR MLR
comp=N,273nm,26.0s
YAK MLR MLR
comp=E,318nm,26.0s
SONM Songino Array 80.36 324 P **P** **01 07 20.2 0.0**
SONM Songino Array 80.36 324 P **P** **01 07 20.2 0.0**
comp=E,7.2nm,0.8s,baz=136,slow=5.8,SNR=26
SONM LR LR 01 43 33.1
comp=E,332nm,19.4s,baz=119,slow=36
GTA Gaotai 80.64 314 P **P** **01 07 22.8 +0.9**
GTA pP **pP** **01 07 29.8 -0.2**
GTA sP **sP** **01 07 34.1 +1.2**
GTA S **S** **01 17 32.5 +4.6**
GTA AMB AMB
comp=E,17nm,1.1s
GTA AMB AMB
comp=E,290nm,4.7s
GTA LR LR
comp=E,250nm,16.6s
GTA LR LR
comp=E,230nm,18.1s
GTA LR LR
comp=E,300nm,19.2s
SHL Shillong 81.83 298 *e*P **P** **01 07 31.0 +2.4**
DIV Divide 82.74 21 *e*P P 01 07 23.8 -8.6
comp=E,11nm,0.8s
TRF Thorofare Moun 82.91 18 *e*P **P** **01 07 33.6 +0.2**
comp=E,14nm,1.1s
ZAK Zakamensk 83.40 325 *e*P **P** **01 07 35.0 -1.1**
ZAK *e* 01 07 45.8
ZAK pmax pmax
comp=Z,20nm,1.6s
MAW Mawson 83.41 202 P **P** **01 07 36.2 +0.4**
MAW Mawson 83.41 202 ⇑P **P** **01 07 35.7 0.0**
baz=83,SNR=4.3
MAW Mawson 83.41 202 P **P** **01 07 36.2 +0.4**
comp=Z,3.4nm,1.0s,baz=109,slow=10.0,SNR=3.5
MAW LR LR 01 38 37.4
comp=Z,513nm,18.3s,baz=94,slow=31
MCK McKinley 83.53 18 *e*P **P** **01 07 36.8 +0.4**
MCK pmax pmax
comp=Z,176nm,2.7s
MCK McKinley 83.53 18 *e*P **P** **01 07 36.8 +0.4**
comp=Z,176nm,2.7s
LSA Lhasa 83.74 302 P **P** **01 07 40.3 +1.5**
LSA Lhasa 83.74 302 *e*P **P** **01 07 38.5 -0.3**
LSA pmax pmax
comp=Z,20nm,0.9s
LSA Lhasa 83.74 302 *e*P **P** **01 07 38.5 -0.3**
comp=Z,20nm,0.9s
TLY Talaya 83.83 326 *e*P **P** **01 07 38.0 -0.2**
TLY *e* 01 07 49.1
TLY pmax pmax
comp=Z,22nm,0.9s
TLY MLR MLR
comp=Z,286nm,17.0s
TLY Talaya 83.83 326 P **P** **01 07 37.5 -0.7**
comp=Z,151nm,0.9s,SNR=6.7
IM04 Indian Mountai 83.85 15 *e*P **P** **01 07 37.8 -0.1**
IMA2 Indian Mountai 83.95 15 *e*P **P** **01 07 38.0 -0.6**
COLA College 84.68 18 *e*P **P** **01 07 41.1 -1.0**
COLA pmax pmax
comp=Z,26nm,0.8s
COLA College 84.68 18 *e*P **P** **01 07 41.1 -1.0**
comp=Z,26nm,0.8s
ILAR Eielson Array 84.90 18 P **P** **01 07 41.0 -2.3**
ILAR Eielson Array 84.90 18 P **P** **01 07 41.0 -2.3**
comp=Z,3.8nm,0.7s,baz=239,slow=5.4,SNR=46
ILAR LR LR 01 44 05.2
comp=Z,459nm,18.5s,baz=17,slow=35
DOT Dot Lake 85.03 20 *e*P **P** **01 07 44.4 +0.4**
comp=Z,27nm,1.4s
MOY Mondy 85.28 325 *e*P **P** **01 07 45.6 0.0**
MOY pmax pmax
comp=Z,40nm,2.5s
BBB Bella Bella 85.62 34 LR LR 01 42 50.7
comp=Z,880nm,18.3s,baz=47,slow=34
NVAR Mina Array Bea 86.65 50 P **P** **01 07 51.8 -1.1**
NVAR Mina Array Bea 86.65 50 P **P** **01 07 51.8 -1.1**
comp=Z,0.4nm,0.3s,baz=214,slow=7.5,SNR=3.0
NVAR LR LR 01 42 32.0
comp=Z,1µm,18.1s,baz=291,slow=33
EGAK Eagle 86.73 20 *e*P **P** **01 07 51.9 -0.4**
comp=Z,7.2nm,0.8s
PALK Pallekele 87.37 278 *e*P **P** **01 07 56.1 -0.6**
DLBC Dease Lake 87.59 28 LR LR 01 40 44.0
comp=Z,439nm,20.2s,baz=48,slow=31
TIXI Tiksi 87.83 349⇓*e*P **P** **01 07 56.2 -1.3**
TIXI pmax pmax
comp=Z,11nm,1.7s
LPIG La Paz 89.17 65 LR LR 01 39 11.4
comp=Z,142nm,19.6s,baz=242,slow=30
HVS Khovu-Aksy 89.23 323*d* *i*P **P** **01 08 04.8 +0.1**
HVS pmax pmax
comp=Z,80nm,1.3s
C09A Chrisman Ranch 89.74 41 *e*P **P** **01 08 06.8 -0.3**
comp=Z,13nm,0.3s
SYO Syowa Base 90.37 197⇑*e*P **P** **01 08 07.8 -1.8**
SYO Syowa Base 90.37 197⇓*e*PcP **PcP** **01 08 11.4 +0.6**
WMQ Urumqi 90.69 315 P P 01 08 15.3 +3.6
WMQ SKS **SKSac** **01 18 43.3 +1.4**
WMQ S **S** **01 19 06.0 -0.4**
WMQ sS sS 01 19 20.3 +0.3
WMQ AMB AMB
comp=Z,42nm,1.2s
WMQ AMB AMB
comp=Z,290nm,3.8s
WMQ LR LR
comp=Z,290nm,23.8s
WMQ LR LR
comp=Z,210nm,23.8s
WMQ LR LR
comp=Z,170nm,21.0s
INK Inuvik 91.28 19 LR LR 01 43 30.1
comp=Z,353nm,20.0s,baz=210,slow=32
HYB Hyderabad 91.68 287 *i* P P 01 08 20.0 +3.2
PV04 Paradox Valley 93.73 52 *e*pP pP 01 08 32.6 -1.6
PDAR Pinedale Array 94.24 47 LR LR 01 47 04.5
comp=Z,475nm,18.7s,baz=246,slow=33
MK31 Makanchi Array 95.14 317 *e*P **P** **01 08 31.2 -0.9**
MK31 Makanchi Array 95.14 317 *e*P **P** **01 08 31.2 -0.9**
MKAR Makanchi Array 95.14 317 P **P** **01 08 31.7 -0.4**
MKAR Makanchi Array 95.14 317 P **P** **01 08 31.7 -0.4**
MKAR Makanchi Array 95.14 317 ⇑P **P** **01 08 30.8 -1.2**
baz=95
MKAR Makanchi Array 95.14 317 P **P** **01 08 31.7 -0.4**
comp=Z,4.3nm,0.6s,baz=90,slow=6.7,SNR=36
ZAA0 Zalesovo Array 95.25 324 *e*P **P** **01 08 30.5 -1.8**
ZALV Zalesovo Beam 95.25 324 P **P** **01 08 31.2 -1.2**
ZALV Zalesovo Beam 95.25 324 P **P** **01 08 31.2 -1.2**
ZALV Zalesovo Beam 95.25 324 P **P** **01 08 31.2 -1.2**
comp=Z,9.2nm,0.8s,baz=108,slow=4.8,SNR=35
ZALV LR LR 01 51 13.9
comp=Z,170nm,18.2s,baz=250,slow=35
SNAA Sanae 95.50 183 *e*P **P** **01 08 31.8 -1.5**
comp=Z,21nm,1.4s
TXAR Lajitas Array 96.11 61 P **P** **01 08 35.4 -1.6**
TXAR Lajitas Array 96.11 61 P **P** **01 08 35.4 -1.6**
comp=Z,0.2nm,0.7s,baz=226,slow=6.8,SNR=2.9
TXAR LR LR 01 46 46.7
comp=Z,458nm,18.7s,baz=80,slow=32
NVS Novosibirsk 96.36 325 *i* P **P** **01 08 34.5 -2.9**
NVS pmax pmax
comp=Z,21nm,1.3s
NVS pmax pmax
comp=E,9.0nm,1.4s
KSH Kashi 98.25 309 *e*P Pdif 01 08 50.3 +3.7
KSH pP pP 01 08 57.9 +3.2
KSH sP sP 01 08 59.4 +1.7
KSH PP PP 01 12 54.0 +7.5
KSH SKS **SKSac** **01 19 27.8 +4.7**
KSH S **ScS** **01 20 14.8 +1.6**
KSH AMB AMB
comp=E,150nm,5.3s
KSH LR LR
comp=E,92nm,5.6s
KSH LR LR
comp=E,88nm,4.6s
KSH LR LR
comp=E,100nm,9.6s
KURK Kurchatov 98.29 320⇑*i*P Pdif 01 08 46.6 +0.4
KURK pmax pmax
comp=Z,6.0nm,1.5s
KURK Kurchatov 98.29 320 *e*P Pdif 01 08 46.5 +0.2
comp=Z,22nm,2.2s
KURK *e*pP pP 01 08 55.6 +1.2
AAK Ala-Archa 99.84 312 LR LR 01 57 13.8
comp=Z,165nm,18.1s,baz=225,slow=37
VOSK Vostochnaya 103.25 322 *e*P **Pdif** **01 09 08.5 +0.2**
VOSK Vostochnaya 103.25 322 *e*Pdif **Pdif** **01 09 08.5 +0.2**
ISRV Sarvestan 116.28 297 *e*P **PKPdf** **01 13 53.0 -0.2**
IPAR Pars 116.34 297 *e*P **PKPdf** **01 13 53.4 +0.1**
ISFB Sefidab 116.91 302 *e*P **PKPdf** **01 13 53.8 -0.2**
ARCES ARCESS Array B 118.09 345 PKP **PKPdf** **01 13 53.9 -1.3**
ARCES ARCESS Array B 118.09 345 PKP **PKPdf** **01 13 53.9 -1.3**
comp=Z,1.7nm,0.4s,baz=86,slow=1.9,SNR=29
KLMR Klimovskoe 118.49 334 *e*PKIKP **PKPdf** **01 13 53.7 -2.4**
KLMR pmax pmax
comp=Z,20nm,1.6s
ISRB Sarab 120.29 306 *e*P **PKPdf** **01 13 58.8 -1.8**
IHRS Heris 120.72 307 *e*P **PKPdf** **01 14 00.8 -0.6**
IKOM Komasi 120.83 302 *e*P **PKPdf** **01 13 57.1 -4.5**
IBST Bostanabad 120.92 306 *e*P **PKPdf** **01 13 59.8 -2.0**
VRHR Novokhopersk 121.35 323 *e*PKIKP **PKPdf** **01 14 00.5 -1.4**
VRHR pmax pmax
comp=N,5.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=E,1.0nm,0.4s
IGHG Ghaleghazi 121.59 303 *e*P **PKPdf** **01 14 01.4 -1.8**
IMRD Marand 121.69 308 *e*P **PKPdf** **01 14 02.3 -0.9**
IDHR Dehrash 121.70 303 *e*P **PKPdf** **01 14 01.4 -2.0**
GNI Garni 122.17 310 *e*PKPdf **PKPdf** **01 14 02.5 -1.6**
ZEI Tsey 122.24 313 *i* PKIKP **PKPdf** **01 14 06.1 +2.0**
ZEI pmax pmax
comp=Z,7.0nm,1.1s
OBN Obninsk 122.53 328⇓*i*PKIKP **PKPdf** **01 14 05.3 +1.3**
OBN pmax pmax
comp=Z,11nm,1.0s
VSR Storozhevoye 122.75 323 *e*PKIKP **PKPdf** **01 14 03.5 -1.0**
VSR pmax pmax
comp=Z,20nm,1.2s
VSR pmax pmax
comp=N,7.0nm,0.6s
VSR pmax pmax
comp=E,5.0nm,0.6s
VORD Divnogorie 122.77 323 *e*PKIKP **PKPdf** **01 14 03.6 -1.0**
VORD pmax pmax
comp=E,70nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s
KIV Kislovodsk 122.81 314⇓*i*PKIKP **PKPdf** **01 14 06.3 +1.2**
KIV pmax pmax
comp=Z,8.0nm,1.0s
FINES FINESS Array B 123.53 338 PKP **PKPdf** **01 14 04.0 -1.7**
FINES FINESS Array B 123.53 338 PKP **PKPdf** **01 14 04.0 -1.7**
comp=Z,9.7nm,1.2s,baz=151,slow=4.4,SNR=5.0
MALT Malatya 127.36 309⇓*i*P **PKPdf** **01 14 15.3 +1.3**
NB2 NORSAR Subarra 128.46 345 PKPdf **PKPdf** **01 14 15.0 -0.3**
comp=Z,4.0nm,1.1s,baz=31,slow=1.9
NOA NORSAR Array B 128.46 345 PKP **PKPdf** **01 14 14.1 -1.1**
NOA NORSAR Array B 128.46 345 PKP **PKPdf** **01 14 14.1 -1.1**
comp=Z,1.9nm,0.9s,baz=37,slow=2.0,SNR=4.1
AKASG Malin Array Be 128.57 326 PKIKP **PKPdf** **01 14 14.9 -0.8**
AKASG Malin Array Be 128.57 326 PKP **PKPdf** **01 14 14.9 -0.8**
AKASG Malin Array Be 128.57 326 PKP **PKPdf** **01 14 14.9 -0.8**
comp=Z,4.9nm,1.0s,baz=57,slow=1.9,SNR=14
KIEV Kiev 128.59 326 PKIKP **PKPdf** **01 14 16.2 +0.5**
BRTR Keskin Array B 130.52 312 PKP **PKPdf** **01 14 19.1 -0.9**
BRTR SKPbc **SKPbc** **01 17 44.8 +2.7**
BRTR SKP 01 17 56.4
BRTR Keskin Array B 130.52 312 PKP **PKPdf** **01 14 19.1 -0.9**
comp=Z,1.1nm,0.7s,baz=111,slow=2.7,SNR=5.8
BRTR SKPbc **SKPbc** **01 17 44.8 +2.7**
comp=Z,5.1nm,1.2s,baz=107,slow=1.7,SNR=7.5
BRTR SKP 01 17 56.4
comp=Z,4.9nm,1.2s,baz=48,slow=1.8,SNR=4.6
KOLS Kolonicke sedl 133.28 328 *e*PKIKP **PKPdf** **01 14 28.2 +3.5**
KOLS Kolonicke sedl 133.28 328 *e*PKP **PKPdf** **01 14 28.2 +3.5**
UZH Uzhgorod 133.45 328 *e*PKHKP PKPpre 01 14 12.1
UZH *i* 01 14 26.1
ARR Arges 134.03 323⇑*i*P **PKPdf** **01 14 26.6 +0.3**
OKC Ostrava-Krasne 134.72 331 *e*PKIKP **PKPdf** **01 14 30.3 +2.9**
OKC Ostrava-Krasne 134.72 331 *e*PKP **PKPdf** **01 14 30.3 +2.9**
DPC Dobruska-Polom 135.19 333 *e*PKIKP **PKPdf** **01 14 29.1 +0.8**
DPC Dobruska-Polom 135.19 333 *e*PKP **PKPdf** **01 14 29.1 +0.8**
UPC Upice 135.21 333 *e*PKIKP **PKPdf** **01 14 31.2 +2.9**
UPC *e* 01 14 35.7
UPC Upice 135.21 333 *e*PKP **PKPdf** **01 14 31.2 +2.9**
UPC *ep*PKP **pPKPdf** **01 14 35.7 -1.0**
BZS Buzias 135.64 325⇑*i*P **PKPdf** **01 14 28.3 -0.9**
BRG Berggiesshubel 135.82 335 *e*PKP **PKPdf** **01 14 31.9 +2.5**
comp=Z,14nm,1.6s
BRG
comp=N,337nm,17.9s
BRG
comp=E,198nm,18.1s
BRG
comp=Z,331nm,15.6s
BRG Berggiesshubel 135.82 335 *e*PKIKP **PKPdf** **01 14 31.9 +2.5**
BRG pmax pmax
comp=Z,14nm,1.6s
BRG MLR MLR
comp=N,337nm,17.9s
BRG MLR MLR
comp=E,198nm,18.1s
BRG MLR MLR
comp=Z,331nm,15.6s
PVCC Panska Ves 135.82 334 *e*PKIKP **PKPdf** **01 14 30.4 +1.0**
PVCC MLR MLR
comp=Z,400nm,18.1s
PVCC Panska Ves 135.82 334 *e*PKP **PKPdf** **01 14 30.4 +1.0**
PVCC AMS AMS 02 19 10.0
comp=Z,400nm,18.1s
BDFB Brasilia 135.84 129 SKPbc **SKPbc** **01 17 59.6 -1.2**
BDFB Brasilia 135.84 129 SKPbc **SKPbc** **01 17 59.6 -1.2**
comp=Z,6.3nm,1.0s,baz=84,slow=1.6,SNR=5.4
CLL Collm 135.86 336 *i* PKIKP **PKPdf** **01 14 31.1 +1.6**
CLL pmax pmax
comp=Z,4.0nm,1.5s
CLL Collm 135.86 336 *i* PKPdf **PKPdf** **01 14 31.1 +1.6**
comp=Z,15nm,1.5s
CLL *e*PP **PP** **01 17 07.0 -0.5**
CLL *e*SKPab **SKPbc** **01 18 01.0 +1.4**
CLL *e*SS **SS** **01 35 06.0 +1.7**
CLL L L 02 15 00.0
comp=Z,300nm,19.8s
PRA Prague 136.22 334 PKP **PKPdf** **01 14 32.0 +1.8**
PRU Pruhonice 136.23 334 *e*PKIKP **PKPdf** **01 14 31.4 +1.2**
PRU *e* 01 14 36.5
PRU MLR MLR
comp=Z,400nm,19.6s
PRU Pruhonice 136.23 334 *e*PKP **PKPdf** **01 14 31.4 +1.2**
PRU *ep*PKP **pPKPdf** **01 14 36.5 -2.1**
PRU AMS AMS 02 18 20.0
comp=Z,400nm,19.6s
TREC Trest 136.33 333 AMS AMS 02 18 20.0
comp=Z,500nm,23.7s
VTS Vitosha 136.39 320⇓*i*P **PKPdf** **01 14 30.5 -0.4**
CONA Conrad Observa 137.14 331⇑*i*PKPdf **PKPdf** **01 14 31.5 -0.6**
comp=Z,10nm,1.8s
KHC Kasperske Hory 137.29 334 *e*PKIKP **PKPdf** **01 14 31.9 -0.3**
KHC Kasperske Hory 137.29 334 *e*PKP **PKPdf** **01 14 33.8 +1.5**
KHC *ep*PKP **pPKPdf** **01 14 42.0 +1.3**
KHC AMS AMS 02 19 10.0
comp=Z,300nm,17.1s
KHC Kasperske Hory 137.29 334 *e*PKPdf **PKPdf** **01 14 31.9 -0.3**
GERES GERESS Array B 137.45 333 PKPpre 01 14 21.3
GERES PKP **PKPdf** **01 14 32.6 0.0**
GERES GERESS Array B 137.45 333 PKPpre 01 14 21.3
comp=Z,0.8nm,0.7s,baz=52,slow=5.2,SNR=6.1
GERES PKP **PKPdf** **01 14 32.6 0.0**
comp=Z,1.3nm,0.8s,baz=67,slow=1.7,SNR=7.4
PERS Pernice 138.41 330 *i* PKPdf PKPdf 01 14 42.3 +7.9
VISS Visnje 139.13 329 *i* PKPdf **PKPdf** **01 14 40.0 +4.3**
BOJS Bojanci 139.13 329 *i* PKPdf PKPdf 01 14 42.1 +6.4

BCLA	**Clavier**	**139.33 341**	PKP	**PKPdf**	**01 14 36.0**	**+0.2**
FETA	**Feichten**	**140.14 334**	⇑*i*PKiKP	**PKiKP**	**01 14 39.7**	**-0.5**
	comp=Z,12nm,1.0s						
FELD	**Feldberg im Sc**	**140.56 337**	PKP	**PKPdf**	**01 14 34.6**	**-3.8**
MOF	**Molkenrain**	**140.91 338**	PKP	**PKPdf**	**01 14 33.9**	**-5.1**
THEF	**They Montfort**	**141.00 339**	PKP	**PKPdf**	**01 14 34.8**	**-4.2**
LOMF	**Lomont**	**141.44 338**	PKP	PKPdf	01 14 34.6	-5.3
BNI	**Bardonecchia**	**143.40 336**	*e*PKIKP	PKPab	01 14 39.9	+0.2
BNI	**Bardonecchia**	**143.40 336**	*e*PKPdf	PKPab	01 14 39.9	+0.3
PLDF	**La Plantade**	**143.77 339**	PKP	PKPab	01 14 40.6	-0.4
AGO	**Saint Agoulin**	**143.86 340**	PKP	PKPab	01 14 41.3	+0.1
SAOF	**Saorge**	**143.90 334**	PKP	PKPab	01 14 40.8	-0.7
AUTN	**L'Aution**	**143.95 334**	PKP	PKPab	01 14 41.7	-0.2
TOUF	**Mont Tournerai**	**144.01 334**	PKP	**PKPab**	**01 14 41.9**	**-0.2**
SSB	**Saint Sauveur**	**144.04 338**	*e*PKIKP	PKPbc	01 14 42.8	+0.3
SSB	**Saint Sauveur**	**144.04 338**	*e*PKPdf	PKPbc	01 14 42.8	+0.3
LUCF	**Luceram**	**144.07 334**	PKP	**PKPab**	**01 14 40.0**	**-2.2**
MVIF	**Mont Vial**	**144.15 334**	PKP	**PKPab**	**01 14 42.3**	**-0.3**
PYM	**Petit Puy Mans**	**144.16 340**	PKP	**PKPab**	**01 14 42.0**	**-0.5**
OG26	**St.-Nazaire-De**	**144.34 337**	PKP	PKPbc	01 14 43.8	+0.3
LBL	**Lubilhac**	**144.54 339**	PKP	PKPbc	01 14 44.4	+0.3
VSL	**Villasalto**	**146.45 327**	*e*PKPdf	**PKPdf**	**01 14 48.5**	**-0.4**
KEST	**Kesra**	**149.09 322**	*e*PKPbc	**PKPbc**	**01 14 57.0**	**-0.5**
KEST	**Kesra**	**149.09 322**	PKPbc	**PKPbc**	**01 14 57.7**	**+0.2**
	comp=Z,16nm,0.7s,baz=323,slow=0.8,SNR=57						
CMAH	**Djebel Manchou**	**149.59 325**	P	**PKPbc**	**01 14 58.4**	**-0.3**
CAEH	**'Ain El Ouahch**	**149.79 326**	P	**PKPab**	**01 15 03.6**	**-0.9**
ABSA	**Djebel Ababsia**	**149.81 325**	P	**PKPbc**	**01 14 58.9**	**-0.4**
CKFL	**Kef-Lekhel**	**150.14 326**	P	**PKPbc**	**01 15 00.3**	**+0.1**
CASM	**Ain Smara**	**150.37 326**	P	**PKPbc**	**01 15 00.7**	**+0.1**
PBRG	**Braganca**	**150.40 350**	*e*PKPbc	**PKPbc**	**01 14 59.7**	**-0.8**
PGAV	**Gavieira, Arco**	**150.48 352**	*e*PKPbc	**PKPbc**	**01 14 58.5**	**-2.3**
PGAV	**Gavieira, Arco**	**150.48 352**	*e*LR	LR	02 16 46.4	
	comp=Z,267nm,18.0s						
DFRA	**Djebel Bou Aff**	**150.49 327**	P	**PKPbc**	**01 15 02.2**	**+1.2**
CTEI	**Djebel Teioual**	**150.56 326**	P	**PKPbc**	**01 15 01.4**	**+0.2**
POLO	**Lamas de Olo**	**150.99 351**	*e*PKPbc	**PKPbc**	**01 15 01.6**	**-0.4**
POLO			*i* P	PKPab	01 15 19.9	+11
SET	**Setif**	**151.00 327**	P	**PKPbc**	**01 15 03.0**	**+0.8**
MVO	**Moncorvo**	**151.07 350**	*e*PKPbc	**PKPbc**	**01 15 01.9**	**-0.3**
MVO			*i* P	PKPab	01 15 20.4	+11
MVO	**Moncorvo**	**151.07 350**	*e*LR	LR	02 17 03.1	
	comp=Z,240nm,18.0s						
PVRL	**Vila Real**	**151.08 351**	*e*PKPbc	**PKPbc**	**01 15 02.2**	**+0.1**
PVRL			*i* P	PKPab	01 15 20.3	+11
CKHR	**Kef el Ahmar**	**151.08 327**	P	**PKPbc**	**01 15 02.3**	**-0.1**
PTO	**Porto**	**151.34 352**	*e*PKPbc	**PKPbc**	**01 15 01.4**	**-1.3**
PTO			*i* P	PKPab	01 15 20.9	+10
PVIS	**Viseu**	**151.65 351**	*i* P	PKPab	01 15 21.4	+9.3
ESDC	**Sonseca Array**	**151.82 344**	PKPbc	**PKPbc**	**01 15 03.0**	**-0.9**
ESDC	**Sonseca Array**	**151.82 344**	PKPbc	**PKPbc**	**01 15 03.0**	**-0.9**
	comp=Z,4.9nm,0.8s,baz=12,slow=2.5,SNR=31						
ESLA	**Sonseca Array**	**151.82 344**	*e*PKPdf	**PKPdf**	**01 14 57.4**	**-0.1**
MTE	**Manteigas**	**151.91 350**	*e*PKPbc	**PKPbc**	**01 15 04.0**	**-0.1**
MTE			*i* P	PKPab	01 15 22.5	+9.4
MTE	**Manteigas**	**151.91 350**	*e*LR	LR	02 18 08.4	
	comp=Z,274nm,18.0s						
MTE	**Manteigas**	**151.91 350**	*e*PKPdf	**PKPdf**	**01 14 58.1**	**+0.5**
MTE			*e*PKPbc	**PKPbc**	**01 15 03.8**	**-0.3**
PAB	**San Pablo**	**152.04 345**	*e*PKIKP	**PKPbc**	**01 15 03.8**	**-0.7**
PAB	**San Pablo**	**152.04 345**	*e*PKPbc	**PKPbc**	**01 15 03.8**	**-0.7**
ADJB	**Djebel Djouab**	**152.04 330**	P	**PKPbc**	**01 15 04.3**	**-0.3**
EMHD	**Djebel Mahouad**	**152.25 330**	P	**PKPbc**	**01 15 04.2**	**-0.9**
PCBR	**Castelo Branco**	**152.44 350**	*e*PKPbc	**PKPbc**	**01 15 05.1**	**-0.1**
PCBR			*i* P	PKPab	01 15 23.0	+7.7
PTOM	**Tomar**	**152.81 351**	*e*PKPbc	**PKPbc**	**01 15 05.7**	**-0.3**
PTOM			*i* P	PKPab	01 15 24.1	+7.3
PMRV	**Marv??o**	**152.82 349**	*e*PKPbc	**PKPbc**	**01 15 05.7**	**-0.4**
PMRV			*i* P	PKPab	01 15 23.6	+6.7
PMRV	**Marv??o**	**152.82 349**	*e*LR	LR	02 19 28.9	
	comp=Z,361nm,20.0s						
EBNR	**Beni Rached**	**152.84 332**	P	**PKPbc**	**01 15 06.1**	**-0.2**
ECHA	**Ech Chlef**	**153.03 332**	P	**PKPbc**	**01 15 08.2**	**+1.6**
PMTG	**Montargil**	**153.31 351**	*e*PKPbc	**PKPbc**	**01 15 06.2**	**-1.0**
PMTG			*i* P	PKPab	01 15 24.9	+5.9
EANR	**'Ain N'Sour**	**153.32 333**	P	**PKPbc**	**01 15 09.2**	**+1.8**
PMAFR	**Mafra**	**153.58 352**	*i* P	PKPab	01 15 25.7	+5.6
ETRT	**Tiaret**	**153.69 332**	P	**PKPbc**	**01 15 11.3**	**+3.0**
EVO	**Evora**	**153.80 350**	*e*PKPbc	**PKPbc**	**01 15 07.6**	**-0.7**
EVO			*i* P	**PKPab**	**01 15 25.8**	**+4.7**
PBAR	**Barrancos**	**153.97 348**	*e*PKPbc	**PKPbc**	**01 15 10.3**	**+1.7**
PBAR			*i* P	PKPab	01 15 27.2	+5.4
PBEJ	**Beja**	**154.27 349**	*i* P	**PKPab**	**01 15 24.2**	**+1.1**
PNCL	**Nicolau / Gran**	**154.30 351**	*i* P	**PKPab**	**01 15 27.6**	**+4.4**
PCVE	**Castro Verde**	**154.69 350**	*i* P	**PKPab**	**01 15 28.7**	**+3.9**
TORD	**Torodi Ar. Bea**	**165.03 273**	PKP	**PKPdf**	**01 15 12.2**	**-1.8**
TORD			PKPab	**PKPab**	**01 16 10.0**	**-0.7**
TORD	**Torodi Ar. Bea**	**165.03 273**	PKP	**PKPdf**	**01 15 12.2**	**-1.8**
	comp=Z,1.3nm,0.9s,baz=315,slow=1.1,SNR=4.9						
TORD			PKPab	**PKPab**	**01 16 10.0**	**-0.7**
	comp=Z,7.1nm,1.0s,baz=98,slow=4.2,SNR=10						
KIC	**Kosan Boka**	**169.18 235**	*e*P	**PKPab**	**01 16 33.8**	**+4.9**
	comp=Z,45nm,1.2s						
LIC	**Lamto**	**169.33 234**	*e*P	PKPab	01 16 35.2	+5.6
	comp=Z,23nm,0.9s						
DBIC	**Dimbokro**	**169.46 236**	PKPab	**PKPab**	**01 16 31.1**	**+1.0**
DBIC	**Dimbokro**	**169.46 236**	PKPab	**PKPab**	**01 16 31.1**	**+1.0**
	comp=Z,6.8nm,1.0s,baz=134,slow=7.9,SNR=4.1						
TIC	**Toumodi**	**169.57 235**	*e*P	**PKPab**	**01 16 35.4**	**+4.7**
	comp=Z,30nm,0.9s						

*ISCJB **14** 01:15:04.9±1.2,34°15'N±0'05×139°28'E±0'07,h6km±5km, mb3.6/4, Error ellipse: s-maj=10.5km s-min=7.6km az=27.7*

*IDC **14** 01:15:05.4±1.5,34°12'N×139°27'E,h0km,mb3.7/4, mb1 3.9/6,mb1mx3.6/26,mbtmp3.7/6,ML3.7/2, Error ellipse: s-maj=30.0km s-min=25.1km az=90.0*

*JMA **14** 01:15:06.9,34°23'N×139°15'E,h9km±1km,M3.1 Broadband fault plane solution: P waves. NP1: φs332.00000°,δ88.00000°,λ-162.00000°. NP2: φs241.00000°,δ72.00000°,λ-2.00000°. Principal axes: T Plg11.0000°, Azm105.0000°; N Plg72.0000°, Azm338.0000°; P Plg14.0000°, Azm198.0000°;*

JMA Felt III J1.

ISC 14 01:15:06.4±1.2,34°23'N±0'03×139°25'E±0'05,h5km±8km, n14,σ0°69/21,mb3.6/4,1C-2D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKO	**Kozu shima**	**0.11**	**244**	P	**Pg**	**01 15 08.8**	**+0.1**
JKO				S	**Sg**	**01 15 10.5**	**+0.3**
JMY	**Miyakejima3**	**0.27**	**127**	⇑P	**Pb**	**01 15 13.7**	**-0.1**
JMY				S	**Sb**	**01 15 18.8**	**+0.1**
JIM2	**Oshima 3**	**0.50**	**17**	⇓P	**Pb**	**01 15 17.4**	**-0.4**
JIZS	**Izushimoda**	**0.57**	**327**	P	**Pg**	**01 15 17.3**	**-0.2**
JIZS				S	**Sg**	**01 15 24.9**	**-0.1**
KTJJ	**Kamata 2**	**0.71**	**347**	⇓P	**Pg**	**01 15 19.8**	**-0.2**
KTJJ				S	**Sg**	**01 15 29.2**	**0.0**
JOD2	**Odawara 2**	**1.04**	**352**	P	**Pg**	**01 15 26.0**	**-0.3**
TK03	**Tokai 3**	**1.07**	**267**	P	**Pg**	**01 15 26.5**	**-0.5**
MJAR	**Matsushiro Arr**	**2.46**	**340**	Pn	**Pn**	**01 15 48.4**	**+1.2**
	8.4nm,0.3s,baz=173,slow=15,SNR=89						
MJAR				Sn	**Sb**	**01 16 20.9**	**-0.7**
	3.4nm,0.3s,baz=181,slow=30,SNR=6.0						
MAT	**Matsushiro**	**2.46**	**340**	P	**Pn**	**01 15 48.5**	**+1.3**
MAT				S	**Sb**	**01 16 21.8**	**+0.1**
JNU	**Nakatsue**	**7.07**	**263**	Pn	**Pn**	**01 16 50.0**	**-0.7**
	1.7nm,0.3s,baz=30,slow=5.4,SNR=9.1						
JNU				Sn	**Sn**	**01 18 12.7**	**+1.2**
	0.1nm,0.3s,baz=243,slow=2.3,SNR=2.3						
ZALV	**Zalesovo Beam**	**42.56**	**315**	P	**P**	**01 23 02.7**	**-0.3**
	0.5nm,0.4s,baz=91,slow=13,SNR=3.6						
MKAR	**Makanchi Array**	**44.17**	**304**	P	**P**	**01 23 16.9**	**+0.7**
	0.8nm,0.9s,baz=88,slow=10,SNR=4.8						
ILAR	**Eielson Array**	**52.80**	**31**	P	**P**	**01 24 22.4**	**+0.1**
	0.6nm,0.6s,baz=284,slow=7.0,SNR=5.0						
WRA	**Warramunga Arr**	**54.08**	**186**	P	**P**	**01 24 31.1**	**-1.1**
	0.8nm,0.9s,baz=3.0,slow=7.7,SNR=2.9						

*ISCJB **14** 01:18:06.8±0.7,52°39'N±0'06×166°79'W±0'06,h25km, mb3.9/11,MS3.3/1,Error ellipse: s-maj=8.4km s-min=5.2km az=176.3*

*NEIC **14** 01:18:07.3,52°35'N×166°84'W,h25km,ML3.6(AEIC),After AEIC.*

*IDC **14** 01:18:13.8±3.6,52°93'N×166°90'W,h47km±36km,mb3.7/9, mb1 3.9/11,mb1mx3.6/30,mbtmp3.7/11,ML3.4/2,MS3.4/1, Ms1 3.4/1,ms1mx3.0/53,Error ellipse: s-maj=39.1km s-min=18.8km az=6.0*

ISC 14 01:18:09.9±0.9,52°57'N±0'08×166°88'W±0'04,h25km,n45, σ0°94/42,mb4.0/11,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**1.05**	**324**	P	**Pn**	**01 18 28.2**	**-0.8**
OKFG				S	**Sn**	**01 18 44.0**	**+1.1**
OKTU	**Okmok Mt. Tuli**	**1.07**	**320**	P	**Pn**	**01 18 29.1**	**-0.4**
OKSP	**Okmok Steeple**	**1.09**	**309**	P	**Pn**	**01 18 29.3**	**-0.4**
OKSO	**Okmok South**	**1.10**	**316**	P	**Pn**	**01 18 29.1**	**-0.7**
OKSO				S	**Sb**	**01 18 45.2**	**+0.8**
OKCE	**Okmok Cone E**	**1.16**	**318**	P	**Pn**	**01 18 30.5**	**-0.1**
MGOD	**Makushin Gods**	**1.23**	**0**	P	**Pn**	**01 18 31.0**	**-0.5**
MREP	**Makushin Rep't**	**1.24**	**4**	P	**Pn**	**01 18 32.0**	**+0.2**
NIKH	**Nikolski High**	**1.27**	**289**	P	**Pn**	**01 18 31.0**	**-1.0**
NIKH				S	**Sb**	**01 18 49.7**	**+0.8**
UNV	**Unalaska Valle**	**1.30**	**10**	P	**Pn**	**01 18 32.5**	**+0.1**
MCIR	**Makushin Cirqu**	**1.38**	**360**	P	**Pn**	**01 18 34.0**	**+0.3**
MTBL	**Makushin Table**	**1.41**	**5**	P	**Pn**	**01 18 34.1**	**+0.1**
ZRO	**Akutan Zero**	**1.62**	**19**	P	**Pn**	**01 18 36.7**	**-0.1**
AKRB	**Akutan Reef Bi**	**1.64**	**17**	P	**Pn**	**01 18 37.5**	**+0.4**
LVA	**Lava Point**	**1.67**	**17**	P	**Pn**	**01 18 38.1**	**+0.5**
AKUT	**Akutan**	**1.70**	**23**	P	**Pn**	**01 18 37.1**	**-0.8**
AKUT				S	**Sb**	**01 19 00.3**	**-1.1**
AKGG	**Akutan Green G**	**1.71**	**18**	P	**Pn**	**01 18 38.8**	**+0.6**
WESE	**West Dahl East**	**2.34**	**35**	P	**Pn**	**01 18 47.3**	**+0.4**
SSLW	**Shishaldin Wes**	**2.75**	**36**	P	**Pn**	**01 18 53.7**	**+1.2**
SDPT	**Sand Point**	**4.69**	**51**	P	**Pn**	**01 19 19.3**	**+0.2**
SPIA	**Saint Paul Isl**	**5.01**	**339**	P	**Pn**	**01 19 25.2**	**+1.8**
ADK	**Adak**	**6.07**	**267**	P	**Pn**	**01 19 37.6**	**-0.3**
FX1	**Attu Island--F**	**12.10**	**279**	P	**Pn**	**01 21 02.2**	**+1.6**
	0.6nm,0.3s,baz=103,slow=14,SNR=8.3						
PPLA	**Purkeypile**	**12.95**	**31**	*e*Pn	**Pn**	**01 21 11.2**	**-1.0**
	13nm,1.5s						
IM04	**Indian Mountai**	**14.96**	**21**	*e*P	**P**	**01 21 45.5**	**+0.7**
ILAR	**Eielson Array**	**15.95**	**32**	P	**Pn**	**01 21 50.9**	**-1.5**
	0.1nm,0.3s,baz=216,slow=9.9,SNR=5.0						
HYT	**Haines Junctio**	**17.98**	**51**	*e*P	**Pn**	**01 22 16.9**	**-1.1**
DAWY	**Dawson**	**18.28**	**40**	*e*P	**Pn**	**01 22 20.6**	**-1.0**
PETK	**Petropavlovsk-**	**21.28**	**286**	P	**P**	**01 22 54.9**	**+0.7**
	2.7nm,0.4s,baz=88,slow=13,SNR=4.3						
INK	**Inuvik**	**22.35**	**33**	P	**P**	**01 23 04.0**	**-1.5**
	1.8nm,0.5s,baz=204,slow=13,SNR=4.9						
YKA	**Yellowknife Ar**	**28.96**	**49**	P	**P**	**01 24 07.1**	**+0.3**
	0.7nm,0.6s,baz=274,slow=9.4,SNR=3.1						
YBH	**Yreka Blue Hor**	**31.46**	**92**	LR	LR	01 33 19.8	
	comp=Z,67nm,21.6s,baz=275,slow=29						
H11N2	**WAKE ISLAND Hy**	**38.59**	**222**	T	T	02 07 02.8	
	baz=27,slow=0.7,SNR=31						
H11N3	**WAKE ISLAND Hy**	**38.60**	**222**	T	T	02 07 10.5	
	baz=27,slow=0.7,SNR=39						
H11N1	**WAKE ISLAND Hy**	**38.61**	**222**	T	T	02 07 04.2	
	baz=27,slow=0.7,SNR=36						
PDAR	**Pinedale Array**	**38.87**	**81**	P	**P**	**01 25 33.5**	**+0.3**
	0.8nm,0.8s,baz=308,slow=4.9,SNR=5.1						
H11S1	**WAKE ISLAND Hy**	**39.77**	**221**	T	T	02 08 31.1	
	baz=24,slow=0.7,SNR=17						
H11S2	**WAKE ISLAND Hy**	**39.78**	**221**	T	T	02 08 41.3	
	baz=24,slow=0.7,SNR=12						
H11S3	**WAKE ISLAND Hy**	**39.79**	**221**	T	T	02 08 36.5	
	baz=24,slow=0.7,SNR=13						
TXAR	**Lajitas Array**	**51.22**	**91**	P	**P**	**01 27 12.8**	**+1.4**
	1.3nm,0.8s,baz=292,slow=5.2,SNR=8.9						
ARCES	**ARCESS Array B**	**57.87**	**355**	P	**P**	**01 27 57.1**	**-1.8**
	3.0nm,0.8s,baz=22,slow=7.3,SNR=4.4						
JOF	**Joensuu**	**63.97**	**351**	*ep*	**P**	**01 28 39.4**	**-1.0**
	1.1nm,0.4s						
MKAR	**Makanchi Array**	**64.76**	**315**	P	**P**	**01 28 45.5**	**-0.4**
	0.2nm,0.4s,baz=41,slow=3.9,SNR=5.5						
KAF	**Kangasniemi**	**65.18**	**353**	*ep*	**P**	**01 28 47.4**	**-0.9**
	1.3nm,0.4s						
FINES	**FINESS Array B**	**65.86**	**353**	P	**P**	**01 28 51.4**	**-1.4**
	1.0nm,0.3s,baz=17,slow=7.5,SNR=17						
AKASG	**Malin Array Be**	**76.20**	**350**	P	**P**	**01 29 54.8**	**-0.8**
	0.6nm,0.4s,baz=13,slow=6.0,SNR=4.2						

IDC 14 01:33:30.1±1.3,39°01'N×110°69'E,h0km,mb3.8/6, mb1 4.0/7,mb1mx3.7/26,mbtmp3.8/7,ML3.4/1,Error ellipse: s-maj=44.0km s-min=16.6km az=62.0,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**9.36**	**342**	Pn	Pn	01 35 46.3	-0.1
	0.3nm,0.3s,baz=158,slow=14,SNR=30						
SONM				Lg	Lg	01 38 27.4	
	0.4nm,0.3s,baz=160,slow=28,SNR=7.1						
MKAR	**Makanchi Array**	**22.12**	**300**	P	P	01 38 26.6	-0.6
	2.7nm,0.9s,baz=101,slow=11,SNR=13						
CMAR	**Chiang Mai Arr**	**22.88**	**210**	P	P	01 38 35.5	+0.2
	6.0nm,0.7s,baz=14,slow=9.5,SNR=34						
ZALV	**Zalesovo Beam**	**23.07**	**319**	P	P	01 38 37.6	+0.5
	0.9nm,0.7s,baz=108,slow=9.5,SNR=4.2						
KURBB	**Kurchatov Arra**	**25.39**	**308**	P	P	01 38 59.0	0.0
	0.8nm,0.7s,baz=107,slow=11,SNR=7.2						
WRA	**Warramunga Arr**	**62.69**	**155**	P	P	01 43 56.5	-0.3
	1.6nm,0.8s,baz=349,slow=7.3,SNR=5.7						
ASAR	**Alice Springs**	**66.03**	**157**	P	P	01 44 18.7	+0.1
	0.8nm,0.7s,baz=334,slow=6.0,SNR=8.4						

*IDC **14** 01:58:36.5±0.9,20°76'N×101°95'E,h0km,mb3.9/7, mb1 4.0/8,mb1mx3.7/25,mbtmp3.9/8,ML3.9/1,MS3.7/3, Ms1 3.7/3,ms1mx3.1/51,Error ellipse: s-maj=21.7km s-min=16.4km az=106.0*

*BKK **14** 01:58:36.2±1.6,21°N±12°×10°2E±°,h10km,M4.9/3, MLv4.9/3*

*PLV **14** 01:58:36.3±0.9,20°58N×102°02E,h3km±9km,MD3.7*

*NEIC **14** 01:58:37.7±0.3,20°70N×101°94E,h10km,mb4.3/3,Error ellipse: s-maj=7.4km s-min=6.8km az=106.0*

*BJI **14** 01:58:40.0,20°75N×101°81E,h22km,mB4.5/3,mb4.2/6, ML4.3/7,Ms4.3/4,Ms7 4.0/4*

ISC 14 01:58:38.9±0.7,20°69N±0°03×102°00E±0°03,h17km±5km, n38,σ1°32/54,mb4.1/10,MS3.5/3,1D,Laos

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBV	**Dienbien**	**1.18**	**54**	*e*Pg	**Pn**	**01 59 00.3**	**-0.5**
DBV				*e*Sg	**Sg**	**01 59 16.4**	**-0.8**
TGV	**Tuan Giao**	**1.60**	**56**	*e*Pn	**Pn**	**01 59 05.9**	**-0.4**
TGV				*e*Pg	**Pb**	**01 59 07.5**	**-0.4**
TGV				*e*Sg	**Sg**	**01 59 28.8**	**-1.6**
SLVN	**Son La**	**1.89**	**70**	*e*Pg	**Pb**	**01 59 12.9**	**-0.1**
SLVN				*e*Sg	**Sg**	**01 59 38.1**	**-1.7**
NONG	**Nongkai**	**2.83**	**157**	P	**Pg**	**01 59 32.5**	**-0.6**
NONG				S	**Sg**	**02 00 07.0**	**-2.8**
LOEI	**Loei**	**3.24**	**193**	P	**Pb**	**01 59 34.4**	**-1.6**
LOEI				S	**Sb**	**02 00 16.6**	**+1.4**
CHTO	**Chiang Mai**	**3.43**	**238**	*e*Pn	**Pn**	**01 59 30.2**	**-1.4**
CHTO				*e*Pg	**Pb**	**01 59 39.4**	**+0.2**
CHTO				*e*Sg	**Sb**	**02 00 23.9**	**+3.2**
CHTO	**Chiang Mai**	**3.43**	**238**	P	**Pb**	**01 59 38.6**	**-0.6**
CHTO				S	**Sb**	**02 00 22.5**	**+1.8**
CM31	**Chiang Mai Arr**	**3.64**	**233**	*e*Pn	**Pn**	**01 59 33.9**	**-0.5**
CM31				*e*Pg	**Pb**	**01 59 43.7**	**+0.9**
CM31				*e*Sn	**Sn**	**02 00 16.8**	**-0.3**
CM31				*e*Sg	**Sg**	**02 00 32.7**	**-3.1**
CMAR	**Chiang Mai Arr**	**3.64**	**233**	Pn	**Pn**	**01 59 33.5**	**-1.0**
CMAR				Pg	**Pb**	**01 59 43.5**	**+0.7**
CMAR				Lg	Lg	02 00 32.8	
CMAR	**Chiang Mai Arr**	**3.64**	**233**	Pn	**Pn**	**01 59 33.5**	**-1.0**
	2.7nm,0.3s,baz=43,slow=13,SNR=18						
CMAR				Pg	**Pb**	**01 59 43.5**	**+0.7**
	19nm,0.3s,baz=49,slow=17,SNR=106						
CMAR				Lg	Lg	02 00 32.8	
	19nm,0.3s,baz=51,slow=29,SNR=14						
PANO	**Nakornpanom**	**4.30**	**145**	P	**Pn**	**01 59 46.1**	**+2.5**
PANO				S	**Sb**	**02 00 50.0**	**+4.1**
KMI	**Kunming**	**4.46**	**9**	⇓Pn	**Pn**	**01 59 46.6**	**+0.6**
KMI				Pg	**Pg**	**02 00 02.8**	**-1.6**
KMI				Sg	**Sg**	**02 01 03.1**	**+0.8**
KMI				SMN			
	comp=Z,170nm,1.3s						
KMI				SME			
	comp=Z,230nm,1.4s						
KMI				LR	LR		
	comp=N,2μm,7.3s						
KMI				LR	LR		
	comp=E,2μm,6.3s						
KMI				LR	LR		
	comp=Z,1μm,7.8s						
GYA	**Guiyang**	**7.16**	**36**	Pn	**Pn**	**02 00 22.9**	**-0.1**
GYA				Sg	Sg	02 02 21.8	-6.9
GYA				SMN			
	comp=Z,120nm,1.0s						
GYA				SME			
	comp=Z,120nm,0.9s						
GYA				LR	LR		
	comp=N,2μm,8.4s						
GYA				LR	LR		
	comp=E,3μm,7.8s						
GYA				LR	LR		
	comp=Z,890nm,5.9s						
QIZ	**Qiongzhong**	**7.56**	**101**	*e*Pn	**Pn**	**02 00 28.7**	**+0.3**
SHL	**Shillong**	**10.50**	**299**	*e*P	**Pn**	**02 01 10.0**	**+1.2**
SHL				*e*S	Sx	02 03 50.0	
GTA	**Gaotai**	**18.75**	**355**	*e*P	**Pn**	**02 02 57.9**	**+0.3**
GTA				pP	**pP**	**02 03 02.4**	**+0.5**
GTA				sP	**sP**	**02 03 05.5**	**+1.4**
GTA				AMB	AMB		
	comp=Z,7.0nm,0.8s						
SONM	**Songino Array**	**27.31**	**6**	P	**P**	**02 04 22.5**	**-0.3**
SONM	**Songino Array**	**27.31**	**6**	P	**P**	**02 04 22.5**	**-0.3**
	0.8nm,0.7s,baz=178,slow=9.0,SNR=5.0						
JNU	**Nakatsue**	**28.47**	**58**	LR	LR	02 17 26.9	
	comp=Z,85nm,19.2s,baz=62,slow=40						
MK31	**Makanchi Array**	**30.59**	**333**	*e*P	**P**	**02 04 52.1**	**+0.3**
MKAR	**Makanchi Array**	**30.59**	**333**	P	**P**	**02 04 52.1**	**+0.3**
MKAR	**Makanchi Array**	**30.59**	**333**	P	**P**	**02 04 52.1**	**+0.3**
	1.8nm,0.6s,baz=137,slow=9.9,SNR=17						
KURK	**Kurchatov**	**35.17**	**334**	*e*P	**P**	**02 05 31.5**	**-0.2**
	2.6nm,1.0s						
ZAA0	**Zalesovo Array**	**35.70**	**343**	*e*P	**P**	**02 05 36.1**	**-0.1**
ZALV	**Zalesovo Beam**	**35.70**	**343**	P	**P**	**02 05 36.0**	**-0.3**
ZALV	**Zalesovo Beam**	**35.70**	**343**	P	**P**	**02 05 36.0**	**-0.3**
	3.3nm,0.8s,baz=147,slow=8.5,SNR=14						
ASAJ	**Asahikawa**	**40.91**	**46**	LR	LR	02 25 17.0	
	comp=Z,69nm,18.9s,baz=144,slow=39						
WRA	**Warramunga Arr**	**51.31**	**140**	P	**P**	**02 07 42.9**	**+0.4**
WRA	**Warramunga Arr**	**51.31**	**140**	P	**P**	**02 07 42.9**	**+0.4**
	1.1nm,0.8s,baz=325,slow=8.4,SNR=4.6						
WRAB	**Tennant Creek**	**51.31**	**140**	*e*P	**P**	**02 07 42.2**	**-0.3**
	5.0nm,1.2s						
ASAR	**Alice Springs**	**53.94**	**143**	P	**P**	**02 08 03.2**	**+1.2**
ASAR	**Alice Springs**	**53.94**	**143**	P	**P**	**02 08 03.2**	**+1.2**
	0.6nm,0.9s,baz=317,slow=6.8,SNR=6.6						
AKASG	**Malin Array Be**	**63.42**	**317**	P	**P**	**02 09 06.3**	**-1.3**
AKASG	**Malin Array Be**	**63.42**	**317**	P	**P**	**02 09 06.3**	**-1.3**
	0.5nm,0.6s,baz=79,slow=6.0,SNR=4.1						
FINES	**FINESS Array B**	**65.33**	**329**	P	**P**	**02 09 19.4**	**-0.4**
FINES	**FINESS Array B**	**65.33**	**329**	P	**P**	**02 09 19.4**	**-0.4**
	5.4nm,1.0s,baz=116,slow=4.4,SNR=4.5						
DAVOX	**Davos/Dischmat**	**76.62**	**315**	LR	LR	02 53 47.5	
	comp=Z,122nm,18.1s,baz=85,slow=43						
INK	**Inuvik**	**82.59**	**18**	*e*P	**P**	**02 11 00.5**	**-0.2**
	4.1nm,1.0s						

*IDC **14** 02:01:53.2±5.5,36°35'N×70°41'E,h165km±50km,mb3.6/6, mb1 3.5/10,mb1mx3.2/31,mbtmp3.5/10,Error ellipse: s-maj=56.0km s-min=38.3km az=130.0*

*ISCJB **14** 02:01:56.0±0.5,36°53'N±0'03×70°42'E±0'08,h204km, mb3.6/5,Error ellipse: s-maj=8.7km s-min=4

6.7nm,1.0s
TKM2 ⇓S Sn 02 15 26.2 +0.5
11nm,0.8s
MKAR Makanchi Array 11.98 43 Pn Pn 02 15 42.3 -0.6
0.1nm,0.3s,baz=233,slow=14,SNR=4.6
AB31 Akbulak array 13.16 328 ⇓P Pn 02 15 56.5 -2.4
2.0nm,0.6s,baz=138,slow=11,SNR=4.4
AB31 ⇑S Sn 02 18 25.9 +1.5
0.9nm,0.5s,baz=152,slow=23,SNR=5.2
AKTO Aktyubinsk 14.87 327 ⇓P Pn 02 16 18.9 -3.2
4.1nm,1.1s
AKTO ⇑S Sn 02 19 05.1 -0.9
3.9nm,1.1s
AKTO Aktyubinsk 14.87 327 Pn Pn 02 16 20.3 -1.8
0.2nm,0.3s,baz=145,slow=8.3,SNR=4.5
ZALV Zalesovo Beam 18.29 28 P Pn 02 17 03.7 -1.8
baz=224,slow=8.1,SNR=2.3
HFS Hagfors 41.26 321 P P 02 20 37.1 +0.5
1.2nm,0.4s,baz=93,slow=10,SNR=8.0
NOA NORSAR Array B 42.56 322 P P 02 20 48.0 +0.8
0.5nm,0.8s,baz=107,slow=7.7,SNR=3.1
TORD Torodi Ar. Bea 65.40 267 P P 02 23 36.1 +1.6
0.3nm,0.6s,baz=53,slow=6.7,SNR=5.8

AUST ***14*** *02:34:20.3±30.0, 20.16S×173.55W, h196km±1km, Error ellipse: s-maj=4.8km s-min=2.3km az=238.0*
SZGRF ***14*** *02:34:20.2, 21.50S×178.50W, h33km, Fiji Islands region*
ISCJB ***14*** *02:35:04.7±0.9, 20.30S±0.06×177.69W±0.03, h399km±9km, mb4.6/69, Error ellipse: s-maj=9.1km s-min=4.6km az=164.6*
MOS ***14*** *02:35:05.7±1.3, 20.12S×177.65W, h408km, mb4.9/8, Error ellipse: s-maj=13.1km s-min=11.0km az=1.6*
NEIC ***14*** *02:35:06.7±0.9, 20.23S×177.61W, h415km±8km, mb4.7/37, Error ellipse: s-maj=10.3km s-min=5.7km az=148.0*
IDC ***14*** *02:35:07.0±1.8, 20.35S×177.58W, h418km±18km, mb4.0/18, mb1 4.2/19, mb1mx4.2/21, mbtmp4.0/19, Error ellipse: s-maj=13.2km s-min=9.2km az=157.0*
BJI ***14*** *02:35:07.0, 19.93S×177.88W, h404km, mB5.0/14, mb4.7/22*
DJA ***14*** *02:35:10.2±2.6, 20°S±12'×17°8W±2'6, h437km±24km, M5.0/19, mB5.5/6, mb5.0/19, Mw(mB)5.0/6*
ISC 14 02:35:06.4±0.5, 20.25S±0.08×177.56W±0.06, h412km±4km, h412km:pP-P, n520, σ0s98/548, mb4.7/69, 142C-108D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.85	300	eP		P	02 36 26.1	-1.3
MSVF	Nonsavu	4.85	300	ePn		P	02 36 26.1	-1.3
AFI	Afiamalu	8.38	42	P		P	02 36 58.2	-7.8
AFI				ePn		P	02 36 59.5	-6.6
AFI				S		S	02 38 30.7	-13
AFI	Afiamalu	8.38	42	P		P	02 36 58.2	-7.8
	11nm,0.3s,baz=300,slow=3.9,SNR=6.0							
AFI				S		S	02 38 30.7	-13
	21nm,0.3s,baz=226,slow=23,SNR=6.1							
RAO	Raoul Island	8.97	182	S		S	02 38 49.0	-6.8
	60nm,0.3s,baz=270,slow=20,SNR=3.0							
DZM	Mont Dzumac	15.04	260	P		P	02 38 20.3	+1.3
DZM				S		S	02 41 01.1	+2.7
DZM	Mont Dzumac	15.04	260	P		P	02 38 20.3	+1.3
	1.0nm,0.3s,baz=72,slow=18,SNR=14							
DZM				S		S	02 41 01.1	+2.7
	baz=330,slow=23,SNR=5.1							
KNTN	Kanton	18.28	19	eP		P	02 38 53.0	-0.6
	110nm,0.8s							
TARA	Tarawa	23.41	335	eP		P	02 39 41.0	-0.3
	137nm,0.8s							
PPT	Papeete	26.59	89	P		P	02 40 09.1	-0.4
PPT	Papeete	26.59	89	P		P	02 40 09.1	-0.4
	26nm,0.5s,baz=241,slow=19,SNR=3.0							
EIDS	Eidsvold	29.31	254	eP		P	02 40 33.7	+0.2
	22nm,0.6s							
EIDS	Eidsvold	29.31	254	P		P	02 40 33.6	+0.2
	baz=33,SNR=7.6							
ARMA	Armidale	29.55	244	P		P	02 40 36.4	+0.9
	baz=33,SNR=9.0							
RMQ	Roma	31.48	252	P		P	02 40 53.1	+0.8
	baz=35,SNR=6.3							
CTA	Charters Tower	33.93	264	P		P	02 41 13.6	+0.2
CTA	Charters Tower	33.93	264	P		P	02 41 13.6	+0.2
	54nm,0.6s,baz=95,slow=10,SNR=83							
CTAO	Charters Tower	33.93	264	eP		P	02 41 13.5	+0.2
CTAO	Charters Tower	33.93	264	eP		P	02 41 13.5	+0.2
CMSA	Cobar Meteorol	34.77	244	P		P	02 41 20.6	+0.3
	baz=38,SNR=9.7							
QLP	Quilpie	35.53	252	P		P	02 41 26.9	+0.1
	baz=39,SNR=15							
PMG	Port Moresby	35.69	282	P		P	02 41 28.6	+0.3
	121nm,0.9s,919nm							
PMG	Port Moresby	35.69	282	eP		P	02 41 28.4	+0.2
	95nm,0.9s							
PMG	Port Moresby	35.69	282	P		P	02 41 28.4	+0.2
	90nm,0.8s,baz=88,slow=5.7,SNR=31							
MTSU	Mount Surprise	36.02	267	P		P	02 41 31.1	+0.1
	baz=40,SNR=104							
TOO	Toolangi	36.38	234	P		P	02 41 33.6	-0.1
	baz=40,SNR=7.3							
COEN	Coen	37.98	273	eP		P	02 41 48.0	+0.7
	286nm,0.8s							
COEN	Coen	37.98	273	P		P	02 41 47.7	+0.3
	baz=42,SNR=27							
STKA	Stephens Creek	38.27	244	P		P	02 41 49.3	-0.2
STKA				PcP		PcP	02 43 54.1	+0.4
STKA	Stephens Creek	38.27	244	P		P	02 41 50.0	+0.5
	baz=42,SNR=7.2							
STKA	Stephens Creek	38.27	244	P		P	02 41 49.3	-0.2
	6.8nm,0.5s,baz=83,slow=8.7,SNR=12							
STKA				PcP		PcP	02 43 54.1	+0.4
	1.5nm,0.3s,baz=40,slow=6.3,SNR=3.8							
BBOO	Buckleboo	43.03	243	P		P	02 42 27.9	+0.1
	baz=46,SNR=8.1							
JAY	Jayapura	44.36	288	P		P	02 42 39.0	+0.4
	baz=48,SNR=45							
AS31	Alice Springs	44.98	256	eP		P	02 42 42.6	-0.6
ASAR	Alice Springs	44.98	256	P		P	02 42 42.9	-0.4
ASAR				PcP		PcP	02 44 16.6	+0.3
ASAR				S		S	02 48 49.7	-0.8
ASAR	Alice Springs	44.98	256	P		P	02 42 42.9	-0.4
	90nm,0.7s,baz=94,slow=8.2,SNR=731							
ASAR				PcP		PcP	02 44 16.6	+0.3
	7.3nm,0.8s,baz=99,slow=4.1,SNR=9.0							
ASAR				S		S	02 48 49.7	-0.8
	5.5nm,1.1s,baz=93,slow=16,SNR=17							
WRAB	Tennant Creek	45.04	262	eP		P	02 42 42.7	-1.0
WRAB				pmax		pmax		
	comp=Z,43nm,0.7s							
WRAB	Tennant Creek	45.04	262	eP		P	02 42 42.7	-1.0
	comp=Z,43nm,0.7s							
WRA	Warramunga Arr	45.05	262	P		P	02 42 42.9	-1.0
WRA				PcP		PcP	02 44 17.3	+0.7
WRA				S		S	02 48 49.7	-1.8
WRA	Warramunga Arr	45.05	262	P		P	02 42 42.9	-1.0
	comp=Z,20nm,0.3s,baz=96,slow=8.5,SNR=98							
WRA				PcP		PcP	02 44 17.3	+0.7
	comp=Z,3.8nm,0.8s,baz=86,slow=3.7,SNR=4.5							
WRA				S		S	02 48 49.7	-1.8
	comp=Z,2.8nm,0.9s,baz=98,slow=14,SNR=5.7							
KDU	Kakadu	48.36	271	P		P	02 43 08.6	-0.5
	baz=52,SNR=41							
BAKI	Biak	49.06	287	P		P	02 43 15.9	+1.5
MTN	Manton Dam	49.58	270	P		P	02 43 17.7	-0.6
	baz=53,SNR=23							
TLE	Tual	50.37	280	P		P	02 43 24.0	-0.1
	comp=Z,136nm,1.0s							
KNRA	Kununurra	51.09	266	P		P	02 43 29.1	-0.3
	baz=55,SNR=21							
FAKI	Fak Fak	51.85	283	P		P	02 43 32.4	-2.6
	comp=Z,51nm,1.1s							
FAKI	Fak Fak	51.85	283	P		P	02 43 35.0	0.0
	baz=56,SNR=6.7							
FITZ	Fitzroy Crossi	53.47	262	eP		P	02 43 47.0	+0.3
FITZ	Fitzroy Crossi	53.47	262	P		P	02 43 46.9	+0.2
	baz=57,SNR=12							
SWI	Sorong	53.59	285	P		P	02 43 48.1	+0.6
	baz=57,SNR=8.7							
MSAI	Masohi	54.74	281	P		P	02 43 56.1	+0.4
	comp=Z,41nm,0.6s							
AAI	Ambon	55.29	280	P		P	02 44 00.6	+1.0
	comp=Z,88nm,0.6s,comp=Z,5μm							
NLAI	Namlea	56.47	280	P		P	02 44 08.7	+0.8
SOEI	Soe	56.91	271	P		P	02 44 11.1	0.0
	comp=Z,183nm,1.0s,comp=Z,2μm							
SOEI	Soe	56.91	271	P		P	02 44 12.6	+1.5
	baz=61,SNR=22							
BATI	Baumata	57.34	271	P		P	02 44 12.9	-1.0
	comp=Z,46nm,0.8s							
VNDA	Vanda	58.19	185	eP		P	02 44 17.0	-1.7
	comp=Z,1.0nm,0.6s							
VNDA	Vanda	58.19	185	P		P	02 44 16.7	-2.0
	comp=Z,0.8nm,0.5s,baz=310,slow=7.3,SNR=14							
MBWA	Marble Bar	58.31	257	eP		P	02 44 19.6	-0.9
	comp=Z,46nm,0.8s							
MEEK	Meekatharra	58.39	251	P		P	02 44 10.2	-11
	baz=62,SNR=5.3							
KLBR	Kellerberrin	58.54	245	P		P	02 44 21.4	-0.5
	baz=62,SNR=14							
BLDU	Ballidu	59.53	246	P		P	02 44 28.0	-0.7
	baz=63,SNR=14							
MORW	Morawa	60.31	247	P		P	02 44 33.2	-0.6
	baz=64,SNR=6.5							
KAPI	Kappang	62.68	275	eP		P	02 44 48.5	-1.1
	comp=Z,20nm,1.1s							
GIRL	Giralia	63.02	254	P		P	02 44 52.8	+1.0
	baz=67,SNR=5.9							
SPSI	Sidrap Palu	63.02	276	P		P	02 44 52.0	+0.1
QSPA	South Pole Qui	69.81	180	eP		P	02 45 34.5	+0.8
	comp=Z,84nm,3.0s							
QSPA	South Pole Qui	69.81	180	P		P	02 45 34.0	+0.3
	comp=Z,5.5nm,0.7s							
MJAR	Matsushiro Arr	70.26	323	P		P	02 45 35.9	-0.7
MJAR	Matsushiro Arr	70.26	323	P		P	02 45 35.9	-0.7
	comp=Z,5.1nm,0.7s,baz=169,slow=6.5,SNR=17							
MAJO	Matsushiro	70.26	323	eP		P	02 45 36.2	-0.4
MAJO				pmax		pmax		
	comp=Z,12nm,0.8s							
MAJO	Matsushiro	70.26	323	eP		P	02 45 36.2	-0.4
	comp=Z,12nm,0.8s							
MAT	Matsushiro	70.26	323	P		P	02 45 36.4	-0.2
ADK	Adak	71.83	1	eP		P	02 45 44.6	-0.9
ADK				pmax		pmax		
	comp=Z,50nm,0.6s							
ADK	Adak	71.83	1	eP		P	02 45 44.6	-0.9
	comp=Z,50nm,0.6s							
ASAJ	Asahikawa	73.71	331	eP		P	02 45 58.4	+1.8
KSM	Kuching	73.79	278	eP		P	02 45 58.7	+0.9
	comp=Z,40nm,1.0s							
KSM	Kuching	73.79	278	P		P	02 45 58.9	+1.1
	baz=78,SNR=6.3							
YSS	Yuzh-Sakhalins	75.86	333	eP		P	02 46 09.0	+0.3
YSS				pmax		pmax		
	comp=Z,40nm,0.9s							
PETK	Petropavlovsk-	76.14	345	P		P	02 46 10.3	+0.1
PETK	Petropavlovsk-	76.14	345	P		P	02 46 10.3	+0.1
PETK	Petropavlovsk-	76.14	345	P		P	02 46 10.3	+0.1
	comp=Z,22nm,0.9s,baz=128,slow=8.7,SNR=19							
KSRS	Korea Array	76.98	318	P		P	02 46 15.9	+0.8
	comp=Z,0.8nm,0.4s,baz=136,slow=5.7,SNR=4.4							
KSAR	Wonju Array Be	77.00	318	P		P	02 46 15.9	+0.6
SMMC	Simmler	77.65	45	⇑P		P	02 46 19.8	+0.8
	baz=78							
PTRM	Twisselman Ran	77.71	45	eP		P	02 46 23.4	+4.1
VES	Vestal, Richgr	78.56	45	⇓P		P	02 46 24.8	+1.0
	baz=79							
MURC	Murrieta	78.58	48	⇑P		P	02 46 25.3	+1.2
	baz=79							
BFSC	Mount Baldy Ra	78.61	47	⇑P		P	02 46 25.6	+1.2
	baz=79							
MONP	Monument Peak	78.73	49	⇑P		P	02 46 26.4	+1.3
	baz=79							
EDW2	Edwards Air Fo	78.75	46	⇓P		P	02 46 26.3	+1.3
	baz=79							
ISA	Isabella	78.86	45	eP		P	02 46 27.1	+1.5
ISA	Isabella	78.86	45	eP		P	02 46 27.1	+1.5
ISA	Isabella	78.86	45	⇓P		P	02 46 26.8	+1.2
	baz=79							
USRK	Ussuriysk Arra	79.00	326	P		P	02 46 27.6	+1.7
	comp=Z,7.4nm,0.8s,baz=111,slow=3.2,SNR=16							
CMB	Columbia Colle	79.00	43	eP		P	02 46 26.6	+0.4
CMB				pmax		pmax		
	comp=Z,9.0nm,1.1s							
CMB	Columbia Colle	79.00	43	eP		P	02 46 26.6	+0.4
	comp=Z,9.2nm,1.1s							
PFO	Pinyon Flat Ob	79.10	48	⇓P		P	02 46 28.2	+1.2
	baz=79							
BELC	Belle Mtn. Jos	79.63	48	⇑P		P	02 46 31.1	+1.3
	baz=80							
MPMC	Manual Prospec	79.75	46	⇑P		P	02 46 31.6	+1.2
	baz=80							
GSC	Goldstone	79.79	46	⇑P		P	02 46 31.6	+1.0
	baz=80							
BC3	Big Chuckawall	79.83	48	⇓P		P	02 46 32.5	+1.7
	baz=80							
HEC	Hector,Ludlow	79.86	47	⇓P		P	02 46 32.1	+1.3
	baz=80							
GLA	Glamis	79.95	49	⇓P		P	02 46 33.3	+1.9
	baz=80							
NJ2	Nanjing	80.04	309	eP		P	02 46 32.4	+0.6
NJ2				AMB		AMB		
	comp=Z,20nm,0.8s							
BEKR	Beckworth	80.11	41	eP		P	02 46 32.9	+0.6
	comp=Z,1.3nm,0.5s							
GMRC	Granite Mounta	80.29	47	⇑P		P	02 46 34.6	+1.3
	baz=80							
IRM	Iron Mountain	80.31	48	⇑P		P	02 46 34.3	+1.0
	baz=80							
FURC	Furnace Creek,	80.40	45	⇑P		P	02 46 35.3	+1.7
	baz=81							
TUQ	Turquoise Moun	80.46	47	⇓P		P	02 46 35.7	+1.6
	baz=81							
Y12C	Blythe	80.53	49	⇓P		P	02 46 35.7	+1.3
	baz=81							
MDJ	Mudanjiang	80.56	325	P		P	02 46 35.6	+1.4
MDJ				AMB		AMB		
	comp=Z,13nm,0.8s							
MDJ				AMB		AMB		
	comp=Z,94nm,4.8s							
113A	Mohawk Valley,	80.56	50	⇑P		P	02 46 36.2	+1.7
	baz=81							
NVAR	Mina Array Bea	80.56	43	P		P	02 46 35.3	+0.6
NVAR	Mina Array Bea	80.56	43	P		P	02 46 35.3	+0.6
	comp=Z,4.0nm,0.7s,baz=223,slow=8.2,SNR=16							
LDFC	Landfair	80.83	47	eP		P	02 46 37.5	+1.4
	comp=Z,26nm,1.0s							
214A	Organ Pipe Nat	80.83	51	⇑P		P	02 46 37.7	+1.7
	baz=81							
PDMCI	Parker Dam,Lak	81.09	49	⇑P		P	02 46 38.9	+1.6
	baz=81							
MOD	Modoc	81.36	39	eP		P	02 46 39.1	+0.4
	comp=Z,73nm,1.3s							
Z14A	Wintersburg	81.46	50	⇑P		P	02 46 41.0	+1.7
	baz=82							
W13A	Hualapai Mount	81.69	48	⇓P		P	02 46 41.8	+1.2
	baz=82							
Y14A	Wickenburg	81.71	49	⇑P		P	02 46 42.0	+1.4
	baz=82							
MAW	Mawson	81.94	200	P		P	02 46 41.6	+0.6
MAW	Mawson	81.94	200	P		P	02 46 41.6	+0.6
	comp=Z,3nm,1.0s,baz=68,slow=7.7,SNR=3.7							
R11A	Troy Canyon, C	82.28	44	⇓P		P	02 46 44.8	+1.2
	baz=82							
CN2	Changchun	82.36	322	eP		P	02 46 44.3	+0.7
CN2				eS		S	02 56 24.5	+0.1
CN2				AMB		AMB		
	comp=Z,10.0nm,1.2s							
WVOR	Wild Horse Val	82.67	40	eP		P	02 46 45.9	+0.5
WVOR				pmax		pmax		
	comp=Z,14nm,1.0s							
WVOR	Wild Horse Val	82.67	40	eP		P	02 46 45.9	+0.5
	comp=Z,14nm,1.0s							
RSO	Redoubt South	82.91	12	eP		P	02 46 45.2	-1.0
	comp=Z,6.5nm,0.5s							
X16A	Lo Mia Camp, P	83.07	50	⇑P		P	02 46 49.7	+2.0
	baz=83							
319A	Douglas	83.17	53	⇑P		P	02 46 50.0	+1.8
	baz=83							
U15A	North Rim	83.49	47	⇓P		P	02 46 51.5	+1.7
	baz=84							
IPM	Ipoh	83.51	277	eP		P	02 46 48.8	-1.4
	comp=Z,8.7nm,0.6s							
WUAZ	Wupatki	83.67	49	⇑P		P	02 46 52.3	+1.6
	baz=84							
320A	Kipp Ranch, An	83.72	53	⇓P		P	02 46 53.3	+2.4
	baz=84							
220A	Playas Peak, P	83.98	53	⇑P		P	02 46 54.5	+2.3
	baz=84							
KULM	Kulim	84.15	278	eP		P	02 46 54.0	+0.7
	comp=Z,10nm,0.7s							
X18A	Snowflake	84.19	50	⇑P		P	02 46 54.9	+1.6
	baz=84							
120A	U Bar Ranch, L	84.21	52	⇓P		P	02 46 55.3	+1.9
	baz=84							
Z20A	Nine Sixteen R	84.50	52	⇑P		P	02 46 56.9	+2.0
	baz=85							
221A	Mesquite Ranch	84.59	53	⇑P		P	02 46 57.4	+2.1
	baz=85							
121A	Cookes Peak, D	84.83	53	⇓P		P	02 46 58.6	+2.1
	baz=85							
Y20A	Horse Springs,	85.04	51	⇓P		P	02 46 59.5	+1.9
	baz=85							
222A	Williams Famil	85.15	53	⇓P		P	02 46 59.9	+1.9
	baz=85							
BMRM	Bremner River	85.19	15	eP		P	02 46 57.0	-0.4
	comp=Z,4.4nm,0.7s							
X20A	Quemado	85.25	51	⇓P		P	02 47 00.5	+2.0
	baz=85							
Z21A	St. Cloud Mine	85.28	52	⇑P		P	02 47 00.7	+1.9
	baz=86							
W20A	Ramah	85.53	50	⇓P		P	02 47 01.3	+1.3
	baz=86							
Y21A	Point of Rocks	85.60	51	⇓P		P	02 47 02.1	+1.8
	baz=86							
TMUT	Trail Mountain	85.69	45	eP		P	02 47 02.1	+1.4
	comp=Z,6.4nm,0.7s							
X21A	Alamocita Cree	85.72	51	⇓P		P	02 47 02.6	+1.7
	baz=86							
HLID	Hailey	85.87	41	eP		P	02 47 02.0	+0.7
	comp=Z,2.6nm,0.8s							
HLID	Hailey	85.87	41	⇓P		P	02 47 02.9	+1.6
	baz=86							
BJI	Beijing	86.01	315	P		P	02 47 02.8	+1.0
BJI				AMB		AMB		
	comp=Z,9.0nm,1.4s							
SRU	San Rafael	86.05	46	eP		P	02 47 02.6	+0.3
SRU				pmax		pmax		
	comp=Z,7.0nm,1.1s							
SRU	San Rafael	86.05	46	eP		P	02 47 02.6	+0.3
	comp=Z,6.7nm,1.1s							
324A	Moseley Ranch,	86.08	55	⇑P		P	02 47 03.1	+0.5
	baz=86,SNR=8.1							
Y22A	Socorro	86.09	52	⇓P		P	02 47 04.1	+1.5
	baz=86							
TRF	Thorofare Moun	86.12	12	eP		P	02 47 00.8	-1.3
	comp=Z,10.0nm,0.8s							
W21A	San Fidel	86.14	51	⇑P		P	02 47 04.1	+1.2
	baz=86							
425A	Indio Mountain	86.17	55	⇑P		P	02 47 04.1	+1.1
	baz=86,SNR=7.6							
SEY	Seymchan	86.23	347	i P		P	02 47 02.2	-0.1
626A	Big Bend Ranch	86.30	57	⇑P		P	02 47 05.0	+1.4
	baz=86,SNR=5.4							
Z23A	Rita Site, Whi	86.33	53	⇑P		P	02 47 04.7	+1.0
	baz=86							
224A	Cornudas Mount	86.33	54	⇑P		P	02 47 05.0	+1.3
	baz=86,SNR=6.1							
BNM	Barren Site	86.44	52	eP		P	02 47 05.1	+0.7
	comp=Z,1.3nm,0.7s							
325A	Bean Ranch, Si	86.44	55	⇓P		P	02 47 05.2	+0.8
	baz=87,SNR=7.3							
V21A	Milan	86.47	50	⇑P		P	02 47 05.0	+0.6
	baz=87							
MVCO	Mesa Verde	86.52	48	⇑P		P	02 47 05.5	+0.9
	baz=87							
526A	Mary Lane Ranc	86.55	56	⇓P		P	02 47 06.2	+1.3
	baz=87							
TXAR	Lajitas Array	86.57	57	P		P	02 47 06.0	+1.1
TXAR	Lajitas Array	86.57	57	P		P	02 47 06.0	+1.1
	comp=Z,2.8nm,0.9s,baz=217,slow=6.1,SNR=30							
MCK	McKinley	86.64	12	eP		P	02 47 03.5	-0.8
MCK				pmax		pmax		
	comp=Z,11nm,0.9s							
MCK	McKinley	86.64	12	eP		P	02 47 03.5	-0.8
	comp=Z,11nm,0.9s							
124A	Stringfield Ra	86.66	53	⇓P		P	02 47 07.0	+1.6
	baz=87							
W22A	Albuquerque	86.68	51	⇓P		P	02 47 06.9	+1.4
	baz=87							
U21A	Nageezi	86.74	49	⇑P		P	02 47 07.1	+1.3
	baz=87							
Y23A	Lovelace Mesa,	86.76	52	⇓P		P	02 47 06.6	+0.8
	baz=87							
627A	Terlingua Ranc	86.84	57	⇓P		P	02 47 07.5	+1.3
	baz=87							
426A	McDonald Obser	86.86	56	⇓P		P	02 47 07.7	+1.2
	baz=87,SNR=7.7							
225A	Deer Hill, Car	86.88	54	⇓P		P	02 47 07.7	+1.3
	baz=87,SNR=5.4							
GYA	Guiyang	86.89	300	eP		P	02 47 07.3	+0.8
GYA				pP		pP	02 48 40.8	+0.2
GYA				sP		sP	02 49 22.0	-1.2
GYA				PP		PP	02 50 38.5	+1.9
GYA				SKS		SKSac	02 56 52.3	-1.6
GYA				S		S	02 57 09.6	0.0
GYA				AMB		AMB		
	comp=Z,10.0nm,1.0s							
X23A	Hourglass Bar	86.96	52	⇑P		P	02 47 07.5	+0.8
	baz=87							
527A	Woodward Ranch	86.96	56	⇑P		P	02 47 07.9	+1.1
	baz=87							
Z24A	Sheeppen Canyo	87.01	53	⇑P		P	02 47 08.1	+1.1
	baz=87							
V22A	San Miguel Ran	87.04	50	⇑P		P	02 47 08.4	+1.3
	baz=87							
R20A	Redvale	87.07	48	⇓P		P	02 47 08.0	+0.8
	baz=87							
T21A	Navajo Lake	87.09	49	⇑P		P	02 47 08.3	+1.0
	baz=87							
Y24A	Capitan	87.22	52	⇓P		P	02 47 09.0	+1.0
	baz=87,SNR=9.6							
125A	Gardner Draw,	87.24	54	⇑P		P	02 47 09.3	+1.3
	baz=87							
W23A	Werner Place,	87.25	51	⇓P		P	02 47 09.5	+1.4
	baz=87							
GDL2	Guadalupe Moun	87.27	54	eP		P	02 47 09.6	+1.4
	comp=Z,4.2nm,0.9s							
U22A	Llaves	87.29	50	⇓P		P	02 47 08.9	+0.6
	baz=88							
226B	Tecolote Peak,	87.36	55	⇓P		P	02 47 09.8	+1.2
	baz=88,SNR=6.7							
427A	Hayter Ranch,	87.43	56	⇓P		P	02 47 10.4	+1.5
	baz=88,SNR=9.4							
Z25A	Roswell	87.47	53	⇑P		P	02 47 10.3	+1.2
	baz=88							
V23A	Ortiz Mt. (NFS	87.49	50	⇓P		P	02 47 10.5	+1.3
	baz=88							
Q20A	Ridgley Place,	87.49	47	⇑P		P	02 47 10.0	+0.8
	baz=88							
MCMT	McKenzie Canyo	87.50	40	eP		P	02 47 09.9	+0.8
	comp=Z,5.1nm,1.1s							
T22A	Edith	87.55	49	⇓P		P	02 47 10.6	+1.1
	baz=88						

O20A White River Ci 88.09 46 ⇑P P 02 47 12.5 +0.6
baz=88
328A Wristen Ranch, 88.11 56 ⇓P P 02 47 12.6 +0.6
baz=88
R22A Saguache, Gunn 88.22 48 ⇑P P 02 47 13.3 +0.6
baz=88
127A Arkansas Junct 88.24 54 ⇑P P 02 47 13.5 +0.8
baz=88
SNAA Sanae 88.25 178 eP P 02 47 12.5 +0.5
comp=Z,5.9nm,1.5s
LRM Limekiln Ridge 88.26 39 eP P 02 47 13.0 +0.4
comp=Z,31nm,0.9s
L19A Farson 88.30 44 ⇓P P 02 47 13.9 +1.0
baz=88
XAN Xi'an 88.31 307 P P
XAN AMB AMB 02 47 13.8 +0.9
comp=Z,2.0nm,1.0s
Q22A Crested Butte, 88.40 47 ⇓P P 02 47 14.5 +0.9
baz=89
N20A Spence Gulch, 88.41 45 ⇓P P 02 47 14.6 +1.2
baz=89
Y26A Elida 88.42 53 ⇑P P 02 47 13.7 +0.2
baz=89,SNR=5.2
I17A Pilgrim Ck. 88.43 42 ⇓P P 02 47 14.6 +1.2
baz=89
PDAR Pinedale Array 88.50 43 P P 02 47 14.2 +0.3
PDAR Pinedale Array 88.50 43 P P 02 47 14.2 +0.3
comp=Z,2.8nm,0.7s,baz=216,slow=3.1,SNR=26
429A Davenport Ranc 88.51 57 ⇓P P 02 47 15.0 +1.0
baz=89
W25A X Bar L Ranch, 88.51 52 ⇓P P 02 47 14.7 +0.7
baz=89
228A UT Block 9, Go 88.59 55 ⇑P P 02 47 15.5 +1.2
baz=89
Z27A Tatum 88.62 54 ⇓P P 02 47 15.2 +0.7
baz=89
T24B San Luis 88.66 50 ⇑P P 02 47 15.9 +1.1
baz=89
H17A Grant Village 88.67 41 ⇑P P 02 47 16.5 +1.9
baz=89
V25A Rancho No Teng 88.67 51 ⇓P P 02 47 15.4 +0.7
baz=89
X26A CR and CF Fran 88.70 52 ⇓P P 02 47 16.3 +1.4
baz=89
530A J-C Ranch, Com 88.75 57 ⇓P P 02 47 16.0 +0.9
baz=89
M20A Sweetwater, Wa 88.77 45 ⇓P P 02 47 16.6 +1.5
baz=89
329A Wagon Wheel Ra 88.80 56 ⇑P P 02 47 16.2 +0.9
baz=89
R23A Moffat 88.85 48 ⇑P P 02 47 16.4 +0.8
baz=89
128A Castleberry Fa 88.88 55 ⇓P P 02 47 16.7 +1.1
baz=89
Y27A Causey 88.90 53 ⇓P P 02 47 16.2 +0.4
baz=89,SNR=5.8
L20A Wamsutter 88.92 44 ⇓P P 02 47 16.8 +1.0
baz=89,SNR=6.1
W26A Owens Ranch, T 88.97 52 ⇓P P 02 47 17.0 +1.0
baz=89
S24A Houchin Ranch, 89.04 49 ⇓P P 02 47 17.5 +1.0
baz=89
631A Perdido Creek 89.06 58 ⇓P P 02 47 17.9 +1.4
baz=89
J19A Crowheart 89.06 43 ⇑P P 02 47 17.1 +0.7
baz=89,SNR=7.4
U25A Circle Dot Ran 89.07 51 ⇓P P 02 47 17.5 +0.9
baz=89
430A Baggett Ranch, 89.09 57 ⇑P P 02 47 17.4 +0.8
baz=89
DAWY Dawson 89.11 16 eP P 02 47 15.8 -0.1
MSTX Muleshoe 89.23 53 eP P 02 47 17.5 +0.2
MSTX Muleshoe 89.23 53 ⇑P P 02 47 17.9 +0.6
baz=89,SNR=5.1
Z28A Tucker Farm, M 89.24 54 ⇑P P 02 47 17.9 +0.6
baz=89
O22A Kremmling 89.25 46 ⇓P P 02 47 18.4 +0.9
baz=89,SNR=7.3
V26A Tequesquite Ra 89.26 51 ⇓P P 02 47 18.0 +0.6
baz=89
EGAK Eagle 89.26 15 eP P 02 47 15.9 -0.6
comp=Z,7.1nm,0.9s
732A Laxson Ranch, 89.27 59 ⇓P P 02 47 18.6 +1.2
baz=89
X27A F and S Farms, 89.28 53 ⇑P P 02 47 18.3 +0.8
baz=90
129A Stewart Farms, 89.36 55 ⇑P P 02 47 19.0 +1.1
baz=90
H18A Shoshone NF, C 89.37 41 ⇑P P 02 47 18.9 +1.0
baz=90
R24A Sanders Place, 89.38 49 ⇑P P 02 47 18.8 +0.8
baz=90
531A Rocksprings 89.39 58 ⇓P P 02 47 19.3 +1.2
baz=90
T25A Trinidad 89.39 50 ⇓P P 02 47 18.9 +0.8
baz=90
330A Mertzon 89.39 56 ⇑P P 02 47 18.5 +0.4
baz=90
I19A Meeteetse 89.48 42 ⇑P P 02 47 18.9 +0.6
baz=90,SNR=6.3
HHC Hu-ho-hao-te 89.48 314 eP P 02 47 17.5 -0.8
HHC pP pP 02 48 53.0 +0.1
HHC sP sP 02 49 34.8 -0.6
HHC PP PP 02 50 58.1 +1.2
HHC SKS SKSac 02 57 07.0 -1.5
HHC S S 02 57 30.6 -2.5
HHC sS sS 03 00 19.8 -1.8
HHC AMB AMB
comp=Z,34nm,1.0s
HHC AMB AMB
comp=Z,110nm,5.6s
W27A Bowe Ranch, En 89.48 52 ⇑P P 02 47 19.4 +1.0
baz=90
U26A Atchley Ranch, 89.55 51 ⇑P P 02 47 19.5 +0.7
baz=90
N22A Wattenberg Ran 89.61 46 ⇓P P 02 47 20.4 +1.3
baz=90,SNR=5.8
KMI Kunming 89.61 297 P P
KMI AMB AMB 02 47 20.0 +0.6
comp=Z,14nm,1.2s
O23A Lake Granby, G 89.70 47 ⇑P P 02 47 20.1 +0.5
baz=90
J20A Shoshoni 89.73 43 ⇑P P 02 47 20.4 +1.0
baz=90,SNR=9.6
632A Uvalde 89.73 58 ⇓P P 02 47 20.6 +1.0
baz=90
Z29A Hungry Hill Ra 89.74 54 ⇓P P 02 47 20.4 +0.7
baz=90
M22A Cedar Creek Ra 89.79 45 ⇑P P 02 47 20.8 +0.9
baz=90
H19A Powell 89.79 42 ⇓P P 02 47 20.8 +1.1
baz=90
532A Rocksprings 89.88 58 ⇓P P 02 47 21.1 +0.7
baz=90
X28A Dimmitt 89.89 53 ⇑P P 02 47 20.8 +0.4
baz=90
K21A Alcova 89.93 44 ⇓P P 02 47 20.8 +0.4
baz=90
331A San Angelo 89.94 57 ⇑P P 02 47 20.7 +0.2
baz=90
I20A Worland 89.98 43 ⇓P P 02 47 21.1 +0.5
baz=90,SNR=5.7
N23A Red Feather La 89.99 46 ⇓P P 02 47 22.0 +1.1
baz=90
Y29A Porterfield Fa 90.02 54 ⇑P P 02 47 21.5 +0.6
baz=90
J21A Lysite 90.13 43 ⇓P P 02 47 22.0 +0.6
baz=90,SNR=7.1
L22A Ellis Ranch, M 90.18 45 ⇓P P 02 47 22.5 +0.8
baz=90
Z30A Sanderson Ranc 90.20 55 ⇓P P 02 47 22.3 +0.6
baz=90
U27A Thompson Grove 90.23 51 ⇓P P 02 47 22.8 +0.9
baz=90
X29A Tulia 90.24 53 ⇑P P 02 47 22.4 +0.5
baz=90
432A Menard 90.26 57 ⇑P P 02 47 22.6 +0.5
baz=90
S26A Kim 90.27 50 ⇓P P 02 47 22.8 +0.8
baz=90
231A Bronte 90.28 56 ⇑P P 02 47 22.7 +0.6
baz=90
H20A Greybull 90.32 42 ⇑P P 02 47 22.9 +0.8
baz=90
F19A Roth Farm, Mol 90.39 41 ⇑P P 02 47 22.9 +0.5
baz=91
K22A Casper 90.41 44 ⇑P P 02 47 23.3 +0.6
baz=91
CMAR Chiang Mai Arr 90.42 289 P P 02 47 23.9 +0.8
CMAR Chiang Mai Arr 90.42 289 P P 02 47 23.9 +0.8
comp=Z,1.1nm,0.3s,baz=110,slow=3.4,SNR=13
I21A Big Trails, Te 90.45 43 ⇑P P 02 47 23.2 +0.4
baz=91,SNR=6.7
332A Millersview 90.50 57 ⇓P P 02 47 24.0 +0.8
baz=91
131A Roby 90.52 55 ⇓P P 02 47 23.9 +0.7
baz=91
G20A Bridger 90.53 41 ⇑P P 02 47 24.4 +1.3
baz=91
CHTO Chiang Mai 90.55 290 eP P 02 47 24.8 +1.2
CHTO pmax pmax
comp=Z,23nm,0.8s
CHTO Chiang Mai 90.55 290 eP P 02 47 24.8 +1.2
comp=Z,23nm,0.8s
W29A Amraillo 90.56 53 ⇓P P 02 47 24.1 +0.7
baz=91
R26A Arlington 90.58 49 ⇓P P 02 47 24.5 +1.0
baz=91
P25A Willow Gulch B 90.60 48 ⇑P P 02 47 24.9 +1.3
baz=91
U28A Mallet 90.65 51 ⇑P P 02 47 24.6 +0.7
baz=91
L23A Garrett 90.71 45 ⇑P P 02 47 24.5 +0.4
baz=91,SNR=5.4
232A Coleman 90.78 56 ⇑P P 02 47 25.2 +0.8
baz=91
E19A Rath Farm, Rou 90.78 40 ⇑P P 02 47 25.3 +1.1
baz=91
J22A Midwest 90.79 44 ⇓P P 02 47 24.7 +0.3
baz=91,SNR=5.5
Z31A Sharp Cattle R 90.96 55 ⇑P P 02 47 26.0 +0.7
baz=91
H21A Big Horn, Sher 90.99 42 ⇑P P 02 47 26.1 +0.9
baz=91
M24A Cheyenne 91.00 46 ⇑P P 02 47 26.1 +0.7
baz=91
CD2 Chengdu 91.01 303 P P 02 47 26.0 +0.5
CD2 AMB AMB
comp=Z,10.0nm,0.5s
I22A 9 Mile Ranch, 91.01 43 ⇓P P 02 47 25.8 +0.5
baz=91,SNR=5.3
R27A Eads 91.04 49 ⇑P P 02 47 26.6 +1.0
baz=91
T28A Walsh 91.04 51 ⇑P P 02 47 26.2 +0.6
baz=91
K23A Bowen Ranch, D 91.05 44 ⇓P P 02 47 26.8 +1.3
baz=91
D19A Cripps Ranch, 91.06 39 ⇑P P 02 47 26.7 +1.3
baz=91
ABTX Abilene, Hawle 91.07 56 ⇑P P 02 47 26.6 +0.8
baz=91
Y31A Rekieta Farm, 91.13 54 ⇓P P 02 47 26.9 +0.9
baz=91
L24A Wheatland 91.19 45 ⇑P P 02 47 27.6 +1.4
baz=91
E20A Meyer Farm, Mu 91.20 40 ⇑P P 02 47 27.2 +1.1
baz=91
C19A Slack Wire Ran 91.24 39 ⇑P P 02 47 27.4 +1.2
baz=91,SNR=5.6
KSCO Kaye Shedlock' 91.46 49 ⇓P P 02 47 29.0 +1.4
baz=92
Z32A Haskell 91.47 55 ⇑P P 02 47 28.7 +1.1
baz=92
D20A Manuel Ranch, 91.47 40 ⇓P P 02 47 28.7 +1.4
baz=92
M25A Palm-Egli Farm 91.51 46 ⇓P P 02 47 29.4 +1.7
baz=92
K24A Anderson Ranch 91.57 45 ⇓P P 02 47 29.1 +1.1
baz=92
B19A Brinkman Farms 91.65 38 ⇓P P 02 47 29.3 +1.2
baz=92
G22A Birney 91.73 42 ⇓P P 02 47 30.3 +1.6
baz=92
R28A Tribune 91.77 50 ⇓P P 02 47 29.6 +0.7
baz=92
Y32A R-V Farms, Ver 91.77 54 ⇑P P 02 47 29.6 +0.6
baz=92
C20A Veseth Ranch, 91.85 39 ⇑P P 02 47 30.3 +1.3
baz=92
W31A Holland Ranch, 91.86 53 ⇑P P 02 47 30.0 +0.6
baz=92
A19A Klindworth Far 92.00 38 ⇑P P 02 47 30.6 +0.9
baz=92
YAK Yakutsk 92.04 338 eP P 02 47 29.4 0.0
Q28A Sharon Springs 92.05 49 ⇑P P 02 47 31.4 +1.2
baz=92
D21A La Casta Ranch 92.15 40 ⇓P P 02 47 31.6 +1.1
baz=92
P28A Saint Francis 92.31 49 ⇑P P 02 47 32.8 +1.4
baz=92
A20A Cobblestone Ra 92.45 38 ⇑P P 02 47 33.0 +1.3
baz=93
E22A Miles City 92.50 41 ⇑P P 02 47 33.3 +1.2
baz=93
F23A Volborg 92.52 42 ⇑P P 02 47 33.3 +1.2
baz=93
WHTX Lake Whitney 92.54 57 ⇑P P 02 47 33.3 +0.8
baz=93
Q29A Oakley 92.58 49 ⇑P P 02 47 33.7 +1.1
baz=93
H24A Dirks Ranch, A 92.63 43 ⇓P P 02 47 33.7 +1.0
baz=93
K26A Motz Farm, Whi 92.64 45 ⇑P P 02 47 33.9 +1.0
baz=93
RSSD Black Hills 92.69 44 eP P 02 47 33.4 +0.2
RSSD pmax pmax
comp=Z,27nm,1.0s
RSSD Black Hills 92.69 44 eP P 02 47 33.4 +0.2
comp=Z,27nm,1.0s
B21A Ellsworth Farm 92.77 39 ⇑P P 02 47 34.4 +1.2
baz=93
I25A Rochford 92.84 44 ⇑P P 02 47 34.9 +1.1
baz=93
R30A Dighton 92.84 50 ⇓P P 02 47 34.6 +0.8
baz=93
P29A Atwood 92.91 49 ⇑P P 02 47 35.0 +0.9
baz=93
E23A Ismay 92.93 41 ⇓P P 02 47 35.0 +1.0
baz=93
LZH Lanzhou 92.95 307 eP P 02 47 35.6 +1.1
LZH pP pP 02 49 09.9 +0.5
LZH AMB AMB
comp=Z,23nm,1.0s
LZH AMB AMB
comp=Z,85nm,4.3s
J26A Sides Ranch, S 92.97 45 ⇑P P 02 47 35.5 +1.2
baz=93
Q30A Quinter 93.16 50 ⇑P P 02 47 36.2 +0.9
baz=93
D23A Lindsay 93.29 41 ⇓P P 02 47 36.4 +0.7
baz=94
B22A Reddig Ranch S 93.32 39 ⇓P P 02 47 37.1 +1.4
baz=94
P30A Selden 93.37 49 ⇓P P 02 47 37.3 +1.1
baz=94
C23A Lambert 93.58 40 ⇑P P 02 47 38.3 +1.3
baz=94
J27A Elkhorn Farm, 93.66 45 ⇓P P 02 47 38.7 +1.3
baz=94
INK Inuvik 93.93 15 eP P 02 47 37.0 -0.9
comp=Z,2.7nm,0.9s
I27A Quinn 93.96 44 ⇑P P 02 47 39.8 +0.9
baz=94
P31A Stockton 93.97 49 ⇓P P 02 47 39.8 +0.8
baz=94
B23A Brockton 93.99 40 ⇑P P 02 47 39.8 +1.0
baz=94
O31A Woolen Ranch, 94.26 49 ⇑P P 02 47 41.2 +0.9
baz=94
DGMT Dagmar 94.47 40 ⇑P P 02 47 41.9 +1.0
baz=95
P32A Huiting Farm, 94.57 50 ⇑P P 02 47 42.5 +0.8
baz=95
D26A Manning 94.94 42 ⇓P P 02 47 44.4 +1.3
baz=95
K30A Basset 95.03 46 ⇓P P 02 47 44.8 +1.1
baz=95
ZALV Zalesovo Beam 110.56 321 PKiKP PKiKP 02 52 49.3 -1.2
ZALV Zalesovo Beam 110.56 321 PKiKP PKiKP 02 52 49.3 -1.2
ZALV Zalesovo Beam 110.56 321 PKiKP PKiKP 02 52 49.3 -1.2
comp=Z,0.9nm,0.6s,baz=288,slow=1.4,SNR=3.7
MK31 Makanchi Array 111.33 313 ePKIKP PKiKP 02 52 51.2 -1.1
MK31 Makanchi Array 111.33 313 ePKP PKiKP 02 52 51.2 -1.1
MKAR Makanchi Array 111.33 313 PKIKP PKiKP 02 52 50.8 -1.5
MKAR Makanchi Array 111.33 313 PKiKP PKiKP 02 52 50.8 -1.5
MKAR Makanchi Array 111.33 313 PKiKP PKiKP 02 52 50.8 -1.5
comp=Z,0.7nm,0.6s,baz=109,slow=0.5,SNR=7.7
KURK Kurchatov 114.09 317 ePKIKP PKiKP 02 52 56.2 -1.2
KURK Kurchatov 114.09 317 ePKP PKiKP 02 52 56.1 -1.2
KSH Kashi 115.09 305 PKP PKPdf 02 53 02.0 +2.2
KSH PP PP 02 54 13.4 +6.4
KSH sPKP 02 55 22.4
KSH PKS PKSdf 02 56 35.8 -0.8
KSH SKS SKSdf 02 59 29.8 -2.5
KSH SKKS SKKSac 03 00 22.8 -2.0
KSH SS SS 03 09 32.3 +0.9
KSH PPMZ
comp=Z,49nm,5.0s
TKM2 Tokmak 2 115.68 309 ePKIKP PKPdf 02 53 00.4 -0.6
TKM2 Tokmak 2 115.68 309 ePKPdf PKPdf 02 53 00.4 -0.6
AAK Ala-Archa 116.47 308 ePKIKP PKPdf 02 53 01.4 -1.1
AAK Ala-Archa 116.47 308 ePKPdf PKPdf 02 53 01.4 -1.1
EKS2 Erkin-Say 117.00 308 ePKIKP PKPdf 02 53 03.1 -0.4
EKS2 Erkin-Say 117.00 308 ePKPdf PKPdf 02 53 03.0 -0.4
BVAR Borovoye Array 119.16 320 PKIKP PKPdf 02 53 06.4 -0.7
BVAR Borovoye Array 119.16 320 PKP PKPdf 02 53 06.4 -0.7
BVAR Borovoye Array 119.16 320 PKP PKPdf 02 53 06.4 -0.7
comp=Z,1.4nm,0.6s,baz=132,slow=2.2,SNR=7.4
BRVK Borovoye 119.22 320 ePKIKP PKPdf 02 53 06.3 -0.9
BRVK Borovoye 119.22 320 ePKPdf PKPdf 02 53 06.3 -0.9
KBL Kabul 120.14 299 ePKIKP PKPdf 02 53 09.3 -0.5
KBL Kabul 120.14 299 ePKPdf PKPdf 02 53 09.3 -0.5
ARU Arti 125.23 326 i PKIKP PKPdf 02 53 18.9 +0.3
ARU 02 55 16.4
ABKAR Akbulak array 126.19 317 ePKPdf PKPdf 02 53 20.5 -0.2
AKTO Aktyubinsk 127.16 319 PKIKP PKPdf 02 53 21.1 -1.4
AKTO Aktyubinsk 127.16 319 PKP PKPdf 02 53 21.1 -1.4
AKTO Aktyubinsk 127.16 319 PKP PKPdf 02 53 21.1 -1.4
comp=Z,1.3nm,0.6s,baz=108,slow=7.4,SNR=4.6
ARCES ARCESS Array B 128.75 350 PKP PKPdf 02 53 24.5 -0.5
ARCES ARCESS Array B 128.75 350 PKP PKPdf 02 53 24.5 -0.5
comp=Z,1.7nm,0.6s,baz=8.1,slow=1.7,SNR=4.6
FINES FINESS Array B 135.65 344 PKPpre PKPpre 02 53 35.0
FINES PKP PKiKP 02 53 39.4 -0.4
FINES FINESS Array B 135.65 344 PKhKP PKPpre 02 53 35.0
comp=Z,4.2nm,1.0s,baz=87,slow=4.2,SNR=4.3
FINES PKP PKiKP 02 53 39.4 -0.4
comp=Z,1.5nm,0.5s,baz=90,slow=4.4,SNR=8.3
GNI Garni 138.88 308 ePKPdf PKPdf 02 53 43.4 -1.6
HFS Hagfors 139.36 351 PKPpre PKPpre 02 53 35.6
HFS Hagfors 139.36 351 PKhKP PKPpre 02 53 35.6
comp=Z,3.5nm,0.8s,baz=2.9,slow=3.0,SNR=9.0
KMBO Kilima Mbogo 139.82 242 ePKPdf PKPdf 02 53 47.7 0.0
AKASG Malin Array Be 143.00 332 PKHKP PKPpre 02 53 47.8
AKASG Malin Array Be 143.00 332 PKPpre PKPpre 02 53 47.8
AKASG Malin Array Be 143.00 332 PKhKP PKPpre 02 53 47.8
comp=Z,6.2nm,0.5s,baz=41,slow=4.5,SNR=71
KIEV Kiev 143.01 332 ePKHKP PKPpre 02 53 48.2
KIEV Kiev 143.01 332 ePKPpre PKPpre 02 53 48.2
MALT Malatya 144.11 308 ⇑P PKPdf 02 53 54.5 +0.2
EKA Eskdalemuir Ar 144.72 6 PKP PKPbc 02 53 54.0 -0.7
EKA Eskdalemuir Ar 144.72 6 PKP PKPbc 02 53 54.0 -0.7
comp=Z,3.4nm,0.6s,baz=332,slow=2.5,SNR=16
ESK Eskdalemuir 144.73 6 ePKIKP PKPbc 02 53 53.7 -1.0
ESK Eskdalemuir 144.73 6 ePKPdf PKPbc 02 53 53.7 -1.0
BSEG Bad Segeberg 145.84 352 ePKP2 PKPbc 02 53 58.2 +0.2
BSEG Bad Segeberg 145.84 352 ePKPbc PKPbc 02 53 58.2 +0.2
LVV L'vov 145.86 335 c i PKP2 PKPbc 02 53 57.8 -0.5
LEOM Leova 146.40 327 ⇑P PKPbc 02 53 59.7 -0.2
KWP Kalwaria Pacla 146.53 336 ePKP2 PKPbc 02 54 00.6 +0.4
KWP Kalwaria Pacla 146.53 336 ⇑P PKPbc 02 54 00.6 +0.4
KWP Kalwaria Pacla 146.53 336 ePKPbc PKPbc 02 54 00.6 +0.2
KWP Kalwaria Pacla 146.53 336 ePKP PKPbc 02 54 00.5 +0.4
BR131 Keskin Array S 146.98 313 ePKPbc PKPbc 02 54 01.4 -0.4
BRTR Keskin Array B 146.98 313 PKPbc PKPbc 02 54 01.5 -0.4
BRTR Keskin Array B 146.98 313 PKPbc PKPbc 02 54 01.5 -0.4
comp=Z,7.0nm,0.8s,baz=138,slow=4.7,SNR=32
ASF Jabal al Asfar 147.03 298 PKPbc PKPbc 02 54 02.6 +0.4
ASF Jabal al Asfar 147.03 298 PKPbc PKPbc 02 54 02.6 +0.4
comp=Z,7.7nm,0.8s,baz=108,slow=1.7,SNR=19
BUR08 Bucovina Ar. S 147.03 331 ePKPbc PKPbc 02 54 02.0 +0.3
BURAR Bucovina Array 147.05 331 ⇓P PKPbc 02 54 02.5 +0.7
KOLS Kolonicke sedl 147.26 336 ePKP2 PKPbc 02 54 02.8 +0.6
KOLS Kolonicke sedl 147.26 336 ePKP PKPbc 02 54 02.8 +0.6
CFR Carcaliu 147.32 325 ⇑P PKPbc 02 54 02.5 +0.1
ANTO Ankara 147.49 314 ePKP2 PKPbc 02 54 03.2 0.0
ANTO Ankara 147.49 314 ⇑P PKPbc 02 54 03.8 +0.6
ANTO Ankara 147.49 314 ePKPbc PKPbc 02 54 03.2 0.0
UZH Uzhgorod 147.50 335 ⇑P PKP2 PKPbc 02 54 02.8 0.0
KSP Ksiaz 147.57 344 ePKP2 PKPbc 02 54 03.4 +0.5
KSP Ksiaz 147.57 344 ePKP PKPbc 02 54 03.4 +0.5
VRI Vrincioaia 147.58 328 ⇑P PKPbc 02 54 03.3 +0.1
CLZ Clausthal 147.87 351 ePKP2 PKPbc 02 54 04.1 +0.4
CLZ Clausthal 147.87 351 ePKPbc PKPbc 02 54 04.1 +0.4
CLL Collm 147.91 347 i PKP2 PKPbc 02 54 03.8 0.0
CLL pmax pmax
comp=Z,15nm,0.7s
CLL pmax pmax
comp=Z,19nm,1.1s
CLL Collm 147.91 347 ePKPbc PKPbc 02 54 04.0 +0.2
CLL Collm 147.91 347 ePKPdf PKPdf 02 54 00.0 -0.2
CLL i PKPbc PKPbc 02 54 03.8 0.0
comp=Z,19nm,0.7s
CLL i PKPab PKPab 02 54 07.3 -0.4
comp=Z,9.0nm,1.1s
CLL i 02 54 28.4
CLL ep PKPbc pPKPbc 02 55 45.0 +2.0
OKC Ostrava-Krasne 147.94 341 ePKP2 PKPbc 02 54 03.2 -0.7
OKC Ostrava-Krasne 147.94 341 ⇑ePKP PKPbc 02 54 03.2 -0.7
OKC ePKPAB PKPab 02 54 08.6 +0.7
UPC Upice 147.95 344 ePKP2 PKPbc 02 54 04.3 +0.4
UPC Upice 147.95 344 ⇑ePKP PKPbc 02 54 04.3 +0.4
UPC ePKPAB PKPab 02 54 08.4 +0.5
DPC Dobruska-Polom 148.01 343 ePKP2 PKPbc 02 54 04.4 +0.2
DPC Dobruska-Polom 148.01 343 ⇑ePKP PKPbc 02 54 04.4 +0.2
DPC ePKPAB PKPab 02 54 08.9 +0.7
MMAI Mount Meron Ar 148.05 300 PKPbc PKPbc 02 54 05.6 +0.8
MMAI Mount Meron Ar 148.05 300 PKPbc PKPbc 02 54 05.6 +0.8
comp=Z,12nm,0.6s,baz=62,slow=5.7,SNR=21
BRG Berggiesshubel 148.12 346 i PKP PKPbc 02 54 04.2 -0.1
comp=Z,9.4nm,0.7s
BRG Berggiesshubel 148.12 346 i PKP2 PKPbc 02 54 04.2 -0.1
BRG pmax pmax
comp=Z,9.0nm,0.7s
BRG Berggiesshubel 148.12 346 ePKPbc PKPbc 02 54 04.7 +0.4
MLR Muntele Rosu 148.24 328 ⇓P PKPbc 02 54 04.7 -0.3
PVCC Panska Ves 148.30 345 ePKP2 PKPbc 02 54 05.3 +0.5
PVCC Panska Ves 148.30 345 ⇑ePKP PKPbc 02 54 05.3 +0.5
KECS Kecovo 148.31 337 ePKP2 PKPbc 02 54 05.3 +0.4
KECS Kecovo 148.31 337 ePKP PKPbc 02 54 05.3 +0.4
KECS e 02 54 09.8
VOIR 148.72 329 ⇑P PKPbc 02 54 06.8 +0.7
PRA Prague 148.76 345 ⇑PKP PKPbc 02 54 06.0 +0.1
PRA PKPAB PKPab 02 54 12.0 +0.8
PRU Pruhonice 148.81 345 ePKP2 PKPbc 02 54 06.3 +0.2
PRU Pruhonice 148.81 345 ⇑ePKP PKPbc 02 54 06.3 +0.2
PRU ePKPAB PKPab 02 54 11.6 +0.2
MOX Moxa 148.81 349 ePKP2 PKPbc 02 54 06.4 +0.3
MOX Moxa 148.81 349 ePKPbc PKPbc 02 54 06.4 +0.3
TANN Tannenbergstha 148.87 348 ePKPbc PKPbc 02 54 06.6 +0.3
VRAC Vranov 148.88 342 PKPbc PKPbc 02 54 07.2 +0.9
VRAC Vranov 148.88 342 PKPbc PKPbc 02 54 07.2 +0.9
comp=Z,3.9nm,0.9s,baz=331,slow=2.5,SNR=4.2
UBBA Unterbreizbach 148.92 351 ePKPbc PKPbc 02 54 07.5 +1.3
ARR Arges 148.97 329 ⇓P PKPbc 02 54 07.8 +1.0
PSZ Piszkesteto 149.00 337 ePKPbc PKPbc 02 54 06.5 -0.3
PSZ ePKPab PKPab 02 54 12.5 +0.1
CSS Prodhromos 149.10 305 ePKPdf PKPdf 02 54 02.2 -0.5
CSS ePKPbc PKPbc 02 54 07.0 -0.4
EIL Elat 149.16 294 PKPbc PKPbc 02 54 07.8 +0.1
EIL Elat 149.16 294 PKPbc PKPbc 02 54 07.8 +0.1
comp=Z,10nm,0.8s,baz=191,slow=1.1,SNR=8.7
ROTZ Rotzenmuhle 149.54 347 ePKPbc PKPbc 02 54 08.4 +0.5
MEM Membach 149.58 356 PKPbc PKPbc 02 54 08.1 +0.2
TNS Taunus Mts 149.72 352 ePKP2 PKPbc 02 54 09.4 +1.0
TNS Taunus Mts 149.72 352 ePKPbc PKPbc 02 54 09.4 +1.0
SNF Seneffe 149.77 358 PKPbc PKPbc 02 54 08.4 0.0
SNF PKPab PKPab 02 54 15.1 -0.3
GRF Grafenberg Arr 149.80 349 ePKP2 PKPbc 02 54 09.2 +0.7
GRF Grafenberg Arr 149.80 349 ePKPbc PKPbc 02 54 09.2 +0.7
BCLA Clavier 149.81 356 PKPab PKPab 02 54 15.3 -0.2
KHC Kasperske Hory 149.84 345 ePKPDF PKPdf 02 54 03.5 +0.1
KHC ⇑ePKP PKPbc 02 54 08.8 +0.1
KHC ePKPAB PKPab 02 54 15.2 -0.5
KHC Kasperske Hory 149.84 345 ePKPbc PKPbc 02 54 08.8 +0.1
WET Wettzell 149.99 346 ePKPbc PKPbc 02 54 09.3 +0.3
GEC2 GERESS Array S 150.07 345 ePKPbc PKPbc 02 54 09.5 +0.1

GERES	**GERESS Array B**	**150.07**	**345**	PKPbc	**PKPbc**	02 54 09.4	+0.1
GERES	**GERESS Array B**	**150.07**	**345**	PKPbc	**PKPbc**	02 54 09.4	+0.1
	comp=Z,4.9nm,0.7s,baz=29,slow=3.0,SNR=40						
DOU	**Dourbes**	**150.17**	**357**	PKPbc	**PKPbc**	02 54 09.6	+0.3
BZS	**Buzias**	**150.18**	**332** ⇑	*i* P	**PKPbc**	02 54 09.3	-0.2
CONA	**Conrad Observa**	**150.33**	**342** ⇑	*i* PKiKP	**PKiKP**	02 54 10.3	-0.2
	comp=Z,9.0nm,0.9s						
WLF	**Walferdange**	**150.50**	**355**	PKPbc	**PKPbc**	02 54 11.0	+0.8
WLF	**Walferdange**	**150.50**	**355**	*e*PKiKP	**PKPbc**	02 54 10.8	+0.6
WLF	**Walferdange**	**150.50**	**355**	*e*PKPbc	**PKPbc**	02 54 11.0	+0.8
WLF	**Walferdange**	**150.50**	**355**	*e*PKPbc	**PKPbc**	02 54 10.8	+0.6
FUR	**Furstenfeldbru**	**151.25**	**348**	*e*PKiKP	**PKPbc**	02 54 12.1	+0.1
FUR	**Furstenfeldbru**	**151.25**	**348**	*e*PKPbc	**PKPbc**	02 54 12.1	+0.1
RJOB	**Jochberg**	**151.32**	**345**	*e*PKPbc	**PKPbc**	02 54 12.9	+0.7
BFO	**Black Forest**	**151.59**	**352**	*e*PKiKP	**PKPbc**	02 54 12.7	0.0
BFO	**Black Forest**	**151.59**	**352**	*e*PKPbc	**PKPbc**	02 54 12.7	0.0
PERS	**Pernice**	**151.72**	**341**	*i* PKPbc	**PKPbc**	02 54 12.4	-0.7
PERS				*i*		02 54 23.9	
VISS	**Visnje**	**152.55**	**341**	*i* PKPbc	**PKPbc**	02 54 15.2	+0.3
VISS				*i*		02 54 27.0	
BOJS	**Bojanci**	**152.69**	**340**	*i* PKPbc	**PKPbc**	02 54 15.1	-0.1
BOJS				*i*		02 54 27.9	
JAVS	**Javornik**	**152.70**	**342**	*i* PKPbc	**PKPbc**	02 54 15.5	+0.1
JAVS				*i*		02 54 27.5	
DAVOX	**Davos/Dischmat**	**152.85**	**349**	PKPbc	**PKPbc**	02 54 15.1	-0.7
DAVOX	**Davos/Dischmat**	**152.85**	**349**	PKPbc	**PKPbc**	02 54 15.1	-0.7
	comp=Z,3.7nm,0.6s,baz=144,slow=1.4,SNR=9.1						
BNI	**Bardonecchia**	**155.02**	**353**	*e*PKP2	**PKPab**	02 54 37.8	-0.1
BNI	**Bardonecchia**	**155.02**	**353**	*e*PKPab	**PKPab**	02 54 37.8	-0.1
TORD	**Torodi Ar. Bea**	**172.90**	**174**	PKP	**PKPdf**	02 54 27.1	-0.7
TORD				PKPab	**PKPab**	02 55 55.9	-1.0
TORD	**Torodi Ar. Bea**	**172.90**	**174**	PKP	**PKPdf**	02 54 27.1	-0.7
	comp=Z,1.1nm,1.0s,baz=0.4,slow=0.7,SNR=4.8						
TORD				PKPab	**PKPab**	02 55 55.8	-1.0
	comp=Z,0.6nm,0.9s,baz=177,slow=3.8,SNR=2.9						

MOS ***14*** *02:47:21.7±0.6,41°.38N×45°.92E,h7km,mb4.0/1, Error ellipse: s-maj=11.7km s-min=6.4km az=95.0*
NSSP ***14*** *02:47:21.6,41°.27N×45°.27E,h10km, Ms3.0*
CSEM ***14*** *02:47:22.7±0.2,41°.45N×45°.96E,h2km,ML3.0, Error ellipse: s-maj=4.5km s-min=3.7km az=63.0*

ISC 14 02:47:21.7±1.1, 41°.44N±0°.02×45°.93E±0°.02, h5km±9km, n60,σ1s26/93, 10C-9D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DGRG	**David-gareji**	**0.42**	**271**	P	**Pb**	**02 47 32.4**	**+0.8**
DGRG				S	**Sb**	**02 47 39.8**	**+1.5**
GANJ	**Ganja**	**0.85**	**159**	P	**Pg**	**02 47 38.6**	**+0.6**
GANJ				S	**Sb**	**02 47 50.5**	**-0.1**
TBLG	**Delisi**	**0.94**	**288**	*e*PG	**Pg**	**02 47 39.6**	**-0.2**
TBLG	**Delisi**	**0.94**	**288**	P	**Pg**	**02 47 39.6**	**-0.2**
TBLG				S	**Sg**	**02 47 52.6**	**+0.6**
TBLG	**Delisi**	**0.94**	**288**	*e*Pg	**Pg**	**02 47 39.6**	**-0.2**
SEKA	**Sheki**	**0.98**	**103**	P	**Pg**	**02 47 40.8**	**+0.2**
SEKA				S	**Sn**	**02 47 57.0**	**+0.4**
KMKR	**Kumukh**	**1.11**	**51** ⇓	*i* PG	**Pb**	**02 47 44.0**	**+0.4**
KMKR				*e*S	**Sb**	**02 47 59.5**	**+1.0**
KMKR				pmax	pmax		
	comp=Z,42nm,0.2s						
KMKR	**Kumukh**	**1.11**	**51**	*i* Pg	**Pb**	**02 47 44.0**	**+0.4**
	comp=Z,42nm,0.2s						
KMKR				*e*Sg	**Sb**	**02 47 59.5**	**+1.0**
KZR	**Kazreti**	**1.14**	**268**	P	**Pg**	**02 47 42.0**	**-1.6**
KZR				S	**Sg**	**02 47 57.0**	**-1.5**
GNBR	**Gunib**	**1.22**	**39** ⇑	*i* PG	**Pg**	**02 47 45.2**	**0.0**
GNBR				*i* S	**Sb**	**02 48 02.1**	**+0.6**
GNBR	**Gunib**	**1.22**	**39**	*i* Pg	**Pg**	**02 47 45.2**	**0.0**
GNBR				*i* Sg	**Sb**	**02 48 02.1**	**+0.6**
BTLR	**Botlikh**	**1.24**	**10** ⇑	*i* PG	**Pg**	**02 47 44.9**	**-0.7**
BTLR				*e*S	**Sg**	**02 48 00.9**	**-0.8**
BTLR	**Botlikh**	**1.24**	**10**	*i* Pg	**Sg**	**02 47 44.9**	**-0.7**
BTLR				*e*Sg	**Sg**	**02 48 00.9**	**-0.8**
MTKZ	**Martakert**	**1.41**	**151** ⇓	*i* P	**Pn**	**02 47 45.8**	**-2.3**
MTKZ				⇓ *i* S	**Sg**	**02 48 04.9**	**-2.2**
UNCR	**Uncukul**	**1.43**	**27**	*e*PG	**Pb**	**02 47 49.0**	**+0.2**
UNCR				*e*S	**Sn**	**02 48 08.5**	**+1.0**
UNCR				pmax	pmax		
	comp=Z,45nm,0.3s						
UNCR	**Uncukul**	**1.43**	**27**	*e*Pg	**Pb**	**02 47 49.0**	**+0.2**
	comp=Z,45nm,0.3s						
UNCR				*e*Sg	**Sn**	**02 48 08.5**	**+1.0**
GUDG	**Gudauri**	**1.49**	**314**	P	**Pn**	**02 47 48.9**	**-0.5**
GUDG				S	**Sb**	**02 48 08.8**	**-0.6**
BRDA	**Brd**	**1.51**	**141**	P	**Pg**	**02 47 51.1**	**+0.4**
	SNR=4.4						
KRNR	**Karanay**	**1.56**	**27** ⇑	*i* PN	**Pb**	**02 47 51.5**	**+0.3**
KRNR				*i* S	**Sg**	**02 48 12.5**	**+0.5**
KRNR				pmax	pmax		
	comp=Z,25nm,0.3s						
KRNR	**Karanay**	**1.56**	**27**	*i* Pn	**Pb**	**02 47 51.5**	**+0.3**
	comp=Z,25nm,0.3s						
KRNR				*i* Sg	**Sg**	**02 48 12.5**	**+0.5**
GNI	**Garni**	**1.57**	**215**	*i* Pg	**Pn**	**02 47 50.8**	**+0.3**
DBC	**Dubki**	**1.71**	**23** ⇑	*i* PN	**Pb**	**02 47 54.0**	**+0.2**
DBC				*i* S	**Sg**	**02 48 17.3**	**+0.5**
DBC	**Dubki**	**1.71**	**23**	*i* Pn	**Pb**	**02 47 54.0**	**+0.2**
DBC				*i* Sg	**Sg**	**02 48 17.3**	**+0.5**
STKZ		**1.74**	**159**	⇓ *i* P	**Pb**	**02 47 55.0**	**+0.8**
STKZ				⇑ *i* S	**Sb**	**02 48 17.4**	**+0.9**
STKZ		**1.74**	**159**	⇓ P	**Pb**	**02 47 55.0**	**+0.8**
STKZ				S	**Sb**	**02 48 17.4**	**+0.9**
IML	**Ismayilli**	**1.82**	**110**	Pn	**Pn**	**02 47 54.6**	**+0.8**
IML				Sg	**Sb**	**02 48 18.8**	**+0.1**
AKH	**Akhalkalaki**	**1.83**	**270**	⇑ *i* PN	**Pn**	**02 47 54.0**	**-0.1**
AKH	**Akhalkalaki**	**1.83**	**270**	P	**Pn**	**02 47 53.4**	**-0.7**
AKH				S	**Sn**	**02 48 17.6**	**-0.1**
AKH	**Akhalkalaki**	**1.83**	**270**	*i* Pn	**Pn**	**02 47 54.0**	**-0.1**
LACR	**Lac**	**1.84**	**319**	⇑ *i* PN	**Pn**	**02 47 54.8**	**+0.7**
LACR	**Lac**	**1.84**	**319**	*i* Pn	**Pn**	**02 47 54.8**	**+0.7**
VLKR	**Vladikavkaz**	**1.85**	**330**	*e*PN	**Pb**	**02 47 56.2**	**0.0**
VLKR	**Vladikavkaz**	**1.85**	**330**	*e*Pn	**Pb**	**02 47 56.2**	**0.0**
GRO	**Groznyy**	**1.88**	**356**	⇑ *i* PN	**Pn**	**02 47 55.9**	**+1.3**
GRO	**Groznyy**	**1.88**	**356**	*i* Pn	**Pn**	**02 47 55.9**	**+1.3**
QUBA	**Quba, Azerbaij**	**1.93**	**92**	Pn	**Pb**	**02 47 57.4**	**0.0**
QUBA				S	**Sg**	**02 48 23.3**	**-0.4**
GRS	**Goris**	**1.96**	**171**	⇓ *i* P	**Pg**	**02 48 02.0**	**+2.6**
GRS				⇓ *i* S	**Sg**	**02 48 27.0**	**+2.2**
ZEI	**Tsey**	**2.02**	**312**	⇑ *i* PN	**Pn**	**02 47 58.4**	**+1.7**
ZEI	**Tsey**	**2.02**	**312**	*i* Pn	**Pn**	**02 47 58.4**	**+1.7**
PQL	**Pirkuli**	**2.11**	**107**	Pg	**Pn**	**02 47 58.9**	**+1.0**
PQL				Sg	**Sg**	**02 48 29.2**	**-0.5**
KORR	**Kora**	**2.15**	**321**	*d i* PN	**Pn**	**02 47 58.3**	**0.0**
KORR	**Kora**	**2.15**	**321**	*i* Pn	**Pn**	**02 47 58.3**	**0.0**
ONI	**Oni**	**2.17**	**303**	*e*PN	**Pn**	**02 48 00.4**	**+1.8**
ONI	**Oni**	**2.17**	**303**	P	**Pn**	**02 48 00.4**	**+1.8**
ONI				S	**Sb**	**02 48 28.8**	**-0.1**
ONI	**Oni**	**2.17**	**303**	*e*Pn	**Pn**	**02 48 00.4**	**+1.8**
BTKR	**Batakoyurt**	**2.19**	**332**	*e*PN	**Pb**	**02 48 01.8**	**0.0**
BTKR				*i* S	**Sb**	**02 48 29.6**	**+0.4**
BTKR	**Batakoyurt**	**2.19**	**332**	*e*Pn	**Pb**	**02 48 01.8**	**0.0**
BTKR				*i* Sn	**Sb**	**02 48 29.6**	**+0.4**
DIGR	**Digorskoe uzhe**	**2.27**	**311** ⇑	*i* PN	**Pn**	**02 48 02.6**	**+2.4**
DIGR				*e*S	**Sn**	**02 48 31.3**	**+2.6**
DIGR	**Digorskoe uzhe**	**2.27**	**311**	*i* Pn	**Pn**	**02 48 02.6**	**+2.4**
DIGR				*e*Sn	**Sn**	**02 48 31.3**	**+2.6**
NAX	**Nakhchivan**	**2.29**	**189**	Pn	**Pb**	**02 48 03.6**	**0.0**
	SNR=8.5						
NAX				Sg	**Sg**	**02 48 35.0**	**-0.3**
STDR	**Stavd-Durt**	**2.37**	**325**	*e*PN	Pg	02 48 10.3	+3.1
STDR				*e*S	**Sg**	**02 48 39.7**	**+1.8**
STDR	**Stavd-Durt**	**2.37**	**325**	*e*Sb	**Sg**	**02 48 39.7**	**+1.8**
LSNR	**Lesken**	**2.41**	**320**	*e*PN	**Pb**	**02 48 04.6**	**-1.0**
LSNR				*e*S	**Sn**	**02 48 34.6**	**+2.8**
LSNR	**Lesken**	**2.41**	**320**	*e*Pn	**Pb**	**02 48 04.6**	**-1.0**
LSNR				*e*Sn	**Sn**	**02 48 34.6**	**+2.8**
KIV	**Kislovodsk**	**3.47**	**317**	*e*PN	**Pn**	**02 48 14.1**	**-2.4**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KIV	**Kislovodsk**	**3.47**	**317**	*e*Pn	**Pn**	**02 48 14.1**	**-2.4**
	comp=Z,8.0nm,1.0s						
ANN	**Anapa**	**7.07**	**301**	*e*P	**Pn**	**02 49 05.0**	**-0.7**
ANN				pmax	pmax		
	comp=Z,11nm,0.4s						
BRVK	**Borovoye**	**20.09**	**46**	*i* P	P	02 51 51.5	-4.5
KURK	**Kurchatov**	**24.32**	**56** ⇓	*i* P	**P**	**02 52 36.5**	**-3.7**
HVS	**Khovu-Aksy**	**33.86**	**57**	*i* P	**P**	**02 54 03.9**	**-1.2**

DHMR 14 02:48:57.9±1.3, 11°.51N×46°.49E, h23km±999km, ML3.7,

Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDHA	**Al Bayda'**	**2.61**	**340**	*i* P	Pb	02 49 41.8	-2.6
BDHA				*i* S	Sb	02 50 15.9	-0.3
TRBA	**At Turbah**	**2.88**	**307**	*i* P	Pb	02 49 46.1	-2.9
TRBA				*i* S	Sb	02 50 22.4	-1.6
TRBA				AML	AML	02 50 24.0	
	comp=N,1μm,0.2s						
UDYN	**Al 'Udayn**	**3.46**	**315**	*i* P	Pn	02 49 52.1	+1.5
UDYN				*i* S	Sn	02 50 35.8	+4.7
UDYN				AML	AML	02 50 44.4	
	comp=N,156nm,0.7s						

BJI ***14*** *02:53:07.7,30°.20N×114°.10W,h10km,mB5.7/3,mb5.0/2, Ms5.3/3,Ms7 5.0/3*
IDC ***14*** *02:53:12.9±1.1,30°.37N×113°.92W,h0km,mb4.1/8, mb1 4.2/14,mb1mx4.0/32,mbtmp4.0/14,ML3.6/6,MS3.8/13, Ms1 3.8/13,ms1mx3.5/48,Error ellipse: s-maj=21.2km s-min=11.1km az=34.0*
NEIC ***14*** *02:53:13.2±0.5,30°.30N×114°.11W,h10km,mb4.5/16, MD4.6(MEX),Error ellipse: s-maj=8.5km s-min=5.3km az=31.0*
NEIC Felt at San Felipe, Baja California.
MEX ***14*** *02:53:15.3±0.3,30°.16N×114°.37W,h10km±6km,MD4.6*

ISC 14 02:53:13.7±1.2, 30°.33N±0°.04×114°.15W±0°.03, h15km±7km, n135,σ1s97/144, mb4.3/17, MS3.8/9, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPIG	**San Pedro Mart**	**1.34**	**303**	*e*P	**Pn**	**02 53 36.0**	**-2.2**
SPIG				*e*S	**Sb**	**02 53 52.1**	**-3.6**
SPIG	**San Pedro Mart**	**1.34**	**303**	*e*P	**Pn**	**02 53 36.0**	**-2.2**
SPIG				*e*S	**Sb**	**02 53 52.1**	**-3.6**
MBIG	**Mexicali**	**2.25**	**337**	*e*P	**Pn**	**02 53 51.5**	**+1.0**
MBIG				*i* S	**Sn**	**02 54 18.6**	**+0.6**
GLA	**Glamis**	**2.77**	**348**	*e*Pn	**Pn**	**02 53 55.7**	**-2.0**
GLA				*e*Sn	**Sb**	**02 54 34.9**	**-1.9**
HSIG		**3.08**	**114**	*e*P	**Pn**	**02 54 02.3**	**+0.4**
HSIG				*i* S	**Sn**	**02 54 39.8**	**+1.4**
HSIG		**3.08**	**114**	*e*P	**Pn**	**02 54 02.3**	**+0.4**
HSIG				*i* S	**Sn**	**02 54 39.8**	**+1.4**
BAR	**Barrett**	**3.18**	**318**	*e*Pn	**Pn**	**02 54 01.5**	**-1.8**
BAR				*e*Pg	**Pg**	**02 54 13.8**	**-0.9**
BAR				*e*Sg	**Sg**	**02 54 57.5**	**+1.6**
SRIG	**Santa Rosalia**	**3.44**	**150**	*e*P	**Pn**	**02 54 05.7**	**-1.0**
SRIG				*i* S	**Sn**	**02 54 45.4**	**-1.8**
SRIG	**Santa Rosalia**	**3.44**	**150**	*e*P	**Pn**	**02 54 05.7**	**-1.0**
SRIG				*i* S	**Sn**	**02 54 45.4**	**-1.8**
TUC	**Tucson**	**3.49**	**55**	*e*Pn	**Pn**	**02 54 05.0**	**-2.6**
TUC				*e*Pg	**Pg**	**02 54 19.0**	**-1.7**
TUC				*e*Sg	**Sg**	**02 55 05.4**	**-0.5**
PFO	**Pinyon Flat Ob**	**3.81**	**330**	*e*Pn	**Pn**	**02 54 10.2**	**-1.8**
PFO				*e*Pg	**Pg**	**02 54 27.8**	**+1.1**
PFO				*e*Sn	**Sn**	**02 54 59.8**	**+3.2**
PFO				*e*Sg	**Sg**	**02 55 16.1**	**+0.1**
PFO				Lg	Lg	02 55 17.9	
PFO	**Pinyon Flat Ob**	**3.81**	**330**	Pn	**Pn**	**02 54 09.8**	**-2.1**
	baz=143,slow=13						
PFO				Lg	Lg	02 55 17.9	
	8.1nm,0.3s,baz=143,slow=8.8,SNR=3.7						
PFO				LR	LR	02 55 44.6	
	comp=Z,2μm,19.6s,baz=120,slow=39						
LDFC	**Landfair**	**4.80**	**351**	*e*Pn	**Pn**	**02 54 25.8**	**+0.1**
MWC	**Mount Wilson**	**5.10**	**321**	*e*Pn	**Pn**	**02 54 30.4**	**+0.7**
	97nm,1.1s						
MWC				*e*Pg	Pg	02 54 47.8	-3.6
MWC				*e*Sg	**Sg**	**02 55 53.6**	**-3.9**
PASC	**Pasadena Art C**	**5.13**	**319**	*e*Pn	**Pn**	**02 54 30.9**	**+0.9**
	12nm,0.5s						
PASC				*e*Pg	Pb	02 54 46.9	+3.7
GSC	**Goldstone**	**5.44**	**336**	*e*Pn	**Pn**	**02 54 35.0**	**+0.7**
	7.9nm,1.0s						
GSC				*e*Pg	Pg	02 55 01.9	+4.1
WUAZ	**Wupatki**	**5.68**	**24**	*e*Pn	**Pn**	**02 54 38.0**	**+0.3**
	54nm,0.9s						
W18A	**Petrified Fore**	**6.05**	**37**	*e*Pn	**Pn**	**02 54 41.7**	**-1.1**
W18A				*e*Pg	**Pg**	**02 55 07.6**	**-2.0**
W18A				*e*Sn	**Sn**	**02 55 54.8**	**+2.8**
W18A				*e*Sg	**Sg**	**02 56 27.7**	**-0.3**
SHPR	**Sheep Range**	**6.22**	**352**	*e*Pn	**Pn**	**02 54 45.5**	**+0.4**
ISA	**Isabella**	**6.44**	**327**	*e*Pn	**Pn**	**02 54 48.9**	**+0.8**
ISA				*e*Pg	**Pg**	**02 55 17.4**	**+0.4**
ISA				*e*Sg	**Sg**	**02 56 37.6**	**-2.7**
LPIG	**La Paz**	**7.08**	**150**	Pn	**Pn**	**02 54 58.8**	**+2.0**
LPIG	**La Paz**	**7.08**	**150**	Pn	**Pn**	**02 54 58.8**	**+2.0**
	5.4nm,0.3s,baz=227,slow=19,SNR=3.3						
LPIG				LR	LR	02 57 34.5	
	comp=Z,956nm,20.3s,baz=333,slow=37						
LENM	**Lemitar**	**7.18**	**56**	*e*Pn	**Pn**	**02 54 57.5**	**-0.9**
LENM				*e*Sg	**Sg**	**02 57 06.8**	**+2.6**
LAZ	**Ladron**	**7.19**	**54**	*e*Pn	**Pn**	**02 54 57.3**	**-1.2**
	7.3nm,1.0s						
LAZ				*e*Pg	**Pb**	**02 55 21.0**	**+2.7**
CCUT	**Cedar City**	**7.23**	**5**	*e*Pn	**Pn**	**02 55 00.6**	**+1.5**
BNM	**Barren Site**	**7.42**	**57**	*e*Pn	**Pn**	**02 55 00.3**	**-1.5**
	3.8nm,0.3s						
BNM				*e*Sn	**Sn**	**02 56 27.5**	**+1.6**
BNM				*e*Sg	**Sg**	**02 57 12.4**	**+0.4**
ARUT	**Antelope Range**	**7.46**	**4**	*e*Pn	**Pn**	**02 55 03.2**	**+1.0**
	195nm,0.4s						
ARUT				*e*Pg	**Pg**	**02 55 34.6**	**-1.9**
ARUT				*e*Sn	**Sn**	**02 56 30.9**	**+4.2**
ARUT				*e*Sg	**Sg**	**02 57 07.8**	**-5.3**
LPM	**Los Pinos Moun**	**7.50**	**56**	*e*Pn	**Pn**	**02 55 01.6**	**-1.2**
LPM				*e*Pg	Pg	02 55 33.8	-3.5
LPM				*e*Sg	**Sg**	**02 57 12.5**	**-1.9**
MNTX	**Cornudas Mount**	**7.65**	**78**	*e*Pn	**Pn**	**02 55 03.5**	**-1.2**
	12nm,1.1s						
MNTX				*e*Sg	**Sg**	**02 57 14.4**	**-4.8**
ANMO	**Albuquerque**	**7.96**	**53**	*e*Pn	**Pn**	**02 55 07.9**	**-1.1**
ANMO				Lg	Lg	02 57 21.1	
ANMO	**Albuquerque**	**7.96**	**53**	Pn	**Pn**	**02 55 07.7**	**-1.4**
	0.3nm,0.3s,baz=232,slow=13,SNR=19						
ANMO				Lg	Lg	02 57 21.1	
	0.3nm,0.3s,baz=344,slow=16,SNR=3.5						
R11A	**Troy Canyon, C**	**8.09**	**352**	*e*Pn	**Pn**	**02 55 12.0**	**+1.2**
MVCO	**Mesa Verde**	**8.32**	**33**	*e*Pn	**Pn**	**02 55 15.2**	**+1.2**
NVAR	**Mina Array Bea**	**8.78**	**338**	Pn	Pn	02 55 23.6	+3.3
NVAR				Lg	Lg	02 57 59.2	
NVAR	**Mina Array Bea**	**8.78**	**338**	Pn	Pn	02 55 23.6	+3.3
	0.2nm,0.3s,baz=164,slow=15,SNR=7.2						
NVAR				Lg	Lg	02 57 59.2	
	baz=207,slow=36,SNR=1.9						
NVAR				LR	LR	02 58 53.1	
	comp=Z,316nm,19.3s,baz=265,slow=39						
PV05	**Paradox Valley**	**8.79**	**27**	*e*Pn	Pn	02 55 29.6	+9.2
Q16A	**Castle Valley**	**8.91**	**15**	*e*Pn	**Pn**	**02 55 24.4**	**+2.3**
PV04	**Paradox Valley**	**9.14**	**27**	*e*Pn	**Pn**	**02 55 25.7**	**+0.5**
PV09	**Paradox Valley**	**9.14**	**26**	*e*Pn	**Pn**	**02 55 28.1**	**+2.7**
TXAR	**Lajitas Array**	**9.16**	**94**	Pn	**Pn**	**02 55 24.8**	**-0.7**
TXAR				Sn	**Sn**	**02 57 04.8**	**-3.6**
TXAR				Lg	Lg	02 58 02.2	
TXAR	**Lajitas Array**	**9.16**	**94**	Pn	**Pn**	**02 55 24.8**	**-0.7**
	0.3nm,0.3s,baz=266,slow=12,SNR=21						
TXAR				Sn	**Sn**	**02 57 04.8**	**-3.6**
	0.3nm,0.3s,baz=276,slow=11,SNR=3.3						
TXAR				Lg	Lg	02 58 02.2	
	0.7nm,0.3s,baz=265,slow=30,SNR=6.2						
TXAR				LR	LR	02 59 07.3	
	comp=Z,737nm,20.4s,baz=355,slow=40						
SRU	**San Rafael**	**9.25**	**18**	*e*Pn	**Pn**	**02 55 28.9**	**+2.1**
TMUT	**Trail Mountain**	**9.27**	**14**	*e*Pn	**Pn**	**02 55 30.0**	**+2.9**
MPU	**Maple Canyon**	**9.88**	**11**	*e*Pn	Pn	02 55 40.2	+4.8
DUG	**Dugway**	**9.90**	**6**	*e*Pn	Pn	02 55 40.2	+4.6
PAHR	**Pah Rah Range**	**10.29**	**337**	*e*Pn	Pn	02 55 46.8	+5.9
SDCO	**Great Sand Dun**	**10.30**	**42**	*e*Pn	**Pn**	**02 55 42.0**	**+0.7**
	4.7nm,1.0s						
MSTX	**Muleshoe**	**10.31**	**66**	*e*Pn	**Pn**	**02 55 39.5**	**-1.6**
ELK	**Elko**	**10.43**	**355**	*e*Pn	**Pn**	**02 55 44.4**	**+1.4**
BGU	**Big Grassy Mou**	**10.61**	**5**	*e*Pn	Pn	02 55 51.4	+6.0
SMCO	**Snowmass**	**10.62**	**32**	*e*Pn	Pn	02 55 49.6	+3.9
ISCO	**Idaho Springs**	**11.75**	**34**	*e*Pn	Pn	02 56 08.2	+7.1
JCT	**Junction City**	**12.39**	**86**	*e*Pn	**Pn**	**02 56 10.3**	**+0.6**
MOD	**Modoc**	**12.57**	**338**	*e*Pn	Pn	02 56 18.1	+6.0
ABTX	**Abilene, Hawle**	**12.60**	**76**	*e*Pn	**Pn**	**02 56 13.1**	**+0.6**
KSCO	**Kaye Shedlock'**	**12.84**	**44**	*e*Pn	**Pn**	**02 56 18.7**	**+2.9**
PDAR	**Pinedale Array**	**12.95**	**15**	Pn	**Pn**	**02 56 19.9**	**+2.5**
PDAR				Lg	Lg	03 00 07.7	
PDAR	**Pinedale Array**	**12.95**	**15**	Pn	**Pn**	**02 56 19.9**	**+2.5**
	0.0nm,0.3s,baz=191,slow=7.4,SNR=10						
PDAR				Lg	Lg	03 00 07.7	
	0.0nm,0.3s,baz=152,slow=28,SNR=2.8						
RRI2	**Red Ridge**	**13.19**	**9**	*e*Pn	P	02 56 34.5	+3.8
HLID	**Hailey**	**13.21**	**359**	*e*Pn	Pn	02 56 25.8	+4.9
REDW	**Red Top Meadow**	**13.27**	**11**	*e*Pn	P	02 56 27.2	-4.4
YBH	**Yreka Blue Hor**	**13.31**	**331**	LR	LR	03 01 03.8	
	comp=Z,326nm,21.6s,baz=150,slow=35						
TPAW	**Teton Pass**	**13.38**	**10**	*e*Pn	Pn	02 56 26.9	+3.6
SNOW	**Snow King Moun**	**13.38**	**11**	*e*Pn	Pn	02 56 27.3	+3.9
J08A	**Circle Bar Ran**	**13.45**	**346**	*e*Pn	Pn	02 56 29.0	+4.8
K05A	**Summer Lake**	**13.50**	**338**	*e*Pn	**P**	**02 56 32.5**	**-1.6**
LOHW	**Long Hollow**	**13.55**	**11**	*e*Pn	Pn	02 56 29.0	+3.3
MOOW	**Moose Ponds**	**13.66**	**11**	*e*Pn	**Pn**	**02 56 30.0**	**+2.9**
IMW	**Indian Meadow**	**13.78**	**10**	*e*Pn	**Pn**	**02 56 31.8**	**+3.0**
FLWY	**Flagg Ranch**	**14.00**	**10**	*e*Pn	**P**	**02 56 36.8**	**-2.9**
YFT	**Old Faithful**	**14.34**	**10**	*e*Pn	**P**	**02 56 42.2**	**-1.3**
	25nm,1.3s						
I07A	**Izee**	**14.37**	**344**	*e*Pn	**P**	**02 56 42.4**	**-1.3**
MCMT	**McKenzie Canyo**	**14.51**	**4**	*e*Pn	**P**	**02 56 43.0**	**-2.3**
	4.3nm,1.0s						
YNR	**Norris Junctio**	**14.62**	**10**	*e*Pn	Pn	02 56 43.7	+3.5
	25nm,1.3s						
DLMT	**Dillon**	**15.06**	**4**	*e*Pn	**P**	**02 56 49.4**	**-2.0**
	27nm,1.5s						
G08A	**Pilot Rock**	**15.40**	**347**	*e*P	**P**	**02 56 58.6**	**+3.4**
	12nm,1.2s						
LRM	**Limekiln Ridge**	**15.53**	**4**	*e*Pn	**P**	**02 56 56.0**	**-0.6**
GCMT	**Greyclift**	**15.83**	**12**	*e*Pn	**P**	**02 56 59.2**	**-0.7**
	10nm,1.4s						
RSSD	**Black Hills**	**15.93**	**27**	*e*Pn	**Pn**	**02 56 59.5**	**+2.0**
E09A	**Wood Farm, Sta**	**16.45**	**350**	*e*P	**P**	**02 57 09.5**	**+2.8**
	177nm,3.0s						
MSO	**Missoula**	**16.48**	**1**	*e*Pn	**P**	**02 57 07.7**	**+0.7**
	20nm,1.1s						
CHMT	**Chamberlain Mo**	**16.57**	**2**	*e*Pn	**P**	**02 57 08.5**	**+0.3**
SLMT	**Seeley Lake**	**16.89**	**2**	*e*Pn	**P**	**02 57 12.4**	**+0.7**
SWMT	**Swartz Lake**	**17.16**	**0**	*e*Pn	**P**	**02 57 15.6**	**+1.0**
JTMT	**Jette**	**17.39**	**360**	*e*Pn	**P**	**02 57 18.5**	**+1.3**
LAO	**LASA Array**	**17.46**	**18**	*e*Pn	**P**	**02 57 19.3**	**+1.5**
	62nm,1.3s						
BSMT	**Bassoo Peak**	**17.50**	**359**	*e*Pn	**P**	**02 57 19.5**	**+1.0**
EGMT	**Eagleton**	**17.99**	**10**	*e*Pn	**P**	**02 57 26.6**	**+2.8**
NEW	**Newport**	**18.05**	**354**	P	**P**	**02 57 26.1**	**+1.7**
NEW	**Newport**	**18.05**	**354**	P	**P**	**02 57 26.1**	**+1.7**
	0.1nm,0.3s,baz=182,slow=11,SNR=5.2						
BRSD	**Miller**	**18.51**	**36**	*e*P	**Pn**	**02 57 31.0**	**+1.4**
DGMT	**Dagmar**	**19.65**	**20**	*e*P	**Pn**	**02 57 43.6**	**+0.2**
	42nm,1.1s						
EDM	**Edmonton**	**22.88**	**1**	*e*P	**P**	**02 58 17.6**	**+0.9**
BBB	**Bella Bella**	**24.14**	**339**	LR	LR	03 07

MRZ	**Mangatainoka R**	**5.59 211**	PN	Pn	03 05 02.6	-3.2
MRZ			SN	Sn	03 06 03.5	-5.4

IDC 14 03:05:06.2±1.2, 15°25S×70°07W, h218$^{km}_{\pm 11}$km, mb3.3/8, mb1 3.5/11, mb1mx3.4/23, mbtmp3.3/11, Error ellipse: s-maj=25.6km s-min=17.3km az=45.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.13 119**		P	Pn	03 05 48.5	+0.3
	280nm,0.3s,baz=302,slow=7.9						
LPAZ				S	S	03 06 21.4	+0.7
	50nm,0.3s,baz=94,slow=12,SNR=8.9						
SIV	**San Ignacio**	**8.70 96**		P	Pn	03 07 09.0	+0.3
	2.3nm,0.3s,baz=287,slow=12,SNR=54						
CPUP	**Villa Florida**	**16.22 135**		P	P	03 08 41.8	+0.3
	0.6nm,0.3s,baz=300,slow=9.5,SNR=7.1						
CFAA	**Coronel Fontan**	**16.37 174**		P	P	03 08 41.5	-1.7
	0.2nm,0.3s,baz=347,slow=11,SNR=26						
CFAA				S	S	03 11 35.8	-7.8
	0.1nm,0.3s,baz=246,slow=16,SNR=5.9						
BDFB	**Brasilia**	**21.26 94**		P	P	03 09 34.2	-1.8
	2.6nm,0.8s,baz=167,slow=14,SNR=3.5						
TXAR	**Lajitas Array**	**54.93 324**		P	P	03 14 13.9	-1.0
	0.3nm,0.5s,baz=151,slow=8.7,SNR=7.1						
ANMO	**Albuquerque**	**60.71 326**		P	P	03 14 55.5	+0.4
	0.5nm,0.6s,baz=160,slow=9.7,SNR=3.9						
PDAR	**Pinedale Array**	**68.18 330**		P	P	03 15 43.3	-0.1
	0.4nm,0.5s,baz=125,slow=7.8,SNR=2.7						
ULM	**Lac du Bonnet**	**69.06 343**		P	P	03 15 47.1	-1.2
	1.3nm,0.3s,baz=140,slow=5.8,SNR=4.4						
TORD	**Torodi Ar. Bea**	**76.40 72**		P	P	03 16 32.2	0.0
	0.5nm,0.4s,baz=251,slow=4.8,SNR=9.4						
TORD				pP	pP	03 17 24.6	+0.5
	1.1nm,0.8s,baz=262,slow=6.9,SNR=4.9						
VNDA	**Vanda**	**82.78 190**		P	P	03 17 05.3	-0.2
	0.6nm,0.8s,baz=148,slow=4.1,SNR=4.8						
YKA	**Yellowknife Ar**	**84.95 341**		P	P	03 17 16.2	-0.3
	1.3nm,0.5s,baz=135,slow=5.1,SNR=6.8						
ASAR	**Alice Springs**	**134.78 212**		PKP	PKPdf	03 23 59.2	-0.6
	0.9nm,0.7s,baz=145,slow=2.0,SNR=6.9						
ZALV	**Zalesovo Beam**	**136.67 21**		PKP	PKPdf	03 24 02.5	+0.2
	2.2nm,0.7s,baz=293,slow=2.7,SNR=11						
WRA	**Warramunga Arr**	**137.59 215**		PKP	PKPdf	03 24 04.5	-0.6
	0.8nm,0.5s,baz=149,slow=2.0,SNR=5.6						
MKAR	**Makanchi Array**	**141.02 30**		PKP	PKPdf	03 24 11.3	+0.8
	0.7nm,0.8s,baz=325,slow=1.8,SNR=4.9						
MJAR	**Matsushiro Arr**	**147.09 315**		PKPbc	PKPbc	03 24 23.7	-0.2
	5.8nm,0.7s,baz=97,slow=1.6,SNR=15						
MAT	**Matsushiro**	**147.09 315**		PKP	PKPbc	03 24 24.3	+0.4
SONM	**Songino Array**	**147.38 4**		PKPbc	PKPbc	03 24 25.3	+0.8
	2.5nm,0.6s,baz=329,slow=1.8,SNR=22						

IDC 14 03:11:00.2±1.8, 3°01N×126°68E, h0^{km}, mb3.8/5, mb1 4.0/5, mb1mx3.6/23, mbtmp3.8/5, Error ellipse: s-maj=128.9km s-min=19.9km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.00 183**		P	P	03 15 45.5	+0.1
	2.8nm,1.1s,baz=18,slow=6.4,SNR=3.1						
WRA	**Warramunga Arr**	**24.02 162**		P	P	03 16 16.9	-0.2
	1.1nm,0.5s,baz=341,slow=10,SNR=7.7						
ASAR	**Alice Springs**	**27.43 166**		P	P	03 16 48.2	+0.2
	0.4nm,0.4s,baz=342,slow=8.2,SNR=7.6						
MKAR	**Makanchi Array**	**58.12 326**		P	P	03 20 55.5	-0.3
	0.2nm,0.5s,baz=125,slow=8.6,SNR=4.5						
KURBB	**Kurchatov Arra**	**62.32 328**		P	P	03 21 24.4	0.0
	0.8nm,0.5s,baz=131,slow=5.6,SNR=4.8						

*ISCJB **14** 03:14:02.7±0.5, 10°10S±0°07×161°68E±0°07, h85^{km}, mb4.5/21, Error ellipse: s-maj=11.3km s-min=8.7km az=147.8*
*NEIC **14** 03:14:04.5±1.1, 10°07S×161°68E, h86$^{km}_{\pm 10}$km, mb4.6/4, Error ellipse: s-maj=11.9km s-min=8.4km az=139.0*
*IDC **14** 03:14:05.4±2.4, 10°14S×161°63E, h95$^{km}_{\pm 17}$km, mb4.2/15, mb1 4.3/17, mb1mx4.1/25, mbtmp4.2/17, MS3.3/1, Ms1 3.3/1, ms1mx3.0/33, Error ellipse: s-maj=21.9km s-min=16.1km az=106.0*

ISC 14 03:14:04.3±0.6, 10°10S±0°09×161°71E±0°08, h85^{km}, n50, σ0°91/52, mb4.5/21, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.86 291**		P	**Pn**	**03 14 34.6**	**+0.1**
HNR				S	**Sn**	**03 14 58.2**	**+0.8**
HNR	**Honiara**	**1.86 291**		P	**Pn**	**03 14 34.6**	**+0.1**
	106nm,0.3s,baz=162,slow=19,SNR=6.4						
HNR				S	**Sn**	**03 14 58.2**	**+0.8**
	808nm,0.3s,baz=164,slow=23,SNR=42						
DZM	**Mont Dzumac**	**12.74 160**		P	**Pn**	**03 17 02.9**	**+0.5**
DZM	**Mont Dzumac**	**12.74 160**		P	**Pn**	**03 17 02.9**	**+0.5**
	1.0nm,0.3s,baz=308,slow=23,SNR=9.1						
TARA	**Tarawa**	**15.94 45**		*e*Pn	**Pn**	**03 17 42.6**	**-1.1**
	113nm,0.8s						
CTA	**Charters Tower**	**17.91 235**		P	**Pn**	**03 18 08.8**	**+0.8**
CTA	**Charters Tower**	**17.91 235**		P	**Pn**	**03 18 08.8**	**+0.8**
	0.3nm,0.3s,baz=57,slow=16,SNR=7.8						
CTAO	**Charters Tower**	**17.91 235**		*e*Pn	**Pn**	**03 18 09.7**	**+1.8**
	74nm,1.8s						
COEN	**Coen**	**18.52 256**		*e*Pn	**P**	**03 18 13.3**	**-0.9**
WRAB	**Tennant Creek**	**28.13 246**		*e*P	**P**	**03 19 48.4**	**-0.2**
	3.9nm,1.0s						
WRA	**Warramunga Arr**	**28.14 246**		P	**P**	**03 19 48.4**	**-0.4**
WRA	**Warramunga Arr**	**28.14 246**		P	**P**	**03 19 48.4**	**-0.4**
	0.8nm,0.3s,baz=75,slow=9.1,SNR=5.2						
ASAR	**Alice Springs**	**29.75 240**		P	**P**	**03 20 01.6**	**-1.4**
ASAR	**Alice Springs**	**29.75 240**		P	**P**	**03 20 01.6**	**-1.4**
	1.2nm,0.9s,baz=71,slow=9.7,SNR=6.9						
FITZ	**Fitzroy Crossi**	**35.82 253**		P	**P**	**03 20 55.5**	**-0.5**
FITZ	**Fitzroy Crossi**	**35.82 253**		P	**P**	**03 20 55.5**	**-0.5**
	3.3nm,0.8s,baz=87,slow=10,SNR=11						
BATI	**Baumata**	**37.43 266**		P	**P**	**03 21 08.6**	**-1.2**
BATI	**Baumata**	**37.43 266**		P	**P**	**03 21 08.6**	**-1.2**
	20nm,0.4s,baz=120,slow=5.3,SNR=3.5						
MJAR	**Matsushiro Arr**	**51.39 336**		P	**P**	**03 22 59.0**	**-1.6**
MJAR	**Matsushiro Arr**	**51.39 336**		P	**P**	**03 22 59.0**	**-1.6**
	3.4nm,0.7s,baz=175,slow=9.4,SNR=9.7						
NACB	**Ninganchiao**	**51.91 312**		*e*P	**P**	**03 23 05.3**	**+0.7**
	42nm,0.9s						
YHNB	**Yeheng**	**52.37 312**		*e*P	**P**	**03 23 08.2**	**+0.1**
	38nm,0.8s						
ASAJ	**Asahikawa**	**56.68 344**		P	**P**	**03 23 39.1**	**+0.3**
ASAJ	**Asahikawa**	**56.68 344**		P	**P**	**03 23 39.1**	**+0.3**
	8.6nm,0.8s,baz=217,slow=21,SNR=4.2						
KSRS	**Korea Array**	**56.92 328**		P	**P**	**03 23 40.8**	**+0.1**
	2.7nm,0.8s,baz=151,slow=7.8,SNR=8.1						
KSRS					LR	LR	03 47 22.8
	comp=Z,28nm,19.5s,baz=120,slow=35						
KSAR	**Wonju Array Be**	**56.93 328**		P	**P**	**03 23 40.8**	**0.0**
USRK	**Ussuriysk Arra**	**60.39 336**		P	**P**	**03 24 05.1**	**+0.5**
	18nm,0.9s,baz=145,slow=6.7,SNR=25						
PETK	**Petropavlovsk-**	**63.05 357**		P	**P**	**03 24 22.9**	**+0.5**
PETK	**Petropavlovsk-**	**63.05 357**		P	**P**	**03 24 22.9**	**+0.5**
	4.6nm,0.8s,baz=184,slow=7.1,SNR=4.4						
CMAR	**Chiang Mai Arr**	**68.10 295**		P	**P**	**03 24 55.8**	**+0.2**
CMAR	**Chiang Mai Arr**	**68.10 295**		P	**P**	**03 24 55.8**	**+0.2**
	3.5nm,0.8s,baz=130,slow=5.5,SNR=6.8						
SONM	**Songino Array**	**75.59 325**		P	**P**	**03 25 40.7**	**+0.7**
SONM	**Songino Array**	**75.59 325**		P	**P**	**03 25 40.7**	**+0.7**
	8.4nm,0.7s,baz=142,slow=5.8,SNR=40						
MCK	**McKinley**	**82.57 20**		*e*P	**P**	**03 26 17.9**	**+0.3**
	16nm,1.0s						
IM04	**Indian Mountai**	**82.61 17**		*e*P	**P**	**03 26 18.8**	**+1.0**
COLA	**College**	**83.67 19**		*e*P	**P**	**03 26 22.6**	**-0.6**
	34nm,1.0s						
ILAR	**Eielson Array**	**83.92 20**		P	**P**	**03 26 24.6**	**0.0**
ILAR	**Eielson Array**	**83.92 20**		P	**P**	**03 26 24.6**	**0.0**
	3.7nm,1.0s,baz=248,slow=4.2,SNR=24						
EGAK	**Eagle**	**85.90 21**		*e*P	**P**	**03 26 35.8**	**+1.3**
	6.9nm,1.1s						
NVAR	**Mina Array Bea**	**88.48 51**		P	**P**	**03 26 49.1**	**+1.3**
NVAR	**Mina Array Bea**	**88.48 51**		P	**P**	**03 26 49.1**	**+1.3**
	2.5nm,0.9s,baz=242,slow=6.5,SNR=5.7						
MK31	**Makanchi Array**	**90.13 318**		*e*P	**P**	**03 26 55.2**	**+0.1**
MKAR	**Makanchi Array**	**90.13 318**		P	**P**	**03 26 55.5**	**+0.3**
MKAR	**Makanchi Array**	**90.13 318**		P	**P**	**03 26 55.5**	**+0.3**
	2.7nm,0.8s,baz=97,slow=6.2,SNR=20						
KURK	**Kurchatov**	**93.39 321**		P	**P**	**03 27 08.7**	**-1.3**
KURBB	**Kurchatov Arra**	**93.43 321**		P	**P**	**03 27 08.7**	**-1.5**
	0.9nm,0.9s,baz=112,slow=3.5,SNR=5.7						

NOA	**NORSAR Array B**	**124.70 343**		PKP	**PKPdf**	**03 32 52.1**	**-1.8**
NOA	**NORSAR Array B**	**124.70 343**		PKP	**PKPdf**	**03 32 52.1**	**-1.8**
	1.2nm,0.8s,baz=53,slow=1.8,SNR=3.9						
ESDC	**Sonseca Array**	**147.90 339**		PKPbc	**PKPbc**	**03 33 40.0**	**-0.1**
ESDC	**Sonseca Array**	**147.90 339**		PKPbc	**PKPbc**	**03 33 40.0**	**-0.1**
	1.0nm,0.7s,baz=24,slow=2.7,SNR=6.5						

*IDC **14** 03:18:52.9±0.5, 12°87S×166°53E, h0^{km}, mb4.8/26, mb1 4.8/28, mb1mx4.7/32, mbtmp4.8/28, ML4.4/2, MS4.1/12, Ms1 4.1/12, ms1mx3.8/36, Error ellipse: s-maj=15.8km s-min=12.7km az=95.0*
*MOS **14** 03:18:57.4±0.9, 12°78S×166°27E, h33^{km}, mb5.2/13, Error ellipse: s-maj=10.8km s-min=8.8km az=27.9*
*NEIC **14** 03:18:58.5±0.3, 12°79S×166°48E, h35^{km}, mb5.0/16, Error ellipse: s-maj=9.4km s-min=6.8km az=114.0*
*ISCJB **14** 03:18:58.9±0.3, 12°76S±0°05×166°30E±0°05, h44^{km}, mb4.9/51, MS4.2/14, Error ellipse: s-maj=7.5km s-min=6.5km az=4.9*
*BJI **14** 03:19:00.4, 12°19S×166°43E, h35^{km}, mB5.1/23, mb5.1/41, Ms4.9/14, Ms7 4.5/15*
*GCMT **14** 03:19:01.7±0.3, 12°84S×166°11E, h29^{km}, MW5.0, Moment Tensor Solution. s32,c35; s58,c81; Moment tensor: Scale 10^{16}Nm; M_{rr}4.26±.25; $M_{\theta\theta}$-0.87±.17; $M_{\phi\phi}$-3.40±.17; $M_{r\theta}$0.99±.28; $M_{r\phi}$1.05±.11; $M_{\theta\phi}$-0.98±.19; Best double couple: $M_0$4.30000×10^{16} NP1:ϕ_s153.00000°, δ54.00000°, λ82.00000°. NP2:ϕ_s346.00000°, δ37.00000°, λ101.00000°. Principal axes: T 4.5200, Plg79.0000°, Azm32.0000°; N -0.5500, Plg6.0000°, Azm158.0000°; P -3.9700, Plg9.0000°, Azm249.0000°; Data Used: II IU G CN IC. Surface wave period40 sec.*
*AUST **14** 03:19:09.1, 12°95S×165°94E, h100^{km}*

ISC 14 03:18:59.8±0.3, 12°79S±0°06×166°43E±0°06, h44^{km}, n168, σ1°29/194, mb5.0/51, MS4.1/15, 5C-1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.19 297**		Pn	**Pn**	**03 20 42.4**	**0.0**
HNR				Sn	**Sn**	**03 22 00.6**	**-2.2**
HNR	**Honiara**	**7.19 297**		Pn	**Pn**	**03 20 42.3**	**0.0**
	52nm,0.3s,baz=180,slow=2.1,SNR=20						
HNR				Sn	**Sn**	**03 22 00.5**	**-2.2**
	76nm,0.3s,baz=198,slow=22,SNR=7.0						
HNR				LR	LR	03 23 14.2	
	comp=Z,723nm,21.4s,baz=142,slow=36						
DZM	**Mont Dzumac**	**9.23 180**		*e*Pn	Pn	03 21 16.0	+5.6
	28nm,0.5s						
DZM				Sn	Sn	03 23 03.9	+11
DZM	**Mont Dzumac**	**9.23 180**		Pn	**Pn**	**03 21 12.3**	**+1.9**
	0.4nm,0.3s,baz=294,slow=20,SNR=3.7						
DZM				Sn	Sn	03 23 03.9	+11
	0.4nm,0.3s,baz=313,slow=21,SNR=3.1						
DZM				LR	LR	03 23 41.8	
	comp=Z,478nm,19.5s,baz=186,slow=32						
MSVF	**Nonsavu**	**12.24 115**		*e*P	Pn	03 21 56.5	+4.9
MSVF	**Nonsavu**	**12.24 115**		*e*Pn	Pn	03 21 56.5	+4.9
TARA	**Tarawa**	**15.46 25**		*e*Pn	**P**	**03 22 38.9**	**+0.1**
	100nm,0.6s						
EIDS	**Eidsvold**	**19.13 227**		*e*P	**Pn**	**03 23 21.0**	**+0.5**
	28nm,1.0s						
EIDS	**Eidsvold**	**19.13 227**		P	**Pn**	**03 23 21.4**	**+0.9**
	baz=19,SNR=4.4						
PMG	**Port Moresby**	**19.21 278**		P	**P**	**03 23 20.5**	**+0.2**
PMG				*e*Pn	**Pn**	**03 23 20.8**	**-0.6**
PMG	**Port Moresby**	**19.21 278**		P	**P**	**03 23 20.5**	**+0.2**
	0.7nm,0.3s,baz=140,slow=7.9,SNR=4.8						
PMG				LR	LR	03 29 30.3	
	comp=Z,354nm,19.0s,baz=330,slow=33						
CTA	**Charters Tower**	**20.66 247**		P	**P**	**03 23 36.1**	**+0.1**
CTA	**Charters Tower**	**20.66 247**		P	**P**	**03 23 36.1**	**+0.1**
	11nm,0.8s,baz=74,slow=12,SNR=15						
CTA				LR	LR	03 30 57.3	
	comp=Z,794nm,18.1s,baz=49,slow=35						
CTAO	**Charters Tower**	**20.66 247**		*e*P	**P**	**03 23 35.4**	**-0.6**
CTAO				pmax	pmax		
	comp=Z,19nm,0.9s						
CTAO	**Charters Tower**	**20.66 247**		*e*P	**P**	**03 23 35.4**	**-0.6**
	comp=Z,19nm,0.9s						
RMQ	**Roma**	**21.47 228**		P	**P**	**03 23 46.5**	**+1.8**
	baz=21,SNR=13						
MTSU	**Mount Surprise**	**21.96 253**		P	**P**	**03 23 50.0**	**0.0**
	baz=21,SNR=18						
ARMA	**Armidale**	**22.25 216**		*e*P	**P**	**03 23 55.6**	**+2.5**
	comp=Z,155nm,2.2s						
COEN	**Coen**	**22.66 264**		*e*P	**P**	**03 23 56.9**	**-0.6**
	comp=Z,178nm,0.8s						
COEN	**Coen**	**22.66 264**		P	**P**	**03 23 57.3**	**-0.2**
	baz=22,SNR=5.6						
QLP	**Quilpie**	**24.94 233**		P	**P**	**03 24 19.7**	**+0.5**
	baz=24,SNR=5.2						
CMSA	**Cobar Meteorol**	**26.69 222**		P	**P**	**03 24 37.7**	**+2.9**
	baz=26,SNR=9.8						
STKA	**Stephens Creek**	**29.68 226**		*e*P	**P**	**03 25 02.2**	**+0.6**
	comp=Z,3.0nm,1.1s						
STKA				PcP	**PcP**	**03 28 03.8**	**-1.4**
STKA	**Stephens Creek**	**29.68 226**		P	**P**	**03 25 02.1**	**+0.6**
	comp=Z,6.9nm,1.0s,baz=7.9,slow=9.2,SNR=4.8						
STKA				PcP	**PcP**	**03 28 03.8**	**-1.4**
	comp=Z,3.0nm,0.9s,baz=59,slow=3.7,SNR=3.1						
STKA				LR	LR	03 36 51.5	
	comp=Z,521nm,18.7s,baz=41,slow=36						
RPZ	**Rata Peaks**	**31.07 174**		P	**P**	**03 25 12.6**	**-1.1**
RPZ	**Rata Peaks**	**31.07 174**		P	**P**	**03 25 12.6**	**-1.1**
	comp=Z,18nm,0.8s,baz=244,slow=20,SNR=5.1						
WRAB	**Tennant Creek**	**31.55 253**		*e*P	**P**	**03 25 17.1**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,8.0nm,1.0s						
WRAB	**Tennant Creek**	**31.55 253**		*e*P	**P**	**03 25 17.1**	**-1.2**
	comp=Z,8.5nm,1.0s						
WRA	**Warramunga Arr**	**31.56 253**		P	**P**	**03 25 17.0**	**-1.3**
WRA				PcP	**PcP**	**03 28 09.8**	**-0.6**
WRA	**Warramunga Arr**	**31.56 253**		P	**P**	**03 25 17.0**	**-1.3**
	comp=Z,2.4nm,1.0s,baz=78,slow=7.9,SNR=8.2						
WRA				PcP	**PcP**	**03 28 09.8**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=87,slow=1.8,SNR=6.8						
WRA				LR	LR	03 37 12.4	
	comp=Z,404nm,19.0s,baz=80,slow=35						
AS31	**Alice Springs**	**32.66 246**		*e*P	**P**	**03 25 27.3**	**-0.7**
ASAR	**Alice Springs**	**32.66 246**		P	**P**	**03 25 26.8**	**-1.2**
ASAR				PcP	**PcP**	**03 28 12.8**	**-0.5**
ASAR	**Alice Springs**	**32.66 246**		P	**P**	**03 25 26.8**	**-1.2**
	comp=Z,9.8nm,0.8s,baz=75,slow=9.4,SNR=56						
ASAR				PcP	**PcP**	**03 28 12.8**	**-0.5**
	comp=Z,2.7nm,0.8s,baz=107,slow=2.7,SNR=8.9						
ASAR				LR	LR	03 38 03.0	
	comp=Z,586nm,18.9s,baz=72,slow=35						
KNRA	**Kununurra**	**36.59 261**		P	P	03 26 06.3	+4.3
	baz=36,SNR=4.2						
FITZ	**Fitzroy Crossi**	**39.61 257**		*e*P	**P**	**03 26 27.7**	**+0.3**
FITZ				PcP	**PcP**	**03 28 34.2**	**+0.1**
FITZ	**Fitzroy Crossi**	**39.61 257**		P	**P**	**03 26 26.8**	**-0.6**
	comp=Z,2.4nm,0.7s,baz=61,slow=9.2,SNR=7.6						
FITZ				PcP	**PcP**	**03 28 34.2**	**+0.1**
	comp=Z,5.5nm,0.9s,baz=101,slow=5.1,SNR=3.9						
FITZ				LR	LR	03 42 15.5	
	comp=Z,266nm,19.1s,baz=82,slow=35						
BATI	**Baumata**	**41.96 269**		LR	LR	03 43 26.2	
	comp=Z,197nm,19.6s,baz=45,slow=35						
PPT	**Papeete**	**42.65 102**		P	**P**	**03 26 50.0**	**-2.4**
PPT	**Papeete**	**42.65 102**		P	**P**	**03 26 50.0**	**-2.4**
	comp=Z,21nm,0.7s,baz=253,slow=19,SNR=4.0						
CBIJ	**Chichi jima**	**46.11 329**		P	**P**	**03 27 20.6**	**+0.8**
JCJ	**Chichijima**	**46.11 329**		P	**P**	**03 27 20.6**	**+0.8**
	comp=Z,34nm,0.7s,baz=122,slow=19,SNR=3.0						
JCJ				LR	LR	03 46 38.2	
	comp=Z,135nm,18.2s,baz=133,slow=36						
MEEK	**Meekatharra**	**46.81 245**		P	**P**	**03 27 25.5**	**0.0**
	baz=46,SNR=5.8						
NWAO	**Narrogin (SRO)**	**49.07 237**		P	**P**	**03 27 41.0**	**-1.9**
NWAO	**Narrogin (SRO)**	**49.07 237**		P	**P**	**03 27 41.0**	**-1.9**
	comp=Z,10nm,0.8s,baz=42,slow=3.0,SNR=4.8						
NWAO				LR	LR	03 48 53.2	
	comp=Z,453nm,18.6s,baz=78,slow=37						
MJAR	**Matsushiro Arr**	**55.82 333**		P	**P**	**03 28 32.0**	**-0.7**
MJAR	**Matsushiro Arr**	**55.82 333**		P	**P**	**03 28 32.0**	**-0.7**
	comp=Z,20nm,0.8s,baz=171,slow=8.9,SNR=58						
MAJO	**Matsushiro**	**55.82 333**		*e*P	**P**	**03 28 32.9**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,31nm,0.9s						
MAJO	**Matsushiro**	**55.82 333**		*e*P	**P**	**03 28 32.9**	**+0.2**
	comp=Z,32nm,0.9s						
MAT	**Matsushiro**	**55.82 333**		P	**P**	**03 28 32.6**	**-0.1**

JNU	**Nakatsue**	**56.88 324**		P	**P**	**03 28 40.5**	**+0.1**
JNU	**Nakatsue**	**56.88 324**		P	**P**	**03 28 40.5**	**+0.1**
	comp=Z,11nm,0.7s,baz=116,slow=2.7,SNR=12						
ASAJ	**Asahikawa**	**60.66 340**		P	**P**	**03 29 06.7**	**+0.4**
ASAJ	**Asahikawa**	**60.66 340**		P	**P**	**03 29 06.7**	**+0.4**
	comp=Z,15nm,0.5s,baz=229,slow=8.8,SNR=14						
KSRS	**Korea Array**	**61.69 326**		P	**P**	**03 29 13.8**	**+0.4**
	comp=Z,8.9nm,1.0s,baz=140,slow=6.5,SNR=16						
KSRS				PcP	**PcP**	**03 29 55.6**	**+1.1**
	comp=Z,4.3nm,0.9s,baz=131,slow=3.7,SNR=3.3						
KSAR	**Wonju Array Be**	**61.70 326**		P	**P**	**03 29 13.8**	**+0.3**
KSAR				PcP	**PcP**	**03 29 55.6**	**+1.0**
YSS	**Yuzh-Sakhalins**	**63.15 342**		*e*P	**P**	**03 29 23.0**	**0.0**
YSS				*e*		03 29 31.2	
NJ2	**Nanjing**	**63.73 316**		*e*P	P	03 29 38.6	+11
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s						
VNDA	**Vanda**	**64.77 181**		*e*P	**P**	**03 29 33.0**	**-0.3**
	comp=Z,6.3nm,1.1s						
VNDA	**Vanda**	**64.77 181**		P	**P**	**03 29 33.2**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=354,slow=7.6,SNR=13						
USRK	**Ussuriysk Arra**	**64.80 333**		P	**P**	**03 29 35.1**	**+1.2**
	comp=Z,24nm,0.9s,baz=142,slow=5.8,SNR=38						
SBA	**Scott Base**	**65.06 180**		*e*P	**P**	**03 29 36.3**	**+1.1**
SBA				pmax	pmax		
	comp=Z,13nm,0.9s						
SBA	**Scott Base**	**65.06 180**		*e*P	**P**	**03 29 36.3**	**+1.1**
	comp=Z,12nm,0.9s						
FX1	**Attu Island--F**	**65.66 4**		P	**P**	**03 29 40.0**	**+0.7**
FX1	**Attu Island--F**	**65.66 4**		P	**P**	**03 29 40.0**	**+0.7**
	comp=Z,4.3nm,0.5s,baz=249,slow=8.6,SNR=2.1						
PETK	**Petropavlovsk-**	**66.06 354**		P	**P**	**03 29 41.9**	**0.0**
PETK	**Petropavlovsk-**	**66.06 354**		P	**P**	**03 29 41.9**	**0.0**
PETK	**Petropavlovsk-**	**66.06 354**		P	**P**	**03 29 41.9**	**0.0**
	comp=Z,3.2nm,0.8s,baz=170,slow=11,SNR=3.1						
PETK				LR	LR	03 52 31.5	
	comp=Z,94nm,20.5s,baz=334,slow=30						
MDJ	**Mudanjiang**	**66.20 332**		P	**P**	**03 29 44.5**	**+1.5**
MDJ				AMB	AMB		
	comp=Z,33nm,0.8s						
MDJ	**Mudanjiang**	**66.20 332**		*e*P	**P**	**03 29 44.1**	**+1.1**
	comp=Z,27nm,0.9s						
CN2	**Changchun**	**67.58 329**		⇑*i*P	**P**	**03 29 52.9**	**+1.1**
CN2				*e*pP	**pP**	**03 30 02.9**	**-1.7**
CN2				*e*S	**S**	**03 38 46.6**	**+1.2**
CN2				AMB	AMB		
	comp=Z,50nm,0.9s						
CN2				LR	LR		
	comp=Z,200nm,16.0s						
CN2				LR	LR		
	comp=Z,200nm,16.0s						
CN2				LR	LR		
	comp=Z,200nm,17.0s						
PSI	**Prapat**	**68.77 278**		P	**P**	**03 29 59.2**	**-0.9**
PSI	**Prapat**	**68.77 278**		P	**P**	**03 29 59.2**	**-0.9**
	comp=Z,4.2nm,0.8s,baz=293,slow=13,SNR=4.7						
KLR	**Kul'dur**	**68.92 336**		*e*P	**P**	**03 29 57.4**	**-2.6**
KLR				pmax	pmax		
	comp=E,42nm,1.8s						
KLR				pmax	pmax		
	comp=Z,78nm,1.8s						
GYA	**Guiyang**	**69.95 304**		*e*P	**P**	**03 30 09.8**	**+2.7**
GYA				PP	**PP**	**03 32 46.0**	**+3.5**
GYA				S	**S**	**03 39 15.0**	**+0.5**
GYA				SKS	**SKSac**	**03 40 03.3**	**-1.8**
GYA				SS	**SS**	**03 43 46.5**	**+1.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
GYA				AMB	AMB		
	comp=Z,90nm,5.8s						
GYA				LR	LR		
	comp=Z,490nm,20.8s						
GYA				LR	LR		
	comp=Z,380nm,21.0s						
GYA				LR	LR		
	comp=Z,460nm,20.2s						
BJI	**Beijing**	**70.26 321**		P	**P**	**03 30 09.8**	**+1.3**
BJI				S	**S**	**03 39 22.6**	**+5.4**
BJI

TLY	**Talaya**	**83.94**	**326**		P		**P**	**03 31 25.2**	**+0.1**
	comp=Z,142nm,0.9s,SNR=6.6								
COLA	**College**	**84.73**	**18**	*i*	P		**P**	**03 31 29.1**	**+0.4**
ILAR	**Eielson Array**	**84.95**	**18**		P		**P**	**03 31 28.4**	**-1.5**
ILAR					PKKPbc		**PKKPdf**	**03 49 36.9**	**+3.6**
ILAR	**Eielson Array**	**84.95**	**18**		P		**P**	**03 31 28.4**	**-1.5**
	comp=Z,0.4nm,0.4s,baz=222,slow=5.9,SNR=5.7								
ILAR					PKKPbc		**PKKPdf**	**03 49 36.9**	**+3.6**
	comp=Z,0.2nm,0.6s,baz=0.0,slow=4.5,SNR=5.0								
TIXI	**Tiksi**	**87.92**	**349**	⇓	*i* P		**P**	**03 31 44.2**	**-0.1**
TIXI					pmax		pmax		
	comp=Z,6.0nm,1.7s								
HVS	**Khovu-Aksy**	**89.34**	**323**	*c*	*i* P		**P**	**03 31 52.1**	**+0.5**
HVS					pmax		pmax		
	comp=Z,79nm,1.0s								
SYO	**Syowa Base**	**90.32**	**197**	⇑	*e*X		P	03 31 51.5	-4.3
WMQ	**Urumqi**	**90.80**	**315**		P		**P**	**03 31 59.1**	**+0.6**
WMQ					pP		**pP**	**03 32 09.8**	**-2.0**
WMQ					sP		**sP**	**03 32 13.6**	**-3.1**
WMQ					SKS		**SKSac**	**03 42 26.1**	**-0.8**
WMQ					S		**S**	**03 42 49.9**	**-2.1**
WMQ					AMB		AMB		
	comp=Z,13nm,0.8s								
WMQ					AMB		AMB		
	comp=Z,150nm,6.4s								
WMQ					LR		LR		
	comp=Z,150nm,6.0s								
WMQ					LR		LR		
	comp=Z,110nm,6.2s								
WMQ					LR		LR		
	comp=Z,52nm,18.4s								
HVU	**Hansel Valley**	**91.68**	**48**		P		P	03 31 59.5	-3.3
HVU					pmax		pmax		
	comp=Z,5.0nm,0.9s								
HVU	**Hansel Valley**	**91.68**	**48**		P		P	03 31 59.5	-3.3
	comp=Z,4.9nm,0.9s								
MK31	**Makanchi Array**	**95.25**	**317**	*e*	P		**P**	**03 32 19.2**	**+0.3**
MK31	**Makanchi Array**	**95.25**	**317**	*e*	P		**P**	**03 32 19.2**	**+0.3**
MKAR	**Makanchi Array**	**95.25**	**317**		P		**P**	**03 32 19.0**	**0.0**
MKAR	**Makanchi Array**	**95.25**	**317**		P		**P**	**03 32 19.0**	**0.0**
MKAR	**Makanchi Array**	**95.25**	**317**		P		**P**	**03 32 19.0**	**0.0**
	comp=Z,10.0nm,0.9s,baz=100,slow=6.5,SNR=46								
ZAA0	**Zalesovo Array**	**95.36**	**324**	*e*	P		**P**	**03 32 18.8**	**-0.4**
ZALV	**Zalesovo Beam**	**95.36**	**324**		P		**P**	**03 32 18.8**	**-0.4**
ZALV	**Zalesovo Beam**	**95.36**	**324**		P		**P**	**03 32 18.8**	**-0.4**
ZALV	**Zalesovo Beam**	**95.36**	**324**		P		**P**	**03 32 18.8**	**-0.4**
	comp=Z,10nm,0.8s,baz=111,slow=4.5,SNR=41								
SNAA	**Sanae**	**95.42**	**183**	*e*	P		**P**	**03 32 18.2**	**-1.2**
	comp=Z,4.8nm,1.0s								
TXAR	**Lajitas Array**	**96.07**	**61**		P		**P**	**03 32 23.1**	**-0.1**
TXAR	**Lajitas Array**	**96.07**	**61**		P		**P**	**03 32 23.1**	**-0.1**
	comp=Z,0.6nm,0.9s,baz=224,slow=5.0,SNR=4.1								
KSH	**Kashi**	**98.37**	**309**	*e*	P		Pdif	03 32 41.1	+7.7
KSH					pP		pP	03 32 46.9	+0.2
KSH					sP		sP	03 32 50.4	-1.2
KURK	**Kurchatov**	**98.41**	**320**	*c*	*i* P		**P**	**03 32 32.3**	**-0.8**
KURK					pmax		pmax		
	comp=Z,10.0nm,4.1s								
KURK	**Kurchatov**	**98.41**	**320**		P		**P**	**03 32 32.7**	**-0.4**
KURBB	**Kurchatov Arra**	**98.44**	**320**		P		**P**	**03 32 32.7**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=103,slow=3.3,SNR=5.3								
VOSK	**Vostochnaya**	**103.36**	**322**	*e*	P		**Pdif**	**03 32 55.9**	**+0.8**
VOSK	**Vostochnaya**	**103.36**	**322**	*e*	Pdif		**Pdif**	**03 32 55.9**	**+0.8**
BVAR	**Borovoye Array**	**103.73**	**322**		P		**Pdif**	**03 32 56.4**	**-0.4**
BVAR	**Borovoye Array**	**103.73**	**322**		Pdif		**Pdif**	**03 32 56.4**	**-0.4**
BVAR	**Borovoye Array**	**103.73**	**322**		Pdiff		**Pdif**	**03 32 56.4**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=82,slow=3.1,SNR=5.3								
ARCES	**ARCESS Array B**	**118.18**	**345**		PKP		**PKPdf**	**03 37 40.9**	**-0.7**
ARCES	**ARCESS Array B**	**118.18**	**345**		PKP		**PKPdf**	**03 37 40.9**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=84,slow=3.0,SNR=11								
FINES	**FINESS Array B**	**123.63**	**338**		PKP		**PKPdf**	**03 37 51.7**	**-0.5**
FINES	**FINESS Array B**	**123.63**	**338**		PKP		**PKPdf**	**03 37 51.7**	**-0.5**
	comp=Z,14nm,1.2s,baz=90,slow=1.9,SNR=4.0								
BOSA	**Boshof**	**124.29**	**222**		PKP		**PKPdf**	**03 37 54.5**	**-0.2**
BOSA	**Boshof**	**124.29**	**222**		PKP		**PKPdf**	**03 37 54.5**	**-0.2**
	comp=Z,3.4nm,0.8s,baz=173,slow=12,SNR=4.3								
AKASG	**Malin Array Be**	**128.68**	**326**		PKIKP		**PKPdf**	**03 38 01.9**	**-0.3**
AKASG	**Malin Array Be**	**128.68**	**326**		PKP		**PKPdf**	**03 38 01.9**	**-0.3**
AKASG	**Malin Array Be**	**128.68**	**326**		PKP		**PKPdf**	**03 38 01.9**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=46,slow=2.7,SNR=3.5								
KOLS	**Kolonicke sedl**	**133.38**	**328**	*e*	PKIKP		**PKPdf**	**03 38 11.7**	**+0.5**
KOLS	**Kolonicke sedl**	**133.38**	**328**	*e*	PKP		**PKPdf**	**03 38 11.7**	**+0.5**
KECS	**Kecovo**	**134.59**	**328**	*e*	PKIKP		**PKPdf**	**03 38 16.0**	**+2.6**
KECS	**Kecovo**	**134.59**	**328**	*e*	PKP		**PKPdf**	**03 38 16.0**	**+2.6**
CLL	**Collm**	**135.97**	**336**	*e*	PKiKP		**PKiKP**	**03 38 19.0**	**+1.5**
BNI	**Bardonecchia**	**143.51**	**336**	*e*	PKIKP		PKPbc	03 38 28.2	+0.9
BNI	**Bardonecchia**	**143.51**	**336**	*e*	PKPdf		PKPbc	03 38 28.2	+0.8
CEL	**Celeste**	**143.54**	**319**	*e*	PKPdf		PKPbc	03 38 27.8	+0.2
PLDF	**La Plantade**	**143.87**	**340**		PKP		PKPbc	03 38 29.2	+0.9
SAOF	**Saorge**	**144.01**	**334**		PKP		PKPbc	03 38 28.7	0.0
AUTN	**L'Aution**	**144.06**	**334**		PKP		PKPbc	03 38 29.0	-0.1
TOUF	**Mont Tournerai**	**144.12**	**334**		PKP		PKPbc	03 38 29.2	-0.1
SSB	**Saint Sauveur**	**144.14**	**338**	*e*	PKIKP		**PKPdf**	**03 38 30.3**	**-0.7**
SSB	**Saint Sauveur**	**144.14**	**338**	*e*	PKPdf		**PKPdf**	**03 38 30.3**	**-0.7**
LUF	**Luceram**	**144.17**	**334**		PKP		PKPbc	03 38 29.2	-0.1
PYM	**Petit Puy Mans**	**144.26**	**340**		PKP		PKPbc	03 38 30.2	+0.7
REVF	**Revere**	**144.29**	**334**		PKP		**PKPab**	**03 38 29.4**	**+0.1**
OG26	**St.-Nazaire-De**	**144.45**	**337**		PKP		**PKPdf**	**03 38 31.2**	**-0.4**
CALN	**Calern**	**144.48**	**334**		PKP		**PKPdf**	**03 38 31.3**	**-0.5**
LBL	**Lubilhac**	**144.64**	**339**		PKP		**PKPdf**	**03 38 32.0**	**+0.1**
KEST	**Kesra**	**149.20**	**322**	*e*	PKPdf		**PKPdf**	**03 38 40.1**	**+0.2**
KEST					PKPbc		**PKPbc**	**03 38 44.3**	**+0.2**
KEST				*e*	PKPbc		**PKiKP**	**03 38 44.9**	**-0.4**
KEST	**Kesra**	**149.20**	**322**		PKPbc		**PKPbc**	**03 38 44.3**	**+0.2**
	comp=Z,7.5nm,0.9s,baz=13,slow=1.7,SNR=15								
POLO	**Lamas de Olo**	**151.08**	**351**	*e*	PKPbc		**PKPbc**	**03 38 49.0**	**+0.5**
MVO	**Moncorvo**	**151.16**	**350**	*e*	PKPbc		**PKPbc**	**03 38 49.5**	**+0.9**
PVRL	**Vila Real**	**151.17**	**351**	*e*	PKPbc		**PKPbc**	**03 38 49.3**	**+0.7**
PVIS	**Viseu**	**151.74**	**351**	*e*	PKPbc		**PKPbc**	**03 38 50.0**	**0.0**
ESDC	**Sonseca Array**	**151.91**	**344**		PKPbc		**PKPbc**	**03 38 50.3**	**-0.1**
ESDC	**Sonseca Array**	**151.91**	**344**		PKPbc		**PKPbc**	**03 38 50.3**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=20,slow=2.5,SNR=15								
MTE	**Manteigas**	**151.99**	**350**	*e*	PKPbc		**PKPbc**	**03 38 50.6**	**0.0**
PCBR	**Castelo Branco**	**152.53**	**350**	*e*	PKPbc		**PKPbc**	**03 38 52.1**	**+0.4**
PMRV	**Marv??o**	**152.91**	**349**	*e*	PKPbc		**PKPbc**	**03 38 53.1**	**+0.5**
TORD	**Torodi Ar. Bea**	**165.12**	**273**		PKPab		**PKPab**	**03 39 56.8**	**-0.7**
TORD	**Torodi Ar. Bea**	**165.12**	**273**		PKPab		**PKPab**	**03 39 56.8**	**-0.7**
	comp=Z,1.9nm,1.0s,baz=78,slow=4.0,SNR=7.7								

MDD ***14*** *03:27:33.4±0.9, 36.˚49N×9.˚91W, h40km, mbLg3.1/41, Error ellipse: s-maj=8.8km s-min=6.2km az=69.0, PRXIMO*
SFS ***14*** *03:27:34.0, 36.˚59N×9.˚83W, h21km, ML3.1*
INMG ***14*** *03:27:35.6±1.1, 36.˚59N×9.˚81W, h26km±11km, MD2.8, ML2.7, Error ellipse: s-maj=8.3km s-min=2.5km az=58.0*
IGIL ***14*** *03:27:35.6, 36.˚56N×9.˚81W, h31km, ML2.6*
CSEM ***14*** *03:27:36.4±0.3, 36.˚75N×9.˚56W, h20km, ML3.5/8, Error ellipse: s-maj=6.3km s-min=3.6km az=49.0*

ISC 14 03:27:30.4±1.7, **36.˚57N**±0.˚05×**9.˚83W**±0.˚06, **h10km, n134, c2e11/238, 9C-2D, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.98**	**55**	*i* P	**Pn**	**03 27 51.7**	**+1.5**
PFVI				*e*S	**Sb**	**03 28 04.0**	**+1.5**
PFVI				A	A	03 28 04.5	
	125nm,0.2s						
PFVI	**Vila Bisbo**	**0.98**	**55**	⇑P	**Pn**	**03 27 51.7**	**+1.5**
	80nm,0.1s,SNR=18						
PFVI				S	**Sb**	**03 28 03.5**	**+0.9**
	256nm,0.2s,SNR=23						
PFVI	**Vila Bisbo**	**0.98**	**55**	P	**Pn**	**03 27 51.7**	**+1.5**
	80nm,0.1s,SNR=18						
PFVI				*e*S	**Sb**	**03 28 04.0**	**+1.5**
	125nm,0.2s						
MORF	**Marmelete**	**1.20**	**52**	*i* P	**Pb**	**03 27 54.8**	**+1.6**
MORF				*e*S	**Sb**	**03 28 09.3**	**+0.5**
MORF				A	A	03 28 09.9	
	145nm,0.3s						
MORF	**Marmelete**	**1.20**	**52**	⇑P	**Pb**	**03 27 54.8**	**+1.6**
MORF				S	**Sb**	**03 28 09.3**	**+0.5**
	145nm,0.3s						
MORF	**Marmelete**	**1.20**	**52**	P	**Pb**	**03 27 54.8**	**+1.6**
MORF				S	**Sb**	**03 28 09.3**	**+0.5**
	145nm,0.3s						
PTEO	**Sao Teotonio**	**1.32**	**42**	*i* P	**Pn**	**03 27 56.3**	**+1.5**
PTEO				*e*S	**Sb**	**03 28 12.3**	**+0.2**
PTEO				A	A	03 28 12.9	
	71nm,0.3s						
PTEO	**Sao Teotonio**	**1.32**	**42**	⇑P	**Pn**	**03 27 56.3**	**+1.5**
PTEO				S	**Sb**	**03 28 12.3**	**+0.2**
	36nm,0.3s						
PTEO	**Sao Teotonio**	**1.32**	**42**	P	**Pn**	**03 27 56.3**	**+1.5**
PTEO				S	**Sb**	**03 28 12.3**	**+0.2**
	36nm,0.3s						
PBDV	**Barranco-do-Ve**	**1.67**	**66**	*i* P	**Pn**	**03 28 01.3**	**+1.7**
PBDV				*e*S	**Sn**	**03 28 20.1**	**-1.0**
PBDV				A	A	03 28 23.8	
	49nm,0.1s						
PBDV	**Barranco-do-Ve**	**1.67**	**66**	⇑P	**Pn**	**03 28 01.3**	**+1.7**
PBDV				S	**Sn**	**03 28 20.1**	**-1.0**
	49nm,0.1s						
PBDV	**Barranco-do-Ve**	**1.67**	**66**	P	**Pn**	**03 28 01.3**	**+1.7**
PBDV				S	**Sn**	**03 28 20.1**	**-1.0**
	49nm,0.1s						
PCVE	**Castro Verde**	**1.78**	**53**	*i* Pn	**Pn**	**03 28 03.0**	**+1.8**
PCVE				*e*Sn	**Sn**	**03 28 23.5**	**-0.4**
PCVE				A	A	03 28 25.4	
	46nm,0.5s						
PCVE	**Castro Verde**	**1.78**	**53**	⇑P	**Pn**	**03 28 03.0**	**+1.8**
PCVE				S	**Sn**	**03 28 23.5**	**-0.4**
	46nm,0.5s						
PCVE	**Castro Verde**	**1.78**	**53**	P	**Pn**	**03 28 03.0**	**+1.8**
PCVE				S	**Sn**	**03 28 23.5**	**-0.4**
	46nm,0.5s						
PNCL	**Nicolau / Gran**	**1.86**	**34**	*e*Pn	**Pn**	**03 28 03.6**	**+1.4**
PNCL				*e*Sn	**Sn**	**03 28 24.9**	**-0.9**
PNCL				A	A	03 28 27.3	
	46nm,0.1s						
PNCL	**Nicolau / Gran**	**1.86**	**34**	*e*Pn	**Pn**	**03 28 03.6**	**+1.4**
PNCL				*e*Sn	**Sn**	**03 28 24.9**	**-0.9**
	46nm,0.1s						
PVAQ	**Vaqueiros**	**1.89**	**63**	*i* Pn	**Pn**	**03 28 04.2**	**+1.6**
PVAQ				*e*Sn	**Sn**	**03 28 25.5**	**-1.0**
PVAQ				A	A	03 28 27.1	
	67nm,0.1s						
PVAQ	**Vaqueiros**	**1.89**	**63**	⇑P	**Pn**	**03 28 04.2**	**+1.6**
PVAQ				S	**Sn**	**03 28 25.5**	**-1.0**
	67nm,0.1s						
PVAQ	**Vaqueiros**	**1.89**	**63**	P	**Pn**	**03 28 04.2**	**+1.6**
PVAQ				S	**Sn**	**03 28 25.5**	**-1.0**
	67nm,0.1s						
EGRO	**El Granado**	**2.11**	**62**	⇑P	**Pn**	**03 28 07.1**	**+1.4**
	3.6nm,0.1s,SNR=18						
EGRO				S	**Sn**	**03 28 31.4**	**-0.6**
	32nm,0.1s,SNR=5.1						
EGRO	**El Granado**	**2.11**	**62**	P	**Pn**	**03 28 07.1**	**+1.4**
	3.6nm,0.1s,SNR=18						
EGRO				S	**Sn**	**03 28 31.4**	**-0.6**
	32nm,0.1s,SNR=5.1						
PBEJ	**Beja**	**2.14**	**46**	*e*Pn	**Pn**	**03 28 07.3**	**+1.2**
PBEJ				*e*Sn	**Sn**	**03 28 31.6**	**-1.1**
PBEJ				A	A	03 28 33.2	
	36nm,0.1s						
PBEJ	**Beja**	**2.14**	**46**	P	**Pn**	**03 28 07.3**	**+1.2**
PBEJ				S	**Sn**	**03 28 31.6**	**-1.1**
	18nm,0.1s						
PBEJ	**Beja**	**2.14**	**46**	P	**Pn**	**03 28 07.3**	**+1.2**
PBEJ				S	**Sn**	**03 28 31.6**	**-1.1**
	18nm,0.1s						
PMST	**Lisbon--Monsan**	**2.23**	**13**	*e*Pn	Pn	03 28 03.6	-3.7
PMST				*e*Sn	**Sn**	**03 28 33.9**	**-1.0**
PMST				A	A	03 28 42.6	
	24nm,0.2s						
PACT	**Alcochete**	**2.33**	**20**	*e*Pn	**Pn**	**03 28 10.4**	**+1.6**
PACT				*e*Sn	**Sn**	**03 28 37.9**	**+0.4**
PACT				A	A	03 28 41.6	
	36nm,0.6s						
PACT	**Alcochete**	**2.33**	**20**	*e*Pn	**Pn**	**03 28 10.4**	**+1.6**
PACT				*e*Sn	**Sn**	**03 28 37.9**	**+0.4**
	36nm,0.6s						
PMAFR	**Mafra**	**2.42**	**10**	*e*Pn	**Pn**	**03 28 11.3**	**+1.3**
PMAFR				*e*Sn	**Sn**	**03 28 38.4**	**-1.4**
PMAFR				A	A	03 28 41.4	
	56nm,0.6s						
PMAFR	**Mafra**	**2.42**	**10**	P	**Pn**	**03 28 11.2**	**+1.1**
	7.1nm,0.5s,SNR=37						
PMAFR				S	**Sn**	**03 28 38.3**	**-1.5**
	49nm,0.1s,SNR=11						
PMAFR	**Mafra**	**2.42**	**10**	*e*Pn	**Pn**	**03 28 11.3**	**+1.3**
PMAFR				*e*Sn	**Sn**	**03 28 38.4**	**-1.4**
	56nm,0.6s						
EVO	**Evora**	**2.44**	**36**	*i* Pn	**Pn**	**03 28 11.4**	**+1.2**
EVO				*e*Sn	**Sn**	**03 28 38.6**	**-1.4**
EVO				A	A	03 28 39.2	
	93nm,0.1s						
EVO	**Evora**	**2.44**	**36**	⇑P	**Pn**	**03 28 11.4**	**+1.2**
EVO				S	**Sn**	**03 28 38.6**	**-1.4**
	93nm,0.1s						
EVO	**Evora**	**2.44**	**36**	P	**Pn**	**03 28 11.4**	**+1.2**
EVO				S	**Sn**	**03 28 38.6**	**-1.4**
	93nm,0.1s						
PBAR	**Barrancos**	**2.74**	**53**	*e*Pn	**Pn**	**03 28 15.7**	**+1.3**
PBAR				*e*Sn	**Sn**	**03 28 46.6**	**-1.0**
PBAR				A	A	03 28 48.1	
	26nm,0.4s						
PBAR	**Barrancos**	**2.74**	**53**	P	**Pn**	**03 28 15.7**	**+1.3**
PBAR				S	**Sn**	**03 28 46.6**	**-1.0**
	26nm,0.4s						
PBAR	**Barrancos**	**2.74**	**53**	P	**Pn**	**03 28 15.7**	**+1.3**
PBAR				S	**Sn**	**03 28 46.6**	**-1.0**
	26nm,0.4s						
ALMR	**Almeirim**	**2.77**	**21**	*e*P	**Pn**	**03 28 16.5**	**+1.8**
ALMR				*e*S	**Sn**	**03 28 46.4**	**-1.8**
ALMR				AML	AML	03 28 47.9	
	comp=N,15nm,0.2s						
ALMR	**Almeirim**	**2.77**	**21**	*e*P	**Pn**	**03 28 16.5**	**+1.8**
ALMR				*e*S	**Sn**	**03 28 46.4**	**-1.8**
ALMR	**Almeirim**	**2.77**	**21**	P	**Pn**	**03 28 16.5**	**+1.8**
ALMR				S	**Sn**	**03 28 46.4**	**-1.8**
ALMR	**Almeirim**	**2.77**	**21**	*e*P	**Pn**	**03 28 16.5**	**+1.8**
ALMR				*e*S	**Sn**	**03 28 46.4**	**-1.8**
EMIN	**Mina Concepcio**	**2.79**	**64**	⇓P	**Pn**	**03 28 16.1**	**+1.0**
	comp=N,0.6nm,0.1s,SNR=18						
EMIN				S	**Sn**	**03 28 47.5**	**-1.3**
	comp=N,16nm,0.3s,SNR=16						
EMIN	**Mina Concepcio**	**2.79**	**64**	P	**Pn**	**03 28 16.1**	**+1.0**
	comp=N,0.6nm,0.1s,SNR=18						
EMIN				S	**Sn**	**03 28 47.5**	**-1.3**
	comp=N,16nm,0.3s,SNR=16						
PMTG	**Montargil**	**2.80**	**26**	*e*Pn	**Pn**	**03 28 16.7**	**+1.5**
PMTG				*e*Sn	**Sn**	**03 28 47.3**	**-1.8**
PMTG				A	A	03 28 49.5	
	comp=N,25nm,0.1s						
PMTG	**Montargil**	**2.80**	**26**	*e*Pn	**Pn**	**03 28 16.7**	**+1.5**
PMTG				*e*Sn	**Sn**	**03 28 47.3**	**-1.8**
	comp=N,25nm,0.1s						
EBAD	**Badajoz**	**3.12**	**45**	⇑P	**Pn**	**03 28 20.6**	**+0.9**
	comp=N,5.8nm,0.1s,SNR=18						
EBAD				S	**Sn**	**03 28 55.1**	**-2.0**
	comp=N,42nm,0.2s,SNR=14						
EBAD	**Badajoz**	**3.12**	**45**	P	**Pn**	**03 28 20.5**	**+0.9**
	comp=N,5.8nm,0.1s,SNR=18						
EBAD				S	**Sn**	**03 28 55.1**	**-2.0**
	comp=N,42nm,0.2s,SNR=14						
ESPR	**Espera**	**3.21**	**83**	P	**Pn**	**03 28 22.3**	**+1.5**
	comp=N,5.9nm,0.1s,SNR=30						
ESPR				S	**Sn**	**03 28 57.3**	**-1.8**
	comp=N,190nm,0.3s,SNR=10						
ESPR	**Espera**	**3.21**	**83**	P	**Pn**	**03 28 22.3**	**+1.5**
	comp=N,5.9nm,0.1s,SNR=30						
ESPR				S	**Sn**	**03 28 57.3**	**-1.8**
	comp=N,190nm,0.3s,SNR=10						
PTOM	**Tomar**	**3.25**	**20**	*e*Pn	**Pn**	**03 28 22.6**	**+1.3**
PTOM				*e*Sn	**Sn**	**03 28 57.6**	**-2.4**
PTOM				A	A	03 29 01.9	
	comp=N,18nm,0.1s						
PTOM	**Tomar**	**3.25**	**20**	P	**Pn**	**03 28 22.6**	**+1.3**
PTOM				S	**Sn**	**03 28 57.6**	**-2.4**
	comp=N,9.1nm,0.1s						
PTOM	**Tomar**	**3.25**	**20**	P	**Pn**	**03 28 22.6**	**+1.3**
PTOM				S	**Sn**	**03 28 57.6**	**-2.4**
	comp=N,9.1nm,0.1s						
PMRV	**Marv??o**	**3.44**	**33**	*e*Pn	**Pn**	**03 28 25.4**	**+1.3**
PMRV				*e*Sn	**Sn**	**03 29 02.5**	**-2.5**
PMRV				A	A	03 29 05.0	
	comp=N,24nm,0.2s						
PMRV	**Marv??o**	**3.44**	**33**	P	**Pn**	**03 28 25.4**	**+1.3**
PMRV				S	**Sn**	**03 29 02.5**	**-2.5**
	comp=N,24nm,0.2s						
PMRV	**Marv??o**	**3.44**	**33**	P	**Pn**	**03 28 25.4**	**+1.3**
PMRV				S	**Sn**	**03 29 02.5**	**-2.5**
	comp=N,24nm,0.2s						
LIJA	**Lijar**	**3.57**	**83**	P	**Pn**	**03 28 29.0**	**+3.1**
LIJA				S	**Sn**	**03 29 04.8**	**-3.4**
LIJA	**Lijar**	**3.57**	**83**	*e*P	**Pn**	**03 28 29.0**	**+3.1**
LIJA				*e*S	**Sn**	**03 29 04.8**	**-3.4**
ECEU	**Ceuta**	**3.66**	**99**	P	**Pn**	**03 28 28.7**	**+1.6**
	comp=N,1.7nm,0.1s,SNR=7.9						
ECEU				S	**Sn**	**03 29 09.0**	**-1.3**
	comp=N,4.3nm,0.1s,SNR=7.9						
ECEU	**Ceuta**	**3.66**	**99**	P	**Pn**	**03 28 28.7**	**+1.6**
	comp=N,1.7nm,0.1s,SNR=7.9						
ECEU				S	**Sn**	**03 29 09.0**	**-1.3**
	comp=N,4.3nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**3.76**	**29**	*e*Pn	**Pn**	**03 28 29.8**	**+1.5**
PCBR				*e*Sn	**Sn**	**03 29 10.1**	**-2.5**
PCBR				A	A	03 29 13.7	
	comp=N,5.7nm,0.6s						
PCBR	**Castelo Branco**	**3.76**	**29**	P	**Pn**	**03 28 29.8**	**+1.5**
PCBR				S	**Sn**	**03 29 10.1**	**-2.5**
	comp=N,2.8nm,0.6s						
PCBR	**Castelo Branco**	**3.76**	**29**	P	**Pn**	**03 28 29.8**	**+1.5**
PCBR				S	**Sn**	**03 29 10.1**	**-2.5**
	comp=N,2.8nm,0.6s						
ECAB	**El Cabril**	**3.83**	**66**	P	**Pn**	**03 28 30.7**	**+1.4**
	comp=N,1.3nm,0.1s,SNR=46						
ECAB				S	**Sn**	**03 29 12.2**	**-2.2**
	comp=N,14nm,0.3s,SNR=9.4						
ECAB	**El Cabril**	**3.83**	**66**	P	**Pn**	**03 28 30.7**	**+1.4**
	comp=N,1.3nm,0.1s,SNR=46						
ECAB				S	**Sn**	**03 29 12.1**	**-2.2**
	comp=N,14nm,0.3s,SNR=9.4						
EMIJ	**Mijas**	**4.07**	**89**	P	**Pn**	**03 28 34.1**	**+1.4**
	comp=N,1.0nm,0.3s,SNR=7.9						
EMIJ				S	**Sn**	**03 29 17.3**	**-3.1**
	comp=N,9.5nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**4.07**	**89**	P	**Pn**	**03 28 34.1**	**+1.4**
	comp=N,1.0nm,0.3s,SNR=7.9						
EMIJ				S	**Sn**	**03 29 17.3**	**-3.1**
	comp=N,9.5nm,0.3s,SNR=7.9						
MTE	**Manteigas**	**4.23**	**24**	*e*Pn	**Pn**	**03 28 36.1**	**+1.2**
MTE				*e*Sn	**Sn**	**03 29 21.6**	**-2.7**
MTE				A	A	03 29 25.1	
	comp=N,7.9nm,0.3s						
MTE	**Manteigas**	**4.23**	**24**	P	**Pn**	**03 28 36.1**	**+1.2**
MTE				S	**Sn**	**03 29 21.6**	**-2.7**
	comp=N,4.0nm,0.3s						
MTE	**Manteigas**	**4.23**	**24**	P	**Pn**	**03 28 36.1**	**+1.2**
MTE				S	**Sn**	**03 29 21.6**	**-2.7**
	comp=N,4.0nm,0.3s						
PVIS	**Viseu**	**4.41**	**20**	*e*Pn	**Pn**	**03 28 38.8**	**+1.4**
PVIS				*e*Sn	**Sn**	**03 29 26.0**	**-2.8**
PVIS				A	A	03 29 29.2	
	comp=N,7.5nm,0.2s						
PVIS	**Viseu**	**4.41**	**20**	P	**Pn**	**03 28 38.8**	**+1.4**
PVIS				S	**Sn**	**03 29 26.0**	**-2.8**
	comp=N,3.8nm,0.2s						
PVIS	**Viseu**	**4.41**	**20**	P	**Pn**	**03 28 38.8**	**+1.4**
PVIS				S	**Sn**	**03 29 26.0**	**-2.8**
	comp=N,3.8nm,0.2s						
EADA	**Adamuz**	**4.48**	**68**	P	**Pn**	**03 28 39.6**	**+1.3**
	comp=N,2.1nm,0.2s,SNR=24						
EADA				S	**Sn**	**03 29 26.5**	**-4.0**
	comp=N,21nm,0.1s,SNR=6.0						
EADA	**Adamuz**	**4.48**	**68**	P	**Pn**	**03 28 39.6**	**+1.3**
	comp=N,2.1nm,0.2s,SNR=24						
EADA				S	**Sn**	**03 29 26.5**	**-4.0**
	comp=N,21nm,0.1s,SNR=6.0						
EPLA	**Plasencia**	**4.57**	**39**	P	**Pn**	**03 28 40.8**	**+1.2**
	comp=N,1.5nm,0.2s,SNR=15						
EPLA				S	**Sn**	**03 29 29.8**	**-2.9**
	comp=N,14nm,0.2s,SNR

EBER	**Berja**	**5.58**	**85**	P		**Pn**	**03 28 54.9**	**+1.3**
	comp=N,0.7nm,0.2s,SNR=7.9							
EBER				S		Sn	03 29 53.0	-4.9
	comp=N,5.2nm,0.4s,SNR=7.9							
EBER	**Berja**	**5.58**	**85**	P		**Pn**	**03 28 54.9**	**+1.3**
	comp=N,0.7nm,0.2s,SNR=7.9							
PBRG	**Braganca**	**5.75**	**24**	*e*Pn		**Pn**	**03 28 57.3**	**+1.5**
PBRG				*e*Sn		**Sn**	**03 29 58.1**	**-3.8**
PBRG				A		A	03 29 59.9	
	comp=N,4.1nm,0.3s							
PBRG	**Braganca**	**5.75**	**24**	P		**Pn**	**03 28 57.3**	**+1.5**
PBRG				S		**Sn**	**03 29 58.1**	**-3.8**
	comp=N,2.0nm,0.3s							
PBRG	**Braganca**	**5.75**	**24**	P		**Pn**	**03 28 57.3**	**+1.5**
PBRG				S		**Sn**	**03 29 58.1**	**-3.8**
	comp=N,2.0nm,0.3s							
ECAL	**Calabor**	**5.88**	**23**	P		**Pn**	**03 28 58.9**	**+1.3**
	comp=N,1.5nm,0.2s,SNR=7.9							
ECAL				S		**Sn**	**03 30 00.8**	**-4.2**
	comp=N,2.9nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**5.88**	**23**	P		**Pn**	**03 28 58.9**	**+1.3**
	comp=N,1.5nm,0.2s,SNR=7.9							
ECAL				S		**Sn**	**03 30 00.8**	**-4.2**
	comp=N,2.9nm,0.2s,SNR=7.9							
EHUE	**Huescar**	**5.91**	**76**	P		**Pn**	**03 28 59.0**	**+1.0**
	comp=N,0.4nm,0.2s,SNR=7.9							
EHUE				S		**Sn**	**03 30 02.4**	**-3.5**
	comp=N,4.9nm,0.2s,SNR=7.9							
EHUE	**Huescar**	**5.91**	**76**	P		**Pn**	**03 28 59.0**	**+1.0**
	comp=N,0.4nm,0.2s,SNR=7.9							
EHUE				S		**Sn**	**03 30 02.4**	**-3.5**
	comp=N,4.9nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**6.03**	**46**	P		**Pn**	**03 29 01.0**	**+1.3**
	comp=N,1.2nm,0.2s,SNR=6.4							
GUD				S		**Sn**	**03 30 05.5**	**-3.3**
	comp=N,3.5nm,0.2s,SNR=7.5							
GUD	**Guadarrama**	**6.03**	**46**	P		**Pn**	**03 29 01.0**	**+1.3**
	comp=N,1.2nm,0.2s,SNR=6.4							
GUD				S		**Sn**	**03 30 05.5**	**-3.3**
	comp=N,3.5nm,0.2s,SNR=7.5							
EVIA	**Vianos**	**6.17**	**68**	P		**Pn**	**03 29 02.6**	**+0.9**
	SNR=7.9							
EVIA				S		Sn	03 30 05.6	-6.8
	comp=N,11nm,0.2s,SNR=7.9							
EVIA	**Vianos**	**6.17**	**68**	P		**Pn**	**03 29 02.6**	**+0.9**
	SNR=7.9							
ETOB	**Tobarra**	**6.89**	**70**	P		**Pn**	**03 29 12.2**	**+0.7**
	comp=N,0.4nm,0.1s,SNR=9.2							
ETOB				S		**Sn**	**03 30 26.2**	**-3.9**
	comp=N,2.8nm,0.2s,SNR=7.6							
ETOB	**Tobarra**	**6.89**	**70**	P		**Pn**	**03 29 12.2**	**+0.7**
	comp=N,0.4nm,0.1s,SNR=9.2							
ETOB				S		**Sn**	**03 30 26.2**	**-3.9**
	comp=N,2.8nm,0.2s,SNR=7.6							
EMUR	**La Murta**	**6.97**	**77**	S		**Sn**	**03 30 27.8**	**-4.2**
	comp=N,4.5nm,0.4s,SNR=7.9							
EMUR	**La Murta**	**6.97**	**77**	S		**Sn**	**03 30 27.8**	**-4.2**
	comp=N,4.5nm,0.4s,SNR=7.9							
EARI	**Arriondas**	**7.60**	**26**	P		**Pn**	**03 29 23.0**	**+1.8**
	comp=N,1.2nm,0.3s,SNR=7.9							
EARI				S		Sn	03 30 42.2	-5.2
	comp=N,0.6nm,0.3s,SNR=7.9							
EARI	**Arriondas**	**7.60**	**26**	P		**Pn**	**03 29 23.0**	**+1.8**
	comp=N,1.2nm,0.3s,SNR=7.9							
EARI				S		Sn	03 30 42.2	-5.2
	comp=N,0.6nm,0.3s,SNR=7.9							
EBEN	**Beniarda**	**7.91**	**71**	S		Sn	03 30 48.9	-6.2
	comp=N,4.3nm,0.5s,SNR=7.9							
EMOS	**Mosqueruela**	**8.26**	**60**	P		**Pn**	**03 29 30.7**	**+0.3**
	comp=N,4.5nm,0.7s,SNR=7.9							
EMOS				S		Sn	03 30 58.7	-5.1
	comp=N,2.3nm,0.4s,SNR=7.9							
EMOS	**Mosqueruela**	**8.26**	**60**	P		**Pn**	**03 29 30.7**	**+0.3**
	comp=N,4.5nm,0.7s,SNR=7.9							
EMOS				S		Sn	03 30 58.7	-5.1
	comp=N,2.3nm,0.4s,SNR=7.9							
IEPA	**Eparoz**	**9.06**	**44**	S		Sn	03 31 16.4	-6.8
	comp=N,2.3nm,0.5s,SNR=7.9							
ERTA	**Horta de San J**	**9.07**	**58**	S		Sn	03 31 17.3	-6.1
	comp=N,2.0nm,0.5s,SNR=7.9							
ERTA	**Horta de San J**	**9.07**	**58**	S		Sn	03 31 17.3	-6.1
	comp=N,2.0nm,0.5s,SNR=7.9							
IELO	**Elcoad**	**9.11**	**44**	P		**Pn**	**03 29 43.4**	**+1.5**
	comp=N,1.0nm,0.4s,SNR=7.9							
IELO				S		Sn	03 31 18.7	-5.9
	comp=N,1.0nm,0.4s,SNR=7.9							
IELO	**Elcoad**	**9.11**	**44**	P		**Pn**	**03 29 43.4**	**+1.5**
	comp=N,1.0nm,0.4s,SNR=7.9							
IELO				S		Sn	03 31 18.7	-5.9
	comp=N,1.0nm,0.4s,SNR=7.9							
EBIE	**Bielsa**	**9.82**	**48**	P		**Pn**	**03 29 53.2**	**+1.4**
	comp=N,0.2nm,0.1s,SNR=7.9							
EBIE				S		Sn	03 31 35.7	-6.5
	comp=N,1.1nm,0.3s,SNR=7.9							
EBIE	**Bielsa**	**9.82**	**48**	P		**Pn**	**03 29 53.2**	**+1.4**
	comp=N,0.2nm,0.1s,SNR=7.9							
EBIE				S		Sn	03 31 35.7	-6.5
	comp=N,1.1nm,0.3s,SNR=7.9							

*IDC **14** 03:27:39.1±1.4,37.°55N×121.°95W,h0km,mb3.7/1, mb1 3.7/6,mb1mx3.5/29,mbtmp3.3/6,ML3.3/5,MS3.1/1, Ms1 3.1/1,ms1mx2.6/46,Error ellipse: s-maj=17.7km s-min=10.5km az=51.0*

*NEIC **14** 03:27:41.2,37.°64N×121.°88W,h10km,MW3.7(BRK), After NCEDC.*

NEIC Felt [III] at Dublin, Fremont, Livermore, Pleasanton, San Francisco, San Jose, South San Francisco and Sunol; [II] at Alameda, Alamo, Belmont, Ben Lomond, Berkeley, Brentwood, Campbell, Castro Valley, Clayton, Daly City, Danville, Half Moon Bay, Hayward, Lafayette, Los Gatos, Martinez, Menlo Park, Milpitas, Moraga, Mountain View, Newark, Oakland, Pacifica, Palo Alto, Pleasant Hill, Redwood City, San Carlos, San Leandro, San Lorenzo, San Mateo, San Ramon, Santa Clara, Soquel, Sunnyvale, Union City and Walnut Creek. Felt as far as Ione and Pope Valley.

ISC 14 03:27:40.6±1.3,37.°65N±0.°03×121.°83W±0.°03,h1km±10km, n58,σ1°58/81,10C-9D,Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
SAC	**San Andreas**	**0.47**	**262**	*e*Pg	**Pb**	**03**	**27**	**50.5**	**-1.1**
SAO	**San Andreas Ge**	**0.94**	**161**	*e*Pg	**Pb**	**03**	**27**	**59.6**	**-0.1**
SAO				*e*S	**Sn**	**03**	**28**	**14.0**	**-1.0**
MCCM	**Marconi Confer**	**0.96**	**301**	*e*Pg	**Pg**	**03**	**27**	**58.9**	**-0.1**
MCCM				*e*S	**Sn**	**03**	**28**	**15.6**	**0.0**
CMB	**Columbia Colle**	**1.21**	**71**	*e*Pn	**Pn**	**03**	**28**	**03.7**	**-1.0**
CMB				*e*S	**Sb**	**03**	**28**	**20.5**	**0.0**
HOPS	**Hopland**	**1.66**	**324**	*e*Pn	**Pn**	**03**	**28**	**09.3**	**-1.5**
MLAC	**Mammoth Lakes**	**2.38**	**90**	⇑P	**Pn**	**03**	**28**	**20.6**	**-0.4**
	baz=2.4,SNR=16								
KCPM	**Cahto Peak**	**2.45**	**327**	*e*Pn	**Pn**	**03**	**28**	**21.8**	**-0.1**
BEKR	**Beckworth**	**2.49**	**27**	*e*Pn	**Pn**	**03**	**28**	**22.9**	**+0.3**
BEKR				*e*S	**Sb**	**03**	**28**	**59.4**	**+1.8**
PAHR	**Pah Rah Range**	**2.81**	**42**	*e*Pn	**Pn**	**03**	**28**	**27.4**	**+0.6**
PAHR				*e*S	**Sg**	**03**	**29**	**12.2**	**+1.4**
VES	**Vestal, Richgr**	**2.85**	**128**	⇑P	**Pn**	**03**	**28**	**27.0**	**-0.3**
	baz=2.9,SNR=15								
NVAR	**Mina Array Bea**	**2.89**	**73**	Pn	**Pn**	**03**	**28**	**29.1**	**+1.1**
NVAR				Lg	Lg	03	29	16.8	
NVAR	**Mina Array Bea**	**2.89**	**73**	Pn	**Pn**	**03**	**28**	**29.1**	**+1.1**
	2.5nm,0.3s,baz=252,slow=15,SNR=22								
NVAR				Lg	Lg	03	29	16.8	
	14nm,0.3s,baz=274,slow=19,SNR=8.1								
TIN	**Tinemaha**	**2.93**	**101**	⇑Pb	**Pb**	**03**	**28**	**33.8**	**+0.1**
	baz=3.0,SNR=18								
WDC	**Whiskeytown Da**	**2.98**	**350**	*e*Pn	**Pn**	**03**	**28**	**27.0**	**-2.0**
WDC				*e*S	**Sn**	**03**	**29**	**04.2**	**-1.1**
NV11	**Mina Array Sit**	**3.01**	**74**	*e*Pn	**Pn**	**03**	**28**	**30.1**	**+0.6**
NV11				*e*S	**Sg**	**03**	**29**	**19.7**	**+2.5**
CWC	**Cottonwood Cre**	**3.24**	**111**	Sb	**Sb**	**03**	**29**	**19.9**	**+1.0**
	baz=3.3								
ISA	**Isabella**	**3.35**	**125**	*e*Pn	**Pn**	**03**	**28**	**35.3**	**+1.1**
ISA	**Isabella**	**3.35**	**125**	⇓P	**Pn**	**03**	**28**	**34.7**	**+0.5**
	baz=3.4,SNR=20								
MPMC	**Manual Prospec**	**3.83**	**113**	⇑P	**Pn**	**03**	**28**	**40.7**	**-0.2**
	baz=3.9								
YBH	**Yreka Blue Hor**	**4.13**	**351**	*e*Pn	**Pn**	**03**	**28**	**46.4**	**+1.5**
YBH	**Yreka Blue Hor**	**4.13**	**351**	Pn	**Pn**	**03**	**28**	**46.7**	**+1.8**
	1.5nm,0.3s,baz=166,slow=6.9,SNR=15								
EDW2	**Edwards Air Fo**	**4.16**	**131**	⇓P	**Pn**	**03**	**28**	**45.5**	**+0.2**
	baz=4.2,SNR=8.0								
MOD	**Modoc**	**4.41**	**15**	Pn	Pn	03	28	44.8	-4.0
MOD				*e*Pg	**Pg**	**03**	**29**	**03.5**	**-1.6**
MOD				*e*S	**Sb**	**03**	**29**	**52.8**	**+0.2**
BMN	**Battle Mountai**	**4.54**	**51**	*e*Pn	**Pn**	**03**	**28**	**51.2**	**+0.6**
BMN				*e*Pg	**Pg**	**03**	**29**	**06.5**	**-1.0**
BMN				*e*S	**Sg**	**03**	**30**	**05.3**	**-1.1**
PASC	**Pasadena Art C**	**4.56**	**138**	*e*Pn	**Pn**	**03**	**28**	**50.9**	**+0.1**
MWC	**Mount Wilson**	**4.59**	**137**	*e*Pn	**Pn**	**03**	**28**	**53.7**	**+2.4**
MWC				*e*S	**Sn**	**03**	**29**	**48.4**	**+2.9**
GSC	**Goldstone**	**4.68**	**119**	*e*Pn	**Pn**	**03**	**28**	**53.1**	**+0.6**
GSC				*e*S	**Sg**	**03**	**30**	**13.3**	**+2.3**
GSC	**Goldstone**	**4.68**	**119**	⇑P	**Pn**	**03**	**28**	**52.6**	**+0.1**
	baz=4.7,SNR=9.4								
BFSC	**Mount Baldy Ra**	**4.80**	**134**	⇓P	**Pn**	**03**	**28**	**54.2**	**0.0**
	baz=4.8								
BFSC				⇑S	**Sn**	**03**	**29**	**49.6**	**-0.9**
	baz=4.8								
R11A	**Troy Canyon, C**	**4.98**	**80**	Pn	**Pn**	**03**	**28**	**58.5**	**+1.8**
R11A				*e*Pg	**Pg**	**03**	**29**	**15.1**	**-1.0**
R11A				*e*S	**Sg**	**03**	**30**	**19.4**	**-1.3**
HUMO	**Hull Mountain**	**5.02**	**350**	*e*Pn	**Pn**	**03**	**28**	**56.1**	**-1.0**
TUQ	**Turquoise Moun**	**5.25**	**113**	⇑P	**Pn**	**03**	**29**	**00.3**	**-0.1**
	baz=5.3								
HEC	**Hector,Ludlow**	**5.26**	**121**	⇓P	**Pn**	**03**	**29**	**00.4**	**-0.1**
	baz=5.3,SNR=8.4								
SHPR	**Sheep Range**	**5.46**	**100**	*e*Pn	**Pn**	**03**	**29**	**05.4**	**+2.1**
	16nm,1.0s								
SHPR				*e*S	**Sg**	**03**	**30**	**38.9**	**+3.0**
MURC	**Murrieta**	**5.53**	**136**	⇑P	**Pn**	**03**	**29**	**04.2**	**+0.1**
	baz=5.5								
GMRC	**Granite Mounta**	**5.75**	**118**	⇑P	**Pn**	**03**	**29**	**07.0**	**-0.3**
	baz=5.8								
PFO	**Pinyon Flat Ob**	**5.95**	**131**	*e*Pn	**Pn**	**03**	**29**	**09.8**	**-0.2**
	11nm,0.8s								
PFO				*e*S	**Sg**	**03**	**30**	**54.8**	**+2.9**
PFO	**Pinyon Flat Ob**	**5.95**	**131**	⇓P	**Pn**	**03**	**29**	**09.5**	**-0.5**
	baz=6.0								
PFO	**Pinyon Flat Ob**	**5.95**	**131**	Pn	**Pn**	**03**	**29**	**09.4**	**-0.7**
	1.6nm,0.3s,baz=326,slow=12,SNR=16								
PFO				Sn	**Sn**	**03**	**30**	**17.7**	**-1.2**
	0.2nm,0.3s,baz=158,slow=19,SNR=1.9								
BELC	**Belle Mtn. Jos**	**5.98**	**126**	⇑P	**Pn**	**03**	**29**	**09.9**	**-0.4**
	baz=6.0								
ELK	**Elko**	**5.98**	**57**	*e*Pn	**Pn**	**03**	**29**	**10.3**	**-0.2**
	3.2nm,0.6s								
ELK				*e*S	**Sg**	**03**	**30**	**53.2**	**+0.5**
LDFC	**Landfair**	**6.00**	**113**	Pn	**Pn**	**03**	**29**	**07.8**	**-2.9**
LDFC				*e*Pg	**Pg**	**03**	**29**	**34.5**	**-1.1**
LDFC				*e*S	**Sg**	**03**	**30**	**50.2**	**-3.2**
IRM	**Iron Mountain**	**6.45**	**121**	⇓P	**Pn**	**03**	**29**	**16.6**	**-0.1**
	baz=6.5								
MONP	**Monument Peak**	**6.49**	**135**	⇓P	**Pn**	**03**	**29**	**17.3**	**-0.2**
	baz=6.5								
BC3	**Big Chuckawall**	**6.55**	**126**	⇓P	**Pn**	**03**	**29**	**17.6**	**-0.6**
	baz=6.6,SNR=5.9								
ARUT	**Antelope Range**	**6.66**	**86**	*e*Pn	**Pn**	**03**	**29**	**21.9**	**+2.2**
	151nm,0.7s								
ARUT				*e*Pg	**Pg**	**03**	**29**	**46.5**	**-1.6**
ARUT				*e*S	**Sb**	**03**	**30**	**52.3**	**-5.0**
CCUT	**Cedar City**	**6.73**	**88**	*e*Pn	**Pn**	**03**	**29**	**22.1**	**+1.3**
	5.6nm,1.2s								
CCUT				*e*Pg	Pg	03	29	53.5	+4.0
CCUT				*e*S	**Sg**	**03**	**31**	**21.6**	**+5.0**
GLA	**Glamis**	**7.34**	**127**	*e*Pn	**Pn**	**03**	**29**	**29.1**	**+0.1**
	7.7nm,0.5s								
GLA	**Glamis**	**7.34**	**127**	⇓P	**Pn**	**03**	**29**	**28.6**	**-0.3**
	baz=7.4								
BGU	**Big Grassy Mou**	**7.57**	**62**	*e*Pn	**Pn**	**03**	**29**	**34.6**	**+2.4**
	134nm,1.1s								
BGU				*e*S	Sg	03	31	38.4	-5.3
SRU	**San Rafael**	**9.00**	**77**	*e*Pn	**Pn**	**03**	**29**	**53.0**	**+1.1**
	9.6nm,0.9s								
PDAR	**Pinedale Array**	**10.69**	**58**	Pn	**Pn**	**03**	**30**	**17.3**	**+2.3**
PDAR	**Pinedale Array**	**10.69**	**58**	Pn	**Pn**	**03**	**30**	**17.3**	**+2.3**
	0.0nm,0.3s,baz=245,slow=16,SNR=2.7								
NEW	**Newport**	**11.15**	**16**	LR	LR	03	34	41.7	
	comp=Z,86nm,19.9s,baz=223,slow=38								
TXAR	**Lajitas Array**	**17.26**	**113**	P	**P**	**03**	**31**	**43.7**	**-0.9**
TXAR	**Lajitas Array**	**17.26**	**113**	P	**P**	**03**	**31**	**43.7**	**-0.9**
	0.0nm,0.3s,baz=295,slow=11,SNR=2.6								
ILAR	**Eielson Array**	**30.93**	**339**	P	**P**	**03**	**33**	**59.6**	**+0.9**
ILAR	**Eielson Array**	**30.93**	**339**	P	**P**	**03**	**33**	**59.6**	**+0.9**
	0.7nm,0.7s,baz=158,slow=7.9,SNR=4.4								

*IDC **14** 03:41:54.7±0.7,12.°71S×166.°59E,h0km,mb4.3/18, mb1 4.4/19,mb1mx4.4/25,mbtmp4.3/19,ML5.0/1,MS3.8/1, Ms1 3.8/1,ms1mx3.0/28,Error ellipse: s-maj=19.8km s-min=15.7km az=99.0*

*NEIC **14** 03:42:00.3±0.3,12.°68S×166.°51E,h35km,mb4.4/3,Error ellipse: s-maj=9.7km s-min=6.8km az=84.0*

*AUST **14** 03:42:00.9±0.0,11.°32S×166.°40E,h99km,Error ellipse: s-maj=2.5km s-min=1.2km az=26.0*

*ISCJB **14** 03:42:01.4±0.5,12.°69S±0.°06×166.°45E±0.°08,h59km, mb4.3/19,MS3.7/1,Error ellipse: s-maj=11.4km s-min=8.0km az=153.5*

ISC 14 03:42:03.0±0.6,12.°64S±0.°06×166.°51E±0.°09,h59km,n61, σ1°31/64,mb4.3/19,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
HNR	**Honiara**	**7.18**	**296**	Pn	**Pn**	**03**	**43**	**43.4**	**-2.0**
HNR				Sn	**Sn**	**03**	**45**	**06.7**	**+1.1**
HNR	**Honiara**	**7.18**	**296**	Pn	**Pn**	**03**	**43**	**43.4**	**-2.0**
	26nm,0.3s,baz=165,slow=3.2,SNR=11								
HNR				Sn	**Sn**	**03**	**45**	**06.7**	**+1.1**
	12nm,0.3s,baz=228,slow=23,SNR=5.7								
DZM	**Mont Dzumac**	**9.38**	**180**	*e*Pn	**Pn**	**03**	**44**	**13.3**	**-2.4**
	31nm,0.5s								
DZM				*e*S	**Sn**	**03**	**45**	**57.2**	**-2.5**
DZM	**Mont Dzumac**	**9.38**	**180**	Pn	**Pn**	**03**	**44**	**16.5**	**+0.8**
	2.6nm,0.3s,baz=26,slow=16,SNR=16								
DZM				Sn	**Sn**	**03**	**46**	**05.1**	**+5.3**
	1.3nm,0.3s,baz=107,slow=19,SNR=2.7								
EIDS	**Eidsvold**	**19.29**	**227**	*e*P	**Pn**	**03**	**46**	**25.5**	**+0.8**
EIDS	**Eidsvold**	**19.29**	**227**	P	**Pn**	**03**	**46**	**26.9**	**+2.3**
	baz=20,SNR=4.0								
CTA	**Charters Tower**	**20.78**	**246**	P	**P**	**03**	**46**	**37.9**	**-1.6**
CTA	**Charters Tower**	**20.78**	**246**	P	**P**	**03**	**46**	**37.9**	**-1.6**
	1.1nm,0.3s,baz=100,slow=6.1,SNR=2.4								
RMQ	**Roma**	**21.63**	**228**	P	**P**	**03**	**46**	**51.9**	**+3.4**
	baz=22,SNR=9.1								
ARMA	**Armidale**	**22.42**	**216**	P	**P**	**03**	**46**	**58.0**	**+1.0**
	baz=24,SNR=4.4								
COEN	**Coen**	**22.74**	**264**	P	P	03	46	52.6	-7.8
	baz=23,SNR=5.8								
STKA	**Stephens Creek**	**29.84**	**226**	P	**P**	**03**	**48**	**04.8**	**0.0**
STKA	**Stephens Creek**	**29.84**	**226**	P	**P**	**03**	**48**	**04.8**	**0.0**
	1.9nm,0.7s,baz=67,slow=7.5,SNR=4.5								
RPZ	**Rata Peaks**	**31.22**	**174**	P	**P**	**03**	**48**	**15.1**	**-1.7**
RPZ	**Rata Peaks**	**31.22**	**174**	P	**P**	**03**	**48**	**15.1**	**-1.7**
	6.4nm,0.5s,baz=337,slow=10,SNR=3.3								
RPZ				LR	LR	03	59	33.1	
	comp=Z,140nm,18.1s,baz=36,slow=34								
WRA	**Warramunga Arr**	**31.68**	**253**	P	**P**	**03**	**48**	**20.1**	**-1.0**
WRA	**Warramunga Arr**	**31.68**	**253**	P	**P**	**03**	**48**	**20.1**	**-1.0**
	1.4nm,0.8s,baz=84,slow=9.4,SNR=6.1								
ASAR	**Alice Springs**	**32.78**	**246**	P	**P**	**03**	**48**	**30.1**	**-0.8**
ASAR	**Alice Springs**	**32.78**	**246**	P	**P**	**03**	**48**	**30.1**	**-0.8**
	3.3nm,0.7s,baz=74,slow=9.4,SNR=42								
BBOO	**Buckleboo**	**34.33**	**229**	P	**P**	**03**	**48**	**44.8**	**+0.7**
	baz=35,SNR=8.3								
FITZ	**Fitzroy Crossi**	**39.72**	**257**	P	**P**	**03**	**49**	**29.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**39.72**	**257**	P	**P**	**03**	**49**	**29.8**	**-0.2**
	1.9nm,0.8s,baz=89,slow=7.8,SNR=5.1								
MEEK	**Meekatharra**	**46.94**	**245**	P	**P**	**03**	**50**	**29.1**	**+0.8**
	baz=47,SNR=7.5								
NWAO	**Narrogin (SRO)**	**49.22**	**237**	P	**P**	**03**	**50**	**44.5**	**-1.2**
NWAO	**Narrogin (SRO)**	**49.22**	**237**	P	**P**	**03**	**50**	**44.5**	**-1.2**
	5.9nm,0.7s,baz=82,slow=10,SNR=4.2								
MORW	**Morawa**	**49.53**	**243**	P	**P**	**03**	**50**	**48.9**	**+0.7**
	baz=50,SNR=4.2								
MJAR	**Matsushiro Arr**	**55.72**	**332**	P	**P**	**03**	**51**	**33.2**	**-0.4**
MJAR	**Matsushiro Arr**	**55.72**	**332**	P	**P**	**03**	**51**	**33.2**	**-0.4**
	1.4nm,0.7s,baz=164,slow=8.6,SNR=5.5								
JNU	**Nakatsue**	**56.80**	**324**	P	**P**	**03**	**51**	**41.6**	**+0.2**
JNU	**Nakatsue**	**56.80**	**324**	P	**P**	**03**	**51**	**41.6**	**+0.2**
	11nm,0.7s,baz=139,slow=5.0,SNR=6.8								
KSRS	**Korea Array**	**61.60**	**326**	P	**P**	**03**	**52**	**14.3**	**-0.2**
	2.2nm,0.8s,baz=124,slow=5.6,SNR=5.8								
KSAR	**Wonju Array Be**	**61.61**	**326**	P	**P**	**03**	**52**	**14.3**	**-0.3**
VNDA	**Vanda**	**64.93**	**181**	*e*P	**P**	**03**	**52**	**35.5**	**-0.4**
	9.2nm,1.1s								
VNDA	**Vanda**	**64.93**	**181**	P	**P**	**03**	**52**	**35.2**	**-0.7**
	1.2nm,0.6s,baz=357,slow=6.6,SNR=14								
CASY	**Casey**	**65.18**	**202**	*e*P	**P**	**03**	**52**	**37.3**	**-0.4**
	2.2nm,0.6s								
SBA	**Scott Base**	**65.22**	**180**	*e*P	**P**	**03**	**52**	**38.0**	**+0.2**
	5.6nm,0.9s								
CMAR	**Chiang Mai Arr**	**73.43**	**294**	P	**P**	**03**	**53**	**31.4**	**+1.9**
CMAR	**Chiang Mai Arr**	**73.43**	**294**	P	**P**	**03**	**53**	**31.4**	**+1.9**
	3.5nm,0.5s,baz=122,slow=4.8,SNR=16								
SONM	**Songino Array**	**80.38**	**324**	P	**P**	**03**	**54**	**08.7**	**+0.5**
SONM	**Songino Array**	**80.38**	**324**	P	**P**	**03**	**54**	**08.7**	**+0.5**
	1.6nm,0.7s,baz=133,slow=5.1,SNR=11								
MAW	**Mawson**	**83.54**	**202**	P	**P**	**03**	**54**	**24.2**	**-0.1**
MAW	**Mawson**	**83.54**	**202**	P	**P**	**03**	**54**	**24.2**	**-0.1**
	1.9nm,0.8s,baz=94,slow=17,SNR=3.5								
ILAR	**Eielson Array**	**84.78**	**18**	P	**P**	**03**	**54**	**31.4**	**+0.9**
ILAR	**Eielson Array**	**84.78**	**18**	P	**P**	**03**	**54**	**31.4**	**+0.9**
	1.8nm,0.6s,baz=245,slow=5.1,SNR=49								
MK31	**Makanchi Array**	**95.18**	**317**	*e*P	**P**	**03**	**55**	**21.0**	**+0.9**
MKAR	**Makanchi Array**	**95.18**	**317**	P	**P**	**03**	**55**	**20.4**	**+0.3**
MKAR	**Makanchi Array**	**95.18**	**317**	P	**P**	**03**	**55**	**20.4**	**+0.3**
	3.1nm,0.8s,baz=90,slow=6.9,SNR=22								
ZALV	**Zalesovo Beam**	**95.27**	**324**	P	**P**	**03**	**55**	**19.8**	**-0.5**
ZALV	**Zalesovo Beam**	**95.27**	**324**	P	**P**	**03**	**55**	**19.8**	**-0.5**
	1.3nm,0.8s,baz=77,slow=6.5,SNR=5.2								
TXAR	**Lajitas Array**	**95.93**	**61**	P	**P**	**03**	**55**	**24.3**	**+0.3**
TXAR	**Lajitas Array**	**95.93**	**61**	P	**P**	**03**	**55**	**24.3**	**+0.3**
	0.2nm,0.6s,baz=284,slow=3.6,SNR=2.5								
ARCES	**ARCESS Array B**	**118.05**	**345**	PKP	**PKPdf**	**04**	**00**	**41.8**	**-0.9**
ARCES	**ARCESS Array B**	**118.05**	**345**	PKP	**PKPdf**	**04**	**00**	**41.8**	**-0.9**
	1.3nm,0.8s,baz=20,slow=3.9,SNR=4.4								
FINES	**FINESS Array B**	**123.51**	**338**	PKP	**PKPdf**	**04**	**00**	**53.1**	**-0.2**
FINES	**FINESS Array B**	**123.51**	**338**	PKP	**PKPdf**	**04**	**00**	**53.1**	**-0.2**
	3.4nm,0.9s,baz=97,slow=4.0,SNR=2.6								
KEST	**Kesra**	**149.12**	**322**	PKPbc	**PKPbc**	**04**	**01**	**46.1**	**+0.8**
KEST	**Kesra**	**149.12**	**322**	PKPbc	**PKPbc**	**04**	**01**	**46.1**	**+0.8**
	1.7nm,0.6s,baz=310,slow=22,SNR=6.6								
ESDC	**Sonseca Array**	**151.78**	**344**	PKPbc	**PKPbc**	**04**	**01**	**51.7**	**+0.2**
ESDC	**Sonseca Array**	**151.78**	**344**	PKPbc	**PKPbc**	**04**	**01**	**51.7**	**+0.2**
	0.7nm,0.7s,baz=12,slow=2.3,SNR=3.8								
TORD	**Torodi Ar. Bea**	**165.18**	**274**	PKPab	**PKPab**	**04**	**02**	**59.2**	**0.0**
TORD	**Torodi Ar. Bea**	**165.18**	**274**	PKPab	**PKPab**	**04**	**02**	**59.2**	**0.0**
	3.5nm,0.9s,baz=82,slow=5.1,SNR=17								

*IDC **14** 03:44:16.2±0.8,15.°93S×173.°37W,h0km,mb4.3/12, mb1 4.6/12,mb1mx4.4/21,mbtmp4.3/12,M

MAW	**Mawson**	**87.32 199**	*e*P		**P**		**03 57 05.1**	**+0.7**
	0.5nm,0.6s							
MAW	**Mawson**	**87.32 199**	P		**P**		**03 57 04.9**	**+0.6**
	2.5nm,0.7s,baz=144,slow=8.3,SNR=7.7							
MAW			LR		LR		04 33 18.0	
	comp=Z,113nm,21.7s,baz=311,slow=34							
CMAR	**Chiang Mai Arr**	**92.71 288**	P		**P**		**03 57 32.8**	**+2.3**
CMAR	**Chiang Mai Arr**	**92.71 288**	P		**P**		**03 57 32.8**	**+2.3**
	2.5nm,0.5s,baz=95,slow=2.7,SNR=12							
ULM	**Lac du Bonnet**	**94.34 39**	LR		LR		04 37 47.2	
	comp=Z,98nm,18.9s,baz=38,slow=34							
SONM	**Songino Array**	**95.17 318**	LR		LR		04 39 28.7	
	comp=Z,63nm,19.3s,baz=175,slow=35							
LPAZ	**La Paz**	**99.70 110**	LR		LR		04 36 08.4	
	comp=Z,45nm,19.9s,baz=52,slow=31							
MKAR	**Makanchi Array**	**111.12 314**	PKiKP		**PKiKP**		**04 02 51.1**	**0.0**
MKAR	**Makanchi Array**	**111.12 314**	PKiKP		**PKiKP**		**04 02 51.2**	**0.0**
	0.3nm,0.7s,baz=151,slow=3.3,SNR=3.5							
KURK	**Kurchatov**	**113.47 319**	PKiKP		**PKiKP**		**04 02 55.5**	**+0.1**
KURBB	**Kurchatov Arra**	**113.53 319**	PKiKP		**PKiKP**		**04 02 55.5**	**0.0**
	0.4nm,0.7s,baz=101,slow=2.3,SNR=5.3							
BVAR	**Borovoye Array**	**118.23 322**	PKP		**PKPdf**		**04 03 03.4**	**-1.1**
BVAR	**Borovoye Array**	**118.23 322**	PKP		**PKPdf**		**04 03 03.4**	**-1.1**
	0.7nm,0.6s,baz=68,slow=5.1,SNR=4.2							
ARCES	**ARCESS Array B**	**125.08 352**	PKP		**PKPdf**		**04 03 17.0**	**-0.2**
ARCES	**ARCESS Array B**	**125.08 352**	PKP		**PKPdf**		**04 03 17.0**	**-0.2**
	3.0nm,0.8s,baz=79,slow=1.9,SNR=4.9							
CLL	**Collm**	**144.28 353**	*i* PKPdf		**PKPdf**		**04 03 54.1**	**+0.7**
	comp=Z,8.0nm,1.0s							
KMBO	**Kilima Mbogo**	**145.27 244**	PKPbc		**PKPab**		**04 03 58.1**	**+1.5**
KMBO	**Kilima Mbogo**	**145.27 244**	PKPbc		**PKPab**		**04 03 58.1**	**+1.5**
	comp=Z,2.9nm,0.8s,baz=63,slow=4.5,SNR=6.2							
VRAC	**Vranov**	**145.67 348**	PKPbc		**PKPab**		**04 03 58.0**	**+1.3**
VRAC	**Vranov**	**145.67 348**	PKPbc		**PKPab**		**04 03 58.0**	**+1.3**
	comp=Z,2.6nm,0.4s,baz=8.9,slow=4.0,SNR=4.0							
MLR	**Muntele Rosu**	**146.28 335**	PKPbc		**PKPab**		**04 03 59.3**	**0.0**
MLR	**Muntele Rosu**	**146.28 335**	PKPbc		**PKPab**		**04 03 59.3**	**0.0**
	comp=Z,0.8nm,0.6s,baz=180,slow=3.0,SNR=3.9							
KHC	**Kasperske Hory**	**146.35 352**	*e*PKP		**PKPab**		**04 04 00.0**	**+0.7**
BR131	**Keskin Array S**	**146.49 320**	*e*PKPbc		**PKPab**		**04 04 00.5**	**+0.2**
BRTR	**Keskin Array B**	**146.49 320**	PKPbc		**PKPab**		**04 03 59.7**	**-0.6**
BRTR	**Keskin Array B**	**146.49 320**	PKPbc		**PKPab**		**04 03 59.7**	**-0.6**
	comp=Z,3.9nm,0.7s,baz=120,slow=1.9,SNR=17							
GERES	**GERESS Array B**	**146.61 351**	PKPbc		**PKPab**		**04 03 60.0**	**-0.4**
GERES	**GERESS Array B**	**146.61 351**	PKPbc		**PKPab**		**04 03 60.0**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=29,slow=3.0,SNR=10							
ASF	**Jabal al Asfar**	**148.03 306**	PKPbc		**PKPab**		**04 04 05.3**	**-1.2**
ASF	**Jabal al Asfar**	**148.03 306**	PKPbc		**PKPab**		**04 04 05.3**	**-1.2**
	comp=Z,1.5nm,0.7s,baz=342,slow=9.3,SNR=4.5							
MMAI	**Mount Meron Ar**	**148.82 308**	PKPbc		**PKPab**		**04 04 07.3**	**-2.4**
MMAI	**Mount Meron Ar**	**148.82 308**	PKPbc		**PKPab**		**04 04 07.3**	**-2.4**
	comp=Z,4.4nm,0.6s,baz=86,slow=6.8,SNR=5.5							
DAVOX	**Davos/Dischmat**	**149.07 356**	PKPbc		**PKPbc**		**04 04 07.5**	**+1.5**
DAVOX	**Davos/Dischmat**	**149.07 356**	PKPbc		**PKPbc**		**04 04 07.5**	**+1.5**
	comp=Z,3.6nm,0.6s,baz=191,slow=5.2,SNR=9.5							
EIL	**Elat**	**150.53 303**	PKPbc		**PKPbc**		**04 04 11.7**	**+1.9**
EIL	**Elat**	**150.53 303**	PKPbc		**PKPbc**		**04 04 11.7**	**+1.9**
	comp=Z,5.0nm,0.8s,baz=352,slow=4.5,SNR=4.0							
TORD	**Torodi Ar. Bea**	**174.58 119**	PKP		**PKPdf**		**04 04 26.9**	**-1.3**
TORD	**Torodi Ar. Bea**	**174.58 119**	PKP		**PKPdf**		**04 04 26.9**	**-1.3**
	comp=Z,1.0nm,0.9s,baz=301,slow=1.1,SNR=4.2							

IDC 14 03:45:27.0±0.8, 56°.34S×26°.65W, h0km, mb4.0/5, mb1 4.2/5, mb1mx4.0/15, mbtmp4.0/5, Error ellipse: s-maj=36.2km s-min=22.1km az=60.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPUP	**Villa Florida**	**37.23 311**		P	P	03 52 39.4	-0.6
	0.4nm,0.3s,baz=15,slow=8.8,SNR=3.1						
MAW	**Mawson**	**39.74 143**		P	P	03 53 01.1	+0.5
	0.9nm,0.4s,baz=192,slow=6.8,SNR=6.2						
VNDA	**Vanda**	**46.30 183**		P	P	03 53 53.9	+0.2
	1.8nm,0.6s,baz=195,slow=6.2,SNR=10						
LPAZ	**La Paz**	**50.79 305**		P	P	03 54 30.6	+0.9
	3.6nm,0.5s,baz=144,slow=5.2,SNR=34						
TORD	**Torodi Ar. Bea**	**73.16 29**		P	P	03 57 00.1	+0.8
	0.4nm,0.4s,baz=204,slow=6.0,SNR=17						
SONM	**Songino Array**	**150.45 87**		PKPbc	PKPbc	04 05 18.0	-1.6
	1.0nm,0.5s,baz=225,slow=3.3,SNR=11						
ILAR	**Eielson Array**	**150.53 311**		PKPbc	PKPbc	04 05 17.1	-2.0
	0.5nm,0.6s,baz=99,slow=2.3,SNR=7.9						

*ISCJB **14** 04:16:54.3±1.4, 2°.5N±0°.2×127°.6E±0°.2, h350km, mb3.5/4, Error ellipse: s-maj=28.8km s-min=15.1km az=42.1*
*AUST **14** 04:16:55.8±0.0, 2°.05N×128°.04E, h301km, Error ellipse: s-maj=4.4km s-min=1.4km az=316.0*
*IDC **14** 04:17:01.3±7.4, 2°.80N×127°.69E, h465km±134km, mb3.1/5, mb1 3.3/6, mb1mx3.0/23, mbtmp3.2/6, Error ellipse: s-maj=91.3km s-min=17.9km az=89.0*
ISC 14 04:16:55.5±1.5, 2°.5N±0°.2×127°.7E±0°.2, h350km, n15, σ1°93/13, mb3.7/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**6.04 235**		P	**Pn**	**04 18 25.0**	**-1.8**
	baz=6.1,SNR=3.8						
PALU	**Palau**	**8.31 54**		P	**Pn**	**04 18 53.5**	**+0.1**
	baz=8.3,SNR=4.7						
KAPI	**Kappang**	**10.87 227**		P	P	04 19 30.9	+6.2
	1.1nm,0.3s,baz=48,slow=2.9,SNR=4.7						
MTN	**Manton Dam**	**15.57 167**		P	**P**	**04 20 14.5**	**-1.9**
	baz=15,SNR=16						
KDU	**Kakadu**	**15.76 163**		P	**P**	**04 20 16.8**	**-1.7**
	baz=15,SNR=4.4						
KNRA	**Kununurra**	**18.04 177**		P	**P**	**04 20 44.1**	**+1.2**
	baz=18,SNR=8.6						
FITZ	**Fitzroy Crossi**	**20.52 186**		P	**P**	**04 21 11.0**	**+2.6**
	baz=20,SNR=8.2						
FITZ	**Fitzroy Crossi**	**20.52 186**		P	**P**	**04 21 10.2**	**+1.7**
	1.4nm,0.5s,baz=358,slow=8.6,SNR=13						
WRA	**Warramunga Arr**	**23.18 164**		P	**P**	**04 21 32.9**	**+0.3**
	1.7nm,0.3s,baz=340,slow=10,SNR=25						
MTSU	**Mount Surprise**	**26.19 142**		P	**P**	**04 21 57.0**	**-2.6**
	baz=26,SNR=4.7						
ASAR	**Alice Springs**	**26.65 167**		P	**P**	**04 22 05.0**	**+1.3**
	1.2nm,0.3s,baz=351,slow=7.5,SNR=22						
MJAR	**Matsushiro Arr**	**35.28 15**		P	P	04 23 12.8	-5.6
	1.0nm,0.6s,baz=187,slow=10,SNR=4.8						
BBOO	**Buckleboo**	**35.95 168**		P	**P**	**04 23 26.5**	**+2.5**
	baz=36,SNR=9.6						
STKA	**Stephens Creek**	**36.59 160**		P	**P**	**04 23 30.9**	**+1.3**
	baz=36,SNR=9.7						
STKA	**Stephens Creek**	**36.59 160**		P	**P**	**04 23 29.7**	**+0.2**
	2.3nm,0.5s,baz=340,slow=8.1,SNR=12						

DJA 14 04:19:11.1±1.0, 7°S±9°, 112°9E±°, h162km±41km, M4.7/4, mb4.7/2, mB5.2/2, MLv4.7/4, Mw(mB)4.5/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.18 114**		P	Pn	04 19 50.6	+1.5
SAUI				S	Sn	04 20 18.6	+0.2
TLE	**Tual**	**3.72 67**		P	Pn	04 20 10.2	+2.1
TLE				S	Sn	04 20 52.0	-0.4
BATI	**Baumata**	**6.37 241**		P	Pn	04 20 41.6	-1.3

*ISCJB **14** 04:22:33.7±0.3, 38°.22N±0°.02×73°.79E±0°.06, h124km, mb4.0/14, Error ellipse: s-maj=6.7km s-min=3.2km az=166.4*
*IDC **14** 04:22:34.6±3.9, 38°.22N×73°.67E, h119km±33km, mb3.5/9, mb1 3.7/14, mb1mx3.5/31, mbtmp3.6/14, Error ellipse: s-maj=28.7km s-min=16.5km az=17.0*
*MOS **14** 04:22:34.2±0.7, 38°.23N×73°.50E, h134km, mb4.1/7, Error ellipse: s-maj=15.5km s-min=5.4km az=86.6*
*BJI **14** 04:22:38.9, 38°.38N×73°.97E, h154km, mB4.7/3, mb4.2/2*
*NNC **14** 04:22:50.5±8.8, 39°.65N×73°.71E, h130km, mb3.7, mpv4.3, Error ellipse: s-maj=106.4km s-min=23.4km az=2.0*
ISC 14 04:22:34.7±0.5, 38°.23N±0°.04×73°.98E±0°.06, h124km, n88, σ1°94/88, mb4.2/14, 14C-7D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**2.02 50**		⇑*i* P	**Pn**	**04 23 09.0**	**+0.3**
KSH				S	**Sn**	**04 23 31.8**	**-2.9**
KSH				SMN			
	comp=Z,4μm,0.4s						
KSH				SME			
	comp=Z,3μm,0.5s						
AML	**Almayashu**	**3.90 357**		*i* PN	**Pn**	**04 23 34.2**	**+0.9**
AML	**Almayashu**	**3.90 357**		P	**Pn**	**04 23 34.2**	**+0.9**
	SNR=93						
KZA	**Kyzart**	**3.96 14**		*i* PN	**Pn**	**04 23 36.1**	**+1.9**
KZA	**Kyzart**	**3.96 14**		P	**Pn**	**04 23 36.1**	**+1.9**
	SNR=81						
ULHL	**Ulahol**	**4.37 23**		*i* PN	**Pn**	**04 23 41.8**	**+2.4**
ULHL	**Ulahol**	**4.37 23**		P	**Pn**	**04 23 41.9**	**+2.4**
	SNR=30						
AAK	**Ala-Archa**	**4.42 5**		*d* PN	**Pn**	**04 23 41.8**	**+1.8**
AAK				pmax	pmax		
	comp=Z,42nm,0.6s						
AAK	**Ala-Archa**	**4.42 5**		P	**Pn**	**04 23 42.0**	**+2.0**
	SNR=32						
AAK	**Ala-Archa**	**4.42 5**		P	**Pn**	**04 23 41.3**	**+1.3**
	comp=Z,9.4nm,0.3s,baz=154,slow=6.0,SNR=53						
AAK				S	**Sn**	**04 24 32.1**	**+1.5**
	comp=Z,9.6nm,0.3s,baz=196,slow=21,SNR=9.8						
EKS2	**Erkin-Say**	**4.43 358**		*i* PN	**Pn**	**04 23 41.7**	**+1.6**
EKS2	**Erkin-Say**	**4.43 358**		P	**Pn**	**04 23 41.7**	**+1.6**
	SNR=96						
KBK	**Karagaybulak**	**4.48 9**		*i* PN	**Pn**	**04 23 43.3**	**+2.4**
KBK	**Karagaybulak**	**4.48 9**		P	**Pn**	**04 23 43.3**	**+2.4**
	SNR=11						
CHCP	**Chirah Chowk**	**4.60 187**		⇑P	Pn	04 23 46.8	+4.4
FRU	**Bishkek**	**4.62 6**		*e*PN	**Pn**	**04 23 44.0**	**+1.4**
FRU				*e*S	**Sn**	**04 24 37.0**	**+1.6**
FRU				pmax	pmax		
	comp=Z,50nm,1.6s						
FRU				smax	smax		
	comp=E,330nm,1.8s						
CEP	**Cherat**	**4.71 201**		⇑P	Pn	04 23 47.3	+3.4
CEP				S	**Sn**	**04 24 41.0**	**+3.3**
CHMS	**Chumysh**	**4.80 7**		*i* PN	**Pn**	**04 23 46.7**	**+1.7**
CHMS	**Chumysh**	**4.80 7**		P	**Pn**	**04 23 46.7**	**+1.7**
	SNR=11						
TKM2	**Tokmak 2**	**4.84 14**		⇑Pn	**Pn**	**04 23 47.4**	**+1.7**
	comp=E,38nm,0.8s						
TKM2	**Tokmak 2**	**4.84 14**		*i* PN	**Pn**	**04 23 48.1**	**+2.4**
TKM2	**Tokmak 2**	**4.84 14**		P	**Pn**	**04 23 48.1**	**+2.4**
	SNR=32						
USP	**Ospenovka**	**5.05 4**		*i* PN	**Pn**	**04 23 49.8**	**+1.5**
USP	**Ospenovka**	**5.05 4**		P	**Pn**	**04 23 49.8**	**+1.5**
	SNR=9.6						
KK31	**Karatay Array**	**5.53 333**		Pn	**Pn**	**04 23 54.2**	**-0.6**
	comp=E,40nm,0.4s,baz=135,slow=13,SNR=683						
KK31	**Karatay Array**	**5.53 333**		*ce*PN	**Pn**	**04 23 54.2**	**-0.6**
KK31				pmax	pmax		
	comp=Z,64nm,0.3s						
THW	**Thamme Wali**	**5.72 199**		P	**Pn**	**04 23 59.9**	**+2.4**
SARP	**Sargodha**	**6.39 190**		P	Pn	04 24 09.6	+3.2
SDNR	**Sundarnagar**	**7.15 159**		*e*P	**Pn**	**04 24 19.0**	**+2.3**
SDNR				*e*4		04 25 35.0	
SMLA	**Simla**	**7.56 159**		*i* P	Pn	04 24 25.7	+3.6
SMLA				*i* S	**Sn**	**04 25 44.2**	**-2.1**
NDI	**New Delhi**	**9.90 163**		*e*P	**Pn**	**04 24 53.0**	**-0.8**
NDI				*e*S	**Sn**	**04 26 38.0**	**-5.1**
AYAN	**Aya Nagar**	**10.07 164**		*e*P	**Pn**	**04 24 56.6**	**+0.6**
AYAN				*e*S	Sn	04 26 39.9	-7.4
KHET	**Khetri**	**10.24 171**		*e*P	**Pn**	**04 24 57.9**	**-0.5**
KHET				*e*S	Sn	04 26 43.6	-7.8
KHET				AML	AML	04 26 50.9	
	comp=E,132nm,0.1s						
KHET				AML	AML	04 26 51.2	
	comp=N,154nm,0.1s						
KUDL	**Kundal**	**10.28 167**		*e*P	**Pn**	**04 24 58.9**	**+0.1**
KUDL				*e*S	**Sn**	**04 26 47.1**	**-5.1**
KUDL				AML	AML	04 26 55.2	
	comp=N,15nm,0.3s						
KUDL				AML	AML	04 26 55.6	
	comp=E,23nm,0.5s						
SONA	**Sohna**	**10.29 164**		*e*P	**Pn**	**04 24 59.7**	**+0.8**
SONA				*e*S	Sn	04 26 45.6	-6.9
SONA				AML	AML	04 26 57.1	
	comp=E,47nm,0.4s						
SONA				AML	AML	04 26 57.6	
	comp=N,24nm,0.7s						
MK31	**Makanchi Array**	**10.52 33**		Pn	**Pn**	**04 25 04.0**	**+2.0**
	comp=N,2.5nm,0.7s,baz=225,slow=14,SNR=16						
MK31	**Makanchi Array**	**10.52 33**		*ce*P	**Pn**	**04 25 04.0**	**+2.0**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MKAR	**Makanchi Array**	**10.52 33**		P	**Pn**	**04 25 03.9**	**+1.9**
MKAR	**Makanchi Array**	**10.52 33**		P	**Pn**	**04 25 03.9**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=231,slow=15,SNR=21						
DANN	**Dangsing**	**12.80 137**		*e*P	**Pn**	**04 25 32.7**	**+0.2**
	comp=Z,42nm,0.3s						
KURBB	**Kurchatov Arra**	**12.80 13**		⇑Pn	**Pn**	**04 25 30.4**	**-1.7**
	comp=Z,16nm,0.7s						
KURBB	**Kurchatov Arra**	**12.80 13**		P	**Pn**	**04 25 30.5**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=200,slow=12,SNR=18						
KURK	**Kurchatov**	**12.91 13**		⇓Pn	**Pn**	**04 25 31.5**	**-2.0**
	comp=Z,7.8nm,0.7s						
KURK	**Kurchatov**	**12.91 13**		*d* P	**Pn**	**04 25 31.6**	**-1.8**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KOLN	**Koldanda**	**13.18 139**		*e*P	**Pn**	**04 25 38.0**	**+0.6**
	comp=Z,52nm,0.4s						
GKN	**Gorkha**	**13.55 136**		*e*P	**Pn**	**04 25 43.0**	**+1.0**
	comp=Z,61nm,0.4s						
KKN	**Kakani**	**14.07 134**		*e*P	**Pn**	**04 25 48.9**	**+0.1**
	comp=Z,50nm,0.5s						
DMN	**Daman**	**14.11 135**		*e*P	**Pn**	**04 25 49.8**	**+0.4**
	comp=Z,23nm,0.5s						
PKIN	**Phulchoki**	**14.30 135**		*e*P	**Pn**	**04 25 52.7**	**+0.9**
	comp=Z,22nm,0.3s						
PKI	**Pulchoki**	**14.31 135**		*e*P	**Pn**	**04 25 52.5**	**+0.5**
	comp=Z,25nm,0.5s						
GUN	**Gumba**	**14.32 132**		*e*P	**Pn**	**04 25 52.9**	**+0.8**
	comp=Z,19nm,0.4s						
VOSK	**Vostochnaya**	**14.64 353**		⇑Pn	Pn	04 25 52.4	-3.2
	comp=Z,4.2nm,0.8s						
JIRN	**Jiri**	**14.69 132**		*e*P	**Pn**	**04 25 57.1**	**+0.3**
	comp=Z,38nm,0.4s						
AB31	**Akbulak array**	**14.95 322**		⇑Pn	Pn	04 25 56.1	-3.4
	comp=Z,6.7nm,0.5s,baz=143,slow=11,SNR=121						
AB31				⇑Sn	Sn	04 28 29.9	-15
	comp=Z,7.3nm,0.8s,baz=132,slow=26,SNR=5.5						
AB31	**Akbulak array**	**14.95 322**		*ce*P	Pn	04 25 56.1	-3.4
AB31				pmax	pmax		
	comp=Z,10.0nm,0.4s						
BVA0	**Borovoye Array**	**15.00 352**		⇓Pn	**Pn**	**04 25 58.2**	**-1.9**
	comp=Z,8.9nm,0.6s,baz=166,slow=13,SNR=45						
BVAR	**Borovoye Array**	**15.00 352**		P	**Pn**	**04 25 58.3**	**-1.9**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**15.00 352**		P	**Pn**	**04 25 58.3**	**-1.9**
	comp=Z,0.9nm,0.3s,baz=165,slow=12,SNR=13						
BRVK	**Borovoye**	**15.05 351**		⇑Pn	**Pn**	**04 25 59.1**	**-1.6**
	comp=Z,0.7nm,0.3s						
BRVK	**Borovoye**	**15.05 351**		*i* P	**Pn**	**04 25 59.5**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
RAMN	**Ramite**	**15.46 133**		*e*P	**Pn**	**04 26 06.5**	**+0.1**
	comp=Z,36nm,0.6s						
TAPN	**Taplejung**	**15.83 129**		*e*P	**Pn**	**04 26 11.7**	**+0.8**
	comp=Z,12nm,0.4s						
AKTO	**Aktyubinsk**	**16.66 322**		⇓Pn	**Pn**	**04 26 17.0**	**-3.7**
	comp=Z,7.9nm,0.7s						
AKTO				⇓Sn	Sn	04 29 12.3	-14
	comp=Z,8.1nm,1.4s						
AKTO	**Aktyubinsk**	**16.66 322**		P	**Pn**	**04 26 17.3**	**-3.4**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKTO	**Aktyubinsk**	**16.66 322**		P	**Pn**	**04 26 17.3**	**-3.4**
	comp=Z,1.7nm,0.3s,baz=124,slow=12,SNR=18						
ZALV	**Zalesovo Beam**	**17.39 22**		P	**P**	**04 26 29.6**	**+0.7**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ZALV	**Zalesovo Beam**	**17.39 22**		P	**P**	**04 26 29.6**	**+0.7**
	comp=Z,3.4nm,0.3s,baz=208,slow=12,SNR=47						
NVS	**Novosibirsk**	**17.77 18**		*e*P	**P**	**04 26 32.5**	**-0.5**
NVS				pmax	pmax		
	comp=Z,18nm,0.8s						
NVS				pmax	pmax		
	comp=N,14nm,0.7s						
HVS	**Khovu-Aksy**	**18.98 41**		*i* P	**Pn**	**04 26 50.7**	**+2.3**
HVS				pmax	pmax		
	comp=Z,22nm,1.1s						
SVE	**Sverdlovsk**	**20.60 339**		*e*P	**P**	**04 27 03.9**	**+0.2**
SVE				pmax	pmax		
	comp=Z,17nm,0.7s						
ARU	**Arti**	**20.90 336**		*d* *i* P	**P**	**04 27 06.6**	**-0.3**
ARU						04 27 33.4	
ARU				S	**S**	**04 30 46.4**	**-6.4**
ARU				SS	Sn	04 31 11.6	+4.4
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s						
RDF	**Al-Radifah**	**23.83 255**		*e*P	**P**	**04 27 37.7**	**+1.4**
RDF				AMb	AMB	04 27 40.7	
	comp=Z,11nm,0.8s						
NAY	**Al-Naaiem**	**23.90 256**		*e*P	**P**	**04 27 37.6**	**+0.6**
NAY				AMb	AMB	04 27 39.0	
	comp=Z,11nm,1.0s						
RST	**Umm Al-Ruwaisa**	**23.97 257**		*e*P	**P**	**04 27 38.2**	**+0.6**
RST				AMb	AMB	04 27 39.1	
	comp=Z,150nm,0.9s						
SONM	**Songino Array**	**25.40 57**		P	**P**	**04 27 54.0**	**+3.4**
	comp=Z,1.5nm,0.8s,baz=252,slow=9.4,SNR=11						
HHC	**Hu-ho-hao-te**	**28.96 73**		*e*P	**P**	**04 28 21.8**	**-0.7**
HHC				AMB	AMB		
	comp=Z,170nm,5.1s						
JOF	**Joensuu**	**35.61 328**		*e*p	**P**	**04 29 19.7**	**-0.3**
	comp=Z,4.1nm,0.6s						
FINES	**FINESS Array B**	**37.42 324**		P	**P**	**04 29 34.9**	**-0.5**
	comp=Z,3.0nm,0.5s,baz=109,slow=9.0,SNR=16						
ARCES	**ARCESS Array B**	**40.49 336**		P	**P**	**04 30 00.4**	**-0.4**
	comp=Z,3.0nm,0.7s,baz=110,slow=8.2,SNR=9.0						
TIXI	**Tiksi**	**43.28 22**		⇑*i* P	**P**	**04 30 25.0**	**+1.6**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CLL	**Collm**	**43.98 308**		*e*P	P	04 30 26.0	-3.3
NB2	**NORSAR Subarra**	**44.46 322**		P	**P**	**04 30 32.8**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=93,slow=8.6						
NOA	**NORSAR Array B**	**44.46 322**		P	**P**	**04 30 32.2**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=93,slow=7.9,SNR=5.2						
ESDC	**Sonseca Array**	**58.74 298**		P	**P**	**04 32 19.2**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=57,slow=9.4,SNR=3.1						
TORD	**Torodi Ar. Bea**	**68.11 270**		P	**P**	**04 33 20.7**	**-0.8**
	comp=Z,3.2nm,0.4s,baz=48,slow=5.5,SNR=110						
ILAR	**Eielson Array**	**72.45 17**		P	**P**	**04 33 47.8**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=323,slow=6.0,SNR=4.4						
WRA	**Warramunga Arr**	**80.94 124**		P	**P**	**04 34 36.7**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=308,slow=7.4,SNR=7.1						
ASAR	**Alice Springs**	**83.35 127**		P	**P**	**04 34 49.0**	**+1.1**
	comp=Z,0.3nm,0.8s,baz=321,slow=4.8,SNR=4.3						

*IDC **14** 05:16:28.9±0.7, 11°.93S×166°.21E, h0km, mb3.9/12, mb1 4.1/14, mb1mx4.0/23, mbtmp3.9/14, ML4.4/2, MS3.6/4, Ms1 3.6/4, ms1mx3.1/35, Error ellipse: s-maj=25.5km s-min=18.2km az=143.0*
*ISCJB **14** 05:16:32.1±0.6, 12°.02S±0°.09×166°.09E±0°.09, h30km, mb3.9/12, MS3.8/3, Error ellipse: s-maj=13.5km s-min=12.9km az=34.3*
*NEIC **14** 05:16:34.4±0.5, 11°.96S×166°.15E, h35km, mb4.2/2, Error ellipse: s-maj=12.5km s-min=10.7km az=140.0*
ISC 14 05:16:33.5±0.6, 12°.03S±0°.07×166°.2E±0°.1, h30km, n39, σ1°26/38, mb3.8/12, MS4.0/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.67 292**		Pn	**Pn**	**05 18 09.2**	**-0.4**
HNR	**Honiara**	**6.67 292**		Pn	**Pn**	**05 18 09.1**	**-0.4**
	20nm,0.3s,baz=137,slow=18,SNR=5.1						
DZM	**Mont Dzumac**	**9.99 179**		Pn	**Pn**	**05 18 57.2**	**+2.1**
DZM				Sn	**Sn**	**05 20 43.5**	**-2.8**
DZM	**Mont Dzumac**	**9.99 179**		Pn	**Pn**	**05 18 57.2**	**+2.1**
	1.4nm,0.3s,baz=160,slow=22,SNR=15						
DZM				Sn	**Sn**	**05 20 43.5**	**-2.8**
	0.1nm,0.3s,baz=345,slow=20,SNR=1.7						
PMG	**Port Moresby**	**18.90 276**		LR	LR	05 26 15.3	
	comp=Z,77nm,18.1s,baz=97,slow=31						
CTA	**Charters Tower**	**20.77 245**		P	**P**	**05 21 12.8**	**+0.6**
CTA	**Charters Tower**	**20.77 245**		P	**P**	**05 21 12.8**	**+0.6**
	0.6nm,0.6s,baz=91,slow=13,SNR=5.9						
CTAO	**Charters Tower**	**20.77 245**		P	**P**	**05 21 11.9**	**-0.3**
	3.9nm,0.6s						
STKA	**Stephens Creek**	**30.06 225**		LR	LR	05 33 40.7	
	comp=Z,75nm,21.0s,baz=25,slow=34						
WRAB	**Tennant Creek**	**31.58 252**		*e*P	**P**	**05 22 52.8**	**-0.9**
	9.5nm,1.4s						
WRA	**Warramunga Arr**	**31.59 251**		P	**P**	**05 22 52.4**	**-1.4**
WRA	**Warramunga Arr**	**31.59 251**		P	**P**	**05 22 52.4**	**-1.4**
	0.9nm,0.6s,baz=84,slow=9.3,SNR=7.3						
ASAR	**Alice Springs**	**32.77 245**		P	**P**	**05 23 03.1**	**-1.1**
ASAR	**Alice Springs**	**32.77 245**		P	**P**	**05 23 03.1**	**-1.1**
	1.6nm,0.6s,baz=68,

baz=161
H11S1 WAKE ISLAND Hy 40.23 331 T T 06 19 28.8
baz=161
H11N3 WAKE ISLAND Hy 41.19 332 T T 06 20 23.5
baz=151
H11N1 WAKE ISLAND Hy 41.19 332 T T 06 20 45.4
baz=151
H11N2 WAKE ISLAND Hy 41.20 332 T T 06 20 33.2
baz=151
STKA Stephens Creek 42.75 241 P P 05 39 43.4 +0.5
4.7nm,0.6s,baz=88,slow=5.8,SNR=11
WRA Warramunga Arr 48.97 258 P P 05 40 30.4 -1.6
2.0nm,0.6s,baz=95,slow=6.9,SNR=26
ASAR Alice Springs 49.11 253 P P 05 40 32.5 -0.5
20nm,0.6s,baz=88,slow=8.7,SNR=277
RPN Rapa Nui 60.10 112 P P 05 41 51.2 -1.0
1.8nm,0.4s,baz=80,slow=0.8,SNR=5.8
VNDA Vanda 61.60 186 P P 05 42 03.5 +1.9
0.7nm,0.7s,baz=13,slow=6.9,SNR=5.2
PETK Petropavlovsk- 74.13 343 P P 05 43 20.4 +0.2
3.0nm,0.7s,baz=155,slow=5.3,SNR=4.1
ILAR Eielson Array 84.25 11 P P 05 44 15.1 +0.2
0.2nm,0.6s,baz=233,slow=6.6,SNR=4.0
BRTR Keskin Array B 147.16 319 PKPbc PKPbc 05 51 26.7 -0.1
1.4nm,0.8s,baz=142,slow=4.7,SNR=5.9

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*BUL **14** 05:37:55.7±13.0, 12°.44S×34°.82E, h0km±174km, MD4.1*
*ISCJB **14** 05:38:00.7±0.5, 11°.04S±0°.05×34°.42E±0°.05, h10km, mb4.0/6, MS3.8/5, Error ellipse: s-maj=8.1km s-min=5.8km az=33.2*
*IDC **14** 05:38:01.7±0.8, 10°.91S×34°.37E, h0km, mb4.1/6, mb1 4.3/11, mb1mx4.0/29, mbtmp4.2/11, ML4.5/5, MS3.7/11, Ms1 3.7/11, ms1mx3.4/38, Error ellipse: s-maj=24.0km s-min=15.4km az=120.0*
ISC 14 05:38:02.6±0.6, **11°.11S**±0°.05×**34°.40E**±0°.07, **h10**km, **n23,** σ1s **87**/27, **mb4.1**/6, **MS4.0**/5, **Malawi**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MZM	**Mzuzu**	**0.49**	**229**	*i* P		**Pn**	**05 38 16.4**	**+0.6**
MZM				*i* S		**Sb**	**05 38 23.9**	**+3.2**
DODT	**Dodoma, Tanzan**	**5.07**	**15**	*i* P		**Pb**	**05 39 30.7**	**-0.8**
DODT				*i* S		**Sb**	**05 40 34.9**	**+2.2**
LSZ	**Lusaka**	**7.33**	**235**	Pn		**Pn**	**05 39 50.6**	**+0.7**
	6.3nm,0.3s,baz=49,slow=11,SNR=52							
LSZ				Sn		**Sn**	**05 41 10.5**	**-2.8**
	11nm,0.3s,baz=338,slow=18,SNR=3.8							
LSZ				Lg		Lg	05 41 54.0	
	25nm,0.3s,baz=308,slow=17,SNR=7.9							
LSZ				LR		LR	05 42 52.2	
	comp=Z,357nm,20.4s,baz=118,slow=39							
MAUS	**Longido**	**8.62**	**16**	*i* P		**Pn**	**05 40 07.6**	**-0.2**
MAUS				*i* S		**Sg**	**05 42 40.0**	**+0.3**
KMBO	**Kilima Mbogo**	**10.31**	**16**	Pn		**Pn**	**05 40 29.8**	**-1.2**
	1.3nm,0.3s,baz=193,slow=20,SNR=8.6							
KMBO				Sn		Sn	05 42 18.8	-8.2
	1.3nm,0.3s,baz=35,slow=23,SNR=3.7							
KMBO				Lg		Lg	05 43 21.3	
	1.4nm,0.3s,baz=72,slow=20,SNR=14							
KMBO	**Kilima Mbogo**	**10.31**	**16**	*i* P		**Pn**	**05 40 29.6**	**-1.5**
KMBO				*i* S		**Sn**	**05 42 27.3**	**+0.4**
MBAR	**Mbarara**	**11.05**	**341**	Pn		**Pn**	**05 40 38.9**	**-2.2**
	3.5nm,0.3s,baz=3.1,slow=23,SNR=8.7							
MBAR				Sn		**Sn**	**05 42 49.5**	**+4.5**
	10nm,0.3s,baz=88,slow=20,SNR=3.9							
MBAR				Lg		Lg	05 43 39.5	
	14nm,0.3s,baz=73,slow=23,SNR=7.7							
MBAR				LR		LR	05 44 50.7	
	comp=Z,402nm,18.4s,baz=165,slow=38							
MBAR	**Mbarara**	**11.05**	**341**	*i* P		**Pn**	**05 40 39.0**	**-2.1**
MBAR				*i* S		Sn	05 42 56.4	+11
OPO	**Ambohidratompo**	**14.41**	**122**	Pn		P	05 41 29.2	-4.8
	0.4nm,0.3s,baz=304,slow=14,SNR=4.3							
OPO				Sn		**Sn**	**05 44 06.6**	**-0.5**
	0.7nm,0.3s,baz=308,slow=12,SNR=2.4							
OPO				LR		LR	05 46 56.6	
	comp=Z,290nm,18.6s,baz=265,slow=37							
LBTB	**Lobatse**	**16.15**	**210**	Pn		**Pn**	**05 41 48.6**	**-1.4**
	0.2nm,0.3s,baz=43,slow=14,SNR=3.3							
LBTB				Sn		**Sn**	**05 44 50.0**	**+0.6**
	1.4nm,0.3s,baz=318,slow=13,SNR=3.3							
LBTB				Lg		Lg	05 46 29.5	
	1.1nm,0.3s,baz=318,slow=21,SNR=7.3							
LBTB				LR		LR	05 47 13.3	
	comp=Z,74nm,20.0s,baz=269,slow=34							
TSUM	**Tsumeb**	**18.10**	**242**	P		**Pn**	**05 42 12.8**	**-1.7**
	0.8nm,0.3s,baz=51,slow=12,SNR=17							
TSUM				S		**Sn**	**05 45 35.2**	**-1.6**
	0.3nm,0.3s,baz=76,slow=18,SNR=3.1							
TSUM				Lg		Lg	05 47 31.7	
	0.3nm,0.3s,baz=129,slow=15,SNR=5.1							
TSUM				LR		LR	05 49 30.5	
	comp=Z,243nm,18.1s,baz=326,slow=38							
BOSA	**Boshof**	**19.40**	**205**	P		**Pn**	**05 42 33.4**	**+3.1**
	1.3nm,0.3s,baz=29,slow=14,SNR=13							
BOSA				S		S	05 46 31.8	+23
	0.5nm,0.3s,baz=140,slow=18,SNR=3.8							
BOSA				LR		LR	05 50 10.4	
	comp=Z,97nm,20.6s,baz=26,slow=37							
ATD	**Arta Tunnel**	**24.01**	**21**	LR		LR	05 52 53.1	
	comp=Z,54nm,18.9s,baz=128,slow=37							
SUR	**Sutherland**	**24.59**	**209**	P		**P**	**05 43 25.9**	**+2.6**
	11nm,1.1s,baz=74,slow=16,SNR=2.3							
TORD	**Torodi Ar. Bea**	**40.42**	**306**	P		**P**	**05 45 40.8**	**-0.7**
	1.4nm,0.8s,baz=108,slow=7.7,SNR=9.0							
TORD				LR		LR	06 02 58.7	
	comp=Z,195nm,18.9s,baz=105,slow=37							
DBIC	**Dimbokro**	**42.88**	**293**	LR		LR	06 03 09.3	
	comp=Z,93nm,18.9s,baz=104,slow=35							
BRTR	**Keskin Array B**	**50.58**	**359**	P		**P**	**05 47 01.1**	**-0.7**
	0.6nm,0.7s,baz=171,slow=8.6,SNR=2.9							
CMAR	**Chiang Mai Arr**	**70.11**	**66**	P		**P**	**05 49 15.7**	**-0.1**
	1.2nm,0.3s,baz=258,slow=7.2,SNR=8.6							
MKAR	**Makanchi Array**	**71.76**	**32**	P		**P**	**05 49 25.4**	**+0.2**
	1.8nm,0.8s,baz=218,slow=6.1,SNR=11							
CPUP	**Villa Florida**	**86.68**	**244**	LR		LR	06 28 02.7	
	comp=Z,104nm,20.6s,baz=351,slow=35							
FITZ	**Fitzroy Crossi**	**87.77**	**108**	LR		LR	06 24 41.1	
	comp=Z,80nm,18.7s,baz=220,slow=32							
ASAR	**Alice Springs**	**94.14**	**115**	P		**P**	**05 51 22.5**	**+0.2**
	0.7nm,0.9s,baz=247,slow=4.8,SNR=4.4							
NVAR	**Mina Array Bea**	**143.47**	**323**	PKP		**PKPdf**	**05 57 37.4**	**-0.9**
	0.4nm,0.8s,baz=40,slow=1.4,SNR=3.6							

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*IDC **14** 05:57:09.0±3.0, 52°.56N×167°.21W, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.5/29, mbtmp3.5/4, ML3.3/1, MS2.9/1, Ms1 3.1/1, ms1mx2.5/39, Error ellipse: s-maj=55.6km s-min=44.2km az=58.0*
*NEIC **14** 05:57:11.3, 52°.44N×166°.84W, h12km, ML3.1(AEIC), After AEIC.*
ISC 14 05:57:09.9±1.9, **52°.4N**±0°.1×**166°.70W**±0°.07, **h21**km, **n24,** σ0s **65**/20, **mb3.6**/3, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**1.25**	**325**	P		**Pn**	**05 57 31.7**	**-0.5**
OKTU	**Okmok Mt. Tuli**	**1.28**	**321**	P		**Pn**	**05 57 32.7**	**+0.1**
OKSP	**Okmok Steeple**	**1.29**	**312**	P		**Pb**	**05 57 33.1**	**-0.4**
OKSO	**Okmok South**	**1.31**	**318**	P		**Pn**	**05 57 32.9**	**-0.1**
OKCE	**Okmok Cone E**	**1.36**	**320**	P		**Pb**	**05 57 34.2**	**-0.5**
MREP	**Makushin Rep't**	**1.42**	**359**	P		**Pb**	**05 57 35.7**	**0.0**
NIKH	**Nikolski High**	**1.43**	**295**	P		**Pn**	**05 57 34.6**	**0.0**
NIKH				S		**Sn**	**05 57 51.9**	**-1.0**
UNV	**Unalaska Valle**	**1.46**	**5**	P		**Pb**	**05 57 36.0**	**-0.3**
UNV				S		**Sb**	**05 57 54.4**	**0.0**
MCIR	**Makushin Cirqu**	**1.56**	**356**	P		**Pb**	**05 57 38.6**	**+0.5**
MTBL	**Makushin Table**	**1.58**	**0**	P		**Pb**	**05 57 38.5**	**+0.1**
ZRO	**Akutan Zero**	**1.75**	**14**	P		**Pb**	**05 57 41.1**	**-0.2**
AKRB	**Akutan Reef Bi**	**1.78**	**12**	P		**Pb**	**05 57 42.0**	**+0.2**
AKRB				S		**Sb**	**05 58 03.9**	**+0.3**
AKUT	**Akutan**	**1.83**	**17**	P		**Pb**	**05 57 41.8**	**-0.8**
WESN	**West Dahl Nort**	**2.52**	**29**	P		**Pb**	**05 57 53.2**	**-1.1**
ILAR	**Eielson Array**	**16.04**	**32**	Pn		**P**	**06 00 56.2**	**-1.0**
	0.1nm,0.3s,baz=221,slow=8.0,SNR=4.1							
ILAR				LR		LR	06 07 53.0	
	comp=Z,46nm,19.5s,baz=135,slow=40							
INK	**Inuvik**	**22.44**	**32**	P		**P**	**06 02 07.6**	**+0.7**
	1.9nm,0.9s,baz=235,slow=11,SNR=5.3							
H11N2	**WAKE ISLAND Hy 38.54 222**			T		T	06 46 13.3	
	baz=27,slow=0.7,SNR=13							
H11N3	**WAKE ISLAND Hy 38.54 222**			T		T	06 46 12.2	
	baz=27,slow=0.7,SNR=12							
H11N1	**WAKE ISLAND Hy 38.55 222**			T		T	06 46 14.1	
	baz=27,slow=0.7,SNR=11							
H11S1	**WAKE ISLAND Hy 39.71 222**			T		T	06 47 52.9	
	baz=24,slow=0.7,SNR=5.8							
H11S2	**WAKE ISLAND Hy 39.73 222**			T		T	06 47 44.0	
	baz=24,slow=0.7,SNR=4.9							
H11S3	**WAKE ISLAND Hy 39.73 222**			T		T	06 47 43.9	
	baz=24,slow=0.7,SNR=4.3							
TXAR	**Lajitas Array**	**51.11**	**91**	P		P	06 06 15.8	+4.7
	0.2nm,0.6s,baz=302,slow=4.7,SNR=5.0							
FINES	**FINESS Array B**	**66.05**	**353**	P		**P**	**06 07 55.8**	**+1.3**
	4.0nm,1.0s,baz=27,slow=6.5,SNR=5.2							

IDC 14 06:13:25.4±1.1, **48°.17S**×**99°.34E**, **h0**km, **mb4.1**/10, **mb1 4.3**/10, **mb1mx4.1**/19, **mbtmp4.2**/10, **MS4.0**/7, **Ms1 4.0**/7, **ms1mx3.7**/22, **Error ellipse: s-maj=38.5km s-min=16.4km az=118.0, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**17.24**	**45**	T		T	06 34 59.5	
	baz=214,slow=0.7,SNR=32							
H01W3	**Cape Leeuwin H**	**17.25**	**45**	T		T	06 35 01.8	
	baz=214,slow=0.7,SNR=34							
H01W1	**Cape Leeuwin H**	**17.25**	**45**	T		T	06 35 03.0	
	baz=214,slow=0.7,SNR=40							
NWAO	**Narrogin (SRO)**	**20.34**	**48**	P		P	06 18 03.5	+0.3
	2.3nm,0.7s,baz=222,slow=12,SNR=1.8							
MAW	**Mawson**	**26.81**	**210**	LR		LR	06 28 24.1	
	comp=Z,229nm,19.0s,baz=223,slow=34							
STKA	**Stephens Creek**	**35.72**	**79**	P		P	06 20 25.9	+0.3
	1.2nm,0.5s,baz=169,slow=2.1,SNR=2.5							
STKA				LR		LR	06 31 59.5	
	comp=Z,232nm,20.2s,baz=208,slow=31							
ASAR	**Alice Springs**	**36.68**	**61**	P		P	06 20 33.4	-0.6
	4.2nm,0.8s,baz=216,slow=7.6,SNR=24							
FITZ	**Fitzroy Crossi**	**36.85**	**45**	P		P	06 20 35.3	-0.1
	3.4nm,0.8s,baz=215,slow=9.3,SNR=6.9							
VNDA	**Vanda**	**37.60**	**162**	P		P	06 20 40.9	-0.3
	2.3nm,0.8s,baz=284,slow=9.3,SNR=17							
VNDA				LR		LR	06 34 48.1	
	comp=Z,318nm,18.4s,baz=287,slow=34							
WRA	**Warramunga Arr**	**39.85**	**57**	P		P	06 21 00.1	-0.5
	2.9nm,0.7s,baz=217,slow=8.4,SNR=11							
WRA				LR		LR	06 35 35.9	
	comp=Z,162nm,19.1s,baz=190,slow=33							
QSPA	**South Pole Qui**	**41.97**	**180**	P		P	06 21 17.7	-0.1
	6.0nm,0.7s							
H08S2	**Diego Garcia H**	**46.35**	**322**	T		T	07 11 26.7	
	baz=159,slow=0.7							
H08S1	**Diego Garcia H**	**46.36**	**322**	T		T	07 11 25.2	
	baz=159,slow=0.7							
H08S3	**Diego Garcia H**	**46.38**	**322**	T		T	07 11 24.7	
	baz=159,slow=0.7							
CTA	**Charters Tower**	**46.89**	**70**	P		P	06 21 56.9	-0.6
	2.8nm,0.6s,baz=221,slow=12,SNR=4.8							
SNAA	**Sanae**	**48.69**	**204**	P		P	06 22 10.2	-0.8
	0.6nm,0.8s,baz=151,slow=18,SNR=4.1							
BOSA	**Boshof**	**58.98**	**261**	LR		LR	06 44 53.4	
	comp=Z,68nm,18.6s,baz=284,slow=32							
CMAR	**Chiang Mai Arr**	**66.32**	**360**	P		P	06 24 15.8	+0.1
	1.2nm,0.3s,baz=200,slow=6.0,SNR=4.2							
CMAR				LR		LR	06 49 41.2	
	comp=Z,154nm,18.0s,baz=48,slow=33							
MKAR	**Makanchi Array**	**95.75**	**348**	LR		LR	07 03 38.0	
	comp=Z,45nm,20.8s,baz=342,slow=32							
NVAR	**Mina Array Bea**	**151.18**	**96**	PKPbc		PKPbc	06 33 20.8	+0.4
	1.6nm,0.6s,baz=223,slow=4.6,SNR=7.4							
TXAR	**Lajitas Array**	**154.17**	**128**	PKPab		PKPab	06 33 41.8	+0.9
	0.4nm,0.9s,baz=193,slow=7.4,SNR=4.1							

IDC 14 06:47:12.2±0.8, **15°.47S**×**173°.17W**, **h0**km, **mb4.1**/8, **mb1 4.4**/9, **mb1mx4.1**/22, **mbtmp4.1**/9, **ML3.2**/1, **Error ellipse: s-maj=39.2km s-min=17.4km az=137.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.05**	**41**	Pn		Pn	06 47 49.0	+0.9
	472nm,0.3s,baz=194,slow=12,SNR=326							
AFI				Sn		Sn	06 48 09.7	-4.9
	731nm,0.3s,baz=252,slow=19,SNR=20							
URZ	**Urewera**	**24.27**	**199**	P		P	06 52 31.6	+0.4
	11nm,0.6s,baz=4.2,slow=3.4,SNR=12							
H11S2	**WAKE ISLAND Hy 39.13 329**			T		T	07 35 08.0	
	baz=150,slow=0.7,SNR=62							
H11S3	**WAKE ISLAND Hy 39.15 329**			T		T	07 35 09.1	
	baz=150,slow=0.7,SNR=43							
H11S1	**WAKE ISLAND Hy 39.15 329**			T		T	07 35 10.3	
	baz=150,slow=0.7,SNR=12							
H11N3	**WAKE ISLAND Hy 40.08 330**			T		T	07 36 18.0	
	baz=148							
H11N1	**WAKE ISLAND Hy 40.08 330**			T		T	07 36 18.9	
	baz=148							
H11N2	**WAKE ISLAND Hy 40.10 330**			T		T	07 36 19.3	
	baz=148							
WRA	**Warramunga Arr**	**50.04**	**257**	P		P	06 56 09.5	+0.3
	0.5nm,0.9s,baz=95,slow=8.3,SNR=3.5							
ASAR	**Alice Springs**	**50.30**	**252**	P		P	06 56 10.3	-0.7
	1.0nm,0.6s,baz=86,slow=8.0,SNR=16							
PETK	**Petropavlovsk-**	**72.76**	**342**	P		P	06 58 42.9	+0.7
	3.0nm,0.8s,baz=147,slow=8.2,SNR=3.2							
NVAR	**Mina Array Bea**	**74.23**	**42**	P		P	06 58 52.0	+0.5
	2.1nm,0.8s,baz=229,slow=10,SNR=11							
TXAR	**Lajitas Array**	**80.47**	**56**	P		P	06 59 26.8	+0.2
	0.8nm,0.8s,baz=220,slow=8.0,SNR=11							
PDAR	**Pinedale Array**	**82.17**	**42**	P		P	06 59 34.2	-1.3
	1.8nm,0.9s,baz=210,slow=4.3,SNR=11							
ILAR	**Eielson Array**	**82.47**	**11**	P		P	06 59 35.5	-0.6
	0.8nm,0.6s,baz=226,slow=6.3,SNR=22							
GERES	**GERESS Array B**	**146.24**	**352**	PKPbc		PKPbc	07 06 54.6	-0.3
	0.5nm,0.2s,baz=46,slow=3.9,SNR=4.0							
BRTR	**Keskin Array B**	**146.35**	**321**	PKPbc		PKPdf	07 06 54.4	+0.1
	2.1nm,0.8s,baz=144,slow=3.4,SNR=6.6							

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*ISCJB **14** 06:54:40.1±2.4, 14°.12S±0°.04×166°.79E±0°.05, h29km±16km, mb5.0/54, MS4.5/25, Error ellipse: s-maj=7.7km s-min=7.1km az=179.8*
*MOS **14** 06:54:41.0±1.0, 14°.11S×166°.67E, h33km, mb5.4/20, Error ellipse: s-maj=11.0km s-min=8.7km az=21.1*
*IDC **14** 06:54:42.5±1.5, 14°.16S×166°.76E, h35km, gKm, mb4.6/22, mb1 4.7/25, mb1mx4.7/28, mbtmp4.7/25, ML4.3/3, MS4.5/17, Ms1 4.5/17, ms1mx4.4/25, Error ellipse: s-maj=14.7km s-min=12.6km az=98.0*
*NEIC **14** 06:54:42.3±0.2, 14°.08S×166°.77E, h35km, mb5.1/22, Error ellipse: s-maj=6.8km s-min=5.6km az=122.0*
*GCMT **14** 06:54:45.8±0.1, 14°.14S×166°.55E, h27km, MW5.3, Moment Tensor Solution. s88,c126; s89,c147; Moment tensor: Scale 10^17^Nm; Mrr0.90±.02; Mθθ0.12±.02; Mφφ-1.02±.02; Mrθ0.40±.04; Mθφ0.23±.01; Mφr-0.18±.03; Best double couple: M0 1.10000×10^17^ NP1:φs149.00000°, δ56.00000°, λ65.00000°. NP2:φs9.00000°, δ42.00000°, λ122.00000°. Principal axes: T 1.0700, Plg68.0000°, Azm6.0000°; N 0.0300, Plg21.0000°, Azm164.0000°; P -1.1000, Plg8.0000°, Azm257.0000°; Data Used: II IU IC G CN.*
*BJI **14** 06:54:48.1, 13°.76S×167°.10E, h90km, mB5.3/30, mb4.9/41, Ms5.0/23, Ms7 4.5/25*
*AUST **14** 06:54:50.0, 14°.46S×166°.41E, h60km*
*DJA **14** 06:54:54.5±1.4, 14°S±5°×16°7E±°, h123km±14km, M4.8/4, mB5.1/2, mb4.8/4, Mw(mB)4.5/2*
ISC 14 06:54:44.1±0.8, **14°.11S**±0°.05×**166°.65E**±0°.05, **h49**km, **n267,** σ1s **72**/285, **mb5.0**/54, **MS4.4**/25, **9C-1D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.92**	**181**	*e*Pn		**Pn**	**06 56 34.7**	**-2.2**
	220nm,0.6s							
DZM				*e*LR		LR	06 58 16.6	
	7µm,24.8s							
DZM	**Mont Dzumac**	**7.92**	**181**	Pn		**Pn**	**06 56 35.2**	**-1.7**
DZM				Sn		**Sn**	**06 58 02.2**	**-3.1**
DZM	**Mont Dzumac**	**7.92**	**181**	Pn		**Pn**	**06 56 35.2**	**-1.7**
	6.5nm,0.3s,baz=33,slow=14,SNR=56							
DZM				Sn		**Sn**	**06 58 02.2**	**-3.1**
	7.0nm,0.3s,baz=324,slow=22,SNR=3.2							
DZM				LR		LR	06 59 16.4	
	comp=Z,4µm,21.7s,baz=7.4,slow=35							
HNR	**Honiara**	**8.04**	**305**	Pn		**Pn**	**06 56 38.6**	**+0.2**
HNR				Sn		**Sn**	**06 58 03.0**	**-5.0**
	29nm,0.3s,baz=170,slow=2.9,SNR=12							
HNR				Sn		**Sn**	**06 58 03.0**	**-5.0**
	baz=274,slow=19,SNR=1.3							
HNR				LR		LR	06 59 27.3	
	comp=Z,4µm,20.1s,baz=138,slow=35							
MSVF	**Nonsavu**	**11.54**	**110**	P		**Pn**	**06 57 26.8**	**+0.4**
MSVF	**Nonsavu**	**11.54**	**110**	Pn		**Pn**	**06 57 26.8**	**+0.4**
TARA	**Tarawa**	**16.57**	**23**	Pn		**Pn**	**06 58 29.9**	**-3.4**
	84nm,0.8s							
EIDS	**Eidsvold**	**18.43**	**230**	*e*P		**Pn**	**06 58 56.7**	**+0.6**
	94nm,1.4s							
EIDS	**Eidsvold**	**18.43**	**230**	P		Pn	06 59 01.6	+5.6
	baz=18,SNR=5.4							
PMG	**Port Moresby**	**19.64**	**282**	P		**Pn**	**06 59 11.8**	**+1.1**
	90nm,1.5s,1µm							
PMG	**Port Moresby**	**19.64**	**282**	*e*P		**Pn**	**06 59 11.1**	**+0.5**
	112nm,1.2s							
PMG	**Port Moresby**	**19.64**	**282**	P		**Pn**	**06 59 11.2**	**+0.5**
	0.5nm,0.3s,baz=94,slow=7.4,SNR=23							
CTA	**Charters Tower**	**20.37**	**250**	P		Pn	06 59 18.7	-0.6
CTA	**Charters Tower**	**20.37**	**250**	P		Pn	06 59 18.7	-0.6
	27nm,1.1s,baz=75,slow=14,SNR=22							
CTAO	**Charters Tower**	**20.37**	**250**	*e*P		Pn	06 59 18.5	-0.9
CTAO				pmax		pmax		
	comp=Z,115nm,1.4s							
CTAO	**Charters Tower**	**20.37**	**250**	*e*P		Pn	06 59 18.5	-0.8
	comp=Z,115nm,1.4s							
RAO	**Raoul Island**	**20.77**	**139**	LR		LR	07 05 35.3	
	comp=Z,1µm,19.2s,baz=274,slow=32							
RMQ	**Roma**	**20.78**	**231**	P		Pn	06 59 23.5	-0.7
	baz=20,SNR=21							
AFI	**Afiamalu**	**20.93**	**92**	P		**P**	**06 59 22.0**	**-1.0**
AFI	**Afiamalu**	**20.93**	**92**	P		**P**	**06 59 22.0**	**-1.0**
	comp=Z,40nm,0.3s,baz=342,slow=20,SNR=6.8							
AFI				LR		LR	07 05 41.5	
	comp=Z,2µm,18.5s,baz=261,slow=32							
ARMA	**Armidale**	**21.33**	**218**	*e*P		**P**	**06 59 29.2**	**+1.9**
	comp=Z,487nm,2.6s							
ARMA	**Armidale**	**21.33**	**218**	P		**P**	**06 59 28.8**	**+1.6**
	baz=21,SNR=5.2							
MTSU	**Mount Surprise**	**21.82**	**256**	P		**P**	**06 59 34.1**	**+1.6**
	baz=22,SNR=19							
OUZ	**Omahuta**	**21.94**	**165**	*e*P		**P**	**06 59 34.1**	**+0.6**
	comp=Z,62nm,0.9s							
COEN	**Coen**	**22.77**	**268**	*e*P		**P**	**06 59 44.2**	**+1.4**
COEN	**Coen**	**22.77**	**268**	P		**P**	**06 59 44.1**	**+1.4**
	baz=22,SNR=5.5							
QLP	**Quilpie**	**24.36**	**236**	P		**P**	**06 59 58.8**	**+1.1**
	baz=24,SNR=4.5							
URZ	**Urewera**	**25.78**	**161**	*e*P		**P**	**07 00 13.6**	**+3.1**
URZ	**Urewera**	**25.78**	**161**	P		**P**	**07 00 11.9**	**+1.4**
	comp=Z,22nm,0.8s,baz=24,slow=8.7,SNR=6.8							
URZ				LR		LR	07 08 58.6	
	comp=Z,1µm,20.0s,baz=137,slow=33							
CMSA	**Cobar Meteorol**	**25.88**	**224**	P		**P**	**07 00 12.7**	**+1.2**
	baz=26,SNR=7.4							
BKZ	**Black Stump Fm**	**26.43**	**163**	*e*P		**P**	**07 00 17.2**	**+0.8**
	comp=Z,40nm,1.1s							
STKA	**Stephens Creek**	**28.95**	**228**	*e*P		**P**	**07 00 40.0**	**+1.1**
STKA				PcP		**PcP**	**07 03 47.1**	**+0.1**
STKA	**Stephens Creek**	**28.95**	**228**	P		**P**	**07 00 39.8**	**+0.8**
	baz=29,SNR=19							
STKA	**Stephens Creek**	**28.95**	**228**	P		**P**	**07 00 39.9**	**+0.9**
	comp=Z,16nm,0.7s,baz=34,slow=8.5,SNR=16							
STKA				PcP		**PcP**	**07 03 47.1**	**+0.1**
	comp=Z,5.4nm,0.8s,baz=79,slow=5.2,SNR=3.3							
RPZ	**Rata Peaks**	**29.75**	**174**	*e*P		**P**	**07 00 45.5**	**-0.5**
	comp=Z,70nm,1.2s							
RPZ	**Rata Peaks**	**29.75**	**174**	P		**P**	**07 00 44.7**	**-1.2**
	comp=Z,24nm,0.7s,baz=342,slow=5.6,SNR=3.7							
RPZ				LR		LR	07 11 16.0	
	comp=Z,657nm,21.8s,baz=348,slow=34							
WRAB	**Tennant Creek**	**31.39**	**255**	*e*P		**P**	**07 00 59.6**	**-1.1**
WRAB				pmax		pmax		
	comp=Z,17nm,1.2s							
WRAB	**Tennant Creek**	**31.39**	**255**	*e*P		**P**	**07 00 59.6**	**-1.1**
	comp=Z,17nm,1.2s							
WRA	**Warramunga Arr**	**31.40**	**255**	P		**P**	**07 01 00.2**	**-0.6**
WRA				ScP		**ScP**	**07 07 36.4**	**+3.5**
WRA	**Warramunga Arr**	**31.40**	**255**	P		**P**	**07 01 00.2**	**-0.6**
	comp=Z,10nm,1.0s,baz=84,slow=8.8,SNR=35							
WRA				ScP		**ScP**	**07 07 36.4**	**+3.5**
	comp=Z,0.8nm,0.8s,baz=76,slow=3.6,SNR=3.6							
WRA				LR		LR	07 12 56.9	
	comp=Z,2µm,19.6s,baz=80,slow=35							
AS31	**Alice Springs**	**32.34**	**248**	*e*P		**P**	**07 01 08.2**	**-0.9**
ASAR	**Alice Springs**	**32.34**	**248**	P		**P**	**07 01 08.3**	**-0.8**
ASAR				ScP		**ScP**	**07 07 38.1**	**+2.0**
ASAR	**Alice Spring

MJAR	**Matsushiro Arr**	**57.08 333**	P	**P**		**07 04 25.9**	**+0.3**
MJAR	**Matsushiro Arr**	**57.08 333**	P	**P**		**07 04 25.9**	**+0.3**
	comp=Z,12nm,0.9s,baz=171,slow=8.3,SNR=19						
MAT	**Matsushiro**	**57.08 333**	P	**P**		**07 04 25.3**	**-0.2**
MAT			S	**S**		**07 12 11.8**	**-5.2**
KSM	**Kuching**	**57.90 281**	P	P		07 04 41.6	+10
KSM	**Kuching**	**57.90 281**	P	**P**		**07 04 34.7**	**+3.0**
	baz=58,SNR=3.4						
JNU	**Nakatsue**	**58.07 325**	LR	LR		07 28 35.0	
	comp=Z,232nm,18.9s,baz=46,slow=35						
KSRS	**Korea Array**	**62.89 326**	P	**P**		**07 05 06.4**	**+1.1**
	comp=Z,4,4nm,0.7s,baz=136,slow=6.9,SNR=14						
KSAR	**Wonju Array Be**	**62.90 326**	P	**P**		**07 05 06.4**	**+1.0**
VNDA	**Vanda**	**63.47 181**	*e*P	**P**		**07 05 08.6**	**+0.1**
	comp=Z,23nm,1.1s						
VNDA	**Vanda**	**63.47 181**	P	**P**		**07 05 08.7**	**+0.1**
	comp=Z,7.1nm,0.6s,baz=358,slow=7.6,SNR=30						
SBA	**Scott Base**	**63.75 180**	*e*P	**P**		**07 05 10.8**	**+0.3**
SBA			pmax	pmax			
	comp=Z,30nm,0.8s						
SBA	**Scott Base**	**63.75 180**	*e*P	**P**		**07 05 10.8**	**+0.3**
	comp=Z,30nm,0.8s						
CASY	**Casey**	**63.87 202**	*e*P	**P**		**07 05 10.6**	**-0.8**
	comp=Z,24nm,1.2s						
YSS	**Yuzh-Sakhalins**	**64.45 342**	*e*P	**P**		**07 05 16.0**	**+0.6**
NJ2	**Nanjing**	**64.81 316**	*e*P	**P**		**07 05 19.8**	**+1.7**
NJ2			AMB	AMB			
	comp=Z,10.0nm,0.5s						
QIZ	**Qiongzhong**	**64.91 299**	P	P		07 05 22.8	+3.8
QIZ			pP	PcP		07 05 42.3	-10
QIZ			sP	sP		07 05 50.9	+13
QIZ			S	**S**		**07 13 55.8**	**-1.5**
QIZ			AMB	AMB			
	comp=Z,190nm,4.6s						
QIZ			LR	LR			
	comp=Z,380nm,19.8s						
USRK	**Ussuriysk Arra**	**66.06 333**	P	**P**		**07 05 27.1**	**+1.2**
	comp=Z,15nm,0.9s,baz=142,slow=6.9,SNR=18						
USRK			LR	LR		07 29 15.2	
	comp=Z,175nm,20.9s,baz=261,slow=31						
PET	**Petropavlovsk**	**67.21 355**	*e*P	P		07 05 40.5	+7.5
PET			pmax	pmax			
	comp=Z,100nm,15.6s						
PET			MLR	MLR			
	comp=Z,200nm,18.0s						
PETK	**Petropavlovsk-**	**67.38 354**	P	**P**		**07 05 33.2**	**-1.0**
PETK	**Petropavlovsk-**	**67.38 354**	P	**P**		**07 05 33.1**	**-1.0**
PETK	**Petropavlovsk-**	**67.38 354**	P	**P**		**07 05 33.1**	**-1.0**
	comp=Z,7.6nm,0.8s,baz=161,slow=9.4,SNR=7.5						
PETK			LR	LR		07 29 41.7	
	comp=Z,274nm,22.0s,baz=160,slow=31						
MDJ	**Mudanjiang**	**67.45 332**	P	**P**		**07 05 37.1**	**+2.3**
MDJ			pP	**PcP**		**07 05 57.9**	**-4.0**
MDJ			PcP	pP		07 06 03.8	+15
MDJ			sP	sP		07 06 06.8	+13
MDJ			PP	**PP**		**07 08 04.9**	**+0.7**
MDJ			S	**S**		**07 14 28.8**	**+1.5**
MDJ			AMB	AMB			
	comp=Z,18nm,1.1s						
MDJ			AMB	AMB			
	comp=Z,150nm,5.8s						
MDJ			LR	LR			
	comp=Z,120nm,27.4s						
MDJ			LR	LR			
	comp=Z,76nm,25.3s						
MDJ			LR	LR			
	comp=Z,150nm,28.1s						
CN2	**Changchun**	**68.81 329**	⇑P	**P**		**07 05 44.3**	**+1.0**
CN2			*e*pP	**PcP**		**07 06 05.8**	**-1.8**
CN2			*e*S	**S**		**07 14 40.0**	**-3.4**
CN2			AMB	AMB			
	comp=Z,20nm,0.8s						
CN2			LR	LR			
	comp=Z,500nm,20.0s						
CN2			LR	LR			
	comp=Z,200nm,20.0s						
CN2			LR	LR			
	comp=Z,200nm,22.0s						
PSI	**Prapat**	**69.17 279**	P	**P**		**07 05 47.5**	**+1.1**
	baz=69,SNR=4.0						
KLR	**Kul'dur**	**70.20 337**	*e*P	P		07 05 48.2	-3.6
KLR			*e*			07 06 00.0	
KLR			pmax	pmax			
	comp=Z,90nm,2.0s						
GYA	**Guiyang**	**70.87 305**	*e*P	**P**		**07 05 58.9**	**+2.4**
GYA			pP	PcP		07 06 22.6	+5.7
GYA			sP	sP		07 06 32.8	+17
GYA			PP	**PP**		**07 08 38.6**	**+4.4**
GYA			S	**S**		**07 15 06.3**	**-2.3**
GYA			SKS	**SKSac**		**07 15 49.0**	**-6.3**
GYA			AMB	AMB			
	comp=Z,20nm,1.0s						
GYA			AMB	AMB			
	comp=Z,120nm,5.7s						
GYA			LR	LR			
	comp=Z,590nm,20.6s						
GYA			LR	LR			
	comp=Z,480nm,21.2s						
GYA			LR	LR			
	comp=Z,560nm,20.6s						
BJT	**Baijiatuan**	**71.40 321**	*e*P	**P**		**07 05 59.4**	**+0.2**
BJI	**Beijing**	**71.41 321**	P	**P**		**07 06 00.3**	**+1.0**
BJI			sP	sP		07 06 32.3	+14
BJI			PP	**PP**		**07 08 39.3**	**+0.9**
BJI			S	**S**		**07 15 17.3**	**+3.3**
BJI			sS	**SKSac**		**07 15 52.4**	**-6.1**
BJI			AMB	AMB			
	comp=Z,20nm,0.9s						
BJI			LR	LR			
	comp=Z,240nm,21.1s						
BJI			LR	LR			
	comp=Z,210nm,21.1s						
BJI			LR	LR			
	comp=Z,160nm,20.1s						
XAN	**Xi'an**	**72.83 313**	P	**P**		**07 06 09.0**	**+1.0**
XAN			AMB	AMB			
	comp=Z,3.0nm,0.7s						
KMI	**Kunming**	**73.47 302**	P	**P**		**07 06 14.1**	**+1.9**
KMI			pP	PcP		07 06 38.5	+10
KMI			sP	sP		07 06 48.0	+16
KMI			S	**S**		**07 15 36.0**	**-2.7**
KMI			sS	**ScS**		**07 16 18.8**	**+1.0**
KMI			AMB	AMB			
	comp=Z,15nm,0.9s						
KMI			AMB	AMB			
	comp=Z,210nm,4.0s						
KMI			LR	LR			
	comp=Z,220nm,18.2s						
KMI			LR	LR			
	comp=Z,150nm,22.9s						
KMI			LR	LR			
	comp=Z,210nm,20.5s						
CMAR	**Chiang Mai Arr**	**74.15 294**	P	**P**		**07 06 17.4**	**+1.4**
CMAR	**Chiang Mai Arr**	**74.15 294**	P	**P**		**07 06 17.4**	**+1.4**
	comp=Z,14nm,1.0s,baz=107,slow=6.0,SNR=15						
CHTO	**Chiang Mai**	**74.28 294**	*e*P	**P**		**07 06 17.8**	**+1.0**
CHTO			pmax	pmax			
	comp=Z,27nm,0.9s						
CHTO	**Chiang Mai**	**74.28 294**	P	**P**		**07 06 18.8**	**+2.0**
CHTO	**Chiang Mai**	**74.28 294**	*e*P	**P**		**07 06 17.8**	**+1.0**
	comp=Z,27nm,0.9s						
CHTO	**Chiang Mai**	**74.28 294**	P	P		07 06 20.1	+3.3
	comp=Z,64nm,1.1s						
CD2	**Chengdu**	**75.16 308**	P	**P**		**07 06 23.3**	**+1.6**
CD2			pP	pP		07 06 46.8	+11
CD2			sP	sP		07 06 56.6	+15
CD2			PP	**PP**		**07 09 15.3**	**+4.6**
CD2			S	**S**		**07 15 53.8**	**-3.2**
CD2			sS	**ScS**		**07 16 34.3**	**+3.6**
CD2			SS	**SS**		**07 20 47.4**	**-0.1**
CD2			AMB	AMB			
	comp=Z,20nm,1.1s						
CD2			AMB	AMB			
	comp=Z,230nm,5.9s						
CD2			LR	LR			
	comp=Z,340nm,9.5s						
CD2			LR	LR			
	comp=Z,290nm,9.5s						
HIA	**Hailar**	**75.45 330**	*e*P	**P**		**07 06 23.5**	**+0.6**
QSPA	**South Pole Qui**	**75.92 180**	*e*P	**P**		**07 06 24.5**	**-1.1**
	comp=Z,19nm,0.9s						
LZH	**Lanzhou**	**77.46 312**	⇑P	**P**		**07 06 37.0**	**+2.2**
LZH			pP	pP		07 07 00.3	+11
LZH			sP	sP		07 07 10.8	+16
LZH			PP	**PP**		**07 09 35.0**	**+4.9**
LZH			S	**S**		**07 16 20.0**	**-2.3**
LZH			sS	ScS		07 17 00.0	+11
LZH			AMB	AMB			
	comp=Z,26nm,1.0s						
LZH			AMB	AMB			
	comp=Z,180nm,4.1s						
SEY	**Seymchan**	**77.60 353**	*d*P	**P**		**07 06 34.4**	**-0.3**
YAK	**Yakutsk**	**81.27 343**	*e*P	**P**		**07 06 51.9**	**-2.8**
YAK			*e*			07 06 57.0	
YAK			*e*S	S		07 16 52.6	-8.6
YAK			*e*			07 17 05.3	
YAK			pmax	pmax			
	comp=Z,30nm,0.9s						
YAK			pmax	pmax			
	comp=E,6.0nm,1.4s						
YAK			pmax	pmax			
	comp=N,6.0nm,1.3s						
YAK			pmax	pmax			
	comp=Z,12nm,0.6s						
YAK			pmax	pmax			
	comp=N,5.0nm,0.6s						
YAK			pmax	pmax			
	comp=E,4.0nm,0.7s						
YAK			smax	smax			
	comp=N,85nm,3.5s						
YAK			smax	smax			
	comp=E,123nm,3.7s						
YAK			pmax	pmax			
	comp=Z,416nm,19.0s						
YAK			pmax	pmax			
	comp=N,287nm,20.0s						
YAK			pmax	pmax			
	comp=E,255nm,21.0s						
SONM	**Songino Array**	**81.64 324**	P	**P**		**07 06 57.9**	**+0.7**
SONM	**Songino Array**	**81.64 324**	P	**P**		**07 06 57.9**	**+0.7**
	comp=E,5.7nm,0.9s,baz=144,slow=5.5,SNR=25						
GTA	**Gaotai**	**81.81 314**	*e*P	**P**		**07 06 59.8**	**+1.5**
GTA			pP	pP		07 07 24.3	+12
GTA			sP	sP		07 07 36.0	+18
GTA			S	**S**		**07 17 04.0**	**-4.1**
GTA			sS	sS		07 17 47.3	+15
GTA			SS	**SS**		**07 22 26.3**	**-1.1**
GTA			AMB	AMB			
	comp=E,14nm,1.0s						
GTA			AMB	AMB			
	comp=E,220nm,5.0s						
GTA			LR	LR			
	comp=E,150nm,16.4s						
GTA			LR	LR			
	comp=E,220nm,21.8s						
GTA			LR	LR			
	comp=E,130nm,17.3s						
MAW	**Mawson**	**82.23 202**	P	**P**		**07 06 59.4**	**-0.4**
MAW	**Mawson**	**82.23 202**	P	**P**		**07 06 59.4**	**-0.4**
	comp=E,6.2nm,0.9s,baz=106,slow=5.9,SNR=12						
SHL	**Shillong**	**82.74 299**	⇑*i*P	**P**		**07 07 05.0**	**+1.4**
PMR	**Palmer**	**83.12 20**	*e*P	**P**		**07 07 04.3**	**-0.1**
PMR			pmax	pmax			
	comp=Z,21nm,1.3s						
PMR	**Palmer**	**83.12 20**	*e*P	**P**		**07 07 04.3**	**-0.1**
	comp=Z,21nm,1.3s						
TRF	**Thorofare Moun**	**84.14 18**	*e*P	**P**		**07 07 08.6**	**-1.3**
	comp=Z,12nm,1.0s						
ZAK	**Zakamensk**	**84.70 325**	⇑*i*P	**P**		**07 07 13.1**	**+0.2**
ZAK			pmax	pmax			
	comp=Z,12nm,1.1s						
MCK	**McKinley**	**84.75 18**	*e*P	**P**		**07 07 11.3**	**-1.5**
MCK			pmax	pmax			
	comp=Z,27nm,1.2s						
MCK	**McKinley**	**84.75 18**	*e*P	**P**		**07 07 11.3**	**-1.5**
	comp=Z,27nm,1.2s						
IM04	**Indian Mountai**	**85.11 15**	*e*P	**P**		**07 07 13.7**	**-0.8**
TLY	**Talaya**	**85.14 326**	*e*P	**P**		**07 07 15.0**	**0.0**
TLY			*e*S	S		07 17 27.0	-14
TLY			pmax	pmax			
	comp=Z,17nm,0.9s						
IMA2	**Indian Mountai**	**85.21 15**	*e*P	**P**		**07 07 14.6**	**-0.5**
COLA	**College**	**85.91 18**	*e*P	**P**		**07 07 17.4**	**-1.0**
COLA			pmax	pmax			
	comp=Z,41nm,1.0s						
COLA	**College**	**85.91 18**	*e*P	**P**		**07 07 17.4**	**-1.0**
	comp=Z,41nm,1.0s						
ILAR	**Eielson Array**	**86.12 18**	P	**P**		**07 07 18.6**	**-1.0**
ILAR	**Eielson Array**	**86.12 18**	P	**P**		**07 07 18.6**	**-1.0**
	comp=Z,3.2nm,0.7s,baz=238,slow=5.1,SNR=58						
ILAR			LR	LR		07 41 06.6	
	comp=Z,524nm,19.5s,baz=55,slow=32						
TAPN	**Taplejung**	**86.86 299**	*e*P	**P**		**07 07 24.9**	**+0.5**
	comp=Z,26nm,1.0s						
ODAN	**Odare**	**86.98 298**	*e*P	**P**		**07 07 25.6**	**+0.7**
	comp=Z,41nm,1.0s						
COLD	**Coldfoot**	**86.99 15**	*e*P	**P**		**07 07 24.1**	**+0.4**
	comp=Z,5.2nm,0.9s						
NVAR	**Mina Array Bea**	**87.32 49**	P	**P**		**07 07 27.3**	**+1.0**
NVAR	**Mina Array Bea**	**87.32 49**	P	**P**		**07 07 27.3**	**+1.0**
	comp=Z,1.2nm,0.9s,baz=216,slow=8.7,SNR=4.2						
RAMN	**Ramite**	**87.68 298**	*e*P	**P**		**07 07 28.7**	**+0.4**
	comp=Z,22nm,0.9s						
JIRN	**Jiri**	**88.24 299**	*e*P	**P**		**07 07 31.6**	**+0.5**
	comp=Z,28nm,0.9s						
GUN	**Gumba**	**88.57 299**	*e*P	**P**		**07 07 33.0**	**+0.4**
	comp=Z,40nm,0.9s						
PKI	**Pulchoki**	**88.88 299**	*e*P	**P**		**07 07 34.2**	**+0.2**
	comp=Z,30nm,0.7s						
KKN	**Kakani**	**89.05 299**	*e*P	**P**		**07 07 35.0**	**+0.3**
	comp=Z,29nm,0.7s						
SYO	**Syowa Base**	**89.13 197**	⇑*e*P	**P**		**07 07 34.6**	**+0.6**
SYO	**Syowa Base**	**89.13 197**	⇑*e*PcP	**PcP**		**07 07 36.0**	**+0.6**
DMN	**Daman**	**89.14 299**	*e*P	**P**		**07 07 35.8**	**+0.6**
	comp=Z,47nm,0.7s						
TIXI	**Tiksi**	**89.25 349**	*e*P	**P**		**07 07 33.5**	**-0.8**
TIXI			pmax	pmax			
	comp=Z,6.0nm,0.8s						
GKN	**Gorkha**	**89.65 299**	*e*P	**P**		**07 07 37.3**	**-0.2**
	comp=Z,30nm,0.8s						
KOLN	**Koldanda**	**90.47 298**	*e*P	**P**		**07 07 41.0**	**-0.4**
DANN	**Dangsing**	**90.49 299**	*e*P	**P**		**07 07 41.1**	**-0.4**
	comp=Z,21nm,0.7s						
HVS	**Khovu-Aksy**	**90.51 323**	*e*P	**P**		**07 07 41.2**	**+0.4**
HVS			pmax	pmax			
	comp=Z,45nm,1.2s						
WMQ	**Urumqi**	**91.87 315**	*e*P	**P**		**07 07 48.5**	**+1.2**
WMQ			pP	pP		07 08 14.4	+13
WMQ			sP	sP		07 08 24.9	+18
WMQ			SKS	**SKSac**		**07 18 10.8**	**-5.5**
WMQ			S	**SKKSac**		**07 18 38.9**	**+6.0**
WMQ			sS	sS		07 19 23.9	+15
WMQ			SS	**SS**		**07 24 52.5**	**-1.8**
WMQ			AMB	AMB			
	comp=Z,11nm,1.0s						
WMQ			AMB	AMB			
	comp=Z,120nm,5.0s						
WMQ			LR	LR			
	comp=Z,230nm,13.6s						
WMQ			LR	LR			
	comp=Z,270nm,16.2s						
WMQ			LR	LR			
	comp=Z,170nm,21.4s						
MAIT	**Maitri**	**93.58 188**	*e*P	**P**		**07 07 52.1**	**-2.6**
SNAA	**Sanae**	**94.13 183**	*e*P	**P**		**07 07 56.3**	**-1.0**
SNAA	**Sanae**	**94.13 183**	*e*P	**P**		**07 07 55.9**	**-1.4**
	comp=Z,31nm,1.5s						
PDAR	**Pinedale Array**	**94.97 47**	LR	LR		07 45 20.9	
	comp=Z,298nm,18.8s,baz=260,slow=32						
VNA2	**Neumayer--Watz**	**95.08 182**	*e*P	**P**		**07 08 00.6**	**-0.9**
MK31	**Makanchi Array**	**96.34 317**	*e*P	**P**		**07 08 07.4**	**-0.3**
MK31	**Makanchi Array**	**96.34 317**	*e*P	**P**		**07 08 07.4**	**-0.3**
MKAR	**Makanchi Array**	**96.34 317**	P	**P**		**07 08 08.2**	**+0.5**
MKAR						07 12 03.3	
MKAR	**Makanchi Array**	**96.34 317**	P	**P**		**07 08 08.2**	**+0.5**
MKAR			PP	**PP**		**07 12 03.3**	**+1.3**
MKAR	**Makanchi Array**	**96.34 317**	P	**P**		**07 08 08.2**	**+0.5**
	comp=Z,5.1nm,0.8s,baz=102,slow=5.9,SNR=28						
MKAR			PP	**PP**		**07 12 03.3**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=107,slow=9.2,SNR=3.2						
MKAR			LR	LR		07 53 09.1	
	comp=Z,115nm,19.2s,baz=273,slow=36						
TXAR	**Lajitas Array**	**96.51 62**	PP	PP		07 12 04.4	+0.6
TXAR	**Lajitas Array**	**96.51 62**	PP	PP		07 12 04.4	+0.6
	comp=Z,1.2nm,1.1s,baz=261,slow=6.0,SNR=7.2						
TXAR			LR	LR		07 43 24.3	
	comp=Z,288nm,19.3s,baz=40,slow=30						
ZAA0	**Zalesovo Array**	**96.54 324**	*e*P	**P**		**07 08 07.4**	**-1.0**
ZALV	**Zalesovo Beam**	**96.54 324**	P	**P**		**07 08 07.8**	**-0.5**
ZALV	**Zalesovo Beam**	**96.54 324**	P	**P**		**07 08 07.8**	**-0.5**
ZALV	**Zalesovo Beam**	**96.54 324**	P	**P**		**07 08 07.8**	**-0.5**
	comp=Z,5.5nm,0.7s,baz=118,slow=4.7,SNR=22						
ZALV			LR	LR		07 52 49.6	
	comp=Z,129nm,18.4s,baz=250,slow=36						
LPAZ	**La Paz**	**118.03 117**	PKP	**PKPdf**		**07 13 26.2**	**-1.1**
LPAZ	**La Paz**	**118.03 117**	PKP	**PKPdf**		**07 13 26.2**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=311,slow=5.7,SNR=4.0						
KEV	**Kevo**	**118.97 345**	*e*pkp	**PKPdf**		**07 13 23.5**	**-3.3**
ARCES	**ARCESS Array B**	**119.50 345**	PKP	**PKPdf**		**07 13 26.6**	**-1.2**
ARCES			PKKPab	**PKKPab**		**07 23 39.4**	**-1.3**
ARCES	**ARCESS Array B**	**119.50 345**	PKP	**PKPdf**		**07 13 26.6**	**-1.2**
	comp=Z,11nm,0.7s,baz=81,slow=2.1,SNR=67						
ARCES			PKKPab	**PKKPab**		**07 23 39.4**	**-1.3**
	comp=Z,1.5nm,0.8s,baz=232,slow=4.0,SNR=4.8						
KLMR	**Klimovskoe**	**119.86 333**	*e*PKIKP	**PKPdf**		**07 13 28.5**	**-0.2**
KLMR			pmax	pmax			
	comp=Z,21nm,1.4s						
JOF	**Joensuu**	**122.09 338**	*e*pkp	**PKPdf**		**07 13 31.6**	**-1.3**
BOSA	**Boshof**	**123.45 221**	PKP	**PKPdf**		**07 13 37.3**	**+0.4**
BOSA	**Boshof**	**123.45 221**	PKP	**PKPdf**		**07 13 37.3**	**+0.4**
	comp=Z,3.5nm,1.0s,baz=117,slow=2.3,SNR=3.0						
OBN	**Obninsk**	**123.86 328**	*i* PKIKP	**PKPdf**		**07 13 36.8**	**+0.3**
OBN			pmax	pmax			
	comp=Z,13nm,1.2s						
KIV	**Kislovodsk**	**123.99 314**	*i* PKIKP	**PKPdf**		**07 13 37.7**	**+0.4**
KIV			pmax	pmax			
	comp=Z,8.0nm,0.8s						
KAF	**Kangasniemi**	**124.40 339**	*e*pkp	**PKPdf**		**07 13 35.6**	**-1.8**
FINES	**FINESS Array B**	**124.93 338**	PKP	**PKPdf**		**07 13 38.3**	**-0.1**
FINES	**FINESS Array B**	**124.93 338**	PKP	**PKPdf**		**07 13 38.3**	**-0.1**
	comp=Z,8.3nm,0.8s,baz=43,slow=1.5,SNR=14						
NB2	**NORSAR Subarra**	**129.87 345**	PKPdf	**PKPdf**		**07 13 48.1**	**+0.1**
	comp=Z,3.0nm,0.9s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**129.87 345**	PKP	**PKPdf**		**07 13 47.9**	**-0.1**
NOA			SKP			07 17 18.8	
NOA	**NORSAR Array B**	**129.87 345**	PKP	**PKPdf**		**07 13 47.9**	**-0.1**
	comp=Z,3.1nm,0.7s,baz=33,slow=2.0,SNR=9.7						
NOA			SKP			07 17 18.8	
	comp=Z,5.3nm,0.9s,baz=32,slow=3.1,SNR=5.7						
AKASG	**Malin Array Be**	**129.89 326**	PKIKP	**PKPdf**		**07 13 48.7**	**+0.5**
AKASG	**Malin Array Be**	**129.89 326**	PKP	**PKPdf**		**07 13 48.6**	**+0.5**
AKASG			SKP			07 17 19.8	
AKASG	**Malin Array Be**	**129.89 326**	PKP	**PKPdf**		**07 13 48.6**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=62,slow=2.2,SNR=7.3						
AKASG			SKP			07 17 19.8	
	comp=Z,0.9nm,0.5s,baz=46,slow=4.3,SNR=7.4						
BRTR	**Keskin Array B**	**131.65 311**	PKPpre	PKPpre		07 13 46.4	
BRTR			PKP	**PKPdf**		**07 13 52.5**	**+0.3**
BRTR			SKP			07 17 26.0	
BRTR	**Keskin Array B**	**131.65 311**	PKhKP	PKPpre		07 13 46.4	
	comp=Z,0.4nm,0.4s,baz=339,slow=12,SNR=2.8						
BRTR			PKP	**PKPdf**		**07 13 52.5**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=152,slow=3.9,SNR=5.2						
BRTR			SKP			07 17 26.0	
	comp=Z,3.1nm,0.7s,baz=100,slow=2.5,SNR=9.3						
KOLS	**Kolonicke sedl**	**134.60 327**	*e*PKIKP	**PKPdf**		**07 13 58.3**	**+1.1**
KOLS	**Kolonicke sedl**	**134.60 327**	*e*PKP	**PKPdf**		**07 13 58.3**	**+1.1**
BDFB	**Brasilia**	**134.74 130**	PKP	**PKPdf**		**07 13 58.2**	**-0.4**
BDFB	**Brasilia**	**134.74 130**	PKP	**PKPdf**		**07 13 58.2**	**-0.4**
	comp=Z,3.3nm,0.8s,baz=263,slow=0.6,SNR=6.1						
STHS	**Stebnicka Huta**	**134.83 328**	*e*PKIKP	**PKPdf**		**07 13 57.4**	**-0.2**
STHS	**Stebnicka Huta**	**134.83 328**	*e*PKP	**PKPdf**		**07 13 57.4**	**-0.2**
KECS	**Kecovo**	**135.81 328**	*e*PKIKP	**PKPdf**		**07 14 00.4**	**+0.9**
KECS	**Kecovo**	**135.81 328**	*e*PKP	**PKPdf**		**07 14 00.4**	**+0.9**
DPC	**Dobruska-Polom**	**136.56 333**	*e*PKIKP	**PKPdf**		**07 14 03.0**	**+2.1**
DPC	**Dobruska-Polom**	**136.56 333**	*e*PKPdf	**PKPdf**		**07 14 03.0**	**+2.1**
DPC			*e*PKS	**PKSdf**		**07 17 40.7**	**+3.7**
UPC	**Upice**	**136.58 333**	*e*PKS			07 17 42.8	
BRG	**Berggiesshubel**	**137.19 335**	*e*P	PKPdf		07 14 07.6	+5.6
	comp=Z,12nm,1.2s						
BRG			*e*SKP			07 17 44.1	
	comp=Z,6.0nm,0.9s						
BRG	**Berggiesshubel**	**137.19 335**	*e*PKIKP	PKPdf		07 14 07.6	+5.6
BRG			pmax	pmax			
	comp=Z,12nm,1.2s						
BRG			pmax	pmax			
	comp=N,6.0nm,0.9s						
CLL	**Collm**	**137.25 336**	*e*PKIKP	**PKPdf**		**07 14 03.0**	**+1.0**
CLL			pmax	pmax			
	comp=Z,9.0nm,0.8s						
CLL			MLR	MLR			
	comp=Z,200nm,22.2s						
CLL	**Collm**	**137.25 336**	*e*PKPdf	**PKPdf**		**07 14 03.0**	**+1.0**
	comp=Z,5.0nm,0.8s						
CLL			*e*PKSab	**PKSab**		**07 17 43.0**	**-0.4**
PRU	**Pruhonice**	**137.60 333**	*e*PKS			07 17 44.8	
KHC	**Kasperske Hory**	**138.66 333**	*e*PKIKP	**PKPdf**		**07 14 04.8**	**0.0**
KHC			*e*			07 14 09.1	
KHC	**Kasperske Hory**	**138.66 333**	*e*PKPdf	**PKPdf**		**07 14 04.8**	**0.0**
KHC			*ex*	x		07 14 09.1	
KHC			*e*PKS	PKSdf		07 17 47.1	+6.3
KHC	**Kasperske Hory**	**138.66 333**	*e*PKPdf	**PKPdf**		**07 14 04.4**	**-0.4**
GERES	**GERESS Array B**	**138.82 333**	PKPpre	PKPpre		07 13 55.1	
GERES			PKP	**PKPdf**		**07 14 05.0**	**-0.2**
GERES			SKPab	**SKPab**		**07 17 46.2**	**+0.8**
GERES	**GERESS Array B**	**138.82 333**	PKhKP	PKPpre		07 13 55.1	
	comp=Z,0.3nm,0.2s,baz=31,slow=2.3,SNR=2.9						
GERES			PKP	**PKPdf**		**07 14 05.0**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=325,slow=3.7,SNR=4.0						
GERES			SKPab	**SKPab**		**07 17 46.2**	**+0.8**
	comp=Z,3.4nm,0.8s,baz=64,slow=3.1,SNR=12						
PERS	**Pernice**	**139.75 329**	*i* PKPdf	**PKPdf**		**07 14 09.6**	**+2.7**
MEM	**Membach**	**140.35 341**	PKP	**PKPdf**		**07 14 09.0**	**+1.3**
BOJS	**Bojanci**	**140.47 328**	*i* PKPdf	**PKPdf**		**07 14 08.3**	**+0.2**
VISS	**Visnje**	**140.47 329**	*i* PKPdf	**PKPdf**		**07 14 12.0**	**+3.9**
JAVS	**Javornik**	**140.79 329**	*i* PKPdf	**PKPdf**		**07 14 06.5**	**-2.3**
WTTA	**Wattenberg**	**140.92 333**	⇑*i*PKPdf	**PKPdf**		**07 14 09.1**	**-0.1**
	comp=Z,8.3nm,1.0s						
FETA	**Feichten**	**141.51 333**	⇑*i*PKPdf	**PKPdf**		**07 14 05.2**	**-5.0**
	comp=Z,6.5nm,0.9s						
DAVA	**Damuels**	**141.66 334**	⇑*i*PKPdf	**PKPdf**		**07 14 08.1**	**-2.3**
	comp=Z,9.8nm,1.1s						
FELD	**

ARIG				*e*S	Sn	07 05 40.4	-1.8
MEIG	**Mezcala**	**0.96**	**114**	*e*P	Pn	07 05 44.5	-1.4
MEIG				*e*S	Sn	07 05 56.4	-2.1
PLIG	**Platanillo**	**0.99**	**85**	*e*P	Pn	07 05 44.7	-1.6
PLIG				*i* S	Sn	07 05 57.0	-2.3
ZIIG	**Zihuatanejo**	**1.12**	**231**	*e*P	Pn	07 05 46.7	-1.2
ZIIG				*e*S	Sn	07 05 59.7	-2.5
CAIG	**El Cayaco**	**1.29**	**168**	*e*P	Pn	07 05 48.6	-1.6
CAIG				*e*S	Sn	07 06 03.5	-2.8
MOIG	**Morelia**	**1.49**	**336**	*e*P	Pn	07 05 51.7	-1.5
YAIG	**Yautepec**	**1.50**	**69**	*e*P	Pn	07 05 51.7	-1.6
YAIG				*i* S	Sn	07 06 09.7	-2.2
ACX	**Acapulco**	**1.58**	**155**	*i* P	Pn	07 05 54.4	+0.2

IDC 14 07:27:39.9±4.3, 11°.15S×166°.87E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/19, mbtmp3.7/4, MS3.6/3, Ms1 3.6/3, ms1mx3.2/36, Error ellipse: s-maj=185.5km s-min=32.9km az=137.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.03**	**283**	LR	LR	07 31 56.4	
	comp=Z,214nm,18.0s,baz=298,slow=36						
WRA	**Warramunga Arr**	**32.49**	**250**	P	P	07 34 12.6	+0.1
	0.8nm,0.8s,baz=81,slow=9.4,SNR=5.1						
ASAR	**Alice Springs**	**33.74**	**244**	P	P	07 34 23.3	-0.1
	0.8nm,0.8s,baz=76,slow=9.2,SNR=9.0						
FITZ	**Fitzroy Crossi**	**40.42**	**255**	LR	LR	07 52 08.3	
	comp=Z,115nm,18.3s,baz=66,slow=36						
BATI	**Baumata**	**42.45**	**267**	LR	LR	07 51 06.7	
	comp=Z,141nm,21.3s,baz=348,slow=33						
ILAR	**Eielson Array**	**83.27**	**18**	P	P	07 40 08.2	+0.1
	0.8nm,0.9s,baz=224,slow=7.6,SNR=4.8						
MKAR	**Makanchi Array**	**94.36**	**317**	P	P	07 41 01.3	-0.3
	0.3nm,0.6s,baz=111,slow=6.3,SNR=3.2						

IDC 14 07:40:30.6±2.9, 19°.62S×175°.92W, h168km±31km, mb3.3/5, mb1 3.7/8, mb1mx3.5/22, mbtmp3.5/8, Error ellipse: s-maj=33.1km s-min=18.2km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.92**	**36**	P	Pn	07 42 09.8	0.0
	3.8nm,0.3s,baz=236,slow=3.6,SNR=6.0						
AFI				S	Sn	07 43 22.6	-5.4
	2.8nm,0.3s,baz=30,slow=20,SNR=3.8						
RAR	**Rarotonga**	**15.22**	**99**	P	Pn	07 43 56.7	-0.3
	6.0nm,0.3s,baz=230,slow=0.0,SNR=3.8						
DZM	**Mont Dzumac**	**16.67**	**258**	P	Pn	07 44 18.8	+4.1
	1.6nm,0.3s,baz=83,slow=19,SNR=22						
URZ	**Urewera**	**19.54**	**197**	P	P	07 44 45.1	-0.1
	1.4nm,0.3s,baz=0.0,slow=8.1,SNR=9.5						
ASAR	**Alice Springs**	**46.63**	**256**	P	P	07 48 42.5	+0.1
	3.6nm,0.7s,baz=90,slow=8.4,SNR=61						
WRA	**Warramunga Arr**	**46.67**	**261**	P	P	07 48 41.8	-0.8
	0.7nm,0.4s,baz=99,slow=9.3,SNR=11						
FITZ	**Fitzroy Crossi**	**55.09**	**261**	P	P	07 49 46.1	+0.6
	0.7nm,0.5s,baz=112,slow=5.4,SNR=5.6						
TXAR	**Lajitas Array**	**84.94**	**57**	P	P	07 52 47.5	+0.4
	0.3nm,0.9s,baz=226,slow=8.7,SNR=3.6						
ILAR	**Eielson Array**	**87.03**	**12**	P	P	07 52 56.3	-0.1
	0.2nm,0.8s,baz=207,slow=5.7,SNR=2.3						
BRTR	**Keskin Array B**	**147.65**	**315**	PKPbc	PKPbc	07 59 54.2	-1.4
	0.6nm,0.7s,baz=65,slow=3.4,SNR=2.3						

*AUST **14** 07:48:48.8, 10°.00S×123°.51E, h35km*
*ISCJB **14** 07:48:49.1±0.4, 9°.63S±0°.05×123°.40E±0°.04, h96km±4km, mb4.0/7, Error ellipse: s-maj=9.4km s-min=5.4km az=34.8*
*DJA **14** 07:48:49.3±0.4, 10°S±5°×12°3E±°, h88km±6km, M4.5/5, MLv4.5/5*
*IDC **14** 07:48:49.5±1.0, 9°.61S×123°.82E, h89km±8km, mb3.8/7, mb1 3.9/11, mb1mx3.8/22, mbtmp3.9/11, Error ellipse: s-maj=38.3km s-min=15.1km az=74.0*

ISC 14 07:48:50.4±0.6, 9°.68S±0°.05×123°.37E±0°.05, h89km±6km, n30, σ1°66/38, mb4.2/7, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.60**	**151**	P	Pn	**07 49 05.7**	**-0.3**
BATI				S	Sn	**07 49 18.5**	**+0.9**
BATI	**Baumata**	**0.60**	**151**	P	Pn	**07 49 06.0**	**0.0**
	baz=6.4,slow=3.5						
BATI				S	Sn	**07 49 18.4**	**+0.9**
	2µm,0.3s,baz=260,slow=18,SNR=25						
SOEI	**Soe**	**0.89**	**95**	P	Pn	**07 49 09.1**	**+0.1**
SOEI				S	Sn	**07 49 22.6**	**-0.2**
MMRI	**Maumere**	**1.52**	**313**	P	Pn	**07 49 16.4**	**-0.1**
MMRI				S	Sn	**07 49 35.7**	**-0.5**
WSI	**Waingapu**	**3.03**	**270**	P	Pn	**07 49 38.6**	**+2.2**
WSI				S	Sn	**07 50 11.1**	**-0.7**
WBSI	**Waikabubak, Su**	**3.92**	**270**	P	Pn	**07 49 47.9**	**-0.6**
WBSI				S	Sn	**07 50 31.1**	**-2.4**
KAPI	**Kappang**	**5.86**	**322**	P	Pn	**07 50 16.2**	**+1.3**
	0.6nm,0.3s,baz=149,slow=9.9,SNR=6.5						
KAPI				S	Sn	**07 51 20.5**	**-0.2**
	1.2nm,0.3s,baz=162,slow=20,SNR=2.3						
KNRA	**Kununurra**	**7.95**	**139**	P	Pn	07 50 40.0	-3.3
	baz=7.6,SNR=67						
MTN	**Manton Dam**	**8.24**	**113**	P	Pn	**07 50 45.0**	**-2.3**
	baz=8.0,SNR=46						
FITZ	**Fitzroy Crossi**	**8.66**	**166**	P	Pn	**07 50 49.9**	**-3.0**
	baz=8.4,SNR=43						
FITZ	**Fitzroy Crossi**	**8.66**	**166**	P	Pn	**07 50 50.1**	**-2.8**
	4.7nm,0.3s,baz=5.2,slow=8.6,SNR=102						
FITZ				S	Sn	07 52 20.0	-8.9
	24nm,0.3s,baz=74,slow=23,SNR=30						
KDU	**Kakadu**	**9.42**	**109**	P	Pn	**07 51 00.7**	**-2.6**
	baz=9.2,SNR=41						
WRA	**Warramunga Arr**	**14.71**	**135**	P	Pn	07 52 08.4	-5.7
	0.9nm,0.3s,baz=300,slow=13,SNR=38						
WRA				S	Sn	07 54 41.5	-15
	5.3nm,0.3s,baz=301,slow=22,SNR=19						
ASAR	**Alice Springs**	**17.17**	**145**	P	Pn	**07 52 42.0**	**-2.9**
	0.8nm,0.3s,baz=316,slow=12,SNR=39						
ASAR				S	Sn	07 55 42.3	-13
	1.7nm,0.3s,baz=322,slow=25,SNR=15						
MEEK	**Meekatharra**	**17.46**	**194**	P	Pn	**07 52 49.8**	**+1.5**
	baz=17,SNR=7.3						
COEN	**Coen**	**19.84**	**104**	P	Pn	**07 53 15.9**	**-0.9**
	baz=20,SNR=9.5						
MORW	**Morawa**	**20.48**	**199**	P	P	**07 53 22.0**	**+0.9**
	baz=20,SNR=5.4						
BLDU	**Ballidu**	**21.74**	**196**	P	P	**07 53 35.2**	**+0.6**
	baz=22,SNR=9.4						
MTSU	**Mount Surprise**	**21.98**	**115**	P	P	**07 53 41.1**	**+3.7**
	baz=22,SNR=6.2						
KLBR	**Kellerberrin**	**22.42**	**193**	P	P	**07 53 42.0**	**+0.2**
	baz=22,SNR=5.3						
NWAO	**Narrogin (SRO)**	**23.82**	**193**	P	P	**07 53 55.0**	**-0.4**
	2.8nm,0.4s,baz=32,slow=13,SNR=8.1						
BBOO	**Buckleboo**	**25.83**	**155**	P	P	**07 54 14.7**	**+1.2**
	baz=26,SNR=7.1						
STKA	**Stephens Creek**	**27.81**	**145**	P	P	**07 54 33.0**	**+1.7**
	baz=28,SNR=4.6						
MJAR	**Matsushiro Arr**	**48.05**	**16**	P	P	**07 57 18.8**	**-2.1**
	1.7nm,0.6s,baz=192,slow=9.3,SNR=5.5						
SONM	**Songino Array**	**59.21**	**347**	P	P	**07 58 41.9**	**-0.4**
	1.2nm,0.6s,baz=166,slow=7.8,SNR=8.3						
MKAR	**Makanchi Array**	**67.09**	**331**	P	P	**07 59 34.0**	**-0.4**
	1.8nm,0.5s,baz=136,slow=7.1,SNR=23						
MKAR				pP	**pP**	**07 59 57.8**	**+0.6**
	1.1nm,0.5s,baz=147,slow=7.0,SNR=4.5						
MKAR				PP	**PP**	**08 02 05.9**	**+2.5**
	0.6nm,0.8s,baz=101,slow=6.3,SNR=3.9						
AAK	**Ala-Archa**	**68.54**	**323**	P	P	**07 59 45.5**	**+1.7**
	1.5nm,0.4s,baz=162,slow=7.1,SNR=4.3						
VNDA	**Vanda**	**70.67**	**172**	P	P	**07 59 55.9**	**-0.3**
	0.4nm,0.4s,baz=310,slow=7.0,SNR=5.6						
ZALV	**Zalesovo Beam**	**71.27**	**337**	P	P	**07 59 58.6**	**-1.5**
	1.2nm,0.3s,baz=129,slow=6.1,SNR=3.9						
ZALV				pP	**pP**	**08 00 22.5**	**-0.5**
	0.7nm,0.3s,baz=139,slow=3.7,SNR=2.3						
TORD	**Torodi Ar. Bea**	**122.83**	**279**	PKP	**PKPdf**	**08 07 38.4**	**+1.3**
	0.3nm,0.5s,baz=100,slow=1.9,SNR=4.6						

*IDC **14** 07:58:58.6±0.4, 15°.45S×173°.12W, h0km, mb4.6/27, mb1 4.8/27, mb1mx4.8/29, mbtmp4.6/27, MS4.5/20, Ms1 4.6/20, ms1mx4.5/26, Error ellipse: s-maj=17.3km s-min=12.0km az=134.0*

*ISCJB **14** 07:58:58.9±0.2, 15°.38S±0°.05×173°.22W±0°.03, h10km, mb4.9/96, MS4.6/26, Error ellipse: s-maj=7.7km s-min=3.8km az=154.8*
*BJI **14** 07:58:59.9, 15°.30S×173°.20W, h10km, mB5.4/22, mb5.1/24, Ms5.0/12, Ms7 4.5/14*
*NEIC **14** 07:59:00.5±0.2, 15°.36S×173°.19W, h10km, mb5.1/55, Error ellipse: s-maj=7.6km s-min=4.1km az=143.0*
*AUST **14** 07:59:00.2±1.8, 15°.30S×172°.64W, h28km, Error ellipse: s-maj=1.1km s-min=1.1km az=255.0*
*MOS **14** 07:59:02.9±1.0, 15°.34S×173°.17W, h33km, mb5.3/15, Error ellipse: s-maj=12.1km s-min=9.2km az=143.0*
*GCMT **14** 07:59:06.7±0.3, 15°.27S×172°.79W, h24km±2km, MW5.0, Moment Tensor Solution. s26,c31; s75,c101; Moment tensor: Scale 10^{16}Nm; M_{rr}=0.66±.17; $M_{\theta\theta}$=0.07±.16; $M_{\phi\phi}$=-0.73±.14; $M_{r\theta}$=-1.68±.23; $M_{\theta\phi}$=2.31±.12; $M_{\phi r}$=3.06±.39; Best double couple: M_0=4.00000×10^{16} NP1:ϕ_s342.00000°, δ81.00000°, λ112.00000°. NP2:ϕ_s93.00000°, δ24.00000°, λ23.00000°. Principal axes: T 3.1100, Plg49.0000°, Azm276.0000°; N 1.7200, Plg22.0000°, Azm158.0000°; P -4.8300, Plg32.0000°, Azm54.0000°; Data Used: IU II IC G CN.*

ISC 14 07:59:00.9±0.5, 15°.40S±0°.07×173°.12W±0°.06, h13km±2km, h14km: pP-P, n615, σ0°.81/611, mb5.0/95, MS4.6/26, 169C-162D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.97**	**41**	*e*Pn	Pn	07 59 27.6	-6.5
AFI				Sn	Sn	07 59 47.6	-11
AFI	**Afiamalu**	**1.97**	**41**	Pn	Pn	07 59 27.6	-6.5
	257nm,0.3s,baz=40,slow=3.7,SNR=195						
AFI				Sn	Sn	07 59 47.6	-11
	1µm,0.3s,baz=66,slow=20,SNR=16						
NIUE	**Niue**	**4.76**	**141**	P	Pn	08 00 07.6	-4.8
	baz=4.6,SNR=12						
MSVF	**Nonsavu**	**8.78**	**253**	*e*P	**Pn**	**08 01 10.6**	**+2.9**
MSVF	**Nonsavu**	**8.78**	**253**	*e*Pn	**Pn**	**08 01 10.6**	**+2.9**
RAR	**Rarotonga**	**13.92**	**116**	Pn	Pn	08 02 10.8	-7.2
RAR	**Rarotonga**	**13.92**	**116**	Pn	Pn	08 02 10.8	-7.2
	5.8nm,0.3s,baz=218,slow=0.0,SNR=2.9						
RAR				LR	LR	08 06 03.8	
	comp=Z,2µm,20.5s,baz=225,slow=31						
RAO	**Raoul Island**	**14.48**	**197**	LR	LR	08 07 12.1	
	comp=Z,2µm,20.6s,baz=350,slow=34						
DZM	**Mont Dzumac**	**20.45**	**248**	*e*P	Pn	08 03 42.3	+1.7
	106nm,1.2s						
DZM				*e*LR	LR	08 08 22.6	
	5µm,24.4s						
DZM	**Mont Dzumac**	**20.45**	**248**	*e*P	**P**	**08 03 38.9**	**+0.5**
DZM	**Mont Dzumac**	**20.45**	**248**	P	**P**	**08 03 38.1**	**-0.3**
	12nm,0.8s,baz=228,slow=13,SNR=4.4						
PAE	**Paea**	**22.67**	**99**	*e*P	**P**	**08 04 05.1**	**+2.9**
	12nm,0.9s						
PPT	**Papeete**	**22.67**	**99**	P	**P**	**08 04 01.6**	**-0.7**
PPT	**Papeete**	**22.67**	**99**	P	**P**	**08 04 01.6**	**-0.7**
	63nm,0.9s,baz=4.0,slow=6.9,SNR=5.0						
PPT				LR	LR	08 10 14.4	
	comp=Z,1µm,19.8s,baz=274,slow=30						
PPT2	**Papeete2**	**22.67**	**99**	*e*P	**P**	**08 04 04.9**	**+2.6**
	68nm,1.0s						
PPT2				*e*S	**S**	**08 08 08.9**	**-1.6**
	2µm,25.5s						
PPT2				*e*LR	LR	08 09 22.7	
	2µm,23.8s						
TIAR	**Tiarei**	**22.89**	**99**	*e*P	**P**	**08 04 07.8**	**+3.2**
	68nm,0.8s						
XMAS	**Kiritimati**	**23.26**	**43**	*e*P	**P**	**08 04 08.4**	**+0.1**
	71nm,0.8s						
TBI	**Tubuai**	**23.65**	**113**	*e*LQ	LQ	08 08 46.4	
	1µm,27.5s						
TBI				*e*LR	LR	08 09 43.6	
	2µm,25.8s,baz=289						
PMOR	**Pomariorio Ree**	**24.34**	**92**	*e*P	**P**	**08 04 18.6**	**-0.1**
	174nm,1.0s						
URZ	**Urewera**	**24.35**	**199**	*e*P	**P**	**08 04 19.2**	**+0.7**
URZ	**Urewera**	**24.35**	**199**	P	**P**	**08 04 16.9**	**-1.7**
	24nm,0.6s,baz=235,slow=2.8,SNR=14						
URZ				LR	LR	08 12 31.5	
	comp=Z,1µm,20.0s,baz=16,slow=33						
HNR	**Honiara**	**26.95**	**280**	*e*P	**P**	**08 04 42.2**	**-0.2**
	5.5nm,0.8s						
HNR	**Honiara**	**26.95**	**280**	LR	LR	08 14 02.6	
	comp=Z,2µm,18.3s,baz=119,slow=34						
RPZ	**Rata Peaks**	**31.28**	**202**	P	**P**	**08 05 20.8**	**+0.2**
RPZ	**Rata Peaks**	**31.28**	**202**	P	**P**	**08 05 20.8**	**+0.2**
	13nm,0.6s,baz=216,slow=3.5,SNR=5.0						
ARMA	**Armidale**	**35.57**	**239**	P	**P**	**08 06 00.0**	**+1.7**
	baz=36,SNR=5.3						
RKT	**Rikitea**	**36.73**	**108**	*e*LQ	LQ	08 14 26.2	
	337nm,27.5s						
RKT				*e*LR	LR	08 15 44.2	
	1µm,26.0s,baz=276						
RMQ	**Roma**	**37.14**	**246**	P	**P**	**08 06 11.8**	**+0.1**
	baz=38,SNR=9.2						
CTA	**Charters Tower**	**38.91**	**257**	P	**P**	**08 06 25.4**	**-1.3**
CTA	**Charters Tower**	**38.91**	**257**	P	**P**	**08 06 25.4**	**-1.3**
	2.7nm,0.5s,baz=88,slow=12,SNR=4.3						
H11S2	**WAKE ISLAND Hy**	**39.11**	**329**	T	T	08 48 26.5	
	baz=154,slow=0.7						
H11S3	**WAKE ISLAND Hy**	**39.12**	**329**	T	T	08 48 25.6	
	baz=154						
H11S1	**WAKE ISLAND Hy**	**39.12**	**329**	T	T	08 48 25.8	
	baz=154,slow=0.7						
PMG	**Port Moresby**	**39.21**	**274**	P	P	08 06 25.7	-3.5
PMG	**Port Moresby**	**39.21**	**274**	P	P	08 06 25.7	-3.5
	8.8nm,0.7s,baz=18,slow=3.2,SNR=2.4						
H11N3	**WAKE ISLAND Hy**	**40.05**	**330**	T	T	08 49 23.7	
	baz=152,slow=0.7,SNR=25						
H11N1	**WAKE ISLAND Hy**	**40.07**	**330**	T	T	08 49 14.3	
	baz=152,slow=0.7,SNR=32						
H11N2	**WAKE ISLAND Hy**	**40.07**	**330**	T	T	08 49 24.9	
	baz=152,slow=0.7,SNR=39						
MTSU	**Mount Surprise**	**40.78**	**260**	P	**P**	**08 06 41.3**	**-1.0**
	baz=41,SNR=28						
CMSA	**Cobar Meteorol**	**40.79**	**239**	P	**P**	**08 06 40.2**	**-2.0**
	baz=41,SNR=14						
MANU	**Manus Island**	**41.15**	**285**	P	P	08 06 41.2	-4.2
	baz=42,SNR=3.4						
QLP	**Quilpie**	**41.17**	**247**	P	**P**	**08 06 45.2**	**-0.1**
	baz=42,SNR=4.6						
COEN	**Coen**	**42.25**	**266**	*e*P	**P**	**08 06 53.6**	**-0.8**
	108nm,0.8s						
COEN	**Coen**	**42.25**	**266**	P	**P**	**08 06 54.6**	**+0.2**
	baz=43,SNR=15						
TOO	**Toolangi**	**42.67**	**231**	P	**P**	**08 06 57.1**	**-0.5**
	baz=43,SNR=6.1						
STKA	**Stephens Creek**	**44.27**	**240**	*e*P	**P**	**08 07 09.3**	**-1.3**
STKA	**Stephens Creek**	**44.27**	**240**	P	**P**	**08 07 09.2**	**-1.3**
	baz=45,SNR=18						
STKA	**Stephens Creek**	**44.27**	**240**	P	**P**	**08 07 08.5**	**-2.0**
	9.0nm,0.7s,baz=76,slow=9.5,SNR=23						
STKA				LR	LR	08 22 26.0	
	comp=Z,679nm,21.6s,baz=32,slow=32						
BBOO	**Buckleboo**	**49.05**	**240**	P	**P**	**08 07 46.5**	**-1.4**
	baz=50,SNR=11						
WRAB	**Tennant Creek**	**50.10**	**257**	*e*P	**P**	**08 07 53.5**	**-2.6**
WRAB				pmax	pmax		
	comp=Z,111nm,0.8s						
WRAB	**Tennant Creek**	**50.10**	**257**	P	**P**	**08 07 53.6**	**-2.6**
	comp=Z,84nm,1.0s,SNR=12						
WRAB	**Tennant Creek**	**50.10**	**257**	*e*P	**P**	**08 07 53.5**	**-2.6**
	comp=Z,11nm,0.8s						
WRA	**Warramunga Arr**	**50.11**	**257**	P	**P**	**08 07 54.2**	**-2.0**
WRA				PcP	**PcP**	**08 09 16.1**	**+0.3**
WRA	**Warramunga Arr**	**50.11**	**257**	P	**P**	**08 07 54.2**	**-2.0**
	comp=Z,7.1nm,0.7s,baz=93,slow=6.7,SNR=50						
WRA				PcP	**PcP**	**08 09 16.1**	**+0.3**
	comp=Z,3.6nm,0.7s,baz=90,slow=3.5,SNR=5.8						
WRA				LR	LR	08 27 42.1	
	comp=Z,1µm,20.5s,baz=90,slow=34						
AS31	**Alice Springs**	**50.37**	**252**	*e*P	**P**	**08 07 56.8**	**-1.4**
ASAR	**Alice Springs**	**50.37**	**252**	P	**P**	**08 07 56.8**	**-1.4**
ASAR	**Alice Springs**	**50.37**	**252**	P	**P**	**08 07 56.8**	**-1.4**
	comp=Z,27nm,0.7s,baz=85,slow=8.1,SNR=334						
ASAR				LR	LR	08 27 40.1	
	comp=Z,2µm,20.6s,baz=87,slow=34						
KDU	**Kakadu**	**52.74**	**266**	P	**P**	**08 08 14.8**	**-1.1**
	baz=53,SNR=11						
KNRA	**Kununurra**	**55.84**	**261**	P	**P**	**08 08 38.4**	**-0.1**
	baz=56,SNR=5.0						
FITZ	**Fitzroy Crossi**	**58.48**	**258**	P	**P**	**08 08 57.8**	**+0.6**
	baz=59,SNR=4.1						
SBA	**Scott Base**	**63.27**	**185**	*e*P	**P**	**08 09 31.3**	**+2.5**
SBA				pmax	pmax		
	comp=Z,131nm,2.5s						
SBA	**Scott Base**	**63.27**	**185**	*e*P	**P**	**08 09 31.3**	**+2.5**
	comp=Z,131nm,2.5s						
VNDA	**Vanda**	**63.40**	**186**	*e*P	**P**	**08 09 31.2**	**+1.5**
VNDA	**Vanda**	**63.40**	**186**	P	**P**	**08 09 30.8**	**+1.1**
	comp=Z,3.4nm,0.9s,baz=5.6,slow=6.3,SNR=20						
VNDA				LR	LR	08 33 56.4	
	comp=Z,171nm,19.1s,baz=21,slow=33						
MBWA	**Marble Bar**	**63.62**	**254**	*e*P	**P**	**08 09 31.4**	**-0.8**
MEEK	**Meekatharra**	**64.06**	**248**	P	**P**	**08 09 34.0**	**-1.0**
	baz=64,SNR=5.6						
KLBR	**Kellerberrin**	**64.48**	**242**	P	**P**	**08 09 36.8**	**-0.9**
	baz=65,SNR=7.1						
MJAR	**Matsushiro Arr**	**69.12**	**320**	P	**P**	**08 10 06.6**	**-0.4**
MJAR	**Matsushiro Arr**	**69.12**	**320**	P	**P**	**08 10 06.6**	**-0.4**
	comp=Z,2.1nm,0.8s,baz=161,slow=5.5,SNR=5.9						
MJAR				LR	LR	08 34 20.4	
	comp=Z,152nm,21.2s,baz=125,slow=31						
PTRM	**Twissleman Ran**	**71.30**	**43**	*e*P	P	08 10 24.2	+3.8
ASAJ	**Asahikawa**	**71.69**	**328**	P	**P**	**08 10 23.0**	**+0.5**
ASAJ	**Asahikawa**	**71.69**	**328**	P	**P**	**08 10 23.0**	**+0.5**
	comp=Z,15nm,0.9s,baz=143,slow=7.9,SNR=5.5						
VES	**Vestal, Richgr**	**72.16**	**44**	⇓P	**P**	**08 10 25.9**	**+0.4**
	baz=72						
MURC	**Murrieta**	**72.20**	**47**	⇑P	**P**	**08 10 25.7**	**-0.2**
	baz=72						
BFSC	**Mount Baldy Ra**	**72.23**	**46**	⇓P	**P**	**08 10 26.2**	**+0.1**
	baz=72						
EDW2	**Edwards Air Fo**	**72.35**	**45**	⇓P	**P**	**08 10 27.1**	**+0.3**
	baz=72						
MONP	**Monument Peak**	**72.37**	**48**	⇓P	**P**	**08 10 27.5**	**+0.4**
	baz=72						
ISA	**Isabella**	**72.47**	**44**	⇓P	**P**	**08 10 29.0**	**+1.5**
	baz=73						
CHGN	**Chignik**	**72.49**	**9**	*e*P	**P**	**08 10 25.6**	**-1.3**
PETK	**Petropavlovsk-**	**72.72**	**342**	P	**P**	**08 10 29.0**	**+0.5**
PETK	**Petropavlovsk-**	**72.72**	**342**	P	**P**	**08 10 29.0**	**+0.5**
PETK	**Petropavlovsk-**	**72.72**	**342**	P	**P**	**08 10 29.0**	**+0.5**
	comp=Z,11nm,0.8s,baz=132,slow=8.2,SNR=8.9						
BELC	**Belle Mtn. Jos**	**73.26**	**47**	⇑P	**P**	**08 10 33.3**	**+1.0**
	baz=73						
MPMC	**Manual Prospec**	**73.35**	**44**	⇑P	**P**	**08 10 33.4**	**+0.5**
	baz=74						
GSC	**Goldstone**	**73.40**	**45**	⇑P	**P**	**08 10 33.8**	**+0.7**
	baz=74						
YBH	**Yreka Blue Hor**	**73.44**	**37**	P	**P**	**08 10 34.4**	**+1.3**
YBH	**Yreka Blue Hor**	**73.44**	**37**	P	**P**	**08 10 34.4**	**+1.3**
	comp=Z,5.6nm,0.8s,baz=64,slow=0.9,SNR=4.9						
BC3	**Big Chuckawall**	**73.46**	**47**	⇑P	**P**	**08 10 33.5**	**0.0**
	baz=74						
HEC	**Hector,Ludlow**	**73.47**	**46**	⇑P	**P**	**08 10 33.7**	**+0.2**
	baz=74						
YSS	**Yuzh-Sakhalins**	**73.62**	**330**	*e*P	**P**	**08 10 35.0**	**+1.1**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
GMRC	**Granite Mounta**	**73.91**	**46**	⇑P	**P**	**08 10 36.0**	**-0.1**
	baz=74						
IRM	**Iron Mountain**	**73.94**	**47**	⇓P	**P**	**08 10 36.4**	**+0.3**
	baz=74						
SHOC	**Shoshone**	**74.08**	**45**	⇓P	**P**	**08 10 37.5**	**+0.6**
	baz=74						
NVAR	**Mina Array Bea**	**74.15**	**42**	P	**P**	**08 10 36.2**	**-1.3**
NVAR	**Mina Array Bea**	**74.15**	**42**	P	**P**	**08 10 36.2**	**-1.3**
	comp=Z,3.0nm,0.9s,baz=226,slow=9.1,SNR=11						
NVAR				LR	LR	08 36 39.2	
	comp=Z,793nm,18.9s,baz=310,slow=30						
Y12C	**Blythe**	**74.17**	**48**	⇑P	**P**	**08 10 37.9**	**+0.4**
	baz=74						
113A	**Mohawk Valley,**	**74.21**	**49**	⇓P	**P**	**08 10 37.6**	**-0.1**
	baz=74						
OHAK	**Old Harbor**	**74.21**	**11**	*e*P	**P**	**08 10 37.2**	**+0.1**
	comp=Z,12nm,0.8s						
LDFC	**Landfair**	**74.45**	**46**	*e*P	**P**	**08 10 41.8**	**+2.5**
	comp=Z,60nm,1.8s						
QSPA	**South Pole Qui**	**74.64**	**180**	*e*P	**P**	**08 10 40.8**	**+0.9**
	comp=Z,32nm,1.1s						
PDMCI	**Parker Dam,Lak**	**74.72**	**47**	⇓P	**P**	**08 10 40.9**	**+0.2**
	baz=75						
KDAK	**Kodiak Island**	**74.87**	**11**	P	**P**	**08 10 41.9**	**+1.0**
	comp=Z,136nm,0.7s,SNR=5.9						
KDAK	**Kodiak Island**	**74.87**	**11**	*e*P	**P**	**08 10 41.3**	**+0.3**
	comp=Z,17nm,0.7s						
Z14A	**Wintersburg**	**75.11**	**49**	⇓P	**P**	**08 10 43.2**	**+0.3**
	baz=75						
SHPR	**Sheep Range**	**75.17**	**45**	*e*P	**P**	**08 10 43.5**	**+0.1**
W13A	**Hualapai Mount**	**75.31**	**47**	⇑P	**P**	**08 10 44.8**	**+0.4**
	baz=76						
Y14A	**Wickenburg**	**75.35**	**48**	⇓P	**P**	**08 10 44.5**	**+0.1**
	baz=76						
TUC	**Tucson**	**76.18**	**51**	*e*P	**P**	**08 10 49.0**	**-0.2**
TUC				pmax	pmax		
	comp=Z,30

Q16A **Castle Valley** 79.12 45 *eP* P 08 11 05.7 0.0
Q16A **Castle Valley** 79.12 45 ⇓P P 08 11 06.1 +0.5
baz=79
F10A **Beach Ranch, E** 79.16 36 *eP* P 08 11 05.4 -0.2
comp=Z,14nm,0.8s
W20A **Ramah** 79.18 49 ⇓P P 08 11 06.6 +0.5
baz=79,SNR=9.0
MDJ **Mudanjiang** 79.19 322 P P 08 11 06.3 +0.7
MDJ pP **pP** 08 11 09.6 -0.4
MDJ PcP **PcP** 08 11 14.4 +0.5
MDJ PP **PP** 08 14 03.9 -1.6
MDJ S **S** 08 21 07.8 +2.6
MDJ ScS **ScS** 08 21 29.0 +1.0
MDJ SS **SS** 08 26 13.0 +0.8
MDJ AMB AMB
comp=Z,7.0nm,0.8s
MDJ AMB AMB
comp=Z,71nm,3.6s
MDJ LR LR
comp=Z,69nm,23.4s
MDJ LR LR
comp=Z,60nm,24.4s
MDJ LR LR
comp=Z,100nm,19.5s
Y21A **Point of Rocks** 79.28 50 ⇓P P 08 11 07.3 +0.6
baz=80
TMUT **Trail Mountain** 79.28 44 *eP* P 08 11 07.8 +1.1
comp=Z,21nm,0.9s
DIV **Divide** 79.34 13 *eP* P 08 11 06.1 0.0
comp=Z,25nm,0.8s
X21A **Alamocita Cree** 79.39 50 ⇑P P 08 11 07.7 +0.4
baz=80
B08A **Colville Reser** 79.43 33 *eP* P 08 11 06.5 -0.4
BMRM **Bremner River** 79.46 14 *eP* P 08 11 06.8 0.0
comp=Z,22nm,0.8s
HLID **Hailey** 79.46 39 ⇑P P 08 11 08.0 +0.6
baz=80,SNR=19
Z22A **Elephant Butte** 79.47 51 ⇓P P 08 11 07.7 +0.1
baz=80,SNR=7.3
V20A **Brimhall** 79.52 48 ⇓P P 08 11 08.3 +0.5
baz=80
SRU **San Rafael** 79.66 45 *eP* P 08 11 09.0 +0.5
SRU pmax pmax
comp=Z,13nm,1.1s
SRU **San Rafael** 79.66 45 *eP* P 08 11 09.0 +0.5
comp=Z,13nm,1.1s
C09A **Chrisman Ranch** 79.66 34 *eP* P 08 11 08.3 +0.1
comp=Z,8.4nm,0.8s
U20A **Newcomb** 79.74 48 ⇑P P 08 11 09.7 +0.6
baz=80
PPLA **Purkeypile** 79.75 10 *eP* P 08 11 09.1 +0.6
comp=Z,11nm,1.2s
Y22A **Socorro** 79.77 51 ⇓P P 08 11 10.0 +0.7
baz=80
JLU **Jordanelle** 79.78 43 *eP* P 08 11 09.2 0.0
comp=Z,17nm,1.3s
W21A **San Fidel** 79.80 49 ⇓P P 08 11 09.7 +0.3
baz=80
324A **Moseley Ranch,** 79.82 53 ⇓P P 08 11 09.3 -0.2
baz=80,SNR=9.1
LAZ **Ladron** 79.85 50 *eP* P 08 11 09.8 +0.1
comp=Z,12nm,1.6s
425A **Indio Mountain** 79.94 54 ⇓P P 08 11 10.0 -0.2
baz=80,SNR=9.4
X22A **Bernardo** 79.99 50 ⇓P P 08 11 10.4 0.0
baz=80
MNTX **Cornudas Mount** 80.01 53 *eP* P 08 11 10.1 -0.3
comp=Z,5.5nm,1.1s
Z23A **Rita Site, Whi** 80.03 51 ⇓P P 08 11 10.3 -0.3
baz=80
224A **Cornudas Mount** 80.06 53 ⇑P P 08 11 10.9 0.0
baz=80,SNR=6.7
626A **Big Bend Ranch** 80.10 56 ⇑P P 08 11 11.1 0.0
baz=80,SNR=9.0
V21A **Milan** 80.12 49 ⇓P P 08 11 11.3 +0.2
baz=80,SNR=9.9
BNM **Barren Site** 80.12 51 *eP* P 08 11 11.2 0.0
comp=Z,4.9nm,1.0s
MVCO **Mesa Verde** 80.15 47 *eP* P 08 11 11.7 +0.4
comp=Z,115nm,2.7s
MVCO **Mesa Verde** 80.15 47 ⇑P P 08 11 11.5 +0.2
baz=80
LPM **Los Pinos Moun** 80.19 50 *eP* P 08 11 12.0 +0.5
325A **Bean Ranch, Si** 80.19 54 ⇑P P 08 11 11.4 -0.1
baz=80,SNR=15
PV09 **Paradox Valley** 80.31 46 *eP* P 08 11 12.7 +0.4
526A **Mary Lane Ranc** 80.34 55 ⇑P P 08 11 12.3 -0.1
baz=80,SNR=9.8
W22A **Albuquerque** 80.35 50 ⇓P P 08 11 12.5 +0.1
baz=80
124A **Stringfield Ra** 80.38 52 ⇑P P 08 11 12.6 -0.1
baz=80
U21A **Nageezi** 80.38 48 ⇓P P 08 11 13.0 +0.4
baz=81,SNR=38
NJ2 **Nanjing** 80.39 307 *eP* P 08 11 12.3 -0.1
NJ2 AMB AMB
comp=Z,10.0nm,0.6s
TXAR **Lajitas Array** 80.39 56 P P 08 11 12.6 0.0
TXAR **Lajitas Array** 80.39 56 P P 08 11 12.6 0.0
comp=Z,5.5nm,1.0s,baz=224,slow=5.2,SNR=30
TXAR LR LR 08 40 01.3
comp=Z,487nm,19.1s,baz=290,slow=31
Y23A **Lovelace Mesa,** 80.45 51 ⇑P P 08 11 12.5 -0.5
baz=81,SNR=5.2
NEW **Newport** 80.56 34 *eP* P 08 11 12.6 -0.4
NEW **Newport** 80.56 34 ⇑P P 08 11 13.0 0.0
baz=81
NEW **Newport** 80.56 34 P P 08 11 12.3 -0.7
comp=Z,3.9nm,0.8s,baz=269,slow=6.4,SNR=8.3
TRF **Thorofare Moun** 80.58 10 *eP* P 08 11 12.3 -0.6
ANMO **Albuquerque** 80.59 50 *eP* P 08 11 13.8 +0.1
225A **Deer Hill, Car** 80.61 53 ⇑P P 08 11 13.5 -0.4
baz=81,SNR=9.1
426A **McDonald Obser** 80.64 55 ⇑P P 08 11 14.0 -0.1
baz=81,SNR=15
627A **Terlingua Ranc** 80.66 56 ⇓P P 08 11 14.1 0.0
baz=81,SNR=10
R20A **Redvale** 80.69 46 ⇑P P 08 11 14.4 +0.2
baz=81
V22A **San Miguel Ran** 80.69 49 ⇑P P 08 11 14.4 +0.1
baz=81,SNR=6.2
Z24A **Sheeppen Canyo** 80.71 52 ⇑P P 08 11 14.5 +0.1
baz=81
M17A **Scullys Gap (B** 80.73 42 ⇑P P 08 11 14.9 +0.6
baz=81
T21A **Navajo Lake** 80.73 48 ⇑P P 08 11 14.9 +0.5
baz=81
527A **Woodward Ranch** 80.76 55 ⇓P P 08 11 14.6 0.0
baz=81
Y24A **Capitan** 80.91 51 ⇑P P 08 11 15.6 +0.1
baz=81,SNR=16
W23A **Werner Place,** 80.92 50 ⇓P P 08 11 15.4 -0.1
baz=81,SNR=12
U22A **Llaves** 80.94 48 ⇑P P 08 11 15.6 0.0
baz=81
326A **Caldwell Ranch** 80.94 54 ⇑P P 08 11 15.6 +0.1
baz=81
125A **Gardner Draw,** 80.97 53 ⇓P P 08 11 15.7 +0.1
baz=81
GDL2 **Guadalupe Moun** 81.00 53 *eP* P 08 11 16.7 +0.8
MCK **McKinley** 81.08 11 *eP* P 08 11 14.9 -0.5
MCK **McKinley** 81.08 11 *eP* P 08 11 14.9 -0.5
MCMT **McKenzie Canyo** 81.09 39 *eP* P 08 11 16.4 +0.2
comp=Z,7.5nm,1.1s
Q20A **Ridgley Place,** 81.10 46 ⇓P P 08 11 16.4 +0.1
baz=81,SNR=5.9
226B **Tecolote Peak,** 81.11 53 ⇓P P 08 11 16.4 0.0
baz=81,SNR=16
HYT **Haines Junctio** 81.14 17 *eP* P 08 11 16.6 +0.7
V23A **Ortiz Mt. (NFS** 81.15 49 ⇑P P 08 11 17.1 +0.4
baz=81,SNR=14
O19A **Miners Draw (B** 81.17 44 ⇑P P 08 11 16.6 0.0
baz=81
Z25A **Roswell** 81.18 52 ⇓P P 08 11 17.0 +0.2
baz=81,SNR=6.4
X24A **Lazy VL Ranch,** 81.19 51 ⇓P P 08 11 16.8 -0.1
baz=81
T22A **Edith** 81.19 48 ⇑P P 08 11 17.2 +0.3
baz=81
427A **Hayter Ranch,** 81.20 55 ⇓P P 08 11 17.2 +0.3
baz=81,SNR=12
RRI2 **Red Ridge** 81.26 41 *eP* P 08 11 17.5 +0.3
R21A **Cimarron** 81.35 46 ⇓P P 08 11 18.2 +0.4
baz=82,SNR=13
DL2 **Dalian** 81.38 314 *eP* P 08 11 23.4 +5.9
DL2 AMB AMB
comp=Z,26nm,1.5s
DL2 AMB AMB
comp=Z,100nm,5.3s
DL2 LR LR
comp=Z,160nm,5.1s
DL2 LR LR
comp=Z,110nm,5.4s
U23A **El Rito** 81.40 49 ⇓P P 08 11 18.2 +0.1
baz=82,SNR=13
528A **Cox Ranch, San** 81.42 56 ⇓P P 08 11 18.1 0.0
baz=82,SNR=12
126A **Clayton Basin,** 81.45 53 ⇓P P 08 11 17.9 -0.3
baz=82,SNR=6.6
Y25A **Mesa, Roswell** 81.47 51 ⇑P P 08 11 17.8 -0.6
baz=82,SNR=10
W24A **Lazy 6 Ranch,** 81.48 50 ⇓P P 08 11 18.2 -0.2
baz=82,SNR=12
MSO **Missoula** 81.52 37 *eP* P 08 11 17.9 -0.4
comp=Z,18nm,1.2s
MSO **Missoula** 81.52 37 ⇓P P 08 11 17.6 -0.6
baz=82,SNR=10.0
DLMT **Dillon** 81.52 38 *eP* P 08 11 18.8 +0.4
Q21A **Lamborn Mesa,** 81.55 46 ⇓P P 08 11 19.1 +0.4
baz=82,SNR=6.3
REDW **Red Top Meadow** 81.56 41 *eP* P 08 11 18.5 -0.2
TPAW **Teton Pass** 81.56 41 *eP* P 08 11 18.9 +0.1
comp=Z,8.9nm,0.8s
S22A **4UR Ranch, Cre** 81.57 47 ⇑P P 08 11 19.1 +0.1
baz=82,SNR=18
BSMT **Bassoo Peak** 81.61 35 *eP* P 08 11 18.6 -0.2
SNOW **Snow King Moun** 81.67 41 *eP* P 08 11 19.8 +0.4
O20A **White River Ci** 81.69 45 ⇓P P 08 11 19.7 +0.3
baz=82
428A **Kincaid Ranch,** 81.72 55 ⇑P P 08 11 19.5 -0.2
baz=82
M19A **Rock Springs** 81.73 43 ⇑P P 08 11 19.6 -0.1
baz=82,SNR=7.2
Z26A **Caprock** 81.74 52 ⇓P P 08 11 19.5 -0.3
baz=82,SNR=26
X25A **Clemmons Ranch** 81.75 51 ⇑P P 08 11 19.7 -0.1
baz=82
227A **Bennet, Jal** 81.76 54 ⇓P P 08 11 20.4 +0.6
baz=82
IMW **Indian Meadow** 81.78 40 *eP* P 08 11 20.4 +0.5
comp=Z,26nm,1.4s
V24A **Rampart Ranch,** 81.81 50 ⇓P P 08 11 20.2 0.0
baz=82,SNR=10
T23A **Casias Ranch,** 81.82 48 ⇑P P 08 11 20.5 +0.2
baz=82,SNR=10
MOOW **Moose Ponds** 81.82 40 *eP* P 08 11 26.4 +6.4
LOHW **Long Hollow** 81.84 41 *eP* P 08 11 20.4 +0.2
comp=Z,51nm,1.9s
R22A **Saguache, Gunn** 81.84 47 ⇑P P 08 11 20.9 +0.5
baz=82,SNR=17
LRM **Limekiln Ridge** 81.85 38 *eP* P 08 11 20.0 -0.2
529A **Stev Forest Ra** 81.86 56 ⇑P P 08 11 19.9 -0.5
baz=82,SNR=5.7
SWMT **Swartz Lake** 81.86 36 *eP* P 08 11 19.8 -0.3
comp=Z,14nm,1.5s
328A **Wristen Ranch,** 81.88 54 ⇓P P 08 11 20.3 -0.2
baz=82
P21A **Newcastle** 81.95 45 ⇓P P 08 11 21.3 +0.5
baz=82,SNR=6.4
DOT **Dot Lake** 81.95 13 *eP* P 08 11 20.0 0.0
QLMT **Earthquake Lak** 81.95 39 *eP* P 08 11 21.8 +1.1
CHMT **Chamberlain Mo** 81.97 37 *eP* P 08 11 20.3 -0.4
127A **Arkansas Junct** 81.98 53 ⇑P P 08 11 21.1 +0.1
baz=82,SNR=7.6
SLMT **Seley Lake** 82.00 36 *eP* P 08 11 20.0 -0.9
N20A **Spence Gulch,** 82.01 44 ⇓P P 08 11 21.4 +0.3
baz=82,SNR=8.2
I17A **Pilgrim Ck.** 82.01 40 ⇑P P 08 11 21.6 +0.5
baz=82
PDAR **Pinedale Array** 82.09 42 P P 08 11 20.6 -0.9
PDAR **Pinedale Array** 82.09 42 P P 08 11 20.6 -0.9
comp=Z,5.0nm,1.1s,baz=223,slow=3.5,SNR=15
PDAR LR LR 08 42 09.8
comp=Z,576nm,19.1s,baz=228,slow=32
U24A **Moreno Valley** 82.10 49 ⇑P P 08 11 22.6 +0.8
baz=82
SMCO **Snowmass** 82.12 46 *eP* P 08 11 22.5 +0.5
comp=Z,36nm,1.4s
Y26A **Elida** 82.13 52 ⇓P P 08 11 22.1 +0.3
baz=82,SNR=13
S23A **Nye Farm, Mont** 82.14 48 ⇑P P 08 11 22.1 +0.1
baz=82
YMR **Madison River** 82.15 40 *eP* P 08 11 22.6 +0.8
comp=Z,15nm,1.0s
W25A **X L Ranch,** 82.19 50 ⇑P P 08 11 21.9 -0.2
baz=82
H17A **Grant Village** 82.25 40 ⇑P P 08 11 22.9 +0.6
baz=82
T24B **San Luis** 82.30 48 ⇑P P 08 11 23.3 +0.4
baz=82,SNR=13
429A **Davenport Ranc** 82.31 55 ⇓P P 08 11 22.5 -0.2
baz=82,SNR=22
COLA **College** 82.31 11 *eP* P 08 11 21.0 -0.8
COLA pmax pmax
comp=Z,36nm,0.8s
COLA **College** 82.31 11 *eP* P 08 11 21.0 -0.8
comp=Z,36nm,0.8s
V25A **Rancho No Teng** 82.34 50 ⇓P P 08 11 23.2 +0.3
baz=82,SNR=19
Z27A **Tatum** 82.34 53 ⇑P P 08 11 22.7 -0.2
baz=82
228A **UT Block 9, Go** 82.34 54 ⇑P P 08 11 23.1 +0.2
baz=82,SNR=5.3
YNR **Norris Junctio** 82.35 40 *eP* P 08 11 24.2 +1.3
comp=Z,14nm,1.1s
M20A **Sweetwater, Wa** 82.37 43 ⇑P P 08 11 23.1 +0.1
baz=82
ILAR **Eielson Array** 82.40 11 P P 08 11 21.5 -0.8
ILAR **Eielson Array** 82.40 11 P P 08 11 21.5 -0.8
comp=Z,4.8nm,0.7s,baz=214,slow=5.8,SNR=56
ILAR LR LR 08 41 04.4
comp=Z,176nm,20.4s,baz=103,slow=31
X26A **CR and CF Fran** 82.40 51 ⇓P P 08 11 22.9 -0.3
baz=83,SNR=5.4
IM04 **Indian Mountai** 82.43 8 *eP* P 08 11 22.5 0.0
P22A **Eagle** 82.45 46 ⇓P P 08 11 23.7 +0.2
baz=83
R23A **Moffat** 82.48 47 ⇑P P 08 11 24.2 +0.5
baz=83,SNR=15
L20A **Wamsutter** 82.51 43 ⇑P P 08 11 24.1 +0.4
baz=83,SNR=14
SDCO **Great Sand Dun** 82.52 48 *eP* P 08 11 23.9 0.0
comp=Z,8.5nm,0.9s
IMA2 **Indian Mountai** 82.53 8 *eP* P 08 11 22.6 -0.6
530A **J-C Ranch, Com** 82.57 56 ⇓P P 08 11 23.5 -0.6
baz=83
329A **Wagon Wheel Ra** 82.58 55 ⇓P P 08 11 24.2 +0.1
baz=83,SNR=14
Y27A **Causey** 82.61 52 ⇓P P 08 11 24.0 -0.3
baz=83,SNR=8.1
128A **Castleberry Fa** 82.63 53 ⇓P P 08 11 24.3 -0.1
baz=83,SNR=12
J19A **Crowheart** 82.65 41 ⇓P P 08 11 24.0 -0.4
baz=83,SNR=8.6
W26A **Owens Ranch, T** 82.65 51 ⇓P P 08 11 24.0 -0.5
baz=83
S24A **Houchin Ranch,** 82.67 48 ⇑P P 08 11 25.0 +0.2
baz=83,SNR=11
U25A **Circle Dot Ran** 82.73 49 ⇓P P 08 11 25.1 +0.2
baz=83,SNR=22
Q23A **Hansel** 82.79 47 ⇑P P 08 11 25.6 +0.2
baz=83
O22A **Kremmling** 82.86 45 ⇑P P 08 11 25.8 +0.1
baz=83,SNR=16
430A **Baggett Ranch,** 82.89 56 ⇑P P 08 11 25.7 -0.1
baz=83
229A **Bryant Ranch,** 82.89 54 ⇑P P 08 11 26.0 +0.2
baz=83
631A **Perdido Creek** 82.91 57 ⇑P P 08 11 25.6 -0.2
baz=83,SNR=14
V26A **Tequesquite Ra** 82.93 50 ⇑P P 08 11 25.8 -0.2
baz=83,SNR=7.0
MSTX **Muleshoe** 82.94 52 *eP* P 08 11 25.6 -0.4
MSTX **Muleshoe** 82.94 52 ⇓P P 08 11 25.7 -0.4
baz=83,SNR=6.7
H18A **Shoshone NF, C** 82.96 40 ⇓P P 08 11 26.0 0.0
baz=83,SNR=7.3
Z28A **Tucker Farm, M** 82.97 53 ⇑P P 08 11 26.5 +0.3
baz=83,SNR=5.8
X27A **F and S Farms,** 82.97 51 ⇑P P 08 11 26.6 +0.4
baz=83,SNR=7.8
P23A **Jefferson** 82.99 46 ⇓P P 08 11 27.1 +0.7
baz=83,SNR=7.6
R24A **Sanders Place,** 83.01 47 ⇓P P 08 11 26.6 +0.2
baz=83,SNR=7.8
T25A **Trinidad** 83.04 49 ⇓P P 08 11 26.6 0.0
baz=83,SNR=13
I19A **Meeteetse** 83.06 41 ⇑P P 08 11 26.9 +0.4
baz=83,SNR=10
129A **Stewart Farms,** 83.11 54 ⇓P P 08 11 26.6 -0.3
baz=83,SNR=7.5
732A **Laxson Ranch,** 83.14 58 ⇑P P 08 11 26.7 -0.3
baz=83
QIZ **Qiongzhong** 83.16 292 P P 08 11 26.3 -1.0
QIZ S **S** 08 21 45.3 -2.2
QIZ LR LR
comp=Z,130nm,24.5s
W27A **Bowe Ranch, En** 83.17 51 ⇑P P 08 11 27.0 -0.2
baz=83,SNR=16
330A **Mertzon** 83.18 55 ⇓P P 08 11 26.7 -0.6
baz=83
N22A **Wattenberg Ran** 83.21 45 ⇑P P 08 11 27.9 +0.4
baz=83,SNR=26
531A **Rocksprings** 83.21 56 ⇑P P 08 11 27.2 -0.2
baz=83,SNR=15
U26A **Atchley Ranch,** 83.21 50 ⇑P P 08 11 27.4 -0.1
baz=83,SNR=21
Q24A **Divide** 83.30 47 ⇓P P 08 11 28.4 +0.4
baz=84,SNR=15
O23A **Lake Granby, G** 83.31 45 ⇓P P 08 11 28.5 +0.5
baz=84,SNR=14
J20A **Shoshoni** 83.31 42 ⇑P P 08 11 28.0 +0.3
baz=84,SNR=28
Y28A **McKinney Farm,** 83.32 52 ⇓P P 08 11 27.7 -0.3
baz=84
ISCO **Idaho Springs** 83.34 46 *eP* P 08 11 28.2 0.0
ISCO pmax pmax
comp=Z,7.0nm,0.9s
ISCO **Idaho Springs** 83.34 46 *eP* P 08 11 28.2 0.0
comp=Z,7.3nm,0.9s
ISCO **Idaho Springs** 83.34 46 ⇑P P 08 11 28.4 +0.2
baz=84,SNR=12
431A **Sonora** 83.36 56 ⇑P P 08 11 27.9 -0.2
baz=84
DAWY **Dawson** 83.36 14 *eP* P 08 11 27.0 -0.4
H19A **Powell** 83.38 40 ⇓P P 08 11 28.7 +0.7
baz=84,SNR=23
M22A **Cedar Creek Ra** 83.39 44 ⇑P P 08 11 28.4 +0.1
baz=84,SNR=5.3
230A **Sterling City** 83.41 55 ⇓P P 08 11 28.1 -0.3
baz=84
Z29A **Hungry Hill Ra** 83.48 53 ⇓P P 08 11 28.1 -0.7
baz=84
GCMT **Greycliff** 83.51 39 *eP* P 08 11 28.7 0.0
comp=Z,6.9nm,0.9s
K21A **Alcova** 83.52 43 ⇓P P 08 11 28.7 -0.2
baz=84,SNR=12
R25A **Fountain Ranch** 83.56 48 ⇑P P 08 11 29.0 -0.1
baz=84,SNR=18
I20A **Worland** 83.57 41 ⇓P P 08 11 29.0 -0.1
baz=84,SNR=14
632A **Uvalde** 83.58 57 ⇓P P 08 11 29.2 -0.1
baz=84
N23A **Red Feather La** 83.60 45 ⇑P P 08 11 29.7 +0.3
baz=84,SNR=15
X28A **Dimmitt** 83.60 52 ⇑P P 08 11 29.2 -0.2
baz=84,SNR=16
V27A **Dan Oppiter Fa** 83.62 50 ⇓P P 08 11 29.1 -0.4
baz=84
T26A **Comanche Natio** 83.64 49 ⇑P P 08 11 29.3 -0.3
baz=84,SNR=6.4
P24A **Kohler Place,** 83.70 46 ⇑P P 08 11 29.9 0.0
baz=84
532A **Rocksprings** 83.71 57 ⇑P P 08 11 29.4 -0.6
baz=84,SNR=12
J21A **Lysite** 83.72 42 ⇓P P 08 11 30.0 +0.1
baz=84,SNR=39
331A **San Angelo** 83.73 55 ⇓P P 08 11 29.4 -0.7
baz=84,SNR=5.4
Y29A **Porterfield Fa** 83.74 53 ⇓P P 08 11 30.8 +0.7
baz=84,SNR=11
L22A **Ellis Ranch, M** 83.78 43 ⇓P P 08 11 30.7 +0.4
baz=84,SNR=14
130A **Snyder** 83.80 54 ⇓P P 08 11 30.5 +0.1
baz=84
O24A **Longmont** 83.85 46 ⇑P P 08 11 31.0 +0.4
baz=84,SNR=8.5
U27A **Thompson Grove** 83.90 50 ⇑P P 08 11 30.4 -0.5
baz=84,SNR=9.8
H20A **Greybull** 83.91 41 ⇓P P 08 11 30.3 -0.4
baz=84,SNR=8.2
Q25A **Bedland, Calha** 83.91 47 ⇑P P 08 11 30.4 -0.6
baz=84,SNR=5.9
S26A **Kim** 83.92 48 ⇑P P 08 11 30.5 -0.5
baz=84,SNR=10.0
JCT **Junction City** 83.92 56 *eP* P 08 11 31.3 +0.2
JCT pmax pmax
comp=Z,7.0nm,0.9s
JCT **Junction City** 83.92 56 *eP* P 08 11 31.2 +0.2
comp=Z,7.1nm,0.9s
JCT **Junction City** 83.92 56 ⇓P P 08 11 30.5 -0.6
baz=84,SNR=6.1
Z30A **Sanderson Ranc** 83.94 53 ⇓P P 08 11 30.4 -0.7
baz=84,SNR=12
X29A **Tulia** 83.95 52 ⇑P P 08 11 31.1 -0.1
baz=84,SNR=14
F19A **Roth Farm, Mol** 83.98 39 ⇓P P 08 11 31.1 0.0
baz=84,SNR=21
K22A **Casper** 84.00 43 ⇑P P 08 11 31.2 -0.2
baz=84,SNR=6.0
I21A **Big Trails, Te** 84.04 42 ⇑P P 08 11 31.0 -0.5
baz=84,SNR=24
231A **Bronte** 84.06 55 ⇓P P 08 11 30.8 -0.9
baz=84,SNR=11
V28A **Channing** 84.07 51 ⇓P P 08 11 31.5 -0.3
baz=84,SNR=6.5
432A **Menard** 84.08 56 ⇓P P 08 11 31.0 -0.8
baz=84,SNR=11
COLD **Coldfoot** 84.11 9 *eP* P 08 11 32.6 +1.5
PHWY **Pilot Hill** 84.11 44 *eP* P 08 11 24.6 -7.5
comp=Z,12nm,0.8s
G20A **Bridger** 84.12 40 ⇑P P 08 11 32.0 +0.2
baz=84
P25A **Willow Gulch B** 84.22 47 ⇑P P 08 11 32.8 +0.2
baz=84,SNR=18
R26A **Arlington** 84.22 48 ⇓P P 08 11 32.3 -0.2
baz=84,SNR=29
T27A **Campo** 84.23 49 ⇓P P 08 11 32.4 -0.2
baz=84
131A **Roby** 84.28 54 ⇓P P 08 11 32.4 -0.4
baz=84
N24A **Carr** 84.29 45 ⇓P P 08 11 33.2 +0.4
baz=84,SNR=16
L23A **Garrett** 84.30 44 ⇑P P 08 11 32.8 -0.2
baz=84,SNR=27
332A **Millersview** 84.31 55 ⇓P P 08 11 32.7 -0.3
baz=84,SNR=19
U28A **Mallet** 84.32 50 ⇑P P 08 11 32.4 -0.7
baz=84
Y30A **Stafford Cattl** 84.34 53 ⇑P P 08 11 33.0 -0.2
baz=84,SNR=11
E19A **Rath Farm, Rou** 84.37 39 ⇓P P 08 11 33.5 +0.5
baz=85,SNR=21
J22A **Midwest** 84.38 42 ⇑P P 08 11 33.1 -0.1
baz=85,SNR=22
Q26A **Hugo** 84.43 47 ⇓P P 08 11 33.4 -0.1
baz=85,SNR=7.9
F20A **Billings** 84.44 40 ⇓P P 08 11 33.5 +0.1
baz=85
232A **Coleman** 84.57 55 ⇓P P 08 11 33.9 -0.5
baz=85,SNR=10.0
EGMT **Eagleton** 84.57 37 *eP* P 08 11 34.0 0.0
comp=Z,15nm,0.9s
EGMT **Eagleton** 84.57 37 ⇑P P 08 11 33.7 -0.3
baz=85,SNR=7.4
H21A **Big Horn, Sher** 84.58 41 ⇓P P 08 11 34.2 0.0
baz=85,SNR=12
X30A **Coker Ranch, T** 84.58 52 ⇑P P 08 11 33.8 -0.5
baz=85,SNR=9.2
I22A **9 Mile Ranch,** 84.59 42 ⇓P P 08 11 34.4 +0.1
baz=85,SNR=12
M24A **Cheyenne** 84.61 45 ⇓P P 08 11 34.6 +0.1
baz=85,SNR=7.3
K23A **Bowen Ranch, D** 84.64 43 ⇓P P 08 11 34.3 -0.3
baz=85,SNR=9.6
V29A **Stinnett** 84.64 51 ⇑P P 08 11 34.4 -0.3
baz=85
D19A **Cripps Ranch,** 84.66 38 ⇑P P 08 11 34.7 +0.3
baz=85,SNR=15
R27A **Eads** 84.68 48 ⇑P P 08 11 34.2 -0.6
baz=85,SNR=5.6
T28A **Walsh** 84.70 49 ⇓P P 08 11 34.3 -0.6
baz=85

Z31A	Sharp Cattle R	84.71	54	⇓P		P	08 11 34.5	-0.5	
	baz=85,SNR=12								
G21A	Lodge Grass	84.75	40	⇑P		P	08 11 34.7	-0.3	
	baz=85								
L24A	Wheatland	84.79	44	⇓P		P	08 11 35.6	+0.3	
	baz=85								
E20A	Meyer Farm, Mu	84.79	39	⇓P		P	08 11 35.1	0.0	
	baz=85,SNR=13								
P26A	Davis Ranch, A	84.81	47	⇑P		P	08 11 35.4	-0.1	
	baz=85								
C19A	Slack Wire Ran	84.84	38	⇑P		P	08 11 36.0	+0.7	
	baz=85,SNR=20								
ABTX	Abilene, Hawle	84.84	54	*e*P		P	08 11 35.1	-0.5	
ABTX	Abilene, Hawle	84.84	54	⇓P		P	08 11 35.5	-0.2	
	baz=85,SNR=15								
Y31A	Rekieta Farm,	84.86	53	⇑P		P	08 11 35.3	-0.4	
	baz=85,SNR=12								
H22A	Clearmont	85.00	41	⇓P		P	08 11 36.3	0.0	
	baz=85								
S28A	Manter	85.05	49	⇑P		P	08 11 37.3	+0.6	
	baz=85								
U29A	Oasis Ranch, S	85.06	50	⇑P		P	08 11 36.5	-0.3	
	baz=85								
D20A	Manuel Ranch,	85.07	38	⇑P		P	08 11 36.9	+0.4	
	baz=85,SNR=14								
H03N2	Juan Fernandez	85.07	123	T		T	09 45 18.9		
	baz=263,slow=0.7								
H03N3	Juan Fernandez	85.07	123	T		T	09 45 16.7		
	baz=263								
H03N1	Juan Fernandez	85.09	123	T		T	09 45 20.9		
	baz=263,slow=0.7								
KSCO	Kaye Shedlock'	85.10	47	*e*P		P	08 11 37.0	+0.1	
M25A	Palm-Egli Farm	85.11	45	⇓P		P	08 11 37.3	+0.3	
	baz=85								
O26A	Horse Wrangler	85.12	46	⇓P		P	08 11 37.5	+0.5	
	baz=85								
V30A	Spur Ranch, Mi	85.22	51	⇑P		P	08 11 37.8	+0.2	
	baz=85								
Z32A	Haskell	85.22	54	⇓P		P	08 11 37.5	0.0	
	baz=85,SNR=51								
B19A	Brinkman Farms	85.25	37	⇓P		P	08 11 37.7	+0.3	
	baz=85,SNR=6.4								
G22A	Birney	85.32	41	⇓P		P	08 11 37.7	-0.2	
	baz=86								
X31A	McDonald Ranch	85.33	52	⇑P		P	08 11 37.7	-0.4	
	baz=86,SNR=9.1								
EDM	Edmonton	85.35	31	*e*P		P	08 11 36.9	-0.8	
EDM	Edmonton	85.35	31	*e*P		P	08 11 36.9	-0.8	
R28A	Tribune	85.41	48	⇑P		P	08 11 38.2	-0.2	
	baz=86,SNR=20								
C20A	Veseth Ranch,	85.44	38	⇓P		P	08 11 38.8	+0.4	
	baz=86,SNR=11								
E21A	Keefer Ranch,	85.45	39	⇑P		P	08 11 38.8	+0.4	
	baz=86								
Y32A	R-V Farms, Ver	85.51	53	⇓P		P	08 11 38.8	-0.1	
	baz=86,SNR=21								
J24A	Dixon Ranch, L	85.53	43	⇑P		P	08 11 38.7	-0.3	
	baz=86								
U30A	WK&E Inc. Balk	85.55	50	⇑P		P	08 11 38.8	-0.4	
	baz=86								
W31A	Holland Ranch,	85.57	52	⇓P		P	08 11 39.0	-0.3	
	baz=86,SNR=12								
A19A	Klindworth Far	85.60	37	⇑P		P	08 11 39.3	+0.2	
	baz=86,SNR=8.1								
S29A	Ulysses	85.63	49	⇓P		P	08 11 39.7	+0.1	
	baz=86,SNR=5.3								
BJI	Beijing	85.67	313	P		P	08 11 40.9	+1.4	
BJI				S		S	08 22 18.5	+6.8	
BJI				AMB		AMB			
	comp=Z,13nm,0.4s								
BJI				LR		LR			
	comp=Z,68nm,24.2s								
O27A	Beecher Island	85.68	46	⇓P		P	08 11 39.6	-0.2	
	baz=86								
D21A	La Casta Ranch	85.74	39	⇑P		P	08 11 40.1	+0.3	
	baz=86,SNR=8.7								
B20A	Solberg Farm,	85.78	37	⇓P		P	08 11 40.3	+0.3	
	baz=86								
I24A	Kuemmerle Ranc	85.78	42	⇑P		P	08 11 40.2	0.0	
	baz=86								
T30A	Plains	85.84	50	⇑P		P	08 11 40.5	-0.1	
	baz=86								
G23A	Biddle	85.88	41	⇓P		P	08 11 40.6	-0.1	
	baz=86								
N27A	Anderson Farm,	85.89	46	⇓P		P	08 11 40.9	0.0	
	baz=86								
R29A	Marienthal	85.93	48	⇓P		P	08 11 41.2	+0.1	
	baz=86								
P28A	Saint Francis	85.94	47	⇑P		P	08 11 40.7	-0.4	
	baz=86								
A20A	Cobblestone Ra	86.05	37	⇓P		P	08 11 41.5	+0.2	
	baz=86,SNR=7.4								
U31A	Nine Bar Ranch	86.08	51	⇓P		P	08 11 42.0	+0.2	
	baz=86								
F23A	Volborg	86.11	41	⇑P		P	08 11 41.8	+0.1	
	baz=86								
S30A	Montezuma	86.11	49	⇓P		P	08 11 41.9	0.0	
	baz=86								
H24A	Dirks Ranch, A	86.22	42	⇑P		P	08 11 42.2	-0.1	
	baz=86,SNR=9.8								
Q29A	Oakley	86.23	48	⇑P		P	08 11 42.2	-0.2	
	baz=86								
K26A	Motz Farm, Whi	86.24	44	⇑P		P	08 11 42.1	-0.4	
	baz=86								
D22A	Cohagen	86.28	39	⇑P		P	08 11 42.3	-0.2	
	baz=86								
RSSD	Black Hills	86.28	42	*e*P		P	08 11 43.7	+0.9	
RSSD				pmax		pmax			
	comp=Z,107nm,1.7s								
RSSD	Black Hills	86.28	42	*e*P		P	08 11 43.7	+0.9	
	comp=Z,107nm,1.7s								
M27A	Reverse DX Ran	86.29	45	⇑P		P	08 11 42.6	-0.2	
	baz=86								
WHTX	Lake Whitney	86.34	56	*e*P		P	08 11 42.7	-0.3	
WHTX	Lake Whitney	86.34	56	⇓P		P	08 11 42.8	-0.3	
	baz=86								
B21A	Ellsworth Farm	86.37	38	⇓P		P	08 11 43.0	+0.1	
	baz=86								
I25A	Rochford	86.43	43	⇑P		P	08 11 43.5	0.0	
	baz=87								
T31A	Randall Ranch,	86.49	50	⇑P		P	08 11 43.6	-0.1	
	baz=87								
R30A	Dighton	86.50	49	⇑P		P	08 11 43.6	-0.2	
	baz=87,SNR=5.9								
P29A	Atwood	86.54	47	⇑P		P	08 11 43.7	-0.3	
	baz=87								
J26A	Sides Ranch, S	86.57	43	⇑P		P	08 11 43.6	-0.5	
	baz=87								
F24A	Ekalaka	86.76	41	⇓P		P	08 11 44.8	-0.2	
	baz=87								
H25A	Fruitdale	86.78	42	⇑P		P	08 11 45.2	+0.2	
	baz=87								
Q30A	Quinter	86.80	48	⇑P		P	08 11 45.4	+0.2	
	baz=87								
S31A	Mullinville	86.83	50	⇓P		P	08 11 45.7	+0.3	
	baz=87								
O29A	4D Ranch, Culb	86.84	47	⇓P		P	08 11 45.2	-0.2	
	baz=87								
D23A	Lindsay	86.88	39	⇓P		P	08 11 45.7	+0.2	
	baz=87								
B22A	Reddig Ranch S	86.91	38	⇑P		P	08 11 46.1	+0.5	
	baz=87,SNR=8.3								
HKT	Hockley	86.95	58	*e*P		P	08 11 51.1	+5.1	
HKT				pmax		pmax			
	comp=Z,43nm,2.0s								
HKT	Hockley	86.95	58	*e*P		P	08 11 51.1	+5.1	
	comp=Z,43nm,2.0s								
P30A	Selden	87.00	48	⇑P		P	08 11 46.2	-0.1	
	baz=87								
I26A	New Underwood	87.01	43	⇑P		P	08 11 46.4	+0.3	
	baz=87								
R31A	Burdett	87.05	49	⇓P		P	08 11 46.4	-0.1	
	baz=87								
C23A	Lambert	87.17	39	⇑P		P	08 11 47.4	+0.5	
	baz=87								
N29A	Votaw Ranch, W	87.23	46	⇑P		P	08 11 47.9	+0.5	
	baz=87								
J27A	Elkhorn Farm,	87.25	44	⇓P		P	08 11 47.5	+0.1	
	baz=87,SNR=11								
S32A	Newby Ranch, P	87.26	50	⇓P		P	08 11 47.3	-0.2	
	baz=87								
A22A	Carney Farms,	87.27	37	⇑P		P	08 11 47.4	0.0	
	baz=87								
H26A	Fairpoint	87.31	42	⇑P		P	08 11 47.6	0.0	
	baz=88								
D24A	Glendive	87.39	40	⇓P		P	08 11 48.4	+0.5	
	baz=88								
K28A	Ten Mile Ranch	87.47	44	⇑P		P	08 11 48.0	-0.4	
	baz=88								
C24A	Savage	87.51	39	⇓P		P	08 11 48.7	+0.3	
	baz=88								
I27A	Quinn	87.56	43	⇓P		P	08 11 48.8	0.0	
	baz=88								
B23A	Brockton	87.58	38	⇑P		P	08 11 49.0	+0.2	
	baz=88,SNR=5.2								
G26A	Maurine	87.70	42	⇓P		P	08 11 49.1	-0.3	
	baz=88								
H27A	Howes	87.77	43	⇓P		P	08 11 49.8	0.0	
	baz=88								
J28A	Allard Ranch,	87.84	44	⇓P		P	08 11 50.0	-0.1	
	baz=88								
MAW	Mawson	87.88	199	P		P	08 11 50.1	+0.2	
MAW	Mawson	87.88	199	P		P	08 11 50.7	+0.8	
	baz=88,SNR=14								
MAW	Mawson	87.88	199	P		P	08 11 50.1	+0.2	
	comp=Z,13nm,1.0s,baz=113,slow=4.3,SNR=16								
MAW				LR		LR	08 51 04.4		
	comp=Z,303nm,19.0s,baz=116,slow=36								
D25A	Fairfield	88.03	40	⇑P		P	08 11 51.3	+0.3	
	baz=88								
DGMT	Dagmar	88.06	38	*e*P		P	08 11 51.4	+0.3	
	comp=Z,19nm,0.8s								
DGMT	Dagmar	88.06	38	⇓P		P	08 11 51.2	+0.1	
	baz=88,SNR=6.4								
INK	Inuvik	88.21	14	*e*P		P	08 11 50.9	-0.3	
	comp=Z,6.1nm,0.9s								
INK	Inuvik	88.21	14	P		P	08 11 51.2	0.0	
	comp=Z,4.8nm,0.8s,baz=207,slow=6.7,SNR=14								
E26A	Carlson Angus	88.28	41	⇑P		P	08 11 52.2	+0.1	
	baz=88								
GYA	Guiyang	88.29	298	*e*P		P	08 11 53.3	+0.5	
GYA				PP		PP	08 15 22.8	+2.4	
GYA				SKS		SKSac	08 22 20.3	-1.6	
GYA				S		S	08 22 37.8	-0.1	
GYA				SS		SS	08 28 29.8	+2.1	
GYA				AMB		AMB			
	comp=Z,20nm,1.0s								
GYA				AMB		AMB			
	comp=Z,120nm,6.8s								
GYA				LR		LR			
	comp=Z,540nm,22.0s								
GYA				LR		LR			
	comp=Z,490nm,23.0s								
GYA				LR		LR			
	comp=Z,510nm,22.2s								
F27A	Lemmon	88.31	41	⇓P		P	08 11 52.9	+0.5	
	baz=88								
A24A	Westby	88.37	38	⇓P		P	08 11 52.6	0.0	
	baz=88								
J29A	Okreek	88.44	44	⇓P		P	08 11 52.9	-0.1	
	baz=89								
K30A	Basset	88.64	45	⇑P		P	08 11 53.7	-0.3	
	baz=89								
I29A	Vivian Onida	88.69	44	⇑P		P	08 11 53.7	-0.5	
	baz=89								
PSI	Prapat	88.77	273	P		P	08 11 54.1	-1.2	
PSI	Prapat	88.77	273	P		P	08 11 54.1	-1.2	
	comp=Z,1.9nm,0.4s,baz=140,slow=7.9,SNR=4.1								
E27A	Carson	88.83	41	⇑P		P	08 11 54.3	-0.5	
	baz=89								
J30A	Dallas	88.97	44	⇓P		P	08 11 55.2	-0.3	
	baz=89								
TUL1	Tulsa	88.99	52	⇓P		P	08 11 56.2	+0.5	
	baz=89								
C26A	Wahner Farm, P	89.06	40	⇑P		P	08 11 56.5	+0.7	
	baz=89								
YAK	Yakutsk	89.22	337	*e*P		P	08 11 54.5	-1.6	
HHC	Hu-ho-hao-te	89.23	313	*e*P		P	08 11 55.5	-1.4	
HHC				pP		pP	08 12 00.3	-1.0	
HHC				sP		sP	08 12 02.5	-0.3	
HHC				PP		PP	08 15 28.3	+0.6	
HHC				SKS		SKSac	08 22 22.8	-4.0	
HHC				S		SKSac	08 22 42.1	+3.3	
HHC				AMB		AMB			
	comp=Z,40nm,1.1s								
HHC				AMB		AMB			
	comp=Z,150nm,5.3s								
HHC				LR		LR			
	comp=Z,160nm,17.3s								
HHC				LR		LR			
	comp=Z,230nm,17.9s								
HHC				LR		LR			
	comp=Z,140nm,17.1s								
YKA	Yellowknife Ar	89.99	23	P		P	08 11 59.5	-0.3	
YKA	Yellowknife Ar	89.99	23	P		P	08 11 59.5	-0.3	
	comp=Z,4.5nm,0.8s,baz=236,slow=4.8,SNR=7.4								
JTS	JuntasAbangare	90.94	80	*e*P		P	08 12 06.3	+1.0	
	comp=Z,133nm,1.0s								
A29A	Manning Farm,	91.25	39	⇑P		P	08 12 05.9	0.0	
	baz=91								
KMI	Kunming	91.27	296	P		P	08 12 08.3	+1.4	
KMI				AMB		AMB			
	comp=Z,6.0nm,0.6s								
KMI				LR		LR			
	comp=Z,110nm,19.3s								
KMI				LR		LR			
	comp=Z,150nm,17.2s								
KMI				LR		LR			
	comp=Z,150nm,16.1s								
A30A	Hoffart Farm,	91.83	40	⇑P		P	08 12 08.6	-0.1	
	baz=92								
CD2	Chengdu	92.05	301	P		P	08 12 10.5	+0.3	
CD2				pP		pP	08 12 15.3	+0.8	
CD2				sP		sP	08 12 17.5	+1.4	
CD2				PP		PP	08 15 52.8	+2.6	
CD2				SKS		SKSac	08 22 41.8	-1.6	
CD2				S		S	08 23 10.0	-2.4	
CD2				sS		sS	08 23 17.3	-2.3	
CD2				SS		SS	08 29 22.1	+0.2	
CD2				AMB		AMB			
	comp=Z,10.0nm,0.5s								
CD2				AMB		AMB			
	comp=Z,190nm,5.1s								
CD2				LR		LR			
	comp=Z,210nm,5.9s								
CD2				LR		LR			
	comp=Z,190nm,8.9s								
SYO	Syowa Base	92.65	191	⇓*e*P		P	08 12 10.7	-1.4	
CMAR	Chiang Mai Arr	92.88	288	P		P	08 12 15.6	+1.4	
CMAR	Chiang Mai Arr	92.88	288	P		P	08 12 15.6	+1.4	
	comp=Z,0.9nm,0.5s,baz=87,slow=2.8,SNR=6.7								
CMAR				LR		LR	08 49 28.0		
	comp=Z,117nm,18.5s,baz=150,slow=33								
SNAA	Sanae	92.89	177	*e*P		P	08 12 14.1	+0.7	
AGMN	Agassiz Nation	93.12	41	*e*P		P	08 12 18.4	+3.8	
	comp=Z,13nm,1.3s								
ULM	Lac du Bonnet	93.76	39	LR		LR	08 49 39.2		
	comp=Z,590nm,18.7s,baz=226,slow=32								
SPMN	St. Paul	94.13	44	⇑P		P	08 12 19.3	-0.1	
	baz=94								
SONM	Songino Array	95.03	318	P		P	08 12 24.8	+1.2	
SONM	Songino Array	95.03	318	P		P	08 12 24.8	+1.2	
	comp=Z,0.6nm,0.8s,baz=111,slow=4.6,SNR=3.1								
TIXI	Tiksi	95.08	344	*e*P		P	08 12 23.5	+0.4	
TIXI				pmax		pmax			
	comp=Z,1.0nm,1.0s								
JFWS	Jewell Farm	95.23	47	*e*P		P	08 12 23.8	-0.7	
JFWS				pmax		pmax			
	comp=Z,17nm,0.8s								
JFWS	Jewell Farm	95.23	47	*e*P		P	08 12 23.8	-0.7	
	comp=Z,17nm,0.8s								
TLY	Talaya	97.81	321	*e*P		Pdif	08 12 36.4	+0.4	
LPAZ	La Paz	99.55	110	P		Pdif	08 12 46.0	+0.6	
LPAZ	La Paz	99.55	110	P		Pdif	08 12 46.0	+0.6	
	comp=Z,0.6nm,0.8s,baz=248,slow=5.4,SNR=3.0								
ROSC	El Rosal	99.73	88	LR		LR	08 47 54.5		
	comp=Z,198nm,18.3s,baz=190,slow=29								
MKAR	Makanchi Array	111.02	315	PKiKP		PKiKP	08 17 34.1	-0.1	
MKAR	Makanchi Array	111.02	315	PKiKP		PKiKP	08 17 34.1	-0.1	
	comp=Z,0.6nm,0.7s,baz=78,slow=1.3,SNR=4.0								
KURK	Kurchatov	113.32	319	PKiKP		PKiKP	08 17 36.9	-1.5	
KURBB	Kurchatov Arra	113.39	319	PKiKP		PKiKP	08 17 36.9	-1.6	
	comp=Z,0.6nm,0.5s,baz=79,slow=1.4,SNR=5.1								
ARCES	ARCESS Array B	124.65	352	PKP		PKPdf	08 17 59.2	-0.5	
ARCES	ARCESS Array B	124.65	352	PKP		PKPdf	08 17 59.2	-0.5	
	comp=Z,3.4nm,0.7s,baz=59,slow=5.8,SNR=7.0								
AKTO	Aktyubinsk	126.16	322	PKiKP		PKPdf	08 18 02.4	-0.7	
AKTO	Aktyubinsk	126.16	322	PKP		PKPdf	08 18 02.4	-0.7	
AKTO	Aktyubinsk	126.16	322	PKP		PKPdf	08 18 02.4	-0.7	
	comp=Z,1.1nm,0.5s,baz=323,slow=5.1,SNR=5.8								
FINES	FINESS Array B	132.00	348	PKP		PKPdf	08 18 14.4	+0.6	
FINES	FINESS Array B	132.00	348	PKP		PKPdf	08 18 14.4	+0.6	
	comp=Z,6.5nm,1.1s,baz=67,slow=4.7,SNR=3.0								
AKASG	Malin Array Be	140.45	338	PKiKP		PKPdf	08 18 29.1	-0.8	
AKASG	Malin Array Be	140.45	338	PKP		PKPdf	08 18 29.1	-0.8	
	comp=Z,0.4nm,0.4s,baz=26,slow=3.1,SNR=3.9								
CLL	Collm	143.85	353	*e*PKiKP		PKPdf	08 18 39.0	+3.1	
CLL	Collm	143.85	353	*e*(PKPdf)		PKPdf	08 18 39.0	+3.1	
CLL				LmV			09 26 00.0		
	comp=Z,200nm,18.2s								
TSUM	Tsumeb	144.03	197	*e*PKPdf		PKPdf	08 18 37.2	-0.2	
MALT	Malatya	144.06	315	⇑*i*P		PKPdf	08 18 37.9	+1.1	
STHS	Stebnicka Huta	144.11	344	*e*PKiKP		PKPdf	08 18 35.6	-0.9	
STHS	Stebnicka Huta	144.11	344	*e*PKP		PKPdf	08 18 35.6	-0.9	
BRG	Berggiesshubel	144.16	352	*e*(P)		PKPdf	08 18 37.4	+0.9	
BRG	Berggiesshubel	144.16	352	*e*PKiKP		PKPdf	08 18 37.4	+0.9	
DPC	Dobruska-Polom	144.31	350	*e*PKiKP		PKPbc	08 18 35.3	+0.2	
DPC				*e*			08 18 40.3		
DPC	Dobruska-Polom	144.31	350	*e*PKP		PKPbc	08 18 35.3	+0.2	
DPC				*ep*PKP		PKiKP	08 18 40.3	-0.1	
UZH	Uzhgorod	144.53	342	*e*PKiKP		PKPbc	08 18 36.2	+0.5	
UZH				*e*			08 18 43.6		
TESR	Tescani	144.87	336	⇑*i*P		PKPdf	08 18 37.4	-0.4	
GHRR		144.93	335	⇑*i*P		PKPdf	08 18 37.9	0.0	
PRU	Pruhonice	144.95	351	*e*PKiKP		PKPdf	08 18 38.1	+0.2	
PRU				MLR		MLR			
	comp=Z,200nm,23.0s								
PRU	Pruhonice	144.95	351	*e*PKP		PKPdf	08 18 38.1	+0.2	
PRU				AMS		AMS	09 26 50.0		
	comp=Z,200nm,23.0s								
TLCR		145.02	333	⇓*i*P		PKPbc	08 18 35.2	-2.2	
KECS	Kecovo	145.16	344	*e*PKiKP		PKPdf	08 18 38.2	-0.1	
KECS	Kecovo	145.16	344	*e*PKP		PKPdf	08 18 38.2	-0.1	
VRAC	Vranov	145.27	349	⇑*i*P		PKPab	08 18 38.3	+0.1	
CFR	Carcaliu	145.33	333	⇓*i*P		PKPdf	08 18 39.8	+1.2	
DOU	Dourbes	145.35	3	PKP		PKPbc	08 18 37.1	-1.2	
VRI	Vrincioaia	145.36	335	⇓*i*P		PKPdf	08 18 39.2	+0.5	
PLOR	Plostina	145.41	335	⇑*i*P		PKPab	08 18 38.9	0.0	
GRFO	Grafenberg	145.62	355	*e*PKP2		PKPdf	08 18 38.5	-0.5	
GRFO	Grafenberg	145.62	355	*e*PKPdf		PKPdf	08 18 38.5	-0.5	
TIRR	Tirgusor	145.77	332	⇑*i*P		PKPab	08 18 41.0	+0.8	
KMBO	Kilima Mbogo	145.78	244	*e*PKPdf		PKPdf	08 18 40.5	-0.2	
KMBO				PKPbc		PKPab	08 18 41.5	0.0	
KMBO	Kilima Mbogo	145.78	244	PKPbc		PKPab	08 18 41.5	0.0	
	comp=Z,11nm,1.1s,baz=50,slow=3.4,SNR=12								
HARR	Harsova	145.80	333	⇓*i*P		PKPab	08 18 40.3	0.0	
DOPR	Dopca	145.80	337	⇓*i*P		PKPab	08 18 43.0	+2.6	
TLB	Topalu	145.83	333	⇑*i*P		PKPbc	08 18 40.2	+0.2	
PSZ	Piszkesteto	145.84	344	*e*PKP2		PKPab	08 18 41.8	+1.3	
PSZ	Piszkesteto	145.84	344	⇑*i*P		PKPab	08 18 46.3	+5.8	
PSZ	Piszkesteto	145.84	344	*e*PKPdf		PKPab	08 18 41.8	+1.3	
KHC	Kasperske Hory	145.92	352	*e*PKP2		PKPab	08 18 40.5	-0.2	
KHC				MLR		MLR			
	comp=Z,200nm,17.5s								
KHC	Kasperske Hory	145.92	352	*e*PKP		PKPab	08 18 40.5	-0.2	
KHC				*ep*PKP		pPKPdf	08 18 44.7	+0.6	
KHC				*ex*		x	08 18 50.5		
KHC				AMS		AMS	09 27 10.0		
	comp=Z,200nm,17.5s								
KHC	Kasperske Hory	145.92	352	*e*PKPdf		PKPab	08 18 40.9	+0.2	
MLR	Muntele Rosu	145.98	336	⇑*i*P		PKPab	08 18 41.5	+0.3	
ISR	Istrita	146.05	335	⇓*i*P		PKPdf	08 18 39.5	-0.5	
GERES	GERESS Array B	146.18	352	PKPbc		PKPab	08 18 41.9	+0.1	
GERES	GERESS Array B	146.18	352	PKPbc		PKPab	08 18 41.9	+0.1	
	comp=Z,1.9nm,0.8s,baz=25,slow=2.6,SNR=10								
BR131	Keskin Array S	146.33	321	*e*PKPdf		PKPbc	08 18 41.6	-0.3	
BRTR	Keskin Array B	146.33	321	PKPbc		PKPab	08 18 42.7	0.0	
BRTR	Keskin Array B	146.33	321	PKPbc		PKPab	08 18 42.7	0.0	
	comp=Z,13nm,0.8s,baz=117,slow=2.2,SNR=46								
VOIR		146.38	337	⇑*i*P		PKPab	08 18 42.6	0.0	
CSNA	Conrad Observa	146.73	349	⇑*i*pPKPdf		PKPab	08 18 43.4	-0.5	
	comp=Z,12nm,1.2s								
ANTO	Ankara	146.75	322	*e*PKP2		PKPab	08 18 43.8	-0.4	
ANTO	Ankara	146.75	322	*e*PKPbc		PKPab	08 18 43.8	-0.4	
SIRR	Siria	146.84	341	⇑*i*P		PKPbc	08 18 43.1	+0.1	
MOA	Molln	147.07	351	⇑*i*PKPab		PKPbc	08 18 44.0	+0.3	
	comp=Z,17nm,1.1s								
BFO	Black Forest	147.15	358	*e*PKP2		PKPbc	08 18 43.8	-0.1	
BFO	Black Forest	147.15	358	*e*PKPbc		PKPbc	08 18 43.8	-0.1	
BZS	Buzias	147.43	341	⇓*i*P		PKPbc	08 18 45.1	+0.4	
RETA	Reutte	147.85	355	⇑*i*pPKPbc		PKPab	08 18 47.7	-0.6	
	comp=Z,16nm,1.3s								
WTTA	Wattenberg	147.99	354	⇑*is*PKPdf		PKPbc	08 18 46.6	+0.2	
	comp=Z,9.8nm,1.0s								
PERS	Pernice	148.11	349	*i* PKPdf		PKPbc	08 18 46.5	-0.1	
DAVA	Damuels	148.11	356	⇑*i*PKPbc		PKPdf	08 18 45.1	+1.6	
	comp=Z,10nm,1.0s								
ABTA	Abfaltersbach	148.40	353	⇓*i*PKPdf		PKPdf	08 18 43.5	-0.4	
	comp=Z,10nm,0.9s								
TUE	Stuetta	148.96	357	*e*PKPbc		PKPbc	08 18 49.1	+0.1	
VISS

HHC	**Hu-ho-hao-te**	**9.67**	**28**	*e*P	**Pn**	**08 05 22.4**	**-2.3**
HHC				sP		08 05 30.1	
HHC				S	**Sn**	**08 07 10.6**	**-2.7**
HHC				sS		08 07 17.6	
HHC				AMB	AMB		
	comp=Z,38nm,1.0s						
HHC				AMB	AMB		
	comp=Z,190nm,6.9s						
HHC				LR	LR		
	comp=N,230nm,9.4s						
HHC				LR	LR		
	comp=E,360nm,7.8s						
HHC				LR	LR		
	comp=Z,260nm,7.3s						
CMAR	**Chiang Mai Arr**	**15.15**	**205**	Pn	**Pn**	**08 06 39.5**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=18,slow=12,SNR=6.0						
SONM	**Songino Array**	**15.37**	**2**	Pn	**Pn**	**08 06 42.8**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=186,slow=13,SNR=2.5						
KSRS	**Korea Array**	**19.00**	**69**	P	**Pn**	**08 07 28.8**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=256,slow=11,SNR=5.6						
MKAR	**Makanchi Array**	**22.81**	**316**	P	**P**	**08 08 06.6**	**-1.7**
	comp=Z,0.8nm,0.7s,baz=121,slow=13,SNR=9.0						
ZALV	**Zalesovo Beam**	**26.07**	**332**	P	**P**	**08 08 37.7**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=148,slow=9.5,SNR=4.9						
KURBB	**Kurchatov Arra**	**26.93**	**320**	P	**P**	**08 08 46.8**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=126,slow=9.5,SNR=7.1						
AKTO	**Aktyubinsk**	**39.13**	**312**	P	**P**	**08 10 32.7**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=108,slow=16,SNR=4.2						
ARCES	**ARCESS Array B**	**56.53**	**335**	P	**P**	**08 12 47.2**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=77,slow=7.8,SNR=4.0						
FINES	**FINESS Array B**	**57.13**	**326**	P	**P**	**08 12 50.7**	**-1.0**
	comp=Z,3.5nm,1.0s,baz=85,slow=7.2,SNR=2.6						
AKASG	**Malin Array Be**	**57.35**	**313**	P	**P**	**08 12 52.4**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=65,slow=7.5,SNR=3.0						
WRA	**Warramunga Arr**	**58.95**	**148**	P	**P**	**08 13 06.1**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=340,slow=7.4,SNR=6.7						
ASAR	**Alice Springs**	**62.04**	**150**	P	**P**	**08 13 27.1**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=340,slow=7.1,SNR=8.4						

IDC 14 08:29:21.3±1.6, 11°04'S×165°54'E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/20, mbtmp3.8/7, ML3.9/1, MS3.7/3, Ms1 3.7/3, ms1mx3.3/30, Error ellipse: s-maj=52.2km s-min=28.0km az=117.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.73**	**286**	LR	LR	08 32 22.9	
	comp=Z,125nm,18.1s,baz=336,slow=32						
DZM	**Mont Dzumac**	**11.01**	**176**	Pn	Pn	08 31 59.6	-0.7
	0.9nm,0.3s,baz=351,slow=19,SNR=12						
STKA	**Stephens Creek**	**30.31**	**223**	P	P	08 35 35.1	+0.5
	2.2nm,0.7s,baz=46,slow=2.2,SNR=2.5						
WRA	**Warramunga Arr**	**31.30**	**250**	P	P	08 35 44.4	+0.9
	0.8nm,0.7s,baz=82,slow=8.9,SNR=6.7						
ASAR	**Alice Springs**	**32.62**	**243**	P	P	08 35 54.1	-1.0
	0.4nm,0.8s,baz=83,slow=9.5,SNR=3.3						
ILAR	**Eielson Array**	**83.57**	**19**	P	P	08 41 51.7	+0.6
	0.2nm,0.7s,baz=224,slow=8.7,SNR=4.0						
PFO	**Pinyon Flat Ob**	**86.24**	**55**	LR	LR	09 14 27.9	
	comp=Z,82nm,19.4s,baz=326,slow=31						
MKAR	**Makanchi Array**	**93.38**	**317**	P	P	08 42 37.9	-0.7
	0.2nm,0.6s,baz=112,slow=4.4,SNR=2.7						
ZALV	**Zalesovo Beam**	**93.43**	**324**	P	P	08 42 37.8	-0.8
	0.3nm,0.2s,baz=109,slow=4.3,SNR=1.8						
ANMO	**Albuquerque**	**94.61**	**55**	LR	LR	09 19 24.9	
	comp=Z,79nm,18.5s,baz=23,slow=32						

JMA 14 08:31:52.8±0.3, 44°37'N×147°71'E, h68km, M3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.74**	**235**	P	Pn	08 32 21.4	+0.5
NEM2				*e*S	Sn	08 32 42.5	+0.3
JRA	**Rausu**	**1.91**	**258**	P	Pn	08 32 23.6	+0.4
JNK	**Nakash**	**2.30**	**251**	P	Pn	08 32 29.2	+0.8
JNK				*e*S	Sn	08 32 56.2	+0.6
JAK	**Akkeshi**	**2.58**	**239**	P	Pn	08 32 32.5	+0.3
JTKR	**Abashiri--Toko**	**2.77**	**263**	P	Pn	08 32 35.0	+0.3
JAR	**Ashorobuto**	**3.05**	**251**	P	Pn	08 32 39.9	+1.3
JAR				*e*S	Sn	08 33 15.6	+1.7
JMP	**Maruseppu**	**3.15**	**265**	P	Pn	08 32 40.4	+0.4
JOB	**Onbets**	**3.17**	**244**	P	Pn	08 32 41.3	+1.0
JOB				*e*S	Sn	08 33 17.0	+0.1
JKK2	**Kamakawa 2**	**3.61**	**264**	P	Pn	08 32 47.1	+0.8
JCH	**Churui**	**3.62**	**242**	P	Pn	08 32 46.7	+0.3
JCH				*e*S	Sn	08 33 27.1	-0.7
JNBK	**Urakawa-nobuka**	**4.18**	**242**	P	Pn	08 32 54.1	+0.1
JNBK				*e*S	Sn	08 33 40.4	-1.1
JKB	**Kayabe**	**5.48**	**245**	P	Pn	08 33 11.6	-0.2
JKB				*e*S	Sn	08 34 09.7	-3.7

*ISCJB **14** 08:58:08.2±0.3, 80°35N±0°05×2°5W±0°3, h10km, mb4.0/24, MS3.6/12, Error ellipse: s-maj=8.4km s-min=5.9km az=29.9*
*CSEM **14** 08:58:08.1±0.2, 80°40N×2°66W, h2km, ML3.4, Error ellipse: s-maj=10.5km s-min=7.0km az=25.0*
*IDC **14** 08:58:08.9±0.5, 80°40N×2°64W, h0km, mb3.9/22, mb1 4.1/25, mb1mx4.0/36, mbtmp3.9/25, ML3.7/3, MS3.7/16, Ms1 3.7/16, ms1mx3.4/47, Error ellipse: s-maj=16.9km s-min=10.7km az=38.0*
*NEIC **14** 08:58:10.1±0.3, 80°39N×2°53W, h10km, mb4.6/3, Error ellipse: s-maj=9.5km s-min=6.3km az=216.0*
*BER **14** 08:58:11.8±5.0, 81°09N×1°37E, h10km, MD2.9, ML3.1, ML4.1(NAO)*

ISC 14 08:58:09.7±0.4, 80°35N±0°06×2°32W±0°04, h10km, n131, σ1°79/119, mb4.0/24, MS3.6/12, 1C, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**2.94**	**112**	Pn	**Pn**	**08 58 54.8**	**-1.5**
KBS				Sn	**Sn**	**08 59 26.7**	**-5.0**
KBS	**Kingsbay**	**2.94**	**112**	Pn	**Pn**	**08 58 54.8**	**-1.5**
KBS				*e*S	**Sn**	**08 59 26.2**	**-5.5**
KBS				AML	AML	08 59 28.3	
	comp=Z,134nm,0.1s						
KBS	**Kingsbay**	**2.94**	**112**	*e*Pn	**Pn**	**08 58 54.6**	**-1.8**
KBS				*e*Sn	**Sn**	**08 59 26.6**	**-5.0**
KBS	**Kingsbay**	**2.94**	**112**	Pn	**Pn**	**08 58 54.8**	**-1.5**
	SNR=50						
KBS				*i* S	**Sn**	**08 59 25.9**	**-5.7**
	comp=Z,52nm,0.3s,SNR=49						
KBS				Sn	Sb	08 59 26.7	-11
SPA0	**Spitsbergen Ar**	**4.10**	**112**	Pn	**Pn**	**08 59 11.5**	**-0.9**
	baz=324,slow=7.9						
SPA0				Sn	Sn	08 59 54.2	-6.1
	baz=357,slow=28						
SPA0	**Spitsbergen Ar**	**4.10**	**112**	Pn	**Pn**	**08 59 11.5**	**-0.9**
	baz=324,slow=7.9						
SPA0				Sn	Sn	08 59 54.2	-6.1
	baz=357,slow=28						
SPA0	**Spitsbergen Ar**	**4.10**	**112**	Pn	**Pn**	**08 59 11.5**	**-0.9**
	SNR=50						
SPITS	**Spitsbergen Ar**	**4.10**	**112**	Pn	**Pn**	**08 59 11.4**	**-0.9**
SPITS				Sn	**Sn**	**08 59 55.6**	**-4.7**
SPITS	**Spitsbergen Ar**	**4.10**	**112**	Pn	**Pn**	**08 59 11.4**	**-0.9**
SPITS	**Spitsbergen Ar**	**4.10**	**112**	Pn	**Pn**	**08 59 11.4**	**-0.9**
	baz=323,slow=5.4,SNR=1925						
SPITS				Sn	**Sn**	**08 59 55.6**	**-4.7**
	baz=304,slow=15,SNR=1.8						
DAG	**Danmarks Havn**	**4.82**	**230**	*i* P	**Pn**	**08 59 21.5**	**-0.7**
DAG				*i* S	**Sn**	**09 00 13.6**	**-4.4**
DAG	**Danmarks Havn**	**4.82**	**230**	*i* S	**Sn**	**09 00 13.6**	**-4.4**
	comp=Z,66nm,0.4s,SNR=49						
HOPEN	**Hopen**	**6.63**	**111**	*e*P	**Pn**	**08 59 45.5**	**-1.5**
HOPEN				*e*S	Sn	09 00 55.1	-7.4
HOPEN				AML	AML	09 00 59.7	
	comp=Z,46nm,0.4s						
HOPEN	**Hopen**	**6.63**	**111**	*e*P	**Pn**	**08 59 45.5**	**-1.5**
	SNR=47						
SUMG	**Summit**	**11.21**	**246**	*i* P	**Pn**	**09 00 47.6**	**-2.4**
SUMG				*i* S	Sn	09 02 48.0	-7.3
SUMG	**Summit**	**11.21**	**246**	*e*Pn	**Pn**	**09 00 47.5**	**-2.5**
	comp=Z,24nm,0.4s						
SUMG				*e*Sn	Sn	09 02 43.3	-12
SUMG	**Summit**	**11.21**	**246**	*i* P	**Pn**	**09 00 47.6**	**-2.4**
	SNR=46						
KULLO	**Kullorsuaq**	**12.66**	**273**	*i* P	Pn	09 01 04.8	-4.6
	SNR=46						
KEV	**Kevo**	**12.78**	**130**	*e*Pn	**Pn**	**09 01 11.0**	**0.0**
KEV	**Kevo**	**12.78**	**130**	*e*Pn	**Pn**	**09 01 11.0**	**0.0**
ARCES	**ARCESS Array B**	**12.79**	**132**	Pn	**Pn**	**09 01 11.5**	**+0.2**
ARCES	**ARCESS Array B**	**12.79**	**132**	Pn	**Pn**	**09 01 11.5**	**+0.2**
ARCES	**ARCESS Array B**	**12.79**	**132**	Pn	**Pn**	**09 01 11.5**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=347,slow=7.7,SNR=19						
ARCES				LR	LR	09 05 53.7	
	comp=Z,180nm,19.9s,baz=350,slow=36						
BORG	**Borgarnes**	**16.50**	**209**	Pn	**Pn**	**09 02 00.9**	**+0.1**
BORG	**Borgarnes**	**16.50**	**209**	Pn	**Pn**	**09 02 00.9**	**+0.1**
BORG	**Borgarnes**	**16.50**	**209**	Pn	**Pn**	**09 02 01.0**	**+0.1**
	comp=Z,7nm,0.3s,baz=355,slow=11,SNR=3.1						
SFJD	**Kangerlussuaq**	**18.11**	**251**	*i* P	**Pn**	**09 02 16.3**	**-4.5**
SFJD	**Kangerlussuaq**	**18.11**	**251**	P	Pn	09 02 15.5	-5.3
SFJD	**Kangerlussuaq**	**18.11**	**251**	P	Pn	09 02 15.5	-5.3
	comp=Z,1.6nm,0.3s,baz=22,slow=16,SNR=8.8						
SFJD				LR	LR	09 09 39.0	
	comp=Z,482nm,18.8s,baz=338,slow=38						
RES	**Resolute Bay**	**18.52**	**303**	P	P	09 02 20.4	-5.3
RES	**Resolute Bay**	**18.52**	**303**	P	P	09 02 20.4	-5.3
	comp=Z,0.7nm,0.3s,baz=33,slow=15,SNR=22						
RES				P	LR	09 09 22.5	
	comp=Z,260nm,18.0s,baz=58,slow=36						
NB2	**NORSAR Subarra**	**19.80**	**160**	P	Pn	09 02 47.0	+5.6
	baz=351,slow=9.3						
NB2	**NORSAR Subarra**	**19.80**	**160**	P	Pn	09 02 47.0	+5.6
	baz=351,slow=9.3						
NOA	**NORSAR Array B**	**19.80**	**160**	P	**Pn**	**09 02 41.7**	**+0.4**
NOA	**NORSAR Array B**	**19.80**	**160**	P	**Pn**	**09 02 41.7**	**+0.4**
NOA	**NORSAR Array B**	**19.80**	**160**	P	**Pn**	**09 02 41.7**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=355,slow=13,SNR=2.4						
NOA				LR	LR	09 09 09.0	
	comp=Z,75nm,20.8s,baz=340,slow=33						
FIA0	**FINESS Array S**	**20.65**	**140**	P	Pn	09 02 53.5	+2.3
	slow=5.6						
FIA0	**FINESS Array S**	**20.65**	**140**	P	Pn	09 02 53.5	+2.3
	slow=5.6						
FINES	**FINESS Array B**	**20.65**	**140**	P	Pn	09 02 51.0	-0.2
FINES	**FINESS Array B**	**20.65**	**140**	P	Pn	09 02 51.0	-0.3
FINES	**FINESS Array B**	**20.65**	**140**	P	Pn	09 02 51.0	-0.2
	comp=Z,3.1nm,0.7s,baz=323,slow=16,SNR=3.4						
HFS	**Hagfors**	**20.85**	**157**	P	Pn	09 02 53.5	-0.2
	slow=12						
HFS	**Hagfors**	**20.85**	**157**	P	Pn	09 02 53.5	-0.2
	slow=12						
HFS	**Hagfors**	**20.85**	**157**	P	Pn	09 02 53.5	-0.1
HFS	**Hagfors**	**20.85**	**157**	P	Pn	09 02 53.5	-0.1
	SNR=47						
HFS	**Hagfors**	**20.85**	**157**	P	Pn	09 02 53.5	-0.1
	comp=Z,9.6nm,0.9s,baz=1.9,slow=13,SNR=6.8						
HFS				LR	LR	09 10 10.2	
	comp=Z,96nm,20.9s,baz=255,slow=34						
EKA	**Eskdalemuir Ar**	**25.13**	**181**	P	**P**	**09 03 35.1**	**+0.8**
EKA	**Eskdalemuir Ar**	**25.13**	**181**	P	**P**	**09 03 35.1**	**+0.8**
EKA	**Eskdalemuir Ar**	**25.13**	**181**	P	**P**	**09 03 35.1**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=4.5,slow=10.0,SNR=2.6						
INK	**Inuvik**	**29.11**	**325**	P	**P**	**09 04 09.4**	**-0.5**
INK	**Inuvik**	**29.11**	**325**	P	**P**	**09 04 09.4**	**-0.5**
INK	**Inuvik**	**29.11**	**325**	P	**P**	**09 04 09.4**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=22,slow=9.3,SNR=11						
AKASG	**Malin Array Be**	**31.55**	**141**	P	**P**	**09 04 31.9**	**+0.3**
AKASG	**Malin Array Be**	**31.55**	**141**	P	**P**	**09 04 31.9**	**+0.3**
AKASG	**Malin Array Be**	**31.55**	**141**	P	**P**	**09 04 31.9**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=344,slow=9.2,SNR=3.9						
GERES	**GERESS Array B**	**32.10**	**160**	P	**P**	**09 04 37.3**	**+0.7**
GERES	**GERESS Array B**	**32.10**	**160**	P	**P**	**09 04 37.3**	**+0.7**
GERES	**GERESS Array B**	**32.10**	**160**	P	**P**	**09 04 37.3**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=1.9,slow=5.9,SNR=3.4						
YKA	**Yellowknife Ar**	**32.52**	**307**	P	**P**	**09 04 38.8**	**-1.2**
YKA	**Yellowknife Ar**	**32.52**	**307**	P	**P**	**09 04 38.8**	**-1.2**
YKA	**Yellowknife Ar**	**32.52**	**307**	P	**P**	**09 04 38.8**	**-1.2**
	comp=Z,2.4nm,0.8s,baz=9.1,slow=8.2,SNR=3.7						
ILAR	**Eielson Array**	**33.74**	**333**	P	**P**	**09 04 51.6**	**+1.0**
ILAR	**Eielson Array**	**33.74**	**333**	P	**P**	**09 04 51.7**	**+1.0**
ILAR	**Eielson Array**	**33.74**	**333**	P	**P**	**09 04 51.6**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=2.5,slow=7.2,SNR=14						
BVAR	**Borovoye Array**	**35.33**	**94**	P	**P**	**09 05 04.0**	**-0.5**
BVAR	**Borovoye Array**	**35.33**	**94**	P	**P**	**09 05 04.1**	**-0.5**
BVAR	**Borovoye Array**	**35.33**	**94**	P	**P**	**09 05 04.1**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=317,slow=9.9,SNR=3.5						
BVAR				LR	LR	09 24 26.9	
	comp=Z,77nm,18.0s,baz=60,slow=45						
AKTO	**Aktyubinsk**	**35.79**	**108**	P	**P**	**09 05 09.1**	**+0.6**
AKTO	**Aktyubinsk**	**35.79**	**108**	P	**P**	**09 05 09.1**	**+0.6**
AKTO	**Aktyubinsk**	**35.79**	**108**	P	**P**	**09 05 09.1**	**+0.6**
	comp=Z,3.2nm,0.8s,baz=334,slow=8.5,SNR=8.7						
AKTO				LR	LR	09 21 10.6	
	comp=Z,115nm,18.9s,baz=9.7,slow=38						
MLR	**Muntele Rosu**	**36.38**	**146**	LR	LR	09 20 59.3	
	comp=Z,36nm,20.0s,baz=255,slow=38						
ZALV	**Zalesovo Beam**	**36.87**	**80**	P	**P**	**09 05 18.1**	**+0.5**
ZALV	**Zalesovo Beam**	**36.87**	**80**	P	**P**	**09 05 18.1**	**+0.5**
ZALV	**Zalesovo Beam**	**36.87**	**80**	P	**P**	**09 05 18.1**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=343,slow=9.6,SNR=4.4						
DLBC	**Dease Lake**	**38.37**	**318**	LR	LR	09 21 44.6	
	comp=Z,133nm,19.6s,baz=15,slow=37						
KURK	**Kurchatov**	**38.95**	**87**	P	**P**	**09 05 37.4**	**+2.2**
KURK				PcP	**PcP**	**09 07 46.7**	**+1.3**
KURK	**Kurchatov**	**38.95**	**87**	P	**P**	**09 05 37.4**	**+2.2**
KURBB	**Kurchatov Arra**	**39.02**	**87**	P	**P**	**09 05 37.4**	**+1.6**
	comp=Z,3.4nm,0.8s,baz=343,slow=7.6,SNR=20						
KURBB				PcP	**PcP**	**09 07 46.7**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=336,slow=3.5,SNR=4.0						
ULM	**Lac du Bonnet**	**41.50**	**285**	LR	LR	09 22 43.3	
	comp=Z,224nm,18.4s,baz=62,slow=36						
OHAK	**Old Harbor**	**41.69**	**337**	*e*P	**P**	**09 05 57.5**	**-0.3**
	comp=Z,21nm,1.6s						
OHAK	**Old Harbor**	**41.69**	**337**	*e*P	**P**	**09 05 57.5**	**-0.3**
	comp=Z,21nm,1.6s						
BRTR	**Keskin Array B**	**42.88**	**138**	P	**P**	**09 06 10.6**	**+2.7**
BRTR	**Keskin Array B**	**42.88**	**138**	P	**P**	**09 06 10.6**	**+2.7**
BRTR	**Keskin Array B**	**42.88**	**138**	P	**P**	**09 06 10.6**	**+2.7**
	comp=Z,0.3nm,0.4s,baz=335,slow=6.4,SNR=3.5						
BRTR				LR	LR	09 26 00.8	
	comp=Z,68nm,20.5s,baz=287,slow=39						
MK31	**Makanchi Array**	**43.36**	**85**	*e*P	**P**	**09 06 12.0**	**+0.4**
MK31	**Makanchi Array**	**43.36**	**85**	*e*P	**P**	**09 06 12.0**	**+0.4**
MKAR	**Makanchi Array**	**43.36**	**85**	P	**P**	**09 06 13.4**	**+1.9**
MKAR	**Makanchi Array**	**43.36**	**85**	P	**P**	**09 06 13.4**	**+1.9**
MKAR	**Makanchi Array**	**43.36**	**85**	P	**P**	**09 06 13.4**	**+1.9**
	comp=Z,2.0nm,0.7s,baz=347,slow=7.2,SNR=17						
MKAR				LR	LR	09 29 18.4	
	comp=Z,60nm,18.6s,baz=351,slow=43						
GNI	**Garni**	**43.85**	**126**	LR	LR	09 27 13.1	
	comp=Z,46nm,18.9s,baz=287,slow=40						
SDPT	**Sand Point**	**43.98**	**342**	P	**P**	**09 06 15.5**	**-0.9**
SDPT	**Sand Point**	**43.98**	**342**	P	**P**	**09 06 15.5**	**-0.9**
KKAR	**Karatay Array**	**44.96**	**98**	P	**P**	**09 06 26.4**	**+2.0**
KKAR	**Karatay Array**	**44.96**	**98**	P	**P**	**09 06 26.4**	**+2.0**
AAK	**Ala-Archa**	**46.09**	**94**	P	**P**	**09 06 35.2**	**+1.7**
AAK	**Ala-Archa**	**46.09**	**94**	P	**P**	**09 06 35.2**	**+1.7**
AAK	**Ala-Archa**	**46.09**	**94**	P	**P**	**09 06 35.2**	**+1.7**
	comp=Z,1.5nm,0.6s,baz=300,slow=7.7,SNR=4.9						
SONM	**Songino Array**	**46.22**	**62**	P	**P**	**09 06 35.1**	**+0.6**
SONM	**Songino Array**	**46.22**	**62**	P	**P**	**09 06 35.1**	**+0.6**
SONM	**Songino Array**	**46.22**	**62**	P	**P**	**09 06 35.1**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=332,slow=4.9,SNR=2.9						
SONM				LR	LR	09 27 32.9	
	comp=Z,168nm,18.9s,baz=62,slow=38						
PETK	**Petropavlovsk-**	**46.31**	**17**	P	**P**	**09 06 34.8**	**-0.2**
PETK	**Petropavlovsk-**	**46.31**	**17**	P	**P**	**09 06 34.8**	**-0.2**
PETK	**Petropavlovsk-**	**46.31**	**17**	P	**P**	**09 06 34.8**	**-0.2**
	comp=Z,2.5nm,0.9s,baz=66,slow=5.3,SNR=4.0						
FX1	**Attu Island--F**	**47.00**	**4**	P	**P**	**09 06 38.0**	**-2.3**
FX1	**Attu Island--F**	**47.00**	**4**	P	**P**	**09 06 38.0**	**-2.3**
FX1	**Attu Island--F**	**47.00**	**4**	P	**P**	**09 06 38.0**	**-2.3**
	comp=Z,13nm,0.8s,baz=124,slow=3.6,SNR=2.9						
MCMT	**McKenzie Canyo**	**49.43**	**299**	*e*P	**P**	**09 07 00.3**	**+0.8**
	comp=Z,2.7nm,1.1s						
MCMT	**McKenzie Canyo**	**49.43**	**299**	*e*P	**P**	**09 07 00.3**	**+0.8**
	comp=Z,2.7nm,1.1s						
PDAR	**Pinedale Array**	**50.95**	**295**	P	**P**	**09 07 10.5**	**-0.5**
PDAR	**Pinedale Array**	**50.95**	**295**	P	**P**	**09 07 10.5**	**-0.5**
PDAR	**Pinedale Array**	**50.95**	**295**	P	**P**	**09 07 10.5**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=7.8,slow=7.9,SNR=4.5						
PDAR				LR	LR	09 29 27.2	
	comp=Z,92nm,18.2s,baz=64,slow=37						
O20A	**White River Ci**	**53.32**	**293**	*e*P	**P**	**09 07 29.7**	**+1.0**
O20A	**White River Ci**	**53.32**	**293**	*e*P	**P**	**09 07 29.7**	**+1.0**
SMCO	**Snowmass**	**54.06**	**292**	*e*P	**P**	**09 07 35.0**	**+0.7**
	comp=Z,20nm,1.1s						
SMCO	**Snowmass**	**54.06**	**292**	*e*P	**P**	**09 07 35.0**	**+0.7**
	comp=Z,20nm,1.1s						
NVAR	**Mina Array Bea**	**56.49**	**302**	P	**P**	**09 07 52.6**	**+0.9**
NVAR	**Mina Array Bea**	**56.49**	**302**	P	**P**	**09 07 52.6**	**+0.9**
NVAR	**Mina Array Bea**	**56.49**	**302**	P	**P**	**09 07 52.6**	**+0.9**
	comp=Z,1.4nm,1.0s,baz=354,slow=3.0,SNR=5.0						
TXAR	**Lajitas Array**	**63.17**	**286**	P	**P**	**09 08 38.1**	**+0.6**
TXAR	**Lajitas Array**	**63.17**	**286**	P	**P**	**09 08 38.1**	**+0.6**
TXAR	**Lajitas Array**	**63.17**	**286**	P	**P**	**09 08 38.1**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=33,slow=4.4,SNR=27						
TXAR				LR	LR	09 36 45.6	
	comp=Z,94nm,18.0s,baz=310,slow=37						
TORD	**Torodi Ar. Bea**	**67.25**	**176**	P	**P**	**09 09 05.2**	**+1.3**
TORD	**Torodi Ar. Bea**	**67.25**	**176**	P	**P**	**09 09 05.2**	**+1.3**
TORD	**Torodi Ar. Bea**	**67.25**	**176**	P	**P**	**09 09 05.2**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=349,slow=5.9,SNR=4.8						
CMAR	**Chiang Mai Arr**	**73.81**	**76**	P	**P**	**09 09 45.4**	**+1.4**
CMAR	**Chiang Mai Arr**	**73.81**	**76**	P	**P**	**09 09 45.4**	**+1.4**
CMAR	**Chiang Mai Arr**	**73.81**	**76**	P	**P**	**09 09 45.4**	**+1.4**
	comp=Z,0.8nm,0.3s,baz=354,slow=6.8,SNR=4.4						
ASAR	**Alice Springs**	**120.34**	**47**	PKP	**PKPdf**	**09 17 00.5**	**+0.1**
ASAR	**Alice Springs**	**120.34**	**47**	PKIKP	**PKPdf**	**09 17 00.5**	**+0.1**
ASAR	**Alice Springs**	**120.34**	**47**	PKP	**PKPdf**	**09 17 00.5**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=7.1,slow=1.8,SNR=6.7						
SYO	**Syowa Base**	**150.95**	**150**	*e*P	**PKPab**	**09 18 08.8**	**+0.8**

*CSEM **14** 08:59:52.6±0.7, 64°66N×30°48E, h2km, ML1.8, Error ellipse: s-maj=16.3km s-min=7.8km az=99.0, Mining explosion.*
*UPP **14** 08:59:54.0, 64°63N×30°32E, h0km, ML1.8, Suspected Mining explosion.*

HEL 14 08:59:52.0, 64°76N×30°72E, h0km, ML1.8, Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KU6	**Riekki**	**1.32**	**345**	*e*P	Pg	09 00 13.7	-3.6
	baz=167						
KU6				*e*SN	Sn	09 00 36.5	+0.5
KU6				MSG		09 00 36.5	
	comp=Z,6.9nm,0.4s						
KU6				*e*RG	Rg	09 00 37.8	
MSF	**Maaselka**	**1.36**	**329**	*e*PN	Pg	09 00 18.0	-0.1
MSF				*e*S	Sg	09 00 33.8	-1.9
MSF				MSG		09 00 33.8	
	comp=Z,4.3nm,0.4s						
MSF	**Maaselka**	**1.36**	**329**	Pn	Pg	09 00 18.0	-0.1
JOF	**Joensuu**	**1.86**	**172**	*e*S	Sn	09 00 46.8	-2.5
JOF				MSG		09 00 46.8	
	comp=Z,9.1nm,0.4s						
JOF	**Joensuu**	**1.86**	**172**	S	Sn	09 00 46.8	-2.5
	comp=Z,9.1nm,0.4s						
OUL	**Oulu**	**2.08**	**281**	*e*PB	Pn	09 00 29.0	+0.9
	baz=95						
OUL				*e*S	Sn	09 00 51.5	-3.2
OUL				MSG		09 00 51.5	
	comp=Z,4.7nm,0.4s						
OUL	**Oulu**	**2.08**	**281**	Pb	Pn	09 00 29.0	+0.9
OUL				S	Sn	09 00 51.5	-3.2
	comp=Z,4.7nm,0.4s						
RNF	**Rovaniemi**	**2.69**	**316**	*e*PB	Pb	09 00 39.6	-1.4
RNF				*e*SG	Sb	09 01 16.3	+1.7
RNF				MSG		09 01 16.3	
	comp=Z,3.0nm,0.4s						
SUF	**Sumiainen**	**2.88**	**227**	*e*P	Pn	09 00 39.6	+0.5
SUF				MSG	Sg	09 01 19.3	-5.3
	comp=Z,4.9nm,0.2s						
SUF				*e*SG

TXAR Lajitas Array 51.16 91 P P 09 15 18.9 +1.5
TXAR Lajitas Array 51.16 91 P P 09 15 18.9 +1.5
0.6nm,0.8s,baz=295,slow=5.1,SNR=8.9
SONM Songino Array 52.55 302 P P 09 15 27.6 +0.1
SONM Songino Array 52.55 302 P P 09 15 27.6 +0.1
0.6nm,0.6s,baz=60,slow=7.0,SNR=3.2
ARCES ARCESS Array B 57.89 355 P P 09 16 05.0 -0.6
ARCES ARCESS Array B 57.89 355 P P 09 16 05.0 -0.6
3.8nm,0.9s,baz=22,slow=6.7,SNR=6.6
ZALV Zalesovo Beam 58.34 319 P P 09 16 07.6 -1.3
ZALV Zalesovo Beam 58.34 319 P P 09 16 07.6 -1.3
0.7nm,0.3s,baz=18,slow=9.7,SNR=2.8
KURK Kurchatov 63.27 320 P P 09 16 43.2 +0.7
KURBB Kurchatov Arra 63.38 320 P P 09 16 43.2 0.0
0.7nm,0.2s,baz=48,slow=7.2,SNR=4.4
JOF Joensuu 63.99 351 *ep* P **09 16 45.8 -1.2**
0.6nm,0.3s
MKAR Makanchi Array 64.81 315 P P 09 16 51.6 -1.1
MKAR Makanchi Array 64.81 315 P P 09 16 51.6 -1.1
1.4nm,0.7s,baz=48,slow=5.5,SNR=15
KAF Kangasniemi 65.21 353 *ep* P **09 16 54.1 -0.9**
5.7nm,0.7s
FINES FINESS Array B 65.89 353 P P 09 16 59.1 -0.3
FINES FINESS Array B 65.89 353 P P 09 16 59.1 -0.3
3.0nm,0.5s,baz=11,slow=7.3,SNR=11
NOA NORSAR Array B 66.74 1 P P 09 17 05.1 +0.2
NOA NORSAR Array B 66.74 1 P P 09 17 05.1 +0.2
0.8nm,0.7s,baz=0.2,slow=6.2,SNR=3.2
HFS Hagfors 67.66 360 P P 09 17 10.5 -0.2
HFS Hagfors 67.66 360 P P 09 17 10.5 -0.2
1.8nm,0.4s,baz=2.9,slow=3.0,SNR=12
EKA Eskdalemuir Ar 71.62 10 P P 09 17 35.7 +0.5
EKA Eskdalemuir Ar 71.62 10 P P 09 17 35.7 +0.5
1.2nm,0.8s,baz=344,slow=5.6,SNR=3.8
AKASG Malin Array Be 76.23 350 P P 09 18 02.1 -0.1
AKASG Malin Array Be 76.23 350 P P 09 18 02.1 -0.1
1.8nm,0.3s,baz=12,slow=5.4,SNR=11
GERES GERESS Array B 78.97 360 P P 09 18 18.9 +1.1
GERES GERESS Array B 78.97 360 P P 09 18 18.9 +1.1
0.4nm,0.4s,baz=19,slow=8.5,SNR=3.5
BRTR Keskin Array B 86.40 344 P P 09 18 56.5 -0.1
BRTR Keskin Array B 86.40 344 P P 09 18 56.5 -0.1
0.7nm,0.6s,baz=48,slow=1.8,SNR=5.0
POO Poona 91.95 304 *ex* x 09 18 34.0

MOS ***14*** *09:13:03.1±1.8,54.°82N×161.°67E,h44km,mb4.2/2, Error ellipse: s-maj=34.4km s-min=19.8km az=61.5*
ISCJB ***14*** *09:13:04.5±0.4,54.°50N±0.°02×161.°74E±0.°05,h48km±5km, mb3.6/4, Error ellipse: s-maj=5.1km s-min=2.6km az=22.2*
KRSC ***14*** *09:13:04.1±2.4,54.°53N×161.°68E,h44km±43km, ML4.0*
IDC ***14*** *09:13:04.5±4.6,54.°74N×161.°80E,h33km±41km,mb3.5/4, mb1 3.8/6,mb1mx3.4/28,mbtmp3.6/6,ML4.0/2, Error ellipse: s-maj=33.0km s-min=13.8km az=177.0*
ISC 14 09:13:05.2±0.9,54.°51N±0.°03×161.°74E±0.°04,h41km±7km, n50,σ1°92°/80,mb3.6/4,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.05**	**350**	P		**Pn**	**09 13 11.6**	**-0.1**
MKZ				*i* S		**Sn**	**09 13 16.5**	**+0.2**
TUMR	**Tumrok**	**1.21**	**311**	P		**Pn**	**09 13 24.8**	**-0.8**
TUMR				*i* S		**Sn**	**09 13 39.8**	**-1.1**
KII	**Karymskiy**	**1.43**	**252**	P		**Pn**	**09 13 28.0**	**-0.6**
KII				*i* S		**Sn**	**09 13 45.0**	**-1.2**
KMNR	**Kamenistaya**	**1.52**	**326**	P		**Pn**	**09 13 30.1**	**+0.2**
KMNR				*i* S		**Sn**	**09 13 48.8**	**+0.2**
BZGR	**Bezymyannyi-Gr**	**1.56**	**338**	P		**Pn**	**09 13 30.7**	**+0.3**
BZGR				*i* S		**Sn**	**09 13 49.8**	**+0.4**
BZMR	**Bezymyannaya**	**1.60**	**334**	P		**Pn**	**09 13 30.8**	**-0.3**
BZMR				*i* S		**Sn**	**09 13 49.8**	**-0.8**
ZLN	**Zelenaya**	**1.61**	**341**	P		**Pn**	**09 13 31.8**	**+0.7**
ZLN				*i* S		**Sn**	**09 13 51.7**	**+1.1**
BZWR	**Bezymyannyi-We**	**1.62**	**334**	P		**Pn**	**09 13 31.6**	**+0.2**
BZWR				*i* S		**Sn**	**09 13 51.0**	**-0.2**
KIRR	**Kirishev**	**1.66**	**332**	P		**Pn**	**09 13 32.1**	**+0.3**
KIRR				*i* S		**Sn**	**09 13 52.7**	**+0.7**
LGNR	**Loginova**	**1.69**	**340**	P		**Pn**	**09 13 33.1**	**+0.7**
KPT	**Kopyto**	**1.70**	**330**	P		**Pn**	**09 13 32.7**	**+0.3**
KPT				*i* S		**Sn**	**09 13 53.7**	**+0.7**
CIRR	**Tsirk**	**1.71**	**341**	P		**Pn**	**09 13 33.2**	**+0.6**
KBTR	**Krutoberegovo**	**1.81**	**19**	P		**Pn**	**09 13 35.2**	**+1.4**
KRSR	**Krestovskiy**	**1.84**	**339**	P		**Pn**	**09 13 34.1**	**-0.2**
KRSR				*i* S		**Sn**	**09 13 55.3**	**-1.1**
KOZ	**Kozyrevsk**	**1.89**	**326**	P		**Pn**	**09 13 35.3**	**+0.4**
KOZ				*i* S		**Sn**	**09 13 57.7**	**+0.3**
KLY	**Klyuchi**	**1.91**	**341**	P		**Pn**	**09 13 34.9**	**-0.3**
KLY				*i* S		**Sn**	**09 13 56.4**	**-1.6**
NLC	**Nalytchevo**	**1.95**	**228**	P		**Pn**	**09 13 35.4**	**-0.3**
NLC				*i* S		**Sn**	**09 13 58.2**	**-0.8**
SMKR	**Semkarok**	**2.08**	**356**	P		**Pn**	**09 13 38.5**	**+0.8**
SMKR				*i* S		**Sn**	**09 14 03.4**	**+1.0**
BDR	**Baidarnaya**	**2.09**	**352**	P		**Pn**	**09 13 38.6**	**+0.9**
BDR				*i* S		**Sn**	**09 14 03.4**	**+0.9**
SDLR	**Sedlovina**	**2.09**	**235**	P		**Pn**	**09 13 38.4**	**+0.6**
SDLR				*i* S		**Sn**	**09 14 03.1**	**+0.4**
SMAR	**Somma**	**2.14**	**236**	P		**Pn**	**09 13 38.9**	**+0.3**
SMAR				*i* S		**Sn**	**09 14 04.1**	**+0.1**
KRR	**Koryakskii**	**2.14**	**237**	P		**Pn**	**09 13 39.2**	**+0.6**
KRER				*i* S		**Sn**	**09 14 04.6**	**+0.6**
SRDR	**Sredinnyy**	**2.15**	**328**	P		**Pn**	**09 13 38.4**	**-0.1**
SRDR				*i* S		**Sn**	**09 14 03.1**	**-0.9**
KRX	**Arik**	**2.16**	**239**	P		**Pn**	**09 13 38.8**	**0.0**
KRX				*i* S		**Sn**	**09 14 04.0**	**-0.4**
UGLR	**Uglovaya**	**2.16**	**234**	P		**Pn**	**09 13 39.4**	**+0.6**
UGLR				*i* S		**Sn**	**09 14 05.1**	**+0.7**
AVH	**Avacha**	**2.17**	**236**	P		**Pn**	**09 13 39.6**	**+0.8**
AVH				*i* S		**Sn**	**09 14 05.4**	**+0.9**
KOK	**Koryaka**	**2.21**	**238**	P		**Pn**	**09 13 39.7**	**+0.4**
KOK				*i* S		**Sn**	**09 14 06.0**	**+0.6**
ESO	**Esso**	**2.25**	**310**	P		**Pn**	**09 13 39.4**	**-0.5**
ESO				*i* S		**Sn**	**09 14 05.0**	**-1.4**
PET	**Petropavlovsk**	**2.36**	**232**	*e*PN		**Pn**	**09 13 42.0**	**+0.7**
PET				*e*S		**Sn**	**09 14 08.7**	**-0.3**
PET				smax		smax		
	comp=N,227nm,0.3s							
PET				smax		smax		
	comp=E,572nm,0.4s							
PET	**Petropavlovsk**	**2.36**	**232**	P		**Pn**	**09 13 41.7**	**+0.4**
PET				*i* S		**Sn**	**09 14 09.0**	**-0.1**
GNL	**Ganaly**	**2.38**	**252**	P		**Pn**	**09 13 42.1**	**+0.3**
GNL				*i* S		**Sn**	**09 14 09.9**	**+0.1**
BKI	**Bering**	**2.54**	**72**	P		**Pn**	**09 13 44.2**	**+0.4**
BKI				*i* S		**Sn**	**09 14 13.2**	**-0.3**
PETK	**Petropavlovsk-**	**2.78**	**241**	PN		**Pn**	**09 13 47.5**	**+0.4**
PETK							09 14 23.0	
PETK				pmax		pmax		
	comp=Z,5.0nm,0.3s							
PETK				smax		smax		
	comp=N,20nm,0.3s							
PETK	**Petropavlovsk-**	**2.78**	**241**	Pn		**Pn**	**09 13 47.5**	**+0.4**
	comp=N,4.7nm,0.3s,baz=82,slow=15,SNR=37							
PETK				Sn		**Sn**	**09 14 23.0**	**+3.6**
	comp=N,20nm,0.3s,baz=37,slow=13,SNR=12							
RUS	**Russkaya**	**2.84**	**224**	P		**Pn**	**09 13 47.7**	**-0.2**
RUS				*i* S		**Sn**	**09 14 18.9**	**-1.9**
GRL	**Gorelyy**	**2.94**	**230**	P		**Pn**	**09 13 50.6**	**+1.2**
GRL				*i* S		**Sn**	**09 14 23.3**	**-0.2**
MTVR	**Mutnovka**	**2.94**	**228**	P		**Pn**	**09 13 50.3**	**+0.9**
MTVR				*i* S		**Sn**	**09 14 23.2**	**-0.3**
ASAK	**Asacha**	**3.13**	**229**	P		**Pn**	**09 13 53.7**	**+1.7**
ASAK				*i* S		**Sn**	**09 14 28.3**	**+0.1**
APC	**Apacha**	**3.15**	**242**	P		**Pn**	**09 13 53.0**	**+0.8**
APC				*i* S		**Sn**	**09 14 29.2**	**+0.7**
FX1	**Attu Island--F**	**6.97**	**99**	Pn		**Pn**	**09 14 44.7**	**+0.1**
	comp=N,16nm,0.3s,baz=314,slow=4.8,SNR=68							
FX1				Sn		**Sn**	**09 15 58.4**	**-4.2**
	comp=N,4.7nm,0.3s,baz=228,slow=20,SNR=6.5							
MJAR	**Matsushiro Arr**	**24.19**	**232**	P		**P**	**09 18 19.7**	**+2.1**
	comp=N,0.4nm,0.4s,baz=46,slow=10,SNR=4.0							
H11N2	**WAKE ISLAND Hy**	**34.94**	**172**	T		T	09 57 03.7	
	baz=357,slow=0.7,SNR=326							
H11N3	**WAKE ISLAND Hy**	**34.95**	**171**	T		T	09 57 04.7	
	baz=357,slow=0.7,SNR=290							
H11N1	**WAKE ISLAND Hy**	**34.96**	**172**	T		T	09 57 04.9	
	baz=357,slow=0.7,SNR=420							
H11S1	**WAKE ISLAND Hy**	**36.13**	**172**	T		T	09 58 30.9	
	baz=355,slow=0.7,SNR=14							
H11S3	**WAKE ISLAND Hy**	**36.15**	**172**	T		T	09 58 23.8	
	baz=355,slow=0.7,SNR=14							
H11S2	**WAKE ISLAND Hy**	**36.15**	**172**	T		T	09 58 29.3	
	baz=355,slow=0.7,SNR=8.3							
FINES	**FINESS Array B**	**59.20**	**337**	P		**P**	**09 22 59.6**	**-1.8**
	comp=N,0.9nm,0.4s,baz=24,slow=11,SNR=5.0							
NOA	**NORSAR Array B**	**62.45**	**344**	P		**P**	**09 23 21.7**	**-1.8**
	comp=N,0.3nm,0.3s,baz=21,slow=6.7,SNR=3.2							
TXAR	**Lajitas Array**	**69.19**	**69**	P		**P**	**09 24 08.5**	**+1.0**
	comp=N,0.1nm,0.5s,baz=309,slow=5.4,SNR=6.4							

ISCJB ***14*** *09:14:45.0±0.6,7.°29S±0.°09×120.°21E±0.°10,h400km, mb3.6/6, Error ellipse: s-maj=16.1km s-min=8.1km az=136.6*
IDC ***14*** *09:14:48.1±1.3,7.°37S×120.°26E,h422km±14km,mb3.2/7, mb1 3.2/11,mb1mx3.1/25,mbtmp3.2/11, Error ellipse: s-maj=38.7km s-min=12.7km az=63.0*
AUST ***14*** *09:14:50.2±0.0,7.°15S×120.°26E,h524km±1km, Error ellipse: s-maj=2.4km s-min=1.2km az=9.0*
ISC 14 09:14:46.9±0.7,7.°38S±0.°10×120.°24E±0.°10,h400km,n20, σ1°59°/19,mb3.5/6,Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.40**	**348**	P		**Pn**	**09 15 48.6**	**+3.1**
	6.6nm,0.3s,baz=179,slow=3.6,SNR=18							
BATI	**Baumata**	**4.40**	**130**	P		**Pn**	**09 16 04.8**	**+2.0**
	18nm,0.3s,baz=341,slow=1.3,SNR=20							
BATI				S		**S**	**09 17 01.4**	**-3.1**
	50nm,0.3s,baz=294,slow=15,SNR=8.0							
SOEI	**Soe**	**4.63**	**121**	P		**Pn**	**09 16 07.2**	**+1.9**
	baz=4.7,SNR=12							
UGM	**Wanagama**	**9.65**	**266**	P		Pn	09 17 06.6	+5.6
	baz=9.7,SNR=3.2							
KNRA	**Kununurra**	**11.73**	**135**	P		Pn	09 17 33.6	+8.6
	baz=12,SNR=3.4							
FITZ	**Fitzroy Crossi**	**11.89**	**154**	P		**P**	**09 17 26.5**	**+1.1**
	baz=12,SNR=4.0							
FITZ	**Fitzroy Crossi**	**11.89**	**154**	P		**P**	**09 17 26.3**	**+0.9**
	0.2nm,0.3s,baz=357,slow=6.9,SNR=7.0							
MTN	**Manton Dam**	**12.02**	**118**	P		**P**	**09 17 28.1**	**+1.2**
	baz=12,SNR=9.2							
CISI	**Cisompet, Garu**	**12.32**	**268**	P		**P**	**09 17 30.1**	**-0.2**
	baz=12,SNR=4.3							
FAKI	**Fak Fak**	**12.75**	**70**	P		**P**	**09 17 35.7**	**+0.7**
	baz=13,SNR=8.6							
KDU	**Kakadu**	**13.15**	**115**	P		**P**	**09 17 39.5**	**+0.2**
	baz=13,SNR=6.6							
WRA	**Warramunga Arr**	**18.52**	**134**	P		**P**	**09 18 36.4**	**-0.6**
	0.2nm,0.3s,baz=312,slow=11,SNR=17							
ASAR	**Alice Springs**	**20.84**	**143**	P		**P**	**09 18 59.5**	**+0.3**
	0.3nm,0.4s,baz=315,slow=8.0,SNR=9.9							
KSRS	**Korea Array**	**45.17**	**9**	P		**P**	**09 22 25.9**	**0.0**
	0.8nm,0.5s,baz=187,slow=9.4,SNR=4.1							
MJAR	**Matsushiro Arr**	**46.83**	**20**	P		**P**	**09 22 36.8**	**-1.8**
	1.2nm,0.7s,baz=197,slow=9.6,SNR=4.3							
SONM	**Songino Array**	**56.32**	**349**	P		**P**	**09 23 47.5**	**-0.4**
	0.7nm,0.6s,baz=165,slow=9.1,SNR=5.5							
MKAR	**Makanchi Array**	**63.60**	**332**	P		**P**	**09 24 36.3**	**-0.4**
	1.5nm,0.4s,baz=141,slow=7.8,SNR=12							
ZALV	**Zalesovo Beam**	**67.98**	**338**	P		**P**	**09 25 02.8**	**-1.3**
	3.1nm,0.3s,baz=131,slow=4.8,SNR=11							
KURBB	**Kurchatov Arra**	**68.08**	**333**	P		**P**	**09 25 03.5**	**-1.3**
	0.5nm,0.3s,baz=146,slow=5.4,SNR=3.0							
TORD	**Torodi Ar. Bea**	**119.38**	**281**	PKP		**PKPdf**	**09 32 49.1**	**-1.4**
	0.5nm,0.9s,baz=339,slow=1.2,SNR=2.8							

ISCJB ***14*** *09:15:08.5±0.3,13.°94N±0.°05×120.°74E±0.°07, h214km±4km,mb4.0/23,Error ellipse: s-maj=11.7km s-min=6.9km az=151.4*
BJI ***14*** *09:15:09.6,13.°75N×120.°54E,h219km,mB4.7/3,mb4.4/7*
MAN ***14*** *09:15:09,13.°96N×120.°60E,h190km,mb4.6,ML3.5, MS3.4*
IDC ***14*** *09:15:14.2±2.5,13.°87N×120.°64E,h256km±23km, mb3.7/20,mb1 3.8/20,mb1mx3.6/32,mbtmp3.7/20,Error ellipse: s-maj=18.8km s-min=8.0km az=66.0*
ISC 14 09:15:10.2±0.6,13.°94N±0.°05×120.°67E±0.°07,h218km±5km, n52,σ1°46°/66,mb4.0/23,5C-1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.31**	**58**	*i*P		**Pn**	**09 15 36.4**	**-2.6**
PGP	**Puerto Galera**	**0.52**	**147**	*e*P		Pn	09 15 36.1	-3.5
LQP	**Lukban**	**0.87**	**78**	*i*P		**Pn**	**09 15 39.0**	**-2.3**
BOAC	**Boac**	**1.24**	**112**	*e*P		**Pn**	**09 15 41.5**	**-2.0**
SJMP	**San Jose**	**1.53**	**163**	*e*P		**Pn**	**09 15 43.1**	**-2.7**
SJMP				*e*S		S	09 16 00.4	-13
PCPH	**Palayan**	**1.67**	**14**	*i*P		**Pn**	**09 15 44.2**	**-2.8**
GQP	**Guinayangan**	**1.73**	**91**	*i*P		**Pn**	**09 15 45.8**	**-1.8**
BUSP	**Coron**	**1.97**	**193**	*e*P		**Pn**	**09 15 47.8**	**-2.1**
OTRP	**Odiongan**	**2.05**	**140**	*e*P		**Pn**	**09 15 48.5**	**-2.2**
BOLP	**Bolinao**	**2.54**	**343**	*e*P		**Pn**	**09 15 53.1**	**-2.6**
ENPP	**El Nido**	**2.97**	**204**	*e*P		**Pn**	**09 15 59.6**	**-0.9**
CUYO	**Cuyo Island**	**3.09**	**174**	*e*P		**Pn**	**09 16 00.5**	**-1.4**
RCP	**Roxas**	**3.11**	**139**	*i*P		**Pn**	**09 16 01.6**	**-0.6**
PVCP	**Virac**	**3.41**	**95**	*e*P		**Pn**	**09 16 05.7**	**+0.1**
GYA	**Guiyang**	**18.09**	**316**	P		**Pn**	**09 19 08.3**	**-0.2**
GYA				sP		**sP**	**09 20 08.6**	**-0.4**
GYA				S		**S**	**09 22 18.0**	**-3.9**
GYA				PcP		**PcP**	**09 23 31.5**	**+1.7**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.7s							
KMI	**Kunming**	**20.20**	**306**	P		Pn	09 19 30.9	-3.0
KMI				AMB		AMB		
	comp=Z,16nm,1.3s							
CMAR	**Chiang Mai Arr**	**21.33**	**285**	P		**P**	**09 19 42.2**	**+1.7**
	2.9nm,0.4s,baz=97,slow=7.7,SNR=24							
CD2	**Chengdu**	**22.96**	**320**	P		**P**	**09 19 55.9**	**+0.1**
CD2				pP		**pP**	**09 20 36.6**	**+2.0**
CD2				sP		**sP**	**09 21 03.0**	**+0.9**
CD2				PcP		**PcP**	**09 23 40.8**	**+2.0**
CD2				S		**S**	**09 23 49.1**	**-0.3**
CD2				AMB		AMB		
	comp=Z,30nm,0.5s							
CD2				AMB		AMB		
	comp=Z,110nm,4.8s							
PSI	**Prapat**	**24.16**	**245**	P		**P**	**09 20 07.7**	**+0.8**
	14nm,0.8s,baz=75,slow=5.5,SNR=9.9							
HHC	**Hu-ho-hao-te**	**27.97**	**345**	*e*P		**P**	**09 20 41.3**	**+0.6**
HHC				pP		**pP**	**09 21 25.8**	**+1.4**
HHC				PP		**PnPn**	**09 21 41.8**	**+0.9**
HHC				sP		sP	09 21 51.8	+2.0
HHC				S		**S**	**09 25 06.9**	**-1.6**
HHC				PcS		**PcS**	**09 27 32.0**	**-0.5**
HHC				ScS		**ScS**	**09 31 00.5**	**-2.6**
HHC				AMB		AMB		
	comp=Z,39nm,1.0s							
HHC				AMB		AMB		
	comp=Z,140nm,5.4s							
HHC				LR		LR		
	comp=N,150nm,17.1s							
HHC				LR		LR		
	comp=E,120nm,17.1s							
HHC				LR		LR		
	comp=Z,140nm,17.6s							
CN2	**Changchun**	**30.04**	**7**	*e*P		P	09 21 03.6	+4.7
TAPN	**Taplejung**	**33.48**	**299**	*e*P		**P**	**09 21 30.2**	**+0.7**
	8.7nm,0.7s							
ODAN	**Odare**	**33.62**	**298**	*e*P		**P**	**09 21 31.7**	**+1.1**
	26nm,0.7s							
RAMN	**Ramite**	**34.33**	**298**	*e*P		**P**	**09 21 37.5**	**+0.8**
	16nm,0.7s							
JIRN	**Jiri**	**34.87**	**299**	*e*P		**P**	**09 21 42.3**	**+0.8**
	18nm,0.5s							
GUN	**Gumba**	**35.20**	**299**	*e*P		**P**	**09 21 45.1**	**+0.8**
PKI	**Pulchoki**	**35.51**	**298**	*e*P		**P**	**09 21 47.0**	**+0.1**
SONM	**Songino Array**	**35.82**	**344**	P		**P**	**09 21 49.8**	**+0.7**
	1.1nm,0.5s,baz=158,slow=9.9,SNR=6.2							
WRA	**Warramunga Arr**	**36.26**	**158**	P		**P**	**09 21 52.0**	**-0.9**
	6.8nm,0.5s,baz=337,slow=9.3,SNR=50							
WRA				S		**S**	**09 27 13.9**	**-3.1**
	1.5nm,1.1s,baz=337,slow=15,SNR=4.4							
KOLN	**Koldanda**	**37.11**	**298**	*e*P		**P**	**09 22 00.8**	**+0.5**
DANN	**Dangsing**	**37.12**	**299**	*e*P		**P**	**09 22 00.5**	**0.0**
	8.3nm,0.4s							
ASAR	**Alice Springs**	**39.55**	**161**	P		**P**	**09 22 20.2**	**-0.2**
	5.3nm,0.4s,baz=337,slow=6.7,SNR=88							
ASAR				PcP		**PcP**	**09 24 22.9**	**-0.4**
	0.7nm,0.7s,baz=344,slow=4.2,SNR=4.2							
ASAR				S		**S**	**09 28 03.8**	**-2.8**
	0.6nm,0.8s,baz=340,slow=17,SNR=5.6							
WMQ	**Urumqi**	**41.00**	**323**	*e*P		**P**	**09 22 33.4**	**+1.3**
WMQ				AMB		AMB		
	comp=Z,7.0nm,0.4s							
WMQ				AMB		AMB		
	comp=Z,100nm,5.2s							
CTA	**Charters Tower**	**42.15**	**143**	P		**P**	**09 22 42.5**	**+0.9**
	4.6nm,0.8s,baz=336,slow=7.7,SNR=5.6							
MKAR	**Makanchi Array**	**45.82**	**324**	P		**P**	**09 23 11.5**	**+1.1**
	3.7nm,0.8s,baz=123,slow=8.8,SNR=28							
MKAR				PcP		**PcP**	**09 24 44.0**	**-0.1**
	0.7nm,0.6s,baz=123,slow=3.3,SNR=4.6							
ZALV	**Zalesovo Beam**	**48.83**	**333**	P		**P**	**09 23 33.5**	**+0.1**
	1.2nm,0.3s,baz=124,slow=6.5,SNR=6.7							
ZALV				PcP		**PcP**	**09 24 54.2**	**-0.4**
	0.4nm,0.4s,baz=90,slow=2.9,SNR=2.5							
AAK	**Ala-Archa**	**48.88**	**315**	P		**P**	**09 23 34.2**	**0.0**
	1.5nm,0.6s,baz=144,slow=9.5,SNR=3.9							
STKA	**Stephens Creek**	**49.78**	**157**	P		**P**	**09 23 40.7**	**-0.1**
	0.5nm,0.3s,baz=327,slow=22,SNR=3.6							
KURBB	**Kurchatov Arra**	**49.98**	**326**	P		**P**	**09 23 43.4**	**+1.3**
	3.9nm,0.6s,baz=116,slow=9.3,SNR=19							
BVAR	**Borovoye Array**	**55.56**	**326**	P		**P**	**09 24 23.6**	**+0.6**
	0.8nm,0.6s,baz=120,slow=8.8,SNR=3.7							
AKTO	**Aktyubinsk**	**62.01**	**320**	P		**P**	**09 25 06.3**	**-1.1**
	2.4nm,0.6s,baz=97,slow=5.5,SNR=7.8							
ILAR	**Eielson Array**	**78.55**	**26**	P		**P**	**09 26 46.6**	**-0.6**
	0.4nm,0.6s,baz=288,slow=4.0,SNR=6.0							
ARCES	**ARCESS Array B**	**78.85**	**339**	P		**P**	**09 26 49.1**	**+0.3**
	1.8nm,0.6s,baz=82,slow=6.6,SNR=9.4							
BRTR	**Keskin Array B**	**78.98**	**308**	P		**P**	**09 26 49.8**	**-0.5**
	0.8nm,0.7s,baz=116,slow=5.6,SNR=3.8							
SPITS	**Spitsbergen Ar**	**79.35**	**348**	P		**P**	**09 26 51.9**	**+0.5**
	8.6nm,0.8s,baz=88,slow=7.6,SNR=5.1							
FINES	**FINESS Array B**	**80.06**	**331**	P		**P**	**09 26 55.5**	**+0.1**
	3.0nm,0.9s,baz=74,slow=4.4,SNR=3.4							
INK	**Inuvik**	**82.89**	**21**	P		**P**	**09 27 09.8**	**-0.2**
	2.2nm,0.9s,baz=310,slow=7.9,SNR=5.8							
NB2	**NORSAR Subarra**	**87.04**	**333**	P		**P**	**09 27 29.9**	**-1.0**
	comp=Z,2.2nm,0.7s,baz=67,slow=4.4							
NB2	**NORSAR Subarra**	**87.04**	**333**	P		**P**	**09 27 29.9**	**-1.0**
	baz=67,slow=4.4							
NOA	**NORSAR Array B**	**87.04**	**333**	P		**P**	**09 27 30.2**	**-0.7**
	comp=Z,1.6nm,0.7s,baz=67,slow=4.6,SNR=4.7							
TXAR	**Lajitas Array**	**119.33**	**44**	PKP		**PKPdf**	**09 33 34.7**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=160,slow=0.9,SNR=13							
LPAZ	**La Paz**	**171.19**	**107**	PKPab		**PKPab**	**09 36 16.8**	**+1.6**
	comp=Z,1.1nm,0.8s,baz=257,slow=2.9,SNR=4.6							

MEX 14 09:19:10.8±0.6,15.°36N×94.°77W,h16km±9km,MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.35**	**288**	*e*P		Pn	09 19 31.6	-3.5
HUIG				*i* S		Sn	09 19 46.9	-5.8
PCIG		**1.53**	**77**	*e*P		Pn	09 19 34.0	-3.5
PCIG				*i* S		Sn	09 19 51.4	-5.7
TGIG		**2.12**	**48**	*e*P		Pn	09 19 43.1	-2.6
TGIG				*e*S		Sn	09 20 07.0	-4.7
VHO	**Vista Hermosa**	**2.54**	**312**	*e*P		Pn	09 19 49.0	-2.7
VHO				*e*S		Sn	09 20 17.9	-4.6
CCIG	**Comitan**	**2.69**	**70**	*e*P		Pn	09 19 51.4	-2.4
CCIG				*e*S		Sn	09 20 22.0	-4.3
PNIG	**Pinotepa**	**3.39**	**288**	*e*P		Pn	09 20 00.8	-2.3
PNIG				*i* S		Sn	09 20 38.8	-4.3

MEX 14 09:27:15.3±0.6,15.°37N×94.°77W,h18km±27km,MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.35**	**287**	*e*P		Pn	09 27 36.3	-3.0
HUIG				*i* S		Sn	09 27 51.5	-5.3
PCIG		**1.53**	**77**	*e*P		Pn	09 27 38.5	-3.2
PCIG				*i* S		Sn	09 27 56.1	-5.0
TGIG		**2.11**	**48**	*e*P		Pn	09 27 47.6	-2.2
TGIG				*e*S		Sn	09 28 11.5	-4.2
VHO	**Vista Hermosa**	**2.53**	**312**	*e*P		Pn	09 27 53.3	-2.6
VHO				*e*S		Sn	09 28 22.6	-4.0
CCIG	**Comitan**	**2.69**	**70**	*i* P		Pn	09 27 55.9	-2.0
CCIG				*e*S		Sn	09 28 26.7	-3.6
PNIG	**Pinotepa**	**3.39**	**288**	*e*P		Pn	09 28 05.0	-2.4
PNIG				*e*S

baz=17,SNR=8.1
CTA Charters Tower 20.71 244 P **P** 09 39 14.0 +0.5
CTA Charters Tower 20.71 244 P **P** 09 39 14.0 +0.5
21nm,0.7s,baz=74,slow=13,SNR=23
CTAO Charters Tower 20.71 244 *eP* Pn 09 39 15.2 -0.9
CTAO pmax pmax
comp=Z,47nm,1.2s
CTAO Charters Tower 20.71 244 *eP* Pn 09 39 15.2 -0.9
comp=Z,47nm,1.2s
MANU Manus Island 20.77 296 P Pn 09 39 22.2 +5.4
baz=19,SNR=3.3
AFI Afiamalu 21.82 98 LR LR 09 46 45.6
comp=Z,188nm,18.2s,baz=296,slow=34
MTSU Mount Surprise 21.88 250 P **P** 09 39 27.6 +1.4
baz=19,SNR=56
RMQ Roma 21.91 225 P **P** 09 39 25.0 -1.4
baz=19,SNR=3.9
COEN Coen 22.34 262 *eP* **P** 09 39 31.6 +0.5
comp=Z,256nm,1.3s
COEN Coen 22.34 262 P **P** 09 39 31.6 +0.5
baz=19,SNR=5.1
RAO Raoul Island 23.07 142 LR LR 09 46 22.8
comp=Z,267nm,20.9s,baz=320,slow=31
QLP Quilpie 25.27 231 P **P** 09 40 00.1 +0.9
baz=22,SNR=4.5
CMSA Cobar Meteorol 27.23 220 P **P** 09 40 20.7 +3.8
baz=25,SNR=9.0
STKA Stephens Creek 30.15 224 P **P** 09 40 41.2 -1.6
STKA Stephens Creek 30.15 224 P **P** 09 40 41.2 -1.6
comp=Z,2.1nm,0.4s,baz=60,slow=8.1,SNR=4.0
STKA LR LR 09 52 11.7
comp=Z,219nm,18.7s,baz=39,slow=35
WRAB Tennant Creek 31.47 251 *eP* **P** 09 40 54.2 -0.5
WRAB pmax pmax
comp=Z,20nm,1.2s
WRAB Tennant Creek 31.47 251 P **P** 09 40 54.9 +0.3
comp=Z,72nm,1.3s,SNR=9.8
WRAB Tennant Creek 31.47 251 *eP* **P** 09 40 54.2 -0.5
comp=Z,20nm,1.2s
WRA Warramunga Arr 31.48 251 P **P** 09 40 54.3 -0.5
WRA Warramunga Arr 31.48 251 P **P** 09 40 54.3 -0.5
comp=Z,11nm,0.9s,baz=81,slow=9.1,SNR=51
WRA LR LR 09 52 11.5
comp=Z,169nm,20.4s,baz=55,slow=34
RPZ Rata Peaks 32.24 173 P **P** 09 40 59.8 -1.3
RPZ Rata Peaks 32.24 173 P **P** 09 40 59.8 -1.3
comp=Z,9.6nm,0.5s,baz=57,slow=16,SNR=6.7
RPZ LR LR 09 52 03.9
comp=Z,243nm,18.1s,baz=286,slow=33
AS31 Alice Springs 32.71 244 *eP* **P** 09 41 04.7 -0.9
ASAR Alice Springs 32.72 244 P **P** 09 41 04.8 -0.8
ASAR PcP **PcP** 09 43 50.2 -0.6
ASAR Alice Springs 32.72 244 P **P** 09 41 04.8 -0.8
comp=Z,11nm,0.7s,baz=69,slow=9.6,SNR=126
ASAR PcP **PcP** 09 43 50.2 -0.6
comp=Z,1.3nm,0.7s,baz=97,slow=1.9,SNR=6.4
KDU Kakadu 32.74 265 P **P** 09 41 04.9 -0.9
baz=30,SNR=10
KNRA Kununurra 36.34 259 P **P** 09 41 36.7 -0.2
baz=33,SNR=8.6
FITZ Fitzroy Crossi 39.43 256 *eP* **P** 09 42 03.1 0.0
comp=Z,39nm,1.7s
FITZ Fitzroy Crossi 39.43 256 P **P** 09 42 02.8 -0.3
baz=36,SNR=8.7
PPT Papeete 43.34 103 LR LR 09 56 40.4
comp=Z,186nm,19.1s,baz=345,slow=31
PPT2 Papeete2 43.34 103 *eS* **S** 09 49 05.7 +4.8
comp=Z,139nm,24.5s
PPT2 *e*LR LR 09 54 41.8
comp=Z,280nm,23.8s
TBI Tubuai 43.91 112 *e*LR LR 09 54 52.9
comp=Z,212nm,28.2s
MBWA Marble Bar 45.21 252 *eP* **P** 09 42 50.7 +0.6
comp=Z,24nm,1.1s
KAPI Kappang 46.15 274 P **P** 09 42 57.3 -0.3
comp=Z,43nm,1.1s,comp=Z,524nm
KAPI Kappang 46.15 274 *eP* **P** 09 42 57.5 -0.1
comp=Z,43nm,1.0s
MEEK Meekatharra 46.88 244 P **P** 09 43 03.7 +0.5
baz=44,SNR=16
KLBR Kellerberrin 48.56 238 P **P** 09 43 15.9 -0.2
baz=45,SNR=5.4
MJAR Matsushiro Arr 54.61 333 P **P** 09 43 58.5 -2.7
MJAR Matsushiro Arr 54.61 333 P **P** 09 43 58.5 -2.7
comp=Z,0.4nm,0.3s,baz=177,slow=9.0,SNR=4.6
MAJO Matsushiro 54.61 333 *i* P **P** 09 44 00.8 -0.4
SBUM Sibu 55.23 281 P **P** 09 44 07.3 +1.2
KSM Kuching 56.81 280 P **P** 09 44 17.9 +0.5
RKT Rikitea 57.18 110 *e*LR LR 10 01 06.9
comp=Z,180nm,29.8s
KSRS Korea Array 60.50 326 LR LR 10 05 05.4
comp=Z,43nm,21.1s,baz=118,slow=30
YSS Yuzh-Sakhalins 61.93 342 *i* P **P** 09 44 53.2 +1.1
NJ2 Nanjing 62.60 316 *eP* **P** 09 44 59.6 +2.7
NJ2 AMB AMB
comp=Z,20nm,0.5s
USRK Uusuriysk Arra 63.59 333 P **P** 09 45 02.6 -0.6
comp=Z,1.1nm,0.6s,baz=165,slow=7.9,SNR=4.3
PET Petropavlovsk 64.73 355 *i* P **P** 09 45 12.1 +1.6
KTGM Kuala Trenggan 64.73 282 P **P** 09 45 12.8 +1.5
PETK Petropavlovsk- 64.89 355 LR LR 10 07 47.4
comp=Z,59nm,21.6s,baz=104,slow=31
VNDA Vanda 65.89 181 P **P** 09 45 17.8 0.0
VNDA Vanda 65.89 181 P **P** 09 45 17.8 0.0
comp=Z,0.9nm,0.5s,baz=351,slow=6.6,SNR=16
VNDA LR LR 10 08 58.2
comp=Z,99nm,18.9s,baz=13,slow=31
SBA Scott Base 66.19 180 *eP* **P** 09 45 21.1 +1.4
SBA pmax pmax
comp=Z,60nm,2.3s
SBA Scott Base 66.19 180 *eP* **P** 09 45 21.1 +1.4
comp=Z,60nm,2.3s
CN2 Changchun 66.38 329 *eP* P 09 45 25.5 +4.2
CN2 LR LR
comp=Z,200nm,20.0s
GYA Guiyang 68.94 304 *eP* **P** 09 45 40.3 +2.2
GYA pP **pP** 09 45 50.8 +1.4
GYA PP **PP** 09 48 15.8 +5.0
GYA S **S** 09 54 40.8 +0.4
GYA sS **sS** 09 54 58.9 -0.2
GYA SKS **SKSac** 09 55 33.0 -2.4
GYA SS **SS** 09 59 07.8 +1.1
GYA AMB AMB
comp=Z,20nm,1.0s
GYA AMB AMB
comp=Z,120nm,5.6s
GYA LR LR
comp=Z,550nm,20.2s
GYA LR LR
comp=Z,460nm,21.0s
GYA LR LR
comp=Z,520nm,20.1s
BJI Beijing 69.09 321 P **P** 09 45 37.9 -0.6
BJI AMB AMB
comp=Z,10.0nm,0.7s
XAN Xi'an 70.69 312 P **P** 09 45 48.3 -0.3
XAN AMB AMB
comp=Z,3.0nm,0.9s
KMI Kunming 71.62 301 P **P** 09 45 55.4 +0.8
KMI pP **pP** 09 46 04.0 -2.0
KMI sP **sP** 09 46 08.4 -1.9
KMI AMB AMB
comp=Z,15nm,0.7s
HHC Hu-ho-hao-te 72.44 320 *eP* **P** 09 46 00.3 +1.3
HHC pP **pP** 09 46 10.5 +0.1
HHC sP **sP** 09 46 14.5 -0.2
HHC PP **PP** 09 48 43.5 +2.9
HHC S **S** 09 55 20.9 +0.4
HHC sS **sS** 09 55 38.1 -1.3
HHC SKS **SKSac** 09 55 57.9 -3.3
HHC ScS **SKKSac** 09 56 01.0 -0.3
HHC SS **SS** 10 00 02.0 +2.1
HHC AMB AMB
comp=Z,49nm,1.0s
HHC AMB AMB
comp=Z,260nm,5.3s
HHC LR LR
comp=Z,290nm,17.1s
HHC LR LR
comp=Z,160nm,17.1s
HHC LR LR
comp=Z,130nm,17.3s
CMAR Chiang Mai Arr 72.55 294 P **P** 09 46 00.8 +0.7
CMAR Chiang Mai Arr 72.55 294 P **P** 09 46 00.8 +0.7
comp=Z,2.2nm,0.5s,baz=108,slow=5.5,SNR=15
CMAR LR LR 10 17 55.3
comp=Z,38nm,18.5s,baz=169,slow=36
CHTO Chiang Mai 72.67 294 P **P** 09 45 59.6 -1.1
CD2 Chengdu 73.14 307 P **P** 09 46 05.0 +1.6
CD2 pP **pP** 09 46 15.8 +1.0
CD2 sP **sP** 09 46 20.0 +0.9
CD2 PP **PP** 09 48 50.3 +3.5
CD2 S **S** 09 55 29.3 +0.4
CD2 sS **sS** 09 55 47.1 -0.6
CD2 SS **SS** 10 00 13.3 +2.3
CD2 AMB AMB
comp=Z,20nm,0.5s
CD2 AMB AMB
comp=Z,120nm,6.0s
CD2 LR LR
comp=Z,210nm,7.1s
CD2 LR LR
comp=Z,170nm,8.3s
SEY Seymchan 75.10 354 P **P** 09 46 14.3 +0.3
LZH Lanzhou 75.33 312 *eP* **P** 09 46 17.5 +1.3
LZH pP **pP** 09 46 25.8 -1.8
LZH sP **sP** 09 46 29.0 -2.9
LZH AMB AMB
comp=Z,37nm,1.0s
LZH AMB AMB
comp=Z,160nm,5.0s
QSPA South Pole Qui 78.35 180 *eP* **P** 09 46 31.9 -0.8
comp=Z,11nm,1.1s
SONM Songino Array 79.28 324 P **P** 09 46 36.7 -1.3
SONM Songino Array 79.28 324 P **P** 09 46 36.7 -1.3
comp=Z,0.9nm,0.6s,baz=145,slow=6.1,SNR=4.0
SONM LR LR 10 21 20.7
comp=Z,62nm,19.4s,baz=251,slow=35
GTA Gaotai 79.64 314 *eP* **P** 09 46 41.1 +1.0
GTA AMB AMB
comp=Z,9.0nm,1.3s
ZAK Zakamensk 82.33 325 *eP* **P** 09 46 52.7 -1.5
ZAK pmax pmax
comp=Z,3.0nm,1.1s
COLA College 83.80 18 *i* P **P** 09 47 02.0 +0.7
ILAR Eielson Array 84.02 18 P **P** 09 46 60.0 -2.5
ILAR Eielson Array 84.02 18 P **P** 09 46 60.0 -2.5
comp=Z,0.7nm,0.8s,baz=247,slow=4.1,SNR=7.5
EGAK Eagle 85.88 20 *eP* **P** 09 47 12.4 +0.7
comp=Z,88nm,2.8s
NVAR Mina Array Bea 86.25 50 P **P** 09 47 15.6 +1.1
NVAR Mina Array Bea 86.25 50 P **P** 09 47 15.6 +1.1
comp=Z,0.5nm,0.9s,baz=247,slow=9.3,SNR=2.3
WMQ Urumqi 89.68 315 *eP* **P** 09 47 31.5 +0.9
WMQ AMB AMB
comp=Z,9.0nm,0.4s
WMQ AMB AMB
comp=Z,150nm,5.0s
WMQ LR LR
comp=Z,93nm,23.0s
WMQ LR LR
comp=Z,180nm,21.2s
MK31 Makanchi Array 94.11 317 *eP* **P** 09 47 50.6 -0.4
MK31 Makanchi Array 94.11 317 *eP* **P** 09 47 50.6 -0.4
MKAR Makanchi Array 94.11 317 *eP* **P** 09 47 50.6 -0.4
MKAR Makanchi Array 94.11 317 *eP* **P** 09 47 50.6 -0.4
MKAR Makanchi Array 94.11 317 P **P** 09 47 50.5 -0.4
comp=Z,3.3nm,0.7s,baz=94,slow=6.3,SNR=31
ZALV Zalesovo Beam 94.18 324 P **P** 09 47 49.2 -1.9
ZALV Zalesovo Beam 94.18 324 P **P** 09 47 49.2 -1.9
ZALV Zalesovo Beam 94.18 324 P **P** 09 47 49.2 -1.9
comp=Z,0.6nm,0.4s,baz=96,slow=2.5,SNR=5.4
ARCES ARCESS Array B 116.98 345 PKP **PKPdf** 09 53 14.6 -1.9
ARCES ARCESS Array B 116.98 345 PKP **PKPdf** 09 53 14.6 -1.9
comp=Z,2.8nm,0.9s,baz=28,slow=2.9,SNR=5.0
BRTR Keskin Array B 129.53 312 PKP **PKPdf** 09 53 38.3 -3.4
BRTR Keskin Array B 129.53 312 PKP **PKPdf** 09 53 38.3 -3.4
comp=Z,1.6nm,0.7s,baz=88,slow=3.5,SNR=4.6
KOLS Kolonicke sedl 132.19 328 *e*PKIKP **PKPdf** 09 53 46.0 -0.3
KOLS Kolonicke sedl 132.19 328 *e*PKP **PKPdf** 09 53 46.0 -0.3
STHS Stebnicka Huta 132.40 329 *e*PKIKP **PKPdf** 09 53 44.5 -2.2
STHS Stebnicka Huta 132.40 329 *e*PKP **PKPdf** 09 53 44.5 -2.2
KECS Kecovo 133.39 329 *e*PKIKP **PKPdf** 09 53 49.2 +0.7
KECS Kecovo 133.39 329 *e*PKP **PKPdf** 09 53 49.2 +0.7
CLL Collm 134.75 336 *i* PKSab PKSab 09 57 27.7 +1.8
KEST Kesra 148.03 322 PKPbc **PKPbc** 09 54 18.3 -0.1
KEST Kesra 148.03 322 PKPbc **PKPbc** 09 54 18.3 -0.1
comp=Z,3.7nm,1.0s,baz=60,slow=5.7,SNR=4.7
ESDC Sonseca Array 150.70 344 PKPbc **PKPbc** 09 54 24.5 -0.4
ESDC Sonseca Array 150.70 344 PKPbc **PKPbc** 09 54 24.5 -0.4
comp=Z,0.2nm,0.3s,baz=32,slow=5.0,SNR=3.3

DDA 14 09:40:43.6,37.34N×27.58E,h7km,MD2.5,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.30**	**201**	*i* P	Pg	09 40 49.1	-0.3
BDRM				*i* S	Sb	09 40 55.2	-1.1
AYDN	**Tasoluk**	**0.40**	**37**	*i* P	Pg	09 40 51.8	+0.4
AYDN				*i* S	Sb	09 40 58.8	-0.6
TIRR	**Tirgusor**	**7.14**	**5**	S	Sn	09 43 59.6	+10

WEL 14 10:04:07.7±0.2,37.06S×177.47E,h144km±2km,ML3.5/5,1D,Error ellipse: s-maj=2.1km s-min=1.8km az=0.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.84**	**127**	PN	Pn	10 04 30.4	-0.1
MXZ				SN	Sn	10 04 48.1	+0.2
MXZ				AML	AML	10 04 48.2	
MXZ				AML	AML	10 04 54.6	
MXZ				AML	AML	10 04 54.6	
OPRZ	**Ohinepanea**	**1.07**	**222**	PN	Pn	10 04 32.8	+0.3
PUZ	**Puketiti**	**1.19**	**148**	PN	Pn	10 04 33.5	-0.2
PUZ				SN	Sn	10 04 53.2	-0.4
URZ	**Urewera**	**1.23**	**193**	∥PN	Pn	10 04 34.0	0.0
URZ				SN	Sn	10 04 54.3	+0.1
URZ				AML	AML	10 04 56.1	
MWZ	**Matawai**	**1.27**	**178**	PN	Pn	10 04 34.4	-0.1
MWZ				SN	Sn	10 04 55.1	0.0
MWZ				AML	AML	10 04 56.4	
RRRZ	**Republican Roa**	**1.49**	**210**	PN	Pn	10 04 36.9	+0.2
CNGZ	**Carnagh Statio**	**1.54**	**158**	PN	Pn	10 04 37.4	+0.2
PRRZ	**Plateau Road**	**1.67**	**210**	PN	Pn	10 04 38.9	+0.3
RAHZ	**Arahi**	**1.88**	**189**	PN	Pn	10 04 40.9	-0.2
PRGZ	**Paritu Road**	**1.89**	**170**	PN	Pn	10 04 40.6	-0.6
KNZ	**Kokohu**	**1.97**	**175**	PN	Pn	10 04 41.4	-0.6
NMHZ	**Naumai**	**2.10**	**194**	PN	Pn	10 04 43.7	0.0
MHGZ	**Mahia Peninsul**	**2.12**	**171**	PN	Pn	10 04 43.3	-0.6
BKZ	**Black Stump Fm**	**2.24**	**200**	PN	Pn	10 04 45.1	-0.3
MCHZ	**McNeill Hill**	**2.46**	**194**	PN	Pn	10 04 47.3	-0.6
CKHZ	**Cape Kidnapper**	**2.62**	**187**	PN	Pn	10 04 48.7	-1.2
BHHZ	**Black Hill Sta**	**2.67**	**204**	PN	Pn	10 04 49.4	-1.3
MOVZ	**Moawhango**	**2.71**	**209**	PN	Pn	10 04 49.7	-1.4
KAHZ	**Kahuranaki**	**2.77**	**189**	PN	Pn	10 04 50.7	-1.2
PXZ	**Pawanui**	**3.01**	**189**	PN	Pn	10 04 52.8	-2.1
WPHZ	**Waipukurau**	**3.11**	**195**	PN	Pn	10 04 54.3	-1.8
TSZ	**Takapari Road**	**3.22**	**201**	PN	Pn	10 04 55.3	-2.3
PRHZ	**Porangahau**	**3.27**	**191**	PN	Pn	10 04 56.0	-2.3
DVHZ	**Dannevirke**	**3.39**	**197**	PN	Pn	10 04 57.6	-2.2
ANWZ	**Angora Road**	**3.48**	**193**	PN	Pn	10 04 58.7	-2.2
POWZ	**Post Office Ro**	**3.58**	**201**	PN	Pn	10 04 58.6	-3.7
BFZ	**Birch Farm**	**3.74**	**194**	PN	Pn	10 05 01.7	-2.6
MRZ	**Mangatainoka R**	**3.89**	**202**	PN	Pn	10 05 03.0	-3.3
MRZ				AML	AML	10 05 49.2	
OGWZ	**Otaki Gorge**	**4.16**	**205**	PN	Pn	10 05 06.7	-3.1
TMWZ	**Te Maipa**	**4.23**	**196**	PN	Pn	10 05 07.2	-3.5
KIW	**Kapiti Island**	**4.29**	**207**	PN	Pn	10 05 08.1	-3.5
PLWZ	**Palliser**	**4.82**	**200**	PN	Pn	10 05 14.2	-4.4
TCW	**Tory Channel**	**4.83**	**210**	PN	Pn	10 05 14.7	-4.0
TUWZ	**Tuamarina**	**5.15**	**211**	PN	Pn	10 05 19.0	-3.9
NNZ	**Nelson**	**5.23**	**216**	PN	Pn	10 05 20.5	-3.4
THZ	**Tophouse**	**5.88**	**216**	PN	Pn	10 05 29.5	-3.1
KHZ	**Kahutara**	**6.15**	**208**	PN	Pn	10 05 31.3	-4.8

IDC 14 10:08:39.8±5.6,4.11S×124.64E,h54km±54km,mb3.8/6,mb1 3.8/8,mb1mx3.6/22,mbtmp3.7/8,ML3.5/2,MS2.8/2,Ms1 2.8/2,ms1mx2.5/32,Error ellipse: s-maj=43.2km s-min=16.7km az=46.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**4.96**	**259**	P	Pn	10 09 51.7	-0.1
	3.9nm,0.3s,baz=102,slow=7.7,SNR=13						
KAPI				S	Sn	10 10 48.3	+0.4
	1.8nm,0.3s,baz=257,slow=21,SNR=3.7						
KAPI				LR	LR	10 12 07.8	
	comp=Z,75nm,18.5s,baz=46,slow=42						
WRA	**Warramunga Arr**	**18.36**	**150**	P	P	10 12 48.4	-1.8
	0.1nm,0.3s,baz=324,slow=11,SNR=7.5						
ASAR	**Alice Springs**	**21.40**	**156**	P	P	10 13 24.1	+0.9
	4.6nm,0.8s,baz=328,slow=10,SNR=37						
STKA	**Stephens Creek**	**31.88**	**152**	P	P	10 15 01.0	+0.9
	1.4nm,0.7s,baz=308,slow=12,SNR=3.1						
KSRS	**Korea Array**	**41.46**	**4**	LR	LR	10 33 19.0	
	comp=Z,15nm,18.4s,baz=105,slow=36						
SONM	**Songino Array**	**54.15**	**345**	P	P	10 18 00.2	+0.6
	2.1nm,0.9s,baz=159,slow=8.8,SNR=5.5						
MKAR	**Makanchi Array**	**62.95**	**329**	P	P	10 19 01.4	+0.6
	2.2nm,0.6s,baz=126,slow=7.8,SNR=32						
ZALV	**Zalesovo Beam**	**66.71**	**336**	P	P	10 19 24.6	-0.4
	0.9nm,0.4s,baz=123,slow=5.5,SNR=5.4						
ILAR	**Eielson Array**	**93.03**	**25**	P	P	10 21 45.6	-1.6
	0.2nm,0.7s,baz=248,slow=4.8,SNR=4.1						
TORD	**Torodi Ar. Bea**	**122.99**	**283**	PKP	PKPdf	10 27 30.4	-0.8
	0.4nm,0.8s,baz=98,slow=2.0,SNR=3.1						

MEX 14 10:27:58.4±0.4,14.55N×93.62W,h9km±11km,MD3.8,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.21**	**19**	*e*P	Pb	10 28 17.5	-4.0
PCIG				*i* S	Sb	10 28 33.0	-4.3
CCIG	**Comitan**	**2.24**	**40**	*e*P	Pn	10 28 33.0	-3.0
CCIG				*e*S	Sn	10 28 59.4	-4.5
TGIG		**2.26**	**12**	*e*P	Pn	10 28 33.2	-2.9
TGIG				*e*S	Sn	10 29 00.2	-4.2
HUIG	**Huatulco**	**2.69**	**297**	*i* P	Pn	10 28 39.2	-2.7
HUIG				*i* S	Sn	10 29 10.7	-3.9
VHO	**Vista Hermosa**	**3.90**	**310**	*e*P	Pn	10 28 57.0	-1.9
VHO				*i* S	Sn	10 29 41.2	-3.9
PNIG	**Pinotepa**	**4.71**	**293**	*i* P	Pn	10 29 08.0	-1.8
PNIG				*i* S	Sn	10 30 00.9	-3.8

*IDC **14** 10:31:57.4±5.2, 12.50N×87.69W, h32km±39km, mb3.9/8, mb1 4.1/10, mb1mx3.8/25, mbtmp3.8/10, ML3.1/2, MS3.3/2, Ms1 3.4/2, ms1mx2.9/31, Error ellipse: s-maj=46.2km s-min=16.6km az=51.0*
*BJI **14** 10:31:57.7, 12.10N×88.00W, h67km, mB5.1/2, Ms5.0/2, Ms7 4.3/2*
*NEIC **14** 10:31:59.0±1.2, 12.23N×88.05W, h56km±11km, mb4.6/8, Error ellipse: s-maj=18.1km s-min=9.2km az=54.0*
ISC 14 10:31:56.7±0.6,12.12N±0.07×88.17W±0.08,h35km,n256,σ1º05/264,mb4.3/15,MS3.8/4,101C-99D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGUH	**Tegucigalpa,Un**	**2.12**	**24**	*e*Pn	**Pn**	**10 32 30.7**	**+1.0**
TGUH				*e*Sn	**Sn**	**10 32 56.4**	**+1.7**
APG	**El Apazote**	**3.63**	**322**	Pn	**Pn**	**10 32 51.3**	**+0.5**
APG	**El Apazote**	**3.63**	**322**	Pn	**Pn**	**10 32 51.3**	**+0.5**
	1.7nm,0.3s,baz=184,slow=15,SNR=3.0						
JTS	**JuntasAbangare**	**3.64**	**120**	*e*Pn	**Pn**	**10 32 51.8**	**+1.1**
JTS				*e*Sn	**Sn**	**10 33 34.8**	**+2.3**
JTS	**JuntasAbangare**	**3.64**	**120**	Pn	**Pn**	**10 32 49.8**	**-0.9**
	1.6nm,0.3s,baz=8.1,slow=14,SNR=8.3						
TEIG	**Tepich**	**8.06**	**359**	*e*Pn	**Pn**	**10 33 53.6**	**+2.2**
TIGA	**Tifton**	**19.69**	**12**	*e*Pn	**Pn**	**10 36 24.8**	**+0.2**
TIGA	**Tifton**	**19.69**	**12**	⇑P	**P**	**10 36 23.0**	**0.0**
	baz=20						
732A	**Laxson Ranch,**	**19.86**	**328**	⇓P	**P**	**10 36 24.9**	**0.0**
	baz=20,SNR=14						
632A	**Uvalde**	**20.40**	**330**	⇓P	**P**	**10 36 30.6**	**-0.2**
	baz=20,SNR=13						
631A	**Perdido Creek**	**20.72**	**328**	⇑P	**P**	**10 36 33.7**	**-0.5**
	baz=21,SNR=14						
LRAL	**Lakeview Retre**	**20.85**	**3**	P	**P**	**10 36 33.9**	**-1.7**
	5.3nm,0.8s						
532A	**Rocksprings**	**20.97**	**331**	⇑P	**P**	**10 36 37.0**	**0.0**
	baz=21,SNR=15						
JCT	**Junction City**	**21.21**	**331**	*e*P	**P**	**10 36 39.6**	**0.0**
	11nm,0.6s						
JCT	**Junction City**	**21.21**	**331**	⇑P	**P**	**10 36 39.6**	**0.0**
	baz=21,SNR=11						
531A	**Rocksprings**	**21.32**	**329**	⇑P	**P**	**10 36 41.1**	**+0.4**
	baz=21						
ATAH	**Atahualpa**	**21.46**	**153**	LR	LR	10 44 18.7	
	comp=Z,82nm,20.4s,baz=12,slow=34						
432A	**Menard**	**21.54**	**332**	⇓P	**P**	**10 36 43.1**	**0.0**
	baz=22,SNR=8.9						
WHTX	**Lake Whitney**	**21.55**	**338**	⇑P	**P**	**10 36 43.3**	**+0.2**
	baz=22						
530A	**J-C Ranch, Com**	**21.71**	**328**	⇓P	**P**	**10 36 45.0**	**+0.2**
	baz=22						
431A	**Sonora**	**21.77**	**330**	⇑P	**P**	**10 36 46.2**	**+0.6**
	baz=22,SNR=8.8						
332A	**Millersview**	**21.95**	**333**	⇑P	**P**	**10 36 48.4**	**+1.0**
	baz=22,SNR=26						
529A	**Stev Forest Ra**	**22.16**	**326**	⇓P	**P**	**10 36 50.0**	**+0.2**
	baz=22						
430A	**Baggett Ranch,**	**22.16**	**329**	⇑P	**P**	**10 36 50.2**	**+0.3**
	baz=22,SNR=18						
331A	**San Angelo**	**22.20**	**331**	⇓P	**P**	**10 36 49.1**	**-1.0**
	baz=22,SNR=12						
627A	**Terlingua Ranc**	**22.31**	**323**	⇑P	**P**	**10 36 52.1**	**+0.6**
	baz=22,SNR=13						
232A	**Coleman**	**22.34**	**334**	⇑P	**P**	**10 36 51.2**	**-0.4**
	baz=22,SNR=26						
429A	**Davenport Ranc**	**22.38**	**328**	⇓P	**P**	**10 36 51.6**	**-0.5**
	baz=22,SNR=8.4						
TXAR	**Lajitas Array**	**22.39**	**322**	P	**P**	**10 36 52.7**	**+0.4**
TXAR				PcP	**PcP**	**10 40 49.2**	**+2.6**
TXAR	**Lajitas Array**	**22.39**	**322**	P	**P**	**10 36 52.7**	**+0.4**
	3.7nm,0.8s,baz=138,slow=9.6,SNR=25						
TXAR				PcP	**PcP**	**10 40 49.2**	**+2.6**
	0.4nm,0.8s,baz=131,slow=3.5,SNR=4.3						
528A	**Cox Ranch, San**	**22.50**	**325**	⇑P	**P**	**10 36 53.1**	**-0.4**
	baz=22						
330A	**Mertzon**	**22.64**	**330**	⇑P	**P**	**10 36 53.8**	**-1.1**
	baz=23,SNR=8.6						
231A	**Bronte**	**22.67**	**332**	⇓P	**P**	**10 36 54.1**	**-1.1**
	baz=23						
626A	**Big Bend Ranch**	**22.83**	**322**	⇓P	**P**	**10 36 56.8**	**-0.1**
	baz=23,SNR=9.0						
MIAR	**Mount Ida**	**22.86**	**348**	*e*P	**P**	**10 36 57.0**	**-0.1**
	22nm,0.8s						
428A	**Kincaid Ranch,**	**22.88**	**326**	⇑P	**P**	**10 36 57.4**	**0.0**
	baz=23						
527A	**Woodward Ranch**	**22.96**	**324**	⇑P	**P**	**10 36 57.6**	**-0.7**
	baz=23						
ABTX	**Abilene, Hawle**	**22.97**	**335**	*e*P	**P**	**10 36 57.1**	**-1.2**
ABTX	**Abilene, Hawle**	**22.97**	**335**	⇑P	**P**	**10 36 57.1**	**-1.2**
	baz=23,SNR=7.6						
230A	**Sterling City**	**23.00**	**331**	⇓P	**P**	**10 36 58.3**	**-0.3**
	baz=23						
329A	**Wagon Wheel Ra**	**23.11**	**329**	⇓P	**P**	**10 36 59.1**	**-0.6**
	baz=23						
526A	**Mary Lane Ranc**	**23.17**	**323**	⇑P	**P**	**10 36 59.9**	**-0.6**
	baz=23						
131A	**Roby**	**23.33**	**333**	⇑P	**P**	**10 37 01.6**	**-0.4**
	baz=23						
427A	**Hayter Ranch,**	**23.37**	**325**	⇑P	**P**	**10 37 02.0**	**-0.3**
	baz=23						
229A	**Bryant Ranch,**	**23.41**	**330**	⇓P	**P**	**10 37 02.3**	**-0.4**
	baz=23						
328A	**Wristen Ranch,**	**23.45**	**327**	⇑P	**P**	**10 37 02.3**	**-0.8**
	baz=24,SNR=15						
Z32A	**Haskell**	**23.49**	**336**	⇑P	**P**	**10 37 02.3**	**-1.2**
	baz=24,SNR=13						
130A	**Snyder**	**23.52**	**332**	⇑P	**P**	**10 37 02.1**	**-1.7**
	baz=24,SNR=6.5						
426A	**McDonald Obser**	**23.59**	**324**	⇓P	**P**	**10 37 03.7**	**-0.9**
	baz=24						
KMSC	**Kings Mountain**	**23.75**	**14**	⇑P	**P**	**10 37 03.0**	**-2.9**
	baz=24						
TKL	**Tuckaleechee C**	**23.77**	**9**	*e*P	**P**	**10 37 06.7**	**+0.6**
TKL	**Tuckaleechee C**	**23.77**	**9**	P	**P**	**10 37 06.2**	**+0.1**
	10nm,1.0s,baz=182,slow=12,SNR=8.5						
Z31A	**Sharp Cattle R**	**23.78**	**334**	⇑P	**P**	**10 37 05.0**	**-1.2**
	baz=24,SNR=12						
228A	**UT Block 9, Go**	**23.92**	**329**	⇑P	**P**	**10 37 06.9**	**-0.8**
	baz=24						
129A	**Stewart Farms,**	**23.98**	**331**	⇓P	**P**	**10 37 07.2**	**-0.9**
	baz=24,SNR=14						
326A	**Caldwell Ranch**	**24.04**	**325**	⇑P	**P**	**10 37 08.7**	**-0.1**
	baz=24,SNR=8.7						
Y32A	**R-V Farms, Ver**	**24.09**	**337**	⇑P	**P**	**10 37 08.5**	**-0.6**

Z30A	Sanderson Ranc	24.18	333	⇓P	P	10 37 08.3 -1.6
	baz=24,SNR=12					
128A	Castleberry Fa	24.27	329	⇑P	P	10 37 09.9 -0.9
	baz=24,SNR=9.5					
Y31A	Rekieta Farm,	24.38	335	⇓P	P	10 37 11.3 -0.5
	baz=24,SNR=7.5					
Z29A	Hungry Hill Ra	24.42	332	⇓P	P	10 37 11.0 -1.2
	baz=24,SNR=21					
WMOK	Wichita Mounta	24.50	339	*e*P	P	10 37 12.4 -0.4
	9.0nm,1.1s					
Y30A	Stafford Cattl	24.58	334	⇑P	P	10 37 13.6 0.0
	baz=25,SNR=19					
325A	Bean Ranch, Si	24.65	324	⇑P	P	10 37 13.5 -0.9
	baz=25					
TUL1	Tulsa	24.67	345	*e*P	P	10 37 14.3 0.0
TUL1	Tulsa	24.67	345	⇓P	P	10 37 13.8 -0.5
	baz=25					
226B	Tecolote Peak,	24.72	326	⇓P	P	10 37 15.2 +0.2
	baz=25,SNR=5.8					
127A	Arkansas Junct	24.76	328	⇑P	P	10 37 14.3 -1.0
	baz=25,SNR=6.0					
Z28A	Tucker Farm, M	24.76	331	⇓P	P	10 37 14.8 -0.6
	baz=25,SNR=6.1					
X31A	McDonald Ranch	24.85	336	⇓P	P	10 37 16.1 0.0
	baz=25,SNR=7.5					
Y29A	Porterfield Fa	24.91	333	⇓P	P	10 37 16.5 -0.1
	baz=25					
GDL2	Guadalupe Moun	24.92	326	*e*P	P	10 37 18.2 +1.4
324A	Moseley Ranch,	25.00	323	⇓P	P	10 37 17.4 -0.1
	baz=25,SNR=5.6					
X30A	Coker Ranch, T	25.05	335	⇓P	P	10 37 18.2 +0.2
	baz=25,SNR=44					
126A	Clayton Basin,	25.08	327	⇓P	P	10 37 18.2 -0.1
	baz=25					
225A	Deer Hill, Car	25.11	325	⇓P	P	10 37 19.8 +1.2
	baz=25					
Z27A	Tatum	25.19	329	⇓P	P	10 37 18.5 -0.7
	baz=25,SNR=13					
Y28A	McKinney Farm,	25.21	332	⇑P	P	10 37 19.4 +0.1
	baz=25,SNR=7.5					
W31A	Holland Ranch,	25.33	337	⇑P	P	10 37 20.4 0.0
	baz=25					
X29A	Tulia	25.41	333	⇓P	P	10 37 21.1 0.0
	baz=25,SNR=8.5					
125A	Gardner Draw,	25.43	326	⇓P	P	10 37 22.7 +1.3
	baz=26,SNR=9.9					
224A	Cornudas Mount	25.48	324	⇓P	P	10 37 22.2 +0.2
	baz=26					
MSTX	Muleshoe	25.51	331	*e*P	P	10 37 21.8 -0.3
MSTX	Muleshoe	25.51	331	⇓P	P	10 37 22.1 +0.1
	baz=26,SNR=9.8					
Z26A	Caprock	25.55	328	⇑P	P	10 37 22.5 +0.1
	baz=26,SNR=5.7					
Y27A	Causey	25.62	330	⇑P	P	10 37 23.1 -0.1
	baz=26,SNR=12					
X28A	Dimmitt	25.69	333	⇑P	P	10 37 23.8 +0.1
	baz=26,SNR=7.4					
124A	Stringfield Ra	25.91	325	⇑P	P	10 37 26.3 +0.4
	baz=26					
Z25A	Roswell	25.94	327	⇓P	P	10 37 26.4 +0.4
	baz=26,SNR=6.5					
Y26A	Elida	25.98	329	⇑P	P	10 37 27.1 +0.6
	baz=26					
X27A	F and S Farms,	26.21	331	⇑P	P	10 37 28.9 +0.4
	baz=26,SNR=6.0					
Z24A	Sheeppen Canyo	26.33	326	⇑P	P	10 37 29.9 +0.3
	baz=26,SNR=6.1					
U31A	Nine Bar Ranch	26.34	338	⇓P	P	10 37 30.0 +0.5
	baz=26					
Y25A	Mesa, Roswell	26.43	328	⇑P	P	10 37 31.7 +1.2
	baz=26,SNR=13					
X26A	CR and CF Fran	26.48	330	⇑P	P	10 37 31.3 +0.4
	baz=26,SNR=6.1					
W27A	Bowe Ranch, En	26.54	332	⇓P	P	10 37 32.2 +0.8
	baz=27,SNR=14					
V28A	Channing	26.74	334	⇑P	P	10 37 33.7 +0.4
	baz=27,SNR=7.0					
Z23A	Rita Site, Whi	26.76	325	⇓P	P	10 37 35.1 +1.6
	baz=27					
U30A	WK&E Inc. Balk	26.78	337	⇓P	P	10 37 33.6 +0.1
	baz=27					
Y24A	Capitan	26.82	327	⇑P	P	10 37 35.7 +1.7
	baz=27,SNR=10.0					
X25A	Clemmons Ranch	26.88	329	⇓P	P	10 37 35.3 +0.7
	baz=27					
W26A	Owens Ranch, T	26.89	331	⇑P	P	10 37 35.4 +0.8
	baz=27					
T31A	Randall Ranch,	26.93	339	⇑P	P	10 37 34.6 -0.3
	baz=27					
V27A	Dan Oppiter Fa	27.01	333	⇓P	P	10 37 36.5 +0.8
	baz=27,SNR=7.1					
Y23A	Lovelace Mesa,	27.16	326	⇓P	P	10 37 39.0 +1.9
	baz=27,SNR=7.8					
Z22A	Elephant Butte	27.17	324	⇑P	P	10 37 39.0 +1.8
	baz=27					
W25A	X Bar L Ranch,	27.33	330	⇓P	P	10 37 39.8 +1.2
	baz=27,SNR=6.6					
S31A	Mullinville	27.34	340	⇑P	P	10 37 38.8 +0.2
	baz=27					
V26A	Tequesquite Ra	27.48	332	⇓P	P	10 37 40.5 +0.6
	baz=28,SNR=11					
U27A	Thompson Grove	27.57	334	⇓P	P	10 37 41.0 +0.4
	baz=28					
T29A	Hugoton	27.58	337	⇓P	P	10 37 40.6 -0.1
	baz=28					
Y22A	Socorro	27.67	325	⇓P	P	10 37 42.7 +1.0
	baz=28					
S30A	Montezuma	27.70	339	⇑P	P	10 37 42.1 +0.3
	baz=28					
W24A	Lazy 6 Ranch,	27.80	329	⇑P	P	10 37 44.1 +1.3
	baz=28					
T28A	Walsh	27.87	336	⇓P	P	10 37 44.6 +1.3
	baz=28					
V25A	Rancho No Teng	27.90	331	⇑P	P	10 37 44.9 +1.2
	baz=28,SNR=9.5					
S29A	Ulysses	27.92	338	⇑P	P	10 37 44.7 +0.9
	baz=28					
U26A	Atchley Ranch,	27.95	332	⇑P	P	10 37 44.6 +0.4
	baz=28					
R31A	Burdett	27.96	341	⇑P	P	10 37 44.2 +0.1
	baz=28					
Z20A	Nine Sixteen R	28.04	321	⇑P	P	10 37 46.6 +1.7
	baz=28					
Y21A	Point of Rocks	28.12	324	⇓P	P	10 37 48.3 +2.4
	baz=28					
V24A	Rampart Ranch,	28.13	330	⇑P	P	10 37 47.6 +1.7
	baz=28					
ANMO	Albuquerque	28.14	327	P	P	10 37 48.0 +2.1
ANMO	Albuquerque	28.14	327	P	P	10 37 48.0 +2.1
	1.1nm,0.9s,baz=152,slow=9.0,SNR=5.2					
W23A	Werner Place,	28.14	328	⇑P	P	10 37 47.3 +1.4
	baz=28					
S28A	Manter	28.19	336	⇓P	P	10 37 46.3 +0.2
	baz=28					
R30A	Dighton	28.21	340	⇓P	P	10 37 46.5 +0.2
	baz=28,SNR=5.4					
U25A	Circle Dot Ran	28.26	332	⇓P	P	10 37 47.7 +0.8
	baz=28					
Y20A	Horse Springs,	28.46	323	⇑P	P	10 37 50.9 +2.1
	baz=28					
Q30A	Quinter	28.82	340	⇓P	P	10 37 51.9 +0.2
	baz=29					
S26A	Kim	28.86	334	⇓P	P	10 37 52.5 +0.4
	baz=29					
T25A	Trinidad	28.87	332	⇑P	P	10 37 53.5 +1.1
	baz=29					
P32A	Huiting Farm,	28.91	343	⇓P	P	10 37 52.1 -0.4
	baz=29					
Q29A	Oakley	29.00	339	⇑P	P	10 37 53.7 +0.4
	baz=29					
P31A	Stockton	29.04	342	⇑P	P	10 37 53.8 +0.1
	baz=29					
U23A	El Rito	29.07	329	⇑P	P	10 37 55.9 +1.7
	baz=29,SNR=9.7					
R27A	Eads	29.14	336	⇓P	P	10 37 55.2 +0.5
	baz=29					
T24B	San Luis	29.25	331	⇓P	P	10 37 57.7 +1.8
	baz=29					
O32A	Brockman Farm,	29.42	344	⇓P	P	10 37 57.3 +0.3
	baz=29					
R26A	Arlington	29.42	335	⇓P	P	10 37 57.8 +0.6
	baz=30					
O31A	Woolen Ranch,	29.61	343	⇓P	P	10 37 58.7 0.0
	baz=30					
P29A	Atwood	29.62	340	⇓P	P	10 37 59.4 +0.5
	baz=30					
S24A	Houchin Ranch,	29.64	332	⇑P	P	10 37 59.9 +0.5
	baz=30					
R25A	Fountain Ranch	29.64	334	⇑P	P	10 37 59.8 +0.6
	baz=30					
KSCO	Kaye Shedlock'	29.70	337	⇑P	P	10 37 59.7 0.0
	baz=30					
P28A	Saint Francis	29.88	339	⇑P	P	10 38 01.3 +0.1
	baz=30					
Q26A	Hugo	29.98	336	⇓P	P	10 38 02.6 +0.5
	baz=30					
Q25A	Bedland, Calha	30.27	335	⇓P	P	10 38 05.3 +0.5
	baz=30					
O27A	Beecher Island	30.68	338	⇑P	P	10 38 09.0 +0.7
	baz=31					
P23A	Jefferson	31.34	333	⇓P	P	10 38 15.1 +0.7
	baz=31					
Q22A	Crested Butte,	31.42	331	⇑P	P	10 38 14.4 -0.6
	baz=32					
ISCO	Idaho Springs	31.59	334	⇑P	P	10 38 17.3 +0.7
	baz=32					
SMCO	Snowmass	31.70	332	*e*P	P	10 38 15.1 -2.5
	159nm,1.7s					
K30A	Basset	32.03	344	⇓P	P	10 38 19.9 -0.1
	baz=32,SNR=6.3					
O22A	Kremmling	32.30	333	⇓P	P	10 38 23.3 +0.6
	baz=32					
K28A	Ten Mile Ranch	32.57	342	⇑P	P	10 38 25.4 +0.6
	baz=33					
J30A	Dallas	32.60	345	⇑P	P	10 38 24.7 -0.3
	baz=33					
M24A	Cheyenne	32.67	336	⇑P	P	10 38 26.1 +0.2
	baz=33					
J29A	Okreek	32.90	344	⇑P	P	10 38 27.3 -0.4
	baz=33,SNR=9.3					
O20A	White River Ci	33.05	331	*e*P	P	10 38 32.3 +3.1
J28A	Allard Ranch,	33.18	342	⇓P	P	10 38 29.9 -0.1
	baz=33					
SPMN	St. Paul	33.23	354	*e*P	P	10 38 29.3 -1.1
SPMN	St. Paul	33.23	354	⇑P	P	10 38 29.4 -1.1
	baz=33,SNR=7.0					
BRSD	Miller	33.52	346	*e*P	P	10 38 32.1 -0.9
BRSD	Miller	33.52	346	⇑P	P	10 38 32.3 -0.7
	baz=34					
J25A	Sunshine Ranch	33.97	339	⇓P	P	10 38 37.9 +0.9
	baz=34					
G30A	Faulkton	34.21	346	⇓P	P	10 38 37.9 -1.1
	baz=34					
H27A	Howes	34.53	342	⇑P	P	10 38 41.9 +0.1
	baz=35,SNR=5.7					
G28A	Parade	34.61	344	⇑P	P	10 38 42.5 +0.1
	baz=35					
J22A	Midwest	34.97	336	⇓P	P	10 38 45.8 +0.1
	baz=35					
F29A	Eureka	35.04	346	⇑P	P	10 38 45.1 -1.0
	baz=35					
G26A	Maurine	35.28	342	⇓P	P	10 38 48.1 -0.2
	baz=35					
J21A	Lysite	35.30	335	⇓P	P	10 38 49.3 +0.6
	baz=35,SNR=6.8					
I22A	9 Mile Ranch,	35.38	337	⇓P	P	10 38 49.7 +0.5
	baz=35					
H24A	Dirks Ranch, A	35.42	340	⇓P	P	10 38 49.9 +0.4
	baz=36					
G27A	Dupree	35.46	342	⇑P	P	10 38 47.0 -2.8
	baz=35					
F27A	Lemmon	35.64	343	⇑P	P	10 38 51.1 -0.3
	baz=36					
PDAR	Pinedale Array	35.74	333	P	P	10 38 51.8 -0.7
PDAR				PcP	PcP	10 41 20.2 +0.2
PDAR	Pinedale Array	35.74	333	P	P	10 38 51.8 -0.7
	1.3nm,1.0s,baz=145,slow=9.0,SNR=7.2					
PDAR				PcP	PcP	10 41 20.2 +0.2
	0.6nm,0.6s,baz=156,slow=4.6,SNR=5.4					
F26A	Lodgepole	35.81	343	⇓P	P	10 38 52.5 -0.3
	baz=36					
J19A	Crowheart	35.91	334	⇓P	P	10 38 55.4 +1.5
	baz=36					
H22A	Clearmont	35.92	338	⇓P	P	10 38 54.7 +0.8
	baz=36					
D30A	Buchanan	36.00	348	⇑P	P	10 38 53.5 -0.9
	baz=36					
E27A	Carson	36.03	344	⇓P	P	10 38 54.5 -0.2
	baz=36					
I20A	Worland	36.08	335	⇑P	P	10 38 55.4 +0.2
	baz=36					
G23A	Biddle	36.10	339	⇓P	P	10 38 55.8 +0.4
	baz=36					
F25A	Bowman	36.11	342	⇓P	P	10 38 55.5 0.0
	baz=36					
H21A	Big Horn, Sher	36.21	337	⇓P	P	10 38 56.0 -0.4
	baz=36					
E26A	Carlson Angus	36.31	343	⇓P	P	10 38 57.5 +0.4
	baz=36					
F24A	Ekalaka	36.35	341	⇑P	P	10 38 58.0 +0.5
	baz=36					
C30A	Mose, Pekin	36.51	348	⇑P	P	10 38 58.0 -0.7
	baz=36					
F23A	Volborg	36.56	340	⇓P	P	10 38 59.3 0.0
	baz=37					
E25A	Miller Ranch,	36.62	342	⇑P	P	10 38 59.6 -0.1
	baz=37					
AGMN	Agassiz Nation	36.64	351	*e*P	P	10 38 58.2 -1.6
	14nm,1.0s					
D27A	Center	36.65	345	⇑P	P	10 38 59.9 -0.1
	baz=37					
REDW	Red Top Meadow	36.79	332	*e*P	P	10 39 02.0 +0.5
	12nm,1.1s					
SNOW	Snow King Moun	36.83	332	*e*P	P	10 39 02.4 +0.7
LOHW	Long Hollow	36.87	332	*e*P	P	10 39 05.2 +3.1
MDND	Maddock	36.88	347	*e*P	P	10 39 01.1 -0.8
MDND	Maddock	36.88	347	⇓P	P	10 39 01.5 -0.5
	baz=37					
C28A	Hausauer Farms	36.94	346	⇑P	P	10 39 01.9 -0.5
	baz=37					
G20A	Bridger	37.16	336	⇓P	P	10 39 04.1 -0.3
	baz=37					
E23A	Ismay	37.21	340	⇓P	P	10 39 04.9 +0.1
	baz=37					
NVAR	Mina Array Bea	37.49	320	P	P	10 39 09.3 +1.9
NVAR				PcP	PcP	10 41 26.9 +1.5
NVAR	Mina Array Bea	37.49	320	P	P	10 39 09.3 +1.9
	1.3nm,1.0s,baz=139,slow=8.8,SNR=3.9					
NVAR				PcP	PcP	10 41 26.9 +1.5
	1.1nm,0.8s,baz=143,slow=4.3,SNR=6.4					
B28A	Dugan Ranch, T	37.62	347	⇓P	P	10 39 07.7 -0.5
	baz=38					
F20A	Billings	37.62	337	⇓P	P	10 39 08.0 -0.3
	baz=38					
A30A	Hoffart Farm,	37.66	349	⇑P	P	10 39 07.4 -1.1
	baz=38					
C25A	Freed Ranch, W	37.67	343	⇓P	P	10 39 08.6 0.0
	baz=38					
D23A	Lindsay	37.77	341	⇑P	P	10 39 09.7 +0.2
	baz=38					
A29A	Manning Farm,	37.83	348	⇑P	P	10 39 09.2 -0.7
	baz=38					
C24A	Savage	37.85	342	⇓P	P	10 39 10.4 +0.2
	baz=38					
E21A	Keefer Ranch,	37.85	339	⇑P	P	10 39 10.3 +0.1
	baz=38					
F19A	Roth Farm, Mol	37.98	336	⇑P	P	10 39 11.4 0.0
	baz=38					
E20A	Meyer Farm, Mu	38.21	338	⇓P	P	10 39 13.4 +0.2
	baz=38,SNR=7.8					
D21A	La Casta Ranch	38.27	339	⇓P	P	10 39 14.1 +0.3
	baz=38					
C23A	Lambert	38.32	341	⇑P	P	10 39 14.0 -0.1
	baz=38					
E19A	Rath Farm, Rou	38.42	337	⇑P	P	10 39 15.3 +0.3
	baz=38					
C22A	Vida	38.49	341	⇓P	P	10 39 15.9 +0.3
	baz=38					
ULM	Lac du Bonnet	38.55	352	P	P	10 39 13.8 -2.0
	4.2nm,0.8s					
ULM	Lac du Bonnet	38.55	352	P	P	10 39 13.8 -2.0
	11nm,0.7s,baz=169,slow=8.7,SNR=15					
DGMT	Dagmar	38.62	343	⇓P	P	10 39 16.5 -0.1
	baz=39					
HLID	Hailey	38.66	329	⇓P	P	10 39 17.3 +0.1
	baz=39					
D20A	Manuel Ranch,	38.70	338	⇑P	P	10 39 17.7 +0.3
	baz=38					
SIV	San Ignacio	38.72	136	P	P	10 39 17.8 +0.1
SIV	San Ignacio	38.72	136	P	P	10 39 17.8 +0.1
	2.0nm,0.6s,baz=324,slow=9.5,SNR=7.1					
A25A	Svangstu Ranch	38.75	344	⇓P	P	10 39 17.7 0.0
	baz=39					
B23A	Brockton	38.85	342	⇑P	P	10 39 19.5 +1.0
	baz=39					
A24A	Westby	38.98	343	⇓P	P	10 39 20.0 +0.3
	baz=39					
B22A	Reddig Ranch S	39.02	341	⇓P	P	10 39 20.4 +0.4
	baz=39					
D19A	Cripps Ranch,	39.04	337	⇑P	P	10 39 20.5 +0.3
	baz=39,SNR=6.4					
A23A	Redstone	39.26	343	⇓P	P	10 39 22.3 +0.3
	baz=39					
LRM	Limekiln Ridge	39.42	333	*e*P	P	10 39 27.3 +3.7
C19A	Slack Wire Ran	39.58	338	⇑P	P	10 39 24.9 +0.2
	baz=40					
A22A	Carney Farms,	39.60	342	⇓P	P	10 39 24.8 -0.1
	baz=40					
B20A	Solberg Farm,	39.81	339	⇑P	P	10 39 27.0 +0.4
	baz=40					
EGMT	Eagleton	40.09	337	⇓P	P	10 39 28.8 -0.1
	baz=40					
B19A	Brinkman Farms	40.15	339	⇑P	P	10 39 29.3 -0.1
	baz=40					
A20A	Cobblestone Ra	40.16	340	⇓P	P	10 39 29.8 +0.4
	baz=40					
A19A	Klindworth Far	40.48	339	⇑P	P	10 39 31.9 -0.2
	baz=40					
SCHQ	Schefferville	45.80	17	P	P	10 40 12.7 -2.3
SCHQ	Schefferville	45.80	17	P	P	10 40 12.7 -2.3
	6.5nm,0.7s,baz=228,slow=7.9,SNR=5.3					
ILAR	Eielson Array	66.04	336	P	P	10 42 38.8 -0.9
ILAR	Eielson Array	66.04	336	P	P	10 42 38.8 -0.9
	0.8nm,0.9s,baz=107,slow=5.4,SNR=7.7					
NOA	NORSAR Array B	84.00	29	LR	LR	11 23 35.6
	comp=Z,15nm,18.4s,baz=280,slow=37					
WMQ	Urumqi	124.20	4	*e*PKP	PKPdf	10 50 50.3 -1.8
WMQ				LR	LR	
	comp=N,120nm,25.4s					
WMQ				LR	LR	
	comp=E,64nm,22.4s					
WMQ				LR	LR	
	comp=Z,24nm,20.6s					
HHC	Hu-ho-hao-te	124.22	342	*e*PKP	PKPdf	10 50 53.1 +0.8
HHC				PP	PP	10 52 42.0 +5.8
HHC				PKS	PKSdf	10 54 28.5 -0.6
HHC				SS	SS	11 09 26.0 +1.6
HHC				PPMZ		
	88nm,5.2s					
HHC				LR	LR	
	comp=N,220nm,19.8s					
HHC				LR	LR	
	comp=E,180nm,18.4s					
HHC				LR	LR	
	comp=Z,200nm,18.2s					
XAN	Xi'an	131.30	341	PKP	PKPdf	10 51 08.3 +2.4
CD2	Chengdu	135.71	345	PKP	PKPdf	10 51 11.8 -2.5
ASAR	Alice Springs	138.49	248	PKP	PKPdf	10 51 20.9 +1.3
ASAR	Alice Springs	138.49	248	PKP	PKPdf	10 51 20.9 +1.3
	0.2nm,0.7s,baz=109,slow=1.6,SNR=3.1					
WRA	Warramunga Arr	138.50	254	PKP	PKPdf	10 51 20.3 +0.7
WRA	Warramunga Arr	138.50	254	PKP	PKPdf	10 51 20.3 +0.7
	0.4nm,0.9s,baz=88,slow=2.1,SNR=2.9					
GYA	Guiyang	139.03	340	*e*Pdif	Pdif	10 48 28.9 -3.8
GYA				PKP	PKPdf	10 51 17.3 -3.3
GYA				sPKP		10 51 43.0
GYA				PP	PP	10 54 14.0 +2.3
GYA				PPMZ		
	90nm,8.0s					
CMAR	Chiang Mai Arr	148.82	347	PKPbc	PKPbc	10 51 40.1 -1.4
CMAR	Chiang Mai Arr	148.82	347	PKPbc	PKPbc	10 51 40.1 -1.4
	1.2nm,0.4s,baz=337,slow=2.5,SNR=11					

IDC 14 10:40:02.0±2.8, 14°52'S×167°88'E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/19, mbtmpg3.7/4, MS3.3/2, Ms1 3.3/2, ms1mx2.8/31, Error ellipse: s-maj=128.0km s-min=31.2km az=138.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	20.89	282	LR	LR	10 50 32.2	
	comp=Z,112nm,19.7s,baz=160,slow=30						
STKA	Stephens Creek	29.57	230	P	P	10 46 07.0	-1.8
	1.6nm,0.7s,baz=41,slow=9.3,SNR=3.1						
STKA				LR	LR	10 57 29.2	
	comp=Z,46nm,20.0s,baz=27,slow=35						
WRA	Warramunga Arr	32.45	256	P	P	10 46 35.9	+1.6
	0.7nm,0.7s,baz=82,slow=9.3,SNR=8.0						
ASAR	Alice Springs	33.30	249	P	P	10 46 41.1	-0.6
	0.5nm,0.7s,baz=73,slow=10,SNR=4.6						
ILAR	Eielson Array	86.15	18	P	P	10 52 44.7	+0.1
	0.2nm,0.5s,baz=224,slow=6.3,SNR=3.6						

JMA 14 11:02:37.4±0.4, 31°78N×142°60E, h0km, M3.7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	Mitsune	2.70	300	P	Pn	11 03 23.3	+1.2
JHJ2				S	Sn	11 03 56.9	+1.4
JHO	Hitachi	5.10	341	P	Pn	11 03 57.9	+2.8
JHO				*e*S	Sn	11 04 55.7	+0.9
JAG	Ashikaga	5.32	331	P	Pn	11 03 59.7	+1.6
JAG				S	Sn	11 05 02.9	+2.8

IDC 14 11:06:08.6±1.8, 4°92N×123°31E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/25, mbtmpg3.6/4, Error ellipse: s-maj=147.9km s-min=23.8km az=66.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	22.99	174	P	P	11 11 15.1	0.0
	1.5nm,1.0s,baz=349,slow=10,SNR=2.4						
WRA	Warramunga Arr	26.98	157	P	P	11 11 52.5	+0.2
	0.4nm,0.3s,baz=336,slow=9.4,SNR=14						
ASAR	Alice Springs	30.23	160	P	P	11 12 21.1	-0.3
	0.1nm,0.3s,baz=341,slow=7.2,SNR=6.0						
MKAR	Makanchi Array	54.66	326	P	P	11 15 39.4	-0.1
	0.4nm,0.3s,baz=124,slow=8.1,SNR=7.5						

IDC 14 11:13:53.9±4.8, 1°62N×126°44E, h60km±46km, mb3.8/11, mb1 3.9/13, mb1mx3.7/24, mbtmpg3.8/13, ML4.0/2, Error ellipse: s-maj=36.2km s-min=13.9km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	Kappang	9.38	225	P	Pn	11 16 08.1	+1.7
	1.3nm,0.3s,baz=28,slow=17,SNR=2.8						
FITZ	Fitzroy Crossi	19.61	182	P	P	11 18 17.1	-0.4
	0.3nm,0.3s,baz=21,slow=13,SNR=12						
WRA	Warramunga Arr	22.79	160	P	P	11 18 50.1	-1.6
	5.0nm,0.4s,baz=336,slow=11,SNR=56						
ASAR	Alice Springs	26.16	164	P	P	11 19 23.9	+1.0
	3.9nm,0.7s,baz=352,slow=15,SNR=33						
CMAR	Chiang Mai Arr	31.73	304	P	P	11 20 12.9	+0.5
	0.4nm,0.4s,baz=105,slow=5.4,SNR=4.5						
KSRS	Korea Array	35.68	2	P	P	11 20 46.8	+0.4
	0.8nm,0.6s,baz=178,slow=10,SNR=3.9						
STKA	Stephens Creek	36.29	158	P	P	11 20 51.0	-0.7
	2.2nm,0.7s,baz=350,slow=6.1,SNR=3.8						
SONM	Songino Array	49.20	342	P	P	11 22 35.6	-0.6
	1.0nm,0.7s,baz=157,slow=8.0,SNR=4.5						
PETK	Petropavlovsk-	57.48	22	P	P	11 23 37.5	+0.8
	5.0nm,1.1s,baz=188,slow=7.9,SNR=4.3						
MKAR	Makanchi Array	59.12	326	P	P	11 23 47.5	-0.8
	1.3nm,0.4s,baz=121,slow=8.4,SNR=31						
KURBB	Kurchatov Arra	63.35	328	P	P	11 24 15.9	-0.8
	1.4nm,0.5s,baz=128,slow=6.1,SNR=8.2						
BVAR	Borovoye Array	68.92	328	P	P	11 24 52.9	+0.4
	0.6nm,0.3s,baz=133,slow=10,SNR=3.0						
VNDA	Vanda	81.39	173	P	P	11 26 04.4	+0.7
	0.5nm,0.4s,baz=333

1.9nm,0.6s,baz=67,slow=10,SNR=20
MJAR Matsushiro Arr 55.50 332 LR LR 12 09 45.8
comp=Z,26nm,19.5s,baz=270,slow=32
VNDA Vanda 65.40 181 P P 11 51 20.3 +0.8
0.5nm,0.7s,baz=323,slow=4.3,SNR=5.4
CMAR Chiang Mai Arr 73.62 293 P P 11 52 13.2 +1.9
0.7nm,0.5s,baz=124,slow=5.6,SNR=5.3
ILAR Eielson Array 84.21 18 P P 11 53 06.9 -1.6
0.2nm,0.6s,baz=231,slow=5.2,SNR=3.4
MKAR Makanchi Array 95.13 317 P P 11 54 01.6 +0.8
0.8nm,0.6s,baz=100,slow=6.3,SNR=8.5
TORD Torodi Ar. Bea 165.56 275 PKPab PKPab 12 01 41.4 -0.4
0.7nm,0.9s,baz=106,slow=3.6,SNR=4.1

CSEM 14 11:44:27.1,41.74N×13.71E,h10km, After ROM, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POFI	**Posta Fibreno**	**0.02**	**185**	Pg	Pg	11 44 29.5	+0.4
POFI				Sg	Sg	11 44 30.8	+0.3
	1µm,0.2s						
POFI	**Posta Fibreno**	**0.02**	**185**	Pg	Pg	11 44 29.5	+0.4
POFI				Sg	Sg	11 44 30.8	+0.3
	1µm,0.2s						
VVLD	**Villa Vallelon**	**0.15**	**333**	Pg	Pg	11 44 31.1	+0.4
VVLD				Sg	Sg	11 44 33.9	+0.7
	636nm,0.3s						
VVLD	**Villa Vallelon**	**0.15**	**333**	Pg	Pg	11 44 31.1	+0.4
VVLD				Sg	Sg	11 44 33.9	+0.7
	636nm,0.3s						
CERA	**Filignano**	**0.27**	**121**	Pg	Pg	11 44 33.0	+0.3
CERA				Sg	Sg	11 44 37.3	+0.9
	308nm,0.4s						
CERA	**Filignano**	**0.27**	**121**	Pg	Pg	11 44 33.0	+0.3
CERA				Sg	Sg	11 44 37.3	+0.9
	308nm,0.4s						
GUAR	**Guarcino**	**0.31**	**281**	Pg	Pg	11 44 33.9	+0.5
GUAR				Sg	Sg	11 44 38.7	+1.1
	149nm,0.3s						
GUAR	**Guarcino**	**0.31**	**281**	Pg	Pg	11 44 33.9	+0.5
GUAR				Sg	Sg	11 44 38.7	+1.1
	149nm,0.3s						
INTR	**Introdacqua**	**0.31**	**27**	Pg	Pg	11 44 33.8	+0.3
INTR				Sg	Sb	11 44 39.0	-1.1
	381nm,0.2s						
INTR	**Introdacqua**	**0.31**	**27**	Pg	Pg	11 44 33.8	+0.3
INTR				Sg	Sb	11 44 39.0	-1.1
	381nm,0.2s						
PTQR	**Pietraquaria**	**0.37**	**321**	Pg	Pg	11 44 35.2	+0.6
PTQR				Sg	Sb	11 44 40.8	-1.0
	57nm,0.2s						
PTQR	**Pietraquaria**	**0.37**	**321**	Pg	Pg	11 44 35.2	+0.6
PTQR				Sg	Sb	11 44 40.8	-1.0
	57nm,0.2s						
GIUL	**Giuliano Di Ro**	**0.39**	**243**	Pg	Pg	11 44 35.0	+0.2
GIUL				Sg	Sb	11 44 41.5	-0.7
	121nm,0.5s						
GIUL	**Giuliano Di Ro**	**0.39**	**243**	Pg	Pg	11 44 35.0	+0.2
GIUL				Sg	Sb	11 44 41.5	-0.7
	121nm,0.5s						
MIDA	**Miranda**	**0.41**	**103**	Pg	Pg	11 44 35.9	+0.5
	66nm,0.4s						
MIDA	**Miranda**	**0.41**	**103**	Pg	Pg	11 44 35.9	+0.5
	66nm,0.4s						
LPEL	**Lama dei Pelig**	**0.47**	**48**	Pg	Pg	11 44 36.4	0.0
LPEL				Sg	Sb	11 44 43.7	-0.9
	125nm,0.2s						
LPEL	**Lama dei Pelig**	**0.47**	**48**	Pg	Pg	11 44 36.4	0.0
LPEL				Sg	Sb	11 44 43.7	-0.9
	125nm,0.2s						
VAGA	**Valle Agricola**	**0.51**	**129**	Pg	Pb	11 44 38.3	+0.2
	52nm,0.3s						
VAGA	**Valle Agricola**	**0.51**	**129**	Pg	Pb	11 44 38.3	+0.2
	52nm,0.3s						
FAGN	**Fagnano**	**0.54**	**350**	Pg	Pg	11 44 37.8	+0.1
	225nm,0.3s						
FAGN	**Fagnano**	**0.54**	**350**	Pg	Pg	11 44 37.8	+0.1
	225nm,0.3s						
CERT	**Cerreto**	**0.59**	**292**	Pg	Pg	11 44 38.2	-0.4
	106nm,0.4s						
CERT	**Cerreto**	**0.59**	**292**	Pg	Pg	11 44 38.2	-0.4
	106nm,0.4s						
VCEL	**Villa Celiera**	**0.67**	**8**	Pg	Pg	11 44 40.0	-0.2
VCEL	**Villa Celiera**	**0.67**	**8**	Pg	Pg	11 44 40.0	-0.2

*CSEM **14** 11:45:10.8,42.53N×12.14E,h2km, After ROM*
ROM 14 11:45:10.8±0.1,42.53N×12.14E,h2km±1km,Ml2.3/14, Error ellipse: s-maj=1.3km s-min=1.1km az=3.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LATE	**Laterza**	**0.26**	**289**	Pg	Pg	11 45 17.1	+1.1
LATE				Sg	Sg	11 45 21.1	+1.7
	792nm,0.3s						
LATE	**Laterza**	**0.26**	**289**	Pg	Pg	11 45 17.1	+1.1
LATE				Sg	Sg	11 45 21.1	+1.7
	792nm,0.3s						
CESX	**Cesi**	**0.33**	**76**	Pg	Pg	11 45 18.3	+1.0
CESX				Sg	Sb	11 45 24.3	-1.1
	406nm,0.6s						
CESX	**Cesi**	**0.33**	**76**	Pg	Pg	11 45 18.3	+1.0
CESX				Sg	Sb	11 45 24.3	-1.1
	406nm,0.6s						
SACS	**San Casciano d**	**0.36**	**332**	Pg	Pg	11 45 18.9	+1.0
SACS				Sg	Sg	11 45 24.5	+1.8
	213nm,0.4s						
MGAB	**Montegabbione**	**0.39**	**357**	Pg	Pg	11 45 19.1	+0.8
MGAB				Sg	Sb	11 45 25.4	-1.6
	500nm,0.3s						
MGAB	**Montegabbione**	**0.39**	**357**	Pg	Pg	11 45 19.1	+0.8
MGAB				Sg	Sb	11 45 25.4	-1.6
	500nm,0.3s						
TOLF	**Tolfa**	**0.47**	**193**	Pg	Pb	11 45 21.3	-0.7
TOLF				Sg	Sb	11 45 28.8	-0.7
	532nm,0.2s						
TOLF	**Tolfa**	**0.47**	**193**	Pg	Pb	11 45 21.3	-0.7
TOLF				Sg	Sb	11 45 28.8	-0.7
	532nm,0.2s						
ARCI	**Arcidosso**	**0.59**	**304**	Pg	Pb	11 45 23.2	-0.8
	69nm,0.7s						
ARCI	**Arcidosso**	**0.59**	**304**	Pg	Pb	11 45 23.2	-0.8
	69nm,0.7s						
LNSS	**Leonessa**	**0.67**	**83**	Pg	Pg	11 45 24.4	+0.6
LNSS				Sg	Sb	11 45 35.0	-0.3
LNSS	**Leonessa**	**0.67**	**83**	Pg	Pg	11 45 24.4	+0.6
LNSS				Sg	Sb	11 45 35.0	-0.3
CESI	**CESI - Serrava**	**0.74**	**49**	Pg	Pg	11 45 25.8	+0.7
CESI				Sg	Sb	11 45 37.5	+0.3
	74nm,0.5s						
CESI	**CESI - Serrava**	**0.74**	**49**	Pg	Pg	11 45 25.8	+0.7
CESI				Sg	Sb	11 45 37.5	+0.3
	74nm,0.5s						
MAON	**Monte Argentar**	**0.75**	**263**	Pg	Pb	11 45 26.8	+0.1
	102nm,0.6s						
MAON	**Monte Argentar**	**0.75**	**263**	Pg	Pb	11 45 26.8	+0.1
	102nm,0.6s						
MURB	**Monte Urbino**	**0.79**	**21**	Pg	Pg	11 45 26.6	+0.6
MURB				Sg	Sb	11 45 38.8	+0.2
	661nm,0.4s						
MURB	**Monte Urbino**	**0.79**	**21**	Pg	Pg	11 45 26.6	+0.6
MURB				Sg	Sb	11 45 38.8	+0.2
	661nm,0.4s						
CAFI	**Castiglion Fio**	**0.81**	**351**	Pg	Pg	11 45 26.7	+0.3
CAFI				Sg	Sb	11 45 39.7	+0.5
	85nm,0.7s						
CAFI	**Castiglion Fio**	**0.81**	**351**	Pg	Pg	11 45 26.7	+0.3
CAFI				Sg	Sb	11 45 39.7	+0.5
	85nm,0.7s						
FDMO	**Fiordimonte**	**0.86**	**54**	Pg	Pg	11 45 27.9	+0.5
	86nm,0.3s						
FDMO	**Fiordimonte**	**0.86**	**54**	Pg	Pg	11 45 27.9	+0.5
	86nm,0.3s						
SNTG	**Esanatoglia**	**0.93**	**39**	Pg	Pg	11 45 29.2	+0.4
	16nm,0.2s						
SNTG	**Esanatoglia**	**0.93**	**39**	Pg	Pg	11 45 29.2	+0.4
	16nm,0.2s						
BADI	**Badiali**	**0.98**	**4**	Pg	Pb	11 45 31.0	+0.3
	86nm,0.8s						
BADI	**Badiali**	**0.98**	**4**	Pg	Pb	11 45 31.0	+0.3
	86nm,0.8s						
PIEI	**Pieia**	**1.05**	**16**	Pg	Pb	11 45 31.7	-0.1
	51nm,0.4s						
PIEI	**Pieia**	**1.05**	**16**	Pg	Pb	11 45 31.7	-0.1
	51nm,0.4s						
PARC	**Parchiule**	**1.12**	**4**	Pg	Pg	11 45 32.5	+0.1
	59nm,0.6s						
PARC	**Parchiule**	**1.12**	**4**	Pg	Pg	11 45 32.5	+0.1
	59nm,0.6s						

MEX 14 11:45:32.3±0.5,17.17N×94.56W,h130km±12km,MD3.7, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**1.43**	**106**	*e*P	Pn	11 45 58.4	-1.3
TGIG				*i* S	Sn	11 46 18.8	-1.8
PCIG		**1.94**	**138**	*e*P	Pn	11 46 04.7	-0.8
PCIG				*e*S	Sn	11 46 29.2	-1.8
HUIG	**Huatulco**	**2.04**	**227**	*e*P	Pn	11 46 04.7	-2.0
HUIG				*e*S	Sn	11 46 32.2	-0.9
VHO	**Vista Hermosa**	**2.08**	**268**	*e*P	Pn	11 46 06.7	-0.9
VHO				*i* S	Sn	11 46 33.0	-1.5
CCIG	**Comitan**	**2.48**	**110**	*e*P	Pn	11 46 11.4	-1.2
CCIG				*e*S	Sn	11 46 41.3	-2.1
PNIG	**Pinotepa**	**3.50**	**258**	*e*P	Pn	11 46 23.5	-2.0
PNIG				*e*S	Sn	11 47 05.5	-1.3

ROM 14 11:46:10.6±0.1,41.75N×13.73E,h10km,Md1.3/2,Ml1.0/1, 1D, Error ellipse: s-maj=1.1km s-min=0.4km az=40.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POFI	**Posta Fibreno**	**0.04**	**208**	⇓*i* P	Pg	11 46 12.7	+0.1
POFI				Sg	Sg	11 46 14.4	+0.4
	64nm,0.2s						
SDI	**San Donato**	**0.07**	**124**	Pg	Pg	11 46 13.2	+0.3
SDI				Sg	Sg	11 46 14.9	+0.3
	56nm,0.2s						
VVLD	**Villa Vallelon**	**0.15**	**326**	Pg	Pg	11 46 14.4	+0.3
VVLD				Sg	Sg	11 46 17.3	+0.8
	36nm,0.4s						

*ISCJB **14** 12:24:14.6±0.7,25.68N±0.06×101.06E±0.06,h13km, mb3.7/7,MS3.2/5, Error ellipse: s-maj=8.6km s-min=6.4km az=35.0*
*BJI **14** 12:24:14.2,25.58N×100.99E,h10km,mb4.5/2,ML3.8/10, Ms3.9/5,Ms7 3.9/2*
*IDC **14** 12:24:15.0±0.9,25.75N×101.10E,h0km,mb3.8/7, mb1 3.8/8,mb1mx3.7/26,mbtmp3.7/8,MS3.3/5,Ms1 3.3/5, ms1mx2.9/39,Error ellipse: s-maj=31.0km s-min=16.5km az=73.0*
ISC 14 12:24:16.9±0.8,25.70N±0.06×101.15E±0.06,h13km,n17, σ2s64/22,mb3.9/7,MS3.3/5,1D,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**1.55**	**111**	⇓Pn	**Pb**	**12 24 45.5**	**-0.1**
KMI				Pg	**Pg**	**12 24 46.8**	**+0.1**
KMI				Sg	**Sg**	**12 25 08.6**	**+1.8**
KMI				SMN			
	comp=Z,1µm,1.3s						
KMI				SME			
	comp=Z,880nm,0.9s						
GYA	**Guiyang**	**5.01**	**80**	Pn	**Pn**	**12 25 34.3**	**+2.3**
GYA				Sn	**Sn**	**12 26 29.9**	**0.0**
GYA				Sg	**Sg**	**12 26 52.8**	**-5.2**
GYA				SMN			
	60nm,0.8s						
GYA				SME			
	40nm,0.8s						
CMAR	**Chiang Mai Arr**	**7.49**	**196**	Pn	**Pn**	**12 26 04.1**	**-1.9**
	baz=12,slow=13,SNR=3.1						
CMAR				Pg	Pb	12 26 33.5	+6.7
	0.7nm,0.3s,baz=9.8,slow=18,SNR=28						
CMAR				Lg	Lg	12 28 09.1	
	0.9nm,0.3s,baz=14,slow=30,SNR=4.4						
XAN	**Xi'an**	**10.70**	**37**	P	**Pn**	**12 26 50.8**	**+0.8**
XAN				LR	LR		
	comp=N,380nm,9.3s						
XAN				LR	LR		
	comp=E,170nm,9.7s						
GTA	**Gaotai**	**13.72**	**356**	*e*P	**P**	**12 27 41.3**	**+1.3**
GTA				pP	pP	12 27 45.4	
GTA				sP		12 27 48.6	
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**17.42**	**27**	*e*P	**Pn**	**12 28 18.6**	**-1.1**
HHC				sP	**sP**	**12 28 25.6**	**-0.8**
HHC				PP	**PnPn**	**12 28 33.5**	**+3.5**
HHC				S	**Sn**	**12 31 32.8**	**-0.7**
HHC				sS	**S**	**12 31 38.4**	**-3.5**
HHC				SS	**SnSn**	**12 31 54.9**	**+7.8**
HHC				AMB	AMB		
	comp=Z,41nm,0.9s						
HHC				LR	LR		
	comp=Z,240nm,11.9s						
HHC				LR	LR		
	comp=Z,130nm,10.3s						
HHC				LR	LR		
	comp=Z,240nm,10.4s						
SONM	**Songino Array**	**22.48**	**9**	P	**P**	**12 29 14.8**	**-1.3**
	comp=Z,2.2nm,0.8s,baz=189,slow=8.4,SNR=8.9						
KSRS	**Korea Array**	**25.55**	**56**	P	**P**	**12 29 45.4**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=245,slow=10,SNR=3.2						
KSRS				LR	LR	12 40 49.4	
	comp=Z,34nm,20.3s,baz=240,slow=39						
MKAR	**Makanchi Array**	**25.85**	**329**	P	**P**	**12 29 48.2**	**+0.1**
	comp=Z,3.0nm,0.8s,baz=134,slow=10,SNR=16						
JNU	**Nakatsue**	**26.87**	**67**	LR	LR	12 41 32.3	
	comp=Z,87nm,18.7s,baz=59,slow=39						
KURBB	**Kurchatov Arra**	**30.35**	**331**	P	**P**	**12 30 27.8**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=142,slow=9.0,SNR=14						
ZALV	**Zalesovo Beam**	**30.72**	**341**	P	**P**	**12 30 30.8**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=146,slow=8.2,SNR=6.8						
MJAR	**Matsushiro Arr**	**33.33**	**62**	LR	LR	12 45 28.0	
	comp=Z,58nm,18.8s,baz=250,slow=38						
AKTO	**Aktyubinsk**	**41.19**	**318**	LR	LR	12 52 07.9	
	comp=Z,31nm,18.2s,baz=283,slow=41						
WRA	**Warramunga Arr**	**55.66**	**141**	P	**P**	**12 33 53.6**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=331,slow=8.0,SNR=10						
ASAR	**Alice Springs**	**58.43**	**144**	P	**P**	**12 34 13.4**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=325,slow=6.5,SNR=4.8						
NOA	**NORSAR Array B**	**67.84**	**328**	LR	LR	13 07 20.5	
	comp=Z,25nm,19.5s,baz=340,slow=38						

*IDC **14** 12:51:47.2±4.1,33.94N×23.35E,h0km,mb4.2/7, mb1 4.0/9,mb1mx3.8/30,mbtmp4.0/9,ML3.6/2,Error ellipse: s-maj=70.4km s-min=34.4km az=19.0*
*THE **14** 12:52:04.5,34.84N×24.05E,h56km±4km, ML2.9/3, Error ellipse: s-maj=4.5km s-min=1.4km az=48.0*
*CSEM **14** 12:52:05.7±0.7,34.95N×24.15E,h60km,MD3.7, Error ellipse: s-maj=19.5km s-min=6.7km az=22.0*
*ATH **14** 12:52:08.3,35.41N×24.36E,h59km±8km, MD3.7/9*
ISC 14 12:52:04.7±1.4,34.90N±0.10×24.13E±0.06,h65km±7km, n57,σ1s16/71,mb3.9/7,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.51**	**6**	P	**Pn**	**12 52 16.9**	**-0.3**
VAM				S	**Sn**	**12 52 25.4**	**-0.9**
VAM	**Vamos**	**0.51**	**6**	*e*P	**Pn**	**12 52 17.6**	**+0.4**
VAM	**Vamos**	**0.51**	**6**	*e*P	**Pn**	**12 52 17.6**	**+0.4**
VAM				S	**Sn**	**12 52 25.4**	**-0.9**
SIVA	**Sivas**	**0.57**	**78**	P	**Pn**	**12 52 16.8**	**-1.0**
SIVA				S	**Sn**	**12 52 28.0**	**+0.6**
SIVA	**Sivas**	**0.57**	**78**	P	**Pn**	**12 52 16.8**	**-1.0**
SIVA				S	**Sn**	**12 52 28.0**	**+0.6**
IDI	**Anoyia**	**0.73**	**58**	P	**Pn**	**12 52 20.4**	**+0.7**
IDI				S	**Sn**	**12 52 32.2**	**+1.4**
IDI	**Anoyia**	**0.73**	**58**	*e*P	**Pn**	**12 52 20.8**	**+1.1**
IDI	**Anoyia**	**0.73**	**58**	P	**Pn**	**12 52 20.4**	**+0.7**
IDI				S	**Sn**	**12 52 32.2**	**+1.4**
IDI	**Anoyia**	**0.73**	**58**	Pn	**Pn**	**12 52 20.9**	**+1.1**
	9.8nm,0.3s,baz=241,slow=14,SNR=27						
ANKY	**Antikythira Is**	**1.18**	**325**	*e*P	**Pn**	**12 52 27.8**	**+2.5**
ANKY	**Antikythira Is**	**1.18**	**325**	*e*P	**Pn**	**12 52 27.8**	**+2.5**
NPS	**Neapolis**	**1.27**	**73**	*e*P	**Pn**	**12 52 27.6**	**+1.2**
NPS	**Neapolis**	**1.27**	**73**	*e*P	**Pn**	**12 52 27.6**	**+1.2**
KYTH	**Kithira**	**1.64**	**327**	*e*P	**Pn**	**12 52 32.7**	**+1.3**
KYTH	**Kithira**	**1.64**	**327**	*e*P	**Pn**	**12 52 32.7**	**+1.3**
VLI	**Veliai**	**2.06**	**332**	P	**Pn**	**12 52 37.3**	**+0.3**
VLI				S	**Sn**	**12 53 02.4**	**+0.7**
VLI	**Veliai**	**2.06**	**332**	*e*P	**Pn**	**12 52 37.3**	**+0.3**
VLI	**Veliai**	**2.06**	**332**	P	**Pn**	**12 52 37.3**	**+0.3**
VLI				S	**Sn**	**12 53 02.4**	**+0.7**
APE	**Apeiranthos**	**2.44**	**27**	P	**Pn**	**12 52 42.6**	**+0.3**
APE				S	**Sn**	**12 53 13.2**	**+2.1**
APE	**Apeiranthos**	**2.44**	**27**	P	**Pn**	**12 52 42.6**	**+0.3**
APE				S	**Sn**	**12 53 13.2**	**+2.1**
KARP	**Karpathos**	**2.56**	**74**	P	**Pn**	**12 52 44.6**	**+0.7**
KARP				S	**Sn**	**12 53 15.4**	**+1.4**
KARP	**Karpathos**	**2.56**	**74**	*e*P	**Pn**	**12 52 44.7**	**+0.8**
KARP	**Karpathos**	**2.56**	**74**	*e*P	**Pn**	**12 52 44.7**	**+0.8**
KARP				S	**Sn**	**12 53 15.4**	**+1.4**
DIDY	**Didyma**	**2.68**	**344**	*e*P	**Pn**	**12 52 45.2**	**-0.3**
DIDY	**Didyma**	**2.68**	**344**	*e*P	**Pn**	**12 52 45.2**	**-0.3**
DID	**Didima**	**2.70**	**345**	P	**Pn**	**12 52 45.2**	**-0.6**
DID				S	**Sn**	**12 53 17.9**	**+0.5**
DID	**Didima**	**2.70**	**345**	*e*P	**Pn**	**12 52 45.5**	**-0.3**
DID	**Didima**	**2.70**	**345**	*e*P	**Pn**	**12 52 45.5**	**-0.3**
DID				S	**Sn**	**12 53 17.9**	**+0.5**
ITM	**Ithomi**	**2.89**	**323**	*e*P	**Pn**	**12 52 49.0**	**+0.6**
ITM	**Ithomi**	**2.89**	**323**	*e*P	**Pn**	**12 52 49.0**	**+0.6**
LTK	**Loutraki**	**3.26**	**344**	*e*P	**Pn**	**12 52 52.9**	**-0.4**
LTK	**Loutraki**	**3.26**	**344**	*e*P	**Pn**	**12 52 52.9**	**-0.4**
GUR	**Goura**	**3.36**	**335**	*e*P	**Pn**	**12 52 55.7**	**+0.9**
GUR	**Goura**	**3.36**	**335**	*e*P	**Pn**	**12 52 55.7**	**+0.9**
KLV	**Kalavryta, Ach**	**3.52**	**334**	*e*P	**Pn**	**12 52 57.2**	**+0.2**
KLV	**Kalavryta, Ach**	**3.52**	**334**	*e*P	**Pn**	**12 52 57.2**	**+0.2**
DRO	**Drossia**	**3.62**	**328**	*e*P	**Pn**	**12 52 59.9**	**+1.6**
DRO	**Drossia**	**3.62**	**328**	*e*P	**Pn**	**12 52 59.9**	**+1.6**
DSF	**Desfina**	**3.74**	**340**	*e*P	**Pn**	**12 52 59.7**	**-0.2**
DSF	**Desfina**	**3.74**	**340**	*e*P	**Pn**	**12 52 59.7**	**-0.2**
LAKA	**Lakka**	**3.76**	**333**	*e*P	**Pn**	**12 53 01.5**	**+1.3**
LAKA	**Lakka**	**3.76**	**333**	*e*P	**Pn**	**12 53 01.5**	**+1.3**
MRKA	**Markates**	**3.83**	**354**	*e*P	**Pn**	**12 52 58.8**	**-2.3**
MRKA	**Markates**	**3.83**	**354**	*e*P	**Pn**	**12 52 58.8**	**-2.3**
SKIA	**Skiathos**	**4.29**	**353**	*e*P	**Pn**	**12 53 07.3**	**-0.2**
SKIA	**Skiathos**	**4.29**	**353**	*e*P	**Pn**	**12 53 07.3**	**-0.2**
AGG	**Agios Georgios**	**4.36**	**341**	*e*P	**Pn**	**12 53 09.0**	**+0.6**
AGG	**Agios Georgios**	**4.36**	**341**	*e*P	**Pn**	**12 53 09.0**	**+0.6**
BRTR	**Keskin Array B**	**8.97**	**55**	Pn	**Pn**	**12 54 14.3**	**+2.7**
	0.1nm,0.3s,baz=232,slow=18,SNR=3.6						
AKASG	**Malin Array Be**	**16.22**	**12**	P	**Pn**	**12 55 49.0**	**+0.8**
	1.1nm,0.3s,baz=205,slow=9.5,SNR=5.4						
HFS	**Hagfors**	**26.15**	**348**	P	**P**	**12 57 31.0**	**-1.5**
	0.7nm,0.4s,baz=154,slow=14,SNR=4.8						
FINES	**FINESS Array B**	**26.59**	**2**	P	**P**	**12 57 36.0**	**-0.4**
	3.3nm,0.8s,baz=186,slow=11,SNR=3.4						
AKTO	**Aktyubinsk**	**29.05**	**47**	P	**P**	**12 57 57.1**	**-1.4**
	0.9nm,0.4s,baz=254,slow=15,SNR=4.4						
ARCES	**ARCESS Array B**	**34.70**	**1**	P	**P**	**12 58 46.0**	**-1.8**
	2.3nm,0.9s,baz=178,slow=11,SNR=5.3						
KURBB	**Kurchatov Arra**	**41.94**	**51**	P	**P**	**12 59 48.9**	**+0.1**
	0.6nm,0.2s,baz=276,slow=8.7,SNR=4.0						
MKAR	**Makanchi Array**	**44.62**	**56**	P	**P**	**13 00 10.6**	**0.0**
	0.8nm,0.4s,baz=270,slow=8.1,SNR=26						
ZALV	**Zalesovo Beam**	**45.79**	**46**	P	**P**	**13 00 18.3**	**-1.3**
	0.8nm,0.4s,baz=270,slow=9.5,SNR=4.1						

IDC 14 12:52:55.4±2.6,23.64S×179.53W,h611km±128km, mb3.2/5,mb1 3.3/6,mb1mx3.0/19,mbtmp3.2/6,Error ellipse: s-maj=138.4km s-min=43.6km az=78.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.86**	**190**	P	P	12 55 59.9	-1.7
	2.0nm,0.3s,baz=20,slow=12,SNR=13						
CTA	**Charters Tower**	**31.91**	**270**	P	P	12 58 33.0	+0.1
	2.2nm,0.3s,baz=99,slow=12,SNR=8.9						
PMG	**Port Moresby**	**34.82**	**288**	P	P	12 58 57.2	-0.1
	11nm,0.9s,baz=131,slow=9.6,SNR=3.3						
STKA	**Stephens Creek**	**35.22**	**248**	P	P	12 59 00.5	0.0
	5.6nm,1.1s,baz=96,slow=10,SNR=8.8						
ASAR	**Alice Springs**	**42.51**	**260**	P	P	12 59 59.5	+0.4
	1.1nm,0.6s,baz=95,slow=7.3,SNR=38						
ASAR				S	S	13 05 39.9	+1.2
	0.2nm,0.7s,baz=92,slow=16,SNR=3.4						
WRA	**Warramunga Arr**	**42.86**	**266**	P	P	13 00 01.4	-0.4
	0.5nm,0.3s,baz=102,slow=8.5,SNR=60						
WRA				S	S	13 05 42.7	-1.0
	0.4nm,0.7s,baz=99,slow=14,SNR=4.7						

*NIED **14** 13:09:00,38.40N×142.30E,h41km,Mw4.3 Best double couple: M0 3.31000×10^15 NP1:φs18.00000°,δ72.00000°, λ84.00000°. NP2:φs216.00000°,δ19.00000°,λ107.00000°.*
*BJI **14** 13:09:55.4,38.21N×142.81E,h49km,mB4.8/19,mb4.7/36, Ms3.9/18,Ms7 3.7/19*
*MOS **14** 13:09:56.6±1.1,38.35N×142.42E,h33km,mb4.7/19, Error ellipse: s-maj=10.5km s-min=8.4km az=114.9*
*ISCJB **14** 13:09:57.8±0.7,38.36N±0.04×142.34E±0.06,h41km±4km, mb4.4/38,MS3.6/12, Error ellipse: s-maj=8.1km s-min=5.3km az=31.1*
*JMA **14** 13:09:58.6±0.1,38.35N×142.26E,h38km±2km,M4.2*
JMA Felt I J1.
*NEIC **14** 13:09:59.3±1.2,38.30N×142.41E,h42km±10km,mb4.6/7, MW4.3(NIED),Error ellipse: s-maj=12.3km s-min=9.6km az=92.0*
NEIC Felt at Ichinoseki. Recorded [1 JMA] in Miyagi.
*IDC **14** 13:10:00.7±2.1,38.33N×142.21E,h49km±18km,mb4.0/15, mb1 4.1/18,mb1mx4.0/29,mbtmp4.0/18,ML3.8/3,MS3.5/13, Ms1 3.5/13,ms1mx3.3/49,Error ellipse: s-maj=18.7km s-min=12.5km az=106.0*
ISC 14 13:09:59.3±0.6,38.31N±0.04×142.33E±0.05,h42km±3km, n118,σ1s40/139,mb4.5/38,MS3.6/13,3C-14D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.79**	**281**	⇓P	**Pn**	**13 10 12.5**	**-1.4**
JIO				eS	Sn	13 10 22.0	-2.5
OFUJ	**Ofunato**	**0.93**	**326**	⇓P	**Pn**	**13 10 14.4**	**-1.5**
OFUJ				eS	**Sn**	**13 10 25.6**	**-2.4**
JMK	**Ichinoseki**	**1.08**	**307**	⇓P	**Pn**	**13 10 16.7**	**-1.2**
JMM	**Marumori**	**1.29**	**250**	⇓P	**Pn**	**

comp=N,0.5nm,0.3s,baz=199,slow=12,SNR=7.2
JNU LR LR 13 17 04.4
comp=N,318nm,18.9s,baz=58,slow=40
CBIJ Chichi jima 11.19 181 P **Pn** **13 12 34.0 -2.6**
CBIJ S Sn 13 14 29.8 -10
JCJ Chichijima 11.19 181 P **Pn** **13 12 34.0 -2.6**
comp=N,5.3nm,0.3s,baz=288,slow=20,SNR=8.8
JCJ S Sn 13 14 29.8 -10
comp=N,3.0nm,0.3s,baz=294,slow=19,SNR=4.4
KSRS Korea Array 11.42 270 P Pn 13 12 43.1 +3.4
comp=N,0.3nm,0.3s,baz=83,slow=14,SNR=9.2
KSRS LR LR 13 16 50.1
comp=N,168nm,18.9s,baz=158,slow=36
MDJ Mudanjiang 11.44 307 P **Pn** **13 12 39.5 -0.5**
MDJ S **Sn** **13 14 46.9 +0.5**
MDJ PcP **PcP** **13 18 29.3 -1.1**
MDJ ScP **ScP** **13 21 58.8 -0.9**
MDJ PcS **PcS** **13 22 03.1 -1.1**
MDJ ScS **ScS** **13 25 34.0 -1.1**
MDJ AMB AMB
comp=N,5.0nm,1.3s
MDJ AMB AMB
comp=N,30nm,5.7s
MDJ LR LR
comp=N,73nm,24.4s
MDJ LR LR
comp=N,92nm,24.4s
MDJ LR LR
comp=N,170nm,23.0s
KSAR Wonju Array Be 11.45 270 P Pn 13 12 43.1 +2.9
CN2 Changchun 13.86 299 *e*P **P** **13 13 20.5 0.0**
CN2 *es*P 13 13 35.6
CN2 *e*S Sn 13 15 54.6 +9.1
CN2 AMB AMB
comp=N,10.0nm,0.8s
CN2 LR LR
comp=N,200nm,15.0s
CN2 LR LR
comp=N,200nm,15.0s
CN2 LR LR
comp=N,200nm,16.0s
PETK Petropavlovsk- 18.22 31 LR LR 13 19 38.3
comp=N,43nm,21.8s,baz=322,slow=32
NJ2 Nanjing 20.15 259 *e*P Pn 13 14 40.5 +8.4
NJ2 AMB AMB
comp=Z,10.0nm,0.8s
BJI Beijing 20.33 283 P **P** **13 14 30.8 -1.0**
BJI AMB AMB
comp=Z,11nm,0.9s
BJI LR LR
comp=Z,93nm,15.4s
BJI LR LR
comp=Z,130nm,20.8s
BJI LR LR
comp=Z,52nm,28.1s
HHC Hu-ho-hao-te 23.79 286 *e*P **P** **13 15 06.4 -1.8**
HHC pP **pP** **13 15 17.9 -1.3**
HHC sP **sP** **13 15 23.4 -0.9**
HHC PP **PnPn** **13 15 40.8 +3.7**
HHC S **S** **13 19 15.8 -5.1**
HHC PcS **PcS** **13 22 28.8 -1.5**
HHC AMB AMB
comp=Z,39nm,1.0s
HHC AMB AMB
comp=Z,91nm,5.0s
HHC LR LR
comp=Z,270nm,14.9s
HHC LR LR
comp=Z,350nm,15.9s
HHC LR LR
comp=Z,310nm,15.1s
YAK Yakutsk 25.00 346 *e*P **P** **13 15 17.4 -1.4**
YAK pmax pmax
comp=Z,18nm,1.0s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.1s
XAN Xi'an 27.22 271 P **P** **13 15 38.6 -0.6**
XAN AMB AMB
comp=E,1.0nm,0.6s
SONM Songino Array 27.70 302 P **P** **13 15 44.3 +0.7**
SONM Songino Array 27.70 302 P **P** **13 15 44.3 +0.7**
comp=E,1.2nm,0.6s,baz=99,slow=9.2,SNR=5.6
SONM LR LR 13 27 05.0
comp=E,91nm,18.4s,baz=214,slow=37
H11N2 WAKE ISLAND Hy 28.22 124 T T 13 45 37.7
baz=319,slow=0.7,SNR=336
H11N1 WAKE ISLAND Hy 28.23 124 T T 13 45 40.1
baz=319,slow=0.7,SNR=350
H11N3 WAKE ISLAND Hy 28.23 124 T T 13 45 36.9
baz=319,slow=0.7,SNR=352
H11S1 WAKE ISLAND Hy 28.98 126 T T 13 46 32.8
baz=321,slow=0.7,SNR=139
H11S3 WAKE ISLAND Hy 28.98 126 T T 13 46 31.7
baz=321,slow=0.7,SNR=165
H11S2 WAKE ISLAND Hy 29.00 126 T T 13 46 41.9
baz=321,slow=0.7,SNR=123
ZAK Zakamensk 30.07 306 *e*P **P** **13 16 03.8 -0.8**
ZAK pmax pmax
comp=Z,4.0nm,1.0s
GYA Guiyang 32.16 259 *e*P **P** **13 16 23.8 +0.6**
GYA pP **pP** **13 16 36.4 +1.8**
GYA PP **PnPn** **13 17 33.0 +3.0**
GYA PcP **PcP** **13 19 12.6 +1.2**
GYA S **S** **13 21 32.0 -1.3**
GYA sS **sS** **13 21 51.5 -0.8**
GYA ScP **ScP** **13 22 51.0 -0.6**
GYA ScS **ScS** **13 26 47.8 -2.9**
GYA AMB AMB
comp=Z,10.0nm,0.8s
CD2 Chengdu 32.41 269 P P 13 16 27.4 +2.1
CD2 pP pP 13 16 39.3 +2.6
CD2 sP sP 13 16 44.5 +2.8
CD2 PP **PP** **13 17 36.6 -2.4**
CD2 S **S** **13 21 37.9 +0.9**
CD2 sS sS 13 21 58.0 +2.0
CD2 SS **SnSn** **13 23 35.8 +3.6**
CD2 AMB AMB
comp=Z,30nm,0.5s
CD2 AMB AMB
comp=Z,100nm,4.9s
CD2 LR LR
comp=Z,250nm,5.1s
CD2 LR LR
comp=Z,200nm,6.5s
GTA Gaotai 32.90 285 *e*P **P** **13 16 30.8 +1.2**
GTA AMB AMB
comp=Z,6.0nm,1.0s
TIXI Tiksi 34.12 352 *e*P **P** **13 16 39.7 +0.1**
TIXI pmax pmax
comp=Z,2.0nm,1.2s
KMI Kunming 35.88 260 P **P** **13 16 55.8 +0.2**
KMI pP **pP** **13 17 07.4 +0.3**
KMI sP **sP** **13 17 10.6 -1.5**
KMI S **S** **13 22 33.8 +2.8**
KMI AMB AMB
comp=Z,15nm,0.9s
KMI AMB AMB
comp=Z,72nm,5.6s
KMI LR LR
comp=Z,89nm,21.1s
KMI LR LR
comp=Z,110nm,17.9s
KMI LR LR
comp=Z,100nm,17.9s
WMQ Urumqi 40.93 296 P **P** **13 17 38.9 +1.3**
WMQ pP **pP** **13 17 51.3 +2.1**
WMQ sP **sP** **13 17 56.6 +2.4**
WMQ PP **PnPn** **13 19 17.4 +0.6**
WMQ PcS **PcS** **13 23 28.8 +0.5**
WMQ S **S** **13 23 47.8 +1.3**
WMQ sS sS 13 24 08.4 +2.6
WMQ SS **SS** **13 26 46.6 -2.3**
WMQ AMB AMB
comp=Z,17nm,0.8s
WMQ AMB AMB
comp=Z,100nm,4.2s
WMQ LR LR
comp=Z,180nm,5.8s
WMQ LR LR
comp=Z,140nm,6.0s
WMQ LR LR
comp=Z,41nm,28.0s
ZAA0 Zalesovo Array 41.61 311 *e*P **P** **13 17 42.7 -0.3**
ZALV Zalesovo Beam 41.61 311 P **P** **13 17 43.3 +0.4**
ZALV 13 19 38.7
ZALV pmax pmax
comp=Z,5.0nm,0.7s
ZALV pmax pmax
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 41.61 311 P **P** **13 17 43.3 +0.4**
ZALV PcP **PcP** **13 19 38.7 -0.6**
ZALV Zalesovo Beam 41.61 311 P **P** **13 17 43.3 +0.4**
comp=Z,5.1nm,0.7s,baz=88,slow=7.6,SNR=18
ZALV PcP **PcP** **13 19 38.7 -0.6**
comp=Z,1.9nm,0.7s,baz=100,slow=4.5,SNR=4.3
ZALV LR LR 13 35 41.3
comp=Z,78nm,19.1s,baz=39,slow=37
NVS Novosibirsk 42.50 313 *e*P **P** **13 17 47.8 -2.4**
CMAR Chiang Mai Arr 42.53 255 P **P** **13 17 50.7 -0.2**
CMAR Chiang Mai Arr 42.53 255 P **P** **13 17 50.7 -0.2**
comp=Z,1.3nm,0.7s,baz=44,slow=5.6,SNR=11
CMAR LR LR 13 38 28.0
comp=Z,42nm,19.1s,baz=146,slow=40
LSA Lhasa 42.83 274 *e*P P 13 17 56.2 +2.4
LSA pmax pmax
comp=Z,6.0nm,0.6s
LSA Lhasa 42.83 274 *e*P P 13 17 56.2 +2.4
comp=Z,6.3nm,0.6s
MK31 Makanchi Array 44.07 301 *e*P **P** **13 18 03.1 0.0**
MK31 Makanchi Array 44.07 301 *e*P **P** **13 18 03.0 0.0**
MKAR Makanchi Array 44.07 301 P **P** **13 18 03.7 +0.6**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 44.07 301 P **P** **13 18 03.6 +0.6**
MKAR Makanchi Array 44.07 301 P **P** **13 18 03.6 +0.6**
comp=Z,1.7nm,0.8s,baz=184,slow=13,SNR=6.1
MKAR LR LR 13 37 03.5
comp=Z,28nm,18.4s,baz=310,slow=37
KURK Kurchatov 45.73 307 *ce*P **P** **13 18 16.2 +0.1**
KURK pmax pmax
comp=Z,11nm,0.8s
KURK Kurchatov 45.73 307 *e*P **P** **13 18 15.7 -0.4**
comp=Z,8.0nm,0.6s
KURBB Kurchatov Arra 45.80 307 P **P** **13 18 16.6 -0.1**
comp=Z,10nm,0.5s,baz=81,slow=8.0,SNR=128
TAPN Taplejung 46.59 273 *e*P **P** **13 18 24.0 +0.4**
comp=Z,9.2nm,0.6s
ODAN Odare 47.07 273 *e*P **P** **13 18 27.8 +0.5**
comp=Z,24nm,0.8s
JIRN Jiri 47.63 275 *e*P **P** **13 18 32.4 +0.6**
comp=Z,16nm,0.6s
RAMN Ramite 47.65 273 *e*P **P** **13 18 31.9 +0.1**
comp=Z,53nm,1.0s
GUN Gumba 47.76 275 *e*P **P** **13 18 33.2 +0.4**
comp=Z,45nm,0.8s
ILAR Eielson Array 48.03 33 P **P** **13 18 35.2 +1.3**
ILAR Eielson Array 48.03 33 P **P** **13 18 35.2 +1.3**
comp=Z,0.8nm,0.7s,baz=270,slow=6.6,SNR=12
KKN Kakani 48.29 275 *e*P **P** **13 18 37.2 +0.5**
comp=Z,35nm,0.8s
PKI Pulchoki 48.29 275 *e*P **P** **13 18 36.8 0.0**
comp=Z,17nm,0.6s
PKIN Phulchowki 48.30 275 *e*P **P** **13 18 37.7 +0.9**
comp=Z,9.9nm,0.6s
GKN Gorkha 48.69 276 *e*P **P** **13 18 40.0 +0.3**
comp=Z,40nm,1.0s
DANN Dangsing 49.22 277 *e*P **P** **13 18 44.5 +0.6**
comp=Z,66nm,0.6s
KOLN Koldanda 49.61 276 *e*P **P** **13 18 47.2 +0.4**
TKM2 Tokmak 2 49.67 298 *e*P **P** **13 18 47.5 +0.4**
TKM2 pmax pmax
comp=Z,4.0nm,0.5s
TKM2 Tokmak 2 49.67 298 *e*P **P** **13 18 47.5 +0.4**
comp=Z,3.7nm,0.5s
BVAR Borovoye Array 50.26 312 P **P** **13 18 51.2 +0.1**
BVAR 13 20 10.6
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR pmax pmax
comp=Z,2.0nm,0.7s
BVAR Borovoye Array 50.26 312 P **P** **13 18 51.2 +0.1**
BVAR PcP **PcP** **13 20 10.6 +1.0**
BVAR Borovoye Array 50.26 312 P **P** **13 18 51.2 +0.1**
comp=Z,2.1nm,0.6s,baz=66,slow=7.6,SNR=8.8
BVAR PcP **PcP** **13 20 10.6 +1.0**
comp=Z,2.1nm,0.7s,baz=90,slow=4.4,SNR=5.3
BVAR LR LR 13 41 17.5
comp=Z,56nm,19.4s,baz=244,slow=37
BRVK Borovoye 50.31 312 *i*P **P** **13 18 52.1 +0.6**
BRVK pmax pmax
comp=Z,2.0nm,0.6s
BRVK Borovoye 50.31 312 *e*P **P** **13 18 51.7 +0.1**
comp=Z,2.0nm,0.5s
AAK Ala-Archa 50.53 298 *i*P **P** **13 18 54.0 +0.4**
AAK pmax pmax
comp=Z,11nm,2.5s
AAK Ala-Archa 50.53 298 LR LR 13 41 25.8
comp=Z,27nm,20.0s,baz=244,slow=37
PSI Prapat 53.07 239 LR LR 13 42 40.0
comp=Z,85nm,19.0s,baz=203,slow=37
KKAR Karatay Array 53.12 300 *e*P **P** **13 19 12.6 -0.1**
KKAR pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 53.12 300 *e*P **P** **13 19 12.6 -0.1**
comp=Z,3.0nm,0.8s
SVE Sverdlovsk 54.68 318 *e*P **P** **13 19 24.7 +0.9**
SVE pmax pmax
comp=Z,16nm,1.0s
ARU Arti 55.89 318 *c i*P **P** **13 19 32.7 +0.2**
ARU 13 21 33.6
ARU S S 13 27 22.7 +5.8
ARU SS SS 13 31 09.6 +7.1
ARU pmax pmax
comp=Z,12nm,1.0s
ABKAR Akbulak array 57.68 310 *e*P **P** **13 19 44.9 -0.4**
comp=Z,6.5nm,0.6s
AKTO Aktyubinsk 58.37 312 P **P** **13 19 48.2 -1.9**
AKTO pmax pmax
comp=Z,5.0nm,0.7s
AKTO Aktyubinsk 58.37 312 P **P** **13 19 48.2 -1.9**
AKTO Aktyubinsk 58.37 312 P **P** **13 19 48.2 -1.9**
comp=Z,5.2nm,0.7s,baz=71,slow=11,SNR=12
WRAB Tennant Creek 58.42 189 *e*P **P** **13 19 50.9 +0.2**
WRAB pmax pmax
comp=Z,8.0nm,1.1s
WRAB Tennant Creek 58.42 189 *e*P **P** **13 19 50.9 +0.2**
comp=Z,8.0nm,1.1s
WRA Warramunga Arr 58.43 189 P **P** **13 19 50.6 -0.1**
WRA Warramunga Arr 58.43 189 P **P** **13 19 50.6 -0.1**
comp=Z,2.2nm,0.8s,baz=6.3,slow=7.0,SNR=25
ASAR Alice Springs 62.16 189 P **P** **13 20 16.9 +0.7**
ASAR Alice Springs 62.16 189 P **P** **13 20 16.9 +0.7**
comp=Z,1.3nm,0.7s,baz=7.3,slow=5.1,SNR=24
JOF Joensuu 65.18 332 *ep* **P** **13 20 35.9 +0.2**
comp=Z,1.4nm,0.5s
OBN Obninsk 67.51 323 *e*P **P** **13 20 50.0 -0.7**
OBN pmax pmax
comp=Z,7.0nm,1.0s
FINES FINESS Array B 68.02 332 P **P** **13 20 54.5 +0.7**
FINES FINESS Array B 68.02 332 P **P** **13 20 54.5 +0.7**
comp=Z,6.1nm,0.7s,baz=68,slow=5.1,SNR=9.8
KIV Kislovodsk 70.62 311 *e*P **P** **13 21 11.4 +1.0**
KIV pmax pmax
comp=Z,11nm,1.0s
NOA NORSAR Array B 73.29 337 P **P** **13 21 26.7 +0.7**
NOA NORSAR Array B 73.29 337 P **P** **13 21 26.7 +0.7**
comp=Z,2.4nm,0.8s,baz=40,slow=5.9,SNR=4.7
NOA LR LR 13 55 59.3
comp=Z,45nm,19.8s,baz=40,slow=38
AKASG Malin Array Be 73.73 322 P **P** **13 21 28.7 0.0**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 73.73 322 P **P** **13 21 28.7 0.0**
AKASG Malin Array Be 73.73 322 P **P** **13 21 28.7 0.0**
comp=Z,3.6nm,0.7s,baz=45,slow=5.9,SNR=18
PDAR Pinedale Array 76.25 46 P **P** **13 21 45.4 +1.6**
PDAR Pinedale Array 76.25 46 P **P** **13 21 45.4 +1.6**
comp=Z,0.7nm,0.6s,baz=257,slow=3.7,SNR=6.4
LPIG La Paz 87.93 61 LR LR 13 52 44.2
comp=Z,76nm,20.5s,baz=224,slow=29
TXAR Lajitas Array 88.77 53 P **P** **13 22 50.0 +1.0**
TXAR Lajitas Array 88.77 53 P **P** **13 22 50.0 +1.0**
comp=Z,0.4nm,0.6s,baz=283,slow=2.6,SNR=5.9

WEL 14 13:25:14.3±0.5, 38°23S×176°06E, h156km±3km, ML3.8/16, 4C-2D, Error ellipse: s-maj=2.8km s-min=2.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOZ	**Tahuroa Road**	**0.67**	**319**	↓P	Pn	13 25 37.1	-0.1
TOZ					SN	13 25 55.5	+0.8
URZ	**Urewera**	**0.83**	**92**		PN	13 25 37.5	-0.7
URZ					SN	13 25 55.9	-0.7
URZ					AML	13 25 57.7	
KRVZ	**Karewarewa**	**0.92**	**201**		PN	13 25 39.1	0.0
TWVZ	**Taurewa**	**0.97**	**210**		PN	13 25 39.6	+0.1
BKZ	**Black Stump Fm**	**0.99**	**160**		PN	13 25 39.5	-0.1
BKZ					SN	13 25 58.6	-0.5
BKZ					AML	13 25 59.3	
NGZ	**Ngauruhoe**	**1.01**	**201**		PN	13 25 39.9	0.0
NMHZ	**Naumai**	**1.04**	**146**		PN	13 25 40.8	+0.8
WPVZ	**Whakapapa**	**1.05**	**202**		PN	13 25 40.2	0.0
RAHZ	**Arahi**	**1.05**	**131**		PN	13 25 40.4	+0.3
TUVZ	**Tukino**	**1.08**	**197**		PN	13 25 40.4	-0.1
FWVZ	**Far West T-bar**	**1.09**	**201**		PN	13 25 40.6	-0.1
WHVZ	**Whangaehu Hut**	**1.11**	**199**		PN	13 25 40.7	-0.1
TRVZ	**Turoa**	**1.14**	**200**		PN	13 25 41.1	0.0
WNVZ	**Wahianoa**	**1.15**	**198**		PN	13 25 41.1	0.0
MWZ	**Matawai**	**1.16**	**95**		PN	13 25 40.4	-0.7
MWZ					SN	13 26 00.7	-0.8
MWZ					AML	13 26 02.9	
MWZ					AML	13 26 03.1	
MWZ					AML	13 26 03.2	
PKVZ	**Pokaka**	**1.19**	**208**		PN	13 25 41.3	-0.1
MOVZ	**Moawhango**	**1.20**	**192**		PN	13 25 41.0	-0.4
MTVZ	**Mangateitei**	**1.24**	**202**		PN	13 25 41.7	-0.1
BHHZ	**Black Hill Sta**	**1.25**	**180**		PN	13 25 41.6	-0.4
BHHZ					SN	13 26 02.2	-1.1
MCHZ	**McNeill Hill**	**1.31**	**158**		PN	13 25 43.0	+0.6
MCHZ					SN	13 26 05.0	+1.0
VRZ	**Vera Road**	**1.35**	**228**	↑P	Pn	13 25 43.1	+0.3
KNZ	**Kokohu**	**1.49**	**122**		PN	13 25 43.8	-0.3
PRGZ	**Paritu Road**	**1.59**	**116**		PN	13 25 44.7	-0.5
CKHZ	**Cape Kidnapper**	**1.63**	**151**		PN	13 25 45.8	+0.2
KAHZ	**Kahuranaki**	**1.68**	**158**		PN	13 25 46.3	0.0
CNGZ	**Carnagh Statio**	**1.71**	**99**		PN	13 25 46.4	0.0
MHGZ	**Mahia Peninsul**	**1.71**	**123**		PN	13 25 46.4	-0.1
WAZ	**Wanganui**	**1.73**	**209**	↑P	PN	13 25 46.4	-0.4
PUZ	**Puketiti**	**1.74**	**85**		PN	13 25 45.7	-1.2
PUZ					AML	13 26 12.1	
PUZ					AML	13 26 13.0	
TSZ	**Takapari Road**	**1.82**	**182**	↑P	Pn	13 25 47.0	-0.8
TSZ					AML	13 26 14.4	
TSZ					AML	13 26 15.1	
WPHZ	**Waipukurau**	**1.85**	**171**		PN	13 25 47.5	-0.6
PKE	**Pukeiti**	**1.89**	**239**		PN	13 25 48.6	+0.1
MXZ	**Matakaoa Point**	**1.90**	**70**		PN	13 25 47.7	-0.9
MXZ					AML	13 26 15.2	
PXZ	**Pawanui**	**1.90**	**161**		PN	13 25 48.1	-0.5
PXZ					AML	13 26 16.0	
PXZ					AML	13 26 16.0	
PXZ					AML	13 26 16.6	
PXZ					AML	13 26 16.6	
DVHZ	**Dannevirke**	**2.06**	**178**		PN	13 25 49.3	-1.2
PRHZ	**Porangahau**	**2.08**	**168**		PN	13 25 49.9	-0.8
POWZ	**Post Office Ro**	**2.17**	**186**		PN	13 25 50.4	-1.3
ANWZ	**Angora Road**	**2.25**	**172**	↑P	PN	13 25 51.7	-0.9
PRWZ	**Pori Road**	**2.32**	**182**		PN	13 25 52.4	-1.1
BFZ	**Birch Farm**	**2.45**	**177**		PN	13 25 53.5	-1.6
MRZ	**Mangatainoka R**	**2.45**	**189**		PN	13 25 53.3	-1.8
MRZ					AML	13 26 26.1	
MRZ					AML	13 26 26.1	
TIWZ	**Tintock**	**2.54**	**183**		PN	13 25 54.6	-1.7
OGWZ	**Otaki Gorge**	**2.67**	**195**		PN	13 25 55.8	-1.9
CPWZ	**Castlepoint**	**2.67**	**178**		PN	13 25 56.4	-1.3
HOWZ	**Holdsworth Sta**	**2.69**	**189**		PN	13 25 55.8	-2.3
KIW	**Kapiti Island**	**2.77**	**198**		PN	13 25 56.5	-2.5
KIW					AML	13 26 13.2	
TMWZ	**Te Maipa**	**2.87**	**183**		PN	13 25 58.0	-2.3
MTW	**Mount Morrison**	**2.95**	**188**		PN	13 25 58.6	-2.7
MTW					AML	13 26 35.9	
MTW					AML	13 26 36.2	
CAW	**Cannon Point**	**2.97**	**195**		PN	13 25 58.9	-2.6
CAW					AML	13 26 36.6	
CAW					AML	13 26 36.7	
DUWZ	**D'Urville Isla**	**3.05**	**212**		PN	13 25 59.9	-2.6
TRWZ	**Traveller**	**3.17**	**185**		PN	13 26 01.2	-2.9
TRWZ					AML	13 26 41.3	
TRWZ					AML	13 26 42.2	
PAWZ	**Paruwai Farm**	**3.18**	**189**		PN	13 26 01.3	-2.9
PAWZ					AML	13 26 41.4	
WEL	**Wellington**	**3.21**	**198**		PN	13 26 01.8	-2.9
MSWZ	**Moikau Station**	**3.24**	**191**		PN	13 26 01.8	-3.1
MSWZ					AML	13 26 02.7	
MSWZ					AML	13 26 41.8	
SNZO	**South Karori**	**3.25**	**198**		PN	13 26 01.8	-3.1
SNZO					AML	13 26 42.7	
TCW	**Tory Channel**	**3.28**	**204**		PN	13 26 02.2	-3.1
TCW					AML	13 26 45.4	
BHW	**Baring Head**	**3.30**	**196**		PN	13 26 02.4	-3.2
PLWZ	**Palliser**	**3.39**	**190**		PN	13 26 03.5	-3.3
TUWZ	**Tuamarina**	**3.58**	**206**		PN	13 26 05.9	-3.4
NNZ	**Nelson**	**3.63**	**214**		PN	13 26 06.1	-3.7
BSWZ	**Blackbirch Sta**	**3.86**	**205**		PN	13 26 09.6	-3.2
THZ	**Tophouse**	**4.28**	**214**	↓P	PN	13 26 14.3	-4.0
KHZ	**Kahutara**	**4.60**	**204**		PN	13 26 18.6	-3.9
DSZ	**Denniston Nort**	**4.79**	**222**		PN	13 26 20.3	-4.8
LTZ	**Lake Taylor**	**5.38**	**211**		PN	13 26 24.0	-8.9
CRLZ	**Canterbury Las**	**5.94**	**205**		PN	13 26 34.1	-6.0
MQZ	**McQueen's Vall**	**6.04**	**204**		PN	13 26 35.6	-5.9
RPZ	**Rata Peaks**	**6.66**	**213**		PN	13 26 44.9	-4.9
LBZ	**Lake Benmore**	**7.57**	**214**		PN	13 26 56.2	-5.6
ODZ	**Otahua Downs**	**7.92**	**209**		PN	13 27 01.0	-5.5
EAZ	**Earnscleugh**	**8.62**	**214**		PN	13 27 09.8	-6.0

*IDC **14** 13:27:51.8±11.0, 6°51S×129°71E, h130km±111km, mb3.4/2, mb1 3.5/5, mb1mx3.2/18, mbtmp3.3/5, ML3.8/3, Error ellipse: s-maj=91.3km s-min=33.3km az=51.0*
*ISCJB **14** 13:27:52.2±0.6, 6°43S±0.05×129°.89E±0.07, h146km, mb3.5/2, Error ellipse: s-maj=10.4km s-min=7.0km az=18.4*
*AUST **14** 13:27:54.4, 6°.48S×130°.03E, h100km*
ISC 14 13:27:53.1±0.9, 6°53S±0°.07×129°.96E±0°.09, h146km, n15, σ2°15/17, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.00**	**358**	P	**Pn**	**13 28 29.8**	**+1.8**
	baz=2.0,SNR=5.1						
TLE	**Tual**	**2.90**	**72**	P	**Pn**	**13 28 41.2**	**+2.2**
	baz=2.8,SNR=8.3						
FAKI	**Fak Fak**	**4.25**	**33**	P	**Pn**	**13 28 54.9**	**-1.7**
	baz=4.2,SNR=16						
SWI	**Sorong**	**5.78**	**13**	P	**Pn**	**13 29 15.1**	**-1.8**
	baz=5.7,SNR=7.9						
MTN	**Manton Dam**	**6.38**	**170**	P	**Pn**	**13 29 26.9**	**+2.1**
	baz=6.5,SNR=32						
KDU	**Kakadu**	**6.60**	**158**	P	**Pn**	**13 29 29.1**	**+1.3**
	baz=6.7,SNR=76						
BATI	**Baumata**	**7.22**	**239**	P	Pn	13 29 41.0	+4.9
	2.2nm,0.3s,baz=126,slow=19,SNR=3.1						
BATI				S	**Sn**	**13 30 58.3**	**+1.4**
	2.6nm,0.3s,baz=96,slow=19,SNR=4.6						
KNRA	**Kununurra**	**9.16**	**187**	P	**Pn**	**13 30 02.6**	**+0.6**
	baz=9.3,SNR=20						
FITZ	**Fitzroy Crossi**	**12.25**	**200**	P	**Pn**	**13 30 43.2**	**+0.4**
	baz=12,SNR=15						
FITZ	**Fitzroy Crossi**	**12.25**	**200**	P	**Pn**	**13 30 43.0**	**+0.3**
	0.5nm,0.3s,baz=41,slow=12,SNR=36						
FITZ				S	**Sn**	**13 32 52.7**	**-5.4**
	0.4nm,0.3s,baz=126,slow=17,SNR=6.4						
WRA	**Warramunga Arr**	**13.99**	**163**	P	**Pn**	**13 31 03.9**	**-1.2**
	0.4nm,0.3s,baz=334,slow=12,SNR=22						
WRA				S	Sn	13 33 33.1	-7.0
	0.8nm,0.3s,baz=328,slow=25,SNR=10						
COEN	**Coen**	**14.94**	**121**	P	**P**	**13 31 20.6**	**+1.6**
	baz=15,SNR=5.8						
ASAR	**Alice Springs**	**17.45**	**168**	P	**Pn**	**13 31 49.2**	**+1.5**
	0.4nm,0.3s,baz=346,slow=11,SNR=51						
ASAR				S	**S**	**13 34 58.8**	**-2.3**
	0.2nm,0.3s,baz=354,slow=26,SNR=7.6						
STKA	**Stephens Creek**	**27.46**	**158**	P	**P**	**13 33 26.5**	**+1.0**
	1.4nm,0.9s,baz=347,slow=11,SNR=3.8						
MKAR	**Makanchi Array**	**67.82**	**327**	P	**P**	**13 38 34.7**	**-0.7**
	0.4nm,0.5s,baz=124,slow=7.8,SNR=5.2						

*ISCJB **14** 13:35:31.4±1.0, 30.˚54N±0.˚07×113.˚94W±0.˚05, h10km, mb3.6/1, MS3.6/3, Error ellipse: s-maj=11.7km s-min=4.3km az=27.8*

*IDC **14** 13:35:34.5±2.4, 30.˚66N×113.˚61W, h0km, mb3.7/1, mb1 3.6/7, mb1mx3.6/27, mbtmp3.3/7, ML3.6/5, MS3.4/8, Ms1 3.4/8, ms1mx3.1/46, Error ellipse: s-maj=42.1km s-min=13.5km az=30.0*

ISC 14 13:35:33.8±1.7, 30.˚6N±0.˚1×113.˚96W±0.˚06, h10km, n46, σ1§03/41, MS3.3/3, 16C-21D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
214A	**Organ Pipe Nat** baz=1.8	**1.67**	**36**	⇑P	**Pn**	**Pn**	**13 36 01.5**	**-1.6**
214A				⇓S	**Sb**	**Sb**	**13 36 25.2**	**-0.4**
113A	**Mohawk Valley,** baz=2.2	**2.16**	**4**	⇓P	**Pn**	**Pn**	**13 36 08.3**	**-1.5**
113A				⇓S	**Sn**	**Sn**	**13 36 34.6**	**-2.0**
GLA	**Glamis** baz=2.6	**2.55**	**343**	⇑P	**Pn**	**Pn**	**13 36 13.1**	**-2.1**
GLA				⇓S	**Sn**	**Sn**	**13 36 45.9**	**-0.4**
DVTC	**Desert V Tower** baz=2.8	**2.74**	**319**	⇑S	**Sn**	**Sn**	**13 36 50.3**	**-0.8**
SWSC	**Sam W. Stewart** baz=2.8	**2.80**	**327**	⇑S	**Sn**	**Sn**	**13 36 51.3**	**-1.2**
Z14A	**Wintersburg** baz=3.0,SNR=11	**2.88**	**17**	⇓P	**Pn**	**Pn**	**13 36 19.0**	**-0.7**
MONP	**Monument Peak** baz=3.1	**3.09**	**318**	⇑P	**Pn**	**Pn**	**13 36 22.0**	**-0.9**
BC3	**Big Chuckawall** baz=3.3	**3.29**	**338**	⇑P	**Pn**	**Pn**	**13 36 23.8**	**-1.7**
Y14A	**Wickenburg** baz=3.5,SNR=36	**3.42**	**13**	⇑P	**Pn**	**Pn**	**13 36 26.7**	**-0.5**
109C	**Camp Elliot, M** baz=3.5	**3.51**	**311**	⇓Sb	**Sb**	**Sb**	**13 37 20.5**	**+1.7**
PFO	**Pinyon Flat Ob** 0.2nm,0.3s,baz=138,slow=14,SNR=2.7	**3.67**	**325**	Pn	Pb	Pb	13 36 35.0	-3.7
PFO	2.6nm,0.3s,baz=266,slow=16,SNR=6.1			Lg	Lg	Lg	13 37 37.9	
PFO	comp=Z,385nm,21.2s,baz=75,slow=39			LR	LR	LR	13 38 02.5	
PDMCI	**Parker Dam,Lak** baz=3.8	**3.69**	**358**	⇓P	**Pn**	**Pn**	**13 36 30.1**	**-0.7**
X16A	**Lo Mia Camp, P** baz=4.5,SNR=50	**4.35**	**29**	⇓P	**Pn**	**Pn**	**13 36 40.2**	**0.0**
W13A	**Hualapai Mount** baz=4.6	**4.48**	**1**	⇓P	**Pn**	**Pn**	**13 36 41.9**	**0.0**
120A	**U Bar Ranch, L** baz=5.0,SNR=15	**4.94**	**66**	⇑P	**Pn**	**Pn**	**13 36 47.3**	**-0.9**
X18A	**Snowflake** baz=5.3,SNR=8.4	**5.17**	**40**	⇓P	**Pn**	**Pn**	**13 36 51.4**	**0.0**
Z20A	**Nine Sixteen R** baz=5.3,SNR=12	**5.21**	**60**	⇓P	**Pn**	**Pn**	**13 36 51.2**	**-0.7**
WUAZ	**Wupatki** baz=5.5,SNR=7.6	**5.36**	**23**	⇑P	**Pn**	**Pn**	**13 36 54.6**	**+0.7**
121A	**Cookes Peak, D** baz=5.7,SNR=8.3	**5.61**	**68**	⇓P	**Pn**	**Pn**	**13 36 57.1**	**-0.3**
W18A	**Petrified Fore** baz=5.8	**5.73**	**37**	⇓P	**Pn**	**Pn**	**13 37 00.5**	**+1.4**
Y20A	**Horse Springs,** baz=5.9	**5.76**	**54**	⇓P	**Pn**	**Pn**	**13 36 59.9**	**+0.3**
U15A	**North Rim** baz=6.1,SNR=24	**5.97**	**13**	⇓P	**Pn**	**Pn**	**13 37 04.3**	**+1.9**
X20A	**Quemado** baz=6.2	**6.05**	**48**	⇓P	**Pn**	**Pn**	**13 37 05.4**	**+1.8**
122A	**Conniff Cattle** baz=6.4	**6.29**	**69**	⇓P	**Pn**	**Pn**	**13 37 07.0**	**+0.3**
Y21A	**Point of Rocks** baz=6.4	**6.31**	**56**	⇑P	**Pn**	**Pn**	**13 37 07.3**	**+0.2**
X21A	**Alamocita Cree** baz=6.6	**6.47**	**52**	⇑P	**Pn**	**Pn**	**13 37 10.1**	**+0.9**
Z22A	**Elephant Butte** baz=6.6,SNR=28	**6.51**	**64**	⇑P	**Pn**	**Pn**	**13 37 09.4**	**-0.3**
Y22A	**Socorro** baz=6.9	**6.79**	**59**	⇑P	**Pn**	**Pn**	**13 37 13.4**	**-0.3**
X22A	**Bernardo** baz=7.1	**7.04**	**55**	⇑P	**Pn**	**Pn**	**13 37 17.3**	**+0.3**
Z23A	**Rita Site, Whi** baz=7.2,SNR=10	**7.08**	**66**	⇓P	**Pn**	**Pn**	**13 37 16.7**	**-0.9**
LPIG	**La Paz** comp=Z,280nm,18.1s,baz=306,slow=36	**7.25**	**153**	LR	LR	LR	13 39 51.7	
224A	**Cornudas Mount** baz=7.4	**7.36**	**76**	⇑P	**Pn**	**Pn**	**13 37 21.0**	**-0.5**
Y23A	**Lovelace Mesa,** baz=7.6	**7.47**	**62**	⇓P	**Pn**	**Pn**	**13 37 22.0**	**-1.0**
124A	**Stringfield Ra** baz=7.6	**7.54**	**72**	⇑P	**Pn**	**Pn**	**13 37 23.7**	**-0.3**
ANMO	**Albuquerque** 0.2nm,0.3s,baz=280,slow=11,SNR=5.0	**7.66**	**54**	Pn	**Pn**	**Pn**	**13 37 25.2**	**-0.3**
ANMO	0.2nm,0.3s,baz=18,slow=20,SNR=2.2			Lg	Lg	Lg	13 39 39.1	
125A	**Gardner Draw,** baz=8.3	**8.19**	**73**	⇓P	**Pn**	**Pn**	**13 37 33.6**	**+0.7**
X24A	**Lazy VL Ranch,** baz=8.3	**8.20**	**59**	⇓P	**Pn**	**Pn**	**13 37 33.4**	**+0.3**
NVAR	**Mina Array Bea** 0.3nm,0.3s,baz=174,slow=15,SNR=5.7	**8.59**	**337**	Pn	Pn	Pn	13 37 42.4	+4.1
NVAR	comp=Z,137nm,20.6s,baz=60,slow=38			LR	LR	LR	13 41 02.0	
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=256,slow=14,SNR=4.4	**9.02**	**96**	Pn	**Pn**	**Pn**	**13 37 43.5**	**-0.7**
TXAR	0.3nm,0.3s,baz=275,slow=32,SNR=6.3			Lg	Lg	Lg	13 40 18.8	
PDAR	**Pinedale Array** 0.1nm,0.3s,baz=195,slow=10,SNR=4.1	**12.64**	**15**	Pn	Pn	Pn	13 38 37.1	+3.4
YBH	**Yreka Blue Hor** comp=Z,152nm,18.1s,baz=66,slow=36	**13.15**	**330**	LR	LR	LR	13 43 34.0	
NEW	**Newport** 0.2nm,0.3s,baz=188,slow=15,SNR=2.9	**17.80**	**353**	P	**P**	**P**	**13 39 43.2**	**+0.9**
NEW	comp=Z,52nm,19.0s,baz=246,slow=36			LR	LR	LR	13 46 05.5	
BBB	**Bella Bella** comp=Z,108nm,20.1s,baz=236,slow=38	**23.95**	**338**	LR	LR	LR	13 50 47.6	
APG	**El Apazote** comp=Z,63nm,21.9s,baz=300,slow=36	**26.57**	**121**	LR	LR	LR	13 51 25.1	
ILAR	**Eielson Array** 0.7nm,0.6s,baz=154,slow=7.3,SNR=14	**39.84**	**339**	P	**P**	**P**	**13 43 07.9**	**+0.9**
RAO	**Raoul Island** comp=Z,166nm,20.1s,baz=321,slow=30	**85.15**	**232**	LR	LR	LR	14 18 58.9	

*ISCJB **14** 13:41:40.4±0.5, 13.˚98N±0.˚05×91.˚44W±0.˚04, h85km±4km, mb4.2/20, Error ellipse: s-maj=10.2km s-min=4.0km az=30.8*

*CASC **14** 13:41:42.5±1.3, 13.˚90N×91.˚33W, h30km±9km, MD4.1, ML4.2*

*MEX **14** 13:41:43.3±0.4, 13.˚82N×91.˚67W, h33km±232km, MD4.5*

*IDC **14** 13:41:45.5±1.3, 14.˚38N×90.˚91W, h101km±10km, mb4.0/19, mb1 4.1/21, mb1mx4.0/28, mbtmp3.9/21, MS3.7/13, Ms1 3.7/13, ms1mx3.5/29, Error ellipse: s-maj=26.5km s-min=10.1km az=51.0*

ISC 14 13:41:41.2±0.9, 13.˚97N±0.˚06×91.˚46W±0.˚04, h76km±8km, n62, σ1§30/71, mb4.4/20, 4C-4D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.39**	**333**	⇑*iP*	**Pn**	**Pn**	**13 41 53.9**	**+0.2**
FUG	**Fuego 3**	**0.76**	**51**	⇓*iP*	**Pn**	**Pn**	**13 41 56.5**	**-0.9**
PCG	**Pacaya**	**0.93**	**63**	⇓*eP*	**Pn**	**Pn**	**13 41 58.8**	**-0.6**
GCG	**Guatemala City**	**1.09**	**56**	*eP*	**Pn**	**Pn**	**13 42 01.6**	**+0.3**
GCG				*eS*	**Sn**	**Sn**	**13 42 15.6**	**-0.7**
NBG	**Las Nubes**	**1.24**	**60**	⇓*eP*	**Pn**	**Pn**	**13 42 03.6**	**+0.3**
NBG				*eS*	**Sn**	**Sn**	**13 42 19.7**	**-0.2**
APG	**El Apazote** 239nm,0.3s,baz=191,slow=6.8,SNR=936	**1.41**	**43**	P	**Pn**	**Pn**	**13 42 03.9**	**-1.6**
APG	baz=112,slow=16			S	**Sn**	**Sn**	**13 42 22.8**	**-0.8**
RBDL	**Robledal**	**1.73**	**85**	⇓*iP*	**Pn**	**Pn**	**13 42 08.9**	**-0.6**
RTR	**El Retiro**	**1.76**	**92**	*eP*	**Pn**	**Pn**	**13 42 10.3**	**+0.4**
SBLS	**San Blas**	**1.79**	**94**	*eP*	**Pn**	**Pn**	**13 42 10.2**	**-0.2**
SNJE	**San Jose**	**1.80**	**93**	*eP*	**Pn**	**Pn**	**13 42 10.1**	**-0.4**
MRL	**Marmol**	**2.03**	**57**	⇑*eP*	**Pn**	**Pn**	**13 42 13.7**	**+0.1**
BOQS	**Boqueron**	**2.13**	**96**	*eP*	**Pn**	**Pn**	**13 42 14.6**	**-0.3**
SNET	**Serv Nac Est T**	**2.18**	**97**	*eP*	**Pn**	**Pn**	**13 42 14.7**	**-0.9**
SNET				*eS*	**Sn**	**Sn**	**13 42 40.3**	**-1.4**
SNET	comp=Z,3μm,0.3s			AML	AML	AML	13 42 53.9	
LFU	**La Fuente**	**2.29**	**95**	*eP*	**Pn**	**Pn**	**13 42 16.6**	**-0.4**
LFRS	**El Faro**	**2.35**	**98**	*eP*	**Pn**	**Pn**	**13 42 18.1**	**+0.2**
LBRS	**Las Brisas**	**2.36**	**95**	*eP*	**Pn**	**Pn**	**13 42 17.6**	**-0.3**
CCIG	**Comitan**	**2.39**	**344**	*iP*	**Pn**	**Pn**	**13 42 19.8**	**+1.3**
CCIG				*eS*	**Sn**	**Sn**	**13 42 49.4**	**+2.5**
PCIG		**2.42**	**316**	*eP*	**Pn**	**Pn**	**13 42 19.4**	**+0.7**
PCIG				*i* S	**Sn**	**Sn**	**13 42 46.0**	**-1.4**
SNVI	**San Vicente**	**2.57**	**98**	*eP*	**Pn**	**Pn**	**13 42 20.6**	**-0.2**
VSM	**San Miguel**	**3.14**	**100**	*eP*	**Pn**	**Pn**	**13 42 29.5**	**+0.8**
CAHU	**Cacacuatique**	**3.16**	**93**	*eP*	**Pn**	**Pn**	**13 42 28.6**	**-0.3**
TGIG		**3.22**	**330**	*eP*	**Pn**	**Pn**	**13 42 31.0**	**+1.4**
TGIG				*eS*	**Sn**	**Sn**	**13 43 07.7**	**+0.8**
CNCH	**Conchagua**	**3.59**	**101**	*eP*	**Pn**	**Pn**	**13 42 33.9**	**-0.7**
HUIG	**Huatulco**	**4.84**	**292**	*eP*	**Pn**	**Pn**	**13 42 51.3**	**-0.3**
HUIG				*i* S	**Sn**	**Sn**	**13 43 43.3**	**-3.1**
VHO	**Vista Hermosa**	**5.95**	**302**	*eP*	**Pn**	**Pn**	**13 43 07.7**	**+0.8**
VHO				*eS*	**Sn**	**Sn**	**13 44 13.4**	**-0.4**
PNIG	**Pinotepa**	**6.88**	**291**	*eP*	**Pn**	**Pn**	**13 43 19.9**	**+0.5**
PNIG				*i* S	**Sn**	**Sn**	**13 44 34.0**	**-2.2**
JTS	**JuntasAbangare** comp=Z,2.8nm,0.3s,baz=312,slow=20,SNR=16	**7.34**	**119**	P	**Pn**	**Pn**	**13 43 27.9**	**+2.1**
JTS				S	**Sn**	**Sn**	**13 44 47.9**	**+0.4**
	comp=Z,1.2nm,0.3s,baz=307,slow=19,SNR=1.6							
TXAR	**Lajitas Array** comp=Z,0.6nm,0.3s,baz=149,slow=11,SNR=31	**19.02**	**325**	P	**Pn**	**Pn**	**13 46 00.5**	**+1.8**
TXAR				PcP	**PcP**	**PcP**	**13 50 22.1**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=143,slow=5.1,SNR=3.9							
TKL	**Tuckaleechee C** comp=Z,14nm,0.5s,baz=183,slow=11,SNR=30	**22.68**	**16**	P	**P**	**P**	**13 46 36.6**	**+0.3**
TKL				LR	LR	LR	13 56 07.0	
	comp=Z,169nm,18.9s,baz=116,slow=39							
ANMO	**Albuquerque** comp=Z,1.5nm,0.7s,baz=160,slow=11,SNR=5.4	**24.89**	**330**	P	**P**	**P**	**13 46 59.8**	**+2.6**
ANMO				LR	LR	LR	13 58 54.0	
	comp=Z,69nm,18.4s,baz=175,slow=41							
SADO	**Sadowa** comp=Z,6.1nm,0.6s,baz=199,slow=8.4,SNR=6.0	**32.44**	**16**	P	**P**	**P**	**13 48 02.5**	**-1.5**
PDAR	**Pinedale Array** comp=Z,0.6nm,0.7s,baz=136,slow=9.4,SNR=4.5	**32.67**	**335**	P	**P**	**P**	**13 48 06.3**	**0.0**
PDAR				PcP	**PcP**	**PcP**	**13 50 51.2**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=137,slow=6.6,SNR=4.9							
PDAR				LR	LR	LR	14 02 48.8	
	comp=Z,62nm,18.9s,baz=284,slow=39							
NVAR	**Mina Array Bea** comp=Z,6.7nm,0.7s,baz=137,slow=8.6,SNR=23	**34.03**	**321**	P	**P**	**P**	**13 48 21.8**	**+3.6**
NVAR				PcP	**PcP**	**PcP**	**13 50 56.9**	**+2.2**
	comp=Z,2.2nm,0.6s,baz=119,slow=3.7,SNR=7.4							
ULM	**Lac du Bonnet** comp=Z,2.3nm,0.7s,baz=184,slow=9.5,SNR=3.8	**36.36**	**355**	P	**P**	**P**	**13 48 36.0**	**-1.8**
ULM				LR	LR	LR	14 04 30.5	
	comp=Z,105nm,19.2s,baz=118,slow=38							
LPAZ	**La Paz** comp=Z,0.6nm,0.5s,baz=332,slow=10,SNR=4.4	**37.88**	**142**	P	**P**	**P**	**13 48 53.4**	**+1.6**
YBH	**Yreka Blue Hor** comp=Z,1.5nm,0.5s,baz=69,slow=4.0,SNR=5.0	**38.72**	**322**	P	**P**	**P**	**13 48 59.2**	**+1.3**
NEW	**Newport** comp=Z,1.8nm,0.6s,baz=133,slow=16,SNR=5.2	**40.26**	**333**	P	**P**	**P**	**13 49 11.9**	**+1.2**
NEW				PcP	**PcP**	**PcP**	**13 51 13.8**	**+0.7**
	comp=Z,1.7nm,0.5s,baz=63,slow=4.5,SNR=5.2							
SIV	**San Ignacio** comp=Z,6.8nm,0.6s,baz=316,slow=8.3,SNR=23	**42.29**	**134**	P	**P**	**P**	**13 49 28.7**	**+1.0**
SCHQ	**Schefferville** comp=Z,4.3nm,0.5s,baz=235,slow=16,SNR=6.8	**45.07**	**20**	P	**P**	**P**	**13 49 47.0**	**-2.5**
SCHQ				LR	LR	LR	14 08 48.2	
	comp=Z,135nm,18.9s,baz=187,slow=36							
BBB	**Bella Bella** comp=Z,22nm,0.9s,baz=180,slow=6.1,SNR=2.3	**48.05**	**330**	P	**P**	**P**	**13 50 11.9**	**-0.8**
YKA	**Yellowknife Ar** comp=Z,2.5nm,0.6s,baz=148,slow=8.0,SNR=10	**51.18**	**346**	P	**P**	**P**	**13 50 36.2**	**-0.2**
CPUP	**Villa Florida** comp=Z,52nm,20.8s,baz=75,slow=37	**52.02**	**140**	LR	LR	LR	14 13 48.6	
BDFB	**Brasilia** comp=Z,1.5nm,0.4s,baz=298,slow=22,SNR=3.1	**52.06**	**123**	P	**P**	**P**	**13 50 43.2**	**-0.6**
ILAR	**Eielson Array** comp=Z,1.0nm,0.6s,baz=117,slow=5.6,SNR=37	**63.08**	**337**	P	**P**	**P**	**13 52 00.4**	**+0.1**
ILAR				LR	LR	LR	14 20 56.3	
	comp=Z,63nm,20.0s,baz=231,slow=37							
BORG	**Borgarnes** comp=Z,73nm,21.1s,baz=207,slow=35	**69.01**	**26**	LR	LR	LR	14 21 16.9	
BBTS	**Babate** comp=Z,76nm,20.2s,baz=166,slow=30	**72.26**	**79**	LR	LR	LR	14 17 12.6	
JMIC	**Jan Mayen** comp=Z,105nm,21.5s,baz=74,slow=34	**74.59**	**20**	LR	LR	LR	14 23 49.1	
NOA	**NORSAR Array B** comp=Z,0.6nm,0.6s,baz=278,slow=3.7,SNR=2.6	**83.92**	**29**	P	**P**	**P**	**13 54 02.0**	**-0.7**
NOA				LR	LR	LR	14 28 46.6	
	comp=Z,37nm,19.2s,baz=280,slow=34							
DBIC	**Dimbokro** comp=Z,47nm,19.2s,baz=56,slow=35	**85.13**	**84**	LR	LR	LR	14 30 36.6	
ARCES	**ARCESS Array B** comp=Z,3.1nm,0.8s,baz=316,slow=5.1,SNR=6.5	**86.00**	**18**	P	**P**	**P**	**13 54 10.7**	**-2.2**
TORD	**Torodi Ar. Bea** comp=Z,0.2nm,0.5s,baz=307,slow=4.2,SNR=3.2	**89.87**	**77**	P	**P**	**P**	**13 54 30.8**	**-1.6**
TORD				LR	LR	LR	14 27 55.2	
	comp=Z,40nm,20.7s,baz=160,slow=31							
FINES	**FINESS Array B** comp=Z,3.5nm,1.0s,baz=257,slow=12,SNR=2.5	**90.30**	**25**	P	**P**	**P**	**13 54 31.6**	**-1.9**
PETK	**Petropavlovsk-** comp=Z,3.1nm,0.8s,baz=80,slow=11,SNR=4.1	**90.97**	**326**	P	**P**	**P**	**13 54 38.4**	**+1.5**
KURBB	**Kurchatov Arra** comp=Z,0.8nm,0.6s,baz=349,slow=1.8,SNR=11	**115.09**	**7**	PKP	**PKPdf**	**PKPdf**	**14 00 12.7**	**-0.9**
KSRS	**Korea Array** comp=Z,1.0nm,0.8s,baz=2.9,slow=2.5,SNR=4.7	**116.86**	**326**	PKP	**PKPdf**	**PKPdf**	**14 00 18.6**	**+1.1**
MK31	**Makanchi Array** comp=Z,0.5nm,0.7s,baz=198,slow=14,SNR=6.1	**119.26**	**5**	⇑Pn	**PKPdf**	**PKPdf**	**14 00 19.7**	**-2.2**
MK31				⇑Lg	Lg	Lg	14 01 33.0	
	comp=Z,0.6nm,0.7s,baz=194,slow=29							
MKAR	**Makanchi Array** comp=Z,0.7nm,0.7s,baz=359,slow=2.1,SNR=9.4	**119.26**	**5**	PKP	**PKPdf**	**PKPdf**	**14 00 21.5**	**-0.3**
STKA	**Stephens Creek** comp=Z,4.6nm,1.0s,baz=90,slow=5.1,SNR=3.6	**128.50**	**240**	PKP	**PKPdf**	**PKPdf**	**14 00 42.2**	**+2.4**
WRA	**Warramunga Arr** comp=Z,1.1nm,0.8s,baz=88,slow=2.3,SNR=8.4	**135.90**	**256**	PKP	**PKPdf**	**PKPdf**	**14 00 55.4**	**+1.2**
ASAR	**Alice Springs** comp=Z,0.2nm,0.6s,baz=101,slow=3.4,SNR=6.8	**136.15**	**250**	PKhKP	PKPpre		14 00 49.1	
ASAR				PKP	**PKiKP**	**PKiKP**	**14 00 56.4**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=85,slow=2.0,SNR=12							
FITZ	**Fitzroy Crossi** comp=Z,1.7nm,0.8s,baz=76,slow=6.8,SNR=4.2	**144.15**	**258**	PKP	**PKPdf**	**PKPdf**	**14 01 09.7**	**+0.6**
CMAR	**Chiang Mai Arr** comp=Z,11nm,0.6s,baz=339,slow=3.4,SNR=8.9	**146.19**	**342**	PKPbc	**PKPab**	**PKPab**	**14 01 14.3**	**-0.2**

IDC 14 13:48:42.2±5.8, 12.˚42S×165.˚62E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/18, mbtmp3.4/3, Error ellipse: s-maj=295.8km s-min=34.9km az=141.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.5nm,1.0s,baz=84,slow=9.0,SNR=3.1	**30.92**	**252**	P	P	P	13 55 01.3	+0.3
ASAR	**Alice Springs** 0.4nm,0.8s,baz=65,slow=10.0,SNR=5.3	**32.09**	**245**	P	P	P	13 55 11.0	-0.3
ILAR	**Eielson Array** 0.3nm,0.6s,baz=251,slow=5.6,SNR=4.6	**84.84**	**18**	P	P	P	14 01 18.4	0.0

IDC 14 13:49:20.3±1.1, 12.˚13S×165.˚64E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.9/21, mbtmp4.0/8, ML4.2/1, MS2.9/1, Ms1 2.9/1, ms1mx2.6/25, Error ellipse: s-maj=33.7km s-min=26.4km az=140.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara** 6.0nm,0.3s,baz=90,slow=2.6,SNR=5.8	**6.21**	**295**	Pn	Pn	Pn	13 50 53.5	+0.3
HNR	7.9nm,0.3s,baz=144,slow=19,SNR=4.1			Sn	Sn	Sn	13 52 00.8	-4.2
HNR	comp=Z,103nm,18.7s,baz=256,slow=28			LR	LR	LR	13 52 12.6	
CTA	**Charters Tower** 5.9nm,0.9s,baz=64,slow=13,SNR=5.8	**20.23**	**244**	P	Pn	Pn	13 53 58.6	-0.4
WRA	**Warramunga Arr** 1.2nm,0.9s,baz=83,slow=9.1,SNR=10	**31.03**	**251**	P	P	P	13 55 39.2	-1.0
ASAR	**Alice Springs** 1.1nm,0.8s,baz=67,slow=10.1,SNR=10.0	**32.23**	**245**	P	P	P	13 55 49.8	-1.0
CMAR	**Chiang Mai Arr** 0.7nm,0.7s,baz=125,slow=4.7,SNR=5.0	**72.45**	**294**	P	P	P	14 00 50.0	+0.8
QSPA	**South Pole Qui** 0.8nm,0.6s	**77.88**	**180**	P	P	P	14 01 20.2	+0.3
ILAR	**Eielson Array** 0.6nm,0.6s,baz=269,slow=5.9,SNR=9.5	**84.56**	**18**	P	P	P	14 01 54.2	-0.9
MKAR	**Makanchi Array** 0.9nm,0.7s,baz=90,slow=7.3,SNR=6.9	**94.24**	**317**	P	P	P	14 02 41.6	0.0
ARCES	**ARCESS Array B** 6.5nm,1.0s,baz=60,slow=2.9,SNR=4.9	**117.35**	**345**	PKP	PKPdf		14 08 08.2	+0.8

*ISCJB **14** 13:49:49.7±0.9, 23.˚93N±0.˚02×122.˚76E±0.˚02, h13km±6km, Error ellipse: s-maj=3.8km s-min=2.6km az=165.9*

*JMA **14** 13:49:50.4±0.3, 24.˚03N×122.˚74E, h20km, M3.1*

*TAP **14** 13:49:50.8, 24.˚00N×122.˚77E, h31km±1km, ML3.5, D*

ISC 14 13:49:49.1±1.2, 23.˚94N±0.˚03×122.˚74E±0.˚02, h12km±10km, n42, σ0§74/84, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.58**	**25**	P	**Pg**	**Pg**	**13 50 00.2**	**-0.2**
YOJ				S	**Sg**	**Sg**	**13 50 07.0**	**-1.0**
HATJ	**Hateruma jima**	**0.98**	**83**	P	**Pb**	**Pb**	**13 50 08.2**	**+0.2**
HATJ				*eS*	**Sb**	**Sb**	**13 50 21.3**	**+0.4**
IRIF	**Iriomote-Funau**	**0.98**	**66**	P	**Pb**	**Pb**	**13 50 07.6**	**-0.5**
IRIF				*eS*	**Sb**	**Sb**	**13 50 20.6**	**-0.4**
ENA	**Nanau** baz=294	**1.04**	**298**	*eP*	**Pn**	**Pn**	**13 50 09.6**	**+0.1**
ENA	baz=294			*eS*	**Sn**	**Sn**	**13 50 23.6**	**-0.3**
TWC	**Suao** baz=305	**1.05**	**310**	*i* P	**Pb**	**Pb**	**13 50 09.2**	**-0.1**
TWC	baz=305			S	**Sb**	**Sb**	**13 50 22.8**	**-0.3**
TWD	**Chiawan** baz=274	**1.06**	**278**	*i* P	**Pb**	**Pb**	**13 50 09.7**	**+0.3**
TWD	baz=274			S	**Sb**	**Sb**	**13 50 23.4**	**+0.3**
JKRS	**Kuro-shima**	**1.20**	**75**	P	**Pn**	**Pn**	**13 50 12.1**	**+0.5**
JKRS				S	**Sg**	**Sg**	**13 50 28.9**	**+1.2**
ESL	**Shilin** baz=261	**1.21**	**264**	P	**Pn**	**Pn**	**13 50 11.1**	**-0.7**
ESL	baz=261			*eS*	**Sb**	**Sb**	**13 50 26.5**	**-0.9**
ILA	**Ilan** baz=308	**1.23**	**312**	*eP*	**Pg**	**Pg**	**13 50 12.9**	**+0.2**
ILA	baz=308			*eS*	**Sg**	**Sg**	**13 50 29.1**	**+0.5**
TWE	**Neicheng** baz=305	**1.25**	**309**	P	**Pb**	**Pb**	**13 50 13.0**	**+0.3**
TWE	baz=305			*i* S	**Sn**	**Sn**	**13 50 29.2**	**0.0**
TWB1	**Santiao Chiao** baz=322	**1.27**	**327**	P	**Pn**	**Pn**	**13 50 12.0**	**-0.6**
TWB1	baz=322			S	**Sb**	**Sb**	**13 50 28.1**	**-1.0**
ENTT	**Nioudou** baz=300	**1.28**	**303**	P	**Pb**	**Pb**	**13 50 13.5**	**+0.4**
ENTT	baz=300			*i* S	**Sn**	**Sn**	**13 50 30.1**	**+0.1**
NNS	**Nan Shan** baz=289	**1.35**	**292**	*i* P	**Pb**	**Pb**	**13 50 14.5**	**+0.2**
NNS	baz=289			*eS*	**Sb**	**Sb**	**13 50 32.2**	**-0.6**
JIJ	**Ishigaki jima**	**1.35**	**71**	P	**Pn**	**Pn**	**13 50 13.5**	**-0.2**
JIJ				*eS*	**Sn**	**Sn**	**13 50 30.7**	**-0.9**
WHF	**Hehuan Shan** baz=276	**1.37**	**279**	⇓*iP*	**Pn**	**Pn**	**13 50 14.5**	**+0.1**
WHF	baz=276			S	**Sn**	**Sn**	**13 50 32.3**	**-0.4**
EHY	**Hungye** baz=249	**1.37**	**252**	*i* P	**Pn**	**Pn**	**13 50 14.1**	**+0.1**
EHY	baz=249			S	**Sn**	**Sn**	**13 50 32.3**	**+0.2**
NWF	**Wu-fen Shan** baz=318	**1.43**	**322**	P	**Pn**	**Pn**	**13 50 14.8**	**-0.1**
NWF	baz=318			*eS*	**Sn**	**Sn**	**13 50 33.2**	**-0.4**
TWF1	**Yuli** baz=234	**1.45**	**247**	*i* P	**Pn**	**Pn**	**13 50 15.3**	**+0.1**
TWF1	baz=234			*eS*	**Sn**	**Sn**	**13 50 33.7**	**-0.4**
NSK	**Sanguang** baz=297	**1.46**	**300**	*i* P	**Pb**	**Pb**	**13 50 16.3**	**+0.1**
NSK	baz=297			S	**Sb**	**Sb**	**13 50 35.1**	**+0.3**
TWT	**Tachien** baz=269	**1.47**	**283**	*i* P	**Pb**	**Pb**	**13 50 16.7**	**+0.3**
TWT	baz=269			*eS*	**Sb**	**Sb**	**13 50 35.7**	**+0.6**
TWA	**Mucha** baz=310	**1.48**	**315**	P	**Pb**	**Pb**	**13 50 16.7**	**+0.2**
TWA	baz=310			*eS*	**Sg**	**Sg**	**13 50 36.3**	**-0.5**
CHKT	**Chengkung** baz=224	**1.52**	**237**	*eP*	**Pn**	**Pn**	**13 50 15.7**	**-0.4**
CHKT	baz=224			*eS*	**Sn**	**Sn**	**13 50 34.2**	**-1.4**
TWS1	**Kuangyinshan** baz=322	**1.67**	**314**	*eP*	**Pb**	**Pb**	**13 50 19.9**	**+0.1**
TWS1	baz=322			*eS*	**Sb**	**Sb**	**13 50 40.4**	**-0.4**
SMLT	**Sun Moon Lake** baz=266	**1.69**	**269**	P	**Pn**	**Pn**	**13 50 19.7**	**+1.2**
SMLT	baz=266			*eS*	**Sb**	**Sb**	**13 50 41.0**	**-0.4**
YUS	**Yu-Shan** baz=253	**1.70**	**255**	P	**Pn**	**Pn**	**13 50 19.7**	**+0.6**
YUS	baz=253			S	**Sn**	**Sn**	**13 50 40.8**	**-0.1**
TYC

ms1mx3.1/21, Error ellipse: s-maj=35.8km s-min=15.7km az=48.0

*ISCJB **14** 13:55:05.2±0.4, 38°08S±0'03×176°61E±0'05, h167km±3km, mb4.0/8, Error ellipse: s-maj=6.5km s-min=4.7km az=3.0*

*WEL **14** 13:55:07.3±0.2, 37°96S×176°61E, h145km±2km, ML5.5/19, Error ellipse: s-maj=1.4km s-min=1.2km az=90.0, intensity MM 4.*

WEL Felt between Bay of Plenty, Wellington and Gisborne, maximum reported.

ISC 14 13:55:07.0±0.6, 38°07S±0'04×176°56E±0'05, h159km±4km, n141, σ1°39/138, mb4.0/8, 27C-5D, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARZ	**Manawahe**	**0.12**	**46**	⇑PN	**Pn**	**13 55 26.7**	**-1.5**
EDRZ	**Edgecumbe**	**0.14**	**104**	PN	**Pn**	**13 55 26.7**	**-1.6**
EDRZ				SN	**Sn**	**13 55 42.6**	**-2.0**
OMRZ	**Omania**	**0.15**	**257**	⇑PN	**Pn**	**13 55 27.1**	**-1.1**
LIRZ	**Lichensteins R**	**0.16**	**296**	⇑PN	**Pn**	**13 55 26.9**	**-1.3**
TARZ	**Mount Tarawera**	**0.17**	**195**	⇑PN	**Pn**	**13 55 27.5**	**-0.9**
OPRZ	**Ohinepanea**	**0.23**	**359**	⇑PN	**Pn**	**13 55 26.5**	**-1.9**
OPRZ				SN	**Sn**	**13 55 41.1**	**-3.5**
HLRZ	**Highlands Stat**	**0.24**	**222**	⇑PN	**Pn**	**13 55 27.7**	**-0.7**
KARZ	**Kaharoa**	**0.26**	**281**	PN	**Pn**	**13 55 27.2**	**-1.3**
RRRZ	**Republican Roa**	**0.27**	**188**	⇑PN	**Pn**	**13 55 27.6**	**-0.9**
UTU	**Utuhina**	**0.31**	**250**	⇑PN	**Pn**	**13 55 27.9**	**-0.7**
HRRZ	**Handcock Road**	**0.39**	**214**	⇑PN	**Pn**	**13 55 28.3**	**-0.6**
TGRZ	**Tauranga**	**0.42**	**325**	PN	**Pn**	**13 55 27.3**	**-1.7**
PRRZ	**Plateau Road**	**0.45**	**197**	PN	**Pn**	**13 55 28.4**	**-0.7**
URZ	**Urewera**	**0.47**	**114**	⇑*e*PN	**Pn**	**13 55 27.6**	**-1.5**
URZ				AML	AML	13 55 43.8	
URZ				AML	AML	13 55 43.9	
URZ	**Urewera**	**0.47**	**114**	P	**Pn**	**13 55 27.6**	**-1.5**
	894nm,0.3s,baz=305,slow=2.2,SNR=4256						
URZ				LR	LR	13 55 30.6	
	comp=Z,2μm,21.1s,baz=0.0,slow=37						
URZ				S	**Sn**	**13 55 43.0**	**-3.1**
	2μm,0.3s,baz=94,slow=19,SNR=125						
ALRZ	**Allen Road**	**0.52**	**199**	⇑PN	**Pn**	**13 55 28.7**	**-0.7**
WIZ	**White Island**	**0.74**	**43**	PN	**Pn**	**13 55 27.9**	**-2.7**
WHTZ	**Whakaora**	**0.76**	**218**	PN	**Pn**	**13 55 31.1**	**+0.3**
MWZ	**Matawai**	**0.81**	**109**	PN	**Pn**	**13 55 29.6**	**-1.5**
MWZ				AML	AML	13 55 48.9	
MWZ				AML	AML	13 55 49.0	
MWZ				AML	AML	13 55 49.1	
MWZ				AML	AML	13 55 49.4	
TLZ	**Tolley Road**	**0.85**	**252**	PN	**Pn**	**13 55 31.3**	**-0.1**
HATZ	**Hinemaiaia**	**0.90**	**204**	PN	**Pn**	**13 55 31.8**	**0.0**
TOZ	**Tahuroa Road**	**0.91**	**292**	⇓PN	**Pn**	**13 55 31.0**	**-0.8**
WATZ	**Wairara**	**0.91**	**225**	PN	**Pn**	**13 55 32.1**	**+0.3**
RAHZ	**Arahi**	**0.94**	**154**	PN	**Pn**	**13 55 32.2**	**+0.1**
RATZ	**Rangitukua**	**1.01**	**218**	⇑PN	**Pn**	**13 55 33.0**	**+0.3**
NMHZ	**Naumai**	**1.04**	**169**	PN	**Pn**	**13 55 33.4**	**+0.5**
RITZ	**Rihia Road**	**1.06**	**211**	PN	**Pn**	**13 55 33.6**	**+0.5**
BKZ	**Black Stump Fm**	**1.09**	**183**	⇑PN	**Pn**	**13 55 33.3**	**-0.1**
BKZ				AML	AML	13 55 53.2	
BKZ				AML	AML	13 55 54.6	
KATZ	**Kakaramea**	**1.13**	**217**	PN	**Pn**	**13 55 34.0**	**+0.2**
KRVZ	**Karewarewa**	**1.25**	**215**	⇑PN	**Pn**	**13 55 35.2**	**+0.3**
KNZ	**Kokohu**	**1.29**	**138**	PN	**Pn**	**13 55 34.9**	**-0.1**
WTVZ	**West Tongariro**	**1.29**	**216**	⇑PN	**Pn**	**13 55 35.6**	**+0.4**
OTVZ	**Oturere**	**1.30**	**213**	⇑PN	**Pn**	**13 55 35.9**	**+0.5**
TWVZ	**Taurewa**	**1.33**	**221**	PN	**Pn**	**13 55 36.0**	**+0.4**
NGZ	**Ngauruhoe**	**1.33**	**214**	PN	**Pn**	**13 55 36.1**	**+0.4**
PUZ	**Puketiti**	**1.34**	**91**	PN	**Pn**	**13 55 33.5**	**-2.1**
PUZ				AML	AML	13 55 54.3	
PUZ				AML	AML	13 55 54.6	
PRGZ	**Paritu Road**	**1.34**	**130**	PN	**Pn**	**13 55 35.1**	**-0.5**
CNGZ	**Carnagh Static**	**1.36**	**108**	⇑PN	**Pn**	**13 55 35.5**	**-0.3**
MCHZ	**McNeill Hill**	**1.37**	**176**	PN	**Pn**	**13 55 36.7**	**+0.8**
WPVZ	**Whakapapa**	**1.38**	**215**	PN	**Pn**	**13 55 36.5**	**+0.3**
TUVZ	**Tukino**	**1.39**	**210**	PN	**Pn**	**13 55 36.8**	**+0.6**
HIZ	**Hauiti**	**1.41**	**251**	PN	**Pn**	**13 55 36.8**	**+0.5**
FWVZ	**Far West T-bar**	**1.42**	**213**	PN	**Pn**	**13 55 36.8**	**+0.2**
WHVZ	**Whangaehu Hut**	**1.43**	**212**	PN	**Pn**	**13 55 37.0**	**+0.3**
DRZ	**Dome Shelter**	**1.43**	**213**	PN	**Pn**	**13 55 37.1**	**+0.3**
TRVZ	**Turoa**	**1.46**	**213**	PN	**Pn**	**13 55 37.3**	**+0.3**
WNVZ	**Wahianoa**	**1.46**	**211**	PN	**Pn**	**13 55 37.5**	**+0.5**
MKAZ	**Moumakai**	**1.47**	**310**	⇓PN	**Pn**	**13 55 35.8**	**-1.0**
BHHZ	**Black Hill Sta**	**1.47**	**195**	⇑PN	**Pn**	**13 55 37.1**	**+0.2**
MXZ	**Matakaoa Point**	**1.47**	**70**	PN	**Pn**	**13 55 35.3**	**-1.6**
MXZ				SN	**Sn**	**13 55 56.3**	**-3.5**
MXZ				AML	AML	13 55 60.0	
MXZ				AML	AML	13 56 00.0	
MXZ				AML	AML	13 56 00.0	
MOVZ	**Moawhango**	**1.48**	**205**	⇑PN	**Pn**	**13 55 37.1**	**+0.1**
MOVZ				SN	**Sn**	**13 55 59.3**	**-0.9**
KUZ	**Kuaotunu**	**1.48**	**333**	⇓PN	**Pn**	**13 55 35.0**	**-2.0**
MHGZ	**Mahia Peninsul**	**1.51**	**136**	PN	**Pn**	**13 55 37.6**	**+0.3**
PKVZ	**Pokaka**	**1.54**	**218**	SN	**Sn**	**13 56 01.9**	**+0.5**
MTVZ	**Mangateitei**	**1.56**	**213**	⇑PN	**Pn**	**13 55 38.5**	**+0.6**
CKHZ	**Cape Kidnapper**	**1.64**	**166**	⇑PN	**Pn**	**13 55 39.2**	**+0.6**
KBAZ	**Karaka Road Bo**	**1.65**	**306**	⇑PN	**Pn**	**13 55 38.1**	**-0.7**
KAHZ	**Kahuranaki**	**1.74**	**172**	PN	**Pn**	**13 55 40.3**	**+0.6**
VRZ	**Vera Road**	**1.76**	**233**	PN	**Pn**	**13 55 40.5**	**+0.6**
MTAZ	**Motutapu**	**1.84**	**314**	PN	**Pn**	**13 55 40.0**	**-0.8**
PNHZ	**Pukenui**	**1.86**	**189**	PN	**Pn**	**13 55 41.0**	**-0.1**
HBAZ	**Herne Bay Bore**	**1.90**	**309**	⇓PN	**Pn**	**13 55 40.5**	**-1.0**
PXZ	**Pawanui**	**1.97**	**173**	PN	**Pn**	**13 55 42.3**	**0.0**
PXZ				AML	AML	13 56 12.5	
PXZ				AML	AML	13 56 12.5	
PXZ				AML	AML	13 56 13.1	
PXZ				AML	AML	13 56 13.1	
WPHZ	**Waipukurau**	**1.99**	**183**	PN	**Pn**	**13 55 42.6**	**0.0**
ABAZ	**Army Bay**	**2.01**	**316**	PN	**Pn**	**13 55 41.9**	**-0.9**
MHEZ	**Mangahewa**	**2.02**	**240**	PN	**Pn**	**13 55 44.9**	**+2.1**
TSZ	**Takapari Road**	**2.04**	**193**	PN	**Pn**	**13 55 42.8**	**-0.3**
TSZ				AML	AML	13 56 13.8	
TSZ				AML	AML	13 56 15.8	
RVAZ	**Riverhead Bore**	**2.04**	**309**	PN	**Pn**	**13 55 41.9**	**-1.2**
WAZ	**Wanganui**	**2.08**	**216**	PN	**Pn**	**13 55 44.1**	**+0.5**
DREZ	**Durham Road**	**2.16**	**238**	PN	**Pn**	**13 55 45.6**	**+1.1**
PRHZ	**Porangahau**	**2.19**	**179**	⇑PN	**Pn**	**13 55 44.9**	**+0.1**
DVHZ	**Dannevirke**	**2.25**	**188**	PN	**Pn**	**13 55 45.1**	**-0.4**
NEZ	**North Egmont**	**2.27**	**237**	PN	**Pn**	**13 55 47.4**	**+1.5**
DFE	**Dawson Falls**	**2.29**	**236**	PN	**Pn**	**13 55 47.7**	**+1.6**
PKE	**Pukeiti**	**2.31**	**240**	PN	**Pn**	**13 55 47.6**	**+1.4**
KHEZ	**Kahui Hut**	**2.34**	**238**	PN	**Pn**	**13 55 48.3**	**+1.4**
ANWZ	**Angora Road**	**2.39**	**182**	PN	**Pn**	**13 55 47.2**	**+0.1**
POWZ	**Post Office Ro**	**2.40**	**195**	PN	**Pn**	**13 55 46.9**	**-0.3**
NMEZ	**Namu Road**	**2.49**	**237**	PN	Pn	13 55 51.5	+3.2
PRWZ	**Pori Road**	**2.52**	**190**	PN	**Pn**	**13 55 48.7**	**0.0**
BFZ	**Birch Farm**	**2.62**	**185**	⇑PN	**Pn**	**13 55 49.5**	**-0.4**
MRZ	**Mangatainoka R**	**2.70**	**196**	PN	**Pn**	**13 55 50.1**	**-0.7**
MRZ				AML	AML	13 56 25.0	
MRZ				AML	AML	13 56 25.4	
TIWZ	**Tintock**	**2.75**	**191**	⇑PN	**Pn**	**13 55 51.2**	**-0.4**
CPWZ	**Castlepoint**	**2.85**	**186**	PN	**Pn**	**13 55 52.7**	**0.0**
HOWZ	**Holdsworth Sta**	**2.94**	**196**	⇑PN	**Pn**	**13 55 52.9**	**-1.0**
OGWZ	**Otaki Gorge**	**2.95**	**201**	PN	**Pn**	**13 55 53.2**	**-0.8**
KIW	**Kapiti Island**	**3.07**	**204**	PN	**Pn**	**13 55 54.3**	**-1.2**
KIW				AML	AML	13 56 32.3	
KIW				AML	AML	13 56 34.1	
TMWZ	**Te Maipa**	**3.08**	**189**	PN	**Pn**	**13 55 54.7**	**-0.9**
MTW	**Mount Morrison**	**3.19**	**195**	PN	**Pn**	**13 55 55.8**	**-1.2**
MTW				AML	AML	13 56 35.9	
MTW				AML	AML	13 56 36.9	
CAW	**Cannon Point**	**3.24**	**200**	PN	**Pn**	**13 55 56.4**	**-1.3**
CAW				AML	AML	13 56 37.0	
CAW				AML	AML	13 56 38.3	
TRWZ	**Traveller**	**3.39**	**191**	PN	**Pn**	**13 55 58.3**	**-1.3**
TRWZ				AML	AML	13 56 39.5	
TRWZ				AML	AML	13 56 40.5	
DUWZ	**D'Urville Isla**	**3.41**	**216**	PN	**Pn**	**13 55 58.3**	**-1.5**
PAWZ	**Paruwai Farm**	**3.42**	**194**	PN	**Pn**	**13 55 58.5**	**-1.5**
PAWZ				SN	**Sn**	**13 56 38.1**	**-3.1**
PAWZ				AML	AML	13 56 41.0	
MSWZ	**Moikau Station**	**3.49**	**196**	PN	**Pn**	**13 55 59.2**	**-1.7**
MSWZ				AML	AML	13 56 41.8	
MSWZ				AML	AML	13 56 42.7	
WEL	**Wellington**	**3.50**	**203**	PN	**Pn**	**13 55 59.0**	**-1.8**
SNZO	**South Karori**	**3.54**	**203**	PN	**Pn**	**13 55 59.6**	**-1.8**
BHW	**Baring Head**	**3.58**	**201**	PN	**Pn**	**13 56 00.2**	**-1.7**
BHW				AML	AML	13 56 44.6	
BHW				AML	AML	13 56 44.7	
TCW	**Tory Channel**	**3.60**	**209**	PN	**Pn**	**13 56 00.4**	**-1.8**
PLWZ	**Palliser**	**3.64**	**196**	⇑PN	**Pn**	**13 56 01.0**	**-1.8**
TUWZ	**Tuamarina**	**3.92**	**210**	PN	**Pn**	**13 56 04.3**	**-1.9**
TUWZ				AML	AML	13 56 51.8	
TUWZ				AML	AML	13 56 52.0	
NNZ	**Nelson**	**3.99**	**217**	PN	**Pn**	**13 56 05.6**	**-1.6**
CMWZ	**Cape Campbell**	**4.09**	**205**	PN	**Pn**	**13 56 07.2**	**-1.4**
CMWZ				AML	AML	13 57 02.0	
CMWZ				AML	AML	13 57 05.7	
BSWZ	**Blackbirch Sta**	**4.18**	**209**	PN	**Pn**	**13 56 08.0**	**-1.8**
BSWZ				AML	AML	13 56 58.9	
BSWZ				AML	AML	13 56 59.9	
THZ	**Tophouse**	**4.64**	**216**	PN	**Pn**	**13 56 13.8**	**-2.0**
KHZ	**Kahutara**	**4.92**	**207**	PN	**Pn**	**13 56 17.0**	**-2.4**
KHZ				AML	AML	13 57 14.6	
KHZ				AML	AML	13 57 14.8	
DSZ	**Denniston Nort**	**5.18**	**223**	PN	**Pn**	**13 56 20.2**	**-2.7**
LTZ	**Lake Taylor**	**5.73**	**213**	PN	**Pn**	**13 56 27.3**	**-2.8**
CRLZ	**Canterbury Las**	**6.26**	**207**	PN	Pn	13 56 33.5	-3.5
OXZ	**Oxford**	**6.27**	**212**	PN	**Pn**	**13 56 34.6**	**-2.7**
MQZ	**McQueen's Vall**	**6.36**	**207**	PN	Pn	13 56 34.5	-4.0
RPZ	**Rata Peaks**	**7.01**	**215**	PN	**Pn**	**13 56 45.2**	**-2.0**
RPZ	**Rata Peaks**	**7.01**	**215**	P	**Pn**	**13 56 45.6**	**-1.5**
	16nm,0.3s,baz=47,slow=3.1,SNR=73						
RPZ				S	Sn	13 57 59.1	-6.7
	14nm,0.3s,baz=358,slow=3.5,SNR=4.2						
FOZ	**Fox Glacier**	**7.56**	**221**	PN	Pn	13 56 50.7	-3.8
CTZ	**Chatham Island**	**7.66**	**140**	PN	**Pn**	**13 56 56.2**	**+0.5**
LBZ	**Lake Benmore**	**7.93**	**215**	PN	**Pn**	**13 56 57.2**	**-2.1**
ODZ	**Otahua Downs**	**8.26**	**211**	PN	Pn	13 57 00.5	-3.2
JCZ	**Jackson Bay**	**8.40**	**222**	PN	Pn	13 57 02.4	-3.3
WKZ	**Wanaka**	**8.81**	**218**	PN	**Pn**	**13 57 08.4**	**-2.6**
EAZ	**Earnscleugh**	**8.98**	**215**	PN	**Pn**	**13 57 11.0**	**-2.2**
HHSZ	**Highcliff Hill**	**8.98**	**208**	PN	**Pn**	**13 57 10.6**	**-2.7**
TUZ	**Tuapeka**	**9.41**	**211**	PN	**Pn**	**13 57 17.3**	**-1.7**
MLZ	**Mavora Lakes**	**9.60**	**218**	PN	**Pn**	**13 57 20.2**	**-1.3**
SYZ	**Scrubby Hill**	**10.08**	**211**	PN	**Pn**	**13 57 26.6**	**-1.2**
WHZ	**Wether Hill Ro**	**10.10**	**217**	PN	**Pn**	**13 57 26.5**	**-1.6**
APZ	**The Paps**	**10.80**	**213**	PN	**Pn**	**13 57 35.1**	**-2.2**
DZM	**Mont Dzumac**	**18.17**	**329**	P	**P**	**13 59 08.9**	**+1.2**
	0.2nm,0.3s,baz=143,slow=15,SNR=4.8						
AFI	**Afiamalu**	**26.20**	**26**	LR	LR	14 09 35.0	
	comp=Z,160nm,18.9s,baz=114,slow=34						
STKA	**Stephens Creek**	**29.19**	**272**	P	**P**	**14 00 55.9**	**+2.3**
	2.7nm,0.8s,baz=109,slow=17,SNR=4.9						
STKA				LR	LR	14 12 52.6	
	comp=Z,51nm,19.0s,baz=26,slow=36						
CTA	**Charters Tower**	**31.78**	**296**	P	**P**	**14 01 17.2**	**+0.8**
	4.6nm,0.8s,baz=127,slow=16,SNR=4.6						
ASAR	**Alice Springs**	**38.99**	**279**	P	**P**	**14 02 18.6**	**+0.6**
	2.0nm,0.6s,baz=131,slow=8.6,SNR=36						
VNDA	**Vanda**	**40.05**	**185**	P	P	14 02 30.2	+4.1
	0.9nm,0.8s,baz=351,slow=4.8,SNR=6.1						
VNDA				LR	LR	14 17 11.0	
	comp=Z,94nm,19.0s,baz=60,slow=33						
WRA	**Warramunga Arr**	**40.71**	**284**	P	**P**	**14 02 32.5**	**+0.3**
	1.5nm,0.8s,baz=125,slow=7.0,SNR=13						
FITZ	**Fitzroy Crossi**	**48.48**	**280**	P	**P**	**14 03 34.2**	**+0.5**
	2.2nm,0.8s,baz=217,slow=10,SNR=3.7						
QSPA	**South Pole Qui**	**52.05**	**180**	P	P	14 04 04.3	+4.2
	6.9nm,0.7s						
MAW	**Mawson**	**63.53**	**203**	P	**P**	**14 05 22.4**	**+2.6**
	3.1nm,0.7s,baz=134,slow=7.8,SNR=14						
SYO	**Syowa Base**	**68.59**	**195**	⇓*e*P	**P**	**14 05 52.0**	**-0.1**
ARCES	**ARCESS Array B**	**144.86**	**343**	PKP	PKPbc	14 14 22.2	-1.3
	8.2nm,0.8s,baz=40,slow=4.0,SNR=16						
DBIC	**Dimbokro**	**148.71**	**177**	PKPbc	**PKPbc**	**14 14 36.5**	**+0.5**
	5.9nm,0.9s,baz=147,slow=3.7,SNR=7.0						
FINES	**FINESS Array B**	**150.29**	**331**	PKPbc	**PKPbc**	**14 14 36.7**	**-1.7**
	6.0nm,0.9s,baz=318,slow=2.6,SNR=5.0						
BRTR	**Keskin Array B**	**151.23**	**285**	PKPbc	**PKPbc**	**14 14 40.5**	**-1.0**
	1.3nm,0.9s,baz=222,slow=1.7,SNR=4.5						
TORD	**Torodi Ar. Bea**	**154.76**	**192**	PKPbc	**PKPbc**	**14 14 50.0**	**+0.2**
	0.8nm,0.4s,baz=170,slow=2.6,SNR=14						
TORD				PKPab	**PKPab**	**14 15 06.4**	**+1.2**
	1.8nm,0.4s,baz=163,slow=4.1,SNR=18						

IDC 14 14:15:28.8±1.5, 30°04S×177°33W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.9/17, mbtmpg4.1/4, MS3.4/1, Ms1 3.4/1, ms1mx2.8/21, Error ellipse: s-maj=33.3km s-min=23.8km az=75.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.94**	**327**	Pn		14 15 50.2	+0.9
	343nm,0.3s,baz=69,slow=23,SNR=24						
RAO				Sn	Sn	14 16 02.6	-0.9
	2μm,0.3s,baz=127,slow=20,SNR=27						
URZ	**Urewera**	**9.40**	**208**	Pn	Pn	14 17 39.1	-6.5
	0.3nm,0.3s,baz=0.0,slow=20,SNR=3.5						
URZ				Sn	Sn	14 19 21.1	-11
	1.2nm,0.3s,baz=170,slow=12,SNR=4.6						
DZM	**Mont Dzumac**	**16.59**	**295**	LR	LR	14 24 05.0	
	comp=Z,121nm,20.3s,baz=7.8,slow=31						
CTA	**Charters Tower**	**34.32**	**278**	P	P	14 22 18.8	+1.4
	1.8nm,0.5s,baz=103,slow=9.3,SNR=3.3						
STKA	**Stephens Creek**	**35.13**	**256**	P	P	14 22 23.9	-0.3
	2.0nm,0.6s,baz=89,slow=8.9,SNR=6.5						
ASAR	**Alice Springs**	**43.71**	**266**	P	P	14 23 35.2	-0.8
	0.5nm,0.4s,baz=105,slow=7.5,SNR=23						
WRA	**Warramunga Arr**	**44.67**	**271**	P	P	14 23 43.2	-0.5
	1.7nm,0.5s,baz=110,slow=8.2,SNR=48						
FINES	**FINESS Array B**	**145.00**	**341**	PKPbc	PKPbc	14 35 06.1	-0.6
	8.7nm,1.0s,baz=59,slow=4.4,SNR=10						
NB2	**NORSAR Subarra**	**148.48**	**352**	PKP	PKPab	14 35 23.4	+3.2
	comp=Z,1.0nm,0.7s,baz=8.9,slow=2.8						
NOA	**NORSAR Array B**	**148.48**	**352**	PKPbc	PKPab	14 35 23.1	+2.9
	comp=Z,1.1nm,0.7s,baz=14,slow=4.3,SNR=3.5						
AKASG	**Malin Array Be**	**151.36**	**324**	PKPbc	PKPbc	14 35 23.4	-0.8
	comp=Z,1.2nm,0.4s,baz=47,slow=3.0,SNR=8.5						
AKASG				PKPab	PKPab	14 35 29.8	-2.5
	comp=Z,1.2nm,0.4s,baz=47,slow=2.9,SNR=9.6						
BRTR	**Keskin Array B**	**152.94**	**299**	PKPbc	PKPbc	14 35 29.8	+1.5
	comp=Z,0.6nm,0.6s,baz=71,slow=4.0,SNR=2.9						

CASC 14 14:55:45.3±2.2, 13°97N×91°34W, h31km±11km, MD3.5, 4C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.45**	**321**	⇑*e*P	Pn	14 55 56.3	+0.6
JAT	**Jato**	**0.45**	**321**	⇑*e*P	Pn	14 55 56.3	+0.6
FUG	**Fuego 3**	**0.68**	**45**	⇑*e*P	Pb	14 55 59.0	0.0
FUG	**Fuego 3**	**0.68**	**45**	⇑*e*P	Pb	14 55 59.0	0.0
PCG	**Pacaya**	**0.83**	**59**	*e*P	Pn	14 56 01.0	-0.1
PCG				*e*S	Sb	14 56 13.7	+1.1
PCG	**Pacaya**	**0.83**	**59**	*e*P	Pn	14 56 01.0	-0.1
PCG				*e*S	Sb	14 56 13.7	+1.1
NBG	**Las Nubes**	**1.14**	**57**	*e*P	Pn	14 56 06.0	+0.4
NBG				*e*S	Sb	14 56 23.4	+1.7
NBG	**Las Nubes**	**1.14**	**57**	*e*P	Pn	14 56 06.0	+0.4
NBG				*e*S	Sb	14 56 23.4	+1.7
RBDL	**Robledal**	**1.61**	**85**	*e*P	Pn	14 56 11.3	-0.5
RBDL	**Robledal**	**1.61**	**85**	*e*P	Pn	14 56 11.3	-0.5
RTR	**El Retiro**	**1.65**	**92**	*e*P	Pn	14 56 12.6	+0.3
RTR	**El Retiro**	**1.65**	**92**	*e*P	Pn	14 56 12.6	+0.3
SBLS	**San Blas**	**1.67**	**94**	*e*P	Pn	14 56 12.7	-0.1
SBLS				*e*S	Sn	14 56 33.9	+0.5
SBLS	**San Blas**	**1.67**	**94**	*e*P	Pn	14 56 12.7	-0.1
SBLS				*e*S	Sn	14 56 33.9	+0.5
SNJE	**San Jose**	**1.69**	**93**	*e*P	Pn	14 56 12.6	-0.3
SNJE	**San Jose**	**1.69**	**93**	*e*P	Pn	14 56 12.6	-0.3
LFRS	**El Faro**	**2.24**	**98**	*e*P	Pn	14 56 21.3	+0.9
LFRS				*e*S	Sn	14 56 47.7	+0.6
LFRS	**El Faro**	**2.24**	**98**	*e*P	Pn	14 56 21.3	+0.9
LFRS				*e*S	Sn	14 56 47.7	+0.6
SNVI	**San Vicente**	**2.45**	**98**	*e*S	Sn	14 56 53.9	+1.4
SNVI	**San Vicente**	**2.45**	**98**	*e*S	Sn	14 56 53.9	+1.4

IDC 14 15:08:31.0±3.2, 34°69S×179°70W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/15, mbtmpg3.6/3, ML3.4/1, Error ellipse: s-maj=72.7km s-min=46.9km az=119.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**4.39**	**215**	Pn	Pn	15 09 38.5	-0.5
	1.8nm,0.3s,baz=102,slow=17,SNR=17						
URZ				Sn	Sn	15 10 25.2	-5.7
	3.0nm,0.3s,baz=135,slow=23,SNR=6.2						
ASAR	**Alice Springs**	**41.65**	**273**	P	P	15 16 21.2	-0.2
	0.3nm,0.3s,baz=114,slow=7.5,SNR=8.2						
WRA	**Warramunga Arr**	**43.03**	**278**	P	P	15 16 32.6	0.0
	0.2nm,0.4s,baz=116,slow=7.5,SNR=5.0						
FINES	**FINESS Array B**	**148.59**	**336**	PKPbc	PKPbc	15 28 18.6	-0.5
	2.6nm,0.9s,baz=48,slow=2.8,SNR=3.9						

*ISCJB **14** 15:14:08.4±2.0, 8°2S±0'1×107°29E±0'08, h62km, Error ellipse: s-maj=19.4km s-min=8.3km az=23.5*

*DJA **14** 15:14:08.4±1.0, 8°S±7°×107°7E±°, h27km±10km, M3.9/6, MLv3.9/6*

ISC 14 15:14:08.1±1.4, 8°22S±0'06×107°32E±0'06, h62km, n9, σ0°88/12, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.83**	**37**	P	**Pn**	**15 14 22.7**	**-1.3**
LEM	**Lembang**	**1.42**	**12**	P	**Pn**	**15 14 32.2**	**+0.3**
LEM				S	**Sn**	**15 14 49.4**	**-0.3**
LEM	**Lembang**	**1.42**	**12**	P	**Pn**	**15 14 32.2**	**+0.3**
	baz=8.4,SNR=59						
SKJI	**Sukabumi**	**1.42**	**328**	P	**Pn**	**15 14 31.1**	**-0.7**
SKJI				S	**Sn**	**15 14 48.8**	**-0.8**
DBJI	**Dramaga**	**1.75**	**341**	P	**Pn**	**15 14 37.1**	**+0.9**
DBJI				S	**Sn**	**15 14 58.2**	**+0.7**
KPJI	**Karang Pucung**	**1.83**	**61**	P	**Pn**	**15 14 37.0**	**-0.2**
KPJI				S	**Sn**	**15 15 00.4**	**+1.0**
XMI	**Christmas Isla**	**2.73**	**216**	P	**Sn**	**15 15 22.5**	**+1.0**
	baz=12,SNR=3.7						
XMIS	**Christmas Isla**	**2.78**	**216**	P	**Sn**	**15 15 22.2**	**-0.5**
	baz=12,SNR=4.3						
UGM	**Wanagama**	**3.19**	**85**	P	Pn	15 15 00.7	+4.8
	baz=10,SNR=3.6						

IDC 14 15:27:47.5±17.0, 51°10N×150°26E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.3/23, mbtmpg3.5/3, MS3.1/1, Ms1 3.1/1, ms1mx2.3/32, Error ellipse: s-maj=326.8km s-min=85.6km az=81.0, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**24.75**	**197**	LR	LR	15 42 02.5	
	comp=Z,44nm,20.8s,baz=298,slow=34						
SONM	**Songino Array**	**28.37**	**281**	P	P	15 33 43.3	0.0
	0.5nm,0.4s,baz=62,slow=10.0,SNR=2.2						
MKAR	**Makanchi Array**	**43.41**	**292**	P	P	15 35 51.5	-0.2
	0.2nm,0.6s,baz=54,slow=7.7,SNR=2.3						
CMAR	**Chiang Mai Arr**	**51.80**	**251**	P	P	15 36 57.0	-0.1
	0.1nm,0.4s,baz=29,slow=8.3,SNR=4.7						

IDC 14 15:31:48.6±1.8, 12°29S×166°73E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/17, mbtmpg3.7/5, ML2.8/1, MS3.1/3, Ms1 3.1/3, ms1mx2.9/21, Error ellipse: s-maj=53.8km s-min=30.3km az=124.0, Santa Cruz Islands

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

GUD	**Guadarrama**	**1.44**	**288**		Pn	**Pg**	**16 16 58.8**	**+0.4**
	6.3nm,0.3s,SNR=21							
GUD					Pg	**Pb**	**16 16 59.8**	**+2.2**
	180nm,0.2s,SNR=656							
GUD					Lg	Lg	16 17 19.2	
	221nm,0.1s,SNR=32							
GUD	**Guadarrama**	**1.44**	**288**		Pn	**Pg**	**16 16 58.8**	**+0.4**
	6.3nm,0.3s,SNR=21							
EMOS	**Mosqueruela**	**1.45**	**83**	⇓Pg		**Pg**	**16 16 59.3**	**+0.7**
	454nm,0.3s,SNR=18							
EMOS					Sn	**Sb**	**16 17 17.0**	**+0.6**
	48nm,0.2s,SNR=7.9							
EMOS					Lg	Lg	16 17 19.1	
	187nm,0.2s,SNR=11							
EMOS	**Mosqueruela**	**1.45**	**83**		Pg	**Pg**	**16 16 59.3**	**+0.7**
	454nm,0.3s,SNR=18							
EMOS					Sn	**Sb**	**16 17 17.0**	**+0.6**
	48nm,0.2s,SNR=7.9							
EMOS					Lg	Lg	16 17 19.1	
	187nm,0.2s,SNR=11							
EVIA	**Vianos**	**1.57**	**184**		Pn	**Pn**	**16 16 59.7**	**+1.0**
	16nm,0.2s,SNR=7.9							
EVIA					Pg	**Pg**	**16 17 01.9**	**+1.0**
	342nm,0.3s,SNR=177							
EVIA					Sn	**Sn**	**16 17 19.9**	**+0.9**
	192nm,0.2s,SNR=8.0							
EVIA					Lg	Lg	16 17 22.8	
	561nm,0.3s,SNR=4.0							
EVIA	**Vianos**	**1.57**	**184**		Pn	**Pn**	**16 16 59.7**	**+1.0**
	16nm,0.2s,SNR=7.9							
ETOB	**Tobarra**	**1.69**	**158**		Pn	**Pb**	**16 17 02.4**	**+0.6**
	1.5nm,0.1s,SNR=4.0							
ETOB					Pg	**Pg**	**16 17 04.2**	**+1.2**
	101nm,0.2s,SNR=127							
ETOB					Lg	Lg	16 17 25.8	
	548nm,0.4s,SNR=16							
ETOB	**Tobarra**	**1.69**	**158**		Pn	**Pb**	**16 17 02.3**	**+0.6**
	1.5nm,0.1s,SNR=4.0							
ESAC	**San Caprasio**	**2.08**	**43**		Pn	**Pb**	**16 17 07.8**	**-0.7**
	4.3nm,0.2s,SNR=7.9							
ESAC					Pg	**Pg**	**16 17 11.2**	**+0.6**
	226nm,0.3s,SNR=57							
ESAC					Sn	**Sn**	**16 17 32.5**	**+0.9**
	247nm,0.2s,SNR=5.6							
ESAC					Lg	Lg	16 17 38.2	
	3µm,0.3s,SNR=8.8							
ESAC	**San Caprasio**	**2.08**	**43**		Pn	**Pb**	**16 17 07.8**	**-0.7**
	4.3nm,0.2s,SNR=7.9							
ERTA	**Horta de San J**	**2.18**	**69**		Pn	**Pn**	**16 17 08.5**	**+1.5**
	10nm,0.1s,SNR=15							
ERTA					Pg	**Pg**	**16 17 13.0**	**+0.5**
	21nm,0.1s,SNR=14							
ERTA					Sn	**Sn**	**16 17 35.7**	**+1.7**
	72nm,0.2s,SNR=5.0							
ERTA					Lg	Lg	16 17 40.5	
	193nm,0.2s,SNR=7.4							
ERTA	**Horta de San J**	**2.18**	**69**		Pn	**Pn**	**16 17 08.5**	**+1.5**
	10nm,0.1s,SNR=15							
EBEN	**Beniarda**	**2.23**	**132**		Pn	**Pn**	**16 17 08.9**	**+1.2**
	0.3nm,0.1s,SNR=7.9							
EBEN					Pg	**Pg**	**16 17 13.9**	**+0.3**
	7.5nm,0.3s,SNR=18							
EBEN					Sn	**Sn**	**16 17 34.6**	**-0.7**
	12nm,0.2s,SNR=11							
EBEN					Lg	Lg	16 17 43.0	
	59nm,0.4s,SNR=10							
EBEN	**Beniarda**	**2.23**	**132**		Pn	**Pn**	**16 17 08.9**	**+1.2**
	0.3nm,0.1s,SNR=7.9							
EBEN	**Beniarda**	**2.23**	**132**		Pg	**Pg**	**16 17 13.9**	**+0.3**
	7.5nm,0.3s,SNR=18							
EBEN					Lg	Lg	16 17 43.0	
	59nm,0.4s,SNR=10							
EBAN	**Banos Encina**	**2.32**	**209**		Pn	**Pn**	**16 17 10.3**	**+1.4**
	4.8nm,0.2s,SNR=7.9							
EBAN					Pg	**Pg**	**16 17 15.6**	**+0.3**
	138nm,0.4s,SNR=22							
EBAN					Lg	Lg	16 17 46.0	
	112nm,0.2s,SNR=7.9							
EBAN	**Banos Encina**	**2.32**	**209**		Pn	**Pn**	**16 17 10.3**	**+1.4**
	4.8nm,0.2s,SNR=7.9							
EHUE	**Huescar**	**2.40**	**184**		Pn	**Pb**	**16 17 13.1**	**-0.8**
	0.5nm,0.1s,SNR=7.9							
EHUE					Pg	**Pg**	**16 17 17.1**	**+0.4**
	72nm,0.2s,SNR=7.9							
EHUE					Lg	Lg	16 17 48.5	
	114nm,0.2s,SNR=7.9							
EHUE	**Huescar**	**2.40**	**184**		Pn	**Pb**	**16 17 13.1**	**-0.8**
	0.5nm,0.1s,SNR=7.9							
EQES	**Quesada**	**2.47**	**193**		Pn	**Pn**	**16 17 12.5**	**+1.6**
	1.1nm,0.1s,SNR=7.9							
EQES					Pg	**Pg**	**16 17 18.3**	**+0.3**
	39nm,0.2s,SNR=56							
EQES					Lg	Lg	16 17 49.7	
	134nm,0.3s,SNR=12							
EQES	**Quesada**	**2.47**	**193**		Pn	**Pn**	**16 17 12.5**	**+1.6**
	1.1nm,0.1s,SNR=7.9							
EMUR	**La Murta**	**2.52**	**159**		Pg	**Pg**	**16 17 19.9**	**+0.9**
	77nm,0.3s,SNR=42							
EMUR					Sn	**Sn**	**16 17 42.4**	**+0.1**
	45nm,0.4s,SNR=4.7							
EMUR					Lg	Lg	16 17 53.3	
	148nm,0.3s,SNR=11							
EMUR	**La Murta**	**2.52**	**159**		Pg	**Pg**	**16 17 19.9**	**+0.9**
	77nm,0.3s,SNR=42							
EMUR					Sn	**Sn**	**16 17 42.4**	**+0.1**
	45nm,0.4s,SNR=4.7							
EMUR					Lg	Lg	16 17 53.3	
	148nm,0.3s,SNR=11							
IUNC	**Unciti**	**2.62**	**14**		Pn	**Pn**	**16 17 15.0**	**+1.9**
	6.2nm,0.1s,SNR=7.9							
IUNC					Pb	**Pb**	**16 17 18.3**	**+0.5**
	SNR=7.9							
IUNC					Pg	**Pg**	**16 17 22.1**	**+1.0**
	80nm,0.2s,SNR=7.9							
IUNC					Lg	Lg	16 17 56.8	
	176nm,0.2s,SNR=7.9							
IUNC	**Unciti**	**2.62**	**14**		Pn	**Pn**	**16 17 15.0**	**+1.9**
	6.2nm,0.1s,SNR=7.9							
EARA	**Aranguren**	**2.63**	**13**		Pn	**Pn**	**16 17 15.4**	**+2.3**
	7.3nm,0.2s,SNR=7.9							
EARA					Pg	**Pg**	**16 17 22.0**	**+0.9**
	60nm,0.1s,SNR=20							
EARA					Lg	Lg	16 17 55.4	
	189nm,0.2s,SNR=6.6							
EARA	**Aranguren**	**2.63**	**13**		Pn	**Pn**	**16 17 15.4**	**+2.3**
	7.3nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**2.67**	**221**		Pn	**Pn**	**16 17 15.2**	**+1.5**
	1.5nm,0.1s,SNR=17							
EADA					Pg	**Pg**	**16 17 22.5**	**+0.6**
	28nm,0.2s,SNR=7.9							
EADA					Lg	Lg	16 17 56.6	
	169nm,0.3s,SNR=40							
EADA	**Adamuz**	**2.67**	**221**		Pn	**Pn**	**16 17 15.2**	**+1.5**
	1.5nm,0.1s,SNR=17							
IEPA	**Eparoz**	**2.69**	**17**	⇑Pn		**Pn**	**16 17 15.7**	**+1.6**
	6.4nm,0.2s,SNR=18							
IEPA					Pb	**Pb**	**16 17 18.7**	**-0.3**
	SNR=7.9							
IEPA					Pg	**Pg**	**16 17 23.3**	**+0.9**
	84nm,0.2s,SNR=7.9							
IEPA					Sn	**Sn**	**16 17 47.6**	**+0.9**
	101nm,0.3s,SNR=7.9							
IEPA					Lg	Lg	16 17 58.3	
	294nm,0.4s,SNR=7.9							
IEPA	**Eparoz**	**2.69**	**17**		Pn	**Pn**	**16 17 15.7**	**+1.6**
	6.4nm,0.2s,SNR=18							
IPRE	**Itoiz**	**2.70**	**16**		Pn	**Pn**	**16 17 15.7**	**+1.6**
	6.3nm,0.3s,SNR=7.9							
IPRE					Pb	**Pb**	**16 17 18.9**	**-0.1**
	SNR=7.9							
IPRE					Pg	**Pg**	**16 17 23.1**	**+0.7**
	50nm,0.3s,SNR=7.9							
IPRE					Sn	**Sn**	**16 17 47.7**	**+0.9**
	36nm,0.2s,SNR=7.9							
IPRE					Lg	Lg	16 17 59.4	
	66nm,0.3s,SNR=7.9							
IPRE	**Itoiz**	**2.70**	**16**		Pn	**Pn**	**16 17 15.7**	**+1.6**
	6.3nm,0.3s,SNR=7.9							
IELO	**Elcoad**	**2.76**	**17**	⇑Pn		**Pn**	**16 17 16.4**	**+1.4**
	14nm,0.2s,SNR=18							
IELO					Pb	**Pb**	**16 17 19.3**	**-0.9**
	SNR=7.9							
IELO					Pg	**Pg**	**16 17 24.5**	**+0.8**
	70nm,0.2s,SNR=7.9							
IELO					Sn	**Sn**	**16 17 48.8**	**+0.4**
	44nm,0.2s,SNR=7.9							
IELO					Lg	Lg	16 18 00.5	
	195nm,0.4s,SNR=7.9							
IELO	**Elcoad**	**2.76**	**17**		Pn	**Pn**	**16 17 16.4**	**+1.4**
	14nm,0.2s,SNR=18							
IUSE	**Utxeti**	**2.80**	**12**		Pn	**Pn**	**16 17 17.1**	**+1.6**
	3.3nm,0.1s,SNR=7.9							
IUSE					Pg	**Pg**	**16 17 25.4**	**+1.0**
	62nm,0.3s,SNR=7.9							
IUSE					Lg	Lg	16 18 02.1	
	146nm,0.5s,SNR=7.9							
IUSE	**Utxeti**	**2.80**	**12**		Pn	**Pn**	**16 17 17.1**	**+1.6**
	3.3nm,0.1s,SNR=7.9							
CART	**Cartagena**	**2.83**	**158**		Pg	**Pg**	**16 17 25.4**	**+0.5**
CART					Lg	Lg	16 18 00.9	
CART	**Cartagena**	**2.83**	**158**		Pg	**Pg**	**16 17 25.4**	**+0.5**
CART					Lg	Lg	16 18 00.9	
EPOB	**Poblet**	**2.85**	**65**		Pn	**Pn**	**16 17 17.2**	**+1.0**
	8.6nm,0.1s,SNR=18							
EPOB					Sn	**Sn**	**16 17 49.6**	**-0.9**
	44nm,0.2s,SNR=7.9							
EPOB					Lg	Lg	16 17 59.4	
	44nm,0.1s,SNR=7.2							
EPOB	**Poblet**	**2.85**	**65**		Pn	**Pn**	**16 17 17.2**	**+1.0**
	8.6nm,0.1s,SNR=18							
EPOB					Sn	**Sn**	**16 17 49.6**	**-0.9**
	44nm,0.2s,SNR=7.9							
EPOB					Lg	Lg	16 17 59.4	
	44nm,0.1s,SNR=7.2							
EPLA	**Plasencia**	**2.86**	**268**		Pn	**Pn**	**16 17 18.5**	**+2.3**
	14nm,0.2s,SNR=16							
EPLA					Pg	**Pg**	**16 17 26.0**	**+0.5**
	90nm,0.3s,SNR=72							
EPLA					Lg	Lg	16 18 03.1	
	283nm,0.5s,SNR=14							
EPLA	**Plasencia**	**2.86**	**268**		Pn	**Pn**	**16 17 18.5**	**+2.3**
	14nm,0.2s,SNR=16							
EPLA	**Plasencia**	**2.86**	**268**		Pg	**Pg**	**16 17 26.0**	**+0.5**
	90nm,0.3s,SNR=72							
EPLA					Lg	Lg	16 18 03.1	
	283nm,0.5s,SNR=14							
ETSF	**Etsaut**	**3.01**	**26**	*e*Pn		**Pn**	**16 17 19.6**	**+1.3**
	SNR=1.0							
ETSF	**Etsaut**	**3.01**	**26**	*e*Pg		**Pg**	**16 17 28.6**	**+0.3**
ETSF				*e*Sg		**Sg**	**16 18 06.4**	**-0.9**
	87nm,0.3s,SNR=1.0							
ETSF	**Etsaut**	**3.01**	**26**		Pn	**Pn**	**16 17 19.6**	**+1.3**
ETSF	**Etsaut**	**3.01**	**26**		Pg	**Pg**	**16 17 28.6**	**+0.3**
ETSF				*e*Sg		**Sg**	**16 18 06.4**	**-0.9**
	43nm,0.3s,SNR=1.0							
LARF	**Larrau**	**3.01**	**20**		Pn	**Pn**	**16 17 19.1**	**+0.8**
LARF	**Larrau**	**3.01**	**20**		Pg	**Pg**	**16 17 27.7**	**-0.6**
LARF					Sn	**Sn**	**16 17 54.5**	**+0.1**
LARF					Sg	**Sb**	**16 18 03.6**	**+2.6**
LARF	**Larrau**	**3.01**	**20**		Pn	**Pn**	**16 17 19.1**	**+0.8**
LARF	**Larrau**	**3.01**	**20**		Pg	**Pg**	**16 17 27.7**	**-0.6**
LARF					Sn	**Sn**	**16 17 54.5**	**+0.1**
LARF					Sg	**Sb**	**16 18 03.6**	**+2.6**
ELIZ	**Elizondo**	**3.02**	**12**		Pn	**Pn**	**16 17 19.9**	**+1.5**
	9.2nm,0.2s,SNR=15							
ELIZ					Pg	**Pg**	**16 17 29.1**	**+0.6**
	71nm,0.3s,SNR=24							
ELIZ					Lg	Lg	16 18 08.6	
	39nm,0.2s,SNR=8.2							
ELIZ	**Elizondo**	**3.02**	**12**		Pn	**Pn**	**16 17 19.9**	**+1.5**
	9.2nm,0.2s,SNR=15							
SJPF	**Ste Jean**	**3.02**	**16**	*e*Pn		**Pn**	**16 17 19.8**	**+1.3**
	SNR=1.0							
SJPF	**Ste Jean**	**3.02**	**16**	*e*Pg		**Pg**	**16 17 29.6**	**+0.9**
SJPF				*e*Sn		**Sn**	**16 17 53.5**	**-1.2**
	SNR=1.0							
SJPF				*e*Sg		**Sg**	**16 18 07.2**	**-0.6**
	111nm,0.3s,SNR=1.0							
SJPF	**Ste Jean**	**3.02**	**16**		Pn	**Pn**	**16 17 19.8**	**+1.3**
SJPF	**Ste Jean**	**3.02**	**16**		Pg	**Pg**	**16 17 29.6**	**+0.9**
SJPF				*e*Sn		**Sn**	**16 17 53.5**	**-1.2**
	SNR=1.0							
SJPF				*e*Sg		**Sg**	**16 18 07.2**	**-0.6**
	55nm,0.3s,SNR=1.0							
ELUQ	**Luque**	**3.04**	**210**		Pg	**Pg**	**16 17 30.0**	**+1.1**
	46nm,0.3s,SNR=7.9							
ELUQ					Lg	Lg	16 18 09.9	
	62nm,0.2s,SNR=7.9							
ELUQ	**Luque**	**3.04**	**210**		Pg	**Pg**	**16 17 30.0**	**+1.1**
	46nm,0.3s,SNR=7.9							
ELUQ					Lg	Lg	16 18 09.9	
	62nm,0.2s,SNR=7.9							
EALK	**Alkurruntz**	**3.07**	**12**	⇑Pn		**Pn**	**16 17 20.7**	**+1.5**
	5.1nm,0.1s,SNR=18							
EALK					Pg	**Pg**	**16 17 29.7**	**+0.1**
	70nm,0.4s,SNR=16							
EALK					Sn	**Sn**	**16 17 56.4**	**+0.6**
	128nm,0.3s,SNR=6.3							
EALK					Lg	Lg	16 18 10.1	
	193nm,0.3s,SNR=11							
EALK	**Alkurruntz**	**3.07**	**12**		Pn	**Pn**	**16 17 20.7**	**+1.5**
	5.1nm,0.1s,SNR=18							
ECOG	**Cogollos-Vega**	**3.08**	**198**		Pg	**Pg**	**16 17 29.8**	**+0.1**
	35nm,0.2s,SNR=19							
ECOG					Lg	Lg	16 18 10.5	
	92nm,0.3s,SNR=9.9							
ECOG	**Cogollos-Vega**	**3.08**	**198**		Pg	**Pg**	**16 17 29.8**	**+0.1**
	35nm,0.2s,SNR=19							
ECOG					Lg	Lg	16 18 10.5	
	92nm,0.3s,SNR=9.9							
EIBI	**Ibiza**	**3.09**	**111**		Pn	**Pn**	**16 17 21.5**	**+2.0**
	7.7nm,0.2s,SNR=11							
EIBI					Sn	**Sn**	**16 17 55.7**	**-0.7**
	5.9nm,0.2s,SNR=5.0							
EIBI	**Ibiza**	**3.09**	**111**		Pn	**Pn**	**16 17 21.5**	**+2.0**
	7.7nm,0.2s,SNR=11							
EIBI					Sn	**Sn**	**16 17 55.7**	**-0.7**
	5.9nm,0.2s,SNR=5.0							
EBIE	**Bielsa**	**3.11**	**36**		Pn	**Pn**	**16 17 21.1**	**+1.2**
	0.8nm,0.1s,SNR=17							
EBIE					Pg	**Pb**	**16 17 25.3**	**-0.8**
	3.1nm,0.2s,SNR=7.9							
EBIE					Pg	**Pg**	**16 17 29.8**	**-0.5**
	10nm,0.2s,SNR=14							
EBIE					Sn	**Sn**	**16 17 58.0**	**+0.9**
	24nm,0.2s,SNR=5.9							
EBIE					Lg	Lg	16 18 10.7	
	68nm,0.3s,SNR=5.0							
EBIE	**Bielsa**	**3.11**	**36**		Pn	**Pn**	**16 17 21.1**	**+1.2**
	0.8nm,0.1s,SNR=17							
EBIE	**Bielsa**	**3.11**	**36**		Pg	**Pg**	**16 17 29.8**	**-0.5**
	10nm,0.2s,SNR=14							
EBIE					Sn	**Sn**	**16 17 58.0**	**+0.9**
	24nm,0.2s,SNR=5.9							
EBIE					Lg	Lg	16 18 10.7	
	68nm,0.3s,SNR=5.0							
EQUE	**Quentar**	**3.12**	**196**		Pn	**Pn**	**16 17 21.8**	**+1.9**
	0.6nm,0.3s,SNR=4.0							
EQUE					Pg	**Pg**	**16 17 30.4**	**-0.1**
	24nm,0.2s,SNR=24							
EQUE					Lg	Lg	16 18 11.9	
	289nm,0.6s,SNR=12							
EQUE	**Quentar**	**3.12**	**196**		Pn	**Pn**	**16 17 21.8**	**+1.9**
	0.6nm,0.3s,SNR=4.0							
ELAN	**Lanestosa**	**3.12**	**345**		Pn	**Pn**	**16 17 22.1**	**+2.2**
	2.1nm,0.1s,SNR=14							
ELAN					Pg	**Pg**	**16 17 30.4**	**-0.2**
	25nm,0.2s,SNR=55							
ELAN					Lg	Lg	16 18 09.1	
	81nm,0.2s,SNR=5.0							
ELAN	**Lanestosa**	**3.12**	**345**		Pn	**Pn**	**16 17 22.1**	**+2.2**
	2.1nm,0.1s,SNR=14							
ATE	**Arette**	**3.13**	**23**		Pn	**Pn**	**16 17 21.5**	**+1.5**
ATE	**Arette**	**3.13**	**23**		Pg	**Pg**	**16 17 30.8**	**+0.1**
ATE					Sn	**Sn**	**16 17 57.7**	**+0.3**
ATE	**Arette**	**3.13**	**23**		Pn	**Pn**	**16 17 21.5**	**+1.5**
ATE	**Arette**	**3.13**	**23**		Pg	**Pg**	**16 17 30.8**	**+0.1**
ATE					Sn	**Sn**	**16 17 57.7**	**+0.3**
OSSF	**Osses**	**3.15**	**15**		Pn	**Pn**	**16 17 21.3**	**+1.0**
OSSF	**Osses**	**3.15**	**15**		Pg	**Pg**	**16 17 30.0**	**-1.1**
OSSF					Sn	**Sn**	**16 17 57.4**	**-0.5**
OSSF					Sg	**Sb**	**16 18 07.9**	**+2.7**
OSSF	**Osses**	**3.15**	**15**		Pn	**Pn**	**16 17 21.3**	**+1.0**
OSSF	**Osses**	**3.15**	**15**		Pg	**Pg**	**16 17 30.0**	**-1.1**
OSSF					Sn	**Sn**	**16 17 57.4**	**-0.5**
OSSF					Sg	**Sb**	**16 18 07.9**	**+2.7**
ORDF	**Ordiarp**	**3.19**	**19**		Pn	**Pn**	**16 17 22.5**	**+1.8**
ORDF	**Ordiarp**	**3.19**	**19**		Pg	**Pg**	**16 17 30.2**	**-1.5**
ORDF					Sn	**Sn**	**16 17 57.7**	**-1.0**
ORDF	**Ordiarp**	**3.19**	**19**		Pn	**Pn**	**16 17 22.5**	**+1.8**
ORDF	**Ordiarp**	**3.19**	**19**		Pg	**Pg**	**16 17 30.2**	**-1.5**
ORDF					Sn	**Sn**	**16 17 57.7**	**-1.0**
ECAB	**El Cabril**	**3.19**	**229**		Pn	**Pn**	**16 17 23.0**	**+2.1**
	1.9nm,0.2s,SNR=15							
ECAB					Sn	**Sn**	**16 17 58.6**	**-0.3**
	12nm,0.2s,SNR=6.5							
ECAB					Lg	Lg	16 18 12.8	
	240nm,0.7s,SNR=8.3							
ECAB	**El Cabril**	**3.19**	**229**		Pn	**Pn**	**16 17 23.0**	**+2.1**
	1.9nm,0.2s,SNR=15							
ECAB					Lg	Lg	16 18 12.8	
	240nm,0.7s,SNR=8.3							
REYF	**Montagne du Re**	**3.21**	**27**		Pn	**Pn**	**16 17 22.7**	**+1.5**
REYF	**Montagne du Re**	**3.21**	**27**		Pn	**Pn**	**16 17 22.7**	**+1.5**
EBER	**Berja**	**3.33**	**187**		Pn	**Pn**	**16 17 23.0**	**+0.1**
	0.5nm,0.1s,SNR=5.9							
EBER					Pb	**Pb**	**16 17 28.0**	**-1.9**
	SNR=7.9							
EBER					Pg	**Pg**	**16 17 34.6**	**0.0**
	80nm,0.3s,SNR=49							
EBER					Sn	**Sn**	**16 18 04.5**	**+1.9**
	24nm,0.3s,SNR=4.7							
EBER					Lg	Lg	16 18 20.3	
	142nm,0.4s,SNR=5.0							
EBER	**Berja**	**3.33**	**187**		Pn	**Pn**	**16 17 23.0**	**+0.1**
	0.5nm,0.1s,SNR=5.9							
LABF	**Labassere**	**3.37**	**32**		Pn	**Pn**	**16 17 24.6**	**+1.3**
LABF	**Labassere**	**3.37**	**32**		Pg	**Pg**	**16 17 35.0**	**-0.3**
LABF					Sn	**Sn**	**16 18 03.7**	**+0.4**
LABF					Sg	**Sg**	**16 18 17.1**	**-1.9**
LABF	**Labassere**	**3.37**	**32**		Pn	**Pn**	**16 17 24.6**	**+1.3**
LABF	**Labassere**	**3.37**	**32**		Pg	**Pg**	**16 17 35.0**	**-0.3**
LABF					Sn	**Sn**	**16 18 03.7**	**+0.4**
LABF					Sg	**Sg**	**16 18 17.1**	**-1.9**
EMIR	**Miracle**	**3.40**	**59**		Pn	**Pn**	**16 17 24.7**	**+1.0**
	4.6nm,0.2s,SNR=8.9							
EMIR					Pb	**Pb**	**16 17 29.8**	**-1.1**
	SNR=4.0							
EMIR					Pg	**Pg**	**16 17 35.3**	**-0.5**
	12nm,0.2s,SNR=8.7							
EMIR					Lg	Lg	16 18 17.4	
	229nm,0.5s,SNR=5.0							
EMIR	**Miracle**	**3.40**	**59**		Pn	**Pn**	**16 17 24.7**	**+1.0**
	4.6nm,0.2s,SNR=8.9							
CSOR	**Sort**	**3.41**	**49**		Pn	**Pn**	**16 17 24.7**	**+0.8**
	1.3nm,0.1s,SNR=15							
CSOR					Pg	**Pg**	**16 17 36.2**	**+0.2**
	2.6nm,0.1s,SNR=6.1							
CSOR					Sn	**Sn**	**16 18 04.3**	**0.0**
	28nm,0.2s,SNR=5.7							
CSOR					Lg	Lg	16 18 18.4	
	195nm,0.5s,SNR=5.0							
CSOR	**Sort**	**3.41**	**49**		Pn	**Pn**	**16 17 24.7**	**+0.8**
	1.3nm,0.1s,SNR=15							
EPF	**Esparros**	**3.47**	**35**	*e*Pn		**Pn**	**16 17 25.9**	**+1.2**
	SNR=1.0							
EPF	**Esparros**	**3.47**	**35**	*e*Pg		**Pg**	**16 17 37.2**	**0.0**
EPF				*e*Sn		**Sn**	**16 18 04.5**	**-1.3**
	163nm,0.2s,SNR=1.0							
EPF				*e*Sg		**Sg**	**16 18 21.3**	**-0.8**
	181nm,0.3s							
EPF	**Esparros**	**3.47**	**35**		Pn	**Pn**	**16 17 25.9**	**+1.2**
EPF	**Esparros**	**3.47**	**35**		Pg	**Pg**	**16 17 37.2**	**0.0**
EPF					Sn	**Sn**	**16 18 04.5**	**-1.3**
	41nm,0.2s							
EPF				*e*Sg		**Sg**	**16 18 21.3**	**-0.8**
	90nm,0.3s							
EGUA	**Guajares**	**3.50**	**196**		Pn	**Pn**	**16 17 27.0**	**+1.9**
	5.5nm,0.2s,SNR=7.9							
EGUA					Pg	**Pg**	**16 17 37.7**	**-0.1**
	88nm,0.5s,SNR=7.9							
EGUA					Lg	Lg	16 18 26.0	
	489nm,0.9s,SNR=7.9							
EGUA	**Guajares**	**3.50**	**196**		Pn	**Pn**	**16 17 27.0**	**+1.9**
	5.5nm,0.2s,SNR=7.9							
MVO	**Moncorvo**	**3.68**	**287**	*e*Pn		**Pn**	**16 17 30.0**	**+2.5**
MVO				*e*Sg		**Sg**	**16 18 30.1**	**+1.3**
MVO				A		A	16 18 39.1	
	122nm,0.6s							
MVO	**Moncorvo**	**3.68**	**287**		Pn	**Pn**	**16 17 29.7**	**+2.1**
	17nm,0.2s,SNR=23							
MVO					Lg	Lg	16 18 30.1	
	157nm,0.5s,SNR=5.0							
MVO	**Moncorvo**	**3.68**	**287**		Pn	**Pn**	**16 17 29.7**	**+2.1**
	17nm,0.2s,SNR=23							
MVO					Lg	Lg	16 18 30.0	
	157nm,0.5s,SNR=5.0							
MVO				*e*Sg		**Sg**	**16 18 30.1**	**+1.3**
	122nm,0.6s							
PBRG	**Braganca**	**3.68**	**297**	*e*Pn		Pn	16 17 30.3	+2.7
PBRG	**Braganca**	**3.68**	**297**	*e*Pg		**Pg**	**16 17 41.3**	**+0.1**
PBRG				*e*Sg		**Sg**	**16 18 29.4**	**+0.5**
PBRG				A		A	16 18 31.1	
	127nm,0.5s							
PBRG	**Braganca**	**3.68**	**297**		Pn	Pn	16 17 30.3	+2.7
PBRG					Pg	**Pg**	**16 17 41.3**	**+0.1**
PBRG					Lg	Lg	16 18 29.4	
	64nm,0.5s							
PBRG	**Braganca**	**3.68**	**297**		Pn	Pn	16 17 30.3	+

PMRV					*e*Sg	**Sg**	**16 18 36.3 -1.4**
	62nm,0.6s						
MTE	**Manteigas**	**3.97**	**274**	*e*Pn	**Pn**	**16 17 33.9 +2.3**
MTE				*e*Sn	**Sn**	**16 18 19.1 +1.0**
MTE				*e*Sg	**Sg**	**16 18 38.9 +0.7**
MTE				A	A	16 18 44.4
	102nm,0.6s						
MTE	**Manteigas**	**3.97**	**274**	Pn	**Pn**	**16 17 33.9 +2.3**
MTE				Sn	**Sn**	**16 18 19.1 +1.0**
MTE				Lg	Lg	16 18 38.9
	51nm,0.6s						
MTE	**Manteigas**	**3.97**	**274**	Pn	**Pn**	**16 17 33.9 +2.3**
MTE				Sn	**Sn**	**16 18 19.1 +1.0**
MTE				*e*Sg	**Sg**	**16 18 38.9 +0.7**
	102nm,0.6s						
CLLI	**Llivia**	**3.97**	**54**	Pn	**Pn**	**16 17 33.5 +1.8**
	3.3nm,0.3s,SNR=14						
CLLI				Sn	**Sn**	**16 18 17.7 -0.6**
	16nm,0.2s,SNR=5.9						
CLLI				Lg	Lg	16 18 34.8
	20nm,0.2s,SNR=5.0						
CLLI	**Llivia**	**3.97**	**54**	Pn	**Pn**	**16 17 33.5 +1.8**
	3.3nm,0.3s,SNR=14						
CLLI				Sn	**Sn**	**16 18 17.7 -0.6**
	16nm,0.2s,SNR=5.9						
CLLI				Lg	Lg	16 18 34.8
	20nm,0.2s,SNR=5.0						
ETOS	**Mallorca**	**4.00**	**95**	Pn	**Pn**	**16 17 33.4 +1.5**
	1.8nm,0.1s,SNR=4.7						
ETOS				Sn	**Sn**	**16 18 18.0 -0.8**
	4.6nm,0.3s,SNR=4.9						
ETOS	**Mallorca**	**4.00**	**95**	Pn	**Pn**	**16 17 33.4 +1.5**
	1.8nm,0.1s,SNR=4.7						
ETOS				Sn	**Sn**	**16 18 18.0 -0.8**
	4.6nm,0.3s,SNR=4.9						
LIJA	**Lijar**	**4.07**	**217**	Pn	**Pn**	**16 17 35.2 +2.2**
LIJA				Sn	**Sb**	**16 18 31.2 -0.4**
LIJA	**Lijar**	**4.07**	**217**	*e*P	**Pn**	**16 17 35.2 +2.2**
EMIJ	**Mijas**	**4.10**	**208**	Pn	**Pn**	**16 17 35.6 +2.2**
	1.5nm,0.2s,SNR=5.1						
EMIJ				Pg	**Pg**	**16 17 48.1 -1.2**
	4.0nm,0.3s,SNR=7.9						
EMIJ				Sn	**Sn**	**16 18 20.7 -0.7**
	8.8nm,0.3s,SNR=7.9						
EMIJ				Lg	Lg	16 18 44.3
	79nm,0.7s,SNR=6.3						
EMIJ	**Mijas**	**4.10**	**208**	Pn	**Pn**	**16 17 35.6 +2.2**
	1.5nm,0.2s,SNR=5.1						
EMIN	**Mina Concepcio**	**4.15**	**235**	Pn	**Pn**	**16 17 35.8 +1.8**
	1.4nm,0.2s,SNR=8.5						
EMIN				Sn	**Sn**	**16 18 22.1 -0.4**
	6.0nm,0.3s,SNR=5.7						
EMIN				Lg	Lg	16 18 42.9
	142nm,0.9s,SNR=5.0						
EMIN	**Mina Concepcio**	**4.15**	**235**	Pn	**Pn**	**16 17 35.8 +1.8**
	1.4nm,0.2s,SNR=8.5						
EMIN				Lg	Lg	16 18 42.9
	142nm,0.9s,SNR=5.0						
PBAR	**Barrancos**	**4.17**	**242**	*e*Pn	**Pn**	**16 17 36.6 +2.4**
PBAR				*e*Sn	**Sn**	**16 18 25.8 +3.0**
PBAR				*e*Sg	**Sg**	**16 18 44.0 -0.5**
PBAR				A	A	16 18 48.6
	149nm,0.6s						
PBAR	**Barrancos**	**4.17**	**242**	Pn	**Pn**	**16 17 36.6 +2.4**
PBAR				Sn	**Sn**	**16 18 25.8 +3.0**
PBAR				Lg	Lg	16 18 44.0
	149nm,0.6s						
PBAR	**Barrancos**	**4.17**	**242**	Pn	**Pn**	**16 17 36.6 +2.4**
PBAR				Sn	**Sn**	**16 18 25.8 +3.0**
PBAR				*e*Sg	**Sg**	**16 18 44.0 -0.5**
	149nm,0.6s						
PVRL	**Vila Real**	**4.21**	**286**	*e*Pn	**Pn**	**16 17 36.8 +2.0**
PVRL				*e*Sg	**Sg**	**16 18 45.1 -0.7**
PVRL				A	A	16 18 52.9
	52nm,0.4s						
PVRL	**Vila Real**	**4.21**	**286**	Pn	**Pn**	**16 17 36.8 +2.0**
PVRL				Lg	Lg	16 18 45.1
	26nm,0.4s						
PVRL	**Vila Real**	**4.21**	**286**	Pn	**Pn**	**16 17 36.8 +2.0**
PVRL				*e*Sg	**Sg**	**16 18 45.1 -0.7**
	52nm,0.4s						
PVIS	**Viseu**	**4.25**	**279**	*e*Pn	**Pn**	**16 17 37.6 +2.2**
PVIS				*e*Sg	**Sg**	**16 18 47.3 0.0**
PVIS				A	A	16 18 53.6
	39nm,0.5s						
PVIS	**Viseu**	**4.25**	**279**	Pn	**Pn**	**16 17 37.6 +2.2**
PVIS				Lg	Lg	16 18 47.3
	19nm,0.5s						
PVIS	**Viseu**	**4.25**	**279**	Pn	**Pn**	**16 17 37.6 +2.2**
PVIS				*e*Sg	**Sg**	**16 18 47.3 0.0**
	39nm,0.5s						
ESPR	**Espera**	**4.32**	**221**	Pn	Pn	16 17 39.6 +3.3
	3.2nm,0.2s,SNR=7.9						
ESPR				Lg	Lg	16 18 53.6
	86nm,0.6s,SNR=8.0						
ESPR	**Espera**	**4.32**	**221**	Pn	Pn	16 17 39.6 +3.3
	3.2nm,0.2s,SNR=7.9						
ESPR				Lg	Lg	16 18 53.6
	86nm,0.6s,SNR=8.0						
EJIF	**Jimena Fronter**	**4.48**	**214**	Lg	Lg	16 18 57.5
	33nm,0.4s,SNR=7.9						
EJIF	**Jimena Fronter**	**4.48**	**214**	Lg	Lg	16 18 57.5
	33nm,0.4s,SNR=7.9						
EJON	**La Jonquera**	**4.54**	**59**	Pn	**Pn**	**16 17 40.1 +0.7**
	1.3nm,0.1s,SNR=7.9						
EJON				Sn	**Sn**	**16 18 31.3 -0.8**
	5.6nm,0.2s,SNR=4.9						
EJON				Lg	Lg	16 18 52.0
	44nm,0.3s,SNR=5.9						
EJON	**La Jonquera**	**4.54**	**59**	Pn	**Pn**	**16 17 40.1 +0.7**
	1.3nm,0.1s,SNR=7.9						
EJON				Sn	**Sn**	**16 18 31.3 -0.8**
	5.6nm,0.2s,SNR=4.9						
EJON				Lg	Lg	16 18 52.0
	44nm,0.3s,SNR=5.9						
PCAB	**Cabril**	**4.55**	**291**	*e*Pn	**Pn**	**16 17 41.6 +2.1**
PCAB				*e*Sg	**Sg**	**16 18 55.3 -1.4**
PCAB				A	A	16 18 58.9
	64nm,0.4s						
PCAB	**Cabril**	**4.55**	**291**	Pn	**Pn**	**16 17 41.6 +2.1**
PCAB				Lg	Lg	16 18 55.3
	32nm,0.4s						
PCAB	**Cabril**	**4.55**	**291**	Pn	**Pn**	**16 17 41.6 +2.1**
PCAB				*e*Sg	**Sg**	**16 18 55.3 -1.4**
	64nm,0.4s						
ELOB	**Lobios**	**4.62**	**293**	ǁPn	**Pn**	**16 17 42.1 +1.6**
	9.3nm,0.1s,SNR=18						
ELOB				Sn	**Sn**	**16 18 34.4 +0.2**
	33nm,0.4s,SNR=5.0						
ELOB				Lg	Lg	16 18 57.8
	84nm,0.4s,SNR=9.7						
ELOB	**Lobios**	**4.62**	**293**	Pn	**Pn**	**16 17 42.1 +1.6**
	9.3nm,0.1s,SNR=18						
ELOB				Sn	**Sn**	**16 18 34.4 +0.2**
	33nm,0.4s,SNR=5.0						
ELOB				Lg	Lg	16 18 57.8
	84nm,0.4s,SNR=9.7						
MTLF	**Montolieu**	**4.64**	**46**	*e*Pn	**Pn**	**16 17 41.7 +1.0**
MTLF	**Montolieu**	**4.64**	**46**	*e*P	Pn	16 17 45.4 +4.7
MTLF	**Montolieu**	**4.64**	**46**	*e*Pg	**Pg**	**16 17 58.9 -0.6**
MTLF				*e*Sn	**Sn**	**16 18 32.0 -2.5**
	37nm,0.3s,SNR=1.0						
MTLF				*e*Sg	**Sg**	**16 18 58.1 -1.5**
	41nm,0.4s						
MTLF	**Montolieu**	**4.64**	**46**	Pn	**Pn**	**16 17 41.7 +1.0**
MTLF	**Montolieu**	**4.64**	**46**	*e*P	Pn	16 17 45.4 +4.7
MTLF	**Montolieu**	**4.64**	**46**	Pg	**Pg**	**16 17 58.9 -0.6**
MTLF				*e*Sn	**Sn**	**16 18 32.0 -2.5**
	18nm,0.3s,SNR=1.0						
MTLF				*e*Sg	**Sg**	**16 18 58.1 -1.5**
	20nm,0.4s						
PMTG	**Montargil**	**4.67**	**258**	*e*Pn	**Pn**	**16 17 42.5 +1.4**
PMTG				*e*Sn	**Sn**	**16 18 35.1 -0.2**
PMTG	**Montargil**	**4.67**	**258**	*e*Pn	**Pn**	**16 17 42.5 +1.4**
PMTG				*e*Sn	**Sn**	**16 18 35.1 -0.2**
EVO	**Evora**	**4.69**	**251**	*e*Pn	**Pn**	**16 17 43.7 +2.3**
EVO	**Evora**	**4.69**	**251**	*e*Pg	**Pg**	**16 18 01.3 +0.7**
EVO				*e*Sn	**Sn**	**16 18 36.2 +0.4**
EVO				*e*Sg	**Sg**	**16 19 02.8 +1.5**
	127nm,0.4s						
EVO	**Evora**	**4.69**	**251**	*e*Pn	**Pn**	**16 17 43.0 +1.6**
EVO				*e*Sn	**Sn**	**16 18 35.6 -0.2**
EVO				*e*Sg	**Sg**	**16 19 02.0 +0.7**
EVO				A	A	16 19 04.9
	53nm,0.4s						
EVO	**Evora**	**4.69**	**251**	Pn	**Pn**	**16 17 43.0 +1.6**
EVO				Sn	**Sn**	**16 18 35.6 -0.2**
EVO				Lg	Lg	16 19 02.0
	53nm,0.4s						
EVO	**Evora**	**4.69**	**251**	Pn	**Pn**	**16 17 43.0 +1.6**
EVO				*e*Sn	**Sn**	**16 18 35.6 -0.2**
EVO				*e*Sg	**Sg**	**16 19 02.0 +0.7**
EVO				A	A	16 19 07.0
	50nm,0.5s						
PTOM	**Tomar**	**4.69**	**265**	Pn	**Pn**	**16 17 43.7 +2.3**
PTOM				Sn	**Sn**	**16 18 35.6 -0.2**
PTOM				Lg	Lg	16 19 03.9
	25nm,0.5s						
PTOM	**Tomar**	**4.69**	**265**	Pn	**Pn**	**16 17 43.7 +2.3**
PTOM				*e*Sn	**Sn**	**16 18 35.6 -0.2**
PTOM				*e*Sg	**Sg**	**16 19 03.9 +2.6**
	50nm,0.5s						
EPON	**Pontenova**	**4.75**	**313**	Pn	**Pn**	**16 17 42.6 +0.4**
	1.7nm,0.2s,SNR=7.9						
EPON				Pg	**Pg**	**16 18 01.4 -0.2**
	12nm,0.3s,SNR=6.2						
EPON				Lg	Lg	16 19 01.0
	70nm,0.4s,SNR=8.3						
EPON	**Pontenova**	**4.75**	**313**	Pn	**Pn**	**16 17 42.6 +0.4**
	1.7nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**4.75**	**313**	Pg	**Pg**	**16 18 01.4 -0.2**
	12nm,0.3s,SNR=6.2						
EPON				Lg	Lg	16 19 01.0
	70nm,0.4s,SNR=8.3						
EVOP	**Sao Brissos**	**4.77**	**251**	*e*Pn	**Pn**	**16 17 43.7 +1.2**
EVOP	**Sao Brissos**	**4.77**	**251**	*e*Pg	**Pg**	**16 18 01.3 -0.8**
EVOP				*e*Sn	**Sn**	**16 18 36.2 -1.6**
EVOP				*e*Sg	**Sg**	**16 19 02.8 -1.1**
	63nm,0.4s						
PBEJ	**Beja**	**4.81**	**245**	*e*Sn	**Sn**	**16 18 37.4 -1.2**
PBEJ				*e*Sg	**Sg**	**16 19 01.6 -3.4**
PBEJ				A	A	16 19 13.1
	41nm,0.7s						
PBEJ	**Beja**	**4.81**	**245**	Sn	**Sn**	**16 18 37.4 -1.2**
PBEJ				Lg	Lg	16 19 01.6
	20nm,0.7s						
PBEJ	**Beja**	**4.81**	**245**	*e*Sn	**Sn**	**16 18 37.4 -1.2**
PBEJ				Lg	Lg	16 19 01.6
	20nm,0.7s						
EGRO	**El Granado**	**4.81**	**238**	Pn	**Pn**	**16 17 44.4 +1.4**
	1.4nm,0.2s,SNR=6.2						
EGRO				Sn	**Sn**	**16 18 37.8 -0.9**
	6.0nm,0.2s,SNR=24						
EGRO				Lg	Lg	16 19 05.9
	121nm,0.8s,SNR=5.0						
EGRO	**El Granado**	**4.81**	**238**	Pn	**Pn**	**16 17 44.4 +1.4**
	1.4nm,0.2s,SNR=6.2						
EGRO				Lg	Lg	16 19 05.9
	121nm,0.8s,SNR=5.0						
PTO	**Porto**	**4.84**	**283**	*e*Sg	**Sg**	**16 19 06.3 +0.3**
PTO				A	A	16 19 08.1
	46nm,0.1s						
PTO	**Porto**	**4.84**	**283**	Lg	Lg	16 19 06.3
	23nm,0.1s						
PTO	**Porto**	**4.84**	**283**	*e*Sg	**Sg**	**16 19 06.3 +0.3**
	46nm,0.1s						
PVAQ	**Vaqueiros**	**5.04**	**238**	*e*Pn	**Pn**	**16 17 48.3 +2.1**
PVAQ				*e*Sn	**Sn**	**16 18 45.2 +0.9**
PVAQ				*e*Sg	**Sg**	**16 19 13.9 +1.5**
PVAQ				A	A	16 19 22.9
	40nm,0.6s						
PVAQ	**Vaqueiros**	**5.04**	**238**	Pn	**Pn**	**16 17 48.3 +2.1**
PVAQ				Sn	**Sn**	**16 18 45.2 +0.9**
PVAQ				Lg	Lg	16 19 13.9
	40nm,0.6s						
PVAQ	**Vaqueiros**	**5.04**	**238**	Pn	**Pn**	**16 17 48.3 +2.1**
PVAQ				Sn	**Sn**	**16 18 45.2 +0.9**
PVAQ				*e*Sg	**Sg**	**16 19 13.9 +1.5**
	40nm,0.6s						
PCVE	**Castro Verde**	**5.12**	**242**	*e*Pn	**Pn**	**16 17 49.5 +2.2**
PCVE				*e*Sn	**Sn**	**16 18 43.9 -2.5**
PCVE				*e*Sg	**Sg**	**16 19 15.3 +0.1**
PCVE				A	A	16 19 23.8
	45nm,0.7s						
PCVE	**Castro Verde**	**5.12**	**242**	Pn	**Pn**	**16 17 49.5 +2.2**
PCVE				Sn	**Sn**	**16 18 43.9 -2.5**
PCVE				Lg	Lg	16 19 15.3
	45nm,0.7s						
PCVE	**Castro Verde**	**5.12**	**242**	Pn	**Pn**	**16 17 49.5 +2.2**
PCVE				*e*Sg	**Sg**	**16 19 15.3 +0.1**
	45nm,0.7s						
PACT	**Alcochete**	**5.21**	**256**	*e*Pn	**Pn**	**16 17 49.9 +1.4**
PACT				*e*Sn	**Sn**	**16 18 48.6 0.0**
PACT				*e*Sg	**Sg**	**16 19 20.3 +2.3**
PACT				A	A	16 19 25.2
	61nm,0.2s						
PACT	**Alcochete**	**5.21**	**256**	*e*Pn	**Pn**	**16 17 49.9 +1.4**
PACT				*e*Sn	**Sn**	**16 18 48.6 0.0**
PACT				*e*Sg	**Sg**	**16 19 20.3 +2.3**
	61nm,0.2s						
PNCL	**Nicolau / Gran**	**5.23**	**248**	*e*Pn	Pn	16 17 52.1 +3.3
PNCL				*e*Sn	**Sn**	**16 18 47.8 -1.3**
PNCL				*e*Sg	**Sg**	**16 19 17.3 -1.4**
PNCL				A	A	16 19 22.1
	27nm,0.4s						
PNCL	**Nicolau / Gran**	**5.23**	**248**	*e*Pn	Pn	16 17 52.1 +3.3
PNCL				*e*Sn	**Sn**	**16 18 47.8 -1.3**
PNCL				*e*Sg	**Sg**	**16 19 17.3 -1.4**
	27nm,0.4s						
LFF	**La Frestale**	**5.25**	**25**	*e*Pn	**Pn**	**16 17 49.7 +0.6**
	SNR=1.0						
LFF				*e*Sn	**Sn**	**16 18 46.1 -3.5**
	14nm,0.2s,SNR=1.0						
LFF				*e*Sg	**Sg**	**16 19 17.8 -1.4**
	27nm,0.3s						
LFF	**La Frestale**	**5.25**	**25**	Pn	**Pn**	**16 17 49.7 +0.6**
LFF				*e*Sn	**Sn**	**16 18 46.1 -3.5**
	7.2nm,0.2s,SNR=1.0						
LFF				*e*Sg	**Sg**	**16 19 17.8 -1.4**
	14nm,0.3s						
PBDV	**Barranco-do-Ve**	**5.27**	**238**	*e*Pn	Pn	16 17 53.1 +3.7
PBDV				*e*Sn	**Sn**	**16 18 51.7 +1.6**
PBDV				*e*Sg	**Sg**	**16 19 20.9 +1.1**
PBDV				A	A	16 19 29.0
	48nm,0.7s						
PBDV	**Barranco-do-Ve**	**5.27**	**238**	Pn	Pn	16 17 53.1 +3.7
PBDV				Sn	**Sn**	**16 18 51.7 +1.6**
PBDV				Lg	Lg	16 19 20.9
	48nm,0.7s						
PBDV	**Barranco-do-Ve**	**5.27**	**238**	Pn	Pn	16 17 53.1 +3.7
PBDV				Sn	**Sn**	**16 18 51.7 +1.6**
PBDV				*e*Sg	**Sg**	**16 19 20.9 +1.1**
	48nm,0.7s						
STS	**Santiago**	**5.36**	**302**	Lg	Lg	16 19 23.4
	66nm,0.8s,SNR=6.0						
STS	**Santiago**	**5.36**	**302**	Lg	Lg	16 19 23.4
	66nm,0.8s,SNR=6.0						
PMAFR	**Mafra**	**5.49**	**259**	*e*Sn	**Sn**	**16 18 54.6 -1.0**
PMAFR				*e*Sg	**Sg**	**16 19 27.4 +0.3**
PMAFR				A	A	16 19 34.7
	40nm,0.6s						
PMAFR	**Mafra**	**5.49**	**259**	Pn	**Pn**	**16 17 54.2 +1.7**
	7.3nm,0.2s,SNR=7.9						
PMAFR				Sn	**Sn**	**16 18 54.5 -1.1**
	40nm,0.2s,SNR=8.6						
PMAFR				Lg	Lg	16 19 27.7
	78nm,0.5s,SNR=7.9						
PMAFR	**Mafra**	**5.49**	**259**	Pn	**Pn**	**16 17 54.2 +1.7**
	7.3nm,0.2s,SNR=7.9						
PMAFR				*e*Sg	**Sg**	**16 19 27.4 +0.3**
	40nm,0.6s						
PMAFR				Lg	Lg	16 19 27.7
	78nm,0.5s,SNR=7.9						
PTEO	**Sao Teotonio**	**5.63**	**244**	*e*Sn	**Sn**	**16 18 57.1 -1.9**
PTEO				*e*Sg	**Sg**	**16 19 31.9 +0.4**
PTEO				A	A	16 19 35.7
	41nm,0.8s						
PTEO	**Sao Teotonio**	**5.63**	**244**	Sn	**Sn**	**16 18 57.1 -1.9**
PTEO				Lg	Lg	16 19 31.9
	21nm,0.8s						
MORF	**Marmelete**	**5.71**	**241**	*e*Pn	**Pn**	**16 17 57.8 +2.4**
MORF				*e*Sn	**Sn**	**16 18 59.2 -1.7**
MORF				A	A	16 19 04.0
	7.1nm,0.5s						
MORF	**Marmelete**	**5.71**	**241**	Pn	**Pn**	**16 17 57.8 +2.4**
MORF				Sn	**Sn**	**16 18 59.2 -1.7**
	7.1nm,0.5s						
MORF	**Marmelete**	**5.71**	**241**	Pn	**Pn**	**16 17 57.8 +2.4**
CAF	**Calviac**	**5.73**	**33**	*e*Pn	**Pn**	**16 17 55.9 +0.1**
	SNR=1.0						
CAF				*e*Sn	**Sn**	**16 18 58.6 -2.9**
	8.8nm,0.2s,SNR=1.0						
CAF				*e*Sg	**Sg**	**16 19 32.5 -2.2**
	12nm,0.3s						
CAF	**Calviac**	**5.73**	**33**	Pn	**Pn**	**16 17 55.9 +0.1**
CAF				*e*Sg	**Sg**	**16 19 32.5 -2.2**
	6.2nm,0.3s						
RJF	**Les Rejaudoux**	**5.84**	**28**	*e*Pn	**Pn**	**16 17 57.0 -0.1**
RJF				*e*Sn	**Sn**	**16 19 00.9 -3.1**
RJF				*e*Sg	**Sg**	**16 19 36.4 -1.6**
	16nm,0.3s						
RJF	**Les Rejaudoux**	**5.84**	**28**	Pn	**Pn**	**16 17 57.0 -0.1**
RJF				*e*Sg	**Sg**	**16 19 36.4 -1.6**
	8.2nm,0.3s						
PFVI	**Vila Bisbo**	**5.92**	**241**	*e*Pn	**Pn**	**16 18 00.7 +2.4**
PFVI				*e*Sn	**Sn**	**16 19 05.8 -0.3**
PFVI				*e*Sg	**Sg**	**16 19 42.5 +1.8**
PFVI				A	A	16 19 52.1
	28nm,0.5s						
PFVI	**Vila Bisbo**	**5.92**	**241**	Pn	**Pn**	**16 18 00.6 +2.3**
	2.8nm,0.1s,SNR=7.7						
PFVI				Sn	**Sn**	**16 19 04.9 -1.2**
	9.4nm,0.3s,SNR=7.9						
PFVI				Lg	Lg	16 19 41.9
	51nm,0.6s,SNR=7.9						
PFVI	**Vila Bisbo**	**5.92**	**241**	Pn	**Pn**	**16 18 00.6 +2.3**
	2.8nm,0.1s,SNR=7.7						
PFVI				Lg	Lg	16 19 41.9
	51nm,0.6s,SNR=7.9						
PFVI				*e*Sg	**Sg**	**16 19 42.5 +1.8**
	28nm,0.5s						
LASF	**Ste Croix**	**6.02**	**48**	*e*Pn	**Pn**	**16 18 00.3 +0.6**
	SNR=1.0						
LASF				*e*Sg	**Sg**	**16 19 41.6 -2.4**
	20nm,0.3s						
LASF	**Ste Croix**	**6.02**	**48**	Pn	**Pn**	**16 18 00.3 +0.6**
LASF				*e*Sg	**Sg**	**16 19 41.6 -2.4**
	9.8nm,0.3s						
MFF	**Saint Martin d**	**6.59**	**13**	*e*Pn	**Pn**	**16 18 07.4 -0.1**
	SNR=1.0						
MFF				*e*Sn	**Sn**	**16 19 18.9 -3.6**
MFF	**Saint Martin d**	**6.59**	**13**	Pn	**Pn**	**16 18 07.4 -0.1**
TCF	**Toulx Ste Croi**	**6.93**	**27**	*e*Pn	**Pn**	**16 18 12.1 -0.1**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**16 19 26.2 -4.8**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**16 20 09.3 -3.7**
	7.4nm,0.4s,SNR=1.0						
TCF	**Toulx Ste Croi**	**6.93**	**27**	Pn	**Pn**	**16 18 12.1 -0.1**
TCF				Lg	Lg	16 20 09.3
	3.8nm,0.4s						
VIVF	**Saint-Julien-l**	**6.96**	**46**	*e*Sg	**Sg**	**16 20 10.5 -3.7**
	5.7nm,0.3s						
VIVF	**Saint-Julien-l**	**6.96**	**46**	Lg	Lg	16 20 10.5
	2.8nm,0.3s						
LMR	**La Mourre**	**7.33**	**62**	*e*Pn	**Pn**	**16 18 17.8 +0.2**
LMR				*e*Sn	**Sn**	**16 19 36.5 -4.2**
LMR	**La Mourre**	**7.33**	**62**	Pn	**Pn**	**16 18 17.8 +0.2**
BGF	**Bois d'Agland**	**7.39**	**29**	*e*Pn	**Pn**	**16 18 18.3 -0.2**
BGF				*e*Sn	**Sn**	**16 19 37.7 -4.6**
BGF	**Bois d'Agland**	**7.39**	**29**	Pn	**Pn**	**16 18 18.3 -0.2**
FRF	**La Foret Royal**	**7.51**	**61**	*e*Sg	Sg	16 20 33.4 +1.8
	10nm,0.8s,SNR=1.0						
FRF	**La Foret Royal**	**7.51**	**61**	*e*Sg	Sg	16 20 33.4 +1.8
	5.1nm,0.8s,SNR=1.0						
QUIF	**Quistinic**	**7.73**	**356**	*e*Pn	**Pn**	**16 18 22.9 -0.1**
	SNR=1.0						
QUIF				*e*Sn	**Sn**	**16 19 45.3 -5.2**
	4.5nm,0.3s,SNR=1.0						
QUIF	**Quistinic**	**7.73**	**356**	Pn	**Pn**	**16 18 22.9 -0.1**
AVF	**Avril sur Loir**	**7.78**	**30**	*e*Pn	**Pn**	**16 18 24.3 +0.6**
AVF				*e*Sn	**Sn**	**16 19 47.9 -3.8**
	6.2nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**7.78**	**30**	Pn	**Pn**	**16 18 24.3 +0.6**
SGMF	**Saint Gilles**	**8.04**	**359**	*e*Pn	**Pn**	**16 18 27.4 0.0**
SGMF				*e*Sn	**Sn**	**16 19 52.3 -6.0**
	2.8nm,0.2s,SNR=1.0						
SGMF	**Saint Gilles**	**8.04**	**359**	Pn	**Pn**	**16 18 27.4 0.0**
SSF	**Saint Saulge**	**8.06**	**30**	*e*Pn	**Pn**	**16 18 28.0 +0.4**
	SNR=1.0						
SSF	**Saint Saulge**	**8.06**	**30**	Pn	**Pn**	**16 18 28.0 +0.4**
ROSF	**Rostrenen**	**8.15**	**356**	*e*Pn	**Pn**	**16 18 28.8 -0.1**
ROSF				*e*Sn	Sn	16 19 53.8 -7.1
	2.5nm,0.2s,SNR=1.0						
ROSF	**Rostrenen**	**8.15**	**356**	Pn	**Pn**	**16 18 28.8 -0.1**
GRR	**Gorron**	**8.25**	**7**	*e*Pn	**Pn**	**16 18 30.7 +0.5**
GRR				*e*Sn	**Sn**	**16 19 58.5 -4.8**
GRR	**Gorron**	**8.25**	**7**	Pn	**Pn**	**16 18 30.7 +0.5**
LOR	**Lormes**	**8.37**	**30**	*e*Pn	**Pn**	**16 18 32.2 +0.3**
LOR	**Lormes**	**8.37**	**30**	Pn	**Pn**	**16 18 32.2 +0.3**
LDF	**La Druitiere**	**8.53**	**10**	*e*Pn	**Pn**	**16 18 34.0 -0.1**
	SNR=1.0						
LDF				*e*Sn	**Sn**	**16 20 05.2 -5.1**
	2.8nm,0.3s,SNR=1.0						
FLN	**La Foliniere**	**8.66**	**8**	*e*Pn	**Pn**	**16 18 34.0 -1.8**
	SNR=1.0						

MEX 14 16:19:17.0±0.4, 15°.46N×92°.68W, h141km±5km, MD3.5, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.58**	**295**	*e*P	Pn	16 19 36.3	-1.5
PCIG				*i* S	Sn	16 19 51.5	-2.0
CCIG	**Comitan**	**0.97**	**32**	*e*P	Pn	16 19 39.7	-1.2
CCIG				*e*S	Sn	16 19 56.9	-2.2
TGIG		**1.38**	**342**	*e*P	Pn	16 19 42.9	-1.8
TGIG				*e*S	Sn	16 20 04.2	-1.7
HUIG	**Huatulco**	**3.32**	**276**	*e*P	Pn	16 20 06.8	-1.4
HUIG				*i* S	Sn	16 20 45.8	-2.0

MEX 14 16:24:34.0±0.6, 21°.43N×106°.15W, h10km, MD4.0, Off coast of central Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANIG	**Ahuacatlan**	**1.56**	**103**	*e*P	Pn	16 24 58.2	-3.8
ANIG

JIZS	**Izushimoda**	**1.20**	**349**	⇓P	**Pn**	**16 30 48.6**	**-1.2**
JIZS				S	**Sb**	**16 31 05.1**	**-0.3**
TK02	**Tokai 2**	**1.24**	**290**	P	**Pn**	**16 30 49.6**	**-0.5**
TK02				S	**Sb**	**16 31 06.7**	**+0.5**
TK01	**Tokai 1**	**1.33**	**280**	S	**Sn**	**16 31 07.2**	**-1.5**
TK04	**Tokai 4**	**1.36**	**309**	P	**Pn**	**16 30 51.6**	**-0.3**
TK04				S	**Sn**	**16 31 09.7**	**-0.1**
JSG	**Sagara**	**1.40**	**325**	P	**Pn**	**16 30 52.3**	**-0.1**
TTO5	**TONANKAI O.B.S**	**1.40**	**301**	⇑P	**Pn**	**16 30 51.7**	**-0.6**
TTO5				S	**Sn**	**16 31 09.8**	**-0.8**
TTO4	**TONANKAI O.B.S**	**1.43**	**290**	⇑P	**Pn**	**16 30 51.9**	**-0.8**
TTO4				S	**Sn**	**16 31 10.2**	**-1.1**
MJAR	**Matsushiro Arr**	**3.10**	**346**	P	**Pn**	**16 31 16.8**	**+0.9**
	1.8nm,0.3s,baz=178,slow=16,SNR=19						
MJAR				S	**Sb**	**16 32 00.4**	**+0.4**
	5.0nm,0.3s,baz=142,slow=6.3,SNR=6.6						
MAT	**Matsushiro**	**3.10**	**346**	P	**Pn**	**16 31 17.0**	**+1.1**
MAT				S	**Sb**	**16 32 00.4**	**+0.3**
JCJ	**Chichijima**	**6.93**	**157**	LR	LR	16 34 20.5	
	comp=Z,64nm,21.4s,baz=336,slow=32						
JNU	**Nakatsue**	**6.95**	**269**	P	**Pn**	**16 32 09.4**	**+0.6**
	4.1nm,0.3s,baz=75,slow=2.4,SNR=50						
KSRS	**Korea Array**	**9.96**	**296**	P	**Pn**	**16 32 52.0**	**+2.0**
	0.2nm,0.3s,baz=117,slow=15,SNR=3.7						
KSRS				LR	LR	16 36 41.3	
	comp=Z,79nm,19.6s,baz=100,slow=38						
H11N2	**WAKE ISLAND Hy 28.24**	**112**		T	T	17 05 47.5	
	baz=306,slow=0.7,SNR=62						
H11N1	**WAKE ISLAND Hy 28.25**	**112**		T	T	17 05 51.8	
	baz=306,slow=0.7,SNR=50						
H11N3	**WAKE ISLAND Hy 28.26**	**112**		T	T	17 05 48.8	
	baz=306,slow=0.7,SNR=40						
H11S3	**WAKE ISLAND Hy 28.80**	**114**		T	T	17 06 28.0	
	baz=298,SNR=2.7						
H11S1	**WAKE ISLAND Hy 28.80**	**114**		T	T	17 06 27.4	
	baz=298						
H11S2	**WAKE ISLAND Hy 28.82**	**114**		T	T	17 06 30.3	
	baz=298						
MKAR	**Makanchi Array**	**44.51**	**305**	P	**P**	**16 38 39.0**	**+0.7**
	0.3nm,0.7s,baz=82,slow=10,SNR=3.1						
WRA	**Warramunga Arr**	**53.38**	**186**	P	P	16 39 50.0	+3.5
	0.3nm,0.5s,baz=3.1,slow=7.7,SNR=4.2						
ILAR	**Eielson Array**	**53.43**	**31**	P	**P**	**16 39 46.8**	**+0.2**
	0.3nm,0.7s,baz=305,slow=5.4,SNR=3.3						
ASAR	**Alice Springs**	**57.10**	**186**	P	P	16 40 18.1	+4.7
	0.2nm,0.6s,baz=18,slow=13,SNR=4.6						

IDC 14 16:47:59.9±2.4,14°.62S×175°.74W,h0km,mb3.9/3, mb1 4.3/3,mb1mx3.8/16,mbtmp3.9/3,MS3.8/7,Ms1 3.8/7, ms1mx3.5/28,Error ellipse: s-maj=192.3km s-min=31.0km az=152.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**14.70**	**188**	LR		LR	16 56 11.0	
	comp=Z,608nm,19.2s,baz=284,slow=33							
DZM	**Mont Dzumac**	**18.45**	**244**	eLR		LR	16 56 41.8	
	126nm,26.6s							
HNR	**Honiara**	**24.32**	**280**	LR		LR	17 00 35.0	
	comp=Z,77nm,20.7s,baz=137,slow=31							
URZ	**Urewera**	**24.38**	**194**	LR		LR	17 01 49.3	
	comp=Z,184nm,18.2s,baz=291,slow=34							
PPT	**Papeete**	**25.30**	**100**	LR		LR	17 01 03.2	
	comp=Z,215nm,19.1s,baz=138,slow=31							
PPT2	**Papeete2**	**25.30**	**100**	eLR		LR	16 59 16.7	
	210nm,22.2s							
TBI	**Tubuai**	**26.29**	**113**	eLR		LR	16 59 33.1	
	302nm,28.0s							
RKT	**Rikitea**	**39.38**	**109**	eLR		LR	17 05 30.6	
	169nm,30.8s							
ASAR	**Alice Springs**	**48.21**	**251**	P		P	16 56 43.0	+0.2
	2.2nm,0.7s,baz=85,slow=7.5,SNR=11							
VNDA	**Vanda**	**63.92**	**185**	LR		LR	17 20 46.0	
	comp=Z,53nm,18.4s,baz=3.8,slow=31							
NVAR	**Mina Array Bea**	**75.29**	**43**	P		P	16 59 46.3	+1.0
	1.8nm,0.9s,baz=233,slow=8.5,SNR=4.6							
TXAR	**Lajitas Array**	**82.08**	**57**	P		P	17 00 22.8	0.0
	0.8nm,0.9s,baz=224,slow=7.6,SNR=4.4							
ILAR	**Eielson Array**	**82.14**	**12**	LR		LR	17 30 57.9	
	comp=Z,73nm,19.5s,baz=202,slow=31							
MAW	**Mawson**	**87.79**	**199**	LR		LR	17 35 47.3	
	comp=Z,101nm,19.9s,baz=312,slow=33							
BRTR	**Keskin Array B**	**144.12**	**320**	PKP		PKPdf	17 07 37.9	-0.3
	1.3nm,0.9s,baz=57,slow=5.3,SNR=3.0							
GERES	**GERESS Array B**	**145.00**	**349**	PKPbc		PKPab	17 07 35.6	-3.0
	0.6nm,0.8s,baz=5.3,slow=4.2,SNR=3.6							

*ISCJB **14** 17:01:00.8±0.8,22°.90S±0°.06×66°.7W±0°.1,h248km±17km, mb3.4/1,Error ellipse: s-maj=20.6km s-min=8.4km az=12.7*
*IDC **14** 17:01:00.4±1.9,22°.94S×66°.45W,h215km±20km,mb3.3/1, mb1 3.6/5,mb1mx3.3/19,mbtmp3.5/5,Error ellipse: s-maj=31.3km s-min=19.9km az=92.0*
*GUC **14** 17:01:03.1±0.5,22°.85S×67°.03W,h251km±33km,ML5.2*
ISC 14 17:01:01.4±1.2,22°.86S±0°.08×66°.6W±0°.2,h237km±20km, n17,σ1§36/26,9C,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PB09	**Plate Boundary**	**2.65**	**293**	⇑*i*P		**Pn**	**17 01 51.3**	**+1.8**
PB09				*i* S		**S**	**17 02 27.3**	**0.0**
PB09				AML		AML	17 02 30.0	
	comp=E,4μm,0.5s							
PB04	**Plate Boundary**	**2.72**	**282**	⇑*i*P		Pn	17 01 57.6	+7.6
PB04				*i* S		S	17 02 39.1	+11
PB04				AML		AML	17 02 44.1	
	comp=N,3μm,0.5s							
MACH	**Maria Elena**	**2.98**	**282**	⇑*i*P		**Pn**	**17 01 54.0**	**+0.9**
MACH				*i* S		**S**	**17 02 32.8**	**-0.9**
PB01	**Plate Boundary**	**3.22**	**304**	⇑*i*P		**Pn**	**17 01 56.7**	**+1.0**
PB01				*i* S		**S**	**17 02 38.1**	**-0.3**
PB01				AML		AML	17 02 39.8	
	comp=N,2μm,0.3s							
PB07	**Plate Boundary**	**3.23**	**290**	⇑*i*P		**Pn**	**17 01 56.9**	**+1.1**
PB07				*i* S		**S**	**17 02 37.4**	**-1.3**
PB07				AML		AML	17 02 39.6	
	comp=N,2μm,0.2s							
CEN1	**Los Morros**	**3.34**	**260**	*i* P		**Pn**	**17 01 58.1**	**+1.2**
CEN1				*i* S		**S**	**17 02 43.6**	**+2.7**
ANCH	**Antofagasta**	**3.58**	**256**	*e*P		**Pn**	**17 02 00.1**	**+0.4**
ANCH				*i* S		**S**	**17 02 44.1**	**-1.6**
PB10	**Plate Boundary**	**3.68**	**259**	⇑*i*P		**Pn**	**17 02 01.6**	**+0.7**
PB10				*i* S		**S**	**17 02 45.4**	**-2.3**
PB10				AML		AML	17 02 47.0	
	comp=E,4μm,0.2s							
HMBC	**Humberstone**	**3.98**	**310**	⇑*i*P		**Pn**	**17 02 04.7**	**+0.1**
HMBC				*i* S		**S**	**17 02 52.8**	**-1.7**
HMBC				AML		AML	17 02 55.2	
	comp=E,920nm,0.3s							
MNMC	**Minimini**	**4.64**	**323**	⇑*i*P		**Pn**	**17 02 13.5**	**+0.9**
MNMC				*i* S		**S**	**17 03 08.0**	**-1.1**
LPAZ	**La Paz**	**6.69**	**347**	P		**Pn**	**17 02 40.0**	**+1.3**
	comp=E,5.4nm,0.3s,baz=149,slow=10.0,SNR=98							
LPAZ				S		**S**	**17 03 55.8**	**-0.5**
	baz=282,slow=17,SNR=1.3							
SIV	**San Ignacio**	**8.61**	**38**	P		**Pn**	**17 03 01.2**	**-1.3**
	comp=E,1.1nm,0.3s,baz=225,slow=12,SNR=16							
SIV				S		S	17 04 32.5	-7.5
	comp=E,0.0nm,0.3s,baz=269,slow=15,SNR=1.5							
CFAA	**Coronel Fontan**	**8.83**	**189**	P		**Pn**	**17 03 03.4**	**-1.8**
	comp=E,0.5nm,0.3s,baz=19,slow=13,SNR=22							
CFAA				S		S	17 04 36.0	-9.0
	comp=E,0.9nm,0.3s,baz=269,slow=17,SNR=13							
BDFB	**Brasilia**	**18.96**	**71**	P		**P**	**17 05 05.7**	**+0.3**
	comp=E,1.0nm,0.3s,baz=234,slow=11,SNR=12							
SYO	**Syowa Base**	**74.48**	**159**	⇑*e*P		**P**	**17 12 13.6**	**+0.3**
TORD	**Torodi Ar. Bea**	**75.83**	**69**	P		**P**	**17 12 21.5**	**-0.5**
	comp=E,0.4nm,0.4s,baz=254,slow=6.2,SNR=9.1							
MKAR	**Makanchi Array**	**145.42**	**39**	PKPbc		**PKPab**	**17 20 13.3**	**+1.3**
	comp=E,0.5nm,0.4s,baz=330,slow=2.8,SNR=8.4							

IDC 14 17:18:46.9±10.0,40°.24S×89°.09W,h0km,mb3.6/3, mb1 4.1/3,mb1mx3.8/16,mbtmp3.6/3,Error ellipse: s-maj=350.1km s-min=91.1km az=23.0,West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
H03N3	**Juan Fernandez**	**10.59**	**53**	T		T	17 36 32.2	
	baz=237,SNR=5.0							
H03N2	**Juan Fernandez**	**10.59**	**53**	T		T	17 36 19.2	
	baz=237,SNR=4.7							
H03N1	**Juan Fernandez**	**10.61**	**53**	T		T	17 36 21.0	
	baz=237,SNR=5.4							
TXAR	**Lajitas Array**	**70.53**	**347**	P		P	17 30 03.2	-0.3
	0.2nm,0.7s,baz=175,slow=6.4,SNR=4.1							
NVAR	**Mina Array Bea**	**82.74**	**337**	P		P	17 31 11.9	-0.7
	1.1nm,0.8s,baz=183,slow=3.6,SNR=2.2							
PDAR	**Pinedale Array**	**84.68**	**345**	P		P	17 31 23.8	+1.4
	0.5nm,0.7s,baz=140,slow=7.1,SNR=4.7							
BVAR	**Borovoye Array**	**161.06**	**41**	PKPab		PKPab	17 39 31.0	-0.6
	0.4nm,0.4s,baz=57,slow=5.3,SNR=3.9							

*ISCJB **14** 17:27:16.1±0.3,36°.22N±0°.02×77°.63E±0°.05,h96km, mb3.8/7,Error ellipse: s-maj=6.3km s-min=2.9km az=165.5*
*MOS **14** 17:27:18.9±1.0,36°.35N×77°.55E,h113km,mb4.1/4,Error ellipse: s-maj=20.5km s-min=6.1km az=103.7*
*BJI **14** 17:27:19.9,36°.50N×77°.70E,h117km,mb4.3/5*
*IDC **14** 17:27:22.8±2.9,36°.61N×77°.69E,h127km±26km,mb3.5/6, mb1 3.6/11,mb1mx3.3/28,mbtmp3.5/11,Error ellipse: s-maj=28.0km s-min=13.6km az=41.0*
*NNC **14** 17:27:24.9±3.2,37°.47N×77°.37E,h0km,mb4.0,mpv3.9, Error ellipse: s-maj=28.7km s-min=15.6km az=166.0*
ISC 14 17:27:17.5±0.6,36°.32N±0°.04×77°.62E±0°.06,h96km,n72, σ2§23/84,mb4.0/7,11C-8D,Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KSH	**Kashi**	**3.45**	**338**	P		**Pn**	**17 28 09.3**	**0.0**
KSH				S		**Sn**	**17 28 47.3**	**-2.0**
KSH				SMN				
	comp=Z,1μm,0.5s							
KSH				SME				
	comp=Z,1μm,0.5s							
THN	**Thein Dam**	**4.18**	**203**	*e*4		**Pn**	**17 28 17.5**	**-1.6**
THN				*e*S		**Sn**	**17 29 06.0**	**-0.9**
CHCP	**Chirah Chowk**	**4.45**	**235**	P		**Pn**	**17 28 23.4**	**+0.6**
SDNR	**Sundarnagar**	**4.84**	**187**	*e*4		**Pn**	**17 28 29.0**	**+1.0**
SDNR				*e*S		**Sn**	**17 29 20.0**	**-2.8**
SMLA	**Simla**	**5.19**	**184**	*i* P		**Pn**	**17 28 33.2**	**+0.4**
SMLA				*i* S		**Sn**	**17 29 26.4**	**-4.9**
SMLA				*i* S		**Sn**	**17 29 26.6**	**-4.8**
CEP	**Cherat**	**5.30**	**244**	P		**Pn**	**17 28 33.7**	**-0.7**
ULHL	**Ulahol**	**6.01**	**350**	*i* P		**Pn**	**17 28 47.2**	**+3.1**
ULHL	**Ulahol**	**6.01**	**350**	P		**Pn**	**17 28 47.1**	**+3.1**
	SNR=10							
KZA	**Kyzart**	**6.04**	**343**	*i* P		**Pn**	**17 28 46.6**	**+2.0**
KZA	**Kyzart**	**6.04**	**343**	P		**Pn**	**17 28 46.6**	**+2.0**
	SNR=15							
AML	**Almayashu**	**6.55**	**334**	*i* P		**Pn**	**17 28 53.6**	**+1.9**
AML	**Almayashu**	**6.55**	**334**	P		**Pn**	**17 28 53.5**	**+1.9**
	SNR=14							
KBK	**Karagaybulak**	**6.66**	**343**	*i* P		**Pn**	**17 28 55.1**	**+2.3**
KBK	**Karagaybulak**	**6.66**	**343**	P		**Pn**	**17 28 55.1**	**+2.3**
	SNR=14							
AAK	**Ala-Archa**	**6.75**	**340**	P		**Pn**	**17 28 56.3**	**+2.2**
AAK				S		**Sn**	**17 30 10.8**	**+1.2**
AAK				pmax		pmax		
	comp=Z,5.0nm,0.3s							
AAK				smax		smax		
	comp=N,3.0nm,0.3s							
AAK	**Ala-Archa**	**6.75**	**340**	P		**Pn**	**17 28 56.3**	**+2.2**
	SNR=22							
AAK	**Ala-Archa**	**6.75**	**340**	P		**Pn**	**17 28 56.3**	**+2.2**
	comp=N,4.9nm,0.3s,baz=147,slow=8.7,SNR=52							
AAK				S		**Sn**	**17 30 10.8**	**+1.2**
	comp=N,2.9nm,0.3s,baz=355,slow=22,SNR=18							
TKM2	**Tokmak 2**	**6.78**	**347**	⇑Pn		**Pn**	**17 28 53.2**	**-1.3**
	comp=N,7.0nm,0.4s							
TKM2				⇑Lg		Lg	17 30 21.6	
	comp=N,27nm,0.6s							
TKM2	**Tokmak 2**	**6.78**	**347**	*i* P		**Pn**	**17 28 56.6**	**+2.2**
TKM2	**Tokmak 2**	**6.78**	**347**	P		**Pn**	**17 28 56.6**	**+2.2**
	SNR=6.2							
FRU	**Bishkek**	**6.91**	**341**	*e*P		**Pn**	**17 28 58.0**	**+1.9**
FRU				*i* S		**Sn**	**17 30 15.5**	**+2.4**
FRU				smax		smax		
	comp=E,150nm,2.0s							
KNDC	**Almaty**	**6.91**	**356**	⇑Pn		**Pn**	**17 28 54.0**	**-2.1**
	comp=E,16nm,0.5s							
KNDC				⇓Lg		Lg	17 30 26.8	
	comp=E,55nm,0.7s							
EKS2	**Erkin-Say**	**7.00**	**336**	*i* P		Pn	17 29 01.8	+4.4
EKS2	**Erkin-Say**	**7.00**	**336**	P		Pn	17 29 01.8	+4.4
	SNR=5.8							
NDI	**New Delhi**	**7.62**	**183**	*e*4		**Pn**	**17 29 03.0**	**-2.9**
AYAN	**Aya Nagar**	**7.83**	**183**	*e*P		**Pn**	**17 29 06.9**	**-1.7**
AYAN				*e*S		Sn	17 30 25.7	-10
SONA	**Sohna**	**8.06**	**183**	*e*P		**Pn**	**17 29 10.5**	**-1.3**
SONA				*e*S		Sn	17 30 31.1	-10
SONA				AML		AML	17 30 35.9	
	comp=N,43nm,0.4s							
SONA				AML		AML	17 30 38.2	
	comp=E,50nm,0.3s							
KUDL	**Kundal**	**8.21**	**187**	*e*P		**Pn**	**17 29 12.5**	**-1.3**
KUDL				*e*S		Sn	17 30 35.8	-9.1
KUDL				AML		AML	17 30 45.9	
	comp=E,18nm,0.3s							
KUDL				AML		AML	17 30 46.9	
	comp=N,27nm,0.5s							
KHET	**Khetri**	**8.36**	**191**	*e*P		**Pn**	**17 29 14.1**	**-1.9**
KHET				*e*S		Sn	17 30 39.0	-10
KHET				AML		AML	17 30 40.9	
	comp=N,144nm,0.2s							
KHET				AML		AML	17 30 41.1	
	comp=E,202nm,0.5s							
KK31	**Karatay Array**	**8.71**	**323**	⇑Pn		**Pn**	**17 29 20.5**	**-0.1**
	comp=E,0.7nm,0.2s,baz=135,slow=12,SNR=17							
KK31				⇑Sn		**Sn**	**17 30 53.5**	**-3.5**
	comp=E,7.0nm,0.4s,baz=146,slow=22,SNR=11							
KK31	**Karatay Array**	**8.71**	**323**	*e*P		**Pn**	**17 29 20.5**	**-0.1**
KK31				pmax		pmax		
	comp=Z,3.0nm,0.2s							
DANN	**Dangsing**	**9.49**	**145**	*e*P		**Pn**	**17 29 29.6**	**-1.9**
	comp=Z,14nm,0.2s							
KOLN	**Koldanda**	**9.92**	**148**	*e*P		**Pn**	**17 29 35.6**	**-1.7**
	comp=Z,14nm,0.2s							
GKN	**Gorkha**	**10.20**	**142**	*e*P		**Pn**	**17 29 40.1**	**-1.0**
	comp=Z,39nm,0.3s							
KKN	**Kakani**	**10.70**	**140**	*e*P		**Pn**	**17 29 47.6**	**-0.3**
WMQ	**Urumqi**	**10.75**	**43**	P		**Pn**	**17 29 48.8**	**+0.4**
DMN	**Daman**	**10.76**	**142**	*e*P		**Pn**	**17 29 46.8**	**-2.0**
	comp=Z,20nm,0.3s							
GUN	**Gumba**	**10.92**	**138**	*e*P		**Pn**	**17 29 50.7**	**-0.3**
	comp=Z,15nm,0.4s							
PKIN	**Phulchoki**	**10.93**	**141**	*e*P		**Pn**	**17 29 49.2**	**-1.9**
	comp=Z,13nm,0.3s							
PKI	**Pulchoki**	**10.94**	**141**	*e*P		**Pn**	**17 29 50.5**	**-0.8**
	comp=Z,14nm,0.3s							
MK31	**Makanchi Array**	**11.03**	**17**	⇓Pn		**Pn**	**17 29 52.5**	**+0.3**
	comp=Z,3.7nm,0.2s,baz=196,slow=12,SNR=425							
MK31				⇓Sn		**Sn**	**17 31 48.4**	**-5.1**
	comp=Z,27nm,0.8s,baz=195,slow=21,SNR=22							
MK31	**Makanchi Array**	**11.03**	**17**	*e*P		**Pn**	**17 29 52.4**	**+0.3**
MK31				pmax		pmax		
	comp=Z,10.0nm,0.2s							
MKAR	**Makanchi Array**	**11.03**	**17**	P		**Pn**	**17 29 52.0**	**-0.2**
MKAR				S		**Sn**	**17 31 48.6**	**-4.9**
MKAR				pmax		pmax		
	comp=Z,8.0nm,0.3s							
MKAR				smax		smax		
	comp=N,3.0nm,0.3s							
MKAR	**Makanchi Array**	**11.03**	**17**	P		**Pn**	**17 29 52.0**	**-0.2**
	comp=N,8.3nm,0.3s,baz=199,slow=13,SNR=337							
MKAR				S		**Sn**	**17 31 48.6**	**-4.9**
	comp=N,2.8nm,0.3s,baz=200,slow=24,SNR=14							
JIRN	**Jiri**	**11.28**	**138**	*e*P		**Pn**	**17 29 53.9**	**-2.1**
	comp=N,36nm,0.4s							
RAMN	**Ramite**	**12.07**	**138**	*e*P		Pn	17 30 02.8	-3.6
	comp=N,56nm,0.7s							
TAPN	**Taplejung**	**12.38**	**133**	*e*P		**Pn**	**17 30 09.1**	**-1.5**
	comp=N,9.8nm,0.3s							
ODAN	**Odare**	**12.57**	**136**	*e*P		**Pn**	**17 30 10.4**	**-2.7**
	comp=N,19nm,0.4s							
KURBB	**Kurchatov Arra**	**14.31**	**2**	⇓Pn		**Pn**	**17 30 35.8**	**+0.4**
	comp=N,2.0nm,0.7s							
KURBB	**Kurchatov Arra**	**14.31**	**2**	P		**Pn**	**17 30 34.4**	**-1.1**
	comp=N,0.2nm,0.3s,baz=185,slow=13,SNR=6.8							
KURK	**Kurchatov**	**14.41**	**3**	*e*P		**P**	**17 30 39.1**	**-1.7**
KURK				pmax		pmax		
	comp=Z,4.0nm,2.5s							
VOSK	**Vostochnaya**	**17.06**	**346**	⇓Pn		**P**	**17 31 12.2**	**+2.0**
	comp=Z,0.2nm,0.3s							
BVA0	**Borovoye Array**	**17.46**	**345**	⇑Pn		**Pn**	**17 31 14.9**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=153,slow=11,SNR=4.0							
BVAR	**Borovoye Array**	**17.46**	**345**	P		**Pn**	**17 31 16.5**	**+1.8**
BVAR	**Borovoye Array**	**17.46**	**345**	P		**Pn**	**17 31 16.5**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=164,slow=12,SNR=4.3							
BRVK	**Borovoye**	**17.52**	**345**	⇓Pn		**Pn**	**17 31 15.9**	**+0.6**
	comp=Z,3.9nm,0.8s							
BRVK	**Borovoye**	**17.52**	**345**	*e*P		**Pn**	**17 31 17.3**	**+2.0**
BRVK				pmax		pmax		
	comp=Z,1.0nm,0.8s							
GTA	**Gaotai**	**17.79**	**73**	*e*P		Pn	17 31 25.4	+6.5
GTA				AMB		AMB		
	comp=Z,2.0nm,0.5s							
AB31	**Akbulak array**	**18.26**	**321**	⇓Pn		**Pn**	**17 31 24.8**	**+0.5**
	comp=Z,1.7nm,0.5s,baz=75,slow=4.3,SNR=43							
AB31				⇑Sn		S	17 34 36.7	-10
	comp=Z,0.8nm,0.5s,baz=124,slow=19,SNR=4.5							
AB31	**Akbulak array**	**18.26**	**321**	*e*P		**Pn**	**17 31 24.8**	**+0.5**
AB31				pmax		pmax		
	comp=Z,1.0nm,0.2s							
NVS	**Novosibirsk**	**18.92**	**10**	*e*P		Pn	17 31 39.2	+7.0
AKTO	**Aktyubinsk**	**19.97**	**321**	⇓Pn		**Pn**	**17 31 43.5**	**-1.0**
	comp=Z,4.9nm,1.1s							
AKTO	**Aktyubinsk**	**19.97**	**321**	P		**P**	**17 31 41.6**	**-0.3**
AKTO				S		**S**	**17 35 16.6**	**-4.5**
AKTO	**Aktyubinsk**	**19.97**	**321**	P		**P**	**17 31 41.6**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=116,slow=15,SNR=5.7							
AKTO				S		**S**	**17 35 16.6**	**-4.5**
	baz=196,slow=22,SNR=1.0							
SONM	**Songino Array**	**24.12**	**53**	P		**P**	**17 32 25.6**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=249,slow=9.3,SNR=2.3							
CMAR	**Chiang Mai Arr**	**25.88**	**128**	P		**P**	**17 32 42.6**	**+2.1**
	comp=Z,0.2nm,0.4s,baz=325,slow=11,SNR=4.7							
HHC	**Hu-ho-hao-te**	**26.81**	**70**	*e*P		**P**	**17 32 52.3**	**+3.5**
HHC				PP		**PnPn**	**17 33 36.8**	**+0.8**
HHC				S		**S**	**17 37 22.6**	**+4.6**
HHC				SS		**SnSn**	**17 38 35.0**	**+2.4**
HHC				AMB		AMB		
	comp=Z,25nm,1.0s							
BRTR	**Keskin Array B**	**34.56**	**289**	P		**P**	**17 33 58.8**	**+1.8**
	comp=Z,0.7nm,0.4s,baz=104,slow=8.0,SNR=6.1							
FINES	**FINESS Array B**	**40.67**	**325**	P		**P**	**17 34 49.4**	**+1.4**
	comp=Z,2.0nm,0.4s,baz=118,slow=9.3,SNR=12							
ARCES	**ARCESS Array B**	**43.41**	**336**	P		**P**	**17 35 12.0**	**+1.8**
	comp=Z,4.1nm,0.9s,baz=65,slow=5.8,SNR=5.6							
NB2	**NORSAR Subarra**	**47.74**	**323**	P		**P**	**17 35 45.1**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=91,slow=7.9							
NOA	**NORSAR Array B**	**47.74**	**323**	P		**P**	**17 35 45.2**	**+0.7**
	comp=Z,1.3nm,0.5s,baz=91,slow=7.7,SNR=6.1							

KRSC 14 17:27:45.2±4.0,53°.39N×159°.54E,h106km±76km,ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
NLC	**Nalytchevo**	**0.25**	**208**	S		Sn	17 28 12.8	+1.3
SDLR	**Sedlovina**	**0.41**	**254**	P		Pn	17 28 02.3	+1.1
SDLR				S		Sn	17 28 13.9	+0.7
SMAR	**Somma**	**0.46**	**254**	P		Pn	17 28 02.7	+1.1
SMAR				S		Sn	17 28 14.6	+0.7
UGLR	**Uglovaya**	**0.47**	**247**	P		Pn	17 28 03.1	+1.6
UGLR				S		Sn	17 28 14.9	+1.1
KRER	**Koryakskii**	**0.48**	**260**	P		Pn	17 28 03.0	+1.3
KRER				S		Sn	17 28 15.3	+1.2
AVH	**Avacha**	**0.50**	**256**	P		Pn	17 28 03.1	+1.4
AVH				S		Sn	17 28 15.4	+1.4
KRX	**Arik**	**0.54**	**267**	P		Pn	17 28 03.3	+1.3
KRX				S		Sn	17 28 15.1	+0.4
KOK	**Koryaka**	**0.55**	**260**	P		Pn	17 28 03.6	+1.5
KOK				S		Sn	17 28 15.6	+0.8
PET	**Petropavlovsk**	**0.65**	**236**	P		Pn	17 28 04.0	+1.3
PET				S		Sn	17 28 16.4	+0.6
KII	**Karymskiy**	**0.65**	**355**	P		Pn	17 28 03.9	+1.1
KII				S		Sn	17 28 17.3	+1.2
GNL	**Ganaly**	**1.00**	**288**	P		Pn	17 28 07.0	+0.8
GNL				S		Sn	17 28 22.4	+0.3
RUS	**Russkaya**	**1.14**	**213**	P		Pn	17 28 09.1	+1.5
RUS				S		Sn	17 28 26.4	+1.9
MTVR	**Mutnovka**	**1.23**	**223**	P		Pn	17 28 10.9	+2.2
MTVR				S		Sn	17 28 28.9	+2.4
ASAK	**Asacha**	**1.42**	**225**	P		Pn	17 28

RCP	**Roxas**	**4.47**	**347**	⇓*e*P		**Pn**	**17 30 03.7**	**+2.3**
RCP				*e*S		**Sn**	**17 30 56.4**	**+4.3**
CUYO	**Cuyo Island**	**4.55**	**324**	*e*P		**Pn**	**17 30 02.0**	**-0.5**
MYLDM	**Lahad Datu**	**5.60**	**250**	P		**Pn**	**17 30 18.5**	**+1.6**
MYLDM	**Lahad Datu**	**5.60**	**250**	P		**Pn**	**17 30 18.7**	**+1.8**
MYLDM	**Lahad Datu**	**5.60**	**250**	P		**Pn**	**17 30 18.5**	**+1.6**
SJMP	**San Jose**	**5.86**	**334**	*e*P		**Pn**	**17 30 20.6**	**+0.2**
ENPP	**El Nido**	**5.86**	**313**	*e*P		**Pn**	**17 30 19.9**	**-0.6**
BUSP	**Coron**	**5.94**	**324**	*e*P		**Pn**	**17 30 20.8**	**-0.8**
TSM	**Tawau**	**6.53**	**244**	P		**Pn**	**17 30 29.2**	**-0.5**
TSM	**Tawau**	**6.53**	**244**	P		**Pn**	**17 30 29.5**	**-0.1**
KMSI	**Cibinong** 322nm,0.7s,3μm1.2nm	**6.56**	**178**	P		**Pn**	**17 30 29.1**	**-1.1**
SDKM	**Sandakan**	**6.71**	**257**	P		**Pn**	**17 30 34.7**	**+2.5**
KDM	**Kudat**	**6.88**	**268**	P		Pn	17 30 39.3	+4.7
MRSI	**Marisa** 96nm,0.6s,4μm1.2nm	**6.90**	**195**	P		**Pn**	**17 30 33.4**	**-1.4**
KKM	**Kota Kinabalu**	**7.58**	**262**	P		**Pn**	**17 30 45.5**	**+1.2**
KKM	**Kota Kinabalu** baz=8.0,SNR=6.7	**7.58**	**262**	P		**Pn**	**17 30 46.0**	**+1.7**
LUWI	**Luwuk**	**8.23**	**187**	P		**Pn**	**17 30 53.6**	**+0.6**
APSI	**Ampana**	**8.31**	**195**	P		**Pn**	**17 30 55.1**	**+1.0**
PCI	**Palu**	**8.94**	**206**	P		Pn	17 31 08.9	+6.2
NLAI	**Namlea**	**10.87**	**162**	P		**Pn**	**17 31 27.8**	**-1.4**
BTM	**Bintulu**	**11.35**	**250**	P		**Pn**	**17 31 36.8**	**+1.1**
KKSI	**Kolaka, Sulawe**	**11.47**	**191**	P		Pn	17 31 42.0	+4.6
AAI	**Ambon** 49nm,1.0s	**11.66**	**158**	P		**Pn**	**17 31 39.8**	**-0.3**
BNSI	**Bone**	**12.07**	**198**	P		Pn	17 31 51.6	+6.0
SBUM	**Sibu**	**12.42**	**248**	P		**Pn**	**17 31 51.5**	**+1.1**
KAPI	**Kappang** comp=Z,179nm,18.5s,baz=295,slow=37	**12.76**	**198**	LR		LR	17 36 50.2	
KSM	**Kuching**	**14.56**	**248**	P		**Pn**	**17 32 20.9**	**+1.4**
SOEI	**Soe**	**16.83**	**178**	P		P	17 33 02.0	+12
SOEI	**Soe** baz=18,SNR=5.0	**16.83**	**178**	P		**P**	**17 32 53.0**	**+2.6**
BATI	**Baumata**	**17.27**	**180**	P		**P**	**17 32 56.8**	**+1.6**
BATI	**Baumata** 3.5nm,0.3s,baz=273,slow=1.0,SNR=18	**17.27**	**180**	P		**P**	**17 32 55.2**	**0.0**
BATI				LR		LR	17 41 11.9	
	comp=Z,137nm,18.0s,baz=145,slow=42							
KRKI	**Karangkates**	**18.96**	**217**	P		**Pn**	**17 33 19.0**	**+4.3**
SJI	**Sawahan** 56nm,0.7s	**19.04**	**219**	P		**Pn**	**17 33 17.2**	**+1.3**
BJII	**Banjamegara** 49nm,1.8s	**20.11**	**224**	P		Pn	17 33 29.7	+1.2
TGJI	**Tegal**	**20.20**	**227**	P		Pn	17 33 45.2	+16
KTGM	**Kuala Trenggan**	**20.59**	**266**	P		Pn	17 33 39.9	+5.7
KGM	**Kluang**	**21.01**	**257**	P		P	17 33 45.1	+9.0
MTN	**Manton Dam** baz=22,SNR=20	**21.20**	**160**	P		**P**	**17 33 37.6**	**-0.5**
KDU	**Kakadu** baz=22,SNR=29	**21.55**	**156**	P		**P**	**17 33 41.3**	**-0.5**
MDSI	**Maura Dua**	**22.72**	**240**	P		**P**	**17 33 56.7**	**+2.2**
KNRA	**Kununurra** baz=24,SNR=16	**23.24**	**168**	P		**P**	**17 33 59.1**	**-0.6**
PSI	**Prapat** baz=26,SNR=4.0	**25.12**	**261**	P		**P**	**17 34 18.5**	**+1.3**
PSI	**Prapat** 6.3nm,0.8s,baz=110,slow=6.3,SNR=5.4	**25.12**	**261**	P		**P**	**17 34 18.0**	**+0.8**
PSI				LR		LR	17 45 06.9	
	comp=Z,150nm,19.0s,baz=163,slow=38							
FITZ	**Fitzroy Crossi** baz=26,SNR=28	**25.19**	**176**	P		**P**	**17 34 16.8**	**-0.8**
FITZ	**Fitzroy Crossi** 10nm,0.7s,baz=8.5,slow=8.5,SNR=50	**25.19**	**176**	P		**P**	**17 34 16.7**	**-0.9**
FITZ				LR		LR	17 45 34.7	
	comp=Z,49nm,19.8s,baz=55,slow=40							
JCJ	**Chichijima** comp=Z,64nm,18.1s,baz=153,slow=33	**26.43**	**39**	LR		LR	17 43 18.1	
JNU	**Nakatsue** comp=Z,70nm,21.2s,baz=59,slow=32	**26.64**	**13**	LR		LR	17 43 22.6	
COEN	**Coen** baz=29,SNR=4.0	**28.50**	**137**	P		**P**	**17 34 46.7**	**-0.7**
WRA	**Warramunga Arr** 3.9nm,0.5s,baz=342,slow=9.2,SNR=73	**28.89**	**159**	P		**P**	**17 34 49.0**	**-1.9**
KSRS	**Korea Array** comp=Z,52nm,21.2s,baz=290,slow=39	**30.37**	**7**	LR		LR	17 48 37.3	
MJAR	**Matsushiro Arr** comp=Z,59nm,18.8s,baz=210,slow=35	**32.07**	**22**	LR		LR	17 47 33.8	
ASAR	**Alice Springs** 3.4nm,0.6s,baz=340,slow=6.7,SNR=60	**32.22**	**162**	P		**P**	**17 35 19.1**	**-1.2**
ASAR				PcP		**PcP**	**17 38 07.1**	**-1.1**
	1.1nm,0.9s,baz=0.0,slow=3.1,SNR=4.3							
MEEK	**Meekatharra** baz=35,SNR=4.5	**33.98**	**188**	P		**P**	**17 35 34.7**	**-0.9**
MORW	**Morawa** baz=38,SNR=3.7	**36.80**	**191**	P		**P**	**17 35 59.0**	**-0.7**
QLP	**Quilpie** baz=40,SNR=4.1	**38.99**	**150**	P		**P**	**17 36 17.4**	**-1.0**
STKA	**Stephens Creek** baz=43,SNR=21	**42.41**	**157**	P		**P**	**17 36 46.5**	**+0.1**
STKA	**Stephens Creek** 12nm,0.6s,baz=330,slow=7.7,SNR=24	**42.41**	**157**	P		**P**	**17 36 46.0**	**-0.5**
STKA				LR		LR	17 55 08.8	
	comp=Z,43nm,20.0s,baz=24,slow=37							
SONM	**Songino Array** comp=Z,43nm,18.8s,baz=211,slow=39	**43.13**	**343**	LR		LR	17 57 04.8	
CMSA	**Cobar Meteorol** baz=45,SNR=6.3	**43.84**	**153**	P		**P**	**17 36 58.5**	**+0.5**
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=144,slow=6.2,SNR=4.5	**53.06**	**325**	P		**P**	**17 38 08.5**	**-0.4**
MKAR				PcP		**PcP**	**17 39 16.5**	**-0.4**
	1.1nm,0.8s,baz=142,slow=4.9,SNR=3.0							
KURBB	**Kurchatov Arra** 0.5nm,0.8s,baz=123,slow=6.2,SNR=3.7	**57.26**	**327**	P		**P**	**17 38 38.5**	**-0.5**
BRTR	**Keskin Array B** 1.7nm,0.9s,baz=101,slow=5.2,SNR=6.9	**85.56**	**309**	P		**P**	**17 41 29.5**	**-0.6**
VNDA	**Vanda** 1.3nm,0.8s,baz=324,slow=6.6,SNR=7.8	**87.21**	**172**	P		**P**	**17 41 35.8**	**-1.3**
AKASG	**Malin Array Be** 0.2nm,0.3s,baz=71,slow=4.3,SNR=4.0	**87.37**	**321**	P		**P**	**17 41 37.4**	**-1.1**

IGQ 14 17:51:44.6, 1.16S×80.68W, h47km±165km, Mb4.2, Ms4.0, 5C-6D, Error ellipse: s-maj=4.6km s-min=2.2km az=2.5, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECV	**Mancha de Ca P**	**0.73**	**59**	⇓S	Sn	17 52 03.3	-5.8
PECV	**Mancha de Ca P**	**0.73**	**59**	⇓P	Pn	17 51 55.7	-3.0
JAMA	**Jama**	**1.01**	**28**	S	Sn	17 52 17.5	+1.8
JAMA	**Jama**	**1.01**	**28**	P	Pn	17 52 04.0	+1.5
MAG1	**Magdalena**	**1.41**	**49**	P	Pn	17 52 08.7	+0.8
GOLV	**Golondrinas**	**2.06**	**49**	S	Sn	17 52 40.3	-0.9
GOLV	**Golondrinas**	**2.06**	**49**	P	Pn	17 52 17.6	+0.8
IGUA	**Igualata**	**2.07**	**99**	P	Pn	17 52 17.9	+0.3
BMAS	**Trigal station**	**2.23**	**99**	P	Pn	17 52 20.6	+1.1
JUI6	**Juive**	**2.23**	**97**	P	Pn	17 52 20.8	+1.3
ARRY	**Arrayan**	**2.25**	**99**	S	Sn	17 52 46.0	-0.8
ARRY	**Arrayan**	**2.25**	**99**	P	Pn	17 52 20.4	+0.6
RETU	**Refugio**	**2.25**	**97**	P	Pn	17 52 21.5	+1.4
BMOR	**Cotopaxi Volca**	**2.26**	**79**	P	Pn	17 52 20.8	+0.5
PAT1	**Patacocha**	**2.27**	**99**	S	Sn	17 52 47.3	-0.1
PAT1	**Patacocha**	**2.27**	**99**	P	Pn	17 52 21.2	+1.0
RUN5	**Runtun**	**2.27**	**96**	S	Sn	17 52 50.2	+3.1
RUN5	**Runtun**	**2.27**	**96**	P	Pn	17 52 21.8	+1.7
BPAT	**Tungurahua Vol**	**2.27**	**99**	⇑S	Sn	17 52 46.9	-0.6
BPAT	**Tungurahua Vol**	**2.27**	**99**	⇑P	Pn	17 52 21.0	+0.8
JUA2	**San Juan 2**	**2.28**	**66**	P	Pn	17 52 20.6	+0.3
BRUN	**Tungurahua Vol**	**2.28**	**97**	S	Sn	17 52 50.0	+2.5
BRUN	**Tungurahua Vol**	**2.28**	**97**	P	Pn	17 52 21.8	+1.5
BULB	**Ulba Tungurahu**	**2.29**	**97**	⇓P	Pn	17 52 21.9	+1.6
ULBA	**Ulba**	**2.29**	**97**	P	Pn	17 52 21.9	+1.5
TERV	**Terraza Guagua**	**2.29**	**65**	P	Pn	17 52 21.7	+1.0
PISA	**Pisayambo**	**2.29**	**88**	⇓P	Pn	17 52 21.8	+1.2
PINO	**Pino**	**2.30**	**64**	⇑P	Pn	17 52 20.5	-0.3
GGP	**Refugio Guagua**	**2.30**	**65**	P	Pn	17 52 20.7	-0.1
BVC2	**Cotopaxi Volca**	**2.32**	**78**	P	Pn	17 52 22.1	+1.0
PITA	**Cotopaxi Volc**	**2.32**	**75**	⇑S	Sn	17 52 50.2	+1.4
PITA	**Cotopaxi Volc**	**2.32**	**75**	⇑P	Pn	17 52 22.4	+1.4
BTAM	**Cotopaxi Volca**	**2.33**	**78**	P	Pn	17 52 22.1	+0.9
VC1	**Cotopaxi 1**	**2.33**	**77**	P	Pn	17 52 23.0	+1.8
COV1	**Cotopaxi Volc**	**2.39**	**78**	P	Pn	17 52 21.8	-0.3
ANTI	**Antisana**	**2.61**	**74**	⇓P	Pn	17 52 27.0	+1.9
OTAV	**Otavalo**	**2.62**	**58**	P	Pn	17 52 25.5	+0.4
CAYR	**Refugio Cayamb**	**2.92**	**66**	P	Pn	17 52 32.0	+2.6
CAYA	**Cayambe**	**2.95**	**66**	⇓P	Pn	17 52 31.8	+2.0

*SZGRF **14** 18:00:16.7, 16°.29S×175°.30W, h33km, mb6.4, Tonga Islands*
*BJI **14** 18:00:19.9, 14°.90S×174°.80W, h10km, mB6.0/43, mb5.3/28, Ms6.3/48, Ms7 6.2/45*
*ISCJB **14** 18:00:20.8±0.1, 14°.93S±0°.04×174°.76W±0°.02, h10km, mb5.4/158, MS6.1/75, Error ellipse: s-maj=6.1km s-min=2.7km az=161.9*
*NEIC **14** 18:00:21.8±0.2, 14°.91S×174°.82W, h10km, mb5.7/99, MS6.0/11, MW6.1, MW6.3, Error ellipse: s-maj=9.3km s-min=4.9km az=143.0, Moment Tensor Solution. s52 Moment tensor: Scale 10^{18}Nm; M_{rr}0.00; $M_{\theta\theta}$-0.73; $M_{\phi\phi}$0.73; $M_{r\theta}$0.09; $M_{r\phi}$ 1.80; $M_{\theta\phi}$0.25; Best double couple: M_o2.00000×10^{18} NP1:ϕ_s79.00000°, δ83.00000°, λ4.00000°. NP2:ϕ_s349.00000°, δ86.00000°, λ173.00000°. Principal axes: T 1.9700, Plg7.0000°, Azm303.0000°; N -0.0300, Plg82.0000°, Azm139.0000°; P -1.9500, Plg2.0000°, Azm34.0000°;*
*IDC **14** 18:00:22.0±0.5, 14°.50S×174°.95W, h0km, mb4.8/22, mb1 4.9/23, mb1mx4.9/23, mbtmp4.8/23, ML4.0/1, MS5.9/21, Ms1 5.9/21, ms1mx5.8/22 Error ellipse: s-maj=19.5km s-min=12.8km az=157.0*
*MOS **14** 18:00:24.3±1.5, 14°.87S×174°.92W, h33km, mb5.7/43, MS6.1/27, Error ellipse: s-maj=9.7km s-min=6.7km az=47.4*
*AUST **14** 18:00:27.1±8.8, 14°.87S×175°.18W, h1km, Error ellipse: s-maj=2.0km s-min=1.7km az=20.0*
*GCMT **14** 18:00:29.3±0.1, 14°.90S×174°.61W, h13km, MW6.2, Moment Tensor Solution. s116,c274; s99,c193; Moment tensor: Scale 10^{18}Nm; M_{rr}0.06±.01; $M_{\theta\theta}$-0.93±.01; $M_{\phi\phi}$0.88±.01; $M_{r\theta}$-0.28±.03; $M_{\theta\phi}$2.59±.01; $M_{r\phi}$0.45±.04; Best double couple: M_o2.80000×10^{18} NP1:ϕ_s171.00000°, δ86.00000°, λ-170.00000°. NP2: ϕ_s80.00000°, δ80.00000°, λ-4.00000°. Principal axes: T 2.7300, Plg4.0000°, Azm305.0000°; N 0.1200, Plg79.0000°, Azm190.0000°; P -2.8500, Plg10.0000°, Azm36.0000°; Data Used: II IU CN IC G. Mantle waves from 102 sta. Surface waves: sta=125, comp=282, per=50.*
*DJA **14** 18:00:34.4±0.5, 16°.5s6°×17°.5W±°, h57km, M5.5/8, mB6.2/4, mb5.3/8, Mw(mB)5.8/4*
*NEIC **14** 18:00:43.7±0.0, 14°.89S×174°.83W, h10km, Moment Tensor Solution. s135 Moment tensor: Scale 10^{18}Nm; M_{rr}0.00; $M_{\theta\theta}$-0.68; $M_{\phi\phi}$0.69; $M_{r\theta}$-0.44; $M_{\theta\phi}$2.47; $M_{r\phi}$2.15; Best double couple: M_o3.40000×10^{18} NP1:ϕ_s172.00000°, δ89.00000°, λ-138.00000°. NP2:ϕ_s81.00000°, δ49.00000°, λ0.00000°. Principal axes: T 3.3000, Plg26.0000°, Azm299.0000°; N 0.1400, Plg49.0000°, Azm172.0000°; P -3.4400, Plg27.0000°, Azm44.0000°;*

ISC 14 18:00:23.0±0.3, 14.94S±0.05×174.80W±0.04, h12km±1km, h12km:pP-P, n1165, s1573/1160, mb5.5/158, MS6.2/77, 197C-216D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.10**	**71**	Pn	Pn	18 01 03.2	-8.6
AFI				Sn	Sn	18 01 42.0	-6.8
AFI	**Afiamalu** 208nm,0.3s,baz=32,slow=1.3,SNR=61	**3.10**	**71**	Pn	Pn	18 01 03.2	-8.6
AFI				Sn	Sn	18 01 42.0	-6.8
	737nm,0.3s,baz=110,slow=23,SNR=7.3						
AFI				LR	LR	18 02 23.8	
	comp=Z,120μm,20.1s,baz=252,slow=39						
MSVF	**Nonsavu**	**7.41**	**247**	*e*P	**Pn**	**18 02 12.7**	**+1.7**
MSVF				pmax	pmax		
	comp=Z,520nm,1.3s						
MSVF	**Nonsavu** comp=Z,520nm,1.3s	**7.41**	**247**	*e*P	**Pn**	**18 02 12.7**	**+1.7**
MSVF	**Nonsavu**	**7.41**	**247**	Pn	Pn	18 02 14.7	+3.7
	comp=Z,902nm,1.0s,SNR=9.8						
RAR	**Rarotonga** comp=Z,1μm,1.8s	**15.58**	**116**	*e*P	Pn	18 03 57.2	-5.3
RAR	**Rarotonga**	**15.58**	**116**	Pn	**Pn**	**18 03 58.8**	**-3.7**
	comp=Z,4.0nm,0.3s,baz=235,slow=0.0,SNR=5.4						
DZM	**Mont Dzumac** comp=Z,1μm,1.4s	**19.14**	**245**	*e*P	**P**	**18 04 45.5**	**-0.8**
DZM				*e*LR	LR	18 09 13.6	
	comp=Z,92μm,29.8s						
DZM	**Mont Dzumac**	**19.14**	**245**	P	**Pn**	**18 04 47.3**	**+0.2**
DZM	**Mont Dzumac**	**19.14**	**245**	P	**Pn**	**18 04 47.3**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=75,slow=16,SNR=13						
TARA	**Tarawa** comp=Z,448nm,1.2s	**20.24**	**322**	*e*P	**P**	**18 04 57.9**	**-0.3**
URZ	**Urewera** comp=Z,151nm,1.0s	**24.31**	**196**	*e*P	**P**	**18 05 38.3**	**-2.0**
URZ	**Urewera**	**24.31**	**196**	P	**P**	**18 05 38.3**	**-2.0**
	comp=Z,26nm,0.8s,baz=270,slow=4.7,SNR=5.2						
PAE	**Paea** comp=Z,43nm,1.3s	**24.35**	**100**	*e*P	**P**	**18 05 39.3**	**-1.7**
PPT	**Papeete**	**24.35**	**100**	P	**P**	**18 05 44.1**	**+3.1**
PPT	**Papeete**	**24.35**	**100**	P	**P**	**18 05 44.1**	**+3.1**
	comp=Z,28nm,0.4s,baz=286,slow=7.4,SNR=3.3						
PPT				LR	LR	18 12 47.6	
	comp=Z,9μm,21.9s,baz=270,slow=30						
PPT2	**Papeete2** comp=Z,192nm,1.4s	**24.35**	**100**	*e*P	**P**	**18 05 39.6**	**-1.5**
PPT2				*e*LQ	LQ	18 10 27.4	
	comp=Z,148μm,27.0s						
PPT2				*e*LR	LR	18 11 31.4	
	comp=Z,53μm,28.0s						
TIAR	**Tiarei** comp=Z,88nm,0.9s	**24.57**	**100**	*e*P	**P**	**18 05 41.6**	**-1.4**
TVO	**Taravao** comp=Z,60nm,1.3s	**24.67**	**100**	*e*P	**P**	**18 05 42.5**	**-1.4**
HNR	**Honiara**	**25.27**	**280**	P	**P**	**18 05 47.0**	**-2.4**
HNR	**Honiara**	**25.27**	**280**	P	**P**	**18 05 46.9**	**-2.4**
	comp=Z,23nm,0.8s,baz=120,slow=8.1,SNR=4.7						
HNR				LR	LR	18 14 43.8	
	comp=Z,17μm,18.5s,baz=122,slow=34						
TBI	**Tubuai** comp=Z,693nm,1.3s	**25.32**	**113**	*e*P	**P**	**18 05 48.3**	**-1.4**
TBI				*e*LQ	LQ	18 10 54.4	
	comp=Z,98μm,28.0s						
TBI				*e*LR	LR	18 12 04.3	
	comp=Z,70μm,28.2s,baz=288						
PMOR	**Pomariorio Ree** comp=Z,580nm,1.3s	**25.98**	**94**	*e*P	**P**	**18 05 54.8**	**-1.0**
VAH	**Vaihoa** comp=Z,287nm,1.3s	**26.23**	**94**	*e*P	**P**	**18 05 57.6**	**-0.4**
KHZ	**Kahutara** comp=Z,137nm,1.5s	**29.17**	**198**	*e*P	**P**	**18 06 23.6**	**-0.5**
RPZ	**Rata Peaks**	**31.12**	**200**	P	P	18 06 46.6	+5.2
RPZ	**Rata Peaks**	**31.12**	**200**	P	P	18 06 46.6	+5.2
	comp=Z,5.9nm,0.9s,baz=20,slow=15,SNR=3.0						
RPZ				LR	LR	18 18 29.6	
	comp=Z,7μm,19.5s,baz=27,slow=34						
RMQ	**Roma** baz=36,SNR=9.2	**35.85**	**245**	⇑P	**P**	**18 07 20.6**	**-2.3**
CTA	**Charters Tower**	**37.44**	**256**	P	**P**	**18 07 37.9**	**+1.5**
CTA	**Charters Tower**	**37.44**	**256**	P	**P**	**18 07 37.9**	**+1.5**
	comp=Z,11nm,1.0s,baz=73,slow=12,SNR=11						
CTA				LR	LR	18 20 37.7	
	comp=Z,11μm,20.2s,baz=83,slow=32						
CTAO	**Charters Tower**	**37.44**	**256**	*e*P	**P**	**18 07 37.5**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,203nm,1.6s						
CTAO	**Charters Tower** comp=Z,203nm,1.6s	**37.44**	**256**	*e*P	**P**	**18 07 37.5**	**+1.1**
PMG	**Port Moresby** comp=Z,61nm,2.4s,comp=Z,3μm	**37.56**	**274**	P	**P**	**18 07 37.9**	**+0.4**
PMG	**Port Moresby** comp=Z,209nm,1.7s	**37.56**	**274**	*e*P	**P**	**18 07 36.2**	**-1.2**
PMG	**Port Moresby** comp=Z,6.1nm,0.9s,baz=106,slow=6.0,SNR=4.7	**37.56**	**274**	P	**P**	**18 07 37.8**	**+0.3**
PMG				LR	LR	18 21 40.6	
	comp=Z,28μm,18.9s,baz=114,slow=34						
H11S2	**WAKE ISLAND Hy** baz=153,slow=0.7,SNR=244	**37.89**	**331**	T	T	18 48 04.1	
H11S3	**WAKE ISLAND Hy** baz=153,slow=0.7,SNR=56	**37.90**	**331**	T	T	18 48 05.1	
H11S1	**WAKE ISLAND Hy** baz=153,slow=0.7,SNR=62	**37.91**	**331**	T	T	18 48 05.1	
CNB	**Canberra Magne** baz=38,SNR=5.3	**37.98**	**231**	⇑P	P	18 07 37.9	-2.9
CAN	**Canberra**	**38.25**	**231**	*e*P	**P**	**18 07 41.9**	**-1.3**
CAN				pmax	pmax		
	comp=Z,58nm,1.1s						
CAN	**Canberra** comp=Z,58nm,1.1s	**38.25**	**231**	*e*P	**P**	**18 07 41.9**	**-1.3**
RKT	**Rikitea** comp=Z,200nm,1.3s	**38.42**	**108**	*e*P	**P**	**18 07 43.6**	**-1.0**
RKT				*e*S	**S**	**18 13 39.7**	**+0.1**
	comp=Z,4μm,30.8s						
RKT				*e*LQ	LQ	18 16 34.4	
	comp=Z,19μm,26.8s						
RKT				*e*LR	LR	18 18 05.5	
	comp=Z,33μm,28.8s,baz=283						
WAKE	**Wake Island** comp=Z,914nm,2.1s	**38.60**	**331**	*e*P	**P**	**18 07 45.1**	**-0.9**
H11N3	**WAKE ISLAND Hy** baz=153,slow=0.7,SNR=5020	**38.86**	**332**	T	T	18 49 01.6	
H11N1	**WAKE ISLAND Hy** baz=153,slow=0.7,SNR=3850	**38.86**	**332**	T	T	18 49 01.7	
H11N2	**WAKE ISLAND Hy** baz=153,slow=0.7,SNR=4421	**38.88**	**332**	T	T	18 49 02.8	
MTSU	**Mount Surprise** baz=39,SNR=23	**39.27**	**260**	⇓P	**P**	**18 07 49.9**	**-2.0**
MANU	**Manus Island** baz=39,SNR=3.9	**39.47**	**285**	⇑P	**P**	**18 07 54.2**	**+0.6**
HON	**Honolulu**	**39.63**	**25**	P	**P**	**18 07 57.0**	**+2.3**
HON	**Honolulu**	**39.63**	**25**	P	**P**	**18 07 57.0**	**+2.3**
CMSA	**Cobar Meteorol** baz=39,SNR=8.3	**39.64**	**238**	⇑P	P	18 07 51.2	-3.6
KIP	**Kipapa**	**39.71**	**25**	⇓*i*P	**P**	**18 07 55.5**	**+0.1**
KIP				pmax	pmax		
	comp=Z,63nm,1.1s						
KIP	**Kipapa** comp=Z,168nm,1.2s	**39.71**	**25**	*e*P	**P**	**18 07 55.4**	**0.0**
QLP	**Quilpie** baz=40,SNR=6.9	**39.86**	**246**	⇑P	**P**	**18 07 54.1**	**-2.6**
COEN	**Coen** comp=Z,333nm,1.0s	**40.67**	**266**	*e*P	**P**	**18 08 02.6**	**-0.9**
COEN	**Coen** baz=40,SNR=7.1	**40.67**	**266**	⇑P	**P**	**18 08 03.5**	**-0.1**
TAU	**Tasmania Unive**	**42.75**	**222**	*e*P	**P**	**18 08 19.0**	**-1.2**
TAU				pmax	pmax		
	comp=Z,65nm,1.3s						
TAU	**Tasmania Unive** comp=Z,65nm,1.3s	**42.75**	**222**	*e*P	**P**	**18 08 19.0**	**-1.2**
STKA	**Stephens Creek** comp=Z,18nm,1.3s	**43.10**	**239**	*e*P	**P**	**18 08 20.4**	**-2.9**
STKA	**Stephens Creek** baz=43,SNR=6.5	**43.10**	**239**	⇓P	**P**	**18 08 21.1**	**-2.2**
STKA	**Stephens Creek** comp=Z,14nm,0.9s,baz=66,slow=6.6,SNR=5.6	**43.10**	**239**	P	**P**	**18 08 22.9**	**-0.3**
STKA				LR	LR	18 24 31.7	
	comp=Z,6μm,19.5s,baz=188,slow=34						
MCQ	**Macquarie Isla**	**44.45**	**202**	P	**P**	**18 08 33.3**	**-0.4**
MCQ				pmax	pmax		
	comp=Z,10μm,1.3s						
MCQ	**Macquarie Isla** comp=Z,10μm,1.3s	**44.45**	**202**	P	**P**	**18 08 33.3**	**-0.4**
JAY	**Jayapura** comp=Z,58nm,2.8s,comp=Z,4μm	**45.58**	**281**	P	**P**	**18 08 43.7**	**+0.4**
BBOO	**Buckleboo** comp=Z,2μm,1.4s	**47.88**	**239**	*e*P	P	18 08 57.7	-3.4
WRAB	**Tennant Creek**	**48.63**	**256**	*e*P	**P**	**18 09 05.0**	**-2.1**
WRAB				pmax	pmax		
	comp=Z,79nm,1.3s						
WRAB	**Tennant Creek** comp=Z,79nm,1.3s	**48.63**	**256**	*e*P	**P**	**18 09 05.0**	**-2.1**
WRA	**Warramunga Arr**	**48.64**	**256**	P	P	18 09 04.0	-3.2
WRA	**Warramunga Arr**	**48.64**	**256**	P	P	18 09 04.0	-3.2
	comp=Z,3.1nm,1.0s,baz=86,slow=6.9,SNR=8.8						
WRA				LR	LR	18 27 35.1	
	comp=Z,22μm,21.1s,baz=80,slow=34						
AS31	**Alice Springs**	**48.97**	**252**	*e*P	P	18 09 06.6	-3.1
ASAR	**Alice Springs**	**48.97**	**252**	P	**P**	**18 09 06.9**	**-2.9**
ASAR	**Alice Springs** comp=Z,9.7nm,0.8s,baz=86,slow=8.2,SNR=44	**48.97**	**252**	P	**P**	**18 09 06.9**	**-2.9**
ASAR				LR	LR	18 28 09.8	
	comp=Z,16μm,21.6s,baz=89,slow=34						
SRPI	**Serui, Papua**	**50.01**	**280**	P	**P**	**18 09 19.6**	**+1.9**
BAKI	**Biak**	**50.35**	**281**	P	**P**	**18 09 21.0**	**+0.7**
KDU	**Kakadu** baz=51,SNR=6.1	**51.16**	**266**	⇓P	**P**	**18 09 24.6**	**-1.8**
TLE	**Tual**	**52.33**	**274**	P	**P**	**18 09 36.0**	**+0.9**
MTN	**Manton Dam** baz=52,SNR=9.4	**52.43**	**265**	⇑P	**P**	**18 09 34.4**	**-1.4**
SWI	**Sorong**	**55.06**	**280**	P	**P**	**18 09 55.1**	**0.0**
SWI	**Sorong** baz=55,SNR=13	**55.06**	**280**	⇓P	**P**	**18 09 54.2**	**-1.0**
BNDI	**Bandanaira**	**55.34**	**275**	P	**P**	**18 09 58.4**	**+1.2**
FITZ	**Fitzroy Crossi** comp=Z,88nm,1.4s	**56.99**	**258**	*e*P	**P**	**18 10 08.0**	**-0.9**
FITZ	**Fitzroy Crossi** baz=57,SNR=9.3	**56.99**	**258**	⇑P	**P**	**18 10 07.3**	**-1.6**
AAI	**Ambon**	**57.21**	**275**	P	**P**	**18 10 10.7**	**+0.2**
NLAI	**Namlea**	**58.38**	**275**	P	**P**	**18 10 18.3**	**-0.4**
LBMI	**Labuha**	**58.72**	**278**	P	**P**	**18 10 22.4**	**+1.3**
JCJ	**Chichijima** comp=Z,28μm,19.8s,baz=134,slow=32	**59.07**	**315**	LR	LR	18 31 52.0	
TNTI	**Ternate**	**59.26**	**280**	P	**P**	**18 10 26.1**	**+1.2**
SOEI	**Soe**	**59.60**	**267**	P	**P**	**18 10 27.2**	**-0.2**
BATI	**Baumata**	**60.10**	**267**	P	**P**	**18 10 31.6**	**+0.9**
RPN	**Rapa Nui**	**61.71**	**113**	PFAKE		18 10 50.0	+8.6
RPN				LR	LR		
	comp=Z,4μm,20.0s						
MMRI	**Maumere**	**61.79**	**268**	P	**P**	**18 10 43.0**	**+0.8**
SGSI	**Sangihe**	**61.92**	**282**	P	**P**	**18 10 44.3**	**

	YUK	**Yuzh-Kuril'sk**	**68.80**	**331**	*c*	*i*P		P	18 11 20.9	-6.0	
	YUK					*i* S		**S**	**18 20 24.7**	**-5.7**	
	YUK					*i* SS		SS	18 24 45.6	-10	
	YUK					pmax		pmax			
		comp=Z,736nm,1.9s									
MYLDM	**Lahad Datu**		**69.04**	**282**		P		**P**	**18 11 31.5**	**+2.4**	
	ABJI	**Asem Bagus**	**69.71**	**267**		P		**P**	**18 11 33.6**	**+0.3**	
	KMMI	**Kalianget**	**70.13**	**268**		P		**P**	**18 11 37.8**	**+1.9**	
	SKR	**Severo-Kuril's**	**70.14**	**341**		*e*P		**P**	**18 11 35.0**	**-0.1**	
	SKR					*e*S		**S**	**18 20 46.0**	**0.0**	
	SKR					*e*PS		PnS	18 21 35.0	+22	
	SKR					*e*SSS		SSS	18 28 16.0		
	SKR					pmax		pmax			
		comp=Z,2µm,6.0s									
	SKR					smax		smax			
		comp=N,5µm,14.0s									
	SKR					smax		smax			
		comp=E,3µm,14.0s									
	SKR					MLR		MLR			
		comp=N,6µm,18.0s									
	SKR					MLR		MLR			
		comp=E,3µm,18.0s									
	SKR					MLR		MLR			
		comp=Z,6µm,18.0s									
	BLJI	**Banyuglugur**	**70.33**	**267**		P		**P**	**18 11 40.3**	**+3.2**	
	GMJI	**Gumukmas**	**70.36**	**266**		P		**P**	**18 11 40.2**	**+2.9**	
	ASAJ	**Asahikawa**	**70.45**	**329**		*e*P		**P**	**18 11 36.6**	**-0.5**	
		comp=Z,45nm,1.3s									
	JNU	**Nakatsue**	**70.50**	**314**		P		**P**	**18 11 40.3**	**+2.5**	
		comp=Z,49nm,1.6s									
	MTKI	**Muara Teweh, K**	**70.74**	**274**		P		**P**	**18 11 41.5**	**+1.9**	
	BCPH	**Baguio City Da**	**70.98**	**293**	⇓	*i*P		**P**	**18 11 41.3**	**+0.1**	
	H06S1	**SOCORRO T**	**71.21**	**64**		T		T	19 29 33.5		
		SNR=17									
	H06E1	**SOCORRO T-PHAS**	**71.26**	**64**		T		T	19 29 35.5		
		SNR=21									
	KRKI	**Karangkates**	**71.34**	**266**		P		P	18 11 57.6	+14	
	PET	**Petropavlovsk**	**71.45**	**343**		*e*P		**P**	**18 11 42.7**	**-0.3**	
	PET					*e*			18 14 26.5		
	PET					*e*S		**S**	**18 21 00.3**	**-0.8**	
	PET					*e*SS		**SS**	**18 25 38.5**	**+2.1**	
	PET					pmax		pmax			
		comp=Z,42nm,1.3s									
	PET					pmax		pmax			
		comp=Z,300nm,15.0s									
	PET					pmax		pmax			
		comp=Z,500nm,13.2s									
	PET					MLR		MLR			
		comp=Z,4µm,18.0s									
	KKM	**Kota Kinabalu**	**71.47**	**282**		P		P	18 11 48.1	+4.0	
	SCI	**San Clemente I**	**71.78**	**47**	⇓	P		**P**	**18 11 45.1**	**-0.4**	
		baz=72									
	PKM	**Peak Mountain**	**71.94**	**45**	⇓	P		**P**	**18 11 46.3**	**-0.3**	
		baz=72									
	PWJI	**Pagerwojo**	**72.00**	**266**		P		**P**	**18 11 50.3**	**+3.1**	
	BLG	**Laguna Peak**	**72.03**	**46**	⇓	P		**P**	**18 11 46.6**	**-0.4**	
		baz=72									
	SMMC	**Simmler**	**72.04**	**45**		P		**P**	**18 11 47.2**	**+0.1**	
		baz=72									
	SJI	**Sawahan**	**72.10**	**267**		P		P	18 11 51.2	+3.2	
	CIS	**Catalina Islan**	**72.11**	**47**	⇑	P		**P**	**18 11 47.3**	**-0.3**	
		baz=72									
	FMP	**Fort Macarthur**	**72.35**	**47**	⇓	P		**P**	**18 11 48.9**	**0.0**	
		baz=72									
	YSS	**Yuzh-Sakhalins**	**72.42**	**331**	⇑	*i*P		**P**	**18 11 48.4**	**-0.6**	
	YSS					*e**SP		**sP**	**18 11 54.2**	**-0.3**	
	YSS					*e*			18 12 01.8		
	YSS					*e*			18 14 30.0		
	YSS					*e*PPP		PPP	18 16 20.0		
	YSS					*e*S		**S**	**18 21 08.0**	**-4.6**	
	YSS					*e*PPS		PPS	18 21 46.0		
	YSS					pmax		pmax			
		comp=Z,50nm,1.1s									
	NGJI	**Ngawi**	**72.48**	**267**		P		P	18 11 56.2	+6.1	
	OSI	**Osito Adit**	**72.54**	**46**	⇓	P		**P**	**18 11 49.8**	**-0.3**	
		baz=73									
	PCJI	**Pacitan**	**72.57**	**266**		P		**P**	**18 11 52.7**	**+2.1**	
	DECC	**Green Verdugo**	**72.61**	**46**	⇑	P		**P**	**18 11 50.1**	**-0.4**	
		baz=73									
	ARVC	**Arvin**	**72.74**	**45**	⇓	P		**P**	**18 11 50.5**	**-0.7**	
		baz=73									
	109C	**Camp Elliot, M**	**72.77**	**48**	⇑	P		**P**	**18 11 50.2**	**-1.2**	
		baz=73									
	MWC	**Mount Wilson**	**72.79**	**46**		*e*P		**P**	**18 11 50.2**	**-1.6**	
	MWC					pmax		pmax			
		comp=Z,35nm,1.0s									
	MWC	**Mount Wilson**	**72.79**	**46**		*e*P		**P**	**18 11 50.1**	**-1.6**	
		comp=Z,35nm,1.0s									
	VES	**Vestal, Richgr**	**72.96**	**45**	⇓	P		**P**	**18 11 51.8**	**-0.7**	
		baz=73,SNR=5.8									
	BAR	**Barrett**	**72.97**	**49**		*e*P		**P**	**18 11 51.3**	**-1.4**	
		comp=Z,93nm,1.9s									
	MURC	**Murrieta**	**73.07**	**47**	⇓	P		**P**	**18 11 52.9**	**-0.3**	
		baz=73									
	BFSC	**Mount Baldy Ra**	**73.08**	**47**	⇓	P		**P**	**18 11 53.1**	**-0.3**	
		baz=73									
	EDW2	**Edwards Air Fo**	**73.19**	**46**	⇑	P		**P**	**18 11 53.4**	**-0.6**	
		baz=73,SNR=12									
	MONP	**Monument Peak**	**73.26**	**48**	⇓	P		**P**	**18 11 54.1**	**-0.5**	
		baz=73									
	ISA	**Isabella**	**73.28**	**45**		*e*P		**P**	**18 11 53.3**	**-1.2**	
	ISA					pmax		pmax			
		comp=Z,262nm,1.9s									
	ISA	**Isabella**	**73.28**	**45**		*e*P		**P**	**18 11 53.3**	**-1.2**	
		comp=Z,262nm,1.9s									
	ISA	**Isabella**	**73.28**	**45**	⇓	P		**P**	**18 11 54.0**	**-0.5**	
		baz=73									
	ISA				⇓	S		**SKiKP**	**18 21 24.9**	**-1.4**	
		baz=73									
	CMB	**Columbia Colle**	**73.32**	**42**		*e*P		**P**	**18 11 53.7**	**-0.9**	
	CMB					pmax		pmax			
		comp=Z,87nm,1.4s									
	CMB	**Columbia Colle**	**73.32**	**42**		*e*P		**P**	**18 11 53.7**	**-0.9**	
		comp=Z,87nm,1.4s									
	DVTC	**Desert V Tower**	**73.38**	**49**	⇑	P		**P**	**18 11 54.8**	**-0.3**	
		baz=74									
	PBKI	**Pangkalan Bun**	**73.40**	**272**		P		**P**	**18 11 56.2**	**+0.6**	
	WDC	**Whiskeytown Da**	**73.46**	**39**		*e*P		**P**	**18 11 55.9**	**+0.5**	
	WDC					pmax		pmax			
		comp=Z,124nm,1.6s									
	WDC	**Whiskeytown Da**	**73.46**	**39**		*e*P		**P**	**18 11 55.9**	**+0.5**	
		comp=Z,124nm,1.6s									
	PFO	**Pinyon Flat Ob**	**73.61**	**48**		P		**P**	**18 11 57.5**	**+1.0**	
		comp=Z,87nm,1.4s,SNR=7.4									
	PFO	**Pinyon Flat Ob**	**73.61**	**48**		*e*P		**P**	**18 11 55.7**	**-0.8**	
		comp=Z,60nm,1.5s									
	PFO	**Pinyon Flat Ob**	**73.61**	**48**	⇓	P		**P**	**18 11 56.1**	**-0.4**	
		baz=74									
	PFO	**Pinyon Flat Ob**	**73.61**	**48**		P		**P**	**18 11 56.9**	**+0.3**	
		comp=Z,1.6nm,0.5s,baz=273,slow=6.6,SNR=9.1									
	BBRC	**Big Bear Solar**	**73.61**	**47**	⇑	P		**P**	**18 11 56.3**	**-0.4**	
		baz=74									
	LRMC	**Laurel Mountai**	**73.72**	**46**	⇓	P		**P**	**18 11 57.0**	**-0.1**	
		baz=74									
	SWSC	**Sam W. Stewart**	**73.74**	**49**	⇑	P		**P**	**18 11 57.1**	**-0.1**	
		baz=74									
	CWC	**Cottonwood Cre**	**73.96**	**45**	⇓	P		**P**	**18 11 58.6**	**-0.1**	
		baz=74									
	YBH	**Yreka Blue Hor**	**74.06**	**38**		*e*P		**P**	**18 11 58.8**	**-0.1**	
		comp=Z,52nm,1.1s									
	YBH	**Yreka Blue Hor**	**74.06**	**38**		P		**P**	**18 11 59.8**	**+0.9**	
		comp=Z,25nm,1.0s,baz=254,slow=5.7,SNR=9.6									
	OHAK	**Old Harbor**	**74.09**	**12**		*e*P		**P**	**18 11 57.0**	**-1.5**	
		comp=Z,132nm,1.8s									
	MLAC	**Mammoth Lakes**	**74.11**	**43**	⇓	P		**P**	**18 11 59.4**	**-0.1**	
		baz=74									
	BELC	**Belle Mtn. Jos**	**74.13**	**48**	⇓	P		**P**	**18 11 59.4**	**-0.3**	
		baz=74									
	MPMC	**Manual Prospec**	**74.16**	**45**	⇓	P		**P**	**18 11 59.7**	**-0.1**	
		baz=74,SNR=22									
	BJII	**Banjamegara**	**74.18**	**266**		P		**P**	**18 12 01.6**	**+1.4**	
	TIN	**Tinemaha**	**74.20**	**44**	⇓	P		**P**	**18 11 59.7**	**-0.2**	
		baz=74									
	SBUM	**Sibu**	**74.23**	**277**		P		**P**	**18 11 58.8**	**-1.6**	
	SBUM	**Sibu**	**74.23**	**277**		P		P	18 12 03.9	+3.4	
	GSC	**Goldstone**	**74.23**	**46**		*e*P		**P**	**18 11 58.6**	**-1.6**	
	GSC					pmax		pmax			
		comp=Z,43nm,1.2s									
	GSC	**Goldstone**	**74.23**	**46**		*e*P		**P**	**18 11 58.5**	**-1.6**	
		comp=Z,43nm,1.2s									
	GSC	**Goldstone**	**74.23**	**46**	⇓	P		**P**	**18 11 59.2**	**-0.9**	
		baz=74,SNR=12									
	STKI	**Sintang**	**74.30**	**274**		P		**P**	**18 12 03.0**	**+2.1**	
	HEC	**Hector,Ludlow**	**74.32**	**47**	⇑	P		**P**	**18 11 59.5**	**-1.2**	
		baz=74,SNR=14									
	BC3	**Big Chuckawall**	**74.35**	**48**	⇑	P		**P**	**18 12 00.6**	**-0.3**	
		baz=74									
	BEKR	**Beckworth**	**74.39**	**41**		*e*P		**P**	**18 12 00.4**	**-0.6**	
		comp=Z,94nm,1.7s									
	HUMO	**Hull Mountain**	**74.45**	**37**		*e*P		**P**	**18 12 00.6**	**-0.5**	
		comp=Z,126nm,1.6s									
	GLA	**Glamis**	**74.50**	**49**		*e*P		**P**	**18 12 00.8**	**-0.9**	
	GLA					pmax		pmax			
		comp=Z,80nm,1.5s									
	GLA	**Glamis**	**74.50**	**49**		*e*P		**P**	**18 12 00.8**	**-0.9**	
		comp=Z,80nm,1.5s									
	GLA	**Glamis**	**74.50**	**49**	⇓	P		**P**	**18 12 01.5**	**-0.2**	
		baz=75									
	KDAK	**Kodiak Island**	**74.75**	**12**		*e*P		**P**	**18 12 00.8**	**-1.6**	
		comp=Z,99nm,1.4s									
	KDAK					LR		LR			
		comp=Z,15µm,21.0s									
	KDAK	**Kodiak Island**	**74.75**	**12**		P		**P**	**18 12 01.5**	**-0.9**	
		comp=Z,284nm,1.2s,SNR=5.1									
	CLJI	**Cilicap**	**74.76**	**266**		P		**P**	**18 12 04.4**	**+0.9**	
	GMRC	**Granite Mounta**	**74.77**	**47**	⇑	P		**P**	**18 12 02.6**	**-0.7**	
		baz=75,SNR=20									
	FURC	**Furnace Creek,**	**74.81**	**45**	⇓	P		**P**	**18 12 03.3**	**0.0**	
		baz=75									
	IRM	**Iron Mountain**	**74.82**	**48**	⇓	P		**P**	**18 12 02.9**	**-0.6**	
		baz=75,SNR=36									
	TGJI	**Tegal**	**74.85**	**267**		P		**P**	**18 12 05.7**	**+1.6**	
	KSRS	**Korea Array**	**74.89**	**316**		P		**P**	**18 12 03.7**	**-0.1**	
		comp=Z,17nm,1.2s,baz=126,slow=5.9,SNR=15									
	KSRS					LR		LR	18 42 23.9		
		comp=Z,10µm,18.6s,baz=126,slow=34									
	NVAR	**Mina Array Bea**	**74.90**	**43**		P		**P**	**18 12 03.2**	**-0.9**	
	NVAR	**Mina Array Bea**	**74.90**	**43**		P		**P**	**18 12 03.2**	**-0.9**	
		comp=Z,11nm,0.9s,baz=230,slow=8.6,SNR=25									
	NVAR					LR		LR	18 38 47.0		
		comp=Z,16µm,19.9s,baz=116,slow=31									
	KSAR	**Wonju Array Be**	**74.91**	**316**		P		**P**	**18 12 03.7**	**-0.2**	
	SHOC	**Shoshone**	**74.91**	**46**	⇓	P		**P**	**18 12 03.8**	**-0.2**	
		baz=75									
	PAHR	**Pah Rah Range**	**74.91**	**41**		*e*P		**P**	**18 12 03.0**	**-1.0**	
		comp=Z,123nm,1.5s									
	TUQ	**Turquoise Moun**	**74.92**	**46**	⇑	P		**P**	**18 12 03.9**	**-0.2**	
		baz=75									
	KPJI	**Karang Pucung**	**74.93**	**266**		P		**P**	**18 12 07.2**	**+2.7**	
	NV11	**Mina Array Sit**	**75.00**	**43**		*e*P		**P**	**18 12 03.6**	**-1.0**	
	Y12C	**Blythe**	**75.07**	**48**	⇑	P		**P**	**18 12 04.8**	**-0.1**	
		baz=75									
	QSPA	**South Pole Qui**	**75.10**	**180**		*e*P		**P**	**18 12 02.4**	**-2.3**	
		comp=Z,232nm,1.3s									
	113A	**Mohawk Valley,**	**75.14**	**50**	⇑	P		**P**	**18 12 05.4**	**+0.1**	
		baz=75									
	LDFC	**Landfair**	**75.31**	**47**		*e*P		**P**	**18 12 05.9**	**-0.5**	
		comp=Z,140nm,1.2s									
	214A	**Organ Pipe Nat**	**75.46**	**51**	⇑	P		**P**	**18 12 07.2**	**0.0**	
		baz=76									
	MOD	**Modoc**	**75.60**	**39**		*e*P		**P**	**18 12 07.0**	**-1.0**	
		comp=Z,355nm,1.4s									
	PDMCI	**Parker Dam,Lak**	**75.61**	**48**	⇑	P		**P**	**18 12 08.0**	**0.0**	
		baz=76									
	KSM	**Kuching**	**75.80**	**275**		P		**P**	**18 12 07.7**	**-1.9**	
	KSM	**Kuching**	**75.80**	**275**		P		**P**	**18 12 07.9**	**-1.6**	
	KSM	**Kuching**	**75.80**	**275**		*e*P		**P**	**18 12 07.6**	**-1.9**	
		comp=Z,80nm,1.2s									
	KSM	**Kuching**	**75.80**	**275**		P		**P**	**18 12 09.1**	**-0.5**	
		baz=75,SNR=5.9									
	CISI	**Cisompet, Garu**	**75.95**	**266**		P		**P**	**18 12 10.0**	**-0.5**	
	SHPR	**Sheep Range**	**76.00**	**46**		*e*P		P	18 12 07.0	-3.3	
		comp=Z,268nm,2.0s									
	Z14A	**Wintersburg**	**76.03**	**50**	⇑	P		**P**	**18 12 10.1**	**-0.3**	
		baz=76									
	QZH	**Quanzhou**	**76.06**	**301**		P		P	18 12 03.4	-7.3	
	QZH					S		S	18 21 46.0	-8.3	
	QZH					AMB		AMB			
		comp=Z,3µm,5.2s									
	QZH					LR		LR			
		comp=N,4µm,13.2s									
	QZH					LR		LR			
		comp=E,11µm,18.6s									
	QZH					LR		LR			
		comp=Z,40µm,33.8s									
	W13A	**Hualapai Mount**	**76.19**	**48**	⇓	P		**P**	**18 12 11.2**	**-0.4**	
		baz=76,SNR=13									
	Y14A	**Wickenburg**	**76.26**	**49**	⇓	P		**P**	**18 12 11.8**	**0.0**	
		baz=76									
	LEM	**Lembang**	**76.31**	**266**		P		**P**	**18 12 15.1**	**+2.4**	
	SSE	**Sheshan**	**76.61**	**308**		P		**P**	**18 12 13.3**	**-0.4**	
	SSE					sP		**sP**	**18 12 17.8**	**-1.4**	
	SSE					S		**S**	**18 22 00.4**	**+0.3**	
	SSE					sS		**sS**	**18 22 06.0**	**-0.8**	
	SSE					SS		**SS**	**18 26 56.6**	**+0.7**	
	SSE					AMB		AMB			
		comp=Z,35nm,0.9s									
	SSE					AMB		AMB			
		comp=Z,430nm,9.1s									
	SSE					LR		LR			
		comp=Z,8µm,20.0s									
	SSE					LR		LR			
		comp=Z,9µm,20.0s									
	SSE					LR		LR			
		comp=Z,13µm,20.0s									
	R11A	**Troy Canyon, C**	**76.66**	**44**	⇓	P		**P**	**18 12 13.9**	**-0.2**	
		baz=77									
	BMN	**Battle Mountai**	**76.70**	**41**		*e*P		**P**	**18 12 14.0**	**-0.2**	
	BMN					pmax		pmax			
		comp=Z,124nm,1.5s									
	BMN	**Battle Mountai**	**76.70**	**41**		*e*P		**P**	**18 12 14.0**	**-0.2**	
		comp=Z,124nm,1.5s									
	WVOR	**Wild Horse Val**	**76.92**	**39**		*e*P		**P**	**18 12 15.4**	**-0.1**	
	WVOR					pmax		pmax			
		comp=Z,215nm,1.9s									
	WVOR	**Wild Horse Val**	**76.92**	**39**		*e*P		**P**	**18 12 15.3**	**-0.1**	
		comp=Z,215nm,1.9s									
	H02S1	**DAWSON INLET T**	**76.98**	**25**		T		T	19 36 42.9		
		SNR=65									
	TUC	**Tucson**	**77.15**	**51**		*e*P		**P**	**18 12 15.3**	**-1.6**	
	TUC					pmax		pmax			
		comp=Z,104nm,1.6s									
	TUC	**Tucson**	**77.15**	**51**		*e*P		**P**	**18 12 15.3**	**-1.6**	
		comp=Z,104nm,1.6s									
	RSO	**Redoubt South**	**77.21**	**11**		*e*P		**P**	**18 12 15.7**	**-1.0**	
		comp=Z,162nm,1.3s									
	DBJI	**Dramaga**	**77.22**	**267**		P		**P**	**18 12 18.6**	**+1.0**	
	MIR	**Mirnyy**	**77.29**	**204**		*e*P		P	18 12 26.0	+9.1	
	MIR					*e*			18 12 26.0		
	MIR					*e*			18 12 38.0		
	MIR					*e*S		**S**	**18 22 08.0**	**+1.6**	
	MIR					*e*PS		PnS	18 23 06.0	+20	
	MIR					pmax		pmax			
		comp=Z,700nm,3.0s									
	MIR					pmax		pmax			
		comp=Z,94nm,1.5s									
	SKJI	**Sukabumi**	**77.30**	**266**		P		**P**	**18 12 20.8**	**+2.8**	
	SEW	**Seward**	**77.53**	**13**		*e*P		**P**	**18 12 16.5**	**-1.7**	
		comp=Z,47nm,1.1s									
	X16A	**Lo Mia Camp, P**	**77.63**	**49**	⇑	P		**P**	**18 12 19.1**	**-0.6**	
		baz=78,SNR=30									
	CCUT	**Cedar City**	**77.77**	**46**		*e*P		**P**	**18 12 19.7**	**-0.7**	
		comp=Z,165nm,1.9s									
	ARUT	**Antelope Range**	**77.83**	**45**		*e*P		**P**	**18 12 19.3**	**-1.4**	
	ARUT					pmax		pmax			
		comp=Z,612nm,1.1s									
	ARUT	**Antelope Range**	**77.83**	**45**		*e*P		**P**	**18 12 19.3**	**-1.4**	
		comp=Z,612nm,1.1s									
	MDJ	**Mudanjiang**	**77.84**	**323**		P		**P**	**18 12 20.6**	**+0.2**	
	MDJ					pP		**pP**	**18 12 23.8**	**-0.6**	
	MDJ					sP		**sP**	**18 12 25.1**	**-0.8**	
	MDJ					PcP		**PcP**	**18 12 30.0**	**-0.2**	
	MDJ					PP		**PP**	**18 15 16.1**	**-0.2**	
	MDJ					S		**S**	**18 22 14.4**	**+1.4**	
	MDJ					ScS		**ScS**	**18 22 40.0**	**+0.7**	
	MDJ					SS		**SS**	**18 27 16.1**	**+2.0**	
	MDJ					AMB		AMB			
		comp=Z,740nm,5.3s									
	MDJ					LR		LR			
		comp=Z,6µm,24.4s									
	MDJ					LR		LR			
		comp=Z,10µm,25.3s									
	MDJ					LR		LR			
		comp=Z,14µm,24.4s									
	319A	**Douglas**	**77.88**	**53**	⇑	P		**P**	**18 12 20.9**	**-0.1**	
		baz=78									
	U15A	**North Rim**	**77.97**	**47**	⇓	P		**P**	**18 12 21.4**	**-0.2**	
		baz=78,SNR=22									
	ELK	**Elko**	**78.14**	**42**		*e*P		**P**	**18 12 20.4**	**-2.0**	
		comp=Z,70nm,1.6s									
	WUAZ	**Wupatki**	**78.19**	**48**		*e*P		**P**	**18 12 21.1**	**-1.7**	
		comp=Z,142nm,1.5s									
	WUAZ	**Wupatki**	**78.19**	**48**	⇓	P		**P**	**18 12 22.7**	**0.0**	
		baz=78,SNR=6.4									
	320A	**Kipp Ranch, An**	**78.45**	**53**	⇑	P		**P**	**18 12 24.3**	**+0.1**	
		baz=79									
	HAWA	**Hanford**	**78.68**	**35**		*e*P		**P**	**18 12 24.0**	**-1.0**	
		comp=Z,74nm,1.5s									
	220A	**Playas Peak, P**	**78.69**	**53**	⇓	P		**P**	**18 12 25.2**	**-0.4**	
		baz=79,SNR=27									
	X18A	**Snowflake**	**78.78**	**50**	⇓	P		**P**	**18 12 25.5**	**-0.5**	
		baz=79,SNR=5.6									
	HKC	**Hong Kong Obse**	**78.79**	**297**		P		**P**	**18 12 24.0**	**-2.1**	
	NJ2	**Nanjing**	**78.81**	**308**		*e*P		**P**	**18 12 25.0**	**-1.0**	
	NJ2					pP		**pP**	**18 12 28.0**	**-2.1**	
	NJ2					sP		**sP**	**18 12 29.8**	**-1.8**	
	NJ2					S		**S**	**18 22 25.5**	**+1.5**	
	NJ2					sS		**sS**	**18 22 30.0**	**-0.7**	
	NJ2					AMB		AMB			
		comp=Z,10.0nm,0.6s									
	NJ2					AMB		AMB			
		comp=Z,800nm,7.1s									
	NJ2					LR		LR			
		comp=Z,7µm,24.7s									
	NJ2					LR		LR			
		comp=Z,7µm,21.0s									
	NJ2					LR		LR			
		comp=Z,13µm,23.0s									
	PPBI	**Pangkal Pinang**	**78.88**	**271**		P		**P**	**18 12 29.3**	**+2.5**	
	120A	**U Bar Ranch, L**	**78.89**	**52**	⇓	P		**P**	**18 12 26.2**	**-0.4**	
		baz=79									
	PMR	**Palmer**	**78.95**	**12**		*e*P		**P**	**18 12 25.4**	**-0.7**	
	PMR					pmax		pmax			
		comp=Z,109nm,1.3s									
	PMR	**Palmer**	**78.95**	**12**		*e*P		**P**	**18 12 25.4**	**-0.7**	
		comp=Z,109nm,1.3s									
	MVU	**Marysvale**	**79.03**	**45**		*e*P		**P**	**18 12 27.3**	**-0.1**	
		comp=Z,46nm,1.4s									
	BMO	**Blue Mountains**	**79.08**	**38**		*e*P		**P**	**18 12 25.7**	**-1.7**	
		comp=Z,234nm,2.3s									
	Z20A	**Nine Sixteen R**	**79.16**	**51**	⇓	P		**P**	**18 12 27.5**	**-0.6**	
		baz=79,SNR=24									
	W18A	**Petrified Fore**	**79.20**	**49**	⇑	P		**P**	**18 12 28.1**	**-0.2**	
		baz=79									
	DIV	**Divide**	**79.27**	**14**		*e*P		**P**	**18 12 26.1**	**-1.9**	
		comp=Z,70nm,1.1s									
	221A	**Mesquite Ranch**	**79.31**	**53**	⇓	P		**P**	**18 12 28.5**	**-0.4**	
		baz=79									
	BMRM	**Bremner River**	**79.40**	**14**		*e*P		**P**	**18 12 26.9**	**-1.8**	
		comp=Z,261nm,1.5s									
	KLR	**Kul'dur**	**79.41**	**328**		*e*P		P	18 12 24.4	-4.5	
	KLR					*e*S		S	18 22 23.5	-6.1	
	KLR					pmax		pmax			
		comp=E,63nm,2.0s									
	KLR					pmax		pmax			
		comp=Z,200nm,2.0s									
	KLR					pmax		pmax			
		comp=Z,1µm,7.0s									
	KLR					smax		smax			
		comp=N,3µm,15.0s									
	KLR					smax		smax			
		comp=E,1µm,15.0s									
	DUG	**Dugway**	**79.45**	**43**		*e*P		**P**	**18 12 28.2**	**-1.3**	
	DUG					pmax		pmax			
		comp=Z,68nm,1.4s									
	DUG	**Dugway**	**79.45**	**43**		*e*P		**P**	**18 12 28.2**	**-1.3**	
		comp=Z,68nm,1.4s									
	DUG	**Dugway**	**79.45**	**43**	⇓	P		**P**	**18 12 29.3**	**-0.2**	
		baz=80									
	121A	**Cookes Peak, D**	**79.53**	**52**	⇑	P		**P**	**18 12 29.6**	**-0.6**	
		baz=80,SNR=13									
	PPLA	**Purkeypile**	**79.57**	**10**		*e*P		**P**	**18 12 29.9**	**+0.2**	
		comp=Z,81nm,1.8s									
	KASI	**Kota Agung**	**79.64**	**267**		P		**P**	**18 12 29.6**	**-1.3**	
	Y20A	**Horse Springs,**	**79.67**	**51**	⇑	P		**P**	**18 12 30.4**	**-0.6**	
		baz=80,SNR=32									
	BGU	**Big Grassy Mou**	**79.67**	**43**		*e*P		**P**	**18 12 31.5**	**+0.8**	
		comp=Z,40nm,1.4s

	comp=Z,42nm,1.5s							
MCK	**McKinley**	80.93	11	*e*P		**P**	18 12 34.8	-2.0
MCK				pmax		pmax		
	comp=Z,296nm,1.7s							
MCK	**McKinley**	80.93	11	*e*P		**P**	18 12 34.8	-2.0
	comp=Z,296nm,1.7s							
X22A	**Bernardo**	80.95	51	⇑P		**P**	18 12 37.8	+0.1
	baz=81							
PAX	**Paxson**	80.96	13	*e*P		**P**	18 12 36.3	-0.8
PAX				pmax		pmax		
	comp=Z,34nm,1.3s							
PAX	**Paxson**	80.96	13	*e*P		**P**	18 12 36.3	-0.8
	comp=Z,34nm,1.3s							
425A	**Indio Mountain**	80.99	55	⇓P		**P**	18 12 37.7	-0.3
	baz=81,SNR=24							
LHSI	**Lahat**	80.99	268	P		P	18 12 42.7	+4.4
Z23A	**Rita Site, Whi**	81.02	52	⇓P		**P**	18 12 38.1	-0.1
	baz=81							
MVCO	**Mesa Verde**	81.03	48	⇑P		**P**	18 12 37.9	-0.3
	baz=81							
V21A	**Milan**	81.04	49	⇓P		**P**	18 12 38.0	-0.3
	baz=81							
MNTX	**Cornudas Mount**	81.04	54	*e*P		**P**	18 12 36.7	-1.5
	comp=Z,203nm,2.1s							
224A	**Cornudas Mount**	81.08	53	⇓P		**P**	18 12 38.5	0.0
	baz=81,SNR=28							
BNM	**Barren Site**	81.09	51	*e*P		**P**	18 12 37.8	-0.8
	comp=Z,42nm,1.2s							
NEW	**Newport**	81.10	35	P		**P**	18 12 37.7	-0.4
NEW	**Newport**	81.10	35	⇑P		**P**	18 12 38.3	+0.2
	baz=81							
NEW	**Newport**	81.10	35	P		**P**	18 12 37.7	-0.4
	comp=Z,2.7nm,0.6s,baz=241,slow=7.1,SNR=5.2							
LPM	**Los Pinos Moun**	81.15	51	*e*P		**P**	18 12 38.5	-0.4
	comp=Z,64nm,1.2s							
HYT	**Haines Junctio**	81.17	17	*e*P		**P**	18 12 38.3	0.0
626A	**Big Bend Ranch**	81.19	56	⇑P		**P**	18 12 39.2	+0.1
	baz=81,SNR=24							
325A	**Bean Ranch, Si**	81.23	54	⇑P		**P**	18 12 38.8	-0.6
	baz=81							
U21A	**Nageezi**	81.29	49	⇑P		**P**	18 12 39.1	-0.6
	baz=81,SNR=22							
W22A	**Albuquerque**	81.29	50	⇑P		**P**	18 12 39.2	-0.5
	baz=81							
MENT	**Mentasta**	81.33	14	*e*P		**P**	18 12 39.5	+0.5
124A	**Stringfield Ra**	81.39	53	⇓P		**P**	18 12 40.0	-0.2
	baz=82,SNR=13							
526A	**Mary Lane Ranc**	81.42	56	⇑P		**P**	18 12 39.9	-0.5
	baz=82,SNR=29							
Y23A	**Lovelace Mesa,**	81.43	52	⇓P		**P**	18 12 39.1	-1.2
	baz=82,SNR=14							
TXAR	**Lajitas Array**	81.48	57	P		**P**	18 12 40.3	-0.4
TXAR	**Lajitas Array**	81.48	57	P		**P**	18 12 40.3	-0.4
	comp=Z,8.1nm,1.0s,baz=233,slow=5.8,SNR=21							
TXAR				LR		LR	18 41 14.1	
	comp=Z,14μm,20.7s,baz=15,slow=30							
QIZ	**Qiongzhong**	81.48	292	P		**P**	18 12 41.1	+0.4
QIZ				sP		**sP**	18 12 45.8	-0.5
QIZ				PP		**PP**	18 15 44.9	-2.3
QIZ				S		**S**	18 22 52.3	-0.3
QIZ				sS		**sS**	18 22 56.8	-2.5
QIZ				AMB		AMB		
	comp=Z,650nm,6.0s							
QIZ				LR		LR		
	comp=Z,3μm,24.9s							
QIZ				LR		LR		
	comp=Z,13μm,25.3s							
M17A	**Scullys Gap (B**	81.49	43	⇓P		**P**	18 12 40.1	-0.5
	baz=82							
ANMO	**Albuquerque**	81.55	51	*e*P		**P**	18 12 40.0	-1.0
	comp=Z,121nm,1.4s							
R20A	**Redvale**	81.55	47	⇓P		**P**	18 12 40.4	-0.5
	baz=82							
X23A	**Hourglass Bar**	81.60	51	⇓P		**P**	18 12 41.0	-0.3
	baz=82,SNR=7.8							
V22A	**San Miguel Ran**	81.62	49	⇓P		**P**	18 12 41.0	-0.4
	baz=82,SNR=5.6							
T21A	**Navajo Lake**	81.63	48	⇑P		**P**	18 12 41.0	-0.4
	baz=82							
225A	**Deer Hill, Car**	81.64	54	⇓P		**P**	18 12 41.3	-0.2
	baz=82							
426A	**McDonald Obser**	81.70	55	⇓P		**P**	18 12 41.5	-0.4
	baz=82,SNR=34							
Z24A	**Sheeppen Canyo**	81.71	52	⇓P		**P**	18 12 41.5	-0.4
	baz=82							
WHN	**Wuhan**	81.72	305	P		P	18 12 50.1	+8.4
WHN				PP		PP	18 15 57.3	+8.4
WHN	**Wuhan**	81.72	305	S		**S**	18 22 59.9	+5.3
WHN	**Wuhan**	81.72	305	SS		SS	18 28 05.1	-7.6
WHN				LR		LR		
	comp=N,9μm,16.6s							
WHN				LR		LR		
	comp=E,6μm,15.2s							
WHN				LR		LR		
	comp=Z,18μm,24.3s							
S21A	**Coal Bank Pass**	81.73	48	⇓P		**P**	18 12 41.9	-0.2
	baz=82,SNR=8.5							
SEY	**Seymchan**	81.73	345	*ce*P		**P**	18 12 40.3	-0.7
627A	**Terlingua Ranc**	81.75	57	⇓P		**P**	18 12 41.6	-0.5
	baz=82,SNR=44							
P19A	**Cripple Cowboy**	81.78	45	⇑P		**P**	18 12 41.4	-0.7
	baz=82							
527A	**Woodward Ranch**	81.83	56	⇑P		**P**	18 12 41.6	-1.0
	baz=82,SNR=18							
U22A	**Llaves**	81.86	49	⇓P		**P**	18 12 42.4	-0.2
	baz=82,SNR=6.1							
DOT	**Dot Lake**	81.86	13	*e*P		**P**	18 12 40.1	-1.7
	comp=Z,155nm,1.7s							
W23A	**Werner Place,**	81.86	50	⇑P		**P**	18 12 42.1	-0.6
	baz=82,SNR=8.8							
TIA	**Tai'an**	81.89	311	⇑P		P	18 12 49.8	+7.3
TIA				sP		sP	18 12 56.9	+8.9
TIA	**Tai'an**	81.89	311	SS		SS	18 28 37.0	+22
TIA				AMB		AMB		
	comp=Z,30nm,2.5s							
TIA				AMB		AMB		
	comp=Z,1μm,5.3s							
TIA				LR		LR		
	comp=N,9μm,19.2s							
TIA				LR		LR		
	comp=E,9μm,20.8s							
TIA				LR		LR		
	comp=Z,12μm,21.6s							
Y24A	**Capitan**	81.90	52	⇓P		**P**	18 12 42.3	-0.5
	baz=82,SNR=34							
Q20A	**Ridgley Place,**	81.95	46	⇑P		**P**	18 12 42.8	-0.2
	baz=82							
O19A	**Miners Draw (B**	81.98	45	⇑P		**P**	18 12 42.6	-0.5
	baz=82							
125A	**Gardner Draw,**	81.99	53	⇑P		**P**	18 12 42.7	-0.6
	baz=82,SNR=14							
326A	**Caldwell Ranch**	81.99	55	⇑P		**P**	18 12 42.4	-0.9
	baz=82							
GDL2	**Guadalupe Moun**	82.03	54	*e*P		**P**	18 12 43.9	+0.4
	comp=Z,194nm,1.9s							
BTDF	**Bukit Timah Da**	82.07	274	⇓P		**P**	18 12 42.6	-1.4
	baz=82,SNR=4.8							
BTDF				⇓P		**P**	18 12 42.6	-1.4
	baz=82,SNR=4.8							
V23A	**Ortiz Mt. (NFS**	82.08	50	⇓P		**P**	18 12 43.8	0.0
	baz=82,SNR=7.9							
T22A	**Edith**	82.09	48	⇑P		**P**	18 12 43.0	-0.9
	baz=82,SNR=6.7							
MYKOM	**Kota Tinggi**	82.11	274	P		**P**	18 12 43.6	-0.6
MYKOM	**Kota Tinggi**	82.11	274	P		**P**	18 12 46.0	+1.8
L18A	**Fontenelle, Gr**	82.12	43	⇓P		**P**	18 12 43.6	-0.3
	baz=82							
P20A	**De Beque**	82.12	46	⇑P		**P**	18 12 43.6	-0.3
	baz=82							
MSO	**Missoula**	82.13	37	⇓P		**P**	18 12 43.1	-0.6
	baz=82							
226B	**Tecolote Peak,**	82.14	54	⇑P		**P**	18 12 43.2	-0.8
	baz=82,SNR=20							
X24A	**Lazy VL Ranch,**	82.16	51	⇓P		**P**	18 12 43.7	-0.5
	baz=82							
628A	**Black Gap, Mar**	82.17	57	⇓P		**P**	18 12 43.7	-0.5
	baz=82,SNR=17							
COLA	**College**	82.17	11	*e*P		**P**	18 12 41.8	-1.5
COLA				pmax		pmax		
	comp=Z,263nm,1.0s							
COLA	**College**	82.17	11	*e*P		**P**	18 12 41.8	-1.5
	comp=Z,263nm,1.0s							
BSMT	**Bassoo Peak**	82.18	36	*e*P		**P**	18 12 43.5	-0.6
	comp=Z,70nm,1.5s							
Z25A	**Roswell**	82.19	53	⇑P		**P**	18 12 44.0	-0.3
	baz=82,SNR=28							
IM04	**Indian Mountai**	82.20	9	*e*P		**P**	18 12 40.6	-2.8
R21A	**Cimarron**	82.21	47	⇓P		**P**	18 12 44.0	-0.4
	baz=82							
ILAR	**Eielson Array**	82.26	12	P		**P**	18 12 41.8	-2.0
ILAR	**Eielson Array**	82.26	12	P		**P**	18 12 41.8	-2.0
	comp=Z,20nm,1.3s,baz=219,slow=6.0,SNR=18							
ILAR				LR		LR	18 43 02.0	
	comp=Z,7μm,19.8s,baz=214,slow=31							
427A	**Hayter Ranch,**	82.27	55	⇑P		**P**	18 12 44.4	-0.4
	baz=82							
IMA2	**Indian Mountai**	82.30	9	*e*P		**P**	18 12 42.6	-1.5
U23A	**El Rito**	82.32	49	⇑P		**P**	18 12 44.4	-0.6
	baz=82,SNR=7.7							
327A	**Balmorhea Ranc**	82.40	55	⇓P		**P**	18 12 45.0	-0.3
	baz=82							
Q21A	**Lamborn Mesa,**	82.40	47	⇓P		**P**	18 12 44.5	-0.9
	baz=82							
CLNB	**Carlsbad**	82.44	54	*e*P		**P**	18 12 45.8	+0.2
	comp=Z,2.6nm,0.7s							
W24A	**Lazy 6 Ranch,**	82.44	51	⇓P		**P**	18 12 44.7	-1.0
	baz=83,SNR=9.1							
S22A	**4UR Ranch, Cre**	82.46	48	⇑P		**P**	18 12 45.3	-0.5
	baz=83,SNR=8.8							
Y25A	**Mesa, Roswell**	82.46	52	⇓P		**P**	18 12 45.0	-0.7
	baz=83,SNR=26							
126A	**Clayton Basin,**	82.47	53	⇑P		**P**	18 12 44.9	-0.8
	baz=83,SNR=7.1							
528A	**Cox Ranch, San**	82.50	56	⇓P		**P**	18 12 45.2	-0.8
	baz=83,SNR=21							
O20A	**White River Ci**	82.51	45	⇑P		**P**	18 12 45.8	-0.1
	baz=83							
M19A	**Rock Springs**	82.51	44	⇓P		**P**	18 12 45.4	-0.6
	baz=83							
L19A	**Farson**	82.65	43	⇑P		**P**	18 12 46.2	-0.5
	baz=83							
KGM	**Kluang**	82.68	274	P		**P**	18 12 47.9	+0.7
R22A	**Saguache, Gunn**	82.72	47	⇓P		**P**	18 12 47.0	-0.2
	baz=83							
I17A	**Pilgrim Ck.**	82.72	41	⇑P		**P**	18 12 47.0	0.0
	baz=83							
X25A	**Clemmons Ranch**	82.72	52	⇓P		**P**	18 12 46.4	-0.7
	baz=83							
T23A	**Casias Ranch,**	82.73	49	⇓P		**P**	18 12 47.1	-0.2
	baz=83							
Z26A	**Caprock**	82.75	53	⇑P		**P**	18 12 46.4	-0.9
	baz=83,SNR=45							
V24A	**Rampart Ranch,**	82.75	50	⇑P		**P**	18 12 46.9	-0.4
	baz=83							
P21A	**Newcastle**	82.79	46	⇑P		**P**	18 12 47.1	-0.3
	baz=83							
428A	**Kincaid Ranch,**	82.80	56	⇓P		**P**	18 12 47.1	-0.4
	baz=83							
227A	**Bennet, Jal**	82.80	54	⇑P		**P**	18 12 47.1	-0.4
	baz=83							
N20A	**Spence Gulch,**	82.81	45	⇑P		**P**	18 12 47.3	-0.2
	baz=83							
PDAR	**Pinedale Array**	82.83	42	P		**P**	18 12 47.5	-0.1
PDAR					PKKPbc	PKKPbc	18 31 19.8	+6.8
PDAR	**Pinedale Array**	82.83	42	P		**P**	18 12 47.5	-0.1
	comp=Z,13nm,1.0s,baz=274,slow=28,SNR=1.8							
PDAR					PKKPbc	PKKPbc	18 31 19.8	+6.8
	comp=Z,0.6nm,0.9s,baz=67,slow=5.0,SNR=4.3							
PDAR				LR		LR	18 42 39.0	
	comp=Z,10μm,20.9s,baz=248,slow=31							
Q22A	**Crested Butte,**	82.88	47	⇑P		**P**	18 12 47.3	-0.7
	baz=83							
328A	**Wrisden Ranch,**	82.94	55	⇓P		**P**	18 12 46.5	-1.7
	baz=83,SNR=11							
529A	**Stev Forest Ra**	82.94	56	⇑P		**P**	18 12 47.1	-1.2
	baz=83,SNR=21							
H17A	**Grant Village**	82.95	41	⇑P		**P**	18 12 47.8	-0.4
	baz=83							
127A	**Arkansas Junct**	83.00	54	⇑P		**P**	18 12 47.7	-0.9
	baz=83,SNR=6.8							
U24A	**Moreno Valley**	83.03	50	⇓P		**P**	18 12 48.1	-0.7
	baz=83							
O21A	**Pagoda**	83.08	45	⇑P		**P**	18 12 48.3	-0.7
	baz=83							
Y26A	**Elida**	83.12	52	⇓P		**P**	18 12 47.9	-1.3
	baz=83,SNR=7.9							
W25A	**X Bar L Ranch,**	83.15	51	⇑P		**P**	18 12 47.7	-1.6
	baz=83,SNR=9.4							
M20A	**Sweetwater, Wa**	83.15	44	⇓P		**P**	18 12 48.4	-0.9
	baz=83							
T24B	**San Luis**	83.22	49	⇓P		**P**	18 12 49.0	-0.8
	baz=83,SNR=8.1							
V25A	**Rancho No Teng**	83.28	50	⇑P		**P**	18 12 48.7	-1.4
	baz=83,SNR=12							
L20A	**Wamsutter**	83.28	43	⇓P		**P**	18 12 49.2	-0.7
	baz=83							
P22A	**Eagle**	83.30	46	⇓P		**P**	18 12 48.8	-1.3
	baz=83							
WALA	**Waterton Lakes**	83.31	35	*e*P		**P**	18 12 49.5	-0.3
Z27A	**Tatum**	83.36	53	⇓P		**P**	18 12 49.1	-1.3
	baz=84,SNR=11							
R23A	**Moffat**	83.36	48	⇑P		**P**	18 12 49.9	-0.6
	baz=84							
X26A	**CR and CF Fran**	83.38	52	⇑P		**P**	18 12 48.9	-1.6
	baz=84,SNR=5.7							
228A	**UT Block 9, Go**	83.39	54	⇑P		**P**	18 12 49.6	-0.9
	baz=84,SNR=7.5							
429A	**Davenport Ranc**	83.39	56	⇑P		**P**	18 12 49.5	-1.0
	baz=84,SNR=34							
J19A	**Crowheart**	83.39	42	⇓P		**P**	18 12 49.7	-0.7
	baz=84							
SDCO	**Great Sand Dun**	83.41	48	*e*P		**P**	18 12 50.0	-0.8
	comp=Z,53nm,1.3s							
EGAK	**Eagle**	83.49	14	*e*P		**P**	18 12 48.6	-1.5
	comp=Z,86nm,1.5s							
S24A	**Houchin Ranch,**	83.58	48	⇑P		**P**	18 12 50.2	-1.5
	baz=84							
Y27A	**Causey**	83.61	53	⇑P		**P**	18 12 49.8	-1.9
	baz=84,SNR=7.8							
W26A	**Owens Ranch, T**	83.62	51	⇓P		**P**	18 12 50.0	-1.7
	baz=84,SNR=5.4							
329A	**Wagon Wheel Ra**	83.64	55	⇓P		**P**	18 12 50.5	-1.3
	baz=84,SNR=7.0							
Q23A	**Hartsel**	83.66	47	⇓P		**P**	18 12 50.9	-1.2
	baz=84							
H18A	**Shoshone NF, C**	83.66	41	⇓P		**P**	18 12 51.2	-0.7
	baz=84							
128A	**Castleberry Fa**	83.66	54	⇓P		**P**	18 12 50.8	-1.1
	baz=84,SNR=9.9							
U25A	**Circle Dot Ran**	83.66	50	⇓P		**P**	18 12 51.3	-0.6
	baz=84							
530A	**J-C Ranch, Com**	83.67	57	⇓P		**P**	18 12 50.8	-1.2
	baz=84,SNR=19							
O22A	**Kremmling**	83.69	46	⇓P		**P**	18 12 50.9	-1.3
	baz=84							
KTGM	**Kuala Trenggan**	83.73	277	P		**P**	18 12 52.2	-0.4
I19A	**Meeteetse**	83.78	41	⇑P		**P**	18 12 52.2	-0.3
	baz=84							
P23A	**Jefferson**	83.85	47	⇓P		**P**	18 12 52.1	-1.0
	baz=84							
V26A	**Tequesquite Ra**	83.89	51	⇑P		**P**	18 12 52.3	-0.7
	baz=84							
R24A	**Sanders Place,**	83.89	48	⇑P		**P**	18 12 52.4	-0.7
	baz=84							
COLD	**Coldfoot**	83.91	9	*e*P		**P**	18 12 51.7	-0.6
	comp=Z,60nm,1.2s							
MSTX	**Muleshoe**	83.95	53	⇓P		**P**	18 12 52.4	-1.0
	baz=84							
229A	**Bryant Ranch,**	83.95	55	⇑P		**P**	18 12 52.0	-1.4
	baz=84,SNR=7.0							
T25A	**Trinidad**	83.96	49	⇓P		**P**	18 12 52.5	-1.0
	baz=84							
X27A	**F and S Farms,**	83.96	52	⇑P		**P**	18 12 51.8	-1.6
	baz=84,SNR=6.2							
430A	**Baggett Ranch,**	83.98	56	⇑P		**P**	18 12 52.9	-0.7
	baz=84,SNR=7.2							
Z28A	**Tucker Farm, M**	83.99	53	⇓P		**P**	18 12 52.6	-1.0
	baz=84							
631A	**Perdido Creek**	84.02	58	⇓P		**P**	18 12 51.9	-1.8
	baz=84,SNR=15							
J20A	**Shoshoni**	84.06	42	⇑P		**P**	18 12 53.7	-0.1
	baz=84							
H19A	**Powell**	84.08	41	⇑P		**P**	18 12 53.3	-0.6
	baz=84							
W27A	**Bowe Ranch, En**	84.14	52	⇓P		**P**	18 12 52.8	-1.6
	baz=84,SNR=7.1							
O23A	**Lake Granby, G**	84.15	46	⇓P		**P**	18 12 54.0	-0.5
	baz=84							
S25A	**Robets Cordova**	84.15	49	⇓P		**P**	18 12 53.8	-0.6
	baz=84							
129A	**Stewart Farms,**	84.15	54	⇓P		**P**	18 12 53.1	-1.3
	baz=84,SNR=7.2							
U26A	**Atchley Ranch,**	84.15	50	⇓P		**P**	18 12 53.7	-0.8
	baz=84							
Q24A	**Divide**	84.17	47	⇑P		**P**	18 12 54.4	-0.2
	baz=84							
BJI	**Beijing**	84.18	314	P		**P**	18 12 53.6	-0.6
BJI				PP		**PP**	18 16 06.4	-2.5
BJI				S		**S**	18 23 21.8	+2.6
BJI				SS		**SS**	18 28 45.5	-3.3
BJI				AMB		AMB		
	comp=Z,20nm,1.6s							
BJI				AMB		AMB		
	comp=Z,340nm,4.3s							
BJI				LR		LR		
	comp=Z,5μm,18.9s							
BJI				LR		LR		
	comp=Z,6μm,22.6s							
BJI				LR		LR		
	comp=Z,9μm,26.2s							
ISCO	**Idaho Springs**	84.19	46	⇓P		**P**	18 12 54.5	-0.2
	baz=84							
M22A	**Cedar Creek Ra**	84.19	45	⇑P		**P**	18 12 53.4	-1.2
	baz=84							
330A	**Mertzon**	84.25	56	⇑P		**P**	18 12 53.8	-1.2
	baz=84							
732A	**Laxson Ranch,**	84.28	58	⇓P		**P**	18 12 54.1	-0.9
	baz=84							
K21A	**Alcova**	84.29	43	⇓P		**P**	18 12 54.6	-0.5
	baz=84							
I20A	**Worland**	84.30	42	⇑P		**P**	18 12 54.4	-0.6
	baz=84							
531A	**Rocksprings**	84.31	57	⇓P		**P**	18 12 54.0	-1.2
	baz=84,SNR=25							
Y28A	**McKinney Farm,**	84.33	53	⇑P		**P**	18 12 54.4	-0.9
	baz=84							
N23A	**Red Feather La**	84.42	45	⇑P		**P**	18 12 55.6	-0.2
	baz=85							
431A	**Sonora**	84.44	56	⇑P		**P**	18 12 55.3	-0.6
	baz=85							
R25A	**Fountain Ranch**	84.45	48	⇑P		**P**	18 12 55.2	-0.7
	baz=85							
230A	**Sterling City**	84.47	55	⇓P		**P**	18 12 55.3	-0.8
	baz=85							
J21A	**Lysite**	84.47	43	⇓P		**P**	18 12 55.5	-0.4
	baz=85							
Z29A	**Hungry Hill Ra**	84.51	54	⇑P		**P**	18 12 54.8	-1.4
	baz=85,SNR=7.8							
P24A	**Kohler Place,**	84.56	47	⇓P		**P**	18 12 55.7	-0.8
	baz=85							
L22A	**Ellis Ranch, M**	84.57	44	⇓P		**P**	18 12 55.9	-0.6
	baz=85							
T26A	**Comanche Natio**	84.57	49	⇓P		**P**	18 12 55.9	-0.7
	baz=85							
V27A	**Dan Oppiter Fa**	84.58	51	⇓P		**P**	18 12 55.9	-0.7
	baz=85							
X28A	**Dimmitt**	84.60	52	⇑P		**P**	18 12 55.9	-0.8
	baz=85							
H20A	**Greybull**	84.62	41	⇑P		**P**	18 12 55.9	-0.7
	baz=85							
FRIM	**Kepong**	84.63	275	P		**P**	18 12 55.8	-1.3
F19A	**Roth Farm, Mol**	84.66	40	⇓P		**P**	18 12 56.1	-0.6
	baz=85							
PDSI	**Padang**	84.69	270	P		**P**	18 12 58.7	+1.2
O24A	**Longmont**	84.70	46	⇓P		**P**	18 12 56.6	-0.5
	baz=85							
632A	**Uvalde**	84.70	58	⇑P		**P**	18 12 56.7	-0.5
	baz=85							
Y29A	**Porterfield Fa**	84.76	53	⇓P		**P**	18 12 56.0	-1.5
	baz=85,SNR=6.1							
I21A	**Big Trails, Te**	84.78	42	⇑P		**P**	18 12 56.7	-0.8
	baz=85							
Q25A	**Bedland, Calha**	84.79	48	⇓P		**P**	18 12 56.5	-1.1
	baz=85							
331A	**San Angelo**	84.81	56	⇓P		**P**	18 12 56.9	-0.8
	baz=85							
532A	**Rocksprings**	84.82	57	⇑P		**P**	18 12 56.5	-1.4
	baz=85,SNR=25							
G20A	**Bridger**	84.82	41	⇑P		**P**	18 12 57.1	-0.5
	baz=85							
S26A	**Kim**	84.83	49	⇑P		**P**	18 12 56.6	-1.2
	baz=85							
130A	**Snyder**	84.84	54	⇑P		**P**	18 12 56.9	-1.0
	baz=85							
U27A	**Thompson Grove**	84.85	50	⇑P		**P**	18 12 57.3	-0.6
	baz=85							
PPI	**Padang Panjang**	84.86	271	P		**P**	18 12 58.1	-0.2
W28A	**Vega**	84.87	52	⇓P		**P**	18 12 57.0	-1.0
	baz=85							
X29A	**Tulia**	84.95	53	⇑P		**P**	18 12 57.3	-1.1
	baz=85							
Z30A	**Sanderson Ranc**	84.97	54	⇓P		**P**	18 12 57.3	-1.2
	baz=85							
JCT	**Junction City**	85.02	57	*e*P		**P**	18 12 58.9	0.0
JCT				pmax		pmax		
	comp=Z,92nm,1.7s							
JCT	**Junction City**	85.02	57	*e*P		**P**	18 12 58.9	0.0
	comp=Z,92nm,1.7s							
JCT	**Junction City**	85.02	57	⇓P		**P**	18 12 57.9	-0.9
	baz=85							
E19A	**Rath Farm, Rou**	85.03	39	⇑P		**P**	18 12 57.9	-0.7
	baz=85							
V28A	**Channing**	85.04	51	⇓P		**P**	18 12 58.2	-0.7
	baz=85							
P25A	**Willow Gulch B**	85.09	47	⇓P		**P**	18 12 58.9	-0.2
	baz=85							
L23A	**Garrett**	85.10	44	⇓P		**P**	18 12 57.9	-1.3
	baz=85							
R26A	**Arlington**	85.12	48	⇓P		**P**	18 12 58.2	-1.1
	baz=85							
N24A	**Carr**	85.12	46	⇑P		**P**	18 12 58.7	-0.5
	baz=85							
231A	**Bronte**	85.12	55	⇓P		**P**	18 12 57.8	-1.5
	baz=85							
F20A	**Billings**	85.13	40	⇑P		**P**	18 12 58.4	-0.6
	baz=85							
J

	baz=86									
H22A	**Clearmont**	**85.73**	**42**	⇓	P		**P**	**18 13 01.5**	**-0.6**	
	baz=86									
J23A	**Dilts Ranch, B**	**85.74**	**43**	⇓	P		**P**	**18 13 02.0**	**-0.3**	
	baz=86									
Z31A	**Sharp Cattle R**	**85.75**	**54**	⇑	P		**P**	**18 13 01.4**	**-1.0**	
	baz=86									
F21A	**Absaloka Mine,**	**85.78**	**40**	⇓	P		**P**	**18 13 01.6**	**-0.6**	
	baz=86									
EDM	**Edmonton**	**85.81**	**32**		*eP*		**P**	**18 13 00.4**	**-1.8**	
EDM	**Edmonton**	**85.81**	**32**		*eP*		**P**	**18 13 00.4**	**-1.8**	
B19A	**Brinkman Farms**	**85.87**	**38**	⇓	P		**P**	**18 13 02.6**	**0.0**	
	baz=86									
Y31A	**Rekieta Farm,**	**85.89**	**53**	⇓	P		**P**	**18 13 02.4**	**-0.6**	
	baz=86									
ABTX	**Abilene, Hawle**	**85.90**	**55**	⇓	P		**P**	**18 13 02.2**	**-0.9**	
	baz=86									
TIY	**Taiyuan**	**85.93**	**311**		*eP*		**P**	**18 13 02.8**	**-0.4**	
TIY					S		S	18 23 29.3	-7.6	
TIY					AMB		AMB			
	comp=Z,1μm,6.2s									
TIY					LR		LR			
	comp=Z,5μm,18.7s									
TIY					LR		LR			
	comp=Z,6μm,17.5s									
TIY					LR		LR			
	comp=Z,12μm,21.8s									
M25A	**Palm-Egli Farm**	**85.94**	**45**	⇑	P		**P**	**18 13 03.1**	**-0.2**	
	baz=86									
K24A	**Anderson Ranch**	**85.95**	**44**	⇑	P		**P**	**18 13 03.0**	**-0.3**	
	baz=86									
S28A	**Manter**	**85.98**	**50**	⇑	P		**P**	**18 13 03.3**	**-0.2**	
	baz=86									
O26A	**Horse Wrangler**	**85.98**	**47**	⇓	P		**P**	**18 13 03.0**	**-0.5**	
	baz=86									
KSCO	**Kaye Shedlock'**	**85.99**	**48**	⇑	P		**P**	**18 13 02.8**	**-0.8**	
	baz=86									
U29A	**Oasis Ranch, S**	**86.02**	**51**	⇓	P		**P**	**18 13 02.6**	**-1.1**	
	baz=86									
I23A	**Meade Ranch, G**	**86.04**	**43**	⇑	P		**P**	**18 13 03.3**	**-0.4**	
	baz=86									
G22A	**Birney**	**86.04**	**41**	⇓	P		**P**	**18 13 03.3**	**-0.3**	
	baz=86									
W30A	**Crocket Farms**	**86.08**	**52**	⇑	P		**P**	**18 13 03.1**	**-1.0**	
	baz=86									
C20A	**Veseth Ranch,**	**86.08**	**38**	⇑	P		**P**	**18 13 03.3**	**-0.4**	
	baz=86									
KULM	**Kulim**	**86.11**	**276**		P		**P**	**18 13 04.8**	**+0.2**	
KULM	**Kulim**	**86.11**	**276**		P		**P**	**18 13 06.3**	**+1.8**	
KULM	**Kulim**	**86.11**	**276**		*eP*		**P**	**18 13 04.6**	**+0.1**	
	comp=Z,50nm,1.4s									
E21A	**Keefer Ranch,**	**86.12**	**40**	⇑	P		**P**	**18 13 03.6**	**-0.3**	
	baz=86									
V30A	**Spur Ranch, Mi**	**86.20**	**52**	⇓	P		**P**	**18 13 03.9**	**-0.7**	
	baz=86									
A19A	**Klindworth Far**	**86.21**	**37**	⇓	P		**P**	**18 13 03.8**	**-0.5**	
	baz=86									
P27A	**Ficken Ranch,**	**86.23**	**48**	⇓	P		**P**	**18 13 03.4**	**-1.4**	
	baz=86									
T29A	**Hugoton**	**86.26**	**50**	⇓	P		**P**	**18 13 03.8**	**-1.0**	
	baz=86									
Z32A	**Haskell**	**86.27**	**54**	⇑	P		**P**	**18 13 04.4**	**-0.5**	
	baz=86									
N26A	**Koester Ranch,**	**86.27**	**46**	⇓	P		**P**	**18 13 04.4**	**-0.5**	
	baz=86									
R28A	**Tribune**	**86.32**	**49**	⇑	P		**P**	**18 13 04.0**	**-1.2**	
	baz=86									
X31A	**McDonald Ranch**	**86.34**	**53**	⇓	P		**P**	**18 13 04.5**	**-0.8**	
	baz=86									
B20A	**Solberg Farm,**	**86.41**	**38**	⇓	P		**P**	**18 13 04.5**	**-0.8**	
	baz=87									
D21A	**La Casta Ranch**	**86.41**	**39**	⇑	P		**P**	**18 13 04.8**	**-0.6**	
	baz=87									
U30A	**WK&E Inc. Balk**	**86.51**	**51**	⇑	P		**P**	**18 13 05.4**	**-0.7**	
	baz=87									
CHBT	**CHBT**	**86.51**	**284**		P		P	18 13 11.5	+5.0	
CHBT	**CHBT**	**86.51**	**284**		P		P	18 13 11.7	+5.2	
	comp=Z,49nm,1.3s,comp=Z,1μm									
Y32A	**R-V Farms, Ver**	**86.54**	**54**	⇑	P		**P**	**18 13 05.2**	**-1.1**	
	baz=87									
K25A	**Mack Ranch, Ha**	**86.54**	**44**	⇓	P		**P**	**18 13 04.9**	**-1.3**	
	baz=87									
I24A	**Kuemmerle Ranc**	**86.54**	**43**	⇓	P		**P**	**18 13 04.8**	**-1.4**	
	baz=87									
O27A	**Beecher Island**	**86.55**	**47**	⇓	P		**P**	**18 13 05.3**	**-1.0**	
	baz=87									
S29A	**Ulysses**	**86.56**	**50**	⇑	P		**P**	**18 13 06.1**	**-0.3**	
	baz=87									
W31A	**Holland Ranch,**	**86.56**	**52**	⇑	P		**P**	**18 13 05.1**	**-1.3**	
	baz=87									
Q28A	**Sharon Springs**	**86.58**	**48**	⇓	P		**P**	**18 13 05.8**	**-0.6**	
	baz=87									
GYA	**Guiyang**	**86.64**	**298**	⇑	*i*P		P	18 13 14.9	+7.9	
GYA					PP		**PP**	**18 16 30.8**	**+1.5**	
GYA	**Guiyang**	**86.64**	**298**		SKS		**SKSac**	**18 23 30.4**	**-3.7**	
GYA	**Guiyang**	**86.64**	**298**		S		**S**	**18 23 41.9**	**-2.5**	
GYA	**Guiyang**	**86.64**	**298**		SS		SS	18 29 26.0	+0.1	
GYA					AMB		AMB			
	comp=Z,50nm,1.0s									
GYA					AMB		AMB			
	comp=Z,520nm,6.8s									
GYA					LR		LR			
	comp=N,2μm,23.2s									
GYA					LR		LR			
	comp=E,2μm,22.0s									
GYA					LR		LR			
	comp=Z,3μm,22.1s									
H03N2	**Juan Fernandez**	**86.68**	**124**		T		T	19 50 32.6		
	baz=257,slow=0.7,SNR=58									
H03N3	**Juan Fernandez**	**86.68**	**124**		T		T	19 50 33.6		
	baz=257,slow=0.7,SNR=85									
H03N1	**Juan Fernandez**	**86.69**	**124**		T		T	19 50 31.4		
	baz=257									
H24A	**Dirks Ranch, A**	**86.96**	**42**	⇑	P		**P**	**18 13 06.9**	**-1.2**	
	baz=87									
B21A	**Ellsworth Farm**	**87.00**	**38**	⇑	P		**P**	**18 13 06.1**	**-2.0**	
	baz=87									
S30A	**Montezuma**	**87.05**	**50**	⇓	P		**P**	**18 13 10.3**	**+1.5**	
	baz=87									
E23A	**Ismay**	**87.21**	**40**	⇓	P		**P**	**18 13 07.1**	**-2.1**	
	baz=87									
NONG	**Nongkai**	**87.24**	**289**		P		P	18 13 16.3	+6.3	
	comp=Z,83nm,0.8s									
XAN	**Xi'an**	**87.27**	**306**		P		**P**	**18 13 09.4**	**-0.5**	
XAN					PP		**PP**	**18 16 29.5**	**-4.7**	
XAN					S		**S**	**18 23 47.3**	**-2.7**	
XAN					AMB		AMB			
	comp=Z,12nm,1.3s									
XAN					AMB		AMB			
	comp=Z,160nm,5.6s									
XAN					LR		LR			
	comp=Z,3μm,19.3s									
XAN					LR		LR			
	comp=Z,2μm,21.5s									
XAN					LR		LR			
	comp=Z,2μm,24.2s									
A21A	**Bergtoll Ranch**	**87.30**	**38**	⇑	P		**P**	**18 13 09.7**	**0.0**	
	baz=88									
WMOK	**Wichita Mounta**	**87.30**	**53**		*eP*		**P**	**18 13 11.3**	**+1.3**	
WMOK					pmax		pmax			
	comp=Z,12nm,1.3s									
WMOK	**Wichita Mounta**	**87.30**	**53**		*eP*		**P**	**18 13 11.3**	**+1.3**	
	comp=Z,12nm,1.3s									
C22A	**Vida**	**87.38**	**39**	⇑	P		**P**	**18 13 11.9**	**+1.8**	
	baz=88									
R30A	**Dighton**	**87.42**	**49**	⇓	P		**P**	**18 13 11.1**	**+0.6**	
	baz=88									
WHTX	**Lake Whitney**	**87.42**	**56**	⇓	P		**P**	**18 13 10.0**	**-0.5**	
	baz=88									
K27A	**Flueckinger Fa**	**87.68**	**45**	⇑	P		**P**	**18 13 12.8**	**+1.1**	
	baz=88									
HHC	**Hu-ho-hao-te**	**87.73**	**313**		*eP*		**P**	**18 13 11.3**	**-0.7**	
HHC					pP		**pP**	**18 13 16.0**	**-0.1**	
HHC					sP		**sP**	**18 13 18.3**	**+0.7**	
HHC					PP		**PP**	**18 16 39.5**	**+1.7**	
HHC					SKS		**SKSac**	**18 23 36.5**	**-3.6**	
HHC					S		**SKSac**	**18 23 51.5**	**+1.7**	
HHC					sS		**ScS**	**18 23 59.5**	**-1.4**	
HHC					SS		**SS**	**18 29 41.8**	**+0.6**	
HHC					AMB		AMB			
	comp=Z,65nm,1.1s									
HHC					AMB		AMB			
	comp=Z,640nm,5.2s									
HHC					LR		LR			
	comp=Z,11μm,17.9s									
HHC					LR		LR			
	comp=Z,13μm,20.6s									
MAW	**Mawson**	**87.79**	**199**		P		**P**	**18 13 13.9**	**+2.2**	
MAW	**Mawson**	**87.79**	**199**	⇑	P		**P**	**18 13 09.5**	**-2.2**	
	baz=88,SNR=25									
MAW	**Mawson**	**87.79**	**199**		P		**P**	**18 13 13.9**	**+2.2**	
	comp=Z,22nm,1.0s,baz=116,slow=5.0,SNR=20									
MAW					LR		LR	18 47 39.0		
	comp=Z,4μm,21.2s,baz=116,slow=32									
GSI	**Gunungsitoli**	**88.04**	**272**		P		**P**	**18 13 16.8**	**+2.9**	
HKT	**Hockley**	**88.09**	**58**		*eP*		**P**	**18 13 14.8**	**+1.1**	
HKT					pmax		pmax			
	comp=Z,149nm,1.8s									
HKT	**Hockley**	**88.09**	**58**		*eP*		**P**	**18 13 14.8**	**+1.1**	
	comp=Z,149nm,1.8s									
INK	**Inuvik**	**88.15**	**14**		*eP*		**P**	**18 13 11.7**	**-1.5**	
	comp=Z,52nm,1.5s									
YAK	**Yakutsk**	**88.16**	**337**		*eP*		P	18 13 09.3	-4.0	
YAK					*e**PP		pP	18 13 19.5	+2.0	
YAK					*e*S		SKSac	18 23 34.2	-7.3	
YAK					*e**SS		**SKKSac**	**18 23 52.5**	**+0.7**	
YAK					*e*SS		**SS**	**18 29 45.9**	**-0.4**	
YAK					pmax		pmax			
	comp=Z,9.0nm,1.0s									
YAK					pmax		pmax			
	comp=N,2.0nm,0.9s									
YAK					pmax		pmax			
	comp=E,3.0nm,1.2s									
YAK					pmax		pmax			
	comp=Z,382nm,5.4s									
YAK					pmax		pmax			
	comp=N,146nm,4.5s									
YAK					pmax		pmax			
	comp=E,81nm,3.6s									
YAK					smax		smax			
	comp=N,315nm,3.8s									
YAK					smax		smax			
	comp=E,187nm,3.5s									
YAK					MLR		MLR			
	comp=N,2μm,20.0s									
YAK					MLR		MLR			
	comp=Z,3μm,24.0s									
YAK					MLR		MLR			
	comp=E,887nm,23.0s									
KCSI	**Kotacane, Aceh**	**88.42**	**274**		P		**P**	**18 13 17.9**	**+2.1**	
D25A	**Fairfield**	**88.72**	**40**	⇑	P		**P**	**18 13 16.3**	**-0.1**	
	baz=89									
BTO	**Baotou**	**88.73**	**313**		*eP*		**P**	**18 13 16.8**	**+0.1**	
LOEI	**Loei**	**88.81**	**288**		P		P	18 13 22.1	+4.6	
	comp=E,18nm,1.9s									
PKDT	**Phuket**	**89.00**	**278**		P		P	18 13 25.7	+7.2	
	comp=E,69nm,1.8s,comp=E,2μm									
B25A	**Knox Farm, Ray**	**89.27**	**39**	⇓	P		**P**	**18 13 17.0**	**-1.9**	
	baz=89									
NATX	**Nacogdoches**	**89.61**	**57**		*eP*		**P**	**18 13 22.1**	**+1.2**	
	comp=E,138nm,1.4s									
KMI	**Kunming**	**89.61**	**296**		P		**P**	**18 13 21.1**	**-0.3**	
KMI					pP		**pP**	**18 13 28.1**	**+2.6**	
KMI					sP		**sP**	**18 13 30.4**	**+3.4**	
KMI					SKS		**SKSac**	**18 23 52.5**	**+0.2**	
KMI					S		**SKKSac**	**18 24 07.8**	**+2.9**	
KMI					sS		**sS**	**18 24 20.3**	**+0.5**	
KMI					AMB		AMB			
	comp=E,130nm,3.9s									
KMI					LR		LR			
	comp=E,4μm,19.1s									
KMI					LR		LR			
	comp=E,7μm,18.5s									
KMI					LR		LR			
	comp=E,8μm,17.9s									
NANT	**Nan**	**89.68**	**289**		P		**P**	**18 13 24.4**	**+2.9**	
	comp=E,52nm,1.2s,comp=E,1μm									
YKA	**Yellowknife Ar**	**90.22**	**24**		P		**P**	**18 13 22.2**	**-0.8**	
YKA	**Yellowknife Ar**	**90.22**	**24**		P		**P**	**18 13 22.2**	**-0.8**	
	comp=E,1.8nm,0.8s,baz=237,slow=4.1,SNR=4.0									
YKW3	**Yellowknife Ar**	**90.25**	**24**		*eP*		**P**	**18 13 24.3**	**+1.1**	
	comp=E,1.2nm,1.7s									
CD2	**Chengdu**	**90.42**	**302**		P		**P**	**18 13 25.1**	**+0.3**	
CD2					pP		**pP**	**18 13 29.9**	**+1.0**	
CD2					sP		**sP**	**18 13 32.1**	**+1.7**	
CD2					PP		**PP**	**18 17 02.0**	**+2.5**	
CD2					SKS		**SKSac**	**18 23 56.6**	**+0.2**	
CD2					S		**S**	**18 24 17.8**	**-2.1**	
CD2					sS		**ScS**	**18 24 25.3**	**+1.7**	
CD2					SS		**SS**	**18 30 21.8**	**+1.1**	
CD2					AMB		AMB			
	comp=E,20nm,0.5s									
CD2					AMB		AMB			
	comp=E,930nm,5.9s									
CD2					LR		LR			
	comp=E,8μm,19.0s									
CD2					LR		LR			
	comp=E,11μm,19.0s									
CM31	**Chiang Mai Arr**	**91.19**	**289**		*eP*		**P**	**18 13 28.9**	**+0.3**	
	comp=E,8.7nm,1.0s									
CMAR	**Chiang Mai Arr**	**91.19**	**289**		P		**P**	**18 13 27.9**	**-0.6**	
CMAR					PP		**PP**	**18 17 09.7**	**+3.9**	
CMAR					PKKPbc		PKKPbc	18 30 57.7	+6.4	
CMAR	**Chiang Mai Arr**	**91.19**	**289**		P		**P**	**18 13 27.9**	**-0.6**	
	comp=E,2.6nm,1.1s,baz=106,slow=2.7,SNR=15									
CMAR					PP		**PP**	**18 17 09.7**	**+3.9**	
	comp=E,1.8nm,1.1s,baz=117,slow=5.3,SNR=3.8									
CMAR					PKKPbc		PKKPbc	18 30 57.7	+6.4	
	comp=E,0.4nm,0.7s,baz=278,slow=5.0,SNR=4.2									
CMAR					LR		LR	18 49 58.7		
	comp=E,8μm,21.2s,baz=106,slow=33									
CHTO	**Chiang Mai**	**91.28**	**289**		*eP*		**P**	**18 13 28.4**	**-0.6**	
CHTO					pmax		pmax			
	comp=Z,91nm,1.3s									
CHTO	**Chiang Mai**	**91.28**	**289**		P		P	18 13 35.3	+6.3	
	SNR=6.4									
CHTO	**Chiang Mai**	**91.28**	**289**		P		**P**	**18 13 30.6**	**+1.6**	
CHTO	**Chiang Mai**	**91.28**	**289**		*eP*		**P**	**18 13 28.4**	**-0.6**	
	comp=Z,90nm,1.3s									
CHTO	**Chiang Mai**	**91.28**	**289**		P		**P**	**18 13 30.0**	**+1.0**	
	comp=Z,94nm,1.9s,comp=Z,4μm									
LZH	**Lanzhou**	**91.87**	**307**	⇑	P		P	18 13 36.3	+4.7	
LZH					pP		pP	18 13 40.4	+4.7	
LZH					sP		sP	18 13 43.3	+6.2	
LZH					PP		PP	18 17 18.3	+7.3	
LZH	**Lanzhou**	**91.87**	**307**		SKS		**SKSac**	**18 24 07.3**	**+2.6**	
LZH	**Lanzhou**	**91.87**	**307**		*e*S		**S**	**18 24 30.3**	**-2.8**	
LZH	**Lanzhou**	**91.87**	**307**		sS		**S**	**18 24 38.1**	**+5.0**	
LZH	**Lanzhou**	**91.87**	**307**		SS		SS	18 30 40.0	-1.7	
LZH					AMB		AMB			
	comp=Z,28nm,1.2s									
LZH					AMB		AMB			
	comp=Z,160nm,6.0s									
LZH					LR		LR			
	comp=N,2μm,14.5s									
LZH					LR		LR			
	comp=E,5μm,17.4s									
LZH					LR		LR			
	comp=Z,8μm,20.8s									
TEIG	**Tepich**	**91.89**	**70**		*eP*		**P**	**18 13 31.7**	**-0.1**	
	comp=Z,28nm,1.3s									
JTS	**JuntasAbangare**	**92.46**	**80**		*eP*		**P**	**18 13 35.5**	**+0.9**	
	comp=Z,565nm,1.3s									
JTS	**JuntasAbangare**	**92.46**	**80**		P		**P**	**18 13 35.6**	**+1.0**	
	comp=Z,5.5nm,0.7s,baz=337,slow=20,SNR=4.1									
FFC	**Flin Flon**	**92.47**	**34**		*eP*		**P**	**18 13 33.2**	**-0.5**	
FFC					pmax		pmax			
	comp=Z,116nm,1.5s									
FFC	**Flin Flon**	**92.47**	**34**		*eP*		**P**	**18 13 33.2**	**-0.5**	
	comp=Z,116nm,1.5s									
SYO	**Syowa Base**	**92.78**	**192**	⇑	*eP*		**P**	**18 13 33.2**	**-1.7**	
SYO	**Syowa Base**	**92.78**	**192**	⇑	*e*PcP		**P**	**18 13 34.9**	**0.0**	
SNAA	**Sanae**	**93.43**	**177**		*eP*		**P**	**18 13 38.3**	**+0.3**	
SNAA	**Sanae**	**93.43**	**177**		*eP*		**P**	**18 13 36.5**	**-1.5**	
	comp=Z,59nm,1.3s									
SONM	**Songino Array**	**93.61**	**319**		P		**P**	**18 13 39.1**	**-0.2**	
SONM					PP		**PP**	**18 17 22.4**	**-1.9**	
SONM	**Songino Array**	**93.61**	**319**		P		**P**	**18 13 39.1**	**-0.2**	
	comp=Z,0.9nm,0.9s,baz=85,slow=3.0,SNR=2.6									
SONM					PP		**PP**	**18 17 22.4**	**-1.9**	
	comp=Z,2.1nm,1.2s,baz=116,slow=6.6,SNR=3.4									
SONM					LR		LR	18 50 39.4		
	comp=Z,7μm,21.9s,baz=119,slow=32									
AGMN	**Agassiz Nation**	**93.83**	**41**		*eP*		**P**	**18 13 40.1**	**0.0**	
	comp=Z,69nm,1.4s									
VNA2	**Neumayer--Watz**	**93.91**	**176**		*eP*		**P**	**18 13 41.0**	**+0.8**	
VNA1	**Neumayer--Stat**	**94.12**	**176**		*eP*		**P**	**18 13 43.1**	**+2.0**	
TIXI	**Tiksi**	**94.20**	**345**	⇓	*i*P		**P**	**18 13 40.7**	**-0.6**	
TIXI					pmax		pmax			
	comp=Z,5.0nm,1.2s									
TIXI					MLR		MLR			
	comp=Z,3μm,22.0s									
MAIT	**Maitri**	**94.38**	**182**		*eP*		**P**	**18 13 43.1**	**+0.8**	
ULM	**Lac du Bonnet**	**94.43**	**39**		*eP*		**P**	**18 13 40.0**	**-2.8**	
	comp=Z,55nm,1.5s									
ULM	**Lac du Bonnet**	**94.43**	**39**		P		**P**	**18 13 41.2**	**-1.6**	
	comp=Z,12nm,1.0s,baz=240,slow=5.9,SNR=7.1									
ULM					LR		LR	18 50 26.3		
	comp=Z,17μm,20.2s,baz=254,slow=32									
CFAA	**Coronel Fontan**	**95.82**	**125**		P		P	18 13 53.2	+3.4	
CFAA					PP		PP	18 17 35.7	-5.7	
CFAA	**Coronel Fontan**	**95.82**	**125**		P		P	18 13 53.2	+3.4	
	comp=Z,0.3nm,0.6s,baz=262,slow=7.1,SNR=2.9									
CFAA					PP		PP	18 17 35.7	-5.7	
	comp=Z,0.1nm,0.3s,baz=246,slow=6.9,SNR=2.5									
GTA	**Gaotai**	**95.84**	**309**		*eP*		**P**	**18 13 49.5**	**-0.2**	
GTA					pP		**pP**	**18 13 53.8**	**0.0**	
GTA					sP		**sP**	**18 13 57.3**	**+2.0**	
GTA					SKS		**SKSac**	**18 24 24.8**	**-1.4**	
GTA					S		**S**	**18 25 07.5**	**-0.3**	
GTA					sS		**sS**	**18 25 17.1**	**+2.4**	
GTA					AMB		AMB			
	comp=Z,2.0nm,1.2s									
GTA					AMB		AMB			
	comp=Z,73nm,5.2s									
GTA					LR		LR			
	comp=Z,4μm,20.9s									
GTA					LR		LR			
	comp=Z,9μm,24.7s									
GTA					LR		LR			
	comp=Z,16μm,23.8s									
JFWS	**Jewell Farm**	**96.11**	**47**		P		**P**	**18 13 51.2**	**+0.5**	
JFWS					pmax		pmax			
	comp=Z,145nm,1.8s									
JFWS	**Jewell Farm**	**96.11**	**47**		P		**P**	**18 13 51.2**	**+0.5**	
	comp=Z,145nm,1.8s									
HDIL	**Hopedale**	**96.21**	**50**		*eP*		**P**	**18 13 51.4**	**+0.2**	
	comp=Z,59nm,1.2s									
ZAK	**Zakamensk**	**96.31**	**320**		*eP*		**P**	**18 13 50.3**	**-1.2**	
ZAK					pmax		pmax			
	comp=Z,5.0nm,1.4s									
TLY	**Talaya**	**96.44**	**322**	*c*	*i*P		P	18 13 57.7	+5.7	
TLY					*e*SS		SS	18 31 47.4	+1.6	
TLY					pmax		pmax			
	comp=Z,10.0nm,1.0s									
TRQA	**Tornquist**	**97.97**	**133**		PFAKE			18 14 10.0	+11	
TRQA					LR		LR			
	comp=Z,3μm,20.0s									
CPCT	**Cooper Cave**	**98.73**	**56**		*eP*		**P**	**18 14 01.3**	**-1.3**	
SHL	**Shillong**	**99.24**	**294**		*eP*		**Pdif**	**18 14 11.0**	**+5.6**	
SHL					*e*SKS		**SKSac**	**18 24 44.0**	**-0.2**	
LPAZ	**La Paz**	**101.23**	**110**		PP		PP	18 18 31.5	+7.5	
LPAZ	**La Paz**	**101.23**	**110**		PP		PP	18 18 31.5	+7.5	
	comp=Z,13nm,1.4s,baz=281,slow=4.9,SNR=7.4									
WMQ	**Urumqi**	**105.56**	**312**		*e*Pdif		**Pdif**	**18 14 31.8**	**-1.1**	
WMQ					PP		**PP**	**18 18 56.8**	**+1.5**	
WMQ					S		**Sdif**	**18 26 25.6**	**-3.7**	
WMQ					SS		**SS**	**18 33 50.3**	**-2.8**	
WMQ					PPMZ					
	comp=Z,360nm,5.4s									
WMQ					LR		LR			
	comp=Z,4μm,17.2s									
WMQ					LR		LR			
	comp=Z,4μm,18.0s									
WMQ					LR		LR			
	comp=Z,5μm,21.8s									
SIV	**San Ignacio**	**107.69**	**112**		PP		PP	18 19 05.7	-5.6	
SIV	**San Ignacio**	**107.69**	**112**		PP		PP	18 19 05.7	-5.6	
	comp=Z,0.3nm,0.3s,baz=253,slow=14,SNR=2.0									
NCB	**Newcomb**	**107.78**	**48**		PFAKE			18 19 00.0		
NCB					LR		LR			
	comp=Z,8μm,21.0s									
GRTK	**Grand Turk**	**107.82**	**72**		PFAKE			18 19 00.0		
GRTK					LR		LR			
	comp=Z,3μm,20.0s									
ZALV	**Zalesovo Beam**	**108.04**	**322**		PKKP		**PKKPdf**	**18 30 23.8**	**+4.9**	
	comp=Z,0.2nm,0.3s,baz=276,slow=4.3,SNR=3.5									
MKAR	**Makanchi Array**	**109.55**	**315**		P		**Pdif**	**18 14 51.1**	**+0.5**	
MKAR	**Makanchi Array**	**109.55**	**315**		Pdif		**Pdif**	**18 14 51.1**	**+0.5**	
MKAR					PKiKP		**PKiKP**	**18 18 54.8**	**+1.1**	
MKAR					PKKPab		**PKKPab**	**18 30 06.4**	**-2.8**	
MKAR					PKKP		**PKKPdf**	**18 30 18.1**	**+2.2**	
MKAR	**Makanchi Array**	**109.55**	**315**		Pdiff		**Pdif**	**18 14 51.1**	**+0.5**	
	comp=Z,0.4nm,0.8s,baz=166,slow=2.0,SNR=3.8									
MKAR					PKiKP		**PKiKP**	**18 18 54.8**	**+1.1**	
	comp=Z,1.3nm,0.7s,baz=77,slow=1.5,SNR=13									
MKAR					PKKPab		**PKKPab**	**18 30 06.4**	**-2.8**	
	comp=Z,0.6nm,0.9s,baz=284,slow=4.9,SNR=4.1									
MKAR					PKKP		**PKKPdf**	**18 30 18.1**	**+2.2**	
	comp=Z,0.7nm,0.8s,baz=242,slow=2.3,SNR=4.8									
KURK	**Kurchatov**	**111.91**	**319**	*i*	PKiKP		**PKiKP**	**18 18 57.2**	**-0.7**	
KURK	**Kurchatov**	**111.91**	**319**	*e*	PKiKP		**PKiKP**	**18 19 00.6**	**+2.8**	
KSH	**Kashi**	**114.12**	**307**	*e*	PKP		PKPdf	18

comp=N,4µm,20.0s
MOS MLR MLR
comp=E,4µm,23.0s
BOSA Boshof 132.55 204 PKP PKPdf 18 19 44.5 +6.1
BOSA Boshof 132.55 204 PKP PKPdf 18 19 44.5 +6.1
comp=E,6.0nm,1.0s,baz=143,slow=5.1,SNR=3.7
OBN Obninsk 133.15 336 *i* PKIKP **PKPdf 18 19 39.6 +1.2**
OBN *e* 18 22 00.1
OBN *e*PS **PS 18 32 25.6 +2.9**
OBN pmax pmax
comp=Z,34nm,1.4s
OBN MLR MLR
comp=Z,5µm,20.0s
VRHR Novokhopersk 133.58 329 *e*PKIKP PKPdf 18 19 47.4 +8.1
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,9.0nm,0.6s
VRHR pmax pmax
comp=Z,7.0nm,0.6s
NB2 NORSAR Subarra133.76 356 PKPdf **PKPdf 18 19 44.6 +5.1**
comp=Z,20nm,1.4s,baz=6.6,slow=1.8
NB2 NORSAR Subarra133.76 356 PKPdf **PKPdf 18 19 44.6 +5.1**
baz=6.6,slow=1.8
NOA NORSAR Array B133.76 356 PKP PKPdf 18 19 45.6 +6.2
NOA NORSAR Array B133.76 356 PKP PKPdf 18 19 45.6 +6.2
comp=Z,3.4nm,0.9s,baz=13,slow=4.1,SNR=4.9
MAK Makhachkala 134.33 316 *e*PKIKP **PKPdf 18 19 40.6 -0.4**
MAK *e* 18 22 19.5
MAK *e*PPP PPP 18 25 06.8
MAK *e* 18 26 44.5
MAK pmax pmax
comp=Z,326nm,1.6s
MAK MLR MLR
comp=Z,6µm,23.0s
HFS Hagfors 134.45 354 PKP PKPdf 18 19 47.8 +7.1
HFS Hagfors 134.45 354 PKP PKPdf 18 19 47.8 +7.1
comp=Z,6.2nm,0.9s,baz=1.9,slow=4.3,SNR=3.4
VSR Storozhevoye 134.70 330 *e*PKIKP PKPdf 18 19 48.5 +7.1
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,9.0nm,1.0s
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORD Divnogorie 134.80 330 *e*PKIKP PKPdf 18 19 47.8 +6.2
VORD pmax pmax
comp=E,10.0nm,1.0s
VORD pmax pmax
comp=Z,10.0nm,1.0s
ZEI Tsey 136.78 318 *i* PKIKP PKPdf 18 19 52.5 +6.6
ZEI pmax pmax
comp=Z,5.0nm,1.1s
KIV Kislovodsk 136.99 320 *i* PKIKP **PKPdf 18 19 44.7 -1.4**
KIV *e* 18 22 28.2
KIV *e*SS SS 18 40 35.0 +0.7
KIV pmax pmax
comp=Z,5.0nm,1.2s
KIV MLR MLR
comp=Z,6µm,22.0s
GNI Garni 137.39 314 *e*PKPdf **PKPdf 18 19 45.7 -1.3**
SOC Sochi 139.01 321 *i* PKIKP **PKPdf 18 19 50.6 +0.9**
SOC *e* 18 22 39.0
SOC *e* 18 26 53.7
SOC *e* 18 34 52.2
SOC *e*SSS SSS 18 46 04.2
SOC MLR MLR
comp=Z,6µm,22.0s
AKASG Malin Array Be 139.39 337 PKIKP **PKPdf 18 19 49.7 -0.4**
AKASG 18 22 42.6
AKASG Malin Array Be 139.39 337 PKP **PKPdf 18 19 49.7 -0.4**
AKASG PP **PP 18 22 42.5 -1.0**
AKASG Malin Array Be 139.39 337 PKP **PKPdf 18 19 49.7 -0.4**
comp=Z,0.5nm,0.5s,baz=22,slow=2.9,SNR=8.8
AKASG PP **PP 18 22 42.6 -1.0**
comp=Z,0.1nm,0.2s,baz=37,slow=6.3,SNR=4.1
KIEV Kiev 139.40 337 *e*PKIKP **PKPdf 18 19 47.3 -2.9**
KIEV Kiev 139.40 337 *e*PKPdf **PKPdf 18 19 47.3 -2.9**
ANN Anapa 139.65 324 *e*PKHKP PKPpre 18 19 43.9
ANN *e*SS SS 18 41 05.0 -0.2
ANN pmax pmax
comp=Z,180nm,5.5s
SIM Simferopol' 141.37 327 *e*PKIKP **PKPdf 18 19 49.8 -4.1**
SIM pmax pmax
comp=Z,300nm,8.8s
SIM MLR MLR
comp=Z,2µm,20.0s
LVV L'vov 141.98 340 *e*PKIKP **PKPdf 18 19 53.9 -1.0**
LVV MLR MLR
comp=N,5µm,23.0s
LVV MLR MLR
comp=E,2µm,23.0s
LVV MLR MLR
comp=Z,5µm,23.0s
LSZ Lusaka 142.35 218 *e*PKPdf **PKPdf 18 19 56.0 -0.7**
KIS Kishinev 142.47 333 *e*PKP PKPdf 18 20 04.0 +8.2
KIS Kishinev 142.47 333 *e*PKIKP PKPdf 18 20 04.0 +8.2
KIS MLR MLR
comp=Z,7µm,20.0s
KIS MLR MLR
comp=N,6µm,21.0s
KIS MLR MLR
comp=E,1µm,20.0s
KIS MLR MLR
comp=Z,7µm,21.0s
KWP Kalwaria Pacla 142.57 341 ⇑PKIKP **PKPdf 18 19 56.1 +0.1**
KWP Kalwaria Pacla 142.57 341 ⇑*i*P **PKPdf 18 19 56.0 +0.1**
KWP Kalwaria Pacla 142.57 341 *e*PKP **PKPdf 18 19 53.7 -2.2**
MALT Malatya 142.59 315 ⇓PKIKP **PKPdf 18 19 59.9 +3.4**
MALT Malatya 142.59 315 ⇓*i*P **PKPdf 18 19 59.9 +3.4**
CLZ Clausthal 142.96 355 *e*PKIKP **PKPdf 18 19 53.3 -3.3**
CLZ Clausthal 142.96 355 *e*PKPbc **PKPdf 18 19 53.3 -3.3**
WTSB Winterswijk 143.04 358 *e*PKP **PKPdf 18 19 57.2 +0.6**
comp=Z,80nm,1.6s
KSP Ksiaz 143.09 348 *e*PKIKP **PKPdf 18 19 57.9 +1.1**
KSP *e*SS SS 18 41 42.0 -2.0
KSP MLR MLR
comp=Z,10µm,21.3s
KSP Ksiaz 143.09 348 *e*PKP **PKPdf 18 19 58.1 +1.3**
CLL Collm 143.19 352 ⇑*i*PKIKP **PKPdf 18 19 57.5 +0.6**
CLL pmax pmax
comp=Z,5.0nm,1.1s
CLL MLR MLR
comp=Z,6µm,21.0s
CLL Collm 143.19 352 *e*PKPpre PKPpre 18 19 52.0
CLL ⇑*i*PKPdf **PKPdf 18 19 57.5 +0.6**
comp=Z,21nm,1.1s
CLL *i* PKiKP **PKiKP 18 20 01.6 +1.4**
CLL *e*SKPdf **SKPdf 18 23 28.0 -3.4**
CLL *e*SS **SS 18 41 45.0 -0.1**
CLL *e*SSS SSS 18 47 15.0
CLL Lm MLR 19 27 00.0
comp=Z,6µm,21.0s
STHS Stebnicka Huta 143.20 342 *e*PKIKP PKPbc 18 19 53.7 -0.3
STHS *e* 18 19 59.8
STHS Stebnicka Huta 143.20 342 *e*PKP PKPbc 18 19 53.7 -0.3
STHS *e* 18 19 59.8
BURAR Bucovina Array 143.43 337 ⇓PKIKP **PKPdf 18 19 59.0 +1.4**
BURAR Bucovina Array 143.43 337 ⇓*i*P **PKPdf 18 19 59.0 +1.4**
UPC Upice 143.46 348 *e*PKIKP **PKPdf 18 19 59.6 +2.1**
UPC Upice 143.46 348 *e*PKP **PKPdf 18 19 59.6 +2.1**
BRG Berggiesshubel 143.47 351 *e*PKP **PKPdf 18 19 58.7 +1.3**
comp=Z,17nm,1.3s
BRG *e* 18 20 08.1
comp=Z,39nm,1.4s
BRG *e*PKS **PKSdf 18 23 37.0 +4.1**
comp=Z,66nm,2.3s
BRG SS SS 18 41 48.0 -0.4
BRG
comp=N,2µm,22.0s
BRG
comp=E,3µm,21.8s
BRG
comp=Z,5µm,20.1s
BRG Berggiesshubel 143.47 351 *e*PKIKP **PKPdf 18 19 58.7 +1.3**
BRG *e* 18 20 08.1
BRG SS SS 18 41 48.0 -0.4
BRG pmax pmax
comp=Z,17nm,1.3s
BRG pmax pmax
comp=Z,39nm,1.4s
BRG pmax pmax
comp=Z,66nm,2.3s
BRG MLR MLR
comp=N,2µm,22.0s
BRG MLR MLR
comp=E,3µm,21.8s
BRG MLR MLR
comp=Z,5µm,20.1s
comp=Z,6µm,19.5s
PRU Pruhonice 144.23 350 *e*PKP **PKPab 18 19 55.8 -0.8**
PRU *ep*PKP **PKiKP 18 20 01.7 -0.7**
PRU *ex* x 18 20 16.4
PRU *e*SS SS 18 41 53.2 -3.9
PRU AMS AMS 19 23 10.0
comp=Z,6µm,19.5s
BEBN Eben Emael 144.24 359 PKP **PKPdf 18 20 01.1 +2.4**
VRI Vrincioaia 144.25 334 ⇓PKIKP **PKPdf 18 20 01.8 +2.8**
VRI Vrincioaia 144.25 334 ⇓*i*P **PKPdf 18 20 01.8 +2.8**
KECS Kecovo 144.26 343 *e*PKIKP **PKPab 18 19 56.1 -0.7**
KECS *e* 18 20 01.7
KECS Kecovo 144.26 343 *e*PKP **PKPab 18 19 56.0 -0.7**
KECS *e* 18 20 01.7
HGN Heimansgroeve 144.26 359 *e*PKP **PKPab 18 19 53.7 -3.0**
comp=Z,124nm,1.9s
PLOR Plostina 144.30 334 ⇓PKIKP **PKPdf 18 20 01.0 +1.9**
PLOR Plostina 144.30 334 ⇓*i*P **PKPdf 18 20 01.0 +1.9**
MENF Mencas 144.39 3 PKP **PKPdf 18 20 00.9 +1.9**
MEM Membach 144.42 359 PKP **PKPdf 18 19 59.7 +0.5**
VRAC Vranov 144.48 347 ⇑*i*P **PKPab 18 19 57.5 -0.1**
VRAC Vranov 144.48 347 PKP **PKPab 18 19 56.8 -0.8**
VRAC Vranov 144.48 347 PKP **PKPab 18 19 56.8 -0.8**
comp=Z,11nm,1.0s,baz=9.4,slow=3.6,SNR=11
KMBO Kilima Mbogo 144.50 246 PKPdf **PKPab 18 19 59.1 +0.1**
SNR=17
KMBO Kilima Mbogo 144.50 246 *e*PKPdf **PKPab 18 19 57.8 -1.2**
KMBO PKP PKPbc 18 19 59.1 -0.1
KMBO Kilima Mbogo 144.50 246 PKP **PKPab 18 19 59.1 +0.1**
comp=Z,12nm,1.1s,baz=82,slow=3.1,SNR=8.0
SNF Seneffe 144.52 1 PKP **PKPdf 18 19 59.1 -0.2**
GRER 144.53 333 ⇑*i*P **PKPdf 18 20 03.5 +4.0**
TIRR Tirgusor 144.59 331 ⇑PKIKP **PKPdf 18 20 02.6 +3.0**
TIRR Tirgusor 144.59 331 ⇑*i*P **PKPdf 18 20 02.6 +3.0**
TIRR Tirgusor 144.59 331 *e*PKPdf PKPbc 18 19 58.5 +0.2
BCLA Clavier 144.61 360 PKP **PKPdf 18 20 02.4 +3.0**
HARR Harsova 144.64 332 ⇓PKIKP **PKPdf 18 20 03.6 +3.9**
HARR Harsova 144.64 332 ⇓*i*P **PKPdf 18 20 03.6 +3.9**
TLB Topalu 144.66 331 ⇑PKIKP **PKPdf 18 20 03.1 +3.4**
TLB Topalu 144.66 331 ⇑*i*P **PKPdf 18 20 03.1 +3.4**
TNS Taunus Mts 144.71 356 *e*PKIKP **PKPab 18 19 57.3 -1.1**
TNS Taunus Mts 144.71 356 *e*PKPbc **PKPab 18 19 57.3 -1.1**
TREC Tresi 144.72 348 AMS AMS 19 21 10.0
comp=Z,6µm,22.8s
DOPR Dopca 144.72 335 ⇑*i*P **PKPdf 18 20 04.6 +4.8**
ROTZ Rotzenmuhle 144.80 352 *e*PKPbc **PKPab 18 19 57.3 -1.4**
MLR Muntele Rosu 144.88 334 ⇑*i*P **PKPdf 18 20 04.0 +3.7**
MLR Muntele Rosu 144.88 334 PKP **PKPab 18 19 58.2 -1.2**
MLR Muntele Rosu 144.88 334 PKP **PKPab 18 19 58.2 -1.2**
comp=Z,3.2nm,1.1s,baz=348,slow=1.5,SNR=9.8
ISR Istrita 144.92 333 ⇑PKIKP **PKPdf 18 20 04.2 +3.9**
ISR Istrita 144.92 333 ⇑*i*P **PKPdf 18 20 04.2 +3.9**
DOU Dourbes 144.94 1 PKP **PKPdf 18 20 01.1 +1.1**
PSZ Piszkesteto 144.94 343 *e*PKIKP **PKPab 18 19 57.9 -1.4**
PSZ Piszkesteto 144.94 343 ⇑*i*P **PKPab 18 19 58.9 -0.5**
PSZ Piszkesteto 144.94 343 *e*PKPdf **PKPab 18 19 57.9 -1.4**
PSZ Piszkesteto 144.94 343 *e*PKPbc **PKPab 18 19 58.0 -1.4**
BR131 Keskin Array S 144.95 320 *e*PKPdf **PKPab 18 19 58.4 -1.4**
BRTR Keskin Array B 144.95 320 PKP **PKPab 18 19 58.8 -1.0**
BRTR Keskin Array B 144.95 320 PKP **PKPab 18 19 58.8 -1.0**
comp=Z,22nm,1.0s,baz=90,slow=1.2,SNR=22
MANR Mangalia 144.99 330 ⇓*i*P **PKPdf 18 20 05.3 +5.0**
GRF Grafenberg Arr 145.00 353 *e*PKIKP **PKPab 18 19 57.9 -1.5**
GRF MLR MLR
comp=Z,6µm,18.7s
GRF Grafenberg Arr 145.00 353 *e*PKPbc **PKPab 18 19 57.9 -1.5**
GRF *e*L L 19 29 44.9
comp=Z,6µm,18.7s
GRFO Grafenberg 145.00 353 *e*PKIKP **PKPab 18 19 58.6 -0.8**
GRFO Grafenberg 145.00 353 *e*PKPdf **PKPab 18 19 58.6 -0.8**
SMOL Smolenice 145.04 346 *e*PKIKP **PKPab 18 19 59.7 +0.1**
SMOL *e* 18 20 05.1
SMOL Smolenice 145.04 346 *e*PKP **PKPab 18 19 59.7 +0.1**
SMOL *e* 18 20 05.1
MSAB Monastry St. A 145.14 331 ⇑*i*P **PKPbc 18 20 00.1 0.0**
KHC Kasperske Hory 145.22 350 *e*PKIKP **PKPbc 18 19 58.7 -1.5**
KHC *e* 18 20 04.8
KHC *e*SS SS 18 42 03.3 -5.3
KHC MLR MLR
comp=Z,9µm,21.6s
KHC Kasperske Hory 145.22 350 *e*PKP **PKPbc 18 19 58.7 -1.5**
KHC *ep*PKP **PKiKP 18 20 04.8 +0.3**
KHC *ex* x 18 20 19.2
KHC *e*SS SS 18 42 03.3 -5.3
KHC AMS AMS 19 23 40.0
comp=Z,9µm,21.6s
KHC Kasperske Hory 145.22 350 *e*PKPdf **PKPbc 18 19 58.2 -2.0**
PSN Preselentsi 145.28 330 *i* P **PKPdf 18 20 05.4 +4.6**
VOIR 145.29 335 ⇑*i*P **PKPbc 18 20 00.3 -0.3**
WET Wettzell 145.31 351 *e*PKIKP **PKPbc 18 19 58.9 -1.6**
WET Wettzell 145.31 351 *e*PKPbc **PKPbc 18 19 58.9 -1.6**
WLF Walferdange 145.36 359 PKP **PKPbc 18 19 59.6 -1.0**
WLF Walferdange 145.36 359 *e*PKIKP **PKPbc 18 19 59.4 -1.2**
WLF Walferdange 145.36 359 *e*PKPbc **PKPbc 18 19 59.7 -0.9**
WLF Walferdange 145.36 359 *e*PKPdf **PKPbc 18 19 59.4 -1.2**
ANTO Ankara 145.38 321 *e*PKIKP **PKPbc 18 20 01.0 -0.1**
ANTO Ankara 145.38 321 PKPbc PKPab 18 20 07.0 +5.7
SNR=18
ANTO Ankara 145.38 321 ⇑*i*P **PKPab 18 20 05.3 +4.0**
ANTO Ankara 145.38 321 *e*PKPdf **PKPbc 18 20 01.0 -0.1**
GEC2 GERESS Array S 145.47 350 *e*PKIKP **PKPbc 18 19 59.2 -1.9**
GEC2 GERESS Array S 145.47 350 *e*PKPbc **PKPbc 18 19 59.2 -1.9**
GERES GERESS Array B 145.47 350 PKPbc **PKPbc 18 19 60.0 -1.2**
GERES GERESS Array B 145.47 350 PKPbc **PKPbc 18 19 60.0 -1.2**
comp=Z,7.4nm,1.0s,baz=50,slow=2.1,SNR=28
ARR Arges 145.52 336 ⇑*i*P **PKPab 18 20 01.8 +0.2**
BUD Budapest 145.58 343 *e* **PKPab 18 20 05.6 +4.0**
DEV Deva 145.75 338 ⇑*i*P **PKPdf 18 20 01.4 -0.2**
LOT Lotru 145.79 337 ⇑*i*P **PKPab 18 20 06.1 +3.5**
PKSG 145.84 344 ⇑*e* **PKPab 18 20 04.7 +2.1**
SIRR Siria 145.85 340 ⇓*i*P **PKPab 18 20 06.4 +3.7**
BST Brest 145.86 11 PKP **PKPab 18 20 05.9 +3.2**
PKSN Nyarlorinc 145.87 342 ⇑*e* **PKPab 18 20 05.5 +2.8**

PKS7 Kunszentmiklos 145.94 343 ⇑*e* **PKPab 18 20 06.3 +3.4**
CONA Conrad Observa 145.94 347 *i* pPKPdf **PKPbc 18 20 02.3 -0.3**
comp=Z,60nm,1.6s,SNR=26
CONA ⇓*i*pPKiKP **pPKiKP 18 20 08.7 -1.6**
comp=Z,306nm,1.5s
LANF Langenberg 145.99 357 PKP **PKPdf 18 20 01.6 -0.3**
PRD Provadia 146.02 330 *i* P PKPab 18 20 08.8 +5.4
SOP Sopron 146.02 346 ⇑*e* **PKPab 18 20 05.0 +1.7**
PKST T"s 146.05 344 ⇑*e* **PKPab 18 20 05.5 +2.1**
STU Stuttgart 146.10 355 *e*PKP2 **PKPdf 18 20 01.8 -0.3**
STU Stuttgart 146.10 355 *e*PKPbc **PKPdf 18 20 01.8 -0.3**
STU Stuttgart 146.10 355 *e*PKPdf **PKPdf 18 20 01.8 -0.3**
DESE Dese 146.26 268 *eP* **PKPab 18 20 06.0 +0.4**
MOA Molln 146.34 349 ⇓*i*PKPab **PKPdf 18 20 02.8 +0.3**
comp=Z,16nm,1.7s,SNR=17
MOA ⇑*i*pPKiKP **pPKiKP 18 20 10.2 -0.8**
comp=Z,83nm,1.1s
PKS2 Kecel 146.43 342 ⇑*e* **PKPab 18 20 07.8 +3.0**
BZS Buzias 146.44 339 ⇑*i*P **PKPdf 18 20 02.5 -0.2**
FUR Furstenfeldbru 146.49 353 *e*PKP2 **PKPdf 18 20 02.5 -0.3**
FUR Furstenfeldbru 146.49 353 *e*PKPbc **PKPdf 18 20 02.5 -0.3**
ZIMR 146.60 333 ⇑*i*P **PKPab 18 20 05.3 -0.3**
PKS9 Tamasi 146.60 344 ⇑*e* **PKPab 18 20 06.4 +0.9**
BFO Black Forest 146.61 356 *e*PKP2 **PKPdf 18 20 03.2 +0.2**
BFO Black Forest 146.61 356 *e*PKPbc **PKPdf 18 20 03.2 +0.2**
BFO Black Forest 146.61 356 *e*PKPdf **PKPdf 18 20 02.9 -0.1**
ARSA Arzberg 146.66 347 ⇓*i*PKPbc **PKPdf 18 20 02.5 -0.6**
comp=Z,16nm,1.6s
ARSA *i* pPKiKP **PKiKP 18 20 09.3 +1.8**
comp=Z,65nm,1.4s,SNR=10.0
RJOB Jochberg 146.70 351 *e*PKPbc **PKPbc 18 20 05.3 +0.5**
ISK Istanbul-Kandi 146.73 326 P **PKPbc 18 20 05.2 +0.1**
ISK Istanbul-Kandi 146.73 326 PKP2 **PKPbc 18 20 05.2 +0.1**
ISK Istanbul-Kandi 146.73 326 P **PKPbc 18 20 05.2 +0.1**
ECH Echery 146.78 358 *e*PKP2 **PKPdf 18 20 03.6 +0.3**
ECH Echery 146.78 358 PKP **PKPbc 18 20 04.8 -0.2**
ECH Echery 146.78 358 *e*PKPdf **PKPdf 18 20 03.6 +0.3**
THEF They Montfort 146.80 359 PKP **PKPdf 18 20 03.7 +0.4**
JMB Yambol 146.97 330 P **PKPab 18 20 06.7 -0.4**
JMB Yambol 146.97 330 PKP2 **PKPab 18 20 06.7 -0.4**
JMB Yambol 146.97 330 P **PKPab 18 20 06.7 -0.4**
FELD Feldberg im Sc 147.08 357 PKP **PKPbc 18 20 05.7 -0.3**
BEHE Becsehely 147.10 345 *e* **PKPbc 18 20 05.9 0.0**
MOF Molkenrain 147.15 358 PKP **PKPbc 18 20 06.1 0.0**
RETA Reutte 147.22 353 ⇓*i*pPKPdf **PKPbc 18 20 05.4 -0.9**
comp=Z,26nm,1.4s,SNR=27
RETA ⇑*i*pPKiKP **pPKiKP 18 20 11.2 -1.8**
comp=Z,88nm,1.1s
KBA Koelnbreinsper 147.25 350 ⇓*i*pPKiKP **PKPab 18 20 10.3 +2.0**
comp=Z,89nm,1.2s
WATA Walderalm 147.27 352 ⇓*i*pPKiKP **PKPab 18 20 10.4 +2.1**
comp=Z,55nm,1.1s,SNR=9.0
SOKA Soboth 147.31 347 ⇓*i*pPKPdf **PKPdf 18 20 05.2 +0.9**
comp=Z,20nm,1.3s
SOKA ⇓*i*pPKiKP **PKiKP 18 20 10.4 +1.5**
comp=Z,140nm,1.1s
WTTA Wattenberg 147.33 352 *i* pPKPdf **PKPbc 18 20 05.9 -0.9**
comp=Z,24nm,1.4s,SNR=26
WTTA ⇓*i*pPKiKP **PKiKP 18 20 10.9 +1.8**
comp=Z,217nm,1.9s
SQTA Sankt Quirin 147.43 352 ⇓*i*pPKPdf **PKPdf 18 20 05.7 +1.2**
SQTA ⇓*i*pPKiKP **PKiKP 18 20 11.2 +1.9**
SHEL Horse Pasture 147.45 160 PFAKE 18 20 20.0 +10
SHEL LR LR
comp=Z,2µm,20.0s
DAVA Damuels 147.51 354 ⇓*i*pPKPdf **PKPbc 18 20 06.3 -1.0**
comp=Z,19nm,1.2s
DAVA *i* pPKiKP **PKiKP 18 20 11.6 +2.1**
comp=Z,126nm,1.1s,SNR=14
MPEP Malo Peshtene 147.54 334 *i* P **PKPab 18 20 08.8 -0.5**
OBKA Obir 147.57 348 ⇓*i*PKPab **PKPbc 18 20 07.1 -0.3**
comp=Z,7.3nm,1.2s,SNR=12
OBKA ⇓*i*pPKPab **PKiKP 18 20 10.8 +1.3**
comp=Z,47nm,1.2s
MYKA Terra Mystica 147.63 349 ⇓*i*pPKPdf **PKPdf 18 20 05.8 +1.0**
comp=Z,15nm,0.9s
MYKA ⇓*i*pPKPab **PKPab 18 20 10.8 +1.2**
comp=Z,108nm,1.3s,SNR=13
LOMF Lomont 147.66 358 PKP **PKPbc 18 20 06.3 -1.3**
FETA Feichten 147.69 353 ⇓*i*PKPbc **PKPdf 18 20 05.7 +0.7**
comp=Z,15nm,1.5s,SNR=35
FETA ⇑*i*pPKiKP **pPKiKP 18 20 12.5 -1.5**
comp=Z,82nm,1.2s
ABTA Abfaltersbach 147.71 351 ⇓*i*PKPbc **PKPdf 18 20 04.9 -0.1**
comp=Z,19nm,1.4s,SNR=25
ABTA ⇓*i*pPKPab **PKPab 18 20 11.1 +1.2**
comp=Z,85nm,1.1s
CSS Prodhromos 147.81 313 P **PKPdf 18 20 06.1 +0.7**
CSS Prodhromos 147.81 313 P **PKPdf 18 20 06.1 +0.7**
CSS *e*PKPab **PKPab 18 20 11.4 +0.6**
CSS LR LR
comp=Z,3µm,22.0s
PGB Panagyurishte 148.01 333 *i* P **PKPab 18 20 13.7 +2.4**
DAVOX Davos/Dischmat 148.02 354 PKPbc **PKPbc 18 20 09.7 +1.0**
DAVOX Davos/Dischmat 148.02 354 PKPbc **PKPbc 18 20 09.7 +1.0**
comp=Z,41nm,0.8s,baz=316,slow=2.0,SNR=30
LJU Ljubljana 148.02 348 *e*PKPdf **PKPbc 18 20 07.4 -1.1**
ISP Isparta 148.04 320 P **PKPbc 18 20 10.3 +1.4**
PLD Plovdiv 148.12 332 P **PKPab 18 20 10.6 -1.1**
PLD Plovdiv 148.12 332 *i* P **PKPab 18 20 13.2 +1.5**
VOY Vojsko 148.16 348 *e*PKPdf **PKPbc 18 20 08.7 -0.3**
VOY *e* 18 20 12.1
VOY *e* 18 20 15.8
VOY *e* 18 20 29.9
VISS Visnje 148.18 347 *i* PKPdf **PKPdf 18 20 12.2 +1.5**
VISS *i* 18 20 12.2
JAVS Javornik 148.25 348 *i* PKPdf **PKPbc 18 20 09.5 +0.3**
JAVS *i* 18 20 12.8
DIVS Divibare 148.32 340 P **PKPdf 18 20 05.6 -0.5**
TUE Stuetta 148.37 355 *e*PKPdf **PKPdf 18 20 07.3 +1.1**
BOJS Bojanci 148.38 346 *i* PKPdf **PKPbc 18 20 08.7 -0.7**
BOJS *i* 18 20 14.3
VTS Vitosha 148.39 334 P **PKPbc 18 20 11.2 +1.4**
VTS Vitosha 148.39 334 ⇓PKP2 **PKPab 18 20 15.1 +2.2**
VTS Vitosha 148.39 334 ⇓*i*P **PKPab 18 20 15.1 +2.2**
VTS Vitosha 148.39 334 *i* P **PKPab 18 20 14.9 +2.0**
ALN Alexandroupoli 148.42 329 *eP* **PKPab 18 20 11.4 -1.5**
TRI Trieste 148.49 348 *e*PKP2 **PKPbc 18 20 09.2 -0.5**
TRI Trieste 148.49 348 *e*PKPbc **PKPbc 18 20 09.2 -0.5**
OG01 Vacheresse 148.68 358 PKP **PKPab 18 20 15.4 +1.5**
AGO Saint Agoulin 148.94 3 PKP **PKPab 18 20 14.5 -0.3**
MMB Musomiste 148.98 332 *i* P **PKPab 18 20 15.7 +0.5**
SMTH Samothraki Isl 149.00 329 P **PKPab 18 20 11.9 +0.7**
SMTH Samothraki Isl 149.00 329 *eP* **PKPab 18 20 14.7 -1.2**
KKB Krupnik 149.03 334 *i* P **PKPab 18 20 16.6 +1.2**
PLDF La Plantade 149.04 2 PKP **PKPab 18 20 15.2 -0.1**
KAVA Kavala 149.09 331 P **PKPbc 18 20 10.6 -0.8**
KAVA Kavala 149.09 331 *eP* **PKPab 18 20 16.9 +1.3**
KAVA Kavala 149.09 331 P **PKPbc 18 20 10.6 -0.8**
NVR Nevrokopi 149.11 332 P **PKPdf 18 20 09.2 +1.8**
NVR Nevrokopi 149.11 332 *eP* **PKPbc 18 20 11.5 0.0**
NVR Nevrokopi 149.11 332 P **PKPdf 18 20 09.2 +1.8**
VERF Verneugheol 149.20 4 PKP **PKPab 18 20 15.5 -0.4**
PYM Petit Puy Mans 149.23 3 PKP **PKPab 18 20 15.8 -0.3**
SRS Serrai 149.41 332 P **PKPab 18 20 14.9 -2.0**
SRS Serrai 149.41 332 *eP* **PKPbc 18 20 13.7 +1.5**
PRK Paraskevi 149.53 327 P **PKPab 18 20 16.2 -1.2**
PRK Paraskevi 149.53 327 *eP* **PKPbc 18 20 15.0 +2.5**
LIA Limnos Island 149.60 329 P **PKPdf 18 20 03.9 -4.2**
LIA Limnos Island 149.60 329 *eP* **PKPab 18 20 16.6 -1.1**
LIA Limnos Island 149.60 329 P **PKPdf 18 20 03.9 -4.2**
SKO Skopje 149.63 336 P **PKPab 18 20 17.3 -0.5**
KNT Kendrikon 149.69 333 P **PKPbc 18 20 12.3 -0.6**
KNT Kendrikon 149.69 333 PKP2 **PKPbc 18 20 12.3 -0.6**
KNT Kendrikon 149.69 333 *eP* **PKPbc 18 20 14.0 +1.1**
KNT Kendrikon 149.69 333 P **PKPbc 18 20 12.3 -0.6**
VAY Valandovo 149.70 334 P **PKPbc 18 20 14.6 +1.7**
VAY Valandovo 149.70 334 PKP2 **PKPbc 18 20 14.6 +1.7**
VAY Valandovo 149.70 334 P **PKPbc 18 20 14.6 +1.7**
SSB Saint Sauveur 149.75 1 *e*PKP2 **PKPbc 18 20 11.9 -1.1**
SSB Saint Sauveur 149.75 1 PKP **PKPab 18 20 17.9 -0.3**
SSB Saint Sauveur 149.75 1 *e*PKPbc **PKPbc 18 20 11.9 -1.1**
SOH Sokhos 149.76 332 P **PKPab 18 20 18.2 -0.2**
SOH Sokhos 149.76 332 PKP2 **PKPab 18 20 18.2 -0.2**
SOH Sokhos 149.76 332 *eP* PKPab 18 20 26.9 +8.5
SOH Sokhos 149.76 332 P **PKPbc 18 20 18.2 -0.2**
LBL Lubilhac 149.76 3 PKP **PKPab 18 20 17.3 -1.0**
GRN Grenoble 149.79 359 PKP **PKPab 18 20 17.7 -0.7**
GDM Grand'Maison 149.82 359 PKP **PKPab 18 20 17.7 -0.9**
OUR Ouranopolis 149.85 331 P **PKPbc 18 20 16.0 +2.7**
OUR Ouranopolis 149.85 331 PKP2 **PKPbc 18 20 16.0 +2.7**
OUR Ouranopolis 149.85 331 *eP* **PKPab 18 20 16.7 -2.0**

OUR	Ouranopolis	149.85	331	P		PKPbc	18 20 16.0	+2.7
BNI	Bardonecchia	149.96	358	*e*PKP2		PKPbc	18 20 12.8	-0.8
BNI	Bardonecchia	149.96	358	*e*PKPbc		PKPbc	18 20 12.8	-0.8
HORT	Hortiatis	150.05	332	P		PKPbc	18 20 13.1	-0.8
HORT	Hortiatis	150.05	332	*e*P		PKPab	18 20 17.0	-2.6
HORT	Hortiatis	150.05	332	P		PKPbc	18 20 13.1	-0.8
GRG	Griva	150.07	333	P		PKPab	18 20 17.8	-1.8
GRG	Griva	150.07	333	PKP2		PKPab	18 20 17.8	-1.8
GRG	Griva	150.07	333	*e*P		PKPbc	18 20 15.2	+1.3
GRG	Griva	150.07	333	P		PKPab	18 20 17.8	-1.8
PLG	Polygyros	150.07	331	P		PKPbc	18 20 16.0	+2.1
PLG	Polygyros	150.07	331	PKP2		PKPbc	18 20 16.0	+2.1
PLG	Polygyros	150.07	331	P		PKPbc	18 20 16.0	+2.1
THE	Thessaloniki	150.09	332	P		PKPbc	18 20 15.4	+1.6
THE	Thessaloniki	150.09	332	PKP2		PKPbc	18 20 15.4	+1.6
THE	Thessaloniki	150.09	332	P		PKPbc	18 20 15.4	+1.6
OG22	Abries	150.18	358	PKP		PKPbc	18 20 16.7	+2.5
CHOS	Chios island	150.26	326	P		PKPbc	18 20 12.3	-2.2
CHOS	Chios island	150.26	326	*e*P		PKPbc	18 20 16.1	+1.6
CHOS	Chios island	150.26	326	P		PKPbc	18 20 12.3	-2.2
PHP	Peshkopia	150.26	337	P		PKPbc	18 20 15.8	+1.4
SMG	Samos	150.31	324	P		PKPbc	18 20 17.1	+2.6
SMG	Samos	150.31	324	*e*P		PKPab	18 20 19.0	-1.7
PAIG	Paliouri	150.32	331	P		PKPbc	18 20 16.0	+1.6
PAIG	Paliouri	150.32	331	PKIKP		PKPbc	18 20 16.0	+1.6
PAIG	Paliouri	150.32	331	*e*P		PKPbc	18 20 17.4	+3.0
PAIG	Paliouri	150.32	331	P		PKPbc	18 20 16.0	+1.6
SURF	Saint Ours	150.53	358	PKP		PKPab	18 20 18.4	-3.2
ARG	Arkhangelos	150.54	320	P		PKPbc	18 20 15.1	0.0
VLC	Villacollemand	150.54	352	*e*PKPab		PKPbc	18 20 18.2	+3.3
FNA	Florina	150.65	334	P		PKPbc	18 20 15.7	+0.4
FNA	Florina	150.65	334	PKIKP		PKPbc	18 20 15.7	+0.4
FNA	Florina	150.65	334	*e*P		PKPbc	18 20 16.0	+0.7
FNA	Florina	150.65	334	P		PKPbc	18 20 15.7	+0.4
OG25	Le Caire	150.66	359	PKP		PKPab	18 20 20.3	-1.7
PGAV	Gavieira, Arco	150.66	21	*e*SS		SS	18 43 18.5	+8.1
PGAV	Gavieira, Arco	150.66	21	*e*LQ		LQ	19 02 43.2	
PGAV				*e*LR		LR	19 09 48.5	
	comp=Z,11µm,20.0s							
LIT	Litokhoron	150.73	332	P		PKPbc	18 20 13.8	-1.7
LIT	Litokhoron	150.73	332	PKIKP		PKPbc	18 20 13.8	-1.7
LIT	Litokhoron	150.73	332	*e*P		PKPbc	18 20 18.5	+3.0
LIT	Litokhoron	150.73	332	P		PKPbc	18 20 13.8	-1.7
TIR	Tirane	150.77	337	P		PKPbc	18 20 17.5	+2.0
TIR	Tirane	150.77	337	*e*PKPab		PKPab	18 20 21.5	-1.0
AOS	Alonnisos	150.81	329	P		PKPbc	18 20 15.9	+0.3
AOS	Alonnisos	150.81	329	*e*P		PKPbc	18 20 18.8	+3.2
AOS	Alonnisos	150.81	329	P		PKPbc	18 20 15.9	+0.3
NIS1	Nisyros Isl.	150.86	322	P		PKPdf	18 20 08.9	-1.3
NIS1	Nisyros Isl.	150.86	322	*e*P		PKPab	18 20 22.6	-0.4
NIS1	Nisyros Isl.	150.86	322	P		PKPdf	18 20 08.9	-1.3
PCAB	Cabril	150.97	21	*e*PKPab		PKPab	18 20 21.3	-2.0
TOUF	Mont Tournerai	150.97	357	PKP		PKPbc	18 20 19.1	+3.0
AUTN	L'Aution	150.98	357	PKP		PKPab	18 20 20.6	-2.9
SAOF	Saorge	150.98	356	PKP		PKPbc	18 20 19.5	+3.5
XOR	Xorichti	150.99	330	P		PKPdf	18 20 12.1	+1.7
XOR	Xorichti	150.99	330	*e*P		PKPbc	18 20 16.2	+0.1
XOR	Xorichti	150.99	330	P		PKPdf	18 20 12.1	+1.7
SKIA	Skiathos	151.01	330	P		PKPbc	18 20 14.5	-1.6
SKIA	Skiathos	151.01	330	*e*P		PKPbc	18 20 19.0	+2.9
NEO	Neokhori	151.02	330	P		PKPbc	18 20 17.6	+1.4
NEO	Neokhori	151.02	330	*e*P		PKPbc	18 20 19.0	+2.8
NEO	Neokhori	151.02	330	P		PKPbc	18 20 17.6	+1.4
FYTO	Fytoko, Volos	151.08	331	P		PKPbc	18 20 14.8	-1.5
FYTO	Fytoko, Volos	151.08	331	P		PKPbc	18 20 14.8	-1.5
LUCF	Luceram	151.09	357	PKP		PKPbc	18 20 19.5	+3.2
MVIF	Mont Vial	151.09	357	PKP		PKPbc	18 20 16.5	+0.1
NEST	Nestorio	151.10	334	P		PKPbc	18 20 15.9	-0.5
NEST	Nestorio	151.10	334	*e*P		PKPbc	18 20 18.7	+2.3
PBRG	Braganca	151.30	19	*e*PKPab		PKPbc	18 20 20.5	+3.7
MRKA	Markates	151.31	329	P		PKPdf	18 20 13.1	+2.2
MRKA	Markates	151.31	329	*e*P		PKPbc	18 20 20.2	+3.3
POLO	Lamas de Olo	151.35	21	*e*PKPab		PKPab	18 20 22.0	-3.0
THL	Klokotos Trika	151.38	332	P		PKPdf	18 20 13.1	+2.2
THL	Klokotos Trika	151.38	332	*e*P		PKPbc	18 20 20.2	+3.3
PVRL	Vila Real	151.46	21	*e*PKPab		PKPab	18 20 22.0	-3.4
ATE	Arette	151.50	9	PKP		PKPab	18 20 21.5	-3.9
LARF	Larrau	151.50	10	PKP		PKPab	18 20 22.0	-3.5
KARP	Karpathos	151.57	320	*e*P		PKPab	18 20 23.0	-3.0
LKR	Lokris	151.65	330	P		PKPdf	18 20 14.3	+3.0
LKR	Lokris	151.65	330	*e*P		PKPab	18 20 22.5	-3.7
LKR	Lokris	151.65	330	P		PKPdf	18 20 14.3	+3.0
AGG	Agios Georgios	151.67	331	P		PKPbc	18 20 17.8	+0.1
AGG	Agios Georgios	151.67	331	PKIKP		PKPbc	18 20 17.8	+0.1
AGG	Agios Georgios	151.67	331	*e*P		PKPbc	18 20 19.0	+1.3
AGG	Agios Georgios	151.67	331	P		PKPbc	18 20 17.8	+0.1
PTL	Penteli	151.67	328	*e*P		PKPbc	18 20 17.0	-0.7
AXAR	Agios Charalam	151.72	330	P		PKPbc	18 20 18.8	+1.0
AXAR	Agios Charalam	151.72	330	P		PKPbc	18 20 18.8	+1.0
MAKR	Makrakomi, Fth	151.77	331	P		PKPbc	18 20 16.2	-1.7
MAKR	Makrakomi, Fth	151.77	331	*e*P		PKPbc	18 20 21.7	+3.8
MAKR	Makrakomi, Fth	151.77	331	P		PKPbc	18 20 16.2	-1.7
ATHU	Athens Univers	151.78	328	P		PKPbc	18 20 19.9	+2.0
ATHU	Athens Univers	151.78	328	P		PKPbc	18 20 19.9	+2.0
MVO	Moncorvo	151.79	20	*e*PKPab		PKPab	18 20 23.6	-3.2
MVO	Moncorvo	151.79	20	*e*SS		SS	18 43 34.6	+12
MVO	Moncorvo	151.79	20	*e*LQ		LQ	19 03 17.4	
MVO				*e*LR		LR	19 10 48.0	
	comp=Z,9µm,18.0s							
JAN	Janina	151.81	334	*e*P		PKPab	18 20 22.5	-4.4
PVIS	Viseu	151.90	21	*e*PKPab		PKPab	18 20 23.4	-3.8
EVR	Evrytania	152.00	332	P		PKPbc	18 20 18.4	-0.1
EVR	Evrytania	152.00	332	*e*P		PKPbc	18 20 22.3	+3.8
EVR	Evrytania	152.00	332	P		PKPbc	18 20 18.4	-0.1
DSF	Desfina	152.06	330	P		PKPbc	18 20 17.4	-1.2
DSF	Desfina	152.06	330	*e*P		PKPab	18 20 25.4	-2.6
DSF	Desfina	152.06	330	P		PKPbc	18 20 17.4	-1.2
IGT	Igoumenitsa	152.14	334	P		PKPdf	18 20 14.2	+2.1
IGT	Igoumenitsa	152.14	334	PKIKP		PKPdf	18 20 14.2	+2.1
IGT	Igoumenitsa	152.14	334	*e*P		PKPbc	18 20 22.3	+3.6
IGT	Igoumenitsa	152.14	334	P		PKPdf	18 20 14.2	+2.1
LTK	Loutraki	152.15	329	*e*P		PKPab	18 20 23.7	-4.6
KEK	Kerkira	152.20	335	P		PKPdf	18 20 14.0	+1.8
KEK	Kerkira	152.20	335	*e*P		PKPab	18 20 29.0	+0.5
KEK	Kerkira	152.20	335	P		PKPdf	18 20 14.0	+1.8
PCAS	Casmilo, Conde	152.26	23	*e*PKPab		PKPab	18 20 24.0	-4.7
KALE	Kalithea	152.26	331	P		PKPbc	18 20 15.8	-3.3
KALE	Kalithea	152.26	331	*e*P		PKPbc	18 20 19.0	-0.1
KALE	Kalithea	152.26	331	P		PKPbc	18 20 15.8	-3.3
MTE	Manteigas	152.30	21	*e*PKPab		PKPab	18 20 24.5	-4.4
MTE	Manteigas	152.30	21	*e*SS		SS	18 43 38.1	+10
MTE	Manteigas	152.30	21	*e*LQ		LQ	19 02 59.0	
MTE				*e*LR		LR	19 11 13.1	
	comp=Z,6µm,22.0s							
MTE	Manteigas	152.30	21	*e*PKPbc		PKPbc	18 20 21.6	+2.5
TRIZ	Trizonia	152.31	331	P		PKPbc	18 20 20.3	+1.2
TRIZ	Trizonia	152.31	331	*e*P		PKPbc	18 20 23.5	+4.4
EFP	Efpalio	152.34	331	P		PKPbc	18 20 17.5	-1.7
EFP	Efpalio	152.34	331	*e*P		PKPbc	18 20 19.4	+0.2
DID	Didima	152.41	328	P		PKPdf	18 20 14.2	+1.6
DID	Didima	152.41	328	*e*P		PKPbc	18 20 17.5	-1.9
DID	Didima	152.41	328	P		PKPdf	18 20 14.2	+1.6
DIDY	Didyma	152.44	328	*e*P		PKPbc	18 20 18.1	-1.5
LAKA	Lakka	152.46	331	P		PKPbc	18 20 17.3	-2.2
LAKA	Lakka	152.46	331	*e*P		PKPbc	18 20 20.8	+1.3
LAKA	Lakka	152.46	331	P		PKPbc	18 20 17.3	-2.2
GUR	Goura	152.53	330	P		PKPbc	18 20 20.9	+1.1
GUR	Goura	152.53	330	*e*P		PKPbc	18 20 22.7	+2.9
GUR	Goura	152.53	330	P		PKPbc	18 20 20.9	+1.1
KLV	Kalavryta, Ach	152.53	330	P		PKPdf	18 20 13.7	+0.9
KLV	Kalavryta, Ach	152.53	330	*e*P		PKPbc	18 20 24.7	+5.0
KLV	Kalavryta, Ach	152.53	330	P		PKPdf	18 20 13.7	+0.9
PDO	Prodromos	152.54	332	P		PKPbc	18 20 16.3	-3.3
PDO	Prodromos	152.54	332	*e*P		PKPbc	18 20 22.6	+3.0
DRO	Drossia	152.82	331	P		PKPbc	18 20 19.7	-0.6
DRO	Drossia	152.82	331	*e*P		PKPbc	18 20 21.8	+1.5
PCBR	Castelo Branco	152.82	22	*e*PKPbc		PKPbc	18 20 19.8	-0.4
PCBR	Castelo Branco	152.82	22	*e*PKPab		PKPab	18 20 25.9	-5.1
RLS	Riolos of Patr	152.85	331	P		PKPbc	18 20 22.3	+2.0
RLS	Riolos of Patr	152.85	331	*e*P		PKPab	18 20 29.7	-1.5
RLS	Riolos of Patr	152.85	331	P		PKPbc	18 20 22.3	+2.0
PMAFR	Mafra	152.89	25	*e*PKPab		PKPab	18 20 29.1	-2.3
VLX	Vlachokerasia	152.95	329	*e*P		PKPbc	18 20 26.0	+5.3
PMOZ	Porto Moniz, M	152.96	45	*e*LR		LR	19 11 35.2	
	comp=Z,4µm,22.0s							
LIS	Lisbon	153.15	25	*e*P		PKPdf	18 20 09.3	-4.3
LIS				AMS		AMS	19 24 02.0	
	comp=Z,13µm,16.6s							
LIS	Lisbon	153.15	25	*e*P		PKPdf	18 20 09.3	-4.3
LIS	Lisbon	153.15	25	A		A	19 24 02.0	
	comp=Z,13µm,16.6s							
LIS	Lisbon	153.15	25	*e*PKIKP		PKPdf	18 20 09.3	-4.3
AMT	Artemida-Makis	153.15	330	*e*P		PKPbc	18 20 21.0	-0.1
VLI	Veliai	153.16	327	*e*P		PKPbc	18 20 23.4	+2.3
PMRV	Marv??o	153.22	22	*e*PKPbc		PKPbc	18 20 22.2	+1.1
PMRV	Marv??o	153.22	22	*e*PKPab		PKPab	18 20 30.2	-2.5
PMRV	Marv??o	153.22	22	*e*SS		SS	18 43 39.6	+1.2
PMRV	Marv??o	153.22	22	*e*LQ		LQ	19 03 37.1	
PMRV				*e*LR		LR	19 11 14.6	
	comp=Z,6µm,18.0s							
PMTG	Montargil	153.22	24	*e*PKPab		PKPab	18 20 29.7	-3.0
ITM	Ithoni	153.32	329	*e*P		PKPbc	18 20 23.6	+2.2
PNCL	Nicolau / Gran	153.92	25	*e*PKPab		PKPbc	18 20 32.1	-3.6
ESDC	Sonseca Array	154.08	16	PKPbc		PKPbc	18 20 24.5	+1.5
ESDC				PP		PP	18 24 15.1	+5.0
ESDC	Sonseca Array	154.08	16	PKPbc		PKPbc	18 20 24.5	+1.5
	comp=Z,0.2nm,0.3s,baz=350,slow=2.7,SNR=5.5							
ESDC				PP		PP	18 24 15.1	+5.0
	comp=Z,0.1nm,0.3s,baz=346,slow=9.2,SNR=4.4							
ESLA	Sonseca Array	154.08	16	*e*PKPbc		PKPbc	18 20 25.6	+2.5
PAB	San Pablo	154.09	17	*e*PKPbc		PKPbc	18 20 24.1	+1.0
PBEJ	Beja	154.26	24	*e*PKPbc		PKPbc	18 20 24.3	+0.9
PBEJ	Beja	154.26	24	*e*PKPab		PKPab	18 20 33.1	-4.1
PBAR	Barrancos	154.45	23	*e*PKPab		PKPab	18 20 31.4	-6.6
PCVE	Castro Verde	154.53	25	*e*PKPab		PKPab	18 20 33.9	-4.4
MORF	Marmelete	154.55	26	*e*PKIKP		PKPdf	18 20 11.6	-4.1
PFVI	Vila Bisbo	154.62	27	*e*PKPab		PKPab	18 20 33.8	-4.9
PVAQ	Vaqueiros	154.85	25	*e*PKPab		PKPab	18 20 33.9	-5.8
PVAQ	Vaqueiros	154.85	25	*e*SS		SS	18 44 01.6	+5.2
PVAQ	Vaqueiros	154.85	25	*e*LR		LR	19 12 20.6	
	comp=Z,9µm,20.0s							
RTC	Rabat Centre	158.12	28	PFAKE			18 20 30.0	+10
RTC				LR		LR		
	comp=Z,5µm,19.0s							
KEST	Kesra	158.97	351	PKPab		PKPab	18 21 03.0	+5.4
KEST	Kesra	158.97	351	PKPab		PKPab	18 21 03.0	+5.4
	comp=Z,3.2nm,0.9s,baz=355,slow=2.9,SNR=4.2							
MDT	Midelt	160.09	25	PKP		PKPdf	18 20 25.1	+2.2
MDT				PKPab		PKPab	18 21 04.9	+2.3
MDT				PP		PP	18 24 45.1	+1.5
MDT	Midelt	160.09	25	PKP		PKPdf	18 20 25.1	+2.2
	comp=Z,0.5nm,0.4s,baz=284,slow=8.3,SNR=2.2							
MDT				PKPab		PKPab	18 21 04.9	+2.3
	comp=Z,3.0nm,0.8s,baz=320,slow=4.7,SNR=3.8							
MDT				PP		PP	18 24 45.1	+1.5
	comp=Z,0.2nm,0.3s,baz=287,slow=7.8,SNR=3.8							
LIC	Lamto	166.73	130	*e*PKIKP		PKPdf	18 20 39.0	+9.5
	comp=Z,37nm,1.4s							
TIC	Tourndi	167.01	128	*e*PKIKP		PKPdf	18 20 39.3	+10
	comp=Z,81nm,1.3s							
KIC	Kosan Boka	167.04	130	*e*PKIKP		PKPdf	18 20 39.0	+9.2
	comp=Z,106nm,1.6s							
DBIC	Dimbokro	167.15	129	PKP		PKPdf	18 20 31.2	+1.4
DBIC				PKPab		PKPab	18 21 37.2	+3.2
DBIC				PP		PP	18 25 25.7	+4.0
DBIC	Dimbokro	167.15	129	PKP		PKPdf	18 20 31.2	+1.4
	comp=Z,5.4nm,1.0s,baz=68,slow=6.1,SNR=2.0							
DBIC				PKPab		PKPab	18 21 37.2	+3.2
	comp=Z,7.0nm,1.1s,baz=198,slow=1.6,SNR=2.4							
DBIC				PP		PP	18 25 25.7	+4.0
	comp=Z,2.6nm,1.0s,baz=252,slow=7.9,SNR=2.7							
TOA0	Torodi Ar. Sit	176.16	117	*e*PKPdf		PKPdf	18 20 33.2	-0.9
TORD	Torodi Ar. Bea	176.16	117	PKP		PKPdf	18 20 34.4	+0.3
TORD				PKPab		PKPab	18 22 15.1	+1.1
TORD				PP		PP	18 26 08.8	+1.9
TORD	Torodi Ar. Bea	176.16	117	PKP		PKPdf	18 20 34.4	+0.3
	comp=Z,1.8nm,1.1s,baz=271,slow=1.4,SNR=5.2							
TORD				PKPab		PKPab	18 22 15.1	+1.1
	comp=Z,18nm,1.2s,baz=252,slow=4.0,SNR=8.2							
TORD				PP		PP	18 26 08.8	+1.9
	comp=Z,1.2nm,1.1s,baz=210,slow=3.8,SNR=4.3							

IDC 14 18:09:14.8±1.9, 12°34S×165°97E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/18, mbtmp3.9/5, ML4.5/1, Error ellipse: s-maj=61.7km s-min=32.3km az=145.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.58**	**295**	Pn	Pn	18 10 50.9	-2.0
	10nm,0.3s,baz=158,slow=5.4,SNR=7.1						
HNR				Sn	Sn	18 11 57.6	-11
	4.1nm,0.3s,baz=302,slow=20,SNR=1.6						
DZM	**Mont Dzumac**	**9.69**	**177**	Pn	Pn	18 11 28.4	-7.3
	0.6nm,0.3s,baz=151,slow=16,SNR=9.3						
WRA	**Warramunga Arr**	**31.27**	**252**	P	P	18 15 38.1	+1.4
	0.8nm,0.8s,baz=86,slow=9.5,SNR=4.6						
ASAR	**Alice Springs**	**32.43**	**245**	P	P	18 15 46.0	-0.9
	0.9nm,0.7s,baz=70,slow=9.5,SNR=5.1						
ILAR	**Eielson Array**	**84.67**	**18**	P	P	18 21 50.4	+0.2
	0.3nm,0.5s,baz=258,slow=4.5,SNR=5.0						
MKAR	**Makanchi Array**	**94.61**	**317**	P	P	18 22 38.5	+0.7
	0.4nm,0.6s,baz=119,slow=3.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**164.64**	**275**	PKP	PKPdf	18 29 19.2	-2.5
	0.4nm,0.9s,baz=17,slow=0.8,SNR=2.5						

*ISCJB **14** 18:10:55.7±0.8, 3°28S±0.06×36°00E±0.05, h10km, Error ellipse: s-maj=8.5km s-min=5.8km az=151.3*
*PRE **14** 18:11:02.1±2.3, 2°91S×36°01E, h10km, ML3.8*
*BUL **14** 18:11:05.0±6.7, 3°42S×36°66E, h27km±112km, MD3.2*

ISC 14 18:10:57.1±1.1, 3°28S±0°05×36°07E±0°05, h10km, n7, σ1§30/13, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAUS	**Longido**	**0.83**	**50**	*i* P	**Pg**	**18 11 13.3**	**+0.1**
MAUS				*i* S	**Sg**	**18 11 22.5**	**-1.6**
KMBO	**Kilima Mbogo**	**2.45**	**29**	*e*P	**Pn**	**18 11 38.2**	**+0.9**
KMBO				*e*S	**Sn**	**18 12 06.3**	**-1.2**
KMBO	**Kilima Mbogo**	**2.45**	**29**	*i* P	**Pn**	**18 11 38.3**	**+0.9**
KMBO				*i* S	**Sn**	**18 12 08.5**	**+1.0**
DODT	**Dodoma, Tanzan**	**2.91**	**186**	*i* P	**Pg**	**18 11 53.1**	**+0.1**
DODT				*i* S	**Sn**	**18 12 17.8**	**-0.9**
MBAR	**Mbarara**	**5.95**	**296**	*e*P	**Pn**	**18 12 26.7**	**+1.2**
MBAR				*e*S	**Sn**	**18 13 31.9**	**-2.0**
MBAR	**Mbarara**	**5.95**	**296**	*i* P	**Pn**	**18 12 27.1**	**+1.6**
MBAR				*i* S	**Sn**	**18 13 33.0**	**-0.9**
KIG	**Kigali**	**6.14**	**282**	*e*P	Pn	18 12 34.0	+5.9
KIG				*e*S	**Sn**	**18 13 37.6**	**-0.9**
KIG				AML	AML	18 14 19.8	
	comp=Z,33nm,0.6s						

IDC 14 18:11:42.3±3.1, 15°54S×174°28W, h0km, mb3.9/3, mb1 4.3/4, mb1mx3.9/17, mbtmp4.0/4, ML2.7/1, Error ellipse: s-maj=159.6km s-min=25.0km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.91**	**56**	Pn	Pn	18 12 29.8	-0.3
	66nm,0.3s,baz=243,slow=8.2,SNR=13						
AFI				Sn	Sn	18 13 00.8	-5.1
	105nm,0.3s,baz=61,slow=23,SNR=11						
H11S2	**WAKE ISLAND Hy 38.66**	**330**		T	T	18 59 04.5	
	baz=153,slow=0.7,SNR=20						
H11S3	**WAKE ISLAND Hy 38.67**	**330**		T	T	18 59 05.4	
	baz=153,slow=0.7,SNR=22						
H11S1	**WAKE ISLAND Hy 38.68**	**330**		T	T	18 59 04.9	
	baz=153,slow=0.7,SNR=18						
H11N3	**WAKE ISLAND Hy 39.62**	**332**		T	T	19 00 14.6	
	baz=153,slow=0.7,SNR=38						
H11N1	**WAKE ISLAND Hy 39.63**	**332**		T	T	19 00 15.1	
	baz=153,slow=0.7,SNR=51						
H11N2	**WAKE ISLAND Hy 39.64**	**332**		T	T	19 00 17.0	
	baz=153,slow=0.7,SNR=54						
WRA	**Warramunga Arr**	**48.99**	**257**	P	P	18 20 30.5	-0.7
	0.7nm,0.8s,baz=90,slow=6.8,SNR=5.5						
ASAR	**Alice Springs**	**49.26**	**252**	P	P	18 20 33.1	-0.1
	3.8nm,0.6s,baz=85,slow=7.6,SNR=69						
ILAR	**Eielson Array**	**82.75**	**11**	P	P	18 24 07.3	-0.4
	0.4nm,0.5s,baz=221,slow=5.6,SNR=7.0						
BRTR	**Keskin Array B**	**145.73**	**320**	PKPbc	PKPab	18 31 24.1	0.0
	1.7nm,0.7s,baz=56,slow=3.0,SNR=8.4						

*CSEM **14** 18:18:31.4, 41°73N×13°71E, h11km, After ROM*

ROM 14 18:18:31.4±0.1, 41°73N×13°71E, h11km, Ml1.4/2, Error ellipse: s-maj=1.7km s-min=0.8km az=47.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
POFI	**Posta Fibreno**	**0.01**	**183**	Pg	Pg	18 18 33.9	+0.4
POFI				Sg	Sg	18 18 35.2	+0.3
POFI	**Posta Fibreno**	**0.01**	**183**	Pg	Pg	18 18 33.9	+0.4
POFI				Sg	Sg	18 18 35.2	+0.3
SDI	**San Donato**	**0.08**	**107**	Pg	Pg	18 18 34.4	+0.5
SDI				Sg	Sg	18 18 36.2	+0.4
SDI	**San Donato**	**0.08**	**107**	Pg	Pg	18 18 34.4	+0.5
SDI				Sg	Sg	18 18 36.2	+0.4
VVLD	**Villa Vallelon**	**0.16**	**334**	Pg	Pg	18 18 35.7	+0.6
VVLD				Sg	Sg	18 18 38.4	+0.7
VVLD	**Villa Vallelon**	**0.16**	**334**	Pg	Pg	18 18 35.7	+0.6
VVLD				Sg	Sg	18 18 38.4	+0.7
CERA	**Filignano**	**0.27**	**120**	Pg	Pg	18 18 37.3	+0.3
CERA				Sg	Sb	18 18 41.8	-1.1
	42nm,0.6s						
CERA	**Filignano**	**0.27**	**120**	Pg	Pg	18 18 37.3	+0.3
CERA				Sg	Sb	18 18 41.8	-1.1
	42nm,0.6s						
INTR	**Introdacqua**	**0.32**	**27**	Pg	Pg	18 18 38.2	+0.3
INTR				Sg	Sg	18 18 43.3	+1.0
	40nm,0.2s						
INTR	**Introdacqua**	**0.32**	**27**	Pg	Pg	18 18 38.2	+0.3
INTR				Sg	Sg	18 18 43.3	+1.0
	40nm,0.2s						

*ISCJB **14** 18:32:59.8±0.6, 67°60N±0°05×142°39W±0°09, h10km, mb3.4/2, Error ellipse: s-maj=7.4km s-min=4.7km az=171.9*
*NEIC **14** 18:33:01.7, 67°50N×142°32W, h12km, ML3.6(AEIC), After AEIC.*
*PGC **14** 18:33:03.9±69.0, 67°56N×142°09W, h1km, ML3.7/2, 326km west of Fort McPherson, Nt Alaska*
*IDC **14** 18:33:07.4±2.8, 67°40N×143°15W, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.4/24, mbtmp3.4/3, ML3.1/1, Error ellipse: s-maj=36.9km s-min=18.5km az=152.0*

ISC 14 18:33:00.9±1.1, 67°59N±0°06×142°59W±0°05, h10km, n34, σ1§13/37, 4D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BM3	**Burnt Mountain**	**0.80**	**259**	P	**Pn**	**18 33 18.6**	**+0.4**
FYU	**Fort Yukon**	**1.46**	**226**	P	**Pb**	**18 33 28.6**	**+0.5**
FYU				S	**Sg**	**18 33 48.0**	**+0.2**
EGAK	**Eagle**	**2.88**	**168**	P	**Pn**	**18 33 47.0**	**+0.2**
EGAK				S	**Sn**	**18 34 20.8**	**-0.7**
COLD	**Coldfoot**	**2.96**	**266**	P	**Pn**	**18 33 50.2**	**+2.3**
GLM	**Gilmore Dome**	**3.25**	**219**	P	**Pn**	**18 33 52.1**	**+0.1**
IL1	**Eielson Array**	**3.32**	**214**	P	**Pn**	**18 33 54.0**	**+1.0**
ILAR	**Eielson Array**	**3.32**	**214

PRXIMO
LDG ***14*** *18:53:49.1±0.1,39°.27N×8°.63W,h2km,Md3.6/1,Ml3.2/3, Error ellipse: s-maj=2.3km s-min=1.6km az=98.0*
INMG ***14*** *18:53:49.8±1.2,39°.28N×8°.60W,h12km±2km,MD3.0, ML3.1,Error ellipse: s-maj=1.7km s-min=1.2km az=84.0*
IGIL ***14*** *18:53:50.0,39°.28N×8°.61W,h8km,ML2.9*
ISC 14 18:53:48.8±0.8,39°.28N±0°.01×8°.55W±0°.02,h18km±5km, n185,σ1§28/332,4C-3D,Portugal

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ALMR	**Almeirim**	**0.13**	**190**	*eP*		**Pg**	**18 53 52.3**	**-0.4**
ALMR				*eS*		**Sg**	**18 53 54.4**	**-1.0**
ALMR				AML		AML	18 53 54.9	
	comp=N,8μm,0.2s							
ALMR	**Almeirim**	**0.13**	**190**	*eP*		**Pg**	**18 53 52.3**	**-0.4**
ALMR				*eS*		**Sg**	**18 53 54.4**	**-1.0**
ALMR	**Almeirim**	**0.13**	**190**	Pg		**Pg**	**18 53 52.3**	**-0.4**
ALMR				Lg		Lg	18 53 54.4	
ALMR	**Almeirim**	**0.13**	**190**	*eP*		**Pg**	**18 53 52.3**	**-0.4**
ALMR				*eS*		**Sg**	**18 53 54.4**	**-1.0**
PMTG	**Montargil**	**0.33**	**130**	*i* Pg		**Pb**	**18 53 56.6**	**+0.5**
PMTG				*eSg*		**Sb**	**18 54 01.5**	**+0.4**
PMTG				A		A	18 54 06.9	
	comp=N,218nm,0.3s							
PTOM	**Tomar**	**0.35**	**18**	*i* Pg		**Pg**	**18 53 56.6**	**+0.4**
PTOM				*eSg*		**Sb**	**18 54 02.1**	**+0.3**
PTOM				A		A	18 54 05.6	
	comp=N,598nm,0.4s							
PTOM	**Tomar**	**0.35**	**18**	⇑Pg		**Pg**	**18 53 56.6**	**+0.4**
PTOM				Lg		Lg	18 54 02.1	
	comp=N,299nm,0.4s							
PTOM	**Tomar**	**0.35**	**18**	Pg		**Pg**	**18 53 56.6**	**+0.4**
PTOM				*eSg*		**Sb**	**18 54 02.1**	**+0.3**
	comp=N,598nm,0.4s							
PACT	**Alcochete**	**0.56**	**203**	*i* Pg		**Pg**	**18 53 59.9**	**0.0**
PACT				*eSg*		**Sg**	**18 54 07.5**	**+0.1**
PACT				A		A	18 54 10.0	
	comp=N,375nm,0.2s							
PMAFR	**Mafra**	**0.66**	**240**	*i* Pg		**Pg**	**18 54 01.1**	**-0.7**
PMAFR				*eSg*		**Sg**	**18 54 09.4**	**-1.1**
PMAFR				A		A	18 54 13.1	
	comp=N,1μm,0.2s							
PMAFR	**Mafra**	**0.66**	**240**	⇑Pg		**Pg**	**18 54 01.1**	**-0.7**
	comp=N,136nm,0.1s,SNR=18							
PMAFR				Lg		Lg	18 54 09.4	
	comp=N,2μm,0.1s,SNR=5.9							
PMAFR	**Mafra**	**0.66**	**240**	Pg		**Pg**	**18 54 01.1**	**-0.7**
	comp=N,136nm,0.1s,SNR=18							
PMAFR				*eSg*		**Sg**	**18 54 09.4**	**-1.1**
	comp=N,1μm,0.2s							
INMG	**Instituto de M**	**0.68**	**222**	*eP*		**Pg**	**18 54 02.0**	**-0.1**
INMG				*eS*		**Sg**	**18 54 11.1**	**0.0**
INMG				A		A	18 54 12.2	
	comp=N,436nm,0.3s							
INMG	**Instituto de M**	**0.68**	**222**	Pg		**Pg**	**18 54 02.0**	**-0.1**
INMG				Lg		Lg	18 54 11.1	
	comp=N,218nm,0.3s							
INMG	**Instituto de M**	**0.68**	**222**	Pg		**Pg**	**18 54 02.0**	**-0.1**
INMG				*eS*		**Sg**	**18 54 11.1**	**0.0**
	comp=N,436nm,0.3s							
LIS	**Lisbon**	**0.73**	**220**	*eP*		**Pb**	**18 54 02.9**	**-0.1**
LIS				*eS*		**Sb**	**18 54 12.3**	**-0.4**
LIS				AML		AML	18 54 13.6	
	comp=E,356nm,0.2s							
LIS	**Lisbon**	**0.73**	**220**	*eP*		**Pb**	**18 54 02.9**	**-0.1**
LIS				*eS*		**Sb**	**18 54 12.3**	**-0.4**
LIS	**Lisbon**	**0.73**	**220**	Pg		**Pb**	**18 54 02.9**	**-0.1**
LIS				Lg		Lg	18 54 12.3	
LIS	**Lisbon**	**0.73**	**220**	*eP*		**Pb**	**18 54 02.9**	**-0.1**
LIS				*eS*		**Sb**	**18 54 12.3**	**-0.4**
PMST	**Lisbon--Monsan**	**0.73**	**222**	*eP*		**Pb**	**18 54 02.9**	**-0.1**
PMST				*eS*		**Sb**	**18 54 12.9**	**+0.2**
PMST				A		A	18 54 16.5	
	comp=E,572nm,0.1s							
PMST	**Lisbon--Monsan**	**0.73**	**222**	*eP*		**Pb**	**18 54 02.9**	**-0.1**
PMST				*eS*		**Sb**	**18 54 12.9**	**+0.2**
	comp=E,572nm,0.1s							
PCAS	**Casmilo, Conde**	**0.77**	**3**	*eP*		**Pb**	**18 54 04.0**	**+0.3**
PCAS				*eS*		**Sn**	**18 54 15.9**	**0.0**
PCAS				A		A	18 54 17.1	
	comp=E,382nm,0.2s							
PCAS	**Casmilo, Conde**	**0.77**	**3**	*eP*		**Pb**	**18 54 04.0**	**+0.3**
PCAS				*eS*		**Sn**	**18 54 15.9**	**0.0**
	comp=E,382nm,0.2s							
EVOP	**Sao Brissos**	**0.82**	**156**	*ePg*		**Pg**	**18 54 05.0**	**+0.2**
EVOP				*eSg*		**Sg**	**18 54 15.6**	**-0.1**
	comp=E,577nm,0.3s							
EVO	**Evora**	**0.86**	**151**	*ePg*		**Pb**	**18 54 05.0**	**-0.1**
EVO				*eSg*		**Sb**	**18 54 15.6**	**-0.7**
	comp=E,1μm,0.3s							
EVO	**Evora**	**0.86**	**151**	*eP*		**Pg**	**18 54 05.7**	**+0.2**
EVO				*eS*		**Sn**	**18 54 17.5**	**-0.5**
EVO				A		A	18 54 19.6	
	comp=E,887nm,0.1s							
EVO	**Evora**	**0.86**	**151**	Pg		**Pg**	**18 54 05.7**	**+0.2**
EVO				Lg		Lg	18 54 17.5	
	comp=E,887nm,0.1s							
EVO	**Evora**	**0.86**	**151**	*eP*		**Pg**	**18 54 05.7**	**+0.2**
EVO				*eS*		**Sn**	**18 54 17.5**	**-0.5**
	comp=E,887nm,0.1s							
PMRV	**Marv??o**	**0.91**	**80**	*eP*		**Pn**	**18 54 07.5**	**+0.8**
PMRV				*eS*		**Sn**	**18 54 20.2**	**+0.8**
PMRV				A		A	18 54 21.8	
	comp=E,1μm,0.3s							
PMRV	**Marv??o**	**0.91**	**80**	⇓Pg		**Pn**	**18 54 07.5**	**+0.8**
PMRV				Lg		Lg	18 54 20.2	
	comp=E,1μm,0.3s							
PMRV	**Marv??o**	**0.91**	**80**	Pg		**Pn**	**18 54 07.5**	**+0.8**
PMRV				*eS*		**Sn**	**18 54 20.2**	**+0.8**
	comp=E,1μm,0.3s							
PCBR	**Castelo Branco**	**1.00**	**56**	*eP*		**Pg**	**18 54 09.0**	**+0.8**
PCBR				*eS*		**Sn**	**18 54 22.5**	**+1.0**
PCBR				A		A	18 54 23.4	
	comp=E,323nm,0.3s							
PCBR	**Castelo Branco**	**1.00**	**56**	Pg		**Pg**	**18 54 09.0**	**+0.8**
PCBR				Lg		Lg	18 54 22.5	
	comp=E,162nm,0.3s							
PCBR	**Castelo Branco**	**1.00**	**56**	*eP*		**Pg**	**18 54 09.0**	**+0.8**
PCBR				*eS*		**Sn**	**18 54 22.5**	**+1.0**
	comp=E,323nm,0.3s							
PNCL	**Nicolau / Gran**	**1.17**	**179**	*eP*		**Pn**	**18 54 10.4**	**+0.2**
PNCL				*eS*		**Sg**	**18 54 26.6**	**-0.1**
PNCL				A		A	18 54 27.9	
	comp=E,258nm,0.5s							
EBAD	**Badajoz**	**1.31**	**113**	Pn		**Pb**	**18 54 12.7**	**-0.1**
	comp=E,9.2nm,0.1s,SNR=459							
EBAD				Pg		**Pg**	**18 54 14.0**	**0.0**
	comp=E,89nm,0.2s,SNR=13							
EBAD				Sn		**Sg**	**18 54 30.4**	**-0.6**
	comp=E,100nm,0.2s,SNR=24							
EBAD				Lg		Lg	18 54 31.6	
	comp=E,401nm,0.2s,SNR=6.0							
EBAD	**Badajoz**	**1.31**	**113**	Pn		**Pb**	**18 54 12.7**	**-0.1**
	comp=E,9.2nm,0.1s,SNR=459							
MTE	**Manteigas**	**1.36**	**34**	*ePn*		**Pb**	**18 54 13.8**	**+0.1**
MTE	**Manteigas**	**1.36**	**34**	*ePg*		**Pg**	**18 54 15.3**	**+0.3**
MTE				*eSg*		**Sg**	**18 54 33.3**	**+0.6**
MTE				A		A	18 54 35.5	
	comp=E,195nm,0.6s							
MTE	**Manteigas**	**1.36**	**34**	Pn		**Pb**	**18 54 13.8**	**+0.1**
MTE				Pg		**Pg**	**18 54 15.3**	**+0.3**
MTE				Lg		Lg	18 54 33.3	
	comp=E,98nm,0.6s							
MTE	**Manteigas**	**1.36**	**34**	Pn		**Pb**	**18 54 13.8**	**+0.1**
MTE	**Manteigas**	**1.36**	**34**	Pg		**Pg**	**18 54 15.3**	**+0.3**
MTE				*eSg*		**Sg**	**18 54 33.3**	**+0.6**
	comp=E,195nm,0.6s							
PBEJ	**Beja**	**1.36**	**157**	*eP*		**Pb**	**18 54 14.3**	**+0.6**
PBEJ				*eS*		**Sg**	**18 54 32.0**	**-0.8**
PBEJ				A		A	18 54 34.2	
	comp=E,148nm,0.3s							
PBEJ	**Beja**	**1.36**	**157**	Pn		**Pb**	**18 54 14.3**	**+0.6**
PBEJ				Sn		**Sg**	**18 54 32.0**	**-0.8**
	comp=E,74nm,0.3s							
PBEJ	**Beja**	**1.36**	**157**	*eP*		**Pb**	**18 54 14.3**	**+0.6**
PBEJ				*eS*		**Sg**	**18 54 32.0**	**-0.8**
	comp=E,148nm,0.3s							
PVIS	**Viseu**	**1.52**	**19**	*ePn*		**Pb**	**18 54 16.3**	**-0.1**
PVIS	**Viseu**	**1.52**	**19**	*ePg*		**Pb**	**18 54 17.4**	**+1.0**
PVIS				*eSg*		**Sg**	**18 54 37.6**	**-0.2**
PVIS				A		A	18 54 37.8	
	comp=E,246nm,0.2s							
PVIS	**Viseu**	**1.52**	**19**	Pn		**Pb**	**18 54 16.3**	**-0.1**
PVIS				Pg		**Pb**	**18 54 17.4**	**+1.0**
PVIS				Lg		Lg	18 54 37.6	
	comp=E,123nm,0.2s							
PVIS	**Viseu**	**1.52**	**19**	Pn		**Pb**	**18 54 16.3**	**-0.1**
PVIS	**Viseu**	**1.52**	**19**	Pg		**Pb**	**18 54 17.4**	**+1.0**
PVIS				*eSg*		**Sg**	**18 54 37.6**	**-0.2**
	comp=E,246nm,0.2s							
PBAR	**Barrancos**	**1.62**	**133**	*ePn*		**Pn**	**18 54 17.0**	**+0.6**
PBAR				*eSg*		**Sg**	**18 54 40.9**	**-0.1**
PBAR				A		A	18 54 42.8	
	comp=E,94nm,0.5s							
PBAR	**Barrancos**	**1.62**	**133**	Pn		**Pn**	**18 54 17.0**	**+0.6**
PBAR				Lg		Lg	18 54 40.9	
	comp=E,94nm,0.5s							
PBAR	**Barrancos**	**1.62**	**133**	Pn		**Pn**	**18 54 17.0**	**+0.6**
PBAR				*eSg*		**Sg**	**18 54 40.9**	**-0.1**
	comp=E,94nm,0.5s							
PCVE	**Castro Verde**	**1.69**	**166**	*ePn*		**Pn**	**18 54 18.0**	**+0.5**
PCVE				*eSg*		**Sb**	**18 54 41.6**	**+1.2**
PCVE				A		A	18 54 42.2	
	comp=E,204nm,0.4s							
PCVE	**Castro Verde**	**1.69**	**166**	Pn		**Pn**	**18 54 18.0**	**+0.5**
PCVE				Lg		Lg	18 54 41.6	
	comp=E,204nm,0.4s							
PCVE	**Castro Verde**	**1.69**	**166**	Pn		**Pn**	**18 54 18.0**	**+0.5**
PCVE				*eSg*		**Sb**	**18 54 41.6**	**+1.2**
	comp=E,204nm,0.4s							
PTEO	**Sao Teotonio**	**1.74**	**185**	*ePg*		**Pb**	**18 54 20.6**	**+0.4**
PTEO				*eSg*		**Sb**	**18 54 42.6**	**+1.0**
PTEO				A		A	18 54 49.1	
	comp=E,122nm,0.5s							
PTEO	**Sao Teotonio**	**1.74**	**185**	Pg		**Pb**	**18 54 20.6**	**+0.4**
PTEO				Lg		Lg	18 54 42.6	
	comp=E,61nm,0.5s							
PTEO	**Sao Teotonio**	**1.74**	**185**	Pg		**Pb**	**18 54 20.6**	**+0.4**
PTEO				*eSg*		**Sb**	**18 54 42.6**	**+1.0**
	comp=E,122nm,0.5s							
PTO	**Porto**	**1.85**	**359**	*ePg*		**Pg**	**18 54 24.2**	**-0.2**
PTO				*eSg*		**Sg**	**18 54 48.5**	**0.0**
PTO	**Porto**	**1.85**	**359**	Pg		**Pg**	**18 54 24.2**	**-0.2**
PTO				Lg		Lg	18 54 48.5	
PTO	**Porto**	**1.85**	**359**	Pg		**Pg**	**18 54 24.2**	**-0.2**
PTO				*eSg*		**Sg**	**18 54 48.5**	**0.0**
EGRO	**El Granado**	**1.94**	**154**	Pn		**Pn**	**18 54 21.6**	**+0.8**
	comp=E,0.9nm,0.0s,SNR=21							
EGRO				Pg		**Pg**	**18 54 25.1**	**-0.8**
	comp=E,13nm,0.2s,SNR=13							
EGRO				Sn		**Sn**	**18 54 45.4**	**+0.8**
	comp=E,19nm,0.2s,SNR=6.1							
EGRO				Lg		Lg	18 54 49.8	
	comp=E,99nm,0.2s,SNR=8.8							
EGRO	**El Granado**	**1.94**	**154**	Pn		**Pn**	**18 54 21.5**	**+0.8**
	comp=E,0.9nm,0.0s,SNR=21							
MORF	**Marmelete**	**1.97**	**182**	*ePn*		**Pn**	**18 54 21.7**	**+0.3**
MORF	**Marmelete**	**1.97**	**182**	*ePg*		**Pb**	**18 54 24.6**	**+0.4**
MORF				*eSn*		**Sn**	**18 54 47.1**	**+1.4**
MORF				*eSg*		**Sb**	**18 54 50.5**	**+2.0**
MORF				A		A	18 54 51.9	
	comp=E,108nm,0.4s							
MORF	**Marmelete**	**1.97**	**182**	⇓Pn		**Pn**	**18 54 21.7**	**+0.3**
MORF				Pg		**Pb**	**18 54 24.6**	**+0.4**
MORF				Sn		**Sn**	**18 54 47.1**	**+1.4**
MORF				Lg		Lg	18 54 50.5	
	comp=E,108nm,0.4s							
MORF	**Marmelete**	**1.97**	**182**	Pn		**Pn**	**18 54 21.7**	**+0.3**
MORF	**Marmelete**	**1.97**	**182**	Pg		**Pb**	**18 54 24.6**	**+0.4**
MORF				Sn		**Sn**	**18 54 47.1**	**+1.4**
MORF				*eSg*		**Sb**	**18 54 50.5**	**+2.0**
	comp=E,108nm,0.4s							
PVAQ	**Vaqueiros**	**1.99**	**161**	*ePn*		**Pn**	**18 54 22.1**	**+0.6**
PVAQ				*eSg*		**Sb**	**18 54 50.1**	**+1.3**
PVAQ				A		A	18 54 54.6	
	comp=E,184nm,0.3s							
PVAQ	**Vaqueiros**	**1.99**	**161**	Pn		**Pn**	**18 54 22.1**	**+0.6**
PVAQ				Lg		Lg	18 54 50.1	
	comp=E,184nm,0.3s							
PVAQ	**Vaqueiros**	**1.99**	**161**	Pn		**Pn**	**18 54 22.1**	**+0.6**
PVAQ				*eSg*		**Sb**	**18 54 50.1**	**+1.3**
	comp=E,184nm,0.3s							
EPLA	**Plasencia**	**2.06**	**67**	Pn		**Pn**	**18 54 23.8**	**+1.3**
	comp=E,1.6nm,0.1s,SNR=14							
EPLA				Pg		**Pg**	**18 54 27.5**	**-0.9**
	comp=E,6.6nm,0.1s,SNR=7.9							
EPLA				Sn		**Sn**	**18 54 48.2**	**+0.5**
	comp=E,17nm,0.1s,SNR=7.5							
EPLA				Lg		Lg	18 54 53.8	
	comp=E,128nm,0.1s,SNR=17							
EPLA	**Plasencia**	**2.06**	**67**	Pn		**Pn**	**18 54 23.8**	**+1.3**
	comp=E,1.6nm,0.1s,SNR=14							
PVRL	**Vila Real**	**2.09**	**17**	*ePn*		**Pn**	**18 54 23.9**	**+0.9**
PVRL	**Vila Real**	**2.09**	**17**	*ePg*		**Pb**	**18 54 27.7**	**+1.5**
PVRL				*eSn*		**Sn**	**18 54 49.2**	**+0.6**
PVRL				*eSg*		**Sg**	**18 54 55.6**	**-0.5**
PVRL				A		A	18 54 59.5	
	comp=E,96nm,0.1s							
PVRL	**Vila Real**	**2.09**	**17**	Pn		**Pn**	**18 54 23.9**	**+0.9**
PVRL				Pg		**Pb**	**18 54 27.7**	**+1.5**
PVRL				Sn		**Sn**	**18 54 49.2**	**+0.6**
PVRL				Lg		Lg	18 54 55.6	
	comp=E,48nm,0.1s							
PVRL	**Vila Real**	**2.09**	**17**	Pn		**Pn**	**18 54 23.9**	**+0.9**
PVRL	**Vila Real**	**2.09**	**17**	Pg		**Pb**	**18 54 27.7**	**+1.5**
PVRL				Sn		**Sn**	**18 54 49.2**	**+0.6**
PVRL				*eSg*		**Sg**	**18 54 55.6**	**-0.5**
	comp=E,96nm,0.1s							
PBDV	**Barranco-do-Ve**	**2.09**	**166**	*ePn*		**Pn**	**18 54 23.8**	**+0.8**
PBDV				*eSg*		**Sb**	**18 54 54.0**	**+2.1**
PBDV				A		A	18 54 57.8	
	comp=E,147nm,0.6s							
PBDV	**Barranco-do-Ve**	**2.09**	**166**	Pn		**Pn**	**18 54 23.8**	**+0.8**
PBDV				Lg		Lg	18 54 54.0	
	comp=E,147nm,0.6s							
PBDV	**Barranco-do-Ve**	**2.09**	**166**	Pn		**Pn**	**18 54 23.8**	**+0.8**
PBDV				*eSg*		**Sb**	**18 54 54.0**	**+2.1**
	comp=E,147nm,0.6s							
EMIN	**Mina Concepcio**	**2.11**	**135**	Pn		**Pn**	**18 54 24.1**	**+0.9**
	comp=E,2.3nm,0.2s,SNR=6.5							
EMIN				Pg		**Pb**	**18 54 27.2**	**+0.8**
	comp=E,9.9nm,0.1s,SNR=56							
EMIN				Lg		Lg	18 54 55.5	
	comp=E,53nm,0.3s,SNR=13							
EMIN	**Mina Concepcio**	**2.11**	**135**	Pn		**Pn**	**18 54 24.1**	**+0.9**
	comp=E,2.3nm,0.2s,SNR=6.5							
PFVI	**Vila Bisbo**	**2.16**	**186**	*ePn*		**Pn**	**18 54 24.1**	**+0.2**
PFVI				*eSn*		**Sn**	**18 54 50.1**	**0.0**
PFVI				*eSg*		**Sb**	**18 54 56.0**	**+2.3**
PFVI				A		A	18 55 00.9	
	comp=E,61nm,0.3s							
PFVI	**Vila Bisbo**	**2.16**	**186**	Pn		**Pn**	**18 54 24.1**	**+0.2**
	comp=E,2.3nm,0.1s,SNR=28							
PFVI				Pg		**Pb**	**18 54 28.4**	**+1.1**
	comp=E,70nm,0.4s,SNR=11							
PFVI				Sn		**Sn**	**18 54 49.5**	**-0.6**
	comp=E,31nm,0.1s,SNR=6.4							
PFVI				Lg		Lg	18 54 56.6	
	comp=E,47nm,0.1s,SNR=8.2							
PFVI	**Vila Bisbo**	**2.16**	**186**	Pn		**Pn**	**18 54 24.0**	**+0.2**
	comp=E,2.3nm,0.1s,SNR=28							
PFVI	**Vila Bisbo**	**2.16**	**186**	Pg		**Pb**	**18 54 28.4**	**+1.1**
	comp=E,70nm,0.4s,SNR=11							
PFVI				Sn		**Sn**	**18 54 49.5**	**-0.6**
	comp=E,31nm,0.1s,SNR=6.4							
PFVI				*eSg*		**Sb**	**18 54 56.0**	**+2.3**
	comp=E,61nm,0.3s							
PFVI				Lg		Lg	18 54 56.6	
	comp=E,47nm,0.1s,SNR=8.2							
POLO	**Lamas de Olo**	**2.17**	**15**	*ePn*		**Pn**	**18 54 24.8**	**+0.7**
POLO				*eSn*		**Sn**	**18 54 50.7**	**+0.2**
POLO				*eSg*		**Sg**	**18 54 58.3**	**-0.3**
POLO				A		A	18 55 01.7	
	comp=E,18nm,0.3s							
POLO	**Lamas de Olo**	**2.17**	**15**	*ePn*		**Pn**	**18 54 24.8**	**+0.7**
POLO				*eSn*		**Sn**	**18 54 50.7**	**+0.2**
POLO				*eSg*		**Sg**	**18 54 58.3**	**-0.3**
	comp=E,18nm,0.3s							
MVO	**Moncorvo**	**2.21**	**31**	*ePn*		**Pn**	**18 54 25.1**	**+0.4**
MVO				*eSn*		**Sn**	**18 54 51.8**	**+0.2**
MVO				*eSg*		**Sg**	**18 54 59.2**	**-0.7**
MVO				A		A	18 55 04.5	
	comp=E,79nm,0.3s							
MVO	**Moncorvo**	**2.21**	**31**	Pn		**Pn**	**18 54 25.0**	**+0.4**
	comp=E,12nm,0.1s,SNR=66							
MVO				Pg		**Pb**	**18 54 29.3**	**+1.0**
	comp=E,43nm,0.2s,SNR=41							
MVO				Sn		**Sn**	**18 54 51.8**	**+0.2**
	comp=E,26nm,0.2s,SNR=7.4							
MVO				Lg		Lg	18 54 58.9	
	comp=E,130nm,0.3s,SNR=5.0							
MVO	**Moncorvo**	**2.21**	**31**	Pn		**Pn**	**18 54 25.0**	**+0.4**
	comp=E,12nm,0.1s,SNR=66							
MVO	**Moncorvo**	**2.21**	**31**	Pg		**Pb**	**18 54 29.3**	**+1.0**
	comp=E,43nm,0.2s,SNR=41							
MVO				Sn		**Sn**	**18 54 51.8**	**+0.2**
	comp=E,26nm,0.2s,SNR=7.4							
MVO				Lg		Lg	18 54 58.9	
	comp=E,130nm,0.3s,SNR=5.0							
MVO				*eSg*		**Sg**	**18 54 59.2**	**-0.7**
	comp=E,79nm,0.3s							
PCAB	**Cabril**	**2.46**	**9**	*ePn*		**Pn**	**18 54 28.6**	**+0.6**
PCAB				*eSn*		**Sn**	**18 54 58.3**	**+0.7**
PCAB				*eSg*		**Sg**	**18 55 06.6**	**-1.2**
PCAB				A		A	18 55 10.9	
	comp=E,44nm,0.1s							
PCAB	**Cabril**	**2.46**	**9**	⇓Pn		**Pn**	**18 54 28.6**	**+0.6**
PCAB				Sn		**Sn**	**18 54 58.3**	**+0.7**
PCAB				Lg		Lg	18 55 06.6	
	comp=E,22nm,0.1s							
PCAB	**Cabril**	**2.46**	**9**	Pn		**Pn**	**18 54 28.6**	**+0.6**
PCAB				Sn		**Sn**	**18 54 58.3**	**+0.7**
PCAB				*eSg*		**Sg**	**18 55 06.6**	**-1.2**
	comp=E,44nm,0.1s							
ELOB	**Lobios**	**2.61**	**8**	⇑Pn		**Pn**	**18 54 30.7**	**+0.6**
	comp=E,4.1nm,0.1s,SNR=18							
ELOB				Pg		**Pb**	**18 54 37.2**	**+2.1**
	comp=E,8.6nm,0.2s,SNR=20							
ELOB				Sn		**Sn**	**18 55 00.9**	**-0.5**
	comp=E,14nm,0.1s,SNR=5.8							
ELOB				Lg		Lg	18 55 11.7	
	comp=E,35nm,0.2s,SNR=5.0							
ELOB	**Lobios**	**2.61**	**8**	Pn		**Pn**	**18 54 30.7**	**+0.6**
	comp=E,4.1nm,0.1s,SNR=18							
PGAV	**Gavieira, Arco**	**2.69**	**4**	*ePn*		**Pn**	**18 54 31.8**	**+0.6**
PGAV				*eSn*		**Sn**	**18 55 03.0**	**-0.4**
PGAV				*eSg*		**Sb**	**18 55 12.3**	**+3.2**
PGAV				A		A	18 55 16.5	
	comp=E,40nm,0.4s							
ECAB	**El Cabril**	**2.73**	**115**	⇑Pn		**Pn**	**18 54 33.3**	**+1.6**
	comp=E,2.4nm,0.1s,SNR=18							
ECAB				Pg		**Pb**	**18 54 38.6**	**+1.5**
	comp=E,7.6nm,0.2s,SNR=38							
ECAB				Sn		**Sn**	**18 55 04.6**	**+0.3**
	comp=E,8.1nm,0.2s,SNR=4.0							
ECAB				Lg		Lg	18 55 16.7	
	comp=E,38nm,0.3s,SNR=17							
ECAB	**El Cabril**	**2.73**	**115**	Pn		**Pn**	**18 54 33.3**	**+1.6**
	comp=E,2.4nm,0.1s,SNR=18							
PBRG	**Braganca**	**2.87**	**28**	*ePn*		**Pn**	**18 54 34.9**	**+1.2**
PBRG				*eSn*		**Sn**	**18 55 07.9**	**+0.1**
PBRG				*eSg*		**Sg**	**18 55 20.0**	**-1.1**
PBRG				A		A	18 55 25.1	
	comp=E,27nm,0.3s							
PBRG	**Braganca**	**2.87**	**28**	Pn		**Pn**	**18 54 34.9**	**+1.2**
PBRG				Sn		**Sn**	**18 55 07.9**	**+0.1**
PBRG				Lg		Lg	18 55 20.0	
	comp=E,14nm,0.3s							
PBRG	**Braganca**	**2.87**	**28**	Pn		**Pn**	**18 54 34.9**	**+1.2**
PBRG				Sn		**Sn**	**18 55 07.9**	**+0.1**
PBRG				*eSg*		**Sg**	**18 55 20.0**	**-1.1**
	comp=E,27nm,0.3s							
ECAL	**Calabor**	**2.99**	**27**	Pn		**Pn**	**18 54 36.1**	**+0.7**
	comp=E,9.2nm,0.2s,SNR=35							
ECAL				Pg		**Pg**	**18 54 44.4**	**-1.7**
	comp=E,40nm,0.3s,SNR=13							
ECAL				Sn		**Sn**	**18 55 11.2**	**+0.4**
	comp=E,27nm,0.3s,SNR=4.6							
ECAL				Lg		Lg	18 55 25.4	
	comp=E,113nm,0.4s,SNR=5.0							
ECAL	**Calabor**	**2.99**	**27**	Pn		**Pn**	**18 54 36.1**	**+0.7**
	comp=E,9.2nm,0.2s,SNR=35							
ESPR	**Espera**	**3.21**	**138**	Pn		**Pn**	**18 54 40.2**	**+1.9**
	comp=E,2.0nm,0.1s,SNR=11							
ESPR				Pg		**Pg**	**18 54 48.4**	**-1.9**
	comp=E,2.6nm,0.1s,SNR=620							
ESPR				Lg		Lg	18 55 32.9	
	comp=E,59nm,0.3s,SNR=8.0							
ESPR	**Espera**	**3.21**	**138**	Pn		**Pn**	**18 54 40.2**	**+1.9**
	comp=E,2.0nm,0.1s,SNR=11							
EADA	**Adamuz**	**3.30**	**108**	Pn		**Pn**	**18 54 40.0**	**+0.4**
	comp=E,2.3nm,0.1s,SNR=20							
EADA				Pg		**Pb**	**18 54 49.0**	**+2.2**
	comp=E,5.4nm,0.2s,SNR=7.9							
EADA				Sn		**Sn**	**18 55 19.3**	**+0.9**
	comp=E,5.8nm,0.2s,SNR=14							
EADA			

EMIJ Sn **Sn** **18 55 35.5 -1.0**
comp=E,3.5nm,0.4s,SNR=5.0
EMIJ Lg Lg 18 55 57.3
comp=E,16nm,0.4s,SNR=5.0
EMIJ Mijas 4.03 131 Pn **Pn** **18 54 51.8 +2.1**
comp=E,0.9nm,0.1s,SNR=6.9
EMIJ Sn **Sn** **18 55 35.5 -1.0**
comp=E,3.5nm,0.4s,SNR=5.0
EMIJ Lg Lg 18 55 57.3
comp=E,16nm,0.4s,SNR=5.0
EPON Pontenova 4.18 14 Pn **Pn** **18 54 52.0 +0.4**
comp=E,2.5nm,0.2s,SNR=7.9
EPON Sn **Sn** **18 55 39.4 -0.6**
comp=E,2.8nm,0.3s,SNR=7.9
EPON Lg Lg 18 56 01.3
comp=E,9.2nm,0.3s,SNR=7.9
EPON Pontenova 4.18 14 Pn **Pn** **18 54 52.0 +0.4**
comp=E,2.5nm,0.2s,SNR=7.9
EPON Sn **Sn** **18 55 39.4 -0.6**
comp=E,2.8nm,0.3s,SNR=7.9
EPON Lg Lg 18 56 01.3
comp=E,9.2nm,0.3s,SNR=7.9
ECOG Cogollos-Vega 4.40 115 Sn **Sn** **18 55 44.3 -1.4**
comp=E,4.2nm,0.4s,SNR=7.9
ECOG Lg Lg 18 56 10.2
comp=E,9.7nm,0.4s,SNR=7.9
ECOG Cogollos-Vega 4.40 115 Sn **Sn** **18 55 44.3 -1.4**
comp=E,4.2nm,0.4s,SNR=7.9
ECOG Lg Lg 18 56 10.2
comp=E,9.7nm,0.4s,SNR=7.9
EQUE Quentar 4.53 116 Pn **Pn** **18 54 57.9 +1.4**
comp=E,0.5nm,0.2s,SNR=7.9
EQUE Pg Pg 18 55 11.8 -3.6
comp=E,4.8nm,0.3s,SNR=7.9
EQUE Sn **Sn** **18 55 48.4 -0.2**
comp=E,1.6nm,0.3s,SNR=7.9
EQUE Lg Lg 18 56 14.1
comp=E,7.0nm,0.5s,SNR=5.5
EQUE Quentar 4.53 116 Pn **Pn** **18 54 57.9 +1.4**
comp=E,0.5nm,0.2s,SNR=7.9
EQES Quesada 4.54 107 Pn **Pn** **18 54 56.8 +0.1**
comp=E,0.7nm,0.1s,SNR=18
EQES Pg **Pg** **18 55 12.8 -2.9**
comp=E,2.0nm,0.3s,SNR=7.9
EQES Sn **Sn** **18 55 47.9 -1.2**
comp=E,1.8nm,0.2s,SNR=8.2
EQES Lg Lg 18 56 14.2
comp=E,15nm,0.3s,SNR=5.0
EQES Quesada 4.54 107 Pn **Pn** **18 54 56.8 +0.1**
comp=E,0.7nm,0.1s,SNR=18
EGUA Guajares 4.63 120 Pn **Pn** **18 55 00.5 +2.6**
comp=E,9.1nm,0.3s,SNR=7.9
EGUA Sn **Sn** **18 55 50.9 -0.3**
comp=E,8.4nm,0.5s,SNR=7.9
EGUA Lg Lg 18 56 15.4
comp=E,77nm,0.7s,SNR=7.9
EGUA Guajares 4.63 120 Pn **Pn** **18 55 00.5 +2.6**
comp=E,9.1nm,0.3s,SNR=7.9
EGUA Sn **Sn** **18 55 50.9 -0.3**
comp=E,8.4nm,0.5s,SNR=7.9
EGUA Lg Lg 18 56 15.4
comp=E,77nm,0.7s,SNR=7.9
EARI Arriondas 4.74 31 Pn **Pn** **18 55 01.0 +1.6**
comp=E,1.5nm,0.2s,SNR=16
EARI Sn **Sn** **18 55 51.0 -2.8**
comp=E,0.8nm,0.2s,SNR=6.8
EARI Lg Lg 18 56 20.4
comp=E,1.7nm,0.2s,SNR=5.0
EARI Arriondas 4.74 31 Pn **Pn** **18 55 01.0 +1.6**
comp=E,1.5nm,0.2s,SNR=16
EARI Sn **Sn** **18 55 51.0 -2.8**
comp=E,0.8nm,0.2s,SNR=6.8
EARI Lg Lg 18 56 20.4
comp=E,1.7nm,0.2s,SNR=5.0
EVIA Vianos 4.76 96 Pn **Pn** **18 55 00.9 +1.2**
comp=E,1.7nm,0.2s,SNR=7.9
EVIA Pg **Pg** **18 55 16.8 -3.0**
comp=E,4.7nm,0.2s,SNR=7.9
EVIA Lg Lg 18 56 19.0
comp=E,56nm,0.6s,SNR=8.6
EVIA Vianos 4.76 96 Pn **Pn** **18 55 00.9 +1.2**
comp=E,1.7nm,0.2s,SNR=7.9
EHUE Huescar 4.89 106 Pn **Pn** **18 55 01.8 +0.2**
comp=E,2.4nm,0.2s,SNR=7.9
EHUE Sn **Sn** **18 55 57.2 -0.6**
comp=E,1.2nm,0.2s,SNR=7.9
EHUE Lg Lg 18 56 24.7
comp=E,9.9nm,0.5s,SNR=7.9
EHUE Huescar 4.89 106 Pn **Pn** **18 55 01.8 +0.2**
comp=E,2.4nm,0.2s,SNR=7.9
EHUE Sn **Sn** **18 55 57.2 -0.6**
comp=E,1.2nm,0.2s,SNR=7.9
EHUE Lg Lg 18 56 24.7
comp=E,9.9nm,0.5s,SNR=7.9
EBER Berja 5.06 116 Pn **Pn** **18 55 06.4 +2.5**
comp=E,1.6nm,0.3s,SNR=8.9
EBER Pg Pg 18 55 22.4 -3.3
comp=E,2.3nm,0.3s,SNR=7.9
EBER Sn **Sn** **18 56 01.5 -0.4**
comp=E,2.3nm,0.3s,SNR=5.0
EBER Lg Lg 18 56 31.2
comp=E,20nm,0.7s,SNR=5.0
EBER Berja 5.06 116 Pn **Pn** **18 55 06.4 +2.5**
comp=E,1.6nm,0.3s,SNR=8.9
ETOB Tobarra 5.49 94 Pn **Pn** **18 55 10.5 +0.7**
comp=E,0.7nm,0.2s,SNR=7.9
ETOB Lg Lg 18 56 42.1
comp=E,16nm,0.6s,SNR=6.0
ETOB Tobarra 5.49 94 Pn **Pn** **18 55 10.5 +0.7**
comp=E,0.7nm,0.2s,SNR=7.9
ETOB Lg Lg 18 56 42.1
comp=E,16nm,0.6s,SNR=6.0
ELAN Lanestosa 5.52 43 Pn **Pn** **18 55 11.2 +1.3**
comp=E,1.7nm,0.2s,SNR=7.9
ELAN Pg **Pg** **18 55 31.3 -3.0**
comp=E,1.2nm,0.4s,SNR=7.9
ELAN Sn **Sn** **18 56 11.5 -1.4**
comp=E,0.9nm,0.2s,SNR=7.9
ELAN Lg Lg 18 56 45.6
comp=E,3.1nm,0.2s,SNR=5.4
ELAN Lanestosa 5.52 43 Pn **Pn** **18 55 11.2 +1.3**
comp=E,1.7nm,0.2s,SNR=7.9
EMUR La Murta 5.91 102 Pn **Pn** **18 55 16.7 +1.3**
comp=E,0.7nm,0.1s,SNR=5.8
EMUR Lg Lg 18 56 56.3
comp=E,15nm,0.6s,SNR=5.0
EMUR La Murta 5.91 102 Pn **Pn** **18 55 16.7 +1.3**
comp=E,0.7nm,0.1s,SNR=5.8
EMUR Lg Lg 18 56 56.3
comp=E,15nm,0.6s,SNR=5.0
EMOS Mosqueruela 6.31 78 Pn **Pn** **18 55 22.4 +1.3**
comp=E,0.5nm,0.3s,SNR=7.9
EMOS Sn **Sn** **18 56 30.8 -2.0**
comp=E,1.4nm,0.2s,SNR=7.9
EMOS Lg Lg 18 57 06.7
comp=E,4.7nm,0.4s,SNR=7.9
EMOS Mosqueruela 6.31 78 Pn **Pn** **18 55 22.4 +1.3**
comp=E,0.5nm,0.3s,SNR=7.9
EMOS Sn **Sn** **18 56 30.8 -2.0**
comp=E,1.4nm,0.2s,SNR=7.9
EMOS Lg Lg 18 57 06.7
comp=E,4.7nm,0.4s,SNR=7.9
IUNC Unciti 6.36 55 Pn **Pn** **18 55 23.0 +1.4**
comp=E,1.9nm,0.2s,SNR=7.9
IUNC Sn **Sn** **18 56 31.3 -2.5**
comp=E,2.6nm,0.4s,SNR=7.9
IUNC Lg Lg 18 57 10.3
comp=E,11nm,0.4s,SNR=7.9
IUNC Unciti 6.36 55 Pn **Pn** **18 55 23.0 +1.4**
comp=E,1.9nm,0.2s,SNR=7.9
IUNC Sn **Sn** **18 56 31.3 -2.5**
comp=E,2.6nm,0.4s,SNR=7.9
IUNC Lg Lg 18 57 10.3
comp=E,11nm,0.4s,SNR=7.9
IUSE Utxeti 6.43 53 Pn **Pn** **18 55 23.9 +1.3**
comp=E,0.3nm,0.1s,SNR=7.9
IUSE Sn **Sn** **18 56 33.9 -1.7**
comp=E,1.0nm,0.2s,SNR=7.9
IUSE Lg Lg 18 57 13.1
comp=E,12nm,0.8s,SNR=7.9
IUSE Utxeti 6.43 53 Pn **Pn** **18 55 23.9 +1.3**
comp=E,0.3nm,0.1s,SNR=7.9
IUSE Sn **Sn** **18 56 33.9 -1.7**
comp=E,1.0nm,0.2s,SNR=7.9
IUSE Lg Lg 18 57 13.1
comp=E,12nm,0.8s,SNR=7.9
EBEN Beniarda 6.51 92 Sn **Sn** **18 56 34.5 -3.0**
comp=E,1.2nm,0.4s,SNR=7.9
EBEN Lg Lg 18 57 17.5
comp=E,2.0nm,0.4s,SNR=7.9
EBEN Beniarda 6.51 92 Sn **Sn** **18 56 34.5 -3.0**
comp=E,1.2nm,0.4s,SNR=7.9
EBEN Lg Lg 18 57 17.5
comp=E,2.0nm,0.4s,SNR=7.9
IEPA Eparoz 6.52 55 Pn **Pn** **18 55 25.7 +1.9**
comp=E,0.5nm,0.2s,SNR=7.9
IEPA Sn **Sn** **18 56 36.0 -1.8**
comp=E,2.1nm,0.3s,SNR=7.9
IEPA Lg Lg 18 57 15.5
comp=E,9.4nm,0.5s,SNR=7.9
IEPA Eparoz 6.52 55 Pn **Pn** **18 55 25.7 +1.9**
comp=E,0.5nm,0.2s,SNR=7.9
IEPA Sn **Sn** **18 56 36.0 -1.8**
comp=E,2.1nm,0.3s,SNR=7.9
IEPA Lg Lg 18 57 15.5
comp=E,9.4nm,0.5s,SNR=7.9
ELIZ Elizondo 6.56 52 Pn **Pn** **18 55 26.2 +1.8**
comp=E,1.1nm,0.2s,SNR=7.9
ELIZ Sn Sn 18 56 32.8 -5.9
comp=E,2.7nm,0.2s,SNR=4.0
ELIZ Elizondo 6.56 52 Pn **Pn** **18 55 26.2 +1.8**
comp=E,1.1nm,0.2s,SNR=7.9
ELIZ Sn Sn 18 56 32.8 -5.9
comp=E,2.7nm,0.2s,SNR=4.0
EALK Alkurruntz 6.61 51 Sn **Sn** **18 56 37.6 -2.1**
comp=E,3.1nm,0.2s,SNR=7.9
EALK Lg Lg 18 57 18.3
comp=E,11nm,0.5s,SNR=7.9
EALK Alkurruntz 6.61 51 Sn **Sn** **18 56 37.6 -2.1**
comp=E,3.1nm,0.2s,SNR=7.9
EALK Lg Lg 18 57 18.3
comp=E,11nm,0.5s,SNR=7.9
ESAC San Caprasio 6.62 66 Pn **Pn** **18 55 27.0 +1.7**
comp=E,1.9nm,0.3s,SNR=7.9
ESAC Sn **Sn** **18 56 37.7 -2.6**
comp=E,6.8nm,0.2s,SNR=7.9
ESAC Lg Lg 18 57 20.2
comp=E,27nm,0.4s,SNR=7.9
ESAC San Caprasio 6.62 66 Pn **Pn** **18 55 27.0 +1.7**
comp=E,1.9nm,0.3s,SNR=7.9
ESAC Sn **Sn** **18 56 37.7 -2.6**
comp=E,6.8nm,0.2s,SNR=7.9
ESAC Lg Lg 18 57 20.2
comp=E,27nm,0.4s,SNR=7.9
SJPF Ste Jean 6.72 53 *e*Pn **Pn** **18 55 27.5 +1.0**
SJPF *e*Sn **Sn** **18 56 39.5 -3.1**
SJPF *e*Sg **Sg** **18 57 21.3 -3.0**
comp=E,12nm,0.7s
SJPF Ste Jean 6.72 53 Pn **Pn** **18 55 27.5 +1.0**
SJPF Sn **Sn** **18 56 39.5 -3.1**
SJPF Lg Lg 18 57 21.3
comp=E,6.2nm,0.7s
ERTA Horta de San J 7.01 73 Sn **Sn** **18 56 48.3 -1.5**
comp=E,0.8nm,0.2s,SNR=7.9
ERTA Lg Lg 18 57 31.4
comp=E,11nm,0.5s,SNR=7.9
ERTA Horta de San J 7.01 73 Sn **Sn** **18 56 48.3 -1.5**
comp=E,0.8nm,0.2s,SNR=7.9
ERTA Lg Lg 18 57 31.4
comp=E,11nm,0.5s,SNR=7.9
ETSF Etsaut 7.03 57 *e*Pn **Pn** **18 55 32.0 +1.1**
ETSF *e*Sn Sn 18 56 58.1 +7.7
ETSF *e*Sg **Sg** **18 57 30.9 -3.5**
comp=E,2.8nm,0.5s
ETSF Etsaut 7.03 57 Pn **Pn** **18 55 32.0 +1.1**
ETSF Sn Sn 18 56 58.1 +7.7
ETSF Lg Lg 18 57 30.9
comp=E,1.4nm,0.5s
EBIE Bielsa 7.40 60 Pn **Pn** **18 55 37.7 +1.6**
comp=E,0.8nm,0.2s,SNR=6.3
EBIE Sn **Sn** **18 56 57.5 -2.2**
comp=E,1.0nm,0.4s,SNR=7.9
EBIE Bielsa 7.40 60 Pn **Pn** **18 55 37.7 +1.6**
comp=E,0.8nm,0.2s,SNR=6.3
EBIE Sn **Sn** **18 56 57.5 -2.2**
comp=E,1.0nm,0.4s,SNR=7.9
EPOB Poblet 7.64 71 Lg Lg 18 57 46.4
comp=E,12nm,0.8s,SNR=7.9
EPOB Poblet 7.64 71 Lg Lg 18 57 46.3
comp=E,12nm,0.8s,SNR=7.9
EPF Esparros 7.68 58 *e*Pn **Pn** **18 55 41.6 +1.8**
EPF *e*Sn **Sn** **18 57 03.5 -2.8**
EPF *e*Sg Sb 18 57 50.9 +18
comp=E,2.0nm,0.4s
EPF Esparros 7.68 58 Pn **Pn** **18 55 41.6 +1.8**
EPF Sn **Sn** **18 57 03.5 -2.8**
EPF Lg Lg 18 57 50.9
comp=E,1.0nm,0.4s
CSOR Sort 7.96 64 Sn **Sn** **18 57 10.8 -2.6**
comp=E,1.0nm,0.3s,SNR=7.9
CSOR Sort 7.96 64 Sn **Sn** **18 57 10.8 -2.6**
comp=E,1.0nm,0.3s,SNR=7.9
CLLI Llivia 8.59 65 Sn **Sn** **18 57 25.8 -2.9**
comp=E,0.6nm,0.3s,SNR=7.9
CLLI Llivia 8.59 65 Sn **Sn** **18 57 25.8 -2.9**
comp=E,0.6nm,0.3s,SNR=7.9

IDC 14 19:04:24.4±1.0, 15°44S×172°59W, h0km, mb4.0/6, mb1 4.4/6, mb1mx4.0/19, mbtmp4.0/6, Error ellipse: s-maj=47.5km s-min=18.4km az=133.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.71**	**27**	Pn	Pn	19 04 53.5	-2.1
	30nm,0.3s,baz=10,slow=2.4,SNR=17						
AFI				Sn	Sn	19 05 15.2	-3.0
	44nm,0.3s,baz=217,slow=22,SNR=8.6						
URZ	**Urewera**	**24.49**	**200**	P	P	19 09 44.9	-0.4
	5.9nm,0.5s,baz=66,slow=10.0,SNR=4.5						
WRA	**Warramunga Arr**	**50.60**	**257**	P	P	19 13 25.0	-0.5
	0.8nm,0.7s,baz=96,slow=9.5,SNR=9.4						
ASAR	**Alice Springs**	**50.84**	**252**	P	P	19 13 26.8	-0.6
	3.3nm,0.5s,baz=89,slow=7.8,SNR=86						
NVAR	**Mina Array Bea**	**73.83**	**42**	P	P	19 16 01.5	+0.2
	0.6nm,0.7s,baz=205,slow=8.6,SNR=3.7						
TXAR	**Lajitas Array**	**79.98**	**56**	P	P	19 16 36.1	0.0
	0.7nm,0.9s,baz=218,slow=7.9,SNR=4.8						
ILAR	**Eielson Array**	**82.33**	**11**	P	P	19 16 48.5	+0.8
	1.0nm,0.7s,baz=220,slow=6.2,SNR=11						
GERES	**GERESS Array B**	**146.28**	**353**	PKPbc	PKPdf	19 24 06.2	+0.2
	0.4nm,0.7s,baz=58,slow=3.5,SNR=3.5						
BRTR	**Keskin Array B**	**146.67**	**322**	PKPbc	PKPbc	19 24 09.1	+0.4
	1.5nm,0.7s,baz=127,slow=2.1,SNR=8.5						

*ISCJB **14** 19:23:14.1±0.7, 12°58S±0°07×166°26E±0°09, h40km, mb4.2/12, Error ellipse: s-maj=12.6km s-min=9.3km az=162.4*
*IDC **14** 19:23:15.9±3.4, 12°68S×166°25E, h41km±28km, mb4.0/13, mb1 4.1/15, mb1mx4.0/22, mbtmp4.0/15, ML4.1/2, MS3.7/1, Ms1 3.7/1, ms1mx3.4/30, Error ellipse: s-maj=26.3km s-min=15.5km az=79.0*
*AUST **14** 19:23:54.2, 14°43S×165°39E, h300km*
ISC 14 19:23:15.7±0.9, 12°66S±0°08×166°3E±0°1, h40km, n27, σ1°03/28, mb4.2/12, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.03**	**297**	P	**Pn**	**19 24 56.5**	**+0.3**
	14nm,0.3s,baz=180,slow=3.0,SNR=16						
HNR				S	**Sn**	**19 26 13.7**	**-1.0**
	19nm,0.3s,baz=73,slow=19,SNR=5.2						
DZM	**Mont Dzumac**	**9.36**	**179**	P	**Pn**	**19 25 28.6**	**+0.3**
	0.5nm,0.3s,baz=238,slow=19,SNR=5.9						
DZM				S	**Sn**	**19 27 10.8**	**-1.5**
	0.1nm,0.3s,baz=131,slow=20,SNR=1.9						
DZM				LR	LR	19 28 25.7	
	comp=Z,457nm,18.6s,baz=207,slow=33						
EIDS	**Eidsvold**	**19.14**	**226**	P	**Pn**	**19 27 37.9**	**+1.2**
	baz=17,SNR=4.9						
CTA	**Charters Tower**	**20.61**	**246**	P	**P**	**19 27 52.7**	**+1.0**
	3.7nm,0.7s,baz=68,slow=12,SNR=6.2						
RMQ	**Roma**	**21.48**	**228**	P	**P**	**19 28 02.9**	**+1.9**
	baz=20,SNR=4.4						
MTSU	**Mount Surprise**	**21.89**	**253**	P	**P**	**19 28 06.7**	**+1.2**
	baz=21,SNR=4.1						
ARMA	**Armidale**	**22.30**	**215**	P	**P**	**19 28 11.0**	**+1.1**
	baz=20,SNR=5.3						
QLP	**Quilpie**	**24.93**	**233**	P	**P**	**19 28 35.8**	**+0.5**
	baz=23,SNR=5.3						
STKA	**Stephens Creek**	**29.69**	**226**	P	**P**	**19 29 18.7**	**+0.7**
	baz=28,SNR=7.9						
STKA	**Stephens Creek**	**29.69**	**226**	P	**P**	**19 29 18.5**	**+0.5**
	5.8nm,0.7s,baz=51,slow=10,SNR=11						
WRA	**Warramunga Arr**	**31.50**	**252**	P	**P**	**19 29 31.9**	**-2.2**
	1.2nm,0.8s,baz=85,slow=9.4,SNR=9.4						
ASAR	**Alice Springs**	**32.61**	**246**	P	**P**	**19 29 42.3**	**-1.6**
	1.5nm,0.7s,baz=70,slow=9.3,SNR=22						
KDU	**Kakadu**	**33.01**	**266**	P	P	19 29 56.9	+10
	baz=32,SNR=4.1						
BBOO	**Buckleboo**	**34.17**	**229**	P	**P**	**19 29 57.5**	**+0.1**
	baz=32,SNR=13						
KNRA	**Kununurra**	**36.50**	**261**	P	**P**	**19 30 17.4**	**-0.1**
	baz=35,SNR=4.1						
FITZ	**Fitzroy Crossi**	**39.53**	**257**	P	**P**	**19 30 42.9**	**-0.2**
	baz=38,SNR=3.7						
KLBR	**Kellerberrin**	**48.34**	**239**	P	**P**	**19 31 53.1**	**-0.5**
	baz=47,SNR=4.5						
MJAR	**Matsushiro Arr**	**55.65**	**333**	P	**P**	**19 32 46.5**	**-1.3**
	2.0nm,0.9s,baz=173,slow=8.1,SNR=5.8						
ASAJ	**Asahikawa**	**60.49**	**341**	P	**P**	**19 33 22.1**	**+0.5**
	5.4nm,1.0s,baz=222,slow=15,SNR=3.5						
KSRS	**Korea Array**	**61.52**	**326**	P	**P**	**19 33 29.3**	**+0.6**
	1.3nm,0.9s,baz=157,slow=7.3,SNR=3.7						
CMAR	**Chiang Mai Arr**	**73.27**	**294**	P	**P**	**19 34 44.3**	**+0.8**
	3.0nm,0.8s,baz=124,slow=4.6,SNR=32						
SONM	**Songino Array**	**80.29**	**324**	P	**P**	**19 35 22.3**	**-0.3**
	1.1nm,0.7s,baz=127,slow=5.2,SNR=4.7						
MAW	**Mawson**	**83.45**	**202**	P	**P**	**19 35 38.8**	**+0.1**
	2.9nm,0.9s,baz=86,slow=8.6,SNR=5.0						
ILAR	**Eielson Array**	**84.86**	**18**	P	**P**	**19 35 46.0**	**+0.1**
	0.6nm,0.7s,baz=226,slow=7.1,SNR=7.1						
MKAR	**Makanchi Array**	**95.07**	**317**	P	**P**	**19 36 34.4**	**-0.1**
	1.6nm,0.7s,baz=99,slow=6.3,SNR=17						
ZALV	**Zalesovo Beam**	**95.18**	**324**	P	**P**	**19 36 33.3**	**-1.5**
	0.9nm,0.6s,baz=114,slow=6.6,SNR=5.3						
TORD	**Torodi Ar. Bea**	**165.00**	**274**	PKPab	**PKPab**	**19 44 13.2**	**-0.2**
	1.2nm,0.9s,baz=76,slow=5.0,SNR=6.6						

IDC 14 19:27:44.7±1.8, 5°49S×154°55E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/18, mbtmp3.7/5, Error ellipse: s-maj=42.5km s-min=29.5km az=71.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**20.10**	**146**	P	Pn	19 32 21.2	-0.8
	6.2nm,1.0s,baz=330,slow=20,SNR=4.2						
WRA	**Warramunga Arr**	**24.35**	**232**	P	P	19 33 05.0	+0.4
	0.5nm,0.5s,baz=59,slow=8.9,SNR=10						
ASAR	**Alice Springs**	**26.87**	**226**	P	P	19 33 26.4	-1.1
	0.5nm,0.3s,baz=58,slow=9.3,SNR=16						
CMAR	**Chiang Mai Arr**	**59.75**	**295**	P	P	19 37 53.6	+1.6
	0.3nm,0.5s,baz=134,slow=4.6,SNR=5.8						
MKAR	**Makanchi Array**	**81.99**	**319**	P	P	19 40 05.5	-1.2
	0.8nm,0.7s,baz=98,slow=6.2,SNR=8.6						

*CSEM **14** 19:33:58.1, 43°16N×13°38E, h20km, MD1.5/5, After ROM*
ROM 14 19:33:58.1±0.6, 43°16N×13°38E, h20km±7km, Md1.5/5, Error ellipse: s-maj=5.5km s-min=5.1km az=108.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.25**	**241**	Pg	Pb	19 34 04.6	+0.4
FDMO				Sg	Sb	19 34 09.2	+0.8
	382nm,0.3s						
FDMO	**Fiordimonte**	**0.25**	**241**	Pg	Pb	19 34 04.6	+0.4
FDMO				Sg	Sb	19 34 09.2	+0.8
	382nm,0.3s						
CING	**Cingoli**	**0.26**	**328**	Pg	Pb	19 34 03.5	-0.8
CING				Sg	Sb	19 34 09.8	+1.2
CING	**Cingoli**	**0.26**	**328**	Pg	Pb	19 34 03.5	-0.8
CING				Sg	Sb	19 34 09.8	+1.2
OFFI	**Offida**	**0.32**	**135**	Pg	Pb	19 34 05.2	+0.2
OFFI				Sg	Sn	19 34 11.7	-1.9
	492nm,0.5s						
OFFI	**Offida**	**0.32**	**135**	Pg	Pb	19 34 05.2	+0.2
OFFI				Sg	Sn	19 34 11.7	-1.9
	492nm,0.5s						
NRCA	**Norcia**	**0.38**	**211**	Pg	Pb	19 34 05.6	-0.5
NRCA				Sg	Sb	19 34 11.9	+0.3
NRCA	**Norcia**	**0.38**	**211**	Pg	Pb	19 34 05.6	-0.5
NRCA				Sg	Sb	19 34 11.9	+0.3
CESI	**CESI - Serrava**	**0.38**	**246**	Pg	Pb	19 34 06.5	+0.3
CESI				Sg	Sb	19 34 13.3	+1.7
CESI	**CESI - Serrava**	**0.38**	**246**	Pg	Pb	19 34 06.5	+0.3
CESI				Sg	Sb	19 34 13.3	+1.7
GUMA	**Gualdo di Mace**	**0.42**	**103**	Pg	Pb	19 34 01.6	-5.1
GUMA				Sg	Sb	19 34 04.9	-7.7
GUMA	**Gualdo di Mace**	**0.42**	**103**	Pg	Pb	19 34 01.6	-5.1
GUMA				Sg	Sb	19 34 04.9	-7.7

*VIE **14** 19:34:16.6±1.3, 43°14N×13°47E, h10km, mb2.5/5, ML2.9/5, Error ellipse: s-maj=15.6km s-min=8.9km az=132.0 119 km SE of San Marino*
*CSEM **14** 19:34:17.5±0.2, 43°11N×13°44E, h20km, ML2.9/5, Error ellipse: s-maj=3.3km s-min=2.9km az=93.0*
*LDG **14** 19:34:17.6±0.4, 43°14N×13°40E, h2km, Ml3.2/6, Error ellipse: s-maj=12.6km s-min=4.7km az=55.0*
*ROM **14** 19:34:17.3±0.2, 43°13N×13°46E, h16km±3km, Ml3.1/4, Error ellipse: s-maj=2.6km s-min=1.6km az=73.0*
ISC 14 19:34:16.9±0.9, 43°13N±0°02×13°45E±0°02, h17km±6km, n81, σ1°82/130, 1C-5D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFFI	**Offida**	**0.26**	**139**	Pg	**Pb**	**19 34 24.3**	**+1.2**
OFFI	**Offida**	**0.26**	**139**	Pg	**Pb**	**19 34 24.3**	**+1.2**
FDMO	**Fiordimonte**	**0.28**	**251**	Pg	**Pg**	**19 34 23.2**	**+0.2**
FDMO				Sg	**Sg**	**19 34 28.2**	**+0.9**
FDMO	**Fiordimonte**	**0.28**	**251**	Pg	**Pg**	**19 34 23.2**	**+0.2**
FDMO				Sg	**Sg**	**19 34 28.2**	**+0.9**
CING	**Cingoli**	**0.31**	**323**	Pg	**Pg**	**19 34 23.9**	**+0.4**
CING				Sg	**Sb**	**19 34 29.2**	**+0.4**
CING	**Cingoli**	**0.31**	**323**	Pg	**Pg**	**19 34 23.9**	**+0.4**
CING				Sg	**Sb**	**19 34 29.2**	**+0.4**
GUMA	**Gualdo di Mace**	**0.36**	**101**	Pg	Pg	19 34 20.9	-3.5
GUMA				Sg	**Sg**	**19 34 24.2**	**-5.3**
GUMA	**Gualdo di Mace**	**0.36**	**101**	Pg	Pg	19 34 20.9	-3.5
GUMA				Sg	**Sg**	**19 34 24.2**	**-5.3**
NRCA	**Norcia**	**0.39**	**220**	Pg	**Pg**	**19 34 24.9**	**+0.1**
NRCA	**Norcia**	**0.39**	**220**	Pg	**Pg**	**19 34 24.9**	**+0.1**
CESI	**CESI - Serrava**	**0.42**	**253**	Pg	**Pg**	**19 34 25.9**	**+0.5**
CESI				Sg	**Sg**	**19 34 32.7**	**+1.5**
CESI	**CESI - Serrava**	**0.42**	**253**	Pg	**Pg**	**19 34 25.9**	**+0.5**
CESI				Sg	**Sg**	**19 34 32.7**	**+1.5**
TERO	**Teramo**	**0.52**	**167**	Pg	**Pg**	**19 34 27.5**	**+0.3**
TERO				Sg	**Sb**	**19 34 35.7**	**+0.9**
TERO	**Teramo**	**0.52**	**167**	Pg	**Pg**	**19 34 27.5**	**+0.3**
TERO				Sg	**Sb**	**19 34 35.7**	**+0.9**
ARVD	**Arcevia**	**0.52**	**315**	Pg	**Pg**	**19 34 27.6**	**+0.3**
ARVD				Sg	**Sb**	**19 34 36.1**	**+1.2**
ARVD	**Arcevia**	**0.52**	**315**	Pg	**Pg**	**19 34 27.6**	**+0.3**
ARVD				Sg	**Sb**	**19 34 36.1**	**+1.2**
SENI	**Senigallia**	**0.60**	**345**	Pg	**Pb**	**19 34 29.9**	**+1.1**
SENI	**Senigallia**	**0.60**	**345**	Pg	**Pb**	**19 34 29.9**	**+1.1**
LNSS	**Leonessa**	**0.61**	**210**	Pg	**Pg**	**19 34 28.7**	**-0.2**
LNSS				Sg	**Sb**	**19 34 38.5**	**+1.1**
LNSS	**Leonessa**	**0.61**	**210**	Pg	**Pg**	**19 34 28.7**	**-0.2**
LNSS				Sg	**Sb**	**19 34 38.5**	**+1.1**
MURB	**Monte Urbino**	**0.69**	**281**	Pg	**Pg**	**19 34 30.5**	**+0.1**
MURB				Sg	**Sb**	**19 34 41.8**	**+2.0**
MURB	**Monte Urbino**	**0.69**	**281**	Pg	**Pg**	**19 34 30.5**	**+0.1**
MURB				Sg	**Sb**	**19 34 41.8**	**+2.0**
PIEI	**Pieia**	**0.78**	**302**	Pg	**Pb**	**19 34 31.8**	**-0.2**
PIEI				Sg	**Sn**	**19 34 44.5**	**0.0**
PIEI	**Pieia**	**0.78**	**302**	Pg	**Pb**	**19 34 31.8**	**-0.2**
PIEI				Sg	**Sn**	**19 34 44.5**	**0.0**
CESX	**Cesi**	**0.82**	**231**	Pg	**Pb**	**19 34 32.3**	**-0.4**
CESX				Sg	**Sg**	**19 34 44.8**	**+1.0**
CESX	**Cesi**	**0.82**	**231**	Pg	**Pb**	**19 34 32.3**	**-0.4**
CESX				Sg	**Sg**	**19 34 44.8**	**+1.0**
FIAM	**Fiamignano**	**0.90**	**196**	Pg	**Pb**	**19 34 33.3**	**-0.7**
FIAM				Sg	**Sb**	**19 34 47.0**	**+1.3**
FIAM	**Fiamignano**	**0.90**	**196**	Pg	**Pb**	**19 34 33.3**	**-0.7**
FIAM				Sg	**Sb**	**19 34 47.0**	**+1.3**
BADI	**Badiali**	**0.96**	**294**	Pg	**Pb**	**19 34 35.2**	**+0.2**
BADI				Sg	**Sn**	**19 34 50.1**	**+1.2**
BADI	**Badiali**	**0.96**	**294**	Pg	**Pb**	**19 34 35.2**	**+0.2**
BADI				Sg	**Sn**	**19 34 50.1**	**+1.2**

CAFI	**Castiglion Fio**	**1.10**	**281**	Pg	**Pb**	**19 34 38.0**	**+0.5**
	350nm,0.7s							
CAFI	**Castiglion Fio**	**1.10**	**281**	Pg	**Pb**	**19 34 38.0**	**+0.5**
	350nm,0.7s							
SACS	**San Casciano d**	**1.17**	**257**	Pg	**Pn**	**19 34 39.2**	**+0.7**
	326nm,0.6s							
MTCE	**Montecelio**	**1.22**	**206**	Pg	**Pb**	**19 34 40.5**	**+0.9**
	194nm,0.5s							
MTCE	**Montecelio**	**1.22**	**206**	Pg	**Pb**	**19 34 40.5**	**+0.9**
	194nm,0.5s							
NVLJ	**Novalja**	**1.76**	**35**	*e*Pn	**Pn**	**19 34 46.3**	**-0.3**
NVLJ				Sn	**Sn**	**19 35 08.4**	**-0.3**
NVLJ	**Novalja**	**1.76**	**35**	*e*Pn	**Pn**	**19 34 46.2**	**-0.3**
NVLJ				Sn	**Sn**	**19 35 08.3**	**-0.3**
UDBI	**Udbina**	**2.18**	**49**	*e*Pn	**Pn**	**19 34 53.6**	**+1.2**
UDBI				Sn	**Sn**	**19 35 20.8**	**+1.7**
UDBI	**Udbina**	**2.18**	**49**	*e*Pn	**Pn**	**19 34 53.6**	**+1.2**
UDBI				Sn	**Sn**	**19 35 20.7**	**+1.7**
MAIM	**Mastiano**	**2.29**	**291**	P	**Pn**	**19 34 54.0**	**+0.1**
BACM	**Baccana**	**2.71**	**296**	P	**Pn**	**19 35 00.6**	**+1.0**
BACM				S	**Sn**	**19 35 29.3**	**-2.6**
GRAM	**Graiana**	**2.80**	**300**	P	**Pn**	**19 35 03.1**	**+2.1**
GRAM				S	**Sn**	**19 35 33.5**	**-0.9**
CODM	**Codolo**	**2.90**	**297**	P	**Pn**	**19 35 03.8**	**+1.6**
CODM				S	**Sn**	**19 35 35.0**	**-1.7**
VOY	**Vojsko**	**2.92**	**6**	*e*Pn	**Pn**	**19 35 04.6**	**+2.0**
VOY				*e*Sn	**Sn**	**19 35 37.5**	**+0.2**
VOY				*e*		19 35 50.7		
VOY	**Vojsko**	**2.92**	**6**	*e*Pn	**Pn**	**19 35 04.6**	**+2.0**
VOY				*e*Sn	**Sn**	**19 35 37.5**	**+0.2**
SC2M	**Scurtabo**	**3.11**	**296**	P	**Pn**	**19 35 06.9**	**+1.7**
SC2M				S	**Sn**	**19 35 37.3**	**-4.6**
STON	**Ston**	**3.13**	**93**	*e*Pn	**Pn**	**19 35 06.3**	**+1.0**
STON				Sn	**Sn**	**19 35 43.2**	**+0.9**
STON	**Ston**	**3.13**	**93**	*e*Pn	**Pn**	**19 35 06.3**	**+1.0**
STON				Sn	**Sn**	**19 35 43.1**	**+0.9**
DDS	**Dosso del Somm**	**3.19**	**330**	*e*Pn	**Pn**	**19 35 07.0**	**+0.6**
PANI	**Panarotta**	**3.29**	**333**	*i* Pn	**Pn**	**19 35 08.8**	**+0.9**
PANI				*e*Sn	**Sn**	**19 35 44.5**	**-2.2**
MAGA	**Magasa**	**3.33**	**324**	*e*Pn	**Pn**	**19 35 08.3**	**+0.1**
OBKA	**Obir**	**3.47**	**13**	⇓*i*Pn	**Pn**	**19 35 10.3**	**+0.2**
OBKA				⇑*i*Sn	**Sn**	**19 35 53.8**	**+3.0**
OBKA	**Obir**	**3.47**	**13**	Pn	**Pn**	**19 35 10.3**	**+0.2**
OBKA				Sn	**Sn**	**19 35 53.8**	**+3.0**
KOSI	**Kohlern**	**3.65**	**337**	*e*Pn	**Pn**	**19 35 13.5**	**+0.9**
ABTA	**Abfaltersbach**	**3.68**	**350**	⇓*i*Pn	**Pn**	**19 35 13.7**	**+0.7**
ABTA	**Abfaltersbach**	**3.68**	**350**	Pn	**Pn**	**19 35 13.7**	**+0.7**
SOKA	**Soboth**	**3.72**	**17**	⇓*i*Pn	**Pn**	**19 35 13.8**	**+0.2**
SOKA	**Soboth**	**3.72**	**17**	Pn	**Pn**	**19 35 13.8**	**+0.2**
ABSI	**Aberstueckl**	**3.90**	**338**	*e*Pn	**Pn**	**19 35 17.5**	**+1.3**
SBF	**Sospel**	**4.44**	**282**	*e*Pn	**Pn**	**19 35 24.6**	**+1.2**
SBF	**Sospel**	**4.44**	**282**	*e*Pn	**Pn**	**19 35 24.6**	**+1.2**
MOA	**Molln**	**4.75**	**7**	⇓*i*Pn	**Pn**	**19 35 28.4**	**+0.6**
MOA				⇓*i*Sn	**Sn**	**19 36 23.1**	**+0.6**
MOA	**Molln**	**4.75**	**7**	Pn	**Pn**	**19 35 28.4**	**+0.6**
MOA				Sn	**Sn**	**19 36 23.1**	**+0.6**
FRF	**La Foret Royal**	**4.98**	**277**	*e*Pn	**Pn**	**19 35 32.1**	**+1.3**
FRF	**La Foret Royal**	**4.98**	**277**	*e*Pn	**Pn**	**19 35 32.1**	**+1.3**
LMR	**La Mourre**	**5.08**	**275**	*e*Pn	**Pn**	**19 35 33.5**	**+1.4**
LMR	**La Mourre**	**5.08**	**275**	*e*Pn	**Pn**	**19 35 33.5**	**+1.4**
MBDF	**Montbardon**	**5.08**	**291**	*e*Pn	**Pn**	**19 35 33.7**	**+1.3**
MBDF				*e*Sn	**Sn**	**19 36 27.1**	**-3.6**
	2.6nm,0.3s							
MBDF	**Montbardon**	**5.08**	**291**	*e*Pn	**Pn**	**19 35 33.7**	**+1.3**
MBDF				*e*Sn	**Sn**	**19 36 27.1**	**-3.6**
	1.3nm,0.3s							
LPG	**La Plagne**	**5.36**	**299**	*e*Pn	**Pn**	**19 35 35.9**	**-0.4**
LPG				*e*Sn	**Sn**	**19 36 33.7**	**-4.0**
	7.4nm,0.5s							
LPG	**La Plagne**	**5.36**	**299**	*e*Pn	**Pn**	**19 35 35.9**	**-0.4**
LPG				*e*Sn	**Sn**	**19 36 33.7**	**-4.0**
	3.7nm,0.5s							
LPL	**La Plagne**	**5.38**	**299**	*e*Pn	**Pn**	**19 35 36.3**	**-0.2**
LPL				*e*Sn	**Sn**	**19 36 34.0**	**-4.1**
	6.3nm,0.4s							
LPL	**La Plagne**	**5.38**	**299**	*e*Pn	**Pn**	**19 35 36.3**	**-0.2**
LPL				*e*Sn	**Sn**	**19 36 34.0**	**-4.1**
	3.2nm,0.4s							
ORIF	**Oris-en-Rattie**	**5.74**	**291**	*e*P	Pn	19 35 45.4	+4.0	
HINF	**Hinteralfeld**	**6.59**	**318**	*e*Pn	**Pn**	**19 35 52.2**	**-0.8**
HINF				*e*Sn	**Sn**	**19 37 03.0**	**-4.7**
	4.6nm,0.4s							
CDF	**Champ du Feu**	**6.82**	**323**	*e*Pn	**Pn**	**19 35 56.3**	**+0.1**
CDF				*e*Sn	**Sn**	**19 37 08.6**	**-4.8**
	6.1nm,0.5s							
CDF	**Champ du Feu**	**6.82**	**323**	*e*Pn	**Pn**	**19 35 56.3**	**+0.1**
CDF				*e*Sn	**Sn**	**19 37 08.6**	**-4.8**
	3.0nm,0.5s							
HAU	**Haudompre**	**6.97**	**317**	*e*Pn	**Pn**	**19 35 57.8**	**-0.4**
HAU				*e*Sn	**Sn**	**19 37 11.9**	**-5.1**
	10nm,0.5s							
HAU	**Haudompre**	**6.97**	**317**	*e*Pn	**Pn**	**19 35 57.8**	**-0.4**
HAU				*e*Sn	**Sn**	**19 37 11.9**	**-5.1**
	5.2nm,0.5s							
SMF	**Signal de Mont**	**7.67**	**301**	*e*Pn	**Pn**	**19 36 07.1**	**-0.7**
SMF	**Signal de Mont**	**7.67**	**301**	*e*Pn	**Pn**	**19 36 07.1**	**-0.7**

CSEM ***14*** *19:38:00.3±0.1, 43.°11N×13.°40E, h20km, ML3.2/6, Error ellipse: s-maj=3.4km s-min=2.9km az=59.0*

ROM 14 19:38:00.1±0.1, 43.°12N×13.°44E, h17km±3km, MI2.8/13, Error ellipse: s-maj=2.5km s-min=1.5km az=40.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFFI	**Offida**	**0.26**	**136**	Pg	Pb	19 38 06.8	+0.5
	2μm,0.7s						
OFFI	**Offida**	**0.26**	**136**	Pg	Pb	19 38 06.8	+0.5
	2μm,0.7s						
FDMO	**Fiordimonte**	**0.27**	**252**	Pg	Pg	19 38 06.1	-0.1
FDMO				Sg	Sb	19 38 10.9	-0.1
	1μm,0.3s						
FDMO	**Fiordimonte**	**0.27**	**252**	Pg	Pg	19 38 06.1	-0.1
FDMO				Sg	Sb	19 38 10.9	-0.1
	1μm,0.3s						
CING	**Cingoli**	**0.31**	**325**	Pg	Pg	19 38 06.6	-0.3
CING				Sg	Sb	19 38 12.0	-0.2
	593nm,0.1s						
CING	**Cingoli**	**0.31**	**325**	Pg	Pg	19 38 06.6	-0.3
CING				Sg	Sb	19 38 12.0	-0.2
	593nm,0.1s						
GUMA	**Gualdo di Mace**	**0.37**	**99**	Pg	Pg	19 38 03.8	-4.0
GUMA				Sg	Sg	19 38 06.7	-6.4
	3μm,0.4s						
NRCA	**Norcia**	**0.37**	**220**	Pg	Pg	19 38 07.7	-0.3
NRCA				Sg	Sb	19 38 14.1	+0.1
NRCA	**Norcia**	**0.37**	**220**	Pg	Pg	19 38 07.7	-0.3
NRCA				Sg	Sb	19 38 14.1	+0.1
SNTG	**Esanatoglia**	**0.39**	**290**	Pg	Pg	19 38 08.0	-0.2
SNTG				Sg	Sb	19 38 14.4	0.0
SNTG	**Esanatoglia**	**0.39**	**290**	Pg	Pg	19 38 08.0	-0.2
SNTG				Sg	Sb	19 38 14.4	0.0
CESI	**CESI - Serrava**	**0.41**	**254**	Pg	Pg	19 38 08.5	-0.1
CESI				Sg	Sb	19 38 15.5	+0.5
	703nm,0.3s						
CESI	**CESI - Serrava**	**0.41**	**254**	Pg	Pg	19 38 08.5	-0.1
CESI				Sg	Sb	19 38 15.5	+0.5
	703nm,0.3s						
TERO	**Teramo**	**0.51**	**166**	Pg	Pg	19 38 09.8	-0.6
TERO				Sg	Sb	19 38 18.6	+0.7
	208nm,0.3s						
TERO	**Teramo**	**0.51**	**166**	Pg	Pg	19 38 09.8	-0.6
TERO				Sg	Sb	19 38 18.6	+0.7
	208nm,0.3s						
ARVD	**Arcevia**	**0.53**	**316**	Pg	Pg	19 38 10.4	-0.3
ARVD				Sg	Sb	19 38 18.8	+0.6
	134nm,0.2s						
ARVD	**Arcevia**	**0.53**	**316**	Pg	Pg	19 38 10.4	-0.3
ARVD				Sg	Sb	19 38 18.8	+0.6
	134nm,0.2s						
LNSS	**Leonessa**	**0.59**	**210**	Pg	Pg	19 38 11.3	-0.8
LNSS				Sg	Sb	19 38 20.8	+0.4
	376nm,0.4s						
LNSS	**Leonessa**	**0.59**	**210**	Pg	Pg	19 38 11.3	-0.8
LNSS				Sg	Sb	19 38 20.8	+0.4
	376nm,0.4s						
SENI	**Senigallia**	**0.60**	**346**	Pg	Pb	19 38 13.0	+0.8
SENI	**Senigallia**	**0.60**	**346**	Pg	Pb	19 38 13.0	+0.8
MURB	**Monte Urbino**	**0.69**	**282**	Pg	Pb	19 38 13.3	-0.4
	1μm,0.3s						
MURB	**Monte Urbino**	**0.69**	**282**	Pg	Pb	19 38 13.3	-0.4
	1μm,0.3s						
FSSB	**Fossombrone**	**0.75**	**320**	Pg	Pb	19 38 14.2	-0.5
	126nm,0.2s						
FSSB	**Fossombrone**	**0.75**	**320**	Pg	Pb	19 38 14.2	-0.5
	126nm,0.2s						
PIEI	**Pieia**	**0.78**	**302**	Pg	Pb	19 38 14.4	-0.9
	120nm,0.3s						
PIEI	**Pieia**	**0.78**	**302**	Pg	Pb	19 38 14.4	-0.9
	120nm,0.3s						
VCEL	**Villa Celiera**	**0.78**	**158**	Pg	Pb	19 38 15.4	0.0
	130nm,0.5s						
VCEL	**Villa Celiera**	**0.78**	**158**	Pg	Pb	19 38 15.4	0.0
	130nm,0.5s						
CESX	**Cesi**	**0.81**	**231**	Pg	Pb	19 38 15.1	-0.7
	386nm,0.5s						
CESX	**Cesi**	**0.81**	**231**	Pg	Pb	19 38 15.1	-0.7
	120nm,0.3s						
FIAM	**Fiamignano**	**0.88**	**196**	Pg	Pb	19 38 16.1	-1.0
FIAM	**Fiamignano**	**0.88**	**196**	Pg	Pb	19 38 16.1	-1.0
BADI	**Badiali**	**0.96**	**294**	Pg	Pb	19 38 17.8	-0.4
BADI	**Badiali**	**0.96**	**294**	Pg	Pb	19 38 17.8	-0.4
MGAB	**Montegabbione**	**1.00**	**258**	Pg	Pb	19 38 18.6	-0.3
MGAB	**Montegabbione**	**1.00**	**258**	Pg	Pb	19 38 18.6	-0.3
PARC	**Parchiule**	**1.02**	**301**	Pg	Pb	19 38 19.0	-0.4
PARC	**Parchiule**	**1.02**	**301**	Pg	Pb	19 38 19.0	-0.4
CAFI	**Castiglion Fio**	**1.10**	**281**	Pg	Pn	19 38 20.7	0.0
CAFI	**Castiglion Fio**	**1.10**	**281**	Pg	Pn	19 38 20.7	0.0
SACS	**San Casciano d**	**1.16**	**257**	Pg	Pb	19 38 22.0	+0.3
SACS	**San Casciano d**	**1.16**	**257**	Pg	Pb	19 38 22.0	+0.3
NVLJ	**Novalja**	**1.78**	**35**	*e*Pn	Pn	19 38 29.2	-0.7
NVLJ				Sn	Sn	19 38 51.3	-0.8
NVLJ	**Novalja**	**1.78**	**35**	*e*Pn	Pn	19 38 29.2	-0.7
NVLJ				Sn	Sn	19 38 51.3	-0.8
UDBI	**Udbina**	**2.19**	**49**	*e*Pn	Pn	19 38 36.5	+0.7
UDBI	**Udbina**	**2.19**	**49**	*e*Pn	Pn	19 38 36.5	+0.7
STON	**Ston**	**3.13**	**93**	*e*Pn	Pn	19 38 51.1	+2.5
STON				Sn	Sn	19 39 25.6	0.0
STON	**Ston**	**3.13**	**93**	*e*Pn	Pn	19 38 51.0	+2.4
STON				Sn	Sn	19 39 25.6	0.0

CSEM ***14*** *19:38:49.3, 43.°13N×13.°47E, h21km, MD1.5/3, After ROM*

ROM 14 19:38:49.3±0.2, 43.°13N×13.°47E, h21km±1km, Md1.5/3, Error ellipse: s-maj=2.7km s-min=1.1km az=75.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.30**	**252**	Pg	Pb	19 38 56.0	0.0
FDMO				Sg	Sb	19 39 01.1	+0.5
FDMO	**Fiordimonte**	**0.30**	**252**	Pg	Pb	19 38 56.0	0.0
FDMO				Sg	Sb	19 39 01.1	+0.5
CING	**Cingoli**	**0.32**	**321**	Pg	Pb	19 38 56.6	+0.2
CING				Sg	Sb	19 39 01.8	+0.6
CING	**Cingoli**	**0.32**	**321**	Pg	Pb	19 38 56.6	+0.2
CING				Sg	Sb	19 39 01.8	+0.6
GUMA	**Gualdo di Mace**	**0.34**	**101**	Pg	Pb	19 38 53.7	-3.0
GUMA				Sg	Sb	19 38 57.0	-4.8
GUMA	**Gualdo di Mace**	**0.34**	**101**	Pg	Pb	19 38 53.7	-3.0
GUMA				Sg	Sb	19 38 57.0	-4.8
NRCA	**Norcia**	**0.40**	**222**	Pg	Pb	19 38 57.7	+0.1
NRCA				Sg	Sb	19 39 04.1	+0.9
NRCA	**Norcia**	**0.40**	**222**	Pg	Pb	19 38 57.7	+0.1
NRCA				Sg	Sb	19 39 04.1	+0.9

CSEM ***14*** *19:39:32.2±0.1, 43.°13N×13.°43E, h20km, Error ellipse: s-maj=3.3km s-min=3.0km az=77.0*

ROM 14 19:39:32.2±0.2, 43.°14N×13.°44E, h18km±3km, MI2.4/9, Error ellipse: s-maj=2.4km s-min=1.5km az=71.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFFI	**Offida**	**0.27**	**138**	Pg	Pb	19 39 39.1	+0.7
	675nm,0.5s						
OFFI	**Offida**	**0.27**	**138**	Pg	Pb	19 39 39.1	+0.7
	675nm,0.5s						
FDMO	**Fiordimonte**	**0.28**	**249**	Pg	Pg	19 39 38.2	-0.3
FDMO				Sg	Sb	19 39 43.1	+0.2
	544nm,0.2s						
FDMO	**Fiordimonte**	**0.28**	**249**	Pg	Pg	19 39 38.2	-0.3
FDMO				Sg	Sb	19 39 43.1	+0.2
	544nm,0.2s						
CING	**Cingoli**	**0.30**	**323**	Pg	Pg	19 39 38.7	-0.2
CING				Sg	Sb	19 39 44.1	+0.3
	198nm,0.2s						
CING	**Cingoli**	**0.30**	**323**	Pg	Pg	19 39 38.7	-0.2
CING				Sg	Sb	19 39 44.1	+0.3
	198nm,0.2s						
GUMA	**Gualdo di Mace**	**0.37**	**101**	Pg	Pg	19 39 35.9	-4.1
GUMA				Sg	Sg	19 39 39.1	-6.2
	329nm,0.2s						
NRCA	**Norcia**	**0.39**	**219**	Pg	Pg	19 39 39.9	-0.5
NRCA				Sg	Sb	19 39 46.3	-0.1
NRCA	**Norcia**	**0.39**	**219**	Pg	Pg	19 39 39.9	-0.5
NRCA				Sg	Sb	19 39 46.3	-0.1
CESI	**CESI - Serrava**	**0.41**	**252**	Pg	Pg	19 39 40.6	-0.3
CESI				Sg	Sb	19 39 47.6	+0.4
	182nm,0.2s						
CESI	**CESI - Serrava**	**0.41**	**252**	Pg	Pg	19 39 40.6	-0.3
CESI				Sg	Sb	19 39 47.6	+0.4
	182nm,0.2s						
ARVD	**Arcevia**	**0.51**	**315**	Pg	Pb	19 39 42.7	0.0
	38nm,0.3s						
ARVD	**Arcevia**	**0.51**	**315**	Pg	Pb	19 39 42.7	0.0
	38nm,0.3s						
TERO	**Teramo**	**0.53**	**167**	Pg	Pg	19 39 42.2	-0.7
TERO				Sg	Sb	19 39 50.7	+0.5
TERO	**Teramo**	**0.53**	**167**	Pg	Pg	19 39 42.2	-0.7
TERO				Sg	Sb	19 39 50.7	+0.5
LNSS	**Leonessa**	**0.61**	**209**	Pg	Pb	19 39 43.6	-0.8
LNSS				Sg	Sg	19 39 53.5	+0.8
LNSS	**Leonessa**	**0.61**	**209**	Pg	Pb	19 39 43.6	-0.8
LNSS				Sg	Sg	19 39 53.5	+0.8
MURB	**Monte Urbino**	**0.68**	**281**	Pg	Pb	19 39 45.3	-0.3
	490nm,0.3s						
MURB	**Monte Urbino**	**0.68**	**281**	Pg	Pb	19 39 45.3	-0.3
	490nm,0.3s						
FSSB	**Fossombrone**	**0.74**	**319**	Pg	Pg	19 39 46.9	+0.1
	418nm,0.8s						
FSSB	**Fossombrone**	**0.74**	**319**	Pg	Pg	19 39 46.9	+0.1
	418nm,0.8s						
VCEL	**Villa Celiera**	**0.80**	**158**	Pg	Pb	19 39 47.6	-0.1
VCEL	**Villa Celiera**	**0.80**	**158**	Pg	Pb	19 39 47.6	-0.1
BADI	**Badiali**	**0.95**	**294**	Pg	Pb	19 39 49.9	-0.3
	48nm,0.4s						
BADI	**Badiali**	**0.95**	**294**	Pg	Pb	19 39 49.9	-0.3
	48nm,0.4s						
NVLJ	**Novalja**	**1.76**	**35**	*e*Pn	Pn	19 40 00.5	-1.3
NVLJ				Sn	Sn	19 40 23.3	-0.4
NVLJ	**Novalja**	**1.76**	**35**	*e*Pn	Pn	19 40 00.5	-1.3
NVLJ				Sn	Sn	19 40 23.3	-0.4
UDBI	**Udbina**	**2.18**	**50**	*e*Pn	Pn	19 40 08.6	+1.0
UDBI				Sn	Sn	19 40 35.5	+1.2
UDBI	**Udbina**	**2.18**	**50**	*e*Pn	Pn	19 40 08.6	+0.9
UDBI				Sn	Sn	19 40 35.5	+1.2
STON	**Ston**	**3.13**	**93**	Sn	Sn	19 40 56.8	-0.8
STON	**Ston**	**3.13**	**93**	Sn	Sn	19 40 56.7	-0.8

ISCJB ***14*** *19:44:17.3±1.1, 14.°7N×0.°1×92.°93E±0.°07, h33km, mb3.3/3, Error ellipse: s-maj=17.5km s-min=9.5km az=173.2*
IDC ***14*** *19:44:17.7±1.9, 14.°38N×93.°25E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/25, mbtmp3.3/4, ML3.1/1, MS3.5/1, Ms1 3.7/1, ms1mx3.4/29, Error ellipse: s-maj=44.8km s-min=27.8km az=74.0*

ISC 14 19:44:20.2±1.4, 14.°6N±0.°2×92.°94E±0.°08, h35km, n5, σ0.°95/6, mb3.4/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.92**	**55**	Pn	**Pn**	**19 46 00.0**	**+0.8**
	0.1nm,0.3s,baz=244,slow=15,SNR=9.3						
CMAR				Sn	**Sn**	**19 47 15.8**	**-0.9**
	0.1nm,0.3s,baz=237,slow=23,SNR=2.4						
CMAR				LR	LR	19 49 23.3	
	comp=Z,350nm,18.5s,baz=110,slow=45						
VIS	**Vishakhapatnam**	**9.75**	**290**	*i* P	Pn	19 46 42.8	+4.8
VIS				*i* S	**Sn**	**19 48 25.4**	**-0.8**
VIS				*i* S	**Sn**	**19 48 26.9**	**+0.6**
VIS				*ex*	x	19 48 28.3	
	comp=N,13nm,0.2s						
VIS				*ex*	x	19 48 28.7	
	comp=E,15nm,0.2s						
MKAR	**Makanchi Array**	**33.31**	**347**	P	P	19 50 59.8	+5.1
	comp=E,0.3nm,0.7s,baz=144,slow=10,SNR=4.2						
WRA	**Warramunga Arr**	**53.25**	**129**	P	**P**	**19 53 35.5**	**-0.2**
	comp=E,0.3nm,0.7s,baz=295,slow=6.3,SNR=4.3						
ASAR	**Alice Springs**	**55.22**	**133**	P	**P**	**19 53 50.0**	**-0.1**
	comp=E,0.2nm,0.5s,baz=314,slow=7.3,SNR=6.7						

ISCJB ***14*** *20:01:12.9±0.7, 35.°01N±0.°06×103.°95E±0.°06, h10km, mb3.9/5, MS4.3/1, Error ellipse: s-maj=10.1km s-min=5.1km az=40.6*
IDC ***14*** *20:01:13.2±1.0, 35.°02N×103.°89E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.6/27, mbtmp3.8/7, ML3.4/1, MS4.4/1, Ms1 4.4/1, ms1mx3.4/50, Error ellipse: s-maj=73.1km s-min=17.4km az=57.0*
BJI ***14*** *20:01:16.9, 35.°01N×103.°79E, h8km, mb4.0/3, ML3.5/11, Ms3.8/1*

ISC 14 20:01:15.5±1.0, 35.°06N±0.°08×103.°87E±0.°08, h10km, n12, σ1.9°36/17, mb4.2/5, 1C, Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**1.03**	**359**	⇑Pg	**Pg**	**20 01 33.9**	**-1.4**
LZH				Sg	**Sg**	**20 01 49.3**	**+0.6**
LZH				SMN			
	1μm,0.5s						
LZH				SME			
	2μm,0.6s						
XAN	**Xi'an**	**4.29**	**102**	Pn	**Pn**	**20 02 21.6**	**+0.7**
XAN				Pg	**Pb**	**20 02 33.5**	**+2.5**
XAN				Sn	**Sn**	**20 03 11.3**	**+0.3**
XAN				Sg	**Sg**	**20 03 32.0**	**-1.3**
XAN				SMN			
	96nm,1.0s						
XAN				SME			
	25nm,0.8s						
GTA	**Gaotai**	**5.42**	**325**	Pn	**Pn**	**20 02 36.8**	**+0.4**
GTA				Pg	Pb	20 02 54.6	+4.3
GTA				Sn	**Sn**	**20 03 42.0**	**+3.1**
GTA				Sg	**Sg**	**20 04 09.6**	**+0.2**
GTA				SMN			
	21nm,1.1s						
GTA				SME			
	16nm,1.0s						
HHC	**Hu-ho-hao-te**	**8.39**	**44**	*e*P	**Pn**	**20 03 16.3**	**-0.9**
HHC				AMB	AMB		
	comp=Z,32nm,1.0s						
HHC				AMB	AMB		
	comp=Z,510nm,5.1s						
SONM	**Songino Array**	**12.91**	**8**	Pn	**Pn**	**20 04 17.8**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=189,slow=15,SNR=3.1						
MKAR	**Makanchi Array**	**20.01**	**312**	P	**P**	**20 05 47.7**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=110,slow=12,SNR=6.9						
ZALV	**Zalesovo Beam**	**23.13**	**331**	P	**P**	**20 06 22.3**	**+0.6**
	comp=Z,1.7nm,0.6s,baz=138,slow=11,SNR=9.2						
KURBB	**Kurchatov Arra**	**24.07**	**318**	P	**P**	**20 06 30.1**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=121,slow=10,SNR=14						
PSI	**Prapat**	**32.42**	**189**	LR	LR	20 21 20.1	
	comp=Z,723nm,20.6s,baz=320,slow=37						
FINES	**FINESS Array B**	**54.21**	**325**	P	**P**	**20 10 40.1**	**-0.8**
	comp=Z,5.2nm,1.0s,baz=90,slow=6.9,SNR=4.7						
WRA	**Warramunga Arr**	**61.88**	**147**	P	**P**	**20 11 34.1**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=344,slow=7.3,SNR=7.6						
ASAR	**Alice Springs**	**64.98**	**150**	P	**P**	**20 11 55.0**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=332,slow=6.7,SNR=18						

IDC 14 20:06:08.3±49.0, 22.°43S×175.°50W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.8/17, mbtmp4.0/3, Error ellipse: s-maj=908.3km s-min=179.5km az=86.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.11**	**247**	P	P	20 13 38.2	+0.6
	1.5nm,0.7s,baz=90,slow=11,SNR=3.1						
ASAR	**Alice Springs**	**46.38**	**258**	P	P	20 14 36.5	-0.3
	1.7nm,0.7s,baz=97,slow=7.3,SNR=23						
WRA	**Warramunga Arr**	**46.67**	**263**	P	P	20 14 38.6	-0.5
	0.7nm,0.6s,baz=104,slow=7.9,SNR=9.9						

JMA ***14*** *20:15:40.9±0.4, 26.°61N×125.°09E, h1km, M3.9*
ISCJB ***14*** *20:15:41.7±0.4, 26.°64N±0.°04×125.°05E±0.°05, h10km, mb4.0/13, Error ellipse: s-maj=6.2km s-min=5.3km az=3.6*
IDC ***14*** *20:15:42.9±0.7, 26.°37N×124.°47E, h0km, mb4.0/12, mb1 4.2/15, mb1mx4.0/30, mbtmp4.1/15, ML3.4/3, Error ellipse: s-maj=26.7km s-min=13.4km az=72.0*

ISC 14 20:15:42.8±0.7, 26.°54N±0.°05×125.°16E±0.°05, h10km, n28, σ1.9°05/26, mb4.0/13, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**1.48**	**98**	P	**Pn**	**20 16 09.2**	**-0.2**
JKE				*e*S	**Sg**	**20 16 29.7**	**-0.6**
JMJ	**Miyako jima 2**	**1.72**	**176**	P	**Pb**	**20 16 13.4**	**-1.1**
JMJ				*e*S	**Sb**	**20 16 35.9**	**-0.3**
**JO

DPC	**Dobruska-Polom**	**1.38**	**284**	*e*PG	Pg		20 31 23.2	-2.2
DPC				*e*SG	Sg		20 31 42.4	-0.9
DPC	**Dobruska-Polom**	**1.38**	**284**	Pg	Pg		20 31 23.2	-2.2
DPC				Sg	Sg		20 31 42.4	-0.9
VRAC	**Vranov**	**1.38**	**239**	*e*Pg	Pg		20 31 24.5	-0.9
VRAC				*e*Sg	Sg		20 31 42.8	-0.6
	7.6nm,0.3s,baz=58							
KRUC	**Moravsky**	**1.63**	**234**	*e*Pg	Pn		20 31 28.9	+0.1
	baz=53							
KRUC				*e*Sg	Sn		20 31 50.3	-0.2
	2.4nm,0.2s,baz=53							
PRU	**Pruhonice**	**2.50**	**271**	*e*SG	Sg		20 32 18.0	-1.0
PRU	**Pruhonice**	**2.50**	**271**	Sg	Sg		20 32 18.0	-1.0
KHC	**Kasperske Hory**	**3.27**	**256**	*e*SG	Sg		20 32 43.3	-0.7
KHC	**Kasperske Hory**	**3.27**	**256**	Sg	Sg		20 32 43.3	-0.7

IDC ***14*** *20:42:56.4±1.2,71°.74N×1°.03W, h0km, mb3.5/7, mb1 3.9/13,mb1mx3.7/31, mbtmp3.7/13, ML3.8/6, MS3.6/6, Ms1 3.6/6,ms1mx3.2/42, Error ellipse: s-maj=26.2km s-min=16.6km az=78.0*

ISCJB ***14*** *20:42:57.2±0.8, 71°.74N±0°.05×0°.1W±0°.2, h10km, mb3.4/7, MS3.6/3, Error ellipse: s-maj=9.9km s-min=7.4km az=163.5*

BER ***14*** *20:42:59.3±2.0, 71°.79N×1°.47W, h10km, MD3.0, ML2.7*

ISC 14 20:42:58.4±1.0, 71°.76N±0°.08×0°.48W±0°.10, h10km, n29, σ1§41/31, mb3.4/7, MS3.3/3, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LOF	**Lofoten**	**6.03**	**120**	*e*P		**Pn**	**20 44 29.9**	**+2.5**
LOF					AML	AML	20 45 39.1	
	comp=Z,13nm,0.7s							
TRO	**Tromso**	**6.76**	**99**	*e*P		**Pn**	**20 44 37.8**	**+0.4**
KONS	**Konsvik**	**7.16**	**131**	*e*P		**Pn**	**20 44 43.5**	**+0.7**
KONS				*e*S		**Sn**	**20 46 00.5**	**-3.6**
KONS					AML	AML	20 46 09.2	
	comp=Z,8.8nm,0.8s							
STOK	**Stokkvaagen**	**7.27**	**132**	*e*P		**Pn**	**20 44 45.4**	**+1.1**
STOK				*e*S		**Sn**	**20 46 05.2**	**-1.6**
FLOS	**Flostrand**	**7.35**	**131**	*e*P		**Pn**	**20 44 46.4**	**+1.0**
FLOS				*e*S		**Sn**	**20 46 06.5**	**-2.2**
MOR8	**Moi Rana**	**7.74**	**129**	*e*P		**Pn**	**20 44 53.0**	**+2.2**
MOR8				*e*S		**Sn**	**20 46 16.2**	**-2.2**
MOR8					AML	AML	20 46 21.1	
	comp=Z,9.3nm,0.4s							
SPA0	**Spitsbergen Ar**	**7.75**	**26**	*e*P		**Pn**	**20 44 51.2**	**+0.2**
SPA0				*e*			20 45 27.1	
SPITS	**Spitsbergen Ar**	**7.75**	**26**	Pn		**Pn**	**20 44 51.2**	**+0.2**
	baz=203,slow=16,SNR=46							
NSS	**Namsos**	**8.59**	**141**	*e*P		**Pn**	**20 45 02.9**	**+0.4**
NSS					AML	AML	20 46 38.9	
	comp=Z,5.9nm,0.9s							
ARCES	**ARCESS Array B**	**8.87**	**92**	Pn		**Pn**	**20 45 07.2**	**+0.9**
	comp=Z,2.2nm,0.3s,baz=300,slow=12,SNR=46							
ARCES				Sn		**Sn**	**20 46 45.0**	**-1.2**
	baz=298,slow=19,SNR=2.0							
ARE0	**ARCESS Array S**	**8.87**	**92**	*e*P		**Pn**	**20 45 07.3**	**+0.9**
KEV	**Kevo**	**9.25**	**89**	*ep*		**Pn**	**20 45 11.0**	**-0.5**
	comp=Z,1.5nm,0.3s							
SUMG	**Summit**	**11.53**	**292**	*i* P		Pn	20 45 37.2	-5.9
	comp=Z,7.3nm,0.8s							
NOA	**NORSAR Array B**	**11.70**	**151**	Pn		**Pn**	**20 45 46.0**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=347,slow=13,SNR=11							
NOA				Sn		**Sn**	**20 47 57.0**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=332,slow=21,SNR=2.4							
NOA				LR		LR	20 49 58.2	
	comp=Z,202nm,19.2s,baz=340,slow=36							
HFS	**Hagfors**	**12.96**	**147**	Pn		**Pn**	**20 46 03.1**	**+0.8**
	comp=Z,1.2nm,0.3s,baz=338,slow=11,SNR=34							
HFS				LR		LR	20 50 10.6	
	comp=Z,199nm,19.7s,baz=75,slow=33							
KAF	**Kangasniemi**	**14.11**	**120**	*ep*		**Pn**	**20 46 17.7**	**-0.2**
	comp=Z,8.5nm,0.8s							
FINES	**FINESS Array B**	**14.60**	**122**	Pn		**Pn**	**20 46 24.8**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=329,slow=9.7,SNR=12							
JOF	**Joensuu**	**14.90**	**110**	*ep*		**Pn**	**20 46 28.2**	**-0.5**
	comp=Z,7.6nm,0.6s							
EKA	**Eskdalemuir Ar**	**16.53**	**185**	Pn		**Pn**	**20 46 48.4**	**-1.5**
	baz=8.4,slow=12,SNR=3.0							
SFJD	**Kangerlussuaq**	**17.81**	**280**	LR		LR	20 52 42.5	
	comp=Z,175nm,19.1s,baz=67,slow=33							
VRAC	**Vranov**	**23.84**	**152**	LR		LR	20 57 22.3	
	comp=Z,118nm,20.8s,baz=41,slow=36							
GERES	**GERESS Array B**	**23.90**	**156**	P		**P**	**20 48 13.1**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=0.7,slow=11,SNR=4.8							
AKASG	**Malin Array Be**	**24.98**	**132**	P		**P**	**20 48 21.8**	**+0.1**
	comp=Z,1.1nm,0.4s,baz=333,slow=10,SNR=5.7							
DAVOX	**Davos/Dischmat**	**25.53**	**163**	LR		LR	20 57 37.9	
	comp=Z,67nm,21.1s,baz=0.0,slow=34							
BRTR	**Keskin Array B**	**36.36**	**133**	P		**P**	**20 50 03.2**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=336,slow=9.6,SNR=3.3							
BRTR				LR		LR	21 05 30.1	
	comp=Z,500nm,19.5s,baz=30,slow=37							
ILAR	**Eielson Array**	**41.84**	**339**	P		**P**	**20 50 45.9**	**-1.8**
	comp=Z,0.6nm,0.8s,baz=21,slow=4.7,SNR=6.2							
MKAR	**Makanchi Array**	**44.21**	**78**	P		**P**	**20 51 08.3**	**+1.3**
	comp=Z,0.4nm,0.8s,baz=2.9,slow=5.8,SNR=3.3							
TORD	**Torodi Ar. Bea**	**58.59**	**178**	P		**P**	**20 52 54.8**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=354,slow=7.4,SNR=6.6							
CMAR	**Chiang Mai Arr**	**75.54**	**75**	P		**P**	**20 54 43.6**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=333,slow=7.1,SNR=3.7							

MAN 14 20:53:18, 15°.88N×121°.12E, h57km, mb4.4, ML3.2, MS3.1, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCPH	**Palayan**	**0.32**	**184**	*e*P		Pn	20 53 30.2	+2.2
BALP	**Baler**	**0.46**	**108**	*e*P		Pn	20 53 22.2	-7.1
CAUP	**Cauayan**	**1.25**	**33**	*e*P		Pn	20 53 40.5	+1.2
CAUP				*e*S		Sn	20 53 56.2	+1.1
PALP	**Palanan**	**1.72**	**47**	*e*P		Pn	20 53 46.1	+0.5
PALP				*e*S		Sn	20 54 07.5	+1.0
APYP	**Conner**	**1.97**	**3**	*e*P		Pn	20 53 49.7	+0.6

DDA ***14*** *20:59:24, 34°.27N×26°.53E, h7km, MD3.9*

IDC ***14*** *20:59:25.8±0.7, 34°.54N×26°.52E, h0km, mb4.4/20, mb1 4.4/30,mb1mx4.4/38,mbtmp4.3/30, ML3.9/8, MS3.4/4, Ms1 3.4/4, ms1mx3.0/42, Error ellipse: s-maj=15.3km s-min=11.4km az=0.0*

BJI ***14*** *20:59:25.7, 34°.30N×26°.50E, h20km, mB5.2/2, mb4.6/8*

ISK ***14*** *20:59:28.7, 34°.72N×26°.62E, h5km, ML4.0*

ISCJB ***14*** *20:59:28.1±0.2, 34°.33N±0°.02×26°.55E±0°.01, h38km±2km, mb4.4/74, MS3.4/2, Error ellipse: s-maj=2.8km s-min=1.8km az=25.0*

HLW ***14*** *20:59:29.0, 34°.52N×26°.60E, h32km±28km, Md4.2, Ml4.2*

MOS ***14*** *20:59:29.3±1.2, 34°.56N×26°.42E, h33km, mb4.8/23, Error ellipse: s-maj=8.5km s-min=4.2km az=85.8*

TEH ***14*** *20:59:29.7, 34°.31N×26°.52E, h30km, ML4.4*

NIC ***14*** *20:59:30.3±0.1, 34°.39N×26°.73E, h25km, mb4.6, ML4.1, MW3.6*

CSEM ***14*** *20:59:30.4±0.1, 34°.34N×26°.56E, h45km±1km, mb4.4/53, Ms3.6, Mw3.7, Error ellipse: s-maj=3.0km s-min=1.9km az=30.0*

BGS ***14*** *20:59:31.1±2.4, 34°.32N×25°.95E, h33km, mb4.4*

ATH ***14*** *20:59:32.7, 34°.68N×26°.46E, h76km±3km, ML3.8*

THE ***14*** *20:59:34.1, 34°.57N×26°.48E, h43km±3km, ML3.9/2, Error ellipse: s-maj=3.9km s-min=1.1km az=350.0*

ISC 14 20:59:29.2±0.6, 34°.37N±0°.03×26°.54E±0°.02, h27km±4km, n696, σ1§33/731, mb4.4/73, 21C-14D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZKR	**Zakros**	**0.79**	**341**	P		**Pb**	**20 59 43.9**	**-0.4**
ZKR				S		**Sn**	**20 59 54.6**	**-0.9**
ZKR	**Zakros**	**0.79**	**341**	P		**Pb**	**20 59 43.9**	**-0.4**
ZKR				S		**Sn**	**20 59 54.6**	**-0.9**
NPS	**Neapolis**	**1.17**	**320**	P		**Pb**	**20 59 50.9**	**+0.1**
NPS				S		**Sn**	**21 00 04.6**	**-0.3**
NPS	**Neapolis**	**1.17**	**320**	*e*P		**Pb**	**20 59 51.0**	**+0.1**
NPS	**Neapolis**	**1.17**	**320**	P		**Pb**	**20 59 50.9**	**+0.1**
NPS				S		**Sn**	**21 00 04.6**	**-0.3**
LAST	**Lasithi**	**1.18**	**313**	P		**Pb**	**20 59 50.5**	**-0.4**
LAST	**Lasithi**	**1.18**	**313**	P		**Pb**	**20 59 50.5**	**-0.4**
KARP	**Karpathos**	**1.28**	**23**	P		**Pb**	**20 59 53.7**	**+1.0**
KARP				S		**Sb**	**21 00 07.9**	**-0.9**
KARP	**Karpathos**	**1.28**	**23**	*e*P		**Pb**	**20 59 53.2**	**+0.5**
KARP	**Karpathos**	**1.28**	**23**	*e*P		**Pb**	**20 59 53.2**	**+0.5**
KARP				S		**Sb**	**21 00 07.9**	**-0.9**
SIVA	**Sivas**	**1.56**	**295**	P		**Pb**	**20 59 57.4**	**0.0**
SIVA	**Sivas**	**1.56**	**295**	P		**Pb**	**20 59 57.4**	**0.0**
IDI	**Anoyia**	**1.64**	**305**	P		**Pb**	**20 59 58.4**	**-0.3**
IDI	**Anoyia**	**1.64**	**305**	*e*PN		**Pb**	**20 59 58.4**	**-0.3**
IDI				*e*SN		**Sb**	**21 00 20.2**	**+1.3**
IDI	**Anoyia**	**1.64**	**305**	*e*Pn		**Pb**	**20 59 58.4**	**-0.3**
IDI				*e*Sn		**Sb**	**21 00 20.2**	**+1.3**
IDI	**Anoyia**	**1.64**	**305**	Pn		**Pb**	**20 59 58.6**	**-0.2**
	39nm,0.3s,baz=134,slow=14,SNR=206							
IDI				Sn		**Sn**	**21 00 17.2**	**+0.7**
	52nm,0.3s,baz=22,slow=19,SNR=7.8							
GVD	**Gavdhos**	**2.08**	**284**	P		**Pb**	**21 00 04.4**	**-1.7**
GVD				S		**Sb**	**21 00 29.6**	**-1.9**
GVD	**Gavdhos**	**2.08**	**284**	P		**Pb**	**21 00 04.4**	**-1.7**
GVD				S		**Sb**	**21 00 29.6**	**-1.9**
VAM	**Vamos**	**2.18**	**299**	P		**Pb**	**21 00 06.3**	**-1.7**
VAM	**Vamos**	**2.18**	**299**	*e*P		**Pb**	**21 00 05.9**	**-2.1**
VAM				*e*S		**Sn**	**21 00 29.3**	**-0.6**
VAM	**Vamos**	**2.18**	**299**	*e*P		**Pb**	**21 00 05.9**	**-2.1**
VAM				*e*S		**Sn**	**21 00 29.3**	**-0.6**
ARG	**Arkhangelos**	**2.26**	**35**	P		**Pb**	**21 00 07.3**	**-1.9**
ARG	**Arkhangelos**	**2.26**	**35**	*e*P		**Pb**	**21 00 07.3**	**-1.9**
ARG				*e*S		**Sn**	**21 00 30.8**	**-0.8**
ARG	**Arkhangelos**	**2.26**	**35**	P		**Pb**	**21 00 07.3**	**-1.9**
ARG				*e*S		**Sn**	**21 00 30.8**	**-0.8**
NIS1	**Nisyros Isl.**	**2.29**	**13**	P		**Pn**	**21 00 06.1**	**+0.9**
NIS1	**Nisyros Isl.**	**2.29**	**13**	*e*PN		**Pn**	**21 00 04.9**	**-0.3**
NIS1	**Nisyros Isl.**	**2.29**	**13**	*e*P		**Pn**	**21 00 06.3**	**+1.1**
NIS1				*e*S		**Sn**	**21 00 29.9**	**-2.6**
NIS1	**Nisyros Isl.**	**2.29**	**13**	*e*Pn		**Pn**	**21 00 04.9**	**-0.3**
NIS1	**Nisyros Isl.**	**2.29**	**13**	P		**Pn**	**21 00 06.1**	**+0.9**
NIS1				*e*S		**Sn**	**21 00 29.9**	**-2.6**
KARN	**Karanos**	**2.39**	**296**	P		**Pb**	**21 00 09.0**	**-2.5**
KARN	**Karanos**	**2.39**	**296**	*e*PN		**Pn**	**21 00 08.8**	**+2.3**
KARN	**Karanos**	**2.39**	**296**	*e*Pn		**Pn**	**21 00 08.8**	**+2.3**
DAT	**Datca**	**2.50**	**20**	*e*PN		**Pn**	**21 00 07.8**	**-0.4**
DAT	**Datca**	**2.50**	**20**	*e*Pn		**Pn**	**21 00 07.8**	**-0.4**
BODT	**Bodrum**	**2.76**	**13**	*e*PN		**Pn**	**21 00 10.8**	**-0.8**
BODT	**Bodrum**	**2.76**	**13**	*e*Pn		**Pn**	**21 00 10.9**	**-0.8**
BDRM	**Kayabasi**	**2.79**	**15**	*i* P		**Pn**	**21 00 12.9**	**+0.8**
BDRM	**Kayabasi**	**2.79**	**15**	*i* P		**Pn**	**21 00 12.9**	**+0.8**
APE	**Apeiranthos**	**2.82**	**343**	P		**Pn**	**21 00 13.1**	**+0.6**
APE	**Apeiranthos**	**2.82**	**343**	P		**Pn**	**21 00 13.1**	**+0.6**
APE	**Apeiranthos**	**2.82**	**343**	*e*PN		**Pn**	**21 00 12.0**	**-0.5**
APE	**Apeiranthos**	**2.82**	**343**	*e*P		**Pn**	**21 00 13.1**	**+0.6**
APE				*e*S		**Sn**	**21 00 42.9**	**-2.7**
APE	**Apeiranthos**	**2.82**	**343**	P		**Pn**	**21 00 13.1**	**+0.6**
APE	**Apeiranthos**	**2.82**	**343**	*e*Pn		**Pn**	**21 00 12.0**	**-0.5**
APE	**Apeiranthos**	**2.82**	**343**	P		**Pn**	**21 00 13.1**	**+0.6**
APE				*e*S		**Sn**	**21 00 42.9**	**-2.7**
DALY	**Dalyan (Mu˘la**	**2.99**	**35**	*e*PN		**Pn**	**21 00 14.9**	**+0.1**
DALY	**Dalyan (Mu˘la**	**2.99**	**35**	*e*Pn		**Pn**	**21 00 14.9**	**+0.1**
TURN	**Turunc**	**3.01**	**33**	*i* P		**Pn**	**21 00 13.0**	**-2.1**
TURN	**Turunc**	**3.01**	**33**	*i* P		**Pn**	**21 00 13.0**	**-2.1**
ANKY	**Antikythira Is**	**3.04**	**300**	P		**Pn**	**21 00 17.6**	**+2.1**
ANKY	**Antikythira Is**	**3.04**	**300**	*e*P		**Pn**	**21 00 17.1**	**+1.6**
ANKY				*e*S		**Sn**	**21 00 49.6**	**-1.5**
ANKY	**Antikythira Is**	**3.04**	**300**	*e*P		**Pn**	**21 00 17.1**	**+1.6**
ANKY				*e*S		**Sn**	**21 00 49.6**	**-1.5**
KSL	**Kastellorizon**	**3.06**	**54**	*e*P		**Pn**	**21 00 18.1**	**+2.3**
FETY	**Fethiye**	**3.07**	**42**	*e*PN		**Pn**	**21 00 16.5**	**+0.5**
FETY	**Fethiye**	**3.07**	**42**	*e*Pn		**Pn**	**21 00 16.5**	**+0.5**
SLUM		**3.08**	**202**	S		**Sn**	**21 00 50.0**	**-1.9**
	baz=202							
SLUM		**3.08**	**202**	P		**Pn**	**21 00 16.5**	**+0.5**
SLUM				S		**Sn**	**21 00 50.0**	**-1.9**
YER	**Yerkesik**	**3.10**	**27**	*e*PN		**Pn**	**21 00 16.4**	**0.0**
YER	**Yerkesik**	**3.10**	**27**	*e*Pn		**Pn**	**21 00 16.4**	**0.0**
AKAS	**Kas**	**3.12**	**53**	*i* P		**Pn**	**21 00 18.0**	**+1.2**
AKAS				*i* S		**Sn**	**21 00 51.1**	**-2.1**
AKAS	**Kas**	**3.12**	**53**	*i* P		**Pn**	**21 00 18.0**	**+1.2**
AKAS				*i* S		**Sn**	**21 00 51.1**	**-2.1**
LTBQ	**Tobruq**	**3.18**	**224**	*i* P		**Pn**	**21 00 19.8**	**+2.4**
	SNR=92							
SMG	**Samos**	**3.34**	**4**	*e*P		**Pn**	**21 00 20.3**	**+0.6**
SMG	**Samos**	**3.34**	**4**	*e*P		**Pn**	**21 00 20.3**	**+0.6**
GCAM	**G?zelcaml?**	**3.37**	**9**	*i* P		**Pn**	**21 00 21.0**	**+1.0**
GCAM	**G?zelcaml?**	**3.37**	**9**	*i* P		**Pn**	**21 00 21.0**	**+1.0**
KYTH	**Kithira**	**3.44**	**305**	P		**Pn**	**21 00 22.0**	**+1.0**
KYTH	**Kithira**	**3.44**	**305**	*e*P		**Pn**	**21 00 22.2**	**+1.2**
KYTH	**Kithira**	**3.44**	**305**	P		**Pn**	**21 00 22.0**	**+1.0**
AYDN	**Tasoluk**	**3.46**	**18**	*i* P		**Pn**	**21 00 22.9**	**+1.6**
AYDN	**Tasoluk**	**3.46**	**18**	*i* P		**Pn**	**21 00 22.9**	**+1.6**
ELL	**Elmali**	**3.63**	**48**	*e*PN		**Pn**	**21 00 24.3**	**+0.6**
ELL	**Elmali**	**3.63**	**48**	*e*Pn		**Pn**	**21 00 24.3**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**3.73**	**17**	*e*PN		**Pn**	**21 00 24.4**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**3.73**	**17**	*e*Pn		**Pn**	**21 00 24.4**	**-0.8**
VLI	**Veliai**	**3.76**	**310**	P		**Pn**	**21 00 25.8**	**+0.5**
VLI				S		**Sn**	**21 01 08.1**	**-0.6**
VLI	**Veliai**	**3.76**	**310**	*e*P		**Pn**	**21 00 26.0**	**+0.7**
VLI	**Veliai**	**3.76**	**310**	*e*P		**Pn**	**21 00 26.0**	**+0.7**
VLI				S		**Sn**	**21 01 08.1**	**-0.6**
GOLH	**Golhisar**	**3.77**	**40**	*i* P		**Pn**	**21 00 27.9**	**+2.2**
GOLH				*i* S		**Sn**	**21 01 10.9**	**+1.7**
GOLH	**Golhisar**	**3.77**	**40**	*i* P		**Pn**	**21 00 27.9**	**+2.2**
GOLH				*i* S		**Sn**	**21 01 10.9**	**+1.7**
DNZL	**Cakiroluk**	**3.89**	**31**	*i* P		**Pn**	**21 00 28.6**	**+1.3**
DNZL	**Cakiroluk**	**3.89**	**31**	*i* P		**Pn**	**21 00 28.6**	**+1.3**
DENT	**Denizli**	**3.94**	**30**	*e*PN		**Pn**	**21 00 28.1**	**+0.2**
DENT	**Denizli**	**3.94**	**30**	*e*Pn		**Pn**	**21 00 28.1**	**+0.2**
CHOS	**Chios island**	**4.03**	**355**	P		**Pn**	**21 00 29.8**	**+0.6**
CHOS	**Chios island**	**4.03**	**355**	*e*PN		**Pn**	**21 00 28.8**	**-0.3**
CHOS	**Chios island**	**4.03**	**355**	*e*P		**Pn**	**21 00 30.2**	**+1.0**
CHOS	**Chios island**	**4.03**	**355**	*e*Pn		**Pn**	**21 00 28.8**	**-0.3**
CHOS	**Chios island**	**4.03**	**355**	P		**Pn**	**21 00 29.8**	**+0.6**
IZM	**Izmir**	**4.06**	**8**	*e*PN		**Pn**	**21 00 29.1**	**-0.5**
IZM	**Izmir**	**4.06**	**8**	*e*Pn		**Pn**	**21 00 29.1**	**-0.5**
KORT	**Korkueli**	**4.07**	**49**	*i* P		**Pn**	**21 00 32.2**	**+2.5**
KORT	**Korkueli**	**4.07**	**49**	*i* P		**Pn**	**21 00 32.2**	**+2.5**
DIDY	**Didyma**	**4.11**	**320**	P		**Pn**	**21 00 31.1**	**+0.8**
DIDY	**Didyma**	**4.11**	**320**	*e*P		**Pn**	**21 00 31.4**	**+1.1**
DIDY	**Didyma**	**4.11**	**320**	P		**Pn**	**21 00 31.1**	**+0.8**
DID	**Didima**	**4.12**	**320**	P		**Pn**	**21 00 31.2**	**+0.8**
DID	**Didima**	**4.12**	**320**	*e*P		**Pn**	**21 00 31.4**	**+1.0**
DID	**Didima**	**4.12**	**320**	P		**Pn**	**21 00 31.2**	**+0.8**
DYR	**Agios Nikonas**	**4.18**	**306**	P		**Pn**	**21 00 32.9**	**+1.8**
DYR	**Agios Nikonas**	**4.18**	**306**	*e*P		**Pn**	**21 00 33.1**	**+2.0**
DYR	**Agios Nikonas**	**4.18**	**306**	P		**Pn**	**21 00 32.9**	**+1.8**
NAIG	**Nisos Aigina**	**4.19**	**325**	*e*P		**Pn**	**21 00 32.7**	**+1.4**
NAIG	**Nisos Aigina**	**4.19**	**325**	*e*P		**Pn**	**21 00 32.7**	**+1.4**
ATHU	**Athens Univers**	**4.22**	**329**	P		**Pn**	**21 00 33.4**	**+1.6**
ATHU	**Athens Univers**	**4.22**	**329**	P		**Pn**	**21 00 33.4**	**+1.6**
ATH	**Athens Observa**	**4.26**	**328**	*e*P		**Pn**	**21 00 33.8**	**+1.6**
ATH	**Athens Observa**	**4.26**	**328**	*e*P		**Pn**	**21 00 33.8**	**+1.6**
PTL	**Penteli**	**4.26**	**330**	P		**Pn**	**21 00 33.7**	**+1.4**
PTL	**Penteli**	**4.26**	**330**	*e*P		**Pn**	**21 00 33.2**	**+0.9**
PTL	**Penteli**	**4.26**	**330**	*e*P		**Pn**	**21 00 33.2**	**+0.9**
MANT	**Manisa**	**4.42**	**21**	*i* P		**Pn**	**21 00 35.5**	**+0.8**
MANT	**Manisa**	**4.42**	**21**	*i* P		**Pn**	**21 00 35.5**	**+0.8**
BCK	**Bucak**	**4.51**	**46**	*e*PN		**Pn**	**21 00 36.8**	**+1.1**
BCK	**Bucak**	**4.51**	**46**	*e*Pn		**Pn**	**21 00 36.8**	**+1.1**
VLX	**Vlachokerasia**	**4.51**	**313**	P		**Pn**	**21 00 36.7**	**+0.9**
VLX	**Vlachokerasia**	**4.51**	**313**	*e*P		**Pn**	**21 00 37.0**	**+1.2**
VLX	**Vlachokerasia**	**4.51**	**313**	P		**Pn**	**21 00 36.7**	**+0.9**
AKHS	**Akhisar**	**4.62**	**12**	*i* P		**Pn**	**21 00 38.6**	**+1.4**
AKHS	**Akhisar**	**4.62**	**12**	*i* P		**Pn**	**21 00 38.6**	**+1.4**
AKS	**Akhisar**	**4.62**	**12**	*e*PN		**Pn**	**21 00 37.0**	**-0.2**
AKS	**Akhisar**	**4.62**	**12**	*e*Pn		**Pn**	**21 00 37.0**	**-0.2**
KHL	**Karahalli**	**4.62**	**31**	*e*PN		**Pn**	**21 00 37.6**	**+0.3**
KHL	**Karahalli**	**4.62**	**31**	*e*Pn		**Pn**	**21 00 37.6**	**+0.3**
PYL	**PYLOS**	**4.65**	**304**	P		**Pn**	**21 00 37.2**	**-0.4**
PYL	**PYLOS**	**4.65**	**304**	*e*P		**Pn**	**21 00 38.4**	**+0.8**
PYL	**PYLOS**	**4.65**	**304**	*e*P		**Pn**	**21 00 38.4**	**+0.8**
KHAL	**Karahalli**	**4.65**	**30**	*i* P		**Pn**	**21 00 38.4**	**+0.7**
KHAL	**Karahalli**	**4.65**	**30**	*i* P		**Pn**	**21 00 38.4**	**+0.7**
LTK	**Loutraki**	**4.65**	**323**	P		**Pn**	**21 00 38.8**	**+1.1**
LTK	**Loutraki**	**4.65**	**323**	*e*P		**Pn**	**21 00 38.8**	**+1.3**
LTK	**Loutraki**	**4.65**	**323**	P		**Pn**	**21 00 38.8**	**+1.1**
ITM	**Ithomi**	**4.68**	**308**	P		**Pn**	**21 00 39.0**	**+0.9**
ITM	**Ithomi**	**4.68**	**308**	*e*P		**Pn**	**21 00 39.5**	**+1.4**
ITM	**Ithomi**	**4.68**	**308**	P		**Pn**	**21 00 39.0**	**+0.9**
ISP	**Isparta**	**4.72**	**42**	*e*PN		**Pn**	**21 00 39.7**	**+1.0**
ISP	**Isparta**	**4.72**	**42**	*e*Pn		**Pn**	**21 00 39.7**	**+1.0**
ISP				Sn		**Sn**	**21 01 33.1**	**+0.5**
SUTC	**Sutluce-Ispart**	**4.77**	**48**	*e*PN		**Pn**	**21 00 40.4**	**+1.0**
SUTC	**Sutluce-Ispart**	**4.77**	**48**	*e*Pn		**Pn**	**21 00 40.4**	**+1.0**
PPCY	**Paphos**	**4.82**	**82**	P		**Pn**	**21 00 39.2**	**-0.7**
PPCY	**Paphos**	**4.82**	**82**	P		**Pn**	**21 00 39.2**	**-0.7**
AKMC	**Akamas**	**4.82**	**81**	P		**Pn**	**21 00 39.2**	**-0.7**
AKMC	**Akamas**	**4.82**	**81**	P		**Pn**	**21 00 39.2**	**-0.7**
PRK	**Paraskevi**	**4.87**	**358**	*e*P		**Pn**	**21 00 41.3**	**+0.6**
PRK	**Paraskevi**	**4.87**	**358**	*e*P		**Pn**	**21 00 41.3**	**+0.6**
GUR	**Goura**	**4.92**	**318**	P		**Pn**	**21 00 41.7**	**+0.3**
GUR	**Goura**	**4.92**	**318**	*e*P		**Pn**	**21 00 42.0**	**+0.6**
GUR	**Goura**	**4.92**	**318**	*e*P		**Pn**	**21 00 42.0**	**+0.6**
MRKA	**Markates**	**4.94**	**332**	P		**Pn**	**21 00 43.4**	**+1.8**
MRKA	**Markates**	**4.94**	**332**	*e*P		**Pn**	**21 00 43.4**	**+1.8**
MRKA	**Markates**	**4.94**	**332**	P		**Pn**	**21 00 43.4**	**+1.8**
DEMI	**Demirci**	**4.98**	**20**	*i* P		**Pn**	**21 00 43.3**	**+1.0**
DEMI	**Demirci**	**4.98**	**20**	*i* P		**Pn**	**21 00 43.3**	**+1.0**
AMT	**Artemida-Makis**	**5.03**	**310**	*e*P		**Pn**	**21 00 44.5**	**+1.6**
AMT	**Artemida-Makis**	**5.03**	**310**	*e*P		**Pn**	**21 00 44.5**	**+1.6**
ALFC	**Alevga**	**5.05**	**79**	P		**Pn**	**21 00 42.4**	**-0.8**
	7.4nm,0.2s							
ALFC					S	**Sn**	**21 01 39.3**	**-1.4**
ALFC	**Alevga**	**5.05**	**79**	P		**Pn**	**21 00 42.4**	**-0.8**
	7.4nm,0.2s							
ALFC					S	**Sn**	**21 01 39.3**	**-1.4**
GAZI	**Gazipasa**	**5.08**	**67**	*i* P		**Pn**	**21 00 43.3**	**-0.2**
GAZI	**Gazipasa**	**5.08**	**67**	*i* P		**Pn**	**21 00 43.3**	**-0.2**
KLV	**Kalavryta, Ach**	**5.10**	**317**	P		**Pn**	**21 00 44.2**	**+0.3**
KLV	**Kalavryta, Ach**	**5.10**	**317**	*e*P		**Pn**	**21 00 45.3**	**+1.4**
KLV	**Kalavryta, Ach**

BORA Eskisehir 6.33 28 *i* P Pn 21 01 01.7 +1.0
RKY Sarkoy-Tekirda 6.33 4 *e*PN Pn 21 01 00.7 0.0
RKY Sarkoy-Tekirda 6.33 4 *e*Pn Pn 21 01 00.7 0.0
AWBH 6.36 161 P Pn 21 01 01.1 0.0
baz=161
AWBH 6.36 161 P Pn 21 01 01.1 0.0
LJBD Adjabya 6.36 239 *i* P Pn 21 01 02.6 +1.5
comp=N,307nm,0.6s,SNR=76
HSAF As Saff 6.37 137 P Pn 21 01 00.7 -0.6
baz=138
HSAF As Saff 6.37 137 P Pn 21 01 00.7 -0.6
HHAG Hagoal 6.45 132 P Pn 21 01 01.9 -0.5
baz=132
HHAG Hagoal 6.45 132 P Pn 21 01 01.9 -0.5
ARMT Armutlu 6.46 16 *e*PN Pn 21 01 03.1 +0.6
ARMT Armutlu 6.46 16 *e*Pn Pn 21 01 03.1 +0.6
GLL Jalalah 6.49 136 P Pn 21 01 02.4 -0.5
baz=137
GLL Jalalah 6.49 136 P Pn 21 01 02.4 -0.5
ALN Alexandroupoli 6.53 357 *e*PN Pn 21 01 04.1 +0.7
ALN Alexandroupoli 6.53 357 *e*Pn Pn 21 01 04.1 +0.7
KIZK Mersin 6.56 69 *e*P Pn 21 01 05.1 +1.3
KIZK *i* S Sn 21 02 14.3 -3.3
KIZK Mersin 6.56 69 *e*P Pn 21 01 05.1 +1.3
AMAG Maghara 6.75 122 P Pn 21 01 04.6 -1.9
baz=122
AMAG Maghara 6.75 122 P Pn 21 01 04.6 -1.9
HORT Hortiatis 6.79 337 *e*P Pn 21 01 08.9 +1.8
HORT Hortiatis 6.79 337 *e*P Pn 21 01 08.9 +1.8
LUJL Ujela 6.87 222 *i* P Pn 21 01 07.9 -0.3
comp=N,29nm,0.7s,SNR=76
SOH Sokhos 6.92 340 *e*P Pn 21 01 10.8 +2.0
SOH Sokhos 6.92 340 *e*P Pn 21 01 10.8 +2.0
RSH 6.95 117 P Pn 21 01 07.8 -1.4
baz=118
RSH 6.95 117 P Pn 21 01 07.8 -1.4
SRS Serrai 7.13 342 *e*P Pn 21 01 13.6 +1.9
SRS Serrai 7.13 342 *e*P Pn 21 01 13.6 +1.9
IGT Igoumenitsa 7.16 318 *e*P Pn 21 01 13.1 +1.1
IGT Igoumenitsa 7.16 318 *e*P Pn 21 01 13.1 +1.1
OFRI 'Ofer 7.27 102 Pn Pn 21 01 13.0 -0.6
GULE Gulek 7.30 64 *i* P Pn 21 01 17.0 +2.9
HFRF Wahat Farafira 7.36 168 P Pn 21 01 14.7 -0.1
baz=168
HFRF Wahat Farafira 7.36 168 P Pn 21 01 14.7 -0.1
SLTI Sal'it 7.43 104 Pn Pn 21 01 14.7 -1.1
NEST Nestorio 7.45 326 P Pn 21 01 16.7 +0.6
NEST Nestorio 7.45 326 P Pn 21 01 16.7 +0.6
MMA0 Mount Meron ar 7.51 98 Pn Pn 21 01 17.3 +0.3
MMAI Mount Meron Ar 7.51 98 Pn Pn 21 01 16.1 -0.9
comp=N,3.9nm,0.3s,baz=266,slov=12,SNR=13
MMAI Sn Sn 21 02 38.4 -3.0
comp=N,12nm,0.3s,baz=262,slov=25,SNR=6.5
FNA Florina 7.60 329 *e*P Pn 21 01 19.9 +1.7
RTMI Retamim 7.62 113 Pn Pn 21 01 17.7 -0.8
MMLI Mount Malkishu 7.67 102 Pn Pn 21 01 18.2 -1.0
HNKL Nakhl 7.71 123 P Pn 21 01 18.6 -1.0
baz=124
HNKL Nakhl 7.71 123 P Pn 21 01 18.6 -1.0
HWQ Hawqa 7.79 88 *e*P Pn 21 01 21.4 +0.6
BRTR Keskin Array B 7.80 45 P Pn 21 01 21.3 +0.4
comp=N,1.0nm,0.3s
BRTR S Sn 21 02 46.8 -1.6
BRTR Keskin Array B 7.80 45 Pn Pn 21 01 21.3 +0.4
comp=N,0.3nm,0.3s,baz=216,slow=12,SNR=24
BRTR Sn Sn 21 02 46.8 -1.6
comp=N,0.6nm,0.3s,baz=217,slow=27,SNR=8.9
YURE YUREGIR 7.80 69 *i* P Px 21 00 42.5
HMDT Nahal Hemdat 7.81 103 Pn Pn 21 01 20.5 -0.6
RMNI Mount Ramon 7.90 116 Pn Pn 21 01 21.6 -0.7
DSI Dead Sea 7.94 108 Pn Pn 21 01 22.4 -0.4
YAYL Yayladag 8.01 75 *i* P Pn 21 01 24.1 +0.3
YAYL *i* S Sn 21 02 49.8 -3.8
YAYL Yayladag 8.01 75 *i* P Pn 21 01 24.1 +0.3
MZDA Masada 8.03 110 Pn Pn 21 01 23.8 -0.2
KRMI Paran Flat 8.13 119 Pn Pn 21 01 25.8 +0.4
PRNI Paran 8.21 117 Pn Pn 21 01 26.2 -0.3
COBT Iskenderun 8.22 72 *i* P Pn 21 01 28.1 +1.4
COBT *i* S Sn 21 02 54.7 -4.1
COBT Iskenderun 8.22 72 *i* P Pn 21 01 28.1 +1.4
ZFRI Zfri 8.23 115 Pn Pn 21 01 26.3 -0.5
MBRI Mt Berech 8.44 120 Pn Pn 21 01 30.1 +0.3
EIL Elat 8.54 121 Pn Pn 21 01 31.1 0.0
EIL Elat 8.54 121 Pn Pn 21 01 31.0 0.0
comp=N,1.9nm,0.3s,baz=288,slow=3.1,SNR=11
EIL Sn Sn 21 03 01.4 -5.1
comp=N,6.6nm,0.3s,baz=108,slow=20,SNR=8.5
ANDN Andirin 8.57 65 *e*P Pn 21 01 31.9 +0.4
ANDN Andirin 8.57 65 *e*P Pn 21 01 31.9 +0.4
VTS Vitosha 8.62 343 ⇓P Pn 21 01 34.4 +2.2
VTS Vitosha 8.62 343 ⇓*i*P Pn 21 01 34.4 +2.2
VTS Vitosha 8.62 343 P Pn 21 01 34.4 +2.2
HKAT Jabal Katrina 8.63 130 P Pn 21 01 30.9 -1.5
baz=131
HKAT Jabal Katrina 8.63 130 P Pn 21 01 30.9 -1.5
AYKD Aykdinkavak 8.87 67 *i* P Pn 21 01 34.5 -1.1
ASF Jabal al Asfar 8.95 101 Pn Pn 21 01 35.9 -0.8
comp=N,0.7nm,0.3s,baz=246,slow=9.1,SNR=8.3
ASF Sn Sn 21 03 14.1 -2.5
comp=N,1.1nm,0.3s,baz=345,slow=20,SNR=2.7
HDK1 Dakhla 9.14 163 P Pn 21 01 39.4 +0.1
baz=164
HDK1 Dakhla 9.14 163 P Pn 21 01 39.4 +0.1
AKRG Al Kharijah 9.48 158 P Pn 21 01 43.6 -0.3
baz=158
MSAB Monastry St. A 9.76 5⇑*i*P Pn 21 01 49.5 +1.8
TLB Topalu 10.27 6 ⇓P Pn 21 01 56.8 +2.1
TLB Topalu 10.27 6 ⇓*i*P Pn 21 01 56.8 +2.1
TLB Topalu 10.27 6 P Pn 21 01 56.8 +2.1
MALT Malatya 10.37 64 ⇑P Pn 21 01 56.9 +0.8
MALT Malatya 10.37 64 ⇑*i*P Pn 21 01 56.9 +0.8
MALT Malatya 10.37 64 P Pn 21 01 56.9 +0.8
STON Ston 10.94 323 *i* Pn Pn 21 02 00.7 -3.2
STON Sn Sn 21 03 53.8 -11
ARRG Arges 11.08 353⇑*i*P Pn 21 02 08.1 +2.2
VOIR 11.11 355 ⇓P Pn 21 02 07.2 +0.9
VOIR 11.11 355 ⇓*i*P Pn 21 02 07.2 +0.9
VOIR 11.11 355 P Pn 21 02 07.2 +0.9
MLR Muntele Rosu 11.12 358 ⇓*i*P Pn 21 02 17.5 +11
MLR Muntele Rosu 11.12 358 Pn Pn 21 02 03.9 -2.5
comp=N,0.0nm,0.3s,baz=190,slow=19,SNR=2.2
MLR LR LR 21 06 55.8
comp=N,75nm,19.8s,baz=213,slow=41
PLOR Plostina 11.47 0 ⇓P Pn 21 02 13.8 +2.6
PLOR Plostina 11.47 0 ⇓*i*P Pn 21 02 13.8 +2.6
PLOR Plostina 11.47 0 P Pn 21 02 13.8 +2.6
VRI Vrincioaia 11.49 1 ⇓*i*P Pn 21 02 25.4 +14
BZS Buzias 11.85 343 ⇑P Pn 21 02 16.3 0.0
BZS Buzias 11.85 343 ⇑*i*P Pn 21 02 16.3 0.0
BZS Buzias 11.85 343 P Pn 21 02 16.3 0.0
TESR Tescani 12.13 0 ⇓*i*P P 21 02 33.2 +0.7
UDBI Udbina 13.11 324 *e*Pn Pn 21 02 31.2 -2.4
BURAR Bucovina Array 13.27 356⇑*i*P P 21 02 42.7 -2.6
HOMI Horasan 13.49 61 *i* P Pn 21 02 34.4 -4.5
NVLJ Novalja 13.58 322 *e*Pn Pn 21 02 36.3 -3.6
NVLJ Sn Sn 21 04 57.5 -12
KEST Kesra 14.15 280 Pn Pn 21 02 48.0 +0.1
comp=N,0.0nm,0.3s,baz=106,slow=7.4,SNR=2.6
KECS Kecovo 14.81 344 *e*P Pn 21 02 53.5 -3.1
KECS Kecovo 14.81 344 *e* Pn 21 02 53.5 -3.1
KOLS Kolonicke sedl 14.89 349 *e*P Pn 21 03 00.0 +2.2
KOLS Kolonicke sedl 14.89 349 *e*PN Pn 21 03 00.0 +2.2
KOLS Kolonicke sedl 14.89 349 *e*Pn Pn 21 03 00.0 +2.2
SOKA Soboth 15.07 328⇑*i*Pn Pn 21 02 57.2 -3.0
comp=N,5.7nm,0.8s
ARSA Arzberg 15.31 330⇑*i*Pn Pn 21 03 00.9 -2.5
comp=N,8.9nm,1.0s,SNR=4.4
KWP Kalwaria Pacla 15.51 351 *e*P P 21 03 07.9 -2.2
KWP Kalwaria Pacla 15.51 351 *e*P P 21 03 07.9 -2.2
KWP Kalwaria Pacla 15.51 351 *e*P P 21 03 07.9 -2.2
GNI Garni 15.59 63 Pn Pn 21 03 08.1 +0.9
comp=N,0.1nm,0.3s,baz=186,slow=10,SNR=4.2
KIV Kislovodsk 15.74 48 *e*P Pn 21 03 08.9 -0.1
KIV pmax pmax
comp=Z,11nm,1.2s
ZEI Tsey 15.95 53 *e*P P 21 03 13.5 -1.7
ZEI pmax pmax
comp=Z,18nm,1.1s
ZEI Tsey 15.95 53 *e*P P 21 03 13.5 -1.7
comp=Z,18nm,1.1s
NCK Nalchik 16.08 50 *i* P P 21 03 15.0 -1.4
NCK Nalchik 16.08 50 *i* P P 21 03 15.0 -1.4
ABTA Abfaltersbach 16.29 324⇑*i*Pn Pn 21 03 14.6 -1.5
comp=Z,4.7nm,0.8s
ABTA Abfaltersbach 16.29 324 Pn Pn 21 03 14.6 -1.5
comp=Z,4.7nm,0.8s
KIEV Kiev 16.43 6 *i* P Pn 21 03 17.5 -0.2
AKASG Malin Array Be 16.44 6 P Pn 21 03 16.6 -1.2
AKASG pmax pmax
comp=Z,6.0nm,0.3s
AKASG Malin Array Be 16.44 6 Pn Pn 21 03 16.6 -1.2
comp=Z,5.7nm,0.3s,baz=196,slow=11,SNR=31
GOF Gofitskoye 16.56 45 *e*P Pn 21 03 19.2 -0.2
GOF Gofitskoye 16.56 45 *e*P Pn 21 03 19.2 -0.2
VRAC Vranov 16.64 337⇑*i*P Pn 21 03 19.4 -1.0
VRAC Vranov 16.64 337 *e*Pn Pn 21 03 18.9 -1.5
VRAC Vranov 16.64 337 Pn Pn 21 03 20.4 0.0
comp=Z,0.8nm,0.3s,baz=155,slow=10,SNR=6.8
VRAC LR LR 21 10 31.8
comp=Z,151nm,18.7s,baz=356,slow=40
WTTA Wattenberg 17.08 323⇑*i*Pn P 21 03 27.0 -0.7
comp=Z,30nm,1.3s
WTTA Wattenberg 17.08 323 Pn P 21 03 27.0 -0.7
comp=Z,30nm,1.3s
WATA Walderalm 17.16 323⇑*i*Pn Pn 21 03 26.4 -0.7
comp=Z,10nm,0.9s
WATA Walderalm 17.16 323 Pn Pn 21 03 26.4 -0.7
comp=Z,10nm,0.9s
SQTA Sankt Quirin 17.27 323⇓*i*Pn Pn 21 03 28.0 -0.4
SQTA Sankt Quirin 17.27 323 Pn Pn 21 03 28.0 -0.4
GERES GERESS Array B 17.32 330 P Pn 21 03 27.3 -1.7
comp=Z,0.5nm,0.3s,baz=144,slow=12,SNR=20
FETA Feichten 17.38 321⇑*i*P P 21 03 31.2 +0.2
comp=Z,20nm,1.0s
FETA Feichten 17.38 321 P P 21 03 31.2 +0.2
comp=Z,20nm,1.0s
SBF Sospel 17.56 308 *e*P Pn 21 03 25.5 -6.5
comp=Z,56nm,0.9s
KHC Kasperske Hory 17.60 331 *e*P Pn 21 03 31.0 -1.4
KHC Kasperske Hory 17.60 331 *e*P Pn 21 03 31.0 -1.4
KHC *ex* x 21 03 34.4
KHC Kasperske Hory 17.60 331 *e*P Pn 21 03 31.0 -1.4
DPC Dobruska-Polom 17.64 338 *e*P Pn 21 03 32.2 -0.7
DPC Dobruska-Polom 17.64 338 *e*P Pn 21 03 32.2 -0.7
DPC Dobruska-Polom 17.64 338 *e*P Pn 21 03 32.2 -0.7
RETA Reutte 17.67 323⇑*i*Pn Pn 21 03 32.9 -0.4
comp=Z,7.0nm,0.9s
RETA Reutte 17.67 323 Pn Pn 21 03 32.9 -0.4
comp=Z,7.0nm,0.9s
DAVOX Davos/Dischmat 17.67 320 P Pn 21 03 32.1 -1.4
DAVOX Davos/Dischmat 17.67 320 P Pn 21 03 32.1 -1.4
comp=Z,0.1nm,0.3s,baz=148,slow=18,SNR=2.8
TOUF Mont Tournerai 17.75 309 *e*P Pn 21 03 34.2 -0.3
TOUF Mont Tournerai 17.75 309 *e*P Pn 21 03 34.2 -0.3
CALN Calern 17.87 307 *e*P Pn 21 03 34.0 -1.9
UPC Upice 17.87 338 *e*P Pn 21 03 34.5 -1.2
UPC Upice 17.87 338 *e*P Pn 21 03 34.5 -1.2
UPC *ex* x 21 03 37.0
UPC Upice 17.87 338 *e*P Pn 21 03 34.5 -1.2
PRU Pruhonice 17.93 334 *e*P Pn 21 03 34.5 -1.9
PRU Pruhonice 17.93 334 *e*P Pn 21 03 34.5 -1.9
PRU *ex* x 21 03 38.7
PRU *ep*P pP 21 03 46.3 +2.2
FRF La Foret Royal 17.95 307 *e*P Pn 21 03 30.5 -6.2
DAVA Damuels 17.99 321⇑*i*P P 21 03 38.0 +0.3
comp=Z,10nm,0.5s,SNR=5.4
DAVA Damuels 17.99 321 P P 21 03 38.0 +0.3
comp=Z,10nm,0.5s,SNR=5.4
RST Umm Al-Ruwaisa 18.02 100 *e*P P 21 03 39.7 +1.7
RST AMb AMB 21 03 40.8
comp=Z,154nm,0.9s
RST Umm Al-Ruwaisa 18.02 100 *e*P P 21 03 39.7 +1.7
comp=Z,154nm,0.9s
KSP Ksiaz 18.08 339 *e*P Pn 21 03 36.1 -2.1
KSP Ksiaz 18.08 339 *e*P Pn 21 03 36.1 -2.1
MIB Mutribah 18.20 99 *e*P P 21 03 42.0 +2.1
MIB AMb AMB 21 03 42.2
comp=Z,0.3nm,0.5s
NAY Al-Naaiem 18.31 100 *e*P Pn 21 03 42.6 +1.3
NAY AMb AMB 21 03 43.8
comp=Z,20nm,0.8s
NAY Al-Naaiem 18.31 100 *e*P Pn 21 03 42.6 +1.3
comp=Z,20nm,0.8s
PVCC Panska Ves 18.37 335 *e*P P 21 03 38.6 -3.0
PVCC Panska Ves 18.37 335 *e*P P 21 03 38.6 -3.0
PVCC *ex* x 21 03 42.4
MBDF Montbardon 18.38 310 *e*P P 21 03 39.8 -2.2
comp=Z,59nm,0.8s
MBDF Montbardon 18.38 310 *e*P P 21 03 39.8 -2.2
comp=Z,30nm,0.8s
LPG La Plagne 18.76 312 *e*P P 21 03 44.5 -1.8
comp=Z,13nm,0.6s
LPG La Plagne 18.76 312 *e*P P 21 03 44.5 -1.8
comp=Z,6.4nm,0.6s
LPL La Plagne 18.78 312 *e*P P 21 03 44.5 -2.0
LPL La Plagne 18.78 312 *e*P P 21 03 44.5 -2.0
BRG Berggiesshubel 18.88 335 *e*P Pn 21 03 47.6 -0.3
comp=Z,8.3nm,0.8s
BRG Berggiesshubel 18.88 335 *e*P Pn 21 03 47.6 -0.3
BRG pmax pmax
comp=Z,8.0nm,0.8s
BRG Berggiesshubel 18.88 335 *e*P Pn 21 03 47.6 -0.3
comp=Z,8.0nm,0.8s
VORD Divnogorie 19.01 25 *e*P Pn 21 03 48.9 -0.6
VORD pmax pmax
comp=E,70nm,0.9s
VORD pmax pmax
comp=Z,30nm,0.9s
VORD Divnogorie 19.01 25 *e*P Pn 21 03 48.9 -0.6
ORIF Oris-en-Rattie 19.03 310 *e*P P 21 03 46.9 -2.2
comp=Z,11nm,0.8s
ORIF Oris-en-Rattie 19.03 310 *e*P P 21 03 46.9 -2.2
comp=Z,5.7nm,0.8s
SPAK Spaichingen-Ko 19.08 321 *e*P P 21 03 48.6 -1.0
VSR Storozhevoye 19.17 25 *e*P P 21 03 50.6 +0.1
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 19.17 25 *e*P P 21 03 50.6 +0.1
IRAZ Razeghan 19.21 80 *e*P Pn 21 03 54.6 +2.2
FELD Feldberg im Sc 19.35 320 *e*P P 21 03 52.5 -0.1
FELD Feldberg im Sc 19.35 320 *e*P P 21 03 52.5 -0.1
BBS Basel-Blauen 19.37 318 *e*P P 21 03 51.6 -1.2
IGZV Ghazvin 19.41 77 *e*P Pn 21 03 56.0 +1.3
CLL Collm 19.57 334 *i* P P 21 03 54.4 -0.4
CLL pmax pmax
comp=Z,21nm,0.7s
CLL Collm 19.57 334 *i* P P 21 03 54.4 -0.4
comp=Z,13nm,0.7s
CLL *i* pP pP 21 03 59.9 -2.2
CLL Collm 19.57 334 *i* P P 21 03 54.4 -0.4
comp=Z,21nm,0.7s
LOMF Lomont 19.69 317 *e*P P 21 03 55.1 -1.2
LOMF Lomont 19.69 317 *e*P P 21 03 55.1 -1.2
CABF La Chapelle 19.72 314 *e*P P 21 03 55.1 -1.5
comp=Z,21nm,0.7s
CABF La Chapelle 19.72 314 *e*P P 21 03 55.1 -1.5
comp=Z,11nm,0.7s
VIVF Saint-Julien-l 19.78 308 *e*P P 21 03 56.9 -0.3
comp=Z,85nm,1.5s
VIVF Saint-Julien-l 19.78 308 *e*P P 21 03 56.9 -0.3
comp=Z,42nm,1.5s
SUW Suwalki 19.78 354 *e*P P 21 03 54.7 -2.4
SUW Suwalki 19.78 354 *e*P P 21 03 54.7 -2.4
MOF Molkenrain 19.81 319 *e*P P 21 03 56.6 -0.9
MOF Molkenrain 19.81 319 *e*P P 21 03 56.6 -0.9
HINF Hinteralfeld 19.94 318 *e*P P 21 03 57.9 -1.0
comp=Z,23nm,0.6s
HINF Hinteralfeld 19.94 318 *e*P P 21 03 57.9 -1.0
comp=Z,12nm,0.6s
VRHR Novokhopersk 19.99 29 *e*P Pn 21 04 00.7 -0.5
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,4.0nm,0.7s
VRHR pmax pmax
comp=Z,50nm,0.7s
VRHR Novokhopersk 19.99 29 *e*P Pn 21 04 00.7 -0.5
ECH Echery 20.01 320 *e*P P 21 04 00.1 +0.4
ECH Echery 20.01 320 *e*P P 21 04 00.1 +0.4
LASF Ste Croix 20.01 306 *e*P P 21 04 00.0 +0.2
comp=Z,55nm,1.3s
LASF Ste Croix 20.01 306 *e*P P 21 04 00.0 +0.2
comp=Z,28nm,1.3s
TOD Tromm 20.06 325 *e*P P 21 04 00.3 +0.1
CDF Champ du Feu 20.06 320 *e*P P 21 04 00.2 -0.1
comp=Z,50nm,1.0s
CDF Champ du Feu 20.06 320 *e*P P 21 04 00.2 -0.1
comp=Z,25nm,1.0s
LANF Langenberg 20.14 322 *e*P Pn 21 04 01.9 -1.2
LANF Langenberg 20.14 322 *e*P Pn 21 04 01.9 -1.2
KTD Kalmit 20.22 323 *e*P Pn 21 04 04.2 +0.1
HAU Haudompre 20.33 318 *e*P P 21 04 01.8 -1.3
comp=Z,25nm,0.8s
HAU Haudompre 20.33 318 *e*P P 21 04 01.8 -1.3
comp=Z,12nm,0.8s
THEF They Montfort 20.65 318 *e*P P 21 04 06.5 -0.1
THEF They Montfort 20.65 318 *e*P P 21 04 06.5 -0.1
LBL Lubilhac 20.85 308 *e*P P 21 04 08.9 0.0
LBL Lubilhac 20.85 308 *e*P P 21 04 08.9 0.0
MTLF Montolieu 20.89 303 *e*P P 21 04 08.2 -1.1
MTLF Montolieu 20.89 303 *e*P P 21 04 08.2 -1.1
IDMV Damavand 20.91 79 *e*P Pn 21 04 13.3 +0.7
PLDF La Plantade 20.92 310 *e*P P 21 04 08.8 -0.8
PLDF La Plantade 20.92 310 *e*P P 21 04 08.8 -0.8
RUP Ruppelstein 20.98 323 *e*P P 21 04 09.8 -0.4
PAGF Fort de Pagny 20.98 319 *e*P P 21 04 09.6 -0.6
comp=Z,10nm,0.8s
PAGF Fort de Pagny 20.98 319 *e*P P 21 04 09.6 -0.6
comp=Z,5.2nm,0.8s
SMF Signal de Mont 21.09 312 *e*P P 21 04 10.6 -0.7
comp=Z,24nm,0.8s
SMF Signal de Mont 21.09 312 *e*P P 21 04 10.6 -0.7
comp=Z,12nm,0.8s
SFTF Sexfontaines 21.17 317 *e*P P 21 04 12.0 -0.2
comp=Z,175nm,1.0s
SFTF Sexfontaines 21.17 317 *e*P P 21 04 12.0 -0.2
comp=Z,88nm,1.0s
PYM Petit Puy Mans 21.22 309 *e*P P 21 04 11.7 -1.1
PYM Petit Puy Mans 21.22 309 *e*P P 21 04 11.7 -1.1
AGO Saint Agoulin 21.26 310 *e*P P 21 04 12.4 -0.9
AGO Saint Agoulin 21.26 310 *e*P P 21 04 12.4 -0.9
MEZF Maizieres J'vi 21.32 318 *e*P P 21 04 14.1 +0.3
comp=Z,67nm,0.8s
MEZF Maizieres J'vi 21.32 318 *e*P P 21 04 14.1 +0.3
comp=Z,34nm,0.8s
LOR Lormes 21.37 314 *e*P P 21 04 13.5 -0.9
comp=Z,13nm,0.7s
LOR Lormes 21.37 314 *e*P P 21 04 13.5 -0.9
comp=Z,6.5nm,0.7s
WLF Walferdange 21.41 322 P P 21 04 14.6 -0.2
comp=Z,11nm,1.0s
WLF Walferdange 21.41 322 P P 21 04 14.6 -0.2
comp=Z,11nm,1.0s
AVF Avril sur Loir 21.45 312 *e*P P 21 04 13.9 -1.3
comp=Z,11nm,0.7s
AVF Avril sur Loir 21.45 312 *e*P P 21 04 13.9 -1.3
comp=Z,5.4nm,0.7s
SSF Saint Saulge 21.48 313 *e*P P 21 04 14.8 -0.8
comp=Z,23nm,0.6s
SSF Saint Saulge 21.48 313 *e*P P 21 04 14.8 -0.8
comp=Z,12nm,0.6s
IFIR Firoozkooh 21.50 79 *e*P P 21 04 19.1 +3.0
IZEF Zefreh 21.51 87 *e*P P 21 04 18.0 +1.7
IZEF Zefreh 21.51 87 *e*P P 21 04 18.0 +1.7
CAF Calviac 21.52 307 *e*P P 21 04 14.6 -1.4
comp=Z,15nm,0.8s
CAF Calviac 21.52 307 *e*P P 21 04 14.6 -1.4
comp=Z,15nm,0.8s
BGF Bois d'Agland 21.66 311 *e*P P 21 04 16.5 -1.0
comp=Z,25nm,0.8s
BGF Bois d'Agland 21.66 311 *e*P P 21 04 16.5 -1.0
comp=Z,12nm,0.8s
OBN Obninsk 21.89 16⇓*i*P P 21 04 18.4 -1.4
OBN *i* 21 04 35.5
OBN pmax pmax
comp=Z,25nm,0.9s
OBN Obninsk 21.89 16 *i* P P 21 04 18.4 -1.4
comp=Z,25nm,0.9s
TCF Toulx Ste Croi 21.94 310 *e*P P 21 04 19.9 -0.7
comp=Z,27nm,1.0s
TCF Toulx Ste Croi 21.94 310 *e*P P 21 04 19.9 -0.7
comp=Z,14nm,1.0s
RJF Les Rejaudoux 22.01 307 *e*P P 21 04 21.2 -0.1
comp=Z,40nm,1.0s
RJF Les Rejaudoux 22.01 307 *e*P P 21 04 21.2 -0.1
comp=Z,20nm,1.0s
MEM Membach 22.08 324 P P 21 04 22.3 +0.3
comp=Z,15nm,1.1s
MEM Membach 22.08 324 P P 21 04 22.2 +0.3
comp=Z,15nm,1.1s
EPF Esparros 22.13 301 *e*P P 21 04 21.3 -1.3
EPF Esparros 22.13 301 *e*P P 21 04 21.3 -1.3
BCLA Clavier 22.31 322 P P 21 04 24.9 +0.4
comp=Z,10nm,1.5s
BCLA Clavier 22.31 322 P P 21 04 24.8 +0.4
comp=Z,10nm,1.5s
GIVF Givet 22.36 321 *e*P P 21 04 24.2 -0.8
comp=Z,30nm,0.9s
GIVF Givet 22.36 321 *e*P P 21 04 24.2 -0.8
comp=Z,15nm,0.9s
LFF La Frestale 22.40 306 *e*P P 21 04 23.9 -1.6
comp=Z,16nm,0.8s
LFF La Frestale 22.40 306 *e*P P 21 04 23.9 -1.6
comp=Z,8.2nm,0.8s
DOU Dourbes 22.48 321 P P 21 04 25.6 -0.7
comp=Z,31nm,1.1s
DOU Dourbes 22.48 321 P P 21 04 25.5 -0.7
comp=Z,9.1nm,1.1s
BAIF Baives 22.66 321 *e*P P 21 04 27.0 -1.1
comp=Z,61nm,0.8s
BAIF Baives 22.66 321 *e*P P 21 04 27.0 -1.1
comp=Z,31nm,0.8s
ETSF Etsaut 22.74 300 *e*P P 21 04 30.6 +1.4
ETSF Etsaut 22.74 300 *e*P P 21 04 30.6 +1.4
ISAD Sadrabad 22.84 89 *e*P P 21 04 31.1 +0.5
ISAD Sadrabad 22.84 89 *e*P P 21 04 31.1 +0.5
IPAR Pars 22.88 94 *e*P P 21 04 33.7 +2.7
SNF Seneffe 22.89 322 P P 21 04 31.1 +0.6
SNF Seneffe 22.89 322 P P 21 04 31.0 +0.6
ISRV Sarvestan 23.08 95 *e*P P 21 04 31.3 -1.8
ISRV Sarvestan 23.08 95 *e*P P 21 04 31.3 -1.8
SJPF Ste Jean 23.27 300 *e*P P 21 04 32.6 -1.9
SJPF Ste Jean 23.27 300 *e*P P 21 04 32.6 -1.9
MFF Saint Martin d 23.57 309 *e*P P 21 04 35.7 -1.7
comp=Z,24nm,0.7s
IMEH Mehriz 23.73 89 *e*P P 21 04 41.0 +1.6
VSU Vasula 24.10 0 *e*P P 21 04 41.8 -0.5
VSU pmax pmax
comp=Z,60nm,1.2s
LDF La Druitiere 24.36 314 *e*P P 21 04 43.9 -0.8
comp=Z,14nm,0.7s
FLN La Foliniere 24.64 314 *e*P P 21 04 46.1 -1.2
comp=Z,65nm,1.1s
GRR Gorron 24.71 313 *e*P P 21 04 47.3 -0.7
comp=Z,17nm,0.7s
ESDC Sonseca Array 24.85 291 P P 21 04 49.6 +0.2
comp=Z,2.4nm,0.6s,baz=80,slow=9.5,SNR=35
ISFR Sfrayin 25.63 75 *e*P P 21 04 57.7 +1.0
ISFR Sfrayin 25.63 75 *e*P P 21 04 57.7 +1.0
SGMF Saint Gilles 25.70 311 *e*P P 21 04 56.4 -0.5
comp=Z,38nm,1.3s
MDT Midelt 25.95 275 P P 21 05 00.5 +1.0
comp=Z,1.8nm,0.8s,baz=77,slow=9.2,SNR=6.4
QUIF Quistinic 25.96 310 *e*P P 21 04 56.8 -2.5
comp=Z,40nm,1.1s
IKRD Kardeh 26.06 75 *e*P P 21 05 08.6 +8.0
IEMG Emamgholi 26.13 74 *e*P P 21 05 02.9 +1.6
IEMG Emamgholi 26.13 74 *e*P P 21 05 02.9 +1.6
ROSF Rostrenen 26.18 311 *e*P P 21 05 00.2 -1.0
comp=Z,21nm,0.7s
ROSF Rostrenen 26.18 311 *e*P P 21 05 00.2 -1.0
comp=Z,11nm,0.7s
IAKL Akhelmad 26.27 76 *e*P P 21 05 04.6 +2.1
IPAY Payeh 26.47 76 *e*P P 21 05 06.3 +2.0
ITEG Tejag 26.80 84 *e*P P 21 05 09.2 +1.9
FINES FINESS Array B 27.09 360 P P 21 05 07.7 -1.7
comp=Z,6.0nm,0.6s
FINES FINESS Array B 27.09 360 P P 21 05 07.7 -1.7
comp=Z,6.4nm,0.6s,baz=162,slow=11,SNR=32
FINES LR LR 21 14 58.3
comp=Z,84nm,19.2s,baz=18,slow=35
PBRG Braganca 27.10 296 *e*P P 21 05 09.9 +0.2
comp=Z,18nm,1.7s
PBRG Braganca 27.10 296 *e*P P 21 05 09.9 +0.2
comp=Z,18nm,1.7s
HFS Hagfors 27.11 346 P P 21 05 07.0 -2.5
comp=Z,5.3nm,0.7s,baz=129,slow=12,SNR=16
IKOO Kooshah 27.12 85 *e*P P 21 05 13.1 +2.9
PBAR Barrancos 27.25 288 *e*P P 21 05 11.2 +0.2
comp=Z,14nm,1.3s

PBAR	**Barrancos**	27.25	288	*e*P		P	21 05 11.2	+0.2
	comp=Z,14nm,1.3s							
IMON	**Monand**	27.50	83	*e*P		P	21 05 16.6	+3.0
PMRV	**Marv??o**	27.50	291	*e*P		P	21 05 13.1	-0.2
	comp=Z,18nm,1.8s							
PMRV	**Marv??o**	27.50	291	*e*P		P	21 05 13.1	-0.2
	comp=Z,18nm,1.8s							
MTE	**Manteigas**	27.63	293	*e*P		P	21 05 15.9	+1.4
	comp=Z,15nm,1.8s							
MTE	**Manteigas**	27.63	293	*e*P		P	21 05 15.9	+1.4
	comp=Z,15nm,1.8s							
KAF	**Kangasniemi**	27.77	360	*e*p		P	21 05 12.9	-2.5
	comp=Z,7.0nm,0.6s							
KAF	**Kangasniemi**	27.77	360	*e*P		P	21 05 12.9	-2.5
	comp=Z,7.0nm,0.6s							
KLMR	**Klimovskoe**	27.80	14	*e*P		P	21 05 12.7	-3.0
KLMR					pmax	pmax		
	comp=Z,21nm,0.7s							
PVAQ	**Vaqueiros**	27.83	286	*e*P		P	21 05 16.3	+0.1
	comp=Z,34nm,2.1s							
PVAQ	**Vaqueiros**	27.83	286	*e*P		P	21 05 16.3	+0.1
	comp=Z,34nm,2.1s							
PBEJ	**Beja**	27.91	288	*e*P		P	21 05 17.9	+1.0
	comp=Z,11nm,1.5s							
PBEJ	**Beja**	27.91	288	*e*P		P	21 05 17.9	+1.0
	comp=Z,11nm,1.5s							
AKTK	**Aktyubinsk**	27.98	45	P		P	21 05 16.2	-1.2
	comp=Z,2.0nm,0.4s							
AKTO	**Aktyubinsk**	27.98	45	P		P	21 05 16.2	-1.2
AKTO					pmax	pmax		
	comp=Z,2.0nm,0.4s							
AKTO	**Aktyubinsk**	27.98	45	P		P	21 05 16.2	-1.2
	comp=Z,2.3nm,0.4s,baz=263,slow=6.1,SNR=9.8							
AKTO					LR	LR	21 17 51.9	
	comp=Z,101nm,18.4s,baz=120,slow=40							
EVO	**Evora**	28.00	289	⇑*i*P		P	21 05 18.6	+0.9
	comp=Z,12nm,0.9s							
PBDV	**Barranco-do-Ve**	28.01	286	*e*P		P	21 05 18.3	+0.4
	comp=Z,52nm,2.5s							
PBDV	**Barranco-do-Ve**	28.01	286	*e*P		P	21 05 18.3	+0.4
	comp=Z,52nm,2.5s							
PCVE	**Castro Verde**	28.07	287	*e*P		P	21 05 18.6	+0.2
	comp=Z,20nm,1.7s							
PCVE	**Castro Verde**	28.07	287	*e*P		P	21 05 18.6	+0.2
	comp=Z,20nm,1.7s							
EVOP	**Sao Brissos**	28.09	289	⇑*i*P		P	21 05 18.6	+0.1
	comp=Z,5.9nm,0.9s							
NB2	**NORSAR Subarra**	28.46	344	P		P	21 05 19.0	-2.6
	comp=Z,1.3nm,0.8s,baz=156,slow=9.3							
NB2	**NORSAR Subarra**	28.46	344	P		P	21 05 19.0	-2.6
	comp=Z,1.3nm,0.8s,SNR=4.7							
NOA	**NORSAR Array B**	28.46	344	P		P	21 05 20.1	-1.6
	comp=Z,1.0nm,0.6s							
NOA	**NORSAR Array B**	28.46	344	P		P	21 05 20.1	-1.6
	comp=Z,1.1nm,0.6s,baz=146,slow=9.5,SNR=6.8							
JOF	**Joensuu**	28.73	5	*e*p		P	21 05 22.6	-1.3
	comp=Z,3.0nm,0.5s							
JOF	**Joensuu**	28.73	5	*e*P		P	21 05 22.6	-1.3
	comp=Z,3.0nm,0.5s							
ECK	**Cauldkaine Hil**	29.24	324	*e*P		P	21 05 27.9	-0.7
ECK	**Cauldkaine Hil**	29.24	324	*e*P		P	21 05 27.9	-0.7
EKA	**Eskdalemuir Ar**	29.34	325	P		P	21 05 28.8	-0.7
	comp=Z,5.0nm,0.7s							
EKA	**Eskdalemuir Ar**	29.34	325	P		P	21 05 28.8	-0.7
	comp=Z,5.0nm,0.7s,baz=124,slow=10,SNR=22							
ESK	**Eskdalemuir**	29.35	325	*e*P		P	21 05 29.3	-0.3
ESK					AMB	AMB	21 05 35.3	
	comp=Z,26nm,3.9s							
ESK	**Eskdalemuir**	29.35	325	*e*P		P	21 05 29.3	-0.3
ESY	**Stoneypath**	29.41	326	*e*P		P	21 05 29.6	-0.5
ESY	**Stoneypath**	29.41	326	*e*P		P	21 05 29.6	-0.5
EBL	**Broad Law**	29.53	326	*e*P		P	21 05 30.2	-0.9
EBL	**Broad Law**	29.53	326	*e*P		P	21 05 30.2	-0.9
GAL1	**Galloway**	29.85	323	*e*P		P	21 05 33.0	-0.9
GAL1					AMB	AMB	21 05 35.3	
	comp=Z,21nm,4.1s							
GAL1	**Galloway**	29.85	323	*e*P		P	21 05 33.0	-0.9
DRUM	**Mains of Drumt**	29.94	328	*e*P		P	21 05 33.0	-1.7
DRUM					AMB	AMB	21 05 37.3	
	comp=Z,25nm,2.6s							
DRUM	**Mains of Drumt**	29.94	328	*e*P		P	21 05 33.0	-1.7
EAB	**Aberfoyle**	30.37	325	*e*P		P	21 05 38.0	-0.5
EAB	**Aberfoyle**	30.37	325	*e*P		P	21 05 38.0	-0.5
MCD	**Coleburn Disti**	30.67	328	*e*P		P	21 05 39.7	-1.5
MCD	**Coleburn Disti**	30.67	328	*e*P		P	21 05 39.7	-1.5
TORD	**Torodi Ar. Bea**	30.88	233	P		P	21 05 45.0	+1.5
	comp=Z,1.7nm,0.5s,baz=38,slow=9.3,SNR=20							
ARCES	**ARCESS Array B**	35.22	359	P		P	21 06 19.5	-1.4
	comp=Z,7.0nm,0.6s							
ARCES	**ARCESS Array B**	35.22	359	P		P	21 06 19.4	-1.4
	comp=Z,6.7nm,0.6s,baz=178,slow=9.0,SNR=39							
KEV	**Kevo**	35.44	0	*e*p		P	21 06 20.9	-1.7
	comp=Z,1.1nm,0.3s							
KEV	**Kevo**	35.44	0	*e*P		P	21 06 20.9	-1.7
	comp=Z,1.1nm,0.3s							
BRVK	**Borovoye**	36.03	45	*e*P		P	21 06 29.3	+1.4
BRVK					pmax	pmax		
	comp=Z,4.0nm,1.0s							
BRVK	**Borovoye**	36.03	45	*e*P		P	21 06 29.3	+1.4
	comp=Z,4.0nm,1.0s							
AAK	**Ala-Archa**	38.00	63	*e*P		P	21 06 46.9	+1.9
AAK					pmax	pmax		
	comp=Z,8.0nm,0.8s							
AAK	**Ala-Archa**	38.00	63	*e*P		P	21 06 46.9	+1.9
	comp=Z,8.0nm,0.8s							
DBIC	**Dimbokro**	39.98	234	P		P	21 07 02.9	+1.2
	comp=Z,2.0nm,0.6s							
DBIC	**Dimbokro**	39.98	234	P		P	21 07 02.9	+1.2
	comp=Z,2.2nm,0.6s,baz=76,slow=6.1,SNR=4.0							
TIC	**Toumodi**	40.11	234	*e*P		P	21 07 03.0	+0.3
	comp=Z,28nm,0.9s							
KIC	**Kosan Boka**	40.14	233	*e*P		P	21 07 03.5	+0.6
	comp=Z,33nm,1.2s							
LIC	**Lamto**	40.43	233	*e*P		P	21 07 05.9	+0.6
	comp=Z,13nm,1.0s							
LIC	**Lamto**	40.43	233	*e*P		P	21 07 07.0	+1.7
	comp=Z,20nm,0.9s							
LIC	**Lamto**	40.43	233	*e*P		P	21 07 05.9	+0.6
	comp=Z,6.7nm,1.0s							
KURK	**Kurchatov**	40.81	50	*e*P		P	21 07 09.1	+1.0
KURK					pmax	pmax		
	comp=Z,7.0nm,1.0s							
KURK	**Kurchatov**	40.81	50	*e*P		P	21 07 09.1	+1.0
	comp=Z,7.0nm,1.0s							
MKAR	**Makanchi Array**	43.27	56	P		P	21 07 29.5	+1.2
MKAR					pmax	pmax		
	comp=Z,5.0nm,0.6s							
MKAR	**Makanchi Array**	43.27	56	P		P	21 07 29.5	+1.2
	comp=Z,5.0nm,0.6s							
MKAR	**Makanchi Array**	43.27	56	P		P	21 07 29.4	+1.2
	comp=Z,4.7nm,0.6s,baz=277,slow=6.3,SNR=32							
NVS	**Novosibirsk**	43.85	44	*e*P		P	21 07 32.7	-0.1
NVS					pmax	pmax		
	comp=Z,16nm,0.9s							
NVS					pmax	pmax		
	comp=E,7.0nm,0.8s							
NVS	**Novosibirsk**	43.85	44	*e*P		P	21 07 32.7	-0.1
	comp=E,16nm,0.9s							
ZALV	**Zalesovo Beam**	44.74	46	P		P	21 07 40.5	+0.6
ZALV					pmax	pmax		
	comp=Z,12nm,0.7s							
ZALV	**Zalesovo Beam**	44.74	46	P		P	21 07 40.5	+0.6
	comp=Z,12nm,0.7s							
ZALV	**Zalesovo Beam**	44.74	46	P		P	21 07 40.5	+0.6
	comp=Z,12nm,0.7s,baz=268,slow=8.6,SNR=52							
DANN	**Dangsing**	48.69	81	*e*P		P	21 08 13.2	+1.6
	comp=Z,63nm,0.8s							
KOLN	**Koldanda**	48.78	81	*e*P		P	21 08 13.1	+0.9
	comp=Z,14nm,0.6s							
GKN	**Gorkha**	49.54	81	*e*P		P	21 08 18.7	+0.8
	comp=Z,23nm,0.7s							
DMN	**Daman**	50.07	81	*e*P		P	21 08 23.2	+1.1
KKN	**Kakani**	50.14	81	*e*P		P	21 08 23.5	+0.9
	comp=Z,16nm,0.6s							
HVS	**Khovu-Aksy**	50.31	49	*c i*P		P	21 08 24.6	+1.2
HVS	**Khovu-Aksy**	50.31	49	*i* P		P	21 08 24.6	+1.2
PKIN	**Phulchoki**	50.32	81	*e*P		P	21 08 24.6	+0.6
	comp=Z,16nm,0.9s							
PKI	**Pulchoki**	50.33	81	*e*P		P	21 08 25.0	+0.8
GUN	**Gumba**	50.59	80	*e*P		P	21 08 27.0	+0.9
	comp=Z,22nm,0.7s							
JIRN	**Jiri**	50.94	80	*e*P		P	21 08 29.5	+0.7
	comp=Z,20nm,0.7s							
RAMN	**Ramite**	51.55	81	*e*P		P	21 08 33.2	-0.1
ODAN	**Odare**	52.23	81	*e*P		P	21 08 38.9	+0.6
TAPN	**Taplejung**	52.30	80	*e*P		P	21 08 39.4	+0.5
MOY	**Mondy**	54.71	47	*e*P		P	21 08 58.1	+2.1
MOY	**Mondy**	54.71	47	*e*P		P	21 08 58.1	+2.1
TLY	**Talaya**	56.31	47	*e*P		P	21 09 10.0	+2.6
TLY					pmax	pmax		
	comp=Z,5.0nm,0.6s							
ZAK	**Zakamensk**	56.42	48	*e*P		P	21 09 09.5	+1.2
ZAK					pmax	pmax		
	comp=Z,9.0nm,1.0s							
ZAK	**Zakamensk**	56.42	48	*e*P		P	21 09 09.5	+1.2
	comp=Z,9.0nm,1.0s							
GTA	**Gaotai**	57.34	62	*e*P		P	21 09 16.3	+1.3
GTA					pP	pP	21 09 23.6	+0.2
GTA					sP	sP	21 09 27.4	+0.8
GTA					AMB	AMB		
	comp=Z,5.0nm,0.8s							
SONM	**Songino Array**	59.11	51	P		P	21 09 28.9	+1.6
	comp=Z,7.0nm,0.7s							
SONM	**Songino Array**	59.11	51	P		P	21 09 28.9	+1.6
	comp=Z,7.0nm,0.7s,baz=285,slow=8.2,SNR=28							
TIXI	**Tiksi**	61.51	21	⇓*i*P		P	21 09 43.1	0.0
TIXI					pmax	pmax		
	comp=Z,13nm,2.5s							
TIXI	**Tiksi**	61.51	21	*i* P		P	21 09 43.1	0.0
	comp=Z,13nm,2.5s							
FRB	**Frobisher Bay**	61.92	330	P		P	21 09 46.1	+0.1
	comp=Z,4.0nm,0.4s							
FRB	**Frobisher Bay**	61.92	330	P		P	21 09 46.1	+0.1
	comp=Z,3.6nm,0.4s,baz=66,slow=10.0,SNR=4.5							
SCHQ	**Schefferville**	64.52	320	P		P	21 10 03.5	+0.1
	comp=Z,5.3nm,0.5s,baz=30,slow=3.3,SNR=11							
CMAR	**Chiang Mai Arr**	65.53	84	P		P	21 10 11.4	+0.8
	comp=Z,2.0nm,0.5s							
CMAR	**Chiang Mai Arr**	65.53	84	P		P	21 10 11.3	+0.8
	comp=Z,2.1nm,0.8s,baz=300,slow=8.3,SNR=17							
USRK	**Ussuriysk Arra**	76.59	45	P		P	21 11 17.6	+0.4
	comp=Z,6.4nm,0.5s,baz=288,slow=5.5,SNR=28							
KSRS	**Korea Array**	77.86	53	P		P	21 11 24.9	+0.5
	comp=Z,2.0nm,0.7s							
KSRS	**Korea Array**	77.86	53	P		P	21 11 24.9	+0.5
	comp=Z,1.9nm,0.7s,baz=304,slow=4.8,SNR=6.3							
ILAR	**Eielson Array**	81.05	357	P		P	21 11 41.4	+0.1
	comp=Z,1.0nm,0.8s							
ILAR	**Eielson Array**	81.05	357	P		P	21 11 41.4	+0.1
	comp=Z,1.4nm,0.8s,baz=347,slow=3.7,SNR=12							
PDAR	**Pinedale Array**	93.37	329	P		P	21 12 41.7	-0.5
	comp=Z,0.8nm,0.9s,baz=45,slow=4.4,SNR=3.9							
ASAR	**Alice Springs**	116.79	101	PKP		PKPdf	21 18 11.6	+0.2
	comp=Z,0.1nm,0.4s,baz=270,slow=1.9,SNR=3.0							

KRSC 14 21:54:48.6±7.9, 51°22N×156°77E, h167km±57km, ML3.6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	0.25	6	P		Pn	21 55 11.8	+0.8
ASAK	**Asacha**	1.36	31	P		Pn	21 55 19.7	+1.5
ASAK				*i* S		Sn	21 55 41.2	+0.1
MTVR	**Mutnovka**	1.54	34	P		Pn	21 55 21.2	+1.2
MTVR				*i* S		Sn	21 55 44.4	+0.1
RUS	**Russkaya**	1.63	41	P		Pn	21 55 21.9	+1.2
RUS				*i* S		Sn	21 55 45.7	+0.2
APC	**Apacha**	1.72	8	P		Pn	21 55 21.9	+0.2
APC				*i* S		Sn	21 55 45.6	-1.8
UGLR	**Uglovaya**	2.36	32	P		Pn	21 55 31.0	+2.0
UGLR				*i* S		Sn	21 56 00.5	+0.2
KOK	**Koryaka**	2.37	28	P		Pn	21 55 31.0	+1.9
AVH	**Avacha**	2.38	30	P		Pn	21 55 31.1	+1.9
AVH				*i* S		Sn	21 56 00.7	0.0
SMAR	**Somma**	2.40	31	P		Pn	21 55 31.1	+1.5
SMAR				*i* S		Sn	21 56 02.1	+0.7
KRER	**Koryakskii**	2.42	29	P		Pn	21 55 31.7	+1.9
KRER				*i* S		Sn	21 56 02.4	+0.7
KRX	**Arik**	2.43	28	P		Pn	21 55 31.7	+1.8
KRX				*i* S		Sn	21 56 02.6	+0.6
SDLR	**Sedlovina**	2.44	31	P		Pn	21 55 31.4	+1.5
SDLR				*i* S		Sn	21 56 01.5	-0.5
GNL	**Ganaly**	2.58	16	P		Pn	21 55 32.2	+0.6
MKZ	**Mys Kozlova**	4.49	40	P		Pn	21 55 56.5	+1.0
MKZ				*i* S		Sn	21 56 45.4	-2.5
KMNR	**Kamenistaya**	4.99	23	P		Pn	21 56 04.7	+2.5
KBTR	**Krutoberegovo**	6.15	33	P		Pn	21 56 18.0	+0.7

NNC 14 22:04:54.2±1.8, 38°.90N×70°.29E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=13.3km s-min=10.7km az=8.0
ISC 14 22:04:59.5±2.7, 39°.1N±0°.2×70°.36E±0°.09, h17km, n12, σ1s30/17, 3C-7D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	3.98	39	P		Pn	22 05 59.4	-0.7
	SNR=11							
KK31	**Karatay Array**	4.04	2	Pn		Pn	22 06 02.2	+1.6
	2.1nm,0.3s,baz=182,slow=12,SNR=115							
KK31				⇑Pg		Pb	22 06 10.9	+0.7
	3.1nm,0.3s,baz=188,slow=17,SNR=8.7							
KK31				⇓Sn		Sb	22 06 55.9	-2.8
	3.3nm,0.3s							
KK31				⇓Lg		Lg	22 07 09.5	
	19nm,0.5s,baz=180,slow=29,SNR=9.1							
EKS2	**Erkin-Say**	4.43	35	P		Pn	22 06 06.7	+0.7
	SNR=16							
AAK	**Ala-Archa**	4.75	40	P		Pn	22 06 10.9	+0.5
	SNR=17							
KZA	**Kyzart**	4.79	49	P		Pn	22 06 11.2	-0.1
	SNR=20							
KBK	**Karagaybulak**	5.00	43	P		Pn	22 06 14.3	+0.5
	SNR=36							
CHMS	**Chumysh**	5.14	39	P		Pn	22 06 16.2	+0.4
	SNR=11							
USP	**Ospenovka**	5.23	35	P		Pn	22 06 17.1	0.0
	SNR=9.9							
TKM2	**Tokmak 2**	5.52	44	⇓Pn		Pn	22 06 20.9	-0.3
	4.0nm,0.4s							
TKM2				⇓Sn		Sn	22 07 26.3	+1.9
	7.3nm,0.7s							
TKM2				⇓Lg		Lg	22 07 59.0	
	13nm,1.1s							
TKM2	**Tokmak 2**	5.52	44	P		Pn	22 06 21.2	0.0
	SNR=9.8							
AB31	**Akbulak array**	12.63	327	⇓Pn		Pn	22 07 57.9	-0.3
	1.3nm,0.6s,baz=143,slow=12,SNR=26							
AB31				⇑Sn		Sn	22 10 18.3	-0.1
	1.4nm,0.6s,baz=144,slow=23,SNR=5.6							
AKTO	**Aktyubinsk**	14.34	326	⇓Pn		Pn	22 08 19.6	-2.0
	4.5nm,1.5s							
AKTO				⇑Sn		Sn	22 11 01.8	+1.8
	2.4nm,0.9s							

BUL 14 22:10:08.4±9.4, 2°.02S×38°.41E, h23km±317km, MD3.5
PRE 14 22:10:09.6±1.8, 2°.22S×37°.46E, h10km, ML4.6
ISC 14 22:10:10.3±1.5, 2°.20S±0°.04×37°.43E±0°.10, h10km, n8, σ2s20/15, 1C, Kenya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAUS	**Longido**	0.91	233	*i* P		Pb	22 10 29.0	+0.7
MAUS				*i* S		Sn	22 10 43.4	+0.9
KMBO	**Kilima Mbogo**	1.08	351	⇑*i*P		Pb	22 10 31.1	-0.2
KMBO				*e*S		Sb	22 10 46.1	+0.6
KMBO	**Kilima Mbogo**	1.08	351	*i* P		Pb	22 10 31.0	-0.2
KMBO				*i* S		Sn	22 10 46.8	0.0
DODT	**Dodoma, Tanzan**	4.31	203	*i* P		Pn	22 11 15.0	-1.1
DODT				*i* S		Sn	22 12 02.3	-4.1
MBAR	**Mbarara**	6.87	283	*e*P		Pn	22 11 50.6	-0.8
MBAR				*e*S		Sn	22 13 07.6	-2.2
MBAR	**Mbarara**	6.87	283	*i* P		Pn	22 11 50.8	-0.6
MBAR				*i* S		Sn	22 13 09.2	-0.6
KIG	**Kigali**	7.36	272	*e*P		Pn	22 11 59.8	+1.7
KIG				*e*S		Sn	22 13 17.7	-4.2
KIG				AML	AML	22 14 18.2		
	comp=Z,72nm,0.4s							
MZM	**Mzuzu**	9.78	200	*i* P		Pn	22 12 39.8	+8.6
MZM				*i* S		Sn	22 14 24.5	+3.3

CSEM 14 22:33:49.6, 35°.17N×23°.28E, h15km, MD3.6, After ATH
ATH 14 22:33:49.4, 35°.16N×23°.26E, h14km±2km, MD3.6/16, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANKY	**Antikythira Is**	0.71	3	*e*PB		Pg	22 34 03.3	+0.1
ANKY				*e*SB		Sg	22 34 12.7	+0.2
VAM	**Vamos**	0.81	72	*e*PG		Pg	22 34 04.6	-0.5
VAM				*e*SB		Sb	22 34 16.5	+0.5
VAM	**Vamos**	0.81	72	*e*Pn		Pg	22 34 04.6	-0.5
VAM				*e*Sn		Sb	22 34 16.5	+0.5
KYTH	**Kithira**	1.13	351	*e*PG		Pb	22 34 10.1	-0.7
KYTH	**Kithira**	1.13	351	*e*Pb		Pb	22 34 10.1	-0.7
VLI	**Veliai**	1.58	351	*e*PG		Pb	22 34 18.5	+0.1
VLI	**Veliai**	1.58	351	*e*Pn		Pb	22 34 18.5	+0.1
DYR	**Agios Nikonas**	1.77	335	*e*PN		Pb	22 34 21.1	-0.5
DYR	**Agios Nikonas**	1.77	335	*e*Pn		Pb	22 34 21.1	-0.5
NPS	**Neapolis**	1.93	86	*e*PN		Pb	22 34 23.2	-1.2
NPS	**Neapolis**	1.93	86	*e*Pn		Pb	22 34 23.2	-1.2
PYL	**PYLOS**	2.12	325	*e*PN		Pb	22 34 27.0	-0.7
PYL	**PYLOS**	2.12	325	*e*Pn		Pb	22 34 27.0	-0.7
ITM	**Ithomi**	2.29	332	*e*PN		Pb	22 34 29.9	-0.6
ITM	**Ithomi**	2.29	332	*e*Pn		Pb	22 34 29.9	-0.6
DIDY	**Didyma**	2.31	359	*e*PN		Pb	22 34 29.2	-1.8
DIDY	**Didyma**	2.31	359	*e*Pn		Pb	22 34 29.2	-1.8
VLX	**Vlachokerasia**	2.32	342	*e*PN		Pb	22 34 30.1	-1.0
VLX	**Vlachokerasia**	2.32	342	*e*Pn		Pb	22 34 30.1	-1.0
DID	**Didima**	2.34	360	*e*PN		Pb	22 34 29.9	-1.6
DID	**Didima**	2.34	360	*e*Pn		Pb	22 34 29.9	-1.6
APE	**Apeiranthos**	2.65	43	*e*PB		Pn	22 34 33.9	+2.1
APE	**Apeiranthos**	2.65	43	*e*Pn		Pn	22 34 33.9	+2.1
GUR	**Goura**	2.87	345	*e*PB		Pb	22 34 38.3	-2.2
GUR	**Goura**	2.87	345	*e*Pb		Pb	22 34 38.3	-2.2
KLV	**Kalavryta, Ach**	3.01	343	*e*PN		Pn	22 34 39.6	+2.8
KLV	**Kalavryta, Ach**	3.01	343	*e*Pn		Pn	22 34 39.6	+2.8
DRO	**Drossia**	3.05	336	*e*PN		Pn	22 34 40.0	+2.7
DRO	**Drossia**	3.05	336	*e*Pn		Pn	22 34 40.0	+2.7
KARP	**Karpathos**	3.21	82	*e*PN		Pn	22 34 42.5	+3.0
KARP	**Karpathos**	3.21	82	*e*Pn		Pn	22 34 42.5	+3.0
LAKA	**Lakka**	3.24	342	*e*PN		Pn	22 34 42.5	+2.6
LAKA	**Lakka**	3.24	342	*e*Pn		Pn	22 34 42.5	+2.6
KALE	**Kalithea**	3.35	345	*e*PN		Pn	22 34 44.0	+2.6
KALE	**Kalithea**	3.35	345	*e*Pn		Pn	22 34 44.0	+2.6
EFP	**Efpalio**	3.44	342	*e*PN		Pn	22 34 44.9	+2.4
EFP	**Efpalio**	3.44	342	*e*Pn		Pn	22 34 44.9	+2.4
LKR	**Lokris**	3.49	357	*e*PN		Pn	22 34 45.5	+2.2
LKR	**Lokris**	3.49	357	*e*Pn		Pn	22 34 45.5	+2.2
EVR	**Evrytania**	3.92	343	*e*PN		Pn	22 34 52.4	+3.0
EVR	**Evrytania**	3.92	343	*e*Pn		Pn	22 34 52.4	+3.0
AGG	**Agios Georgios**	3.93	349	*e*PN		Pn	22 34 51.6	+2.3
AGG	**Agios Georgios**	3.93	349	*e*Pn		Pn	22 34 51.6	+2.3
MAKR	**Makrakomi, Fth**	3.95	347	*e*PN		Pn	22 34 52.2	+2.5
MAKR	**Makrakomi, Fth**	3.95	347	*e*Pn		Pn	22 34 52.2	+2.5
NEST	**Nestorio**	5.53	342	*e*PN		Pn	22 35 13.2	+1.8
NEST	**Nestorio**	5.53	342	*e*Pn		Pn	22 35 13.2	+1.8

IDC 14 23:04:52.0±0.8, 10°.89N×92°.11E, h0km, mb4.0/14, mb1 4.2/15, mb1mx4.0/28, mbtmp4.0/15, ML4.0/1, Error ellipse: s-maj=34.2km s-min=13.9km az=55.0
NEIC 14 23:04:54.9±3.8, 10°.89N×92°.14E, h21km±26km, mb4.0/4, Error ellipse: s-maj=16.1km s-min=4.9km az=59.0
ISC 14 23:04:55.7±0.5, 10°.89N±0°.07×92°.20E±0°.10, h27km, n55, σ0s97/48, mb4.0/17, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	0.93	35	*e*P		Pb	23 05 17.4	+4.2
PBA				*e*S		Sn	23 05 35.2	+10
PBA				AML	AML	23 05 38.5	
	comp=N,5μm,0.6s							
PBA				AML	AML	23 05 38.7	
	comp=E,3μm,0.7s							
DGPR	**DIGLIPUR**	2.38	17	*e*P		**Pn**	**23 05 34.2**	**+1.2**
DGPR				*e*4		**Sn**	**23 05 59.6**	**-1.7**
DGPR				AML	AML	23 06 50.0		
	comp=E,250nm,0.5s							
DGPR				AML	AML	23 06 55.1		
	comp=N,236nm,1.4s							
CMAR	**Chiang Mai Arr**	9.95	40	Pn		**Pn**	**23 07 17.6**	**+0.5**
CMAR	**Chiang Mai Arr**	9.95	40	Pn		**Pn**	**23 07 17.6**	**+0.5**
	comp=N,0.4nm,0.3s,baz=235,slow=14,SNR=2.8							
IPM	**Ipoh**	10.82	125	*e*Pn		**Pn**	**23 07 28.5**	**-0.4**
	comp=N,4.5nm,0.6s			

ms1mx2.5/38, Error ellipse: s-maj=223.2km s-min=24.4km az=65.0

JMA ***14*** *23:12:05.1±0.2, 27.87N×127.94E, h0km, M3.3*

ISCJB ***14*** *23:12:08.7±0.6, 27.81N±0.04×128.03E±0.06, h33km, mb3.6/6, Error ellipse: s-maj=7.8km s-min=5.8km az=23.0*

ISC 14 23:12:10.3±0.9, 27.75N±0.06×128.10E±0.07, h35km, n14, σ1§99/16, mb3.6/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIH	**Iheya**	**0.72**	**189**	P	**Pn**	**23 12 21.5**	**-2.5**
JIH				S	**Sn**	**23 12 32.6**	**-1.2**
JTK	**Tokunoshima**	**0.76**	**87**	P	**Pn**	**23 12 22.5**	**-2.0**
JTK				S	**Sn**	**23 12 35.5**	**+0.8**
JOW	**Kunigami**	**0.93**	**170**	P	**Pn**	**23 12 25.8**	**-1.0**
JOW				S	**Sn**	**23 12 40.7**	**+1.8**
JAMN	**Amaminishikomi**	**1.07**	**62**	P	**Pn**	**23 12 27.8**	**-1.0**
JAGN	**Aguni-jima**	**1.38**	**214**	P	**Pn**	**23 12 31.7**	**-1.4**
JAGN				S	**Sn**	**23 12 50.4**	**+0.2**
JAM	**Amami Oshima**	**1.49**	**63**	P	**Pn**	**23 12 33.8**	**-0.7**
JJT2	**Tamagusuku 2**	**1.64**	**191**	*e*S	**Sn**	**23 13 00.3**	**+3.9**
KSRS	**Korea Array**	**9.68**	**359**	LR	LR	23 18 18.0	
	comp=Z,69nm,18.1s,baz=160,slow=42						
SONM	**Songino Array**	**26.23**	**326**	P	**P**	**23 17 39.8**	**-2.1**
	0.7nm,0.8s,baz=134,slow=8.3,SNR=2.9						
MKAR	**Makanchi Array**	**40.45**	**311**	P	**P**	**23 19 46.8**	**+1.5**
	0.6nm,0.7s,baz=110,slow=9.2,SNR=7.1						
ZALV	**Zalesovo Beam**	**40.98**	**322**	P	**P**	**23 19 47.0**	**-2.5**
	0.4nm,0.5s,baz=124,slow=4.2,SNR=2.4						
KURBB	**Kurchatov Arra**	**43.68**	**315**	P	**P**	**23 20 11.8**	**+0.2**
	1.4nm,0.2s,baz=97,slow=7.7,SNR=3.3						
WRA	**Warramunga Arr**	**47.79**	**172**	P	P	23 20 48.2	+3.9
	0.4nm,0.5s,baz=353,slow=8.1,SNR=2.2						
BVAR	**Borovoye Array**	**49.07**	**317**	P	**P**	**23 20 55.6**	**+1.7**
	0.4nm,0.5s,baz=79,slow=7.5,SNR=3.4						

CSEM ***15*** *00:09:32.2±1.0, 39.47N×24.21E, h2km, ML1.8/4, Error ellipse: s-maj=19.9km s-min=10.9km az=66.0*

ATH 15 00:09:32.0, 39.46N×24.23E, h9km±3km, MD2.9/13, ML2.6, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AOS	**Alonnisos**	**0.40**	**223**	*e*PG	Pg	00 09 39.6	-0.2
AOS				*e*SB	Sg	00 09 45.6	+0.5
AOS	**Alonnisos**	**0.40**	**223**	*e*Pg	Pg	00 09 39.6	-0.2
AOS				*e*Sb	Sg	00 09 45.6	+0.5
PAIG	**Paliouri**	**0.63**	**318**	*e*PG	Pg	00 09 43.9	-0.3
PAIG	**Paliouri**	**0.63**	**318**	*e*Pg	Pg	00 09 43.9	-0.3
SKIA	**Skiathos**	**0.66**	**244**	*e*PB	Pg	00 09 44.0	-0.8
SKIA	**Skiathos**	**0.66**	**244**	*e*Pb	Pg	00 09 44.0	-0.8
XOR	**Xorichti**	**0.81**	**264**	*e*PB	Pg	00 09 47.8	+0.1
XOR				*e*SB	Sg	00 09 58.6	+0.3
XOR	**Xorichti**	**0.81**	**264**	*e*Pb	Pg	00 09 47.8	+0.1
XOR				*e*Sb	Sg	00 09 58.6	+0.3
MRKA	**Markates**	**0.90**	**214**	*e*PN	Pb	00 09 50.2	+0.3
MRKA	**Markates**	**0.90**	**214**	*e*Pn	Pb	00 09 50.2	+0.3

THE 15 00:09:48.3, 38.57N×23.60E, h9km±1km, ML1.8/4, Error ellipse: s-maj=1.8km s-min=0.3km az=54.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRKA	**Markates**	**0.13**	**354**	P	Pg	00 09 51.2	-0.1
MRKA				S	Sg	00 09 53.5	+0.1
MRKA	**Markates**	**0.13**	**354**	P	Pg	00 09 51.2	-0.1
ERET	**Eretria**	**0.20**	**129**	P	Pg	00 09 52.4	-0.2
ERET				S	Sg	00 09 55.8	+0.3
ERET	**Eretria**	**0.20**	**129**	P	Pg	00 09 52.4	-0.2
SMIA	**Simia**	**0.43**	**315**	P	Pg	00 09 56.7	-0.2
LKR	**Lokris**	**0.48**	**280**	P	Pg	00 09 57.3	-0.4
LKR	**Lokris**	**0.48**	**280**	*e*PB	Pg	00 09 56.0	-1.7
LKR	**Lokris**	**0.48**	**280**	*e*Pb	Pg	00 09 56.0	-1.7
LKR	**Lokris**	**0.48**	**280**	P	Pg	00 09 57.3	-0.4
PTL	**Penteli**	**0.56**	**159**	P	Pg	00 09 58.9	-0.3
PTL				S	Sg	00 10 07.2	+0.5
PTL	**Penteli**	**0.56**	**159**	*e*PG	Pg	00 09 58.9	-0.3
PTL	**Penteli**	**0.56**	**159**	P	Pg	00 09 58.9	-0.3
ATH	**Athens Observa**	**0.61**	**172**	*e*PG	Pg	00 09 59.9	-0.1
ATH	**Athens Observa**	**0.61**	**172**	*e*Pg	Pg	00 09 59.9	-0.1
ATHU	**Athens Univers**	**0.62**	**167**	P	Pg	00 10 00.1	-0.3
ATHU				S	Sg	00 10 09.2	+0.7
ATHU	**Athens Univers**	**0.62**	**167**	P	Pg	00 10 00.1	-0.3
LTK	**Loutraki**	**0.74**	**223**	P	Pg	00 10 02.3	-0.4
LTK				S	Sb	00 10 13.4	-0.4
LTK	**Loutraki**	**0.74**	**223**	*e*PN	Pn	00 10 04.6	-0.5
LTK	**Loutraki**	**0.74**	**223**	P	Pn	00 10 02.3	-0.4
LTK	**Loutraki**	**0.74**	**223**	*e*Pn	Pn	00 10 04.6	-0.5
NEO	**Neokhori**	**0.79**	**338**	P	Pg	00 10 03.2	-0.4
NAIG	**Nisos Aigina**	**0.82**	**186**	*e*PN	Pb	00 10 05.0	+0.3
NAIG	**Nisos Aigina**	**0.82**	**186**	*e*Pn	Pb	00 10 05.0	+0.3
DSF	**Desfina**	**0.86**	**260**	P	Pg	00 10 04.3	-0.7
DSF	**Desfina**	**0.86**	**260**	*e*PN	Pg	00 10 04.6	-0.4
DSF	**Desfina**	**0.86**	**260**	P	Pg	00 10 04.3	-0.7
DSF	**Desfina**	**0.86**	**260**	*e*Pn	Pg	00 10 04.6	-0.4
DID	**Didima**	**1.10**	**195**	P	Pg	00 10 08.9	-0.7
DID	**Didima**	**1.10**	**195**	*e*PN	Pg	00 10 08.9	-0.7
DID	**Didima**	**1.10**	**195**	P	Pg	00 10 08.9	-0.7
GUR	**Goura**	**1.18**	**238**	*e*PN	Pb	00 10 10.3	-0.7
GUR	**Goura**	**1.18**	**238**	*e*Pn	Pb	00 10 10.3	-0.7

IDC 15 00:09:55.0±25.0, 0°.40S×100°.66E, h175km±232km, mb3.4/5, mb1 3.5/5, mb1mx3.1/22, mbtmp3.4/5, Error ellipse: s-maj=259.7km s-min=18.6km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**28.99**	**255**	T	T	00 43 25.3	
	baz=76,slow=0.7,SNR=17						
H08S3	**Diego Garcia H**	**28.99**	**255**	T	T	00 43 35.0	
	baz=76,slow=0.7,SNR=16						
H08S1	**Diego Garcia H**	**29.00**	**255**	T	T	00 43 23.5	
	baz=76,slow=0.7,SNR=16						
WRA	**Warramunga Arr**	**38.26**	**123**	P	P	00 16 58.5	-0.1
	0.6nm,0.7s,baz=303,slow=9.0,SNR=3.0						
ASAR	**Alice Springs**	**39.68**	**128**	P	P	00 17 10.2	-0.2
	0.3nm,0.3s,baz=296,slow=7.2,SNR=8.2						
MKAR	**Makanchi Array**	**49.69**	**344**	P	P	00 18 28.9	-0.2
	0.6nm,0.3s,baz=153,slow=8.6,SNR=17						
STKA	**Stephens Creek**	**49.73**	**133**	P	P	00 18 29.7	0.0
	3.9nm,0.8s,baz=321,slow=6.5,SNR=3.3						
ZALV	**Zalesovo Beam**	**55.74**	**349**	P	P	00 19 13.3	0.0
	0.8nm,0.6s,baz=178,slow=5.9,SNR=3.0						
TXAR	**Lajitas Array**	**143.04**	**37**	PKP	PKPdf	00 29 08.0	-0.8
	0.1nm,0.5s,baz=326,slow=4.4,SNR=2.3						

NIED ***15*** *00:11:00, 43.70N×147.70E, h38km, Mw3.5 Best double couple: M0 2.16000×10^14 NP1:φs160.00000°, δ75.00000°, λ-27.00000°. NP2:φs257.00000°, δ64.00000°, λ-163.00000°.*

JMA 15 00:11:20.6±0.3, 43.66N×147.71E, h8km, M3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.46**	**259**	P	Pn	00 11 47.3	+0.1
NEM2				*e*S	Sn	00 12 06.3	-0.2
JRA	**Rausu**	**1.89**	**279**	P	Pn	00 11 53.9	+0.7
JRA				*e*S	Sb	00 12 18.4	-0.8
JTKR	**Abashiri--Toko**	**2.77**	**278**	P	Pn	00 12 06.1	+0.9
JAR	**Ashorobuto**	**2.89**	**264**	P	Pn	00 12 08.0	+1.1
JOB	**Onbets**	**2.93**	**256**	P	Pn	00 12 08.6	+1.2
JCH	**Churui**	**3.35**	**253**	P	Pn	00 12 14.8	+1.6
JCH				*e*S	Sn	00 12 55.5	+2.3
JNBK	**Urakawa-nobuka**	**3.89**	**251**	P	Pn	00 12 22.2	+1.5

AUST ***15*** *00:13:30.5±0.3, 52.77N×166.74W, h0km, Error ellipse: s-maj=10.7km s-min=6.9km az=163.0*

BJI ***15*** *00:13:32.7, 53.62N×167.12W, h11km, mB5.2/44, mb5.2/52, Ms5.3/51, Ms7 5.0/49*

ISCJB ***15*** *00:13:32.8±0.6, 52.83N±0.02×166.76W±0.02, h30km±3km, mb5.2/334, MS5.1/223, Error ellipse: s-maj=3.4km s-min=1.7km az=9.4*

MOS ***15*** *00:13:33.3±1.1, 52.90N×166.78W, h33km, mb5.6/111, MS5.0/52, Error ellipse: s-maj=7.6km s-min=3.9km az=90.3*

NEIC ***15*** *00:13:33.1±0.1, 52.85N×166.75W, h20km, mb5.3/159, MS5.0/134, MW5.3, ML5.0(AEIC), Error ellipse: s-maj=3.5km s-min=2.0km az=176.0, Moment Tensor Solution. s62 Moment tensor: Scale 10^17Nm; Mrr0.80; Mθθ-1.20; Mφφ0.40; Mrθ0.55; Mrφ-0.39; Mθφ0.05; Best double couple: M0 1.30000×10^17 NP1:φs245.00000°, δ32.00000°, λ73.00000°. NP2:φs85.00000°, δ59.00000°, λ100.00000°. Principal axes: T 0.9400, Plg73.0000°, Azm21.0000°; N 0.4800, Plg9.0000°, Azm259.0000°; P -1.4300, Plg13.0000°, Azm167.0000°;*

IDC ***15*** *00:13:33.7±2.3, 52.93N×166.84W, h25km±14km, mb4.6/30, mb1 4.8/32, mb1mx4.8/35, mbtmp4.6/32, ML4.6/1, MS5.0/39, Ms1 5.0/39, ms1mx4.8/50 Error ellipse: s-maj=15.7km s-min=8.7km az=179.0*

BGS ***15*** *00:13:35.6±1.4, 53.10N×164.72W, h20km, mb5.3, MS5.2*

SZGRF ***15*** *00:13:36.2, 54.14N×167.34W, h33km, mb5.1, Fox Islands, Aleutian Islands, United States*

GCMT ***15*** *00:13:37.8±0.1, 52.75N×166.87W, h20km, MW5.5, Moment Tensor Solution. s84,c146; s28,c30; Moment tensor: Scale 10^17Nm; Mrr1.75±.04; Mθθ-1.83±.03; Mφφ0.07±.03; Mrθ1.83±.07; Mrφ-0.47±.02; Mθφ0.11±.06; Best double couple: M0 2.60000×10^17 NP1:φs84.00000°, δ68.00000°, λ96.00000°. NP2:φs249.00000°, δ23.00000°, λ76.00000°. Principal axes: T 2.5200, Plg67.0000°, Azm5.0000°; N 0.1500, Plg6.0000°, Azm262.0000°; P -2.6800, Plg22.0000°, Azm169.0000°; Data Used: ll IU IC G CN. Surface waves: sta=113, comp=225, per= 50.*

DJA ***15*** *00:14:19.6±1.3, 54.14N±10×17.1W±2.8, h313km, M4.9/24, mB5.4/10, mb5.1/24, Mw(mB)4.9/10*

ISC 15 00:13:33.3±0.3, 52.88N±0.04×166.79W±0.02, h24km±1km, h24km:pP-P, n1437, σ1§09/1434, mb5.3/334, MS5.1/225, 390C-212D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKFG	**Magazine Ridge**	**0.86**	**309**	P	**Pn**	**00 13 50.0**	**+0.1**
OKFG				S	**Sn**	**00 14 05.4**	**+3.7**
OKTU	**Okmok Mt. Tuli**	**0.91**	**304**	P	**Pn**	**00 13 51.5**	**+0.8**
MREP	**Makushin Rep't**	**0.94**	**2**	P	**Pn**	**00 13 51.9**	**+0.8**
OKSO	**Okmok South**	**0.95**	**301**	P	**Pn**	**00 13 51.3**	**0.0**
OKSO				S	**Sn**	**00 14 08.0**	**+3.9**
OKSP	**Okmok Steeple**	**0.98**	**293**	P	**Pb**	**00 13 51.8**	**+0.1**
UNV	**Unalaska Valle**	**0.99**	**10**	*i*P	**Pn**	**00 13 51.3**	**-0.3**
UNV				*e*S	**Sn**	**00 14 04.8**	**0.0**
OKCE	**Okmok Cone E**	**0.99**	**304**	P	**Pb**	**00 13 52.2**	**+0.3**
MNAT	**Makushin Natee**	**1.01**	**4**	P	**Pb**	**00 13 53.2**	**+1.1**
MCIR	**Makushin Cirqu**	**1.08**	**357**	P	**Pb**	**00 13 54.3**	**+1.0**
MTBL	**Makushin Table**	**1.10**	**3**	P	**Pb**	**00 13 54.4**	**+0.7**
NIKH	**Nikolski High**	**1.25**	**275**	P	**Pn**	**00 13 54.6**	**-0.6**
NIKH				S	**Sb**	**00 14 12.9**	**+1.0**
ZRO	**Akutan Zero**	**1.31**	**21**	P	**Pb**	**00 13 56.8**	**-0.5**
AKRB	**Akutan Reef Bi**	**1.33**	**19**	P	**Pb**	**00 13 57.6**	**+0.1**
LVA	**Lava Point**	**1.36**	**19**	P	**Pb**	**00 13 57.7**	**-0.4**
AKUT	**Akutan**	**1.40**	**25**	*i*Pn	**Pn**	**00 13 57.2**	**-0.1**
AKUT				*e*Sn	**Sb**	**00 14 18.3**	**+2.1**
AKGG	**Akutan Green G**	**1.41**	**20**	P	**Pb**	**00 13 59.0**	**+0.1**
AKSA	**Akutan Strait**	**1.42**	**27**	P	**Pn**	**00 13 58.2**	**+0.6**
WESN	**West Dahl Nort**	**2.14**	**37**	P	**Pn**	**00 14 08.8**	**+1.3**
SSBA	**Shishaldin**	**2.47**	**39**	P	**Pn**	**00 14 13.7**	**+1.6**
SSLW	**Shishaldin Wes**	**2.47**	**39**	P	**Pn**	**00 14 13.4**	**+1.3**
BRPK	**Brown Peak**	**2.53**	**44**	P	**Pn**	**00 14 14.2**	**+1.3**
ISNN	**Isanotski Nort**	**2.65**	**41**	P	**Pn**	**00 14 16.5**	**+2.0**
FALS	**False Pass**	**2.82**	**44**	*e*Pn	**Pn**	**00 14 17.9**	**+1.2**
FALS				*e*Sn	**Sn**	**00 14 51.4**	**+1.5**
DT1	**Dutton Round H**	**3.48**	**48**	P	**Pn**	**00 14 26.5**	**+0.7**
SDPT	**Sand Point**	**4.46**	**54**	P	**Pn**	**00 14 41.0**	**+1.6**
SPIA	**Saint Paul Isl**	**4.75**	**337**	P	Pn	00 14 46.7	+3.5
VNHG	**Veniaminof 1**	**5.56**	**50**	P	**Pn**	**00 14 56.5**	**+1.9**
GSTR	**Great Sitkin T**	**5.72**	**266**	*e*Pn	**Pn**	**00 14 56.8**	**+0.1**
GSTR				*e*Sn	**Sn**	**00 16 03.5**	**+2.1**
GSMY	**Great Sitkin M**	**5.73**	**265**	P	**Pn**	**00 14 58.4**	**+1.6**
GSTD	**Great Sitkin T**	**5.78**	**266**	P	**Pn**	**00 14 59.5**	**+2.0**
GSCK	**Great Sitkin C**	**5.80**	**265**	P	**Pn**	**00 14 59.4**	**+1.7**
CHGN	**Chignik**	**5.96**	**52**	*e*Pn	**Pn**	**00 14 59.7**	**-0.2**
CHGN				*e*Sn	**Sn**	**00 16 06.0**	**-1.2**
ETKA	**Kagalaska Isla**	**5.98**	**264**	P	**Pn**	**00 15 01.5**	**+1.3**
ADAG	**Mount Adagdak**	**6.07**	**265**	P	**Pn**	**00 15 03.3**	**+1.8**
ADK	**Adak**	**6.14**	**265**	P	**Pn**	**00 15 03.8**	**+1.4**
ADK	**Adak**	**6.14**	**265**	P	**Pn**	**00 15 03.8**	**+1.4**
KIKV	**Kanaga Island**	**6.43**	**265**	P	**Pn**	**00 15 07.8**	**+1.3**
KICM	**Kanaga Island**	**6.44**	**266**	P	**Pn**	**00 15 08.2**	**+1.7**
TAPA	**Tanaga Point A**	**6.84**	**265**	P	**Pn**	**00 15 13.5**	**+1.4**
TASE	**Tanaga Southea**	**6.97**	**266**	P	**Pn**	**00 15 15.5**	**+1.6**
GAEA	**Gareloi East**	**7.41**	**266**	P	**Pn**	**00 15 22.0**	**+2.1**
GANE	**Gareloi Northe**	**7.42**	**267**	P	**Pn**	**00 15 21.8**	**+1.8**
GALAA	**Gareloi Lava P**	**7.43**	**266**	P	**Pn**	**00 15 22.5**	**+2.4**
KJL	**Kejulik**	**8.21**	**46**	P	**Pn**	**00 15 32.7**	**+1.8**
CAHL	**Cahill**	**8.33**	**47**	P	**Pn**	**00 15 34.3**	**+1.8**
CERAA	**Semis' Rag'd T**	**8.33**	**269**	P	**Pn**	**00 15 34.6**	**+2.1**
CESW	**Semis' Southwe**	**8.41**	**269**	P	**Pn**	**00 15 35.7**	**+2.2**
KABR	**Katmai Barrier**	**8.52**	**47**	P	**Pn**	**00 15 36.3**	**+1.2**
AMKA	**Amchitka**	**8.69**	**266**	P	**Pn**	**00 15 40.1**	**+2.7**
OHLK	**Old Harbor**	**8.89**	**55**	P	**Pn**	**00 15 39.6**	**-0.4**
KDAK	**Kodiak Island**	**9.46**	**53**	*e*Pn	**Pn**	**00 15 47.1**	**-0.9**
KDAK				*e*Sn	**Sn**	**00 17 35.0**	**+1.5**
KDAK	**Kodiak Island**	**9.46**	**53**	Pn	**Pn**	**00 15 46.8**	**-1.2**
	306nm,0.4s,SNR=17						
SVW2	**Sparrevohn**	**10.25**	**32**	*e*Pn	Pn	00 16 03.5	+4.8
RSO	**Redoubt South**	**10.82**	**40**	*e*Pn	**Pn**	**00 16 07.0**	**+0.3**
RSO				*e*Sn	**Sn**	**00 18 04.3**	**-2.6**
GAMB	**Gambell**	**11.23**	**349**	*e*Pn	Pn	00 16 16.0	+4.0
SPU	**Mount Spurr**	**11.54**	**38**	*e*Pn	Pn	00 16 20.1	+3.7
SEW	**Seward**	**11.98**	**46**	*e*Pn	**Pn**	**00 16 20.7**	**-1.7**
SEW				*e*Sn	**Sn**	**00 18 32.1**	**-2.9**
FX1	**Attu Island--F**	**12.11**	**278**	*e*Pn	**Pn**	**00 16 24.6**	**+0.4**
FX1	**Attu Island--F**	**12.11**	**278**	Pn	Pn	00 16 27.6	+3.4
	12nm,0.3s,baz=114,slow=1.7,SNR=52						
FX1				LR	LR	00 20 47.6	
	comp=Z,4μm,20.1s,baz=110,slow=36						
TNA	**Tin City**	**12.74**	**358**	*e*Pn	**Pn**	**00 16 35.2**	**+2.6**
	143nm,1.4s						
PMR	**Palmer**	**12.91**	**41**	*e*P	**Pn**	**00 16 34.9**	**-0.1**
PMR				pmax	pmax		
	comp=Z,116nm,1.4s						
PMR	**Palmer**	**12.91**	**41**	*e*Pn	**Pn**	**00 16 34.9**	**-0.1**
	comp=Z,116nm,1.4s						
DIV	**Divide**	**14.07**	**46**	*e*Pn	**Pn**	**00 16 48.5**	**-2.4**
RAGM	**Ragged Mountai**	**14.25**	**49**	*e*Pn	**Pn**	**00 16 51.9**	**-1.5**
MCK	**McKinley**	**14.30**	**34**	*e*P	**Pn**	**00 16 51.7**	**-2.4**
MCK	**McKinley**	**14.30**	**34**	*e*Pn	**Pn**	**00 16 51.7**	**-2.4**
BMRM	**Bremner River**	**14.51**	**47**	*e*Pn	Pn	00 16 53.8	-3.2
COLA	**College**	**15.42**	**31**	*e*P	**Pn**	**00 17 09.2**	**+0.3**
COLA	**College**	**15.42**	**31**	*e*Pn	**Pn**	**00 17 09.2**	**+0.3**
ILAR	**Eielson Array**	**15.66**	**33**	Pn	**Pn**	**00 17 10.5**	**-1.6**
ILAR				PcP	**PcP**	**00 22 10.8**	**-1.0**
ILAR				ScP	**ScP**	**00 25 44.1**	**0.0**
ILAR	**Eielson Array**	**15.66**	**33**	Pn	**Pn**	**00 17 10.5**	**-1.6**
	baz=236,slow=11,SNR=7.5						
ILAR				PcP	**PcP**	**00 22 10.8**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=285,slow=2.8,SNR=4.5						
ILAR				LR	LR	00 23 46.7	
	comp=Z,13μm,18.3s,baz=236,slow=39						
ILAR				ScP	**ScP**	**00 25 44.1**	**0.0**
	comp=Z,0.0nm,0.3s,baz=261,slow=3.3,SNR=5.0						
MENT	**Mentasta**	**15.77**	**41**	*e*Pn	**Pn**	**00 17 14.2**	**+0.6**
DOT	**Dot Lake**	**16.00**	**39**	*e*Pn	**Pn**	**00 17 16.7**	**+0.2**
	comp=Z,33nm,0.8s						
COLD	**Coldfoot**	**16.51**	**23**	*e*Pn	**Pn**	**00 17 23.6**	**+0.6**
	comp=Z,83nm,1.0s						
HYT	**Haines Junctio**	**17.75**	**52**	*e*Pn	**P**	**00 17 39.2**	**-0.1**
DAWY	**Dawson**	**18.01**	**41**	*e*Pn	**Pn**	**00 17 41.7**	**0.0**
SIT	**Sitka**	**18.44**	**64**	*e*P	**Pn**	**00 17 48.5**	**+1.5**
SIT				pmax	pmax		
	comp=Z,89nm,1.1s						
SIT	**Sitka**	**18.44**	**64**	*e*Pn	**Pn**	**00 17 48.5**	**+1.5**
	comp=Z,89nm,1.1s						
SKAG	**Skagway**	**18.58**	**57**	*e*Pn	**Pn**	**00 17 49.1**	**+0.4**
	comp=Z,64nm,0.9s						
CRAG	**Craig**	**19.77**	**69**	*e*P	**Pn**	**00 18 02.2**	**-0.7**
	comp=Z,155nm,0.8s						
WRAK	**Wrangell Islan**	**20.11**	**66**	*e*P	Pn	00 18 07.1	+0.1
	comp=Z,103nm,1.0s						
WRAK				LR	LR		
	comp=Z,4μm,21.0s						
H02S1	**DAWSON INLET T**	**20.52**	**75**	T	T	00 39 31.1	
	SNR=23						
PET	**Petropavlovsk**	**20.71**	**284**	*e*P	**P**	**00 18 12.3**	**+0.8**
PET				*e*S	**S**	**00 21 55.4**	**-6.0**
PET				pmax	pmax		
	comp=Z,600nm,15.0s						
PET				pmax	pmax		
	comp=Z,700nm,10.7s						
PET				MLR	MLR		
	comp=Z,3μm,17.0s						
PET				MLR	MLR		
	comp=Z,2μm,20.0s						
PEA0B	**Petropavlovsk-**	**21.25**	**285**	*e*P	**P**	**00 18 18.0**	**+0.7**
PETK	**Petropavlovsk-**	**21.25**	**285**	P	**P**	**00 18 17.7**	**+0.3**
PETK	**Petropavlovsk-**	**21.25**	**285**	P	**P**	**00 18 17.7**	**+0.3**
PETK	**Petropavlovsk-**	**21.25**	**285**	P	**P**	**00 18 17.7**	**+0.3**
	comp=Z,35nm,0.4s,baz=87,slow=12,SNR=46						
PETK				LR	LR	00 25 55.1	
	comp=Z,1μm,21.8s,baz=88,slow=35						
DLBC	**Dease Lake**	**21.27**	**60**	*e*P	**P**	**00 18 18.3**	**+0.6**
DLBC	**Dease Lake**	**21.27**	**60**	P	**P**	**00 18 19.1**	**+1.4**
	comp=Z,14nm,0.7s,baz=254,slow=14,SNR=6.8						
DLBC				LR	LR	00 26 23.1	
	comp=Z,4μm,20.2s,baz=54,slow=36						
INK	**Inuvik**	**22.06**	**33**	*e*P	**P**	**00 18 24.0**	**-2.0**
	comp=Z,41nm,0.7s						
INK				PcP	**PcP**	**00 22 23.1**	**+0.4**
INK	**Inuvik**	**22.06**	**33**	P	**P**	**00 18 23.1**	**-2.9**
	comp=Z,29nm,0.8s,baz=234,slow=11,SNR=28						
INK				PcP	**PcP**	**00 22 23.1**	**+0.4**
	comp=Z,10nm,0.8s,baz=331,slow=2.9,SNR=4.2						
INK				LR	LR	00 27 50.3	
	comp=Z,9μm,19.2s,baz=239,slow=39						
SKR	**Severo-Kuril's**	**22.89**	**279**	P	**P**	**00 18 31.5**	**-3.4**
SKR				*e*		00 22 48.0	
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR				MLR	MLR		
	comp=N,3μm,16.0s						
SKR				MLR	MLR		
	comp=E,3μm,16.0s						
SKR				MLR	MLR		
	comp=Z,3μm,16.0s						
BBB	**Bella Bella**	**23.35**	**76**	LR	LR	00 25 51.4	
	comp=Z,2μm,20.7s,baz=300,slow=32						
SEY	**Seymchan**	**23.50**	**311**	*i*P	**P**	**00 18 40.9**	**0.0**
MIDW	**Midway**	**25.86**	**202**	PFAKE		00 19 10.0	+7.2
MIDW				LR	LR		
	comp=Z,2μm,20.0s						
NLWA	**Neilton Lookou**	**27.73**	**84**	PFAKE		00 19 30.0	+10
NLWA				LR	LR		
	comp=Z,3μm,19.0s						
YKW3	**Yellowknife Ar**	**28.71**	**50**	*e*P	**P**	**00 19 28.5**	**+0.3**
	comp=Z,1.7nm,1.4s						
YKA	**Yellowknife Ar**	**28.72**	**50**	P	**P**	**00 19 28.6**	**+0.3**
YKA				PcP	**PcP**	**00 22 38.2**	**+0.3**
YKA	**Yellowknife Ar**	**28.72**	**50**	P	**P**	**00 19 28.5**	**+0.3**
	comp=Z,8.3nm,0.9s,baz=274,slow=11,SNR=15						
YKA				PcP	**PcP**	**00 22 38.2**	**+0.3**
	comp=Z,8.4nm,0.8s,baz=282,slow=2.4,SNR=9.8						
COR	**Corvallis**	**29.47**	**89**	*e*P	**P**	**00 19 34.3**	**-0.7**
COR	**Corvallis**	**29.47**	**89**	*e*P	**P**	**00 19 34.3**	**-0.7**
B08A	**Colville Reser**	**30.01**	**79**	*e*P	**P**	**00 19 41.0**	**+1.1**
	comp=Z,21nm,0.9s						
H04A	**Detroit Lake**	**30.09**	**88**	*e*P	**P**	**00 19 42.2**	**+1.5**
	comp=Z,59nm,0.8s						
KUR	**Kuril'sk**	**30.25**	**274**	*i*P	**P**	**00 19 39.1**	**-2.9**
KUR				*i*S	**S**	**00 24 44.0**	**+4.0**
KUR				pmax	pmax		
	comp=Z,49nm,1.3s						
KUR				pmax	pmax		
	comp=N,8.0nm,0.1s						
KUR				MLR	MLR		
	comp=E,629nm,17.0s						
HAWA	**Hanford**	**30.82**	**83**	*e*P	**P**	**00 19 46.8**	**-0.2**
	comp=E,79nm,1.8s						
HAWA				LR	LR		
	comp=Z,2μm,21.0s						
C09A	**Chrisman Ranch**	**30.89**	**80**	*e*P	**P**	**00 19 48.7**	**+1.0**
	comp=Z,31nm,1.4s						
NEW	**Newport**	**31.36**	**78**	*e*P	**P**	**00 19 52.4**	**+0.6**
	comp=Z,24nm,0.9s						
NEW				LR	LR		
	comp=Z,2μm,21.0s						
NEW	**Newport**	**31.36**	**78**	⇑P	**P**	**00 19 52.5**	**+

YAK pmax pmax
comp=E,9.0nm,1.1s
YAK pmax pmax
comp=Z,91nm,3.0s
YAK pmax pmax
comp=N,168nm,3.2s
YAK pmax pmax
comp=E,84nm,3.5s
YAK smax smax
comp=E,672nm,19.6s
YAK MLR MLR
comp=Z,3µm,17.0s
YAK MLR MLR
comp=N,2µm,20.0s
YAK MLR MLR
comp=E,2µm,17.0s

CHMT Chamberlain Mo 34.31 78 eP P 00 20 17.9 +0.1
PAHR Pah Rah Range 34.66 93 eP P 00 20 22.3 +1.5
comp=E,70nm,1.3s
CMB Columbia Colle 35.11 96 eP P 00 20 28.5 +3.9
CMB Columbia Colle 35.11 96 eP P 00 20 28.5 +3.9
RES Resolute Bay 35.23 26 P P 00 20 24.6 -0.6
RES PcP **PcP 00 22 55.8 +0.4**
RES Resolute Bay 35.23 26 P P 00 20 24.6 -0.6
comp=E,5.0nm,0.9s,baz=260,slow=8.5,SNR=7.7
RES PcP **PcP 00 22 55.8 +0.4**
comp=E,11nm,0.9s,baz=223,slow=5.6,SNR=4.6
HRY Holter Researc 35.26 77 eP P 00 20 29.4 +3.5
WAKR Walker 35.38 95 eP P 00 20 28.8 +1.6
HLID Hailey 35.40 84 PFAKE 00 20 40.0 +13
HLID LR LR
comp=Z,2µm,20.0s
HLID Hailey 35.40 84 ⇑P P 00 20 27.7 +0.5
baz=35,SNR=8.8
DLMT Dillon 35.50 80 eP P 00 20 28.6 +0.5
comp=Z,29nm,1.4s
BMN Battle Mountai 35.52 90 PFAKE 00 20 40.0 +12
BMN LR LR
comp=Z,2µm,20.0s
MCMT McKenzie Canyo 35.64 81 eP P 00 20 28.9 -0.4
comp=Z,10nm,1.0s
EGMT Eagleton 35.81 74 eP P 00 20 30.8 +0.2
comp=Z,110nm,0.9s
EGMT LR LR
comp=Z,2µm,19.0s
EGMT Eagleton 35.81 74 ⇓P P 00 20 30.8 +0.2
baz=36,SNR=15
A19A Klindworth Far 35.96 72 ⇓P P 00 20 32.2 +0.4
baz=36
B19A Brinkman Farms 36.07 73 ⇑P P 00 20 33.5 +0.7
baz=36
NVAR Mina Array Bea 36.12 94 P P 00 20 34.6 +1.2
NVAR PcP **PcP 00 22 57.4 -1.5**
NVAR Mina Array Bea 36.12 94 P P 00 20 34.6 +1.2
comp=Z,13nm,0.8s,baz=293,slow=8.6,SNR=49
NVAR PcP **PcP 00 22 57.4 -1.5**
comp=Z,2.5nm,0.8s,baz=316,slow=2.5,SNR=4.4
NVAR LR LR 00 33 09.9
comp=Z,1µm,18.7s,baz=220,slow=32
NV11 Mina Array Sit 36.20 94 eP P 00 20 33.6 -0.5
C19A Slack Wire Ran 36.37 74 ⇑P P 00 20 36.2 +0.8
baz=36,SNR=27
A20A Cobblestone Ra 36.45 72 ⇑P P 00 20 36.6 +0.5
baz=36
QLMT Earthquake Lak 36.49 80 eP P 00 20 37.7 +1.1
ELK Elko 36.54 88 eP P 00 20 38.0 +1.0
comp=Z,58nm,1.9s
B20A Solberg Farm, 36.62 73 ⇑P P 00 20 38.3 +0.9
baz=36
MTUM Tungsten Hills 36.65 95 eP P 00 20 39.7 +1.7
D19A Cripps Ranch, 36.76 75 ⇑P P 00 20 39.4 +0.7
baz=37,SNR=12
YMR Madison River 36.85 80 eP P 00 20 39.4 -0.3
comp=Z,29nm,0.8s
A21A Bergtoll Ranch 36.98 71 ⇓P P 00 20 41.7 +1.2
baz=37
C20A Veseth Ranch, 36.99 74 ⇑P P 00 20 41.5 +0.9
baz=37,SNR=11
TPH Tonopah 36.99 93 PFAKE 00 20 50.0 +9.0
TPH LR LR
comp=Z,1µm,19.0s
YNR Norris Junctio 37.00 80 eP P 00 20 40.7 -0.3
comp=Z,36nm,1.0s
GCMT Greycliff 37.02 77 eP P 00 20 40.7 -0.3
comp=Z,13nm,1.0s
TIN Tinemaha 37.05 95 ⇑P P 00 20 43.0 +1.7
baz=37
FFC Flin Flon 37.11 60 eP P 00 20 41.7 +0.2
FFC pmax pmax
comp=Z,478nm,2.5s
FFC MLR MLR
comp=Z,2µm,21.0s
FFC Flin Flon 37.11 60 eP P 00 20 41.7 +0.2
comp=Z,478nm,2.5s
FFC LR LR
comp=Z,2µm,21.0s
SMMC Simmler 37.15 99 ⇓P P 00 20 43.7 +1.7
baz=37
E19A Rath Farm, Rou 37.18 76 ⇑P P 00 20 43.0 +0.7
baz=37,SNR=8.2
B21A Ellsworth Farm 37.20 72 ⇑P P 00 20 43.2 +0.8
baz=37
D20A Manuel Ranch, 37.23 75 ⇓P P 00 20 43.6 +0.9
baz=37
LKWY Lake 37.25 80 PFAKE 00 21 00.0 +17
LKWY LR LR
comp=Z,1µm,19.0s
IMW Indian Meadow 37.30 81 eP P 00 20 43.4 -0.2
VES Vestal, Richgr 37.34 98 ⇑P P 00 20 44.7 +1.1
baz=37
RRI2 Red Ridge 37.38 82 eP P 00 20 45.5 +1.3
F19A Roth Farm, Mol 37.41 77 ⇓P P 00 20 44.9 +0.7
baz=37
HVU Hansel Valley 37.41 85 eP P 00 20 45.8 +1.4
HVU pmax pmax
comp=Z,18nm,1.0s
HVU Hansel Valley 37.41 85 eP P 00 20 45.8 +1.4
comp=Z,18nm,1.0s
C21A Desert Coulee 37.46 73 ⇓P P 00 20 45.3 +0.7
baz=37,SNR=7.7
MOOW Moose Ponds 37.50 81 eP P 00 20 40.4 -4.8
comp=Z,15nm,1.4s
TPAW Teton Pass 37.52 81 eP P 00 20 47.1 +1.7
comp=Z,14nm,1.0s
PKM Peak Mountain 37.54 100 ⇑P P 00 20 46.8 +1.2
baz=38
CWC Cottonwood Cre 37.54 96 ⇑P P 00 20 46.7 +1.2
baz=37
E20A Meyer Farm, Mu 37.54 76 ⇑P P 00 20 46.0 +0.6
baz=37,SNR=7.7
A22A Carney Farms, 37.55 71 ⇑P P 00 20 46.2 +0.8
baz=37
RLMT Red Lodge 37.61 78 eP P 00 20 44.8 -1.4
comp=Z,30nm,1.0s
RLMT LR LR
comp=Z,1µm,20.0s
H18A Shoshone NF, C 37.62 79 ⇓P P 00 20 46.8 +0.6
baz=38
REDW Red Top Meadow 37.65 82 eP P 00 20 47.6 +1.1
comp=Z,50nm,1.5s
BGU Big Grassy Mou 37.77 86 eP P 00 20 48.8 +1.4
comp=Z,17nm,1.0s
R11A Troy Canyon, C 37.81 92 eP P 00 20 48.5 +0.7
R11A Troy Canyon, C 37.81 92 ⇓P P 00 20 48.3 +0.4
baz=38,SNR=14
ISA Isabella 37.83 97 eP P 00 20 48.8 +1.0
ISA pmax pmax
comp=Z,10.0nm,0.9s
ISA Isabella 37.83 97 eP P 00 20 48.8 +1.0
comp=Z,10nm,0.9s
ISA Isabella 37.83 97 ⇑P P 00 20 48.9 +1.0
baz=38
AHID Auburn Hatcher 37.84 83 PFAKE 00 21 00.0 +12
AHID LR LR
comp=Z,1µm,19.0s
B22A Reddig Ranch S 37.85 72 ⇓P P 00 20 48.4 +0.5
baz=38
F20A Billings 37.91 76 ⇓P P 00 20 48.9 +0.4
baz=38
D21A La Casta Ranch 37.91 74 ⇑P P 00 20 48.7 +0.3
baz=38,SNR=6.9
SBC Santa Barbara 37.91 100 ⇓P P 00 20 49.7 +1.3
baz=38
ARVC Arvin 37.98 98 ⇑P P 00 20 49.8 +0.8
baz=38
H19A Powell 38.03 79 ⇓P P 00 20 50.5 +0.9
baz=38

MPMC Manual Prospec 38.15 96 ⇓P P 00 20 51.5 +0.7
baz=38,SNR=7.6
A23A Redstone 38.16 70 ⇑P P 00 20 51.1 +0.6
baz=38
G20A Bridger 38.18 77 ⇑P P 00 20 51.0 +0.2
baz=38,SNR=14
C22A Vida 38.20 72 ⇓P P 00 20 51.4 +0.5
baz=38
FURC Furnace Creek, 38.26 95 ⇑P P 00 20 52.8 +1.5
baz=38
DUG Dugway 38.34 87 eP P 00 20 52.6 +0.4
DUG pmax pmax
comp=Z,29nm,1.2s
DUG MLR MLR
comp=Z,1µm,20.0s
DUG Dugway 38.34 87 eP P 00 20 52.6 +0.4
comp=Z,29nm,1.2s
DUG LR LR
comp=Z,1µm,20.0s
DUG Dugway 38.34 87 ⇑P P 00 20 52.9 +0.7
baz=38,SNR=6.4
D22A Cohagen 38.34 73 ⇓P P 00 20 52.7 +0.6
baz=38,SNR=12
B23A Brockton 38.35 71 ⇓P P 00 20 52.3 +0.2
baz=38,SNR=12
I19A Meeteetse 38.38 79 ⇓P P 00 20 53.3 +0.7
baz=38
F21A Absaloka Mine, 38.50 76 ⇓P P 00 20 53.2 -0.3
baz=38,SNR=5.4
LAO LASA Array 38.56 74 eP P 00 20 53.4 -0.5
comp=Z,402nm,2.4s
LAO LR LR
comp=Z,2µm,20.0s
C23A Lambert 38.58 72 ⇓P P 00 20 54.3 +0.3
baz=38,SNR=18
EDW2 Edwards Air Fo 38.65 98 ⇓P P 00 20 55.8 +1.1
baz=38
A24A Westby 38.68 70 ⇓P P 00 20 55.1 +0.3
baz=38,SNR=15
H20A Greybull 38.72 78 ⇑P P 00 20 55.6 +0.3
baz=39
BW06 Boulder Array 38.77 81 eP P 00 20 55.5 -0.5
comp=Z,16nm,1.0s
BW06 LR LR
comp=Z,2µm,21.0s
PDAR Pinedale Array 38.77 81 P P 00 20 55.8 -0.1
PDAR ScP **S 00 26 51.5 -0.3**
PDAR Pinedale Array 38.77 81 P P 00 20 55.8 -0.1
comp=Z,14nm,0.9s,baz=304,slow=4.2,SNR=75
PDAR ScP **S 00 26 51.5 -0.3**
comp=Z,1.3nm,1.0s,baz=288,slow=1.4,SNR=5.2
PDAR LR LR 00 35 12.0
comp=Z,872nm,19.2s,baz=316,slow=34
G21A Lodge Grass 38.78 77 ⇑P P 00 20 55.9 +0.1
baz=39,SNR=6.7
J19A Crowheart 38.78 80 ⇓P P 00 20 56.7 +0.8
baz=39
DGMT Dagmar 38.80 71 eP P 00 20 56.6 +0.7
comp=Z,342nm,2.2s
DGMT LR LR
comp=Z,3µm,20.0s
DGMT Dagmar 38.80 71 ⇑P P 00 20 56.3 +0.5
baz=39
E22A Miles City 38.85 74 ⇓P P 00 20 56.8 +0.4
baz=39
H11N2 WAKE ISLAND Hy 38.86 222 T T 01 02 35.3
baz=27,slow=0.7,SNR=2499
H11N3 WAKE ISLAND Hy 38.86 222 T T 01 02 35.8
baz=27,slow=0.7,SNR=2509
M17A Scullys Gap (B 38.86 84 ⇑P P 00 20 57.1 +0.4
baz=39
H11N1 WAKE ISLAND Hy 38.87 222 T T 01 02 40.6
baz=27,slow=0.7,SNR=1512
D23A Lindsay 38.90 73 ⇑P P 00 20 56.2 -0.5
baz=39,SNR=6.6
JLU Jordanelle 38.92 86 eP P 00 20 58.0 +0.9
comp=Z,85nm,2.1s
NLU North Lily Min 38.93 87 eP P 00 20 58.7 +1.4
comp=Z,81nm,2.0s
I20A Worland 38.94 79 ⇓P P 00 20 57.5 +0.3
baz=39,SNR=10
L18A Fontenelle, Gr 38.98 83 ⇑P P 00 20 57.8 +0.2
baz=39,SNR=6.4
SHOC Shoshone 38.99 95 ⇑P P 00 20 58.7 +1.2
baz=39
F22A Rosebud 39.03 75 ⇑P P 00 20 58.1 +0.2
baz=39,SNR=5.6
GSC Goldstone 39.07 96 ⇑P P 00 20 59.0 +0.6
baz=39,SNR=8.6
DAU Daniels Canyon 39.15 86 eP P 00 21 00.4 +1.2
DAU Daniels Canyon 39.15 86 eP P 00 21 00.4 +1.2
C24A Savage 39.16 72 ⇑P P 00 20 59.6 +0.7
baz=39
E23A Ismay 39.20 74 ⇑P P 00 20 59.9 +0.6
baz=39
H21A Big Horn, Sher 39.21 77 ⇓P P 00 21 00.2 +0.7
baz=39
SHPR Sheep Range 39.26 94 eP P 00 21 02.5 +2.5
L19A Farson 39.28 82 ⇑P P 00 21 00.3 +0.2
baz=39,SNR=7.7
BFSC Mount Baldy Ra 39.28 98 ⇑P P 00 21 01.2 +1.0
baz=39
J20A Shoshoni 39.31 80 ⇑P P 00 21 00.8 +0.5
baz=39,SNR=6.6
G22A Birney 39.32 76 ⇑P P 00 21 00.7 +0.4
baz=39
WAKE Wake Island 39.36 222 PFAKE 00 21 10.0 +9.3
WAKE LR LR
comp=Z,2µm,21.0s
FCC Fort Churchill 39.40 52 eP P 00 21 01.2 +0.6
FCC Fort Churchill 39.40 52 eP P 00 21 01.2 +0.6
D24A Glendive 39.43 72 ⇓P P 00 21 02.2 +1.0
baz=39,SNR=5.9
ARUT Antelope Range 39.47 91 eP P 00 21 01.2 -0.5
ARUT pmax pmax
comp=Z,194nm,0.9s
ARUT Antelope Range 39.47 91 eP P 00 21 01.2 -0.5
comp=Z,194nm,0.9s
B25A Knox Farm, Ray 39.49 70 ⇑P P 00 21 01.9 +0.2
baz=39
TUQ Turquoise Moun 39.51 95 ⇓P P 00 21 02.9 +0.8
baz=39
I21A Big Trails, Te 39.52 79 ⇓P P 00 21 01.9 -0.2
baz=39,SNR=7.1
F23A Volborg 39.56 75 ⇑P P 00 21 02.4 +0.1
baz=39,SNR=9.8
H22A Clearmont 39.63 77 ⇑P P 00 21 03.2 +0.2
baz=40
CCUT Cedar City 39.67 91 eP P 00 21 04.9 +1.4
comp=Z,58nm,1.9s
HEC Hector,Ludlow 39.68 96 ⇑P P 00 21 03.7 +0.3
baz=40,SNR=5.7
J21A Lysite 39.70 79 ⇑P P 00 21 03.3 -0.3
baz=40,SNR=5.9
C25A Freed Ranch, W 39.73 71 ⇓P P 00 21 04.5 +0.8
baz=40
E24A Baker 39.74 73 ⇑P P 00 21 04.4 +0.6
baz=40
MVU Marysvale 39.76 89 eP P 00 21 08.0 +3.7
MVU LR LR
comp=Z,2µm,19.0s
A26A Wade Farm, Ken 39.81 69 ⇓P P 00 21 04.0 -0.2
baz=40,SNR=13
G23A Biddle 39.86 76 ⇓P P 00 21 05.4 +0.6
baz=40
TMUT Trail Mountain 39.87 87 eP P 00 21 06.8 +1.6
comp=Z,30nm,0.9s
L20A Wamsutter 39.95 82 ⇓P P 00 21 05.4 -0.3
baz=40,SNR=5.7
I22A 9 Mile Ranch, 39.95 78 ⇑P P 00 21 06.9 +1.2
baz=40
B26A Jensen Ranch, 39.97 70 ⇓P P 00 21 06.5 +0.9
baz=40
D25A Fairfield 40.00 72 ⇓P P 00 21 06.4 +0.6
baz=40
MURC Murrieta 40.00 99 ⇓P P 00 21 07.7 +1.7
baz=40
H11S1 WAKE ISLAND Hy 40.04 221 T T 01 04 03.4
baz=25,slow=0.7,SNR=3788
H11S2 WAKE ISLAND Hy 40.05 221 T T 01 04 02.1
baz=25,slow=0.7,SNR=2999
H11S3 WAKE ISLAND Hy 40.05 221 T T 01 04 04.6
baz=25,slow=0.7,SNR=1471
F24A Ekalaka 40.05 74 ⇓P P 00 21 06.9 +0.5
baz=40
GMRC Granite Mounta 40.12 96 ⇓P P 00 21 07.9 +0.8
baz=40
Q16A Castle Valley 40.13 87 ⇓P P 00 21 07.9 +0.7

K21A Alcova 40.23 80 ⇑P P 00 21 07.7 -0.3
baz=40,SNR=18
A27A Ledoux Ranch, 40.23 68 ⇓P P 00 21 08.4 +0.7
baz=40
J22A Midwest 40.23 79 ⇑P P 00 21 07.9 0.0
baz=40,SNR=20
E25A Miller Ranch, 40.30 73 ⇑P P 00 21 08.6 +0.2
baz=40
USRK Ussuriysk Arra 40.32 283 P P 00 21 07.2 -1.2
comp=Z,1.6nm,0.4s,baz=55,slow=7.8,SNR=5.0
USRK PcP **PcP 00 23 13.2 +1.6**
comp=Z,2.5nm,0.7s,baz=64,slow=3.4,SNR=4.1
USRK LR LR 00 38 32.0
comp=Z,1µm,18.8s,baz=48,slow=37
C26A Wahner Farm, P 40.34 70 ⇑P P 00 21 09.1 +0.4
baz=40
M20A Sweetwater, Wa 40.34 82 ⇓P P 00 21 09.1 +0.1
baz=40,SNR=5.7
G24A Alzada 40.36 75 ⇓P P 00 21 09.3 +0.3
baz=40
SRU San Rafael 40.40 87 eP P 00 21 05.3 -4.2
SRU pmax pmax
comp=Z,148nm,2.1s
SRU San Rafael 40.40 87 eP P 00 21 05.3 -4.2
comp=Z,148nm,2.1s
PFO Pinyon Flat Ob 40.44 98 eP P 00 21 10.2 +0.4
comp=Z,11nm,1.0s
PFO LR LR
comp=Z,2µm,20.0s
PFO Pinyon Flat Ob 40.44 98 ⇓P P 00 21 10.4 +0.6
baz=40
PFO Pinyon Flat Ob 40.44 98 P P 00 21 09.8 0.0
comp=Z,2.8nm,0.8s,baz=328,slow=3.7,SNR=6.6
BELC Belle Mtn. Jos 40.45 97 ⇑P P 00 21 10.7 +0.8
baz=40
B27A Peters Farms, 40.51 69 ⇑P P 00 21 10.8 +0.8
baz=40
O19A Miners Draw (B 40.51 84 ⇓P P 00 21 10.4 +0.1
baz=40,SNR=12
D26A Manning 40.57 71 ⇑P P 00 21 10.9 +0.3
baz=40
F25A Bowman 40.59 73 ⇑P P 00 21 11.1 +0.3
baz=40
H24A Dirks Ranch, A 40.61 76 ⇓P P 00 21 11.2 +0.2
baz=40
K22A Casper 40.65 80 ⇑P P 00 21 11.3 -0.1
baz=40,SNR=6.9
N20A Spence Gulch, 40.70 83 ⇓P P 00 21 12.1 +0.2
baz=40,SNR=12
C27A Sayler Ranch, 40.73 70 ⇑P P 00 21 12.0 +0.1
baz=41
J23A Dilts Ranch, B 40.79 78 ⇓P P 00 21 13.7 +1.1
baz=41
A28A Rude Farm, Bot 40.80 68 ⇑P P 00 21 12.3 -0.2
baz=41,SNR=6.2
IRM Iron Mountain 40.85 96 ⇓P P 00 21 13.5 +0.5
baz=41,SNR=7.6
E26A Carlson Angus 40.86 72 ⇓P P 00 21 13.0 0.0
baz=41,SNR=5.7
BAR Barrett 40.96 99 eP P 00 21 13.7 -0.3
comp=Z,28nm,1.3s
MONP Monument Peak 40.96 99 ⇓P P 00 21 15.0 +0.8
baz=41
W13A Hualapai Mount 40.97 94 ⇓P P 00 21 14.6 +0.3
baz=41,SNR=7.8
B28A Dugan Ranch, T 40.99 68 ⇓P P 00 21 14.4 +0.4
baz=41
P19A Cripple Cowboy 41.00 85 ⇑P P 00 21 14.6 +0.1
baz=41,SNR=13
BC3 Big Chuckawall 41.01 97 ⇓P P 00 21 14.7 +0.2
baz=41
G25A Newell 41.02 74 ⇓P P 00 21 14.6 +0.2
baz=41
U15A North Rim 41.05 91 ⇑P P 00 21 15.3 +0.3
baz=41,SNR=8.0
I24A Kuemmerle Ranc 41.07 77 ⇓P P 00 21 14.3 -0.5
baz=41
L22A Ellis Ranch, M 41.07 80 ⇑P P 00 21 14.9 -0.1
baz=41,SNR=8.8
F26A Lodgepole 41.08 73 ⇑P P 00 21 15.1 +0.2
baz=41
K23A Bowen Ranch, D 41.12 79 ⇑P P 00 21 15.6 +0.2
baz=41
O20A White River Ci 41.14 84 ⇓P P 00 21 15.7 +0.2
baz=41,SNR=20
H25A Fruitdale 41.24 75 ⇓P P 00 21 16.0 -0.1
baz=41
RSSD Black Hills 41.27 76 eP P 00 21 16.0 -0.6
RSSD pmax pmax
comp=Z,254nm,1.8s
RSSD Black Hills 41.27 76 eP P 00 21 16.0 -0.6
comp=Z,254nm,1.8s
MAJO Matsushiro 41.28 269 eP P 00 21 16.9 +0.4
MAJO MLR MLR
comp=Z,980nm,20.0s
MAJO Matsushiro 41.28 269 eP P 00 21 16.9 +0.4
MAJO LR LR
comp=Z,980nm,20.0s
MAT Matsushiro 41.28 269 P P 00 21 17.3 +0.8
MAT S **S 00 27 32.4 +3.3**
SWSC Sam W. Stewart 41.30 98 ⇑P P 00 21 17.9 +1.2
baz=41
DVTC Desert V Tower 41.32 99 ⇓P P 00 21 18.0 +1.1
baz=41
M22A Cedar Creek Ra 41.35 81 ⇑P P 00 21 17.2 -0.2
baz=41,SNR=9.0
J24A Dixon Ranch, L 41.36 77 ⇑P P 00 21 17.2 0.0
baz=41
PDMCI Parker Dam,Lak 41.36 95 ⇓P P 00 21 17.7 +0.6
baz=41
C28A Hausauer Farms 41.37 69 ⇑P P 00 21 17.1 -0.1
baz=41
A29A Manning Farm, 41.37 67 ⇑P P 00 21 17.3 +0.1
baz=41
E27A Carson 41.40 72 ⇑P P 00 21 17.5 +0.1
baz=41
G26A Maurine 41.44 74 ⇑P P 00 21 18.1 +0.3
baz=41
P20A De Beque 41.44 85 ⇓P P 00 21 17.9 -0.2
baz=41,SNR=13
F27A Lemmon 41.45 73 ⇓P P 00 21 18.1 +0.2
baz=41
L23A Garrett 41.46 80 ⇓P P 00 21 17.8 -0.4
baz=41,SNR=13
MDJ Mudanjiang 41.49 285 P P 00 21 18.4 +0.3
MDJ pP **pP 00 21 24.1 -1.4**
MDJ sP **sP 00 21 27.1 -1.3**
MDJ PP **PP 00 22 53.4 -0.5**
MDJ sS **sS 00 27 43.5 -0.5**
MDJ AMB AMB
comp=Z,9.0nm,0.9s
MDJ AMB AMB
comp=Z,150nm,7.7s
MDJ LR LR
comp=Z,930nm,14.2s
MDJ LR LR
comp=Z,1µm,16.2s
MDJ LR LR
comp=Z,2µm,18.2s
MDJ Mudanjiang 41.49 285 PFAKE 00 21 30.0 +12
MDJ LR LR
comp=Z,2µm,20.0s
Y12C Blythe 41.51 96 ⇑P P 00 21 19.1 +0.7
baz=41,SNR=6.1
B29A Wagenman Farm, 41.55 68 ⇑P P 00 21 18.9 +0.3
baz=41
D28A Regan 41.55 70 ⇑P P 00 21 19.3 +0.7
baz=41
O21A Pagoda 41.55 83 ⇑P P 00 21 19.0 0.0
baz=41,SNR=9.8
PV09 Paradox Valley 41.62 86 eP P 00 21 22.3 +2.6
H26A Fairpoint 41.72 75 ⇑P P 00 21 19.9 -0.3
baz=42
MDND Maddock 41.74 69 eP P 00 21 21.0 +0.8
comp=Z,158nm,1.0s
MDND Maddock 41.74 69 ⇑P P 00 21 20.2 0.0
baz=42,SNR=6.9
G27A Dupree 41.78 73 ⇑P P 00 21 20.5 -0.1
baz=42,SNR=5.6
N22A Wattenberg Ran 41.80 82 ⇑P P 00 21 20.9 -0.2
baz=42,SNR=10
GLA Glamis 41.81 97 eP P 00 21 25.6 +4.7
GLA Glamis 41.81 97 eP P 00 21 25.6 +4.7
GLA Glamis 41.81 97 ⇑P P 00 21 21.9 +0.9
baz=42
E28A Huff 41.82 71 ⇓P P 00 21 21.2 +0.3
baz=42

J25A **Sunshine Ranch** 41.83 77 ⇑P P 00 21 20.8 -0.3
baz=42
PV04 **Paradox Valley** 41.83 86 *eP* P 00 21 21.6 +0.3
Q20A **Ridgley Place,** 41.84 85 ⇓P P 00 21 21.0 -0.3
baz=42,SNR=7.8
A30A **Hoffart Farm,** 41.88 67 ⇑P P 00 21 21.2 -0.1
baz=42
PV05 **Paradox Valley** 41.91 87 *eP* P 00 21 22.4 +0.5
L24A **Wheatland** 41.96 79 ⇓P P 00 21 22.3 +0.1
baz=42
P21A **Newcastle** 41.99 84 ⇑P P 00 21 22.7 +0.1
baz=42,SNR=15
N23A **Red Feather La** 42.05 81 ⇓P P 00 21 23.3 +0.2
baz=42,SNR=8.9
B30A **Myrvik Farm, E** 42.13 67 ⇑P P 00 21 23.2 -0.2
baz=42,SNR=5.8
O22A **Kremmling** 42.14 83 ⇓P P 00 21 23.7 -0.2
baz=42,SNR=7.6
F28A **McLaughlin** 42.17 72 ⇑P P 00 21 24.0 +0.3
baz=42
PV01 **Paradox Valley** 42.20 86 *eP* P 00 21 24.3 0.0
comp=Z,3µm,0.8s
WUAZ **Wupatki** 42.21 92 *eP* P 00 21 23.5 -0.9
comp=Z,16nm,1.0s
WUAZ LR LR
comp=Z,2µm,19.0s
WUAZ **Wupatki** 42.21 92 ⇑P P 00 21 24.8 +0.4
baz=42,SNR=7.0
R20A **Redvale** 42.28 86 ⇑P P 00 21 25.0 +0.1
baz=42
Y14A **Wickenburg** 42.29 95 ⇑P P 00 21 25.5 +0.6
baz=42
Q21A **Lamborn Mesa,** 42.35 85 ⇓P P 00 21 25.6 +0.1
baz=42
M24A **Cheyenne** 42.37 80 ⇑P P 00 21 25.8 +0.2
baz=42
E29A **Napoleon** 42.43 70 ⇓P P 00 21 25.7 -0.1
baz=42
C30A **Mose, Pekin** 42.45 68 ⇑P P 00 21 26.2 +0.1
baz=42
L25A **Engebretsen Ra** 42.47 78 ⇓P P 00 21 26.4 +0.1
baz=42
O23A **Lake Granby, G** 42.49 82 ⇓P P 00 21 27.2 +0.5
baz=42,SNR=16
SMCO **Snowmass** 42.50 84 *eP* P 00 21 26.8 -0.2
ULM **Lac du Bonnet** 42.52 64 *eP* P 00 21 25.7 -0.8
comp=Z,17nm,0.9s
ULM *ePcP* PcP 00 23 18.3 -0.4
ULM **Lac du Bonnet** 42.52 64 P P 00 21 26.0 -0.5
comp=Z,19nm,1.0s,baz=303,slow=8.3,SNR=17
ULM PcP PcP 00 23 18.2 -0.4
comp=Z,6.4nm,0.8s,baz=288,slow=4.5,SNR=3.0
ULM LR LR 00 38 56.0
comp=Z,2µm,21.2s,baz=92,slow=36
G28A **Parade** 42.54 73 ⇓P P 00 21 26.7 0.0
baz=42
K26A **Motz Farm, Whi** 42.61 77 ⇑P P 00 21 27.8 +0.4
baz=42
D30A **Buchanan** 42.63 69 ⇓P P 00 21 27.3 -0.1
baz=42,SNR=12
R21A **Cimarron** 42.66 85 ⇑P P 00 21 28.4 +0.3
baz=42,SNR=7.6
H28A **Mission Ridge** 42.71 74 ⇓P P 00 21 28.5 +0.4
baz=42
Z14A **Wintersburg** 42.73 95 ⇓P P 00 21 29.1 +0.8
baz=43
N24A **Carr** 42.73 81 ⇓P P 00 21 28.9 +0.4
baz=43
F29A **Eureka** 42.73 71 ⇓P P 00 21 28.8 +0.4
baz=43
Q22A **Crested Butte,** 42.74 84 ⇑P P 00 21 29.1 +0.3
baz=43
MVCO **Mesa Verde** 42.84 87 *eP* P 00 21 29.6 +0.1
comp=Z,15nm,0.9s
MVCO LR LR
comp=Z,1µm,21.0s
MVCO **Mesa Verde** 42.84 87 ⇑P P 00 21 29.6 +0.1
baz=43
M25A **Palm-Egli Farm** 42.85 79 ⇑P P 00 21 30.1 +0.6
baz=43
E30A **Jud** 42.88 70 ⇑P P 00 21 29.4 -0.1
baz=43
X16A **Lo Mia Camp, P** 42.91 93 ⇑P P 00 21 30.8 +0.7
baz=43
ISCO **Idaho Springs** 42.93 82 *eP* P 00 21 32.1 +1.8
ISCO pmax pmax
comp=Z,11nm,1.0s
ISCO MLR MLR
comp=Z,2µm,20.0s
ISCO **Idaho Springs** 42.93 82 *eP* P 00 21 32.0 +1.8
comp=Z,11nm,1.0s
ISCO LR LR
comp=Z,2µm,20.0s
ISCO **Idaho Springs** 42.93 82 ⇓P P 00 21 30.7 +0.4
baz=43
S21A **Coal Bank Pass** 42.97 86 ⇑P P 00 21 31.0 +0.3
baz=43,SNR=14
I28A **Midland** 43.02 74 ⇓P P 00 21 30.5 -0.1
baz=43,SNR=6.4
P23A **Jefferson** 43.06 83 ⇑P P 00 21 31.7 +0.3
baz=43,SNR=14
H29A **Onida** 43.21 73 ⇓P P 00 21 31.9 -0.3
baz=43,SNR=9.8
J28A **Allard Ranch,** 43.32 75 ⇑P P 00 21 33.6 +0.5
baz=43
Q23A **Hartsel** 43.36 83 ⇑P P 00 21 34.5 +0.7
baz=43
S22A **4UR Ranch, Cre** 43.50 86 ⇓P P 00 21 35.2 +0.3
baz=43,SNR=8.8
I29A **Vivian Onida** 43.51 74 ⇓P P 00 21 34.9 +0.2
baz=43
G30A **Faulkton** 43.53 72 ⇑P P 00 21 34.3 -0.4
baz=43,SNR=11
T21A **Navajo Lake** 43.56 87 ⇓P P 00 21 36.5 +1.1
baz=43
AGMN **Agassiz Nation** 43.59 66 *eP* P 00 21 34.8 -0.3
comp=Z,29nm,0.8s
AGMN LR LR
comp=Z,2µm,20.0s
O25A **Wiggins** 43.63 81 ⇑P P 00 21 36.4 +0.7
baz=44
K28A **Ten Mile Ranch** 43.67 76 ⇑P P 00 21 36.6 +0.6
baz=44
Q24A **Divide** 43.73 83 ⇑P P 00 21 37.7 +0.9
baz=44
X18A **Snowflake** 43.74 91 ⇑P P 00 21 37.3 +0.6
baz=44
M27A **Reverse DX Ran** 43.78 78 ⇑P P 00 21 37.3 +0.4
baz=44
V20A **Brimhall** 43.79 89 ⇑P P 00 21 37.7 +0.6
baz=44
214A **Organ Pipe Nat** 43.79 97 ⇑P P 00 21 37.4 +0.4
baz=44
R23A **Moffat** 43.82 84 ⇓P P 00 21 37.8 +0.3
baz=44
U21A **Nageezi** 43.86 88 ⇑P P 00 21 38.4 +0.7
baz=44,SNR=38
J29A **Okreek** 43.86 75 ⇓P P 00 21 37.5 0.0
baz=44,SNR=7.9
T22A **Edith** 43.93 86 ⇑P P 00 21 38.9 +0.6
baz=44,SNR=11
P25A **Willow Gulch B** 43.98 82 ⇓P P 00 21 39.1 +0.5
baz=44,SNR=8.7
O26A **Horse Wrangler** 44.03 80 ⇑P P 00 21 39.4 +0.4
baz=44
BRSD **Miller** 44.04 73 *eP* P 00 21 38.8 -0.1
comp=Z,112nm,1.0s
BRSD **Miller** 44.04 73 ⇑P P 00 21 39.2 +0.3
baz=44
N27A **Anderson Farm,** 44.14 79 ⇑P P 00 21 40.6 +0.8
baz=44
W20A **Ramah** 44.22 90 ⇓P P 00 21 41.2 +0.6
baz=44
R24A **Sanders Place,** 44.23 84 ⇑P P 00 21 41.0 +0.3
baz=44,SNR=8.5
K29A **Lazy Trails An** 44.26 75 ⇑P P 00 21 41.1 +0.5
baz=44
V21A **Milan** 44.28 88 ⇓P P 00 21 41.7 +0.5
baz=44
SDCO **Great Sand Dun** 44.30 85 *eP* P 00 21 40.9 -0.4
comp=Z,14nm,1.0s
SDCO LR LR
comp=Z,1µm,19.0s
Q25A **Bedland, Calha** 44.31 82 ⇓P P 00 21 41.6 +0.3
baz=44,SNR=5.9
OGNE **Ogallala** 44.35 79 PFAKE 00 21 50.0 +8.5
OGNE LR LR
comp=Z,1µm,19.0s

U22A **Llaves** 44.38 87 ⇑P P 00 21 42.3 +0.4
baz=44,SNR=10
CN2 **Changchun** 44.38 287 ⇑P P 00 21 41.0 -0.5
CN2 *ePP* pP 00 21 49.3 +0.4
CN2 *eS* S 00 28 12.4 -2.0
CN2 AMB AMB
comp=Z,20nm,0.7s
CN2 LR LR
comp=Z,1µm,17.0s
CN2 LR LR
comp=Z,2µm,17.0s
CN2 LR LR
comp=Z,2µm,18.0s
J30A **Dallas** 44.40 74 ⇓P P 00 21 41.7 -0.1
baz=44,SNR=8.0
P26A **Davis Ranch, A** 44.44 81 ⇑P P 00 21 42.7 +0.4
baz=44,SNR=7.4
HIA **Hailar** 44.44 296 PFAKE 00 21 50.0 +8.0
HIA LR LR
comp=Z,2µm,19.0s
T23A **Casias Ranch,** 44.44 86 ⇓P P 00 21 42.9 +0.4
baz=44
M28A **Bar X Bar Ranc** 44.47 78 ⇓P P 00 21 42.7 +0.3
baz=44
S24A **Houchin Ranch,** 44.55 84 ⇓P P 00 21 43.8 +0.5
baz=44,SNR=11
O27A **Beecher Island** 44.56 80 ⇓P P 00 21 43.5 +0.3
baz=44
X20A **Quemado** 44.61 90 ⇑P P 00 21 44.4 +0.6
baz=44,SNR=11
V22A **San Miguel Ran** 44.65 88 ⇓P P 00 21 44.5 +0.4
baz=44
K30A **Basset** 44.72 75 ⇓P P 00 21 44.6 +0.2
baz=44
Q26A **Hugo** 44.74 82 ⇑P P 00 21 45.1 +0.4
baz=45
TUC **Tucson** 44.76 94 *eP* P 00 21 45.2 +0.3
TUC MLR MLR
comp=Z,977nm,20.0s
TUC **Tucson** 44.76 94 *eP* P 00 21 45.1 +0.3
TUC LR LR
comp=Z,977nm,20.0s
R25A **Fountain Ranch** 44.78 83 ⇑P P 00 21 45.4 +0.5
baz=45
U23A **El Rito** 44.81 87 ⇓P P 00 21 46.1 +0.7
baz=45,SNR=18
T24B **San Luis** 44.82 85 ⇓P P 00 21 45.9 +0.4
baz=45,SNR=5.2
M29A **Burnside Ranch** 44.84 77 ⇓P P 00 21 45.7 +0.4
baz=45
P27A **Ficken Ranch,** 44.90 80 ⇓P P 00 21 46.6 +0.7
baz=45
S25A **Robets Cordova** 45.00 84 ⇑P P 00 21 47.1 +0.3
baz=45,SNR=11
O28A **Krutsinger Ran** 45.02 79 ⇑P P 00 21 47.2 +0.4
baz=45
X21A **Alamocita Cree** 45.11 90 ⇓P P 00 21 48.6 +0.9
baz=45,SNR=18
Y20A **Horse Springs,** 45.12 91 ⇓P P 00 21 48.6 +0.8
baz=45,SNR=9.0
R26A **Arlington** 45.18 82 ⇑P P 00 21 48.4 +0.2
baz=45,SNR=11
V23A **Ortiz Mt. (NFS** 45.20 87 ⇑P P 00 21 49.3 +0.8
baz=45,SNR=7.0
KSCO **Kaye Shedlock'** 45.22 81 ⇑P P 00 21 49.0 +0.6
baz=45
M30A **Dale-Ortello V** 45.27 76 ⇑P P 00 21 49.5 +0.8
baz=45
U24A **Moreno Valley** 45.31 86 ⇑P P 00 21 50.2 +0.8
baz=45
T25A **Trinidad** 45.36 84 ⇓P P 00 21 50.1 +0.4
baz=45,SNR=18
P28A **Saint Francis** 45.38 80 ⇑P P 00 21 49.5 -0.2
baz=45
Y21A **Point of Rocks** 45.47 90 ⇑P P 00 21 51.2 +0.6
baz=45,SNR=8.5
L31A **Butterfield Fa** 45.48 75 ⇓P P 00 21 50.5 +0.1
baz=45
LAZ **Ladron** 45.53 89 *eP* P 00 21 51.0 0.0
comp=Z,8.1nm,1.0s
Z20A **Nine Sixteen R** 45.53 92 ⇓P P 00 21 51.5 +0.5
baz=45
X22A **Bernardo** 45.54 89 ⇑P P 00 21 52.0 +0.9
baz=45
ANMO **Albuquerque** 45.58 88 *eP* P 00 21 50.6 -0.8
comp=Z,14nm,1.2s
ANMO *ePcP* PcP 00 23 29.2 -0.4
ANMO ScP ScP 00 27 20.6 -0.1
ANMO LR LR
comp=Z,1µm,20.0s
ANMO **Albuquerque** 45.58 88 P P 00 21 51.1 -0.3
comp=Z,1.6nm,0.7s,baz=327,slow=11,SNR=5.4
ANMO PcP PcP 00 23 29.9 +0.3
comp=Z,8.9nm,1.0s,baz=307,slow=2.4,SNR=6.2
ANMO ScP ScP 00 27 20.6 -0.1
comp=Z,2.7nm,1.1s,baz=280,slow=4.0,SNR=3.2
R27A **Eads** 45.58 82 ⇓P P 00 21 51.4 +0.1
baz=45,SNR=9.4
O29A **4D Ranch, Culb** 45.60 79 ⇑P P 00 21 51.6 +0.2
baz=45
S26A **Kim** 45.61 83 ⇑P P 00 21 51.5 0.0
baz=46,SNR=17
W23A **Werner Place,** 45.62 88 ⇓P P 00 21 52.0 +0.2
baz=46,SNR=5.9
V24A **Rampart Ranch,** 45.77 87 ⇓P P 00 21 53.3 +0.3
baz=46,SNR=7.3
LENM **Lemitar** 45.79 89 *eP* P 00 21 54.2 +1.1
ECSD **EROS Data Cent** 45.82 72 *eP* P 00 21 51.7 -1.4
comp=Z,30nm,0.9s
ECSD LR LR
comp=Z,2µm,21.0s
T26A **Comanche Natio** 45.83 84 ⇓P P 00 21 52.9 -0.4
baz=46,SNR=9.7
U25A **Circle Dot Ran** 45.84 85 ⇑P P 00 21 53.7 +0.2
baz=46,SNR=22
P29A **Atwood** 45.85 79 ⇓P P 00 21 53.3 -0.1
baz=46
LPM **Los Pinos Moun** 45.90 89 *eP* P 00 21 54.5 +0.5
120A **U Bar Ranch, L** 45.90 92 ⇑P P 00 21 54.7 +0.8
baz=46
Y22A **Socorro** 45.95 90 ⇓P P 00 21 55.1 +0.7
baz=46,SNR=11
Z21A **St. Cloud Mine** 45.95 91 ⇓P P 00 21 55.1 +0.7
baz=46,SNR=11
X23A **Hourglass Bar** 45.98 88 ⇓P P 00 21 55.0 +0.3
baz=46,SNR=5.9
O30A **MW Ranch, Wils** 46.01 78 ⇑P P 00 21 55.3 +0.7
baz=46
W24A **Lazy 6 Ranch,** 46.03 87 ⇑P P 00 21 55.3 +0.2
baz=46,SNR=7.6
V25A **Rancho No Teng** 46.09 86 ⇑P P 00 21 55.7 +0.2
baz=46,SNR=6.0
R28A **Tribune** 46.14 81 ⇑P P 00 21 55.9 +0.2
baz=46
EYMN **Ely** 46.19 64 *eP* P 00 21 56.0 +0.1
EYMN LR LR
comp=Z,2µm,22.0s
U26A **Atchley Ranch,** 46.25 85 ⇓P P 00 21 56.9 +0.2
baz=46,SNR=19
Q29A **Oakley** 46.28 80 ⇑P P 00 21 56.4 -0.4
baz=46
P30A **Selden** 46.30 79 ⇓P P 00 21 57.0 +0.1
baz=46,SNR=5.5
319A **Douglas** 46.33 94 ⇑P P 00 21 57.7 +0.4
baz=46
BGNE **Belgrade** 46.36 75 ⇓P P 00 21 57.0 -0.3
baz=46,SNR=5.0
220A **Playas Peak, P** 46.41 93 ⇑P P 00 21 58.4 +0.5
baz=46,SNR=18
Z22A **Elephant Butte** 46.42 90 ⇓P P 00 21 58.6 +0.6
baz=46,SNR=7.9
121A **Cookes Peak, D** 46.42 92 ⇑P P 00 21 58.6 +0.5
baz=46
T27A **Campo** 46.42 83 ⇓P P 00 21 58.2 +0.2
baz=46
X24A **Lazy VL Ranch,** 46.45 88 ⇑P P 00 21 58.6 +0.3
baz=46
O31A **Woolen Ranch,** 46.46 78 ⇓P P 00 21 57.9 -0.2
baz=46
R29A **Marienthal** 46.48 81 ⇓P P 00 21 58.5 +0.1
baz=46,SNR=11
Y23A **Lovelace Mesa,** 46.51 89 ⇓P P 00 21 59.2 +0.4
baz=46,SNR=15
S28A **Manter** 46.57 82 ⇑P P 00 21 59.1 -0.1
baz=46,SNR=8.8
W25A **X Bar L Ranch,** 46.60 86 ⇑P P 00 21 59.6 +0.2
baz=46,SNR=12
V26A **Tequesquite Ra** 46.62 85 ⇓P P 00 21 59.7 +0.2
baz=46,SNR=27
SNY **Shenyang** 46.67 286 ⇑P P 00 22 00.3 +0.6
SNY S S 00 28 43.8 -3.7
SNY AMB AMB
comp=Z,22nm,0.8s
SNY AMB AMB
comp=Z,290nm,7.9s
SNY LR LR
comp=Z,2µm,18.9s
SNY LR LR
comp=Z,950nm,17.3s
SNY LR LR
comp=Z,2µm,19.4s
Q30A **Quinter** 46.68 79 ⇑P P 00 22 00.3 +0.5
baz=46
T28A **Walsh** 46.75 83 ⇑P P 00 22 00.6 +0.1
baz=47,SNR=5.6
122A **Conniff Cattle** 46.78 91 ⇓P P 00 22 02.0 +1.1
baz=47
U27A **Thompson Grove** 46.78 84 ⇓P P 00 22 01.1 +0.3
baz=47
320A **Kipp Ranch, An** 46.81 93 ⇑P P 00 22 01.8 +0.7
baz=47,SNR=9.4
P31A **Stockton** 46.83 78 ⇓P P 00 22 01.1 +0.1
baz=47
Z23A **Rita Site, Whi** 46.86 90 ⇑P P 00 22 02.2 +0.7
baz=47
Y24A **Capitan** 46.89 88 ⇓P P 00 22 02.0 +0.3
baz=47,SNR=12
KSRS **Korea Array** 46.90 278 P P 00 22 02.2 +0.7
comp=Z,20nm,0.9s,baz=53,slow=7.2,SNR=52
KSRS PcP PcP 00 23 34.9 +1.0
comp=Z,3.1nm,0.9s,baz=59,slow=4.0,SNR=4.4
KSRS LR LR 00 41 55.5
comp=Z,860nm,19.8s,baz=55,slow=36
KSAR **Wonju Array Be** 46.93 278 P P 00 22 02.2 +0.5
KSAR PcP PcP 00 23 34.9 +0.8
S29A **Ulysses** 47.02 81 ⇓P P 00 22 03.1 +0.5
baz=47
SPMN **St. Paul** 47.09 68 ⇓P P 00 22 02.8 -0.1
baz=47
R30A **Dighton** 47.09 80 ⇑P P 00 22 02.9 -0.2
baz=47
W26A **Owens Ranch, T** 47.11 86 ⇑P P 00 22 03.8 +0.5
baz=47
222A **Williams Famil** 47.13 92 ⇑P P 00 22 04.1 +0.5
baz=47
Q31A **Ellis** 47.15 79 ⇓P P 00 22 03.6 +0.1
baz=47
U28A **Mallet** 47.17 84 ⇓P P 00 22 03.6 -0.2
baz=47,SNR=5.6
T29A **Hugoton** 47.22 82 ⇑P P 00 22 04.2 0.0
baz=47
V27A **Dan Oppiter Fa** 47.22 85 ⇓P P 00 22 04.2 -0.1
baz=47
Z24A **Sheeppen Canyo** 47.34 89 ⇓P P 00 22 05.6 +0.4
baz=47,SNR=11
Y25A **Mesa, Roswell** 47.34 88 ⇓P P 00 22 05.4 +0.2
baz=47,SNR=11
S30A **Montezuma** 47.40 81 ⇑P P 00 22 05.7 +0.1
baz=47
X26A **CR and CF Fran** 47.45 87 ⇑P P 00 22 06.1 +0.1
baz=47,SNR=5.2
R31A **Burdett** 47.54 80 ⇓P P 00 22 06.8 +0.3
baz=47
W27A **Bowe Ranch, En** 47.55 86 ⇓P P 00 22 06.6 -0.2
baz=47
INCN **Inchon** 47.65 279 PFAKE 00 22 20.0 +13
INCN LR LR
comp=Z,2527µm,21.0s
U29A **Oasis Ranch, S** 47.70 83 ⇓P P 00 22 08.6 +0.7
baz=48
124A **Stringfield Ra** 47.72 90 ⇓P P 00 22 08.6 +0.3
baz=48,SNR=7.5
T30A **Plains** 47.75 82 ⇑P P 00 22 08.5 +0.3
baz=48
Z25A **Roswell** 47.76 89 ⇓P P 00 22 08.8 +0.3
baz=48,SNR=7.0
X27A **F and S Farms,** 47.81 86 ⇓P P 00 22 09.3 +0.5
baz=48
Y26A **Elida** 47.86 87 ⇑P P 00 22 09.9 +0.6
baz=48
P33A **Williams Farm,** 47.88 77 ⇑P P 00 22 09.4 +0.2
baz=48
V29A **Stinnett** 47.94 84 ⇓P P 00 22 10.2 +0.5
baz=48
W28A **Vega** 47.94 85 ⇓P P 00 22 10.0 +0.2
baz=48
S31A **Mullinville** 48.00 80 ⇓P P 00 22 10.3 +0.1
baz=48
U30A **WK&E Inc. Balk** 48.02 82 ⇑P P 00 22 10.4 0.0
baz=48
JNU **Nakasue** 48.03 272 *eP* P 00 22 10.0 -0.4
comp=Z,15nm,1.0s
224A **Cornudas Mount** 48.11 90 ⇓P P 00 22 11.6 +0.4
baz=48,SNR=17
Z26A **Caprock** 48.22 88 ⇓P P 00 22 12.2 +0.2
baz=48,SNR=16
T31A **Randall Ranch,** 48.23 81 ⇑P P 00 22 12.0 +0.1
baz=48
125A **Gardner Draw,** 48.23 89 ⇓P P 00 22 12.4 +0.3
baz=48,SNR=6.2
S32A **Newby Ranch, P** 48.27 80 ⇑P P 00 22 12.5 +0.3
baz=48
Y27A **Causey** 48.29 87 ⇓P P 00 22 12.5 -0.1
baz=48,SNR=6.6
KBS **Kingsbay** 48.45 0 ⇓*i*P P 00 22 14.3 +1.2
KBS pmax pmax
comp=Z,115nm,2.5s
KBS **Kingsbay** 48.45 0 PFAKE 00 22 30.0 +17
KBS LR LR
comp=Z,2µm,20.0s
MNTX **Cornudas Mount** 48.46 91 *eP* P 00 22 12.2 -1.5
comp=Z,9.2nm,0.8s
MNTX LR LR
comp=Z,1µm,19.0s
MSTX **Muleshoe** 48.47 86 ⇓P P 00 22 13.7 -0.2
baz=48,SNR=8.1
225A **Deer Hill, Car** 48.51 90 ⇓P P 00 22 14.7 +0.4
baz=48,SNR=9.8
324A **Moseley Ranch,** 48.58 91 ⇑P P 00 22 15.3 +0.5
baz=48
U31A **Nine Bar Ranch** 48.61 82 ⇓P P 00 22 15.1 +0.2
baz=48
126A **Clayton Basin,** 48.62 89 ⇑P P 00 22 15.1 0.0
baz=48,SNR=10
Z27A **Tatum** 48.65 87 ⇓P P 00 22 14.9 -0.4
baz=48,SNR=9.3
GDL2 **Guadalupe Moun** 48.73 89 *eP* P 00 22 16.0 +0.1
KSU1 **Kansas State U** 48.74 77 *eP* P 00 22 14.8 -0.9
KSU1 LR LR
comp=Z,1µm,22.0s
X29A **Tulia** 48.79 85 ⇑P P 00 22 16.6 +0.2
baz=49
Y28A **McKinney Farm,** 48.83 86 ⇓P P 00 22 16.8 +0.1
baz=49
SCIA **State Center** 48.91 72 *eP* P 00 22 16.3 -0.7
comp=Z,21nm,0.4s
SCIA LR LR
comp=Z,2µm,19.0s
226B **Tecolote Peak,** 48.93 89 ⇓P P 00 22 17.7 +0.2
baz=49,SNR=16
325A **Bean Ranch, Si** 48.94 91 ⇑P P 00 22 18.0 +0.4
baz=49,SNR=21
127A **Arkansas Junct** 49.01 88 ⇓P P 00 22 17.7 -0.3
baz=49
DAG **Danmarks Havn** 49.05 9 ⇑*i*P P 00 22 17.3 -0.3
DAG pmax pmax
comp=Z,54nm,0.9s
DAG **Danmarks Havn** 49.05 9 ⇑*i*P P 00 22 17.3 -0.3
comp=Z,64nm,0.9s
Z28A **Tucker Farm, M** 49.17 87 ⇑P P 00 22 18.7 -0.5
baz=49,SNR=6.3
SPITS **Spitsbergen Ar** 49.19 359 P P 00 22 18.4 -0.4
SPITS **Spitsbergen Ar** 49.19 359 P P 00 22 18.4 -0.4
comp=Z,21nm,0.8s,baz=76,slow=3.5,SNR=16
Y29A **Porterfield Fa** 49.21 86 ⇑P P 00 22 19.6 0.0
baz=49
X30A **Coker Ranch, T** 49.29 84 ⇓P P 00 22 20.4 +0.3
baz=49
425A **Indio Mountain** 49.34 91 ⇓P P 00 22 21.2 +0.5
baz=49,SNR=21
W31A **Holland Ranch,** 49.35 83 ⇓P P 00 22 20.4 -0.1
baz=49
128A **Castleberry Fa** 49.57 87 ⇑P P 00 22 22.1 -0.2
baz=49,SNR=19
326A **Caldwell Ranch** 49.58 90 ⇑P P 00 22 22.7 +0.3
baz=50

Z29A	**Hungry Hill Ra**	**49.60**	**86**	⇓	P		**P**	**00 22 22.2**	**-0.3**
	baz=50,SNR=16									
Y30A	**Stafford Cattl**	**49.66**	**85**	⇑	P		**P**	**00 22 22.8**	**-0.2**
	baz=50									
DL2	**Dalian**	**49.69**	**284**	⇓	P		**P**	**00 22 26.1**	**+3.1**
DL2					PP		**PP**	**00 24 20.8**	**+3.5**
DL2					S		**S**	**00 29 34.6**	**+4.4**
DL2					AMB	AMB				
	comp=Z,35nm,1.3s									
DL2					AMB	AMB				
	comp=Z,170nm,9.3s									
DL2					LR	LR				
	comp=Z,670nm,18.6s									
DL2					LR	LR				
	comp=Z,770nm,17.6s									
X31A	**McDonald Ranch**	**49.70**	**84**	⇑	P		**P**	**00 22 23.0**	**-0.2**
	baz=50									
SUMG	**Summit**	**49.82**	**18**	⇑	*i* P		**P**	**00 22 24.8**	**+0.7**
SUMG					pmax	pmax				
	comp=Z,79nm,0.9s									
SUMG	**Summit**	**49.82**	**18**	⇑	*i* P		**P**	**00 22 24.8**	**+0.7**
	comp=Z,79nm,0.9s									
SUMG	**Summit**	**49.82**	**18**		*e* P		**P**	**00 22 24.4**	**+0.3**
	comp=Z,73nm,0.8s									
228A	**UT Block 9, Go**	**49.86**	**88**	⇓	P		**P**	**00 22 24.5**	**0.0**
	baz=50									
Z30A	**Sanderson Ranc**	**49.93**	**86**	⇑	P		**P**	**00 22 24.6**	**-0.4**
	baz=50,SNR=15									
JFWS	**Jewell Farm**	**49.97**	**69**		*e* P		**P**	**00 22 23.1**	**-2.0**
JFWS					MLR	MLR				
	comp=Z,3μm,19.0s									
JFWS	**Jewell Farm**	**49.97**	**69**		*e* P		**P**	**00 22 23.1**	**-2.0**
JFWS					LR	LR				
	comp=Z,3μm,19.0s									
426A	**McDonald Obser**	**50.01**	**90**	⇑	P		**P**	**00 22 25.9**	**+0.1**
	baz=50,SNR=6.5									
328A	**Wristen Ranch,**	**50.24**	**89**	⇑	P		**P**	**00 22 27.1**	**-0.3**
	baz=50,SNR=8.0									
427A	**Hayter Ranch,**	**50.26**	**90**	⇓	P		**P**	**00 22 27.5**	**-0.1**
	baz=50,SNR=7.4									
WMOK	**Wichita Mounta**	**50.35**	**83**		*e* P		**P**	**00 22 27.2**	**-1.0**
WMOK					*e*			00 23 45.7		
WMOK					pmax	pmax				
	comp=Z,12nm,0.8s									
WMOK					MLR	MLR				
	comp=Z,923nm,19.0s									
WMOK	**Wichita Mounta**	**50.35**	**83**		*e* P		**P**	**00 22 27.2**	**-1.0**
	comp=Z,12nm,0.8s									
WMOK					*e* PcP		**PcP**	**00 23 45.7**	**-0.8**
WMOK					LR	LR				
	comp=Z,923nm,19.0s									
526A	**Mary Lane Ranc**	**50.40**	**91**	⇓	P		**P**	**00 22 28.9**	**+0.2**
	baz=50,SNR=13									
229A	**Bryant Ranch,**	**50.44**	**88**	⇑	P		**P**	**00 22 28.9**	**0.0**
	baz=50									
Z31A	**Sharp Cattle R**	**50.51**	**85**	⇓	P		**P**	**00 22 28.8**	**-0.5**
	baz=50,SNR=5.4									
130A	**Snyder**	**50.51**	**86**	⇓	P		**P**	**00 22 29.0**	**-0.4**
	baz=50,SNR=5.6									
527A	**Woodward Ranch**	**50.63**	**91**	⇓	P		**P**	**00 22 30.4**	**-0.1**
	baz=50,SNR=11									
329A	**Wagon Wheel Ra**	**50.67**	**88**	⇓	P		**P**	**00 22 30.6**	**-0.1**
	baz=50,SNR=13									
626A	**Big Bend Ranch**	**50.74**	**92**	⇑	P		**P**	**00 22 31.5**	**+0.3**
	baz=51,SNR=18									
428A	**Kincaid Ranch,**	**50.78**	**89**	⇓	P		**P**	**00 22 31.8**	**+0.2**
	baz=51,SNR=18									
131A	**Roby**	**50.80**	**86**	⇑	P		**P**	**00 22 31.5**	**-0.1**
	baz=51									
230A	**Sterling City**	**50.91**	**87**	⇑	P		**P**	**00 22 32.0**	**-0.5**
	baz=51,SNR=11									
Z32A	**Haskell**	**50.91**	**85**	⇑	P		**P**	**00 22 32.0**	**-0.4**
	baz=51,SNR=12									
528A	**Cox Ranch, San**	**51.12**	**90**	⇑	P		**P**	**00 22 34.0**	**-0.1**
	baz=51,SNR=15									
TXAR	**Lajitas Array**	**51.18**	**91**		P		**P**	**00 22 34.3**	**-0.2**
TXAR					ScP		**ScP**	**00 27 43.5**	**-0.8**
TXAR	**Lajitas Array**	**51.18**	**91**		P		**P**	**00 22 34.3**	**-0.2**
	comp=Z,8.0nm,0.8s,baz=300,slow=5.8,SNR=87									
TXAR					ScP		**ScP**	**00 27 43.5**	**-0.8**
	comp=Z,2.6nm,1.0s,baz=300,slow=2.7,SNR=7.4									
TXAR					LR	LR		00 44 02.1		
	comp=Z,1μm,18.4s,baz=10.0,slow=36									
330A	**Mertzon**	**51.22**	**88**	⇓	P		**P**	**00 22 34.3**	**-0.4**
	baz=51,SNR=7.0									
SFJD	**Kangerlussuaq**	**51.22**	**27**		*i* P		**P**	**00 22 34.7**	**+0.5**
	comp=Z,99nm,0.9s									
SFJD	**Kangerlussuaq**	**51.22**	**27**		*e* P		**P**	**00 22 34.5**	**+0.3**
	comp=Z,35nm,0.8s									
SFJD					LR	LR				
	comp=Z,2μm,19.0s									
XMAS	**Kiritimati**	**51.25**	**168**		PFAKE			00 22 50.0	+15	
XMAS					LR	LR				
	comp=Z,2μm,21.0s									
627A	**Terlingua Ranc**	**51.26**	**91**	⇓	P		**P**	**00 22 35.3**	**+0.1**
	baz=51,SNR=20									
ABTX	**Abilene, Hawle**	**51.29**	**85**	⇑	P		**P**	**00 22 34.9**	**-0.3**
	baz=51,SNR=6.5									
TLY	**Talaya**	**51.30**	**307**	*c*	*i* P		**P**	**00 22 34.7**	**-0.3**
TLY					*e*			00 23 52.9		
TLY					*e*			00 24 36.7		
TLY					*e* S		S	00 30 06.4	+14	
TLY					*e*			00 32 27.6		
TLY					pmax	pmax				
	comp=Z,12nm,0.6s									
TLY					MLR	MLR				
	comp=Z,1μm,19.0s									
429A	**Davenport Ranc**	**51.33**	**89**	⇓	P		**P**	**00 22 35.0**	**-0.7**
	baz=51,SNR=13									
231A	**Bronte**	**51.36**	**86**	⇑	P		**P**	**00 22 35.5**	**-0.4**
	baz=51									
529A	**Stev Forest Ra**	**51.49**	**90**	⇑	P		**P**	**00 22 36.7**	**-0.1**
	baz=51,SNR=15									
628A	**Black Gap, Mar**	**51.54**	**91**	⇓	P		**P**	**00 22 37.1**	**-0.1**
	baz=51,SNR=23									
430A	**Baggett Ranch,**	**51.62**	**88**	⇑	P		**P**	**00 22 37.3**	**-0.5**
	baz=52,SNR=15									
331A	**San Angelo**	**51.74**	**87**	⇑	P		**P**	**00 22 37.9**	**-0.7**
	baz=52,SNR=9.2									
232A	**Coleman**	**51.80**	**86**	⇓	P		**P**	**00 22 38.4**	**-0.7**
	baz=52,SNR=6.4									
530A	**J-C Ranch, Com**	**52.01**	**89**	⇓	P		**P**	**00 22 40.3**	**-0.4**
	baz=52,SNR=32									
431A	**Sonora**	**52.07**	**88**	⇓	P		**P**	**00 22 40.5**	**-0.7**
	baz=52,SNR=28									
332A	**Millersview**	**52.10**	**86**	⇓	P		**P**	**00 22 40.6**	**-0.7**
	baz=52,SNR=12									
BJI	**Beijing**	**52.11**	**289**		P		**P**	**00 22 41.8**	**+0.6**
BJI					sP		**sP**	**00 22 50.9**	**-0.7**
BJI					PP		**PP**	**00 24 38.4**	**-0.9**
BJI					S		**S**	**00 30 05.8**	**+2.1**
BJI					AMB	AMB				
	comp=Z,21nm,0.8s									
BJI					AMB	AMB				
	comp=Z,280nm,9.0s									
BJI					LR	LR				
	comp=Z,1μm,17.9s									
BJI					LR	LR				
	comp=Z,2μm,17.9s									
BJI					LR	LR				
	comp=Z,2μm,21.3s									
BJT	**Baijiatuau**	**52.13**	**289**		*e* P		**P**	**00 22 41.3**	**-0.1**
BJT					LR	LR				
	comp=Z,2μm,21.0s									
ZAK	**Zakamensk**	**52.30**	**306**		*e* P		**P**	**00 22 42.1**	**-0.6**
ZAK					*e*			00 23 55.5		
ZAK					pmax	pmax				
	comp=Z,5.0nm,1.2s									
SONM	**Songino Array**	**52.38**	**302**		P		**P**	**00 22 43.1**	**-0.2**
SONM					PcP		**PcP**	**00 23 54.7**	**+0.7**
SONM					ScP		**ScP**	**00 27 50.2**	**+1.0**
SONM	**Songino Array**	**52.38**	**302**		P		**P**	**00 22 43.1**	**-0.2**
	comp=Z,5.6nm,0.6s,baz=57,slow=6.4,SNR=20									
SONM					PcP		**PcP**	**00 23 54.7**	**+0.7**
	comp=Z,3.5nm,0.9s,baz=65,slow=2.6,SNR=2.4									
SONM					ScP		**ScP**	**00 27 50.2**	**+1.0**
	comp=Z,1.7nm,1.0s,baz=121,slow=0.9,SNR=3.9									
SONM					LR	LR		00 47 27.7		
	comp=Z,2μm,18.2s,baz=50,slow=39									
432A	**Menard**	**52.43**	**87**	⇑	P		**P**	**00 22 43.2**	**-0.5**
	baz=52,SNR=5.2									
531A	**Rocksprings**	**52.48**	**88**	⇑	P		**P**	**00 22 43.7**	**-0.4**
	baz=52									
MOY	**Mondy**	**52.58**	**308**		*e* P		**P**	**00 22 44.7**	**0.0**
JCT	**Junction City**	**52.70**	**87**		*e* P		**P**	**00 22 44.8**	**-1.0**
JCT					pmax	pmax				
	comp=Z,31nm,0.9s									
JCT					MLR	MLR				
	comp=Z,1μm,20.0s									
JCT	**Junction City**	**52.70**	**87**	⇑	P		**P**	**00 22 45.1**	**-0.7**
	baz=53,SNR=9.2									
532A	**Rocksprings**	**52.89**	**88**	⇓	P		**P**	**00 22 46.1**	**-1.1**
	baz=53,SNR=6.4									
631A	**Perdido Creek**	**52.99**	**89**	⇑	P		**P**	**00 22 46.7**	**-1.2**
	baz=53,SNR=18									
WHTX	**Lake Whitney**	**53.05**	**84**	⇓	P		**P**	**00 22 48.1**	**-0.2**
	baz=53,SNR=8.7									
632A	**Uvalde**	**53.41**	**88**	⇓	P		**P**	**00 22 50.4**	**-0.5**
	baz=53,SNR=5.6									
SFIN	**Scholer Farm**	**53.41**	**69**	⇓	P		**P**	**00 22 50.0**	**-0.8**
	baz=53									
MIAR	**Mount Ida**	**53.60**	**79**		*e* P		**P**	**00 22 50.5**	**-1.8**
MIAR					pmax	pmax				
	comp=Z,23nm,1.1s									
MIAR					MLR	MLR				
	comp=Z,1μm,20.0s									
MIAR	**Mount Ida**	**53.60**	**79**		*e* P		**P**	**00 22 50.5**	**-1.8**
	comp=Z,22nm,1.1s									
MIAR					LR	LR				
	comp=Z,1μm,20.0s									
732A	**Laxson Ranch,**	**53.85**	**89**	⇑	P		**P**	**00 22 53.7**	**-0.5**
	baz=54,SNR=6.7									
OLIL	**Olney**	**53.94**	**72**		*e* P		**P**	**00 22 53.4**	**-1.4**
	comp=Z,88nm,1.4s									
SCHQ	**Schefferville**	**53.98**	**45**		*e* P		**P**	**00 22 55.0**	**+0.2**
	comp=Z,42nm,0.9s									
SCHQ	**Schefferville**	**53.98**	**45**		P		**P**	**00 22 54.6**	**-0.2**
	comp=Z,24nm,1.1s,baz=300,slow=5.6,SNR=11									
SCHQ					LR	LR		00 47 05.6		
	comp=Z,3μm,19.4s,baz=136,slow=37									
SIUC	**Southern Illin**	**53.99**	**73**		*e* P		**P**	**00 22 53.2**	**-1.8**
	comp=Z,29nm,1.0s									
TARA	**Tarawa**	**54.05**	**205**		PFAKE			00 23 10.0	+14	
TARA					LR	LR				
	comp=Z,2μm,20.0s									
HHC	**Hu-ho-hao-te**	**54.19**	**292**		*e* P		**P**	**00 22 57.3**	**+0.6**
HHC					pP		**pP**	**00 23 04.9**	**+0.7**
HHC					sP		**sP**	**00 23 08.3**	**+1.2**
HHC					PP		**PP**	**00 25 00.3**	**+2.1**
HHC					PcS		**PcS**	**00 28 00.0**	**-0.4**
HHC					S		**S**	**00 30 30.1**	**-2.1**
HHC					sS		**sS**	**00 30 42.8**	**-1.8**
HHC					ScS		**ScS**	**00 32 41.5**	**-2.8**
HHC					SS		**SS**	**00 34 11.0**	**-2.6**
HHC					AMB	AMB				
	comp=Z,69nm,1.1s									
HHC					AMB	AMB				
	comp=Z,440nm,5.2s									
HHC					LR	LR				
	comp=Z,750nm,17.8s									
HHC					LR	LR				
	comp=Z,2μm,20.0s									
HHC					LR	LR				
	comp=Z,2μm,19.6s									
SCO	**Scoresbysund**	**54.37**	**14**	*i*	P		**P**	**00 22 58.5**	**+1.1**
SCO					pmax	pmax				
	comp=Z,23nm,1.0s									
SCO	**Scoresbysund**	**54.37**	**14**	*i*	P		**P**	**00 22 58.5**	**+1.1**
	comp=Z,23nm,1.0s									
PARMO	**Parma**	**54.40**	**75**		*e* P		**P**	**00 22 56.2**	**-1.8**
USIN	**University of**	**54.72**	**72**		*e* P		**P**	**00 22 58.6**	**-1.8**
	comp=Z,139nm,1.4s									
SSE	**Sheshan**	**55.30**	**277**		P		**P**	**00 23 06.1**	**+1.4**
SSE					S		**S**	**00 30 48.6**	**+1.5**
SSE					sS		**sS**	**00 31 02.1**	**+2.6**
SSE					SS		**SS**	**00 34 31.6**	**+0.4**
SSE					AMB	AMB				
	comp=Z,46nm,0.9s									
SSE					AMB	AMB				
	comp=Z,210nm,6.8s									
SSE					LR	LR				
	comp=Z,570nm,23.4s									
SSE					LR	LR				
	comp=Z,320nm,23.4s									
SSE					LR	LR				
	comp=Z,670nm,22.0s									
HKT	**Hockley**	**55.48**	**85**		*e* P		**P**	**00 23 05.4**	**-0.5**
HKT					pmax	pmax				
	comp=Z,136nm,2.2s									
HKT	**Hockley**	**55.48**	**85**		*e* P		**P**	**00 23 05.4**	**-0.5**
	comp=Z,136nm,2.2s									
ACSO	**Alum Creek Sta**	**55.82**	**67**		PFAKE			00 23 20.0	+12	
ACSO					LR	LR				
	comp=Z,1μm,20.0s									
WVT	**Waverly**	**55.88**	**74**		*e* P		**P**	**00 23 07.2**	**-1.6**
WVT					pmax	pmax				
	comp=Z,20nm,0.9s									
WVT	**Waverly**	**55.88**	**74**		*e* P		**P**	**00 23 07.2**	**-1.6**
	comp=Z,20nm,0.9s									
KVTX	**Kingsville**	**55.97**	**88**		PFAKE			00 23 20.0	+10	
KVTX					LR	LR				
	comp=Z,1μm,19.0s									
NJ2	**Nanjing**	**56.02**	**280**		*e* P		**P**	**00 23 09.3**	**-0.6**
NJ2					pP		**pP**	**00 23 15.5**	**-1.9**
NJ2					sP		**sP**	**00 23 19.0**	**-1.3**
NJ2					S		**S**	**00 30 58.5**	**+1.8**
NJ2					sS		**sS**	**00 31 12.5**	**+3.4**
NJ2					AMB	AMB				
	comp=Z,30nm,0.8s									
NJ2					AMB	AMB				
	comp=Z,200nm,6.4s									
NJ2					LR	LR				
	comp=Z,2μm,17.7s									
NJ2					LR	LR				
	comp=Z,1μm,21.2s									
NJ2					LR	LR				
	comp=Z,800nm,18.5s									
ERPA	**Erie**	**56.18**	**63**		PFAKE			00 23 20.0	+9.1	
ERPA					LR	LR				
	comp=Z,2μm,22.0s									
HVS	**Khovu-Aksy**	**56.32**	**312**	⇓	*i* P		**P**	**00 23 11.5**	**-0.3**
HVS					pmax	pmax				
	comp=Z,43nm,0.9s									
ALLY	**Alegheny Colle**	**56.41**	**64**		*e* P		**P**	**00 23 10.8**	**-1.7**
	comp=Z,13nm,0.8s									
VBMS	**Vicksburg**	**57.05**	**79**		PFAKE			00 23 30.0	+13	
VBMS					LR	LR				
	comp=Z,799nm,20.0s									
NRS	**Narsarsuaq**	**57.14**	**30**	*i*	P		**P**	**00 23 17.6**	**+0.3**
NRS					pmax	pmax				
	comp=Z,32nm,1.0s									
KEV	**Kevo**	**57.26**	**354**		*e* P		**P**	**00 23 17.5**	**-0.6**
KEV					pmax	pmax				
	comp=Z,18nm,0.7s									
KEV	**Kevo**	**57.26**	**354**		*e*p		**P**	**00 23 17.5**	**-0.6**
	comp=Z,18nm,0.7s									
KEV	**Kevo**	**57.26**	**354**		PFAKE			00 23 30.0	+12	
KEV					LR	LR				
	comp=Z,2μm,21.0s									
LONY	**Lake Ozonia**	**57.31**	**58**		*e* P		**P**	**00 23 18.0**	**-0.9**
	comp=Z,15nm,0.8s									
LONY					LR	LR				
	comp=Z,2μm,20.0s									
ARCES	**ARCESS Array B**	**57.57**	**355**		P		**P**	**00 23 19.6**	**-0.7**
ARCES					PcP		**PcP**	**00 24 14.1**	**+0.7**
ARCES	**ARCESS Array B**	**57.57**	**355**		P		**P**	**00 23 19.6**	**-0.7**
	comp=Z,16nm,0.8s,baz=2.8,slow=6.9,SNR=29									
ARCES					PcP		**PcP**	**00 24 14.1**	**+0.7**
	comp=Z,16nm,0.8s,baz=15,slow=5.0,SNR=7.4									
ARCES					LR	LR		00 49 51.4		
	comp=Z,2μm,19.7s,baz=60,slow=38									
NCB	**Newcomb**	**57.95**	**58**		PFAKE			00 23 40.0	+17	
NCB					LR	LR				
	comp=Z,2μm,21.0s									
MCWV	**Mont Chateau**	**57.96**	**65**		*e* P		**P**	**00 23 24.1**	**+0.6**
	comp=Z,46nm,1.0s									
MCWV					LR	LR				
	comp=Z,2μm,20.0s									
NVS	**Novosibirsk**	**58.06**	**320**		*e* P		P	00 23 19.9	-4.0	
NVS					*e*			00 24 13.9		
NVS					*e*			00 33 09.5		
NVS					pmax	pmax				
	comp=Z,50nm,2.8s									
ZAA0	**Zalesovo Array**	**58.09**	**319**		*e* P		**P**	**00 23 23.1**	**-1.1**
ZALV	**Zalesovo Beam**	**58.09**	**319**		P		**P**	**00 23 23.7**	**-0.5**
ZALV								00 24 16.6		
ZALV	**Zalesovo Beam**	**58.09**	**319**		P		**P**	**00 23 23.7**	**-0.5**
ZALV					PcP		**PcP**	**00 24 16.6**	**+0.9**
ZALV	**Zalesovo Beam**	**58.09**	**319**		P		**P**	**00 23 23.7**	**-0.5**
	comp=Z,2.3nm,0.4s,baz=34,slow=5.7,SNR=15									
ZALV					PcP		**PcP**	**00 24 16.6**	**+0.9**
	comp=Z,7.5nm,0.8s,baz=42,slow=2.4,SNR=9.5									
ZALV					LR	LR		00 50 04.8		
	comp=Z,2μm,18.8s,baz=234,slow=38									
BINY	**Binghamton**	**58.27**	**61**		PFAKE			00 23 40.0	+14	
BINY					LR	LR				
	comp=Z,2μm,19.0s									
SSPA	**Standing Stone**	**58.34**	**63**		*e* P		**P**	**00 23 25.3**	**-0.9**
	comp=Z,26nm,1.0s									
LVZ	**Lovozero**	**58.48**	**351**	⇓	*i* P		**P**	**00 23 26.8**	**0.0**
LVZ					pmax	pmax				
	comp=Z,85nm,1.2s									
LRAL	**Lakeview Retre**	**58.55**	**76**		PFAKE			00 23 40.0	+12	
LRAL					LR	LR				
	comp=Z,582nm,19.0s									
APA	**Apatity**	**58.92**	**351**	⇓	*i* P		**P**	**00 23 31.6**	**+1.8**
APA					*i*			00 25 44.6		
APA					*i* PPP		PPP	00 27 03.0		
APA					*e*S		**S**	**00 31 34.0**	**+0.2**
APA					*e*			00 33 10.0		
APA					pmax	pmax				
	comp=Z,77nm,1.6s									
APA					MLR	MLR				
	comp=Z,4μm,16.0s									
LBNH	**Lisbon**	**58.93**	**57**		PFAKE			00 23 40.0	+10	
LBNH					LR	LR				
	comp=Z,1μm,22.0s									
BLA	**Blacksburg**	**59.36**	**68**		PFAKE			00 23 50.0	+17	
BLA					LR	LR				
	comp=Z,2μm,20.0s									
PKME	**Peaks-Kenny Pk**	**59.52**	**54**		PFAKE			00 23 50.0	+16	
PKME					LR	LR				
	comp=Z,4μm,21.0s									
TATO	**Taipei**	**59.57**	**272**		PFAKE			00 23 50.0	+15	
TATO					LR	LR				
	comp=Z,1μm,20.0s									
SDMD	**Soldier's Deli**	**59.78**	**64**		*e* P		**P**	**00 23 35.5**	**-0.7**
	comp=Z,40nm,1.3s									
WHN	**Wuhan**	**59.78**	**282**		P		**P**	**00 23 36.6**	**+0.3**
YHNB	**Yeheng**	**59.86**	**272**		PFAKE			00 23 50.0	+13	
YHNB					LR	LR				
	comp=Z,1μm,21.0s									
KMSC	**Kings Mountain**	**60.32**	**70**	⇓	P		**P**	**00 23 39.1**	**-0.8**
	baz=60									
CBN	**Corbin**	**60.35**	**65**		PFAKE			00 23 50.0	+10	
CBN					LR	LR				
	comp=Z,2μm,20.0s									
XAN	**Xi'an**	**60.44**	**288**		P		**P**	**00 23 40.6**	**-0.2**
XAN					S		**S**	**00 32 00.3**	**+5.8**
XAN					AMB	AMB				
	comp=Z,10.0nm,1.0s									
XAN					AMB	AMB				
	comp=Z,75nm,10.0s									
XAN					LR	LR				
	comp=Z,830nm,17.9s									
XAN					LR	LR				
	comp=Z,160nm,20.7s									
XAN					LR	LR				
	comp=Z,480nm,18.1s									
WES	**Weston**	**60.57**	**58**		*e* P		**P**	**00 23 41.1**	**-0.4**
WES					pmax	pmax				
	comp=Z,63nm,0.9s									
WES	**Weston**	**60.57**	**58**		*e* P		**P**	**00 23 41.1**	**-0.4**
	comp=Z,63nm,0.9s									
SSLB	**Suanglung**	**60.77**	**271**		*e* P		**P**	**00 23 42.3**	**-0.8**
	comp=Z,102nm,1.4s									
QZH	**Quanzhou**	**61.34**	**274**		P		**P**	**00 23 49.9**	**+2.9**
QZH					S		**S**	**00 32 07.0**	**+1.0**
QZH					LR	LR				
	comp=Z,930nm,21.2s									
GTA	**Gaotai**	**61.63**	**298**		*e* P		**P**	**00 23 48.3**	**-0.6**
GTA					pP		**pP**	**00 23 55.4**	**-1.1**
GTA					sP		**sP**	**00 23 58.8**	**-0.6**
GTA					S		**S**	**00 32 06.4**	**-3.2**
GTA					sS		**sS**	**00 32 19.3**	**-2.9**
GTA					SS		**SS**	**00 36 07.9**	**-2.5**
GTA					AMB	AMB				
	comp=Z,18nm,0.9s									
GTA					AMB	AMB				
	comp=Z,300nm,5.9s									
GTA					LR	LR				
	comp=Z,2μm,17.6s									
GTA					LR	LR				
	comp=Z,3μm,18.3s									
GTA					LR	LR				
	comp=Z,4μm,17.8s									
TMCR	**Tamitsa**	**61.71**	**348**		*e* P		**P**	**00 23 47.3**	**-1.5**
TMCR					*e*			00 24 28.8		
TMCR					pmax	pmax				
	comp=Z,68nm,1.4s									
LZH	**Lanzhou**	**61.84**	**293**		*e* P		**P**	**00 23 51.4**	**+1.0**
LZH					pP		**pP**	**00 23 56.4**	**-1.7**
LZH					sP		**sP**	**00 24 00.4**	**-0.5**
LZH					S		**S**	**00 32 12.0**	**-0.5**
LZH					sS		**sS**	**00 32 24.3**	**-0.7**
LZH					SS		**SS**	**00 36 13.3**	**-0.7**
LZH					AMB	AMB				
	comp=Z,43nm,1.2s									
LZH					AMB	AMB				
	comp=Z,140nm,4.0s									
LZH					LR	LR				
	comp=Z,2μm,16.4s									
LZH					LR	LR				
	comp=Z,2μm,16.2s									
LZH					LR	LR				
	comp=Z,3μm,18.3s									
CNNC	**Cliffs of the**	**62.20**	**68**		PFAKE			00 24 10.0	+17	
CNNC					LR	LR				
	comp=Z,2μm,21.0s									
SOKR	**Solikamsk**	**62.52**	**337**	*c*	*i* P		**P**	**00 23 54.1**	**-0.2**
SOKR					pmax	pmax				
	comp=Z,70nm,1.2s									
SOKR					MLR	MLR				
	comp=Z,2μm,19.0s									
KURK	**Kurchatov**	**63.02**	**320**		*e* P		**P**	**00 23 57.7**	**-0.2**
KURK					*e*			00 24 35.8		
KURK					pmax	pmax				
	comp=Z,8.0nm,0.8s									
KURK					MLR	MLR				
	comp=Z,2μm,20.0s									
KURK	**Kurchatov**	**63.02**	**320**		P		**P**	**00 23 57.9**	**+0.1**
	SNR=5.9									
KURK	**Kurchatov**	**63.02**	**320**		*

WMQ AMB AMB
comp=Z,270nm,5.0s
WMQ LR LR
comp=Z,2µm,17.8s
WMQ LR LR
comp=Z,1µm,17.2s
WMQ LR LR
comp=Z,1µm,18.0s
MK31 Makanchi Array 64.58 315 *i* P **P 00 24 07.0 -1.2**
MK31 pmax pmax
comp=Z,9.0nm,0.8s
MK31 Makanchi Array 64.58 315 *e*P **P 00 24 07.3 -0.9**
MK31 Makanchi Array 64.58 315 *e*P **P 00 24 07.3 -0.9**
MKAR Makanchi Array 64.58 315 P **P 00 24 07.2 -1.0**
MKAR Makanchi Array 64.58 315 P **P 00 24 07.2 -1.0**
MKAR Makanchi Array 64.58 315 ⇓P **P 00 24 07.4 -0.8**
baz=64
MKAR Makanchi Array 64.58 315 P **P 00 24 07.2 -1.0**
comp=Z,8.8nm,0.8s,baz=48,slow=5.4,SNR=65
MKAR LR LR 00 53 09.6
comp=Z,2µm,18.6s,baz=28,slow=37
KLMR Klimovskoe 64.69 346 *e*P **P 00 24 07.7 -0.9**
KLMR pmax pmax
comp=Z,36nm,1.0s
ARU Arti 64.87 334*c i*P **P 00 24 09.7 -0.2**
ARU S **S 00 32 49.4 +0.2**
ARU SS **SS 00 36 57.9 -1.8**
ARU pmax pmax
comp=Z,79nm,1.0s
ARU MLR MLR
comp=Z,2µm,18.0s
KAF Kangasniemi 64.89 353 *e*P **P 00 24 09.3 -0.6**
KAF pmax pmax
comp=Z,31nm,0.8s
KAF Kangasniemi 64.89 353 *e*p **P 00 24 09.3 -0.6**
comp=Z,31nm,0.8s
FINES FINESS Array B 65.57 353 P **P 00 24 14.0 -0.4**
FINES FINESS Array B 65.57 353 P **P 00 24 14.0 -0.4**
comp=Z,30nm,0.7s,baz=8.2,slow=6.1,SNR=61
FINES LR LR 00 56 02.2
comp=Z,1µm,19.2s,baz=16,slow=39
CD2 Chengdu 65.70 289 P **P 00 24 16.4 +0.7**
CD2 pP **pP 00 24 24.8 +1.4**
CD2 sP **sP 00 24 28.3 +2.0**
CD2 PP **PP 00 26 42.8 +2.7**
CD2 S **S 00 32 58.1 -2.2**
CD2 sS **sS 00 33 11.9 -1.0**
CD2 SS **SS 00 37 13.4 -0.6**
CD2 AMB AMB
comp=Z,130nm,0.8s
CD2 AMB AMB
comp=Z,360nm,8.0s
CD2 LR LR
comp=Z,1µm,19.0s
CD2 LR LR
comp=Z,2µm,19.0s
NB2 NORSAR Subarra 66.42 1 P **P 00 24 19.5 -0.4**
comp=Z,19nm,0.8s,baz=359,slow=6.2
NB2 NORSAR Subarra 66.42 1 P **P 00 24 19.5 -0.4**
baz=359,slow=6.2
NOA NORSAR Array B 66.42 1 P **P 00 24 19.8 -0.2**
NOA NORSAR Array B 66.42 1 P **P 00 24 19.8 -0.2**
comp=Z,19nm,0.8s,baz=0.7,slow=6.5,SNR=29
NOA LR LR 00 55 16.0
comp=Z,956nm,19.8s,baz=355,slow=38
AFI Afiamalu 66.65 185 LR LR 00 52 54.8
comp=Z,899nm,18.4s,baz=48,slow=35
TEIG Tepich 67.25 86 PFAKE 00 24 40.0 +14
TEIG LR LR
comp=Z,542nm,19.0s
HFS Hagfors 67.34 360 LR LR 00 56 24.1
comp=Z,866nm,19.2s,baz=32,slow=38
GYA Guiyang 67.34 284⇑*i*P **P 00 24 26.6 +0.2**
GYA pP **pP 00 24 37.9 +3.8**
GYA PP **PP 00 26 57.0 +2.4**
GYA ScP 00 28 55.4
GYA S **S 00 33 20.3 -0.1**
GYA SKS **SKSac 00 34 19.8 -2.7**
GYA SS **SS 00 37 40.5 +0.6**
GYA AMB AMB
comp=Z,30nm,1.0s
GYA AMB AMB
comp=Z,140nm,6.2s
GYA LR LR
comp=Z,620nm,20.6s
GYA LR LR
comp=Z,510nm,21.4s
GYA LR LR
comp=Z,600nm,20.4s
KONO Kongsberg 67.79 2 PFAKE 00 24 40.0 +11
KONO LR LR
comp=Z,1µm,20.0s
HNR Honiara 68.25 216 PFAKE 00 24 40.0 +8.1
HNR LR LR
comp=Z,104nm,19.0s
VSU Vasula 68.47 352⇓*e*P **P 00 24 33.6 +0.8**
VSU pmax pmax
comp=Z,233nm,1.0s
MVH1 Achvaich 68.65 10⇑*e*P **P 00 24 33.8 -0.1**
KPL Plockton 69.06 11 *e*P **P 00 24 36.0 -0.5**
KPL AMB AMB 00 24 44.1
comp=Z,40nm,2.9s
KPL AMS AMS 00 57 47.6
comp=Z,2µm,15.6s
MCD Coleburn Disti 69.08 9⇑*e*P **P 00 24 36.7 0.0**
MDO Dochfour 69.11 10⇑*e*P **P 00 24 36.8 -0.1**
DRUM Mains of Drumt 69.82 9 *e*P **P 00 24 40.4 -0.8**
DRUM AMB AMB 00 24 41.8
comp=Z,95nm,1.2s
DRUM AMS AMS 00 54 15.7
comp=Z,864nm,19.9s
MOS Moscow 69.89 346 *e*P **P 00 24 39.8 -1.9**
MOS pmax pmax
comp=Z,79nm,0.9s
AKTO Aktyubinsk 70.34 331 P **P 00 24 43.1 -1.4**
AKTO pmax pmax
comp=Z,48nm,0.8s
AKTO Aktyubinsk 70.34 331 LR LR 01 00 12.1
comp=Z,1µm,18.1s,baz=32,slow=40
EAB Aberfoyle 70.34 10⇑*e*P **P 00 24 44.7 +0.3**
TKM2 Tokmak 2 70.53 316 PFAKE 00 25 00.0 +14
TKM2 LR LR
comp=Z,1µm,19.0s
KMI Kunming 70.65 286 P **P 00 24 47.5 +0.4**
KMI pP **pP 00 24 55.8 +1.0**
KMI sP **sP 00 24 59.5 +1.8**
KMI PP **PP 00 27 22.8 -0.6**
KMI S **S 00 33 59.3 -0.5**
KMI sS **sS 00 34 13.4 +0.9**
KMI SKS **SKSac 00 34 44.8 -3.0**
KMI SS **SS 00 38 31.0 -0.1**
KMI AMB AMB
comp=Z,24nm,1.2s
KMI AMB AMB
comp=Z,210nm,3.6s
KMI LR LR
comp=Z,390nm,14.2s
KMI LR LR
comp=Z,860nm,16.8s
KMI LR LR
comp=Z,770nm,16.4s
OBN Obninsk 70.65 346κ *i*P **P 00 24 45.8 -0.5**
OBN *e* 00 24 51.6
OBN *e* 00 25 00.4
OBN pmax pmax
comp=Z,58nm,1.1s
OBN MLR MLR
comp=Z,2µm,14.0s
PGBU Glenifferbraes 70.70 10 *e*P **P 00 24 46.3 -0.3**
PGBU AMB AMB 00 24 52.5
comp=Z,41nm,1.5s
PGBU AMS AMS 00 57 29.0
comp=Z,2µm,17.8s
USP Ospenovka 70.70 317 P **P 00 24 47.4 +0.4**
SNR=22
ESY Stoneypath 70.79 9⇑*e*P **P 00 24 47.1 -0.1**
AB31 Akbulak array 70.81 330 *i* P **P 00 24 47.5 +0.1**
AB31 pmax pmax
comp=Z,10.0nm,0.4s
ABKAR Akbulak array 70.81 330 *e*P **P 00 24 47.5 +0.1**
comp=Z,38nm,0.8s
ABKAR Akbulak array 70.81 330 ⇓P **P 00 24 47.8 +0.3**
baz=71
ULHL Ulahol 70.81 316 P **P 00 24 48.4 +0.5**
SNR=6.7

CHMS Chumysh 70.82 317 P **P 00 24 48.1 +0.5**
SNR=11
EBL Broad Law 70.89 10⇑*e*P **P 00 24 47.8 0.0**
DAV Davao City (W) 70.96 256 PFAKE 00 25 00.0 +11
DAV LR LR
comp=Z,1µm,22.0s
FRU Bishkek 71.01 317 *i* P **P 00 24 48.0 -0.8**
FRU *e*S **S 00 34 04.0 +0.9**
FRU pmax pmax
comp=Z,130nm,2.6s
FRU MLR MLR
comp=Z,2µm,17.0s
KBK Karagaybulak 71.02 317 P **P 00 24 49.5 +0.5**
SNR=22
QIZ Qiongzhong 71.09 277 PFAKE 00 25 00.0 +10
QIZ LR LR
comp=Z,524nm,21.0s
AAK Ala-Archa 71.22 317⇑*i*P **P 00 24 50.7 +0.4**
AAK pmax pmax
comp=Z,55nm,0.8s
AAK Ala-Archa 71.22 317 P **P 00 24 50.9 +0.6**
SNR=14
AAK Ala-Archa 71.22 317 P **P 00 24 50.5 +0.2**
SNR=29
AAK Ala-Archa 71.22 317 *e*P **P 00 24 50.5 +0.2**
comp=Z,23nm,0.8s
AAK LR LR
comp=Z,925nm,19.0s
EKA Eskdalemuir Ar 71.31 10 LR LR 00 59 15.9
comp=Z,819nm,19.2s,baz=340,slow=38
ESK Eskdalemuir 71.32 10⇑*e*P **P 00 24 50.5 +0.1**
ESK AMB AMB 00 24 51.4
comp=Z,47nm,1.1s
ESK AMS AMS 01 00 21.3
comp=Z,1µm,16.4s
ESK Eskdalemuir 71.32 10 *e*P **P 00 24 50.8 +0.4**
ESK pmax pmax
comp=Z,35nm,0.9s
ESK MLR MLR
comp=Z,932nm,19.0s
ESK Eskdalemuir 71.32 10 *e*P **P 00 24 50.8 +0.4**
comp=Z,35nm,0.9s
ESK LR LR
comp=Z,932nm,19.0s
KZA Kyzart 71.37 316 P **P 00 24 52.1 +0.7**
SNR=24
ISAL Salakas 71.39 352 *e*P **P 00 24 50.8 0.0**
ISAL AMB AMB 00 24 52.6
comp=Z,21nm,0.9s
ECK Cauldkaine Hil 71.46 10⇑*e*P **P 00 24 51.2 0.0**
EKS2 Erkin-Say 71.50 317 *e*P **P 00 24 51.5 -0.4**
EKS2 pmax pmax
comp=Z,18nm,0.8s
EKS2 MLR MLR
comp=Z,870nm,19.0s
EKS2 Erkin-Say 71.50 317 P **P 00 24 52.1 +0.2**
SNR=22
EKS2 Erkin-Say 71.50 317 *e*P **P 00 24 51.5 -0.4**
comp=Z,18nm,0.8s
EKS2 LR LR
comp=Z,870nm,19.0s
MSVF Nonsavu 71.53 195 PFAKE 00 25 00.0 +7.9
MSVF LR LR
comp=Z,1µm,21.0s
GAL1 Galloway 71.60 11⇑*e*P **P 00 24 52.0 0.0**
GAL1 AMB AMB 00 24 53.4
comp=Z,45nm,1.0s
GAL1 AMS AMS 00 58 07.2
comp=Z,2µm,14.9s
IIGN Ignalina 71.60 352 *e*P **P 00 24 51.6 -0.5**
IIGN AMB AMB 00 24 53.2
comp=Z,24nm,0.9s
GCD Castle Douglas 71.69 10⇑*e*P **P 00 24 52.5 -0.1**
PPT Papeete 71.72 163 LR LR 00 52 34.2
comp=Z,1µm,18.6s,baz=338,slow=33
PPT2 Papeete2 71.74 163 *e*S **S 00 34 11.1 -0.8**
comp=Z,693nm,28.0s
PPT2 *e*SS **SS 00 38 48.6 +0.1**
comp=Z,355nm,26.8s
PPT2 *e*LR LR 00 46 34.1
comp=Z,3µm,31.0s,baz=351
AML Almayashu 71.97 317 P **P 00 24 55.7 +0.6**
SNR=20
NACGM Naroch 72.00 352 *e* P 00 24 51.0 -3.5
KESW Keswick, Cumbr 72.05 10 *e*P **P 00 24 54.8 0.0**
KESW AMB AMB 00 25 06.8
comp=Z,50nm,1.2s
KESW AMS AMS 00 59 28.8
comp=Z,1µm,20.7s
BSD Bornholm Skovb 72.36 359 *e*P P 00 24 48.4 -8.2
BSD pmax pmax
comp=Z,50nm,1.0s
BSD Bornholm Skovb 72.36 359 *i* P P 00 24 48.4 -8.2
comp=Z,50nm,1.0s
KK31 Karatay Array 72.44 320 P **P 00 24 57.1 -0.3**
KK31 pmax pmax
comp=Z,24nm,0.9s
KKAR Karatay Array 72.44 320 *e*P **P 00 24 56.8 -0.6**
KKAR pmax pmax
comp=Z,22nm,0.8s
KKAR Karatay Array 72.44 320 *e*P **P 00 24 56.8 -0.6**
comp=Z,22nm,0.8s
TGUH Tegucigalpa,Un 72.60 90 *e*P **P 00 24 58.0 -0.7**
TGUH LR LR
comp=Z,737nm,19.0s
HPK Haverah Park 72.82 9⇑*e*P **P 00 24 59.7 +0.3**
HPK AMB AMB 00 25 01.2
comp=Z,44nm,1.3s
HPK AMS AMS 01 00 33.6
comp=Z,839nm,13.7s
WME Myndd Eilian 73.09 11⇑*e*P **P 00 25 00.8 -0.2**
SUW Suwalki 73.16 354 *e*P **P 00 25 01.3 -0.1**
SUW Suwalki 73.16 354 *e*P **P 00 25 01.2 -0.1**
comp=Z,199nm,1.0s
SUW Suwalki 73.16 354 *e*P **P 00 25 01.3 -0.1**
KSH Kashi 73.17 314 P P 00 25 05.9 +4.0
KSH pP **PcP 00 25 16.3 -2.1**
KSH sP sP 00 25 17.6 +5.1
KSH PcP pP 00 25 23.6 +14
KSH PP PP 00 27 50.0 +5.6
KSH SKS **SKSac 00 35 05.3 -0.9**
KSH AMB AMB
comp=Z,200nm,4.2s
KSH LR LR
comp=Z,120nm,6.8s
KSH LR LR
comp=Z,660nm,14.8s
KSH LR LR
comp=Z,570nm,21.8s
WLF1 Llynfaes 73.19 11⇑*e*P **P 00 25 00.7 -0.9**
WLF1 AMB AMB 00 25 02.2
comp=Z,33nm,3.3s
WLF1 AMS AMS 00 59 12.8
comp=Z,1µm,17.5s
WPM1 Penmaenmawr 73.27 11 *e*P **P 00 25 01.4 -0.8**
YLL Llanberis 73.36 11⇑*e*P **P 00 25 02.3 -0.3**
PMG Port Moresby 73.39 228 P P 00 25 16.9 +14
comp=Z,21nm,1.8s
PMG Port Moresby 73.39 228 PFAKE 00 25 20.0 +17
PMG LR LR
comp=Z,976nm,20.0s
YRE Yr Eifl 73.49 11⇑*e*P **P 00 25 03.4 0.0**
KBI1 Birley Grange 73.52 9⇑*e*P **P 00 25 03.8 +0.3**
BSEG Bad Segeberg 73.53 2 *e*P **P 00 25 04.2 +0.6**
BSEG pmax pmax
comp=Z,24nm,0.9s
BSEG Bad Segeberg 73.53 2 *e*P **P 00 25 04.2 +0.6**
comp=Z,24nm,0.9s
STNC Stoke 73.62 10 *e*P **P 00 25 04.0 -0.1**
STNC AMB AMB 00 25 06.0
comp=Z,96nm,0.9s
STNC AMS AMS 00 59 18.2
comp=Z,835nm,16.2s
LSA Lhasa 73.62 298 P **P 00 25 06.3 +1.1**
LSA Lhasa 73.62 298 *e*P **P 00 25 05.2 +0.1**
LSA pmax pmax
comp=Z,48nm,0.8s
LSA MLR MLR
comp=Z,988nm,20.0s
LSA Lhasa 73.62 298 *e*P **P 00 25 05.2 +0.1**
comp=Z,48nm,0.8s
LSA LR LR
comp=Z,988nm,20.0s
VRHR Novokhopersk 73.67 342 *e*P **P 00 25 02.9 -1.5**
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.7s
VRHR pmax pmax
comp=Z,30nm,0.7s
FOEL Foel Wylfa 73.71 10⇑*e*P **P 00 25 05.0 +0.3**
FOEL AMB AMB 00 25 06.0
comp=Z,94nm,1.0s
FOEL AMS AMS 01 01 55.5
comp=Z,1µm,16.5s
VAL Valentia 73.71 15 *e*P **P 00 25 02.9 -1.8**
VSR Storozhevoye 74.00 343 *e*P **P 00 25 05.9 -0.5**
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=Z,40nm,0.8s
VSR pmax pmax
comp=E,2.0nm,0.4s
VSR MLR MLR
comp=N,1µm,22.0s
VSR MLR MLR
comp=E,940nm,22.0s
VSR MLR MLR
comp=Z,3µm,22.0s
HLM1 Long Mynd 74.11 10 *e*P **P 00 25 06.6 -0.5**
HLM1 AMB AMB 00 25 08.2
comp=Z,34nm,1.0s
SWI Sorong 74.15 247 P P 00 25 16.3 +8.6
comp=Z,92nm,1.3s
VORD Divnogorie 74.22 343 *e*P **P 00 25 07.0 -0.7**
VORD pmax pmax
comp=E,7.0nm,0.9s
VORD pmax pmax
comp=Z,40nm,0.9s
VORD MLR MLR
comp=E,580nm,19.0s
VORD MLR MLR
comp=Z,2µm,19.0s
MCH1 Michaelchurch 74.61 10⇑*e*P **P 00 25 09.8 -0.1**
MCH1 AMB AMB 00 25 11.0
comp=Z,67nm,1.1s
SSW Stow on the Wo 74.77 10⇑*e*P **P 00 25 11.4 +0.5**
NRDL Niedersach Rie 74.97 2 *e*P **P 00 25 12.5 +0.6**
comp=Z,17nm,0.9s
IBBN Ibbenburen 75.09 3 *e*P **P 00 25 13.8 +1.1**
comp=Z,39nm,1.0s
SKP1 Kophill 75.11 9 *e*P **P 00 25 12.4 -0.4**
FAKI Fak Fak 75.31 245 P P 00 25 21.5 +7.0
comp=Z,59nm,1.3s
GTBY Guantanamo Bay 75.36 76 PFAKE 00 25 30.0 +15
GTBY LR LR
comp=Z,827nm,19.0s
WTSB Winterswijk 75.39 4 *e*P **P 00 25 14.4 0.0**
comp=Z,28nm,0.9s
HTL Hartland 75.43 11 *e*P **P 00 25 14.8 +0.1**
HTL AMB AMB 00 25 16.8
comp=Z,36nm,1.0s
HTL AMS AMS 01 02 18.5
comp=Z,1µm,16.0s
BEL Belsk 75.46 355 *e*P **P 00 25 15.4 +0.6**
BEL Belsk 75.46 355 *e*P **P 00 25 15.3 +0.5**
WOL Wolverton 75.47 9 *e*P **P 00 25 15.0 +0.1**
WOL AMB AMB 00 25 16.0
comp=Z,67nm,1.1s
WOL AMS AMS 01 05 30.1
comp=Z,792nm,16.0s
CLZ Clausthal 75.63 2 *e*P **P 00 25 16.5 +0.6**
CLZ pmax pmax
comp=Z,28nm,0.8s
CLZ Clausthal 75.63 2 *e*P **P 00 25 16.5 +0.6**
comp=Z,28nm,0.8s
PANO Nakornpanom 75.68 279 P P 00 25 27.1 +10
NONG Nongkai 75.85 281 P P 00 25 22.7 +5.1
comp=Z,50nm,0.9s
AKASG Malin Array Be 75.91 350 P **P 00 25 16.7 -0.8**
AKASG Malin Array Be 75.91 350 P **P 00 25 16.6 -0.8**
AKASG Malin Array Be 75.91 350 P **P 00 25 16.6 -0.8**
comp=Z,40nm,0.6s,baz=13,slow=5.7,SNR=126
AKASG LR LR 01 01 58.1
comp=Z,1µm,20.2s,baz=45,slow=38
KIEV Kiev 75.92 350 *e*P **P 00 25 16.7 -0.8**
KIEV pmax pmax
comp=Z,59nm,0.8s
KIEV MLR MLR
comp=Z,2µm,20.0s
KIEV Kiev 75.92 350 *e*P **P 00 25 16.7 -0.8**
comp=Z,59nm,0.8s
KIEV LR LR
comp=Z,2µm,20.0s
BUG Bochum–Univer 75.94 4 *e*P **P 00 25 18.1 +0.6**
comp=Z,16nm,0.8s
DYA Yadsworthy 76.05 11 *e*P **P 00 25 18.2 0.0**
DYA AMB AMB 00 25 19.6
comp=Z,51nm,1.2s
DYA AMS AMS 01 02 37.4
comp=Z,1µm,17.7s
LBMI Labuha 76.08 250 P P 00 25 25.7 +6.8
comp=Z,65nm,0.5s
CLL Collm 76.19 0⇑*i*P **P 00 25 18.8 -0.2**
CLL *e*S **S 00 35 07.0 +5.8**
CLL pmax pmax
comp=Z,13nm,1.0s
CLL MLR MLR
comp=Z,1µm,18.7s
CLL Collm 76.19 0 *e*P **P 00 25 18.9 -0.1**
comp=Z,14nm,0.8s
CLL Collm 76.19 0⇑*i*P **P 00 25 18.8 -0.2**
comp=Z,25nm,1.0s
CLL *e*pP **pP 00 25 25.0 -1.8**
CLL *e*PP **PP 00 28 11.0 +1.7**
CLL *e*S **S 00 35 07.0 +5.8**
CLL *e*S **S 00 35 07.0 +5.8**
CLL *e*SS **SS 00 40 00.0 +6.6**
CLL *e* 00 44 36.0
CLL Lm MLR 01 04 00.0
comp=Z,1µm,18.7s
SKNT Sakolnakorn 76.19 280 P **P 00 25 20.7 +1.1**
comp=Z,40nm,1.2s
GRTK Grand Turk 76.45 72 PFAKE 00 25 30.0 +9.1
GRTK LR LR
comp=Z,1µm,22.0s
SHL Shillong 76.47 294⇑*i*P **P 00 25 22.0 +0.7**
BEBN Eben Emael 76.50 5 P **P 00 25 21.0 +0.2**
comp=Z,6.4nm,0.9s
HGN Heimansgroeve 76.55 5 *e*P **P 00 25 21.3 +0.2**
comp=Z,59nm,1.1s
HGN Heimansgroeve 76.55 5 *e*S S 00 35 25.1 +20
HGN *e*SS SS 00 40 24.6 +26
HGN Heimansgroeve 76.55 5 *e*L L 01 03 52.4
comp=Z,734nm,20.2s
BRG Berggiesshubel 76.62 360 *e*P **P 00 25 21.6 +0.1**
comp=Z,18nm,1.1s
BRG *e* 00 25 32.4
BRG comp=Z,38nm,1.6s SS SS 00 40 06.0 +6.0
BRG comp=N,822nm,17.9s
BRG comp=E,655nm,18.0s
BRG comp=Z,654nm,16.5s
BRG Berggiesshubel 76.62 360 *e*P **P 00 25 21.6 +0.1**
BRG *e* 00 25 32.4
BRG SS SS 00 40 06.0 +6.0
BRG pmax pmax
comp=Z,18nm,1.1s
BRG pmax pmax
comp=Z,38nm,1.6s
BRG MLR MLR
comp=N,822nm,17.9s
BRG MLR MLR
comp=E,655nm,18.0s
BRG MLR MLR
comp=Z,654nm,16.5s
BRG Berggiesshubel 76.62 360 *e*P **P 00 25 21.7 +0.2**
comp=Z,12nm,0.9s
KSP Ksiaz 76.62 358 *e*P **P 00 25 21.4 -0.1**
KSP Ksiaz 76.62 358 *e*P **P 00 25 21.7 +0.2**
UBPT Khong Chiam 76.62 278 P P 00 25 24.2 +2.2
comp=Z,33nm,2.7s
UBPT Khong Chiam 76.62 278 P P 00 25 25.4 +3.4
comp=Z,67nm,1.5s
UBBA Unterbreizbach 76.64 2 *e*P **P 00 25 22.0 +0.5**
comp=Z,3.0nm,0.9s
MEM Membach 76.71 5 P **P 00 25 22.3 +0.3**
comp=Z,21nm,1.1s
SNF Seneffe 76.71 6 P **P 00 25 22.3 +0.4**

BCLA Clavier 76.86 5 P **P 00 25 22.9 +0.1**
comp=Z,16nm,1.2s
JTS JuntasAbangare 76.95 90 PFAKE 00 25 40.0 +16
JTS LR LR
comp=Z,468nm,20.0s
PVCC Panska Ves 76.96 359⇑*iP* **P 00 25 24.0 +0.6**
PVCC *e* 00 25 29.9
PVCC Panska Ves 76.96 359⇑*iP* **P 00 25 24.0 +0.6**
PVCC *e*pP **pP 00 25 29.9 -1.3**
UPC Upice 76.96 358 *eP* **P 00 25 24.3 +0.9**
UPC Upice 76.96 358⇓*eP* **P 00 25 24.3 +0.9**
UPC *e*pP **pP 00 25 27.6 -3.6**
TANN Tannenbergstha 77.08 0 *eP* **P 00 25 24.6 +0.4**
comp=Z,7.0nm,0.9s
DPC Dobruska-Polom 77.11 358⇑*iP* **P 00 25 25.0 +0.7**
DPC Dobruska-Polom 77.11 358⇑*iP* **P 00 25 25.0 +0.7**
DPC AMS AMS 01 09 10.0
KMSI Cibinong 77.12 254 P P 00 25 30.4 +5.6
comp=Z,149nm,1.2s
OJC Ojcow 77.13 356 *eP* **P 00 25 24.0 -0.3**
OJC Ojcow 77.13 356 *eP* **P 00 25 24.0 -0.3**
DOU Dourbes 77.14 6 P **P 00 25 24.6 +0.2**
comp=Z,16nm,1.1s
GIVF Givet 77.15 6⇑*iP* **P 00 25 24.9 +0.4**
comp=Z,62nm,0.9s
GIVF Givet 77.15 6⇑*iP* **P 00 25 24.9 +0.4**
GIVF pmax pmax
comp=Z,62nm,0.9s
GIVF Givet 77.15 6⇑*iP* **P 00 25 24.9 +0.4**
comp=Z,62nm,0.9s
BAIF Baives 77.16 6⇑*iP* **P 00 25 25.1 +0.6**
comp=Z,46nm,0.8s
BAIF Baives 77.16 6⇑*iP* **P 00 25 25.1 +0.6**
BAIF pmax pmax
comp=Z,46nm,0.8s
BAIF Baives 77.16 6⇑*iP* **P 00 25 25.1 +0.6**
comp=Z,46nm,0.8s
TNS Taunus Mts 77.20 3 *eP* **P 00 25 25.2 +0.4**
TNS pmax pmax
comp=Z,11nm,0.8s
TNS Taunus Mts 77.20 3 *eP* **P 00 25 25.2 +0.4**
comp=Z,11nm,0.8s
LVV L'vov 77.27 353 *eP* **P 00 25 25.6 +0.5**
LVV MLR MLR
comp=N,400nm,19.0s
LVV MLR MLR
comp=Z,700nm,19.0s
LVV MLR MLR
comp=E,500nm,20.0s
TAPN Taplejung 77.32 299 *eP* **P 00 25 26.2 0.0**
comp=E,80nm,0.9s
KKM Kota Kinabalu 77.36 263 PFAKE 00 25 40.0 +14
KKM LR LR
comp=Z,345nm,22.0s
TBI Tubuai 77.39 164 *eS* **S 00 35 13.3 -1.4**
comp=Z,1μm,31.5s
TBI Tubuai 77.39 164 *e*LR LR 00 49 00.1
comp=Z,2μm,33.8s,baz=343
LOEI Loei 77.39 282 P **P 00 25 26.2 -0.1**
comp=Z,61nm,0.7s,comp=Z,4μm
PRU Pruhonice 77.50 359 *eP* **P 00 25 26.4 0.0**
PRU MLR MLR
comp=Z,1μm,15.4s
PRU Pruhonice 77.50 359⇓*eP* **P 00 25 26.4 0.0**
PRU AMS AMS 01 05 40.0
comp=Z,1μm,15.4s
KWP Kalwaria Pacla 77.55 354 *eP* **P 00 25 27.1 +0.4**
KWP pmax pmax
comp=Z,120nm,0.8s
KWP MLR MLR
comp=Z,2μm,21.0s
KWP Kalwaria Pacla 77.55 354⇑*iP* **P 00 25 27.4 +0.7**
KWP Kalwaria Pacla 77.55 354 *eP* **P 00 25 27.1 +0.4**
comp=Z,120nm,0.8s
KWP LR LR
comp=Z,2μm,21.0s
KWP Kalwaria Pacla 77.55 354 *eP* **P 00 25 27.3 +0.6**
OKC Ostrava-Krasne 77.58 357⇑*iP* **P 00 25 27.5 +0.7**
OKC MLR MLR
comp=Z,700nm,18.2s
OKC Ostrava-Krasne 77.58 357⇑*iP* **P 00 25 27.5 +0.7**
OKC AMS AMS 01 00 50.0
comp=Z,700nm,18.2s
WLF Walferdange 77.66 5 P **P 00 25 28.5 +1.2**
comp=Z,19nm,1.3s
WLF Walferdange 77.66 5 *eP* **P 00 25 28.0 +0.7**
WLF pmax pmax
comp=Z,16nm,0.9s
WLF MLR MLR
comp=Z,817nm,20.0s
WLF Walferdange 77.66 5 *eP* **P 00 25 28.3 +1.0**
comp=Z,15nm,0.8s
WLF Walferdange 77.66 5 *eP* **P 00 25 28.0 +0.7**
comp=Z,16nm,0.9s
WLF LR LR
comp=Z,817nm,20.0s
ROTZ Rotzenmuhle 77.73 1 *eP* **P 00 25 28.6 +0.9**
comp=Z,12nm,0.9s
CHTO Chiang Mai 77.74 285 *eP* **P 00 25 28.3 0.0**
CHTO pmax pmax
comp=Z,47nm,1.0s
CHTO MLR MLR
comp=Z,736nm,19.0s
CHTO Chiang Mai 77.74 285 P **P 00 25 28.0 -0.3**
comp=Z,60nm,1.3s,comp=Z,1μm
CHTO Chiang Mai 77.74 285 *eP* **P 00 25 28.3 0.0**
comp=Z,47nm,1.0s
CHTO LR LR
comp=Z,736nm,19.0s
CHTO Chiang Mai 77.74 285 P P 00 25 32.3 +4.0
comp=Z,60nm,1.3s,comp=Z,2μm
GRF Grafenberg Arr 77.79 1 *eP* **P 00 25 29.0 +0.9**
GRF pmax pmax
comp=Z,26nm,0.8s
GRF Grafenberg Arr 77.79 1 *eP* **P 00 25 29.0 +0.9**
comp=Z,26nm,0.8s
GRFO Grafenberg 77.79 1 *eP* **P 00 25 28.9 +0.8**
GRFO pmax pmax
comp=Z,59nm,1.3s
GRFO Grafenberg 77.79 1 *eP* **P 00 25 28.9 +0.8**
comp=Z,59nm,1.3s
GUN Gumba 77.84 300 *eP* **P 00 25 29.2 0.0**
comp=Z,176nm,0.9s
STHS Stebnicka Huta 77.85 355 *eP* **P 00 25 29.9 +1.4**
STHS pmax pmax
comp=Z,58nm,0.8s
STHS Stebnicka Huta 77.85 355 *eP* **P 00 25 29.9 +1.4**
JIRN Jiri 77.88 300 *eP* **P 00 25 29.6 +0.2**
comp=Z,123nm,0.9s
ODAN Odare 77.89 298 *eP* **P 00 25 29.3 0.0**
comp=Z,20nm,0.7s
NIE Niedzica 77.90 355 *eP* **P 00 25 28.9 +0.2**
NIE Niedzica 77.90 355 *eP* **P 00 25 28.9 +0.2**
BNDI Bandanaira 77.93 246 P P 00 25 35.8 +6.6
comp=Z,126nm,1.2s
CM31 Chiang Mai Arr 78.02 285 *eP* **P 00 25 30.2 +0.4**
CMAR Chiang Mai Arr 78.02 285 P **P 00 25 30.4 +0.5**
CMAR Chiang Mai Arr 78.02 285 P **P 00 25 30.4 +0.5**
comp=Z,5.5nm,0.7s,baz=24,slow=5.8,SNR=25
CMAR LR LR 01 04 27.5
comp=Z,734nm,18.2s,baz=195,slow=39
FLN La Foliniere 78.07 9⇑*iP* **P 00 25 29.8 +0.2**
comp=Z,80nm,1.1s
FLN *e*R
comp=Z,1μm,19.0s
FLN La Foliniere 78.07 9⇑*iP* **P 00 25 29.8 +0.2**
FLN pmax pmax
comp=Z,80nm,1.1s
FLN La Foliniere 78.07 9⇑*iP* **P 00 25 29.8 +0.2**
comp=Z,80nm,1.1s
BST Brest 78.13 12 *eP* **P 00 25 30.6 +0.6**
VRAC Vranov 78.15 358⇑*iP* **P 00 25 31.4 +1.3**
VRAC Vranov 78.15 358 LR LR 01 00 43.8
comp=Z,714nm,20.9s,baz=12,slow=36
DZM Mont Dzumac 78.18 205 *eP* **P 00 25 30.5 0.0**
comp=Z,46nm,1.8s
TREC Trest 78.19 358⇑AMS AMS 01 10 20.0
comp=Z,1μm,16.2s
AAI Ambon 78.19 248 P P 00 25 35.2 +4.5
comp=Z,65nm,0.9s
ROSF Rostrenen 78.19 11 *eP* **P 00 25 30.6 +0.3**
comp=Z,41nm,1.2s
ROSF Rostrenen 78.19 11 *eP* **P 00 25 30.6 +0.3**
ROSF pmax pmax
comp=Z,41nm,1.2s
ROSF Rostrenen 78.19 11 *eP* **P 00 25 30.6 +0.3**
comp=Z,41nm,1.2s
RAMN Ramite 78.23 299 *eP* **P 00 25 31.2 0.0**
comp=Z,152nm,0.9s
KKN Kakani 78.25 301 *eP* **P 00 25 31.5 +0.2**
comp=Z,31nm,0.6s
LDF La Druitiere 78.27 9⇑*iP* **P 00 25 30.9 +0.2**
comp=Z,38nm,0.8s
LDF La Druitiere 78.27 9⇑*iP* **P 00 25 30.9 +0.2**
LDF pmax pmax
comp=Z,38nm,0.8s
LDF La Druitiere 78.27 9⇑*iP* **P 00 25 30.9 +0.2**
comp=Z,38nm,0.8s
KOLS Kolonicke sedl 78.27 354 *eP* **P 00 25 31.3 +0.5**
KOLS pmax pmax
comp=Z,21nm,1.1s
KOLS Kolonicke sedl 78.27 354 *eP* **P 00 25 31.3 +0.5**
SDDR Presa de Saban 78.34 74 *eP* **P 00 25 31.4 -0.2**
SDDR LR LR
comp=Z,916nm,22.0s
WET Wettzell 78.35 0 *eP* **P 00 25 32.1 +0.9**
WET pmax pmax
comp=Z,8.0nm,1.0s
WET Wettzell 78.35 0 *eP* **P 00 25 32.1 +0.9**
comp=Z,8.0nm,1.0s
SGMF Saint Gilles 78.36 11 *eP* **P 00 25 31.7 +0.5**
comp=Z,41nm,1.0s
SGMF Saint Gilles 78.36 11 *eP* **P 00 25 31.7 +0.5**
SGMF pmax pmax
comp=Z,41nm,1.0s
SGMF Saint Gilles 78.36 11 *eP* **P 00 25 31.7 +0.5**
comp=Z,41nm,1.0s
PKI Pulchoki 78.36 300 *eP* **P 00 25 31.8 -0.2**
comp=Z,107nm,1.0s
PKIN Phulchoki 78.36 300 *eP* **P 00 25 32.2 +0.3**
comp=Z,33nm,0.7s
KHC Kasperske Hory 78.37 360⇑*iP* **P 00 25 32.0 +0.7**
KHC *e* 00 25 35.9
KHC MLR MLR
comp=Z,1μm,17.4s
KHC Kasperske Hory 78.37 360⇑*iP* **P 00 25 32.0 +0.7**
KHC *e*pP **pP 00 25 35.9 -3.2**
KHC AMS AMS 01 05 00.0
comp=Z,1μm,17.4s
KHC Kasperske Hory 78.37 360 *eP* **P 00 25 31.6 +0.2**
comp=Z,48nm,1.3s
GRR Gorron 78.40 10⇑*iP* **P 00 25 31.8 +0.3**
comp=Z,60nm,1.0s
GRR Gorron 78.40 10⇑*iP* **P 00 25 31.8 +0.3**
GRR pmax pmax
comp=Z,60nm,1.0s
GRR Gorron 78.40 10⇑*iP* **P 00 25 31.8 +0.3**
comp=Z,60nm,1.0s
LANF Langenberg 78.41 4 *eP* **P 00 25 32.2 +0.6**
GKN Gorkha 78.42 301 *eP* **P 00 25 32.1 0.0**
comp=Z,86nm,0.6s
DMN Daman 78.49 301 *eP* **P 00 25 32.6 0.0**
comp=Z,101nm,1.0s
UZH Uzhgorod 78.57 354⇓*iP* **P 00 25 32.2 -0.2**
UZH *e* 00 25 41.8
UZH *e* 00 30 17.6
UZH *e*S **S 00 35 22.2 -5.0**
UZH *e* 00 36 02.6
DANN Dangsing 78.59 302 *eP* **P 00 25 33.4 +0.2**
comp=Z,249nm,0.7s
QUIF Quistinic 78.62 11⇑*iP* **P 00 25 33.0 +0.4**
comp=Z,75nm,1.4s
QUIF Quistinic 78.62 11⇑*iP* **P 00 25 33.0 +0.4**
QUIF pmax pmax
comp=Z,75nm,1.4s
QUIF Quistinic 78.62 11⇑*iP* **P 00 25 33.0 +0.4**
comp=Z,75nm,1.4s
GEC2 GERESS Array S 78.65 360 *eP* **P 00 25 33.5 +0.5**
GEC2 pmax pmax
comp=Z,10.0nm,0.8s
GEC2 GERESS Array S 78.65 360 *eP* **P 00 25 33.5 +0.5**
comp=Z,10.0nm,0.8s
GERES GERESS Array B 78.65 360 P **P 00 25 33.4 +0.4**
GERES GERESS Array B 78.65 360 P **P 00 25 33.4 +0.4**
comp=Z,8.4nm,0.7s,baz=6.5,slow=4.7,SNR=58
GERES LR LR 01 05 05.5
comp=Z,713nm,19.4s,baz=11,slow=39
STU Stuttgart 78.67 3 *eP* **P 00 25 33.4 +0.5**
comp=Z,16nm,0.8s
PAGF Fort de Pagny 78.74 5⇑*iP* **P 00 25 34.3 +0.9**
comp=Z,26nm,0.9s
PAGF Fort de Pagny 78.74 5⇑*iP* **P 00 25 34.3 +0.9**
comp=Z,26nm,0.9s
MEZF Maizieres J'vi 78.76 6⇑*iP* **P 00 25 34.1 +0.7**
comp=Z,25nm,0.8s
MEZF Maizieres J'vi 78.76 6⇑*iP* **P 00 25 34.1 +0.7**
comp=Z,25nm,0.8s
KECS Kecovo 78.83 355 *eP* **P 00 25 34.4 +0.6**
KECS pmax pmax
comp=Z,26nm,0.8s
KECS Kecovo 78.83 355 *eP* **P 00 25 34.4 +0.6**
SMOL Smolenice 78.92 357 *eP* **P 00 25 36.1 +1.8**
SMOL Smolenice 78.92 357 *eP* **P 00 25 36.1 +1.8**
CDF Champ du Feu 78.96 4⇑*iP* **P 00 25 35.1 +0.4**
comp=Z,24nm,0.9s
CDF Champ du Feu 78.96 4⇑*iP* **P 00 25 35.1 +0.4**
CDF pmax pmax
comp=Z,24nm,0.9s
CDF Champ du Feu 78.96 4⇑*iP* **P 00 25 35.1 +0.4**
comp=Z,24nm,0.9s
SFTF Sexfontaines 79.05 6⇑*iP* **P 00 25 35.6 +0.5**
comp=Z,90nm,1.0s
SFTF Sexfontaines 79.05 6⇑*iP* **P 00 25 35.6 +0.5**
comp=Z,90nm,1.0s
BFO Black Forest 79.08 3 *eP* **P 00 25 35.6 +0.3**
BFO pmax pmax
comp=Z,18nm,1.3s
BFO MLR MLR
comp=Z,702nm,20.0s
BFO Black Forest 79.08 3 *eP* **P 00 25 35.7 +0.4**
comp=Z,9.0nm,0.9s
BFO Black Forest 79.08 3 *eP* **P 00 25 35.6 +0.3**
comp=Z,18nm,1.3s
BFO LR LR
comp=Z,702nm,20.0s
THEF They Montfort 79.08 5 *eP* **P 00 25 35.9 +0.6**
LUWI Luwuk 79.13 254 P P 00 25 41.0 +5.1
comp=Z,70nm,1.0s,comp=Z,1μm
GOF Gofitskoye 79.14 339⇑*iP* **P 00 25 36.9 +1.3**
KOLN Koldanda 79.14 302 *eP* **P 00 25 36.1 0.0**
comp=Z,98nm,0.9s
ECH Echery 79.15 4 *eP* **P 00 25 35.9 +0.3**
ECH pmax pmax
comp=Z,25nm,0.9s
ECH MLR MLR
comp=Z,1μm,20.0s
ECH Echery 79.15 4 *eP* **P 00 25 36.1 +0.5**
ECH Echery 79.15 4 *eP* **P 00 25 35.9 +0.3**
comp=Z,25nm,0.9s
ECH LR LR
comp=Z,1μm,20.0s
THN Thein Dam 79.17 310 *ex* **P 00 25 33.5 -2.4**
FUR Furstenfeldbru 79.32 1 *eP* **P 00 25 37.3 +0.7**
FUR pmax pmax
comp=Z,36nm,1.1s
FUR Furstenfeldbru 79.32 1 *eP* **P 00 25 37.3 +0.7**
comp=Z,36nm,1.1s
HAU Haudompre 79.32 5⇑*iP* **P 00 25 37.0 +0.4**
comp=Z,42nm,0.9s
HAU *e*R
comp=Z,1μm,18.0s
HAU Haudompre 79.32 5⇑*iP* **P 00 25 37.0 +0.4**
HAU pmax pmax
comp=Z,42nm,0.9s
HAU Haudompre 79.32 5⇑*iP* **P 00 25 37.0 +0.4**
comp=Z,42nm,0.9s
BUR08 Bucovina Ar. S 79.33 352 *eP* **P 00 25 37.0 +0.3**
BURAR Bucovina Array 79.36 352⇑*iP* **P 00 25 36.6 -0.3**
BURAR Bucovina Array 79.36 352⇑*iP* **P 00 25 36.6 -0.3**
PSZ Piszkesteto 79.42 355⇓*iP* **P 00 25 38.8 +1.6**
PSZ Piszkesteto 79.42 355⇓*iP* **P 00 25 38.8 +1.6**
PSZ Piszkesteto 79.42 355 *eP* **P 00 25 38.0 +0.8**
comp=Z,47nm,1.0s
PSZ LR LR
comp=Z,933nm,19.0s
PSZ Piszkesteto 79.42 355⇑*eP* **P 00 25 38.3 +1.1**
MOF Molkenrain 79.51 4 *eP* **P 00 25 38.2 +0.5**
PRAR RASCA 79.52 351⇓*iP* **P 00 25 37.6 -0.1**
FELD Feldberg im Sc 79.53 4 *eP* **P 00 25 38.0 +0.2**
HINF Hinteralfeld 79.54 4⇑*iP* **P 00 25 38.1 +0.3**
comp=Z,38nm,0.9s
HINF Hinteralfeld 79.54 4⇑*iP* **P 00 25 38.1 +0.3**
HINF pmax pmax
comp=Z,38nm,0.9s
HINF Hinteralfeld 79.54 4⇑*iP* **P 00 25 38.1 +0.3**
comp=Z,38nm,0.9s
CONA Conrad Observa 79.55 358 *iP* **P 00 25 39.0 +1.2**
comp=Z,53nm,1.1s,SNR=20
IAS Iasi 79.56 350⇑*iP* **P 00 25 38.1 +0.3**
IAS Iasi 79.56 350⇑*iP* **P 00 25 38.1 +0.3**
KIS Kishinev 79.61 349 *eP* **P 00 25 37.0 -1.1**
KIS Kishinev 79.61 349 *eP* **P 00 25 37.0 -1.1**
KIS *e* 00 25 52.0
KIS *e*PS PnS 00 36 46.0 +23
KIS MLR MLR
comp=N,2μm,20.0s
KIS MLR MLR
comp=E,500nm,20.0s
KIS MLR MLR
comp=Z,2μm,20.0s
KIS MLR MLR
comp=Z,2μm,20.0s
MOA Molln 79.65 359 *iP* **P 00 25 39.0 +0.6**
comp=Z,14nm,0.9s,SNR=7.7
RJOB Jochberg 79.76 0 *eP* **P 00 25 40.0 +1.0**
comp=Z,22nm,0.8s
SOP Sopron 79.78 358⇓*eP* **P 00 25 40.2 +1.2**
HYF Humbligny 79.82 7⇑*iP* **P 00 25 40.1 +0.8**
HYF Humbligny 79.82 7⇑*iP* **P 00 25 40.1 +0.8**
BUD Budapest 79.89 356⇓*eP* **P 00 25 40.7 +1.1**
LOR Lormes 79.91 6⇑*iP* **P 00 25 40.2 +0.4**
comp=Z,84nm,1.0s
LOR *e*R
comp=Z,1μm,19.8s
LOR Lormes 79.91 6⇑*iP* **P 00 25 40.2 +0.4**
comp=Z,84nm,1.0s
RETA Reutte 79.99 2⇑*iP* **P 00 25 41.1 +0.9**
comp=Z,21nm,0.9s,SNR=10
LOMF Lomont 80.00 4 *eP* **P 00 25 40.8 +0.5**
PKSG 80.01 356⇓*eP* **P 00 25 41.9 +1.6**
MAK Makhachkala 80.06 335 *eP* **P 00 25 37.1 -3.5**
MAK *e* 00 25 52.0
MAK *e*S S 00 35 35.2 -8.0
MAK *e*SS **SS 00 40 49.8 -2.3**
MAK *e*SSS SSS 00 44 15.5
MAK pmax pmax
comp=Z,44nm,0.6s
SSF Saint Saulge 80.09 7⇑*iP* **P 00 25 41.4 +0.7**
comp=Z,87nm,0.9s
SSF Saint Saulge 80.09 7⇑*iP* **P 00 25 41.4 +0.7**
SSF pmax pmax
comp=Z,87nm,0.9s
SSF Saint Saulge 80.09 7⇑*iP* **P 00 25 41.4 +0.7**
comp=Z,87nm,0.9s
WATA Walderalm 80.15 1⇓*iP* **P 00 25 42.2 +0.9**
comp=Z,60nm,1.2s,SNR=18
DAVA Damuels 80.17 2⇑*iP* **P 00 25 42.1 +0.7**
comp=Z,16nm,0.8s,SNR=5.6
LEOM Leova 80.19 350⇑*iP* **P 00 25 41.7 +0.5**
LEOM Leova 80.19 350⇑*iP* **P 00 25 41.7 +0.5**
WTTA Wattenberg 80.23 1⇑*iP* **P 00 25 42.8 +1.2**
comp=Z,49nm,0.9s,SNR=13
ARSA Arzberg 80.23 358 *iP* **P 00 25 42.8 +1.3**
comp=Z,39nm,1.1s,SNR=17
MFF Saint Martin d 80.24 9⇑*iP* **P 00 25 42.2 +0.7**
comp=Z,161nm,1.0s
MFF Saint Martin d 80.24 9⇑*iP* **P 00 25 42.2 +0.7**
MFF pmax pmax
comp=Z,161nm,1.0s
MFF Saint Martin d 80.24 9⇑*iP* **P 00 25 42.2 +0.7**
comp=Z,161nm,1.0s
KIV Kislovodsk 80.27 339α*iP* **P 00 25 42.4 +0.6**
KIV *e* 00 25 49.0
KIV *e* 00 35 57.4
KIV *e* 00 36 54.7
KIV pmax pmax
comp=Z,92nm,0.9s
KIV MLR MLR
comp=Z,1μm,21.0s
SQTA Sankt Quirin 80.27 1⇑*iP* **P 00 25 42.9 +1.1**
comp=Z,43nm,0.9s
PKS7 Kunszentmiklos 80.32 356⇑*eP* **P 00 25 43.4 +1.5**
TESR Tescani 80.32 351⇓*iP* **P 00 25 41.9 -0.1**
KBL Kabul 80.33 316 *eP* **P 00 25 41.4 -1.1**
KBL pmax pmax
comp=Z,32nm,1.0s
KBL Kabul 80.33 316 *eP* **P 00 25 41.4 -1.1**
comp=Z,32nm,1.0s
KBL Kabul 80.33 316⇑P **P 00 25 41.9 -0.6**
baz=80,SNR=12
AVF Avril sur Loir 80.35 7⇑*iP* **P 00 25 42.5 +0.4**
comp=Z,74nm,0.9s
AVF Avril sur Loir 80.35 7⇑*iP* **P 00 25 42.5 +0.4**
AVF pmax pmax
comp=Z,74nm,0.9s
AVF Avril sur Loir 80.35 7⇑*iP* **P 00 25 42.5 +0.4**
comp=Z,74nm,0.9s
KBA Koelnbreinsper 80.42 360 *iP* **P 00 25 44.2 +1.5**
comp=Z,125nm,0.9s,SNR=12
FETA Feichten 80.46 2 *iP* **P 00 25 43.9 +1.0**
comp=Z,60nm,0.9s,SNR=29
CHBT CHBT 80.48 278 P **P 00 25 44.0 +0.8**
comp=Z,24nm,1.2s,comp=Z,3μm
CHBT CHBT 80.48 278 P **P 00 25 44.4 +1.2**
comp=Z,24nm,1.2s
ANN Anapa 80.50 343 *eP* **P 00 25 42.6 -0.3**
ANN pmax pmax
comp=Z,59nm,1.0s
SMF Signal de Mont 80.53 7⇑*iP* **P 00 25 43.5 +0.4**
comp=Z,107nm,0.9s
SMF Signal de Mont 80.53 7⇑*iP* **P 00 25 43.5 +0.4**
SMF pmax pmax
comp=Z,107nm,0.9s
SMF Signal de Mont 80.53 7⇑*iP* **P 00 25 43.5 +0.4**
comp=Z,107nm,0.9s
BGF Bois d'Agland 80.55 7⇑*iP* **P 00 25 43.7 +0.5**
comp=Z,90nm,1.0s
BGF Bois d'Agland 80.55 7⇑*iP* **P 00 25 43.7 +0.5**
BGF pmax pmax
comp=Z,90nm,1.0s
BGF Bois d'Agland 80.55 7⇑*iP* **P 00 25 43.7 +0.5**
comp=Z,90nm,1.0s
RKT Rikitea 80.58 151 *eS* **S 00 35 45.5 -3.2**
comp=Z,212nm,24.2s
RKT *e*SS **SS 00 41 02.2 0.0**
RKT comp=Z,250nm,25.0s *e*LR LR 00 50 58.7
comp=Z,2μm,30.0s,baz=338
DAVOX Davos/Dischmat 80.68 2 LR LR 01 02 50.2
comp=Z,706nm,21.1s,baz=358,slow=37
GHRR 80.69 350⇑*iP* **P 00 25 45.2 +1.2**
CABF La Chapelle 80.70 5⇑*iP* **P 00 25 45.1 +1.0**
comp=Z,68nm,0.9s
CABF La Chapelle 80.70 5⇑*iP* **P 00 25 45.1 +1.0**
CABF pmax pmax
comp=Z,68nm,0.9s
CABF La Chapelle 80.70 5⇑*iP* **P 00 25 45.1 +1.0**
comp=Z,68nm,0.9s
ABTA Abfaltersbach 80.75 0⇑*iP* **P 00 25 45.1 +0.7**
comp=Z,48nm,1.1s,SNR=15
TCF Toulx Ste Croi 80.76 8⇑*iP* **P 00 25 44.8 +0.4**
comp=Z,43nm,0.9s
TCF Toulx Ste Croi 80.76 8⇑*iP* **P 00 25 44.8 +0.4**
TCF pmax pmax
comp=Z,43nm,0.9s
TCF Toulx Ste Croi 80.76 8⇑*iP* **P 00 25 44.8 +0.4**
comp=Z,43nm,0.9s
SOKA Soboth 80.81 359 *iP* **P 00 25 45.7 +1.0**
comp=Z,80nm,1.1s,SNR=42
PKS9 Tamasi 80.82 356⇓*eP* **P 00 25 45.9 +1.3**
PERS Pernice 80.85 359 *iP* **P 00 25 45.7 +0.8**
MYKA Terra Mystica 80.87 360 *iP* **P 00 25 45.6 +0.6**
comp=Z,20nm,0.9s,SNR=5.9
SIM Simferopol' 80.91 345 *eP* P 00 25 49.8 +4.6
SIM *e*S **S 00 35 47.0 -5.0**
SIM pmax pmax
comp=Z,25nm,0.9s
SIM smax smax
comp=Z,1μm,17.0s
BCIP Isla Barro Col 80.93 87 PFAKE 00 26 00.0 +14
BCIP LR LR
comp=Z,211nm,19.0s
VRI Vrincioaia 80.95 350⇓P **P 00 25 45.7 +0.3**
VRI Vrincioaia 80.95 350⇓*iP* **P 00 25 45.7 +0.3**
TUE Stuetta 80.97 3 *eP* **P 00 25 46.1 +0.4**
comp=Z,22nm,0.8s
TUE LR LR
comp=Z,828nm,20.0s

PLOR Plostina 80.98 351 ⇑*i*P **P 00 25 44.5 -1.1**
PLOR Plostina 80.98 351 ⇑*i*P **P 00 25 44.5 -1.1**
DOPR Dopca 80.98 351 ⇑*i*P **P 00 25 46.2 +0.6**
OBKA Obir 80.98 359 ⇑*i*P **P 00 25 46.7 +1.1**
comp=Z,80nm,0.8s,SNR=19
KOGS Kog 81.02 358 *i* P **P 00 25 46.3 +0.6**
PETR Petresti 81.04 350 ⇑*i*P **P 00 25 47.4 +1.6**
AGO Saint Agoulin 81.07 7 *e*P **P 00 25 48.1 +2.1**
ZEI Tsey 81.10 338 *e*P **P 00 25 46.7 +0.2**
ZEI pmax pmax
comp=Z,29nm,0.9s
PLDF La Plantade 81.19 7 *e*P **P 00 25 48.8 +2.1**
SOC Sochi 81.24 341 *c*P **P 00 25 47.7 +0.8**
SOC *e**SP **sP 00 26 00.6 +3.0**
SOC *e*PPP PPP 00 30 42.7
SOC *e*S **S 00 35 55.1 -0.4**
SOC *e*SS **SS 00 41 07.5 -2.1**
SOC pmax pmax
comp=Z,76nm,0.8s
SOC MLR MLR
comp=Z,1μm,21.0s
CADS Cadrg 81.27 360 *i* P **P 00 25 46.9 -0.2**
CADS *i* 00 25 58.2
GUDG Gudauri 81.28 337 P **P 00 25 48.8 +1.3**
ONI Oni 81.39 338 P **P 00 25 48.5 +0.7**
TLCR 81.40 349 ⇑P **P 00 25 48.2 +0.5**
TLCR 81.40 349 ⇑*i*P **P 00 25 48.2 +0.5**
MLR Muntele Rosu 81.40 351 ⇑*i*P **P 00 25 49.1 +1.2**
MLR Muntele Rosu 81.40 351 LR LR 01 02 21.3
comp=Z,309nm,21.2s,baz=16,slow=36
LJU Ljubljana 81.45 359 *i* P **P 00 25 47.8 -0.2**
VOIR 81.54 352 P **P 00 25 49.1 +0.5**
VOIR 81.54 352 ⇑*i*P **P 00 25 49.1 +0.5**
BZS Buzias 81.62 354 P **P 00 25 49.2 +0.3**
BZS Buzias 81.62 354 ⇑*i*P **P 00 25 49.2 +0.3**
LOT Lotru 81.63 353 ⇓*i*P **P 00 25 48.9 -0.2**
ARR Arges 81.64 352 ⇑*i*P **P 00 25 50.1 +1.0**
RSL Roselend 81.65 5 *e*P **P 00 25 50.3 +1.0**
RJF Les Rejaudoux 81.68 8 ⇑*i*P **P 00 25 49.5 +0.2**
comp=Z,61nm,1.0s
RJF *e*R
comp=Z,1μm,22.2s
RJF Les Rejaudoux 81.68 8 ⇑*i*P **P 00 25 49.5 +0.2**
RJF pmax pmax
comp=Z,61nm,1.0s
RJF Les Rejaudoux 81.68 8 ⇑*i*P **P 00 25 49.5 +0.2**
comp=Z,61nm,1.0s
OBIP Obispado Ponce 81.78 71 *e*P **P 00 25 50.1 -0.1**
comp=Z,31nm,1.1s
LPL La Plagne 81.83 5 ⇑*i*P **P 00 25 51.9 +1.6**
comp=Z,30nm,0.9s
LPL La Plagne 81.83 5 ⇑*i*P **P 00 25 51.9 +1.6**
LPL pmax pmax
comp=Z,30nm,0.9s
LPL La Plagne 81.83 5 ⇑*i*P **P 00 25 51.9 +1.6**
comp=Z,30nm,0.9s
LPG La Plagne 81.85 5 ⇑*i*P **P 00 25 52.2 +1.7**
comp=Z,26nm,0.8s
LPG La Plagne 81.85 5 ⇑*i*P **P 00 25 52.2 +1.7**
LPG pmax pmax
comp=Z,26nm,0.8s
LPG La Plagne 81.85 5 ⇑*i*P **P 00 25 52.2 +1.7**
comp=Z,26nm,0.8s
LBL Lubilhac 81.89 7 *e*P **P 00 25 52.4 +1.9**
TBLG Delisi 81.91 337 P **P 00 25 51.6 +1.1**
SSB Saint Sauveur 81.94 6 *e*P **P 00 25 50.8 +0.1**
SSB pmax pmax
comp=Z,22nm,0.9s
SSB MLR MLR
comp=Z,770nm,19.0s
SSB Saint Sauveur 81.94 6 *e*P **P 00 25 50.8 +0.1**
comp=Z,22nm,0.9s
SSB LR LR
comp=Z,770nm,19.0s
LFF La Frestale 81.97 9 ⇑*i*P **P 00 25 51.5 +0.7**
comp=Z,104nm,0.9s
LFF La Frestale 81.97 9 ⇑*i*P **P 00 25 51.5 +0.7**
LFF pmax pmax
comp=Z,104nm,0.9s
LFF La Frestale 81.97 9 ⇑*i*P **P 00 25 51.5 +0.7**
comp=Z,104nm,0.9s
BOJS Bojanci 81.98 359 *e*P **P 00 25 51.4 +0.5**
HARR Harsova 81.99 349 ⇑P **P 00 25 51.6 +0.8**
HARR Harsova 81.99 349 ⇑*i*P **P 00 25 51.6 +0.8**
DGRG David-gareji 82.02 336 P **P 00 25 52.5 +1.4**
TLB Topalu 82.08 349 ⇓P **P 00 25 51.2 -0.1**
TLB Topalu 82.08 349 ⇓*i*P **P 00 25 51.2 -0.1**
CAF Calviac 82.11 8 ⇑*i*P **P 00 25 52.2 +0.7**
comp=Z,82nm,1.0s
CAF Calviac 82.11 8 ⇑*i*P **P 00 25 52.2 +0.7**
CAF pmax pmax
comp=Z,83nm,1.0s
CAF Calviac 82.11 8 ⇑*i*P **P 00 25 52.2 +0.7**
comp=Z,82nm,1.0s
TIRR Tirgusor 82.16 349 ⇑P **P 00 25 51.6 -0.2**
TIRR Tirgusor 82.16 349 ⇑*i*P **P 00 25 51.6 -0.2**
TIRR Tirgusor 82.16 349 *e*P **P 00 25 51.1 -0.7**
comp=Z,35nm,0.9s
BNI Bardonecchia 82.29 5 *e*P **P 00 25 53.2 +0.6**
BNI pmax pmax
comp=Z,66nm,1.0s
BNI MLR MLR
comp=Z,2μm,19.0s
BNI Bardonecchia 82.29 5 *e*P **P 00 25 53.2 +0.6**
comp=Z,66nm,1.0s
BNI LR LR
comp=Z,2μm,19.0s
MTP Monte Pirata 82.34 70 *e*P **P 00 25 52.6 -0.5**
comp=Z,46nm,1.1s
RAO Raoul Island 82.36 190 PFAKE 00 26 00.0 +7.3
RAO LR LR
comp=Z,741nm,19.0s
VIVF Saint-Julien-l 82.37 6 ⇑*i*P **P 00 25 53.9 +1.0**
comp=Z,51nm,0.9s
VIVF Saint-Julien-l 82.37 6 ⇑*i*P **P 00 25 53.9 +1.0**
VIVF pmax pmax
comp=Z,51nm,0.9s
VIVF Saint-Julien-l 82.37 6 ⇑*i*P **P 00 25 53.9 +1.0**
comp=Z,51nm,0.9s
ORIF Oris-en-Rattie 82.38 5 ⇑*i*P **P 00 25 54.2 +1.2**
comp=Z,32nm,0.8s
ORIF *e*R
comp=Z,844nm,18.2s
ORIF Oris-en-Rattie 82.38 5 ⇑*i*P **P 00 25 54.2 +1.2**
ORIF pmax pmax
comp=Z,33nm,0.8s
ORIF Oris-en-Rattie 82.38 5 ⇑*i*P **P 00 25 54.2 +1.2**
comp=Z,32nm,0.8s
AKH Akhalkalaki 82.51 338 P **P 00 25 55.2 +1.3**
MSAB Monastry St. A 82.59 349 ⇓*i*P **P 00 25 55.0 +1.0**
SBUM Sibu 82.61 264 P **P 00 25 56.5 +2.0**
comp=Z,22nm,2.0s,comp=Z,573nm
MBDF Montbardon 82.62 5 ⇑*i*P **P 00 25 56.1 +1.7**
comp=Z,94nm,0.8s
MBDF Montbardon 82.62 5 ⇑*i*P **P 00 25 56.1 +1.7**
MBDF pmax pmax
comp=Z,94nm,0.8s
MBDF Montbardon 82.62 5 ⇑*i*P **P 00 25 56.1 +1.7**
comp=Z,94nm,0.8s
NVLJ Novalja 82.93 359 P **P 00 25 55.5 -0.2**
DBOC Borcka 82.98 339 *i* P **P 00 25 56.3 +0.2**
ARTV Artvin 83.08 339 *i* P **P 00 25 57.8 +0.9**
LASF Ste Croix 83.09 7 ⇑*i*P **P 00 25 57.9 +1.2**
comp=Z,58nm,1.3s
LASF Ste Croix 83.09 7 ⇑*i*P **P 00 25 57.9 +1.2**
comp=Z,58nm,1.3s
EAK Akyaka 83.17 337 *i* P **P 00 25 58.2 +0.9**
DIVS Divibare 83.23 355 P **P 00 25 57.4 0.0**
SPSI Sidrap Palu 83.24 254 P P 00 26 03.5 +5.8
comp=Z,18nm,1.2s
CTAO Charters Tower 83.27 224 PFAKE 00 26 10.0 +12
CTAO LR LR
comp=Z,571nm,21.0s
SMRF Simiane la Rot 83.30 6 ⇑*i*P **P 00 25 59.4 +1.6**
comp=Z,145nm,1.5s
SMRF Simiane la Rot 83.30 6 ⇑*i*P **P 00 25 59.4 +1.6**
comp=Z,145nm,1.5s
VLC Villacollemand 83.31 2 PFAKE 00 26 10.0 +12
VLC LR LR
comp=Z,708nm,20.0s
TOUF Mont Tournerai 83.35 4 *e*P **P 00 25 57.9 -0.3**
AUTN L'Aution 83.38 4 *e*P **P 00 25 59.0 +0.6**
SAOF Saorge 83.39 4 *e*P **P 00 25 58.6 +0.4**
DDEM Demirkent 83.39 339 *i* P **P 00 25 59.3 +0.9**
GNI Garni 83.40 336 *e*P **P 00 25 59.1 +0.6**
comp=Z,20nm,0.9s
GNI Garni 83.40 336 LR LR 01 11 52.1
comp=Z,1μm,19.0s,baz=15,slow=42
LUCF Luceram 83.48 4 *e*P **P 00 25 59.0 +0.3**
SBF Sospel 83.51 4 ⇑*i*P **P 00 25 59.7 +0.8**
comp=Z,184nm,1.1s
SBF Sospel 83.51 4 ⇑*i*P **P 00 25 59.7 +0.8**
SBF pmax pmax
comp=Z,184nm,1.1s
SBF Sospel 83.51 4 ⇑*i*P **P 00 25 59.7 +0.8**
comp=Z,184nm,1.1s
PRD Provadia 83.52 350 *i* P **P 00 25 59.2 +0.4**
SJPF Ste Jean 83.58 11 ⇑*i*P **P 00 26 00.7 +1.5**
comp=Z,35nm,1.2s
SJPF Ste Jean 83.58 11 ⇑*i*P **P 00 26 00.7 +1.5**
SJPF pmax pmax
comp=Z,35nm,1.2s
SJPF Ste Jean 83.58 11 ⇑*i*P **P 00 26 00.7 +1.5**
comp=Z,35nm,1.2s
CALN Calern 83.59 5 *e*P **P 00 25 58.6 -0.8**
REVF Revere 83.63 4 *e*P **P 00 25 58.9 -0.6**
MTLF Montolieu 83.69 8 ⇑*i*P **P 00 26 00.7 +1.0**
comp=Z,38nm,0.9s
MTLF Montolieu 83.69 8 ⇑*i*P **P 00 26 00.7 +1.0**
MTLF pmax pmax
comp=Z,38nm,0.9s
MTLF Montolieu 83.69 8 ⇑*i*P **P 00 26 00.7 +1.0**
comp=Z,38nm,0.9s
MPEP Malo Peshtene 83.72 352 *i* P **P 00 25 59.6 -0.3**
PGAV Gavieira, Arco 83.73 16 *e*P **P 00 26 01.4 +1.3**
comp=Z,42nm,1.1s
PGAV Gavieira, Arco 83.73 16 *e*S S 00 36 28.0 +6.8
PGAV Gavieira, Arco 83.73 16 *e*LR LR 00 56 53.6
comp=Z,1μm,18.0s
FRF La Foret Royal 83.77 5 ⇑*i*P **P 00 26 01.2 +1.1**
comp=Z,164nm,1.7s
FRF La Foret Royal 83.77 5 ⇑*i*P **P 00 26 01.2 +1.1**
FRF pmax pmax
comp=Z,164nm,1.7s
FRF La Foret Royal 83.77 5 ⇑*i*P **P 00 26 01.2 +1.1**
comp=Z,164nm,1.7s
EPF Esparros 83.83 9 ⇑*i*P **P 00 26 00.7 +0.2**
comp=Z,25nm,0.9s
EPF Esparros 83.83 9 ⇑*i*P **P 00 26 00.7 +0.2**
EPF pmax pmax
comp=Z,25nm,0.9s
EPF Esparros 83.83 9 ⇑*i*P **P 00 26 00.7 +0.2**
comp=Z,25nm,0.9s
ETSF Etsaut 83.86 10 ⇑*i*P **P 00 26 01.9 +1.2**
comp=Z,100nm,1.2s
ETSF Etsaut 83.86 10 ⇑*i*P **P 00 26 01.9 +1.2**
ETSF pmax pmax
comp=Z,101nm,1.2s
ETSF Etsaut 83.86 10 ⇑*i*P **P 00 26 01.9 +1.2**
comp=Z,100nm,1.2s
VIEF Viey 83.94 10 *e*P **P 00 26 02.3 +1.2**
MLS Moulis 83.97 9 *e*P **P 00 26 02.0 +0.8**
LMR La Mourre 83.99 5 ⇑*i*P **P 00 26 02.4 +1.1**
LMR La Mourre 83.99 5 ⇑*i*P **P 00 26 02.4 +1.1**
LMR La Mourre 83.99 5 ⇑*i*P **P 00 26 02.4 +1.1**
RESF Ens 84.05 9 *e*P **P 00 26 03.1 +1.4**
GRSN GIRESUNGRSN 84.09 341 *i* P **P 00 26 03.0 +1.2**
KAPI Kappang 84.09 254 P P 00 26 14.7 +13
SNR=7.3
KAPI Kappang 84.09 254 P **P 00 26 03.7 +1.6**
comp=Z,57nm,1.7s,comp=Z,861nm
KAPI Kappang 84.09 254 *e*P **P 00 26 01.7 -0.4**
comp=Z,186nm,1.7s
KAPI LR LR
comp=Z,275nm,21.0s
BKSI Bulukumba 84.13 253 P **P 00 26 02.5 +0.2**
PBRG Braganca 84.13 15 *e*P **P 00 26 02.3 +0.2**
MTN Manton Dam 84.19 240 ⇓P P 00 26 06.0 +3.5
baz=84,SNR=3.5
EATA Eleskirt 84.21 338 *i* P **P 00 26 03.6 +0.8**
POLO Lamas de Olo 84.38 16 *e*P **P 00 26 04.5 +1.1**
comp=Z,17nm,1.7s
ERZM Erzurum 84.42 339 *i* P **P 00 26 05.6 +1.8**
PTO Porto 84.48 16 *e*P **P 00 26 05.2 +1.5**
comp=Z,47nm,1.4s
PVRL Vila Real 84.49 16 *e*P **P 00 26 05.1 +1.2**
comp=Z,35nm,1.3s
KOPT Kop Dagi 84.50 339 *i* P **P 00 26 06.1 +1.8**
VTS Vitosha 84.52 353 P **P 00 26 03.0 -1.1**
VTS Vitosha 84.52 353 P **P 00 26 03.0 -1.1**
VTS Vitosha 84.52 353 *i* P **P 00 26 03.8 -0.3**
VTS Vitosha 84.52 353 P **P 00 26 03.0 -1.1**
KSM Kuching 84.54 265 P **P 00 26 05.6 +1.2**
comp=Z,59nm,1.2s,comp=Z,677nm
KSM Kuching 84.54 265 *e*P **P 00 26 03.7 -0.7**
comp=Z,52nm,1.0s
KSM LR LR
comp=Z,240nm,19.0s
KSM Kuching 84.54 265 ⇑P **P 00 26 05.7 +1.3**
baz=85,SNR=6.2
STON Ston 84.55 357 P **P 00 26 03.3 -0.8**
TUTA Tutak 84.57 337 *i* P **P 00 26 05.9 +1.3**
KELT Kelkit 84.64 340 *i* P **P 00 26 06.1 +1.2**
MVO Moncorvo 84.71 15 *e*P **P 00 26 03.9 -1.1**
comp=Z,29nm,0.8s
MVO Moncorvo 84.71 15 *e*S **S 00 36 35.4 +4.4**
MVO Moncorvo 84.71 15 *e*LR LR 00 56 57.8
comp=Z,2μm,20.0s
ANWB Willy Bob 84.82 68 PFAKE 00 26 20.0 +14
ANWB LR LR
comp=Z,936nm,19.0s
DIM Dimitrovgrad 84.85 351 *i* P **P 00 26 06.4 +0.8**
CTKT Corum 85.02 344 *i* P **P 00 26 08.6 +1.8**
RZN Rozhen 85.29 351 *i* P P 00 26 00.1 -8.0
MTE Manteigas 85.37 16 *e*P P 00 26 12.8 +4.4
comp=Z,28nm,1.2s
MTE Manteigas 85.37 16 *e*S **S 00 36 37.2 -0.4**
MTE Manteigas 85.37 16 *e*LR LR 00 57 43.4
comp=Z,1μm,18.0s
MTE Manteigas 85.37 16 PFAKE 00 26 20.0 +12
MTE LR LR
comp=Z,1μm,19.0s
BNGL BINGOL 85.38 338 *i* P **P 00 26 10.1 +1.4**
ELBA Catalca 85.43 349 *i* P **P 00 26 09.0 +0.4**
PCAS Casmilo, Conde 85.55 17 *e*P **P 00 26 10.0 +0.8**
comp=Z,32nm,1.2s
GEVA Gevas 85.55 337 *i* P **P 00 26 10.2 +0.7**
PHP Peshkopia 85.61 355 P **P 00 26 06.9 -2.6**
PHP Peshkopia 85.61 355 P **P 00 26 06.9 -2.6**
PHP Peshkopia 85.61 355 P **P 00 26 06.9 -2.6**
KEMA Kemaliye 85.64 341 *i* P **P 00 26 10.9 +1.1**
NVR Nevrokopi 85.70 352 P **P 00 26 09.7 -0.2**
NVR Nevrokopi 85.70 352 *e*P **P 00 26 10.6 +0.7**
NVR Nevrokopi 85.70 352 P **P 00 26 09.7 -0.2**
RDO Rodhopi 85.75 351 P **P 00 26 09.7 -0.4**
RDO Rodhopi 85.75 351 *e*P **P 00 26 10.8 +0.7**
RDO Rodhopi 85.75 351 P **P 00 26 09.7 -0.4**
PCBR Castelo Branco 85.93 16 *e*P **P 00 26 12.8 +1.8**
comp=Z,17nm,1.3s
ALN Alexandroupoli 85.94 350 *e*P **P 00 26 11.3 +0.2**
SRS Serrai 85.95 352 P **P 00 26 11.1 -0.1**
SRS Serrai 85.95 352 P **P 00 26 11.1 -0.1**
SRS Serrai 85.95 352 P **P 00 26 11.1 -0.1**
KNT Kendrikon 85.96 353 P **P 00 26 11.8 +0.6**
KNT Kendrikon 85.96 353 P **P 00 26 11.8 +0.6**
KNT Kendrikon 85.96 353 *e*P **P 00 26 11.9 +0.7**
KNT Kendrikon 85.96 353 P **P 00 26 11.8 +0.6**
TIR Tirane 85.97 355 *e*P **P 00 26 12.3 +1.0**
TIR pmax pmax
comp=Z,120nm,1.4s
TIR MLR MLR
comp=Z,957nm,21.0s
TIR Tirane 85.97 355 *e*P **P 00 26 12.2 +1.0**
comp=Z,120nm,1.4s
TIR LR LR
comp=Z,957nm,21.0s
PTOM Tomar 85.99 17 *e*P **P 00 26 11.6 +0.3**
comp=Z,27nm,1.9s
SART Tekirdag 86.03 349 *i* P **P 00 26 11.9 +0.3**
ANTO Ankara 86.08 345 ⇑P **P 00 26 13.1 +1.2**
ANTO Ankara 86.08 345 P **P 00 26 13.7 +1.8**
SNR=13
ANTO Ankara 86.08 345 ⇑*i*P **P 00 26 13.1 +1.2**
ANTO Ankara 86.08 345 *e*P **P 00 26 12.5 +0.6**
comp=Z,58nm,0.9s
ANTO LR LR
comp=Z,626nm,19.0s
BR131 Keskin Array S 86.08 344 *e*P **P 00 26 12.4 +0.4**
comp=Z,34nm,0.9s
BRTR Keskin Array B 86.08 344 P **P 00 26 12.8 +0.8**
BRTR Keskin Array B 86.08 344 P **P 00 26 12.8 +0.8**
comp=Z,35nm,0.9s,baz=54,slow=2.3,SNR=144
BRTR LR LR 01 08 48.7
comp=Z,878nm,20.9s,baz=20,slow=38
HAKT HAKKARI 86.11 336 *i* P **P 00 26 13.0 +0.7**
ULDT Uludag 86.33 348 *i* P **P 00 26 13.8 +0.6**
BBAL Bala 86.35 345 *i* P **P 00 26 14.2 +0.9**
PMRV Marv??o 86.35 16 *e*S S 00 36 38.9 -8.2
PMRV Marv??o 86.35 16 *e*LR LR 00 56 28.2
comp=Z,1μm,18.0s
BORA Eskisehir 86.41 347 *i* P **P 00 26 14.1 +0.6**
FNA Florina 86.45 354 *e*P **P 00 26 13.3 -0.4**
PMAFR Mafra 86.48 17 *e*P **P 00 26 14.9 +1.1**
comp=Z,62nm,1.1s
PMTG Montargil 86.56 17 *e*P **P 00 26 14.7 +0.6**
comp=Z,12nm,1.4s
MALT Malatya 86.58 340 ⇑P **P 00 26 15.9 +1.5**
MALT Malatya 86.58 340 ⇑*i*P **P 00 26 15.9 +1.5**
PINB Pinarbasi 86.62 342 *i* P **P 00 26 16.0 +1.2**
ESDC Sonseca Array 86.63 13 P **P 00 26 14.7 +0.1**
ESDC PP **PP 00 29 35.4 -0.3**
ESDC Sonseca Array 86.63 13 P **P 00 26 14.7 +0.1**
comp=Z,4.8nm,0.8s,baz=344,slow=4.5,SNR=32
ESDC PP **PP 00 29 35.4 -0.3**
comp=Z,0.4nm,0.6s,baz=348,slow=7.4,SNR=4.8
ESDC LR LR 01 07 29.3
comp=Z,1μm,18.8s,baz=330,slow=37
ESLA Sonseca Array 86.63 13 *e*P **P 00 26 13.8 -0.7**
comp=Z,1.0nm,0.8s
SDV Santo Domingo 86.69 80 *e*P **P 00 26 14.4 -0.9**
comp=Z,4.8nm,1.0s
AKCD Akcadag 86.69 341 *i* P **P 00 26 16.4 +1.4**
OUR Ouranopolis 86.69 352 *e*P **P 00 26 14.5 -0.3**
PAB San Pablo 86.70 14 PFAKE 00 26 30.0 +15
PAB LR LR
comp=Z,2μm,20.0s
PACT Alcochete 86.74 17 *e*P **P 00 26 15.5 +0.5**
comp=Z,101nm,1.3s
NEST Nestorio 86.83 354 *e*P **P 00 26 15.7 +0.1**
BALY Balya 86.91 349 *i* P **P 00 26 15.9 0.0**
DURS Dursunbey 86.95 348 *i* P **P 00 26 16.1 0.0**
LIA Limnos Island 87.02 351 P **P 00 26 16.3 -0.1**
LIA Limnos Island 87.02 351 *e*P **P 00 26 16.8 +0.4**
LIA Limnos Island 87.02 351 P **P 00 26 16.3 -0.1**
PBA Port Blair 87.03 285 *ex* x 00 26 40.9
PBKI Pangkalan Bun 87.03 262 P **P 00 26 19.3 +2.5**
comp=Z,87nm,0.7s
MARD Mardin 87.03 338 *i* P **P 00 26 17.8 +1.1**
EVOP Sao Brissos 87.10 17 ⇑*i*P **P 00 26 16.4 -0.4**
EVOP pmax pmax
comp=Z,29nm,1.3s
EVOP Sao Brissos 87.10 17 ⇑*i*P **P 00 26 16.4 -0.4**
comp=Z,29nm,1.3s
EVO Evora 87.11 17 ⇑*i*P **P 00 26 16.4 -0.5**
comp=Z,29nm,1.3s
EVO *e*R
comp=Z,2μm,19.0s
EVO Evora 87.11 17 *e*P **P 00 26 16.3 -0.6**
comp=Z,17nm,1.7s
GDZ Gediz 87.32 347 *i* P **P 00 26 18.0 0.0**
KULM Kulim 87.37 275 P **P 00 26 19.1 +0.7**
comp=Z,23nm,1.0s,comp=Z,592nm
KULM Kulim 87.37 275 *e*P **P 00 26 17.9 -0.6**
comp=Z,20nm,1.1s
KULM LR LR
comp=Z,412nm,22.0s
PNCL Nicolau / Gran 87.43 17 *e*P **P 00 26 18.5 +0.1**
comp=Z,26nm,1.6s
AYVA Ayvalik 87.44 350 *i* P **P 00 26 18.3 -0.2**
CUC Castrocucco 87.48 358 PFAKE 00 26 30.0 +11
CUC LR LR
comp=Z,585nm,19.0s
BOLV Bolvadin 87.48 346 *i* P **P 00 26 19.3 +0.5**
KDHN Kadinhani 87.50 345 *i* P **P 00 26 19.2 +0.3**
THL Klokotos Trika 87.61 353 *e*P **P 00 26 18.6 -0.7**
PBAR Barrancos 87.63 16 *e*P **P 00 26 19.6 +0.2**
comp=Z,18nm,1.0s
PBEJ Beja 87.63 17 *e*P **P 00 26 19.3 -0.1**
comp=Z,15nm,1.3s
GZT Gaziantep 87.67 341 *i* P **P 00 26 21.3 +1.5**
ANDN Andirin 87.69 342 *i* P **P 00 26 19.6 -0.2**
XOR Xorichti 87.72 352 P **P 00 26 18.6 -1.2**
XOR Xorichti 87.72 352 *e*P **P 00 26 19.3 -0.5**
XOR Xorichti 87.72 352 P **P 00 26 18.6 -1.2**
IGT Igoumenitsa 87.76 354 *e*P **P 00 26 19.8 -0.2**
AYKD Aykdinkavak 87.77 341 *i* P **P 00 26 21.0 +0.9**
NEO Neokhori 87.78 352 *e*P **P 00 26 19.8 -0.3**
IPM Ipoh 87.78 274 P **P 00 26 21.0 +0.6**
IPM Ipoh 87.78 274 *e*P **P 00 26 19.8 -0.6**
comp=Z,19nm,0.8s
VSL Villasalto 87.94 3 PFAKE 00 26 30.0 +9.1
VSL LR LR
comp=Z,734nm,20.0s
PTEO Sao Teotonio 87.95 17 *e*P **P 00 26 21.3 +0.4**
comp=Z,37nm,1.6s
PCVE Castro Verde 87.99 17 *e*P **P 00 26 21.6 +0.5**
comp=Z,15nm,1.7s
KHAL Karahalli 88.03 347 *i* P **P 00 26 21.5 +0.1**
AGG Agios Georgios 88.13 353 *e*P **P 00 26 21.5 -0.3**
MAKR Makrakomi, Fth 88.16 353 P **P 00 26 21.6 -0.3**
MAKR Makrakomi, Fth 88.16 353 *e*P **P 00 26 21.8 -0.1**
MAKR Makrakomi, Fth 88.16 353 P **P 00 26 21.6 -0.3**
MORF Marmelete 88.20 17 *e*P **P 00 26 22.6 +0.4**
comp=Z,50nm,1.9s
PVAQ Vaqueiros 88.27 17 *e*P **P 00 26 22.7 +0.3**
comp=Z,30nm,1.6s
PVAQ Vaqueiros 88.27 17 *e*S **S 00 37 09.4 +3.9**
PVAQ Vaqueiros 88.27 17 *e*LR LR 00 57 42.3
comp=Z,1μm,20.0s
GULE Gulek 88.27 343 *i* P **P 00 26 22.8 +0.1**
EVR Evrytania 88.27 353 *e*P **P 00 26 22.7 +0.1**
PFVI Vila Bisbo 88.33 17 *e*P **P 00 26 22.4 -0.3**
comp=Z,72nm,1.6s
PBDV Barranco-do-Ve 88.39 17 *e*P **P 00 26 22.9 -0.1**
comp=Z,45nm,2.0s
CHOS Chios island 88.42 350 *e*P **P 00 26 22.6 -0.7**
ISP Isparta 88.42 346 PFAKE 00 26 30.0 +6.7
ISP LR LR
comp=Z,926nm,20.0s
WRAB Tennant Creek 88.55 234 *e*P **P 00 26 23.2 -0.6**
WRAB pmax pmax
comp=Z,28nm,1.3s
WRAB MLR MLR
comp=Z,490nm,20.0s
WRAB Tennant Creek 88.55 234 *e*P **P 00 26 23.2 -0.6**
comp=Z,28nm,1.3s
WRAB LR LR
comp=Z,490nm,20.0s
WRA Warramunga Arr 88.56 234 P **P 00 26 22.8 -1.1**
WRA Warramunga Arr 88.56 234 P **P 00 26 22.8 -1.1**
comp=Z,2.6nm,0.9s,baz=38,slow=5.3,SNR=9.9
WRA LR LR 01 01 30.2
comp=Z,372nm,22.0s,baz=40,slow=32
PDO Prodromos 88.63 354 *e*P **P 00 26 24.4 +0.3**
DESF Desfina 88.72 353 *e*P **P 00 26 23.7 -0.9**
DSF Desfina 88.72 353 P **P 00 26 23.2 -1.4**
DSF Desfina 88.72 353 *e*P **P 00 26 23.6 -1.0**
DSF Desfina 88.72 353 P **P 00 26 23.2 -1.4**
COBT Iskenderun 88.74 342 *i* P **P 00 26 25.6 +0.7**
EFP Efpalio 88.75 353 P **P 00 26 24.8 +0.1**
EFP Efpalio 88.75 353 *e*P **P 00 26 25.2 +0.5**
DNZL Cakiroluk 88.76 347 *i* P **P 00 26 25.5 +0.5**
KALE Kalithea 88.77 353 *e*P **P 00 26 24.1 -0.8**
OTAV Otavalo 88.81 91 *e*P **P 00 26 24.7 -1.1**
comp=Z,7.7nm,0.8s
OTAV LR LR
comp=Z,242nm,20.0s
LAKA Lakka 88.94 353 *e*P P 00 26 22.2 -3.4
KLV Kalavryta, Ach 89.12 353 P **P 00 26 26.1 -0.4**
KLV Kalavryta, Ach 89.12 353 P **P 00 26 26.1 -0.4**
KIZK Mersin 89.16 343 *i* P **P 00 26 24.0 -2.7**
CEL Celeste 89.20 358 PFAKE 00 26 40.0 +13
CEL LR LR
comp=Z,553nm,19.0s
GUR Goura 89.21 353 P **P 00 26 25.6 -1.4**
GUR Goura 89.21 353 *e*P **P 00 26 27.0 0.0**
GUR Goura 89.21 353 P **P 00 26 25.6 -1.4**
DRO Drossia 89.24 353 *e*P **P 00 26 27.0 0.0**
GRGR Grenville 89.35 71 PFAKE 00 26 40.0 +12
GRGR LR LR
comp=Z,492nm,20.0s
DID Didima 89.56 352 *e*P **P 00 26 27.8 -0.8**
BDRM Kayabasi 89.58 349 *i* P **P 00 26 26.9 -1.7**
DIDY Didyma 89.60 352 *e*P **P 00 26 27.3 -1.5**

BBGH	**Gun Hill**	**89.72**	**68**	PFAKE			00 26 40.0	+10
BBGH				LR	LR			
	comp=Z,1μm,19.0s							
QLP	**Quilpie**	**89.87**	**222**	⇑P		**P**	**00 26 33.0**	**+3.2**
	baz=90							
ITM	**Ithomi**	**89.99**	**353**	*e*P		**P**	**00 26 28.5**	**-2.1**
HYB	**Hyderabad**	**90.27**	**300**	*i* P		**P**	**00 26 31.0**	**-1.2**
PYL	**PYLOS**	**90.29**	**353**	*e*P		**P**	**00 26 30.3**	**-1.6**
PSI	**Prapat**	**90.38**	**275**	P		**P**	**00 26 31.7**	**-1.1**
PSI	**Prapat**	**90.38**	**275**	P		**P**	**00 26 31.7**	**-1.1**
	comp=Z,8.7nm,0.9s,baz=304,slow=4.0,SNR=7.5							
PMOZ	**Porto Moniz, M**	**90.63**	**25**	*e*LR		LR	00 57 28.1	
	comp=Z,1μm,18.0s							
CSS	**Prodhromos**	**90.78**	**344**	P		**P**	**00 26 34.4**	**+0.1**
CSS	**Prodhromos**	**90.78**	**344**	P		**P**	**00 26 34.4**	**+0.1**
CSS				LR	LR			
	comp=Z,589nm,19.0s							
FITZ	**Fitzroy Crossi**	**91.47**	**242**	⇓P		**P**	**00 26 38.3**	**+0.9**
	baz=92,SNR=7.7							
KEST	**Kesra**	**91.69**	**3**	*e*P		**P**	**00 26 39.0**	**+0.5**
KEST	**Kesra**	**91.69**	**3**	P		**P**	**00 26 39.0**	**+0.5**
	comp=Z,2.6nm,0.9s,baz=285,slow=3.3,SNR=5.7							
KEST				LR		LR	01 09 54.8	
	comp=Z,117nm,20.1s,baz=177,slow=37							
RTC	**Rabat Centre**	**91.75**	**17**	PFAKE			00 26 50.0	+11
RTC				LR		LR		
	comp=Z,647nm,19.0s							
AS15	**Alice Springs**	**91.91**	**232**	⇑P		**P**	**00 26 41.0**	**+1.6**
	baz=92							
AS14	**Alice Springs**	**91.92**	**232**	⇑P		**P**	**00 26 41.2**	**+1.7**
	baz=92							
AS31	**Alice Springs**	**91.94**	**232**	*e*P		**P**	**00 26 38.7**	**-0.9**
ASAR	**Alice Springs**	**91.94**	**232**	P		**P**	**00 26 39.6**	**+0.1**
ASAR	**Alice Springs**	**91.94**	**232**	P		**P**	**00 26 39.6**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=33,slow=5.2,SNR=23							
ASAR				LR		LR	01 03 06.0	
	comp=Z,683nm,21.9s,baz=31,slow=32							
AS19	**Alice Springs**	**91.94**	**232**	⇓P		**P**	**00 26 40.8**	**+1.2**
	baz=92							
KPJI	**Karang Pucung**	**92.34**	**261**	P		**P**	**00 26 40.4**	**-1.3**
RST	**Umm Al-Ruwaisa**	**92.83**	**331**	*e*P		**P**	**00 26 43.9**	**+0.1**
RST				AMb		AMB	00 26 45.0	
	comp=Z,145nm,1.1s							
NAY	**Al-Naaiem**	**93.00**	**331**	*e*P		**P**	**00 26 44.4**	**-0.2**
NAY				AMb		AMB	00 26 53.6	
	comp=Z,11nm,1.0s							
RDF	**Al-Radifah**	**93.21**	**330**	*e*P		**P**	**00 26 46.1**	**+0.6**
RDF				AMb		AMB	00 26 49.3	
	comp=Z,38nm,1.2s							
MDT	**Midelt**	**93.26**	**15**	LR		LR	01 15 07.6	
	comp=Z,858nm,18.3s,baz=298,slow=40							
SNZO	**South Karori**	**95.17**	**194**	PFAKE			00 27 10.0	+16
SNZO				LR		LR		
	comp=Z,700nm,19.0s							
ARQ	**Araqi**	**95.28**	**321**	⇑P		**P**	**00 26 55.0**	**-0.2**
	SNR=6.5							
STKA	**Stephens Creek**	**95.61**	**222**	LR		LR	01 06 25.2	
	comp=Z,416nm,20.6s,baz=24,slow=33							
TAM	**Tamanrasset**	**104.36**	**7**	PFAKE			00 27 50.0	+14
TAM				LR		LR		
	comp=Z,629nm,19.0s							
SAML	**Samuel**	**105.30**	**85**	PFAKE			00 32 10.0	
SAML				LR		LR		
	comp=Z,474nm,19.0s							
NWAO	**Narrogin (SRO)**	**107.86**	**239**	PFAKE			00 32 10.0	
NWAO				LR		LR		
	comp=Z,588nm,19.0s							
TORD	**Torodi Ar. Bea**	**113.50**	**12**	PKiKP		**PKiKP**	**00 32 08.7**	**-0.7**
TORD				PKKPbc		**PKKPbc**	**00 42 51.1**	**-0.2**
TORD	**Torodi Ar. Bea**	**113.50**	**12**	PKiKP		**PKiKP**	**00 32 08.7**	**-0.7**
	comp=Z,2.0nm,0.7s,baz=348,slow=2.0,SNR=23							
TORD				PKKPbc		**PKKPbc**	**00 42 51.1**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=161,slow=2.1,SNR=5.2							
H03N2	**Juan Fernandez**	**114.67**	**113**	T		T	02 37 27.6	
	baz=320,slow=0.7,SNR=41							
H03N1	**Juan Fernandez**	**114.68**	**113**	T		T	02 37 29.7	
	baz=320,slow=0.7,SNR=62							
H03N3	**Juan Fernandez**	**114.68**	**113**	T		T	02 37 28.8	
	baz=320,slow=0.7,SNR=41							
RCBR	**Riachuelo**	**118.36**	**59**	PFAKE			00 32 30.0	+11
RCBR				LR		LR		
	comp=Z,625nm,21.0s							
DBIC	**Dimbokro**	**118.72**	**21**	PKP		**PKPdf**	**00 32 19.1**	**-0.4**
DBIC	**Dimbokro**	**118.72**	**21**	PKP		**PKPdf**	**00 32 19.1**	**-0.4**
	comp=Z,2.5nm,0.7s,baz=344,slow=4.3,SNR=3.3							
LIC	**Lamto**	**119.12**	**21**	*e*PKiKP		**PKPdf**	**00 32 19.8**	**-0.5**
	comp=Z,8.5nm,0.7s							
LIC				*e*R				
	comp=Z,2μm,22.2s							
LIC	**Lamto**	**119.12**	**21**	*e*PKPdf		**PKPdf**	**00 32 19.8**	**-0.5**
MSEY	**Mahe Island**	**120.76**	**309**	PFAKE			00 32 40.0	+17
MSEY				LR		LR		
	comp=Z,665nm,19.0s							
KMBO	**Kilima Mbogo**	**124.68**	**330**	*e*PKPdf		**PKPdf**	**00 32 31.6**	**+0.4**
KMBO				PKP		**PKPdf**	**00 32 31.9**	**+0.7**
KMBO				LR		LR		
	comp=Z,397nm,20.0s							
KMBO	**Kilima Mbogo**	**124.68**	**330**	PKP		**PKPdf**	**00 32 31.9**	**+0.7**
	comp=Z,7.3nm,0.9s,baz=352,slow=3.4,SNR=19							
DRV	**Dumont d'Urvil**	**125.80**	**203**	SS		SS	00 51 16.0	-7.8
MBAR	**Mbarara**	**125.89**	**338**	PFAKE			00 32 50.0	+17
MBAR				LR		LR		
	comp=Z,1μm,21.0s							
SPB	**Sao Paulo**	**126.10**	**82**	PFAKE			00 32 50.0	+17
SPB				LR		LR		
	comp=Z,459nm,19.0s							
ASCN	**Ascension**	**129.89**	**37**	PFAKE			00 32 50.0	+9.2
ASCN				LR		LR		
	comp=Z,342nm,20.0s							
SBA	**Scott Base**	**131.48**	**187**	PFAKE			00 32 50.0	+8.1
SBA				LR		LR		
	comp=Z,552nm,19.0s							
VNDA	**Vanda**	**131.59**	**189**	PKP		**PKPdf**	**00 32 42.9**	**+0.8**
VNDA	**Vanda**	**131.59**	**189**	PKP		**PKPdf**	**00 32 42.9**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=79,slow=5.2,SNR=4.1							
CASY	**Casey**	**134.12**	**214**	PFAKE			00 33 00.0	+13
CASY				LR		LR		
	comp=Z,736nm,22.0s							
ABPO	**Ambohimpanom**	**137.13**	**309**	PFAKE			00 33 10.0	+16
ABPO				LR		LR		
	comp=Z,541nm,19.0s							
SHEL	**Horse Pasture**	**140.24**	**29**	PFAKE			00 33 10.0	+10
SHEL				LR		LR		
	comp=Z,690nm,19.0s							
LSZ	**Lusaka**	**140.65**	**337**	PKPpre		PKPpre	00 32 53.4	
LSZ				LR		LR		
	comp=Z,677nm,20.0s							
LSZ	**Lusaka**	**140.65**	**337**	PKhKP		PKPpre	00 32 53.4	
	comp=Z,1.7nm,0.7s,baz=29,slow=8.8,SNR=6.6							
QSPA	**South Pole Qui**	**142.64**	**180**	*e*PKPdf		PKPpre	00 32 57.4	
QSPA				PKPpre		PKPpre	00 32 57.5	
QSPA				LR		LR		
	comp=Z,682nm,20.0s							
QSPA	**South Pole Qui**	**142.64**	**180**	PKhKP		PKPpre	00 32 57.5	
TSUM	**Tsumeb**	**146.22**	**353**	*e*PKPdf		**PKPdf**	**00 33 11.0**	**+0.4**
TSUM				LR		LR		
	comp=Z,485nm,22.0s							
LBTB	**Lobatse**	**150.64**	**337**	*e*PKPbc		**PKPbc**	**00 33 23.8**	**+0.7**
LBTB				*e*PKPab		**PKPab**	**00 33 30.4**	**+0.5**
LBTB	**Lobatse**	**150.64**	**337**	PKPbc		**PKPbc**	**00 33 23.5**	**+0.4**
	comp=Z,32nm,0.8s,baz=53,slow=1.4,SNR=40							
MAW	**Mawson**	**152.25**	**219**	*e*PKPdf		**PKPdf**	**00 33 19.0**	**+0.5**
MAW				PKPbc		**PKPbc**	**00 33 24.9**	**-0.4**
MAW				*e*PKPbc		**PKiKP**	**00 33 25.1**	**-0.4**
MAW	**Mawson**	**152.25**	**219**	PKPbc		**PKPbc**	**00 33 24.9**	**-0.4**
	comp=Z,12nm,0.8s,baz=58,slow=0.9,SNR=40							
BOSA	**Boshof**	**154.17**	**335**	PKPbc		**PKPbc**	**00 33 30.9**	**-0.1**
BOSA				PKPab		**PKPab**	**00 33 44.7**	**0.0**
BOSA	**Boshof**	**154.17**	**335**	PKPbc		**PKPbc**	**00 33 30.9**	**-0.1**
	comp=Z,6.4nm,0.9s,baz=56,slow=2.0,SNR=7.7							
BOSA				PKPab		**PKPab**	**00 33 44.7**	**0.0**
	comp=Z,5.8nm,0.6s,baz=56,slow=6.6,SNR=5.9							
SUR	**Sutherland**	**158.79**	**342**	PFAKE			00 33 40.0	+11
SUR				LR		LR		
	comp=Z,672nm,20.0s							

MEX 15 00:19:55.4±0.5, 16°.95N×99°.58W, h27km±11km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
ACX	**Acapulco**	**0.28**	**253**	*e*P		Pn	00 20 04.9	+1.2
ACX				*e*S		Sn	00 20 10.2	+1.1
CAIG	**El Cayaco**	**0.66**	**279**	*e*P		Pb	00 20 06.2	-2.3
CAIG				*i* S		Sb	00 20 14.8	-2.5
MEIG	**Mezcala**	**0.97**	**358**	*e*P		Pn	00 20 10.4	-3.0
MEIG				*i* S		Sb	00 20 22.6	-3.7
PLIG	**Platanillo**	**1.44**	**3**	*e*P		Pn	00 20 17.7	-2.1
PLIG				*e*S		Sn	00 20 34.7	-3.3
PNIG	**Pinotepa**	**1.50**	**111**	*e*P		Pn	00 20 18.6	-2.0
PNIG				*i* S		Sn	00 20 36.5	-2.8
ARIG	**Puente Sto Nin**	**1.51**	**331**	*e*P		Pn	00 20 18.6	-2.2
ARIG				*e*S		Sn	00 20 36.6	-3.0
ZIIG	**Zihuatanejo**	**1.91**	**290**	*e*P		Pn	00 20 23.3	-3.0
ZIIG				*i* S		Sn	00 20 46.5	-3.0
YAIG	**Yautepec**	**1.96**	**14**	*e*P		Pn	00 20 25.5	-1.7
YAIG				*e*S		Sn	00 20 48.5	-2.6

IDC 15 00:34:48.0±9.7, 15°.29S×172°.88W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.7/19, mbtmp3.9/2, Error ellipse: s-maj=465.0km s-min=24.9km az=141.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**1.74**	**38**	Pn		Pn	00 35 18.2	-1.4
	103nm,0.3s,baz=30,slow=2.1,SNR=56							
AFI				Sn		Sn	00 35 35.7	-6.9
	336nm,0.3s,baz=234,slow=23,SNR=14							
WRA	**Warramunga Arr**	**50.36**	**257**	P		P	00 43 46.1	-1.1
	0.7nm,0.8s,baz=92,slow=6.9,SNR=3.5							
ASAR	**Alice Springs**	**50.62**	**252**	P		P	00 43 48.8	-0.5
	3.2nm,0.7s,baz=86,slow=8.2,SNR=22							
BRTR	**Keskin Array B**	**146.38**	**322**	PKPbc		PKPab	00 54 32.9	+0.6
	1.0nm,0.8s,baz=108,slow=2.8,SNR=4.8							

*IDC **15** 00:37:00.1±1.4, 52°.61N×166°.78W, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/28, mbtmp3.5/7, ML3.2/2, Error ellipse: s-maj=38.5km s-min=16.8km az=177.0*
*NEIC **15** 00:37:01.1, 52°.70N×166°.73W, h2km, ML3.5(AEIC), After AEIC.*
*ISCJB **15** 00:37:02.2±0.7, 52°.62N±0°.06×166°.69W±0°.07, h25km, mb3.6/6, Error ellipse: s-maj=8.3km s-min=5.8km az=4.5*

ISC 15 00:37:04.1±1.0, 52°.70N±0°.08×166°.75W±0°.05, h25km, n34, σ0s89/31, mb3.6/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
OKFG	**Magazine Ridge**	**1.00**	**316**	P		**Pn**	**00 37 21.0**	**-1.6**
OKFG				S		**Sn**	**00 37 36.9**	**+1.0**
OKTU	**Okmok Mt. Tuli**	**1.04**	**312**	P		**Pn**	**00 37 22.4**	**-0.8**
OKSO	**Okmok South**	**1.08**	**309**	P		**Pn**	**00 37 22.1**	**-1.5**
OKSO				S		**Sb**	**00 37 38.2**	**+0.5**
OKSP	**Okmok Steeple**	**1.08**	**302**	P		**Pn**	**00 37 23.0**	**-0.7**
MREP	**Makushin Rep't**	**1.12**	**0**	P		**Pn**	**00 37 23.0**	**-1.2**
OKCE	**Okmok Cone E**	**1.12**	**311**	P		**Pn**	**00 37 23.3**	**-1.0**
UNV	**Unalaska Valle**	**1.16**	**7**	P		**Pn**	**00 37 23.0**	**-1.7**
UNV				S		**Sb**	**00 37 40.3**	**+0.2**
MSW	**Makushin Switc**	**1.22**	**359**	P		**Pn**	**00 37 24.4**	**-1.2**
MCIR	**Makushin Cirqu**	**1.26**	**356**	P		**Pn**	**00 37 25.3**	**-0.9**
MTBL	**Makushin Table**	**1.28**	**2**	P		**Pn**	**00 37 25.2**	**-1.2**
NIKH	**Nikolski High**	**1.30**	**283**	P		**Pn**	**00 37 26.3**	**-0.4**
ZRO	**Akutan Zero**	**1.47**	**18**	P		**Pn**	**00 37 28.6**	**-0.4**
AKRB	**Akutan Reef Bi**	**1.49**	**16**	P		**Pn**	**00 37 29.0**	**-0.4**
AKRB				S		**Sb**	**00 37 50.3**	**+0.6**
LVA	**Lava Point**	**1.53**	**16**	P		**Pn**	**00 37 29.4**	**-0.5**
AKUT	**Akutan**	**1.56**	**22**	P		**Pn**	**00 37 29.1**	**-1.0**
AKGG	**Akutan Green G**	**1.57**	**17**	P		**Pn**	**00 37 29.6**	**-0.8**
DT1	**Dutton Round H**	**3.58**	**46**	P		**Pn**	**00 37 57.9**	**-0.1**
SPIA	**Saint Paul Isl**	**4.92**	**337**	P		**Pn**	**00 38 16.9**	**+0.5**
FX1	**Attu Island--F**	**12.16**	**279**	Pn		Pn	00 39 59.2	+3.6
	0.5nm,0.3s,baz=86,slow=19,SNR=2.4							
IMA2	**Indian Mountai**	**14.92**	**21**	*e*Pn		**Pn**	**00 40 33.3**	**+0.1**
ILAR	**Eielson Array**	**15.80**	**32**	Pn		**Pn**	**00 40 45.5**	**+0.9**
	0.1nm,0.3s,baz=234,slow=12,SNR=3.0							
HYT	**Haines Junctio**	**17.85**	**51**	*e*Pn		**P**	**00 41 10.5**	**-0.6**
INK	**Inuvik**	**22.20**	**33**	P		**P**	**00 41 58.0**	**-0.2**
	1.0nm,0.4s,baz=252,slow=9.1,SNR=4.2							
H11N2	**WAKE ISLAND Hy**	**38.73**	**222**	T		T	01 26 03.7	
	baz=28,slow=0.4							
H11N3	**WAKE ISLAND Hy**	**38.74**	**222**	T		T	01 25 59.8	
	baz=28,slow=0.4							
H11N1	**WAKE ISLAND Hy**	**38.75**	**222**	T		T	01 26 06.6	
	baz=28,slow=0.4							
PDAR	**Pinedale Array**	**38.77**	**81**	P		**P**	**00 44 26.7**	**+0.1**
	0.7nm,0.8s,baz=338,slow=3.2,SNR=5.3							
H11S1	**WAKE ISLAND Hy**	**39.91**	**221**	T		T	01 27 35.3	
	baz=25,slow=0.7,SNR=8.6							
H11S2	**WAKE ISLAND Hy**	**39.93**	**221**	T		T	01 27 35.9	
	baz=25,slow=0.7,SNR=8.2							
H11S3	**WAKE ISLAND Hy**	**39.93**	**221**	T		T	01 27 28.9	
	baz=25,slow=0.7,SNR=8.1							
TXAR	**Lajitas Array**	**51.15**	**91**	P		**P**	**00 46 05.2**	**+0.2**
	0.6nm,0.8s,baz=288,slow=4.7,SNR=7.1							
MKAR	**Makanchi Array**	**64.72**	**315**	P		**P**	**00 47 40.5**	**+0.7**
	0.3nm,0.8s,baz=25,slow=3.8,SNR=3.4							
AKASG	**Malin Array Be**	**76.10**	**350**	P		**P**	**00 48 48.0**	**-1.2**
	0.5nm,0.4s,baz=13,slow=5.7,SNR=3.0							
BRTR	**Keskin Array B**	**86.27**	**344**	P		**P**	**00 49 43.8**	**+0.2**
	0.5nm,0.9s,baz=343,slow=3.0,SNR=2.8							

*IDC **15** 00:42:03.9±1.2, 12°.24S×165°.64E, h0km, mb4.2/9, mb1 4.4/10, mb1mx4.1/21, mbtmp4.2/10, ML4.9/1, Error ellipse: s-maj=47.1km s-min=21.9km az=149.0*
*ISCJB **15** 00:42:08.0±0.7, 12°.25S±0°.1×165°.39E±0°.08, h33km, mb4.1/11, Error ellipse: s-maj=16.0km s-min=10.9km az=24.2*
*NEIC **15** 00:42:09.5±0.5, 12°.23S×165°.54E, h35km, mb4.1/4, Error ellipse: s-maj=15.4km s-min=10.2km az=149.0*

ISC 15 00:42:09.6±0.7, 12°.25S±0°.1×165°.47E±0°.09, h35km, n36, σ0s85/38, mb4.1/11, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**6.08**	**296**	Pn		**Pn**	**00 43 36.8**	**-0.3**
HNR				Sn		**Sn**	**00 44 44.4**	**-1.1**
HNR	**Honiara**	**6.08**	**296**	Pn		**Pn**	**00 43 36.8**	**-0.3**
	28nm,0.3s,baz=152,slow=9.2,SNR=4.5							
HNR				Sn		**Sn**	**00 44 44.4**	**-1.1**
	19nm,0.3s,baz=233,slow=23,SNR=9.1							
CTA	**Charters Tower**	**20.04**	**245**	P		Pn	00 46 41.4	-0.4
CTA	**Charters Tower**	**20.04**	**245**	P		Pn	00 46 41.4	-0.4
	6.6nm,0.7s,baz=75,slow=14,SNR=10							
CTAO	**Charters Tower**	**20.04**	**245**	*e*P		**P**	**00 46 39.7**	**-0.1**
	14nm,1.1s							
WRAB	**Tennant Creek**	**30.84**	**252**	*e*P		**P**	**00 48 22.7**	**+0.1**
	4.1nm,1.1s							
WRA	**Warramunga Arr**	**30.85**	**252**	P		**P**	**00 48 23.1**	**+0.4**
WRA	**Warramunga Arr**	**30.85**	**252**	P		**P**	**00 48 23.1**	**+0.4**
	1.3nm,0.7s,baz=80,slow=9.2,SNR=4.7							
ASAR	**Alice Springs**	**32.05**	**245**	P		**P**	**00 48 33.0**	**-0.3**
ASAR	**Alice Springs**	**32.05**	**245**	P		**P**	**00 48 33.0**	**-0.3**
	2.0nm,0.8s,baz=73,slow=9.4,SNR=16							
FITZ	**Fitzroy Crossi**	**38.84**	**256**	*e*P		**P**	**00 49 32.1**	**+0.5**
	3.4nm,0.9s							
MBWA	**Marble Bar**	**44.58**	**252**	*e*P		**P**	**00 50 18.9**	**+0.3**
CMAR	**Chiang Mai Arr**	**72.33**	**294**	P		**P**	**00 53 34.5**	**+2.2**
CMAR	**Chiang Mai Arr**	**72.33**	**294**	P		**P**	**00 53 34.5**	**+2.2**
	1.1nm,0.4s,baz=135,slow=4.0,SNR=4.6							
QSPA	**South Pole Qui**	**77.81**	**180**	*e*P		**P**	**00 54 02.5**	**-0.8**
	1.1nm,0.5s							
SONM	**Songino Array**	**79.43**	**324**	P		**P**	**00 54 13.0**	**+0.7**
SONM	**Songino Array**	**79.43**	**324**	P		**P**	**00 54 13.0**	**+0.7**
	0.8nm,0.6s,baz=131,slow=6.1,SNR=6.0							
MAW	**Mawson**	**83.56**	**202**	*e*P		**P**	**00 54 33.2**	**-0.5**
ILAR	**Eielson Array**	**84.68**	**19**	P		**P**	**00 54 38.2**	**-1.2**
ILAR	**Eielson Array**	**84.68**	**19**	P		**P**	**00 54 38.2**	**-1.2**
	0.8nm,0.4s,baz=202,slow=6.8,SNR=5.4							
NVAR	**Mina Array Bea**	**86.97**	**50**	P		**P**	**00 54 51.1**	**-0.5**
NVAR	**Mina Array Bea**	**86.97**	**50**	P		**P**	**00 54 51.1**	**-0.5**
	0.8nm,0.8s,baz=232,slow=7.3,SNR=5.7							
MKAR	**Makanchi Array**	**94.17**	**317**	P		**P**	**00 55 25.6**	**+0.7**
MKAR	**Makanchi Array**	**94.17**	**317**	P		**P**	**00 55 25.6**	**+0.7**
	1.8nm,0.8s,baz=102,slow=6.2,SNR=11							
ZALV	**Zalesovo Beam**	**94.33**	**324**	P		**P**	**00 55 25.0**	**-0.3**
ZALV	**Zalesovo Beam**	**94.33**	**324**	P		**P**	**00 55 25.0**	**-0.3**
	1.4nm,0.8s,baz=99,slow=4.8,SNR=5.1							
ARCES	**ARCESS Array B**	**117.37**	**345**	PKP		**PKPdf**	**01 00 51.5**	**+0.6**
ARCES	**ARCESS Array B**	**117.37**	**345**	PKP		**PKPdf**	**01 00 51.5**	**+0.6**
	5.7nm,1.0s,baz=75,slow=2.4,SNR=12							
FINES	**FINESS Array B**	**122.73**	**338**	PKP		**PKPdf**	**01 01 02.6**	**+1.3**
FINES	**FINESS Array B**	**122.73**	**338**	PKP		**PKPdf**	**01 01 02.6**	**+1.3**
	8.5nm,1.2s,baz=117,slow=2.6,SNR=3.7							
EKA	**Eskdalemuir Ar**	**136.05**	**351**	PKP		**PKPdf**	**01 01 27.5**	**+0.7**
EKA	**Eskdalemuir Ar**	**136.05**	**351**	PKP		**PKPdf**	**01 01 27.5**	**+0.7**
	0.1nm,0.4s,baz=14,slow=3.3,SNR=3.3							
ESDC	**Sonseca Array**	**151.08**	**343**	PKPbc		**PKPbc**	**01 01 59.1**	**-0.3**
ESDC	**Sonseca Array**	**151.08**	**343**	PKPbc		**PKPbc**	**01 01 59.1**	**-0.3**
	0.2nm,0.4s,baz=48,slow=1.9,SNR=3.8							
TORD	**Torodi Ar. Bea**	**164.14**	**275**	PKP		**PKPdf**	**01 02 09.6**	**-0.7**
TORD				PKPab		**PKPab**	**01 03 03.6**	**-0.4**
TORD	**Torodi Ar. Bea**	**164.14**	**275**	PKP		**PKPdf**	**01 02 09.6**	**-0.7**
	0.7nm,0.9s,baz=330,slow=0.9,SNR=3.6							
TORD				PKPab		**PKPab**	**01 03 03.6**	**-0.4**
	0.5nm,0.9s,baz=59,slow=5.7,SNR=4.4							

IDC 15 00:43:10.2±3.6, 13°.48S×167°.06E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/19, mbtmp4.0/4, Error ellipse: s-maj=172.2km s-min=32.7km az=142.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.95**	**254**	P		P	00 49 37.6	-0.5
	0.3nm,0.3s,baz=80,slow=8.4,SNR=5.4							
ASAR	**Alice Springs**	**32.95**	**247**	P		P	00 49 47.0	+0.1
	0.9nm,0.7s,baz=76,slow=9.5,SNR=5.4							
ILAR	**Eielson Array**	**85.40**	**18**	P		P	00 55 48.9	-0.3
	0.6nm,0.5s,baz=234,slow=5.2,SNR=4.6							
MKAR	**Makanchi Array**	**96.16**	**317**	P		P	00 56 40.2	0.0
	0.4nm,0.6s,baz=98,slow=6.0,SNR=2.2							
ARCES	**ARCESS Array B**	**119.00**	**346**	PKP		PKPdf	01 02 00.2	-0.2
	5.4nm,1.0s,baz=45,slow=2.7,SNR=2.5							
TORD	**Torodi Ar. Bea**	**165.75**	**270**	PKPab		PKPab	01 04 17.4	+0.1
	0.3nm,0.6s,baz=90,slow=5.1,SNR=4.3							

*IDC **15** 00:51:08.3±1.0, 37°.54N×22°.04E, h0km, mb3.7/9, mb1 3.7/13, mb1mx3.6/33, mbtmp3.6/13, ML3.2/4, Error ellipse: s-maj=20.1km s-min=17.8km az=66.0*
*ISCJB **15** 00:51:10.0±0.5, 37°.59N±0°.01×22°.04E±0°.02, h14km±3km, mb3.7/8, Error ellipse: s-maj=2.9km s-min=2.2km az=151.0*
*THE **15** 00:51:10.1, 37°.60N×22°.05E, h17km, ML3.8/5, Error ellipse: s-maj=0.5km s-min=0.2km az=228.0*
*CSEM **15** 00:51:10.1±0.1, 37°.60N×22°.07E, h2km, ML3.5, Error ellipse: s-maj=2.5km s-min=1.9km az=62.0*
*ATH **15** 00:51:10.0, 37°.61N×22°.06E, h17km, MD3.5/34, ML3.6*

ISC 15 00:51:10.5±0.8, 37°.60N±0°.01×22°.06E±0°.02, h13km±6km, n178, σ0s92/227, mb3.9/8, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
AMT	**Artemida-Makis**	**0.29**	**256**	P		**Pg**	**00 51 16.1**	**-0.5**
AMT				S		**Sg**	**00 51 20.7**	**+0.1**
AMT	**Artemida-Makis**	**0.29**	**256**	*e*PB		**Pg**	**00 51 16.1**	**-0.5**
AMT				*e*SB		**Sg**	**00 51 20.7**	**+0.1**
AMT	**Artemida-Makis**	**0.29**	**256**	P		**Pg**	**00 51 16.0**	**-0.5**
AMT				S		**Sg**	**00 51 20.1**	**-0.5**
VLX	**Vlachokerasia**	**0.34**	**132**	P		**Pg**	**00 51 17.2**	**-0.2**
VLX				S		**Sg**	**00 51 22.7**	**+0.6**
VLX	**Vlachokerasia**	**0.34**	**132**	*e*PB		**Pg**	**00 51 17.3**	**-0.2**
VLX				*e*SB		**Sg**	**00 51 23.1**	**+1.0**
VLX	**Vlachokerasia**	**0.34**	**132**	P		**Pg**	**00 51 17.2**	**-0.2**
VLX				S		**Sg**	**00 51 22.1**	**0.0**
VLX				*e*Sb		**Sg**	**00 51 23.1**	**+1.0**
GUR	**Goura**	**0.40**	**33**	P		**Pg**	**00 51 18.4**	**-0.2**
GUR				S		**Sg**	**00 51 24.8**	**+0.8**
GUR	**Goura**	**0.40**	**33**	*e*PB		**Pg**	**00 51 18.4**	**-0.2**
GUR				*e*SB		**Sg**	**00 51 23.4**	**-0.6

PDO	**Prodromos**	**1.21**	**325**	P	**Pn**	**00 51 32.5**	**-0.7**
PDO	**Prodromos**	**1.21**	**325**	*e*PN	**Pn**	**00 51 32.7**	**-0.5**
PDO	**Prodromos**	**1.21**	**325**	P	**Pn**	**00 51 32.7**	**-0.5**
PDO				S	**Sg**	**00 51 50.5**	**+0.8**
AXAR	**Agios Charalam**	**1.25**	**22**	P	**Pn**	**00 51 32.8**	**-1.0**
AXAR	**Agios Charalam**	**1.25**	**22**	P	**Pn**	**00 51 33.1**	**-0.7**
AXAR				S	**Sg**	**00 51 51.7**	**+0.7**
LKR	**Lokris**	**1.28**	**35**	*e*PN	**Pn**	**00 51 33.7**	**-0.4**
LKR	**Lokris**	**1.28**	**35**	P	**Pn**	**00 51 33.2**	**-0.9**
LKR	**Lokris**	**1.28**	**35**	*e*Pn	**Pn**	**00 51 33.7**	**-0.4**
LKR				S	**Sg**	**00 51 51.6**	**-0.2**
VLS	**Valsamata**	**1.30**	**297**	*e*PN	**Pn**	**00 51 34.5**	**+0.1**
VLS	**Valsamata**	**1.30**	**297**	P	**Pn**	**00 51 34.5**	**+0.1**
EVR	**Evrytania**	**1.33**	**351**	*e*PN	**Pn**	**00 51 34.9**	**0.0**
EVR	**Evrytania**	**1.33**	**351**	P	**Pn**	**00 51 34.6**	**-0.3**
EVR	**Evrytania**	**1.33**	**351**	*e*Pn	**Pn**	**00 51 34.9**	**0.0**
EVR				S	**Sg**	**00 51 54.0**	**+0.6**
ATH	**Athens Observa**	**1.36**	**74**	*e*PN	**Pb**	**00 51 35.9**	**+0.1**
ATH				*e*SN	**Sb**	**00 51 53.8**	**+0.6**
ATH	**Athens Observa**	**1.36**	**74**	*e*Pn	**Pb**	**00 51 35.9**	**+0.1**
ATH				*e*Sn	**Sb**	**00 51 53.8**	**+0.6**
MAKR	**Makrakomi, Fth**	**1.41**	**2**	*e*PN	**Pg**	**00 51 37.3**	**-0.3**
MAKR	**Makrakomi, Fth**	**1.41**	**2**	*e*Pn	**Pg**	**00 51 37.3**	**-0.3**
AGG	**Agios Georgios**	**1.43**	**8**	*e*PN	**Pn**	**00 51 36.2**	**-0.1**
AGG	**Agios Georgios**	**1.43**	**8**	P	**Pn**	**00 51 36.1**	**-0.2**
PTL	**Penteli**	**1.50**	**72**	*e*PN	**Pn**	**00 51 37.6**	**+0.5**
PTL	**Penteli**	**1.50**	**72**	*e*Pn	**Pn**	**00 51 37.6**	**+0.5**
KYTH	**Kithira**	**1.53**	**149**	*e*PN	**Pb**	**00 51 39.1**	**+0.3**
KYTH	**Kithira**	**1.53**	**149**	*e*Pn	**Pb**	**00 51 39.1**	**+0.3**
SMIA	**Simia**	**1.56**	**35**	*e*PN	**Pb**	**00 51 38.9**	**-0.4**
SMIA	**Simia**	**1.56**	**35**	*e*Pn	**Pb**	**00 51 38.9**	**-0.4**
MRKA	**Markates**	**1.63**	**47**	*e*PN	**Pn**	**00 51 39.5**	**+0.5**
MRKA	**Markates**	**1.63**	**47**	*e*Pn	**Pn**	**00 51 39.5**	**+0.5**
MRKA				S	**Sb**	**00 52 00.6**	**-0.4**
SKIA	**Skiathos**	**1.91**	**35**	*e*PB	**Pn**	**00 51 43.6**	**+0.8**
SKIA	**Skiathos**	**1.91**	**35**	*e*Pb	**Pn**	**00 51 43.6**	**+0.8**
THL	**Klokotos Trika**	**1.96**	**359**	*e*PN	**Pn**	**00 51 44.3**	**+0.8**
THL	**Klokotos Trika**	**1.96**	**359**	*e*Pn	**Pn**	**00 51 44.3**	**+0.8**
XOR	**Xorichti**	**1.97**	**26**	*e*PN	**Pn**	**00 51 44.2**	**+0.5**
XOR	**Xorichti**	**1.97**	**26**	*e*Pn	**Pn**	**00 51 44.2**	**+0.5**
ANKY	**Antikythira Is**	**2.00**	**150**	*e*PN	**Pb**	**00 51 46.2**	**-0.5**
ANKY	**Antikythira Is**	**2.00**	**150**	*e*Pn	**Pb**	**00 51 46.2**	**-0.5**
AOS	**Alonnisos**	**2.12**	**42**	*e*PB	**Pn**	**00 51 45.9**	**+0.3**
AOS	**Alonnisos**	**2.12**	**42**	*e*Pb	**Pn**	**00 51 45.9**	**+0.3**
JAN	**Janina**	**2.26**	**336**	*e*PN	**Pn**	**00 51 48.9**	**+1.3**
JAN	**Janina**	**2.26**	**336**	*e*Pn	**Pn**	**00 51 48.9**	**+1.3**
IGT	**Igoumenitsa**	**2.36**	**325**	*e*PN	**Pn**	**00 51 50.3**	**+1.4**
IGT	**Igoumenitsa**	**2.36**	**325**	*e*Pn	**Pn**	**00 51 50.3**	**+1.4**
LIT	**Litokhoron**	**2.52**	**7**	*e*PN	**Pn**	**00 51 52.0**	**+0.8**
LIT	**Litokhoron**	**2.52**	**7**	*e*Pn	**Pn**	**00 51 52.0**	**+0.8**
PAIG	**Paliouri**	**2.64**	**28**	*e*PN	**Pn**	**00 51 54.0**	**+1.1**
PAIG	**Paliouri**	**2.64**	**28**	*e*Pn	**Pn**	**00 51 54.0**	**+1.1**
VAM	**Vamos**	**2.79**	**141**	*e*PB	**Pn**	**00 51 57.1**	**+2.3**
VAM	**Vamos**	**2.79**	**141**	*e*Pb	**Pn**	**00 51 57.1**	**+2.3**
APE	**Apeiranthos**	**2.81**	**100**	*e*PN	**Pn**	**00 51 55.8**	**+0.5**
APE	**Apeiranthos**	**2.81**	**100**	*e*Pn	**Pn**	**00 51 55.8**	**+0.5**
NEST	**Nestorio**	**2.92**	**345**	*e*PB	**Pn**	**00 51 59.2**	**+2.5**
NEST	**Nestorio**	**2.92**	**345**	*e*Pb	**Pn**	**00 51 59.2**	**+2.5**
HORT	**Hortiatis**	**3.10**	**15**	*e*PN	**Pn**	**00 51 59.6**	**+0.4**
HORT	**Hortiatis**	**3.10**	**15**	*e*Pn	**Pn**	**00 51 59.6**	**+0.4**
OUR	**Ouranopolis**	**3.11**	**28**	*e*PN	**Pn**	**00 51 59.7**	**+0.4**
OUR	**Ouranopolis**	**3.11**	**28**	*e*Pn	**Pn**	**00 51 59.7**	**+0.4**
FNA	**Florina**	**3.22**	**351**	*e*PN	**Pn**	**00 52 02.5**	**+1.6**
FNA	**Florina**	**3.22**	**351**	*e*Pn	**Pn**	**00 52 02.5**	**+1.6**
IDI	**Anoyia**	**3.24**	**135**	Pn	**Pn**	**00 52 01.1**	**-0.1**
	2.5nm,0.3s,baz=317,slow=14,SNR=30						
IDI				Sn	**Sn**	**00 52 40.9**	**+1.1**
	6.4nm,0.3s,baz=307,slow=21,SNR=3.9						
CHOS	**Chios island**	**3.25**	**75**	*e*PN	**Pn**	**00 52 02.2**	**+0.9**
CHOS	**Chios island**	**3.25**	**75**	*e*Pn	**Pn**	**00 52 02.2**	**+0.9**
SOH	**Sokhos**	**3.37**	**17**	*e*PN	**Pn**	**00 52 04.0**	**+1.1**
SOH	**Sokhos**	**3.37**	**17**	*e*Pn	**Pn**	**00 52 04.0**	**+1.1**
KNT	**Kendrikon**	**3.61**	**10**	*e*PN	**Pn**	**00 52 07.5**	**+1.3**
KNT	**Kendrikon**	**3.61**	**10**	*e*Pn	**Pn**	**00 52 07.5**	**+1.3**
URLA	**Izmir**	**3.66**	**77**	*i* P	**Pn**	**00 52 08.6**	**+1.7**
URLA	**Izmir**	**3.66**	**77**	*i* P	**Pn**	**00 52 08.6**	**+1.7**
SRS	**Serrai**	**3.71**	**18**	*e*PN	**Pn**	**00 52 09.4**	**+1.9**
SMG	**Samos**	**3.79**	**87**	*e*PN	**Pn**	**00 52 09.9**	**+1.3**
GCAM	**G?zelcaml?**	**4.10**	**87**	*e*P	**Pn**	**00 52 13.8**	**+0.9**
GCAM	**G?zelcaml?**	**4.10**	**87**	*e*P	**Pn**	**00 52 13.8**	**+0.9**
MMB	**Musomiste**	**4.10**	**17**	*i* P	**Pn**	**00 52 15.2**	**+1.1**
MMB	**Musomiste**	**4.10**	**17**	*i* P	**Pn**	**00 52 15.2**	**+1.1**
ALN	**Alexandroupoli**	**4.51**	**42**	*e*PN	**Pn**	**00 52 19.9**	**+1.3**
RZN	**Rozhen**	**4.57**	**26**	*i* P	**Pn**	**00 52 20.5**	**+1.0**
RZN	**Rozhen**	**4.57**	**26**	*i* P	**Pn**	**00 52 20.5**	**+1.0**
VTS	**Vitosha**	**5.06**	**10**	*i* P	**Pn**	**00 52 28.9**	**+2.7**
VTS	**Vitosha**	**5.06**	**10**	*i* P	**Pn**	**00 52 28.9**	**+2.7**
MANT	**Manisa**	**5.20**	**78**	*i* P	**Pn**	**00 52 30.2**	**+1.9**
MANT	**Manisa**	**5.20**	**78**	*i* P	**Pn**	**00 52 30.2**	**+1.9**
DURS	**Dursunbey**	**5.40**	**66**	*i* P	**Pn**	**00 52 33.1**	**+2.2**
DURS	**Dursunbey**	**5.40**	**66**	*i* P	**Pn**	**00 52 33.1**	**+2.2**
DEMI	**Demirci**	**5.43**	**73**	*e*P	**Pn**	**00 52 32.6**	**+1.4**
DEMI	**Demirci**	**5.43**	**73**	*e*P	**Pn**	**00 52 32.6**	**+1.4**
PVL	**Pavlikeni**	**6.14**	**23**	*i* P	**Pn**	**00 52 39.9**	**-1.0**
PVL	**Pavlikeni**	**6.14**	**23**	*i* P	**Pn**	**00 52 39.9**	**-1.0**
IVAS	**Ivanjica**	**6.14**	**347**	*e*Pn	**Pn**	**00 52 41.8**	**+0.8**
STON	**Ston**	**6.23**	**329**	*e*Pn	**Pn**	**00 52 42.3**	**+0.1**
STON				Sn	**Sn**	**00 53 52.6**	**-0.6**
STON	**Ston**	**6.23**	**329**	*e*Pn	**Pn**	**00 52 42.2**	**+0.1**
GRUS	**Gruza**	**6.36**	**351**	*e*Pn	**Pn**	**00 52 44.1**	**+0.1**
DIVS	**Divibare**	**6.68**	**347**	*e*Pn	**Pn**	**00 52 50.6**	**+2.2**
MLR	**Muntele Rosu**	**8.40**	**19**	Pn	Pn	00 53 16.0	+3.9
	0.1nm,0.3s,baz=249,slow=8.6,SNR=5.0						
NVLJ	**Novalja**	**8.82**	**324**	*e*Pn	**Pn**	**00 53 19.5**	**+1.9**
NVLJ				Sn	**Sn**	**00 54 56.5**	**-0.4**
NVLJ	**Novalja**	**8.82**	**324**	*e*Pn	**Pn**	**00 53 19.5**	**+1.9**
NVLJ				Sn	**Sn**	**00 54 56.4**	**-0.4**
BRTR	**Keskin Array B**	**9.30**	**73**	Pn	Pn	00 53 27.8	+3.4
	baz=252,slow=14,SNR=0.9						
KOLS	**Kolonicke sedl**	**11.33**	**1**	*e*PN	Pn	00 53 46.4	-5.6
MMAI	**Mount Meron Ar**	**11.82**	**109**	Pn	**Pn**	**00 53 57.9**	**-0.9**
	0.3nm,0.3s,baz=304,slow=16,SNR=2.9						
EIL	**Elat**	**13.33**	**123**	Pn	**Pn**	**00 54 18.6**	**-0.8**
	0.1nm,0.3s,baz=342,slow=13,SNR=2.9						
ESDC	**Sonseca Array**	**20.42**	**284**	P	**P**	**00 55 45.9**	**-1.5**
	0.2nm,0.5s,baz=74,slow=10,SNR=2.8						
HFS	**Hagfors**	**23.18**	**349**	P	**P**	**00 56 15.9**	**-0.7**
	1.5nm,0.4s,baz=158,slow=12,SNR=16						
FINES	**FINESS Array B**	**24.00**	**5**	P	**P**	**00 56 24.2**	**-0.4**
	3.1nm,0.9s,baz=173,slow=7.7,SNR=4.8						
NB2	**NORSAR Subarra**	**24.44**	**347**	P	**P**	**00 56 28.8**	**+0.1**
	comp=Z,4.7nm,1.1s,baz=160,slow=11						
NB2	**NORSAR Subarra**	**24.44**	**347**	P	**P**	**00 56 28.8**	**+0.1**
	comp=Z,4.7nm,1.1s,SNR=4.2						
NOA	**NORSAR Array B**	**24.44**	**347**	P	**P**	**00 56 29.0**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=171,slow=12,SNR=12						
EKA	**Eskdalemuir Ar**	**24.61**	**324**	P	**P**	**00 56 32.1**	**+1.9**
	comp=Z,0.5nm,0.5s,baz=124,slow=9.5,SNR=4.6						
TORD	**Torodi Ar. Bea**	**30.39**	**222**	P	**P**	**00 57 22.0**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=34,slow=8.9,SNR=9.4						
ARCES	**ARCESS Array B**	**32.05**	**2**	P	**P**	**00 57 36.9**	**+0.4**
	comp=Z,3.0nm,0.8s,baz=192,slow=11,SNR=15						
MKAR	**Makanchi Array**	**44.56**	**58**	P	**P**	**00 59 21.3**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=270,slow=7.5,SNR=10						
ZALV	**Zalesovo Beam**	**45.17**	**48**	P	**P**	**00 59 26.8**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=267,slow=8.3,SNR=3.9						

*IDC **15** 01:05:43.7±1.6,34°.26N×24°.85E,h0km,mb3.7/3, mb1 3.5/5,mb1mx3.4/26,mbtmp3.5/5,ML3.0/2,Error ellipse: s-maj=55.4km s-min=23.9km az=132.0*
*ATH **15** 01:05:45.3,34°.13N×25°.66E,h26km±5km,MD3.7/11*
*CSEM **15** 01:05:45.3,34°.13N×25°.66E,h26km,MD3.7,After ATH*

ISC 15 01:05:46.2±2.4,34°.2N±0°.2×25°.65E±0°.05,h17km,n27, σ0s95/32,mb3.6/3,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NPS	**Neapolis**	**1.11**	**358**	*e*PN	**Pg**	**01 06 07.2**	**-0.4**
NPS	**Neapolis**	**1.11**	**358**	*e*Pn	**Pg**	**01 06 07.2**	**-0.4**
IDI	**Anoyia**	**1.29**	**331**	*e*PN	**Pg**	**01 06 10.9**	**-0.3**
IDI	**Anoyia**	**1.29**	**331**	*e*Pn	**Pg**	**01 06 10.9**	**-0.3**
VAM	**Vamos**	**1.73**	**317**	*e*PN	**Pb**	**01 06 16.3**	**-1.2**
VAM	**Vamos**	**1.73**	**317**	*e*Pn	**Pb**	**01 06 16.3**	**-1.2**
KARP	**Karpathos**	**1.86**	**41**	*e*PN	**Pn**	**01 06 18.0**	**+0.6**
KARP	**Karpathos**	**1.86**	**41**	*e*Pn	**Pn**	**01 06 18.0**	**+0.6**
NIS1	**Nisyros Isl.**	**2.74**	**27**	*e*PN	**Pn**	**01 06 29.9**	**+0.4**
NIS1	**Nisyros Isl.**	**2.74**	**27**	*e*Pn	**Pn**	**01 06 29.9**	**+0.4**
ARG	**Arkhangelos**	**2.89**	**44**	*e*PN	**Pn**	**01 06 32.4**	**+0.9**
ARG				*e*SN	**Sn**	**01 07 07.1**	**+1.3**
ARG	**Arkhangelos**	**2.89**	**44**	*e*Pn	**Pn**	**01 06 32.4**	**+0.9**
ARG				*e*Sn	**Sn**	**01 07 07.1**	**+1.3**
APE	**Apeiranthos**	**2.91**	**358**	*e*PN	**Pn**	**01 06 32.4**	**+0.6**
APE				*e*SN	**Sn**	**01 07 07.2**	**+0.8**
APE	**Apeiranthos**	**2.91**	**358**	*e*Pn	**Pn**	**01 06 32.4**	**+0.6**
APE				*e*Sn	**Sn**	**01 07 07.2**	**+0.8**
KYTH	**Kithira**	**3.01**	**316**	*e*PN	**Pn**	**01 06 34.7**	**+1.5**
KYTH	**Kithira**	**3.01**	**316**	*e*Pn	**Pn**	**01 06 34.7**	**+1.5**
VLI	**Veliai**	**3.38**	**320**	*e*PN	**Pn**	**01 06 39.2**	**+0.9**
VLI				*e*SN	**Sn**	**01 07 19.1**	**+1.1**
VLI	**Veliai**	**3.38**	**320**	*e*Pn	**Pn**	**01 06 39.2**	**+0.9**
VLI				*e*Sn	**Sn**	**01 07 19.1**	**+1.1**
DIDY	**Didyma**	**3.86**	**330**	*e*PN	**Pn**	**01 06 45.9**	**+1.0**
DIDY				*e*SN	**Sn**	**01 07 30.6**	**+0.6**
DIDY	**Didyma**	**3.86**	**330**	*e*Pn	**Pn**	**01 06 45.9**	**+1.0**
DIDY				*e*Sn	**Sn**	**01 07 30.6**	**+0.6**
DID	**Didima**	**3.88**	**330**	*e*PN	**Pn**	**01 06 45.6**	**+0.5**
DID	**Didima**	**3.88**	**330**	*e*Pn	**Pn**	**01 06 45.6**	**+0.5**
BRTR	**Keskin Array B**	**8.47**	**47**	Pn	Pn	01 07 54.6	+6.3
	0.0nm,0.3s,baz=245,slow=9.4,SNR=2.5						
AKASG	**Malin Array Be**	**16.74**	**8**	Pn	**Pn**	**01 09 40.1**	**+0.3**
	0.4nm,0.3s,baz=198,slow=11,SNR=3.1						
FINES	**FINESS Array B**	**27.31**	**0**	P	**P**	**01 11 28.2**	**-1.5**
	3.7nm,1.0s,baz=174,slow=15,SNR=4.2						
TORD	**Torodi Ar. Bea**	**30.17**	**232**	P	P	01 11 51.9	-3.7
	0.6nm,0.6s,baz=36,slow=7.5,SNR=7.3						
MKAR	**Makanchi Array**	**44.00**	**56**	P	P	01 13 56.2	+3.5
	0.2nm,0.5s,baz=271,slow=6.8,SNR=2.8						

*IDC **15** 01:13:01.3±1.3,3°.45S×146°.01E,h0km,mb4.0/9, mb1 4.2/11,mb1mx4.1/20,mbtmp4.1/11,ML3.6/2,MS3.7/6, Ms1 3.7/6,ms1mx3.4/24,Error ellipse: s-maj=37.5km s-min=17.6km az=103.0*
*ISCJB **15** 01:13:03.6±0.8,3°.45S±0°.07×146°.0E±0°.2,h25km, mb4.0/10,MS3.6/4,Error ellipse: s-maj=21.9km s-min=9.4km az=179.0*
*NEIC **15** 01:13:03.5±0.8,3°.41S×145°.90E,h10km,mb4.5/3,Error ellipse: s-maj=22.4km s-min=10.5km az=88.0*

ISC 15 01:13:05.0±0.9,3°.48S±0°.09×146°.0E±0°.2,h25km,n32, σ0s75/25,mb3.9/10,MS3.6/4,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.99**	**169**	*e*Pn	**Pn**	**01 14 32.3**	**+0.2**
	14nm,0.9s						
PMG	**Port Moresby**	**5.99**	**169**	Pn	**Pn**	**01 14 32.5**	**+0.3**
	1.4nm,0.3s,baz=221,slow=2.4,SNR=4.2						
HNR	**Honiara**	**15.03**	**114**	LR	LR	01 21 04.5	
	comp=Z,238nm,18.1s,baz=338,slow=32						
CTAO	**Charters Tower**	**16.51**	**179**	*e*Pn	**P**	**01 16 57.1**	**-0.4**
	4.4nm,1.1s						
WRAB	**Tennant Creek**	**19.93**	**214**	*e*P	**P**	**01 17 34.4**	**-0.9**
	38nm,1.0s						
WRA	**Warramunga Arr**	**19.95**	**214**	P	**P**	**01 17 35.6**	**+0.3**
WRA	**Warramunga Arr**	**19.95**	**214**	P	**P**	**01 17 35.6**	**+0.3**
	0.5nm,0.3s,baz=38,slow=12,SNR=56						
WRA				LR	LR	01 25 37.1	
	comp=Z,146nm,18.2s,baz=50,slow=38						
BATI	**Baumata**	**23.18**	**252**	P	**P**	**01 18 10.6**	**+0.4**
BATI	**Baumata**	**23.18**	**252**	P	**P**	**01 18 10.6**	**+0.4**
	32nm,0.8s,baz=193,slow=3.1,SNR=4.2						
AS31	**Alice Springs**	**23.24**	**209**	*e*P	**P**	**01 18 10.7**	**+0.1**
ASAR	**Alice Springs**	**23.24**	**209**	P	**P**	**01 18 10.6**	**-0.1**
ASAR	**Alice Springs**	**23.24**	**209**	P	**P**	**01 18 10.6**	**-0.1**
	6.1nm,0.9s,baz=41,slow=8.9,SNR=37						
FITZ	**Fitzroy Crossi**	**24.70**	**232**	*e*P	**P**	**01 18 23.5**	**-0.9**
	19nm,1.1s						
FITZ	**Fitzroy Crossi**	**24.70**	**232**	P	**P**	**01 18 23.5**	**-0.9**
	15nm,1.0s,baz=53,slow=8.8,SNR=24						
FITZ				LR	LR	01 28 48.0	
	comp=Z,174nm,19.2s,baz=295,slow=38						
DZM	**Mont Dzumac**	**27.08**	**135**	LR	LR	01 27 17.6	
	comp=Z,181nm,19.0s,baz=206,slow=32						
STKA	**Stephens Creek**	**28.55**	**188**	P	P	01 19 02.9	+4.0
STKA	**Stephens Creek**	**28.55**	**188**	P	P	01 19 02.9	+4.0
	3.2nm,0.8s,baz=4.4,slow=13,SNR=3.1						
JNU	**Natatsa**	**39.13**	**340**	LR	LR	01 32 51.9	
	comp=Z,84nm,21.8s,baz=234,slow=30						
KSRS	**Korea Array**	**44.07**	**339**	P	**P**	**01 21 10.7**	**-0.3**
	1.2nm,0.8s,baz=163,slow=8.9,SNR=4.3						
KSRS				LR	LR	01 36 25.8	
	comp=Z,94nm,18.8s,baz=120,slow=32						
KSAR	**Wonju Array Be**	**44.08**	**339**	P	**P**	**01 21 10.7**	**-0.4**
CMAR	**Chiang Mai Arr**	**51.24**	**297**	P	**P**	**01 22 06.5**	**-0.6**
CMAR	**Chiang Mai Arr**	**51.24**	**297**	P	**P**	**01 22 06.5**	**-0.6**
	0.8nm,0.3s,baz=101,slow=4.7,SNR=3.4						
SONM	**Songino Array**	**61.75**	**331**	P	**P**	**01 23 21.2**	**-0.4**
SONM	**Songino Array**	**61.75**	**331**	P	**P**	**01 23 21.2**	**-0.4**
	0.2nm,0.3s,baz=139,slow=9.6,SNR=3.2						
MKAR	**Makanchi Array**	**74.96**	**320**	P	**P**	**01 24 46.1**	**+1.9**
MKAR	**Makanchi Array**	**74.96**	**320**	P	**P**	**01 24 46.1**	**+1.9**
	0.3nm,0.7s,baz=123,slow=7.4,SNR=3.0						
ILAR	**Eielson Array**	**83.56**	**23**	P	**P**	**01 25 30.9**	**+0.1**
ILAR	**Eielson Array**	**83.56**	**23**	P	**P**	**01 25 30.9**	**+0.1**
	0.8nm,1.1s,baz=242,slow=5.0,SNR=2.5						
BVAR	**Borovoye Array**	**84.18**	**324**	P	**P**	**01 25 33.5**	**-0.7**
BVAR	**Borovoye Array**	**84.18**	**324**	P	**P**	**01 25 33.5**	**-0.7**
	0.3nm,0.6s,baz=123,slow=5.3,SNR=2.2						
TORD	**Torodi Ar. Bea**	**143.48**	**287**	PKPpre	PKPpre	01 32 34.7	
TORD	**Torodi Ar. Bea**	**143.48**	**287**	PKhKP	PKPpre	01 32 34.7	
	0.3nm,0.7s,baz=338,slow=1.3,SNR=2.1						

MEX 15 01:17:54.8±0.5,15°.37N×92°.71W,h80km±10km,MD3.7, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.59**	**304**	*e*P	Pn	01 18 07.9	-1.4
PCIG				*e*S	Sn	01 18 18.5	-1.6
CCIG	**Comitan**	**1.06**	**31**	*i* P	Pn	01 18 13.4	-1.4
CCIG				*i* S	Sn	01 18 28.5	-1.3
TGIG		**1.45**	**344**	*e*P	Pn	01 18 18.6	-1.0
TGIG				*i* S	Sn	01 18 36.1	-2.2
HUIG	**Huatulco**	**3.30**	**277**	*i* P	Pn	01 18 44.4	+0.2

IDC 15 01:40:52.4±6.4,39°.05N×110°.87E,h0km,mb3.6/2, mb1 3.8/3,mb1mx3.4/25,mbtmp3.6/3,ML3.1/1,Error ellipse: s-maj=133.7km s-min=25.2km az=84.0,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**9.37**	**341**	Pn	Pn	01 43 09.2	+0.5
	0.2nm,0.3s,baz=161,slow=13,SNR=5.4						
SONM				Lg	Lg	01 45 48.1	
	baz=169,slow=26,SNR=5.2						
MKAR	**Makanchi Array**	**22.22**	**300**	P	P	01 45 50.9	+0.4
	1.1nm,1.0s,baz=110,slow=12,SNR=4.8						
CMAR	**Chiang Mai Arr**	**22.98**	**210**	P	P	01 45 58.5	-0.3
	1.5nm,0.4s,baz=13,slow=9.4,SNR=14						

*IDC **15** 01:42:49.8±2.9,16°.53S×174°.02W,h62km±27km,mb4.0/11, mb1 4.3/12,mb1mx4.1/21,mbtmp4.4/12,ML4.1/2,Error ellipse: s-maj=24.8km s-min=14.4km az=122.0*
*NEIC **15** 01:42:50.3±1.5,16°.51S×174°.10W,h69km±14km,mb4.6/3, Error ellipse: s-maj=15.8km s-min=10.0km az=113.0*
*AUST **15** 01:42:52.4,16°.57S×173°.37W,h100km*
*ISCJB **15** 01:42:53.4±0.5,16°.69S±0°.09×173°.92W±0°.07,h111km, mb4.2/12,Error ellipse: s-maj=12.5km s-min=9.9km az=176.0*

ISC 15 01:42:54.2±0.5,16°.51S±0°.08×173°.82W±0°.08,h111km, n56,σ1s35/55,mb4.1/12,1C,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.25**	**38**	*e*Pn	**Pn**	**01 43 41.0**	**-2.7**
AFI				*e*S	Sn	01 44 15.6	-6.3
AFI	**Afiamalu**	**3.25**	**38**	P	**Pn**	**01 43 41.0**	**-2.7**
	234nm,0.3s,baz=37,slow=1.8,SNR=106						
AFI				S	Sn	01 44 15.5	-6.3
	133nm,0.3s,baz=51,slow=20,SNR=8.8						
NIUE	**Niue**	**4.50**	**125**	P	**Pn**	**01 43 59.0**	**-1.3**
	baz=4.1,SNR=190						
RAR	**Rarotonga**	**14.09**	**112**	*e*Pn	**P**	**01 46 11.2**	**-1.9**
RAR	**Rarotonga**	**14.09**	**112**	P	**Pn**	**01 46 09.7**	**+0.8**
	4.0nm,0.3s,baz=55,slow=0.0,SNR=4.2						
DZM	**Mont Dzumac**	**19.43**	**250**	P	**Pn**	**01 47 14.3**	**0.0**
DZM	**Mont Dzumac**	**19.43**	**250**	P	**Pn**	**01 47 14.3**	**0.0**
	0.6nm,0.3s,baz=80,slow=17,SNR=8.6						
URZ	**Urewera**	**23.09**	**198**	*e*P	**P**	**01 47 48.2**	**-2.1**
	19nm,0.5s						
URZ	**Urewera**	**23.09**	**198**	P	**P**	**01 47 48.0**	**-2.3**
	16nm,0.3s,baz=310,slow=1.2,SNR=18						
SNZO	**South Karori**	**26.62**	**200**	*e*P	**P**	**01 48 20.5**	**-1.7**
ARMA	**Armidale**	**34.43**	**240**	P	**P**	**01 49 30.7**	**-0.7**
	baz=35,SNR=6.5						
CMSA	**Cobar Meteorol**	**39.65**	**240**	P	**P**	**01 50 14.2**	**-1.1**
	baz=40,SNR=8.3						
QLP	**Quilpie**	**40.12**	**248**	P	**P**	**01 50 18.4**	**-0.9**
	baz=40,SNR=3.2						
TOO	**Toolangi**	**41.46**	**231**	P	**P**	**01 50 29.0**	**-1.1**
	baz=42,SNR=5.2						
STKA	**Stephens Creek**	**43.14**	**241**	P	**P**	**01 50 43.0**	**-0.9**
STKA	**Stephens Creek**	**43.14**	**241**	P	**P**	**01 50 43.2**	**-0.7**
	baz=44,SNR=12						
STKA	**Stephens Creek**	**43.14**	**241**	P	**P**	**01 50 43.0**	**-0.9**
	7.1nm,0.5s,baz=99,slow=9.6,SNR=17						
BBOO	**Buckleboo**	**47.91**	**241**	P	**P**	**01 51 20.3**	**-1.2**
	baz=48,SNR=6.6						
WRA	**Warramunga Arr**	**49.20**	**258**	P	**P**	**01 51 29.6**	**-1.9**
WRA	**Warramunga Arr**	**49.20**	**258**	P	**P**	**01 51 29.6**	**-1.9**
	0.5nm,0.4s,baz=95,slow=6.9,SNR=5.4						
ASAR	**Alice Springs**	**49.39**	**253**	P	**P**	**01 51 31.8**	**-1.2**
ASAR	**Alice Springs**	**49.39**	**253**	P	**P**	**01 51 31.8**	**-1.2**
	3.4nm,0.5s,baz=88,slow=8.6,SNR=48						
PALU	**Palau**	**56.37**	**291**	P	P	01 52 27.8	+3.5
	baz=57,SNR=3.2						
VNDA	**Vanda**	**62.23**	**186**	*e*P	**P**	**01 53 05.5**	**+1.9**
	4.7nm,1.0s						
VNDA	**Vanda**	**62.23**	**186**	P	**P**	**01 53 05.7**	**+2.0**
	3.8nm,0.7s,baz=6.5,slow=6.3,SNR=22						
KLBR	**Kellerberrin**	**63.37**	**243**	P	**P**	**01 53 11.2**	**-0.9**
	baz=64,SNR=4.4						
QSPA	**South Pole Qui**	**73.54**	**180**	*e*P	**P**	**01 54 16.1**	**+1.3**
	8.2nm,1.0s						
PETK	**Petropavlovsk-**	**73.56**	**343**	P	**P**

CFAA ePcP PcP 01 52 01.9 -0.6
CFAA Coronel Fontan 29.07 159 P P 01 48 57.8 +2.4
comp=Z,0.6nm,1.1s,baz=354,slow=4.6,SNR=6.7
CFAA PcP PcP 01 52 01.9 -0.6
comp=Z,0.2nm,0.6s,baz=270,slow=1.0,SNR=3.5
CPUP Villa Florida 30.73 137 eP P 01 49 12.8 +2.7
CPUP Villa Florida 30.73 137 P P 01 49 12.8 +2.7
comp=Z,0.7nm,0.6s,baz=360,slow=3.1,SNR=3.8
CPUP LR LR 02 03 29.4
comp=Z,190nm,21.5s,baz=310,slow=40
BDFB Brasilia 33.50 111 eP P 01 49 35.7 +1.0
BDFB Brasilia 33.50 111 P P 01 49 35.1 +0.5
comp=Z,6.1nm,0.9s,baz=261,slow=9.4,SNR=10
TRQA Tornquist 37.17 156 eP P 01 50 06.8 +1.0
comp=Z,15nm,1.1s
HKT Hockley 37.52 337 eP P 01 50 08.9 +0.1
HKT pmax pmax
comp=Z,13nm,1.1s
HKT Hockley 37.52 337 eP P 01 50 08.9 +0.1
comp=Z,13nm,1.1s
732A Laxson Ranch, 38.25 331 ⇓P P 01 50 15.0 0.0
baz=38
632A Uvalde 38.81 332 ⇓P P 01 50 19.9 +0.1
baz=39,SNR=29
631A Perdido Creek 39.10 331 ⇓P P 01 50 21.8 -0.4
baz=39,SNR=31
532A Rocksprings 39.39 333 ⇑P P 01 50 25.2 +0.6
baz=40,SNR=39
KMSC Kings Mountain 39.61 359 eP P 01 50 25.4 -0.9
comp=Z,16nm,0.8s
KMSC Kings Mountain 39.61 359 ⇑P P 01 50 25.9 -0.5
baz=40
JCT Junction City 39.64 333 eP P 01 50 26.8 +0.1
JCT pmax pmax
comp=Z,19nm,0.9s
JCT Junction City 39.64 333 eP P 01 50 26.8 +0.1
comp=Z,19nm,0.9s
JCT Junction City 39.64 333 ⇑P P 01 50 26.9 +0.2
baz=40,SNR=6.3
531A Rocksprings 39.72 332 ⇓P P 01 50 27.9 +0.6
baz=40
WHTX Lake Whitney 39.97 337 eP P 01 50 29.4 +0.1
comp=Z,47nm,1.4s
WHTX epP pP 01 50 43.8 -0.6
WHTX Lake Whitney 39.97 337 ⇓P P 01 50 29.8 +0.5
baz=40
432A Menard 39.98 333 ⇑P P 01 50 29.1 -0.4
baz=40,SNR=11
530A J-C Ranch, Com 40.08 331 ⇑P P 01 50 30.4 +0.1
baz=40,SNR=16
431A Sonora 40.18 332 ⇑P P 01 50 31.0 -0.2
baz=40,SNR=15
TKL Tuckaleechee C 40.25 356 eP P 01 50 30.2 -1.4
TKL Tuckaleechee C 40.25 356 P P 01 50 30.2 -1.4
comp=Z,9.7nm,1.0s,baz=173,slow=11,SNR=6.0
628A Black Gap, Mar 40.32 329 ⇓P P 01 50 32.8 +0.5
baz=40,SNR=12
332A Millersview 40.39 334 ⇑P P 01 50 32.7 -0.1
baz=40,SNR=24
529A Stev Forest Ra 40.50 330 ⇓P P 01 50 33.7 -0.1
baz=41,SNR=10
627A Terlingua Ranc 40.55 328 ⇓P P 01 50 34.1 -0.2
baz=41,SNR=6.7
430A Baggett Ranch, 40.56 332 ⇑P P 01 50 33.8 -0.6
baz=41,SNR=7.5
LTX Lajitas 40.60 328 eP P 01 50 34.6 -0.2
LTX e 01 52 36.0
LTX Lajitas 40.60 328 eP P 01 50 34.6 -0.2
LTX ePcP PcP 01 52 36.0 0.0
TXAR Lajitas Array 40.60 328 P P 01 50 34.6 -0.2
comp=Z,3.5nm,0.9s,baz=149,slow=9.8,SNR=27
TXAR PcP PcP 01 52 36.0 0.0
comp=Z,5.9nm,0.8s,baz=156,slow=6.6,SNR=19
TXAR pPcP 01 52 53.2
comp=Z,1.8nm,0.7s,baz=160,slow=4.7,SNR=5.2
TX31 Lajitas Ar. Si 40.61 328 eP P 01 50 34.3 -0.4
331A San Angelo 40.63 333 ⇓P P 01 50 34.4 -0.5
baz=41,SNR=9.1
429A Davenport Ranc 40.74 331 ⇑P P 01 50 35.7 -0.2
baz=41,SNR=14
232A Coleman 40.78 334 ⇓P P 01 50 35.9 -0.2
baz=41,SNR=23
528A Cox Ranch, San 40.81 329 ⇑P P 01 50 36.3 -0.2
baz=41,SNR=13
626A Big Bend Ranch 41.03 327 ⇑P P 01 50 38.4 +0.2
baz=41,SNR=16
330A Mertzon 41.05 332 ⇑P P 01 50 37.8 -0.6
baz=41,SNR=8.2
231A Bronte 41.11 334 ⇑P P 01 50 38.2 -0.6
baz=41,SNR=6.3
428A Kincaid Ranch, 41.22 330 ⇑P P 01 50 39.8 0.0
baz=41,SNR=12
527A Woodward Ranch 41.22 329 ⇑P P 01 50 39.8 -0.1
baz=41,SNR=18
526A Mary Lane Ranc 41.40 328 ⇑P P 01 50 41.4 0.0
baz=42,SNR=21
ABTX Abilene, Hawle 41.41 335 eP P 01 50 41.4 +0.1
comp=Z,27nm,0.9s
ABTX epP pP 01 50 56.8 +0.5
ABTX Abilene, Hawle 41.41 335 ⇑P P 01 50 41.1 -0.2
baz=42,SNR=10.0
230A Sterling City 41.43 333 ⇓P P 01 50 41.2 -0.3
baz=42,SNR=5.0
329A Wagon Wheel Ra 41.50 331 ⇓P P 01 50 42.0 -0.1
baz=42,SNR=39
427A Hayter Ranch, 41.68 329 ⇑P P 01 50 43.5 0.0
baz=42,SNR=6.5
131A Roby 41.77 334 ⇓P P 01 50 44.1 -0.1
baz=42,SNR=5.9
328A Wristen Ranch, 41.81 331 ⇑P P 01 50 44.5 -0.1
baz=42,SNR=23
229A Bryant Ranch, 41.82 332 ⇑P P 01 50 44.3 -0.3
baz=42,SNR=6.1
426A McDonald Obser 41.85 329 ⇓P P 01 50 44.8 -0.3
baz=42,SNR=21
Z32A Haskell 41.93 336 ⇓P P 01 50 45.6 +0.1
baz=42,SNR=23
130A Snyder 41.96 333 ⇓P P 01 50 45.5 -0.3
baz=42,SNR=11
327A Balmorhea Ranc 42.14 330 ⇓P P 01 50 47.7 +0.4
baz=42
Z31A Sharp Cattle R 42.22 335 ⇓P P 01 50 47.9 0.0
baz=42,SNR=24
228A UT Block 9, Co 42.31 331 ⇓P P 01 50 48.2 -0.5
baz=42,SNR=6.0
PBMO Poplar Bluff 42.32 348 eP P 01 50 47.0 -1.6
comp=Z,82nm,2.4s
326A Caldwell Ranch 42.34 329 ⇓P P 01 50 48.8 -0.1
baz=42,SNR=8.8
129A Stewart Farms, 42.40 333 ⇓P P 01 50 48.9 -0.4
baz=42,SNR=7.7
425A Indio Mountain 42.45 328 ⇑P P 01 50 49.9 0.0
baz=43,SNR=17
227A Bennet, Jal 42.56 331 ⇓P P 01 50 50.8 0.0
baz=43,SNR=8.2
Z30A Sanderson Ranc 42.62 334 ⇑P P 01 50 50.9 -0.3
baz=43,SNR=23
128A Castleberry Fa 42.68 332 ⇓P P 01 50 51.7 0.0
baz=43
Y31A Rekieta Farm, 42.83 335 ⇑P P 01 50 53.5 +0.7
baz=43,SNR=53
Z29A Hungry Hill Ra 42.85 333 ⇓P P 01 50 52.6 -0.4
baz=43,SNR=16
325A Bean Ranch, Si 42.90 328 ⇑P P 01 50 53.3 -0.3
baz=43,SNR=9.9
WMOK Wichita Mounta 42.91 337 eP P 01 50 52.8 -0.6
WMOK e*PP pP 01 51 07.5 -1.1
WMOK pmax pmax
comp=Z,13nm,1.0s
WMOK Wichita Mounta 42.91 337 eP P 01 50 52.8 -0.6
comp=Z,13nm,1.0s
WMOK epP pP 01 51 07.5 -1.1
Y30A Stafford Cattl 43.02 335 ⇓P P 01 50 54.9 +0.5
baz=43,SNR=18
WCI Wyandotte Cave 43.05 353 eP P 01 50 52.5 -2.0
WCI pmax pmax
comp=Z,11nm,0.7s
WCI Wyandotte Cave 43.05 353 eP P 01 50 52.5 -2.0
comp=Z,11nm,0.7s
226B Tecolote Peak, 43.05 330 ⇓P P 01 50 55.1 +0.4
baz=43,SNR=20
127A Arkansas Junct 43.14 331 ⇑P P 01 50 55.0 -0.4
baz=43
Z28A Tucker Farm, M 43.19 333 ⇑P P 01 50 55.5 -0.3
baz=43
324A Moseley Ranch, 43.23 328 ⇓P P 01 50 55.8 -0.4
baz=43,SNR=15

X31A McDonald Ranch 43.29 336 ⇓P P 01 50 56.7 +0.2
baz=43,SNR=16
Y29A Porterfield Fa 43.34 334 ⇓P P 01 50 57.2 +0.2
baz=44,SNR=18
MNTX Cornudas Mount 43.37 328 eP P 01 50 56.5 -0.7
comp=Z,9.7nm,0.8s
225A Deer Hill, Car 43.41 329 ⇑P P 01 50 57.8 +0.1
baz=44,SNR=15
126A Clayton Basin, 43.44 330 ⇑P P 01 50 58.1 +0.2
baz=44,SNR=15
X30A Coker Ranch, T 43.50 335 ⇑P P 01 50 58.3 0.0
baz=44,SNR=42
Z27A Tatum 43.59 332 ⇑P P 01 50 59.3 +0.3
baz=44,SNR=24
Y28A McKinney Farm, 43.64 333 ⇓P P 01 50 59.3 -0.2
baz=44,SNR=16
224A Cornudas Mount 43.74 328 ⇑P P 01 51 00.3 -0.1
baz=44,SNR=16
W31A Holland Ranch, 43.76 336 ⇓P P 01 51 00.2 -0.1
baz=44
125A Gardner Draw, 43.76 330 ⇑P P 01 51 00.8 +0.3
baz=44,SNR=26
OLIL Olney 43.79 351 eP P 01 50 58.5 -1.9
comp=Z,22nm,0.8s
X29A Tulia 43.85 334 ⇓P P 01 51 01.1 0.0
baz=44,SNR=10
Z26A Caprock 43.92 331 ⇓P P 01 51 02.4 +0.6
baz=44,SNR=38
MSTX Muleshoe 43.93 333 eP P 01 51 01.3 -0.4
comp=Z,38nm,0.9s
MSTX Muleshoe 43.93 333 ⇓P P 01 51 01.6 -0.2
baz=44,SNR=23
W30A Crocket Farms 44.01 336 ⇑P P 01 51 02.4 0.0
baz=44
Y27A Causey 44.04 332 ⇓P P 01 51 02.6 -0.1
baz=44,SNR=15
X28A Dimmitt 44.13 334 ⇑P P 01 51 03.3 -0.1
baz=44
124A Stringfield Ra 44.20 329 ⇑P P 01 51 04.7 +0.6
baz=44,SNR=27
Z25A Roswell 44.29 330 ⇑P P 01 51 05.0 +0.3
baz=44,SNR=23
Y26A Elida 44.38 332 ⇓P P 01 51 06.0 +0.6
baz=44
123A Bell Site, Whi 44.57 328 ⇑P P 01 51 07.5 +0.5
baz=45
222A Williams Famil 44.61 327 ⇓P P 01 51 08.1 +0.9
baz=45,SNR=13
X27A F and S Farms, 44.64 333 ⇑P P 01 51 07.4 -0.1
baz=45,SNR=7.9
Z24A Sheeppen Canyo 44.66 330 ⇑P P 01 51 08.2 +0.5
baz=45,SNR=34
U31A Nine Bar Ranch 44.76 337 ⇑P P 01 51 08.9 +0.6
baz=45
W28A Vega 44.76 334 ⇓P P 01 51 08.7 +0.3
baz=45
Y25A Mesa, Roswell 44.80 331 ⇓P P 01 51 08.8 +0.1
baz=45,SNR=12
320A Kipp Ranch, An 44.83 325 ⇑P P 01 51 09.6 +0.6
baz=45,SNR=10
X26A CR and CF Fran 44.89 332 ⇓P P 01 51 09.7 +0.2
baz=45
221A Mesquite Ranch 44.91 326 ⇑P P 01 51 10.0 +0.4
baz=45
W27A Bowe Ranch, En 44.98 333 ⇑P P 01 51 10.2 0.0
baz=45,SNR=38
V29A Stinnett 44.99 335 ⇓P P 01 51 10.6 +0.4
baz=45
122A Conniff Cattle 45.01 328 ⇓P P 01 51 11.3 +0.9
baz=45,SNR=22
Z23A Rita Site, Whi 45.05 329 ⇓P P 01 51 11.1 +0.4
baz=45,SNR=11
Y24A Capitan 45.17 330 ⇓P P 01 51 11.8 0.0
baz=45,SNR=9.1
V28A Channing 45.19 335 ⇓P P 01 51 12.1 +0.3
baz=45
U30A WK&E Inc. Balk 45.21 337 ⇓P P 01 51 12.1 +0.2
baz=45,SNR=8.5
220A Playas Peak, P 45.25 325 ⇑P P 01 51 12.6 +0.2
baz=45,SNR=24
X25A Clemmons Ranch 45.27 331 ⇑P P 01 51 12.6 +0.1
baz=45
319A Douglas 45.29 324 ⇓P P 01 51 13.1 +0.5
baz=45,SNR=13
121A Cookes Peak, D 45.31 327 ⇓P P 01 51 13.8 +0.9
baz=45,SNR=12
W26A Owens Ranch, T 45.31 333 ⇑P P 01 51 13.0 +0.1
baz=46,SNR=8.7
T31A Randall Ranch, 45.33 338 ⇓P P 01 51 12.9 +0.1
baz=46
U29A Oasis Ranch, S 45.39 336 ⇑P P 01 51 14.1 +0.8
baz=46
Z22A Elephant Butte 45.42 328 ⇓P P 01 51 14.7 +1.0
baz=46,SNR=34
V27A Dan Oppiter Fa 45.45 334 ⇑P P 01 51 14.5 +0.6
baz=46
Y23A Lovelace Mesa, 45.48 329 ⇑P P 01 51 14.6 +0.4
baz=46,SNR=53
S32A Newby Ranch, P 45.60 339 ⇓P P 01 51 15.2 +0.3
baz=46,SNR=9.8
T30A Plains 45.62 337 ⇑P P 01 51 15.4 +0.3
baz=46
X24A Lazy VL Ranch, 45.68 331 ⇓P P 01 51 15.8 0.0
baz=46
U28A Mallet 45.72 335 ⇑P P 01 51 16.1 +0.1
baz=46,SNR=6.3
S31A Mullinville 45.72 339 ⇓P P 01 51 16.0 +0.1
baz=46,SNR=6.0
W25A X Bar L Ranch, 45.74 332 ⇓P P 01 51 16.1 -0.1
baz=46,SNR=8.2
120A U Bar Ranch, L 45.79 326 ⇑P P 01 51 17.3 +0.7
baz=46,SNR=17
Z21A St. Cloud Mine 45.84 327 ⇑P P 01 51 17.9 +0.8
baz=46,SNR=10.0
V26A Tequesquite Ra 45.91 333 ⇑P P 01 51 17.9 +0.4
baz=46,SNR=21
BNM Barren Site 45.95 329 eP P 01 51 18.3 +0.4
BNM ePcP PcP 01 52 53.6 -0.5
T29A Hugoton 46.01 336 ⇓P P 01 51 18.4 +0.2
baz=46,SNR=11
U27A Thompson Grove 46.01 335 ⇑P P 01 51 18.4 +0.1
baz=46,SNR=15
LPM Los Pinos Moun 46.08 329 eP P 01 51 19.1 +0.2
KSU1 Kansas State U 46.10 342 eP P 01 51 17.6 -1.2
comp=Z,29nm,0.9s
S30A Montezuma 46.11 338 ⇓P P 01 51 18.9 0.0
baz=46,SNR=9.2
LENM Lemitar 46.13 329 eP P 01 51 20.2 +0.8
W24A Lazy 6 Ranch, 46.19 331 ⇑P P 01 51 20.1 +0.3
baz=46,SNR=21
Z20A Nine Sixteen R 46.19 326 ⇓P P 01 51 20.8 +1.0
baz=46,SNR=27
T28A Walsh 46.31 336 ⇓P P 01 51 20.2 -0.4
baz=46,SNR=10
V25A Rancho No Teng 46.32 332 ⇓P P 01 51 21.2 +0.3
baz=46,SNR=28
R31A Burdett 46.33 339 ⇓P P 01 51 21.0 +0.3
baz=46,SNR=8.6
S29A Ulysses 46.34 337 ⇓P P 01 51 21.2 +0.4
baz=46,SNR=18
Y21A Point of Rocks 46.38 328 ⇓P P 01 51 22.6 +1.3
baz=46,SNR=15
U26A Atchley Ranch, 46.39 334 ⇓P P 01 51 21.3 0.0
baz=46,SNR=16
LAZ Ladron 46.41 329 eP P 01 51 22.4 +0.8
X22A Bernardo 46.42 329 ⇓P P 01 51 22.7 +1.1
baz=46,SNR=6.8
ANMO Albuquerque 46.49 330 eP P 01 51 22.7 +0.5
comp=Z,38nm,0.8s
W23A Werner Place, 46.51 330 ⇓P P 01 51 23.1 +0.7
baz=47,SNR=29
T27A Campo 46.51 335 ⇓P P 01 51 22.0 -0.2
baz=47,SNR=16
V24A Rampart Ranch, 46.54 332 ⇑P P 01 51 22.7 +0.1
baz=47,SNR=40
R30A Dighton 46.60 338 ⇓P P 01 51 23.1 +0.2
baz=47,SNR=14
S28A Manter 46.62 336 ⇓P P 01 51 23.1 0.0
baz=47,SNR=23
Y20A Horse Springs, 46.67 327 ⇓P P 01 51 24.5 +0.8
baz=47,SNR=22
U25A Circle Dot Ran 46.69 333 ⇑P P 01 51 24.0 +0.3
baz=47,SNR=12
P33A Williams Farm, 46.75 341 ⇓P P 01 51 24.5 +0.6
baz=47
X21A Alamocita Cree 46.77 328 ⇑P P 01 51 25.5 +1.0
baz=47,SNR=44
W22A Albuquerque 46.79 330 ⇑P P 01 51 25.5 +1.0
baz=47
TUC Tucson 46.85 324 eP P 01 51 25.0 +0.1
TUC pmax pmax
comp=Z,10.0nm,0.8s
TUC Tucson 46.85 324 eP P 01 51 25.0 +0.1
comp=Z,10nm,0.8s
Q31A Ellis 46.92 340 ⇑P P 01 51 25.5 +0.2
baz=47,SNR=6.4
T26A Comanche Natio 46.98 334 ⇑P P 01 51 26.4 +0.5
baz=47
V23A Ortiz Mt. (NFS 46.99 331 ⇓P P 01 51 26.5 +0.4
baz=47,SNR=9.2
R29A Marienthal 47.05 338 ⇓P P 01 51 26.5 +0.2
baz=47,SNR=20
U24A Moreno Valley 47.10 332 ⇓P P 01 51 27.6 +0.6
baz=47,SNR=5.2
S27A Las Animas 47.11 335 ⇑P P 01 51 27.1 +0.2
baz=47
Q30A Quinter 47.19 339 ⇑P P 01 51 27.7 +0.2
baz=47,SNR=9.5
P32A Huiting Farm, 47.21 341 ⇑P P 01 51 27.3 -0.2
baz=47,SNR=7.0
X20A Quemado 47.22 328 ⇑P P 01 51 28.7 +0.8
baz=47,SNR=15
W21A San Fidel 47.22 329 ⇑P P 01 51 28.8 +0.8
baz=47,SNR=18
R28A Tribune 47.24 337 ⇓P P 01 51 28.0 +0.2
baz=47,SNR=18
S26A Kim 47.30 335 ⇓P P 01 51 28.8 +0.4
baz=47,SNR=9.8
T25A Trinidad 47.30 334 ⇓P P 01 51 29.2 +0.7
baz=47,SNR=16
P31A Stockton 47.38 340 ⇑P P 01 51 28.8 -0.1
baz=48,SNR=6.0
Q29A Oakley 47.40 338 ⇑P P 01 51 28.9 -0.2
baz=48,SNR=6.2
U23A El Rito 47.46 331 ⇑P P 01 51 30.4 +0.6
baz=48,SNR=28
V22A San Miguel Ran 47.48 330 ⇓P P 01 51 30.4 +0.5
baz=48,SNR=10
R27A Eads 47.58 336 ⇓P P 01 51 30.4 -0.1
baz=48,SNR=14
W20A Ramah 47.67 328 ⇓P P 01 51 32.2 +0.8
baz=48,SNR=17
T24B San Luis 47.68 333 ⇑P P 01 51 32.3 +0.8
baz=48
O32A Brockman Farm, 47.68 341 ⇑P P 01 51 31.0 -0.2
baz=48
P30A Selden 47.71 339 ⇓P P 01 51 31.4 0.0
baz=48,SNR=7.8
S25A Robets Cordova 47.75 334 ⇑P P 01 51 32.2 +0.2
baz=48,SNR=14
V21A Milan 47.76 330 ⇓P P 01 51 33.0 +1.0
baz=48,SNR=13
214A Organ Pipe Nat 47.82 322 ⇓P P 01 51 32.6 +0.3
baz=48,SNR=14
U22A Llaves 47.82 331 ⇓P P 01 51 33.5 +1.0
baz=48,SNR=21
SCIA State Center 47.84 347 eP P 01 51 31.3 -1.0
comp=Z,29nm,0.8s
R26A Arlington 47.86 335 ⇑P P 01 51 32.9 +0.2
baz=48,SNR=9.3
Q28A Sharon Springs 47.87 337 ⇓P P 01 51 32.8 0.0
baz=48
O31A Woolen Ranch, 47.93 340 ⇓P P 01 51 33.0 -0.1
baz=48
T23A Casias Ranch, 47.96 332 ⇑P P 01 51 34.0 +0.3
baz=48,SNR=20
X18A Snowflake 48.00 327 ⇑P P 01 51 34.5 +0.6
baz=48,SNR=16
P29A Atwood 48.00 338 ⇑P P 01 51 33.6 -0.1
baz=48,SNR=7.9
S24A Houchin Ranch, 48.08 333 ⇓P P 01 51 34.9 +0.3
baz=48,SNR=9.8
R25A Fountain Ranch 48.09 334 ⇓P P 01 51 34.9 +0.4
baz=48
V20A Brimhall 48.17 329 ⇓P P 01 51 35.5 +0.2
baz=48,SNR=10
O30A MW Ranch, Wils 48.20 340 ⇑P P 01 51 35.6 +0.4
baz=48
JFWS Jewell Farm 48.22 350 eP P 01 51 33.5 -1.8
JFWS pmax pmax
comp=Z,16nm,0.7s
JFWS Jewell Farm 48.22 350 eP P 01 51 33.5 -1.8
comp=Z,16nm,0.7s
U21A Nageezi 48.26 330 ⇓P P 01 51 36.3 +0.4
baz=48,SNR=13
P28A Saint Francis 48.28 338 ⇑P P 01 51 36.0 +0.1
baz=48,SNR=5.4
SDCO Great Sand Dun 48.29 333 eP P 01 51 36.4 +0.2
comp=Z,22nm,0.8s
W18A Petrified Fore 48.32 327 eP P 01 51 37.3 +0.9
comp=Z,38nm,0.9s
W18A Petrified Fore 48.32 327 ⇓P P 01 51 37.1 +0.7
baz=48,SNR=7.7
T22A Edith 48.35 331 ⇓P P 01 51 36.9 +0.2
baz=48,SNR=8.0
O29A 4D Ranch, Culb 48.42 339 ⇓P P 01 51 37.1 +0.3
baz=49,SNR=16
Q26A Hugo 48.42 336 ⇓P P 01 51 37.4 +0.3
baz=49
R24A Sanders Place, 48.52 334 ⇑P P 01 51 38.5 +0.6
baz=49,SNR=6.5
P27A Ficken Ranch, 48.59 337 ⇑P P 01 51 38.4 +0.1
baz=49,SNR=5.1
T21A Navajo Lake 48.64 331 ⇑P P 01 51 39.3 +0.5
baz=49,SNR=8.9
U20A Newcomb 48.65 329 ⇑P P 01 51 39.3 +0.4
baz=49,SNR=21
Q25A Bedland, Calha 48.72 335 ⇓P P 01 51 39.5 +0.1
baz=49,SNR=5.8
X16A Lo Mia Camp, P 48.75 325 ⇓P P 01 51 40.1 +0.4
baz=49,SNR=29
O28A Krutsinger Ran 48.77 338 ⇓P P 01 51 39.6 0.0
baz=49,SNR=6.2
R23A Moffat 48.80 333 ⇑P P 01 51 40.2 0.0
baz=49,SNR=9.8
Z14A Wintersburg 48.87 323 ⇓P P 01 51 40.4 0.0
baz=49,SNR=5.2
M31A Lambtecht Ranc 48.89 341 ⇑P P 01 51 40.6 +0.2
baz=49
P26A Davis Ranch, A 48.89 336 ⇑P P 01 51 40.9 +0.2
baz=49
S22A 4UR Ranch, Cre 48.91 332 ⇓P P 01 51 41.0 +0.1
baz=49,SNR=8.4
113A Mohawk Valley, 48.96 322 ⇓P P 01 51 41.4 +0.3
baz=49,SNR=8.1
N29A Votaw Ranch, W 48.97 339 ⇓P P 01 51 41.2 +0.1
baz=49,SNR=5.6
O27A Beecher Island 49.10 337 ⇑P P 01 51 42.4 +0.3
baz=49,SNR=5.4
Q24A Divide 49.14 334 ⇓P P 01 51 42.4 -0.4
baz=49,SNR=5.5
N28A Pribbeno Ranch 49.18 339 ⇑P P 01 51 42.8 +0.1
baz=49
P25A Willow Gulch B 49.19 336 ⇓P P 01 51 43.1 +0.2
baz=49,SNR=7.4
MVCO Mesa Verde 49.29 330 eP P 01 51 43.6 -0.2
comp=Z,15nm,0.7s
MVCO Mesa Verde 49.29 330 ⇓P P 01 51 43.7 -0.2
baz=49,SNR=14
S21A Coal Bank Pass 49.30 331 ⇑P P 01 51 43.7 -0.2
baz=49,SNR=9.0
Y14A Wickenburg 49.31 324 ⇑P P 01 51 43.9 0.0
baz=49,SNR=14
Q23A Hartsel 49.39 334 ⇓P P 01 51 45.2 +0.5
baz=50
O26A Horse Wrangler 49.46 337 ⇑P P 01 51 45.0 0.0
baz=50
P24A Kohler Place, 49.50 335 ⇑P P 01 51 45.7 +0.4
baz=50
WUAZ Wupatki 49.51 326 eP P 01 51 46.3 +0.8
comp=Z,38nm,0.9s
WUAZ Wupatki 49.51 326 ⇓P P 01 51 46.1 +0.6
baz=50,SNR=29
M29A Burnside Ranch 49.55 340 ⇑P P 01 51 46.1 +0.6
baz=50
L31A Butterfield Fa 49.60 342 ⇑P P 01 51 45.8 0.0
baz=50,SNR=8.3
N27A Anderson Farm, 49.65 338 ⇓P P 01 51 46.9 +0.6
baz=50
L30A Spencer Herefo 49.67 341 ⇓P P 01 51 46.9 +0.4
baz=50
O25A Wiggins 49.68 336 ⇓P P 01 51 47.1 +0.5
baz=50
M28A Bar X Bar Ranc 49.74 339 ⇓P P 01 51 47.7 +0.7
baz=50
R21A Cimarron 49.74 332 ⇑P P 01 51 47.4 +0.1

baz=50,SNR=9.3
P23A **Jefferson** 49.78 334 ⇓P P 01 51 48.2 +0.6
baz=50,SNR=31
GLA **Glamis** 49.81 321 eP P
GLA pmax pmax
comp=Z,10.0nm,0.7s
GLA **Glamis** 49.81 321 eP P 01 51 47.8 +0.2
comp=Z,9.9nm,0.7s
GLA **Glamis** 49.81 321 ⇑P P 01 51 47.9 +0.2
baz=50
Q22A **Crested Butte,** 49.84 333 ⇑P P 01 51 48.8 +0.7
baz=50
R20A **Redvale** 50.00 331 ⇓P P 01 51 49.6 +0.4
baz=50,SNR=34
L29A **Maesberg Ranch** 50.03 340 ⇓P P 01 51 49.1 -0.1
baz=50,SNR=7.2
ISCO **Idaho Springs** 50.04 334 eP P
ISCO pmax pmax
comp=Z,9.0nm,0.8s
ISCO **Idaho Springs** 50.04 334 eP P 01 51 49.3 -0.2
comp=Z,9.2nm,0.8s
ISCO **Idaho Springs** 50.04 334 ⇓P P 01 51 49.4 -0.1
baz=50,SNR=14
PV01 **Paradox Valley** 50.05 331 eP P 01 51 50.0 +0.5
O24A **Longmont** 50.08 335 ⇓P P 01 51 49.9 +0.2
baz=50,SNR=5.3
Y12C **Blythe** 50.09 322 ⇓P P 01 51 49.9 +0.2
baz=50,SNR=8.6
Q21A **Lamborn Mesa,** 50.13 332 ⇓P P 01 51 50.3 +0.2
baz=50
SMCO **Snowmass** 50.13 333 eP P 01 51 50.6 +0.2
comp=Z,13nm,0.9s
PV15 **Paradox Valley** 50.17 331 eP P
PV15 epP pP 01 52 06.7 +0.7
M27A **Reverse DX Ran** 50.22 338 ⇑P P 01 51 50.9 +0.2
baz=50
PDMCI **Parker Dam,Lak** 50.24 323 ⇓P P 01 51 51.2 +0.4
baz=50
PV05 **Paradox Valley** 50.26 330 eP P 01 51 51.2 0.0
K30A **Basset** 50.29 341 ⇑P P 01 51 51.1 0.0
baz=50
SWSC **Sam W. Stewart** 50.34 321 ⇑P P 01 51 51.9 +0.3
baz=50
P22A **Eagle** 50.37 333 ⇑P P 01 51 52.3 +0.3
baz=50,SNR=14
ECSD **EROS Data Cent** 50.39 345 eP P 01 51 50.5 -1.3
comp=Z,12nm,0.7s
PV04 **Paradox Valley** 50.41 331 eP P 01 51 52.2 0.0
PV04 epP pP 01 52 08.0 +0.2
M26A **McRoberts Ranc** 50.45 338 ⇓P P 01 51 52.9 +0.4
baz=51
PV10 **Paradox Valley** 50.46 331 eP P 01 51 52.3 -0.5
O23A **Lake Granby, G** 50.51 335 ⇓P P 01 51 53.5 +0.4
baz=51,SNR=19
Q20A **Ridgley Place,** 50.56 332 ⇑P P 01 51 53.6 +0.2
baz=51
N24A **Carr** 50.59 336 ⇑P P 01 51 54.0 +0.4
baz=51,SNR=5.3
K29A **Lazy Trails An** 50.60 341 ⇓P P 01 51 53.6 +0.2
baz=51
BC3 **Big Chuckawall** 50.60 322 ⇑P P 01 51 54.0 +0.3
baz=51,SNR=9.0
P21A **Newcastle** 50.62 333 ⇓P P 01 51 54.5 +0.6
baz=51,SNR=31
W13A **Hualapai Mount** 50.64 324 ⇑P P 01 51 54.8 +0.7
baz=51,SNR=16
L27A **T5 Ranch, Ells** 50.68 339 ⇓P P 01 51 54.5 +0.3
baz=51
U15A **North Rim** 50.69 326 ⇑P P 01 51 55.1 +0.6
baz=51,SNR=12
MONP **Monument Peak** 50.71 320 ⇓P P 01 51 54.8 +0.1
baz=51
O22A **Kremmling** 50.74 334 ⇓P P 01 51 54.4 -0.5
baz=51,SNR=17
IRM **Iron Mountain** 50.75 322 ⇓P P 01 51 55.2 +0.5
baz=51,SNR=12
J30A **Dallas** 50.84 342 ⇓P P 01 51 54.2 -1.0
baz=51,SNR=9.1
K28A **Ten Mile Ranch** 50.91 340 ⇓P P 01 51 56.0 +0.3
baz=51
L26A **Underwood Farm** 50.92 338 ⇓P P 01 51 56.0 +0.1
baz=51
SPMN **St. Paul** 50.93 349 eP P 01 51 54.1 -1.7
comp=Z,17nm,1.0s
SPMN **St. Paul** 50.93 349 ⇑P P 01 51 54.1 -1.7
baz=51,SNR=5.6
P20A **De Beque** 51.04 332 ⇓P P 01 51 57.1 +0.1
baz=51,SNR=6.9
N23A **Red Feather La** 51.09 335 ⇓P P 01 51 57.3 -0.1
baz=51
M24A **Cheyenne** 51.11 336 ⇓P P 01 51 58.1 +0.7
baz=51
BELC **Belle Mtn. Jos** 51.17 321 ⇓P P 01 51 58.1 +0.1
baz=51,SNR=6.6
J29A **Okreek** 51.18 341 ⇑P P 01 51 57.4 -0.4
baz=51,SNR=13
O21A **Pagoda** 51.19 333 ⇑P P 01 51 58.5 +0.3
baz=51
K27A **Flueckinger Fa** 51.20 339 ⇑P P 01 51 58.7 +0.7
baz=51
PFO **Pinyon Flat Ob** 51.20 321 eP P 01 51 58.2 0.0
comp=Z,9.5nm,1.0s
PFO ePcP PcP 01 53 12.6 -0.3
PFO **Pinyon Flat Ob** 51.20 321 P P 01 51 58.2 0.0
comp=Z,6.6nm,0.9s,baz=106,slow=6.5,SNR=9.4
PFO PcP PcP 01 53 12.6 -0.3
comp=Z,3.5nm,0.8s,baz=24,slow=3.0,SNR=2.9
PHWY **Pilot Hill** 51.22 336 eP P 01 51 58.0 -0.5
comp=Z,7.6nm,0.9s
N22A **Wattenberg Ran** 51.23 335 ⇓P P 01 51 58.8 +0.3
baz=51,SNR=5.9
P19A **Cripple Cowboy** 51.42 332 ⇓P P 01 51 59.7 -0.2
baz=52,SNR=9.2
O20A **White River Ci** 51.48 333 eP P 01 52 00.1 -0.2
comp=Z,14nm,1.0s
O20A **White River Ci** 51.48 333 ⇑P P 01 52 00.2 0.0
baz=52,SNR=6.1
GMRC **Granite Mounta** 51.48 322 ⇓P P 01 52 00.5 +0.2
baz=52,SNR=8.1
J28A **Allard Ranch,** 51.49 341 ⇓P P 01 52 00.2 +0.1
baz=52,SNR=9.0
K26A **Motz Farm, Whi** 51.53 338 ⇓P P 01 52 00.6 +0.1
baz=52
J27A **Elkhorn Farm,** 51.60 340 ⇓P P 01 52 01.5 +0.5
baz=52
L24A **Wheatland** 51.64 337 ⇑P P 01 52 01.6 +0.3
baz=52
MURC **Murrieta** 51.66 320 ⇓P P 01 52 01.9 +0.3
baz=52
BRSD **Miller** 51.70 343 eP P 01 51 59.8 -1.9
comp=Z,24nm,0.9s
BRSD **Miller** 51.70 343 ⇑P P 01 52 01.0 -0.6
baz=52
I29A **Vivian Onida** 51.73 342 ⇓P P 01 52 01.2 -0.6
baz=52,SNR=7.2
SRU **San Rafael** 51.77 330 eP P 01 52 02.3 -0.1
SRU pmax pmax
comp=Z,13nm,0.8s
SRU **San Rafael** 51.77 330 eP P 01 52 02.2 -0.1
comp=Z,13nm,0.8s
BBRC **Big Bear Solar** 51.92 321 ⇓P P 01 52 04.6 +0.9
baz=52,SNR=6.1
HEC **Hector,Ludlow** 51.92 322 ⇓P P 01 52 04.4 +0.9
baz=52
Q16A **Castle Valley** 51.94 329 eP P 01 52 03.8 0.0
comp=Z,6.7nm,0.6s
Q16A **Castle Valley** 51.94 329 ⇓P P 01 52 03.9 +0.1
baz=52
I28A **Midland** 51.98 341 ⇓P P 01 52 03.5 -0.3
baz=52,SNR=6.3
L23A **Garrett** 52.01 336 ⇓P P 01 52 04.7 +0.5
baz=52
O19A **Miners Draw (B** 52.02 332 ⇑P P 01 52 03.9 -0.4
baz=52,SNR=6.5
J26A **Sides Ranch, S** 52.03 339 ⇑P P 01 52 04.3 +0.1
baz=52,SNR=13
N20A **Spence Gulch,** 52.05 333 ⇓P P 01 52 04.5 -0.1
baz=52,SNR=10
CCUT **Cedar City** 52.09 327 eP P 01 52 05.9 +1.0
comp=Z,22nm,1.0s
SCI **San Clemente I** 52.14 319 ⇑P P 01 52 05.6 +0.5
baz=52
MVU **Marysvale** 52.17 328 eP P 01 52 05.8 +0.3
comp=Z,12nm,0.8s
L22A **Ellis Ranch, M** 52.23 335 ⇑P P 01 52 06.4 +0.5
baz=52
H29A **Onida** 52.24 342 ⇑P P 01 52 05.3 -0.4
baz=52
TMUT **Trail Mountain** 52.25 330 eP P 01 52 05.6 -0.5
comp=Z,16nm,1.2s
ARUT **Antelope Range** 52.30 327 eP P 01 52 02.4 -4.0
ARUT **Antelope Range** 52.30 327 eP P 01 52 02.4 -4.0
I27A **Quinn** 52.34 340 ⇓P P 01 52 06.3 -0.1
baz=52,SNR=9.8
J25A **Sunshine Ranch** 52.36 338 ⇑P P 01 52 06.5 -0.2
baz=52,SNR=7.3
SHPR **Sheep Range** 52.36 324 eP P 01 52 07.1 +0.2
SHPR ePcP PcP 01 53 14.9 -2.4
BFSC **Mount Baldy Ra** 52.37 321 ⇑P P 01 52 07.1 +0.2
baz=52
G30A **Faulkton** 52.38 343 ⇓P P 01 52 05.4 -1.2
baz=52,SNR=17
K23A **Bowen Ranch, D** 52.51 337 ⇓P P 01 52 08.0 +0.1
baz=53
GSC **Goldstone** 52.53 322 ⇓P P 01 52 08.4 +0.3
baz=53,SNR=7.2
H28A **Mission Ridge** 52.54 341 ⇓P P 01 52 07.2 -0.6
baz=53
M20A **Sweetwater, Wa** 52.54 334 ⇓P P 01 52 08.0 -0.2
baz=53,SNR=7.9
I26A **New Underwood** 52.58 340 ⇓P P 01 52 08.4 +0.1
baz=53
SHOC **Shoshone** 52.61 323 ⇑P P 01 52 09.0 +0.4
baz=53,SNR=5.5
PASC **Pasadena Art C** 52.66 320 eP P 01 52 07.7 -1.2
K22A **Casper** 52.79 336 eP P 01 52 09.4 -0.5
comp=Z,6.6nm,0.8s
K22A **Casper** 52.79 336 ⇑P P 01 52 09.6 -0.3
baz=53
H27A **Howes** 52.84 341 ⇑P P 01 52 09.6 -0.5
baz=53,SNR=6.1
G28A **Parade** 52.86 342 ⇑P P 01 52 09.5 -0.8
baz=53,SNR=5.4
I25A **Rochford** 52.88 339 ⇓P P 01 52 10.8 +0.2
baz=53,SNR=7.5
EDW2 **Edwards Air Fo** 52.99 321 ⇓P P 01 52 11.4 0.0
baz=53,SNR=8.5
F30A **Leola** 52.99 344 ⇓P P 01 52 10.7 -0.5
baz=53
L20A **Wamsutter** 53.03 334 ⇓P P 01 52 11.5 -0.3
baz=53
H26A **Fairpoint** 53.06 340 ⇑P P 01 52 11.4 -0.3
baz=53
K21A **Alcova** 53.07 335 ⇓P P 01 52 11.7 -0.3
baz=53,SNR=7.9
RSSD **Black Hills** 53.08 339 eP P 01 52 11.6 -0.5
RSSD pmax pmax
comp=Z,35nm,0.7s
RSSD **Black Hills** 53.08 339 eP P 01 52 11.6 -0.5
comp=Z,35nm,0.7s
NLU **North Lily Min** 53.19 330 eP P 01 52 13.1 +0.1
comp=Z,5.8nm,0.7s
F29A **Eureka** 53.22 343 ⇑P P 01 52 12.0 -0.9
baz=53,SNR=5.7
OSI **Osito Adit** 53.28 320 ⇓P P 01 52 12.4 -1.2
baz=53
FURC **Furnace Creek,** 53.34 323 ⇑P P 01 52 14.4 +0.5
baz=54,SNR=15
H25A **Fruitdale** 53.35 339 ⇑P P 01 52 13.7 -0.2
baz=54,SNR=6.0
JLU **Jordanelle** 53.37 331 eP P 01 52 14.3 0.0
comp=Z,21nm,1.2s
J22A **Midwest** 53.40 336 ⇑P P 01 52 14.0 -0.4
baz=54,SNR=15
MPMC **Manual Prospec** 53.45 322 ⇑P P 01 52 14.9 -0.1
baz=54,SNR=11
F28A **McLaughlin** 53.52 342 ⇑P P 01 52 14.6 -0.5
baz=54,SNR=5.1
L19A **Farson** 53.55 333 ⇑P P 01 52 15.3 -0.3
baz=54,SNR=8.3
E30A **Jud** 53.57 344 ⇑P P 01 52 14.8 -0.6
baz=54,SNR=5.5
G26A **Maurine** 53.60 341 ⇑P P 01 52 14.9 -0.8
baz=54,SNR=7.3
M17A **Scullys Gap (B** 53.66 332 ⇓P P 01 52 15.8 -0.6
baz=54,SNR=8.1
L18A **Fontenelle, Gr** 53.72 333 ⇓P P 01 52 16.3 -0.5
baz=54,SNR=7.5
DUG **Dugway** 53.74 329 eP P 01 52 17.3 +0.4
DUG pmax pmax
comp=Z,13nm,0.9s
DUG **Dugway** 53.74 329 eP P 01 52 17.3 +0.4
comp=Z,13nm,0.9s
DUG **Dugway** 53.74 329 ⇑P P 01 52 17.3 +0.4
baz=54,SNR=21
J21A **Lysite** 53.74 336 ⇑P P 01 52 16.6 -0.3
baz=54,SNR=8.0
G25A **Newell** 53.79 340 ⇑P P 01 52 16.5 -0.6
baz=54,SNR=5.8
ISA **Isabella** 53.79 321 eP P 01 52 17.0 -0.3
ISA pmax pmax
comp=Z,4.0nm,0.8s
ISA **Isabella** 53.79 321 eP P 01 52 17.0 -0.3
comp=Z,4.3nm,0.8s
ISA **Isabella** 53.79 321 ⇓P P 01 52 17.8 +0.5
baz=54
H24A **Dirks Ranch, A** 53.80 339 ⇓P P 01 52 16.6 -0.6
baz=54,SNR=5.1
I22A **9 Mile Ranch,** 53.81 337 ⇓P P 01 52 17.1 -0.2
baz=54,SNR=9.5
E29A **Napoleon** 53.84 344 ⇓P P 01 52 17.1 -0.2
baz=54
R11A **Troy Canyon, C** 53.89 326 eP P 01 52 18.6 +0.5
comp=Z,9.2nm,1.0s
R11A **Troy Canyon, C** 53.89 326 ⇓P P 01 52 18.7 +0.5
baz=54,SNR=17
F27A **Lemmon** 53.93 341 ⇓P P 01 52 17.4 -0.7
baz=54,SNR=6.1
J20A **Shoshoni** 54.01 335 ⇓P P 01 52 19.0 +0.1
baz=54,SNR=8.7
CWC **Cottonwood Cre** 54.06 322 ⇑P P 01 52 19.6 +0.2
baz=54
I21A **Big Trails, Te** 54.06 336 ⇓P P 01 52 18.5 -0.8
baz=54,SNR=7.4
D30A **Buchanan** 54.09 344 ⇓P P 01 52 18.6 -0.6
baz=54,SNR=10.0
F26A **Lodgepole** 54.12 341 ⇓P P 01 52 18.7 -0.8
baz=54,SNR=9.3
E28A **Huff** 54.15 343 ⇓P P 01 52 19.3 -0.4
baz=54,SNR=9.1
PKM **Peak Mountain** 54.16 320 ⇑P P 01 52 20.2 +0.1
baz=54
BW06 **Boulder Array** 54.17 334 eP P 01 52 19.3 -0.8
BW06 epP pP 01 52 35.1 -0.7
BW06 ePcP PcP 01 53 23.0 -1.1
PD31 **Pinedale Array** 54.17 334 eP P 01 52 19.1 -1.0
PD31 epP pP 01 52 35.1 -0.7
PD31 ePcP PcP 01 53 22.8 -1.3
PDAR **Pinedale Array** 54.17 334 P P 01 52 19.1 -1.0
comp=Z,7.7nm,0.8s,baz=130,slow=8.3,SNR=56
PDAR pP pP 01 52 35.1 -0.7
comp=Z,2.9nm,0.7s,baz=149,slow=9.8,SNR=5.2
PDAR PcP PcP 01 53 22.8 -1.3
comp=Z,2.2nm,0.7s,baz=125,slow=5.7,SNR=4.7
G24A **Alzada** 54.26 339 ⇑P P 01 52 20.1 -0.4
baz=54
E27A **Carson** 54.28 342 ⇓P P 01 52 20.3 -0.3
baz=54,SNR=14
VES **Vestal, Richgr** 54.29 321 ⇑P P 01 52 21.5 +0.7
baz=54
H22A **Clearmont** 54.35 337 ⇓P P 01 52 21.3 +0.1
baz=54
J19A **Crowheart** 54.35 334 ⇓P P 01 52 20.6 -0.8
baz=54,SNR=8.9
SPUT **South Promonto** 54.39 330 eP P 01 52 21.2 -0.5
comp=Z,14nm,0.9s
BGU **Big Grassy Mou** 54.39 330 eP P 01 52 21.2 -0.5
comp=Z,7.4nm,0.8s
F25A **Bowman** 54.44 340 ⇑P P 01 52 21.5 -0.3
baz=55
AGMN **Agassiz Nation** 54.49 347 eP P 01 52 21.5 -0.5
comp=Z,62nm,0.7s
G23A **Biddle** 54.50 338 ⇑P P 01 52 21.5 -0.8
baz=55,SNR=7.9
I20A **Worland** 54.52 335 ⇑P P 01 52 22.0 -0.5
baz=55,SNR=8.2
SMMC **Simmler** 54.53 320 ⇓P P 01 52 23.5 +0.8
baz=55
C30A **Mose, Pekin** 54.56 345 ⇓P P 01 52 22.8 +0.2
baz=55
E26A **Carlson Angus** 54.60 341 ⇓P P 01 52 22.3 -0.7
baz=55,SNR=9.4
H21A **Big Horn, Sher** 54.64 337 ⇑P P 01 52 22.4 -1.0
baz=55,SNR=10
D28A **Regan** 54.67 343 ⇑P P 01 52 23.4 0.0
baz=55
F24A **Ekalaka** 54.71 339 ⇓P P 01 52 23.2 -0.6
baz=55,SNR=13
G22A **Birney** 54.85 338 ⇓P P 01 52 24.2 -0.7
baz=55,SNR=10
D27A **Center** 54.88 342 ⇓P P 01 52 24.7 -0.3
baz=55
H20A **Greybull** 54.91 336 ⇓P P 01 52 24.3 -1.0
baz=55,SNR=18
HVU **Hansel Valley** 54.91 331 eP P 01 52 24.7 -0.7
HVU pmax pmax
comp=Z,9.0nm,0.9s
HVU **Hansel Valley** 54.91 331 eP P 01 52 24.7 -0.7
comp=Z,8.9nm,0.9s
E25A **Miller Ranch,** 54.93 341 ⇓P P 01 52 24.8 -0.6
baz=55,SNR=6.5
F23A **Volborg** 54.95 339 ⇓P P 01 52 24.8 -0.7
baz=55,SNR=16
I19A **Meeteetse** 54.95 335 ⇓P P 01 52 25.9 +0.1
baz=55
MDND **Maddock** 54.99 344 eP P 01 52 25.3 -0.5
comp=Z,64nm,0.9s
MDND **Maddock** 54.99 344 ⇓P P 01 52 25.4 -0.3
baz=55
D26A **Manning** 55.09 342 ⇓P P 01 52 26.2 -0.3
baz=55
C28A **Hausauer Farms** 55.09 344 ⇑P P 01 52 26.6 +0.2
baz=55
G21A **Lodge Grass** 55.21 337 ⇓P P 01 52 27.2 -0.2
baz=55
B30A **Myrvik Farm, E** 55.22 345 ⇓P P 01 52 26.9 -0.4
baz=55,SNR=8.8
REDW **Red Top Meadow** 55.23 333 eP P 01 52 27.3 -0.5
comp=Z,19nm,1.3s
SNOW **Snow King Moun** 55.26 333 eP P 01 52 27.4 -0.6
comp=Z,69nm,2.3s
E24A **Baker** 55.29 340 ⇓P P 01 52 27.6 -0.3
baz=55
F22A **Rosebud** 55.31 338 ⇑P P 01 52 27.4 -0.7
baz=56
LOHW **Long Hollow** 55.31 333 eP P 01 52 27.7 -0.7
comp=Z,31nm,1.9s
TPAW **Teton Pass** 55.37 333 eP P 01 52 28.3 -0.6
comp=Z,8.1nm,0.8s
ELK **Elko** 55.40 328 eP P 01 52 28.9 -0.1
comp=Z,17nm,1.4s
RRI2 **Red Ridge** 55.42 333 eP P 01 52 28.9 -0.3
comp=Z,14nm,0.8s
H19A **Powell** 55.46 335 ⇑P P 01 52 29.3 0.0
baz=56
D25A **Fairfield** 55.48 341 ⇑P P 01 52 29.3 +0.1
baz=56,SNR=9.4
MOOW **Moose Ponds** 55.48 333 eP P 01 52 28.3 -1.3
comp=Z,84nm,3.0s
B29A **Wagenman Farm,** 55.49 345 ⇑P P 01 52 29.1 -0.2
baz=56,SNR=6.6
NV01 **Mina Array Sit** 55.50 324 eP P 01 52 30.2 +0.3
NV01 epP pP 01 52 46.1 +0.6
NV01 ePcP PcP 01 53 28.9 -0.3
NVAR **Mina Array Bea** 55.50 324 P P 01 52 30.1 +0.3
comp=Z,11nm,0.7s,baz=134,slow=7.4,SNR=95
NVAR pP pP 01 52 46.2 +0.7
comp=Z,7.5nm,0.7s,baz=133,slow=6.6,SNR=12
NVAR PcP PcP 01 53 28.9 -0.3
comp=Z,4.6nm,0.9s,baz=112,slow=4.1,SNR=3.8
E23A **Ismay** 55.58 339 ⇑P P 01 52 28.9 -1.1
baz=56,SNR=6.6
G20A **Bridger** 55.60 336 ⇓P P 01 52 29.1 -1.2
baz=56,SNR=12
A30A **Hoffart Farm,** 55.66 346 ⇑P P 01 52 30.1 -0.4
baz=56,SNR=20
F21A **Absaloka Mine,** 55.67 337 ⇑P P 01 52 30.1 -0.6
baz=56
IMW **Indian Meadow** 55.69 333 eP P 01 52 30.3 -0.8
comp=Z,4.9nm,0.7s
FLWY **Flagg Ranch** 55.73 334 eP P 01 52 31.1 -0.2
comp=Z,64nm,2.0s
H18A **Shoshone NF, C** 55.75 335 ⇑P P 01 52 30.5 -1.0
baz=56,SNR=5.9
E22A **Miles City** 55.76 339 ⇑P P 01 52 30.5 -0.8
baz=56,SNR=5.9
D24A **Glendive** 55.78 340 ⇓P P 01 52 31.7 +0.3
baz=56
A29A **Manning Farm,** 55.88 345 ⇓P P 01 52 31.7 -0.4
baz=56,SNR=25
C25A **Freed Ranch, W** 55.95 341 ⇓P P 01 52 32.4 -0.3
baz=56,SNR=6.7
B27A **Peters Farms,** 55.96 343 ⇓P P 01 52 32.7 0.0
baz=56
F20A **Billings** 56.05 337 ⇓P P 01 52 32.9 -0.6
baz=56
LAO **LASA Array** 56.07 339 eP P 01 52 32.6 -0.9
comp=Z,18nm,1.1s
D23A **Lindsay** 56.13 340 ⇑P P 01 52 34.0 0.0
baz=56,SNR=9.9
A28A **Rude Farm, Bot** 56.15 344 ⇑P P 01 52 33.6 -0.3
baz=56
C24A **Savage** 56.17 340 ⇓P P 01 52 34.7 +0.5
baz=56
WAKR **Walker** 56.22 323 eP P 01 52 35.1 +0.2
WAKR epP pP 01 52 52.0 +1.3
B26A **Jensen Ranch,** 56.23 343 ⇓P P 01 52 34.4 -0.1
baz=56
BMN **Battle Mountai** 56.25 326 eP P 01 52 35.3 +0.2
BMN pmax pmax
comp=Z,17nm,1.1s
BMN **Battle Mountai** 56.25 326 eP P 01 52 35.3 +0.2
comp=Z,16nm,1.1s
ULM **Lac du Bonnet** 56.34 348 eP P 01 52 34.0 -1.3
comp=Z,26nm,0.8s
ULM **Lac du Bonnet** 56.34 348 P P 01 52 34.1 -1.3
comp=Z,26nm,0.7s,baz=159,slow=9.4,SNR=34
ULM pP pP 01 52 49.8 -1.3
comp=Z,14nm,0.6s,baz=160,slow=6.0,SNR=7.4
F19A **Roth Farm, Mol** 56.41 336 ⇑P P 01 52 35.5 -0.6
baz=57,SNR=16
B25A **Knox Farm, Ray** 56.41 342 ⇑P P 01 52 36.2 +0.2
baz=57
D22A **Cohagen** 56.45 339 ⇑P P 01 52 36.1 -0.1
baz=57,SNR=15
A27A **Ledoux Ranch,** 56.45 344 ⇑P P 01 52 36.1 -0.1
baz=57,SNR=6.5
E20A **Meyer Farm, Mu** 56.63 337 ⇓P P 01 52 37.1 -0.4
baz=57,SNR=17
QLMT **Earthquake Lak** 56.64 334 eP P 01 52 38.3 +0.5
GCMT **Greycliff** 56.66 336 eP P 01 52 37.5 -0.3
C23A **Lambert** 56.66 340 ⇑P P 01 52 37.4 -0.3
baz=57,SNR=6.0
D21A **La Casta Ranch** 56.67 338 ⇑P P 01 52 37.8 0.0
baz=57,SNR=14
E19A **Rath Farm, Rou** 56.85 337 ⇓P P 01 52 38.7 -0.4
baz=57,SNR=15
C22A **Vida** 56.85 340 ⇓P P 01 52 38.9 -0.2
baz=57,SNR=7.4
DGMT **Dagmar** 56.92 341 eP P 01 52 39.4 -0.1
comp=Z,12nm,0.8s
DGMT **Dagmar** 56.92 341 ⇑P P 01 52 39.7 +0.2
baz=57
PAHR **Pah Rah Range** 56.98 325 eP P 01 52 40.5 +0.3
comp=Z,8.5nm,0.9s
HLID **Hailey** 57.05 331 eP P 01 52 40.8 +0.1
comp=Z,16nm,0.9s
HLID **Hailey** 57.05 331 ⇑P P 01 52 41.0 +0.3
baz=57,SNR=27
D20A **Manuel Ranch,** 57.12 338 ⇓P P 01 52 40.9 -0.1
baz=57,SNR=13
B23A **Brockton** 57.17 341 ⇓P P 01 52 41.5 +0.2
baz=57,SNR=8.9
A24A **Westby** 57.25 342 ⇑P P 01 52 42.2 +0.4
baz=57,SNR=10
MCMT **McKenzie Canyo** 57.27 333 eP P 01 52 42.7 +0.4
C21A **Deseret Coulee** 57.35 339 ⇑P P 01 52 42.6 0.0
baz=58,SNR=26
B22A **Reddig Ranch S** 57.37 340 ⇑P P 01 52 42.6 -0.1
baz=58
D19A **Cripps Ranch,** 57.46 337 ⇑P P 01 52 43.7 +0.2
baz=58
DLMT **Dillon** 57.57 333 eP P 01 52 44.0 -0.3
comp=Z,12nm,0.9s
C20A **Veseth Ranch,** 57.59 338 ⇓P P 01 52 43.7 -0.6
baz=58,SNR=5.6
BEKR **Beckworth** 57.65 324 eP P 01 52 45.3 +0.3
comp=Z,7.3nm,0.8s
BEKR epP pP 01 53 01.8 +1.0
LRM **Limekiln Ridge** 57.86 334 eP P 01 52 46.1 -0.3
A22A **Carney Farms,** 57.94 340 ⇓P P 01 52 46.7 +0.1
baz=58,SNR=7.9
C19A **Slack Wire Ran** 58.00 337 ⇓P P 01 52 46.8 -0.4
baz=58,SNR=13

B20A	**Solberg Farm,** baz=58,SNR=8.5	**58.20**	**339**	⇓P		**P**		**01 52 48.3**	**-0.2**
A21A	**Bergtoll Ranch** baz=58	**58.28**	**340**	⇑P		**P**		**01 52 49.2**	**+0.2**
WVOR	**Wild Horse Val**	**58.40**	**327**	*e*P		**P**		**01 52 49.9**	**-0.3**
WVOR	comp=Z,19nm,1.0s				pmax	pmax			
WVOR	**Wild Horse Val** comp=Z,19nm,1.0s	**58.40**	**327**	*e*P		**P**		**01 52 49.9**	**-0.3**
EGMT	**Eagleton** comp=Z,18nm,0.7s	**58.51**	**337**	*e*P		**P**		**01 52 50.2**	**-0.5**
EGMT	**Eagleton** baz=59,SNR=8.3	**58.51**	**337**	⇓P		**P**		**01 52 50.2**	**-0.5**
A20A	**Cobblestone Ra** baz=59	**58.54**	**339**	⇑P		**P**		**01 52 50.7**	**-0.2**
B19A	**Brinkman Farms** baz=59,SNR=16	**58.55**	**338**	⇑P		**P**		**01 52 50.5**	**-0.5**
A19A	**Klindworth Far** baz=59,SNR=15	**58.87**	**338**	⇑P		**P**		**01 52 52.9**	**-0.4**
J08A	**Circle Bar Ran** comp=Z,7.5nm,0.9s	**58.95**	**328**	*e*P		**P**		**01 52 53.3**	**-0.6**
MOD	**Modoc** comp=Z,178nm,1.5s	**58.95**	**326**	*e*P		**P**		**01 52 54.0**	**-0.1**
CHMT	**Chamberlain Mo**	**59.06**	**334**	*e*P		**P**		**01 52 54.3**	**-0.5**
MSO	**Missoula** comp=Z,23nm,0.9s	**59.30**	**334**	*e*P		**P**		**01 52 56.3**	**+0.1**
MSO	**Missoula** baz=59,SNR=17	**59.30**	**334**	⇑P		**P**		**01 52 56.2**	**0.0**
BMO	**Blue Mountains** comp=Z,6.6nm,1.1s	**59.41**	**330**	*e*P		**P**		**01 52 56.0**	**-1.1**
K05A	**Summer Lake** comp=Z,32nm,0.9s	**59.83**	**326**	*e*P		**P**		**01 53 00.5**	**+0.4**
SWMT	**Swartz Lake**	**59.84**	**334**	*e*P		**P**		**01 53 00.1**	**+0.1**
YBMT	**Yellow Bay**	**60.12**	**334**	*e*P		**P**		**01 53 02.3**	**+0.4**
JTMT	**Jette**	**60.15**	**334**	*e*P		**P**		**01 53 02.0**	**-0.1**
F10A	**Beach Ranch, E** comp=Z,17nm,0.8s	**60.18**	**331**	*e*P		**P**		**01 53 02.3**	**0.0**
BLMT	**Blacktail Moun**	**60.38**	**334**	*e*P		**P**		**01 53 04.0**	**+0.2**
BSMT	**Bassoo Peak**	**60.45**	**334**	*e*P		**P**		**01 53 04.3**	**+0.1**
PINOR	**Pine Mountain** comp=Z,26nm,1.0s	**60.53**	**327**	*e*P		**P**		**01 53 04.8**	**+0.2**
G08A	**Pilot Rock**	**60.55**	**330**	*e*P		**P**		**01 53 04.7**	**-0.2**
WALA	**Waterton Lakes**	**61.00**	**335**	*e*P		**P**		**01 53 07.5**	**-0.4**
E09A	**Wood Farm, Sta** comp=Z,16nm,0.9s	**61.01**	**331**	*e*P		**P**		**01 53 07.4**	**-0.4**
NEW	**Newport** comp=Z,8.5nm,0.8s	**61.80**	**333**	*e*P		**P**		**01 53 13.0**	**-0.2**
NEW	**Newport** baz=62,SNR=6.2	**61.80**	**333**	⇓P		**P**		**01 53 13.0**	**-0.2**
C09A	**Chrisman Ranch** comp=Z,86nm,2.5s	**61.99**	**332**	*e*P		**P**		**01 53 14.7**	**+0.3**
LON	**Longmire**	**62.99**	**329**	*e*P		**P**		**01 53 21.1**	**-0.1**
LON	comp=Z,9.0nm,0.8s				pmax	pmax			
LON	**Longmire** comp=Z,8.8nm,0.8s	**62.99**	**329**	*e*P		**P**		**01 53 21.1**	**-0.1**
EDM	**Edmonton**	**64.06**	**339**	*e*P		**P**		**01 53 26.2**	**-1.9**
EDM				*e*'PP		**pP**		**01 53 42.9**	**-1.2**
EDM	**Edmonton**	**64.06**	**339**	*e*P		**P**		**01 53 26.2**	**-1.9**
EDM				epP		**pP**		**01 53 42.9**	**-1.2**
A05A	**Maple Falls** comp=Z,15nm,0.8s	**64.64**	**331**	*e*P		**P**		**01 53 32.0**	**0.0**
YKA	**Yellowknife Ar** comp=Z,4.3nm,0.7s,baz=139,slow=6.2,SNR=12	**71.92**	**344**	P		**P**		**01 54 15.7**	**-1.5**
YKB5	**Yellowknife Ar**	**71.92**	**344**	*e*P		**P**		**01 54 15.7**	**-1.5**
DLBC	**Dease Lake**	**74.35**	**335**	*e*P		**P**		**01 54 32.1**	**+0.4**
LIC	**Lamto** comp=Z,26nm,0.9s	**75.88**	**82**	*e*P		**P**		**01 54 40.5**	**-0.8**
TIC	**Toumodi** comp=Z,37nm,0.8s	**75.93**	**82**	*e*P		**P**		**01 54 42.2**	**+0.5**
DBIC	**Dimbokro**	**76.09**	**82**	*e*P		**P**		**01 54 43.3**	**+0.7**
DBIC				epP		**pP**		**01 54 59.3**	**+0.4**
DBIC	**Dimbokro** comp=Z,5.5nm,0.7s,baz=257,slow=6.7,SNR=22	**76.09**	**82**	P		**P**		**01 54 43.3**	**+0.7**
DBIC	comp=Z,12nm,0.7s,baz=254,slow=6.5,SNR=10.0			pP		**pP**		**01 54 59.3**	**+0.4**
KIC	**Kosan Boka** comp=Z,131nm,1.3s	**76.17**	**82**	*e*P		**P**		**01 54 43.8**	**+0.8**
VNA1	**Neumayer--Stat**	**79.69**	**161**	*e*P		**P**		**01 55 03.5**	**+2.1**
VNA2	**Neumayer--Watz** baz=305,slow=7.4	**80.04**	**161**	*e*P		**P**		**01 55 04.0**	**+0.7**
DAWY	**Dawson**	**81.25**	**338**	*e*P		**P**		**01 55 08.9**	**-1.0**
SUMG	**Summit**	**81.56**	**12**	*e*P		**P**		**01 55 11.4**	**-0.5**
SUMG	comp=Z,266nm,2.9s				pmax	pmax			
SUMG	**Summit** comp=Z,7.5nm,0.8s	**81.56**	**12**	*i* P		**P**		**01 55 11.4**	**-0.5**
SUMG	**Summit** comp=Z,266nm,2.9s	**81.56**	**12**	*e*P		**P**		**01 55 11.4**	**-0.5**
INK	**Inuvik** comp=Z,158nm,19.5s,baz=155,slow=37	**81.57**	**342**	LR		LR		02 33 13.6	
SNAA	**Sanae**	**81.64**	**162**	*e*P		**P**		**01 55 12.4**	**+0.5**
SNAA	**Sanae** comp=Z,15nm,0.8s	**81.64**	**162**	*e*P		**P**		**01 55 12.4**	**+0.5**
EGAK	**Eagle** comp=Z,15nm,0.8s	**82.27**	**338**	*e*P		**P**		**01 55 14.5**	**-0.6**
ESDC	**Sonseca Array**	**82.48**	**49**	*e*P		**P**		**01 55 15.0**	**-1.9**
ESDC				epP		**pP**		**01 55 33.5**	**0.0**
ESDC	**Sonseca Array** comp=Z,0.8nm,0.8s,baz=287,slow=5.1,SNR=5.0	**82.48**	**49**	P		**P**		**01 55 15.0**	**-1.9**
ESDC	comp=Z,1.2nm,0.6s,baz=264,slow=5.4,SNR=6.2			pP		**pP**		**01 55 33.5**	**0.0**
PAX	**Paxson**	**83.17**	**335**	*e*P		**P**		**01 55 19.0**	**-1.1**
PAX	comp=Z,10.0nm,0.8s				pmax	pmax			
PAX	**Paxson** comp=Z,10nm,0.8s	**83.17**	**335**	*e*P		**P**		**01 55 18.9**	**-1.1**
TOA0	**Torodi Ar. Sit**	**83.24**	**76**	*e*P		**P**		**01 55 21.4**	**+0.1**
TOA0				epP		**pP**		**01 55 37.6**	**-0.3**
TORD	**Torodi Ar. Bea** comp=Z,2.2nm,0.9s,baz=280,slow=6.3,SNR=26	**83.24**	**76**	P		**P**		**01 55 20.9**	**-0.4**
TORD	comp=Z,4.1nm,0.8s,baz=278,slow=5.8,SNR=11			pP		**pP**		**01 55 37.5**	**-0.3**
ILAR	**Eielson Array** comp=Z,3.5nm,0.9s,baz=146,slow=3.7,SNR=21	**84.47**	**337**	P		**P**		**01 55 25.4**	**-1.2**
ILAR	comp=Z,3.4nm,1.0s,baz=152,slow=3.5,SNR=6.9			pP		**pP**		**01 55 41.9**	**-1.3**
ILB	**Eielson Array**	**84.47**	**337**	*e*P		**P**		**01 55 25.4**	**-1.2**
ILB				epP		**pP**		**01 55 41.9**	**-1.3**
SPU	**Mount Spurr**	**85.41**	**332**	*e*P		**P**		**01 55 30.3**	**-1.0**
QSPA	**South Pole Qui** comp=Z,44nm,0.8s	**85.41**	**180**	*e*P		**P**		**01 55 32.8**	**+1.4**
QSPA				epP		**pP**		**01 55 49.8**	**+1.7**
RSO	**Redoubt South**	**85.51**	**332**	*e*P		**P**		**01 55 31.0**	**-1.1**
PPLA	**Purkeypile** comp=Z,14nm,0.8s	**86.01**	**334**	*e*P		**P**		**01 55 33.6**	**-0.8**
CAST	**Castle Rocks** comp=Z,17nm,0.9s	**86.12**	**335**	*e*P		**P**		**01 55 33.7**	**-1.1**
EPF	**Esparros** comp=Z,9.9nm,1.1s	**86.30**	**46**	*e*P		P		01 55 31.7	-4.5
TCF	**Toulx Ste Croi** comp=Z,20nm,1.3s	**88.14**	**43**	*e*P		P		01 55 41.3	-3.7
LPL	**La Plagne**	**91.18**	**45**	*e*P		P		01 55 55.9	-3.6
LPG	**La Plagne** comp=Z,35nm,1.5s	**91.19**	**45**	*e*P		P		01 55 56.0	-3.6
VNDA	**Vanda** comp=Z,5.3nm,1.2s	**91.29**	**191**	*e*P		**P**		**01 56 00.2**	**+1.1**
VNDA	**Vanda** comp=Z,1.5nm,0.7s,baz=135,slow=5.5,SNR=11	**91.29**	**191**	P		**P**		**01 56 00.2**	**+1.1**
NOA	**NORSAR Array B** comp=Z,23nm,18.2s,baz=185,slow=32	**94.77**	**29**	LR		LR		02 33 59.9	
SYO	**Syowa Base**	**95.93**	**162**	*e*P		**P**		**01 56 19.7**	**-0.8**
KECS	**Kecovo** comp=Z,3.0nm,1.1s	**100.60**	**42**	*e*P		**Pdif**		**01 56 41.8**	**-0.1**
KECS					pmax	pmax			
KECS	**Kecovo**	**100.60**	**42**	PDIF		**Pdif**		**01 56 41.8**	**-0.1**
KOLS	**Kolonicke sedl**	**101.73**	**41**	*e*P		**Pdif**		**01 56 46.3**	**-0.7**
KOLS	**Kolonicke sedl**	**101.73**	**41**	PDIF		**Pdif**		**01 56 46.3**	**-0.7**
ABKAR	**Akbulak array**	**124.25**	**30**	*e*PKPdf		**PKPdf**		**02 01 52.9**	**+0.2**
BRVK	**Borovoye**	**126.03**	**22**	*i* PKIKP		**PKPdf**		**02 01 56.3**	**+0.3**
STKA	**Stephens Creek**	**126.10**	**225**	*e*PKPdf		**PKPdf**		**02 01 56.1**	**-0.7**
STKA	**Stephens Creek** comp=Z,1.5nm,0.4s,baz=66,slow=5.8,SNR=12	**126.10**	**225**	PKP		**PKPdf**		**02 01 56.1**	**-0.7**
VOSK	**Vostochnaya**	**126.56**	**21**	*e*PKIKP		**PKPdf**		**02 01 56.4**	**-0.7**
VOSK	**Vostochnaya**	**126.56**	**21**	*e*PKPdf		**PKPdf**		**02 01 56.4**	**-0.7**
NVS	**Novosibirsk**	**128.22**	**12**	*e*PKIKP		**PKPdf**		**02 01 56.4**	**-3.7**
ZAA0	**Zalesovo Array**	**129.38**	**11**	*e*PKPdf		**PKPdf**		**02 02 01.4**	**-1.0**
ZALV	**Zalesovo Beam** comp=Z,5.3nm,0.6s,baz=294,slow=1.5,SNR=20	**129.38**	**11**	PKP		**PKPdf**		**02 02 01.2**	**-1.1**
KURK	**Kurchatov**	**130.80**	**18**	*i* PKIKP		**PKPdf**		**02 02 05.1**	**0.0**
KURK	**Kurchatov**	**130.80**	**18**	*e*PKPdf		**PKPdf**		**02 02 05.0**	**-0.2**
MAJO	**Matsushiro**	**132.57**	**317**	PKIKP		**PKPdf**		**02 02 08.4**	**-0.6**
TLY	**Talaya**	**133.03**	**357**	*e*PKIKP		PKPdf		02 02 03.0	-6.4
TLY				*e*				02 02 11.9	
TLY	comp=Z,2.0nm,0.7s				pmax	pmax			
CN2	**Changchun**	**134.92**	**334**	*e*PKP		**PKPdf**		**02 02 16.3**	**+3.2**
CN2				*e*PP		**PP**		**02 04 49.5**	**+2.4**
CN2				*e*SS		SS		02 22 40.8	+5.2
CN2	comp=Z,200nm,8.0s			PPMZ					
CN2	comp=Z,300nm,20.0s			LR		LR			
CN2	comp=Z,400nm,20.0s			LR		LR			
CN2	comp=Z,800nm,22.0s			LR		LR			
MK32	**Makanchi Array**	**135.40**	**17**	*e*PKPdf		**PKPdf**		**02 02 12.7**	**-1.3**
MKAR	**Makanchi Array**	**135.40**	**17**	*e*PKIKP		**PKPdf**		**02 02 13.0**	**-1.0**
MKAR	**Makanchi Array**	**135.40**	**17**	*e*PKPdf		**PKPdf**		**02 02 13.0**	**-1.0**
MKAR	**Makanchi Array** comp=Z,2.7nm,0.8s,baz=337,slow=2.4,SNR=15	**135.40**	**17**	PKP		**PKPdf**		**02 02 12.7**	**-1.3**
MK01	**Makanchi Array**	**135.43**	**17**	*e*PKPdf		**PKPdf**		**02 02 13.0**	**-1.0**
EKS2	**Erkin-Say**	**135.69**	**28**	*e*PKIKP		**PKPdf**		**02 02 15.9**	**+1.1**
EKS2	**Erkin-Say**	**135.69**	**28**	*e*PKPdf		**PKPdf**		**02 02 15.9**	**+1.1**
AAK	**Ala-Archa**	**136.04**	**27**	*e*PKIKP		**PKPdf**		**02 02 16.0**	**+0.5**
AAK	**Ala-Archa**	**136.04**	**27**	*e*PKPdf		**PKPdf**		**02 02 16.0**	**+0.5**
AS01	**Alice Springs**	**136.35**	**228**	*e*PKPdf		**PKPdf**		**02 02 16.0**	**-0.5**
AS12	**Alice Springs** comp=Z,0.5nm,0.5s,baz=120,slow=3.5,SNR=6.8	**136.38**	**228**	*e*PKPpre		PKPpre		02 02 07.5	
AS12				*e*PKPdf		**PKPdf**		**02 02 15.8**	**-0.7**
AS12				epPKPdf		pPKPdf		02 02 34.0	+0.1
ASAR	**Alice Springs** comp=Z,0.5nm,0.5s,baz=120,slow=3.5,SNR=6.8	**136.38**	**228**	PKhKP		PKPpre		02 02 07.5	
ASAR	comp=Z,4.0nm,0.6s,baz=128,slow=2.4,SNR=28			PKP		**PKPdf**		**02 02 15.8**	**-0.7**
ASAR	comp=Z,2.5nm,0.8s,baz=114,slow=2.3,SNR=5.1			pPKP		pPKPdf		02 02 34.0	+0.1
SONA1	**Songino Array**	**136.61**	**353**	*e*PKPdf		**PKPdf**		**02 02 15.1**	**-1.3**
SONA0	**Songino Array**	**136.62**	**353**	*e*PKPpre		PKPpre		02 02 03.2	
SONA0				*e*PKPdf		**PKPdf**		**02 02 15.6**	**-0.8**
SONM	**Songino Array** comp=Z,0.5nm,0.5s,baz=135,slow=0.6,SNR=3.2	**136.62**	**353**	PKhKP		PKPpre		02 02 03.2	
SONM	comp=Z,2.1nm,0.9s,baz=351,slow=0.7,SNR=7.0			PKP		**PKPdf**		**02 02 15.6**	**-0.8**
WRAB	**Tennant Creek**	**138.11**	**233**	*e*PKIKP		**PKPdf**		**02 02 18.0**	**-1.8**
WRAB	**Tennant Creek**	**138.11**	**233**	*e*PKPdf		**PKPdf**		**02 02 18.0**	**-1.8**
WRA	**Warramunga Arr**	**138.12**	**233**	*e*PKPdf		**PKPdf**		**02 02 19.1**	**-0.7**
WRA				epPKPdf		**pPKPdf**		**02 02 37.5**	**+0.3**
WRA	**Warramunga Arr** comp=Z,4.1nm,0.5s,baz=118,slow=1.9,SNR=16	**138.12**	**233**	PKP		**PKPdf**		**02 02 19.1**	**-0.7**
WRA	comp=Z,1.2nm,0.5s,baz=124,slow=1.7,SNR=4.8			pPKP		**pPKPdf**		**02 02 37.5**	**+0.3**
KS01	**Wonju Array Si**	**138.44**	**326**	*e*PKPdf		**PKPdf**		**02 02 19.5**	**-0.3**
KSRS	**Korea Array** comp=Z,4.6nm,0.7s,baz=349,slow=1.3,SNR=14	**138.44**	**326**	PKP		**PKPdf**		**02 02 19.4**	**-0.4**
KS15	**Wonju Array Si**	**138.47**	**326**	*e*PKPdf		**PKPdf**		**02 02 19.4**	**-0.4**
KSH	**Kashi**	**139.19**	**28**	PKP		**PKPdf**		**02 02 24.3**	**+3.0**
KSH				PP		**PP**		**02 05 18.8**	**+4.8**
KSH				PKS		**PKSdf**		**02 05 58.0**	**+0.5**
KSH				SKS		**SKSdf**		**02 09 28.1**	**+0.9**
KSH				SKKS		**SKKSac**		**02 12 05.8**	**+1.8**
KSH				SS		**SS**		**02 23 31.9**	**+5.2**
KSH	comp=Z,100nm,5.6s			PPMZ					
KSH	comp=Z,75nm,4.8s			LR		LR			
KSH	comp=Z,130nm,6.3s			LR		LR			
KSH	comp=Z,100nm,5.5s			LR		LR			
WMQ	**Urumqi**	**139.58**	**13**	*e*PKP		**PKPdf**		**02 02 21.8**	**-0.1**
WMQ	comp=Z,110nm,22.0s			LR		LR			
WMQ	comp=Z,110nm,17.6s			LR		LR			
HHC	**Hu-ho-hao-te**	**142.45**	**345**	*e*PKP		**PKPdf**		**02 02 27.9**	**+0.7**
HHC				PP		**PP**		**02 05 38.3**	**+4.8**
HHC				PKS		**PKSdf**		**02 06 02.3**	**-0.7**
HHC				SKS		**SKSdf**		**02 09 32.5**	**+0.2**
HHC				SKKS		**SKKSac**		**02 12 24.1**	**+1.3**
HHC				SS		**SS**		**02 24 07.3**	**+3.3**
HHC	comp=Z,100nm,5.3s			PPMZ					
HHC	comp=Z,210nm,18.4s			LR		LR			
HHC	comp=Z,200nm,18.6s			LR		LR			
HHC	comp=Z,96nm,18.6s			LR		LR			
GTA	**Gaotai**	**145.42**	**360**	*e*PKPbc		**PKPbc**		**02 02 31.4**	**-1.0**
MBWA	**Marble Bar**	**147.70**	**217**	*e*PKPdf		**PKPbc**		**02 02 38.8**	**-0.6**
LZH	**Lanzhou**	**148.51**	**354**	*e*PKPbc		**PKPbc**		**02 02 41.1**	**-0.3**
LZH				pPKP		**pPKPdf**		**02 02 59.1**	**+4.0**
LZH				sPKP				02 03 07.6	
XAN	**Xi'an**	**149.56**	**345**	PKPbc		**PKPbc**		**02 02 42.9**	**-1.0**
DANN	**Dangsing** comp=Z,67nm,0.7s	**151.97**	**31**	*e*P		**PKPbc**		**02 02 49.9**	**-0.2**
KOLN	**Koldanda** comp=Z,15nm,0.8s	**152.36**	**32**	*e*P		**PKPbc**		**02 02 50.1**	**-0.8**
GKN	**Gorkha** comp=Z,44nm,0.8s	**152.70**	**30**	*e*P		**PKPbc**		**02 02 51.1**	**-0.5**
ENH	**Enshi**	**152.93**	**341**	*e*PKPbc		**PKPbc**		**02 02 50.7**	**-1.1**
KKN	**Kakani** comp=Z,17nm,0.8s	**153.20**	**29**	*e*P		**PKPbc**		**02 02 52.2**	**-0.5**
DMN	**Daman**	**153.26**	**30**	*e*P		**PKPbc**		**02 02 52.5**	**-0.4**
GUN	**Gumba** comp=Z,24nm,1.0s	**153.38**	**28**	*e*P		**PKPbc**		**02 02 52.8**	**-0.5**
PKIN	**Phulchoki**	**153.43**	**29**	*e*P		**PKPbc**		**02 02 52.9**	**-0.4**
PKI	**Pulchoki** comp=Z,7.6nm,0.6s	**153.44**	**29**	*e*P		**PKPbc**		**02 02 52.3**	**-1.1**
CD2	**Chengdu**	**153.63**	**352**	PKPbc		**PKPdf**		**02 02 44.5**	**-1.1**
CD2				pPKP		**pPKPdf**		**02 03 02.3**	**-0.7**
CD2				sPKP				02 03 08.8	
CD2				PKS		**PKSdf**		**02 06 17.5**	**-2.6**
CD2				PP		**PP**		**02 06 42.0**	**+3.4**
CD2				SKS		**SKSdf**		**02 09 43.6**	**-4.3**
CD2				SKKS		**SKKSac**		**02 13 22.9**	**-2.5**
CD2				SS		**SS**		**02 26 09.3**	**-0.1**
CD2	comp=Z,160nm,6.5s			PPMZ					
CD2	comp=Z,200nm,8.9s			LR		LR			
CD2	comp=Z,140nm,6.5s			LR		LR			
JIRN	**Jiri** comp=Z,5.7nm,0.4s	**153.74**	**28**	*e*P		**PKPbc**		**02 02 53.3**	**-0.8**
RAMN	**Ramite** comp=Z,12nm,0.6s	**154.53**	**28**	*e*P		**PKPbc**		**02 02 54.9**	**-0.8**
TAPN	**Taplejung** comp=Z,25nm,1.2s	**154.69**	**26**	*e*P		**PKPbc**		**02 02 55.1**	**-1.0**
GYA	**Guiyang**	**157.35**	**344**	PKP		**PKPdf**		**02 02 48.9**	**-1.9**
GYA				sPKP				02 03 13.0	
GYA				PKPab		**PKPab**		**02 03 23.3**	**+1.3**
GYA				PKS		**PKSdf**		**02 06 21.6**	**-3.3**
GYA				PP		**PP**		**02 07 02.4**	**+2.8**
GYA				SKKS				02 13 42.9	
GYA				SS		**SS**		**02 26 49.0**	**-1.0**
GYA	comp=Z,120nm,7.9s			PPMZ					
GYA	comp=Z,120nm,24.0s			LR		LR			
GYA	comp=Z,90nm,25.8s			LR		LR			
GYA	comp=Z,130nm,24.0s			LR		LR			
CM31	**Chiang Mai Arr**	**166.28**	**3**	*e*PKPdf		**PKPdf**		**02 02 59.5**	**-0.6**
CM31				*e*PKPab		**PKPab**		**02 03 59.7**	**-1.3**
CMAR	**Chiang Mai Arr** comp=Z,1.2nm,0.3s,baz=297,slow=1.3,SNR=13	**166.28**	**3**	PKP		**PKPdf**		**02 02 59.5**	**-0.6**
CMAR	comp=Z,1.7nm,0.7s,baz=334,slow=4.5,SNR=5.4			PKPab		**PKPab**		**02 03 59.7**	**-1.3**

DJA 15 01:43:03.7±2.6, 0.°N±4.°×12.°3E±.°, h10km, M3.8/3, MLv3.8/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.00**	**60**	P	Pg	01 43 22.7	-0.2
KMSI				S	Sb	01 43 36.2	0.0
LUWI	**Luwuk**	**1.16**	**198**	P	Pb	01 43 24.3	-1.5
LUWI				S	Sn	01 43 41.6	-0.3
APSI	**Ampana**	**1.77**	**236**	P	Pn	01 43 31.7	-2.6
APSI				S	Sb	01 43 58.9	+0.5
TOLI	**Toli-Toli**	**2.55**	**294**	P	Pn	01 43 46.1	+1.0

IDC 15 01:57:39.1±2.5, 15.°58S×173.°22W, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.9/20, mbtmp3.9/5, MS3.6/1, Ms1 3.6/1, ms1mx2.9/35, Error ellipse: s-maj=139.8km s-min=24.8km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu** 9.5nm,0.3s,baz=180,slow=20,SNR=3.8	**2.17**	**40**	Pn	Pn	01 58 11.9	-4.6
AFI	38nm,0.3s,baz=37,slow=20,SNR=7.2			Sn	Sn	01 58 37.8	-6.4
DZM	**Mont Dzumac** comp=Z,151nm,18.3s,baz=30,slow=34	**20.29**	**248**	LR	LR	02 09 00.5	
STKA	**Stephens Creek** 3.7nm,1.0s,baz=108,slow=18,SNR=3.3	**44.10**	**240**	P	P	02 05 49.1	-0.2
WRA	**Warramunga Arr** 0.6nm,0.5s,baz=90,slow=6.8,SNR=6.0	**49.97**	**257**	P	P	02 06 35.2	-0.2
ASAR	**Alice Springs** 1.7nm,0.5s,baz=90,slow=8.1,SNR=14	**50.22**	**252**	P	P	02 06 37.2	-0.1
PDAR	**Pinedale Array** 0.4nm,0.8s,baz=237,slow=2.8,SNR=2.7	**82.28**	**42**	P	P	02 10 02.9	0.0
ILAR	**Eielson Array** 0.6nm,0.6s,baz=229,slow=6.0,SNR=9.7	**82.58**	**11**	P	P	02 10 03.5	-0.1
BRTR	**Keskin Array B** 0.7nm,0.7s,baz=86,slow=2.9,SNR=3.7	**146.40**	**321**	PKPbc	PKPbc	02 17 22.1	-0.4

MEX 15 02:14:23.8±0.7, 16.°85N×95.°12W, h134km±12km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.44**	**221**	*i* P	Pn	02 14 50.0	-1.5
HUIG				*i* S	Sn	02 15 11.1	-1.5
VHO	**Vista Hermosa**	**1.56**	**278**	*e*P	Pn	02 14 52.2	-0.8
VHO				*e*S	Sn	02 15 13.3	-2.0
TGIG		**1.92**	**92**	*e*P	Pn	02 14 56.4	-0.7
TGIG				*e*S	Sn	02 15 20.3	-2.2
PCIG		**2.16**	**122**	*e*P	Pn	02 15 00.6	+0.7
PCIG				*e*S	Sn	02 15 27.6	0.0
TPIG	**Tehuac#an**	**2.64**	**306**	*e*P	Pn	02 15 05.0	-1.2
TPIG				*e*S	Sn	02 15 36.2	-2.7
PNIG	**Pinotepa**	**2.92**	**261**	*e*P	Pn	02 15 07.7	-1.8
PNIG				*i* S	Sn	02 15 42.6	-2.2
CCIG	**Comitan**	**2.92**	**101**	*i* P	Pn	02 15 08.7	-1.1
CCIG				*e*S	Sn	02 15 43.3	-1.9
CAIG	**El Cayaco**	**4.93**	**273**	*e*P	Pn	02 15 35.5	-0.5

*IDC **15** 02:18:51.4±1.0, 52.°82N×166.°92W, h0km, mb3.8/10, mb1 4.0/12, mb1mx3.8/30, mbtmp3.8/12, ML3.4/2, Error ellipse: s-maj=28.5km s-min=14.5km az=2.0*
*NEIC **15** 02:18:52.9, 52.°57N×166.°74W, h25km, ML3.6(AEIC), After AEIC.*

ISC 15 02:18:53.9±1.7, 52.°76N±0.°07×166.°83W±0.°04, h17km±9km, n52, σ1s07/51, mb3.8/10, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKFG	**Magazine Ridge**	**0.92**	**315**	P	**Pg**	**02 19 11.7**	**0.0**
OKFG				S	**Sn**	**02 19 27.6**	**+2.8**
OKTU	**Okmok Mt. Tuli**	**0.96**	**311**	P	**Pn**	**02 19 13.1**	**+0.5**
OKSO	**Okmok South**	**1.00**	**307**	P	**Pb**	**02 19 12.9**	**+0.2**
OKSO				S	**Sn**	**02 19 29.2**	**+2.5**
OKSP	**Okmok Steeple**	**1.01**	**300**	P	**Pn**	**02 19 13.7**	**+0.5**
OKCE	**Okmok Cone E**	**1.04**	**310**	P	**Pg**	**02 19 14.0**	**-0.1**
MREP	**Makushin Rep't**	**1.05**	**3**	P	**Pn**	**02 19 13.9**	**+0.1**
UNV	**Unalaska Valle**	**1.10**	**10**	*e*Pn	**Pb**	**02 19 13.4**	**-1.0**
UNV				*e*S	**Sb**	**02 19 28.5**	**0.0**
MSW	**Makushin Switc**	**1.15**	**1**	P	**Pn**	**02 19 15.1**	**-0.2**
MCIR	**Makushin Cirqu**	**1.19**	**358**	P	**Pg**	**02 19 17.2**	**+0.3**
MTBL	**Makushin Table**	**1.21**	**4**	P	**Pn**	**02 19 16.3**	**+0.2**
NIKH	**Nikolski High**	**1.24**	**281**	P	**Pb**	**02 19 16.9**	**+0.1**
NIKH				S	**Sg**	**02 19 34.1**	**0.0**
ZRO	**Akutan Zero**	**1.43**	**21**	P	**Pn**	**02 19 18.9**	**0.0**
AKRB	**Akutan Reef Bi**	**1.44**	**18**	P	**Pb**	**02 19 19.9**	**-0.4**
AKRB				S	**Sg**	**02 19 39.8**	**-0.7**
LVA	**Lava Point**	**1.48**	**18**	P	**Pb**	**02 19 20.7**	**-0.2**
AKUT	**Akutan**	**1.51**	**24**	*e*Pn	**Pn**	**02 19 20.0**	**-0.1**
AKUT				*e*S	**Sn**	**02 19 38.8**	**-0.6**
AKGG	**Akutan Green G**	**1.52**	**19**	P	**Pn**	**02 19 20.1**	**-0.1**
FALS	**False Pass**	**2.92**	**43**	*e*Pn	**Pn**	**02 19 40.7**	**+1.3**
FALS				*e*S	**Sn**	**02 20 13.8**	**-0.2**
SDPT	**Sand Point**	**4.55**	**53**	*e*Pn	**Pn**	**02 20 02.4**	**+0.6**
ADK

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.09**	**259**	P	P		02 53 51.8	-0.5
	0.3nm,0.4s,baz=92,slow=6.7,SNR=6.4							
ASAR	**Alice Springs**	**46.29**	**253**	P	P		02 53 53.9	0.0
	2.7nm,0.4s,baz=90,slow=8.4,SNR=59							
BRTR	**Keskin Array B**	**145.09**	**317**	PKPbc	PKPbc		03 05 04.7	-0.7
	0.5nm,0.6s,baz=78,slow=4.1,SNR=3.7							

IDC 15 03:19:02.6±4.8, 0°26S×100°63E, h58km±46km, mb3.4/4, mb1 3.5/5, mb1mx3.2/24, mbtmp3.4/5, ML2.9/1, Error ellipse: s-maj=269.5km s-min=20.6km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PSI	**Prapat**	**3.48**	**331**	P	P		03 19 53.2	-1.3
	1.1nm,0.3s,baz=153,slow=6.8,SNR=2.0							
WRA	**Warramunga Arr**	**38.37**	**123**	P	P		03 26 18.2	-0.3
	0.5nm,0.6s,baz=298,slow=8.7,SNR=5.0							
ASAR	**Alice Springs**	**39.80**	**128**	P	P		03 26 30.4	0.0
	0.2nm,0.5s,baz=307,slow=7.4,SNR=4.2							
MKAR	**Makanchi Array**	**49.54**	**343**	P	P		03 27 47.8	+0.2
	0.5nm,0.3s,baz=156,slow=8.5,SNR=12							
ZALV	**Zalesovo Beam**	**55.59**	**349**	P	P		03 28 31.8	-0.3
	0.8nm,0.4s,baz=145,slow=5.3,SNR=3.1							

IDC 15 03:21:44.2±1.3, 20°87S×174°16W, h0km, mb3.8/7, mb1 4.1/8, mb1mx3.9/21, mbtmp3.8/8, ML2.5/1, Error ellipse: s-maj=59.4km s-min=20.9km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
AFI	**Afiamalu**	**7.29**	**19**	Pn	Pn		03 23 31.9	-0.3
	4.4nm,0.3s,baz=120,slow=16,SNR=2.6							
AFI				Sn	Sn		03 24 42.5	-13
	5.9nm,0.3s,baz=96,slow=18,SNR=3.1							
ASAR	**Alice Springs**	**47.93**	**257**	P	P		03 30 24.6	-0.3
	2.3nm,0.9s,baz=89,slow=8.3,SNR=24							
WRA	**Warramunga Arr**	**48.10**	**262**	P	P		03 30 25.6	-0.6
	1.1nm,0.7s,baz=96,slow=5.3,SNR=5.4							
WRA				PcP	PcP		03 31 54.4	+0.4
	0.5nm,0.7s,baz=94,slow=3.4,SNR=2.9							
FITZ	**Fitzroy Crossi**	**56.53**	**262**	P	P		03 31 29.0	+0.2
	0.9nm,0.8s,baz=94,slow=7.2,SNR=2.8							
MJAR	**Matsushiro Arr**	**72.69**	**321**	P	P		03 33 14.5	+0.5
	0.9nm,0.6s,baz=173,slow=7.4,SNR=4.5							
NVAR	**Mina Array Bea**	**78.88**	**41**	P	P		03 33 48.5	-1.3
	0.3nm,0.6s,baz=222,slow=8.9,SNR=4.5							
TXAR	**Lajitas Array**	**84.26**	**56**	P	P		03 34 19.7	+1.5
	0.2nm,0.8s,baz=235,slow=4.2,SNR=2.7							
ILAR	**Eielson Array**	**87.92**	**11**	P	P		03 34 35.7	+0.3
	0.7nm,1.0s,baz=190,slow=4.6,SNR=4.3							
EKA	**Eskdalemuir Ar**	**144.93**	**9**	PKP	PKPab		03 41 20.8	-1.5
	0.6nm,0.7s,baz=352,slow=4.3,SNR=3.6							
AKASG	**Malin Array Be**	**145.00**	**334**	PKPbc	PKPbc		03 41 21.7	-0.9
	2.3nm,0.6s,baz=39,slow=4.1,SNR=13							
BRTR	**Keskin Array B**	**149.70**	**315**	PKPbc	PKPbc		03 41 35.8	-0.7
	0.8nm,0.7s,baz=131,slow=3.0,SNR=7.0							
GERES	**GERESS Array B**	**151.39**	**349**	PKPbc	PKPbc		03 41 39.5	-0.6
	0.3nm,0.5s,baz=58,slow=2.4,SNR=3.6							

GUC 15 03:29:32.9±0.6, 22°47S×66°65W, h280km, ML4.1, 4C-2D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PB09	**Plate Boundary**	**2.49**	**285**	*e*P	P		03 30 26.0	+3.4
PB09				*i* S	S		03 31 05.7	+3.7
PB09				AML	AML		03 31 10.8	
	comp=E,234nm,0.4s							
PB04	**Plate Boundary**	**2.63**	**274**	↑*i*P	P		03 30 32.8	+9.2
PB04				*i* S	S		03 31 18.4	+14
PB04				AML	AML		03 31 22.1	
	comp=N,143nm,0.3s							
MACH	**Maria Elena**	**2.89**	**275**	*i* S	S		03 31 12.3	+3.2
PB01	**Plate Boundary**	**2.99**	**298**	↓*i*P	P		03 30 29.8	+2.4
PB01				*i* S	S		03 31 13.2	+2.5
PB01				AML	AML		03 31 14.5	
	comp=N,200nm,0.6s							
CEN1	**Los Morros**	**3.40**	**254**	↑*i*P	P		03 30 34.1	+2.5
CEN1				*i* S	S		03 31 21.5	+3.1
CEN1				AML	AML		03 31 24.6	
	comp=E,58nm,0.4s							
ANCH	**Antofagasta**	**3.67**	**250**	↓*i*P	P		03 30 37.2	+2.8
ANCH				*i* S	S		03 31 26.6	+3.2
HMBC	**Humberstone**	**3.72**	**305**	↑*i*P	P		03 30 37.0	+1.8
HMBC				*i* S	S		03 31 26.6	+1.7
MNMC	**Minimini**	**4.31**	**320**	↑*i*P	P		03 30 43.4	+1.2
MNMC				*e*S	S		03 31 38.6	+1.2

SZGRF ***15*** *03:32:02.5, 23°.58S×171°.85E, h10km, Southeast of Loyalty Islands*

IDC ***15*** *03:32:02.6±0.6, 22°.58S×171°.29E, h0km, mb4.6/16, mb1 4.6/17, mb1mx4.5/25, mbtmp4.5/17, ML4.6/1, MS4.0/9, Ms1 4.0/9, ms1mx3.8/24, Error ellipse: s-maj=22.3km s-min=17.2km az=158.0*

MOS ***15*** *03:32:07.8±1.4, 22.79S×171°.10E, h33km, mb5.1/5, Error ellipse: s-maj=14.2km s-min=11.4km az=8.8*

ISCJB ***15*** *03:32:08.4±0.3, 22°.72S±0°.06×171°.06E±0°.05, h42km, mb4.8/41, MS4.5/13, Error ellipse: s-maj=8.4km s-min=6.9km az=17.0*

NEIC ***15*** *03:32:08.4±0.3, 22°.56S×171°.20E, h35km, mb5.1/18, Error ellipse: s-maj=8.8km s-min=7.9km az=204.0*

BJI ***15*** *03:32:10.2, 22°.60S×171°.10E, h55km, mB5.0/19, mb5.0/26, Ms5.2/16, Ms7 4.7/15*

BGS ***15*** *03:32:10.4±5.4, 22°.56S×171°.20E, h33km, mb5.1(NEIC)*

GCMT ***15*** *03:32:10.8±0.3, 22°.70S×171°.10E, h29km, MW5.0, Moment Tensor Solution. s33,c39; s57,c77; Moment tensor: Scale 10^{16}Nm; M_{rr}4.12±.25; $M_{\theta\theta}$-3.55±.18; $M_{\phi\phi}$-0.57±.16; $M_{r\theta}$1.35±.25; $M_{r\phi}$1.40±.10; $M_{\theta\phi}$-0.19±.26; Best double couple: M_o4.30000×10^{16} NP1:$_{\phi s}$107.00000°, δ54.00000°, λ85.00000°. NP2:$_{\phi s}$296.00000°, δ36.00000°, λ97.00000°. Principal axes: T 4.3500, Plg80.0000°, Azm356.0000°; N -0.0400, Plg4.0000°, Azm110.0000°; P -4.3100, Plg9.0000°, Azm201.0000°; Data Used: II IU G IC CN.*

ISC 15 03:32:09.4±0.3, 22°.72S±0°.07×171°.12E±0°.06, h42km, n248, s139/255, mb4.8/41, MS4.6/13, 34C-10D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.37**	**278**	*e*Pn	Pn		03 33 12.7	-0.7
	88nm,0.2s							
DZM				*e*Sn	Sn		03 34 00.1	-3.1
	124nm,0.2s							
DZM	**Mont Dzumac**	**4.37**	**278**	*e*Pn	Pn		03 33 12.7	-0.7
DZM				*e*S	Sn		03 34 02.2	-1.0
DZM	**Mont Dzumac**	**4.37**	**278**	Pn	Pn		03 33 12.5	-1.0
	32nm,0.3s,baz=134,slow=11,SNR=312							
DZM				Sn	Sn		03 34 02.7	-0.5
	26nm,0.3s,baz=104,slow=20,SNR=9.2							
MSVF	**Nonsavu**	**8.18**	**54**	*e*P	Pn		03 34 07.7	+1.9
MSVF	**Nonsavu**	**8.18**	**54**	*e*Pn	Pn		03 34 07.7	+1.9
RAO	**Raoul Island**	**11.81**	**126**	LR	LR		03 38 16.2	
	comp=Z,787nm,19.7s,baz=279,slow=32							
URZ	**Urewera**	**16.32**	**163**	LR	LR		03 41 04.7	
	comp=Z,542nm,20.3s,baz=137,slow=33							
HNR	**Honiara**	**17.00**	**319**	P	P		03 36 06.5	+0.7
HNR	**Honiara**	**17.00**	**319**	P	P		03 36 06.4	+0.7
	21nm,0.3s,baz=184,slow=15,SNR=4.5							
HNR				LR	LR		03 41 34.8	
	comp=Z,268nm,19.6s,baz=121,slow=34							
BKZ	**Black Stump Fm**	**17.03**	**166**	*e*P	P		03 36 07.4	+1.5
	39nm,1.3s							
AFI	**Afiamalu**	**18.44**	**65**	LR	LR		03 41 46.8	
	comp=Z,300nm,19.3s,baz=245,slow=32							
KHZ	**Kahutara**	**19.75**	**175**	*e*Pn	Pn		03 36 38.8	+1.4
	100nm,1.5s							
RPZ	**Rata Peaks**	**20.95**	**180**	P	P		03 36 49.4	+0.7
RPZ	**Rata Peaks**	**20.95**	**180**	P	P		03 36 49.4	+0.7
	11nm,1.0s,baz=5.7,slow=10,SNR=2.9							
RPZ				LR	LR		03 44 07.8	
	comp=Z,492nm,18.4s,baz=8.2,slow=34							
CTA	**Charters Tower**	**23.29**	**272**	P	P		03 37 16.2	+2.5
CTA	**Charters Tower**	**23.29**	**272**	P	P		03 37 16.2	+2.5
	1.4nm,0.3s,baz=90,slow=14,SNR=2.0							
PMG	**Port Moresby**	**26.50**	**296**	*e*P	P		03 37 43.2	+0.1
PMG	**Port Moresby**	**26.50**	**296**	P	P		03 37 42.9	-0.2
	10nm,0.7s,baz=154,slow=3.1,SNR=3.3							
PMG				LR	LR		03 46 26.7	
	comp=Z,309nm,20.0s,baz=235,slow=32							
STKA	**Stephens Creek**	**27.70**	**244**	LR	LR		03 48 11.1	
	comp=Z,243nm,20.1s,baz=259,slow=35							
COEN	**Coen**	**27.88**	**283**	*e*P	P		03 37 56.9	+1.4
	126nm,1.0s							
AS31	**Alice Springs**	**34.16**	**261**	*e*P	P		03 38 51.3	+0.4
ASAR	**Alice Springs**	**34.16**	**261**	P	P		03 38 51.0	+0.2
ASAR	**Alice Springs**	**34.16**	**261**	P	P		03 38 51.0	+0.2
	6.7nm,1.0s,baz=84,slow=8.2,SNR=32							
ASAR				LR	LR		03 52 35.7	
	comp=Z,415nm,18.4s,baz=100,slow=36							
WRAB	**Tennant Creek**	**34.31**	**268**	*e*P	P		03 38 53.0	+0.9
WRAB				pmax	pmax			
	comp=Z,4.0nm,0.9s							
WRAB	**Tennant Creek**	**34.31**	**268**	*e*P	P		03 38 53.0	+0.9
	comp=Z,3.7nm,0.9s							
WRA	**Warramunga Arr**	**34.31**	**268**	P	P		03 38 51.2	-1.0
WRA	**Warramunga Arr**	**34.31**	**268**	P	P		03 38 51.2	-1.0
	comp=Z,2.0nm,0.9s,baz=97,slow=8.5,SNR=8.9							
WRA				LR	LR		03 52 46.2	
	comp=Z,475nm,18.6s,baz=90,slow=36							
TBI	**Tubuai**	**36.21**	**99**	*e*S	S		03 44 59.3	+13
	comp=Z,155nm,26.2s							
TBI				*e*LR	LR		03 48 57.0	
	comp=Z,318nm,25.2s							
PPT2	**Papeete2**	**37.18**	**89**	*e*LR	LR		03 49 22.3	
	comp=Z,263nm,22.2s							
FITZ	**Fitzroy Crossi**	**42.74**	**268**	*e*P	P		03 40 03.5	+0.5
	comp=Z,11nm,0.9s							
FITZ	**Fitzroy Crossi**	**42.74**	**268**	P	P		03 40 03.8	+0.8
	comp=Z,12nm,1.0s,baz=121,slow=9.1,SNR=21							
MBWA	**Marble Bar**	**47.49**	**262**	*e*P	P		03 40 40.7	0.0
	comp=Z,9.4nm,0.8s							
DRV	**Dumont d'Urvil**	**48.16**	**196**	S	S		03 47 28.0	-13
DRV				R			03 54 00.0	
NWAO	**Narrogin (SRO)**	**48.28**	**246**	P	P		03 40 46.6	-0.1
NWAO	**Narrogin (SRO)**	**48.28**	**246**	P	P		03 40 46.6	-0.1
	comp=Z,7.2nm,1.0s,baz=109,slow=15,SNR=2.1							
KAPI	**Kappang**	**52.58**	**282**	P	P		03 41 19.9	+0.6
	comp=Z,143nm,1.1s,SNR=5.0							
KAPI	**Kappang**	**52.58**	**282**	*e*P	P		03 41 19.4	0.0
	comp=Z,25nm,1.0s							
KAPI	**Kappang**	**52.58**	**282**	P	P		03 41 19.4	0.0
	comp=Z,16nm,0.8s,baz=154,slow=6.3,SNR=8.6							
SBA	**Scott Base**	**55.23**	**181**	*e*P	P		03 41 39.6	+1.8
SBA				pmax	pmax			
	comp=Z,16nm,1.1s							
SBA	**Scott Base**	**55.23**	**181**	*e*P	P		03 41 39.6	+1.8
	comp=Z,16nm,1.1s							
KSM	**Kuching**	**63.87**	**284**	*e*P	P		03 42 38.0	-0.3
	comp=Z,15nm,0.7s							
YULB	**Yu-li**	**66.69**	**310**	*e*P	P		03 42 56.1	-0.2
	comp=Z,16nm,0.3s							
QSPA	**South Pole Qui**	**67.36**	**180**	*e*P	P		03 43 00.6	+0.4
	comp=Z,26nm,1.1s							
ASAJ	**Asahikawa**	**71.46**	**339**	P	P		03 43 24.6	-0.8
ASAJ	**Asahikawa**	**71.46**	**339**	P	P		03 43 24.6	-0.8
	comp=Z,7.1nm,0.7s,baz=119,slow=13,SNR=4.9							
KSRS	**Korea Array**	**72.35**	**325**	P	P		03 43 31.1	+0.2
	comp=Z,0.8nm,0.6s,baz=147,slow=5.6,SNR=5.8							
KSAR	**Wonju Array Be**	**72.36**	**325**	P	P		03 43 31.1	+0.1
QIZ	**Qiongzhong**	**72.82**	**300**	P	P		03 43 35.8	+1.7
QIZ				S	S		03 52 58.8	+1.4
QIZ				AMB	AMB			
	comp=Z,130nm,5.7s							
NJ2	**Nanjing**	**73.91**	**316**	*e*P	P		03 43 43.3	+3.0
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.6s							
KULM	**Kulim**	**74.20**	**283**	*e*P	P		03 43 41.1	-1.3
	comp=Z,7.6nm,1.0s							
PSI	**Prapat**	**74.73**	**280**	P	P		03 43 45.3	-0.3
PSI	**Prapat**	**74.73**	**280**	P	P		03 43 45.3	-0.3
	comp=Z,3.2nm,0.4s,baz=180,slow=13,SNR=6.0							
MAW	**Mawson**	**75.89**	**202**	*e*P	P		03 43 51.3	+0.1
	comp=Z,0.2nm,0.8s							
MAW	**Mawson**	**75.89**	**202**	P	P		03 43 52.5	+1.3
	comp=Z,4.8nm,1.1s,baz=105,slow=5.9,SNR=4.3							
MDJ	**Mudanjiang**	**77.00**	**331**	P	P		03 44 00.8	+3.1
MDJ				pP	pP		03 44 14.8	+4.5
MDJ				sP	sP		03 44 20.9	+5.9
MDJ				PP	**PP**		03 46 54.4	+2.6
MDJ				S	**S**		03 53 46.8	+3.8
MDJ				sS	**ScS**		03 54 11.8	+0.5
MDJ				AMB	AMB			
	comp=Z,5.0nm,1.0s							
MDJ				AMB	AMB			
	comp=Z,39nm,3.8s							
MDJ				LR	LR			
	comp=Z,270nm,16.7s							
MDJ				LR	LR			
	comp=Z,170nm,15.6s							
CN2	**Changchun**	**78.32**	**328**	*e*P	P		03 44 07.8	+2.7
CN2				*es*P	sP		03 44 31.5	+9.1
CN2				*e*S	**S**		03 53 57.8	+0.5
CN2				AMB	AMB			
	comp=Z,10.0nm,0.6s							
CN2				AMB	AMB			
	comp=Z,200nm,3.0s							
CN2				LR	LR			
	comp=Z,200nm,17.0s							
CN2				LR	LR			
	comp=Z,400nm,17.0s							
CN2				LR	LR			
	comp=Z,700nm,19.0s							
GYA	**Guiyang**	**79.23**	**305**	P	P		03 44 12.8	+2.1
GYA				pP	pP		03 44 29.9	+6.6
GYA				sP	sP		03 44 35.3	+7.3
GYA				PP	**PP**		03 47 15.0	+4.0
GYA				S	**S**		03 54 06.3	-1.7
GYA				SKS	**SKSac**		03 54 19.8	-4.0
GYA				SS	**SS**		03 59 17.0	+1.3
GYA				AMB	AMB			
	comp=Z,20nm,1.0s							
GYA				AMB	AMB			
	comp=Z,130nm,5.8s							
GYA				LR	LR			
	comp=Z,550nm,19.0s							
GYA				LR	LR			
	comp=Z,490nm,20.8s							
GYA				LR	LR			
	comp=Z,530nm,19.5s							
CMAR	**Chiang Mai Arr**	**81.52**	**294**	P	P		03 44 24.4	+1.4
CMAR	**Chiang Mai Arr**	**81.52**	**294**	P	P		03 44 24.4	+1.4
	comp=Z,7.8nm,0.8s,baz=136,slow=4.0,SNR=31							
KMI	**Kunming**	**81.59**	**302**	P	P		03 44 25.1	+1.6
KMI				AMB	AMB			
	comp=Z,14nm,0.5s							
CHTO	**Chiang Mai**	**81.68**	**294**	*e*P	P		03 44 25.2	+1.4
CHTO				pmax	pmax			
	comp=Z,64nm,1.0s							
CHTO	**Chiang Mai**	**81.68**	**294**	*e*P	P		03 44 25.2	+1.4
	comp=Z,64nm,1.0s							
XAN	**Xi'an**	**81.74**	**312**	P	P		03 44 23.9	0.0
XAN				AMB	AMB			
	comp=Z,3.0nm,1.1s							
SYO	**Syowa Base**	**82.09**	**196**	↑*e*P	P		03 44 23.8	-1.3
SYO	**Syowa Base**	**82.09**	**196**	↑*e*PcP	**PcP**		03 44 28.3	-2.2
CD2	**Chengdu**	**83.73**	**307**	P	P		03 44 35.6	+1.3
CD2				pP	pP		03 44 52.1	+5.1
CD2				sP	sP		03 44 58.8	+7.1
CD2				PP	**PP**		03 47 51.3	+3.3
CD2				SKS	**SKSac**		03 54 49.6	-4.4
CD2				S	**S**		03 54 52.9	-1.3
CD2				sS	sS		03 55 21.1	+5.7
CD2				SS	**SS**		04 00 24.3	+1.8
CD2				AMB	AMB			
	comp=Z,20nm,0.5s							
CD2				AMB	AMB			
	comp=Z,90nm,3.6s							
CD2				LR	LR			
	comp=Z,290nm,7.7s							
CD2				LR	LR			
	comp=Z,210nm,19.6s							
HHC	**Hu-ho-hao-te**	**83.98**	**319**	*e*P	P		03 44 35.6	+0.2
HHC				pP	**pP**		03 44 52.5	+4.4
HHC				sP	sP		03 44 59.3	+6.4
HHC				PP	**PP**		03 47 52.1	+2.2
HHC				SKS	**SKSac**		03 54 49.9	-5.4
HHC				S	**S**		03 54 54.0	-2.5
HHC				sS	sS		03 55 22.9	+5.2
HHC				SS	**SS**		04 00 26.4	+0.4
HHC				AMB	AMB			
	comp=Z,36nm,1.0s							
HHC				AMB	AMB			
	comp=Z,140nm,5.3s							
HHC				LR	LR			
	comp=Z,170nm,18.0s							
HHC				LR	LR			
	comp=Z,180nm,18.4s							
HHC				LR	LR			
	comp=Z,220nm,17.8s							
MAIT	**Maitri**	**85.64**	**187**	*e*P	P		03 44 40.9	-2.3
SNAA	**Sanae**	**85.77**	**182**	*e*P	P		03 44 43.1	-0.9
SNAA	**Sanae**	**85.77**	**182**	*e*P	P		03 44 48.8	+4.8
SNAA	**Sanae**	**85.77**	**182**	*e*P	P		03 44 43.0	-1.0
	comp=Z,17nm,1.2s							
LZH	**Lanzhou**	**86.34**	**312**	*e*P	P		03 44 48.6	+1.2
LZH				pP	pP		03 45 06.8	+6.6
LZH				sP	sP		03 45 13.3	+8.4
LZH				PP	**PP**		03 48 11.1	+1.8
LZH				SKS	SKSac		03 55 03.3	-7.4
LZH				S	**SKKSac**		03 55 14.1	-4.4
LZH				AMB	AMB			
	comp=Z,21nm,1.0s							
LZH				AMB	AMB			
	comp=Z,100nm,4.8s							
LZH				LR	LR			
	comp=Z,600nm,18.6s							
LZH				LR	LR			
	comp=Z,390nm,17.6s							
LZH				LR	LR			
	comp=Z,910nm,19.6s							
VNA2	**Neumayer--Watz**	**86.61**	**180**	*e*P	P		03 44 48.1	+0.1
	baz=159,slow=4.6							
VNA2	**Neumayer--Watz**	**86.61**	**180**	*e*P	P		03 44 53.7	+5.7
	baz=198,slow=3.0							
VNA1	**Neumayer--Stat**	**86.89**	**180**	*e*P	P		03 44 49.7	+0.3
VNA1	**Neumayer--Stat**	**86.89**	**180**	*e*P	P		03 44 49.6	+0.2
CMB	**Columbia Colle**	**88.19**	**47**	*e*P	P		03 44 56.1	-0.1
CMB				pmax	pmax			
	comp=Z,9.0nm,1.1s							
CMB	**Columbia Colle**	**88.19**	**47**	*e*P	P		03 44 56.1	-0.1
	comp=Z,8.6nm,1.1s							
ISA	**Isabella**	**88.33**	**50**	*e*P	P		03 44 57.1	+0.2
ISA				pmax	pmax			
	comp=Z,10.0nm,0.9s							
ISA	**Isabella**	**88.33**	**50**	*e*P	P		03 44 57.1	+0.2
	comp=Z,9.9nm,0.9s							
PAHR	**Pah Rah Range**	**89.71**	**46**	*e*P	P		03 45 03.5	+0.1
	comp=Z,43nm,2.0s							
NVAR	**Mina Array Bea**	**89.80**	**48**	P	P		03 45 03.5	-0.4
NVAR	**Mina Array Bea**	**89.80**	**48**	P	P		03 45 03.5	-0.4
	comp=Z,3.5nm,0.8s,baz=226,slow=7.4,SNR=10							
GTA	**Gaotai**	**90.77**	**313**	*e*P	P		03 45 08.8	+0.5
GTA				pP	**pP**		03 45 25.8	+4.7
GTA				sP	sP		03 45 32.5	+6.7
GTA				AMB	AMB			
	comp=Z,4.0nm,1.1s							
SONM	**Songino Array**	**91.04**	**322**	P	P		03 45 09.5	+0.1
SONM	**Songino Array**	**91.04**	**322**	P	P		03 45 09.5	+0.1
	comp=Z,4.2nm,1.0s,baz=148,slow=5.5,SNR=3.8							
R11A	**Troy Canyon, C**	**91.64**	**49**	*e*P	P		03 45 12.1	-0.4
	comp=Z,41nm,2.6s							
ILAR	**Eielson Array**	**93.03**	**17**	P	P		03 45 15.4	-2.6
ILAR	**Eielson Array**	**93.03**	**17**	P	P		03 45 15.4	-2.6
	comp=Z,1.5nm,1.0s,baz=234,slow=6.1,SNR=7.2							
ZAK	**Zakamensk**	**94.12**	**324**	*e*P	P		03 45 22.3	-1.2
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.3s							
ANMO	**Albuquerque**	**96.83**	**55**	P	P		03 45 35.8	-0.6
ANMO	**Albuquerque**	**96.83**	**55**	P	P		03 45 35.8	-0.6
	comp=Z,2.6nm,1.0s,baz=276,slow=2.6,SNR=4.3							
WMQ	**Urumqi**	**100.86**	**313**	*e*P	**Pdif**		03 45 54.5	+0.5
WMQ				PP	**PP**		03 50 05.5	+2.9
WMQ				SKS	**SKSac**		03 56 26.9	-2.9
WMQ				S	**Sdif**		03 57 23.5	-5.4
WMQ				SS	**SS**		04 04 26.1	-2.0
WMQ				AMB	AMB			
	comp=Z,11nm,0.5s							
WMQ				AMB	AMB			
	comp=Z,150nm,5.0s							
WMQ				LR	LR			
	comp=Z,290nm,24.6s							
WMQ				LR	LR			
	comp=Z,440nm,28.0s							
WMQ				LR	LR			
	comp=Z,120nm,26.0s							
BVAR	**Borovoye Array**	**114.19**	**319**	PKIKP	PKPdf		03 50 43.5	-0.5
BVAR	**Borovoye Array**	**114.19**	**319**	PKP	PKPdf		03 50 43.5	-0.5
BVAR	**Borovoye Array**	**114.19**	**319**	PKP	PKPdf		03 50 43.5	-0.5
	comp=Z,0.4nm,0.4s,baz=101,slow=2.9,SNR=4.4							
AKTO	**Aktyubinsk**	**121.79**	**316**	PKIKP	**PKPdf**		03 50 56.6	-2.2
AKTO	**Aktyubinsk**	**121.79**	**316**	PKP	**PKPdf**		03 50 56.5	-2.2
AKTO	**Aktyubinsk**	**121.79**	**316**	PKP	**PKPdf**		03 50 56.5	-2.2
	comp=Z,3.1nm,0.9s,baz=279,slow=1.4,SNR=8.2							
SPITS	**Spitsbergen Ar**	**123.22**	**354**	PKP	**PKPdf**		03 50 59.6	-1.2
SPITS	**Spitsbergen Ar**	**123.22**	**354**	PKP	**PKPdf**		03 50 59.6	-1.2
	comp=Z,8.7nm,0.8s,baz=305,slow=5.1,SNR=3.8							
BDFB	**Brasilia**	**125.96**	**131**	PKP	**PKPdf**		03 51 06.8	-1.1
BDFB	**Brasilia**	**125.96**	**131**	PKP	**PKPdf**		03 51 06.8	-1.1
	comp=Z,2.4nm,0.9s,baz=149,slow=0.9,SNR=3.8							
ARCES	**ARCESS Array B**	**128.86**	**345**	PKP	**PKPdf**		03 51 10.2	-1.6
ARCES	**ARCESS Array B**	**128.86**	**345**	PKP	**PKPdf**		03 51 10.2	-1.6
	comp=Z,4.6nm,0.8s,baz=73,slow=2.2,SNR=11							
FINES	**FINESS Array B**	**134.45**	**337**	PKP	**PKPdf**		03 51 20.6	-1.9
FINES	**FINESS Array B**	**134.45**	**337**	PKP	**PKPdf**		03 51 20.6	-1.9
	comp=Z,2.9nm,0.9s,baz=336,slow=3.0,SNR=3.9							
AKASG	**Malin Array Be**	**139.32**	**323**	PKIKP	**PKPdf**		03 51 30.8	-1.0
**AKAS

PVCC	**Panska Ves**	**146.74**	**332**	*e*PKP	**PKPbc**	**03 51 46.9**	**+0.2**
BRG	**Berggiesshubel**	**146.75**	**333**	*i* P	**PKPbc**	**03 51 46.5**	**-0.2**
	comp=Z,38nm,1.1s						
BRG	**Berggiesshubel**	**146.75**	**333**	*i* PKP2	**PKPbc**	**03 51 46.5**	**-0.2**
BRG				pmax	pmax		
	comp=Z,39nm,1.1s						
BRG	**Berggiesshubel**	**146.75**	**333**	*e*PKPbc	**PKPbc**	**03 51 46.7**	**0.0**
VTS	**Vitosha**	**146.78**	**314**	⇑PKIKP	**PKPdf**	**03 51 45.6**	**+0.2**
VTS	**Vitosha**	**146.78**	**314**	⇑*i*P	**PKPdf**	**03 51 45.6**	**+0.2**
CLL	**Collm**	**146.79**	**335**	⇑*i*PKIKP	**PKPbc**	**03 51 45.8**	**-1.0**
CLL				pmax	pmax		
	comp=Z,7.0nm,1.1s						
CLL	**Collm**	**146.79**	**335**	*e*PKPbc	**PKPbc**	**03 51 46.6**	**-0.2**
CLL	**Collm**	**146.79**	**335**	⇓*i*PKPbc	**PKPbc**	**03 51 46.5**	**-0.2**
	comp=Z,32nm,1.1s						
CLL				*i*		03 52 07.6	
PKS7	**Kunszentmiklos**	**146.87**	**324**	⇓*e*PKPdf	**PKPbc**	**03 51 47.4**	**+0.3**
NRDL	**Niedersack Rie**	**146.89**	**339**	*e*PKPbc	**PKPbc**	**03 51 46.9**	**0.0**
PKSG		**147.07**	**325**	⇑*e*PKPdf	**PKPbc**	**03 51 47.4**	**-0.3**
EKA	**Eskdalemuir Ar**	**147.15**	**354**	PKPbc	**PKPdf**	**03 51 45.4**	**-0.1**
EKA	**Eskdalemuir Ar**	**147.15**	**354**	PKPbc	**PKPdf**	**03 51 45.4**	**-0.1**
	comp=Z,4.2nm,0.5s,baz=356,slow=2.5,SNR=39						
PRU	**Pruhonice**	**147.15**	**332**	*i* PKP2	**PKPbc**	**03 51 47.6**	**-0.2**
PRU				MLR	MLR		
	comp=Z,800nm,24.2s						
PRU	**Pruhonice**	**147.15**	**332**	*i* PKP	**PKPbc**	**03 51 47.6**	**-0.2**
ESK	**Eskdalemuir**	**147.17**	**354**	*e*P	**PKPdf**	**03 51 45.7**	**+0.2**
PKS2	**Kecel**	**147.18**	**323**	⇑*e*PKPdf	**PKPbc**	**03 51 48.2**	**+0.2**
TREC	**Trest**	**147.23**	**330**	*e*PKP2	**PKPbc**	**03 51 48.2**	**+0.1**
TREC	**Trest**	**147.23**	**330**	*e*PKP	**PKPbc**	**03 51 48.2**	**+0.1**
ECK	**Cauldkaine Hil**	**147.29**	**354**	*e*P	**PKPbc**	**03 51 46.7**	**-1.4**
CLZ	**Clausthal**	**147.34**	**338**	*e*PKP2	**PKPbc**	**03 51 48.5**	**+0.1**
CLZ	**Clausthal**	**147.34**	**338**	*e*PKPbc	**PKPbc**	**03 51 48.5**	**+0.1**
PKS9	**Tamasi**	**147.63**	**324**	⇑*e*PKPdf	**PKPbc**	**03 51 48.9**	**-0.4**
TANN	**Tannenbergstha**	**147.70**	**334**	*e*PKPbc	**PKPbc**	**03 51 49.5**	**+0.1**
GAL1	**Galloway**	**147.74**	**355**	*e*P	**PKPdf**	**03 51 47.1**	**+0.7**
IBBN	**Ibbenburen**	**147.81**	**341**	*e*PKPbc	**PKPbc**	**03 51 49.3**	**-0.2**
CONA	**Conrad Observa**	**148.01**	**328**	⇑*i*PKIKP	**PKPbc**	**03 51 50.5**	**+0.1**
	comp=Z,16nm,0.8s,SNR=7.4						
KHC	**Kasperske Hory**	**148.21**	**332**	*i* PKP	**PKPdf**	**03 51 46.5**	**-1.0**
KHC				*ex*	x	03 51 50.5	
KHC	**Kasperske Hory**	**148.21**	**332**	*e*PKPbc	**PKPbc**	**03 51 50.6**	**-0.2**
ROTZ	**Rotzenmuhle**	**148.31**	**334**	*e*PKPbc	**PKPbc**	**03 51 51.4**	**+0.4**
UBBA	**Unterbreizbach**	**148.32**	**337**	*e*PKPbc	**PKPbc**	**03 51 51.1**	**+0.3**
GEC2	**GERESS Array S**	**148.37**	**331**	*e*PKP2	**PKPbc**	**03 51 50.9**	**-0.4**
GEC2	**GERESS Array S**	**148.37**	**331**	*e*PKPbc	**PKPbc**	**03 51 51.3**	**0.0**
GEC2	**GERESS Array S**	**148.37**	**331**	*e*PKPdf	**PKPbc**	**03 51 50.9**	**-0.4**
GEC2				*e*PKPdf	**PKiKP**	**03 51 51.0**	**-1.9**
GERES	**GERESS Array B**	**148.37**	**331**	PKPbc	**PKPbc**	**03 51 50.6**	**-0.7**
GERES	**GERESS Array B**	**148.37**	**331**	PKPbc	**PKPbc**	**03 51 50.6**	**-0.7**
	comp=Z,11nm,0.8s,baz=40,slow=2.3,SNR=63						
WTSB	**Winterswijk**	**148.39**	**341**	*e*P	**PKPbc**	**03 51 49.7**	**-1.3**
	comp=Z,47nm,1.3s						
WET	**Wettzell**	**148.51**	**332**	*e*PKP2	**PKPbc**	**03 51 51.7**	**+0.1**
WET	**Wettzell**	**148.51**	**332**	*e*PKPbc	**PKPbc**	**03 51 51.7**	**+0.1**
ARSA	**Arzberg**	**148.64**	**327**	⇑*i*PKiKP	**PKPbc**	**03 51 52.1**	**+0.2**
	comp=Z,3.3nm,0.6s						
BUG	**Bochum--Univer**	**148.71**	**340**	*e*PKPbc	**PKPbc**	**03 51 51.7**	**-0.2**
GRF	**Grafenberg Arr**	**148.77**	**334**	*e*PKP2	**PKPbc**	**03 51 52.3**	**+0.1**
GRF	**Grafenberg Arr**	**148.77**	**334**	*e*PKPbc	**PKPbc**	**03 51 52.3**	**+0.1**
MOA	**Molln**	**148.83**	**329**	⇑*i*PKPbc	**PKPbc**	**03 51 52.1**	**-0.4**
	comp=Z,9.0nm,0.8s						
WME	**Myndd Eilian**	**149.17**	**355**	⇑*e*P	**PKPbc**	**03 51 52.0**	**-1.0**
WPM1	**Penmaenmawr**	**149.27**	**354**	*e*P	**PKPbc**	**03 51 51.9**	**-1.5**
SOKA	**Soboth**	**149.27**	**327**	⇑*i*PKPbc	**PKPbc**	**03 51 53.1**	**-0.6**
	comp=Z,26nm,1.4s,SNR=7.1						
WLF1	**Llynfaes**	**149.28**	**355**	*e*P	**PKPbc**	**03 51 51.7**	**-1.6**
YRC	**Rhoscolyn**	**149.34**	**355**	⇑*e*P	**PKPbc**	**03 51 52.2**	**-1.2**
TNS	**Taunus Mts**	**149.37**	**338**	*e*PKP2	**PKPbc**	**03 51 53.7**	**0.0**
TNS	**Taunus Mts**	**149.37**	**338**	*e*PKPbc	**PKPbc**	**03 51 53.7**	**0.0**
YLL	**Llanberis**	**149.41**	**354**	*e*P	**PKPdf**	**03 51 47.6**	**-1.6**
FOEL	**Foel Wylfa**	**149.56**	**353**	*e*P	**PKPbc**	**03 51 53.2**	**-0.9**
RJOB	**Jochberg**	**149.59**	**330**	*e*PKPbc	**PKPbc**	**03 51 54.0**	**-0.4**
HGN	**Heimansgroeve**	**149.71**	**341**	*e*P	**PKPbc**	**03 51 53.6**	**-0.9**
	comp=Z,12nm,0.9s						
KBA	**Koelnbreinsper**	**149.82**	**329**	⇑*i*PKiKP	**PKPbc**	**03 51 54.8**	**-0.3**
	comp=Z,22nm,0.9s						
MEM	**Membach**	**149.82**	**341**	PKPbc	**PKPbc**	**03 51 54.0**	**-0.7**
FUR	**Furstenfeldbru**	**149.94**	**333**	*e*PKPbc	**PKPbc**	**03 51 54.5**	**-0.7**
MYKA	**Terra Mystica**	**150.00**	**328**	⇓*i*PKPdf	**PKPdf**	**03 51 51.1**	**+0.6**
	comp=Z,2.0nm,0.4s,SNR=5.3						
MYKA				⇑*i*PKPbc	**PKPbc**	**03 51 54.3**	**-1.1**
	comp=Z,17nm,0.7s						
BCLA	**Clavier**	**150.20**	**342**	PKPbc	**PKPbc**	**03 51 55.1**	**-0.5**
SSW	**Stow on the Wo**	**150.30**	**351**	*e*P	**PKPbc**	**03 51 54.8**	**-1.1**
STU	**Stuttgart**	**150.30**	**336**	*e*PKIKP	**PKPbc**	**03 51 55.7**	**-0.3**
STU	**Stuttgart**	**150.30**	**336**	*e*PKPbc	**PKPbc**	**03 51 56.0**	**0.0**
STU	**Stuttgart**	**150.30**	**336**	*e*PKPbc	**PKPbc**	**03 51 55.7**	**-0.3**
SKP1	**Kophill**	**150.38**	**350**	⇑*e*P	**PKPbc**	**03 51 54.1**	**-2.0**
MCH1	**Michaelchurch**	**150.42**	**353**	*e*P	**PKPbc**	**03 51 54.9**	**-1.2**
WATA	**Walderalm**	**150.44**	**331**	⇑*i*PKPbc	**PKPbc**	**03 51 55.8**	**-0.8**
	comp=Z,14nm,0.6s,SNR=5.5						
ABTA	**Abfaltersbach**	**150.45**	**329**	⇑*i*PKPbc	**PKPbc**	**03 51 55.5**	**-1.0**
	comp=Z,24nm,0.7s,SNR=7.3						
WTTA	**Wattenberg**	**150.47**	**331**	*i* PKiKP	**PKPbc**	**03 51 56.2**	**-0.5**
	comp=Z,63nm,1.4s,SNR=9.5						
WLF	**Walferdange**	**150.61**	**340**	PKPbc	**PKPbc**	**03 51 57.1**	**+0.4**
WLF	**Walferdange**	**150.61**	**340**	*e*PKPbc	**PKPbc**	**03 51 57.1**	**+0.4**
RETA	**Reutte**	**150.68**	**332**	⇑*i*PKPbc	**PKPbc**	**03 51 56.4**	**-0.7**
	comp=Z,11nm,0.8s						
DOU	**Dourbes**	**150.69**	**342**	PKPbc	**PKPbc**	**03 51 56.3**	**-0.5**
SQTA	**Sankt Quirin**	**150.69**	**331**	⇑*i*PKPbc	**PKPbc**	**03 51 56.6**	**-0.6**
	comp=Z,20nm,0.6s						
BFO	**Black Forest**	**150.99**	**336**	*e*PKIKP	**PKPbc**	**03 51 57.2**	**-0.5**
BFO	**Black Forest**	**150.99**	**336**	*e*PKPbc	**PKPbc**	**03 51 57.2**	**-0.5**
BFO	**Black Forest**	**150.99**	**336**	*e*PKPdf	**PKPbc**	**03 51 57.0**	**-0.7**
FETA	**Feichten**	**151.06**	**332**	*i* PKiKP	**PKPbc**	**03 51 57.6**	**-0.4**
	comp=Z,33nm,1.0s,SNR=11						
DAVA	**Damuels**	**151.22**	**333**	⇑*i*PKiKP	**PKPbc**	**03 51 57.8**	**-0.6**
	comp=Z,27nm,1.4s						
FUORN	**Ofenpass-Fuorn**	**151.57**	**332**	*e*PKPdf	**PKPbc**	**03 51 59.4**	**+0.1**
DAVOX	**Davos/Dischmat**	**151.61**	**332**	PKPbc	**PKPbc**	**03 51 58.9**	**-0.5**
DAVOX	**Davos/Dischmat**	**151.61**	**332**	PKPbc	**PKPbc**	**03 51 58.9**	**-0.5**
	comp=Z,26nm,0.7s,baz=88,slow=1.6,SNR=31						
DYA	**Yadsworthy**	**152.06**	**353**	*e*P	**PKPbc**	**03 51 59.1**	**-0.9**
TUE	**Stuetta**	**152.08**	**332**	*e*PKPdf	**PKPdf**	**03 51 54.2**	**+0.4**
TUE				*e*PKPbc	**PKPbc**	**03 52 00.1**	**-0.3**
TOA0	**Torodi Ar. Sit**	**166.16**	**228**	*e*PKPdf	**PKPdf**	**03 52 10.3**	**-0.5**
TOA0				*e*PKPab	**PKPab**	**03 53 11.9**	**+0.4**
TORD	**Torodi Ar. Bea**	**166.16**	**228**	PKP	**PKPdf**	**03 52 10.1**	**-0.8**
TORD				PKPab	**PKPab**	**03 53 11.7**	**+0.1**
TORD	**Torodi Ar. Bea**	**166.16**	**228**	PKP	**PKPdf**	**03 52 10.1**	**-0.8**
	comp=Z,2.6nm,0.9s,baz=90,slow=0.6,SNR=12						
TORD				PKPab	**PKPab**	**03 53 11.7**	**+0.1**
	comp=Z,3.4nm,1.1s,baz=139,slow=4.4,SNR=6.3						
TAM	**Tamanrasset**	**166.71**	**273**	*e*PKIKP	**PKPdf**	**03 52 12.5**	**+1.3**
TAM	**Tamanrasset**	**166.71**	**273**	*e*PKPdf	**PKPdf**	**03 52 12.5**	**+1.3**

IDC ***15*** *03:34:26.3±0.6, 1.°28N×85.°30W, h0km, mb4.0/12, mb1 4.3/15, mb1mx4.2/26, mbtmp4.1/15, ML3.7/3, MS4.6/22, Ms1 4.6/22, ms1mx4.6/28, Error ellipse: s-maj=31.3km s-min=13.3km az=52.0*

BJI ***15*** *03:34:27.2, 1.°52N×84.°79W, h10km, mB5.1/4, Ms5.2/7, Ms7 5.1/10*

NEIC ***15*** *03:34:28.4±0.4, 1.°11N×85.°32W, h10km, mb4.8/40, MS4.8/111, MW5.5, MW5.5, Error ellipse: s-maj=9.4km s-min=6.8km az=220.0, Moment Tensor Solution. s14 Moment tensor: Scale 10¹⁷Nm; Mrr=0.28; Mθθ=0.13; Mφφ=0.15; Mrθ=0.01; Mθφ=2.03; Mrφ=0.31; Best double couple: M=2.10000×10¹⁷ NP1:φs=360.00000°, δ88.00000°, λ171.00000°. NP2:φs=90.00000°, δ81.00000°, λ2.00000°. Principal axes: T 1.9200, Plg7.0000°, Azm314.0000°; N 0.2700, Plg80.0000°, Azm169.0000°; P -2.1900, Plg5.0000°, Azm45.0000°;*

ISCJB ***15*** *03:34:29.8±0.3, 1.°17N±0.°05×85.°29W±0.°04, h33km, mb4.6/50, MS4.8/138 Error ellipse: s-maj=7.2km s-min=4.4km az=29.6*

GCMT ***15*** *03:34:30.3±0.1, 1.°09N×85.°32W, h16km, MW5.4, Moment Tensor Solution. s83,c158; s40,c42; Moment tensor: Scale 10¹⁷Nm; Mrr=0.09±.02; Mθθ=0.48±.02; Mφφ=0.39±.03; Mrθ=0.04±.05; Mθφ=1.70±.02; Mrφ=0.24±.06; Best double couple: M=1.80000×10¹⁷ NP1:φs=187.00000°, δ90.00000°, λ-172.00000°. NP2:φs=97.00000°, δ82.00000°, λ0.00000°. Principal axes: T 1.8200, Plg5.0000°, Azm322.0000°; N -0.0900, Plg82.0000°, Azm188.0000°; P -1.7300, Plg6.0000°, Azm52.0000°; Data Used: II IU IC G CN. Surface waves: sta=106, comp=211, per= 50.*

NEIC ***15*** *03:34:47.0±0.0, 1.°21N×84.°62W, h10km, Moment Tensor Solution. s136 Moment tensor: Scale 10¹⁷Nm; Mrr=0.01; Mθθ=0.39; Mφφ=0.41; Mrθ=0.57; Mθφ=1.62; Mrφ=0.91; Best double couple: M=2.00000×10¹⁷ NP1:φs=100.00000°, δ62.00000°, λ9.00000°. NP2:φs=6.00000°, δ82.00000°, λ151.00000°. Principal axes: T 2.1500, Plg25.0000°, Azm319.0000°; N -0.3900, Plg60.0000°, Azm171.0000°; P -1.7600, Plg13.0000°, Azm56.0000°;*

ISC 15 03:34:31.8±0.4, 1.°10N±0.°06×85.°30W±0.°06, h35km, n452, σ1ᵗ§11/334, mb4.8/50, MS4.8/138, 109C-98D, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora**	**5.29**	**251**	*e*Pn	**Pn**	**Pn**	**03 35 48.1**	**-0.3**
OTAV	**Otavalo**	**6.90**	**97**	*e*Pn	**Pn**	**Pn**	**03 36 08.8**	**-2.2**
OTAV				*e*S	**Sn**	**Sn**	**03 37 29.1**	**+0.6**
JTS	**JuntasAbangare**	**9.13**	**2**	*e*Pn	**Pn**	**Pn**	**03 36 41.0**	**-0.3**
JTS				*e*S	Sn	Sn	03 38 14.1	-8.9
JTS	**JuntasAbangare**	**9.13**	**2**	Pn	**Pn**	**Pn**	**03 36 40.6**	**-0.6**
	3.6nm,0.3s,baz=238,slow=5.9,SNR=28							
JTS				Sn	Sn	Sn	03 38 14.8	-8.2
	0.2nm,0.3s,baz=18,slow=19,SNR=1.4							
JTS				LR	LR	LR	03 39 23.6	
	comp=Z,4μm,19.9s,baz=353,slow=33							
BCIP	**Isla Barro Col**	**9.68**	**34**	*e*Pn	**Pn**	**Pn**	**03 36 47.3**	**-1.4**
ATAH	**Atahualpa**	**10.70**	**140**	Pn	**Pn**	**Pn**	**03 37 03.8**	**+0.8**
ATAH	**Atahualpa**	**10.70**	**140**	Pn	**Pn**	**Pn**	**03 37 03.8**	**+0.8**
	4.7nm,0.3s,baz=328,slow=8.6,SNR=19							
ROSC	**El Rosal**	**11.57**	**71**	*e*Pn	**Pn**	**Pn**	**03 37 14.8**	**-0.1**
ROSC	**El Rosal**	**11.57**	**71**	Pn	**Pn**	**Pn**	**03 37 14.5**	**-0.4**
	1.5nm,0.3s,baz=272,slow=14,SNR=8.8							
ROSC				LR	LR	LR	03 41 16.5	
	comp=Z,4μm,20.5s,baz=235,slow=36							
TGUH	**Tegucigalpa,Un**	**13.02**	**351**	*e*Pn	**Pn**	**Pn**	**03 37 34.4**	**0.0**
TGUH				*e*S	**Sn**	**Sn**	**03 40 01.2**	**+3.1**
APG	**El Apazote**	**14.73**	**340**	Pn	**Pn**	**Pn**	**03 37 56.1**	**-1.8**
APG	**El Apazote**	**14.73**	**340**	Pn	**Pn**	**Pn**	**03 37 56.1**	**-1.8**
	0.6nm,0.3s,baz=214,slow=9.9,SNR=8.4							
APG				LR	LR	LR	03 42 37.2	
	comp=Z,8μm,19.1s,baz=158,slow=34							
SDV	**Santo Domingo**	**16.52**	**62**	*e*Pn	**Pn**	**Pn**	**03 38 20.6**	**-0.6**
	170nm,1.8s							
MTDJ	**Mount Denham**	**18.65**	**24**	*e*Pn	**P**	**P**	**03 38 47.0**	**+0.1**
	131nm,1.6s							
TEIG	**Tepich**	**19.23**	**351**	*e*P	**P**	**P**	**03 38 53.2**	**0.0**
	31nm,1.1s							
GTBY	**Guantanamo Bay**	**21.20**	**27**	*e*P	**P**	**P**	**03 39 15.2**	**+0.6**
	108nm,1.3s							
GTBY				LR	LR			
	comp=Z,2μm,22.0s							
SDDR	**Presa de Saban**	**22.46**	**37**	*e*P	**P**	**P**	**03 39 32.2**	**+4.0**
	comp=Z,319nm,2.1s							
SDDR				LR	LR			
	comp=Z,1μm,19.0s							
SAML	**Samuel**	**24.19**	**115**	*e*P	**P**	**P**	**03 39 43.9**	**-1.4**
	comp=Z,48nm,1.3s							
SAML				LR	LR			
	comp=Z,3μm,19.0s							
LPAZ	**La Paz**	**24.20**	**136**	*e*P	**P**	**P**	**03 39 45.1**	**-1.0**
	comp=Z,21nm,1.0s							
LPAZ	**La Paz**	**24.20**	**136**	P	**P**	**P**	**03 39 46.0**	**-0.1**
	comp=Z,11nm,0.9s,baz=325,slow=8.4,SNR=16							
GRTK	**Grand Turk**	**24.54**	**33**	PFAKE			**03 40 00.0**	**+12**
GRTK				LR	LR			
	comp=Z,2μm,21.0s							
LRS	**Lares**	**24.90**	**46**	*e*P	**P**	**P**	**03 39 52.5**	**+0.8**
OBIP	**Obispado Ponce**	**24.91**	**46**	*e*P	**P**	**P**	**03 39 53.0**	**+1.3**
	comp=Z,68nm,1.2s							
CELP	**Cerrillos**	**24.95**	**46**	*e*P	**P**	**P**	**03 39 53.4**	**+1.2**
AOPR	**Arecibo Observ**	**25.00**	**46**	*e*P	**P**	**P**	**03 39 53.4**	**+0.8**
	comp=Z,92nm,1.4s							
HUMP	**Col San Antoni**	**25.52**	**47**	*e*P	**P**	**P**	**03 39 58.2**	**+0.8**
	comp=Z,50nm,1.1s							
GRGR	**Grenville**	**25.88**	**64**	PFAKE			**03 40 10.0**	**+9.3**
GRGR				LR	LR			
	comp=Z,1μm,22.0s							
BBGH	**Gun Hill**	**28.16**	**64**	PFAKE			**03 40 30.0**	**+8.9**
BBGH				LR	LR			
	comp=Z,2μm,22.0s							
ANWB	**Willy Bob**	**28.37**	**53**	PFAKE			**03 40 40.0**	**+17**
ANWB				LR	LR			
	comp=Z,1μm,22.0s							
LVC	**Limon Verde**	**28.47**	**147**	PFAKE			**03 40 40.0**	**+16**
LVC				LR	LR			
	comp=Z,2μm,22.0s							
KVTX	**Kingsville**	**28.93**	**336**	PFAKE			**03 40 40.0**	**+12**
KVTX				LR	LR			
	comp=Z,1μm,20.0s							
SIV	**San Ignacio**	**29.34**	**126**	LR	LR	LR	03 53 06.6	
	comp=Z,2μm,18.9s,slow=38							
HKT	**Hockley**	**30.39**	**342**	*e*P	**P**	**P**	**03 40 40.3**	**-0.3**
	comp=Z,95nm,2.2s							
H06E1	**SOCORRO T-PHAS**	**30.66**	**307**	T	T	T	04 12 38.0	
	SNR=16							
732A	**Laxson Ranch,**	**30.84**	**334**	⇑P	**P**	**P**	**03 40 43.8**	**-0.9**
	baz=31							
632A	**Uvalde**	**31.44**	**335**	⇑P	**P**	**P**	**03 40 49.0**	**-1.1**
	baz=32							
631A	**Perdido Creek**	**31.70**	**334**	⇓P	**P**	**P**	**03 40 51.1**	**-1.2**
	baz=32							
NATX	**Nacogdoches**	**31.75**	**345**	PFAKE			**03 41 00.0**	**+7.3**
NATX				LR	LR			
	comp=Z,2μm,20.0s							
532A	**Rocksprings**	**32.03**	**336**	⇓P	**P**	**P**	**03 40 54.5**	**-0.8**
	baz=32							
JCT	**Junction City**	**32.30**	**336**	*e*P	**P**	**P**	**03 40 59.4**	**+1.7**
	comp=Z,10nm,1.0s							
JCT				LR	LR			
	comp=Z,602nm,20.0s							
JCT	**Junction City**	**32.30**	**336**	⇓P	**P**	**P**	**03 40 56.9**	**-0.7**
	baz=32							
531A	**Rocksprings**	**32.33**	**335**	⇑P	**P**	**P**	**03 40 57.6**	**-0.4**
	baz=32							
530A	**J-C Ranch, Com**	**32.66**	**334**	⇑P	**P**	**P**	**03 41 00.2**	**-0.6**
	baz=33							
431A	**Sonora**	**32.81**	**335**	⇓P	**P**	**P**	**03 41 01.6**	**-0.5**
	baz=33,SNR=12							
628A	**Black Gap, Mar**	**32.83**	**331**	⇑P	**P**	**P**	**03 41 01.9**	**-0.3**
	baz=33							
529A	**Stev Forest Ra**	**33.04**	**332**	⇑P	**P**	**P**	**03 41 04.1**	**-0.1**
	baz=33							
LCO	**Las Campanas**	**33.04**	**156**	PFAKE			**03 41 20.0**	**+16**
LCO				LR	LR			
	comp=Z,2μm,22.0s							
627A	**Terlingua Ranc**	**33.05**	**330**	⇑P	**P**	**P**	**03 41 03.6**	**-0.7**
	baz=33							
332A	**Milesview**	**33.07**	**337**	⇓P	**P**	**P**	**03 41 03.8**	**-0.5**
	baz=33,SNR=23							
TXAR	**Lajitas Array**	**33.09**	**330**	P	**P**	**P**	**03 41 03.4**	**-1.2**
TXAR	**Lajitas Array**	**33.09**	**330**	P	**P**	**P**	**03 41 03.4**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=148,slow=9.5,SNR=13							
TXAR				LR	LR	LR	03 53 19.6	
	comp=Z,1μm,20.0s,baz=130,slow=34							
430A	**Baggett Ranch,**	**33.17**	**334**	⇑P	**P**	**P**	**03 41 04.6**	**-0.6**
	baz=33,SNR=5.0							
331A	**San Angelo**	**33.28**	**336**	⇑P	**P**	**P**	**03 41 05.1**	**-1.1**
	baz=33							
LPIG	**La Paz**	**33.31**	**315**	LR	LR	LR	03 51 40.9	
	comp=Z,443nm,19.0s,baz=120,slow=31							
429A	**Davenport Ranc**	**33.32**	**333**	⇑P	**P**	**P**	**03 41 05.5**	**-1.0**
	baz=33							
232A	**Coleman**	**33.49**	**338**	⇓P	**P**	**P**	**03 41 07.1**	**-0.9**
	baz=34							
626A	**Big Bend Ranch**	**33.50**	**329**	⇓P	**P**	**P**	**03 41 07.2**	**-1.1**
	baz=34							
330A	**Mertzon**	**33.68**	**335**	⇓P	**P**	**P**	**03 41 09.1**	**-0.6**
	baz=34							
527A	**Woodward Ranch**	**33.72**	**331**	⇑P	**P**	**P**	**03 41 09.1**	**-1.1**
	baz=34							
428A	**Kincaid Ranch,**	**33.76**	**332**	⇓P	**P**	**P**	**03 41 09.5**	**-1.0**
	baz=34							
526A	**Mary Lane Ranc**	**33.89**	**330**	⇑P	**P**	**P**	**03 41 10.8**	**-0.9**
	baz=34							
KMSC	**Kings Mountain**	**34.07**	**6**	⇑P	**P**	**P**	**03 41 12.6**	**-0.3**
	baz=34							
329A	**Wagon Wheel Ra**	**34.09**	**334**	⇑P	**P**	**P**	**03 41 12.6**	**-0.7**
	baz=34							
ABTX	**Abilene, Hawle**	**34.14**	**338**	⇑P	**P**	**P**	**03 41 13.2**	**-0.5**
	baz=34							
MIAR	**Mount Ida**	**34.16**	**348**	PFAKE			**03 41 30.0**	**+16**
MIAR				LR	LR			
	comp=Z,956nm,19.0s							
427A	**Hayter Ranch,**	**34.20**	**332**	⇑P	**P**	**P**	**03 41 13.3**	**-1.0**
	baz=34							
426A	**McDonald Obser**	**34.36**	**331**	⇑P	**P**	**P**	**03 41 14.7**	**-1.1**
	baz=34							
328A	**Wristen Ranch,**	**34.37**	**333**	⇓P	**P**	**P**	**03 41 15.2**	**-0.6**
	baz=34,SNR=6.4							
TKL	**Tuckaleechee C**	**34.41**	**2**	LR	LR	LR	03 54 55.9	
	comp=Z,792nm,18.1s,baz=185,slow=36							
229A	**Bryant Ranch,**	**34.43**	**335**	⇓P	**P**	**P**	**03 41 15.7**	**-0.5**
	baz=35							
131A	**Roby**	**34.47**	**337**	⇑P	**P**	**P**	**03 41 16.2**	**-0.3**
	baz=35							
130A	**Snyder**	**34.63**	**336**	⇑P	**P**	**P**	**03 41 17.1**	**-0.8**
	baz=35							
CNNC	**Cliffs of the**	**34.66**	**11**	PFAKE			**03 41 30.0**	**+12**
CNNC				LR	LR			
	comp=Z,2μm,21.0s							
Z32A	**Haskell**	**34.69**	**339**	⇓P	**P**	**P**	**03 41 17.8**	**-0.6**
	baz=35							
326A	**Caldwell Ranch**	**34.87**	**331**	⇑P	**P**	**P**	**03 41 19.1**	**-0.9**
	baz=35,SNR=5.4							
H03N2	**Juan Fernandez**	**34.88**	**171**	T	T	T	04 18 16.5	
	baz=348,slow=0.7,SNR=42							
H03N1	**Juan Fernandez**	**34.88**	**171**	T	T	T	04 18 17.7	
	baz=348,slow=0.7,SNR=18							
H03N3	**Juan Fernandez**	**34.89**	**171**	T	T	T	04 18 28.6	
	baz=348,slow=0.7,SNR=89							
228A	**UT Block 9, Go**	**34.90**	**334**	⇓P	**P**	**P**	**03 41 19.4**	**-0.9**
	baz=35							
425A	**Indio Mountain**	**34.93**	**330**	⇑P	**P**	**P**	**03 41 19.9**	**-0.7**
	baz=35,SNR=12							
Z31A	**Sharp Cattle R**	**34.95**	**338**	⇓P	**P**	**P**	**03 41 19.8**	**-0.9**
	baz=35							
129A	**Stewart Farms,**	**35.03**	**335**	⇑P	**P**	**P**	**03 41 20.6**	**-0.8**
	baz=35							
227A	**Bennet, Jal**	**35.12**	**333**	⇓P	**P**	**P**	**03 41 20.9**	**-1.3**
	baz=35							
128A	**Castleberry Fa**	**35.28**	**334**	⇓P	**P**	**P**	**03 41 22.4**	**-1.2**
	baz=35							
Z30A	**Sanderson Ranc**	**35.30**	**337**	⇓P	**P**	**P**	**03 41 22.6**	**-1.1**
	baz=35							
325A	**Bean Ranch, Si**	**35.40**	**330**	⇓P	**P**	**P**	**03 41 23.6**	**-1.1**
	baz=36							
Z29A	**Hungry Hill Ra**	**35.51**	**336**	⇓P	**P**	**P**	**03 41 24.2**	**-1.4**
	baz=36,SNR=6.0							
Y31A	**Rekieta Farm,**	**35.57**	**338**	⇑P	**P**	**P**	**03 41 25.3**	**-0.6**
	baz=36,SNR=5.5							
226B	**Tecolote Peak,**	**35.59**	**332**	⇑P	**P**	**P**	**03 41 25.5**	**-0.7**
	baz=36							
324A	**Moseley Ranch,**	**35.71**	**330**	⇑P	**P**	**P**	**03 41 26.0**	**-1.4**
	baz

baz=39,SNR=5.8
ACSO Alum Creek Sta 39.01 3 PFAKE 03 42 10.0 +15
ACSO LR LR
comp=Z,931nm,20.0s
ANMO Albuquerque 39.03 332 *e*P P **03 41 55.1 -0.4**
comp=Z,5.8nm,0.8s
ANMO LR LR
comp=Z,1µm,19.0s
ANMO Albuquerque 39.03 332 P P **03 41 55.1 -0.4**
comp=Z,1.7nm,0.6s,baz=137,slow=12,SNR=9.4
U26A Atchley Ranch, 39.06 336 ⇑P P **03 41 55.0 -0.8**
baz=39
W23A Werner Place, 39.06 332 ⇓P P **03 41 55.3 -0.5**
baz=39
V24A Rampart Ranch, 39.13 334 ⇓P P **03 41 55.8 -0.6**
baz=39
Y20A Horse Springs, 39.14 329 ⇑P P **03 41 56.0 -0.5**
baz=39
S29A Ulysses 39.16 340 ⇑P P **03 41 56.0 -0.4**
baz=39
KSU1 Kansas State U 39.21 346 P P **03 41 55.5 -1.3**
comp=Z,15nm,0.8s
R31A Burdett 39.25 342 ⇓P P **03 41 56.7 -0.4**
baz=39
TUC Tucson 39.25 325 *e*P P **03 41 56.7 -0.5**
comp=Z,4.0nm,1.0s
TUC LR LR
comp=Z,4µm,21.0s
X21A Alamocita Cree 39.27 330 ⇑P P **03 41 56.8 -0.7**
baz=39
U25A Circle Dot Ran 39.33 335 ⇑P P **03 41 57.8 -0.3**
baz=40
S28A Manter 39.40 339 ⇑P P **03 41 57.9 -0.6**
baz=40
R30A Dighton 39.48 341 ⇓P P **03 41 59.3 +0.3**
baz=40
V23A Ortiz Mt. (NFS 39.56 333 ⇑P P **03 41 59.9 0.0**
baz=40,SNR=5.2
T26A Comanche Natio 39.67 337 ⇑P P **03 42 00.5 -0.4**
baz=40
X20A Quemado 39.70 329 ⇓P P **03 42 01.1 -0.1**
baz=40
U24A Moreno Valley 39.71 334 ⇑P P **03 42 01.4 +0.1**
baz=40
P33A Williams Farm, 39.80 345 ⇑P P **03 42 01.7 0.0**
baz=40
S27A Las Animas 39.85 338 ⇓P P **03 42 02.0 -0.3**
baz=40
R29A Marienthal 39.89 340 ⇓P P **03 42 02.5 0.0**
baz=40
T25A Trinidad 39.97 336 ⇓P P **03 42 02.9 -0.4**
baz=40
S26A Kim 40.01 337 ⇓P P **03 42 03.5 -0.1**
baz=40
V22A San Miguel Ran 40.03 332 ⇑P P **03 42 03.9 0.0**
baz=40
R28A Tribune 40.04 340 ⇓P P **03 42 03.7 0.0**
baz=40
U23A El Rito 40.04 333 ⇑P P **03 42 03.8 -0.2**
baz=40,SNR=11
W20A Ramah 40.16 330 ⇑P P **03 42 05.3 +0.3**
baz=40
214A Organ Pipe Nat 40.20 323 ⇓P P **03 42 05.1 0.0**
baz=40
Q29A Oakley 40.26 341 ⇓P P **03 42 04.9 -0.6**
baz=40
T24B San Luis 40.31 335 ⇑P P **03 42 05.7 -0.5**
baz=40
P31A Stockton 40.34 343 ⇓P P **03 42 06.0 -0.2**
baz=40
R27A Eads 40.34 339 ⇓P P **03 42 06.1 -0.2**
baz=40
U22A Llaves 40.38 333 ⇓P P **03 42 06.9 +0.1**
baz=40,SNR=6.6
BDFB Brasilia 40.42 116 P P **03 42 07.8 +0.6**
BDFB Brasilia 40.42 116 P P **03 42 07.8 +0.6**
comp=Z,2.0nm,1.0s,baz=261,slow=14,SNR=2.5
BDFB LR LR 04 00 24.4
comp=Z,2µm,18.9s,baz=104,slow=38
S25A Robets Cordova 40.43 336 ⇑P P **03 42 06.7 -0.4**
baz=41,SNR=6.2
X18A Snowflake 40.45 328 ⇓P P **03 42 06.8 -0.5**
baz=41
T23A Casias Ranch, 40.57 334 ⇓P P **03 42 08.3 0.0**
baz=41
R26A Arlington 40.60 338 ⇑P P **03 42 08.3 -0.1**
baz=41
Q28A Sharon Springs 40.70 340 ⇓P P **03 42 09.1 0.0**
baz=41
S24A Houchin Ranch, 40.73 336 ⇑P P **03 42 09.3 -0.4**
baz=41
U21A Nageezi 40.80 332 ⇓P P **03 42 10.3 +0.1**
baz=41
KSCO Kaye Shedlock' 40.93 339 ⇑P P **03 42 10.9 -0.2**
baz=41
T22A Edith 40.93 333 ⇑P P **03 42 11.6 +0.2**
baz=41
SDCO Great Sand Dun 40.94 335 PFAKE 03 42 20.0 +8.5
SDCO LR LR
comp=Z,867nm,22.0s
ERPA Erie 41.11 6 PFAKE 03 42 20.0 +7.6
ERPA LR LR
comp=Z,2µm,20.0s
O30A MW Ranch, Wils 41.15 343 ⇑P P **03 42 12.7 -0.2**
baz=41
Q26A Hugo 41.17 338 ⇑P P **03 42 13.2 0.0**
baz=41
X16A Lo Mia Camp, P 41.17 326 ⇓P P **03 42 13.0 -0.3**
baz=41
R24A Sanders Place, 41.19 336 ⇑P P **03 42 13.4 0.0**
baz=41
T21A Navajo Lake 41.20 333 ⇑P P **03 42 13.9 +0.4**
baz=41
Z14A Wintersburg 41.27 324 ⇑P P **03 42 14.1 +0.2**
baz=41
O29A 4D Ranch, Culb 41.32 342 ⇑P P **03 42 14.8 +0.5**
baz=42
113A Mohawk Valley, 41.34 323 ⇑P P **03 42 14.7 +0.2**
baz=41
Q25A Bedland, Calha 41.44 337 ⇓P P **03 42 15.7 +0.3**
baz=42
R23A Moffat 41.45 335 ⇑P P **03 42 16.1 +0.5**
baz=42
S22A 4UR Ranch, Cre 41.51 334 ⇓P P **03 42 15.7 -0.4**
baz=42,SNR=10.0
P26A Davis Ranch, A 41.67 339 ⇑P P **03 42 17.1 -0.1**
baz=42
Y14A Wickenburg 41.71 324 ⇑P P **03 42 17.1 -0.4**
baz=42
BINY Binghamton 41.76 10 PFAKE 03 42 30.0 +12
BINY LR LR
comp=Z,2µm,22.0s
MVCO Mesa Verde 41.83 332 *e*P P **03 42 18.3 -0.4**
comp=Z,15nm,1.1s
MVCO LR LR
comp=Z,2µm,20.0s
MVCO Mesa Verde 41.83 332 ⇑P P **03 42 18.3 -0.4**
baz=42
Q24A Divide 41.83 337 ⇑P P **03 42 18.5 -0.2**
baz=42
S21A Coal Bank Pass 41.87 333 ⇑P P **03 42 18.7 -0.3**
baz=42
P25A Willow Gulch B 41.93 338 ⇑P P **03 42 19.2 -0.2**
baz=42
WUAZ Wupatki 41.96 328 PFAKE 03 42 30.0 +10
WUAZ LR LR
comp=Z,3µm,19.0s
WUAZ Wupatki 41.96 328 ⇓P P **03 42 19.2 -0.5**
baz=42
N28A Pribbeno Ranch 42.07 341 ⇑P P **03 42 20.5 +0.1**
baz=42
R21A Cimarron 42.34 334 ⇓P P **03 42 23.5 +0.6**
baz=42
OGNE Ogallala 42.46 341 PFAKE 03 42 40.0 +16
OGNE LR LR
comp=Z,796nm,22.0s
P23A Jefferson 42.46 336 ⇑P P **03 42 23.5 -0.4**
baz=43,SNR=12
Q22A Crested Butte, 42.47 335 ⇓P P **03 42 23.9 0.0**
baz=43
L30A Spencer Herefo 42.69 344 ⇑P P **03 42 26.1 +0.7**
baz=43
ISCO Idaho Springs 42.73 337 *e*P P **03 42 25.9 -0.2**
comp=Z,38nm,1.9s
ISCO LR LR
comp=Z,1µm,22.0s
ISCO Idaho Springs 42.73 337 ⇑P P **03 42 26.4 +0.3**
baz=43
PV15 Paradox Valley 42.73 333 *e*P P **03 42 26.2 +0.2**
SMCO Snowmass 42.76 335 *e*P P **03 42 28.7 +2.3**
comp=Z,21nm,1.1s
PV04 Paradox Valley 42.97 333 *e*P P **03 42 27.3 -0.6**
BC3 Big Chuckawall 42.98 322 ⇑P P **03 42 27.1 -0.8**
baz=43
P22A Eagle 43.02 336 ⇓P P **03 42 28.3 -0.1**
baz=43
W13A Hualapai Mount 43.05 325 ⇓P P **03 42 28.4 -0.2**
baz=43
U15A North Rim 43.13 328 ⇑P P **03 42 29.7 +0.4**
baz=43
IRM Iron Mountain 43.14 323 ⇑P P **03 42 29.4 +0.2**
baz=43
O23A Lake Granby, G 43.21 337 ⇓P P **03 42 29.8 -0.1**
baz=43
P21A Newcastle 43.25 335 ⇓P P **03 42 30.2 -0.1**
baz=43
K30A Basset 43.34 345 ⇓P P **03 42 30.0 -0.6**
baz=44
N24A Carr 43.34 338 ⇓P P **03 42 30.1 -0.8**
baz=44
O22A Kremmling 43.41 336 ⇓P P **03 42 30.7 -0.9**
baz=44
PFO Pinyon Flat Ob 43.57 321 P P **03 42 31.6 -1.2**
PFO LR LR
comp=Z,1µm,19.0s
PFO Pinyon Flat Ob 43.57 321 P P **03 42 31.6 -1.2**
comp=Z,2.6nm,1.0s,baz=106,slow=7.9,SNR=2.6
ECSD EROS Data Cent 43.63 348 *e*P P **03 42 30.8 -2.2**
comp=Z,20nm,1.4s
ECSD LR LR
comp=Z,653nm,22.0s
N23A Red Feather La 43.80 337 ⇑P P **03 42 34.1 -0.6**
baz=44
SADO Sadowa 43.82 6 LR LR 04 00 22.3
comp=Z,793nm,18.7s,baz=14,slow=36
J30A Dallas 43.91 345 ⇑P P **03 42 34.5 -0.7**
baz=44
N22A Wattenberg Ran 43.92 337 ⇓P P **03 42 34.5 -1.2**
baz=44
P19A Cripple Cowboy 44.01 333 ⇑P P **03 42 36.3 0.0**
baz=44
J29A Okreek 44.21 344 ⇑P P **03 42 36.2 -1.4**
baz=44,SNR=6.9
SPB Sao Paulo 44.23 126 PFAKE 03 42 50.0 +12
SPB LR LR
comp=Z,1µm,22.0s
SRU San Rafael 44.30 332 *e*P P **03 42 38.2 -0.4**
comp=Z,17nm,1.3s
LONY Lake Ozonia 44.36 11 PFAKE 03 42 50.0 +11
LONY LR LR
comp=Z,2µm,22.0s
TRQA Tornquist 44.51 154 PFAKE 03 42 50.0 +10
TRQA LR LR
comp=Z,1µm,21.0s
CCUT Cedar City 44.54 328 *e*P P **03 42 41.1 +0.5**
comp=Z,12nm,1.1s
MVU Marysvale 44.66 330 *e*P P **03 42 41.2 -0.4**
comp=Z,41nm,2.2s
MVU LR LR
comp=Z,2µm,20.0s
N20A Spence Gulch, 44.69 335 ⇓P P **03 42 41.4 -0.3**
baz=45
ARUT Antelope Range 44.76 328 *e*P P **03 42 42.4 +0.1**
comp=Z,206nm,0.9s
I29A Vivian Onida 44.77 345 ⇑P P **03 42 41.1 -1.0**
baz=45
SHPR Sheep Range 44.77 325 *e*P P **03 42 42.8 +0.4**
comp=Z,9.6nm,1.2s
I27A Quinn 45.30 343 ⇑P P **03 42 45.8 -0.5**
baz=46
DAU Daniels Canyon 45.68 332 *e*P P **03 42 50.7 +1.0**
FURC Furnace Creek, 45.73 324 ⇓P P **03 42 47.6 -2.2**
baz=46
H27A Howes 45.83 343 ⇓P P **03 42 49.3 -1.1**
baz=46
MPMC Manual Prospec 45.83 323 ⇓P P **03 42 49.4 -1.4**
baz=46
G28A Parade 45.91 345 ⇓P P **03 42 49.9 -1.2**
baz=46
JLU Jordanelle 45.92 332 *e*P P 03 42 55.0 +3.5
comp=Z,40nm,1.9s
RSSD Black Hills 45.96 341 *e*P P **03 42 53.1 +1.3**
comp=Z,23nm,1.0s
J22A Midwest 46.18 339 ⇓P P **03 42 52.0 -1.4**
baz=46
L19A Farson 46.20 335 ⇓P P **03 42 52.1 -1.5**
baz=46
DUG Dugway 46.25 331 *e*P P **03 42 54.6 +0.6**
comp=Z,6.6nm,1.0s
DUG LR LR
comp=Z,1µm,20.0s
DUG Dugway 46.25 331 ⇓P P **03 42 52.3 -1.7**
baz=46
M17A Scullys Gap (B 46.25 334 ⇓P P **03 42 53.1 -1.0**
baz=46
H25A Fruitdale 46.27 342 ⇑P P **03 42 53.4 -0.6**
baz=46
L18A Fontenelle, Gr 46.34 334 ⇑P P **03 42 53.5 -1.3**
baz=46
J21A Lysite 46.48 338 ⇑P P **03 42 54.9 -0.9**
baz=47
G26A Maurine 46.58 343 ⇓P P **03 42 55.5 -0.9**
baz=47
G27A Dupree 46.76 343 ⇓P P 03 42 54.4 -3.4
baz=47
I21A Big Trails, Te 46.82 338 ⇓P P **03 42 56.8 -1.6**
baz=47
BW06 Boulder Array 46.83 335 PFAKE 03 43 10.0 +11
BW06 LR LR
comp=Z,2µm,19.0s
BGU Big Grassy Mou 46.92 331 *e*P P **03 42 58.6 -0.7**
comp=Z,11nm,1.1s
J19A Crowheart 47.04 336 ⇑P P **03 42 59.1 -1.1**
baz=47
TPH Tonopah 47.04 325 PFAKE 03 43 10.0 +10
TPH LR LR
comp=Z,1µm,21.0s
F26A Lodgepole 47.11 343 ⇓P P **03 42 59.4 -1.1**
baz=47
E28A Huff 47.25 346 ⇑P P **03 43 00.8 -0.8**
baz=47
I20A Worland 47.25 338 ⇓P P **03 43 00.6 -1.1**
baz=47
D30A Buchanan 47.30 348 ⇓P P **03 43 00.7 -1.3**
baz=48
E27A Carson 47.34 345 ⇓P P **03 43 01.2 -1.1**
baz=48
G23A Biddle 47.36 341 ⇓P P **03 43 01.3 -1.2**
baz=48
F25A Bowman 47.41 343 ⇓P P **03 43 01.8 -1.0**
baz=48
HVU Hansel Valley 47.46 332 *e*P P 03 43 07.4 +4.0
comp=Z,75nm,2.3s
AHID Auburn Hatcher 47.48 334 PFAKE 03 43 20.0 +16
AHID LR LR
comp=Z,1µm,19.0s
F24A Ekalaka 47.63 342 ⇓P P **03 43 03.8 -0.8**
baz=48
G22A Birney 47.68 340 ⇑P P **03 43 04.3 -0.8**
baz=48
D28A Regan 47.80 346 ⇓P P **03 43 05.2 -0.6**
baz=48
C30A Mose, Pekin 47.81 348 ⇑P P **03 43 05.3 -0.5**
baz=48
F23A Volborg 47.83 341 ⇑P P **03 43 05.3 -0.8**
baz=48
SNOW Snow King Moun 47.90 335 *e*P P 03 43 12.7 +5.7
comp=Z,107nm,2.5s
NVAR Mina Array Bea 47.91 325 P P **03 43 04.3 -2.7**
NVAR PcP **PcP** **03 44 35.4 +0.2**
NVAR Mina Array Bea 47.91 325 P P **03 43 04.3 -2.7**
comp=Z,2.5nm,0.8s,baz=116,slow=8.4,SNR=5.6
NVAR PcP **PcP** **03 44 35.4 +0.2**
comp=Z,0.8nm,0.6s,baz=131,slow=4.1,SNR=2.9
NVAR LR LR 04 01 37.0
comp=Z,880nm,21.6s,baz=47,slow=34
D27A Center 47.96 345 ⇓P P **03 43 06.4 -0.7**
baz=48
G21A Lodge Grass 48.01 339 ⇑P P **03 43 06.1 -1.4**
baz=48
TPAW Teton Pass 48.01 335 *e*P P **03 43 10.5 +2.7**
comp=Z,14nm,1.1s
D26A Manning 48.13 344 ⇑P P **03 43 07.1 -1.2**
baz=48
F22A Rosebud 48.16 340 ⇑P P **03 43 07.1 -1.6**
baz=48
MDND Maddock 48.19 347 ⇓P P **03 43 07.4 -1.4**
baz=48
E24A Baker 48.23 342 ⇓P P **03 43 08.0 -1.3**
baz=48
C28A Hausauer Farms 48.24 346 ⇓P P **03 43 08.1 -1.2**
baz=48
LKWY Lake 48.66 336 PFAKE 03 43 20.0 +7.2
LKWY LR LR
comp=Z,2µm,22.0s
RLMT Red Lodge 48.68 337 PFAKE 03 43 20.0 +7.1
RLMT LR LR
comp=Z,1µm,19.0s
BMN Battle Mountai 48.69 327 PFAKE 03 43 20.0 +7.0
BMN LR LR
comp=Z,2µm,21.0s
B29A Wagenman Farm, 48.72 348 ⇓P P **03 43 11.2 -1.6**
baz=49
D24A Glendive 48.74 343 ⇓P P **03 43 11.5 -1.6**
baz=49
LAO LASA Array 48.95 341 PFAKE 03 43 30.0 +15
LAO LR LR
comp=Z,692nm,20.0s
QLMT Earthquake Lak 49.30 336 P P **03 43 16.4 -1.2**
comp=Z,0.9nm,1.0s
HLID Hailey 49.60 332 *e*P P **03 43 22.9 +3.0**
comp=Z,8.9nm,1.0s
HLID LR LR
comp=Z,2µm,21.0s
ULM Lac du Bonnet 49.79 351 *e*P P **03 43 18.5 -2.5**
ULM Lac du Bonnet 49.79 351 P P **03 43 18.2 -2.8**
comp=Z,8.0nm,0.7s,baz=164,slow=8.2,SNR=14
ULM LR LR 04 07 48.8
comp=Z,427nm,18.1s,baz=356,slow=40
RCBR Riachuelo 49.80 99 PFAKE 03 43 30.0 +8.2
RCBR LR LR
comp=Z,1µm,19.0s
DGMT Dagmar 49.93 344 PFAKE 03 43 30.0 +7.9
DGMT LR LR
comp=Z,1µm,22.0s
BEKR Beckworth 50.05 325 *e*P P **03 43 22.4 -1.1**
comp=Z,3.0nm,0.8s
WVOR Wild Horse Val 50.86 328 PFAKE 03 43 40.0 +11
WVOR LR LR
comp=Z,2µm,20.0s
EGMT Eagleton 51.31 339 PFAKE 03 43 40.0 +7.3
EGMT LR LR
comp=Z,471nm,20.0s
J08A Circle Bar Ran 51.43 329 *e*P P **03 43 36.0 +2.3**
comp=Z,45nm,2.0s
BMO Blue Mountains 51.94 331 PFAKE 03 43 50.0 +13
BMO LR LR
comp=Z,1µm,19.0s
MSO Missoula 51.95 335 *e*P P **03 43 39.2 +1.7**
comp=Z,13nm,0.9s
F10A Beach Ranch, E 52.74 332 *e*P P **03 43 42.9 -0.4**
comp=Z,12nm,0.9s
E09A Wood Farm, Sta 53.57 332 *e*P P **03 43 52.3 +3.0**
comp=Z,45nm,1.8s
RKT Rikitea 53.97 240 *e*S S **03 51 27.1 +0.7**
comp=Z,355nm,31.8s
RKT *e*LR LR 03 59 36.4
comp=Z,2µm,36.0s,baz=68
HAWA Hanford 54.13 331 PFAKE 03 44 10.0 +17
HAWA LR LR
comp=Z,1µm,20.0s
NEW Newport 54.42 334 PFAKE 03 44 10.0 +14
NEW LR LR
comp=Z,1µm,22.0s
FFC Flin Flon 55.17 348 PFAKE 03 44 10.0 +9.2
FFC LR LR
comp=Z,571nm,19.0s
SCHQ Schefferville 55.65 13 LR LR 04 05 17.7
comp=Z,1µm,21.3s,baz=211,slow=33
NLWA Neilton Lookou 56.97 330 PFAKE 03 44 30.0 +16
NLWA LR LR
comp=Z,2µm,20.0s
YKA Yellowknife Ar 65.06 345 P P **03 45 06.6 -1.8**
YKA Yellowknife Ar 65.06 345 P P **03 45 06.6 -1.8**
comp=Z,2.2nm,0.6s,baz=144,slow=5.9,SNR=4.6
PPT2 Papeete2 65.91 250 *e*S S **03 54 00.4 +0.1**
comp=Z,417nm,25.0s
PPT2 *e*LQ LQ 04 02 21.1
comp=Z,1µm,26.2s
PPT2 *e*LR LR 04 05 08.7
comp=Z,2µm,28.8s,baz=79
TBI Tubuai 66.86 244 *e*S S **03 54 13.6 +2.1**
comp=Z,1µm,29.5s
TBI *e*LQ LQ 04 02 45.2
comp=Z,657nm,36.5s
TBI *e*LR LR 04 05 34.9
comp=Z,2µm,27.0s,baz=69
INK Inuvik 74.61 343 P P **03 46 06.1 -1.0**
INK Inuvik 74.61 343 P P **03 46 06.1 -1.0**
comp=Z,2.7nm,0.8s,baz=111,slow=6.0,SNR=4.5
EGAK Eagle 75.07 338 PFAKE 03 46 20.0 +10
EGAK LR LR
comp=Z,1µm,19.0s
ILAR Eielson Array 77.22 337 P P **03 46 20.0 -2.1**
ILAR Eielson Array 77.22 337 P P **03 46 20.0 -2.1**
comp=Z,0.5nm,0.9s,baz=164,slow=4.3,SNR=5.4
COLA College 77.64 337 PFAKE 03 46 40.0 +16
COLA LR LR
comp=Z,1µm,20.0s
RTC Rabat Centre 79.80 56 PFAKE 03 46 50.0 +13
RTC LR LR
comp=Z,354nm,21.0s
MTE Manteigas 79.96 49 PFAKE 03 46 50.0 +12
MTE LR LR
comp=Z,397nm,20.0s
DBIC Dimbokro 80.38 83 LR LR 04 19 02.3
comp=Z,238nm,18.3s,baz=251,slow=33
PAB San Pablo 82.31 50 PFAKE 03 47 00.0 +10
PAB LR LR
comp=Z,654nm,19.0s
ESDC Sonseca Array 82.62 50 P P **03 46 50.8 -1.1**
ESDC Sonseca Array 82.62 50 P P **03 46 50.8 -1.1**
comp=Z,0.1nm,0.3s,baz=253,slow=3.9,SNR=3.0
ESDC LR LR 04 16 41.7
comp=Z,177nm,20.5s,baz=295,slow=31
ESK Eskdalemuir 84.59 35 PFAKE 03 47 10.0 +8.5
ESK LR LR
comp=Z,397nm,19.0s
TORD Torodi Ar. Bea 86.82 77 P P **03 47 13.6 +0.1**
TORD Torodi Ar. Bea 86.82 77 P P **03 47 13.6 +0.1**
comp=Z,0.6nm,0.6s,baz=253,slow=3.0,SNR=7.1
TORD LR LR 04 25 40.2
comp=Z,213nm,19.2s,baz=270,slow=35
SSB Saint Sauveur 89.11 45 PFAKE 03 47 40.0 +16
SSB LR LR
comp=Z,254nm,20.0s
ADK Adak 90.00 322 PFAKE 03 47 40.0 +12
ADK LR LR
comp=Z,352nm,19.0s
WLF Walferdange 90.11 41 PFAKE 03 47 40.0 +12
WLF LR LR
comp=Z,442nm,21.0s
TAM Tamanrasset 90.33 67 *e*P P **03 47 32.1 +1.9**
comp=Z,2.5nm,1.0s
TAM LR LR
comp=Z,326nm,22.0s
BNI Bardonecchia 90.63 45 PFAKE 03 47 40.0 +8.9
BNI LR LR
comp=Z,283nm,20.0s
ECH Echery 90.83 42 PFAKE 03 47 40.0 +8.2
ECH LR LR
comp=Z,383nm,22.0s
QSPA South Pole Qui 91.14 180 *e*P P **03 47 34.1 +1.2**
comp=Z,6.8nm,0.9s
QSPA LR LR
comp=Z,307nm,19.0s
SPITS Spitsbergen Ar 91.32 12 LR LR 04 29 22.3
comp=Z,390nm,19.4s,baz=280,slow=36
KONO Kongsberg 91.54 30 PFAKE 03 47 50.0 +15
KONO LR LR
comp=Z,643nm,22.0s
BFO Black Forest 91.60 42 PFAKE 03 47 50.0 +15
BFO LR LR
comp=Z,292nm,22.0s
NOA NORSAR Array B 92.21 29 LR LR 04 24 20.3
comp=Z,255nm,21.5s,baz=270,slow=32
TUE Stuetta 92.42 44 PFAKE 03 47 50.0 +11
TUE LR LR
comp=Z,234nm,20.0s
VSL Villasalto 92.92 51 PFAKE 03 47 50.0 +8.4
VSL LR LR
comp=Z,563nm,20.0s

VLC	**Villacollemand**	**93.33**	**46**	PFAKE			03 48 00.0	+17	
VLC				LR	LR				
	comp=Z,288nm,21.0s								
HFS	**Hagfors**	**93.53**	**30**	LR	LR		04 22 56.0		
	comp=Z,319nm,19.5s,baz=252,slow=31								
CLL	**Collm**	**94.34**	**39**	*e*PS	PS		04 00 14.0	-2.7	
CLL				*e*SS	SS		04 05 24.0	+5.0	
CLL				L	L		04 23 00.0		
	comp=Z,400nm,21.6s								
KHC	**Kasperske Hory**	**94.99**	**41**	*e*SS	SS		04 05 38.1	+10	
KHC				AMS	AMS		04 22 10.0		
	comp=Z,500nm,23.8s								
GERES	**GERESS Array B**	**95.10**	**41**	LR	LR		04 28 19.0		
	comp=Z,199nm,19.2s,baz=284,slow=34								
PVCC	**Panska Ves**	**95.43**	**39**	AMS	AMS		04 24 00.0		
	comp=Z,600nm,21.0s								
PRU	**Pruhonice**	**95.49**	**40**	*ex*	SS		04 05 48.9	+13	
PRU				AMS	AMS		04 22 50.0		
	comp=Z,800nm,24.2s								
LJU	**Ljubljana**	**96.03**	**44**	*i* PP	PP		03 51 55.0	+6.5	
ARCES	**ARCESS Array B**	**96.14**	**19**	LR	LR		04 25 00.2		
	comp=Z,226nm,21.6s,baz=277,slow=32								
TREC	**Trest**	**96.20**	**40**	AMS	AMS		04 23 30.0		
	comp=Z,600nm,22.3s								
PERS	**Pernice**	**96.36**	**43**	*e*PP	PP		03 51 52.8	+1.8	
DPC	**Dobruska-Polom**	**96.56**	**39**	AMS	AMS		04 23 50.0		
GROS	**Grobnik**	**96.64**	**43**	*i* PP	PP		03 51 52.5	-0.8	
GOLS	**Golise**	**96.80**	**44**	*e*PP	PP		03 51 53.5	-0.8	
CUC	**Castrocucco**	**97.81**	**50**	PFAKE			03 48 20.0	+16	
CUC				LR	LR				
	comp=Z,196nm,21.0s								
OKC	**Ostrava-Krasne**	**97.81**	**39**	AMS	AMS		04 25 10.0		
	comp=Z,500nm,19.9s								
CEL	**Celeste**	**98.10**	**51**	PFAKE			03 48 20.0	+15	
CEL				LR	LR				
	comp=Z,189nm,19.0s								
MSKU	**Masuku**	**98.94**	**91**	PFAKE			03 48 20.0	+10	
MSKU				LR	LR				
	comp=Z,2.0nm,20.0s								
FINES	**FINESS Array B**	**99.11**	**27**	LR	LR		04 27 01.6		
	comp=Z,262nm,19.8s,baz=284,slow=32								
PSZ	**Piszkesteto**	**99.33**	**41**	PFAKE			03 48 20.0	+9.3	
PSZ				LR	LR				
	comp=Z,405nm,22.0s								
TIR	**Tirane**	**100.62**	**48**	PFAKE			03 48 30.0	+14	
TIR				LR	LR				
	comp=Z,176nm,19.0s								
KWP	**Kalwaria Pacla**	**100.74**	**39**	PFAKE			03 48 30.0	+13	
KWP				LR	LR				
	comp=Z,632nm,22.0s								
TSUM	**Tsumeb**	**102.53**	**109**	PFAKE			03 48 40.0	+14	
TSUM				LR	LR				
	comp=Z,809nm,19.0s								
KIEV	**Kiev**	**104.42**	**37**	PFAKE			03 48 40.0	+6.9	
KIEV				LR	LR				
	comp=Z,474nm,21.0s								
DZM	**Mont Dzumac**	**107.32**	**247**	*e*LR	LR		04 24 20.5		
	comp=Z,475nm,31.6s								
ISP	**Isparta**	**109.46**	**49**	PFAKE			03 53 10.0		
ISP				LR	LR				
	comp=Z,199nm,20.0s								
ANTO	**Ankara**	**110.50**	**46**	PFAKE			03 53 10.0		
ANTO				LR	LR				
	comp=Z,158nm,20.0s								
CSS	**Prodhromos**	**112.49**	**51**	PFAKE			03 53 20.0		
CSS				LR	LR				
	comp=Z,128nm,21.0s								
LSZ	**Lusaka**	**112.93**	**106**	PFAKE			03 53 20.0		
LSZ				LR	LR				
	comp=Z,626nm,20.0s								
CASY	**Casey**	**113.99**	**187**	PFAKE			03 53 20.0		
CASY				LR	LR				
	comp=Z,541nm,20.0s								
HNR	**Honiara**	**114.59**	**260**	PFAKE			03 53 20.0	+11	
HNR				LR	LR				
	comp=Z,288nm,22.0s								
MBAR	**Mbarara**	**116.04**	**90**	PFAKE			03 53 20.0	+7.5	
MBAR				LR	LR				
	comp=Z,339nm,20.0s								
GNI	**Garni**	**118.73**	**42**	PFAKE			03 53 30.0	+13	
GNI				LR	LR				
	comp=Z,192nm,20.0s								
BRVK	**Borovoye**	**122.29**	**17**	PFAKE			03 53 40.0	+17	
BRVK				LR	LR				
	comp=Z,421nm,22.0s								
KMBO	**Kilima Mbogo**	**122.56**	**91**	PFAKE			03 53 40.0	+15	
KMBO				LR	LR				
	comp=Z,446nm,20.0s								
MDJ	**Mudanjiang**	**124.91**	**330**	PFAKE			03 53 40.0	+12	
MDJ				LR	LR				
	comp=Z,200nm,20.0s								
MAJO	**Matsushiro**	**124.94**	**317**	PFAKE			03 53 40.0	+11	
MAJO				LR	LR				
	comp=Z,385nm,22.0s								
HIA	**Hailar**	**125.38**	**340**	PFAKE			03 53 40.0	+11	
HIA				LR	LR				
	comp=Z,294nm,20.0s								
CTAO	**Charters Tower**	**126.22**	**246**	PFAKE			03 53 40.0	+8.3	
CTAO				LR	LR				
	comp=Z,253nm,19.0s								
KURK	**Kurchatov**	**126.58**	**13**	PKP	**PKPdf**		**03 53 30.6**	**-0.9**	
KURK				LR	LR				
	comp=Z,169nm,20.0s								
KURBB	**Kurchatov Arra**	**126.65**	**13**	PKP	**PKPdf**		**03 53 30.6**	**-1.0**	
	comp=Z,0.6nm,0.3s,baz=337,slow=2.4,SNR=3.9								
PMG	**Port Moresby**	**127.18**	**259**	PFAKE			03 53 50.0	+16	
PMG				LR	LR				
	comp=Z,252nm,19.0s								
BDHA	**Al Bayda'**	**129.08**	**71**	*i* P	**Pdif**		**03 50 24.5**	**+0.7**	
BDHA				AML	AML		03 50 49.5		
	comp=E,32nm,0.2s								
SONM	**Songino Array**	**130.21**	**350**	PKP	**PKPdf**		**03 53 38.7**	**0.0**	
SONM	**Songino Array**	**130.21**	**350**	PKP	**PKPdf**		**03 53 38.7**	**0.0**	
	comp=E,0.5nm,0.6s,baz=10,slow=1.8,SNR=3.3								
ABPO	**Ambohimpanom**	**130.21**	**114**	PFAKE			03 53 50.0	+10	
ABPO				LR	LR				
	comp=Z,498nm,19.0s								
KSRS	**Korea Array**	**130.85**	**325**	PKP	**PKPdf**		**03 53 40.5**	**+0.5**	
	comp=Z,0.3nm,0.3s,baz=64,slow=2.8,SNR=2.4								
KSAR	**Wonju Array Be**	**130.88**	**325**	PKP	**PKPdf**		**03 53 40.5**	**+0.4**	
MKAR	**Makanchi Array**	**131.07**	**11**	PKP	**PKPdf**		**03 53 39.8**	**-0.4**	
MKAR	**Makanchi Array**	**131.07**	**11**	PKP	**PKPdf**		**03 53 39.8**	**-0.4**	
	comp=Z,0.2nm,0.5s,baz=42,slow=4.5,SNR=2.6								
INCN	**Inchon**	**131.56**	**326**	PFAKE			03 53 50.0	+8.6	
INCN				LR	LR				
	comp=Z,153nm,20.0s								
EKS2	**Erkin-Say**	**132.53**	**21**	PFAKE			03 54 00.0	+17	
EKS2				LR	LR				
	comp=Z,242nm,20.0s								
AAK	**Ala-Archa**	**132.81**	**20**	PFAKE			03 54 00.0	+16	
AAK				LR	LR				
	comp=Z,209nm,19.0s								
TKM2	**Tokmak 2**	**132.92**	**19**	PFAKE			03 54 00.0	+16	
TKM2				LR	LR				
	comp=Z,244nm,22.0s								
BJT	**Baijiatuan**	**134.61**	**337**	PFAKE			03 54 00.0	+13	
BJT				LR	LR				
	comp=Z,187nm,19.0s								
WMQ	**Urumqi**	**134.84**	**7**	*e*PKP	**PKPdf**		**03 53 47.6**	**+0.1**	
WMQ				LR	LR				
	comp=Z,230nm,28.0s								
WMQ				LR	LR				
	comp=Z,260nm,23.0s								
WMQ				LR	LR				
	comp=Z,290nm,26.4s								
HHC	**Hu-ho-hao-te**	**135.51**	**342**	*e*PKP	**PKPdf**		**03 53 49.1**	**+0.2**	
HHC				PP	**PP**		**03 56 29.4**	**+4.6**	
HHC				PKS	**PKSdf**		**03 57 24.0**	**-1.3**	
HHC				SKS	**SKSdf**		**04 00 58.5**	**+0.9**	
HHC				SKKS	**SKKSac**		**04 03 20.4**	**+1.7**	
HHC				SS	**SS**		**04 14 23.8**	**+5.3**	
HHC				PPMZ					
	comp=Z,120nm,5.5s								
HHC				LR	LR				
	comp=Z,350nm,19.8s								
HHC				LR	LR				
	comp=Z,380nm,19.6s								
HHC				LR	LR				
	comp=Z,420nm,18.4s								
ASAR	**Alice Springs**	**135.89**	**236**	PKP	**PKPdf**		**03 53 51.2**	**+1.2**	
ASAR	**Alice Springs**	**135.89**	**236**	PKP	**PKPdf**		**03 53 51.2**	**+1.2**	
	comp=Z,0.6nm,0.9s,baz=162,slow=1.1,SNR=4.9								
WRAB	**Tennant Creek**	**136.95**	**242**	PFAKE			03 54 00.0	+8.0	
WRAB				LR	LR				
	comp=Z,464nm,22.0s								
WRA	**Warramunga Arr**	**136.96**	**242**	PKP	**PKPdf**		**03 53 53.3**	**+1.3**	
WRA	**Warramunga Arr**	**136.96**	**242**	PKP	**PKPdf**		**03 53 53.3**	**+1.3**	
	comp=Z,0.3nm,0.4s,baz=114,slow=2.1,SNR=12								
RER	**Riviere de l'E**	**137.10**	**120**	PFAKE			03 54 00.0	+7.7	
RER				LR	LR				
	comp=Z,205nm,19.0s								
MSEY	**Mahe Island**	**140.67**	**96**	PFAKE			03 54 10.0	+11	
MSEY				LR	LR				
	comp=Z,397nm,19.0s								
LZH	**Lanzhou**	**142.03**	**348**	*e*PKP	**PKPdf**		**03 53 56.6**	**-4.4**	
LZH				sPKP			03 54 01.5		
YHNB	**Yeheng**	**143.60**	**317**	PFAKE			03 54 20.0	+16	
YHNB				LR	LR				
	comp=Z,382nm,21.0s								
FITZ	**Fitzroy Crossi**	**145.24**	**239**	*e*PKPdf	**PKPbc**		**03 54 05.2**	**-1.4**	
FITZ				PKPbc	**PKPbc**		**03 54 05.6**	**-0.9**	
FITZ	**Fitzroy Crossi**	**145.24**	**239**	PKPbc	**PKPbc**		**03 54 05.6**	**-0.9**	
	comp=Z,4.2nm,1.1s,baz=96,slow=2.8,SNR=3.2								
ENH	**Enshi**	**145.76**	**337**	PKPbc	**PKPab**		**03 54 09.6**	**+1.3**	
CD2	**Chengdu**	**147.02**	**346**	PKPbc	**PKPdf**		**03 54 08.9**	**-0.8**	
MBWA	**Marble Bar**	**148.48**	**229**	PFAKE			03 54 20.0	+0.9	
MBWA				LR	LR				
	comp=Z,405nm,20.0s								
DANN	**Dangsing**	**148.89**	**19**	*e*P	**PKPbc**		**03 54 17.1**	**0.0**	
	comp=Z,38nm,0.8s								
LSA	**Lhasa**	**149.18**	**6**	PFAKE			03 54 30.0	+7.7	
LSA				LR	LR				
	comp=Z,239nm,21.0s								
GKN	**Gorkha**	**149.49**	**18**	*e*P	**PKPbc**		**03 54 18.7**	**+0.3**	
	comp=Z,45nm,1.2s								
KKN	**Kakani**	**149.88**	**17**	*e*P	**PKPbc**		**03 54 18.4**	**-1.1**	
	comp=Z,13nm,0.6s								
GUN	**Gumba**	**149.93**	**16**	*e*P	**PKPbc**		**03 54 19.1**	**-0.6**	
	comp=Z,61nm,1.0s								
DMN	**Daman**	**150.00**	**17**	*e*P	**PKPbc**		**03 54 18.2**	**-1.6**	
	comp=Z,16nm,0.7s								
PKIN	**Phulchoki**	**150.11**	**17**	*e*P	**PKPbc**		**03 54 19.3**	**-0.8**	
	comp=Z,8.0nm,0.5s								
PKI	**Pulchoki**	**150.12**	**17**	*e*P	**PKPbc**		**03 54 19.8**	**-0.4**	
	comp=Z,21nm,0.9s								
JIRN	**Jiri**	**150.25**	**15**	*e*P	**PKPbc**		**03 54 19.9**	**-0.7**	
GYA	**Guiyang**	**150.27**	**338**	*e*PKPbc	**PKPdf**		**03 54 14.3**	**-0.8**	
GYA				PKPab	**PKPab**		**03 54 27.9**	**+1.5**	
GYA				PP	**PP**		**03 57 56.3**	**+2.3**	
GYA				PPMZ					
	comp=Z,110nm,7.7s								
TAPN	**Taplejung**	**150.92**	**13**	*e*P	**PKPbc**		**03 54 20.7**	**-1.4**	
	comp=Z,41nm,1.4s								
RAMN	**Ramite**	**151.04**	**15**	*e*P	**PKPbc**		**03 54 19.9**	**-2.4**	
KAPI	**Kappang**	**154.69**	**261**	PFAKE			03 54 30.0	-0.4	
KAPI				LR	LR				
	comp=Z,126nm,20.0s								
QIZ	**Qiongzhong**	**155.07**	**324**	PKPbc	**PKPdf**		**03 54 21.3**	**-0.9**	
QIZ				PP	**PP**		**03 58 22.3**	**+0.7**	
QIZ				SS	SS		04 18 07.8	+5.1	
QIZ				LR	LR				
	comp=Z,410nm,32.3s								
QIZ	**Qiongzhong**	**155.07**	**324**	PFAKE			03 54 30.0	+7.8	
QIZ				LR	LR				
	comp=Z,290nm,22.0s								
KKM	**Kota Kinabalu**	**157.38**	**289**	PFAKE			03 54 40.0	+14	
KKM				LR	LR				
	comp=Z,117nm,21.0s								
CHTO	**Chiang Mai**	**159.78**	**348**	PFAKE			03 54 40.0	+12	
CHTO				LR	LR				
	comp=Z,254nm,20.0s								
KSM	**Kuching**	**164.19**	**279**	PFAKE			03 54 40.0	+7.2	
KSM				LR	LR				
	comp=Z,173nm,19.0s								
KULM	**Kulim**	**171.31**	**317**	PFAKE			03 54 50.0	+12	
KULM				LR	LR				
	comp=Z,312nm,22.0s								

NEIC 15 03:34:59.4, 52.74N×166.78W, h19km, ML3.7(AEIC),
After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.96**	**315**	P	Pb	03 35 16.4	-0.9
OKTU	**Okmok Mt. Tuli**	**1.00**	**311**	P	Pb	03 35 17.9	-0.2
OKSO	**Okmok South**	**1.04**	**307**	P	Pb	03 35 17.7	-1.0
OKSO				S	Sg	03 35 34.0	+0.7
OKSP	**Okmok Steeple**	**1.05**	**300**	P	Pb	03 35 18.6	-0.4
MREP	**Makushin Rep't**	**1.07**	**1**	P	Pb	03 35 18.5	-0.9
OKCE	**Okmok Cone E**	**1.08**	**310**	P	Pb	03 35 19.0	-0.5
UNV	**Unalaska Valle**	**1.12**	**8**	*e*Pn	Pn	03 35 18.9	-1.1
UNV				S	Sn	03 35 35.2	+0.4
MSW	**Makushin Switc**	**1.18**	**360**	P	Pn	03 35 20.2	-0.7
MCIR	**Makushin Cirqu**	**1.21**	**357**	P	Pn	03 35 20.8	-0.6
MTBL	**Makushin Table**	**1.23**	**3**	P	Pn	03 35 21.0	-0.7
NIKH	**Nikolski High**	**1.28**	**281**	P	Pn	03 35 21.3	-0.9
NIKH				S	Sb	03 35 39.5	+0.6
ZRO	**Akutan Zero**	**1.43**	**19**	P	Pn	03 35 23.7	-0.7
AKRB	**Akutan Reef Bi**	**1.45**	**17**	P	Pn	03 35 24.5	-0.1
LVA	**Lava Point**	**1.49**	**17**	P	Pn	03 35 25.3	+0.1
AKUT	**Akutan**	**1.52**	**23**	*e*Pn	Pn	03 35 25.2	-0.3
AKGG	**Akutan Green G**	**1.53**	**18**	P	Pn	03 35 25.8	+0.1
SDPT	**Sand Point**	**4.54**	**52**	*e*Pn	Pn	03 36 06.9	-0.1
CHGN	**Chignik**	**6.04**	**50**	*e*Pn	Pn	03 36 27.7	+0.2

*NEIC **15** 03:35:25.8±0.3, 52.73N×166.68W, h10km, mb4.9/31, ML4.2(AEIC), Error ellipse: s-maj=6.4km s-min=3.5km az=160.0*

*ISCJB **15** 03:35:26.4±1.2, 52.67N±0.05×166.68W±0.05, h27km±7km, mb4.5/66, MS4.0/6, Error ellipse: s-maj=8.3km s-min=3.9km az=153.3*

*IDC **15** 03:35:30.0±0.7, 52.97N×166.86W, h34km±5km, mb4.1/34, mb1 4.2/36, mb1mx4.2/43, mbtmp4.1/36, ML3.6/2, MS4.0/7, Ms1 4.0/7, ms1mx3.6/55, Error ellipse: s-maj=15.6km s-min=9.7km az=170.0*

ISC 15 03:35:29.4±0.7, 52.80N±0.06×166.74W±0.04, h34km±2km, n228, σ0.94/242, mb4.6/68, MS3.9/6, 1C-1D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.94**	**311**	P	**Pn**	**03 35 46.3**	**+0.2**
OKFG				S	**Sb**	**03 36 03.0**	**+3.7**
MREP	**Makushin Rep't**	**1.01**	**360**	P	**Pn**	**03 35 47.1**	**-0.2**
OKSO	**Okmok South**	**1.02**	**304**	P	**Pn**	**03 35 47.5**	**0.0**
OKSP	**Okmok Steeple**	**1.04**	**296**	P	**Pn**	**03 35 47.7**	**0.0**
UNV	**Unalaska Valle**	**1.06**	**8**	*e*Pn	**Pn**	**03 35 46.8**	**-1.1**
UNV				*e*S	**Sb**	**03 36 02.6**	**-0.2**
OKCE	**Okmok Cone E**	**1.07**	**307**	P	**Pn**	**03 35 48.3**	**+0.3**
MNAT	**Makushin Natee**	**1.09**	**2**	P	**Pn**	**03 35 48.7**	**+0.4**
MSW	**Makushin Switc**	**1.12**	**359**	P	**Pn**	**03 35 48.4**	**-0.3**
NIKH	**Nikolski High**	**1.29**	**279**	P	**Pn**	**03 35 49.5**	**-1.6**
NIKH				S	**Sb**	**03 36 08.9**	**-0.6**
AKRB	**Akutan Reef Bi**	**1.39**	**16**	P	**Pn**	**03 35 53.0**	**+0.6**
AKRB				S	**Sb**	**03 36 13.7**	**+1.4**
AKUT	**Akutan**	**1.46**	**23**	*e*Pn	**Pn**	**03 35 53.5**	**+0.1**
AKUT				*e*S	**Sb**	**03 36 13.8**	**-0.3**
SSBA	**Shishaldin**	**2.51**	**37**	P	**Pn**	**03 36 07.2**	**-0.7**
FALS	**False Pass**	**2.85**	**42**	*e*Pn	**Pn**	**03 36 12.4**	**0.0**
FALS				*e*S	**Sn**	**03 36 46.8**	**+1.3**
SDPT	**Sand Point**	**4.48**	**53**	*e*Pn	**Pn**	**03 36 34.2**	**-0.7**
SDPT				*e*S	**Sn**	**03 37 25.1**	**-0.8**
SPIA	**Saint Paul Isl**	**4.83**	**337**	P	**Pn**	**03 36 41.0**	**+1.4**
GSTR	**Great Sitkin T**	**5.75**	**267**	*e*Pn	**Pn**	**03 36 51.5**	**-0.8**
GSTD	**Great Sitkin T**	**5.80**	**266**	P	**Pn**	**03 36 54.0**	**+0.8**
GSCK	**Great Sitkin C**	**5.82**	**266**	P	**Pn**	**03 36 53.6**	**+0.3**
CHGN	**Chignik**	**5.98**	**51**	Pn	**Pn**	**03 36 57.1**	**+1.7**
CHGN				*e*S	**Sn**	**03 38 05.2**	**+2.6**
ADK	**Adak**	**6.17**	**265**	*e*Pn	**Pn**	**03 36 58.5**	**+0.5**
ADK				*e*S	Sb	03 38 37.5	+8.3
GANE	**Gareloi Northe**	**7.45**	**267**	P	**Pn**	**03 37 15.9**	**+0.3**
AMKA	**Amchitka**	**8.72**	**266**	*e*Pn	**Pn**	**03 37 30.9**	**-2.1**
	131nm,0.8s						
OHAK	**Old Harbor**	**8.90**	**55**	*e*Pn	**Pn**	**03 37 33.9**	**-1.6**
	17nm,0.7s						
KDAK	**Kodiak Island**	**9.48**	**53**	*e*Pn	**Pn**	**03 37 45.2**	**+1.7**
	17nm,0.6s						
SEW	**Seward**	**12.01**	**46**	*e*Pn	Pn	03 38 14.6	-3.4
	15nm,0.8s						
FX1	**Attu Island--F**	**12.15**	**278**	Pn	**Pn**	**03 38 22.0**	**+2.0**
FX1	**Attu Island--F**	**12.15**	**278**	Pn	**Pn**	**03 38 22.0**	**+2.0**
	1.8nm,0.3s,baz=65,slow=24,SNR=9.1						
FX1				LR	LR	03 42 31.0	
	comp=Z,575nm,21.4s,baz=108,slow=35						
PPLA	**Purkeypile**	**12.71**	**32**	*e*Pn	Pn	03 38 31.2	+3.5
	27nm,1.2s						

TRF	**Thorofare Moun**	**13.71**	**32**	*e*Pn	P		03 38 45.9	-3.7	
	9.9nm,1.0s								
DIV	**Divide**	**14.10**	**45**	*e*Pn	**Pn**		**03 38 49.5**	**+2.9**	
BMRM	**Bremner River**	**14.54**	**47**	*e*Pn	**Pn**		**03 38 51.4**	**-1.1**	
	18nm,0.8s								
IM04	**Indian Mountai**	**14.72**	**21**	Pn	**Pn**		**03 38 56.1**	**+1.3**	
IMA2	**Indian Mountai**	**14.82**	**21**	*e*Pn	**P**		**03 38 59.2**	**-2.6**	
PAX	**Paxson**	**15.14**	**39**	*e*Pn	**Pn**		**03 38 58.1**	**-2.4**	
	3.4nm,0.5s								
ILAR	**Eielson Array**	**15.71**	**33**	Pn	**Pn**		**03 39 06.3**	**-1.6**	
ILAR				PcP	**PcP**		**03 44 06.4**	**-0.1**	
ILAR	**Eielson Array**	**15.71**	**33**	Pn	**Pn**		**03 39 06.3**	**-1.6**	
	0.1nm,0.3s,baz=226,slow=16,SNR=5.2								
ILAR				PcP	**PcP**		**03 44 06.4**	**-0.1**	
	0.0nm,0.3s,baz=235,slow=3.2,SNR=4.2								
COLD	**Coldfoot**	**16.57**	**23**	*e*Pn	**Pn**		**03 39 18.2**	**-0.6**	
	13nm,1.0s								
EGAK	**Eagle**	**17.71**	**37**	*e*Pn	**Pn**		**03 39 31.4**	**-1.6**	
	5.3nm,0.7s								
HYT	**Haines Junctio**	**17.77**	**52**	*e*Pn	**P**		**03 39 34.9**	**+0.3**	
DLBC	**Dease Lake**	**21.28**	**60**	*e*P	**P**		**03 40 12.6**	**-0.2**	
DLBC	**Dease Lake**	**21.28**	**60**	P	P		03 40 17.6	+4.9	
	3.9nm,0.6s,baz=197,slow=13,SNR=6.0								
DLBC				LR	LR		03 48 03.9		
	comp=Z,386nm,19.9s,baz=270,slow=36								
PETK	**Petropavlovsk-**	**21.30**	**285**	P	**P**		**03 40 13.0**	**+0.1**	
PETK	**Petropavlovsk-**	**21.30**	**285**	P	**P**		**03 40 13.0**	**+0.1**	
	9.3nm,0.6s,baz=92,slow=12,SNR=9.5								
PETK				LR	LR		03 47 58.1		
	comp=Z,186nm,18.4s,baz=268,slow=35								
INK	**Inuvik**	**22.11**	**33**	P	**P**		**03 40 19.0**	**-2.4**	
INK				PcP	**PcP**		**03 44 18.5**	**+1.0**	
INK	**Inuvik**	**22.11**	**33**	P	**P**		**03 40 19.0**	**-2.4**	
	3.6nm,0.6s,baz=252,slow=10,SNR=20								
INK				PcP	**PcP**		**03 44 18.5**	**+1.0**	
	2.0nm,0.7s,baz=297,slow=4.5,SNR=3.3								
YKA	**Yellowknife Ar**	**28.74**	**50**	P	**P**		**03 41 24.1**	**+0.8**	
YKA	**Yellowknife Ar**	**28.74**	**50**	P	**P**		**03 41 24.1**	**+0.8**	
	0.6nm,0.6s,baz=271,slow=10,SNR=2.9								
NEW	**Newport**	**31.35**	**78**	P	**P**		**03 41 47.5**	**+0.9**	
NEW	**Newport**	**31.35**	**78**	P	**P**		**03 41 47.5**	**+0.9**	
	1.4nm,0.8s,baz=326,slow=7.3,SNR=3.5								
RES	**Resolute Bay**	**35.28**	**26**	P	**P**		**03 42 19.7**	**-0.8**	
RES	**Resolute Bay**	**35.28**	**26**	P	**P**		**03 42 19.7**	**-0.8**	
	1.5nm,0.6s,baz=266,slow=13,SNR=4.0								
NVAR	**Mina Array Bea**	**36.08**	**94**	P	**P**		**03 42 29.2**	**+1.3**	
NVAR	**Mina Array Bea**	**36.08**	**94**	P	**P**		**03 42 29.2**	**+1.3**	
	2.2nm,0.8s,baz=296,slow=8.4,SNR=15								
PDAR	**Pinedale Array**	**38.75**	**81**	P	**P**		**03 42 51.0**	**+0.4**	
PDAR	**Pinedale Array**	**38.75**	**81**	P	**P**		**03 42 51.0**	**+0.4**	
	2.4nm,0.9s,baz=305,slow=4.6,SNR=14								
H11N2	**WAKE ISLAND Hy**	**38.82**	**222**	T	T		04 24 30.0		
	baz=27,slow=0.7,SNR=42								
H11N3	**WAKE ISLAND Hy**	**38.83**	**222**	T	T		04 24 25.0		
	baz=27,slow=0.7,SNR=39								
H11N1	**WAKE ISLAND Hy**	**38.84**	**222**	T	T		04 24 27.1		
	baz=27,slow=0.7,SNR=31								
H11S1	**WAKE ISLAND Hy**	**40.00**	**221**	T	T		04 25 53.0		
	baz=24,slow=0.7,SNR=23								
H11S2	**WAKE ISLAND Hy**	**40.01**	**221**	T	T		04 25 58.2		
	baz=24,slow=0.7,SNR=18								
H11S3	**WAKE ISLAND Hy**	**40.02**	**221**	T	T		04 25 55.1		
	baz=24,slow=0.7,SNR=16								
MAJO	**Matsushiro**	**41.31**	**269**	*e*P	**P**		**03 43 09.6**	**-2.0**	
	26nm,0.8s								
MAT	**Matsushiro**	**41.31**	**269**	P	**P**		**03 43 11.7**	**+0.1**	
MJAR	**Matsushiro Arr**	**41.31**	**269**	P	**P**		**03 43 11.3**	**-0.3**	
MJAR	**Matsushiro Arr**	**41.31**	**269**	P	**P**		**03 43 11.3**	**-0.3**	
	7.7nm,1.0s,baz=37,slow=5.7,SNR=15								
KSRS	**Korea Array**	**46.94**	**278**	P	**P**		**03 43 57.4**	**+0.7**	
	4.9nm,0.8s,baz=64,slow=6.8,SNR=17								
KSRS				LR	LR		04 03 41.4		
	comp=Z,99nm,21.1s,baz=243,slow=36								
KSAR	**Wonju Array Be**	**46.97**	**278**	P	**P**		**03 43 57.4**	**+0.5**	
JNU	**Nakatsue**	**48.06**	**272**	P	**P**		**03 44 05.5**	**0.0**	
JNU	**Nakatsue**	**48.06**	**272**	P	**P**		**03 44 05.5**	**0.0**	
	7.5nm,1.0s,baz=39,slow=12,SNR=3.3								
SUMG	**Summit**	**49.89**	**18**	*i* P	**P**		**03 44 18.1**	**-1.2**	

CMAR	Chiang Mai Arr	78.08	285	P		P	03 47 25.2	+0.4
CMAR	Chiang Mai Arr	78.08	285	P		P	03 47 25.2	+0.4
	comp=Z,1.6nm,0.3s,baz=23,slow=4.9,SNR=6.4							
FLN	La Foliniere	78.14	9	*e*P		P	03 47 24.8	+0.1
FLN	La Foliniere	78.14	9	*e*P		P	03 47 24.8	+0.1
VRAC	Vranov	78.23	358	P		P	03 47 25.3	+0.1
VRAC	Vranov	78.23	358	P		P	03 47 25.3	+0.1
	comp=Z,2.9nm,0.6s,baz=1.2,slow=9.8,SNR=4.4							
ROSF	Rostrenen	78.26	11	*e*P		P	03 47 25.8	+0.4
	comp=Z,23nm,1.0s							
ROSF	Rostrenen	78.26	11	*e*P		P	03 47 25.8	+0.4
	comp=Z,23nm,1.0s							
LDF	La Druitiere	78.34	9	*e*P		P	03 47 25.8	0.0
LDF	La Druitiere	78.34	9	*e*P		P	03 47 25.8	0.0
KOLS	Kolonicke sedl	78.36	354	*e*P		P	03 47 26.2	+0.3
SGMF	Saint Gilles	78.43	11	*e*P		P	03 47 26.3	0.0
	comp=Z,20nm,1.2s							
SGMF	Saint Gilles	78.43	11	*e*P		P	03 47 26.3	0.0
	comp=Z,20nm,1.2s							
KHC	Kasperske Hory	78.44	360	*e*P		P	03 47 26.9	+0.4
KHC				*e*PCP		PcP	03 47 35.2	-0.4
QUIF	Quistinic	78.69	11	*e*P		P	03 47 28.3	+0.6
QUIF	Quistinic	78.69	11	*e*P		P	03 47 28.3	+0.6
GERES	GERESS Array B	78.73	360	P		P	03 47 27.9	-0.2
GERES	GERESS Array B	78.73	360	P		P	03 47 27.9	-0.2
	comp=Z,1.5nm,0.7s,baz=7.0,slow=5.5,SNR=11							
PAGF	Fort de Pagny	78.82	5	*e*P		P	03 47 29.1	+0.6
	comp=Z,3.7nm,0.8s							
PAGF	Fort de Pagny	78.82	5	*e*P		P	03 47 29.1	+0.6
	comp=Z,3.7nm,0.8s							
MEZF	Maizieres J'vi	78.83	6	*e*P		P	03 47 29.0	+0.5
MEZF	Maizieres J'vi	78.83	6	*e*P		P	03 47 29.0	+0.5
KECS	Kecovo	78.91	355	*e*P		P	03 47 29.5	+0.5
CDF	Champ du Feu	79.04	4	*e*P		P	03 47 30.0	+0.2
CDF	Champ du Feu	79.04	4	*e*P		P	03 47 30.0	+0.2
SFTF	Sexfontaines	79.13	6	*e*P		P	03 47 30.5	+0.3
	comp=Z,7.4nm,0.7s							
SFTF	Sexfontaines	79.13	6	*e*P		P	03 47 30.5	+0.3
	comp=Z,7.4nm,0.7s							
HAU	Haudompre	79.40	5	*e*P		P	03 47 31.9	+0.2
HAU	Haudompre	79.40	5	*e*P		P	03 47 31.9	+0.2
BUR08	Bucovina Ar. S	79.42	352	*e*P		P	03 47 31.1	-0.8
HINF	Hinteralfeld	79.61	4	*e*P		P	03 47 32.9	0.0
HINF	Hinteralfeld	79.61	4	*e*P		P	03 47 32.9	0.0
LOR	Lormes	79.99	6	*e*P		P	03 47 35.1	+0.2
	comp=Z,11nm,0.8s							
LOR	Lormes	79.99	6	*e*P		P	03 47 35.1	+0.2
	comp=Z,11nm,0.8s							
SSF	Saint Saulge	80.17	7	*e*P		P	03 47 36.2	+0.4
	comp=Z,9.0nm,0.7s							
SSF	Saint Saulge	80.17	7	*e*P		P	03 47 36.2	+0.4
	comp=Z,9.0nm,0.7s							
MFF	Saint Martin d	80.31	9	*e*P		P	03 47 37.1	+0.5
MFF	Saint Martin d	80.31	9	*e*P		P	03 47 37.1	+0.5
AVF	Avril sur Loir	80.43	7	*e*P		P	03 47 37.3	+0.1
	comp=Z,9.3nm,0.9s							
AVF	Avril sur Loir	80.43	7	*e*P		P	03 47 37.3	+0.1
	comp=Z,9.3nm,0.9s							
FETA	Feichten	80.53	2	⇑*i*pP		P	03 47 38.5	+0.5
	comp=Z,8.7nm,1.0s,SNR=7.8							
SMF	Signal de Mont	80.61	7	*e*P		P	03 47 38.4	+0.2
	comp=Z,16nm,0.9s							
SMF	Signal de Mont	80.61	7	*e*P		P	03 47 38.4	+0.2
	comp=Z,16nm,0.9s							
BGF	Bois d'Agland	80.62	7	*e*P		P	03 47 38.4	+0.1
BGF	Bois d'Agland	80.62	7	*e*P		P	03 47 38.4	+0.1
DAVOX	Davos/Dischmat	80.76	2	P		P	03 47 39.6	+0.4
DAVOX	Davos/Dischmat	80.76	2	P		P	03 47 39.6	+0.4
	comp=Z,4.5nm,0.7s,baz=354,slow=9.2,SNR=8.5							
CABF	La Chapelle	80.78	5	*e*P		P	03 47 39.9	+0.7
	comp=Z,61nm,1.3s							
CABF	La Chapelle	80.78	5	*e*P		P	03 47 39.9	+0.7
	comp=Z,61nm,1.3s							
TCF	Toulx Ste Croi	80.84	8	*e*P		P	03 47 39.6	+0.1
	comp=Z,7.1nm,0.9s							
TCF	Toulx Ste Croi	80.84	8	*e*P		P	03 47 39.6	+0.1
	comp=Z,7.1nm,0.9s							
SOKA	Soboth	80.89	359	⇓*i*P		P	03 47 40.0	+0.2
	comp=Z,15nm,1.2s,SNR=6.1							
PERS	Pernice	80.93	359	*i* P		P	03 47 40.6	+0.6
OBKA	Obir	81.06	359	*i* pP		P	03 47 41.7	+0.9
	comp=Z,15nm,0.8s,SNR=6.9							
GROS	Grobnik	81.10	358	*i* P		P	03 47 41.3	+0.3
MLR	Muntele Rosu	81.48	351	P		P	03 47 43.1	0.0
MLR	Muntele Rosu	81.48	351	P		P	03 47 43.1	0.0
	comp=Z,0.6nm,1.0s,baz=318,slow=14,SNR=3.3							
RJF	Les Rejaudoux	81.75	8	*e*P		P	03 47 44.4	+0.1
RJF	Les Rejaudoux	81.75	8	*e*P		P	03 47 44.4	+0.1
IEMG	Emamgholi	81.88	325	*e*P		P	03 47 41.7	-3.8
LPG	La Plagne	81.92	5	*e*P		P	03 47 47.2	+1.6
LPG	La Plagne	81.92	5	*e*P		P	03 47 47.2	+1.6
LFF	La Frestale	82.05	9	*e*P		P	03 47 46.4	+0.6
LFF	La Frestale	82.05	9	*e*P		P	03 47 46.4	+0.6
ISHV	Shirvan	82.10	326	*e*P		P	03 47 46.5	-0.1
CAF	Calviac	82.18	8	*e*P		P	03 47 47.0	+0.4
	comp=Z,21nm,1.1s							
CAF	Calviac	82.18	8	*e*P		P	03 47 47.0	+0.4
	comp=Z,21nm,1.1s							
IMYA	Miami	82.33	324	*e*P		P	03 47 46.7	-1.0
BNI	Bardonecchia	82.36	5	*e*P		P	03 47 48.7	+1.0
	comp=Z,37nm,1.6s							
ISFR	Sfrayin	82.43	325	*e*P		P	03 47 48.8	+0.4
VIVF	Saint-Julien-l	82.44	6	*e*P		P	03 47 48.6	+0.6
	comp=Z,17nm,1.1s							
VIVF	Saint-Julien-l	82.44	6	*e*P		P	03 47 48.6	+0.6
	comp=Z,17nm,1.1s							
ORIF	Oris-en-Rattie	82.45	5	*e*P		P	03 47 49.0	+0.9
	comp=Z,34nm,1.3s							
ORIF	Oris-en-Rattie	82.45	5	*e*P		P	03 47 49.0	+0.9
	comp=Z,34nm,1.3s							
IKRD	Kardeh	82.51	325	*e*P		P	03 47 47.0	-1.7
MBDF	Montbardon	82.69	5	*e*P		P	03 47 50.9	+1.5
	comp=Z,12nm,0.7s							
MBDF	Montbardon	82.69	5	*e*P		P	03 47 50.9	+1.5
	comp=Z,12nm,0.7s							
LASF	Ste Croix	83.16	7	*e*P		P	03 47 52.9	+1.2
	comp=Z,42nm,1.4s							
LASF	Ste Croix	83.16	7	*e*P		P	03 47 52.9	+1.2
	comp=Z,42nm,1.4s							
SMRF	Simiane la Rot	83.38	6	*e*P		P	03 47 54.4	+1.6
SMRF	Simiane la Rot	83.38	6	*e*P		P	03 47 54.4	+1.6
SBF	Sospel	83.58	4	*e*P		P	03 47 54.6	+0.6
SBF	Sospel	83.58	4	*e*P		P	03 47 54.6	+0.6
SJPF	Ste Jean	83.65	11	*e*P		P	03 47 55.4	+1.2
SJPF	Ste Jean	83.65	11	*e*P		P	03 47 55.4	+1.2
MTLF	Montolieu	83.76	8	*e*P		P	03 47 55.6	+0.8
MTLF	Montolieu	83.76	8	*e*P		P	03 47 55.6	+0.8
FRF	La Foret Royal	83.85	5	*e*P		P	03 47 55.7	+0.5
FRF	La Foret Royal	83.85	5	*e*P		P	03 47 55.7	+0.5
EPF	Esparros	83.90	9	*e*P		P	03 47 55.4	-0.2
EPF	Esparros	83.90	9	*e*P		P	03 47 55.4	-0.2
ETSF	Etsaut	83.94	10	*e*P		P	03 47 56.5	+0.7
	comp=Z,5.1nm,0.7s							
ETSF	Etsaut	83.94	10	*e*P		P	03 47 56.5	+0.7
	comp=Z,5.1nm,0.7s							
BR131	Keskin Array S	86.17	344	*e*P		P	03 48 07.5	+0.4
	comp=Z,6.8nm,1.0s							
BRTR	Keskin Array B	86.17	344	P		P	03 48 07.7	+0.6
BRTR	Keskin Array B	86.17	344	P		P	03 48 07.7	+0.6
	comp=Z,6.3nm,0.9s,baz=44,slow=2.9,SNR=26							
ESDC	Sonseca Array	86.69	13	P		P	03 48 09.4	-0.2
ESDC	Sonseca Array	86.69	13	P		P	03 48 09.4	-0.2
	comp=Z,0.6nm,0.6s,baz=345,slow=4.9,SNR=5.2							
WRA	Warramunga Arr	88.54	234	P		P	03 48 18.1	-0.3
WRA				pP		pP	03 48 29.9	+0.7
WRA	Warramunga Arr	88.54	234	P		P	03 48 18.1	-0.3
	comp=Z,2.0nm,1.3s,baz=31,slow=5.2,SNR=3.0							
WRA				pP		pP	03 48 29.9	+0.7
	comp=Z,2.5nm,0.8s,baz=40,slow=5.7,SNR=8.6							
FITZ	Fitzroy Crossi	91.46	242	P		P	03 48 32.5	+0.4
FITZ				pP		pP	03 48 43.9	+1.1
FITZ	Fitzroy Crossi	91.46	242	P		P	03 48 32.5	+0.4
	comp=Z,2.2nm,0.9s,baz=81,slow=5.5,SNR=3.9							
FITZ				pP		pP	03 48 43.9	+1.1
	comp=Z,2.4nm,0.8s,baz=108,slow=3.3,SNR=3.8							
KEST	Kesra	91.77	3	LR		LR	04 30 09.9	
	comp=Z,62nm,18.8s,baz=194,slow=36							
ASAR	Alice Springs	91.92	232	P		P	03 48 34.5	+0.4
ASAR				pP		pP	03 48 46.2	+1.3
ASAR	Alice Springs	91.92	232	P		P	03 48 34.5	+0.4
	comp=Z,0.6nm,0.8s,baz=28,slow=4.2,SNR=5.1							
ASAR				pP		pP	03 48 46.2	+1.3
	comp=Z,2.0nm,0.9s,baz=37,slow=4.0,SNR=9.9							
KMBO	Kilima Mbogo	124.76	330	PKP		PKPdf	03 54 27.1	+1.1
KMBO	Kilima Mbogo	124.76	330	PKP		PKPdf	03 54 27.1	+1.1
	comp=Z,0.6nm,0.4s,baz=283,slow=18,SNR=3.6							
MAW	Mawson	152.21	219	*e*PKPbc		PKPbc	03 55 20.1	+0.3
MAW	Mawson	152.21	219	PKPbc		PKPbc	03 55 19.9	0.0
	comp=Z,3.6nm,0.8s,baz=167,slow=0.6,SNR=9.2							
BOSA	Boshof	154.26	335	PKPbc		PKPbc	03 55 26.4	+0.6
BOSA				PKPab		PKPab	03 55 39.6	-0.1
BOSA	Boshof	154.26	335	PKPbc		PKPbc	03 55 26.4	+0.6
	comp=Z,4.2nm,0.9s,baz=90,slow=3.0,SNR=3.1							
BOSA				PKPab		PKPab	03 55 39.6	-0.1
	comp=Z,1.7nm,0.6s,baz=58,slow=7.2,SNR=4.5							

IDC ***15*** *03:57:47.0±2.5,52.˚50N×167.˚56W,h0km,mb3.6/6, mb1 3.9/6,mb1mx3.6/28,mbtmp3.6/6,Error ellipse: s-maj=67.9km s-min=28.3km az=30.0*

NEIC ***15*** *03:57:52.3,52.˚58N×166.˚60W,h27km,ML3.5(AEIC),After AEIC.*

ISCJB ***15*** *03:57:53.6±1.9,52.˚68N±0.˚05×166.˚69W±0.˚06, h32km±15km,mb3.5/6,Error ellipse: s-maj=9.4km s-min=5.6km az=161.0*

ISC 15 03:57:53.2±3.4,52.˚74N±0.˚07×166.˚71W±0.˚05, h17km±22km,n31,σ0°86/32,mb3.5/6,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OKFG	Magazine Ridge	0.99	313	P		Pb	03 58 12.4	+0.5
OKFG				S		Sn	03 58 26.6	+0.7
OKTU	Okmok Mt. Tuli	1.03	309	P		Pb	03 58 12.3	-0.4
OKSO	Okmok South	1.07	306	P		Pb	03 58 13.4	+0.1
MREP	Makushin Rep't	1.07	359	P		Pb	03 58 13.8	+0.4
OKSP	Okmok Steeple	1.08	299	P		Pb	03 58 12.9	-0.7
OKCE	Okmok Cone E	1.11	309	P		Pn	03 58 14.6	+0.5
UNV	Unalaska Valle	1.11	6	*e*Pn		Pn	03 58 13.6	-0.5
UNV				*e*S		Sb	03 58 26.3	-1.9
MSW	Makushin Switc	1.18	358	P		Pn	03 58 15.4	+0.4
MSW				S		Sn	03 58 31.6	+1.0
MCIR	Makushin Cirqu	1.22	355	P		Pn	03 58 16.3	+0.7
MTBL	Makushin Table	1.23	1	P		Pn	03 58 16.3	+0.6
NIKH	Nikolski High	1.32	281	P		Pn	03 58 16.4	-0.5
NIKH				S		Sn	03 58 33.6	-0.5
ZRO	Akutan Zero	1.42	18	P		Pn	03 58 18.2	-0.1
AKRB	Akutan Reef Bi	1.44	15	P		Pn	03 58 19.0	+0.4
LVA	Lava Point	1.48	16	P		Pn	03 58 19.4	+0.3
AKUT	Akutan	1.50	22	*e*Pn		Pn	03 58 18.8	-0.6
AKUT				*e*S		Sn	03 58 38.1	-0.6
AKGG	Akutan Green G	1.52	16	P		Pn	03 58 20.1	+0.4
FALS	False Pass	2.88	41	Pn		Pn	03 58 38.5	+0.1
FALS				*e*S		Sn	03 59 13.0	+0.4
SDPT	Sand Point	4.51	52	*e*Pn		Pn	03 59 00.1	-0.6
SDPT				*e*S		Sb	04 00 04.4	-1.4
ADK	Adak	6.18	266	*e*Pn		Pn	03 59 25.0	+1.4
ADK				*e*S		Sn	04 00 33.5	-0.3
INK	Inuvik	22.15	33	P		P	04 02 49.6	+1.8
	0.9nm,0.5s,baz=249,slow=10,SNR=5.6							
NVAR	Mina Array Bea	36.06	94	P		P	04 04 55.0	+1.0
	0.5nm,0.7s,baz=304,slow=8.4,SNR=4.2							
PDAR	Pinedale Array	38.74	81	P		P	04 05 17.2	+0.6
	0.6nm,0.8s,baz=284,slow=3.6,SNR=4.0							
H11N2	WAKE ISLAND Hy	38.79	222	T		T	04 47 04.1	
	baz=26							
H11N3	WAKE ISLAND Hy	38.79	222	T		T	04 47 02.3	
	baz=26							
H11N1	WAKE ISLAND Hy	38.80	222	T		T	04 46 55.5	
	baz=26							
H11S1	WAKE ISLAND Hy	39.97	221	T		T	04 48 24.1	
	baz=24							
H11S2	WAKE ISLAND Hy	39.98	221	T		T	04 48 22.5	
	baz=24							
H11S3	WAKE ISLAND Hy	39.98	221	T		T	04 48 24.6	
	baz=24							
TXAR	Lajitas Array	51.12	91	P		P	04 06 55.0	-0.1
	0.2nm,0.5s,baz=295,slow=6.1,SNR=6.1							
AKASG	Malin Array Be	76.06	350	P		P	04 09 35.3	-4.0
	0.6nm,0.5s,baz=11,slow=5.8,SNR=3.1							
BRTR	Keskin Array B	86.23	344	P		P	04 10 32.5	-1.3
	0.2nm,0.5s,baz=5.7,slow=4.3,SNR=2.3							

ISCJB ***15*** *04:15:32.3±1.1,3.˚1N±0.˚2×129.˚1E±0.˚3,h150km,mb3.8/8, Error ellipse: s-maj=47.0km s-min=10.4km az=153.0*

IDC ***15*** *04:15:36.4±17.0,2.˚93N×128.˚95E,h170km±170km, mb3.5/8,mb1 3.6/8,mb1mx3.4/23,mbtmp3.5/8,MS3.8/1, Ms1 3.7/1,ms1mx2.8/21,Error ellipse: s-maj=111.4km s-min=17.4km az=57.0*

ISC 15 04:15:34.2±1.4,3.˚0N±0.˚2×129.˚0E±0.˚4,h150km,n16, σ0°45/17,mb3.8/8,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.21	189	P		P	04 20 07.9	-0.3
	2.5nm,1.1s,baz=106,slow=6.6,SNR=5.7							
WRA	Warramunga Arr	23.37	167	P		P	04 20 29.8	+0.2
	1.7nm,0.6s,baz=345,slow=10.0,SNR=18							
ASAR	Alice Springs	26.91	170	P		P	04 21 01.4	-0.1
	1.5nm,0.6s,baz=354,slow=8.1,SNR=27							
CMAR	Chiang Mai Arr	33.21	300	P		P	04 21 57.2	+0.1
	1.0nm,0.3s,baz=113,slow=6.9,SNR=6.5							
STKA	Stephens Creek	36.67	162	P		P	04 22 26.9	+0.3
	1.5nm,0.3s,baz=329,slow=9.8,SNR=6.7							
STKA				LR		LR	04 37 41.0	
	comp=Z,152nm,21.9s,baz=290,slow=36							
TAPN	Taplejung	46.29	306	*e*P		P	04 23 45.6	+0.2
	12nm,0.9s							
ODAN	Odare	46.36	305	*e*P		P	04 23 46.5	+0.7
JIRN	Jiri	47.65	305	*e*P		P	04 23 56.2	+0.2
	10nm,0.5s							
GUN	Gumba	48.01	306	*e*P		P	04 23 58.8	+0.1
	15nm,0.7s							
DMN	Daman	48.52	305	*e*P		P	04 24 02.6	0.0
GKN	Gorkha	49.05	305	*e*P		P	04 24 07.0	+0.5
KOLN	Koldanda	49.82	304	*e*P		P	04 24 12.4	0.0
	13nm,0.6s							
DANN	Dangsing	49.90	305	*e*P		P	04 24 12.9	-0.2
	17nm,0.6s							
MKAR	Makanchi Array	59.47	325	P		P	04 25 21.9	+0.5
	1.2nm,0.5s,baz=116,slow=8.4,SNR=15							
MKAR				PcP		PcP	04 26 06.5	-0.9
	0.3nm,0.7s,baz=104,slow=6.0,SNR=2.6							
ZALV	Zalesovo Beam	62.29	332	P		P	04 25 39.6	-0.6
	0.6nm,0.5s,baz=123,slow=7.1,SNR=2.9							
BVAR	Borovoye Array	69.19	327	P		P	04 26 25.0	+0.5
	0.6nm,0.5s,baz=133,slow=8.1,SNR=4.0							

ISCJB ***15*** *04:30:12.4±0.2,51.˚55N±0.˚01×16.˚09E±0.˚02,h0km, mb4.0/11,MS3.5/1,Error ellipse: s-maj=1.9km s-min=1.7km az=148.9*

MOS ***15*** *04:30:13.2±1.4,51.˚62N×15.˚96E,h10km,mb4.4/2,Error ellipse: s-maj=5.5km s-min=3.7km az=73.1*

IPEC ***15*** *04:30:14.8±0.4,51.˚56N×16.˚23E,h0km,ML3.8/2,Error ellipse: s-maj=5.5km s-min=1.9km az=72.0*

LDG ***15*** *04:30:14.3±0.1,51.˚52N×16.˚26E,h1km,Ml4.4/36,Error ellipse: s-maj=3.5km s-min=1.9km az=173.0,Suspected Mining induced.*

CSEM ***15*** *04:30:14.5±0.1,51.˚56N×16.˚11E,h2km,ML4.1/15,Ms4.4, Error ellipse: s-maj=2.7km s-min=2.5km az=144.0*

NEIC ***15*** *04:30:14.8±0.3,51.˚57N×16.˚01E,h5km,ML4.1(CSEM), Error ellipse: s-maj=6.1km s-min=4.1km az=143.0*

IDC ***15*** *04:30:15.8±0.5,51.˚52N×16.˚03E,h0km,mb4.0/9, mb1 4.1/17,mb1mx4.0/32,mbtmp4.0/17,ML3.7/8,MS3.7/1, Ms1 3.7/1,ms1mx2.5/44,Error ellipse: s-maj=8.8km s-min=5.3km az=106.0*

PRU ***15*** *04:30:16.2,51.˚49N×16.˚13E,h0km,Felt In Harrachov*

BGR ***15*** *04:30:16.0±0.4,51.˚52N×16.˚16E,h1km,ML4.1/15,Error ellipse: s-maj=5.6km s-min=2.2km az=15.0*

VIE ***15*** *04:30:19.6±0.8,51.˚23N×16.˚03E,h0km,mb3.7/12, ML3.7/12,Ms4.4/1,Error ellipse: s-maj=5.7km s-min=4.5km az=172.0 70 km WNW of Wroclaw Suspected Mining induced.*

UPP ***15*** *04:30:20.7,51.˚87N×15.˚72E,h0km,ML3.2,Suspected Mining explosion.*

STR ***15*** *04:30:23.8±0.6,51.˚35N×15.˚21E,h5km,Ml4.2,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 15 04:30:13.3±0.2,51.˚54N±0.˚01×16.˚09E±0.˚009,h0km,n427, σ1°86/515,mb4.0/11,28C-13D,Poland

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.71	170	*e*Pg		Pb	04 30 29.1	+0.6
KSP				⇓*i*P		Pb	04 30 29.2	+0.6
KSP				*e*			04 30 41.7	
KSP	Ksiaz	0.71	170	*e*Pg		Pb	04 30 29.1	+0.6
KSP				*e*Sg		Sb	04 30 38.3	-0.6
KSP	Ksiaz	0.71	170	*i* P		Pb	04 30 29.2	+0.6
KSP				Sg		Sb	04 30 38.4	-0.6
KSP				*e*S		Sn	04 30 41.7	-0.6
UPC	Upice	1.04	183	*i* P		Pb	04 30 35.2	+1.1
UPC	Upice	1.04	183	*i* PG		Pb	04 30 35.2	+1.1
UPC	Upice	1.04	183	Pg		Pb	04 30 35.2	+1.1
DPC	Dobruska-Polom	1.20	173	*e*Pg		Pn	04 30 38.0	+0.5
DPC				*e*Sg		Sb	04 30 54.0	+0.9
DPC	Dobruska-Polom	1.20	173	*i* P		Pn	04 30 37.9	+0.5
DPC				*e*			04 30 52.8	
DPC	Dobruska-Polom	1.20	173	*i* PG		Pn	04 30 37.9	+0.5
DPC				*e*SG		Sg	04 30 52.8	+0.9
DPC	Dobruska-Polom	1.20	173	*e*Pn		Pn	04 30 37.7	+0.3
DPC				*e*Sg		Sb	04 30 53.3	+0.2
DPC	Dobruska-Polom	1.20	173	Pg		Pn	04 30 37.9	+0.5
DPC				*e*Sg		Sb	04 30 53.3	+0.2
PVCC	Panska Ves	1.40	224	*i* P		Pb	04 30 41.9	+1.6
PVCC				*e*			04 31 00.1	
PVCC				smax		smax		
	comp=N,2μm,0.6s							
PVCC	Panska Ves	1.40	224	*i* PG		Pb	04 30 41.9	+1.6
PVCC				*e*SG		Sb	04 31 00.1	+1.4
	comp=N,2μm,0.6s							
BRG	Berggiesshubel	1.51	244	PN		Pn	04 30 42.8	+1.2
BRG				PG		Pg	04 30 44.6	+2.4
BRG				SG		Sg	04 31 04.9	+3.2
	comp=N,1μm,0.8s							
BRG								
	comp=N,3μm,2.5s							
BRG								
	comp=E,1μm,3.4s							
BRG								
	comp=Z,2μm,3.8s							
BRG	Berggiesshubel	1.51	244	*e*Pn		Pn	04 30 42.9	+1.2
BRG				*e*Pg		Pg	04 30 44.9	+2.7
BRG				*e*Sg		Sg	04 31 04.8	+3.0
BRG	Berggiesshubel	1.51	244	P		Pn	04 30 42.8	+1.2
BRG							04 31 04.9	
BRG				smax		smax		
	comp=N,1μm,0.8s							
BRG				MLR		MLR		
	comp=N,3μm,2.5s							
BRG				MLR		MLR		
	comp=E,1μm,3.4s							
BRG				MLR		MLR		
	comp=Z,2μm,3.8s							
BRG	Berggiesshubel	1.51	244	Pn		Pb	04 30 42.9	+0.7
RUE	Ruedersdorf	1.71	304	*e*Pn		Pb	04 30 45.8	+0.2
RUE				*e*S		Sg	04 31 13.8	+5.6
RUE	Ruedersdorf	1.71	304	*e*Pn		Pb	04 30 45.8	+0.2
RUE				*e*S		Sg	04 31 13.8	+5.6
PRA	Prague	1.81	216	PG		Pb	04 30 48.0	+0.7
PRA				SG		Sn	04 31 11.0	+1.6
FBE	Freiberg	1.83	251	*e*Pn		Pb	04 30 47.8	+0.2
FBE				*e*Pg		Pg	04 30 50.4	+2.1
FBE				*e*Sg		Sg	04 31 14.8	+2.8
FBE	Freiberg	1.83	251	Pn		Pb	04 30 47.8	+0.2
PRU	Pruhonice	1.84	213	*e*P		Pn	04 30 47.7	+1.5
PRU				*e*			04 31 12.9	
PRU				smax		smax		
	comp=N,489nm,0.4s							
PRU				MLR		MLR		
	comp=Z,2μm,3.5s							
PRU	Pruhonice	1.84	213	*e*PN		Pn	04 30 47.7	+1.5
PRU				*e*PG		Pg	04 30 49.6	+1.0
PRU				*e*SG		Sb	04 31 12.9	+1.5
	comp=Z,489nm,0.4s							
PRU				AMS		AMS	04 31 30.0	
	comp=Z,2μm,3.5s							
PRU	Pruhonice	1.84	213	Pn		Pn	04 30 47.7	+1.5
PRU				Sg		Sb	04 31 12.9	+1.5
	comp=Z,489nm,0.4s							
GKP	Gorka Klasztor	1.87	22	*e*P		Pg	04 30 55.8	+6.7
GKP				*e*			04 31 18.4	
GKP	Gorka Klasztor	1.87	22	*e*Pg		Pg	04 30 55.7	+6.7
GKP				*e*Sg		Sg	04 31 18.4	+5.1
GKP	Gorka Klasztor	1.87	22	*e*P		Pg	04 30 55.8	+6.7
GKP				*e*S		Sg	04 31 18.4	+5.1
CLL	Collm	1.95	264	*e*Pn		Pn	04 30 49.0	+1.4
CLL	Collm	1.95	264	⇓*i*P		Pn	04 30 49.0	+1.4

KHC smax smax
comp=N,186nm,0.6s
KHC Kasperske Hory 2.90 215 *e*PN **Pn 04 31 02.3 +1.5**
KHC *i* PG **Pg 04 31 08.9 0.0**
KHC *e*SG **Sg 04 31 45.9 -0.6**
comp=N,186nm,0.6s
KHC AMS AMS 04 32 10.0
comp=N,600nm,4.3s
KHC Kasperske Hory 2.90 215 *e*Pn **Pn 04 31 02.3 +1.5**
KHC *e*S **Sn 04 31 37.6 +1.2**
KHC Kasperske Hory 2.90 215 *e*Pn **Pn 04 31 02.3 +1.5**
KHC Kasperske Hory 2.90 215 Pg **Pg 04 31 08.9 0.0**
KHC *e*S **Sn 04 31 37.6 +1.2**
KHC Sg **Sg 04 31 45.9 -0.6**
comp=N,186nm,0.6s
BEL Belsk 2.94 82 *e*P **Pb 04 31 05.0 -1.6**
BEL Belsk 2.94 82 *e*Pn **Pb 04 31 05.0 -1.6**
BEL *e*Pg Pg 04 31 15.2 +5.6
BEL *e*Sg Sg 04 31 56.5 +8.8
BEL Belsk 2.94 82 *e*P **Pb 04 31 05.0 -1.6**
MANZ Manzenberg 2.97 240 *e*Pn **Pn 04 31 04.0 +2.3**
MANZ *e*Pg **Pg 04 31 12.7 +2.5**
MANZ Manzenberg 2.97 240 Pn **Pn 04 31 04.0 +2.3**
ROTZ Rotzenmuhle 3.04 236 *e*Pn **Pn 04 31 04.9 +2.2**
ROTZ *e*Pg **Pg 04 31 12.4 +0.8**
ROTZ Rotzenmuhle 3.04 236 Pn **Pn 04 31 04.9 +2.2**
GEC2 GERESS Array S 3.11 211 *e*Pn **Pn 04 31 05.5 +1.8**
GEC2 GERESS Array S 3.11 211 *e*P **Pn 04 31 05.5 +1.8**
GEC2 GERESS Array S 3.11 211 *e*Pn **Pn 04 31 05.6 +2.0**
GEC2 GERESS Array S 3.11 211 Pn **Pn 04 31 05.5 +1.8**
GERES GERESS Array B 3.11 211 Pn **Pn 04 31 05.5 +1.8**
GERES Pg **Pb 04 31 11.9 +2.4**
GERES Sn **Sn 04 31 43.8 +2.3**
GERES Lg Lg 04 31 53.4
GERES GERESS Array B 3.11 211 P **Pn 04 31 05.5 +1.8**
GERES GERESS Array B 3.11 211 Pg **Pb 04 31 11.9 +2.4**
GERES S **Sn 04 31 43.8 +2.3**
GERES GERESS Array B 3.11 211 Pn **Pn 04 31 05.5 +1.8**
comp=N,12nm,0.3s,baz=32,slow=12,SNR=250
GERES Pg **Pb 04 31 11.9 +2.4**
comp=N,20nm,0.3s,baz=30,slow=16,SNR=83
GERES Sn **Sn 04 31 43.8 +2.3**
comp=N,18nm,0.3s,baz=36,slow=23,SNR=5.7
GERES Lg Lg 04 31 53.4
comp=N,39nm,0.3s,baz=29,slow=26,SNR=17
SMOL Smolenice 3.15 164 *e*P **Pg 04 31 14.6 +0.9**
SMOL Smolenice 3.15 164 *e* **Pg 04 31 14.6 +0.9**
SMOL Smolenice 3.15 164 *e*SG **Sg 04 31 55.6 +1.1**
SMOL Smolenice 3.15 164 *e*P **Pg 04 31 14.6 +0.9**
SMOL *e*Sg **Sg 04 31 55.6 +1.1**
WET Wettzell 3.16 222 *e*Pn **Pn 04 31 06.3 +2.0**
WET Wettzell 3.16 222 *e*P **Pn 04 31 06.3 +2.0**
WET Wettzell 3.16 222 Pn **Pn 04 31 06.3 +2.0**
NIE Niedzica 3.43 127 *e*P **Pg 04 31 19.4 +0.3**
NIE Niedzica 3.43 127 *e*P **Pg 04 31 19.4 +0.3**
NIE *e*S **Sg 04 32 03.1 -0.5**
NIE Niedzica 3.43 127 *e*P **Pg 04 31 19.4 +0.3**
CLZ Clausthal 3.57 277 *e*Pn **Pn 04 31 12.8 +2.8**
CLZ Clausthal 3.57 277 *e*P **Pn 04 31 12.8 +2.8**
CLZ Clausthal 3.57 277 Pn **Pn 04 31 12.8 +2.8**
GRA1 Grafenberg Arr 3.61 241 Pn **Pn 04 31 13.1 +2.6**
GRA1 Grafenberg Arr 3.61 241 Pg Pg 04 31 25.4 +2.9
GRF Grafenberg Arr 3.61 241 *e*Pn **Pn 04 31 13.1 +2.6**
GRF *e*Pg Pg 04 31 25.4 +2.9
GRF Grafenberg Arr 3.61 241 *e*P **Pn 04 31 13.1 +2.6**
CONA Conrad Observa 3.62 182 *i* Pn **Pn 04 31 12.7 +2.0**
comp=N,26nm,0.7s,SNR=24
CONA ⇑*i*Sg **Sg 04 32 09.9 +0.3**
comp=N,202nm,0.5s
BSD Bornholm Skovb 3.65 349 *i* P **Pn 04 31 12.0 +1.1**
BSD *i* S **Sn 04 31 52.7 -1.9**
SOP Sopron 3.88 175 *e*Pn **Pn 04 31 15.0 +0.9**
SOP *e*Sn **Sg 04 32 16.6 -1.1**
MOA Molln 3.88 198 ⇓*i*Pn **Pn 04 31 16.2 +2.0**
comp=N,35nm,0.4s,SNR=41
MOA ⇑*i*Sg **Sg 04 32 19.7 +1.8**
comp=N,248nm,0.6s
STHS Stebnicka Huta 3.92 121 *e*P **Pn 04 31 16.4 +1.7**
STHS pmax pmax
comp=N,178nm,0.6s
STHS Stebnicka Huta 3.92 121 *e*PN **Pn 04 31 16.4 +1.7**
STHS *e* 04 31 31.2
STHS Stebnicka Huta 3.92 121 *e*SG **Sg 04 32 21.5 +2.4**
STHS Stebnicka Huta 3.92 121 *e*P **Pn 04 31 16.4 +1.7**
comp=N,178nm,0.6s
STHS *e*Sg **Sg 04 32 21.5 +2.4**
KECS Kecovo 4.17 136 *e*P **Pn 04 31 19.4 +1.2**
KECS pmax pmax
comp=N,55nm,0.8s
KECS Kecovo 4.17 136 *e*PN **Pn 04 31 19.4 +1.2**
KECS *e* 04 31 35.0
KECS Kecovo 4.17 136 *e*SG **Sg 04 32 26.9 -0.3**
KECS Kecovo 4.17 136 *e*P **Pn 04 31 19.4 +1.2**
comp=N,55nm,0.8s
KECS *e*Sg **Sg 04 32 27.0 -0.3**
ARSA Arzberg 4.31 185 ⇑*i*Pn **Pn 04 31 22.9 +2.7**
comp=N,9.6nm,0.3s,SNR=9.5
ARSA ⇓*i*Sg **Sg 04 32 30.5 -1.2**
comp=N,216nm,0.7s
PSZ Piszkesteto 4.39 144 ⇑P **Pn 04 31 23.2 +2.0**
PSZ Piszkesteto 4.39 144 ⇑*i*P **Pn 04 31 23.2 +2.0**
PSZ Piszkesteto 4.39 144 *e*Pn **Pn 04 31 22.8 +1.6**
PSZ *e*S **Sb 04 32 24.3 -0.4**
PSZ Piszkesteto 4.39 144 ⇓*e*Pn **Pn 04 31 23.6 +2.4**
PSZ Piszkesteto 4.39 144 *e*Pn **Pn 04 31 22.8 +1.6**
PSZ Piszkesteto 4.39 144 P **Pn 04 31 23.2 +2.0**
PSZ *e*S **Sb 04 32 24.3 -0.4**
PKSG 4.42 159 ⇑*e*Pn **Pn 04 31 23.3 +1.8**
PKSG *e*pPn **Pb 04 31 29.6 -2.1**
PKSG *e*Sn **Sg 04 32 36.5 +1.4**
PKSG 4.42 159 ⇑*e*Pn **Pn 04 31 23.3 +1.8**
KWP Kalwaria Pacla 4.63 112 ⇑P **Pn 04 31 25.8 +1.3**
KWP Kalwaria Pacla 4.63 112 ⇑*i*P **Pn 04 31 25.8 +1.3**
KWP Kalwaria Pacla 4.63 112 *e*Pn **Pn 04 31 25.3 +0.8**
KWP *e*Pb Pb 04 31 40.4 +5.0
KWP *e*Pg Pg 04 31 52.1 +10
KWP *e*Sg Sg 04 32 51.1 +9.1
KWP Kalwaria Pacla 4.63 112 *e*Pn **Pn 04 31 25.3 +0.8**
KWP Kalwaria Pacla 4.63 112 P **Pn 04 31 25.8 +1.3**
KOLS Kolonicke sedl 4.75 121 *e*P **Pn 04 31 27.4 +1.3**
KOLS pmax pmax
comp=N,205nm,1.1s
KOLS Kolonicke sedl 4.75 121 *e*PN **Pn 04 31 27.4 +1.3**
KOLS *e* 04 31 46.0
KOLS Kolonicke sedl 4.75 121 *e*SG **Sg 04 32 44.1 -1.7**
KOLS Kolonicke sedl 4.75 121 *e*P **Pn 04 31 27.4 +1.3**
comp=N,205nm,1.1s
KOLS *e*Sg **Sg 04 32 44.1 -1.7**
BLEU Blekinge 4.77 358 P **Pn 04 31 27.8 +1.4**
BLEU S **Sn 04 32 20.9 -1.5**
KBA Koelnbreinsper 4.82 203 ⇑*e*Pn **Pn 04 31 29.8 +2.6**
comp=N,37nm,0.5s,SNR=6.4
KBA ⇓*i*Sg **Sg 04 32 48.4 +0.5**
comp=N,273nm,0.8s
KBA Koelnbreinsper 4.82 203 Pn **Pn 04 31 29.8 +2.6**
comp=N,37nm,0.5s,SNR=6.4
KBA Sg **Sg 04 32 48.4 +0.5**
comp=N,273nm,0.8s
UZH Uzhgorod 4.94 124 *e*P **Pn 04 31 30.0 +1.2**
UZH Uzhgorod 4.94 124 *e*P **Pn 04 31 30.0 +1.2**
PERS Pernice 4.95 188 *e*Pn Pn 04 31 31.8 +2.8
PERS *e*Sn **Sg 04 32 50.4 -2.0**
PERS Pernice 4.95 188 Pn Pn 04 31 31.8 +2.8
SUW Suwalki 4.96 57 *e*P **Pn 04 31 29.4 +0.3**
SUW Suwalki 4.96 57 *e*Pn **Pn 04 31 29.4 +0.3**
SUW *e*S Sg 04 33 02.4 +10
SUW Suwalki 4.96 57 *e*Pn **Pn 04 31 29.7 +0.7**
SUW Suwalki 4.96 57 *e*P **Pn 04 31 29.4 +0.3**
SUW *e*S Sg 04 33 02.4 +10
TOD Tromm 5.03 250 P **Pn 04 31 30.9 +0.9**
TOD S **Sn 04 32 27.2 -1.7**
GROS Grobnik 5.10 185 *e*Pn **Pn 04 31 33.2 +2.2**
GROS Grobnik 5.10 185 *e*Pn **Pn 04 31 33.2 +2.2**
DEL Delary 5.11 346 P **Pn 04 31 31.8 +0.8**
WATA Walderalm 5.14 217 ⇓*i*Pn Pn 04 31 34.6 +3.0
comp=N,67nm,0.7s,SNR=23
WATA ⇑*i*Sg **Sg 04 32 59.1 +0.8**
comp=N,38nm,0.4s
WATA Walderalm 5.14 217 Pn Pn 04 31 34.6 +3.0
comp=N,67nm,0.7s,SNR=23
WATA Sg **Sg 04 32 59.1 +0.8**
comp=N,38nm,0.4s
WTTA Wattenberg 5.18 216 ⇓*i*Pn **Pn 04 31 34.8 +2.7**
comp=N,40nm,0.8s,SNR=12
WTTA Wattenberg 5.18 216 Pn **Pn 04 31 34.8 +2.7**
comp=N,40nm,0.8s,SNR=12
STU Stuttgart 5.23 241 *e*P **Pn 04 31 34.1 +1.4**
STU Stuttgart 5.23 241 *e*Pn **Pn 04 31 34.1 +1.4**
STU *e*S **Sg 04 33 04.1 +2.9**
STU Stuttgart 5.23 241 *e*P **Pn 04 31 34.1 +1.4**
STU *e*S **Sg 04 33 04.1 +2.9**
LVV L'vov 5.33 106 *e*P **Pn 04 31 35.0 +0.8**
LVV *i* S **Sn 04 32 36.8 +0.5**
LVV L'vov 5.33 106 *e*P **Pn 04 31 35.0 +0.8**
LVV *i* S **Sn 04 32 36.8 +0.5**
RETA Reutte 5.34 223 ⇑*i*Pn **Pn 04 31 36.4 +2.1**
comp=N,8.1nm,0.4s,SNR=7.5
RETA ⇑*i*Sg **Sg 04 33 05.1 +0.4**
comp=N,122nm,0.7s
RETA Reutte 5.34 223 Pn **Pn 04 31 36.4 +2.1**
comp=N,8.1nm,0.4s,SNR=7.5
RETA Sg **Sg 04 33 05.1 +0.4**
comp=N,122nm,0.7s
ABTA Abfaltersbach 5.34 207 ⇓*e*Pn Pn 04 31 37.3 +2.9
comp=N,28nm,0.7s,SNR=16
ABTA ⇑*i*Sg **Sg 04 33 05.4 +0.5**
comp=N,215nm,0.9s
ABTA Abfaltersbach 5.34 207 Pn Pn 04 31 37.3 +2.9
comp=N,28nm,0.7s,SNR=16
ABTA Sg **Sg 04 33 05.4 +0.5**
comp=N,215nm,0.9s
SQTA Sankt Quirin 5.37 218 ⇑*i*Pn Pn 04 31 37.9 +3.1
SQTA ⇑Sg **Sg 04 33 08.9 +3.1**
SQTA Sankt Quirin 5.37 218 Pn Pn 04 31 37.9 +3.1
SQTA Sg **Sg 04 33 08.9 +3.1**
VXJU Vaexsjoe 5.43 353 P **Pn 04 31 37.0 +1.5**
OSKU Oskarshamn 5.66 0 P **Pn 04 31 40.4 +1.8**
ABH Alteburg 5.68 256 P **Pn 04 31 40.6 +1.7**
ABH S **Sn 04 32 44.4 -0.3**
VOY Vojsko 5.70 196 *e*Pn **Pn 04 31 40.7 +1.4**
VOY *e* 04 31 50.3
VOY *e* 04 32 00.3
VOY *e* 04 32 06.2
VOY *e* 04 33 09.7
FETA Feichten 5.72 220 ⇑*e*Pn **Pn 04 31 42.2 +2.5**
comp=N,7.9nm,0.4s,SNR=6.9
FETA ⇓*i*Sg **Sg 04 33 22.4 +5.2**
comp=N,29nm,0.7s
FETA Feichten 5.72 220 Pn **Pn 04 31 42.2 +2.5**
comp=N,7.9nm,0.4s,SNR=6.9
WTSB Winterswijk 5.79 278 *e*Pn **Pn 04 31 43.0 +2.7**
comp=N,17nm,0.4s
WTSB *e*Sn **Sg 04 33 21.6 +2.5**
WTSB Winterswijk 5.79 278 *e*Pn **Pn 04 31 43.0 +2.7**
comp=N,17nm,0.4s
FABU Falkenberg 5.81 341 P **Pn 04 31 41.5 +0.8**
SPAK Spaichingen-Ko 5.85 237 P **Pn 04 31 43.2 +1.9**
LANF Langenberg 5.90 247 P **Pn 04 31 43.9 +2.0**
LANF S **Sn 04 32 50.4 +0.2**
LANF Langenberg 5.90 247 P **Pn 04 31 43.9 +2.0**
LANF S **Sn 04 32 50.4 +0.2**
GNOU Gnosjoe 5.92 348 P **Pn 04 31 43.4 +1.3**
BFO Black Forest 5.95 240 *e*P **Pn 04 31 43.4 +0.7**
BFO Black Forest 5.95 240 *e*Pn **Pn 04 31 43.4 +0.7**
BFO *e*Pg Pg 04 32 12.3 +5.0
BFO *e*S **Sg 04 33 28.1 +3.7**
BFO Black Forest 5.95 240 *e*P **Pn 04 31 43.4 +0.7**
RUP Ruppelstein 6.04 256 P **Pn 04 31 45.7 +1.9**
EKSU Eksjoe 6.06 356 P **Pn 04 31 45.7 +1.6**
VSTU Vaestervik 6.14 2 P **Pn 04 31 47.1 +2.0**
BMR Baia Mare 6.18 126 ⇑P **Pn 04 31 47.2 +1.5**
BMR Baia Mare 6.18 126 ⇑*i*P **Pn 04 31 47.2 +1.5**
BMR Baia Mare 6.18 126 P **Pn 04 31 47.2 +1.5**
FUORN Ofenpass-Fuorn 6.24 220 *e*Pn **Pn 04 31 49.5 +2.7**
FUORN Ofenpass-Fuorn 6.24 220 *e*Pn **Pn 04 31 49.5 +2.7**
DAVOX Davos/Dischmat 6.27 223 Pn **Pn 04 31 49.3 +2.1**
DAVOX Sn **Sn 04 33 03.3 +3.7**
DAVOX Lg Lg 04 33 35.9
DAVOX Davos/Dischmat 6.27 223 P **Pn 04 31 49.3 +2.1**
comp=N,2.0nm,0.3s
DAVOX S **Sn 04 33 03.3 +3.7**
DAVOX Davos/Dischmat 6.27 223 Pn **Pn 04 31 49.3 +2.1**
comp=N,2.2nm,0.3s,baz=20,slow=14,SNR=23
DAVOX Sn **Sn 04 33 03.3 +3.7**
comp=N,1.8nm,0.3s,baz=210,slow=20,SNR=2.8
DAVOX Lg Lg 04 33 35.9
comp=N,1.8nm,0.3s,baz=240,slow=19,SNR=4.9
FELD Feldberg im Sc 6.40 238 P **Pn 04 31 49.9 +1.0**
FELD Feldberg im Sc 6.40 238 P **Pn 04 31 49.9 +1.0**
MEM Membach 6.42 266 P **Pn 04 31 51.1 +2.0**
HGN Heimansgroeve 6.44 267 *e*Pn Pn 04 31 53.0 +3.7
comp=N,1.7nm,0.4s
HGN *e*Sn **Sg 04 33 36.7 -3.3**
HGN Heimansgroeve 6.44 267 *e*Pn Pn 04 31 53.0 +3.7
comp=N,1.7nm,0.4s
CDF Champ du Feu 6.49 245 *e*Pn **Pn 04 31 50.7 +0.6**
CDF Champ du Feu 6.49 245 *e*Pg **Pg 04 32 15.9 -1.7**
CDF *e*Sg **Sg 04 33 40.3 -1.4**
comp=N,327nm,1.0s
CDF Champ du Feu 6.49 245 *e*P **Pn 04 31 50.7 +0.6**
CDF Champ du Feu 6.49 245 *e*Pn **Pn 04 31 50.7 +0.6**
CDF *e*Pg **Pg 04 32 15.9 -1.7**
CDF *e*Sg **Sg 04 33 40.3 -1.4**
CDF Champ du Feu 6.49 245 *e*Pn **Pn 04 31 50.7 +0.6**
WLF Walferdange 6.60 257 P **Pn 04 31 53.4 +1.9**
WLF Walferdange 6.60 257 *e*P **Pn 04 31 54.1 +2.6**
WLF pmax pmax
comp=Z,18nm,0.8s
WLF Walferdange 6.60 257 *e*Pn **Pn 04 31 54.1 +2.6**
comp=Z,18nm,0.8s
WLF *e*S **Sg 04 33 50.1 +4.9**
WLF Walferdange 6.60 257 *e*P **Pn 04 31 54.1 +2.6**
comp=Z,18nm,0.8s
WLF *e*S **Sg 04 33 50.1 +4.9**
ECH Echery 6.66 244 *e*P **Pn 04 31 52.3 -0.1**
ECH pmax pmax
comp=Z,14nm,0.8s
ECH Echery 6.66 244 *e*Pn **Pn 04 31 52.3 -0.1**
comp=Z,14nm,0.8s
ECH *e*S **Sg 04 33 51.9 +4.7**
ECH Echery 6.66 244 *e*P **Pn 04 31 52.3 -0.1**
comp=Z,14nm,0.8s
ECH *e*S **Sg 04 33 51.9 +4.7**
TUE Stuetta 6.74 224 *e*Pn **Pn 04 31 56.3 +2.7**
TUE *e*S Sg 04 33 55.7 +6.1
TUE Stuetta 6.74 224 *e*Pn **Pn 04 31 56.3 +2.7**
TUE *e*S Sg 04 33 55.7 +6.1
MOF Molkenrain 6.88 241 P **Pn 04 31 57.5 +2.0**
MOF Molkenrain 6.88 241 P **Pn 04 31 57.5 +2.0**
BCLA Clavier 6.91 265 P **Pn 04 31 57.6 +1.9**
BZS Buzias 6.97 146 ⇑P **Pn 04 31 56.1 -0.5**
BZS Buzias 6.97 146 ⇑*i*P **Pn 04 31 56.1 -0.5**
BZS Buzias 6.97 146 P **Pn 04 31 56.1 -0.5**
NVLJ Novalja 7.03 187 *e*Pn **Pn 04 32 00.2 +2.7**
NVLJ Novalja 7.03 187 *e*Pn **Pn 04 32 00.1 +2.7**
HINF Hinteralfeld 7.06 242 *e*Pn **Pn 04 31 58.5 +0.6**
HINF Hinteralfeld 7.06 242 *e*Pg **Pg 04 32 26.4 -2.1**
HINF *e*Sg **Sg 04 33 57.3 -2.5**
comp=Z,113nm,0.7s
HINF Hinteralfeld 7.06 242 *e*P **Pn 04 31 58.5 +0.6**
HINF Hinteralfeld 7.06 242 *e*Pn **Pn 04 31 58.5 +0.6**
HINF *e*Pg **Pg 04 32 26.4 -2.1**
HINF *e*Sg **Sg 04 33 57.3 -2.5**
HINF Hinteralfeld 7.06 242 *e*Pn **Pn 04 31 58.5 +0.6**
BURAR Bucovina Array 7.12 120 ⇑P **Pn 04 32 00.8 +2.1**
BURAR Bucovina Array 7.12 120 ⇑*i*P **Pn 04 32 00.8 +2.1**
IIGN Ignalina 7.15 54 *e*P **Pg 04 32 30.3 +0.1**
IIGN AMB AMB 04 32 33.2
comp=Z,19nm,1.2s
ISAL Salakas 7.21 52 *e*P **Pg 04 32 31.4 0.0**
ISAL AMB AMB 04 32 35.1
comp=Z,12nm,1.6s
HAU Haudompre 7.23 245 *e*Pn **Pn 04 32 00.8 +0.6**
HAU Haudompre 7.23 245 *e*Pg Pg 04 32 29.6 -2.2
HAU *e*Sg **Sg 04 34 03.3 -2.2**
comp=Z,162nm,0.9s
HAU Haudompre 7.23 245 *e*P **Pn 04 32 00.8 +0.6**
HAU Haudompre 7.23 245 *e*Pn **Pn 04 32 00.8 +0.6**
HAU *e*Pg Pg 04 32 29.6 -2.2
HAU *e*Sg **Sg 04 34 03.3 -2.2**
HAU Haudompre 7.23 245 *e*Pn **Pn 04 32 00.8 +0.6**
NACGM Naroch 7.24 58 *e*P **Pn 04 32 01.0 +0.7**
GIVF Givet 7.28 263 *e*Pn **Pn 04 32 01.1 +0.2**
GIVF *e*Sg **Sg 04 34 05.6 -1.4**
comp=Z,175nm,1.0s
GIVF Givet 7.28 263 *e*P **Pn 04 32 01.1 +0.2**
GIVF Givet 7.28 263 *e*Pn **Pn 04 32 01.1 +0.2**
GIVF *e*Sg **Sg 04 34 05.6 -1.4**
GIVF Givet 7.28 263 *e*Pn **Pn 04 32 01.1 +0.2**
GIVF *e*Sg **Sg 04 34 05.6 -1.4**
PAGF Fort de Pagny 7.31 250 *e*Pn **Pn 04 32 01.2 -0.1**
PAGF *e*Sg **Sg 04 34 06.3 -1.7**
comp=Z,45nm,0.9s
PAGF Fort de Pagny 7.31 250 *e*Pn **Pn 04 32 01.2 -0.1**
PAGF *e*Sg **Sg 04 34 06.3 -1.7**
PAGF Fort de Pagny 7.31 250 *e*Pn **Pn 04 32 01.2 -0.1**
PAGF *e*Sg **Sg 04 34 06.3 -1.7**
ASKU Askersund 7.40 355 P **Pn 04 32 04.1 +1.6**
NASU Vaermlandsnaes 7.58 349 P **Pn 04 32 06.7 +1.7**
BAIF Baives 7.68 263 *e*Pn **Pn 04 32 06.3 0.0**
BAIF *e*Sg **Sg 04 34 17.9 -1.8**
comp=Z,184nm,1.1s
BAIF Baives 7.68 263 *e*P **Pn 04 32 06.3 0.0**
BAIF Baives 7.68 263 *e*Pn **Pn 04 32 06.3 0.0**
BAIF *e*Sg **Sg 04 34 17.9 -1.8**
BAIF Baives 7.68 263 *e*Pn **Pn 04 32 06.3 0.0**
BAIF *e*Sg **Sg 04 34 17.9 -1.8**
MICGM Minsk 7.70 63 ⇓*e*P Pg 04 32 36.0 -4.7
MEZF Maizieres J'vi 7.73 251 *e*Pn **Pn 04 32 06.9 -0.2**
MEZF *e*Sg **Sg 04 34 19.2 -2.3**
comp=Z,159nm,1.0s
MEZF Maizieres J'vi 7.73 251 *e*Pn **Pn 04 32 06.9 -0.2**
MEZF *e*Sg **Sg 04 34 19.2 -2.3**
MEZF Maizieres J'vi 7.73 251 *e*Pn **Pn 04 32 06.9 -0.2**
SFTF Sexfontaines 7.88 249 *e*Pn **Pn 04 32 08.9 -0.2**
SFTF *e*Sg **Sg 04 34 23.7 -2.6**
comp=Z,287nm,1.2s
SFTF Sexfontaines 7.88 249 *e*Pn **Pn 04 32 08.9 -0.2**
SFTF *e*Sg **Sg 04 34 23.7 -2.6**
SFTF Sexfontaines 7.88 249 *e*Pn **Pn 04 32 08.9 -0.2**
SFTF *e*Sg **Sg 04 34 23.7 -2.6**
CABF La Chapelle 8.21 237 *e*Pn **Pn 04 32 14.0 +0.3**
CABF La Chapelle 8.21 237 *e*Pg Pg 04 32 47.2 -3.3
CABF *e*Sg **Sg 04 34 33.4 -3.5**
comp=Z,235nm,1.1s
CABF La Chapelle 8.21 237 *e*P **Pn 04 32 14.0 +0.3**
CABF La Chapelle 8.21 237 *e*Pn **Pn 04 32 14.0 +0.3**
CABF *e*Pg Pg 04 32 47.2 -3.3
CABF *e*Sg **Sg 04 34 33.4 -3.5**
CABF La Chapelle 8.21 237 *e*Pn **Pn 04 32 14.0 +0.3**
KIEV Kiev 8.30 91 *e*P **Pn 04 32 14.4 -0.4**
KIEV pmax pmax
comp=Z,30nm,0.7s
KIEV Kiev 8.30 91 *e*Pn **Pn 04 32 14.3 -0.4**
comp=Z,30nm,0.7s
KIEV Kiev 8.30 91 *e*P **Pn 04 32 14.4 -0.4**
comp=Z,30nm,0.7s
AKASG Malin Array Be 8.31 91 P **Pn 04 32 14.9 0.0**
AKASG 04 33 44.4
AKASG Malin Array Be 8.31 91 Pn **Pn 04 32 14.9 0.0**
AKASG Sn **Sn 04 33 44.4 -5.0**
AKASG Lg Lg 04 34 39.1
AKASG Malin Array Be 8.31 91 P **Pn 04 32 14.9 0.0**
AKASG S **Sn 04 33 44.4 -5.0**
AKASG Malin Array Be 8.31 91 Pn **Pn 04 32 14.9 0.0**
comp=Z,3.7nm,0.3s,baz=279,slow=12,SNR=18
AKASG Sn **Sn 04 33 44.4 -5.0**
comp=Z,5.3nm,0.3s,baz=277,slow=23,SNR=6.5
AKASG Lg Lg 04 34 39.1
comp=Z,2.1nm,0.3s,baz=271,slow=28,SNR=4.6
VLC Villacollemand 8.32 210 Pn Pn 04 32 18.2 +3.0
comp=Z,48nm,1.3s
VLC Villacollemand 8.32 210 Pn Pn 04 32 18.2 +3.0
comp=Z,48nm,1.3s
VOIR 8.52 132 ⇑P **Pn 04 32 19.4 +1.4**
VOIR 8.52 132 ⇑*i*P **Pn 04 32 19.4 +1.4**
VOIR 8.52 132 P **Pn 04 32 19.4 +1.4**
LPL La Plagne 8.65 229 *e*Pn **Pn 04 32 19.6 -0.3**
LPL *e*Sg **Sg 04 34 47.0 -4.0**
comp=Z,130nm,1.4s
LPL La Plagne 8.65 229 *e*P **Pn 04 32 19.6 -0.3**
LPL La Plagne 8.65 229 *e*Pn **Pn 04 32 19.6 -0.3**
LPL *e*Sg **Sg 04 34 47.0 -4.0**
LPL La Plagne 8.65 229 *e*Pn **Pn 04 32 19.6 -0.3**
LPL *e*Sg **Sg 04 34 47.0 -4.0**
LPG La Plagne 8.66 229 *e*Pn **Pn 04 32 20.0 0.0**
LPG *e*Sg **Sg 04 34 47.2 -3.9**
comp=Z,149nm,1.2s
LPG La Plagne 8.66 229 *e*P **Pn 04 32 20.0 0.0**
LPG La Plagne 8.66 229 *e*Pn **Pn 04 32 20.0 0.0**
LPG *e*Sg **Sg 04 34 47.2 -3.9**
LPG La Plagne 8.66 229 *e*Pn **Pn 04 32 20.0 0.0**
LPG *e*Sg **Sg 04 34 47.2 -3.9**
HFS Hagfors 8.72 352 Pn **Pn 04 32 21.3 +0.8**
HFS Sn **Sn 04 33 55.0 -4.4**
HFS Hagfors 8.72 352 P **Pn 04 32 21.3 +0.8**
HFS S **Sn 04 33 55.0 -4.4**
HFS Hagfors 8.72 352 Pn **Pn 04 32 21.3 +0.8**
comp=Z,0.4nm,0.3s,baz=168,slow=15,SNR=11
HFS Sn **Sn 04 33 55.0 -4.4**
comp=Z,0.5nm,0.3s,baz=180,slow=17,SNR=3.1
VRI Vrincioaia 9.04 125 ⇑P Pn 04 32 30.3 +5.3
VRI Vrincioaia 9.04 125 ⇑*i*P Pn 04 32 30.3 +5.3
VRI Vrincioaia 9.04 125 P Pn 04 32 30.3 +5.3
LOR Lormes 9.05 247 *e*Pn **Pn 04 32 25.1 0.0**
LOR Lormes 9.05 247 *e*Pg Px 04 33 03.4
LOR *e*Sg Sn 04 34 59.8 +52
comp=Z,49nm,0.8s
LOR Lormes 9.05 247 *e*Pn **Pn 04 32 25.1 0.0**
LOR *e*Pg 04 33 03.4
LOR *e*Sg Sn 04 34 59.8 +52
LOR Lormes 9.05 247 *e*Pn **Pn 04 32 25.1 0.0**
MBDF Montbardon 9.23 226 *e*Pn **Pn 04 32 27.7 -0.1**
MBDF *e*Sg Sn 04 35 04.7 +52
comp=Z,95nm,1.3s
MBDF Montbardon 9.23 226 *e*P **Pn 04 32 27.7 -0.1**
MBDF Montbardon 9.23 226 *e*Pn **Pn 04 32 27.7 -0.1**
MBDF *e*Sg Sn 04 35 04.7 +52
MBDF Montbardon 9.23 226 *e*Pn **Pn 04 32 27.7 -0.1**
MBDF *e*Sg Sn 04 35 04.7 +52
VSU Vasula 9.24 37 *e*P **Pn 04 32 29.7 +2.1**
VSU Vasula 9.24 37 *e*P **Pn 04 32 29.7 +2.1**
SSF Saint Saulge 9.36 246 *e*Pn **Pn 04 32 29.7 +0.3**
SSF Saint Saulge 9.36 246 *e*Pg Pn 04 33 09.4 +40
SSF *e*Sg Sn 04 35 09.6 +54
comp=Z,59nm,0.9s
SSF Saint Saulge 9.36 246 *e*P **Pn 04 32 29.7 +0.3**
SSF Saint Saulge 9.36 246 *e*Pn **Pn 04 32 29.7 +0.3**
SSF *e*Pg 04 33 09.4
SSF *e*Sg Sn 04 35 09.6 +54
SSF Saint Saulge 9.36 246 *e*Pn **Pn 04 32 29.7 +0.3**
SMF Signal de Mont 9.41 243 *e*Pn **Pn 04 32 29.5 -0.6**
SMF Signal de Mont 9.41 243 *e*Pg Px 04 33 09.6
SMF *e*Sg Sn 04 35 10.8 +54
comp=Z,79nm,0.9s
SMF Signal de Mont 9.41 243 *e*P **Pn 04 32 29.5 -0.6**
SMF Signal de Mont 9.41 243 *e*Pn **Pn 04 32 29.5 -0.6**
SMF *e*Pg 04 33 09.6
SMF *e*Sg Sn 04 35 10.8 +54
SMF Signal de Mont 9.41 243 *e*Pn **Pn 04 32 29.5 -0.6**
ORIF Oris-en-Rattie 9.50 230 *e*Pn **Pn 04 32 31.6 +0.2**
ORIF *e*Sg Sn 04 35 13.2 +54
comp=Z,33nm,0.9s
ORIF Oris-en-Rattie 9.50 230 *e*P **Pn 04 32 31.6 +0.2**
ORIF Oris-en-Rattie 9.50 230 *e*Pn **Pn 04 32 31.6 +0.2**
ORIF *e*Sg Sn 04 35 13.2 +54
ORIF Oris-en-Rattie 9.50 230 *e*Pn **Pn 04 32 31.6 +0.2**
AVF Avril sur Loir 9.60 245 *e*Pn **Pn 04 32 32.5 -0.2**
AVF Avril sur Loir 9.60 245 *e*Pg Pn 04 33 13.2 +41
AVF *e*Sg Sn 04 35 17.1 +56
comp=Z,94nm,1.0s
AVF Avril sur Loir 9.60 245 *e*P **Pn 04 32 32.5 -0.2**
AVF Avril sur Loir 9.60 245 *e*Pn **Pn 04 32 32.5 -0.2**
AVF *e*Pg 04 33 13.2
AVF *e*Sg Sn 04 35 17.1 +56
AVF Avril sur Loir 9.60 245 *e*Pn **Pn 04 32 32.5 -0.2**
SBF Sospel 9.64 221 *e*Pn **Pn 04 32 33.4 +0.1**
SBF *e*Sn Sn 04 34 15.2 -7.1
comp=Z,7.5nm,0.6s
SBF Sospel 9.64 221 *e*P **Pn 04 32 33.4 +0.1**
SBF *e* 04 34 15.2
SBF Sospel 9.64 221 *e*Pn **Pn 04 32 33.4 +0.1**
SBF *e*Sn Sn 04 34 15.2 -7.1
SBF Sospel 9.64 221 *e*Pn **Pn 04 32 33.4 +0.1**
SBF *e*Sn Sn 04 34 15.2 -7.1
HYF Humbligny 9.75 249 *e*Pn **Pn 04 32 34.4 -0.4**
HYF *e*Sg Sn 04 35 22.4 +57

HYF	**Humbligny**	**9.75**	**249**	*e*Pn		**Pn**	**04 32 34.4**	**-0.4**
HYF				*e*Sg		Sn	04 35 22.4	+57
HYF	**Humbligny**	**9.75**	**249**	*e*Pn		**Pn**	**04 32 34.4**	**-0.4**
NAO01	**NORSAR Array S**	**9.76**	**345**	*e*Pn		**Pn**	**04 32 34.3**	**-0.5**
NAO01	**NORSAR Array S**	**9.76**	**345**	*e*Pn		**Pn**	**04 32 34.3**	**-0.5**
NB2	**NORSAR Subarra**	**9.89**	**346**	Pn		**Pn**	**04 32 36.2**	**-0.5**
	comp=Z,13nm,1.4s,baz=162,slow=14							
NB2	**NORSAR Subarra**	**9.89**	**346**	Pn		**Pn**	**04 32 36.2**	**-0.5**
	comp=Z,13nm,1.4s,SNR=4.5							
NOA	**NORSAR Array B**	**9.89**	**346**	Pn		**Pn**	**04 32 35.7**	**-1.0**
NOA				Sn		**Sn**	**04 34 23.0**	**-5.4**
NOA	**NORSAR Array B**	**9.89**	**346**	P		**Pn**	**04 32 35.7**	**-1.0**
NOA				S		**Sn**	**04 34 23.0**	**-5.4**
NOA	**NORSAR Array B**	**9.89**	**346**	Pn		**Pn**	**04 32 35.7**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=164,slow=12,SNR=7.6							
NOA				Sn		**Sn**	**04 34 23.0**	**-5.4**
	comp=Z,0.4nm,0.3s,baz=314,slow=14,SNR=3.3							
BGF	**Bois d'Agland**	**10.02**	**245**	*e*Pn		**Pn**	**04 32 38.3**	**-0.1**
BGF	**Bois d'Agland**	**10.02**	**245**	*e*Pg		Px	04 33 20.7	
BGF				*e*Sg		Sn	04 35 30.2	+59
	comp=Z,80nm,1.0s							
BGF	**Bois d'Agland**	**10.02**	**245**	*e*P		**Pn**	**04 32 38.3**	**-0.1**
BGF	**Bois d'Agland**	**10.02**	**245**	*e*Pn		**Pn**	**04 32 38.3**	**-0.1**
BGF				*e*Pg			04 33 20.7	
BGF				*e*Sg		Sn	04 35 30.2	+59
BGF	**Bois d'Agland**	**10.02**	**245**	*e*Pn		**Pn**	**04 32 38.3**	**-0.1**
VIVF	**Saint-Julien-l**	**10.13**	**233**	*e*Pn		**Pn**	**04 32 39.3**	**-0.7**
VIVF				*e*Sg		Sn	04 35 33.2	+59
	comp=Z,56nm,1.1s							
VIVF	**Saint-Julien-l**	**10.13**	**233**	*e*P		**Pn**	**04 32 39.3**	**-0.7**
VIVF	**Saint-Julien-l**	**10.13**	**233**	*e*Pn		**Pn**	**04 32 39.3**	**-0.7**
VIVF				*e*Sg		Sn	04 35 33.2	+59
VIVF	**Saint-Julien-l**	**10.13**	**233**	*e*Pn		**Pn**	**04 32 39.3**	**-0.7**
VIVF				*e*Sg		Sn	04 35 33.2	+59
FRF	**La Foret Royal**	**10.21**	**222**	*e*Pn		**Pn**	**04 32 41.1**	**0.0**
FRF				*e*Sn		Sn	04 34 28.6	-7.7
	comp=Z,18nm,0.8s							
FRF	**La Foret Royal**	**10.21**	**222**	*e*P		**Pn**	**04 32 41.1**	**0.0**
FRF	**La Foret Royal**	**10.21**	**222**	*e*Pn		**Pn**	**04 32 41.1**	**0.0**
FRF				*e*Sn		Sn	04 34 28.6	-7.7
FRF	**La Foret Royal**	**10.21**	**222**	*e*Pn		**Pn**	**04 32 41.1**	**0.0**
FRF				*e*Sn		Sn	04 34 28.6	-7.7
SMRF	**Simiane la Rot**	**10.36**	**227**	*e*Pn		**Pn**	**04 32 40.9**	**-2.2**
SMRF				*e*Sn		Sn	04 34 32.5	-7.3
	comp=Z,4.9nm,0.7s							
SMRF	**Simiane la Rot**	**10.36**	**227**	*e*Pn		**Pn**	**04 32 40.9**	**-2.2**
SMRF				*e*Sn		Sn	04 34 32.5	-7.3
SMRF	**Simiane la Rot**	**10.36**	**227**	*e*Pn		**Pn**	**04 32 40.9**	**-2.2**
SMRF				*e*Sn		Sn	04 34 32.5	-7.3
LMR	**La Mourre**	**10.46**	**222**	*e*Sn		Sn	04 34 35.0	-7.2
	comp=Z,2.3nm,0.5s							
LMR	**La Mourre**	**10.46**	**222**	*e*Sn		Sn	04 34 35.0	-7.2
TCF	**Toulx Ste Croi**	**10.54**	**245**	*e*Pn		**Pn**	**04 32 45.1**	**-0.4**
TCF				*e*Sg			04 35 46.3	
	comp=Z,88nm,1.3s							
TCF	**Toulx Ste Croi**	**10.54**	**245**	*e*P		**Pn**	**04 32 45.1**	**-0.4**
TCF	**Toulx Ste Croi**	**10.54**	**245**	*e*Pn		**Pn**	**04 32 45.1**	**-0.4**
TCF				*e*Sg			04 35 46.3	
TCF	**Toulx Ste Croi**	**10.54**	**245**	*e*Pn		**Pn**	**04 32 45.1**	**-0.4**
TCF				*e*Sg			04 35 46.3	
LDF	**La Druitiere**	**10.83**	**261**	*e*Pn		**Pn**	**04 32 48.8**	**-0.7**
LDF				*e*Sg			04 35 56.3	
	comp=Z,39nm,1.0s							
LDF	**La Druitiere**	**10.83**	**261**	*e*P		**Pn**	**04 32 48.8**	**-0.7**
LDF	**La Druitiere**	**10.83**	**261**	*e*Pn		**Pn**	**04 32 48.8**	**-0.7**
LDF				*e*Sg			04 35 56.3	
LDF	**La Druitiere**	**10.83**	**261**	*e*Pn		**Pn**	**04 32 48.8**	**-0.7**
LDF				*e*Sg			04 35 56.3	
FLN	**La Foliniere**	**10.99**	**262**	*e*Pn		**Pn**	**04 32 52.1**	**+0.4**
FLN				*e*Sg			04 36 01.1	
	comp=Z,29nm,0.9s							
FLN	**La Foliniere**	**10.99**	**262**	*e*P		**Pn**	**04 32 52.1**	**+0.4**
FLN	**La Foliniere**	**10.99**	**262**	*e*Pn		**Pn**	**04 32 52.1**	**+0.4**
FLN				*e*Sg			04 36 01.1	
FLN	**La Foliniere**	**10.99**	**262**	*e*Pn		**Pn**	**04 32 52.1**	**+0.4**
FLN				*e*Sg			04 36 01.1	
LASF	**Ste Croix**	**11.10**	**232**	*e*Sg			04 36 03.3	
	comp=Z,101nm,1.5s							
LASF	**Ste Croix**	**11.10**	**232**	*e*Sg			04 36 03.3	
FINES	**FINESS Array B**	**11.34**	**25**	Pn		**Pn**	**04 32 56.0**	**-0.4**
FINES				Sn		Sn	04 34 56.9	-6.8
FINES	**FINESS Array B**	**11.34**	**25**	P		**Pn**	**04 32 56.0**	**-0.4**
FINES	**FINESS Array B**	**11.34**	**25**	Pn		**Pn**	**04 32 56.0**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=201,slow=11,SNR=16							
FINES				Sn		Sn	04 34 56.9	-6.8
	comp=Z,1.1nm,0.3s,baz=211,slow=21,SNR=5.5							
CAF	**Calviac**	**11.45**	**240**	*e*Sg			04 36 14.5	
	comp=Z,72nm,1.5s							
CAF	**Calviac**	**11.45**	**240**	*e*Sg			04 36 14.5	
CAF	**Calviac**	**11.45**	**240**	*e*Sg			04 36 14.5	
RJF	**Les Rejaudoux**	**11.51**	**243**	*e*Sg			04 36 16.7	
	comp=Z,65nm,1.3s							
RJF	**Les Rejaudoux**	**11.51**	**243**	*e*Sg			04 36 16.7	
RJF	**Les Rejaudoux**	**11.51**	**243**	*e*Sg			04 36 16.7	
MFF	**Saint Martin d**	**11.73**	**251**	*e*Sg			04 36 23.8	
	comp=Z,17nm,0.8s							
MFF	**Saint Martin d**	**11.73**	**251**	*e*Sg			04 36 23.8	
KAF	**Kangasniemi**	**11.96**	**24**	*e*P		**Pn**	**04 33 04.7**	**-0.2**
KAF				pmax		pmax		
	comp=Z,1.0nm,0.4s							
KAF	**Kangasniemi**	**11.96**	**24**	*e*p		**Pn**	**04 33 04.7**	**-0.2**
	comp=Z,0.8nm,0.4s							
KAF	**Kangasniemi**	**11.96**	**24**	*e*P		**Pn**	**04 33 04.7**	**-0.2**
	comp=Z,1.0nm,0.4s							
EKA	**Eskdalemuir Ar**	**12.08**	**296**	Pn		**Pn**	**04 33 05.1**	**-1.5**
EKA				Sn		Sn	04 35 12.9	-8.9
EKA	**Eskdalemuir Ar**	**12.08**	**296**	P		**Pn**	**04 33 05.1**	**-1.5**
EKA	**Eskdalemuir Ar**	**12.08**	**296**	Pn		**Pn**	**04 33 05.1**	**-1.5**
	baz=104,slow=14,SNR=15							
EKA				Sn		Sn	04 35 12.9	-8.9
	baz=104,slow=26,SNR=4.0							
LFF	**La Frestale**	**12.17**	**243**	*e*Sg			04 36 37.1	
	comp=Z,63nm,1.0s							
LFF	**La Frestale**	**12.17**	**243**	*e*Sg			04 36 37.1	
LFF	**La Frestale**	**12.17**	**243**	*e*Sg			04 36 37.1	
MTLF	**Montolieu**	**12.45**	**234**	*e*Sg			04 36 45.6	
	comp=Z,70nm,1.6s							
MTLF	**Montolieu**	**12.45**	**234**	*e*Sg			04 36 45.6	
MTLF	**Montolieu**	**12.45**	**234**	*e*Sg			04 36 45.6	
OBN	**Obninsk**	**12.74**	**66**	P		**Pn**	**04 33 13.0**	**-2.5**
OBN				*e*SS		Sn	04 35 44.0	+6.1
OBN				pmax		pmax		
	comp=Z,10.0nm,1.3s							
JOF	**Joensuu**	**14.02**	**30**	*e*P		**Pn**	**04 33 30.1**	**-2.8**
JOF				pmax		pmax		
	comp=Z,1.0nm,0.4s							
JOF	**Joensuu**	**14.02**	**30**	*e*p		**Pn**	**04 33 30.1**	**-2.8**
	comp=Z,0.6nm,0.4s							
SJPF	**Ste Jean**	**14.43**	**241**	*e*Sg			04 37 47.6	
	comp=Z,9.5nm,0.7s							
SJPF	**Ste Jean**	**14.43**	**241**	*e*Sg			04 37 47.6	
SJPF	**Ste Jean**	**14.43**	**241**	*e*Sg			04 37 47.6	
KLMR	**Klimovskoe**	**15.94**	**45**	*e*P		Pn	04 33 52.4	-6.3
KLMR				pmax		pmax		
	comp=Z,28nm,1.5s							
BRTR	**Keskin Array B**	**16.98**	**127**	Pn		**Pn**	**04 34 12.1**	**-0.2**
BRTR	**Keskin Array B**	**16.98**	**127**	Pn		**Pn**	**04 34 12.1**	**-0.2**
BRTR	**Keskin Array B**	**16.98**	**127**	Pn		**Pn**	**04 34 12.1**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=335,slow=16,SNR=2.6							
ARCES	**ARCESS Array B**	**18.59**	**10**	Pn		**P**	**04 34 30.2**	**-1.5**
ARCES	**ARCESS Array B**	**18.59**	**10**	P		**P**	**04 34 30.2**	**-1.5**
ARCES	**ARCESS Array B**	**18.59**	**10**	Pn		**P**	**04 34 30.2**	**-1.5**
	comp=Z,0.7nm,0.3s,baz=195,slow=12,SNR=20							
KEV	**Kevo**	**18.98**	**12**	*e*P		**P**	**04 34 34.1**	**-1.8**
KEV				pmax		pmax		
	comp=Z,2.0nm,0.3s							
KEV	**Kevo**	**18.98**	**12**	*e*p		**P**	**04 34 34.1**	**-1.8**
	comp=Z,1.8nm,0.3s							
KEV	**Kevo**	**18.98**	**12**	*e*P		**P**	**04 34 34.1**	**-1.8**
	comp=Z,2.0nm,0.3s							
KIV	**Kislovodsk**	**19.35**	**103**	P		**P**	**04 34 38.0**	**-2.3**
KIV				S		**S**	**04 38 21.0**	**+1.0**
KIV				pmax		pmax		
	comp=Z,6.0nm,1.2s							
ARU	**Arti**	**25.13**	**62**	*c* *i*P		**P**	**04 35 41.0**	**+1.3**
ARU							04 36 13.1	
ARU				S		**S**	**04 40 09.8**	**+4.6**
ARU				SS		**SnSn**	**04 40 59.7**	**+5.8**
ARU				pmax		pmax		
	comp=Z,10.0nm,1.0s							
ARU	**Arti**	**25.13**	**62**	*i* P		**P**	**04 35 41.0**	**+1.3**
	comp=Z,10.0nm,1.0s							
AKTK	**Aktyubinsk**	**26.16**	**76**	P		**P**	**04 35 49.5**	**+0.5**
AKTO	**Aktyubinsk**	**26.16**	**76**	P		**P**	**04 35 49.5**	**+0.5**
AKTO	**Aktyubinsk**	**26.16**	**76**	P		**P**	**04 35 49.5**	**+0.5**
AKTO	**Aktyubinsk**	**26.16**	**76**	P		**P**	**04 35 49.5**	**+0.5**
	comp=Z,3.6nm,0.7s,baz=284,slow=12,SNR=10							
AKTO					LR	LR	04 47 14.1	
	comp=Z,155nm,20.0s,baz=161,slow=39							
BVAR	**Borovoye Array**	**32.59**	**66**	P		P	04 36 49.2	+3.1
BVAR	**Borovoye Array**	**32.59**	**66**	P		P	04 36 49.2	+3.1
BVAR	**Borovoye Array**	**32.59**	**66**	P		P	04 36 49.2	+3.1
BVAR	**Borovoye Array**	**32.59**	**66**	P		P	04 36 49.2	+3.1
	comp=Z,1.8nm,0.5s,baz=293,slow=7.7,SNR=8.9							
KURBB	**Kurchatov Arra**	**38.17**	**66**	P		**P**	**04 37 36.1**	**+1.9**
	comp=Z,1.5nm,0.6s,baz=298,slow=9.2,SNR=5.6							
KURK	**Kurchatov**	**38.18**	**66**	P		**P**	**04 37 36.1**	**+1.9**
KURK	**Kurchatov**	**38.18**	**66**	P		**P**	**04 37 36.1**	**+1.9**
KURK	**Kurchatov**	**38.18**	**66**	P		**P**	**04 37 36.1**	**+1.9**
TORD	**Torodi Ar. Bea**	**40.02**	**202**	P		**P**	**04 37 51.0**	**+1.1**
TORD	**Torodi Ar. Bea**	**40.02**	**202**	P		**P**	**04 37 51.0**	**+1.1**
TORD	**Torodi Ar. Bea**	**40.02**	**202**	P		**P**	**04 37 51.0**	**+1.1**
	comp=Z,2.3nm,0.8s,baz=11,slow=8.5,SNR=15							
ZALV	**Zalesovo Beam**	**40.19**	**59**	P		**P**	**04 37 53.4**	**+2.4**
ZALV	**Zalesovo Beam**	**40.19**	**59**	P		**P**	**04 37 53.4**	**+2.4**
ZALV	**Zalesovo Beam**	**40.19**	**59**	P		**P**	**04 37 53.4**	**+2.4**
ZALV	**Zalesovo Beam**	**40.19**	**59**	P		**P**	**04 37 53.4**	**+2.4**
	comp=Z,1.3nm,0.3s,baz=258,slow=7.2,SNR=3.6							
MKAR	**Makanchi Array**	**42.21**	**69**	P		**P**	**04 38 10.1**	**+2.3**
MKAR	**Makanchi Array**	**42.21**	**69**	P		**P**	**04 38 10.1**	**+2.3**
MKAR	**Makanchi Array**	**42.21**	**69**	P		**P**	**04 38 10.1**	**+2.3**
MKAR	**Makanchi Array**	**42.21**	**69**	P		**P**	**04 38 10.1**	**+2.3**
	comp=Z,1.1nm,0.8s,baz=296,slow=6.6,SNR=7.6							
SONM	**Songino Array**	**54.91**	**55**	P		P	04 39 48.7	+3.1
SONM	**Songino Array**	**54.91**	**55**	P		P	04 39 48.7	+3.1
SONM	**Songino Array**	**54.91**	**55**	P		P	04 39 48.7	+3.1
	comp=Z,1.1nm,0.7s,baz=289,slow=8.7,SNR=7.8							
YKA	**Yellowknife Ar**	**59.82**	**336**	P		**P**	**04 40 21.6**	**+1.7**
YKA	**Yellowknife Ar**	**59.82**	**336**	P		**P**	**04 40 21.5**	**+1.7**
	comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**59.82**	**336**	P		**P**	**04 40 21.5**	**+1.7**
	comp=Z,1.3nm,0.6s,baz=17,slow=8.0,SNR=5.0							
PDAR	**Pinedale Array**	**74.91**	**322**	P		**P**	**04 41 58.5**	**+2.5**
PDAR	**Pinedale Array**	**74.91**	**322**	P		**P**	**04 41 58.5**	**+2.5**
PDAR	**Pinedale Array**	**74.91**	**322**	P		**P**	**04 41 58.5**	**+2.5**
	comp=Z,0.6nm,0.6s,baz=46,slow=5.2,SNR=5.6							
TXAR	**Lajitas Array**	**83.68**	**310**	P		**P**	**04 42 46.9**	**+2.9**
TXAR	**Lajitas Array**	**83.68**	**310**	P		**P**	**04 42 46.9**	**+2.9**
TXAR	**Lajitas Array**	**83.68**	**310**	P		**P**	**04 42 46.9**	**+2.9**
	comp=Z,0.3nm,0.7s,baz=34,slow=6.6,SNR=3.6							

IDC **15** *04:30:55.7±5.1,37.41S×96.92W,h0km,mb4.0/5,*
mb1 4.4/5,mb1mx4.1/15,mbtmp4.0/5,MS3.8/6,Ms1 3.8/6,
ms1mx3.7/21,Error ellipse: s-maj=141.5km
s-min=31.7km az=19.0,Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H03N2	**Juan Fernandez**	**15.19**	**80**	T	T	04 49 55.0	
	baz=254						
H03N3	**Juan Fernandez**	**15.19**	**80**	T	T	04 50 02.0	
	baz=254,SNR=156						
H03N1	**Juan Fernandez**	**15.21**	**80**	T	T	04 49 56.5	
	baz=254						
LPAZ	**La Paz**	**32.99**	**58**	P	P	04 37 33.3	+0.1
	11nm,0.9s,baz=219,slow=5.5,SNR=36						
LPAZ					LR	04 46 37.0	
	comp=Z,93nm,18.6s,baz=265,slow=28						
CPUP	**Villa Florida**	**35.16**	**83**	P	P	04 37 51.1	-0.2
	0.8nm,0.6s,baz=250,slow=12,SNR=3.1						
ROSC	**El Rosal**	**47.02**	**32**	LR	LR	04 56 21.3	
	comp=Z,160nm,18.9s,baz=194,slow=32						
BDFB	**Brasilia**	**48.22**	**77**	LR	LR	04 57 32.0	
	comp=Z,89nm,18.0s,baz=34,slow=33						
VNDA	**Vanda**	**56.17**	**195**	LR	LR	05 00 56.9	
	comp=Z,65nm,21.7s,baz=4.6,slow=32						
TXAR	**Lajitas Array**	**66.69**	**354**	P	P	04 41 48.1	-0.4
	0.7nm,0.9s,baz=167,slow=8.3,SNR=6.0						
NVAR	**Mina Array Bea**	**78.00**	**343**	P	P	04 42 56.4	+0.4
	0.7nm,0.9s,baz=179,slow=4.5,SNR=4.9						
PDAR	**Pinedale Array**	**80.62**	**351**	P	P	04 43 10.2	0.0
	0.9nm,0.8s,baz=162,slow=6.2,SNR=6.2						
PDAR					LR	05 12 14.7	
	comp=Z,87nm,18.5s,baz=71,slow=31						
ULM	**Lac du Bonnet**	**87.29**	**1**	LR	LR	05 19 03.8	
	comp=Z,75nm,19.4s,baz=15,slow=33						

IDC **15** *04:34:56.9±3.8,11.80S×164.64E,h0km,mb3.8/3,*
mb1 4.0/3,mb1mx3.6/19,mbtmp3.8/3,MS3.1/2,Ms1 3.1/2,
ms1mx2.9/27,Error ellipse: s-maj=158.6km
s-min=43.1km az=137.0,Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.17**	**297**	LR	LR	04 37 29.8	
	comp=Z,109nm,21.6s,baz=140,slow=30						
CTA	**Charters Tower**	**19.49**	**243**	P	Pn	04 39 31.2	+4.3
	0.1nm,0.3s,baz=81,slow=13,SNR=6.1						
WRA	**Warramunga Arr**	**30.21**	**251**	P	P	04 41 08.5	-0.9
	0.6nm,0.8s,baz=79,slow=9.5,SNR=5.1						
ASAR	**Alice Springs**	**31.48**	**244**	P	P	04 41 21.4	+0.7
	1.1nm,0.9s,baz=73,slow=8.5,SNR=6.9						
RPZ	**Rata Peaks**	**32.28**	**171**	LR	LR	04 51 06.9	
	comp=Z,72nm,21.8s,baz=193,slow=30						
MKAR	**Makanchi Array**	**93.32**	**317**	P	P	04 48 14.3	+0.4
	0.5nm,0.5s,baz=104,slow=6.1,SNR=5.2						
ARCES	**ARCESS Array B**	**116.78**	**345**	PKP	PKPdf	04 53 42.3	-0.5
	3.8nm,0.8s,baz=79,slow=1.9,SNR=5.3						

GUC **15** *04:37:29.5±0.8,25.36S×70.69W,h15km±6km,ML3.7,2D,*
Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANCH	**Antofagasta**	**1.69**	**9**	*e*P	Pn	04 37 57.0	-1.4
ANCH				*i* S	Sn	04 38 17.2	-2.7
CDCH	**Caldera**	**1.71**	**184**	*e*P	Pn	04 37 57.4	-1.3
CDCH				*i* S	Sn	04 38 17.6	-2.6
PB10	**Plate Boundary**	**1.84**	**4**	*e*P	Pn	04 37 58.8	-1.9
PB10				*i* S	Sn	04 38 21.9	-1.8
PB10				AML	AML	04 38 33.5	
	comp=E,985nm,0.4s						
CEN1	**Los Morros**	**2.01**	**13**	*e*P	Pn	04 37 58.5	-4.5
CEN1				*i* S	Sn	04 38 21.0	-7.1
CEN1				AML	AML	04 38 32.9	
	comp=E,262nm,0.7s						
CPCH	**Copiapo**	**2.01**	**172**	*e*P	Pn	04 38 02.1	-0.9
CPCH				*i* S	Sn	04 38 26.4	-1.5
CPCH				AML	AML	04 38 28.5	
	comp=N,4μm,0.1s						
PB04	**Plate Boundary**	**3.27**	**20**	*e*P	Pn	04 38 15.4	-4.8
PB01	**Plate Boundary**	**4.44**	**15**	*e*P	Pn	04 38 35.1	-1.3

IDC **15** *04:53:20.1±1.6,12.53S×165.96E,h0km,mb3.6/3,*
mb1 4.0/4,mb1mx3.7/20,mbtmp3.8/4,ML4.0/1,Error
ellipse: s-maj=43.4km s-min=28.7km az=116.0,Santa
Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.66**	**297**	Pn	Pb	04 55 09.1	-7.7
	11nm,0.3s,baz=14,slow=9.8,SNR=5.1						
DZM	**Mont Dzumac**	**9.50**	**177**	Pn	Pn	04 55 38.3	-0.1
	1.6nm,0.3s,baz=353,slow=17,SNR=9.7						
DZM				Sn	Sn	04 57 27.7	+1.7
	0.4nm,0.3s,baz=156,slow=20,SNR=2.7						
WRA	**Warramunga Arr**	**31.20**	**252**	P	P	04 59 41.4	0.0
	0.4nm,0.7s,baz=85,slow=8.9,SNR=3.8						
ASAR	**Alice Springs**	**32.34**	**245**	P	P	04 59 51.4	-0.1
	0.7nm,0.8s,baz=74,slow=9.5,SNR=9.6						
ILAR	**Eielson Array**	**84.85**	**18**	P	P	05 05 56.2	0.0
	0.6nm,0.7s,baz=241,slow=5.4,SNR=8.9						

IDC **15** *05:05:28.1±6.5,15.44S×173.19W,h0km,mb3.6/3,*
mb1 3.8/4,mb1mx3.6/21,mbtmp3.5/4,ML1.3/1,MS3.2/1,
Ms1 3.2/1,ms1mx2.9/20,Error ellipse: s-maj=309.5km
s-min=24.1km az=142.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.05**	**42**	Pn	Pn	05 06 01.7	-2.2
	6.5nm,0.3s,baz=53,slow=20,SNR=5.0						
AFI				Sn	Sn	05 06 24.6	-5.6
	45nm,0.3s,baz=151,slow=11,SNR=12						
AFI				LR	LR	05 06 30.5	
	comp=Z,522nm,18.5s,baz=157,slow=30						
WRA	**Warramunga Arr**	**50.03**	**257**	P	P	05 14 24.1	-0.7
	0.3nm,0.5s,baz=91,slow=6.7,SNR=10						
ASAR	**Alice Springs**	**50.29**	**252**	P	P	05 14 26.6	-0.3
	0.4nm,0.3s,baz=90,slow=7.2,SNR=10						
ILAR	**Eielson Array**	**82.44**	**11**	P	P	05 17 53.5	+1.5
	0.2nm,0.7s,baz=204,slow=6.5,SNR=3.2						

ISCJB **15** *05:13:40.2±1.8,3.36S±0.08×35.05E±0.04,h4km±11km,*
Error ellipse: s-maj=13.8km s-min=6.4km az=165.6
NEIC **15** *05:13:41.0,3.51S×35.15E,h10km,ML4.7(PRE),After*
PRE.
PRE **15** *05:13:41.0±1.9,3.51S×35.15E,h10km,ML4.7*
BUL **15** *05:13:51.3±10.0,3.51S×35.39E,h0km±112km,MD3.2*
ISC 15 05:13:41.6±1.7,3.40S±0.05×35.06E±0.04,h5km±15km,
n15,σ1s27/29,Tanzania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAUS	**Longido**	**1.76**	**68**	*i* P	Pn	05 14 12.7	-0.3
MAUS				*i* S	Sn	05 14 34.6	-1.3
DODT	**Dodoma, Tanzan**	**2.85**	**166**	*i* P	Pg	05 14 35.3	-1.1
DODT				*i* S	Sg	05 15 14.1	+0.6
DODT	**Dodoma, Tanzan**	**2.85**	**166**	*i* P	Pg	05 14 36.1	-0.3
DODT				*i* S	Sg	05 15 13.6	+0.2
KMBO	**Kilima Mbogo**	**3.15**	**44**	*e*P	Pn	05 14 31.9	-0.2
KMBO				*e*S	Sn	05 15 08.8	-1.4
KMBO	**Kilima Mbogo**	**3.15**	**44**	*e*Pn	Pn	05 14 31.3	-0.8
KMBO				*e*Sn	Sn	05 15 08.1	-2.1
KMBO				*e*Sg	Sg	05 15 23.8	+1.0
KMBO	**Kilima Mbogo**	**3.15**	**44**	*i* P	Pn	05 14 31.9	-0.2
KMBO				*i* S	Sb	05 15 18.7	+1.7
KMBO	**Kilima Mbogo**	**3.15**	**44**	*i* P	Pn	05 14 32.3	+0.2
KMBO				*i* S	Sn	05 15 11.7	+1.5
MBAR	**Mbarara**	**5.14**	**303**	*e*P	Pn	05 15 00.1	+0.6
MBAR				*e*S	Sn	05 15 59.7	+0.4
MBAR	**Mbarara**	**5.14**	**303**	*e*P	Pn	05 15 00.1	+0.6
MBAR				*e*S	Sn	05 15 59.7	+0.4
MBAR	**Mbarara**	**5.14**	**303**	*i* P	Pn	05 15 00.2	+0.7
MBAR				*i* S	Sn	05 16 00.7	+1.4
MBAR	**Mbarara**	**5.14**	**303**	*i* P	Pn	05 15 00.4	+0.9
MBAR				*i* S	Sb	05 16 10.3	-4.0
KIG	**Kigali**	**5.19**	**286**	*e*P	Pn	05 14 59.9	-0.4
KIG				*e*S	Sn	05 16 00.7	0.0
KIG				AML	AML	05 16 32.7	
	comp=Z,367nm,0.4s						
KIG	**Kigali**	**5.19**	**286**	*e*P	Pn	05 14 59.9	-0.4
KIG				*e*S	Sn	05 16 00.7	0.0
LSZ	**Lusaka**	**13.61**	**209**	*e*P	Pn	05 16 56.7	+1.1
LSZ				*e*S	Sn	05 19 16.6	-11
LSZ	**Lusaka**	**13.61**	**209**	*e*P	Pn	05 16 56.7	+1.1
LSZ				*e*S	Sn	05 19 16.6	-11

IDC **15** *05:17:32.5±0.6,10.64N×91.64E,h0km,mb4.0/21,*
mb1 4.1/22,mb1mx4.0/31,mbtmp3.9/22,ML4.5/1,Error
ellipse: s-maj=21.6km s-min=13.7km az=57.0
ISCJB **15** *05:17:33.3±0.4,10.60N±0.06×91.77E±0.07,h17km,*
mb4.0/25,Error ellipse: s-maj=10.5km s-min=7.3km
az=152.6
NEIC **15** *05:17:34.2±0.3,10.70N×91.73E,h10km,mb4.5/5,Error*
ellipse: s-maj=9.6km s-min=8.3km az=54.0
ISC 15 05:17:35.3±0.6,10.63N±0.08×91.62E±0.07,h17km,n72,
**σ1s31/67,m

comp=N,5.1nm,1.0s,baz=114,slow=13,SNR=4.3
ARCES ARCESS Array B 71.84 340 P **P** **05 28 58.8 +1.9**
ARCES ARCESS Array B 71.84 340 P **P** **05 28 58.8 +1.9**
comp=N,5.0nm,1.0s,baz=104,slow=7.7,SNR=3.1
GERES GERESS Array B 74.13 318 P **P** **05 29 10.3 -0.7**
GERES GERESS Array B 74.13 318 P **P** **05 29 10.3 -0.7**
comp=N,0.3nm,0.3s,baz=72,slow=4.3,SNR=4.7
BOSA Boshof 74.98 237 P **P** **05 29 15.8 -0.5**
BOSA Boshof 74.98 237 P **P** **05 29 15.8 -0.5**
comp=N,3.5nm,0.8s,baz=125,slow=7.8,SNR=4.6
NOA NORSAR Array B 76.12 330 P **P** **05 29 22.8 +0.7**
NOA NORSAR Array B 76.12 330 P **P** **05 29 22.8 +0.7**
comp=N,1.3nm,0.8s,baz=99,slow=5.2,SNR=3.3
MAW Mawson 80.74 191 P **P** **05 29 48.3 +1.0**
MAW Mawson 80.74 191 P **P** **05 29 48.3 +1.0**
comp=N,1.5nm,0.9s,baz=349,slow=3.1,SNR=3.6
TORD Torodi Ar. Bea 87.56 283 P **P** **05 30 24.4 +1.2**
TORD Torodi Ar. Bea 87.56 283 P **P** **05 30 24.4 +1.2**
comp=N,0.4nm,0.8s,baz=100,slow=4.3,SNR=2.9
ILAR Eielson Array 93.12 21 P **P** **05 30 47.0 -1.2**
ILAR Eielson Array 93.12 21 P **P** **05 30 47.0 -1.2**
comp=N,0.2nm,0.6s,baz=308,slow=4.6,SNR=3.0
NVAR Mina Array Bea 123.76 28 PKP **PKPdf** **05 36 33.4 +0.4**
NVAR Mina Array Bea 123.76 28 PKP **PKPdf** **05 36 33.4 +0.4**
comp=N,0.3nm,0.7s,baz=302,slow=3.9,SNR=3.4
TXAR Lajitas Array 137.62 20 PKP **PKPdf** **05 37 01.1 +1.8**
TXAR Lajitas Array 137.62 20 PKP **PKPdf** **05 37 01.1 +1.8**
comp=N,0.2nm,0.7s,baz=46,slow=2.6,SNR=3.0

IDC 15 05:17:54.2±0.9, 10°52N×91°53E, h0km, mb4.2/15, mb1 4.4/16, mb1mx4.1/31, mbtmp4.2/16, ML3.9/1, MS3.6/1, Ms1 3.6/1, ms1mx2.9/38, Error ellipse: s-maj=42.8km s-min=14.1km az=54.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PSI	**Prapat**	**10.61**	**136**	Pn		Pn	05 20 26.9	-0.9
	1.0nm,0.3s,baz=179,slow=9.4,SNR=6.5							
PSI				LR		LR	05 25 09.6	
	comp=Z,337nm,19.4s,baz=99,slow=41							
AAK	**Ala-Archa**	**35.29**	**338**	P		P	05 24 52.7	+1.6
	3.1nm,0.7s,baz=259,slow=8.1,SNR=4.9							
MKAR	**Makanchi Array**	**37.00**	**349**	P		P	05 25 05.0	-0.5
	5.8nm,0.7s,baz=168,slow=6.5,SNR=17							
SONM	**Songino Array**	**39.25**	**16**	P		P	05 25 24.3	-0.4
	3.1nm,0.9s,baz=204,slow=7.2,SNR=8.3							
SONM				PcP		PcP	05 27 35.7	+2.0
	0.5nm,0.5s,baz=208,slow=5.9,SNR=2.8							
KURBB	**Kurchatov Arra**	**41.40**	**347**	P		P	05 25 41.8	-0.4
	3.6nm,1.0s,baz=164,slow=7.1,SNR=13							
ZALV	**Zalesovo Beam**	**43.65**	**354**	P		P	05 26 00.3	-0.2
	3.5nm,0.7s,baz=171,slow=10,SNR=7.3							
FITZ	**Fitzroy Crossi**	**44.07**	**130**	P		P	05 26 03.1	-1.2
	5.9nm,0.8s,baz=335,slow=12,SNR=6.2							
BVAR	**Borovoye Array**	**45.69**	**342**	P		P	05 26 15.6	-1.2
	1.4nm,0.6s,baz=138,slow=9.0,SNR=5.6							
AKTO	**Aktyubinsk**	**48.41**	**332**	P		P	05 26 37.5	-0.6
	2.6nm,0.7s,baz=146,slow=16,SNR=5.1							
WRA	**Warramunga Arr**	**51.88**	**126**	P		P	05 27 05.0	0.0
	3.2nm,0.6s,baz=305,slow=8.4,SNR=11							
ASAR	**Alice Springs**	**53.57**	**130**	P		P	05 27 18.1	+0.7
	2.7nm,0.7s,baz=302,slow=7.0,SNR=8.2							
BRTR	**Keskin Array B**	**58.77**	**310**	P		P	05 27 54.0	-0.6
	1.0nm,0.6s,baz=125,slow=7.6,SNR=3.8							
FINES	**FINESS Array B**	**69.19**	**332**	P		P	05 29 02.4	-0.1
	4.5nm,0.7s,baz=72,slow=12,SNR=5.6							
GERES	**GERESS Array B**	**74.15**	**318**	P		P	05 29 33.0	+0.2
	1.5nm,0.8s,baz=90,slow=5.3,SNR=5.8							
NOA	**NORSAR Array B**	**76.18**	**330**	P		P	05 29 44.2	0.0
	0.8nm,0.6s,baz=92,slow=6.0,SNR=3.1							
ILAR	**Eielson Array**	**93.26**	**21**	P		P	05 31 10.2	-0.4
	0.3nm,0.7s,baz=299,slow=5.0,SNR=4.7							
NVAR	**Mina Array Bea**	**123.90**	**28**	PKP		PKPdf	05 36 57.6	+2.5
	0.5nm,0.7s,baz=270,slow=4.2,SNR=3.4							

GUC ***15*** *05:39:38.6±0.9, 24°.14S×71°.09W, h47km±3km, ML3.2*
ISCJB ***15*** *05:39:39.7±1.1, 24°.28S±0°.07×70°.3W±0°.2, h54km, mb4.0/2, Error ellipse: s-maj=19.9km s-min=9.6km az=169.9*
IDC ***15*** *05:39:40.9±5.1, 24°.38S×70°.75W, h57km±44km, mb3.8/2, mb1 3.6/3, mb1mx3.3/18, mbtmp3.6/3, ML3.1/1, Error ellipse: s-maj=85.8km s-min=31.8km az=108.0*
ISC 15 05:39:40.8±1.1, 24°.22S±0°.09×70°.2W±0°.1, h54km, n15, σ1§52/14, 2C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ANCH	**Antofagasta**	**0.58**	**338**	*i*	*P*	**Pn**	**05 39 53.4**	**+0.1**
ANCH				*i*	S	**Sn**	**05 40 04.4**	**+2.2**
ANCH					AML	AML	05 40 05.4	
	comp=E,2μm,0.5s							
PB10	**Plate Boundary**	**0.78**	**334**	*i*	*P*	**Pn**	**05 39 54.2**	**-1.6**
PB10				*i*	S	**Sn**	**05 40 05.8**	**-1.0**
PB10					AML	AML	05 40 06.9	
	comp=E,4μm,0.4s							
CEN1	**Los Morros**	**0.83**	**358**	*i*	*P*	**Pn**	**05 39 55.6**	**-0.9**
CEN1				*i*	S	**Sn**	**05 40 08.4**	**+0.5**
CEN1					AML	AML	05 40 11.9	
	comp=N,368nm,0.7s							
PB04	**Plate Boundary**	**2.05**	**18**	*e*	*P*	**Pn**	**05 40 11.0**	**-1.8**
PB04				*i*	S	**Sn**	**05 40 35.8**	**-1.4**
PB04					AML	AML	05 40 50.2	
	comp=N,223nm,0.8s							
PB07	**Plate Boundary**	**2.50**	**6**	*e*	*P*	**Pn**	**05 40 20.3**	**+1.1**
PB09	**Plate Boundary**	**2.56**	**20**	*e*	*P*	Pn	05 40 24.4	+4.3
LPAZ	**La Paz**	**8.12**	**14**	P		Pn	05 41 40.7	+4.0
	comp=N,0.1nm,0.3s,baz=220,slow=4.3,SNR=5.0							
H03N1	**Juan Fernandez**	**11.96**	**218**	T		T	05 54 12.6	
	baz=41,slow=0.7,SNR=5.9							
H03N2	**Juan Fernandez**	**11.96**	**218**	T		T	05 54 14.4	
	baz=41,slow=0.7,SNR=2.2							
H03N3	**Juan Fernandez**	**11.97**	**218**	T		T	05 54 14.9	
	baz=41,slow=0.7,SNR=107							
QSPA	**South Pole Qui**	**65.98**	**180**	P		**P**	**05 50 20.1**	**-1.3**
	comp=N,0.8nm,0.5s							
TORD	**Torodi Ar. Bea**	**79.36**	**70**	P		**P**	**05 51 44.1**	**+2.7**
	comp=N,1.3nm,0.5s,baz=260,slow=5.0,SNR=20							
KURBB	**Kurchatov Arra**	**144.24**	**34**	PKP		**PKPdf**	**05 59 09.6**	**-0.8**
	comp=N,0.6nm,0.5s,baz=304,slow=3.4,SNR=5.7							
ZALV	**Zalesovo Beam**	**144.90**	**26**	PKPbc		**PKPdf**	**05 59 11.3**	**-0.2**
	comp=N,2.1nm,0.8s,baz=319,slow=3.5,SNR=5.2							
MKAR	**Makanchi Array**	**148.50**	**37**	PKPbc		**PKPbc**	**05 59 21.5**	**0.0**
	comp=N,0.2nm,0.4s,baz=298,slow=3.1,SNR=3.6							

AUST ***15*** *05:52:48.1, 32°.99S×178°.08W, h0km*
ISCJB ***15*** *05:52:49.6±2.2, 33°.41S±0°.05×178°.65W±0°.05, h8km±13km, mb5.1/33, MS4.6/28, Error ellipse: s-maj=9.0km s-min=6.1km az=139.7*
IDC ***15*** *05:52:49.2±0.5, 33°.13S×178°.63W, h0km, mb4.5/13, mb1 4.7/14, mb1mx4.6/17, mbtmp4.6/14, ML4.7/1, MS4.5/21, Ms1 4.5/21, ms1mx4.4/32, Error ellipse: s-maj=17.3km s-min=16.6km az=5.0*
MOS ***15*** *05:52:53.8±1.6, 33°.31S×178°.84W, h33km, mb5.4/10, Error ellipse: s-maj=15.5km s-min=11.7km az=113.8*
GCMT ***15*** *05:52:53.6±0.2, 33°.32S×178°.03W, h13km, MW5.1, Moment Tensor Solution. s40,c52; s77,c117; Moment tensor: Scale 10^16 Nm; Mrr 3.63±.18; Mθθ -0.36±.13; Mφφ -3.27±.13; Mrθ -0.29±.33; Mθφ -1.64±.10; Mrφ 4.33±.42; Best double couple: M0 5.80000×10^16 NP1: ϕ5 4.00000°, δ70.00000°, λ75.00000°. NP2: ϕ223.00000°, δ25.00000°, λ126.00000°. Principal axes: T 5.8700, Plg62.0000°, Azm250.0000°; N -0.1700, Plg15.0000°, Azm9.0000°; P -5.7000, Plg24.0000°, Azm106.0000°; Data Used: IU II IC CN G.*
NEIC ***15*** *05:52:54.4±0.3, 33°.37S×178°.67W, h35km, mb5.1/14 Error ellipse: s-maj=9.9km s-min=7.2km az=110.0*
BJI ***15*** *05:52:54.1, 33°.75S×179°.06W, h33km, mB5.6/15, mb5.4/15, Ms5.3/14, Ms7 4.8/15*
ISC 15 05:52:54.4±0.6, 33°.37S±0°.06×178°.51W±0°.06, h34km±1km, h34km: pP-P, n252, σ1§54/262, mb5.2/33, MS4.6/28, 7C-8D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**4.14**	**7**	*e*	Pn	Pn	05 53 49.3	-5.9
RAO						Sn	05 54 34.8	-7.6
RAO	**Raoul Island**	**4.14**	**7**	Pn		Pn	05 53 49.0	-6.2
	52nm,0.3s,baz=264,slow=22,SNR=5.8							
RAO						Sn	05 54 34.7	-7.6
	108nm,0.3s,baz=194,slow=23,SNR=5.5							
URZ	**Urewera**	**6.04**	**215**	*e*	Pn	**Pn**	**05 54 20.0**	**-1.3**
URZ				*e*	Sn	**Sn**	**05 55 27.9**	**-1.3**
URZ					Sn	Sn	05 55 29.1	-0.1
URZ	**Urewera**	**6.04**	**215**	Pn		**Pn**	**05 54 19.2**	**-2.2**
	10.0nm,0.3s,baz=36,slow=6.1,SNR=39							
URZ					Sn	**Sn**	**05 55 29.2**	**-0.1**
	24nm,0.3s,baz=165,slow=22,SNR=13							
OUZ	**Omahuta**	**6.79**	**252**	*e*	Pn	**Pn**	**05 54 34.2**	**+2.5**
BKZ	**Black Stump Fm**	**7.05**	**213**	*e*	Pn	**Pn**	**05 54 33.7**	**-1.6**
BFZ	**Birch Farm**	**8.41**	**208**	*e*	Pn	Pn	05 54 50.8	-3.1
RPZ	**Rata Peaks**	**13.16**	**215**	Pn		Pn	05 55 53.6	-5.2
RPZ					Sn	Sn	05 58 10.0	-14
RPZ	**Rata Peaks**	**13.16**	**215**	Pn		Pn	05 55 53.6	-5.2
	1.1nm,0.3s,baz=270,slow=8.2,SNR=9.1							
RPZ					Sn	Sn	05 58 10.0	-14
	2.2nm,0.3s,baz=331,slow=20,SNR=8.9							
ODZ	**Otahua Downs**	**14.36**	**213**	Pn		**Pn**	**05 56 13.4**	**-1.7**
ODZ				*e*	Sn	Sn	05 58 37.0	-16
MSVF	**Nonsavu**	**15.88**	**348**	*e*	P	**Pn**	**05 56 33.3**	**-2.2**
MSVF					pmax	pmax		
	comp=Z,128nm,1.3s							
MSVF	**Nonsavu**	**15.88**	**348**	*e*	Pn	**Pn**	**05 56 33.3**	**-2.2**
	comp=Z,128nm,1.3s							
DZM	**Mont Dzumac**	**17.42**	**306**	*e*	Pn	**P**	**05 56 57.9**	**+2.0**
	comp=Z,253nm,1.2s							
DZM					eLR	LR	06 01 13.1	
	comp=Z,4μm,25.1s							
DZM	**Mont Dzumac**	**17.42**	**306**	P		**P**	**05 56 57.7**	**+1.8**
DZM	**Mont Dzumac**	**17.42**	**306**	P		**P**	**05 56 57.7**	**+1.8**
	comp=Z,0.6nm,0.3s,baz=130,slow=13,SNR=42							
DZM					LR	LR	06 02 05.7	
	comp=Z,2μm,21.8s,baz=307,slow=32							
RAR	**Rarotonga**	**20.55**	**59**	LR		LR	06 04 27.7	
	comp=Z,1μm,18.1s,baz=225,slow=34							
ARMA	**Armidale**	**25.48**	**268**	P		**P**	**05 58 19.0**	**-0.7**
	comp=Z,33nm,1.1s							
ARMA	**Armidale**	**25.48**	**268**	P		**P**	**05 58 23.9**	**+4.2**
	baz=26,SNR=4.2							
TBI	**Tubuai**	**27.36**	**76**	*e*	S	**S**	**06 03 14.2**	**-0.1**
	comp=Z,1μm,25.2s							
TBI					eLR	LR	06 05 17.5	
	comp=Z,938nm,21.0s,baz=237							
EIDS	**Eidsvold**	**27.60**	**279**	*e*	P	**P**	**05 58 36.4**	**-2.3**
	comp=Z,24nm,1.0s							
EIDS	**Eidsvold**	**27.60**	**279**	P		**P**	**05 58 40.2**	**+1.6**
	baz=28,SNR=5.3							
MOO	**Moorlands**	**28.38**	**241**	P		**P**	**05 58 46.9**	**+1.4**
	baz=29,SNR=6.3							
RMQ	**Roma**	**29.10**	**275**	P		**P**	**05 58 54.6**	**+2.6**
	baz=29,SNR=15							
CMSA	**Cobar Meteorol**	**30.17**	**264**	P		**P**	**05 59 03.7**	**+2.2**
	baz=30,SNR=4.7							
PPT2	**Papeete2**	**30.34**	**66**	*e*	S	**S**	**06 04 01.9**	**+0.5**
	comp=Z,187nm,24.0s							
PPT2					eLR	LR	06 06 50.3	
	comp=Z,939nm,21.2s,baz=229							
PPT	**Papeete**	**30.36**	**66**	LR		LR	06 07 32.3	
	comp=Z,568nm,19.7s,baz=255,slow=29							
HNR	**Honiara**	**31.01**	**315**	LR		LR	06 09 18.0	
	comp=Z,325nm,18.7s,baz=285,slow=32							
QLP	**Quilpie**	**32.85**	**272**	P		**P**	**05 59 27.4**	**+2.4**
	baz=33,SNR=12							
STKA	**Stephens Creek**	**33.49**	**261**	P		**P**	**05 59 31.3**	**+0.6**
STKA	**Stephens Creek**	**33.49**	**261**	P		**P**	**05 59 31.3**	**+0.6**
	comp=Z,7.4nm,1.0s,baz=99,slow=9.9,SNR=5.3							
STKA					LR	LR	06 12 59.5	
	comp=Z,2μm,18.6s,baz=77,slow=36							
CTA	**Charters Tower**	**33.97**	**284**	P		**P**	**05 59 34.6**	**-0.2**
CTA	**Charters Tower**	**33.97**	**284**	P		**P**	**05 59 34.6**	**-0.2**
	comp=Z,10.0nm,0.7s,baz=104,slow=10,SNR=21							
CTAO	**Charters Tower**	**33.97**	**284**	*e*	P	**P**	**05 59 35.0**	**+0.1**
CTAO					pmax	pmax		
	comp=Z,203nm,2.1s							
CTAO	**Charters Tower**	**33.97**	**284**	*e*	P	**P**	**05 59 35.0**	**+0.1**
	comp=Z,203nm,2.1s							
MTSU	**Mount Surprise**	**36.54**	**285**	P		**P**	**05 59 58.1**	**+1.1**
	baz=37,SNR=8.9							
RKT	**Rikitea**	**39.44**	**87**	*e*	LR	LR	06 10 52.6	
	comp=Z,991nm,29.8s,baz=245							
PMG	**Port Moresby**	**39.58**	**299**	P		**P**	**06 00 22.8**	**+0.2**
	comp=Z,31nm,1.0s							
PMG	**Port Moresby**	**39.58**	**299**	LR		LR	06 14 13.7	
	comp=Z,434nm,18.7s,baz=128,slow=33							
COEN	**Coen**	**39.77**	**290**	*e*	P	**P**	**06 00 24.4**	**+0.2**
	comp=Z,2μm,2.7s							
COEN	**Coen**	**39.77**	**290**	P		**P**	**06 00 25.0**	**+0.8**
	baz=40,SNR=9.2							
RABL	**Rabaul**	**39.88**	**310**	P		P	06 00 20.4	-4.7
	baz=40,SNR=3.1							
AS31	**Alice Springs**	**42.60**	**270**	*e*	P	**P**	**06 00 46.1**	**-1.4**
ASAR	**Alice Springs**	**42.60**	**270**	P		**P**	**06 00 46.0**	**-1.5**
ASAR					PcP	**PcP**	**06 02 39.4**	**-0.1**
ASAR					S	**S**	**06 07 09.2**	**+0.9**
ASAR	**Alice Springs**	**42.60**	**270**	P		**P**	**06 00 46.0**	**-1.5**
	comp=Z,36nm,0.7s,baz=110,slow=7.2,SNR=102							
ASAR					PcP	**PcP**	**06 02 39.4**	**-0.1**
	comp=Z,8.7nm,1.0s,baz=117,slow=3.9,SNR=5.7							
ASAR					S	**S**	**06 07 09.2**	**+0.9**
	comp=Z,2.4nm,0.8s,baz=115,slow=15,SNR=8.4							
ASAR					LR	LR	06 18 50.0	
	comp=Z,796nm,18.9s,baz=119,slow=37							
WRAB	**Tennant Creek**	**43.86**	**276**	*e*	P	**P**	**06 00 55.8**	**-1.9**
WRAB					pmax	pmax		
	comp=Z,49nm,1.1s							
WRAB	**Tennant Creek**	**43.86**	**276**	*e*	P	**P**	**06 00 55.8**	**-1.9**
	comp=Z,49nm,1.1s							
WRAB	**Tennant Creek**	**43.86**	**276**	P		**P**	**06 00 55.5**	**-2.2**
	comp=Z,214nm,0.7s,SNR=30							
WRA	**Warramunga Arr**	**43.86**	**276**	P		**P**	**06 00 55.8**	**-1.9**
WRA					ScP	**ScP**	**06 06 38.0**	**+5.2**
WRA	**Warramunga Arr**	**43.86**	**276**	P		**P**	**06 00 55.8**	**-1.9**
	comp=Z,45nm,1.1s,baz=116,slow=7.6,SNR=90							
WRA					ScP	**ScP**	**06 06 38.0**	**+5.2**
	comp=Z,0.8nm,0.9s,baz=112,slow=4.7,SNR=6.0							
WRA					LR	LR	06 17 26.3	
	comp=Z,451nm,19.9s,baz=120,slow=34							
SBA	**Scott Base**	**45.05**	**184**	*e*	P	**P**	**06 01 05.6**	**-0.8**
SBA					pmax	pmax		
	comp=Z,62nm,1.6s							
SBA	**Scott Base**	**45.05**	**184**	*e*	P	**P**	**06 01 05.6**	**-0.8**
	comp=Z,62nm,1.6s							
VNDA	**Vanda**	**45.10**	**186**	*e*	P	**P**	**06 01 07.7**	**+0.8**
	comp=Z,38nm,1.9s							
VNDA	**Vanda**	**45.10**	**186**	P		**P**	**06 01 09.2**	**+2.3**
	comp=Z,0.6nm,0.8s,baz=347,slow=6.2,SNR=3.0							
JAY	**Jayapura**	**48.94**	**300**	P		**P**	**06 01 37.6**	**-0.1**
	baz=49,SNR=4.4							
KDU	**Kakadu**	**49.08**	**283**	P		**P**	**06 01 38.1**	**-0.5**
	baz=49,SNR=7.6							
KNRA	**Kununurra**	**50.57**	**277**	P		**P**	**06 01 50.2**	**+0.3**
	baz=51,SNR=4.9							
FITZ	**Fitzroy Crossi**	**51.99**	**272**	*e*	P	**P**	**06 01 59.1**	**-1.5**
	comp=Z,28nm,1.0s							
FITZ					*e*	PcP	**PcP**	**06 03 12.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**51.99**	**272**	P		**P**	**06 01 58.7**	**-1.8**
	baz=52,SNR=17							
FITZ	**Fitzroy Crossi**	**51.99**	**272**	LR		LR	06 24 29.9	
	comp=Z,991nm,18.0s,baz=105,slow=37							
NWAO	**Narrogin (SRO)**	**53.00**	**252**	LR		LR	06 24 34.2	
	comp=Z,481nm,19.0s,baz=277,slow=36							
MEEK	**Meekatharra**	**54.15**	**259**	P		**P**	**06 02 15.5**	**-1.1**
	baz=54,SNR=3.7							
MBWA	**Marble Bar**	**55.52**	**266**	*e*	P	**P**	**06 02 25.1**	**-1.4**
	comp=Z,36nm,1.5s							
MBWA					*e*	PcP	**PcP**	**06 03 24.3**	**-1.9**
MBWA					*e*	ScP	**ScP**	**06 07 20.4**	**-2.1**
QSPA	**South Pole Qui**	**56.75**	**180**	*e*	P	**P**	**06 02 35.0**	**+0.3**
QSPA	**South Pole Qui**	**56.75**	**180**	P		**P**	**06 02 36.2**	**+1.5**
	comp=Z,13nm,1.1s							
BATI	**Baumata**	**57.66**	**280**	LR		LR	06 25 20.7	
	comp=Z,425nm,19.1s,baz=114,slow=34							
MIR	**Mirnyy**	**59.29**	**208**	*e*	P	**P**	**06 02 55.0**	**+2.7**
MIR					*e*		06 03 04.0	
MIR					pmax	pmax		
	comp=Z,74nm,1.4s							
KAPI	**Kappang**	**63.75**	**282**	LR		LR	06 31 49.1	
	comp=Z,384nm,18.4s,baz=142,slow=37							
MAW	**Mawson**	**69.39**	**201**	P		**P**	**06 03 59.9**	**+1.6**
MAW	**Mawson**	**69.39**	**201**	P		**P**	**06 03 59.9**	**+1.6**
	comp=Z,6.2nm,1.0s,baz=104,slow=7.0,SNR=8.2							
MAW					LR	LR	06 33 21.8	
	comp=Z,852nm,19.0s,baz=116,slow=35							
JCJ	**Chichijima**	**70.78**	**323**	LR		LR	06 32 18.0	
	comp=Z,189nm,18.6s,baz=327,slow=34							
CISI	**Cisompet, Garu**	**72.26**	**273**	P		**P**	**06 04 14.5**	**-2.3**
	baz=73,SNR=5.7							
SYO	**Syowa Base**	**74.13**	**193**	*e*	P	**P**	**06 04 26.0**	**-0.8**
SYO	**Syowa Base**	**74.13**	**193**	*i*	pP	pP	06 04 33.6	-3.8
SNAA	**Sanae**	**75.21**	**179**	*e*	P	**P**	**06 04 32.5**	**-0.7**
SNAA	**Sanae**	**75.21**	**179**	*e*	PKiKP	**PKiKP**	**06 10 21.6**	**-0.7**
SNAA	**Sanae**	**75.21**	**179**	*e*	P	**P**	**06 04 32.7**	**-0.4**
	comp=Z,39nm,1.3s							
VNA2	**Neumayer--Watz**	**75.81**	**177**	*e*	P	**P**	**06 04 37.8**	**+1.3**
VNA2	**Neumayer--Watz**	**75.81**	**177**	*e*	PKiKP	**PKiKP**	**06 10 23.9**	**+0.7**
VNA1	**Neumayer--Stat**	**76.04**	**177**	*e*	P	**P**	**06 04 39.2**	**+1.4**
COCO	**West Island**	**78.98**	**263**	*i*	P	P	06 04 50.2	-5.0
MJAR	**Matsushiro Arr**	**80.44**	**326**	P		**P**	**06 05 00.3**	**-2.3**
MJAR	**Matsushiro Arr**	**80.44**	**326**	P		**P**	**06 05 00.3**	**-2.3**
	comp=Z,3.9nm,1.0s,baz=177,slow=5.0,SNR=5.3							
MJAR					LR	LR	06 34 54.6	
	comp=Z,151nm,21.1s,baz=125,slow=32							
MAJO	**Matsushiro**	**80.44**	**326**	*e*	P	**P**	**06 05 00.5**	**-2.1**
YUK	**Yuzh-Kuril'sk**	**83.61**	**335**	*d*	*P*	**P**	**06 05 16.1**	**-2.8**
YUK					*e*	S	06 15 29.4	-9.1
YUK					MLR	MLR		
	comp=N,966nm,22.0s							
YUK					MLR	MLR		
	comp=E,184nm,22.0s							
YUK					MLR	MLR		
	comp=Z,373nm,22.0s							
ASAJ	**Asahikawa**	**84.88**	**333**		LR	LR	06 41 57.4	
	comp=Z,325nm,18.6s,baz=166,slow=35							
PSI	**Prapat**	**85.32**	**276**	P		**P**	**06 05 26.3**	**-2.3**
	baz=86,SNR=6.0							
QIZ	**Qiongzhong**	**85.88**	**296**	P		**P**	**06 05 31.4**	**+0.4**
QIZ					S	**S**	**06 16 02.8**	**+0.6**
QIZ					sS	**sS**	**06 16 19.3**	**-0.7**
QIZ					SS	**SS**	**06 21 41.1**	**+0.5**
QIZ					AMB	AMB		
	comp=Z,250nm,4.5s							
QIZ					LR	LR		
	comp=Z,130nm,37.8s							
KSRS	**Korea Array**	**86.33**	**320**	P		**P**	**06 05 33.4**	**+0.6**
	comp=Z,2.8nm,0.8s,baz=129,slow=4.7,SNR=6.7							
KSRS					LR	LR	06 43 42.3	
	comp=Z,131nm,18.1s,baz=297,slow=36							
KSAR	**Wonju Array Be**	**86.34**	**320**	P		**P**	**06 05 33.4**	**+0.5**
YSS	**Yuzh-Sakhalins**	**87.23**	**335**	*e*	*P*	**P**	**06 05 38.0**	**+1.1**
YSS					*e*		06 05 43.0	
YSS					*e*		06 16 04.0	
YSS					*eS*	**S**	**06 16 17.0**	**+2.9**
YSS					pmax	pmax		
	comp=Z,30nm,1.0s							
YSS					MLR	MLR		
	comp=Z,400nm,17.0s							
NJ2	**Nanjing**	**87.85**	**311**	*e*	P	**P**	**06 05 42.1**	**+1.8**
NJ2					AMB	AMB		
	comp=Z,20nm,0.5s							
EDW2	**Edwards Air Fo**	**88.46**	**46**	P		**P**	**06 05 44.3**	**+1.1**
	baz=89							
PFO	**Pinyon Flat Ob**	**88.53**	**48**	P		**P**	**06 05 45.6**	**+1.9**
	baz=89							
PEA0B	**Petropavlovsk-**	**88.58**	**346**	*e*	P	**P**	**06 05 42.9**	**-0.3**
PETK	**Petropavlovsk-**	**88.58**	**346**	P		**P**	**06 05 43.6**	**+0.3**
PETK	**Petropavlovsk-**	**88.58**	**346**	P		**P**	**06 05 43.5**	**+0.3**
PETK	**Petropavlovsk-**	**88.58**	**346**	P		**P**	**06 05 43.5**	**+0.3**
	comp=Z,20nm,1.1s,baz=90,slow=5.9,SNR=11							
PETK					LR	LR	06 37 38.4	
	comp=Z,215nm,20.5s,baz=72,slow=30							
ISA	**Isabella**	**88.71**	**45**	P		**P**	**06 05 45.8**	**+1.4**
	baz=89							
LRMC	**Laurel Mountai**	**89.05**	**45**	P		**P**	**06 05 47.5**	**+1.4**
	baz=89							
BELC	**Belle Mtn. Jos**	**89.07**	**47**	P		**P**	**06 05 47.5**	**+1.3**
	baz=89							
GLA	**Glamis**	**89.17**	**49**	P		**P**	**06 05 48.1**	**+1.4**
	baz=90							
BC3	**Big Chuckawall**	**89.18**	**48**	P		**P**	**06 05 47.3**	**+0.6**
	baz=90							
USRK	**Ussuriysk Arra**	**89.40**	**327**	P		**P**	**06 05 47.3**	**0.0**
	comp=Z,2.1nm,0.8s,baz=113,slow=4.4,SNR=6.3							
USRK					LR	LR	06 45 08.7	
	comp=Z,238nm,18.8s,baz=123,slow=35							
HEC	**Hector,Ludlow**	**89.43**	**47**	P		**P**	**06 05 48.8**	**+1.0**
	baz=90							
GSC	**Goldstone**	**89.45**

baz=95
BJI Beijing 94.73 316 P **P** **06 06 13.5 +1.4**
BJI SKS **SKSac** **06 16 43.9 -0.9**
BJI SS **SS** **06 23 50.1 +2.0**
BJI AMB AMB
comp=Z,11nm,0.4s
BJI LR LR
comp=Z,110nm,22.4s
BJI LR LR
comp=Z,98nm,17.5s
BJI LR LR
comp=Z,140nm,25.0s
426A McDonald Obser 94.87 56 P **P** **06 06 14.1 +0.7**
baz=95
628A Black Gap, Mar 94.99 58 P **P** **06 06 13.7 +0.1**
baz=95
427A Hayter Ranch, 95.42 57 P **P** **06 06 16.4 +0.7**
baz=96
528A Cox Ranch, San 95.45 57 P **P** **06 06 16.9 +1.1**
baz=96
CD2 Chengdu 97.30 302 P Pdif 06 06 25.6 +1.4
CD2 pP pP 06 06 36.8 +1.9
CD2 sP sP 06 06 40.8 +2.0
CD2 PP **PP** **06 10 25.1 +3.7**
CD2 S **S** **06 17 43.3 -2.4**
CD2 sS sS 06 18 02.0 -1.7
CD2 SS **SS** **06 24 25.8 +0.9**
CD2 AMB AMB
comp=Z,20nm,0.5s
CD2 AMB AMB
comp=Z,100nm,4.7s
CD2 LR LR
comp=Z,170nm,7.7s
CD2 LR LR
comp=Z,180nm,8.9s
LPAZ La Paz 97.31 115 LR LR 06 42 17.9
comp=Z,149nm,20.1s,baz=246,slow=30
HHC Hu-ho-hao-te 97.98 314 *e*P **P** **06 06 27.0 0.0**
HHC pP **pP** **06 06 37.6 -0.3**
HHC sP **sP** **06 06 41.5 -0.2**
HHC PP **PP** **06 10 29.0 +2.4**
HHC SKS **SKSac** **06 17 00.9 -1.1**
HHC S **S** **06 17 47.8 -3.4**
HHC sS sS 06 18 05.5 -3.7
HHC SS **SS** **06 24 34.0 -0.3**
HHC AMB AMB
comp=Z,56nm,1.1s
HHC AMB AMB
comp=Z,160nm,5.3s
HHC LR LR
comp=Z,220nm,18.0s
HHC LR LR
comp=Z,500nm,18.4s
HHC LR LR
comp=Z,310nm,18.0s
SEY Seymchan 98.76 347‖ *e*P Pdif 06 06 30.8 +1.0
LZH Lanzhou 100.14 307 *e*P **Pdif** **06 06 37.3 +0.4**
LZH pP pP 06 06 46.8 -0.9
LZH sP sP 06 06 50.8 -0.8
LZH AMB AMB
comp=Z,16nm,0.9s
MKAR Makanchi Array 119.32 309 PKIKP **PKPdf** **06 11 38.8 -1.0**
MKAR Makanchi Array 119.32 309 PKP **PKPdf** **06 11 38.8 -1.0**
MKAR Makanchi Array 119.32 309 PKP **PKPdf** **06 11 38.8 -1.0**
comp=Z,1.1nm,0.8s,baz=132,slow=1.8,SNR=5.5
ZALV Zalesovo Beam 119.94 317 PKIKP **PKPdf** **06 11 39.7 -1.0**
ZALV Zalesovo Beam 119.94 317 PKP **PKPdf** **06 11 39.7 -1.0**
ZALV Zalesovo Beam 119.94 317 PKP **PKPdf** **06 11 39.7 -1.0**
comp=Z,0.7nm,0.5s,baz=115,slow=2.3,SNR=4.9
KSH Kashi 121.34 299 PKP **PKPdf** **06 11 45.3 +1.2**
KSH sPKP 06 11 57.1
KSH PP PP 06 13 22.5 +6.6
KSH PKS **PKSdf** **06 15 20.6 -0.2**
KSH SKS **SKSdf** **06 18 54.5 +0.9**
KSH SKKS **SKKSac** **06 20 06.3 -6.1**
KSH SS **SS** **06 29 50.0 +1.7**
KSH PPMZ
comp=Z,90nm,5.5s
KSH LR LR
comp=Z,96nm,4.5s
KSH LR LR
comp=Z,120nm,4.9s
KSH LR LR
comp=Z,130nm,6.3s
KURK Kurchatov 122.76 313*c* *i*PKIKP **PKPdf** **06 11 45.7 -0.5**
AAK Ala-Archa 123.36 302‖ *i*PKIKP **PKPdf** **06 11 48.1 +0.2**
EKS2 Erkin-Say 123.88 302 *e*PKIKP **PKPdf** **06 11 45.2 -3.6**
EKS2 Erkin-Say 123.88 302 *e*PKPdf **PKPdf** **06 11 45.2 -3.6**
KKAR Karatay Array 126.31 302 *e*PKIKP **PKPdf** **06 11 51.7 -1.6**
KKAR Karatay Array 126.31 302 *e*PKPdf **PKPdf** **06 11 51.7 -1.6**
BVAR Borovoye Array 128.19 314 PKIKP **PKPdf** **06 11 56.9 +0.3**
BVAR Borovoye Array 128.19 314 PKP **PKPdf** **06 11 56.9 +0.3**
BVAR Borovoye Array 128.19 314 PKP **PKPdf** **06 11 56.9 +0.3**
comp=Z,2.4nm,0.7s,baz=108,slow=3.3,SNR=8.0
BRVK Borovoye 128.26 314*de*PKIKP **PKPdf** **06 11 56.1 -0.6**
ABKAR Akbulak array 134.46 309 *e*PKPdf **PKPdf** **06 12 08.3 -0.3**
ARU Arti 135.07 319 PKIKP **PKPdf** **06 12 09.3 -0.2**
AKTO Aktyubinsk 135.73 310 PKIKP **PKPdf** **06 12 10.3 -0.6**
AKTO Aktyubinsk 135.73 310 PKP **PKPdf** **06 12 10.3 -0.6**
AKTO Aktyubinsk 135.73 310 PKP **PKPdf** **06 12 10.3 -0.6**
comp=Z,1.7nm,0.5s,baz=68,slow=2.5,SNR=6.3
ARCES ARCESS Array B 141.38 347 PKP **PKPdf** **06 12 19.6 -1.2**
ARCES ARCESS Array B 141.38 347 PKP **PKPdf** **06 12 19.6 -1.2**
comp=Z,7.1nm,1.0s,baz=38,slow=4.6,SNR=3.7
KLMR Klimovskoe 143.14 330 *e*PKHKP PKPab 06 12 18.6 -1.0
KLMR pmax pmax
comp=Z,25nm,1.7s
JOF Joensuu 144.99 337 *ep*kp PKPbc 06 12 23.0 -3.6
HAKT HAKKARI 145.57 289 *i* P **PKPdf** **06 12 29.5 +0.2**
ZEI Tsey 145.63 298 *i* PKP2 **PKPdf** **06 12 26.9 -2.4**
ZEI pmax pmax
comp=Z,42nm,1.9s
VRHR Novokhopersk 145.93 313 *e*PKP2 **PKPdf** **06 12 28.9 -0.3**
VRHR pmax pmax
comp=Z,30nm,0.9s
VRHR pmax pmax
comp=N,5.0nm,0.4s
VRHR pmax pmax
comp=E,20nm,0.9s
GOF Gofitskoye 146.10 303 *e*PKP2 **PKPdf** **06 12 29.9 +0.2**
GOF pmax pmax
comp=Z,60nm,1.1s
TUTA Tutak 146.41 292 *i* P **PKPab** **06 12 32.8 -0.3**
KIV Kislovodsk 146.45 301K *i*PKP2 **PKPdf** **06 12 31.2 +0.7**
KIV pmax pmax
comp=Z,23nm,1.4s
KIV MLR MLR
comp=Z,100nm,16.0s
MOS Moscow 146.48 323 *e*PKIKP **PKPdf** **06 12 29.0 -1.0**
MOS pmax pmax
comp=Z,130nm,1.3s
MOS pmax pmax
comp=Z,300nm,1.5s
EATA Eleskirt 146.68 293 *i* P **PKPbc** **06 12 33.3 +0.3**
EKAR Karacoban 146.99 292 *i* P **PKPab** **06 12 35.1 -0.1**
DAGI Agillar 147.14 295 *i* P **PKPbc** **06 12 34.4 +0.5**
KAF Kangasniemi 147.17 339 *e*PKP2 **PKPab** **06 12 35.3 +0.4**
KAF Kangasniemi 147.17 339 *ep*kp **PKPab** **06 12 35.3 +0.4**
DDEM Demirkent 147.26 295 *i* P **PKPbc** **06 12 34.9 +0.6**
DBAD Bademkaya 147.30 295 *i* P **PKPbc** **06 12 34.9 +0.5**
OBN Obninsk 147.30 322K *i*PKP2 **PKPbc** **06 12 33.4 -0.4**
OBN *e* 06 16 02.3
OBN pmax pmax
comp=Z,97nm,2.4s
VSR Storozhevoye 147.37 315 *e*PKP2 **PKPbc** **06 12 33.2 -0.9**
VSR pmax pmax
comp=Z,40nm,1.1s
VSR pmax pmax
comp=N,5.0nm,0.3s
VSR pmax pmax
comp=E,10.0nm,0.4s
VORD Divnogorie 147.38 314 *e*PKP2 **PKPbc** **06 12 33.1 -1.0**
VORD pmax pmax
comp=Z,20nm,1.0s
VORD pmax pmax
comp=E,10.0nm,0.5s
FIA1 FINESS Array S 147.75 338 *e*PKPbc **PKPbc** **06 12 34.4 -0.4**
FIA1 *ep*PKPdf **pPKPdf** **06 12 43.4 +0.4**
FINES FINESS Array B 147.75 338 PKPbc **PKPdf** **06 12 32.5 +0.5**
FINES FINESS Array B 147.75 338 PKPbc **PKPdf** **06 12 32.5 +0.5**
comp=E,14nm,0.9s,baz=107,slow=2.0,SNR=12
SOC Sochi 148.63 300 *e*PKHKP PKPpre 06 12 19.6
KELT Kelkit 149.17 294 *i* P **PKPbc** **06 12 39.9 +0.4**
ELZG Elazig 149.36 290 *i* P **PKPbc** **06 12 40.2 +0.2**
KEMA Kemaliye 149.76 292 *i* P **PKPbc** **06 12 40.2 -0.7**
SUSE Susehri 149.97 294 *i* P **PKPbc** **06 12 42.4 +1.0**
ANN Anapa 150.09 303 *i* PKP2 **PKPbc** **06 12 41.8 +0.5**
ANN pmax pmax
comp=Z,65nm,0.9s
AKCD Akcadag 150.19 290 *i* P **PKPbc** **06 12 42.1 +0.1**
GZT Gaziantep 150.43 288 *i* P **PKPbc** **06 12 43.6 +1.1**
AYKD Aykdinkavak 151.03 288 *i* P **PKPbc** **06 12 44.4 +0.6**
ANDN Andirin 151.41 288 *i* P **PKPbc** **06 12 45.6 +0.8**
NB2 NORSAR Subarra151.60 350 PKP **PKPbc** **06 12 46.2 +1.8**
comp=Z,41nm,1.4s,baz=17,slow=2.6
NB2 NORSAR Subarra151.60 350 PKP **PKPbc** **06 12 46.2 +1.8**
baz=17,slow=2.6
NOA NORSAR Array B 151.60 350 PKPbc **PKPbc** **06 12 42.3 -2.1**
NOA NORSAR Array B 151.60 350 PKPbc **PKPbc** **06 12 42.3 -2.1**
comp=Z,2.9nm,0.8s,baz=14,slow=4.2,SNR=4.1
NAO01 NORSAR Array S 151.84 350 *e*PKPab **PKPab** **06 12 53.5 -0.5**
MICGM Minsk 151.88 327‖ *e*P **PKPbc** **06 12 45.0 -0.1**
MNK Minsk 151.90 327‖ *e*PKIKP **PKPbc** **06 12 45.0 -0.2**
MNK pmax pmax
comp=Z,80nm,1.0s
NACGM Naroch 152.12 328 *e* **PKPdf** **06 12 41.0 +2.0**
LIC Lamto 152.32 166 *e*P PKPdf 06 12 35.0 -5.6
comp=Z,28nm,0.6s
KIC Kosan Boka 152.51 166 *e*P **PKPdf** **06 12 37.9 -3.0**
comp=Z,54nm,1.2s
CTKT Corum 152.55 295 *i* P **PKPbc** **06 12 46.7 -0.7**
GULE Gulek 152.65 288 *i* P **PKPbc** **06 12 46.4 -1.3**
TIC Toumodi 152.73 166 *e*P **PKPdf** **06 12 37.4 -3.9**
comp=Z,69nm,1.4s
DBIC Dimbokro 152.79 166 PKPbc **PKPbc** **06 12 47.9 -0.5**
DBIC PKPab **PKPab** **06 12 58.8 -0.4**
DBIC Dimbokro 152.79 166 PKPbc **PKPbc** **06 12 47.9 -0.5**
comp=Z,3.6nm,1.0s,baz=145,slow=7.2,SNR=2.4
DBIC PKPab **PKPab** **06 12 58.8 -0.4**
comp=Z,4.7nm,0.8s,baz=201,slow=2.4,SNR=3.8
AKASG Malin Array Be 153.32 319 PKIKP **PKPbc** **06 12 47.5 -1.0**
AKASG Malin Array Be 153.32 319 PKPbc **PKPbc** **06 12 47.5 -1.0**
AKASG Malin Array Be 153.32 319 PKPbc **PKPbc** **06 12 47.5 -1.0**
comp=Z,4.6nm,0.8s,baz=56,slow=2.6,SNR=16
ILGA Ilgaz 153.32 296 *i* P **PKPbc** **06 12 50.2 +1.1**
KIEV Kiev 153.33 319 *e*PKIKP **PKPbc** **06 12 49.8 +1.3**
KIEV Kiev 153.33 319 *e*PKPbc **PKPbc** **06 12 49.8 +1.3**
BR131 Keskin Array S 153.50 293 *e*PKPbc **PKPbc** **06 12 49.5 +0.1**
BRTR Keskin Array B 153.50 293 PKPbc **PKPbc** **06 12 48.1 -1.3**
BRTR Keskin Array B 153.50 293 PKPbc **PKPbc** **06 12 48.1 -1.3**
comp=Z,5.1nm,0.7s,baz=132,slow=3.5,SNR=24
ANTO Ankara 154.14 294 *e*PKIKP **PKPbc** **06 12 50.6 -0.2**
ANTO *e* 06 13 02.7
ANTO Ankara 154.14 294 *e*PKPbc **PKPbc** **06 12 50.6 -0.2**
ANTO *e*PKPab **PKPab** **06 13 02.7 -1.8**
KOLS Kolonicke sedl 158.05 321 *e*PKP2 PKPab 06 13 14.7 -6.2
KOLS Kolonicke sedl 158.05 321 *e* PKPab 06 13 14.7 -6.2
STHS Stebnicka Huta 158.27 323 *e*PKP2 **PKPab** **06 13 25.2 +3.3**
STHS Stebnicka Huta 158.27 323 *e*PKP **PKPab** **06 13 25.2 +3.3**
KECS Kecovo 159.25 322 *e*PKP2 **PKPab** **06 13 24.8 -1.3**
KECS Kecovo 159.25 322 *e*PKP **PKPab** **06 13 24.8 -1.3**
OKC Ostrava-Krasne 159.44 328 *e*PKP2 **PKPab** **06 13 25.5 -1.4**
OKC Ostrava-Krasne 159.44 328 *e*PKPAB **PKPab** **06 13 25.5 -1.4**
UPC Upice 159.82 332 *e*PKP2 **PKPab** **06 13 27.4 -1.1**
UPC Upice 159.82 332 *e*PKPAB **PKPab** **06 13 27.4 -1.1**
DPC Dobruska-Polom 159.82 332 *e*PKP2 **PKPab** **06 13 28.0 -0.6**
DPC Dobruska-Polom 159.82 332 *e*PKPAB **PKPab** **06 13 28.0 -0.6**
DPC *ex* x 06 13 34.5
DPC *es*PKP 06 13 44.2
TORD Torodi Ar. Bea 159.87 181 PKPab **PKPab** **06 13 31.2 +1.8**
TORD Torodi Ar. Bea 159.87 181 PKPab **PKPab** **06 13 31.2 +1.8**
comp=Z,4.4nm,0.9s,baz=186,slow=3.1,SNR=7.4
CLL Collm 160.20 338 *e*PKIKP **PKPdf** **06 12 54.0 +4.3**
CLL *i* 06 13 29.5
CLL pmax pmax
comp=Z,76nm,1.2s
CLL Collm 160.20 338‖ *i*PKPab **PKPab** **06 13 29.5 -0.6**
comp=Z,22nm,1.2s
CLL L L 07 37 00.0
comp=Z,100nm,19.8s
BRG Berggiesshubel 160.27 336 *e*PKP **PKPab** **06 13 29.9 -0.5**
comp=Z,12nm,1.1s
BRG Berggiesshubel 160.27 336 *e*PKP2 **PKPab** **06 13 29.9 -0.5**
BRG pmax pmax
comp=Z,12nm,1.1s
PRU Pruhonice 160.79 334 *e*PKP2 **PKPab** **06 13 32.3 -0.4**
PRU Pruhonice 160.79 334 *e*PKPAB **PKPab** **06 13 32.3 -0.4**
PRU *ex* x 06 13 37.6
KHC Kasperske Hory 161.86 334 *e*PKP2 **PKPab** **06 13 36.8 -0.7**
KHC Kasperske Hory 161.86 334 *e*PKPAB **PKPab** **06 13 36.8 -0.7**
KHC *ex* x 06 13 42.9
GERES GERESS Array B 162.05 333 PKPab **PKPab** **06 13 38.2 -0.2**
GERES GERESS Array B 162.05 333 PKPab **PKPab** **06 13 38.2 -0.2**
comp=Z,1.6nm,0.8s,baz=45,slow=1.5,SNR=8.1

IDC 15 05:58:34.7±0.8, 33°59S×178°15W, h0km, mb4.5/5, mb1 4.7/8, mb1mx4.3/18, mbtmp4.5/8, ML4.0/3, Error ellipse: s-maj=22.8km s-min=17.4km az=33.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.33**	**3**	Sn	Sn	06 00 22.5	-10
	82nm,0.3s,baz=105,slow=20,SNR=3.9						
URZ	**Urewera**	**6.04**	**218**	Pn	Pn	06 00 06.3	+1.0
	5.5nm,0.3s,baz=312,slow=9.1,SNR=18						
URZ				Sn	Sn	06 01 15.1	-0.1
	9.6nm,0.3s,baz=164,slow=20,SNR=15						
RPZ	**Rata Peaks**	**13.16**	**217**	Pn	Pn	06 01 41.4	-1.5
	0.7nm,0.3s,baz=343,slow=12,SNR=3.9						
RPZ				Sn	Sn	06 03 56.5	-13
	0.6nm,0.3s,baz=321,slow=19,SNR=6.5						
DZM	**Mont Dzumac**	**17.79**	**306**	P	P	06 02 45.2	+0.5
	0.4nm,0.3s,baz=112,slow=14,SNR=14						
DZM				S	Sn	06 06 05.3	+2.4
	0.1nm,0.3s,baz=257,slow=23,SNR=7.3						
STKA	**Stephens Creek**	**33.76**	**262**	P	P	06 05 19.9	+1.8
	2.6nm,0.8s,baz=76,slow=8.3,SNR=3.0						
CTA	**Charters Tower**	**34.31**	**284**	P	P	06 05 23.2	+0.2
	5.2nm,0.5s,baz=118,slow=11,SNR=8.9						
ASAR	**Alice Springs**	**42.91**	**270**	P	P	06 06 34.2	-1.1
	15nm,0.7s,baz=110,slow=7.3,SNR=80						
ASAR				PcP	PcP	06 08 25.7	-0.5
	2.3nm,0.8s,baz=120,slow=4.2,SNR=5.1						
ASAR				S	S	06 12 54.2	-7.1
	0.8nm,0.8s,baz=119,slow=16,SNR=5.5						
WRA	**Warramunga Arr**	**44.18**	**276**	P	P	06 06 44.0	-1.6
	5.3nm,0.5s,baz=112,slow=10,SNR=74						
WRA				PcP	PP	06 08 29.1	+0.7
	1.3nm,0.7s,baz=121,slow=3.2,SNR=3.7						
WRA				S	S	06 13 11.7	-8.3
	1.2nm,1.0s,baz=111,slow=20,SNR=4.3						
KSRS	**Korea Array**	**86.69**	**320**	P	P	06 11 22.7	+2.5
	0.5nm,0.3s,baz=145,slow=4.7,SNR=4.1						
NVAR	**Mina Array Bea**	**90.66**	**43**	P	P	06 11 40.0	+0.6
	0.3nm,0.5s,baz=231,slow=4.7,SNR=3.6						
MKAR	**Makanchi Array**	**119.69**	**309**	PKP	PKPdf	06 17 26.3	-0.1
	0.2nm,0.4s,baz=89,slow=0.7,SNR=3.5						
JOF	**Joensuu**			*ep*kp	PKPbc	06 18 11.3	-2.1
KAF	**Kangasniemi**			*ep*kp	PKPbc	06 18 19.2	-0.7
FINES	**FINESS Array B**	**148.07**	**338**	PKPbc	PKPbc	06 18 20.7	-0.8
	4.5nm,0.8s,baz=78,slow=3.0,SNR=11						
NB2	**NORSAR Subarra151.87 350**			PKP	PKPab	06 18 37.7	-2.2
	comp=Z,3.0nm,0.9s,baz=20,slow=2.6						
NOA	**NORSAR Array B 151.87 350**			PKPab	PKPab	06 18 38.2	-1.8
	comp=Z,1.9nm,0.8s,baz=29,slow=2.7,SNR=4.2						
AKASG	**Malin Array Be 153.68 319**			PKPbc	PKPbc	06 18 35.6	+0.5
	comp=Z,2.4nm,0.6s,baz=52,slow=2.5,SNR=10						
AKASG				PKPab	PKPab	06 18 47.0	-0.9
	comp=Z,2.2nm,0.7s,baz=61,slow=2.8,SNR=6.2						
BRTR	**Keskin Array B 153.86 293**			PKPbc	PKPbc	06 18 36.0	-0.1
	comp=Z,2.1nm,0.7s,baz=144,slow=3.5,SNR=9.7						
TORD	**Torodi Ar. Bea 159.65 180**			PKPab	PKPab	06 19 16.3	+2.0
	comp=Z,0.7nm,0.7s,baz=181,slow=3.0,SNR=3.0						

IDC 15 06:37:17.1±7.4, 34°78N×36°92W, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/27, mbtmp3.7/4, MS4.4/1, Ms1 4.4/1, ms1mx2.9/44, Error ellipse: s-maj=278.9km s-min=33.9km az=170.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ULM	**Lac du Bonnet**	**44.94**	**309**	LR	LR	07 04 46.0	
	comp=Z,474nm,19.1s,baz=29,slow=37						
H10N2	**ASCENSION HYDR47.39 149**			T	T	07 35 55.7	
	baz=334,slow=0.7,SNR=20						
H10N3	**ASCENSION HYDR47.40 149**			T	T	07 35 56.2	
	baz=334,slow=0.7,SNR=17						
H10N1	**ASCENSION HYDR47.41 149**			T	T	07 35 57.1	
	baz=334,slow=0.7,SNR=25						
H10S1	**ASCENSION HYDR48.33 150**			T	T	07 37 07.6	
	baz=335,slow=0.7,SNR=14						
H10S3	**ASCENSION HYDR48.33 150**			T	T	07 37 12.7	
	baz=335,slow=0.7,SNR=9.4						
H10S2	**ASCENSION HYDR48.34 150**			T	T	07 37 07.5	
	baz=335,slow=0.7,SNR=11						
PDAR	**Pinedale Array 55.59 302**			P	P	06 46 54.6	-0.1
	0.7nm,0.9s,baz=70,slow=6.1,SNR=3.9						
TXAR	**Lajitas Array 55.91 284**			P	P	06 46 57.0	-0.1
	0.4nm,0.9s,baz=82,slow=6.5,SNR=3.5						
KURBB	**Kurchatov Arra 77.73 36**			P	P	06 49 15.9	+0.2
	1.0nm,0.8s,baz=312,slow=6.0,SNR=14						
MKAR	**Makanchi Array 82.15 37**			P		06 49 39.5	-0.2
	0.9nm,1.0s,baz=305,slow=5.1,SNR=4.5						

IDC 15 06:50:15.3±8.5, 2°31N×98°20W, h0km, mb3.6/4, mb1 4.1/4, mb1mx3.8/18, mbtmp3.6/4, MS3.8/8, Ms1 3.8/8, ms1mx3.6/21, Error ellipse: s-maj=231.4km s-min=136.9km az=99.0, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare 15.36 58**			LR	LR	06 58 23.4	
	comp=Z,147nm,19.5s,baz=224,slow=32						
H06E1	**SOCORRO T-PHAS20.58 324**			T	T	07 15 36.2	
	SNR=18						
ATAH	**Atahualpa 21.88 116**			LR	LR	07 01 48.2	
	comp=Z,159nm,19.7s,baz=121,slow=32						
ROSC	**El Rosal 23.95 83**			LR	LR	07 02 52.8	
	comp=Z,73nm,20.2s,baz=171,slow=32						
LPIG	**La Paz 24.63 333**			LR	LR	07 02 55.5	
	comp=Z,361nm,20.6s,baz=154,slow=31						
TXAR	**Lajitas Array 27.37 350**			P	P	06 56 03.1	+0.5
	0.9nm,0.8s,baz=165,slow=12,SNR=12						
TXAR				LR	LR	07 05 43.6	
	comp=Z,255nm,19.1s,baz=85,slow=34						
LPAZ	**La Paz 34.98 123**			LR	LR	07 09 45.6	
	comp=Z,144nm,21.0s,baz=69,slow=34						
H03N2	**Juan Fernandez 39.94 155**			T	T	07 40 49.9	
	baz=328,slow=0.7,SNR=20						
H03N1	**Juan Fernandez 39.95 155**			T	T	07 40 49.4	
	baz=328,slow=0.7,SNR=10						
H03N3	**Juan Fernandez 39.95 155**			T	T	07 40 59.9	
	baz=328,slow=0.7,SNR=22						
NVAR	**Mina Array Bea 40.38 335**			P	P	06 57 55.1	-0.3
	0.2nm,0.6s,baz=143,slow=9.1,SNR=3.3						
PDAR	**Pinedale Array 41.54 347**			P	P	06 58 04.2	-0.7
	0.8nm,0.6s,baz=150,slow=8.0,SNR=7.6						
INK	**Inuvik 70.11 347**			LR	LR	07 32 48.3	
	comp=Z,116nm,18.2s,baz=345,slow=36						
ILAR	**Eielson Array 71.41 340**			P	P	07 01 37.2	+0.1
	0.8nm,0.9s,baz=148,slow=5.1,SNR=6.7						
ILAR				LR	LR	07 34 45.0	
	comp=Z,86nm,18.2s,baz=125,slow=37						
H11N3	**WAKE ISLAND Hy 93.83 290**			T	T	08 46 52.2	
	baz=25						
H11N2	**WAKE ISLAND Hy 93.85 290**			T	T	08 46 56.0	
	baz=25						
H11N1	**WAKE ISLAND Hy 93.85 290**			T	T	08 46 55.7	
	baz=25						
H11S2	**WAKE ISLAND Hy 94.11 289**			T	T	08 47 18.3	
	baz=86						
H11S1	**WAKE ISLAND Hy 94.11 289**			T	T	08 47 16.2	
	baz=86						
H11S3	**WAKE ISLAND Hy 94.12 289**			T	T	08 47 19.5	
	baz=86						

*ISCJB **15** 06:53:47.4±0.6, 51°48N±0°03×16°24E±0°04, h0km, Error ellipse: s-maj=4.7km s-min=3.8km az=7.0*
*CSEM **15** 06:53:50.4±0.7, 51°39N×16°18E, h1km, ML3.4/4, Error ellipse: s-maj=11.4km s-min=5.4km az=176.0*
*IDC **15** 06:53:51.5±0.9, 51°39N×16°12E, h0km, mb1 3.8/4, mb1mx3.4/26, mbtmp3.8/4, ML2.8/5, Error ellipse: s-maj=19.9km s-min=8.1km az=103.0*
*WAR **15** 06:53:51.4, 51°40N×16°21E*
*PRU **15** 06:53:52.5, 51°32N×16°18E, h0km*

ISC 15 06:53:49.8±0.8, 51°45N±0°04×16°19E±0°03, h0km, n24, σ1°23/45, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.61**	**174**	*e*Pg	**Pg**	**06 54 01.9**	**+0.4**
KSP				*e*Sg	**Sg**	**06 54 09.4**	**+0.1**
KSP	**Ksiaz**	**0.61**	**174**	*i*Pg	**Pg**	**06 54 01.9**	**+0.4**
KSP				*i* Sg	**Sg**	**06 54 09.5**	**+0.1**
UPC	**Upice**	**0.95**	**187**	*e*PG	**Pg**	**06 54 08.1**	**+0.1**
UPC	**Upice**	**0.95**	**187**	Pg	**Pg**	**06 54 08.1**	**+0.1**
DPC	**Dobruska-Polom**	**1.10**	**176**	*e*PG	**Pg**	**06 54 10.7**	**-0.2**
DPC				*e*SG	**Sg**	**06 54 24.3**	**-0.9**
DPC	**Dobruska-Polom**	**1.10**	**176**	Pg	**Pg**	**06 54 10.7**	**-0.2**
DPC				Sg	**Sg**	**06 54 24.3**	**-0.9**
PVCC	**Panska Ves**	**1.38**	**229**	*e*PG	**Pg**	**06 54 16.3**	**+0.1**
PVCC				*e*SG	**Sn**	**06 54 35.3**	**+0.1**
comp=Z,120nm,0.2s							
PVCC	**Panska Ves**	**1.38**	**229**	Pg	**Pg**	**06 54 16.3**	**+0.1**
PVCC				Sg	**Sn**	**06 54 35.3**	**+0.1**
120nm,0.2s							
BRG	**Berggiesshubel**	**1.53**	**249**	PG	**Pb**	**06 54 19.2**	**+0.2**
BRG				SG	**Sn**	**06 54 39.9**	**+1.0**
44nm,0.3s							
PRU	**Pruhonice**	**1.80**	**216**	*e*PG	**Pb**	**06 54 23.6**	**0.0**
PRU				*e*SG	**Sb**	**06 54 47.0**	**+0.3**
comp=Z,19nm,0.2s							
PRU	**Pruhonice**	**1.80**	**216**	Pg	**Pb**	**06 54 23.6**	**0.0**
PRU				Sg	**Sb**	**06 54 47.0**	**+0.3**
19nm,0.2s							
CLL	**Collm**	**2.00**	**267**	*e*Pn	**Pb**	**06 54 28.0**	**+0.9**
CLL				*i* Pg	**Pg**	**06 54 28.8**	**+0.7**
CLL				*i*		06 54 32.1	
CLL				*i* Sg	**Sg**	**06 54 56.2**	**+2.1**
comp=Z,22nm,0.3s							
OKC	**Ostrava-Krasne**	**2.04**	**142**	*e*PG	**Pb**	**06 54 28.0**	**+0.3**
OKC				*e*SG	**Sn**	**06 54 52.9**	**+1.4**
comp=Z,20nm,0.4s							
OKC	**Ostrava-Krasne**	**2.04**	**142**	Pg	**Pb**	**06 54 28.0**	**+0.3**
OKC				Sg	**Sn**	**06 54 52.9**	**+1.4**
comp=Z,20nm,0.4s							
VRAC	**Vranov**	**2.16**	**173**	*e*Pn	**Pn**	**06 54 27.2**	**+0.2**
VRAC				*e*Sg	**Sn**	**06 54 55.9**	**+1.4**
VRAC	**Vranov**	**2.16**	**173**	Pn	**Pn**	**06 54 27.3**	**+0.2**
comp=Z,3.2nm,0.3s,baz=346,slow=16,SNR=7.5							
VRAC				Lg	Lg	06 54 58.3	
comp=Z,4.0nm,0.3s,baz=90,slow=22,SNR=6.4							
OJC	**Ojcow**	**2.60**	**117**	*e*Pg	**Pg**	**06 54 39.6**	**0.0**
OJC				*e*Sg	**Sg**	**06 55 14.9**	**+1.6**
OJC	**Ojcow**	**2.60**	**117**	*e*Pg	**Pg**	**06 54 39.6**	**0.0**
OJC				*e*Sg	**Sg**	**06 55 14.9**	**+1.6**
KHC	**Kasperske Hory**	**2.86**	**217**	*e*PN	**Pn**	**06 54 36.7**	**0.0**
KHC				*e*PG	**Pb**	**06 54 42.9**	**+1.1**
KHC				*e*SN	**Sn**	**06 55 09.5**	**-2.4**
KHC				*e*SG	**Sb**	**06 55 19.4**	**+2.1**
comp=Z,12nm,0.5s							
KHC	**Kasperske Hory**	**2.86**	**217**	Pn	**Pn**	**06 54 36.7**	**0.0**
GERES	**GERESS Array B**	**3.06**	**212**	Pn	**Pn**	**06 54 40.2**	**+0.7**
comp=Z,0.5nm,0.3s,baz=40,slow=14,SNR=7.0							
GERES				Pg	**Pb**	**06 54 46.4**	**+1.2**
comp=Z,5.0nm,0.3s,baz=29,slow=17,SNR=46							
GERES				Sn	**Sn**	**06 55 12.7**	**-4.2**
comp=Z,1.5nm,0.3s,baz=25,slow=26,SNR=5.3							
GERES				Lg		06 55 25.2	
comp=Z,2.8nm,0.3s,baz=32,slow=28,SNR=6.9							
HFS	**Hagfors**	**8.82**	**352**	Pn	**Pn**	**06 55 57.9**	**-0.4**
comp=Z,0.1nm,0.

0.6nm,0.8s,baz=237,slow=8.2,SNR=4.9
ILAR Eielson Array 86.93 12 P P 07 08 09.1 +1.2
0.1nm,0.4s,baz=216,slow=6.6,SNR=4.1

IDC 15 06:56:39.9±2.2, 18°20S×178°21W, h603km±27km, mb3.2/13, mb1 3.4/14, mb1mx3.3/21, mbtmp3.1/14, Error ellipse: s-maj=18.6km s-min=11.3km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.92**	**252**	P	P	06 59 48.2	+0.7
	0.3nm,0.3s,baz=72,slow=20,SNR=7.1						
URZ	**Urewera**	**20.41**	**191**	P	P	07 00 35.0	-2.0
	4.5nm,0.5s,baz=18,slow=20,SNR=3.8						
WRA	**Warramunga Arr**	**44.77**	**260**	P	P	07 04 01.7	0.0
	2.3nm,0.6s,baz=93,slow=7.5,SNR=48						
WRA				PcP	PcP	07 05 30.6	+0.1
	0.3nm,0.3s,baz=90,slow=3.8,SNR=4.6						
WRA				S	S	07 09 55.0	-1.3
	0.5nm,0.8s,baz=99,slow=13,SNR=3.9						
ASAR	**Alice Springs**	**44.90**	**255**	P	P	07 04 03.0	+0.4
	4.2nm,0.6s,baz=87,slow=8.8,SNR=47						
ASAR				PcP	PcP	07 05 31.1	+0.2
	0.8nm,0.5s,baz=102,slow=4.2,SNR=4.7						
ASAR				S	S	07 09 57.9	-0.2
	1.7nm,0.9s,baz=90,slow=15,SNR=15						
FITZ	**Fitzroy Crossi**	**53.17**	**261**	P	P	07 05 04.0	+0.5
	1.0nm,0.6s,baz=65,slow=14,SNR=4.3						
VNDA	**Vanda**	**60.17**	**185**	P	P	07 05 51.1	+0.8
	0.4nm,0.6s,baz=5.1,slow=7.2,SNR=5.8						
MJAR	**Matsushiro Arr**	**68.25**	**323**	P	P	07 06 41.6	-0.3
	2.1nm,0.5s,baz=157,slow=6.3,SNR=5.1						
PETK	**Petropavlovsk-**	**74.01**	**345**	P	P	07 07 14.2	-0.8
	3.6nm,0.6s,baz=140,slow=9.5,SNR=3.6						
NVAR	**Mina Array Bea**	**79.50**	**44**	P	P	07 07 45.5	0.0
	0.8nm,0.7s,baz=220,slow=8.5,SNR=5.7						
MAW	**Mawson**	**83.65**	**200**	P	P	07 08 06.3	+0.4
	0.4nm,0.5s,baz=194,slow=4.2,SNR=4.9						
TXAR	**Lajitas Array**	**85.99**	**58**	P	P	07 08 18.9	+0.8
	0.3nm,0.7s,baz=214,slow=6.7,SNR=5.0						
ILAR	**Eielson Array**	**86.12**	**13**	P	P	07 08 16.2	-1.5
	1.1nm,0.4s,baz=220,slow=4.8,SNR=42						
PDAR	**Pinedale Array**	**87.43**	**43**	P	P	07 08 24.0	-0.7
	0.7nm,0.8s,baz=222,slow=2.0,SNR=6.0						
CMAR	**Chiang Mai Arr**	**89.16**	**290**	P	P	07 08 34.8	+1.8
	1.0nm,0.3s,baz=83,slow=3.0,SNR=6.6						
ARCES	**ARCESS Array B**	**126.63**	**350**	PKP	PKPdf	07 14 34.1	-1.0
	4.9nm,1.0s,baz=84,slow=3.8,SNR=6.6						
BRTR	**Keskin Array B**	**145.12**	**315**	PKPbc	PKPdf	07 15 10.6	+0.4
	1.3nm,0.5s,baz=137,slow=4.2,SNR=6.9						
GERES	**GERESS Array B**	**147.94**	**345**	PKPbc	PKPbc	07 15 18.5	0.0
	2.1nm,0.7s,baz=5.7,slow=2.7,SNR=8.5						

WEL 15 06:56:39.1±0.4, 44°76S×167°30E, h5km, ML3.6/12, 4C-2D, Error ellipse: s-maj=2.9km s-min=2.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.46**	**79**	PG	Pg	06 56 48.2	+0.3
MSZ				AML	AML	06 56 53.2	
MSZ				SG	Sg	06 56 53.2	-0.6
MSZ				AML	AML	06 56 53.4	
MSZ				AML	AML	06 56 53.4	
DCZ	**Deep Cove**	**0.72**	**188**	↑P*	Pg	06 56 53.3	+0.3
DCZ				S*	Sg	06 57 01.9	-0.5
DCZ				AML	AML	06 57 02.7	
DCZ				AML	AML	06 57 02.7	
DCZ				AML	AML	06 57 02.7	
MLZ	**Mavora Lakes**	**0.85**	**134**	↑P*	Pg	06 56 55.2	-0.4
MLZ				AML	AML	06 57 06.2	
MLZ				AML	AML	06 57 07.5	
WHZ	**Wether Hill Ro**	**1.22**	**158**	P*	Pg	06 57 01.7	-0.9
WHZ				AML	AML	06 57 17.5	
WHZ				AML	AML	06 57 17.7	
WKZ	**Wanaka**	**1.23**	**94**	↑P*	Pg	06 57 02.0	-0.7
WKZ				AML	AML	06 57 17.8	
WKZ				AML	AML	06 57 18.0	
WKZ				AML	AML	06 57 18.0	
WKZ				AML	AML	06 57 19.4	
JCZ	**Jackson Bay**	**1.25**	**57**	P*	Pn	06 57 03.5	+0.2
JCZ				AML	AML	06 57 24.0	
JCZ				AML	AML	06 57 25.1	
PYZ	**Puysegur Point**	**1.47**	**197**	PN	Pb	06 57 06.7	-0.3
EAZ	**Earnscleugh**	**1.50**	**109**	↑PN	Pn	06 57 06.3	-0.3
EAZ				AML	AML	06 57 28.6	
EAZ				AML	AML	06 57 28.7	
EAZ				AML	AML	06 57 31.8	
TUZ	**Tuapeka**	**2.03**	**127**	PN	Pn	06 57 14.4	+0.4
TUZ				AML	AML	06 57 44.9	
TUZ				AML	AML	06 57 45.0	
FOZ	**Fox Glacier**	**2.09**	**56**	PN	Pb	06 57 16.2	-1.3
FOZ				AML	AML	06 57 51.4	
FOZ				AML	AML	06 57 52.8	
FOZ				AML	AML	06 57 54.5	
FOZ				AML	AML	06 57 54.5	
LBZ	**Lake Benmore**	**2.10**	**81**	PN	Pn	06 57 16.2	+1.3
LBZ				AML	AML	06 57 48.6	
LBZ				AML	AML	06 57 49.4	
APZ	**The Paps**	**2.13**	**167**	⇓PN	Pn	06 57 16.3	+0.9
SYZ	**Scrubby Hill**	**2.20**	**145**	PN	Pn	06 57 16.6	+0.4
ODZ	**Otahua Downs**	**2.39**	**98**	⇓PN	Pn	06 57 20.1	+1.2
HHSZ	**Highcliff Hill**	**2.58**	**117**	PN	Pn	06 57 22.8	+1.2
HHSZ					SN	Sn	06 57 52.2	-1.2
RPZ	**Rata Peaks**	**2.89**	**70**	PN	Pn	06 57 27.5	+1.7
WVZ	**Waitaha Valley**	**3.00**	**57**	PN	Pn	06 57 27.7	+0.4
MQZ	**McQueen's Vall**	**3.99**	**77**	*e*PN	Pn	06 57 41.3	+0.5
LTZ	**Lake Taylor**	**4.11**	**63**	PN	Pn	06 57 43.3	+0.8
THZ	**Tophouse**	**5.07**	**56**	*e*PN	Pn	06 57 56.0	+0.2
NNZ	**Nelson**	**5.69**	**54**	*e*PN	Pn	06 58 05.1	+0.9

IDC 15 07:04:12.6±3.4, 0°67S×100°37E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.5/22, mbtmp3.5/5, Error ellipse: s-maj=148.6km s-min=21.2km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.74**	**337**	Pn	Pn	07 05 15.7	+3.9
	1.2nm,0.3s,baz=334,slow=7.4,SNR=4.2						
H08S2	**Diego Garcia H**	**28.63**	**255**	T	T	07 38 27.7	
	baz=78,slow=0.7,SNR=8.7						
H08S3	**Diego Garcia H**	**28.64**	**255**	T	T	07 38 20.3	
	baz=78,slow=0.7,SNR=5.4						
H08S1	**Diego Carcia H**	**28.65**	**255**	T	T	07 38 22.4	
	baz=78,slow=0.7,SNR=8.3						
WRA	**Warramunga Arr**	**38.37**	**122**	P	P	07 11 35.7	-0.1
	0.1nm,0.4s,baz=304,slow=8.8,SNR=6.1						
ASAR	**Alice Springs**	**39.75**	**128**	P	P	07 11 47.1	-0.3
	0.1nm,0.4s,baz=294,slow=6.8,SNR=3.1						
SONM	**Songino Array**	**48.60**	**5**	P	P	07 12 58.8	+0.8
	0.5nm,0.7s,baz=206,slow=9.5,SNR=2.4						
MKAR	**Makanchi Array**	**49.86**	**344**	P	P	07 13 07.4	-0.2
	0.7nm,0.4s,baz=149,slow=8.4,SNR=14						
ZALV	**Zalesovo Beam**	**55.94**	**349**	P	P	07 13 51.8	-0.6
	0.6nm,0.4s,baz=157,slow=7.8,SNR=3.1						

IDC 15 07:09:18.5±1.0, 15°24S×173°45W, h0km, mb3.8/7, mb1 4.2/7, mb1mx4.0/19, mbtmp3.8/7, MS3.2/1, Ms1 3.2/1, ms1mx2.8/38, Error ellipse: s-maj=59.1km s-min=21.5km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.09**	**51**	Pn	Pn	07 09 48.0	-6.9
	55nm,0.3s,baz=76,slow=0.7,SNR=25						
AFI				Sn	Sn	07 10 07.4	-14
	161nm,0.3s,baz=49,slow=19,SNR=19						
AFI				LR	LR	07 10 30.4	
	comp=Z,471nm,18.7s,baz=216,slow=34						
DZM	**Mont Dzumac**	**20.21**	**247**	P	Pn	07 14 00.7	+3.5
	2.4nm,0.8s,baz=76,slow=19,SNR=3.9						
H11S2	**WAKE ISLAND Hy**	**38.80**	**329**	T	T	07 58 07.4	
	baz=152,slow=0.7,SNR=6.6						
H11S3	**WAKE ISLAND Hy**	**38.81**	**329**	T	T	07 58 08.3	
	baz=152,slow=0.7,SNR=9.0						
H11S1	**WAKE ISLAND Hy**	**38.81**	**329**	T	T	07 58 12.4	
	baz=152,slow=0.7,SNR=6.6						
H11N3	**WAKE ISLAND Hy**	**39.74**	**330**	T	T	07 59 30.0	
	baz=152,slow=0.7,SNR=3.6						
H11N1	**WAKE ISLAND Hy**	**39.75**	**330**	T	T	07 59 17.9	
	baz=152,slow=0.7,SNR=6.9						
H11N2	**WAKE ISLAND Hy**	**39.76**	**330**	T	T	07 59 27.5	
	baz=152,slow=0.7,SNR=4.4						
WRA	**Warramunga Arr**	**49.83**	**257**	P	P	07 18 13.3	-0.5
	0.8nm,0.6s,baz=90,slow=6.7,SNR=20						
ASAR	**Alice Springs**	**50.11**	**252**	P	P	07 18 15.4	-0.5
	2.1nm,0.5s,baz=87,slow=8.0,SNR=46						
NVAR	**Mina Array Bea**	**74.24**	**42**	P	P	07 20 58.6	+0.7
	0.5nm,0.9s,baz=225,slow=8.2,SNR=3.8						
TXAR	**Lajitas Array**	**80.56**	**56**	P	P	07 21 32.5	-0.8
	0.7nm,1.0s,baz=224,slow=5.2,SNR=4.9						
PDAR	**Pinedale Array**	**82.18**	**42**	P	P	07 21 41.5	-0.3
	0.2nm,0.4s,baz=304,slow=2.1,SNR=3.5						
ILAR	**Eielson Array**	**82.30**	**11**	P	P	07 21 41.2	-0.4
	0.4nm,0.8s,baz=212,slow=4.2,SNR=3.6						
MAW	**Mawson**	**87.93**	**199**	P	P	07 22 10.3	+0.4
	1.0nm,0.7s,baz=115,slow=9.4,SNR=4.9						
BRTR	**Keskin Array B**	**146.00**	**321**	PKPbc	PKPab	07 29 01.6	+0.4
	2.6nm,1.0s,baz=48,slow=1.8,SNR=6.7						

IDC 15 07:28:11.7±25.0, 53°06N×168°79W, h0km, mb3.4/3, mb1 3.9/3, mb1mx3.5/27, mbtmp3.4/3, Error ellipse: s-maj=470.7km s-min=285.7km az=94.0
NEIC 15 07:28:24.1, 52°80N×166°80W, h5km, ML3.1(AEIC), After AEIC.
ISC 15 07:28:22.4±2.0, 52°73N±0°07×166°72W±0°06, h5km±12km, n26, σ0s37/26, mb3.4/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.99**	**314**	P	Pg	**07 28 41.5**	**0.0**
OKFG				S	Sn	**07 28 57.1**	**-0.4**
OKTU	**Okmok Mt. Tuli**	**1.04**	**310**	P	Pb	**07 28 42.9**	**0.0**
MGOD	**Makushin Gods**	**1.08**	**355**	P	Pg	**07 28 43.2**	**+0.2**
OKSO	**Okmok South**	**1.08**	**307**	P	Pg	**07 28 42.6**	**-0.4**
OKSO				S	Sn	**07 28 59.4**	**-0.1**
OKSP	**Okmok Steeple**	**1.09**	**300**	P	Pg	**07 28 43.5**	**+0.3**
MREP	**Makushin Rep't**	**1.09**	**359**	P	Pg	**07 28 43.5**	**+0.2**
MSOM	**Makushin Julie**	**1.10**	**353**	P	Pg	**07 28 43.0**	**-0.6**
OKCE	**Okmok Cone E**	**1.12**	**309**	P	Pg	**07 28 43.7**	**-0.2**
UNV	**Unalaska Valle**	**1.13**	**7**	P	Pg	**07 28 43.9**	**-0.2**
UNV				S	Sb	**07 28 59.7**	**+0.2**
MCIR	**Makushin Cirqu**	**1.23**	**355**	P	Pb	**07 28 46.6**	**+0.4**
MTBL	**Makushin Table**	**1.25**	**1**	P	Pg	**07 28 45.9**	**-0.5**
NIKH	**Nikolski High**	**1.32**	**282**	P	Pg	**07 28 47.6**	**-0.1**
NIKH				S	Sn	**07 29 05.6**	**+0.1**
ZRO	**Akutan Zero**	**1.44**	**18**	P	Pn	**07 28 49.1**	**-0.1**
AKRB	**Akutan Reef Bi**	**1.46**	**15**	P	Pn	**07 28 49.5**	**0.0**
AKRB				S	Sg	**07 29 09.2**	**-0.1**
LVA	**Lava Point**	**1.50**	**16**	P	Pn	**07 28 50.1**	**+0.2**
AKUT	**Akutan**	**1.52**	**21**	*e*Pn	Pn	**07 28 51.2**	**+0.9**
AKUT				*e*Sn	Sb	**07 29 10.9**	**+0.1**
AKGG	**Akutan Green G**	**1.54**	**16**	P	Pn	**07 28 50.8**	**+0.2**
NVAR	**Mina Array Bea**	**36.06**	**94**	P	P	**07 35 25.6**	**+0.6**
	0.5nm,0.7s,baz=310,slow=8.8,SNR=4.4						
PDAR	**Pinedale Array**	**38.75**	**81**	P	**P**	**07 35 47.6**	**-0.1**
	0.4nm,0.8s,baz=292,slow=4.8,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**38.77**	**222**	T	T	08 17 25.5	
	baz=27,slow=0.7,SNR=23						
H11N3	**WAKE ISLAND Hy**	**38.78**	**222**	T	T	08 17 25.6	
	baz=27,slow=0.7,SNR=22						
H11N1	**WAKE ISLAND Hy**	**38.79**	**222**	T	T	08 17 27.6	
	baz=27,slow=0.7,SNR=19						
H11S1	**WAKE ISLAND Hy**	**39.95**	**221**	T	T	08 18 54.9	
	baz=25,slow=0.7,SNR=36						
H11S2	**WAKE ISLAND Hy**	**39.96**	**221**	T	T	08 18 56.1	
	baz=25,slow=0.7,SNR=25						
H11S3	**WAKE ISLAND Hy**	**39.97**	**221**	T	T	08 18 52.1	
	baz=25,slow=0.7,SNR=20						
TXAR	**Lajitas Array**	**51.13**	**91**	P	**P**	**07 37 25.6**	**-0.7**
	0.3nm,0.6s,baz=308,slow=6.4,SNR=5.4						

IDC 15 07:28:23.2±1.1, 64°70S×176°86E, h0km, mb4.2/4, mb1 4.3/5, mb1mx4.2/10, mbtmp4.1/5, ML3.6/1, MS4.3/16, Ms1 4.3/16, ms1mx4.3/19, Error ellipse: s-maj=47.6km s-min=24.2km az=59.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**13.68**	**194**	Pn	Pn	07 31 37.8	-0.3
	0.3nm,0.3s,baz=38,slow=18,SNR=26						
VNDA				LR	LR	07 35 30.9	
	comp=Z,1μm,21.0s,baz=59,slow=31						
RPZ	**Rata Peaks**	**21.28**	**348**	LR	LR	07 40 07.5	
	comp=Z,962nm,18.0s,baz=340,slow=33						
QSPA	**South Pole Qui**	**25.39**	**180**	P	P	07 33 52.5	+0.5
	7.6nm,1.0s						
QSPA				LR	LR	07 43 06.0	
	comp=Z,942nm,18.0s,baz=41,slow=35						
URZ	**Urewera**	**26.48**	**0**	LR	LR	07 42 30.5	
	comp=Z,584nm,21.2s,baz=176,slow=32						
STKA	**Stephens Creek**	**39.37**	**309**	LR	LR	07 49 58.6	
	comp=Z,313nm,18.2s,baz=56,slow=33						
MAW	**Mawson**	**39.91**	**213**	LR	LR	07 52 33.3	
	comp=Z,594nm,18.5s,baz=151,slow=36						
DZM	**Mont Dzumac**	**43.16**	**346**	*e*LR	LR	07 48 46.9	
	100m,23.7s						
TBI	**Tubuai**	**46.80**	**44**	*e*LR	LR	07 49 46.8	
	266nm,30.2s						
TBI	**Tubuai**	**46.80**	**44**	*e*T	T	08 26 38.0	
	23nm,0.3s						
H01W1	**Cape Leeuwin H**	**47.45**	**277**	T	T	08 28 24.6	
	baz=148,slow=0.7,SNR=20						
H01W2	**Cape Leeuwin H**	**47.46**	**277**	T	T	08 28 23.5	
	baz=148,slow=0.7,SNR=24						
H01W3	**Cape Leeuwin H**	**47.47**	**277**	T	T	08 28 21.8	
	baz=148,slow=0.7,SNR=20						
NWAO	**Narrogin (SRO)**	**47.84**	**282**	LR	LR	07 52 22.4	
	comp=Z,574nm,21.9s,baz=118,slow=30						
ASAR	**Alice Springs**	**49.55**	**305**	P	P	07 37 16.2	+0.6
	2.3nm,1.0s,baz=154,slow=7.4,SNR=10						
ASAR				LR	LR	07 57 44.3	
	comp=Z,86nm,20.6s,baz=247,slow=36						
RKT	**Rikitea**	**51.95**	**61**	*e*LR	LR	07 52 18.2	
	210nm,27.2s						
RKT	**Rikitea**	**51.95**	**61**	*e*T	T	08 33 03.1	
	3.8nm,0.3s						
TVO	**Taravao**	**52.12**	**42**	*e*T	T	08 33 14.9	
	3.9nm,0.3s						
PPT2	**Papeete2**	**52.21**	**42**	*e*LR	LR	07 52 11.5	
	300nm,28.8s						
PPT	**Papeete**	**52.23**	**42**	LR	LR	07 54 56.2	
	comp=Z,191nm,18.9s,baz=179,slow=30						
WRA	**Warramunga Arr**	**52.83**	**307**	P	P	07 37 39.8	-0.5
	2.0nm,1.1s,baz=160,slow=6.3,SNR=6.6						
WRA				LR	LR	07 57 08.1	
	comp=Z,491nm,20.2s,baz=155,slow=33						
VAH	**Vaihoa**	**55.01**	**43**	*e*T	T	08 36 52.7	
	147nm,0.3s						
PMOR	**Pomariorio Ree**	**55.15**	**43**	*e*T	T	08 37 03.2	
	5.2nm,0.3s						
FITZ	**Fitzroy Crossi**	**57.66**	**299**	LR	LR	07 58 50.8	
	comp=Z,447nm,20.2s,baz=163,slow=32						
PMG	**Port Moresby**	**59.01**	**325**	LR	LR	07 58 32.4	
	comp=Z,347nm,21.0s,baz=182,slow=31						
H03N3	**Juan Fernandez**	**65.97**	**117**	T	T	08 51 46.3	
	baz=177						
H03N2	**Juan Fernandez**	**65.98**	**117**	T	T	08 51 21.6	
	baz=177,slow=0.7,SNR=16						
H03N1	**Juan Fernandez**	**65.99**	**117**	T	T	08 51 30.6	
	baz=177,slow=0.7,SNR=6.6						
CFAA	**Coronel Fontan**	**71.55**	**125**	LR	LR	08 04 26.2	
	comp=Z,12nm,21.1s,baz=186,slow=30						
BOSA	**Boshof**	**84.39**	**205**	LR	LR	08 15 31.1	
	comp=Z,259nm,18.7s,baz=175,slow=34						
LPAZ	**La Paz**	**85.57**	**119**	P	P	07 41 03.7	-0.3
	3.1nm,1.1s,baz=168,slow=3.5,SNR=8.3						
LPAZ				LR	LR	08 13 00.5	
	comp=Z,133nm,20.8s,baz=238,slow=31						
H08S2	**Diego Garcia H**	**89.22**	**254**	T	T	09 20 47.8	
	baz=156,SNR=10.0						
H08S1	**Diego Carcia H**	**89.22**	**254**	T	T	09 20 45.9	
	baz=156,SNR=11						
H08S3	**Diego Garcia H**	**89.24**	**254**	T	T	09 20 41.7	
	baz=156,SNR=9.6						
ATAH	**Atahualpa**	**89.84**	**106**	LR	LR	08 12 43.4	
	comp=Z,332nm,18.2s,baz=200,slow=30						
BDFB	**Brasilia**	**92.95**	**137**	LR	LR	08 20 23.5	
	comp=Z,107nm,19.6s,baz=160,slow=34						
H02S1	**DAWSON INLET T**	**123.88**	**34**	T	T	10 03 20.8	
	SNR=12						
ILAR	**Eielson Array**	**131.86**	**20**	PKP	PKPdf	07 47 36.9	+0.4
	1.3nm,1.1s,baz=207,slow=5.7,SNR=7.2						
KURBB	**Kurchatov Arra**	**137.37**	**291**	PKP	PKPdf	07 47 47.4	+0.2
	0.3nm,0.2s,baz=176,slow=2.8,SNR=4.4						
AKTO	**Aktyubinsk**	**145.77**	**275**	PKPbc	PKPdf	07 48 00.8	-1.4
	1.9nm,0.9s,baz=157,slow=5.1,SNR=5.9						
BRTR	**Keskin Array B**	**147.16**	**238**	PKPbc	PKPdf	07 48 06.2	+1.1
	2.4nm,0.9s,baz=184,slow=2.0,SNR=11						

IDC 15 07:30:36.7±4.5, 36°93N×71°44E, h86km±37km, mb3.5/8, mb1 3.7/12, mb1mx3.6/28, mbtmp4.0/12, Error ellipse: s-maj=32.6km s-min=19.4km az=8.0
ISCJB 15 07:30:40.3±0.4, 37°08N±0°03×72°05E±0°07, h142km, mb3.6/10, Error ellipse: s-maj=8.0km s-min=3.3km az=169.3
NNC 15 07:30:48.8±5.1, 37°89N×71°50E, h204km±45km, mb3.2, mpv4.5, Error ellipse: s-maj=47.2km s-min=24.7km az=18.0
ISC 15 07:30:40.3±0.6, 37°11N±0°05×72°04E±0°08, h142km, n51, σ1s69/50, mb3.7/10, 6C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.28**	**182**	⇑P	**Pn**	**07 31 30.4**	**-0.7**
CEP				S	**Sn**	**07 32 11.0**	**+0.7**
CHCP	**Chirah Chowk**	**3.58**	**163**	⇓P	**Pn**	**07 31 37.3**	**+2.3**
THW	**Thamme Wali**	**4.31**	**183**	⇓P	**Pn**	**07 31 43.6**	**-0.9**
AML	**Almayashu**	**5.18**	**14**	P	**Pn**	**07 31 56.8**	**+0.5**
	SNR=319						
KZA	**Kyzart**	**5.55**	**26**	P	**Pn**	**07 32 02.8**	**+1.5**
	SNR=43						
THN	**Thein Dam**	**5.56**	**146**	*e*P	**Pn**	**07 32 01.0**	**0.0**
THN				*e*S	**Sn**	**07 33 03.9**	**-0.1**
EKS2	**Erkin-Say**	**5.71**	**13**	P	**Pn**	**07 32 04.1**	**+1.0**
	SNR=95						
AAK	**Ala-Archa**	**5.83**	**18**	P	**Pn**	**07 32 06.2**	**+1.4**
	SNR=163						
AAK	**Ala-Archa**	**5.83**	**18**	P	**Pn**	**07 32 06.5**	**+1.7**
	40nm,0.3s,baz=174,slow=5.5,SNR=362						
AAK				S	**Sn**	**07 33 10.9**	**+0.1**
	12nm,0.3s,baz=327,slow=22,SNR=17						
KBK	**Karagaybulak**	**5.98**	**21**	P	**Pn**	**07 32 08.8**	**+2.0**
	SNR=20						
DHRM	**DHARAMSHALA**	**5.98**	**143**	*e*P	**Pn**	**07 32 07.9**	**+1.0**
DHRM				*e*S	**Sn**	**07 33 14.2**	**-0.3**
DHRM				AML	AML	07 33 20.0	
	comp=E,872nm,0.9s						
DHRM				AML	AML	07 33 21.9	
	comp=N,561nm,0.2s						
ULHL	**Ulahol**	**6.07**	**31**	P	**Pn**	**07 32 09.8**	**+1.8**
	SNR=6.7						
KK31	**Karatay Array**	**6.11**	**349**	⇓P	**Pn**	**07 32 06.3**	**-2.0**
	comp=N,20nm,0.3s,baz=181,slow=13,SNR=520						
KK31				⇓S	Sn	07 33 09.3	-7.8
	comp=N,38nm,0.6s,baz=34,slow=81,SNR=9.0						
CHMS	**Chumysh**	**6.24**	**19**	P	**Pn**	**07 32 11.6**	**+1.5**
	SNR=69						
TKM2	**Tokmak 2**	**6.42**	**24**	⇑P	**Pn**	**07 32 14.1**	**+1.4**
	comp=N,38nm,0.5s						
TKM2				⇑S	**Sn**	**07 33 23.9**	**-1.0**
	comp=N,23nm,0.6s						
TKM2	**Tokmak 2**	**6.42**	**24**	P	**Pn**	**07 32 14.6**	**+1.9**
	SNR=54						
USP	**Ospenovka**	**6.44**	**16**	P	**Pn**	**07 32 13.7**	**+1.0**
	SNR=11						
SMLA	**Simla**	**7.32**	**143**	*i* P	**Pn**	**07 32 26.7**	**+2.1**
SMLA				*i* S	**Sn**	**07 33 43.5**	**-2.8**
SMLA				*i* S	**Sn**	**07 33 43.7**	**-2.6**
SMLA				AML	AML	07 33 51.4	
	comp=N,215nm,0.6s						
SMLA				AML	AML	07 33 53.4	
	comp=E,184nm,0.7s						
DDI	**Dehra Dun**	**8.42**	**142**	*e*P	Pn	07 32 42.5	+3.1
DDI				*e*S	**Sn**	**07 34 11.1**	**-1.9**
DDI				AML	AML	07 34 23.4	
	comp=E,617nm,0.5s						
DDI				AML	AML	07 34 23.5	
	comp=N,527nm,0.4s						
MK31	**Makanchi Array**	**12.31**	**35**	P	**Pn**	**07 33 33.0**	**+2.1**
	comp=N,1.8nm,0.6s,baz=225,slow=13,SNR=25						
MKAR	**Makanchi Array**	**12.31**	**35**	P	**Pn**	**07 33 33.2**	**+2.4**
	comp=N,0.3nm,0.3s,baz=227,slow=14,SNR=30						
DANN	**Dangsing**	**13.16**	**128**	*e*P	**Pn**	**07 33 42.5**	**+0.3**
	comp=N,23nm,0.4s						
KOLN	**Koldanda**	**13.48**	**130**	*e*P	**Pn**	**07 33 46.6**	**+0.5**
	comp=N,21nm,0.5s						
GKN	**Gorkha**	**13.96**	**127**	*e*P	**Pn**	**07 33 52.9**	**+0.7**
	comp=N,25nm,0.3s						
KURBB	**Kurchatov Arra**	**14.29**	**17**	P	**Pn**	**07 33 55.3**	**-0.8**
	comp=N,0.2nm,0.3s,baz=215,slow=13,SNR=8.8						
KKN	**Kakani**	**14.52**	**126**	*e*P	**Pn**	**07 33 59.1**	**-0.2**
	comp=N,15nm,0.5s						
DMN	**Daman**	**14.53**	**127**	*e*P	**Pn**	**07 34 00.0**	**+0.5**
	comp=N,19nm,0.6s						
BHPL	**Bhopal**	**14.58**	**160**	*e*P	Pn	07 33 55.5	-4.4
BHPL				*e*S	Sn	07 36 30.8	-11
PKIN	**Phulchoki**	**14.74**	**126**	*e*P	**Pn**	**07 34 02.5**	**+0.3**
	comp=N,19nm,0.5s						
PKI	**Pulchoki**	**14.75**	**126**	*e*P	**Pn**	**07 34 02.4**	**0.0**
	comp=N,20nm,0.6s						
GUN	**Gumba**	**14.83**	**124**	*e*P	**Pn**	**07 34 03.7**	**+0

*ISCJB **15** 07:53:44.8±0.5, 15°.30N±0°.02×59°.97W±0°.04, h58km±3km, mb4.3/28, MS5.1/2, Error ellipse: s-maj=6.8km s-min=2.7km az=165.1*

*NEIC **15** 07:53:46.3±1.0, 15°.35N×59°.92W, h54km±7km, mb4.6/18, Error ellipse: s-maj=13.0km s-min=5.8km az=69.0*

NEIC Felt at Portsmouth. Also felt at Le Robert and Schoelcher, Martinique.

*BJI **15** 07:53:48.2, 15°.30N×60°.20W, h77km, mB5.1/3, Ms5.4/2, Ms7 5.0/2*

ISC 15 07:53:45.9±1.3, **15°.33N**±0°.03×**59°.92W**±0°.06, **h54**km±11km, **n332**, σ1°**03**/367, **mb4.4**/28, **121C-120D**, **Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
H05S1	**Guadeloupe/Mar**	**1.26**	**225**	Pn		**Pn**		**07 54 05.4**	**-1.8**
H05S1				Sn		**Sn**		**07 54 21.0**	**-2.2**
SVN	**Savane Anatole**	**1.30**	**248**	*eP*		**Pn**		**07 54 06.3**	**-1.4**
DSTT	**Stowe**	**1.33**	**267**	*eP*		**Pn**		**07 54 08.4**	**+0.2**
DSTT				*eS*		**Sn**		**07 54 26.6**	**+1.7**
DWS	**Wesley**	**1.36**	**280**	*eP*		**Pn**		**07 54 07.5**	**-1.1**
DWS				*eS*		**Sn**		**07 54 26.6**	**+1.1**
DBCT	**Belle View Cho**	**1.37**	**268**	↑*iP*		**Pn**		**07 54 08.7**	**0.0**
DSHT	**Scott's Head**	**1.41**	**265**	↑*iP*		**Pn**		**07 54 09.2**	**0.0**
DSHT				*eS*		**Sn**		**07 54 27.6**	**+1.0**
MDN	**Morne-Daniel**	**1.42**	**270**	↑*eP*		**Pn**		**07 54 09.2**	**-0.1**
MDN				*eS*		**Sn**		**07 54 28.0**	**+1.1**
DVCT	**Vielle Casse P**	**1.46**	**281**	↑*iP*		**Pn**		**07 54 08.5**	**-1.3**
DVCT				*eS*		**Sn**		**07 54 28.3**	**+0.4**
MGG	**Marie-Galante**	**1.46**	**294**	*eP*		**Pn**		**07 54 08.8**	**-1.2**
H05N1	**Guadeloupe/Mar**	**1.47**	**312**	Pn		**Pn**		**07 54 07.9**	**-2.1**
H05N1				Sn		**Sn**		**07 54 25.7**	**-2.4**
PSDMZ	**Portsmouth**	**1.50**	**280**	⇓*iP*		**Pn**		**07 54 09.7**	**-0.7**
SLW	**Petit Monier**	**1.63**	**217**	⇓*iP*		**Pn**		**07 54 10.5**	**-1.8**
SLW				*eS*		**Sn**		**07 54 31.4**	**-0.8**
TBG	**Guadaloupe-3**	**1.74**	**288**	⇑*eP*		**Pn**		**07 54 12.5**	**-1.2**
SLPA	**Patience**	**1.76**	**213**	*eS*		**Sn**		**07 54 34.9**	**-0.4**
DOG	**Dongo Capester**	**1.77**	**293**	*eP*		**Pn**		**07 54 13.4**	**-0.8**
PHG	**Guadaloupe-2**	**1.79**	**292**	*eP*		**Pn**		**07 54 13.8**	**-0.7**
BCG	**Bois Riant Cap**	**1.80**	**295**	↑*iP*		**Pn**		**07 54 13.8**	**-0.8**
SLPE	**Piton Saint Es**	**1.81**	**215**	*eP*		**Pn**		**07 54 12.9**	**-1.8**
ECG	**Echelle**	**1.81**	**293**	↑*iP*		**Pn**		**07 54 14.1**	**-0.8**
LKG	**Breislack**	**1.81**	**293**	*eP*		**Pn**		**07 54 14.1**	**-0.8**
LKG				*eS*		**Sn**		**07 54 35.5**	**-1.4**
CRG	**Carmichael**	**1.82**	**293**	*eP*		**Pn**		**07 54 14.0**	**-1.0**
TAG	**Tarade**	**1.82**	**293**	↑*iP*		**Pn**		**07 54 14.2**	**-0.7**
HMG	**Houelmont**	**1.83**	**291**	↑*iP*		**Pn**		**07 54 14.3**	**-0.7**
SCG	**Saint Claude**	**1.83**	**292**	↑*iP*		**Pn**		**07 54 14.3**	**-0.7**
SCG				*eS*		**Sn**		**07 54 36.2**	**-0.9**
FNG	**Fond-Bernard**	**1.85**	**293**	*eP*		**Pn**		**07 54 14.3**	**-0.9**
SLB	**Belfond**	**1.85**	**216**	↑*iP*		**Pn**		**07 54 13.7**	**-1.6**
SSG	**Sans Toucher**	**1.85**	**294**	↑*iP*		**Pn**		**07 54 14.5**	**-0.9**
SEG	**Port Louis**	**1.86**	**305**	⇓*iP*		**Pn**		**07 54 14.3**	**-1.0**
MLG	**Mont-d'or**	**1.87**	**293**	↑*iP*		**Pn**		**07 54 14.8**	**-0.7**
MCLT	**Moule a Chique**	**1.89**	**212**	⇓*eP*		**Pn**		**07 54 15.0**	**-0.8**
MCLT				*eS*		**Sn**		**07 54 38.3**	**-0.2**
LZG	**Guadaloupe-1**	**1.96**	**294**	↑*iP*		**Pn**		**07 54 16.1**	**-0.6**
BBGH	**Gun Hill**	**2.21**	**171**	⇓*iP*		**Pn**		**07 54 20.3**	**+0.2**
BBGH	**Gun Hill**	**2.21**	**171**	*ePn*		**Pn**		**07 54 20.3**	**+0.2**
SVB	**Belmont**	**2.42**	**212**	↑*eP*		**Pn**		**07 54 21.9**	**-1.1**
SVB				*eS*		**Sn**		**07 54 51.2**	**-0.3**
BPA	**Boggy Peak**	**2.52**	**313**	*eP*		**Pn**		**07 54 23.8**	**-0.7**
BPA				*eS*		**Sn**		**07 54 52.8**	**-1.2**
ANWB	**Willy Bob**	**2.93**	**323**	*eP*		**Pn**		**07 54 27.7**	**-2.3**
ANWB	**Willy Bob**	**2.93**	**323**	*ePn*		**Pn**		**07 54 27.7**	**-2.3**
ANWB				*eSn*		**Sn**		**07 55 04.5**	**+0.6**
SKI	**Saint Kitts**	**3.36**	**307**	*eP*		**Pn**		**07 54 35.4**	**-0.5**
SKI				*eS*		**Sn**		**07 55 13.6**	**-0.9**
GRSS	**Sisters**	**3.43**	**209**	⇓*iP*		**Pn**		**07 54 37.5**	**+0.6**
GRSS				*eS*		**Sn**		**07 55 16.0**	**-0.4**
GRHS	**Sauteurs**	**3.51**	**209**	↑*iP*		**Pn**		**07 54 38.6**	**+0.6**
GRHS				*eS*		**Sn**		**07 55 17.2**	**-1.0**
GRW	**Mount Saint Ca**	**3.58**	**208**	*eP*		**Pn**		**07 54 38.5**	**-0.5**
GRW				*eS*		**Sn**		**07 55 18.8**	**-1.2**
GRGR	**Grenville**	**3.60**	**208**	*eP*		**Pn**		**07 54 39.0**	**-0.2**
GRGR	**Grenville**	**3.60**	**208**	*ePn*		**Pn**		**07 54 39.3**	**+0.1**
GRGR				*eSn*		**Sn**		**07 55 21.3**	**+0.8**
SABA	**Saba**	**3.91**	**306**	*ePn*		**Pn**		**07 54 45.4**	**+1.9**
TOSP	**Speyside**	**4.05**	**189**	↑*iP*		**Pn**		**07 54 45.3**	**-0.1**
TOSP	**Speyside**	**4.05**	**189**	*e*		Px		07 55 16.6	
TOSP				*eS*		**Sn**		**07 55 29.7**	**-1.9**
TPR	**Prospect**	**4.21**	**192**	*eP*		**Pn**		**07 54 46.0**	**-1.5**
TPR				*eS*		**Sn**		**07 55 33.5**	**-1.8**
BOT	**Bacolet**	**4.21**	**191**	*eP*		**Pn**		**07 54 46.8**	**-0.8**
TRN	**Trinidad (W)**	**4.88**	**197**	*eP*		**Pn**		**07 54 56.6**	**-0.1**
TRN				*eS*		**Sn**		**07 55 49.2**	**-2.6**
TBH	**Brigand Hill**	**4.95**	**193**	*eP*		**Pn**		**07 54 57.8**	**+0.1**
TBH				*eS*		**Sn**		**07 55 51.5**	**-2.1**
TPP	**Pointe-a-Pierr**	**5.20**	**197**	*eP*		**Pn**		**07 55 01.7**	**+0.5**
TPP				*eS*		**Sn**		**07 55 57.6**	**-2.3**
MTP	**Monte Pirata** 21nm,0.4s	**6.05**	**298**	*ePn*		**Pn**		**07 55 12.3**	**-0.5**
MTP				*eSn*		**Sn**		**07 56 25.3**	**+4.4**
HUMP	**Col San Antoni**	**6.33**	**297**	*ePn*		**Pn**		**07 55 17.0**	**+0.4**
CBYP	**Canovanas** 23nm,0.5s	**6.39**	**298**	*ePn*		**Pn**		**07 55 18.6**	**+1.1**
CBYP				*eSn*		**Sn**		**07 56 29.9**	**+0.8**
CELP	**Cerrillos**	**6.94**	**294**	*ePn*		**Pn**		**07 55 25.7**	**+0.7**
CELP				*eSn*		**Sn**		**07 56 38.8**	**-3.8**
OBIP	**Obispado Ponce**	**6.95**	**294**	*ePn*		**Pn**		**07 55 27.0**	**+1.9**
OBIP				*eSn*		**Sn**		**07 56 41.8**	**-1.0**
AOPR	**Arecibo Observ**	**7.19**	**296**	*ePn*		**Pn**		**07 55 29.2**	**+0.6**
LRS	**Lares**	**7.25**	**295**	*ePn*		**Pn**		**07 55 30.8**	**+1.4**
LRS				*eSn*		**Sn**		**07 56 50.8**	**+0.4**
CRPR	**Cabo Rojo, PR**	**7.38**	**292**	*ePn*		**Pn**		**07 55 31.0**	**-0.1**
CRPR				*eSn*		Sn		07 56 46.1	-7.3
LSP	**Las Mesas**	**7.42**	**293**	*ePn*		**Pn**		**07 55 33.6**	**+1.9**
SDDR	**Presa de Saban**	**11.45**	**290**	*ePn*		**Pn**		**07 56 26.4**	**-0.5**
SDDR				*eSn*		**Sn**		**07 58 32.6**	**-0.7**
SDV	**Santo Domingo**	**12.27**	**240**	*ePn*		**Pn**		**07 56 38.7**	**+0.5**
SDV				*eSn*		**Sn**		**07 58 53.2**	**-0.4**
ROSC	**El Rosal**	**17.58**	**235**	*ePn*		**P**		**07 57 49.0**	**+0.9**
ROSC				*eSn*		**S**		**08 01 06.7**	**-1.5**
ROSC	**El Rosal** 7.4nm,0.3s,baz=85,slow=6.7,SNR=38	**17.58**	**235**	P		**P**		**07 57 49.2**	**+1.1**
ROSC	0.9nm,0.3s,baz=105,slow=21,SNR=3.7			S		**S**		**08 01 08.8**	**+0.6**
OTAV	**Otavalo** 10nm,0.8s	**23.66**	**232**	*eP*		**P**		**07 58 51.8**	**-1.4**
SAML	**Samuel** 4.0nm,0.7s	**24.34**	**188**	*eP*		**P**		**07 58 59.9**	**+1.1**
JTS	**JuntasAbangare**	**24.91**	**261**	P		**P**		**07 59 03.3**	**-0.7**
JTS	**JuntasAbangare** 8.2nm,0.8s,baz=102,slow=3.8,SNR=5.8	**24.91**	**261**	P		**P**		**07 59 03.3**	**-0.7**
APG	**El Apazote**	**29.47**	**273**	P		**P**		**07 59 45.2**	**-0.1**
APG	**El Apazote** 2.2nm,0.7s,baz=138,slow=15,SNR=6.6	**29.47**	**273**	P		**P**		**07 59 45.2**	**-0.1**
SIV	**San Ignacio**	**31.14**	**182**	P		**P**		**08 00 01.7**	**+1.9**
SIV	**San Ignacio** 1.2nm,0.6s,baz=21,slow=9.6,SNR=4.6	**31.14**	**182**	P		**P**		**08 00 01.7**	**+1.9**
LPAZ	**La Paz** 46nm,2.7s	**32.45**	**195**	*eP*		**P**		**08 00 13.1**	**+1.3**
LPAZ	**La Paz** 1.6nm,0.5s,baz=2.8,slow=8.2,SNR=10	**32.45**	**195**	P		**P**		**08 00 13.2**	**+1.3**
WHTX	**Lake Whitney** baz=38	**37.94**	**303**	⇓P		**P**		**08 00 57.9**	**-0.4**
632A	**Uvalde** baz=39	**39.25**	**298**	⇑P		**P**		**08 01 08.8**	**-0.7**
732A	**Laxson Ranch,** baz=39,SNR=6.4	**39.26**	**297**	⇑P		**P**		**08 01 08.2**	**-1.2**
JCT	**Junction City** 7.9nm,0.8s	**39.48**	**299**	*eP*		**P**		**08 01 10.6**	**-0.8**
JCT	**Junction City** baz=40,SNR=5.7	**39.48**	**299**	⇓P		**P**		**08 01 10.6**	**-0.8**
532A	**Rocksprings** baz=40,SNR=12	**39.49**	**299**	⇑P		**P**		**08 01 11.0**	**-0.4**
432A	**Menard** baz=40,SNR=7.6	**39.57**	**300**	⇑P		**P**		**08 01 11.6**	**-0.5**
332A	**Millersview** baz=40	**39.65**	**301**	⇓P		**P**		**08 01 12.0**	**-0.7**
232A	**Coleman** baz=40	**39.70**	**302**	⇑P		**P**		**08 01 12.3**	**-0.8**
ABTX	**Abilene, Hawle** baz=40	**39.89**	**303**	⇓P		**P**		**08 01 14.0**	**-0.7**
631A	**Perdido Creek** baz=40,SNR=6.1	**39.91**	**298**	⇑P		**P**		**08 01 13.8**	**-1.1**
Z32A	**Haskell** baz=40	**39.95**	**304**	⇑P		**P**		**08 01 14.8**	**-0.4**
531A	**Rocksprings** baz=40	**40.04**	**299**	⇑P		**P**		**08 01 15.4**	**-0.6**
331A	**San Angelo** baz=40	**40.20**	**301**	⇑P		**P**		**08 01 16.4**	**-0.9**
431A	**Sonora**	**40.20**	**300**	⇑P		**P**		**08 01 16.6**	**-0.8**
	baz=40,SNR=9.0								
231A	**Bronte** baz=40	**40.26**	**302**	⇑P		**P**		**08 01 16.4**	**-1.4**
Z31A	**Sharp Cattle R** baz=40	**40.49**	**304**	⇓P		**P**		**08 01 18.5**	**-1.2**
530A	**J-C Ranch, Com** baz=41	**40.71**	**299**	⇑P		**P**		**08 01 20.3**	**-1.2**
X31A	**McDonald Ranch** baz=41	**40.74**	**306**	⇑P		**P**		**08 01 21.1**	**-0.6**
430A	**Baggett Ranch,** baz=41	**40.76**	**300**	⇓P		**P**		**08 01 20.9**	**-1.1**
Y31A	**Rekieta Farm,** baz=41	**40.77**	**305**	⇑P		**P**		**08 01 21.5**	**-0.4**
P33A	**Williams Farm,** baz=41	**40.81**	**313**	⇓P		**P**		**08 01 22.3**	**+0.1**
330A	**Mertzon** baz=41,SNR=8.5	**40.84**	**300**	⇑P		**P**		**08 01 21.8**	**-0.9**
W31A	**Holland Ranch,** baz=41	**40.89**	**306**	⇓P		**P**		**08 01 22.5**	**-0.5**
S32A	**Newby Ranch, P** baz=41	**41.00**	**310**	⇓P		**P**		**08 01 23.3**	**-0.5**
Y30A	**Stafford Cattl** baz=41	**41.25**	**304**	⇓P		**P**		**08 01 25.0**	**-1.0**
Z30A	**Sanderson Ranc** baz=41	**41.27**	**303**	⇑P		**P**		**08 01 25.4**	**-0.8**
429A	**Davenport Ranc** baz=41	**41.27**	**299**	⇓P		**P**		**08 01 24.8**	**-1.5**
T31A	**Randall Ranch,** baz=41	**41.33**	**309**	⇑P		**P**		**08 01 26.7**	**+0.2**
S31A	**Mullinville** baz=41	**41.38**	**310**	⇓P		**P**		**08 01 26.9**	**0.0**
X30A	**Coker Ranch, T** baz=41	**41.39**	**305**	⇑P		**P**		**08 01 26.3**	**-0.8**
529A	**Stev Forest Ra** baz=41	**41.45**	**298**	⇑P		**P**		**08 01 26.7**	**-1.0**
229A	**Bryant Ranch,** baz=42	**41.50**	**301**	⇓P		**P**		**08 01 27.2**	**-0.9**
P32A	**Huiting Farm,** baz=42	**41.52**	**313**	⇓P		**P**		**08 01 28.1**	**0.0**
329A	**Wagon Wheel Ra** baz=42	**41.53**	**300**	⇓P		**P**		**08 01 27.3**	**-1.0**
R31A	**Burdett** baz=42	**41.66**	**311**	⇓P		**P**		**08 01 29.2**	**0.0**
Z29A	**Hungry Hill Ra** baz=42	**41.73**	**303**	⇓P		**P**		**08 01 29.1**	**-0.8**
Q31A	**Ellis** baz=42	**41.84**	**312**	⇓P		**P**		**08 01 30.7**	**+0.1**
Y29A	**Porterfield Fa** baz=42,SNR=5.3	**41.86**	**304**	⇓P		**P**		**08 01 30.4**	**-0.7**
U30A	**WK&E Inc. Balk** baz=42	**41.87**	**308**	⇑P		**P**		**08 01 30.8**	**-0.2**
628A	**Black Gap, Mar** baz=42,SNR=6.7	**41.90**	**297**	⇓P		**P**		**08 01 31.0**	**-0.4**
528A	**Cox Ranch, San** baz=42,SNR=12	**41.94**	**298**	⇓P		**P**		**08 01 31.3**	**-0.4**
428A	**Kincaid Ranch,** baz=42,SNR=6.0	**41.96**	**299**	⇑P		**P**		**08 01 31.6**	**-0.3**
BGNE	**Belgrade** 31nm,0.9s	**41.99**	**316**	*eP*		**P**		**08 01 32.1**	**+0.3**
BGNE	**Belgrade** baz=42	**41.99**	**316**	⇓P		**P**		**08 01 32.4**	**+0.5**
P31A	**Stockton** baz=42	**42.03**	**313**	⇑P		**P**		**08 01 32.3**	**+0.1**
X29A	**Tulia** baz=42	**42.05**	**305**	⇑P		**P**		**08 01 31.9**	**-0.6**
S30A	**Montezuma** baz=42	**42.11**	**310**	⇑P		**P**		**08 01 33.1**	**+0.1**
228A	**UT Block 9, Go** baz=42	**42.18**	**301**	⇑P		**P**		**08 01 32.8**	**-0.8**
328A	**Wristen Ranch,** baz=42	**42.20**	**300**	⇓P		**P**		**08 01 32.8**	**-0.9**
R30A	**Dighton** baz=42	**42.20**	**311**	⇑P		**P**		**08 01 33.7**	**0.0**
627A	**Terlingua Ranc** baz=42	**42.33**	**297**	⇑P		**P**		**08 01 34.4**	**-0.5**
Y28A	**McKinney Farm,** baz=42	**42.34**	**304**	⇑P		**P**		**08 01 34.3**	**-0.6**
X28A	**Dimmitt** baz=42	**42.46**	**305**	⇓P		**P**		**08 01 35.5**	**-0.4**
M31A	**Lambtecht Ranc** baz=42	**42.52**	**315**	⇓P		**P**		**08 01 36.7**	**+0.5**
TXAR	**Lajitas Array**	**42.55**	**297**	P		**P**		**08 01 36.0**	**-0.7**
TXAR					PcP	**PcP**		**08 03 29.8**	**+1.3**
TXAR	**Lajitas Array** 1.2nm,0.4s,baz=125,slow=7.5,SNR=68	**42.55**	**297**	P		**P**		**08 01 36.0**	**-0.7**
TXAR	0.3nm,0.5s,baz=118,slow=5.2,SNR=4.5				PcP	**PcP**		**08 03 29.8**	**+1.3**
T29A	**Hugoton** baz=43	**42.56**	**309**	⇑P		**P**		**08 01 36.7**	**+0.1**
S29A	**Ulysses** baz=43	**42.59**	**309**	⇑P		**P**		**08 01 37.0**	**+0.1**
427A	**Hayter Ranch,** baz=43,SNR=6.3	**42.59**	**299**	⇑P		**P**		**08 01 36.5**	**-0.5**
527A	**Woodward Ranch** baz=43,SNR=8.2	**42.64**	**298**	⇓P		**P**		**08 01 36.8**	**-0.6**
P30A	**Selden** baz=43	**42.66**	**312**	⇑P		**P**		**08 01 37.7**	**+0.3**
O30A	**MW Ranch, Wils** baz=43	**42.77**	**313**	⇑P		**P**		**08 01 38.4**	**+0.1**
MSTX	**Muleshoe** 8.7nm,0.7s	**42.77**	**304**	*eP*		**P**		**08 01 37.7**	**-0.7**
MSTX	**Muleshoe** baz=43	**42.77**	**304**	⇓P		**P**		**08 01 38.0**	**-0.5**
L31A	**Butterfield Fa** baz=43	**42.79**	**317**	⇓P		**P**		**08 01 38.8**	**+0.4**
V28A	**Channing** baz=43	**42.83**	**306**	⇓P		**P**		**08 01 38.3**	**-0.6**
127A	**Arkansas Junct** baz=43	**42.94**	**302**	⇑P		**P**		**08 01 39.1**	**-0.7**
Q29A	**Oakley** baz=43,SNR=5.4	**42.94**	**311**	⇓P		**P**		**08 01 39.5**	**-0.2**
Z27A	**Tatum** baz=43	**42.97**	**303**	⇓P		**P**		**08 01 39.5**	**-0.5**
626A	**Big Bend Ranch** baz=43	**42.98**	**297**	⇓P		**P**		**08 01 39.7**	**-0.5**
526A	**Mary Lane Ranc** baz=43,SNR=5.6	**43.03**	**298**	⇓P		**P**		**08 01 40.4**	**-0.3**
Y27A	**Causey** baz=43	**43.07**	**303**	⇓P		**P**		**08 01 40.1**	**-0.7**
426A	**McDonald Obser** baz=43,SNR=10	**43.09**	**299**	⇑P		**P**		**08 01 40.9**	**-0.3**
S28A	**Manter** baz=43	**43.16**	**309**	⇓P		**P**		**08 01 41.0**	**-0.6**
326A	**Caldwell Ranch** baz=43	**43.17**	**300**	⇑P		**P**		**08 01 41.2**	**-0.5**
T28A	**Walsh** baz=43	**43.17**	**308**	⇑P		**P**		**08 01 41.4**	**-0.2**
X27A	**F and S Farms,** baz=43	**43.21**	**305**	⇓P		**P**		**08 01 41.7**	**-0.3**
O29A	**4D Ranch, Culb** baz=43	**43.27**	**313**	⇑P		**P**		**08 01 42.7**	**+0.3**
W27A	**Bowe Ranch, En** baz=43	**43.30**	**305**	⇑P		**P**		**08 01 41.8**	**-0.9**
R28A	**Tribune** baz=43	**43.35**	**310**	⇓P		**P**		**08 01 42.9**	**-0.1**
N29A	**Votaw Ranch, W** baz=43	**43.43**	**314**	⇓P		**P**		**08 01 43.4**	**-0.1**
226B	**Tecolote Peak,** baz=44	**43.48**	**301**	⇓P		**P**		**08 01 43.5**	**-0.6**
126A	**Clayton Basin,** baz=44	**43.48**	**301**	⇓P		**P**		**08 01 43.6**	**-0.6**
U27A	**Thompson Grove** baz=44	**43.50**	**307**	⇑P		**P**		**08 01 44.3**	**0.0**
K30A	**Basset** baz=44	**43.53**	**317**	⇓P		**P**		**08 01 44.6**	**+0.3**
Z26A	**Caprock** baz=44	**43.58**	**302**	⇑P		**P**		**08 01 44.3**	**-0.7**
T27A	**Campo** baz=44	**43.61**	**308**	⇓P		**P**		**08 01 44.9**	**-0.3**
P28A	**Saint Francis** baz=44	**43.75**	**312**	⇓P		**P**		**08 01 45.8**	**-0.4**
X26A	**CR and CF Fran** baz=44	**43.75**	**304**	⇑P		**P**		**08 01 45.9**	**-0.5**
425A	**Indio Mountain** baz=44,SNR=12	**43.92**	**299**	⇑P		**P**		**08 01 47.9**	**+0.1**
O28A	**Krutsinger Ran** baz=44	**43.97**	**313**	⇓P		**P**		**08 01 47.9**	**0.0**
I30A	**Oacoma** baz=44	**43.97**	**319**	⇓P		**P**		**08 01 48.5**	**+0.7**
125A	**Gardner Draw,** baz=44	**44.00**	**301**	⇑P		**P**		**08 01 47.7**	**-0.7**
325A	**Bean Ranch, Si** baz=44,SNR=8.8	**44.01**	**299**	⇓P		**P**		**08 01 48.4**	**-0.1**
N28A	**Pribbeno Ranch** baz=44	**44.01**	**313**	⇓P		**P**		**08 01 48.6**	**+0.3**
225A	**Deer Hill, Car** baz=44,SNR=7.0	**44.03**	**300**	⇓P		**P**		**08 01 48.2**	**-0.5**
R27A	**Eads**	**44.06**	**310**	⇑P		**P**		**08 01 48.7**	**-0.1**
	baz=44								
V26A	**Tequesquite Ra** baz=44	**44.06**	**306**	⇓P		**P**		**08 01 48.5**	**-0.4**
M28A	**Bar X Bar Ranc** baz=44	**44.17**	**314**	⇑P		**P**		**08 01 49.7**	**+0.1**
KSCO	**Kaye Shedlock'** baz=44	**44.18**	**311**	⇓P		**P**		**08 01 49.6**	**-0.2**
Z25A	**Roswell** baz=44	**44.19**	**302**	⇑P		**P**		**08 01 49.7**	**-0.2**
U26A	**Atchley Ranch,** baz=44	**44.20**	**307**	⇑P		**P**		**08 01 49.7**	**-0.3**
Y25A	**Mesa, Roswell** baz=44,SNR=6.8	**44.31**	**303**	⇓P		**P**		**08 01 51.1**	**+0.2**
T26A	**Comanche Natio** baz=44	**44.31**	**308**	⇑P		**P**		**08 01 50.1**	**-0.8**
J29A	**Okreek** baz=44,SNR=5.7	**44.32**	**317**	⇓P		**P**		**08 01 51.1**	**+0.5**
MNTX	**Cornudas Mount** 5.9nm,0.5s	**44.42**	**300**	*eP*		**P**		**08 01 51.4**	**-0.2**
X25A	**Clemmons Ranch** baz=44	**44.43**	**304**	⇓P		**P**		**08 01 51.5**	**-0.3**
W25A	**X Bar L Ranch,** baz=44	**44.44**	**305**	⇓P		**P**		**08 01 51.9**	**0.0**
324A	**Moseley Ranch,** baz=44,SNR=18	**44.45**	**299**	⇑P		**P**		**08 01 51.8**	**-0.2**
R26A	**Arlington** baz=44	**44.55**	**309**	⇓P		**P**		**08 01 52.4**	**-0.3**
224A	**Cornudas Mount** baz=45,SNR=14	**44.60**	**300**	⇑P		**P**		**08 01 52.9**	**-0.3**
124A	**Stringfield Ra** baz=45	**44.67**	**301**	⇓P		**P**		**08 01 54.0**	**+0.1**
U25A	**Circle Dot Ran** baz=45	**44.72**	**307**	⇑P		**P**		**08 01 53.9**	**-0.2**
V25A	**Rancho No Teng** baz=45	**44.73**	**306**	⇓P		**P**		**08 01 54.1**	**-0.1**
Z24A	**Sheeppen Canyo** baz=45,SNR=5.9	**44.73**	**302**	⇑P		**P**		**08 01 54.3**	**+0.1**
N27A	**Anderson Farm,** baz=45	**44.76**	**313**	⇑P		**P**		**08 01 54.7**	**+0.4**
Q26A	**Hugo** baz=45	**44.81**	**310**	⇓P		**P**		**08 01 55.0**	**+0.3**
P26A	**Davis Ranch, A** baz=45	**44.89**	**311**	⇓P		**P**		**08 01 55.6**	**+0.2**
Y24A	**Capitan** baz=45,SNR=5.3	**44.91**	**303**	⇑P		**P**		**08 01 55.9**	**+0.1**
T25A	**Trinidad** baz=45	**44.92**	**308**	⇓P		**P**		**08 01 55.8**	**-0.1**
J28A	**Allard Ranch,** baz=45	**44.93**	**317**	⇑P		**P**		**08 01 56.2**	**+0.6**
M27A	**Reverse DX Ran** baz=45	**44.93**	**314**	⇑P		**P**		**08 01 55.8**	**+0.2**
S25A	**Robets Cordova** baz=45	**45.10**	**308**	⇑P		**P**		**08 01 57.3**	**+0.1**
O26A	**Horse Wrangler** baz=45	**45.11**	**312**	⇓P		**P**		**08 01 57.5**	**+0.4**
W24A	**Lazy 6 Ranch,** baz=45	**45.19**	**305**	⇓P		**P**		**08 01 58.0**	**+0.1**
V24A	**Rampart Ranch,** baz=45	**45.21**	**305**	⇓P		**P**		**08 01 58.3**	**+0.2**
K27A	**Flueckinger Fa** baz=45	**45.29**	**316**	⇓P		**P**		**08 01 58.4**	**-0.1**
J27A	**Elkhorn Farm,** baz=45	**45.36**	**317**	⇓P		**P**		**08 01 59.6**	**+0.6**
Y23A	**Lovelace Mesa,** baz=45,SNR=6.5	**45.42**	**303**	⇓P		**P**		**08 02 00.1**	**+0.4**
O25A	**Wiggins** baz=46	**45.64**	**312**	⇓P		**P**		**08 02 01.8**	**+0.5**
T24B	**San Luis** baz=46	**45.65**	**307**	⇓P		**P**		**08 02 01.7**	**+0.1**
S24A	**Houchin Ranch,** baz=46	**45.68**	**308**	⇑P		**P**		**08 02 02.1**	**+0.2**
I27A	**Quinn** baz=46	**45.74**	**318**	⇑P		**P**		**08 02 02.2**	**+0.3**
W23A	**Werner Place,** baz=46	**45.77**	**304**	⇓P		**P**		**08 02 02.7**	**+0.1**
R24A	**Sanders Place,** baz=46	**45.77**	**309**	⇑P		**P**		**08 02 03.0**	**+0.5**
BNM	**Barren Site** 2.4nm,0.7s	**45.93**	**303**	*eP*		**P**		**08 02 04.3**	**+0.4**
V23A	**Ortiz Mt. (NFS** baz=46	**45.93**	**305**	⇓P		**P**		**08 02 04.3**	**+0.4**
122A	**Conniff Cattle** baz=46	**45.95**	**301**	⇑P		**P**		**08 02 04.7**	**+0.8**
H27A	**Howes** baz=46	**46.00**	**318**	⇑P		**P**		**08 02 04.4**	**+0.5**
I26A	**New Underwood** baz=46	**46.25**	**317**	⇓P		**P**		**08 02 06.6**	**+0.6**
D28A	**Regan** baz=46	**46.26**	**322**	⇑P		**P**		**08 02 06.0**	**+0.1**
K25A	**Mack Ranch, Ha** baz=46	**46.36**	**315**	⇑P		**P**		**08 02 07.4**	**+0.4**
A29A	**Manning Farm,** baz=46	**46.38**	**325**	⇑P		**P**		**08 02 07.2**	**+0.4**
H26A	**Fairpoint** baz=46	**46.44**	**318**	⇓P		**P**		**08 02 08.1**	**+0.7**
V22A	**San Miguel Ran** baz=46	**46.55**	**305**	⇑P		**P**		**08 02 09.1**	**+0.4**
121A	**Cookes Peak, D** baz=46	**46.57**	**300**	⇓P		**P**		**08 02 09.1**	**+0.3**
M24A	**Cheyenne** baz=47	**46.61**	**313**	⇑P		**P**		**08 02 10.1**	**+1.1**
G26A	**Maurine** baz=47	**46.62**	**319**	⇑P		**P**		**08 02 09.2**	**+0.3**
ISCO	**Idaho Springs** baz=47	**46.62**	**311**

K21A	Alcova	48.70	314	⇑P		P		08 02 26.1	+0.9
	baz=49,SNR=8.7								
H22A	Clearmont	48.78	317	⇓P		P		08 02 26.3	+0.6
	baz=49								
E23A	Ismay	48.84	319	⇓P		P		08 02 27.1	+1.1
	baz=49								
G22A	Birney	48.97	317	⇑P		P		08 02 28.2	+1.0
	baz=49								
M20A	Sweetwater, Wa	49.01	312	⇓P		P		08 02 28.1	+0.5
	baz=49								
DGMT	Dagmar	49.01	322	⇑P		P		08 02 28.2	+0.9
	baz=49								
TUC	Tucson	49.04	300	*e*P		P		08 02 28.4	+0.5
	17nm,2.4s								
D23A	Lindsay	49.06	320	⇓P		P		08 02 28.2	+0.5
	baz=49								
J21A	Lysite	49.08	315	⇑P		P		08 02 28.2	+0.2
	baz=49								
I21A	Big Trails, Te	49.13	315	⇑P		P		08 02 28.5	+0.1
	baz=49								
F22A	Rosebud	49.16	318	⇑P		P		08 02 29.2	+0.6
	baz=49								
E22A	Miles City	49.22	319	⇓P		P		08 02 30.0	+1.1
	baz=49								
H21A	Big Horn, Sher	49.25	316	⇓P		P		08 02 29.4	+0.1
	baz=49,SNR=6.2								
L20A	Wamsutter	49.27	313	⇓P		P		08 02 30.1	+0.5
	baz=49								
C23A	Lambert	49.31	321	⇓P		P		08 02 30.4	+0.8
	baz=49								
O19A	Miners Draw (B	49.35	310	⇑P		P		08 02 30.7	+0.6
	baz=49								
J20A	Shoshoni	49.52	314	⇑P		P		08 02 32.2	+0.8
	baz=50,SNR=6.0								
G21A	Lodge Grass	49.57	317	⇑P		P		08 02 32.5	+0.8
	baz=50								
D22A	Cohagen	49.66	320	⇑P		P		08 02 33.3	+1.1
	baz=50								
C22A	Vida	49.72	321	⇑P		P		08 02 33.9	+1.2
	baz=50								
X16A	Lo Mia Camp, P	49.89	302	⇑P		P		08 02 34.5	+0.1
	baz=50								
WUAZ	Wupatki	50.02	304	⇓P		P		08 02 35.6	+0.3
	baz=50								
L19A	Farson	50.02	312	⇑P		P		08 02 36.0	+0.6
	baz=50								
D21A	La Casta Ranch	50.13	319	⇑P		P		08 02 37.2	+1.3
	baz=50								
J19A	Crowheart	50.16	314	⇑P		P		08 02 36.7	+0.4
	baz=50,SNR=19								
G20A	Bridger	50.24	317	⇓P		P		08 02 37.2	+0.5
	baz=50								
PDAR	Pinedale Array	50.36	313	P		P		08 02 38.2	+0.3
PDAR	Pinedale Array	50.36	313	P		P		08 02 38.2	+0.3
	6.8nm,0.8s,baz=116,slow=9.5,SNR=50								
I19A	Meeteetse	50.36	315	⇑P		P		08 02 38.4	+0.5
	baz=50								
L18A	Fontenelle, Gr	50.46	312	⇓P		P		08 02 39.1	+0.5
	baz=50								
C21A	Desert Coulee	50.50	320	⇓P		P		08 02 39.5	+0.9
	baz=50								
H10N3	ASCENSION HYDR	50.55	114	T		T		08 58 12.9	
	baz=296,slow=0.7,SNR=28								
H10N2	ASCENSION HYDR	50.56	114	T		T		08 58 10.3	
	baz=296,slow=0.7,SNR=31								
H19A	Powell	50.56	316	⇓P		P		08 02 39.6	+0.3
	baz=50								
H10N1	ASCENSION HYDR	50.57	114	T		T		08 58 14.6	
	baz=296,slow=0.7,SNR=35								
D20A	Manuel Ranch,	50.86	319	⇓P		P		08 02 42.8	+1.4
	baz=51								
U15A	North Rim	50.91	305	⇓P		P		08 02 42.5	+0.3
	baz=51								
H10S3	ASCENSION HYDR	50.92	115	T		T		08 58 37.2	
	baz=297,slow=0.7,SNR=14								
H10S1	ASCENSION HYDR	50.93	115	T		T		08 58 37.7	
	baz=297,slow=0.7,SNR=13								
F19A	Roth Farm, Mol	50.94	317	⇓P		P		08 02 42.9	+0.9
	baz=51								
H10S2	ASCENSION HYDR	50.94	115	T		T		08 58 38.6	
	baz=297,slow=0.7,SNR=13								
DAU	Daniels Canyon	50.95	310	*e*P		P		08 02 43.8	+1.3
H18A	Shoshone NF, C	51.02	316	⇓P		P		08 02 43.6	+0.8
	baz=51								
E19A	Rath Farm, Rou	51.05	318	⇑P		P		08 02 43.5	+0.7
	baz=51								
Y14A	Wickenburg	51.11	301	⇓P		P		08 02 44.0	+0.6
	baz=51								
B20A	Solberg Farm,	51.31	321	⇓P		P		08 02 45.6	+0.9
	baz=51								
LOHW	Long Hollow	51.34	314	*e*P		P		08 02 46.0	+0.7
	14nm,2.0s								
TPAW	Teton Pass	51.55	314	*e*P		P		08 02 47.8	+1.0
	4.6nm,0.8s								
DUG	Dugway	52.06	309	*e*P		P		08 02 51.6	+1.1
	9.5nm,1.5s								
DUG	Dugway	52.06	309	⇑P		P		08 02 51.1	+0.5
	baz=52								
EGMT	Eagleton	52.23	320	⇑P		P		08 02 53.3	+1.8
	baz=52								
QLMT	Earthquake Lak	52.27	315	*e*P		P		08 02 54.2	+2.0
	0.5nm,0.5s								
QLMT					*e*PcP	PcP		08 04 02.0	-0.9
BGU	Big Grassy Mou	52.38	310	*e*P		P		08 02 53.9	+0.9
	5.1nm,0.8s								
IRM	Iron Mountain	52.90	301	⇓P		P		08 02 57.2	+0.4
	baz=53								
BC3	Big Chuckawall	53.10	301	⇑P		P		08 02 58.8	+0.5
	baz=53								
R11A	Troy Canyon, C	53.82	306	⇓P		P		08 03 04.1	+0.5
	baz=54								
MONP	Monument Peak	53.84	300	⇑P		P		08 03 04.4	+0.6
	baz=54								
HLID	Hailey	54.00	313	*e*P		P		08 03 05.8	+1.0
	12nm,1.6s								
HLID	Hailey	54.00	313	⇓P		P		08 03 05.5	+0.7
	baz=54,SNR=5.0								
MPMC	Manual Prospec	55.02	303	⇑P		P		08 03 12.8	+0.4
	baz=55								
EDW2	Edwards Air Fo	55.31	302	⇑P		P		08 03 14.8	+0.5
	baz=55								
NVAR	Mina Array Bea	55.95	306	P		P		08 03 19.5	+0.4
NVAR	Mina Array Bea	55.95	306	P		P		08 03 19.5	+0.4
	1.6nm,0.7s,baz=99,slow=6.6,SNR=14								
NEW	Newport	56.99	318	⇓P		P		08 03 26.3	+0.2
	baz=57								
TORD	Torodi Ar. Bea	59.59	84	P		P		08 03 44.9	+0.2
TORD	Torodi Ar. Bea	59.59	84	P		P		08 03 44.9	+0.2
	0.7nm,0.5s,baz=280,slow=7.0,SNR=5.7								
YKA	Yellowknife Ar	60.55	334	P		P		08 03 49.6	-0.8
YKA	Yellowknife Ar	60.55	334	P		P		08 03 49.6	-0.8
	1.4nm,0.8s,baz=109,slow=7.1,SNR=4.0								
ILAR	Eielson Array	74.97	334	P		P		08 05 21.3	+0.1
ILAR	Eielson Array	74.97	334	P		P		08 05 21.3	+0.1
	1.3nm,0.8s,baz=111,slow=4.2,SNR=15								
TRF	Thorofare Moun	76.59	332	*e*P		P		08 05 31.5	+0.8
	5.0nm,0.7s								
BPAW	Bear Paw Mtn.	76.81	333	*e*P		P		08 05 32.0	+0.3
	3.7nm,0.9s								
KSH	Kashi	111.68	35	*e*PKP		PKiKP		08 12 11.3	-3.8
KSH				sPKP				08 12 49.6	
KSH				PP		PP		08 13 01.9	+5.2
KSH				PKS		PKSdf		08 15 46.9	-5.0
KSH				SKS		SKSdf		08 19 13.1	-10
KSH				SS		SS		08 28 25.3	-2.9
KSH				PPMZ					
	comp=Z,68nm,3.7s								
KSH				LR		LR			
	comp=N,420nm,12.0s								
KSH				LR		LR			
	comp=E,210nm,11.0s								
KSH				LR		LR			
	comp=Z,98nm,5.4s								
HHC	Hu-ho-hao-te	123.55	8	*e*PKP		PKPdf		08 12 33.8	-4.0
HHC				sPKP				08 13 11.1	
HHC				PP		PP		08 14 20.1	+1.6
HHC				PKS		PKSdf		08 16 09.3	-5.2
HHC				SKS		SKSdf		08 19 34.3	-11
HHC				PPMZ					
	110nm,5.5s								
HHC				LR		LR			
	comp=N,180nm,19.6s								
HHC				LR		LR			
	comp=E,150nm,18.0s								
HHC				LR		LR			
	comp=Z,280nm,18.2s								
CD2	Chengdu	131.42	19	PKP		PKPdf		08 12 52.9	-0.1
GYA	Guiyang	136.46	18	*e*Pdif		Pdif		08 10 07.3	-0.8
GYA				PKP		PKPdf		08 13 01.9	-0.8
GYA				sPKP				08 13 31.0	
GYA				PP		PP		08 15 47.4	+4.8
GYA				PPMZ					
	90nm,7.6s								

ISCJB ***15*** *08:01:30.0±0.3, 38.˚17N±0.˚03×73.˚36E±0.˚05, h107km, mb4.1/6, Error ellipse: s-maj=5.7km s-min=3.9km az=160.0*

IDC ***15*** *08:01:33.5±5.3, 38.˚34N×73.˚25E, h108km±41km, mb3.6/5, mb1 3.8/9, mb1mx3.5/30, mbtmp4.2/9, MS3.5/1, Ms1 3.7/1, ms1mx2.5/40, Error ellipse: s-maj=41.0km s-min=25.0km az=3.0*

NNC ***15*** *08:01:40.2±2.8, 38.˚86N×73.˚16E, h183km±24km, mb3.3, mpv4.0, Error ellipse: s-maj=27.0km s-min=12.6km az=7.0*

ISC 15 08:01:31.3±0.6, 38°25N±0.°05×73°45E±0.°06, h107km, n53, σ1§98/48, mb4.0/6, 6C-5D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	Kashi	2.34	56	Pg	Pn	08 02 08.6	-0.1
KSH				Sg	Sn	08 02 31.5	-5.8
KSH				SMN			
	2µm,0.4s						
KSH				SME			
	1µm,0.3s						
KSH	Kashi	2.34	56	Pg	Pn	08 02 08.3	-0.4
KSH				Sg	Sn	08 02 32.6	-4.7
KSH				SMN			
	2µm,0.4s						
KSH				SME			
	1µm,0.4s						
AML	Almayashu	3.88	3	P	Pn	08 02 31.9	+2.5
	SNR=240						
KZA	Kyzart	4.07	19	P	Pn	08 02 34.4	+2.5
	SNR=18						
EKS2	Erkin-Say	4.42	3	P	Pn	08 02 39.2	+2.9
	SNR=70						
AAK	Ala-Archa	4.45	10	P	Pn	08 02 39.9	+3.1
	SNR=27						
AAK	Ala-Archa	4.45	10	P	Pn	08 02 39.9	+3.1
	7.5nm,0.3s,baz=159,slow=5.6,SNR=45						
AAK				S	Sn	08 03 28.8	+1.1
	7.2nm,0.3s,baz=108,slow=22,SNR=8.9						
ULHL	Ulahol	4.53	27	P	Pn	08 02 40.4	+2.5
	SNR=6.5						
CHCP	Chirah Chowk	4.58	182	P	Pn	08 02 44.6	+6.1
CEP	Cherat	4.59	196	P	Pn	08 02 44.0	+5.3
CHMS	Chumysh	4.85	11	P	Pn	08 02 44.8	+2.8
	SNR=5.9						
TKM2	Tokmak 2	4.95	19	⇑P	Pn	08 02 46.2	+2.6
	4.6nm,0.5s						
TKM2				⇓S	Sn	08 03 40.8	+1.2
	24nm,0.8s						
TKM2	Tokmak 2	4.95	19	P	Pn	08 02 46.4	+2.9
	SNR=6.9						
USP	Ospenovka	5.08	9	P	Pn	08 02 47.9	+2.7
	SNR=6.7						
KK31	Karatay Array	5.34	336	⇓P	Pn	08 02 50.4	+1.8
	22nm,0.3s,baz=145,slow=12,SNR=526						
KK31				⇑S	Sn	08 03 45.7	-3.2
	82nm,0.7s,baz=160,slow=22,SNR=11						
THW	Thamme Wali	5.62	195	P	Pn	08 02 56.8	+4.3
THN	Thein Dam	6.09	162	*e*P	Pn	08 03 01.0	+2.2
THN				*e*S	Sn	08 04 11.4	+4.3
SMLA	Simla	7.73	156	*i* P	Pn	08 03 24.3	+3.2
SMLA				*i* S	Sn	08 04 43.7	-3.3
SMLA				*i* S	Sn	08 04 45.1	-1.9
SMLA				AML	AML	08 04 51.5	
	comp=E,887nm,0.2s						
SMLA				AML	AML	08 04 54.7	
	comp=N,1µm,0.3s						
MKAR	Makanchi Array	10.74	35	P	Pn	08 04 04.3	+2.4
	comp=N,0.1nm,0.3s,baz=215,slow=12,SNR=3.7						
IMYA	Miami	10.80	264	*e*P	Pn	08 04 01.1	-1.9
IMOG	Moghan	11.46	264	*e*P	Pn	08 04 10.0	-1.9
IEMG	Emamgholi	11.73	271	*e*P	Pn	08 04 13.0	-2.5
IAKL	Akhelmad	11.80	267	*e*P	Pn	08 04 16.1	-0.3
IKRD	Kardeh	11.95	268	*e*P	Pn	08 04 05.4	-13
ISHV	Shirvan	12.46	272	*e*P	Pn	08 04 23.9	-1.2
KURBB	Kurchatov Arra	12.89	15	P	Pn	08 04 28.9	-1.4
	comp=N,0.1nm,0.3s,baz=207,slow=12,SNR=3.1						
DANN	Dangsing	13.10	136	*e*P	Pn	08 04 32.0	-1.5
	comp=N,1.26nm,0.4s						
KOLN	Koldanda	13.47	138	*e*P	Pn	08 04 37.5	-0.8
	comp=N,11nm,0.3s						
GKN	Gorkha	13.85	134	*e*P	Pn	08 04 42.4	-0.8
	comp=N,55nm,0.5s						
KKN	Kakani	14.38	133	*e*P	Pn	08 04 48.9	-1.2
	comp=N,42nm,0.5s						
DMN	Daman	14.42	134	*e*P	Pn	08 04 49.7	-0.9
	comp=N,8.4nm,0.3s						
VOSK	Vostochnaya	14.58	354	⇑P	Pn	08 04 51.0	-1.2
	comp=N,4.2nm,1.1s						
PKIN	Phulchoki	14.61	133	*e*P	Pn	08 04 52.6	-0.4
	comp=N,9.8nm,0.3s						
PKI	Pulchoki	14.62	133	*e*P	Pn	08 04 53.1	-0.1
	comp=N,20nm,0.5s						
GUN	Gumba	14.64	131	*e*P	Pn	08 04 51.5	-2.0
	comp=N,8.7nm,0.3s						
AB31	Akbulak array	14.68	323	⇑P	Pn	08 04 52.8	-0.7
	comp=N,2.0nm,0.3s,baz=130,slow=14,SNR=90						
AB31				⇓S	Sn	08 07 24.5	-11
	comp=N,1.7nm,0.5s,baz=132,slow=24,SNR=7.6						
BVA0	Borovoye Array	14.93	353	⇑P	Pn	08 04 54.6	-2.0
	comp=N,3.9nm,0.5s,baz=158,slow=9.2,SNR=19						
BVAR	Borovoye Array	14.93	353	P	Pn	08 04 57.1	+0.4
	comp=N,1.5nm,0.3s,baz=161,slow=10,SNR=10						
BRVK	Borovoye	14.97	353	⇑P	Pn	08 04 55.2	-2.0
	comp=N,10nm,0.8s						
JIRN	Jiri	15.01	131	*e*P	Pn	08 04 57.3	-0.9
	comp=N,20nm,0.3s						
TAPN	Taplejung	16.16	128	*e*P	Pn	08 05 12.2	-0.3
	comp=N,6.7nm,0.4s						
ODAN	Odare	16.32	130	*e*P	Pn	08 05 13.5	-0.9
	comp=N,9.0nm,0.4s						
AKTO	Aktyubinsk	16.40	323	⇓P	Pn	08 05 13.1	-1.9
	comp=N,7.6nm,0.7s						
AKTO				⇓S	Sn	08 08 06.5	-10
	comp=N,3.0nm,0.8s						
AKTO	Aktyubinsk	16.40	323	P	Pn	08 05 13.8	-1.2
	comp=N,2.2nm,0.3s,baz=125,slow=10,SNR=32						
ZALV	Zalesovo Beam	17.53	23	P	Pn	08 05 28.8	+0.1
	comp=N,0.7nm,0.3s,baz=211,slow=11,SNR=13						
GTA	Gaotai	20.55	79	*e*P	Pn	08 06 08.5	+3.8
GTA				pP	pP	08 06 12.8	-8.8
GTA				sP	sP	08 06 16.3	-19
GTA				AMB	AMB		
	comp=Z,5.0nm,0.7s						
SONM	Songino Array	25.74	58	P	P	08 06 54.8	+3.0
	comp=Z,0.7nm,0.6s,baz=270,slow=12,SNR=3.7						
HHC	Hu-ho-hao-te	29.35	73	*e*P	P	08 07 22.8	-1.3
HHC				AMB	AMB		
	comp=Z,43nm,0.9s						
HHC				AMB	AMB		
	comp=Z,170nm,5.7s						
CMAR	Chiang Mai Arr	29.70	124	LR	LR	08 21 31.0	
	comp=Z,90nm,19.3s,baz=358,slow=40						
FINES	FINESS Array B	37.17	324	P	P	08 08 32.5	+0.9
	comp=Z,6.4nm,1.0s,baz=114,slow=9.1,SNR=5.8						
ARCES	ARCESS Array B	40.31	336	P	P	08 08 58.9	+1.2
	comp=Z,2.2nm,0.5s,baz=109,slow=7.6,SNR=19						
NOA	NORSAR Array B	44.19	322	P	P	08 09 29.9	+0.7
	comp=Z,1.1nm,0.6s,baz=93,slow=7.9,SNR=3.4						
TORD	Torodi Ar. Bea	67.70	269	P	P	08 12 18.1	+0.6
	comp=Z,0.3nm,0.4s,baz=59,slow=6.1,SNR=5.2						

AUST ***15*** *08:20:59.2, 5.˚28S×147.˚08E, h100km*

ISCJB ***15*** *08:21:00.2±0.7, 5.˚30S±0.˚07×147.˚53E±0.˚10, h170km, mb3.8/8, Error ellipse: s-maj=13.6km s-min=9.3km az=15.6*

IDC ***15*** *08:21:04.5±2.4, 5.˚53S×147.˚52E, h194km±21km, mb3.6/8, mb1 3.8/11, mb1mx3.6/21, mbtmp3.6/11, Error ellipse: s-maj=21.2km s-min=15.8km az=127.0*

ISC 15 08:21:01.4±0.8, 5°34S±0.°07×147°5E±0.°1, h170km, n21, σ1§57/24, mb3.7/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	Manus Island	3.28	357	P	Pn	08 21 52.0	-1.2
	baz=3.3,SNR=6.3						
PMG	Port Moresby	4.05	185	P	Pn	08 22 03.1	+0.1
	21nm,0.3s,baz=340,slow=5.8,SNR=51						
PMG				S	Sn	08 22 47.6	-3.5
	21nm,0.3s,baz=299,slow=19,SNR=13						
COEN	Coen	9.58	206	P	Pn	08 23 18.1	+2.5
	baz=9.5,SNR=6.0						
CTA	Charters Tower	14.71	185	P	P	08 24 23.1	0.0
	0.2nm,0.3s,baz=11,slow=12,SNR=6.1						
KDU	Kakadu	16.56	243	P	Pn	08 24 44.2	+0.1
	baz=16,SNR=32						
MTN	Manton Dam	17.82	244	P	Pn	08 24 58.3	-0.7
	baz=18,SNR=37						
WRA	Warramunga Arr	19.38	220	P	P	08 25 14.5	+0.2
	3.6nm,0.3s,baz=48,slow=12,SNR=339						
WRA				S	S	08 28 40.7	-3.8
	baz=42,slow=21,SNR=3.5						
RMQ	Roma	21.06	177	P	P	08 25 34.5	+2.2
	baz=21,SNR=4.5						
KNRA	Kununurra	21.10	239	P	P	08 25 33.0	+0.3
	baz=21,SNR=13						
QLP	Quilpie	21.36	188	P	P	08 25 35.7	+0.3
	baz=22,SNR=7.7						
ASAR	Alice Springs	22.46	214	P	P	08 25 47.0	+0.4
	8.0nm,0.6s,baz=51,slow=9.2,SNR=126						
ASAR				S	S	08 29 43.5	+3.1
	0.9nm,0.8s,baz=30,slow=23,SNR=5.2						
DZM	Mont Dzumac	24.72	134	P	P	08 26 07.1	-0.2
	2.7nm,0.9s,baz=287,slow=17,SNR=6.2						
FITZ	Fitzroy Crossi	24.87	238	P	P	08 26 08.5	0.0
	baz=25,SNR=46						
FITZ	Fitzroy Crossi	24.87	238	P	P	08 26 08.7	+0.2
	10.0nm,0.4s,baz=65,slow=8.5,SNR=43						
STKA	Stephens Creek	26.98	191	P	P	08 26 26.6	-0.8
	6.5nm,1.1s,baz=5.8,slow=9.9,SNR=3.0						
MEEK	Meekatharra	34.78	229	P	P	08 27 35.9	0.0
	baz=34,SNR=11						
MORW	Morawa	38.01	228	P	P	08 28 03.1	-0.1
	baz=38,SNR=5.0						
VNDA	Vanda	72.53	177	P	P	08 32 08.7	-0.5
	0.7nm,0.6s,baz=327,slow=7.2,SNR=10						
MKAR	Makanchi Array	77.33	320	P	P	08 32 38.5	+1.2
	0.4nm,0.6s,baz=95,slow=8.9,SNR=9.0						
MAW	Mawson	83.06	203	P	P	08 33 06.9	-0.6
	0.7nm,0.7s,baz=108,slow=8.0,SNR=4.0						
ILAR	Eielson Array	84.67	23	P	P	08 33 16.0	+0.3
	0.3nm,0.9s,baz=224,slow=7.5,SNR=3.0						

IDC ***15*** *08:46:21.7±0.7, 3.˚93N×126.˚81E, h0km, mb4.2/13, mb1 4.3/13, mb1mx4.1/25, mbtmp4.2/13, Error ellipse: s-maj=49.1km s-min=13.3km az=69.0*

ISCJB ***15*** *08:46:25.4±0.5, 3.˚91N±0.˚08×126.˚8E±0.˚2, h36km, mb4.2/16, Error ellipse: s-maj=29.1km s-min=7.4km az=161.2*

NEIC ***15*** *08:46:27.0±0.4, 3.˚91N×126.˚86E, h35km, mb4.6/3, Error ellipse: s-maj=24.8km s-min=6.5km az=68.0*

AUST ***15*** *08:47:22.6±5.3, 0.˚98N×127.˚68E, h414km, Error ellipse: s-maj=2.0km s-min=1.7km az=295.0*

ISC 15 08:46:27.4±0.7, 3°92N±0.°10×126°9E±0.°2, h36km, n40, σ0§70/42, mb4.3/16, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTN	Manton Dam	17.19	166	P	P	08 50 26.1	0.0
	baz=14,SNR=4.1						
KNRA	Kununurra	19.56	174	P	P	08 50 52.5	+0.3
	baz=17,SNR=8.7						
FITZ	Fitzroy Crossi	21.91	183	*e*P	P	08 51 17.2	-0.4
FITZ	Fitzroy Crossi	21.91	183	P	P	08 51 17.3	-0.4
	baz=19,SNR=19						
FITZ	Fitzroy Crossi	21.91	183	P	P	08 51 16.4	-1.2
	3.2nm,0.4s,baz=11,slow=8.5,SNR=21						
WRAB	Tennant Creek	24.82	163	*e*P	P	08 51 45.9	-0.5
	12nm,0.8s						
WRA	Warramunga Arr	24.83	163	P	P	08 51 45.9	-0.6
WRA	Warramunga Arr	24.83	163	P	P	08 51 45.9	-0.6
	9.9nm,0.7s,baz=344,slow=10,SNR=58						
AS31	Alice Springs	28.27	166	*e*P	P	08 52 17.2	-0.2
ASAR	Alice Springs	28.27	166	P	P	08 52 16.9	-0.5
ASAR	Alice Springs	28.27	166	P	P	08 52 16.9	-0.5
	0.4nm,0.4s,baz=341,slow=6.9,SNR=15						
CMAR	Chiang Mai Arr	30.88	300	P	P	08 52 40.4	-0.3
CMAR	Chiang Mai Arr	30.88	300	P	P	08 52 40.4	-0.3
	0.7nm,0.3s,baz=105,slow=7.0,SNR=5.0						
MEEK	Meekatharra	31.40	194	P	P	08 52 45.3	+0.2
	baz=29,SNR=5.7						
KLBR	Kellerberrin	36.36	193	P	P	08 53 28.6	+0.4
	baz=34,SNR=5.2						
STKA	Stephens Creek	38.26	160	*e*P	P	08 53 44.3	0.0
STKA	Stephens Creek	38.26	160	P	P	08 53 44.5	+0.3
	baz=35,SNR=12						
STKA	Stephens Creek	38.26	160	P	P	08 53 44.1	-0.2
	8.3nm,0.6s,baz=343,slow=6.7,SNR=18						
LSA	Lhasa	42.41	311	*e*P	P	08 54 19.8	+0.5
	4.7nm,0.4s						
SONM	Songino Array	47.16	341	P	P	08 54 56.6	+0.2
SONM	Songino Array	47.16	341	P	P	08 54 56.6	+0.2
	1.3nm,0.7s,baz=162,slow=7.9,SNR=6.2						
MK31	Makanchi Array	57.47	325	*e*P	P	08 56 12.7	-0.1
MKAR	Makanchi Array	57.47	325	P	P	08 56 12.7	-0.2
MKAR				PcP	PcP	08 57 06.7	+0.5
MKAR	Makanchi Array	57.47	325	P	P	08 56 12.7	-0.2
	1.6nm,0.5s,baz=120,slow=8.4,SNR=16						
MKAR				PcP	PcP	08 57 06.7	+0.5
	1.1nm,0.8s,baz=126,slow=3.7,SNR=3.5						
ZAA0	Zalesovo Array	60.48	333	*e*P	P	08 56 33.7	+0.3
KURBB	Kurchatov Arra	61.65	327	P	P	08 56 40.5	-0.9
	1.3nm,0.4s,baz=126,slow=6.3,SNR=11						
KURK	Kurchatov	61.65	327	P	P	08 56 40.5	-0.9
BVAR	Borovoye Array	67.23	327	P	P	08 57 15.7	-2.3
BVAR	Borovoye Array	67.23	327	P	P	08 57 15.7	-2.3
	1.0nm,0.5s,baz=131,slow=8.2,SNR=5.6						
ABKAR	Akbulak array	72.08	321	*e*P	P	08 57 48.7	+0.7
	12nm,0.7s						
VNDA	Vanda	83.60	173	P	P	08 58 51.6	+0.2
VNDA	Vanda	83.60	173	P	P	08 58 51.6	+0.2
	0.7nm,0.9s,baz=295,slow=9.3,SNR=3.0						
ILAR	Eielson Array	84.88	25	P	P	08

ISC 15 08:50:36.6±0.4, 12°66S±0°05×166°17E±0°06, h33km±1km, h33km:pP-P,n208,σ1°36/250, mb5.0/49, MS4.5/29, 27C-4D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.89**	**297**	Pn	**Pn**	**08 52 14.6**	**-0.7**
HNR				Sn	**Sn**	**08 53 31.0**	**-1.7**
HNR	**Honiara**	**6.89**	**297**	Pn	**Pn**	**08 52 14.6**	**-0.7**
	54nm,0.3s,baz=177,slow=1.9,SNR=59						
HNR				Sn	**Sn**	**08 53 31.0**	**-1.7**
	61nm,0.3s,baz=53,slow=20,SNR=5.9						
DZM	**Mont Dzumac**	**9.37**	**178**	*e*Pn	**Pn**	**08 52 49.2**	**-0.2**
	61nm,0.7s						
DZM				*e*LR	LR	08 54 56.8	
	3µm,26.9s						
DZM	**Mont Dzumac**	**9.37**	**178**	*e*Pn	**Pn**	**08 52 50.8**	**+1.5**
DZM				*e*Sn	**Sn**	**08 54 32.7**	**-0.9**
DZM	**Mont Dzumac**	**9.37**	**178**	Pn	**Pn**	**08 52 49.4**	**0.0**
	0.7nm,0.3s,baz=10,slow=21,SNR=15						
MSVF	**Nonsavu**	**12.53**	**115**	*e*P	**Pn**	**08 53 31.6**	**-1.1**
MSVF				pmax	pmax		
	comp=Z,77nm,1.2s						
MSVF	**Nonsavu**	**12.53**	**115**	*e*Pn	**Pn**	**08 53 31.6**	**-1.1**
	comp=Z,77nm,1.2s						
TARA	**Tarawa**	**15.45**	**26**	*e*Pn	**Pn**	**08 54 14.2**	**+2.1**
	comp=Z,137nm,1.1s						
TARA				*e*Sn	Sn	08 56 42.5	-20
PMG	**Port Moresby**	**18.93**	**278**	P	**Pn**	**08 54 56.2**	**+0.5**
	comp=Z,36nm,1.0s,comp=Z,703nm						
PMG	**Port Moresby**	**18.93**	**278**	P	**Pn**	**08 54 56.0**	**+0.3**
PMG	**Port Moresby**	**18.93**	**278**	P	**Pn**	**08 54 56.0**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=75,slow=9.5,SNR=7.9						
EIDS	**Eidsvold**	**19.04**	**226**	*e*P	**Pn**	**08 54 56.8**	**-0.1**
	comp=Z,89nm,1.5s						
EIDS	**Eidsvold**	**19.04**	**226**	P	**Pn**	**08 54 57.8**	**+1.0**
	baz=19,SNR=6.4						
CTA	**Charters Tower**	**20.47**	**246**	P	**P**	**08 55 12.0**	**+0.4**
CTA	**Charters Tower**	**20.47**	**246**	P	**P**	**08 55 12.0**	**+0.4**
	comp=Z,8.2nm,0.8s,baz=76,slow=14,SNR=10						
CTAO	**Charters Tower**	**20.47**	**246**	*e*P	**P**	**08 55 12.7**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,131nm,2.1s						
CTAO	**Charters Tower**	**20.47**	**246**	*e*P	**P**	**08 55 12.7**	**+1.0**
	comp=Z,131nm,2.1s						
PATS	**Pohnpei**	**20.88**	**338**	P	**P**	**08 55 17.0**	**+1.0**
	baz=21,SNR=9.1						
RMQ	**Roma**	**21.37**	**227**	P	**P**	**08 55 23.0**	**+1.7**
	baz=21,SNR=28						
AFI	**Afiamalu**	**21.50**	**96**	LR	LR	09 02 29.1	
	comp=Z,1µm,19.0s,baz=272,slow=34						
ARMA	**Armidale**	**22.21**	**215**	*e*P	**P**	**08 55 31.3**	**+0.9**
	comp=Z,373nm,2.9s						
ARMA	**Armidale**	**22.21**	**215**	P	**P**	**08 55 31.3**	**+0.9**
	baz=22,SNR=5.8						
COEN	**Coen**	**22.41**	**264**	*e*P	**P**	**08 55 32.6**	**0.0**
	comp=Z,156nm,1.0s						
COEN	**Coen**	**22.41**	**264**	P	**P**	**08 55 32.5**	**0.0**
	baz=22,SNR=5.3						
QLP	**Quilpie**	**24.82**	**233**	P	**P**	**08 55 55.8**	**0.0**
	baz=25,SNR=7.1						
CMSA	**Cobar Meteorol**	**26.61**	**222**	P	**P**	**08 56 14.5**	**+2.4**
	baz=27,SNR=7.3						
STKA	**Stephens Creek**	**29.59**	**226**	*e*P	**P**	**08 56 39.9**	**+1.3**
STKA	**Stephens Creek**	**29.59**	**226**	P	**P**	**08 56 39.8**	**+1.2**
	baz=30,SNR=4.4						
STKA	**Stephens Creek**	**29.59**	**226**	P	**P**	**08 56 39.4**	**+0.8**
	comp=Z,8.0nm,0.8s,baz=18,slow=8.0,SNR=7.7						
STKA				LR	LR	09 08 38.4	
	comp=Z,2µm,18.4s,baz=17,slow=37						
RPZ	**Rata Peaks**	**31.23**	**173**	P	**P**	**08 56 52.9**	**-0.1**
RPZ	**Rata Peaks**	**31.23**	**173**	P	**P**	**08 56 52.9**	**-0.1**
	comp=Z,12nm,0.7s,baz=35,slow=0.2,SNR=11						
WRAB	**Tennant Creek**	**31.34**	**252**	*e*P	**P**	**08 56 52.8**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.9s						
WRAB	**Tennant Creek**	**31.34**	**252**	*e*P	**P**	**08 56 52.8**	**-1.5**
	comp=Z,4.6nm,0.9s						
WRA	**Warramunga Arr**	**31.36**	**252**	P	**P**	**08 56 52.7**	**-1.7**
WRA				PcP	**PcP**	**08 59 47.9**	**0.0**
WRA	**Warramunga Arr**	**31.36**	**252**	P	**P**	**08 56 52.7**	**-1.7**
	comp=Z,4.9nm,0.8s,baz=80,slow=8.9,SNR=22						
WRA				PcP	**PcP**	**08 59 47.9**	**0.0**
	comp=Z,2.0nm,0.9s,baz=76,slow=3.0,SNR=6.0						
WRA				LR	LR	09 08 35.5	
	comp=Z,615nm,19.5s,baz=75,slow=34						
AS31	**Alice Springs**	**32.47**	**246**	*e*P	**P**	**08 57 02.5**	**-1.7**
ASAR	**Alice Springs**	**32.48**	**246**	P	**P**	**08 57 02.4**	**-1.8**
ASAR				PcP	**PcP**	**08 59 50.5**	**-0.4**
ASAR	**Alice Springs**	**32.48**	**246**	P	**P**	**08 57 02.4**	**-1.8**
	comp=Z,6.4nm,0.9s,baz=75,slow=9.5,SNR=47						
ASAR				PcP	**PcP**	**08 59 50.5**	**-0.4**
	comp=Z,2.0nm,0.9s,baz=69,slow=3.2,SNR=6.8						
ASAR				LR	LR	09 09 55.5	
	comp=Z,1µm,18.8s,baz=73,slow=36						
KDU	**Kakadu**	**32.86**	**266**	P	**P**	**08 57 05.2**	**-2.4**
	baz=33,SNR=4.3						
BBOO	**Buckleboo**	**34.06**	**229**	P	**P**	**08 57 18.7**	**+0.7**
	baz=34,SNR=5.6						
KNRA	**Kununurra**	**36.36**	**261**	P	**P**	**08 57 37.5**	**-0.4**
	baz=36,SNR=8.2						
FITZ	**Fitzroy Crossi**	**39.39**	**257**	*e*P	**P**	**08 58 02.8**	**-0.7**
FITZ	**Fitzroy Crossi**	**39.39**	**257**	P	**P**	**08 58 02.8**	**-0.7**
	baz=39,SNR=10						
FITZ	**Fitzroy Crossi**	**39.39**	**257**	P	**P**	**08 58 02.2**	**-1.3**
	comp=Z,9.2nm,0.9s,baz=70,slow=9.8,SNR=14						
FITZ				LR	LR	09 13 35.6	
	comp=Z,481nm,18.2s,baz=80,slow=35						
BATI	**Baumata**	**41.70**	**269**	LR	LR	09 14 21.0	
	comp=Z,333nm,20.8s,baz=118,slow=34						
PPT	**Papeete**	**42.93**	**102**	LR	LR	09 14 36.7	
	comp=Z,584nm,18.2s,baz=264,slow=34						
PPT2	**Papeete2**	**42.93**	**102**	*e*S	S	09 05 05.0	+9.1
	comp=Z,348nm,26.2s						
PPT2				*e*LQ	LQ	09 08 47.4	
	comp=Z,2µm,27.8s						
PPT2				*e*LR	LR	09 10 32.7	
	comp=Z,1µm,27.2s						
TBI	**Tubuai**	**43.36**	**111**	*e*S	**S**	**09 05 07.8**	**+5.9**
	comp=Z,224nm,26.8s						
TBI				*e*LQ	LQ	09 08 56.3	
	comp=Z,820nm,35.5s						
TBI				*e*LR	LR	09 10 43.3	
	comp=Z,412nm,28.0s						
MBWA	**Marble Bar**	**45.09**	**253**	*e*P	**P**	**08 58 50.3**	**+0.4**
	comp=Z,12nm,1.0s						
NWAO	**Narrogin (SRO)**	**48.93**	**237**	P	**P**	**08 59 18.6**	**-1.1**
NWAO	**Narrogin (SRO)**	**48.93**	**237**	P	**P**	**08 59 18.6**	**-1.1**
	comp=Z,6.7nm,0.8s,baz=81,slow=10,SNR=3.3						
MJAR	**Matsushiro Arr**	**55.58**	**333**	P	**P**	**09 00 08.1**	**-0.9**
MJAR				PcP	**PcP**	**09 01 09.0**	**+0.5**
MJAR	**Matsushiro Arr**	**55.58**	**333**	P	**P**	**09 00 08.1**	**-0.9**
	comp=Z,12nm,1.0s,baz=163,slow=7.1,SNR=22						
MJAR				PcP	**PcP**	**09 01 09.0**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=185,slow=3.5,SNR=3.4						
MAJO	**Matsushiro**	**55.58**	**333**	*e*P	**P**	**09 00 08.9**	**-0.1**
MAJO				pmax	pmax		
	comp=Z,25nm,1.0s						
MAJO	**Matsushiro**	**55.58**	**333**	*e*P	**P**	**09 00 08.9**	**-0.1**
	comp=Z,25nm,1.0s						
MAT	**Matsushiro**	**55.58**	**333**	P	**P**	**09 00 08.6**	**-0.4**
MAT				S	**S**	**09 07 53.4**	**+0.8**
JNU	**Nakatsue**	**56.62**	**325**	*e*P	**P**	**09 00 17.3**	**+0.8**
JNU	**Nakatsue**	**56.62**	**325**	P	**P**	**09 00 16.4**	**-0.1**
	comp=Z,16nm,1.0s,baz=87,slow=5.5,SNR=7.0						
JNU				LR	LR	09 24 06.8	
	comp=Z,191nm,18.6s,baz=308,slow=36						
YUK	**Yuzh-Kuril'sk**	**59.38**	**343**	*d* P	**P**	**09 00 33.4**	**-2.1**
YUK				*i* S	**S**	**09 08 44.1**	**+2.1**
YUK				MLR	MLR		
	comp=Z,357nm,19.0s						
ASAJ	**Asahikawa**	**60.44**	**341**	*e*P	**P**	**09 00 43.8**	**+1.0**
ASAJ	**Asahikawa**	**60.44**	**341**	P	**P**	**09 00 43.0**	**+0.2**
	comp=Z,28nm,0.8s,baz=210,slow=12,SNR=16						
KSRS	**Korea Array**	**61.43**	**326**	P	**P**	**09 00 50.0**	**+0.2**
	comp=Z,3.8nm,0.9s,baz=140,slow=7.6,SNR=10						
KSRS				PcP	**PcP**	**09 01 32.7**	**+1.1**
	comp=Z,3.6nm,0.8s,baz=134,slow=5.5,SNR=5.0						
KSAR	**Wonju Array Be**	**61.45**	**326**	P	**P**	**09 00 50.0**	**+0.1**
KSAR				PcP	**PcP**	**09 01 32.7**	**+1.0**
YSS	**Yuzh-Sakhalins**	**62.94**	**342**	*e*P	**P**	**09 01 00.1**	**+0.5**
YSS				MLR	MLR		
	comp=Z,500nm,17.0s						
NJ2	**Nanjing**	**63.45**	**316**	*e*P	**P**	**09 01 03.8**	**+0.5**
NJ2				pP	**pP**	**09 01 15.0**	**+1.4**
NJ2				sP	**sP**	**09 01 19.1**	**+1.6**
NJ2				S	**S**	**09 09 32.5**	**-1.8**
NJ2				sS	**sS**	**09 09 48.5**	**-2.7**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,160nm,6.2s						
NJ2				LR	LR		
	comp=Z,470nm,19.6s						
NJ2				LR	LR		
	comp=Z,420nm,18.3s						
NJ2				LR	LR		
	comp=Z,150nm,23.2s						
QIZ	**Qiongzhong**	**63.80**	**299**	P	**P**	**09 01 05.9**	**0.0**
QIZ				S	**S**	**09 09 43.3**	**+4.2**
USRK	**Ussuriysk Arra**	**64.56**	**333**	P	**P**	**09 01 11.2**	**+0.8**
	comp=Z,20nm,1.0s,baz=134,slow=5.5,SNR=38						
VNDA	**Vanda**	**64.90**	**181**	P	**P**	**09 01 12.9**	**+0.7**
VNDA	**Vanda**	**64.90**	**181**	P	**P**	**09 01 12.9**	**+0.7**
	comp=Z,1.7nm,1.0s,baz=356,slow=6.3,SNR=5.4						
VNDA				LR	LR	09 28 11.8	
	comp=Z,317nm,18.1s,baz=11,slow=35						
MDJ	**Mudanjiang**	**65.96**	**332**	P	**P**	**09 01 20.0**	**+0.6**
MDJ				pP	**pP**	**09 01 29.3**	**-0.5**
MDJ				sP	**sP**	**09 01 33.1**	**-0.6**
MDJ				PcP	**PcP**	**09 01 50.8**	**+0.8**
MDJ				PP	**PP**	**09 03 45.3**	**+0.2**
MDJ				AMB	AMB		
	comp=Z,24nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,200nm,5.0s						
MDJ				LR	LR		
	comp=Z,140nm,8.5s						
MDJ				LR	LR		
	comp=Z,120nm,9.7s						
HABR	**Khabarovsk**	**66.82**	**338**	*e*P	**P**	**09 01 23.0**	**-1.9**
HABR				*e**SP	**sP**	**09 01 37.5**	**-1.6**
HABR				*e*		09 01 51.8	
HABR				*e*		09 03 50.3	
HABR				*S*	**S**	**09 10 13.4**	**-1.6**
HABR				*e**SS	**sS**	**09 10 30.9**	**-1.2**
HABR				*e*		09 11 17.2	
HABR				*e*SS	**SS**	**09 14 33.0**	**-0.9**
HABR				pmax	pmax		
	comp=Z,161nm,1.8s						
HABR				pmax	pmax		
	comp=E,29nm,1.3s						
HABR				pmax	pmax		
	comp=N,26nm,1.4s						
IPM	**Ipoh**	**66.91**	**280**	*e*P	**P**	**09 01 26.9**	**+0.6**
	comp=N,15nm,1.0s						
CN2	**Changchun**	**67.33**	**329**	*e*P	P	09 01 32.5	+4.3
CN2				*e*pP	pP	09 01 43.5	+4.9
CN2				*e*S	**S**	**09 10 25.0**	**+3.7**
CN2				AMB	AMB		
	comp=N,10.0nm,0.7s						
CN2				AMB	AMB		
	comp=N,200nm,3.0s						
CN2				LR	LR		
	comp=N,1µm,16.0s						
CN2				LR	LR		
	comp=N,1µm,16.0s						
CN2				LR	LR		
	comp=N,2µm,18.0s						
PSI	**Prapat**	**68.50**	**278**	P	**P**	**09 01 36.2**	**-0.1**
PSI	**Prapat**	**68.50**	**278**	P	**P**	**09 01 36.2**	**-0.1**
	comp=N,6.5nm,0.9s,baz=117,slow=1.4,SNR=6.5						
KLR	**Kul'dur**	**68.69**	**337**	*i* P	**P**	**09 01 33.8**	**-2.8**
KLR				pmax	pmax		
	comp=E,37nm,1.6s						
KLR				pmax	pmax		
	comp=Z,130nm,1.6s						
ENH	**Enshi**	**69.23**	**309**	*e*P	**P**	**09 01 40.7**	**+0.2**
	comp=Z,6.6nm,0.7s						
GYA	**Guiyang**	**69.66**	**305**	P	**P**	**09 01 45.3**	**+2.0**
GYA				pP	**pP**	**09 01 57.4**	**+3.7**
GYA				PP	**PP**	**09 04 21.8**	**+4.0**
GYA				ScP		09 06 05.3	
GYA				S	**S**	**09 10 50.8**	**+0.8**
GYA				sS	**sS**	**09 11 07.0**	**-0.2**
GYA				SKS	**SKSac**	**09 11 40.5**	**-1.5**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s						
GYA				AMB	AMB		
	comp=Z,120nm,5.2s						
GYA				LR	LR		
	comp=Z,580nm,19.7s						
GYA				LR	LR		
	comp=Z,510nm,20.2s						
GYA				LR	LR		
	comp=Z,540nm,18.5s						
BJI	**Beijing**	**69.99**	**321**	P	**P**	**09 01 46.0**	**+1.1**
BJI				S	**S**	**09 10 56.3**	**+3.3**
BJI				AMB	AMB		
	comp=Z,15nm,1.0s						
BJI				AMB	AMB		
	comp=Z,200nm,8.6s						
BJI				LR	LR		
	comp=Z,240nm,17.8s						
BJI				LR	LR		
	comp=Z,140nm,16.6s						
BJI				LR	LR		
	comp=Z,140nm,23.7s						
XAN	**Xi'an**	**71.51**	**313**	P	**P**	**09 01 54.8**	**+0.5**
XAN				AMB	AMB		
	comp=Z,3.0nm,1.0s						
KMI	**Kunming**	**72.31**	**302**	P	**P**	**09 02 01.4**	**+1.8**
KMI				AMB	AMB		
	comp=Z,20nm,1.0s						
CMAR	**Chiang Mai Arr**	**73.13**	**294**	P	**P**	**09 02 05.5**	**+1.1**
CMAR	**Chiang Mai Arr**	**73.13**	**294**	P	**P**	**09 02 05.5**	**+1.1**
	comp=Z,3.8nm,0.5s,baz=121,slow=4.4,SNR=27						
CMAR				LR	LR	09 30 56.7	
	comp=Z,97nm,20.7s,baz=342,slow=33						
HHC	**Hu-ho-hao-te**	**73.32**	**320**	*e*P	**P**	**09 02 06.5**	**+1.4**
HHC				pP	**pP**	**09 02 16.8**	**+1.3**
HHC				sP	**sP**	**09 02 20.8**	**+1.4**
HHC				PP	**PP**	**09 04 52.3**	**+3.4**
HHC				S	**S**	**09 11 32.1**	**+0.4**
HHC				sS	**sS**	**09 11 49.3**	**+0.3**
HHC				SKS	**SKSac**	**09 12 05.4**	**-3.6**
HHC				ScS	**SKKSac**	**09 12 09.3**	**+0.1**
HHC				AMB	AMB		
	comp=Z,32nm,1.1s						
HHC				AMB	AMB		
	comp=Z,440nm,5.5s						
HHC				LR	LR		
	comp=Z,310nm,18.0s						
HHC				LR	LR		
	comp=Z,420nm,17.3s						
HHC				LR	LR		
	comp=Z,400nm,17.9s						
CD2	**Chengdu**	**73.90**	**308**	P	P	09 02 12.6	+3.9
CD2				pP	**PcP**	**09 02 23.4**	**-0.6**
CD2				sP	sP	09 02 27.6	+4.6
CD2				PP	PP	09 04 59.5	+5.5
CD2				S	**S**	**09 11 40.9**	**+2.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
CD2				AMB	AMB		
	comp=Z,150nm,5.3s						
CD2				LR	LR		
	comp=Z,180nm,9.5s						
CD2				LR	LR		
	comp=Z,220nm,13.1s						
SEY	**Seymchan**	**76.11**	**354**	*i* P	**P**	**09 02 21.0**	**+0.4**
LZH	**Lanzhou**	**76.14**	**312**	P	**P**	**09 02 23.8**	**+2.2**
LZH				pP	**PcP**	**09 02 33.8**	**+0.2**
LZH				sP	**sP**	**09 02 38.8**	**+2.8**
LZH				AMB	AMB		
	comp=Z,37nm,1.0s						
LZH				AMB	AMB		
	comp=Z,150nm,6.2s						
LZH				LR	LR		
	comp=Z,370nm,17.6s						
LZH				LR	LR		
	comp=Z,280nm,15.5s						
LZH				LR	LR		
	comp=Z,440nm,14.9s						
QSPA	**South Pole Qui**	**77.36**	**180**	*e*P	**P**	**09 02 27.1**	**-0.8**
	comp=Z,32nm,1.0s						
QSPA	**South Pole Qui**	**77.36**	**180**	LR	LR	09 34 31.3	
	comp=Z,354nm,18.4s,baz=26,slow=34						
CIT	**Chita**	**78.75**	**330**	*e*P	**P**	**09 02 36.7**	**+1.0**
YAK	**Yakutsk**	**79.75**	**343**	*e*P	**P**	**09 02 38.9**	**-1.9**
YAK				pmax	pmax		
	comp=Z,27nm,1.1s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.0s						
SONM	**Songino Array**	**80.20**	**324**	P	**P**	**09 02 43.5**	**-0.3**
SONM	**Songino Array**	**80.20**	**324**	P	**P**	**09 02 43.5**	**-0.3**
	comp=N,3.2nm,0.7s,baz=132,slow=5.6,SNR=22						
GTA	**Gaotai**	**80.47**	**314**	*e*P	**P**	**09 02 47.0**	**+1.6**
GTA				pP	**pP**	**09 02 54.3**	**-1.7**
GTA				sP	**sP**	**09 02 57.5**	**-2.3**
GTA				AMB	AMB		
	comp=N,19nm,1.0s						
ZAK	**Zakamensk**	**83.25**	**325**	*e*P	**P**	**09 02 59.4**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,12nm,1.4s						
MAW	**Mawson**	**83.39**	**202**	*e*P	**P**	**09 02 59.3**	**-0.8**
	comp=Z,0.7nm,1.0s						
MAW	**Mawson**	**83.39**	**202**	P	**P**	**09 03 00.7**	**+0.6**
	comp=Z,3.6nm,1.0s,baz=98,slow=4.4,SNR=5.9						
MAW				LR	LR	09 34 16.1	
	comp=Z,172nm,21.3s,baz=104,slow=32						
TLY	**Talaya**	**83.68**	**326**	*e*P	**P**	**09 03 02.1**	**+0.2**
TLY				*e*S	S	09 13 15.8	-6.3
TLY				pmax	pmax		
	comp=Z,37nm,1.4s						
TLY				MLR	MLR		
	comp=Z,190nm,20.0s						
TLY	**Talaya**	**83.68**	**326**	P	**P**	**09 03 02.9**	**+1.0**
	comp=Z,110nm,1.0s,SNR=6.0						
IMA2	**Indian Mountai**	**83.94**	**15**	*e*P	**P**	**09 03 02.6**	**-0.4**
ILAR	**Eielson Array**	**84.90**	**18**	P	**P**	**09 03 05.5**	**-2.2**
ILAR	**Eielson Array**	**84.90**	**18**	P	**P**	**09 03 05.5**	**-2.2**
	comp=Z,4.2nm,0.9s,baz=235,slow=5.2,SNR=32						
ILAR				LR	LR	09 35 09.9	
	comp=Z,169nm,19.5s,baz=94,slow=32						
MOY	**Mondy**	**85.13**	**325**	*e*P	**P**	**09 03 09.3**	**0.0**
TAPN	**Taplejung**	**85.74**	**299**	*e*P	**P**	**09 03 13.7**	**+0.5**
	comp=Z,36nm,1.3s						
ODAN	**Odare**	**85.88**	**299**	*e*P	**P**	**09 03 14.4**	**+0.6**
RAMN	**Ramite**	**86.58**	**298**	*e*P	**P**	**09 03 17.9**	**+0.6**
	comp=Z,11nm,0.4s						
NVAR	**Mina Array Bea**	**86.74**	**50**	P	**P**	**09 03 16.4**	**-1.4**
NVAR	**Mina Array Bea**	**86.74**	**50**	P	**P**	**09 03 16.4**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=238,slow=5.2,SNR=5.1						
NVAR				LR	LR	09 37 27.3	
	comp=Z,706nm,18.8s,baz=68,slow=32						
JIRN	**Jiri**	**87.13**	**299**	*e*P	**P**	**09 03 20.7**	**+0.6**
GUN	**Gumba**	**87.46**	**299**	*e*P	**P**	**09 03 21.5**	**-0.1**
	comp=Z,16nm,0.8s						
TIXI	**Tiksi**	**87.74**	**349**	*ce*P	**P**	**09 03 20.3**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,17nm,2.5s						
PKI	**Pulchoki**	**87.77**	**299**	*e*P	**P**	**09 03 22.9**	**-0.2**
	comp=Z,22nm,1.0s						
PKIN	**Phulchoki**	**87.78**	**299**	*e*P	**P**	**09 03 22.7**	**-0.4**
	comp=Z,11nm,0.7s						
KKN	**Kakani**	**87.94**	**299**	*e*P	**P**	**09 03 23.8**	**0.0**
DMN	**Daman**	**88.04**	**299**	*e*P	**P**	**09 03 24.6**	**+0.3**
	comp=Z,48nm,1.0s						
GKN	**Gorkha**	**88.54**	**299**	*e*P	**P**	**09 03 25.9**	**-0.7**
	comp=Z,34nm,0.9s						
HVS	**Khovu-Aksy**	**89.07**	**323**	*d i*P	**P**	**09 03 28.8**	**+0.4**
HVS				pmax	pmax		
	comp=Z,28nm,0.9s						
KOLN	**Koldanda**	**89.37**	**299**	*e*P	**P**	**09 03 29.7**	**-0.8**
	comp=Z,12nm,1.0s						
DANN	**Dangsing**	**89.38**	**299**	*e*P	**P**	**09 03 29.8**	**-0.9**
	comp=Z,29nm,1.0s						
SYO	**Syowa Base**	**90.37**	**197**	*e*P	**P**	**09 03 32.4**	**-1.7**
WMQ	**Urumqi**	**90.52**	**315**	P	**P**	**09 03 35.3**	**0.0**
WMQ				pP	**pP**	**09 03 45.9**	**-0.1**
WMQ				sP	**sP**	**09 03 49.8**	**0.0**
WMQ				PP	**PP**	**09 07 12.3**	**+1.8**
WMQ				SKS	**SKSac**	**09 14 02.1**	**-2.4**
WMQ				S	**S**	**09 14 25.3**	**-3.1**
WMQ				AMB	AMB		
	comp=Z,11nm,0.5s						
WMQ				AMB	AMB		
	comp=Z,230nm,4.2s						
WMQ				LR	LR		
	comp=Z,200nm,6.2s						
WMQ				LR	LR		
	comp=Z,200nm,7.4s						
WMQ				LR	LR		
	comp=Z,85nm,19.6s						
PMSA	**Palmer Station**	**94.07**	**161**	LR	LR	09 40 19.7	
	comp=Z,162nm,19.5s,baz=18,slow=32						
PDAR	**Pinedale Array**	**94.33**	**47**	LR	LR	09 43 30.8	
	comp=Z,206nm,18.2s,baz=264,slow=34						
MK31	**Makanchi Array**	**94.97**	**317**	*e*P	**P**	**09 03 55.9**	**+0.1**
MK31	**Makanchi Array**	**94.97**	**317**	*e*P	**P**	**09 03 55.9**	**+0.1**
MKAR	**Makanchi Array**	**94.97**	**317**	P	**P**	**09 03 55.9**	**+0.1**
MKAR	**Makanchi Array**	**94.97**	**317**	P	**P**	**09 03 55.9**	**+0.1**
MKAR	**Makanchi Array**	**94.97**	**317**	P	**P**	**09 03 55.9**	**+0.1**
	comp=Z,3.7nm,0.8s,baz=101,slow=6.3,SNR=28						
ZAA0	**Zalesovo Array**	**95.09**	**324**	*e*P	**P**	**09 03 55.3**	**-0.8**
ZALV	**Zalesovo Beam**	**95.09**	**324**	P	**P**	**09 03 55.2**	**-0.9**
ZALV	**Zalesovo Beam**	**95.09**	**324**	P	**P**	**09 03 55.1**	**-0.9**
ZALV	**Zalesovo Beam**	**95.09**	**324**	P	**P**	**09 03 55.1**	**-0.9**
	comp=Z,10nm,1.0s,baz=108,slow=4.8,SNR=21						
SNAA	**Sanae**	**95.54**	**183**	*e*P	**P**	**09 03 57.3**	**-0.7**
SNAA	**Sanae**	**95.54**	**183**	*e*P	**P**	**09 03 56.8**	**-1.3**
	comp=Z,5.3nm,1.0s						
TXAR	**Lajitas Array**	**96.23**	**61**	P	**P**	**09 04 00.7**	**-1.3**
TXAR	**Lajitas Array**	**96.23**	**61**	P	**P**	**09 04 00.7**	**-1.3**
	comp=Z,0.3nm,0.8s,baz=251,slow=7.2,SNR=3.4						
TXAR				LR	LR	09 38 49.6	
	comp=Z,262nm,19.6s,baz=180,slow=30						
VNA2	**Neumayer--Watz**	**96.50**	**182**	*e*P	**P**	**09 04 01.2**	**-1.1**
KSH	**Kashi**	**98.08**	**309**	*e*P	Pdif	09 04 14.3	+4.1
KSH				pP	pP	09 04 23.4	+2.5
KSH				*es*P	sP	09 04 28.1	+3.4
KSH				*e*PP	PP	09 08 17.3	+7.6
KSH				SKS	**SKSac**	**09 14 49.5**	**+3.8**
KSH				S	**ScS**	**09 15 36.8**	**+1.5**
KSH				sS	sS	09 15 54.8	+1.8
KSH				AMB	AMB		
	comp=Z,66nm,4.4s						
KSH				LR	LR		
	comp=Z,81nm,4.5s						
KSH				LR	LR		
	comp=Z,75nm,4.9s						
KSH				LR	LR		
	comp=Z,

KWP	**Kalwaria Pacla**	**132.48**	**328**	⇑*i*P	**PKPdf**	**09 09 49.6**	**+2.0**
MLR	**Muntele Rosu**	**133.03**	**322**	⇑*i*P	**PKPdf**	**09 09 48.3**	**-0.6**
KOLS	**Kolonicke sedl**	**133.13**	**328**	*e*PKIKP	**PKPdf**	**09 09 48.8**	**-0.1**
KOLS	**Kolonicke sedl**	**133.13**	**328**	*e*PKP	**PKPdf**	**09 09 48.8**	**-0.1**
STHS	**Stebnicka Huta**	**133.35**	**329**	*e*PKIKP	**PKPdf**	**09 09 51.8**	**+2.5**
STHS	**Stebnicka Huta**	**133.35**	**329**	*e*PKP	**PKPdf**	**09 09 51.8**	**+2.5**
VOIR		**133.59**	**322**	⇑*i*P	PKPdf	09 10 02.6	+13
ARR	**Arges**	**133.88**	**323**	⇑*i*P	**PKPdf**	**09 09 51.6**	**+1.1**
GOLR		**133.96**	**322**	⇑*i*P	PKPdf	09 10 01.8	+11
BZS	**Buzias**	**135.49**	**325**	⇑PKIKP	**PKPdf**	**09 09 53.8**	**+0.4**
BZS	**Buzias**	**135.49**	**325**	⇑*i*P	**PKPdf**	**09 09 53.8**	**+0.4**
BRG	**Berggiesshubel**	**135.69**	**335**	*e*PKP	**PKPdf**	**09 09 55.5**	**+1.9**
	comp=Z,9.0nm,1.1s						
BRG	**Berggiesshubel**	**135.69**	**335**	*e*PKIKP	**PKPdf**	**09 09 55.5**	**+1.9**
BRG				pmax	pmax		
	comp=Z,9.0nm,1.1s						
CLL	**Collm**	**135.74**	**336**	*e*PKPdf	**PKPdf**	**09 09 55.0**	**+1.4**
CLL				L	L	10 15 00.0	
	comp=Z,100nm,18.9s						
BDFB	**Brasilia**	**136.02**	**129**	SKPbc	**SKPbc**	**09 13 25.0**	**+0.1**
BDFB	**Brasilia**	**136.02**	**129**	SKPbc	**SKPbc**	**09 13 25.0**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=148,slow=9.5,SNR=4.9						
PRU	**Pruhonice**	**136.10**	**334**	*e*PKIKP	**PKPdf**	**09 09 55.2**	**+0.8**
PRU				MLR	MLR		
	comp=Z,200nm,20.0s						
PRU	**Pruhonice**	**136.10**	**334**	*e*PKPdf	**PKPdf**	**09 09 55.2**	**+0.8**
PRU				AMS	AMS	10 14 10.0	
	comp=Z,200nm,20.0s						
VTS	**Vitosha**	**136.23**	**320**	⇑PKIKP	**PKPdf**	**09 09 54.2**	**-0.8**
VTS	**Vitosha**	**136.23**	**320**	⇑*i*P	**PKPdf**	**09 09 54.2**	**-0.8**
KHC	**Kasperske Hory**	**137.16**	**334**	*e*PKIKP	**PKPdf**	**09 09 56.2**	**-0.2**
KHC	**Kasperske Hory**	**137.16**	**334**	*e*PKPdf	**PKPdf**	**09 09 56.2**	**-0.2**
GERES	**GERESS Array B**	**137.32**	**333**	PKP	**PKPdf**	**09 09 56.5**	**-0.3**
GERES	**GERESS Array B**	**137.32**	**333**	PKP	**PKPdf**	**09 09 56.5**	**-0.3**
	comp=Z,0.5nm,0.2s,baz=23,slow=5.3,SNR=6.5						
KEST	**Kesra**	**148.93**	**322**	PKPbc	**PKPbc**	**09 10 21.8**	**+0.2**
KEST	**Kesra**	**148.93**	**322**	PKPbc	**PKPbc**	**09 10 21.8**	**+0.2**
	comp=Z,15nm,0.9s,baz=329,slow=1.2,SNR=24						
CMAH	**Djebel Manchou**	**149.44**	**325**	P	**PKPbc**	**09 10 22.8**	**0.0**
ABSA	**Djebel Ababsia**	**149.66**	**324**	P	**PKPbc**	**09 10 21.3**	**-2.1**
CKFL	**Kef-Lekhel**	**149.99**	**326**	P	**PKPbc**	**09 10 24.7**	**+0.5**
CASM	**Ain Smara**	**150.22**	**326**	P	**PKPbc**	**09 10 24.9**	**+0.2**
CTEI	**Djebel Teioual**	**150.41**	**325**	P	**PKPbc**	**09 10 25.7**	**+0.5**
SET	**Setif**	**150.86**	**327**	P	**PKPbc**	**09 10 27.0**	**+0.7**
POLO	**Lamas de Olo**	**150.91**	**351**	*e*PKPbc	**PKPbc**	**09 10 26.3**	**+0.1**
MVO	**Moncorvo**	**150.98**	**349**	*e*PKPbc	**PKPbc**	**09 10 25.9**	**-0.5**
PVRL	**Vila Real**	**150.99**	**350**	*e*PKPbc	**PKPbc**	**09 10 26.5**	**+0.2**
ESDC	**Sonseca Array**	**151.71**	**344**	PKPbc	**PKPbc**	**09 10 27.7**	**-0.3**
ESDC	**Sonseca Array**	**151.71**	**344**	PKPbc	**PKPbc**	**09 10 27.7**	**-0.3**
	comp=Z,6.1nm,0.8s,baz=16,slow=2.4,SNR=23						
MTE	**Manteigas**	**151.81**	**350**	*e*PKPbc	**PKPbc**	**09 10 28.1**	**-0.2**
PMRV	**Marv??o**	**152.73**	**349**	*e*PKPbc	**PKPbc**	**09 10 30.1**	**-0.2**
PMTG	**Montargil**	**153.23**	**350**	*e*PKPbc	**PKPbc**	**09 10 31.3**	**-0.1**
TORD	**Torodi Ar. Bea**	**164.85**	**274**	PKP	**PKPdf**	**09 10 36.5**	**-1.6**
TORD				PKPab	**PKPab**	**09 11 34.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**164.85**	**274**	PKP	**PKPdf**	**09 10 36.5**	**-1.6**
	comp=Z,0.8nm,0.9s,baz=35,slow=0.8,SNR=3.7						
TORD				PKPab	**PKPab**	**09 11 34.2**	**-0.1**
	comp=Z,1.8nm,1.0s,baz=81,slow=4.5,SNR=6.5						

MEX 15 08:51:56.1±0.3,**16°15N**×**97°26W**,**h11**km±3km,**MD3.7, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.86**	**286**	*i* P	Pg	08 52 10.2	-2.6
PNIG				*i* S	Sg	08 52 21.6	-2.6
VHO	**Vista Hermosa**	**1.05**	**29**	*e*P	Pb	08 52 13.1	-3.5
VHO				*i* S	Sg	08 52 26.4	-4.1
HUIG	**Huatulco**	**1.17**	**109**	*e*P	Pb	08 52 14.9	-3.6
HUIG				*e*S	Sb	08 52 29.1	-4.6
TPIG	**Tehuac#an**	**2.26**	**358**	*i* P	Pn	08 52 30.6	-3.1
TPIG				*i* S	Sn	08 52 57.5	-4.3
MEIG	**Mezcala**	**2.87**	**308**	*e*P	Pn	08 52 39.0	-2.9
MEIG				*i* S	Sn	08 53 12.0	-4.5
CAIG	**El Cayaco**	**3.02**	**288**	*e*P	Pn	08 52 40.9	-3.0
CAIG				*e*S	Sn	08 53 15.5	-4.6
PLIG	**Platanillo**	**3.09**	**317**	*i* P	Pn	08 52 42.1	-2.9
PLIG				*i* S	Sn	08 53 18.8	-3.4
PCIG		**3.92**	**96**	*i* P	Pn	08 52 54.0	-2.2
PCIG				*i* S	Sn	08 53 38.9	-3.4
TGIG		**4.02**	**80**	*e*P	Pn	08 52 55.8	-2.0
TGIG				*i* S	Sn	08 53 41.7	-3.4

IDC ***15*** *08:59:43.0*±*0.9,39°.66S*×*176°.69E,h0*km*, mb4.1/6, mb1 4.1/8,mb1mx4.0/18,mbtmp4.0/8,ML3.3/2,Error ellipse: s-maj=24.4km s-min=17.4km az=101.0*

NEIC ***15*** *08:59:47.7,39°.73S*×*176°.85E,h58*km*,mb4.2/2, ML4.4(WEL),After WEL.*

WEL ***15*** *08:59:48.1*±*0.1,39°.72S*×*176°.83E,h31*km±1km*,ML4.6/49, Error ellipse: s-maj=1.1km s-min=0.6km az=90.0*

WEL Felt from Hawke''s Bay to Whanganui, maximum reported intensity MM 5.

ISC 15 08:59:47.9±0.8,**39°.70S**±0°.02×**176°.77E**±0°.03,**h33**km±5km, **n198,**σ0**98**/190,**mb4.1**/7,**19C-16D,North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAHZ	**Kahuranaki**	**0.13**	**137**	⇓P*	**Pb**	**08 59 54.2**	**+0.2**
KAHZ				S*	**Sb**	**08 59 58.3**	**+0.1**
KAHZ	**Kahuranaki**	**0.13**	**137**	Pn	**Pb**	**08 59 54.2**	**+0.2**
CKHZ	**Cape Kidnapper**	**0.24**	**80**	⇑P*	**Pn**	**08 59 55.7**	**+0.9**
CKHZ	**Cape Kidnapper**	**0.24**	**80**	Pn	**Pn**	**08 59 55.7**	**+0.9**
MCHZ	**McNeill Hill**	**0.26**	**348**	⇓P*	**Pb**	**08 59 54.6**	**-0.7**
MCHZ	**McNeill Hill**	**0.26**	**348**	Pn	**Pb**	**08 59 54.6**	**-0.7**
PXZ	**Pawanui**	**0.34**	**167**	⇑P*	**Pn**	**08 59 57.3**	**+0.8**
PXZ				S*	**Sn**	**09 00 03.6**	**+1.8**
PXZ				AML	AML	09 00 06.6	
PXZ				AML	AML	09 00 09.3	
PXZ				AML	AML	09 00 09.3	
PXZ	**Pawanui**	**0.34**	**167**	⇑Pn	**Pn**	**08 59 57.4**	**+0.8**
PXZ				Sn	**Sn**	**09 00 05.5**	**+3.7**
WPHZ	**Waipukurau**	**0.44**	**214**	⇑P*	**Pn**	**08 59 58.3**	**+0.3**
WPHZ	**Waipukurau**	**0.44**	**214**	Pn	**Pn**	**08 59 58.3**	**+0.3**
PNHZ	**Pukenui**	**0.48**	**244**	⇑P*	**Pb**	**08 59 58.2**	**-0.2**
PNHZ	**Pukenui**	**0.48**	**244**	Pn	**Pb**	**08 59 58.2**	**-0.2**
PRHZ	**Porangahau**	**0.57**	**190**	⇓P*	**Pn**	**09 00 00.4**	**+0.7**
PRHZ	**Porangahau**	**0.57**	**190**	Pn	**Pn**	**09 00 00.5**	**+0.7**
BKZ	**Black Stump Fm**	**0.57**	**338**	⇑PN	**Pb**	**08 59 58.9**	**-0.9**
BKZ				AML	AML	09 00 07.9	
BKZ				AML	AML	09 00 08.2	
BKZ	**Black Stump Fm**	**0.57**	**338**	⇑*e*Pn	**Pb**	**08 59 58.9**	**-0.9**
BHHZ	**Black Hill Sta**	**0.58**	**291**	⇑PN	**Pb**	**08 59 58.9**	**-1.0**
BHHZ	**Black Hill Sta**	**0.58**	**291**	Pn	**Pb**	**08 59 58.9**	**-1.0**
NMHZ	**Naumai**	**0.60**	**3**	⇓PN	**Pb**	**09 00 00.1**	**-0.1**
NMHZ	**Naumai**	**0.60**	**3**	Pn	**Pb**	**09 00 00.1**	**-0.1**
TSZ	**Takapari Road**	**0.71**	**240**	⇓PN	**Pn**	**09 00 01.7**	**0.0**
TSZ				AML	AML	09 00 12.4	
TSZ				AML	AML	09 00 13.5	
TSZ	**Takapari Road**	**0.71**	**240**	⇓Pn	**Pn**	**09 00 01.8**	**0.0**
DVHZ	**Dannevirke**	**0.75**	**217**	⇓PN	**Pn**	**09 00 02.4**	**+0.2**
DVHZ	**Dannevirke**	**0.75**	**217**	Pn	**Pn**	**09 00 02.4**	**+0.2**
ANWZ	**Angora Road**	**0.79**	**196**	⇓PN	**Pb**	**09 00 03.1**	**-0.2**
RAHZ	**Arahi**	**0.82**	**18**	⇓PN	**Pn**	**09 00 03.3**	**+0.2**
RAHZ	**Arahi**	**0.82**	**18**	Pn	**Pn**	**09 00 03.4**	**+0.2**
MOVZ	**Moawhango**	**0.84**	**290**	⇑PN	**Pn**	**09 00 03.1**	**-0.3**
MOVZ				AML	AML	09 00 17.1	
MOVZ				AML	AML	09 00 18.4	
MOVZ	**Moawhango**	**0.84**	**290**	Pn	**Pn**	**09 00 03.2**	**-0.3**
HATZ	**Hinemaiaia**	**0.96**	**327**	PN	**Pn**	**09 00 05.4**	**+0.2**
HATZ				AML	AML	09 00 20.9	
HATZ				AML	AML	09 00 23.4	
HATZ	**Hinemaiaia**	**0.96**	**327**	Pn	**Pn**	**09 00 05.4**	**+0.2**
TUVZ	**Tukino**	**0.96**	**296**	PN	**Pn**	**09 00 05.8**	**+0.5**
TUVZ				AML	AML	09 00 22.1	
TUVZ				AML	AML	09 00 22.6	
TUVZ	**Tukino**	**0.96**	**296**	Pn	**Pn**	**09 00 05.8**	**+0.5**
WNVZ	**Wahianoa**	**0.98**	**292**	⇑PN	**Pn**	**09 00 05.9**	**+0.5**
WNVZ				AML	AML	09 00 22.8	
WNVZ				AML	AML	09 00 26.4	
WNVZ	**Wahianoa**	**0.98**	**292**	Pn	**Pn**	**09 00 06.0**	**+0.5**
KNZ	**Kokohu**	**0.98**	**46**	PN	**Pn**	**09 00 04.9**	**-0.3**
KNZ	**Kokohu**	**0.98**	**46**	Pn	**Pn**	**09 00 05.0**	**-0.3**
WHVZ	**Whangaehu Hut**	**1.00**	**294**	⇑PN	**Pn**	**09 00 06.4**	**+0.5**
OTVZ	**Oturere**	**1.01**	**302**	⇑PN	**Pn**	**09 00 06.5**	**+0.6**
OTVZ				AML	AML	09 00 23.9	
OTVZ				AML	AML	09 00 26.5	
OTVZ	**Oturere**	**1.01**	**302**	Pn	**Pn**	**09 00 06.5**	**+0.6**
RITZ	**Rihia Road**	**1.01**	**315**	PN	**Pn**	**09 00 06.5**	**+0.7**
RITZ				AML	AML	09 00 27.3	
RITZ				AML	AML	09 00 27.3	
RITZ	**Rihia Road**	**1.01**	**315**	Pn	**Pn**	**09 00 06.6**	**+0.8**
DRZ	**Dome Shelter**	**1.02**	**294**	PN	**Pn**	**09 00 06.7**	**+0.6**
DRZ				AML	AML	09 00 21.9	
DRZ				AML	AML	09 00 22.1	
DRZ	**Dome Shelter**	**1.02**	**294**	Pn	**Pn**	**09 00 06.8**	**+0.6**
TRVZ	**Turoa**	**1.02**	**293**	PN	**Pn**	**09 00 06.7**	**+0.5**
TRVZ				AML	AML	09 00 22.1	
TRVZ				AML	AML	09 00 22.3	
TRVZ	**Turoa**	**1.02**	**293**	Pn	**Pn**	**09 00 06.6**	**+0.5**
POWZ	**Post Office Ro**	**1.03**	**228**	⇓PN	**Pn**	**09 00 06.3**	**+0.3**
POWZ	**Post Office Ro**	**1.03**	**228**	Pn	**Pn**	**09 00 06.3**	**+0.3**
FWVZ	**Far West T-bar**	**1.04**	**295**	⇑PN	**Pn**	**09 00 06.9**	**+0.5**
FWVZ				AML	AML	09 00 21.7	
FWVZ				AML	AML	09 00 23.0	
FWVZ	**Far West T-bar**	**1.04**	**295**	Pn	**Pn**	**09 00 06.6**	**+0.3**
MHGZ	**Mahia Peninsul**	**1.04**	**59**	PN	**Pn**	**09 00 06.0**	**-0.2**
MHGZ	**Mahia Peninsul**	**1.04**	**59**	Pn	**Pn**	**09 00 06.2**	**0.0**
NGZ	**Ngauruhoe**	**1.04**	**300**	⇑PN	**Pn**	**09 00 07.1**	**+0.7**
NGZ				AML	AML	09 00 27.9	
NGZ				AML	AML	09 00 30.8	
NGZ	**Ngauruhoe**	**1.04**	**300**	Pn	**Pn**	**09 00 07.1**	**+0.7**
PRWZ	**Pori Road**	**1.05**	**215**	PN	**Pn**	**09 00 06.6**	**+0.3**
MTVZ	**Mangateitei**	**1.05**	**287**	PN	**Pn**	**09 00 07.2**	**+0.9**
MTVZ				AML	AML	09 00 26.4	
MTVZ				AML	AML	09 00 26.9	
MTVZ	**Mangateitei**	**1.05**	**287**	Pn	**Pn**	**09 00 07.4**	**+1.0**
BFZ	**Birch Farm**	**1.06**	**202**	⇑PN	**Pn**	**09 00 06.4**	**0.0**
BFZ	**Birch Farm**	**1.06**	**202**	Pn	**Pn**	**09 00 06.4**	**0.0**
KRVZ	**Karewarewa**	**1.06**	**304**	⇑PN	**Pn**	**09 00 07.3**	**+0.7**
KRVZ				AML	AML	09 00 28.0	
KRVZ				AML	AML	09 00 30.8	
KRVZ	**Karewarewa**	**1.06**	**304**	Pn	**Pn**	**09 00 07.3**	**+0.7**
WPVZ	**Whakapapa**	**1.07**	**297**	PN	**Pn**	**09 00 07.4**	**+0.8**
WPVZ				AML	AML	09 00 24.4	
WPVZ				AML	AML	09 00 26.8	
WPVZ	**Whakapapa**	**1.07**	**297**	Pn	**Pn**	**09 00 07.5**	**+0.8**
WTVZ	**West Tongariro**	**1.08**	**302**	⇑PN	**Pn**	**09 00 07.6**	**+0.8**
WTVZ				AML	AML	09 00 31.1	
WTVZ				AML	AML	09 00 31.5	
WTVZ	**West Tongariro**	**1.08**	**302**	Pn	**Pn**	**09 00 07.6**	**+0.8**
KATZ	**Kakaramea**	**1.10**	**311**	PN	**Pn**	**09 00 07.9**	**+0.8**
KATZ				AML	AML	09 00 25.3	
KATZ				AML	AML	09 00 25.4	
KATZ	**Kakaramea**	**1.10**	**311**	Pn	**Pn**	**09 00 07.9**	**+0.8**
RATZ	**Rangitukua**	**1.14**	**317**	PN	**Pn**	**09 00 07.9**	**+0.4**
RATZ				AML	AML	09 00 27.0	
RATZ				AML	AML	09 00 30.2	
RATZ	**Rangitukua**	**1.14**	**317**	Pn	**Pn**	**09 00 07.9**	**+0.4**
PRGZ	**Paritu Road**	**1.16**	**48**	PN	**Pn**	**09 00 07.6**	**-0.3**
PRGZ	**Paritu Road**	**1.16**	**48**	Pn	**Pn**	**09 00 07.6**	**-0.3**
PKVZ	**Pokaka**	**1.17**	**290**	PN	**Pn**	**09 00 09.0**	**+1.0**
PKVZ				AML	AML	09 00 30.7	
PKVZ				AML	AML	09 00 32.9	
PKVZ	**Pokaka**	**1.17**	**290**	Pn	**Pn**	**09 00 09.0**	**+1.0**
ALRZ	**Allen Road**	**1.18**	**344**	PN	**Pn**	**09 00 08.3**	**+0.2**
ALRZ	**Allen Road**	**1.18**	**344**	Pn	**Pn**	**09 00 08.3**	**+0.2**
TWVZ	**Taurewa**	**1.21**	**301**	AML	AML	09 00 29.3	
TWVZ				AML	AML	09 00 30.8	
TWVZ	**Taurewa**	**1.21**	**301**	Pn	**Pn**	**09 00 09.0**	**+0.4**
WHTZ	**Whakaora**	**1.21**	**328**	Pn	**Pn**	**09 00 09.3**	**+0.8**
PRRZ	**Plateau Road**	**1.24**	**346**	PN	**Pn**	**09 00 09.0**	**+0.1**
PRRZ	**Plateau Road**	**1.24**	**346**	Pn	**Pn**	**09 00 09.2**	**+0.3**
TIWZ	**Tintock**	**1.27**	**212**	PN	**Pn**	**09 00 09.1**	**-0.2**
TIWZ	**Tintock**	**1.27**	**212**	Pn	**Pn**	**09 00 09.1**	**-0.2**
WATZ	**Wairara**	**1.27**	**321**	PN	**Pn**	**09 00 09.6**	**+0.1**
WATZ				AML	AML	09 00 31.0	
WATZ				AML	AML	09 00 38.9	
WATZ	**Wairara**	**1.27**	**321**	Pn	**Pn**	**09 00 09.6**	**+0.1**
CPWZ	**Castlepoint**	**1.28**	**199**	PN	**Pn**	**09 00 09.8**	**+0.3**
MRZ	**Mangatainoka R**	**1.32**	**223**	⇓PN	**Pn**	**09 00 09.7**	**-0.3**
MRZ				AML	AML	09 00 32.2	
MRZ				AML	AML	09 00 34.7	
MRZ	**Mangatainoka R**	**1.32**	**223**	Pn	**Pn**	**09 00 09.7**	**-0.3**
HRRZ	**Handcock Road**	**1.36**	**344**	PN	**Pn**	**09 00 11.1**	**+0.5**
HRRZ	**Handcock Road**	**1.36**	**344**	Pn	**Pn**	**09 00 11.3**	**+0.7**
RRRZ	**Republican Roa**	**1.37**	**352**	PN	**Pn**	**09 00 10.8**	**0.0**
RRRZ	**Republican Roa**	**1.37**	**352**	Pn	**Pn**	**09 00 11.2**	**+0.4**
WAZ	**Wanganui**	**1.37**	**267**	PN	**Pn**	**09 00 12.5**	**+1.7**
WAZ				AML	AML	09 00 34.3	
WAZ				AML	AML	09 00 46.1	
WAZ	**Wanganui**	**1.37**	**267**	Pn	**Pn**	**09 00 12.5**	**+1.7**
URZ	**Urewera**	**1.47**	**11**	⇓PN	**Pn**	**09 00 11.5**	**-0.4**
URZ				AML	AML	09 00 42.6	
URZ				AML	AML	09 00 49.4	
URZ	**Urewera**	**1.47**	**11**	Pn	**Pn**	**09 00 11.6**	**-0.4**
URZ				Sn	**Sn**	**09 00 31.4**	**+1.5**
URZ	**Urewera**	**1.47**	**11**	Pn	**Pn**	**09 00 11.6**	**-0.4**
	70nm,0.3s,baz=232,slow=7.9,SNR=316						
URZ				Sn	**Sn**	**09 00 31.5**	**+1.5**
	87nm,0.3s,baz=157,slow=15,SNR=12						
TARZ	**Mount Tarawera**	**1.48**	**352**	PN	**Pn**	**09 00 12.4**	**+0.1**
TARZ	**Mount Tarawera**	**1.48**	**352**	Pn	**Pn**	**09 00 12.6**	**+0.3**
MWZ	**Matawai**	**1.49**	**24**	⇓PN	**Pn**	**09 00 11.9**	**-0.5**
MWZ				AML	AML	09 00 43.1	
MWZ				AML	AML	09 00 49.5	
MWZ	**Matawai**	**1.49**	**24**	Pn	**Pn**	**09 00 12.2**	**-0.7**
HOWZ	**Holdsworth Sta**	**1.53**	**218**	PN	**Pn**	**09 00 12.2**	**-0.7**
HOWZ	**Holdsworth Sta**	**1.53**	**218**	Pn	**Pn**	**09 00 12.2**	**-0.7**
TMWZ	**Te Maipa**	**1.56**	**205**	⇓PN	**Pn**	**09 00 12.6**	**-0.7**
TMWZ	**Te Maipa**	**1.56**	**205**	Pn	**Pn**	**09 00 12.6**	**-0.7**
OMRZ	**Omania**	**1.62**	**349**	PN	**Pn**	**09 00 14.2**	**0.0**
OMRZ	**Omania**	**1.62**	**349**	Pn	**Pn**	**09 00 14.2**	**0.0**
OGWZ	**Otaki Gorge**	**1.65**	**227**	⇓PN	**Pn**	**09 00 14.0**	**-0.5**
OGWZ	**Otaki Gorge**	**1.65**	**227**	Pn	**Pn**	**09 00 14.0**	**-0.5**
CNGZ	**Carnagh Statio**	**1.65**	**43**	PN	**Pn**	**09 00 14.1**	**-0.5**
CNGZ	**Carnagh Statio**	**1.65**	**43**	Pn	**Pn**	**09 00 14.3**	**-0.3**
VRZ	**Vera Road**	**1.66**	**290**	PN	**Pn**	**09 00 15.3**	**+0.6**
VRZ				AML	AML	09 00 50.7	
VRZ				AML	AML	09 01 04.8	
VRZ	**Vera Road**	**1.66**	**290**	Pn	**Pn**	**09 00 15.3**	**+0.6**
MTW	**Mount Morrison**	**1.75**	**213**	⇑PN	**Pn**	**09 00 14.9**	**-1.0**
MTW				AML	AML	09 00 54.9	
MTW				AML	AML	09 01 01.9	
MTW	**Mount Morrison**	**1.75**	**213**	Pn	**Pn**	**09 00 14.9**	**-1.0**
MTW				Sn	**Sn**	**09 00 37.2**	**+0.2**
KIW	**Kapiti Island**	**1.83**	**230**	PN	**Pn**	**09 00 16.6**	**-0.5**
KIW				AML	AML	09 00 52.8	
KIW				AML	AML	09 00 53.9	
KIW	**Kapiti Island**	**1.83**	**230**	Pn	**Pn**	**09 00 16.6**	**-0.5**
OPRZ	**Ohinepanea**	**1.86**	**355**	Pn	**Pn**	**09 00 16.9**	**-0.5**
TRWZ	**Traveller**	**1.88**	**205**	PN	**Pn**	**09 00 16.5**	**-1.3**
TRWZ				AML	AML	09 01 02.0	
TRWZ				AML	AML	09 01 02.2	
TRWZ	**Traveller**	**1.88**	**205**	Pn	**Pn**	**09 00 16.5**	**-1.3**
HIZ	**Hauiti**	**1.90**	**308**	⇓PN	**Pn**	**09 00 18.1**	**+0.1**
HIZ				AML	AML	09 00 49.5	
HIZ				AML	AML	09 00 50.8	
HIZ	**Hauiti**	**1.90**	**308**	Pn	**Pn**	**09 00 18.1**	**+0.1**
CAW	**Cannon Point**	**1.91**	**222**	PN	**Pn**	**09 00 17.0**	**-1.1**
CAW				AML	AML	09 01 01.7	
CAW				AML	AML	09 01 02.1	
CAW	**Cannon Point**	**1.91**	**222**	Pn	**Pn**	**09 00 17.0**	**-1.1**
PAWZ	**Paruwai Farm**	**1.96**	**211**	⇑PN	**Pn**	**09 00 17.6**	**-1.2**
PAWZ				AML	AML	09 00 42.6	
PAWZ				AML	AML	09 01 09.5	
PAWZ	**Paruwai Farm**	**1.96**	**211**	Pn	**Pn**	**09 00 17.6**	**-1.2**
PUZ	**Puketiti**	**2.00**	**36**	PN	**Pn**	**09 00 18.1**	**-1.2**
PUZ				AML	AML	09 01 16.7	
PUZ				AML	AML	09 01 20.4	
PUZ	**Puketiti**	**2.00**	**36**	Pn	**Pn**	**09 00 18.2**	**-1.2**
MSWZ	**Moikau Station**	**2.06**	**214**	PN	**Pn**	**09 00 18.5**	**-1.7**
MSWZ				AML	AML	09 00 44.4	
MSWZ				AML	AML	09 01 08.8	
MSWZ	**Moikau Station**	**2.06**	**214**	Pn	**Pn**	**09 00 18.5**	**-1.7**
DFE	**Dawson Falls**	**2.09**	**279**	*e*PN	Pn	09 00 23.7	+3.0
DFE	**Dawson Falls**	**2.09**	**279**	Pn	Pn	09 00 23.9	+3.2
PLWZ	**Palliser**	**2.19**	**211**	PN	**Pn**	**09 00 20.3**	**-1.8**
PLWZ	**Palliser**	**2.19**	**211**	Pn	**Pn**	**09 00 20.3**	**-1.8**
WELZ	**Wellington**	**2.20**	**223**	Pn	**Pn**	**09 00 20.8**	**-1.2**
TOZ	**Tahuroa Road**	**2.20**	**333**	PN	**Pn**	**09 00 22.1**	**-0.1**
TOZ	**Tahuroa Road**	**2.20**	**333**	Pn	**Pn**	**09 00 22.1**	**-0.1**
PKE	**Pukeiti**	**2.21**	**282**	AML	AML	09 01 06.1	
PKE				AML	AML	09 01 07.3	
PKE	**Pukeiti**	**2.21**	**282**	Pn	**Pn**	**09 00 24.6**	**+2.3**
BHW	**Baring Head**	**2.23**	**220**	PN	**Pn**	**09 00 20.6**	**-1.9**
BHW				AML	AML	09 01 05.8	
BHW				AML	AML	09 01 11.6	
BHW	**Baring Head**	**2.23**	**220**	Pn	**Pn**	**09 00 20.8**	**-1.7**
SNZO	**South Karori**	**2.25**	**224**	PN	**Pn**	**09 00 21.2**	**-1.5**
SNZO				AML	AML	09 01 10.8	
SNZO				AML	AML	09 01 19.1	
SNZO	**South Karori**	**2.25**	**224**	Pn	**Pn**	**09 00 21.2**	**-1.5**
TCW	**Tory Channel**	**2.43**	**231**	AML	AML	09 00 53.6	
TCW				AML	AML	09 00 54.5	
DUWZ	**D'Urville Isla**	**2.44**	**242**	AML	AML	09 01 06.1	
DUWZ				AML	AML	09 01 06.3	
MXZ	**Matakaoa Point**	**2.45**	**30**	PN	**Pn**	**09 00 24.9**	**-0.7**
MXZ				AML	AML	09 01 31.3	
MXZ				AML	AML	09 01 32.4	
MXZ	**Matakaoa Point**	**2.45**	**30**	Pn	**Pn**	**09 00 25.0**	**-0.6**
TUWZ	**Tuamarina**	**2.76**	**230**	PN	**Pn**	**09 00 27.8**	**-1.9**
TUWZ				AML	AML	09 01 03.9	
TUWZ				AML	AML	09 01 30.2	
TUWZ	**Tuamarina**	**2.76**	**230**	Pn	**Pn**	**09 00 27.8**	**-1.9**
BSWZ	**Blackbirch Sta**	**2.98**	**227**	PN	**Pn**	**09 00 30.9**	**-1.9**
BSWZ				AML	AML	09 01 37.3	
BSWZ				AML	AML	09 01 40.2	
BSWZ	**Blackbirch Sta**	**2.98**	**227**	Pn	**Pn**	**09 00 30.9**	**-1.9**
NNZ	**Nelson**	**2.99**	**239**	PN	**Pn**	**09 00 32.0**	**-1.0**
NNZ				AML	AML	09 01 30.2	
NNZ				AML	AML	09 01 38.6	
NNZ	**Nelson**	**2.99**	**239**	Pn	**Pn**	**09 00 32.1**	**-0.9**
THZ	**Tophouse**	**3.58**	**234**	*e*PN	**Pn**	**09 00 38.8**	**-2.4**
THZ				AML	AML	09 01 54.5	
THZ				AML	AML	09 01 59.7	
THZ	**Tophouse**	**3.58**	**234**	Pn	**Pn**	**09 00 39.2**	**-2.0**
KHZ	**Kahutara**	**3.65**	**221**	PN	Pn	09 00 38.9	-3.1
KHZ				AML	AML	09 01 21.8	
KHZ				AML	AML	09 01 25.5	
KHZ	**Kahutara**	**3.65**	**221**	Pn	Pn	09 00 39.1	-2.9
LTZ	**Lake Taylor**	**4.58**	**226**	*e*PN	Pn	09 00 51.3	-3.5
LTZ				AML	AML	09 01 44.1	
LTZ				AML	AML	09 01 45.4	
LTZ	**Lake Taylor**	**4.

COEN Coen 32.77 183 *e*P **P** **09 15 57.6 +1.0**
comp=Z,101nm,0.8s
KAPI Kappang 34.49 229 P **P** **09 16 10.9 -0.1**
comp=Z,7.7nm,0.5s,baz=89,slow=1.0,SNR=7.4
PETK Petropavlovsk- 35.46 13 P **P** **09 16 18.3 -0.3**
comp=Z,2.5nm,0.6s,baz=144,slow=7.7,SNR=11
SBUM Sibu 36.09 247 *e*P **P** **09 16 25.7 +1.3**
comp=Z,12nm,0.5s
CTA Charters Tower 38.83 178 P **P** **09 16 47.1 +0.5**
comp=Z,4.8nm,0.3s,baz=359,slow=7.0,SNR=12
CTAO Charters Tower 38.83 178 *e*P **P** **09 16 47.0 +0.5**
CTAO pmax pmax
comp=Z,11nm,0.9s
CTAO Charters Tower 38.83 178 *e*P **P** **09 16 47.0 +0.5**
comp=Z,11nm,0.9s
WRAB Tennant Creek 40.06 196 *e*P **P** **09 16 56.8 +0.4**
WRAB pmax pmax
comp=Z,28nm,0.4s
WRAB Tennant Creek 40.06 196 *e*P **P** **09 16 56.8 +0.4**
comp=Z,28nm,0.4s
WRA Warramunga Arr 40.07 196 P **P** **09 16 56.7 +0.2**
comp=Z,12nm,0.4s,baz=20,slow=8.2,SNR=239
WRA ScP **ScP** **09 21 42.3 +0.1**
comp=Z,1.3nm,0.9s,baz=7.9,slow=3.5,SNR=4.9
WRA S **S** **09 22 21.5 -0.9**
comp=Z,3.7nm,1.0s,baz=19,slow=14,SNR=5.3
FX1 Attu Island--F 40.28 26 P **P** **09 16 58.7 +1.0**
comp=Z,22nm,0.7s,baz=207,slow=2.3,SNR=4.2
FITZ Fitzroy Crossi 41.49 209 *e*P **P** **09 17 08.2 +0.5**
comp=Z,13nm,0.8s
FITZ Fitzroy Crossi 41.49 209 P **P** **09 17 08.4 +0.7**
comp=Z,11nm,0.3s,baz=34,slow=9.2,SNR=90
FITZ PcP **PcP** **09 18 52.4 +0.7**
comp=Z,3.0nm,0.7s,baz=7.0,slow=4.6,SNR=4.1
FITZ S **S** **09 22 42.0 -0.8**
comp=Z,1.6nm,0.8s,baz=342,slow=20,SNR=7.3
SONM Songino Array 42.56 322 P **P** **09 17 16.4 +0.5**
comp=Z,2.3nm,0.6s,baz=133,slow=6.8,SNR=10
SONM PcP **PcP** **09 18 55.3 +0.2**
comp=Z,0.8nm,0.5s,baz=130,slow=2.3,SNR=3.9
SONM ScP **ScP** **09 21 50.6 -1.4**
comp=Z,0.7nm,0.6s,baz=129,slow=4.0,SNR=4.9
SONA1 Songino Array 42.56 322 *e*P **P** **09 17 16.2 +0.3**
CM01 Chiang Mai Arr 43.58 277 *e*P **P** **09 17 25.3 +1.2**
CMAR Chiang Mai Arr 43.59 277 P **P** **09 17 25.2 +0.9**
comp=Z,10.0nm,0.6s,baz=64,slow=5.4,SNR=28
AS01 Alice Springs 43.74 195 *e*P **P** **09 17 25.1 -0.2**
AS01 *es*P **PcP** **09 18 59.7 +0.4**
ASAR Alice Springs 43.75 195 P **P** **09 17 25.4 0.0**
comp=Z,7.6nm,0.4s,baz=13,slow=6.5,SNR=215
ASAR PcP **PcP** **09 18 59.9 +0.5**
comp=Z,1.3nm,0.5s,baz=16,slow=3.7,SNR=7.3
ASAR S **S** **09 23 12.7 -2.4**
comp=Z,1.3nm,0.7s,baz=21,slow=18,SNR=11
KULM Kulim 45.35 258 *e*P **P** **09 17 38.9 +1.0**
comp=Z,8.2nm,0.8s
ZAK Zakamensk 45.57 323 *e*P **P** **09 17 38.9 -0.2**
ZAK pmax pmax
comp=Z,2.0nm,1.0s
DZM Mont Dzumac 45.84 152 P **P** **09 17 42.1 +0.7**
comp=Z,6.8nm,0.5s,baz=324,slow=4.7,SNR=49
TLY Talaya 46.00 325 *e*P **P** **09 17 43.1 +0.9**
TLY pmax pmax
comp=Z,1.0nm,0.5s
PSI Prapat 47.88 256 P **P** **09 17 58.0 +0.9**
comp=Z,3.2nm,0.7s,baz=51,slow=2.7,SNR=7.2
PSI PcP **PcP** **09 19 14.1 -0.4**
comp=Z,3.2nm,0.5s,baz=173,slow=16,SNR=5.2
STKA Stephens Creek 50.66 184 P **P** **09 18 16.5 -0.5**
comp=Z,7.1nm,0.5s,baz=0.4,slow=6.7,SNR=14
HVS Khovu-Aksy 51.45 321*c i*P **P** **09 18 23.5 +0.9**
HVS pmax pmax
comp=Z,20nm,0.7s
TAPN Taplejung 53.00 290 *e*P **P** **09 18 35.3 +0.9**
comp=Z,14nm,0.6s
ODAN Odare 53.32 290 *e*P **P** **09 18 37.2 +0.6**
comp=Z,22nm,0.5s
WMQ Urumqi 53.68 311 *e*P **P** **09 18 40.4 +1.8**
RAMN Ramite 54.02 290 *e*P **P** **09 18 42.3 +0.8**
comp=Z,27nm,0.8s
JIRN Jiri 54.33 291 *e*P **P** **09 18 44.9 +1.1**
comp=Z,75nm,0.6s
GUN Gumba 54.58 291 *e*P **P** **09 18 46.6 +1.0**
comp=Z,22nm,0.4s
PKI Pulchoki 55.02 291 *e*P **P** **09 18 49.1 +0.4**
comp=Z,39nm,0.5s
PKIN Phulchoki 55.03 291 *e*P **P** **09 18 49.4 +0.7**
comp=Z,14nm,0.4s
KKN Kakani 55.12 291 *e*P **P** **09 18 49.9 +0.7**
comp=Z,37nm,0.7s
DMN Daman 55.29 291 *e*P **P** **09 18 51.1 +0.7**
comp=Z,34nm,0.5s
GKN Gorkha 55.67 291 *e*P **P** **09 18 53.7 +0.8**
comp=Z,38nm,0.5s
CHGN Chignik 56.00 34 *es*P pP 09 20 34.7 -9.0
DANN Dangsing 56.41 292 *e*P **P** **09 18 59.1 +0.9**
comp=Z,156nm,0.6s
KOLN Koldanda 56.61 291 *e*P **P** **09 19 00.0 +0.6**
comp=Z,38nm,0.7s
ZAA0 Zalesovo Array 57.43 322 *e*P **P** **09 19 04.0 -0.3**
ZALV Zalesovo Beam 57.43 322 *i*P **P** **09 19 04.1 -0.2**
ZALV pmax pmax
comp=Z,3.0nm,0.3s
ZALV Zalesovo Beam 57.43 322 P **P** **09 19 03.8 -0.5**
comp=Z,3.3nm,0.3s,baz=119,slow=8.3,SNR=12
ZALV PcP **PcP** **09 19 49.5 -0.5**
comp=Z,3.2nm,0.7s,baz=124,slow=3.7,SNR=6.0
ZALV ScP **ScP** **09 22 54.6 -0.9**
comp=Z,0.4nm,0.3s,baz=116,slow=5.4,SNR=3.9
MK01 Makanchi Array 57.83 314 *e*P **P** **09 19 07.9 +0.7**
MK31 Makanchi Array 57.84 314*ce*P **P** **09 19 07.8 +0.5**
MK31 pmax pmax
comp=Z,4.0nm,0.4s
MKAR Makanchi Array 57.84 314*ce*P **P** **09 19 08.1 +0.8**
MKAR pmax pmax
comp=Z,5.0nm,0.4s
MKAR Makanchi Array 57.84 314 *e*P **P** **09 19 07.5 +0.2**
MKAR Makanchi Array 57.84 314 P **P** **09 19 08.1 +0.8**
comp=Z,4.7nm,0.4s,baz=90,slow=8.0,SNR=68
MKAR PcP **PcP** **09 19 51.7 -0.3**
comp=Z,1.2nm,0.5s,baz=80,slow=4.6,SNR=4.6
SVW2 Sparrevohn 58.89 29 *e*P **P** **09 19 16.9 +2.9**
comp=Z,14nm,1.0s
KURK Kurchatov 60.67 318*d i*P **P** **09 19 26.1 +0.1**
KURK pmax pmax
comp=Z,19nm,1.1s
KURK Kurchatov 60.67 318 *e*P **P** **09 19 26.3 +0.3**
comp=Z,17nm,1.0s
KURBB Kurchatov Arra 60.72 318 P **P** **09 19 26.6 +0.3**
comp=Z,35nm,0.6s,baz=97,slow=6.9,SNR=248
CAST Castle Rocks 61.13 27 *e*P **P** **09 19 29.4 +0.5**
comp=Z,9.9nm,0.7s
TRF Thorofare Moun 61.92 27 *e*P **P** **09 19 33.9 -0.2**
comp=Z,56nm,2.2s
PMR Palmer 62.02 30 *e*P **P** **09 19 33.9 -0.7**
PMR pmax pmax
comp=Z,8.0nm,0.6s
PMR Palmer 62.02 30 *e*P **P** **09 19 33.9 -0.7**
comp=Z,8.0nm,0.6s
TKM2 Tokmak 2 62.41 309 *e*P **P** **09 19 38.4 +0.6**
TKM2 pmax pmax
comp=Z,6.0nm,1.0s
TKM2 Tokmak 2 62.41 309 *e*P **P** **09 19 38.4 +0.6**
comp=Z,5.5nm,1.0s
COLD Coldfoot 62.95 23 *e*P **P** **09 19 41.7 +1.2**
comp=Z,3.4nm,0.8s
AAK Ala-Archa 63.23 309*e*P **P** **09 19 43.8 +0.8**
AAK pmax pmax
comp=Z,10.0nm,1.5s
AAK Ala-Archa 63.23 309 *e*P **P** **09 19 42.9 -0.2**
comp=Z,8.3nm,1.6s
AAK Ala-Archa 63.23 309 P **P** **09 19 43.0 -0.1**
comp=Z,1.5nm,0.3s,baz=137,slow=5.9,SNR=4.8
COLA College 63.29 26 *e*P **P** **09 19 44.1 +1.4**
IL1 Eielson Array 63.67 26 *e*P **P** **09 19 43.1 -2.1**
ILAR Eielson Array 63.67 26 P **P** **09 19 43.9 -1.3**
comp=Z,3.3nm,0.7s,baz=249,slow=6.0,SNR=52
ILAR pP **pP** **09 21 39.0 +0.4**
comp=Z,1.7nm,1.1s,baz=252,slow=4.9,SNR=3.2
PAX Paxson 63.96 28 *e*P **P** **09 19 47.3 +0.1**
PAX pmax pmax
comp=Z,6.0nm,0.6s
PAX Paxson 63.96 28 *e*P **P** **09 19 47.3 +0.1**
comp=Z,5.8nm,0.6s
BMRM Bremner River 64.06 31 *e*P **P** **09 19 48.4 +0.6**
comp=Z,10nm,1.0s
URZ Urewera 64.39 152 P **P** **09 19 49.7 -0.4**
comp=Z,6.8nm,0.4s,baz=270,slow=2.8,SNR=4.9
DOT Dot Lake 64.69 28 *e*P **P** **09 19 51.8 +0.1**
comp=Z,6.9nm,0.7s
VOSK Vostochnaya 65.52 320 *e*P **P** **09 19 57.0 -0.1**
VOSK pmax pmax
comp=Z,5.0nm,0.6s
VOSK Vostochnaya 65.52 320 *e*P **P** **09 19 57.0 -0.1**
comp=Z,5.4nm,0.6s
BVA0 Borovoye Array 65.88 320 *i*P **P** **09 19 59.4 +0.1**
BVA0 pmax pmax
comp=Z,18nm,0.6s
BRVK Borovoye 65.95 320*d i*P **P** **09 19 59.7 0.0**
BRVK pmax pmax
comp=Z,12nm,0.7s
BRVK Borovoye 65.95 320 *e*P **P** **09 19 59.8 +0.1**
comp=Z,12nm,0.6s
KK31 Karatay Array 66.13 309*ce*P **P** **09 20 01.5 +0.4**
KK31 pmax pmax
comp=Z,5.0nm,0.5s
KKAR Karatay Array 66.13 309 *e*P **P** **09 20 01.7 +0.6**
KKAR Karatay Array 66.13 309 *e*P **P** **09 20 01.6 +0.6**
RPZ Rata Peaks 66.78 160 P **P** **09 20 04.1 -0.8**
comp=Z,10nm,0.8s,baz=236,slow=7.3,SNR=8.3
DAWY Dawson 66.79 28 *e*P **P** **09 20 05.4 +0.6**
HYT Haines Junctio 67.51 31 *e*P **P** **09 20 10.4 +1.0**
KBL Kabul 68.22 300 *e*P **P** **09 20 14.9 +0.6**
KBL Kabul 68.22 300 *e*P **P** **09 20 14.9 +0.6**
comp=Z,2μm,0.8s
INK Inuvik 69.36 23 P **P** **09 20 19.6 -0.6**
comp=Z,2.7nm,0.8s,baz=277,slow=8.6,SNR=8.9
DLBC Dease Lake 71.40 34 P **P** **09 20 33.2 +0.7**
comp=Z,1.5nm,0.5s,baz=341,slow=26,SNR=6.3
ARU Arti 72.50 324*d i*P **P** **09 20 38.8 0.0**
ARU 09 23 27.2
ARU S **S** **09 29 19.4 +1.8**
ARU SS **SS** **09 34 08.4 -3.3**
ARU pmax pmax
comp=Z,10.0nm,0.6s
AB31 Akbulak array 72.73 317*ce*P **P** **09 20 39.9 -0.4**
AB31 pmax pmax
comp=Z,6.0nm,0.3s
ABKAR Akbulak array 72.73 317 *e*P **P** **09 20 40.2 -0.1**
AKTO Aktyubinsk 73.76 318 *i*P **P** **09 20 43.6 -2.6**
AKTO pmax pmax
comp=Z,3.0nm,0.5s
YKA Yellowknife Ar 78.03 28 P **P** **09 21 09.7 +0.3**
comp=Z,1.5nm,0.6s,baz=290,slow=4.9,SNR=3.1
NEW Newport 81.12 42 P **P** **09 21 27.0 +0.9**
comp=Z,1.4nm,0.9s,baz=285,slow=16,SNR=3.1
KEV Kevo 81.49 342 *e*P **P** **09 21 26.3 -1.1**
KEV pmax pmax
comp=Z,2.0nm,0.4s
KEV Kevo 81.49 342 *ep* **P** **09 21 26.3 -1.1**
comp=Z,1.5nm,0.4s
ARCES ARCESS Array B 82.05 342 P **P** **09 21 29.9 -0.4**
comp=Z,4.4nm,0.7s,baz=81,slow=7.7,SNR=12
NVAR Mina Array Bea 83.45 52 P **P** **09 21 38.7 +0.4**
comp=Z,0.4nm,0.4s,baz=278,slow=5.3,SNR=6.4
NVAR pP **pP** **09 23 39.4 -1.0**
comp=Z,0.9nm,0.8s,baz=264,slow=7.2,SNR=4.3
JOF Joensuu 83.52 335 *e*P **P** **09 21 35.4 -2.3**
JOF pmax pmax
comp=Z,7.0nm,0.7s
JOF Joensuu 83.52 335 *ep* **P** **09 21 35.4 -2.3**
comp=Z,7.0nm,0.7s
KAF Kangasniemi 85.92 336 *e*P **P** **09 21 47.6 -1.8**
KAF pmax pmax
comp=Z,3.0nm,0.7s
KAF Kangasniemi 85.92 336 *ep* **P** **09 21 47.6 -1.8**
comp=Z,2.9nm,0.7s
FINES FINESS Array B 86.39 335 P **P** **09 21 50.2 -1.4**
comp=Z,4.7nm,0.6s,baz=67,slow=4.5,SNR=16
IMW Indian Meadow 86.69 45 *ep*P x 09 23 12.0
TPAW Teton Pass 86.84 45 *e*P P 09 22 02.8 +8.2
comp=Z,48nm,0.9s
MOOW Moose Ponds 86.88 45 *e*P P 09 21 60.0 +5.3
comp=Z,19nm,0.7s
SNOW Snow King Moun 86.98 45 *e*P P 09 22 01.2 +6.0
comp=Z,77nm,0.7s
LOHW Long Hollow 87.03 45 *e*P **P** **09 21 58.2 +2.8**
comp=Z,115nm,0.7s
LOHW *ep*P x 09 23 09.3
NOA NORSAR Array B 92.11 339 P **P** **09 22 17.1 -1.2**
comp=Z,1.8nm,1.0s,baz=38,slow=5.1,SNR=2.6
BRTR Keskin Array B 93.49 314 P **P** **09 22 24.5 -0.7**
comp=Z,1.3nm,0.6s,baz=81,slow=2.8,SNR=6.9
TXAR Lajitas Array 98.18 55 PKKPbc PKKPbc 09 39 15.6 -0.7
comp=Z,0.3nm,0.7s,baz=124,slow=6.2,SNR=4.7
TORD Torodi Ar. Bea 131.82 309 PKP **PKPdf** **09 28 18.3 -1.0**
comp=Z,0.6nm,0.4s,baz=30,slow=1.5,SNR=9.7
TORD SKPbc **SKPbc** **09 30 51.2 -1.3**
comp=Z,0.9nm,0.7s,baz=30,slow=2.7,SNR=5.5
DBIC Dimbokro 140.91 308 PKhKP PKPpre 09 28 29.6
comp=Z,3.2nm,0.6s,baz=13,slow=2.0,SNR=8.3
DBIC SKPbc **SKPbc** **09 31 18.4 -1.2**
comp=Z,2.4nm,0.7s,baz=72,slow=3.2,SNR=2.9
LPAZ La Paz 148.28 90 *e*PKPdf **PKPdf** **09 28 50.4 +1.0**
LPAZ La Paz 148.28 90 PKP **PKPdf** **09 28 49.5 +0.1**
comp=Z,7.2nm,0.7s,baz=359,slow=4.2,SNR=6.8
LPAZ PKPbc **PKPbc** **09 28 53.9 +0.3**
comp=Z,3.4nm,0.6s,baz=358,slow=7.2,SNR=4.3
SAML Samuel 150.88 74 *e*PKPdf **PKPdf** **09 28 53.6 +0.8**

IDC 15 09:17:38.7±0.9, 19°10S×173°54W, h0km, mb3.9/8, mb1 4.1/10, mb1mx3.9/24, mbtmp3.9/10, ML3.0/2, MS4.4/2, Ms1 4.4/2, ms1mx3.4/38, Error ellipse: s-maj=31.9km s-min=18.2km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.43**	**18**	Pn	Pn	09 18 59.8	-1.2
	4.9nm,0.3s,baz=189,slow=13,SNR=5.9						
AFI				Sn	Sn	09 19 54.3	-10
	4.7nm,0.3s,baz=300,slow=20,SNR=2.7						
DZM	**Mont Dzumac**	**18.97**	**258**	P	Pn	09 22 03.0	+0.5
	0.3nm,0.3s,baz=72,slow=17,SNR=9.3						
URZ	**Urewera**	**20.76**	**201**	P	P	09 22 20.3	-0.7
	6.2nm,0.5s,baz=119,slow=20,SNR=9.5						
HNR	**Honiara**	**27.40**	**287**	LR	LR	09 31 23.8	
	comp=Z,1μm,19.5s,baz=127,slow=30						
RPZ	**Rata Peaks**	**27.75**	**204**	P	P	09 23 32.2	+3.2
	9.4nm,0.8s,baz=334,slow=3.4,SNR=7.5						
CTA	**Charters Tower**	**37.83**	**262**	P	P	09 24 58.3	+1.0
	1.9nm,0.5s,baz=78,slow=7.2,SNR=4.0						
STKA	**Stephens Creek**	**42.17**	**243**	P	P	09 25 33.0	-0.3
	0.7nm,0.5s,baz=74,slow=7.4,SNR=2.2						
ASAR	**Alice Springs**	**48.93**	**255**	P	P	09 26 26.4	-0.6
	0.8nm,0.6s,baz=96,slow=7.9,SNR=15						
WRA	**Warramunga Arr**	**48.97**	**260**	P	P	09 26 26.3	-1.0
	0.3nm,0.3s,baz=97,slow=6.9,SNR=14						
QSPA	**South Pole Qui**	**70.96**	**180**	P	P	09 28 58.2	+0.3
	1.5nm,0.8s						
ASAJ	**Asahikawa**	**74.61**	**329**	LR	LR	09 57 31.3	
	comp=Z,113nm,19.3s,baz=173,slow=32						
NVAR	**Mina Array Bea**	**77.16**	**41**	P	P	09 29 34.8	+0.1
	0.3nm,0.7s,baz=240,slow=7.2,SNR=3.5						
TXAR	**Lajitas Array**	**82.78**	**56**	P	P	09 30 05.5	+0.4
	0.3nm,0.9s,baz=205,slow=4.0,SNR=4.0						
BRTR	**Keskin Array B**	**148.85**	**317**	PKPbc	PKPbc	09 37 28.3	-0.5
	0.7nm,0.7s,baz=36,slow=5.4,SNR=3.3						

IDC 15 09:22:22.9±6.4, 5°37S×147°46E, h0km, mb2.9/1, mb1 3.5/2, mb1mx3.2/17, mbtmp3.2/2, ML3.7/1, Error ellipse: s-maj=258.0km s-min=53.0km az=110.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.03**	**184**	Sn	Sb	09 24 23.9	-0.1
	2.3nm,0.3s,baz=283,slow=19,SNR=6.0						
WRA	**Warramunga Arr**	**19.31**	**220**	P	P	09 26 49.8	+0.1
	0.2nm,0.3s,baz=39,slow=11,SNR=9.2						
ASAR	**Alice Springs**	**22.40**	**214**	P	P	09 27 22.9	-0.2
	0.7nm,1.0s,baz=45,slow=9.0,SNR=3.5						
TORD	**Torodi Ar. Bea**	**145.37**	**285**	PKPbc	PKPbc	09 42 02.9	-0.8
	0.5nm,1.0s,baz=82,slow=2.0,SNR=2.4						

WEL 15 09:23:54.0±0.7, 35°44S×178°67E, h219km±13km, ML3.9/8, Error ellipse: s-maj=19.3km s-min=12.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.15**	**188**	PN	Pn	09 24 35.3	0.0
MXZ				SN	S	09 25 06.0	-1.5
PUZ	**Puketiti**	**2.65**	**187**	PN	Pn	09 24 40.8	+0.1
PUZ				SN	S	09 25 17.1	-0.1
PUZ				AML	AML	09 25 18.2	
MWZ	**Matawai**	**3.04**	**197**	PN	Pn	09 24 45.4	+0.4
MWZ				SN	S	09 25 25.1	+0.1
CNGZ	**Carnagh Statio**	**3.07**	**187**	PN	Pn	09 24 45.9	+0.6
URZ	**Urewera**	**3.08**	**203**	PN	Pn	09 24 45.6	+0.1
URZ				SN	S	09 25 25.7	-0.1
KNZ	**Kokohu**	**3.67**	**192**	PN	Pn	09 24 51.9	-0.4
RAHZ	**Arahi**	**3.70**	**199**	PN	Pn	09 24 53.0	+0.2
MHGZ	**Mahia Peninsul**	**3.76**	**189**	PN	Pn	09 24 53.7	+0.2
NMHZ	**Naumai**	**3.95**	**202**	PN	Pn	09 24 56.3	+0.4
BKZ	**Black Stump Fm**	**4.11**	**204**	PN	Pn	09 24 57.9	+0.1
MCHZ	**McNeill Hill**	**4.30**	**201**	PN	Pn	09 25 00.0	0.0
BHHZ	**Black Hill Sta**	**4.55**	**206**	*e*PN	Pn	09 25 02.3	-0.9
PXZ	**Pawanui**	**4.81**	**197**	PN	Pn	09 25 05.1	-1.2
PNHZ	**Pukenui**	**4.88**	**203**	PN	Pn	09 25 06.4	-0.9
PRHZ	**Porangahau**	**5.09**	**198**	*e*PN	Pn	09 25 08.8	-1.1
TSZ	**Takapari Road**	**5.09**	**204**	PN	Pn	09 25 08.9	-1.0
BFZ	**Birch Farm**	**5.58**	**199**	PN	Pn	09 25 14.5	-1.6
BFZ				SN	S	09 26 18.2	-2.9
MRZ	**Mangatainoka R**	**5.76**	**204**	*e*PN	Pn	09 25 16.4	-2.0
MRZ				SN	S	09 26 21.5	-3.8
HOWZ	**Holdsworth Sta**	**5.99**	**204**	PN	Pn	09 25 19.1	-2.3
MTW	**Mount Morrison**	**6.23**	**203**	*e*PN	Pn	09 25 22.2	-2.3
CAW	**Cannon Point**	**6.33**	**205**	PN	Pn	09 25 23.3	-2.4
TCW	**Tory Channel**	**6.72**	**210**	SN	S	09 26 44.0	-3.6
OXZ	**Oxford**	**9.40**	**211**	SN	S	09 27 43.2	-7.6

IDC 15 09:26:25.6±0.8, 12°78S×166°21E, h0km, mb4.1/12, mb1 4.2/14, mb1mx4.0/26, mbtmp4.1/14, MS3.7/1, Ms1 3.7/1, ms1mx3.0/30, Error ellipse: s-maj=25.0km s-min=17.8km az=92.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.99**	**298**	Pn	Pn	09 28 10.1	+0.8
	25nm,0.3s,baz=168,slow=4.1,SNR=12						
DZM	**Mont Dzumac**	**9.24**	**179**	Pn	Pn	09 28 42.4	+2.0
	0.1nm,0.3s,baz=351,slow=19,SNR=4.0						
CTA	**Charters Tower**	**20.46**	**247**	P	P	09 31 04.2	-0.8
	4.5nm,0.8s,baz=77,slow=14,SNR=3.5						
STKA	**Stephens Creek**	**29.54**	**226**	P	P	09 32 33.5	+1.5
	4.0nm,1.0s,baz=67,slow=13,SNR=2.7						
RPZ	**Rata Peaks**	**31.11**	**173**	P	P	09 32 46.3	+0.5
	5.3nm,0.7s,baz=66,slow=16,SNR=3.6						
WRA	**Warramunga Arr**	**31.36**	**253**	P	P	09 32 47.5	-0.8
	0.7nm,0.6s,baz=84,slow=9.3,SNR=4.9						
ASAR	**Alice Springs**	**32.46**	**246**	P	P	09 32 57.2	-0.8
	1.4nm,0.8s,baz=75,slow=9.8,SNR=15						
FITZ	**Fitzroy Crossi**	**39.41**	**257**	P	P	09 33 57.3	-0.2
	4.9nm,1.2s,baz=74,slow=11,SNR=3.7						
MJAR	**Matsushiro Arr**	**55.71**	**333**	P	P	09 36 04.5	+0.5
	1.0nm,0.7s,baz=176,slow=8.3,SNR=3.4						
ASAJ	**Asahikawa**	**60.57**	**341**	P	P	09 36 38.7	+0.8
	5.7nm,0.8s,baz=207,slow=11,SNR=3.9						
VNDA	**Vanda**	**64.78**	**181**	P	P	09 37 04.5	-1.0
	0.4nm,0.9s,baz=14,slow=4.2,SNR=2.7						
FX1	**Attu Island--F**	**65.67**	**5**	LR	LR	10 00 23.8	
	comp=Z,56nm,21.1s,baz=154,slow=31						
QSPA	**South Pole Qui**	**77.24**	**180**	P	P	09 38 22.0	+0.4
	5.9nm,1.0s						
ILAR	**Eielson Array**	**85.00**	**18**	P	P	09 39 01.6	-1.0
	0.7nm,0.9s,baz=235,slow=5.3,SNR=5.4						
MKAR	**Makanchi Array**	**95.09**	**317**	P	P	09 39 51.0	+0.3
	0.8nm,0.9s,baz=88,slow=7.4,SNR=4.5						
ARCES	**ARCESS Array B**	**118.12**	**345**	PKP	PKPdf	09 45 13.4	-0.7
	4.1nm,0.9s,baz=38,slow=6.1,SNR=3.8						
KEST	**Kesra**	**149.06**	**322**	PKPbc	PKPbc	09 46 16.0	-0.4
	2.5nm,0.8s,baz=360,slow=0.7,SNR=3.9						
ESDC	**Sonseca Array**	**151.84**	**344**	PKPbc	PKPbc	09 46 22.0	-0.9
	0.4nm,0.4s,baz=11,slow=1.3,SNR=4.5						

*NEIC **15** 09:26:53.9±0.8, 11°50S×166°29E, h12km±4km, mb4.9/7, Error ellipse: s-maj=9.3km s-min=8.0km az=144.0*
*IDC **15** 09:26:56.4±3.0, 11°48S×166°32E, h32km±20km, mb4.2/17, mb1 4.4/20, mb1mx4.3/26, mbtmp4.3/20, ML3.5/2, MS3.8/3, Ms1 3.8/3, ms1mx3.4/29, Error ellipse: s-maj=17.2km s-min=15.6km az=89.0*
*ISCJB **15** 09:26:58.7±0.3, 11°66S±0°05×166°14E±0°05, h59km, mb4.5/22, MS3.6/3, Error ellipse: s-maj=8.0km s-min=7.2km az=136.3*

ISC 15 09:26:59.2±0.4, 11°53S±0°06×166°32E±0°07, h59km, n77, σ1°42/88, mb4.4/23, MS3.5/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.60**	**288**	Pn	**Pn**	**09 28 32.9**	**-0.9**
HNR				Sn	**Sn**	**09 29 46.2**	**-1.4**
HNR	**Honiara**	**6.60**	**288**	Pn	**Pn**	**09 28 32.8**	**-0.9**
	45nm,0.3s,baz=155,slow=0.9,SNR=26						
HNR				Sn	**Sn**	**09 29 46.2**	**-1.4**
	13nm,0.3s,baz=151,slow=19,SNR=2.4						
DZM	**Mont Dzumac**	**10.48**	**179**	*e*Pn	Pn	09 29 30.2	+3.3
	78nm,1.2s						
DZM				*e*LR	LR	09 31 48.6	
	953nm,25.9s						
DZM	**Mont Dzumac**	**10.48**	**179**	Pn	**Pn**	**09 29 26.5**	**-0.5**
DZM				Sn	**Sn**	**09 31 20.3**	**-2.6**
DZM	**Mont Dzumac**	**10.48**	**179**	Pn	**Pn**	**09 29 26.5**	**-0.5**
	0.9nm,0.3s,baz=36,slow=19,SNR=2.1						
DZM				Sn	**Sn**	**09 31 20.3**	**-2.6**
	2.9nm,0.3s,baz=322,slow=23,SNR=4.3						
MSVF	**Nonsavu**	**12.92**	**120**	Pn	**Pn**	**09 29 57.3**	**-2.9**
TARA	**Tarawa**	**14.39**	**28**	Pn	**Pn**	**09 30 17.9**	**-2.0**
PMG	**Port Moresby**	**18.95**	**275**	P	**Pn**	**09 31 16.7**	**-0.3**
PMG	**Port Moresby**	**18.95**	**275**	P	**Pn**	**09 31 16.7**	**-0.3**
	0.2nm,0.3s,baz=90,slow=10,SNR=3.1						
CTA	**Charters Tower**	**21.08**	**244**	P	**P**	**09 31 38.5**	**-0.3**
CTA	**Charters Tower**	**21.08**	**244**	P	**P**	**09 31 38.5**	**-0.3**
	8.2nm,0.8s,baz=75,slow=10,SNR=6.8						
CTAO	**Charters Tower**	**21.08**	**244**	*e*pP	**P**	**09 31 41.0**	**+2.2**
RAO	**Raoul Island**	**22.96**	**142**	LR	LR	09 39 30.7	
	comp=Z,198nm,20.7s,baz=314,slow=33						
ARMA	**Armidale**	**23.22**	**214**	*e*pP	**P**	**09 32 04.7**	**+3.3**
URZ	**Urewera**	**28.31**	**162**	LR	LR	09 41 52.6	
	comp=Z,328nm,20.4s,baz=338,slow=32						
STKA	**Stephens Creek**	**30.48**	**225**	P	**P**	**09 33 07.2**	**+0.5**
STKA				PcP	**PcP**	**09 36 04.9**	**0.0**
STKA	**Stephens Creek**	**30.48**	**225**	P	**P**	**09 33 07.2**	**+0.5**
	5.8nm,0.8s,baz=27,slow=6.6,SNR=5.9						
STKA				PcP	**PcP**	**09 36 04.9**	**0.0**
	5.8nm,1.1s,baz=16,slow=6.1,SNR=3.5						
WRAB	**Tennant Creek**	**31.83**	**251**	*e*P	**P**	**09 33 18.2**	**-0.5**
WRA	**Warramunga Arr**	**31.85**	**251**	P	**P**	**09 33 19.1**	**+0.3**
WRA				PcP	**PcP**	**09 36 09.1**	**+0.3**
WRA				ScP	**ScP**	**09 39 51.1**	**+3.8**
WRA	**Warramunga Arr**	**31.85**	**251**	P	**P**	**09 33 19.1**	**+0.3**
	2.8nm,0.9s,baz=82,slow=9.2,SNR=9.7						
WRA				PcP	**PcP**	**09 36 09.1**	**+0.3**
	2.0nm,0.9s,baz=74,slow=3.0,SNR=6.7						
WRA				ScP	**ScP**	**09 39 51.1**	**+3.8**
	1.5nm,1.1s,baz=75,slow=3.8,SNR=3.9						
RPZ	**Rata Peaks**	**32.33**	**174**	*e*P	**P**	**09 33 23.2**	**+0.4**
RPZ	**Rata Peaks**	**32

MJAR	**Matsushiro Arr**	**54.66**	**332**	P		**P**	09 36 20.8	**-1.5**
	0.9nm,0.7s,baz=173,slow=9.8,SNR=4.3							
RKT	**Rikitea**	**56.90**	**110**	*e*LR		LR	09 53 31.8	
	368nm,28.0s							
VNDA	**Vanda**	**66.02**	**181**	*e*P		**P**	09 37 39.4	**+0.1**
	5.7nm,1.0s							
VNDA	**Vanda**	**66.02**	**181**	P		**P**	09 37 39.6	**+0.4**
	4.7nm,1.0s,baz=343,slow=6.5,SNR=14							
SBA	**Scott Base**	**66.32**	**180**	*e*P		**P**	09 37 42.9	**+1.8**
	9.0nm,1.0s							
CMAR	**Chiang Mai Arr**	**72.82**	**294**	P		**P**	09 38 22.0	**-0.2**
CMAR	**Chiang Mai Arr**	**72.82**	**294**	P		**P**	09 38 22.0	**-0.2**
	1.0nm,0.3s,baz=116,slow=4.2,SNR=8.1							
QSPA	**South Pole Qui**	**78.48**	**180**	P		**P**	09 38 54.1	**+0.3**
QSPA	**South Pole Qui**	**78.48**	**180**	P		**P**	09 38 54.1	**+0.3**
	20nm,0.9s							
CAST	**Castle Rocks**	**81.24**	**18**	*e*P		**P**	09 39 10.5	**+1.9**
	38nm,2.2s							
ILAR	**Eielson Array**	**83.79**	**18**	P		**P**	09 39 21.4	**-0.4**
ILAR	**Eielson Array**	**83.79**	**18**	P		**P**	09 39 21.4	**-0.4**
	0.6nm,0.6s,baz=224,slow=7.6,SNR=4.3							
DOT	**Dot Lake**	**83.94**	**20**	*e*P		**P**	09 39 23.0	**+0.4**
	5.2nm,0.8s							
MAW	**Mawson**	**84.48**	**202**	P		**P**	09 39 24.6	**-0.8**
MAW	**Mawson**	**84.48**	**202**	P		**P**	09 39 24.6	**-0.8**
	2.6nm,1.0s,baz=103,slow=6.8,SNR=4.7							
TAPN	**Taplejung**	**85.33**	**299**	*e*P		**P**	09 39 31.5	**+0.7**
ODAN	**Odare**	**85.47**	**298**	*e*P		**P**	09 39 31.7	**+0.3**
EGAK	**Eagle**	**85.64**	**20**	*e*P		**P**	09 39 31.5	**+0.5**
NVAR	**Mina Array Bea**	**85.91**	**50**	P		**P**	09 39 33.7	**+0.4**
NVAR	**Mina Array Bea**	**85.91**	**50**	P		**P**	09 39 33.7	**+0.4**
	2.1nm,0.8s,baz=235,slow=8.6,SNR=16							
RAMN	**Ramite**	**86.18**	**298**	*e*P		**P**	09 39 35.6	**+0.7**
JIRN	**Jiri**	**86.71**	**299**	*e*P		**P**	09 39 38.2	**+0.5**
GUN	**Gumba**	**87.04**	**299**	*e*P		**P**	09 39 39.8	**+0.5**
J08A	**Circle Bar Ran**	**87.33**	**45**	*e*P		**P**	09 39 42.2	**+2.2**
	41nm,2.5s							
PKI	**Pulchoki**	**87.36**	**299**	*e*P		**P**	09 39 41.0	**+0.2**
PKIN	**Phulchoki**	**87.37**	**299**	*e*P		**P**	09 39 41.2	**+0.4**
KKN	**Kakani**	**87.52**	**299**	*e*P		**P**	09 39 41.8	**+0.4**
DMN	**Daman**	**87.63**	**299**	*e*P		**P**	09 39 42.5	**+0.5**
	36nm,1.1s							
GKN	**Gorkha**	**88.13**	**299**	*e*P		**P**	09 39 43.8	**-0.4**
	20nm,0.9s							
DANN	**Dangsing**	**88.96**	**299**	*e*P		**P**	09 39 47.7	**-0.6**
	16nm,0.9s							
KOLN	**Koldanda**	**88.96**	**298**	*e*P		**P**	09 39 47.9	**-0.3**
CCUT	**Cedar City**	**89.40**	**52**	*e*P		**P**	09 39 53.0	**+2.9**
	30nm,2.4s							
MVU	**Marysvale**	**90.52**	**51**	*e*P		**P**	09 39 57.9	**+2.5**
	8.4nm,1.4s							
PDAR	**Pinedale Array**	**93.47**	**47**	P		**P**	09 40 09.8	**+0.9**
PDAR	**Pinedale Array**	**93.47**	**47**	P		**P**	09 40 09.8	**+0.9**
	0.6nm,0.8s,baz=288,slow=1.4,SNR=3.7							
LENM	**Lemitar**	**93.69**	**56**	*e*P		**P**	09 40 12.0	**+2.0**
MK31	**Makanchi Array**	**94.25**	**317**	*e*P		**P**	09 40 12.1	**0.0**
MKAR	**Makanchi Array**	**94.25**	**317**	P		**P**	09 40 12.1	**-0.1**
MKAR				*e*pP		**pP**	09 40 25.3	**-3.6**
MKAR	**Makanchi Array**	**94.25**	**317**	P		**P**	09 40 12.1	**-0.1**
	4.1nm,0.8s,baz=106,slow=6.4,SNR=18							
ZALV	**Zalesovo Beam**	**94.27**	**324**	P		**P**	09 40 11.5	**-0.5**
ZALV	**Zalesovo Beam**	**94.27**	**324**	P		**P**	09 40 11.5	**-0.5**
	0.6nm,0.4s,baz=83,slow=5.1,SNR=4.5							
TXAR	**Lajitas Array**	**95.57**	**61**	P		**P**	09 40 20.3	**+1.7**
TXAR	**Lajitas Array**	**95.57**	**61**	P		**P**	09 40 20.3	**+1.7**
	0.6nm,0.8s,baz=232,slow=4.3,SNR=6.9							
BOSA	**Boshof**	**125.14**	**223**	PKP		**PKPdf**	09 45 55.2	**+1.2**
BOSA	**Boshof**	**125.14**	**223**	PKP		**PKPdf**	09 45 55.2	**+1.2**
	2.2nm,0.6s,baz=151,slow=6.3,SNR=4.3							
TORD	**Torodi Ar. Bea**	**164.89**	**278**	PKPab		**PKPab**	09 47 53.8	**-0.3**
TORD	**Torodi Ar. Bea**	**164.89**	**278**	PKPab		**PKPab**	09 47 53.8	**-0.3**
	1.2nm,0.9s,baz=87,slow=3.1,SNR=4.4							

*SOF **15** 09:27:04.5,39˚68N×23˚76E,h2km,MD3.0*
*ATH **15** 09:27:09.6,39˚95N×23˚78E,h23km,MD3.3/43,ML3.1*
*SKO **15** 09:27:09.1,39˚91N×23˚88E,h3km,M2.7,ML3.1*
*CSEM **15** 09:27:09.4±0.1,39˚95N×23˚78E,h8km,ML3.2/5,Error ellipse: s-maj=3.3km s-min=2.1km az=103.0*
*ISCJB **15** 09:27:09.2±0.4,39˚94N±0˚01×23˚79E±0˚02,h10km±2km, Error ellipse: s-maj=2.7km s-min=1.8km az=14.3*
*THE **15** 09:27:10.3,39˚97N×23˚73E,h12km,ML3.2/5,Error ellipse: s-maj=0.8km s-min=0.3km az=278.0*

ISC 15 09:27:10.1±0.8,**39˚96N**±0˚01×**23˚78E**±0˚02,**h12**km±5km, **n164,σ0§67/247,13C-2D,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.08**	**247**	P	**Pg**	09 27 12.8	**+0.1**
PAIG				S	**Sg**	09 27 14.5	**-0.2**
PAIG	**Paliouri**	**0.08**	**247**	*e*PB	**Pg**	09 27 12.8	**+0.1**
PAIG	**Paliouri**	**0.08**	**247**	*e*Pb	**Pg**	09 27 12.8	**+0.1**
OUR	**Ouranopolis**	**0.41**	**23**	P	**Pb**	09 27 18.8	**-0.4**
OUR				S	**Sb**	09 27 24.6	**-0.8**
OUR	**Ouranopolis**	**0.41**	**23**	*e*PB	**Pb**	09 27 19.0	**-0.2**
OUR				*e*SB	**Sb**	09 27 25.0	**-0.4**
OUR	**Ouranopolis**	**0.41**	**23**	*e*Pb	**Pb**	09 27 19.0	**-0.2**
OUR				S	**Sb**	09 27 24.6	**-0.8**
OUR				*e*Sb	**Sb**	09 27 25.0	**-0.4**
PLG	**Polygyros**	**0.49**	**329**	P	**Pg**	09 27 19.2	**-0.5**
PLG				S	**Sg**	09 27 25.7	**-0.5**
PLG	**Polygyros**	**0.49**	**329**	*e*PB	**Pg**	09 27 19.2	**-0.5**
PLG				*e*SB	**Sg**	09 27 25.4	**-0.8**
PLG	**Polygyros**	**0.49**	**329**	P	**Pg**	09 27 19.2	**-0.5**
PLG				*e*Sb	**Sg**	09 27 25.4	**-0.8**
XOR	**Xorichti**	**0.74**	**217**	P	**Pg**	09 27 23.9	**-0.6**
XOR				S	**Sb**	09 27 35.0	**-0.1**
XOR	**Xorichti**	**0.74**	**217**	*e*PN	**Pg**	09 27 24.6	**+0.1**
XOR				*e*SN	**Sb**	09 27 34.9	**-0.1**
XOR	**Xorichti**	**0.74**	**217**	P	**Pg**	09 27 23.9	**-0.6**
XOR	**Xorichti**	**0.74**	**217**	*e*Pn	**Pg**	09 27 24.6	**+0.1**
XOR				S	**Sb**	09 27 35.0	**-0.1**
NEO	**Neokhori**	**0.78**	**213**	P	**Pg**	09 27 25.1	**-0.1**
NEO	**Neokhori**	**0.78**	**213**	*e*PN	**Pb**	09 27 25.3	**-0.3**
NEO				*e*SN	**Sg**	09 27 35.3	**-0.1**
NEO	**Neokhori**	**0.78**	**213**	P	**Pg**	09 27 25.1	**-0.1**
NEO				*e*Sn	**Sg**	09 27 35.3	**-0.1**
AOS	**Alonnisos**	**0.79**	**174**	P	**Pg**	09 27 25.4	**0.0**
AOS	**Alonnisos**	**0.79**	**174**	*e*PN	**Pg**	09 27 25.4	**0.0**
AOS				*e*SN	**Sb**	09 27 36.6	**+0.2**
AOS	**Alonnisos**	**0.79**	**174**	P	**Pg**	09 27 25.4	**0.0**
AOS				*e*Sn	**Sb**	09 27 36.6	**+0.2**
HORT	**Hortiatis**	**0.82**	**321**	P	**Pg**	09 27 25.0	**-1.0**
HORT				S	**Sg**	09 27 36.8	**0.0**
HORT	**Hortiatis**	**0.82**	**321**	*e*PN	**Pg**	09 27 25.3	**-0.7**
HORT				*e*SN	**Sg**	09 27 37.2	**+0.4**
HORT	**Hortiatis**	**0.82**	**321**	P	**Pg**	09 27 25.0	**-1.0**
HORT	**Hortiatis**	**0.82**	**321**	*e*Pn	**Pg**	09 27 25.3	**-0.7**
HORT				S	**Sg**	09 27 36.8	**0.0**
HORT				*e*Sn	**Sg**	09 27 37.2	**+0.4**
SKIA	**Skiathos**	**0.83**	**197**	P	**Pg**	09 27 26.0	**-0.1**
SKIA	**Skiathos**	**0.83**	**197**	*e*PN	**Pg**	09 27 26.1	**-0.1**
SKIA				*e*SN	**Sb**	09 27 37.2	**-0.3**
SKIA	**Skiathos**	**0.83**	**197**	P	**Pg**	09 27 26.0	**-0.1**
SKIA				*e*Sn	**Sb**	09 27 37.2	**-0.3**
FYTO	**Fytoko, Volos**	**0.85**	**230**	P	**Pg**	09 27 26.0	**-0.5**
FYTO	**Fytoko, Volos**	**0.85**	**230**	P	**Pg**	09 27 26.0	**-0.5**
THE	**Thessaloniki**	**0.92**	**318**	P	**Pg**	09 27 26.7	**-1.1**
THE	**Thessaloniki**	**0.92**	**318**	P	**Pg**	09 27 26.7	**-1.1**
SOH	**Sokhos**	**0.92**	**340**	P	**Pg**	09 27 27.1	**-0.8**
SOH				S	**Sg**	09 27 40.1	**+0.2**
SOH	**Sokhos**	**0.92**	**340**	*e*PN	**Pg**	09 27 27.6	**-0.3**
SOH				*e*SN	**Sb**	09 27 40.6	**+0.4**
SOH	**Sokhos**	**0.92**	**340**	P	**Pg**	09 27 27.1	**-0.8**
SOH	**Sokhos**	**0.92**	**340**	*e*Pn	**Pg**	09 27 27.6	**-0.3**
SOH				S	**Sg**	09 27 40.1	**+0.2**
LIT	**Litokhoron**	**1.00**	**279**	*e*PN	**Pg**	09 27 29.5	**+0.2**
LIT				*e*SN	**Sg**	09 27 43.1	**+0.7**
LIT	**Litokhoron**	**1.00**	**279**	*e*Pn	**Pg**	09 27 29.5	**+0.2**
LIT				*e*Sn	**Sg**	09 27 43.1	**+0.7**
LIA	**Limnos Island**	**1.08**	**93**	*e*PN	**Pb**	09 27 30.6	**-0.2**
LIA				*e*SN	**Sb**	09 27 44.6	**-0.2**
LIA	**Limnos Island**	**1.08**	**93**	*e*Pn	**Pb**	09 27 30.6	**-0.2**
LIA				*e*Sn	**Sb**	09 27 44.6	**-0.2**
SMIA	**Simia**	**1.16**	**202**	P	**Pb**	09 27 31.6	**-0.6**
SMIA	**Simia**	**1.16**	**202**	*e*PN	**Pb**	09 27 31.8	**-0.4**
SMIA				*e*SN	**Sn**	09 27 48.0	**0.0**
SMIA	**Simia**	**1.16**	**202**	*e*Pn	**Pb**	09 27 31.8	**-0.4**
SMIA				*e*Sn	**Sn**	09 27 48.0	**0.0**
SRS	**Serrai**	**1.17**	**353**	P	**Pn**	09 27 31.7	**-0.5**
SRS	**Serrai**	**1.17**	**353**	*e*PN	**Pn**	09 27 32.0	**-0.2**
SRS				*e*SN	**Sn**	09 27 48.3	**+0.2**
SRS	**Serrai**	**1.17**	**353**	P	**Pn**	09 27 31.7	**-0.5**
SRS	**Serrai**	**1.17**	**353**	*e*Pn	**Pn**	09 27 32.0	**-0.2**
SRS				*e*Sn	**Sn**	09 27 48.3	**+0.2**
KAVA	**Kavala**	**1.18**	**28**	P	**Pn**	09 27 31.6	**-0.8**
KAVA				S	**Sg**	09 27 48.2	**0.0**
KAVA	**Kavala**	**1.18**	**28**	*e*PN	**Pn**	09 27 31.7	**-0.7**
KAVA				*e*SN	**Sn**	09 27 48.9	**+0.5**
KAVA	**Kavala**	**1.18**	**28**	*e*Pn	**Pn**	09 27 31.7	**-0.7**
KAVA				S	**Sg**	09 27 48.2	**0.0**
MRKA	**Markates**	**1.26**	**187**	P	**Pn**	09 27 32.6	**-0.9**
MRKA	**Markates**	**1.26**	**187**	*e*PN	**Pn**	09 27 32.7	**-0.8**
MRKA				*e*SN	**Sg**	09 27 50.9	**+0.2**
MRKA	**Markates**	**1.26**	**187**	*e*Pn	**Pn**	09 27 32.7	**-0.8**
MRKA				*e*Sn	**Sg**	09 27 50.9	**+0.2**
KNT	**Kendrikon**	**1.38**	**331**	P	**Pn**	09 27 33.9	**-1.2**
KNT	**Kendrikon**	**1.38**	**331**	*e*PN	**Pb**	09 27 35.8	**0.0**
KNT				*e*SN	**Sg**	09 27 54.5	**+0.1**
KNT	**Kendrikon**	**1.38**	**331**	P	**Pn**	09 27 33.9	**-1.2**
KNT	**Kendrikon**	**1.38**	**331**	*e*Pn	**Pb**	09 27 35.8	**0.0**
KNT				*e*Sn	**Sg**	09 27 54.5	**+0.1**
NVR	**Nevrokopi**	**1.39**	**3**	P	**Pn**	09 27 35.0	**-0.3**
NVR	**Nevrokopi**	**1.39**	**3**	*e*PN	**Pn**	09 27 35.1	**-0.3**
NVR				*e*SN	**Sb**	09 27 54.5	**+0.7**
NVR	**Nevrokopi**	**1.39**	**3**	*e*Pn	**Pn**	09 27 35.1	**-0.3**
NVR				*e*Sn	**Sb**	09 27 54.5	**+0.7**
SMTH	**Samothraki Isl**	**1.44**	**69**	P	**Pn**	09 27 35.5	**-0.5**
SMTH	**Samothraki Isl**	**1.44**	**69**	*e*PN	**Pb**	09 27 36.8	**0.0**
SMTH				*e*SN	**Sg**	09 27 55.9	**-0.5**
SMTH	**Samothraki Isl**	**1.44**	**69**	P	**Pn**	09 27 35.5	**-0.5**
SMTH	**Samothraki Isl**	**1.44**	**69**	*e*Pn	**Pb**	09 27 36.8	**0.0**
SMTH				*e*Sn	**Sg**	09 27 55.9	**-0.5**
LKR	**Lokris**	**1.44**	**205**	P	**Pn**	09 27 35.3	**-0.7**
LKR	**Lokris**	**1.44**	**205**	*e*PN	**Pn**	09 27 36.1	**+0.1**
LKR	**Lokris**	**1.44**	**205**	P	**Pn**	09 27 35.3	**-0.7**
LKR	**Lokris**	**1.44**	**205**	*e*Pn	**Pn**	09 27 36.1	**+0.1**
GRG	**Griva**	**1.45**	**314**	*e*PN	**Pb**	09 27 36.8	**-0.2**
GRG				*e*SN	**Sg**	09 27 56.4	**-0.3**
GRG	**Griva**	**1.45**	**314**	*e*Pn	**Pb**	09 27 36.8	**-0.2**
GRG				*e*Sn	**Sg**	09 27 56.4	**-0.3**
AGG	**Agios Georgios**	**1.46**	**231**	P	**Pn**	09 27 35.6	**-0.7**
AGG	**Agios Georgios**	**1.46**	**231**	*e*PN	**Pn**	09 27 36.0	**-0.3**
AGG				*e*SN	**Sb**	09 27 56.1	**+0.4**
AGG	**Agios Georgios**	**1.46**	**231**	P	**Pn**	09 27 35.6	**-0.7**
AGG	**Agios Georgios**	**1.46**	**231**	*e*Pn	**Pn**	09 27 36.0	**-0.3**
AGG				*e*Sn	**Sb**	09 27 56.1	**+0.4**
ERET	**Eretria**	**1.51**	**179**	P	**Pn**	09 27 36.4	**-0.7**
ERET	**Eretria**	**1.51**	**179**	P	**Pn**	09 27 36.4	**-0.7**
KZN	**Kozani**	**1.58**	**283**	*e*PN	**Pn**	09 27 38.4	**+0.5**
KZN				*e*SN	**Sb**	09 27 58.9	**-0.2**
KZN	**Kozani**	**1.58**	**283**	*e*Pn	**Pn**	09 27 38.4	**+0.5**
KZN				*e*Sn	**Sb**	09 27 58.9	**-0.2**
MAKR	**Makrakomi, Fth**	**1.58**	**234**	P	**Pn**	09 27 37.4	**-0.6**
MAKR	**Makrakomi, Fth**	**1.58**	**234**	*e*PN	**Pb**	09 27 38.8	**-0.5**
MAKR				*e*SN	**Sb**	09 27 59.6	**+0.3**
MAKR	**Makrakomi, Fth**	**1.58**	**234**	P	**Pn**	09 27 37.4	**-0.6**
MAKR	**Makrakomi, Fth**	**1.58**	**234**	*e*Pn	**Pb**	09 27 38.8	**-0.5**
MAKR				*e*Sn	**Sb**	09 27 59.6	**+0.3**
MMB	**Musomiste**	**1.63**	**359**	*i* P	**Pn**	09 27 37.9	**-0.7**
MMB	**Musomiste**	**1.63**	**359**	*i* P	**Pn**	09 27 37.9	**-0.7**
VAY	**Valandovo**	**1.64**	**326**	*e*Pn	**Pg**	09 27 41.3	**-0.3**
VAY				*e*Lg	Lg	09 28 01.1	
	comp=N,150nm,0.6s						
VAY				*e*Sn	**Sb**	09 28 01.4	**+0.5**
VAY				*e*Lg	Lg	09 28 01.6	
	comp=E,176nm,0.7s						
DESF	**Desfina**	**1.82**	**212**	*e*PB	**Pn**	09 27 40.6	**-0.7**
DESF				*e*SN	**Sn**	09 28 04.9	**+0.6**
DESF	**Desfina**	**1.82**	**212**	*e*Pb	**Pn**	09 27 40.6	**-0.7**
DESF				*e*Sn	**Sn**	09 28 04.9	**+0.6**
DSF	**Desfina**	**1.82**	**213**	*e*PN	**Pn**	09 27 41.6	**+0.3**
DSF				*e*SN	**Sn**	09 28 04.9	**+0.5**
DSF	**Desfina**	**1.82**	**213**	*e*Pn	**Pn**	09 27 41.6	**+0.3**
DSF				*e*Sn	**Sn**	09 28 04.9	**+0.5**
EVR	**Evrytania**	**1.84**	**236**	*e*PN	**Pn**	09 27 42.5	**+0.9**
EVR				*e*SN	**Sn**	09 28 05.0	**+0.1**
EVR	**Evrytania**	**1.84**	**236**	*e*Pn	**Pn**	09 27 42.5	**+0.9**
EVR				*e*Sn	**Sn**	09 28 05.0	**+0.1**
RZN	**Rozhen**	**1.87**	**22**	*i* P	**Pn**	09 27 42.1	**0.0**
RZN	**Rozhen**	**1.87**	**22**	*i* P	**Pn**	09 27 42.1	**0.0**
ALN	**Alexandroupoli**	**1.97**	**61**	*e*PB	**Pn**	09 27 42.4	**+0.1**
ALN				*e*SN	**Sn**	09 28 08.3	**+0.4**
ALN	**Alexandroupoli**	**1.97**	**61**	*e*Pb	**Pn**	09 27 43.2	**-0.1**
ALN				*e*SN	**Sn**	09 28 08.3	**+0.4**
KKB	**Krupnik**	**1.98**	**345**	*e*P	**Pn**	09 27 43.2	**-0.2**
KKB	**Krupnik**	**1.98**	**345**	*e*PN	**Pn**	09 27 43.2	**-0.2**
ATH	**Athens Observa**	**1.98**	**181**	*e*PB	**Pn**	09 27 43.0	**-0.5**
ATH				*e*SN	**Sn**	09 28 08.5	**+0.3**
ATH	**Athens Observa**	**1.98**	**181**	*e*Pb	**Pn**	09 27 43.0	**-0.5**
ATH				*e*Sn	**Sn**	09 28 08.5	**+0.3**
FNA	**Florina**	**2.01**	**295**	*e*PN	**Pn**	09 27 44.5	**+0.6**
FNA				*e*SN	**Sn**	09 28 09.6	**+0.6**
FNA	**Florina**	**2.01**	**295**	*e*Pn	**Pn**	09 27 44.5	**+0.6**
FNA				*e*Sn	**Sn**	09 28 09.6	**+0.6**
KALE	**Kalithea**	**2.02**	**220**	*e*PB	**Pn**	09 27 44.2	**+0.2**
KALE				*e*SN	**Sb**	09 28 10.4	**-1.4**
KALE	**Kalithea**	**2.02**	**220**	*e*Pb	**Pn**	09 27 44.2	**+0.2**
KALE				*e*Sn	**Sb**	09 28 10.4	**-1.4**
LTK	**Loutraki**	**2.03**	**198**	*e*PB	**Pn**	09 27 43.9	**-0.3**
LTK	**Loutraki**	**2.03**	**198**	*e*Pb	**Pn**	09 27 43.9	**-0.3**
PRK	**Paraskevi**	**2.06**	**109**	*e*PB	**Pn**	09 27 44.8	**+0.4**
PRK				*e*SN	**Sn**	09 28 10.9	**+0.9**
PRK	**Paraskevi**	**2.06**	**109**	*e*Pb	**Pn**	09 27 44.8	**+0.4**
PRK				*e*Sn	**Sn**	09 28 10.9	**+0.9**
TRIZ	**Trizonia**	**2.07**	**220**	*e*PB	**Pn**	09 27 44.8	**+0.2**
TRIZ				*e*SN	**Sn**	09 28 10.4	**+0.1**
TRIZ	**Trizonia**	**2.07**	**220**	*e*Pb	**Pn**	09 27 44.8	**+0.2**
TRIZ				*e*Sn	**Sn**	09 28 10.4	**+0.1**
KDZ	**Kurdzhali**	**2.10**	**36**	*i* P	**Pn**	09 27 44.1	**-1.0**
KDZ	**Kurdzhali**	**2.10**	**36**	*i* P	**Pn**	09 27 44.1	**-1.0**
EFP	**Efpalio**	**2.11**	**224**	*e*PN	**Pn**	09 27 46.1	**+0.9**
EFP				*e*SN	**Sn**	09 28 11.4	**+0.1**
EFP	**Efpalio**	**2.11**	**224**	*e*Pn	**Pn**	09 27 46.1	**+0.9**
EFP				*e*Sn	**Sn**	09 28 11.4	**+0.1**
NEST	**Nestorio**	**2.14**	**283**	*e*PB	**Pn**	09 27 46.7	**+1.0**
NEST	**Nestorio**	**2.14**	**283**	*e*Pb	**Pn**	09 27 46.7	**+1.0**
NAIG	**Nisos Aigina**	**2.21**	**186**	*e*PN	**Pn**	09 27 46.9	**+0.3**
NAIG	**Nisos Aigina**	**2.21**	**186**	*e*Pn	**Pn**	09 27 46.9	**+0.3**
JAN	**Janina**	**2.27**	**263**	*e*PN	**Pn**	09 27 47.7	**+0.2**
JAN				*e*SN	**Sn**	09 28 15.8	**+0.4**
JAN	**Janina**	**2.27**	**263**	*e*Pn	**Pn**	09 27 47.7	**+0.2**
JAN				*e*Sn	**Sn**	09 28 15.8	**+0.4**
KLV	**Kalavryta, Ach**	**2.29**	**214**	*e*PN	**Pn**	09 27 48.0	**+0.2**
KLV	**Kalavryta, Ach**	**2.29**	**214**	*e*Pn	**Pn**	09 27 48.0	**+0.2**
GUR	**Goura**	**2.31**	**209**	*e*PN	**Pn**	09 27 48.0	**0.0**
GUR				*e*SN	**Sn**	09 28 16.9	**+0.5**
GUR	**Goura**	**2.31**	**209**	*e*Pn	**Pn**	09 27 48.0	**0.0**
GUR				*e*Sn	**Sn**	09 28 16.9	**+0.5**
CHOS	**Chios island**	**2.37**	**131**	*e*PN	**Pn**	09 27 48.9	**+0.1**
CHOS				*e*SN	**Sn**	09 28 18.2	**+0.4**
CHOS	**Chios island**	**2.37**	**131**	*e*Pn	**Pn**	09 27 48.9	**+0.1**
CHOS				*e*Sn	**Sn**	09 28 18.2	**+0.4**
PDO	**Prodromos**	**2.43**	**237**	*e*PB	**Pb**	09 27 51.5	**-2.2**
PDO				*e*SN	**Sn**	09 28 19.5	**+0.3**
PDO	**Prodromos**	**2.43**	**237**	*e*Pb	**Pb**	09 27 51.5	**-2.2**
PDO				*e*Sn	**Sn**	09 28 19.5	**+0.3**
DID	**Didima**	**2.48**	**190**	*e*PN	**Pn**	09 27 50.4	**0.0**
DID	**Didima**	**2.48**	**190**	*e*Pn	**Pn**	09 27 50.4	**0.0**
DIDY	**Didyma**	**2.52**	**190**	*e*PN	**Pn**	09 27 51.2	**+0.3**
DIDY	**Didyma**	**2.52**	**190**	*e*Pn	**Pn**	09 27 51.2	**+0.3**
DRO	**Drossia**	**2.57**	**219**	*e*PN	**Pn**	09 27 52.0	**+0.4**
DRO	**Drossia**	**2.57**	**219**	*e*Pn	**Pn**	09 27 52.0	**+0.4**
RLS	**Riolos of Patr**	**2.62**	**224**	*e*PN	**Pn**	09 27 52.0	**-0.1**
RLS	**Riolos of Patr**	**2.62**	**224**	*e*Pn	**Pn**	09 27 52.0	**-0.1**
VTS	**Vitosha**	**2.67**	**351**	*i* P	**Pn**	09 27 53.8	**+0.8**
VTS	**Vitosha**	**2.67**	**351**	*i* P	**Pn**	09 27 53.8	**+0.8**
VTS	**Vitosha**	**2.67**	**351**	*i* P	**Pn**	09 27 53.8	**+0.8**
VLX	**Vlachokerasia**	**2.81**	**203**	*e*PN	**Pn**	09 27 55.1	**+0.2**
VLX	**Vlachokerasia**	**2.81**	**203**	*e*Pn	**Pn**	09 27 55.1	**+0.2**
AMT	**Artemida-Makis**	**2.91**	**214**	*e*PN	**Pn**	09 27 56.6	**+0.3**
AMT				*e*SN	**Sn**	09 28 31.5	**+0.3**
AMT	**Artemida-Makis**	**2.91**	**214**	*e*Pn	**Pn**	09 27 56.6	**+0.3**
ITM	**Ithomi**	**3.13**	**208**	*e*PB	**Pn**	09 28 01.5	**+2.2**
ITM	**Ithomi**	**3.13**	**208**	*e*Pb	**Pn**	09 28 01.5	**+2.2**
APE	**Apeiranthos**	**3.20**	**154**	*e*PN	**Pn**	09 28 00.1	**-0.1**
APE				*e*SN	**Sn**	09 28 37.9	**-0.3**
APE	**Apeiranthos**	**3.20**	**154**	*i*/*e*P	**Pn**	09 28 00.1	**-0.1**
APE	**Apeiranthos**	**3.20**	**154**	*i*/*e*P	**Pn**	09 28 00.1	**-0.1**
APE				*e*Sn	**Sn**	09 28 37.9	**-0.3**
VLI	**Veliai**	**3.30**	**192**	*e*PN	**Pn**	09 28 02.7	**+1.1**
VLI	**Veliai**	**3.30**	**192**	*e*Pn	**Pn**	09 28 02.7	**+1.1**
KYTH	**Kithira**	**3.72**	**189**	*e*PN	**Pn**	09 28 08.2	**+0.9**
KYTH	**Kithira**	**3.72**	**189**	*e*Pn	**Pn**	09 28 08.2	**+0.9**
IVAS	**Ivanjica**	**4.52**	**324**	*e*Pn	**Pn**	09 28 18.1	**-0.3**
GRUS	**Gruza**	**4.54**	**331**	*e*Pn	**Pn**	09 28 19.0	**+0.4**
DIVS	**Divibare**	**5.00**	**327**	*e*Pn	**Pn**	09 28 25.8	**+0.7**
ARR	**Arges**	**5.44**	**6**	*i*P	**Pn**	09 28 31.5	**+0.4**
ARR	**Arges**	**5.44**	**6**	*i*P	**Pn**	09 28 31.5	**+0.4**
VOIR		**5.55**	**9**	*i*P	**Pn**	09 28 33.4	**+0.8**
VOIR		**5.55**	**9**	*i*P	**Pn**	09 28 33.4	**+0.8**
TIRR	**Tirgusor**	**5.66**	**36**	*i*P	**Pn**	09 28 34.1	**+0.1**
TIRR	**Tirgusor**	**5.66**	**36**	*i*P	**Pn**	09 28 34.1	**+0.1**
MLR	**Muntele Rosu**	**5.75**	**15**	*i*P	**Pn**	09 28 37.3	**+1.9**
MLR	**Muntele Rosu**	**5.75**	**15**	*i*P	**Pn**	09 28 37.3	**+1.9**
CFR	**Carcaliu**	**6.13**	**30**	*i*P	**Pn**	09 28 37.6	**-2.8**
CFR	**Carc

MNAI	Manna	20.42 282	P		Pn	09 48 46.9	+1.8
	baz=21,SNR=4.3						
MORW	Morawa	20.83 197	P		P	09 48 46.8	+0.5
	baz=21,SNR=10						
BLDU	Ballidu	22.11 194	P		P	09 49 00.2	+0.1
	baz=22,SNR=29						
KLBR	Kellerberrin	22.82 192	P		P	09 49 07.4	0.0
	baz=23,SNR=19						
PMG	Port Moresby	23.89 93	P		P	09 49 17.8	+0.4
PMG	Port Moresby	23.89 93	P		P	09 49 17.8	+0.4
	15nm,0.8s,baz=296,slow=9.0,SNR=4.1						
NWAO	Narrogin (SRO)	24.22 192	P		P	09 49 20.1	-0.2
NWAO	Narrogin (SRO)	24.22 192	P		P	09 49 20.1	-0.2
	12nm,0.7s,baz=2.8,slow=9.0,SNR=7.3						
RKGY	Rocky Gully	25.90 191	P		P	09 49 37.3	+1.8
	baz=26,SNR=7.0						
STKA	Stephens Creek	28.45 145	P		P	09 49 58.6	+0.2
STKA	Stephens Creek	28.45 145	P		P	09 49 58.6	+0.2
	1.6nm,0.8s,baz=283,slow=5.4,SNR=3.8						
CMAR	Chiang Mai Arr	36.27 319	P		P	09 51 03.2	-3.5
CMAR	Chiang Mai Arr	36.27 319	P		P	09 51 03.2	-3.5
	0.8nm,0.4s,baz=146,slow=6.6,SNR=6.7						
CMAR			LR		LR	10 06 46.8	
	comp=Z,38nm,19.0s,baz=105,slow=38						
MJAR	Matsushiro Arr	47.68 17	P		P	09 52 37.2	-2.2
MJAR	Matsushiro Arr	47.68 17	P		P	09 52 37.2	-2.2
	1.3nm,0.5s,baz=198,slow=8.8,SNR=3.8						
TAPN	Taplejung	49.84 318	*eP*		P	09 52 56.1	-0.4
	31nm,0.9s						
H08S2	Diego Garcia H	49.91 268	T		T	10 47 26.7	
	baz=96						
H08S3	Diego Garcia H	49.92 268	T		T	10 47 26.7	
	baz=96						
H08S1	Diego Garcia H	49.93 268	T		T	10 47 26.2	
	baz=96						
RAMN	Ramite	50.33 317	*eP*		P	09 52 58.9	-1.2
	15nm,0.5s						
JIRN	Jiri	51.06 317	*eP*		P	09 53 05.0	-0.8
	9.0nm,0.3s						
GUN	Gumba	51.44 317	*eP*		P	09 53 07.8	-0.7
	30nm,0.8s						
PKI	Pulchoki	51.54 316	*eP*		P	09 53 08.1	-1.1
	9.6nm,0.5s						
KKN	Kakani	51.76 316	*eP*		P	09 53 09.9	-0.9
DMN	Daman	51.77 316	*eP*		P	09 53 10.0	-0.9
	22nm,0.9s						
GKN	Gorkha	52.34 316	*eP*		P	09 53 13.9	-1.1
KOLN	Koldanda	52.91 315	*eP*		P	09 53 18.3	-0.9
	3.0nm,0.2s						
DANN	Dangsing	53.16 316	*eP*		P	09 53 20.0	-1.2
	27nm,0.8s						
WMQ	Urumqi	61.69 332	*eP*		P	09 54 12.3	-8.3
MKAR	Makanchi Array	66.45 331	P		P	09 54 51.1	-0.5
MKAR	Makanchi Array	66.45 331	P		P	09 54 51.1	-0.5
	9.4nm,0.7s,baz=138,slow=7.8,SNR=76						
TKM2	Tokmak 2	67.43 324	*eP*		P	09 54 57.6	-0.6
	2.3nm,0.8s						
AAK	Ala-Archa	67.89 323	*eP*		P	09 55 00.7	-0.3
	4.5nm,0.8s						
PETK	Petropavlovsk-	68.73 22	LR		LR	10 25 44.4	
	comp=Z,92nm,18.3s,baz=312,slow=36						
MAW	Mawson	70.43 201	P		P	09 55 17.3	+1.2
MAW	Mawson	70.43 201	P		P	09 55 17.4	+1.4
	baz=70,SNR=14						
MAW	Mawson	70.43 201	P		P	09 55 17.3	+1.2
	2.3nm,0.6s,baz=66,slow=8.7,SNR=13						
ZAA0	Zalesovo Array	70.65 337	P		P	09 55 16.6	-1.0
ZALV	Zalesovo Beam	70.65 337	P		P	09 55 16.2	-1.4
ZALV	Zalesovo Beam	70.65 337	P		P	09 55 16.2	-1.4
	7.4nm,0.5s,baz=135,slow=4.2,SNR=18						
KURBB	Kurchatov Arra	70.91 332	P		P	09 55 18.8	-0.4
	2.3nm,0.6s,baz=144,slow=5.0,SNR=17						
KURK	Kurchatov	70.93 332	P		P	09 55 18.8	-0.6
VNDA	Vanda	71.23 172	P		P	09 55 22.2	+1.4
VNDA	Vanda	71.23 172	P		P	09 55 22.2	+1.4
	1.0nm,0.5s,baz=312,slow=7.4,SNR=15						
SUMG	Summit	115.66 354	*i* P		Pdif	09 58 54.0	-2.6
	8.2nm,0.9s						
TORD	Torodi Ar. Bea	122.34 280	PKP		PKPdf	10 02 57.5	0.0
TORD	Torodi Ar. Bea	122.34 280	PKP		PKPdf	10 02 57.5	0.0
	2.1nm,0.7s,baz=37,slow=2.0,SNR=12						
MVU	Marysvale	122.73 50	*eP*		Pdif	09 59 36.2	+7.5
TMUT	Trail Mountain	123.26 49	*e*PKPdf		PKPdf	10 02 58.5	-0.6
TXAR	Lajitas Array	132.02 59	SKPbc		SKPbc	10 06 33.9	+0.1
TXAR	Lajitas Array	132.02 59	SKPbc		SKPbc	10 06 33.9	+0.1
	0.4nm,0.6s,baz=251,slow=2.8,SNR=8.6						
LPAZ	La Paz	152.43 156	PKPbc		PKPbc	10 04 00.5	+1.2
LPAZ	La Paz	152.43 156	PKPbc		PKPbc	10 04 00.5	+1.2
	1.2nm,0.9s,baz=174,slow=3.8,SNR=5.1						

NIED ***15*** *09:46:00,32˚.40N×140˚.70E,h65km,Mw4.4 Best double couple: M₀4.62000×10¹⁵ NP1:φ₀21.00000°,δ86.00000°, λ-108.00000°. NP2:φ₀278.00000°,δ18.00000°, λ-13.00000°.*

MOS ***15*** *09:46:50.5±0.9,32˚.20N×140˚.41E,h33km,mb4.8/32,Error ellipse: s-maj=15.0km s-min=7.0km az=110.6*

ISCJB ***15*** *09:46:55.1±0.4,32˚.23N±0˚.03×140˚.63E±0˚.05,h77km±3km, mb4.5/46,Error ellipse: s-maj=6.5km s-min=4.1km az=166.8*

JMA ***15*** *09:46:57.1±0.1,32˚.37N×140˚.71E,h42km,M4.8*

JMA Felt I J1.

IDC ***15*** *09:46:57.2±0.7,32˚.13N×140˚.40E,h77km±5km,mb4.1/27, mb1 4.3/30,mb1mx4.2/37,mbtmp4.2/30,MS3.6/10, Ms1 3.7/10,ms1mx3.4/41,Error ellipse: s-maj=14.8km s-min=7.9km az=77.0*

NEIC ***15*** *09:46:57.6±0.9,32˚.22N×140˚.55E,h81km±7km,mb4.8/7, MW4.4(NIED),Error ellipse: s-maj=9.6km s-min=6.8km az=83.0*

NEIC Recorded [1 JMA] on Aoga-shima and Hachijo-jima.

BJI ***15*** *09:47:20.9,33˚.50N×137˚.60E,h112km,mb4.4/6*

ISC 15 09:46:56.7±0.6,32˚22N±0˚.04×140˚61E±0˚.05,h73km±5km, n172,σ1$33/183,mb4.6/46,19C-2D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	Hachijojimakas	1.09	321	↑P	Pn	09 47 15.5	-1.1
JHJ2	Mitsune	1.11	323	↑P	Pn	09 47 15.9	-0.9
JHJ2				eS	Sn	09 47 29.6	-2.2
JMY	Miyakejima3	2.06	334	↑P	Pn	09 47 29.1	-0.2
JMY				eS	Sn	09 47 52.5	-1.7
JKO	Kozu shima	2.32	328	↑P	Pn	09 47 32.8	+0.1
JKO				eS	Sn	09 47 59.4	-0.9
BSO1	Boso 1	2.45	7	↑P	Pn	09 47 33.1	-0.9
BSO1				eS	Sn	09 47 59.9	-2.7
BSO2	Boso 2	2.53	3	eS	Sn	09 48 03.4	-1.5
BSO3	Boso 3	2.58	358	↑P	Pn	09 47 35.6	-0.4
JIM2	Oshima 3	2.68	339	↑P	Pn	09 47 37.3	-0.3
JIM2				S	Sn	09 48 06.4	-2.7
BSO4	Boso 4	2.77	355	P	Pn	09 47 38.7	-0.1
JIZS	Izushimoda	2.88	330	↑P	Pn	09 47 40.9	+0.5
TK02	Tokai 2	2.95	306	P	Pn	09 47 42.2	+1.1
JOD2	Odawara 2	3.29	338	↑P	Pn	09 47 46.1	+0.2
JOD2				S	Sn	09 48 21.3	-2.6
TTO1	TONANKAI O.B.S	3.51	295	P	Pn	09 47 49.6	+1.0
JHMK	Hamakita	3.52	318	P	Pn	09 47 49.8	+0.9
HMMJ	Hamamatsu 2	3.57	318	↑P	Pn	09 47 50.6	+0.9
JYN	Shimob	3.69	333	P	Pn	09 47 53.0	+1.5
JHU	Hanno	3.79	343	P	Pn	09 47 52.8	+0.1
JHU				eS	Sn	09 48 32.7	-3.3
JNY	Yasuok	3.88	325	↑P	Pn	09 47 55.5	+1.5
JIE	Ise	3.92	305	P	Pn	09 47 55.4	+0.9
JIE				eS	Sn	09 48 38.3	-1.0
JYT	Yasato	4.01	355	P	Pn	09 47 55.5	-0.2
JRY	Ryogami san	4.04	340	↑P	Pn	09 47 56.9	+0.7
JRY				eS	Sn	09 48 41.5	-0.9
JAO	Obara	4.13	318	↑P	Pn	09 47 58.6	+1.2
JKN2	Miekihoku	4.16	300	↑P	Pn	09 47 58.5	+0.8
JKN2				eS	Sn	09 48 43.3	-1.7
JAG	Ashikaga	4.30	347	P	Pn	09 47 59.4	-0.3
JWZ	Kozaga	4.32	289	↑P	Pn	09 48 00.5	+0.5
JWZ				eS	Sn	09 48 46.7	-2.5
JHO	Hitachi	4.38	360	P	Pn	09 47 59.7	-1.1
JWY	Kouya	4.66	297	↑P	Pn	09 48 05.9	+1.3
JGM	Miyama	4.75	318	↑P	Pn	09 48 07.6	+1.8
MJAR	Matsushiro Arr	4.75	336	P	Pn	09 48 06.6	+0.8
MJAR				S	Sn	09 49 04.2	+4.7
MJAR	Matsushiro Arr	4.75	336	P	Pn	09 48 06.6	+0.8
	28nm,0.3s,baz=163,slow=13,SNR=122						
MJAR				S	Sn	09 49 04.2	+4.7
	15nm,0.3s,baz=164,slow=19,SNR=4.7						
MAJO	Matsushiro	4.75	336	*e*P	Pn	09 48 07.2	+1.4
MAJO	Matsushiro	4.75	336	*e*Pn	Pn	09 48 07.2	+1.4
MAT	Matsushiro	4.75	336	P	Pn	09 48 06.7	+0.9
MAT				S	Sn	09 48 59.6	0.0
CBIJ	Chichi jima	5.29	165	P	Pn	09 48 12.3	-0.8
CBIJ				S	Sn	09 49 11.3	-1.5
JCJ	Chichijima	5.29	165	P	Pn	09 48 12.3	-0.8
	74nm,0.3s,baz=16,slow=10,SNR=36						
JCJ				S	Sn	09 49 11.3	-1.5
	61nm,0.3s,baz=294,slow=19,SNR=3.8						
JNU	Nakatsue	8.26 279		*e*Pn	Pn	09 48 54.9	+1.1
JNU	Nakatsue	8.26 279		P	Pn	09 48 56.2	+2.4
	3.1nm,0.3s,baz=90,slow=6.7,SNR=36						
JNU				LR	LR	09 51 55.5	
	comp=Z,261nm,20.2s,baz=37,slow=37						
KSRS	Korea Array	11.66 300		P	Pn	09 49 43.6	+3.5
	0.5nm,0.3s,baz=117,slow=14,SNR=46						
KSRS				LR	LR	09 54 12.9	
	comp=Z,101nm,19.6s,baz=275,slow=38						
KSAR	Wonju Array Be	11.68 300		P	Pn	09 49 43.6	+3.2
ASAJ	Asahikawa	11.98 7		*e*Pn	Pn	09 49 42.6	-1.9
ASAJ	Asahikawa	11.98 7		P	Pn	09 49 41.0	-3.4
	1.6nm,0.3s,baz=212,slow=13,SNR=15						
ASAJ				S	Sn	09 51 47.7	-8.5
	0.8nm,0.3s,baz=252,slow=20,SNR=3.5						
USRK	Ussuriysk Arra	13.74 333		P	Pn	09 50 10.2	+2.2
	0.2nm,0.3s,baz=156,slow=15,SNR=3.4						
USRK				LR	LR	09 54 50.4	
	comp=Z,116nm,18.7s,baz=332,slow=34						
YSS	Yuzh-Sakhalins	14.81 6		*e*P	Pn	09 50 15.0	-7.0
KLR	Kul'dur	18.25 341		*e*P	P	09 51 02.2	-1.9
YHNB	Yeheng	18.50 251		*e*Pn	P	09 51 07.7	+0.5
	78nm,1.1s						
YULB	Yu-li	19.19 248		*e*P	Pn	09 51 16.4	0.0
SSLB	Suanglung	19.26 249		*e*P	P	09 51 16.0	+0.5
	32nm,0.9s						
PET	Petropavlovsk	24.54 27		*e*P	P	09 52 08.9	-0.3
XAN	Xi'an	26.55 283		P	P	09 52 26.9	-0.9
XAN				AMB	AMB		
	comp=Z,2.0nm,0.6s						
H11N2	WAKE ISLAND Hy	26.62 111		T	T	10 21 23.4	
	baz=306,slow=0.7,SNR=142						
H11N1	WAKE ISLAND Hy	26.63 111		T	T	10 21 23.8	
	baz=306,slow=0.7,SNR=224						
H11N3	WAKE ISLAND Hy	26.64 111		T	T	10 21 24.9	
	baz=306,slow=0.7,SNR=346						
H11S3	WAKE ISLAND Hy	27.15 114		T	T	10 21 13.6	
	baz=307,slow=0.7,SNR=184						
H11S1	WAKE ISLAND Hy	27.15 114		T	T	10 21 13.3	
	baz=307,slow=0.7,SNR=217						
H11S2	WAKE ISLAND Hy	27.17 114		T	T	10 21 13.8	
	baz=307,SNR=181						
SONM	Songino Array	30.19 311		P	P	09 52 59.7	-0.5
SONM	Songino Array	30.19 311		P	P	09 52 59.7	-0.5
	3.0nm,0.8s,baz=111,slow=9.9,SNR=8.7						
SONM				LR	LR	10 05 49.4	
	comp=Z,54nm,18.6s,baz=53,slow=38						
ZAK	Zakamensk	32.96 314		*e*P	P	09 53 23.6	-0.7
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
HVS	Khovu-Aksy	39.02 313		*c i*P	P	09 54 16.3	+0.1
HVS				pmax	pmax		
	comp=Z,53nm,1.2s						
CMAR	Chiang Mai Arr	39.83 260		P	P	09 54 21.9	-1.2
CMAR	Chiang Mai Arr	39.83 260		P	P	09 54 21.9	-1.2
	comp=Z,2.6nm,0.6s,baz=53,slow=6.8,SNR=12						
TIXI	Tiksi	39.99 354		*i*P	P	09 54 23.1	-0.6
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KAPI	Kappang	42.01 212		P	P	09 54 41.6	+0.6
KAPI	Kappang	42.01 212		P	P	09 54 41.6	+0.6
	comp=Z,8.0nm,0.8s,baz=86,slow=12,SNR=3.0						
ZALV	Zalesovo Beam	44.79 316		P	P	09 55 02.1	-0.9
ZALV						09 56 43.4	
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ZALV				pmax	pmax		
	comp=N,2.0nm,0.8s						
ZALV	Zalesovo Beam	44.79 316		P	P	09 55 02.1	-0.9
ZALV				PcP	PcP	09 56 43.4	-0.3
ZALV				ScP	ScP	10 00 27.3	-2.3
ZALV	Zalesovo Beam	44.79 316		P	P	09 55 02.1	-0.9
	comp=N,2.6nm,0.6s,baz=100,slow=8.8,SNR=6.2						
ZALV				PcP	PcP	09 56 43.4	-0.3
	comp=N,2.6nm,0.4s,baz=105,slow=2.3,SNR=3.8						
ZALV				ScP	ScP	10 00 27.3	-2.3
	comp=N,2.3nm,0.8s,baz=90,slow=4.3,SNR=5.0						
ZALV				LR	LR	10 14 40.4	
	comp=N,47nm,19.1s,baz=77,slow=37						
HNR	Honiara	45.35 153		LR	LR	10 10 39.3	
	comp=N,157nm,18.8s,baz=43,slow=31						
TAPN	Taplejung	45.80 278		*e*P	P	09 55 11.3	-0.3
	comp=N,7.7nm,0.4s						
NVS	Novosibirsk	45.80 317		*e*P	P	09 55 07.2	-3.7
ODAN	Odare	46.23 278		*e*P	P	09 55 14.5	-0.5
	comp=N,13nm,0.4s						
MK31	Makanchi Array	46.26 306		P	P	09 55 13.3	-1.4
MK31	Makanchi Array	46.26 306		P	P	09 55 13.3	-1.4
MKAR	Makanchi Array	46.26 306		P	P	09 55 13.8	-1.0
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MKAR				pmax	pmax		
	comp=N,1.0nm,0.6s						
MKAR	Makanchi Array	46.26 306		P	P	09 55 13.8	-1.0
MKAR				ScP	ScP	10 00 34.5	-1.4
MKAR	Makanchi Array	46.26 306		P	P	09 55 13.8	-1.0
	comp=N,3.7nm,0.5s,baz=87,slow=9.8,SNR=15						
MKAR				ScP	ScP	10 00 34.5	-1.4
	comp=N,0.9nm,0.6s,baz=81,slow=5.7,SNR=7.1						
RAMN	Ramite	46.86 278		*e*P	P	09 55 19.8	-0.1
	comp=N,15nm,0.5s						
JIRN	Jiri	46.97 279		*e*P	P	09 55 20.1	-0.8
	comp=N,16nm,0.4s						
GUN	Gumba	47.14 280		*e*P	P	09 55 21.3	-1.0
	comp=N,31nm,0.8s						
PKI	Pulchoki	47.65 279		*e*P	P	09 55 25.0	-1.2
PKIN	Phulchoki	47.66 279		*e*P	P	09 55 26.5	+0.3
	comp=N,6.8nm,0.5s						
DMN	Daman	47.89 280		*e*P	P	09 55 28.3	+0.4
GKN	Gorkha	48.15 280		*e*P	P	09 55 29.5	-0.3
KURK	Kurchatov	48.50 311		*de*P	P	09 55 30.4	-1.6
KURK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KURK	Kurchatov	48.50 311		P	P	09 55 31.3	-0.6
KURBB	Kurchatov Arra	48.56 311		P	P	09 55 31.3	-1.1
	comp=Z,3.7nm,0.5s,baz=92,slow=7.0,SNR=9.2						
DANN	Dangsing	48.77 281		*e*P	P	09 55 34.5	-0.2
	comp=Z,12nm,0.4s						
KOLN	Koldanda	49.09 280		*e*P	P	09 55 37.3	+0.2
FITZ	Fitzroy Crossi	52.05 198		P	P	09 55 58.1	-1.0
FITZ	Fitzroy Crossi	52.05 198		P	P	09 55 58.1	-1.0
	comp=Z,7.7nm,0.6s,baz=24,slow=10.0,SNR=11						
WRA	Warramunga Arr	52.21 187		P	P	09 55 59.2	-1.0
WRA	Warramunga Arr	52.21 187		P	P	09 55 59.2	-1.0
	comp=Z,5.1nm,0.4s,baz=3.9,slow=7.6,SNR=25						
CTA	Charters Tower	52.29 173		P	P	09 56 00.7	-0.1
CTA	Charters Tower	52.29 173		P	P	09 56 00.7	-0.1
	comp=Z,3.3nm,0.7s,baz=0.0,slow=9.1,SNR=3.2						
VOSK	Vostochnaya	53.09 315		*e*P	P	09 56 05.4	-1.0
VOSK				pmax	pmax		
	comp=Z,11nm,0.7s						
VOSK	Vostochnaya	53.09 315		*e*P	P	09 56 05.4	-1.0
	comp=Z,11nm,0.7s						
BVAR	Borovoye Array	53.41 315		P	P	09 56 08.0	-0.8
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BVAR	Borovoye Array	53.41 315		P	P	09 56 08.0	-0.8
BVAR	Borovoye Array	53.41 315		P	P	09 56 08.0	-0.8
	comp=Z,5.1nm,0.6s,baz=86,slow=6.7,SNR=17						
BRVK	Borovoye	53.47 315		*e*P	P	09 56 08.9	-0.3
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BRVK	Borovoye	53.47 315		*e*P	P	09 56 08.9	-0.3
	comp=Z,7.7nm,0.8s						
ILAR	Eielson Array	53.94 30		P	P	09 56 13.8	+1.3
ILAR	Eielson Array	53.94 30		P	P	09 56 13.8	+1.3
	comp=Z,0.7nm,0.6s,baz=264,slow=7.2,SNR=7.3						
ILAR				pP	pP	09 56 32.9	+1.8
	comp=Z,3.9nm,0.9s,baz=270,slow=6.6,SNR=13						
KKAR	Karatay Array	55.07 303		*e*P	P	09 56 19.8	-1.3
KKAR	Karatay Array	55.07 303		*e*P	P	09 56 19.8	-1.3
ASAR	Alice Springs	55.94 187		P	P	09 56 27.4	+0.1
ASAR	Alice Springs	55.94 187		P	P	09 56 27.4	+0.1
	comp=Z,1.8nm,0.5s,baz=17,slow=12,SNR=13						
INK	Inuvik	58.98 26		P	P	09 56 49.4	+1.2
INK	Inuvik	58.98 26		P	P	09 56 49.4	+1.2
	comp=Z,1.4nm,0.4s,baz=282,slow=6.2,SNR=11						
INK				pP	pP	09 57 09.3	+2.3
	comp=Z,4.8nm,0.7s,baz=296,slow=5.5,SNR=8.4						
DZM	Mont Dzumac	59.37 152		P	P	09 56 54.3	+2.7
DZM	Mont Dzumac	59.37 152		P	P	09 56 54.3	+2.7
	comp=Z,6.3nm,0.7s,baz=5.2,slow=5.6,SNR=7.0						
DZM				LR	LR	10 17 03.9	
	comp=Z,78nm,21.6s,baz=359,slow=30						
ARU	Arti	59.58 320		*d i*P	P	09 56 51.7	-0.8
ARU						09 59 02.6	
ARU				S	S	10 05 04.3	+7.5
ARU				SS	SS	10 08 58.0	+5.3
ARU				pmax	pmax		
	comp=Z,10.0nm,0.6s						
AB31	Akbulak array	60.60 312		*i* P	P	09 56 58.2	-1.4
AB31				pmax	pmax		
	comp=Z,7.0nm,0.4s						
ABKAR	Akbulak array	60.60 312		*e*P	P	09 56 58.9	-0.8
AKTO	Aktyubinsk	61.46 314		*i* P	P	09 57 02.1	-3.3
AKTO				pmax	pmax		
	comp=Z,6.0nm,0.5s						
STKA	Stephens Creek	63.76 179		P	P	09 57 21.0	+0.2
STKA	Stephens Creek	63.76 179		P	P	09 57 21.0	+0.2
	comp=Z,3.4nm,0.7s,baz=34,slow=8.6,SNR=3.5						
SPITS	Spitsbergen Ar	65.11 349		P	P	09 57 30.5	+1.3
SPITS	Spitsbergen Ar	65.11 349		P	P	09 57 30.5	+1.3
	comp=Z,8.5nm,0.8s,baz=102,slow=7.8,SNR=5.7						
KEV	Kevo	67.71 340		*e*P	P	09 57 44.5	-1.3
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KEV	Kevo	67.71 340		*ep*	P	09 57 44.5	-1.3
	comp=Z,0.7nm,0.3s						
ARCES	ARCESS Array B	68.27 340		P	P	09 57 49.1	-0.2
ARCES	ARCESS Array B	68.27 340		P	P	09 57 49.1	-0.2
	comp=Z,3.0nm,0.7s,baz=50,slow=7.3,SNR=9.8						
ARCES				LR	LR	10 28 59.4	
	comp=Z,58nm,20.0s,baz=87,slow=37						
NWAO	Narrogin (SRO)	68.45 201		P	P	09 57 50.4	-0.4
NWAO	Narrogin (SRO)	68.45 201		P	P	09 57 50.4	-0.4
	comp=Z,9.1nm,0.5s,baz=48,slow=6.3,SNR=6.2						
JOF	Joensuu	69.91 333		*e*P	P	09 57 58.3	-1.2
JOF				pmax	pmax		
	comp=Z,3.0nm,0.4s						
JOF	Joensuu	69.91 333		*ep*	P	09 57 58.3	-1.2
	comp=Z,2.8nm,0.4s						
VRHR	Novokhopersk	70.83 319		*e*P	P	09 58 04.1	-1.3
OBN	Obninsk	71.57 324		*e*P	P	09 58 09.1	-0.7
VSR	Storozhevoye	72.14 320		*e*P	P	09 58 12.5	-0.8
VSR				pmax	pmax		
	comp=Z,20nm,0.5s						
VSR				pmax	pmax		
	comp=N,4.0nm,0.3s						
VSR				pmax	pmax		
	comp=E,6.0nm,0.3s						
VORD	Divnogorie	72.19 319		*e*P	P	09 58 12.6	-1.0
VORD				pmax	pmax		
	comp=E,8.0nm,0.9s						
VORD				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KAF	Kangasniemi	72.29 333		*e*P	P	09 58 12.8	-1.1
KAF				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KAF	Kangasniemi	72.29 333		*ep*	P	09 58 12.8	-1.1
	comp=Z,4.8nm,0.5s						
FINES	FINESS Array B	72.77 333		P	P	09 58 16.5	-0.3
FINES	FINESS Array B	72.77 333		P	P	09 58 16.5	-0.3
	comp=Z,4.2nm,0.5s,baz=67,slow=5.5,SNR=34						
KIV	Kislovodsk	73.58 312		P	P	09 58 23.0	+0.9
KIV				*e*PP	PcP	09 58 30.7	-7.0
KIV				*e*		09 58 42.4	
KIV				pmax	pmax		
	comp=Z,14nm,0.6s						
AKASG	Malin Array Be	77.71 323		P	P	09 58 44.8	-0.6
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.4s						
AKASG	Malin Array Be	77.71 323		P	P	09 58 44.8	-0.6
AKASG	Malin Array Be	77.71 323		P	P	09 58 44.8	-0.6
	comp=Z,2.7nm,0.4s,baz=50,slow=5.7,SNR=23						
KIEV	Kiev	77.72 323		*e*P	P	09 58 44.9	-0.5
KIEV	Kiev	77.72 323		*e*P	P	09 58 44.9	-0.5
HFS	Hagfors	78.20 336		P	P	09 58 47.3	-0.6
HFS	Hagfors	78.20 336		P	P	09 58 47.3	-0.6
	comp=Z,3.0nm,0.5s,baz=90,slow=3.0,SNR=16						
NB2	NORSAR Subarra	78.36 337		P	P	09 58 48.1	-0.8
	comp=Z,2.0nm,0.6s,baz=44,slow=5.9						
NOA	NORSAR Array B	78.36 337		P	P	09 58 48.3	-0.6
NOA				pP	pP	09 59 08.4	-0.2
NOA	NORSAR Array B	78.36 337		P	P	09 58 48.3	-0.6
	comp=Z,2.2nm,0.6s,baz=44,slow=5.6,SNR=8.6						
NOA				pP	pP	09 59 08.4	-0.2
	comp=Z,3.5nm,0.8s,baz=42,slow=5.5,SNR=4.4						
NOA				LR	LR	10 40 30.0	
	comp=Z,45nm,18.6s,baz=25,slow=41						
NVAR	Mina Array Bea	78.44 52		P	P	09 58 51.0	+1.1
NVAR	Mina Array Bea	78.44 52		P	P	09 58 51.0	+1.1
	comp=Z,0.4nm,0.5s,baz=304,slow=5.3,SNR=5.6						
RPZ	Rata Peaks	80.53

*AUST **15** 09:48:39.0±2.9, 12°.66S×166°.11E, h78km±26km, Error ellipse: s-maj=24.5km s-min=8.7km az=95.0*

ISC 15 09:48:35.9±0.4, 12°.74S±0'.05×166°.08E±0'.06, h47km±2km, h46km:pP-P,n169,σ1s54/198,mb4.9/47,MS4.3/14,13C-6D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.85**	**298**	Pn	**Pn**	**09 50 13.1**	**-0.9**
HNR				Sn	**Sn**	**09 51 29.1**	**-1.6**
HNR	**Honiara**	**6.85**	**298**	Pn	**Pn**	**09 50 13.0**	**-0.9**
	59nm,0.3s,baz=178,slow=3.1,SNR=49						
HNR				Sn	**Sn**	**09 51 29.1**	**-1.6**
	baz=168,slow=20,SNR=2.4						
DZM	**Mont Dzumac**	**9.29**	**178**	*e*Pn	**Pn**	**09 50 45.3**	**-2.1**
	79nm,0.7s						
DZM				*e*LR	LR	09 52 53.5	
	976nm,26.6s						
DZM	**Mont Dzumac**	**9.29**	**178**	Pn	**Pn**	**09 50 45.5**	**-1.9**
DZM				Sn	Sn	09 52 38.5	+7.8
DZM	**Mont Dzumac**	**9.29**	**178**	Pn	**Pn**	**09 50 45.5**	**-1.9**
	0.6nm,0.3s,baz=17,slow=22,SNR=14						
DZM				Sn	Sn	09 52 38.5	+7.8
	0.6nm,0.3s,baz=309,slow=19,SNR=1.6						
DZM				LR	LR	09 53 15.7	
	comp=Z,236nm,20.5s,baz=25,slow=31						
MSVF	**Nonsavu**	**12.58**	**115**	*e*P	**Pn**	**09 51 32.9**	**+0.5**
MSVF	**Nonsavu**	**12.58**	**115**	*e*Pn	**Pn**	**09 51 32.9**	**+0.5**
TARA	**Tarawa**	**15.56**	**26**	*e*Pn	**Pn**	**09 52 12.7**	**+0.3**
	63nm,0.8s						
PMG	**Port Moresby**	**18.86**	**278**	P	**P**	**09 52 52.6**	**+0.3**
	2.1nm,0.9s						
PMG	**Port Moresby**	**18.86**	**278**	P	**P**	**09 52 52.6**	**+0.3**
	0.4nm,0.3s,baz=88,slow=3.3,SNR=5.2						
EIDS	**Eidsvold**	**18.92**	**226**	*e*Pn	**Pn**	**09 52 54.7**	**+0.7**
	23nm,0.9s						
EIDS	**Eidsvold**	**18.92**	**226**	⇑P	**Pn**	**09 52 55.4**	**+1.4**
	baz=19,SNR=7.3						
CTA	**Charters Tower**	**20.36**	**246**	P	**P**	**09 53 08.7**	**0.0**
CTA	**Charters Tower**	**20.36**	**246**	⇑P	**P**	**09 53 09.9**	**+1.2**
	baz=20						
CTA	**Charters Tower**	**20.36**	**246**	P	**P**	**09 53 08.7**	**0.0**
	20nm,1.0s,baz=69,slow=14,SNR=12						
CTAO	**Charters Tower**	**20.36**	**246**	*e*P	**P**	**09 53 09.5**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,70nm,1.3s						
CTAO	**Charters Tower**	**20.36**	**246**	*e*P	**P**	**09 53 09.5**	**+0.8**
	comp=Z,70nm,1.3s						
PATS	**Pohnpei**	**20.92**	**338**	⇑P	**P**	**09 53 15.8**	**+1.1**
	baz=21,SNR=5.4						
RMQ	**Roma**	**21.25**	**227**	⇑P	**P**	**09 53 20.4**	**+2.1**
	baz=21,SNR=17						
AFI	**Afiamalu**	**21.58**	**96**	LR	LR	10 00 35.1	
	comp=Z,661nm,19.1s,baz=42,slow=34						
ARMA	**Armidale**	**22.10**	**215**	*e*P	**P**	**09 53 28.4**	**+1.0**
	comp=Z,30nm,1.0s						
ARMA	**Armidale**	**22.10**	**215**	⇑P	**P**	**09 53 28.1**	**+0.7**
	baz=22,SNR=8.3						
COEN	**Coen**	**22.32**	**264**	*e*P	**P**	**09 53 28.5**	**-1.3**
	comp=Z,258nm,1.0s						
COEN				*e*pP	**pP**	**09 53 45.2**	**+4.2**
QLP	**Quilpie**	**24.70**	**233**	⇓P	**P**	**09 53 53.4**	**+0.6**
	baz=25,SNR=4.0						
CMSA	**Cobar Meteorol**	**26.50**	**222**	⇑P	**P**	**09 54 09.7**	**+0.6**
	baz=27,SNR=8.9						
STKA	**Stephens Creek**	**29.47**	**226**	*e*P	**P**	**09 54 36.7**	**+1.1**
STKA	**Stephens Creek**	**29.47**	**226**	⇓P	**P**	**09 54 37.0**	**+1.4**
	baz=30,SNR=7.8						
STKA	**Stephens Creek**	**29.47**	**226**	P	**P**	**09 54 36.0**	**+0.3**
	comp=Z,111nm,0.9s,baz=8.8,slow=5.4,SNR=9.2						
STKA				LR	LR	10 06 34.9	
	comp=Z,804nm,18.7s,baz=33,slow=37						
RPZ	**Rata Peaks**	**31.17**	**173**	*e*P	**P**	**09 54 50.2**	**-0.3**
RPZ	**Rata Peaks**	**31.17**	**173**	P	**P**	**09 54 49.8**	**-0.7**
	comp=Z,25nm,0.7s,baz=31,slow=1.3,SNR=19						
WRA	**Warramunga Arr**	**31.25**	**253**	P	**P**	**09 54 50.5**	**-1.0**
WRA	**Warramunga Arr**	**31.25**	**253**	P	**P**	**09 54 50.6**	**-1.0**
	comp=Z,3.9nm,0.7s,baz=83,slow=8.6,SNR=5.4						
WRA				LR	LR	10 06 41.8	
	comp=Z,238nm,19.6s,baz=75,slow=35						
HTT	**Hallett**	**32.21**	**226**	⇓P	**P**	**09 55 01.2**	**+1.3**
	baz=32						
ASAR	**Alice Springs**	**32.36**	**246**	P	**P**	**09 55 00.1**	**-1.1**
ASAR	**Alice Springs**	**32.36**	**246**	P	**P**	**09 55 00.1**	**-1.1**
	comp=Z,5.6nm,0.8s,baz=77,slow=9.6,SNR=9.1						
ASAR				LR	LR	10 07 42.9	
	comp=Z,570nm,19.6s,baz=72,slow=36						
KDU	**Kakadu**	**32.77**	**266**	⇑P	**P**	**09 55 04.7**	**-0.1**
	baz=33,SNR=3.3						
BBOO	**Buckleboo**	**33.94**	**229**	P	**P**	**09 55 15.3**	**+0.4**
	baz=34,SNR=6.6						
KNRA	**Kununurra**	**36.26**	**261**	⇓P	**P**	**09 55 35.1**	**0.0**
	baz=36,SNR=7.4						
FITZ	**Fitzroy Crossi**	**39.29**	**257**	*e*P	**P**	**09 55 59.3**	**-1.3**
	comp=Z,27nm,1.2s						
FITZ	**Fitzroy Crossi**	**39.29**	**257**	P	**P**	**09 55 58.8**	**-1.8**
	baz=39,SNR=12						
PPT	**Papeete**	**43.00**	**102**	LR	LR	10 12 59.7	
	comp=Z,364nm,18.2s,baz=176,slow=34						
PPT2	**Papeete2**	**43.00**	**102**	*e*LR	LR	10 08 38.0	
	comp=Z,626nm,27.2s						
MBWA	**Marble Bar**	**44.98**	**253**	*e*P	**P**	**09 56 46.8**	**-0.2**
	comp=Z,111nm,1.0s						
MBWA				*e*pP	**pP**	**09 56 59.4**	**-0.3**
KAPI	**Kappang**	**46.35**	**275**	*e*P	**P**	**09 56 58.0**	**+0.1**
	comp=Z,26nm,1.2s						
KAPI				*e*pP	**pP**	**09 57 07.9**	**-2.8**
KAPI	**Kappang**	**46.35**	**275**	P	**P**	**09 56 58.6**	**+0.7**
	comp=Z,2.3nm,0.4s,baz=60,slow=20,SNR=2.2						
MEEK	**Meekatharra**	**46.52**	**245**	P	**P**	**09 56 59.4**	**+0.3**
	baz=47,SNR=5.9						
NWAO	**Narrogin (SRO)**	**48.81**	**237**	P	**P**	**09 57 16.8**	**0.0**
NWAO	**Narrogin (SRO)**	**48.81**	**237**	P	**P**	**09 57 16.8**	**0.0**
	comp=Z,8.0nm,0.7s,baz=85,slow=10,SNR=3.7						
KIP	**Kipapa**	**48.95**	**46**	*c**e*P	**P**	**09 57 20.1**	**+2.3**
KIP				pmax	pmax		
	comp=Z,38nm,1.7s						
MJAR	**Matsushiro Arr**	**55.61**	**333**	P	**P**	**09 58 06.8**	**-0.3**
MJAR	**Matsushiro Arr**	**55.61**	**333**	P	**P**	**09 58 06.8**	**-0.3**
	comp=Z,5.0nm,0.7s,baz=170,slow=8.6,SNR=13						
MAJO	**Matsushiro**	**55.61**	**333**	*e*P	**P**	**09 58 06.8**	**-0.3**
MAJO				*e**PP	**pP**	**09 58 17.8**	**-2.4**
MAJO				pmax	pmax		
	comp=Z,15nm,0.8s						
MAJO	**Matsushiro**	**55.61**	**333**	*e*P	**P**	**09 58 06.8**	**-0.3**
	comp=Z,15nm,0.8s						
MAJO				*e*pP	**pP**	**09 58 17.8**	**-2.4**
MAT	**Matsushiro**	**55.61**	**333**	P	**P**	**09 58 06.4**	**-0.7**
JNU	**Nakatsue**	**56.63**	**325**	P	**P**	**09 58 13.8**	**-0.8**
JNU	**Nakatsue**	**56.63**	**325**	P	**P**	**09 58 13.8**	**-0.8**
	comp=Z,6.5nm,0.8s,baz=240,slow=8.7,SNR=4.1						
KSM	**Kuching**	**57.10**	**280**	*e*P	**P**	**09 58 16.5**	**-1.7**
	comp=Z,11nm,1.0s						
ASAJ	**Asahikawa**	**60.49**	**341**	*e*P	**P**	**09 58 41.0**	**0.0**
	comp=Z,10nm,0.7s						
ASAJ	**Asahikawa**	**60.49**	**341**	P	**P**	**09 58 41.4**	**+0.4**
	comp=Z,28nm,0.7s,baz=216,slow=12,SNR=22						
KSRS	**Korea Array**	**61.45**	**326**	P	**P**	**09 58 47.9**	**+0.2**
	comp=Z,2.6nm,0.9s,baz=141,slow=7.8,SNR=9.5						
KSAR	**Wonju Array Be**	**61.46**	**326**	P	**P**	**09 58 47.9**	**+0.1**
YSS	**Yuzh-Sakhalins**	**62.98**	**342**	⇑*e*P	**P**	**09 58 58.0**	**+0.2**
YSS				pmax	pmax		
	comp=Z,40nm,1.1s						
USRK	**Ussuriysk Arra**	**64.59**	**333**	P	**P**	**09 59 08.9**	**+0.4**
	comp=Z,8.8nm,1.0s,baz=148,slow=5.8,SNR=18						
VNDA	**Vanda**	**64.82**	**181**	*e*P	**P**	**09 59 09.5**	**0.0**
VNDA	**Vanda**	**64.82**	**181**	P	**P**	**09 59 09.2**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=0.8,slow=6.0,SNR=12						
SBA	**Scott Base**	**65.12**	**180**	*e*P	**P**	**09 59 12.5**	**+1.0**
SBA				pmax	pmax		
	comp=Z,86nm,2.3s						
SBA	**Scott Base**	**65.12**	**180**	*e*P	**P**	**09 59 12.5**	**+1.0**
	comp=Z,86nm,2.3s						
PETK	**Petropavlovsk-**	**65.97**	**354**	P	**P**	**09 59 16.6**	**-0.6**
PETK	**Petropavlovsk-**	**65.97**	**354**	P	**P**	**09 59 16.6**	**-0.6**
PETK	**Petropavlovsk-**	**65.97**	**354**	P	**P**	**09 59 16.6**	**-0.6**
	comp=Z,4.6nm,0.8s,baz=179,slow=8.6,SNR=3.3						
HABR	**Khabarovsk**	**66.86**	**338**	*c**e*P	**P**	**09 59 23.1**	**+0.1**
HABR				*e**PP	**pP**	**09 59 31.7**	**-4.6**
HABR				*e**SP	sP	09 59 36.0	-5.6
HABR				*e*		09 59 49.8	
HABR				PPP	PPP	10 03 25.0	
HABR				S	**S**	**10 08 13.5**	**+1.3**
HABR				*e**SS	**sS**	**10 08 29.7**	**-4.8**
HABR				*e*		10 09 15.9	
HABR				pmax	pmax		
	comp=Z,113nm,2.2s						
HABR				pmax	pmax		
	comp=N,37nm,2.2s						
HABR				pmax	pmax		
	comp=E,60nm,2.2s						
CN2	**Changchun**	**67.35**	**329**	*e*P	**P**	**09 59 29.0**	**+2.8**
CN2				*e*sP	**sP**	**09 59 49.1**	**+4.2**
CN2				*e*S	**S**	**10 08 20.3**	**+2.0**
	comp=E,10.0nm,0.8s						
CN2				AMB	AMB		
	comp=E,200nm,4.0s						
CN2				AMB	AMB		
	comp=E,800nm,13.0s						
CN2				LR	LR		
	comp=E,800nm,13.0s						
CN2				LR	LR		
	comp=E,900nm,15.0s						
PSI	**Prapat**	**68.42**	**278**	P	**P**	**09 59 33.6**	**-0.1**
PSI	**Prapat**	**68.42**	**278**	P	**P**	**09 59 33.6**	**-0.1**
	comp=E,1.9nm,0.4s,baz=202,slow=17,SNR=2.9						
KLR	**Kul'dur**	**68.73**	**337**	*e*P	**P**	**09 59 31.7**	**-3.0**
KLR				pmax	pmax		
	comp=Z,68nm,1.6s						
GYA	**Guiyang**	**69.63**	**305**	P	**P**	**09 59 42.8**	**+1.8**
GYA				pP	**pP**	**09 59 55.0**	**+0.6**
GYA				sP	**sP**	**10 00 01.6**	**+1.9**
GYA				PP	**PP**	**10 02 18.4**	**+2.8**
GYA				ScP		10 04 02.8	
GYA				S	**S**	**10 08 45.0**	**-1.4**
GYA				sS	**sS**	**10 09 10.3**	**+1.4**
GYA				SKS	**SKSac**	**10 09 33.5**	**-4.8**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s						
GYA				AMB	AMB		
	comp=Z,120nm,5.5s						
GYA				LR	LR		
	comp=Z,520nm,19.8s						
GYA				LR	LR		
	comp=Z,490nm,20.0s						
GYA				LR	LR		
	comp=Z,510nm,18.9s						
BJI	**Beijing**	**69.99**	**321**	P	**P**	**09 59 42.9**	**+0.2**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.8s						
KMI	**Kunming**	**72.28**	**302**	P	P	10 00 11.1	+14
KMI				AMB	AMB		
	comp=Z,20nm,1.1s						
CMAR	**Chiang Mai Arr**	**73.08**	**294**	P	**P**	**10 00 03.2**	**+1.4**
CMAR	**Chiang Mai Arr**	**73.08**	**294**	P	**P**	**10 00 03.2**	**+1.4**
	comp=Z,1.9nm,0.6s,baz=116,slow=4.1,SNR=8.1						
CMAR				LR	LR	10 29 18.1	
	comp=Z,55nm,20.1s,baz=338,slow=33						
CHTO	**Chiang Mai**	**73.20**	**294**	*e*P	**P**	**10 00 01.1**	**-1.5**
CHTO	**Chiang Mai**	**73.20**	**294**	*e*P	**P**	**10 00 01.1**	**-1.5**
HHC	**Hu-ho-hao-te**	**73.32**	**320**	*e*P	**P**	**10 00 03.1**	**+0.2**
HHC				pP	**pP**	**10 00 16.3**	**-0.1**
HHC				sP	**sP**	**10 00 21.5**	**-0.2**
HHC				PP	**PP**	**10 02 49.0**	**+2.0**
HHC				S	**S**	**10 09 27.6**	**-0.8**
HHC				sS	**sS**	**10 09 49.8**	**-1.2**
HHC				SKS	**SKSac**	**10 10 00.8**	**-4.7**
HHC				ScS	**SKKSac**	**10 10 04.6**	**-1.1**
HHC				AMB	AMB		
	comp=Z,19nm,1.1s						
HHC				AMB	AMB		
	comp=Z,140nm,5.4s						
HHC				LR	LR		
	comp=Z,260nm,17.3s						
HHC				LR	LR		
	comp=Z,590nm,17.5s						
HHC				LR	LR		
	comp=Z,170nm,17.7s						
CD2	**Chengdu**	**73.88**	**308**	P	**P**	**10 00 07.5**	**+1.1**
CD2				pP	**PcP**	**10 00 22.1**	**+0.5**
CD2				sP	**sP**	**10 00 28.1**	**+3.0**
CD2				PP	**PP**	**10 02 54.8**	**+2.9**
CD2				S	**S**	**10 09 34.3**	**-0.7**
CD2				sS	**sS**	**10 09 59.1**	**+1.5**
CD2				AMB	AMB		
	comp=Z,20nm,0.5s						
CD2				AMB	AMB		
	comp=Z,170nm,6.5s						
CD2				LR	LR		
	comp=Z,160nm,8.3s						
CD2				LR	LR		
	comp=Z,140nm,8.9s						
LZH	**Lanzhou**	**76.13**	**312**	*e*P	**P**	**10 00 20.8**	**+1.4**
LZH				pP	**pP**	**10 00 33.1**	**+0.2**
LZH				sP	**sP**	**10 00 39.8**	**+1.6**
LZH				AMB	AMB		
	comp=Z,18nm,0.9s						
CLNS	**Chul'man**	**77.25**	**338**	*e*P	**P**	**10 00 26.3**	**+1.2**
CLNS				pmax	pmax		
	comp=E,3.0nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,19nm,0.9s						
CLNS				pmax	pmax		
	comp=N,7.0nm,0.9s						
YAK	**Yakutsk**	**79.80**	**343**	*e*P	**P**	**10 00 36.7**	**-2.2**
YAK				pmax	pmax		
	comp=Z,21nm,0.9s						
SONM	**Songino Array**	**80.21**	**324**	P	**P**	**10 00 42.1**	**+0.4**
SONM	**Songino Array**	**80.21**	**324**	P	**P**	**10 00 42.1**	**+0.4**
	comp=Z,3.5nm,0.9s,baz=168,slow=5.2,SNR=6.0						
GTA	**Gaotai**	**80.46**	**314**	*e*P	**P**	**10 00 45.3**	**+2.1**
GTA				AMB	AMB		
	comp=Z,8.0nm,1.1s						
CAST	**Castle Rocks**	**82.45**	**18**	*e*P	**P**	**10 00 52.8**	**-0.2**
	comp=Z,29nm,2.1s						
ZAK	**Zakamensk**	**83.26**	**325**	⇑*i*P	**P**	**10 00 57.8**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.3s						
MAW	**Mawson**	**83.29**	**202**	P	**P**	**10 00 57.5**	**+0.1**
MAW	**Mawson**	**83.29**	**202**	P	**P**	**10 00 57.5**	**+0.1**
	comp=Z,3.2nm,1.0s,baz=95,slow=7.5,SNR=5.6						
MAW				LR	LR	10 31 38.0	
	comp=Z,82nm,18.7s,baz=266,slow=31						
TLY	**Talaya**	**83.70**	**326**	*e*P	**P**	**10 01 00.2**	**+0.4**
TLY				*e*		10 01 11.6	
TLY				*e*S	S	10 11 12.6	-6.3
TLY				pmax	pmax		
	comp=Z,17nm,1.4s						
TLY				MLR	MLR		
	comp=Z,55nm,14.0s						
COLA	**College**	**84.78**	**18**	*e*P	**P**	**10 01 02.7**	**-2.2**
COLA				pmax	pmax		
	comp=Z,12nm,0.8s						
COLA	**College**	**84.78**	**18**	*e*P	**P**	**10 01 02.7**	**-2.2**
	comp=Z,12nm,0.8s						
ILAR	**Eielson Array**	**85.00**	**18**	P	**P**	**10 01 03.9**	**-2.1**
ILAR	**Eielson Array**	**85.00**	**18**	P	**P**	**10 01 03.9**	**-2.1**
	comp=Z,3.5nm,0.8s,baz=243,slow=5.1,SNR=5.1						
MOY	**Mondy**	**85.14**	**325**	*e*P	**P**	**10 01 08.1**	**+0.9**
TAPN	**Taplejung**	**85.70**	**299**	*e*P	**P**	**10 01 11.7**	**+0.9**
COLD	**Coldfoot**	**85.83**	**16**	*e*P	**P**	**10 01 10.7**	**+0.6**
ODAN	**Odare**	**85.84**	**299**	*e*P	**P**	**10 01 11.6**	**+0.2**
RAMN	**Ramite**	**86.54**	**298**	*e*P	**P**	**10 01 15.7**	**+0.8**
TIXI	**Tiksi**	**87.80**	**349**	⇓*e*P	**P**	**10 01 18.8**	**-0.8**
KKN	**Kakani**	**87.90**	**299**	*e*P	**P**	**10 01 21.1**	**-0.3**
DMN	**Daman**	**88.00**	**299**	*e*P	**P**	**10 01 22.4**	**+0.5**
GKN	**Gorkha**	**88.50**	**299**	*e*P	**P**	**10 01 24.0**	**-0.1**
HVS	**Khovu-Aksy**	**89.08**	**323**	*d*/P	**P**	**10 01 26.6**	**+0.4**
HVS				pmax	pmax		
	comp=Z,50nm,1.2s						
SYO	**Syowa Base**	**90.27**	**197**	⇑*e*P	**P**	**10 01 29.6**	**-1.8**
WMQ	**Urumqi**	**90.51**	**315**	*e*P	**P**	**10 01 33.8**	**+0.7**
WMQ				AMB	AMB		
	comp=Z,12nm,0.8s						
WMQ				AMB	AMB		
	comp=Z,120nm,4.8s						
WMQ				LR	LR		
	comp=Z,66nm,22.2s						
WMQ				LR	LR		
	comp=Z,70nm,26.0s						
PDAR	**Pinedale Array**	**94.45**	**47**	LR	LR	10 41 51.4	
	comp=Z,110nm,18.6s,baz=115,slow=34						
MK31	**Makanchi Array**	**94.97**	**317**	*e*P	**P**	**10 01 53.6**	**+0.1**
MK31	**Makanchi Array**	**94.97**	**317**	*e*P	**P**	**10 01 53.6**	**+0.1**
MKAR	**Makanchi Array**	**94.97**	**317**	P	**P**	**10 01 53.7**	**+0.2**
MKAR	**Makanchi Array**	**94.97**	**317**	P	**P**	**10 01 53.7**	**+0.2**
MKAR	**Makanchi Array**	**94.97**	**317**	P	**P**	**10 01 53.7**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=94,slow=6.0,SNR=16						
ZALV	**Zalesovo Beam**	**95.11**	**324**	P	**P**	**10 01 53.1**	**-0.8**
ZALV	**Zalesovo Beam**	**95.11**	**324**	P	**P**	**10 01 53.1**	**-0.8**
	comp=Z,2.1nm,0.6s,baz=104,slow=3.1,SNR=6.3						
SNAA	**Sanae**	**95.46**	**184**	*e*P	**P**	**10 01 53.8**	**-1.6**
SNAA	**Sanae**	**95.46**	**184**	*e*pP	pP	10 02 05.3	-4.0
SNAA	**Sanae**	**95.46**	**184**	*e*P	**P**	**10 01 53.8**	**-1.6**
TXAR	**Lajitas Array**	**96.35**	**61**	LR	LR	10 36 16.4	
	comp=Z,166nm,19.2s,baz=340,slow=30						
ARCES	**ARCESS Array B**	**118.04**	**345**	PKP	**PKPdf**	**10 07 15.1**	**-2.1**
ARCES	**ARCESS Array B**	**118.04**	**345**	PKP	**PKPdf**	**10 07 15.1**	**-2.1**
	comp=Z,4.1nm,0.7s,baz=80,slow=2.3,SNR=13						
VRHR	**Novokhopersk**	**121.20**	**323**	*e*PKIKP	**PKPdf**	**10 07 23.5**	**-0.2**
VRHR				pmax	pmax		
	comp=N,8.0nm,0.3s						
VRHR				pmax	pmax		
	comp=E,30nm,0.3s						
VRHR				pmax	pmax		
	comp=Z,30nm,0.3s						
ZEI	**Tsey**	**122.05**	**313**	*i* PKIKP	**PKPdf**	**10 07 25.4**	**-0.5**
ZEI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
OBN	**Obninsk**	**122.41**	**328**	*i* PKIKP	**PKPdf**	**10 07 24.0**	**-1.8**
OBN				*e*		10 07 37.4	
VSR	**Storozhevoye**	**122.60**	**323**	*e*PKIKP	**PKPdf**	**10 07 25.7**	**-0.7**
VSR				pmax	pmax		
	comp=N,10.0nm,1.1s						
VSR				pmax	pmax		
	comp=Z,20nm,1.1s						
VSR				pmax	pmax		
	comp=E,6.0nm,0.4s						
VORD	**Divnogorie**	**122.62**	**323**	*e*PKIKP	**PKPdf**	**10 07 25.6**	**-0.8**
VORD				pmax	pmax		
	comp=E,10.0nm,0.8s						
VORD				pmax	pmax		
	comp=Z,6.0nm,0.8s						
FINES	**FINESS Array B**	**123.45**	**338**	PKP	**PKPdf**	**10 07 27.2**	**-0.5**
FINES	**FINESS Array B**	**123.45**	**338**	PKP	**PKPdf**	**10 07 27.2**	**-0.5**
	comp=Z,5.0nm,1.0s,baz=35,slow=8.5,SNR=3.6						
NOA	**NORSAR Array B**	**128.41**	**345**	PKP	**PKPdf**	**10 07 36.6**	**-0.7**
NOA	**NORSAR Array B**	**128.41**	**345**	PKP	**PKPdf**	**10 07 36.6**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=42,slow=2.0,SNR=3.0						
AKASG	**Malin Array Be**	**128.44**	**326**	*c* *i* PKIKP	**PKPdf**	**10 07 37.7**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AKASG	**Malin Array Be**	**128.44**	**326**	PKP	**PKPdf**	**10 07 37.8**	**+0.2**
AKASG	**Malin Array Be**	**128.44**	**326**	PKP	**PKPdf**	**10 07 37.8**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=67,slow=1.8,SNR=11						
HFS	**Hagfors**	**128.49**	**343**	PKP	**PKPdf**	**10 07 37.0**	**-0.4**
HFS	**Hagfors**	**128.49**	**343**	PKP	**PKPdf**	**10 07 37.0**	**-0.4**
	comp=Z,11nm,1.2s,baz=82,slow=3.1,SNR=3.3						
BRTR	**Keskin Array B**	**130.33**	**312**	PKP	**PKPdf**	**10 07 41.5**	**-0.2**
BRTR				SKPbc	**SKPbc**	**10 11 06.9**	**+5.6**
BRTR	**Keskin Array B**	**130.33**	**312**	PKP	**PKPdf**	**10 07 41.5**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=136,slow=4.8,SNR=5.2						
BRTR				SKPbc	**SKPbc**	**10 11 06.9**	**+5.6**
	comp=Z,0.8nm,0.7s,baz=32,slow=3.6,SNR=5.2						
KOLS	**Kolonicke sedl**	**133.15**	**328**	*e*PKIKP	**PKPdf**	**10 07 47.8**	**+1.2**
KOLS	**Kolonicke sedl**	**133.15**	**328**	*e*PKP	**PKPdf**	**10 07 47.8**	**+1.2**
BRG	**Berggiesshubel**	**135.72**	**335**	*e*PKP	**PKPdf**	**10 07 55.6**	**+4.3**
	comp=Z,11nm,1.5s						
BRG	**Berggiesshubel**	**135.72**	**335**	*e*PKIKP	**PKPdf**	**10 07 55.6**	**+4.3**
BRG				pmax	pmax		
	comp=Z,11nm,1.5s						
GERES	**GERESS Array B**	**137.35**	**333**	PKP	**PKPdf**	**10 07 55.0**	**+0.4**
GERES	**GERESS Array B**	**137.35**	**333**	PKP	**PKPdf**	**10 07 54.9**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=35,slow=4.1,SNR=5.2						
BNI	**Bardonecchia**	**143.31**	**335**	*e*PKIKP	PKPbc	10 08 02.8	+0.2
BNI	**Bardonecchia**	**143.31**	**335**	*e*PKPdf	PKPbc	10 08 02.8	+0.1
KEST	**Kesra**	**148.94**	**321**	*e*PKPbc	**PKPbc**	**10 08 19.9**	**+0.6**
KEST	**Kesra**	**148.94**	**321**	PKPbc	**PKPbc**	**10 08 19.9**	**+0.6**
	comp=Z,13nm,0.8s,baz=74,slow=1.5,SNR=24						
CMAH	**Djebel Manchou**	**149.45**	**325**	P	**PKPbc**	**10 08 20.3**	**-0.2**
ABSA	**Djebel Ababsia**	**149.67**	**324**	P	**PKPbc**	**10 08 20.6**	**-0.5**
CKFL	**Kef-Lekhel**	**150.00**	**325**	P	**PKPbc**	**10 08 22.5**	**+0.5**
CASM	**Ain Smara**	**150.23**	**325**	P	**PKPbc**	**10 08 22.8**	**+0.4**
PBRG	**Braganca**	**150.37**	**349**	*e*PKPbc	**PKPbc**	**10 08 21.9**	**-0.7**
CTEI	**Djebel Teioual**	**150.42**	**325**	P	**PKPbc**	**10 08 23.6**	**+0.6**
SET	**Setif**	**150.87**	**327**	P	**PKPbc**	**10 08 23.8**	**-0.2**
POLO	**Lamas de Olo**	**150.97**	**350**	*e*PKPbc	**PKPbc**	**10 08 24.1**	**0.0**
MVO	**Moncorvo**	**151.04**	**349**	*e*PKPbc	**PKPbc**	**10 08 24.1**	**-0.1**
ESDC	**Sonseca Array**	**151.76**	**344**	PKPbc	**PKPbc**	**10 08 25.9**	**0.0**
ESDC				PKPab	**PKPab**	**10 08 35.2**	**+0.4**
ESDC	**Sonseca Array**	**151.76**	**344**	PKPbc	**PKPbc**	**10 08 25.9**	**0.0**
	comp=Z,4.6nm,0.7s,baz=4.2,slow=2.4,SNR=20						
ESDC				PKPab	**PKPab**	**10 08 35.2**	**+0.4**
	comp=Z,2.0nm,0.5s,baz=9.6,slow=3.1,SNR=6.3						
MTE	**Manteigas**	**151.88**	**350**	*e*PKPbc	**PKPbc**	**10 08 26.6**	**+0.5**
**MTE

SONM	**Songino Array**	**80.23**	**324**	P	**P**	**10 07 50.8**	**+0.4**
SONM	**Songino Array**	**80.23**	**324**	P	**P**	**10 07 50.8**	**+0.4**
	2.6nm,0.7s,baz=129,slow=5.9,SNR=8.5						
MAW	**Mawson**	**83.49**	**202**	P	**P**	**10 08 08.0**	**+1.0**
MAW	**Mawson**	**83.49**	**202**	P	**P**	**10 08 08.0**	**+1.0**
	4.1nm,0.9s,baz=109,slow=6.7,SNR=10						
ILAR	**Eielson Array**	**84.81**	**18**	P	**P**	**10 08 11.8**	**-1.9**
ILAR	**Eielson Array**	**84.81**	**18**	P	**P**	**10 08 11.8**	**-1.9**
	0.7nm,0.7s,baz=243,slow=4.6,SNR=6.5						
MK31	**Makanchi Array**	**95.02**	**317**	*e*P	**P**	**10 09 02.8**	**+0.5**
MKAR	**Makanchi Array**	**95.02**	**317**	P	**P**	**10 09 02.9**	**+0.6**
MKAR	**Makanchi Array**	**95.02**	**317**	P	**P**	**10 09 02.9**	**+0.6**
	4.5nm,0.8s,baz=97,slow=6.3,SNR=35						
ZALV	**Zalesovo Beam**	**95.12**	**324**	P	**P**	**10 09 02.3**	**-0.2**
ZALV	**Zalesovo Beam**	**95.12**	**324**	P	**P**	**10 09 02.3**	**-0.2**
	2.6nm,0.7s,baz=90,slow=3.3,SNR=6.7						
ARCES	**ARCESS Array B**	**117.96**	**345**	PKP	**PKPdf**	**10 14 25.0**	**-0.4**
ARCES	**ARCESS Array B**	**117.96**	**345**	PKP	**PKPdf**	**10 14 25.0**	**-0.4**
	6.0nm,1.0s,baz=20,slow=2.4,SNR=5.0						
KEST	**Kesra**	**148.97**	**322**	PKPbc	**PKPbc**	**10 15 28.9**	**+1.0**
KEST	**Kesra**	**148.97**	**322**	PKPbc	**PKPbc**	**10 15 28.9**	**+1.0**
	1.6nm,0.7s,baz=312,slow=14,SNR=4.5						
TORD	**Torodi Ar. Bea**	**164.97**	**274**	PKPab	**PKPab**	**10 16 42.1**	**+0.9**
TORD	**Torodi Ar. Bea**	**164.97**	**274**	PKPab	**PKPab**	**10 16 42.1**	**+0.9**
	2.0nm,0.9s,baz=74,slow=4.8,SNR=8.7						

IDC 15 10:22:21.6±54.0, 16°37S×176°69W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.7/18, mbtmp4.0/3, Error ellipse: s-maj=1015.0km s-min=160.8km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.81**	**240**	P	P	10 30 05.1	+0.1
	1.5nm,0.7s,baz=95,slow=12,SNR=2.2						
WRA	**Warramunga Arr**	**46.54**	**258**	P	P	10 30 50.9	-0.5
	0.2nm,0.3s,baz=93,slow=8.4,SNR=12						
ASAR	**Alice Springs**	**46.80**	**253**	P	P	10 30 53.4	0.0
	2.4nm,0.4s,baz=88,slow=8.1,SNR=82						

*CSEM **15** 10:28:21.0, 45°21N×19°78E, h0km, ML1.5, After BEO*
BEO 15 10:28:21.0±1.3, 45°21N×19°78E, h0km, ML1.5/4, 2C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRGS	**Fruska Gora**	**0.06**	**158**	*i* Pg	Pg	10 28 21.4	-0.7
FGSL	**Fruska Gora**	**0.06**	**158**	*i* Pg	Pg	10 28 21.4	-0.8
DIVS	**Divibare**	**1.12**	**172**	*e*Pg	Pg	10 28 41.2	-1.5
DIVS				*e*Sg	Sg	10 28 57.1	-0.2
DIVS	**Divibare**	**1.12**	**172**	*e*Pg	Pg	10 28 41.2	-1.5
DIVS				*e*Sg	Sg	10 28 57.1	-0.2
BZS	**Buzias**	**1.36**	**72**	*e*Pg	Pg	10 28 46.0	-1.0
BZS				*e*Sg	Sg	10 29 04.0	-0.6
BZS	**Buzias**	**1.36**	**72**	*e*Pg	Pg	10 28 46.0	-1.0
BZS				*e*Sg	Sg	10 29 04.0	-0.6
BBLS	**Lazi?i**	**1.37**	**191**	*e*Pg	Pg	10 28 45.4	-2.0
BBLS				*e*Sg	Sg	10 29 05.0	-0.2
BBLS	**Lazi?i**	**1.37**	**191**	*e*Pg	Pg	10 28 45.4	-2.0
BBLS				*e*Sg	Sg	10 29 05.0	-0.2

*CSEM **15** 10:29:41.6±0.1, 38°91N×26°64E, h16km±1km, MD3.2, Error ellipse: s-maj=2.7km s-min=2.2km az=89.0*
*ATH **15** 10:29:41.5, 38°92N×26°56E, h30km, MD3.2/5*
*ISK **15** 10:29:41.3, 38°89N×26°67E, h19km, MD3.2*
*THE **15** 10:29:42.2, 38°92N×26°58E, h19km±3km, ML2.7/2, Error ellipse: s-maj=3.4km s-min=0.4km az=293.0*
*DDA **15** 10:29:43.7, 39°03N×26°90E, h7km, MD2.9*
ISC 15 10:29:41.8±1.1, 38°92N±0°02×26°65E±0°02, h19km±3km, n52, σ0°842/80, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.44**	**319**	P	**Pg**	**10 29 50.4**	**-0.5**
PRK				S	**Sb**	**10 29 57.0**	**-0.3**
PRK	**Paraskevi**	**0.44**	**319**	*e*PB	**Pb**	**10 29 50.7**	**-0.3**
PRK				*e*SB	**Sb**	**10 29 57.0**	**-0.3**
PRK	**Paraskevi**	**0.44**	**319**	P	**Pg**	10 29 50.4	-0.5
PRK	**Paraskevi**	**0.44**	**319**	*e*Pb	**Pb**	10 29 50.7	-0.3
PRK				S	**Sb**	10 29 57.0	-0.3
CHOS	**Chios island**	**0.70**	**221**	P	**Pb**	10 29 55.0	-0.5
CHOS				S	**Sb**	10 30 04.9	+0.1
CHOS	**Chios island**	**0.70**	**221**	*e*PG	**Pg**	10 29 56.0	+0.3
CHOS				*e*SG	**Sg**	10 30 05.6	+0.5
CHOS	**Chios island**	**0.70**	**221**	*e*PN	**Pb**	10 29 55.0	-0.5
CHOS				*e*SN	**Sg**	10 30 05.1	0.0
CHOS	**Chios island**	**0.70**	**221**	P	**Pb**	**10 29 55.0**	**-0.5**
CHOS	**Chios island**	**0.70**	**221**	*e*Pg	**Pg**	**10 29 56.0**	**+0.3**
CHOS				*e*Sn	**Sb**	**10 30 05.1**	**0.0**
IZM	**Izmir**	**0.71**	**137**	*e*PG	**Pb**	**10 29 55.4**	**-0.2**
IZM				*e*SG	**Sb**	10 30 04.8	-0.1
IZM	**Izmir**	**0.71**	**137**	*e*Pg	**Pb**	**10 29 55.4**	**-0.2**
IZM				*e*Sg	**Sb**	10 30 04.8	-0.1
AKS	**Akhisar**	**0.91**	**92**	*e*PG	**Pg**	10 29 59.2	-0.4
AKS	**Akhisar**	**0.91**	**92**	*e*Pg	**Pg**	10 29 59.2	-0.4
BALY	**Balya**	**1.12**	**42**	*i* P	**Pn**	10 30 02.2	-0.2
BALY				*i* S	**Sb**	10 30 16.7	0.0
BALB	**Balikesir**	**1.20**	**53**	*e*PN	**Pb**	10 30 04.0	+0.1
BALB				*e*SN	**Sn**	10 30 19.8	+0.5
SMG	**Samos**	**1.22**	**173**	P	**Pn**	10 30 03.5	-0.3
SMG				S	**Sn**	10 30 19.9	+0.2
SMG	**Samos**	**1.22**	**173**	*e*PB	**Pn**	10 30 03.8	0.0
SMG				*e*SN	**Sg**	10 30 21.5	+0.2
SMG	**Samos**	**1.22**	**173**	P	**Pn**	10 30 03.5	-0.3
SMG	**Samos**	**1.22**	**173**	*e*Pb	**Pn**	**10 30 03.8**	**0.0**
SMG				S	**Sn**	10 30 19.9	+0.2
SMG				*e*Sn	**Sg**	10 30 21.5	+0.2
AYDB	**Zeytinkoy-Aydi**	**1.38**	**134**	*e*PN	**Pn**	10 30 06.2	+0.1
GONE	**Gonen-Balikesi**	**1.39**	**35**	*e*PN	**Pb**	10 30 06.5	-0.6
GONE				*e*SN	**Sb**	10 30 24.5	+0.1
GONE	**Gonen-Balikesi**	**1.39**	**35**	*e*Pn	**Pb**	10 30 06.5	-0.6
GONE				*e*Sn	**Sb**	10 30 24.5	+0.1
LPK	**Lapseki**	**1.46**	**3**	*e*PN	**Pb**	10 30 07.9	-0.4
LIA	**Limnos Island**	**1.50**	**311**	*e*PN	**Pn**	10 30 07.5	-0.2
LIA				*e*SN	**Sn**	10 30 26.7	0.0
LIA	**Limnos Island**	**1.50**	**311**	*e*Pn	**Pn**	10 30 07.5	-0.2
LIA				*e*Sn	**Sn**	10 30 26.7	0.0
KRBG	**Karabiga-Canak**	**1.56**	**19**	*e*PN	**Pn**	10 30 08.7	+0.2
KRBG	**Karabiga-Canak**	**1.56**	**19**	*e*Pn	**Pn**	10 30 08.7	+0.2
DURS	**Dursunbey**	**1.57**	**64**	*i* P	**Pn**	10 30 08.9	+0.1
DURS				*i* S	**Sn**	10 30 28.1	-0.6
DEMI	**Demirci**	**1.62**	**85**	*i* P	**Pb**	10 30 11.2	+0.1
DEMI				*i* S	**Sn**	10 30 30.4	+0.6
DEMI	**Demirci**	**1.62**	**85**	*i* P	**Pb**	10 30 11.2	+0.1
DEMI				*i* S	**Sn**	10 30 30.4	+0.6
KULA	**Kula-Manisa**	**1.63**	**104**	*e*PN	**Pn**	10 30 08.5	-1.0
KULA	**Kula-Manisa**	**1.63**	**104**	*e*Pn	**Pn**	10 30 08.5	-1.0
DST	**Dursunbey**	**1.68**	**65**	*e*PN	**Pn**	10 30 10.2	0.0
BNT	**Bandirma**	**1.74**	**34**	*e*PN	**Pn**	10 30 10.6	-0.4
BNT	**Bandirma**	**1.74**	**34**	*e*Pn	**Pn**	10 30 10.6	-0.4
SMTH	**Samothraki Isl**	**1.77**	**331**	*e*PN	**Pn**	10 30 12.1	+0.6
SMTH				*e*SN	**Sn**	10 30 33.6	+0.1
SMTH	**Samothraki Isl**	**1.77**	**331**	*e*Pn	**Pn**	10 30 12.1	+0.6
SMTH				*e*Sn	**Sn**	10 30 33.6	+0.1
RKY	**Sarkoy-Tekirda**	**1.81**	**13**	*e*PN	**Pn**	10 30 13.0	+0.9
RKY	**Sarkoy-Tekirda**	**1.81**	**13**	*e*Pn	**Pn**	10 30 13.0	+0.9
KCTX	**Karacabey (Bur**	**1.89**	**44**	*e*PN	**Pn**	10 30 13.3	+0.3
KCTX	**Karacabey (Bur**	**1.89**	**44**	*e*Pn	**Pn**	10 30 13.3	+0.3
ALN	**Alexandroupoli**	**2.03**	**347**	*e*PN	**Pn**	10 30 15.4	+0.4
ALN	**Alexandroupoli**	**2.03**	**347**	*e*PN	**Pn**	10 30 15.4	+0.4
ALN				*e*SN	**Sn**	10 30 40.2	+0.4
ALN	**Alexandroupoli**	**2.03**	**347**	*e*Pn	**Pn**	10 30 15.4	+0.4
ALN				*e*Sn	**Sn**	10 30 40.2	+0.4
APE	**Apeiranthos**	**2.04**	**206**	P	**Pn**	10 30 14.4	-0.8
APE	**Apeiranthos**	**2.04**	**206**	*e*PN	**Pn**	10 30 15.3	+0.1
APE	**Apeiranthos**	**2.04**	**206**	*e*PN	**Pn**	10 30 15.8	+0.6
APE				*e*SN	**Sn**	10 30 40.7	+0.5
APE	**Apeiranthos**	**2.04**	**206**	P	**Pn**	10 30 14.4	-0.8
APE	**Apeiranthos**	**2.04**	**206**	*e*Pn	**Pn**	10 30 15.3	+0.1
APE				*e*Sn	**Sn**	10 30 40.7	+0.5
TVSB	**Tavsanli**	**2.25**	**75**	*e*PN	**Pn**	10 30 18.2	+0.1
ARMT	**Armutlu**	**2.37**	**45**	*e*PN	**Pn**	10 30 20.3	+0.6
ARMT	**Armutlu**	**2.37**	**45**	*e*Pn	**Pn**	10 30 20.3	+0.6

IDC 15 10:32:19.3±2.0, 15°20S×173°54W, h0km, mb3.5/5, mb1 3.9/5, mb1mx3.7/18, mbtmp3.5/5, MS3.5/2, Ms1 3.5/2, ms1mx3.0/30, Error ellipse: s-maj=117.2km s-min=24.9km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.13**	**53**	Pn	Pn	10 32 49.7	-6.6
	45nm,0.3s,baz=215,slow=16,SNR=44						
AFI				Sn	Sn	10 33 08.2	-15
	91nm,0.3s,baz=216,slow=19,SNR=12						
DZM	**Mont Dzumac**	**20.15**	**247**	LR	LR	10 42 26.6	
	comp=Z,44nm,19.7s,baz=210,slow=30						
H11S2	**WAKE ISLAND Hy**	**38.73**	**329**	T	T	11 20 59.8	
	baz=149,SNR=4.8						
H11S3	**WAKE ISLAND Hy**	**38.74**	**329**	T	T	11 21 00.1	
	baz=149,slow=0.7,SNR=4.5						
H11S1	**WAKE ISLAND Hy**	**38.74**	**329**	T	T	11 21 01.0	
	baz=149,slow=0.7,SNR=4.8						
H11N3	**WAKE ISLAND Hy**	**39.67**	**330**	T	T	11 22 08.4	
	baz=151						
H11N1	**WAKE ISLAND Hy**	**39.68**	**330**	T	T	11 22 12.7	
	baz=151						
H11N2	**WAKE ISLAND Hy**	**39.69**	**330**	T	T	11 22 12.5	
	baz=151						
WRA	**Warramunga Arr**	**49.76**	**257**	P	P	10 41 13.9	-0.1
	0.1nm,0.4s,baz=91,slow=7.2,SNR=5.4						
ASAR	**Alice Springs**	**50.05**	**252**	P	P	10 41 15.8	-0.3
	0.8nm,0.5s,baz=86,slow=8.3,SNR=22						
TXAR	**Lajitas Array**	**80.61**	**56**	P	P	10 44 34.3	-0.1
	0.6nm,1.0s,baz=213,slow=4.8,SNR=4.0						
ANMO	**Albuquerque**	**80.78**	**50**	LR	LR	11 16 04.6	
	comp=Z,91nm,19.5s,baz=109,slow=32						
PDAR	**Pinedale Array**	**82.21**	**42**	P	P	10 44 42.8	+0.1
	0.3nm,0.6s,baz=188,slow=4.3,SNR=2.6						
ILAR	**Eielson Array**	**82.28**	**11**	P	P	10 44 41.8	-0.4
	0.2nm,0.8s,baz=218,slow=6.5,SNR=3.9						
BRTR	**Keskin Array B**	**145.92**	**321**	PKPbc	PKPbc	10 52 01.2	-0.1
	1.0nm,0.9s,baz=63,slow=2.3,SNR=3.6						

*IDC **15** 10:37:52.1±1.2, 49°60N×127°30W, h0km, mb3.4/2, mb1 3.8/8, mb1mx3.6/28, mbtmp3.6/8, ML3.6/6, Error ellipse: s-maj=25.2km s-min=8.8km az=62.0*
*PGC **15** 10:37:52.3±0.3, 49°36N×127°62W, h10km, ML3.4/10, Mw4.0, 115km Wsw of Gold R., Bc Vancouver Island Region*
*ISCJB **15** 10:37:53.7±0.8, 49°50N±0°04×127°48W±0°06, h32km±5km, mb2.8/1, Error ellipse: s-maj=8.1km s-min=4.5km az=143.3*
ISC 15 10:37:52.7±1.6, 49°43N±0°07×127°54W±0°06, h27km±11km, n28, σ1°827/31, 5D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**0.52**	**31**	⇑P	**Pb**	**10 38 03.7**	**+0.4**
EDB				⇑S	**Sn**	**10 38 10.8**	**-1.5**
ETB	**Estevan Point**	**0.66**	**95**	⇑P	**Pb**	**10 38 05.6**	**0.0**
ETB				⇑S	**Sb**	**10 38 14.4**	**+0.1**
BPBC	**Brooks Peninsu**	**0.74**	**348**	⇑P	**Pb**	**10 38 07.4**	**+0.3**
BPBC				⇑S	**Sb**	**10 38 16.6**	**-0.3**
MAYB	**Maynard**	**1.00**	**14**	⇓P	**Pn**	**10 38 11.3**	**+0.1**
MAYB				⇑S	**Sn**	**10 38 24.1**	**-0.4**
GDR	**Gold River**	**1.04**	**70**	⇑P	**Pn**	**10 38 10.9**	**-0.7**
GDR				⇑S	**Sn**	**10 38 24.1**	**-1.2**
HOLB	**Holberg**	**1.27**	**343**	P	**Pn**	**10 38 14.9**	**+0.1**
HOLB				⇑S	**Sn**	**10 38 29.8**	**-1.1**
PHC	**Port Hardy**	**1.28**	**3**	⇓Pn	**Pn**	**10 38 15.2**	**+0.4**
PHC				⇓Sn	**Sn**	**10 38 30.5**	**-0.5**
BTB	**Buttle Lake**	**1.32**	**88**	⇑Pn	**Pn**	**10 38 15.1**	**-0.4**
BTB				⇑Sn	**Sn**	**10 38 31.2**	**-1.1**
NCRB	**Newcastle Ridg**	**1.36**	**44**	⇓Pn	**Pn**	**10 38 16.7**	**+0.5**
NCRB				⇓Sn	**Sb**	**10 38 33.4**	**-1.4**
OZB	**Mount Ozzard**	**1.42**	**109**	⇑Pn	**Pn**	**10 38 15.9**	**-0.9**
CBB	**Campbell River**	**1.53**	**66**	⇑Pn	**Pn**	**10 38 18.6**	**+0.2**
CBB				⇑Sn	**Sn**	**10 38 37.4**	**0.0**
BMSB	**Bamfield Mari**	**1.69**	**110**	Pn	**Pn**	**10 38 19.6**	**-0.8**
BBB	**Bella Bella**	**2.78**	**353**	⇑Pn	**Pn**	**10 38 36.4**	**+0.9**
BBB				⇑Sn	**Sn**	**10 39 07.1**	**-1.0**
BBB	**Bella Bella**	**2.78**	**353**	Pn	**Pn**	**10 38 36.3**	**+0.9**
	7.6nm,0.3s,baz=180,slow=9.1,SNR=239						
BBB				Sn	**Sn**	**10 39 06.6**	**-1.5**
	42nm,0.3s,baz=163,slow=17,SNR=23						
H02S1	**DAWSON INLET T**	**4.88**	**323**	Pn	**Pn**	**10 39 04.8**	**+0.4**
H02S1				Sn	**Sn**	**10 39 56.0**	**-3.9**
NEW	**Newport**	**6.97**	**96**	Pn	**Pn**	**10 39 34.2**	**+1.1**
	2.1nm,0.3s,baz=291,slow=13,SNR=24						
YBH	**Yreka Blue Hor**	**8.41**	**154**	Pn	Pn	10 39 58.4	+5.5
	0.2nm,0.3s,baz=322,slow=9.9,SNR=5.2						
ELK	**Elko**	**12.27**	**130**	Pn	Pn	10 40 50.6	+4.7
	0.1nm,0.3s,baz=338,slow=11,SNR=6.0						
NVAR	**Mina Array Bea**	**12.84**	**145**	Pn	Pn	10 40 59.7	+6.0
	0.0nm,0.3s,baz=332,slow=14,SNR=6.6						
PDAR	**Pinedale Array**	**14.13**	**111**	Pn	Pn	10 41 15.2	+4.1
	0.0nm,0.3s,baz=307,slow=14,SNR=6.8						
ULM	**Lac du Bonnet**	**20.36**	**76**	P	**P**	**10 42 26.6**	**-0.4**
	1.8nm,0.4s,baz=295,slow=14,SNR=5.4						
TXAR	**Lajitas Array**	**27.06**	**129**	P	**P**	**10 43 36.2**	**+3.2**
	0.2nm,0.6s,baz=335,slow=6.1,SNR=3.5						
H11N2	**WAKE ISLAND Hy**	**59.43**	**265**	T	T	11 52 25.7	
	baz=46,slow=0.7,SNR=35						
H11N3	**WAKE ISLAND Hy**	**59.43**	**265**	T	T	11 52 26.3	
	baz=46,slow=0.7,SNR=30						
H11N1	**WAKE ISLAND Hy**	**59.45**	**265**	T	T	11 52 26.0	
	baz=46,slow=0.7,SNR=17						
H11S1	**WAKE ISLAND Hy**	**60.44**	**264**	T	T	11 53 44.7	
	baz=40,slow=0.7,SNR=8.4						
H11S2	**WAKE ISLAND Hy**	**60.45**	**264**	T	T	11 53 41.9	
	baz=40,slow=0.7,SNR=10.0						
H11S3	**WAKE ISLAND Hy**	**60.46**	**264**	T	T	11 53 44.1	
	baz=40,slow=0.7,SNR=7.0						

*PRE **15** 10:40:04.8±2.2, 4°95S×33°55E, h10km, ML3.9*
*BUL **15** 10:40:33.4±11.0, 4°04S×34°33E, h0km±119km, MD2.0*
ISC 15 10:40:04.2±1.0, 5°00S±0°07×33°51E±0°05, h10km, n7, σ2°931/12, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAUS	**Longido**	**3.89**	**55**	*i* P	**Pb**	**10 41 14.3**	**+1.1**
MAUS				*i* S	**Sg**	**10 42 08.3**	**-1.1**
KIG	**Kigali**	**4.58**	**311**	*e*P	**Pn**	**10 41 15.5**	**+1.7**
KIG				*e*S	**Sn**	**10 42 05.6**	**-1.7**
KIG				AML	AML	10 42 38.3	
	comp=Z,107nm,0.4s						
MBAR	**Mbarara**	**5.18**	**328**	*e*P	**Pn**	**10 41 24.5**	**+2.5**
MBAR				*e*S	**Sn**	**10 42 19.8**	**-2.1**
MBAR	**Mbarara**	**5.18**	**328**	*i* P	**Pb**	**10 41 34.9**	**-0.2**
MBAR				*i* S	Sb	10 42 29.9	-7.5
KMBO	**Kilima Mbogo**	**5.36**	**44**	*e*P	**Pn**	**10 41 26.1**	**+1.5**
KMBO				*e*S	**Sn**	**10 42 22.8**	**-3.8**
KMBO	**Kilima Mbogo**	**5.36**	**44**	*i* P	Pn	10 41 29.1	+4.4
KMBO				*i* S	**Sn**	**10 42 25.9**	**-0.7**
LSZ	**Lusaka**	**11.47**	**207**	*e*P	**Pn**	**10 42 49.6**	**+1.2**
LSZ				*e*S	**Sn**	**10 44 53.6**	**-3.2**

*ISK **15** 10:41:40.7, 35°95N×30°34E, h16km, MD3.4*
*DDA **15** 10:41:41.4, 35°92N×30°32E, h28km, MD3.3*
*CSEM **15** 10:41:43.8±0.2, 36°02N×30°33E, h30km, MD3.3, Error ellipse: s-maj=5.9km s-min=3.3km az=163.0*
*THE **15** 10:41:46.5, 36°15N×30°12E, h14km±8km, ML3.5/1, Error ellipse: s-maj=8.5km s-min=1.4km az=57.0*
*ATH **15** 10:41:47.8, 35°85N×29°80E, h28km±4km, MD3.3/4*
ISC 15 10:41:43.3±1.2, 36°00N±0°04×30°34E±0°02, h31km±12km, n80, σ1°900/112, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.63**	**284**	*e*PB	**Pn**	**10 41 55.8**	**-0.2**
KSL	**Kastellorizon**	**0.63**	**284**	*e*Pb	**Pn**	**10 41 55.8**	**-0.2**
AKAS	**Kas**	**0.64**	**292**	*i* P	**Pb**	**10 41 55.2**	**-0.9**
AKAS				*i* S	**Sn**	**10 42 06.5**	**+1.1**
AKAS	**Kas**	**0.64**	**292**	*i* P	**Pb**	**10 41 55.2**	**-0.9**
AKAS				*i* S	**Sn**	**10 42 06.5**	**+1.1**
ELL	**Elmali**	**0.83**	**335**	*e*PG	**Pb**	**10 41 57.9**	**-1.3**
ELL				*e*SG	**Sn**	**10 42 10.4**	**+0.3**
ELL	**Elmali**	**0.83**	**335**	*e*Pg	**Pb**	**10 41 57.9**	**-1.3**
ELL				*e*Sg	**Sn**	**10 42 10.4**	**+0.3**
KORT	**Korkueli**	**1.00**	**1**	*i* P	**Pn**	**10 42 01.0**	**-0.3**
KORT				*i* S	**Sb**	**10 42 16.0**	**+0.9**
KORT	**Korkueli**	**1.00**	**1**	*i* P	**Pn**	**10 42 01.0**	**-0.3**
KORT				*i* S	**Sb**	**10 42 16.0**	**+0.9**
FETY	**Fethiye**	**1.20**	**303**	*e*PN	**Pn**	**10 42 03.8**	**-0.1**
FETY				*e*SN	**Sb**	**10 42 20.4**	**-0.1**
FETY	**Fethiye**	**1.20**	**303**	*e*Pn	**Pn**	**10 42 03.8**	**-0.1**
FETY				*e*Sn	**Sb**	**10 42 20.4**	**-0.1**
GLHS	**Glhisar (BURDU**	**1.34**	**330**	*e*PN	**Pn**	**10 42 06.0**	**+0.1**
GLHS	**Glhisar (BURDU**	**1.34**	**330**	*e*Pn	**Pn**	**10 42 06.0**	**+0.1**
GOLH	**Golhisar**	**1.39**	**333**	*i* P	**Pb**	**10 42 08.0**	**-0.6**
GOLH				*i* S	**Sb**	**10 42 27.5**	**+1.5**
GOLH	**Golhisar**	**1.39**	**333**	*i* P	**Pb**	**10 42 08.0**	**-0.6**
GOLH				*i* S	**Sb**	**10 42 27.5**	**+1.5**
BCK	**Bucak**	**1.48**	**8**	*e*PN	**Pn**	**10 42 08.8**	**+1.1**
BCK	**Bucak**	**1.48**	**8**	*e*Pn	**Pn**	**10 42 08.8**	**+1.1**
SUTC	**Sutluce-Ispart**	**1.57**	**20**	*e*PN	**Pn**	**10 42 10.1**	**+1.0**
SUTC	**Sutluce-Ispart**	**1.57**	**20**	*e*Pn	**Pn**	**10 42 10.1**	**+1.0**
DALY	**Dalyan (Mu˙la**	**1.58**	**302**	*e*PN	**Pn**	**10 42 09.4**	**+0.3**
DALY	**Dalyan (Mu˙la**	**1.58**	**302**	*e*Pn	**Pn**	**10 42 09.5**	**+0.3**
TURN	**Turunc**	**1.65**	**303**	*i* P	**Pb**	**10 42 13.3**	**+0.3**
TURN				*i* S	**Sb**	**10 42 35.4**	**+2.0**
TURN	**Turunc**	**1.65**	**303**	*i* P	**Pb**	**10 42 13.3**	**+0.3**
TURN				*i* S	**Sb**	**10 42 35.4**	**+2.0**
ARG	**Arkhangelos**	**1.80**	**278**	*e*PN	**Pb**	**10 42 13.2**	**-2.4**
ARG				*e*SN	**Sn**	**10 42 32.3**	**-1.7**
ARG	**Arkhangelos**	**1.80**	**278**	*e*Pn	**Pb**	**10 42 13.2**	**-2.4**
ARG				*e*Sn	**Sn**	**10 42 32.3**	**-1.7**
ISP	**Isparta**	**1.83**	**5**	P	**Pb**	**10 42 14.6**	**-1.5**
ISP	**Isparta**	**1.83**	**5**	*e*PN	**Pn**	**10 42 13.9**	**+1.3**
ISP	**Isparta**	**1.83**	**5**	*e*Pn	**Pn**	**10 42 13.9**	**+1.3**
ISP	**Isparta**	**1.83**	**5**	P	**Pb**	**10 42 14.6**	**-1.5**
DNZL	**Cakiroluk**	**1.98**	**329**	*i* P	**Pn**	**10 42 15.1**	**+0.3**
DNZL				*i* S	**Sb**	**10 42 45.4**	**+2.2**
DNZL	**Cakiroluk**	**1.98**	**329**	*i* P	**Pn**	**10 42 15.1**	**+0.3**
HDMB	**Hadim**	**1.98**	**60**	*e*PN	**Pn**	**10 42 14.3**	**-0.6**
HDMB	**Hadim**	**1.98**	**60**	*e*Pn	**Pn**	**10 42 14.3**	**-0.6**
YER	**Yerkesik**	**2.01**	**305**	*e*PN	**Pn**	**10 42 16.2**	**+1.2**
YER	**Yerkesik**	**2.01**	**305**	*e*Pn	**Pn**	**10 42 16.3**	**+1.2**
DENT	**Denizli**	**2.04**	**330**	*e*PN	**Pn**	**10 42 16.0**	**+0.5**
DENT	**Denizli**	**2.04**	**330**	*e*Pn	**Pn**	**10 42 16.0**	**+0.5**
ERMK	**Ermenek**	**2.18**	**72**	*i* P	**Pn**	**10 42 18.2**	**+0.7**
ERMK				*i* S	**Sb**	**10 42 48.8**	**0.0**
ERMK	**Ermenek**	**2.18**	**72**	*i* P	**Pn**	**10 42 18.2**	**+0.7**
KHL	**Karahalli**	**2.41**	**345**	*e*PN	**Pn**	**10 42 20.7**	**0.0**
KHL	**Karahalli**	**2.41**	**345**	*e*Pn	**Pn**	**10 42 20.7**	**0.0**
KHAL	**Karahalli**	**2.46**	**344**	*i* P	**Pn**	**10 42 21.0**	**-0.4**
KHAL				*i* S	**Sn**	**10 42 50.6**	**+0.1**
KHAL	**Karahalli**	**2.46**	**344**	*i* P	**Pn**	**10 42 21.0**	**-0.4**
KHAL				*i* S	**Sn**	**10 42 50.6**	**+0.1**
KONT	**Konya--Tatoy**	**2.53**	**39**	*e*PN	**Pn**	**10 42 22.8**	**+0.5**
KONT	**Konya--Tatoy**	**2.53**	**39**	*e*Pn	**Pn**	**10 42 22.8**	**+0.5**
SHUT	**Suhut-Afyon**	**2.56**	**4**	*e*PN	**Pn**	**10 42 23.3**	**+0.6**
SHUT	**Suhut-Afyon**	**2.56**	**4**	*e*Pn	**Pn**	**10 42 23.3**	**+0.6**
BDRM	**Kayabasi**	**2.56**	**295**	*e*P	**Pn**	**10 42 20.5**	**-2.1**
BDRM				*i* S	**Sn**	**10 42 52.4**	**-0.4**

USRK	**Ussuriysk Arra**	**64.48**	**333**	P		**P**	**11 13 21.8**	**-0.1**
	4.0nm,0.8s,baz=136,slow=5.2,SNR=7.8							
VNDA	**Vanda**	**64.94**	**181**	P		**P**	**11 13 24.5**	**0.0**
VNDA	**Vanda**	**64.94**	**181**	P		**P**	**11 13 24.5**	**0.0**
	0.4nm,0.5s,baz=343,slow=7.5,SNR=3.9							
CMAR	**Chiang Mai Arr**	**73.03**	**294**	P		**P**	**11 14 17.2**	**+1.5**
CMAR	**Chiang Mai Arr**	**73.03**	**294**	P		**P**	**11 14 17.2**	**+1.5**
	1.0nm,0.6s,baz=117,slow=4.3,SNR=7.8							
SONM	**Songino Array**	**80.11**	**324**	P		**P**	**11 14 55.8**	**+0.5**
SONM	**Songino Array**	**80.11**	**324**	P		**P**	**11 14 55.8**	**+0.5**
	1.7nm,0.7s,baz=123,slow=5.5,SNR=4.9							
MAW	**Mawson**	**83.40**	**202**	P		**P**	**11 15 12.5**	**+0.4**
MAW	**Mawson**	**83.40**	**202**	P		**P**	**11 15 12.5**	**+0.4**
	2.1nm,0.9s,baz=94,slow=6.1,SNR=7.9							
ILAR	**Eielson Array**	**84.89**	**18**	P		**P**	**11 15 20.1**	**+0.4**
ILAR	**Eielson Array**	**84.89**	**18**	P		**P**	**11 15 20.1**	**+0.4**
	0.4nm,0.6s,baz=242,slow=4.8,SNR=9.7							
MK31	**Makanchi Array**	**94.87**	**317**	*e*P		**P**	**11 16 07.1**	**-0.1**
MKAR	**Makanchi Array**	**94.87**	**317**	P		**P**	**11 16 07.2**	**0.0**
MKAR	**Makanchi Array**	**94.87**	**317**	P		**P**	**11 16 07.2**	**0.0**
	1.5nm,0.7s,baz=100,slow=6.8,SNR=14							
ARCES	**ARCESS Array B**	**117.92**	**345**	PKP		**PKPdf**	**11 21 29.8**	**-1.3**
ARCES	**ARCESS Array B**	**117.92**	**345**	PKP		**PKPdf**	**11 21 29.8**	**-1.3**
	6.0nm,1.0s,baz=90,slow=2.7,SNR=4.1							

*NEIC **15** 11:05:50.7, 52°.33N×166°.85W, h24km, ML3.3(AEIC), After AEIC.*
*IDC **15** 11:05:51.8±1.5, 52°.94N×166°.99W, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.8/30, mbtmp3.8/9, ML3.4/1, MS3.2/2, Ms1 3.3/2, ms1mx2.7/41, Error ellipse: s-maj=34.8km s-min=21.5km az=9.0*
ISC 15 11:05:53.2±1.0, 52°.56N±0°.09×166°.84W±0°.06, h25km, n43, σ1s30/38, mb3.8/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKFG	**Magazine Ridge**	**1.07**	**323**	P	**Pn**	**11 06 11.5**	**-1.1**
OKFG				S	**Sb**	**11 06 28.2**	**+1.6**
OKTU	**Okmok Mt. Tuli**	**1.10**	**319**	P	**Pn**	**11 06 12.6**	**-0.4**
OKSP	**Okmok Steeple**	**1.12**	**309**	P	**Pn**	**11 06 13.1**	**-0.3**
OKSO	**Okmok South**	**1.13**	**315**	P	**Pn**	**11 06 12.2**	**-1.2**
OKSO				S	**Sb**	**11 06 29.8**	**+1.4**
OKCE	**Okmok Cone E**	**1.18**	**318**	P	**Pn**	**11 06 14.1**	**-0.1**
MREP	**Makushin Rep't**	**1.25**	**2**	P	**Pb**	**11 06 16.4**	**+0.2**
NIKH	**Nikolski High**	**1.29**	**289**	P	**Pn**	**11 06 14.6**	**-1.1**
NIKH				S	**Sn**	**11 06 32.2**	**+0.1**
UNV	**Unalaska Valle**	**1.30**	**9**	P	**Pn**	**11 06 15.6**	**-0.3**
MSW	**Makushin Switc**	**1.36**	**1**	P	**Pb**	**11 06 17.1**	**-0.9**
MSW				S	**Sb**	**11 06 37.7**	**+2.8**
MCIR	**Makushin Cirqu**	**1.39**	**359**	P	**Pb**	**11 06 18.5**	**-0.1**
MTBL	**Makushin Table**	**1.42**	**4**	P	**Pb**	**11 06 18.0**	**-1.0**
ZRO	**Akutan Zero**	**1.62**	**18**	P	**Pn**	**11 06 20.5**	**+0.4**
AKRB	**Akutan Reef Bi**	**1.64**	**16**	P	**Pb**	**11 06 21.3**	**-1.4**
LVA	**Lava Point**	**1.67**	**16**	P	**Pn**	**11 06 21.6**	**+0.6**
AKUT	**Akutan**	**1.70**	**22**	*e*Pn	**Pn**	**11 06 20.6**	**-0.7**
AKGG	**Akutan Green G**	**1.72**	**17**	P	**Pn**	**11 06 21.8**	**+0.2**
IM04	**Indian Mountai**	**14.96**	**21**	Pn	**Pn**	**11 09 21.6**	**-1.2**
IMA2	**Indian Mountai**	**15.06**	**21**	*e*P	**P**	**11 09 27.4**	**-2.0**
ILAR	**Eielson Array**	**15.94**	**32**	Pn	**Pn**	**11 09 34.1**	**-1.4**
ILAR	**Eielson Array**	**15.94**	**32**	Pn	**Pn**	**11 09 34.1**	**-1.4**
	0.1nm,0.3s,baz=228,slow=12,SNR=5.6						
ILAR				LR	LR	11 16 30.4	
	comp=Z,97nm,18.4s,baz=231,slow=41						
PETK	**Petropavlovsk-**	**21.30**	**286**	P	**P**	**11 10 39.5**	**+1.8**
PETK	**Petropavlovsk-**	**21.30**	**286**	P	**P**	**11 10 39.5**	**+1.8**
	2.0nm,0.4s,baz=86,slow=1.1,SNR=9.2						
INK	**Inuvik**	**22.34**	**32**	P	**P**	**11 10 46.6**	**-2.2**
INK	**Inuvik**	**22.34**	**32**	P	**P**	**11 10 46.6**	**-2.2**
	2.1nm,0.6s,baz=255,slow=3.4,SNR=14						
ASAJ	**Asahikawa**	**34.03**	**276**	LR	LR	11 25 12.9	
	comp=Z,31nm,20.4s,baz=339,slow=34						
NVAR	**Mina Array Bea**	**36.12**	**93**	P	P	11 12 57.5	+4.2
NVAR	**Mina Array Bea**	**36.12**	**93**	P	P	11 12 57.5	+4.2
	0.7nm,0.9s,baz=288,slow=8.7,SNR=4.8						
H11N2	**WAKE ISLAND Hy**	**38.60**	**222**	T	T	11 54 38.2	
	baz=27,slow=0.7,SNR=12						
H11N3	**WAKE ISLAND Hy**	**38.61**	**222**	T	T	11 54 39.3	
	baz=27,slow=0.7,SNR=15						
H11N1	**WAKE ISLAND Hy**	**38.62**	**222**	T	T	11 54 39.5	
	baz=27,slow=0.7,SNR=10						
H11S1	**WAKE ISLAND Hy**	**39.78**	**221**	T	T	11 56 08.2	
	baz=23,slow=0.7,SNR=8.9						
H11S2	**WAKE ISLAND Hy**	**39.79**	**221**	T	T	11 56 10.4	
	baz=23,slow=0.7,SNR=8.9						
H11S3	**WAKE ISLAND Hy**	**39.80**	**221**	T	T	11 56 12.9	
	baz=23						
TXAR	**Lajitas Array**	**51.20**	**91**	P	**P**	**11 14 56.9**	**+2.5**
TXAR	**Lajitas Array**	**51.20**	**91**	P	**P**	**11 14 56.9**	**+2.5**
	0.5nm,0.8s,baz=312,slow=5.4,SNR=7.3						
ARCES	**ARCESS Array B**	**57.88**	**355**	P	**P**	**11 15 42.1**	**-0.2**
ARCES	**ARCESS Array B**	**57.88**	**355**	P	**P**	**11 15 42.1**	**-0.2**
	3.8nm,0.8s,baz=4.7,slow=7.4,SNR=3.8						
KURK	**Kurchatov**	**63.25**	**320**	P	**P**	**11 16 19.4**	**+0.3**
KURBB	**Kurchatov Arra**	**63.35**	**320**	P	**P**	**11 16 19.4**	**-0.4**
	0.6nm,0.8s,baz=44,slow=6.6,SNR=4.7						
FINES	**FINESS Array B**	**65.88**	**353**	P	**P**	**11 16 35.8**	**-0.3**
FINES	**FINESS Array B**	**65.88**	**353**	P	**P**	**11 16 35.8**	**-0.3**
	2.6nm,0.6s,baz=25,slow=7.0,SNR=9.6						
AKASG	**Malin Array Be**	**76.22**	**350**	P	**P**	**11 17 38.8**	**-0.2**
AKASG	**Malin Array Be**	**76.22**	**350**	P	**P**	**11 17 38.8**	**-0.2**
	0.3nm,0.3s,baz=14,slow=5.9,SNR=4.1						

NNC 15 11:07:12.8±2.9, 38°.52N×70°.01E, h0km, mb4.1, mpv3.8, 2C-5D, Error ellipse: s-maj=22.3km s-min=16.3km az=4.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.60**	**5**	Pn	Pn	11 08 24.1	+0.5
	3.6nm,0.3s,baz=152,slow=14,SNR=74						
KK31				Pg	Pb	11 08 36.9	+2.5
	7.9nm,0.5s,baz=181,slow=17,SNR=8.2						
KK31				⇑Sn	Sn	11 09 19.0	+1.3
	29nm,0.8s						
KK31				⇓Lg	Lg	11 09 36.5	
	28nm,0.8s,baz=172,slow=24,SNR=6.7						
TKM2	**Tokmak 2**	**6.11**	**42**	⇓Pn	Pn	11 08 43.5	-1.2
	6.9nm,0.5s						
TKM2				⇓Sn	Sn	11 09 56.9	+1.4
	5.4nm,0.7s						
AB31	**Akbulak array**	**12.94**	**329**	Pn	Pn	11 10 19.2	+1.3
	1.1nm,0.5s,baz=157,slow=11,SNR=30						
AB31				⇓Sn	Sn	11 12 42.6	+0.1
	1.0nm,0.5s,baz=151,slow=22,SNR=4.4						
AKTO	**Aktyubinsk**	**14.64**	**328**	⇓Pn	Pn	11 10 40.0	-1.1
	2.5nm,1.2s						
AKTO				⇑Sn	Sn	11 13 24.7	+0.6
	2.7nm,0.8s						

HEL 15 11:57:38.0±1.0, 68°.16N×33°.27E, h0km, ML1.5, Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VRF	**Varrio**	**1.44**	**255**	PG	Pn	11 58 03.3	-2.1
VRF				SG	Sg	11 58 23.4	-1.0
KEV	**Kevo**	**2.77**	**308**	PN	Pn	11 58 24.9	+1.4
KEV				SG	Sb	11 59 01.7	-1.0
KEV				MSG		11 59 01.7	
	comp=Z,1.4nm,0.2s						

*HEL **15** 11:58:14.6±0.6, 68°.16N×33°.32E, h0km, ML1.6, ML1.2(UPP), Explosion*
*UPP **15** 11:58:19.2, 68°.02N×32°.59E, h0km, ML1.2, Suspected Mining explosion.*
CSEM 15 11:58:16.3±1.0, 68°.17N×33°.02E, h2km, ML1.6, Error ellipse: s-maj=20.0km s-min=11.1km az=91.0, Mining explosion., Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VRF	**Varrio**	**1.35**	**254**	*e*PN	Pn	11 58 42.2	0.0
VRF				MSG	Sb	11 59 00.2	+0.1
	comp=Z,3.8nm,0.4s						
VRF				*e*SB	Sb	11 59 00.2	+0.1
VRF	**Varrio**	**1.35**	**254**	Pn	Pn	11 58 42.1	-0.1
VRF				Sb	Sb	11 59 00.2	+0.1
KU6	**Riekki**	**2.47**	**211**	*e*S	Sn	11 59 30.1	+1.8
KU6				*e*RG	Rg	11 59 33.8	
KU6	**Riekki**	**2.47**	**211**	S	Sn	11 59 30.0	+1.7
SGF	**Sodankyl**	**2.57**	**257**	SG	Pn	11 58 57.6	-1.3
SGF				MSG		11 58 57.6	
	comp=Z,1.5nm,0.4s						
SGF	**Sodankyl**	**2.57**	**257**	*e*P	Pn	11 58 57.6	-1.3
SGF				*e*SB	Sb	11 59 34.2	-0.8
SGF				MSG		11 59 34.2	
	comp=Z,2.2nm,0.4s						
SGF	**Sodankyl**	**2.57**	**257**	P	Pn	11 58 57.6	-1.3
KEV	**Kevo**	**2.69**	**309**	*e*S	Sn	11 59 34.5	+0.8
KEV	**Kevo**	**2.69**	**309**	S	Sn	11 59 34.4	+0.7
MSF	**Maaselka**	**2.75**	**216**	*e*S	Sn	11 59 35.0	-0.1
MSF				*e*RG	Rg	11 59 41.4	
MSF	**Maaselka**	**2.75**	**216**	S	Sn	11 59 34.9	-0.2
RNF	**Rovaniemi**	**3.12**	**243**	*e*P	Pn	11 59 06.9	+0.4
RNF				*e*S	Sn	11 59 45.5	+1.2
RNF				MSG		11 59 45.5	
	comp=Z,1.3nm,0.2s						
RNF	**Rovaniemi**	**3.12**	**243**	P	Pn	11 59 06.9	+0.4
RNF				S	Sn	11 59 45.5	+1.2
PAJU	**Pajala**	**3.96**	**258**	*e*P	Pn	11 59 18.1	0.0
PAJU				*e*S	Sn	12 00 04.1	-0.9
PAJU	**Pajala**	**3.96**	**258**	P	Pn	11 59 18.0	0.0
PAJU				S	Sn	12 00 04.1	-0.9
LANU	**Lannavaara**	**4.13**	**274**	*e*P	Pn	11 59 21.6	+1.3
LANU	**Lannavaara**	**4.13**	**274**	P	Pn	11 59 21.6	+1.2
MASU	**Masugnsbyn**	**4.24**	**265**	*e*P	Pn	11 59 21.7	-0.2
MASU	**Masugnsbyn**	**4.24**	**265**	P	Pn	11 59 21.7	-0.1
KALU	**Kalix**	**4.44**	**243**	*e*P	Pn	11 59 24.9	+0.4
KALU	**Kalix**	**4.44**	**243**	P	Pn	11 59 24.8	+0.3
ERTU	**Ertsjaerv**	**4.49**	**254**	*e*P	Pn	11 59 24.8	-0.4
ERTU	**Ertsjaerv**	**4.49**	**254**	P	Pn	11 59 24.8	-0.4
KUA	**Kurravaara**	**4.76**	**273**	*e*P	Pn	11 59 28.6	-0.4
KUA	**Kurravaara**	**4.76**	**273**	P	Pn	11 59 28.5	-0.5
DUNU	**Dundret**	**4.87**	**263**	*e*P	Pn	11 59 30.6	+0.2
DUNU	**Dundret**	**4.87**	**263**	P	Pn	11 59 30.6	+0.1
NIKU	**Nikkaluokta**	**5.26**	**273**	*e*P	Pn	11 59 37.1	+1.3
NIKU	**Nikkaluokta**	**5.26**	**273**	P	Pn	11 59 37.1	+1.3

IDC 15 11:58:48.4±9.2, 15°.77S×171°.65W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.4/20, mbtmp3.4/2, Error ellipse: s-maj=446.2km s-min=60.3km az=142.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**51.40**	**257**	P	P	12 07 55.5	0.0
	0.2nm,0.3s,baz=94,slow=7.3,SNR=6.0						
ASAR	**Alice Springs**	**51.60**	**252**	P	P	12 07 56.9	-0.1
	0.4nm,0.5s,baz=88,slow=8.5,SNR=7.4						
BRTR	**Keskin Array B**	**147.49**	**322**	PKPbc	PKPbc	12 18 34.1	-0.8
	0.5nm,0.4s,baz=75,slow=2.2,SNR=4.3						

IDC 15 11:59:52.2±3.1, 11°.81S×165°.85E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/20, mbtmp3.8/4, ML3.5/1, Error ellipse: s-maj=66.7km s-min=42.7km az=86.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.22**	**177**	Pn	Pn	12 02 20.4	0.0
	0.4nm,0.3s,baz=10,slow=18,SNR=11						
DZM				Sn	Sn	12 04 11.9	-4.0
	0.1nm,0.3s,baz=288,slow=20,SNR=4.0						
WRA	**Warramunga Arr**	**31.32**	**251**	P	P	12 06 14.8	+0.3
	0.4nm,0.5s,baz=83,slow=9.8,SNR=6.4						
ASAR	**Alice Springs**	**32.55**	**244**	P	P	12 06 25.0	-0.3
	0.4nm,0.7s,baz=72,slow=10,SNR=6.1						
MKAR	**Makanchi Array**	**94.14**	**317**	P	P	12 13 12.7	-0.2
	0.7nm,0.7s,baz=104,slow=6.1,SNR=6.8						

*BJI **15** 12:11:11.5, 3°.28S×139°.88E, h99km, mB5.9/47, mb5.9/73*
*MOS **15** 12:11:12.5±0.9, 3°.02S×139°.53E, h82km, mb5.9/58, MS5.1/21, Error ellipse: s-maj=8.3km s-min=4.8km az=108.4*
*ISCJB **15** 12:11:14.3±0.4, 3°.08S±0°.02×139°.53E±0°.02, h99km±3km, mb5.8/202, Error ellipse: s-maj=3.6km s-min=3.0km az=145.3*
*AUST **15** 12:11:15.8±0.5, 3°.15S×139°.52E, h94km±5km, Error ellipse: s-maj=5.0km s-min=4.2km az=33.0*
*IDC **15** 12:11:15.3±1.4, 3°.04S×139°.55E, h95km±12km, mb5.3/33, mb1 5.3/38, mb1mx5.3/39, mbtmp5.3/38, MS5.1/22, Ms1 5.1/22, ms1mx4.9/34, Error ellipse: s-maj=11.0km s-min=7.6km az=75.0*
*NEIC **15** 12:11:16.4±0.7, 3°.06S×139°.54E, h106km±6km, mb5.8/69, MW5.9, MW6.0, Error ellipse: s-maj=3.9km s-min=3.0km az=64.0, Moment Tensor Solution. s28 Moment tensor: Scale 10^17^Nm; Mrr 1.75; Mθθ -4.11; Mϕϕ 2.36; Mrθ -5.45; Mθϕ -3.77; Mϕr 3.26; Best double couple: Mo 8.20000×10^17^ NP1:ϕs 28.00000°, δ39.00000°, λ13.00000°. NP2: ϕs 288.00000°, δ82.00000°, λ129.00000°. Principal axes: T 8.6500, Plg40.0000°, Azm233.0000°; N -0.9900, Plg38.0000°, Azm100.0000°; P -7.6600, Plg26.0000°, Azm348.0000°;*
NEIC Felt [IV] at Jayapura and [III] at Aberpura, Genyem, Sentani and Wamena.
*DJA **15** 12:11:17.5±0.3, 3°.52×139°.9E±°, h97km±3km, M6.1/97, mb6.0/97, mB6.3/90, MLv6.2/2, Mw(mB)6.1/90, Mwp6.1/3*
*GCMT **15** 12:11:19.8±0.1, 3°.04S×139°.45E, h105km, MW6.0, Moment Tensor Solution. s118,c268; s86,c123; Moment tensor: Scale 10^18^Nm; Mrr 0.28±.01; Mθθ -1.09±.01; Mϕϕ 0.81±.01; Mrθ -0.66±.01; Mθϕ -0.58±.01; Mϕr 0.29±.01; Best double couple: Mo 1.30000×10^18^ NP1:ϕs 296.00000°, δ83.00000°, λ145.00000°. NP2: ϕs 30.00000°, δ55.00000°, λ8.00000°. Principal axes: T 1.2300, Plg29.0000°, Azm247.0000°; N 0.2100, Plg54.0000°, Azm106.0000°; P -1.4400, Plg19.0000°, Azm348.0000°; Data Used: II IU IC G CN. Surface waves: sta=127, comp=281, per= 50.*
*NEIC **15** 12:11:29.1±0.0, 2°.91S×139°.60E, h80km Best double couple: NP1:ϕs 292.00000°, δ79.00000°, λ134.00000°. NP2:ϕs 34.00000°, δ45.00000°, λ16.00000°. Principal axes: T 1.0600, Plg39.0000°, Azm241.0000°; N 0.2200, Plg43.0000°, Azm101.0000°; P -1.2900, Plg21.0000°, Azm350.0000°;*
ISC 15 12:11:16.7±0.2, 3°.11S±0°.02×139°.52E±0°.03, h110km±1km, h110km:pP-P, n867, σ1s55/1064, mb5.8/201, 102C-125D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.32**	**63**	P	**Pn**	**12 11 39.2**	**-2.3**
JAY	**Jayapura**	**1.32**	**63**	⇓P	**Pn**	**12 11 39.0**	**-2.5**
	baz=1.3,SNR=1000						
SRPI	**Serui, Papua**	**3.50**	**291**	P	**Pn**	**12 12 09.3**	**-0.1**
SRPI				S	**Sn**	**12 12 47.6**	**-2.5**
BAKI	**Biak**	**3.91**	**299**	P	**Pn**	**12 12 14.1**	**-0.7**
BAKI				S	**Sn**	**12 12 57.9**	**-2.0**
MMPI	**Merauke**	**5.39**	**171**	P	**Pn**	**12 12 35.5**	**+0.6**
	40μm,1.1s,570μm324μm						
MMPI	**Merauke**	**5.39**	**171**	⇓P	**Pn**	**12 12 35.4**	**+0.6**
	baz=5.4,SNR=54						
KMPI	**Kaimana, Papua**	**5.83**	**264**	P	**Pn**	**12 12 41.1**	**+0.3**
	5μm,0.7s,56μm18nm						
TLE	**Tual**	**7.21**	**249**	P	**Pn**	**12 12 59.7**	**+0.1**
	3μm,1.2s,53μm178μm						
TLE				S	**Sn**	**12 14 14.6**	**-5.4**
	3μm,1.2s,53μm178μm						
TLE	**Tual**	**7.21**	**249**	⇓P	**Pn**	**12 13 00.1**	**+0.5**
	baz=7.2,SNR=64						
FAKI	**Fak Fak**	**7.26**	**271**	P	**Pn**	**12 13 00.1**	**-0.1**
	3μm,0.7s,31μm42μm						
FAKI				S	**Sn**	**12 14 20.2**	**-1.0**
	3μm,0.7s,31μm42μm						
FAKI	**Fak Fak**	**7.26**	**271**	⇓P	**Pn**	**12 12 59.7**	**-0.6**
	baz=7.3,SNR=1000						
SWI	**Sorong**	**8.55**	**285**	P	**Pn**	**12 13 17.1**	**-0.6**
SAUI	**Saumlaki**	**9.51**	**239**	P	**Pn**	**12 13 30.9**	**+0.2**
BNDI	**Bandanaira**	**9.70**	**261**	P	**Pn**	**12 13 31.2**	**-2.0**
PMG	**Port Moresby**	**9.84**	**130**	P	**Pn**	**12 13 34.1**	**-1.0**
PMG	**Port Moresby**	**9.84**	**130**	*e*Pn	**Pn**	**12 13 34.0**	**-1.1**
PMG				S	**Sn**	**12 15 18.5**	**-5.2**
PMG	**Port Moresby**	**9.84**	**130**	P	**Pn**	**12 13 34.0**	**-1.1**
	16nm,0.3s,baz=316,slow=7.4,SNR=122						
PMG				S	**Sn**	**12 15 18.5**	**-5.2**
	10nm,0.3s,baz=216,slow=19,SNR=2.6						
MSAI	**Masohi**	**10.58**	**268**	P	**Pn**	**12 13 43.4**	**-1.8**
AAI	**Ambon**	**11.32**	**267**	P	**Pn**	**12 13 53.1**	**-2.1**
AAI	**Ambon**	**11.32**	**267**	⇑P	**Pn**	**12 13 55.2**	**0.0**
	baz=11,SNR=97						
COEN	**Coen**	**11.37**	**162**	*e*Pn	**Pn**	**12 13 53.4**	**-2.4**
COEN	**Coen**	**11.37**	**162**	⇑P	**Pn**	**12 13 54.7**	**-1.1**
	baz=11,SNR=1000						
PALU	**Palau**	**11.54**	**334**	⇓P	**Pn**	**12 13 59.5**	**+1.4**
	baz=12,SNR=106						
KDU	**Kakadu**	**11.80**	**216**	⇓P	**Pn**	**12 13 59.8**	**-1.7**
	baz=12,SNR=1000						
LBMI	**Labuha**	**12.26**	**281**	P	**Pn**	**12 14 07.5**	**-0.2**
	4μm,1.1s,35μm						
NLAI	**Namlea**	**12.40**	**269**	P	**Pn**	**12 14 10.1**	**+0.6**
	1000nm,0.8s,13μm						
MTN	**Manton Dam**	**12.74**	**220**	⇓P	**Pn**	**12 14 12.1**	**-1.9**
	baz=13,SNR=193						
TNTI	**Ternate**	**12.75**	**287**	P	**Pn**	**12 14 15.6**	**+1.6**
	2μm,1.1s,16μm						
TNTI	**Ternate**	**12.75**	**287**	*e*Pn	**Pn**	**12 14 15.6**	**+1.6**
SGSI	**Sangihe**	**15.53**	**296**	P	**P**	**12 14 54.8**	**+3.1**
	527nm,0.7s,8μm						
KMSI	**Cibinong**	**15.96**	**283**	P	**Pn**	**12 14 54.8**	**-0.3**
KNRA	**Kununurra**	**16.38**	**220**	⇑P	**Pn**	**12 14 59.1**	**-1.1**
	baz=16,SNR=1000						
MATI	**Mati**	**16.59**	**307**	*e*P	**Pn**	**12 15 02.8**	**0.0**
LUWI	**Luwuk**	**16.86**	**277**	P	**Pn**	**12 15 05.8**	**-0.4**
	3μm,1.2s,32μm						
BBSI	**Bau Bau**	**17.07**	**261**	P	**P**	**12 15 11.1**	**+2.4**
	2μm,2.1s,41μm						
DAV	**Davao City (W)**	**17.20**	**306**	P	**Pn**	**12 15 13.0**	**+2.6**
	SNR=12						
DAV	**Davao City (W)**	**17.20**	**306**	P	**Pn**	**12 15 14.1**	**+3.8**
	627nm,1.1s,12μm						
DAV	**Davao City (W)**	**17.20**	**306**	*e*Pn	**Pn**	**12 15 11.3**	**+0.9**
	891nm,1.3s						
BATI	**Baumata**	**17.25**	**245**	P	**P**	**12 15 10.5**	**-0.3**
	2μm,0.8s,25μm						
BATI	**Baumata**	**17.25**	**245**	P	**P**	**12 15 10.7**	**0.0**
BATI				S	**Sn**	**12 18 17.4**	**-5.7**
BATI	**Baumata**	**17.25**	**245**	P	**P**	**12 15 10.7**	**0.0**
	42nm,0.3s,baz=126,slow=2.2,SNR=144						
BATI				S	**Sn**	**12 18 17.4**	**-5.7**
	6.7nm,0.3s,baz=90,slow=20,SNR=2.5						
GUMO	**Guam**	**17.42**	**18**	*e*Pn	**P**	**12 15 12.5**	**-0.1**
	3μm,1.4s						
WRAB	**Tennant Creek**	**17.47**	**196**	*e*P	**P**	**12 15 11.4**	**-1.7**
WRAB				pmax	pmax		
	comp=Z,795nm,0.8s						
WRAB	**Tennant Creek**	**17.47**	**196**	*e*P	**P**	**12 15 11.4**	**-1.7**
	comp=Z,795nm,0.8s						
WRAB	**Tennant Creek**	**17.47**	**196**	P	**P**	**12 15 11.5**	**-1.7**
	comp=Z,4μm,0.8s						
WRA	**Warramunga Arr**	**17.48**	**196**	P	**P**	**12 15 12.2**	**-1.0**
WRA				S	Sn	12 18 15.6	-13
WRA	**Warramunga Arr**	**17.48**	**196**	P	**P**	**12 15 12.2**	**-1.0**
	comp=Z,11nm,0.3s,baz=18,slow=12,SNR=218						
WRA				S	Sn	12 18 15.6	-13
	comp=Z,20nm,0.3s,baz=14,slow=22,SNR=6.0						
MRSI	**Marisa**	**17.93**	**281**	P	**P**	**12 15 18.1**	**-0.1**
	comp=Z,890nm,1.0s,comp=Z,7μm						
APSI	**Ampana**	**17.99**	**277**	P	**Pn**	**12 15 20.6**	**+0.7**
	comp=Z,2μm,0.9s,comp=Z,21μm						
MMRI	**Maumere**	**18.04**	**252**	P	**P**	**12 15 19.5**	**0.0**
	comp=Z,589nm,0.9s,comp=Z,12μm						
MMRI	**Maumere**	**18.04**	**252**	*e*P	**P**	**12 15 19.4**	**0.0**
	comp=Z,781nm,1.1s						
BUKP	**Musuan**	**18.09**	**307**	*e*P	**Pn**	**12 15 20.7**	**-0.4**
CTA	**Charters Tower**	**18.11**	**159**	P	**P**	**12 15 20.2**	**0.0**
CTA				S	**S**	**12 18 40.3**	**-2.0**
CTA	**Charters Tower**	**18.11**	**159**	P	**P**	**12 15 20.2**	**0.0**
	comp=Z,8.8nm,0.3s,baz=335,slow=12,SNR=117						
CTA				S	**S**	**12 18 40.3**	**-2.0**
	comp=Z,1.6nm,0.3s,baz=81,slow=19,SNR=2.0						
CTA				LR	LR	12 22 41.6	
	comp=Z,11μm,19.8s,baz=344,slow=38						
BUTP	**Butuan**	**18.33**	**311**	*e*P	**P**	**12 15 23.0**	**+0.4**
CTBH	**Cotabato--PC H**	**18.38**	**304**	⇑*e*P	**P**	**12 15 23.5**	**+0.4**
CGP	**Cagayan de Oro**	**18.72**	**308**	⇓*e*P	**Pn**	**12 15 29.5**	**+0.9**
SCPH	**Surigao**	**18.96**	**313**	*e*P	**Pn**	**12 15 30.4**	**-0.9**
TOLI	**Toli-Toli**	**19.18**	**282**	P	**Pn**	**12 15 36.9**	**+2.9**
	comp=Z,778nm,1.1s,comp=Z,10μm						
PAGZ	**Pagadian**	**19.43**	**304**	*e*P	**Pn**	**12 15 36.2**	**-0.8**
BKSI	**Bulukumba**	**19.47**	**263**	P	**Pn**	**12 15 36.6**	**-0.7**
	comp=Z,1μm,1.2s,comp=Z,16μm						
TTSI	**Tana Toraja**	**19.67**	**270**	P	**Pn**	**12 15 40.1**	**+0.4**
	comp=Z,3μm,1.4s,comp=Z,46μm						
SPSI	**Sidrap Palu**	**19.73**	**267**	P	**Pn**	**12 15 39.7**	**-0.7**
	comp=Z,1μm,2.1s,comp=Z,20μm						
KAPI	**Kappang**	**19.

comp=Z,349nm,1.1s,comp=Z,17µm
LQP Lukban 24.71 314⇑ *e*P P 12 16 28.4 +0.3
EIDS Eidsvold 24.77 154 *e*P P 12 16 30.0 +1.6
comp=Z,1µm,0.9s
EIDS Eidsvold 24.77 154 ⇑P P 12 16 30.7 +2.4
baz=25,SNR=388
DNP Denpasar 24.80 256 P P 12 16 29.5 +0.8
comp=Z,791nm,0.9s,comp=Z,20µm
RMQ Roma 24.88 160 ⇓P P 12 16 31.6 +2.4
baz=25,SNR=274
KKM Kota Kinabalu 24.99 291 P P 12 16 31.9 +1.4
KKM Kota Kinabalu 24.99 291 P P 12 16 31.7 +1.2
comp=Z,214nm,1.1s,comp=Z,3µm
KKM Kota Kinabalu 24.99 291 *e*P P 12 16 31.2 +0.8
comp=Z,176nm,0.9s
KKM Kota Kinabalu 24.99 291 P P 12 16 31.3 +0.8
baz=25,SNR=16
BYJI Banyuwangi 25.54 257 P P 12 16 36.1 +0.7
comp=Z,1µm,1.1s,comp=Z,15µm
ABJI Asem Bagus 25.59 258 P P 12 16 35.6 -0.3
comp=Z,222nm,1.3s,comp=Z,9µm
KMMI Kalianget 25.75 260 P P 12 16 39.0 +1.7
comp=Z,1µm,1.0s,comp=Z,12µm
BLJI Banyuglugur 26.21 259 P P 12 16 40.5 -1.0
comp=Z,236nm,1.1s,comp=Z,4µm
MBWA Marble Bar 26.32 225 P P 12 16 43.1 +0.7
SNR=51
MBWA Marble Bar 26.32 225 *e*P P 12 16 42.8 +0.4
comp=Z,327nm,0.9s
GMJI Gumukmas 26.44 258 P P 12 16 42.8 -0.8
comp=Z,136nm,0.9s,comp=Z,4µm
BTM Bintulu 27.16 283 P P 12 16 52.6 +2.6
GRJI Gresik 27.20 261 P P 12 16 51.9 +1.6
comp=Z,260nm,1.0s,comp=Z,2µm
KRKI Karangkates 27.39 258 P P 12 16 58.6 +6.5
comp=Z,252nm,1.0s
PBKI Pangkalan Bun 27.82 270 P P 12 16 57.2 +1.3
comp=Z,806nm,1.0s,comp=Z,6µm
SBUM Sibu 27.84 281 P P 12 16 57.6 +1.5
SBUM Sibu 27.84 281 P P 12 16 57.6 +1.5
comp=Z,72nm,1.6s,comp=Z,2µm
SBUM Sibu 27.84 281 *e*P P 12 16 57.3 +1.2
comp=Z,86nm,1.2s
SJI Sawahan 28.00 259 P P 12 16 57.2 -0.4
comp=Z,194nm,1.4s,comp=Z,5µm
PWJI Pagerwojo 28.00 259 P P 12 16 55.6 -1.9
STKI Sintang 28.21 276 P P 12 17 00.8 +1.4
comp=Z,120nm,1.4s
NGJI Ngawi 28.25 260 P P 12 17 02.7 +2.9
comp=Z,103nm,1.6s,comp=Z,5µm
PCJI Pacitan 28.64 259 P P 12 17 02.3 -0.9
comp=Z,218nm,1.1s,comp=Z,4µm
STKA Stephens Creek 28.68 176 *e*P P 12 17 03.4 0.0
comp=Z,378nm,2.3s
STKA S S 12 21 44.1 -0.3
STKA Stephens Creek 28.68 176 P P 12 17 03.4 0.0
baz=29,SNR=70
STKA Stephens Creek 28.68 176 P P 12 17 03.3 0.0
comp=Z,46nm,0.6s,baz=344,slow=8.6,SNR=106
STKA S S 12 21 44.1 -0.3
comp=Z,20nm,0.7s,baz=239,slow=19,SNR=1.6
STKA LR LR 12 29 33.8
comp=Z,13µm,20.1s,baz=354,slow=38
WOJI Wonogiri, Jawa 28.84 259 P P 12 17 04.0 -1.0
comp=Z,245nm,1.3s,comp=Z,5µm
CMSA Cobar Meteorol 28.87 169 P P 12 17 06.2 +1.2
baz=29,SNR=145
CMSA ⇑P P 12 17 06.9 +1.9
baz=29
CMSA ⇑P P 12 17 07.0 +1.9
baz=29
ARMA Armidale 29.48 158 *e*P P 12 17 12.4 +1.8
comp=Z,245nm,1.1s
ARMA Armidale 29.48 158 P P 12 17 12.3 +1.8
baz=30,SNR=107
KSM Kuching 29.55 278 P P 12 17 12.5 +1.2
KSM Kuching 29.55 278 P P 12 17 12.1 +0.8
comp=Z,92nm,1.8s,comp=Z,2µm
KSM Kuching 29.55 278 *e*P P 12 17 12.3 +1.0
comp=Z,132nm,1.1s
BBOO Buckleboo 29.72 186 *e*P P 12 17 12.9 +0.3
comp=Z,9µm,1.1s
BBOO Buckleboo 29.72 186 P P 12 17 13.2 +0.6
baz=30,SNR=14
BJII Banjamegara 29.97 261 P P 12 17 15.3 +0.2
comp=Z,225nm,1.9s,comp=Z,5µm
JCJ Chichijima 30.14 5 P P 12 17 14.4 -1.9
comp=Z,282nm,0.8s,baz=181,slow=3.8,SNR=23
CBIJ Chichi jima 30.14 5 P P 12 17 14.4 -1.9
TGJI Tegal 30.51 262 P P 12 17 19.5 -0.2
comp=Z,182nm,1.6s,comp=Z,4µm
KPJI Karang Pucung 30.74 261 P P 12 17 21.9 +0.1
comp=Z,275nm,1.2s,comp=Z,4µm
MEEK Meekatharra 30.80 219 P P 12 17 22.4 +0.2
baz=31,SNR=94
GIRL Giralia 31.27 229 P P 12 17 28.4 +2.1
baz=31,SNR=31
JOW Kunigami 31.69 341 *e*P P 12 17 30.6 +0.7
comp=Z,208nm,1.2s
YULB Yu-li 31.77 327 *e*P P 12 17 28.4 -2.3
comp=Z,67nm,0.9s
MGCD Mangrove Creek 31.85 161 P P 12 17 33.2 +1.9
baz=32,SNR=27
CISI Cisompet, Garu 31.87 261 P P 12 17 30.4 -1.4
comp=Z,325nm,0.8s,comp=Z,5µm
LEM Lembang 31.99 262 P P 12 17 33.1 +0.1
comp=Z,219nm,1.1s,comp=Z,5µm
TPUB Ta-pu 32.07 326 *e*P P 12 17 31.9 -1.5
comp=Z,219nm,1.3s
DZM Mont Dzumac 32.22 128 *e*P P 12 17 34.8 0.0
comp=Z,175nm,1.1s
DZM *e*pP pP 12 18 01.2 +2.0
comp=Z,175nm,1.1s
DZM *e*LQ LQ 12 24 55.1
comp=Z,8µm,24.9s
DZM *e*LR LR 12 26 26.3
comp=Z,5µm,25.1s
DZM Mont Dzumac 32.22 128 *e*P P 12 17 34.4 -0.4
comp=Z,88nm,1.1s
DZM Mont Dzumac 32.22 128 P P 12 17 34.9 +0.1
comp=Z,20nm,0.6s,baz=171,slow=23,SNR=69
NACB Ningaohiai 32.24 328 *e*P P 12 17 34.4 -0.4
comp=Z,372nm,1.2s
SSLB Suanglung 32.27 327 *e*P P 12 17 33.8 -1.3
comp=Z,52nm,0.8s
CBJI Citeko 32.72 263 P P 12 17 38.2 -0.9
comp=Z,342nm,1.2s,comp=Z,12µm
YHNB Yeheng 32.76 328 *e*P P 12 17 39.0 -0.5
comp=Z,86nm,0.8s
TATO Taipei 32.95 329 *e*P P 12 17 40.7 -0.3
comp=Z,1µm,1.3s
SKJI Sukabumi 33.05 262 P P 12 17 40.6 -1.5
comp=Z,431nm,0.9s,comp=Z,5µm
CAN Canberra 33.23 166 *e*P P 12 17 45.2 +1.8
CAN pmax pmax
comp=Z,62nm,0.7s
CAN Canberra 33.23 166 *e*P P 12 17 45.1 +1.8
comp=Z,62nm,0.7s
CNB Canberra Magne 33.32 165 P P 12 17 46.4 +2.2
baz=33,SNR=120
PPBI Pangkal Pinang 33.36 271 P P 12 17 46.0 +1.2
comp=Z,470nm,1.1s
ARPS Mount Arapiles 33.56 177 P P 12 17 47.3 +1.1
baz=34,SNR=81
TARA Tarawa 33.68 83 *e*P P 12 17 48.4 +0.8
comp=Z,172nm,1.0s
MORW Morawa 34.12 218 P P 12 17 51.6 +0.4
baz=34,SNR=74
BLSI Bandar Lampung 34.25 265 P P 12 17 52.5 0.0
comp=Z,181nm,1.3s,comp=Z,4µm
XMI Christmas Isla 34.35 256 P P 12 17 53.3 -0.1
baz=34,SNR=3.7
XMIS Christmas Isla 34.39 256 *e*P P 12 17 52.6 -1.1
comp=Z,461nm,1.0s
XMIS Christmas Isla 34.39 256 P P 12 17 53.5 -0.2
baz=34,SNR=4.6
QZH Quanzhou 34.50 325 ⇓*i*P P 12 17 51.8 -2.6
QZH pP pP 12 18 16.0 -3.0
QZH S S 12 23 11.4 -3.8
QZH AMB AMB
comp=Z,400nm,1.2s
QZH AMB AMB
comp=Z,2µm,6.4s
QZH LR LR
comp=Z,3µm,12.5s
QZH LR LR
comp=Z,4µm,14.6s
QZH LR LR
comp=Z,12µm,35.3s
KLI Kotabumi 34.62 266 P P 12 17 56.0 +0.3
comp=Z,201nm,1.6s,comp=Z,4µm
PMBI Palembang 34.70 269 P P 12 17 58.5 +2.2
comp=Z,1µm,1.1s,comp=Z,10µm
TOO Toolangi 34.73 172 P P 12 17 58.6 +2.3
baz=35,SNR=30
BLDU Ballidu 34.83 216 P P 12 17 57.6 +0.4
baz=35,SNR=86
MILA Mila 34.92 166 P P 12 18 00.2 +2.2
baz=35,SNR=73
KLBR Kellerberrin 34.97 214 P P 12 17 58.9 +0.5
baz=35,SNR=115
KASI Kota Agung 35.00 265 P P 12 17 57.4 -1.5
MDSI Maura Dua 35.29 267 P P 12 18 01.3 -0.1
comp=Z,776nm,1.2s,comp=Z,10µm
HKC Hong Kong Obse 35.37 317 P P 12 18 04.0 +2.0
LWLI Liwa 35.42 266 P P 12 18 02.0 -0.7
comp=Z,724nm,1.3s,comp=Z,9µm
LHSI Lahat 35.94 268 P P 12 18 07.8 +0.9
comp=Z,816nm,1.4s,comp=Z,13µm
MYKOM Kota Tinggi 35.99 277 P P 12 18 08.4 +1.1
MYKOM Kota Tinggi 35.99 277 P P 12 18 08.1 +0.7
comp=Z,136nm,1.6s,comp=Z,3µm
BTDF Bukit Timah Da 36.01 277 P P 12 18 08.8 +1.2
baz=36,SNR=4.8
BTDF P P 12 18 08.8 +1.2
baz=36,SNR=4.8
NWAO Narrogin (SRO) 36.27 213 P P 12 18 10.3 +0.8
SNR=31
NWAO Narrogin (SRO) 36.27 213 *e*P P 12 18 09.7 +0.2
NWAO S S 12 23 43.3 +1.2
NWAO Narrogin (SRO) 36.27 213 P P 12 18 10.2 +0.6
comp=Z,135nm,0.7s,baz=40,slow=9.1,SNR=73
NWAO S S 12 23 43.3 +1.2
comp=Z,29nm,0.7s,baz=145,slow=19,SNR=2.8
NWAO LR LR 12 34 06.5
comp=Z,5µm,21.6s,baz=30,slow=38
GZH Guangzhou 36.47 317 P P 12 18 10.6 -0.7
GZH PP PP 12 19 35.0 -1.5
GZH S S 12 23 42.1 -3.2
GZH LR LR
comp=Z,5µm,15.7s
GZH LR LR
comp=Z,5µm,14.7s
KGM Kluang 36.54 278 P P 12 18 13.3 +1.2
QIZ Qiongzhong 36.56 308 P P 12 18 12.5 +0.4
QIZ pP pP 12 18 37.8 +0.9
QIZ sP sP 12 18 50.8 +1.3
QIZ S S 12 23 48.1 +1.3
QIZ AMB AMB
comp=Z,77nm,1.1s
QIZ LR LR
comp=Z,5µm,23.3s
QIZ LR LR
comp=Z,2µm,23.1s
QIZ LR LR
comp=Z,3µm,33.3s
QIZ Qiongzhong 36.56 308 *e*P P 12 18 11.3 -0.8
comp=Z,258nm,1.6s
JNU Nakatsue 36.95 348 *e*P P 12 18 15.4 +0.1
comp=Z,294nm,1.2s
JNU S S 12 23 51.7 -0.8
JNU Nakatsue 36.95 348 P P 12 18 15.3 +0.1
comp=Z,339nm,1.0s,baz=152,slow=4.3,SNR=115
JNU S S 12 23 51.7 -0.8
comp=Z,10nm,1.1s,baz=255,slow=20,SNR=5.1
MASI Maura Aman, Be 37.22 269 P P 12 18 18.8 +0.9
comp=Z,1µm,1.1s,comp=Z,12µm
KTGM Kuala Trenggan 37.30 283 P P 12 18 19.1 +0.6
RKGY Rocky Gully 37.71 211 P P 12 18 24.0 +2.4
baz=38,SNR=25
SSE Sheshan 38.24 334 P P 12 18 26.8 +0.7
SSE pP pP 12 18 49.6 -1.5
SSE PP PP 12 19 56.5 +0.7
SSE S S 12 24 14.4 +2.5
SSE AMB AMB
comp=Z,320nm,1.1s
SSE AMB AMB
comp=Z,1µm,7.7s
SSE LR LR
comp=Z,3µm,26.1s
SSE LR LR
comp=Z,3µm,26.1s
SSE LR LR
comp=Z,3µm,28.4s
UBPT Khong Chiam 38.34 299 P P 12 18 27.4 +0.2
comp=Z,89nm,1.0s,comp=Z,2µm
UBPT Khong Chiam 38.34 299 P P 12 18 27.4 +0.2
comp=Z,89nm,1.0s,comp=Z,2µm
FRIM Kemg 38.40 279 P P 12 18 28.7 +0.9
PDSI Padang 39.09 272 P P 12 18 33.1 -0.5
comp=Z,433nm,1.1s,comp=Z,56µm
PPI Padang Panjang 39.19 273 P P 12 18 34.3 -0.1
comp=Z,880nm,1.0s,comp=Z,9µm
PPI Padang Panjang 39.19 273 P P 12 18 34.8 +0.4
baz=39,SNR=38
IPM Ipoh 39.20 281 P P 12 18 35.1 +0.7
IPM Ipoh 39.20 281 P P 12 18 34.7 +0.2
comp=Z,71nm,1.7s,comp=Z,2µm
IPM Ipoh 39.20 281 *e*P P 12 18 35.0 +0.5
comp=Z,268nm,1.6s
MJAR Matsushiro Arr 39.47 358 P P 12 18 34.6 -1.7
MJAR S S 12 24 28.2 -2.0
MJAR Matsushiro Arr 39.47 358 P P 12 18 34.6 -1.7
comp=Z,21nm,0.8s,baz=188,slow=11,SNR=77
MJAR S S 12 24 28.2 -2.0
comp=Z,0.4nm,0.5s,baz=198,slow=7.3,SNR=3.2
MAJO Matsushiro 39.47 358 *e*P P 12 18 34.9 -1.4
MAJO pmax pmax
comp=Z,95nm,1.0s
MAJO Matsushiro 39.47 358 *e*P P 12 18 34.9 -1.4
comp=Z,95nm,1.0s
MAT Matsushiro 39.47 358 P P 12 18 34.7 -1.6
MAT S S 12 24 27.6 -2.7
KULM Kulim 39.72 282 P P 12 18 38.9 +0.2
KULM Kulim 39.72 282 P P 12 18 38.9 +0.2
comp=Z,63nm,1.2s,comp=Z,1µm
KULM Kulim 39.72 282 *e*P P 12 18 39.0 +0.2
comp=Z,89nm,1.0s
MOO Moorlands 39.76 171 P P 12 18 41.1 +2.4
baz=40,SNR=18
NJ2 Nanjing 40.10 332 *e*P P 12 18 41.8 +0.2
NJ2 pP pP 12 19 06.9 +0.2
NJ2 sP sP 12 19 21.6 +2.4
NJ2 S S 12 24 35.0 -4.8
NJ2 sS sS 12 25 25.5 +2.3
NJ2 AMB AMB
comp=Z,310nm,1.1s
NJ2 AMB AMB
comp=Z,2µm,7.7s
NJ2 LR LR
comp=Z,3µm,17.3s
NJ2 LR LR
comp=Z,5µm,21.0s
NJ2 LR LR
comp=Z,4µm,29.0s
TAU Tasmania Unive 40.23 171 *e*P P 12 18 44.6 +2.0
TAU pmax pmax
comp=Z,544nm,1.4s
TAU Tasmania Unive 40.23 171 *e*P P 12 18 44.5 +2.0
comp=Z,544nm,1.4s
TAU Tasmania Unive 40.23 171 P P 12 18 44.0 +1.4
comp=Z,1µm,1.4s,SNR=29
MSVF Nonsavu 40.47 114 *e*P P 12 18 46.0 +1.0
MSVF pmax pmax
comp=Z,148nm,1.2s
MSVF Nonsavu 40.47 114 *e*P P 12 18 46.0 +1.0
comp=Z,148nm,1.2s
PSI Prapat 41.00 278 P P 12 18 49.5 0.0
PSI S S 12 24 50.8 -3.3
PSI Prapat 41.00 278 P P 12 18 49.5 0.0
baz=41,SNR=167
PSI Prapat 41.00 278 P P 12 18 49.5 0.0
comp=Z,202nm,0.8s,baz=101,slow=4.9,SNR=300
PSI S S 12 24 50.8 -3.3
comp=Z,3.3nm,0.5s,baz=170,slow=22,SNR=19
WHN Wuhan 41.20 326 ⇓P P 12 18 51.8 +1.1
WHN pP pP 12 19 15.3 -0.6
WHN S S 12 24 59.1 +2.9
WHN AMB AMB
comp=Z,250nm,1.1s
WHN LR LR
comp=Z,2µm,11.0s
WHN LR LR
comp=Z,1µm,11.7s
WHN LR LR
comp=Z,5µm,17.8s
NONG Nongkai 41.56 302 P P 12 18 53.4 -0.4
comp=Z,153nm,0.7s,comp=Z,5µm
KSAR Wonju Array Be 41.77 346 P P 12 18 55.0 -0.3
KSAR PcP PcP 12 20 51.1 +1.5
KSRS Korea Array 41.77 346 P P 12 18 55.0 -0.3
comp=Z,34nm,0.7s,baz=169,slow=11,SNR=143
KSRS PcP PcP 12 20 51.1 +1.6
comp=Z,18nm,0.9s,baz=168,slow=3.8,SNR=5.0
INCN Inchon 42.12 345 *e*P P 12 18 58.3 +0.2
comp=Z,635nm,1.5s
GSI Gunungsitoli 42.16 275 P P 12 18 57.7 -1.1
comp=Z,366nm,0.9s,comp=Z,5µm
KCSI Kotacane, Aceh 42.24 279 P P 12 18 58.2 -1.3
comp=Z,189nm,1.2s,comp=Z,3µm
PKDT Phuket 42.51 285 P P 12 19 01.5 -0.2
comp=Z,83nm,0.9s,comp=Z,1µm
PBKT Sadao Pong 42.81 298 P P 12 19 03.9 -0.1
comp=Z,50nm,1.2s,comp=Z,1µm
PBKT Sadao Pong 42.81 298 P P 12 19 03.9 -0.1
comp=Z,50nm,1.2s,comp=Z,1µm
LOEI Loei 42.94 300 P P 12 19 02.2 -2.8
comp=Z,155nm,0.9s,comp=Z,2µm
COCO West Island 43.20 256 *e*P P 12 19 09.2 +2.0
COCO pmax pmax
comp=Z,2µm,1.8s
COCO West Island 43.20 256 P P 12 19 09.5 +2.4
SNR=7.2
COCO West Island 43.20 256 *e*P P 12 19 09.2 +2.0
comp=Z,2µm,1.8s
GYA Guiyang 43.27 315 ⇓*i*P P 12 19 08.9 +1.1
GYA pP pP 12 19 36.8 +3.6
GYA PP PcP 12 20 56.0 +1.0
GYA ScP ScP 12 24 36.0 -0.4
GYA PcS PcS 12 24 49.8 +1.8
GYA S S 12 25 27.4 +0.3
GYA sS sS 12 26 15.0 +4.0
GYA SS SS 12 28 37.4 -7.4
GYA ScS ScS 12 28 54.3 -2.8
GYA AMB AMB
comp=Z,110nm,0.9s
GYA AMB AMB
comp=Z,420nm,5.0s
GYA LR LR
comp=Z,7µm,17.4s
GYA LR LR
comp=Z,5µm,18.7s
GYA LR LR
comp=Z,8µm,17.9s
LHMI Lhok Sumawe 43.33 281 P P 12 19 09.0 +0.8
comp=Z,367nm,1.0s,comp=Z,4µm
SNSI Sinabang, Aceh 43.52 277 P P 12 19 09.9 +0.1
comp=Z,536nm,1.3s,comp=Z,7µm
ENH Enshi 43.88 321 *e*P P 12 19 12.6 +0.2
comp=Z,94nm,0.9s
NANT Nan 43.97 301 P P 12 19 13.6 +0.3
comp=Z,214nm,1.0s,comp=Z,2µm
OUZ Omahuta 44.92 139 *e*P P 12 19 21.5 +0.9
comp=Z,208nm,1.2s
OUZ *e*pP pP 12 19 44.5 -1.7
DL2 Dalian 44.95 340 *i* P P 12 19 21.5 +0.8
DL2 pP pP 12 19 45.4 -0.9
DL2 PP PP 12 21 09.0 +1.0
DL2 S S 12 25 51.8 +1.0
DL2 SS ScS 12 29 07.8 +0.9
DL2 AMB AMB
comp=Z,260nm,0.8s
DL2 AMB AMB
comp=Z,1µm,6.5s
DL2 LR LR
comp=Z,1µm,15.7s
DL2 LR LR
comp=Z,1µm,23.0s
CM31 Chiang Mai Arr 45.34 300 *e*P P 12 19 24.8 +0.6
comp=Z,28nm,0.7s
CMAR Chiang Mai Arr 45.34 300 P P 12 19 24.8 +0.7
CMAR PcP PcP 12 21 03.3 +1.2
CMAR ScP ScP 12 24 47.2 +2.3
CMAR Chiang Mai Arr 45.34 300 P P 12 19 24.8 +0.7
comp=Z,47nm,0.9s,baz=118,slow=6.4,SNR=202
CMAR PcP PcP 12 21 03.3 +1.2
comp=Z,27nm,0.9s,baz=144,slow=1.6,SNR=4.4
CMAR ScP ScP 12 24 47.2 +2.3
comp=Z,4.9nm,1.0s,baz=139,slow=3.4,SNR=6.4
CMAR LR LR 12 39 44.3
comp=Z,1µm,19.8s,baz=107,slow=38
KMI Kunming 45.39 310 P P 12 19 26.3 +1.5
KMI pP pP 12 19 51.9 +1.5
KMI sP sP 12 20 04.8 +2.0
KMI PP PP 12 21 12.8 -0.4
KMI S S 12 25 57.4 -0.7
KMI SS ScS 12 29 15.0 +4.1
KMI AMB AMB
comp=Z,130nm,1.1s
KMI AMB AMB
comp=Z,580nm,3.3s
KMI LR LR
comp=Z,640nm,15.6s
KMI LR LR
comp=Z,2µm,21.7s
KMI LR LR
comp=Z,3µm,27.4s
CHTO Chiang Mai 45.48 300 *e*P P 12 19 24.8 -0.6
CHTO pmax pmax
comp=Z,219nm,1.1s
CHTO Chiang Mai 45.48 300 P P 12 19 25.8 +0.5
SNR=31
CHTO Chiang Mai 45.48 300 P P 12 19 25.4 +0.1
CHTO Chiang Mai 45.48 300 *e*P P 12 19 24.8 -0.6
comp=Z,219nm,1.1s
CHTO Chiang Mai 45.48 300 P P 12 19 25.4 +0.1
comp=Z,278nm,1.1s,comp=Z,5µm
XAN Xi'an 46.87 325 P P 12 19 35.8 -0.2
XAN pP pP 12 20 00.0 -1.7
XAN PP PP 12 21 24.9 -2.6
XAN S S 12 26 17.3 -1.3
XAN AMB AMB
comp=Z,75nm,1.5s
XAN AMB AMB
comp=Z,180nm,4.9s
XAN LR LR
comp=Z,2µm,15.1s
XAN LR LR
comp=Z,1µm,19.0s
XAN LR LR
comp=Z,810nm,28.8s
SNY Shenyang 47.02 344 ⇓P P 12 19 37.5 +0.6
SNY pP pP 12 20 02.6 -0.1
SNY PP PP 12 21 26.3 -2.4
SNY S S 12 26 22.3 +2.0
SNY sS sS 12 27 05.9 +1.3
SNY AMB AMB
comp=Z,170nm,1.6s
SNY AMB AMB
comp=Z,2µm,6.3s
SNY LR LR
comp=Z,2µm,20.4s
SNY LR LR
comp=Z,2µm,25.1s
SNY LR LR
comp=Z,3µm,43.3s
ASAJ Asahikawa 47.09 3 *e*P P 12 19 37.7 +0.3
comp=Z,203nm,1.6s
ASAJ Asahikawa 47.09 3 P P 12 19 37.8 +0.3
comp=Z,96nm,0.9s,baz=229,slow=13,SNR=38
ASAJ LR LR 12 37 20.4
comp=Z,2µm,19.7s,baz=185,slow=33
YUK Yuzh-Kuril'sk 47.28 6 ⇓*i*P P 12 19 31.1 -7.8
YUK *i* *PP pP 12 19 58.8 -5.8
YUK *i* 12 21 24.5
YUK *i* SS SS 12 29 26.3 -27
YUK pmax pmax
comp=Z,1µm,2.5s
YUK MLR MLR
comp=N,1µm,20.0s
YUK MLR MLR
comp=E,828nm,20.0s
YUK MLR MLR
comp=Z,1µm,20.0s
USRK Ussuriysk Arra 47.58 353 P P 12 19 41.5 +0.3
comp=Z,92nm,1.0s,baz=173,slow=7.9,SNR=145
USRK S S 12 26 29.9 +1.7
comp=Z,0.6nm,0.5s,baz=132,slow=4.3,SNR=3.5
USRK LR LR 12 38 35.5
comp=Z,2µm,20.3s,baz=159,slow=34

TIY	**Taiyuan**	**47.76**	**331**	*e*P	**P**	**12 19 43.5 +0.6**	HABR				MLR	MLR	TLY			*e*S	**S**	**12 29 50.0 +2.6**
TIY				S	**S**	**12 26 30.5 -0.7**		comp=Z,1μm,18.0s					TLY			*e*		12 30 35.3
TIY				AMB	AMB		**IMP**	**Imphal**	**52.21**	**305**	*e*4	**P**	**12 20 15.0 -1.8**	TLY			pmax	pmax	
	comp=Z,96nm,1.0s						**KLR**	**Kul'dur**	**52.56**	**354**⇑	*i*P	P	12 20 15.5 -3.3		comp=Z,176nm,1.2s				
TIY				AMB	AMB		KLR				*e*S	S	12 27 29.5 -7.8	TLY			MLR	MLR	
	comp=Z,820nm,6.0s						KLR				pmax	pmax			comp=Z,1μm,17.0s				
TIY				LR	LR			comp=N,120nm,1.6s						**TLY**	**Talaya**	**62.51**	**336**	P	**P**	**12 21 29.0 +0.4**
	comp=Z,490nm,11.4s						KLR				pmax	pmax			comp=Z,731nm,1.0s,SNR=34				
TIY				LR	LR			comp=E,150nm,1.6s						**FX1**	**Attu Island--F**	**62.55**	**22**	*e*P	**P**	**12 21 29.9 +1.2**
	comp=Z,910nm,13.2s						KLR				pmax	pmax		**FX1**	**Attu Island--F**	**62.55**	**22**	P	**P**	**12 21 29.6 +0.8**
TIY				LR	LR			comp=Z,730nm,1.6s							comp=Z,162nm,0.9s,baz=186,slow=1.3,SNR=19					
	comp=Z,2μm,19.0s						KLR				pmax	pmax		**IRK**	**Irkutsk**	**62.68**	**336**	*e*P	**P**	**12 21 29.8 +0.1**
BJT	**Baijiatuau**	**47.97**	**336**	*e*P	**P**	**12 19 44.3 -0.1**		comp=Z,2μm,7.5s						IRK				*e*S	**S**	**12 29 52.3 +2.8**
	comp=Z,660nm,1.5s						KLR				smax	smax		IRK				pmax	pmax	
BJI	**Beijing**	**47.99**	**336**	P	**P**	**12 19 44.6 +0.2**		comp=N,3μm,14.0s							comp=Z,253nm,2.2s					
BJI				pP	**pP**	**12 20 06.6 -3.7**	KLR				smax	smax		**TRD**	**Trivandrum**	**63.44**	**281**⇓	*e*P	P	12 21 44.4 +9.0
BJI				sP	**sP**	**12 20 22.8 +0.2**		comp=E,1μm,14.0s						TRD				*e*S	S	12 30 14.4 +14
BJI				ScP	**ScP**	**12 24 56.9 +1.4**	KLR				MLR	MLR		**DRV**	**Dumont d'Urvil**	**63.44**	**180**	P	P	12 21 28.0 -6.4
BJI				S	**S**	**12 26 33.8 -0.3**		comp=N,2μm,17.0s						**DRV**	**Dumont d'Urvil**	**63.44**	**180**	PP	PP	12 24 12.0 +17
BJI				sS	**sS**	**12 27 19.0 +0.4**	**MCQ**	**Macquarie Isla**	**53.63**	**166**	*e*P	**P**	**12 20 27.5 +1.0**	DRV				S	S	12 29 45.0 -13
BJI				ScS	**ScS**	**12 29 27.4 +0.7**	MCQ				*e**PP	**pP**	**12 20 54.0 +1.2**	DRV				SS	SS	12 33 59.0 -8.2
BJI				AMB	AMB		**MCQ**	**Macquarie Isla**	**53.63**	**166**	*e*P	**P**	**12 20 27.4 +1.0**	DRV				L	L	12 37 00.0
	comp=Z,270nm,1.2s							comp=N,95μm,2.1s						DRV				R		12 40 00.0
BJI				AMB	AMB		MCQ				*e*pP	**pP**	**12 20 54.0 +1.2**	**HYB**	**Hyderabad**	**63.47**	**291**	*i* P	**P**	**12 21 34.5 -1.1**
	comp=Z,2μm,6.4s						**MCQ**	**Macquarie Isla**	**53.63**	**166**	P	**P**	**12 20 28.3 +1.8**	HYB				*e*S	**S**	**12 30 00.0 -0.6**
BJI				LR	LR			baz=54,SNR=5.5						**MOY**	**Mondy**	**63.62**	**334**	*e*P	**P**	**12 21 36.9 +0.9**
	comp=Z,1μm,15.6s						**SHL**	**Shillong**	**54.23**	**305**	*i* P	**P**	**12 20 33.0 +1.3**	MOY				pmax	pmax	
BJI				LR	LR		SHL				*i* 4		12 21 36.0		comp=Z,351nm,2.1s				
	comp=Z,1μm,15.3s						SHL				*e*x	x	12 27 59.0	**NGP**	**Nagpur**	**63.89**	**295**	*e*P	**P**	**12 21 37.1 -1.2**
BJI				LR	LR		**HIA**	**Hailar**	**54.91**	**344**	*e*P	**P**	**12 20 36.2 +0.2**	NGP				*e*4		12 22 16.5
	comp=Z,4μm,32.2s							comp=N,323nm,1.5s						**YAK**	**Yakutsk**	**65.40**	**355**	*e*P	**P**	**12 21 47.3 +0.1**
CD2	**Chengdu**	**48.02**	**317**	P	**P**	**12 19 45.6 +0.6**	**SKR**	**Severo-Kuril's**	**55.45**	**13**	*e*P	P	12 20 32.0 -7.7	YAK				*e**PP	**pP**	**12 22 13.5 -0.9**
CD2				pP	**pP**	**12 20 10.3 -0.5**	SKR				*e*		12 21 36.0	YAK				*e*		12 22 19.5
CD2				sP	**sP**	**12 20 22.4 -0.8**	SKR				*e*		12 22 42.0	YAK				*e*		12 24 11.9
CD2				PcP	**PcP**	**12 21 12.1 +0.7**	SKR				*e*PPP	PPP	12 23 56.0	YAK				*e*PPP	PPP	12 25 45.3
CD2				PP	**PP**	**12 21 38.9 +0.8**	SKR				*e*S	**S**	**12 28 14.0 -2.0**	YAK				*e*S	**S**	**12 30 24.4 +1.8**
CD2				S	**S**	**12 26 35.0 0.0**	SKR				pmax	pmax		YAK				*e**SS	**sS**	**12 31 09.9 +0.6**
CD2				sS	**sS**	**12 27 19.3 -0.2**		comp=Z,220nm,1.0s						YAK				*e*		12 31 28.4
CD2				SS	**SS**	**12 30 00.4 -5.2**	SKR				pmax	pmax		YAK				pmax	pmax	
CD2				AMB	AMB			comp=Z,2μm,6.0s							comp=Z,265nm,0.9s					
	comp=Z,210nm,1.2s						SKR				smax	smax		YAK				pmax	pmax	
CD2				AMB	AMB			comp=N,5μm,14.0s							comp=N,100nm,1.1s					
	comp=Z,860nm,6.1s						SKR				smax	smax		YAK				pmax	pmax	
CD2				LR	LR			comp=E,3μm,10.0s							comp=Z,394nm,3.5s					
	comp=Z,3μm,18.4s						SKR				MLR	MLR		YAK				pmax	pmax	
CD2				LR	LR			comp=N,3μm,20.0s							comp=N,413nm,3.8s					
	comp=Z,2μm,26.2s						SKR				MLR	MLR		YAK				pmax	pmax	
MDJ	**Mudanjiang**	**48.34**	**351**	P	**P**	**12 19 47.6 +0.5**		comp=Z,3μm,20.0s							comp=E,39nm,2.0s					
MDJ				pP	**pP**	**12 20 13.3 +0.4**	**GTA**	**Gaotai**	**55.87**	**323**	⇓P	**P**	**12 20 44.3 +1.1**	YAK				smax	smax	
MDJ				sP	**sP**	**12 20 25.9 +0.6**	GTA				pP	**pP**	**12 21 05.0 -4.7**		comp=N,2μm,3.5s					
MDJ				PP	**PP**	**12 21 42.5 +1.8**	GTA				sP	**sP**	**12 21 23.8 +1.9**	YAK				smax	smax	
MDJ				S	**S**	**12 26 39.8 +0.9**	GTA				S	**S**	**12 28 23.3 +0.9**		comp=E,362nm,1.6s					
MDJ				ScS	**ScS**	**12 29 29.8 +0.9**	GTA				sS	**sS**	**12 29 10.3 +2.3**	**AKL**	**Akola**	**65.63**	**294**⇓	*i*P	**P**	**12 21 49.3 -0.3**
MDJ				AMB	AMB		GTA				ScS	**ScS**	**12 30 21.9 -0.1**	AKL				*i* 4		12 30 24.3
	comp=Z,140nm,1.1s						GTA				SS	**SS**	**12 32 10.3 +0.3**	**KIP**	**Kipapa**	**65.76**	**65**	*ce*P	**P**	**12 21 51.8 +1.4**
MDJ				AMB	AMB		GTA				AMB	AMB		KIP				pmax	pmax	
	comp=Z,1μm,6.2s							comp=Z,210nm,1.0s							comp=Z,242nm,2.0s					
MDJ				LR	LR		GTA				AMB	AMB		**KIP**	**Kipapa**	**65.76**	**65**	*e*P	**P**	**12 21 51.7 +1.4**
	comp=Z,1μm,16.5s							comp=Z,810nm,5.0s						**WMQ**	**Urumqi**	**65.82**	**321**	P	**P**	**12 21 51.3 +0.8**
MDJ				LR	LR		GTA				LR	LR		WMQ				pP	**pP**	**12 22 16.6 -1.1**
	comp=Z,870nm,18.2s							comp=Z,1μm,25.7s						WMQ				PcP	**PcP**	**12 22 21.3 +0.6**
MDJ				LR	LR		GTA				LR	LR		WMQ				sP	**sP**	**12 22 26.6 -3.1**
	comp=Z,1μm,16.5s							comp=Z,940nm,20.0s						WMQ				PP	**PP**	**12 24 19.4 +2.6**
MDJ	**Mudanjiang**	**48.34**	**351**	*e*P	**P**	**12 19 47.2 +0.2**	GTA				LR	LR		WMQ				ScP		12 26 14.1
	comp=Z,185nm,1.1s							comp=Z,2μm,25.9s						WMQ				S	**S**	**12 30 28.4 -0.3**
CN2	**Changchun**	**48.38**	**346**	⇓P	**P**	**12 19 47.8 +0.3**	**LSA**	**Lhasa**	**56.59**	**309**	P	**P**	**12 20 49.8 +0.9**	WMQ				sS	**sS**	**12 31 10.8 -4.7**
CN2				*e*pP	**pP**	**12 20 10.8 -2.5**	**LSA**	**Lhasa**	**56.59**	**309**	*e*P	**P**	**12 20 50.1 +1.2**	WMQ				ScS	**SKSac**	**12 31 34.1 -2.0**
CN2				*e*S	**S**	**12 26 39.3 -0.3**	LSA				pmax	pmax		WMQ				SS	**SS**	**12 34 46.3 +0.7**
CN2				AMB	AMB			comp=Z,114nm,1.0s						WMQ				AMB	AMB	
	comp=Z,20nm,0.6s						**LSA**	**Lhasa**	**56.59**	**309**	*e*P	**P**	**12 20 50.1 +1.2**		comp=Z,510nm,1.0s					
CN2				AMB	AMB			comp=Z,114nm,1.0s						WMQ				AMB	AMB	
	comp=Z,200nm,8.0s						**PEA0B**	**Petropavlovsk-**	**58.06**	**13**	*e*P	**P**	**12 20 58.4 +0.2**		comp=Z,1μm,3.6s					
KUR	**Kuril'sk**	**48.70**	**8**⇓	*i*P	P	12 19 43.6 -6.2	**PETK**	**Petropavlovsk-**	**58.06**	**13**	P	**P**	**12 20 58.5 +0.3**	WMQ				LR	LR	
KUR				*i* S	S	12 26 34.9 -9.1	PETK				pmax	pmax			comp=Z,1μm,14.6s					
KUR				pmax	pmax			comp=Z,37nm,0.8s						WMQ				LR	LR	
	comp=Z,845nm,1.3s						**PETK**	**Petropavlovsk-**	**58.06**	**13**	P	**P**	**12 20 58.5 +0.3**		comp=Z,2μm,20.6s					
KUR				pmax	pmax		**PETK**	**Petropavlovsk-**	**58.06**	**13**	P	**P**	**12 20 58.5 +0.3**	WMQ				LR	LR	
	comp=N,179nm,1.4s							comp=Z,37nm,0.8s,baz=169,slow=5.7,SNR=26							comp=Z,2μm,25.0s					
KUR				pmax	pmax		PETK				LR	LR	12 45 20.7	**ADK**	**Adak**	**66.14**	**28**	*e*P	**P**	**12 21 53.1 +0.9**
	comp=E,35nm,0.7s							comp=Z,844nm,19.1s,baz=198,slow=35						ADK				pmax	pmax	
KUR				MLR	MLR		**PET**	**Petropavlovsk**	**58.20**	**13**	*d* iP	**P**	**12 20 58.4 -0.7**		comp=Z,315nm,1.2s					
	comp=E,509nm,19.0s						PET				*e**PP	**pP**	**12 21 26.2 +0.4**	**ADK**	**Adak**	**66.14**	**28**	*e*P	**P**	**12 21 53.0 +0.9**
KUR				MLR	MLR		PET				*i* S	**S**	**12 28 50.8 -1.4**		comp=Z,315nm,1.2s					
	comp=N,667nm,17.0s						PET				*e*SS	**SS**	**12 32 40.6 -5.2**	**CASY**	**Casey**	**66.26**	**192**	*e*P	**P**	**12 21 54.2 +1.6**
URZ	**Urewera**	**49.00**	**140**	*e*P	**P**	**12 19 53.3 +1.0**	PET				pmax	pmax			comp=Z,413nm,1.5s					
URZ	**Urewera**	**49.00**	**140**	P	**P**	**12 19 52.7 +0.4**		comp=Z,70nm,1.4s						**SEY**	**Seymchan**	**66.58**	**6**⇓	*e*P	**P**	**12 21 55.2 +0.4**
	comp=N,39nm,0.3s,baz=290,slow=3.5,SNR=51						PET				pmax	pmax		**HVS**	**Khovu-Aksy**	**66.63**	**331**	*d* iP	**P**	**12 21 56.3 +0.8**
URZ				LR	LR	12 39 00.9		comp=Z,2μm,6.9s						**DGAR**	**Diego Garcia**	**66.87**	**263**	*de*P	**P**	**12 21 57.6 0.0**
	comp=N,2μm,20.1s,baz=319,slow=34						PET				pmax	pmax		**SONA**	**Sohna**	**67.53**	**302**	*e*P	**P**	**12 22 01.3 -0.2**
RPZ	**Rata Peaks**	**49.14**	**150**	*e*P	**P**	**12 19 54.2 +0.9**		comp=Z,900nm,15.1s						SONA				AMB	AMB	12 22 02.7
	comp=N,228nm,0.9s						**TAPN**	**Taplejung**	**58.37**	**305**	*e*P	**P**	**12 21 01.9 +0.7**		comp=Z,163nm,1.1s					
RPZ	**Rata Peaks**	**49.14**	**150**	P	**P**	**12 19 54.2 +0.9**		comp=Z,417nm,1.1s						**NDI**	**New Delhi**	**67.54**	**303**	*e*P	**P**	**12 21 59.0 -2.6**
	comp=N,237nm,0.8s,baz=278,slow=1.7,SNR=114						**SONM**	**Songino Array**	**58.42**	**334**	P	**P**	**12 21 01.2 +0.2**	**AYAN**	**Aya Nagar**	**67.56**	**302**	*e*P	**P**	**12 22 01.2 -0.5**
RPZ				LR	LR	12 37 34.1	SONM				S	**S**	**12 28 56.5 +0.8**	**POHA**	**Pohakuloa**	**67.66**	**67**	*e*P	**P**	**12 22 02.4 -0.3**
	comp=N,2μm,19.3s,baz=313,slow=32						**SONM**	**Songino Array**	**58.42**	**334**	P	**P**	**12 21 01.2 +0.2**		comp=Z,98nm,1.0s					
BKZ	**Black Stump Fm**	**49.15**	**142**	*e*P	**P**	**12 19 54.5 +1.0**		comp=Z,45nm,1.0s,baz=148,slow=7.7,SNR=74						**KUDL**	**Kundal**	**68.00**	**302**	*e*P	**P**	**12 22 04.1 -0.3**
	comp=N,64nm,0.8s						SONM				S	**S**	**12 28 56.5 +0.8**	KUDL				AMB	AMB	12 22 05.7
AFI	**Afiamalu**	**49.25**	**106**	*e*P	**P**	**12 19 54.1 -0.5**		comp=Z,0.6nm,0.5s,baz=207,slow=16,SNR=2.0							comp=Z,129nm,1.2s					
AFI				*e*pP	**pP**	**12 20 23.5 +2.9**	SONM				LR	LR	12 44 02.5	**POO**	**Poona**	**68.08**	**291**⇓	*i*P	**P**	**12 22 04.0 -1.2**
AFI	**Afiamalu**	**49.25**	**106**	P	**P**	**12 19 54.3 -0.4**		comp=Z,2μm,22.0s,baz=149,slow=34							comp=Z,472nm,1.2s					
	comp=N,29nm,0.5s,baz=103,slow=23,SNR=7.3						**ODAN**	**Odare**	**58.44**	**304**	*e*P	**P**	**12 21 02.4 +0.7**	**SMLA**	**Simla**	**68.31**	**305**	*i* P	**P**	**12 22 07.1 +0.8**
AFI				LR	LR	12 38 01.2		comp=Z,365nm,0.9s						**RTK**	**Rohtak**	**68.31**	**303**	*e*P	**P**	**12 22 07.0 +0.6**
	comp=N,906nm,20.0s,baz=72,slow=33						**RAMN**	**Ramite**	**59.13**	**304**	*e*P	**P**	**12 21 07.4 +1.0**	RTK				AMB	AMB	12 22 08.0
KHZ	**Kahutara**	**49.53**	**147**	*e*P	**P**	**12 19 56.3 0.0**		comp=Z,425nm,1.0s							comp=Z,340nm,1.1s					
	comp=N,94nm,1.1s						**CIT**	**Chita**	**59.18**	**342**	*e*P	**P**	**12 21 07.3 +1.3**	**KHET**	**Khetri**	**68.56**	**302**	*e*P	**P**	**12 22 08.0 0.0**
ODZ	**Otahua Downs**	**49.91**	**151**	*e*P	**P**	**12 19 59.3 +0.2**	CIT				*e*		12 21 27.8	**SDNR**	**Sundarnagar**	**68.58**	**305**	*e*P	**P**	**12 22 09.0 +0.9**
	comp=N,737nm,2.8s						CIT				*e*		12 21 52.2	**THN**	**Thein Dam**	**69.88**	**306**	*e*P	**P**	**12 22 15.8 -0.2**
YSS	**Yuzh-Sakhalins**	**49.93**	**3**⇖	*i*P	**P**	**12 19 58.8 -0.4**	CIT				*e*		12 29 07.2	**MK31**	**Makanchi Array**	**70.60**	**322**	*e*P	**P**	**12 22 20.8 +0.7**
YSS				*e**PP	**pP**	**12 20 25.5 +0.3**	CIT				pmax	pmax		**MK31**	**Makanchi Array**	**70.60**	**322**	*e*P	**P**	**12 22 20.8 +0.7**
YSS				*e*		12 21 18.0		comp=Z,671nm,2.2s						**MKAR**	**Makanchi Array**	**70.60**	**322**	P	**P**	**12 22 21.0 +0.8**
YSS				*e*PPP	PPP	12 22 46.0	**PALK**	**Pallekele**	**59.59**	**280**	P	**P**	**12 21 10.5 +0.9**	MKAR				S	**S**	**12 31 25.2 0.0**
YSS				*i* S	**S**	**12 26 59.0 -2.1**		SNR=8.7						MKAR				pmax	pmax	
YSS				*e*PS	**S**	**12 27 06.0 +4.9**	**PALK**	**Pallekele**	**59.59**	**280**	*e*P	**P**	**12 21 10.1 +0.5**		comp=Z,230nm,0.8s					
YSS				*e*		12 29 37.0		comp=Z,21nm,0.7s						MKAR				smax	smax	
YSS				MLR	MLR		**JIRN**	**Jiri**	**59.73**	**305**	*e*P	**P**	**12 21 11.4 +0.7**		comp=N,2.0nm,1.0s					
	comp=Z,1μm,16.0s							comp=Z,222nm,0.9s						MKAR				MLR	MLR	
BFZ	**Birch Farm**	**49.94**	**144**	*e*P	**P**	**12 19 59.5 0.0**	**GUN**	**Gumba**	**60.08**	**305**	*e*P	**P**	**12 21 13.8 +0.7**		comp=Z,869nm,19.1s					
	comp=Z,114nm,0.9s							comp=Z,424nm,1.0s						**MKAR**	**Makanchi Array**	**70.60**	**322**	P	**P**	**12 22 20.9 +0.8**
HHC	**Hu-ho-hao-te**	**50.66**	**333**	*e*P	**P**	**12 20 05.8 +0.9**	**PKI**	**Pulchoki**	**60.34**	**304**	*e*P	**P**	**12 21 15.1 +0.3**	MKAR				S	**S**	**12 31 25.2 0.0**
HHC				pP	**pP**	**12 20 32.0 +1.0**		comp=Z,167nm,0.9s						**MKAR**	**Makanchi Array**	**70.60**	**322**	P	**P**	**12 22 20.9 +0.8**
HHC				sP	**sP**	**12 20 44.8 +1.5**	**PKIN**	**Phulchoki**	**60.35**	**304**	*e*P	**P**	**12 21 15.4 +0.6**		comp=Z,230nm,0.8s,baz=114,slow=8.1,SNR=1066					
HHC				PP	**PP**	**12 22 04.5 +2.5**	**KKN**	**Kakani**	**60.53**	**304**	*e*P	**P**	**12 21 16.7 +0.7**	MKAR				S	**S**	**12 31 25.2 0.0**
HHC				PcS	**PcS**	**12 25 17.8 -0.6**		comp=Z,368nm,0.9s							comp=Z,1.9nm,1.0s,baz=125,slow=7.6,SNR=3.5					
HHC				S	**S**	**12 27 11.0 -0.6**	**DMN**	**Daman**	**60.61**	**304**	*e*P	**P**	**12 21 17.4 +0.8**	MKAR				LR	LR	12 56 34.7
HHC				sS	**sS**	**12 27 56.8 +0.3**		comp=Z,453nm,1.0s							comp=Z,869nm,19.1s,baz=225,slow=38					
HHC				ScS	**ScS**	**12 29 42.3 -2.8**	**CLNS**	**Chul'man**	**60.92**	**351**	*e*P	**P**	**12 21 18.4 +0.6**	**PPT**	**Papeete**	**70.86**	**107**	LR	LR	12 49 53.0
HHC				SS	**SS**	**12 30 44.3 -3.2**	CLNS				*e**PP	**pP**	**12 21 49.7 +5.0**		comp=Z,889nm,21.8s,baz=270,slow=33					
HHC				AMB	AMB		CLNS				*e*		12 21 59.8	**PPT2**	**Papeete2**	**70.86**	**107**	*e*S	**S**	**12 31 27.9 -1.5**
	comp=Z,380nm,1.3s						CLNS				*e*		12 23 33.8	PPT2	comp=Z,3μm,29.0s			*e*SS	**SS**	**12 36 04.9 +0.6**
HHC				AMB	AMB		CLNS				*e*PPP	PPP	12 24 59.5		comp=Z,3μm,26.8s					
	comp=Z,2μm,5.5s						CLNS				*e*S	**S**	**12 29 28.2 +1.0**	PPT2				*e*LQ	LQ	12 41 11.3
HHC				LR	LR		CLNS				*e*		12 30 56.4		comp=Z,2μm,32.5s					
	comp=Z,2μm,17.5s						CLNS				*e*SS	**SS**	**12 33 25.9 -2.6**	PPT2				*e*LR	LR	12 44 15.9
HHC				LR	LR		CLNS				*e*SSS	SSS	12 36 01.8		comp=Z,4μm,32.5s					
	comp=Z,3μm,18.2s						CLNS				pmax	pmax		**MIR**	**Mirnyy**	**71.07**	**198**⇑	*i*P	**P**	**12 22 25.5 +3.0**
HHC				LR	LR			comp=Z,86nm,0.9s						MIR				*e*		12 25 08.0
	comp=Z,3μm,16.9s						CLNS				pmax	pmax		MIR				*e*S	**S**	**12 31 34.0 +4.1**
BTO	**Baotou**	**51.19**	**331**	*e*P	**P**	**12 20 08.8 -0.1**		comp=E,16nm,0.9s						MIR				*e*PS	**pS**	**12 32 00.0 -2.9**
LZH	**Lanzhou**	**51.29**	**323**	⇓P	**P**	**12 20 11.3 +1.5**	CLNS				pmax	pmax		MIR				*e*SS	**SS**	**12 36 12.0 +6.7**
LZH				pP	**pP**	**12 20 37.8 +1.9**		comp=N,58nm,1.0s						MIR				pmax	pmax	
LZH				sP	**sP**	**12 20 50.8 +2.6**	CLNS				pmax	pmax			comp=Z,1μm,1.0s					
LZH				ScP	**ScP**	**12 25 11.8 +1.8**		comp=E,9.0nm,0.9s						MIR				pmax	pmax	
LZH				S	**S**	**12 27 22.0 +1.4**	CLNS				pmax	pmax			comp=Z,432nm,1.5s					
LZH				sS	**sS**	**12 28 08.1 +2.5**		comp=N,13nm,1.0s						MIR				MLR	MLR	
LZH				SS	**SS**	**12 30 53.0 -4.8**	CLNS				pmax	pmax			comp=N,2μm,18.0s					
LZH				AMB	AMB			comp=Z,11nm,1.1s						MIR				MLR	MLR	
	comp=Z,360nm,1.0s						CLNS				smax	smax			comp=E,1μm,18.0s					
LZH				AMB	AMB			comp=N,710nm,10.6s						MIR				MLR	MLR	
	comp=Z,1μm,4.0s						CLNS				smax	smax			comp=Z,3μm,18.0s					
HABR	**Khabarovsk**	**51.52**	**356**	*d* iP	**P**	**12 20 11.4 +0.4**		comp=E,581nm,12.5s						**TBI**	**Tubuai**	**71.35**	**113**	*e*S	**S**	**12 31 32.8 -1.9**
HABR				*e**PP	**pP**	**12 20 33.0 -4.2**	**GKN**	**Gorkha**	**61.14**	**304**	*e*P	**P**	**12 21 20.6 +0.6**		comp=Z,2μm,32.2s					
HABR				*e**SP	**sP**	**12 20 44.6 -4.9**		comp=E,589nm,1.0s						TBI				*e*SS	**SS**	**12 36 13.1 +1.7**
HABR				*e*		12 21 22.2	**RAR**	**Rarotonga**	**61.62**	**112**	LR	LR	12 43 33.5		comp=Z,2μm,29.5s					
HABR				*e*		12 22 07.4		comp=E,571nm,22.0s,baz=315,slow=32						TBI				*e*LQ	LQ	12 41 24.9
HABR				*e*PPP	PPP	12 23 13.4	**ZAK**	**Zakamensk**	**61.69**	**335**	*e*P	**P**	**12 21 23.7 +0.5**		comp=Z,4μm,43.2s					
HABR				*e*S	**S**	**12 27 23.0 0.0**	ZAK				*e*		12 29 39.6	TBI				*e*LR	LR	12 44 26.6
HABR				*e*		12 29 49.2	ZAK				pmax	pmax			comp=Z,2μm,34.0s					
HABR				*e*SS	**SS**	**12 31 00.7 +0.1**		comp=Z,209nm,1.2s						**KSH**	**Kashi**	**71.94**	**313**⇓	*i*P	P	12 22 31.8 +3.2
HABR				*e*SSS	SSS	12 32 46.5	**KOLN**	**Koldanda**	**61.91**	**304**	*e*P	**P**	**12 21 26.0 +0.7**	KSH				PcP	**PcP**	**12 22 50.0 +3.4**
HABR				pmax	pmax			comp=Z,329nm,1.0s						KSH				pP	pP	12 23 00.9 +4.7
	comp=Z,253nm,1.1s						**DANN**	**Dangsing**	**61.98**	**304**	*e*P	**P**	**12 21 26.4 +0.5**	KSH				PP	**PP**	**12 25 11.8 +2.0**
HABR				pmax	pmax			comp=Z,335nm,1.0s						KSH				S	**S**	**12 31 46.0 +4.7**
	comp=N,72nm,1.1s						**TLY**	**Talaya**	**62.51**	**336**	*d* iP	**P**	**12 21 29.4 +0.8**	KSH				SKS	**SKSac**	**12 32 22.5 -0.2**
HABR				pmax	pmax		TLY				*e*		12 22 09.9							
	comp=E,55nm,2.0s						TLY				*e*		12 23 42.5							

KSH					ScS	**ScS**	12 32 25.8	+1.1	
KSH					sS	sS	12 32 34.4	+5.6	
KSH					SS	SS	12 36 29.5	+9.3	
KSH					AMB	AMB			
	comp=Z,260nm,1.0s								
KSH					LR	LR			
	comp=Z,300nm,8.8s								
KSH					LR	LR			
	comp=Z,490nm,12.0s								
UNV	**Unalaska Valle**	**72.27**	**30**	*eP*	**P**		**12 22 29.5**	**-0.5**	
	comp=Z,118nm,1.1s								
UNV				*ep*P	**pP**		**12 22 56.9**	**-0.7**	
SPIA	**Saint Paul Isl**	**72.38**	**26**	*eP*	**P**		**12 22 32.1**	**+1.5**	
	comp=Z,452nm,1.4s								
AAA	**Alma-Ata**	**72.59**	**317**	*i* P	**P**		**12 22 33.8**	**+1.5**	
AAA				*i* S	**SKiKP**		**12 31 52.9**	**-3.3**	
AAA				pmax	pmax				
	comp=Z,700nm,0.6s								
AAA				smax	smax				
	comp=E,3µm,7.4s								
ZALV	**Zalesovo Beam**	**72.69**	**330**	P	**P**		**12 22 32.1**	**-0.4**	
ZALV				S	**S**		**12 31 45.6**	**-3.3**	
ZALV				pmax	pmax				
	comp=Z,76nm,0.8s								
ZALV				smax	smax				
	comp=N,1.0nm,0.5s								
ZALV				MLR	MLR				
	comp=Z,826nm,19.7s								
ZALV	**Zalesovo Beam**	**72.69**	**330**	P	**P**		**12 22 32.0**	**-0.4**	
ZALV				S	**S**		**12 31 45.5**	**-3.3**	
ZALV	**Zalesovo Beam**	**72.69**	**330**	P	**P**		**12 22 32.1**	**-0.4**	
	comp=Z,75nm,0.8s,baz=109,slow=6.0,SNR=242								
ZALV				S	**S**		**12 31 45.5**	**-3.3**	
	comp=Z,0.7nm,0.5s,baz=147,slow=3.5,SNR=5.5								
ZALV				LR	LR		12 55 09.4		
	comp=Z,826nm,19.7s,baz=312,slow=36								
ULHL	**Ulahol**	**72.70**	**316**	*i* P	**P**		**12 22 34.7**	**+1.6**	
ULHL	**Ulahol**	**72.70**	**316**	P	**P**		**12 22 34.7**	**+1.6**	
	SNR=9.1								
AKUT	**Akutan**	**72.79**	**30**	*eP*	**P**		**12 22 31.6**	**-1.5**	
	comp=Z,220nm,1.1s								
KZA	**Kyzart**	**73.34**	**316**	*i* P	**P**		**12 22 38.9**	**+1.8**	
KZA	**Kyzart**	**73.34**	**316**	P	**P**		**12 22 38.9**	**+1.8**	
	SNR=521								
TKM2	**Tokmak 2**	**73.39**	**316**	*eP*	**P**		**12 22 38.0**	**+0.9**	
TKM2	**Tokmak 2**	**73.39**	**316**	P	**P**		**12 22 38.1**	**+0.9**	
	SNR=202								
TKM2	**Tokmak 2**	**73.39**	**316**	*eP*	**P**		**12 22 38.0**	**+0.9**	
KBK	**Karagaybulak**	**73.75**	**316**	*i* P	**P**		**12 22 40.4**	**+1.2**	
KBK	**Karagaybulak**	**73.75**	**316**	P	**P**		**12 22 40.4**	**+1.2**	
	SNR=77								
NVS	**Novosibirsk**	**73.94**	**330**	⇓*i* P	**P**		**12 22 39.7**	**-0.1**	
NVS				*i*			12 22 59.8		
NVS				*i* S	**S**		**12 32 00.3**	**-2.6**	
NVS				*i*			12 32 30.2		
NVS				pmax	pmax				
	comp=Z,282nm,1.2s								
NVS				pmax	pmax				
	comp=N,89nm,1.3s								
NVS				pmax	pmax				
	comp=E,171nm,1.4s								
NVS				smax	smax				
	comp=N,181nm,2.5s								
NVS				smax	smax				
	comp=E,250nm,2.7s								
CHMS	**Chumysh**	**74.00**	**316**	*i* P	**P**		**12 22 41.4**	**+0.9**	
CHMS	**Chumysh**	**74.00**	**316**	P	**P**		**12 22 41.4**	**+0.9**	
	SNR=82								
FRU	**Bishkek**	**74.03**	**316**	⇓*i* P	**P**		**12 22 40.5**	**-0.2**	
FRU				pmax	pmax				
	comp=Z,390nm,2.5s								
AAK	**Ala-Archa**	**74.05**	**316**	*d i* P	**P**		**12 22 42.0**	**+1.0**	
AAK				pmax	pmax				
	comp=Z,313nm,1.2s								
AAK	**Ala-Archa**	**74.05**	**316**	P	**P**		**12 22 42.4**	**+1.4**	
	SNR=55								
AAK	**Ala-Archa**	**74.05**	**316**	P	**P**		**12 22 42.1**	**+1.0**	
	SNR=83								
AAK	**Ala-Archa**	**74.05**	**316**	P	**P**		**12 22 41.8**	**+0.8**	
AAK				S	**S**		**12 32 07.1**	**+2.0**	
AAK	**Ala-Archa**	**74.05**	**316**	P	**P**		**12 22 42.0**	**+1.0**	
	comp=Z,565nm,0.9s,SNR=68								
AAK	**Ala-Archa**	**74.05**	**316**	P	**P**		**12 22 41.8**	**+0.8**	
	comp=Z,80nm,0.9s,baz=105,slow=5.3,SNR=152								
AAK				S	**S**		**12 32 07.1**	**+2.0**	
	comp=Z,1.4nm,0.3s,baz=128,slow=18,SNR=5.6								
AAK				LR	LR		12 57 33.2		
	comp=Z,727nm,18.2s,baz=96,slow=38								
USP	**Ospenovka**	**74.26**	**317**	*i* P	**P**		**12 22 42.9**	**+0.9**	
USP	**Ospenovka**	**74.26**	**317**	P	**P**		**12 22 42.9**	**+0.9**	
	SNR=180								
AML	**Almayashu**	**74.44**	**315**	*i* P	**P**		**12 22 45.0**	**+1.5**	
AML	**Almayashu**	**74.44**	**315**	P	**P**		**12 22 45.0**	**+1.5**	
	SNR=428								
KURK	**Kurchatov**	**74.51**	**325**	*d i* P	**P**		**12 22 43.3**	**+0.1**	
KURK				*i* *PP	**pP**		**12 23 07.7**	**-3.3**	
KURK				pmax	pmax				
	comp=Z,200nm,1.2s								
KURK	**Kurchatov**	**74.51**	**325**	P	**P**		**12 22 43.7**	**+0.5**	
	SNR=109								
KURK	**Kurchatov**	**74.51**	**325**	*eP*	**P**		**12 22 43.4**	**+0.2**	
	comp=Z,127nm,0.9s								
KURK	**Kurchatov**	**74.51**	**325**	P	**P**		**12 22 43.2**	**+0.1**	
	comp=Z,2µm,0.9s								
EKS2	**Erkin-Say**	**74.56**	**316**	*eP*	**P**		**12 22 45.1**	**+1.2**	
EKS2				pmax	pmax				
	comp=Z,189nm,0.8s								
EKS2	**Erkin-Say**	**74.56**	**316**	P	**P**		**12 22 44.8**	**+0.9**	
	SNR=190								
EKS2	**Erkin-Say**	**74.56**	**316**	*eP*	**P**		**12 22 45.1**	**+1.2**	
	comp=Z,189nm,0.8s								
TIXI	**Tiksi**	**74.95**	**357**	*d i* P	**P**		**12 22 44.2**	**-1.1**	
TIXI				pmax	pmax				
	comp=Z,75nm,1.2s								
VNDA	**Vanda**	**75.31**	**175**	*eP*	**P**		**12 22 48.6**	**+1.2**	
	comp=Z,53nm,0.5s								
VNDA				S	**S**		**12 32 18.7**	**+1.1**	
VNDA	**Vanda**	**75.31**	**175**	P	**P**		**12 22 48.5**	**+1.2**	
	comp=Z,91nm,0.7s,baz=325,slow=6.4,SNR=728								
VNDA				S	**S**		**12 32 18.7**	**+1.1**	
	comp=Z,1.8nm,1.1s,baz=189,slow=18,SNR=2.6								
VNDA				LR	LR		12 54 15.2		
	comp=Z,4µm,21.3s,baz=349,slow=34								
KBL	**Kabul**	**75.81**	**307**	*eP*	**P**		**12 22 51.6**	**+0.3**	
KBL				pmax	pmax				
	comp=Z,178nm,0.8s								
KBL	**Kabul**	**75.81**	**307**	*eP*	**P**		**12 22 51.6**	**+0.3**	
	comp=Z,178nm,0.8s								
KBL	**Kabul**	**75.81**	**307**	P	**P**		**12 22 51.6**	**+0.3**	
	baz=76,SNR=27								
GAMB	**Gambell**	**75.87**	**20**	*eP*	**P**		**12 22 50.4**	**-0.3**	
	comp=Z,154nm,1.2s								
SDPT	**Sand Point**	**76.06**	**31**	*eP*	**P**		**12 22 52.8**	**+0.8**	
	comp=Z,255nm,1.0s								
SBA	**Scott Base**	**76.07**	**174**	*eP*	**P**		**12 22 53.9**	**+2.2**	
SBA	**Scott Base**	**76.07**	**174**	*eP*	**P**		**12 22 53.9**	**+2.2**	
KK31	**Karatay Array**	**76.98**	**315**	*ce*P	**P**		**12 22 57.8**	**+0.3**	
KK31				pmax	pmax				
	comp=Z,93nm,0.7s								
KKAR	**Karatay Array**	**76.98**	**315**	*eP*	**P**		**12 22 58.0**	**+0.5**	
KKAR				pmax	pmax				
	comp=Z,43nm,0.6s								
KKAR	**Karatay Array**	**76.98**	**315**	*eP*	**P**		**12 22 58.0**	**+0.5**	
	comp=Z,43nm,0.6s								
CHGN	**Chignik**	**77.53**	**30**	*eP*	**P**		**12 23 00.2**	**0.0**	
TNA	**Tin City**	**78.25**	**20**	*eP*	**P**		**12 23 04.0**	**0.0**	
	comp=Z,115nm,1.4s								
VOSK	**Vostochnaya**	**79.66**	**325**	*eP*	**P**		**12 23 12.0**	**-0.1**	
VOSK	**Vostochnaya**	**79.66**	**325**	*eP*	**P**		**12 23 12.0**	**-0.1**	
BVA0	**Borovoye Array**	**80.10**	**325**	P	**P**		**12 23 14.5**	**+0.1**	
BVA0				pmax	pmax				
	comp=Z,409nm,0.9s								
BVAR	**Borovoye Array**	**80.10**	**325**	P	**P**		**12 23 13.0**	**-1.4**	
BVAR				S	**S**		**12 33 09.5**	**-0.4**	
BVAR				pmax	pmax				
	comp=Z,184nm,0.8s								
BVAR				smax	smax				
	comp=N,1.0nm,0.4s								
BVAR	**Borovoye Array**	**80.10**	**325**	P	**P**		**12 23 13.0**	**-1.4**	
BVAR				S	**S**		**12 33 09.5**	**-0.4**	
BVAR	**Borovoye Array**	**80.10**	**325**	P	**P**		**12 23 13.0**	**-1.4**	
	comp=N,185nm,0.8s,baz=116,slow=7.5,SNR=549								
BVAR				S	**S**		**12 33 09.5**	**-0.4**	
	comp=N,0.5nm,0.4s,baz=123,slow=4.3,SNR=5.4								
BVAR				LR	LR		13 04 02.3		
	comp=N,656nm,19.1s,baz=106,slow=40								
BRVK	**Borovoye**	**80.17**	**325**	*d i* P	**P**		**12 23 15.1**	**+0.3**	
BRVK				pmax	pmax				
	comp=Z,440nm,1.1s								
BRVK	**Borovoye**	**80.17**	**325**	P	**P**		**12 23 15.6**	**+0.8**	
	SNR=117								
BRVK	**Borovoye**	**80.17**	**325**	*eP*	**P**		**12 23 15.3**	**+0.5**	
	comp=Z,258nm,0.8s								
BRVK	**Borovoye**	**80.17**	**325**	P	**P**		**12 23 15.8**	**+1.0**	
	comp=Z,2µm,0.9s								
OHAK	**Old Harbor**	**80.48**	**31**	*eP*	**P**		**12 23 16.8**	**+0.5**	
SVW2	**Sparrevohn**	**80.87**	**26**	*eP*	**P**		**12 23 19.5**	**+1.2**	
	comp=Z,73nm,1.0s								
KDAK	**Kodiak Island**	**81.04**	**30**	*eP*	**P**		**12 23 19.8**	**+0.6**	
	comp=Z,99nm,0.9s								
KDAK	**Kodiak Island**	**81.04**	**30**	P	**P**		**12 23 20.2**	**+1.0**	
	comp=Z,581nm,0.8s,SNR=23								
MRIV	**Mauritius Mete**	**81.45**	**250**	*eP*	**P**		**12 23 24.2**	**+1.9**	
RSO	**Redoubt South**	**81.91**	**28**	*eP*	**P**		**12 23 23.7**	**-0.3**	
MAW	**Mawson**	**82.06**	**202**	P	**P**		**12 23 25.6**	**+1.2**	
MAW				PKKPbc	**PKKPbc**		**12 41 53.1**	**-3.1**	
MAW	**Mawson**	**82.06**	**202**	P	**P**		**12 23 25.7**	**+1.2**	
	baz=82,SNR=135								
MAW	**Mawson**	**82.06**	**202**	P	**P**		**12 23 25.6**	**+1.2**	
	comp=Z,65nm,0.9s,baz=73,slow=6.1,SNR=140								
MAW				PKKPbc	**PKKPbc**		**12 41 53.1**	**-3.1**	
	comp=Z,2.4nm,0.8s,baz=290,slow=6.7,SNR=7.2								
MAW				LR	LR		12 57 18.3		
	comp=Z,1µm,20.0s,baz=68,slow=34								
WBK	**Wadi Bani Khal**	**82.48**	**293**	⇓P	**P**		**12 23 28.4**	**+0.8**	
	SNR=20								
SPU	**Mount Spurr**	**82.49**	**27**	*eP*	**P**		**12 23 26.1**	**-0.8**	
IDAH	**Dahanechah**	**82.98**	**303**	*eP*	**P**		**12 23 31.2**	**+0.8**	
JMDO	**Jabal Madar**	**83.25**	**293**	⇓P	**P**		**12 23 31.9**	**+0.3**	
	SNR=19								
CAST	**Castle Rocks**	**83.27**	**25**	*eP*	**P**		**12 23 30.6**	**-0.2**	
IMYA	**Miami**	**83.32**	**307**	*eP*	**P**		**12 23 33.3**	**+1.4**	
SEW	**Seward**	**83.34**	**28**	*eP*	**P**		**12 23 30.8**	**-0.4**	
SMDO	**Samad**	**83.37**	**294**	⇑P	**P**		**12 23 32.8**	**+0.4**	
	SNR=29								
IMA2	**Indian Mountai**	**83.61**	**22**	*eP*	**P**		**12 23 33.0**	**+0.4**	
IKOO	**Kooshah**	**83.66**	**303**	*eP*	**P**		**12 23 34.5**	**+0.7**	
MSEY	**Mahe Island**	**83.82**	**266**	*eP*	**P**		**12 23 35.6**	**+0.9**	
ISRO	**Mashad**	**83.82**	**307**	*eP*	**P**		**12 23 35.5**	**+1.1**	
IMOG	**Moghan**	**83.90**	**307**	*eP*	**P**		**12 23 36.4**	**+1.4**	
ITEG	**Tejag**	**83.94**	**303**	*eP*	**P**		**12 23 35.8**	**+0.6**	
PMR	**Palmer**	**83.95**	**27**	*eP*	**P**		**12 23 33.5**	**-0.8**	
PMR				pmax	pmax				
	comp=Z,110nm,1.0s								
PMR	**Palmer**	**83.95**	**27**	*eP*	**P**		**12 23 33.5**	**-0.8**	
	comp=Z,110nm,1.0s								
BPAW	**Bear Paw Mtn.**	**83.96**	**24**	*eP*	**P**		**12 23 34.0**	**-0.3**	
TRF	**Thorofare Moun**	**84.03**	**25**	*eP*	**P**		**12 23 34.6**	**-0.3**	
HOQ	**Hoqain**	**84.10**	**294**	⇑P	**P**		**12 23 36.6**	**+0.6**	
	SNR=39								
BSY	**Bisya**	**84.12**	**293**	⇑P	**P**		**12 23 36.4**	**+0.4**	
	SNR=39								
SML	**Sawmill**	**84.38**	**27**	P	**P**		**12 23 35.5**	**-1.1**	
SML				*e**PP	**pP**		**12 24 06.4**	**+1.4**	
SML	**Sawmill**	**84.38**	**27**	P	**P**		**12 23 35.5**	**-1.1**	
SML				*ep*P	**pP**		**12 24 06.4**	**+1.4**	
IAKL	**Akhelmad**	**84.44**	**307**	*eP*	**P**		**12 23 39.0**	**+1.3**	
IEMG	**Emamgholi**	**84.63**	**308**	*eP*	**P**		**12 23 40.2**	**+1.5**	
IKRD	**Kardeh**	**84.65**	**307**	*eP*	**P**		**12 23 36.3**	**-2.5**	
RKT	**Rikitea**	**84.66**	**113**	*eS*	**S**		**12 33 57.5**	**-0.1**	
	comp=Z,793nm,31.8s								
RKT	**Rikitea**	**84.66**	**113**	*e*LQ	LQ		12 46 40.2		
	comp=Z,3µm,33.5s								
RKT				*e*LR	LR		12 50 37.3		
	comp=Z,1µm,27.5s								
MCK	**McKinley**	**84.70**	**25**	*eP*	**P**		**12 23 38.0**	**-0.1**	
MCK	**McKinley**	**84.70**	**25**	*eP*	**P**		**12 23 38.0**	**-0.1**	
ARQ	**Araqi**	**84.80**	**294**	⇓P	**P**		**12 23 40.0**	**+0.6**	
	SNR=57								
ISFR	**Sfrayin**	**85.10**	**307**	*eP*	**P**		**12 23 42.6**	**+1.6**	
UOSS	**Wadi Hilu**	**85.25**	**295**	P	**P**		**12 23 42.0**	**+0.3**	
	comp=Z,868nm,0.8s,SNR=22								
BANOM	**Banah**	**85.25**	**296**	⇓P	**P**		**12 23 42.6**	**+0.9**	
	SNR=20								
COLD	**Coldfoot**	**85.32**	**22**	*eP*	**P**		**12 23 42.1**	**+1.0**	
	comp=Z,38nm,0.8s								
ASHO	**Ashiyiah**	**85.35**	**295**	⇑P	**P**		**12 23 42.5**	**+0.3**	
	SNR=24								
DIV	**Divide**	**85.37**	**28**	*eP*	**P**		**12 23 42.0**	**+0.4**	
ISHV	**Shirvan**	**85.39**	**308**	*eP*	**P**		**12 23 44.0**	**+1.6**	
COLA	**College**	**85.49**	**24**	*eP*	**P**		**12 23 41.6**	**-0.3**	
COLA				*e**PP	pP		12 24 04.5	-5.9	
COLA	**College**	**85.49**	**24**	*eP*	**P**		**12 23 41.6**	**-0.3**	
COLA				*ep*P	pP		12 24 04.5	-5.9	
AB31	**Akbulak array**	**85.55**	**320**	*ce*P	**P**		**12 23 42.0**	**-0.6**	
AB31				pmax	pmax				
	comp=Z,103nm,0.8s								
ABKAR	**Akbulak array**	**85.55**	**320**	*eP*	**P**		**12 23 42.0**	**-0.6**	
RAGM	**Ragged Mountai**	**85.71**	**29**	*eP*	**P**		**12 23 44.1**	**+0.9**	
ILAR	**Eielson Array**	**85.86**	**24**	P	**P**		**12 23 42.4**	**-1.5**	
ILAR				PKKP	**PKKPdf**		**12 41 37.6**	**-2.2**	
ILAR	**Eielson Array**	**85.86**	**24**	P	**P**		**12 23 42.4**	**-1.5**	
	comp=Z,59nm,0.8s,baz=261,slow=4.5,SNR=337								
ILAR				PKKP	**PKKPdf**		**12 41 37.6**	**-2.2**	
	comp=Z,0.2nm,0.8s,baz=337,slow=1.9,SNR=4.1								
ILAR				LR	LR		12 58 55.7		
	comp=Z,658nm,18.6s,baz=143,slow=33								
BMRM	**Bremner River**	**85.88**	**28**	*eP*	**P**		**12 23 44.1**	**+0.1**	
PAX	**Paxson**	**85.98**	**26**	*eP*	**P**		**12 23 44.5**	**-0.1**	
PAX				pmax	pmax				
	comp=Z,243nm,2.0s								
PAX	**Paxson**	**85.98**	**26**	*eP*	**P**		**12 23 44.5**	**-0.1**	
	comp=Z,243nm,2.0s								
RBK	**Rabkut**	**86.46**	**288**	⇓P	**P**		**12 23 48.0**	**+0.1**	
	SNR=55								
IBAF	**Bafgh**	**86.46**	**302**	*eP*	**P**		**12 23 48.1**	**+0.4**	
SVE	**Sverdlovsk**	**86.51**	**327**	⇓*i* P	**P**		**12 23 46.9**	**-0.3**	
SVE				*e*			12 27 07.5		
SVE				*e*PPP	PPP		12 29 02.6		
SVE				*e*S	**S**		**12 34 11.4**	**-3.0**	
SVE				*e*SS	**SS**		**12 39 58.9**	**+1.7**	
SVE				pmax	pmax				
	comp=Z,39nm,0.9s								
SVE				MLR	MLR				
	comp=Z,842nm,17.0s								
DOT	**Dot Lake**	**86.77**	**26**	*eP*	**P**		**12 23 48.4**	**+0.1**	
	comp=Z,52nm,0.9s								
AKTO	**Aktyubinsk**	**86.97**	**321**	P	**P**		**12 23 48.0**	**-1.6**	
AKTO				pmax	pmax				
	comp=Z,17nm,0.8s								
AKTO	**Aktyubinsk**	**86.97**	**321**	P	**P**		**12 23 48.0**	**-1.6**	
AKTO	**Aktyubinsk**	**86.97**	**321**	P	**P**		**12 23 48.0**	**-1.6**	
	comp=Z,17nm,0.8s,baz=99,slow=5.7,SNR=49								
IMEH	**Mehriz**	**87.26**	**301**	*eP*	**P**		**12 23 51.3**	**-0.4**	
ABTO	**Aybut**	**87.32**	**287**	⇑P	**P**		**12 23 52.2**	**+0.2**	
	SNR=45								
ICHK	**Chekchek**	**87.51**	**302**	*eP*	**P**		**12 23 52.7**	**-0.2**	
ARU	**Arti**	**87.57**	**327**	*d i* P	**P**		**12 23 51.1**	**-1.2**	
ARU				*PP	**pP**		**12 24 16.0**	**-4.9**	
ARU							12 27 15.9		
ARU				S	**SKSac**		**12 34 09.0**	**-1.0**	
ARU				pmax	pmax				
	comp=Z,74nm,1.0s								
ISAD	**Sadrabad**	**88.09**	**302**	*eP*	**P**		**12 23 55.6**	**-0.1**	
ISRV	**Sarvestan**	**88.38**	**299**	*eP*	**P**		**12 23 58.4**	**+1.2**	
IPAR	**Pars**	**88.47**	**300**	*eP*	**P**		**12 23 58.5**	**+0.9**	
SOKR	**Solikamsk**	**88.97**	**330**	*c i* P	**P**		**12 23 58.4**	**-0.4**	
SOKR							12 27 26.2		
SOKR				S	**SKSac**		**12 34 19.9**	**+1.7**	
SOKR				pmax	pmax				
	comp=Z,20nm,0.9s								
SOKR				MLR	MLR				
	comp=Z,1µm,19.0s								
IZEF	**Zefreh**	**89.31**	**303**	*eP*	**P**		**12 24 01.0**	**-0.4**	
IVRN	**Varamin**	**89.95**	**305**	*eP*	**P**		**12 24 04.4**	**+0.3**	
SKAG	**Skagway**	**90.18**	**31**	*eP*	**P**		**12 24 04.2**	**-0.3**	
SYO	**Syowa Base**	**90.67**	**201**	⇓*i* P	**P**		**12 24 05.9**	**-0.7**	
INK	**Inuvik**	**91.74**	**22**	P	**P**		**12 24 10.9**	**-0.6**	
INK				PKKPbc	**PKKPdf**		**12 41 31.2**	**+1.6**	
INK	**Inuvik**	**91.74**	**22**	P	**P**		**12 24 10.9**	**-0.6**	
	comp=Z,7.5nm,1.0s,baz=285,slow=6.5,SNR=16								
INK				PKKPbc	**PKKPdf**		**12 41 31.2**	**+1.6**	
	comp=Z,1.5nm,0.6s,baz=89,slow=3.3,SNR=8.6								
DLBC	**Dease Lake**	**92.86**	**32**	P	**P**		**12 24 16.6**	**-0.4**	
DLBC	**Dease Lake**	**92.86**	**32**	P	**P**		**12 24 16.6**	**-0.4**	
	comp=Z,14nm,1.1s,baz=233,slow=6.0,SNR=8.4								
QRN	**Al-Qurain**	**92.88**	**298**	*eP*	**P**		**12 24 16.9**	**-0.8**	
QRN				AMb	AMB		12 24 18.7		
	comp=Z,139nm,0.8s								
KBD	**Kabd**	**93.09**	**299**	*eP*	**P**		**12 24 18.1**	**-0.6**	
KBD				AMb	AMB		12 24 19.4		
	comp=Z,39nm,0.8s								
RDF	**Al-Radifah**	**93.21**	**299**	*eP*	**P**		**12 24 19.3**	**+0.1**	
RDF				AMb	AMB		12 24 20.4		
	comp=Z,103nm,0.8s								
ISRB	**Sarab**	**93.35**	**308**	*eP*	**P**		**12 24 20.1**	**+0.1**	
NAY	**Al-Naaiem**	**93.49**	**299**	*eP*	**P**		**12 24 19.9**	**-0.6**	
NAY				AMb	AMB		12 24 21.4		
	comp=Z,135nm,0.8s								
MAK	**Makhachkala**	**93.58**	**313**	P	P		12 24 17.1	-3.5	
MAK				*e**PP	pP		12 24 46.6	-2.7	
MAK				*e*			12 28 09.6		
MAK				*e*S	**SKSac**		**12 34 39.3**	**-5.8**	
MAK				*e*			12 35 21.9		
MAK				*e*SP	**SP**		**12 36 32.1**	**-1.7**	
MAK				*e*PS	**PS**		**12 36 48.3**	**+0.4**	
MAK				*e*SS	**SS**		**12 41 38.1**	**-1.9**	
MAK				pmax	pmax				
	comp=Z,47nm,0.4s								
MAK				MLR	MLR				
	comp=Z,860nm,22.0s								
RST	**Umm Al-Ruwaisa**	**93.71**	**299**	*eP*	**P**		**12 24 20.7**	**-0.8**	
RST				AMb	AMB		12 24 22.2		
	comp=Z,1µm,0.8s								
ILIN	**Lien**	**93.86**	**305**	*eP*	**P**		**12 24 21.4**	**-1.0**	
IAZR	**Azarshahr**	**94.69**	**307**	*eP*	**P**		**12 24 25.7**	**-0.5**	
IMRD	**Marand**	**94.91**	**308**	*eP*	**P**		**12 24 26.2**	**-0.9**	
RAYN	**Ar Rayn**	**94.91**	**293**	*eP*	**P**		**12 24 27.0**	**-0.2**	
RAYN	**Ar Rayn**	**94.91**	**293**	P	**P**		**12 24 27.3**	**+0.1**	
	comp=Z,252nm,0.8s,SNR=9.9								
GNI	**Garni**	**95.64**	**310**	P	**P**		**12 24 29.9**	**-0.4**	
GNI	**Garni**	**95.64**	**310**	P	**P**		**12 24 29.9**	**-0.4**	
	comp=Z,2.3nm,0.3s,baz=357,slow=16,SNR=4.9								
ZEI	**Tsey**	**96.22**	**313**	*eP*	**P**		**12 24 31.3**	**-1.7**	
ZEI				pmax	pmax				
	comp=Z,18nm,0.7s								
KIV	**Kislovodsk**	**97.07**	**314**	P	**P**		**12 24 36.0**	**-0.6**	
KIV				*e*			12 25 03.3		
KIV				*e*			12 25 09.2		
KIV				*i*			12 28 34.1		
KIV				*e*			12 35 04.2		
KIV				*e*S	S		12 35 44.2	-6.3	
KIV				*e*PS	PS		12 37 16.1	-10	
KIV				*e*			12 37 57.1		
KIV				*i* SS	**SS**		**12 42 35.3**	**+5.6**	
KIV				pmax	pmax				
	comp=Z,11nm,1.1s								
VRHR	**Novokhopersk**	**97.37**	**321**	*eP*	**P**		**12 24 36.0**	**-1.7**	
VRHR				pmax	pmax				
	comp=N,10.0nm,0.8s								
VRHR				pmax	pmax				
	comp=E,20nm,0.8s								
VRHR				pmax	pmax				
	comp=Z,60nm,0.8s								
KLMR	**Klimovskoe**	**97.58**	**331**	*eP*	P		12 24 34.6	-3.8	
KLMR				pmax	pmax				
	comp=Z,46nm,1.6s								
TMCR	**Tamitsa**	**97.79**	**334**	*eP*	**P**		**12 24 37.3**	**-1.9**	
TMCR				*e*			12 28 36.8		
TMCR				pmax	pmax				
	comp=Z,37nm,1.2s								
YBH	**Yreka Blue Hor**	**97.86**	**48**	P	Pdif		12 24 40.6	+0.3	
YBH	**Yreka Blue Hor**	**97.86**	**48**	P	Pdif		12 24 40.7	+0.4	
	comp=Z,4.8nm,0.9s,baz=164,slow=1.2,SNR=8.2								
MAIT	**Maitri**	**98.73**	**195**	*eP*	**P**		**12 24 42.4**	**-1.0**	
VSR	**Storozhevoye**	**98.90**	**321**	*eP*	**P**		**12 24 43.2**	**-1.3**	
VSR				pmax	pmax				
	comp=Z,40nm,1.3s								
VSR				pmax	pmax				
	comp=N,6.0nm,0.6s								
VSR				pmax	pmax				
	comp=E,10.0nm,0.6s								
APA	**Apatity**	**98.98**	**338**	⇑*i* P	**P**		**12 24 44.0**	**-0.5**	
APA				*i* *PP	**pP**		**12 25 17.6**	**+4.2**	
APA				*i*			12 35 10.0		
APA				*i* S	**S**		**12 36 06.0**	**+0.5**	
APA				*i* PS	**PS**		**12 37 44.0**	**-1.8**	
APA

FINES	**FINESS Array B**	**103.78**	**333**		Pdiff	**Pdif**	**12 25 05.2**	**-0.7**
	comp=Z,2.2nm,0.6s,baz=37,slow=4.8,SNR=5.3							
GMRC	**Granite Mounta**	**103.94**	**55**	⇓	PKiKP	**PKiKP**	**12 29 23.1**	**-1.6**
	baz=104							
BRTR	**Keskin Array B**	**104.18**	**310**		Pdif	**Pdif**	**12 25 07.2**	**-1.3**
BRTR	**Keskin Array B**	**104.18**	**310**		Pdiff	**Pdif**	**12 25 07.2**	**-1.3**
	comp=Z,5.4nm,0.8s,baz=104,slow=4.4,SNR=23							
BC3	**Big Chuckawall**	**104.22**	**56**	⇑	PKiKP	**PKiKP**	**12 29 25.5**	**+0.3**
	baz=104							
AKASG	**Malin Array Be**	**105.18**	**322**		P	**Pdif**	**12 25 11.2**	**-1.3**
AKASG					pmax	pmax		
	comp=Z,4.0nm,0.8s							
AKASG					pmax	pmax		
	comp=Z,5.0nm,0.9s							
AKASG	**Malin Array Be**	**105.18**	**322**		Pdif	**Pdif**	**12 25 11.2**	**-1.3**
AKASG					PKiKP	**PKiKP**	**12 29 27.1**	**+0.8**
AKASG	**Malin Array Be**	**105.18**	**322**		Pdiff	**Pdif**	**12 25 11.2**	**-1.3**
	comp=Z,4.2nm,0.8s,baz=64,slow=4.3,SNR=12							
AKASG					PKiKP	**PKiKP**	**12 29 27.1**	**+0.8**
	comp=Z,5.0nm,0.9s,baz=71,slow=2.0,SNR=5.6							
EGMT	**Eagleton**	**106.09**	**41**	⇓	PKiKP	**PKiKP**	**12 29 28.9**	**+0.7**
	baz=106							
KIS	**Kishinev**	**106.31**	**318**		*e*P	**PP**	**12 29 45.0**	**+2.0**
KIS					XM		12 29 48.5	
	comp=Z,200nm,2.0s							
C20A	**Veseth Ranch,**	**107.31**	**41**	⇓	PKiKP	**PKiKP**	**12 29 32.4**	**+2.0**
	baz=107							
WUAZ	**Wupatki**	**107.33**	**54**	⇓	PKiKP	**PKiKP**	**12 29 31.2**	**+0.2**
	baz=107							
D20A	**Manuel Ranch,**	**107.38**	**41**	⇑	PKiKP	**PKiKP**	**12 29 31.5**	**+0.9**
	baz=107							
H19A	**Powell**	**107.39**	**44**	⇑	PKiKP	**PKiKP**	**12 29 31.0**	**+0.2**
	baz=107							
PDAR	**Pinedale Array**	**107.40**	**46**		Pdif	**Pdif**	**12 25 23.9**	**+1.0**
PDAR					PKiKP	**PKiKP**	**12 29 30.8**	**-0.2**
PDAR					PKKPbc	**PKKPbc**	**12 40 46.8**	**-1.2**
PDAR	**Pinedale Array**	**107.40**	**46**		Pdiff	**Pdif**	**12 25 23.9**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=228,slow=3.1,SNR=9.6							
PDAR					PKiKP	**PKiKP**	**12 29 30.8**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=228,slow=2.3,SNR=3.5							
PDAR					PKKPbc	**PKKPbc**	**12 40 46.8**	**-1.2**
	comp=Z,2.1nm,0.7s,baz=114,slow=6.2,SNR=14							
I19A	**Meeteetse**	**107.52**	**45**	⇓	PKiKP	**PKiKP**	**12 29 31.5**	**+0.4**
	baz=107							
SUW	**Suwalki**	**107.76**	**326**		*e*P	**Pdif**	**12 25 23.5**	**-0.4**
SUW	**Suwalki**	**107.76**	**326**		*e*P	**Pdif**	**12 25 23.4**	**-0.4**
G20A	**Bridger**	**107.79**	**43**	⇑	PKiKP	**PKiKP**	**12 29 32.1**	**+0.6**
	baz=108							
C21A	**Desert Coulee**	**107.87**	**41**	⇓	PKiKP	**PKiKP**	**12 29 32.4**	**+0.9**
	baz=108							
A22A	**Carney Farms,**	**108.30**	**39**	⇓	PKiKP	**PKiKP**	**12 29 32.3**	**+0.1**
	baz=108							
P19A	**Cripple Cowboy**	**108.47**	**49**	⇓	PKiKP	**PKiKP**	**12 29 32.7**	**-0.4**
	baz=108							
X18A	**Snowflake**	**108.63**	**55**	⇑	PKiKP	**PKiKP**	**12 29 33.8**	**+0.3**
	baz=109							
D22A	**Cohagen**	**108.65**	**41**	⇓	PKiKP	**PKiKP**	**12 29 33.7**	**+0.8**
	baz=109							
C22A	**Vida**	**108.68**	**40**	⇑	PKiKP	**PKiKP**	**12 29 33.5**	**+0.6**
	baz=109							
N20A	**Spence Gulch,**	**108.76**	**48**	⇑	PKiKP	**PKiKP**	**12 29 34.1**	**+0.5**
	baz=109							
E22A	**Miles City**	**109.00**	**42**	⇑	PKiKP	**PKiKP**	**12 29 34.2**	**+0.5**
	baz=109							
K21A	**Alcova**	**109.09**	**46**	⇑	PKiKP	**PKiKP**	**12 29 34.8**	**+0.7**
	baz=109							
C23A	**Lambert**	**109.11**	**40**	⇓	PKiKP	**PKiKP**	**12 29 34.5**	**+0.7**
	baz=109							
Q20A	**Ridgley Place,**	**109.13**	**50**	⇓	PKiKP	**PKiKP**	**12 29 35.0**	**+0.8**
	baz=109							
MVCO	**Mesa Verde**	**109.32**	**52**	⇑	PKiKP	**PKiKP**	**12 29 35.5**	**+0.8**
	baz=109							
E23A	**Ismay**	**109.41**	**42**	⇓	PKiKP	**PKiKP**	**12 29 35.4**	**+1.0**
	baz=109							
J22A	**Midwest**	**109.44**	**45**	⇓	PKiKP	**PKiKP**	**12 29 35.4**	**+0.7**
	baz=109							
DGMT	**Dagmar**	**109.54**	**39**	⇑	PKiKP	**PKiKP**	**12 29 35.4**	**+0.8**
	baz=109							
F23A	**Volborg**	**109.57**	**42**	⇓	PKiKP	**PKiKP**	**12 29 35.8**	**+1.1**
	baz=110							
G23A	**Biddle**	**109.72**	**43**	⇓	PKiKP	**PKiKP**	**12 29 35.9**	**+0.8**
	baz=110							
S21A	**Coal Bank Pass**	**109.78**	**51**	⇑	PKiKP	**PKiKP**	**12 29 36.8**	**+1.1**
	baz=110							
HFS	**Hagfors**	**109.83**	**334**		PP	PP	12 30 08.2	+0.1
HFS	**Hagfors**	**109.83**	**334**		PP	PP	12 30 08.2	+0.1
	comp=Z,5.5nm,0.8s,baz=49,slow=12,SNR=4.6							
Z20A	**Nine Sixteen R**	**109.98**	**56**	⇑	PKiKP	**PKiKP**	**12 29 36.7**	**+0.6**
	baz=110							
KOLS	**Kolonicke sedl**	**110.00**	**321**		*e*P	**Pdif**	**12 25 37.9**	**+3.9**
KOLS	**Kolonicke sedl**	**110.00**	**321**		PDIF	**Pdif**	**12 25 37.9**	**+3.9**
Y20A	**Horse Springs,**	**110.02**	**55**	⇓	PKiKP	**PKiKP**	**12 29 36.8**	**+0.6**
	baz=110							
120A	**U Bar Ranch, L**	**110.04**	**57**	⇑	PKiKP	**PKiKP**	**12 29 36.7**	**+0.5**
	baz=110							
E24A	**Baker**	**110.05**	**41**	⇑	PKiKP	**PKiKP**	**12 29 36.7**	**+1.1**
	baz=110							
UZH	**Uzhgorod**	**110.08**	**321**		*i* PKIKP	PKiKP	12 29 50.0	+14
UZH					*e*SS	SS	12 45 33.0	+5.4
UZH					MLR	MLR		
	comp=Z,300nm,19.0s							
U21A	**Nageezi**	**110.13**	**52**	⇓	PKiKP	**PKiKP**	**12 29 37.1**	**+0.8**
	baz=110							
P22A	**Eagle**	**110.16**	**49**	⇑	PKiKP	**PKiKP**	**12 29 37.1**	**+0.8**
	baz=110							
F24A	**Ekalaka**	**110.17**	**42**	⇑	PKiKP	**PKiKP**	**12 29 37.1**	**+1.2**
	baz=110							
220A	**Playas Peak, P**	**110.23**	**57**	⇓	PKiKP	**PKiKP**	**12 29 37.0**	**+0.5**
	baz=110							
V21A	**Milan**	**110.27**	**53**	⇑	PKiKP	**PKiKP**	**12 29 37.5**	**+0.9**
	baz=110							
320A	**Kipp Ranch, An**	**110.32**	**58**	⇑	PKiKP	**PKiKP**	**12 29 37.6**	**+0.9**
	baz=110							
NB2	**NORSAR Subarra**	**110.38**	**336**		PP	PP	12 29 51.4	-21
	comp=Z,24nm,1.7s,baz=57,slow=7.4							
NB2	**NORSAR Subarra**	**110.38**	**336**		PP	PP	12 29 51.4	-21
	baz=57,slow=7.4							
NOA	**NORSAR Array B**	**110.38**	**336**		PP	PP	12 30 08.2	-3.9
NOA	**NORSAR Array B**	**110.38**	**336**		PP	PP	12 30 08.2	-3.9
	comp=Z,2.5nm,0.9s,baz=54,slow=6.5,SNR=3.6							
H24A	**Dirks Ranch, A**	**110.42**	**43**	⇑	PKiKP	**PKiKP**	**12 29 37.1**	**+0.6**
	baz=110							
STHS	**Stebnicka Huta**	**110.47**	**322**		*e*P	**Pdif**	**12 25 40.2**	**+4.1**
STHS	**Stebnicka Huta**	**110.47**	**322**		PDIF	**Pdif**	**12 25 40.2**	**+4.1**
SUMG	**Summit**	**110.61**	**359**		*i* P	PP	12 30 08.2	-5.5
	comp=Z,8.7nm,1.0s							
121A	**Cookes Peak, D**	**110.75**	**56**	⇑	PKiKP	**PKiKP**	**12 29 37.4**	**-0.1**
	baz=111							
V22A	**San Miguel Ran**	**110.83**	**53**	⇓	PKiKP	**PKiKP**	**12 29 38.3**	**+0.6**
	baz=111							
ISCO	**Idaho Springs**	**110.97**	**48**	⇓	PKiKP	**PKiKP**	**12 29 38.7**	**+0.8**
	baz=111							
Y22A	**Socorro**	**111.17**	**55**	⇓	PKiKP	**PKiKP**	**12 29 38.4**	**+0.1**
	baz=111							
R23A	**Moffat**	**111.19**	**50**	⇓	PKiKP	**PKiKP**	**12 29 38.4**	**+0.1**
	baz=111							
I25A	**Rochford**	**111.19**	**44**	⇓	PKiKP	**PKiKP**	**12 29 38.2**	**+0.1**
	baz=111							
E26A	**Carlson Angus**	**111.29**	**41**	⇓	PKiKP	**PKiKP**	**12 29 38.3**	**+0.4**
	baz=111							
Z22A	**Elephant Butte**	**111.30**	**56**	⇑	PKiKP	**PKiKP**	**12 29 38.5**	**0.0**
	baz=111							
F26A	**Lodgepole**	**111.36**	**42**	⇓	PKiKP	**PKiKP**	**12 29 38.6**	**+0.5**
	baz=111							
G26A	**Maurine**	**111.58**	**42**	⇑	PKiKP	**PKiKP**	**12 29 38.8**	**+0.2**
	baz=112							
H26A	**Fairpoint**	**111.67**	**43**	⇑	PKiKP	**PKiKP**	**12 29 38.8**	**0.0**
	baz=112							
F27A	**Lemmon**	**111.78**	**41**	⇓	PKiKP	**PKiKP**	**12 29 39.6**	**+0.7**
	baz=112							
E27A	**Carson**	**111.89**	**41**	⇓	PKiKP	**PKiKP**	**12 29 39.8**	**+0.7**
	baz=112							
Z23A	**Rita Site, Whi**	**111.90**	**55**	⇓	PKiKP	**PKiKP**	**12 29 40.1**	**+0.4**
	baz=112							
G27A	**Dupree**	**112.00**	**42**	⇑	PKiKP	**PKiKP**	**12 29 39.5**	**+0.2**
	baz=112							
H27A	**Howes**	**112.14**	**43**	⇓	PKiKP	**PKiKP**	**12 29 40.2**	**+0.6**
	baz=112							
V24A	**Rampart Ranch,**	**112.17**	**53**	⇓	PKiKP	**PKiKP**	**12 29 40.8**	**+0.6**
	baz=112							
W24A	**Lazy 6 Ranch,**	**112.17**	**53**	⇓	PKiKP	**PKiKP**	**12 29 40.4**	**+0.3**
	baz=112							
OKC	**Ostrava-Krasne**	**112.19**	**323**		*e*SDIF	**Sdif**	**12 37 54.1**	**-2.4**
OKC					*e*SP	**SP**	**12 39 42.4**	**-4.5**
OKC					*e*PKKP	**PKKPab**	**12 40 38.9**	**-1.1**
OKC					AMS	AMS	13 20 30.0	
	comp=Z,600nm,19.3s							
C28A	**Hausauer Farms**	**112.20**	**39**	⇓	PKiKP	**PKiKP**	**12 29 39.7**	**+0.1**
	baz=112							
Q25A	**Bedland, Calha**	**112.21**	**49**	⇓	PKiKP	**PKiKP**	**12 29 40.4**	**+0.2**
	baz=112							
D28A	**Regan**	**112.27**	**40**	⇓	PKiKP	**PKiKP**	**12 29 40.5**	**+0.8**
	baz=112							
R25A	**Fountain Ranch**	**112.38**	**50**	⇑	PKiKP	**PKiKP**	**12 29 40.7**	**+0.3**
	baz=112							
Y24A	**Capitan**	**112.42**	**55**	⇓	PKiKP	**PKiKP**	**12 29 41.2**	**+0.5**
	baz=112							
T25A	**Trinidad**	**112.52**	**51**	⇑	PKiKP	**PKiKP**	**12 29 41.1**	**+0.3**
	baz=112							
Z24A	**Sheeppen Canyo**	**112.60**	**55**	⇓	PKiKP	**PKiKP**	**12 29 41.5**	**+0.5**
	baz=112							
MDND	**Maddock**	**112.64**	**39**	⇑	PKiKP	**PKiKP**	**12 29 41.0**	**+0.6**
	baz=112							
124A	**Stringfield Ra**	**112.65**	**56**	⇓	PKiKP	**PKiKP**	**12 29 41.6**	**+0.4**
	baz=113							
V25A	**Rancho No Teng**	**112.67**	**52**	⇓	PKiKP	**PKiKP**	**12 29 41.6**	**+0.5**
	baz=113							
U25A	**Circle Dot Ran**	**112.70**	**52**	⇑	PKiKP	**PKiKP**	**12 29 41.7**	**+0.5**
	baz=113							
G28A	**Parade**	**112.78**	**42**	⇑	PKiKP	**PKiKP**	**12 29 41.3**	**+0.5**
	baz=113							
324A	**Moseley Ranch,**	**112.87**	**57**	⇓	PKiKP	**PKiKP**	**12 29 41.8**	**+0.2**
	baz=113							
M27A	**Reverse DX Ran**	**112.87**	**46**	⇑	PKiKP	**PKiKP**	**12 29 41.8**	**+0.7**
	baz=113							
W25A	**X Bar L Ranch,**	**112.93**	**53**	⇑	PKiKP	**PKiKP**	**12 29 42.2**	**+0.7**
	baz=113							
R26A	**Arlington**	**112.97**	**50**	⇑	PKiKP	**PKiKP**	**12 29 41.8**	**+0.3**
	baz=113							
Y25A	**Mesa, Roswell**	**113.03**	**54**	⇑	PKiKP	**PKiKP**	**12 29 42.2**	**+0.4**
	baz=113							
A30A	**Hoffart Farm,**	**113.03**	**37**	⇓	PKiKP	**PKiKP**	**12 29 41.7**	**+0.6**
	baz=113							
J28A	**Allard Ranch,**	**113.10**	**44**	⇑	PKiKP	**PKiKP**	**12 29 42.5**	**+1.0**
	baz=113							
S26A	**Kim**	**113.13**	**50**	⇑	PKiKP	**PKiKP**	**12 29 42.1**	**+0.3**
	baz=113							
Z25A	**Roswell**	**113.14**	**55**	⇑	PKiKP	**PKiKP**	**12 29 41.9**	**-0.1**
	baz=113							
T26A	**Comanche Natio**	**113.15**	**51**	⇑	PKiKP	**PKiKP**	**12 29 42.4**	**+0.4**
	baz=113							
UPC	**Upico**	**113.17**	**325**		*e*PP	PP	12 30 33.1	+0.8
B30A	**Myrvik Farm, E**	**113.20**	**38**	⇓	PKiKP	**PKiKP**	**12 29 41.9**	**+0.5**
	baz=113							
V26A	**Tequesquite Ra**	**113.33**	**52**	⇑	PKiKP	**PKiKP**	**12 29 42.6**	**+0.4**
	baz=113							
C30A	**Mose, Pekin**	**113.40**	**39**	⇓	PKiKP	**PKiKP**	**12 29 42.3**	**+0.4**
	baz=113							
425A	**Indio Mountain**	**113.41**	**58**	⇓	PKiKP	**PKiKP**	**12 29 42.6**	**0.0**
	baz=113							
D30A	**Buchanan**	**113.45**	**39**	⇓	PKiKP	**PKiKP**	**12 29 42.3**	**+0.3**
	baz=113							
R27A	**Eads**	**113.47**	**49**	⇑	PKiKP	**PKiKP**	**12 29 42.6**	**+0.2**
	baz=113							
W26A	**Owens Ranch, T**	**113.51**	**53**	⇑	PKiKP	**PKiKP**	**12 29 42.6**	**0.0**
	baz=113							
I29A	**Vivian Onida**	**113.54**	**43**	⇑	PKiKP	**PKiKP**	**12 29 42.6**	**+0.3**
	baz=113							
E30A	**Jud**	**113.58**	**40**	⇑	PKiKP	**PKiKP**	**12 29 42.7**	**+0.4**
	baz=114							
X26A	**CR and CF Fran**	**113.60**	**54**	⇓	PKiKP	**PKiKP**	**12 29 42.7**	**-0.2**
	baz=114							
J29A	**Okreek**	**113.73**	**44**	⇓	PKiKP	**PKiKP**	**12 29 43.0**	**+0.3**
	baz=114							
226B	**Tecolote Peak,**	**113.84**	**56**	⇓	PKiKP	**PKiKP**	**12 29 43.4**	**+0.1**
	baz=114							
126A	**Clayton Basin,**	**113.85**	**56**	⇓	PKiKP	**PKiKP**	**12 29 43.4**	**+0.1**
	baz=114							
G30A	**Faulkton**	**113.93**	**41**	⇓	PKiKP	**PKiKP**	**12 29 43.4**	**+0.4**
	baz=114							
PVCC	**Panska Ves**	**113.99**	**325**		AMS	AMS	13 20 50.0	
	comp=Z,900nm,18.2s							
W27A	**Bowe Ranch, En**	**114.08**	**53**	⇑	PKiKP	**PKiKP**	**12 29 44.1**	**+0.4**
	baz=114							
R28A	**Tribune**	**114.20**	**49**	⇓	PKiKP	**PKiKP**	**12 29 44.2**	**+0.3**
	baz=114							
PRU	**Pruhonice**	**114.25**	**325**		*e*PP	PP	12 30 45.6	+5.7
PRU					*e*SDIF		12 38 15.4	
PRU					*e*SP	**SP**	**12 39 58.3**	**-7.4**
PRU					*ex*	x	12 40 58.6	
PRU					*ex*	x	12 46 11.7	
PRU					AMS	AMS	13 29 20.0	
	comp=Z,500nm,18.2s							
PRA	**Prague**	**114.27**	**325**		PP	PP	12 30 46.0	+5.9
PRA					SP	SP	12 39 59.0	-6.9
Y27A	**Causey**	**114.27**	**54**	⇑	PKiKP	**PKiKP**	**12 29 44.5**	**+0.3**
	baz=114							
T28A	**Walsh**	**114.30**	**51**	⇑	PKiKP	**PKiKP**	**12 29 44.6**	**+0.5**
	baz=114							
526A	**Mary Lane Ranc**	**114.31**	**58**	⇑	PKiKP	**PKiKP**	**12 29 44.5**	**+0.2**
	baz=114							
J30A	**Dallas**	**114.33**	**43**	⇑	PKiKP	**PKiKP**	**12 29 44.7**	**+0.9**
	baz=114							
Z27A	**Tatum**	**114.36**	**55**	⇓	PKiKP	**PKiKP**	**12 29 44.7**	**+0.4**
	baz=114							
626A	**Big Bend Ranch**	**114.37**	**59**	⇓	PKiKP	**PKiKP**	**12 29 44.8**	**+0.4**
	baz=114							
CLL	**Collm**	**114.52**	**326**		*e*PKiKP	PKPdf	12 29 44.0	+0.1
CLL					*e*PP	**PP**	**12 30 41.0**	**-0.7**
CLL					*e*Sdif	Sdif	12 38 17.0	+1.2
CLL					*e*SP	**SP**	**12 40 10.0**	**+2.0**
CLL					*e*SPP	SPP	12 41 18.0	
CLL					*e*SS	**SS**	**12 46 30.0**	**+4.0**
CLL					*e*SSS	SSS	12 50 45.0	
CLL					L	L	13 23 00.0	
	comp=Z,800nm,20.1s							
V28A	**Channing**	**114.57**	**52**	⇓	PKiKP	**PKiKP**	**12 29 45.1**	**+0.5**
	baz=114							
527A	**Woodward Ranch**	**114.70**	**58**	⇑	PKiKP	PKPdf	12 29 44.9	-0.2
	baz=115							
427A	**Hayter Ranch,**	**114.73**	**57**	⇓	PKiKP	**PKiKP**	**12 29 45.6**	**+0.5**
	baz=115							
TXAR	**Lajitas Array**	**114.81**	**59**		PKiKP	PKPdf	12 29 45.2	0.0
TXAR					PKKPbc	**PKKPbc**	**12 40 24.2**	**+1.0**
TXAR					PKKPab	**PKKPab**	**12 40 29.8**	**+0.9**
TXAR	**Lajitas Array**	**114.81**	**59**		PKiKP	PKPdf	12 29 45.2	0.0
	comp=Z,1.7nm,0.9s,baz=270,slow=1.0,SNR=11							
TXAR					PKKPbc	**PKKPbc**	**12 40 24.2**	**+1.0**
	comp=Z,1.4nm,0.6s,baz=115,slow=5.2,SNR=17							
TXAR					PKKPab	**PKKPab**	**12 40 29.8**	**+0.9**
	comp=Z,5.2nm,0.8s,baz=124,slow=7.3,SNR=25							
O30A	**MW Ranch, Wils**	**114.96**	**47**	⇑	PKiKP	PKPdf	12 29 45.2	+0.1
	baz=115							
627A	**Terlingua Ranc**	**115.02**	**59**	⇓	PKiKP	**PKiKP**	**12 29 45.7**	**0.0**
	baz=115							
128A	**Castleberry Fa**	**115.11**	**55**	⇑	PKiKP	**PKiKP**	**12 29 45.7**	**0.0**
	baz=115							
328A	**Wristen Ranch,**	**115.12**	**57**	⇓	PKiKP	**PKPdf**	**12 29 46.3**	**+0.6**
	baz=115							
L31A	**Butterfield Fa**	**115.18**	**44**	⇓	PKiKP	**PKPdf**	**12 29 46.0**	**+0.5**
	baz=115							
KHC	**Kasperske Hory**	**115.19**	**324**		*e*pPKP	**pPKiKP**	**12 30 12.4**	**-2.9**
KHC					*e*PP	**PP**	**12 30 49.0**	**+2.4**
KHC					*e*SDIF		12 38 21.7	
KHC					*e*SP	**SP**	**12 40 07.8**	**-6.6**
KHC					*ex*	x	12 41 22.5	
KHC					*e*SS	**SS**	**12 46 29.1**	**-6.0**
KHC					AMS	AMS	13 20 00.0	
	comp=Z,700nm,17.7s							
GERES	**GERESS Array B**	**115.25**	**324**		PKP	**PKPdf**	**12 29 45.2**	**-0.3**
GERES	**GERESS Array B**	**115.25**	**324**		PKP	**PKPdf**	**12 29 45.2**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=116,slow=3.1,SNR=5.0							
X29A	**Tulia**	**115.32**	**53**	⇑	PKiKP	**PKPdf**	**12 29 46.3**	**+0.2**
	baz=115							
428A	**Kincaid Ranch,**	**115.36**	**57**	⇑	PKiKP	**PKPdf**	**12 29 46.7**	**+0.4**
	baz=115							
528A	**Cox Ranch, San**	**115.39**	**58**	⇓	PKiKP	**PKiKP**	**12 29 46.9**	**+0.5**
	baz=115							
U30A	**WK&E Inc. Balk**	**115.59**	**51**	⇑	PKiKP	**PKPdf**	**12 29 46.6**	**+0.1**
	baz=116							
Z29A	**Hungry Hill Ra**	**115.60**	**55**	⇓	PKiKP	**PKiKP**	**12 29 47.0**	**+0.3**
	baz=116							
P31A	**Stockton**	**115.67**	**47**	⇓	PKiKP	**PKPdf**	**12 29 47.1**	**+0.5**
	baz=116							
329A	**Wagon Wheel Ra**	**115.79**	**56**	⇓	PKiKP	**PKiKP**	**12 29 47.4**	**+0.3**
	baz=116							
529A	**Stev Forest Ra**	**115.88**	**58**	⇑	PKiKP	**PKiKP**	**12 29 47.3**	**0.0**
	baz=116							
BGNE	**Belgrade**	**115.92**	**45**	⇓	PKiKP	**PKiKP**	**12 29 47.3**	**+0.3**
	baz=116							
X30A	**Coker Ranch, T**	**115.98**	**53**	⇑	PKiKP	**PKPdf**	**12 29 47.2**	**-0.1**
	baz=116							
429A	**Davenport Ranc**	**116.05**	**57**	⇓	PKiKP	**PKPdf**	**12 29 46.9**	**-0.7**
	baz=116							
Z30A	**Sanderson Ranc**	**116.07**	**54**	⇑	PKiKP	**PKiKP**	**12 29 47.8**	**+0.2**
	baz=116							
P32A	**Huiting Farm,**	**116.20**	**47**	⇓	PKiKP	**PKiKP**	**12 29 47.8**	**+0.3**
	baz=116							
O32A	**Brockman Farm,**	**116.23**	**46**	⇓	PKiKP	**PKiKP**	**12 29 48.1**	**+0.6**
	baz=116							
230A	**Sterling City**	**116.42**	**56**	⇓	PKiKP	**PKiKP**	**12 29 48.7**	**+0.4**
	baz=116							
430A	**Baggett Ranch,**	**116.57**	**57**	⇓	PKiKP	**PKiKP**	**12 29 48.7**	**+0.2**
	baz=116							
Y31A	**Rekieta Farm,**	**116.59**	**53**	⇑	PKiKP	**PKiKP**	**12 29 48.8**	**+0.3**
	baz=116							
530A	**J-C Ranch, Com**	**116.62**	**58**	⇑	PKiKP	**PKPdf**	**12 29 48.6**	**-0.1**
	baz=117							
X31A	**McDonald Ranch**	**116.64**	**53**	⇑	PKiKP	**PKPdf**	**12 29 48.5**	**-0.1**
	baz=117							
131A	**Roby**	**116.82**	**55**	⇓	PKiKP	**PKPdf**	**12 29 48.8**	**-0.1**
	baz=117							
P33A	**Williams Farm,**	**116.92**	**47**	⇑	PKiKP	**PKiKP**	**12 29 49.2**	**+0.3**
	baz=117							
231A	**Bronte**	**117.06**	**56**	⇓	PKiKP	**PKiKP**	**12 29 49.5**	**+0.1**
	baz=117							
331A	**San Angelo**	**117.12**	**56**	⇑	PKiKP	**PKiKP**	**12 29 49.7**	**+0.1**
	baz=117							
531A	**Rocksprings**	**117.29**	**58**	⇓	PKiKP	**PKiKP**	**12 29 50.0**	**0.0**
	baz=117							
Z32A	**Haskell**	**117.40**	**54**	⇑	PKiKP	**PKiKP**	**12 29 50.2**	**+0.1**
	baz=117							
631A	**Perdido Creek**	**117.43**	**58**	⇓	PKiKP	**PKiKP**	**12 29 50.3**	**+0.1**
	baz=117							
ABTX	**Abilene, Hawle**	**117.44**	**55**	⇑	PKiKP	**PKiKP**	**12 29 50.3**	**+0.1**
	baz=117							
232A	**Coleman**	**117.62**	**56**	⇓	PKiKP	**PKPdf**	**12 29 50.5**	**0.0**
	baz=118							
332A	**Millersview**	**117.67**	**56**	⇑	PKiKP	**PKPdf**	**12 29 50.6**	**0.0**
	baz=118							
432A	**Menard**	**117.75**	**57**	⇓	PKiKP	**PKPdf**	**12 29 50.7**	**-0.1**
	baz=118							
532A	**Rocksprings**	**117.84**	**58**	⇑	PKiKP	**PKiKP**	**12 29 51.2**	**+0.1**
	baz=118							
JCT	**Junction City**	**117.84**	**57**	⇑	PKiKP	**PKPdf**	**12 29 50.9**	**-0.1**
	baz=118							
SPMN	**St. Paul**	**118.00**	**39**	⇓	PKiKP	**PKiKP**	**12 29 51.0**	**+0.2**
	baz=118							
632A	**Uvalde**	**118.08**	**58**	⇑	PKiKP	**PKiKP**	**12 29 51.9**	**+0.4**
	baz=118							
732A	**Laxson Ranch,**	**118.10**	**59**	⇑	PKiKP	**PKiKP**	**12 29 51.8**	**+0.3**
	baz=118							
DAVOX	**Davos/Dischmat**	**118.49**	**323**		PKP	**PKPdf**	**12 29 50.0**	**-1.9**
DAVOX	**Davos/Dischmat**	**118.49**	**323**		PKP	**PKPdf**	**12 29 50.0**	**-1.9**
	comp=Z,3.3nm,0.7s,baz=168,slow=1.7,SNR=5.2							
GIVF	**Givet**	**119.57**	**328**		*e*PKiKP	**PKPdf**	**12 29 54.0**	**+0.4**
GIVF	**Givet**	**119.57**	**328**		*e*PKiKP	**PKPdf**	**12 29 54.0**	**+0.4**
GIVF	**Givet**	**119.57**	**328**		*e*PKPdf	**PKPdf**	**12 29 54.0**	**+0.4**
HINF	**Hinteralfeld**	**119.73**	**325**		*e*PKiKP	**PKPdf**	**12 29 53.7**	**-0.4**
	comp=Z,15nm,0.6s							
HINF	**Hinteralfeld**	**119.73**	**325**		*e*PKiKP	**PKPdf**	**12 29 53.7**	**-0.4**
HINF	**Hinteralfeld**	**119.73**	**325**		*e*PKPdf	**PKPdf**	**12 29 53.7**	**-0.4**
EKA	**Eskdalemuir Ar**	**119.86**	**336**		PKP	**PKPdf**	**12 29 54.4**	**+0.4**

QUIF	Quistinic	125.04 330	*e*PKIKP	PKPdf	12 30 04.2	0.0			
QUIF	Quistinic	125.04 330	*e*PKPdf	PKPdf	12 30 04.2	0.0			
APG	El Apazote	129.37 73	PKP	PKPdf	12 30 13.4	-0.3			
APG			SKKPbc	SKKPbc	12 43 10.3	-0.7			
APG	El Apazote	129.37 73	PKP	PKPdf	12 30 13.4	-0.3			
	comp=Z,4.1nm,0.7s,baz=84,slow=22,SNR=5.0								
APG			SKKPbc	SKKPbc	12 43 10.3	-0.7			
	comp=Z,4.3nm,0.7s,baz=24,slow=4.5,SNR=4.7								
KMSC	Kings Mountain	130.53 45	⇓PKIKP	PKiKP	12 30 15.6	-0.4			
	baz=130								
ESDC	Sonseca Array	130.82 323	PKP	PKPdf	12 30 15.9	+0.3			
ESDC			PP	PP	12 32 31.9	-0.2			
ESDC			SKPbc	SKPab	12 33 31.7	+1.7			
ESDC			SKKPbc	SKKPbc	12 43 06.0	-0.5			
ESDC	Sonseca Array	130.82 323	PKP	PKPdf	12 30 15.9	+0.3			
	comp=Z,0.5nm,0.6s,baz=25,slow=1.2,SNR=3.6								
ESDC			PP	PP	12 32 31.9	-0.2			
	comp=Z,5.3nm,1.1s,baz=43,slow=7.2,SNR=6.5								
ESDC			SKPbc	SKPab	12 33 31.7	+1.7			
	comp=Z,8.4nm,1.1s,baz=39,slow=4.2,SNR=8.5								
ESDC			SKKPbc	SKKPbc	12 43 06.0	-0.5			
	comp=Z,0.1nm,0.3s,baz=238,slow=2.4,SNR=4.0								
MVO	Moncorvo	131.63 326	*i* P	SKPbc	12 33 32.0	-0.8			
MVO	Moncorvo	131.63 326	*e*SS	SS	12 50 06.2	+3.3			
PGAV	Gavieira, Arco	131.76 328	*i* P	SKPbc	12 33 32.7	-0.6			
MTE	Manteigas	132.44 326	*e*PKP	PKPdf	12 30 20.5	+1.9			
MTE			*i* P	SKPbc	12 33 36.9	+1.2			
PMRV	Marv??o	133.00 325	*i* P	SKPbc	12 33 24.5	-13			
PESTR	Estremoz	133.49 324	*e*PKP	PKPdf	12 30 23.3	+2.7			
PBAR	Barrancos	133.62 323	*e*PKP	PKPdf	12 30 22.6	+1.8			
PMTG	Montargil	133.72 325	*e*PKP	PKPdf	12 30 22.6	+1.6			
EVO	Evora	133.96 324	⇑*i*PKIKP	PKPdf	12 30 22.8	+1.3			
	comp=Z,12nm,0.9s								
EVO			*e*R						
	comp=Z,802nm,22.8s								
EVOP	Sao Brissos	134.03 324	⇑*i*PKIKP	PKPdf	12 30 22.8	+1.2			
EVOP	Sao Brissos	134.03 324	⇑*i*PKPdf	PKPdf	12 30 22.8	+1.2			
PVAQ	Vaqueiros	134.53 323	*e*PKP	PKPdf	12 30 25.6	+3.0			
PVAQ			*i* P	SKPbc	12 33 45.0	+2.3			
PVAQ	Vaqueiros	134.53 323	*e*SS	SS	12 50 43.5	+5.5			
PNCL	Nicolau / Gran	134.54 324	*e*PKP	PKPdf	12 30 24.7	+2.1			
PCVE	Castro Verde	134.57 323	*e*PKP	PKPdf	12 30 25.1	+2.5			
JTS	JuntasAbangare	135.30 79	PKP	PKPdf	12 30 23.8	-0.8			
JTS	JuntasAbangare	135.30 79	PKP	PKPdf	12 30 23.8	-0.8			
	comp=Z,8.3nm,0.9s,baz=310,slow=23,SNR=4.8								
TORD	Torodi Ar. Bea	137.14 286	PKP	PKPdf	12 30 29.2	+1.2			
TORD			SKPbc	SKPbc	12 33 50.4	-0.9			
TORD	Torodi Ar. Bea	137.14 286	PKhKP	PKPpre	12 30 16.5				
	comp=Z,3.5nm,0.6s,baz=77,slow=3.4,SNR=14								
TORD			PKP	PKPdf	12 30 29.2	+1.2			
	comp=Z,4.0nm,0.7s,baz=71,slow=1.6,SNR=5.5								
TORD			SKPbc	SKPbc	12 33 50.4	-0.9			
	comp=Z,6.8nm,1.1s,baz=93,slow=1.7,SNR=4.5								
ATAH	Atahualpa	140.81 105	PKPpre	PKPpre	12 30 31.8				
ATAH	Atahualpa	140.81 105	PKhKP	PKPpre	12 30 31.8				
	comp=Z,9.0nm,0.6s,baz=205,slow=5.3,SNR=7.3								
KIC	Kosan Boka	144.25 277	*e*PKP1	PKPbc	12 30 39.7	+0.3			
	comp=Z,713nm,0.7s								
DBIC	Dimbokro	144.34 277	PKP	PKPbc	12 30 40.1	+0.5			
DBIC	Dimbokro	144.34 277	PKP	PKPbc	12 30 40.1	+0.5			
	comp=Z,491nm,0.7s,baz=75,slow=3.5,SNR=602								
TIC	Toumodi	144.50 277	*e*PKP1	PKPbc	12 30 40.6	+0.4			
	comp=Z,614nm,0.7s								
LIC	Lamto	144.54 276	⇑*i*PKIKP	PKPbc	12 30 40.6	+0.3			
	comp=Z,420nm,0.7s								
LIC			*e*R						
	comp=Z,503nm,20.2s								
LIC	Lamto	144.54 276	*e*PKP1	PKPbc	12 30 40.6	+0.3			
	comp=Z,695nm,0.7s								
LIC	Lamto	144.54 276	⇑*i*PKPdf	PKPbc	12 30 40.6	+0.3			
ROSC	El Rosal	146.19 86	PKPbc	PKPbc	12 30 45.5	-0.4			
ROSC	El Rosal	146.19 86	PKPbc	PKPbc	12 30 45.5	-0.4			
	comp=Z,27nm,0.5s,baz=205,slow=5.2,SNR=11								
LPAZ	La Paz	146.56 126	PKPbc	PKPab	12 30 48.3	0.0			
LPAZ	La Paz	146.56 126	PKPbc	PKPab	12 30 48.3	0.0			
	comp=Z,56nm,0.8s,baz=275,slow=1.4,SNR=158								
SIV	San Ignacio	152.16 134	PKPbc	PKPbc	12 31 00.9	+0.4			
SIV			PKPab	PKPab	12 31 10.4	+0.1			
SIV	San Ignacio	152.16 134	PKPbc	PKPbc	12 31 00.9	+0.4			
	comp=Z,15nm,0.8s,baz=244,slow=2.4,SNR=3.6								
SIV			PKPab	PKPab	12 31 10.4	+0.1			
	comp=Z,17nm,0.9s,baz=228,slow=4.9,SNR=3.8								
BDFB	Brasilia	159.93 158	PKP	PKPdf	12 31 03.4	-0.6			
BDFB			PKPab	PKPab	12 31 43.8	+0.2			
BDFB	Brasilia	159.93 158	PKP	PKPdf	12 31 03.4	-0.6			
	comp=Z,5.9nm,0.9s,baz=262,slow=2.5,SNR=5.4								
BDFB			PKPab	PKPab	12 31 43.8	+0.2			
	comp=Z,6.0nm,0.8s,baz=124,slow=4.4,SNR=4.2								

ISCJB ***15*** *12:25:28.8±0.6, 18°.98N±0°.08×145°.2E±0°.1, h550km, mb3.9/14, Error ellipse: s-maj=18.4km s-min=9.7km az=164.8*

IDC ***15*** *12:25:33.0±2.9, 18°.97N×145°.13E, h588km±40km, mb3.4/14, mb1 3.4/15, mb1mx3.2/31, mbtmp3.3/15, Error ellipse: s-maj=19.9km s-min=9.3km az=78.0*

ISC 15 12:25:30.5±0.8, 19°.0N±0°.1×145°.1E±0°.2, h550km, n26, σ0s88/23, mb4.0/14, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	Matsushiro Arr	18.54 342		P	P	12 29 13.0	-0.2
	0.2nm,0.3s,baz=166,slow=8.8,SNR=4.0						
ASAJ	Asahikawa	25.17 356		P	P	12 30 13.5	+0.9
	3.5nm,0.7s,baz=159,slow=8.6,SNR=3.8						
CTA	Charters Tower	38.82 178		P	P	12 32 08.1	-0.7
	1.6nm,0.3s,baz=348,slow=11,SNR=3.9						
WRA	Warramunga Arr	40.07 196		P	P	12 32 18.9	0.0
	3.8nm,0.3s,baz=18,slow=8.2,SNR=118						
FITZ	Fitzroy Crossi	41.49 209		P	P	12 32 30.5	+0.4
	18nm,1.1s,baz=170,slow=18,SNR=46						
CMAR	Chiang Mai Arr	43.62 277		P	P	12 32 46.9	0.0
	1.7nm,0.8s,baz=70,slow=5.9,SNR=10						
ASAR	Alice Springs	43.75 195		P	P	12 32 47.6	-0.2
	2.9nm,0.5s,baz=13,slow=6.5,SNR=37						
DZM	Mont Dzumac	45.81 152		P	P	12 33 04.2	+0.5
	1.9nm,0.5s,baz=328,slow=9.5,SNR=11						
STKA	Stephens Creek	50.65 184		P	P	12 33 38.7	-0.7
	5.7nm,0.8s,baz=6.3,slow=9.2,SNR=4.1						
TAPN	Taplejung	53.03 290		*e*P	P	12 33 55.1	-2.1
	9.2nm,0.8s						
RAMN	Ramite	54.05 290		*e*P	P	12 34 00.9	-3.4
JIRN	Jiri	54.36 291		*e*P	P	12 34 06.0	-0.6
	14nm,0.6s						
GUN	Gumba	54.62 291		*e*P	P	12 34 09.2	+0.8
	7.3nm,0.4s						
PKI	Pulchoki	55.06 291		*e*P	P	12 34 11.6	+0.2
	9.6nm,0.4s						
KKN	Kakani	55.15 291		*e*P	P	12 34 12.8	+0.8
DMN	Daman	55.32 291		*e*P	P	12 34 13.4	+0.2
	9.6nm,0.4s						
GKN	Gorkha	55.70 291		*e*P	P	12 34 15.8	+0.1
	9.1nm,0.4s						
DANN	Dangsing	56.45 292		*e*P	P	12 34 21.3	+0.3
	34nm,0.6s						
KOLN	Koldanda	56.64 291		*e*P	P	12 34 22.2	0.0
	5.8nm,0.6s						
ZALV	Zalesovo Beam	57.46 322		P	P	12 34 26.4	-0.6
	0.8nm,0.3s,baz=115,slow=8.7,SNR=3.8						
MKAR	Makanchi Array	57.87 314		P	P	12 34 30.3	+0.2
	1.3nm,0.5s,baz=90,slow=8.2,SNR=20						
KURBB	Kurchatov Arra	60.74 318		P	P	12 34 49.0	-0.1
	3.4nm,0.4s,baz=93,slow=7.3,SNR=23						
ILAR	Eielson Array	63.67 26		P	P	12 35 06.3	-1.5
	0.5nm,0.5s,baz=253,slow=5.6,SNR=4.8						
BVAR	Borovoye Array	65.91 320		P	P	12 35 22.1	-0.1
	2.3nm,0.5s,baz=96,slow=7.1,SNR=8.9						
FINES	FINESS Array B	86.41 335		P	P	12 37 12.2	-2.4
	2.0nm,0.8s,baz=111,slow=2.7,SNR=5.6						
LPAZ	La Paz	148.25 90		PKPbc	PKPdf	12 44 15.3	+2.9
	1.1nm,0.5s,baz=184,slow=1.5,SNR=5.4						

IDC ***15*** *12:47:55.4±0.8, 50°.83N×73°.58E, h0km, mb3.4/1, mb1 3.3/7, mb1mx3.3/32, mbtmp3.2/7, ML3.2/6, Error ellipse: s-maj=11.5km s-min=7.8km az=36.0*

NNC ***15*** *12:47:56.4±1.1, 50°.62N×73°.43E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=14.8km s-min=5.1km az=26.0*

ISC 15 12:47:55.5±4.3, 50°.78N±0°.06×73°.62E±0°.04, h3km±29km, n16, σ1s60/24, 13C-3D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VOSK	Vostochnaya	2.55 321		⇑Pn	Pn	12 48 39.3	+1.7
	7.7nm,0.3s						
				⇑Sn	Sb	12 49 13.5	0.0
	87nm,0.9s						
BVA0	Borovoye Array	3.01 320		⇑Pn	Pn	12 48 46.4	+2.4
	2.6nm,0.3s,baz=135,slow=15,SNR=25						
BVA0				Sn	Sn	12 49 24.0	+3.4
	63nm,1.1s,baz=137,slow=26,SNR=15						
BVAR	Borovoye Array	3.01 320		Pn	Pn	12 48 44.3	+0.3
	1.4nm,0.3s,baz=144,slow=17,SNR=8.5						
BVAR				Lg	Lg	12 49 26.9	
	5.3nm,0.3s,baz=133,slow=34,SNR=5.4						
BRVK	Borovoye	3.08 319		⇑Pn	Pn	12 48 46.8	+1.8
	7.3nm,0.5s						
BRVK				⇑Sn	Sb	12 49 26.2	-2.5
	154nm,1.0s						
KURBB	Kurchatov Arra	3.13 91		⇑Pn	Pn	12 48 46.8	+1.2
	8.4nm,0.3s						
KURBB				⇓Sn	Sb	12 49 30.0	-0.2
	168nm,0.8s						
KURBB	Kurchatov Arra	3.13 91		Pn	Pn	12 48 47.2	+1.5
	1.1nm,0.3s,baz=278,slow=14,SNR=19						
KURBB				Lg	Lg	12 49 33.2	
	3.0nm,0.3s,baz=278,slow=31,SNR=14						
KURK	Kurchatov	3.18 89		⇑Pn	Pn	12 48 47.1	+0.7
	5.0nm,0.9s						
KURK				⇓Sn	Sb	12 49 31.9	+0.2
	54nm,0.9s						
MK31	Makanchi Array	6.98 121		Pn	Pn	12 49 39.9	+1.4
	0.4nm,0.7s,baz=305,slow=10,SNR=13						
MK31				⇑Lg	Lg	12 51 38.7	
	12nm,0.8s,baz=317,slow=18,SNR=4.2						
MKAR	Makanchi Array	6.98 121		Pn	Pn	12 49 39.4	+0.8
	0.1nm,0.3s,baz=303,slow=11,SNR=7.2						
MKAR				Sn	Sn	12 50 56.0	-2.4
	0.1nm,0.3s,baz=302,slow=17,SNR=3.1						
MKAR				Lg	Lg	12 51 34.5	
	0.4nm,0.3s,baz=310,slow=30,SNR=7.0						
ZALV	Zalesovo Beam	7.56 61		Pn	Pn	12 49 46.7	+0.2
	0.5nm,0.3s,baz=255,slow=10,SNR=3.0						
ZALV				Sn	Sn	12 51 11.4	-1.1
	0.5nm,0.3s,baz=252,slow=22,SNR=5.5						
ZALV				Lg	Lg	12 51 56.0	
	0.4nm,0.3s,baz=250,slow=33,SNR=3.5						
TKM2	Tokmak 2	7.98 169		⇑Pn	Pn	12 49 53.3	+0.8
	1.9nm,0.9s						
TKM2				⇑Lg	Lg	12 52 04.7	
	42nm,1.1s						
AAK	Ala-Archa	8.17 175		Pn	Pn	12 49 55.1	+0.1
	0.8nm,0.3s,baz=17,slow=1.6,SNR=6.1						
AAK				Sn	Sn	12 51 29.6	+1.7
	0.2nm,0.3s,baz=180,slow=20,SNR=3.2						
AAK				Lg	Lg	12 52 13.8	
	0.1nm,0.3s,baz=17,slow=16,SNR=5.0						
AB31	Akbulak array	8.94 265		⇑Pn	Pn	12 50 04.5	-0.9
	0.3nm,0.4s,baz=77,slow=9.5,SNR=12						
AB31				⇑Lg	Lg	12 52 33.7	
	10nm,1.4s,baz=78,slow=24,SNR=4.1						
AKTO	Aktyubinsk	9.93 274		⇓Pn	Pn	12 50 17.4	-1.5
	2.0nm,0.9s						
AKTO				⇑Lg	Lg	12 53 06.8	
	11nm,1.3s						
AKTO	Aktyubinsk	9.93 274		Pn	Pn	12 50 16.7	-2.2
	0.4nm,0.3s,baz=108,slow=12,SNR=4.8						
AKTO				Sn	Sn	12 52 10.8	0.0
	0.1nm,0.3s,baz=331,slow=19,SNR=3.9						
AKTO				Lg	Lg	12 53 07.8	
	0.1nm,0.3s,baz=225,slow=20,SNR=6.0						
ILAR	Eielson Array	60.58 19		P	P	12 58 05.8	-0.9
	0.4nm,0.8s,baz=322,slow=4.9,SNR=4.5						

IDC 15 12:49:35.4±18.0, 17°.21S×178°.41W, h403km±210km, mb3.0/6, mb1 3.4/6, mb1mx3.1/18, mbtmp3.0/6, MS3.4/1, Ms1 3.4/1, ms1mx3.2/10, Error ellipse: s-maj=137.5km s-min=36.1km az=164.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	7.18 64		LR	LR	12 53 51.5	
	comp=Z,298nm,20.9s,baz=165,slow=36						
WRA	Warramunga Arr	44.77 259		P	P	12 57 11.2	-0.2
	0.5nm,0.5s,baz=91,slow=8.5,SNR=5.6						
ASAR	Alice Springs	44.99 254		P	P	12 57 12.9	-0.1
	3.3nm,0.7s,baz=88,slow=8.6,SNR=53						
NVAR	Mina Array Bea	78.92 44		P	P	13 00 56.3	+0.4
	0.4nm,0.8s,baz=220,slow=5.5,SNR=3.7						
ILAR	Eielson Array	85.21 13		P	P	13 01 27.0	-0.3
	0.2nm,0.4s,baz=220,slow=4.7,SNR=6.8						
TXAR	Lajitas Array	85.62 58		P	P	13 01 29.9	-0.3
	0.2nm,0.6s,baz=217,slow=3.1,SNR=3.6						
CMAR	Chiang Mai Arr	88.65 290		P	P	13 01 44.8	+0.1
	0.3nm,0.4s,baz=90,slow=3.6,SNR=3.4						

MEX 15 12:53:02.0±0.7, 16°.70N×94°.27W, h103km±15km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGIG		1.10 86		*e*P	Pn	12 53 22.9	-0.9
TGIG				*e*S	Sn	12 53 38.3	-2.0
PCIG		1.41 134		*i* P	Pn	12 53 25.8	-1.5
PCIG				*i* S	Sn	12 53 45.1	-1.4
CCIG	Comitan	2.08 101		*i* P	Pn	12 53 34.1	-1.9
CCIG				*i* S	Sn	12 54 00.6	-1.4

CSEM ***15*** *13:16:34.3, 37°.72N×37°.42E, h8km, MD2.6, After DDA*

DDA 15 13:16:34.3, 37°.72N×37°.42E, h8km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GZT	Gaziantep	0.38 163		*i* P	Pg	13 16 42.0	+0.1
GZT				*i* S	Sg	13 16 47.5	+0.4
AYKD	Aykdinkavak	0.57 239		*i* P	Pg	13 16 45.6	+0.1
AYKD				*i* S	Sg	13 16 53.5	+0.4
AKCD	Akcadag	0.70 34		*i* P	Pg	13 16 48.2	+0.1
AKCD				*i* S	Sg	13 16 57.9	+0.6
AKCD	Akcadag	0.70 34		*i* P	Pg	13 16 48.2	+0.2
AKCD				*i* S	Sg	13 16 57.9	+0.6
ANDN	Andirin	0.87 261		*i* P	Pb	13 16 52.4	+0.5
ANDN				*i* S	Sb	13 17 04.2	+0.4
ANDN	Andirin	0.87 261		*i* P	Pb	13 16 52.4	+0.6
ANDN				*i* S	Sb	13 17 04.2	+0.5
KUZU	Kuzuini	0.98 197		*i* P	Pn	13 16 54.7	+0.2
KUZU				*i* S	Sn	13 17 07.9	-0.8
KUZU	Kuzuini	0.98 197		*i* P	Pn	13 16 54.7	+0.2
KUZU				*i* S	Sn	13 17 07.9	-0.8

ISCJB ***15*** *13:27:46.3±0.3, 37°.00N±0°.02×71°.36E±0°.02, h85km±3km, mb4.8/110, Error ellipse: s-maj=3.1km s-min=2.6km az=156.1*

BJI ***15*** *13:27:46.6, 37°.16N×71°.18E, h90km, mB5.0/32, mb5.0/41*

MOS ***15*** *13:27:47.5±0.9, 37°.02N×71°.32E, h97km, mb4.8/50, Error ellipse: s-maj=6.5km s-min=4.2km az=86.5*

IDC ***15*** *13:27:47.8±2.5, 36°.96N×71°.33E, h87km±23km, mb4.3/29, mb1 4.5/32, mb1mx4.4/36, mbtmp4.4/32, MS3.6/11, Ms1 3.7/11, ms1mx3.5/37, Error ellipse: s-maj=12.3km s-min=8.8km az=12.0*

NEIC ***15*** *13:27:48.3±0.6, 36°.99N×71°.38E, h94km±5km, mb5.0/41, Error ellipse: s-maj=4.7km s-min=3.8km az=187.0*

DJA ***15*** *13:27:49.5±0.7, 37°.N±6°×7°.1E±°, h81km±9km, M5.0/3, mB5.1/1, mb5.0/3, Mw(mB)4.5/1*

BKK ***15*** *13:27:49.7±0.7, 37°.N±6°×7°.1E±°, h76km±8km, M5.2/20, mB5.6/7, mb5.1/20, MLv5.4/2, Mw(mB)5.0/7*

TEH ***15*** *13:27:49.0, 37°.02N×71°.34E, h88km, ML5.0*

NNC ***15*** *13:27:52.2±1.9, 37°.48N×70°.80E, h150km±20km, mb4.5, mpv5.3, Error ellipse: s-maj=14.3km s-min=10.4km az=18.0*

ISC 15 13:27:48.3±0.3, 37°.04N±0°.03×71°.31E±0°.03, h92km±2km, h92km:pP-P, n418, σ1s66/480, mb4.9/109, 65C-16D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	Kabul	3.10 217		*e*PN	Pn	13 28 36.3	+0.8
KBL				*e*		13 29 14.4	
KBL	Kabul	3.10 217		*e*P	Pn	13 28 36.3	+0.8
KBL				*e*Sn	Sn	13 29 14.4	+2.7
CEP	Cherat	3.25 171		⇑P	Pn	13 28 39.2	+1.8
CEP				S	Sn	13 29 18.0	+2.8
CHCP	Chirah Chowk	3.73 154		⇑P	Pn	13 28 46.6	+2.7
THW	Thamme Wali	4.25 175		⇓P	Pn	13 28 52.0	+1.1
KSH	Kashi	4.43 55		P	Pn	13 28 51.0	-2.3
KSH				sP	Px	13 29 15.3	
KSH				S	Sn	13 29 35.9	-7.8
KSH				SMN			
	comp=Z,6μm,0.5s						
KSH				SME			
	comp=Z,3μm,0.5s						
JMU	Jammu	5.23 145		*e*P	Pn	13 29 06.5	+2.5
JMU				*e*S	Sn	13 30 04.0	+1.0
SARP	Sargodha	5.23 167		P	Pn	13 29 05.2	+1.1
AML	Almayashu	5.41 19		*i* PN	Pn	13 29 07.5	+0.6
AML	Almayashu	5.41 19		P	Pn	13 29 07.5	+0.6
	SNR=673						
THN	Thein Dam	5.86 140		*e*P	Pn	13 29 11.5	-1.1
THN				*e*S	Sn	13 30 17.0	-1.3
KZA	Kyzart	5.88 30		*i* PN	Pn	13 29 14.2	+0.9
KZA	Kyzart	5.88 30		P	Pn	13 29 14.2	+0.9
	SNR=120						
EKS2	Erkin-Say	5.93 18		*e*PN	Pn	13 29 14.3	+0.6
EKS2				pmax	pmax		
	comp=Z,4.0nm,0.7s						
EKS2	Erkin-Say	5.93 18		P	Pn	13 29 14.4	+0.8
	SNR=399						
EKS2	Erkin-Say	5.93 18		*e*P	Pn	13 29 14.3	+0.6
	comp=Z,4.2nm,0.7s						
EKS2				*e*Sn	Sn	13 30 19.4	-0.8
KK31	Karatay Array	6.09 355		P	Pn	13 29 14.9	-0.8
	comp=Z,107nm,0.3s,baz=179,slow=11,SNR=1374						
KK31				⇑S	Sn	13 30 17.9	-6.1
	comp=Z,166nm,0.3s,baz=140,slow=18,SNR=8.5						
KK31	Karatay Array	6.09 355		*e*Pn	Pn	13 29 14.9	-0.8
KK31				pmax	pmax		
	comp=Z,282nm,0.2s						
KKAR	Karatay Array	6.09 355		*e*PN	Pn	13 29 14.9	-0.9
KKAR				pmax	pmax		
	comp=Z,320nm,0.3s						
KKAR	Karatay Array	6.09 355		*e*P	Pn	13 29 14.9	-0.9
	comp=Z,320nm,0.3s						
KKAR				*e*Sn	Sn	13 30 21.6	-2.3
AAK	Ala-Archa	6.10 23		PN	Pn	13 29 17.2	+1.2
AAK				pmax	pmax		
	comp=Z,44nm,0.3s						
AAK	Ala-Archa	6.10 23		Pn	Pn	13 29 17.4	+1.3
	SNR=70						
AAK	Ala-Archa	6.10 23		P	Pn	13 29 17.3	+1.2
	SNR=204						
AAK	Ala-Archa	6.10 23		*e*P	Pn	13 29 17.1	+1.0
	comp=Z,156nm,0.4s						
AAK				S	Sn	13 30 25.6	+1.1
AAK	Ala-Archa	6.10 23		Pn	Pn	13 29 17.3	+1.2
	comp=Z,2μm,0.4s						
AAK	Ala-Archa	6.10 23		P	Pn	13 29 17.2	+1.2
	comp=Z,44nm,0.3s,baz=186,slow=7.4,SNR=293						
AAK				S	Sn	13 30 25.6	+1.1
	comp=Z,53nm,0.3s,baz=336,slow=22,SNR=15						
AAK				LR	LR	13 31 46.6	
	comp=Z,386nm,21.4s,baz=179,slow=39						
KBK	Karagaybulak	6.27 25		*i* PN	Pn	13 29 19.3	+0.9
KBK	Karagaybulak	6.27 25		P	Pn	13 29 19.3	+0.9
	SNR=47						
DHRM	DHARAMSHALA	6.30 138		*e*P	Pn	13 29 18.8	-0.2
DHRM				*e*S	Sn	13 30 26.2	-3.4
FRU	Bishkek	6.32 23		⇓*i*PN	Pn	13 29 19.5	+0.6
FRU				pmax	pmax		
	comp=Z,420nm,1.8s						
ULHL	Ulahol	6.44 35		*i* PN	Pn	13 29 22.3	+1.5
ULHL	Ulahol	6.44 35		P	Pn	13 29 22.4	+1.5
	SNR=38						
CHMS	Chumysh	6.51 23		*i* PN	Pn	13 29 22.5	+1.0
CHMS	Chumysh	6.51 23		P	Pn	13 29 22.5	+1.0
	SNR=215						
USP	Ospenovka	6.68 20		*i* PN	Pn	13 29 24.2	+0.3
USP	Ospenovka	6.68 20		P	Pn	13 29 24.2	+0.3
	SNR=119						
TKM2	Tokmak 2	6.73 28		⇑P	Pn	13 29 25.8	+1.0
	comp=Z,152nm,0.6s						
TKM2				⇓S	Sn	13 30 41.3	+1.3
	comp=Z,112nm,0.6s						
TKM2	Tokmak 2	6.73 28		*i* PN	Pn	13 29 25.7	+1.0
TKM2	Tokmak 2	6.73 28		P	Pn	13 29 25.7	+1.0
	SNR=388						
TKM2	Tokmak 2	6.73 28		*e*P	Pn	13 29 25.5	+0.8
	comp=Z,204nm,0.2s						
BHK	Bhakra	7.03 141		*e*P	Pn	13 29 29.4	+0.8
BHK				*e*S	Sn	13 30 44.4	-2.5
SDNR	Sundarnagar	7.25 138		*e*P	Pn	13 29 32.0	+0.4
SDNR				*e*S	Sn	13 30 49.0	-3.3
KNDC	Almaty	7.54 33		⇑P	Pn	13 29 36.7	+1.2
KNDC				⇓S	Sn	13 31 01.3	+1.9
AAA	Alma-Ata	7.58 33		*i* PN	Pn	13 29 38.8	+2.8
AAA				pmax	pmax		
	comp=Z,300nm,0.4s						
AAA				MLR	MLR		
	comp=Z,2μm,3.0s						
SMLA	Simla	7.64 139		*i* P	Pn	13 29 36.8	-0.1
SMLA				*e*S	Sn	13 30 58.4	-3.5
SMLA				AML	AML	13 31 02.5	
	comp=N,2μm,0.7s						
S

BHPL Bhopal 14.73 157 *e*P **Pn** **13 31 08.9 -3.1**
BHPL *e*S Sn 13 33 44.7 -10
AB31 Akbulak array 14.74 330 P Pn 13 31 06.4 -5.5
comp=Z,32nm,0.5s,baz=139,slow=12,SNR=804
AB31 ⇑S Sn 13 33 40.7 -13
comp=Z,23nm,0.5s,baz=148,slow=24,SNR=12
ABKAR Akbulak array 14.74 330 *e*Pn Pn 13 31 07.0 -4.9
comp=Z,39nm,0.4s
ABKAR *e*Sn Sn 13 33 39.6 -15
IMEH Mehriz 14.91 253 *e*P **P** **13 31 17.6 -0.3**
KKN Kakani 14.96 124 *e*P Pn 13 31 11.4 -3.7
comp=Z,148nm,0.6s
DMN Daman 14.97 125 *e*P **Pn** **13 31 12.3 -3.0**
comp=Z,213nm,0.7s
PKIN Phulchoki 15.18 124 *e*P **Pn** **13 31 14.2 -3.8**
comp=Z,77nm,0.3s
PKI Pulchoki 15.19 124 *e*P **Pn** **13 31 14.5 -3.7**
comp=Z,190nm,0.6s
GUN Gumba 15.29 122 *e*P **Pn** **13 31 15.4 -4.0**
comp=Z,1μm,0.9s
IDMV Damavand 15.61 270 *e*P **P** **13 31 24.9 -0.7**
JIRN Jiri 15.66 122 *e*P **Pn** **13 31 20.8 -3.3**
comp=Z,507nm,0.5s
VOSK Vostochnaya 15.69 359 ⇓P **Pn** **13 31 20.0 -3.8**
comp=Z,50nm,0.9s
VOSK ⇑S Sn 13 34 08.1 -9.0
comp=Z,24nm,0.8s
VOSK Vostochnaya 15.69 359 P **Pn** **13 31 20.4 -3.5**
VOSK pmax pmax
comp=Z,50nm,0.9s
JBP Jabalpur 15.72 149⇓ *e*P **Pn** **13 31 20.9 -3.5**
JBP *e*4 13 34 04.7
ISFB Sefidab 15.72 266 *e*P **P** **13 31 26.5 -0.2**
BVA0 Borovoye Array 16.00 358 ⇓P **Pn** **13 31 23.8 -4.0**
comp=Z,38nm,0.9s,baz=179,slow=12,SNR=13
BVA0 ⇓S Sn 13 34 16.3 -8.2
comp=Z,41nm,1.1s,baz=165,slow=26,SNR=4.2
BVA0 Borovoye Array 16.00 358 *i* P **Pn** **13 31 24.7 -3.1**
BVA0 pmax pmax
comp=Z,51nm,1.1s
BVAR Borovoye Array 16.00 358 P **Pn** **13 31 24.2 -3.6**
BVAR S Sn 13 34 13.4 -11
BVAR Borovoye Array 16.00 358 P **Pn** **13 31 24.2 -3.6**
comp=N,2.4nm,0.3s,baz=163,slow=15,SNR=27
BVAR S Sn 13 34 13.4 -11
comp=N,1.7nm,0.3s,baz=161,slow=23,SNR=4.9
BVAR LR LR 13 38 23.8
comp=N,186nm,21.6s,baz=252,slow=40
BRVK Borovoye 16.04 358 ⇑P **Pn** **13 31 25.3 -2.9**
comp=N,78nm,0.8s
BRVK ⇑S Sn 13 34 18.3 -7.1
comp=N,119nm,1.3s
BRVK Borovoye 16.04 358 *e*P **Pn** **13 31 24.8 -3.4**
BRVK *e* 13 34 20.4
BRVK pmax pmax
comp=Z,53nm,0.8s
BRVK Borovoye 16.04 358 Pn **Pn** **13 31 25.9 -2.3**
SNR=20
BRVK Borovoye 16.04 358 *e*Pn **Pn** **13 31 24.8 -3.4**
comp=Z,53nm,0.8s
BRVK *e*Sn **Sn** **13 34 20.4 -5.1**
BRVK Borovoye 16.04 358 Pn **Pn** **13 31 25.3 -2.9**
comp=Z,408nm,0.6s,SNR=13
IZEF Zefreh 16.09 261 *e*P **P** **13 31 31.3 +0.3**
RAMN Ramite 16.40 123 *e*P **Pn** **13 31 30.1 -3.1**
comp=Z,483nm,0.6s
AKTO Aktyubinsk 16.44 329 ⇑P **Pn** **13 31 28.8 -4.4**
comp=Z,96nm,0.8s
AKTO ⇓S Sn 13 34 21.0 -14
comp=Z,128nm,1.4s
AKTO Aktyubinsk 16.44 329 P **Pn** **13 31 28.9 -4.4**
AKTO pmax pmax
comp=Z,5.0nm,0.3s
AKTO Aktyubinsk 16.44 329 P **Pn** **13 31 28.9 -4.4**
AKTO S Sn 13 34 21.2 -14
AKTO Aktyubinsk 16.44 329 P **Pn** **13 31 28.9 -4.4**
comp=Z,5.3nm,0.3s,baz=135,slow=12,SNR=31
AKTO S Sn 13 34 21.2 -14
comp=Z,1.6nm,0.3s,baz=142,slow=19,SNR=4.8
AKTO LR LR 13 38 08.3
comp=Z,278nm,22.0s,baz=353,slow=38
IKLH Kolahrood 16.55 263 *e*P **P** **13 31 36.0 0.0**
IPAR Pars 16.83 250 *e*P **P** **13 31 40.2 +1.0**
TAPN Taplejung 16.89 120 *e*P **Pn** **13 31 36.5 -2.8**
comp=Z,121nm,0.4s
ODAN Odare 16.99 122 *e*P **Pn** **13 31 38.0 -2.4**
comp=Z,292nm,0.7s
ISRV Sarvestan 17.02 249 *e*P **P** **13 31 41.9 +0.6**
AKL Akola 17.02 161 *e*P **Pn** **13 31 37.7 -2.9**
AKL *i* S Sn 13 34 38.4 -11
NGP Nagpur 17.21 155 *e*P **Pn** **13 31 41.5 -1.4**
NGP *e*S Sn 13 34 43.9 -10
IRAZ Razeghan 17.33 271 *e*P **P** **13 31 45.5 +1.0**
LSA Lhasa 18.10 108 P **Pn** **13 31 55.3 +1.1**
LSA Lhasa 18.10 108 *e*P **P** **13 31 52.6 -0.8**
LSA pmax pmax
comp=Z,77nm,0.8s
LSA Lhasa 18.10 108 *e*P **P** **13 31 52.6 -0.8**
comp=Z,76nm,0.8s
BOK Bokaro 18.20 132 *e*P **P** **13 31 54.2 +0.3**
BOK *ex* x 13 35 03.6
JMDO Jabal Madar 18.55 222 P **Pn** **13 32 00.3 +1.2**
SNR=6.8
IHRS Heris 19.24 281 *e*P **P** **13 32 06.5 +1.0**
ZALV Zalesovo Beam 19.32 25 P **P** **13 32 05.7 -0.3**
ZALV S **S** **13 35 36.1 -3.5**
ZALV pmax pmax
comp=Z,10.0nm,0.3s
ZALV Zalesovo Beam 19.32 25 P **P** **13 32 05.7 -0.3**
ZALV S **S** **13 35 36.1 -3.5**
ZALV Zalesovo Beam 19.32 25 P **P** **13 32 05.7 -0.3**
comp=Z,9.7nm,0.3s,baz=220,slow=11,SNR=178
ZALV S **S** **13 35 36.1 -3.5**
comp=Z,0.1nm,0.3s,baz=215,slow=17,SNR=3.6
ZALV LR LR 13 41 02.4
comp=Z,81nm,18.2s,baz=257,slow=41
NVS Novosibirsk 19.59 21 *i* P **P** **13 32 07.5 -1.4**
NVS *e*S **S** **13 35 42.1 -2.8**
NVS pmax pmax
comp=N,22nm,0.6s
NVS pmax pmax
comp=E,8.0nm,0.6s
NVS pmax pmax
comp=Z,22nm,0.6s
NVS smax smax
comp=N,41nm,1.3s
NVS smax smax
comp=E,21nm,0.9s
HYB Hyderabad 20.57 160 *i* P **P** **13 32 20.0 +0.2**
HYB *e*S **S** **13 35 59.5 -5.2**
SHL Shillong 20.93 117 *e*P **P** **13 32 24.5 +0.8**
SHL *i* 4 13 36 04.0
GNI Garni 20.97 287 P Pn 13 32 27.8 +0.2
SNR=9.2
GNI Garni 20.97 287 *e*P **P** **13 32 23.8 -0.2**
comp=E,53nm,1.0s
GNI Garni 20.97 287 P **P** **13 32 25.1 +1.1**
comp=E,10nm,0.6s,baz=189,slow=8.4,SNR=9.1
GNI LR LR 13 42 48.0
comp=E,107nm,18.8s,baz=273,slow=43
SVE Sverdlovsk 21.05 344⇓ *i* P **P** **13 32 24.5 0.0**
SVE *e*S **S** **13 36 09.4 -4.1**
SVE pmax pmax
comp=Z,50nm,1.2s
ARU Arti 21.21 340*c i* P **P** **13 32 26.3 0.0**
ARU 13 32 55.1
ARU S **S** **13 36 18.7 +2.1**
ARU SS **SnSn** **13 36 54.1 +7.4**
ARU pmax pmax
comp=Z,44nm,1.2s
ARU Arti 21.21 340 P **P** **13 32 26.9 +0.6**
comp=Z,275nm,0.7s,SNR=13
HVS Khovu-Aksy 21.27 41⇓ *e*P **P** **13 32 27.5 +0.4**
HVS pmax pmax
comp=Z,228nm,0.6s
RDF Al-Radifah 21.47 255 *e*P **P** **13 32 28.8 -0.5**
RDF AMb AMB 13 32 40.0
comp=Z,39nm,1.0s
NAY Al-Naaiem 21.56 256 *e*P **P** **13 32 29.9 -0.4**
NAY AMb AMB 13 32 48.3
comp=Z,44nm,1.0s
RST Umm Al-Ruwaisa 21.64 257 *e*P **P** **13 32 30.2 -0.9**
RST AMb AMB 13 32 33.7
comp=Z,369nm,0.9s
ZEI Tsey 21.74 294 *e*P **P** **13 32 31.4 -0.9**
ZEI pmax pmax
comp=Z,6.0nm,0.7s
VIS Vishakhapatnam 21.97 148 *e*P **P** **13 32 35.8 +1.2**
VIS ⇓*i* x 13 35 56.1
VIS *e*S **S** **13 36 32.7 +0.9**
GTA Gaotai 22.48 75 *e*P **P** **13 32 41.5 +1.3**
GTA pP **pP** **13 32 57.8 -0.7**
GTA sP **sP** **13 33 07.8 -2.2**
GTA S **S** **13 36 44.0 +3.5**
GTA SS **SnSn** **13 37 20.8 +2.7**
GTA AMB AMB
comp=Z,22nm,1.0s
GTA AMB AMB
comp=Z,250nm,4.7s
GTA LR LR
comp=Z,150nm,13.3s
GTA LR LR
comp=Z,180nm,15.7s
GTA LR LR
comp=Z,130nm,11.9s
GOF Gofitskoye 22.69 300 *e*P **P** **13 32 42.8 +0.7**
KIV Kislovodsk 22.76 297 P **P** **13 32 42.0 -0.9**
KIV *e**PP **pP** **13 33 02.0 +0.7**
KIV *e* 13 33 15.3
KIV pmax pmax
comp=Z,15nm,0.7s
SOKR Solikamsk 24.44 342⇑ *i* P 13 33 06.8 +8.8
SOKR pmax pmax
comp=Z,10.0nm,0.8s
ABTO Aybut 25.24 224 ⇑P **P** **13 33 06.2 +0.4**
SNR=8.0
VRHR Novokhopersk 25.33 313 *e*P **P** **13 33 08.8 +2.5**
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR pmax pmax
comp=N,7.0nm,0.3s
VRHR pmax pmax
comp=E,10.0nm,0.6s
MOY Mondy 25.55 46 *e*P **P** **13 33 10.1 +1.6**
MOY pmax pmax
comp=Z,22nm,1.8s
LZH Lanzhou 26.09 82 *e*P **P** **13 33 16.1 +2.6**
LZH pP **pP** **13 33 37.1 +2.9**
LZH sP **sP** **13 33 49.4 +4.4**
LZH PP **PnPn** **13 33 59.0 +1.8**
LZH S **S** **13 37 37.1 -1.1**
LZH sS **sS** **13 38 13.4 -0.9**
LZH SS **SnSn** **13 38 54.3 +8.3**
LZH AMB AMB
comp=Z,32nm,1.0s
LZH AMB AMB
comp=Z,130nm,4.0s
ZAK Zakamensk 26.45 50 *e*P **P** **13 33 17.6 +1.0**
ZAK *e* 13 33 48.4
ZAK pmax pmax
comp=Z,11nm,1.2s
ANN Anapa 26.60 298 *e*P P 13 33 07.1 -11
ANN pmax pmax
comp=Z,76nm,1.3s
VORD Divnogorie 26.66 312 *e*P **P** **13 33 21.7 +3.4**
VORD pmax pmax
comp=E,10.0nm,1.0s
VORD pmax pmax
comp=Z,8.0nm,1.0s
VSR Storozhevoye 26.82 312 *e*P **P** **13 33 22.0 +2.3**
VSR pmax pmax
comp=N,6.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,0.7s
VSR pmax pmax
comp=Z,10.0nm,0.7s
TLY Talaya 27.09 47 *e*P **P** **13 33 24.9 +2.7**
TLY pmax pmax
comp=Z,6.0nm,0.6s
TLY Talaya 27.09 47 P **P** **13 33 24.9 +2.7**
comp=Z,78nm,0.6s,SNR=5.2
CD2 Chengdu 27.51 93 P **P** **13 33 27.4 +1.2**
CD2 pP **pP** **13 33 47.4 +0.4**
CD2 sP **sP** **13 33 58.3 +0.5**
CD2 PP **PnPn** **13 34 18.5 +2.2**
CD2 S **S** **13 37 59.6 -0.9**
CD2 sS **sS** **13 38 34.5 -2.2**
CD2 SS **SnSn** **13 39 23.4 +2.8**
CD2 AMB AMB
comp=Z,10.0nm,0.5s
CD2 AMB AMB
comp=Z,150nm,4.1s
CD2 LR LR
comp=Z,270nm,7.7s
CD2 LR LR
comp=Z,180nm,13.1s
SONM Songino Array 27.83 56 P **P** **13 33 30.8 +1.9**
SONM Songino Array 27.83 56 P **P** **13 33 30.8 +1.9**
comp=Z,12nm,0.6s,baz=264,slow=9.2,SNR=36
SONM LR LR 13 45 50.7
comp=Z,156nm,20.3s,baz=244,slow=39
ASF Jabal al Asfar 28.64 271 LR LR 13 48 13.1
comp=Z,102nm,18.5s,baz=28,slow=43
BR131 Keskin Array S 29.51 287 *e*P **P** **13 33 44.5 +0.6**
comp=Z,1.7nm,0.5s
BRTR Keskin Array B 29.51 287 P **P** **13 33 45.0 +1.1**
BRTR Keskin Array B 29.51 287 P **P** **13 33 45.0 +1.1**
comp=Z,2.4nm,0.8s,baz=97,slow=7.7,SNR=12
OBN Obninsk 29.69 319 P **P** **13 33 46.0 +0.8**
OBN *e**PP **pP** **13 34 05.9 -0.2**
OBN *i* *SP **sP** **13 34 18.9 +2.0**
OBN *e* 13 34 42.4
OBN pmax pmax
comp=Z,69nm,2.5s
CHTO Chiang Mai 30.26 119 P **P** **13 33 52.5 +1.8**
CHTO Chiang Mai 30.26 119 P P 13 33 53.8 +3.1
comp=Z,37nm,0.9s
CMAR Chiang Mai Arr 30.50 120 P **P** **13 33 53.4 +0.6**
CMAR Chiang Mai Arr 30.50 120 P **P** **13 33 53.4 +0.6**
comp=Z,5.3nm,0.8s,baz=304,slow=8.7,SNR=34
CMAR LR LR 13 48 49.2
comp=Z,64nm,19.2s,baz=270,slow=41
KLMR Klimovskoe 31.13 330 *e*P **P** **13 33 57.6 -0.3**
KLMR pmax pmax
comp=Z,36nm,1.5s
KLMR pmax pmax
comp=Z,95nm,1.5s
KLMR MLR MLR
comp=Z,3μm,23.0s
HHC Hu-ho-hao-te 31.35 70 *e*P **P** **13 34 00.0 -0.1**
HHC pP **pP** **13 34 21.9 +0.8**
HHC sP **sP** **13 34 33.8 +1.9**
HHC PP **PnPn** **13 35 06.9 +0.7**
HHC S **S** **13 38 58.5 -2.1**
HHC sS **sS** **13 39 36.9 -0.1**
HHC SS **SnSn** **13 40 51.6 -2.0**
HHC ScS **ScS** **13 44 21.0 -3.3**
HHC AMB AMB
comp=Z,25nm,1.2s
HHC AMB AMB
comp=Z,450nm,5.3s
HHC LR LR
comp=Z,360nm,16.3s
HHC LR LR
comp=Z,680nm,16.7s
HHC LR LR
comp=Z,300nm,16.9s
NANT Nan 31.51 117 P **P** **13 34 02.1 +0.5**
comp=Z,36nm,0.8s
GYA Guiyang 31.70 99 P **P** **13 34 03.8 +0.4**
GYA pP **pP** **13 34 24.9 +0.5**
GYA sP **sP** **13 34 35.6 +0.5**
GYA PP **PnPn** **13 35 13.0 +2.1**
GYA PcP **PcP** **13 36 55.0 +1.9**
GYA S **S** **13 39 06.3 -0.1**
GYA sS **sS** **13 39 42.6 -0.2**
GYA ScP **ScP** **13 40 29.0 +1.1**
GYA ScS **ScS** **13 44 24.5 -2.0**
GYA AMB AMB
comp=Z,20nm,0.8s
GYA AMB AMB
comp=Z,120nm,4.8s
GYA LR LR
comp=Z,580nm,17.8s
GYA LR LR
comp=Z,530nm,17.0s
GYA LR LR
comp=Z,590nm,17.9s
LOEI Loei 32.77 118 P P 13 34 15.9 +3.3
comp=Z,33nm,1.3s,comp=Z,931nm
AKASG Malin Array Be 32.80 308 P **P** **13 34 12.5 -0.1**
AKASG 13 36 55.1
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 32.80 308 P **P** **13 34 12.4 -0.1**
AKASG PcP **PcP** **13 36 55.0 -0.4**
AKASG Malin Array Be 32.80 308 P **P** **13 34 12.4 -0.1**
comp=Z,1.8nm,0.5s,baz=81,slow=7.3,SNR=8.8
AKASG PcP **PcP** **13 36 55.0 -0.4**
comp=Z,0.8nm,0.4s,baz=78,slow=3.8,SNR=5.6
PBKT Sadao Pong 33.20 120 P **P** **13 34 18.0 +1.7**
PBKT Sadao Pong 33.20 120 P **P** **13 34 18.1 +1.7**
comp=Z,21nm,1.2s
NONG Nongkai 33.74 115 P **P** **13 34 23.9 +2.8**
comp=Z,36nm,1.0s,comp=Z,7μm
BJI Beijing 34.95 71 P **P** **13 34 31.8 +0.5**
BJI AMB AMB
comp=Z,11nm,0.7s
BJI LR LR
comp=Z,46nm,21.8s
SKNT Sakolnakorn 35.06 116 P **P** **13 34 34.0 +1.5**
comp=Z,41nm,1.6s
JOF Joensuu 35.53 330 *e*P **P** **13 34 36.1 +0.1**
JOF pmax pmax
comp=Z,6.0nm,0.5s
JOF Joensuu 35.53 330 *e*p **P** **13 34 36.1 +0.1**
comp=Z,6.2nm,0.5s
WHN Wuhan 36.12 87⇓ *e*P **P** **13 34 43.4 +2.0**
CHBT CHBT 36.82 123 P **P** **13 34 49.6 +2.1**
CHBT CHBT 36.82 123 P **P** **13 34 49.8 +2.3**
comp=Z,15nm,0.9s
KOLS Kolonicke sedl 37.17 304 *e*P **P** **13 34 51.0 +0.8**
KOLS *e* 13 36 17.8
KOLS Kolonicke sedl 37.17 304 *e*P **P** **13 34 51.0 +0.8**
KOLS *e*PP **PnPn** **13 36 17.8 -0.2**
APA Apatity 37.23 337⇓ *i* P P 13 34 47.1 -3.4
APA MLR MLR
comp=Z,600nm,10.0s
KAF Kangasniemi 37.31 327 *e*P **P** **13 34 49.5 -1.6**
KAF pmax pmax
comp=Z,2.0nm,0.5s
KAF Kangasniemi 37.31 327 *e*p **P** **13 34 49.5 -1.6**
comp=Z,2.2nm,0.5s
STHS Stebnicka Huta 37.84 305 *e*P P 13 35 01.7 +5.8
STHS *e* 13 36 21.9
STHS Stebnicka Huta 37.84 305 *e*P P 13 35 01.7 +5.8
STHS *e*PP **PP** **13 36 21.9 -2.0**
PKDT Phuket 38.01 133 P **P** **13 34 59.5 +1.9**
comp=Z,20nm,1.0s,comp=Z,3μm
NJ2 Nanjing 39.16 83 *e*P **P** **13 35 08.3 +1.2**
NJ2 AMB AMB
comp=Z,20nm,0.6s
KEV Kevo 40.39 338 *e*P **P** **13 35 17.3 +0.5**
KEV pmax pmax
comp=Z,3.0nm,0.5s
KEV Kevo 40.39 338 *e*p **P** **13 35 17.3 +0.5**
comp=Z,3.1nm,0.5s
ARCES ARCESS Array B 40.74 337 P **P** **13 35 20.6 +0.9**
ARCES ARCESS Array B 40.74 337 P **P** **13 35 20.6 +0.9**
comp=Z,4.3nm,0.5s,baz=116,slow=9.2,SNR=43
ARCES LR LR 13 53 21.5
comp=Z,288nm,20.9s,baz=113,slow=38
CN2 Changchun 41.14 63 ⇑P **P** **13 35 23.9 +0.6**
CN2 *e*pP **pP** **13 35 43.9 -1.1**
CN2 *e*S **S** **13 41 28.6 -1.0**
CN2 AMB AMB
comp=Z,10.0nm,0.7s
CN2 AMB AMB
comp=Z,200nm,5.0s
IPM Ipoh 42.32 133 P **P** **13 35 33.9 +0.7**
BRG Berggiesshubel 42.48 308 *e*P **P** **13 35 35.7 +1.5**
comp=Z,8.2nm,1.1s
BRG Berggiesshubel 42.48 308 *e*P **P** **13 35 35.7 +1.5**
BRG pmax pmax
comp=Z,8.0nm,1.2s
PSI Prapat 42.50 137 P **P** **13 35 33.9 -0.9**
PSI Prapat 42.50 137 P **P** **13 35 33.9 -0.9**
comp=Z,6.4nm,0.7s,baz=325,slow=8.4,SNR=8.9
GERES GERESS Array B 42.82 305 P **P** **13 35 36.9 -0.1**
GERES PcP **PcP** **13 37 27.2 +0.6**
GERES GERESS Array B 42.82 305 P **P** **13 35 36.9 -0.1**
comp=Z,1.0nm,0.7s,baz=101,slow=5.1,SNR=3.1
GERES PcP **PcP** **13 37 27.2 +0.6**
comp=Z,1.5nm,0.7s,baz=90,slow=4.1,SNR=6.1
CLL Collm 43.05 309 *i* pP pP 13 35 59.2 -1.3
YAK Yakutsk 43.38 36 *e*P **P** **13 35 41.3 +0.1**
YAK *e* 13 37 22.6
YAK *e* 13 37 30.7
YAK *e*PPP PPP 13 38 01.7
YAK *e*S **S** **13 42 02.5 +0.5**
YAK *e**SS **sS** **13 42 41.5 +2.0**
YAK *e* 13 45 30.9
YAK *e*SSS SSS 13 46 06.5
YAK pmax pmax
comp=Z,41nm,0.8s
YAK pmax pmax
comp=E,11nm,0.9s
YAK pmax pmax
comp=Z,107nm,3.9s
YAK pmax pmax
comp=N,140nm,3.3s
YAK pmax pmax
comp=E,135nm,3.3s
YAK smax smax
comp=N,141nm,3.2s
YAK smax smax
comp=E,73nm,3.6s
MDJ Mudanjiang 43.93 61 P **P** **13 35 46.5 +0.7**
MDJ pP **pP** **13 36 05.6 -2.1**
MDJ sP **sP** **13 36 14.9 -3.3**
MDJ PP **PP** **13 37 29.8 +0.2**
MDJ PcP **PcP** **13 37 31.5 +1.3**
MDJ S **S** **13 42 11.9 +1.5**
MDJ AMB AMB
comp=E,9.0nm,0.7s
MDJ AMB AMB
comp=E,130nm,7.7s
MDJ LR LR
comp=E,95nm,8.3s
MDJ LR LR
comp=E,81nm,7.4s
MDJ LR LR
comp=E,110nm,8.3s
NB2 NORSAR Subarra 44.10 323 P **P** **13 35 46.8 -0.3**
comp=Z,24nm,1.2s,baz=96,slow=7.9
NOA NORSAR Array B 44.10 323 P **P** **13 35 46.8 -0.3**
NOA NORSAR Array B 44.10 323 P **P** **13 35 46.7 -0.3**
comp=Z,11nm,1.0s,baz=95,slow=7.8,SNR=17
NOA LR LR 13 54 59.5
comp=Z,68nm,19.0s,baz=95,slow=37
KSAR Wonju Array Be 44.45 72 P **P** **13 35 50.2 +0.2**
KSRS Korea Array 44.47 72 P **P** **13 35 50.2 0.0**
comp=Z,8.4nm,1.0s,baz=283,slow=6.7,SNR=22
TIXI Tiksi 45.18 22*c i* P **P** **13 35 55.9 +0.5**
TIXI pmax pmax
comp=Z,41nm,0.6s
USRK Ussuriysk Arra 45.69 61 P **P** **13 36 00.0 +0.1**
comp=Z,4.5nm,0.6s,baz=283,slow=6.9,SNR=13
MYKOM Kota Tinggi 46.15 132 P **P** **13 36 05.0 +1.3**
comp=Z,34nm,1.0s,comp=Z,270nm
HABR Khabarovsk 46.90 55*ce* P **P** **13 36 08.0 -1.2**
HABR *e**SP **sP** **13 36 40.1 -1.7**
HABR 13 37 39.6
HABR *e*PPP PPP 13 38 45.5
HABR *e*S **S** **13 42 52.7 -0.4**
HABR *e**SS **sS** **13 43 30.2 -0.8**
HABR *e* 13 45 53.1
HABR *e*SSS SSS 13 47 28.7
HABR pmax pmax
comp=Z,53nm,2.1s
HABR pmax pmax
comp=N,29nm,2.1s
HABR pmax pmax
comp=E,46nm,2.1s
HABR MLR MLR
comp=Z,90nm,17.0s
HINF Hinteralfeld 47.49 304 *e*P **P** **13 36 14.0 0.0**

comp=Z,22nm,1.0s
HINF Hinteralfeld 47.49 304 eP P 13 36 14.0 0.0
HINF pmax pmax
comp=Z,22nm,1.0s
HINF Hinteralfeld 47.49 304 eP P 13 36 14.0 0.0
comp=Z,22nm,1.0s
HAU Haudompre 47.79 305 eP P 13 36 16.5 +0.3
HAU Haudompre 47.79 305 eP P 13 36 16.5 +0.3
HAU Haudompre 47.79 305 eP P 13 36 16.5 +0.3
SBF Sospel 48.01 299⇑iP P 13 36 18.4 +0.4
SBF Sospel 48.01 299⇑iP P 13 36 18.4 +0.4
SBF Sospel 48.01 299⇑iP P 13 36 18.4 +0.4
LPG La Plagne 48.08 301⇑iP P 13 36 19.4 +0.6
LPG La Plagne 48.08 301⇑iP P 13 36 19.4 +0.6
LPG La Plagne 48.08 301⇑iP P 13 36 19.4 +0.6
LPL La Plagne 48.08 301⇑iP P 13 36 19.3 +0.5
LPL La Plagne 48.08 301⇑iP P 13 36 19.3 +0.5
LPL La Plagne 48.08 301⇑iP P 13 36 19.3 +0.5
PAGF Fort de Pagny 48.08 306 eP P 13 36 18.5 +0.1
comp=Z,7.9nm,1.0s
PAGF Fort de Pagny 48.08 306 eP P 13 36 18.5 +0.1
comp=Z,7.9nm,1.0s
KBS Kingsbay 48.14 347ceP P 13 36 19.5 +1.1
KBS pmax pmax
comp=Z,50nm,1.2s
MBDF Montbardon 48.25 300 eP P 13 36 19.9 -0.1
comp=Z,20nm,1.0s
MBDF Montbardon 48.25 300 eP P 13 36 19.9 -0.1
MBDF pmax pmax
comp=Z,20nm,1.0s
MBDF Montbardon 48.25 300 eP P 13 36 19.9 -0.1
comp=Z,20nm,1.0s
CABF La Chapelle 48.26 303 eP P 13 36 20.2 +0.2
comp=Z,18nm,0.8s
CABF La Chapelle 48.26 303 eP P 13 36 20.2 +0.2
CABF pmax pmax
comp=Z,18nm,0.8s
CABF La Chapelle 48.26 303 eP P 13 36 20.2 +0.2
comp=Z,18nm,0.8s
SFTF Sexfontaines 48.60 305 eP P 13 36 22.9 +0.4
SFTF Sexfontaines 48.60 305 eP P 13 36 22.9 +0.4
FRF La Foret Royal 48.64 299⇑iP P 13 36 23.0 +0.2
FRF La Foret Royal 48.64 299⇑iP P 13 36 23.0 +0.2
FRF La Foret Royal 48.64 299⇑iP P 13 36 23.0 +0.2
BAIF Baives 48.76 308 eP P 13 36 24.6 +1.1
comp=Z,31nm,1.1s
BAIF Baives 48.76 308 eP P 13 36 24.6 +1.1
BAIF pmax pmax
comp=Z,31nm,1.1s
BAIF Baives 48.76 308 eP P 13 36 24.6 +1.1
comp=Z,31nm,1.1s
KEST Kesra 49.10 288 P P 13 36 27.5 +1.0
KEST Kesra 49.10 288 P P 13 36 27.5 +1.0
comp=Z,0.8nm,0.4s,baz=40,slow=6.5,SNR=3.6
KMBO Kilima Mbogo 49.38 228 P P 13 36 29.4 +0.4
KMBO Kilima Mbogo 49.38 228 P P 13 36 29.4 +0.4
comp=Z,1.7nm,0.4s,baz=35,slow=15,SNR=6.9
LOR Lormes 49.59 304 eP P 13 36 29.8 -0.2
comp=Z,12nm,0.9s
LOR Lormes 49.59 304 eP P 13 36 29.8 -0.2
comp=Z,12nm,0.9s
VIVF Saint-Julien-l 49.66 301⇑iP P 13 36 31.2 +0.6
comp=Z,19nm,1.0s
VIVF Saint-Julien-l 49.66 301⇑iP P 13 36 31.2 +0.6
VIVF pmax pmax
comp=Z,19nm,1.0s
VIVF Saint-Julien-l 49.66 301⇑iP P 13 36 31.2 +0.6
comp=Z,19nm,1.0s
SMF Signal de Mont 49.76 304⇑iP P 13 36 31.5 +0.2
comp=Z,26nm,0.9s
SMF Signal de Mont 49.76 304⇑iP P 13 36 31.5 +0.2
SMF pmax pmax
comp=Z,26nm,0.9s
SMF Signal de Mont 49.76 304⇑iP P 13 36 31.5 +0.2
comp=Z,26nm,0.9s
SSF Saint Saulge 49.88 304⇑iP P 13 36 32.4 +0.2
comp=Z,10nm,0.9s
SSF Saint Saulge 49.88 304⇑iP P 13 36 32.4 +0.2
SSF pmax pmax
comp=Z,10.0nm,0.9s
SSF Saint Saulge 49.88 304⇑iP P 13 36 32.4 +0.2
comp=Z,10nm,0.9s
AVF Avril sur Loir 50.05 304⇑iP P 13 36 33.7 +0.3
comp=Z,24nm,0.9s
AVF Avril sur Loir 50.05 304⇑iP P 13 36 33.7 +0.3
AVF pmax pmax
comp=Z,24nm,0.9s
AVF Avril sur Loir 50.05 304⇑iP P 13 36 33.7 +0.3
comp=Z,24nm,0.9s
KSM Kuching 50.44 125 P P 13 36 38.2 +1.5
comp=Z,20nm,1.0s
KSM Kuching 50.44 125 eP P 13 36 36.9 +0.2
comp=Z,15nm,0.9s
LASF Ste Croix 50.44 300⇑iP P 13 36 37.3 +0.9
comp=Z,30nm,1.0s
LASF Ste Croix 50.44 300⇑iP P 13 36 37.3 +0.9
comp=Z,30nm,1.0s
TCF Toulx Ste Croi 50.94 303⇑iP P 13 36 40.9 +0.7
comp=Z,22nm,1.0s
TCF Toulx Ste Croi 50.94 303⇑iP P 13 36 40.9 +0.7
TCF pmax pmax
comp=Z,22nm,1.0s
TCF Toulx Ste Croi 50.94 303⇑iP P 13 36 40.9 +0.7
comp=Z,22nm,1.0s
SBUM Sibu 50.98 123 P P 13 36 43.0 +2.2
CAF Calviac 51.42 302 eP P 13 36 44.6 +0.8
comp=Z,33nm,1.2s
CAF Calviac 51.42 302 eP P 13 36 44.6 +0.8
CAF pmax pmax
comp=Z,33nm,1.2s
CAF Calviac 51.42 302 eP P 13 36 44.6 +0.8
comp=Z,33nm,1.2s
MTLF Montolieu 51.79 300 eP P 13 36 47.0 +0.4
MTLF Montolieu 51.79 300 eP P 13 36 47.0 +0.4
MTLF Montolieu 51.79 300 eP P 13 36 47.0 +0.4
YSS Yuzh-Sakhalins 52.31 55⇑iP P 13 36 52.0 +1.7
YSS e 13 37 13.0
GRR Gorron 52.38 307 eP P 13 36 51.5 +0.7
GRR Gorron 52.38 307 eP P 13 36 51.5 +0.7
GRR Gorron 52.38 307 eP P 13 36 51.5 +0.7
MFF Saint Martin d 52.42 304⇑iP P 13 36 52.1 +1.0
MFF Saint Martin d 52.42 304⇑iP P 13 36 52.1 +1.0
MFF Saint Martin d 52.42 304⇑iP P 13 36 52.1 +1.0
MAJO Matsushiro 52.53 69 eP P 13 36 50.0 -2.2
MAJO pmax pmax
comp=Z,11nm,0.9s
MAJO Matsushiro 52.53 69 eP P 13 36 50.0 -2.2
comp=Z,11nm,0.9s
MAT Matsushiro 52.53 69 P P 13 36 52.1 0.0
MJAR Matsushiro Arr 52.53 69 P P 13 36 52.7 +0.6
MJAR Matsushiro Arr 52.53 69 P P 13 36 52.7 +0.6
comp=Z,7.7nm,0.9s,baz=282,slow=10,SNR=21
SEY Seymchan 53.83 34⇑eP P 13 37 02.1 +0.8
ETSF Etsaut 53.86 300⇑iP P 13 37 02.4 +0.5
comp=Z,24nm,0.8s
ETSF Etsaut 53.86 300⇑iP P 13 37 02.4 +0.5
ETSF pmax pmax
comp=Z,24nm,0.8s
ETSF Etsaut 53.86 300⇑iP P 13 37 02.4 +0.5
comp=Z,24nm,0.8s
ROSF Rostrenen 53.94 307⇑iP P 13 37 03.4 +1.2
ROSF Rostrenen 53.94 307⇑iP P 13 37 03.4 +1.2
ROSF Rostrenen 53.94 307⇑iP P 13 37 03.4 +1.2
SJPF Ste Jean 54.24 301⇑iP P 13 37 05.3 +0.7
SJPF Ste Jean 54.24 301⇑iP P 13 37 05.3 +0.7
SJPF Ste Jean 54.24 301⇑iP P 13 37 05.3 +0.7
ESDC Sonseca Array 57.42 298 P P 13 37 27.1 -0.3
ESDC Sonseca Array 57.42 298 P P 13 37 27.2 -0.3
comp=Z,3.4nm,0.5s,baz=59,slow=7.5,SNR=18
PETK Petropavlovsk- 59.41 44 P P 13 37 40.9 -0.1
PETK pmax pmax
comp=Z,3.0nm,0.8s
PETK Petropavlovsk- 59.41 44 P P 13 37 40.9 -0.1
PETK Petropavlovsk- 59.41 44 P P 13 37 40.9 -0.1
comp=Z,2.7nm,0.8s,baz=2.4,slow=11,SNR=4.1
PBAR Barrancos 60.23 297 eP P 13 37 47.3 +0.5
comp=Z,11nm,2.0s
PBAR epP pP 13 38 08.6 -1.2
SUMG Summit 60.63 341 eP P 13 37 50.7 +1.2
SUMG pmax pmax
comp=Z,36nm,1.1s
SUMG Summit 60.63 341 iP P 13 37 51.3 +1.8
comp=Z,20nm,0.8s
SUMG Summit 60.63 341 eP P 13 37 50.7 +1.2
comp=Z,36nm,1.1s
PVAQ Vaqueiros 61.05 297 eP P 13 37 52.9 +0.6
comp=Z,28nm,1.9s
PVAQ epP pP 13 38 15.2 -0.2
PBDV Barranco-do-Ve 61.27 297 eP P 13 37 54.2 +0.3
PBDV epP pP 13 38 16.2 -0.8
KAPI Kappang 61.53 122 P P 13 37 53.9 -1.9
KAPI Kappang 61.53 122 P P 13 37 53.9 -1.9
comp=Z,6.1nm,0.3s,baz=132,slow=18,SNR=4.1
TOAO Torodi Ar. Sit 65.98 269 eP P 13 38 23.9 -1.3
TORD Torodi Ar. Bea 65.98 269 P P 13 38 23.9 -1.2
TORD Torodi Ar. Bea 65.98 269 P P 13 38 23.9 -1.2
comp=Z,6.9nm,0.7s,baz=49,slow=5.9,SNR=90
LSZ Lusaka 66.00 226 P P 13 38 25.2 -0.1
LSZ Lusaka 66.00 226 P P 13 38 25.2 -0.1
comp=Z,2.9nm,0.6s,baz=40,slow=10,SNR=8.5
BATI Baumata 67.95 123 P P 13 38 37.8 +0.2
BATI Baumata 67.95 123 P P 13 38 37.8 +0.2
comp=Z,26nm,0.6s,baz=186,slow=1.3,SNR=6.4
COLD Coldfoot 71.39 16 eP P 13 38 57.6 -0.3
comp=Z,34nm,0.9s
IMA2 Indian Mountai 71.53 18 eP P 13 38 59.4 +0.4
IM04 Indian Mountai 71.58 18 eP P 13 38 59.6 +0.4
INK Inuvik 73.33 9 eP P 13 39 09.4 0.0
comp=Z,32nm,0.7s
MBWA Marble Bar 73.72 133 eP P 13 39 11.4 -0.9
comp=Z,4.3nm,0.6s
BPAW Bear Paw Mtn. 73.81 18 eP P 13 39 12.9 +0.5
comp=Z,23nm,0.9s
COLA College 73.89 16 iP P 13 39 13.5 +0.8
COLA College 73.89 16 eP P 13 39 12.9 +0.2
comp=Z,210nm,0.8s
ILAR Eielson Array 74.19 16 P P 13 39 14.7 +0.1
ILAR PP PP 13 42 04.3 +3.7
ILAR Eielson Array 74.19 16 P P 13 39 14.7 +0.1
comp=Z,11nm,0.8s,baz=321,slow=4.6,SNR=121
ILAR PP PP 13 42 04.3 +3.7
comp=Z,1.0nm,0.7s,baz=321,slow=7.8,SNR=4.7
PPLA Purkeypile 74.50 19 eP P 13 39 16.2 -0.3
comp=Z,27nm,0.5s
TRF Thorofare Moun 74.52 18 eP P 13 39 15.6 -1.1
comp=Z,9.3nm,0.7s
MCK McKinley 74.61 17 eP P 13 39 17.1 0.0
MCK pmax pmax
comp=Z,18nm,0.5s
MCK McKinley 74.61 17 eP P 13 39 17.1 0.0
comp=Z,18nm,0.5s
FITZ Fitzroy Crossi 75.02 127 eP P 13 39 19.2 -0.7
comp=Z,11nm,1.0s
FITZ Fitzroy Crossi 75.02 127 P P 13 39 19.6 -0.3
comp=Z,8.7nm,0.9s,baz=336,slow=2.5,SNR=15
LBTB Lobatse 75.24 222 eP P 13 39 21.5 +0.3
comp=Z,24nm,1.1s
LBTB Lobatse 75.24 222 P P 13 39 22.2 +1.0
comp=Z,14nm,0.6s,baz=65,slow=4.3,SNR=7.9
EGAK Eagle 75.36 14 eP P 13 39 21.4 +0.1
comp=Z,11nm,0.8s
DOT Dot Lake 75.78 15 eP P 13 39 23.7 -0.1
comp=Z,6.6nm,0.6s
PAX Paxson 76.07 16 eP P 13 39 26.0 +0.5
PAX pmax pmax
comp=Z,26nm,0.6s
PAX Paxson 76.07 16 eP P 13 39 26.0 +0.5
comp=Z,26nm,0.6s
DAWY Dawson 76.34 13 eP P 13 39 26.3 -0.7
PMR Palmer 76.38 19 eP P 13 39 25.7 -1.4
PMR pmax pmax
comp=Z,20nm,0.8s
PMR Palmer 76.38 19 eP P 13 39 25.7 -1.4
comp=Z,20nm,0.8s
MENT Mentasta 76.49 16 eP P 13 39 28.4 +0.6
DIV Divide 77.61 17 eP P 13 39 33.2 -0.9
comp=Z,6.2nm,0.6s
BMRM Brimner River 78.03 17 eP P 13 39 36.1 -0.3
comp=Z,37nm,1.2s
BOSA Boshof 78.32 220 eP P 13 39 37.8 -0.6
comp=Z,14nm,0.9s
BOSA Boshof 78.32 220 P P 13 39 38.0 -0.5
comp=Z,19nm,0.9s,baz=38,slow=6.0,SNR=8.7
BOSA LR LR 14 17 59.5
comp=Z,199nm,19.1s,baz=342,slow=38
KDAK Kodiak Island 78.61 22 eP P 13 39 40.3 +0.7
comp=Z,21nm,0.8s
KDAK Kodiak Island 78.61 22 P P 13 39 40.3 +0.7
comp=Z,221nm,0.8s,SNR=9.9
OHAK Old Harbor 78.85 23 eP P 13 39 40.8 -0.1
comp=Z,29nm,1.0s
HYT Haines Junctio 79.67 14 eP P 13 39 45.0 -0.5
YKA Yellowknife Ar 80.69 3 P P 13 39 51.6 +0.9
YKA Yellowknife Ar 80.69 3 P P 13 39 51.6 +0.9
comp=Z,13nm,0.7s,baz=349,slow=5.6,SNR=29
SCHQ Schefferville 81.70 337 LR LR 14 15 54.0
comp=Z,506nm,18.7s,baz=120,slow=35
NWAO Narrogin (SRO) 81.74 142 P P 13 39 55.6 -1.1
NWAO Narrogin (SRO) 81.74 142 P P 13 39 55.6 -1.1
comp=Z,7.3nm,0.6s,baz=329,slow=3.5,SNR=9.7
WRA Warramunga Arr 82.07 122 P P 13 39 57.9 -0.7
WRA PKKPbc PKKPbc 13 58 28.2 +1.4
WRA Warramunga Arr 82.07 122 P P 13 39 57.9 -0.7
comp=Z,6.4nm,0.8s,baz=323,slow=4.9,SNR=39
WRA PKKPbc PKKPbc 13 58 28.2 +1.4
comp=Z,0.2nm,0.4s,baz=132,slow=2.2,SNR=7.5
WRAB Tennant Creek 82.07 122 eP P 13 39 55.7 -3.0
WRAB pmax pmax
comp=Z,3.0nm,0.6s
WRAB Tennant Creek 82.07 122 eP P 13 39 55.7 -3.0
comp=Z,3.1nm,0.6s
AS31 Alice Springs 84.36 125 eP P 13 40 08.2 -2.2
ASAR Alice Springs 84.36 125 P P 13 40 09.6 -0.8
ASAR Alice Springs 84.36 125 P P 13 40 09.6 -0.8
comp=Z,5.9nm,0.7s,baz=310,slow=5.0,SNR=113
FFC Flin Flon 88.42 356 iP P 13 40 31.1 +1.3
EDM Edmonton 90.02 3 eP P 13 40 37.3 -0.1
EDM Edmonton 90.02 3 eP P 13 40 37.3 -0.1
CTA Charters Tower 90.54 115 P P 13 40 40.0 -0.3
CTA Charters Tower 90.54 115 P P 13 40 40.0 -0.3
comp=Z,1.3nm,0.5s,baz=205,slow=4.1,SNR=3.3
A30A Hoffart Farm, 93.90 353 P P 13 40 54.8 -0.6
baz=94
A26A Wade Farm, Ken 94.23 356 P P 13 40 57.0 +0.1
baz=94
A22A Carney Farms, 94.31 358 P P 13 40 57.3 0.0
baz=94
A24A Westby 94.31 357 P P 13 40 57.1 -0.2
baz=94
B30A Myrvik Farm, E 94.39 353 P P 13 40 57.6 0.0
baz=94
B29A Wagenman Farm, 94.47 354 P P 13 40 58.9 +0.9
baz=94
NEW Newport 94.74 6 P P 13 41 00.1 +0.8
baz=94
B26A Jensen Ranch, 94.77 356 P P 13 40 59.7 +0.3
baz=94
B20A Solberg Farm, 94.90 360 P P 13 40 59.9 -0.1
baz=95
B22A Reddig Ranch S 95.00 358 P P 13 41 01.1 +0.6
baz=95
EGMT Eagleton 95.31 1 P P 13 41 02.2 +0.2
baz=95
BSMT Bassoo Peak 95.31 4 eP P 13 41 02.9 +0.8
comp=Z,11nm,1.1s
C23A Lambert 95.48 358 P P 13 41 03.6 +0.9
baz=95
C21A Desert Coulee 95.50 359 P P 13 41 03.7 +0.9
baz=95
C22A Vida 95.55 358 P P 13 41 03.9 +0.8
baz=95
C19A Slack Wire Ran 95.60 0 P P 13 41 02.9 -0.4
baz=95
C20A Veseth Ranch, 95.62 360 P P 13 41 03.2 -0.1
baz=95
D26A Manning 96.12 356 P P 13 41 07.1 +1.5
baz=96
D19A Cripps Ranch, 96.17 0 P P 13 41 05.5 -0.4
baz=96
D20A Manuel Ranch, 96.25 360 P P 13 41 05.8 -0.4
baz=96
D21A La Casta Ranch 96.26 359 P P 13 41 06.2 -0.1
baz=96
E26A Carlson Angus 96.68 356 P P 13 41 08.6 +0.5
baz=96
E23A Ismay 96.78 358 P P 13 41 08.8 +0.1
baz=96
E20A Meyer Farm, Mu 96.83 360 P P 13 41 09.4 +0.5
baz=96
E19A Rath Farm, Rou 96.88 0 P P 13 41 09.7 +0.6
baz=96
F27A Lemmon 97.25 355 P Pdif 13 41 11.7 +0.9
baz=97
F24A Ekalaka 97.40 357 P Pdif 13 41 13.2 +1.6
baz=97
F19A Roth Farm, Mol 97.48 0 P Pdif 13 41 13.2 +1.2
baz=97
G27A Dupree 97.73 355 P Pdif 13 41 14.0 +1.0
baz=97
G26A Maurine 97.86 356 P Pdif 13 41 14.5 +0.9
baz=98
H18A Shoshone NF, C 98.66 1 P P 13 41 16.6 -0.8
baz=98
H22A Clearmont 98.72 358 P Pdif 13 41 18.5 +1.0
baz=98
I21A Big Trails, Te 99.52 359 P Pdif 13 41 21.7 +0.6
baz=99
J22A Midwest 99.90 358 P Pdif 13 41 22.9 0.0
baz=100
J19A Crowheart 100.07 0 P Pdif 13 41 25.0 +1.4
baz=100
PDAR Pinedale Array 100.57 1 P Pdif 13 41 26.3 +0.4
PDAR Pinedale Array 100.57 1 P Pdif 13 41 26.3 +0.4
comp=Z,0.6nm,0.7s,baz=64,slow=6.8,SNR=5.1
NVAR Mina Array Bea 104.38 8 Pdif Pdif 13 41 43.8 +0.9
NVAR Mina Array Bea 104.38 8 Pdiff Pdif 13 41 43.8 +0.9
comp=Z,0.5nm,0.8s,baz=345,slow=5.1,SNR=3.9
TXAR Lajitas Array 113.81 355 PKiKP PKiKP 13 46 17.4 +0.8
TXAR PKKPbc PKKPbc 13 56 58.3 -0.2
TXAR Lajitas Array 113.81 355 PKiKP PKiKP 13 46 17.4 +0.8
comp=Z,0.2nm,0.5s,baz=191,slow=1.3,SNR=3.5
TXAR PKKPbc PKKPbc 13 56 58.3 -0.2
comp=Z,0.6nm,0.8s,baz=191,slow=6.0,SNR=5.8
VNDA Vanda 125.95 164 PKP PKPdf 13 46 37.2 -1.0
VNDA Vanda 125.95 164 PKP PKPdf 13 46 37.2 -1.0
comp=Z,0.7nm,0.7s,baz=271,slow=3.7,SNR=5.4
ROSC El Rosal 127.43 315 PKP PKPdf 13 46 45.0 +1.6
ROSC El Rosal 127.43 315 PKP PKPdf 13 46 45.0 +1.6
comp=Z,15nm,0.8s,baz=109,slow=22,SNR=5.8
CPUP Villa Florida 135.48 269 PKP PKPdf 13 46 57.0 -0.7
CPUP Villa Florida 135.48 269 PKP PKPdf 13 46 57.0 -0.7
comp=Z,3.6nm,1.0s,baz=39,slow=6.5

IDC 15 13:44:41.6±1.8, 14°29N×93°24E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/25, mbtmp3.3/4, ML3.6/1, Error ellipse: s-maj=44.7km s-min=26.7km az=71.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	6.86	52	Pn	Pn	13 46 24.5	+0.9
	0.3nm,0.3s,baz=244,slow=15,SNR=5.3						
CMAR				Sn	Sn	13 47 41.6	-0.9
	0.3nm,0.3s,baz=256,slow=23,SNR=5.5						
MKAR	Makanchi Array	33.68	346	P		13 51 24.4	+0.1
	0.2nm,0.5s,baz=152,slow=8.5,SNR=3.9						
WRA	Warramunga Arr	52.83	129	P		13 53 59.1	-0.3
	0.5nm,0.8s,baz=312,slow=7.9,SNR=4.4						
ASAR	Alice Springs	54.80	133	P		13 54 13.7	-0.1
	0.2nm,0.6s,baz=303,slow=6.6,SNR=5.4						

GUC 15 13:55:19.5±0.7, 31°12S×71°56W, h74km±13km, MD3.7, ML3.8, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMCH	Combarbala	0.48	96⇑	iP	Pn	13 55 33.0	+0.4
CMCH				i S	Sn	13 55 42.7	+0.4
CMCH				AML	AML	13 55 43.8	
	comp=N,22μm,0.5s						
CHNG	Los Chungos	0.76	176	⇓iP	Pn	13 55 34.3	-1.1
CHNG				i S	Sn	13 55 44.7	-2.4
TLL	Tololo Astrono	1.15	35	eP	Pn	13 55 41.2	+0.7
TLL				eS	Sn	13 55 57.1	+1.0
TLL				AML	AML	13 56 00.6	
	comp=N,2μm,0.6s						
JACH	Jahuel	1.76	152	eP	Pn	13 55 48.7	+0.5
LCO	Las Campanas	2.23	20	eP	Pn	13 55 55.3	+0.5
LCO				eS	Sn	13 56 22.9	+1.2
CLCH	Cerro Calan	2.43	159	eP	Pn	13 55 56.6	-0.5
CLCH				eS	Sn	13 56 26.0	+0.1
RCDM	Rinconada Maip	2.44	165	eP	Pn	13 55 57.8	+0.5
RCDM				AML	AML	13 56 42.2	
	comp=E,349nm,0.0s						
ANTU	Antumapu	2.56	162	eP	Pn	13 55 59.7	+0.8
ANTU				AML	AML	13 56 45.9	
	comp=E,199nm,0.3s						
PCH	Pirque	2.64	161⇑	iP	Pn	13 56 00.4	+0.3
LMEL	Las Melosas	2.95	157	eP	Pn	13 56 04.9	+0.6
LMEL				AML	AML	13 56 42.1	
	comp=N,254nm,0.2s						
CACH	El Canelo	3.09	165	eP	Pn	13 56 07.2	+1.0

*IDC **15** 14:04:52.5±1.8, 0°.81S×99°.78E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/22, mbtmp3.8/7, MS3.4/1, Ms1 3.4/1, ms1mx2.7/32, Error ellipse: s-maj=73.0km s-min=18.4km az=56.0*

*ISCJB **15** 14:04:54.2±0.7, 1°.19S±0°.08×99°.40E±0°.08, h33km, mb3.8/8, MS3.3/1, Error ellipse: s-maj=12.6km s-min=9.9km az=144.1*

*DJA **15** 14:05:04.2±0.9, 1°.5±8°.×10°.0E±°, h39km±9km, M3.9/6, mb4.0/1, mB4.9/1, MLv3.8/6, Mw(mB)4.2/1*

*NEIC **15** 14:05:07.1±1.6, 0°.36N×101°.45E, h83km±15km, mb3.9/1, Error ellipse: s-maj=39.4km s-min=12.5km az=54.0*

NEIC Felt [II] at Pariaman.

ISC 15 14:04:57.3±1.0, 1°.1S±0°.1×99°.6E±0°.1, h35km, n42, σ1s56/29, mb3.8/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	Padang	0.92	76	P	Pn	14 05 18.3	+4.5
PPI	Padang Panjang	1.07	51	P	Pn	14 05 18.0	+2.2
GSI	Gunungsitoli	3.14	321	P	Pn	14 05 48.5	+4.2
PSI	Prapat	3.96	351	Pn	Pn	14 05 58.6	+2.8
PSI	Prapat	3.96	351	Pn	Pn	14 05 58.6	+2.8
	1.8nm,0.3s,baz=147,slow=19,SNR=5.3						
FRIM	Kepong	4.80	25	P	Pn	14 06 08.0	+0.7
KGM	Kluang	4.88	50	P	Pn	14 06 09.4	+1.0
KCSI	Kotacane, Aceh	4.96	339	P	Pn	14 06 14.2	+4.7
MYKOM	Kota Tinggi	5.17	56	P	Pn	14 06 13.6	+1.2
MYKOM	Kota Tinggi	5.17	56	P	Pn	14 06 13.3	+1.0
MDSI	Maura Dua	5.68	126	P	Pn	14 06 26.9	+7.6
IPM	Ipoh	5.76	15	P	Pn	14 06 20.9	+0.4
IPM	Ipoh	5.76	15	ePn	Pn	14 06 08.7	-12
KULM	Kulim	6.47	10	P	Pn	14 06 32.0	+1.8
KTGM	Kuala Trenggan	7.34	29	P	Pn	14 06 42.8	+0.7
BATI	Baumata	25.59	112	LR	LR	14 21 32.7	
	comp=Z,86nm,20.5s,baz=317,slow=39						
H08S2	Diego Garcia H	27.74	256	T	T	14 38 45.9	
	baz=77,slow=0.7,SNR=19						
H08S3	Diego Garcia H	27.75	256	T	T	14 38 45.5	
	baz=77,slow=0.7,SNR=17						
H08S1	Diego Carcia H	27.76	256	T	T	14 38 47.2	
	baz=77,slow=0.7,SNR=19						
ODAN	Odare	30.21	338	eP	P	14 11 09.1	+4.1
TAPN	Taplejung	30.53	339	eP	P	14 11 09.5	+1.6
RAMN	Ramite	30.59	337	eP	P	14 11 12.4	+4.0
JIRN	Jiri	31.39	337	eP	P	14 11 15.4	-0.1
	5.8nm,0.6s						
GUN	Gumba	31.73	337	eP	P	14 11 17.4	-1.1
	8.8nm,0.5s						
GKN	Gorkha	32.33	335	eP	P	14 11 23.1	-0.4
KOLN	Koldanda	32.58	333	eP	P	14 11 25.9	+0.1
	4.4nm,0.7s						
DANN	Dangsing	33.01	334	eP	P	14 11 27.2	-2.5
	5.9nm,0.5s						
WRA	Warramunga Arr	38.80	121	P	P	14 12 18.6	-0.6
WRA	Warramunga Arr	38.80	121	P	P	14 12 18.6	-0.6
	0.5nm,0.5s,baz=302,slow=9.0,SNR=12						
WRAB	Tennant Creek	38.81	121	eP	P	14 12 16.9	-2.3
	1.0nm,0.6s						
ASAR	Alice Springs	40.11	127	P	P	14 12 30.6	+0.6
ASAR	Alice Springs	40.11	127	P	P	14 12 30.6	+0.6
	0.3nm,0.5s,baz=302,slow=7.6,SNR=8.8						
KSRS	Korea Array	46.51	31	P	P	14 13 18.5	-2.9
	0.7nm,0.7s,baz=229,slow=6.6,SNR=3.5						
STKA	Stephens Creek	50.05	132	P	P	14 13 50.4	+1.5
STKA	Stephens Creek	50.05	132	P	P	14 13 50.4	+1.5
	2.6nm,1.1s,baz=300,slow=8.1,SNR=3.7						
MK31	Makanchi Array	50.09	345	eP	P	14 13 45.9	-3.0
MKAR	Makanchi Array	50.09	345	P	P	14 13 47.8	-1.1
MKAR	Makanchi Array	50.09	345	P	P	14 13 47.8	-1.1
	0.9nm,0.4s,baz=161,slow=8.3,SNR=20						

ZALV	**Zalesovo Beam**	**56.24**	**350**	P	**P**	**14**	**14**	**32.3 -1.7**
ZALV	**Zalesovo Beam**	**56.24**	**350**	P	**P**	**14**	**14**	**32.3 -1.7**
	1.0nm,0.5s,baz=174,slow=7.4,SNR=4.6							
BVAR	**Borovoye Array**	**59.23**	**340**	P	**P**	**14**	**14**	**53.4 -1.7**
BVAR	**Borovoye Array**	**59.23**	**340**	P	**P**	**14**	**14**	**53.4 -1.7**
	0.5nm,0.5s,baz=167,slow=6.8,SNR=3.0							

NIED ***15*** *14:14:00,35.60N×141.10E,h41km,Mw4.2 Best double couple: M₀2.46000×10¹⁵ NP1:φs6.00000°, δ78.00000°, λ81.00000°. NP2:φs223.00000°, δ15.00000°, λ126.00000°.*
ISCJB ***15*** *14:14:20.9±0.8,35.52N±0.04×141.14E±0.08,h40km±5km, mb3.9/13,MS3.5/1, Error ellipse: s-maj=10.5km s-min=6.3km az=176.2*
JMA ***15*** *14:14:21.6±0.1,35.56N×141.07E,h37km±1km,M3.8 Broadband fault plane solution: P waves. NP1: φs68.00000°, δ71.00000°, λ92.00000°. NP2:φs243.00000°, δ19.00000°, λ85.00000°. Principal axes: T Plg64.0000°, Azm341.0000°; N Plg2.0000°, Azm248.0000°; P Plg26.0000°, Azm157.0000°;*
JMA Felt I J1.
IDC ***15*** *14:14:24.1±2.0,35.47N×140.98E,h49km±19km,mb3.7/13, mb1 3.9/18,mb1mx3.8/29,mbtmp3.8/18,ML3.4/3,MS3.4/3, Ms1 3.5/3,ms1mx3.1/34 Error ellipse: s-maj=20.5km s-min=15.2km az=76.0*

ISC 15 14:14:21.7±1.1,35.54N±0.04×141.11E±0.07,h29km±7km, n48,σ1s06/44,mb4.0/13,1C-5D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
CHOJ	**Chosi**	**0.26**	**310**	⇑P	**Pb**	**14**	**14**	**28.7 +0.1**
CHOJ				S	**Sb**	**14**	**14**	**33.6 +0.4**
JCN	**Nagara**	**0.75**	**261**	⇓P	**Pn**	**14**	**14**	**36.4 +0.1**
KTR	**Katsuura**	**0.75**	**239**	⇓P	**Pb**	**14**	**14**	**35.7 -0.6**
KTR				eS	**Sb**	**14**	**14**	**45.0 -1.2**
BSO4	**Boso 4**	**0.83**	**229**	P	**Pn**	**14**	**14**	**37.0 -0.3**
BSO2	**Boso 2**	**0.83**	**200**	eS	**Sb**	**14**	**14**	**47.4 -0.8**
BSO3	**Boso 3**	**0.88**	**214**	⇓P	**Pn**	**14**	**14**	**37.4 -0.5**
BSO3				eS	**Sn**	**14**	**14**	**50.3 +0.8**
BSO1	**Boso 1**	**0.89**	**187**	⇓P	**Pn**	**14**	**14**	**37.4 -0.3**
JYT	**Yasato**	**1.01**	**313**	⇓P	**Pn**	**14**	**14**	**38.9 -1.0**
JAG	**Ashikaga**	**1.61**	**304**	P	**Pn**	**14**	**14**	**48.3 +0.2**
MJAR	**Matsushiro Arr**	**2.55**	**294**	P	**Pn**	**14**	**15**	**01.6 +0.5**
	14nm,0.3s,baz=198,slow=2.7,SNR=96							
MJAR				S	**Sb**	**14**	**15**	**35.8 -2.0**
	10nm,0.3s,baz=99,slow=25,SNR=5.9							
MAT	**Matsushiro**	**2.56**	**294**	P	**Pn**	**14**	**15**	**02.0 +0.8**
MAT				S	**Sn**	**14**	**15**	**32.1 +0.8**
JCJ	**Chichijima**	**8.46**	**173**	P	**Pn**	**14**	**16**	**21.3 -1.0**
	12nm,0.3s,baz=100,slow=22,SNR=13							
JCJ				S	Sn	14	17	47.3 -10
	2.6nm,0.3s,baz=315,slow=20,SNR=2.3							
ASAJ	**Asahikawa**	**8.65**	**7**	P	**Pn**	**14**	**16**	**22.9 -1.9**
	2.8nm,0.3s,baz=220,slow=8.4,SNR=16							
ASAJ				S	**Sn**	**14**	**17**	**58.8 -2.5**
	0.4nm,0.3s,baz=90,slow=20,SNR=3.3							
JNU	**Nakatsue**	**8.79**	**257**	P	**Pn**	**14**	**16**	**28.4 +1.5**
	0.3nm,0.3s,baz=116,slow=2.8,SNR=3.8							
KSRS	**Korea Array**	**10.79**	**284**	P	**Pn**	**14**	**16**	**56.8 +2.7**
	0.2nm,0.3s,baz=97,slow=14,SNR=5.0							
KSRS				LR	LR	14	21	04.1
	comp=Z,243nm,20.8s,baz=149,slow=37							
USRK	**Ussuriysk Arra**	**11.13**	**324**	P	**Pn**	**14**	**17**	**00.1 +1.4**
	0.2nm,0.3s,baz=146,slow=11,SNR=4.9							
USRK				LR	LR	14	21	15.2
	comp=Z,132nm,18.3s,baz=182,slow=37							
PETK	**Petropavlovsk-**	**21.11**	**29**	P	**P**	**14**	**19**	**05.4 +1.6**
	1.5nm,0.7s,baz=219,slow=10,SNR=3.0							
H11N2	**WAKE ISLAND Hy**	**27.63**	**118**	T	T	14	49	12.7
	baz=312,slow=0.7,SNR=90							
H11N1	**WAKE ISLAND Hy**	**27.64**	**118**	T	T	14	49	19.7
	baz=312,slow=0.7,SNR=84							
H11N3	**WAKE ISLAND Hy**	**27.65**	**118**	T	T	14	49	11.8
	baz=312,slow=0.7,SNR=82							
H11S1	**WAKE ISLAND Hy**	**28.29**	**120**	T	T	14	50	04.2
	baz=315,slow=0.7,SNR=302							
H11S3	**WAKE ISLAND Hy**	**28.29**	**120**	T	T	14	50	01.0
	baz=315,slow=0.7,SNR=226							
H11S2	**WAKE ISLAND Hy**	**28.30**	**120**	T	T	14	50	02.8
	baz=315,slow=0.7,SNR=154							
SONM	**Songino Array**	**28.44**	**306**	P	**P**	**14**	**20**	**13.8 -0.2**
	1.3nm,0.6s,baz=106,slow=8.4,SNR=4.3							
CMAR	**Chiang Mai Arr**	**40.89**	**257**	LR	LR	14	40	41.8
	comp=Z,59nm,19.3s,baz=65,slow=39							
ZALV	**Zalesovo Beam**	**42.75**	**314**	P	**P**	**14**	**22**	**15.5 -0.7**
	3.3nm,0.5s,baz=86,slow=7.3,SNR=14							
MKAR	**Makanchi Array**	**44.72**	**303**	P	**P**	**14**	**22**	**31.5 -0.6**
	1.5nm,0.6s,baz=84,slow=11,SNR=14							
TAPN	**Taplejung**	**45.81**	**275**	*eP*	**P**	**14**	**22**	**41.3 -0.1**
	4.2nm,0.5s							
ODAN	**Odare**	**46.27**	**275**	*eP*	**P**	**14**	**22**	**44.2 -0.8**
RAMN	**Ramite**	**46.88**	**275**	*eP*	**P**	**14**	**22**	**48.6 -1.1**
	7.2nm,0.4s							
JIRN	**Jiri**	**46.92**	**276**	*eP*	**P**	**14**	**22**	**49.5 -0.7**
	5.0nm,0.4s							
GUN	**Gumba**	**47.07**	**277**	*eP*	**P**	**14**	**22**	**51.1 -0.2**
GKN	**Gorkha**	**48.04**	**278**	*eP*	**P**	**14**	**22**	**57.8 -0.8**
	17nm,1.0s							
DANN	**Dangsing**	**48.61**	**278**	*eP*	**P**	**14**	**23**	**02.7 -0.5**
	25nm,0.7s							
KOLN	**Koldanda**	**48.97**	**278**	*eP*	**P**	**14**	**23**	**05.2 -0.7**
ILAR	**Eielson Array**	**50.89**	**32**	P	**P**	**14**	**23**	**20.8 +1.0**
	0.8nm,0.7s,baz=265,slow=5.5,SNR=13							
BVAR	**Borovoye Array**	**51.40**	**313**	P	**P**	**14**	**23**	**23.6 -0.1**
	1.0nm,0.6s,baz=90,slow=7.4,SNR=4.5							
WRA	**Warramunga Arr**	**55.55**	**188**	P	**P**	**14**	**23**	**53.5 -0.8**
	1.9nm,0.7s,baz=4.1,slow=7.7,SNR=15							
ASAR	**Alice Springs**	**59.27**	**188**	P	**P**	**14**	**24**	**20.5 -0.2**
	0.3nm,0.4s,baz=21,slow=10,SNR=8.4							
ARCES	**ARCESS Array B**	**65.31**	**340**	P	**P**	**14**	**25**	**00.4 -0.1**
	6.5nm,0.9s,baz=46,slow=7.7,SNR=2.9							
AKASG	**Malin Array Be**	**75.33**	**322**	P	**P**	**14**	**26**	**01.3 -0.7**
	1.5nm,0.5s,baz=46,slow=5.9,SNR=11							
NB2	**NORSAR Subarra**	**75.47**	**337**	P	**P**	**14**	**26**	**02.5 -0.2**
	comp=Z,1.1nm,0.6s,baz=40,slow=6.2							
NOA	**NORSAR Array B**	**75.47**	**337**	P	**P**	**14**	**26**	**02.6 -0.1**
	comp=Z,1.3nm,0.6s,baz=39,slow=5.8,SNR=5.4							
PDAR	**Pinedale Array**	**78.90**	**45**	P	**P**	**14**	**26**	**24.0 +1.4**
	comp=Z,0.5nm,0.9s,baz=297,slow=10.0,SNR=2.9							
BRTR	**Keskin Array B**	**79.66**	**312**	P	**P**	**14**	**26**	**27.3 +0.6**
	comp=Z,0.8nm,0.6s,baz=73,slow=7.6,SNR=3.0							
H03N2	**Juan Fernandez**	**147.09**	**98**	T	T	17	18	38.6
	baz=289							
H03N3	**Juan Fernandez**	**147.10**	**98**	T	T	17	18	44.7
	baz=289,slow=0.7							
H03N1	**Juan Fernandez**	**147.10**	**98**	T	T	17	18	40.4
	baz=289,slow=0.7							

NNC ***15*** *14:17:24.7±2.6,39.78N×73.50E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=23.9km s-min=12.4km az=13.0*

ISC 15 14:17:25.1±3.9,39.8N±0.3×73.68E±0.07,h14km,n10, σ1s63/13,1C-6D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
AML	**Almayashu**	**2.36**	**0**	P	**Pn**	**14**	**18**	**05.3 +1.5**
	SNR=29							
KZA	**Kyzart**	**2.59**	**27**	P	**Pb**	**14**	**18**	**11.7 +0.1**
	SNR=36							
EKS2	**Erkin-Say**	**2.89**	**1**	P	**Pn**	**14**	**18**	**13.1 +2.3**
	SNR=12							
AAK	**Ala-Archa**	**2.92**	**12**	P	**Pb**	**14**	**18**	**14.9 -2.2**
	SNR=21							
KBK	**Karagaybulak**	**3.04**	**18**	P	**Pb**	**14**	**18**	**19.0 -0.1**
	SNR=15							
ULHL	**Ulahol**	**3.14**	**37**	P	**Pb**	**14**	**18**	**20.0 -0.8**
	SNR=20							
TKM2	**Tokmak 2**	**3.46**	**24**	⇑Pn	**Pn**	**14**	**18**	**20.7 +2.0**
	5.8nm,0.6s							
TKM2				⇓Lg	Lg	14	19	17.0
TKM2	**Tokmak 2**	**3.46**	**24**	P	**Pb**	**14**	**18**	**25.0 -1.3**
	SNR=11							
KK31	**Karatay Array**	**4.09**	**325**	Pn	**Pn**	**14**	**18**	**28.3 +1.1**
	0.8nm,0.3s,baz=131,slow=12,SNR=28							
KK31				⇓Pg	**Pb**	**14**	**18**	**37.4 +0.5**
	2.7nm,0.4s,baz=137,slow=14,SNR=7.8							
KK31				⇓Sn	**Sn**	**14**	**19**	**16.2 +1.3**
	10nm,0.6s							
KK31				⇓Lg	Lg	14	19	33.6
	7.1nm,0.3s,baz=132,slow=27,SNR=4.9							
AB31	**Akbulak array**	**13.62**	**319**	⇓Pn	**Pn**	**14**	**20**	**35.9 -1.7**
	0.4nm,0.5s,baz=124,slow=13,SNR=6.8							
AB31				⇓Sn	**Sn**	**14**	**23**	**07.3 -1.4**
	0.3nm,0.4s							

CSEM ***15*** *14:23:48.9±0.4,36.38N×29.85E,h30km,ML3.6,Error ellipse: s-maj=9.8km s-min=7.8km az=168.0*
ATH ***15*** *14:23:48.1,36.56N×29.59E,h27km,MD2.8/3*
DDA ***15*** *14:23:49.0,36.43N×29.67E,h37km,MD3.4,ML3.6*

ISC 15 14:23:47.9±1.3,36.37N±0.04×29.93E±0.02,h33km±2km, n25,σ1s51/47,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
AKAS	**Kas**	**0.30**	**243**	*i* P	**Pn**	**14**	**23**	**56.2 +0.4**
AKAS				*i* S	**Sn**	**14**	**24**	**02.2 +1.7**
AKAS	**Kas**	**0.30**	**243**	*i* P	**Pn**	**14**	**23**	**56.2 +0.4**
AKAS				*i* S	**Sn**	**14**	**24**	**02.2 +1.7**
KSL	**Kastellorizon**	**0.36**	**233**	*e*PB	**Pn**	**14**	**23**	**57.1 +0.4**
KORT	**Korkueli**	**0.72**	**28**	*i* P	**Pb**	**14**	**24**	**02.0 -0.1**
KORT				*i* S	**Sn**	**14**	**24**	**15.2 +3.5**
KORT	**Korkueli**	**0.72**	**28**	*i* P	**Pb**	**14**	**24**	**02.0 -0.1**
KORT				*i* S	**Sn**	**14**	**24**	**15.2 +3.5**
GOLH	**Golhisar**	**0.92**	**341**	*i* P	**Pb**	**14**	**24**	**04.4 -1.1**
GOLH				*i* S	**Sn**	**14**	**24**	**17.1 +0.5**
GOLH	**Golhisar**	**0.92**	**341**	*i* P	**Pb**	**14**	**24**	**04.4 -1.1**
GOLH				*i* S	**Sn**	**14**	**24**	**17.1 +0.5**
TURN	**Turunc**	**1.18**	**296**	*i* P	**Pb**	**14**	**24**	**11.1 +1.3**
TURN				*i* S	**Sb**	**14**	**24**	**28.5 +3.7**
TURN	**Turunc**	**1.18**	**296**	*i* P	**Pb**	**14**	**24**	**11.1 +1.3**
TURN				*i* S	**Sb**	**14**	**24**	**28.5 +3.7**
ARG	**Arkhangelos**	**1.47**	**265**	*e*PN	**Pn**	**14**	**24**	**11.6 -0.4**
ARG				*e*SN	**Sn**	**14**	**24**	**28.4 -1.6**
ARG	**Arkhangelos**	**1.47**	**265**	*e*Pn	**Pn**	**14**	**24**	**11.6 -0.4**
ARG				*e*Sn	**Sn**	**14**	**24**	**28.4 -1.6**
DNZL	**Cakiroluk**	**1.50**	**332**	*i* P	**Pb**	**14**	**24**	**14.0 -1.2**
DNZL				*i* S	**Sb**	**14**	**24**	**32.7 -1.3**
DNZL	**Cakiroluk**	**1.50**	**332**	*i* P	**Pb**	**14**	**24**	**14.0 -1.2**
DNZL				*i* S	**Sb**	**14**	**24**	**32.7 -1.3**
GAZI	**Gazipasa**	**1.93**	**93**	*i* P	**Pn**	**14**	**24**	**18.7 +0.4**
GAZI				*i* S	**Sn**	**14**	**24**	**43.0 +1.6**
GAZI	**Gazipasa**	**1.93**	**93**	*i* P	**Pn**	**14**	**24**	**18.7 +0.4**
GAZI				*i* S	**Sn**	**14**	**24**	**43.0 +1.6**
KHAL	**Karahalli**	**2.03**	**350**	*i* P	**Pn**	**14**	**24**	**20.2 +0.4**
KHAL				*i* S	**Sn**	**14**	**24**	**43.7 -0.4**
KHAL	**Karahalli**	**2.03**	**350**	*i* P	**Pn**	**14**	**24**	**20.2 +0.4**
KHAL				*i* S	**Sn**	**14**	**24**	**43.7 -0.4**
AYDN	**Tasoluk**	**2.09**	**309**	*i* P	**Pn**	**14**	**24**	**21.3 +0.7**
AYDN				*i* S	**Sn**	**14**	**24**	**44.1 -1.4**
AYDN	**Tasoluk**	**2.09**	**309**	*i* P	**Pn**	**14**	**24**	**21.3 +0.7**
AYDN				*i* S	**Sn**	**14**	**24**	**44.1 -1.4**
BDRM	**Kayabasi**	**2.12**	**290**	*i* P	**Pn**	**14**	**24**	**22.2 +1.3**
BDRM				*i* S	**Sn**	**14**	**24**	**45.1 -1.0**
BDRM	**Kayabasi**	**2.12**	**290**	*i* P	**Pn**	**14**	**24**	**22.2 +1.3**
BDRM				*i* S	**Sn**	**14**	**24**	**45.1 -1.0**
KARP	**Karpathos**	**2.39**	**251**	*e*PN	**Pn**	**14**	**24**	**24.9 +0.2**
KARP	**Karpathos**	**2.39**	**251**	*e*Pn	**Pn**	**14**	**24**	**24.9 +0.2**
ERMK	**Ermenek**	**2.42**	**83**	*i* P	**Pb**	**14**	**24**	**30.3 -0.5**
ERMK				*i* S	**Sb**	**14**	**24**	**58.7 -1.6**
ERMK	**Ermenek**	**2.42**	**83**	*i* P	**Pb**	**14**	**24**	**30.3 -0.5**
ERMK				*i* S	**Sb**	**14**	**24**	**58.7 -1.6**

BJI ***15*** *14:25:35.2,52.80N×167.00W,h10km,mB4.8/4, mb4.8/9, Ms4.8/2,Ms7 4.4/2*
ISCJB ***15*** *14:25:36.9±0.4,52.34N±0.04×166.82W±0.06,h25km, mb4.2/25, Error ellipse: s-maj=6.7km s-min=4.6km az=142.2*
IDC ***15*** *14:25:36.3±0.7,52.55N×167.11W,h0km,mb4.1/20, mb1 4.3/22,mb1mx4.2/31,mbtmp4.1/22,ML3.6/2, Error ellipse: s-maj=20.5km s-min=11.7km az=174.0*
NEIC ***15*** *14:25:36.1,52.22N×166.79W,h26km,mb3.8/3, ML3.8(AEIC), After AEIC.*

ISC 15 14:25:39.4±0.6,52.48N±0.07×166.95W±0.05,h25km,n77, σ1s19/76,mb4.3/25,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
OKFG	**Magazine Ridge**	**1.10**	**328**	P	**Pn**	**14**	**25**	**59.0 -0.3**
OKFG				S	**Sb**	**14**	**26**	**16.0 +2.2**
OKTU	**Okmok Mt. Tuli**	**1.12**	**324**	P	**Pb**	**14**	**26**	**00.0 -0.2**
OKSP	**Okmok Steeple**	**1.12**	**314**	P	**Pn**	**14**	**25**	**59.7 +0.1**
OKSO	**Okmok South**	**1.15**	**321**	P	**Pn**	**14**	**25**	**59.3 -0.6**
OKCE	**Okmok Cone E**	**1.20**	**323**	P	**Pn**	**14**	**26**	**00.7 0.0**
NIKH	**Nikolski High**	**1.26**	**294**	P	**Pn**	**14**	**26**	**00.5 -0.9**
NIKH				S	**Sb**	**14**	**26**	**19.2 +0.9**
MREP	**Makushin Rep't**	**1.34**	**5**	P	**Pn**	**14**	**26**	**03.1 +0.4**
UNV	**Unalaska Valle**	**1.40**	**11**	P	**Pn**	**14**	**26**	**02.6 -0.7**
UNV				S	**Sb**	**14**	**26**	**23.6 +1.4**
MSW	**Makushin Switc**	**1.44**	**4**	P	**Pn**	**14**	**26**	**04.3 +0.3**
MCIR	**Makushin Cirqu**	**1.48**	**1**	P	**Pn**	**14**	**26**	**05.2 +0.7**
MTBL	**Makushin Table**	**1.50**	**6**	P	**Pn**	**14**	**26**	**05.3 +0.5**
ZRO	**Akutan Zero**	**1.72**	**19**	P	**Pn**	**14**	**26**	**07.8 0.0**
AKRB	**Akutan Reef Bi**	**1.74**	**17**	P	**Pn**	**14**	**26**	**08.7 +0.7**
LVA	**Lava Point**	**1.77**	**18**	P	**Pn**	**14**	**26**	**09.2 +0.6**
AKUT	**Akutan**	**1.80**	**23**	P	**Pn**	**14**	**26**	**09.1 +0.2**
AKUT				S	**Sb**	**14**	**26**	**32.4 -1.5**
AKGG	**Akutan Green G**	**1.82**	**18**	P	**Pn**	**14**	**26**	**09.9 +0.8**
FALS	**False Pass**	**3.18**	**40**	*e*Pn	**Pn**	**14**	**26**	**26.2 -1.5**
GSCK	**Great Sitkin C**	**5.68**	**269**	P	**Pn**	**14**	**27**	**02.8 +0.6**
ADK	**Adak**	**6.02**	**268**	P	**Pn**	**14**	**27**	**07.2 +0.4**
FX1	**Attu Island--F**	**12.08**	**280**	Pn	**Pn**	**14**	**28**	**31.5 +1.8**
FX1	**Attu Island--F**	**12.08**	**280**	Pn	**Pn**	**14**	**28**	**31.5 +1.8**
	0.9nm,0.3s,baz=95,slow=17,SNR=2.6							
PPLA	**Purkeypile**	**13.05**	**31**	*e*Pn	**Pn**	**14**	**28**	**41.7 -1.5**
BPAW	**Bear Paw Mtn.**	**14.30**	**29**	*e*Pn	**Pn**	**14**	**28**	**58.8 -1.3**
	9.0nm,1.0s							
IM04	**Indian Mountai**	**15.07**	**21**	*e*Pn	**Pn**	**14**	**29**	**09.7 -0.7**
ILAR	**Eielson Array**	**16.05**	**32**	Pn	**Pn**	**14**	**29**	**21.4 -1.8**
ILAR	**Eielson Array**	**16.05**	**32**	Pn	**Pn**	**14**	**29**	**21.4 -1.8**
	0.1nm,0.3s,baz=230,slow=12,SNR=9.6							
DOT	**Dot Lake**	**16.37**	**38**	*e*Pn	**Pn**	**14**	**29**	**25.4 -1.9**
	5.3nm,0.9s							
COLD	**Coldfoot**	**16.92**	**23**	*e*Pn	**Pn**	**14**	**29**	**33.2 -0.9**
	15nm,1.1s							
EGAK	**Eagle**	**18.05**	**37**	*e*Pn	**Pn**	**14**	**29**	**46.9 -1.2**
	5.3nm,0.8s							
PETK	**Petropavlovsk-**	**21.26**	**286**	P	**P**	**14**	**30**	**23.1 -0.4**
PETK	**Petropavlovsk-**	**21.26**	**286**	P	**P**	**14**	**30**	**23.1 -0.4**
	8.5nm,0.6s,baz=92,slow=13,SNR=34							
INK	**Inuvik**	**22.45**	**32**	P	**P**	**14**	**30**	**34.8 -1.3**
INK	**Inuvik**	**22.45**	**32**	P	**P**	**14**	**30**	**34.8 -1.3**
	8.3nm,0.6s,baz=243,slow=7.6,SNR=19							
YKA	**Yellowknife Ar**	**29.05**	**49**	P	**P**	**14**	**31**	**39.0 +1.8**
	0.9nm,0.5s,baz=274,slow=8.1,SNR=4.5							
NVAR	**Mina Array Bea**	**36.19**	**93**	P	**P**	**14**	**32**	**42.2 +2.1**
	1.6nm,0.9s,baz=297,slow=8.2,SNR=10							
H11N2	**WAKE ISLAND Hy**	**38.49**	**222**	T	T	15	14	49.0
	baz=26,slow=0.7,SNR=10							
H11N3	**WAKE ISLAND Hy**	**38.50**	**222**	T	T	15	14	43.3
	baz=26,slow=0.7,SNR=15							
H11N1	**WAKE ISLAND Hy**	**38.51**	**222**	T	T	15	14	56.3
	baz=26,slow=0.7,SNR=13							
PDAR	**Pinedale Array**	**38.92**	**81**	P	**P**	**14**	**33**	**04.5 +1.3**
	1.1nm,0.9s,baz=315,slow=4.1,SNR=7.7							
H11S1	**WAKE ISLAND Hy**	**39.67**	**221**	T	T	15	16	17.1
	baz=24,slow=0.7,SNR=14							
H11S2	**WAKE ISLAND Hy**	**39.69**	**221**	T	T	15	16	22.9
	baz=24,slow=0.7,SNR=14							
H11S3	**WAKE ISLAND Hy**	**39.69**	**221**	T	T	15	16	18.4
	baz=24,slow=0.7,SNR=15							
MJAR	**Matsushiro Arr**	**41.18**	**270**	P	**P**	**14**	**33**	**21.9 +0.2**
	2.0nm,0.7s,baz=43,slow=6.7,SNR=7.6							
KSRS	**Korea Array**	**46.86**	**278**	P	**P**	**14**	**34**	**08.2 +1.0**
	1.5nm,0.6s,baz=60,slow=8.0,SNR=6.3							
SUMG	**Summit**	**50.23**	**18**	*i* P	**P**	**14**	**34**	**34.3 +1.1**
	6.3nm,1.1s							
TXAR	**Lajitas Array**	**51.26**	**91**	P	**P**	**14**	**34**	**42.4 +1.3**
	1.6nm,0.6s,baz=298,slow=5.4,SNR=18							
SONM	**Songino Array**	**52.51**	**302**	P	**P**	**14**	**34**	**50.6 +0.4**
	2.7nm,0.8s,baz=55,slow=7.8,SNR=7.2							
KEV	**Kevo**	**57.65**	**354**	*ep*	**P**	**14**	**35**	**25.6 -1.3**
	0.6nm,0.4s							
ARCES	**ARCESS Array B**	**57.96**	**355**	P	**P**	**14**	**35**	**30.1 +1.1**
	2.5nm,0.9s,baz=42,slow=7.4,SNR=5.7							
ZALV	**Zalesovo Beam**	**58.33**	**319**	P	**P**	**14**	**35**	**30.9 -0.9**
	1.9nm,0.6s,baz=36,slow=6.5,SNR=8.9							
GTA	**Gaotai**	**61.74**	**299**	*eP*	**P**	**14**	**35**	**55.3 -0.3**
GTA				pP	**pP**	**14**	**36**	**00.0 -3.5**
GTA				sP	**sP**	**14**	**36**	**02.8 -3.7**
GTA				AMB	AMB			
	comp=Z,8.0nm,0.8s							
KURBB	**Kurchatov Arra**	**63.37**	**320**	P	**P**	**14**	**36**	**06.0 -0.1**
	3.7nm,0.8s,baz=47,slow=7.5,SNR=38							
JOF	**Joensuu**	**64.05**	**351**	*ep*	**P**	**14**	**36**	**09.3 -1.1**
	2.2nm,0.6s							
BVAR	**Borovoye Array**	**64.46**	**326**	P	**P**	**14**	**36**	**13.8 +0.5**
	2.9nm,0.7s,baz=50,slow=7.9,SNR=9.9							
MKAR	**Makanchi Array**	**64.80**	**315**	P	**P**	**14**	**36**	**14.9 -0.8**
	2.9nm,0.7s,baz=50,slow=6.8,SNR=30							
KAF	**Kangasniemi**	**65.27**	**353**	*ep*	**P**	**14**	**36**	**17.7 -0.7**
	7.4nm,0.7s							
NB2	**NORSAR Subarra**	**66.82**	**1**	P	**P**	**14**	**36**	**28.3 -0.2**
	comp=Z,0.9nm,0.6s,baz=1.3,slow=6.2							
NOA	**NORSAR Array B**	**66.82**	**1**	P	**P**	**14**	**36**	**28.6 +0.2**
	comp=Z,1.4nm,0.7s,baz=1.5,slow=6.2,SNR=4.9							
AKASG	**Malin Array Be**	**76.29**	**349**	P	**P**	**14**	**37**	**25.4 -0.2**
	comp=Z,2.8nm,0.5s,baz=11,slow=5.6,SNR=13							
TAPN	**Taplejung**	**77.43**	**298**	*eP*	**P**	**14**	**37**	**33.1 +0.3**
ODAN	**Odare**	**77.99**	**298**	*eP*	**P**	**14**	**37**	**35.0 -0.9**
JIRN	**Jiri**	**78.00**	**300**	*eP*	**P**	**14**	**37**	**36.6 +0.6**
	comp=Z,11nm,0.7s							
CMAR	**Chiang Mai Arr**	**78.03**	**285**	P	**P**	**14**	**37**	**36.1 +0.2**
	comp=Z,0.9nm,0.9s,baz=25,slow=6.4,SNR=7.4							
RAMN	**Ramite**	**78.34**	**299**	*eP*	**P**	**14**	**37**	**36.4 -1.4**
KKN	**Kakani**	**78.38**	**301**	*eP*	**P**	**14**	**37**	**37.1 -0.8**
PKIN	**Phulchoki**	**78.48**	**300**	*eP*	**P**	**14**	**37**	**37.5 -1.1**
GKN	**Gorkha**	**78.54**	**301**	*eP*	**P**	**14**	**37**	**39.0 +0.2**
	comp=Z,14nm,0.9s							
DMN	**Daman**	**78.61**	**301**	*eP*	**P**	**14**	**37**	**38.2 -1.1**
KOLS	**Kolonicke sedl**	**78.66**	**354**	*e*pP	pP	14	37	46.4 -0.5
DANN	**Dangsing**	**78.72**	**302**	*eP*	**P**	**14**	**37**	**40.7 +0.8**
	comp=Z,24nm,0.7s							
KOLN	**Koldanda**	**79.27**	**302**	*eP*	**P**	**14**	**37**	**41.8 -1.0**
ISFR	**Sfrayin**	**82.63**	**325**	*eP*	**P**	**14**	**38**	**01.4 +0.7**
IKRD	**Kardeh**	**82.69**	**325**	*eP*	**P**	**14**	**37**	**59.5 -1.5**
BRTR	**Keskin Array B**	**86.44**	**344**	P	**P**	**14**	**38**	**21.3 +1.5**
	comp=Z,4.4nm,0.9s,baz=29,slow=2.8,SNR=13							
WRA	**Warramunga Arr**	**88.25**	**234**	P	**P**	**14**	**38**	**28.0 -0.4**
	comp=Z,0.4nm,0.8s,baz=36,slow=6.0,SNR=2.9							
ASAR	**Alice Springs**	**91.62**	**232**	P	**P**	**14**	**38**	**43.5 -0.6**
	comp=Z,0.4nm,0.8s,baz=30,slow=5.8,SNR=4.4							
MAW	**Mawson**	**151.88**	**218**	PKPbc	**PKPbc**	**14**	**45**	**31.3 +0.8**
	comp=Z,0.8nm,1.0s,baz=125,slow=16,SNR=2.1							

IDC 15 14:35:33.3±4.7,17.89S×173.51W,h0km,mb3.4/3, mb1 3.7/3,mb1mx3.5/19,mbtmp3.4/3,Error ellipse: s-maj=334.2km s-min=29.9km az=151.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
WRA	**Warramunga Arr**	**49.22**	**259**	P	P	14	44	24.0 +0.1
	0.2nm,0.3s,baz=97,slow=6.8,SNR=4.6							
ASAR	**Alice Springs**	**49.28**	**254**	P	P	14	44	24.0 -0.3
	0.2nm,0.5s,baz=86,slow=8.8,SNR=10							
NVAR	**Mina Array Bea**	**76.24**	**42**	P	P	14	47	24.1 0.0
	0.1nm,0.3s,baz=224,slow=7.3,SNR=2.4							

**WEL 15 14:43

IDC 15 15:15:39.5±1.7, 17.46S×178.99W, h520km±19km, mb3.7/12, mb1 3.9/14, mb1mx3.6/24, mbtmp3.7/14, Error ellipse: s-maj=51.5km s-min=11.9km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.79**	**64**	P	P	15 17 34.2	-0.3
	25nm,0.3s,baz=38,slow=3.5,SNR=12						
DZM	**Mont Dzumac**	**14.46**	**249**	P	P	15 18 44.1	+0.2
	1.2nm,0.3s,baz=69,slow=20,SNR=22						
CTA	**Charters Tower**	**32.98**	**260**	P	P	15 21 31.3	-0.1
	10nm,0.7s,baz=86,slow=9.5,SNR=21						
STKA	**Stephens Creek**	**38.36**	**240**	P	P	15 22 16.3	+0.3
	17nm,0.4s,baz=90,slow=9.2,SNR=130						
WRA	**Warramunga Arr**	**44.17**	**259**	P	P	15 23 01.1	-1.1
	2.3nm,0.3s,baz=94,slow=7.4,SNR=19						
ASAR	**Alice Springs**	**44.38**	**254**	P	P	15 23 03.4	-0.5
	47nm,0.5s,baz=88,slow=8.1,SNR=305						
ASAR				PcP	PcP	15 24 35.9	-0.8
	1.4nm,0.5s,baz=108,slow=3.6,SNR=4.7						
ASAR				ScP	ScP	15 27 38.1	-1.0
	1.1nm,0.8s,baz=97,slow=4.3,SNR=5.3						
ASAR				S	S	15 28 56.4	-4.2
	0.7nm,1.0s,baz=82,slow=18,SNR=5.4						
FITZ	**Fitzroy Crossi**	**52.55**	**260**	P	P	15 24 04.7	0.0
	4.9nm,0.4s,baz=100,slow=6.1,SNR=9.8						
BATI	**Baumata**	**55.98**	**269**	P	P	15 24 30.5	+1.5
	12nm,0.4s,baz=205,slow=1.2,SNR=4.6						
NWAO	**Narrogin (SRO)**	**58.93**	**242**	P	P	15 24 48.2	-0.6
	4.6nm,0.7s,baz=112,slow=8.6,SNR=4.1						
NVAR	**Mina Array Bea**	**79.49**	**44**	P	P	15 26 52.5	+0.2
	1.0nm,0.7s,baz=222,slow=8.1,SNR=7.1						
ILAR	**Eielson Array**	**85.58**	**13**	P	P	15 27 20.9	-1.2
	0.5nm,0.5s,baz=222,slow=5.7,SNR=12						
TXAR	**Lajitas Array**	**86.23**	**58**	P	P	15 27 27.2	+1.0
	1.1nm,0.8s,baz=210,slow=6.0,SNR=7.7						
PDAR	**Pinedale Array**	**87.41**	**44**	P	P	15 27 31.4	-0.4
	0.7nm,0.6s,baz=216,slow=3.4,SNR=5.8						
CMAR	**Chiang Mai Arr**	**88.21**	**290**	P	P	15 27 36.6	+1.0
	0.8nm,0.9s,baz=106,slow=3.3,SNR=8.1						

IDC 15 15:16:44.1±1.3, 5.56S×130.89E, h0km, mb3.7/3, mb1 4.0/7, mb1mx3.7/20, mbtmp3.9/7, ML3.9/4, Error ellipse: s-maj=43.9km s-min=24.2km az=90.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**8.51**	**237**	Pn	Pn	15 18 51.0	+2.2
	1.7nm,0.3s,baz=146,slow=7.1,SNR=6.8						
BATI				Sn	Sn	15 20 14.3	-11
	3.4nm,0.3s,baz=120,slow=6.4,SNR=7.8						
FITZ	**Fitzroy Crossi**	**13.47**	**202**	Pn	Pn	15 19 54.6	-2.1
	0.5nm,0.3s,baz=33,slow=11,SNR=30						
FITZ				Sn	Sn	15 22 08.5	-19
	0.4nm,0.3s,baz=348,slow=20,SNR=6.1						
WRA	**Warramunga Arr**	**14.68**	**167**	Pn	Pn	15 20 13.5	+0.2
	0.4nm,0.3s,baz=348,slow=14,SNR=9.1						
WRA				Sn	Sn	15 22 41.5	-15
	1.1nm,0.3s,baz=328,slow=25,SNR=9.5						
ASAR	**Alice Springs**	**18.23**	**171**	P	Pn	15 20 58.5	-0.3
	0.8nm,0.3s,baz=347,slow=10,SNR=53						
MKAR	**Makanchi Array**	**67.52**	**326**	P	P	15 27 42.5	+0.3
	0.9nm,0.4s,baz=120,slow=7.8,SNR=15						
KURBB	**Kurchatov Arra**	**71.76**	**328**	P	P	15 28 07.5	-0.7
	0.1nm,0.4s,baz=123,slow=5.2,SNR=4.1						
ILAR	**Eielson Array**	**91.68**	**25**	P	P	15 29 53.2	+0.1
	0.4nm,1.0s,baz=247,slow=4.6,SNR=3.2						

IDC 15 15:29:10.6±5.0, 16.04S×176.60W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.9/3, Error ellipse: s-maj=167.0km s-min=99.7km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.05**	**240**	P	P	15 36 56.6	+0.6
	2.4nm,0.9s,baz=91,slow=10,SNR=5.2						
WRA	**Warramunga Arr**	**46.69**	**258**	P	P	15 37 41.0	-0.6
	0.1nm,0.3s,baz=96,slow=8.0,SNR=13						
ASAR	**Alice Springs**	**46.98**	**252**	P	P	15 37 43.6	-0.2
	1.5nm,0.4s,baz=89,slow=7.8,SNR=70						
ASAR				PcP	PcP	15 39 15.9	-0.5
	0.2nm,0.6s,baz=102,slow=4.0,SNR=4.3						

IDC ***15*** *15:48:57.4±0.8, 13.10S×166.37E, h0km, mb4.1/15, mb1 4.3/16, mb1mx4.2/22, mbtmp4.1/16, ML4.2/1, MS3.0/3, Ms1 3.0/3, ms1mx2.8/24, Error ellipse: s-maj=25.8km s-min=17.1km az=121.0*

ISCJB ***15*** *15:49:01.0±0.5, 13.31S±0.05×166.42E±0.08, h39km, mb4.2/18, MS3.4/1, Error ellipse: s-maj=10.9km s-min=7.3km az=167.7*

NEIC ***15*** *15:49:03.0±1.4, 13.34S×166.47E, h46km±12km, mb4.5/5, Error ellipse: s-maj=12.4km s-min=9.3km az=78.0*

AUST ***15*** *15:49:46.3, 14.44S×165.90E, h450km*

ISC 15 15:49:02.4±0.6, 13.28S±0.06×166.48E±0.09, h39km, n54, σ0.98/55, mb4.1/18, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.46**	**300**	Pn	**Pn**	**15 50 49.4**	**+0.7**
HNR				Sn	**Sn**	**15 52 10.8**	**-1.3**
HNR	**Honiara**	**7.46**	**300**	Pn	**Pn**	**15 50 49.4**	**+0.7**
	11nm,0.3s,baz=80,slow=4.1,SNR=12						
HNR				Sn	**Sn**	**15 52 10.8**	**-1.3**
	2.7nm,0.3s,baz=161,slow=18,SNR=2.8						
HNR				LR	LR	15 52 40.0	
	comp=Z,50nm,18.8s,baz=112,slow=31						
DZM	**Mont Dzumac**	**8.74**	**180**	*e*Pn	**Pn**	**15 51 06.2**	**-0.2**
	23nm,0.4s						
DZM				Sn	**Sn**	**15 52 43.1**	**-0.6**
DZM				*e*Sn	Sn	15 52 43.6	-0.3
DZM	**Mont Dzumac**	**8.74**	**180**	Pn	**Pn**	**15 51 06.6**	**+0.2**
	2.3nm,0.3s,baz=268,slow=17,SNR=46						
DZM				Sn	**Sn**	**15 52 43.1**	**-0.6**
	0.1nm,0.3s,baz=311,slow=19,SNR=2.2						
EIDS	**Eidsvold**	**18.84**	**228**	*e*Pn	**Pn**	**15 53 19.7**	**-0.2**
PMG	**Port Moresby**	**19.33**	**279**	LR	LR	15 58 05.3	
	comp=Z,32nm,20.8s,baz=38,slow=28						
CTA	**Charters Tower**	**20.51**	**248**	P	Pn	15 53 38.8	-1.0
CTA	**Charters Tower**	**20.51**	**248**	P	Pn	15 53 38.8	-1.0
	1.9nm,0.7s,baz=77,slow=14,SNR=3.3						
RMQ	**Roma**	**21.18**	**229**	P	**P**	**15 53 47.1**	**+2.6**
	baz=20,SNR=14						
MTSU	**Mount Surprise**	**21.87**	**254**	P	**P**	**15 53 53.7**	**+1.7**
	baz=21,SNR=5.2						
ARMA	**Armidale**	**21.89**	**216**	P	**P**	**15 53 54.1**	**+1.9**
	baz=21,SNR=4.7						
CMSA	**Cobar Meteorol**	**26.36**	**223**	P	**P**	**15 54 36.7**	**+1.7**
	baz=25,SNR=7.2						
STKA	**Stephens Creek**	**29.38**	**227**	P	**P**	**15 55 02.5**	**+0.5**
STKA	**Stephens Creek**	**29.38**	**227**	P	**P**	**15 55 02.5**	**+0.5**
	3.9nm,0.9s,baz=1.6,slow=9.5,SNR=4.8						
STKA				LR	LR	16 06 23.7	
	comp=Z,100nm,19.7s,baz=25,slow=36						
WRAB	**Tennant Creek**	**31.45**	**254**	*e*P	**P**	**15 55 19.2**	**-1.2**
	12nm,1.4s						
WRA	**Warramunga Arr**	**31.47**	**253**	P	**P**	**15 55 19.9**	**-0.7**
WRA	**Warramunga Arr**	**31.47**	**253**	P	**P**	**15 55 19.9**	**-0.7**
	1.4nm,0.6s,baz=86,slow=9.4,SNR=22						
ASAR	**Alice Springs**	**32.50**	**247**	P	**P**	**15 55 28.9**	**-0.7**
ASAR				PcP	**PcP**	**15 58 15.7**	**-0.4**
ASAR	**Alice Springs**	**32.50**	**247**	P	**P**	**15 55 28.9**	**-0.7**
	2.0nm,0.6s,baz=72,slow=9.5,SNR=43						
ASAR				PcP	**PcP**	**15 58 15.7**	**-0.4**
	0.2nm,0.5s,baz=81,slow=2.1,SNR=6.1						
MTN	**Manton Dam**	**34.42**	**267**	P	**P**	**15 55 45.8**	**-0.6**
	baz=34,SNR=4.8						
KNRA	**Kununurra**	**36.57**	**262**	P	**P**	**15 56 04.8**	**0.0**
	baz=36,SNR=3.1						
FITZ	**Fitzroy Crossi**	**39.55**	**258**	P	**P**	**15 56 29.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**39.55**	**258**	P	**P**	**15 56 30.3**	**+0.3**
	baz=39,SNR=3.3						
FITZ	**Fitzroy Crossi**	**39.55**	**258**	P	**P**	**15 56 29.9**	**-0.1**
	1.5nm,0.8s,baz=67,slow=9.2,SNR=7.3						
MBWA	**Marble Bar**	**45.20**	**253**	P	**P**	**15 57 16.1**	**+0.1**
	8.4nm,0.9s						
MEEK	**Meekatharra**	**46.65**	**246**	P	**P**	**15 57 28.0**	**+0.7**
	baz=46,SNR=16						
MORW	**Morawa**	**49.22**	**243**	P	**P**	**15 57 47.7**	**+0.5**
	baz=48,SNR=3.6						
MJAR	**Matsushiro Arr**	**56.27**	**333**	P	**P**	**15 58 38.6**	**-0.5**
MJAR	**Matsushiro Arr**	**56.27**	**333**	P	**P**	**15 58 38.6**	**-0.5**
	1.9nm,0.9s,baz=171,slow=8.8,SNR=5.4						
KSM	**Kuching**	**57.59**	**280**	P	**P**	**15 58 47.5**	**-1.4**
VNDA	**Vanda**	**64.29**	**181**	*e*P	**P**	**15 59 33.2**	**-0.1**
	1.0nm,0.7s						
VNDA	**Vanda**	**64.29**	**181**	P	P	15 59 36.7	+3.4
	0.5nm,0.6s,baz=6.1,slow=7.4,SNR=6.7						
CASY	**Casey**	**64.58**	**202**	P	**P**	**15 59 35.0**	**-0.3**
SBA	**Scott Base**	**64.58**	**180**	P	**P**	**15 59 33.1**	**-2.0**
	4.0nm,0.9s						
USRK	**Ussuriysk Arra**	**65.25**	**333**	P	**P**	**15 59 38.5**	**-1.4**
	1.0nm,0.6s,baz=182,slow=5.7,SNR=4.1						
KULM	**Kulim**	**67.91**	**281**	P	P	16 00 05.1	+7.5
CMAR	**Chiang Mai Arr**	**73.66**	**294**	P	**P**	**16 00 33.9**	**+1.3**
CMAR	**Chiang Mai Arr**	**73.66**	**294**	P	**P**	**16 00 33.9**	**+1.3**
	0.7nm,0.7s,baz=126,slow=5.7,SNR=7.3						
QSPA	**South Pole Qui**	**76.74**	**180**	*e*P	**P**	**16 00 49.2**	**-0.3**
	5.2nm,1.0s						
SONM	**Songino Array**	**80.88**	**324**	P	**P**	**16 01 13.2**	**+0.6**
SONM	**Songino Array**	**80.88**	**324**	P	**P**	**16 01 13.2**	**+0.6**
	0.7nm,0.6s,baz=146,slow=6.2,SNR=7.2						
ILAR	**Eielson Array**	**85.39**	**18**	P	**P**	**16 01 36.2**	**+1.0**
ILAR	**Eielson Array**	**85.39**	**18**	P	**P**	**16 01 36.2**	**+1.0**
	0.9nm,0.5s,baz=238,slow=5.0,SNR=21						
NVAR	**Mina Array Bea**	**86.91**	**50**	P	**P**	**16 01 45.0**	**+1.3**
NVAR	**Mina Array Bea**	**86.91**	**50**	P	**P**	**16 01 45.0**	**+1.3**
	0.7nm,0.8s,baz=229,slow=7.9,SNR=4.5						
MK31	**Makanchi Array**	**95.63**	**317**	*e*P	**P**	**16 02 24.4**	**+0.6**
MKAR	**Makanchi Array**	**95.63**	**317**	P	**P**	**16 02 24.6**	**+0.7**
MKAR	**Makanchi Array**	**95.63**	**317**	P	**P**	**16 02 24.6**	**+0.7**
	1.1nm,0.6s,baz=90,slow=6.4,SNR=12						
ZALV	**Zalesovo Beam**	**95.78**	**324**	P	**P**	**16 02 23.8**	**-0.4**
ZALV	**Zalesovo Beam**	**95.78**	**324**	P	**P**	**16 02 23.8**	**-0.4**
	0.9nm,0.7s,baz=100,slow=6.2,SNR=4.7						
YKA	**Yellowknife Ar**	**96.62**	**27**	P	**P**	**16 02 27.0**	**-0.9**
YKA	**Yellowknife Ar**	**96.62**	**27**	P	**P**	**16 02 27.0**	**-0.9**
	1.0nm,0.7s,baz=269,slow=7.3,SNR=3.4						
ARCES	**ARCESS Array B**	**118.66**	**345**	PKP	**PKPdf**	**16 07 45.0**	**-0.7**
ARCES	**ARCESS Array B**	**118.66**	**345**	PKP	**PKPdf**	**16 07 45.0**	**-0.7**
	4.1nm,1.0s,baz=0.0,slow=4.8,SNR=7.6						

KRSC 15 15:56:56.1±4.8, 51.41N×158.57E, h86km±85km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**1.02**	**358**	P	Pn	15 57 18.6	+2.8
RUS				*i* S	Sn	15 57 32.7	+2.2
ASAK	**Asacha**	**1.06**	**337**	P	Pn	15 57 18.8	+2.5
ASAK				*i* S	Sn	15 57 33.1	+1.6
MTVR	**Mutnovka**	**1.10**	**348**	P	Pn	15 57 19.3	+2.4
MTVR				*i* S	Sn	15 57 34.2	+1.7
PAU	**Pauzhetka**	**1.10**	**274**	P	Pn	15 57 18.8	+2.1
PAU				*i* S	Sn	15 57 33.6	+1.5
PET	**Petropavlovsk**	**1.62**	**2**	P	Pn	15 57 25.7	+2.6
PET				*i* S	Sn	15 57 45.1	+1.5
SKR	**Severo-Kuril's**	**1.71**	**246**	P	Pn	15 57 27.0	+2.7
SKR				*i* S	Sn	15 57 47.5	+1.8
APC	**Apacha**	**1.75**	**331**	P	Pn	15 57 25.6	+0.8
APC				*i* S	Sn	15 57 45.3	-1.3
UGLR	**Uglovaya**	**1.81**	**5**	P	Pn	15 57 28.3	+2.5
UGLR				*i* S	Sn	15 57 49.5	+1.2
NLC	**Nalytchevo**	**1.83**	**15**	P	Pn	15 57 28.2	+2.4
NLC				*i* S	Sn	15 57 49.2	+0.8
AVH	**Avacha**	**1.86**	**3**	P	Pn	15 57 29.5	+3.1
AVH				*i* S	Sn	15 57 51.7	+2.2
SMAR	**Somma**	**1.86**	**4**	P	Pn	15 57 29.1	+2.5
SMAR				*i* S	Sn	15 57 51.0	+1.2
SDLR	**Sedlovina**	**1.88**	**6**	P	Pn	15 57 29.1	+2.4
SDLR				*i* S	Sn	15 57 50.8	+0.8
KOK	**Koryaka**	**1.89**	**1**	P	Pn	15 57 29.3	+2.5
KOK				*i* S	Sn	15 57 51.3	+1.2
KRX	**Arik**	**1.95**	**1**	P	Pn	15 57 30.3	+2.6
KRX				*i* S	Sn	15 57 53.2	+1.4
GNL	**Ganaly**	**2.32**	**351**	P	Pn	15 57 34.1	+1.6
MKZ	**Mys Kozlova**	**3.69**	**30**	P	Pn	15 57 53.9	+3.2
MKZ				*i* S	Sn	15 58 33.4	+0.4
KBTR	**Krutoberegovo**	**5.43**	**26**	P	Pn	15 58 16.7	+2.3

IDC 15 16:19:22.0±1.8, 12.71S×166.39E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/20, mbtmp3.8/7, ML4.5/1, Error ellipse: s-maj=48.2km s-min=30.9km az=147.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.12**	**297**	Pn	Pn	16 21 08.8	+1.3
	8.0nm,0.3s,baz=191,slow=10,SNR=10						
HNR				Sn	Sn	16 22 28.8	-0.3
	2.9nm,0.3s,baz=24,slow=19,SNR=2.8						
DZM	**Mont Dzumac**	**9.31**	**180**	Pn	Pn	16 21 43.7	+6.0
	0.3nm,0.3s,baz=341,slow=16,SNR=5.0						
DZM				Sn	Sn	16 23 24.8	+1.5
	0.1nm,0.3s,baz=150,slow=20,SNR=2.2						
WRA	**Warramunga Arr**	**31.55**	**253**	P	P	16 25 45.9	-0.6
	0.1nm,0.7s,baz=84,slow=9.3,SNR=3.1						
ASAR	**Alice Springs**	**32.66**	**246**	P	P	16 25 56.5	+0.3
	0.3nm,0.7s,baz=70,slow=8.3,SNR=6.6						
CMAR	**Chiang Mai Arr**	**73.36**	**294**	P	P	16 30 56.7	+0.4
	1.3nm,0.3s,baz=120,slow=5.0,SNR=6.5						
SONM	**Songino Array**	**80.38**	**324**	P	P	16 31 34.8	-0.6
	0.7nm,0.6s,baz=139,slow=5.9,SNR=5.5						
ILAR	**Eielson Array**	**84.88**	**18**	P	P	16 31 58.7	+0.3
	0.3nm,0.6s,baz=227,slow=6.0,SNR=4.6						
MKAR	**Makanchi Array**	**95.16**	**317**	P	P	16 32 47.2	-0.2
	0.9nm,0.8s,baz=92,slow=7.2,SNR=7.0						

DHMR 15 16:23:09.2±0.5, 12.42N×45.78E, h16km±44km, ML3.7, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDHA	**Al Bayda'**	**1.56**	**352**	*i* P	Pn	16 23 36.9	+0.3
BDHA				AML	AML	16 23 51.9	
	comp=N,3μm,0.5s						
BDHA				*i* S	Sb	16 23 58.9	+1.2
TRBA	**At Turbah**	**1.81**	**297**	*i* P	Pb	16 23 41.3	-1.0
TRBA				*i* S	Sb	16 24 05.8	+0.8
TRBA				AML	AML	16 24 11.1	
	comp=Z,977nm,0.6s						
UDYN	**Al 'Udayn**	**2.34**	**311**	*i* P	Pn	16 23 49.1	+1.8
UDYN				*i* S	Sb	16 24 20.2	+0.1
UDYN				AML	AML	16 24 40.9	
	comp=N,222nm,0.6s						

MEX 15 16:23:42.8±0.7, 18.41N×101.93W, h16km±999km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.92**	**151**	*e*P	Pb	16 23 56.8	-3.5
ZIIG				*i* S	Sb	16 24 08.4	-3.9
MMIG	**Aquila**	**1.35**	**265**	*e*P	Pn	16 24 02.9	-4.0
MMIG				*i* S	Sn	16 24 19.4	-5.1
MOIG	**Morelia**	**1.44**	**29**	*e*P	Pn	16 24 05.3	-3.3
MOIG				*i* S	Sn	16 24 21.2	-6.3
ARIG	**Puente Sto Nin**	**1.51**	**95**	*e*P	Pn	16 24 06.2	-3.1
ARIG				*i* S	Sn	16 24 23.9	-4.8
CAIG	**El Cayaco**	**2.09**	**130**	*i* P	Pn	16 24 13.2	-4.0
CAIG				*i* S	Sn	16 24 37.6	-5.2
MEIG	**Mezcala**	**2.25**	**102**	*e*P	Pn	16 24 17.1	-2.4
MEIG				*e*S	Sn	16 24 42.2	-4.9
PLIG	**Platanillo**	**2.31**	**90**	*e*P	Pn	16 24 17.7	-2.6
PLIG				*i* S	Sn	16 24 44.0	-4.5
YAIG	**Yautepec**	**2.75**	**80**	*e*P	Pn	16 24 23.3	-3.2
YAIG				*i* S	Sn	16 24 55.6	-4.1

NNC ***15*** *16:49:52.5±2.8, 38.87N×70.51E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=24.9km s-min=13.7km az=177.0*

ISC 15 16:49:51.5±3.0, 38.7N±0.2×70.41E±0.09, h10km, n9, σ0.73/11, 4C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.26**	**35**	P	**Pn**	**16 50 57.0**	**+0.1**
	SNR=9.0						
KK31	**Karatay Array**	**4.42**	**1**	Pn	**Pn**	**16 50 59.0**	**+0.3**
	4.0nm,0.5s,baz=181,slow=14,SNR=56						
KK31				⇑Lg	Lg	16 52 07.1	
	6.6nm,0.5s,baz=182,slow=30,SNR=7.4						
EKS2	**Erkin-Say**	**4.73**	**32**	P	**Sg**	**16 52 23.8**	**+0.4**
	SNR=6.3						
KZA	**Kyzart**	**5.01**	**46**	P	**Pn**	**16 51 07.5**	**+0.2**
	SNR=5.5						
AAK	**Ala-Archa**	**5.02**	**37**	P	**Pn**	**16 51 07.8**	**+0.7**
	SNR=9.3						
KBK	**Karagaybulak**	**5.26**	**40**	P	**Pn**	**16 51 11.7**	**+1.3**
	SNR=19						
USP	**Ospenovka**	**5.53**	**33**	P	**Pn**	**16 51 13.9**	**0.0**
	SNR=10.0						
TKM2	**Tokmak 2**	**5.78**	**41**	⇑Pn	**Pn**	**16 51 16.6**	**-0.9**
	1.6nm,0.4s						
TKM2				⇑Sn	**Sn**	**16 52 23.2**	**-0.8**
	6.5nm,0.8s						
AB31	**Akbulak array**	**12.97**	**328**	⇓Pn	**Pn**	**16 52 55.8**	**-0.1**
	0.5nm,0.4s,baz=133,slow=13,SNR=15						
AB31				⇑Sn	**Sn**	**16 55 19.8**	**-0.3**
	0.6nm,0.5s,baz=150,slow=23,SNR=2.9						

IDC 15 17:01:58.4±1.4, 12.33S×165.34E, h0km, mb3.9/6, mb1 4.1/9, mb1mx3.9/22, mbtmp3.9/9, ML3.8/3, MS3.0/2, Ms1 3.0/2, ms1mx2.7/26, Error ellipse: s-maj=32.2km s-min=26.0km az=119.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.03**	**298**	Pn	Pn	17 03 27.0	-2.0
	12nm,0.3s,baz=346,slow=22,SNR=31						
HNR				Sn	Sn	17 04 39.3	+0.5
	3.8nm,0.3s,baz=220,slow=21,SNR=2.5						
HNR				LR	LR	17 05 39.3	
	comp=Z,128nm,21.6s,baz=139,slow=37						
DZM	**Mont Dzumac**	**9.74**	**174**	Pn	Pn	17 04 20.0	-0.1
	0.4nm,0.3s,baz=200,slow=16,SNR=9.3						
DZM				Sn	Sn	17 06 05.5	-4.9
	0.1nm,0.3s,baz=96,slow=23,SNR=9.6						
CTA	**Charters Tower**	**19.87**	**245**	P	Pn	17 06 33.4	+0.4
	0.1nm,0.3s,baz=65,slow=12,SNR=7.9						
STKA	**Stephens Creek**	**29.25**	**225**	LR	LR	17 17 47.6	
	comp=Z,44nm,21.4s,baz=54,slow=32						
WRA	**Warramunga Arr**	**30.69**	**252**	P	P	17 08 14.0	-1.2
	1.0nm,0.7s,baz=84,slow=9.4,SNR=5.5						
ASAR	**Alice Springs**	**31.88**	**245**	P	P	17 08 25.0	-0.7
	1.5nm,0.7s,baz=75,slow=9.6,SNR=14						
CMAR	**Chiang Mai Arr**	**72.27**	**294**	P	P	17 13 27.0	+0.8
	1.2nm,0.8s,baz=120,slow=5.3,SNR=7.9						
SONM	**Songino Array**	**79.47**	**324**	P	P	17 14 08.1	+1.1
	0.3nm,0.6s,baz=117,slow=5.5,SNR=3.2						
ILAR	**Eielson Array**	**84.85**	**19**	P	P	17 14 33.4	-1.3
	0.3nm,0.6s,baz=257,slow=5.6,SNR=5.7						
MKAR	**Makanchi Array**	**94.18**	**317**	P	P	17 15 19.5	+0.1
	0.9nm,0.8s,baz=99,slow=6.8,SNR=6.3						

IDC 15 17:12:14.0±4.1, 3.24S×151.78E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.2/18, mbtmp3.3/2, Error ellipse: s-maj=181.9km s-min=49.7km az=116.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.77**	**224**	P	P	17 17 29.2	+0.7
	0.9nm,0.5s,baz=50,slow=9.8,SNR=5.2						
ASAR	**Alice Springs**	**25.66**	**219**	P	P	17 17 54.8	-0.1
	0.1nm,0.4s,baz=52,slow=8.4,SNR=6.5						
TORD	**Torodi Ar. Bea**	**148.83**	**290**	PKPbc	PKPbc	17 32 03.6	-1.1
	0.2nm,0.4s,baz=80,slow=2.3,SNR=4.9						

IDC 15 17:44:52.0±7.4, 19.77S×178.44W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.7/17, mbtmp3.9/2, Error ellipse: s-maj=316.2km s-min=116.2km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**44.28**	**256**	P	P	17 53 03.5	-0.4
	1.4nm,0.6s,baz=93,slow=8.4,SNR=37						
WRA	**Warramunga Arr**	**44.29**	**261**	P	P	17 53 04.2	+0.3
	0.6nm,0.4s,baz=95,slow=9.9,SNR=7.8						
AKASG	**Malin Array Be**	**142.18**	**331**	PKP	PKPdf	18 04 24.6	-1.5
	0.3nm,0.4s,baz=44,slow=3.7,SNR=6.3						

ISCJB ***15*** *17:48:20.5±0.2, 3.30N±0.02×103.80W±0.03, h10km, mb5.8/237, MS5.7/195, Error ellipse: s-maj=3.8km s-min=3.0km az=164.4*

IDC ***15*** *17:48:20.5±0.3, 3.34N×103.85W, h0km, mb5.5/40, mb1 5.5/42, mb1mx5.5/42, mbtmp5.5/42, ML4.0/2, MS5.5/32, Ms1 5.5/32, ms1mx5.4/39, Error ellipse: s-maj=12.1km s-min=9.0km az=77.0*

NEIC ***15*** *17:48:21.9±0.1, 3.27N×103.82W, h10km, mb5.9/182, MS5.7/128, MW6.0, MW6.0, Error ellipse: s-maj=4.1km s-min=3.1km az=65.0 Best double couple: NP1: ϕ_s188.00000°, δ28.00000°, λ121.00000°. NP2: ϕ_s333.00000°, δ66.00000°, λ74.00000°. Principal axes: T 1.2000, Plg65.0000°, Azm216.0000°; N -0.1300, Plg14.0000°, Azm339.0000°; P -1.0700, Plg19.0000°, Azm74.0000°;*

BJI ***

1µm,1.5s,SNR=23
JTS JuntasAbangare 20.03 69 P Pn 17 52 56.6 -0.1
0.5nm,0.3s,baz=265,slow=5.4,SNR=28
JTS PcP **PcP 17 57 11.1 0.0**
0.3nm,0.3s,baz=293,slow=8.9,SNR=4.3
JTS LR LR 17 58 26.7
comp=Z,93µm,20.8s,baz=239,slow=30
LPIG La Paz 21.60 344 P **P 17 53 15.7 +4.0**
LPIG La Paz 21.60 344 P **P 17 53 15.7 +4.0**
65nm,0.3s,baz=147,slow=0.6,SNR=34
LPIG LR LR 17 59 56.0
comp=Z,2µm,21.5s,baz=158,slow=32
TEIG Tepich 22.69 41 *eP* **P 17 53 23.5 0.0**
2µm,1.7s
TEIG LR LR
comp=Z,44µm,19.0s
KVTX Kingsville 24.79 13 *eP* **P 17 53 46.9 +3.1**
comp=Z,2µm,1.6s
732A Laxson Ranch, 25.57 8 ⇓P **P 17 53 51.6 +0.7**
baz=26
OTAV Otavalo 25.59 96 *eP* **P 17 53 52.3 +0.5**
comp=Z,1µm,1.7s
OTAV LR LR
comp=Z,72µm,19.0s
TXAR Lajitas Array 25.90 0 P **P 17 53 55.0 +1.0**
TXAR PcP **PcP 17 57 24.1 +1.1**
TXAR *e* 18 26 48.1
TXAR P'P'ab **P'P'ab 18 30 40.7 -1.4**
TXAR Lajitas Array 25.90 0 P **P 17 53 55.0 +1.0**
comp=Z,69nm,1.1s,baz=187,slow=11,SNR=66
TXAR PcP **PcP 17 57 24.1 +1.1**
comp=Z,9.5nm,0.8s,baz=184,slow=5.4,SNR=9.4
TXAR LR LR 18 02 59.6
comp=Z,15µm,21.5s,baz=80,slow=34
TXAR P3KPbc 18 26 48.1
comp=Z,3.0nm,0.8s,baz=40,slow=2.3,SNR=21
TXAR PKP2ab 18 30 40.7
comp=Z,0.1nm,0.3s,baz=8.9,slow=8.9,SNR=3.5
627A Terlingua Ranc 26.03 1 ⇓P **P 17 53 56.2 +1.1**
baz=26,SNR=116
627A ⇓S **S 17 58 31.1 +4.9**
baz=26
628A Black Gap, Mar 26.07 2 ⇓P **P 17 53 56.4 +0.9**
baz=26,SNR=76
626A Big Bend Ranch 26.12 359 ⇑P **P 17 53 56.6 +0.6**
baz=26,SNR=123
631A Perdido Creek 26.17 7 ⇑P **P 17 53 56.6 +0.3**
baz=26,SNR=47
632A Uvalde 26.36 8 ⇓P **P 17 53 58.7 +0.6**
baz=26,SNR=18
526A Mary Lane Ranc 26.63 360 ⇓P **P 17 54 01.9 +1.3**
baz=27,SNR=74
527A Woodward Ranch 26.71 1 ⇑P **P 17 54 02.4 +1.0**
baz=27,SNR=84
529A Stev Forest Ra 26.74 3 ⇑P **P 17 54 02.7 +1.2**
baz=27,SNR=56
528A Cox Ranch, San 26.75 2 ⇑P **P 17 54 02.3 +0.6**
baz=27,SNR=45
530A J-C Ranch, Com 26.82 5 ⇑P **P 17 54 03.4 +1.1**
baz=27,SNR=131
531A Rocksprings 26.92 6 ⇑P **P 17 54 04.1 +1.0**
baz=27
532A Rocksprings 26.96 8 ⇑P **P 17 54 04.6 +1.1**
baz=27,SNR=43
426A McDonald Obser 27.23 360 ⇓P **P 17 54 07.0 +0.8**
baz=27,SNR=83
429A Davenport Ranc 27.25 4 ⇓P **P 17 54 07.1 +1.0**
baz=27,SNR=35
428A Kincaid Ranch, 27.32 2 ⇓P **P 17 54 07.7 +1.0**
baz=28,SNR=44
JCT Junction City 27.32 8 *eP* **P 17 54 07.2 +0.5**
JCT pmax pmax
comp=Z,377nm,1.7s
JCT MLR MLR
comp=Z,8µm,20.0s
JCT Junction City 27.32 8 *eP* **P 17 54 07.2 +0.5**
comp=Z,377nm,1.7s
JCT LR LR
comp=Z,8µm,20.0s
JCT Junction City 27.32 8 ⇑P **P 17 54 07.4 +0.7**
baz=28,SNR=37
425A Indio Mountain 27.37 358 ⇑P **P 17 54 08.0 +0.7**
baz=28,SNR=100
427A Hayter Ranch, 27.42 1 ⇑P **P 17 54 08.5 +0.9**
baz=28,SNR=94
ATAH Atahualpa 27.46 112 P **P 17 54 10.3 +1.7**
ATAH Atahualpa 27.46 112 P **P 17 54 10.3 +1.7**
comp=Z,84nm,1.2s,baz=300,slow=10.0,SNR=51
ATAH LR LR 18 02 49.8
comp=Z,10µm,19.1s,baz=306,slow=32
430A Baggett Ranch, 27.46 5 ⇑P **P 17 54 08.8 +0.7**
baz=28,SNR=35
HKT Hockley 27.59 15 *eP* **P 17 54 09.4 +0.4**
HKT pmax pmax
comp=Z,418nm,1.7s
HKT Hockley 27.59 15 *eP* **P 17 54 09.3 +0.4**
comp=Z,418nm,1.7s
432A Menard 27.71 8 ⇑P **P 17 54 11.0 +0.8**
baz=28,SNR=41
326A Caldwell Ranch 27.88 360 ⇓P **P 17 54 12.3 +0.5**
baz=28,SNR=20
327A Balmorhea Ranc 27.93 1 ⇑P **P 17 54 13.3 +1.0**
baz=28
325A Bean Ranch, Si 27.95 358 ⇓P **P 17 54 13.0 +0.4**
baz=28,SNR=90
328A Wristen Ranch, 27.96 2 ⇑P **P 17 54 12.9 +0.4**
baz=28,SNR=37
324A Moseley Ranch, 28.05 357 ⇓P **P 17 54 13.4 +0.1**
baz=28,SNR=105
331A San Angelo 28.06 6 ⇓P **P 17 54 13.4 0.0**
baz=28,SNR=29
330A Mertzon 28.09 5 ⇓P **P 17 54 13.8 +0.2**
baz=28
329A Wagon Wheel Ra 28.11 3 ⇓P **P 17 54 14.2 +0.4**
baz=28,SNR=14
332A Millersview 28.22 7 ⇓P **P 17 54 14.8 +0.1**
baz=28,SNR=37
320A Kipp Ranch, An 28.24 352 ⇓P **P 17 54 15.2 +0.2**
baz=28,SNR=23
MNTX Cornudas Mount 28.30 357 *eP* **P 17 54 15.7 +0.3**
comp=Z,34nm,1.7s
MNTX LR LR
comp=Z,6µm,19.0s
230A Sterling City 28.57 5 ⇓P **P 17 54 17.8 -0.1**
baz=29,SNR=21
227A Bennet, Jal 28.58 1 ⇓P **P 17 54 18.5 +0.5**
baz=29
229A Bryant Ranch, 28.59 4 ⇑P **P 17 54 17.8 -0.3**
baz=29,SNR=8.1
226B Tecolote Peak, 28.64 359 ⇓P **P 17 54 18.5 0.0**
baz=29,SNR=115
223A Chaparral, Ant 28.67 355 ⇑P **P 17 54 19.0 +0.2**
baz=29
224A Cornudas Mount 28.68 357 ⇑P **P 17 54 18.8 -0.2**
baz=29,SNR=49
225A Deer Hill, Car 28.68 358 ⇓P **P 17 54 19.2 +0.1**
baz=29,SNR=20
231A Bronte 28.69 6 ⇓P **P 17 54 18.5 -0.5**
baz=29,SNR=25
228A UT Block 9, Go 28.70 2 ⇓P **P 17 54 19.2 0.0**
baz=29
232A Coleman 28.73 8 ⇓P **P 17 54 19.4 +0.2**
baz=29,SNR=30
220A Playas Peak, P 28.80 352 ⇑P **P 17 54 21.0 +0.9**
baz=29,SNR=78
221A Mesquite Ranch 28.80 353 ⇑P **P 17 54 21.4 +1.4**
baz=29,SNR=13
222A Williams Famil 28.82 354 ⇑P **P 17 54 21.4 +1.1**
baz=29,SNR=25
WHTX Lake Whitney 29.18 11 ⇓P **P 17 54 23.7 +0.4**
baz=29,SNR=6.9
126A Clayton Basin, 29.21 360 ⇓P **P 17 54 23.7 +0.1**
baz=29,SNR=27
128A Castleberry Fa 29.21 2 ⇑P **P 17 54 25.0 +1.4**
baz=29,SNR=36
125A Gardner Draw, 29.23 359 ⇑P **P 17 54 23.7 -0.1**
baz=29,SNR=44
127A Arkansas Junct 29.24 1 ⇑P **P 17 54 24.4 +0.5**
baz=29,SNR=11
129A Stewart Farms, 29.25 3 ⇓P **P 17 54 24.1 +0.1**
baz=29,SNR=6.8
123A Bell Site, Whi 29.28 356 ⇓P **P 17 54 24.7 +0.5**
baz=30
124A Stringfield Ra 29.30 357 ⇓P **P 17 54 25.2 +0.6**
baz=30,SNR=66
121A Cookes Peak, D 29.32 353 ⇓P **P 17 54 25.5 +0.8**
baz=30,SNR=51
122A Conniff Cattle 29.41 355 ⇓P **P 17 54 26.6 +1.2**
baz=30,SNR=12
120A U Bar Ranch, L 29.45 352 ⇑P **P 17 54 26.7 +0.9**
baz=30,SNR=49
ABTX Abilene, Hawle 29.45 7 ⇓P **P 17 54 25.4 -0.3**
baz=30,SNR=42
ROSC El Rosal 29.51 86 *eP* **P 17 54 28.7 +1.8**
ROSC PcP **PcP 17 57 33.2 +0.8**
ROSC El Rosal 29.51 86 P **P 17 54 28.7 +1.8**
comp=Z,6.9nm,0.3s,baz=293,slow=5.3,SNR=28
ROSC PcP **PcP 17 57 33.2 +0.8**
comp=Z,42nm,0.7s,baz=274,slow=3.0,SNR=12
ROSC LR LR 18 04 32.7
comp=Z,14µm,18.6s,baz=192,slow=33
TUC Tucson 29.59 348 *eP* **P 17 54 27.3 +0.3**
TUC pmax pmax
comp=Z,146nm,1.5s
TUC MLR MLR
comp=Z,3µm,19.0s
TUC Tucson 29.59 348 *eP* **P 17 54 27.2 +0.3**
comp=Z,146nm,1.5s
TUC LR LR
comp=Z,3µm,19.0s
NATX Nacogdoches 29.62 16 PFAKE 17 54 40.0 +13
NATX LR LR
comp=Z,7µm,20.0s
214A Organ Pipe Nat 29.73 345 ⇑P **P 17 54 28.8 +0.6**
baz=30,SNR=23
Z26A Caprock 29.83 360 ⇑P **P 17 54 29.4 +0.2**
baz=30
Z25A Roswell 29.85 359 ⇓P **P 17 54 29.9 +0.6**
baz=30,SNR=38
Z28A Tucker Farm, M 29.88 3 ⇓P **P 17 54 30.1 +0.5**
baz=30,SNR=22
Z27A Tatum 29.88 1 ⇑P **P 17 54 30.1 +0.5**
baz=30,SNR=241
Z29A Hungry Hill Ra 29.89 4 ⇑P **P 17 54 29.6 0.0**
baz=30,SNR=13
Z23A Rita Site, Whi 29.90 356 ⇑P **P 17 54 30.3 +0.5**
baz=30,SNR=65
Z24A Sheeppen Canyo 29.92 358 ⇑P **P 17 54 30.5 +0.4**
baz=30,SNR=18
Z22A Elephant Butte 29.95 355 ⇑P **P 17 54 31.6 +1.3**
baz=30,SNR=86
Z30A Sanderson Ranc 29.95 5 ⇓P **P 17 54 30.4 +0.3**
baz=30,SNR=62
Z20A Nine Sixteen R 30.00 352 ⇓P **P 17 54 32.2 +1.5**
baz=30,SNR=112
Z21A St. Cloud Mine 30.08 354 ⇓P **P 17 54 32.6 +1.2**
baz=30,SNR=24
Z31A Sharp Cattle R 30.08 6 ⇑P **P 17 54 31.7 +0.4**
baz=30,SNR=45
Z32A Haskell 30.15 7 ⇑P **P 17 54 32.4 +0.6**
baz=30,SNR=42
Y27A Causey 30.45 1 ⇑P **P 17 54 35.2 +0.6**
baz=31,SNR=31
Y26A Elida 30.48 0 ⇑P **P 17 54 35.5 +0.6**
baz=31,SNR=18
Y29A Porterfield Fa 30.49 4 ⇓P **P 17 54 35.5 +0.6**
baz=31,SNR=12
Y25A Mesa, Roswell 30.49 359 ⇑P **P 17 54 35.5 +0.5**
baz=31,SNR=88
Y28A McKinney Farm, 30.50 3 ⇓P **P 17 54 35.7 +0.7**
baz=31
Y24A Capitan 30.52 357 ⇑P **P 17 54 36.0 +0.7**
baz=31,SNR=36
MSTX Muleshoe 30.54 2 ⇓P **P 17 54 36.0 +0.5**
baz=31,SNR=52
Y23A Lovelace Mesa, 30.55 356 ⇑P **P 17 54 36.8 +1.2**
baz=31,SNR=49
Y30A Stafford Cattl 30.56 5 ⇓P **P 17 54 35.9 +0.4**
baz=31,SNR=16
Y22A Socorro 30.63 355 ⇓P **P 17 54 37.2 +0.9**
baz=31,SNR=49
Y31A Rekieta Farm, 30.70 6 ⇑P **P 17 54 37.7 +0.9**
baz=31,SNR=27
Y20A Horse Springs, 30.75 353 ⇓P **P 17 54 39.0 +1.6**
baz=31,SNR=64
113A Mohawk Valley, 30.76 344 ⇑P **P 17 54 38.1 +0.9**
baz=31,SNR=37
Y22D IRIS PASSCAL I 30.76 355 ⇑P **P 17 54 38.7 +1.3**
baz=31
Y21A Point of Rocks 30.77 354 ⇑P **P 17 54 38.7 +1.1**
baz=31,SNR=76
BNM Barren Site 30.81 356 *eP* **P 17 54 38.7 +0.8**
comp=Z,173nm,1.5s
LENM Lemitar 30.86 355 *eP* **P 17 54 39.2 +1.0**
comp=Z,185nm,1.4s
LPM Los Pinos Moun 30.97 356 *eP* **P 17 54 40.6 +1.3**
comp=Z,118nm,1.6s
X29A Tulia 31.07 3 ⇓P **P 17 54 41.0 +0.9**
baz=31,SNR=22
X25A Clemmons Ranch 31.09 359 ⇓P **P 17 54 40.5 +0.2**
baz=31,SNR=15
Z14A Wintersburg 31.10 345 ⇑P **P 17 54 41.1 +0.8**
baz=31,SNR=7.5
LAZ Ladron 31.11 355 *eP* **P 17 54 42.0 +1.5**
comp=Z,200nm,1.5s
X26A CR and CF Fran 31.11 0 ⇑P **P 17 54 40.5 +0.1**
baz=31,SNR=30
X28A Dimmitt 31.11 3 ⇓P **P 17 54 41.1 +0.7**
baz=31,SNR=6.0
X30A Coke Ranch, T 31.13 5 ⇑P **P 17 54 40.9 +0.4**
baz=31,SNR=12
X24A Lazy VL Ranch, 31.15 358 ⇓P **P 17 54 41.6 +0.7**
baz=31,SNR=20
X22A Bernardo 31.20 355 ⇓P **P 17 54 43.3 +2.0**
baz=31,SNR=17
X23A Hourglass Bar 31.21 356 ⇑P **P 17 54 42.2 +0.8**
baz=31
X27A F and S Farms, 31.21 1 ⇑P **P 17 54 42.1 +0.7**
baz=31
X21A Alamocita Cree 31.21 354 ⇑P **P 17 54 43.0 +1.5**
baz=31,SNR=149
GLA Glamis 31.33 342 *eP* **P 17 54 43.5 +1.1**
GLA pmax pmax
comp=Z,292nm,1.3s
GLA Glamis 31.33 342 *eP* **P 17 54 43.5 +1.1**
comp=Z,292nm,1.3s
GLA Glamis 31.33 342 ⇓P **P 17 54 44.0 +1.6**
baz=32,SNR=39
DVTC Desert V Tower 31.39 340 ⇑P **P 17 54 44.7 +1.8**
baz=32,SNR=13
X20A Quemado 31.39 353 ⇑P **P 17 54 44.4 +1.4**
baz=32,SNR=110
VBMS Vicksburg 31.40 22 *eP* **P 17 54 43.4 +0.6**
comp=Z,465nm,1.6s
VBMS LR LR
comp=Z,6µm,22.0s
SWSC Sam W. Stewart 31.54 341 ⇑P **P 17 54 45.7 +1.6**
baz=32,SNR=29
ANMO Albuquerque 31.59 356 *eP* **P 17 54 45.3 +0.6**
comp=Z,163nm,1.6s
ANMO P'P'ab **P'P'ab 18 30 18.9 +1.6**
ANMO Albuquerque 31.59 356 P **P 17 54 46.6 +1.8**
comp=Z,75nm,1.4s,baz=163,slow=14,SNR=29
ANMO LR LR 18 07 54.5
comp=Z,3µm,19.0s,baz=308,slow=37
ANMO PKP2ab 18 30 18.9
comp=Z,0.6nm,0.3s,baz=12,slow=4.6,SNR=3.1
X18A Snowflake 31.59 350 ⇑P **P 17 54 45.7 +1.0**
baz=32,SNR=25
BAR Barrett 31.61 339 *eP* **P 17 54 46.4 +1.7**
comp=Z,213nm,1.4s
W27A Bowe Ranch, En 31.63 1 ⇓P **P 17 54 45.4 +0.4**
baz=32,SNR=28
W26A Owens Ranch, T 31.64 0 ⇑P **P 17 54 45.7 +0.6**
baz=32,SNR=21
WMOK Wichita Mounta 31.65 8 *eP* **P 17 54 44.9 -0.2**
WMOK pmax pmax
comp=Z,127nm,1.7s
WMOK MLR MLR
comp=Z,4µm,19.0s
WMOK Wichita Mounta 31.65 8 *eP* **P 17 54 44.9 -0.2**
comp=Z,127nm,1.7s
WMOK LR LR
comp=Z,4µm,19.0s
Y14A Wickenburg 31.66 345 ⇑P **P 17 54 46.0 +0.8**
baz=32,SNR=42
MONP Monument Peak 31.71 340 ⇑P **P 17 54 46.9 +1.1**
baz=32,SNR=27
W22A Albuquerque 31.75 355 ⇓P **P 17 54 47.3 +1.1**
baz=32,SNR=6.1
X16A Lo Mia Camp, P 31.76 348 ⇓P **P 17 54 47.0 +0.7**
baz=32,SNR=29
W25A X Bar L Ranch, 31.77 359 ⇓P **P 17 54 46.0 -0.3**
baz=32,SNR=30
W23A Werner Place, 31.78 356 ⇑P **P 17 54 47.7 +1.3**
baz=32,SNR=16
W24A Lazy 6 Ranch, 31.80 358 ⇓P **P 17 54 47.5 +0.9**
baz=32,SNR=66
BRAL Brewton 31.82 28 PFAKE 17 55 00.0 +13
BRAL LR LR
comp=Z,6µm,19.0s
W28A Vega 31.85 3 ⇑P **P 17 54 47.3 +0.4**
baz=32
W21A San Fidel 31.86 354 ⇓P **P 17 54 48.7 +1.6**
baz=32,SNR=10
W30A Crocket Farms 31.88 5 ⇓P **P 17 54 48.2 +1.0**
baz=32,SNR=8.0
Y12C Blythe 31.89 343 ⇑P **P 17 54 48.3 +1.1**
baz=32,SNR=16
W31A Holland Ranch, 31.95 6 ⇑P **P 17 54 48.3 +0.5**
baz=32,SNR=49
109C Camp Elliot, M 31.95 339 ⇑P **P 17 54 48.6 +0.9**
baz=32
W20A Ramah 31.97 353 ⇑P **P 17 54 49.2 +1.1**
baz=32,SNR=36
BC3 Big Chuckawall 32.09 342 ⇑P **P 17 54 50.3 +1.3**
baz=32,SNR=42
PDMCI Parker Dam,Lak 32.30 344 ⇑P **P 17 54 52.2 +1.4**
baz=32
V24A Rampart Ranch, 32.30 358 ⇑P **P 17 54 52.1 +1.0**
baz=32,SNR=97
V27A Dan Oppiter Fa 32.32 2 ⇓P **P 17 54 52.0 +0.9**
baz=32
V28A Channing 32.34 3 ⇓P **P 17 54 52.1 +0.9**
baz=32
V26A Tequesquite Ra 32.35 0 ⇑P **P 17 54 51.7 +0.3**
baz=32,SNR=44
V23A Ortiz Mt. (NFS 32.37 356 ⇓P **P 17 54 52.6 +1.0**
baz=32,SNR=24
PFO Pinyon Flat Ob 32.37 340 *eP* **P 17 54 53.1 +1.6**
comp=Z,243nm,1.4s
PFO Pinyon Flat Ob 32.37 340 ⇓P **P 17 54 53.4 +1.8**
baz=33,SNR=57
PFO Pinyon Flat Ob 32.37 340 P **P 17 54 53.2 +1.7**
comp=Z,89nm,1.0s,baz=153,slow=7.2,SNR=50
PFO LR LR 18 05 30.9
comp=Z,4µm,18.6s,baz=142,slow=32
V25A Rancho No Teng 32.40 359 ⇓P **P 17 54 52.4 +0.6**
baz=33,SNR=90
V30A Spur Ranch, Mi 32.45 5 ⇓P **P 17 54 53.5 +1.3**
baz=33
IRM Iron Mountain 32.46 342 ⇓P **P 17 54 53.4 +1.1**
baz=33
V29A Stinnett 32.50 4 ⇓P **P 17 54 53.4 +0.8**
baz=33,SNR=13
V21A Milan 32.54 354 ⇑P **P 17 54 54.3 +1.2**
baz=33,SNR=43
MIAR Mount Ida 32.55 16 *eP* **P 17 54 53.3 +0.4**
MIAR pmax pmax
comp=Z,731nm,1.5s
MIAR Mount Ida 32.55 16 *eP* **P 17 54 53.3 +0.4**
comp=Z,731nm,1.5s
GTBY Guantanamo Bay 32.57 57 *eP* **P 17 54 53.1 -0.2**
comp=Z,727nm,1.9s
SCI San Clemente I 32.58 337 ⇓P **P 17 54 54.0 +0.8**
baz=33
BELC Belle Mtn. Jos 32.58 341 ⇓P **P 17 54 54.4 +0.9**
baz=33
V22A San Miguel Ran 32.59 355 ⇓P **P 17 54 54.9 +1.3**
baz=33,SNR=61
MURC Murrieta 32.62 339 ⇑P **P 17 54 54.6 +1.0**
baz=33
V20A Brimhall 32.63 353 ⇑P **P 17 54 55.4 +1.5**
baz=33,SNR=78
WUAZ Wupatki 32.81 349 *eP* **P 17 54 56.9 +1.4**
comp=Z,262nm,1.5s
WUAZ Wupatki 32.81 349 ⇓P **P 17 54 56.6 +1.1**
baz=33
CIS Catalina Islan 32.90 337 ⇓P **P 17 54 57.2 +1.1**
baz=33
U26A Atchley Ranch, 32.95 0 ⇑P **P 17 54 57.5 +0.9**
baz=33,SNR=23
U23A El Rito 32.95 357 ⇓P **P 17 54 57.7 +1.0**
baz=33,SNR=14
U25A Circle Dot Ran 32.95 359 ⇑P **P 17 54 57.3 +0.6**
baz=33,SNR=87
U28A Mallet 32.97 2 ⇓P **P 17 54 57.5 +0.8**
baz=33,SNR=11
U24A Moreno Valley 32.98 358 ⇑P **P 17 54 58.3 +1.2**
baz=33
U27A Thompson Grove 32.99 2 ⇑P **P 17 54 57.0 +0.1**
baz=33
W13A Hualapai Mount 32.99 345 ⇑P **P 17 54 58.2 +1.2**
baz=33
U22A Llaves 33.04 356 ⇑P **P 17 54 59.0 +1.4**
baz=33,SNR=106
U29A Oasis Ranch, S 33.09 4 ⇑P **P 17 54 58.6 +0.8**
baz=33
BBRC Big Bear Solar 33.12 340 ⇑P **P 17 54 59.2 +0.9**
baz=33
FMP Fort Macarthur 33.13 338 ⇓P **P 17 54 58.8 +0.8**
baz=33
U31A Nine Bar Ranch 33.13 6 ⇓P **P 17 54 59.2 +1.1**
baz=33,SNR=13
U21A Nageezi 33.16 354 ⇓P **P 17 54 60.0 +1.4**
baz=33,SNR=96
GMRC Granite Mounta 33.19 342 ⇓P **P 17 54 59.8 +1.0**
baz=33
U20A Newcomb 33.20 353 ⇑P **P 17 55 00.1 +1.2**
baz=33,SNR=15
U30A WK&E Inc. Balk 33.21 5 ⇑P **P 17 54 59.7 +0.8**
baz=33,SNR=15
LDFC Landfair 33.30 343 *eP* **P 17 55 02.0 +2.3**
comp=Z,419nm,1.4s
BFSC Mount Baldy Ra 33.36 339 ⇓P **P 17 55 00.9 +0.7**
baz=34
HEC Hector,Ludlow 33.45 341 ⇑P **P 17 55 02.1 +1.1**
baz=34
MWC Mount Wilson 33.49 338 *eP* **P 17 55 02.9 +1.5**
MWC pmax pmax
comp=Z,159nm,1.0s
MWC Mount Wilson 33.49 338 *eP* **P 17 55 02.9 +1.5**
comp=Z,159nm,1.0s
PASC Pasadena Art C 33.49 338 *eP* **P 17 55 03.4 +2.2**
comp=Z,197nm,1.5s
SDV Santo Domingo 33.51 79 *eP* **P 17 55 02.2 +0.3**
comp=Z,328nm,1.4s
SDV LR LR
comp=Z,3µm,19.0s
LRAL Lakeview Retre 33.55 26 *eP* **P 17 55 02.1 +0.4**
comp=Z,151nm,1.6s
LRAL LR LR
comp=Z,4µm,19.0s
DECC Green Verdugo 33.62 338 ⇑P **P 17 55 04.0 +1.7**
baz=34
T27A Campo 33.63 2 ⇑P **P 17 55 03.5 +1.0**
baz=34,SNR=16
T24B San Luis 33.64 358 ⇑P **P 17 55 04.1 +1.3**
baz=34,SNR=23
T23A Casias Ranch, 33.64 357 ⇓P **P 17 55 04.5 +1.7**
baz=34
T22A Edith 33.68 356 ⇑P **P 17 55 04.0 +0.9**
baz=34,SNR=138
T25A Trinidad 33.69 359 ⇓P **P 17 55 04.1 +0.9**
baz=34,SNR=56
T28A Walsh 33.71 3 ⇑P **P 17 55 03.4 +0.3**
baz=34,SNR=19
T21A Navajo Lake 33.71 355 ⇓P **P 17 55 03.9 +0.5**
baz=34
T26A Comanche Natio 33.72 0 ⇓P **P 17 55 03.8 +0.4**
baz=34
T30A Plains 33.74 5 ⇓P **P 17 55 04.2 +0.7**
baz=34
BLG Laguna Peak 33.77 337 ⇑P **P 17 55 03.7 0.0**
baz=34
T29A Hugoton 33.79 4 ⇓P **P 17 55 04.3 +0.4**
baz=34,SNR=6.5
T31A Randall Ranch, 33.87 6 ⇓P **P 17 55 05.1 +0.6**
baz=34,SNR=52
U15A North Rim 33.88 348 ⇑P **P 17 55 06.5 +1.6**
baz=34
TUQ Turquoise Moun 33.88 342 ⇓P **P 17 55 06.2 +1.5**
baz=34
TIGA Tifton 33.90 32 *eP* **P 17 55 04.8 0.0**
MVCO Mesa Verde 34.02 353 *eP* **P 17 55 06.5 +0.4**
comp=Z,444nm,1.5s
MVCO LR LR
comp=Z,4µm,20.0s
MVCO Mesa Verde 34.02 353 ⇑P **P 17 55 06.8 +0.7**
baz=34
GSC Goldstone 34.03 341 *eP* **P 17 55 06.3 +0.3**
GSC pmax pmax
comp=Z,221nm,1.5s
GSC Goldstone 34.03 341 *eP* **P 17 55 06.3 +0.3**

comp=Z,221nm,1.5s
GSC Goldstone 34.03 341 ⇓P P 17 55 07.0 +1.0
baz=34
EDW2 Edwards Air Fo 34.06 339 ⇑P P 17 55 07.1 +0.9
baz=34
OSI Osito Adit 34.09 338 ⇓P P 17 55 07.2 +0.7
baz=34
S26A Kim 34.17 1 ⇓P P 17 55 08.3 +1.0
baz=34
S28A Manter 34.19 3 ⇓P P 17 55 08.0 +0.6
baz=34
S24A Houchin Ranch, 34.21 358 ⇑P P 17 55 08.8 +1.0
baz=34,SNR=68
S25A Robets Cordova 34.21 359 ⇓P P 17 55 08.5 +0.8
baz=34
S27A Las Animas 34.24 1 ⇑P P 17 55 08.8 +0.9
baz=34,SNR=6.2
S29A Ulysses 34.26 4 ⇓P P 17 55 08.4 +0.4
baz=34
S23A Nye Farm, Mont 34.31 357 ⇓P P 17 55 09.5 +0.9
baz=34
SBC Santa Barbara 34.32 336 ⇓P P 17 55 09.5 +1.1
baz=34
SDCO Great Sand Dun 34.33 358 *e*P P 17 55 09.4 +0.7
comp=Z,503nm,2.3s
SDCO LR LR
comp=Z,7μm,22.0s
S30A Montezuma 34.33 5 ⇓P P 17 55 09.5 +0.9
baz=34
HBAR Harrisburg 34.36 19 *e*P P 17 55 10.2 +1.4
S21A Coal Bank Pass 34.40 354 ⇓P P 17 55 10.4 +1.0
baz=35
S22A 4UR Ranch, Cre 34.40 356 ⇑P P 17 55 10.4 +1.0
baz=35,SNR=124
SHOC Shoshone 34.42 342 ⇑P P 17 55 10.1 +0.8
baz=35
LRMC Laurel Mountai 34.49 340 ⇑P P 17 55 11.4 +1.4
baz=35
S32A Newby Ranch, P 34.55 7 ⇓P P 17 55 11.0 +0.6
baz=35
ARVC Arvin 34.58 338 ⇓P P 17 55 11.7 +1.0
baz=35
SHPR Sheep Range 34.65 344 *e*P P 17 55 12.9 +1.4
comp=Z,219nm,1.6s
R25A Fountain Ranch 34.70 359 ⇓P P 17 55 12.7 +0.9
baz=35
PKM Peak Mountain 34.76 337 ⇑P P 17 55 12.0 -0.5
baz=35
R23A Moffat 34.78 357 ⇓P P 17 55 14.4 +1.6
baz=35
R24A Sanders Place, 34.80 358 ⇓P P 17 55 14.5 +1.8
baz=35
R27A Eads 34.85 1 ⇓P P 17 55 14.3 +1.2
baz=35
R26A Arlington 34.85 1 ⇓P P 17 55 14.4 +1.3
baz=35
ISA Isabella 34.93 339 *e*P P 17 55 15.2 +1.4
ISO pmax pmax
comp=Z,174nm,1.4s
ISA Isabella 34.93 339 *e*P P 17 55 15.2 +1.4
comp=Z,174nm,1.4s
ISA Isabella 34.93 339 ⇑P P 17 55 15.4 +1.6
baz=35
R28A Tribune 34.94 3 ⇑P P 17 55 13.9 +0.1
baz=35
PV01 Paradox Valley 34.95 354 *e*P P 17 55 14.8 +0.7
comp=Z,32μm,1.6s
GNAR Gosnell 34.95 20 *e*P P 17 55 15.0 +1.2
comp=Z,6μm,1.7s
MPMC Manual Prospec 34.95 341 ⇓P P 17 55 15.5 +1.4
baz=35
R20A Redvale 34.98 354 ⇓P P 17 55 15.8 +1.5
baz=35
R30A Dighton 34.99 5 ⇓P P 17 55 15.3 +1.1
baz=35
R29A Marienthal 35.06 4 ⇓P P 17 55 15.3 +0.4
baz=35
R21A Cimarron 35.08 355 ⇑P P 17 55 16.4 +1.2
baz=35
FURC Furnace Creek, 35.12 342 ⇑P P 17 55 16.3 +1.0
baz=35
CCUT Cedar City 35.19 347 *e*P P 17 55 17.8 +1.6
comp=Z,186nm,1.9s
SMMC Simmler 35.19 337 ⇓P P 17 55 17.3 +1.3
baz=35
PV04 Paradox Valley 35.24 353 *e*P P 17 55 17.4 +0.9
VES Vestal, Richgr 35.31 338 ⇓P P 17 55 18.1 +1.2
baz=36
ARUT Antelope Range 35.44 347 *e*P P 17 55 20.0 +1.8
ARUT Antelope Range 35.44 347 *e*P P 17 55 20.0 +1.8
comp=Z,3μm,1.5s
Q25A Bedland, Calha 35.46 360 ⇓P P 17 55 19.4 +0.9
baz=36
Q26A Hugo 35.47 0 ⇓P P 17 55 19.5 +1.0
baz=36
SDDR Presa de Saban 35.47 61 *e*P P 17 55 19.6 +1.0
comp=Z,712nm,2.0s
SDDR LR LR
comp=Z,14μm,19.0s
CWC Cottonwood Cre 35.49 340 ⇓P P 17 55 19.9 +1.2
baz=36
Q23A Hartsel 35.49 357 ⇓P P 17 55 20.1 +1.2
baz=36
Q22A Crested Butte, 35.52 356 ⇓P P 17 55 20.1 +1.1
baz=36
Q24A Divide 35.53 358 ⇓P P 17 55 20.3 +1.1
baz=36
Q21A Lamborn Mesa, 35.54 355 ⇓P P 17 55 20.5 +1.4
baz=36
KSCO Kaye Shedlock' 35.58 2 ⇓P P 17 55 20.1 +0.8
baz=36
Q28A Sharon Springs 35.66 3 ⇓P P 17 55 21.0 +1.0
baz=36
Q30A Quinter 35.68 5 ⇓P P 17 55 21.1 +0.9
baz=36
Q20A Ridgley Place, 35.73 354 ⇑P P 17 55 21.5 +0.8
baz=36
Q31A Ellis 35.78 6 ⇓P P 17 55 21.9 +0.8
baz=36
SMCO Snowmass 35.83 356 *e*P P 17 55 22.8 +1.0
comp=Z,427nm,2.1s
SWET Sewanee 35.87 26 *e*P P 17 55 20.8 -1.0
comp=Z,284nm,1.8s
MVU Marysvale 35.87 349 *e*P P 17 55 23.1 +1.1
comp=Z,134nm,1.5s
MVU LR LR
comp=Z,3μm,21.0s
WVT Waverly 35.88 22 *e*P P 17 55 21.2 -0.7
WVT pmax pmax
comp=Z,271nm,1.8s
WVT Waverly 35.88 22 *e*P P 17 55 21.2 -0.7
comp=Z,271nm,1.8s
P23A Jefferson 35.96 357 ⇓P P 17 55 24.1 +1.2
baz=36
P25A Willow Gulch B 36.06 360 ⇓P P 17 55 24.8 +1.3
baz=36
P24A Kohler Place, 36.07 359 ⇑P P 17 55 25.1 +1.4
baz=36
Q16A Castle Valley 36.08 350 ⇓P P 17 55 24.9 +1.1
baz=36
TIN Tinemaha 36.10 340 ⇑P P 17 55 24.8 +0.9
baz=36
P26A Davis Ranch, A 36.11 1 ⇓P P 17 55 25.0 +1.1
baz=36
P27A Ficken Ranch, 36.12 2 ⇓P P 17 55 25.4 +1.4
baz=36
SRU San Rafael 36.17 351 *e*P P 17 55 25.4 +0.9
SRU pmax pmax
comp=Z,242nm,1.5s
SRU San Rafael 36.17 351 *e*P P 17 55 25.4 +0.9
comp=Z,242nm,1.5s
P28A Saint Francis 36.17 3 ⇓P P 17 55 25.5 +1.1
baz=36
P21A Newcastle 36.22 355 ⇑P P 17 55 25.8 +0.9
baz=36
P22A Eagle 36.23 356 ⇑P P 17 55 26.4 +1.3
baz=36
P30A Selden 36.24 5 ⇓P P 17 55 26.0 +1.0
baz=36
P29A Atwood 36.25 4 ⇓P P 17 55 25.5 +0.5
baz=36
KSU1 Kansas State U 36.26 10 *e*P P 17 55 25.5 +0.5
comp=Z,596nm,1.7s
KSU1 LR LR
comp=Z,4μm,20.0s
P20A De Beque 36.28 354 ⇑P P 17 55 26.4 +1.0
baz=36
P31A Stockton 36.30 6 ⇓P P 17 55 26.1 +0.7
baz=36
ISCO Idaho Springs 36.38 358 *e*P P 17 55 26.9 +0.5
ISCO pmax pmax
comp=Z,339nm,2.0s
ISCO MLR MLR
comp=Z,4μm,20.0s
ISCO Idaho Springs 36.38 358 *e*P P 17 55 26.9 +0.5
comp=Z,339nm,2.0s
ISCO LR LR
comp=Z,4μm,20.0s
ISCO Idaho Springs 36.38 358 ⇑P P 17 55 27.3 +0.8
baz=37
P33A Williams Farm, 36.42 8 ⇓P P 17 55 27.2 +0.8
baz=37
TMUT Trail Mountain 36.46 350 *e*P P 17 55 28.6 +1.4
comp=Z,327nm,1.4s
P19A Cripple Cowboy 36.47 353 ⇓P P 17 55 28.2 +1.1
baz=37
P32A Huiting Farm, 36.48 7 ⇓P P 17 55 28.1 +1.1
baz=37
R11A Troy Canyon, C 36.50 344 ⇓P P 17 55 29.2 +1.9
baz=37
GRTK Grand Turk 36.61 58 *e*P P 17 55 29.8 +1.5
comp=Z,902nm,2.0s
GRTK LR LR
comp=Z,15μm,20.0s
O25A Wiggins 36.66 360 ⇓P P 17 55 29.7 +1.1
baz=37
CPCT Cooper Cave 36.68 27 *e*P P 17 55 28.9 +0.2
O24A Longmont 36.68 358 ⇓P P 17 55 29.9 +1.0
baz=37
O28A Krutsinger Ran 36.72 3 ⇓P P 17 55 30.0 +1.0
baz=37
O27A Beecher Island 36.76 2 ⇑P P 17 55 30.1 +0.7
baz=37
O29A 4D Ranch, Culb 36.78 4 ⇑P P 17 55 30.4 +0.9
baz=37
O22A Kremmling 36.78 357 ⇑P P 17 55 30.7 +0.8
baz=37
O26A Horse Wrangler 36.79 1 ⇓P P 17 55 30.7 +1.0
baz=37
O23A Lake Granby, G 36.80 357 ⇓P P 17 55 31.0 +1.0
baz=37
SIUC Southern Illin 36.80 20 *e*P P 17 55 30.1 +0.3
comp=Z,668nm,1.6s
MLAC Mammoth Lakes 36.83 340 ⇑P P 17 55 31.3 +1.1
baz=37
O30A MW Ranch, Wils 36.89 5 ⇓P P 17 55 31.1 +0.7
baz=37
O20A White River Ci 36.89 354 ⇓P P 17 55 31.8 +1.1
baz=37
O21A Pagoda 36.90 355 ⇓P P 17 55 32.3 +1.5
baz=37
O31A Woolen Ranch, 36.93 6 ⇓P P 17 55 31.6 +0.8
baz=37
SAO San Andreas Ge 37.03 336 *e*P P 17 55 32.7 +1.0
SAO pmax pmax
comp=Z,38nm,0.9s
SAO San Andreas Ge 37.03 336 *e*P P 17 55 32.7 +1.0
comp=Z,38nm,0.9s
O19A Miners Draw (B 37.15 353 ⇓P P 17 55 33.7 +0.9
baz=37
O32A Brockman Farm, 37.15 7 ⇑P P 17 55 33.3 +0.6
baz=37
TKL Tuckaleechee C 37.20 28 P P 17 55 33.5 +0.4
TKL PcP PcP 17 57 52.6 -0.5
TKL Tuckaleechee C 37.20 28 P P 17 55 33.5 +0.4
comp=Z,31nm,0.8s,baz=192,slow=11,SNR=19
TKL PcP PcP 17 57 52.6 -0.5
comp=Z,20nm,0.8s,baz=183,slow=4.5,SNR=5.5
TKL LR LR 18 12 03.9
comp=Z,6μm,18.7s,baz=211,slow=38
MPU Maple Canyon 37.23 350 *e*P P 17 55 34.6 +1.1
comp=Z,379nm,1.4s
NLU North Lily Min 37.25 350 *e*P P 17 55 35.3 +1.5
comp=Z,238nm,1.7s
N28A Pribbeno Ranch 37.29 3 ⇑P P 17 55 34.8 +0.8
baz=38
SLM Saint Louis 37.32 18 *e*P P 17 55 35.2 +1.1
SLM pmax pmax
comp=Z,748nm,1.6s
SLM Saint Louis 37.32 18 *e*P P 17 55 35.2 +1.1
comp=Z,748nm,1.6s
NV11 Mina Array Sit 37.33 341 *e*P P 17 55 35.9 +1.5
N25A Grover 37.36 360 ⇑P P 17 55 35.4 +0.8
baz=38
N27A Anderson Farm, 37.37 2 ⇓P P 17 55 35.5 +0.9
baz=38
NVAR Mina Array Bea 37.38 341 P P 17 55 36.5 +1.6
NVAR PcP PcP 17 57 55.6 +1.7
NVAR *e* 18 25 58.1
NVAR Mina Array Bea 37.38 341 P P 17 55 36.5 +1.6
comp=Z,22nm,0.7s,baz=167,slow=8.1,SNR=162
NVAR PcP PcP 17 57 55.6 +1.7
comp=Z,10nm,1.0s,baz=172,slow=4.1,SNR=7.8
NVAR LR LR 18 08 58.7
comp=Z,1μm,19.9s,baz=209,slow=33
NVAR P3KPbc 18 25 58.1
comp=Z,0.6nm,0.7s,baz=316,slow=3.6,SNR=5.7
N26A Koester Ranch, 37.38 1 ⇑P P 17 55 35.7 +1.0
baz=38
N24A Carr 37.38 359 ⇓P P 17 55 35.9 +1.1
baz=38
N22A Wattenberg Ran 37.42 357 ⇓P P 17 55 36.7 +1.5
baz=38
N29A Votaw Ranch, W 37.48 4 ⇓P P 17 55 36.5 +1.0
baz=38
N23A Red Feather La 37.48 357 ⇓P P 17 55 37.1 +1.4
baz=38
N30A Hueftle Ranch, 37.49 5 ⇑P P 17 55 36.6 +1.0
baz=38
OGNE Ogallala 37.52 2 *e*P P 17 55 36.5 +0.6
comp=Z,163nm,0.7s
OGNE LR LR
comp=Z,11μm,21.0s
OGNE Ogallala 37.52 2 ⇓P P 17 55 37.2 +1.3
baz=38
DAU Daniels Canyon 37.55 351 *e*P P 17 55 37.6 +1.2
DAU pmax pmax
comp=Z,237nm,1.4s
DAU Daniels Canyon 37.55 351 *e*P P 17 55 37.6 +1.2
comp=Z,237nm,1.4s
USIN Unrsity of 37.57 21 *e*P P 17 55 36.8 +0.6
comp=Z,766nm,1.7s
N20A Spence Gulch, 37.59 355 ⇑P P 17 55 37.7 +1.1
baz=38
DUG Dugway 37.62 349 *e*P P 17 55 38.3 +1.5
DUG pmax pmax
comp=Z,263nm,1.4s
DUG Dugway 37.62 349 *e*P P 17 55 38.3 +1.5
comp=Z,263nm,1.4s
DUG Dugway 37.62 349 ⇓P P 17 55 38.0 +1.2
baz=38
CMB Columbia Colle 37.74 338 *e*P P 17 55 38.9 +1.2
CMB pmax pmax
comp=Z,233nm,1.6s
CMB Columbia Colle 37.74 338 *e*P P 17 55 38.9 +1.2
comp=Z,233nm,1.6s
JLU Jordanelle 37.77 351 *e*P P 17 55 39.2 +1.0
comp=Z,241nm,1.5s
WAKR Walker 37.82 340 *e*P P 17 55 40.6 +2.0
comp=Z,270nm,1.4s
PHWY Pilot Hill 37.87 358 *e*P P 17 55 39.5 +0.5
comp=Z,355nm,1.4s
KMSC Kings Mountain 37.97 31 ⇓P P 17 55 40.2 +0.5
baz=38
M25A Palm-Egli Farm 37.98 360 ⇓P P 17 55 40.6 +0.8
baz=38
M28A Bar X Bar Ranc 38.01 3 ⇓P P 17 55 40.9 +0.9
baz=38
M26A McRoberts Ranc 38.02 1 ⇑P P 17 55 41.2 +1.1
baz=38
M24A Cheyenne 38.02 359 ⇑P P 17 55 41.1 +0.9
baz=38
M22A Cedar Creek Ra 38.02 357 ⇓P P 17 55 41.4 +1.1
baz=38
M27A Reverse DX Ran 38.09 2 ⇓P P 17 55 41.5 +0.8
baz=38
OLIL Olney 38.10 20 *e*P P 17 55 41.0 +0.3
comp=Z,394nm,1.6s
TAOE Nuku Hiva Isla 38.12 251 *e*LR LR 18 05 46.5
comp=Z,50μm,25.8s
TAOE Nuku Hiva Isla 38.12 251 *e*T T 18 35 34.9
comp=Z,852nm,0.3s
M31A Lambtecht Ranc 38.14 6 ⇓P P 17 55 41.7 +0.7
baz=38
M20A Sweetwater, Wa 38.23 355 ⇑P P 17 55 43.0 +0.9
baz=38
M30A Dale-Ortello V 38.25 5 ⇓P P 17 55 42.9 +0.9
baz=38
BGNE Belgrade 38.30 7 ⇓P P 17 55 43.1 +0.7
baz=38
WCI Wyandotte Cave 38.31 23 *e*P P 17 55 41.9 -0.6
WCI pmax pmax
comp=Z,230nm,1.6s
WCI Wyandotte Cave 38.31 23 *e*P P 17 55 41.9 -0.6
comp=Z,230nm,1.6s
BGU Big Grassy Mou 38.37 349 *e*P P 17 55 44.1 +1.0
comp=Z,181nm,1.5s
M17A Scullys Gap (B 38.50 352 ⇑P P 17 55 45.2 +0.8
baz=39
L26A Underwood Farm 38.59 1 ⇑P P 17 55 45.7 +0.9
baz=39
L24A Wheatland 38.60 359 ⇓P P 17 55 45.8 +0.8
baz=39
L28A Connealy Angus 38.61 3 ⇓P P 17 55 46.3 +1.3
baz=39
SPUT South Promonto 38.63 350 *e*P P 17 55 46.5 +1.2
comp=Z,282nm,1.6s
L22A Ellis Ranch, M 38.64 357 ⇑P P 17 55 46.7 +1.3
baz=39
L27A T5 Ranch, Ells 38.65 2 ⇑P P 17 55 46.6 +1.1
baz=39
ELK Elko 38.67 346 *e*P P 17 55 46.9 +1.1
comp=Z,164nm,1.9s
ELK PcP PcP 17 57 58.3 +0.5
ELK Elko 38.67 346 P P 17 55 47.4 +1.6
comp=Z,22nm,1.2s,baz=183,slow=6.1,SNR=26
ELK PcP PcP 17 57 58.3 +0.5
comp=Z,3.7nm,0.9s,baz=192,slow=5.0,SNR=3.9
L30A Spencer Herefo 38.67 5 ⇑P P 17 55 46.7 +1.1
baz=39
L23A Garrett 38.69 358 ⇑P P 17 55 46.6 +0.7
baz=39
L20A Wamsutter 38.76 355 ⇓P P 17 55 47.3 +0.8
baz=39
L18A Fontenelle, Gr 38.86 353 ⇓P P 17 55 48.1 +0.8
baz=39
CRPR Cabo Rojo, PR 38.87 65 *e*P P 17 55 46.2 -1.3
comp=Z,40nm,0.8s
PAHR Pah Rah Range 38.89 341 *e*P P 17 55 49.4 +1.9
comp=Z,342nm,1.5s
BMN Battle Mountai 38.89 344 *e*P P 17 55 48.7 +1.2
BMN pmax pmax
comp=Z,126nm,1.4s
BMN MLR MLR
comp=Z,4μm,22.0s
BMN Battle Mountai 38.89 344 *e*P P 17 55 48.7 +1.2
comp=Z,126nm,1.4s
BMN LR LR
comp=Z,4μm,22.0s
L31A Butterfield Fa 38.98 6 ⇓P P 17 55 48.8 +0.7
baz=39
AGPR Aguadilla, PR 39.01 64 *e*P P 17 55 48.3 -0.4
comp=Z,1μm,1.8s
BLO Bloomington 39.05 22 *e*P P 17 55 48.6 -0.1
BLO pmax pmax
comp=Z,423nm,1.6s
BLO Bloomington 39.05 22 *e*P P 17 55 48.6 -0.1
comp=Z,422nm,1.6s
HVU Hansel Valley 39.15 349 *e*P P 17 55 50.7 +1.0
HVU pmax pmax
comp=Z,552nm,2.1s
HVU Hansel Valley 39.15 349 *e*P P 17 55 50.6 +1.0
comp=Z,552nm,2.1s
K25A Mack Ranch, Ha 39.15 0 ⇑P P 17 55 50.7 +1.1
baz=39
LRS Lares 39.20 65 *e*P P 17 55 49.5 -0.8
K26A Motz Farm, Whi 39.25 1 ⇑P P 17 55 51.5 +1.1
baz=39
K22A Casper 39.26 357 ⇓P P 17 55 51.3 +0.7
baz=40
K24A Anderson Ranch 39.27 359 ⇑P P 17 55 51.4 +0.8
baz=40
K27A Fluecklinger Fa 39.27 2 ⇓P P 17 55 51.5 +0.9
baz=40
K21A Alcova 39.29 356 ⇑P P 17 55 51.5 +0.6
baz=40
K23A Bowen Ranch, D 39.33 358 ⇓P P 17 55 52.0 +0.8
baz=40
OBIP Obispado Ponce 39.34 65 *e*P P 17 55 51.2 -0.2
comp=Z,209nm,2.0s
BEKR Beckworth 39.36 340 *e*P P 17 55 53.1 +1.6
comp=Z,136nm,1.4s
HDIL Hopedale 39.37 18 *e*P P 17 55 51.3 -0.1
comp=Z,884nm,1.6s
CELP Cerrillos 39.37 65 *e*P P 17 55 50.9 -0.8
K30A Basset 39.40 5 ⇓P P 17 55 52.5 +0.9
baz=40
K29A Lazy Trails An 39.43 4 ⇑P P 17 55 53.0 +1.1
baz=40
HOPS Hopland 39.60 336 *e*P P 17 55 54.7 +1.4
comp=Z,361nm,1.4s
SCIA State Center 39.62 13 PFAKE 17 56 10.0 +17
SCIA LR LR
comp=Z,4μm,21.0s
BW06 Boulder Array 39.63 353 *e*P P 17 55 54.3 +0.5
comp=Z,399nm,1.4s
BW06 LR LR
comp=Z,4μm,20.0s
PDAR Pinedale Array 39.63 353 P P 17 55 54.3 +0.5
PDAR PcP PcP 17 58 01.1 +0.3
PDAR Pinedale Array 39.63 353 P P 17 55 54.3 +0.5
comp=Z,77nm,1.0s,baz=162,slow=7.2,SNR=124
PDAR PcP PcP 17 58 01.1 +0.3
comp=Z,6.9nm,0.7s,baz=142,slow=4.9,SNR=5.0
J27A Elkhorn Farm, 39.83 2 ⇑P P 17 55 56.5 +1.3
baz=40
AHID Auburn Hatcher 39.83 352 *e*P P 17 55 56.2 +0.8
comp=Z,241nm,1.4s
AHID LR LR
comp=Z,3μm,20.0s
J26A Sides Ranch, S 39.86 1 ⇓P P 17 55 56.6 +1.1
baz=40
J24A Dixon Ranch, L 39.88 359 ⇓P P 17 55 56.7 +1.0
baz=40
CNNC Cliffs of the 39.88 34 *e*P P 17 55 55.9 +0.2
comp=Z,356nm,1.7s
CNNC LR LR
comp=Z,8μm,21.0s
SFIN Scholer Farm 39.92 20 ⇓P P 17 55 56.6 +0.7
baz=40
J25A Sunshine Ranch 39.93 0 ⇓P P 17 55 57.1 +0.9
baz=40
J23A Dilts Ranch, B 39.97 358 ⇑P P 17 55 57.7 +1.2
baz=40
J21A Lysite 40.01 356 ⇓P P 17 55 57.8 +0.9
baz=40
J22A Midwest 40.02 357 ⇑P P 17 55 57.8 +0.9
baz=40
BLA Blacksburg 40.05 30 PFAKE 17 56 10.0 +13
BLA LR LR
comp=Z,5μm,19.0s
J30A Dallas 40.06 5 ⇓P P 17 55 58.1 +1.0
baz=40
J20A Shoshoni 40.07 355 ⇑P P 17 55 58.6 +1.3
baz=40
J19A Crowheart 40.07 354 ⇑P P 17 55 58.2 +0.8
baz=40
J29A Ohrreek 40.07 4 ⇑P P 17 55 58.4 +1.2
baz=40
CBYP Canovanas 40.09 65 *e*P P 17 55 56.3 -1.4
comp=Z,594nm,2.0s
RKT Rikitea 40.11 228 *e*P P 17 55 58.8 +1.1
comp=Z,72nm,1.2s
RKT *e*S S 18 02 04.4 +0.2
comp=Z,4μm,26.9s
RKT *e*LQ LQ 18 05 15.8
comp=Z,11μm,31.8s
RKT *e*LR LR 18 06 57.3
comp=Z,43μm,26.8s,baz=46
RKT Rikitea 40.11 228 *e*T T 18 38 09.1
comp=Z,9.2nm,0.3s
VWCC Virginia Weste 40.30 30 *e*P P 17 56 00.2 +1.1
MTP Monte Pirata 40.31 66 *e*P P 17 55 58.5 -1.0
comp=Z,91nm,1.0s
LPAZ La Paz 40.33 120 *e*P P 17 56 01.0 +0.7
comp=Z,363nm,1.3s
LPAZ PcP PcP 17 58 04.8 +0.8
LPAZ La Paz 40.33 120 P P 17 56 01.1 +0.7
comp=Z,146nm,1.1s,baz=306,slow=7.4,SNR=185
LPAZ PcP PcP 17 58 04.8 +0.8
comp=Z,16nm,0.8s,baz=304,slow=3.3,SNR=4.6
LPAZ LR LR 18 10 24.3
comp=Z,10μm,21.8s,baz=307,slow=33
REDW Red Top Meadow 40.38 352 *e*P P 17 56 00.3 +0.3

	comp=Z,188nm,1.4s									
KCPM	**Cahto Peak**	40.40	336	*e*P		P		17 56 02.3	+2.2	
	comp=Z,215nm,1.3s									
I24A	**Kuemmerle Ranc**	40.41	359	⇑P		P		17 56 00.8	+0.8	
	baz=41									
RRI2	**Red Ridge**	40.43	352	*e*P		P		17 56 01.0	+0.5	
	comp=Z,218nm,1.5s									
KIPM	**Iron Peak**	40.47	337	*e*P		P		17 56 02.8	+2.2	
	comp=Z,390nm,1.3s									
I21A	**Big Trails, Te**	40.47	356	⇓P		P		17 56 01.1	+0.5	
	baz=41									
SNOW	**Snow King Moun**	40.47	352	*e*P		P		17 56 02.0	+1.3	
	comp=Z,285nm,1.5s									
I22A	**9 Mile Ranch,**	40.50	357	⇑P		P		17 56 01.6	+0.7	
	baz=41									
TPAW	**Teton Pass**	40.52	352	*e*P		P		17 56 01.6	+0.4	
	comp=Z,262nm,1.5s									
TPAW				*e*PcP		PcP		17 58 04.6	+0.9	
I23A	**Meade Ranch, G**	40.53	358	⇓P		P		17 56 02.2	+1.1	
	baz=41									
I25A	**Rochford**	40.56	0	⇑P		P		17 56 02.0	+0.6	
	baz=41									
I26A	**New Underwood**	40.58	1	⇑P		P		17 56 02.4	+1.0	
	baz=41									
LOHW	**Long Hollow**	40.59	352	*e*P		P		17 56 02.0	+0.2	
	comp=Z,199nm,1.4s									
I28A	**Midland**	40.61	3	⇓P		P		17 56 02.7	+1.1	
	baz=41									
I27A	**Quinn**	40.64	2	⇓P		P		17 56 03.1	+1.1	
	baz=41									
I30A	**Oacoma**	40.65	5	⇑P		P		17 56 02.3	+0.4	
	baz=41									
RSSD	**Black Hills**	40.66	360	*e*P		P		17 56 02.8	+0.5	
RSSD	**Black Hills**	40.66	360	*e*P		P		17 56 02.8	+0.5	
I20A	**Worland**	40.67	355	⇓P		P		17 56 03.2	+1.0	
	baz=41									
I29A	**Vivian Onida**	40.69	4	⇑P		P		17 56 02.7	+0.5	
	baz=41									
MOOW	**Moose Ponds**	40.75	352	*e*P		P		17 56 03.1	+0.1	
	comp=Z,189nm,1.4s									
WDC	**Whiskeytown Da**	40.77	338	*e*P		P		17 56 02.9	-0.1	
WDC				pmax		pmax				
	comp=Z,144nm,1.4s									
WDC	**Whiskeytown Da**	40.77	338	*e*P		P		17 56 02.9	-0.1	
	comp=Z,144nm,1.4s									
ECSD	**EROS Data Cent**	40.79	8	*e*P		P		17 56 02.4	-0.6	
	comp=Z,373nm,1.6s									
ECSD				*e*PcP		PcP		17 58 02.8	-1.4	
ECSD				LR		LR				
	comp=Z,5µm,20.0s									
I19A	**Meeteetse**	40.83	354	⇑P		P		17 56 04.3	+0.7	
	baz=41									
I17A	**Pilgrim Ck.**	40.89	353	⇓P		P		17 56 05.2	+0.9	
	baz=41									
LTIM	**Timbered Crate**	40.91	340	P		P		17 56 05.5	+1.2	
IMW	**Indian Meadow**	40.92	352	*e*P		P		17 56 04.8	+0.3	
	comp=Z,310nm,1.5s									
IMW				*e*PcP		PcP		17 58 06.1	+1.1	
STVI	**Saint Thomas**	40.93	66	*e*P		P		17 56 03.0	-1.6	
	comp=Z,661nm,1.8s									
FLWY	**Flagg Ranch**	41.07	353	*e*P		P		17 56 06.8	+1.2	
	comp=Z,812nm,1.6s									
H23A	**Clabaugh Cattl**	41.12	358	⇓P		P		17 56 06.3	+0.4	
	baz=41									
WVOR	**Wild Horse Val**	41.15	343	*e*P		P		17 56 07.3	+1.1	
WVOR				pmax		pmax				
	comp=Z,374nm,1.5s									
WVOR				MLR		MLR				
	comp=Z,4µm,19.0s									
WVOR	**Wild Horse Val**	41.15	343	*e*P		P		17 56 07.3	+1.1	
	comp=Z,374nm,1.5s									
WVOR				LR		LR				
	comp=Z,4µm,19.0s									
H25A	**Fruitdale**	41.16	0	⇑P		P		17 56 07.5	+1.2	
	baz=41									
MOD	**Modoc**	41.17	341	*e*P		P		17 56 07.6	+1.2	
	comp=Z,1µm,1.4s									
H26A	**Fairpoint**	41.17	1	⇑P		P		17 56 06.9	+0.6	
	baz=41									
HLID	**Hailey**	41.18	348	*e*P		P		17 56 07.5	+1.0	
	comp=Z,185nm,1.5s									
HLID				LR		LR				
	comp=Z,2µm,19.0s									
HLID	**Hailey**	41.18	348	⇑P		P		17 56 08.1	+1.6	
	baz=41									
H20A	**Greybull**	41.19	356	⇓P		P		17 56 06.9	+0.4	
	baz=41									
H22A	**Clearmont**	41.19	357	⇑P		P		17 56 07.0	+0.5	
	baz=41									
BRSD	**Miller**	41.21	5	⇓P		P		17 56 07.1	+0.5	
	baz=41									
H21A	**Big Horn, Sher**	41.26	357	⇓P		P		17 56 07.3	+0.2	
	baz=42									
JFWS	**Jewell Farm**	41.28	15	*e*P		P		17 56 06.6	-0.5	
JFWS				*e*				17 58 05.7		
JFWS				pmax		pmax				
	comp=Z,425nm,1.6s									
JFWS	**Jewell Farm**	41.28	15	*e*P		P		17 56 06.6	-0.5	
	comp=Z,425nm,1.6s									
JFWS				*e*PcP		PcP		17 58 05.7	-0.2	
H24A	**Dirks Ranch, A**	41.29	359	⇓P		P		17 56 07.6	+0.3	
	baz=42									
H28A	**Mission Ridge**	41.29	3	⇓P		P		17 56 08.2	+0.9	
	baz=42									
H29A	**Onida**	41.29	4	⇑P		P		17 56 08.1	+0.8	
	baz=42									
ACSO	**Alum Creek Sta**	41.35	24	*e*P		P		17 56 07.7	0.0	
	comp=Z,247nm,1.6s									
ACSO				LR		LR				
	comp=Z,6µm,19.0s									
H17A	**Grant Village**	41.36	353	⇑P		P		17 56 09.5	+1.4	
	baz=42									
YFT	**Old Faithful**	41.45	352	*e*P		P		17 56 10.8	+2.0	
	comp=Z,348nm,1.5s									
YFT				*e*PcP		PcP		17 58 09.8	+3.2	
H19A	**Powell**	41.46	354	⇑P		P		17 56 09.6	+0.9	
	baz=42									
KHMM	**Horse Mountain**	41.48	337	*e*P		P		17 56 10.6	+1.6	
	comp=Z,318nm,1.3s									
LKWY	**Lake**	41.51	353	*e*P		P		17 56 11.0	+1.7	
LKWY				pmax		pmax				
	comp=Z,255nm,1.5s									
LKWY				MLR		MLR				
	comp=Z,4µm,21.0s									
LKWY	**Lake**	41.51	353	*e*P		P		17 56 11.0	+1.7	
	comp=Z,255nm,1.5s									
LKWY				LR		LR				
	comp=Z,4µm,21.0s									
H18A	**Shoshone NF, C**	41.53	354	⇑P		P		17 56 09.8	+0.3	
	baz=42									
YMR	**Madison River**	41.68	352	*e*P		P		17 56 11.8	+1.1	
	comp=Z,531nm,1.6s									
YNR	**Norris Junctio**	41.69	353	*e*P		P		17 56 12.3	+1.5	
	comp=Z,181nm,1.4s									
G28A	**Parade**	41.70	3	⇑P		P		17 56 11.4	+0.8	
	baz=42									
JSRW	**J. Sargeant Re**	41.71	32	*e*P		P		17 56 11.5	+0.8	
G25A	**Newell**	41.74	0	⇑P		P		17 56 11.6	+0.7	
	baz=42									
G23A	**Biddle**	41.76	358	⇑P		P		17 56 11.2	0.0	
	baz=42									
G22A	**Birney**	41.81	357	⇓P		P		17 56 12.1	+0.5	
	baz=42									
YBH	**Yreka Blue Hor**	41.84	339	*e*P		P		17 56 11.8	0.0	
	comp=Z,135nm,1.3s									
YBH				PcP		PcP		17 58 08.1	+0.3	
YBH	**Yreka Blue Hor**	41.84	339	P		P		17 56 12.2	+0.4	
	comp=Z,64nm,1.1s,baz=114,slow=4.9,SNR=47									
YBH				PcP		PcP		17 58 08.1	+0.3	
	comp=Z,5.0nm,0.8s,baz=135,slow=2.9,SNR=2.8									
YBH				LR		LR		18 10 05.1		
	comp=Z,2µm,21.6s,baz=181,slow=31									
G26A	**Maurine**	41.85	1	⇑P		P		17 56 12.5	+0.6	
	baz=42									
G21A	**Lodge Grass**	41.87	356	⇓P		P		17 56 12.2	+0.2	
	baz=42									
G24A	**Alzada**	41.87	359	⇓P		P		17 56 12.1	0.0	
	baz=42									
G29A	**Hoven**	41.88	4	⇓P		P		17 56 12.1	+0.1	
	baz=42									
G30A	**Faulkton**	41.88	5	⇓P		P		17 56 12.5	+0.5	
	baz=42									
QLMT	**Earthquake Lak**	41.90	352	*e*P		P		17 56 13.9	+1.5	
	comp=Z,71nm,1.4s									
G20A	**Bridger**	41.94	355	⇑P		P		17 56 12.9	+0.3	
	baz=42									
G27A	**Dupree**	41.95	2	⇓P		P		17 56 13.0	+0.3	
	baz=42									
KRMB	**Red Mountain**	42.10	337	*e*P		P		17 56 15.3	+1.3	
	comp=Z,162nm,1.4s									
MCMT	**McKenzie Canyo**	42.12	350	*e*P		P		17 56 15.5	+1.2	
	comp=Z,14nm,0.6s									
MCWV	**Mont Chateau**	42.26	28	PFAKE				17 56 30.0	+15	
MCWV				LR		LR				
	comp=Z,6µm,20.0s									
F23A	**Volborg**	42.28	358	⇑P		P		17 56 15.2	-0.2	
	baz=42									
SAML	**Samuel**	42.35	107	*e*P		P		17 56 15.0	-1.3	
	comp=Z,548nm,1.7s									
SAML				LR		LR				
	comp=Z,17µm,20.0s									
CBN	**Corbin**	42.36	31	PFAKE				17 56 30.0	+14	
CBN				LR		LR				
	comp=Z,12µm,20.0s									
F22A	**Rosebud**	42.37	358	⇑P		P		17 56 15.9	-0.2	
	baz=43									
F24A	**Ekalaka**	42.39	359	⇓P		P		17 56 16.2	-0.1	
	baz=43									
F26A	**Lodgepole**	42.41	1	⇑P		P		17 56 16.5	+0.1	
	baz=43									
F21A	**Absaloka Mine,**	42.46	357	⇑P		P		17 56 16.6	-0.3	
	baz=43									
F25A	**Bowman**	42.47	0	⇑P		P		17 56 17.5	+0.6	
	baz=43									
F28A	**McLaughlin**	42.48	3	⇑P		P		17 56 17.2	+0.3	
	baz=43									
F20A	**Billings**	42.51	356	⇓P		P		17 56 17.8	+0.5	
	baz=43									
F29A	**Eureka**	42.52	4	⇓P		P		17 56 17.4	+0.1	
	baz=43									
F30A	**Leola**	42.59	5	⇑P		P		17 56 18.3	+0.4	
	baz=43									
DLMT	**Dillon**	42.60	351	*e*P		P		17 56 18.6	+0.6	
	comp=Z,190nm,1.4s									
F19A	**Roth Farm, Mol**	42.63	355	⇑P		P		17 56 18.4	+0.1	
	baz=43									
HUMO	**Hull Mountain**	42.69	339	*e*P		P		17 56 20.1	+1.4	
	comp=Z,81nm,1.4s									
GRGR	**Grenville**	42.70	76	*e*P		P		17 56 18.4	-0.8	
	comp=Z,306nm,1.1s									
LVC	**Limon Verde**	42.76	129	*e*P		P		17 56 21.0	+1.1	
	comp=Z,626nm,1.5s									
LVC				LR		LR				
	comp=Z,10µm,20.0s									
KBO	**Bosley Butte**	42.81	338	*e*P		P		17 56 20.9	+1.2	
	comp=Z,382nm,1.5s									
SPMN	**St. Paul**	42.88	12	⇓P		P		17 56 19.8	-0.3	
	baz=43									
E22A	**Miles City**	43.02	358	⇓P		P		17 56 21.1	-0.2	
	baz=43									
E27A	**Carson**	43.02	2	⇑P		P		17 56 21.6	+0.3	
	baz=43									
LRM	**Limekiln Ridge**	43.02	351	*e*P		P		17 56 21.6	0.0	
	comp=Z,2µm,1.5s									
LRM				*e*PcP		PcP		17 58 13.6	+1.7	
E26A	**Carlson Angus**	43.03	1	⇑P		P		17 56 21.8	+0.3	
	baz=43									
E25A	**Miller Ranch,**	43.04	0	⇓P		P		17 56 21.7	+0.2	
	baz=43									
BMO	**Blue Mountains**	43.05	346	*e*P		P		17 56 21.4	-0.3	
	comp=Z,99nm,1.5s									
BMO				LR		LR				
	comp=Z,3µm,20.0s									
E23A	**Ismay**	43.06	359	⇑P		P		17 56 21.7	0.0	
	baz=43									
E24A	**Baker**	43.10	360	⇑P		P		17 56 22.2	+0.2	
	baz=43									
E21A	**Keefer Ranch,**	43.17	357	⇑P		P		17 56 22.7	+0.1	
	baz=43									
E28A	**Huff**	43.20	3	⇓P		P		17 56 22.6	-0.2	
	baz=43									
E19A	**Rath Farm, Rou**	43.22	355	⇑P		P		17 56 23.0	0.0	
	baz=43									
E30A	**Jud**	43.26	5	⇓P		P		17 56 23.1	-0.2	
	baz=43									
E29A	**Napoleon**	43.27	4	⇑P		P		17 56 23.5	+0.2	
	baz=43									
LAO	**LASA Array**	43.28	358	*e*P		P		17 56 23.2	-0.2	
	comp=Z,126nm,1.3s									
KEBM	**Edson Butte**	43.42	338	*e*P		P		17 56 25.8	+1.1	
	comp=Z,388nm,1.4s									
H03N2	**Juan Fernandez**	43.48	149	T		T		18 42 51.4		
	baz=323,slow=0.7,SNR=23									
H03N1	**Juan Fernandez**	43.49	149	T		T		18 42 50.0		
	baz=323,slow=0.7,SNR=28									
H03N3	**Juan Fernandez**	43.49	149	T		T		18 42 52.4		
	baz=323,slow=0.7,SNR=32									
SDMD	**Soldier's Deli**	43.54	31	*e*P		P		17 56 24.8	-0.7	
	comp=Z,375nm,1.6s									
D24A	**Glendive**	43.66	360	⇑P		P		17 56 26.8	+0.3	
	baz=44									
D21A	**La Casta Ranch**	43.69	357	⇓P		P		17 56 27.4	+0.6	
	baz=44									
D25A	**Fairfield**	43.70	1	⇓P		P		17 56 27.5	+0.7	
	baz=44									
D22A	**Cohagen**	43.74	358	⇓P		P		17 56 27.2	+0.1	
	baz=44									
D29A	**Pettibone, Tap**	43.76	4	⇑P		P		17 56 27.1	-0.2	
	baz=44									
D20A	**Manuel Ranch,**	43.79	356	⇑P		P		17 56 27.6	+0.1	
	baz=44									
D28A	**Regan**	43.83	3	⇓P		P		17 56 27.8	0.0	
	baz=44									
D30A	**Buchanan**	43.88	5	⇑P		P		17 56 28.2	+0.1	
	baz=44									
D19A	**Cripps Ranch,**	43.92	355	⇑P		P		17 56 28.9	+0.3	
	baz=44									
SSPA	**Standing Stone**	43.95	29	*e*P		P		17 56 29.1	+0.2	
	comp=Z,345nm,1.6s									
SSPA				*e*PcP		PcP		17 58 15.5	+0.7	
C24A	**Savage**	44.08	359	⇑P		P		17 56 30.1	+0.3	
	baz=44									
RNO	**Roman Nose**	44.11	339	P		P		17 56 32.1	+1.9	
ERPA	**Erie**	44.17	26	PFAKE				17 56 40.0	+9.3	
ERPA				LR		LR				
	comp=Z,4µm,22.0s									
CHMT	**Chamberlain Mo**	44.21	351	*e*P		P		17 56 31.5	+0.3	
	comp=Z,154nm,0.2s									
MSO	**Missoula**	44.24	350	⇓P		P		17 56 31.7	+0.4	
	baz=44									
C22A	**Vida**	44.32	358	⇓P		P		17 56 32.4	+0.6	
	baz=44									
C23A	**Lambert**	44.36	359	⇑P		P		17 56 32.2	+0.1	
	baz=44									
C28A	**Hausauer Farms**	44.36	3	⇓P		P		17 56 32.0	-0.1	
	baz=44									
C26A	**Wahner Farm, P**	44.40	2	⇑P		P		17 56 32.6	+0.2	
	baz=45									
C20A	**Veseth Ranch,**	44.40	356	⇑P		P		17 56 32.7	+0.3	
	baz=45									
C21A	**Desert Coulee**	44.45	357	⇓P		P		17 56 33.1	+0.2	
	baz=45									
C30A	**Mose, Pekin**	44.49	5	⇓P		P		17 56 33.4	+0.3	
	baz=45									
C19A	**Slack Wire Ran**	44.50	355	⇓P		P		17 56 33.3	0.0	
	baz=45									
COWI	**Conover**	44.54	15	*e*P		P		17 56 32.6	-0.9	
	comp=Z,360nm,1.5s									
COWI				*e*PcP		PcP		17 58 16.5	-0.2	
COWI				LR		LR				
	comp=Z,4µm,22.0s									
MDND	**Maddock**	44.54	4	⇑P		P		17 56 33.4	-0.1	
	baz=45									
COR	**Corvallis**	44.55	340	*e*P		P		17 56 35.2	+1.6	
COR				pmax		pmax				
	comp=Z,3µm,1.4s									
COR	**Corvallis**	44.55	340	*e*P		P		17 56 35.1	+1.6	
	comp=Z,3µm,1.4s									
SLMT	**Seeley Lake**	44.57	351	*e*P		P		17 56 33.9	-0.1	
	comp=Z,170nm,1.4s									
SLMT				*e*PcP		PP		17 58 18.1	+0.1	
BLTW	**Bickleton**	44.78	344	P		P		17 56 36.9	+1.4	
VLL	**Laurance Lake**	44.81	342	P		P		17 56 37.6	+1.8	
B25A	**Knox Farm, Ray**	44.82	1	⇑P		P		17 56 36.3	+0.6	
	baz=45									
EGMT	**Eagleton**	44.85	354	*e*P		P		17 56 36.1	+0.1	
	comp=Z,378nm,1.4s									
EGMT				LR		LR				
	comp=Z,3µm,19.0s									
EGMT	**Eagleton**	44.85	354	⇓P		P		17 56 36.4	+0.3	
	baz=45									
B22A	**Reddig Ranch S**	44.88	358	⇑P		P		17 56 36.7	+0.5	
	baz=45									
SWMT	**Swartz Lake**	44.91	350	*e*P		P		17 56 36.0	-0.6	
	comp=Z,61nm,1.3s									
B27A	**Peters Farms,**	45.00	2	⇓P		P		17 56 37.7	+0.5	
	baz=45									
DGMT	**Dagmar**	45.01	360	*e*P		P		17 56 37.6	+0.4	
	comp=Z,797nm,1.5s									
DGMT				LR		LR				
	comp=Z,7µm,22.0s									
DGMT	**Dagmar**	45.01	360	⇑P		P		17 56 37.8	+0.5	
	baz=45									
B23A	**Brockton**	45.02	359	⇑P		P		17 56 38.1	+0.8	
	baz=45									
HAWA	**Hanford**	45.05	345	*e*P		P		17 56 38.4	+0.9	
	comp=Z,342nm,1.4s									
HAWA				LR		LR				
	comp=Z,2µm,19.0s									
B21A	**Ellsworth Farm**	45.05	357	⇓P		P		17 56 37.7	+0.1	
	baz=45									
B28A	**Dugan Ranch, T**	45.09	3	⇓P		P		17 56 38.4	+0.5	
	baz=45									
B20A	**Solberg Farm,**	45.12	356	⇑P		P		17 56 38.2	0.0	
	baz=45									
B29A	**Wagenman Farm,**	45.17	4	⇑P		P		17 56 38.7	+0.1	
	baz=45									
JTMT	**Jette**	45.19	350	*e*P		P		17 56 38.2	-0.6	
	comp=Z,55nm,1.7s									
JTMT				*e*PcP		PcP		17 58 19.3	+0.3	
B19A	**Brinkman Farms**	45.21	355	⇑P		P		17 56 39.0	+0.1	
	baz=45									
LCO	**Las Campanas**	45.22	138	*e*P		P		17 56 40.5	+1.0	
	comp=Z,160nm,1.3s									
LCO				LR		LR				
	comp=Z,8µm,19.0s									
B30A	**Myrvik Farm, E**	45.24	5	⇑P		P		17 56 39.1	0.0	
	baz=45									
YBMT	**Yellow Bay**	45.26	350	*e*P		P		17 56 39.8	+0.5	
	comp=Z,66nm,1.5s									
YBMT				*e*PcP		PcP		17 58 20.3	+1.1	
AGMN	**Agassiz Nation**	45.37	8	*e*P		P		17 56 39.4	-0.6	
	comp=Z,481nm,1.4s									
AGMN				*e*PcP		PcP		17 58 17.9	-1.5	
AGMN				LR		LR				
	comp=Z,5µm,20.0s									
BSMT	**Bassoo Peak**	45.38	350	*e*P		P		17 56 41.3	+0.9	
	comp=Z,67nm,1.6s									
BSMT				*e*PcP		PcP		17 58 21.1	+1.3	
BLMT	**Blacktail Moun**	45.46	350	*e*P		P		17 56 42.5	+1.4	
	comp=Z,169nm,1.8s									
BLMT				*e*PcP		PcP		17 58 21.0	+0.9	
A24A	**Westby**	45.47	360	⇓P		P		17 56 41.4	+0.5	
	baz=46									
A23A	**Redstone**	45.51	359	⇓P		P		17 56 41.6	+0.4	
	baz=46									
A27A	**Ledoux Ranch,**	45.55	2	⇓P		P		17 56 41.8	+0.2	
	baz=46									
A20A	**Cobblestone Ra**	45.55	356	⇑P		P		17 56 41.7	0.0	
	baz=46									
A28A	**Rude Farm, Bot**	45.56	3	⇑P		P		17 56 41.8	+0.2	
	baz=46									
A22A	**Carney Farms,**	45.57	358	⇓P		P		17 56 42.3	+0.6	
	baz=46									
A21A	**Bergtoll Ranch**	45.61	357	⇑P		P		17 56 42.5	+0.4	
	baz=46									
A29A	**Manning Farm,**	45.64	4	⇑P		P		17 56 42.2	0.0	
	baz=46									
BRNJ	**Basking Ridge**	45.65	31	*e*P		P		17 56 44.3	+1.9	
A19A	**Klindworth Far**	45.66	356	⇑P		P		17 56 42.4	-0.1	
	baz=46									
FL2	**Flat Top 2**	45.67	342	P		P		17 56 43.8	+1.1	
A30A	**Hoffart Farm,**	45.73	5	⇑P		P		17 56 43.1	+0.1	
	baz=46									
EYMN	**Ely**	45.75	12	*e*P		P		17 56 42.0	-1.1	
	comp=Z,492nm,1.6s									
EYMN				LR		LR				
	comp=Z,4µm,22.0s									
TLL	**Tololo Astrono**	45.89	139	⇑*i*P		P		17 56 45.4	+0.6	
TLL	**Tololo Astrono**	45.89	139	⇑*i*P		P		17 56 45.4	+0.6	
TLL	**Tololo Astrono**	45.89	139	⇑*i*P		P		17 56 45.4	+0.6	
LON	**Longmire**	46.01	343	*e*P		P		17 56 45.7	+0.5	
LON				pmax		pmax				
	comp=Z,190nm,1.3s									
LON	**Longmire**	46.01	343	*e*P		P		17 56 45.7	+0.5	
	comp=Z,190nm,1.3s									
BINY	**Binghamton**	46.07	29	PFAKE				17 57 00.0	+14	
BINY				LR		LR				
	comp=Z,10µm,19.0s									
NEW	**Newport**	46.23	348	*e*P		P		17 56 46.9	0.0	
	comp=Z,341nm,1.5s									
NEW				PcP		PcP		17 58 22.7	+0.2	
NEW				LR		LR				
	comp=Z,3µm,20.0s									
NEW	**Newport**	46.23	348	⇓P		P		17 56 47.2	+0.2	
	baz=46									
NEW	**Newport**	46.23	348	P		P		17 56 47.1	+0.2	
	comp=Z,63nm,0.9s,baz=159,slow=8.9,SNR=73									
NEW				PcP		PcP		17 58 22.7	+0.2	
	comp=Z,8.3nm,0.9s,baz=154,slow=3.5,SNR=2.4									
ETW	**Entiat**	46.38	345	P		P		17 56 49.4	+1.1	
WALA	**Waterton Lakes**	46.40	351	*e*P		P		17 56 48.6	+0.2	
	comp=Z,8.6nm,1.5s									
SADO	**Sadowa**	46.70	24	P		P		17 56 49.6	-0.9	
SADO	**Sadowa**	46.70	24	P		P		17 56 49.6	-0.9	
	comp=Z,22nm,0.7s,baz=238,slow=7.1,SNR=15									
BBSR	**BB Station**	46.75	47	*e*P		P		17 56 51.1	-0.1	
	comp=Z,593nm,1.8s									
NLW	**Nelson Butte**	46.82	345	P		P		17 56 52.2	+0.5	
VAH	**Vaihoa**	47.05	246	*e*P		P		17 56 55.5	+1.7	
	comp=Z,149nm,1.

comp=Z,96nm,1.3s
EDM Edmonton 50.38 353 *e*P **P 17 57 18.7 -0.2**
EDM Edmonton 50.38 353 *e*P **P 17 57 18.7 -0.2**
FFC Flin Flon 51.30 1 *i*P **P 17 57 25.4 -0.3**
FFC Flin Flon 51.30 1 *e*P **P 17 57 25.0 -0.8**
comp=Z,594nm,1.5s
FFC LR LR
comp=Z,5µm,20.0s
FFC Flin Flon 51.30 1 P **P 17 57 25.0 -0.8**
comp=Z,572nm,1.7s,SNR=22
PKME Peaks-Kenny Pk 51.62 31 PFAKE 17 57 40.0 +12
PKME LR LR
comp=Z,9µm,20.0s
TBI Tubuai 51.70 237 *e*S **S 18 04 51.6 +0.5**
comp=Z,6µm,27.8s
TBI *e*LR LR 18 12 22.2
comp=Z,40µm,26.2s,baz=63
TBI Tubuai 51.70 237 *e*T T 18 52 50.5
comp=Z,20nm,0.4s
EMMW East Machias 52.21 32 *e*P **P 17 57 33.2 +0.5**
comp=Z,1µm,1.6s
BBB Bella Bella 52.74 341 P **P 17 57 37.3 +0.8**
BBB Bella Bella 52.74 341 P **P 17 57 37.3 +0.8**
comp=Z,69nm,1.2s,baz=226,slow=10,SNR=3.4
BBB LR LR 18 17 25.4
comp=Z,1µm,19.5s,baz=2.9,slow=33
XMAS Kiritimati 53.52 270 *e*P **P 17 57 44.0 +1.1**
comp=Z,584nm,1.5s
XMAS LR LR
comp=Z,16µm,21.0s
CPUP Villa Florida 53.77 126 P **P 17 57 44.8 +0.3**
CPUP Villa Florida 53.77 126 P **P 17 57 44.8 +0.3**
comp=Z,114nm,0.8s,baz=280,slow=7.7,SNR=159
HON Honolulu 55.52 294 *e*P **P 17 58 00.3 +2.9**
HON Honolulu 55.52 294 *e*P **P 17 58 00.3 +2.9**
KIP Kipapa 55.55 294⇓ *e*P **P 17 57 57.2 -0.4**
KIP pmax pmax
comp=Z,572nm,1.4s
KIP Kipapa 55.55 294 *e*P **P 17 58 00.3 +2.7**
comp=Z,343nm,1.1s
KIP LR LR
comp=Z,8µm,20.0s
FCC Fort Churchill 55.85 6 *e*P **P 17 57 58.6 -0.4**
FCC pmax pmax
comp=Z,20nm,1.6s
FCC Fort Churchill 55.85 6 *e*P **P 17 57 58.6 -0.4**
comp=Z,20nm,1.6s
COYC Coyhaique 56.26 154 *e*P **P 17 58 03.0 +0.9**
COYC Coyhaique 56.26 154 *e*P **P 17 58 03.0 +0.9**
TRQA Tornquist 56.52 141 *e*P **P 17 58 03.4 -0.9**
comp=Z,254nm,1.3s
TRQA LR LR
comp=Z,6µm,22.0s
LPA La Plata 57.45 136 *ce*P **P 17 58 11.0 +0.2**
LPA pS **pS 18 06 12.0 0.0**
LPA SP S 18 06 17.0 +8.9
LPA pPS 18 06 22.0
WRAK Wrangell Islan 57.65 342 PFAKE 17 58 20.0 +8.1
WRAK LR LR
comp=Z,2µm,21.0s
BDFB Brasilia 58.37 111 P **P 17 58 17.4 -0.4**
BDFB Brasilia 58.37 111 P **P 17 58 17.4 -0.4**
comp=Z,84nm,1.1s,baz=282,slow=10,SNR=46
BDFB LR LR 18 22 14.5
comp=Z,12µm,21.1s,baz=283,slow=35
DLBC Dease Lake 58.68 344 P **P 17 58 20.1 +1.0**
DLBC PcP **PcP 17 59 10.8 +1.7**
DLBC ⇑ *e* 18 28 06.3
DLBC Dease Lake 58.68 344 P **P 17 58 20.1 +1.0**
comp=Z,40nm,0.8s,baz=164,slow=6.1,SNR=44
DLBC PcP **PcP 17 59 10.8 +1.7**
comp=Z,20nm,0.9s,baz=179,slow=6.0,SNR=4.5
DLBC LR LR 18 22 32.0
comp=Z,2µm,20.1s,baz=139,slow=35
DLBC PKP2bc 18 28 06.3
comp=Z,9.8nm,1.2s,baz=350,slow=6.8,SNR=3.9
SCHQ Schefferville 59.50 24 P **P 17 58 23.9 -1.0**
SCHQ PcP **PcP 17 59 12.2 -0.2**
SCHQ Schefferville 59.50 24 P **P 17 58 23.9 -1.0**
comp=Z,53nm,0.9s,baz=232,slow=6.7,SNR=21
SCHQ PcP **PcP 17 59 12.2 -0.2**
comp=Z,30nm,0.9s,baz=240,slow=1.5,SNR=3.4
SCHQ LR LR 18 25 17.4
comp=Z,10µm,18.8s,baz=223,slow=37
YKA Yellowknife Ar 59.61 354 P **P 17 58 24.6 -0.8**
YKA PcP **PcP 17 59 13.1 +0.5**
YKA P'P' 18 27 56.4
YKA Yellowknife Ar 59.61 354 P **P 17 58 24.6 -0.8**
comp=Z,35nm,0.8s,baz=163,slow=6.7,SNR=70
YKA PcP **PcP 17 59 13.1 +0.5**
comp=Z,13nm,0.8s,baz=158,slow=4.2,SNR=7.7
YKA PKPPKP **P'P'df 18 27 56.3 +1.7**
comp=Z,2.4nm,0.8s,baz=2.7,slow=2.6,SNR=3.2
YKW3 Yellowknife Ar 59.68 354 *e*P **P 17 58 24.8 -1.1**
comp=Z,5.0nm,1.4s
RAR Rarotonga 59.88 243 *e*P **P 17 58 29.1 +1.1**
comp=Z,230nm,1.4s
RAR Rarotonga 59.88 243 P **P 17 58 28.8 +0.8**
comp=Z,63nm,0.8s,baz=42,slow=0.0,SNR=12
RAR LR LR 18 17 47.9
comp=Z,13µm,18.4s,baz=135,slow=30
SKAG Skagway 61.06 342 *e*P **P 17 58 35.8 +0.4**
comp=Z,153nm,1.4s
SPB Sao Paulo 61.08 119 *e*P **P 17 58 36.6 +0.4**
comp=Z,546nm,1.8s
SPB LR LR
comp=Z,5µm,22.0s
HYT Haines Junctio 62.81 342 *e*P **P 17 58 48.1 +0.8**
USHA Ushuaia 64.91 158 P **P 17 59 02.8 +1.8**
USHA Ushuaia 64.91 158 P **P 17 59 02.8 +1.8**
comp=Z,136nm,1.1s,baz=289,slow=4.9,SNR=19
BMRM Bremner River 65.24 339 *e*P **P 17 59 03.9 +0.6**
comp=Z,530nm,1.4s
FRB Frobisher Bay 65.59 16 P **P 17 59 05.0 -0.3**
FRB Frobisher Bay 65.59 16 P **P 17 59 05.0 -0.3**
comp=Z,54nm,0.9s,baz=229,slow=9.1,SNR=13
DIV Divide 65.76 339 *e*P **P 17 59 07.0 +0.3**
comp=Z,215nm,1.4s
DAWY Dawson 65.89 344 *e*P **P 17 59 07.3 -0.1**
MENT Mentasta 66.34 341 *e*P **P 17 59 09.9 -0.3**
OHAK Old Harbor 66.35 333 *e*P **P 17 59 10.4 +0.1**
comp=Z,399nm,1.3s
KDAK Kodiak Island 66.36 334 PFAKE 17 59 20.0 +10
KDAK LR LR
comp=Z,3µm,20.0s
KDAK Kodiak Island 66.36 334 P **P 17 59 11.0 +0.6**
comp=Z,491nm,1.8s,SNR=13
SEW Seward 66.46 337 *e*P **P 17 59 10.5 -0.5**
comp=Z,50nm,0.9s
EGAK Eagle 66.93 344 *e*P **P 17 59 13.7 -0.3**
comp=Z,123nm,1.3s
EGAK LR LR
comp=Z,2µm,22.0s
PAX Paxson 66.93 341 *e*P **P 17 59 13.4 -0.7**
PAX pmax pmax
comp=Z,177nm,1.5s
PAX Paxson 66.93 341 *e*P **P 17 59 13.4 -0.7**
comp=Z,177nm,1.5s
DOT Dot Lake 66.96 342 *e*P **P 17 59 13.5 -0.7**
comp=Z,204nm,1.2s
EFI East Falkland 67.13 151 *ce*P **P 17 59 16.0 +0.6**
EFI pmax pmax
comp=Z,1µm,1.7s
EFI East Falkland 67.13 151 PFAKE 17 59 30.0 +15
EFI LR LR
comp=Z,1µm,20.0s
EFI East Falkland 67.13 151 P **P 17 59 16.9 +1.5**
comp=Z,1µm,1.0s,SNR=6.4
PMR Palmer 67.28 338 *e*P **P 17 59 15.9 -0.3**
PMR pmax pmax
comp=Z,341nm,1.3s
PMR Palmer 67.28 338 *e*P **P 17 59 15.9 -0.3**
comp=Z,341nm,1.3s
INK Inuvik 67.94 349 P **P 17 59 19.9 -0.3**
INK P'P' 18 27 35.1
INK Inuvik 67.94 349 P **P 17 59 19.9 -0.3**
comp=Z,66nm,0.9s,baz=136,slow=6.5,SNR=79
INK LR LR 18 27 23.4
comp=Z,2µm,21.7s,baz=130,slow=34
INK PKPPKP P'P'df 18 27 35.1 -6.1
comp=Z,4.3nm,1.1s,baz=298,slow=2.1,SNR=6.0
RCBR Riachuelo 68.49 98 *e*P **P 17 59 24.5 -0.3**
comp=Z,932nm,1.8s
RCBR LR LR
comp=Z,10µm,19.0s
MCK McKinley 68.60 340 *e*P **P 17 59 24.0 -0.5**
MCK pmax pmax
comp=Z,225nm,1.4s
MCK McKinley 68.60 340 *e*P **P 17 59 24.0 -0.5**
comp=Z,225nm,1.4s
ILAR Eielson Array 68.63 342 P **P 17 59 23.9 -0.7**
ILAR ⇑ *e* 18 27 36.7
ILAR Eielson Array 68.63 342 P **P 17 59 23.9 -0.7**
comp=Z,65nm,0.9s,baz=150,slow=4.4,SNR=285
ILAR PKP2bc 18 27 36.7
comp=Z,2.5nm,0.9s,baz=297,slow=3.5,SNR=18
SDPT Sand Point 68.86 329 *e*P **P 17 59 26.3 +0.1**
comp=Z,420nm,1.3s
TRF Thorofare Moun 68.89 340 *e*P **P 17 59 25.3 -1.2**
comp=Z,367nm,1.6s
COLA College 69.00 341 *e*P **P 17 59 26.1 -0.9**
COLA pmax pmax
comp=Z,532nm,1.5s
COLA MLR MLR
comp=Z,1µm,21.0s
COLA College 69.00 341 *e*P **P 17 59 26.1 -0.9**
comp=Z,532nm,1.5s
COLA LR LR
comp=Z,1µm,21.0s
PPLA Purkeypile 69.22 339 *e*P **P 17 59 28.0 -0.6**
comp=Z,699nm,1.5s
AFI Afiamalu 69.44 254 P **P 17 59 32.9 +2.2**
AFI Afiamalu 69.44 254 P **P 17 59 32.9 +2.2**
comp=Z,41nm,0.3s,baz=158,slow=7.0,SNR=4.4
AFI LR LR 18 21 56.0
comp=Z,7µm,20.3s,baz=99,slow=29
BPAW Bear Paw Mtn. 69.54 340 *e*P **P 17 59 29.0 -1.3**
comp=Z,158nm,1.4s
AKUT Akutan 71.17 327 *e*P **P 17 59 39.9 -0.5**
comp=Z,912nm,1.4s
COLD Coldfoot 71.28 343 *e*P **P 17 59 41.0 +0.1**
comp=Z,262nm,1.4s
UNV Unalaska Valle 71.46 326 *e*P **P 17 59 43.1 +0.9**
comp=Z,383nm,1.3s
RES Resolute Bay 71.52 3 *e*P **P 17 59 41.3 -0.9**
comp=Z,164nm,1.4s
RES Resolute Bay 71.52 3 P **P 17 59 41.6 -0.6**
comp=Z,38nm,0.8s,baz=184,slow=8.8,SNR=37
RES LR LR 18 29 31.8
comp=Z,642nm,18.9s,baz=356,slow=35
IM04 Indian Mountai 71.62 341 *e*P **P 17 59 41.5 -1.5**
IMA2 Indian Mountai 71.65 341 *e*P **P 17 59 41.8 -1.5**
NRS Narsarsuaq 72.36 26 *i*P **P 17 59 48.1 +0.6**
NRS pmax pmax
comp=Z,50nm,0.9s
SFJD Kangerlussuaq 73.31 19 *i*P **P 17 59 53.3 +0.3**
comp=Z,18nm,0.9s
SFJD Kangerlussuaq 73.31 19 *e*P **P 17 59 52.5 -0.5**
comp=Z,94nm,1.4s
SFJD LR LR
comp=Z,4µm,19.0s
SFJD Kangerlussuaq 73.31 19 P **P 17 59 52.7 -0.3**
comp=Z,36nm,1.1s,baz=217,slow=6.9,SNR=6.5
MIDW Midway 73.91 298 *e*P **P 17 59 58.1 +0.8**
comp=Z,218nm,1.3s
PMSA Palmer Station 73.91 163 *e*P **P 17 59 57.6 +1.0**
comp=Z,211nm,1.5s
PMSA Palmer Station 73.91 163 P **P 17 59 57.9 +1.4**
comp=Z,56nm,1.1s,baz=323,slow=4.9,SNR=10
ILULI Ilulissat 74.41 17 *i*P **P 17 59 59.6 +0.2**
ILULI pmax pmax
comp=Z,52nm,0.7s
KULLO Kullorsuaq 76.22 12 *i*P **P 18 00 09.9 +0.2**
KULLO pmax pmax
comp=Z,68nm,1.1s
TNA Tin City 76.49 337 *e*P **P 18 00 11.8 +0.4**
comp=Z,213nm,1.3s
ADK Adak 76.84 323 *e*P **P 18 00 12.2 -1.5**
ADK MLR MLR
comp=Z,3µm,21.0s
ADK Adak 76.84 323 *e*P **P 18 00 12.2 -1.5**
comp=Z,1µm,1.0s
ADK LR LR
comp=Z,3µm,21.0s
RAO Raoul Island 77.75 239 LR LR 18 26 07.7
comp=Z,5µm,20.5s,baz=110,slow=29
CMLA Cha da Macela 78.79 52 PFAKE 18 00 40.0 +15
CMLA LR LR
comp=Z,4µm,21.0s
AMKA Amchitka 79.22 322 *e*P **P 18 00 26.9 0.0**
comp=Z,427nm,1.3s
MSVF Nonsavu 79.66 251 *e*P **P 18 00 32.5 +2.4**
MSVF pmax pmax
comp=Z,190nm,1.5s
MSVF MLR MLR
comp=Z,5µm,22.0s
MSVF Nonsavu 79.66 251 *e*P **P 18 00 32.5 +2.4**
comp=Z,190nm,1.5s
MSVF LR LR
comp=Z,5µm,22.0s
MSVF Nonsavu 79.66 251 P **P 18 00 31.7 +1.6**
comp=Z,450nm,1.0s,SNR=8.4
SUMG Summit 79.66 16⇑ *i*P **P 18 00 30.5 +1.0**
SUMG pmax pmax
comp=Z,68nm,0.9s
SUMG Summit 79.66 16⇑ *i*P **P 18 00 30.5 +1.0**
comp=Z,68nm,0.9s
SUMG Summit 79.66 16 *e*P **P 18 00 29.0 -0.5**
comp=Z,204nm,1.3s
ALE Alert 81.10 5 P **P 18 00 36.4 -0.2**
comp=Z,535nm,1.4s,SNR=21
FX1 Attu Island--F 83.14 323 *e*P **P 18 00 46.4 -1.4**
FX1 Attu Island--F 83.14 323 P **P 18 00 47.5 -0.2**
comp=Z,48nm,0.6s,baz=213,slow=3.6,SNR=26
FX1 LR LR 18 29 26.1
comp=Z,2µm,18.2s,baz=143,slow=30
URZ Urewera 83.42 231 P **P 18 00 50.8 +1.3**
URZ Urewera 83.42 231 P **P 18 00 50.8 +1.3**
comp=Z,33nm,1.0s,baz=71,slow=3.4,SNR=6.1
URZ LR LR 18 29 00.8
comp=Z,8µm,22.0s,baz=6.2,slow=29
BORG Borgarnes 83.86 25 P **P 18 00 51.1 -0.1**
BORG LR LR
comp=Z,6µm,19.0s
BORG Borgarnes 83.86 25 P **P 18 00 51.1 -0.1**
comp=Z,91nm,1.3s,baz=53,slow=6.8,SNR=3.3
SCO Scoresbysund 84.22 20 *e*P **P 18 00 53.9 +1.0**
SCO pmax pmax
comp=Z,20nm,0.9s
SCO Scoresbysund 84.22 20 *i*P **P 18 00 53.9 +1.0**
comp=Z,20nm,0.9s
SNZO South Karori 85.71 228 PFAKE 18 01 10.0 +9.0
SNZO LR LR
comp=Z,9µm,20.0s
DAG Danmarks Havn 85.72 13⇑ *i*P **P 18 00 59.7 -0.7**
DAG pmax pmax
comp=Z,20nm,0.9s
DAG Danmarks Havn 85.72 13⇑ *i*P **P 18 00 59.7 -0.7**
comp=Z,24nm,0.9s
OUZ Omahuta 85.78 234 *e*P **P 18 01 03.7 +2.2**
comp=Z,169nm,1.3s
KHZ Kahutara 86.72 227 *e*P **P 18 01 07.7 +1.7**
comp=Z,24nm,0.8s
H11N3 WAKE ISLAND Hy 88.16 290 T T 19 38 52.4
baz=88,slow=0.7,SNR=38
H11N2 WAKE ISLAND Hy 88.17 290 T T 19 38 44.2
baz=88,slow=0.7,SNR=51
H11N1 WAKE ISLAND Hy 88.18 290 T T 19 38 50.5
baz=88,slow=0.7,SNR=66
H11S2 WAKE ISLAND Hy 88.42 288 T T 19 39 01.7
baz=87,slow=0.6,SNR=100
H11S1 WAKE ISLAND Hy 88.42 288 T T 19 39 00.6
baz=87,slow=0.6,SNR=165
H11S3 WAKE ISLAND Hy 88.43 288 T T 19 39 07.1
baz=87,slow=0.6,SNR=69
RPZ Rata Peaks 88.68 226 P **P 18 01 17.1 +1.7**
RPZ Rata Peaks 88.68 226 P **P 18 01 17.1 +1.7**
comp=Z,36nm,1.0s,baz=72,slow=2.5,SNR=10
VAL Valentia 89.68 38 *e*S **S 18 12 14.4 +3.0**
ASCN Ascension 89.97 98 PFAKE 18 01 30.0 +7.9
ASCN LR LR
comp=Z,2µm,20.0s
DZM Mont Dzumac 90.92 248 *e*P **P 18 01 28.2 +1.7**
comp=Z,75nm,1.4s
DZM Mont Dzumac 90.92 248 *e*PP PP 18 04 45.7 -17
comp=Z,252nm,26.9s
DZM *e*SKSac **SKSac 18 11 56.4 -2.8**
comp=Z,1µm,22.9s
DZM Mont Dzumac 90.92 248 *e*PS PS 18 13 30.2 -2.9
comp=Z,4µm,26.1s
DZM *e*SS SS 18 18 28.5 +1.0
comp=Z,5µm,26.1s
DZM *e*LQ LQ 18 26 41.9
comp=Z,2µm,27.4s
DZM *e*LR LR 18 30 32.6
comp=Z,10µm,23.8s
DZM Mont Dzumac 90.92 248 *e*P **P 18 01 27.6 +1.1**
comp=Z,49nm,1.4s
DZM Mont Dzumac 90.92 248 P **P 18 01 28.2 +1.7**
comp=Z,26nm,1.2s,baz=111,slow=9.0,SNR=9.9
KBS Kingsbay 91.61 10 *de*P **P 18 01 29.4 +1.0**
KBS pmax pmax
comp=Z,79nm,1.6s
LIS Lisbon 91.66 51 *e*P **P 18 01 29.4 0.0**
LIS *e*S **SKSac 18 12 02.5 0.0**
LIS *e*SS **SS 18 18 38.4 +1.5**
LIS AMS AMS 18 37 29.6
comp=Z,5µm,18.3s
LIS Lisbon 91.66 51 *e*P **P 18 01 29.4 0.0**
LIS Lisbon 91.66 51 *e*S **SKSac 18 12 02.5 0.0**
LIS *e*SS **SS 18 18 38.4 +1.5**
LIS A A 18 37 29.6
comp=Z,5µm,18.3s
LIS Lisbon 91.66 51 *e*P **P 18 01 29.4 0.0**
LIS *e*S **SKSac 18 12 02.5 0.0**
LIS *e*SS **SS 18 18 38.4 +1.5**
PET Petropavlovsk 91.89 323 *e*P **P 18 01 30.6 +0.5**
PET *e* 18 12 06.1
PET *e*S **S 18 12 28.0 -3.6**
PET *e*PS **PS 18 13 41.2 -1.2**
PET pmax pmax
comp=Z,500nm,4.2s
PET pmax pmax
comp=Z,400nm,14.1s
PET pmax pmax
comp=Z,75nm,1.1s
MORF Marmelete 92.19 53 *e*P **P 18 01 31.8 -0.2**
MORF *e*S **SKSac 18 12 03.9 -1.8**
MORF *e*SS **SS 18 18 45.5 +0.7**
POLO Lamas de Olo 92.41 49 *e*LR LR 18 31 21.1
PETK Petropavlovsk- 92.45 323 P **P 18 01 33.0 +0.2**
PETK Petropavlovsk- 92.45 323 P **P 18 01 33.0 +0.2**
PETK Petropavlovsk- 92.45 323 P **P 18 01 33.0 +0.2**
comp=Z,11nm,0.7s,baz=102,slow=8.5,SNR=14
PETK LR LR 18 36 57.5
comp=Z,686nm,20.3s,baz=131,slow=32
MTE Manteigas 92.71 49 *e*LR LR 18 31 26.4
MTE Manteigas 92.71 49 PFAKE 18 01 50.0 +16
MTE LR LR
comp=Z,4µm,21.0s
PVAQ Vaqueiros 92.92 52 *e*LR LR 18 31 35.5
PMRV Marv??o 92.94 50 *e*LR LR 18 31 34.4
MVO Moncorvo 93.01 49 *e*LR LR 18 32 17.7
SBA Scott Base 93.06 192 *e*P **P 18 01 36.0 +1.0**
SBA pmax pmax
comp=Z,156nm,1.4s
SBA MLR MLR
comp=Z,3µm,22.0s
SBA Scott Base 93.06 192 *e*P **P 18 01 36.0 +1.0**
comp=Z,156nm,1.4s
SBA LR LR
comp=Z,3µm,22.0s
TRIS Tristan da Cun 93.21 127 PFAKE 18 01 50.0 +13
TRIS LR LR
comp=Z,3µm,20.0s
QSPA South Pole Qui 93.29 180 *e*P **P 18 01 36.8 +0.3**
comp=Z,59nm,0.8s
QSPA *e*PP **PP 18 05 19.7 -0.3**
QSPA LR LR
comp=Z,2µm,20.0s
SEY Seymchan 93.31 334⇓ *e*P **P 18 01 37.5 +1.0**
ESK Eskdalemuir 93.38 34 PFAKE 18 01 50.0 +13
ESK LR LR
comp=Z,4µm,22.0s
RTC Rabat Centre 94.00 56 PFAKE 18 01 50.0 +10
RTC LR LR
comp=Z,4µm,21.0s
VNDA Vanda 94.12 193 *e*P **P 18 01 40.9 +0.9**
comp=Z,113nm,1.5s
VNDA PP **PP 18 05 27.4 +1.3**
VNDA Vanda 94.12 193 P **P 18 01 41.2 +1.3**
comp=Z,47nm,1.3s,baz=67,slow=3.0,SNR=58
VNDA PP **PP 18 05 27.4 +1.3**
comp=Z,16nm,1.4s,baz=73,slow=7.7,SNR=6.8
VNA1 Neumayer--Stat 94.95 161 *e*P **P 18 01 44.1 +0.3**
VNA2 Neumayer--Watz 95.22 161 *e*P **P 18 01 45.2 +0.1**
PAB San Pablo 95.26 50 PFAKE 18 02 00.0 +14
PAB LR LR
comp=Z,6µm,20.0s
ESDC Sonseca Array 95.53 50 PP PP 18 05 36.1 -2.1
ESDC PKKPbc **PKKPbc 18 18 37.2 -2.6**
ESDC Sonseca Array 95.53 50 PP PP 18 05 36.1 -2.1
comp=Z,0.1nm,0.3s,baz=305,slow=5.2,SNR=5.1
ESDC PKKPbc **PKKPbc 18 18 37.2 -2.6**
comp=Z,1.9nm,0.9s,baz=33,slow=2.9,SNR=7.7
ESDC LR LR 18 39 16.4
comp=Z,3µm,19.9s,baz=290,slow=32
SNAA Sanae 96.58 162 *e*P **P 18 01 51.5 +0.1**
SNAA Sanae 96.58 162 *e*P **P 18 01 51.0 -0.4**
comp=Z,137nm,1.4s
HNR Honiara 96.62 261 LR LR 18 36 36.3
comp=Z,7µm,20.0s,baz=105,slow=30
TIXI Tiksi 97.90 345 *c i*P **P 18 01 56.2 -1.0**
TIXI pmax pmax
comp=Z,35nm,1.4s
TIC Toumodi 98.41 83 *e*P **P 18 01 58.1 -2.7**
comp=Z,15nm,0.2s
LIC Lamto 98.43 83 *e*P **P 18 02 00.1 -0.8**
comp=Z,62nm,1.0s
DBIC Dimbokro 98.57 83 *e*P **P 18 02 00.8 -0.6**
comp=Z,23nm,1.4s
DBIC PKKPbc **PKKPbc 18 18 28.4 -2.3**
DBIC Dimbokro 98.57 83 P **P 18 02 00.9 -0.6**
comp=Z,7.9nm,0.9s,baz=288,slow=4.6,SNR=7.0
DBIC PKKPbc **PKKPbc 18 18 28.4 -2.3**
comp=Z,3.5nm,0.7s,baz=359,slow=1.6,SNR=5.1
DBIC LR LR 18 45 07.3
comp=Z,4µm,18.2s,baz=232,slow=35
KIC Kosan Boka 98.70 83 *e*P **P 18 02 01.3 -0.8**
comp=Z,93nm,1.2s
SHEL Horse Pasture 98.71 106 PFAKE 18 02 10.0 +7.9
SHEL LR LR
comp=Z,2µm,20.0s
KONO Kongsberg 98.80 28 PFAKE 18 02 10.0 +8.5
KONO LR LR
comp=Z,3µm,20.0s
NB2 NORSAR Subarra 98.99 27 P **P 18 02 01.4 -1.0**
comp=Z,53nm,1.7s,baz=296,slow=4.6
NB2 NORSAR Subarra 98.99 27 P **P 18 02 01.4 -1.0**
baz=296,slow=4.6
NOA NORSAR Array B 98.99 27 P **P 18 02 01.7 -0.7**
NOA PKKPbc **PKKPbc 18 18 28.6 -2.4**
NOA NORSAR Array B 98.99 27 P **P 18 02 01.7 -0.7**
comp=Z,3.1nm,0.9s,baz=297,slow=4.3,SNR=5.6
NOA PKKPbc **PKKPbc 18 18 28.6 -2.4**
comp=Z,4.0nm,0.8s,baz=101,slow=3.7,SNR=6.9
NOA LR LR 18 44 52.7
comp=Z,2µm,21.1s,baz=285,slow=34
DOU Dourbes 99.22 38 P **Pdif 18 02 05.8 +2.1**
ARCES ARCESS Array B 99.76 16 P **Pdif 18 02 04.2 -1.5**
ARCES PKKPbc **PKKPbc 18 18 26.9 -2.2**
ARCES ARCESS Array B 99.76 16 P **Pdif 18 02 04.2 -1.5**
comp=Z,12nm,0.7s,baz=343,slow=3.8,SNR=18
ARCES PKKPbc **PKKPbc 18 18 26.9 -2.2**
comp=Z,4.9nm,0.8s,baz=108,slow=4.0,SNR=5.9
ARCES LR LR 18 47 57.8
comp=Z,2µm,19.9s,baz=313,slow=36
KEV Kevo 100.02 16 PFAKE 18 02 20.0 +13
KEV LR LR
comp=Z,1µm,21.0s
WLF Walferdange 100.31 38 PFAKE 18 02 20.0 +12
WLF LR LR
comp=Z,4µm,21.0s
SSB Saint Sauveur 100.51 43 PFAKE 18 02 20.0 +10
SSB LR LR
comp=Z,2µm,21.0s
ECH Echery 101.38 40 PFAKE 18 02 20.0 +6.6
ECH LR LR
comp=Z,3µm,21.0s
BNI Bardonecchia 102.02 43 PFAKE 18 02 30.0 +14
BNI LR LR
comp=Z,3µm,20.0s
BFO Black Forest 102.09 39 PFAKE 18 02 30.0 +14
BFO LR LR
comp=Z,3µm,20.0s
YUK Yuzh-Kuril'sk 102.12 316 *d*P **Pdif 18 02 15.2 -1.4**
YUK *i* PPP PPP 18 08 39.8
YUK *i* S **SKSac 18 12 50.6 -6.0**

YUK *i* SS SS 18 21 13.2 +9.0
YAK Yakutsk 103.26 337 *e*P **Pdif 18 02 20.8 -0.5**
YAK pmax pmax
comp=Z,19nm,1.3s
YAK pmax pmax
comp=E,10.0nm,1.2s
TUE Stuetta 103.35 41 PFAKE 18 02 30.0 +7.6
TUE LR LR
comp=Z,4μm,22.0s
GRF Grafenberg Arr 103.40 37 *e*PKPbc **PKKPbc 18 18 17.0 -0.9**
CLL Collm 103.83 35 *e*P **Pdif 18 02 24.0 -0.1**
CLL *e* 18 06 37.0
CLL pmax pmax
comp=Z,9.0nm,1.4s
CLL MLR MLR
comp=Z,2μm,20.9s
CLL Collm 103.83 35 *e*Pdif **Pdif 18 02 24.0 -0.1**
comp=Z,12nm,1.4s
CLL *e*PP **PP 18 06 37.0 -3.7**
CLL *e*PPIp 18 06 42.0
comp=Z,200nm,18.4s
CLL *e* 18 10 00.0
CLL *e*SKSac **SKSac 18 13 09.0 +4.7**
CLL *e*Sdif **Sdif 18 14 19.0 +5.2**
CLL *e*PS **PS 18 15 51.0 -0.7**
CLL *i* PKKPbc **PKKPbc 18 18 15.3 -1.4**
comp=Z,13nm,1.0s
CLL *i* PKKPdf **PKKPdf 18 18 27.8 +2.6**
CLL *i* 18 18 34.6
CLL *e*SS **SS 18 21 27.0 -0.2**
CLL *e*SSS SSS 18 25 06.0
CLL *e* 18 31 18.0
CLL L L 18 49 00.0
comp=Z,2μm,20.9s
TORD Torodi Ar. Bea 104.37 76 Pdif **Pdif 18 02 23.3 -4.0**
TORD PKiKP **PKiKP 18 06 43.2 -0.8**
TORD PKKPbc **PKKPbc 18 18 14.8 +0.9**
TORD Torodi Ar. Bea 104.37 76 Pdiff **Pdif 18 02 23.3 -4.0**
comp=Z,1.9nm,1.0s,baz=281,slow=4.7,SNR=9.7
TORD PKiKP **PKiKP 18 06 43.2 -0.8**
comp=Z,3.0nm,1.1s,baz=301,slow=3.7,SNR=6.5
TORD PKKPbc **PKKPbc 18 18 14.8 +0.9**
comp=Z,2.7nm,0.8s,baz=83,slow=3.1,SNR=12
BRG Berggiesshubel 104.55 35 *e*PDIF **Pdif 18 02 27.7 +0.4**
comp=Z,22nm,1.7s
BRG PP **PKiKP 18 06 42.0 -1.3**
BRG SKS 18 13 07.0
BRG SDIF **Sdif 18 14 17.0 -2.9**
BRG *e*PKKP **PKKPbc 18 18 13.5 -1.0**
comp=Z,10nm,1.0s
BRG SS SS 18 21 26.0 -11
BRG
comp=N,2μm,21.4s
BRG
comp=E,2μm,21.6s
BRG
comp=Z,3μm,22.6s
BRG Berggiesshubel 104.55 35 *e*P **Pdif 18 02 27.7 +0.4**
BRG 18 06 42.0
BRG 18 13 07.0
BRG S **Sdif 18 14 17.0 -2.9**
BRG pmax pmax
comp=Z,22nm,1.7s
BRG pmax pmax
comp=Z,10.0nm,1.0s
BRG MLR MLR
comp=N,2μm,21.4s
BRG MLR MLR
comp=E,2μm,21.6s
BRG MLR MLR
comp=Z,3μm,22.6s
VLC Villacollemand 104.82 43 PFAKE 18 02 40.0 +11
VLC LR LR
comp=Z,2μm,22.0s
KHC Kasperske Hory 105.03 37 *e*PKP **PKiKP 18 06 39.9 -4.4**
KHC *e*SP SP 18 16 00.5 -2.2
KHC *e*PKKP **PKKPbc 18 18 11.5 -1.6**
KHC *ex* x 18 18 29.2
KHC *e*SS **SS 18 21 45.4 +1.4**
KHC AMS AMS 18 47 30.0
comp=Z,3μm,20.5s
PVCC Panska Ves 105.05 36 *e*PKKP **PKKPbc 18 18 12.4 -0.6**
PVCC AMS AMS 18 44 30.0
comp=Z,4μm,21.0s
PRA Prague 105.16 36 PP PP 18 06 53.0 +2.4
PRA SP SP 18 16 05.0 +1.1
GERES GERESS Array B 105.22 37 Pdif **Pdif 18 02 30.7 +0.1**
GERES PKKPbc **PKKPbc 18 18 11.1 -1.4**
GERES GERESS Array B 105.22 37 Pdiff **Pdif 18 02 30.7 +0.1**
comp=Z,1.8nm,1.1s,baz=191,slow=1.4,SNR=5.0
GERES PKKPbc **PKKPbc 18 18 11.1 -1.4**
comp=Z,3.4nm,0.8s,baz=130,slow=2.1,SNR=18
PRU Pruhonice 105.26 36 *e*PP PP 18 06 52.3 +0.9
PRU *e*SP SP 18 16 04.1 -0.8
PRU *e*PKKP **PKKPbc 18 18 10.3 -2.0**
PRU *e*SS **SS 18 21 45.4 -1.5**
PRU AMS AMS 18 44 00.0
comp=Z,4μm,21.4s
VSL Villasalto 105.60 48 PFAKE 18 07 00.0
VSL LR LR
comp=Z,4μm,20.0s
CAN Canberra 105.85 234 PFAKE 18 07 00.0
CAN LR LR
comp=Z,5μm,20.0s
UPC Upice 105.89 35 *e*PKP **PKiKP 18 06 46.8 +1.0**
UPC *e*PKKP **PKKPbc 18 18 09.7 -0.7**
UPC *ex* x 18 18 25.8
TAU Tasmania Unive 105.97 226 PFAKE 18 07 00.0
TAU LR LR
comp=Z,6μm,20.0s
TREC Trest 106.11 36 *e*PKKP **PKKPbc 18 18 08.5 -1.3**
TREC AMS AMS 18 44 10.0
comp=Z,4μm,24.4s
DPC Dobruska-Polom 106.14 35 *e*PKP **PKiKP 18 06 50.0 +3.7**
DPC *e*SP SP 18 16 16.0 +1.9
DPC *e*PKKP **PKKPbc 18 18 09.0 -0.7**
DPC *ex* x 18 18 25.2
DPC AMS AMS 18 45 10.0
TAM Tamanrasset 106.51 65 PFAKE 18 07 00.0
TAM LR LR
comp=Z,2μm,21.0s
KRLC Kraliky 106.53 35 *e*PP PP 18 06 53.6 -7.2
KRLC *e*PKKP **PKKPbc 18 18 07.8 -0.7**
KEST Kesra 106.69 51 PKKPbc PKKPbc 18 18 07.0 -0.5
KEST Kesra 106.69 51 PKKPbc PKKPbc 18 18 07.0 -0.5
comp=Z,2.6nm,0.9s,baz=188,slow=4.0,SNR=4.9
MOZS Mozjanca 106.70 40 *e*Pdiff **Pdif 18 02 36.4 -0.7**
MOZS *e* 18 06 48.5
MOZS *e* 18 07 05.7
MOZS *i* PKKPbc **PKKPbc 18 18 07.0 -0.8**
MOZS *i* 18 18 22.2
VRAC Vranov 106.76 36⇑ *i*P **PP 18 07 01.6 -0.8**
OKC Ostrava-Krasne 107.42 35 *e*PP PP 18 07 04.8 -2.4
OKC *e*SP SP 18 16 26.7 -0.5
OKC *e*PKKP **PKKPbc 18 18 04.7 -1.0**
OKC *ex* x 18 18 17.9
OKC *e*SS SS 18 22 24.6 +8.3
OKC AMS AMS 18 45 40.0
comp=Z,4μm,22.4s
HABR Khabarovsk 107.48 323 *e*P **Pdif 18 02 39.0 -1.4**
HABR *e*PS **PS 18 16 29.2 -0.5**
HABR *e*SS SS 18 22 17.3 +0.2
HABR *e*SSS SSS 18 26 19.4
HABR pmax pmax
comp=Z,18nm,2.0s
HABR pmax pmax
comp=Z,24nm,2.2s
HABR MLR MLR
comp=Z,980nm,17.0s
PMG Port Moresby 109.23 261 PKKPbc PKKPbc 18 17 58.2 -0.6
PMG LR LR
comp=Z,6μm,19.0s
PMG Port Moresby 109.23 261 PKKPbc PKKPbc 18 17 58.2 -0.6
comp=Z,8.8nm,0.8s,baz=68,slow=19,SNR=3.6
PSZ Piszkesteto 109.34 36 PFAKE 18 07 00.0
PSZ LR LR
comp=Z,2μm,19.0s
PKSM Moragy 109.37 38⇓ *i*P **PKKPbc 18 17 58.4 -0.9**
CTA Charters Tower 109.78 250 PKiKP **PKiKP 18 06 54.0 +0.1**
CTA Charters Tower 109.78 250 PKiKP **PKiKP 18 06 54.0 +0.1**
comp=Z,0.8nm,0.3s,baz=206,slow=3.9,SNR=3.2
CTAO Charters Tower 109.78 250 PFAKE 18 07 10.0
CTAO LR LR
comp=Z,5μm,21.0s

MJAR Matsushiro Arr 110.04 311 PP PP 18 07 25.7 -1.2
MJAR PKKPbc **PKKPbc 18 17 58.0 +1.0**
MJAR Matsushiro Arr 110.04 311 PP PP 18 07 25.7 -1.2
comp=Z,1.8nm,0.8s,baz=60,slow=4.3,SNR=6.2
MJAR PKKPbc **PKKPbc 18 17 58.0 +1.0**
comp=Z,0.9nm,0.9s,baz=255,slow=10,SNR=4.6
MAJO Matsushiro 110.04 311 PFAKE 18 07 10.0
MAJO LR LR
comp=Z,7μm,20.0s
MAT Matsushiro 110.04 311 P **PKKPab 18 18 06.9 -1.0**
CUC Castrocucco 110.09 45 PFAKE 18 07 10.0
CUC LR LR
comp=Z,2μm,20.0s
KWP Kalwaria Pacla 110.10 34⇑ *i*P **PKiKP 18 06 54.1 +0.4**
KWP Kalwaria Pacla 110.10 34⇓ *i*P **PKKPbc 18 17 56.3 -0.9**
KWP Kalwaria Pacla 110.10 34 PFAKE 18 07 10.0
KWP LR LR
comp=Z,2μm,21.0s
UZH Uzhgorod 110.38 35 *e*P **Pdif 18 02 52.3 -1.0**
UZH *i* 18 07 27.0
UZH *i* 18 16 59.0
TRPA Tarpa 110.78 35⇓ *i*P **PKiKP 18 06 56.0 +1.0**
TRPA Tarpa 110.78 35⇓ *i*P **PKKPbc 18 17 53.9 -1.0**
CEL Celeste 110.80 47 PFAKE 18 07 10.0
CEL LR LR
comp=Z,2μm,22.0s
USRK Ussuriysk Arra 111.31 320 PKiKP **PKiKP 18 06 56.5 +0.4**
comp=Z,0.7nm,0.6s,baz=79,slow=3.1,SNR=4.7
BZS Buzias 111.49 38⇓ PKIKP **PKiKP 18 06 57.1 +0.7**
BZS Buzias 111.49 38⇓ *i*P **PKiKP 18 06 57.1 +0.7**
BZS Buzias 111.49 38⇓ *i*P **PKKPbc 18 17 51.3 -1.2**
TIR Tirane 112.34 43 PFAKE 18 07 10.0
TIR LR LR
comp=Z,2μm,20.0s
STKA Stephens Creek 112.49 237 PKiKP **PKiKP 18 06 58.9 +0.2**
STKA PKKPbc **PKKPbc 18 17 47.3 -1.4**
STKA Stephens Creek 112.49 237 PKiKP **PKiKP 18 06 58.9 +0.2**
comp=Z,7.8nm,0.8s,baz=122,slow=5.3,SNR=10
STKA PKKPbc **PKKPbc 18 17 47.3 -1.4**
comp=Z,3.8nm,1.2s,baz=283,slow=24,SNR=3.3
BURAR Bucovina Array 112.58 35⇑ PKIKP **PKiKP 18 07 00.1 +1.5**
BURAR Bucovina Array 112.58 35⇑ *i*P **PKiKP 18 07 00.1 +1.5**
BURAR Bucovina Array 112.58 35⇑ *i*P PKKPbc 18 17 42.2 -6.9
MDJ Mudanjiang 112.61 322 Pdif **Pdif 18 03 02.1 -1.3**
MDJ SS SS 18 23 27.5 +1.3
MDJ PPMZ
comp=Z,170nm,5.6s
MDJ LR LR
comp=Z,2μm,17.6s
MDJ LR LR
comp=Z,840nm,14.4s
MDJ LR LR
comp=Z,3μm,17.6s
MDJ Mudanjiang 112.61 322 PFAKE 18 07 10.0
MDJ LR LR
comp=Z,3μm,20.0s
CASY Casey 112.66 194 PFAKE 18 07 10.0
CASY LR LR
comp=Z,3μm,22.0s
LOT Lotru 112.88 37⇓ *i*P **PKKPbc 18 17 46.9 -1.1**
KIEV Kiev 112.94 30 PFAKE 18 07 10.0
KIEV LR LR
comp=Z,3μm,22.0s
AKASG Malin Array Be 112.94 30 PKIKP **PKiKP 18 06 58.6 -0.4**
AKASG 18 07 44.6
AKASG Malin Array Be 112.94 30 PKiKP **PKiKP 18 06 58.6 -0.4**
AKASG PP **PP 18 07 44.5 -2.4**
AKASG PKKPbc **PKKPbc 18 17 45.8 -2.0**
AKASG Malin Array Be 112.94 30 PKiKP **PKiKP 18 06 58.6 -0.4**
comp=Z,2.6nm,0.8s,baz=291,slow=2.4,SNR=17
AKASG PP **PP 18 07 44.5 -2.4**
comp=Z,2.6nm,0.8s,baz=302,slow=6.9,SNR=16
AKASG PKKPbc **PKKPbc 18 17 45.8 -2.0**
comp=Z,3.2nm,0.7s,baz=89,slow=3.2,SNR=22
OBN Obninsk 113.31 23 *i* PKIKP **PKiKP 18 07 00.0 +0.4**
OBN *e* 18 07 48.1
OBN *e* 18 10 21.6
OBN *e*PS **PS 18 17 25.0 -0.5**
OBN *e*SS SS 18 23 37.8 +3.5
OBN SSS SSS 18 27 51.0
OBN pmax pmax
comp=Z,26nm,1.7s
OBN MLR MLR
comp=Z,1μm,18.0s
VOIR 113.66 37⇓ PKIKP **PKiKP 18 07 01.2 +0.5**
VOIR 113.66 37⇓ *i*P **PKiKP 18 07 01.2 +0.5**
VOIR 113.66 37⇑ *i*P **PKKPbc 18 17 45.4 0.0**
VTS Vitosha 113.96 40⇓ PKIKP **PKiKP 18 07 01.2 -0.3**
VTS Vitosha 113.96 40⇓ *i*P **PKiKP 18 07 01.2 -0.3**
VTS Vitosha 113.96 40⇓ *i*P **PKKPbc 18 17 42.8 -1.5**
TESR Tescani 114.01 35⇓ *i*P **PKKPbc 18 17 42.8 -1.3**
MLR Muntele Rosu 114.16 36⇑ *i*P PKPdf 18 07 00.7 -1.0
MLR Muntele Rosu 114.16 36⇓ *i*P **PKKPbc 18 17 42.5 -1.2**
PLOR Plostina 114.37 36⇑ PKIKP PKPdf 18 07 01.7 -0.3
PLOR Plostina 114.37 36⇑ *i*P PKPdf 18 07 01.7 -0.3
PLOR Plostina 114.37 36⇓ *i*P **PKKPbc 18 17 43.3 +0.4**
VRI Vrincioaia 114.41 36⇓ PKIKP PKPdf 18 07 02.5 +0.5
VRI Vrincioaia 114.41 36⇓ *i*P PKPdf 18 07 02.5 +0.5
VRI Vrincioaia 114.41 36⇑ *i*P **PKKPbc 18 17 42.1 -0.6**
ISR Istrita 114.72 36⇓ PKIKP PKPdf 18 07 02.6 -0.1
ISR Istrita 114.72 36⇓ *i*P PKPdf 18 07 02.6 -0.1
KIS Kishinev 114.95 34 *e*PP PP 18 08 06.0 +4.7
comp=Z,500nm,10.0s
KIS Kishinev 114.95 34 PPV PP 18 08 12.0 +11
comp=Z,600nm,10.0s
KIS Kishinev 114.95 34 *e*PPS x 18 18 55.0
KIS *e*L L 18 42 36.0
KIS LRM MLR 18 53 40.0
comp=Z,3μm,21.0s
MAW Mawson 115.15 174 PKP **PKPdf 18 07 02.9 +0.1**
MAW PKKPbc **PKKPbc 18 17 37.9 -2.8**
MAW PKKPab **PKKPab 18 17 45.2 +1.0**
MAW Mawson 115.15 174 PKP **PKPdf 18 07 02.9 +0.1**
comp=Z,5.3nm,0.9s,baz=222,slow=4.3,SNR=9.8
MAW PKKPbc **PKKPbc 18 17 37.9 -2.8**
comp=Z,2.3nm,0.8s,baz=334,slow=4.9,SNR=5.6
MAW PKKPab **PKKPab 18 17 45.2 +1.0**
comp=Z,1.0nm,0.6s,baz=45,slow=5.7,SNR=4.2
HIA Hailar 115.49 330 PFAKE 18 07 20.0 +16
HIA LR LR
comp=Z,3μm,20.0s
CN2 Changchun 115.58 322 Pdif **Pdif 18 03 18.5 +1.9**
CN2 *e*PP PP 18 08 12.1 +6.2
CN2 *e*SS SS 18 24 08.0 +2.7
CN2 PPMZ
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,2μm,18.0s
CN2 LR LR
comp=Z,2μm,18.0s
CN2 LR LR
comp=Z,2μm,20.0s
CFR Carcaliu 115.62 36⇑ PKIKP **PKPdf 18 07 03.6 -0.7**
CFR Carcaliu 115.62 36⇑ *i*P **PKPdf 18 07 03.6 -0.7**
CFR Carcaliu 115.62 36⇓ *i*P **PKKPbc 18 17 37.5 -1.0**
TLB Topalu 115.90 36⇑ PKIKP **PKPdf 18 07 05.1 +0.2**
TLB Topalu 115.90 36⇑ *i*P **PKPdf 18 07 05.1 +0.2**
TLB Topalu 115.90 36⇑ *i*P **PKKPbc 18 17 36.6 -0.9**
CVD Cernavoda 116.04 36⇑ *i*P PKKPbc 18 17 46.6 +10
MSAB Monastry St. A 116.05 37⇑ *i*P **PKKPbc 18 17 41.3 +4.3**
TIRR Tirgusor 116.19 36⇓ PKIKP **PKPdf 18 07 05.7 +0.3**
TIRR Tirgusor 116.19 36⇓ *i*P **PKPdf 18 07 05.7 +0.3**
TIRR Tirgusor 116.19 36⇓ *i*P **PKKPbc 18 17 35.3 -1.2**
KSRS Korea Array 117.18 315 PKP **PKPdf 18 07 08.2 +0.6**
comp=Z,4.7nm,0.9s,baz=44,slow=0.7,SNR=18
KSRS PKKPbc **PKKPbc 18 17 33.6 +0.9**
comp=Z,2.0nm,0.8s,baz=245,slow=3.7,SNR=7.4
KSAR Wonju Array Be 117.22 315 PKP **PKPdf 18 07 08.2 +0.5**
KSAR PKKPbc **PKKPbc 18 17 33.6 +1.0**
VSR Storozhevoye 117.22 25 *e*PKIKP **PKPdf 18 07 06.9 -0.3**
VSR *e* 18 08 13.7
VSR pmax pmax
comp=N,5.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR pmax pmax
comp=E,4.0nm,0.4s
VSR pmax pmax
comp=N,140nm,2.7s
VSR pmax pmax
comp=E,80nm,2.7s
VSR pmax pmax
comp=Z,250nm,2.7s
VSR MLR MLR
comp=N,2μm,25.0s
VSR MLR MLR
comp=E,2μm,25.0s
VSR MLR MLR
comp=Z,4μm,25.0s
VORD Divnogorie 117.46 25 *e*PKIKP **PKPdf 18 07 07.4 -0.3**
VORD *e* 18 08 16.3
VORD pmax pmax
comp=E,10.0nm,0.7s
VORD pmax pmax
comp=Z,9.0nm,0.7s
VORD pmax pmax
comp=E,340nm,4.6s
VORD pmax pmax
comp=Z,550nm,4.6s
VORD MLR MLR
comp=E,690nm,24.0s
VORD MLR MLR
comp=Z,3μm,24.0s
SNY Shenyang 117.82 321⇑ PKP PKPdf 18 07 15.3 +6.6
SNY PP **PP 18 08 18.8 -2.7**
SNY Shenyang 117.82 321 SS SS 18 24 33.8 -0.6
SNY PPMZ
comp=Z,240nm,8.8s
SNY LR LR
comp=N,2μm,21.2s
SNY LR LR
comp=E,3μm,16.7s
SNY LR LR
comp=Z,3μm,50.0s
INCN Inchon 118.07 316 PFAKE 18 07 20.0 +11
INCN LR LR
comp=Z,3μm,19.0s
APE Apeiranthos 118.21 45⇓ PKIKP **PKPdf 18 07 09.0 -0.7**
APE Apeiranthos 118.21 45⇓ *i*P **PKPdf 18 07 09.0 -0.7**
VRHR Novokhopersk 118.33 24 *e*PKIKP **PKPdf 18 07 09.1 -0.3**
VRHR *e* 18 08 24.1
VRHR pmax pmax
comp=N,40nm,1.1s
VRHR pmax pmax
comp=E,10.0nm,1.1s
VRHR pmax pmax
comp=Z,30nm,1.1s
VRHR pmax pmax
comp=Z,460nm,3.5s
VRHR pmax pmax
comp=N,30nm,0.9s
VRHR pmax pmax
comp=E,50nm,0.9s
VRHR MLR MLR
comp=Z,3μm,23.0s
VRHR MLR MLR
comp=N,70nm,8.0s
VRHR MLR MLR
comp=E,2μm,11.0s
IDI Anoyia 118.60 47 *e*PKPdf **PKPdf 18 07 10.3 -0.2**
IDI PKKPbc **PKKPbc 18 17 27.7 0.0**
IDI Anoyia 118.60 47 PKKPbc PKKPbc 18 17 27.7 0.0
comp=E,5.3nm,0.6s,baz=161,slow=2.3,SNR=6.1
ARU Arti 118.78 11 *i* PKIKP **PKPdf 18 07 10.5 +0.4**
ARU 18 08 26.7
ARU PPP PPP 18 11 03.4
ARU 18 14 04.1
ARU SP SP 18 18 08.7 -4.1
ARU PS **PS 18 18 18.6 +3.4**
ARU SS **SKKSdf 18 25 07.5 -2.4**
ARU MLR MLR
comp=Z,2μm,20.0s
SIM Simferopol' 119.12 33 *i* PKIKP **PKPdf 18 07 12.2 +1.1**
SIM *e*SS SS 18 25 04.0 +13
SIM pmax pmax
comp=Z,100nm,10.0s
SIM MLR MLR
comp=Z,1μm,19.0s
DL2 Dalian 120.68 320 SS SS 18 25 12.8 +1.2
DL2 PPMZ
comp=Z,150nm,7.4s
DL2 LR LR
comp=N,1μm,16.2s
DL2 LR LR
comp=Z,1μm,35.3s
AS31 Alice Springs 120.71 244 *e*PKPdf **PKPdf 18 07 13.0 -1.8**
ASAR Alice Springs 120.72 244 PKP **PKPdf 18 07 13.8 -1.0**
ASAR PP **PP 18 08 44.3 +1.6**
ASAR PKKPbc **PKKPbc 18 17 20.1 +0.5**
ASAR SKKPbc SKKPbc 18 21 08.9 +0.6
ASAR Alice Springs 120.72 244 PKP **PKPdf 18 07 13.8 -1.0**
comp=Z,16nm,0.8s,baz=106,slow=1.9,SNR=126
ASAR PP **PP 18 08 44.3 +1.6**
comp=Z,4.3nm,1.1s,baz=109,slow=6.1,SNR=6.0
ASAR PKKPbc **PKKPbc 18 17 20.1 +0.5**
comp=Z,2.0nm,0.8s,baz=299,slow=3.9,SNR=14
ASAR SKKPbc SKKPbc 18 21 08.9 +0.6
comp=Z,1.4nm,0.8s,baz=283,slow=4.4,SNR=6.1
TSUM Tsumeb 120.74 110 *e*PKPdf **PKPdf 18 07 15.2 +0.1**
SUR Sutherland 120.74 126 PFAKE 18 07 30.0 +15
SUR LR LR
comp=Z,4μm,20.0s
WRAB Tennant Creek 120.92 249 *e*PKIKP **PKPdf 18 07 14.0 -1.3**
WRAB MLR MLR
comp=Z,9μm,21.0s
WRAB Tennant Creek 120.92 249 *e*PKPdf **PKPdf 18 07 14.0 -1.3**
WRAB LR LR
comp=Z,9μm,21.0s
WRA Warramunga Arr 120.93 249 PKP **PKPdf 18 07 14.2 -1.1**
WRA PP **PP 18 08 43.7 -0.6**
WRA PKKPbc **PKKPbc 18 17 17.9 -0.8**
WRA SKKPbc SKKPbc 18 21 05.0 -2.5
WRA Warramunga Arr 120.93 249 PKP **PKPdf 18 07 14.2 -1.1**
comp=Z,22nm,0.8s,baz=91,slow=1.6,SNR=112
WRA PP **PP 18 08 43.7 -0.6**
comp=Z,10nm,1.3s,baz=96,slow=7.1,SNR=6.6
WRA PKKPbc **PKKPbc 18 17 17.9 -0.8**
comp=Z,3.8nm,1.1s,baz=290,slow=2.8,SNR=8.6
WRA SKKPbc SKKPbc 18 21 05.0 -2.5
comp=Z,1.0nm,0.9s,baz=288,slow=3.1,SNR=5.1
ANN Anapa 120.98 31 *i* PKIKP **PKPdf 18 07 13.2 -1.4**
ANN *e* 18 07 17.2
ANN *e* 18 08 41.3
ANN *e*SS SS 18 25 16.4 +1.6
ANN pmax pmax
comp=Z,78nm,1.5s
ANN MLR MLR
comp=N,2μm,23.0s
ANN MLR MLR
comp=E,2μm,23.0s
ANN MLR MLR
comp=Z,3μm,23.0s
ISP Isparta 121.22 41 PFAKE 18 07 30.0 +14
ISP LR LR
comp=Z,2μm,20.0s
ANTO Ankara 121.50 38⇑ PKIKP **PKPdf 18 07 16.5 +0.5**
ANTO Ankara 121.50 38 PKPdf **PKPdf 18 07 17.0 +1.1**
SNR=6.2
ANTO Ankara 121.50 38⇑ *i*P **PKPdf 18 07 16.5 +0.5**
ANTO Ankara 121.50 38 *e*PKPdf **PKPdf 18 07 16.0 0.0**
ANTO LR LR
comp=Z,2μm,21.0s
ZAK Zakamensk 121.66 340 *e*PKIKP **PKPdf 18 07 16.4 +0.4**
ZAK *e* 18 08 52.3
ZAK pmax pmax
comp=Z,4.0nm,1.4s
NVS Novosibirsk 121.78 355⇓ *i*PKIKP **PKPdf 18 07 14.2 -1.7**
NVS pmax pmax
comp=Z,14nm,1.2s
NVS pmax pmax
comp=N,2.0nm,0.5s
NVS pmax pmax
comp=E,8.0nm,1.2s
BR131 Keskin Array S 122.11 38 *e*PKPdf **PKPdf 18 07 16.5 -0.7**
BRTR Keskin Array B 122.11 38 PKP **PKPdf 18 07 16.8 -0.5**
BRTR PKKPbc **PKKPbc 18 17 13.7 -1.3**
BRTR Keskin Array B 122.11 38 PKP **PKPdf 18 07 16.8 -0.5**
comp=E,29nm,0.7s,baz=226,slow=0.7,SNR=122
BRTR PKKPbc **PKKPbc 18 17 13.7 -1.3**
comp=E,4.3nm,1.0s,baz=153,slow=4.1,SNR=14
ZAA0 Zalesovo Array 122.51 354 *e*PKPdf **PKPdf 18 07 16.0 -1.3**
ZALV Zalesovo Beam 122.51 354 PKIKP **PKPdf 18 07 17.1 -0.2**
ZALV 18 08 49.9
ZALV Zalesovo Beam 122.51 354 PKP **PKPdf 18 07 17.1 -0.2**
ZALV PP **PP 18 08 49.9 -3.0**
ZALV PKKPbc **PKKPab 18 17 11.0 -2.0**
ZALV SKKPbc SKKPbc 18 21 01.8 -1.5
ZALV Zalesovo Beam 122.51 354 PKP **PKPdf 18 07 17.1 -0.2**
comp=E,8.9nm,0.8s,baz=349,slow=1.5,SNR=34

ZALV PP **PP** **18 08 49.9 -3.0**
comp=E,5.8nm,0.9s,baz=5.7,slow=6.0,SNR=5.9
ZALV PKKPbc **PKKPab** **18 17 11.0 -2.0**
comp=E,1.8nm,0.7s,baz=180,slow=1.3,SNR=7.2
ZALV SKKPbc SKKPbc 18 21 01.8 -1.5
comp=E,1.7nm,0.9s,baz=222,slow=1.8,SNR=3.8
SONM Songino Array 122.60 336 PKP **PKPdf** **18 07 18.4 +0.5**
SONM PP **PP** **18 08 54.2 +0.1**
SONM PKKPbc **PKKPab** **18 17 09.6 -3.2**
SONM Songino Array 122.60 336 PKP **PKPdf** **18 07 18.4 +0.5**
comp=E,3.8nm,0.8s,baz=42,slow=1.1,SNR=16
SONM PP **PP** **18 08 54.2 +0.1**
comp=E,12nm,1.2s,baz=54,slow=7.7,SNR=5.4
SONM PKKPbc **PKKPab** **18 17 09.6 -3.2**
comp=E,0.9nm,0.6s,baz=214,slow=4.5,SNR=3.9
SOC Sochi 123.01 31 *i* PKIKP **PKPdf** **18 07 18.0 -0.6**
SOC *e* 18 08 55.0
SOC *e*PPP PPP 18 11 32.4
SOC *e* 18 14 20.1
SOC *e*PS **PS** **18 18 48.7 -4.8**
SOC *e*SSS SSS 18 30 18.7
SOC pmax pmax
comp=Z,31nm,0.8s
SOC MLR MLR
comp=Z,3μm,19.0s
BJI Beijing 123.38 324 PKP **PKPdf** **18 07 19.8 +0.4**
BJI PP **PP** **18 09 00.0 +0.5**
BJI SKS SKSdf 18 14 23.5 -8.2
BJI PPMZ
comp=Z,300nm,9.4s
BJI LR LR
comp=Z,1μm,19.2s
BJI LR LR
comp=Z,3μm,18.1s
BJI LR LR
comp=Z,3μm,21.4s
GOF Gofitskoye 123.56 28 *e*PKIKP **PKPdf** **18 07 19.6 0.0**
GOF pmax pmax
comp=Z,15nm,0.7s
BRVK Borovoye 123.64 4 *c i* PKIKP **PKPdf** **18 07 19.5 -0.1**
BRVK pmax pmax
comp=Z,50nm,1.7s
BRVK Borovoye 123.64 4 PKPdf **PKPdf** **18 07 20.1 +0.5**
SNR=12
BRVK Borovoye 123.64 4 *e*PKPdf **PKPdf** **18 07 19.3 -0.3**
BRVK LR LR
comp=Z,2μm,20.0s
BVAR Borovoye Array 123.69 4 PKIKP **PKPdf** **18 07 19.9 +0.2**
BVAR 18 08 59.8
BVAR Borovoye Array 123.69 4 PKP **PKPdf** **18 07 19.9 +0.2**
BVAR PP **PP** **18 08 59.8 -1.0**
BVAR PKKPbc **PKKPab** **18 17 06.7 -1.2**
BVAR SKKPbc SKKPbc 18 20 58.2 -1.1
BVAR Borovoye Array 123.69 4 PKP **PKPdf** **18 07 19.9 +0.2**
comp=Z,12nm,0.7s,baz=304,slow=1.1,SNR=49
BVAR PP **PP** **18 08 59.8 -1.0**
comp=Z,10.0nm,1.1s,baz=336,slow=3.3,SNR=8.6
BVAR PKKPbc **PKKPab** **18 17 06.7 -1.2**
comp=Z,0.3nm,0.4s,baz=134,slow=6.4,SNR=4.4
BVAR SKKPbc SKKPbc 18 20 58.2 -1.1
comp=Z,0.6nm,0.7s,baz=144,slow=5.5,SNR=3.7
HVS Khovu-Aksy 123.74 347 *d i* PKIKP **PKPdf** **18 07 19.6 -0.3**
AKMC Akamas 123.98 43 P **PKPdf** **18 07 20.7 -0.1**
PPCY Paphos 124.07 43 P **PKPdf** **18 07 20.7 -0.2**
ALFC Alevga 124.09 43 P **PKPdf** **18 07 20.8 -0.2**
comp=Z,0.3nm,0.6s
KIV Kislovodsk 124.22 29 *κ i* PKIKP **PKPdf** **18 07 21.2 +0.1**
KIV *e* 18 07 24.2
KIV *e* 18 07 26.8
KIV *e* 18 09 04.9
KIV pmax pmax
comp=Z,25nm,1.7s
KIV MLR MLR
comp=Z,1μm,20.0s
AKTO Aktyubinsk 124.27 14 PKKPbc PKKPbc 18 17 03.9 -2.7
AKTO Aktyubinsk 124.27 14 PKKPbc PKKPbc 18 17 03.9 -2.7
comp=Z,1.5nm,0.9s,baz=102,slow=5.2,SNR=4.1
MAMC Mammari 124.50 43 P **PKPdf** **18 07 22.8 +1.1**
SZAC Souni-Zanaja 124.51 43 P **PKPdf** **18 07 22.0 +0.2**
CSS Prodhromos 124.70 43 P **PKPdf** **18 07 23.0 +0.8**
comp=Z,0.5nm,0.9s
CSS Prodhromos 124.70 43 *e*PKPdf **PKPdf** **18 07 22.6 +0.4**
CSS LR LR
comp=Z,950nm,21.0s
SSE Sheshan 125.14 312 PKP **PKPdf** **18 07 24.4 +1.3**
SSE PP **PP** **18 09 15.9 +4.0**
SSE SS SS 18 26 12.0 +3.2
SSE PPMZ
comp=Z,270nm,9.6s
SSE LR LR
comp=Z,2μm,22.1s
SSE LR LR
comp=Z,4μm,22.1s
SSE LR LR
comp=Z,4μm,29.4s
PHNC Paralimni 125.15 42 P **PKPdf** **18 07 24.0 +1.0**
TIA Tai'an 125.16 320 PKP **PKPdf** **18 07 23.5 +0.5**
HHC Hu-ho-hao-te 125.44 327 *e*PKP **PKPdf** **18 07 23.3 -0.2**
HHC PP **PP** **18 09 17.8 +4.4**
HHC PKS **PKSdf** **18 10 58.5 -1.7**
HHC SKS **SKSdf** **18 14 33.8 -2.1**
HHC SKKS **SKKSac** **18 16 09.8 -3.1**
HHC SS **SS** **18 26 13.8 +2.1**
HHC PPMZ
comp=Z,480nm,5.6s
HHC LR LR
comp=Z,3μm,18.0s
HHC LR LR
comp=Z,810nm,18.2s
HHC LR LR
comp=Z,4μm,17.9s
BOSA Boshof 125.53 123 PKP **PKPdf** **18 07 24.7 +0.6**
BOSA PP **PP** **18 09 14.8 -0.2**
BOSA Boshof 125.53 123 PKP **PKPdf** **18 07 24.7 +0.6**
comp=Z,28nm,1.2s,baz=244,slow=3.3,SNR=9.1
BOSA PP **PP** **18 09 14.8 -0.2**
comp=Z,30nm,1.4s,baz=231,slow=5.6,SNR=3.9
ONI Oni 125.61 29 P **PKPdf** **18 07 24.9 +1.1**
ZEI Tsey 125.68 29 *i* PKIKP **PKPdf** **18 07 24.2 +0.2**
ZEI pmax pmax
comp=Z,13nm,0.7s
ABKAR Akbulak array 125.82 13 *e*PKPdf **PKPdf** **18 07 23.9 +0.1**
MALT Malatya 125.89 36 ⇑PKIKP **PKPdf** **18 07 25.0 +0.5**
MALT Malatya 125.89 36 ⇑*i*P **PKPdf** **18 07 25.0 +0.5**
KURK Kurchatov 126.16 358 *c i* PKIKP **PKPdf** **18 07 23.8 -0.6**
KURK pmax pmax
comp=Z,29nm,1.7s
KURK Kurchatov 126.16 358 PKPdf **PKPdf** **18 07 24.3 -0.1**
SNR=21
KURK Kurchatov 126.16 358 *e*PKPdf **PKPdf** **18 07 23.6 -0.8**
KURK PKP **PKiKP** **18 07 25.0 +0.1**
KURK PP **PP** **18 09 15.1 -2.2**
KURK PKKPbc **PKKPab** **18 16 57.2 0.0**
KURK SKKPbc SKKPbc 18 20 46.9 -3.9
KURK LR LR
comp=Z,1μm,20.0s
GUDG Gudauri 126.20 29 P **PKPdf** **18 07 25.8 +0.7**
KURBB Kurchatov Arra 126.26 358 PKP **PKPdf** **18 07 25.0 +0.4**
comp=Z,12nm,0.8s,baz=2.7,slow=2.0,SNR=107
KURBB PP **PP** **18 09 15.1 -2.9**
comp=Z,23nm,1.3s,baz=356,slow=6.1,SNR=12
KURBB PKKPbc **PKKPab** **18 16 57.2 +0.4**
comp=Z,0.4nm,0.8s,baz=185,slow=4.6,SNR=5.0
KURBB SKKPbc SKKPbc 18 20 46.9 -3.6
comp=Z,7.8nm,1.3s,baz=192,slow=3.8,SNR=7.2
NJ2 Nanjing 126.34 314 *e*PKP **PKPdf** **18 07 25.3 0.0**
NJ2 PKS **PKSdf** **18 11 04.0 +2.0**
NJ2 SKS **SKSdf** **18 14 34.0 -3.6**
NJ2 PPMZ
comp=Z,310nm,6.8s
NJ2 LR LR
comp=Z,890nm,25.0s
NJ2 LR LR
comp=Z,730nm,27.5s
NJ2 LR LR
comp=Z,490nm,13.3s
BTO Baotou 126.44 328 *e*PKP **PKPdf** **18 07 25.6 +0.2**
AKH Akhalkalaki 126.51 30 P **PKPdf** **18 07 26.3 +0.7**
LBTB Lobatse 126.86 119 PKP **PKPdf** **18 07 26.9 +0.2**
LBTB PP **PP** **18 09 23.1 -0.9**
LBTB Lobatse 126.86 119 PKP **PKPdf** **18 07 26.9 +0.2**
comp=Z,27nm,1.2s,baz=241,slow=5.0
LBTB PP **PP** **18 09 23.1 -0.9**
comp=Z,8.2nm,1.1s,baz=248,slow=3.2,SNR=4.3
TBLG Delisi 126.88 29 P **PKPdf** **18 07 27.2 +1.0**

MAK Makhachkala 127.21 26 *e*PKIKP **PKPdf** **18 07 28.1 +1.5**
MAK *e* 18 09 26.3
MAK *e* 18 14 37.8
MAK *e*PS **PS** **18 19 33.0 +2.8**
MAK pmax pmax
comp=Z,56nm,0.9s
DGRG David-gareji 127.40 29 P **PKPdf** **18 07 27.8 +0.6**
YHNB Yeheng 128.01 305 PFAKE 18 07 40.0 +11
YHNB LR LR
comp=Z,8μm,22.0s
GNI Garni 128.08 30 PKPdf **PKPdf** **18 07 30.5 +1.9**
SNR=13
GNI Garni 128.08 30 *e*PKPdf **PKPdf** **18 07 29.6 +0.9**
GNI LR LR
comp=Z,2μm,22.0s
ASF Jabal al Asfar 128.73 43 PP PP 18 09 36.6 +1.0
ASF Jabal al Asfar 128.73 43 PP PP 18 09 36.6 +1.0
comp=Z,2.4nm,0.7s,baz=167,slow=5.0,SNR=4.1
FITZ Fitzroy Crossi 129.35 249 *e*PKPdf **PKPdf** **18 07 31.1 -0.3**
FITZ PKP **PKPdf** **18 07 31.6 +0.2**
FITZ Fitzroy Crossi 129.35 249 PKP **PKPdf** **18 07 31.6 +0.2**
comp=Z,26nm,1.0s,baz=64,slow=2.2,SNR=28
MK31 Makanchi Array 129.84 354 *e*PKIKP **PKPdf** **18 07 31.9 +0.3**
MK31 Makanchi Array 129.84 354 *e*PKPdf **PKPdf** **18 07 31.9 +0.3**
MKAR Makanchi Array 129.84 354 PKIKP **PKPdf** **18 07 31.5 -0.1**
MKAR 18 09 41.6
MKAR Makanchi Array 129.84 354 PKP **PKPdf** **18 07 31.5 -0.1**
MKAR PP **PP** **18 09 41.6 0.0**
MKAR SKKPbc SKKPbc 18 20 29.0 -9.1
MKAR Makanchi Array 129.84 354 PKP **PKPdf** **18 07 31.5 -0.1**
comp=Z,11nm,0.9s,baz=11,slow=2.5,SNR=54
MKAR PP **PP** **18 09 41.6 0.0**
comp=Z,20nm,1.2s,baz=20,slow=3.9,SNR=7.4
MKAR SKKPbc SKKPbc 18 20 29.0 -9.1
comp=Z,2.7nm,1.1s,baz=170,slow=4.4,SNR=6.6
QZH Quanzhou 130.14 307 PKP **PKPdf** **18 07 30.0 -2.7**
QZH SKKS 18 16 43.0
WHN Wuhan 130.38 316 PKP **PKPdf** **18 07 33.4 +0.3**
WHN PP **PP** **18 09 45.8 -0.4**
WHN LR LR
comp=Z,3μm,12.6s
WHN LR LR
comp=Z,1μm,12.6s
WHN LR LR
comp=Z,3μm,14.5s
LSZ Lusaka 131.34 107 PKPdf **PKPdf** **18 07 36.2 +0.8**
SNR=5.8
LSZ Lusaka 131.34 107 *e*PKPdf **PKPdf** **18 07 35.2 -0.2**
LSZ PKP **PKPdf** **18 07 35.9 +0.5**
LSZ LR LR
comp=Z,4μm,22.0s
LSZ Lusaka 131.34 107 PKP **PKPdf** **18 07 35.9 +0.5**
comp=Z,7.4nm,0.9s,baz=23,slow=3.9,SNR=6.8
NWAO Narrogin (SRO) 131.56 228 PKPdf **PKPdf** **18 07 36.0 +0.8**
SNR=5.1
NWAO Narrogin (SRO) 131.56 228 PKP **PKPdf** **18 07 35.6 +0.3**
NWAO LR LR
comp=Z,4μm,19.0s
NWAO Narrogin (SRO) 131.56 228 PKP **PKPdf** **18 07 35.6 +0.3**
comp=Z,63nm,1.1s,baz=142,slow=1.9,SNR=11
XAN Xi'an 131.69 323 PKP **PKPdf** **18 07 36.3 +0.7**
WMQ Urumqi 131.96 349 PKP **PKPdf** **18 07 36.0 +0.2**
WMQ PP PP 18 10 01.0 +5.5
WMQ PKS **PKSdf** **18 11 10.9 -1.4**
WMQ SKS **SKSdf** **18 14 45.9 -1.7**
WMQ SKKS **SKKSac** **18 16 52.3 -1.0**
WMQ SS **SS** **18 27 36.3 +5.1**
WMQ PPMZ
comp=Z,180nm,11.6s
WMQ LR LR
comp=Z,4μm,23.2s
WMQ LR LR
comp=Z,3μm,22.2s
WMQ LR LR
comp=Z,3μm,26.0s
GTA Gaotai 132.24 335 PKP **PKPdf** **18 07 37.6 +1.1**
GTA PP **PP** **18 10 00.1 +2.4**
GTA SKS **SKSdf** **18 14 47.8 -0.6**
GTA SKKS **SKKSac** **18 16 54.1 -1.3**
GTA SS **SS** **18 27 35.8 +0.5**
GTA PPMZ
comp=Z,290nm,7.8s
GTA LR LR
comp=Z,1μm,21.6s
GTA LR LR
comp=Z,3μm,22.3s
GTA LR LR
comp=Z,2μm,18.3s
BATI Baumata 132.34 259 PKPpre PKPpre 18 07 29.2
BATI PKP **PKiKP** **18 07 38.6 +0.3**
BATI Baumata 132.34 259 PKhKP PKPpre 18 07 29.2
comp=Z,6.3nm,0.7s,baz=248,slow=2.9,SNR=4.0
BATI PKP **PKiKP** **18 07 38.6 +0.3**
comp=Z,16nm,0.9s,baz=115,slow=5.1,SNR=5.6
LZH Lanzhou 133.03 329 *e*PKP **PKPdf** **18 07 39.0 +0.8**
LZH sPKP 18 07 44.1
LZH PP PP 18 10 11.0 +8.0
LZH PKS **PKSdf** **18 11 11.0 -3.8**
LZH PPMZ
comp=Z,510nm,4.9s
LZH LR LR
comp=Z,1μm,16.9s
LZH LR LR
comp=Z,3μm,18.3s
LZH LR LR
comp=Z,3μm,19.2s
KKAR Karatay Array 133.54 6 *e*PKIKP **PKPdf** **18 07 39.1 +0.4**
KKAR Karatay Array 133.54 6 *e*PKPdf **PKPdf** **18 07 39.1 +0.4**
USP Ospenovka 133.64 2 P **PKPdf** **18 07 40.5 +1.5**
SNR=18
PAF Port-aux-Franc 133.83 175 PFAKE 18 07 50.0 +11
PAF LR LR
comp=Z,3μm,19.0s
ENH Enshi 133.85 319 *e*PKPdf **PKPdf** **18 07 40.5 +0.8**
CHMS Chumysh 133.91 1 P **PKPdf** **18 07 40.9 +1.4**
SNR=7.4
TKM2 Tokmak 2 134.00 1 *e*PKIKP **PKPdf** **18 07 40.7 +0.8**
TKM2 MLR MLR
comp=Z,2μm,21.0s
TKM2 Tokmak 2 134.00 1 P **PKPdf** **18 07 41.1 +1.3**
SNR=15
TKM2 Tokmak 2 134.00 1 *e*PKPdf **PKPdf** **18 07 40.6 +0.8**
TKM2 LR LR
comp=Z,2μm,21.0s
MBWA Marble Bar 134.04 244 PKPdf **PKPdf** **18 07 40.6 +0.4**
SNR=7.6
MBWA Marble Bar 134.04 244 *e*PKPdf **PKPdf** **18 07 39.7 -0.5**
FRU Bishkek 134.07 2 *e*PKIKP **PKPdf** **18 07 39.0 -0.8**
FRU *e* 18 10 08.0
FRU pmax pmax
comp=Z,180nm,2.0s
EKS2 Erkin-Say 134.22 2 *e*PKIKP **PKPdf** **18 07 41.5 +1.3**
EKS2 MLR MLR
comp=Z,3μm,22.0s
EKS2 Erkin-Say 134.22 2 P **PKPdf** **18 07 42.0 +1.8**
SNR=24
EKS2 Erkin-Say 134.22 2 *e*PKPdf **PKPdf** **18 07 41.5 +1.3**
EKS2 LR LR
comp=Z,3μm,22.0s
KBK Karagaybulak 134.26 1 P **PKPdf** **18 07 41.8 +1.4**
SNR=9.6
AAK Ala-Archa 134.27 2 *e*PKIKP **PKPdf** **18 07 40.9 +0.6**
AAK 18 07 41.1
AAK 18 10 07.6
AAK MLR MLR
comp=Z,4μm,22.0s
AAK Ala-Archa 134.27 2 PKPdf **PKPdf** **18 07 42.0 +1.6**
SNR=17
AAK Ala-Archa 134.27 2 P **PKPdf** **18 07 38.7 -1.6**
SNR=12
AAK Ala-Archa 134.27 2 *e*PKPdf **PKPdf** **18 07 40.9 +0.6**
AAK PKP **PKPdf** **18 07 41.1 +0.8**
AAK PP **PP** **18 10 07.6 -2.6**
AAK LR LR
comp=Z,4μm,22.0s
AAK Ala-Archa 134.27 2 PKP **PKPdf** **18 07 41.1 +0.8**
comp=Z,8.7nm,0.8s,baz=209,slow=1.3,SNR=23
AAK PP **PP** **18 10 07.6 -2.6**
comp=Z,21nm,1.2s,baz=359,slow=1.5,SNR=11
MBAR Mbarara 134.57 88 PKP **PKPdf** **18 07 42.2 +0.6**
MBAR LR LR
comp=Z,824nm,19.0s
MBAR Mbarara 134.57 88 PKP **PKPdf** **18 07 42.2 +0.6**
comp=Z,4.0nm,0.5s,baz=315,slow=1.4,SNR=11
ULHL Ulahol 134.68 360 P **PKPdf** **18 07 43.0 +1.9**
SNR=13
AML Almayashu 134.74 3 P **PKPdf** **18 07 43.3 +1.8**
SNR=18
KZA Kyzart 134.84 1 P **PKPdf** **18 07 43.5 +1.8**
SNR=11
KAPI Kappang 136.46 266 PKPpre PKPpre 18 07 38.6
KAPI PKP **PKPdf** **18 07 44.9 -0.1**
KAPI *e*PKPdf **PKiKP** **18 07 45.0 -1.6**
KAPI PP **PP** **18 10 22.5 -3.8**
KAPI LR LR
comp=Z,5μm,21.0s
KAPI Kappang 136.46 266 PKhKP PKPpre 18 07 38.6
comp=Z,8.0nm,0.3s,baz=243,slow=6.8,SNR=4.3
KAPI PKP **PKPdf** **18 07 44.9 -0.1**
comp=Z,5.7nm,0.3s,baz=107,slow=2.4,SNR=6.6
KAPI PP **PP** **18 10 22.5 -3.8**
comp=Z,5.8nm,0.9s,baz=90,slow=11,SNR=4.6
MYLDM Lahad Datu 136.84 281 P PKPdf 18 07 36.2 -9.4
CD2 Chengdu 136.98 324 PKP **PKPdf** **18 07 45.3 -0.2**
CD2 PKS **PKSdf** **18 11 20.0 -1.9**
CD2 SKS **SKSdf** **18 14 53.3 -3.6**
CD2 SKKS **SKKSac** **18 17 21.6 -2.6**
CD2 SS **SS** **18 28 34.1 +1.2**
CD2 PPMZ
comp=Z,360nm,9.5s
CD2 LR LR
comp=Z,3μm,15.5s
CD2 LR LR
comp=Z,5μm,20.2s
RST Umm Al-Ruwaisa 137.09 39 *e*P **PKPdf** **18 07 46.2 +0.5**
RST AMb AMB 18 07 47.5
comp=Z,604nm,0.9s
KSH Kashi 137.41 0 *e*PKP **PKPdf** **18 07 46.4 +0.2**
KSH PKS **PKSdf** **18 11 24.1 +1.6**
KSH *e*SKS **SKSdf** **18 14 58.4 +0.9**
KSH *e*SKKS **SKKSac** **18 17 29.6 +3.2**
KSH SS SS 18 28 46.0 +9.3
KSH PPMZ
comp=Z,440nm,4.2s
KSH LR LR
comp=Z,480nm,10.2s
KSH LR LR
comp=Z,900nm,13.9s
KSH LR LR
comp=Z,2μm,27.0s
NAY Al-Naaiem 137.41 39 *e*P **PKPdf** **18 07 46.4 +0.1**
NAY AMb AMB 18 07 48.9
comp=Z,57nm,1.0s
TSM Tawau 137.61 280 P PKPdf 18 07 37.6 -9.5
KBD Kabd 137.75 38 *e*P **PKPdf** **18 07 46.9 0.0**
KBD AMb AMB 18 07 49.7
comp=Z,67nm,1.3s
RDF Al-Radifah 137.83 39 *e*P **PKPdf** **18 07 47.8 +0.6**
RDF AMb AMB 18 07 50.3
comp=Z,57nm,0.8s
SDKM Sandakan 138.03 282 P **PKPdf** **18 07 47.6 -0.3**
GYA Guiyang 138.21 317 Pdif **Pdif** **18 04 55.8 -1.9**
GYA PKP **PKPdf** **18 07 48.6 +0.6**
GYA PP **PP** **18 10 39.5 +3.4**
GYA PKS **PKSdf** **18 11 22.0 -2.4**
GYA SKKS 18 17 28.3
GYA SS **SS** **18 28 48.5 +0.2**
GYA LR LR
comp=Z,480nm,22.3s
GYA LR LR
comp=Z,330nm,23.5s
GYA LR LR
comp=Z,490nm,21.4s
KKM Kota Kinabalu 138.90 283 PFAKE 18 08 00.0 +10
KKM LR LR
comp=Z,4μm,22.0s
QIZ Qiongzhong 140.09 305 PKP **PKPdf** **18 07 50.3 -1.2**
QIZ PP **PP** **18 10 47.6 -0.5**
QIZ SS SS 18 29 12.3 +1.1
QIZ PPMZ
comp=Z,450nm,8.6s
QIZ LR LR
comp=Z,3μm,15.8s
QIZ LR LR
comp=Z,5μm,17.9s
KMBO Kilima Mbogo 141.10 88 PKPdf PKPpre 18 07 48.4
SNR=13
KMBO Kilima Mbogo 141.10 88 PKPpre PKPpre 18 07 47.7
KMBO *e*PKPpre PKPpre 18 07 48.2
KMBO LR LR
comp=Z,3μm,21.0s
KMBO Kilima Mbogo 141.10 88 PKhKP PKPpre 18 07 47.7
comp=Z,9.3nm,1.0s,baz=295,slow=3.9,SNR=3.2
KMI Kunming 141.72 319 Pdif **Pdif** **18 05 09.0 -4.5**
KMI PKP PKPdf 18 07 48.4 -6.2
KMI PKS PKSdf 18 11 23.3 -7.5
KMI SKKS 18 17 44.8
KMI SS **SS** **18 29 28.8 -0.8**
KMI LR LR
comp=Z,3μm,16.0s
KMI LR LR
comp=Z,4μm,20.3s
KMI LR LR
comp=Z,4μm,18.1s
KBL Kabul 141.79 9 *e*PKHKP PKPpre 18 07 48.8
KBL Kabul 141.79 9 *e*PKPpre PKPpre 18 07 48.8
BTM Bintulu 142.50 280 P **PKPdf** **18 07 52.2 -3.8**
GMJI Gumukmas 142.56 261 P **PKPdf** **18 07 59.5 +3.5**
SBUM Sibu 143.47 279 P PKPab 18 07 54.2 +0.3
KRKI Karangkates 143.54 261 P PKPbc 18 07 55.0 0.0
GRJI Gresik 143.62 263 P **PKPdf** **18 07 57.6 -0.3**
ATD Arta Tunnel 143.78 66 PKP **PKPdf** **18 07 57.5 -0.8**
ATD Arta Tunnel 143.78 66 PKP **PKPdf** **18 07 57.5 -0.8**
comp=Z,60nm,0.9s,baz=271,slow=5.8,SNR=14
LSA Lhasa 144.18 337 PKP PKPbc 18 07 57.4 +0.3
LSA Lhasa 144.18 337 *e*PKIKP PKPbc 18 07 57.8 +0.7
LSA MLR MLR
comp=Z,3μm,19.0s
LSA Lhasa 144.18 337 *e*PKPdf PKPbc 18 07 57.8 +0.6
LSA LR LR
comp=Z,3μm,19.0s
PWJI Pagerwojo 144.19 261 P **PKPab** **18 07 56.0 -0.6**
SJI Sawahan 144.26 261 P **PKPab** **18 07 56.6 -0.4**
THN Thein Dam 144.47 1 *ex* **PKPab** **18 07 55.0 -2.1**
NGJI Ngawi 144.59 262 P **PKPdf** **18 07 59.2 -0.4**
DHRM DHARAMSHALA 144.66 360 *e*P **PKPab** **18 07 58.1 0.0**
DHRM AMS AMS 19 07 49.3
comp=Z,2μm,21.0s
BANOM Banah 145.19 32 ⇓PKPbc **PKPbc** **18 07 58.7 -1.3**
SNR=13
KSM Kuching 145.50 277 P **PKPdf** **18 08 00.7 -0.5**
KSM Kuching 145.50 277 *e*PKPdf **PKPdf** **18 08 00.3 -0.9**
KSM LR LR
comp=Z,3μm,22.0s
YOGI Yogyakarta 145.70 261 P **PKPdf** **18 08 01.6 +0.1**
SMLA Simla 145.76 358 *i* P **PKPdf** **18 08 00.9 -0.3**
ASHO Ashiyiah 146.04 34 PKPdf **PKPdf** **18 08 01.8 -0.1**
SNR=98
BJII Banjamegara 146.32 262 P **PKPbc** **18 08 03.6 -0.3**
DDI Dehra Dun 146.53 357 *e*P **PKPdf** **18 08 02.8 +0.2**
IMP Imphal 147.16 329 *ex* **PKPbc** **18 08 04.0 -2.0**
ARQ Araqi 147.36 35 ⇑PKPdf **PKPdf** **18 08 04.4 +0.2**
SNR=67
SHL Shillong 147.50 333 *i* PCN **PKPdf** **18 08 03.0 -1.5**
SHL AMS AMS 19 02 57.8
comp=Z,2μm,12.1s
TAPN Taplejung 147.55 341 *e*P **PKPdf** **18 08 05.2 +0.5**
comp=Z,2μm,1.5s
GUN Gumba 147.59 344 *e*P **PKPdf** **18 08 05.2 +0.4**
comp=Z,910nm,1.1s
HOQ Hoqain 147.61 34 ⇑PKPdf **PKPdf** **18 08 04.4 -0.1**
SNR=70
DANN Dangsing 147.70 347 *e*P **PKPdf** **18 08 04.6 -0.3**
comp=Z,283nm,0.8s
ABPO Ambohimpanom 147.72 121 *e*PKIKP **PKPbc** **18 08 06.6 -1.2**
ABPO MLR MLR
comp=Z,2μm,22.0s
ABPO Ambohimpanom 147.72 121 *e*PKPdf **PKPbc** **18 08 06.6 -1.2**
ABPO LR LR
comp=Z,2μm,22.0s
JIRN Jiri 147.74 343 *e*P **PKPdf** **18 08 05.5 +0.4**
comp=Z,148nm,0.8s
GKN Gorkha 147.83 346 *e*P **PKPdf** **18 08 04.5 -0.5**
comp=Z,645nm,1.5s
KKN Kakani 147.87 345 *e*P **PKPdf** **18 08 05.3 +0.2**
comp=Z,407nm,0.9s
OPO Ambohidratompo 147.87 120 PKPbc **PKPbc** **18 08 07.8 -0.4**
OPO Ambohidratompo 147.87 120 PKPbc **PKPbc** **18 08 07.8 -0.4**
comp=Z,74nm,1.1s,baz=228,slow=3.4,SNR=31
PKIN Phulchoki 148.04 344 *e*P **PKPdf** **18 08 06.1 +0.6**

	comp=Z,102nm,1.0s								
PKI	**Pulchoki**	**148.04**	**344**	*e*P		**PKPdf**	**18 08 05.2**	**-0.4**
	comp=Z,381nm,1.3s								
DMN	**Daman**	**148.08**	**345**	*e*P		**PKPdf**	**18 08 05.5**	**0.0**
	comp=Z,230nm,0.8s								
ODAN	**Odare**	**148.11**	**341**	*e*P		**PKPdf**	**18 08 05.5**	**-0.1**
	comp=Z,681nm,1.5s								
NDI	**New Delhi**	**148.19**	**358**	*e*P		**PKPdf**	**18 08 04.5**	**-0.9**
BSY	**Bisya**	**148.21**	**35**	⇓PKPdf		**PKPdf**	**18 08 04.7**	**-0.8**
	SNR=96								
RAMN	**Ramite**	**148.28**	**342**	*e*P		**PKPdf**	**18 08 05.2**	**-0.7**
	comp=Z,446nm,1.3s								
KOLN	**Koldanda**	**148.29**	**347**	*e*P		**PKPdf**	**18 08 05.2**	**-0.6**
	comp=Z,269nm,1.3s								
SMDO	**Samad**	**148.43**	**33**	⇑PKPdf		**PKPdf**	**18 08 05.4**	**-0.6**
	SNR=64								
CHTO	**Chiang Mai**	**148.58**	**315**	*e*PKIKP		**PKPdf**	**18 08 06.9**	**+0.7**
CHTO				MLR		MLR			
	comp=Z,4μm,20.0s								
CHTO	**Chiang Mai**	**148.58**	**315**	PKPdf		**PKPdf**	**18 08 07.0**	**+0.7**
	SNR=56								
CHTO	**Chiang Mai**	**148.58**	**315**	*e*PKPdf		**PKPdf**	**18 08 06.8**	**+0.7**
CHTO				LR		LR			
	comp=Z,4μm,20.0s								
CM31	**Chiang Mai Arr**	**148.82**	**315**	*e*PKPdf		**PKPdf**	**18 08 07.1**	**+0.5**
CMAR	**Chiang Mai Arr**	**148.82**	**315**	PKPbc		**PKPdf**	**18 08 08.1**	**+1.5**
CMAR				PP		**PP**	**18 11 37.7**	**-2.3**
CMAR	**Chiang Mai Arr**	**148.82**	**315**	PKPbc		**PKPdf**	**18 08 08.1**	**+1.5**
	comp=Z,26nm,0.9s,baz=320,slow=1.1,SNR=171								
CMAR				PP		**PP**	**18 11 37.7**	**-2.3**
	comp=Z,4.1nm,1.1s,baz=40,slow=4.7,SNR=4.0								
JMDO	**Jabal Madar**	**149.01**	**34**	⇑PKPdf		**PKPdf**	**18 08 06.9**	**0.0**
	SNR=37								
WBK	**Wadi Bani Khal**	**149.29**	**32**	⇓PKPdf		**PKPdf**	**18 08 07.4**	**+0.1**
	SNR=22								
ABTO	**Aybut**	**149.53**	**47**	⇓PKPdf		**PKPdf**	**18 08 08.1**	**+0.3**
	SNR=83								
XMIS	**Christmas Isla**	**149.85**	**255**	*e*PKPbc		**PKPbc**	**18 08 13.0**	**-0.1**
RBK	**Rabkut**	**150.09**	**46**	⇑PKPdf		**PKPdf**	**18 08 09.3**	**+0.6**
	SNR=24								
BOK	**Bokaro**	**151.45**	**341**	*ex*		**PKPdf**	**18 08 11.6**	**+0.9**
KTGM	**Kuala Trenggan**	**151.69**	**288**	P		**PKPdf**	**18 08 11.6**	**+0.3**
MYKOM	**Kota Tinggi**	**151.83**	**280**	P		**PKPdf**	**18 08 12.1**	**+0.6**
KGM	**Kluang**	**152.31**	**281**	P		**PKPdf**	**18 08 13.1**	**+0.9**
BHJ	**Bhuj**	**152.88**	**13**	*e*P		**PKPdf**	**18 08 09.7**	**-3.1**
BHJ				AMS		AMS	18 47 24.4		
	comp=Z,764nm,3.2s								
RER	**Riviere de l'E**	**153.38**	**134**	PFAKE			18 08 20.0	-1.2	
RER				LR		LR			
	comp=Z,3μm,22.0s								
BHPL	**Bhopal**	**153.60**	**357**	*e*P		**PKPdf**	**18 08 13.1**	**-0.8**
FRIM	**Kepong**	**153.70**	**284**	P		**PKPdf**	**18 08 15.0**	**+0.8**
IPM	**Ipoh**	**153.95**	**287**	P		**PKPdf**	**18 08 15.2**	**+0.6**
IPM	**Ipoh**	**153.95**	**287**	*e*PKPdf		**PKPdf**	**18 08 14.9**	**+0.3**
KULM	**Kulim**	**154.06**	**289**	P		**PKPdf**	**18 08 14.6**	**-0.2**
KULM	**Kulim**	**154.06**	**289**	*e*PKPdf		**PKPdf**	**18 08 14.7**	**0.0**
KULM				LR		LR			
	comp=Z,3μm,20.0s								
MRIV	**Mauritius Mete**	**155.19**	**134**	*e*PKPdf		**PKPdf**	**18 08 17.6**	**+1.4**
NGP	**Nagpur**	**155.54**	**353**	*e*P		**PKPdf**	**18 08 14.1**	**-2.5**
AKL	**Akola**	**156.14**	**358**	*e*P		**PKPdf**	**18 08 14.2**	**-3.2**
AKL				AMS		AMS	18 42 44.9		
	comp=Z,824nm,6.8s								
PSI	**Prapat**	**156.42**	**285**	PKP		**PKPdf**	**18 08 18.1**	**0.0**
PSI				PKPbc		PKPbc	18 08 27.3		
PSI				PKPab		**PKPab**	**18 08 45.7**	**-0.8**
PSI	**Prapat**	**156.42**	**285**	PKP		**PKPdf**	**18 08 18.1**	**0.0**
	comp=Z,17nm,0.7s,baz=80,slow=3.9,SNR=16								
PSI				PKPbc		PKPbc	18 08 27.3		
	comp=Z,18nm,0.7s,baz=338,slow=5.4,SNR=13								
PSI				PKPab		**PKPab**	**18 08 45.7**	**-0.8**	
	comp=Z,12nm,0.7s,baz=5.9,slow=1.5,SNR=5.4								
DGPR	**DIGLIPUR**	**156.63**	**315**	*e*P		**PKPdf**	**18 08 17.2**	**-0.9**
DGPR				AMS		AMS	18 52 26.7		
	comp=Z,4μm,35.4s								
COCO	**West Island**	**157.67**	**246**	PFAKE			18 08 30.0	+11	
COCO				LR		LR			
	comp=Z,3μm,22.0s								
PBA	**Port Blair**	**157.78**	**312**	*e*P		PKPdf	18 08 18.4	-1.2	
VIS	**Vishakhapatnam**	**157.95**	**341**	*e*P		**PKPdf**	**18 08 17.5**	**-2.2**
VIS				AMS		AMS	18 56 52.9		
	comp=Z,2μm,25.5s								
POO	**Poona**	**158.21**	**6**	*e*P		**PKPdf**	**18 08 18.4**	**-1.7**
POO				AMB		AMB	18 08 55.6		
	comp=Z,53nm,4.5s								
HYB	**Hyderabad**	**159.29**	**353**	*i* PKP		**PKPdf**	**18 08 20.5**	**-0.9**
HYB				*e*			18 08 48.0		
HYB	**Hyderabad**	**159.29**	**353**	*ex*		**PKPdf**	**18 08 20.1**	**-1.3**
HYB				AMB		AMB	19 02 32.2		
	comp=Z,2μm,18.9s								
MSEY	**Mahe Island**	**159.36**	**95**	PKPdf		**PKPdf**	**18 08 23.1**	**+1.4**
	SNR=5.2								
MSEY	**Mahe Island**	**159.36**	**95**	*e*PKPdf		**PKPdf**	**18 08 22.1**	**+0.4**
MSEY				LR		LR			
	comp=Z,3μm,20.0s								
GOA	**Goa**	**161.20**	**7**	*e*P		**PKPdf**	**18 08 22.0**	**-1.4**
GOA				AMB		AMB	18 08 24.4		
	comp=Z,46nm,1.4s								
GOA				AMS		AMS	19 06 09.9		
	comp=Z,1μm,15.9s								
PALK	**Pallekele**	**168.56**	**336**	PKPdf		**PKPdf**	**18 08 30.2**	**+0.2**
	SNR=12								
PALK	**Pallekele**	**168.56**	**336**	*e*PKPdf		**PKPdf**	**18 08 29.3**	**-0.6**
DGAR	**Diego Garcia**	**174.51**	**138**	PFAKE			18 08 40.0	+7.2	
DGAR				LR		LR			
	comp=Z,3μm,20.0s								

IDC 15 17:51:52.8±3.0, 2°.40S×141°.10E, h0km, mb3.6/3, mb1 4.0/5, mb1mx3.6/19, mbtmp3.9/5, ML4.1/2, Error ellipse: s-maj=77.3km s-min=28.6km az=94.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.65**	**200**	P	P	17 56 12.3	-0.1
	0.5nm,0.3s,baz=26,slow=12,SNR=8.4						
BATI	**Baumata**	**18.98**	**245**	P	P	17 56 14.8	-1.2
	1.3nm,0.3s,baz=55,slow=3.8,SNR=3.7						
FITZ	**Fitzroy Crossi**	**21.77**	**223**	P	P	17 56 46.4	+0.1
	1.7nm,0.8s,baz=50,slow=8.6,SNR=5.5						
ASAR	**Alice Springs**	**22.27**	**198**	P	P	17 56 52.0	+0.4
	1.3nm,0.6s,baz=28,slow=10,SNR=19						
MKAR	**Makanchi Array**	**71.02**	**322**	P	P	18 03 12.7	+0.1
	0.4nm,0.4s,baz=134,slow=4.2,SNR=5.5						

IDC 15 17:55:36.6±4.9, 4°.50S×144°.69E, h116km±54km, mb3.5/6, mb1 3.7/8, mb1mx3.5/20, mbtmp3.5/8, Error ellipse: s-maj=36.4km s-min=24.0km az=155.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.46**	**154**	P	Pn	17 56 57.1	+1.4
	6.1nm,0.3s,baz=18,slow=5.7,SNR=27						
PMG				S	Sn	17 57 56.5	-0.9
	4.8nm,0.3s,baz=137,slow=23,SNR=11						
WRA	**Warramunga Arr**	**18.37**	**212**	P	P	17 59 43.0	+0.5
	0.5nm,0.3s,baz=31,slow=11,SNR=8.2						
BATI	**Baumata**	**21.61**	**254**	P	P	18 00 18.2	+0.7
	9.6nm,0.4s,baz=95,slow=8.8,SNR=8.0						
ASAR	**Alice Springs**	**21.72**	**208**	P	P	18 00 19.0	+0.3
	0.3nm,0.5s,baz=29,slow=12,SNR=3.9						
FITZ	**Fitzroy Crossi**	**23.03**	**233**	P	P	18 00 31.5	-0.4
	4.4nm,0.6s,baz=42,slow=8.1,SNR=14						
H11S3	**WAKE ISLAND Hy 31.49**	**43**		T	T	18 33 42.1	
	baz=232,slow=0.7,SNR=72						
H11S2	**WAKE ISLAND Hy 31.50**	**43**		T	T	18 33 41.7	
	baz=232,slow=0.7,SNR=57						
H11S1	**WAKE ISLAND Hy 31.51**	**43**		T	T	18 33 43.6	
	baz=232,slow=0.7,SNR=93						
H11N1	**WAKE ISLAND Hy 32.48**	**42**		T	T	18 34 43.5	
	baz=233,slow=0.7,SNR=64						
H11N3	**WAKE ISLAND Hy 32.50**	**42**		T	T	18 34 50.7	
	baz=233,slow=0.7,SNR=33						
H11N2	**WAKE ISLAND Hy 32.50**	**41**		T	T	18 34 44.7	
	baz=233,slow=0.7,SNR=43						
CMAR	**Chiang Mai Arr**	**50.52**	**298**	P	P	18 04 22.7	-0.8
	0.5nm,0.5s,baz=129,slow=6.5,SNR=7.0						
MKAR	**Makanchi Array**	**74.89**	**321**	P	P	18 07 04.9	+0.1
	0.3nm,0.5s,baz=116,slow=6.6,SNR=4.2						
ILAR	**Eielson Array**	**85.02**	**24**	P	P	18 07 59.0	+0.1
	0.5nm,0.7s,baz=259,slow=5.1,SNR=4.4						

IDC 15 18:03:42.7±6.7, 13°.27S×166°.45E, h33km±48km, mb4.0/10, mb1 4.1/12, mb1mx4.0/22, mbtmp4.1/12, ML4.3/2, MS3.9/2, Ms1 3.9/2, ms1mx3.4/42, Error ellipse: s-maj=30.7km s-min=19.7km az=79.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.43**	**300**	Pn	Pn	18 05 28.1	-0.8
	12nm,0.3s,baz=168,slow=4.1,SNR=8.2						
HNR				Sn	Sn	18 06 53.1	+0.9
	8.2nm,0.3s,baz=131,slow=21,SNR=5.4						
DZM	**Mont Dzumac**	**8.75**	**180**	Pn	Pn	18 05 48.0	+0.9
	1.3nm,0.3s,baz=30,slow=21,SNR=23						
DZM				Sn	Sn	18 07 24.8	+0.1
	0.3nm,0.3s,baz=115,slow=23,SNR=1.9						
DZM				LR	LR	18 08 50.1	
	comp=Z,263nm,19.3s,baz=200,slow=35						
CTA	**Charters Tower**	**20.49**	**248**	P	Pn	18 08 22.2	+1.9
	2.5nm,0.8s,baz=104,slow=11,SNR=4.2						
STKA	**Stephens Creek**	**29.37**	**227**	P	P	18 09 42.7	-0.1
	1.1nm,0.6s,baz=359,slow=8.4,SNR=3.4						
RPZ	**Rata Peaks**	**30.59**	**173**	LR	LR	18 18 37.2	
	comp=Z,603nm,20.4s,baz=335,slow=29						
WRA	**Warramunga Arr**	**31.44**	**253**	P	P	18 10 00.8	-0.6
	0.7nm,0.5s,baz=86,slow=9.1,SNR=4.7						
ASAR	**Alice Springs**	**32.48**	**247**	P	P	18 10 10.0	-0.5
	2.2nm,0.6s,baz=72,slow=9.5,SNR=39						
ASAR				PcP	PcP	18 12 56.8	-0.4
	1.1nm,0.9s,baz=80,slow=2.2,SNR=6.1						
USRK	**Ussuriysk Arra**	**65.24**	**333**	P	P	18 14 21.1	+0.2
	1.9nm,0.8s,baz=183,slow=6.9,SNR=4.8						
CMAR	**Chiang Mai Arr**	**73.64**	**294**	P	P	18 15 14.9	+1.5
	0.5nm,0.3s,baz=136,slow=4.5,SNR=4.8						
QSPA	**South Pole Qui**	**76.75**	**180**	P	P	18 15 30.7	0.0
	3.9nm,1.0s						
SONM	**Songino Array**	**80.86**	**324**	P	P	18 15 52.8	-0.7
	0.8nm,0.5s,baz=144,slow=5.5,SNR=4.5						
ILAR	**Eielson Array**	**85.39**	**18**	P	P	18 16 16.4	0.0
	1.4nm,0.5s,baz=241,slow=5.2,SNR=28						
MKAR	**Makanchi Array**	**95.61**	**317**	P	P	18 17 05.1	+0.3
	1.2nm,0.5s,baz=88,slow=6.5,SNR=14						
ZALV	**Zalesovo Beam**	**95.75**	**324**	P	P	18 17 04.3	-0.9
	1.0nm,0.7s,baz=92,slow=4.6,SNR=3.5						
H03N2	**Juan Fernandez**	**102.36**	**129**	T	T	20 12 20.6	
	SNR=6.0						
H03N3	**Juan Fernandez**	**102.36**	**129**	T	T	20 12 21.4	
	SNR=16						
H03N1	**Juan Fernandez**	**102.37**	**129**	T	T	20 12 22.9	
	SNR=11						
ARCES	**ARCESS Array B**	**118.65**	**345**	PKP	PKPdf	18 22 25.4	-1.3
	4.1nm,0.9s,baz=76,slow=2.4,SNR=5.1						
TORD	**Torodi Ar. Bea**	**165.16**	**271**	PKPab	PKPab	18 24 42.0	+0.1
	0.8nm,0.9s,baz=68,slow=4.0,SNR=4.0						

IDC 15 18:15:15.3±2.2, 10°.87N×93°.05E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/25, mbtmp3.3/4, Error ellipse: s-maj=73.0km s-min=26.4km az=66.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.45**	**36**	Pn	Pn	18 17 32.8	0.0
	baz=208,slow=13,SNR=3.6						
MKAR	**Makanchi Array**	**36.95**	**348**	P	P	18 22 26.1	-0.1
	0.3nm,0.7s,baz=169,slow=8.2,SNR=3.1						
WRA	**Warramunga Arr**	**50.89**	**127**	P	P	18 24 17.9	-0.6
	0.4nm,0.8s,baz=307,slow=8.1,SNR=2.8						
ASAR	**Alice Springs**	**52.67**	**131**	P	P	18 24 32.2	+0.5
	0.3nm,1.0s,baz=302,slow=7.0,SNR=4.4						

IDC ***15*** *18:18:45.8±3.4, 54°.23N×160°.90E, h33km±29km, mb3.5/12, mb1 3.7/14, mb1mx3.6/29, mbtmp3.7/14, ML3.9/3, MS2.9/1, Ms1 2.9/1, ms1mx2.9/48, Error ellipse: s-maj=20.1km s-min=13.4km az=158.0*

KRSC ***15*** *18:18:45.4±3.4, 53°.95N×161°.18E, h21km±21km, ML4.3*

ISCJB ***15*** *18:18:46.6±0.4, 53°.92N±0°.02×161°.28E±0°.05, h59km±5km, mb3.8/13, Error ellipse: s-maj=6.0km s-min=2.4km az=32.6*

MOS ***15*** *18:18:46.5±1.0, 54°.00N×161°.20E, h59km, mb4.1/7, Error ellipse: s-maj=15.8km s-min=7.9km az=70.3*

ISC 15 18:18:47.2±0.9, 53°.95N±0°.03×161°.21E±0°.03, h50km±9km, n74, σ1°39/106, mb3.7/13, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.68**	**26**	PN	**Pn**	**18 19 00.3**	**-0.4**
MKZ				S	**Sn**	**18 19 09.5**	**-0.9**
MKZ	**Mys Kozlova**	**0.68**	**26**	P	**Pn**	**18 19 00.3**	**-0.4**
MKZ				S	**Sn**	**18 19 09.5**	**-0.9**
KII	**Karymskiy**	**1.04**	**276**	P	**Pn**	**18 19 04.8**	**-0.8**
KII				S	**Sn**	**18 19 17.2**	**-1.9**
TUMR	**Tumrok**	**1.48**	**336**	S	**Sn**	**18 19 28.1**	**-1.6**
SDLR	**Sedlovina**	**1.54**	**245**	P	**Pn**	**18 19 12.8**	**+0.5**
SDLR				S	**Sn**	**18 19 31.6**	**+0.4**
SMAR	**Somma**	**1.59**	**245**	P	**Pn**	**18 19 13.6**	**+0.5**
SMAR				S	**Sn**	**18 19 32.2**	**-0.4**
KRER	**Koryakskii**	**1.60**	**247**	P	**Pn**	**18 19 14.0**	**+0.8**
KRER				S	**Sn**	**18 19 33.1**	**+0.2**
UGLR	**Uglovaya**	**1.60**	**244**	P	**Pn**	**18 19 13.9**	**+0.7**
UGLR				S	**Sn**	**18 19 32.5**	**-0.3**
AVH	**Avacha**	**1.62**	**246**	P	**Pn**	**18 19 14.4**	**+1.0**
AVH				S	**Sn**	**18 19 33.9**	**+0.7**
KRX	**Arik**	**1.64**	**250**	P	**Pn**	**18 19 14.1**	**+0.5**
KRX				S	**Sn**	**18 19 33.6**	**0.0**
KOK	**Koryaka**	**1.67**	**248**	P	**Pn**	**18 19 13.8**	**-0.3**
KOK				S	**Sn**	**18 19 32.8**	**-1.5**
PET	**Petropavlovsk**	**1.79**	**240**	*e*PN	**Pn**	**18 19 15.9**	**+0.3**
PET				*e*S	**Sn**	**18 19 36.9**	**-0.1**
PET				pmax	pmax		
	comp=Z,131nm,0.4s						
PET				smax	smax		
	comp=E,952nm,0.6s						
PET				smax	smax		
	comp=N,1μm,0.7s						
PET	**Petropavlovsk**	**1.79**	**240**	P	**Pn**	**18 19 16.1**	**+0.5**
PET				S	**Sn**	**18 19 37.1**	**+0.1**
KMNR	**Kamenistaya**	**1.90**	**343**	P	**Pn**	**18 19 18.5**	**+1.3**
KMNR				S	**Sn**	**18 19 42.2**	**+2.2**
GNL	**Ganaly**	**1.96**	**264**	P	**Pn**	**18 19 18.5**	**+0.5**
GNL				S	**Sn**	**18 19 42.0**	**+0.6**
BZMR	**Bezymyannaya**	**2.04**	**348**	P	**Pn**	**18 19 20.4**	**+1.3**
BZMR				S	**Sn**	**18 19 44.9**	**+1.5**
BZWR	**Bezymyannyi-We**	**2.06**	**349**	P	**Pn**	**18 19 20.4**	**+0.9**
KIRR	**Kirishev**	**2.07**	**346**	P	**Pn**	**18 19 20.8**	**+1.2**
KIRR				S	**Sn**	**18 19 45.2**	**+0.9**
ZLN	**Zelenaya**	**2.09**	**354**	P	**Pn**	**18 19 21.4**	**+1.6**
ZLN				S	**Sn**	**18 19 46.5**	**+1.9**
KPT	**Kopyto**	**2.10**	**345**	P	**Pn**	**18 19 20.8**	**+0.6**
LGNR	**Loginova**	**2.16**	**352**	P	**Pn**	**18 19 23.0**	**+2.0**
LGNR				S	**Sn**	**18 19 50.3**	**+3.6**
CIRR	**Tsirk**	**2.19**	**353**	P	**Pn**	**18 19 22.5**	**+1.3**
RUS	**Russkaya**	**2.22**	**228**	PN	**Pn**	**18 19 22.0**	**+0.5**
RUS				S	**Sn**	**18 19 46.9**	**-0.8**
RUS	**Russkaya**	**2.22**	**228**	P	**Pn**	**18 19 22.0**	**+0.5**
RUS				S	**Sn**	**18 19 46.9**	**-0.8**
KOZ	**Kozyrevsk**	**2.25**	**341**	P	**Pn**	**18 19 22.9**	**+0.9**
KOZ				S	**Sn**	**18 19 48.9**	**+0.4**
KOZR	**Kozyr**	**2.26**	**341**	PN	**Pn**	**18 19 22.9**	**+0.9**
KOZR				S	**Sn**	**18 19 48.9**	**+0.3**
PETK	**Petropavlovsk-**	**2.26**	**250**	PN	**Pn**	**18 19 22.2**	**+0.1**
PETK						18 19 52.0	
PETK				pmax	pmax		
	comp=Z,23nm,0.3s						
PETK				smax	smax		
	comp=N,63nm,0.3s						
PETK	**Petropavlovsk-**	**2.26**	**250**	Pn	**Pn**	**18 19 22.2**	**+0.1**
	comp=N,23nm,0.3s,baz=76,slow=16,SNR=126						
PETK				Sn	**Sn**	**18 19 52.0**	**+3.3**
	comp=N,62nm,0.3s,baz=108,slow=14,SNR=12						
PETK				LR	LR	18 20 32.5	
	comp=N,314nm,21.6s,baz=330,slow=48						
KRSR	**Krestovskiy**	**2.31**	**351**	P	**Pn**	**18 19 23.9**	**+1.1**
KRSR				S	**Sn**	**18 19 51.8**	**+1.8**
MTVR	**Mutnovka**	**2.34**	**232**	P	**Pn**	**18 19 23.9**	**+0.6**
MTVR				S	**Sn**	**18 19 52.0**	**+1.2**
GRL	**Gorelyy**	**2.35**	**235**	P	**Pn**	**18 19 24.7**	**+1.3**
GRL				S	**Sn**	**18 19 52.5**	**+1.5**
KLY	**Klyuchi**	**2.39**	**353**	PN	**Pn**	**18 19 24.8**	**+0.9**
KLY				S	**Sn**	**18 19 53.1**	**+1.2**
KLY	**Klyuchi**	**2.39**	**353**	P	**Pn**	**18 19 24.8**	**+0.9**
KLY				S	**Sn**	**18 19 53.1**	**+1.2**
KBTR	**Krutoberegovo**	**2.45**	**22**	PN	**Pn**	**18 19 26.1**	**+1.5**
KBTR				S	**Sn**	**18 19 55.0**	**+1.7**
KBTR	**Krutoberegovo**	**2.45**	**22**	P	**Pn**	**18 19 26.1**	**+1.5**
KBTR				S	**Sn**	**18 19 55.0**	**+1.7**
ESO	**Esso**	**2.46**	**325**	PN	**Pn**	**18 19 24.4**	**-0.4**
ESO	**Esso**	**2.46**	**325**	P	**Pn**	**18 19 24.4**	**-0.4**
SRDR	**Sredinnyy**	**2.53**	**341**	P	**Pn**	**18 19 26.1**	**+0.3**
ASAK	**Asacha**	**2.54**	**233**	P	**Pn**	**18 19 28.0**	**+2.1**
ASAK				S	**Sn**	**18 19 57.7**	**+2.1**
BDR	**Baidarnaya**	**2.63**	**360**	P	**Pn**	**18 19 28.5**	**+1.3**
BDR				S	**Sn**	**18 19 59.7**	**+1.9**
APC	**Apacha**	**2.63**	**249**	P	**Pn**	**18 19 28.5**	**+1.4**
APC				S	**Sn**	**18 19 59.9**	**+2.1**
SMKR	**Semkarok**	**2.65**	**3**	P	**Pn**	**18 19 29.0**	**+1.6**
SMKR				S	**Sn**	**18 20 00.6**	**+2.3**
BKI	**Bering**	**3.04**	**64**	PN	**Pn**	**18 19 33.1**	**+0.4**
BKI				S	**Sn**	**18 20 06.8**	**-1.1**
BKI	**Bering**	**3.04**	**64**	P	**Pn**	**18 19 33.1**	**+0.4**
BKI				S	**Sn**	**18 20 06.8**	**-1.1**
PAU	**Pauzhetka**	**3.65**	**229**	PN	**Pn**	**18 19 43.7**	**+2.6**
PAU				S	**Sn**	**18 20 25.2**	**+2.3**
PAU	**Pauzhetka**	**3.65**	**229**	P	**Pn**	**18 19 43.7**	**+2.6**
PAU				S	**Sn**	**18 20 25.2**	**+2.3**
SKR	**Severo-Kuril's**	**4.52**	**226**	PN	**Pn**	**18 19 54.0**	**+1.0**
SKR				*e*S	**Sn**	**18 20 43.5**	**-0.8**
SKR				smax	smax		
	comp=N,90nm,0.5s						
SKR				smax	smax		
	comp=E,60nm,0.5s						
SKR	**Severo-Kuril's**	**4.52**	**226**	P	**Pn**	**18 19 54.9**	**+1.9**
SKR				S	**Sn**	**18 20 45.8**	**+1.5**
FX1	**Attu Island--F**	**7.22**	**94**	Pn	**Pn**	**18 20 30.9**	**+0.9**
	comp=E,23nm,0.3s,baz=330,slow=1.4,SNR=99						
FX1				Sn	**Sn**	**18 21 48.9**	**-1.8**
	comp=E,6.9nm,0.3s,baz=171,slow=18,SNR=3.2						
ASAJ	**Asahikawa**	**15.63**	**239**	Pn	**Pn**	**18 22 25.1**	**+1.2**
	comp=E,0.3nm,0.3s,baz=326,slow=19,SNR=4.5						
MAT	**Matsushiro**	**23.60**	**232**	P	**P**	**18 23 53.7**	**+0.3**
MJAR	**Matsushiro Arr**	**23.60**	**232**	P	**P**	**18 23 53.5**	**+0.1**
	comp=E,1.8nm,0.7s,baz=20,slow=8.9,SNR=11						
ILAR	**Eielson Array**	**27.74**	**46**	P	**P**	**18 24 30.4**	**-0.2**
	comp=E,0.3nm,0.8s,baz=264,slow=8.0,SNR=3.6						
H11N2	**WAKE ISLAND Hy 34.43**	**171**		T	T	19 02 14.4	
	baz=356,slow=0.7,SNR=467						
H11N3	**WAKE ISLAND Hy 34.45**	**170**		T	T	19 02 29.5	
	baz=356,slow=0.7,SNR=411						
H11N1	**WAKE ISLAND Hy 34.45**	**171**		T	T	19 02 12.4	
	baz=356,slow=0.7,SNR=551						
H11S1	**WAKE ISLAND Hy 35.62**	**171**		T	T	19 03 48.3	
	baz=355,slow=0.7,SNR=16						
H11S3	**WAKE ISLAND Hy 35.64**	**171**		T	T	19 03 47.3	
	baz=355,slow=0.7,SNR=23						
H11S2	**WAKE ISLAND Hy 35.64**	**171**		T	T	19 03 49.7	
	baz=355,slow=0.7,SNR=9.4						
KURK	**Kurchatov**	**47.85**	**302**	P	**P**	**18 27 16.6**	**-3.0**
KURBB	**Kurchatov Arra**	**47.95**	**302**	P	P	18 27 16.6	-3.8
	comp=E,0.4nm,0.5s,baz=59,slow=7.5,SNR=4.6						
MKAR	**Makanchi Array**	**48.39**	**296**	P	P	18 27 20.3	-3.6
MKAR	**Makanchi Array**	**48.39**	**296**	P	P	18 27 20.3	-3.6
	comp=E,0.4nm,0.6s,baz=55,slow=7.3,SNR=6.1						
BVAR	**Borovoye Array**	**50.38**	**308**	P	**P**	**18 27 37.3**	**-1.6**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**50.38**	**308**	P	**P**	**18 27 37.3**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=70,slow=8.5,SNR=6.0						
CMAR	**Chiang Mai Arr**	**59.01**	**259**	P	**P**	**18 28 42.3**	**+0.5**
	comp=Z,3.8nm,0.3s,baz=32,slow=6.4,SNR=4.7						
NOA	**NORSAR Array B**	**62.91**	**344**	P	**P**	**18 29 06.1**	**-1.6**
	comp=Z,0.8nm,0.6s,baz=16,slow=5.5,SNR=4.1						
HFS	**Hagfors**	**63.34**	**342**	P	**P**	**18 29 08.8**	**-1.7**
	comp=Z,2.3nm,0.6s,baz=16,slow=11,SNR=7.7						
AKASG	**Malin Array Be**	**68.22**	**329**	P	**P**	**18 29 40.2**	**-1.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be

λ-107.00000°. NP2:φ₀87.00000°, δ41.00000°, λ-69.00000°. Principal axes: T 5.2500, Plg6.0000°, Azm342.0000°; N -0.0300, Plg14.0000°, Azm251.0000°; P -5.2200, Plg75.0000°, Azm94.0000°; Data Used: II IU IC G CN. Surface waves: sta=116, comp=256, per= 50.

DJA **15** 18:33:40.5±0.6,4°S±2°×12°3E±°,h38^{km}±6^{km},M5.6/7, mB6.1/7,mb5.6/7,MLv5.5/2,Mw(mB)5.8/7

AUST **15** 18:33:41.1±0.8,3°70S×123°20E,h49^{km}±10^{km},Error ellipse: s-maj=6.8km s-min=4.6km az=175.0

NEIC **15** 18:33:47.7±0.0,3°52S×123°63E,h10^{km},Moment Tensor Solution. s144 Moment tensor: Scale 10^{17}Nm; M_{rr}=4.33; $M_{\theta\theta}$=4.39; $M_{\phi\phi}$=-0.06; $M_{r\theta}$=1.29; $M_{r\phi}$=1.41; $M_{\theta\phi}$=-0.73; Best double couple: $M_0$4.80000×10^{17} NP1:φ₀267.00000°, δ53.00000°,λ-72.00000°. NP2:φ₀60.00000°, δ40.00000°, λ-111.00000°. Principal axes: T 4.9200, Plg6.0000°, Azm345.0000°; N -0.2100, Plg13.0000°, Azm76.0000°; P -4.7100, Plg74.0000°, Azm230.0000°;

ISC 15 18:33:36.6±0.3,3°59S±0°03×123°22E±0°03,h16^{km}**±1**^{km}**, h15**^{km}**:pP-P,n1340,σ1928**/1395**,mb5.9**/170**,MS5.3**/164**, 234C-275D,Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KKSI	**Kolaka, Sulawe**	**1.67**	**250**		P		**Pn**	**18 34 04.8**	**-0.4**
BBSI	**Bau Bau**	**1.99**	**199**		P		**Pn**	**18 34 09.9**	**+0.2**
LUWI	**Luwuk**	**2.57**	**350**		P		**Pn**	**18 34 17.5**	**-0.1**
LUWI					S		**Sn**	**18 34 49.6**	**+1.0**
APSI	**Ampana**	**3.09**	**329**		P		**Pn**	**18 34 25.1**	**+0.3**
TTSI	**Tana Toraja**	**3.44**	**279**		P		**Pn**	**18 34 30.1**	**+0.6**
TTSI					S		**Sn**	**18 35 10.5**	**+0.5**
SPSI	**Sidrap Palu**	**3.46**	**264**		P		**Pn**	**18 34 30.6**	**+0.7**
SPSI					S		**Sn**	**18 35 12.1**	**+1.5**
BKSI	**Bulukumba**	**3.53**	**241**		P		**Pn**	**18 34 32.0**	**+1.1**
BKSI					S		**Sn**	**18 35 13.0**	**+0.6**
KAPI	**Kappang** SNR=1040	**3.73**	**248**		P		**Pn**	**18 34 34.1**	**+0.5**
KAPI	**Kappang**	**3.73**	**248**		P		**Pn**	**18 34 33.8**	**+0.2**
KAPI	**Kappang**	**3.73**	**248**		Pn		**Pn**	**18 34 35.2**	**+1.6**
KAPI					Sn		**Sn**	**18 35 17.8**	**+1.6**
KAPI	**Kappang** 26μm,1.1s	**3.73**	**248**		Pn		**Pn**	**18 34 34.1**	**+0.5**
KAPI	**Kappang** 2.9nm,0.3s,baz=95,slow=5.1,SNR=32	**3.73**	**248**		Pn		**Pn**	**18 34 35.2**	**+1.6**
KAPI	234nm,0.3s,baz=94,slow=23,SNR=8.7				Sn		**Sn**	**18 35 17.8**	**+0.4**
NLAI	**Namlea**	**3.89**	**85**		P		**Pn**	**18 34 36.7**	**+0.9**
KMSI	**Cibinong**	**4.21**	**10**		P		**Pn**	**18 34 40.5**	**+0.4**
MJSI	**Majene**	**4.23**	**270**		P		**Pn**	**18 34 42.7**	**+2.2**
MRSI	**Marisa**	**4.24**	**342**		P		**Pn**	**18 34 40.2**	**-0.4**
AAI	**Ambon**	**4.97**	**91**		P		**Pn**	**18 34 50.7**	**+0.1**
MMRI	**Maumere**	**5.11**	**191**		P		**Pn**	**18 34 52.7**	**+0.2**
LBMI	**Labuha** 1μm,1.1s,27μm10nm	**5.19**	**56**		P		**Pn**	**18 34 53.1**	**-0.6**
TOLI	**Toli-Toli**	**5.27**	**333**		P		**Pn**	**18 34 57.3**	**+2.5**
MSAI	**Masohi** 327nm,0.6s,4μm1.4nm	**5.71**	**88**		P		**Pn**	**18 35 02.5**	**+1.7**
TNTI	**Ternate**	**6.00**	**44**		P		**Pn**	**18 35 04.5**	**-0.3**
SOEI	**Soe**	**6.21**	**170**		P		**Pn**	**18 35 10.3**	**+2.4**
SGKI	**Sangatta, Kali**	**6.38**	**298**		P		Pb	18 35 19.8	-7.5
BATI	**Baumata**	**6.59**	**176**		P		**Pn**	**18 35 14.8**	**+1.9**
BATI	**Baumata**	**6.59**	**176**		Pn		Pn	18 35 16.4	+3.5
BATI	**Baumata** 32nm,0.3s,baz=175,slow=0.6,SNR=83	**6.59**	**176**		Pn		Pn	18 35 16.4	+3.5
BATI	comp=Z,58μm,19.6s,baz=1.0,slow=41				LR		LR	18 38 05.4	
WSI	**Waingapu**	**6.70**	**205**		P		Pn	18 35 17.8	+3.4
BKB	**Balikpapan**	**6.72**	**290**		P		**Pn**	**18 35 16.8**	**+2.0**
BNDI	**Bandanaira**	**6.74**	**98**		P		**Pn**	**18 35 16.2**	**+1.3**
WBSI	**Waikabubak, Su**	**7.11**	**212**		P		Pn	18 35 29.0	+8.9
SGSI	**Sangihe**	**7.59**	**18**		P		**Pn**	**18 35 27.9**	**+1.3**
SWI	**Sorong**	**8.48**	**72**		P		**Pn**	**18 35 39.3**	**+0.4**
MTNI	**Mataram**	**8.61**	**234**		P		**Pn**	**18 35 40.6**	**-0.1**
FAKI	**Fak Fak**	**9.04**	**86**		P		**Pn**	**18 35 46.5**	**-0.1**
SRBI	**Singaraja**	**9.13**	**240**		P		**Pn**	**18 35 49.3**	**+1.5**
SAUI	**Saumlaki**	**9.15**	**119**		P		Pn	18 35 52.2	+4.1
DNP	**Denpasar**	**9.43**	**237**		P		Pn	18 35 58.3	+6.4
TSM	**Tawau**	**9.48**	**326**		P		**Pn**	**18 35 52.9**	**+0.3**
TLE	**Tual**	**9.71**	**102**		P		**Pn**	**18 35 58.1**	**+2.4**
TLE	**Tual** baz=9.7,SNR=80	**9.71**	**102**		P		**Pn**	**18 35 58.8**	**+3.1**
GSPH	**General Santos**	**9.77**	**10**	↑*eP*	P		**Pn**	**18 35 58.0**	**+1.3**
KMMI	**Kalianget**	**9.83**	**249**		P		Pn	18 36 01.3	+3.9
ABJI	**Asem Bagus**	**9.87**	**245**		P		Pn	18 36 07.3	+9.4
MYLDM	**Lahad Datu**	**9.90**	**332**		P		Pn	18 36 02.5	+4.1
MYLDM	**Lahad Datu**	**9.90**	**332**		P		**Pn**	**18 36 00.5**	**+2.1**
BYJI	**Banyuwangi**	**9.94**	**242**		P		**Pn**	**18 36 01.6**	**+2.7**
BLJI	**Banyuglugur**	**10.43**	**246**		P		Pn	18 36 15.9	+10
ZMPH	**Zamboanga City**	**10.54**	**354**	↑*iP*	P		**Pn**	**18 36 07.6**	**+0.5**
GMJI	**Gumukmas**	**10.78**	**244**		P		**Pn**	**18 36 12.4**	**+2.0**
CTBH	**Cotabato--PC H**	**10.79**	**5**	*eP*	P		**Pn**	**18 36 10.7**	**+0.1**
DMPH	**Davao City--Mi**	**10.85**	**12**	↑*eP*	P		Pn	18 36 15.1	+3.7
DAV	**Davao City (W)** SNR=139	**10.85**	**13**		P		Pn	18 36 16.3	+4.9
DAV	**Davao City (W)**	**10.85**	**13**	↑*eP*	P		**Pn**	**18 36 13.0**	**+1.6**
DAV	**Davao City (W)**	**10.85**	**13**		P		Pn	18 36 15.6	+4.2
DAV	**Davao City (W)** 5μm,1.3s	**10.85**	**13**	*e*	Pn		**Pn**	**18 36 11.6**	**+0.2**
MATI	**Mati**	**10.90**	**16**	*eP*	P		**Pn**	**18 36 12.1**	**+0.1**
MATI				*eS*	P		Px	18 36 36.2	
SDKM	**Sandakan**	**10.97**	**327**		P		**Pn**	**18 36 14.2**	**+1.2**
IPIL	**Ipil**	**11.32**	**357**	*eP*	P		**Pn**	**18 36 19.0**	**+1.1**
BUKP	**Musuan**	**11.54**	**9**	*eP*	P		**Pn**	**18 36 22.9**	**+2.0**
BUKP				*eS*	P		Px	18 36 43.1	
PBKI	**Pangkalan Bun**	**11.56**	**274**		P		**Pn**	**18 36 23.5**	**+2.3**
KRKI	**Karangkates**	**11.63**	**247**		P		Pn	18 36 28.1	+6.1
KKM	**Kota Kinabalu**	**11.85**	**324**		P		**Pn**	**18 36 26.3**	**+1.1**
KKM	**Kota Kinabalu**	**11.85**	**324**		P		**Pn**	**18 36 27.4**	**+2.2**
KKM	**Kota Kinabalu** 680nm,1.4s	**11.85**	**324**	*eP*	P		**Pn**	**18 36 25.6**	**+0.3**
KKM	**Kota Kinabalu** baz=12,SNR=4.6	**11.85**	**324**		P		**Pn**	**18 36 28.2**	**+2.9**
CGP	**Cagayan de Oro**	**12.06**	**7**	⇓*iP*	P		Pn	18 36 31.6	+3.7
MTN	**Manton Dam** baz=12,SNR=22	**12.07**	**140**		P		**Pn**	**18 36 28.1**	**-0.1**
DCPH	**Dipolog City**	**12.09**	**1**	⇑*eP*			**Pn**	**18 36 30.8**	**+2.3**
BIPH	**Bislig**	**12.11**	**15**	⇓*eP*			**Pn**	**18 36 29.7**	**+1.1**
BIPH				*eS*			Px	18 36 36.8	
SJI	**Sawahan**	**12.11**	**250**		P		Pn	18 36 32.2	+3.4
BTM	**Bintulu**	**12.17**	**304**		P		**Pn**	**18 36 31.8**	**+2.4**
PWJI	**Pagerwojo**	**12.18**	**248**		P		**Pn**	**18 36 31.3**	**+1.7**
KDM	**Kudat**	**12.23**	**329**		P		**Pn**	**18 36 31.4**	**+1.2**
STKI	**Sintang**	**12.28**	**287**		P		**Pn**	**18 36 33.0**	**+2.0**
SBUM	**Sibu**	**12.52**	**298**		P		Pn	18 36 37.7	+3.4
SBUM	**Sibu** 155nm,1.6s,3μm	**12.52**	**298**		P		**Pn**	**18 36 37.3**	**+3.0**
BUTP	**Butuan**	**12.70**	**11**	*eP*	P		**Pn**	**18 36 39.3**	**+2.5**
PCJI	**Pacitan**	**12.82**	**249**		P		Pn	18 36 42.4	+4.1
SNPH	**Sibulan**	**12.85**	**0**	*eP*	P			18 36 44.6	-5.0
WOJI	**Wonogiri, Jawa**	**12.94**	**250**		P		**Pn**	**18 36 42.9**	**+2.9**
BAKI	**Biak**	**13.10**	**80**		P		**Pn**	**18 36 41.5**	**-0.7**
SRPI	**Serui, Papua**	**13.12**	**83**		P		**Pn**	**18 36 41.0**	**-1.5**
UGM	**Wanagama**	**13.34**	**251**		P		**P**	**18 36 52.0**	**-3.1**
SCPH	**Surigao**	**13.47**	**10**	*eP*			**Pn**	**18 36 47.8**	**+0.5**
YOGI	**Yogyakarta**	**13.52**	**251**		P		**P**	**18 36 59.4**	**+2.3**
MSLP	**Maasin**	**13.73**	**7**	*eP*			**Pn**	**18 36 52.9**	**+2.1**
LLP	**Lapu-Lapu**	**13.84**	**3**	⇑*eP*			**Pn**	**18 36 54.2**	**+1.9**
KSM	**Kuching**	**13.85**	**291**		P		**Pn**	**18 36 54.6**	**+2.2**
KSM	**Kuching**	**13.85**	**291**		P		**Pn**	**18 36 53.8**	**+1.4**
KSM	**Kuching** 484nm,1.3s	**13.85**	**291**	*eP*	P		**Pn**	**18 36 53.5**	**+1.1**
BJII	**Banjamegara**	**13.95**	**254**		P		Pn	18 36 57.3	+3.4
GUIM	**Jordan**	**14.14**	**357**	*eP*			**Pn**	**18 36 58.2**	**+1.8**
TGJI	**Tegal**	**14.41**	**256**		P		**Pn**	**18 37 03.1**	**+3.0**
CUYO	**Cuyo Island**	**14.51**	**351**	*eP*			**Pn**	**18 37 03.7**	**+2.2**
OCLP	**Ormoc**	**14.61**	**5**	*eP*			**Pn**	**18 37 04.5**	**+1.6**
FITZ	**Fitzroy Crossi** 1μm,1.1s	**14.62**	**171**	*eP*			Pn	18 36 58.4	-4.5
FITZ	**Fitzroy Crossi** 1.2nm,0.3s,baz=8.6,slow=11,SNR=51	**14.62**	**171**		Pn		Pn	18 36 58.8	-4.1
FITZ	comp=Z,7μm,18.4s,baz=351,slow=41				LR		LR	18 43 32.0	
KPJI	**Karang Pucung**	**14.70**	**255**		P		**Pn**	**18 37 06.6**	**+2.6**
CLJI	**Cilicap**	**14.71**	**253**		P		**P**	**18 37 11.4**	**+1.1**
RCP	**Roxas**	**15.06**	**358**	⇑*eP*			**P**	**18 37 12.7**	**-1.5**
ENPP	**El Nido**	**15.18**	**346**	*eP*			**Pn**	**18 37 12.8**	**+2.4**
PALU	**Palau** baz=16,SNR=13	**15.63**	**46**		P		**P**	**18 37 20.3**	**-0.2**
BUSP	**Coron**	**15.78**	**349**	*eP*			**Pn**	**18 37 20.0**	**+1.6**
CISI	**Cisompet, Garu**	**15.82**	**255**		P		**P**	**18 37 24.0**	**+1.2**
LEM	**Lembang**	**15.86**	**258**		P		**Pn**	**18 37 21.5**	**+1.9**
LEM	**Lembang** baz=16,SNR=7.3	**15.86**	**258**	⇑P			**P**	**18 37 22.0**	**-1.3**
SJMP	**San Jose**	**16.08**	**353**	*eP*			**Pn**	**18 37 23.7**	**+1.4**
CBJI	**Citeko**	**16.54**	**260**		P		**P**	**18 37 32.2**	**+1.5**
DBJI	**Dramaga**	**16.66**	**259**		P		**P**	**18 37 32.2**	**+0.2**
SKJI	**Sukabumi**	**16.93**	**258**		P		**P**	**18 37 34.1**	**-0.9**
PVCP	**Virac**	**17.10**	**3**	⇑*eP*			**Pn**	**18 37 35.2**	**+0.1**
PPBI	**Pangkal Pinang**	**17.12**	**274**		P		**P**	**18 37 39.1**	**+2.0**
JAY	**Jayapura** 233nm,2.0s,7μm	**17.50**	**87**		P		**P**	**18 37 40.8**	**-0.5**
JAY	**Jayapura** baz=18	**17.50**	**87**	⇓*P*			**P**	**18 37 41.4**	**+0.1**
TGY	**Tagaytay City** comp=Z,60nm,18.5s,baz=275,slow=38	**17.72**	**353**		LR		LR	18 44 51.4	
MMPI	**Merauke**	**17.74**	**107**		P		**P**	**18 37 43.8**	**-0.1**
MBWA	**Marble Bar** SNR=62	**17.79**	**191**		Pn		**Pn**	**18 37 42.6**	**-1.1**
MBWA	**Marble Bar** 263nm,1.2s	**17.79**	**191**	*eP*			**Pn**	**18 37 42.1**	**-1.6**
BLSI	**Bandar Lampung**	**18.00**	**264**		P		**P**	**18 37 50.3**	**+3.4**
KLI	**Kotabumi**	**18.35**	**265**		P		**P**	**18 37 53.9**	**+3.2**
PMBI	**Palembang**	**18.43**	**272**		P		Pn	18 37 57.0	+5.4
XMI	**Christmas Isla** baz=19,SNR=11	**18.67**	**248**		P		**Pn**	**18 37 54.9**	**+0.2**
XMIS	**Christmas Isla** 4μm,1.2s	**18.72**	**248**	*eP*			**P**	**18 37 54.9**	**+0.1**
XMIS	**Christmas Isla** baz=19,SNR=14	**18.72**	**248**		P		**Pn**	**18 37 55.4**	**+0.2**
KASI	**Kota Agung**	**18.76**	**263**		P		**Pn**	**18 37 57.1**	**+1.5**
MDSI	**Maura Dua**	**19.01**	**267**		P		**Pn**	**18 37 59.9**	**+1.2**
LWLI	**Liwa**	**19.16**	**265**		P		**Pn**	**18 38 01.3**	**+0.7**
WRAB	**Tennant Creek**	**19.54**	**147**	*eP*			**P**	**18 38 02.1**	**-1.6**
WRAB	comp=Z,319nm,1.1s				pmax		pmax		
WRAB	**Tennant Creek** comp=Z,319nm,1.1s	**19.54**	**147**	*eP*			**P**	**18 38 02.1**	**-1.6**
WRAB	**Tennant Creek** comp=Z,1μm,1.1s,SNR=20	**19.54**	**147**		P		**P**	**18 38 02.1**	**-1.6**
WRA	**Warramunga Arr**	**19.54**	**147**		P		**P**	**18 38 02.4**	**-1.4**
WRA					S		S	18 41 35.9	-8.3
WRA	**Warramunga Arr** comp=Z,2.9nm,0.3s,baz=321,slow=12,SNR=68	**19.54**	**147**		P		**P**	**18 38 02.4**	**-1.4**
WRA	comp=Z,0.0nm,0.3s,baz=315,slow=23,SNR=6.9				S		S	18 41 35.9	-8.3
WRA	comp=Z,8μm,18.2s,baz=30,slow=41				LR		LR	18 46 54.4	
LHSI	**Lahat**	**19.65**	**269**		P		**Pn**	**18 38 07.4**	**+1.0**
BTDF	**Bukit Timah Da** baz=20,SNR=16	**20.05**	**284**		P		Pn	18 38 11.2	+0.1
BTDF	baz=20,SNR=16				P		Pn	18 38 11.2	+0.1
MYKOM	**Kota Tinggi**	**20.08**	**285**		P		Pn	18 38 11.7	+0.2
MYKOM	**Kota Tinggi**	**20.08**	**285**		P		Pn	18 38 11.2	-0.3
MNAI	**Manna**	**20.23**	**267**		P		Pn	18 38 14.1	+0.9
KGM	**Kluang**	**20.65**	**285**		P		Pn	18 38 18.2	-0.1
GIRL	**Giralia** baz=21,SNR=8.6	**20.84**	**204**	⇑*P*			**P**	**18 38 18.3**	**+0.4**
MASI	**Maura Aman, Be**	**20.95**	**271**		P		Pn	18 38 22.4	+0.7
RGRI	**Rengat** comp=Z,491nm,1.1s,comp=Z,113μm	**21.11**	**278**		P		**P**	**18 38 23.9**	**+3.0**
KTGM	**Kuala Trenggan**	**21.93**	**294**		P		**P**	**18 38 32.1**	**+2.5**
COEN	**Coen** comp=Z,8μm,1.6s	**22.23**	**119**	*eP*			**P**	**18 38 32.2**	**-0.6**
COEN	**Coen** baz=22,SNR=141	**22.23**	**119**		P		**P**	**18 38 32.4**	**-0.5**
AS31	**Alice Springs**	**22.47**	**154**	*eP*			**P**	**18 38 35.2**	**-0.2**
ASAR	**Alice Springs**	**22.47**	**154**		P		**P**	**18 38 36.1**	**+0.7**
ASAR					PcP		**PcP**	**18 42 29.8**	**+0.1**
ASAR					S		**S**	**18 42 41.5**	**-0.2**
ASAR	**Alice Springs** comp=Z,338nm,0.9s,baz=326,slow=7.0,SNR=231	**22.47**	**154**		P		**P**	**18 38 36.1**	**+0.7**
ASAR	comp=Z,22nm,0.9s,baz=350,slow=1.8,SNR=12				PcP		**PcP**	**18 42 29.8**	**+0.1**
ASAR	comp=Z,41nm,1.2s,baz=343,slow=18,SNR=4.7				S		**S**	**18 42 41.5**	**-0.2**
ASAR	comp=Z,10μm,18.9s,baz=342,slow=42				LR		LR	18 49 21.2	
FRIM	**Kepong**	**22.62**	**287**		P		**P**	**18 38 38.7**	**+1.7**
PPI	**Padang Panjang**	**23.01**	**277**		P		**P**	**18 38 41.4**	**+0.2**
PPI	**Padang Panjang** baz=23,SNR=14	**23.01**	**277**	⇓*P*			**P**	**18 38 42.6**	**+1.5**
IPM	**Ipoh**	**23.58**	**290**		P		**P**	**18 38 48.0**	**+1.1**
IPM	**Ipoh**	**23.58**	**290**		P		**P**	**18 38 47.0**	**+0.2**
IPM	**Ipoh** comp=Z,454nm,1.4s	**23.58**	**290**	*eP*			**P**	**18 38 47.1**	**+0.2**
KULM	**Kulim**	**24.21**	**291**		P		**P**	**18 38 53.9**	**+1.1**
KULM	**Kulim**	**24.21**	**291**		P		**P**	**18 38 52.6**	**-0.2**
KULM	**Kulim** comp=Z,264nm,1.2s	**24.21**	**291**	*eP*			**P**	**18 38 52.9**	**0.0**
KULM	comp=Z,8μm,19.0s				LR		LR		
PMG	**Port Moresby**	**24.47**	**105**		P		**P**	**18 38 54.6**	**-0.6**
PMG	**Port Moresby** comp=Z,2μm,1.4s	**24.47**	**105**	*eP*			**P**	**18 38 54.4**	**-0.8**
PMG	comp=Z,6μm,19.0s				LR		LR		
PMG	**Port Moresby** comp=Z,700nm,1.2s,baz=310,slow=5.7,SNR=123	**24.47**	**105**		P		**P**	**18 38 55.1**	**-0.2**
PSI	**Prapat**	**25.10**	**284**		P		**P**	**18 39 00.6**	**-0.4**
PSI	**Prapat** baz=25,SNR=83	**25.10**	**284**		P		**P**	**18 39 00.7**	**-0.4**
PSI	**Prapat** comp=Z,214nm,1.2s,baz=113,slow=6.1,SNR=97	**25.10**	**284**		P		**P**	**18 39 00.6**	**-0.4**
MTSU	**Mount Surprise** baz=25,SNR=72	**25.21**	**127**		P		**P**	**18 39 02.4**	**+0.4**
UBPT	**Khong Chiam**	**25.70**	**317**		P		**P**	**18 39 06.6**	**+0.3**
UBPT	**Khong Chiam** comp=Z,395nm,1.4s,comp=Z,5μm	**25.70**	**317**		P		**P**	**18 39 07.1**	**+0.8**
QIZ	**Qiongzhong**	**26.05**	**330**		P		**P**	**18 39 10.8**	**+1.3**
QIZ					S		**S**	**18 43 44.5**	**+4.4**
QIZ	comp=Z,110nm,1.4s				AMB		AMB		
QIZ	comp=Z,2μm,9.3s				AMB		AMB		
QIZ	comp=Z,4μm,22.9s				LR		LR		
QIZ	comp=Z,6μm,29.3s				LR		LR		
QIZ	**Qiongzhong** comp=Z,400nm,1.5s	**26.05**	**330**	*eP*			**P**	**18 39 08.9**	**-0.6**
GSI	**Gunungsitoli**	**26.09**	**280**		P		**P**	**18 39 09.1**	**-0.8**
MORW	**Morawa** baz=26	**26.24**	**194**	⇓*P*			**P**	**18 39 10.4**	**-0.7**
TWG	**Pinlang** comp=Z,667nm,1.4s	**26.33**	**356**	*eP*			**P**	**18 39 12.8**	**+0.8**
CHBT	**CHBT**	**26.35**	**308**		P		**P**	**18 39 13.3**	**+1.1**
CHBT	**CHBT** comp=Z,292nm,1.2s,comp=Z,3μm	**26.35**	**308**		P		**P**	**18 39 12.5**	**+0.3**
KCSI	**Kotacane, Aceh**	**26.39**	**285**		P		**P**	**18 39 10.8**	**-1.9**
SURA	**Surathani** comp=Z,192nm,1.3s,comp=Z,6μm	**26.71**	**298**		P		**P**	**18 39 16.7**	**+1.2**
TPUB	**Ta-pu** comp=Z,70nm,0.8s	**26.85**	**355**	*eP*			**P**	**18 39 16.6**	**-0.1**
YULB	**Yu-li** comp=Z,107nm,1.3s	**26.88**	**356**	*eP*			**P**	**18 39 18.0**	**+1.1**
HKC	**Hong Kong Obse**	**27.21**	**341**	⇑*iP*			**P**	**18 39 22.0**	**+2.1**
SSLB	**Suanglung** comp=Z,91nm,1.0s	**27.30**	**355**	*eP*			**P**	**18 39 19.6**	**-1.1**
PKDT	**Phuket** comp=Z,101nm,1.6s,comp=Z,2μm	**27.32**	**295**		P		**P**	**18 39 21.3**	**+0.3**
GUMO	**Guam** comp=Z,408nm,1.2s	**27.44**	**51**	*eP*			**P**	**18 39 20.0**	**-2.1**
COCO	**West Island**	**27.47**	**250**	*i*	P		**P**	**18 39 23.6**	**+1.3**
COCO	**West Island** comp=Z,355nm,1.7s,comp=Z,6μm	**27.47**	**250**		P		**P**	**18 39 24.0**	**+1.7**
COCO	**West Island** comp=Z,322nm,1.4s	**27.47**	**250**	*eP*			**P**	**18 39 21.8**	**-0.6**
COCO	comp=Z,4μm,21.0s				LR		LR		
SNSI	**Sinabang, Aceh**	**27.53**	**282**		P		**P**	**18 39 27.6**	**+4.7**
LHMI	**Lhok Sumawe**	**27.66**	**288**		P		**P**	**18 39 24.5**	**+0.4**
CTA	**Charters Tower**	**27.81**	**128**		P		**P**	**18 39 25.9**	**+0.5**
CTA	**Charters Tower** baz=28	**27.81**	**128**	⇓*P*			**P**	**18 39 26.1**	**+0.8**
CTA	**Charters Tower** comp=Z,112nm,1.1s,baz=306,slow=11,SNR=87	**27.81**	**128**		P		**P**	**18 39 25.9**	**+0.5**
CTA	comp=Z,5μm,21.4s,baz=312,slow=35				LR		LR	18 50 00.7	
CTAO	**Charters Tower**	**27.81**	**128**	*eP*			**P**	**18 39 24.3**	**-1.1**
CTAO	comp=Z,421nm,1.4s				pmax		pmax		
CTAO	**Charters Tower** comp=Z,421nm,1.4s	**27.81**	**128**	*eP*			**P**	**18 39 24.2**	**-1.1**
CTAO	comp=Z,5μm,21.0s				LR		LR		
SKNT	**Sakolnakorn**	**27.90**	**318**		P		**P**	**18 39 26.6**	**+0.4**
	comp=Z,283nm,1.0s,comp=Z,4μm								
YHNB	**Yeheng**	**28.15**	**356**		PFAKE			**18 39 40.0**	**+12**
YHNB	comp=Z,8μm,22.0s				LR		LR		
GZH	**Guangzhou**	**28.21**	**340**		P		P	18 39 33.0	+4.2
GZH	comp=Z,7μm,12.0s				LR		LR		
GZH	comp=Z,10μm,12.8s				LR		LR		
KLBR	**Kellerberrin** baz=28,SNR=21	**28.32**	**190**		P		**P**	**18 39 29.4**	**-0.4**
QZH	**Quanzhou**	**28.72**	**351**		P		P	18 39 28.1	-5.2
QZH					S		S	18 44 13.0	-9.0
QZH	comp=Z,180nm,1.2s				AMB		AMB		
QZH	comp=Z,1μm,4.8s				AMB		AMB		
QZH	comp=N,2μm,8.9s				LR		LR		
QZH	comp=E,9μm,12.9s				LR		LR		
QZH	comp=Z,10μm,26.2s				LR		LR		
RABL	**Rabaul** baz=29,SNR=10	**28.89**	**92**		P		**P**	**18 39 36.5**	**+1.5**
NONG	**Nongkai** comp=Z,169nm,0.9s,comp=Z,11μm	**29.23**	**318**		P		**P**	**18 39 38.2**	**+0.2**
NWAO	**Narrogin (SRO)** SNR=9.8	**29.72**	**190**		P		**P**	**18 39 42.3**	**+0.1**
NWAO	**Narrogin (SRO)** comp=Z,201nm,1.4s	**29.72**	**190**	*eP*			**P**	**18 39 40.8**	**-1.3**
NWAO					PcP		**PcP**	**18 42 46.4**	**+0.2**
NWAO	**Narrogin (SRO)** comp=Z,51nm,0.9s,baz=19,slow=11,SNR=36	**29.72**	**190**		P		**P**	**18 39 41.8**	**-0.4**
NWAO	comp=Z,55nm,1.1s,baz=224,slow=1.7,SNR=4.2				PcP		**PcP**	**18 42 46.4**	**+0.2**
NWAO	comp=Z,4μm,18.3s,baz=18,slow=42				LR		LR	18 54 36.8	
PBKT	**Sadao Pong**	**29.74**	**313**		P		**P**	**18 39 42.7**	**+0.2**
PBKT	**Sadao Pong** comp=Z,131nm,1.5s,comp=Z,2μm	**29.74**	**313**		P		**P**	**18 39 42.9**	**+0.4**
LOEI	**Loei** comp=Z,283nm,1.1s,comp=Z,5μm	**30.15**	**315**		P		**P**	**18 39 43.7**	**-2.4**
QLP	**Quilpie** baz=30,SNR=51	**30.46**	**141**		P		**P**	**18 39 48.9**	**+0.1**
JOW	**Kunigami** comp=Z,555nm,1.7s	**30.64**	**9**	*eP*			**P**	**18 39 50.7**	**+0.4**
RKGY	**Rocky Gully** baz=31	**31.40**	**190**	⇓*P*			**P**	**18 39 58.2**	**+1.1**
BBOO	**Buckleboo** comp=Z,488nm,0.5s	**31.46**	**159**	*eP*			**P**	**18 39 57.2**	**-0.4**
BBOO	**Buckleboo** baz=32,SNR=7.2	**31.46**	**159**		P		**P**	**18 39 57.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**32.43**	**313**		P		**P**	**18 40 07.0**	**+0.7**
CMAR	**Chiang Mai Arr** comp=Z,112nm,0.9s,baz=139,slow=6.9,SNR=503	**32.43**	**313**		P		**P**	**18 40 07.0**	**+0.7**
CHTO	**Chiang Mai**	**32.66**	**314**	*eP*			**P**	**18 40 08.7**	**+0.4**
CHTO	comp=Z,2μm,1.2s				pmax		pmax		
CHTO	**Chiang Mai** SNR=148	**32.66**	**314**		P		**P**	**18 40 09.3**	**+1.0**
CHTO	**Chiang Mai**	**32.66**	**314**		P		**P**	**18 40 08.6**	**+0.3**
CHTO	**Chiang Mai** comp=Z,2μm,1.2s	**32.66**	**314**	*eP*			**P**	**18 40 08.7**	**+0.3**
CHTO	comp=Z,4μm,20.0s				LR		LR		
CHTO	**Chiang Mai** comp=Z,1μm,1.4s,comp=Z,13μm	**32.66**	**314**		P		**P**	**18 40 08.6**	**+0.3**
STKA	**Stephens Creek** comp=Z,102nm,1.4s	**33.02**	**151**	*eP*			**P**	**18 40 10.9**	**-0.3**
STKA	**Stephens Creek** baz=33,SNR=118	**33.02**	**151**		P		**P**	**18 40 11.1**	**-0.2**
STKA	**Stephens Creek** comp=Z,140nm,0.9s,baz=319,slow=9.0,SNR=150	**33.02**	**151**		P		**P**	**18 40 11.1**	**-0.2**
STKA	comp=Z,9μm,21.1s,

ARMA Armidale 37.85 138 *e*P **P** 18 40 54.4 +1.4
comp=Z,390nm,1.5s
ARMA Armidale 37.85 138 P **P** 18 40 54.7 +1.7
baz=38,SNR=11
CD2 Chengdu 39.01 333 ⇓*i*P **P** 18 41 02.1 -0.5
CD2 pP **pP** 18 41 06.6 -0.9
CD2 sP **sP** 18 41 09.1 -0.3
CD2 PP **PnPn** 18 42 36.3 +1.6
CD2 S **S** 18 47 02.5 +1.3
CD2 sS **sS** 18 47 09.4 +0.2
CD2 SS **SnSn** 18 49 47.4 -5.6
CD2 AMB AMB
comp=Z,180nm,1.4s
CD2 AMB AMB
comp=Z,1μm,8.8s
CD2 LR LR
comp=Z,4μm,16.6s
CD2 LR LR
comp=Z,5μm,20.2s
CAN Canberra 39.58 146 *e*P **P** 18 41 08.5 +1.1
CAN pmax pmax
comp=Z,463nm,1.4s
CAN MLR MLR
comp=Z,4μm,21.0s
CAN Canberra 39.58 146 *e*P **P** 18 41 08.5 +1.1
comp=Z,463nm,1.4s
CAN LR LR
comp=Z,4μm,21.0s
CAN Canberra 39.58 146 ⇓P **P** 18 41 09.0 +1.6
baz=40
TIA Tai'an 40.00 352 ⇓P **P** 18 41 09.5 -1.3
TIA PP **PnPn** 18 42 50.5 +4.1
TIA S **S** 18 47 14.0 -1.9
TIA AMB AMB
comp=Z,1μm,7.2s
TIA LR LR
comp=Z,760nm,9.8s
TIA LR LR
comp=Z,2μm,14.0s
TIA LR LR
comp=Z,2μm,24.0s
IMP Imphal 40.06 316 *ex* **P** 18 41 10.0 -1.5
INCN Inchon 40.99 4 P **P** 18 41 20.0 +1.1
SNR=11
INCN Inchon 40.99 4 *e*P **P** 18 41 19.6 +0.6
comp=Z,143nm,1.2s
INCN LR LR
comp=Z,3μm,19.0s
KSAR Wonju Array Be 41.05 6 P **P** 18 41 20.2 +0.8
KSAR PcP **PcP** 18 43 20.1 +0.9
KSRS Korea Array 41.07 6 P **P** 18 41 20.2 +0.7
comp=Z,80nm,1.0s,baz=182,slow=10.0,SNR=200
KSRS PcP **PcP** 18 43 20.1 +0.9
comp=Z,18nm,1.1s,baz=194,slow=3.4,SNR=6.8
KSRS LR LR 18 56 37.1
comp=Z,3μm,21.0s,baz=177,slow=34
SHL Shillong 41.99 315 *e*P **P** 18 41 27.7 +0.1
SHL *e*4 18 47 14.0
TIY Taiyuan 42.30 347 P **P** 18 41 29.0 -0.7
TIY S **S** 18 47 48.4 -1.7
TIY AMB AMB
comp=Z,830nm,8.8s
TIY LR LR
comp=Z,1μm,10.2s
TIY LR LR
comp=Z,1μm,12.2s
TIY LR LR
comp=Z,3μm,19.9s
MAJO Matsushiro 42.31 18 *e*P **P** 18 41 28.4 -1.4
MAJO pmax pmax
comp=Z,262nm,1.4s
MAJO Matsushiro 42.31 18 *e*P **P** 18 41 28.4 -1.4
comp=Z,262nm,1.4s
MAJO LR LR
comp=Z,2μm,20.0s
MAT Matsushiro 42.31 18 P **P** 18 41 28.7 -1.1
MAT S **S** 18 47 46.0 -4.2
MJAR Matsushiro Arr 42.31 18 P **P** 18 41 28.6 -1.2
MJAR PcP **PcP** 18 43 24.3 +0.9
MJAR Matsushiro Arr 42.31 18 P **P** 18 41 28.6 -1.2
comp=Z,75nm,1.0s,baz=199,slow=9.8,SNR=177
MJAR PcP **PcP** 18 43 24.3 +0.9
comp=Z,29nm,1.1s,baz=220,slow=5.1,SNR=7.9
MJAR LR LR 18 58 05.2
comp=Z,2μm,18.3s,baz=205,slow=35
DL2 Dalian 42.31 358 P **P** 18 41 28.6 -1.1
DL2 S **S** 18 47 47.6 -2.4
DL2 AMB AMB
comp=Z,89nm,1.1s
DL2 AMB AMB
comp=Z,990nm,6.9s
DL2 LR LR
comp=Z,1μm,15.7s
DL2 LR LR
comp=Z,2μm,17.5s
LZH Lanzhou 43.43 337 ⇓P **P** 18 41 39.4 +0.3
LZH pP **pP** 18 41 43.4 -0.6
LZH sP **sP** 18 41 46.6 +0.7
LZH PP **PP** 18 43 23.0 +2.7
LZH PcP **PcP** 18 43 28.9 +1.6
LZH S **S** 18 48 07.3 +0.3
LZH sS **sS** 18 48 16.0 +0.9
LZH SS SS 18 51 14.0 -7.5
LZH AMB AMB
comp=Z,83nm,1.1s
LZH AMB AMB
comp=Z,710nm,5.4s
LZH LR LR
comp=Z,4μm,17.1s
LZH LR LR
comp=Z,2μm,12.1s
LZH LR LR
comp=Z,6μm,18.1s
PALK Pallekele 43.78 284 P **P** 18 41 41.7 -0.4
SNR=31
PALK Pallekele 43.78 284 P **P** 18 41 41.0 -1.1
PALK Pallekele 43.78 284 *e*P **P** 18 41 41.5 -0.6
comp=Z,182nm,1.5s
PALK Pallekele 43.78 284 P **P** 18 41 41.9 -0.2
comp=Z,321nm,1.4s,SNR=22
BJT Baijiatuan 43.88 352 *e*P **P** 18 41 41.6 -0.8
comp=Z,79nm,0.9s
BJI Beijing 43.90 352 P **P** 18 41 41.9 -0.6
BJI PP **PcP** 18 43 26.8 -1.8
BJI S **S** 18 48 11.4 -1.9
BJI AMB AMB
comp=Z,78nm,1.0s
BJI AMB AMB
comp=Z,1μm,7.5s
BJI LR LR
comp=Z,2μm,20.5s
BJI LR LR
comp=Z,2μm,19.0s
BJI LR LR
comp=Z,2μm,22.2s
TAU Tasmania Unive 44.64 155 *e*P **P** 18 41 49.6 +1.2
TAU pmax pmax
comp=Z,225nm,1.4s
TAU MLR MLR
comp=Z,6μm,20.0s
TAU Tasmania Unive 44.64 155 *e*P **P** 18 41 49.6 +1.2
comp=Z,225nm,1.4s
TAU LR LR
comp=Z,6μm,20.0s
TAU Tasmania Unive 44.64 155 P **P** 18 41 49.2 +0.7
comp=Z,522nm,0.9s,SNR=6.2
VIS Vishakhapatnam 44.67 300 *e*P **P** 18 41 48.5 -0.7
VIS AMB AMB 18 41 54.1
comp=Z,242nm,0.9s
LSA Lhasa 45.15 319 P **P** 18 41 53.8 +0.5
LSA Lhasa 45.15 319 *e*P **P** 18 41 53.5 +0.1
LSA pmax pmax
comp=Z,168nm,1.4s
LSA MLR MLR
comp=Z,3μm,19.0s
LSA Lhasa 45.15 319 *e*P **P** 18 41 53.5 +0.1
comp=Z,168nm,1.4s
LSA LR LR
comp=Z,3μm,19.0s
SNY Shenyang 45.20 0 ⇓P **P** 18 41 52.6 -0.3
SNY S **S** 18 48 30.1 -2.1
SNY AMB AMB
comp=Z,230nm,1.4s
SNY AMB AMB
comp=Z,2μm,12.0s
SNY LR LR
comp=Z,2μm,19.0s
SNY LR LR
comp=Z,3μm,15.6s
SNY LR LR
comp=Z,3μm,17.5s
BOK Bokaro 45.41 309 *e*P **P** 18 41 55.3 +0.3
HHC Hu-ho-hao-te 45.49 348 *e*P **P** 18 41 56.8 +1.4
HHC pP **pP** 18 42 01.3 +1.0
HHC sP **sP** 18 42 03.8 +1.6
HHC PP **PP** 18 43 44.4 +2.3
HHC PcS **PcS** 18 47 27.4 -0.9
HHC S **S** 18 48 39.3 +2.6
HHC sS **sS** 18 48 47.4 +2.6
HHC ScS **ScS** 18 51 49.8 -1.9
HHC SS **SS** 18 51 55.4 -5.3
HHC AMB AMB
comp=Z,95nm,1.1s
HHC AMB AMB
comp=Z,2μm,5.4s
HHC LR LR
comp=Z,4μm,16.3s
HHC LR LR
comp=Z,3μm,16.7s
HHC LR LR
comp=Z,4μm,16.3s
BTO Baotou 45.61 346 *e*P **P** 18 41 55.1 -1.3
DZM Mont Dzumac 45.75 118 *e*P **P** 18 41 57.9 +0.2
comp=Z,194nm,1.6s
DZM *e*S **S** 18 48 44.2 +3.2
comp=Z,4μm,25.0s
DZM *e*LQ LQ 18 52 44.0
comp=Z,7μm,28.9s
DZM *e*LR LR 18 55 02.6
comp=Z,5μm,28.9s
DZM Mont Dzumac 45.75 118 *e*P **P** 18 41 57.9 +0.2
comp=Z,273nm,1.8s
ODAN Odare 45.98 313 *e*P **P** 18 41 59.6 0.0
comp=Z,852nm,1.4s
TAPN Taplejung 46.03 314 *e*P **P** 18 41 59.5 -0.7
comp=Z,652nm,1.3s
RAMN Ramite 46.60 313 *e*P **P** 18 42 04.8 +0.2
comp=Z,1μm,1.3s
CN2 Changchun 47.22 2 ⇓P **P** 18 42 08.0 -0.8
CN2 *e*sP **sP** 18 42 15.0 -0.6
CN2 *e*S **S** 18 49 01.4 +0.2
CN2 AMB AMB
comp=Z,80nm,1.4s
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,1μm,18.0s
CN2 LR LR
comp=Z,2μm,18.0s
CN2 LR LR
comp=Z,1μm,18.0s
JIRN Jiri 47.31 313 *e*P **P** 18 42 10.1 -0.1
comp=Z,403nm,1.1s
TRD Trivandrum 47.67 285 *e*P **P** 18 42 11.5 -1.3
GUN Gumba 47.68 313 *e*P **P** 18 42 12.4 -0.7
comp=Z,762nm,1.1s
PKI Pulchoki 47.83 313 *e*P **P** 18 42 13.6 -0.6
comp=Z,578nm,1.2s
PKIN Phulchoki 47.84 313 *e*P **P** 18 42 13.8 -0.5
comp=Z,177nm,1.2s
GTA Gaotai 47.91 336 ⇓P **P** 18 42 14.5 +0.1
GTA pP **pP** 18 42 19.3 -0.1
GTA sP **sP** 18 42 22.3 +1.0
GTA PcP **PcP** 18 43 44.3 +1.5
GTA S **S** 18 49 13.9 +2.4
GTA sS **sS** 18 49 18.0 -1.6
GTA ScS **ScS** 18 52 07.8 +0.2
GTA AMB AMB
comp=Z,92nm,0.6s
GTA AMB AMB
comp=Z,1μm,6.2s
GTA LR LR
comp=Z,2μm,18.8s
GTA LR LR
comp=Z,3μm,22.8s
GTA LR LR
comp=Z,3μm,18.8s
KKN Kakani 48.05 313 *e*P **P** 18 42 14.9 -0.9
comp=Z,529nm,1.2s
DMN Daman 48.07 313 *e*P **P** 18 42 15.4 -0.6
comp=Z,570nm,1.2s
USRK Ussuriysk Arra 48.22 8 P **P** 18 42 16.5 -0.1
comp=Z,103nm,0.8s,baz=191,slow=6.9,SNR=134
USRK PcP **PcP** 18 43 43.1 -0.5
comp=Z,14nm,0.9s,baz=210,slow=2.8,SNR=2.6
USRK LR LR 19 01 22.0
comp=Z,2μm,18.8s,baz=157,slow=34
MDJ Mudanjiang 48.33 6 P **P** 18 42 17.8 +0.4
MDJ pP **pP** 18 42 20.1 -2.2
MDJ sP **sP** 18 42 22.3 -1.9
MDJ PcP **PcP** 18 43 44.4 +0.4
MDJ PP **PP** 18 44 10.6 +0.5
MDJ ScP **ScP** 18 47 38.3 0.0
MDJ PcS **PcS** 18 47 40.3 +0.6
MDJ S **S** 18 49 15.3 -1.6
MDJ AMB AMB
comp=Z,400nm,1.0s
MDJ AMB AMB
comp=Z,1μm,4.1s
MDJ LR LR
comp=Z,2μm,20.0s
MDJ LR LR
comp=Z,1μm,20.0s
MDJ LR LR
comp=Z,3μm,20.0s
MDJ Mudanjiang 48.33 6 *e*P **P** 18 42 17.4 0.0
comp=Z,412nm,0.9s
MDJ LR LR
comp=Z,3μm,20.0s
GKN Gorkha 48.64 313 *e*P **P** 18 42 19.9 -0.4
comp=Z,1μm,1.3s
HYB Hyderabad 48.76 297 ⇓*i*P **P** 18 42 19.5 -1.7
comp=Z,114nm,0.8s
HYB *e*pP **pP** 18 42 22.0 -4.2
HYB *e*S **S** 18 49 22.0 -1.9
HYB Hyderabad 48.76 297 *e*P **P** 18 42 20.3 -0.9
KOLN Koldanda 49.27 312 *e*P **P** 18 42 24.9 -0.3
comp=Z,425nm,0.8s
DANN Dangsing 49.47 313 *e*P **P** 18 42 26.4 -0.4
comp=Z,2μm,1.2s
NGP Nagpur 49.76 302 *e*P **P** 18 42 26.6 -2.2
NGP *e*4 18 49 32.9
ASAJ Asahikawa 50.58 18 *e*P **P** 18 42 34.6 +0.1
comp=Z,160nm,1.3s
DGAR Diego Garcia 50.65 263 *d*iP **P** 18 42 34.7 -1.0
DGAR Diego Garcia 50.65 263 P **P** 18 42 36.2 +0.5
SNR=7.5
DGAR Diego Garcia 50.65 263 *e*P **P** 18 42 35.5 -0.2
comp=Z,778nm,1.4s
DGAR LR LR
comp=Z,2μm,21.0s
DGAR Diego Garcia 50.65 263 P **P** 18 42 35.2 -0.5
comp=Z,2μm,1.0s,SNR=7.3
AKL Akola 51.33 300 *e*P **P** 18 42 39.8 -0.9
YUK Yuzh-Kuril'sk 51.59 21 *d*iP **P** 18 42 42.0 -0.2
YUK *i* 18 44 40.1
YUK *i* PPP PPP 18 45 36.6
YUK *i* S **S** 18 50 03.0 +0.6
YUK pmax pmax
comp=Z,879nm,1.0s
YUK pmax pmax
comp=E,269nm,1.0s
YUK pmax pmax
comp=Z,781nm,1.0s
YUK pmax pmax
comp=N,128nm,1.0s
YUK MLR MLR
comp=N,978nm,19.0s
YUK MLR MLR
comp=E,1μm,19.0s
YUK MLR MLR
comp=Z,1μm,19.0s
BHPL Bhopal 52.00 303 *e*P **P** 18 42 44.7 -0.9
BHPL AMB AMB 18 42 46.5
comp=Z,163nm,1.1s
GOA Goa 52.42 293 *e*P **P** 18 42 48.2 -0.7
HIA Hailar 52.73 357 *e*P **P** 18 42 50.8 +0.2
comp=Z,670nm,1.3s
HIA LR LR
comp=Z,3μm,20.0s
HABR Khabarovsk 52.87 10 *e*P **P** 18 42 48.5 -3.1
HABR *e**SP **sP** 18 42 53.5 -5.0
HABR *e* 18 43 57.5
HABR 18 44 48.4
HABR *e*S **S** 18 50 18.4 -1.4
HABR *e**SS **sS** 18 50 23.9 -4.1
HABR *e* 18 52 38.4
HABR *e*SS **SS** 18 53 58.6 -0.4
HABR *e*SSS SSS 18 55 45.9
HABR pmax pmax
comp=Z,784nm,2.0s
HABR MLR MLR
comp=Z,1μm,18.0s
KLR Kul'dur 53.13 7 ⇑*i*P P 18 42 49.2 -4.3
KLR pmax pmax
comp=N,57nm,1.6s
KLR pmax pmax
comp=Z,370nm,1.6s
KLR pmax pmax
comp=Z,2μm,8.5s
KLR MLR MLR
comp=E,2μm,12.0s
KLR MLR MLR
comp=Z,3μm,12.0s
YSS Yuzh-Sakhalins 53.20 17 *κ iP* **P** 18 42 54.0 -0.1
YSS *e* 18 43 11.0
YSS *e* 18 44 04.0
YSS *e*S S 18 50 18.0 -6.4
YSS *e*PS **PnS** 18 50 36.0 +1.6
YSS pmax pmax
comp=Z,220nm,1.3s
YSS MLR MLR
comp=Z,2μm,16.0s
SONM Songino Array 53.30 346 P **P** 18 42 54.9 -0.1
SONM PcP **PcP** 18 44 01.9 -0.6
SONM P'P' 19 13 21.1
SONM ⇑*e* 19 13 33.8
SONM Songino Array 53.30 346 P **P** 18 42 54.9 -0.1
comp=Z,28nm,0.7s,baz=163,slow=8.9,SNR=140
SONM PcP **PcP** 18 44 01.9 -0.6
comp=Z,24nm,0.9s,baz=170,slow=5.2,SNR=5.6
SONM PKPPKP **P'P'df** 19 13 21.1 +4.4
comp=Z,2.5nm,1.1s,baz=20,slow=1.7,SNR=7.6
SONM PKP2bc 19 13 33.8
comp=Z,1.3nm,1.0s,baz=292,slow=1.1,SNR=3.8
POO Poona 53.34 296 *e*P **P** 18 42 55.1 -0.6
NDI New Delhi 54.59 309 *ex* P 18 43 00.5 -4.1
DDI Dehra Dun 54.74 311 *e*P **P** 18 43 03.2 -2.6
DDI AMB AMB 18 43 04.7
comp=Z,271nm,0.9s
MSVF Nonsavu 55.48 109 *e*P **P** 18 43 11.7 +0.4
MSVF pmax pmax
comp=Z,219nm,1.7s
MSVF Nonsavu 55.48 109 *e*P **P** 18 43 11.7 +0.4
comp=Z,219nm,1.7s
MSVF LR LR
comp=Z,2μm,21.0s
SMLA Simla 55.80 312 *i* P **P** 18 43 13.5 +0.2
SMLA *i* P **P** 18 43 13.5 +0.2
SMLA AMB AMB 18 43 18.4
comp=Z,390nm,1.6s
CIT Chita 56.01 353 *e*P **P** 18 43 15.2 +0.7
CIT *e* 18 43 29.6
CIT *e* 18 44 13.2
CIT *e*S **S** 18 51 02.0 -0.2
CIT pmax pmax
comp=Z,565nm,2.0s
ZAK Zakamensk 56.43 345 *e*P **P** 18 43 16.9 -0.7
ZAK *e* 18 44 14.2
ZAK pmax pmax
comp=Z,33nm,1.4s
WMQ Urumqi 56.97 330 P **P** 18 43 21.3 -0.2
WMQ pP **pP** 18 43 25.9 -0.6
WMQ sP **sP** 18 43 28.3 -0.1
WMQ PcP **PcP** 18 44 16.3 -0.4
WMQ PP **PP** 18 45 29.5 +1.2
WMQ PcS **PcS** 18 48 15.6 -1.9
WMQ S **S** 18 51 13.4 -1.9
WMQ ScS **ScS** 18 53 06.5 -4.0
WMQ SS **SS** 18 55 03.1 -1.0
WMQ AMB AMB
comp=Z,89nm,1.2s
WMQ AMB AMB
comp=Z,1μm,4.6s
WMQ LR LR
comp=Z,3μm,19.4s
WMQ LR LR
comp=Z,2μm,18.2s
WMQ LR LR
comp=Z,3μm,24.8s
DHRM DHARAMSHALA 57.00 312 *e*P **P** 18 43 21.0 -1.1
THN Thein Dam 57.52 312 *ex* **PcP** 18 44 22.0 +3.0
TLY Talaya 57.53 346 *d*iP **P** 18 43 25.7 +0.4
TLY *e*S S 18 51 15.1 -7.2
TLY pmax pmax
comp=Z,110nm,1.0s
TLY MLR MLR
comp=Z,2μm,18.0s
TLY Talaya 57.53 346 P **P** 18 43 26.8 +1.5
comp=Z,438nm,1.1s,SNR=19
IRK Irkutsk 57.90 346 *e*P **P** 18 43 25.7 -2.1
IRK pmax pmax
comp=Z,252nm,2.2s
RPZ Rata Peaks 58.09 141 *e*P **P** 18 43 28.9 -0.5
comp=Z,554nm,1.2s
MOY Mondy 58.21 344 *e*P **P** 18 43 30.1 -0.1
MOY pmax pmax
comp=Z,303nm,2.8s
MCQ Macquarie Isla 58.46 156 *e*P **P** 18 43 32.2 +0.5
MCQ Macquarie Isla 58.46 156 *e*P **P** 18 43 32.2 +0.5
comp=Z,59μm,1.5s
BHJ Bhuj 58.62 300 *e*P **P** 18 43 32.5 -0.9
KHZ Kahutara 59.09 138 *e*P **P** 18 43 35.7 -0.6
comp=Z,331nm,1.4s
SNZO South Karori 59.40 137 *e*P **P** 18 43 37.5 -0.9
comp=Z,151nm,1.2s
SNZO LR LR
comp=Z,2μm,19.0s
URZ Urewera 59.91 133 *e*P **P** 18 43 39.9 -2.2
comp=Z,251nm,1.4s
HVS Khovu-Aksy 60.07 339 *d*iP **P** 18 43 42.5 -0.5
HVS pmax pmax
comp=Z,819nm,1.2s
CLNS Chul'man 60.24 1 *e*P **P** 18 43 44.3 +0.3
CLNS pmax pmax
comp=Z,31nm,1.0s
CLNS pmax pmax
comp=E,94nm,1.1s
CLNS pmax pmax
comp=N,75nm,1.1s
SKR Severo-Kuril's 60.98 23 *e*P P 18 43 45.0 -4.1
SKR *e*PPP PPP 18 47 36.0
SKR *e*S **S** 18 52 08.0 +1.2
SKR *e*PS **PnS** 18 52 24.0 +2.8
SKR pmax pmax
comp=Z,2μm,4.0s
SKR pmax pmax
comp=N,2μm,6.0s
SKR pmax pmax
comp=E,2μm,6.0s
SKR pmax pmax
comp=Z,220nm,1.0s
SKR smax smax
comp=N,3μm,8.0s
SKR smax smax
comp=E,3μm,8.0s
SKR MLR MLR
comp=Z,2μm,18.0s
KSH Kashi 61.01 320 ⇓*i*P **P** 18 43 50.8 +1.1
KSH pP **pP** 18 43 58.6 +3.9
KSH sP **sP** 18 44 00.8 +4.2
KSH PP PP 18 46 09.5 +5.2
KSH S **S** 18 52 08.1 +0.1
KSH sS **sS** 18 52 17.4 +1.1
KSH SS **SS** 18 56 12.5 +4.7
KSH AMB AMB
comp=Z,62nm,1.0s
KSH AMB AMB
comp=Z,630nm,3.2s
KSH LR LR
comp=Z,3μm,19.0s
KSH LR LR
comp=Z,1μm,15.0s
KSH LR LR
comp=Z,2μm,21.7s
RAO Raoul Island 61.24 121 PFAKE 18 44 00.0 +8.7
RAO LR LR

comp=Z,2μm,21.0s
MK31 Makanchi Array 61.78 329 *ce* P **P 18 43 54.0 -0.6**
MK31 pmax pmax
comp=Z,191nm,1.2s
MK31 Makanchi Array 61.78 329 *eP* **P P 18 43 54.3 -0.3**
MKAR Makanchi Array 61.78 329 P **P 18 43 54.4 -0.2**
MKAR 18 44 35.8
MKAR Makanchi Array 61.78 329 P **P 18 43 54.4 -0.2**
MKAR PcP **PcP 18 44 35.8 +0.1**
MKAR P'P' 19 13 03.3
MKAR ⇑*e* 19 13 13.2
MKAR Makanchi Array 61.78 329 P **P 18 43 54.4 -0.2**
comp=Z,38nm,1.0s,baz=128,slow=7.9,SNR=174
MKAR PcP **PcP 18 44 35.8 +0.1**
comp=Z,32nm,0.8s,baz=123,slow=4.5,SNR=8.7
MKAR PKPPKP **P'P'df 19 13 03.3 -1.3**
comp=Z,2.1nm,1.0s,baz=285,slow=2.3,SNR=5.3
MKAR PKP2bc 19 13 13.2
comp=Z,4.8nm,1.1s,baz=352,slow=2.9,SNR=6.4
ULHL Ulahol 62.36 322 *i* P **P 18 43 59.6 +0.8**
ULHL Ulahol 62.36 322 P **P 18 43 59.6 +0.8**
SNR=8.1
AAA Alma-Ata 62.52 323 *i* P **P 18 44 00.0 +0.3**
AAA *i* S **S 18 52 29.1 +2.3**
AAA pmax pmax
comp=Z,1μm,3.0s
AAA smax smax
comp=E,2μm,4.8s
AAA MLR MLR
comp=Z,2μm,11.0s
KZA Kyzart 62.87 322 *i* P **P 18 44 02.9 +0.4**
KZA Kyzart 62.87 322 P **P 18 44 02.9 +0.4**
SNR=46
TKM2 Tokmak 2 63.13 323 *i* P **P 18 44 04.0 0.0**
TKM2 Tokmak 2 63.13 323 P **P 18 44 04.0 0.0**
SNR=48
TKM2 Tokmak 2 63.13 323 *eP* **P 18 44 03.8 -0.2**
comp=Z,190nm,1.6s
TKM2 LR LR
comp=Z,2μm,21.0s
CASY Casey 63.20 186 *eP* **P 18 44 03.7 0.0**
comp=Z,16nm,0.9s
CASY LR LR
comp=Z,3μm,22.0s
KBK Karagaybulak 63.38 322 *i* P **P 18 44 06.0 +0.4**
KBK Karagaybulak 63.38 322 P **P 18 44 06.0 +0.4**
SNR=48
KBL Kabul 63.44 312 *eP* **P 18 44 05.4 -0.8**
KBL pmax pmax
comp=Z,194nm,0.9s
KBL Kabul 63.44 312 *eP* **P 18 44 05.4 -0.8**
comp=Z,194nm,0.9s
PETK Petropavlovsk- 63.49 22 P **P 18 44 07.2 +1.3**
PETK Petropavlovsk- 63.49 22 P **P 18 44 07.2 +1.3**
PETK Petropavlovsk- 63.49 22 P **P 18 44 07.2 +1.3**
comp=Z,93nm,1.0s,baz=197,slow=4.6,SNR=43
PETK LR LR 19 10 28.9
comp=Z,1μm,19.9s,baz=214,slow=35
AAK Ala-Archa 63.65 322 P **P 18 44 07.7 +0.3**
AAK 18 44 44.7
AAK MLR MLR
comp=Z,4μm,22.0s
AAK Ala-Archa 63.65 322 P **P 18 44 07.9 +0.6**
SNR=75
AAK Ala-Archa 63.65 322 P **P 18 44 07.7 +0.3**
SNR=39
AAK Ala-Archa 63.65 322 P **P 18 44 07.7 +0.3**
AAK PcP **PcP 18 44 44.7 +1.1**
AAK LR LR
comp=Z,4μm,22.0s
AAK Ala-Archa 63.65 322 P **P 18 44 07.6 +0.3**
comp=Z,330nm,0.9s,SNR=30
AAK Ala-Archa 63.65 322 P **P 18 44 07.7 +0.3**
comp=Z,30nm,0.9s,baz=120,slow=5.0,SNR=85
AAK PcP **PcP 18 44 44.7 +1.1**
comp=Z,16nm,1.0s,baz=158,slow=5.4,SNR=4.6
FRU Bishkek 63.68 322 ⇓*i* P **P 18 44 06.5 -0.9**
FRU *e* 18 46 31.0
FRU pmax pmax
comp=Z,500nm,2.5s
CHMS Chumysh 63.69 322 *i* P **P 18 44 07.2 -0.3**
CHMS Chumysh 63.69 322 P **P 18 44 07.2 -0.3**
SNR=12
PET Petropavlovsk 63.79 23 ⇑*i* P **P 18 44 08.6 +0.8**
PET *e*S **S 18 52 41.2 -1.0**
PET *e*PS **PnS 18 53 02.2 +2.5**
PET pmax pmax
comp=Z,2μm,7.1s
PET pmax pmax
comp=Z,241nm,1.4s
PET pmax pmax
comp=Z,2μm,16.6s
PET MLR MLR
comp=Z,1μm,17.0s
AML Almayashu 63.87 321 *i* P **P 18 44 09.4 +0.3**
AML Almayashu 63.87 321 P **P 18 44 09.4 +0.3**
SNR=75
PAF Port-aux-Franc 63.91 216 PFAKE 18 44 20.0 +11
PAF LR LR
comp=Z,3μm,19.0s
USP Ospenovka 63.99 322 *i* P **P 18 44 09.4 -0.1**
USP Ospenovka 63.99 322 P **P 18 44 09.4 -0.1**
SNR=60
DRV Dumont d'Urvil 64.04 173 S **S 18 52 39.0 -5.9**
DRV L L 19 00 00.0
DRV R 19 03 00.0
EKS2 Erkin-Say 64.11 321 *eP* **P 18 44 09.7 -0.7**
EKS2 pmax pmax
comp=Z,109nm,1.3s
EKS2 MLR MLR
comp=Z,3μm,22.0s
EKS2 Erkin-Say 64.11 321 P **P 18 44 10.7 +0.4**
SNR=69
EKS2 Erkin-Say 64.11 321 *eP* **P 18 44 09.7 -0.7**
comp=Z,109nm,1.3s
EKS2 LR LR
comp=Z,3μm,22.0s
MIDW Midway 65.23 57 *eP* **P 18 44 17.9 +0.1**
comp=Z,277nm,1.3s
YAK Yakutsk 65.63 3 *d* *i*P **P 18 44 19.4 -0.2**
YAK *e* 18 44 49.1
YAK *e* 18 46 44.2
YAK *e*PPP PPP 18 48 19.8
YAK *e*S S 18 52 58.1 -6.4
YAK *e**SS sS 18 53 40.7 +28
YAK *e* 18 54 11.6
YAK *e*SS SS 18 57 09.6 -9.2
YAK pmax pmax
comp=Z,327nm,0.9s
YAK pmax pmax
comp=N,147nm,1.1s
YAK pmax pmax
comp=E,35nm,1.3s
YAK pmax pmax
comp=Z,81nm,1.9s
YAK pmax pmax
comp=N,111nm,1.9s
YAK pmax pmax
comp=E,90nm,1.6s
YAK smax smax
comp=N,379nm,3.0s
YAK smax smax
comp=E,299nm,4.3s
ZALV Zalesovo Beam 65.66 336 P **P 18 44 19.1 -0.9**
ZALV Zalesovo Beam 65.66 336 P **P 18 44 19.1 -0.9**
ZALV P'P' 19 12 54.1
ZALV ⇑*e* 19 13 03.0
ZALV Zalesovo Beam 65.66 336 P **P 18 44 19.1 -0.9**
comp=E,176nm,0.9s,baz=123,slow=5.5,SNR=436
ZALV PKPPKP **P'P'df 19 12 54.1 -3.8**
comp=E,1.8nm,0.8s,baz=296,slow=4.4,SNR=8.4
ZALV PKP2bc 19 13 03.0
comp=E,6.5nm,1.1s,baz=286,slow=5.5,SNR=9.8
KURK Kurchatov 66.19 331 *d* *i*P **P 18 44 23.2 -0.3**
KURK pmax pmax
comp=Z,333nm,1.2s
KURK Kurchatov 66.19 331 P **P 18 44 23.7 +0.2**
SNR=193
KURK Kurchatov 66.19 331 *eP* **P 18 44 23.0 -0.5**
comp=Z,269nm,1.1s
KURK LR LR
comp=Z,1μm,20.0s
KURK Kurchatov 66.19 331 P **P 18 44 23.9 +0.4**
comp=Z,2μm,1.1s
MIR Mirnyy 66.28 193 ⇓*i* P **P 18 44 25.0 +1.2**
MIR *i* 19 44 51.0
MIR pmax pmax
comp=Z,182nm,2.0s
MIR pmax pmax
comp=Z,1μm,4.0s
KK31 Karatay Array 66.39 321 *ce* P **P 18 44 23.5 -1.5**
KK31 pmax pmax
comp=Z,222nm,1.8s
KKAR Karatay Array 66.39 321 *eP* **P 18 44 24.5 -0.5**
KKAR pmax pmax
comp=Z,54nm,1.1s
KKAR Karatay Array 66.39 321 *eP* **P 18 44 24.5 -0.5**
comp=Z,54nm,1.1s
NVS Novosibirsk 66.94 336 ⇓*i* P **P 18 44 27.4 -0.8**
NVS *i* 18 46 54.2
NVS *e*S S 18 53 12.7 -8.1
NVS *e* 18 54 25.8
NVS pmax pmax
comp=Z,217nm,0.8s
NVS pmax pmax
comp=N,192nm,1.6s
NVS pmax pmax
comp=E,105nm,1.1s
NVS pmax pmax
comp=Z,63nm,2.1s
NVS pmax pmax
comp=N,29nm,1.7s
NVS pmax pmax
comp=E,31nm,1.3s
NVS smax smax
comp=N,19nm,1.2s
NVS smax smax
comp=E,31nm,1.7s
MSEY Mahe Island 67.55 266 P **P 18 44 33.9 +0.8**
SNR=17
MSEY Mahe Island 67.55 266 *eP* **P 18 44 33.5 +0.5**
comp=E,333nm,1.6s
MSEY LR LR
comp=Z,3μm,20.0s
MSEY Mahe Island 67.55 266 P **P 18 44 33.8 +0.8**
comp=Z,468nm,1.5s,SNR=14
RER Riviere de l'E 67.71 249 PFAKE 18 44 50.0 +16
RER LR LR
comp=Z,3μm,22.0s
WBK Wadi Bani Khal 67.86 296 P **P 18 44 34.9 +0.1**
SNR=27
JMDO Jabal Madar 68.58 296 P **P 18 44 38.9 -0.4**
SNR=51
SMDO Samad 68.79 296 P **P 18 44 40.5 -0.2**
SNR=26
BSY Bisya 69.48 296 P **P 18 44 44.5 -0.3**
SNR=52
HOQ Hoqain 69.57 297 P **P 18 44 45.1 -0.3**
SNR=58
IDAH Dahanechah 69.89 307 *eP* **P 18 44 47.5 0.0**
SEY Seymchan 69.92 14 ‖*eP* **P 18 44 47.9 +1.2**
FX1 Attu Island--F 70.14 30 *eP* **P 18 44 48.3 0.0**
FX1 Attu Island--F 70.14 30 P **P 18 44 48.4 0.0**
comp=Z,174nm,1.0s,baz=9.3,slow=1.4,SNR=16
ARQ Arzi 70.22 296 P **P 18 44 49.6 +0.2**
SNR=18
IKOO Kooshah 70.49 306 *eP* **P 18 44 50.8 -0.4**
UOSS Wadi Hilu 70.87 298 P **P 18 44 52.0 -1.3**
comp=Z,434nm,0.8s,SNR=20
IMYA Miami 70.87 310 *eP* **P 18 44 53.6 +0.2**
ASHO Ashiyiah 70.94 298 P **P 18 44 53.8 0.0**
SNR=30
BANOM Banah 71.01 299 P **P 18 44 55.0 +0.8**
SNR=6.4
RBK Rabkut 71.18 290 P **P 18 44 55.2 -0.2**
SNR=43
VOSK Vostochnaya 71.19 329 P **P 18 44 53.7 -1.0**
VOSK pmax pmax
comp=Z,421nm,1.3s
ISRO Mashad 71.34 310 *eP* **P 18 44 55.8 -0.3**
IMOG Moghan 71.38 310 *eP* **P 18 44 56.5 -0.1**
BVA0 Borovoye Array 71.66 330 P **P 18 44 56.7 -0.8**
BVA0 pmax pmax
comp=Z,928nm,1.5s
BVAR Borovoye Array 71.66 330 P **P 18 44 57.3 -0.3**
BVAR Borovoye Array 71.66 330 P **P 18 44 57.3 -0.3**
BVAR Borovoye Array 71.66 330 P **P 18 44 57.3 -0.3**
comp=Z,113nm,0.9s,baz=138,slow=7.1,SNR=362
BRVK Borovoye 71.73 330 *d* *i*P **P 18 44 57.9 0.0**
BRVK pmax pmax
comp=Z,652nm,1.7s
BRVK Borovoye 71.73 330 P **P 18 44 58.1 +0.2**
SNR=178
BRVK Borovoye 71.73 330 *eP* **P 18 44 57.7 -0.2**
comp=Z,540nm,1.3s
BRVK LR LR
comp=Z,2μm,20.0s
BRVK Borovoye 71.73 330 P **P 18 44 58.4 +0.5**
comp=Z,2μm,1.2s,SNR=78
ABTO Aybut 72.01 289 P **P 18 45 00.2 -0.2**
SNR=57
IKRD Kardeh 72.22 310 *eP* P 18 44 57.7 -3.9
ADK Adak 74.95 34 *eP* **P 18 45 17.7 +0.7**
ADK pmax pmax
comp=Z,432nm,1.3s
ADK MLR MLR
comp=Z,1μm,20.0s
ADK Adak 74.95 34 *eP* **P 18 45 17.7 +0.7**
comp=Z,432nm,1.3s
ADK LR LR
comp=Z,1μm,20.0s
TIXI Tiksi 75.19 2 *d* *i*P **P 18 45 16.8 -1.1**
TIXI pmax pmax
comp=Z,344nm,1.0s
ABPO Ambohimpanom 75.60 251 *eP* **P 18 45 20.7 -0.9**
ABPO pmax pmax
comp=Z,96nm,1.5s
ABPO MLR MLR
comp=Z,2μm,22.0s
ABPO Ambohimpanom 75.60 251 *eP* **P 18 45 20.7 -0.9**
comp=Z,96nm,1.5s
ABPO LR LR
comp=Z,2μm,22.0s
AB31 Akbulak array 75.69 323 *ce* P **P 18 45 20.5 -0.8**
AB31 pmax pmax
comp=Z,318nm,1.4s
ABKAR Akbulak array 75.69 323 *eP* **P 18 45 20.6 -0.7**
comp=Z,0.4nm,0.8s
ABKAR Akbulak array 75.69 323 ⇑P **P 18 45 21.3 0.0**
baz=76
MAW Mawson 75.72 200 *eP* **P 18 45 20.6 -0.5**
comp=Z,47nm,1.5s
MAW Mawson 75.72 200 P **P 18 45 21.3 +0.3**
comp=Z,60nm,1.2s,baz=61,slow=7.5,SNR=62
MAW LR LR 19 15 37.9
comp=Z,2μm,18.7s,baz=47,slow=33
IFIR Firoozkooh 76.36 308 *eP* **P 18 45 26.5 +0.7**
ISFB Sefidab 76.45 306 *eP* **P 18 45 26.4 +0.3**
RAR Rarotonga 76.60 111 P **P 18 45 27.6 +0.5**
RAR Rarotonga 76.60 111 P **P 18 45 27.6 +0.5**
comp=Z,8.5nm,0.4s,baz=230,slow=0.0,SNR=3.8
VNDA Vanda 76.69 172 P **P 18 45 26.1 -0.3**
VNDA P'P' 19 12 38.0
VNDA Vanda 76.69 172 P **P 18 45 26.1 -0.3**
comp=Z,20nm,0.7s,baz=322,slow=5.7,SNR=88
VNDA PKPPKP **P'P'df 19 12 38.0 -2.0**
comp=Z,0.5nm,0.9s,baz=301,slow=4.2,SNR=3.6
VNDA LR LR 19 18 19.5
comp=Z,2μm,19.5s,baz=331,slow=35
IVRN Varamin 77.02 307 *eP* **P 18 45 29.3 0.0**
AKTO Aktyubinsk 77.30 323 P **P 18 45 28.8 -1.6**
AKTO Aktyubinsk 77.30 323 P **P 18 45 28.8 -1.6**
AKTO Aktyubinsk 77.30 323 P **P 18 45 28.8 -1.6**
comp=Z,58nm,1.0s,baz=108,slow=6.6,SNR=126
SBA Scott Base 77.64 171 *eP* **P 18 45 31.8 0.0**
SBA pmax pmax
comp=Z,226nm,1.6s
SBA MLR MLR
comp=Z,2μm,22.0s
SBA Scott Base 77.64 171 *eP* **P 18 45 31.8 0.0**
comp=Z,226nm,1.6s
SBA LR LR
comp=Z,2μm,22.0s
IR3 Iran Long-Peri 77.69 307 *eP* **P 18 45 33.3 +0.3**
SVE Sverdlovsk 78.42 330 *c* *i*P **P 18 45 36.2 -0.3**
SVE *e*S S 18 55 24.3 -7.4
SVE pmax pmax
comp=Z,263nm,1.2s
IGZV Ghazvin 78.54 308 *eP* **P 18 45 37.9 0.0**
IRAZ Razeghan 78.55 307 *eP* **P 18 45 37.9 0.0**
QRN Al-Qurain 78.89 300 *eP* **P 18 45 38.7 -1.0**
QRN AMb AMB 18 45 43.6
comp=Z,548nm,1.5s
KBD Kabd 79.16 300 *eP* **P 18 45 40.7 -0.5**
KBD AMb AMB 18 45 45.1
comp=Z,207nm,1.6s
UMR Umm Al-Rimmam 79.21 301 *eP* **P 18 45 40.8 -0.6**
UMR AMb AMB 18 45 43.4
comp=Z,446nm,1.7s
RDF Al-Radifah 79.24 300 *eP* **P 18 45 41.3 -0.3**
RDF AMb AMB 18 45 48.3
comp=Z,412nm,1.4s
ARU Arti 79.30 329 *d* *i*P **P 18 45 40.3 -1.0**
ARU 18 48 42.0
ARU PPP PPP 18 50 33.4
ARU S **S 18 55 38.7 -2.4**
ARU SS **SS 19 00 43.1 -5.1**
ARU pmax pmax
comp=Z,133nm,1.0s
XMAS Kiritimati 79.49 87 *eP* **P 18 45 44.7 +1.4**
comp=Z,491nm,1.6s
NAY Al-Naaiem 79.56 300 *eP* **P 18 45 42.5 -0.9**
NAY AMb AMB 18 45 47.1
comp=Z,186nm,1.5s
RST Umm Al-Ruwaisa 79.82 301 *eP* **P 18 45 43.8 -1.0**
RST AMb AMB 18 45 45.6
comp=Z,3μm,1.0s
RAYN Ar Rayn 80.20 294 P **P 18 45 46.0 -1.0**
comp=Z,465nm,1.4s,SNR=48
IKOM Komasi 80.24 305 *eP* **P 18 45 45.7 -1.5**
ILIN Lien 80.83 306 *eP* **P 18 45 49.9 -0.5**
IVIS Veis 80.84 306 *eP* **P 18 45 48.9 -1.4**
HON Honolulu 80.88 68 *eP* **P 18 45 52.7 +2.1**
HON Honolulu 80.88 68 *eP* **P 18 45 52.7 +2.1**
KIP Kipapa 80.88 68 *de* P **P 18 45 51.7 +1.1**
KIP pmax pmax
comp=Z,240nm,1.7s
KIP Kipapa 80.88 68 *eP* **P 18 45 52.5 +2.0**
comp=Z,199nm,1.4s
IGHG Ghaleghazi 81.04 305 *eP* **P 18 45 50.5 -1.0**
IDHR Dehrash 81.25 306 *eP* **P 18 45 51.1 -1.5**
SOKR Solikamsk 81.40 332 *d* *i*P **P 18 45 51.4 -1.1**
SOKR pmax pmax
comp=Z,90nm,1.0s
SOKR MLR MLR
comp=Z,1μm,19.0s
UNV Unalaska Valle 81.41 34 *eP* **P 18 45 53.2 +0.5**
comp=Z,554nm,1.8s
MAK Makhachkala 82.03 314 *eP* **P 18 45 56.2 -0.1**
MAK *e* 18 46 03.1
MAK *e* 18 48 59.9
MAK *e*S **S 18 56 09.3 -0.9**
MAK pmax pmax
comp=Z,82nm,1.5s
GAMB Gambell 82.47 24 *eP* **P 18 45 58.3 +0.2**
comp=Z,688nm,1.8s
DGRG David-gareji 83.28 312 P **P 18 46 04.0 +1.1**
DGRG S **S 18 56 23.4 +0.2**
GNI Garni 83.52 311 P **P 18 46 05.3 +1.0**
SNR=23
GNI Garni 83.52 311 *eP* **P 18 46 05.3 +1.0**
comp=Z,80nm,1.4s
GNI LR LR
comp=Z,882nm,22.0s
TBLG Delisi 83.80 312 P **P 18 46 06.2 +0.6**
TBLG S **S 18 56 26.8 -1.6**
HAKT HAKKARI 83.88 308 *i* P **P 18 46 06.0 -0.3**
GUDG Gudauri 84.12 313 P **P 18 46 08.1 +0.7**
DYDN Diyadin 84.21 310 *i* P **P 18 46 09.1 +1.2**
SYO Syowa Base 84.38 201 ⇑*i*P **P 18 46 05.7 -2.1**
SYO Syowa Base 84.38 201 ⇓*i*P P 18 46 15.9 +8.1
DESE Dese 84.40 281 *eP* **P 18 46 12.1 +2.6**
EAK Akyaka 84.46 311 *i* P **P 18 46 10.1 +1.0**
GEVA Gevas 84.50 309 *i* P **P 18 46 10.1 +0.7**
DIGO Kars 84.59 311 *i* P **P 18 46 09.7 -0.2**
ZEI Tsey 84.60 313 *eP* **P 18 46 10.1 +0.3**
ZEI pmax pmax
comp=Z,94nm,1.3s
TNA Tin City 84.65 23 *eP* **P 18 46 10.3 +1.1**
comp=Z,145nm,1.3s
AKH Akhalkalaki 84.67 312 P **P 18 46 11.1 +0.9**
AKH S **S 18 56 37.0 -0.5**
TUTA Tutak 84.86 310 *i* P **P 18 46 11.1 -0.2**
SIRN S¨-rnak 84.89 308 *i* P **P 18 46 11.3 +0.1**
ONI Oni 84.89 313 P **P 18 46 11.8 +0.7**
ONI S **S 18 56 35.3 -4.1**
EATA Eleskirt 85.18 310 *i* P **P 18 46 13.7 +0.8**
EPOS Posof 85.25 312 *i* P P 18 46 07.6 -5.4
GOF Gofitskoye 85.59 316 ⇓*i*P **P 18 46 14.6 +0.1**
GOF pmax pmax
comp=Z,187nm,1.3s
HOMI Horasan 85.65 310 *i* P **P 18 46 15.9 +0.7**
KIV Kislovodsk 85.67 314 *k* *i*P **P 18 46 14.1 -0.9**
KIV *e* 18 46 23.5
KIV *i* 18 46 29.4
KIV *e* 18 49 33.7
KIV pmax pmax
comp=Z,125nm,1.7s
KIV Kislovodsk 85.67 314 P **P 18 46 14.6 -0.4**
comp=Z,273nm,1.5s,SNR=20
DAGI Agillar 85.79 311 *i* P **P 18 46 15.9 +0.2**
ARTV Artvin 85.80 312 *i* P **P 18 46 16.1 +0.2**
DDEM Demirkent 85.89 311 *i* P **P 18 46 16.2 0.0**
KMBO Kilima Mbogo 85.90 269 P **P 18 46 18.0 +1.0**
SNR=35
KMBO Kilima Mbogo 85.90 269 *eP* **P 18 46 17.4 +0.4**
comp=Z,141nm,1.4s
KMBO LR LR
comp=Z,2μm,19.0s
KMBO Kilima Mbogo 85.90 269 P **P 18 46 17.8 +0.8**
comp=Z,43nm,1.1s,baz=76,slow=5.8,SNR=56
DBAD Bademkaya 85.95 311 *i* P **P 18 46 16.2 -0.2**
DBOC Borcka 86.02 312 *i* P **P 18 46 16.7 0.0**
ERZM Erzurum 86.04 310 *i* P **P 18 46 18.2 +1.1**
BNGL BINGOL 86.07 309 *i* P **P 18 46 18.7 +1.4**
TBI Tubuai 86.14 113 *eS* **S 18 56 52.0 -0.2**
comp=Z,1μm,27.8s
TBI Tubuai 86.14 113 *e*LQ LQ 19 10 03.6
comp=Z,2μm,34.8s
TBI *e*LR LR 19 13 38.3
comp=Z,1μm,28.2s
MARD Mardin 86.15 308 *i* P **P 18 46 17.5 -0.1**
PPT2 Papeete2 86.27 107 *eS* **S 18 56 52.3 -1.5**
comp=Z,647nm,25.2s
QSPA South Pole Qui 86.37 180 *eP* **P 18 46 17.2 -0.8**
comp=Z,199nm,1.3s
QSPA LR LR
comp=Z,1μm,19.0s
KOPT Kop Dagi 86.72 310 *i* P **P 18 46 20.8 +0.3**
DIYA Diyarbakir 86.74 308 *i* P **P 18 46 20.7 +0.3**
EUZM Uzumlu 87.29 310 *i* P **P 18 46 23.6 +0.5**
MACK Trabzon 87.38 311 *i* P **P 18 46 24.0 +0.6**
VRHR Novokhopersk 87.49 321 *eP* **P 18 46 21.7 -1.9**
VRHR *e*S **S 18 56 59.4 -4.8**
VRHR pmax pmax
comp=N,70nm,1.8s
VRHR pmax pmax
comp=E,240nm,1.8s
VRHR pmax pmax
comp=Z,410nm,1.8s
VRHR pmax pmax
comp=N,30nm,1.5s
VRHR pmax pmax
comp=E,100nm,1.5s
VRHR pmax pmax
comp=Z,160nm,1.5s
VRHR smax smax
comp=N,100nm,3.0s
VRHR smax smax
comp=E,780nm,3.0s
VRHR smax smax
comp=Z,310nm,3.0s
KELT Kelkit 87.68 310 *i* P **P 18 46 24.9 -0.1**
ELZG Elazig 87.70 309 *i* P **P 18 46 25.9 +0.7**
SOC Sochi 87.74 314 *d* *i*P **P 18 46 23.3 -1.7**
SOC *e*PPP PPP 18 51 42.2
SOC *e*S **SKSac 18 56 50.2 -2.6**
SOC *e*SS SS 19 02 42.9 -11
SOC pmax pmax
comp=Z,70nm,1.0s
SOC MLR MLR
comp=Z,677nm,17.0s
MALT Malatya 88.11 308 ⇓P **P 18 46 27.5 +0.4**
MALT Malatya 88.11 308 ⇓*i*P **P 18 46 27.5 +0.4**
ATAB Bozova 88.13 308 *i* P **P 18 46 27.6 +0.5**
KEMA Kemaliye 88.16 309 *i* P **P 18 46 26.5 -0.8**

SUSE	**Susehri**	**88.49**	**310**	*i* P		**P**	**18 46 28.7**	**-0.2**
AKCD	**Akcadag**	**88.51**	**308**	*i* P		**P**	**18 46 29.3**	**+0.3**
GZT	**Gaziantep**	**88.70**	**307**	*i* P		**P**	**18 46 28.8**	**-1.1**
VORD	**Divnogorie**	**88.93**	**321**	*e*P		**P**	**18 46 28.9**	**-1.5**
VORD				*e*S		**S**	**18 57 12.6**	**-5.3**
VORD				pmax	pmax			
	comp=E,60nm,1.3s							
VORD				pmax	pmax			
	comp=Z,140nm,1.3s							
VORD				pmax	pmax			
	comp=E,60nm,1.0s							
VORD				pmax	pmax			
	comp=Z,90nm,1.0s							
VORD				smax	smax			
	comp=E,930nm,5.1s							
VORD				smax	smax			
	comp=Z,400nm,5.1s							
KUZU	**Kuzuini**	**89.03**	**307**	*i* P		**P**	**18 46 31.5**	**+0.2**
VSR	**Storozhevoye**	**89.04**	**321**	*e*P		**P**	**18 46 28.7**	**-2.3**
VSR				*e*S		**S**	**18 57 13.1**	**-5.8**
VSR				pmax	pmax			
	comp=E,70nm,1.1s							
VSR				pmax	pmax			
	comp=Z,100nm,1.1s							
VSR				pmax	pmax			
	comp=N,4.0nm,0.6s							
VSR				pmax	pmax			
	comp=Z,170nm,1.4s							
VSR				pmax	pmax			
	comp=N,7.0nm,0.7s							
VSR				pmax	pmax			
	comp=E,100nm,1.4s							
VSR				smax	smax			
	comp=E,1µm,5.5s							
VSR				smax	smax			
	comp=Z,330nm,5.5s							
VSR				smax	smax			
	comp=N,160nm,2.8s							
VOR	**Voronezh**	**89.08**	**322**	P		**P**	**18 46 30.0**	**-1.1**
VOR				pmax	pmax			
	comp=Z,260nm,1.4s							
SCER	**sogukcermik**	**89.27**	**310**	*i* P		**P**	**18 46 32.6**	**+0.1**
AYKD	**Aykdinkavak**	**89.31**	**307**	*i* P		**P**	**18 46 32.5**	**-0.1**
ANN	**Anapa**	**89.51**	**315**	*e*P		**P**	**18 46 30.7**	**-2.6**
ANN				*e*			18 56 59.3	
ANN				*e*			18 57 19.6	
ANN				pmax	pmax			
	comp=Z,144nm,1.7s							
ANN				MLR	MLR			
	comp=Z,852nm,19.0s							
ERBA	**Erbaa**	**89.63**	**311**	*i* P		**P**	**18 46 32.6**	**-1.5**
ANDN	**Andirin**	**89.69**	**308**	*i* P		**P**	**18 46 34.4**	**0.0**
PINB	**Pinarbasi**	**89.73**	**309**	*i* P		**P**	**18 46 34.0**	**-0.8**
YAYL	**Yayladag**	**89.75**	**306**	*i* P		**P**	**18 46 34.5**	**-0.4**
TOKA	**Tokat**	**89.81**	**310**	*i* P		**P**	**18 46 35.3**	**+0.4**
KDAK	**Kodiak Island**	**89.91**	**32**	*e*P		**P**	**18 46 35.2**	**+0.4**
	comp=Z,309nm,1.9s							
KDAK				LR	LR			
	comp=Z,1µm,22.0s							
KDAK	**Kodiak Island**	**89.91**	**32**	P		**P**	**18 46 35.5**	**+0.6**
	comp=Z,308nm,1.3s,SNR=6.7							
KLMR	**Klimovskoe**	**90.03**	**331**	*e*P		**P**	**18 46 32.9**	**-2.5**
KLMR				*e*			18 46 46.7	
KLMR				pmax	pmax			
	comp=Z,170nm,1.4s							
HAVZ	**Havza**	**90.45**	**311**	*i* P		**P**	**18 46 37.5**	**-0.3**
MOS	**Moscow**	**90.45**	**326**	*e*P		**P**	**18 46 34.8**	**-2.6**
MOS				*e*			18 50 16.9	
MOS				pmax	pmax			
	comp=Z,500nm,2.4s							
MOS				pmax	pmax			
	comp=Z,162nm,1.4s							
GULE	**Gulek**	**90.91**	**307**	*i* P		**P**	**18 46 39.2**	**-1.1**
AVNT	**Avonos**	**90.94**	**309**	*i* P		**P**	**18 46 39.7**	**-0.7**
OBN	**Obninsk**	**91.00**	**325**	*k i*P		**P**	**18 46 38.5**	**-1.5**
OBN				*i*			18 46 45.7	
OBN				*e*			18 46 51.0	
OBN				pmax	pmax			
	comp=Z,198nm,1.7s							
OBN				MLR	MLR			
	comp=Z,1µm,22.0s							
OBN	**Obninsk**	**91.00**	**325**	P		**P**	**18 46 39.9**	**-0.1**
	comp=Z,442nm,1.4s,SNR=6.6							
TMCR	**Tamitsa**	**91.10**	**334**	*e*P		**P**	**18 46 39.0**	**-1.2**
TMCR				*e*			18 50 14.3	
TMCR				pmax	pmax			
	comp=Z,60nm,1.2s							
KIZK	**Mersin**	**91.36**	**306**	*i* P		**P**	**18 46 40.9**	**-1.2**
SIM	**Simferopol'**	**91.87**	**315**	*e*P		**P**	**18 46 43.4**	**-0.9**
SIM				*e*			18 50 23.0	
SIM				pmax	pmax			
	comp=Z,200nm,9.6s							
SIM				MLR	MLR			
	comp=Z,700nm,20.0s							
CSS	**Prodhromos**	**91.94**	**305**	*e*P		**P**	**18 46 43.2**	**-1.7**
	comp=Z,42nm,1.3s							
CSS				LR	LR			
	comp=Z,864nm,20.0s							
BRTR	**Keskin Array B**	**91.94**	**309**	P		**P**	**18 46 44.2**	**-0.7**
BRTR				PP	PP		18 50 18.2	-6.3
BRTR				PKKPbc	**PKKPbc**		**19 04 02.9**	**-0.6**
BRTR	**Keskin Array B**	**91.94**	**309**	P		**P**	**18 46 44.2**	**-0.7**
	comp=Z,13nm,1.0s,baz=120,slow=4.9,SNR=36							
BRTR				PP	PP		18 50 18.2	-6.3
	comp=Z,3.2nm,0.9s,baz=112,slow=9.4,SNR=4.7							
BRTR				PKKPbc	**PKKPbc**		**19 04 02.9**	**-0.6**
	comp=Z,1.8nm,1.1s,baz=294,slow=3.4,SNR=5.4							
BBAL	**Bala**	**92.33**	**309**	*i* P		**P**	**18 46 46.9**	**+0.1**
ERMK	**Ermenek**	**92.36**	**306**	*i* P		**P**	**18 46 46.3**	**-0.7**
MBAR	**Mbarara**	**92.44**	**269**	PFAKE			18 47 00.0	+12
MBAR				LR	LR			
	comp=Z,442nm,21.0s							
ANTO	**Ankara**	**92.60**	**310**	⇑P		P	18 46 38.0	-10
ANTO	**Ankara**	**92.60**	**310**	⇑*i*P		P	18 46 38.0	-10
ANTO	**Ankara**	**92.60**	**310**	PFAKE			18 47 00.0	+12
ANTO				LR	LR			
	comp=Z,491nm,20.0s							
COLA	**College**	**92.77**	**25**	PFAKE			18 47 00.0	+12
COLA				LR	LR			
	comp=Z,847nm,22.0s							
GAZI	**Gazipasa**	**92.83**	**306**	*i* P		**P**	**18 46 47.3**	**-1.6**
ILAR	**Eielson Array**	**93.18**	**25**	P		**P**	**18 46 48.7**	**-1.2**
ILAR				PP		**PP**	**18 50 35.1**	**+1.8**
ILAR				PKKPbc		**PKKPdf**	**19 03 58.0**	**-1.3**
ILAR	**Eielson Array**	**93.18**	**25**	P		**P**	**18 46 48.7**	**-1.2**
	comp=Z,6.3nm,0.5s,baz=266,slow=2.7,SNR=5.0							
ILAR				PP		**PP**	**18 50 35.1**	**+1.8**
	comp=Z,6.3nm,1.1s,baz=263,slow=6.3,SNR=7.4							
ILAR				PKKPbc		**PKKPdf**	**19 03 58.0**	**-1.3**
	comp=Z,2.2nm,1.0s,baz=75,slow=1.2,SNR=12							
APA	**Apatity**	**93.22**	**337**	⇓*i*P		**P**	**18 46 51.0**	**+1.0**
APA				*i*			18 57 16.0	
APA				*i* S		**S**	**18 57 56.0**	**-0.3**
APA				*i* PS		**PS**	**18 59 20.0**	**+9.1**
APA				*i* SS		**SS**	**19 04 16.0**	**+4.4**
APA				MLR	MLR			
	comp=Z,2µm,21.0s							
MAIT	**Maitri**	**93.58**	**198**	*e*P		**P**	**18 46 50.5**	**-1.2**
LSZ	**Lusaka**	**93.91**	**255**	P		**P**	**18 46 54.4**	**-0.1**
	SNR=12							
LSZ	**Lusaka**	**93.91**	**255**	*e*P		**P**	**18 46 53.0**	**-1.5**
	comp=Z,68nm,1.3s							
LSZ				LR	LR			
	comp=Z,2µm,20.0s							
BOLV	**Bolvadin**	**93.99**	**308**	*i* P		**P**	**18 46 53.2**	**-1.2**
ISP	**Isparta**	**94.31**	**308**	*e*P		**P**	**18 46 54.5**	**-1.4**
ISP				MLR	MLR			
	comp=Z,746nm,20.0s							
ISP	**Isparta**	**94.31**	**308**	*e*P		**P**	**18 46 54.5**	**-1.4**
ISP				LR	LR			
	comp=Z,746nm,20.0s							
BOSA	**Boshof**	**95.27**	**241**	P		**P**	**18 47 00.4**	**-0.1**
BOSA				PP		**PP**	**18 50 49.2**	**-1.5**
BOSA	**Boshof**	**95.27**	**241**	P		**P**	**18 47 00.4**	**-0.1**
	comp=Z,18nm,1.1s,baz=92,slow=3.0,SNR=8.5							
BOSA				PP		**PP**	**18 50 49.2**	**-1.5**
	comp=Z,19nm,1.2s,baz=138,slow=7.4,SNR=4.2							
BOSA				LR	LR		19 23 34.5	
	comp=Z,1µm,19.7s,baz=76,slow=32							
AKASG	**Malin Array Be**	**95.29**	**320**	P		**P**	**18 46 58.3**	**-1.6**
AKASG							18 50 53.1	
AKASG	**Malin Array Be**	**95.29**	**320**	P		**P**	**18 46 58.2**	**-1.6**
AKASG				PP		**PP**	**18 50 53.1**	**+3.0**
AKASG				PKKPbc		**PKKPbc**	**19 03 52.7**	**-2.3**
AKASG	**Malin Array Be**	**95.29**	**320**	P		**P**	**18 46 58.2**	**-1.6**
	comp=Z,20nm,1.0s,baz=78,slow=4.3,SNR=86							
AKASG				PP		**PP**	**18 50 53.1**	**+3.0**
	comp=Z,0.7nm,0.5s,baz=84,slow=6.2,SNR=6.3							
AKASG				PKKPbc		**PKKPbc**	**19 03 52.7**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=272,slow=3.3,SNR=6.4							
AKASG				LR		LR	19 36 17.1	
	comp=Z,859nm,18.1s,baz=65,slow=40							
KIEV	**Kiev**	**95.30**	**320**	*e*P		**P**	**18 46 58.3**	**-1.6**
KIEV				pmax	pmax			
	comp=Z,123nm,1.8s							
KIEV				MLR	MLR			
	comp=Z,1µm,20.0s							
KIEV	**Kiev**	**95.30**	**320**	*e*P		**P**	**18 46 58.3**	**-1.6**
	comp=Z,123nm,1.8s							
KIEV				LR	LR			
	comp=Z,1µm,20.0s							
KEV	**Kevo**	**95.50**	**340**	PFAKE			18 47 10.0	+10
KEV				LR	LR			
	comp=Z,1µm,20.0s							
EGAK	**Eagle**	**95.63**	**25**	PFAKE			18 47 10.0	+8.8
EGAK				LR	LR			
	comp=Z,822nm,19.0s							
TLCR		**95.63**	**315**	⇓P		**P**	**18 47 01.8**	**+0.2**
TLCR		**95.63**	**315**	⇓*i*P		**P**	**18 47 01.8**	**+0.2**
TIRR	**Tirgusor**	**95.93**	**314**	⇑P		**P**	**18 47 02.1**	**-0.8**
TIRR	**Tirgusor**	**95.93**	**314**	⇑*i*P		**P**	**18 47 02.1**	**-0.8**
MICGM	**Minsk**	**96.01**	**324**	⇑*e*P		**P**	**18 47 02.0**	**-1.1**
LEOM	**Leova**	**96.01**	**316**	⇓P		**P**	**18 47 03.1**	**-0.2**
LEOM	**Leova**	**96.01**	**316**	⇓*i*P		**P**	**18 47 03.1**	**-0.2**
MNK	**Minsk**	**96.04**	**324**	⇑*e*P		**P**	**18 47 02.0**	**-1.2**
MNK				pmax	pmax			
	comp=Z,190nm,1.0s							
ARCES	**ARCESS Array B**	**96.05**	**339**	P		**P**	**18 47 01.6**	**-1.4**
ARCES	**ARCESS Array B**	**96.05**	**339**	P		**P**	**18 47 01.6**	**-1.4**
	comp=Z,8.7nm,0.9s,baz=80,slow=1.4,SNR=8.8							
ARCES				LR		LR	19 33 09.5	
	comp=Z,963nm,21.5s,baz=102,slow=37							
CFR	**Carcaliu**	**96.11**	**315**	⇓P		**P**	**18 47 03.0**	**-0.8**
CFR	**Carcaliu**	**96.11**	**315**	⇓*i*P		**P**	**18 47 03.0**	**-0.8**
TLB	**Topalu**	**96.19**	**314**	⇑P		**P**	**18 47 03.5**	**-0.6**
TLB	**Topalu**	**96.19**	**314**	⇑*i*P		**P**	**18 47 03.5**	**-0.6**
MSAB	**Monastry St. A**	**96.36**	**314**	⇓*i*P		**P**	**18 47 04.2**	**-0.7**
VSU	**Vasula**	**96.44**	**328**	*de*P		**P**	**18 47 03.0**	**-1.9**
VSU				pmax	pmax			
	comp=Z,78nm,1.2s							
NACGM	**Naroch**	**96.63**	**325**	*e*		**P**	**18 47 03.0**	**-2.9**
SPITS	**Spitsbergen Ar**	**96.92**	**349**	P		**P**	**18 47 06.0**	**-0.8**
SPITS	**Spitsbergen Ar**	**96.92**	**349**	P		**P**	**18 47 06.0**	**-0.8**
	comp=Z,81nm,1.0s,baz=70,slow=6.5,SNR=8.7							
VRI	**Vrincioaia**	**97.08**	**316**	⇑P		**P**	**18 47 08.1**	**-0.1**
VRI	**Vrincioaia**	**97.08**	**316**	⇑*i*P		**P**	**18 47 08.1**	**-0.1**
TESR	**Tescani**	**97.11**	**316**	⇓*i*P		**P**	**18 47 07.7**	**-0.6**
PLOR	**Plostina**	**97.14**	**316**	⇓P		**P**	**18 47 08.4**	**-0.1**
PLOR	**Plostina**	**97.14**	**316**	⇓*i*P		**P**	**18 47 08.4**	**-0.1**
SNAA	**Sanae**	**97.29**	**195**	*e*P		**P**	**18 47 08.6**	**-0.1**
SNAA	**Sanae**	**97.29**	**195**	*e*P		**P**	**18 47 08.0**	**-0.7**
	comp=Z,45nm,1.4s							
SNAA				PP		**PP**	**18 51 04.6**	**-0.2**
SNAA	**Sanae**	**97.29**	**195**	P		**P**	**18 47 08.4**	**-0.3**
	comp=Z,4.1nm,0.8s,baz=118,slow=4.9,SNR=18							
SNAA				PP		**PP**	**18 51 04.6**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=165,slow=7.2,SNR=7.7							
PRAR	**RASCA**	**97.36**	**317**	⇑*i*P		Pdif	18 47 13.8	+4.3
HYT	**Haines Junctio**	**97.65**	**29**	*e*P		Pdif	18 47 11.3	+0.7
MLR	**Muntele Rosu**	**97.65**	**315**	⇑*i*P		**P**	**18 47 10.2**	**-0.7**
BURAR	**Bucovina Array**	**98.03**	**317**	⇓P		Pdif	18 47 13.0	+0.4
BURAR	**Bucovina Array**	**98.03**	**317**	⇓*i*P		Pdif	18 47 13.0	+0.4
BUR08	**Bucovina Ar. S**	**98.05**	**317**	*e*P		**P**	**18 47 12.2**	**-0.4**
INK	**Inuvik**	**98.21**	**21**	*e*P		**P**	**18 47 11.7**	**-1.0**
	comp=Z,66nm,1.4s							
INK				PP		**PP**	**18 51 14.1**	**+2.0**
INK	**Inuvik**	**98.21**	**21**	P		**P**	**18 47 12.3**	**-0.5**
	comp=Z,27nm,1.1s,baz=259,slow=4.5,SNR=27							
INK				PP		**PP**	**18 51 14.1**	**+2.0**
	comp=Z,10nm,1.2s,baz=282,slow=4.6,SNR=4.7							
VOIR		**98.28**	**315**	⇑P		Pdif	18 47 14.9	+1.2
VOIR		**98.28**	**315**	⇑*i*P		Pdif	18 47 14.9	+1.2
LVV	**L'vov**	**98.66**	**320**	*e*P		**P**	**18 47 13.7**	**-1.5**
LVV				*e*			18 51 13.7	
LVV				*e*			18 53 20.7	
LVV				MLR	MLR			
	comp=N,400nm,21.0s							
LVV				MLR	MLR			
	comp=E,600nm,21.0s							
LVV				MLR	MLR			
	comp=Z,700nm,21.0s							
SUW	**Suwalki**	**98.79**	**324**	*e*P		**P**	**18 47 14.6**	**-1.0**
SUW	**Suwalki**	**98.79**	**324**	*e*P		**P**	**18 47 14.6**	**-1.0**
LOT	**Lotru**	**99.18**	**315**	⇓*i*P		**Pdif**	**18 47 17.8**	**0.0**
RKT	**Rikitea**	**99.43**	**114**	*e*PS		PS	19 00 25.0	+4.7
	comp=Z,804nm,28.2s							
RKT				*e*SS		SS	19 05 41.4	-0.2
	comp=Z,401nm,27.0s							
RKT	**Rikitea**	**99.43**	**114**	*e*LQ		LQ	19 15 49.1	
	comp=Z,800nm,39.5s							
RKT				*e*LR		LR	19 19 37.6	
	comp=Z,805nm,31.0s							
KWP	**Kalwaria Pacla**	**99.53**	**320**	*e*P		**Pdif**	**18 47 19.2**	**+0.1**
KWP	**Kalwaria Pacla**	**99.53**	**320**	PFAKE			18 47 30.0	+11
KWP				LR	LR			
	comp=Z,1µm,21.0s							
KWP	**Kalwaria Pacla**	**99.53**	**320**	*e*P		**Pdif**	**18 47 19.2**	**+0.1**
VTS	**Vitosha**	**99.79**	**312**	⇓P		**Pdif**	**18 47 20.2**	**-0.4**
VTS	**Vitosha**	**99.79**	**312**	⇓*i*P		**Pdif**	**18 47 20.2**	**-0.4**
TRPA	**Tarpa**	**99.79**	**318**	⇓*i*P		**Pdif**	**18 47 20.4**	**+0.2**
UZH	**Uzhgorod**	**99.91**	**319**	*e*P		**Pdif**	**18 47 17.7**	**-3.0**
UZH				*e*			18 47 27.7	
UZH				*e*			18 47 30.3	
UZH				*e*S		S	18 58 45.1	-10
BEL	**Belsk**	**100.49**	**322**	*e*P		**Pdif**	**18 47 23.8**	**+0.5**
BEL	**Belsk**	**100.49**	**322**	*e*P		**Pdif**	**18 47 23.8**	**+0.5**
STHS	**Stebnicka Huta**	**100.50**	**319**	*e*P		**Pdif**	**18 47 23.7**	**+0.2**
STHS				pmax	pmax			
	comp=Z,8.0nm,1.1s							
STHS	**Stebnicka Huta**	**100.50**	**319**	PDIF		**Pdif**	**18 47 23.7**	**+0.2**
BZS	**Buzias**	**100.67**	**316**	⇑P		**Pdif**	**18 47 21.2**	**-3.0**
BZS	**Buzias**	**100.67**	**316**	⇑*i*P		**Pdif**	**18 47 21.2**	**-3.0**
WRAK	**Wrangell Islan**	**100.95**	**33**	PFAKE			18 47 40.0	+15
WRAK				LR	LR			
	comp=Z,759nm,19.0s							
PSZ	**Piszkesteto**	**101.58**	**318**	PFAKE			18 47 40.0	+12
PSZ				LR	LR			
	comp=Z,678nm,20.0s							
DLBC	**Dease Lake**	**101.79**	**31**	P		**Pdif**	**18 47 29.6**	**+0.6**
DLBC	**Dease Lake**	**101.79**	**31**	P		**Pdif**	**18 47 29.6**	**+0.6**
	comp=Z,4.7nm,1.0s,baz=214,slow=8.3,SNR=3.4							
TIR	**Tirane**	**102.38**	**311**	PFAKE			18 47 40.0	+8.0
TIR				LR	LR			
	comp=Z,875nm,20.0s							
OKC	**Ostrava-Krasne**	**102.44**	**320**	*e*P		**Pdif**	**18 47 32.5**	**+0.5**
OKC				MLR	MLR			
	comp=Z,1µm,26.7s							
OKC	**Ostrava-Krasne**	**102.44**	**320**	*e*PDIFF		**Pdif**	**18 47 32.5**	**+0.5**
OKC				*ex*		x	18 47 41.3	
OKC				AMS	AMS		19 35 30.0	
	comp=Z,1µm,26.7s							
PKSM	**Moragy**	**102.66**	**316**	⇑P		**Pdif**	**18 47 32.6**	**-0.5**
PKSM	**Moragy**	**102.66**	**316**	⇑*i*P		**Pdif**	**18 47 32.6**	**-0.5**
KRLC	**Kraliky**	**103.27**	**321**	*e*P		**Pdif**	**18 47 36.1**	**+0.3**
KRLC	**Kraliky**	**103.27**	**321**	*e*PDIFF		**Pdif**	**18 47 36.1**	**+0.3**
KSP	**Ksiaz**	**103.43**	**321**	*e*P		**Pdif**	**18 47 36.4**	**0.0**
KSP				MLR	MLR			
	comp=Z,3µm,23.9s							
KSP	**Ksiaz**	**103.43**	**321**	*e*P		**Pdif**	**18 47 36.5**	**0.0**
DPC	**Dobruska-Polom**	**103.51**	**321**	*e*P		**Pdif**	**18 47 37.0**	**+0.2**
DPC				MLR	MLR			
	comp=Z,5µm,22.2s							
DPC	**Dobruska-Polom**	**103.51**	**321**	*e*PDIFF		**Pdif**	**18 47 37.0**	**+0.2**
DPC				*ep*P			18 47 41.3	
DPC				AMS	AMS		19 36 10.0	
	comp=Z,5µm,22.2s							
VRAC	**Vranov**	**103.53**	**320**	⇑*i*P		**Pdif**	**18 47 37.3**	**+0.4**
NB2	**NORSAR Subarra**	**103.67**	**332**	P		**Pdif**	**18 47 35.2**	**-2.1**
	comp=Z,3.6nm,0.8s,baz=74,slow=4.6							
NB2	**NORSAR Subarra**	**103.67**	**332**	P		**Pdif**	**18 47 35.2**	**-2.1**
	baz=74,slow=4.6							
NOA	**NORSAR Array B**	**103.67**	**332**	Pdif		**Pdif**	**18 47 36.2**	**-1.1**
NOA	**NORSAR Array B**	**103.67**	**332**	Pdiff		**Pdif**	**18 47 36.2**	**-1.1**
	comp=Z,1.7nm,1.1s,baz=8.6,slow=3.6,SNR=5.5							
UPC	**Upice**	**103.67**	**321**	*e*P		**Pdif**	**18 47 37.8**	**+0.3**
UPC	**Upice**	**103.67**	**321**	*e*PDIFF		**Pdif**	**18 47 37.8**	**+0.3**
TREC	**Trest**	**104.24**	**320**	AMS	AMS		19 36 00.0	
	comp=Z,1µm,20.9s							
CSNA	**Conrad Observa**	**104.26**	**319**	⇓*ip*PKiKP		**PP**	**18 52 01.7**	**+3.3**
	comp=Z,13nm,1.2s							
PVCC	**Panska Ves**	**104.57**	**321**	AMS	AMS		19 36 20.0	
	comp=Z,1µm,19.5s							
PRU	**Pruhonice**	**104.70**	**321**	*e*P		**Pdif**	**18 47 42.3**	**+0.2**
PRU				MLR	MLR			
	comp=Z,1µm,19.2s							
PRU	**Pruhonice**	**104.70**	**321**	*e*PDIFF		**Pdif**	**18 47 42.3**	**+0.2**
PRU				*ep*P			18 47 49.2	
PRU				AMS	AMS		19 36 50.0	
	comp=Z,1µm,19.2s							
PRA	**Prague**	**104.75**	**321**	PDIFF		**Pdif**	**18 47 43.0**	**+0.7**
KONO	**Kongsberg**	**104.87**	**331**	PFAKE			18 47 50.0	+7.4
KONO				LR	LR			
	comp=Z,1µm,21.0s							
BRG	**Berggiesshubel**	**104.88**	**322**	*e*PDIF		**Pdif**	**18 47 42.9**	**0.0**
	comp=Z,33nm,1.7s							
BRG				*e*PP		**PP**	**18 52 06.5**	**+3.7**
	comp=Z,30nm,1.6s							
BRG				*e*PKKP		**PKKPbc**	**19 03 26.5**	**-1.1**
	comp=Z,14nm,1.5s							
BRG								
	comp=N,762nm,17.8s							
BRG								
	comp=E,958nm,22.5s							
BRG								
	comp=Z,1µm,20.0s							
BRG	**Berggiesshubel**	**104.88**	**322**	*e*P		**Pdif**	**18 47 42.9**	**0.0**
BRG				*e*			18 52 06.5	
BRG				pmax	pmax			
	comp=Z,33nm,1.7s							
BRG				pmax	pmax			
	comp=Z,30nm,1.6s							
SOKA	**Soboth**	**105.04**	**317**	⇑*i*PKiKP		**PKiKP**	**18 51 54.0**	**-4.5**
	comp=Z,21nm,1.9s							
CLL	**Collm**	**105.36**	**322**	*i* P		**Pdif**	**18 47 44.5**	**-0.5**
CLL				*e*			18 58 22.0	
CLL				pmax	pmax			
	comp=Z,12nm,1.6s							
CLL				MLR	MLR			
	comp=Z,2µm,22.1s							
CLL	**Collm**	**105.36**	**322**	*i* Pdif		**Pdif**	**18 47 44.5**	**-0.5**
	comp=Z,15nm,1.6s							
CLL				*e*(PKiKP)			18 51 55.0	
CLL				*e*PP		**PP**	**18 52 08.0**	**+1.6**
	comp=Z,27nm,1.6s							
CLL				⇑*i*PKKPbc		**PKKPbc**	**19 03 25.2**	**-0.9**
	comp=Z,10.0nm,1.2s							
CLL				*i* PKKPab		**PKKPab**	**19 03 41.9**	**-0.1**
CLL				*e*SSS		SSS	19 10 54.0	
GERES	**GERESS Array B**	**105.48**	**320**	Pdif		**Pdif**	**18 47 45.8**	**0.0**
GERES				PP		**PKiKP**	**18 51 54.6**	**-4.6**
GERES				PKKPbc		**PKKPbc**	**19 03 25.0**	**-0.8**
GERES	**GERESS Array B**	**105.48**	**320**	Pdiff		**Pdif**	**18 47 45.8**	**0.0**
	comp=Z,0.5nm,0.5s,baz=92,slow=6.8,SNR=5.2							
GERES				PP		**PKiKP**	**18 51 54.6**	**-4.6**
	comp=Z,1.3nm,1.0s,baz=67,slow=7.4,SNR=3.5							
GERES				PKKPbc		**PKKPbc**	**19 03 25.0**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=242,slow=2.9,SNR=5.5							
KHC	**Kasperske Hory**	**105.50**	**320**	*e*P		**Pdif**	**18 47 42.2**	**-3.5**
KHC				MLR	MLR			
	comp=Z,1µm,18.4s							
KHC	**Kasperske Hory**	**105.50**	**320**	*e*PDIFF		**Pdif**	**18 47 42.2**	**-3.5**
KHC				*ep*P			18 47 49.4	
KHC				AMS	AMS		19 37 40.0	
	comp=Z,1µm,18.4s							
RES	**Resolute Bay**	**105.58**	**10**	Pdif		**Pdif**	**18 47 45.5**	**0.0**
RES	**Resolute Bay**	**105.58**	**10**	Pdiff		**Pdif**	**18 47 45.5**	**0.0**
	comp=Z,5.5nm,1.0s,baz=21,slow=3.4,SNR=4.1							
CUC	**Castrocucco**	**105.61**	**310**	PFAKE			18 52 10.0	
CUC				LR	LR			
	comp=Z,571nm,21.0s							
CEL	**Celeste**	**105.80**	**309**	PFAKE			18 52 10.0	
CEL				LR	LR			
	comp=Z,667nm,20.0s							
YKA	**Yellowknife Ar**	**107.57**	**24**	Pdif		**Pdif**	**18 47 55.6**	**+1.1**
YKA				PKiKP		**PKiKP**	**18 52 02.5**	**-0.1**
YKA				PKKPbc		**PKKPbc**	**19 03 16.3**	**-3.3**
YKA	**Yellowknife Ar**	**107.57**	**24**	Pdiff		**Pdif**	**18 47 55.6**	**+1.1**
	comp=Z,1.9nm,0.8s,baz=297,slow=3.8,SNR=4.1							
YKA				PKiKP		**PKiKP**	**18 52 02.5**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=317,slow=1.5,SNR=5.4							
YKA				PKKPbc		**PKKPbc**	**19 03 16.3**	**-3.3**
	comp=Z,3.6nm,0.8s,baz=108,slow=3.6,SNR=7.7							
NLWA	**Neilton Lookou**	**108.04**	**41**	PFAKE			18 52 20.0	
NLWA				LR	LR			
	comp=Z,696nm,21.0s							
VLC	**Villacollemand**	**108.78**

comp=Z,44nm,1.5s
LOR Lormes 112.26 320 ePKPdf PKiKP 18 52 11.3 -0.6
SSB Saint Sauveur 112.47 318 PFAKE 18 52 20.0
SSB LR LR
comp=Z,775nm,22.0s
SMF Signal de Mont 112.48 319 ePKIKP PKiKP 18 52 10.5 -1.8
comp=Z,51nm,1.5s
SMF Signal de Mont 112.48 319 ePKIKP PKiKP 18 52 10.5 -1.8
SMF Signal de Mont 112.48 319 ePKPdf PKiKP 18 52 10.5 -1.8
VIVF Saint-Julien-l 112.52 317 ePKIKP PKiKP 18 52 10.4 -2.1
VIVF Saint-Julien-l 112.52 317 ePKIKP PKiKP 18 52 10.4 -2.1
VIVF Saint-Julien-l 112.52 317 ePKPdf PKiKP 18 52 10.4 -2.1
SSF Saint Saulge 112.56 320 ePKPdf PKiKP 18 52 12.0 -0.5
comp=Z,42nm,1.3s
SSF Saint Saulge 112.56 320 ePKIKP PKiKP 18 52 12.0 -0.5
SSF Saint Saulge 112.56 320 ePKPdf PKiKP 18 52 12.0 -0.5
AVF Avril sur Loir 112.75 320 ePKIKP PKiKP 18 52 12.0 -0.8
comp=Z,46nm,1.6s
AVF Avril sur Loir 112.75 320 ePKIKP PKiKP 18 52 12.0 -0.8
AVF Avril sur Loir 112.75 320 ePKPdf PKiKP 18 52 12.0 -0.8
ESK Eskdalemuir 112.94 330 PFAKE 18 52 20.0
ESK LR LR
comp=Z,1µm,20.0s
WVOR Wild Horse Val 112.98 45 PFAKE 18 52 30.0
WVOR LR LR
comp=Z,1µm,19.0s
BMO Blue Mountains 113.14 42 PFAKE 18 52 30.0
BMO LR LR
comp=Z,477nm,21.0s
BGF Bois d'Agland 113.16 320 ePKIKP PKiKP 18 52 13.3 -0.3
comp=Z,88nm,1.5s
BGF Bois d'Agland 113.16 320 ePKIKP PKiKP 18 52 13.3 -0.3
BGF Bois d'Agland 113.16 320 ePKPdf PKiKP 18 52 13.3 -0.3
LASF Ste Croix 113.32 317 ePKIKP PKiKP 18 52 12.3 -1.7
LASF Ste Croix 113.32 317 ePKPdf PKiKP 18 52 12.3 -1.7
WAKR Walker 113.47 49 ePKiKP PKiKP 18 52 16.1 +1.3
TCF Toulx Ste Croi 113.66 320 ePKIKP PKiKP 18 52 14.2 -0.4
comp=Z,136nm,1.8s
TCF Toulx Ste Croi 113.66 320 ePKIKP PKiKP 18 52 14.2 -0.4
TCF Toulx Ste Croi 113.66 320 ePKPdf PKiKP 18 52 14.2 -0.4
BSMT Bassoo Peak 113.71 39 ePKiKP PKiKP 18 52 14.9 0.0
SMMC Simmler 113.81 53 ⇓PKiKP PKiKP 18 52 16.7 +1.5
baz=114
PKM Peak Mountain 114.04 53 ⇓PKiKP PKiKP 18 52 16.6 +0.7
baz=114
SBC Santa Barbara 114.23 54 ⇓PKiKP PKPdf 18 52 15.5 -0.5
baz=114
CAF Calviac 114.24 318 ePKIKP PKPdf 18 52 14.2 -1.6
comp=Z,44nm,1.3s
CAF Calviac 114.24 318 ePKIKP PKPdf 18 52 14.2 -1.6
CAF Calviac 114.24 318 ePKPdf PKPdf 18 52 14.2 -1.6
LDF La Druitiere 114.25 323 ePKIKP PKPdf 18 52 13.6 -2.0
LDF La Druitiere 114.25 323 ePKPdf PKPdf 18 52 13.6 -2.0
LDF La Druitiere 114.25 323 ePKPdf PKPdf 18 52 13.6 -2.0
SWMT Swartz Lake 114.34 39 ePKiKP PKiKP 18 52 16.0 0.0
NVAR Mina Array Bea 114.35 49 Pdif Pdif 18 48 27.5 +2.0
NVAR PKP PKiKP 18 52 17.9 +1.5
NVAR PP PP 18 53 09.9 -2.2
NVAR PKKPbc PKKPbc 19 02 57.3 +0.3
NVAR Mina Array Bea 114.35 49 Pdiff Pdif 18 48 27.5 +2.0
comp=Z,0.9nm,0.9s,baz=272,slow=6.3,SNR=7.1
NVAR PKP PKiKP 18 52 17.9 +1.5
comp=Z,6.2nm,0.9s,baz=259,slow=2.1,SNR=29
NVAR PP PP 18 53 09.9 -2.2
comp=Z,5.1nm,1.1s,baz=267,slow=7.7,SNR=6.0
NVAR PKKPbc PKKPbc 19 02 57.3 +0.3
comp=Z,0.9nm,0.7s,baz=138,slow=4.8,SNR=6.7
BSC Santa Cruz Isl 114.39 54 ⇓PKiKP PKiKP 18 52 16.5 +0.1
baz=114
VES Vestal, Richgr 114.41 52 ⇓PKiKP PKiKP 18 52 16.6 +0.3
baz=114
RJF Les Rejaudoux 114.47 319 ePKIKP PKPdf 18 52 14.5 -1.7
RJF Les Rejaudoux 114.47 319 ePKIKP PKPdf 18 52 14.5 -1.7
RJF Les Rejaudoux 114.47 319 ePKPdf PKPdf 18 52 14.5 -1.7
BMN Battle Mountai 114.58 47 PFAKE 18 52 30.0 +13
BMN LR LR
comp=Z,1µm,19.0s
MSO Missoula 114.64 39 ⇑PKiKP PKPdf 18 52 17.4 +0.8
baz=115
SLMT Seeley Lake 114.76 39 ePKiKP PKPdf 18 52 17.1 +0.2
ARVC Arvin 114.78 53 ⇓PKiKP PKiKP 18 52 18.6 +1.5
baz=115
GRR Gorron 114.78 323 ePKIKP PKPdf 18 52 14.6 -2.0
comp=Z,56nm,1.4s
GRR Gorron 114.78 323 ePKIKP PKPdf 18 52 14.6 -2.0
GRR Gorron 114.78 323 ePKPdf PKPdf 18 52 14.6 -2.0
BLG Laguna Peak 114.83 54 ⇑PKiKP PKiKP 18 52 18.3 +1.1
baz=115
ISA Isabella 114.93 52 ⇓PKiKP PKPdf 18 52 17.8 +0.3
baz=115
CHMT Chamberlain Mo 115.04 39 ePKiKP PKPdf 18 52 17.6 +0.1
CWC Cottonwood Cre 115.04 51 ⇓PKiKP PKPdf 18 52 18.1 +0.3
baz=115
MFF Saint Martin d 115.06 321 ePKIKP PKPdf 18 52 15.5 -1.7
comp=Z,92nm,1.6s
MFF Saint Martin d 115.06 321 ePKIKP PKPdf 18 52 15.5 -1.7
MFF Saint Martin d 115.06 321 ePKPdf PKPdf 18 52 15.5 -1.7
LFF La Frestale 115.11 319 ePKIKP PKPdf 18 52 15.8 -1.6
LFF La Frestale 115.11 319 ePKIKP PKPdf 18 52 15.8 -1.6
LFF La Frestale 115.11 319 ePKPdf PKPdf 18 52 15.8 -1.6
SCI San Clemente I 115.50 55 ⇓PKiKP PKPdf 18 52 19.7 +1.2
baz=116
EDW2 Edwards Air Fo 115.51 53 ⇑PKiKP PKPdf 18 52 19.5 +0.9
baz=116
PASC Pasadena Art C 115.52 54 ePKiKP PKPdf 18 52 19.6 +1.0
CIS Catalina Islan 115.53 55 ⇑PKiKP PKPdf 18 52 18.9 +0.3
baz=116
HLID Hailey 115.54 43 ⇑PKiKP PKPdf 18 52 19.1 +0.6
baz=116
LRMC Laurel Mountai 115.60 52 ⇓PKiKP PKPdf 18 52 19.5 +0.7
baz=116
MPMC Manual Prospec 115.60 52 ⇑PKiKP PKPdf 18 52 19.9 +1.0
baz=116
ELK Elko 115.92 46 ePKPdf PKPdf 18 52 20.4 +1.0
BFSC Mount Baldy Ra 115.93 54 ⇓PKiKP PKiKP 18 52 20.7 +1.2
baz=116
LRM Limekiln Ridge 115.98 40 ePKPdf PKPdf 18 52 19.7 +0.3
FURC Furnace Creek, 115.98 51 ⇑PKiKP PKiKP 18 52 20.4 +1.1
baz=116
EPF Esparros 116.08 317 ePKIKP PKPdf 18 52 17.8 -1.6
comp=Z,76nm,1.7s
EPF Esparros 116.08 317 ePKIKP PKPdf 18 52 17.8 -1.6
EPF Esparros 116.08 317 ePKPdf PKPdf 18 52 17.8 -1.6
MCMT McKenzie Canyo 116.11 41 ePKPdf PKPdf 18 52 20.8 +1.1
GSC Goldstone 116.34 52 ePKIKP PKPdf 18 52 21.6 +1.4
GSC Goldstone 116.34 52 ePKPdf PKPdf 18 52 21.6 +1.4
GSC Goldstone 116.34 52 ⇓PKiKP PKiKP 18 52 20.6 +0.4
baz=116
R11A Troy Canyon, C 116.42 49 ⇓PKiKP PKiKP 18 52 20.6 +0.2
baz=116
MURC Murrieta 116.46 54 ⇓PKiKP PKiKP 18 52 20.8 +0.4
baz=116
SHOC Shoshone 116.59 51 ⇓PKiKP PKiKP 18 52 21.6 +1.0
baz=117
EGMT Eagleton 116.72 37 ePKPdf PKPdf 18 52 21.0 +0.5
EGMT LR LR
comp=Z,759nm,19.0s
EGMT Eagleton 116.72 37 ⇑PKiKP PKiKP 18 52 21.3 +0.7
baz=117
ETSF Etsaut 116.74 317 ePKIKP PKPdf 18 52 19.1 -1.6
comp=Z,154nm,1.9s
ETSF Etsaut 116.74 317 ePKIKP PKPdf 18 52 19.1 -1.6
ETSF Etsaut 116.74 317 ePKPdf PKPdf 18 52 19.1 -1.6
HEC Hector,Ludlow 116.84 53 ⇓PKiKP PKiKP 18 52 21.5 +0.3
baz=117
TAM Tamanrasset 116.87 294 ePKIKP PKPdf 18 52 23.0 +1.4
TAM MLR MLR
comp=Z,826nm,21.0s
TAM Tamanrasset 116.87 294 ePKPdf PKPdf 18 52 23.0 +1.4
TAM LR LR
comp=Z,826nm,21.0s
A19A Klindworth Far 116.90 36 ⇓PKiKP PKiKP 18 52 21.7 +0.9
baz=117
TUQ Turquoise Moun 117.00 52 ⇑PKiKP PKiKP 18 52 22.3 +0.8
baz=117
B19A Brinkman Farms 117.00 36 ⇑PKiKP PKiKP 18 52 21.3 +0.3
baz=117
PFO Pinyon Flat Ob 117.06 54 ePKPdf PKPdf 18 52 22.7 +1.0
PFO LR LR
comp=Z,1µm,20.0s
PFO Pinyon Flat Ob 117.06 54 ⇑PKiKP PKiKP 18 52 22.2 +0.5
baz=117
SJPF Ste Jean 117.11 317 ePKIKP PKPdf 18 52 19.0 -2.3
comp=Z,70nm,1.4s
SJPF Ste Jean 117.11 317 ePKIKP PKPdf 18 52 19.0 -2.3
SJPF Ste Jean 117.11 317 ePKPdf PKPdf 18 52 19.0 -2.3
MONP Monument Peak 117.26 55 ⇑PKiKP PKiKP 18 52 23.0 +0.7
baz=117
C19A Slack Wire Ran 117.27 37 ⇑PKiKP PKiKP 18 52 22.3 +0.7
baz=117
SHPR Sheep Range 117.29 51 ePKPdf PKPdf 18 52 23.6 +1.5
FFC Flin Flon 117.30 28 PFAKE 18 52 30.0 +8.7
FFC LR LR
comp=Z,849nm,21.0s
BELC Belle Mtn. Jos 117.32 53 ⇑PKiKP PKiKP 18 52 23.7 +1.5
baz=117
GMRC Granite Mounta 117.38 53 ⇓PKiKP PKiKP 18 52 23.4 +1.1
baz=117
A20A Cobblestone Ra 117.39 35 ⇑PKiKP PKiKP 18 52 22.2 +0.4
baz=117
YMR Madison River 117.41 41 ePKPdf PKPdf 18 52 23.6 +1.4
B20A Solberg Farm, 117.55 36 ⇓PKiKP PKiKP 18 52 22.2 +0.1
baz=118
DVTC Desert V Tower 117.58 55 ⇑PKiKP PKiKP 18 52 23.6 +0.9
baz=118
D19A Cripps Ranch, 117.64 37 ⇓PKiKP PKiKP 18 52 23.5 +1.2
baz=118
SWSC Sam W. Stewart 117.76 55 ⇑PKiKP PKiKP 18 52 24.4 +1.5
baz=118
H17A Grant Village 117.78 41 ⇑PKiKP PKiKP 18 52 25.3 +2.3
baz=118
LKWY Lake 117.82 41 PFAKE 18 52 30.0 +7.0
LKWY LR LR
comp=Z,1µm,21.0s
DUG Dugway 117.85 46 ePKIKP PKPdf 18 52 23.5 +0.5
DUG Dugway 117.85 46 ePKPdf PKPdf 18 52 23.5 +0.5
DUG Dugway 117.85 46 ⇑PKiKP PKiKP 18 52 23.9 +0.9
baz=118
BC3 Big Chuckawall 117.85 54 ⇓PKiKP PKiKP 18 52 24.2 +1.0
baz=118
TPAW Teton Pass 117.90 42 ePKPdf PKPdf 18 52 24.3 +1.1
C20A Veseth Ranch, 117.91 37 ⇑PKiKP PKiKP 18 52 24.3 +1.5
baz=118
IRM Iron Mountain 117.96 53 ⇑PKiKP PKiKP 18 52 24.5 +1.2
baz=118
I17A Pilgrim Ck. 117.97 41 ⇓PKiKP PKiKP 18 52 24.7 +1.4
baz=118
E19A Rath Farm, Rou 118.01 38 ⇓PKiKP PKiKP 18 52 24.1 +1.0
baz=118
REDW Red Top Meadow 118.02 42 ePKPdf PKPdf 18 52 24.4 +1.0
SNOW Snow King Moun 118.04 42 ePKPdf PKPdf 18 52 24.7 +1.2
AHID Auburn Hatcher 118.09 43 PFAKE 18 52 40.0 +17
AHID LR LR
comp=Z,972nm,19.0s
D20A Manuel Ranch, 118.12 37 ⇓PKiKP PKiKP 18 52 24.2 +0.9
baz=118
B21A Ellsworth Farm 118.14 35 ⇓PKiKP PKiKP 18 52 24.3 +1.1
baz=118
F19A Roth Farm, Mol 118.19 39 ⇑PKiKP PKiKP 18 52 24.8 +1.3
baz=118
H18A Shoshone NF, C 118.25 40 ⇑PKiKP PKiKP 18 52 24.7 +0.9
baz=118
RLMT Red Lodge 118.31 40 ePKPdf PKPdf 18 52 24.8 +1.0
C21A Desert Coulee 118.39 36 ⇑PKiKP PKiKP 18 52 24.4 +0.7
baz=118
A22A Carney Farms, 118.49 35 ⇓PKiKP PKiKP 18 52 24.6 +0.7
baz=118
GLA Glamis 118.52 54 ⇓PKiKP PKiKP 18 52 26.0 +1.5
baz=118
Y12C Blythe 118.57 53 ⇑PKiKP PKiKP 18 52 25.6 +1.1
baz=119
H19A Powell 118.69 40 ⇑PKiKP PKiKP 18 52 25.5 +1.0
baz=119
W13A Hualapai Mount 118.69 52 ⇑PKiKP PKiKP 18 52 25.8 +0.9
baz=119
F20A Billings 118.71 39 ⇓PKiKP PKiKP 18 52 25.4 +0.9
baz=119
PDMCI Parker Dam,Lak 118.72 53 ⇑PKiKP PKiKP 18 52 26.0 +1.3
baz=119
B22A Reddig Ranch S 118.79 35 ⇓PKiKP PKiKP 18 52 25.2 +0.7
baz=119
D21A La Casta Ranch 118.82 37 ⇑PKiKP PKiKP 18 52 25.8 +1.1
baz=119
MVU Marysvale 118.88 48 ePKPdf PKPdf 18 52 26.1 +1.0
MVU LR LR
comp=Z,1µm,19.0s
DAU Daniels Canyon 118.88 45 ePKIKP PKPdf 18 52 26.3 +1.0
DAU Daniels Canyon 118.88 45 ePKPdf PKPdf 18 52 26.2 +1.0
M17A Scullys Gap (B 118.89 44 ⇓PKiKP PKiKP 18 52 26.2 +1.0
baz=119
G20A Bridger 118.93 39 ⇓PKiKP PKiKP 18 52 26.0 +1.0
baz=119
I19A Meeteetse 118.96 41 ⇑PKiKP PKiKP 18 52 25.3 +0.1
baz=119
E21A Keefer Ranch, 119.02 37 ⇓PKiKP PKiKP 18 52 26.4 +1.4
baz=119
A23A Redstone 119.09 34 ⇑PKiKP PKiKP 18 52 25.9 +0.9
baz=119
BW06 Boulder Array 119.12 42 PFAKE 18 52 40.0 +14
BW06 LR LR
comp=Z,846nm,21.0s
PDAR Pinedale Array 119.12 42 PKP PKPdf 18 52 25.9 +0.4
PDAR PKKPbc PKKPbc 19 02 39.0 -1.4
PDAR SKKP 19 06 31.6
PDAR Pinedale Array 119.12 42 PKP PKPdf 18 52 25.9 +0.4
comp=Z,11nm,1.1s,baz=219,slow=1.9,SNR=41
PDAR PKKPbc PKKPbc 19 02 39.0 -1.4
comp=Z,5.6nm,1.1s,baz=108,slow=4.8,SNR=14
PDAR SKKP 19 06 31.6
comp=Z,2.0nm,1.1s,baz=122,slow=5.4,SNR=4.4
C22A Vida 119.14 36 ⇓PKiKP PKiKP 18 52 25.9 +0.7
baz=119
L18A Fontenelle, Gr 119.14 43 ⇑PKiKP PKiKP 18 52 26.4 +0.8
baz=119
J19A Crowheart 119.25 41 ⇑PKiKP PKiKP 18 52 27.0 +1.2
baz=119
D22A Cohagen 119.26 36 ⇓PKiKP PKiKP 18 52 27.0 +1.5
baz=119
B23A Brockton 119.28 35 ⇓PKiKP PKiKP 18 52 26.0 +0.6
baz=119
F21A Absaloka Mine, 119.33 38 ⇓PKiKP PKiKP 18 52 25.8 +0.1
baz=119
H20A Greybull 119.40 40 ⇓PKiKP PKiKP 18 52 26.4 +0.5
baz=119
113A Mohawk Valley, 119.45 54 ⇓PKiKP PKiKP 18 52 27.3 +1.1
baz=120
LAO LASA Array 119.46 37 ePKPdf PKPdf 18 52 27.1 +1.3
LAO LR LR
comp=Z,972nm,19.0s
Q16A Castle Valley 119.49 47 ⇓PKiKP PKiKP 18 52 27.6 +1.2
baz=120
U15A North Rim 119.51 50 ⇑PKiKP PKiKP 18 52 27.5 +0.9
baz=120
C23A Lambert 119.52 35 ⇓PKiKP PKiKP 18 52 27.1 +1.2
baz=120
I20A Worland 119.56 40 ⇓PKiKP PKiKP 18 52 26.8 +0.6
baz=120
G21A Lodge Grass 119.56 39 ⇑PKiKP PKiKP 18 52 27.2 +1.0
baz=120
A24A Westby 119.59 34 ⇓PKiKP PKiKP 18 52 26.6 +0.6
baz=120
Y14A Wickenburg 119.73 53 ⇓PKiKP PKiKP 18 52 27.0 +0.3
baz=120
DGMT Dagmar 119.73 34 ⇑PKiKP PKiKP 18 52 27.3 +0.9
baz=120
E22A Miles City 119.75 37 ⇓PKiKP PKiKP 18 52 27.3 +0.9
baz=120
J20A Shoshoni 119.85 41 ⇓PKiKP PKiKP 18 52 27.1 +0.3
baz=120
F22A Rosebud 119.89 38 ⇑PKiKP PKiKP 18 52 27.4 +0.7
baz=120
SRU San Rafael 119.89 46 ePKIKP PKPdf 18 52 27.0 0.0
SRU San Rafael 119.89 46 ePKPdf PKPdf 18 52 27.0 0.0
Z14A Wintersburg 119.94 53 ⇓PKiKP PKiKP 18 52 28.0 +0.8
baz=120
H21A Big Horn, Sher 119.94 39 ⇑PKiKP PKiKP 18 52 27.6 +0.6
baz=120
C24A Savage 120.09 35 ⇓PKiKP PKiKP 18 52 27.8 +0.8
baz=120
E23A Ismay 120.11 37 ⇑PKiKP PKiKP 18 52 27.9 +0.7
baz=120
G22A Birney 120.14 38 ⇓PKiKP PKiKP 18 52 27.5 +0.2
baz=120
I21A Big Trails, Te 120.16 40 ⇑PKiKP PKiKP 18 52 27.8 +0.4
baz=120
L20A Wamsutter 120.26 43 ⇓PKiKP PKiKP 18 52 28.4 +0.6
baz=120
J21A Lysite 120.27 41 ⇑PKiKP PKiKP 18 52 28.1 +0.3
baz=120
ESDC Sonseca Array 120.33 315 PKP PKPdf 18 52 27.8 +0.1
ESDC PKKPbc PKKPab 19 02 37.2 +1.2
ESDC Sonseca Array 120.33 315 PKP PKPdf 18 52 27.8 +0.1
comp=Z,5.4nm,1.0s,baz=44,slow=2.2,SNR=24
ESDC PKKPbc PKKPab 19 02 37.2 +1.2
comp=Z,1.6nm,0.9s,baz=277,slow=3.9,SNR=9.0
D24A Glendive 120.37 36 ⇑PKiKP PKiKP 18 52 28.1 +0.5
baz=120
H22A Clearmont 120.40 39 ⇑PKiKP PKiKP 18 52 28.4 +0.6
baz=120
O19A Miners Draw (B 120.43 45 ⇓PKiKP PKiKP 18 52 29.0 +0.9
baz=120
F23A Volborg 120.44 38 ⇑PKiKP PKiKP 18 52 28.7 +0.9
baz=120
214A Organ Pipe Nat 120.45 55 ⇑PKiKP PKiKP 18 52 28.9 +0.7
baz=120
WUAZ Wupatki 120.51 51 ePKPdf PKPdf 18 52 29.6 +1.3
WUAZ Wupatki 120.51 51 ⇓PKiKP PKPdf 18 52 29.7 +1.3
baz=120
M20A Sweetwater, Wa 120.58 43 ⇑PKiKP PKiKP 18 52 28.9 +0.4
baz=121
I22A 9 Mile Ranch, 120.64 40 ⇓PKiKP PKiKP 18 52 29.0 +0.6
baz=121
PAB San Pablo 120.66 315 ePKIKP PKPdf 18 52 28.7 +0.3
PAB MLR MLR
comp=Z,1µm,19.0s
PAB San Pablo 120.66 315 ePKPdf PKPdf 18 52 28.7 +0.3
PAB LR LR
comp=Z,1µm,19.0s
E24A Baker 120.67 36 ⇑PKiKP PKiKP 18 52 28.9 +0.7
baz=121
G23A Biddle 120.70 38 ⇓PKiKP PKiKP 18 52 29.2 +0.8
baz=121
K21A Alcova 120.72 41 ⇑PKiKP PKiKP 18 52 28.7 0.0
baz=121
P19A Cripple Cowboy 120.79 45 ⇑PKiKP PKiKP 18 52 29.7 +0.7
baz=121
N20A Spence Gulch, 120.81 44 ⇓PKiKP PKiKP 18 52 29.8 +0.9
baz=121
X16A Lo Mia Camp, P 120.82 52 ⇑PKiKP PKiKP 18 52 30.2 +1.2
baz=121
J22A Midwest 120.87 40 ⇓PKiKP PKPdf 18 52 28.7 -0.1
baz=121
D25A Fairfield 120.93 35 ⇑PKiKP PKiKP 18 52 29.4 +0.7
baz=121
F24A Ekalaka 120.95 37 ⇑PKiKP PKiKP 18 52 29.1 +0.2
baz=121
H23A Clabaugh Cattl 121.01 39 ⇑PKiKP PKiKP 18 52 29.6 +0.5
baz=121
A27A Ledoux Ranch, 121.09 33 ⇑PKiKP PKiKP 18 52 29.6 +0.7
baz=121
O20A White River Ci 121.11 44 ⇓PKiKP PKiKP 18 52 30.4 +0.9
baz=121
K22A Casper 121.19 41 ⇑PKiKP PKiKP 18 52 30.2 +0.6
baz=121
E25A Miller Ranch, 121.23 36 ⇑PKiKP PKiKP 18 52 29.7 +0.4
baz=121
G24A Alzada 121.23 38 ⇓PKiKP PKPdf 18 52 29.3 -0.1
baz=121
C26A Wahner Farm, P 121.26 34 ⇑PKiKP PKiKP 18 52 29.8 +0.5
baz=121
P20A De Beque 121.26 45 ⇓PKiKP PKiKP 18 52 30.0 +0.2
baz=121
PV04 Paradox Valley 121.33 47 ePKPdf PKPdf 18 52 31.1 +1.2
B27A Peters Farms, 121.39 33 ⇑PKiKP PKiKP 18 52 29.8 +0.2
baz=121
H24A Dirks Ranch, A 121.44 38 ⇓PKiKP PKiKP 18 52 30.2 +0.3
baz=121
J23A Dilts Ranch, B 121.47 40 ⇓PKiKP PKPdf 18 52 29.7 -0.2
baz=122
TOA0 Torodi Ar. Sit 121.49 283 ePKPdf PKPdf 18 52 30.2 -0.3
TORD Torodi Ar. Bea 121.49 283 PKP PKPdf 18 52 29.9 -0.6
TORD PKKPbc PKKPab 19 02 31.7 +0.3
TORD Torodi Ar. Bea 121.49 283 PKP PKPdf 18 52 29.9 -0.6
comp=Z,12nm,1.0s,baz=50,slow=0.8,SNR=39
TORD PKKPbc PKKPab 19 02 31.7 +0.3
comp=Z,8.1nm,1.2s,baz=282,slow=4.7,SNR=16
F25A Bowman 121.50 37 ⇓PKiKP PKiKP 18 52 30.4 +0.5
baz=122
L22A Ellis Ranch, M 121.53 42 ⇑PKiKP PKiKP 18 52 30.7 +0.4
baz=122
Q20A Ridgley Place, 121.55 46 ⇑PKiKP PKiKP 18 52 31.0 +0.6
baz=122
O21A Pagoda 121.61 44 ⇑PKiKP PKiKP 18 52 31.0 +0.4
baz=122
A28A Rude Farm, Bot 121.64 32 ⇑PKiKP PKiKP 18 52 30.3 +0.2
baz=122
PV01 Paradox Valley 121.67 47 ePKPdf PKPdf 18 52 31.6 +1.0
M22A Cedar Creek Ra 121.70 42 ⇓PKiKP PKPdf 18 52 30.5 0.0
baz=122
K23A Bowen Ranch, D 121.73 41 ⇓PKiKP PKiKP 18 52 30.6 0.0
baz=122
R20A Redvale 121.79 47 ⇑PKiKP PKiKP 18 52 31.5 +0.5
baz=122
E26A Carlson Angus 121.80 36 ⇑PKiKP PKiKP 18 52 31.1 +0.6
baz=122
I24A Kuemmerle Ranc 121.84 39 ⇓PKiKP PKiKP 18 52 31.3 +0.6
baz=122
MVO Moncorvo 121.84 317 ePKPdf PKPdf 18 52 30.9 +0.3
B28A Dugan Ranch, T 121.86 33 ⇓PKiKP PKiKP 18 52 30.7 +0.2
baz=122
W18A Petrified Fore 121.91 50 ePKPdf PKPdf 18 52 32.7 +1.7
G25A Newell 121.91 37 ⇓PKiKP PKiKP 18 52 31.3 +0.5
baz=122
P21A Newcastle 121.92 45 ⇓PKiKP PKiKP 18 52 31.2 +0.1
baz=122
X18A Snowflake 121.94 51 ⇑PKiKP PKiKP 18 52 31.5 +0.2
baz=122
L23A Garrett 121.97 41 ⇑PKiKP PKPdf 18 52 30.7 -0.3
baz=122
TUC Tucson 121.99 54 ePKIKP PKPdf 18 52 32.1 +1.0
TUC MLR MLR
comp=Z,922nm,20.0s
TUC Tucson 121.99 54 ePKPdf PKPdf 18 52 32.1 +1.0
TUC LR LR
comp=Z,922nm,20.0s
F26A Lodgepole 122.01 36 ⇓PKiKP PKiKP 18 52 31.0 +0.1
baz=122
N22A Wattenberg Ran 122.06 43 ⇑PKiKP PKiKP 18 52 31.8 +0.4
baz=122
J24A Dixon Ranch, L 122.07 40 ⇓PKiKP PKPdf 18 52 31.1 +0.1
baz=122
RSSD Black Hills 122.08 39 ePKIKP PKPdf 18 52 31.2 0.0
RSSD Black Hills 122.08 39 ePKPdf PKPdf 18 52 31.2 0.0
MVCO Mesa Verde 122.08 48 ePKPdf PKPdf 18 52 32.8 +1.4
MVCO LR LR
comp=Z,855nm,19.0s
MVCO Mesa Verde 122.08 48 ⇓PKiKP PKPdf 18 52 32.8 +1.4
baz=122
H25A Fruitdale 122.09 38 ⇓PKiKP PKiKP 18 52 31.5 +0.4
baz=122
Q21A Lamborn Mesa, 122.11 46 ⇑PKiKP PKiKP 18 52 32.4 +0.9
baz=122
A29A Manning Farm, 122.17 32 ⇓PKiKP PKiKP 18 52 31.2 +0.1
baz=122
POLO Lamas de Olo 122.27 318 ePKPdf PKPdf 18 52 31.9 +0.5
K24A Anderson Ranch 122.27 40 ⇓PKiKP PKiKP 18 52 32.2 +0.6
baz=122
C28A Hausauer Farms 122.27 33 ⇓PKiKP PKPdf 18 52 31.1 0.0
baz=122
O22A Kremmling 122.28 44 ⇑PKiKP PKiKP 18 52 32.3 +0.3
baz=122
PGAV Gavieira, Arco 122.31 319 ePKPdf PKPdf 18 52 33.8 +2.3
I25A Rochford 122.32 39 ⇓PKiKP PKPdf 18 52 31.4 -0.1
baz=122
R21A Cimarron 122.32 46 ⇓PKiKP PKiKP 18 52 32.2 +0.2
baz=122
E27A Carson 122.34 35 ⇑PKiKP PKiKP 18 52 31.7 +0.2
baz=122
G26A Maurine 122.35 37 ⇓PKiKP PKPdf 18 52 31.5 +0.1
baz=122
N23A Red Feather La 122.37 43 ⇑PKiKP PKiKP 18 52 32.1 0.0
baz=122
P22A Eagle 122.37 44 ⇓PKiKP PKiKP 18 52 32.9 +0.9
baz=122
U20A Newcomb 122.38 49 ⇓PKiKP PKiKP 18 52 33.1 +1.0
baz=122
B29A Wagenman Farm, 122.39 32 ⇓PKiKP PKiKP 18 52 31.7 +0.2
baz=122
SMCO Snowmass 122.40 45 ePKPdf PKPdf 18 52 33.3 +1.2
S21A Coal Bank Pass 122.43 47 ⇑PKiKP PKiKP 18 52 33.5 +1.2
baz=122
D28A Regan 122.47 34 ⇓PKiKP PKiKP 18 52 32.0 +0.2
baz=122
L24A Wheatland 122.51 41 ⇓PKiKP PKiKP 18 52 32.2 +0.1
baz=122
MTE Manteigas 122.53 317 ePKPdf PKPdf 18 52 32.3 +0.4
MTE Manteigas 122.53 317 PFAKE 18 52 40.0 +8.1
MTE LR LR
comp=Z,741nm,20.0s

Q22A	Crested Butte, baz=123	122.58	45	⇑PKiKP	PKiKP	18 52 33.3	+0.8
J25A	Sunshine Ranch baz=123	122.59	39	⇓PKiKP	PKiKP	18 52 32.7	+0.5
H26A	Fairpoint baz=123	122.60	38	⇓PKiKP	PKiKP	18 52 32.7	+0.6
MDND	Maddock baz=123	122.62	33	⇓PKiKP	PKiKP	18 52 32.6	+0.6
V20A	Brimhall baz=123	122.63	49	⇓PKiKP	PKiKP	18 52 33.7	+1.1
A30A	Hoffart Farm, baz=123	122.65	31	⇓PKiKP	PKiKP	18 52 32.3	+0.3
O23A	Lake Granby, G baz=123	122.69	43	⇓PKiKP	PKiKP	18 52 33.2	+0.4
G27A	Dupree baz=123	122.70	36	⇑PKiKP	PKiKP	18 52 32.4	+0.1
E28A	Huff baz=123	122.75	35	⇓PKiKP	PKiKP	18 52 32.9	+0.6
I26A	New Underwood baz=123	122.85	38	⇑PKiKP	PKiKP	18 52 32.8	+0.2
PMRV	Marv??o	122.85	316	*e*PKPdf	PKPdf	18 52 33.8	+1.3
W20A	Ramah baz=123	122.85	50	⇓PKiKP	PKiKP	18 52 34.0	+0.9
M24A	Cheyenne baz=123	122.86	42	⇑PKiKP	PKiKP	18 52 33.7	+0.8
T21A	Navajo Lake baz=123	122.88	48	⇑PKiKP	PKiKP	18 52 33.9	+0.8
K25A	Mack Ranch, Ha baz=123	122.93	40	⇑PKiKP	PKiKP	18 52 33.0	+0.1
B30A	Myrvik Farm, E baz=123	122.94	32	⇓PKiKP	PKiKP	18 52 32.9	+0.3
U21A	Nageezi baz=123	123.00	48	⇓PKiKP	PKiKP	18 52 33.7	+0.3
ULM	Lac du Bonnet	123.02	29	PKP	PKPdf	18 52 32.4	-0.1
ULM	Lac du Bonnet comp=Z,20nm,1.1s,baz=318,slow=4.0,SNR=11	123.02	29	PKP	PKPdf	18 52 32.4	-0.1
X20A	Quemado baz=123	123.06	51	⇓PKiKP	PKiKP	18 52 34.0	+0.5
ISCO	Idaho Springs	123.08	44	PFAKE		18 52 40.0	+6.7
ISCO	comp=Z,511nm,20.0s			LR	LR		
ISCO	Idaho Springs baz=123	123.08	44	⇑PKiKP	PKiKP	18 52 34.2	+0.6
J26A	Sides Ranch, S baz=123	123.09	39	⇑PKiKP	PKiKP	18 52 33.2	0.0
D29A	Pettibone, Tap baz=123	123.09	34	⇓PKiKP	PKiKP	18 52 33.0	+0.1
L25A	Engebretsen Ra baz=123	123.09	41	⇑PKiKP	PKiKP	18 52 33.4	+0.2
S22A	4UR Ranch, Cre baz=123	123.09	46	⇓PKiKP	PKiKP	18 52 34.7	+1.1
F28A	McLaughlin baz=123	123.10	35	⇑PKiKP	PKPdf	18 52 32.9	+0.1
P23A	Jefferson baz=123	123.11	44	⇓PKiKP	PKiKP	18 52 34.3	+0.7
N24A	Carr baz=123	123.11	42	⇑PKiKP	PKiKP	18 52 34.6	+1.2
PBAR	Barrancos	123.13	314	*e*PKPdf	PKPdf	18 52 34.2	+1.2
PESTR	Estremoz	123.23	315	*e*PKPdf	PKPdf	18 52 33.8	+0.6
V21A	Milan baz=123	123.26	49	⇑PKiKP	PKPdf	18 52 33.5	-0.2
C30A	Mose, Pekin baz=123	123.31	33	⇓PKiKP	PKPdf	18 52 33.0	-0.2
Q23A	Hartsel baz=123	123.32	45	⇑PKiKP	PKiKP	18 52 34.7	+0.7
I27A	Quinn baz=123	123.33	38	⇓PKiKP	PKiKP	18 52 33.5	-0.1
K26A	Motz Farm, Whi baz=123	123.33	40	⇓PKiKP	PKiKP	18 52 33.9	+0.2
T22A	Edith baz=123	123.33	47	⇓PKiKP	PKiKP	18 52 34.8	+0.7
E29A	Napoleon baz=123	123.35	34	⇑PKiKP	PKiKP	18 52 33.9	+0.4
Y20A	Horse Springs, baz=123	123.38	51	⇓PKiKP	PKiKP	18 52 34.5	+0.3
G28A	Parade baz=123	123.47	36	⇓PKiKP	PKPdf	18 52 33.5	0.0
Z20A	Nine Sixteen R baz=124	123.48	52	⇑PKiKP	PKiKP	18 52 34.8	+0.5
319A	Douglas baz=124	123.50	54	⇓PKiKP	PKiKP	18 52 35.2	+0.9
W21A	San Fidel baz=124	123.51	50	⇑PKiKP	PKiKP	18 52 35.2	+0.8
D30A	Buchanan baz=124	123.52	33	⇑PKiKP	PKiKP	18 52 34.0	+0.2
PMTG	Montargil	123.59	316	*e*PKPdf	PKPdf	18 52 34.4	+0.5
U22A	Llaves baz=124	123.62	48	⇓PKiKP	PKiKP	18 52 35.7	+1.1
H28A	Mission Ridge baz=124	123.62	37	⇑PKiKP	PKiKP	18 52 34.7	+0.6
R23A	Moffat baz=124	123.63	46	⇑PKiKP	PKiKP	18 52 35.5	+0.8
120A	U Bar Ranch, L baz=124	123.64	53	⇓PKiKP	PKiKP	18 52 35.5	+0.8
X21A	Alamocita Cree baz=124	123.65	50	⇑PKiKP	PKiKP	18 52 35.4	+0.7
N25A	Grover baz=124	123.66	42	⇓PKiKP	PKPdf	18 52 34.3	+0.1
F29A	Eureka baz=124	123.67	35	⇓PKiKP	PKPdf	18 52 33.9	0.0
EVO	Evora comp=Z,133nm,1.4s	123.68	315	⇓*i*PKiKP	PKPdf	18 52 34.0	-0.1
EVO	Evora	123.68	315	*e*PKPdf	PKPdf	18 52 35.0	+0.9
P24A	Kohler Place, baz=124	123.69	44	⇓PKiKP	PKiKP	18 52 34.8	+0.2
L26A	Underwood Farm baz=124	123.72	40	⇑PKiKP	PKiKP	18 52 34.4	-0.1
EVOP	Sao Brissos	123.76	315	⇓*i*PKIKP	PKPdf	18 52 34.0	-0.2
EVOP	Sao Brissos	123.76	315	⇓*i*PKPdf	PKPdf	18 52 34.0	-0.2
V22A	San Miguel Ran baz=124	123.76	49	⇓PKiKP	PKiKP	18 52 35.7	+0.8
Q24A	Divide baz=124	123.77	45	⇓PKiKP	PKiKP	18 52 35.0	0.0
J27A	Elkhorn Farm, baz=124	123.79	39	⇑PKiKP	PKiKP	18 52 34.5	-0.1
E30A	Jud baz=124	123.80	34	⇓PKiKP	PKPdf	18 52 34.3	+0.1
Y21A	Point of Rocks baz=124	123.89	51	⇑PKiKP	PKiKP	18 52 35.6	+0.4
I28A	Midland baz=124	123.90	37	⇑PKiKP	PKiKP	18 52 34.7	0.0
K27A	Flueckinger Fa baz=124	123.93	39	⇓PKiKP	PKPdf	18 52 34.5	-0.1
220A	Playas Peak, P baz=124	123.94	54	⇓PKiKP	PKiKP	18 52 36.4	+1.2
PVAQ	Vaqueiros	123.94	314	*e*PKPdf	PKPdf	18 52 35.9	+1.3
T23A	Casias Ranch, baz=124	123.96	47	⇓PKiKP	PKiKP	18 52 36.8	+1.5
O25A	Wiggins baz=124	123.96	43	⇑PKiKP	PKiKP	18 52 35.2	+0.2
M26A	McRoberts Ranc baz=124	123.97	41	⇑PKiKP	PKiKP	18 52 35.1	+0.1
G29A	Hoven baz=124	123.98	36	⇓PKiKP	PKiKP	18 52 35.2	+0.4
SDCO	Great Sand Dun	124.05	46	PFAKE		18 52 50.0	+15
SDCO	comp=Z,704nm,20.0s			LR	LR		
PCVE	Castro Verde	124.08	314	*e*PKPdf	PKPdf	18 52 34.6	-0.3
W22A	Albuquerque baz=124	124.12	49	⇓PKiKP	PKiKP	18 52 36.4	+0.8
320A	Kipp Ranch, An baz=124	124.12	54	⇓PKiKP	PKiKP	18 52 36.9	+1.3
R24A	Sanders Place, baz=124	124.12	45	⇑PKiKP	PKiKP	18 52 36.6	+1.1
F30A	Leola baz=124	124.13	35	⇓PKiKP	PKiKP	18 52 35.6	+0.6
U23A	El Rito baz=124	124.13	48	⇓PKiKP	PKiKP	18 52 36.7	+1.0
H29A	Onida baz=124	124.13	36	⇓PKiKP	PKiKP	18 52 35.0	-0.1
Z21A	St. Cloud Mine baz=124	124.14	52	⇑PKiKP	PKiKP	18 52 36.6	+0.9
LAZ	Ladron	124.16	50	*e*PKPdf	PKPdf	18 52 36.7	+1.3
PBDV	Barranco-do-Ve	124.17	313	*e*PKPdf	PKPdf	18 52 36.7	+1.6
L27A	T5 Ranch, Ells baz=124	124.19	40	⇑PKiKP	PKPdf	18 52 35.1	0.0
P25A	Willow Gulch B baz=124	124.21	44	⇓PKiKP	PKiKP	18 52 36.3	+0.7
X22A	Bernardo baz=124	124.22	50	⇓PKiKP	PKiKP	18 52 36.5	+0.7
N26A	Koester Ranch, baz=124	124.22	42	⇓PKiKP	PKiKP	18 52 35.7	+0.2
PNCL	Nicolau / Gran	124.22	315	*e*PKPdf	PKPdf	18 52 35.0	-0.1
S24A	Houchin Ranch, baz=124	124.30	46	⇑PKiKP	PKiKP	18 52 36.6	+0.6
AGMN	Agassiz Nation	124.31	31	PFAKE		18 52 50.0	+15
AGMN	comp=Z,1μm,22.0s			LR	LR		
121A	Cookes Peak, D baz=124	124.32	53	⇑PKiKP	PKiKP	18 52 36.8	+0.8
V23A	Ortiz Mt. (NFS baz=124	124.37	48	⇑PKiKP	PKiKP	18 52 37.5	+1.4
LENM	Lemitar	124.38	51	*e*PKPdf	PKPdf	18 52 37.3	+1.5
I29A	Vivian Onida baz=124	124.42	37	⇓PKiKP	PKiKP	18 52 35.8	+0.1
Q25A	Bedland, Calha baz=124	124.42	44	⇑PKiKP	PKiKP	18 52 37.0	+0.9
T24B	San Luis baz=124	124.42	47	⇓PKiKP	PKiKP	18 52 37.1	+0.8
M27A	Reverse DX Ran baz=124	124.43	41	⇑PKiKP	PKiKP	18 52 35.8	0.0
O26A	Horse Wrangler baz=124	124.45	42	⇓PKiKP	PKiKP	18 52 36.0	0.0
Y22D	IRIS PASSCAL I baz=124	124.45	51	⇑PKiKP	PKiKP	18 52 37.2	+0.9
Y22A	Socorro baz=124	124.47	51	⇓PKiKP	PKiKP	18 52 37.1	+0.8
G30A	Faulkton baz=124	124.47	35	⇓PKiKP	PKPdf	18 52 35.5	+0.1
ANMO	Albuquerque	124.48	49	PKP	PKPdf	18 52 37.0	+1.0
ANMO				*e*PKPdf	PKiKP	18 52 37.3	+1.0
ANMO	comp=Z,758nm,19.0s			LR	LR		
ANMO	Albuquerque comp=Z,33nm,1.1s,baz=225,slow=2.0,SNR=33	124.48	49	PKP	PKPdf	18 52 37.0	+1.0
221A	Mesquite Ranch baz=124	124.50	53	⇑PKiKP	PKiKP	18 52 37.3	+0.9
LPM	Los Pinos Moun	124.58	50	*e*PKPdf	PKPdf	18 52 37.5	+1.3
W23A	Werner Place, baz=125	124.62	49	⇓PKiKP	PKiKP	18 52 36.7	+0.1
RTC	Rabat Centre	124.64	309	PFAKE		18 52 50.0	+14
RTC	comp=Z,675nm,19.0s			LR	LR		
BNM	Barren Site	124.65	50	*e*PKPdf	PKPdf	18 52 37.5	+1.1
MORF	Marmelete	124.66	314	*e*PKPdf	PKPdf	18 52 36.1	0.0
N27A	Anderson Farm, baz=125	124.69	41	⇑PKiKP	PKPdf	18 52 36.1	0.0
Z22A	Elephant Butte baz=125	124.71	52	⇑PKiKP	PKiKP	18 52 37.3	+0.5
J29A	Okreek baz=125	124.74	38	⇓PKiKP	PKiKP	18 52 36.7	+0.3
L28A	Connealy Angus baz=125	124.74	40	⇑PKiKP	PKPdf	18 52 36.2	0.0
R25A	Fountain Ranch baz=125	124.74	45	⇑PKiKP	PKiKP	18 52 36.6	-0.1
P26A	Davis Ranch, A baz=125	124.75	43	⇑PKiKP	PKiKP	18 52 36.7	+0.1
U24A	Moreno Valley baz=125	124.77	47	⇓PKiKP	PKPdf	18 52 36.8	+0.1
X23A	Hourglass Bar baz=125	124.82	50	⇓PKiKP	PKiKP	18 52 37.1	+0.1
S25A	Robets Cordova baz=125	124.85	46	⇓PKiKP	PKiKP	18 52 37.2	+0.2
PFVI	Vila Bisbo	124.86	314	*e*PKPdf	PKPdf	18 52 37.6	+1.2
122A	Conniff Cattle baz=125	124.88	52	⇓PKiKP	PKiKP	18 52 37.5	+0.4
Q26A	Hugo baz=125	124.92	44	⇓PKiKP	PKiKP	18 52 37.0	0.0
EFI	East Falkland	124.94	179	PFAKE		18 52 50.0	+14
EFI	comp=Z,1μm,20.0s			LR	LR		
OGNE	Ogallala	124.95	41	*e*PKPdf	PKPdf	18 52 36.8	+0.2
OGNE	Ogallala baz=125	124.95	41	⇓PKiKP	PKPdf	18 52 36.5	-0.1
BRSD	Miller baz=125	124.98	36	⇑PKiKP	PKPdf	18 52 36.4	-0.1
I30A	Pocoma baz=125	125.00	37	⇑PKiKP	PKPdf	18 52 36.4	-0.1
222A	Williams Famil baz=125	125.01	53	⇓PKiKP	PKiKP	18 52 37.4	0.0
O27A	Beecher Island baz=125	125.03	42	⇑PKiKP	PKiKP	18 52 37.1	0.0
V24A	Rampart Ranch, baz=125	125.06	48	⇑PKiKP	PKiKP	18 52 38.1	+0.6
T25A	Trinidad baz=125	125.09	46	⇑PKiKP	PKiKP	18 52 37.9	+0.4
K29A	Lazy Trails An baz=125	125.10	38	⇓PKiKP	PKiKP	18 52 37.1	0.0
M28A	Bar X Bar Ranc baz=125	125.15	40	⇑PKiKP	PKPdf	18 52 37.1	+0.1
W24A	Lazy 6 Ranch, baz=125	125.16	49	⇑PKiKP	PKiKP	18 52 38.4	+0.7
Y23A	Lovelace Mesa, baz=125	125.17	50	⇓PKiKP	PKiKP	18 52 37.8	+0.1
R26A	Arlington baz=125	125.26	44	⇑PKiKP	PKiKP	18 52 37.6	-0.1
P27A	Ficken Ranch, baz=125	125.27	43	⇓PKiKP	PKPdf	18 52 37.4	+0.2
Z23A	Rita Site, Whi baz=125	125.28	51	⇓PKiKP	PKiKP	18 52 38.4	+0.5
J30A	Dallas baz=125	125.29	37	⇑PKiKP	PKiKP	18 52 37.5	0.0
X24A	Lazy Vl Ranch, baz=125	125.40	49	⇓PKiKP	PKiKP	18 52 38.3	+0.2
N28A	Pribbeno Ranch baz=125	125.40	41	⇑PKiKP	PKiKP	18 52 37.9	+0.1
U25A	Circle Dot Ran baz=125	125.41	47	⇓PKiKP	PKiKP	18 52 39.0	+0.9
123A	Bell Site, Whi baz=126	125.49	52	⇑PKiKP	PKiKP	18 52 39.1	+0.9
V25A	Rancho No Teng baz=126	125.50	48	⇓PKiKP	PKiKP	18 52 39.0	+0.7
KSCO	Kaye Shedlock' baz=126	125.50	43	⇓PKiKP	PKiKP	18 52 39.0	+0.9
S26A	Kim baz=126	125.55	45	⇓PKiKP	PKPdf	18 52 38.0	+0.1
M29A	Burnside Ranch baz=126	125.56	40	⇑PKiKP	PKPdf	18 52 37.7	0.0
K30A	Basset baz=126	125.58	38	⇓PKiKP	PKPdf	18 52 37.6	0.0
223A	Chaparral, Ant baz=126	125.58	53	⇑PKiKP	PKiKP	18 52 38.9	+0.5
Y24A	Capitan baz=126	125.65	50	⇓PKiKP	PKiKP	18 52 39.1	+0.4
T26A	Comanche Natio baz=126	125.67	46	⇑PKiKP	PKiKP	18 52 38.7	+0.1
R27A	Eads baz=126	125.72	44	⇑PKiKP	PKiKP	18 52 38.8	+0.2
P28A	Saint Francis baz=126	125.82	42	⇓PKiKP	PKiKP	18 52 38.7	0.0
W25A	X Bar Ranch, baz=126	125.87	48	⇑PKiKP	PKiKP	18 52 39.2	+0.2
U26A	Atchley Ranch, baz=126	125.90	47	⇓PKiKP	PKiKP	18 52 39.3	+0.2
L30A	Spencer Herefo baz=126	125.91	39	⇓PKiKP	PKPdf	18 52 38.3	-0.1
SHEL	Horse Pasture	125.92	247	PFAKE		18 52 50.0	+11
SHEL	comp=Z,505nm,19.0s			LR	LR		
S27A	Las Animas baz=126	125.93	45	⇓PKiKP	PKiKP	18 52 39.3	+0.3
Z24A	Sheeppen Canyo baz=126	125.93	51	⇑PKiKP	PKiKP	18 52 39.7	+0.5
N29A	Votaw Ranch, W baz=126	125.93	40	⇓PKiKP	PKPdf	18 52 38.4	0.0
X25A	Clemmons Ranch baz=126	126.00	49	⇓PKiKP	PKiKP	18 52 39.6	+0.3
Q28A	Sharon Springs baz=126	126.02	43	⇓PKiKP	PKiKP	18 52 39.0	-0.1
M30A	Dale-Hello V baz=126	126.03	39	⇑PKiKP	PKPdf	18 52 38.8	+0.2
124A	Stringfield Ra baz=126	126.10	52	⇑PKiKP	PKiKP	18 52 40.2	+0.5
V26A	Tequesquite Ra baz=126	126.12	47	⇑PKiKP	PKPdf	18 52 39.1	0.0
O29A	4D Ranch, Culb baz=126	126.18	41	⇓PKiKP	PKPdf	18 52 39.0	+0.1
Y25A	Mesa, Roswell baz=126	126.22	50	⇓PKiKP	PKPdf	18 52 39.3	0.0
224A	Cornudas Mount baz=126	126.27	52	⇓PKiKP	PKPdf	18 52 39.6	+0.2
N30A	Hueftle Ranch, baz=126	126.28	40	⇓PKiKP	PKPdf	18 52 39.1	0.0
L31A	Butterfield Fa baz=126	126.33	38	⇓PKiKP	PKPdf	18 52 38.7	-0.4
T27A	Campo baz=126	126.34	46	⇓PKiKP	PKPdf	18 52 39.5	+0.1
P29A	Atwood baz=126	126.35	42	⇓PKiKP	PKPdf	18 52 39.4	+0.1
R28A	Tribune baz=126	126.38	44	⇑PKiKP	PKiKP	18 52 39.7	-0.2
W26A	Owens Ranch, T baz=126	126.44	48	⇓PKiKP	PKiKP	18 52 40.3	+0.2
Z25A	Roswell baz=126	126.45	51	⇑PKiKP	PKiKP	18 52 40.6	+0.4
MNTX	Cornudas Mount	126.52	53	*e*PKPdf	PKPdf	18 52 40.9	+1.1
MNTX	comp=Z,806nm,19.0s			LR	LR		
324A	Moseley Ranch, baz=126	126.53	53	⇓PKiKP	PKiKP	18 52 40.4	-0.1
U27A	Thompson Grove baz=126	126.55	46	⇓PKiKP	PKiKP	18 52 40.1	-0.2
X26A	CR and CF Fran baz=127	126.63	49	⇑PKiKP	PKiKP	18 52 40.4	-0.1
O30A	MW Ranch, Wils baz=127	126.64	41	⇑PKiKP	PKPdf	18 52 39.9	+0.1
S28A	Manter baz=127	126.67	45	⇑PKiKP	PKiKP	18 52 40.6	+0.1
EYMN	Ely	126.70	29	PFAKE		18 52 50.0	+10
EYMN	comp=Z,776nm,21.0s			LR	LR		
M31A	Lambtecht Ranc baz=127	126.70	39	⇑PKiKP	PKPdf	18 52 39.7	-0.2
125A	Gardner Draw, baz=127	126.74	51	⇑PKiKP	PKPdf	18 52 40.4	+0.1
T28A	Walsh baz=127	126.74	45	⇑PKiKP	PKiKP	18 52 40.5	-0.1
ECSD	EROS Data Cent	126.76	35	*e*PKPdf	PKPdf	18 52 39.7	-0.2
ECSD	comp=Z,876nm,20.0s			LR	LR		
R29A	Marienthal baz=127	126.80	43	⇑PKiKP	PKPdf	18 52 40.3	+0.2
225A	Deer Hill, Car baz=127	126.81	52	⇓PKiKP	PKPdf	18 52 40.6	+0.1
V27A	Dan Oppiter Fa baz=127	126.84	47	⇓PKiKP	PKiKP	18 52 40.7	-0.2
P30A	Selden baz=127	126.84	42	⇓PKiKP	PKPdf	18 52 40.3	+0.1
Y26A	Elida baz=127	126.88	50	⇑PKiKP	PKPdf	18 52 40.6	+0.1
325A	Bean Ranch, Si baz=127	126.97	53	⇓PKiKP	PKiKP	18 52 41.2	-0.1
W27A	Bowe Ranch, En baz=127	126.97	48	⇑PKiKP	PKPdf	18 52 40.8	+0.1
U28A	Mallet baz=127	127.00	46	⇑PKiKP	PKPdf	18 52 40.9	+0.2
Z26A	Caprock baz=127	127.02	50	⇑PKiKP	PKPdf	18 52 40.9	+0.1
X27A	F and S Farms, baz=127	127.12	48	⇓PKiKP	PKPdf	18 52 40.9	-0.1
O31A	Woolen Ranch, baz=127	127.13	41	⇑PKiKP	PKPdf	18 52 40.6	-0.1
Q30A	Quinter baz=127	127.15	42	⇑PKiKP	PKPdf	18 52 40.8	-0.1
425A	Indio Mountain baz=127	127.17	54	⇑PKiKP	PKPdf	18 52 41.3	+0.1
BGNE	Belgrade baz=127	127.19	39	⇑PKiKP	PKPdf	18 52 40.4	-0.3
S29A	Ulysses baz=127	127.20	44	⇓PKiKP	PKPdf	18 52 41.2	+0.3
126A	Clayton Basin, baz=127	127.24	51	⇓PKiKP	PKPdf	18 52 41.2	0.0
V28A	Channing baz=127	127.29	47	⇑PKiKP	PKiKP	18 52 41.7	-0.1
T29A	Hugoton baz=127	127.30	45	⇓PKiKP	PKiKP	18 52 41.6	-0.2
226B	Tecolote Peak, baz=127	127.34	52	⇓PKiKP	PKPdf	18 52 41.4	0.0
Y27A	Causey baz=127	127.39	49	⇓PKiKP	PKPdf	18 52 41.4	-0.1
P31A	Stockton baz=127	127.42	41	⇓PKiKP	PKPdf	18 52 41.4	+0.1
R30A	Dighton baz=127	127.46	43	⇑PKiKP	PKPdf	18 52 41.6	+0.2
W28A	Vega baz=128	127.52	47	⇑PKiKP	PKiKP	18 52 42.6	+0.4
Z27A	Tatum baz=128	127.59	50	⇓PKiKP	PKPdf	18 52 42.1	+0.2
S30A	Montezuma baz=128	127.65	44	⇑PKiKP	PKiKP	18 52 42.3	0.0
U29A	Oasis Ranch, S baz=128	127.65	46	⇓PKiKP	PKPdf	18 52 42.1	+0.2
MSTX	Muleshoe baz=128	127.65	49	⇑PKiKP	PKPdf	18 52 42.1	+0.1
Q31A	Ellis baz=128	127.68	42	⇓PKiKP	PKPdf	18 52 41.9	+0.1
127A	Arkansas Junct baz=128	127.74	51	⇓PKiKP	PKPdf	18 52 42.3	+0.1
V29A	Stinnett baz=128	127.74	46	⇑PKiKP	PKiKP	18 52 42.4	-0.2
O32A	Brockman Farm, baz=128	127.74	40	⇓PKiKP	PKPdf	18 52 42.0	+0.1
326A	Caldwell Ranch baz=128	127.78	53	⇑PKiKP	PKPdf	18 52 42.4	+0.1
X28A	Dimmitt baz=128	127.85	48	⇑PKiKP	PKiKP	18 52 42.7	-0.2
P32A	Huiting Farm, baz=128	127.88	41	⇑PKiKP	PKPdf	18 52 42.4	+0.2
T30A	Plains baz=128	127.89	45	⇓PKiKP	PKiKP	18 52 42.8	-0.1
SPMN	St. Paul baz=128	127.92	32	⇑PKiKP	PKPdf	18 52 42.2	+0.2
426A	McDonald Obser baz=128	127.98	53	⇑PKiKP	PKPdf	18 52 42.5	-0.4
227A	Bennet, Jal baz=128	128.05	52	⇓PKiKP	PKPdf	18 52 42.9	+0.1
U30A	WK&E Inc. Balk baz=128	128.06	45	⇓PKiKP	PKiKP	18 52 43.0	-0.2
Y28A	McKinney Farm, baz=128	128.07	49	⇑PKiKP	PKiKP	18 52 43.2	-0.2
KIC	Kosan Boka comp=Z,165nm,1.6s	128.10	275	*e*PKIKP	PKPdf	18 52 43.0	-0.2
327A	Balmorhea Ranc baz=128	128.14	52	⇑PKiKP	PKiKP	18 52 43.8	+0.2
526A	Mary Lane Ranc baz=128	128.15	54	⇑PKiKP	PKiKP	18 52 43.6	-0.1
DBIC	Dimbokro	128.21	276	PKP	PKPdf	18 52 43.7	+0.3
DBIC	Dimbokro comp=Z,29nm,1.1s,baz=94,slow=3.8,SNR=6.1	128.21	276	PKP	PKPdf	18 52 43.7	+0.3
Z28A	Tucker Farm, M baz=128	128.23	50	⇓PKiKP	PKPdf	18 52 43.3	+0.2
X29A	Tulia baz=128	128.25	48	⇑PKiKP	PKiKP	18 52 43.5	-0.2
SCHQ	Schefferville	128.27	7	PKP	PKPdf	18 52 43.0	+0.6
SCHQ	Schefferville comp=Z,17nm,1.1s,baz=28,slow=3.8,SNR=7.7	128.27	7	PKP	PKPdf	18 52 43.0	+0.6
626A	Big Bend Ranch baz=128	128.29	55	⇑PKiKP	PKiKP	18 52 43.8	-0.1
TIC	Toumodi comp=Z,13nm,0.2s	128.37	276	*e*PKIKP	PKPdf	18 52 43.6	-0.2
LIC	Lamto comp=Z,65nm,1.6s	128.38	275	*e*PKIKP	PKPdf	18 52 43.4	-0.4
LIC	Lamto comp=Z,51nm,1.6s	128.38	275	*e*PKIKP	PKPdf	18 52 43.4	-0.4
LIC	Lamto	128.38	275	*e*PKPdf	PKPdf	18 52 43.4	-0.4
V30A	Spur Ranch, Mi baz=128	128.39	46	⇑PKiKP	PKPdf	18 52 43.6	+0.3
427A	Hayter Ranch, baz=128	128.41	53	⇓PKiKP	PKiKP	18 52 44.0	-0.1
128A	Castleberry Fa baz=128	128.43	50	⇑PKiKP	PKPdf	18 52 43.5	0.0
T31A	Randall Ranch, baz=128	128.46	44	⇓PKiKP	PKPdf	18 52 43.5	+0.2
527A	Woodward Ranch baz=128	128.50	54	⇓PKiKP	PKiKP	18 52 43.9	+0.1
Y29A	Porterfield Fa baz=128	128.53	49	⇓PKiKP	PKPdf	18 52 43.9	+0.2
228A	UT Block 9, Go baz=129	128.55	51	⇑PKiKP	PKPdf	18 52 43.9	+0.2
P33A	Williams Farm, baz=128	128.57	40	⇑PKiKP	PKiKP	18 52 43.8	-0.3
S32A	Newby Ranch, P baz=129	128.67	43	⇓PKiKP	PKPdf	18 52 43.6	-0.1
328A	Wristen Ranch, baz=129	128.68	52	⇑PKiKP	PKPdf	18 52 44.2	+0.2
U31A	Nine Bar Ranch baz=129	128.70	45	⇓PKiKP	PKiKP	18 52 44.3	-0.2
W30A	Crocket Farms baz=129	128.74	47	⇓PKiKP	PKiKP	18 52 44.4	-0.2
TXAR	Lajitas Array	128.75	55	PKP	PKPdf	18 52 45.1	+1.0
TXAR	Lajitas Array comp=Z,12nm,1.1s,baz=264,slow=1.3,SNR=42	128.75	55	PKP	PKPdf	18 52 45.1	+1.0
Z29A	Hungry Hill Ra baz=129	128.76	49	⇑PKiKP	PKPdf	18 52 44.0	-0.1
X30A	Coker Ranch, T baz=129	128.86	48	⇓PKiKP	PKPdf	18 52 44.5	+0.3
129A	Stewart Farms, baz=129	128.90	50	⇓PKiKP	PKiKP	18 52 44.7	-0.3
627A	Terlingua Ranc baz=129	128.94	55	⇓PKiKP	PKiKP	18 52 45.2	-0.1
428A	Kincaid Ranch, baz=129	129.03	53	⇑PKiKP	PKiKP	18 52 45

528A	**Cox Ranch, San** baz=129	**129.16**	**53**	⇓PKiKP		**PKiKP**	**18 52 45.5**	**-0.2**	
Z30A	**Sanderson Ranc** baz=129	**129.19**	**49**	⇓PKiKP		**PKPdf**	**18 52 44.9**	**0.0**	
W31A	**Holland Ranch,** baz=129	**129.20**	**46**	⇑PKiKP		**PKPdf**	**18 52 45.1**	**+0.3**	
229A	**Bryant Ranch,** baz=129	**129.22**	**51**	⇑PKiKP		**PKiKP**	**18 52 45.6**	**-0.1**	
329A	**Wagon Wheel Ra** baz=129	**129.28**	**52**	⇑PKiKP		**PKPdf**	**18 52 45.3**	**+0.2**	
628A	**Black Gap, Mar** baz=129	**129.33**	**54**	⇓PKiKP		**PKiKP**	**18 52 45.7**	**-0.3**	
KSU1	**Kansas State U**	**129.46**	**40**	*e*PKPdf		**PKPdf**	**18 52 45.6**	**+0.5**	
Y31A	**Rekieta Farm,** baz=130	**129.53**	**48**	⇑PKiKP		**PKPdf**	**18 52 45.5**	**+0.1**	
529A	**Stev Forest Ra** baz=130	**129.63**	**53**	⇓PKiKP		**PKiKP**	**18 52 46.2**	**-0.3**	
429A	**Davenport Ranc** baz=130	**129.70**	**53**	⇓PKiKP		**PKPdf**	**18 52 45.7**	**-0.2**	
230A	**Sterling City** baz=130	**129.79**	**51**	⇓PKiKP		**PKPdf**	**18 52 46.4**	**+0.3**	
Z31A	**Sharp Cattle R** baz=130	**129.91**	**49**	⇑PKiKP		**PKPdf**	**18 52 46.5**	**+0.3**	
330A	**Mertzon** baz=130	**129.95**	**51**	⇑PKiKP		**PKPdf**	**18 52 46.2**	**-0.2**	
430A	**Baggett Ranch,** baz=130	**130.15**	**52**	⇑PKiKP		**PKPdf**	**18 52 47.1**	**+0.3**	
WMOK	**Wichita Mounta**	**130.25**	**46**	PFAKE			18 53 00.0	+13	
WMOK	comp=Z,440nm,20.0s			LR	LR				
530A	**J-C Ranch, Com** baz=130	**130.32**	**53**	⇓PKiKP		**PKiKP**	**18 52 47.7**	**-0.3**	
231A	**Bronte** baz=130	**130.39**	**50**	⇓PKiKP		**PKPdf**	**18 52 46.6**	**-0.5**	
Z32A	**Haskell** baz=130	**130.41**	**48**	⇑PKiKP		**PKPdf**	**18 52 47.1**	**-0.1**	
331A	**San Angelo** baz=131	**130.57**	**51**	⇓PKiKP		**PKPdf**	**18 52 47.2**	**-0.3**	
ABTX	**Abilene, Hawle** baz=131	**130.60**	**49**	⇓PKiKP		**PKPdf**	**18 52 47.5**	**0.0**	
232A	**Coleman** baz=131	**130.92**	**50**	⇑PKiKP		**PKPdf**	**18 52 48.5**	**+0.3**	
531A	**Rocksprings** baz=131	**130.95**	**52**	⇑PKiKP		**PKPdf**	**18 52 48.4**	**+0.2**	
332A	**Millersview** baz=131	**131.07**	**51**	⇑PKiKP		**PKPdf**	**18 52 48.5**	**+0.1**	
631A	**Perdido Creek** baz=131	**131.22**	**53**	⇓PKiKP		**PKPdf**	**18 52 49.1**	**+0.3**	
432A	**Menard** baz=131	**131.24**	**51**	⇓PKiKP		**PKPdf**	**18 52 49.0**	**+0.2**	
JCT	**Junction City**	**131.40**	**52**	*e*PKIKP		**PKPdf**	**18 52 49.7**	**+0.6**	
JCT	comp=Z,815nm,20.0s			MLR	MLR				
JCT	**Junction City**	**131.40**	**52**	*e*PKPdf		**PKPdf**	**18 52 49.7**	**+0.6**	
JCT	comp=Z,815nm,20.0s			LR	LR				
JCT	**Junction City** baz=131	**131.40**	**52**	⇓PKiKP		**PKPdf**	**18 52 49.5**	**+0.4**	
532A	**Rocksprings** baz=132	**131.47**	**52**	⇑PKiKP		**PKPdf**	**18 52 49.7**	**+0.4**	
632A	**Uvalde** baz=132	**131.82**	**53**	⇓PKiKP		**PKiKP**	**18 52 50.7**	**-0.2**	
732A	**Laxson Ranch,** baz=132	**131.98**	**54**	⇑PKiKP		**PKPdf**	**18 52 50.4**	**+0.2**	
WHTX	**Lake Whitney** baz=132	**132.53**	**49**	⇑PKiKP		**PKPdf**	**18 52 51.2**	**0.0**	
MIAR	**Mount Ida**	**134.02**	**43**	*e*PKIKP		**PKPdf**	**18 52 54.4**	**+0.5**	
MIAR	**Mount Ida**	**134.02**	**43**	*e*PKPdf		**PKPdf**	**18 52 54.4**	**+0.5**	
SFIN	**Scholer Farm** baz=134	**134.29**	**33**	⇑PKiKP		**PKiKP**	**18 52 56.2**	**+0.7**	
HKT	**Hockley**	**134.72**	**50**	*e*PKIKP		**PKPdf**	**18 52 55.0**	**-0.2**	
HKT	**Hockley**	**134.72**	**50**	*e*PKPdf		**PKPdf**	**18 52 55.0**	**-0.2**	
PARMO	**Parma**	**135.26**	**38**	*e*PKPdf		**PKPdf**	**18 52 56.6**	**+0.5**	
GNAR	**Gosnell**	**135.53**	**39**	*e*PKPdf		**PKPdf**	**18 52 58.1**	**+1.4**	
ASCN	**Ascension**	**136.16**	**255**	PFAKE			18 53 10.0	+12	
ASCN	comp=Z,363nm,21.0s			LR	LR				
ACSO	**Alum Creek Sta**	**136.52**	**29**	PFAKE			18 53 10.0	+12	
ACSO	comp=Z,1μm,21.0s			LR	LR				
VBMS	**Vicksburg**	**137.44**	**44**	PFAKE			18 53 10.0	+10	
VBMS	comp=Z,986nm,19.0s			LR	LR				
TRQA	**Tornquist**	**138.28**	**174**	*e*PKPpre		PKPpre	18 52 53.0		
TRQA	comp=Z,1μm,22.0s			LR	LR				
BBTS	**Babate**	**138.84**	**288**	PKP		**PKPdf**	**18 53 04.3**	**+1.1**	
BBTS	**Babate**	**138.84**	**288**	PKP		**PKPdf**	**18 53 04.3**	**+1.1**	
	comp=Z,7.2nm,0.4s,baz=102,slow=1.7,SNR=4.0								
TKL	**Tuckaleechee C**	**139.50**	**35**	*e*PKPdf		**PKPdf**	**18 53 04.7**	**+0.7**	
CBN	**Corbin**	**140.75**	**26**	PFAKE			18 53 20.0	+14	
CBN	comp=Z,910nm,21.0s			LR	LR				
TIGA	**Tifton**	**142.53**	**39**	*e*PKPpre		PKPpre	18 53 07.1		
CNNC	**Cliffs of the**	**142.93**	**29**	PFAKE			18 53 20.0	+10	
CNNC	comp=Z,1μm,20.0s			LR	LR				
CFAA	**Coronel Fontan**	**143.34**	**164**	PKPpre		PKPpre	18 53 07.7		
CFAA	**Coronel Fontan**	**143.34**	**164**	PKhKP		PKPpre	18 53 07.7		
	comp=Z,3.8nm,0.8s,baz=230,slow=3.0,SNR=39								
LCO	**Las Campanas**	**144.94**	**158**	*e*PKPdf		**PKPab**	**18 53 13.3**	**-0.1**	
LCO	comp=Z,707nm,19.0s			LR	LR				
APG	**El Apazote**	**144.94**	**69**	PKP		**PKPab**	**18 53 13.5**	**-0.2**	
APG	**El Apazote**	**144.94**	**69**	PKP		**PKPab**	**18 53 13.5**	**-0.2**	
	comp=Z,189nm,1.1s,baz=313,slow=4.5,SNR=100								
TEIG	**Tepich**	**145.14**	**59**	*e*PKPdf		**PKPab**	**18 53 14.1**	**+0.1**	
TEIG	comp=Z,493nm,20.0s			LR	LR				
PAYG	**Puerto Ayora**	**146.25**	**97**	*e*PKPdf		**PKPab**	**18 53 18.7**	**+0.3**	
TGUH	**Tegucigalpa,Un**	**148.17**	**69**	*e*PKPbc		**PKPbc**	**18 53 23.8**	**+0.9**	
TGUH	comp=Z,471nm,20.0s			LR	LR				
BBSR	**BB Station**	**150.42**	**14**	*e*PKPbc		**PKPbc**	**18 53 28.1**	**0.0**	
JTS	**JuntasAbangare**	**151.27**	**75**	*e*PKPbc		**PKPbc**	**18 53 31.3**	**+0.6**	
JTS	comp=Z,925nm,21.0s			LR	LR				
LVC	**Limon Verde**	**151.39**	**156**	*e*PKPdf		**PKPdf**	**18 53 25.8**	**+0.8**	
LVC				*e*PKPbc		**PKiKP**	**18 53 31.6**	**+0.1**	
LVC	comp=Z,1μm,21.0s			LR	LR				
SPB	**Sao Paulo**	**151.49**	**198**	PFAKE			18 53 40.0	+1.0	
SPB	comp=Z,819nm,22.0s			LR	LR				
ATAH	**Atahualpa**	**155.94**	**116**	PKP		**PKPdf**	**18 53 32.3**	**+0.4**	
ATAH				PKPab		**PKPab**	**18 54 00.9**	**+2.1**	
ATAH	**Atahualpa**	**155.94**	**116**	PKP		**PKPdf**	**18 53 32.3**	**+0.4**	
	comp=Z,10nm,1.0s,baz=268,slow=0.2,SNR=14								
ATAH				PKPab		**PKPab**	**18 54 00.9**	**+2.1**	
BCIP	**Isla Barro Col**	**156.44**	**75**	*e*PKPdf		**PKPdf**	**18 53 31.2**	**-0.7**	
RCBR	**Riachuelo**	**157.14**	**246**	PFAKE			18 53 40.0	+7.1	
RCBR	comp=Z,795nm,20.0s			LR	LR				
LPAZ	**La Paz**	**157.28**	**151**	PKP		**PKPdf**	**18 53 34.2**	**+0.5**	
LPAZ				*e*PKPdf		**PKPdf**	**18 53 34.6**	**+0.8**	
LPAZ				PKPab		**PKPab**	**18 54 05.3**	**+0.8**	
LPAZ				PP		**PP**	**18 57 45.1**	**+3.1**	
LPAZ	**La Paz**	**157.28**	**151**	PKP		**PKPdf**	**18 53 34.2**	**+0.5**	
	comp=Z,15nm,1.2s,baz=50,slow=1.2,SNR=27								
LPAZ				PKPab		**PKPab**	**18 54 05.3**	**+0.8**	
	comp=Z,15nm,0.9s,baz=186,slow=2.4,SNR=8.7								
LPAZ				PP		**PP**	**18 57 45.1**	**+3.1**	
	comp=Z,4.1nm,1.1s,baz=108,slow=1.0,SNR=3.8								
GRTK	**Grand Turk**	**157.38**	**37**	PFAKE			18 53 40.0	+7.1	
GRTK	comp=Z,618nm,22.0s			LR	LR				
OTAV	**Otavalo**	**158.09**	**98**	*e*PKPdf		**PKPdf**	**18 53 35.3**	**+0.6**	
OTAV	comp=Z,555nm,20.0s			LR	LR				
BDFB	**Brasilia**	**159.01**	**204**	PKP		**PKPdf**	**18 53 36.4**	**+1.1**	
BDFB				PKPab		**PKPab**	**18 54 11.4**	**0.0**	
BDFB	**Brasilia**	**159.01**	**204**	PKP		**PKPdf**	**18 53 36.4**	**+1.1**	
	comp=Z,12nm,1.1s,baz=5.1,slow=2.0,SNR=6.2								
BDFB				PKPab		**PKPab**	**18 54 11.4**	**0.0**	
	comp=Z,32nm,1.2s,baz=162,slow=1.0,SNR=8.5								
SDDR	**Presa de Saban**	**159.14**	**42**	*e*PKPdf		**PKPdf**	**18 53 35.3**	**+0.1**	
SDDR	comp=Z,602nm,21.0s			LR	LR				
SIV	**San Ignacio**	**160.09**	**168**	PKP		**PKPdf**	**18 53 37.0**	**+0.6**	
SIV	**San Ignacio**	**160.09**	**168**	PKP		**PKPdf**	**18 53 37.0**	**+0.6**	
	comp=Z,9.2nm,1.1s,baz=207,slow=1.9,SNR=18								
LRS	**Lares**	**162.38**	**33**	*e*PKPdf		**PKPdf**	**18 53 38.5**	**-0.3**	
ROSC	**El Rosal**	**162.46**	**85**	PKP		**PKPdf**	**18 53 40.1**	**+0.7**	
ROSC				PKPab		**PKPab**	**18 54 29.1**	**+1.9**	
ROSC	**El Rosal**	**162.46**	**85**	PKP		**PKPdf**	**18 53 40.1**	**+0.7**	
	comp=Z,3.5nm,0.3s,baz=112,slow=22,SNR=10								
ROSC				PKPab		**PKPab**	**18 54 29.1**	**+1.9**	
	comp=Z,11nm,0.4s,baz=116,slow=13,SNR=15								
CRPR	**Cabo Rojo, PR**	**162.46**	**34**	*e*PKPdf		**PKPdf**	**18 53 38.2**	**-0.5**	
CELP	**Cerrillos**	**162.70**	**33**	*e*PKPdf		**PKPdf**	**18 53 38.5**	**-0.5**	
MTP	**Monte Pirata**	**163.22**	**30**	*e*PKPdf		**PKPdf**	**18 53 38.9**	**-0.6**	
STVI	**Saint Thomas**	**163.29**	**28**	*e*PKPdf		**PKPdf**	**18 53 38.1**	**-1.4**	
SDV	**Santo Domingo**	**165.26**	**68**	*e*PKPdf		**PKPdf**	**18 53 41.1**	**-0.6**	
SAML	**Samuel**	**166.00**	**153**	*e*PKPdf		**PKPdf**	**18 53 41.8**	**-0.3**	
SAML	comp=Z,998nm,22.0s			LR	LR				

*ISCJB **15** 18:41:48.0±0.6,20°.83S±0°.06×67°.22W±0°.06,h196km±5km, mb4.1/9, Error ellipse: s-maj=10.8km s-min=7.7km az=138.3*
*GUC **15** 18:41:50.2±0.5,20°.84S×67°.88W,h237km±9km,ML4.5*
*IDC **15** 18:41:51.3±2.7,20°.63S×67°.10W,h205km±18km,mb4.0/9, mb1 4.1/13,mb1mx3.9/22,mbtmp3.9/13,MS3.3/1, Ms1 3.3/1,ms1mx2.8/36,Error ellipse: s-maj=32.3km s-min=12.3km az=18.0*

ISC 15 18:41:48.8±0.9,20°.80S±0°.07×67°.23W±0°.07,h189km±7km, n31,σ1°11/42,mb4.0/9,8C,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PB09	**Plate Boundary**	**2.13**	**242**	⇑	*i*P		**Pn**	**18 42 29.5**	**+1.4**
PB09						AML	AML	18 43 04.0	
	comp=N,1μm,0.7s								
PB01	**Plate Boundary**	**2.13**	**263**	⇑	*i*P		**Pn**	**18 42 28.5**	**+0.5**
PB01					*i* S		**Sn**	**18 42 57.9**	**-0.6**
PB01						AML	AML	18 43 01.7	
	comp=E,1μm,0.2s								
HMBC	**Humberstone**	**2.55**	**281**	⇑	*i*P		**Pn**	**18 42 32.8**	**0.0**
HMBC					*i* S		**Sn**	**18 43 05.6**	**-1.4**
HMBC						AML	AML	18 43 08.6	
	comp=N,3μm,0.4s								
PB04	**Plate Boundary**	**2.56**	**235**	⇑	*i*P		Pn	18 42 39.7	+6.9
PB04					*i* S		Sx	18 43 16.9	
PB04						AML	AML	18 43 18.9	
	comp=N,441nm,0.1s								
PB07	**Plate Boundary**	**2.65**	**249**	⇑	*i*P		**Pn**	**18 42 34.2**	**+0.2**
PB07					*i* S		**Sn**	**18 43 07.4**	**-1.7**
PB07						AML	AML	18 43 08.5	
	comp=N,1μm,0.5s								
MACH	**Maria Elena**	**2.74**	**239**	⇑	*i*P		**Pn**	**18 42 35.9**	**+0.8**
MACH					*i* S		**Sn**	**18 43 10.1**	**-1.0**
MNMC	**Minimini**	**2.78**	**306**	⇑	*i*P		**Pn**	**18 42 36.9**	**+1.3**
MNMC					*i* S		**Sn**	**18 43 12.9**	**+0.9**
MNMC						AML	AML	18 43 18.2	
	comp=N,2μm,0.4s								
PSGC	**Pisagua**	**2.97**	**293**	⇑	*i*P		**Pn**	**18 42 37.6**	**-0.1**
PSGC					*i* S		**Sn**	**18 43 13.8**	**-2.0**
PSGC						AML	AML	18 43 15.8	
	comp=E,2μm,0.6s								
CEN1	**Los Morros**	**3.78**	**226**	*e*P			**Pn**	**18 42 50.6**	**+3.0**
LPAZ	**La Paz**	**4.57**	**349**	P			**Pn**	**18 43 00.3**	**+2.2**
	comp=E,36nm,0.3s,baz=160,slow=6.0,SNR=672								
LPAZ						S	**Sn**	**18 43 53.5**	**+1.1**
	comp=E,2.4nm,0.3s,baz=258,slow=16,SNR=2.1								
SIV	**San Ignacio**	**7.55**	**52**	P			**Pn**	**18 43 35.7**	**-0.6**
	comp=E,7.6nm,0.3s,baz=242,slow=13,SNR=122								
SIV						S	**Sn**	**18 44 59.3**	**-2.2**
	comp=E,1.3nm,0.3s,baz=312,slow=22,SNR=12								
ATAH	**Atahualpa**	**17.36**	**320**	P			**Pn**	**18 45 41.1**	**+0.6**
	comp=E,0.3nm,0.3s,baz=162,slow=6.8,SNR=5.0								
BDFB	**Brasilia**	**18.95**	**77**	P			**P**	**18 45 56.8**	**+0.8**
	comp=E,1.5nm,0.3s,baz=246,slow=12,SNR=9.0								
ROSC	**El Rosal**	**26.43**	**344**	LR		LR		18 57 33.5	
	comp=E,73nm,20.8s,baz=187,slow=36								
APG	**El Apazote**	**42.27**	**325**	P			**P**	**18 49 24.7**	**+0.6**
	comp=E,12nm,0.6s,baz=124,slow=6.1,SNR=15								
TXAR	**Lajitas Array**	**60.98**	**324**	P			**P**	**18 51 42.4**	**0.0**
	comp=E,1.4nm,0.6s,baz=148,slow=8.7,SNR=19								
ANMO	**Albuquerque**	**66.79**	**326**	P			**P**	**18 52 19.4**	**-0.9**
	comp=E,2.2nm,0.8s,baz=160,slow=3.9,SNR=5.8								
DBIC	**Dimbokro**	**67.03**	**73**	P			**P**	**18 52 22.1**	**+0.1**
	comp=E,1.8nm,0.6s,baz=189,slow=14,SNR=4.0								
PDAR	**Pinedale Array**	**74.30**	**329**	P			**P**	**18 53 06.0**	**+0.3**
	comp=E,1.3nm,0.5s,baz=124,slow=9.2,SNR=10								
ULM	**Lac du Bonnet**	**75.14**	**341**	P			**P**	**18 53 09.5**	**-0.4**
	comp=E,17nm,0.5s,baz=158,slow=6.0,SNR=21								
TORD	**Torodi Ar. Bea**	**75.64**	**70**	P			**P**	**18 53 12.8**	**-0.8**
	comp=E,2.1nm,0.5s,baz=254,slow=5.7,SNR=22								
ESDC	**Sonseca Array**	**84.23**	**44**	P			**P**	**18 53 59.7**	**+0.5**
	comp=E,1.0nm,0.7s,baz=237,slow=4.6,SNR=4.8								
YKA	**Yellowknife Ar**	**91.06**	**340**	P			**P**	**18 54 31.4**	**+0.2**
	comp=E,4.3nm,0.6s,baz=130,slow=4.7,SNR=18								
ASAR	**Alice Springs**	**131.25**	**206**	PKP			**PKPdf**	**19 00 38.5**	**-0.6**
	comp=E,0.9nm,0.7s,baz=132,slow=1.8,SNR=15								
ASAR				SKPbc			**SKPbc**	**19 03 45.4**	**-1.0**
	comp=E,1.4nm,0.9s,baz=151,slow=3.9,SNR=8.0								
WRA	**Warramunga Arr**	**134.34**	**209**	PKP			**PKPdf**	**19 00 44.6**	**-0.4**
	comp=E,1.4nm,0.7s,baz=155,slow=1.9,SNR=8.4								
WRA				SKPbc			**SKPbc**	**19 03 55.7**	**-1.3**
	comp=E,1.2nm,0.8s,baz=154,slow=2.8,SNR=6.1								
ZALV	**Zalesovo Beam**	**140.64**	**26**	PKhKP		PKPpre		19 00 51.2	
	comp=E,0.7nm,0.4s,baz=301,slow=3.4,SNR=3.4								
ZALV				PKP			**PKPdf**	**19 00 55.4**	**-0.1**
	comp=E,1.9nm,0.5s,baz=256,slow=2.4,SNR=10								
ZALV				SKPbc			**SKPbc**	**19 04 12.5**	**-1.6**
	comp=E,1.5nm,0.8s,baz=314,slow=4.6,SNR=5.0								
MKAR	**Makanchi Array**	**144.14**	**37**	PKP		PKPbc		19 01 00.9	+0.3
	comp=E,9.4nm,0.5s,baz=302,slow=2.7,SNR=17								
ASAJ	**Asahikawa**	**146.05**	**320**	PKPbc			**PKPab**	**19 01 07.2**	**-0.2**
	comp=E,10nm,0.7s,baz=145,slow=2.9,SNR=10.0								
USRK	**Ussuriysk Arra**	**151.73**	**330**	PKPbc			**PKPbc**	**19 01 21.6**	**+0.7**
	comp=E,3.4nm,0.6s,baz=357,slow=2.3,SNR=8.5								
SONM	**Songino Array**	**152.54**	**9**	PKP			**PKPdf**	**19 01 16.7**	**+1.0**
	comp=E,0.7nm,0.7s,baz=323,slow=0.7,SNR=5.9								
SONM				PKPbc			**PKiKP**	**19 01 23.2**	**+0.2**
	comp=E,1.9nm,0.5s,baz=291,slow=1.2,SNR=18								
SONM				PKPab			**PKPab**	**19 01 33.6**	**-0.3**
	comp=E,0.7nm,0.6s,baz=308,slow=3.4,SNR=4.4								
MJAR	**Matsushiro Arr**	**152.84**	**311**	PKPbc			**PKPbc**	**19 01 23.8**	**+0.1**
	comp=E,1.2nm,0.5s,baz=108,slow=1.0,SNR=10.0								
MJAR				PKPab			**PKPab**	**19 01 35.3**	**-0.1**
	comp=E,0.7nm,0.5s,baz=34,slow=0.8,SNR=4.9								

*NNC **15** 19:16:25.9±2.2,39°.88N×73°.75E,h0km,mb3.5,mpv3.1, Error ellipse: s-maj=19.1km s-min=8.9km az=5.0*

ISC 15 19:16:27.5±4.0,40°.0N±0°.3×73°.90E±0°.08,h14km,n9, σ1°85/13,3C-4D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
AML	**Almayashu**	**2.16**	**356**			P	**Pb**	**19 17 05.4**	**-1.3**
	SNR=28								
KZA	**Kyzart**	**2.34**	**25**			P	**Pn**	**19 17 06.7**	**+0.8**
	SNR=13								
EKS2	**Erkin-Say**	**2.69**	**358**			P	**Pb**	**19 17 13.4**	**-2.1**
	SNR=12								
AAK	**Ala-Archa**	**2.70**	**9**			P	**Pn**	**19 17 13.0**	**+2.3**
	SNR=14								
KBK	**Karagaybulak**	**2.80**	**16**			P	**Pn**	**19 17 14.0**	**+2.0**
	SNR=16								
TKM2	**Tokmak 2**	**3.21**	**23**	⇑	Pn		**Pn**	**19 17 19.6**	**+1.9**
	3.3nm,0.8s								
TKM2				⇑	Pg		**Pg**	**19 17 27.7**	**-1.3**
	6.1nm,0.6s								
TKM2				⇓	Lg		Lg	19 18 10.8	
	16nm,0.7s								
USP	**Ospenovka**	**3.32**	**8**	P			**Pb**	**19 17 27.4**	**+1.2**
	SNR=6.2								
KK31	**Karatay Array**	**4.03**	**322**	Pn			**Pn**	**19 17 28.8**	**0.0**
	0.9nm,0.3s,baz=130,slow=12,SNR=30								
KK31				⇓	Pg		**Pb**	**19 17 39.7**	**+1.4**
	3.5nm,0.5s,baz=156,slow=17,SNR=6.1								
KK31				⇑	Sn		**Sn**	**19 18 18.5**	**+2.6**
	3.8nm,0.4s								
KK31				⇓	Lg		Lg	19 18 34.4	
	15nm,0.6s,baz=138,slow=28,SNR=4.7								
AB31	**Akbulak array**	**13.58**	**318**	Pn			**Pn**	**19 19 38.0**	**-1.6**
	0.6nm,0.5s,baz=126,slow=14,SNR=11								
AB31				⇓	Sn		**Sn**	**19 22 09.6**	**-0.7**
	1.2nm,0.7s								

*ISCJB **15** 19:16:28.4±0.4,3°.50S±0°.03×123°.21E±0°.03,h34km±6km, mb4.0/12, Error ellipse: s-maj=5.3km s-min=4.7km az=40.0*
*IDC **15** 19:16:30.8±3.1,3°.65S×123°.25E,h44km±32km,mb3.8/12, mb1 3.9/15,mb1mx3.8/24,mbtmp3.8/15,ML3.8/3,Error ellipse: s-maj=22.9km s-min=13.0km az=55.0*
*DJA **15** 19:16:30.5±0.2,3°.S±2°×12°.3E±°,h52km±13km,M4.2/10, mb4.2/1,MLv4.1/10*

ISC 15 19:16:30.5±0.8,3°.52S±0°.05×123°.20E±0°.06,h38km±2km, n52,σ0°.96/58,mb4.1/12,Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
KKSI	**Kolaka, Sulawe**	**1.68**	**247**			P	**Pn**	**19 16 56.4**	**-0.9**
KKSI						S	**Sn**	**19 17 17.7**	**+0.1**
BBSI	**Bau Bau**	**2.05**	**198**			P	**Pn**	**19 17 02.8**	**+0.3**
BBSI						S	**Sn**	**19 17 28.0**	**+1.1**
LUWI	**Luwuk**	**2.50**	**350**			P	**Pn**	**19 17 08.1**	**-0.5**
LUWI						S	**Sn**	**19 17 37.4**	**-0.5**
APSI	**Ampana**	**3.02**	**329**			P	**Pn**	**19 17 15.3**	**-0.5**
TTSI	**Tana Toraja**	**3.41**	**278**			P	**Pn**	**19 17 20.5**	**-0.7**
TTSI						S	**Sn**	**19 17 59.3**	**-1.1**
SPSI	**Sidrap Palu**	**3.45**	**263**			P	**Pn**	**19 17 21.5**	**-0.3**
BKSI	**Bulukumba**	**3.56**	**240**			P	**Pn**	**19 17 22.9**	**-0.2**
KAPI	**Kappang**	**3.75**	**247**			P	**Pn**	**19 17 24.7**	**-1.1**
KAPI	**Kappang**	**3.75**	**247**			P	**Pn**	**19 17 25.1**	**-0.7**
	14nm,0.3s,baz=123,slow=5.5,SNR=58								
KAPI						S	**Sn**	**19 18 09.6**	**+0.9**
	10nm,0.3s,baz=248,slow=22,SNR=9.2								
KMSI	**Cibinong**	**4.14**	**11**			P	**Pn**	**19 17 30.9**	**-0.3**
MRSI	**Marisa**	**4.17**	**342**			P	**Pn**	**19 17 30.9**	**-0.6**
AAI	**Ambon**	**4.99**	**92**			P	**Pn**	**19 17 43.4**	**+0.6**
LBMI	**Labuha**	**5.16**	**56**			P	**Pn**	**19 17 44.0**	**-1.3**
MMRI	**Maumere**	**5.17**	**191**			P	**Pn**	**19 17 43.8**	**-1.6**
TOLI	**Toli-Toli**	**5.20**	**332**			P	**Pn**	**19 17 45.2**	**-0.6**
MSAI	**Masohi**	**5.72**	**88**			P	**Pn**	**19 17 54.4**	**+1.5**
TNTI	**Ternate**	**5.96**	**44**			P	**Pn**	**19 17 55.5**	**-0.7**
SOEI	**Soe**	**6.29**	**170**			P	**Pn**	**19 18 01.3**	**+0.5**
SGKI	**Sangatta, Kali**	**6.33**	**298**			P	**Pn**	**19 18 00.6**	**-0.8**
BATI	**Baumata**	**6.66**	**176**			P	**Pn**	**19 18 06.6**	**+0.7**
BATI	**Baumata**	**6.66**	**176**			P	**Pn**	**19 18 07.7**	**+1.8**
	1.2nm,0.3s,baz=36,slow=2.5,SNR=12								
SMKI	**Samarinda**	**6.72**	**297**			P	Pn	19 18 01.4	-5.3
WSI	**Waingapu**	**6.76**	**205**			P	**Pn**	**19 18 07.8**	**+0.6**
BNDI	**Bandanaira**	**6.76**	**99**			P	**Pn**	**19 18 08.1**	**+0.9**
SGSI	**Sangihe**	**7.53**	**18**			P	**Pn**	**19 18 17.2**	**-0.5**
TWSI	**Taliwang, Sumb**	**8.14**	**230**			P	**Pn**	**19 18 26.4**	**+0.2**
SWI	**Sorong**	**8.47**	**72**			P	**Pn**	**19 18 31.2**	**+0.5**
FAKI	**Fak Fak**	**9.05**	**86**			P	**Pn**	**19 18 39.7**	**+1.0**
FITZ	**Fitzroy Crossi**	**14.69**	**171**			P	**Pn**	**19 19 55.8**	**+0.1**
	0.5nm,0.3s,baz=9.4,slow=7.8,SNR=20								
WRA	**Warramunga Arr**	**19.61**	**147**			P	**P**	**19 20 53.4**	**-2.4**
	0.2nm,0.3s,baz=330,slow=9.9,SNR=7.9								
ASAR	**Alice Springs**	**22.54**	**154**			P	**P**	**19 21 26.5**	**-0.9**
	7.4nm,0.9s,baz=328,slow=9.8,SNR=28								
ASAR						PcP	**PcP**	**19 25 19.5**	**-0.8**
	0.1nm,0.5s,baz=351,slow=2.7,SNR=4.6								
CMAR	**Chiang Mai Arr**	**32.37**	**313**			P	**P**	**19 22 58.2**	**+1.5**
	1.8nm,0.7s,baz=137,slow=7.1,SNR=28								
STKA	**Stephens Creek**	**33.09**	**151**			P	**P**	**19 23 00.5**	**-2.3**
	6.1nm,1.0s,baz=320,slow=13,SNR=5.9								
KSRS	**Korea Array**	**41.00**	**6**			P	**P**	**19 24 11.9**	**+2.1**
	1.7nm,0.9s,baz=181,slow=10,SNR=5.0								
MJAR	**Matsushiro Arr**	**42.25**	**18**			P	**P**	**19 24 19.2**	**-0.9**
	1.4nm,0.9s,baz=197,slow

mb1 4.9/34,mb1mx4.9/35,mbtmp4.8/34,ML3.3/1,MS4.5/15, Ms1 4.5/15,ms1mx4.3/41,Error ellipse: s-maj=14.6km s-min=11.2km az=132.0

MOS ***15*** *19:20:15.1±1.1, 12°.38S×166°.48E, h33km,mb5.2/26,Error ellipse: s-maj=9.4km s-min=9.0km az=21.5*

ISCJB ***15*** *19:20:16.7±1.4, 12°.43S±0°.04×166°.49E±0°.03, h46km±12km, mb5.2/103,MS4.6/21,Error ellipse: s-maj=6.0km s-min=5.5km az=29.8*

NEIC ***15*** *19:20:16.6±0.2, 12°.41S×166°.62E, h35km,mb5.1/41,Error ellipse: s-maj=6.7km s-min=5.5km az=130.0*

AUST ***15*** *19:20:17.7±1.5, 12°.43S×166°.87E, h57km±12km,Error ellipse: s-maj=12.4km s-min=6.4km az=84.0*

GCMT ***15*** *19:20:22.0±0.3, 12°.52S×166°.22E, h47km±1km, MW5.2, Moment Tensor Solution. s45,c56; s42,c60; Moment tensor: Scale 10¹⁶Nm; M_{rr}8.72±.46; $M_{\theta\theta}$-1.96±.32; $M_{\phi\phi}$-6.76±.28; $M_{r\theta}$-0.32±.25; $M_{\theta\phi}$2.12±.23; $M_{\phi r}$1.65±.23; Best double couple: $M_0$8.30000×10¹⁶ NP1:ϕ_s341.00000°, δ51.00000°, λ92.00000°. NP2:ϕ_s158.00000°, δ39.00000°, λ87.00000°. Principal axes: T 8.8900, Plg84.0000°, Azm265.0000°; N -1.1700, Plg2.0000°, Azm160.0000°; P -7.7300, Plg6.0000°, Azm70.0000°; Data Used: II IU G CN IC. Surface wave period40 sec.*

BJI ***15*** *19:20:26.3, 11°.77S×166°.53E, h110km, mB5.4/28, mb5.3/53*

DJA ***15*** *19:20:39.0±3.4, 13°.5±10°×16°.6E±2°.2, h217km±25km, M4.8/26, mB5.3/8, mb4.9/26, Mw(mB)4.8/8*

ISC 15 19:20:20.5±0.8, **12°.41S**±0°.05×**166°.51E**±0°.06, **h69**km,6km, **n370,**σ1**§34**/394**, mb5.2**/103**, 28C-18D, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.09**	**294**	Pn	**Pn**	**19 22 01.8**	**+0.1**
HNR				Sn	Sn	19 23 19.2	-1.6
HNR	**Honiara**	**7.09**	**294**	Pn	**Pn**	**19 22 01.7**	**+0.1**
	37nm,0.3s,baz=157,slow=4.8,SNR=96						
HNR				Sn	**Sn**	**19 23 19.2**	**-1.6**
	50nm,0.3s,baz=338,slow=22,SNR=3.9						
DZM	**Mont Dzumac**	**9.61**	**180**	*e*Pn	**Pn**	**19 22 35.1**	**-1.0**
	151nm,0.6s						
DZM				*e*Sn	Sn	19 24 16.1	-6.5
	357nm,0.7s						
DZM				*e*LR	LR	19 24 46.8	
	5μm,26.1s						
DZM	**Mont Dzumac**	**9.61**	**180**	Pn	**Pn**	**19 22 35.2**	**-1.0**
DZM				Sn	**Sn**	**19 24 21.0**	**-1.6**
DZM	**Mont Dzumac**	**9.61**	**180**	Pn	**Pn**	**19 22 35.2**	**-1.0**
	3.4nm,0.3s,baz=20,slow=17,SNR=35						
DZM				Sn	**Sn**	**19 24 21.0**	**-1.6**
	2.3nm,0.3s,baz=260,slow=22,SNR=1.6						
DZM				LR	LR	19 25 01.6	
	comp=Z,968nm,18.7s,baz=7.9,slow=30						
MSVF	**Nonsavu**	**12.34**	**117**	*e*P	Pn	19 23 16.5	+3.0
MSVF				pmax	pmax		
	comp=Z,251nm,1.3s						
MSVF	**Nonsavu**	**12.34**	**117**	*e*P	Pn	19 23 16.5	+3.0
	comp=Z,250nm,1.3s						
MSVF	**Nonsavu**	**12.34**	**117**	Pn	Pn	19 23 17.2	+3.7
	comp=Z,997nm,1.1s,SNR=6.2						
PMG	**Port Moresby**	**19.23**	**277**	P	**Pn**	**19 24 43.7**	**+2.8**
	comp=Z,45nm,1.4s,comp=Z,1μm						
PMG	**Port Moresby**	**19.23**	**277**	P	**P**	**19 24 38.5**	**-0.8**
PMG	**Port Moresby**	**19.23**	**277**	P	**P**	**19 24 38.5**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=310,slow=12,SNR=4.8						
PMG				LR	LR	19 31 22.3	
	comp=Z,1μm,19.4s,baz=309,slow=34						
EIDS	**Eidsvold**	**19.45**	**226**	*e*P	**Pn**	**19 24 42.8**	**-0.7**
	comp=Z,65nm,0.9s						
EIDS	**Eidsvold**	**19.45**	**226**	⇑P	**Pn**	**19 24 42.9**	**-0.5**
	baz=20,SNR=26						
PATS	**Pohnpei**	**20.78**	**336**	⇑P	**P**	**19 24 56.7**	**+0.6**
	baz=21						
CTA	**Charters Tower**	**20.87**	**246**	P	**P**	**19 24 58.2**	**+1.1**
CTA	**Charters Tower**	**20.87**	**246**	⇑P	**P**	**19 24 58.0**	**+0.9**
	baz=21						
CTA	**Charters Tower**	**20.87**	**246**	P	**P**	**19 24 58.2**	**+1.1**
	comp=Z,16nm,0.9s,baz=80,slow=14,SNR=14						
CTAO	**Charters Tower**	**20.87**	**246**	*e*P	**P**	**19 24 57.6**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,21nm,0.9s						
CTAO	**Charters Tower**	**20.87**	**246**	*e*P	**P**	**19 24 57.6**	**+0.4**
	comp=Z,21nm,0.9s						
AFI	**Afiamalu**	**21.20**	**96**	*e*P	**P**	**19 25 02.8**	**+2.0**
	comp=Z,82nm,0.9s						
AFI	**Afiamalu**	**21.20**	**96**	P	**P**	**19 25 00.6**	**-0.1**
	comp=Z,81nm,0.8s,baz=296,slow=14,SNR=5.9						
AFI				LR	LR	19 31 57.8	
	comp=Z,616nm,18.3s,baz=260,slow=33						
MANU	**Manus Island**	**21.58**	**297**	⇓P	**P**	**19 25 06.7**	**+2.0**
	baz=22						
RMQ	**Roma**	**21.78**	**227**	⇑P	**P**	**19 25 07.9**	**+1.1**
	baz=22,SNR=41						
MTSU	**Mount Surprise**	**22.14**	**252**	P	**P**	**19 25 11.3**	**+0.5**
	baz=22,SNR=37						
RAO	**Raoul Island**	**22.15**	**142**	LR	LR	19 31 39.1	
	comp=Z,1μm,21.6s,baz=10,slow=31						
ARMA	**Armidale**	**22.60**	**215**	*e*P	**P**	**19 25 15.2**	**-0.6**
	comp=Z,103nm,1.3s						
ARMA	**Armidale**	**22.60**	**215**	P	**P**	**19 25 15.7**	**0.0**
	baz=23,SNR=16						
COEN	**Coen**	**22.77**	**264**	*e*P	**P**	**19 25 17.2**	**-0.2**
	comp=Z,176nm,0.9s						
COEN	**Coen**	**22.77**	**264**	⇓P	**P**	**19 25 17.8**	**+0.3**
	baz=23,SNR=14						
MGCD	**Mangrove Creek**	**25.04**	**212**	P	**P**	**19 25 39.2**	**+0.9**
	baz=25,SNR=6.5						
QLP	**Quilpie**	**25.23**	**233**	P	**P**	**19 25 40.3**	**+0.2**
	baz=26,SNR=29						
RIV	**Riverview**	**25.50**	**211**	⇓P	**P**	**19 25 43.8**	**+1.3**
	baz=26						
CMSA	**Cobar Meteorol**	**27.02**	**222**	P	**P**	**19 25 56.5**	**+0.3**
	baz=27,SNR=18						
URZ	**Urewera**	**27.43**	**162**	*e*P	**P**	**19 25 59.6**	**-0.2**
URZ	**Urewera**	**27.43**	**162**	LR	LR	19 34 52.3	
	comp=Z,1μm,19.4s,baz=160,slow=32						
CNB	**Canberra Magne**	**27.58**	**211**	P	**P**	**19 26 01.9**	**+0.6**
	baz=28,SNR=9.2						
MILA	**Mila**	**29.06**	**209**	⇓P	**P**	**19 26 14.6**	**+0.1**
	baz=29						
STKA	**Stephens Creek**	**30.00**	**226**	*e*P	**P**	**19 26 23.0**	**+0.3**
	comp=Z,6.4nm,0.9s						
STKA	**Stephens Creek**	**30.00**	**226**	P	**P**	**19 26 23.2**	**+0.4**
	baz=30,SNR=29						
STKA	**Stephens Creek**	**30.00**	**226**	P	**P**	**19 26 23.2**	**+0.4**
	comp=Z,20nm,0.7s,baz=42,slow=8.0,SNR=36						
STKA				LR	LR	19 37 25.7	
	comp=Z,1μm,19.6s,baz=5.8,slow=34						
TOO	**Toolangi**	**31.32**	**213**	P	**P**	**19 26 34.9**	**+0.5**
	baz=32,SNR=6.4						
RPZ	**Rata Peaks**	**31.44**	**174**	P	**P**	**19 26 34.5**	**-0.9**
RPZ	**Rata Peaks**	**31.44**	**174**	P	**P**	**19 26 34.5**	**-0.9**
	comp=Z,44nm,0.7s,baz=301,slow=3.0,SNR=38						
RPZ				LR	LR	19 37 22.5	
	comp=Z,1μm,20.9s,baz=348,slow=33						
WRAB	**Tennant Creek**	**31.73**	**252**	*e*P	**P**	**19 26 36.8**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.6s						
WRAB	**Tennant Creek**	**31.73**	**252**	*e*P	**P**	**19 26 36.8**	**-1.4**
	comp=Z,4.6nm,0.6s						
WRA	**Warramunga Arr**	**31.75**	**252**	P	**P**	**19 26 37.4**	**-1.0**
WRA				ScP	**ScP**	**19 33 11.8**	**+5.8**
WRA	**Warramunga Arr**	**31.75**	**252**	P	**P**	**19 26 37.4**	**-1.0**
	comp=Z,4.3nm,0.6s,baz=81,slow=9.0,SNR=24						
WRA				ScP	**ScP**	**19 33 11.8**	**+5.8**
	comp=Z,3.2nm,0.9s,baz=80,slow=3.7,SNR=11						
WRA				LR	LR	19 38 11.1	
	comp=Z,599nm,20.9s,baz=35,slow=34						
AS31	**Alice Springs**	**32.88**	**246**	*e*P	**P**	**19 26 47.2**	**-1.1**
ASAR	**Alice Springs**	**32.88**	**246**	P	**P**	**19 26 47.0**	**-1.3**
ASAR				ScP	**ScP**	**19 33 14.7**	**+4.8**
ASAR	**Alice Springs**	**32.88**	**246**	P	**P**	**19 26 47.0**	**-1.3**
	comp=Z,14nm,0.8s,baz=75,slow=9.5,SNR=112						
ASAR				ScP	**ScP**	**19 33 14.7**	**+4.8**
	comp=Z,3.1nm,0.9s,baz=88,slow=3.4,SNR=10.0						
KDU	**Kakadu**	**33.21**	**266**	P	**P**	**19 26 51.0**	**-0.1**
	baz=34,SNR=12						
TLE	**Tual**	**34.00**	**278**	⇓P	**P**	**19 26 59.0**	**+0.9**
	baz=34						
MOO	**Moorlands**	**34.31**	**206**	P	**P**	**19 27 01.1**	**+0.7**
	baz=34,SNR=4.5						
BBOO	**Buckleboo**	**34.47**	**229**	*e*P	**P**	**19 27 01.7**	**-0.2**
	comp=Z,579nm,0.8s						
BBOO	**Buckleboo**	**34.47**	**229**	P	**P**	**19 27 01.9**	**0.0**
	baz=35,SNR=22						
MTN	**Manton Dam**	**34.51**	**265**	P	**P**	**19 27 02.7**	**+0.3**
	baz=35,SNR=7.2						
TAU	**Tasmania Unive**	**34.64**	**205**	*e*P	**P**	**19 27 03.2**	**0.0**
TAU				pmax	pmax		
	comp=Z,35nm,1.1s						
TAU	**Tasmania Unive**	**34.64**	**205**	*e*P	**P**	**19 27 03.2**	**0.0**
	comp=Z,35nm,1.1s						
FAKI	**Fak Fak**	**35.19**	**283**	⇑P	**P**	**19 27 09.2**	**+0.9**
	baz=36						
KNRA	**Kununurra**	**36.73**	**260**	P	**P**	**19 27 21.4**	**0.0**
	baz=37,SNR=20						
SWI	**Sorong**	**36.78**	**285**	P	**P**	**19 27 23.3**	**+1.4**
	comp=Z,135nm,1.1s,comp=Z,937nm						
SWI	**Sorong**	**36.78**	**285**	P	**P**	**19 27 22.9**	**+0.9**
	baz=37,SNR=18						
BNDI	**Bandanaira**	**37.00**	**279**	P	**P**	**19 27 23.8**	**0.0**
	comp=Z,325nm,1.2s,comp=Z,3μm						
FITZ	**Fitzroy Crossi**	**39.77**	**257**	P	**P**	**19 27 46.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**39.77**	**257**	P	**P**	**19 27 46.7**	**-0.2**
	baz=40,SNR=40						
FITZ	**Fitzroy Crossi**	**39.77**	**257**	P	**P**	**19 27 46.8**	**-0.2**
	comp=Z,39nm,1.1s,baz=95,slow=8.4,SNR=32						
FITZ				LR	LR	19 42 02.1	
	comp=Z,891nm,21.7s,baz=10,slow=33						
NLAI	**Namlea**	**40.04**	**280**	P	**P**	**19 27 50.5**	**+1.2**
	comp=Z,140nm,1.4s,comp=Z,2μm						
LBMI	**Labuha**	**40.41**	**284**	P	**P**	**19 27 53.8**	**+1.5**
	comp=Z,104nm,1.2s,comp=Z,1μm						
SOEI	**Soe**	**41.51**	**269**	P	P	19 27 56.5	-5.0
	comp=Z,43nm,1.0s						
BATI	**Baumata**	**42.04**	**268**	P	**P**	**19 28 06.6**	**+0.8**
	comp=Z,19nm,1.0s						
BATI	**Baumata**	**42.04**	**268**	P	**P**	**19 28 07.2**	**+1.4**
BATI	**Baumata**	**42.04**	**268**	P	**P**	**19 28 07.2**	**+1.4**
	comp=Z,27nm,0.7s,baz=136,slow=2.7,SNR=15						
PPT	**Papeete**	**42.66**	**102**	LR	LR	19 42 39.7	
	comp=Z,551nm,18.2s,baz=4.1,slow=32						
PPT2	**Papeete2**	**42.66**	**103**	*e*LR	LR	19 40 44.0	
	comp=Z,2μm,26.5s						
TBI	**Tubuai**	**43.14**	**111**	*e*LR	LR	19 40 48.8	
	comp=Z,827nm,34.0s						
MBWA	**Marble Bar**	**45.48**	**253**	*e*P	**P**	**19 28 33.8**	**+0.5**
	comp=Z,76nm,1.1s						
JCJ	**Chichijima**	**45.82**	**329**	P	**P**	**19 28 35.0**	**-0.8**
	comp=Z,31nm,0.8s,baz=105,slow=23,SNR=4.8						
JCJ				LR	LR	19 44 36.5	
	comp=Z,378nm,21.2s,baz=298,slow=32						
CBIJ	**Chichi jima**	**45.82**	**329**	P	**P**	**19 28 35.0**	**-0.8**
KAPI	**Kappang**	**46.74**	**275**	P	**P**	**19 28 42.0**	**-1.3**
	comp=Z,74nm,1.2s,comp=Z,834nm						
KAPI	**Kappang**	**46.74**	**275**	P	**P**	**19 28 43.2**	**-0.1**
KAPI	**Kappang**	**46.74**	**275**	P	**P**	**19 28 42.6**	**-0.7**
	comp=Z,369nm,0.9s,SNR=8.8						
KAPI	**Kappang**	**46.74**	**275**	P	**P**	**19 28 43.2**	**-0.1**
	comp=Z,50nm,0.9s,baz=134,slow=4.1,SNR=24						
MEEK	**Meekatharra**	**47.04**	**245**	P	**P**	**19 28 45.6**	**+0.1**
	baz=47,SNR=44						
KLBR	**Kellerberrin**	**48.62**	**239**	⇑P	**P**	**19 28 56.9**	**-0.8**
	baz=49,SNR=18						
BLDU	**Ballidu**	**49.32**	**240**	⇑P	**P**	**19 29 03.0**	**0.0**
	baz=50,SNR=4.8						
NWAO	**Narrogin (SRO)**	**49.34**	**237**	*e*P	**P**	**19 29 02.6**	**-0.5**
	comp=Z,42nm,1.3s						
NWAO	**Narrogin (SRO)**	**49.34**	**237**	P	**P**	**19 29 02.3**	**-0.8**
	comp=Z,25nm,0.9s,baz=82,slow=8.7,SNR=9.6						
MORW	**Morawa**	**49.64**	**242**	P	**P**	**19 29 05.6**	**+0.2**
	baz=50,SNR=15						
RKGY	**Rocky Gully**	**49.93**	**235**	⇑P	**P**	**19 29 08.0**	**+0.4**
	baz=50						
GIRL	**Giralia**	**50.65**	**251**	⇓P	**P**	**19 29 13.5**	**+0.3**
	baz=51,SNR=4.7						
MYLDM	**Lahad Datu**	**50.81**	**287**	P	**P**	**19 29 14.0**	**-0.5**
MYLDM	**Lahad Datu**	**50.81**	**287**	P	**P**	**19 29 15.7**	**+1.2**
MYLDM	**Lahad Datu**	**50.81**	**287**	P	**P**	**19 29 16.9**	**+2.4**
TSM	**Tawau**	**51.10**	**286**	P	**P**	**19 29 17.5**	**+0.9**
SDKM	**Sandakan**	**52.19**	**287**	P	**P**	**19 29 25.0**	**+0.1**
SDKM	**Sandakan**	**52.19**	**287**	P	**PcP**	**19 30 37.1**	**+1.3**
KDM	**Kudat**	**52.98**	**289**	P	**P**	**19 29 31.2**	**+0.7**
KKM	**Kota Kinabalu**	**53.25**	**287**	P	**P**	**19 29 33.4**	**+0.7**
KKM	**Kota Kinabalu**	**53.25**	**287**	P	**P**	**19 29 33.9**	**+1.2**
	baz=54,SNR=8.0						
JOW	**Kunigami**	**53.85**	**317**	*e*P	**P**	**19 29 37.5**	**+0.7**
	comp=Z,18nm,0.6s						
BTM	**Bintulu**	**55.29**	**283**	P	**P**	**19 29 48.4**	**+1.0**
MJAR	**Matsushiro Arr**	**55.52**	**332**	P	**P**	**19 29 48.0**	**-0.7**
MJAR	**Matsushiro Arr**	**55.52**	**332**	P	**P**	**19 29 48.0**	**-0.7**
	comp=Z,2.1nm,0.6s,baz=174,slow=9.2,SNR=16						
MAJO	**Matsushiro**	**55.52**	**332**	*e*P	**P**	**19 29 48.2**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,12nm,1.1s						
MAJO	**Matsushiro**	**55.52**	**332**	*e*P	**P**	**19 29 48.2**	**-0.5**
	comp=Z,12nm,1.1s						
MAT	**Matsushiro**	**55.52**	**332**	P	**P**	**19 29 48.2**	**-0.5**
SBUM	**Sibu**	**55.90**	**282**	P	**P**	**19 29 53.2**	**+1.4**
RKT	**Rikitea**	**56.42**	**110**	*e*LR	LR	19 46 59.8	
	comp=Z,765nm,30.0s						
JNU	**Nakatsue**	**56.62**	**324**	*e*P	**P**	**19 29 57.1**	**+0.5**
	comp=Z,30nm,1.2s						
JNU	**Nakatsue**	**56.62**	**324**	P	**P**	**19 29 57.1**	**+0.5**
	comp=Z,43nm,0.9s,baz=101,slow=2.0,SNR=28						
YULB	**Yu-li**	**56.77**	**309**	*e*P	**P**	**19 29 59.5**	**+1.7**
	comp=Z,55nm,1.2s						
TPUB	**Ta-pu**	**57.23**	**308**	*e*P	**P**	**19 30 00.8**	**-0.2**
	comp=Z,120nm,1.3s						
SSLB	**Suanglung**	**57.25**	**309**	*e*P	**P**	**19 30 00.6**	**-0.6**
	comp=Z,14nm,0.8s						
YHNB	**Yeheng**	**57.42**	**310**	*e*P	**P**	**19 30 03.1**	**+0.6**
	comp=Z,78nm,1.1s						
KSM	**Kuching**	**57.46**	**280**	P	**P**	**19 30 03.5**	**+0.5**
KSM	**Kuching**	**57.46**	**280**	*e*P	**P**	**19 30 03.0**	**+0.1**
	comp=Z,30nm,1.0s						
LEM	**Lembang**	**58.23**	**270**	P	**P**	**19 30 09.6**	**+1.0**
	baz=59,SNR=16						
XMI	**Christmas Isla**	**59.53**	**265**	⇑P	**P**	**19 30 18.0**	**+0.6**
	baz=60						
XMIS	**Christmas Isla**	**59.57**	**265**	⇓P	**P**	**19 30 18.2**	**+0.6**
	baz=60						
SSE	**Sheshan**	**61.34**	**316**	P	**P**	**19 30 29.8**	**+0.5**
SSE				AMB	AMB		
	comp=Z,89nm,0.9s						
SSE				AMB	AMB		
	comp=Z,640nm,11.8s						
KSRS	**Korea Array**	**61.42**	**326**	P	**P**	**19 30 30.5**	**+0.8**
	comp=Z,6.8nm,0.8s,baz=137,slow=7.1,SNR=26						
KSAR	**Wonju Array Be**	**61.43**	**326**	P	**P**	**19 30 30.5**	**+0.7**
YSS	**Yuzh-Sakhalins**	**62.81**	**342**	*e*P	**P**	**19 30 39.0**	**+0.2**
YSS				*e*		19 30 54.0	
NJ2	**Nanjing**	**63.51**	**315**	*e*P	**P**	**19 30 43.1**	**-0.6**
NJ2				sS	sS	19 39 56.5	+14
NJ2				AMB	AMB		
	comp=Z,140nm,0.9s						
NJ2				AMB	AMB		
	comp=Z,140nm,3.8s						
NJ2				LR	LR		
	comp=Z,2μm,24.4s						
NJ2				LR	LR		
	comp=Z,2μm,20.0s						
NJ2				LR	LR		
	comp=Z,310nm,14.7s						
MYKOM	**Kota Tinggi**	**63.77**	**278**	P	**P**	**19 30 46.9**	**+1.0**
KGM	**Kluang**	**64.35**	**278**	P	**P**	**19 30 51.0**	**+1.4**
USRK	**Ussuriysk Arra**	**64.49**	**333**	P	**P**	**19 30 50.6**	**+0.6**
	comp=Z,10nm,1.0s,baz=145,slow=6.9,SNR=15						
VNDA	**Vanda**	**65.15**	**181**	P	**P**	**19 30 53.0**	**-0.8**
VNDA	**Vanda**	**65.15**	**181**	P	**P**	**19 30 53.0**	**-0.8**
	comp=Z,6.6nm,0.8s,baz=354,slow=6.4,SNR=23						
KTGM	**Kuala Trenggan**	**65.40**	**282**	P	**P**	**19 30 58.3**	**+1.8**
SBA	**Scott Base**	**65.44**	**180**	*e*P	**P**	**19 30 55.8**	**+0.1**
SBA				pmax	pmax		
	comp=Z,26nm,0.9s						
SBA	**Scott Base**	**65.44**	**180**	*e*P	**P**	**19 30 55.8**	**+0.1**
	comp=Z,26nm,0.9s						
PET	**Petropavlovsk**	**65.52**	**355**	*e*P	**P**	**19 30 54.7**	**-1.7**
PETK	**Petropavlovsk-**	**65.69**	**354**	P	**P**	**19 30 57.6**	**0.0**
PETK	**Petropavlovsk-**	**65.69**	**354**	P	**P**	**19 30 57.6**	**0.0**
PETK	**Petropavlovsk-**	**65.69**	**354**	P	**P**	**19 30 57.6**	**0.0**
	comp=Z,3.1nm,0.8s,baz=187,slow=12,SNR=2.8						
WHN	**Wuhan**	**65.85**	**312**	P	**P**	**19 30 59.5**	**+0.5**
MDJ	**Mudanjiang**	**65.90**	**332**	P	**P**	**19 30 59.8**	**+0.8**
MDJ				pP	PcP	19 31 24.1	-5.3
MDJ				sP	sP	19 31 36.5	+12
MDJ				PP	**PP**	**19 33 24.0**	**-1.1**
MDJ				sS	sS	19 40 21.6	+10
MDJ				AMB	AMB		
	comp=Z,14nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,250nm,7.4s						
MDJ				LR	LR		
	comp=Z,370nm,14.8s						
MDJ				LR	LR		
	comp=Z,160nm,15.7s						
MDJ				LR	LR		
	comp=Z,340nm,15.7s						
FRIM	**Kepong**	**66.29**	**279**	P	**P**	**19 31 03.0**	**+0.8**
UBPT	**Khong Chiam**	**66.38**	**293**	P	**P**	**19 31 05.1**	**+2.4**
	comp=Z,33nm,1.2s						
PPI	**Padang Panjang**	**66.59**	**275**	P	**P**	**19 31 05.2**	**+1.1**
	baz=67,SNR=6.7						
HABR	**Khabarovsk**	**66.72**	**338**	*e*P	**P**	**19 31 02.7**	**-1.5**
HABR				*e*		19 31 30.8	
HABR				*e*S	**S**	**19 39 47.1**	**-3.7**
HABR				*e*		19 40 17.0	
HABR				*e**SS	sS	19 40 30.9	+9.1
HABR				*e*		19 40 50.2	
HABR				*e*SS	**SS**	**19 44 07.5**	**-2.5**
HABR				pmax	pmax		
	comp=Z,15nm,1.6s						
HABR				MLR	MLR		
	comp=Z,348nm,15.0s						
IPM	**Ipoh**	**67.19**	**280**	P	**P**	**19 31 09.4**	**+1.4**
IPM	**Ipoh**	**67.19**	**280**	*e*P	**P**	**19 31 08.7**	**+0.7**
	comp=Z,94nm,1.1s						
CN2	**Changchun**	**67.29**	**329**	⇑P	**P**	**19 31 09.3**	**+1.4**
CN2				*e*pP	**PcP**	**19 31 35.3**	**+0.1**
CN2				*e*S	**S**	**19 39 55.8**	**-2.0**
CN2				AMB	AMB		
	comp=Z,40nm,1.1s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
KULM	**Kulim**	**67.77**	**281**	P	**P**	**19 31 12.8**	**+1.2**
KULM	**Kulim**	**67.77**	**281**	*e*P	**P**	**19 31 12.1**	**+0.5**
	comp=Z,48nm,1.4s						
PANO	**Nakornpanom**	**67.82**	**294**	P	**P**	**19 31 13.5**	**+1.7**
	comp=Z,60nm,1.5s						
CHBT	**CHBT**	**68.39**	**289**	P	**P**	**19 31 16.5**	**+1.1**
	comp=Z,22nm,1.1s						
KLR	**Kul'dur**	**68.60**	**336**	*e*P	P	19 31 12.2	-3.8
KLR				pmax	pmax		
	comp=Z,50nm,1.6s						
PSI	**Prapat**	**68.79**	**278**	P	**P**	**19 31 17.9**	**-0.2**
PSI	**Prapat**	**68.79**	**278**	P	**P**	**19 31 18.1**	**-0.1**
	baz=69,SNR=25						
PSI	**Prapat**	**68.79**	**278**	P	**P**	**19 31 17.9**	**-0.2**
	comp=Z,38nm,0.9s,baz=129,slow=3.3,SNR=40						
ENH	**Enshi**	**69.33**	**309**	*e*P	**P**	**19 31 21.4**	**+0.3**
	comp=Z,87nm,0.8s						
NONG	**Nongkai**	**69.46**	**295**	P	**P**	**19 31 23.0**	**+1.0**
	comp=Z,150nm,1.0s,comp=Z,8μm						
GYA	**Guiyang**	**69.80**	**304**	⇑*i*P	**P**	**19 31 25.0**	**+0.9**
GYA				pP	PcP	19 31 53.3	+6.9
GYA				sP	sP	19 32 05.4	+15
GYA				PP	**PP**	**19 34 02.0**	**+2.5**
GYA				ScP		19 35 44.8	
GYA				S	**S**	**19 40 25.1**	**-3.5**
GYA				SKS	**SKSac**	**19 41 13.4**	**-6.0**
GYA				AMB	AMB		
	comp=Z,40nm,0.8s						
GYA				AMB	AMB		
	comp=Z,180nm,5.7s						
GYA				LR	LR		
	comp=Z,560nm,19.5s						
GYA				LR	LR		
	comp=Z,510nm,20.2s						
GYA				LR	LR		
	comp=Z,580nm,18.7s						
SURA	**Surathani**	**69.82**	**285**	P	**P**	**19 31 26.2**	**+1.9**
	comp=Z,48nm,1.2s,comp=Z,4μm						
BJT	**Baijiatuao**	**70.00**	**321**	*e*P	**P**	**19 31 25.8**	**+0.9**
	comp=Z,14nm,0.6s						
BJI	**Beijing**	**70.00**	**321**	P	**P**	**19 31 25.8**	**+0.9**
BJI				AMB	AMB		
	comp=Z,45nm,0.8s						
BJI				LR	LR		
	comp=Z,530nm,23.3s						
PKDT	**Phuket**	**70.69**	**283**	P	**P**	**19 31 31.3**	**+1.7**
	comp=Z,30nm,1.2s						
PBKT	**Sadao Pong**	**70.89**	**293**	P	**P**	**19 31 32.1**	**+1.4**
	comp=Z,36nm,1.0s,comp=Z,1μm						
LOEI	**Loei**	**70.94**	**294**	P	**P**	**19 31 30.0**	**-1.1**
	comp=Z,35nm,1.3s,comp=Z,4μm						
XAN	**Xi'an**	**71.59**	**312**	P	**P**	**19 31 35.8**	**+1.1**
XAN				AMB	AMB		
	comp=Z,29nm,0.9s						
NANT	**Nan**	**71.89**	**295**	P	**P**	**19 31 37.8**	**+1.0**
	comp=Z,91nm,1.1s						
KMI	**Kunming**	**72.47**	**301**	P	**P**	**19 31 42.3**	**+1.9**
KMI				AMB	AMB		
	comp=Z,100nm,1.1s						
CM31	**Chiang Mai Arr**	**73.34**	**294**	*e*P	**P**	**19 31 46.9**	**+1.4**
	comp=Z,38nm,0.8s						
CMAR	**Chiang Mai Arr**	**73.34**	**294**	P	**P**	**19 31 47.0**	**+1.5**
CMAR	**Chiang Mai Arr**	**73.34**	**294**	P	**P**	**19 31 47.0**	**+1.5**
	comp=Z,33nm,0.8s,baz=123,slow=4.6,SNR=258						
HHC	**Hu-ho-hao-te**	**

GTA sS sS 19 43 14.8 +16
GTA AMB AMB
comp=Z,39nm,1.1s
GTA AMB AMB
comp=Z,570nm,5.9s
GTA LR LR
comp=Z,170nm,18.5s
GTA LR LR
comp=Z,260nm,20.7s
GTA LR LR
comp=Z,240nm,17.8s
SHL Shillong 81.82 298⇑ iP P 19 32 35.0 +2.2
TRF Thorofare Moun 82.58 18 eP P 19 32 35.0 -0.9
comp=Z,6.1nm,0.8s
ZAK Zakamensk 83.24 325⇑ iP P 19 32 39.8 +0.3
ZAK pmax pmax
comp=Z,12nm,1.1s
KHMM Horse Mountain 83.28 46 eP P 19 32 41.6 +1.6
IMA2 Indian Mountai 83.62 15 eP P 19 32 40.8 -0.4
TLY Talaya 83.67 326 eP P 19 32 41.9 +0.3
TLY pmax pmax
comp=Z,22nm,0.9s
TLY Talaya 83.67 326 P P 19 32 41.9 +0.3
comp=Z,128nm,0.9s,SNR=5.7
LSA Lhasa 83.71 302 P P 19 32 44.1 +1.2
LSA Lhasa 83.71 302 eP P 19 32 44.2 +1.3
LSA pmax pmax
comp=Z,27nm,0.7s
LSA Lhasa 83.71 302 eP P 19 32 44.2 +1.3
comp=Z,27nm,0.7s
MAW Mawson 83.74 202 P P 19 32 41.3 -0.4
MAW Mawson 83.74 202 P P 19 32 41.3 -0.4
baz=84,SNR=27
MAW Mawson 83.74 202 P P 19 32 41.3 -0.4
comp=Z,19nm,0.9s,baz=110,slow=6.1,SNR=44
YBH Yreka Blue Hor 84.31 45 eP P 19 32 46.1 +0.8
comp=Z,8.6nm,0.8s
YBH Yreka Blue Hor 84.31 45 P P 19 32 45.0 -0.2
comp=Z,10nm,0.8s,baz=105,slow=0.4,SNR=21
COLA College 84.35 18 eP P 19 32 46.1 +1.4
ILAR Eielson Array 84.56 18 P P 19 32 44.5 -1.3
ILAR Eielson Array 84.56 18 P P 19 32 44.5 -1.3
comp=Z,5.6nm,0.6s,baz=242,slow=5.1,SNR=41
ILAR LR LR 20 02 17.5
comp=Z,382nm,21.8s,baz=52,slow=30
CMB Columbia Colle 84.66 49 eP P 19 32 46.7 -0.3
CMB pmax pmax
comp=Z,8.0nm,0.7s
CMB Columbia Colle 84.66 49 eP P 19 32 46.7 -0.3
comp=Z,7.8nm,0.7s
DOT Dot Lake 84.69 20 eP P 19 32 42.6 -4.0
comp=Z,6.4nm,0.9s
VES Vestal, Richgr 84.90 52 P P 19 32 48.8 +0.6
baz=85
BBB Bella Bella 85.28 34 LR LR 20 05 45.6
comp=Z,376nm,19.7s,baz=122,slow=32
BEKR Beckworth 85.31 48 eP P 19 32 51.4 +1.1
comp=Z,4.1nm,0.6s
ISA Isabella 85.31 52 P P 19 32 50.7 +0.4
baz=85
EDW2 Edwards Air Fo 85.44 53 P P 19 32 50.9 -0.1
baz=86
BFSC Mount Baldy Ra 85.50 54 P P 19 32 51.2 -0.2
baz=86
WAKR Walker 85.52 49 eP P 19 32 51.1 -0.4
comp=Z,10nm,1.1s
LRMC Laurel Mountai 85.86 52 P P 19 32 53.3 +0.2
baz=86
TAPN Taplejung 85.91 299 eP P 19 32 54.2 +0.4
comp=Z,66nm,1.0s
ODAN Odare 86.05 298 eP P 19 32 55.1 +0.7
comp=Z,174nm,0.8s
MONP Monument Peak 86.07 55 P P 19 32 54.8 +0.4
baz=86
MPMC Manual Prospec 86.20 52 P P 19 32 55.8 +0.9
baz=86
PFO Pinyon Flat Ob 86.26 55 P P 19 32 54.7 -0.5
PFO Pinyon Flat Ob 86.26 55 P P 19 32 56.1 +0.9
baz=86
PFO Pinyon Flat Ob 86.26 55 P P 19 32 54.7 -0.5
comp=Z,4.6nm,0.9s,baz=289,slow=4.2,SNR=5.1
PFO LR LR 20 03 21.3
comp=Z,460nm,20.6s,baz=91,slow=30
NVAR Mina Array Bea 86.33 50 P P 19 32 55.0 -0.5
NVAR Mina Array Bea 86.33 50 P P 19 32 55.0 -0.5
comp=Z,6.3nm,0.7s,baz=233,slow=6.9,SNR=40
NVAR LR LR 20 03 05.1
comp=Z,608nm,20.9s,baz=191,slow=30
EGAK Eagle 86.40 20 eP P 19 32 54.2 -0.7
comp=Z,7.5nm,0.8s
HEC Hector,Ludlow 86.72 53 P P 19 32 57.7 +0.3
baz=87
BELC Belle Mtn. Jos 86.74 54 P P 19 32 57.9 +0.4
baz=87
RAMN Ramite 86.76 298 eP P 19 32 58.2 +0.3
comp=Z,98nm,1.1s
FURC Furnace Creek, 86.81 52 P P 19 32 58.0 +0.5
baz=87
BC3 Big Chuckawall 87.07 55 P P 19 32 59.5 +0.4
baz=87
SHOC Shoshone 87.08 52 P P 19 32 59.5 +0.5
baz=87
TUQ Turquoise Moun 87.22 53 P P 19 33 00.1 +0.3
baz=87
GMRC Granite Mounta 87.24 54 P P 19 33 00.2 +0.3
baz=87
JIRN Jiri 87.30 299 eP P 19 33 01.0 +0.3
comp=Z,65nm,0.8s
GLA Glamis 87.40 56 P P 19 33 01.1 +0.4
baz=87
IRM Iron Mountain 87.46 54 P P 19 33 00.9 +0.1
baz=88
PALK Pallekele 87.47 278 eP P 19 33 02.4 +1.0
comp=Z,37nm,1.0s
PALK Pallekele 87.47 278 P P 19 33 02.4 +1.0
comp=Z,194nm,0.8s,SNR=9.6
TIXI Tiksi 87.56 349⇑ eP P 19 32 59.4 -1.0
TIXI pmax pmax
comp=Z,3.0nm,1.0s
GUN Gumba 87.63 299 eP P 19 33 02.7 +0.5
comp=Z,106nm,0.8s
PKI Pulchoki 87.94 299 eP P 19 33 03.9 +0.2
comp=Z,154nm,0.9s
PKIN Phulchoki 87.95 299 eP P 19 33 03.9 +0.2
comp=Z,39nm,0.7s
KKN Kakani 88.11 299 eP P 19 33 04.6 +0.3
comp=Z,112nm,0.7s
113A Mohawk Valley, 88.18 56 P P 19 33 04.6 +0.4
baz=88
DMN Daman 88.21 299 eP P 19 33 05.4 +0.5
comp=Z,256nm,0.7s
GKN Gorkha 88.71 299 eP P 19 33 07.0 -0.1
comp=Z,185nm,0.8s
W13A Hualapai Mount 88.72 54 P P 19 33 07.2 +0.1
baz=89
HVS Khovu-Aksy 89.08 323 *c iP* **P 19 33 08.1 -0.1**
HVS pmax pmax
comp=Z,72nm,1.2s
BMO Blue Mountains 89.09 44 eP P 19 33 08.4 0.0
BMO pmax pmax
comp=Z,5.0nm,1.3s
BMO Blue Mountains 89.09 44 eP P 19 33 08.4 0.0
comp=Z,5.1nm,1.3s
ELK Elko 89.30 48 P P 19 33 09.0 -0.7
ELK Elko 89.30 48 P P 19 33 09.0 -0.7
comp=Z,4.7nm,0.9s,baz=169,slow=1.0,SNR=18
KOLN Koldanda 89.55 298 eP P 19 33 10.7 -0.4
comp=Z,62nm,0.7s
DANN Dangsing 89.55 299 eP P 19 33 10.9 -0.3
comp=Z,142nm,0.7s
CCUT Cedar City 89.80 52 eP P 19 33 13.3 +1.2
comp=Z,4.8nm,0.8s
U15A North Rim 90.33 53 P P 19 33 14.7 +0.1
baz=90
X16A Lo Mia Camp, P 90.49 55 P P 19 33 15.5 +0.2
baz=90
WMQ Urumqi 90.58 315 P P 19 33 15.6 +0.2
WMQ pP pP 19 33 44.6 +10
WMQ sP sP 19 33 56.5 +15
WMQ AMB AMB
comp=Z,32nm,1.0s
WMQ AMB AMB
comp=Z,500nm,6.2s
WMQ LR LR
comp=Z,160nm,24.8s
WMQ LR LR
comp=Z,150nm,23.4s
WMQ LR LR
comp=Z,180nm,22.2s
HLID Hailey 90.69 46 P P 19 33 16.6 +0.6
baz=91
SYO Syowa Base 90.70 197⇓ eP P 19 33 12.6 -2.8
WUAZ Wupatki 90.81 54 P P 19 33 17.1 +0.3
baz=91
DUG Dugway 90.92 49 P P 19 33 17.8 +0.6
baz=91
319A Douglas 91.51 58 P P 19 33 21.0 +0.9
baz=92
HYB Hyderabad 91.73 287 *i P* **P 19 33 20.0 -1.2**
MSO Missoula 91.93 43 P P 19 33 22.2 +0.6
baz=92
320A Kipp Ranch, An 92.13 59 P P 19 33 23.7 +0.8
baz=92
Z20A Nine Sixteen R 92.48 57 P P 19 33 25.4 +0.8
baz=92
Y20A Horse Springs, 92.83 56 P P 19 33 27.4 +1.1
baz=93
121A Cookes Peak, D 93.01 58 P P 19 33 28.2 +1.2
baz=93
R20A Redvale 93.78 52 P P 19 33 31.2 +0.7
baz=94
Z22A Elephant Butte 93.84 57 P P 19 33 31.4 +0.6
baz=94
PDAR Pinedale Array 93.93 47 P P 19 33 30.5 -0.6
PDAR Pinedale Array 93.93 47 P P 19 33 30.5 -0.6
comp=Z,0.9nm,0.9s,baz=228,slow=3.8,SNR=5.4
U21A Nageezi 93.96 54 P P 19 33 32.0 +0.6
baz=94
P20A De Beque 94.06 51 P P 19 33 32.7 +1.0
baz=94
S21A Coal Bank Pass 94.12 53 P P 19 33 32.7 +0.5
baz=94
ANMO Albuquerque 94.60 55 P P 19 33 34.8 +0.4
ANMO Albuquerque 94.60 55 P P 19 33 34.8 +0.4
comp=Z,1.1nm,0.6s,baz=311,slow=6.4,SNR=3.9
324A Moseley Ranch, 94.69 59 P P 19 33 35.2 +0.5
baz=95
S22A 4UR Ranch, Cre 94.88 53 P P 19 33 36.2 +0.5
baz=95
MK31 Makanchi Array 95.02 317 eP P 19 33 35.8 +0.1
MK31 Makanchi Array 95.02 317 eP P 19 33 35.8 +0.1
MKAR Makanchi Array 95.02 317 P P 19 33 36.0 +0.3
MKAR 19 37 24.5
MKAR Makanchi Array 95.02 317 P P 19 33 36.0 +0.3
MKAR PP PP 19 37 24.4 -1.6
MKAR PKKP **PKKPbc** 19 50 31.9 -0.5
MKAR Makanchi Array 95.02 317 P P 19 33 36.0 +0.3
comp=Z,28nm,0.7s,baz=97,slow=6.4,SNR=165
MKAR PP **PP** 19 37 24.4 -1.6
comp=Z,1.5nm,1.1s,baz=112,slow=9.3,SNR=3.5
MKAR PKKP **PKKPbc** 19 50 31.9 -0.5
comp=Z,0.3nm,0.5s,baz=246,slow=5.5,SNR=5.4
ZALV Zalesovo Beam 95.09 324 P P 19 33 35.1 -0.7
ZALV Zalesovo Beam 95.09 324 P P 19 33 35.1 -0.7
ZALV Zalesovo Beam 95.09 324 P P 19 33 35.1 -0.7
comp=Z,6.5nm,0.8s,baz=113,slow=4.1,SNR=33
MAIT Maiti 95.24 188 *eP* P 19 33 32.6 -3.6
626A Big Bend Ranch 95.47 61 P P 19 33 38.2 -0.1
baz=95
SNAA Sanae 95.81 183 eP P 19 33 37.2 -1.8
SNAA Sanae 95.81 183 eP P 19 33 37.0 -2.0
comp=Z,3.4nm,0.8s
TXAR Lajitas Array 95.83 61 P P 19 33 39.5 -0.4
TXAR Lajitas Array 95.83 61 P P 19 33 39.5 -0.4
comp=Z,1.3nm,0.7s,baz=222,slow=6.0,SNR=16
YKA Yellowknife Ar 95.84 27 P P 19 33 38.1 -0.9
YKA Yellowknife Ar 95.84 27 P P 19 33 38.1 -0.9
comp=Z,0.7nm,0.5s,baz=254,slow=4.6,SNR=3.5
KURK Kurchatov 98.16 320⇓ eP P 19 33 49.0 -0.8
KURK pmax pmax
comp=Z,3.0nm,1.4s
KURK Kurchatov 98.16 320 P P 19 33 48.8 -1.0
KURK PP **PP** 19 37 49.1 -0.9
KSH Kashi 98.19 309 eP Pdif 19 33 52.1 +1.7
KSH *ep*P pP 19 34 22.0 +12
KSH *es*P sP 19 34 34.4 +17
KSH *eP*P PP 19 37 57.9 +7.1
KSH SKS **SKSac** **19 44 18.4 -4.0**
KSH S **S** **19 45 08.3 -4.3**
KSH sS sS 19 45 59.8 +14
KSH AMB AMB
comp=Z,240nm,7.2s
KSH LR LR
comp=Z,110nm,5.5s
KSH LR LR
comp=Z,110nm,5.5s
KSH LR LR
comp=Z,84nm,7.6s
KURBB Kurchatov Arra 98.20 320 P P 19 33 48.8 -1.2
comp=Z,1.6nm,0.6s,baz=101,slow=3.3,SNR=17
KURBB PP **PP** **19 37 49.1 -1.2**
comp=Z,0.5nm,0.3s,baz=101,slow=8.2,SNR=6.7
TKM2 Tokmak 2 98.99 312 *eP* Pdif 19 33 54.0 0.0
TKM2 pmax pmax
comp=Z,3.0nm,0.8s
TKM2 Tokmak 2 98.99 312 *eP* Pdif 19 33 54.0 -0.1
comp=Z,2.7nm,0.8s
AAK Ala-Archa 99.75 312⇓ *eP* **Pdif 19 33 57.0 -0.4**
AAK pmax pmax
comp=Z,3.0nm,0.8s
AAK Ala-Archa 99.75 312 P Pdif 19 33 57.2 -0.2
AAK Ala-Archa 99.75 312 P Pdif 19 33 57.2 -0.2
comp=Z,1.5nm,0.7s,baz=147,slow=7.2,SNR=6.6
KKAR Karatay Array 102.72 312 *eP* **Pdif 19 34 09.8 -0.5**
KKAR pmax pmax
comp=Z,2.0nm,0.9s
KKAR Karatay Array 102.72 312 *eP* **Pdif 19 34 09.8 -0.5**
comp=Z,1.9nm,0.9s
H03N2 Juan Fernandez 102.85 129 T T 21 30 32.1
baz=245,slow=0.7,SNR=4.0
H03N3 Juan Fernandez 102.85 129 T T 21 30 32.6
baz=245,slow=0.7,SNR=4.8
H03N1 Juan Fernandez 102.87 129 T T 21 30 34.2
baz=245,slow=0.7,SNR=5.0
BVAR Borovoye Array 103.48 322 P Pdif 19 34 13.0 -0.5
BVAR 19 38 24.8
BVAR Borovoye Array 103.48 322 Pdif **Pdif** **19 34 13.0 -0.5**
BVAR PP PP 19 38 24.8 -5.3
BVAR Borovoye Array 103.48 322 Pdiff **Pdif** **19 34 13.0 -0.5**
comp=Z,0.9nm,0.7s,baz=90,slow=7.9,SNR=5.9
BVAR PP PP 19 38 24.8 -5.3
comp=Z,1.2nm,0.9s,baz=91,slow=7.4,SNR=3.8
ARCES ARCESS Array B 117.83 346 PKP **PKPdf** **19 38 57.3 -1.3**
ARCES PKKPab **PKKPab** **19 49 22.5 +0.2**
ARCES ARCESS Array B 117.83 346 PKP **PKPdf** **19 38 57.3 -1.3**
comp=Z,6.2nm,0.8s,baz=56,slow=2.1,SNR=18
ARCES PKKPab **PKKPab** **19 49 22.5 +0.2**
comp=Z,1.0nm,0.5s,baz=204,slow=5.3,SNR=3.6
MOS Moscow 121.53 329 *e*PKIKP PKPdf 19 39 18.3 +12
GNI Garni 122.10 310 *e*PKPdf **PKPdf** **19 39 08.2 +0.4**
GNI PKP **PKPdf** **19 39 08.4 +0.6**
GNI Garni 122.10 310 PKP **PKPdf** **19 39 08.4 +0.6**
comp=Z,7.6nm,0.8s,baz=12,slow=6.4,SNR=7.1
ZEI Tsey 122.14 313 *i* PKIKP **PKPdf** **19 39 07.4 -0.5**
ZEI pmax pmax
comp=Z,4.0nm,0.9s
OBN Obninsk 122.35 329⇓ *i* PKIKP **PKPdf** **19 39 08.0 +0.4**
OBN *e* 19 39 22.4
OBN pmax pmax
comp=Z,29nm,2.5s
KIV Kislovodsk 122.71 315 *i* PKIKP **PKPdf** **19 39 08.0 -0.8**
KIV *e* 19 39 22.8
KIV 19 40 48.0
KIV pmax pmax
comp=Z,4.0nm,0.8s
ANN Anapa 126.04 317 *i* PKIKP **PKPdf** **19 39 13.1 -1.9**
ANN pmax pmax
comp=Z,56nm,1.1s
MALT Malatya 127.29 309⇑ PKIKP **PKPdf** **19 39 18.8 +1.0**
MALT Malatya 127.29 309⇑ *iP* **PKPdf** **19 39 18.8 +1.0**
NB2 NORSAR Subarra 128.21 345 PKPdf **PKPdf** **19 39 18.7 -0.1**
comp=Z,3.4nm,1.0s,baz=31,slow=1.9
NOA NORSAR Array B 128.21 345 PKP **PKPdf** **19 39 18.6 -0.1**
NOA NORSAR Array B 128.21 345 PKP **PKPdf** **19 39 18.6 -0.1**
comp=Z,1.1nm,0.7s,baz=36,slow=2.0,SNR=5.9
AKASG Malin Array Be 128.41 327 *c i* PKIKP **PKPdf** **19 39 18.7 -0.6**
AKASG Malin Array Be 128.41 327 PKP **PKPdf** **19 39 18.8 -0.6**
AKASG PP **PP** **19 41 24.1 -0.3**
AKASG Malin Array Be 128.41 327 PKP **PKPdf** **19 39 18.8 -0.6**
comp=Z,2.6nm,0.9s,baz=56,slow=2.2,SNR=12
AKASG PP **PP** **19 41 24.1 -0.3**
comp=Z,0.4nm,0.4s,baz=55,slow=6.6,SNR=4.6
ASF Jabal al Asfar 129.89 302 PP PP 19 41 36.9 +1.6
ASF Jabal al Asfar 129.89 302 PP PP 19 41 36.9 +1.6
comp=Z,1.4nm,0.8s,baz=228,slow=1.2,SNR=3.2
BRTR Keskin Array B 130.43 312 PKP **PKPdf** **19 39 23.7 -0.1**
BRTR PP **PP** **19 41 37.3 -1.1**
BRTR SKPbc **SKPbc** **19 42 45.8 +4.4**
BRTR Keskin Array B 130.43 312 PKP **PKPdf** **19 39 23.7 -0.1**
comp=Z,1.3nm,0.8s,baz=90,slow=2.4,SNR=4.6
BRTR PP **PP** **19 41 37.3 -1.1**
comp=Z,1.7nm,0.8s,baz=99,slow=7.9,SNR=6.1
BRTR SKPbc **SKPbc** **19 42 45.8 +4.4**
comp=Z,1.1nm,0.8s,baz=99,slow=4.0,SNR=5.3
MMAI Mount Meron Ar 130.95 303 PKP **PKPdf** **19 39 26.0 +1.1**
MMAI Mount Meron Ar 130.95 303 PKP **PKPdf** **19 39 26.0 +1.1**
comp=Z,0.5nm,0.3s,baz=68,slow=2.2,SNR=3.9
TLCR 131.44 321⇑ PKIKP **PKPdf** **19 39 25.3 0.0**
TLCR 131.44 321⇑ *iP* **PKPdf** **19 39 25.3 0.0**
CFR Carcaliu 131.87 321⇓ PKIKP **PKPdf** **19 39 22.2 -3.9**
CFR Carcaliu 131.87 321⇓ *iP* **PKPdf** **19 39 22.1 -4.0**
EIL Elat 132.00 299 PKP **PKPdf** **19 39 27.2 +0.4**
EIL Elat 132.00 299 PKP **PKPdf** **19 39 27.2 +0.4**
comp=Z,4.8nm,0.8s,baz=319,slow=5.5,SNR=6.3
BURAR Bucovina Array 132.30 325⇓ PKIKP **PKPdf** **19 39 28.2 +1.2**
BURAR Bucovina Array 132.30 325⇓ *iP* **PKPdf** **19 39 28.2 +1.2**
VRI Vrincioaia 132.38 322⇑ PKIKP **PKPdf** **19 39 27.7 +0.6**
VRI Vrincioaia 132.38 322⇑ *iP* **PKPdf** **19 39 27.7 +0.6**
MLR Muntele Rosu 133.04 322⇓ *iP* **PKPdf** **19 39 28.9 +0.4**
STHS Stebnicka Huta 133.31 329 *e*PP PP 19 41 49.8 -6.4
ARR Arges 133.88 323⇑ *iP* **PKPdf** **19 39 29.8 -0.2**
BZS Buzias 135.48 325⇓ PKIKP **PKPdf** **19 39 32.9 0.0**
BZS Buzias 135.48 325⇓ *iP* **PKPdf** **19 39 32.9 0.0**
EKA Eskdalemuir Ar 136.42 351 SKPbc **SKPab** **19 43 07.2 +0.8**
EKA Eskdalemuir Ar 136.42 351 SKPbc **SKPab** **19 43 07.2 +0.8**
comp=Z,4.5nm,0.9s,baz=344,slow=2.8,SNR=8.4
PKSM Moragy 136.73 327⇑ PKIKP **PKPdf** **19 39 35.6 +0.4**
PKSM Moragy 136.73 327⇑ *iP* **PKPdf** **19 39 35.6 +0.4**
GERES GERESS Array B 137.25 334 PKP **PKPdf** **19 39 35.3 -0.9**
GERES SKPbc **SKiKP** **19 43 08.3 0.0**
GERES GERESS Array B 137.25 334 PKP **PKPdf** **19 39 35.3 -0.9**
comp=Z,1.0nm,0.8s,baz=8.5,slow=2.7,SNR=6.9
GERES SKPbc **SKiKP** **19 43 08.3 0.0**
comp=Z,0.8nm,0.6s,baz=38,slow=1.7,SNR=4.1
KEST Kesra 148.94 322 PKPbc **PKPbc** **19 40 01.4 +0.2**
KEST Kesra 148.94 322 PKPbc **PKPbc** **19 40 01.4 +0.2**
comp=Z,12nm,0.8s,baz=313,slow=1.6,SNR=24
POLO Lamas de Olo 150.72 351 *e*PKPbc **PKPbc** **19 40 05.4 +0.1**
MVO Moncorvo 150.80 350 *e*PKPbc **PKPbc** **19 40 06.0 +0.5**
ESDC Sonseca Array 151.56 344 PKPbc **PKPbc** **19 40 06.8 -0.5**
ESDC PKPab **PKPab** **19 40 15.4 -0.5**
ESDC Sonseca Array 151.56 344 PKPbc **PKPbc** **19 40 06.8 -0.5**
comp=Z,4.2nm,0.8s,baz=16,slow=2.3,SNR=20
ESDC PKPab **PKPab** **19 40 15.4 -0.5**
comp=Z,2.1nm,0.6s,baz=8.7,slow=4.1,SNR=11
MTE Manteigas 151.63 350 *e*PKPbc **PKPbc** **19 40 07.3 -0.1**
MTE Manteigas 151.63 350 *e*PKPbc **PKPbc** **19 40 06.9 -0.5**
PMRV Marv??o 152.55 350 *e*PKPbc **PKPbc** **19 40 09.5 0.0**
PMTG Montargil 153.04 351 *e*PKPbc **PKPbc** **19 40 07.5 -3.0**
EVO Evora 153.53 350 *e*PKPbc **PKPbc** **19 40 10.7 -0.9**
TORD Torodi Ar. Bea 165.17 274 PKP **PKPdf** **19 40 16.3 -1.7**
TORD PKPab **PKPab** **19 41 16.0 +0.6**
TORD Torodi Ar. Bea 165.17 274 PKP **PKPdf** **19 40 16.3 -1.7**
comp=Z,0.7nm,0.8s,baz=329,slow=6.6,SNR=4.2
TORD PKPab **PKPab** **19 41 16.0 +0.6**
comp=Z,22nm,0.9s,baz=78,slow=4.3,SNR=65
KIC Kosan Boka 169.48 236 *eP* **PKPab** **19 41 34.1 -0.3**
comp=Z,88nm,1.7s
LIC Lamto 169.63 234 *eP* **PKPab** **19 41 35.3 +0.2**
comp=Z,23nm,1.3s
DBIC Dimbokro 169.75 237 PKPab **PKPab** **19 41 35.3 -0.3**
DBIC Dimbokro 169.75 237 PKPab **PKPab** **19 41 35.3 -0.3**
comp=Z,7.4nm,0.9s,baz=126,slow=6.0,SNR=7.1
TIC Toumodi 169.87 236 *eP* **PKPab** **19 41 35.8 -0.4**
comp=Z,7.6nm,0.2s

IDC ***15*** *19:20:42.8±1.1,3.4°S×123.3°E,h0km,mb3.7/5, mb1 3.8/8,mb1mx3.7/23,mbtmp3.7/8,ML3.4/3,Error ellipse: s-maj=40.4km s-min=18.1km az=66.0*
ISCJB ***15*** *19:20:46.0±0.6,3.4°S±0.05×123.1°E±0.06,h38km, mb3.7/5,Error ellipse: s-maj=9.2km s-min=7.5km az=5.2*
DJA ***15*** *19:20:48.7±2.0,3.3°S±4.4×12.3°E±.1,h27km±23km,M3.8/8, MLv3.8/8*
ISC 15 19:20:48.1±0.9,3.49S±0.07×123.13E±0.10,h38km,n19, σ1s54/19,mb3.7/5,Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKSI	**Kolaka, Sulawe**	**1.63**	**245**	P	**Pn**	**19 21 12.9**	**-1.3**
BBSI	**Bau Bau**	**2.06**	**196**	P	**Pn**	**19 21 22.3**	**+2.0**
LUWI	**Luwuk**	**2.46**	**352**	P	**Pn**	**19 21 24.9**	**-0.8**
APSI	**Ampana**	**2.96**	**330**	P	**Pn**	**19 21 31.9**	**-0.7**
TTSI	**Tana Toraja**	**3.34**	**277**	P	**Pn**	**19 21 38.8**	**+1.0**
SPSI	**Sidrap Palu**	**3.39**	**262**	P	**Pn**	**19 21 35.9**	**-2.6**
BKSI	**Bulukumba**	**3.51**	**239**	P	**Pn**	**19 21 40.3**	**+0.1**
KAPI	**Kappang**	**3.70**	**246**	P	Pn	19 21 38.6	-4.1
KAPI	**Kappang**	**3.70**	**246**	Pn	**Pn**	**19 21 43.0**	**+0.3**
	6.8nm,0.3s,baz=83,slow=4.0,SNR=12						
KAPI				Sn	**Sn**	**19 22 27.5**	**+2.4**
	4.8nm,0.3s,baz=247,slow=22,SNR=6.7						
MRSI	**Marisa**	**4.12**	**343**	P	**Pn**	**19 21 48.4**	**-0.1**
MJSI	**Majene**	**4.15**	**269**	P	**Pn**	**19 21 47.7**	**-1.2**
BATI	**Baumata**	**6.69**	**176**	Pn	**Pn**	**19 22 23.9**	**0.0**
	0.9nm,0.3s,baz=98,slow=7.3,SNR=4.7						
FITZ	**Fitzroy Crossi**	**14.73**	**171**	Pn	**P**	**19 24 16.4**	**-3.0**
	0.1nm,0.3s,baz=356,slow=4.3,SNR=7.3						
WRA	**Warramunga Arr**	**19.67**	**147**	P	**P**	**19 25 12.9**	**-1.1**
	0.1nm,0.3s,baz=329,slow=9.6,SNR=2.8						
ASAR	**Alice Springs**	**22.60**	**154**	P	**P**	**19 25 44.4**	**-1.3**
	2.4nm,0.9s,baz=344,slow=15,SNR=14						
CMAR	**Chiang Mai Arr**	**32.30**	**313**	P	**P**	**19 27 15.4**	**+1.7**
	0.8nm,0.7s,baz=136,slow=7.3,SNR=8.0						
SONM	**Songino Array**	**53.18**	**346**	P	**P**	**19 30 03.3**	**+0.8**
	0.3nm,0.5s,baz=167,slow=7.4,SNR=4.2						
ZALV	**Zalesovo Beam**	**65.53**	**336**	P	**P**	**19 31 27.3**	**-0.3**
	1.2nm,0.7s,baz=134,slow=6.4,SNR=5.4						
KURBB	**Kurchatov Arra**	**66.04**	**331**	P	**P**	**19 31 31.6**	**+0.7**
	0.8nm,1.0s,baz=121,slow=5.0,SNR=7.5						

IDC ***15*** *19:28:20.3±8.3,2.59S×123.34E,h0km,mb3.7/3, mb1 4.0/5,mb1mx3.6/22,mbtmp3.9/5,ML3.9/2,MS3.1/1, Ms1 3.1/1,ms1mx2.8/31,Error ellipse: s-maj=135.5km s-min=40.8km az=3.0*
DJA ***15*** *19:28:32.8±0.7,3.7°S±3.7×12.7°E±.1,h85km±17km,M4.0/3, MLv4.0/3*
ISC 15 19:28:30.5±1.6,3.45S±0.05×123.19E±0.06,h25km±15km, n15,σ1s37/22,Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKSI	**Kolaka, Sulawe**	**1.70**	**245**	P	**Pb**	**19 29 00.8**	**-0.3**
KKSI				S	**Sb**	**19 29 22.3**	**+0.2**
KKSI	**Kolaka, Sulawe**	**1.70**	**245**	P	**Pn**	**19 29 00.0**	**+1.4**
BBSI	**Bau Bau**	**2.12**	**197**	P	**Pb**	**19 29 09.3**	**+1.0**
BBSI				S	**Sn**	**19 29 31.7**	**+1.8**
BBSI	**Bau Bau**	**2.12**	**197**	P	**Pn**	**19 29 05.5**	**+1.1**
LUWI	**Luwuk**	**2.43**	**350**	P	**Pn**	**19 29 10.8**	**+2.2**
LUWI				S	**Sb**	**19 29 40.9**	**-2.1**
TTSI	**Tana Toraja**	**3.39**	**277**	P	**Pn**	**19 29 22.8**	**+0.9**
TTSI				S	**Sn**	**19 30 04.0**	**+2.6**
SPSI	**Sidrap Palu**	**3.46**	**261**	P	**Pn**	**19 29 24.0**	**+1.2**
SPSI				S	**Sn**	**19 30 02.9**	**0.0**
BKSI	**Bulukumba**	**3.58**	**239**	P	**Pn**	**19 29 25.7**	**+1.2**
BKSI				S	**Sn**	**19 30 04.6**	**-1.5**
BKSI	**Bulukumba**	**3.58**	**239**	P	**Pn**	**19 29 25.6**	**+1.1**
KAPI	**Kappang**	**3.77**	**245**	P	**Pn**	**19 29 27.3**	**+0.2**
KAPI	**Kappang**	**3.77**	**245**	Pn	**Pn**	**19 29 26.7**	**-0.4**
	9.2nm,0.3s,baz=98,slow=5.3,SNR=19						
KAPI				Sn	**Sn**	**19 30 09.9**	**-0.7**
	4.1nm,0.3s,baz=291,slow=23,SNR=7.0						
KAPI				LR	LR	19 31 35.0	
	comp=Z,207nm,18.6s,baz=296,slow=45						
FITZ	**Fitzroy Crossi**	**14.76**	**171**	Pn	**P**	**19 32 02.1**	**-1.4**
	0.3nm,0.3s,baz=360,slow=14,SNR=6.8						
WRA	**Warramunga Arr**	**19.67**	**147**	P	**Pn**	**19 32 59.1**	**-0.3**
	0.5nm,0.5s,baz=328,slow=10,SNR=5.2						
ASAR	**Alice Springs**	**22.61**	**154**	P	**P**	**19 33 29.6**	**0.0**
	3.1nm,0.6s,baz=333,slow=11,SNR=16						
STKA	**Stephens Creek**	**33.15**	**151**	P	**P**	**19 35 04.5**	**-0.5**
	1.2nm,0.7s,baz=321,slow=11,SNR=3.9						

IDC 15 19:30:18.9±1.0, 2°82'N×128°09'E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/21, mbtmp3.7/6, Error ellipse: s-maj=63.1km s-min=18.0km az=74.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.93**	**187**	P	Pn	19 35 08.8	+3.0
	0.6nm,0.6s,baz=4.4,slow=12,SNR=4.6						
WRA	**Warramunga Arr**	**23.44**	**165**	P	P	19 35 30.6	+0.5
	0.5nm,0.3s,baz=334,slow=11,SNR=8.8						
ASAR	**Alice Springs**	**26.93**	**168**	P	P	19 36 02.2	+0.1
	0.5nm,0.5s,baz=351,slow=7.8,SNR=13						
MJAR	**Matsushiro Arr**	**34.83**	**14**	P	P	19 37 09.6	-2.1
	1.3nm,0.9s,baz=191,slow=11,SNR=5.0						
STKA	**Stephens Creek**	**36.82**	**161**	P	P	19 37 28.2	-0.6
	1.3nm,0.7s,baz=344,slow=7.4,SNR=4.2						
MKAR	**Makanchi Array**	**59.07**	**325**	P	P	19 40 22.2	+1.2
	0.3nm,0.5s,baz=131,slow=6.5,SNR=4.2						
KURBB	**Kurchatov Arra**	**63.23**	**327**	P	P	19 40 49.0	-0.1
	0.6nm,0.2s,baz=130,slow=6.2,SNR=4.3						

*ISCJB **15** 19:32:18.2±0.7, 29°.46S±0°.04×67°.38W±0°.07, h116km±8km, mb4.3/16, Error ellipse: s-maj=10.6km s-min=6.0km az=162.9*
*NEIC **15** 19:32:20.4±0.3, 29°.47S×67°.33W, mb4.9/6, Error ellipse: s-maj=10.8km s-min=6.8km az=86.0*
*IDC **15** 19:32:21.0±0.4, 29°.57S×67°.47W, h125km±3km, mb4.0/12, mb1 4.2/14, mb1mx4.1/20, mbtmp4.1/14, Error ellipse: s-maj=16.6km s-min=7.9km az=99.0*

ISC 15 19:32:20.7±0.4, 29°50S±0°.04×67°46W±0°.06, h127km±3km, n81, σ1℘36/112, mb4.3/16, 6C-2D, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**2.20**	**198**	P	**Pn**	**19 32 56.3**	**-0.7**
CFAA				S	**Sn**	**19 33 23.6**	**-1.2**
CFAA	**Coronel Fontan**	**2.20**	**198**	P	**Pn**	**19 32 56.3**	**-0.7**
	baz=13,slow=13						
CFAA				S	**Sn**	**19 33 23.6**	**-1.2**
	148nm,0.3s,baz=299,slow=19,SNR=23						
LCO	**Las Campanas**	**2.87**	**279**	*e*Pn	**Pn**	**19 33 05.8**	**0.0**
LCO				*e*Sn	**Sn**	**19 33 39.3**	**-1.2**
LCO	**Las Campanas**	**2.87**	**279**	⇓*i*P	**Pn**	**19 33 06.1**	**+0.3**
LCO				*i* S	**Sn**	**19 33 39.7**	**-0.8**
TLL	**Tololo Astrono**	**2.98**	**256**	⇓*i*P	**Pn**	**19 33 07.8**	**+0.6**
TLL				*i* S	**Sn**	**19 33 43.2**	**+0.3**
VACH	**Vallenar**	**3.03**	**287**	⇑*i*P	**Pn**	**19 33 07.8**	**+0.2**
VACH				*i* S	**Sn**	**19 33 42.2**	**-1.6**
CPCH	**Copiapo**	**3.32**	**309**	⇑*i*P	**Pn**	**19 33 10.4**	**-1.1**
CPCH				*i* S	**Sn**	**19 33 47.8**	**-2.8**
CMCH	**Combarbala**	**3.48**	**241**	*e*P	**Pn**	**19 33 12.1**	**-1.5**
CDCH	**Caldera**	**3.83**	**308**	⇑*i*P	**Pn**	**19 33 17.5**	**-0.6**
CDCH				*i* S	**Sn**	**19 33 59.4**	**-3.2**
CHNG	**Los Chungos**	**4.21**	**235**	⇑*i*P	**Pn**	**19 33 20.8**	**-2.3**
CHNG				*i* S	**Sn**	**19 34 07.2**	**-4.4**
LMEL	**Las Melosas**	**4.92**	**208**	⇑*i*P	**Pn**	**19 33 31.7**	**-1.1**
LVC	**Limon Verde**	**6.98**	**349**	*e*P	**Pn**	**19 33 59.8**	**-0.8**
	37nm,0.4s						
TRQA	**Tornquist**	**9.67**	**153**	*e*P	**Pn**	**19 34 34.4**	**-2.2**
	19nm,0.5s						
LPAZ	**La Paz**	**13.17**	**357**	*e*P	**Pn**	**19 35 22.2**	**-1.3**
	66nm,0.8s						
LPAZ	**La Paz**	**13.17**	**357**	P	**Pn**	**19 35 24.6**	**+1.1**
	1.2nm,0.3s,baz=167,slow=9.8,SNR=6.2						
SIV	**San Ignacio**	**14.68**	**25**	P	**Pn**	**19 35 40.0**	**-2.2**
SIV	**San Ignacio**	**14.68**	**25**	P	**Pn**	**19 35 40.0**	**-2.2**
	1.4nm,0.3s,baz=220,slow=13,SNR=33						
SAML	**Samuel**	**20.84**	**12**	*e*P	**P**	**19 36 52.2**	**-0.2**
	28nm,0.6s						
BDFB	**Brasilia**	**22.60**	**57**	P	**P**	**19 37 08.2**	**-2.7**
BDFB	**Brasilia**	**22.60**	**57**	P	**P**	**19 37 08.2**	**-2.7**
	4.7nm,0.5s,baz=229,slow=9.7,SNR=6.5						
SDV	**Santo Domingo**	**38.29**	**355**	*e*P	**P**	**19 39 28.0**	**-1.0**
	9.3nm,1.0s						
OBIP	**Obispado Ponce**	**47.27**	**1**	*e*P	**P**	**19 40 40.2**	**-1.0**
	29nm,0.6s						
CELP	**Cerrillos**	**47.31**	**1**	*e*P	**P**	**19 40 40.0**	**-1.5**
SDDR	**Presa de Saban**	**48.34**	**355**	*e*P	**P**	**19 40 51.0**	**+1.5**
	7.2nm,0.6s						
SNAA	**Sanae**	**54.34**	**159**	P	**P**	**19 41 33.8**	**+0.2**
SNAA	**Sanae**	**54.34**	**159**	P	**P**	**19 41 33.8**	**+0.2**
	4.0nm,0.9s,baz=271,slow=6.0,SNR=15						
QSPA	**South Pole Qui**	**60.72**	**180**	P	**P**	**19 42 19.2**	**+0.7**
QSPA	**South Pole Qui**	**60.72**	**180**	P	**P**	**19 42 19.2**	**+0.7**
	12nm,0.6s						
TXAR	**Lajitas Array**	**67.95**	**326**	P	**P**	**19 43 07.0**	**+1.0**
TXAR				pP	**pP**	**19 43 37.9**	**+0.8**
TXAR	**Lajitas Array**	**67.95**	**326**	P	**P**	**19 43 07.0**	**+1.0**
	1.2nm,0.7s,baz=153,slow=8.2,SNR=9.8						
TXAR				pP	**pP**	**19 43 37.9**	**+0.8**
	2.1nm,0.9s,baz=150,slow=8.4,SNR=6.9						
SYO	**Syowa Base**	**68.60**	**158**	⇑*eP*	**P**	**19 43 08.0**	**-1.4**
VNDA	**Vanda**	**69.23**	**190**	P	**P**	**19 43 14.9**	**+1.7**
VNDA				pP	**pP**	**19 43 44.6**	**+0.2**
VNDA	**Vanda**	**69.23**	**190**	P	**P**	**19 43 14.9**	**+1.7**
	2.0nm,0.8s,baz=139,slow=5.1,SNR=11						
VNDA				pP	**pP**	**19 43 44.6**	**+0.2**
	0.7nm,0.8s,baz=105,slow=4.8,SNR=2.2						
DBIC	**Dimbokro**	**70.01**	**70**	P	**P**	**19 43 19.4**	**+0.5**
DBIC	**Dimbokro**	**70.01**	**70**	P	**P**	**19 43 19.4**	**+0.5**
	3.0nm,0.5s,baz=191,slow=7.1,SNR=8.1						
ANMO	**Albuquerque**	**73.91**	**327**	P	**P**	**19 43 43.0**	**+1.1**
ANMO	**Albuquerque**	**73.91**	**327**	P	**P**	**19 43 43.0**	**+1.1**
	1.6nm,0.6s,baz=137,slow=6.5,SNR=5.2						
MAW	**Mawson**	**76.33**	**163**	P	**P**	**19 43 55.7**	**+0.5**
MAW	**Mawson**	**76.33**	**163**	P	**P**	**19 43 55.7**	**+0.5**
	4.0nm,0.8s,baz=237,slow=6.8,SNR=9.2						
BOSA	**Boshof**	**78.63**	**116**	P	**P**	**19 44 09.1**	**+0.2**
BOSA	**Boshof**	**78.63**	**116**	P	**P**	**19 44 09.1**	**+0.2**
	13nm,0.7s,baz=255,slow=5.6,SNR=26						
TOA0	**Torodi Ar. Sit**	**78.96**	**68**	*eP*	**P**	**19 44 11.4**	**+0.7**
TORD	**Torodi Ar. Bea**	**78.96**	**68**	P	**P**	**19 44 11.3**	**+0.6**
TORD				pP	**pP**	**19 44 42.5**	**-0.1**
TORD	**Torodi Ar. Bea**	**78.96**	**68**	P	**P**	**19 44 11.3**	**+0.6**
	6.7nm,0.8s,baz=257,slow=4.8,SNR=26						
TORD				pP	**pP**	**19 44 42.5**	**-0.1**
	1.9nm,0.7s,baz=268,slow=4.6,SNR=3.1						
PDAR	**Pinedale Array**	**81.67**	**330**	P	**P**	**19 44 25.4**	**+0.6**
PDAR				pP	**pP**	**19 44 57.9**	**+0.8**
PDAR	**Pinedale Array**	**81.67**	**330**	P	**P**	**19 44 25.4**	**+0.6**
	1.5nm,0.7s,baz=128,slow=7.0,SNR=9.9						
PDAR				pP	**pP**	**19 44 57.9**	**+0.8**
	1.4nm,0.6s,baz=141,slow=7.3,SNR=6.6						
NVAR	**Mina Array Bea**	**82.58**	**322**	P	**P**	**19 44 30.8**	**+1.0**
NVAR				pP	**pP**	**19 45 02.1**	**+0.2**
NVAR	**Mina Array Bea**	**82.58**	**322**	P	**P**	**19 44 30.8**	**+1.0**
	0.5nm,0.8s,baz=132,slow=4.2,SNR=3.7						
NVAR				pP	**pP**	**19 45 02.1**	**+0.2**
	1.2nm,0.9s,baz=163,slow=5.9,SNR=5.1						
ELK	**Elko**	**82.73**	**325**	pP	pP	19 45 03.6	+1.0
ELK	**Elko**	**82.73**	**325**	pP	pP	19 45 03.6	+1.0
	0.7nm,0.3s,baz=283,slow=22,SNR=3.6						
ULM	**Lac du Bonnet**	**83.31**	**342**	P	**P**	**19 44 32.6**	**-0.2**
ULM	**Lac du Bonnet**	**83.31**	**342**	P	**P**	**19 44 32.6**	**-0.2**
	2.7nm,0.7s,baz=178,slow=7.0,SNR=3.2						
ASAR	**Alice Springs**	**123.28**	**204**	PKP	**PKPdf**	**19 51 02.0**	**-1.1**
ASAR				pPKP	**pPKPdf**	**19 51 35.1**	**-2.2**
ASAR	**Alice Springs**	**123.28**	**204**	PKP	**PKPdf**	**19 51 02.0**	**-1.1**
	1.4nm,0.7s,baz=136,slow=1.8,SNR=20						
ASAR				pPKP	**pPKPdf**	**19 51 35.1**	**-2.2**
	0.3nm,0.6s,baz=144,slow=1.7,SNR=2.3						
WRA	**Warramunga Arr**	**126.54**	**206**	PKP	**PKPdf**	**19 51 08.7**	**-0.7**
WRA				pPKP	**pPKPdf**	**19 51 42.5**	**-1.1**
WRA	**Warramunga Arr**	**126.54**	**206**	PKP	**PKPdf**	**19 51 08.7**	**-0.7**
	3.9nm,0.6s,baz=165,slow=1.6,SNR=34						
WRA				pPKP	**pPKPdf**	**19 51 42.5**	**-1.1**
	1.2nm,0.5s,baz=166,slow=1.7,SNR=4.9						
ABKAR	**Akbulak array**	**135.81**	**48**	*e*PKPdf	**PKPdf**	**19 51 26.8**	**+0.9**
BVAR	**Borovoye Array**	**141.34**	**40**	PKP	**PKPdf**	**19 51 34.6**	**-1.4**
BVAR	**Borovoye Array**	**141.34**	**40**	PKP	**PKPdf**	**19 51 34.6**	**-1.4**
	0.5nm,0.4s,baz=336,slow=1.8,SNR=4.0						
KKAR	**Karatay Array**	**143.89**	**56**	*e*PKPdf	PKPbc	19 51 39.6	+0.7
KAPI	**Kappang**	**144.99**	**193**	PKP	PKPbc	19 51 42.5	-0.6
KAPI				pPKP	pPKPdf	19 52 16.3	-1.5
KAPI	**Kappang**	**144.99**	**193**	PKP	PKPbc	19 51 42.5	-0.6
	30nm,0.8s,baz=190,slow=5.1,SNR=18						
KAPI				pPKP	pPKPdf	19 52 16.3	-1.5
	7.4nm,0.6s,baz=168,slow=9.2,SNR=2.4						
EKS2	**Erkin-Say**	**146.33**	**56**	*e*PKPdf	**PKPbc**	**19 51 46.7**	**+0.1**
EKS2				*ep*PKPdf	**pPKPdf**	**19 52 20.7**	**+1.3**
AAK	**Ala-Archa**	**146.85**	**56**	PKPbc	**PKPbc**	**19 51 47.4**	**-0.8**
AAK				*e*PKPdf	**PKPab**	**19 51 48.0**	**-1.8**
AAK	**Ala-Archa**	**146.85**	**56**	PKPbc	**PKPbc**	**19 51 47.4**	**-0.8**
	2.9nm,0.7s,baz=224,slow=3.0,SNR=8.5						
KURBB	**Kurchatov Arra**	**146.93**	**41**	PKPbc	**PKPbc**	**19 51 47.2**	**-0.6**
	6.7nm,0.7s,baz=300,slow=3.2,SNR=52						
KURBB				pPKPbc	pPKPbc	19 52 20.6	-1.1
	3.0nm,0.7s,baz=300,slow=3.2,SNR=6.7						
KURK	**Kurchatov**	**146.94**	**41**	PKPbc	**PKPbc**	**19 51 47.2**	**-0.6**
KURK				pPKPbc	pPKPbc	19 52 20.6	-1.1
TKM2	**Tokmak 2**	**147.59**	**55**	*e*PKPdf	**PKPbc**	**19 51 48.8**	**-1.4**
ZALV	**Zalesovo Beam**	**148.36**	**32**	PKPbc	**PKPbc**	**19 51 52.5**	**+0.9**
ZALV				pPKPbc	**pPKPbc**	**19 52 26.4**	**+1.0**
ZALV	**Zalesovo Beam**	**148.36**	**32**	PKPbc	**PKPbc**	**19 51 52.5**	**+0.9**
	12nm,0.5s,baz=305,slow=3.5,SNR=48						
ZALV				pPKPbc	**pPKPbc**	**19 52 26.4**	**+1.0**
	4.6nm,0.7s,baz=309,slow=3.7,SNR=4.6						
PSI	**Prapat**	**150.46**	**152**	PKPbc	**PKPbc**	**19 51 57.5**	**-0.7**
PSI	**Prapat**	**150.46**	**152**	PKPbc	**PKPbc**	**19 51 57.5**	**-0.7**
	4.7nm,0.6s,baz=186,slow=21,SNR=5.9						
MK31	**Makanchi Array**	**150.86**	**45**	*e*PKPbc	**PKPbc**	**19 51 58.3**	**+0.3**
MK31				*ep*PKPdf	**pPKPdf**	**19 52 32.6**	**+6.1**
MKAR	**Makanchi Array**	**150.86**	**45**	PKPbc	**PKPbc**	**19 51 58.5**	**+0.5**
MKAR				PKPab	**PKPab**	**19 52 06.7**	**+1.0**
MKAR				pPKPbc	**pPKPbc**	**19 52 32.5**	**+0.5**
MKAR	**Makanchi Array**	**150.86**	**45**	PKPbc	**PKPbc**	**19 51 58.5**	**+0.5**
	9.4nm,0.7s,baz=301,slow=2.1,SNR=66						
MKAR				PKPab	**PKPab**	**19 52 06.7**	**+1.0**
	2.0nm,0.6s,baz=299,slow=2.5,SNR=4.2						
MKAR				pPKPbc	**pPKPbc**	**19 52 32.5**	**+0.5**
	3.3nm,0.6s,baz=296,slow=2.1,SNR=6.3						
MJAR	**Matsushiro Arr**	**157.40**	**295**	pPKPab	pPKPab	19 53 07.0	+0.2
MJAR	**Matsushiro Arr**	**157.40**	**295**	pPKPab	pPKPab	19 53 07.0	+0.2
	1.1nm,0.8s,baz=144,slow=1.9,SNR=3.6						
SONM	**Songino Array**	**161.09**	**13**	PKP	**PKPdf**	**19 52 07.0**	**+1.2**
SONM				PKPab	**PKPab**	**19 52 50.6**	**+1.1**
SONM				pPKPab	**pPKPab**	**19 53 23.4**	**+0.9**
SONM	**Songino Array**	**161.09**	**13**	PKP	**PKPdf**	**19 52 07.0**	**+1.2**
	0.7nm,1.0s,baz=117,slow=1.7,SNR=4.8						
SONM				PKPab	**PKPab**	**19 52 50.6**	**+1.1**
	0.4nm,0.7s,baz=9.4,slow=3.7,SNR=3.9						
SONM				pPKPab	**pPKPab**	**19 53 23.4**	**+0.9**
	0.6nm,0.8s,baz=334,slow=5.7,SNR=4.3						
CMAR	**Chiang Mai Arr**	**163.43**	**129**	PKP	**PKPdf**	**19 52 09.4**	**+0.6**
CMAR				PKPab	**PKPab**	**19 53 00.6**	**+0.1**
CMAR	**Chiang Mai Arr**	**163.43**	**129**	PKP	**PKPdf**	**19 52 09.4**	**+0.6**
	0.5nm,0.8s,baz=292,slow=2.9,SNR=4.7						
CMAR				PKPab	**PKPab**	**19 53 00.6**	**+0.1**
	1.0nm,0.8s,baz=237,slow=4.6,SNR=8.4						

*CSEM **15** 20:54:05.0±0.2, 45°.65N×26°.51E, h149km±2km, MD4.7/2, Error ellipse: s-maj=3.3km s-min=2.9km az=7.0*
*IDC **15** 20:54:05.2±0.6, 45°.64N×26°.35E, h142km±4km, mb3.2/6, mb1 3.1/10, mb1mx3.0/27, mbtmp3.1/10, MS2.9/1, Ms1 2.9/1, ms1mx2.4/26, Error ellipse: s-maj=23.9km s-min=13.9km az=140.0*
*BUC **15** 20:54:05.3±0.7, 45°.65N×26°.49E, h151km±7km, MD4.7/2, Error ellipse: s-maj=4.8km s-min=4.4km az=52.0*
*ISCJB **15** 20:54:06.4±0.2, 45°.65N±0°.02×26°.53E±0°.03, h132km, mb3.4/6, Error ellipse: s-maj=3.5km s-min=3.2km az=5.7*

ISC 15 20:54:07.3±0.5, 45°.67N±0°.03×26°.53E±0°.03, h132km, n128, σ1℘30/179, mb3.5/6, 65C-47D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.20**	**25**	⇑*i*P	**Pn**	**20 54 25.3**	**-0.2**
PLOR	**Plostina**	**0.20**	**25**	⇑*i*P	**Pn**	**20 54 25.3**	**-0.2**
PLOR				*i* S	**Sn**	**20 54 41.2**	**+2.0**
PLOR	**Plostina**	**0.20**	**25**	⇑*i*P	**Pn**	**20 54 25.3**	**-0.2**
PLOR				*i* S	**Sn**	**20 54 41.2**	**+2.0**
VRI	**Vrincioaia**	**0.24**	**35**	⇑*i*P	**Pn**	**20 54 25.7**	**+0.2**
VRI	**Vrincioaia**	**0.24**	**35**	⇑*i*P	**Pn**	**20 54 25.7**	**+0.2**
VRI				*i* S	**Sn**	**20 54 40.6**	**+1.2**
VRI	**Vrincioaia**	**0.24**	**35**	⇑*i*P	**Pn**	**20 54 25.7**	**+0.2**
VRI				*i* S	**Sn**	**20 54 40.6**	**+1.2**
ODBI	**Odobesti**	**0.38**	**75**	⇑*i*P	Pn	20 54 27.2	+1.2
ODBI	**Odobesti**	**0.38**	**75**	⇑*i*P	Pn	20 54 27.2	+1.2
ODBI				*i* S	**Sn**	**20 54 43.0**	**+2.9**
ODBI	**Odobesti**	**0.38**	**75**	⇑*i*P	Pn	20 54 27.2	+1.2
ODBI				*i* S	**Sn**	**20 54 43.0**	**+2.9**
GRER		**0.43**	**132**	⇓*i*P	Pn	20 54 27.4	+1.2
GRER		**0.43**	**132**	⇓*i*P	Pn	20 54 27.4	+1.2
GRER		**0.43**	**132**	⇓*i*P	Pn	20 54 27.4	+1.2
MLR	**Muntele Rosu**	**0.45**	**247**	⇑*i*P	**Pn**	**20 54 26.4**	**-0.1**
MLR	**Muntele Rosu**	**0.45**	**247**	⇑*i*P	**Pn**	**20 54 26.4**	**-0.1**
MLR				*i* S	**Sn**	**20 54 42.2**	**+1.3**
MLR	**Muntele Rosu**	**0.45**	**247**	⇑*i*P	**Pn**	**20 54 26.4**	**-0.1**
MLR				*i* S	**Sn**	**20 54 42.2**	**+1.3**
MLR	**Muntele Rosu**	**0.45**	**247**	P	**Pn**	**20 54 26.5**	**-0.1**
	25nm,0.3s,baz=297,slow=21,SNR=2382						
MLR				S	**Sn**	**20 54 41.5**	**+0.6**
	151nm,0.3s,baz=240,slow=20,SNR=104						
PETR	**Petresti**	**0.50**	**83**	⇑*i*P	**Pn**	**20 54 27.2**	**+0.7**
PETR	**Petresti**	**0.50**	**83**	⇑*i*P	**Pn**	**20 54 27.2**	**+0.7**
PETR				*i* S	**Sn**	**20 54 43.3**	**+2.2**
PETR	**Petresti**	**0.50**	**83**	⇑*i*P	**Pn**	**20 54 27.2**	**+0.7**
PETR				*i* S	**Sn**	**20 54 43.3**	**+2.2**
ISR	**Istrita**	**0.55**	**179**	⇑*i*P	**Pn**	**20 54 27.3**	**+0.3**
ISR	**Istrita**	**0.55**	**179**	⇑*i*P	**Pn**	**20 54 27.3**	**+0.3**
ISR				*i* S	**Sn**	**20 54 42.5**	**+0.7**
ISR	**Istrita**	**0.55**	**179**	⇑*i*P	**Pn**	**20 54 27.3**	**+0.3**
ISR				*i* S	**Sn**	**20 54 42.5**	**+0.7**
GHRR		**0.73**	**57**	⇑*i*P	**Pn**	**20 54 28.4**	**+0.3**
GHRR		**0.73**	**57**	⇑*i*P	**Pn**	**20 54 28.4**	**+0.3**
GHRR				*i* S	**Sn**	**20 54 46.1**	**+2.2**
GHRR		**0.73**	**57**	⇑*i*P	**Pn**	**20 54 28.4**	**+0.3**
GHRR				*i* S	**Sn**	**20 54 46.1**	**+2.2**
PGOR	**Pogoanele**	**0.83**	**157**	⇓*i*P	**Pn**	**20 54 29.0**	**+0.1**
PGOR	**Pogoanele**	**0.83**	**157**	⇓*i*P	**Pn**	**20 54 29.0**	**+0.1**
PGOR				*i* S	**Sn**	**20 54 47.0**	**+1.9**
PGOR	**Pogoanele**	**0.83**	**157**	⇓*i*P	**Pn**	**20 54 29.0**	**+0.1**
PGOR				*i* S	**Sn**	**20 54 47.0**	**+1.9**
PLAR	**PLOIESTI**	**0.83**	**205**	S	**Sn**	**20 54 47.3**	**+2.1**
PLAR	**PLOIESTI**	**0.83**	**205**	*i* S	**Sn**	**20 54 47.3**	**+2.1**
PLAR	**PLOIESTI**	**0.83**	**205**	*i* S	**Sn**	**20 54 47.3**	**+2.1**
TESR	**Tescani**	**0.85**	**6**	⇑*i*P	**Pn**	**20 54 28.5**	**-0.6**
TESR	**Tescani**	**0.85**	**6**	⇑*i*P	**Pn**	**20 54 28.5**	**-0.6**
TESR				*i* S	**Sn**	**20 54 45.7**	**+0.1**
TESR	**Tescani**	**0.85**	**6**	⇑*i*P	**Pn**	**20 54 28.5**	**-0.6**
TESR				*i* S	**Sn**	**20 54 45.7**	**+0.1**
DOPR	**Dopca**	**0.85**	**291**	⇑*i*P	**Pn**	**20 54 28.5**	**-0.6**
DOPR	**Dopca**	**0.85**	**291**	⇑*i*P	**Pn**	**20 54 28.5**	**-0.6**
DOPR				*i* S	**Sn**	**20 54 46.0**	**+0.4**
DOPR	**Dopca**	**0.85**	**291**	⇑*i*P	**Pn**	**20 54 28.5**	**-0.6**
DOPR				*i* S	**Sn**	**20 54 46.0**	**+0.4**
SULR		**1.01**	**191**	⇓*i*P	**Pn**	**20 54 30.2**	**-0.2**
SULR		**1.01**	**191**	⇓*i*P	**Pn**	**20 54 30.2**	**-0.2**
SULR				*i* S	**Sn**	**20 54 49.4**	**+1.4**
SULR		**1.01**	**191**	⇓*i*P	**Pn**	**20 54 30.2**	**-0.2**
SULR				*i* S	**Sn**	**20 54 49.4**	**+1.4**
VOIR		**1.06**	**258**	⇑*i*P	**Pn**	**20 54 30.0**	**-1.1**
VOIR		**1.06**	**258**	⇑*i*P	**Pn**	**20 54 30.0**	**-1.1**
VOIR				*i* S	**Sn**	**20 54 48.4**	**-0.7**
VOIR		**1.06**	**258**	⇑*i*P	**Pn**	**20 54 30.0**	**-1.1**
VOIR				*i* S	**Sn**	**20 54 48.4**	**-0.7**
MTUR	**Matau**	**1.12**	**247**	⇑*i*P	**Pn**	**20 54 31.0**	**-0.6**
MTUR	**Matau**	**1.12**	**247**	⇑*i*P	**Pn**	**20 54 31.0**	**-0.6**
MTUR	**Matau**	**1.12**	**247**	⇑*i*P	**Pn**	**20 54 31.0**	**-0.6**
AMRR	**Amara**	**1.20**	**151**	⇓*i*P	**Pn**	**20 54 32.0**	**-0.3**
AMRR	**Amara**	**1.20**	**151**	⇓*i*P	**Pn**	**20 54 32.0**	**-0.3**
AMRR				*i* S	**Sn**	**20 54 51.7**	**+0.4**
AMRR	**Amara**	**1.20**	**151**	⇓*i*P	**Pn**	**20 54 32.0**	**-0.3**
AMRR				*i* S	**Sn**	**20 54 51.7**	**+0.4**
CFR	**Carcaliu**	**1.23**	**113**	⇑*i*P	**Pn**	**20 54 32.0**	**-0.6**
CFR	**Carcaliu**	**1.23**	**113**	⇑*i*P	**Pn**	**20 54 32.0**	**-0.6**
CFR				*i* S	**Sn**	**20 54 51.8**	**-0.1**
CFR	**Carcaliu**	**1.23**	**113**	⇑*i*P	**Pn**	**20 54 32.0**	**-0.6**
CFR				*i* S	**Sn**	**20 54 51.8**	**-0.1**
ARR	**Arges**	**1.36**	**258**	⇑*i*P	**Pn**	**20 54 33.2**	**-0.9**
ARR	**Arges**	**1.36**	**258**	⇑*i*P	**Pn**	**20 54 33.2**	**-0.9**
ARR				*i* S	**Sn**	**20 54 55.6**	**+1.1**
ARR	**Arges**	**1.36**	**258**	⇑*i*P	**Pn**	**20 54 33.2**	**-0.9**
ARR				*i* S	**Sn**	**20 54 55.6**	**+1.1**
BUC1	**Bucharest**	**1.37**	**195**	⇓*i*P	**Pn**	**20 54 33.3**	**-0.8**
BUC1	**Bucharest**	**1.37**	**195**	⇓*i*P	**Pn**	**20 54 33.3**	**-0.8**
BUC1				*i* S	**Sn**	**20 54 54.0**	**-0.4**
BUC1	**Bucharest**	**1.37**	**195**	⇓*i*P	**Pn**	**20 54 33.3**	**-0.8**
BUC1				*i* S	**Sn**	**20 54 54.0**	**-0.4**
GOLR		**1.38**	**234**	⇑*i*P	**Pn**	**20 54 33.6**	**-0.6**
GOLR		**1.38**	**234**	⇑*i*P	**Pn**	**20 54 33.6**	**-0.6**
GOLR				*i* S	**Sn**	**20 54 55.0**	**+0.3**
GOLR		**1.38**	**234**	⇑*i*P	**Pn**	**20 54 33.6**	**-0.6**
GOLR				*i* S	**Sn**	**20 54 55.0**	**+0.3**
LEOM	**Leova**	**1.44**	**55**	⇑*i*P	**Pn**	**20 54 34.6**	**-0.2**
LEOM	**Leova**	**1.44**	**55**	⇑*i*P	**Pn**	**20 54 34.6**	**-0.2**
LEOM				*i* S	**Sn**	**20 54 56.3**	**+0.4**
LEOM	**Leova**	**1.44**	**55**	⇑*i*P	**Pn**	**20 54 34.6**	**-0.2**
LEOM				*i* S	**Sn**	**20 54 56.3**	**+0.4**
TLB	**Topalu**	**1.52**	**135**	⇓*i*P	**Pn**	**20 54 35.0**	**-0.8**
TLB	**Topalu**	**1.52**	**135**	⇓*i*P	**Pn**	**20 54 35.0**	**-0.8**
TLB				*i* S	**Sn**	**20 54 56.8**	**-0.6**
TLB	**Topalu**	**1.52**	**135**	⇓*i*P	**Pn**	**20 54 35.0**	**-0.8**
TLB				*i* S	**Sn**	**20 54 56.8**	**-0.6**
TLCR		**1.68**	**106**	⇓*i*P	**Pn**	**20 54 36.7**	**-0.9**
TLCR		**1.68**	**106**	⇓*i*P	**Pn**	**20 54 36.7**	**-0.9**
TLCR				*i* S	**Sn**	**20 55 01.2**	**+0.5**
TLCR		**1.68**	**106**	⇓*i*P	**Pn**	**20 54 36.7**	**-0.9**
TLCR				*i* S	**Sn**	**20 55 01.2**	**+0.5**
IAS	**Iasi**	**1.69**	**25**	⇑*i*P	**Pn**	**20 54 36.9**	**-0.7**
IAS	**Iasi**	**1.69**	**25**	⇑*i*P	**Pn**	**20 54 36.9**	**-0.7**
IAS				*i* S	**Sn**	**20 54 59.8**	**-1.0**
IAS	**Iasi**	**1.69**	**25**	⇑*i*P	**Pn**	**20 54 36.9**	**-0.7**
IAS				*i* S	**Sn**	**20 54 59.8**	**-1.0**
PRAR	**RASCA**	**1.71**	**353**	⇑*i*P	**Pn**	**20 54 37.5**	**-0.4**
PRAR	**RASCA**	**1.71**	**353**	⇑*i*P	**Pn**	**20 54 37.5**	**-0.4**
PRAR	**RASCA**	**1.71**	**353**	⇑*i*P	**Pn**	**20 54 37.5**	**-0.4**
CVD	**Cernavoda**	**1.72**	**141**	⇓*i*P	**Pn**	**20 54 37.1**	**-1.0**
CVD	**Cernavoda**	**1.72**	**141**	⇓*i*P	**Pn**	**20 54 37.1**	**-1.0**
CVD				*i* S	**Sn**	**20 55 00.1**	**-1.4**
CVD	**Cernavoda**	**1.72**	**141**

2.8nm,0.6s,baz=88,slow=12,SNR=7.6
WRA Warramunga Arr 49.86 257 P P 21 32 44.5 -0.7
2.0nm,0.5s,baz=90,slow=6.9,SNR=10.0
ASAR Alice Springs 50.13 252 P P 21 32 46.4 -0.8
6.3nm,0.6s,baz=88,slow=8.3,SNR=95
FX1 Attu Island--F 69.00 351 LR LR 21 59 32.1
comp=Z,48nn,20.9s,baz=208,slow=31
PETK Petropavlovsk- 72.64 342 P P 21 35 19.7 +0.8
2.8nm,0.7s,baz=151,slow=9.1,SNR=3.6
NVAR Mina Array Bea 74.32 42 P P 21 35 29.1 -0.3
0.3nm,0.6s,baz=246,slow=5.7,SNR=3.5
TXAR Lajitas Array 80.60 56 P P 21 36 04.5 -0.2
0.1nm,0.4s,baz=207,slow=5.8,SNR=4.3
ILAR Eielson Array 82.45 11 P P 21 36 13.2 -0.3
0.3nm,0.8s,baz=218,slow=6.0,SNR=4.8
H03N2 Juan Fernandez 85.28 123 T T 23 09 56.6
baz=242,slow=0.7,SNR=10
H03N3 Juan Fernandez 85.28 123 T T 23 09 54.6
baz=242,slow=0.7,SNR=11
H03N1 Juan Fernandez 85.29 123 T T 23 09 57.0
baz=242,slow=0.7,SNR=10.0
MAW Mawson 87.79 199 P P 21 36 41.0 +0.6
1.3nm,0.7s,baz=122,slow=7.5,SNR=4.6
KMBO Kilima Mbogo 145.55 244 PKPbc PKPab 21 43 31.9 +0.2
0.8nm,0.5s,baz=226,slow=14,SNR=3.8
GERES GERESS Array B 146.15 352 PKPbc PKPdf 21 43 29.9 -1.2
0.5nm,0.8s,baz=336,slow=4.3,SNR=3.5
BRTR Keskin Array B 146.18 321 PKPbc PKPbc 21 43 32.5 0.0
1.2nm,0.6s,baz=43,slow=2.0,SNR=9.1

IDC 15 21:28:32.3±4.0, 7.95S×80.41W, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/20, mbtmp3.7/5, ML3.5/1, MS3.9/3, Ms1 3.8/3, ms1mx3.3/29, Error ellipse: s-maj=201.1km s-min=33.2km az=35.0, Off coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**14.58**	**126**	Pn	Pn	21 32 01.8	+0.9
	0.1nm,0.3s,baz=328,slow=13,SNR=2.6						
H03N2	**Juan Fernandez**	**25.41**	**177**	T	T	22 00 00.0	
	baz=357,slow=0.7,SNR=8.4						
H03N1	**Juan Fernandez**	**25.41**	**177**	T	T	22 00 03.3	
	baz=357,slow=0.7,SNR=2.6						
H03N3	**Juan Fernandez**	**25.42**	**177**	T	T	22 00 01.2	
	baz=357,slow=0.7,SNR=13						
BDFB	**Brasilia**		**32.59 107**	LR	LR	21 48 46.3	
	comp=Z,89nn,21.8s,baz=260,slow=37						
NVAR	**Mina Array Bea**	**58.07**	**325**	P	P	21 38 28.0	+0.3
	0.7nm,0.7s,baz=138,slow=6.9,SNR=5.5						
ELK	**Elko**	**58.10**	**329**	P	P	21 38 28.6	+0.6
	0.7nm,0.5s,baz=193,slow=2.5,SNR=5.7						
TORD	**Torodi Ar. Bea**	**84.17**	**76**	P	P	21 41 06.2	0.0
	0.7nm,0.8s,baz=273,slow=4.2,SNR=4.2						
ILAR	**Eielson Array**	**87.40**	**337**	P	P	21 41 20.1	-1.1
	0.8nm,0.8s,baz=134,slow=2.6,SNR=7.3						
DAVOX	**Davos/Dischmat**	**95.92**	**44**	LR	LR	22 18 37.7	
	comp=Z,72nn,19.3s,baz=315,slow=31						
GERES	**GERESS Array B**	**98.63**	**42**	LR	LR	22 22 58.7	
	comp=Z,77nn,18.2s,baz=275,slow=33						
SONM	**Songino Array**	**139.83**	**353**	PKP	PKPdf	21 48 01.0	-1.8
	0.5nm,0.9s,baz=21,slow=3.2,SNR=3.9						

IDC 15 21:34:27.1±1.1, 12.01S×165.57E, h0km, mb4.0/9, mb1 4.2/10, mb1mx4.0/20, mbtmp4.0/10, ML3.7/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/24, Error ellipse: s-maj=36.9km s-min=21.0km az=142.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.04**	**175**	Pn	Pn	21 36 51.3	-1.4
	0.7nm,0.3s,baz=354,slow=19,SNR=7.2						
CTA	**Charters Tower**	**20.21**	**244**	P	P	21 39 03.5	-0.3
	1.0nm,0.3s,baz=56,slow=1,SNR=2.6						
WRA	**Warramunga Arr**	**31.00**	**251**	P	P	21 40 46.9	+0.3
	5.8nm,1.0s,baz=83,slow=9.1,SNR=14						
ASAR	**Alice Springs**	**32.22**	**245**	P	P	21 40 57.7	+0.4
	1.5nm,1.0s,baz=74,slow=9.8,SNR=12						
ASAJ	**Asahikawa**	**59.65**	**341**	LR	LR	22 08 07.2	
	comp=Z,33nn,19.7s,baz=166,slow=34						
CMAR	**Chiang Mai Arr**	**72.34**	**294**	P	P	21 45 55.4	+0.1
	0.9nm,0.8s,baz=125,slow=4.8,SNR=9.0						
SONM	**Songino Array**		**79.34 324**	P	P	21 46 34.8	-0.1
	0.5nm,0.7s,baz=136,slow=7.2,SNR=5.8						
ILAR	**Eielson Array**	**84.48**	**19**	P	P	21 47 00.9	-0.5
	0.9nm,0.6s,baz=239,slow=5.1,SNR=19						
NVAR	**Mina Array Bea**	**86.78**	**50**	P	P	21 47 14.4	+0.7
	0.9nm,0.8s,baz=230,slow=6.9,SNR=5.8						
ZALV	**Zalesovo Beam**	**94.23**	**324**	P	P	21 47 46.9	-1.0
	0.3nm,0.4s,baz=242,slow=3.2,SNR=4.1						
TXAR	**Lajitas Array**	**96.44**	**61**	P	P	21 47 59.2	+0.4
	0.3nm,0.7s,baz=210,slow=5.2,SNR=3.3						

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*ISCJB **15** 21:34:57.5±0.7, 9.9N±0.1×57.1E±0.1, h13km, mb3.9/12, MS3.5/2, Error ellipse: s-maj=15.4km s-min=15.3km az=13.4*

*IDC **15** 21:34:57.1±0.8, 9.74N×57.12E, h0km, mb3.7/10, mb1 3.8/10, mb1mx3.7/22, mbtmp3.7/10, MS3.4/2, Ms1 3.4/2, ms1mx2.8/36, Error ellipse: s-maj=24.5km s-min=19.8km az=161.0*

ISC 15 21:34:59.2±0.8, 9.8N±0.1×57.1E±0.1, h13km, n16, σ0.975/14, mb3.6/13, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RDF	**Al-Radifah**	**21.03**	**336**	*eP*	**P**	**21 39 42.2**	**-0.6**
RDF				AMb	AMB	21 39 45.5	
	comp=Z,15nn,1.0s						
H08N2	**Diego Garcia H**	**21.17**	**139**	T	T	22 01 37.9	
	baz=318,slow=0.7,SNR=8.4						
H08N3	**Diego Garcia H**	**21.18**	**139**	T	T	22 01 27.0	
	baz=318,slow=0.7,SNR=72						
H08N1	**Diego Carcia H**	**21.20**	**139**	T	T	22 01 24.3	
	baz=318,slow=0.7,SNR=90						
NAY	**Al-Naaiem**	**21.44**	**336**	*eP*	**P**	**21 39 46.3**	**-0.9**
NAY				AMb	AMB	21 39 52.2	
	comp=Z,10nn,0.9s						
RST	**Umm Al-Ruwaisa**	**21.76**	**336**	*eP*	**P**	**21 39 49.1**	**-1.5**
RST				AMb	AMB	21 39 53.1	
	comp=Z,190nn,0.9s						
KMBO	**Kilima Mbogo**	**22.55**	**242**	P	**P**	**21 39 59.3**	**-0.1**
	comp=Z,1.4nn,0.7s,baz=63,slow=14,SNR=3.3						
BRTR	**Keskin Array B**	**36.40**	**329**	P	**P**	**21 42 04.9**	**+1.3**
	comp=Z,0.4nn,0.7s,baz=131,slow=7.9,SNR=2.9						
CMAR	**Chiang Mai Arr**	**41.40**	**73**	P	**P**	**21 42 46.0**	**+0.5**
	comp=Z,0.7nn,0.6s,baz=262,slow=8.4,SNR=10						
MKAR	**Makanchi Array**	**42.64**	**26**	P	**P**	**21 42 55.8**	**+0.4**
	comp=Z,0.8nn,0.6s,baz=216,slow=7.5,SNR=5.6						
MKAR				LR	LR	22 00 58.3	
	comp=Z,43nn,21.3s,baz=204,slow=37						
ZALV	**Zalesovo Beam**	**49.30**	**21**	P	**P**	**21 43 47.4**	**-0.3**
	comp=Z,1.3nn,0.5s,baz=217,slow=9.6,SNR=6.6						
TORD	**Torodi Ar. Bea**	**54.31**	**279**	P	**P**	**21 44 26.0**	**+0.2**
	comp=Z,0.3nn,0.6s,baz=90,slow=7.1,SNR=3.2						
TORD				PcP	**PcP**	**21 45 30.1**	**+0.1**
	comp=Z,0.8nn,1.1s,baz=90,slow=4.3,SNR=3.1						
SONM	**Songino Array**	**56.08**	**38**	P	**P**	**21 44 38.1**	**-0.1**
	comp=Z,0.4nn,0.6s,baz=240,slow=8.3,SNR=4.9						
ESDC	**Sonseca Array**	**61.60**	**310**	P	**P**	**21 45 16.5**	**-0.2**
	comp=Z,1.4nn,0.6s,baz=88,slow=5.5,SNR=12						
MAW	**Mawson**	**77.31**	**178**	P	**P**	**21 46 53.1**	**+0.1**
	comp=Z,1.0nn,0.6s,baz=310,slow=7.9,SNR=4.3						
MAW				LR	LR	22 13 25.5	
	comp=Z,31nn,20.8s,baz=180,slow=30						
ASAR	**Alice Springs**	**82.02**	**116**	P	**P**	**21 47 19.0**	**-0.7**
	comp=Z,0.3nn,0.6s,baz=286,slow=4.4,SNR=4.7						

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*NIED **15** 21:56:00, 36.50N×140.60E, h41km, Mw3.6 Best double couple: M₀3.16000×10¹⁴ NP1:φ₅358.00000°, δ75.00000°, λ60.00000°. NP2:φ₅244.00000°, δ33.00000°, λ152.00000°.*

*IDC **15** 21:56:39.5±1.0, 36.45N×140.54E, h0km, mb3.9/10, mb1 3.9/12, mb1mx3.8/27, mbtmp3.9/12, ML3.8/2, Error ellipse: s-maj=31.7km s-min=18.4km az=81.0*

*ISCJB **15** 21:56:45.2±0.7, 36.45N±0.05×140.71E±0.07, h61km±3km, mb3.8/10, Error ellipse: s-maj=10.4km s-min=6.3km az=39.3*

*JMA **15** 21:56:47.0±0.1, 36.45N×140.59E, h56km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φ₅15.00000°, δ66.00000°, λ81.00000°. NP2:φ₅216.00000°, δ26.00000°, λ109.00000°. Principal axes: T Plg68.0000°, Azm268.0000°; N Plg8.0000°, Azm19.0000°; P Plg20.0000°, Azm112.0000°;*

JMA Felt II J1.

ISC 15 21:56:46.1±0.8, 36.43N±0.06×140.70E±0.06, h55km±6km, n39, σ0.968/39, mb3.9/10, 2C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.21**	**331**	⇑P	**Pn**	**21 56 55.7**	**+0.6**
JHO				S	**Sn**	**21 57 01.7**	**+0.2**
JYT	**Yasato**	**0.45**	**244**	P	**Pn**	**21 56 57.7**	**+0.6**
JYT				S	**Sn**	**21 57 05.0**	**0.0**
ONAJ	**Iwakimizuishiy**	**0.68**	**7**	S	**Sn**	**21 57 09.5**	**-0.4**
JFK	**Kawauchi**	**0.95**	**9**	⇑P	**Pn**	**21 57 03.3**	**-0.1**
JAG	**Ashikaga**	**1.00**	**270**	⇓P	**Pn**	**21 57 04.1**	**+0.1**
JAG				S	**Sn**	**21 57 15.8**	**-1.4**
JFT	**Otama**	**1.13**	**345**	⇓P	**Pn**	**21 57 06.0**	**+0.3**
JFT				S	**Sn**	**21 57 19.8**	**-0.4**
JKT	**Katashina**	**1.21**	**287**	P	**Pn**	**21 57 07.0**	**+0.1**
JKT				S	**Sn**	**21 57 22.1**	**-0.3**
JFY	**Yanaizu**	**1.26**	**321**	⇓P	**Pn**	**21 57 07.8**	**+0.3**
MAT	**Matsushiro**	**2.01**	**274**	P	**Pn**	**21 57 17.9**	**+0.3**
MAT				S	**Sn**	**21 57 41.8**	**+0.2**
ASAJ	**Asahikawa**	**7.82**	**10**	Pn	**Pn**	**21 58 36.0**	**-1.2**
	0.8nn,0.3s,baz=193,slow=14,SNR=5.6						
ASAJ				Sn	**Sn**	**22 00 04.3**	**+0.1**
	0.5nn,0.3s,baz=333,slow=14,SNR=3.0						
JCJ	**Chichijima**	**9.39**	**172**	Pn	**Pn**	**21 58 57.3**	**-1.4**
	3.0nn,0.3s,baz=307,slow=20,SNR=4.5						
USRK	**Ussuriysk Arra**	**10.22**	**322**	Pn	**Pn**	**21 59 10.3**	**+0.3**
	0.2nn,0.3s,baz=174,slow=29,SNR=2.1						
KSRS	**Korea Array**	**10.28**	**280**	Pn	Pn	21 59 13.9	+3.1
	0.1nn,0.3s,baz=95,slow=15,SNR=4.4						
SONM	**Songino Array**	**27.55**	**305**	P	**P**	**22 02 28.2**	**-0.6**
	0.6nn,0.6s,baz=104,slow=9.1,SNR=6.5						
H11N2	**WAKE ISLAND Hy**	**28.35**	**119**	T	T	22 32 39.6	
	baz=315,slow=0.7,SNR=23						
H11N1	**WAKE ISLAND Hy**	**28.35**	**119**	T	T	22 32 41.7	
	baz=315,slow=0.7,SNR=20						
H11N3	**WAKE ISLAND Hy**	**28.36**	**119**	T	T	22 32 46.2	
	baz=315,slow=0.7,SNR=15						
H11S1	**WAKE ISLAND Hy**	**29.03**	**121**	T	T	22 33 35.4	
	baz=318,slow=0.7,SNR=56						
H11S3	**WAKE ISLAND Hy**	**29.03**	**121**	T	T	22 33 28.8	
	baz=318,slow=0.7,SNR=32						
H11S2	**WAKE ISLAND Hy**	**29.04**	**121**	T	T	22 33 30.3	
	baz=318,slow=0.7,SNR=28						
ZALV	**Zalesovo Beam**	**41.90**	**313**	P	**P**	**22 04 31.2**	**+0.3**
	2.3nn,0.5s,baz=92,slow=7.7,SNR=12						
MKAR	**Makanchi Array**	**43.96**	**303**	P	**P**	**22 04 48.1**	**+0.4**
	0.8nn,0.6s,baz=83,slow=8.9,SNR=6.9						
TAPN	**Taplejung**	**45.41**	**274**	*eP*	**P**	**22 04 58.9**	**-0.9**
ODAN	**Odare**	**45.88**	**274**	*eP*	**P**	**22 05 02.8**	**-0.7**
	6.5nn,0.4s						
KURBB	**Kurchatov Arra**	**45.92**	**308**	P	**P**	**22 05 02.7**	**-0.5**
	1.1nn,0.5s,baz=80,slow=7.7,SNR=16						
RAMN	**Ramite**	**46.47**	**274**	*eP*	**P**	**22 05 08.2**	**0.0**
	8.1nn,0.7s						
JIRN	**Jiri**	**46.50**	**275**	*eP*	**P**	**22 05 08.3**	**-0.2**
GUN	**Gumba**	**46.64**	**276**	*eP*	**P**	**22 05 09.4**	**-0.2**
KKN	**Kakani**	**47.17**	**276**	*eP*	**P**	**22 05 13.9**	**+0.3**
DMN	**Daman**	**47.39**	**276**	*eP*	**P**	**22 05 15.1**	**-0.2**
	1.9nn,0.3s						
GKN	**Gorkha**	**47.60**	**277**	*eP*	**P**	**22 05 16.6**	**-0.2**
	9.0nn,0.8s						
DANN	**Dangsing**	**48.16**	**277**	*eP*	**P**	**22 05 21.8**	**+0.5**
	13nn,0.8s						
KOLN	**Koldanda**	**48.53**	**277**	*eP*	**P**	**22 05 25.6**	**+1.5**
ILAR	**Eielson Array**	**50.32**	**32**	P	**P**	**22 05 38.5**	**+1.5**
	0.3nn,0.6s,baz=266,slow=6.1,SNR=4.1						
WRA	**Warramunga Arr**	**56.38**	**187**	P	**P**	**22 06 22.5**	**+0.6**
	0.6nn,0.4s,baz=5.0,slow=7.4,SNR=3.1						
ASAR	**Alice Springs**	**60.11**	**187**	P	**P**	**22 06 48.9**	**+1.0**
	0.2nn,0.3s,baz=13,slow=9.1,SNR=3.8						
HFS	**Hagfors**	**74.40**	**335**	P	**P**	**22 08 18.0**	**+0.1**
	2.1nn,0.8s,baz=64,slow=6.6,SNR=7.1						
AKASG	**Malin Array Be**	**74.42**	**322**	P	**P**	**22 08 17.6**	**-0.6**
	0.9nn,0.5s,baz=45,slow=5.1,SNR=6.1						
NOA	**NORSAR Array B**	**74.52**	**337**	P	**P**	**22 08 18.5**	**-0.1**
	1.2nn,0.8s,baz=40,slow=6.0,SNR=3.6						

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*IDC **15** 21:57:15.5±3.1, 8.94S×113.47E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/18, mbtmp3.4/3, Error ellipse: s-maj=191.2km s-min=25.9km az=48.0*

*DJA **15** 21:57:23.0±1.2, 9.5S±12.1×11.3E±0.1, h14km±11km, M3.7/3, MLv3.7/3*

ISC 15 21:57:19.6±2.6, 9.7S±0.2×112.87E±0.07, h43km±29km, n11, σ2.948/16, mb3.4/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GMJI	**Gumukmas**	**1.52**	**22**	P	**Pn**	**21 57 44.3**	**0.0**
GMJI				S	**Sn**	**21 57 59.0**	**-3.8**
KRKI	**Karangkates**	**1.58**	**345**	P	**Pn**	**21 57 45.2**	**+0.1**
KRKI				S	**Sn**	**21 58 06.1**	**+1.8**
PWJI	**Pagerwojo**	**1.96**	**327**	P	**Pn**	**21 57 50.0**	**-0.4**
PWJI				S	**Sn**	**21 58 11.6**	**-2.3**
BLJI	**Banyuglugur**	**2.06**	**20**	P	**Pn**	**21 57 53.4**	**+1.6**
BLJI				S	**Sn**	**21 58 17.2**	**+1.0**
SJI	**Sawahan**	**2.23**	**331**	P	**Pn**	**21 57 55.1**	**+1.0**
PCJI	**Pacitan**	**2.24**	**311**	P	**Pn**	**21 57 55.6**	**+1.4**
PCJI				S	**Sn**	**21 58 16.5**	**-4.1**
WOJI	**Wonogiri, Jawa**	**2.66**	**314**	P	**Pn**	**21 58 00.7**	**+0.7**
NGJI	**Ngawi**	**2.70**	**329**	P	Pn	21 58 06.4	+5.9
NGJI				S	**Sn**	**21 58 36.3**	**+4.4**
WRA	**Warramunga Arr**	**23.09**	**119**	P	**P**	**22 02 20.7**	**-1.2**
	0.5nn,0.3s,baz=293,slow=12,SNR=3.7						
ASAR	**Alice Springs**	**24.43**	**127**	P	**P**	**22 02 36.8**	**+2.3**
	0.9nn,0.7s,baz=305,slow=9.2,SNR=14						
MKAR	**Makanchi Array**	**62.50**	**337**	P	**P**	**22 07 37.9**	**-1.0**
	0.3nn,0.4s,baz=152,slow=6.7,SNR=7.7						

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*CSEM **15** 22:27:50.7±0.1, 43.14N×0.22E, h5km, ML3.9/36, Error ellipse: s-maj=1.5km s-min=1.1km az=143.0*

*ISCJB **15** 22:27:51.1±0.2, 43.12N±0.02×0.18E±0.02, h22km±2km, Error ellipse: s-maj=3.0km s-min=2.1km az=175.2*

*STR **15** 22:27:52.0±0.1, 43.08N×0.20E, h5km, Ml3.9, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

*MRB **15** 22:27:52.2, 43.04N×0.14E, h8km±1km, ML3.3/3, Error ellipse: s-maj=1.0km s-min=0.4km az=315.0*

*MDD **15** 22:27:52.5±0.2, 43.05N×0.20E, h9km±1km, mbLg3.5/28, Error ellipse: s-maj=2.0km s-min=1.3km az=3.0, PRXIMO*

MDD EMS: IV INTENSIDAD MAXIMA EN FRANCIA (BCSF). EMS: II INTENSIDAD MAXIMA EN ESPAA.

*LDG **15** 22:27:52.4±0.0, 43.08N×0.20E, h3km, Md3.5/4, Ml3.9/40, Error ellipse: s-maj=1.0km s-min=0.8km az=148.0*

*INMG **15** 22:27:53.3±1.3, 43.00N×0.18E, h15km±3km, ML3.1, Error ellipse: s-maj=3.3km s-min=2.0km az=39.0*

ISC 15 22:27:51.3±0.6, 43.12N±0.01×0.20E±0.01, h20km±3km, n351, σ1.955/494, 3C-5D, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.12**	**233**	Pg	**Pg**	**22 27 55.2**	**-0.3**
LABF				Sg	**Sg**	**22 27 56.0**	**-2.3**
LABF	**Labassere**	**0.12**	**233**	Pg	**Pg**	**22 27 55.2**	**-0.3**
LABF				Sg	**Sg**	**22 27 56.0**	**-2.3**
LABF				Lg	Lg	22 27 57.1	
EPF	**Esparros**	**0.13**	**130**	*e*Pg	**Pg**	**22 27 55.4**	**-0.3**
EPF				*e*Sg	**Sg**	**22 27 57.2**	**-1.4**
	8μm,0.3s						
EPF	**Esparros**	**0.13**	**130**	Pg	**Pg**	**22 27 55.4**	**-0.3**
EPF				*e*Sg	**Sg**	**22 27 57.2**	**-1.4**
	4μm,0.3s						
FMON	**Montouss˜**	**0.17**	**109**	P	Pg	22 27 56.3	+0.3
FMON				S	**Sg**	**22 27 59.3**	**0.0**
VIEF	**Viey**	**0.27**	**209**	Pg	**Pg**	**22 27 56.4**	**-1.1**
VIEF				Sg	**Sg**	**22 28 00.9**	**-0.9**
VIEF	**Viey**	**0.27**	**209**	Pg	**Pg**	**22 27 56.5**	**-1.1**
VIEF				Lg	Lg	22 27 59.3	
VIEF				Sg	**Sg**	**22 28 00.9**	**-0.9**
RESF	**Ens**	**0.33**	**162**	Pg	**Pg**	**22 27 57.5**	**-1.0**
RESF				Sg	**Sb**	**22 28 03.1**	**-0.3**
RESF	**Ens**	**0.33**	**162**	Pg	**Pg**	**22 27 57.5**	**-1.0**
RESF				Lg	Lg	22 28 01.4	
RESF				Sg	**Sb**	**22 28 03.1**	**-0.3**
EBIE	**Bielsa**	**0.43**	**186**	⇑Pg	**Pg**	**22 27 59.1**	**-1.3**
	156nn,0.1s,SNR=18						
EBIE				Lg	Lg	22 28 03.6	
	1μm,0.1s,SNR=5.0						
EBIE				S	**Sg**	**22 28 04.0**	**-2.5**
REYF	**Montagne du Re**	**0.44**	**264**	Pg	**Pb**	**22 28 00.2**	**-0.3**
REYF				Sg	**Sg**	**22 28 06.0**	**-0.6**
REYF	**Montagne du Re**	**0.44**	**264**	Pg	**Pb**	**22 28 00.2**	**-0.3**
REYF				Sg	**Sg**	**22 28 06.0**	**-0.6**
REYF				Lg	Lg	22 28 07.2	
MELF	**Melles**	**0.48**	**121**	Pg	**Pb**	**22 28 00.2**	**-0.9**
MELF				Lg	Lg	22 28 06.5	
ETSF	**Etsaut**	**0.60**	**249**	*e*Pg	**Pb**	**22 28 02.8**	**-0.4**
ETSF				*e*Sg	**Sg**	**22 28 10.3**	**-1.1**
	2μm,0.2s						
ETSF	**Etsaut**	**0.60**	**249**	Pg	**Pb**	**22 28 02.8**	**-0.4**
ETSF				*e*Sg	**Sg**	**22 28 10.3**	**-1.1**
	1μm,0.2s						
ATE	**Arette**	**0.66**	**268**	Pg	**Pb**	**22 28 04.4**	**+0.2**
ATE				Sg	**Sb**	**22 28 13.9**	**+0.9**
ATE	**Arette**	**0.66**	**268**	Pg	**Pb**	**22 28 04.4**	**+0.2**
ATE				Sg	**Sb**	**22 28 13.9**	**+0.9**
MLS	**Moulis**	**0.67**	**103**	Pg	**Pb**	**22 28 04.0**	**-0.4**
MLS				Sg	**Sb**	**22 28 14.5**	**+1.2**
MLS	**Moulis**	**0.67**	**103**	Pg	**Pb**	**22 28 04.0**	**-0.4**
MLS				Lg	Lg	22 28 13.5	
MLS				Sg	**Sb**	**22 28 14.5**	**+1.2**
SALF	**Salau**	**0.81**	**116**	Pg	**Pb**	**22 28 06.3**	**-0.5**
SALF	**Salau**	**0.81**	**116**	Pg	**Pb**	**22 28 06.2**	**-0.5**
SALF				Lg	Lg	22 28 16.8	
ORDF	**Ordiarp**	**0.84**	**277**	Pg	**Pn**	**22 28 08.2**	**+0.2**
ORDF				Sg	**Sb**	**22 28 19.7**	**+1.7**
ORDF	**Ordiarp**	**0.84**	**277**	Pg	**Pn**	**22 28 08.2**	**+0.2**
ORDF				Lg	Lg	22 28 19.6	
LARF	**Larrau**	**0.87**	**265**	Pg	**Pb**	**22 28 08.5**	**+0.6**
LARF	**Larrau**	**0.87**	**265**	Pg	**Pb**	**22 28 08.4**	**+0.6**
LARF				Lg	Lg	22 28 20.4	
CTRE	**Tremp**	**0.90**	**152**	Pg	**Pg**	**22 28 08.0**	**-0.9**
CTRE				Lg	Lg	22 28 19.5	
	506nm,0.2s						
CTRE	**Tremp**	**0.90**	**152**	P	**Pg**	**22 28 08.1**	**-0.9**
CTRE				S	**Sg**	**22 28 19.5**	**-1.3**
	506nm,0.2s						
CEST	**Esterri de Car**	**0.93**	**123**	Pg	**Pb**	**22 28 09.0**	**+0.1**
CEST				Lg	Lg	22 28 22.2	
CEST	**Esterri de Car**	**0.93**	**123**	Pg	**Pb**	**22 28 09.0**	**+0.1**
CEST				S	**Sb**	**22 28 22.2**	**+1.3**
CSOR	**Sort**	**1.01**	**137**	Pg	**Pb**	**22 28 10.1**	**-0.1**
	66nm,0.3s,SNR=347						
CSOR				Lg	Lg	22 28 22.8	
	527nm,0.4s,SNR=14						
CSOR	**Sort**	**1.01**	**137**	P	**Pb**	**22 28 10.1**	**-0.1**
CSOR				Lg	Lg	22 28 22.8	
	527nm,0.4s,SNR=14						
CSOR				S	**Sb**	**22 28 23.8**	**+0.7**
SJPF	**Ste Jean**	**1.04**	**270**	*e*Pg	**Pn**	**22 28 11.6**	**+0.7**
SJPF				*e*Sg	**Sb**	**22 28 25.5**	**+1.5**
	341nm,0.2s						
SJPF	**Ste Jean**	**1.04**	**270**	Pg	**Pn**	**22 28 11.6**	**+0.7**
SJPF				*e*Sg	**Sb**	**22 28 25.5**	**+1.5**
	170nm,0.2s						
OSSF	**Osses**	**1.08**	**278**	Pg	**Pb**	**22 28 11.5**	**+0.2**
OSSF	**Osses**	**1.08**	**278**	Pg	**Pb**	**22 28 11.6**	**+0.2**
OSSF				Lg	Lg	22 28 24.8	
IELO	**Elcoad**	**1.09**	**256**	⇑Pg	**Pb**	**22 28 11.9**	**+0.3**
	50nm,0.3s,SNR=18						
IELO				Lg	Lg	22 28 27.8	
	900nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**1.09**	**256**	Pg	**Pb**	**22 28 11.9**	**+0.3**
	50nm,0.3s,SNR=18						
IELO				Lg	Lg	22 28 27.8	
	900nm,0.2s,SNR=7.9						
IEPA	**Eparoz**	**1.13**	**253**	⇑Pg	**Pn**	**22 28 12.8**	**+0.7**
	11nm,0.3s,SNR=18						
IEPA				Lg	Lg	22 28 28.3	
	404nm,0.2s,SNR=7.9						
IEPA	**Eparoz**	**1.13**	**253**	Pg	**Pn**	**22 28 12.8**	**+0.7**
	11nm,0.3s,SNR=18						
IEPA				Lg	Lg	22 28 28.3	
	404nm,0.2s,SNR=7.9						
IPRE	**Itoiz**	**1.19**	**255**	⇓Pg	**Pn**	**22 28 14.0**	**+1.1**
	29nm,0.3s,SNR=18						
IPRE				Lg	Lg	22 28 30.5	
	642nm,0.3s,SNR=7.9						
IPRE	**Itoiz**	**1.19**	**255**	Pg	**Pn**	**22 28 14.0**	**+1.1**
	29nm,0.3s,SNR=18						
IPRE				Lg	Lg	22 28 30.5	
	642nm,0.3s,SNR=7.9						
CORG	**Organya**	**1.21**	**137**	Pg	**Pn**	**22 28 13.9**	**+0.7**
CORG				Lg	Lg	22 28 30.0	
CORG	**Organya**	**1.21**	**137**	P	**Pn**	**22 28 13.9**	**+0.7**
CORG				S	**Sb**	**22 28 30.0**	**+1.2**
EALK	**Alkurruntz**	**1.25**	**275**	Pg	**Pn**	**22 28 15.3**	**+1.7**
	3.5nm,0.1s,SNR=76						
EALK				Lg	Lg	22 28 33.0	
	413nm,0.2s,SNR=9.8						
EALK	**Alkurruntz**	**1.25**	**275**	Pg	**Pn**	**22 28 15.4**	**+1.7**
	3.5nm,0.1s,SNR=76						
EALK		

MTLF	**Montolieu**	**1.49**	**81**	*e*Pn	**Pb**	**22 28 18.0**	**-0.4**
MTLF	**Montolieu**	**1.49**	**81**	*e*Pg	**Pg**	**22 28 20.6**	**+0.5**
MTLF				*e*Sg	**Sg**	**22 28 39.6**	**0.0**
	329nm,0.2s						
MTLF	**Montolieu**	**1.49**	**81**	Pn	**Pb**	**22 28 18.0**	**-0.4**
MTLF	**Montolieu**	**1.49**	**81**	Pg	**Pg**	**22 28 20.6**	**+0.5**
MTLF				*e*Sg	**Sg**	**22 28 39.6**	**0.0**
	164nm,0.2s						
VALF	**Valcebollere**	**1.52**	**117**	Pg	**Pg**	**22 28 19.9**	**-0.7**
VALF				Sg	**Sg**	**22 28 40.9**	**+0.5**
VALF	**Valcebollere**	**1.52**	**117**	Pg	**Pg**	**22 28 19.9**	**-0.7**
VALF				Lg	Lg	22 28 40.2	
EMIR	**Miracle**	**1.55**	**140**	⇓Pg	**Pg**	**22 28 20.2**	**-1.1**
	5.8nm,0.2s,SNR=18						
EMIR				Lg	Lg	22 28 40.1	
	297nm,0.2s,SNR=7.0						
EMIR	**Miracle**	**1.55**	**140**	Pg	**Pg**	**22 28 20.2**	**-1.1**
	5.8nm,0.2s,SNR=18						
EMIR				Lg	Lg	22 28 40.1	
	297nm,0.2s,SNR=7.0						
LRDF	**Laroque-de-Fa**	**1.72**	**95**	Pn	**Pb**	**22 28 21.4**	**-0.9**
LRDF	**Laroque-de-Fa**	**1.72**	**95**	Pg	**Pg**	**22 28 24.6**	**+0.1**
LRDF	**Laroque-de-Fa**	**1.72**	**95**	Pn	**Pb**	**22 28 21.4**	**-0.9**
LRDF	**Laroque-de-Fa**	**1.72**	**95**	Pg	**Pg**	**22 28 24.6**	**+0.1**
LRDF				Lg	Lg	22 28 47.0	
LFF	**La Frestale**	**1.86**	**12**	*e*Pn	**Pb**	**22 28 23.3**	**-1.4**
LFF	**La Frestale**	**1.86**	**12**	*e*Pg	Pg	22 28 28.6	+1.4
LFF				*e*Sg	**Sg**	**22 28 52.1**	**+0.7**
	413nm,0.3s						
LFF	**La Frestale**	**1.86**	**12**	Pn	**Pb**	**22 28 23.3**	**-1.4**
LFF	**La Frestale**	**1.86**	**12**	Pg	Pg	22 28 28.6	+1.4
LFF				Lg	Lg	22 28 52.1	
	207nm,0.3s						
EPOB	**Poblet**	**1.88**	**159**	Pn	**Pn**	**22 28 23.6**	**+1.2**
	62nm,0.3s,SNR=233						
EPOB				Pg	**Pb**	**22 28 25.6**	**+0.5**
	61nm,0.2s,SNR=12						
EPOB				Lg	Lg	22 28 48.5	
	676nm,0.4s,SNR=27						
EPOB	**Poblet**	**1.88**	**159**	Pn	**Pn**	**22 28 23.6**	**+1.2**
	62nm,0.3s,SNR=233						
SJAF	**Saint Jean de**	**2.07**	**107**	Pn	**Pn**	**22 28 26.0**	**+1.0**
SJAF	**Saint Jean de**	**2.07**	**107**	Pg	**Pg**	**22 28 31.4**	**+0.2**
SJAF	**Saint Jean de**	**2.07**	**107**	Pn	**Pn**	**22 28 26.0**	**+1.0**
SJAF	**Saint Jean de**	**2.07**	**107**	Pg	**Pg**	**22 28 30.5**	**-0.7**
SJAF				Lg	Lg	22 28 55.7	
EJON	**La Jonquera**	**2.09**	**108**	Pn	**Pb**	**22 28 27.8**	**-0.8**
	17nm,0.3s,SNR=4.0						
EJON				Pg	**Pg**	**22 28 31.3**	**-0.2**
	1.0nm,0.1s,SNR=25						
EJON				Lg	Lg	22 28 58.8	
	69nm,0.3s,SNR=9.0						
EJON	**La Jonquera**	**2.09**	**108**	Pn	**Pb**	**22 28 27.8**	**-0.8**
	17nm,0.3s,SNR=4.0						
CFON	**Fontmartina**	**2.14**	**129**	⇓Pn	**Pb**	**22 28 28.9**	**-0.5**
	39nm,0.3s,SNR=18						
CFON				Lg	Lg	22 28 58.5	
	680nm,0.3s,SNR=13						
CFON	**Fontmartina**	**2.14**	**129**	Pn	**Pb**	**22 28 28.9**	**-0.5**
	39nm,0.3s,SNR=18						
CFON				Lg	Lg	22 28 58.5	
	680nm,0.3s,SNR=13						
ERTA	**Horta de San J**	**2.16**	**177**	Pn	**Pn**	**22 28 27.7**	**+1.4**
	86nm,0.6s,SNR=188						
ERTA				Pg	**Pb**	**22 28 30.6**	**+0.8**
	9.0nm,0.2s,SNR=12						
ERTA				Lg	Lg	22 28 56.9	
	280nm,0.2s,SNR=12						
ERTA	**Horta de San J**	**2.16**	**177**	Pn	**Pn**	**22 28 27.7**	**+1.4**
	86nm,0.6s,SNR=188						
CAF	**Calviac**	**2.25**	**36**	*e*Pn	**Pn**	**22 28 28.3**	**+0.8**
CAF	**Calviac**	**2.25**	**36**	*e*Pg	**Pg**	**22 28 35.1**	**+0.5**
CAF				*e*Sg	**Sg**	**22 29 04.2**	**+0.3**
	164nm,0.2s						
CAF	**Calviac**	**2.25**	**36**	Pn	**Pn**	**22 28 28.3**	**+0.8**
CAF	**Calviac**	**2.25**	**36**	Pg	**Pg**	**22 28 35.1**	**+0.5**
CAF				*e*Sg	**Sg**	**22 29 04.2**	**+0.3**
	82nm,0.2s						
RJF	**Les Rejaudoux**	**2.38**	**23**	*e*Pn	**Pn**	**22 28 29.6**	**+0.3**
RJF	**Les Rejaudoux**	**2.38**	**23**	*e*Pg	**Pg**	**22 28 37.7**	**+0.6**
RJF				*e*Sg	**Sg**	**22 29 08.3**	**+0.3**
	230nm,0.2s						
RJF	**Les Rejaudoux**	**2.38**	**23**	Pn	**Pn**	**22 28 29.6**	**+0.3**
RJF	**Les Rejaudoux**	**2.38**	**23**	Pg	**Pg**	**22 28 37.7**	**+0.6**
RJF				*e*Sg	**Sg**	**22 29 08.3**	**+0.3**
	115nm,0.2s						
ELAN	**Lanestosa**	**2.66**	**274**	Pn	**Pb**	**22 28 36.8**	**-1.5**
	8.1nm,0.3s,SNR=42						
ELAN				Pg	**Pg**	**22 28 41.7**	**-0.7**
	10nm,0.3s,SNR=5.9						
ELAN				Sn	**Sn**	**22 29 07.7**	**+3.0**
	32nm,0.3s,SNR=5.0						
ELAN	**Lanestosa**	**2.66**	**274**	Pn	**Pb**	**22 28 36.8**	**-1.5**
	8.1nm,0.3s,SNR=42						
EMOS	**Mosqueruela**	**2.80**	**191**	Pn	**Pn**	**22 28 36.8**	**+1.7**
	4.4nm,0.3s,SNR=37						
EMOS				Pg	**Pb**	**22 28 42.6**	**+1.9**
	121nm,0.7s,SNR=152						
EMOS				Sn	**Sn**	**22 29 07.3**	**-1.0**
	215nm,0.6s,SNR=5.0						
EMOS				Lg	Lg	22 29 18.1	
	337nm,0.6s,SNR=7.1						
EMOS	**Mosqueruela**	**2.80**	**191**	Pn	**Pn**	**22 28 36.8**	**+1.7**
	4.4nm,0.3s,SNR=37						
LASF	**Ste Croix**	**2.82**	**69**	*e*Pn	**Pn**	**22 28 36.0**	**+0.6**
LASF	**Ste Croix**	**2.82**	**69**	*e*Pg	**Pg**	**22 28 45.3**	**-0.2**
LASF				*e*Sg	**Sg**	**22 29 21.3**	**-0.8**
	176nm,0.3s						
LASF	**Ste Croix**	**2.82**	**69**	Pn	**Pn**	**22 28 36.0**	**+0.6**
LASF	**Ste Croix**	**2.82**	**69**	Pg	**Pg**	**22 28 45.3**	**-0.2**
LASF				*e*Sg	**Sg**	**22 29 21.3**	**-0.8**
	88nm,0.3s						
FRNF	**Fournols**	**2.83**	**36**	Pn	**Pn**	**22 28 37.5**	**+2.0**
FRNF	**Fournols**	**2.83**	**36**	Pn	**Pn**	**22 28 37.5**	**+2.0**
LBL	**Lubilhac**	**3.05**	**45**	Pn	**Pn**	**22 28 39.6**	**+1.1**
LBL	**Lubilhac**	**3.05**	**45**	Pg	**Pg**	**22 28 49.8**	**+0.1**
LBL				Sg	**Sg**	**22 29 32.6**	**+3.4**
LBL	**Lubilhac**	**3.05**	**45**	Pn	**Pn**	**22 28 39.6**	**+1.1**
LBL	**Lubilhac**	**3.05**	**45**	Pg	**Pg**	**22 28 49.8**	**+0.1**
VERF	**Verneugheol**	**3.10**	**31**	Pn	**Pn**	**22 28 40.6**	**+1.4**
VERF	**Verneugheol**	**3.10**	**31**	Pn	**Pn**	**22 28 40.6**	**+1.4**
PYM	**Petit Puy Mans**	**3.31**	**36**	Pn	**Pn**	**22 28 42.9**	**+0.8**
PYM	**Petit Puy Mans**	**3.31**	**36**	Pn	**Pn**	**22 28 42.9**	**+0.8**
TCF	**Toulx Ste Croi**	**3.48**	**24**	*e*Pn	**Pn**	**22 28 44.9**	**+0.5**
TCF	**Toulx Ste Croi**	**3.48**	**24**	*e*Pg	**Pg**	**22 28 58.2**	**+0.2**
TCF				*e*Sg	**Sg**	**22 29 42.6**	**-0.5**
	137nm,0.4s						
TCF	**Toulx Ste Croi**	**3.48**	**24**	Pn	**Pn**	**22 28 44.9**	**+0.5**
TCF	**Toulx Ste Croi**	**3.48**	**24**	Pg	**Pg**	**22 28 58.2**	**+0.2**
TCF				*e*Sg	**Sg**	**22 29 42.6**	**-0.5**
	68nm,0.4s						
MFF	**Saint Martin d**	**3.49**	**356**	*e*Pn	**Pn**	**22 28 45.4**	**+0.9**
MFF	**Saint Martin d**	**3.49**	**356**	*e*Pg	**Pg**	**22 28 58.4**	**+0.1**
MFF				*e*Sg	**Sg**	**22 29 43.1**	**-0.4**
	90nm,0.3s						
MFF	**Saint Martin d**	**3.49**	**356**	Pn	**Pn**	**22 28 45.4**	**+0.9**
MFF	**Saint Martin d**	**3.49**	**356**	Pg	**Pg**	**22 28 58.4**	**+0.1**
MFF				*e*Sg	**Sg**	**22 29 43.1**	**-0.4**
	45nm,0.3s						
AGO	**Saint Agoulin**	**3.60**	**34**	Pn	**Pn**	**22 28 47.2**	**+1.1**
AGO	**Saint Agoulin**	**3.60**	**34**	Pn	**Pn**	**22 28 47.2**	**+1.1**
ECHE	**Chera**	**3.63**	**194**	Lg	Lg	22 29 41.7	
	62nm,0.4s,SNR=5.0						
ECHE	**Chera**	**3.63**	**194**	Lg	Lg	22 29 41.7	
	62nm,0.4s,SNR=5.0						
VIVF	**Saint-Julien-l**	**3.67**	**60**	*e*Pn	**Pn**	**22 28 48.1**	**+1.1**
VIVF	**Saint-Julien-l**	**3.67**	**60**	*e*Pg	**Pg**	**22 29 01.1**	**-0.5**
VIVF				*e*Sg	**Sg**	**22 29 47.8**	**-1.3**
	132nm,0.5s						
VIVF	**Saint-Julien-l**	**3.67**	**60**	Pn	**Pn**	**22 28 48.1**	**+1.1**
VIVF	**Saint-Julien-l**	**3.67**	**60**	Pg	**Pg**	**22 29 01.1**	**-0.5**
VIVF				*e*Sg	**Sg**	**22 29 47.8**	**-1.3**
	66nm,0.5s						
PLDF	**La Plantade**	**3.76**	**39**	Pn	**Pn**	**22 28 48.9**	**+0.7**
PLDF	**La Plantade**	**3.76**	**39**	Pg	**Pg**	**22 29 03.2**	**-0.1**
PLDF	**La Plantade**	**3.76**	**39**	Pn	**Pn**	**22 28 48.9**	**+0.7**
PLDF	**La Plantade**	**3.76**	**39**	Pg	**Pg**	**22 29 03.2**	**-0.1**
ETOS	**Mallorca**	**3.88**	**149**	Pn	**Pn**	**22 28 51.7**	**+1.8**
	4.7nm,0.2s,SNR=7.9						
ETOS				Sn	**Sn**	**22 29 33.4**	**-1.5**
	12nm,0.4s,SNR=7.9						
ETOS	**Mallorca**	**3.88**	**149**	Pn	**Pn**	**22 28 51.7**	**+1.8**
	4.7nm,0.2s,SNR=7.9						
ETOS				Sn	**Sn**	**22 29 33.4**	**-1.5**
	12nm,0.4s,SNR=7.9						
BGF	**Bois d'Agland**	**3.92**	**28**	*e*Pn	**Pn**	**22 28 51.8**	**+1.4**
BGF	**Bois d'Agland**	**3.92**	**28**	*e*Pg	**Pg**	**22 29 05.9**	**-0.5**
BGF				*e*Sg	**Sg**	**22 29 56.5**	**-0.7**
	305nm,0.3s						
BGF	**Bois d'Agland**	**3.92**	**28**	Pn	**Pn**	**22 28 51.8**	**+1.4**
BGF	**Bois d'Agland**	**3.92**	**28**	Pg	**Pg**	**22 29 05.9**	**-0.5**
BGF				*e*Sg	**Sg**	**22 29 56.5**	**-0.7**
	152nm,0.3s						
EARI	**Arriondas**	**3.96**	**275**	Pn	Pn	22 28 54.3	+3.3
	6.9nm,0.3s,SNR=61						
EARI				Sn	**Sn**	**22 29 38.9**	**+2.0**
	18nm,0.5s,SNR=5.0						
EARI	**Arriondas**	**3.96**	**275**	Pn	Pn	22 28 54.3	+3.3
	6.9nm,0.3s,SNR=61						
SMRF	**Simiane la Rot**	**4.00**	**76**	*e*Pn	**Pn**	**22 28 52.6**	**+1.1**
SMRF	**Simiane la Rot**	**4.00**	**76**	*e*Pg	**Pg**	**22 29 08.3**	**+0.3**
SMRF				*e*Sg	**Sg**	**22 29 57.9**	**-1.9**
	62nm,0.4s						
SMRF	**Simiane la Rot**	**4.00**	**76**	Pn	**Pn**	**22 28 52.6**	**+1.1**
SMRF	**Simiane la Rot**	**4.00**	**76**	Pg	**Pg**	**22 29 08.3**	**+0.3**
SMRF				*e*Sg	**Sg**	**22 29 57.9**	**-1.9**
	31nm,0.4s						
GUD	**Guadarrama**	**4.08**	**234**	Pn	**Pn**	**22 28 55.0**	**+2.2**
	5.1nm,0.2s,SNR=50						
GUD				Sn	**Sn**	**22 29 39.5**	**-0.6**
	35nm,0.6s,SNR=9.0						
GUD				Lg	Lg	22 29 57.8	
	55nm,0.5s,SNR=7.9						
GUD	**Guadarrama**	**4.08**	**234**	Pn	**Pn**	**22 28 55.0**	**+2.2**
	5.1nm,0.2s,SNR=50						
GUD				Sn	**Sn**	**22 29 39.5**	**-0.6**
	35nm,0.6s,SNR=9.0						
GUD				Lg	Lg	22 29 57.8	
	55nm,0.5s,SNR=7.9						
EIBI	**Ibiza**	**4.18**	**168**	Pn	**Pn**	**22 28 55.1**	**+1.2**
	13nm,0.4s,SNR=7.9						
EIBI				Sn	**Sn**	**22 29 39.5**	**-2.7**
	14nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**4.18**	**168**	Pn	**Pn**	**22 28 55.1**	**+1.2**
	13nm,0.4s,SNR=7.9						
EIBI				Sn	**Sn**	**22 29 39.5**	**-2.7**
	14nm,0.2s,SNR=7.9						
AVF	**Avril sur Loir**	**4.30**	**30**	*e*Pn	**Pn**	**22 28 57.2**	**+1.6**
AVF	**Avril sur Loir**	**4.30**	**30**	*e*Pg	**Pg**	**22 29 13.8**	**+0.1**
AVF				*e*Sg	**Sg**	**22 30 08.1**	**-1.3**
	42nm,0.3s						
AVF	**Avril sur Loir**	**4.30**	**30**	Pn	**Pn**	**22 28 57.2**	**+1.6**
AVF	**Avril sur Loir**	**4.30**	**30**	Pg	**Pg**	**22 29 13.8**	**+0.1**
AVF				*e*Sg	**Sg**	**22 30 08.1**	**-1.3**
	21nm,0.3s						
SMF	**Signal de Mont**	**4.38**	**35**	*e*Pn	**Pn**	**22 28 57.6**	**+0.9**
SMF	**Signal de Mont**	**4.38**	**35**	*e*Pg	**Pg**	**22 29 15.0**	**-0.1**
SMF				*e*Sg	**Sg**	**22 30 10.2**	**-1.5**
	36nm,0.2s						
SMF	**Signal de Mont**	**4.38**	**35**	Pn	**Pn**	**22 28 57.6**	**+0.9**
SMF	**Signal de Mont**	**4.38**	**35**	Pg	**Pg**	**22 29 15.0**	**-0.1**
SMF				*e*Sg	**Sg**	**22 30 10.2**	**-1.5**
	18nm,0.2s						
EBEN	**Beniarda**	**4.42**	**184**	Pn	**Pn**	**22 28 58.2**	**+0.8**
	6.8nm,0.9s,SNR=11						
EBEN				Sn	**Sn**	**22 29 46.1**	**-2.2**
	6.7nm,0.4s,SNR=5.0						
EBEN				Lg	Lg	22 30 08.3	
	9.5nm,0.4s,SNR=7.9						
EBEN	**Beniarda**	**4.42**	**184**	Pn	**Pn**	**22 28 58.2**	**+0.8**
	6.8nm,0.9s,SNR=11						
EBEN				Sn	**Sn**	**22 29 46.1**	**-2.2**
	6.7nm,0.4s,SNR=5.0						
EBEN				Lg	Lg	22 30 08.3	
	9.5nm,0.4s,SNR=7.9						
ORIF	**Oris-en-Rattie**	**4.47**	**64**	*e*Pn	**Pn**	**22 28 59.1**	**+1.0**
ORIF	**Oris-en-Rattie**	**4.47**	**64**	*e*Pg	**Pg**	**22 29 15.9**	**-1.1**
ORIF				*e*Sg	**Sg**	**22 30 13.0**	**-2.0**
	28nm,0.6s						
ORIF	**Oris-en-Rattie**	**4.47**	**64**	Pn	**Pn**	**22 28 59.1**	**+1.0**
ORIF	**Oris-en-Rattie**	**4.47**	**64**	Pg	**Pg**	**22 29 15.9**	**-1.1**
ORIF				*e*Sg	**Sg**	**22 30 13.0**	**-2.0**
	14nm,0.6s						
HYF	**Humbligny**	**4.50**	**22**	*e*Pn	**Pn**	**22 28 59.5**	**+1.2**
HYF	**Humbligny**	**4.50**	**22**	*e*Pg	**Pg**	**22 29 16.6**	**-0.8**
HYF				*e*Sg	**Sg**	**22 30 14.0**	**-1.6**
HYF	**Humbligny**	**4.50**	**22**	Pn	**Pn**	**22 28 59.5**	**+1.2**
HYF	**Humbligny**	**4.50**	**22**	Pg	**Pg**	**22 29 16.6**	**-0.8**
HYF				*e*Sg	**Sg**	**22 30 14.0**	**-1.6**
SSF	**Saint Saulge**	**4.59**	**30**	*e*Pn	**Pn**	**22 28 59.8**	**+0.2**
SSF	**Saint Saulge**	**4.59**	**30**	*e*Pg	**Pg**	**22 29 18.5**	**-0.6**
SSF				*e*Sg	**Sg**	**22 30 16.9**	**-1.6**
	53nm,0.5s						
SSF	**Saint Saulge**	**4.59**	**30**	Pn	**Pn**	**22 28 59.8**	**+0.2**
SSF	**Saint Saulge**	**4.59**	**30**	Pg	**Pg**	**22 29 18.5**	**-0.6**
SSF				*e*Sg	**Sg**	**22 30 16.9**	**-1.6**
	27nm,0.5s						
LMR	**La Mourre**	**4.62**	**85**	*e*Pn	**Pn**	**22 29 00.7**	**+0.8**
LMR	**La Mourre**	**4.62**	**85**	*e*Pg	**Pg**	**22 29 18.2**	**-1.5**
LMR				*e*Sg	**Sg**	**22 30 16.7**	**-2.8**
	19nm,0.3s						
LMR	**La Mourre**	**4.62**	**85**	Pn	**Pn**	**22 29 00.7**	**+0.8**
LMR	**La Mourre**	**4.62**	**85**	Pg	**Pg**	**22 29 18.2**	**-1.5**
LMR				*e*Sg	**Sg**	**22 30 16.7**	**-2.8**
	9.6nm,0.3s						
ESDC	**Sonseca Array**	**4.65**	**224**	Pn	**Pn**	**22 29 01.2**	**+0.7**
	2.8nm,0.3s,baz=43,slow=14,SNR=101						
ESDC				Sn	**Sn**	**22 29 50.3**	**-3.6**
	10nm,0.2s,baz=44,slow=24,SNR=9.6						
ESDC	**Sonseca Array**	**4.65**	**224**	Pn	**Pn**	**22 29 01.2**	**+0.7**
	2.8nm,0.3s,SNR=101						
ETOB	**Tobarra**	**4.66**	**197**	Pn	**Pn**	**22 29 02.0**	**+1.4**
	7.6nm,0.7s,SNR=24						
ETOB				Sn	**Sn**	**22 29 51.4**	**-2.8**
	14nm,0.3s,SNR=6.4						
ETOB				Lg	Lg	22 30 17.6	
	75nm,1.0s,SNR=7.9						
ETOB	**Tobarra**	**4.66**	**197**	Pn	**Pn**	**22 29 02.0**	**+1.4**
	7.6nm,0.7s,SNR=24						
ETOB				Lg	Lg	22 30 17.6	
	75nm,1.0s,SNR=7.9						
FRF	**La Foret Royal**	**4.72**	**82**	*e*Pn	**Pn**	**22 29 02.1**	**+0.7**
FRF	**La Foret Royal**	**4.72**	**82**	*e*Pg	**Pg**	**22 29 19.9**	**-1.9**
FRF				*e*Sg	**Sg**	**22 30 20.2**	**-2.7**
	42nm,0.5s						
FRF	**La Foret Royal**	**4.72**	**82**	Pn	**Pn**	**22 29 02.1**	**+0.7**
FRF	**La Foret Royal**	**4.72**	**82**	Pg	**Pg**	**22 29 19.9**	**-1.9**
FRF				*e*Sg	**Sg**	**22 30 20.2**	**-2.7**
	21nm,0.5s						
LOR	**Lormes**	**4.89**	**31**	*e*Pn	**Pn**	**22 29 04.7**	**+0.9**
	baz=213						
LOR	**Lormes**	**4.89**	**31**	*e*Pg	**Pg**	**22 29 23.7**	**-1.2**
	baz=216						
LOR				*e*Sg	**Sg**	**22 30 26.3**	**-1.9**
	38nm,0.3s						
LOR	**Lormes**	**4.89**	**31**	Pn	**Pn**	**22 29 04.7**	**+0.9**
LOR	**Lormes**	**4.89**	**31**	Pg	**Pg**	**22 29 23.7**	**-1.2**
LOR				*e*Sg	**Sg**	**22 30 26.3**	**-1.9**
	19nm,0.3s						
EVIA	**Vianos**	**4.92**	**206**	Pn	**Pn**	**22 29 05.9**	**+1.7**
	15nm,0.4s,SNR=6.4						
EVIA				Sn	**Sn**	**22 29 57.3**	**-3.4**
	19nm,0.4s,SNR=5.0						
EVIA				Lg	Lg	22 30 24.0	
	45nm,0.4s,SNR=7.9						
EVIA	**Vianos**	**4.92**	**206**	Pn	**Pn**	**22 29 05.9**	**+1.7**
	15nm,0.4s,SNR=6.4						
EVIA				Lg	Lg	22 30 24.0	
	45nm,0.4s,SNR=7.9						
MBDF	**Montbardon**	**5.01**	**69**	*e*Pn	**Pn**	**22 29 06.9**	**+1.4**
MBDF	**Montbardon**	**5.01**	**69**	*e*Pg	**Pg**	**22 29 26.3**	**-1.0**
MBDF				*e*Sg	**Sg**	**22 30 29.6**	**-2.6**
	20nm,0.7s						
MBDF	**Montbardon**	**5.01**	**69**	Pn	**Pn**	**22 29 06.9**	**+1.4**
MBDF	**Montbardon**	**5.01**	**69**	Pg	**Pg**	**22 29 26.3**	**-1.0**
MBDF				*e*Sg	**Sg**	**22 30 29.6**	**-2.6**
	9.9nm,0.7s						
MVIF	**Mont Vial**	**5.12**	**79**	Pn	**Pn**	**22 29 08.0**	**+1.0**
MVIF	**Mont Vial**	**5.12**	**79**	Pn	**Pn**	**22 29 08.0**	**+1.0**
TOUF	**Mont Tournerai**	**5.20**	**78**	Pn	**Pn**	**22 29 08.5**	**+0.3**
TOUF	**Mont Tournerai**	**5.20**	**78**	Pn	**Pn**	**22 29 08.5**	**+0.3**
LUCF	**Luceram**	**5.25**	**79**	Pn	**Pn**	**22 29 09.5**	**+0.7**
LUCF	**Luceram**	**5.25**	**79**	Pn	**Pn**	**22 29 09.5**	**+0.7**
ECAL	**Calabor**	**5.26**	**259**	⇓Pn	**Pn**	**22 29 10.9**	**+2.0**
	14nm,0.3s,SNR=18						
ECAL				Sn	**Sn**	**22 30 07.6**	**-1.4**
	22nm,0.3s,SNR=5.4						
ECAL				Lg	Lg	22 30 33.9	
	34nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**5.26**	**259**	Pn	**Pn**	**22 29 10.9**	**+2.0**
	14nm,0.3s,SNR=18						
ECAL				Lg	Lg	22 30 33.9	
	34nm,0.4s,SNR=7.9						
LPL	**La Plagne**	**5.26**	**61**	*e*Pn	**Pn**	**22 29 09.7**	**+0.6**
LPL	**La Plagne**	**5.26**	**61**	*e*Pg	**Pg**	**22 29 31.0**	**-1.1**
LPL				*e*Sg	**Sg**	**22 30 37.8**	**-2.5**
	26nm,0.8s						
LPL	**La Plagne**	**5.26**	**61**	Pn	**Pn**	**22 29 09.7**	**+0.6**
LPL	**La Plagne**	**5.26**	**61**	Pg	**Pg**	**22 29 31.0**	**-1.1**
LPL				*e*Sg	**Sg**	**22 30 37.8**	**-2.5**
	13nm,0.8s						
LPG	**La Plagne**	**5.27**	**61**	*e*Pn	**Pn**	**22 29 10.5**	**+1.3**
LPG	**La Plagne**	**5.27**	**61**	*e*Pg	**Pg**	**22 29 31.3**	**-0.9**
LPG				*e*Sg	**Sg**	**22 30 38.0**	**-2.4**
	33nm,0.7s						
LPG	**La Plagne**	**5.27**	**61**	Pn	**Pn**	**22 29 10.5**	**+1.3**
LPG	**La Plagne**	**5.27**	**61**	Pg	**Pg**	**22 29 31.3**	**-0.9**
LPG				*e*Sg	**Sg**	**22 30 38.0**	**-2.4**
	16nm,0.7s						
PBRG	**Braganca**	**5.30**	**258**	*e*Pn	**Pn**	**22 29 11.4**	**+2.0**
PBRG				*e*Sn	**Sn**	**22 30 08.5**	**-1.4**
PBRG				A	A	22 30 12.2	
	25nm,0.4s						
PBRG	**Braganca**	**5.30**	**258**	Pn	**Pn**	**22 29 11.4**	**+2.0**
PBRG				Sn	**Sn**	**22 30 08.5**	**-1.4**
	13nm,0.4s						
PBRG	**Braganca**	**5.30**	**258**	*e*Pn	**Pn**	**22 29 11.4**	**+2.0**
PBRG				Sn	**Sn**	**22 30 08.5**	**-1.4**
	13nm,0.4s						
SBF	**Sospel**	**5.32**	**79**	*e*Pn	**Pn**	**22 29 10.5**	**+0.8**
SBF	**Sospel**	**5.32**	**79**	*e*Pg	**Pg**	**22 29 30.9**	**-2.2**
SBF				*e*Sg	**Sg**	**22 30 38.9**	**-3.0**
	32nm,0.5s						
SBF	**Sospel**	**5.32**	**79**	Pn	**Pn**	**22 29 10.5**	**+0.8**
SBF	**Sospel**	**5.32**	**79**	Pg	**Pg**	**22 29 30.9**	**-2.2**
SBF				*e*Sg	**Sg**	**22 30 38.9**	**-3.0**
	16nm,0.5s						
GRR	**Gorron**	**5.32**	**352**	*e*Pn	**Pn**	**22 29 10.4**	**+0.7**
GRR	**Gorron**	**5.32**	**352**	*e*Pg	**Pg**	**22 29 30.4**	**-2.8**
GRR				*e*Sn	**Sn**	**22 30 09.4**	**-1.0**
GRR				*e*Sg	**Sg**	**22 30 40.3**	**-1.8**
	34nm,0.4s						
GRR	**Gorron**	**5.32**	**352**	Pn	**Pn**	**22 29 10.4**	**+0.7**
GRR	**Gorron**	**5.32**	**352**	Pg	**Pg**	**22 29 30.4**	**-2.8**
GRR				Sn	**Sn**	**22 30 09.4**	**-1.0**
GRR				*e*Sg	**Sg**	**22 30 40.3**	**-1.8**
	17nm,0.4s						
AUTN	**L'Aution**	**5.33**	**78**	Pn	**Pn**	**22 29 10.4**	**+0.5**
AUTN	**L'Aution**	**5.33**	**78**	Pn	**Pn**	**22 29 10.4**	**+0.5**
QUIF	**Quistinic**	**5.35**	**335**	*e*Pn	**Pn**	**22 29 11.5**	**+1.5**
QUIF	**Quistinic**	**5.35**	**335**	*e*Pg	**Pg**	**22 29 31.5**	**-2.2**
QUIF				*e*Sn	**Sn**	**22 30 09.6**	**-1.4**
QUIF				*e*Sg	**Sg**	**22 30 40.9**	**-2.1**
	21nm,0.3s						
QUIF	**Quistinic**	**5.35**	**335**	Pn	**Pn**	**22 29 11.5**	**+1.5**
QUIF	**Quistinic**	**5.35**	**335**	Pg	**Pg**	**22 29 31.5**	**-2.2**
QUIF				Sn	**Sn**	**22 30 09.6**	**-1.4**
QUIF				*e*Sg	**Sg**	**22 30 40.9**	**-2.1**
	11nm,0.3s						
EPON	**Pontenova**	**5.38**	**275**	Pn	Pn	22 29 13.8	+3.4
	9.1nm,0.3s,SNR=15						
EPON				Sn	**Sn**	**22 30 12.7**	**+1.0**

EADA Sn Sn 22 30 26.0 -4.5
8.7nm,0.4s,SNR=4.7
EADA Lg Lg 22 31 04.3
10nm,0.3s,SNR=7.9
EADA Adamuz 6.13 218 Pn **Pn 22 29 22.1 +1.2**
4.1nm,0.6s,SNR=10
EADA Lg Lg 22 31 04.3
10nm,0.3s,SNR=7.9
POLO Lamas de Olo 6.18 256 *i* Pn **Pn 22 29 23.2 +1.6**
POLO *e*Sn **Sn 22 30 29.6 -2.2**
POLO A A 22 30 31.0
2.9nm,0.5s
ELOB Lobios 6.23 261 Pn **Pn 22 29 23.9 +1.6**
2.3nm,0.4s,SNR=6.6
ELOB Sn **Sn 22 30 31.6 -1.4**
3.8nm,0.3s,SNR=5.0
ELOB Lobios 6.23 261 Pn **Pn 22 29 23.9 +1.6**
2.3nm,0.4s,SNR=6.6
PGAV Gavieira, Arco 6.36 262 *e*Pn **Pn 22 29 25.8 +1.7**
PGAV *e*Sn **Sn 22 30 34.6 -1.6**
PGAV A A 22 30 41.7
5.3nm,0.6s
PGAV Gavieira, Arco 6.36 262 *e*Pn **Pn 22 29 25.8 +1.7**
MEZF Maizieres J'vi 6.36 30 *e*Pn **Pn 22 29 25.6 +1.7**
MEZF *e*Sn **Sn 22 30 33.8 -2.2**
MEZF *e*Sg **Sg 22 31 12.2 -3.2**
33nm,0.4s
MEZF Maizieres J'vi 6.36 30 Pn **Pn 22 29 25.6 +1.7**
MEZF *e*Sg **Sg 22 31 12.2 -3.2**
16nm,0.4s
MTE Manteigas 6.40 248 *e*Pn **Pn 22 29 25.1 +0.6**
MTE *e*Sn **Sn 22 30 33.9 -3.0**
MTE A A 22 30 36.3
6.4nm,0.4s
MTE Manteigas 6.40 248 Pn **Pn 22 29 25.1 +0.6**
MTE Sn **Sn 22 30 33.9 -3.0**
3.2nm,0.4s
MTE Manteigas 6.40 248 *e*Pn **Pn 22 29 25.1 +0.6**
STS Santiago 6.42 271 Pn **Pn 22 29 26.6 +1.8**
SNR=7.9
STS Santiago 6.42 271 Pn **Pn 22 29 26.6 +1.8**
SNR=7.9
HAU Haudompre 6.52 39 *e*Pn **Pn 22 29 27.0 +0.9**
HAU Haudompre 6.52 39 *e*Pg **Pg 22 29 53.7 -2.4**
HAU *e*Sg **Sg 22 31 17.3 -3.1**
16nm,0.4s
HAU Haudompre 6.52 39 Pn **Pn 22 29 27.0 +0.9**
HAU Haudompre 6.52 39 Pg **Pg 22 29 53.7 -2.4**
HAU *e*Sg **Sg 22 31 17.3 -3.1**
7.8nm,0.4s
ECAB El Cabril 6.61 222 Pn **Pn 22 29 28.5 +1.1**
1.0nm,0.3s,SNR=19
ECAB Sn Sn 22 30 37.5 -4.5
3.5nm,0.5s,SNR=5.0
ECAB El Cabril 6.61 222 Pn **Pn 22 29 28.5 +1.1**
1.0nm,0.3s,SNR=19
HINF Hinteralfeld 6.63 43 *e*Pn **Pn 22 29 28.9 +1.3**
HINF Hinteralfeld 6.63 43 *e*Pg **Pg 22 29 57.2 -1.0**
HINF *e*Sg **Sg 22 31 20.3 -3.6**
12nm,0.4s
HINF Hinteralfeld 6.63 43 Pn **Pn 22 29 28.9 +1.3**
HINF Hinteralfeld 6.63 43 Pg **Pg 22 29 57.2 -1.0**
HINF Lg Lg 22 31 20.3
5.8nm,0.4s
EBER Berja 6.65 202 Pn **Pn 22 29 30.9 +2.8**
3.6nm,0.4s,SNR=11
EBER Sn **Sn 22 30 41.5 -1.9**
6.1nm,0.6s,SNR=5.0
EBER Berja 6.65 202 Pn **Pn 22 29 30.9 +2.8**
3.6nm,0.4s,SNR=11
PAGF Fort de Pagny 6.67 33 *e*Pn **Pn 22 29 29.4 +1.3**
PAGF *e*Sg **Sg 22 31 22.0 -3.1**
6.9nm,0.5s
PAGF Fort de Pagny 6.67 33 *e*Pn **Pn 22 29 29.4 +1.3**
PAGF *e*Sg **Sg 22 31 22.0 -3.1**
3.5nm,0.5s
PMRV Marv??o 6.80 240 *e*Pn **Pn 22 29 31.1 +1.1**
PMRV *e*Sn **Sn 22 30 44.0 -2.9**
PMRV A A 22 30 45.6
17nm,0.4s
PMRV Marv??o 6.80 240 Pn **Pn 22 29 31.1 +1.1**
PMRV Sn **Sn 22 30 44.0 -2.9**
17nm,0.4s
PMRV Marv??o 6.80 240 *e*Pn **Pn 22 29 31.1 +1.1**
EBAD Badajoz 6.99 234 Pn **Pn 22 29 33.1 +0.6**
1.5nm,0.3s,SNR=18
EBAD Sn Sn 22 30 46.7 -4.7
6.2nm,0.4s,SNR=5.0
EBAD Lg Lg 22 31 33.1
6.1nm,0.2s,SNR=7.9
EBAD Badajoz 6.99 234 Pn **Pn 22 29 33.1 +0.6**
1.5nm,0.3s,SNR=18
EBAD Lg Lg 22 31 33.1
6.1nm,0.2s,SNR=7.9
PCAS Casmilo, Conde 7.20 248 *e*Pn **Pn 22 29 37.1 +1.6**
PCAS *e*Sn **Sn 22 30 53.8 -2.9**
PCAS A A 22 31 00.2
4.4nm,0.5s
PCAS Casmilo, Conde 7.20 248 *e*Pn **Pn 22 29 37.1 +1.6**
CDF Champ du Feu 7.25 41 *e*Pn **Pn 22 29 36.7 +0.6**
CDF Champ du Feu 7.25 41 *e*Pg **Pg 22 30 07.4 -2.5**
CDF *e*Sg **Sg 22 31 39.8 -3.9**
18nm,0.7s
CDF Champ du Feu 7.25 41 Pn **Pn 22 29 36.7 +0.6**
CDF Champ du Feu 7.25 41 Pg **Pg 22 30 07.4 -2.5**
CDF Lg Lg 22 31 39.8
9.2nm,0.7s
PESTR Estremoz 7.26 237 *e*Pn **Pn 22 29 37.2 +0.9**
PESTR *e*Sn **Sn 22 30 54.4 -3.8**
PESTR A A 22 30 58.1
4.5nm,0.9s
PESTR Estremoz 7.26 237 Pn **Pn 22 29 37.2 +0.9**
PESTR Sn **Sn 22 30 54.4 -3.8**
4.5nm,0.9s
PESTR Estremoz 7.26 237 *e*Pn **Pn 22 29 37.2 +0.9**
PBAR Barrancos 7.39 231 *e*Pn **Pn 22 29 39.0 +0.9**
PBAR *e*Sn Sn 22 30 56.4 -5.0
PBAR A A 22 31 11.5
12nm,0.5s
PBAR Barrancos 7.39 231 Pn **Pn 22 29 39.0 +0.9**
PBAR Sn Sn 22 30 56.4 -5.0
12nm,0.5s
PBAR Barrancos 7.39 231 *e*Pn **Pn 22 29 39.0 +0.9**
BAIF Baives 7.47 20 *e*Pn **Pn 22 29 40.2 +1.1**
BAIF *e*Sg **Sg 22 31 47.3 -3.6**
38nm,0.9s
BAIF Baives 7.47 20 Pn **Pn 22 29 40.2 +1.1**
BAIF Lg Lg 22 31 47.3
19nm,0.9s
EMIN Mina Concepcio 7.48 227 Pn **Pn 22 29 39.6 +0.2**
0.1nm,0.2s,SNR=7.9
EMIN Sn Sn 22 30 57.7 -5.9
3.1nm,0.4s,SNR=5.7
EMIN Mina Concepcio 7.48 227 Pn **Pn 22 29 39.6 +0.2**
0.1nm,0.2s,SNR=7.9
PMTG Montargil 7.54 240 *e*Pn **Pn 22 29 41.5 +1.4**
PMTG *e*Sn **Sn 22 31 01.4 -3.6**
PMTG A A 22 31 16.0
3.9nm,0.7s
PMTG Montargil 7.54 240 *e*Pn **Pn 22 29 41.5 +1.4**
EMIJ Mijas 7.58 212 Pn **Pn 22 29 42.1 +1.4**
2.3nm,0.5s,SNR=5.1
EMIJ Sn Sn 22 31 01.2 -4.8
3.6nm,0.4s,SNR=7.9
EMIJ Mijas 7.58 212 Pn **Pn 22 29 42.1 +1.4**
2.3nm,0.5s,SNR=5.1
GIVF Givet 7.68 23 *e*Pn **Pn 22 29 42.9 +0.9**
GIVF *e*Sn **Sn 22 31 05.2 -3.1**
GIVF *e*Sg 22 31 53.5
18nm,0.5s
GIVF Givet 7.68 23 Pn **Pn 22 29 42.9 +0.9**
GIVF Lg Lg 22 31 53.5
9.0nm,0.5s
EVO Evora 7.73 236 *e*Pn **Pn 22 29 44.2 +1.5**
EVO *e*Sn **Sn 22 31 06.3 -3.4**
EVO *e*Sg 22 31 55.4
20nm,0.6s
EVO Evora 7.73 236 *e*Pn **Pn 22 29 43.8 +1.1**
EVO *e*Sn **Sn 22 31 06.2 -3.4**
EVO Evora 7.73 236 Pn **Pn 22 29 43.8 +1.1**
EVO Sn **Sn 22 31 06.2 -3.4**
EVO Evora 7.73 236 *e*Pn **Pn 22 29 43.8 +1.1**
ESPR Espera 7.78 219 Pn **Pn 22 29 46.1 +2.7**
3.8nm,0.5s,SNR=5.1
ESPR Sn **Sn 22 31 07.5 -3.4**
5.3nm,0.5s,SNR=8.3
ESPR Espera 7.78 219 Pn **Pn 22 29 46.1 +2.7**
3.8nm,0.5s,SNR=5.1
EVOP Sao Brissos 7.80 237 *e*Pn **Pn 22 29 44.2 +0.5**
EGRO El Granado 8.09 229 Pn **Pn 22 29 48.2 +0.5**
0.6nm,0.2s,SNR=7.9
EGRO Sn Sn 22 31 12.8 -5.8
2.1nm,0.3s,SNR=7.9
EGRO Lg Lg 22 32 11.2
11nm,0.6s,SNR=7.9
EGRO El Granado 8.09 229 Pn **Pn 22 29 48.2 +0.5**
0.6nm,0.2s,SNR=7.9
EGRO Lg Lg 22 32 11.2
11nm,0.6s,SNR=7.9
PACT Alcochete 8.10 241 *e*Sn **Sn 22 31 17.8 -0.9**
PMAFR Mafra 8.28 243 *e*Pn **Pn 22 29 53.0 +2.7**
PMAFR *e*Sn **Sn 22 31 19.8 -3.5**
PMAFR A A 22 31 22.4
11nm,0.6s
PMAFR Mafra 8.28 243 Pn **Pn 22 29 52.5 +2.2**
1.3nm,0.2s,SNR=7.9
PMAFR Sn Sn 22 31 18.4 -4.9
13nm,0.4s,SNR=7.9
PMAFR Mafra 8.28 243 Pn **Pn 22 29 52.5 +2.2**
1.3nm,0.2s,SNR=7.9
PNCL Nicolau / Gran 8.31 236 *e*Pn **Pn 22 29 51.6 +0.9**
PNCL *e*Sn **Sn 22 31 20.0 -3.9**
PNCL A A 22 31 39.3
4.6nm,0.8s
PNCL Nicolau / Gran 8.31 236 *e*Pn **Pn 22 29 51.6 +0.9**
PVAQ Vaqueiros 8.32 229 *e*Pn **Pn 22 29 50.6 -0.2**
PVAQ *e*Sn Sn 22 31 18.5 -5.6
PVAQ A A 22 31 20.7
3.1nm,0.4s
PVAQ Vaqueiros 8.32 229 Pn **Pn 22 29 50.6 -0.2**
PVAQ Sn Sn 22 31 18.5 -5.6
3.1nm,0.4s
PVAQ Vaqueiros 8.32 229 *e*Pn **Pn 22 29 50.6 -0.2**
PCVE Castro Verde 8.34 232 *e*Pn **Pn 22 29 51.2 +0.1**
PCVE *e*Sn Sn 22 31 18.4 -6.2
PCVE A A 22 31 22.6
5.2nm,0.6s
PCVE Castro Verde 8.34 232 Pn **Pn 22 29 51.2 +0.1**
PCVE Sn Sn 22 31 18.4 -6.2
5.2nm,0.6s
PCVE Castro Verde 8.34 232 *e*Pn **Pn 22 29 51.2 +0.1**
PBDV Barranco-do-Ve 8.55 229 *e*Sn Sn 22 31 25.2 -4.7
PBDV A A 22 31 28.2
3.9nm,0.4s
PBDV Barranco-do-Ve 8.55 229 Sn Sn 22 31 25.2 -4.7
3.9nm,0.4s
MORF Marmelete 8.91 232 *e*Pn **Pn 22 29 59.9 +0.9**
MORF *e*Sn Sn 22 31 32.5 -6.4
MORF A A 22 31 37.4
3.6nm,0.2s
MORF Marmelete 8.91 232 Pn **Pn 22 29 59.9 +0.9**
MORF Sn Sn 22 31 32.5 -6.4
3.6nm,0.2s
MORF Marmelete 8.91 232 *e*Pn **Pn 22 29 59.9 +0.9**
PFVI Vila Bisbo 9.14 232 *e*Pn **Pn 22 30 03.1 +1.1**
PFVI *e*Sn Sn 22 31 38.4 -5.8
PFVI A A 22 31 40.6
6.1nm,0.5s
PFVI Vila Bisbo 9.14 232 Pn **Pn 22 30 02.6 +0.6**
SNR=7.9
PFVI Sn Sn 22 31 38.8 -5.5
4.5nm,0.4s,SNR=6.4
PFVI Vila Bisbo 9.14 232 *e*Pn **Pn 22 30 03.1 +1.1**
CLL Collm 11.94 42 *e*Pn Pn 22 30 37.0 -3.3
comp=Z,5.0nm,0.9s
CLL *e*Sg 22 34 01.0

GUC 15 22:31:19.1±0.5, 33°.99S×68°.92W, h11km±3km, MD3.6, ML2.9, 2C-4D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LMEL	**Las Melosas**	**1.07**	**277**	⇓*i*P	Pb	22 31 39.0	-0.9
LMEL				*i* S	Sb	22 31 54.0	-0.1
LMEL				AML	AML	22 31 58.0	
	comp=N,397nm,0.2s						
PCH	**Pirque**	**1.37**	**285**	⇑*i*P	Pn	22 31 44.5	+0.1
PCH				*i* S	Sg	22 32 03.5	-0.1
CHCH	**Chadas Angostu**	**1.44**	**272**	⇓*i*P	Pn	22 31 45.6	+0.4
CHCH				*i* S	Sg	22 32 05.2	-0.4
CLCH	**Cerro Calan**	**1.47**	**293**	⇓*i*P	Pn	22 31 45.9	+0.2
CLCH				*i* S	Sg	22 32 06.6	0.0
CLCH				AML	AML	22 32 07.6	
	comp=N,821nm,0.3s						
ANTU	**Antumapu**	**1.48**	**286**	*e*P	Pn	22 31 46.1	+0.3
ANTU				*i* S	Sg	22 32 06.9	-0.1
ANTU				AML	AML	22 32 12.3	
	comp=N,271nm,0.4s						
RCDM	**Rinconada Maip**	**1.65**	**287**	⇑*i*P	Pb	22 31 49.1	-0.4
RCDM				*i* S	Sg	22 32 11.7	-0.5
RCDM				AML	AML	22 32 13.3	
	comp=N,173nm,0.4s						
JACH	**Jahuel**	**1.91**	**313**	⇓*i*P	Pb	22 31 53.3	-0.8

*BJI **15** 22:33:34.0, 51°.50N×175°.70W, h32km, mB4.7/2, mb4.7/5, Ms4.3/2, Ms7 4.0/2*
*IDC **15** 22:33:37.8±3.0, 51°.79N×175°.98W, h33km±21km, mb4.1/14, mb1 4.3/15, mb1mx4.1/25, mbtmp4.2/15, ML5.1/1, MS3.4/8, Ms1 3.4/8, ms1mx3.2/42, Error ellipse: s-maj=22.4km s-min=12.3km az=169.0*
*NEIC **15** 22:33:37.7, 51°.53N×175°.77W, h25km, mb4.6/29, ML4.3(AEIC), After AEIC.*
*ISCJB **15** 22:33:39.1±0.3, 51°.71N±0°.06×175°.91W±0°.03, h61km±3km, mb4.5/37, Error ellipse: s-maj=9.6km s-min=3.0km az=170.6*

ISC 15 22:33:38.2±0.6, 51°.62N±0°.08×175°.91W±0°.03, h41km±4km, n361, σ1§04/372, mb4.5/37, MS3.4/8, 94C-117D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETKA	**Kagalaska Isla**	**0.40**	**308**	P	**Pn**	**22 33 48.6**	**+1.0**
GSCK	**Great Sitkin C**	**0.42**	**338**	P	**Pn**	**22 33 49.0**	**+1.1**
GSMY	**Great Sitkin M**	**0.43**	**348**	P	**Pn**	**22 33 49.0**	**+0.9**
GSTD	**Great Sitkin T**	**0.46**	**341**	P	**Pn**	**22 33 49.5**	**+1.0**
GSTR	**Great Sitkin T**	**0.48**	**349**	*e*Pn	**Pn**	**22 33 50.0**	**+1.3**
GSTR				*e*Sn	**Sn**	**22 33 59.9**	**+3.6**
ADK	**Adak**	**0.55**	**299**	P	**Pn**	**22 33 49.9**	**+0.3**
ADK				S	**Sn**	**22 33 59.2**	**+1.5**
ADAG	**Mount Adagdak**	**0.56**	**310**	P	**Pn**	**22 33 51.5**	**+1.8**
KIRH	**Kanaga Island**	**0.79**	**291**	P	**Pn**	**22 33 53.9**	**+1.1**
KINC	**Kanaga Island**	**0.82**	**293**	P	**Pn**	**22 33 54.3**	**+1.1**
KIKV	**Kanaga Island**	**0.83**	**289**	P	**Pn**	**22 33 54.3**	**+0.9**
KICM	**Kanaga Island**	**0.86**	**291**	P	**Pn**	**22 33 54.8**	**+1.1**
TAPA	**Tanaga Point A**	**1.20**	**280**	P	**Pn**	**22 33 59.8**	**+1.3**
TAFP	**Tanaga Falls P**	**1.32**	**283**	P	**Pn**	**22 34 01.6**	**+1.5**
TASE	**Tanaga Southea**	**1.34**	**280**	P	**Pn**	**22 34 02.0**	**+1.6**
TANO	**Tanaga North**	**1.41**	**283**	P	**Pn**	**22 34 03.2**	**+1.9**
GAEA	**Gareloi East**	**1.77**	**276**	P	**Pn**	**22 34 09.1**	**+2.7**
GALAA	**Gareloi Lava P**	**1.79**	**276**	P	**Pn**	**22 34 08.8**	**+2.3**
GANE	**Gareloi Northe**	**1.80**	**278**	P	**Pn**	**22 34 08.9**	**+2.3**
CEAP	**Semis' Anvil P**	**2.83**	**280**	P	Pn	22 34 23.7	+2.9
CESW	**Semis' Southwe**	**2.83**	**278**	P	Pn	22 34 23.9	+3.1
CESW				S	Sn	22 34 59.0	+5.4
AMKA	**Amchitka**	**3.00**	**267**	P	Pn	22 34 26.3	+3.1
AMKA				S	**Sn**	**22 35 02.2**	**+4.3**
LSNW	**Little Sitkin**	**3.48**	**278**	P	**Pn**	**22 34 32.1**	**+2.4**
LSSA	**Little Sitkin**	**3.48**	**278**	P	Pn	22 34 33.3	+3.5
NIKH	**Nikolski High**	**4.54**	**70**	P	**Pn**	**22 34 45.6**	**+1.3**
NIKH				S	**Sn**	**22 35 37.5**	**+1.8**
OKSP	**Okmok Steeple**	**4.94**	**68**	P	**Pn**	**22 34 51.5**	**+1.7**
OKSO	**Okmok South**	**5.04**	**67**	P	**Pn**	**22 34 52.8**	**+1.6**
OKSO				S	**Sn**	**22 35 52.3**	**+4.1**
OKCE	**Okmok Cone E**	**5.06**	**66**	P	**Pn**	**22 34 53.4**	**+1.9**
OKTU	**Okmok Mt. Tuli**	**5.12**	**67**	P	**Pn**	**22 34 54.4**	**+2.2**
MREP	**Makushin Rep't**	**5.98**	**65**	P	**Pn**	**22 35 06.5**	**+2.4**
UNV	**Unalaska Valle**	**6.13**	**65**	P	**Pn**	**22 35 07.6**	**+1.5**
SMY	**Shemya**	**6.25**	**284**	P	Pn	22 35 11.2	+3.5
SPIA	**Saint Paul Isl**	**6.47**	**28**	P	Pn	22 35 14.0	+3.2
AKUT	**Akutan**	**6.63**	**64**	*e*Pn	**Pn**	**22 35 15.7**	**+2.8**
FX1	**Attu Island--F**	**6.83**	**285**	Pn	**Pn**	**22 35 17.9**	**+2.2**
FX1				Sn	**Sn**	**22 36 32.7**	**+0.7**
FX1	**Attu Island--F**	**6.83**	**285**	Pn	**Pn**	**22 35 17.9**	**+2.2**
	3.3nm,0.3s,baz=250,slow=19,SNR=18						
FX1				Sn	**Sn**	**22 36 32.7**	**+0.7**
	baz=54,slow=19,SNR=2.2						
DTNA	**Dutton South F**	**8.89**	**61**	P	**Pn**	**22 35 45.7**	**+1.7**
SDPT	**Sand Point**	**9.92**	**62**	*e*Pn	**Pn**	**22 35 58.4**	**+0.4**
OHAK	**Old Harbor**	**14.28**	**58**	*e*Pn	**Pn**	**22 36 54.5**	**-2.9**
SVW2	**Sparrevohn**	**14.67**	**42**	*e*Pn	**Pn**	**22 37 04.3**	**+1.7**
KDAK	**Kodiak Island**	**14.78**	**56**	*e*Pn	**Pn**	**22 37 02.4**	**-1.8**
RSO	**Redoubt South**	**15.60**	**46**	*e*Pn	**P**	**22 37 17.2**	**-1.5**
PETK	**Petropavlovsk-**	**16.16**	**286**	LR	LR	22 42 34.1	
	comp=Z,98nm,20.8s,baz=250,slow=33						
PPLA	**Purkeypile**	**16.97**	**39**	*e*Pn	**P**	**22 37 34.1**	**+0.2**
	33nm,1.3s						
CAST	**Castle Rocks**	**17.28**	**38**	*e*Pn	**P**	**22 37 38.6**	**+1.4**
	14nm,0.9s						
TRF	**Thorofare Moun**	**17.99**	**39**	*e*P	**P**	**22 37 46.1**	**+0.9**
	18nm,0.9s						
MCK	**McKinley**	**18.66**	**39**	*e*P	**Pn**	**22 37 53.4**	**+0.5**
	13nm,0.8s						
COLA	**College**	**19.62**	**37**	*e*P	**Pn**	**22 38 04.2**	**-0.2**
	14nm,0.9s						
PAX	**Paxson**	**19.77**	**43**	*e*P	**Pn**	**22 38 05.1**	**-1.1**
	14nm,1.0s						
IL1	**Eielson Array**	**19.94**	**38**	*e*P	**P**	**22 38 05.8**	**-0.4**
ILAR	**Eielson Array**	**19.94**	**38**	P	**P**	**22 38 05.0**	**-1.2**
ILAR				PcP	**PcP**	**22 42 21.1**	**-0.2**
ILAR				ScP	**ScP**	**22 45 54.3**	**+0.4**
ILAR	**Eielson Array**	**19.94**	**38**	P	**P**	**22 38 05.0**	**-1.2**
	2.7nm,0.3s,baz=240,slow=10,SNR=66						
ILAR				PcP	**PcP**	**22 42 21.1**	**-0.2**
	0.1nm,0.3s,baz=226,slow=4.0,SNR=5.2						
ILAR				ScP	**ScP**	**22 45 54.3**	**+0.4**
	0.1nm,0.3s,baz=272,slow=3.2,SNR=8.8						
COLD	**Coldfoot**	**20.14**	**29**	*e*P	Pn	22 38 09.1	-1.4
	31nm,1.0s						
DOT	**Dot Lake**	**20.60**	**42**	*e*P	**P**	**22 38 13.2**	**-0.3**
	27nm,0.7s						
EGAK	**Eagle**	**22.19**	**40**	*e*P	**P**	**22 38 30.2**	**-0.2**
	11nm,0.8s						
DAWY	**Dawson**	**22.70**	**43**	*e*P	**P**	**22 38 36.0**	**0.0**
INK	**Inuvik**	**26.23**	**35**	*e*P	**P**	**22 39 07.6**	**-1.2**
	59nm,2.6s						
INK				PcP	**PcP**	**22 42 34.7**	**+0.5**
INK	**Inuvik**	**26.23**	**35**	P	**P**	**22 39 08.0**	**-0.8**
	1.6nm,0.5s,baz=250,slow=8.2,SNR=12						
INK				PcP	**PcP**	**22 42 34.7**	**+0.5**
	2.0nm,0.6s,baz=273,slow=2.7,SNR=7.3						
INK				LR	LR	22 50 44.5	
	comp=Z,149nm,18.3s,baz=44,slow=39						
ASAJ	**Asahikawa**	**28.51**	**271**	LR	LR	22 50 57.6	
	comp=Z,63nm,18.3s,baz=155,slow=36						
YKA	**Yellowknife Ar**	**33.75**	**47**	P	**P**	**22 40 15.5**	**+0.1**
YKA				PcP	**PcP**	**22 42 54.7**	**+0.9**
YKA	**Yellowknife Ar**	**33.75**	**47**	P	**P**	**22 40 15.5**	**+0.1**
	1.0nm,0.5s,baz=286,slow=8.5,SNR=3.9						
YKA				PcP	**PcP**	**22 42 54.7**	**+0.9**
	2.7nm,0.8s,baz=285,slow=2.4,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**34.57**	**209**	T	T	23 17 02.1	
	baz=21						
H11N3	**WAKE ISLAND Hy**	**34.58**	**209**	T	T	23 16 58.7	
	baz=21						
H11N1	**WAKE ISLAND Hy**	**34.59**	**209**	T	T	23 17 00.2	
	baz=21						
USRK	**Ussuriysk Arra**	**35.05**	**279**	P	**P**	**22 40 25.9**	**-0.9**
	2.4nm,0.8s,baz=71,slow=6.2,SNR=4.5						
USRK				LR	LR	22 56 09.1	
	comp=Z,29nm,19.5s,baz=16,slow=39						
B08A	**Colville Reser**	**35.74**	**72**	*e*P	**P**	**22 40 33.0**	**+0.2**
	16nm,1.3s						
H11S1	**WAKE ISLAND Hy**	**35.78**	**209**	T	T	23 18 29.0	
	baz=19,slow=0.7,SNR=380						
H11S2	**WAKE ISLAND Hy**	**35.80**	**209**	T	T	23 18 32.8	
	baz=19,slow=0.7,SNR=275						
H11S3	**WAKE ISLAND Hy**	**35.80**	**209**	T	T	23 18 27.9	
	baz=19,slow=0.7,SNR=103						
C09A	**Chrisman Ranch**	**36.63**	**73**	*e*P	**P**	**22 40 39.5**	**-0.8**
	20nm,1.5s						
NEW	**Newport**	**37.10**	**71**	*e*P	**P**	**22 40 43.6**	**-0.7**
	8.4nm,1.0s						
NEW	**Newport**	**37.10**	**71**	⇓P	**P**	**22 40 45.1**	**+0.8**
	baz=37,SNR=6.7						
NEW	**Newport**	**37.10**	**71**	P	**P**	**22 40 44.7**	**+0.4**
	4.0nm,0.5s,baz=287,slow=8.3,SNR=11						
NEW				LR	LR	22 53 44.2	
	comp=Z,151nm,19.1s,baz=222,slow=32						
EDM	**Edmonton**	**37.11**	**62**	*e*P	**P**	**22 40 43.5**	**-0.9**
E09A	**Wood Farm, Sta**	**37.33**	**74**	*e*P	**P**	**22 40 46.5**	**+0.2**
	15nm,1.4s						
I07A	**Izee**	**37.75**	**79**	*e*P	**P**	**22 40 49.5**	**-0.5**
	7.2nm,1.1s						
WALA	**Waterton Lakes**	**38.60**	**69**	*e*P	**P**	**22 40 56.0**	**-1.2**
BSMT	**Bassoo Peak**	**38.67**	**71**	*e*P	**P**	**22 40 58.6**	**+0.8**
J08A	**Circle Bar Ran**	**38.77**	**79**	*e*P	**P**	**22 40 57.4**	**-1.2**
	58nm,2.3s						
BLMT	**Blacktail Moun**	**38.84**	**70**	*e*P	**P**	**22 40 58.1**	**-1.1**
WVOR	**Wild Horse Val**	**39.18**	**80**	*e*P	**P**	**22 41 01.5**	**-0.5**
	5.0nm,0.9s						
MSO	**Missoula**	**39.68**	**72**	*e*P	**P**	**22 41 05.7**	**-0.5**
	9.6nm,1.1s						
MSO	**Missoula**	**39.68**	**72**	⇑P	**P**	**22 41 06.1**	**-0.1**
	baz=40,SNR=5.2						
HLID	**Hailey**	**41.13**	**76**	*e*P	**P**	**22 41 17.7**	**-0.6**
	4.1nm,1.0s						
HLID	**Hailey**	**41.13**	**76**	⇓P	**P**	**22 41 19.3**	**+1.1**
	baz=41						
MCMT	**McKenzie Canyo**	**41.38**	**74**	*e*P	**P**	**22 41 20.4**	**0.0**
KSRS	**Korea Array**	**41.44**	**273**	P	**P**	**22 41 22.2**	**+1.6**
	2.4nm,0.9s,baz=54,slow=8.7,SNR=7.9						
KSAR	**Wonju Array Be**	**41.47**	**273**	P	**P**	**22 41 22.2**	**+1.4**
EGMT	**Eagleton**	**41.52**	**68**	⇑P	**P**	**22 41 21.7**	**+0.5**
	baz=41						
A19A	**Klindworth Far**	**41.64**	**66**	⇓P	**P**	**22 41 22.3**	**0.0**
	baz=41,SNR=6.7						
NV01	**Mina Array Sit**	**41.73**	**85**	*e*P	**P**	**22 41 22.6**	**-0.6**
NVAR	**Mina Array Bea**	**41.73**	**85**	P	**P**	**22 41 24.3**	**+1.1**
NVAR				PcP	**PcP**	**22 43 19.9**	**+0.8**
NVAR	**Mina Array Bea**	**41.73**	**85**	P	**P**	**22 41 24.3**	**+1.1**
	1.1nm,0.8s,baz=300,slow=7.2,SNR=8.2						
NVAR				PcP	**PcP**	**22 43 19.9**	**+0.8**
	0.6nm,0.7s,baz=302,slow=2.0,SNR=4.2						
B19A	**Brinkman Farms**	**41.77**	**67**	⇑P	**P**	**22 41 23.5**	**+0.3**
	baz=42,SNR=6.3						
C19A	**Slack Wire Ran**	**42.08**	**68**	⇓P	**P**	**22 41 26.5**	**+0.7**
	baz=42,SNR=12						
A20A	**Cobblestone Ra**	**42.13**	**66**	⇓P	**P**	**22 41 26.3**	**0.0**
	baz=42,SNR=8.8						
ELK	**Elko**	**42.23**	**80**	*e*P	**P**	**22 41 26.9**	**-0.5**
	41nm,2.8s						
D19A	**Cripps Ranch,**	**42.47**	**68**	⇓P	**P**	**22 41 29.7**	**+0.7**
	baz=42						
TIN	**Tinemaha**	**42.63**	**87**	⇓P	**P**	**22 41 31.0**	**+0.5**
	baz=42						
A21A	**Bergtoll Ranch**	**42.64**	**65**	⇓P	**P**	**22 41 30.9**	**+0.6**
	baz=42						
C20A	**Veseth Ranch,**	**42.69**	**67**	⇓P	**P**	**22 41 31.5**	**+0.7**
	baz=42						
B21A	**Ellsworth Farm**	**42.88**	**66**	⇓P	**P**	**22 41 32.9**	**+0.6**
	baz=43						
E19A	**Rath Farm, Rou**	**42.90**	**69**	⇑P	**P**	**22 41 33.2**	**+0.7**
	baz=43						
D20A	**Manuel Ranch,**	**42.94**	**68**	⇓P	**P**	**22 41 33.6**	**+0.8**
	baz=43						
HVU	**Hansel Valley**	**43.14**	**77**	*e*P	**P**	**22 41 34.0**	**-0.6**
	98nm,2.8s						
C21A	**Desert Coulee**	**43.15**	**67**	⇓P	**P**	**22 41 35.3**	**+0.8**
	baz=43						
A22A	**Carney Farms,**	**43.21**	**65**	⇑P	**P**	**22 41 35.4**	**+0.4**
	baz=43						
E20A	**Meyer Farm, Mu**	**43.26**	**69**	⇓P	**P**	**22 41 36.3**	**+0.9**
	baz=43						
H18A	**Shoshone NF, C**	**43.36**	**72**	⇑P	**P**	**22 41 37.3**	**+0.9**
	baz=43						
R11A	**Troy Canyon, C**	**43.46**	**83**	⇓P	**P**	**22 41 37.8**	**+0.6**
	baz=43						
B22A	**Reddig Ranch S**	**43.53**	**66**	⇓P	**P**	**22 41 37.7**	**+0.2**

C23A	Lambert	44.26	66	⇓P		P	22 41 44.2 +0.8
	baz=44,SNR=11						
A24A	Westby	44.32	64	⇑P		P	22 41 44.6 +0.7
	baz=44,SNR=7.9						
DGMT	Dagmar	44.46	64	⇑P		P	22 41 45.2 +0.3
	baz=44						
BW06	Boulder Array	44.51	74	eP		P	22 41 45.3 -0.3
PDAR	Pinedale Array	44.51	74	P		P	22 41 45.9 +0.2
PDAR	Pinedale Array	44.51	74	P		P	22 41 45.9 +0.2
	4.3nm,0.5s,baz=310,slow=3.6,SNR=50						
E22A	Miles City	44.56	68	⇓P		P	22 41 46.5 +0.7
	baz=44						
D23A	Lindsay	44.58	67	⇓P		P	22 41 46.5 +0.5
	baz=44						
M17A	Scullys Gap (B	44.60	76	⇓P		P	22 41 46.9 +0.5
	baz=44						
GSC	Goldstone	44.63	88	⇑P		P	22 41 47.1 +0.6
	baz=44						
I20A	Worland	44.68	72	⇑P		P	22 41 47.5 +0.6
	baz=44						
L18A	Fontenelle, Gr	44.71	75	⇓P		P	22 41 47.8 +0.5
	baz=44						
A25A	Svangstu Ranch	44.81	63	⇑P		P	22 41 48.0 +0.2
	baz=45						
C24A	Savage	44.83	66	⇓P		P	22 41 48.8 +0.8
	baz=45						
E23A	Ismay	44.90	67	⇓P		P	22 41 49.3 +0.8
	baz=45						
J20A	Shoshoni	45.05	73	⇓P		P	22 41 50.6 +0.7
	baz=45						
D24A	Glendive	45.12	66	⇑P		P	22 41 51.6 +1.4
	baz=45						
B25A	Knox Farm, Ray	45.14	64	⇓P		P	22 41 50.8 +0.4
	baz=45						
HEC	Hector,Ludlow	45.23	88	⇑P		P	22 41 52.1 +0.8
	baz=45						
I21A	Big Trails, Te	45.25	72	⇓P		P	22 41 52.0 +0.5
	baz=45						
F23A	Volborg	45.27	68	⇓P		P	22 41 52.4 +0.9
	baz=45						
H22A	Clearmont	45.36	70	⇑P		P	22 41 53.1 +0.8
	baz=45						
A26A	Wade Farm, Ken	45.43	63	⇑P		P	22 41 52.5 -0.2
	baz=45						
J21A	Lysite	45.43	72	⇑P		P	22 41 53.8 +0.9
	baz=45						
E24A	Baker	45.44	67	⇑P		P	22 41 53.2 +0.4
	baz=45						
G23A	Biddle	45.58	69	⇓P		P	22 41 54.6 +0.6
	baz=45						
B26A	Jensen Ranch,	45.61	64	⇑P		P	22 41 54.5 +0.4
	baz=45						
D25A	Fairfield	45.67	66	⇑P		P	22 41 55.0 +0.4
	baz=45						
GMRC	Granite Mounta	45.68	87	⇓P		P	22 41 55.8 +0.9
	baz=46						
I22A	9 Mile Ranch,	45.69	71	⇓P		P	22 41 55.4 +0.6
	baz=46						
F24A	Ekalaka	45.76	68	⇓P		P	22 41 56.2 +0.9
	baz=46						
A27A	Ledoux Ranch,	45.84	62	⇓P		P	22 41 56.5 +0.6
	baz=46						
ROA	Roan Cliffs	45.87	78	eP		P	22 41 58.0 +1.4
K21A	Alcova	45.97	73	⇑P		P	22 41 57.7 +0.5
	baz=46						
J22A	Midwest	45.97	72	⇑P		P	22 41 57.7 +0.5
	baz=46						
C26A	Wahner Farm, P	45.99	64	⇑P		P	22 41 57.5 +0.4
	baz=46						
E25A	Miller Ranch,	45.99	66	⇓P		P	22 41 57.8 +0.6
	baz=46						
M20A	Sweetwater, Wa	46.08	75	⇑P		P	22 41 59.0 +0.8
	baz=46						
B27A	Peters Farms,	46.13	63	⇑P		P	22 41 58.7 +0.6
	baz=46						
O19A	Miners Draw (B	46.24	77	⇑P		P	22 42 00.1 +0.8
	baz=46						
F25A	Bowman	46.28	67	⇓P		P	22 42 00.2 +0.8
	baz=46						
C27A	Sayler Ranch,	46.38	64	⇓P		P	22 42 00.6 +0.4
	baz=46						
A28A	Rude Farm, Bot	46.40	62	⇑P		P	22 42 00.9 +0.5
	baz=46						
N20A	Spence Gulch,	46.43	76	⇑P		P	22 42 01.7 +0.8
	baz=46						
E26A	Carlson Angus	46.54	66	⇓P		P	22 42 01.7 +0.3
	baz=46						
BC3	Big Chuckawall	46.55	88	⇑P		P	22 42 02.0 +0.3
	baz=46						
U15A	North Rim	46.71	83	⇑P		P	22 42 03.7 +0.6
	baz=46						
D27A	Center	46.71	65	⇓P		P	22 42 02.9 +0.2
	baz=46						
P19A	Cripple Cowboy	46.73	77	⇑P		P	22 42 04.0 +0.7
	baz=46						
O20A	White River Ci	46.87	76	⇓P		P	22 42 04.8 +0.5
	baz=47						
A29A	Manning Farm,	46.96	61	⇓P		P	22 42 05.3 +0.7
	baz=47						
C28A	Hausauer Farms	47.00	63	⇓P		P	22 42 05.3 +0.3
	baz=47						
E27A	Carson	47.07	65	⇑P		P	22 42 06.0 +0.4
	baz=47						
F27A	Lemmon	47.13	66	⇑P		P	22 42 06.3 +0.1
	baz=47						
G26A	Maurine	47.14	67	⇓P		P	22 42 06.9 +0.8
	baz=47						
L23A	Garrett	47.20	73	⇑P		P	22 42 07.2 +0.3
	baz=47						
D28A	Regan	47.20	64	⇑P		P	22 42 07.2 +0.6
	baz=47,SNR=5.3						
I25A	Rochford	47.23	69	⇓P		P	22 42 07.7 +0.7
	baz=47						
O21A	Pagoda	47.29	76	⇑P		P	22 42 07.9 +0.3
	baz=47						
K24A	Anderson Ranch	47.36	71	⇑P		P	22 42 08.2 +0.2
	baz=47						
MDND	Maddock	47.37	63	eP		P	22 42 07.0 -0.8
	26nm,0.9s						
MDND	Maddock	47.37	63	⇓P		P	22 42 08.1 +0.3
	baz=47						
N22A	Wattenberg Ran	47.54	74	⇑P		P	22 42 10.6 +1.0
	baz=47						
J25A	Sunshine Ranch	47.56	70	⇑P		P	22 42 09.4 -0.1
	baz=47						
L24A	Wheatland	47.70	72	⇑P		P	22 42 10.8 +0.1
	baz=48						
B30A	Myrvik Farm, E	47.73	61	⇑P		P	22 42 11.0 +0.4
	baz=48						
P21A	Newcastle	47.73	76	⇓P		P	22 42 11.7 +0.7
	baz=48						
N23A	Red Feather La	47.79	74	⇑P		P	22 42 11.6 0.0
	baz=48						
D29A	Pettibone, Tap	47.82	64	⇑P		P	22 42 11.4 0.0
	baz=48						
F28A	McLaughlin	47.84	66	⇓P		P	22 42 11.6 0.0
	baz=48						
WUAZ	Wupatki	47.86	83	⇓P		P	22 42 12.9 +0.8
	baz=48						
O22A	Kremmling	47.88	75	⇓P		P	22 42 12.8 +0.5
	baz=48						
E29A	Napoleon	48.08	64	⇓P		P	22 42 13.9 +0.5
	baz=48						
SONM	Songino Array	48.14	298	P		P	22 42 14.0 -0.1
SONM				PcP		PcP	22 43 41.1 +0.2
SONM				ScP		ScP	22 47 32.5 +0.6
SONM	Songino Array	48.14	298	P		P	22 42 14.0 -0.1
	0.4nm,0.7s,baz=51,slow=8.2,SNR=4.5						
SONM				PcP		PcP	22 43 41.1 +0.2
	1.1nm,0.6s,baz=66,slow=3.6,SNR=8.8						
SONM				ScP		ScP	22 47 32.5 +0.6
	0.4nm,0.9s,baz=48,slow=2.1,SNR=3.1						
I27A	Quinn	48.17	68	⇑P		P	22 42 14.4 +0.2
	baz=48						
D30A	Buchanan	48.26	63	⇑P		P	22 42 14.8 0.0
	baz=48						
R21A	Cimarron	48.39	78	⇓P		P	22 42 16.7 +0.6
	baz=48						
F29A	Eureka	48.40	65	⇓P		P	22 42 16.2 +0.3
	baz=48						
H28A	Mission Ridge	48.41	67	⇓P		P	22 42 16.5 +0.5
	baz=48						
Q22A	Crested Butte,	48.47	77	⇓P		P	22 42 17.4 +0.6
	baz=48						
E30A	Jud	48.53	64	⇓P		P	22 42 16.3 -0.5
	baz=48						
S21A	Coal Bank Pass	48.69	79	⇓P		P	22 42 19.1 +0.5
	baz=48						
I28A	Midland	48.73	68	⇑P		P	22 42 19.2 +0.8
	baz=48,SNR=6.2						
H29A	Onida	48.90	67	⇓P		P	22 42 20.3 +0.5
	baz=49						
J28A	Allard Ranch,	49.03	69	⇑P		P	22 42 20.9 +0.1
	baz=49						
G30A	Faulkton	49.21	66	⇓P		P	22 42 21.9 -0.2
	baz=49,SNR=5.1						
HHC	Hu-ho-hao-te	49.35	288	eP		P	22 42 22.6 -0.7
HHC				pP		pP	22 42 32.5 -2.4
HHC				sP		sP	22 42 36.4 -3.3
HHC				PP		PP	22 44 16.9 -0.4
HHC				PcS		PcS	22 47 40.5 -1.5
HHC				S		S	22 49 25.5 -1.5
HHC				sS		sS	22 49 42.1 -4.2
HHC				ScS		ScS	22 52 08.9 -2.7
HHC				SS		SS	22 52 53.0 -5.5
HHC				AMB		AMB	
	comp=Z,55nm,1.1s						
HHC				AMB		AMB	
	comp=Z,140nm,5.2s						
HHC				LR		LR	
	comp=N,150nm,16.3s						
HHC				LR		LR	
	comp=E,290nm,15.9s						
HHC				LR		LR	
	comp=Z,120nm,16.5s						
V20A	Brimhall	49.48	81	⇓P		P	22 42 25.6 +1.1
	baz=49						
U21A	Nageezi	49.56	80	⇓P		P	22 42 26.0 +0.8
	baz=49						
J29A	Okreek	49.57	68	⇓P		P	22 42 25.8 +0.9
	baz=49,SNR=6.3						
T22A	Edith	49.65	79	⇓P		P	22 42 26.5 +0.7
	baz=49						
P25A	Willow Gulch B	49.71	74	⇓P		P	22 42 27.2 +1.0
	baz=50						
BRSD	Miller	49.73	66	⇓P		P	22 42 26.9 +0.9
	baz=50						
I30A	Oacoma	49.78	67	⇓P		P	22 42 26.3 -0.2
	baz=50						
R24A	Sanders Place,	49.96	76	⇓P		P	22 42 28.6 +0.4
	baz=50						
J30A	Dallas	50.10	68	⇑P		P	22 42 29.5 +0.6
	baz=50						
P26A	Davis Ranch, A	50.18	74	⇑P		P	22 42 30.6 +0.9
	baz=50						
S24A	Houchin Ranch,	50.27	77	⇓P		P	22 42 31.6 +1.0
	baz=50						
X20A	Quemado	50.28	82	⇓P		P	22 42 31.1 +0.5
	baz=50						
K30A	Basset	50.43	68	⇓P		P	22 42 31.7 +0.3
	baz=50						
R25A	Fountain Ranch	50.51	76	⇑P		P	22 42 33.0 +0.8
	baz=50						
S25A	Robets Cordova	50.73	76	⇑P		P	22 42 34.7 +0.7
	baz=50						
Y20A	Horse Springs,	50.78	83	⇑P		P	22 42 35.2 +0.8
	baz=51						
X21A	Alamocita Cree	50.78	82	⇓P		P	22 42 35.3 +0.8
	baz=51						
R26A	Arlington	50.92	75	⇑P		P	22 42 36.0 +0.7
	baz=51						
KSCO	Kaye Shedlock'	50.96	74	⇑P		P	22 42 36.5 +0.9
	baz=51						
Z20A	Nine Sixteen R	51.18	84	⇑P		P	22 42 38.1 +0.8
	baz=51						
X22A	Bernardo	51.22	81	⇓P		P	22 42 38.8 +1.2
	baz=51						
R27A	Eads	51.32	75	⇓P		P	22 42 39.2 +0.9
	baz=51						
O29A	4D Ranch, Culb	51.34	72	⇓P		P	22 42 38.6 +0.3
	baz=51						
S26A	Kim	51.34	76	⇓P		P	22 42 39.1 +0.7
	baz=51						
V24A	Rampart Ranch,	51.48	79	⇓P		P	22 42 40.5 +0.8
	baz=51						
ECSD	EROS Data Cent	51.49	66	eP		P	22 42 38.2 -1.2
	45nm,2.0s						
120A	U Bar Ranch, L	51.53	84	⇓P		P	22 42 40.9 +1.0
	baz=51						
T26A	Comanche Natio	51.56	76	⇓P		P	22 42 40.5 +0.4
	baz=51						
U25A	Circle Dot Ran	51.57	78	⇓P		P	22 42 41.0 +0.7
	baz=51						
P29A	Atwood	51.59	72	⇓P		P	22 42 41.2 +1.0
	baz=51						
Z21A	St. Cloud Mine	51.62	83	⇓P		P	22 42 41.3 +0.6
	baz=51						
Y22A	Socorro	51.63	82	⇑P		P	22 42 41.6 +0.9
	baz=51						
W24A	Lazy 6 Ranch,	51.74	79	⇓P		P	22 42 42.6 +1.0
	baz=52						
V25A	Rancho No Teng	51.81	78	⇑P		P	22 42 42.9 +0.9
	baz=52						
R28A	Tribune	51.88	74	⇑P		P	22 42 43.1 +0.7
	baz=52						
U26A	Atchley Ranch,	51.98	77	⇓P		P	22 42 44.0 +0.7
	baz=52						
P30A	Selden	52.03	72	⇓P		P	22 42 44.2 +0.7
	baz=52						
220A	Playas Peak, P	52.04	85	⇑P		P	22 42 44.6 +0.9
	baz=52						
121A	Cookes Peak, D	52.07	84	⇑P		P	22 42 44.9 +0.9
	baz=52						
Z22A	Elephant Butte	52.09	82	⇓P		P	22 42 45.1 +1.0
	baz=52						
T27A	Campo	52.16	76	⇑P		P	22 42 45.2 +0.7
	baz=52						
Y23A	Lovelace Mesa,	52.20	81	⇓P		P	22 42 46.0 +1.0
	baz=52						
S28A	Manter	52.31	75	⇓P		P	22 42 46.5 +0.9
	baz=52,SNR=5.4						
W25A	X Bar L Ranch,	52.32	79	⇑P		P	22 42 46.5 +0.7
	baz=52						
V26A	Tequesquite Ra	52.34	78	⇓P		P	22 42 46.8 +0.8
	baz=52						
320A	Kipp Ranch, An	52.42	85	⇑P		P	22 42 47.3 +0.7
	baz=52						
P31A	Stockton	52.56	71	⇑P		P	22 42 47.9 +0.5
	baz=52						
Y24A	Capitan	52.58	81	⇑P		P	22 42 48.8 +1.0
	baz=52,SNR=6.4						
R30A	Dighton	52.83	73	⇑P		P	22 42 49.7 +0.3
	baz=53						
U28A	Mallet	52.91	76	⇑P		P	22 42 50.3 +0.2
	baz=53						
Z24A	Sheeppen Canyo	53.02	81	⇑P		P	22 42 51.9 +0.8
	baz=53						
Y25A	Mesa, Roswell	53.04	80	⇑P		P	22 42 51.7 +0.6
	baz=53						
X26A	CR and CF Fran	53.16	79	⇑P		P	22 42 52.1 +0.1
	baz=53						
W27A	Bowe Ranch, En	53.27	78	⇓P		P	22 42 52.9 +0.1
	baz=53						
124A	Stringfield Ra	53.40	82	⇑P		P	22 42 54.5 +0.6
	baz=53						
U29A	Oasis Ranch, S	53.44	75	⇑P		P	22 42 54.6 +0.7
	baz=53						
Z25A	Roswell	53.46	81	⇓P		P	22 42 54.7 +0.5
	baz=53						
Y26A	Elida	53.57	80	⇑P		P	22 42 55.7 +0.7
	baz=53						
224A	Cornudas Mount	53.78	82	⇓P		P	22 42 57.3 +0.7
	baz=54						
125A	Gardner Draw,	53.92	81	⇓P		P	22 42 58.4 +0.9
	baz=54						
Z26A	Caprock	53.92	80	⇓P		P	22 42 57.9 +0.4
	baz=54						
T31A	Randall Ranch,	53.97	74	⇓P		P	22 42 57.8 +0.1
	baz=54						
Y27A	Causey	54.00	79	⇓P		P	22 42 58.9 +0.7
	baz=54,SNR=6.1						
MNTX	Cornudas Mount	54.12	83	eP		P	22 42 58.7 -0.2
	6.0nm,1.1s						
MSTX	Muleshoe	54.18	79	eP		P	22 42 58.6 -0.9
	84nm,2.5s						
MSTX	Muleshoe	54.18	79	⇑P		P	22 43 00.2 +0.7
	baz=54						
225A	Deer Hill, Car	54.19	82	⇓P		P	22 43 00.6 +1.0
	baz=54						
324A	Moseley Ranch,	54.24	83	⇓P		P	22 43 00.5 +0.5
	baz=54						
Z27A	Tatum	54.36	80	⇑P		P	22 43 01.2 +0.5
	baz=54						
325A	Bean Ranch, Si	54.60	83	⇓P		P	22 43 03.0 +0.3
	baz=54,SNR=6.4						
226B	Tecolote Peak,	54.62	81	⇑P		P	22 43 03.1 +0.5
	baz=54						
425A	Indio Mountain	55.00	83	⇓P		P	22 43 06.2 +0.7
	baz=55						
ZALV	Zalesovo Beam	55.16	315	PcP		PcP	22 44 07.0 +0.2
ZALV	Zalesovo Beam	55.16	315	PcP		PcP	22 44 06.9 +0.2
	0.7nm,0.6s,baz=28,slow=3.4,SNR=3.6						
326A	Caldwell Ranch	55.26	82	⇓P		P	22 43 07.8 +0.5
	baz=55						
128A	Castleberry Fa	55.28	80	⇑P		P	22 43 07.9 +0.5
	baz=55						
Z29A	Hungry Hill Ra	55.32	79	⇓P		P	22 43 08.2 +0.5
	baz=55						
Y30A	Stafford Cattl	55.39	78	⇑P		P	22 43 08.6 +0.4
	baz=55						
X31A	McDonald Ranch	55.44	76	⇓P		P	22 43 08.7 +0.3
	baz=55						
Z30A	Sanderson Ranc	55.65	78	⇑P		P	22 43 10.4 +0.4
	baz=55						
426A	McDonald Obser	55.67	83	⇓P		P	22 43 10.7 +0.3
	baz=56						
328A	Wristen Ranch,	55.93	81	⇓P		P	22 43 12.5 +0.5
	baz=56						
427A	Hayter Ranch,	55.93	82	⇓P		P	22 43 12.7 +0.5
	baz=56						
526A	Mary Lane Ranc	56.06	83	⇓P		P	22 43 13.6 +0.5
	baz=56						
Y32A	R-V Farms, Ver	56.19	76	⇑P		P	22 43 13.8 +0.1
	baz=56						
130A	Snyder	56.23	79	⇑P		P	22 43 13.9 -0.2
	baz=56						
527A	Woodward Ranch	56.30	83	⇑P		P	22 43 15.0 +0.2
	baz=56						
626A	Big Bend Ranch	56.38	84	⇑P		P	22 43 15.6 +0.2
	baz=56,SNR=6.2						
428A	Kincaid Ranch,	56.46	82	⇓P		P	22 43 16.2 +0.3
	baz=56,SNR=5.5						
230A	Sterling City	56.62	79	⇓P		P	22 43 17.3 +0.4
	baz=56,SNR=5.4						
Z32A	Haskell	56.64	77	⇑P		P	22 43 17.5 +0.5
	baz=56						
528A	Cox Ranch, San	56.79	82	⇓P		P	22 43 18.7 +0.4
	baz=57						
TX31	Lajitas Ar. Si	56.83	83	eP		P	22 43 17.7 -0.8
TXAR	Lajitas Array	56.83	83	P		P	22 43 18.4 -0.1
TXAR				PcP		PcP	22 44 14.3 +0.4
TXAR	Lajitas Array	56.83	83	P		P	22 43 18.4 -0.1
	1.4nm,0.4s,baz=302,slow=5.2,SNR=24						
TXAR				PcP		PcP	22 44 14.3 +0.4
	0.5nm,0.5s,baz=304,slow=2.1,SNR=2.6						
627A	Terlingua Ranc	56.92	83	⇓P		P	22 43 19.8 +0.7
	baz=57						
330A	Mertzon	56.92	80	⇓P		P	22 43 19.2 +0.2
	baz=57						
ABTX	Abilene, Hawle	57.01	78	⇓P		P	22 43 20.4 +0.7
	baz=57						
429A	Davenport Ranc	57.02	81	⇑P		P	22 43 20.0 +0.2
	baz=57						
529A	Stev Forest Ra	57.17	82	⇓P		P	22 43 21.1 +0.2
	baz=57						
628A	Black Gap, Mar	57.20	83	⇑P		P	22 43 21.4 +0.3
	baz=57,SNR=5.6						
430A	Baggett Ranch,	57.31	80	⇓P		P	22 43 21.7 -0.1
	baz=57,SNR=5.7						
331A	San Angelo	57.45	79	⇑P		P	22 43 23.0 +0.2
	baz=57						
232A	Coleman	57.52	78	⇓P		P	22 43 23.6 +0.3
	baz=57						
ENH	Enshi	57.63	279	eP		P	22 43 23.0 -1.1
	7.4nm,0.6s						
530A	J-C Ranch, Com	57.70	81	⇑P		P	22 43 24.9 +0.4
	baz=58,SNR=8.4						
332A	Millersview	57.81	79	⇓P		P	22 43 25.3 0.0
	baz=58						
ARCES	ARCESS Array B	58.15	351	P		P	22 43 26.5 -0.6
ARCES	ARCESS Array B	58.15	351	P		P	22 43 26.5 -0.6
	2.7nm,0.8s,baz=17,slow=9.4,SNR=2.6						
531A	Rocksprings	58.17	80	⇑P		P	22 43 27.7 -0.1
	baz=58						
532A	Rocksprings	58.59	80	⇑P		P	22 43 30.5 -0.3
	baz=58						
631A	Perdido Creek	58.68	81	⇑P		P	22 43 31.1 -0.3
	baz=58						
SFIN	Scholer Farm	59.04	63	⇑P		P	22 43 33.4 -0.3
	baz=59						
632A	Uvalde	59.10	80	⇓P		P	22 43 35.1 +0.8
	baz=59						
USIN	University of	60.39	65	eP		P	22 43 42.0 -1.0
	26nm,0.8s						
MKAR	Makanchi Array	61.28	310	P		P	22 43 47.5 -1.5
MKAR	Makanchi Array	61.28	310	P		P	22 43 47.5 -1.5
	0.8nm,0.5s,baz=46,slow=5.8,SNR=18						
MK01	Makanchi Array	61.30	310	eP		P	22 43 47.5 -1.6
GYA	Guiyang	62.09	278	eP		P	22 43 56.0 +1.2
GYA				AMB		AMB	
	comp=Z,10.0nm,1.0s						
HNR	Honiara	64.28	207	LR		LR	23 05 43.2
	comp=Z,68nm,20.9s,baz=266,slow=30						
AFI	Afiamalu	65.35	176	LR		LR	23 09 06.4
	comp=Z,13nm,19.1s,baz=120,slow=32						
KMI	Kunming	65.47	280	P		P	22 44 18.0 +0.7
KMI				pP		pP	22 44 27.5 -1.8
KMI				AMB		AMB	
	comp=Z,11nm,0.9s						
KMSC	Kings Mountain	65.97	63	⇓P		P	22 44 20.2 +0.1
	baz=66						
NOA	NORSAR Array B	67.55	356	LR		LR	23 12 38.5
	comp=Z,17nm,20.2s,baz=275,slow=35						
AAK	Ala-Archa	68.08	311	eP		P	22 44 32.0 -1.6
	2.3nm,0.5s						
EKS2	Erkin-Say	68.39	312	eP		P	22 44 34.3 -1.1
	2.3nm,0.6s						
KKAR	Karatay Array	69.53	314	eP		P	22 44 41.6 -0.8
CMAR	Chiang Mai Arr	72.78	278	P		P	22 45 02.8 +0.5
CMAR	Chiang Mai Arr	72.78	278	P		P	22 45 02.8 +0.5
	2.3nm,0.7s,baz=24,slow=7.0,SNR=5.9						
CM01	Chiang Mai Arr	72.80	278	eP		P	22 45 01.7 -0.8
GUN	Gumba	73.43	294	eP		P	22 45 07.2 +0.7
	12nm,0.4s						
JIRN	Jiri	73.44	294	eP		P	22 45 07.0 +0.4
	7.7nm,0.5s						
RAMN	Ramite	73.75	293	eP		P	22 45 08.3 0.0
	8.1nm,0.5s						
GKN	Gorkha	74.06	295	eP		P	22 45 09.9 -0.1
	5.2nm,0.5s						
DANN	Dangsing	74.29	296	eP		P	22 45 11.9 +0.4
KOLN	Koldanda	74.83	295	eP		P	22 45 14.1 -0.4
	2.9nm,0.5s						
WRA	Warramunga Arr	83.46	226	P		P	22 46 00.8 -0.5
WRA	Warramunga Arr	83.46	226	P		P	22 46 00.8 -0.5
	2.0nm,0.6s,baz=34,slow=6.2,SNR=6.0						
AS01	Alice Springs	86.89	225	eP		P	22 46 17.5 -0.9
ASAR	Alice Springs	86.91	225	P		P	22 46 18.9 +0.4
ASAR	Alice Springs	86.91	225	P		P	22 46 18.9 +0.4
	2.9nm,0.7s,baz=30,slow=4.5,SNR=30						
STKA	Stephens Creek	91.14	215	P		P	22 46 39.2 +1.0
STKA	Stephens Creek	91.14	215	P		P	22 46 39.2 +1.0
	2.0nm,0.5s,baz=22,slow=5.5,SNR=6.7						
TORD	Torodi Ar. Bea	115.47	3	PKP		PKPdf	22 52 14.9 -0.8
TORD	Torodi Ar. Bea	115.47	3	PKP		PKPdf	22 52 14.9 -0.8
	0.6nm,0.6s,baz=357,slow=1.9,SNR=16						
H03N2	Juan Fernandez	119.48	108	T		T	01 03 24.8
	baz=315,slow=0.7,SNR=120						
H03N1	Juan Fernandez	119.49	108	T		T	01 03 25.7
	baz=315,slow=0.7,SNR=99						
H03N3	Juan Fernandez	119.50	108	T		T	01 03 26.0
	baz=315,slow=0.7,SNR=100						
DBIC	Dimbokro	121.44	10	PKP		PKPdf	22 52 26.6 -0.5
DBIC	Dimbokro	121.44	10	PKP		PKPdf	22 52 26.6 -0.5
	4.3nm,

*CSEM **15** 22:46:35.4±0.1,38.82N×23.58E,h12km,MD3.3,Error ellipse: s-maj=2.3km s-min=1.9km az=80.0*
*SKO **15** 22:46:36.5,38.97N×23.55E,h0km*
ISC 15 22:46:35.6±0.8,**38.83N**±0.01×**23.57E**±0.01,**h12**km±5km, **n130,**σ0.47/251,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKA	**Markates**	**0.13**	**174**	P	**Pg**	**22 46 38.7**	**-0.2**
MRKA				S	**Sg**	**22 46 40.8**	**-0.4**
MRKA	**Markates**	**0.13**	**174**	*e*PB	**Pg**	**22 46 38.7**	**-0.2**
MRKA	**Markates**	**0.13**	**174**	P	**Pg**	**22 46 38.7**	**-0.2**
MRKA				S	**Sg**	**22 46 40.8**	**-0.4**
SMIA	**Simia**	**0.29**	**280**	P	**Pg**	**22 46 41.5**	**0.0**
SMIA				S	**Sg**	**22 46 45.6**	**+0.1**
SMIA	**Simia**	**0.29**	**280**	*e*PB	**Pg**	**22 46 41.5**	**0.0**
SMIA				*e*SB	**Sb**	**22 46 47.2**	**-0.3**
SMIA	**Simia**	**0.29**	**280**	*e*Pb	**Pg**	**22 46 41.5**	**0.0**
SMIA				S	**Sg**	**22 46 45.6**	**+0.1**
SMIA				*e*Sb	**Sb**	**22 46 47.2**	**-0.3**
SKIA	**Skiathos**	**0.34**	**346**	P	**Pg**	**22 46 42.9**	**+0.3**
SKIA				S	**Sg**	**22 46 47.6**	**+0.4**
SKIA	**Skiathos**	**0.34**	**346**	*e*PB	**Pg**	**22 46 42.9**	**+0.3**
SKIA				*e*SB	**Sb**	**22 46 48.8**	**-0.3**
SKIA	**Skiathos**	**0.34**	**346**	*e*Pb	**Pg**	**22 46 42.9**	**+0.3**
SKIA				S	**Sg**	**22 46 47.6**	**+0.4**
SKIA				*e*Sb	**Sb**	**22 46 48.8**	**-0.3**
AOS	**Alonnisos**	**0.41**	**35**	P	**Pg**	**22 46 43.8**	**-0.1**
AOS				S	**Sg**	**22 46 49.7**	**+0.3**
AOS	**Alonnisos**	**0.41**	**35**	*e*PB	**Pg**	**22 46 43.8**	**-0.1**
AOS				*e*SB	**Sb**	**22 46 50.3**	**-0.9**
AOS	**Alonnisos**	**0.41**	**35**	P	**Pg**	**22 46 43.8**	**-0.1**
AOS				S	**Sg**	**22 46 49.7**	**+0.3**
AOS				*e*Sb	**Sb**	**22 46 50.3**	**-0.9**
ERET	**Eretria**	**0.43**	**155**	P	**Pg**	**22 46 44.2**	**0.0**
ERET				S	**Sg**	**22 46 50.6**	**+0.7**
ERET	**Eretria**	**0.43**	**155**	P	**Pg**	**22 46 44.2**	**0.0**
ERET				S	**Sg**	**22 46 50.6**	**+0.7**
LKR	**Lokris**	**0.48**	**248**	P	**Pg**	**22 46 44.6**	**-0.5**
LKR				S	**Sg**	**22 46 52.0**	**+0.5**
LKR	**Lokris**	**0.48**	**248**	*e*PB	**Pg**	**22 46 44.4**	**-0.7**
LKR				*e*SB	**Sg**	**22 46 52.2**	**+0.7**
LKR	**Lokris**	**0.48**	**248**	P	**Pg**	**22 46 44.6**	**-0.5**
LKR				S	**Sg**	**22 46 52.0**	**+0.5**
NEO	**Neokhori**	**0.55**	**330**	P	**Pg**	**22 46 46.4**	**+0.1**
NEO				S	**Sg**	**22 46 54.0**	**+0.4**
NEO	**Neokhori**	**0.55**	**330**	*e*PN	**Pg**	**22 46 46.4**	**+0.1**
NEO				*e*SN	**Sg**	**22 46 54.2**	**+0.6**
NEO	**Neokhori**	**0.55**	**330**	P	**Pg**	**22 46 46.4**	**+0.1**
NEO				*e*Sn	**Sg**	**22 46 54.2**	**+0.6**
XOR	**Xorichti**	**0.61**	**331**	P	**Pg**	**22 46 47.5**	**0.0**
XOR				S	**Sg**	**22 46 56.1**	**+0.5**
XOR	**Xorichti**	**0.61**	**331**	*e*PN	**Pg**	**22 46 47.5**	**0.0**
XOR				*e*SN	**Sg**	**22 46 55.9**	**+0.3**
XOR	**Xorichti**	**0.61**	**331**	P	**Pg**	**22 46 47.5**	**0.0**
XOR				S	**Sg**	**22 46 56.1**	**+0.5**
AXAR	**Agios Charalam**	**0.71**	**265**	P	**Pg**	**22 46 49.2**	**-0.3**
AXAR	**Agios Charalam**	**0.71**	**265**	P	**Pg**	**22 46 49.2**	**-0.3**
FYTO	**Fytoko, Volos**	**0.76**	**320**	P	**Pg**	**22 46 50.1**	**-0.2**
FYTO	**Fytoko, Volos**	**0.76**	**320**	P	**Pg**	**22 46 50.1**	**-0.2**
PTL	**Penteli**	**0.82**	**163**	P	**Pg**	**22 46 51.0**	**-0.4**
PTL				S	**Sb**	**22 47 02.9**	**+0.2**
PTL	**Penteli**	**0.82**	**163**	*e*PN	**Pg**	**22 46 50.7**	**-0.7**
PTL				*e*SN	**Sg**	**22 47 01.9**	**-0.2**
PTL	**Penteli**	**0.82**	**163**	*e*Pn	**Pg**	**22 46 50.7**	**-0.7**
PTL	**Penteli**	**0.82**	**163**	P	**Pg**	**22 46 51.0**	**-0.4**
PTL				*e*Sn	**Sg**	**22 47 01.9**	**-0.2**
PTL				S	**Sb**	**22 47 02.9**	**+0.2**
ATH	**Athens Observa**	**0.87**	**172**	P	**Pg**	**22 46 51.9**	**-0.5**
ATH				S	**Sb**	**22 47 04.6**	**+0.5**
ATH	**Athens Observa**	**0.87**	**172**	*e*PN	**Pg**	**22 46 51.7**	**-0.7**
ATH				*e*SN	**Sg**	**22 47 03.9**	**+0.2**
ATH	**Athens Observa**	**0.87**	**172**	*e*Pn	**Pg**	**22 46 51.7**	**-0.7**
ATH				*e*Sn	**Sg**	**22 47 03.9**	**+0.2**
ATH				S	**Sb**	**22 47 04.6**	**+0.5**
ATHU	**Athens Univers**	**0.88**	**169**	P	**Pg**	**22 46 52.0**	**-0.6**
ATHU				S	**Sb**	**22 47 04.9**	**+0.3**
ATHU	**Athens Univers**	**0.88**	**169**	P	**Pg**	**22 46 52.0**	**-0.6**
ATHU				S	**Sb**	**22 47 04.9**	**+0.3**
DESF	**Desfina**	**0.92**	**243**	*e*PB	**Pg**	**22 46 52.0**	**-1.3**
DESF				*e*SN	**Sg**	**22 47 05.5**	**+0.2**
DESF	**Desfina**	**0.92**	**243**	*e*Pb	**Pg**	**22 46 52.0**	**-1.3**
DESF				*e*Sn	**Sg**	**22 47 05.5**	**+0.2**
DSF	**Desfina**	**0.92**	**243**	P	**Pg**	**22 46 52.7**	**-0.7**
DSF				S	**Sb**	**22 47 06.0**	**+0.2**
DSF	**Desfina**	**0.92**	**243**	*e*PB	**Pg**	**22 46 52.0**	**-1.4**
DSF				*e*SN	**Sb**	**22 47 05.9**	**+0.2**
DSF	**Desfina**	**0.92**	**243**	P	**Pg**	**22 46 52.7**	**-0.7**
DSF				*e*Sn	**Sb**	**22 47 05.9**	**+0.2**
LTK	**Loutraki**	**0.94**	**211**	P	**Pg**	**22 46 53.6**	**-0.1**
LTK				S	**Sb**	**22 47 07.0**	**+0.8**
LTK	**Loutraki**	**0.94**	**211**	*e*PN	**Pg**	**22 46 52.6**	**-1.1**
LTK				*e*SN	**Sg**	**22 47 06.2**	**+0.3**
LTK	**Loutraki**	**0.94**	**211**	*e*Pn	**Pg**	**22 46 52.6**	**-1.1**
LTK	**Loutraki**	**0.94**	**211**	P	**Pg**	**22 46 53.6**	**-0.1**
LTK				*e*Sn	**Sg**	**22 47 06.2**	**+0.3**
LTK				S	**Sb**	**22 47 07.0**	**+0.8**
AGG	**Agios Georgios**	**0.99**	**281**	P	**Pg**	**22 46 53.8**	**-0.9**
AGG				S	**Sb**	**22 47 08.3**	**+0.7**
AGG	**Agios Georgios**	**0.99**	**281**	*e*PN	**Pg**	**22 46 53.7**	**-0.9**
AGG				*e*SN	**Sb**	**22 47 08.0**	**+0.4**
AGG	**Agios Georgios**	**0.99**	**281**	P	**Pg**	**22 46 53.8**	**-0.9**
AGG				*e*Sn	**Sb**	**22 47 08.0**	**+0.4**
MRMA	**Marmari**	**1.00**	**140**	P	**Pg**	**22 46 54.2**	**-0.7**
MRMA				S	**Sb**	**22 47 08.9**	**+0.9**
MRMA	**Marmari**	**1.00**	**140**	P	**Pg**	**22 46 54.2**	**-0.7**
MRMA				S	**Sb**	**22 47 08.9**	**+0.9**
NAIG	**Nisos Aigina**	**1.07**	**183**	*e*PN	**Pb**	**22 46 55.9**	**-0.2**
NAIG	**Nisos Aigina**	**1.07**	**183**	*e*Pn	**Pb**	**22 46 55.9**	**-0.2**
PAIG	**Paliouri**	**1.10**	**4**	P	**Pb**	**22 46 56.2**	**-0.3**
PAIG				S	**Sn**	**22 47 12.4**	**+0.5**
PAIG	**Paliouri**	**1.10**	**4**	*e*PN	**Pb**	**22 46 56.1**	**-0.4**
PAIG				*e*SN	**Sb**	**22 47 10.8**	**0.0**
PAIG	**Paliouri**	**1.10**	**4**	P	**Pb**	**22 46 56.2**	**-0.3**
PAIG				*e*Sn	**Sb**	**22 47 10.8**	**0.0**
PAIG				S	**Sn**	**22 47 12.4**	**+0.5**
MAKR	**Makrakomi, Fth**	**1.14**	**280**	P	**Pb**	**22 46 57.1**	**-0.1**
MAKR				S	**Sn**	**22 47 13.7**	**+0.8**
MAKR	**Makrakomi, Fth**	**1.14**	**280**	*e*PN	**Pb**	**22 46 56.5**	**-0.7**
MAKR				*e*SN	**Sg**	**22 47 12.5**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.14**	**280**	P	**Pb**	**22 46 57.1**	**-0.1**
MAKR				*e*Sn	**Sg**	**22 47 12.5**	**+0.2**
MAKR				S	**Sn**	**22 47 13.7**	**+0.8**
KALE	**Kalithea**	**1.20**	**249**	P	**Pn**	**22 46 57.8**	**-0.5**
KALE				S	**Sn**	**22 47 15.3**	**+0.7**
KALE	**Kalithea**	**1.20**	**249**	*e*PN	**Pn**	**22 46 57.4**	**-0.9**
KALE				*e*SN	**Sg**	**22 47 14.5**	**0.0**
KALE	**Kalithea**	**1.20**	**249**	P	**Pn**	**22 46 57.8**	**-0.5**
KALE				*e*Sn	**Sg**	**22 47 14.5**	**0.0**
KALE				S	**Sn**	**22 47 15.3**	**+0.7**
TRIZ	**Trizonia**	**1.26**	**249**	P	**Pn**	**22 46 59.0**	**-0.1**
TRIZ				S	**Sg**	**22 47 16.9**	**+0.6**
TRIZ	**Trizonia**	**1.26**	**249**	*e*PN	**Pn**	**22 46 58.4**	**-0.7**
TRIZ				*e*SN	**Sb**	**22 47 16.0**	**+0.5**
TRIZ	**Trizonia**	**1.26**	**249**	P	**Pn**	**22 46 59.0**	**-0.1**
TRIZ				*e*Sn	**Sb**	**22 47 16.0**	**+0.5**
GUR	**Goura**	**1.32**	**228**	P	**Pn**	**22 46 59.8**	**-0.1**
GUR				S	**Sg**	**22 47 18.1**	**0.0**
GUR	**Goura**	**1.32**	**228**	*e*PN	**Pn**	**22 46 59.9**	**0.0**
GUR				*e*SN	**Sn**	**22 47 17.6**	**+0.2**
GUR	**Goura**	**1.32**	**228**	P	**Pn**	**22 46 59.8**	**-0.1**
GUR				*e*Sn	**Sn**	**22 47 17.6**	**+0.2**
GUR				S	**Sg**	**22 47 18.1**	**0.0**
DID	**Didima**	**1.35**	**191**	P	**Pn**	**22 47 00.2**	**-0.1**
DID				S	**Sb**	**22 47 18.4**	**+0.3**
DID	**Didima**	**1.35**	**191**	*e*PN	**Pn**	**22 47 00.1**	**-0.2**
DID				*e*SN	**Sn**	**22 47 18.6**	**+0.4**
DID	**Didima**	**1.35**	**191**	P	**Pn**	**22 47 00.2**	**-0.1**
DID				S	**Sb**	**22 47 18.4**	**+0.3**
EFP	**Efpalio**	**1.36**	**253**	P	**Pn**	**22 47 00.4**	**-0.1**
EFP	**Efpalio**	**1.36**	**253**	P	**Pn**	**22 47 00.4**	**-0.1**
KLV	**Kalavryta, Ach**	**1.36**	**235**	P	**Pn**	**22 47 00.5**	**-0.1**
KLV				S	**Sg**	**22 47 19.5**	**-0.1**
KLV	**Kalavryta, Ach**	**1.36**	**235**	*e*PB	**Pn**	**22 46 59.8**	**-0.8**
KLV				*e*SN	**Sb**	**22 47 18.6**	**0.0**
KLV	**Kalavryta, Ach**	**1.36**	**235**	P	**Pn**	**22 47 00.5**	**-0.1**
KLV				*e*Sn	**Sb**	**22 47 18.6**	**0.0**
KLV				S	**Sg**	**22 47 19.5**	**-0.1**
EVR	**Evrytania**	**1.38**	**274**	*e*PN	**Pn**	**22 47 00.8**	**0.0**
EVR				*e*SN	**Sn**	**22 47 19.4**	**+0.4**
LAKA	**Lakka**	**1.38**	**245**	*e*PN	**Pn**	**22 47 01.0**	**+0.3**
LAKA				*e*SN	**Sn**	**22 47 18.9**	**0.0**
DIDY	**Didyma**	**1.38**	**192**	P	**Pn**	**22 47 00.7**	**-0.1**
DIDY				S	**Sg**	**22 47 20.1**	**-0.1**
DIDY	**Didyma**	**1.38**	**192**	*e*PN	**Pn**	**22 47 00.4**	**-0.4**
DIDY				*e*SN	**Sn**	**22 47 19.4**	**+0.3**
DIDY	**Didyma**	**1.38**	**192**	P	**Pn**	**22 47 00.7**	**-0.1**
DIDY				S	**Sg**	**22 47 20.1**	**-0.1**
THL	**Klokotos Trika**	**1.41**	**302**	P	**Pn**	**22 47 00.8**	**-0.3**
THL				S	**Sg**	**22 47 20.7**	**-0.4**
THL	**Klokotos Trika**	**1.41**	**302**	*e*PN	**Pn**	**22 47 00.8**	**-0.3**
THL				*e*SN	**Sb**	**22 47 20.0**	**+0.1**
THL	**Klokotos Trika**	**1.41**	**302**	P	**Pn**	**22 47 00.8**	**-0.3**
THL				S	**Sg**	**22 47 20.7**	**-0.4**
PSA1	**Psathopyrgos**	**1.42**	**250**	*e*PN	**Pn**	**22 47 01.4**	**+0.2**
PSA1				*e*SN	**Sb**	**22 47 20.2**	**+0.3**
LIT	**Litokhoron**	**1.52**	**327**	P	**Pn**	**22 47 02.5**	**-0.1**
LIT				S	**Sb**	**22 47 23.7**	**+0.7**
LIT	**Litokhoron**	**1.52**	**327**	P	**Pn**	**22 47 02.5**	**-0.1**
LIT				S	**Sb**	**22 47 23.7**	**+0.7**
OUR	**Ouranopolis**	**1.53**	**12**	*e*PN	**Pn**	**22 47 02.5**	**-0.3**
OUR				*e*SN	**Sn**	**22 47 22.5**	**-0.1**
PLG	**Polygyros**	**1.54**	**356**	P	**Pn**	**22 47 02.7**	**-0.3**
PLG	**Polygyros**	**1.54**	**356**	*e*PN	**Pn**	**22 47 02.0**	**-1.0**
PLG				*e*SN	**Sn**	**22 47 22.3**	**-0.7**
PLG	**Polygyros**	**1.54**	**356**	P	**Pn**	**22 47 02.7**	**-0.3**
LIA	**Limnos Island**	**1.64**	**49**	P	**Pn**	**22 47 03.9**	**-0.4**
LIA				S	**Sb**	**22 47 26.4**	**-0.1**
LIA	**Limnos Island**	**1.64**	**49**	*e*PN	**Pn**	**22 47 03.9**	**-0.4**
LIA				*e*SN	**Sn**	**22 47 24.9**	**-0.4**
LIA	**Limnos Island**	**1.64**	**49**	P	**Pn**	**22 47 03.9**	**-0.4**
LIA				S	**Sb**	**22 47 26.4**	**-0.1**
DRO	**Drossia**	**1.71**	**240**	*e*PN	**Pn**	**22 47 05.4**	**+0.2**
DRO				*e*SN	**Sn**	**22 47 27.6**	**+0.7**
VLX	**Vlachokerasia**	**1.74**	**213**	*e*PN	**Pn**	**22 47 06.0**	**+0.3**
VLX				*e*SN	**Sn**	**22 47 28.0**	**+0.2**
HORT	**Hortiatis**	**1.80**	**349**	P	**Pn**	**22 47 06.6**	**0.0**
HORT	**Hortiatis**	**1.80**	**349**	*e*PN	**Pn**	**22 47 06.4**	**-0.2**
HORT				*e*SN	**Sn**	**22 47 29.8**	**+0.4**
HORT	**Hortiatis**	**1.80**	**349**	P	**Pn**	**22 47 06.6**	**0.0**
RLS	**Riolos of Patr**	**1.82**	**246**	*e*PB	**Pn**	**22 47 06.6**	**-0.2**
RLS				*e*SN	**Sn**	**22 47 30.8**	**+1.0**
PDO	**Prodromos**	**1.88**	**264**	*e*PN	**Pn**	**22 47 07.5**	**-0.1**
PDO				*e*SN	**Sn**	**22 47 32.0**	**+0.7**
AMT	**Artemida-Makis**	**1.96**	**229**	*e*PN	**Pn**	**22 47 08.9**	**+0.2**
AMT				*e*SN	**Sn**	**22 47 33.3**	**+0.1**
SOH	**Sokhos**	**1.99**	**355**	*e*PN	**Pn**	**22 47 09.4**	**+0.2**
SOH				*e*SN	**Sn**	**22 47 34.0**	**-0.1**
CHOS	**Chios island**	**2.00**	**102**	P	**Pn**	**22 47 09.4**	**+0.2**
CHOS				S	**Sn**	**22 47 35.4**	**+1.2**
CHOS	**Chios island**	**2.00**	**102**	*e*PN	**Pn**	**22 47 09.5**	**+0.2**
CHOS				*e*SN	**Sn**	**22 47 34.8**	**+0.6**
CHOS	**Chios island**	**2.00**	**102**	P	**Pn**	**22 47 09.4**	**+0.2**
CHOS				S	**Sn**	**22 47 35.4**	**+1.2**
KZN	**Kozani**	**2.03**	**317**	*e*PN	**Pn**	**22 47 10.1**	**+0.4**
KZN				*e*SN	**Sn**	**22 47 35.3**	**+0.4**
ITM	**Ithomi**	**2.10**	**219**	*e*PB	**Pn**	**22 47 10.8**	**+0.2**
ITM				*e*SN	**Sn**	**22 47 36.9**	**+0.2**
PRK	**Paraskevi**	**2.14**	**78**	P	**Pn**	**22 47 10.9**	**-0.3**
PRK	**Paraskevi**	**2.14**	**78**	*e*PN	**Pn**	**22 47 11.1**	**-0.1**
PRK				*e*SN	**Sn**	**22 47 38.4**	**+0.7**
PRK	**Paraskevi**	**2.14**	**78**	P	**Pn**	**22 47 10.9**	**-0.3**
VLI	**Veliai**	**2.17**	**194**	*e*PN	**Pn**	**22 47 11.2**	**-0.4**
VLI				*e*SN	**Sn**	**22 47 38.7**	**+0.4**
SMTH	**Samothraki Isl**	**2.23**	**42**	*e*PN	**Pn**	**22 47 11.9**	**-0.5**
SMTH				*e*SN	**Sn**	**22 47 39.5**	**-0.3**
JAN	**Janina**	**2.27**	**292**	*e*PN	**Pn**	**22 47 12.9**	**0.0**
JAN				*e*SN	**Sn**	**22 47 41.0**	**+0.2**
KAVA	**Kavala**	**2.28**	**18**	*e*PN	**Pn**	**22 47 13.1**	**0.0**
KAVA				*e*SN	**Sn**	**22 47 40.7**	**-0.4**
SRS	**Serrai**	**2.28**	**0**	*e*PN	**Pn**	**22 47 13.0**	**-0.1**
SRS				*e*SN	**Sn**	**22 47 41.0**	**-0.2**
DYR	**Agios Nikonas**	**2.29**	**206**	*e*PN	**Pn**	**22 47 13.1**	**-0.1**
DYR				*e*SN	**Sn**	**22 47 41.7**	**+0.4**
APE	**Apeiranthos**	**2.34**	**138**	*e*PN	**Pn**	**22 47 13.9**	**-0.1**
APE				*e*SN	**Sn**	**22 47 43.6**	**+0.8**
KNT	**Kendrikon**	**2.38**	**348**	*e*PB	**Pn**	**22 47 15.2**	**+0.7**
KNT				*e*SN	**Sn**	**22 47 44.0**	**+0.3**
PYL	**PYLOS**	**2.42**	**217**	*e*PN	**Pn**	**22 47 15.5**	**+0.6**
PYL				*e*SN	**Sn**	**22 47 44.0**	**-0.4**
VLS	**Valsamata**	**2.43**	**255**	*e*PB	**Pn**	**22 47 15.9**	**+0.8**
VLS				*e*SN	**Sn**	**22 47 45.5**	**+0.7**
NEST	**Nestorio**	**2.51**	**310**	*e*PB	**Pn**	**22 47 17.0**	**+0.7**
NEST				*e*SN	**Sn**	**22 47 47.2**	**+0.3**
NVR	**Nevrokopi**	**2.52**	**5**	*e*PN	**Pn**	**22 47 16.3**	**-0.2**
NVR				*e*SN	**Sn**	**22 47 46.7**	**-0.5**
FNA	**Florina**	**2.58**	**320**	*e*PN	**Pn**	**22 47 16.9**	**-0.4**
FNA				*e*SN	**Sn**	**22 47 48.7**	**+0.1**
KYTH	**Kithira**	**2.58**	**190**	*e*PN	**Pn**	**22 47 17.1**	**-0.2**
VAY	**Valandovo**	**2.60**	**343**	*i* Pn	**Pn**	**22 47 18.6**	**+1.1**
SMG	**Samos**	**2.81**	**113**	*e*PN	**Pn**	**22 47 21.0**	**+0.7**
SMG				*e*SN	**Sn**	**22 47 54.0**	**-0.1**
ALN	**Alexandroupoli**	**2.81**	**42**	*e*PN	**Pn**	**22 47 20.3**	**0.0**
ALN				*e*SN	**Sn**	**22 47 54.4**	**+0.3**
ANKY	**Antikythira Is**	**2.97**	**184**	*e*PN	**Pn**	**22 47 22.7**	**+0.2**
ANKY				*e*SN	**Sn**	**22 47 57.4**	**-0.6**
VAM	**Vamos**	**3.46**	**171**	*e*PN	**Pn**	**22 47 29.9**	**+0.7**
VAM				*e*SN	**Sn**	**22 48 10.5**	**+0.4**
NPS	**Neapolis**	**3.92**	**155**	*e*PN	**Pn**	**22 47 35.5**	**-0.1**

IDC 15 23:03:05.3±1.7,**2.79N**×**125.29E**,**h0**km,**mb3.8**/5, **mb1 4.0**/5,**mb1mx3.6**/20,**mbtmp3.8**/5,**Error ellipse: s-maj=125.4km s-min=23.6km az=67.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.76**	**179**	P	P	23 07 48.7	+0.8
	1.8nm,0.3s,baz=5.7,slow=10,SNR=23						
WRA	**Warramunga Arr**	**24.27**	**159**	P	P	23 08 24.6	+0.1
	1.1nm,0.5s,baz=332,slow=9.8,SNR=5.5						
ASAR	**Alice Springs**	**27.60**	**163**	P	P	23 08 53.5	-1.0
	0.4nm,0.5s,baz=339,slow=9.3,SNR=4.6						
STKA	**Stephens Creek**	**37.80**	**157**	P	P	23 10 23.4	0.0
	1.2nm,0.6s,baz=340,slow=12,SNR=3.4						
MKAR	**Makanchi Array**	**57.52**	**326**	P	P	23 12 56.5	0.0
	0.9nm,1.0s,baz=123,slow=7.9,SNR=6.3						

*IDC **15** 23:47:19.2±1.4,34.97N×27.22E,h0km,mb3.4/2, mb1 3.1/4,mb1mx3.0/23,mbtmp3.1/4,ML2.8/2,Error ellipse: s-maj=43.0km s-min=20.0km az=168.0*
*ISCJB **15** 23:47:23.2±0.4,35.29N±0.05×27.19E±0.04,h64km±7km, mb3.3/2,Error ellipse: s-maj=8.4km s-min=5.1km az=6.7*
*ATH **15** 23:47:24.8,35.53N×27.05E,h59km±1km,MD2.7/4*
*CSEM **15** 23:47:24.3±0.1,35.38N×27.15E,h60km,MD2.7,Error ellipse: s-maj=4.5km s-min=2.7km az=29.0*
*THE **15** 23:47:26.3,35.49N×27.05E,h52km±2km,ML3.4/3,Error ellipse: s-maj=3.0km s-min=1.1km az=113.0*
*HLW **15** 23:47:26.9,35.22N×27.18E,h31km±23km,Md3.7,Ml3.6*
ISC 15 23:47:24.3±0.8,**35.36N**±0.04×**27.16E**±0.04,**h62**km±8km, **n49,**σ1.30/68,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.19**	**0**	P	**Pn**	**23 47 34.3**	**+0.3**
KARP				S	**Sn**	**23 47 40.3**	**-0.8**
KARP	**Karpathos**	**0.19**	**0**	*e*P	**Pn**	**23 47 34.4**	**+0.4**
KARP				*e*S	**Sn**	**23 47 40.8**	**-0.3**
KARP	**Karpathos**	**0.19**	**0**	P	**Pn**	**23 47 34.3**	**+0.3**
KARP				*e*S	**Sn**	**23 47 40.8**	**-0.3**
ZKR	**Zakros**	**0.81**	**253**	P	**Pn**	**23 47 39.6**	**-0.4**
ZKR				S	**Sn**	**23 47 51.4**	**-0.1**
ZKR	**Zakros**	**0.81**	**253**	P	**Pn**	**23 47 39.6**	**-0.4**
ZKR				S	**Sn**	**23 47 51.4**	**-0.1**
ARG	**Arkhangelos**	**1.17**	**42**	*e*P	**Pn**	**23 47 45.2**	**+0.7**
ARG	**Arkhangelos**	**1.17**	**42**	*e*P	**Pn**	**23 47 45.2**	**+0.7**
NPS	**Neapolis**	**1.27**	**266**	P	**Pn**	**23 47 46.2**	**+0.3**
NPS				S	**Sn**	**23 48 01.9**	**-0.2**
NPS	**Neapolis**	**1.27**	**266**	*e*P	**Pn**	**23 47 46.3**	**+0.3**
NPS				*e*S	**Sn**	**23 48 01.5**	**-0.6**
NPS	**Neapolis**	**1.27**	**266**	P	**Pn**	**23 47 46.2**	**+0.3**
NPS				*e*S	**Sn**	**23 48 01.5**	**-0.6**
LAST	**Lasithi**	**1.39**	**262**	P	**Pn**	**23 47 48.3**	**+0.7**
LAST				S	**Sn**	**23 48 05.1**	**0.0**
LAST	**Lasithi**	**1.39**	**262**	P	**Pn**	**23 47 48.3**	**+0.7**
LAST				S	**Sn**	**23 48 05.1**	**0.0**
SANT	**Santorini**	**1.71**	**307**	P	**Pn**	**23 47 51.1**	**-0.8**
SANT				S	**Sn**	**23 48 10.0**	**-2.8**
SANT	**Santorini**	**1.71**	**307**	P	**Pn**	**23 47 51.1**	**-0.8**
SANT				S	**Sn**	**23 48 10.0**	**-2.8**
IDI	**Anoyia**	**1.86**	**269**	P	**Pn**	**23 47 54.0**	**+0.1**
IDI				S	**Sn**	**23 48 16.0**	**-0.4**
IDI	**Anoyia**	**1.86**	**269**	P	**Pn**	**23 47 54.0**	**+0.1**
IDI				S	**Sn**	**23 48 16.0**	**-0.4**
IDI	**Anoyia**	**1.86**	**269**	Pn	**Pn**	**23 47 54.1**	**+0.1**
	4.5nm,0.3s,baz=78,slow=13,SNR=51						
IDI				Sn	**Sn**	**23 48 15.3**	**-1.0**
	6.0nm,0.3s,baz=306,slow=19,SNR=11						
SIVA	**Sivas**	**1.95**	**261**	P	**Pn**	**23 47 55.8**	**+0.7**
SIVA	**Sivas**	**1.95**	**261**	P	**Pn**	**23 47 55.8**	**+0.7**
APE	**Apeiranthos**	**2.16**	**323**	P	**Pn**	**23 47 57.3**	**-0.7**
APE				S	**Sn**	**23 48 21.5**	**-2.2**
APE	**Apeiranthos**	**2.16**	**323**	*e*P	**Pn**	**23 47 57.4**	**-0.6**
APE				*e*S	**Sn**	**23 48 21.0**	**-2.7**
APE	**Apeiranthos**	**2.16**	**323**	*e*P	**Pn**	**23 47 57.4**	**-0.6**
APE				S	**Sn**	**23 48 21.5**	**-2.2**
VAM	**Vamos**	**2.42**	**272**	*e*P	**Pn**	**23 48 02.2**	**+0.8**
VAM	**Vamos**	**2.42**	**272**	*e*P	**Pn**	**23 48 02.2**	**+0.8**
KYTH	**Kithira**	**3.48**	**287**	P	**Pn**	**23 48 15.6**	**-0.3**
KYTH	**Kithira**	**3.48**	**287**	P	**Pn**	**23 48 15.6**	**-0.3**
SLUM		**4.18**	**203**	S	**Sn**	**23 49 08.2**	**-5.0**
	baz=205						
SLUM		**4.18**	**203**	P	**Pn**	**23 48 25.5**	**-0.1**
SWA2		**6.26**	**194**	P	**Pn**	**23 48 54.3**	**+0.3**
	baz=195						
SWA2				S	Sn	23 49 56.5	-7.8
	baz=195						
SWA2				AMP		23 50 00.0	
	comp=N,50μm,0.3s,logA/T=5.2,baz=195						
SWA2		**6.26**	**194**	P	**Pn**	**23 48 54.3**	**+0.3**
BRTR	**Keskin Array B**	**6.75**	**48**	Pn	Pn	23 49 04.7	+4.0
	comp=N,0.1nm,0.3s,baz=42,slow=5.7,SNR=2.7						
HHAG	**Hagoal**	**6.81**	**141**	P	**Pn**	**23 49 01.9**	**+0.4**
	baz=140						
HHAG	**Hagoal**	**6.81**	**141**	P	**Pn**	**23 49 01.9**	**+0.4**
AMAG	**Maghara**	**6.92**	**131**	P	**Pn**	**23 49 03.2**	**+0.1**
	baz=130						
AMAG	**Maghara**	**6.92**	**131**	P	**Pn**	**23 49 03.2**	**+0.1**
RSH		**7.03**	**127**	P	**Pn**	**23 49 05.2**	**+0.6**
	baz=125						
RSH		**7.03**	**127**	P	**Pn**	**23 49 05.2**	**+0.6**
AWBH		**7.17**	**168**	P	**Pn**	**23 49 06.5**	**+0.1**
	baz=167						
AWBH		**7.17**	**168**	P	**Pn**	**23 49 06.5**	**+0.1**
MMAI	**Mount Meron Ar**	**7.22**	**107**	Pn	**Pn**	**23 49 05.9**	**-1.3**
	comp=N,0.5nm,0.3s,baz=191,slow=8.5,SNR=3.6						
MMAI				Sn	**Sn**	**23 50 26.0**	**-1.8**
	comp=N,1.2nm,0.3s,baz=310,

PRE ***16*** *00:15:32.3±1.8,2.02N×31.06E,h10km,ML3.5*
ISC 16 00:15:39.7±4.3,1.5N±0.3×31.4E±0.1,h10km,n4,σ2ş35/8, Uganda

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**2.18**	**197**	*eP*	**Pn**	**00 16 14.3**	**-2.0**
MBAR				*eS*	**Sn**	**00 16 45.3**	**+1.8**
KIG	**Kigali**	**3.68**	**201**	*eP*	**Pn**	**00 16 36.2**	**-0.8**
KIG				*eS*	**Sn**	**00 17 23.1**	**+2.5**
KIG				AML	AML	00 17 46.8	
	comp=Z,54nm,0.4s						
KMBO	**Kilima Mbogo**	**6.41**	**114**	*eP*	**Pn**	**00 17 15.1**	**+0.5**
KMBO				*eS*	**Sn**	**00 18 30.6**	**+2.6**
MAUS	**Longido**	**6.77**	**128**	*i* P	**Pn**	**00 17 18.3**	**-1.2**
MAUS				*i* S	**Sn**	**00 18 34.5**	**-2.2**

IDC ***16*** *00:21:06.7±0.9,3.07N×104.08W,h0km,mb4.4/9, mb1 4.6/10,mb1mx4.4/18,mbtmp4.3/10,ML3.4/1,MS3.8/10, Ms1 3.9/10,ms1mx3.7/28,Error ellipse: s-maj=39.4km s-min=15.0km az=58.0*
ISCJB ***16*** *00:21:08.1±0.7,3.29N±0.08×103.53W±0.10,h10km, mb4.5/15,MS3.7/8,Error ellipse: s-maj=16.2km s-min=8.2km az=141.6*
NEIC ***16*** *00:21:11.0±1.8,3.51N×103.26W,h12km±4km,mb4.8/8, Error ellipse: s-maj=29.2km s-min=9.5km az=216.0*
ISC 16 00:21:09.3±0.8,3.3N±0.1×103.6W±0.2,h10km,n257, σ0ş83/243,mb4.6/15,MS3.5/8,109C-88D,Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**17.45**	**47**	P	**P**	**00 25 17.9**	**+3.4**
	0.1nm,0.3s,baz=229,slow=9.8,SNR=4.5						
APG				LR	LR	00 30 24.9	
	comp=Z,407nm,20.1s,baz=217,slow=31						
TGUH	**Tegucigalpa,Un**	**19.38**	**55**	*eP*	**P**	**00 25 33.2**	**-2.4**
	90nm,1.4s						
JTS	**JuntasAbangare**	**19.81**	**68**	LR	LR	00 31 11.6	
	comp=Z,613nm,20.4s,baz=235,slow=30						
LPIG	**La Paz**	**21.68**	**343**	LR	LR	00 32 05.4	
	comp=Z,191nm,20.5s,baz=236,slow=30						
TEIG	**Tepich**	**22.54**	**40**	*eP*	**P**	**00 26 09.8**	**+0.1**
732A	**Laxson Ranch,**	**25.55**	**7**	⇓P	**P**	**00 26 38.8**	**+0.4**
	baz=25						
LTX	**Lajitas**	**25.91**	**360**	*eP*	**P**	**00 26 42.6**	**+0.7**
LTX				*e*PcP	**PcP**	**00 30 10.8**	**-0.1**
TX31	**Lajitas Ar. Si**	**25.91**	**360**	*eP*	**P**	**00 26 41.4**	**-0.5**
TXAR	**Lajitas Array**	**25.91**	**360**	P	**P**	**00 26 42.6**	**+0.7**
	3.3nm,1.0s,baz=179,slow=12,SNR=16						
TXAR				PcP	**PcP**	**00 30 10.8**	**-0.1**
	0.9nm,1.0s,baz=188,slow=8.5,SNR=4.1						
TXAR				LR	LR	00 35 46.7	
	comp=Z,169nm,20.5s,baz=260,slow=34						
627A	**Terlingua Ranc**	**26.03**	**0**	⇑P	**P**	**00 26 43.6**	**+0.6**
	baz=26						
628A	**Black Gap, Mar**	**26.07**	**1**	⇑P	**P**	**00 26 44.2**	**+0.9**
	baz=26						
626A	**Big Bend Ranch**	**26.14**	**359**	⇓P	**P**	**00 26 45.0**	**+1.1**
	baz=26						
526A	**Mary Lane Ranc**	**26.64**	**359**	⇑P	**P**	**00 26 49.3**	**+0.8**
	baz=27						
527A	**Woodward Ranch**	**26.72**	**0**	⇑P	**P**	**00 26 49.9**	**+0.7**
	baz=27,SNR=9.7						
529A	**Stev Forest Ra**	**26.73**	**3**	⇓P	**P**	**00 26 50.2**	**+0.9**
	baz=27						
528A	**Cox Ranch, San**	**26.75**	**2**	⇓P	**P**	**00 26 50.4**	**+0.9**
	baz=27						
530A	**J-C Ranch, Com**	**26.81**	**4**	⇓P	**P**	**00 26 50.6**	**+0.6**
	baz=27,SNR=7.5						
531A	**Rocksprings**	**26.90**	**6**	⇓P	**P**	**00 26 51.0**	**+0.3**
	baz=27						
532A	**Rocksprings**	**26.94**	**7**	⇓P	**P**	**00 26 51.9**	**+0.9**
	baz=27						
ATAH	**Atahualpa**	**27.24**	**112**	LR	LR	00 35 26.6	
	comp=Z,128nm,20.5s,baz=119,slow=31						
426A	**McDonald Obser**	**27.25**	**359**	⇓P	**P**	**00 26 54.9**	**+0.8**
	baz=27						
428A	**Kincaid Ranch,**	**27.32**	**2**	⇑P	**P**	**00 26 55.3**	**+0.8**
	baz=27						
425A	**Indio Mountain**	**27.39**	**357**	⇑P	**P**	**00 26 55.9**	**+0.7**
	baz=27						
431A	**Sonora**	**27.41**	**6**	⇑P	**P**	**00 26 56.2**	**+0.9**
	baz=27						
427A	**Hayter Ranch,**	**27.42**	**0**	⇑P	**P**	**00 26 56.3**	**+0.8**
	baz=27						
328A	**Wristen Ranch,**	**27.96**	**2**	⇓P	**P**	**00 27 00.7**	**+0.4**
	baz=28						
325A	**Bean Ranch, Si**	**27.97**	**358**	⇑P	**P**	**00 27 00.9**	**+0.4**
	baz=28						
331A	**San Angelo**	**28.05**	**6**	⇓P	**P**	**00 27 01.5**	**+0.5**
	baz=28						
324A	**Moseley Ranch,**	**28.07**	**357**	⇓P	**P**	**00 27 02.1**	**+0.8**
	baz=28						
330A	**Mertzon**	**28.07**	**4**	⇑P	**P**	**00 27 02.0**	**+0.7**
	baz=28						
319A	**Douglas**	**28.45**	**350**	⇓P	**P**	**00 27 04.9**	**+0.2**
	baz=28						
226B	**Tecolote Peak,**	**28.65**	**359**	⇑P	**P**	**00 27 07.2**	**+0.7**
	baz=29,SNR=8.1						
224A	**Cornudas Mount**	**28.70**	**357**	⇑P	**P**	**00 27 07.3**	**+0.3**
	baz=29						
232A	**Coleman**	**28.70**	**7**	⇓P	**P**	**00 27 07.0**	**+0.1**
	baz=29						
220A	**Playas Peak, P**	**28.84**	**351**	⇑P	**P**	**00 27 08.9**	**+0.7**
	baz=29						
128A	**Castleberry Fa**	**29.21**	**2**	⇑P	**P**	**00 27 11.9**	**+0.5**
	baz=29						
126A	**Clayton Basin,**	**29.22**	**359**	⇑P	**P**	**00 27 11.6**	**+0.1**
	baz=29						
125A	**Gardner Draw,**	**29.24**	**358**	⇑P	**P**	**00 27 12.4**	**+0.6**
	baz=29						
ROSC	**El Rosal**	**29.28**	**86**	LR	LR	00 37 07.8	
	comp=Z,124nm,19.9s,baz=199,slow=32						
124A	**Stringfield Ra**	**29.32**	**357**	⇑P	**P**	**00 27 13.3**	**+0.8**
	baz=29						
121A	**Cookes Peak, D**	**29.36**	**353**	⇑P	**P**	**00 27 13.7**	**+0.9**
	baz=29						
ABTX	**Abilene, Hawle**	**29.43**	**7**	⇑P	**P**	**00 27 13.5**	**+0.2**
	baz=29						
120A	**U Bar Ranch, L**	**29.49**	**351**	⇑P	**P**	**00 27 14.6**	**+0.7**
	baz=30						
Z26A	**Caprock**	**29.84**	**359**	⇑P	**P**	**00 27 17.3**	**+0.2**
	baz=30						
Z25A	**Roswell**	**29.86**	**358**	⇑P	**P**	**00 27 17.4**	**+0.2**
	baz=30						
Z27A	**Tatum**	**29.88**	**1**	⇑P	**P**	**00 27 18.2**	**+0.8**
	baz=30,SNR=7.9						
Z30A	**Sanderson Ranc**	**29.95**	**4**	⇓P	**P**	**00 27 18.4**	**+0.5**
	baz=30						
Z22A	**Elephant Butte**	**29.98**	**354**	⇓P	**P**	**00 27 19.2**	**+0.8**
	baz=30,SNR=6.0						
Z20A	**Nine Sixteen R**	**30.04**	**352**	⇓P	**P**	**00 27 19.9**	**+1.1**
	baz=30,SNR=5.9						
Z31A	**Sharp Cattle R**	**30.06**	**6**	⇑P	**P**	**00 27 19.3**	**+0.4**
	baz=30						
Z21A	**St. Cloud Mine**	**30.11**	**353**	⇑P	**P**	**00 27 20.5**	**+0.9**
	baz=30						
Z32A	**Haskell**	**30.13**	**7**	⇑P	**P**	**00 27 20.1**	**+0.7**
	baz=30						
Y27A	**Causey**	**30.45**	**1**	⇑P	**P**	**00 27 23.2**	**+0.8**
	baz=30						
Y25A	**Mesa, Roswell**	**30.50**	**358**	⇓P	**P**	**00 27 23.5**	**+0.6**
	baz=30						
Y24A	**Capitan**	**30.54**	**357**	⇑P	**P**	**00 27 24.3**	**+1.0**
	baz=30						
MSTX	**Muleshoe**	**30.55**	**1**	⇓P	**P**	**00 27 24.2**	**+0.9**
	baz=30						
Y22A	**Socorro**	**30.66**	**355**	⇓P	**P**	**00 27 25.4**	**+1.1**
	baz=31						
Y20A	**Horse Springs,**	**30.79**	**352**	⇑P	**P**	**00 27 26.9**	**+1.3**
	baz=31						
Y21A	**Point of Rocks**	**30.80**	**353**	⇑P	**P**	**00 27 26.8**	**+1.1**
	baz=31						
LAZ	**Ladron**	**31.14**	**354**	*eP*	**P**	**00 27 26.1**	**-2.4**
X21A	**Alamocita Cree**	**31.25**	**353**	⇓P	**P**	**00 27 30.6**	**+1.0**
	baz=31						
GLA	**Glamis**	**31.42**	**342**	⇓P	**P**	**00 27 31.7**	**+0.8**
	baz=32						
SWSC	**Sam W. Stewart**	**31.63**	**340**	⇓P	**P**	**00 27 33.3**	**+0.6**
	baz=32						
W27A	**Bowe Ranch, En**	**31.63**	**1**	⇓P	**P**	**00 27 33.3**	**+0.5**
	baz=32						
X18A	**Snowflake**	**31.64**	**350**	⇓P	**P**	**00 27 34.1**	**+1.1**
	baz=32						
W25A	**X Bar L Ranch,**	**31.79**	**359**	⇓P	**P**	**00 27 35.3**	**+1.0**
	baz=32						
MONP	**Monument Peak**	**31.80**	**339**	⇓P	**P**	**00 27 35.7**	**+1.3**
	baz=32						
W23A	**Werner Place,**	**31.81**	**356**	⇓P	**P**	**00 27 35.5**	**+1.0**
	baz=32						
W24A	**Lazy 6 Ranch,**	**31.82**	**357**	⇓P	**P**	**00 27 35.1**	**+0.6**
	baz=32						
W28A	**Vega**	**31.85**	**2**	⇓P	**P**	**00 27 35.4**	**+0.7**
	baz=32						
W31A	**Holland Ranch,**	**31.93**	**6**	⇑P	**P**	**00 27 36.4**	**+1.0**
	baz=32						
BC3	**Big Chuckawall**	**32.17**	**341**	⇓P	**P**	**00 27 38.4**	**+0.8**
	baz=32						
V24A	**Rampart Ranch,**	**32.32**	**358**	⇓P	**P**	**00 27 39.8**	**+0.8**
	baz=32						
PDMCI	**Parker Dam,Lak**	**32.38**	**344**	⇓P	**P**	**00 27 40.4**	**+1.2**
	baz=32						
V25A	**Rancho No Teng**	**32.41**	**359**	⇑P	**P**	**00 27 39.9**	**+0.1**
	baz=32						
PFO	**Pinyon Flat Ob**	**32.46**	**340**	*eP*	**P**	**00 27 40.8**	**+0.6**
	7.1nm,1.1s						
PFO	**Pinyon Flat Ob**	**32.46**	**340**	⇓P	**P**	**00 27 41.2**	**+1.0**
	baz=32						
PFO	**Pinyon Flat Ob**	**32.46**	**340**	P	**P**	**00 27 40.8**	**+0.6**
	1.3nm,0.4s,baz=173,slow=6.2,SNR=4.4						
IRM	**Iron Mountain**	**32.54**	**342**	⇓P	**P**	**00 27 41.7**	**+1.0**
	baz=33						
V22A	**San Miguel Ran**	**32.62**	**355**	⇑P	**P**	**00 27 42.9**	**+1.3**
	baz=33						
BELC	**Belle Mtn. Jos**	**32.67**	**341**	⇓P	**P**	**00 27 43.1**	**+1.1**
	baz=33						
V20A	**Brimhall**	**32.67**	**353**	⇑P	**P**	**00 27 43.1**	**+1.1**
	baz=33						
WUAZ	**Wupatki**	**32.87**	**348**	*eP*	**P**	**00 27 43.8**	**0.0**
	62nm,2.5s						
WUAZ	**Wupatki**	**32.87**	**348**	⇑P	**P**	**00 27 45.0**	**+1.2**
	baz=33						
U25A	**Circle Dot Ran**	**32.97**	**359**	⇑P	**P**	**00 27 45.5**	**+0.9**
	baz=33						
U23A	**El Rito**	**32.97**	**356**	⇑P	**P**	**00 27 45.6**	**+0.9**
	baz=33						
W13A	**Hualapai Mount**	**33.06**	**344**	⇑P	**P**	**00 27 46.8**	**+1.3**
	baz=33						
U22A	**Llaves**	**33.07**	**355**	⇓P	**P**	**00 27 46.1**	**+0.5**
	baz=33,SNR=6.1						
U21A	**Nageezi**	**33.20**	**354**	⇑P	**P**	**00 27 47.8**	**+1.2**
	baz=33						
SDV	**Santo Domingo**	**33.27**	**79**	*eP*	P	00 27 43.0	-4.6
	17nm,1.0s						
GMRC	**Granite Mounta**	**33.27**	**342**	⇑P	**P**	**00 27 48.3**	**+1.0**
	baz=33						
BFSC	**Mount Baldy Ra**	**33.46**	**339**	⇑P	**P**	**00 27 50.0**	**+1.1**
	baz=34						
T25A	**Trinidad**	**33.70**	**359**	⇑P	**P**	**00 27 52.4**	**+1.3**
	baz=34						
T22A	**Edith**	**33.71**	**355**	⇑P	**P**	**00 27 52.5**	**+1.4**
	baz=34,SNR=5.3						
T26A	**Comanche Natio**	**33.73**	**0**	⇑P	**P**	**00 27 52.2**	**+0.9**
	baz=34						
U15A	**North Rim**	**33.94**	**347**	⇑P	**P**	**00 27 54.0**	**+0.8**
	baz=34						
MVCO	**Mesa Verde**	**34.06**	**353**	*eP*	**P**	**00 27 53.7**	**-0.5**
	17nm,1.3s						
MVCO	**Mesa Verde**	**34.06**	**353**	⇓P	**P**	**00 27 54.4**	**+0.2**
	baz=34,SNR=5.2						
GSC	**Goldstone**	**34.12**	**341**	⇑P	**P**	**00 27 55.4**	**+0.8**
	baz=34						
S26A	**Kim**	**34.18**	**0**	⇑P	**P**	**00 27 56.0**	**+0.9**
	baz=34						
S25A	**Robets Cordova**	**34.23**	**359**	⇓P	**P**	**00 27 56.5**	**+0.9**
	baz=34						
S24A	**Houchin Ranch,**	**34.23**	**358**	⇓P	**P**	**00 27 56.9**	**+1.2**
	baz=34						
SBC	**Santa Barbara**	**34.43**	**336**	⇑P	**P**	**00 27 58.6**	**+1.5**
	baz=34						
S22A	**4UR Ranch, Cre**	**34.43**	**356**	⇓P	**P**	**00 27 58.2**	**+0.8**
	baz=34						
S21A	**Coal Bank Pass**	**34.43**	**354**	⇑P	**P**	**00 27 58.5**	**+1.0**
	baz=34						
SHOC	**Shoshone**	**34.50**	**342**	⇓P	**P**	**00 27 58.5**	**+0.8**
	baz=35						
SHPR	**Sheep Range**	**34.73**	**344**	*eP*	**P**	**00 27 58.7**	**-1.2**
R23A	**Moffat**	**34.80**	**357**	⇓P	**P**	**00 28 01.9**	**+1.2**
	baz=35						
R24A	**Sanders Place,**	**34.81**	**358**	⇑P	**P**	**00 28 01.9**	**+1.3**
	baz=35						
R27A	**Eads**	**34.85**	**1**	⇓P	**P**	**00 28 01.7**	**+0.8**
	baz=35,SNR=7.3						
R26A	**Arlton**	**34.86**	**0**	⇑P	**P**	**00 28 01.9**	**+1.0**
	baz=35						
PKM	**Peak Mountain**	**34.86**	**336**	⇑P	**P**	**00 28 02.3**	**+1.1**
	baz=35						
R22A	**Saguache, Gunn**	**34.90**	**356**	⇑P	**P**	**00 28 02.5**	**+0.9**
	baz=35						
R28A	**Tribune**	**34.94**	**3**	⇑P	**P**	**00 28 02.0**	**+0.4**
	baz=35						
PV01	**Paradox Valley**	**34.98**	**353**	*eP*	**P**	**00 28 00.2**	**-2.0**
PV05	**Paradox Valley**	**34.99**	**352**	*eP*	**P**	**00 28 02.9**	**+0.6**
R20A	**Redvale**	**35.01**	**353**	⇑P	**P**	**00 28 03.5**	**+1.1**
	baz=35						
R29A	**Marienthal**	**35.05**	**3**	⇓P	**P**	**00 28 03.0**	**+0.4**
	baz=35						
R21A	**Cimarron**	**35.11**	**355**	⇓P	**P**	**00 28 04.3**	**+1.0**
	baz=35						
PV04	**Paradox Valley**	**35.28**	**353**	*eP*	**P**	**00 28 04.6**	**0.0**
SMMC	**Simmler**	**35.30**	**337**	⇓P	**P**	**00 28 06.1**	**+1.5**
	baz=35						
Q26A	**Hugo**	**35.48**	**0**	⇓P	**P**	**00 28 07.2**	**+0.9**
	baz=35						
Q29A	**Oakley**	**35.53**	**4**	⇑P	**P**	**00 28 07.3**	**+0.6**
	baz=35						
Q22A	**Crested Butte,**	**35.54**	**356**	⇑P	**P**	**00 28 07.9**	**+0.8**
	baz=36,SNR=5.8						
KSCO	**Kaye Shedlock'**	**35.58**	**1**	⇑P	**P**	**00 28 07.9**	**+0.7**
	baz=36						
Q30A	**Quinter**	**35.67**	**5**	⇓P	**P**	**00 28 08.6**	**+0.7**
	baz=36						
Q20A	**Ridgley Place,**	**35.76**	**354**	⇑P	**P**	**00 28 09.5**	**+0.7**
	baz=36						
P23A	**Jefferson**	**35.98**	**357**	⇓P	**P**	**00 28 11.8**	**+0.9**
	baz=36						
P25A	**Willow Gulch B**	**36.07**	**359**	⇑P	**P**	**00 28 12.2**	**+0.8**
	baz=36						
P30A	**Selden**	**36.23**	**4**	⇑P	**P**	**00 28 13.3**	**+0.6**
	baz=36						
P29A	**Atwood**	**36.24**	**4**	⇑P	**P**	**00 28 13.3**	**+0.5**
	baz=36						
P21A	**Newcastle**	**36.24**	**355**	⇓P	**P**	**00 28 13.9**	**+1.0**
	baz=36						
P22A	**Eagle**	**36.26**	**356**	⇑P	**P**	**00 28 14.3**	**+1.2**
	baz=36						
P31A	**Stockton**	**36.28**	**6**	⇑P	**P**	**00 28 13.9**	**+0.8**
	baz=36						
ISCO	**Idaho Springs**	**36.40**	**357**	⇓P	**P**	**00 28 15.3**	**+1.0**
	baz=36						
R11A	**Troy Canyon, C**	**36.57**	**344**	⇑P	**P**	**00 28 16.8**	**+1.0**
	baz=37						
O22A	**Kremmling**	**36.81**	**356**	⇑P	**P**	**00 28 18.7**	**+0.8**
	baz=37						
O20A	**White River Ci**	**36.92**	**354**	⇓P	**P**	**00 28 19.7**	**+1.0**
	baz=37,SNR=5.5						
O19A	**Miners Draw (B**	**37.18**	**353**	⇓P	**P**	**00 28 21.9**	**+1.0**
	baz=37						
N27A	**Anderson Farm,**	**37.37**	**1**	⇓P	**P**	**00 28 23.2**	**+0.7**
	baz=37						
NV01	**Mina Array Sit**	**37.46**	**341**	*eP*	**P**	**00 28 23.8**	**+0.5**
NVAR	**Mina Array Bea**	**37.46**	**341**	P	**P**	**00 28 23.8**	**+0.5**
	1.9nm,0.9s,baz=162,slow=7.8,SNR=13						
N23A	**Red Feather La**	**37.51**	**357**	⇑P	**P**	**00 28 24.5**	**+0.8**
	baz=38						
OGNE	**Ogallala**	**37.53**	**2**	⇓P	**P**	**00 28 24.4**	**+0.7**
	baz=38						
N20A	**Spence Gulch,**	**37.62**	**354**	⇑P	**P**	**00 28 25.6**	**+1.0**
	baz=38						
DUG	**Dugway**	**37.67**	**348**	⇑P	**P**	**00 28 25.6**	**+0.6**
	baz=38,SNR=5.4						
KMSC	**Kings Mountain**	**37.86**	**30**	⇓P	**P**	**00 28 25.0**	**-1.5**
	baz=38						
L23A	**Garrett**	**38.71**	**358**	⇑P	**P**	**00 28 34.2**	**+0.4**
	baz=39						
BW06	**Boulder Array**	**39.67**	**353**	*eP*	**P**	**00 28 41.4**	**-0.5**
PD31	**Pinedale Array**	**39.67**	**353**	*eP*	**P**	**00 28 42.2**	**+0.3**
PDAR	**Pinedale Array**	**39.67**	**353**	P	**P**	**00 28 42.2**	**+0.3**
	4.7nm,1.1s,baz=163,slow=7.3,SNR=22						
J26A	**Sides Ranch, S**	**39.87**	**1**	⇑P	**P**	**00 28 44.5**	**+1.1**
	baz=40						
J28A	**Allard Ranch,**	**40.03**	**3**	⇑P	**P**	**00 28 45.7**	**+1.0**
	baz=40						
J21A	**Lysite**	**40.04**	**356**	⇓P	**P**	**00 28 45.9**	**+1.0**
	baz=40						
J22A	**Midwest**	**40.04**	**357**	⇓P	**P**	**00 28 44.9**	**+0.1**
	baz=40,SNR=7.3						
J30A	**Dallas**	**40.05**	**5**	⇑P	**P**	**00 28 45.7**	**+0.9**
	baz=40						
J29A	**Okreek**	**40.06**	**4**	⇑P	**P**	**00 28 45.6**	**+0.7**
	baz=40						
J20A	**Shoshoni**	**40.10**	**355**	⇑P	**P**	**00 28 46.1**	**+0.8**
	baz=40						
LPAZ	**La Paz**	**40.12**	**120**	*eP*	**P**	**00 28 47.2**	**+0.8**
	19nm,1.2s						
LPAZ	**La Paz**	**40.12**	**120**	P	**P**	**00 28 47.9**	**+1.5**
	9.5nm,1.0s,baz=308,slow=8.7,SNR=19						
LPAZ				LR	LR	00 43 25.5	
	comp=Z,59nm,19.8s,baz=322,slow=33						
RKT	**Rikitea**	**40.28**	**228**	*e*LR	LR	00 39 54.8	
	295nm,28.8s						
RKT	**Rikitea**	**40.28**	**228**	*e*T	T	01 11 10.7	
	1.2nm,0.3s						
I24A	**Kuemmerle Ranc**	**40.42**	**359**	⇓P	**P**	**00 28 48.5**	**+0.5**
	baz=40						
I21A	**Big Trails, Te**	**40.49**	**356**	⇓P	**P**	**00 28 49.4**	**+0.8**
	baz=40						
I22A	**9 Mile Ranch,**	**40.52**	**357**	⇓P	**P**	**00 28 49.7**	**+0.9**
	baz=40						
I25A	**Rochford**	**40.57**	**360**	⇓P	**P**	**00 28 49.9**	**+0.6**
	baz=40						
I28A	**Midland**	**40.61**	**3**	⇓P	**P**	**00 28 50.5**	**+1.1**
	baz=40						
I20A	**Worland**	**40.70**	**355**	⇑P	**P**	**00 28 50.6**	**+0.4**
	baz=41,SNR=5.9						
I19A	**Meeteetse**	**40.86**	**354**	⇓P	**P**	**00 28 52.2**	**+0.5**
	baz=41						
I17A	**Pilgrim Ck.**	**40.94**	**352**	⇑P	**P**	**00 28 53.3**	**+1.0**
	baz=41						
H26A	**Fairpoint**	**41.17**	**1**	⇓P	**P**	**00 28 54.7**	**+0.6**
	baz=41						
H20A	**Greybull**	**41.22**	**355**	⇓P	**P**	**00 28 54.9**	**+0.4**
	baz=41						
HLID	**Hailey**	**41.24**	**348**	⇑P	**P**	**00 28 55.3**	**+0.5**
	baz=41						
H29A	**Onida**	**41.29**	**4**	⇑P	**P**	**00 28 55.6**	**+0.6**
	baz=41						
H28A	**Mission Ridge**	**41.29**	**3**	⇑P	**P**	**00 28 55.6**	**+0.5**
	baz=41						
H24A	**Dirks Ranch, A**	**41.31**	**359**	⇑P	**P**	**00 28 55.7**	**+0.4**
	baz=41						
H17A	**Grant Village**	**41.40**	**352**	⇓P	**P**	**00 28 56.5**	**+0.3**
	baz=41						
H19A	**Powell**	**41.49**	**354**	⇑P	**P**	**00 28 57.2**	**+0.4**
	baz=42						
H18A	**Shoshone NF, C**	**41.57**	**354**	⇓P	**P**	**00 28 58.0**	**+0.4**
	baz=42						
G22A	**Birney**	**41.83**	**357**	⇑P	**P**	**00 28 60.0**	**+0.4**
	baz=42						
G26A	**Maurine**	**41.85**	**1**	⇓P	**P**	**00 29 00.1**	**+0.4**
	baz=42						
G30A	**Faulkton**	**41.87**	**5**	⇑P	**P**	**00 28 59.9**	**+0.2**
	baz=42						
G24A	**Alzada**	**41.88**	**359**	⇑P	**P**	**00 29 00.3**	**+0.4**
	baz=42						
G21A	**Lodge Grass**	**41.89**	**356**	⇑P	**P**	**00 29 00.2**	**+0.2**
	baz=42						
G27A	**Dupree**	**41.93**	**1**	⇓P	**P**	**00 29 00.6**	**+0.3**
	baz=42						
QLMT	**Earthquake Lak**	**41.95**	**352**	*eP*	**P**	**00 29 00.6**	**0.0**
G20A	**Bridger**	**41.96**	**355**	⇑P	**P**	**00 29 00.5**	**-0.1**
	baz=42						
SAML	**Samuel**	**42.12**	**107**	*eP*	**P**	**00 29 00.8**	**-1.4**
	22nm,1.4s						
MCMT	**McKenzie Canyo**	**42.17**	**350**	*eP*	**P**	**00 29 03.0**	**+0.5**
F24A	**Ekalaka**	**42.40**	**359**	⇑P	**P**	**00 29 04.3**	**+0.1**
	baz=42						
F29A	**Eureka**	**42.52**	**4**	⇓P	**P**	**00 29 04.9**	**-0.1**
	baz=42						
F30A	**Leola**	**42.58**	**5**	⇑P	**P**	**00 29 05.7**	**+0.1**
	baz=42						
F19A	**Roth Farm, Mol**	**42.66**	**355**	⇑P	**P**	**00 29 06.0**	**-0.3**
	baz=43,SNR=5.4						
GCMT	**Greycliff**	**42.67**	**354**	*eP*	**P**	**00 29 06.3**	**-0.1**
SPMN	**St. Paul**	**42.85**	**11**	⇓P	**P**	**00 29 07.3**	**-0.4**
	baz=43						
E26A	**Carlson Angus**	**43.03**	**1**	⇑P	**P**	**00 29 09.5**	**+0.3**
	baz=43						
E22A	**Miles City**	**43.04**	**358**	⇓P	**P**	**00 29 09.3**	**0.0**
	baz=43						
LRM	**Limekiln Ridge**	**43.07**	**351**	*eP*	**P**	**00 29 09.8**	**+0.1**
E28A	**Huff**	**43.20**	**3**	⇑P	**P**	**00 29 10.5**	**-0.1**
	baz=43						
E20A	**Meyer Farm, Mu**	**43.23**	**355**	⇑P	**P**	**00 29 10.8**	**-0.1**
	baz=43,SNR=8.7						
E19A	**Rath Farm, Rou**	**43.24**	**355**	⇑P	**P**	**00 29 10.6**	**-0.3**
	baz=43,SNR=9.1						
E29A	**Napoleon**	**43.26**	**4**	⇓P	**P**	**00 29 11.1**	**+0.1**
	baz=43						
D21A	**La Casta Ranch**	**43.71**	**357**	⇓P	**P**	**00 29 15.1**	**+0.3**
	baz=44						
D29A	**Pettibone, Tap**	**43.75**	**4**	⇓P	**P**	**00 29 15.2**	**+0.2**
	baz=44						
D22A	**Cohagen**	**43.76**	**357**	⇑P	**P**	**00 29 15.3**	**+0.2**
	baz=44						
D20A	**Manuel Ranch,**	**43.82**	**356**	⇑P	**P**	**00 29 15.8**	**+0.2**
	baz=44						
D28A	**Regan**	**43.83**	**3**	⇓P	**P**	**00 29 15.7**	**+0.1**
	baz=44						
D30A	**Buchanan**	**43.86**	**5**	⇑P	**P**	**00 29 15.9**	**+0.1**
	baz=44						
D19A	**Cripps Ran

CPUP	**Villa Florida**	**53.57**	**126**	*e*P		**P**	**00 30 30.8**	**-0.1**
CPUP	**Villa Florida**	**53.57**	**126**	P		**P**	**00 30 31.8**	**+0.9**
	7.9nm,0.8s,baz=275,slow=6.5,SNR=11							
BDFB	**Brasilia**	**58.14**	**111**	*e*P		**P**	**00 31 03.9**	**0.0**
BDFB	**Brasilia**	**58.14**	**111**	P		**P**	**00 31 03.9**	**0.0**
	5.1nm,1.0s,baz=276,slow=13,SNR=5.2							
BDFB				LR		LR	00 53 37.3	
	comp=Z,124nm,20.0s,baz=302,slow=33							
SCHQ	**Schefferville**	**59.41**	**24**	*e*P		P	00 31 16.1	+4.1
	237nm,2.2s							
SCHQ	**Schefferville**	**59.41**	**24**	P		P	00 31 16.1	+4.1
	6.2nm,0.8s,baz=297,slow=6.8,SNR=3.5							
IL1	**Eielson Array**	**68.72**	**342**	*e*P		**P**	**00 32 11.8**	**-1.2**
ILAR	**Eielson Array**	**68.72**	**342**	P		**P**	**00 32 11.5**	**-1.5**
	4.7nm,0.9s,baz=152,slow=4.9,SNR=27							
ILB	**Eielson Array**	**68.72**	**342**	*e*P		**P**	**00 32 11.5**	**-1.5**
H11S2	**WAKE ISLAND Hy**	**88.65**	**288**	T		T	02 11 49.2	
	baz=87,slow=0.7,SNR=4.3							
H11S1	**WAKE ISLAND Hy**	**88.65**	**288**	T		T	02 11 52.3	
	baz=87,slow=0.7,SNR=4.5							
H11S3	**WAKE ISLAND Hy**	**88.66**	**288**	T		T	02 11 50.5	
	baz=87,slow=0.7,SNR=3.5							
NOA	**NORSAR Array B**	**98.89**	**27**	LR		LR	01 17 24.4	
	comp=Z,87nm,18.5s,baz=205,slow=34							
AS12	**Alice Springs**	**120.93**	**244**	*e*PKPdf		**PKPdf**	**00 40 01.2**	**-1.8**
ASAR	**Alice Springs**	**120.93**	**244**	PKP		**PKPdf**	**00 40 01.2**	**-1.8**
	0.7nm,0.8s,baz=143,slow=3.0,SNR=6.1							
BR101	**Keskin Array S**	**121.97**	**38**	*e*PKPdf		**PKPdf**	**00 40 04.4**	**-0.3**
BRTR	**Keskin Array B**	**121.97**	**38**	PKP		**PKPdf**	**00 40 04.4**	**-0.3**
	0.9nm,1.0s,baz=252,slow=2.0,SNR=3.9							
CM31	**Chiang Mai Arr**	**149.00**	**315**	*e*PKPdf		**PKPdf**	**00 40 55.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**149.00**	**315**	PKPbc		**PKPdf**	**00 40 55.0**	**+0.3**
	0.8nm,0.4s,baz=343,slow=3.9,SNR=7.8							

IGQ 16 00:24:52.7, 2.28S×79.67W, h83km±33km, Mb4.3, Ms4.1, 9C-6D, Error ellipse: s-maj=2.9km s-min=1.6km az=8.8, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIOE	**Riobamba**	**1.16**	**63**	S	Sn	00 25 29.5	-1.1
RIOE	**Riobamba**	**1.16**	**63**	P	Pn	00 25 13.8	-0.5
IGUA	**Igualata**	**1.30**	**53**	P	Pn	00 25 16.1	-0.2
IGUA	**Igualata**	**1.30**	**53**	S	Sn	00 25 33.4	-0.6
ARNL	**Arenillas**	**1.32**	**197**	⇓S	Sn	00 25 33.8	+0.5
ARNL	**Arenillas**	**1.32**	**197**	⇓P	Pn	00 25 16.2	+0.3
BMAS	**Trigal station**	**1.42**	**57**	⇑P	Pn	00 25 17.9	+0.3
ARRY	**Arrayan**	**1.44**	**58**	P	Pn	00 25 17.7	-0.1
PAT1	**Patacocha**	**1.45**	**58**	S	Sn	00 25 37.2	-0.1
PAT1	**Patacocha**	**1.45**	**58**	P	Pn	00 25 18.3	+0.2
BPAT	**Tungurahua Vol**	**1.46**	**58**	⇑S	Sn	00 25 37.2	-0.2
BPAT	**Tungurahua Vol**	**1.46**	**58**	⇑P	Pn	00 25 18.3	+0.1
MACE	**Macas**	**1.47**	**89**	⇑S	Sn	00 25 36.8	-0.3
MACE	**Macas**	**1.47**	**89**	⇑P	Pn	00 25 17.9	-0.1
JUI6	**Juive**	**1.47**	**55**	S	Sn	00 25 37.1	-0.2
JUI6	**Juive**	**1.47**	**55**	P	Pn	00 25 18.5	+0.3
RETU	**Refugio**	**1.48**	**56**	P	Pn	00 25 18.9	+0.5
RETU	**Refugio**	**1.48**	**56**	S	Sn	00 25 38.4	+0.5
ULBA	**Ulba**	**1.51**	**57**	S	Sn	00 25 37.7	-0.7
ULBA	**Ulba**	**1.51**	**57**	P	Pn	00 25 19.3	+0.6
BULB	**Ulba Tungurahu**	**1.51**	**56**	S	Sn	00 25 38.3	-0.2
BULB	**Ulba Tungurahu**	**1.51**	**56**	P	Pn	00 25 19.2	+0.4
RUN5	**Runtun**	**1.51**	**55**	S	Sn	00 25 38.6	+0.2
RUN5	**Runtun**	**1.51**	**55**	P	Pn	00 25 19.1	+0.4
BRUN	**Tungurahua Vol**	**1.52**	**56**	⇑S	Sn	00 25 38.4	-0.2
BRUN	**Tungurahua Vol**	**1.52**	**56**	⇑P	Pn	00 25 19.1	+0.3
PECV	**Mancha de Ca P**	**1.54**	**346**	P	Pn	00 25 21.0	+2.3
PISA	**Pisayambo**	**1.77**	**47**	S	Sn	00 25 47.3	+2.6
PISA	**Pisayambo**	**1.77**	**47**	P	Pn	00 25 23.2	+0.9
PAST	**Pastocalle**	**1.88**	**33**	P	Pn	00 25 25.0	+1.3
CAMI	**Rancho Maria**	**1.97**	**36**	⇓P	Pn	00 25 26.3	+1.4
NAS2	**Nasa**	**2.02**	**37**	P	Pn	00 25 26.7	+1.1
TAMB	**Tambo**	**2.04**	**40**	⇑P	Pn	00 25 26.4	+0.4
VC1	**Cotopaxi 1**	**2.06**	**38**	P	Pn	00 25 27.0	+0.8
COV1	**Cotopaxi Volc**	**2.08**	**40**	P	Pn	00 25 26.5	-0.2
PITA	**Cotopaxi Volc**	**2.11**	**36**	P	Pn	00 25 27.8	+1.0
MAG1	**Magdalena**	**2.20**	**357**	⇓S	Sn	00 25 50.3	-3.5
MAG1	**Magdalena**	**2.20**	**357**	⇓P	Pn	00 25 27.6	+0.3
JUA2	**San Juan 2**	**2.31**	**27**	P	Pn	00 25 30.5	+1.0
TERV	**Terraza Guagua**	**2.35**	**27**	S	Sn	00 26 01.1	+2.6
TERV	**Terraza Guagua**	**2.35**	**27**	P	Pn	00 25 31.3	+1.3
GGP	**Refugio Guagua**	**2.35**	**27**	P	Pn	00 25 31.0	+0.9
PINO	**Pino**	**2.36**	**27**	⇑P	Pn	00 25 31.4	+1.1
ANTI	**Antisana**	**2.36**	**40**	P	Pn	00 25 30.4	+0.1
OTAV	**Otavalo**	**2.78**	**26**	⇓P	Pn	00 25 36.4	+0.6
CAYR	**Refugio Cayamb**	**2.82**	**36**	P	Pn	00 25 37.8	+1.3
CAYA	**Cayambe**	**2.88**	**36**	P	Pn	00 25 38.2	+1.0

IDC 16 00:27:49.6±7.6, 0.22S×100.52E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/22, mbtmp3.4/3, Error ellipse: s-maj=412.8km s-min=27.7km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**28.90**	**255**	T	T	01 01 24.8	
	baz=78,slow=0.7,SNR=21						
H08S3	**Diego Garcia H**	**28.91**	**255**	T	T	01 01 25.1	
	baz=78,slow=0.7,SNR=18						
H08S1	**Diego Carcia H**	**28.92**	**255**	T	T	01 01 26.0	
	baz=78,slow=0.7,SNR=20						
WRA	**Warramunga Arr**	**38.48**	**123**	P	P	00 35 14.0	+0.3
	0.5nm,0.6s,baz=299,slow=8.9,SNR=3.1						
ASAR	**Alice Springs**	**39.91**	**128**	P	P	00 35 25.1	-0.6
	0.3nm,0.5s,baz=306,slow=8.0,SNR=4.2						
MKAR	**Makanchi Array**	**49.47**	**344**	P	P	00 36 41.6	-0.1
	0.3nm,0.6s,baz=139,slow=9.4,SNR=3.1						

IDC **16** *00:42:50.1±0.8, 60.52S×26.78W, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.9/14, mbtmp4.0/5, MS3.7/3, Ms1 3.7/3, ms1mx3.4/18, Error ellipse: s-maj=39.8km s-min=23.8km az=71.0*
ISCJB **16** *00:42:51.5±0.9, 60.7S±0.2×26.4W±0.5, h20km, mb3.9/5, MS3.7/3, Error ellipse: s-maj=40.9km s-min=14.2km az=151.7*

ISC 16 00:42:53.2±0.9, 60.6S±0.2×26.6W±0.3, h20km, n20, σ1§36/10, mb4.0/5, MS3.7/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.50**	**151**	*e*Pn	**Pn**	**00 45 49.2**	**-0.4**
VNA2	**Neumayer--Watz**	**12.90**	**151**	*e*Pn	**Pn**	**00 45 53.1**	**-2.0**
	baz=313,slow=15						
SNAA	**Sanae**	**14.50**	**149**	*e*Pn	**Pn**	**00 46 15.5**	**-1.5**
SNAA	**Sanae**	**14.50**	**149**	*e*Sn	Sn	00 48 46.7	-10
QSPA	**South Pole Qui**	**29.61**	**180**	LR	LR	01 00 00.4	
	comp=Z,113nm,21.9s,baz=0.0,slow=35						
MAW	**Mawson**	**36.34**	**140**	P	**P**	**00 49 56.2**	**+1.0**
	2.3nm,0.8s,baz=232,slow=8.3,SNR=5.2						
VNDA	**Vanda**	**42.00**	**183**	P	**P**	**00 50 44.0**	**+1.7**
	1.9nm,0.8s,baz=179,slow=5.0,SNR=11						
BOSA	**Boshof**	**46.97**	**71**	LR	LR	01 06 31.9	
	comp=Z,82nm,21.5s,baz=228,slow=30						
H10S2	**ASCENSION HYDR**	**52.33**	**15**	T	T	01 49 06.5	
	baz=188,slow=0.7,SNR=9.6						
H10S3	**ASCENSION HYDR**	**52.34**	**15**	T	T	01 49 06.7	
	baz=188,slow=0.7,SNR=9.8						
H10S1	**ASCENSION HYDR**	**52.35**	**15**	T	T	01 49 03.8	
	baz=188,slow=0.7,SNR=11						
LPAZ	**La Paz**	**53.36**	**307**	P	**P**	**00 52 10.9**	**-0.9**
	0.6nm,0.6s,baz=135,slow=4.3,SNR=3.6						
H10N1	**ASCENSION HYDR**	**53.45**	**15**	T	T	01 50 52.9	
	baz=275						
H10N3	**ASCENSION HYDR**	**53.45**	**15**	T	T	01 50 36.4	
	baz=275,SNR=5.8						
H10N2	**ASCENSION HYDR**	**53.47**	**15**	T	T	01 50 40.4	
	baz=275						
TORD	**Torodi Ar. Bea**	**76.92**	**28**	P	**P**	**00 54 44.3**	**+0.4**
	1.4nm,0.5s,baz=197,slow=6.0,SNR=18						
TORD				LR	LR	01 21 32.7	
	comp=Z,90nm,18.5s,baz=315,slow=30						
ASAR	**Alice Springs**	**94.51**	**162**	P	**P**	**00 56 11.8**	**-0.2**
	0.5nm,0.8s,baz=179,slow=3.7,SNR=4.0						
ZALV	**Zalesovo Beam**	**143.91**	**69**	PKP	PKPbc	01 02 23.7	+0.2
	0.5nm,0.5s,baz=282,slow=2.8,SNR=3.5						
SONM	**Songino Array**	**150.38**	**94**	PKPbc	**PKPbc**	**01 02 42.7**	**+0.6**
	1.9nm,1.0s,baz=247,slow=1.7,SNR=9.1						
ILAR	**Eielson Array**	**153.22**	**305**	PKPbc	**PKPbc**	**01 02 47.0**	**-0.9**
	0.5nm,0.6s,baz=206,slow=1.2,SNR=11						

DDA **16** *00:49:59.8, 36.34N×41.06E, h31km, ML3.7*
ISK **16** *00:50:00.4, 36.55N×41.09E, h5km, MD3.9*
CSEM **16** *00:50:04.3±0.6, 36.72N×41.12E, h2km, MD3.9, Error ellipse: s-maj=14.4km s-min=5.5km az=173.0*
ISN **16** *00:50:12.2±2.0, 36.28N×41.90E, h0km±28km, ML3.6*

ISC 16 00:50:02.1±1.3, 36.57N±0.03×41.03E±0.02, h4km±11km, n71, σ1§36/92, Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARD	**Mardin**	**0.78**	**345**	*i* P	**Pb**	**00 50 18.3**	**0.0**
MARD				*i* S	**Sn**	**00 50 33.2**	**+1.0**
MAZI	**Mazidag**	**1.01**	**332**	*e*PG	**Pg**	**00 50 21.0**	**-0.5**
MAZI				*e*SG	**Sn**	**00 50 37.2**	**-0.7**
MAZI	**Mazidag**	**1.01**	**332**	*e*Pg	**Pg**	**00 50 21.0**	**-0.5**
MAZI				*e*Sg	**Sn**	**00 50 37.2**	**-0.7**
SIRN	**S¯¯rnak**	**1.44**	**49**	*i* P	**Pb**	**00 50 28.8**	**-0.9**
SIRN				*i* S	**Sg**	**00 50 49.7**	**+1.2**
SIRN	**S¯¯rnak**	**1.44**	**49**	*i* P	**Pb**	**00 50 28.8**	**-0.9**
SIRN				*i* S	**Sg**	**00 50 49.7**	**+1.2**
SIRT	**Sirnak**	**1.46**	**50**	*e*Pn	**Pb**	**00 50 29.0**	**-1.0**
SIRT				*e*SN	**Sg**	**00 50 49.5**	**+0.3**
SIRT	**Sirnak**	**1.46**	**50**	*e*Pn	**Pb**	**00 50 29.0**	**-1.0**
SIRT				*e*Sn	**Sg**	**00 50 49.5**	**+0.3**
DIY	**Diyarbakir**	**1.48**	**334**	*e*PN	**Pn**	**00 50 29.4**	**-0.2**
DIY	**Diyarbakir**	**1.48**	**334**	*e*Pn	**Pn**	**00 50 29.4**	**-0.2**
DIYA	**Diyarbakir**	**1.54**	**332**	*i* P	**Pb**	**00 50 30.4**	**-0.9**
DIYA				*i* S	**Sg**	**00 50 53.9**	**+2.3**
DIYA	**Diyarbakir**	**1.54**	**332**	*i* P	**Pb**	**00 50 30.4**	**-0.9**
DIYA				*i* S	**Sg**	**00 50 53.9**	**+2.3**
BTMT	**Batman**	**1.67**	**12**	*e*PN	**Pn**	**00 50 32.0**	**-0.2**
BTMT	**Batman**	**1.67**	**12**	*e*Pn	**Pn**	**00 50 32.0**	**-0.2**
MSL	**Mosul**	**1.68**	**95**	*e*PG	**Pb**	**00 50 33.1**	**-0.5**
URFA	**Urfa**	**1.98**	**297**	*e*PN	**Pn**	**00 50 34.7**	**-1.8**
CUKT	**Cukurca**	**2.17**	**71**	*e*PN	**Pn**	**00 50 38.1**	**-1.1**
CUKT	**Cukurca**	**2.17**	**71**	*e*Pn	**Pn**	**00 50 38.1**	**-1.1**
HAKT	**HAKKARI**	**2.36**	**64**	*i* P	**Pn**	**00 51 41.0**	**-0.8**
HAKT				*i* S	**Sb**	**00 51 14.5**	**-0.4**
HAKT	**HAKKARI**	**2.36**	**64**	*i* P	**Pn**	**00 51 41.0**	**-0.8**
HAKT				*i* S	**Sb**	**00 51 14.5**	**-0.4**
GEVA	**Gevas**	**2.38**	**42**	*i* P	**Pn**	**00 50 42.0**	**-0.1**
GEVA				*i* S	**Sg**	**00 51 19.0**	**+0.6**
GEVA	**Gevas**	**2.38**	**42**	*i* P	**Pn**	**00 50 42.0**	**-0.1**
BNGL	**BINGOL**	**2.38**	**2**	*i* P	**Pb**	**00 50 43.8**	**-2.0**
BNGL				*i* S	**Sg**	**00 51 18.6**	**-0.3**
ELZG	**Elazig**	**2.53**	**320**	*i* P	**Pn**	**00 50 45.6**	**+1.5**
ELZG				*i* S	**Sb**	**00 51 18.0**	**-1.7**
ELZG	**Elazig**	**2.53**	**320**	*i* P	**Pn**	**00 50 45.6**	**+1.5**
ELZG				*i* S	**Sb**	**00 51 18.0**	**-1.7**
VRTB	**Varto-Mus**	**2.61**	**7**	*e*PN	**Pn**	**00 50 45.9**	**+0.6**
VRTB	**Varto-Mus**	**2.61**	**7**	*e*Pn	**Pn**	**00 50 45.9**	**+0.6**
PTK	**Pertek**	**2.66**	**331**	*e*PN	**Pn**	**00 50 46.5**	**+0.4**
PTK	**Pertek**	**2.66**	**331**	*e*Pn	**Pn**	**00 50 46.5**	**+0.4**
MALT	**Malatya**	**2.71**	**311**	*e*PN	**Pn**	**00 50 47.7**	**+1.1**
MALT	**Malatya**	**2.71**	**311**	*e*Pn	**Pn**	**00 50 47.7**	**+1.1**
IKRK	**Kirkuk**	**2.92**	**112**	*e*PN	**Pn**	**00 50 50.9**	**+1.4**
AKCD	**Akcadag**	**3.02**	**306**	*i* P	**Pn**	**00 50 50.3**	**-0.6**
AKCD				*i* S	**Sb**	**00 51 33.9**	**0.0**
AKCD	**Akcadag**	**3.02**	**306**	*i* P	**Pn**	**00 50 50.3**	**-0.6**
AKCD				*i* S	**Sb**	**00 51 33.9**	**0.0**
TUTA	**Tutak**	**3.16**	**26**	*i* P	**Pn**	**00 50 54.6**	**+1.6**
TUTA				*i* S	**Sg**	**00 51 45.1**	**+1.3**
TUTA	**Tutak**	**3.16**	**26**	*i* P	**Pn**	**00 50 54.6**	**+1.6**
KUZU	**Kuzuini**	**3.19**	**275**	*i* P	**Pn**	**00 50 57.9**	**-1.5**
KUZU				*i* S	**Sb**	**00 51 53.3**	**+0.6**
KUZU	**Kuzuini**	**3.19**	**275**	*i* P	**Pb**	**00 50 57.9**	**-1.5**
KUZU				*i* S	**Sb**	**00 51 39.3**	**+0.6**
EZM	**Erzurum**	**3.34**	**4**	*e*PN	**Pn**	**00 50 55.6**	**+0.1**
EZM	**Erzurum**	**3.34**	**4**	*e*Pn	**Pn**	**00 50 55.6**	**+0.1**
KEMA	**Kemaliye**	**3.37**	**324**	*i* P	**Pn**	**00 50 56.8**	**+1.2**
KEMA				*i* S	**Sb**	**00 51 46.5**	**+2.7**
KEMA	**Kemaliye**	**3.37**	**324**	*i* P	**Pn**	**00 50 56.8**	**+1.2**
AGRB	**Hanur-Agry**	**3.38**	**27**	*e*PN	**Pn**	**00 50 56.1**	**+0.2**
AGRB	**Hanur-Agry**	**3.38**	**27**	*e*Pn	**Pn**	**00 50 56.1**	**+0.2**
KMRS	**Kahramanmaras**	**3.44**	**287**	*e*PN	**Pn**	**00 50 53.8**	**-2.8**
CLDR	**Caldiran**	**3.44**	**41**	*e*PN	**Pn**	**00 50 57.2**	**+0.4**
CLDR	**Caldiran**	**3.44**	**41**	*e*Pn	**Pn**	**00 50 57.2**	**+0.4**
EZC	**Erzincan**	**3.45**	**338**	*e*PN	**Pn**	**00 50 57.7**	**+0.9**
EZC	**Erzincan**	**3.45**	**338**	*e*Pn	**Pn**	**00 50 57.7**	**+0.9**
DARE	**Darende-Malaty**	**3.46**	**306**	*e*PN	**Pn**	**00 50 58.5**	**+1.5**
EATA	**Eleskirt**	**3.49**	**19**	*i* P	**Pn**	**00 50 59.7**	**+2.2**
EATA	**Eleskirt**	**3.49**	**19**	*i* P	**Pn**	**00 50 59.7**	**+2.2**
AYKD	**Aykdinkavak**	**3.49**	**285**	*i* P	**Pn**	**00 50 54.4**	**-2.9**
AYKD				*i* S	**Sb**	**00 51 45.9**	**-1.4**
RTB	**Rutbah**	**3.58**	**190**	*i* P	**Pb**	**00 51 07.4**	**+1.4**
RTB				*e*PN	**Pg**	**00 51 09.3**	**-1.4**
ANDN	**Andirin**	**3.88**	**287**	*i* P	**Pn**	**00 51 00.6**	**-2.2**
ANDN	**Andirin**	**3.88**	**287**	*i* P	**Pn**	**00 51 00.6**	**-2.2**
HTY	**Hatay**	**3.98**	**265**	*e*PN	**Pn**	**00 51 06.1**	**+2.2**
HTY	**Hatay**	**3.98**	**265**	*e*Pn	**Pn**	**00 51 06.1**	**+2.2**
GUMT	**Gumushane**	**4.08**	**343**	*e*PN	**Pn**	**00 51 06.5**	**+1.1**
GUMT	**Gumushane**	**4.08**	**343**	*e*Pn	**Pn**	**00 51 06.5**	**+1.1**
BHD	**Baghdad**	**4.28**	**139**	*e*P	**Pn**	**00 51 10.0**	**+1.9**
BHD	**Baghdad**	**4.28**	**139**	*e*P	**Pn**	**00 51 10.0**	**+1.9**
	SNR=3.0						
GNI	**Garni**	**4.62**	**38**	*e*PN	**Pn**	**00 51 14.2**	**+1.3**
GNI	**Garni**	**4.62**	**38**	*e*Pn	**Pn**	**00 51 14.2**	**+1.3**
SVSK	**Karacayir**	**4.62**	**318**	*e*PN	**Pn**	**00 51 15.0**	**+2.3**
SVSK	**Karacayir**	**4.62**	**318**	*e*Pn	**Pn**	**00 51 15.0**	**+2.3**
ESPY	**Espiye-Giresun**	**4.71**	**338**	*e*PN	**Pn**	**00 51 15.3**	**+1.4**
ESPY	**Espiye-Giresun**	**4.71**	**338**	*e*Pn	**Pn**	**00 51 15.4**	**+1.4**
KARA	**Karaisali**	**4.84**	**280**	*e*PN	Pn	00 51 18.4	+2.6
KARA	**Karaisali**	**4.84**	**280**	*e*Pn	Pn	00 51 18.4	+2.6
NIG	**Nigde**	**5.35**	**289**	*e*PN	**Pn**	**00 51 25.1**	**+2.1**
NIG	**Nigde**	**5.35**	**289**	*e*Pn	**Pn**	**00 51 25.1**	**+2.1**

TAP 16 00:52:48.5, 23.05N×121.16E, h7km, ML3.5, 6C-2D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.19**	**76**	⇑*i*P	Pg	00 52 53.8	+1.4
	baz=76						
CHKT				S	Sg	00 52 57.7	+2.6
	baz=76						
TWG	**Pinlang**	**0.25**	**200**	⇓*i*P	Pg	00 52 53.8	+0.3
	baz=199						
TWG				*e*S	Sg	00 52 57.9	+1.1
	baz=199						
TTN	**Taitung**	**0.30**	**183**	*i* P	Pb	00 52 56.0	-0.2
	baz=187						
TTN				*e*S	Sb	00 53 02.4	+1.1
	baz=187						
TWF1	**Yuli**	**0.32**	**22**	⇓*i*P	Pg	00 52 55.1	+0.2
	baz=19						
TWF1				*i* S	Sg	00 53 00.1	+0.8
	baz=19						
EHY	**Hungye**	**0.47**	**18**	*i* P	Pg	00 52 58.0	+0.3
	baz=8.0						
EHY				S	Sg	00 53 04.3	+0.2
	baz=8.0						
YUS	**Yu-Shan**	**0.48**	**336**	⇑*i*P	Pg	00 52 58.5	+0.1
	baz=335						
YUS				*i* S	Sg	00 53 04.5	-0.6
	baz=335						
ECL	**Taimali**	**0.49**	**203**	*e*P	Pg	00 52 57.7	-0.4
	baz=202						
SGST	**Jiashian**	**0.54**	**273**	*i* P	Pb	00 52 59.8	-0.5
	baz=276						
SGST				*i* S	Sb	00 53 08.1	-0.1
	baz=276						
WTP	**Ta-pu**	**0.54**	**291**	*i* P	Pb	00 52 59.9	-0.5
	baz=291						
WTP				S	Sb	00 53 08.0	-0.5
	baz=291						
ALS	**Alishan**	**0.56**	**324**	⇑*i*P	Pg	00 53 00.3	+0.5
	baz=331						
ALS				*i* S	Sg	00 53 08.2	+0.8
	baz=331						
CHN1	**Nanshi**	**0.60**	**283**	⇑*i*P	Pb	00 53 01.4	0.0
	baz=283						
CHN1				*i* S	Sb	00 53 10.9	+0.8
	baz=283						
CHN4	**Tsaushan**	**0.60**	**300**	⇑*i*P	Pb	00 53 01.3	-0.1
	baz=310						
CHN4				*e*S	Sb	00 53 10.3	+0.1
	baz=310						
TWK	**Hsinying**	**0.66**	**289**	⇑*i*P	Pb	00 53 02.2	-0.2
	baz=289						
TWK				*i* S	Sb	00 53 12.2	+0.3
	baz=289						
SGLT	**Jiouru**	**0.70**	**242**	*e*P	Pb	00 53 03.9	+0.8
	baz=241						
CHN5	**Tsauling**	**0.70**	**321**	*e*P	Pg	00 53 02.7	+0.5
	baz=320						
CHN5				*e*S	Sb	00 53 13.3	+0.1
	baz=320						
TWM1	**Shoushan**	**0.72**	**252**	*e*P	Pb	00 53 04.0	+0.5
	baz=244						
EAST	**Anshuo**	**0.73**	**204**	*e*P	Pg	00 53 01.9	-0.8
	baz=203						
CHN2	**Minshiung**	**0.79**	**307**	*e*P	Pb	00 53 04.7	0.0
	baz=307						
CHN2				*e*S	Sn	00 53 17.9	-0.4
	baz=307						
ESL	**Shilin**	**0.80**	**18**	*e*P	Pg	00 53 03.8	-0.1
	baz=17						
ESL				S	Sg	00 53 14.1	-0.2
	baz=17						
CHY	**Chiayi**	**0.81**	**303**	*e*P	Pb	00 53 05.2	+0.3
	baz=303						
CHY				*e*S	Sn	00 53 17.4	-1.2
	baz=303						
WGK	**Gukeng**	**0.84**	**319**	*e*P	Pb	00 53 05.9	+0.5
	baz=326						
WGK				*e*S	Sn	00 53 19.2	-0.1
	baz=326						
SMLT	**Sun Moon Lake**	**0.86**	**344**	*e*P	Pb	00 53 05.7	-0.3
	baz=350						
SMLT				*e*S	Sb	00 53 18.2	+0.3
	baz=350						
TAI1	**Yung-k'ang**	**0.86**	**269**	*e*P	Pn	00 53 06.9	-0.1
	baz=284						
TAI1				*e*S	Sn	00 53 21.5	+1.6
	baz=284						
TYC	**Yuchr**	**0.89**	**342**	P	Pb	00 53 06.4	+0.1
	baz=348						
TYC				*e*S	Sn	00 53 19.7	-1.0
	baz=348						
SCLT	**Jiali**	**0.90**	**278**	*e*P	Pn	00 53 07.2	-0.5
	baz=279						
SCLT				*e*S	Sn	00 53 19.9	-1.0
	baz=279						
WNT	**Mingjian**	**0.93**	**332**	*e*P	Pn	00 53 07.9	-0.2
	baz=330						
WNT				*e*S	Sn	00 53 21.4	-0.2
	baz=330						
TWP	**Hsiaoliuchiu**	**1.02**	**227**	*e*P	Pn	00 53 10.8	+1.5
	baz=229						
WSF	**Szhu**	**1.04**	**304**	*e*P	Pb	00 53 09.1	+0.2
	baz=304						
WSF				*e*S	Sn	00 53 24.7	+0.3
	baz=304						
LAY	**Lan-yu**	**1.07**	**160**	*e*P	Pg	00 53 06.9	-2.3
	baz=161						
WHF	**Hehuan Shan**	**1.09**	**5**	P	Pg	00 53 09.0	-1.0
	baz=14						
WHF				*e*S	Sg	00 53 24.9	+0.2
	baz=14						
TWD	**Chiawan**	**1.10**	**21**	*e*P	Pg	00 53 08.9	-0.7
	baz=20						
WTCT	**Ta-ch'eng**	**1.14**	**315**	*e*P	Pn	00 53 11.4	+0.5
	baz=314						
WTCT				*e*S	Sn	00 53 27.3	+0.4
	baz=314						
TWK1	**Hengchun**	**1.15**	**197**	*e*P	Pn	00 53 12.6	+1.5
	baz=181						
TWT	**Tachien**	**1.20**	**1**	P	Pg	00 53 11.5	-0.3
	baz=357						
TWT				*e*S	Sn	00 53 28.2	-0.4
	baz=357						
TWQ1	**Liyutan**	**1.34**	**345**	*e*P	Pg	00 53 14.9	+0.7
	baz=327						
TWQ1				*e*S	Sn	00 53 33.3	+1.5
	baz=327						
NNS	**Nan Shan**	**1.39**	**8**	*e*P	Pb	00 53 14.9	-0.2
	baz=7.0						
WDGT	**Dungji**	**1.40**	**279**	*e*P	Pn	00 53 13.2	-1.2
	baz=281						
WDGT				*e*S

JMI				*e*S		**Sb**	**01 02 04.5**	**+0.3**
	comp=Z,7μm,0.2s,SNR=102							
ILEI	**Leirhofn**	**5.67**	**220**	P		**Pn**	**01 03 12.2**	**+0.4**
ILEI				S		**Sn**	**01 04 15.8**	**-0.4**
IGIL	**Gilhagi**	**5.93**	**218**	P		**Pn**	**01 03 15.3**	**0.0**
IGIL				S		**Sn**	**01 04 22.7**	**+0.2**
IHED	**Heoinshofoi**	**6.12**	**221**	P		**Pn**	**01 03 17.6**	**-0.4**
IHED				S		**Sn**	**01 04 26.4**	**-1.0**
IDIM	**Dimmadalsˆįs**	**6.14**	**219**	P		**Pn**	**01 03 18.1**	**-0.3**
IBRE	**Brettingsstaoi**	**6.22**	**223**	S		**Sn**	**01 04 30.2**	**+0.5**
ISKI	**Skildingahˆ‡ls**	**6.24**	**219**	S		**Sn**	**01 04 31.4**	**+1.0**
IGRS	**Grimsstaoir**	**6.27**	**215**	P		**Pn**	**01 03 20.7**	**+0.6**
IGRS				S		**Sn**	**01 04 31.9**	**+0.9**
IGRA	**Granastaoir**	**6.32**	**221**	P		**Pn**	**01 03 21.0**	**+0.3**
IGRA				S		**Sn**	**01 04 32.2**	**0.0**
IREN	**Reynihlio**	**6.41**	**218**	P		**Pn**	**01 03 22.3**	**+0.2**
IREN				S		**Sn**	**01 04 36.3**	**+1.7**
IHLA	**Hella**	**6.48**	**224**	P		**Pn**	**01 03 22.4**	**-0.5**
IHLA				S		**Sn**	**01 04 35.4**	**-0.7**
IGLU	**Glumsstadir**	**6.69**	**209**	P		**Pn**	**01 03 26.4**	**+0.6**
IADA	**Aoalbol**	**6.73**	**211**	P		**Pn**	**01 03 26.9**	**+0.4**
KONS	**Konsvik**	**8.67**	**111**	*e*P		**Pn**	**01 03 53.7**	**+0.8**
STOK	**Stokkvaagen**	**8.75**	**112**	*e*P		**Pn**	**01 03 55.0**	**+1.0**
STOK				*e*S		**Sn**	**01 05 29.7**	**-2.1**
FLOS	**Flostrand**	**8.85**	**112**	*e*P		**Pn**	**01 03 58.1**	**+2.7**
TRO	**Tromso**	**8.95**	**86**	*e*P		**Pn**	**01 03 56.1**	**-0.6**
TRO	**Tromso**	**8.95**	**86**	*e*P		**Pn**	**01 03 56.1**	**-0.6**
	SNR=48							
KBS	**Kingsbay**	**9.34**	**23**	*e*P		**Pn**	**01 04 02.2**	**+0.1**
KBS	**Kingsbay**	**9.34**	**23**	*e*P		**Pn**	**01 04 02.2**	**+0.1**
	SNR=48							
SPA0	**Spitsbergen Ar**	**9.49**	**30**	Pn		**Pn**	**01 04 05.6**	**+1.5**
	baz=226,slow=12							
SPA0	**Spitsbergen Ar**	**9.49**	**30**	Pn		**Pn**	**01 04 05.6**	**+1.5**
	SNR=185							
SPITS	**Spitsbergen Ar**	**9.49**	**30**	Pn		**Pn**	**01 04 05.8**	**+1.8**
	baz=222,slow=17,SNR=142							
HOPEN	**Hopen**	**10.47**	**44**	*e*P		**Pn**	**01 04 19.6**	**+2.0**
HOPEN	**Hopen**	**10.47**	**44**	*e*P		**Pn**	**01 04 19.6**	**+2.0**
SUE	**Sulen**	**11.09**	**148**	*e*P		**Pn**	**01 04 25.6**	**-0.5**
SUE	**Sulen**	**11.09**	**148**	*e*P		**Pn**	**01 04 25.6**	**-0.5**
	SNR=48							
ARA0	**ARCESS Array S**	**11.13**	**82**	Pn		**Pn**	**01 04 27.1**	**+0.5**
	baz=296,slow=14							
ARA0	**ARCESS Array S**	**11.13**	**82**	Pn		**Pn**	**01 04 27.0**	**+0.5**
	SNR=5.8							
ARCES	**ARCESS Array B**	**11.13**	**82**	Pn		**Pn**	**01 04 26.1**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=294,slow=14,SNR=3.7							
HYA	**Hoyanger**	**11.25**	**144**	*e*P		**Pn**	**01 04 29.1**	**+0.8**
ASK	**Askoy**	**11.71**	**148**	*e*P		**Pn**	**01 04 33.1**	**-1.3**
EGD	**Espegrend**	**11.91**	**148**	*e*P		**Pn**	**01 04 36.9**	**-0.4**
NOA	**NORSAR Array B**	**12.45**	**134**	Pn		**Pn**	**01 04 46.3**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=346,slow=13,SNR=2.9							
BLS5	**Blasjo**	**12.93**	**147**	*e*P		**Pn**	**01 04 51.5**	**+0.4**
HFS	**Hagfors**	**13.84**	**131**	Pn		**Pn**	**01 05 02.1**	**-1.5**
	baz=329,slow=12							
HFS	**Hagfors**	**13.84**	**131**	Pn		**Pn**	**01 05 02.1**	**-1.5**
	SNR=4.7							
HFS	**Hagfors**	**13.84**	**131**	Pn		**Pn**	**01 05 03.9**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=330,slow=14,SNR=12							
EKA	**Eskdalemuir Ar**	**15.82**	**171**	Pn		**P**	**01 05 33.5**	**-0.4**
	baz=354,slow=12,SNR=3.2							
GERES	**GERESS Array B**	**24.32**	**145**	P		**P**	**01 07 08.5**	**+3.6**
	comp=Z,1.2nm,0.8s,baz=341,slow=7.6,SNR=5.4							
AKASG	**Malin Array Be**	**26.31**	**121**	P		**P**	**01 07 24.1**	**+1.4**
	comp=Z,1.2nm,0.5s,baz=332,slow=9.7,SNR=6.2							
ILAR	**Eielson Array**	**41.69**	**335**	P		**P**	**01 09 33.0**	**-2.4**
	comp=Z,0.3nm,0.9s,baz=24,slow=9.0,SNR=3.3							
MKAR	**Makanchi Array**	**46.55**	**71**	LR		LR	01 33 32.2	
	comp=Z,48nm,18.4s,baz=87,slow=41							
TORD	**Torodi Ar. Bea**	**58.08**	**170**	P		**P**	**01 11 42.7**	**+2.3**
	comp=Z,0.9nm,0.6s,baz=340,slow=8.3,SNR=9.6							

*PRE **16** 01:10:05.7±2.2,8.°00S×30.°93E,h10km,ML4.0*
ISC 16 01:10:05.0±1.1,**8.°00S**±0.°07×**31.°0E**±0.°1,**h10**km,**n5,**
s3984/9,Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
KIG	**Kigali**	**6.07**	**351**	*e*P	**Pn**	**01**	**11 37.5**	**+2.5**
KIG				*e*S	**Sn**	**01**	**12 42.9**	**-1.9**
KIG				AML	AML	01	13 37.5	
	comp=Z,45nm,0.5s							
MBAR	**Mbarara**	**7.36**	**358**	*e*P	**Pn**	**01**	**11 55.1**	**+2.4**
MBAR				*e*S	**Sn**	**01**	**13 12.0**	**-4.4**
MAUS	**Longido**	**7.71**	**48**	*i* P	Pn	01	12 01.7	+4.2
MAUS				*i* S	**Sn**	**01**	**13 22.5**	**-2.7**
LSZ	**Lusaka**	**7.74**	**201**	*e*P	**Pn**	**01**	**12 00.1**	**+2.2**
LSZ				*e*S	**Sn**	**01**	**13 20.9**	**-4.8**
KMBO	**Kilima Mbogo**	**9.24**	**43**	*e*P	**Pn**	**01**	**12 21.6**	**+2.9**
KMBO				*e*S	**Sn**	**01**	**13 59.7**	**-3.2**

SKHL 16 01:19:11.4±0.8,**55.°12N**×**122.°38E,h13**km,**mb4.2**/5,**2C-2D,**
Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
TNDR	**Tynda**	**1.34**	**88**	⇓*i*Pg	Pn	01	19 36.0	+0.1
TNDR				*e*Sg	Sg	01	19 54.6	-0.2
YKLR	**Yuktali**	**1.53**	**345**	⇑*i*Pg	Pg	01	19 40.3	-0.5
YKLR				*e*Sg	Sg	01	20 00.5	-0.3
TUP	**Tupik**	**1.57**	**245**	⇓*i*Pg	Pb	01	19 40.7	+0.4
TUP				AMB	AMB	01	19 40.9	
	68nm,0.7s							
TUP				*e*Sg	Sg	01	20 01.1	-0.9
TUP				A	A	01	20 03.0	
	411nm,0.8s							
IENR	**Iengra**	**1.79**	**51**	*e*Pg	Pb	01	19 44.4	+0.3
IENR				*e*Sg	Sb	01	20 07.3	+0.8
CLNS	**Chul'man**	**2.23**	**38**	*e*Pg	Pb	01	19 52.6	+1.0
CLNS				AMB	AMB	01	19 53.2	
	18nm,0.1s							
CLNS				*e*Sg	Sb	01	20 20.7	+1.6
CLNS				A	A	01	20 23.4	
	488nm,0.4s							
KHN	**Khani**	**2.32**	**322**	*e*Pn	Pn	01	19 51.0	+1.7
KHN				*e*Pg	Pb	01	19 53.5	+0.4
KHN				*e*Sg	Sb	01	20 22.9	+1.2
KROS	**Kirovskiy**	**2.75**	**103**	*e*Pn	Pn	01	19 55.8	+0.6
KROS				*e*Pg	Pb	01	20 00.9	+0.5
KROS				AMB	AMB	01	20 01.6	
	23nm,0.3s							
KROS				AMB	AMB	01	20 01.6	
	32nm,0.3s							
KROS				AMB	AMB	01	20 01.6	
	55nm,0.3s							
KROS				*e*Sn	Sn	01	20 28.3	+0.1
KROS				*e*Sg	Sg	01	20 37.5	-2.2
KROS				A	A	01	20 42.1	
	180nm,0.5s							
KROS				A	A	01	20 42.1	
	90nm,0.5s							
KROS				A	A	01	20 42.1	
	58nm,0.5s							
CRS	**Chara**	**2.92**	**309**	*e*Pg	Pb	01	20 04.4	+1.1
CRS				*e*Sg	Sb	01	20 42.0	+3.1
ZEA	**Zeya**	**3.16**	**114**	*e*Pn	Pn	01	20 01.9	+1.0
ZEA				*e*Pg	Pb	01	20 09.3	+1.9
ZEA				AMB	AMB	01	20 09.9	
	49nm,0.4s							
ZEA				*e*Sn	Sn	01	20 39.7	+1.3
ZEA				*e*Sg	Sg	01	20 51.4	-1.6
ZEA				A	A	01	20 53.5	
	200nm,0.5s							
ZEA				A	A	01	20 53.5	
	120nm,0.6s							
ZEA				A	A	01	20 53.5	
	49nm,0.6s							
BMKR	**Bomnak**	**3.75**	**94**	⇑*i*Pn	Pn	01	20 08.7	-0.2
BMKR				*e*Pg	Pb	01	20 17.2	-0.3
BMKR				AMB	AMB	01	20 19.1	
	8.0nm,0.4s							
BMKR				AMB	AMB	01	20 19.1	
	20nm,0.4s							
BMKR				AMB	AMB	01	20 19.1	
	21nm,0.4s							
BMKR				*e*Sn	Sn	01	20 52.2	-0.8
BMKR				*e*Sg	Sb	01	21 06.7	+3.9
BMKR				A	A	01	21 12.8	
	74nm,0.5s							
BMKR				A	A	01	21 12.8	
	61nm,0.5s							
BMKR				A	A	01	21 12.8	
	40nm,0.5s							
UKT	**Uakit**	**5.01**	**278**	*e*Pg	Pb	01	20 42.6	+3.5
UKT				*e*Sg	Sg	01	21 47.9	-4.7
KLR	**Kul'dur**	**8.24**	**132**	*e*Sg	Sg	01	23 30.4	-5.2

*AUST **16** 01:27:00.7±33.0,39.°62S×177.°71E,h55km, Error ellipse: s-maj=13.0km s-min=1.3km az=273.0*
*ISCJB **16** 01:27:09.3±0.2,39.°65S±0.°02×175.°97E±0.°03,h62km±2km, mb4.5/14, Error ellipse: s-maj=4.2km s-min=2.7km az=9.5*
*IDC **16** 01:27:09.7±2.2,39.°71S×176.°04E,h54km±18km, mb4.2/7, mb1 4.3/9, mb1mx4.1/16, mbtmp4.2/9, ML3.8/2, MS3.6/8, Ms1 3.6/8, ms1mx3.4/27, Error ellipse: s-maj=24.4km s-min=14.3km az=136.0*
*NEIC **16** 01:27:10.8,39.°63S×176.°00E,h47km, mb4.7/9, ML4.7(WEL), After WEL.*
NEIC Felt in the central part of the North Island.
*WEL **16** 01:27:10.7±0.1,39.°63S×176.°00E,h48km±1km, ML4.7/19, Error ellipse: s-maj=0.8km s-min=0.5km az=90.0*
WEL Felt from Bay of Plenty to Marlborough, maximum reported intensity MM 5.
ISC 16 01:27:10.1±0.6,**39.°65S**±0.°02×**175.°99E**±0.°03,**h54**km±5km,
n256,σ0°**89**/263,**mb4.5**/14,**MS3.6**/6,**3C-17D,North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
BHHZ	**Black Hill Sta**	**0.17**	**21**	PN	**Pn**	**01**	**27 18.2**	**-0.7**
BHHZ				SN	**Sn**	**01**	**27 24.2**	**-0.9**
BHHZ	**Black Hill Sta**	**0.17**	**21**	Pn	**Pn**	**01**	**27 18.2**	**-0.7**
MOVZ	**Moawhango**	**0.30**	**323**	PN	**Pn**	**01**	**27 19.0**	**-0.7**
MOVZ				SN	**Sn**	**01**	**27 25.7**	**-1.0**
MOVZ	**Moawhango**	**0.30**	**323**	Pn	**Pn**	**01**	**27 19.0**	**-0.7**
PNHZ	**Pukenui**	**0.31**	**148**	⇑PN	**Pn**	**01**	**27 19.6**	**-0.2**
PNHZ	**Pukenui**	**0.31**	**148**	Pn	**Pn**	**01**	**27 19.6**	**-0.2**
TSZ	**Takapari Road**	**0.41**	**183**	⇓PN	**Pn**	**01**	**27 20.6**	**-0.1**
TSZ				AML	AML	01	27 30.5	
TSZ				AML	AML	01	27 30.5	
TSZ				AML	AML	01	27 30.6	
TSZ				AML	AML	01	27 30.6	
TSZ	**Takapari Road**	**0.41**	**183**	Pn	**Pn**	**01**	**27 20.8**	**0.0**
TSZ				Sn	**Sn**	**01**	**27 30.0**	**+1.6**
WNVZ	**Wahianoa**	**0.44**	**317**	⇓PN	**Pn**	**01**	**27 20.8**	**-0.3**
WNVZ	**Wahianoa**	**0.44**	**317**	Pn	**Pn**	**01**	**27 20.9**	**-0.3**
TUVZ	**Tukino**	**0.46**	**326**	PN	**Pn**	**01**	**27 21.1**	**-0.2**
TUVZ	**Tukino**	**0.46**	**326**	Pn	**Pn**	**01**	**27 21.1**	**-0.2**
MTVZ	**Mangateitei**	**0.48**	**303**	⇓PN	**Pn**	**01**	**27 21.3**	**-0.2**
MTVZ	**Mangateitei**	**0.48**	**303**	Pn	**Pn**	**01**	**27 21.3**	**-0.2**
WHVZ	**Whangaehu Hut**	**0.48**	**320**	⇓PN	**Pn**	**01**	**27 21.3**	**-0.4**
TRVZ	**Turoa**	**0.49**	**316**	⇓PN	**Pn**	**01**	**27 21.4**	**-0.3**
TRVZ	**Turoa**	**0.49**	**316**	⇓Pn	**Pn**	**01**	**27 21.4**	**-0.3**
DRZ	**Dome Shelter**	**0.49**	**319**	PN	**Pn**	**01**	**27 21.5**	**-0.4**
DRZ	**Dome Shelter**	**0.49**	**319**	Pn	**Pn**	**01**	**27 21.5**	**-0.4**
FWVZ	**Far West T-bar**	**0.52**	**319**	⇓PN	**Pn**	**01**	**27 21.6**	**-0.4**
FWVZ	**Far West T-bar**	**0.52**	**319**	⇓Pn	**Pn**	**01**	**27 21.6**	**-0.4**
OTVZ	**Oturere**	**0.54**	**333**	PN	**Pn**	**01**	**27 22.0**	**-0.3**
OTVZ	**Oturere**	**0.54**	**333**	Pn	**Pn**	**01**	**27 22.0**	**-0.3**
WPHZ	**Waipukurau**	**0.54**	**140**	PN	**Pn**	**01**	**27 22.6**	**+0.5**
WPHZ	**Waipukurau**	**0.54**	**140**	Pn	**Pn**	**01**	**27 22.7**	**+0.5**
NGZ	**Ngauruhoe**	**0.56**	**328**	PN	**Pn**	**01**	**27 22.2**	**-0.3**
NGZ	**Ngauruhoe**	**0.56**	**328**	Pn	**Pn**	**01**	**27 22.2**	**-0.3**
WPVZ	**Whakapapa**	**0.56**	**322**	⇓PN	**Pn**	**01**	**27 22.2**	**-0.3**
WPVZ	**Whakapapa**	**0.56**	**322**	⇓Pn	**Pn**	**01**	**27 22.2**	**-0.3**
MCHZ	**McNeill Hill**	**0.59**	**70**	⇓PN	**Pn**	**01**	**27 23.8**	**+1.1**
MCHZ	**McNeill Hill**	**0.59**	**70**	Pn	**Pn**	**01**	**27 23.8**	**+1.1**
PKVZ	**Pokaka**	**0.61**	**306**	⇓PN	**Pn**	**01**	**27 22.9**	**-0.1**
PKVZ	**Pokaka**	**0.61**	**306**	⇓Pn	**Pn**	**01**	**27 22.9**	**-0.1**
KRVZ	**Karewarewa**	**0.61**	**334**	PN	**Pn**	**01**	**27 22.8**	**-0.3**
KRVZ	**Karewarewa**	**0.61**	**334**	Pn	**Pn**	**01**	**27 22.9**	**-0.2**
WTVZ	**West Tongariro**	**0.61**	**330**	⇓PN	**Pn**	**01**	**27 22.9**	**-0.2**
WTVZ	**West Tongariro**	**0.61**	**330**	Pn	**Pn**	**01**	**27 22.9**	**-0.2**
BKZ	**Black Stump Fm**	**0.62**	**39**	PN	**Pn**	**01**	**27 23.4**	**+0.3**
BKZ				AML	AML	01	27 34.8	
BKZ				AML	AML	01	27 34.8	
BKZ	**Black Stump Fm**	**0.62**	**39**	Pn	**Pn**	**01**	**27 23.4**	**+0.3**
DVHZ	**Dannevirke**	**0.67**	**168**	PN	**Pn**	**01**	**27 24.1**	**+0.4**
DVHZ	**Dannevirke**	**0.67**	**168**	Pn	**Pn**	**01**	**27 24.1**	**+0.4**
RITZ	**Rihia Road**	**0.68**	**352**	PN	**Pn**	**01**	**27 23.7**	**0.0**
RITZ	**Rihia Road**	**0.68**	**352**	Pn	**Pn**	**01**	**27 23.8**	**0.0**
KAHZ	**Kahuranaki**	**0.70**	**102**	⇓PN	**Pn**	**01**	**27 24.5**	**+0.4**
KAHZ	**Kahuranaki**	**0.70**	**102**	Pn	**Pn**	**01**	**27 24.5**	**+0.4**
KATZ	**Kakaramea**	**0.71**	**341**	PN	**Pn**	**01**	**27 24.3**	**0.0**
KATZ	**Kakaramea**	**0.71**	**341**	Pn	**Pn**	**01**	**27 24.4**	**0.0**
TWVZ	**Taurewa**	**0.72**	**324**	PN	**Pn**	**01**	**27 24.1**	**-0.3**
TWVZ	**Taurewa**	**0.72**	**324**	Pn	**Pn**	**01**	**27 24.1**	**-0.3**
HATZ	**Hinemaiaia**	**0.76**	**6**	PN	**Pn**	**01**	**27 24.3**	**-0.6**
HATZ	**Hinemaiaia**	**0.76**	**6**	Pn	**Pn**	**01**	**27 24.6**	**-0.3**
POWZ	**Post Office Ro**	**0.76**	**193**	⇑PN	**Pn**	**01**	**27 25.5**	**+0.7**
POWZ	**Post Office Ro**	**0.76**	**193**	⇑Pn	**Pn**	**01**	**27 25.5**	**+0.7**
PXZ	**Pawanui**	**0.78**	**120**	PN	**Pn**	**01**	**27 24.9**	**-0.1**
PXZ				AML	AML	01	27 41.3	
PXZ				AML	AML	01	27 41.3	
PXZ				AML	AML	01	27 44.0	
PXZ				AML	AML	01	27 44.0	
PXZ	**Pawanui**	**0.78**	**120**	Pn	**Pn**	**01**	**27 24.9**	**-0.1**
WAZ	**Wanganui**	**0.78**	**262**	PN	**Pn**	**01**	**27 26.0**	**+1.0**
WAZ	**Wanganui**	**0.78**	**262**	Pn	**Pn**	**01**	**27 26.1**	**+1.1**
PRHZ	**Porangahau**	**0.79**	**141**	PN	**Pn**	**01**	**27 25.5**	**+0.3**
PRHZ	**Porangahau**	**0.79**	**141**	Pn	**Pn**	**01**	**27 25.6**	**+0.3**
RATZ	**Rangitukua**	**0.80**	**348**	PN	**Pn**	**01**	**27 25.0**	**-0.3**
RATZ	**Rangitukua**	**0.80**	**348**	Pn	**Pn**	**01**	**27 25.1**	**-0.2**
NMHZ	**Naumai**	**0.84**	**49**	PN	**Pn**	**01**	**27 27.0**	**+1.1**
NMHZ	**Naumai**	**0.84**	**49**	Pn	**Pn**	**01**	**27 27.1**	**+1.1**
CKHZ	**Cape Kidnapper**	**0.84**	**91**	PN	**Pn**	**01**	**27 26.1**	**+0.3**
CKHZ	**Cape Kidnapper**	**0.84**	**91**	Pn	**Pn**	**01**	**27 26.2**	**+0.3**
ANWZ	**Angora Road**	**0.89**	**155**	PN	**Pn**	**01**	**27 26.9**	**+0.3**
PRWZ	**Pori Road**	**0.91**	**181**	PN	**Pn**	**01**	**27 27.6**	**+0.9**
WATZ	**Wairara**	**0.96**	**348**	PN	**Pn**	**01**	**27 26.9**	**-0.6**
WATZ	**Wairara**	**0.96**	**348**	Pn	**Pn**	**01**	**27 27.2**	**-0.3**
WHTZ	**Whakaora**	**0.98**	**359**	PN	**Pn**	**01**	**27 27.8**	**+0.1**
WHTZ	**Whakaora**	**0.98**	**359**	Pn	**Pn**	**01**	**27 27.8**	**+0.1**
BFZ	**Birch Farm**	**1.05**	**169**	PN	**Pn**	**01**	**27 28.9**	**+0.3**
BFZ	**Birch Farm**	**1.05**	**169**	Pn	**Pn**	**01**	**27 28.9**	**+0.3**
MRZ	**Mangatainoka R**	**1.06**	**197**	⇓PN	**Pn**	**01**	**27 29.2**	**+0.5**
MRZ				AML	AML	01	27 44.0	
MRZ				AML	AML	01	27 52.0	
MRZ	**Mangatainoka R**	**1.06**	**197**	Pn	**Pn**	**01**	**27 29.2**	**+0.5**
VRZ	**Vera Road**	**1.08**	**298**	PN	**Pn**	**01**	**27 28.7**	**-0.3**
VRZ	**Vera Road**	**1.08**	**298**	Pn	**Pn**	**01**	**27 29.0**	**0.0**
ALRZ	**Allen Road**	**1.12**	**15**	PN	**Pn**	**01**	**27 29.2**	**-0.5**
ALRZ	**Allen Road**	**1.12**	**15**	Pn	**Pn**	**01**	**27 29.2**	**-0.3**
RAHZ	**Arahi**	**1.12**	**50**	PN	**Pn**	**01**	**27 30.1**	**+0.5**
RAHZ	**Arahi**	**1.12**	**50**	Pn	**Pn**	**01**	**27 30.1**	**+0.5**
TIWZ	**Tintock**	**1.13**	**184**	PN	**Pn**	**01**	**27 30.1**	**+0.4**
TIWZ	**Tintock**	**1.13**	**184**	Pn	**Pn**	**01**	**27 30.1**	**+0.4**
PRRZ	**Plateau Road**	**1.19**	**16**	PN	**Pn**	**01**	**27 30.1**	**-0.4**
PRRZ	**Plateau Road**	**1.19**	**16**	Pn	**Pn**	**01**	**27 30.2**	**-0.3**
CPWZ	**Castlepoint**	**1.27**	**173**	PN	**Pn**	**01**	**27 32.2**	**+0.7**
HRRZ	**Handcock Road**	**1.28**	**11**	PN	**Pn**	**01**	**27 31.7**	**0.0**
HRRZ	**Handcock Road**	**1.28**	**11**	Pn	**Pn**	**01**	**27 32.1**	**+0.4**
HOWZ	**Holdsworth Sta**	**1.30**	**196**	⇓PN	**Pn**	**01**	**27 32.0**	**0.0**
HOWZ	**Holdsworth Sta**	**1.30**	**196**	Pn	**Pn**	**01**	**27 32.0**	**0.0**
OGWZ	**Otaki Gorge**	**1.32**	**208**	PN	**Pn**	**01**	**27 32.8**	**+0.5**
OGWZ	**Otaki Gorge**	**1.32**	**208**	Pn	**Pn**	**01**	**27 32.8**	**+0.5**
TLZ	**Tolley Road**	**1.36**	**345**	PN	**Pn**	**01**	**27 32.1**	**-0.8**
RRRZ	**Republican Roa**	**1.37**	**18**	PN	**Pn**	**01**	**27 32.5**	**-0.5**
RRRZ	**Republican Roa**	**1.37**	**18**	Pn	**Pn**	**01**	**27 32.6**	**-0.4**
MHEZ	**Mangahewa**	**1.41**	**293**	PN	**Pn**	**01**	**27 34.2**	**+0.8**
MHEZ	**Mangahewa**	**1.41**	**293**	Pn	**Pn**	**01**	**27 34.6**	**+1.2**
HLRZ	**Highlands Stat**	**1.42**	**12**	PN	**Pn**	**01**	**27 34.8**	**+1.1**
HIZ	**Hauiti**	**1.43**	**322**	PN	**Pn**	**01**	**27 33.5**	**-0.3**
HIZ	**Hauiti**	**1.43**	**322**	Pn	**Pn**	**01**	**27 33.5**	**-0.3**
KNZ	**Kokohu**	**1.45**	**65**	PN	**Pn**	**01**	**27 33.4**	**-0.6**
KNZ	**Kokohu**	**1.45**	**65**	Pn	**Pn**	**01**	**27 33.4**	**-0.6**
DREZ	**Durham Road**	**1.46**	**288**	PN	**Pn**	**01**	**27 35.1**	**+1.0**
DREZ	**Durham Road**	**1.46**	**288**	Pn	**Pn**	**01**	**27 35.1**	**+1.0**
TMWZ	**Te Maipa**	**1.46**	**183**	PN	**Pn**	**01**	**27 33.9**	**-0.2**
TMWZ	**Te Maipa**	**1.46**	**183**	Pn	**Pn**	**01**	**27 33.9**	**-0.2**
KIW	**Kapiti Island**	**1.46**	**214**	PN	**Pn**	**01**	**27 34.6**	**+0.5**
KIW				AML	AML	01	27 54.8	
KIW				AML	AML	01	27 59.7	
KIW	**Kapiti Island**	**1.46**	**214**	Pn	**Pn**	**01**	**27 34.7**	**+0.5**
TARZ	**Mount Tarawera**	**1.47**	**16**	PN	**Pn**	**01**	**27 34.1**	**-0.2**
TARZ	**Mount Tarawera**	**1.47**	**16**	Pn	**Pn**	**01**	**27 34.2**	**-0.2**
DFE	**Dawson Falls**	**1.49**	**282**	PN	**Pn**	**01**	**27 35.4**	**+0.8**
DFE	**Dawson Falls**	**1.49**	**282**	Pn	**Pn**	**01**	**27 35.8**	**+1.2**
NEZ	**North Egmont**	**1.51**	**284**	PN	**Pn**	**01**	**27 35.8**	**+1.0**
NEZ	**North Egmont**	**1.51**	**284**	Pn	**Pn**	**01**	**27 36.3**	**+1.5**
KHEZ	**Kahui Hut**	**1.57**	**282**	PN	**Pn**	**01**	**27 37.0**	**+1.4**
MHGZ	**Mahia Peninsul**	**1.57**	**72**	PN	**Pn**	**01**	**27 35.4**	**-0.2**
MHGZ	**Mahia Peninsul**	**1.57**	**72**	Pn	**Pn**	**01**	**27 35.4**	**-0.2**
PKE	**Pukeiti**	**1.61**	**286**	PN	**Pn**	**01**	**27 37.5**	**+1.3**
PKE	**Pukeiti**	**1.61**	**286**	Pn	**Pn**	**01**	**27 37.5**	**+1.3**
CAW	**Cannon Point**	**1.62**	**205**	PN	**Pn**	**01**	**27 36.1**	**-0.2**
CAW				AML	AML	01	28 03.8	
CAW				AML	AML	01	28 04.2	
CAW	**Cannon Point**	**1.62**	**205**	Pn	**Pn**	**01**	**27 36.1**	**-0.2**
PRGZ	**Paritu Road**	**1.64**	**64**	PN	**Pn**	**01**	**27 35.9**	**-0.7**
PRGZ	**Paritu Road**	**1.64**	**64**	Pn	**Pn**	**01**	**27 36.0**	**-0.6**
URZ	**Urewera**	**1.64**	**33**	PN	**Pn**	**01**	**27 36.1**	**-0.4**
URZ				AML	AML	01	27 57.8	
URZ				AML	AML	01	28 10.3	
URZ	**Urewera**	**1.64**	**33**	Pn	**Pn**	**01**	**27 36.2**	**-0.4**
URZ				S	**Sn**	**01**	**27 57.0**	**+0.4**
URZ	**Urewera**	**1.64**	**33**	P	**Pn**	**01**	**27 36.3**	**-0.3**
	74nm,0.3s,baz=227,slow=7.0,SNR=108							
URZ				S	**Sn**	**01**	**27 57.0**	**+0.4**
	293nm,0.3s,baz=81,slow=18,SNR=34							
NMEZ	**Namu Road**	**1.65**	**278**	PN	**Pn**	**01**	**27 38.1**	**+1.5**
EDRZ	**Edgecumbe**	**1.65**	**21**	PN	**Pn**	**01**	**27 36.6**	**-0.2**
EDRZ	**Edgecumbe**	**1.65**	**21**	Pn	**Pn**	**01**	**27 36.9**	**+0.1**
TRWZ	**Traveller**	**1.76**	**187**	PN	**Pn**	**01**	**27 37.7**	**-0.5**
TRWZ				AML	AML	01	28 00.8	
TRWZ				AML	AML	01	28 30.7	
TRWZ	**Traveller**	**1.76**	**187**	Pn	**Pn**	**01**	**27 37.7**	**-0.5**
MWZ	**Matawai**	**1.78**	**43**	PN	**Pn**	**01**	**27 38.1**	**-0.5**
MWZ				AML	AML	01	28 01.7	
MWZ				AML	AML	01	28 01.7	
MWZ				AML	AML	01	28 01.8	
MWZ				AML	AML	01	28 01.8	
PAWZ	**Paruwai Farm**	**1.78**	**194**	PN	**Pn**	**01**	**27 37.8**	**-0.7**
PAWZ				SN	**Sn**	**01**	**27 59.4**	**-0.6**
PAWZ				AML	AML	01	28 16.0	
PAWZ	**Paruwai Farm**	**1.78**

ASAR	**Alice Springs**	**38.82**	**281**	P		**P**	**01 34 29.9**	**0.0**
	3.8nm,0.8s,baz=123,slow=7.4,SNR=35							
ASAR				PcP		**PcP**	**01 36 38.4**	**-1.8**
	1.1nm,0.6s,baz=125,slow=3.4,SNR=5.1							
ASAR				LR		LR	01 48 52.9	
	comp=Z,102nm,21.0s,baz=286,slow=34							
PMG	**Port Moresby**	**39.59**	**312**	*eP*		**P**	**01 34 36.7**	**+0.5**
	19nm,0.8s							
PMG	**Port Moresby**	**39.59**	**312**	P		**P**	**01 34 36.6**	**+0.3**
	16nm,0.7s,baz=190,slow=4.0,SNR=6.4							
PMG				LR		LR	01 48 43.3	
	comp=Z,106nm,20.4s,baz=177,slow=33							
WRAB	**Tennant Creek**	**40.69**	**287**	*eP*		**P**	**01 34 44.8**	**-0.5**
	5.3nm,0.8s							
WRA	**Warramunga Arr**	**40.69**	**286**	P		**P**	**01 34 44.8**	**-0.6**
WRA	**Warramunga Arr**	**40.69**	**286**	P		**P**	**01 34 44.8**	**-0.6**
	4.3nm,0.8s,baz=131,slow=7.1,SNR=11							
WRA				LR		LR	01 51 56.5	
	comp=Z,95nm,21.6s,baz=135,slow=36							
RKT	**Rikitea**	**44.43**	**83**	*eLR*		LR	01 48 11.6	
	208nm,38.2s							
KLBR	**Kellerberrin**	**47.30**	**261**	P		**P**	**01 35 37.3**	**-0.9**
	baz=48,SNR=12							
KNRA	**Kununurra**	**47.49**	**286**	P		**P**	**01 35 39.8**	**0.0**
	baz=49,SNR=4.3							
FITZ	**Fitzroy Crossi**	**48.33**	**281**	P		**P**	**01 35 46.2**	**-0.1**
	baz=50,SNR=15							
BLDU	**Ballidu**	**48.54**	**261**	P		**P**	**01 35 47.3**	**-0.6**
	baz=50,SNR=5.8							
MEEK	**Meekatharra**	**49.00**	**267**	P		**P**	**01 35 50.4**	**-1.1**
	baz=50,SNR=57							
MORW	**Morawa**	**49.78**	**263**	P		**P**	**01 35 56.7**	**-0.7**
	baz=51,SNR=5.5							
QSPA	**South Pole Qui**	**50.48**	**180**	*eP*		**P**	**01 36 04.7**	**+2.4**
	13nm,1.4s							
MBWA	**Marble Bar**	**51.07**	**274**	*eP*		**P**	**01 36 05.8**	**-1.3**
	58nm,1.6s							
GIRL	**Giralia**	**54.49**	**269**	P		**P**	**01 36 32.6**	**+0.3**
	baz=56,SNR=4.2							
KAPI	**Kappang**	**61.14**	**289**	*eP*		**P**	**01 37 20.9**	**+1.8**
	6.9nm,0.9s							
MJAR	**Matsushiro Arr**	**83.42**	**330**	P		**P**	**01 39 30.9**	**-0.4**
MJAR	**Matsushiro Arr**	**83.42**	**330**	P		**P**	**01 39 30.9**	**-0.4**
	0.5nm,0.2s,baz=252,slow=14,SNR=3.4							
KSRS	**Korea Array**	**88.52**	**324**	P		**P**	**01 39 57.4**	**+1.0**
	1.1nm,0.4s,baz=134,slow=6.9,SNR=3.7							
KSRS				LR		LR	02 18 50.4	
	comp=Z,68nm,18.3s,baz=265,slow=35							
KSAR	**Wonju Array Be**	**88.53**	**324**	P		**P**	**01 39 57.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**92.04**	**292**	P		**P**	**01 40 13.6**	**+0.2**
CMAR	**Chiang Mai Arr**	**92.04**	**292**	P		**P**	**01 40 13.6**	**+0.2**
	0.6nm,0.3s,baz=148,slow=3.2,SNR=5.7							
KURK	**Kurchatov**	**123.61**	**311**	PKP		**PKPdf**	**01 45 58.8**	**-2.0**
KURBB	**Kurchatov Arra**	**123.62**	**311**	PKP		**PKPdf**	**01 45 58.8**	**-2.0**
	0.2nm,0.2s,baz=123,slow=1.4,SNR=3.5							
BRVK	**Borovoye**	**129.26**	**311**	*e*PKPdf		**PKPdf**	**01 46 12.9**	**+1.4**
ABKAR	**Akbulak array**	**134.60**	**304**	*e*PKPdf		**PKPdf**	**01 46 23.6**	**+1.9**
GNI	**Garni**	**142.97**	**287**	*e*PKPdf		**PKPdf**	**01 46 37.8**	**+0.2**
KEV	**Kevo**	**145.70**	**341**	*ep*		**PKPdf**	**01 46 40.3**	**-0.9**
ARCES	**ARCESS Array B**	**146.22**	**342**	PKPbc		**PKPdf**	**01 46 41.9**	**-0.2**
ARCES	**ARCESS Array B**	**146.22**	**342**	PKPbc		**PKPdf**	**01 46 41.9**	**-0.2**
	5.5nm,0.6s,baz=79,slow=2.2,SNR=33							
DBIC	**Dimbokro**	**147.16**	**178**	PKPbc		**PKPbc**	**01 46 47.2**	**-0.3**
DBIC				*e*PKPdf		**PKPab**	**01 46 47.8**	**-1.4**
DBIC	**Dimbokro**	**147.16**	**178**	PKPbc		**PKPbc**	**01 46 47.2**	**-0.3**
	1.5nm,0.6s,baz=187,slow=8.1,SNR=4.2							
JOF	**Joensuu**	**148.58**	**329**	*ep*		**PKPbc**	**01 46 48.7**	**-1.2**
KAF	**Kangasniemi**	**150.96**	**331**	*ep*		**PKPbc**	**01 46 53.7**	**-2.0**
BR131	**Keskin Array S**	**151.16**	**282**	*e*PKPdf		**PKPdf**	**01 46 51.5**	**+0.2**
BR131				*e*PKPbc		**PKPbc**	**01 46 55.5**	**-1.7**
BR131				*e*PKPab		**PKPab**	**01 47 03.7**	**-1.5**
BRTR	**Keskin Array B**	**151.16**	**282**	PKPbc		**PKPbc**	**01 46 55.8**	**-1.4**
BRTR	**Keskin Array B**	**151.16**	**282**	PKPbc		**PKPbc**	**01 46 55.8**	**-1.4**
	1.5nm,0.8s,baz=110,slow=3.4,SNR=9.3							
TORD	**Torodi Ar. Bea**	**153.12**	**192**	PKP		**PKPdf**	**01 46 55.6**	**+0.9**
TORD				PKPbc		**PKPbc**	**01 47 01.8**	**-0.3**
TORD				PKPab		**PKPab**	**01 47 13.0**	**-0.6**
TORD	**Torodi Ar. Bea**	**153.12**	**192**	PKP		**PKPdf**	**01 46 55.6**	**+0.9**
	0.4nm,0.8s,baz=155,slow=1.7,SNR=2.4							
TORD				PKPbc		**PKPbc**	**01 47 01.8**	**-0.3**
	0.3nm,0.4s,baz=172,slow=3.9,SNR=6.6							
TORD				PKPab		**PKPab**	**01 47 13.0**	**-0.6**
	0.5nm,0.5s,baz=156,slow=2.9,SNR=4.4							
GVD	**Gavdhos**	**157.16**	**267**	*e*PKPdf		**PKPdf**	**01 47 01.2**	**+1.7**

IDC 16 01:34:54.4±4.4, 14°52S×167°36E, h142km±36km, mb3.6/7, mb1 3.7/8, mb1mx3.5/21, mbtmp3.5/8, Error ellipse: s-maj=29.0km s-min=25.4km az=51.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.56**	**186**	P	Pn	01 36 43.5	+1.4
	0.8nm,0.3s,baz=22,slow=22,SNR=8.9						
DZM				S	Sn	01 38 05.4	-1.1
	baz=143,slow=20,SNR=2.4						
STKA	**Stephens Creek**	**29.20**	**229**	P	P	01 40 43.6	+1.0
	2.8nm,0.5s,baz=26,slow=9.6,SNR=5.3						
STKA				PcP	PcP	01 43 47.2	+0.7
	1.7nm,0.7s,baz=135,slow=2.9,SNR=3.4						
WRA	**Warramunga Arr**	**31.96**	**256**	P	P	01 41 06.7	-0.4
	0.8nm,0.8s,baz=92,slow=14,SNR=3.0						
ASAR	**Alice Springs**	**32.83**	**249**	P	P	01 41 14.0	-0.7
	0.5nm,0.5s,baz=77,slow=8.9,SNR=6.4						
VNDA	**Vanda**	**63.07**	**181**	P	P	01 45 06.1	+0.1
	1.2nm,0.7s,baz=358,slow=8.2,SNR=7.8						
QSPA	**South Pole Qui**	**75.50**	**180**	P	P	01 46 22.4	-0.5
	1.5nm,0.7s						
MAW	**Mawson**	**82.11**	**202**	P	P	01 46 58.7	0.0
	1.4nm,0.9s,baz=68,slow=7.2,SNR=4.0						
ILAR	**Eielson Array**	**86.30**	**18**	P	P	01 47 18.9	-0.9
	0.5nm,0.7s,baz=239,slow=4.7,SNR=5.6						
ARCES	**ARCESS Array B**	**120.07**	**345**	PKP	PKPdf	01 53 27.6	0.0
	5.2nm,0.9s,baz=80,slow=1.9,SNR=12						
KEST	**Kesra**	**151.11**	**321**	PKPbc	PKPbc	01 54 32.1	+0.9
	1.4nm,0.8s,baz=294,slow=19,SNR=4.9						
TORD	**Torodi Ar. Bea**	**166.01**	**266**	PKPab	PKPab	01 55 43.5	-0.9
	0.9nm,1.0s,baz=104,slow=3.3,SNR=3.3						

*ISCJB **16** 01:56:00.4±0.5, 52°.11S±0°.07×15°.2E±0°.3, h10km, mb4.0/9, MS3.6/7, Error ellipse: s-maj=24.7km s-min=10.4km az=5.0*
*IDC **16** 01:56:00.4±1.0, 52°.19S×14°.95E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.9/18, mbtmp4.0/7, MS3.7/7, Ms1 3.7/7, ms1mx3.4/35, Error ellipse: s-maj=49.0km s-min=20.1km az=89.0*
*NEIC **16** 01:56:02.0±0.4, 52°.15S×15°.17E, h10km, mb4.4/6, Error ellipse: s-maj=19.5km s-min=8.8km az=93.0*
ISC 16 01:56:02.2±0.6, 52°.13S±0°.09×15°.3E±0°.2, h10km, n27, σ1°33/24, mb4.2/9, MS3.6/7, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**20.15**	**14**	*eP*	**P**	**02 00 35.9**	**-0.8**
	365nm,2.3s						
SUR	**Sutherland**	**20.15**	**14**	LR	LR	02 06 35.6	
	comp=Z,360nm,19.0s,baz=178,slow=31						
SNAA	**Sanae**	**21.20**	**196**	*eP*	**P**	**02 00 46.8**	**-0.8**
SNAA	**Sanae**	**21.20**	**196**	*eP*	**P**	**02 00 46.5**	**-1.1**
	26nm,1.2s						
SNAA	**Sanae**	**21.20**	**196**	P	**P**	**02 00 46.5**	**-1.1**
	5.7nm,1.0s,baz=26,slow=16,SNR=13						
SNAA				LR	LR	02 06 57.1	
	comp=Z,64nm,18.2s,baz=208,slow=31						
VNA1	**Neumayer--Stat**	**21.45**	**201**	*eP*	**P**	**02 00 54.1**	**+4.0**
VNA2	**Neumayer--Watz**	**21.46**	**200**	*eP*	**P**	**02 00 52.9**	**+2.6**
BOSA	**Boshof**	**24.65**	**21**	*eP*	**P**	**02 01 23.7**	**+0.8**
	10nm,1.1s						
BOSA	**Boshof**	**24.65**	**21**	P	**P**	**02 01 24.5**	**+1.5**
	5.7nm,1.0s,baz=150,slow=10,SNR=3.8						
BOSA				LR	LR	02 09 14.0	
	comp=Z,237nm,18.4s,baz=240,slow=32						
MAW	**Mawson**	**27.55**	**142**	P	**P**	**02 01 49.3**	**+0.6**
MAW	**Mawson**	**27.55**	**142**	P	**P**	**02 01 49.3**	**+0.6**
	0.3nm,0.3s,baz=283,slow=15,SNR=3.5						
MAW				LR	LR	02 10 28.9	
	comp=Z,72nm,18.2s,baz=92,slow=31						
LBTB	**Lobatse**	**28.20**	**20**	LR	LR	02 10 46.2	
	comp=Z,180nm,20.4s,baz=275,slow=31						
QSPA	**South Pole Qui**	**38.10**	**180**	*eP*	**P**	**02 03 20.1**	**-0.8**
	9.2nm,1.1s						
QSPA	**South Pole Qui**	**38.10**	**180**	P	**P**	**02 03 19.5**	**-1.4**
	6.3nm,1.0s						
LSZ	**Lusaka**	**38.18**	**20**	*eP*	**P**	**02 03 22.5**	**+0.5**
	5.5nm,1.2s						
VNDA	**Vanda**	**48.96**	**171**	P	**P**	**02 04 47.2**	**-0.8**
VNDA	**Vanda**	**48.96**	**171**	P	**P**	**02 04 47.2**	**-0.8**
	1.3nm,0.9s,baz=249,slow=8.0,SNR=6.6						
VNDA				LR	LR	02 24 34.9	
	comp=Z,147nm,19.1s,baz=208,slow=35						
TOA0	**Torodi Ar. Sit**	**66.06**	**346**	*eP*	**P**	**02 06 49.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**66.06**	**346**	P	**P**	**02 06 48.1**	**-1.0**
TORD	**Torodi Ar. Bea**	**66.06**	**346**	P	**P**	**02 06 48.1**	**-1.0**
	1.4nm,1.0s,baz=175,slow=7.2,SNR=5.6						
ATD	**Arta Tunnel**	**67.72**	**29**	LR	LR	02 34 46.1	
	comp=Z,41nm,20.2s,baz=99,slow=34						
LPAZ	**La Paz**	**73.29**	**265**	*eP*	**P**	**02 07 34.4**	**-0.2**
	4.2nm,1.3s						
TAM	**Tamanrasset**	**75.09**	**351**	*eP*	**P**	**02 07 43.6**	**-0.6**
ASAR	**Alice Springs**	**87.51**	**126**	P	**P**	**02 08 50.5**	**+0.2**
ASAR	**Alice Springs**	**87.51**	**126**	P	**P**	**02 08 50.5**	**+0.2**
	1.0nm,0.9s,baz=206,slow=5.5,SNR=7.0						
NVAR	**Mina Array Bea**	**145.20**	**266**	PKP	**PKPdf**	**02 15 40.5**	**+0.8**
NVAR	**Mina Array Bea**	**145.20**	**266**	PKP	**PKPdf**	**02 15 40.5**	**+0.8**
	1.4nm,0.8s,baz=133,slow=4.7,SNR=11						

*IDC **16** 01:57:51.0±1.1, 56°.75N×160°.95E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.6/28, mbtmp3.7/7, ML3.0/1, Error ellipse: s-maj=32.6km s-min=20.9km az=173.0*
*KRSC **16** 01:58:02.6±5.9, 55°.70N×161.13E, h156km±65km, ML4.1*
*ISCJB **16** 01:58:03.6±0.4, 55°.72N±0°.03×161°.07E±0°.06, h150km±3km, mb3.5/6, Error ellipse: s-maj=6.3km s-min=4.7km az=28.1*
*MOS **16** 01:58:03.1±0.9, 55°.75N×160°.97E, h152km, mb4.2/1, Error ellipse: s-maj=19.7km s-min=12.2km az=83.0*
ISC 16 01:58:04.4±0.7, 55°.68N±0°.04×161°.07E±0°.04, h148km±5km, n56, σ1°.07/87, mb3.5/6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZLN	**Zelenaya**	**0.37**	**336**	P	**Pn**	**01 58 25.3**	**+0.3**
ZLN				*i* S	**Sn**	**01 58 42.0**	**+1.2**
BZMR	**Bezymyannaya**	**0.41**	**308**	P	**Pn**	**01 58 24.9**	**-0.4**
BZMR				*i* S	**Sn**	**01 58 41.3**	**+0.1**
BZWR	**Bezymyannyi-We**	**0.43**	**311**	P	**Pn**	**01 58 24.9**	**-0.5**
BZWR				*i* S	**Sn**	**01 58 40.7**	**-0.7**
LGNR	**Loginova**	**0.46**	**332**	P	**Pn**	**01 58 25.8**	**+0.2**
LGNR				*i* S	**Sn**	**01 58 41.7**	**-0.1**
CIRR	**Tsirk**	**0.47**	**337**	P	**Pn**	**01 58 25.6**	**+0.1**
CIRR				*i* S	**Sn**	**01 58 41.8**	**+0.1**
KMNR	**Kamenistaya**	**0.48**	**279**	P	**Pn**	**01 58 25.6**	**+0.1**
KMNR				*i* S	**Sn**	**01 58 42.4**	**+0.8**
KIRR	**Kirishev**	**0.49**	**304**	P	**Pn**	**01 58 25.1**	**-0.5**
KIRR				*i* S	**Sn**	**01 58 41.3**	**-0.5**
KPT	**Kopyto**	**0.56**	**301**	P	**Pn**	**01 58 25.6**	**-0.3**
KPT				*i* S	**Sn**	**01 58 41.7**	**-0.6**
KRSR	**Krestovskiy**	**0.61**	**332**	P	**Pn**	**01 58 25.5**	**-0.7**
KRSR				*i* S	**Sn**	**01 58 42.3**	**-0.6**
TUMR	**Tumrok**	**0.66**	**233**	*eP*	**Pn**	**01 58 26.8**	**+0.2**
TUMR				*i* S	**Sn**	**01 58 43.3**	**-0.1**
KLY	**Klyuchi**	**0.67**	**340**	PN	**Pn**	**01 58 26.0**	**-0.4**
KLY				S	**Sn**	**01 58 42.4**	**-0.9**
KLY	**Klyuchi**	**0.67**	**340**	P	**Pn**	**01 58 26.0**	**-0.4**
KLY				*i* S	**Sn**	**01 58 42.4**	**-0.9**
KOZR	**Kozyr**	**0.77**	**301**	PN	**Pn**	**01 58 26.9**	**-0.2**
KOZR				S	**Sn**	**01 58 44.7**	**+0.2**
KOZ	**Kozyrevsk**	**0.77**	**300**	P	**Pn**	**01 58 26.9**	**-0.3**
KOZ				*i* S	**Sn**	**01 58 44.7**	**+0.1**
BDR	**Baidarnaya**	**0.89**	**5**	P	**Pn**	**01 58 28.2**	**+0.1**
BDR				*i* S	**Sn**	**01 58 46.5**	**+0.2**
SMKR	**Semkarok**	**0.93**	**14**	P	**Pn**	**01 58 28.4**	**0.0**
SMKR				*i* S	**Sn**	**01 58 47.0**	**+0.2**
SRDR	**Sredinnyy**	**0.99**	**310**	P	**Pn**	**01 58 28.5**	**-0.4**
SRDR				*i* S	**Sn**	**01 58 47.0**	**-0.7**
KBTR	**Krutoberegovo**	**1.11**	**61**	PN	**Pn**	**01 58 29.7**	**-0.2**
KBTR				S	**Sn**	**01 58 48.6**	**-0.8**
KBTR	**Krutoberegovo**	**1.11**	**61**	P	**Pn**	**01 58 29.7**	**-0.2**
KBTR				*i* S	**Sn**	**01 58 48.6**	**-0.8**
MKZ	**Mys Kozlova**	**1.19**	**161**	PN	**Pn**	**01 58 30.0**	**-0.6**
MKZ				S	**Sn**	**01 58 50.1**	**-0.5**
MKZ	**Mys Kozlova**	**1.19**	**161**	P	**Pn**	**01 58 30.0**	**-0.6**
MKZ				*i* S	**Sn**	**01 58 50.1**	**-0.5**
ESO	**Esso**	**1.36**	**281**	PN	**Pn**	**01 58 31.8**	**-0.5**
ESO				S	**Sn**	**01 58 52.3**	**-1.4**
ESO	**Esso**	**1.36**	**281**	P	**Pn**	**01 58 31.8**	**-0.5**
ESO				*i* S	**Sn**	**01 58 52.3**	**-1.4**
KII	**Karymskiy**	**1.90**	**210**	P	**Pn**	**01 58 38.7**	**+0.4**
GNL	**Ganaly**	**2.70**	**224**	P	**Pn**	**01 58 48.8**	**+0.9**
NLC	**Nalytchevo**	**2.71**	**203**	PN	**Pn**	**01 58 47.8**	**-0.2**
NLC				S	**Sn**	**01 59 20.0**	**-1.6**
NLC	**Nalytchevo**	**2.71**	**203**	P	**Pn**	**01 58 47.8**	**-0.2**
NLC				*i* S	**Sn**	**01 59 20.0**	**-1.6**
KRX	**Arik**	**2.72**	**212**	P	**Pn**	**01 58 49.8**	**+1.5**
SDLR	**Sedlovina**	**2.73**	**209**	P	**Pn**	**01 58 49.1**	**+0.8**
KRER	**Koryakskii**	**2.74**	**211**	P	**Pn**	**01 58 49.7**	**+1.1**
SMAR	**Somma**	**2.76**	**210**	P	**Pn**	**01 58 49.5**	**+0.6**
AVH	**Avacha**	**2.78**	**210**	P	**Pn**	**01 58 50.8**	**+1.9**
AVH				*i* S	**Sn**	**01 59 25.2**	**+1.9**
KOK	**Koryaka**	**2.79**	**212**	P	**Pn**	**01 58 50.1**	**+1.1**
BKI	**Bering**	**2.83**	**98**	PN	**Pn**	**01 58 49.9**	**+0.5**
BKI				S	**Sn**	**01 59 23.0**	**-1.2**
BKI	**Bering**	**2.83**	**98**	*eP*	**Pn**	**01 58 49.9**	**+0.5**
BKI				*i* S	**Sn**	**01 59 23.0**	**-1.2**
PET	**Petropavlovsk**	**3.02**	**209**	PN	**Pn**	**01 58 52.7**	**+0.9**
PET				S	**Sn**	**01 59 29.0**	**+0.5**
PET	**Petropavlovsk**	**3.02**	**209**	P	**Pn**	**01 58 52.7**	**+0.9**
PET				*i* S	**Sn**	**01 59 29.0**	**+0.5**
PETK	**Petropavlovsk-**	**3.25**	**219**	PN	**Pn**	**01 58 55.4**	**+0.6**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**3.25**	**219**	Pn	**Pn**	**01 58 55.4**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=61,slow=16,SNR=7.1						
PETK				Sn	Sn	01 59 43.6	+10
	comp=Z,1.3nm,0.3s,baz=83,slow=15,SNR=2.8						
RUS	**Russkaya**	**3.59**	**206**	PN	**Pn**	**01 58 58.4**	**-0.8**
RUS				S	**Sn**	**01 59 38.5**	**-3.1**
RUS	**Russkaya**	**3.59**	**206**	P	**Pn**	**01 58 58.4**	**-0.8**
RUS				*i* S	**Sn**	**01 59 38.5**	**-3.1**
APC	**Apacha**	**3.59**	**221**	*eP*	**Pn**	**01 59 00.3**	**+1.1**
MTVR	**Mutnovka**	**3.63**	**209**	P	**Pn**	**01 59 01.0**	**+1.1**
MTVR				*i* S	**Sn**	**01 59 43.0**	**+0.2**
FX1	**Attu Island--F**	**7.61**	**107**	Pn	**Pn**	**01 59 53.3**	**+0.8**
	comp=Z,1.9nm,0.3s,baz=292,slow=6.8,SNR=17						
FX1				Sn	**Sn**	**02 01 14.3**	**-3.1**
	comp=Z,11nm,0.3s,baz=159,slow=16,SNR=14						
SONM	**Songino Array**	**33.94**	**280**	P	**P**	**02 04 33.4**	**+0.1**
	comp=Z,2.0nm,0.4s,baz=51,slow=8.7,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**36.16**	**171**	T	T	02 42 14.5	
	baz=357,slow=0.7,SNR=23						
H11N3	**WAKE ISLAND Hy**	**36.18**	**171**	T	T	02 42 27.6	
	baz=357,slow=0.7,SNR=25						
H11N1	**WAKE ISLAND Hy**	**36.18**	**171**	T	T	02 42 27.3	
	baz=357,slow=0.7,SNR=34						
KURK	**Kurchatov**	**46.88**	**300**	P	**P**	**02 06 19.1**	**-0.2**
KURBB	**Kurchatov Arra**	**46.99**	**300**	P	**P**	**02 06 19.1**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=56,slow=8.1,SNR=13						
MKAR	**Makanchi Array**	**47.58**	**294**	P	**P**	**02 06 23.9**	**-0.9**
MKAR	**Makanchi Array**	**47.58**	**294**	P	**P**	**02 06 23.9**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=51,slow=6.7,SNR=16						
NVAR	**Mina Array Bea**	**54.37**	**72**	P	**P**	**02 07 18.8**	**+3.0**
	comp=Z,0.5nm,0.7s,baz=298,slow=6.6,SNR=4.2						
AKTO	**Aktyubinsk**	**56.51**	**312**	P	**P**	**02 07 28.8**	**-1.9**
AKTO	**Aktyubinsk**	**56.51**	**312**	P	**P**	**02 07 28.8**	**-1.9**
	comp=Z,0.7nm,0.3s,baz=37,slow=4.9,SNR=4.5						
TXAR	**Lajitas Array**	**69.12**	**69**	P	**P**	**02 08 55.9**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=316,slow=4.5,SNR=6.1						

IDC 16 02:09:21.6±4.8, 15°.53S×173°.02W, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.8/21, mbtmp4.1/4, ML2.2/1, Error ellipse: s-maj=233.4km s-min=25.9km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.01**	**37**	Pn	Pn	02 09 55.8	-1.1
	56nm,0.3s,baz=350,slow=6.1,SNR=7.6						
AFI				Sn	Sn	02 10 15.7	-7.1
	218nm,0.3s,baz=40,slow=22,SNR=14						
H11S2	**WAKE ISLAND Hy**	**39.26**	**329**	T	T	02 58 26.0	
	baz=152,slow=0.7,SNR=16						
H11S3	**WAKE ISLAND Hy**	**39.27**	**329**	T	T	02 58 21.7	
	baz=152,slow=0.7,SNR=14						
H11S1	**WAKE ISLAND Hy**	**39.28**	**329**	T	T	02 58 21.9	
	baz=152,slow=0.7,SNR=8.5						
H11N3	**WAKE ISLAND Hy**	**40.20**	**330**	T	T	02 59 38.1	
	baz=152,slow=0.7,SNR=6.8						
H11N1	**WAKE ISLAND Hy**	**40.21**	**330**	T	T	02 59 37.0	
	baz=152,slow=0.7,SNR=10						
H11N2	**WAKE ISLAND Hy**	**40.22**	**330**	T	T	02 59 40.5	
	baz=152,slow=0.7,SNR=5.6						
STKA	**Stephens Creek**	**44.29**	**240**	P	P	02 17 33.4	-0.1
	1.5nm,0.5s,baz=90,slow=9.1,SNR=3.1						
WRA	**Warramunga Arr**	**50.17**	**257**	P	P	02 18 19.1	-0.4
	1.0nm,0.6s,baz=92,slow=6.2,SNR=4.5						
ASAR	**Alice Springs**	**50.42**	**252**	P	P	02 18 20.8	-0.6
	2.2nm,0.6s,baz=88,slow=8.4,SNR=16						
BRTR	**Keskin Array B**	**146.49**	**321**	PKPbc	PKPab	02 29 06.3	0.0
	0.6nm,0.8s,baz=121,slow=1.9,SNR=3.6						

*IDC **16** 02:10:03.8±0.7, 11°.27S×166°.30E, h0km, mb4.1/11, mb1 4.2/11, mb1mx4.0/21, mbtmp4.0/11, MS3.8/8, Ms1 3.8/8, ms1mx3.5/30, Error ellipse: s-maj=27.9km s-min=19.1km az=120.0*
*NEIC **16** 02:10:08.7±0.4, 11°.21S×166°.36E, h35km, mb4.5/10, Error ellipse: s-maj=11.7km s-min=10.7km az=116.0*
*ISCJB **16** 02:10:10.0±0.5, 11°.43S±0°.07×166°.32E±0°.08, h59km, mb4.2/18, MS3.8/8, Error ellipse: s-maj=10.8km s-min=9.2km az=159.1*
ISC 16 02:10:11.3±0.5, 11°.36S±0°.07×166°.43E±0°.09, h59km, n54, σ1°.26/48, mb4.2/18, MS3.8/8, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.65**	**286**	Pn	**Pn**	**02 11 46.2**	**-0.3**
HNR	**Honiara**	**6.65**	**286**	Pn	**Pn**	**02 11 46.2**	**-0.3**
	49nm,0.3s,baz=137,slow=4.5,SNR=4.4						
DZM	**Mont Dzumac**	**10.66**	**180**	*e*Pn	**Pn**	**02 12 43.7**	**+2.3**
	18nm,0.5s						
DZM				*e*LR	LR	02 14 52.5	
	588nm,24.1s						
DZM	**Mont Dzumac**	**10.66**	**180**	*e*Pn	**Pn**	**02 12 40.5**	**-0.9**
	8.0nm,0.4s						
DZM				Sn	**Sn**	**02 14 36.6**	**-2.6**
DZM	**Mont Dzumac**	**10.66**	**180**	Pn	**Pn**	**02 12 42.2**	**+0.8**
	0.7nm,0.3s,baz=217,slow=20,SNR=4.3						
DZM				Sn	**Sn**	**02 14 36.6**	**-2.6**
	0.1nm,0.3s,baz=311,slow=20,SNR=1.4						
MSVF	**Nonsavu**	**12.91**	**121**	*e*Pn	**Pn**	**02 13 12.9**	**+0.7**
	18nm,1.1s						
EIDS	**Eidsvold**	**20.13**	**224**	*eP*	Pn	02 14 42.1	-0.9
	4.7nm,0.7s						
CTA	**Charters Tower**	**21.25**	**243**	P	**P**	**02 14 55.5**	**+2.7**
CTA	**Charters Tower**	**21.25**	**243**	P	**P**	**02 14 55.5**	**+2.7**
	3.8nm,0.6s,baz=76,slow=12,SNR=6.7						
CTAO	**Charters Tower**	**21.25**	**243**	*eP*	**P**	**02 14 54.7**	**+1.9**
	8.5nm,0.9s						
RAO	**Raoul Island**	**23.03**	**143**	LR	LR	02 21 08.0	
	comp=Z,111nm,19.5s,baz=32,slow=29						
URZ	**Urewera**	**28.45**	**162**	LR	LR	02 25 04.8	
	comp=Z,125nm,19.6s,baz=329,slow=32						
STKA	**Stephens Creek**	**30.68**	**224**	P	**P**	**02 16 22.1**	**+1.5**
STKA	**Stephens Creek**	**30.68**	**224**	P	**P**	**02 16 22.1**	**+1.5**
	2.0nm,0.8s,baz=75,slow=12,SNR=2.7						
STKA				LR	LR	02 27 10.8

mb1mx3.5/16,**mbtmp3.6**/3,**ML3.7**/2,**Error ellipse: s-maj=110.4km s-min=37.7km az=36.0,Near coast of South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**6.91**	**77**	Pn	Pn	02 25 49.4	-0.7
	1.1nm,0.3s,baz=260,slow=9.8,SNR=13						
STKA				Sn	Sn	02 27 11.8	+2.4
	1.6nm,0.3s,baz=182,slow=16,SNR=3.6						
STKA				Lg	Lg	02 27 51.2	
	1.8nm,0.3s,baz=307,slow=18,SNR=2.9						
ASAR	**Alice Springs**	**9.98**	**1**	Pn	Pn	02 26 33.1	+0.8
	0.0nm,0.3s,baz=173,slow=12,SNR=2.4						
ASAR				Sn	Sn	02 28 24.6	-0.6
	0.5nm,0.3s,baz=180,slow=22,SNR=6.2						
ASAR				Lg	Lg	02 29 34.1	
	0.6nm,0.3s,baz=176,slow=25,SNR=8.5						
WRA	**Warramunga Arr**	**13.70**	**3**	Pn	Pn	02 27 23.4	+0.2
	0.4nm,0.3s,baz=186,slow=14,SNR=3.9						
WRA				Sn	Sn	02 29 52.7	-3.5
	0.3nm,0.3s,baz=182,slow=24,SNR=3.9						
H10S2	**ASCENSION HYDR**	**28.00**	**221**	T	T	05 03 51.3	
	baz=144,slow=0.7,SNR=10						
H10S3	**ASCENSION HYDR**	**28.01**	**221**	T	T	05 03 51.6	
	baz=144,slow=0.7,SNR=10						
H10S1	**ASCENSION HYDR**	**28.02**	**221**	T	T	05 03 52.5	
	baz=144,slow=0.7,SNR=15						

IDC 16 02:36:20.7±3.6,15°.80S×173°.62W,h0km,mb3.7/4, mb1 4.0/5,mb1mx3.7/20,mbtmp3.7/5,ML1.8/1,Error ellipse: s-maj=256.3km s-min=21.5km az=148.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.59**	**44**	Pn	Pn	02 37 03.2	-0.8
	11nm,0.3s,baz=278,slow=14,SNR=5.0						
AFI				Sn	Sn	02 37 32.9	-3.3
	14nm,0.3s,baz=44,slow=23,SNR=6.6						
H11S2	**WAKE ISLAND Hy**	**39.19**	**330**	T	T	03 26 43.8	
	baz=152						
H11S3	**WAKE ISLAND Hy**	**39.21**	**330**	T	T	03 26 40.8	
	baz=152						
H11S1	**WAKE ISLAND Hy**	**39.21**	**330**	T	T	03 26 44.4	
	baz=152						
H11N3	**WAKE ISLAND Hy**	**40.15**	**331**	T	T	03 27 32.5	
	baz=157						
H11N1	**WAKE ISLAND Hy**	**40.16**	**331**	T	T	03 27 48.0	
	baz=157						
H11N2	**WAKE ISLAND Hy**	**40.17**	**331**	T	T	03 27 35.6	
	baz=157						
WRA	**Warramunga Arr**	**49.55**	**257**	P	P	02 45 14.1	+0.3
	0.4nm,0.3s,baz=96,slow=11,SNR=3.2						
ASAR	**Alice Springs**	**49.78**	**252**	P	P	02 45 15.0	-0.6
	1.3nm,0.6s,baz=88,slow=8.5,SNR=18						
NVAR	**Mina Array Bea**	**74.77**	**42**	P	P	02 48 03.0	0.0
	0.5nm,0.8s,baz=224,slow=3.8,SNR=3.4						
PDAR	**Pinedale Array**	**82.70**	**42**	P	P	02 48 47.3	+0.6
	0.5nm,0.8s,baz=203,slow=4.4,SNR=4.1						

*IDC **16** 02:50:10.0±2.4,6°.65N×126°.27E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.6/23,mbtmp3.7/5,Error ellipse: s-maj=123.4km s-min=29.2km az=93.0*

*ISCJB **16** 02:50:18.7±0.8,6°.34N±0°.06×126°.43E±0°.07,h67km±10km, mb3.5/5,Error ellipse: s-maj=11.8km s-min=10.0km az=23.3*

*MAN **16** 02:50:18,6°.44N×126°.53E,h50km,mb4.6,ML3.5,MS3.4*

ISC 16 02:50:19.1±1.4,6°.31N±0°.08×126°.45E±0°.09,h57km±16km, n14,σ1s37/19,mb3.6/5,2C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.66**	**343**	*e*P	**Pn**	**02 50 32.4**	**-0.3**
MATI				*e*S	**Sn**	**02 50 43.4**	**+0.8**
DMPH	**Davao City--Mi**	**1.21**	**309**	⇓*i*P	**Pn**	**02 50 39.8**	**0.0**
DMPH				*i* S	**Sn**	**02 50 56.0**	**+0.9**
GSPH	**General Santos**	**1.51**	**262**	*e*P	**Pn**	**02 50 42.2**	**-1.7**
GSPH				*e*S	**Sn**	**02 51 00.9**	**-1.7**
KCP	**Kidapawan**	**1.52**	**297**	⇓*i*P	**Pn**	**02 50 44.1**	**+0.2**
KCP				*i* S	**Sn**	**02 51 02.9**	**+0.2**
BIPH	**Bislig**	**1.86**	**357**	⇑*e*P	**Pn**	**02 50 47.9**	**-0.7**
BIPH				*e*S	**Sn**	**02 51 09.6**	**-1.5**
BUKP	**Musuan**	**2.08**	**319**	*e*P	**Pn**	**02 50 52.5**	**+0.9**
BUKP				*e*S	**Sn**	**02 51 16.7**	**+0.3**
CGP	**Cagayan de Oro**	**2.75**	**321**	⇑*e*P	Pn	02 51 06.1	+5.3
CGP				*e*S	**Sn**	**02 51 31.9**	**-0.9**
BUTP	**Butuan**	**2.76**	**343**	*e*P	Pn	02 51 05.3	+4.3
PAGZ	**Pagadian**	**3.40**	**297**	*e*P	**Pn**	**02 51 10.9**	**+1.2**
FITZ	**Fitzroy Crossi**	**24.27**	**182**	P	**P**	**02 55 31.8**	**+0.6**
	1.5nm,0.4s,baz=357,slow=7.9,SNR=24						
WRA	**Warramunga Arr**	**27.22**	**164**	P	**P**	**02 56 00.4**	**+2.5**
	0.7nm,0.5s,baz=345,slow=10,SNR=2.5						
ASAR	**Alice Springs**	**30.67**	**167**	P	**P**	**02 56 28.5**	**0.0**
	0.4nm,0.4s,baz=342,slow=7.0,SNR=6.4						
STKA	**Stephens Creek**	**40.63**	**160**	P	**P**	**02 57 55.5**	**+1.9**
	1.7nm,0.8s,baz=334,slow=4.6,SNR=3.5						
ILAR	**Eielson Array**	**82.91**	**26**	P	**P**	**03 02 35.3**	**-2.2**
	0.2nm,0.6s,baz=250,slow=5.3,SNR=4.9						

*SZGRF **16** 02:56:29.4,39°.66N×79°.01E,h33km,mb5.0,MS4.5, Southern Xinjiang, China*

*LDG **16** 02:56:32.1±0.1,39°.72N×76°.95E,h10km,Mb4.7/11, Ms4.2/7,Error ellipse: s-maj=6.5km s-min=3.3km az=57.0*

*IDC **16** 02:56:34.3±0.6,39°.92N×76°.97E,h0km,mb4.2/21, mb1 4.3/27,mb1mx4.2/35,mbtmp4.1/27,ML3.6/5,MS4.2/25, Ms1 4.2/25,ms1mx4.1/43,Error ellipse: s-maj=12.2km s-min=10.5km az=30.0*

*NNC **16** 02:56:34.5±3.4,39°.85N×76°.68E,h0km,mb4.9,mpv4.3, Error ellipse: s-maj=32.7km s-min=15.9km az=154.0*

*BJI **16** 02:56:35.8,39°.94N×77°.01E,h6km,mB4.9/20,mb4.6/28, ML5.1/9,Ms4.8/29,Ms7 4.6/26*

*ISCJB **16** 02:56:38.3±0.5,39°.92N±0°.02×77°.02E±0°.03,h40km±4km, mb4.5/66,MS4.5/47,Error ellipse: s-maj=4.2km s-min=3.8km az=145.4*

*MOS **16** 02:56:38.0±1.6,39°.96N×77°.03E,h33km,mb4.7/36, MS4.6/24,Error ellipse: s-maj=7.5km s-min=4.1km az=116.4*

*GCMT **16** 02:56:39.7±0.3,39°.90N×77°.03E,h19km±1km,MW5.0, Moment Tensor Solution. s28,c34; s77,c120; Moment tensor: Scale 10^16^Nm; Mrr3.11±.20; Mθθ-3.65±.13; Mφφ0.55±.12; Mrθ1.97±.26; Mθφ-0.12±.09; Mφr0.97±.34; Best double couple: M0.4 10000×10^16^ NP1:φ8?4.00000°, δ62.00000°,λ75.00000°. NP2:φ8?284.00000°,δ32.00000°, λ116.00000°. Principal axes: T 3.8900, Plg69.0000°, Azm312.0000°; N 0.3300, Plg13.0000°, Azm82.0000°; P -4.2100, Plg16.0000°, Azm175.0000°; Data Used: II IU G CN IC.*

*NEIC **16** 02:56:41.9±0.6,40°.17N×76°.96E,h53km±6km,mb4.5/16 Error ellipse: s-maj=6.7km s-min=4.7km az=194.0*

ISC 16 02:56:37.8±0.4,39°.85N±0°.02×77°.01E±0°.03,h23km±3km, h23km:pP-P,n280,σ1s71/257,mb4.5/66,MS4.5/47, 35C-19D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.86**	**248**	Pg	Pb	02 57 02.3	+8.1
KSH				Sg	Sn	02 57 20.3	+14
KSH				SMN			
	comp=Z,6μm,0.6s						
KSH				SME			
	comp=Z,5μm,0.6s						
KSH	**Kashi**	**0.86**	**248**	Pg	Pb	02 57 02.3	+8.1
KSH				Sg	Sn	02 57 20.3	+14
ULHL	**Ulahol**	**2.47**	**347**	*i* PN	**Pn**	**02 57 18.6**	**+1.8**
ULHL	**Ulahol**	**2.47**	**347**	P	**Pn**	**02 57 18.6**	**+1.8**
	SNR=719						
KZA	**Kyzart**	**2.60**	**330**	*i* PN	**Pn**	**02 57 20.3**	**+1.6**
KZA	**Kyzart**	**2.60**	**330**	P	**Pn**	**02 57 20.3**	**+1.6**
	SNR=176						
KBK	**Karagaybulak**	**3.21**	**332**	*i* PN	**Pn**	**02 57 29.1**	**+2.2**
KBK	**Karagaybulak**	**3.21**	**332**	P	**Pn**	**02 57 29.2**	**+2.2**
	SNR=62						
TKM2	**Tokmak 2**	**3.25**	**341**	⇑Pg	**Pn**	**02 57 29.6**	**+2.1**
	535nm,1.2s						
TKM2				⇑Lg	Lg	02 58 12.4	
	823nm,1.4s						
TKM2	**Tokmak 2**	**3.25**	**341**	*e*PN	**Pn**	**02 57 29.6**	**+2.1**
	SNR=216						
TKM2	**Tokmak 2**	**3.25**	**341**	*e*Pn	**Pn**	**02 57 29.6**	**+2.1**
AAK	**Ala-Archa**	**3.37**	**327**	*ce*PN	**Pn**	**02 57 30.3**	**+1.2**
AAK	**Ala-Archa**	**3.37**	**327**	P	**Pn**	**02 57 31.1**	**+1.9**
	SNR=113						
AAK	**Ala-Archa**	**3.37**	**327**	⇑*i*Pn	**Pn**	**02 57 31.0**	**+1.9**
AAK				Lg	Lg	02 58 18.6	
AAK	**Ala-Archa**	**3.37**	**327**	Pn	**Pn**	**02 57 31.1**	**+1.9**
	14nm,0.3s,baz=134,slow=11,SNR=102						
AAK				Lg	Lg	02 58 18.6	
	75nm,0.3s,baz=295,slow=20,SNR=11						
AAK				LR	LR	02 58 22.7	
	comp=Z,1μm,18.4s,baz=125,slow=33						
KNDC	**Almaty**	**3.37**	**359**	⇓Pg	**Pb**	**02 57 36.0**	**-0.9**
KNDC				⇑Lg	Lg	02 58 17.9	
AML	**Almayashu**	**3.39**	**313**	*i* PN	**Pn**	**02 57 31.5**	**+1.9**
AML	**Almayashu**	**3.39**	**313**	P	**Pn**	**02 57 31.5**	**+1.9**
	SNR=105						
AAA	**Alma-Ata**	**3.42**	**359**	*e*PN	**Pb**	**02 57 36.7**	**-1.1**
FRU	**Bishkek**	**3.49**	**330**	⇑*i*PN	**Pn**	**02 57 32.0**	**+1.4**
FRU				*e*S	**Sb**	**02 58 21.0**	**+0.3**
FRU				pmax	pmax		
	comp=Z,1μm,1.8s						
FRU				smax	smax		
	comp=N,3μm,1.8s						
FRU				MLR	MLR		
	comp=Z,32μm,9.0s						
CHMS	**Chumysh**	**3.58**	**332**	*i* PN	**Pn**	**02 57 34.0**	**+2.1**
CHMS	**Chumysh**	**3.58**	**332**	P	**Pn**	**02 57 34.0**	**+2.1**
	SNR=13						
EKS2	**Erkin-Say**	**3.72**	**320**	*e*PN	**Pn**	**02 57 36.2**	**+2.3**
EKS2	**Erkin-Say**	**3.72**	**320**	P	**Pn**	**02 57 36.2**	**+2.3**
	SNR=199						
EKS2	**Erkin-Say**	**3.72**	**320**	*e*Pn	**Pn**	**02 57 36.1**	**+2.1**
USP	**Ospenovka**	**3.90**	**332**	P	Pn	02 57 39.0	+2.6
	SNR=21						
KK31	**Karatay Array**	**5.87**	**306**	⇑Pn	**Pn**	**02 58 03.8**	**+0.5**
	comp=Z,5.8nm,0.6s,baz=116,slow=12,SNR=132						
KK31				⇓Pg		02 58 20.7	
	comp=Z,31nm,0.6s,baz=131,slow=16,SNR=21						
KK31				⇓Lg	Lg	02 59 38.0	
	comp=Z,322nm,1.0s						
KK31	**Karatay Array**	**5.87**	**306**	*i* PN	**Pn**	**02 58 03.8**	**+0.5**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.3s						
KKAR	**Karatay Array**	**5.87**	**306**	*e*PN	**Pn**	**02 58 03.6**	**+0.3**
KKAR	**Karatay Array**	**5.87**	**306**	*e*Pn	**Pn**	**02 58 03.6**	**+0.3**
CHCP	**Chirah Chowk**	**6.87**	**207**	P	Pn	02 58 21.3	+4.2
CEP	**Cherat**	**7.27**	**216**	P	**Pn**	**02 58 24.8**	**+2.1**
CEP				S	**Sn**	**02 59 47.0**	**+2.5**
DHRM	**DHARAMSHALA**	**7.60**	**185**	*e*P	**Pn**	**02 58 30.4**	**+3.1**
DHRM				*e*S	**Sn**	**02 59 51.5**	**-1.4**
MK31	**Makanchi Array**	**7.94**	**27**	Pn	**Pn**	**02 58 32.8**	**+1.0**
	comp=Z,2.0nm,0.5s,baz=203,slow=16,SNR=22						
MK31				⇑Pg		02 59 05.5	
	comp=Z,35nm,0.8s,baz=205,slow=15,SNR=2.8						
MK31				⇑Sn	Sb	03 00 14.1	-15
	comp=Z,57nm,0.7s						
MK31				⇑Lg	Lg	03 00 39.2	
	comp=Z,134nm,0.8s,baz=211,slow=27,SNR=4.4						
MK31	**Makanchi Array**	**7.94**	**27**	*i* P	**Pn**	**02 58 32.7**	**+1.0**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MK31	**Makanchi Array**	**7.94**	**27**	*e*Pn	**Pn**	**02 58 32.3**	**+0.5**
MKAR	**Makanchi Array**	**7.94**	**27**	P	**Pn**	**02 58 30.9**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**7.94**	**27**	*e*Pn	**Pn**	**02 58 32.6**	**+0.9**
MKAR				Lg	Lg	03 00 45.7	
MKAR	**Makanchi Array**	**7.94**	**27**	Pn	**Pn**	**02 58 30.9**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=206,slow=16,SNR=9.9						
MKAR				Lg	Lg	03 00 45.7	
	comp=Z,4.1nm,0.3s,baz=201,slow=19,SNR=4.2						
THW	**Thamme Wali**	**8.22**	**213**	P	**Pn**	**02 58 38.5**	**+2.9**
KBL	**Kabul**	**8.27**	**233**	*e*P	Pn	02 58 39.8	+3.3
KBL	**Kabul**	**8.27**	**233**	*e*Pn	Pn	02 58 39.8	+3.3
SDNR	**Sundarnagar**	**8.33**	**180**	*e*4	**Pn**	**02 58 40.0**	**+2.9**
SDNR				*e*4		03 00 23.0	
BHK	**Bhakra**	**8.42**	**183**	*e*P	Pn	02 58 42.0	+3.6
BHK				*e*4		03 00 31.4	
SMLA	**Simla**	**8.70**	**179**	*i* P	**Pn**	**02 58 44.1**	**+2.0**
SMLA				*i* 4		03 00 18.5	
SMLA				AML	AML	03 00 29.1	
	comp=N,412nm,0.3s						
SMLA				AML	AML	03 00 31.2	
	comp=E,345nm,0.5s						
WMQ	**Urumqi**	**8.91**	**60**	P	**Pn**	**02 58 46.3**	**+1.2**
WMQ				S	**Sn**	**03 00 24.5**	**-0.3**
WMQ				SMN			
	comp=E,900nm,1.3s						
WMQ				SME			
	comp=E,580nm,1.0s						
WMQ	**Urumqi**	**8.91**	**60**	P	**Pn**	**02 58 46.3**	**+1.2**
WMQ				S	**Sn**	**03 00 24.5**	**-0.3**
DDI	**Dehra Dun**	**9.54**	**175**	*e*P	**Pn**	**02 58 55.6**	**+1.8**
DDI				*e*S	**Sn**	**03 00 38.6**	**-1.7**
KURBB	**Kurchatov Arra**	**10.83**	**5**	⇑Pn	**Pn**	**02 59 09.7**	**-1.6**
	comp=E,22nm,1.1s						
KURBB				⇓Lg	Lg	03 02 14.3	
	comp=E,943nm,2.0s						
KURBB	**Kurchatov Arra**	**10.83**	**5**	Pn	**Pn**	**02 59 10.2**	**-1.1**
	comp=E,0.2nm,0.3s,baz=193,slow=12,SNR=17						
KURK	**Kurchatov**	**10.93**	**5**	⇓Pn	**Pn**	**02 59 11.5**	**-1.2**
	comp=E,16nm,1.2s						
KURK				⇓Lg	Lg	03 02 14.3	
	comp=E,366nm,2.3s						
KURK	**Kurchatov**	**10.93**	**5**	⇑*e*P	**Pn**	**02 59 11.4**	**-1.2**
KURK				pmax	pmax		
	comp=Z,13nm,1.2s						
KURK	**Kurchatov**	**10.93**	**5**	*e*Pn	**Pn**	**02 59 11.9**	**-0.8**
	comp=Z,11nm,0.8s						
NDI	**New Delhi**	**11.14**	**179**	*ex*	Pn	**02 59 14.0**	**-1.6**
NDI				*e*4		03 00 12.0	
DANN	**Dangsing**	**12.75**	**152**	*e*P	**Pn**	**02 59 36.5**	**-1.5**
	comp=Z,60nm,0.4s						
KOLN	**Koldanda**	**13.23**	**154**	*e*P	**Pn**	**02 59 42.7**	**-1.7**
	comp=Z,45nm,0.5s						
GKN	**Gorkha**	**13.39**	**150**	*e*P	**Pn**	**02 59 45.1**	**-1.5**
	comp=Z,73nm,0.4s						
VOSK	**Vostochnaya**	**13.53**	**344**	⇓Pn	**Pn**	**02 59 45.2**	**-3.0**
	comp=Z,36nm,1.1s						
VOSK				⇑Lg	Lg	03 03 35.4	
	comp=Z,485nm,2.8s						
VOSK	**Vostochnaya**	**13.53**	**344**	*e*P	**Pn**	**02 59 46.4**	**-1.8**
VOSK	**Vostochnaya**	**13.53**	**344**	*e*Pn	**Pn**	**02 59 46.4**	**-1.8**
KKN	**Kakani**	**13.84**	**148**	*e*P	Pn	02 59 50.7	-2.1
	comp=Z,44nm,0.5s						
DMN	**Daman**	**13.93**	**149**	*e*P	**Pn**	**02 59 52.6**	**-1.4**
	comp=Z,62nm,0.7s						
BVA0	**Borovoye Array**	**13.94**	**343**	⇑Pn	**Pn**	**02 59 51.6**	**-2.2**
	comp=Z,48nm,1.1s,baz=159,slow=12,SNR=40						
BVA0				⇑Lg	Lg	03 03 47.2	
	comp=Z,316nm,2.0s,baz=135,slow=25,SNR=8.5						
BVA0	**Borovoye Array**	**13.94**	**343**	*i* P	**Pn**	**02 59 51.6**	**-2.2**
BVA0				pmax	pmax		
	comp=Z,62nm,1.5s						
BVAR	**Borovoye Array**	**13.94**	**343**	P	Pn	02 59 49.4	-4.4
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR				MLR	MLR		
	comp=Z,1μm,20.0s						
BVAR	**Borovoye Array**	**13.94**	**343**	Pn	Pn	02 59 49.4	-4.4
BVAR				Lg	Lg	03 03 53.9	
BVAR	**Borovoye Array**	**13.94**	**343**	Pn	Pn	02 59 49.4	-4.4
	comp=Z,0.5nm,0.3s,baz=150,slow=12,SNR=26						
BVAR				Lg	Lg	03 03 53.9	
	comp=Z,0.6nm,0.3s,baz=140,slow=27,SNR=7.6						
BVAR				LR	LR	03 05 29.2	
	comp=Z,1μm,20.0s,baz=160,slow=39						
GUN	**Gumba**	**13.99**	**146**	*e*P	Pn	02 59 52.7	-2.2
	comp=Z,104nm,0.7s						
BRVK	**Borovoye**	**14.00**	**343**	⇑Pn	**Pn**	**02 59 52.6**	**-1.9**
	comp=Z,131nm,1.1s						
BRVK				⇑Lg	Lg	03 03 48.1	
	comp=Z,1μm,2.2s						
BRVK	**Borovoye**	**14.00**	**343**	*ce*P	**Pn**	**02 59 52.1**	**-2.4**
BRVK				pmax	pmax		
	comp=Z,69nm,1.7s						
BRVK	**Borovoye**	**14.00**	**343**	*e*Pn	**Pn**	**02 59 52.9**	**-1.6**
PKIN	**Phulchoki**	**14.08**	**148**	*e*P	**Pn**	**02 59 54.4**	**-1.6**
	comp=Z,35nm,0.4s						
PKI	**Pulchoki**	**14.09**	**148**	*e*P	Pn	02 59 53.7	-2.5
	comp=Z,114nm,0.9s						
JIRN	**Jiri**	**14.34**	**145**	*e*P	Pn	02 59 57.8	-2.0
	comp=Z,78nm,0.4s						
ZAA0	**Zalesovo Array**	**15.07**	**18**	*e*Pn	**Pn**	**03 00 06.8**	**-2.3**
ZALV	**Zalesovo Beam**	**15.07**	**18**	P	**Pn**	**03 00 06.8**	**-2.3**
ZALV				MLR	MLR		
	comp=Z,2μm,20.7s						
ZALV	**Zalesovo Beam**	**15.07**	**18**	Pn	**Pn**	**03 00 06.8**	**-2.3**
ZALV				Lg	Lg	03 04 35.0	
ZALV	**Zalesovo Beam**	**15.07**	**18**	Pn	**Pn**	**03 00 06.8**	**-2.3**
	baz=208,slow=12,SNR=11						
ZALV				Lg	Lg	03 04 35.0	
	baz=196,slow=25,SNR=4.2						
ZALV				LR	LR	03 06 11.3	
	comp=Z,2μm,20.7s,baz=69,slow=38						
RAMN	**Ramite**	**15.14**	**145**	*e*P	Pn	03 00 06.8	-3.6
	comp=Z,255nm,0.9s						
TAPN	**Taplejung**	**15.31**	**141**	*e*P	**Pn**	**03 00 09.9**	**-2.8**
	comp=Z,100nm,1.0s						
AB31	**Akbulak array**	**15.35**	**313**	Pn	**Pn**	**03 00 11.6**	**-1.2**
	comp=Z,15nm,0.8s,baz=119,slow=11,SNR=133						
AB31				⇑Lg	Lg	03 04 35.9	
	comp=Z,61nm,1.9s						
AB31	**Akbulak array**	**15.35**	**313**	*i* P	**Pn**	**03 00 11.6**	**-1.2**
AB31				pmax	pmax		
	comp=Z,22nm,1.0s						
ABKAR	**Akbulak array**	**15.35**	**313**	*e*Pn	**Pn**	**03 00 12.0**	**-0.8**
LSA	**Lhasa**	**15.39**	**127**	P	**Pn**	**03 00 15.6**	**+1.7**
LSA				AMB	AMB		
	comp=Z,10.0nm,1.3s						
LSA	**Lhasa**	**15.39**	**127**	*e*P	**Pn**	**03 00 16.3**	**+2.4**
LSA				pmax	pmax		
	comp=Z,25nm,1.0s						
LSA	**Lhasa**	**15.39**	**127**	*e*Pn	**Pn**	**03 00 16.3**	**+2.4**
	comp=Z,25nm,1.0s						
ODAN	**Odare**	**15.57**	**143**	*e*P	Pn	03 00 12.3	-3.8
	comp=Z,90nm,0.7s						
NVS	**Novosibirsk**	**15.57**	**14**	⇑*i*P	**Pn**	**03 00 14.5**	**-1.2**
NVS				*e*S	**Sn**	**03 03 02.2**	**-5.2**
NVS				pmax	pmax		
	comp=Z,27nm,0.9s						
HVS	**Khovu-Aksy**	**16.22**	**40**	⇑*e*P	**Pn**	**03 00 22.8**	**-1.3**
HVS				pmax	pmax		
	comp=Z,61nm,1.2s						
BHPL	**Bhopal**	**16.56**	**179**	*e*P	**Pn**	**03 00 29.3**	**+0.8**
AKTO	**Aktyubinsk**	**17.03**	**315**	⇑Pn	**Pn**	**03 00 30.9**	**-3.4**
	comp=Z,29nm,1.1s						
AKTO				⇑Lg	Lg	03 05 31.8	
	comp=Z,138nm,2.8s						
AKTO	**Aktyubinsk**	**17.03**	**315**	P	**Pn**	**03 00 31.1**	**-3.2**
AKTO				MLR	MLR		
	comp=Z,2μm,19.9s						
AKTO	**Aktyubinsk**	**17.03**	**315**	Pn	**Pn**	**03 00 31.1**	**-3.2**
AKTO				Lg	Lg	03 05 37.9	
AKTO	**Aktyubinsk**	**17.03**	**315**	Pn	**Pn**	**03 00 31.1**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=112,slow=12,SNR=23						
AKTO				Lg	Lg	03 05 37.9	
	comp=Z,0.1nm,0.3s,baz=33,slow=22,SNR=4.0						
AKTO				LR	LR	03 07 39.1	
	comp=Z,2μm,19.9s,baz=280,slow=39						
GTA	**Gaotai**	**17.57**	**84**	P	**P**	**03 00 43.5**	**+1.3**
GTA				pP	**pP**	**03 00 50.1**	**+1.5**
GTA				sP	**sP**	**03 00 54.4**	**+2.9**
GTA				S	**S**	**03 04 01.6**	**-2.2**
GTA				sS	sS	03 04 07.3	-6.5
GTA				AMB	AMB		
	comp=Z,27nm,1.1s						
GTA				AMB	AMB		
	comp=Z,210nm,4.2s						
GTA				LR	LR		
	comp=Z,2μm,14.7s						
GTA				LR	LR		
	comp=Z,2μm,9.3s						
GTA				LR	LR		
	comp=Z,2μm,12.8s						
GTA	**Gaotai**	**17.57**	**84**	P	**P**	**03 00 43.5**	**+1.3**
BOK	**Bokaro**	**17.67**	**152**	*e*P	**Pn**	**03 00 43.3**	**+0.8**
NGP	**Nagpur**	**18.72**	**174**	*ex*	P	03 00 50.6	-4.1
NGP				*e*4		03 04 08.0	
SHL	**Shillong**	**18.92**	**134**	*e*P	**Pn**	**03 00 59.2**	**+1.4**
SHL				*i* 4		03 04 27.0	
AKL	**Akola**	**19.08**	**180**	*e*P	**Pn**	**03 01 01.6**	**+2.0**
AKL				*i* 4		03 07 09.2	
SVE	**Sverdlovsk**	**20.09**	**333**	*e*P	**P**	**03 01 09.4**	**-0.1**
SVE				*e*S	S	03 04 42.4	-11
SVE				pmax	pmax		
	comp=Z,22nm,1.0s						
SVE				MLR	MLR		
	comp=Z,3μm,11.0s						
ARU	**Arti**	**20.55**	**330**	*d* iP	Pn	03 01 16.7	-0.1
ARU						03 01 46.1	
ARU				S	**S**	**03 05 00.7**	**-2.4**
ARU				SS	**SnSn**	**03 05 28.2**	**+5.9**
ARU				pmax	pmax		
	comp=Z,44nm,1.2s						
ZAK	**Zakamensk**	**21.22**	**52**	⇑*i*P	**P**	**03 01 22.4**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,24nm,1.2s						
LATR	**Latur**	**21.36**	**181**	*ex*	P	03 01 14.9	-8.5
POO	**Poona**	**21.42**	**188**	*e*P	**P**	**03 01 25.6**	**+1.4**
LZH	**Lanzhou**	**21.46**	**92**	*e*P	**P**	**03 01 26.4**	**+1.8**
LZH				pP	**pP**	**03 01 29.6**	**-1.5**
LZH				sP	**sP**	**03 01 31.8**	**-2.3**
LZH				PP	PnPn	03 01 53.5	+8.6
LZH				*e*S	**S**	**03 05 22.8**	**+1.1**
LZH				sS	Sn	03 05 31.5	+1.4
LZH				SS	SnSn	03 05 59.5	+14
LZH				AMB	AMB		
	comp=Z,35nm,1.0s						
LZH				AMB	AMB		
	comp=Z,150nm,4.2s						
LZH				LR	LR		
	comp=Z,2μm,14.6s						
LZH				LR	LR		
	comp=Z,790nm,12.9s						
LZH				LR	LR		
	comp=Z,1μm,17.2s						
LZH	**Lanzhou**	**21.46**

XAN Xi'an 26.07 93 P **P** 03 02 10.8 +1.2
KMI Kunming 26.09 116 P P 03 02 14.8 +4.8
KMI S **S** 03 06 39.8 -0.4
KMI sS sS 03 06 55.1 +3.5
KMI AMB AMB
comp=Z,17nm,0.9s
KMI AMB AMB
comp=Z,95nm,6.2s
KMI LR LR
comp=Z,590nm,14.6s
KMI LR LR
comp=Z,540nm,12.3s
KMI LR LR
comp=Z,810nm,14.3s
KMI Kunming 26.09 116 P P 03 02 14.8 +4.8
KMI S **S** 03 06 39.8 -0.4
RDF Al-Radifah 26.53 255 *e*P **P** 03 02 13.6 -0.1
RDF AMb AMB 03 02 28.3
comp=Z,87nm,1.3s
NAY Al-Naaiem 26.59 256 *e*P **P** 03 02 13.4 -0.8
NAY AMb AMB 03 02 21.0
comp=Z,14nm,0.8s
RST Umm Al-Ruwaisa 26.64 257 *e*P **P** 03 02 14.4 -0.3
RST AMb AMB 03 02 26.2
comp=Z,347nm,1.1s
VRHR Novokhopersk 26.99 306 *e*P **P** 03 02 21.3 +3.7
VRHR pmax pmax
comp=Z,9.0nm,0.7s
VRHR pmax pmax
comp=N,2.0nm,0.3s
VRHR pmax pmax
comp=E,9.0nm,0.7s
VRHR MLR MLR
comp=Z,2μm,12.0s
VRHR MLR MLR
comp=N,50nm,8.0s
VRHR MLR MLR
comp=E,1μm,12.0s
SOC Sochi 27.93 290 *e*P P 03 02 36.3 +10
SOC *e* 03 03 17.3
SOC *e*SS SS 03 08 40.3 -26
SOC MLR MLR
comp=Z,608nm,13.0s
GYA Guiyang 28.05 109 P **P** **03 02 28.1 +0.6**
GYA PP **PnPn** **03 03 20.0 +4.9**
GYA S **S** **03 07 15.6 +4.7**
GYA SS SnSn 03 08 38.3 +12
GYA AMB AMB
comp=Z,10.0nm,1.0s
GYA AMB AMB
comp=Z,50nm,5.5s
GYA LR LR
comp=Z,390nm,10.3s
GYA LR LR
comp=Z,610nm,12.1s
GYA LR LR
comp=Z,480nm,11.2s
GYA Guiyang 28.05 109 P **P** **03 02 28.1 +0.6**
ENH Enshi 28.12 100 *e*P **P** **03 02 29.6 +1.6**
comp=Z,11nm,0.8s
CHTO Chiang Mai 28.23 132 *e*P P 03 02 33.7 +4.7
CHTO pmax pmax
comp=Z,15nm,0.8s
CHTO Chiang Mai 28.23 132 *e*P P 03 02 32.3 +3.3
comp=Z,15nm,0.8s
VORD Divnogorie 28.42 306 *e*P **P** **03 02 32.5 +2.1**
VORD pmax pmax
comp=E,10.0nm,1.1s
VORD pmax pmax
comp=Z,10.0nm,1.1s
VORD MLR MLR
comp=E,2μm,14.0s
VORD MLR MLR
comp=Z,2μm,14.0s
CMAR Chiang Mai Arr 28.51 132 P **P** **03 02 33.3 +1.7**
CMAR Chiang Mai Arr 28.51 132 P **P** **03 02 33.3 +1.7**
comp=Z,1.0nm,0.3s,baz=299,slow=8.1,SNR=3.4
VSR Storozhevoye 28.53 306 *e*P **P** **03 02 31.6 +0.2**
VSR pmax pmax
comp=Z,4.0nm,0.5s
VSR pmax pmax
comp=N,1.0nm,0.3s
VSR pmax pmax
comp=E,2.0nm,0.5s
VSR MLR MLR
comp=N,660nm,12.0s
VSR MLR MLR
comp=E,2μm,12.0s
VSR MLR MLR
comp=Z,3μm,12.0s
MOS Moscow 30.36 315 *e*P **P** **03 02 45.5 -2.1**
MOS *e* 03 09 47.6
MOS MLR MLR
comp=Z,2μm,15.0s
MOS MLR MLR
comp=E,1μm,14.0s
OBN Obninsk 30.80 313∥*e*P **P** **03 02 50.6 -0.8**
OBN *e*S S 03 07 41.9 -11
OBN pmax pmax
comp=Z,7.0nm,0.9s
OBN MLR MLR
comp=Z,1μm,18.0s
KLMR Klimovskoe 31.18 325 *e*P P 03 02 50.8 -3.9
KLMR pmax pmax
comp=Z,32nm,1.6s
KLMR MLR MLR
comp=Z,2μm,10.0s
WHN Wuhan 31.70 95 P **P** **03 03 01.5 +1.8**
WHN S **S** **03 08 05.1 -2.9**
WHN LR LR
comp=Z,920nm,9.5s
WHN LR LR
comp=Z,1μm,9.4s
WHN LR LR
comp=Z,1μm,13.0s
BR131 Keskin Array S 33.08 284 *e*P **P** **03 03 12.0 +0.1**
comp=Z,2.5nm,0.6s
BRTR Keskin Array B 33.08 284 P **P** **03 03 12.1 +0.1**
BRTR Keskin Array B 33.08 284 P **P** **03 03 12.1 +0.1**
comp=Z,2.5nm,0.9s,baz=102,slow=7.7,SNR=9.6
ASF Jabal al Asfar 33.12 269 P **P** **03 03 12.5 +0.2**
ASF Jabal al Asfar 33.12 269 P **P** **03 03 12.5 +0.2**
comp=Z,0.9nm,0.5s,baz=45,slow=12,SNR=4.0
ASF LR LR 03 17 42.6
comp=Z,95nm,19.9s,baz=209,slow=38
NJ2 Nanjing 34.51 90 *e*P P 03 03 29.9 +5.8
NJ2 pP pP 03 03 34.3 +3.2
NJ2 PP **PP** **03 04 41.8 -0.6**
NJ2 S **S** **03 08 52.0 +0.5**
NJ2 AMB AMB
comp=Z,20nm,0.5s
NJ2 AMB AMB
comp=Z,270nm,3.7s
NJ2 LR LR
comp=Z,2μm,24.5s
NJ2 LR LR
comp=Z,2μm,24.9s
NJ2 LR LR
comp=Z,210nm,11.7s
AKASG Malin Array Be 34.77 304 P **P** **03 03 24.5 -1.7**
AKASG Malin Array Be 34.77 304 P **P** **03 03 24.4 -1.7**
AKASG Malin Array Be 34.77 304 P **P** **03 03 24.4 -1.7**
comp=Z,0.3nm,0.4s,baz=77,slow=8.1,SNR=7.5
KIEV Kiev 34.78 304 *e*P **P** **03 03 26.3 +0.1**
KIEV pmax pmax
comp=Z,6.0nm,1.0s
KIEV Kiev 34.78 304 *e*P **P** **03 03 25.9 -0.3**
comp=Z,5.8nm,1.0s
QIZ Qiongzhong 35.03 117 P P 03 03 36.3 +7.5
QIZ S **S** **03 09 04.3 +4.5**
QIZ AMB AMB
comp=Z,25nm,1.9s
QIZ LR LR
comp=Z,460nm,10.6s
MSAB Monastry St. A 36.38 293⇑*i*P P 03 03 47.5 +7.4
VRI Vrincioaia 36.84 296⇑P P 03 03 47.1 +3.0
VRI Vrincioaia 36.84 296⇑*i*P P 03 03 47.1 +3.0
PLOR Plostina 36.90 296⇑P **P** **03 03 45.6 +1.0**
PLOR Plostina 36.90 296⇑*i*P **P** **03 03 45.6 +1.0**
ISR Istrita 37.09 295⇑P P 03 03 51.8 +5.5
ISR Istrita 37.09 295⇑*i*P P 03 03 51.8 +5.5
MLR Muntele Rosu 37.44 296∥*i*P **P** **03 03 46.5 -2.8**
MLR Muntele Rosu 37.44 296 LR LR 03 22 02.2
comp=Z,258nm,20.2s,baz=73,slow=41
BURAR Bucovina Array 37.62 299⇑P P 03 03 58.1 +7.4
BURAR Bucovina Array 37.62 299⇑*i*P P 03 03 58.1 +7.4
VOIR 38.07 296∥P P 03 03 45.3 -9.3
VOIR 38.07 296∥*i*P P 03 03 45.3 -9.3
SUW Suwalki 38.43 310 *e*P **P** **03 03 59.1 +1.8**
SUW pmax pmax
comp=Z,10.0nm,0.8s
SUW Suwalki 38.43 310 *e*P **P** **03 03 59.1 +1.8**
comp=Z,10nm,0.8s
YAK Yakutsk 38.47 37*de*P **P** **03 03 57.4 -0.2**
YAK pmax pmax
comp=Z,42nm,1.7s
KWP Kalwaria Pacla 39.02 303∥P **P** **03 04 02.7 +0.3**
KWP Kalwaria Pacla 39.02 303∥*i*P **P** **03 04 02.7 +0.3**
KWP Kalwaria Pacla 39.02 303 *e*P **P** **03 04 01.7 -0.7**
comp=Z,13nm,1.1s
KLR Kul'dur 39.35 58 *e*P **P** **03 04 02.0 -3.2**
KLR MLR MLR
comp=Z,2μm,12.0s
KSAR Wonju Array Be 39.38 77 P **P** **03 04 06.2 +0.7**
KSRS Korea Array 39.40 77 P **P** **03 04 06.2 +0.5**
comp=Z,3.5nm,1.0s,baz=281,slow=7.4,SNR=8.2
KSRS LR LR 03 21 22.3
comp=Z,115nm,18.9s,baz=104,slow=38
UZH Uzhgorod 39.42 301 *e*P **P** **03 04 06.9 +1.2**
UZH *e*S **S** **03 10 04.9 -1.0**
UZH MLR MLR
comp=N,650nm,12.0s
UZH MLR MLR
comp=E,2μm,12.0s
UZH MLR MLR
comp=Z,900nm,12.0s
STHS Stebnicka Huta 39.99 303 *e*P **P** **03 04 12.3 +1.8**
STHS Stebnicka Huta 39.99 303 *e*P **P** **03 04 12.3 +1.8**
ARCES ARCESS Array B 40.01 335 P **P** **03 04 08.6 -1.8**
ARCES ARCESS Array B 40.01 335 P **P** **03 04 08.6 -1.8**
comp=Z,2.5nm,0.6s,baz=95,slow=8.8,SNR=11
ARCES LR LR 03 21 22.7
comp=Z,801nm,20.4s,baz=113,slow=37
USRK Ussuriysk Arra 40.44 65 LR LR 03 22 39.7
comp=Z,292nm,20.5s,baz=276,slow=39
KULM Kulim 40.47 142 *e*P P 03 04 18.4 +3.7
comp=Z,5.5nm,0.9s
YULB Yu-li 40.69 100 *e*P P 03 04 20.2 +3.7
comp=Z,15nm,0.9s
TIXI Tiksi 40.89 22*ce*P **P** **03 04 16.9 -0.7**
TIXI pmax pmax
comp=Z,22nm,0.8s
IDI Anoyia 41.08 281 P **P** **03 04 20.4 +0.7**
IDI Anoyia 41.08 281 P **P** **03 04 20.4 +0.7**
comp=Z,2.2nm,0.4s,baz=24,slow=12,SNR=2.9
IDI LR LR 03 24 24.4
comp=Z,119nm,20.0s,baz=193,slow=41
GVD Gavdhos 41.86 280 *e*P **P** **03 04 28.1 +2.0**
comp=Z,82nm,0.7s
OKC Ostrava-Krasne 41.92 304 AMS AMS 03 23 00.0
comp=Z,1μm,15.1s
DPC Dobruska-Polom 42.99 305 *e*P P 03 04 31.1 -4.0
DPC *e* 03 04 38.9
DPC Dobruska-Polom 42.99 305 *e*P P 03 04 31.1 -4.0
DPC *ep*P pP 03 04 38.9 -3.3
DPC AMS AMS 03 23 40.0
VRAC Vranov 43.01 303 LR LR 03 25 12.3
comp=Z,476nm,18.7s,baz=80,slow=40
UPC Upice 43.16 305 *e*P **P** **03 04 36.4 0.0**
UPC Upice 43.16 305 *e*P **P** **03 04 36.4 0.0**
UPC *ep*P **pP** **03 04 41.1 -2.4**
HFS Hagfors 43.48 319 P **P** **03 04 38.6 -0.3**
HFS Hagfors 43.48 319 P **P** **03 04 38.6 -0.3**
comp=Z,1.9nm,0.6s,baz=99,slow=8.9,SNR=5.4
HFS LR LR 03 23 16.3
comp=Z,865nm,18.6s,baz=174,slow=37
TREC Trest 43.72 304 AMS AMS 03 24 10.0
comp=Z,2μm,15.1s
PVCC Panska Ves 44.06 306 AMS AMS 03 24 20.0
comp=Z,2μm,12.3s
PRU Prunice 44.18 305 AMS AMS 03 24 20.0
comp=Z,1μm,13.8s
NB2 NORSAR Subarra 44.67 321 P **P** **03 04 47.4 -1.1**
comp=Z,8.9nm,1.0s,baz=88,slow=7.9
NOA NORSAR Array B 44.67 321 P **P** **03 04 47.2 -1.3**
NOA NORSAR Array B 44.67 321 P **P** **03 04 47.2 -1.3**
comp=Z,2.3nm,0.8s,baz=90,slow=7.9,SNR=6.0
NOA LR LR 03 24 11.5
comp=Z,771nm,18.8s,baz=85,slow=37
CLL Collm 44.88 307 *e*P **P** **03 04 49.0 -1.2**
CLL pmax pmax
comp=Z,5.0nm,2.0s
CLL MLR MLR
comp=Z,2μm,16.6s
CLL Collm 44.88 307 *e*P **P** **03 04 49.0 -1.2**
comp=Z,26nm,2.0s
CLL *ep*P pP 03 05 11.0 +14
CLL *e*SS SS 03 14 48.0 +0.3
GERES GERESS Array B 44.96 303 P **P** **03 04 51.2 +0.2**
GERES GERESS Array B 44.96 303 P **P** **03 04 51.2 +0.2**
comp=Z,1.9nm,0.8s,baz=69,slow=7.3,SNR=7.7
GERES LR LR 03 26 20.9
comp=Z,484nm,18.3s,baz=82,slow=40
KHC Kasperske Hory 44.98 304 *e*P **P** **03 04 50.7 -0.4**
KHC MLR MLR
comp=Z,2μm,12.9s
KHC Kasperske Hory 44.98 304 *e*P **P** **03 04 50.7 -0.4**
KHC *ex* x 03 05 13.6
KHC AMS AMS 03 25 00.0
comp=Z,2μm,12.9s
KHC Kasperske Hory 44.98 304 *e*P **P** **03 04 50.6 -0.5**
comp=Z,7.7nm,0.9s
GRF Grafenberg Arr 46.34 305 *e*P **P** **03 05 02.0 +0.2**
GRF pmax pmax
comp=Z,10.0nm,0.9s
GRF MLR MLR
comp=Z,500nm,18.2s
GRF Grafenberg Arr 46.34 305 *e*P **P** **03 05 02.0 +0.2**
comp=Z,10.0nm,0.9s
GRF *e*L L 03 26 13.6
comp=Z,497nm,18.2s
MAJO Matsushiro 47.39 74 *e*P **P** **03 05 10.2 0.0**
MAJO pmax pmax
comp=Z,11nm,0.9s
MAJO Matsushiro 47.39 74 *e*P **P** **03 05 10.2 0.0**
comp=Z,11nm,0.9s
MAT Matsushiro 47.39 74 P **P** **03 05 09.2 -1.0**
MJAR Matsushiro Arr 47.39 74 P **P** **03 05 10.7 +0.5**
MJAR Matsushiro Arr 47.39 74 P **P** **03 05 10.7 +0.5**
comp=Z,4.9nm,1.0s,baz=284,slow=8.7,SNR=17
MJAR LR LR 03 25 44.9
comp=Z,125nm,21.4s,baz=330,slow=37
DAVOX Davos/Dischmat 47.99 302 LR LR 03 27 44.0
comp=Z,351nm,19.7s,baz=64,slow=39
CDF Champ du Feu 49.19 304 *e*P **P** **03 05 22.8 -1.2**
CDF Champ du Feu 49.19 304 *e*P **P** **03 05 22.8 -1.2**
CDF Champ du Feu 49.19 304 *e*P **P** **03 05 22.8 -1.2**
HINF Hinteralfeld 49.64 304 *e*P **P** **03 05 26.2 -1.2**
comp=Z,8.7nm,0.9s
HINF Hinteralfeld 49.64 304 *e*P **P** **03 05 26.2 -1.2**
HINF pmax pmax
comp=Z,9.0nm,0.9s
HINF Hinteralfeld 49.64 304 *e*P **P** **03 05 26.2 -1.2**
comp=Z,8.7nm,0.9s
HAU Haudompre 49.90 304 *e*P **P** **03 05 28.0 -1.4**
HAU *e*R
comp=Z,539nm,23.0s
HAU Haudompre 49.90 304 *e*P **P** **03 05 28.0 -1.4**
HAU Haudompre 49.90 304 *e*P **P** **03 05 28.0 -1.4**
LPG La Plagne 50.46 301 *e*P **P** **03 05 33.0 -1.0**
comp=Z,42nm,1.5s
LPG La Plagne 50.46 301 *e*P **P** **03 05 33.0 -1.0**
LPG pmax pmax
comp=Z,42nm,1.5s
LPG La Plagne 50.46 301 *e*P **P** **03 05 33.0 -1.0**
comp=Z,42nm,1.5s
LPL La Plagne 50.47 301 *e*P **P** **03 05 33.1 -0.8**
comp=Z,19nm,1.1s
LPL La Plagne 50.47 301 *e*P **P** **03 05 33.1 -0.8**
LPL pmax pmax
comp=Z,19nm,1.1s
LPL La Plagne 50.47 301 *e*P **P** **03 05 33.1 -0.8**
comp=Z,19nm,1.1s
MEZF Maizieres J'vi 50.57 305 *e*P **P** **03 05 33.7 -0.6**
MEZF Maizieres J'vi 50.57 305 *e*P **P** **03 05 33.7 -0.6**
SBF Sospel 50.58 299 *e*P **P** **03 05 33.3 -1.3**
comp=Z,50nm,1.0s
SBF Sospel 50.58 299 *e*P **P** **03 05 33.3 -1.3**
SBF pmax pmax
comp=Z,50nm,1.0s
SBF Sospel 50.58 299 *e*P **P** **03 05 33.3 -1.3**
comp=Z,50nm,1.0s
BAIF Baives 50.60 307 *e*P **P** **03 05 33.9 -0.7**
BAIF Baives 50.60 307 *e*P **P** **03 05 33.9 -0.7**
BAIF Baives 50.60 307 *e*P **P** **03 05 33.9 -0.7**
SMF Signal de Mont 51.96 303 *e*P **P** **03 05 43.2 -1.7**
comp=Z,14nm,1.0s
SMF Signal de Mont 51.96 303 *e*P **P** **03 05 43.2 -1.7**
SMF pmax pmax
comp=Z,14nm,1.0s
SMF Signal de Mont 51.96 303 *e*P **P** **03 05 43.2 -1.7**
comp=Z,14nm,1.0s
SSF Saint Saulge 52.03 304 *e*P **P** **03 05 44.9 -0.5**
comp=Z,22nm,1.3s
SSF Saint Saulge 52.03 304 *e*P **P** **03 05 44.9 -0.5**
SSF pmax pmax
comp=Z,22nm,1.3s
SSF Saint Saulge 52.03 304 *e*P **P** **03 05 44.9 -0.5**
comp=Z,22nm,1.3s
AVF Avril sur Loir 52.23 303 *e*P **P** **03 05 45.3 -1.5**
comp=Z,11nm,0.8s
AVF Avril sur Loir 52.23 303 *e*P **P** **03 05 45.3 -1.5**
AVF pmax pmax
comp=Z,11nm,0.8s
AVF Avril sur Loir 52.23 303 *e*P **P** **03 05 45.3 -1.5**
comp=Z,11nm,0.8s
PETK Petropavlovsk- 54.25 47 LR LR 03 29 18.0
comp=Z,133nm,20.7s,baz=309,slow=36
KMBO Kilima Mbogo 54.60 232 *e*P P 03 06 08.4 +3.6
comp=Z,3.7nm,1.0s
KMBO Kilima Mbogo 54.60 232 P **P** **03 06 05.8 +0.9**
comp=Z,3.6nm,0.9s,baz=44,slow=11,SNR=7.7
KMBO LR LR 03 29 53.3
comp=Z,170nm,19.1s,baz=98,slow=37
ESDC Sonseca Array 60.06 298 P **P** **03 06 42.2 -0.8**
ESDC Sonseca Array 60.06 298 P **P** **03 06 42.2 -0.8**
comp=Z,0.3nm,0.5s,baz=56,slow=7.2,SNR=5.1
ESDC LR LR 03 37 22.7
comp=Z,227nm,18.2s,baz=60,slow=41
TAM Tamanrasset 61.87 277 *e*P **P** **03 06 55.3 -0.3**
TAM pmax pmax
comp=Z,2.0nm,0.6s
TAM Tamanrasset 61.87 277 *e*P **P** **03 06 55.0 -0.7**
comp=Z,2.3nm,0.6s
MDT Midelt 63.98 292 LR LR 03 37 40.2
comp=Z,139nm,18.5s,baz=218,slow=39
COLD Coldfoot 67.40 18 *e*P **P** **03 07 29.5 -1.3**
comp=Z,6.2nm,0.9s
IMA2 Indian Mountai 67.44 20 *e*P **P** **03 07 30.1 -1.1**
COLA College 69.87 19*di*P **P** **03 07 45.8 -0.4**
COLA pmax pmax
comp=Z,17nm,1.0s
ILAR Eielson Array 70.19 18 P **P** **03 07 46.4 -1.9**
ILAR Eielson Array 70.19 18 P **P** **03 07 46.4 -1.9**
comp=Z,1.3nm,0.9s,baz=323,slow=4.9,SNR=15
ILAR LR LR 03 42 58.0
comp=Z,263nm,20.2s,baz=337,slow=40
TOA0 Torodi Ar. Sit 70.47 271 *e*P **P** **03 07 48.9 -1.8**
TORD Torodi Ar. Bea 70.47 271 P **P** **03 07 49.2 -1.5**
TORD Torodi Ar. Bea 70.47 271 P **P** **03 07 49.2 -1.5**
comp=Z,6.5nm,0.6s,baz=50,slow=5.2,SNR=76
DBIC Dimbokro 79.52 270 P **P** **03 08 42.0 -1.0**
DBIC Dimbokro 79.52 270 P **P** **03 08 42.0 -1.0**
comp=Z,3.2nm,0.7s,baz=68,slow=5.3,SNR=5.1
WRA Warramunga Arr 79.95 126 P **P** **03 08 46.9 +1.9**
WRA Warramunga Arr 79.95 126 P **P** **03 08 46.9 +1.9**
comp=Z,1.1nm,0.6s,baz=333,slow=4.5,SNR=4.3
WRAB Tennant Creek 79.95 126∥*e*P P 03 08 51.7 +6.6
WRAB pmax pmax
comp=Z,46nm,2.5s
ASAR Alice Springs 82.48 129 P **P** **03 08 58.4 -0.2**
ASAR Alice Springs 82.48 129 P **P** **03 08 58.4 -0.2**
comp=Z,1.3nm,0.7s,baz=309,slow=5.2,SNR=7.3
FFC Flin Flon 85.80 359 *i*P **P** **03 09 14.7 -0.3**
ULM Lac du Bonnet 90.06 355 P **P** **03 09 34.1 -1.4**
ULM Lac du Bonnet 90.06 355 P **P** **03 09 34.1 -1.4**
comp=Z,2.8nm,0.7s,baz=326,slow=11,SNR=3.3
ULM LR LR 03 53 05.4
comp=Z,350nm,18.2s,baz=46,slow=38
BSMT Bassoo Peak 92.06 8 *e*P **P** **03 09 44.7 -0.3**
comp=Z,2.3nm,1.0s
PDAR Pinedale Array 97.55 5 LR LR 03 55 51.4
comp=Z,217nm,19.9s,baz=162,slow=36

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*ISCJB **16** 03:14:04.5±0.6,36°.50N±0°.05×70°.8E±0°.1,h204km, Error ellipse: s-maj=13.8km s-min=5.4km az=164.9*
*NNC **16** 03:14:09.8±6.5,36°.89N×70°.52E,h184km±64km,mb3.0, mpv3.7,Error ellipse: s-maj=55.5km s-min=35.1km az=21.0*
ISC 16 03:14:04.5±1.0,36°.52N±0°.07×70°.6E±0°.1,h204km,n9,
σ1°.93/14,4C-7D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.89**	**158**	⇑P	**Pn**	**03 14 53.2**	**-0.1**
CEP				S	**S**	**03 15 29.0**	**-1.8**
CHCP	**Chirah Chowk**	**3.58**	**142**	P	**Pn**	**03 15 01.4**	**0.0**
THW	**Thamme Wali**	**3.83**	**166**	⇑P	**Pn**	**03 15 04.2**	**-0.3**
SARP	**Sargodha**	**4.89**	**159**	P	**Pn**	**03 15 17.8**	**+0.1**
KK31	**Karatay Array**	**6.57**	**359**	∥P	**Pn**	**03 15 40.2**	**+1.0**
	1.5nm,0.3s,baz=175,slow=12,SNR=41						
KK31				∥S	**S**	**03 16 51.4**	**-2.7**
	15nm,0.4s,baz=184,slow=22,SNR=25						
TKM2	**Tokmak 2**	**7.45**	**29**	∥P	**Pn**	**03 15 51.6**	**+1.0**
	2.8nm,0.5s						
TKM2				⇓S	**S**	**03 17 13.0**	**-2.0**
	7.6nm,0.9s						
AB31	**Akbulak array**	**14.92**	**332**	⇑P	**P**	**03 17 26.6**	**+0.5**
	2.0nm,0.8s,baz=142,slow=11,SNR=20						
AB31				⇓S	**S**	**03 20 07.6**	**-3.1**
	0.5nm,0.5s,baz=163,slow=24,SNR=4.3						
BVA0	**Borovoye Array**	**16.50**	**359**	∥P	**Pn**	**03 17 48.1**	**+3.7**
	0.8nm,0.4s,baz=0.0,slow=0.1,SNR=5.8						
AKTO	**Aktyubinsk**	**16.61**	**331**	⇑P	**Pn**	**03 17 46.8**	**+1.0**
	7.8nm,0.9s						
AKTO				⇓S	**S**	**03 20 48.1**	**+0.3**
	1.3nm,0.9s						

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*NNC **16** 03:20:14.3±4.8,40°.20N×76°.82E,h0km,mb3.7,mpv3.4, Error ellipse: s-maj=44.7km s-min=41.0km az=89.0*
ISC 16 03:20:15.7±3.0,40°.4N±0°.2×77°.1E±0°.1,h10km,n10,
σ2°.13/10,5C-1D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**1.97**	**340**	P	**Pb**	**03 20 52.0**	**+0.1**
	SNR=24						
KZA	**Kyzart**	**2.21**	**320**	P	**Pn**	**03 20 54.6**	**+1.8**
	SNR=40						
TKM2	**Tokmak 2**	**2.78**	**336**	⇑Pn	**Pb**	**03 21 03.0**	**-2.6**
	7.5nm,0.4s						
TKM2				⇑Lg	Lg	03 21 44.3	
	20nm,0.6s						
TKM2	**Tokmak 2**	**2.78**	**336**	P	**Pb**	**03 21 03.0**	**-2.6**
	SNR=13						
KBK	**Karagaybulak**	**2.80**	**325**	P	**Sg**	**03 21 48.6**	**+3.0**
	SNR=5.6						
KNDC	**Almaty**	**2.83**	**357**	⇑Pn	**Pn**	**03 21 02.0**	**+1.0**
	21nm,0.5s						
KNDC				⇓Lg	Lg	03 21 51.5	
AAK	**Ala-Archa**	**3.00**	**319**	P	**Sg**	**03 21 49.9**	**-2.0**
	SNR=6.0						
AML	**Almayashu**	**3.13**	**305**	P	**Pn**	**03 21 05.1**	**-0.3**
	SNR=7.2						
EKS2	**Erkin-Say**	**3.40**	**313**	P	**Pn**	**03 21 09.9**	**+1.1**
	SNR=9.2						
KK31	**Karatay Array**	**5.65**	**301**	⇑Pg	**Pb**	**03 21 54.1**	**-0.2**
	0.4nm,0.3s,baz=130,slow=15,SNR=5.8						
KK31				⇑Lg	Lg	03 23 07.4	
	4.9nm,0.8s,baz=126,slow=25,SNR=5.5						

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*ISCJB **16** 03:31:32.8±0.5,41°.64S±0°.09×85°.0E±0°.1,h10km, mb4.3/16,MS4.5/23,Error ellipse: s-maj=16.2km s-min=12.4km az=11.8*
*IDC **16** 03:31:32.8±0.8,41°.70S×85°.01E,h0km,mb4.1/10, mb1 4.3/10,mb1mx4.1/17,mbtmp4.1/10,MS4.4/23, Ms1 4.4/23,ms1mx4.3/32,Error ellipse: s-maj=28.2km s-min=19.6km az=102.0*
*NEIC **16** 03:31:34.5±0.4,41°.64S×84°.96E,h10km,mb4.6/8,Error ellipse: s-maj=13.4km s-min=10.3km az=101.0*
*GCMT **16** 03:31:36.1±0.2,41°.67S×84°.99E,h18km±1km,MW5.2, Moment Tensor Solution. s59,c83; s89,c152; Moment tensor: Scale 10^16^Nm; Mrr-0.43±.18; Mtθ8.03±.19;*

$M_{\phi\phi}$-7.61±.19; $M_{\theta\theta}$2.09±.41; $M_{\theta\phi}$-0.16±.15; M_{rr}1.70±.39; Best double couple: $M_0$8.30000×10^{16} NP1:ϕ_{s}46.00000°, δ90.00000°,λ161.00000°. NP2:ϕ_{s}136.00000°,δ71.00000°, λ0.00000°. Principal axes: T 8.5200, Plg13.0000°, Azm359.0000°; N -0.5100, Plg71.0000°, Azm226.0000°; P -8.0200, Plg13.0000°, Azm92.0000°; Data Used: II IU G CN IC.

ISC 16 03:31:34.6±0.6, 41°.66S±0°.10×85°.0E±0°.1, h10km, n56, σ1$ 02/32, mb4.4/16, MS4.5/23, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**23.77**	**83**	T	T	04 01 17.8	
	baz=245,slow=0.7,SNR=181						
H01W3	**Cape Leeuwin H**	**23.78**	**83**	T	T	04 01 18.4	
	baz=245,slow=0.7,SNR=216						
H01W1	**Cape Leeuwin H**	**23.79**	**83**	T	T	04 01 19.1	
	baz=245,slow=0.7,SNR=272						
NWAO	**Narrogin (SRO)**	**26.96**	**82**	LR	LR	03 45 26.3	
	comp=Z,943nm,21.4s,baz=50,slow=31						
MAW	**Mawson**	**28.64**	**198**	P	**P**	**03 37 31.6**	**+0.7**
MAW	**Mawson**	**28.64**	**198**	P	**P**	**03 37 31.6**	**+0.7**
	2.2nm,1.0s,baz=300,slow=14,SNR=3.5						
MAW				LR	LR	03 46 24.2	
	comp=Z,431nm,20.1s,baz=31,slow=31						
H08S2	**Diego Garcia H**	**35.64**	**338**	T	T	04 15 57.8	
	baz=164,slow=0.7,SNR=247						
H08S1	**Diego Garcia H**	**35.65**	**338**	T	T	04 15 58.7	
	baz=164,slow=0.7,SNR=351						
H08S3	**Diego Garcia H**	**35.66**	**338**	T	T	04 15 58.2	
	baz=164,slow=0.7,SNR=340						
H08N1	**Diego Garcia H**	**37.31**	**337**	T	T	04 18 17.6	
	baz=35,slow=0.2,SNR=5.9						
H08N3	**Diego Garcia H**	**37.31**	**337**	T	T	04 18 22.2	
	baz=35,slow=0.2,SNR=7.9						
H08N2	**Diego Garcia H**	**37.33**	**337**	T	T	04 18 19.1	
	baz=35,slow=0.2,SNR=8.6						
ASAR	**Alice Springs**	**44.28**	**82**	P	**P**	**03 39 44.1**	**-0.5**
ASAR				PcP	**PcP**	**03 41 29.8**	**+0.9**
ASAR	**Alice Springs**	**44.28**	**82**	P	**P**	**03 39 44.1**	**-0.5**
	3.0nm,0.8s,baz=222,slow=7.4,SNR=20						
ASAR				PcP	**PcP**	**03 41 29.8**	**+0.9**
	0.4nm,0.7s,baz=238,slow=3.0,SNR=2.9						
ASAR				LR	LR	03 56 22.2	
	comp=Z,1μm,18.9s,baz=235,slow=34						
AS31	**Alice Springs**	**44.28**	**82**	*e*P	**P**	**03 39 44.7**	**+0.1**
STKA	**Stephens Creek**	**45.66**	**97**	P	**P**	**03 39 55.8**	**+0.4**
STKA	**Stephens Creek**	**45.66**	**97**	P	**P**	**03 39 55.8**	**+0.4**
	3.9nm,1.0s,baz=198,slow=12,SNR=4.0						
STKA				LR	LR	03 56 48.5	
	comp=Z,524nm,18.2s,baz=220,slow=33						
WRA	**Warramunga Arr**	**46.86**	**78**	P	**P**	**03 40 05.3**	**+0.4**
WRA	**Warramunga Arr**	**46.86**	**78**	P	**P**	**03 40 05.3**	**+0.4**
	6.3nm,1.1s,baz=233,slow=7.8,SNR=10.0						
WRA				LR	LR	03 57 27.5	
	comp=Z,280nm,19.1s,baz=235,slow=33						
WRAB	**Tennant Creek**	**46.87**	**78**	*e*P	**P**	**03 40 06.0**	**+1.0**
	17nm,1.4s						
VNDA	**Vanda**	**46.89**	**163**	*e*P	**P**	**03 40 03.6**	**-0.9**
	1.0nm,0.7s						
VNDA	**Vanda**	**46.89**	**163**	P	**P**	**03 40 01.9**	**-2.5**
	0.6nm,0.6s,baz=275,slow=6.7,SNR=7.1						
VNDA				LR	LR	03 57 34.4	
	comp=Z,659nm,19.7s,baz=274,slow=33						
QSPA	**South Pole Qui**	**48.50**	**180**	*e*P	**P**	**03 40 16.2**	**-1.1**
	7.3nm,1.1s						
QSPA	**South Pole Qui**	**48.50**	**180**	P	**P**	**03 40 16.2**	**-1.1**
	2.5nm,0.6s						
PALK	**Pallekele**	**48.85**	**354**	*e*P	**P**	**03 40 20.0**	**-0.3**
	3.2nm,0.6s						
KULM	**Kulim**	**48.86**	**21**	*e*P	**P**	**03 40 20.4**	**0.0**
	3.1nm,0.6s						
BOSA	**Boshof**	**49.65**	**265**	LR	LR	03 56 25.6	
	comp=Z,792nm,20.7s,baz=115,slow=30						
SNAA	**Sanae**	**50.42**	**204**	*e*P	**P**	**03 40 32.6**	**+0.8**
	2.9nm,0.9s						
CTAO	**Charters Tower**	**55.61**	**87**	*e*P	**P**	**03 41 12.1**	**+1.4**
	11nm,1.4s						
KMBO	**Kilima Mbogo**	**58.89**	**300**	LR	LR	04 01 24.5	
	comp=Z,162nm,19.5s,baz=95,slow=30						
CMAR	**Chiang Mai Arr**	**61.19**	**15**	P	**P**	**03 41 48.1**	**-1.3**
CMAR	**Chiang Mai Arr**	**61.19**	**15**	P	**P**	**03 41 48.1**	**-1.3**
	1.9nm,0.3s,baz=168,slow=5.5,SNR=5.8						
CMAR				LR	LR	04 07 56.9	
	comp=Z,180nm,18.1s,baz=89,slow=36						
DZM	**Mont Dzumac**	**69.47**	**102**	*e*LR	LR	04 03 24.8	
	482nm,24.3s						
DZM	**Mont Dzumac**	**69.47**	**102**	LR	LR	04 08 02.6	
	comp=Z,264nm,20.1s,baz=194,slow=32						
HNR	**Honiara**	**72.56**	**87**	LR	LR	04 10 07.4	
	comp=Z,149nm,18.4s,baz=144,slow=32						
KBL	**Kabul**	**77.23**	**347**	*e*P	**P**	**03 43 28.5**	**-0.4**
	4.0nm,0.6s						
ASF	**Jabal al Asfar**	**85.78**	**321**	LR	LR	04 16 35.6	
	comp=Z,105nm,21.5s,baz=97,slow=32						
MMAI	**Mount Meron Ar**	**87.19**	**320**	LR	LR	04 18 45.3	
	comp=Z,103nm,19.3s,baz=80,slow=32						
MK31	**Makanchi Array**	**88.10**	**358**	*e*P	**P**	**03 44 23.9**	**-0.9**
MKAR	**Makanchi Array**	**88.10**	**358**	P	**P**	**03 44 24.1**	**-0.7**
MKAR	**Makanchi Array**	**88.10**	**358**	P	**P**	**03 44 24.1**	**-0.7**
	0.4nm,0.7s,baz=167,slow=7.0,SNR=3.6						
MKAR				LR	LR	04 21 35.6	
	comp=Z,284nm,19.9s,baz=184,slow=34						
GNI	**Garni**	**89.25**	**330**	LR	LR	04 20 35.5	
	comp=Z,98nm,19.8s,baz=156,slow=33						
AFI	**Afiamalu**	**90.47**	**109**	LR	LR	04 17 18.0	
	comp=Z,555nm,20.6s,baz=113,slow=30						
SONM	**Songino Array**	**91.10**	**14**	P	**P**	**03 44 38.6**	**-0.4**
SONM	**Songino Array**	**91.10**	**14**	P	**P**	**03 44 38.6**	**-0.4**
	0.6nm,0.7s,baz=178,slow=8.4,SNR=3.3						
SONM				LR	LR	04 24 08.7	
	comp=Z,291nm,20.0s,baz=175,slow=35						
KBZ	**Khabaz**	**93.04**	**331**	LR	LR	04 21 16.4	
	comp=Z,105nm,19.3s,baz=160,slow=32						
BRTR	**Keskin Array B**	**93.48**	**323**	P	**P**	**03 44 52.1**	**+1.9**
BRTR	**Keskin Array B**	**93.48**	**323**	P	**P**	**03 44 52.1**	**+1.9**
	1.7nm,1.1s,baz=157,slow=7.9,SNR=5.0						
BRTR				LR	LR	04 23 16.4	
	comp=Z,117nm,20.3s,baz=5.0,slow=33						
TORD	**Torodi Ar. Bea**	**93.70**	**284**	LR	LR	04 24 29.9	
	comp=Z,265nm,18.5s,baz=320,slow=34						
DBIC	**Dimbokro**	**94.27**	**275**	LR	LR	04 22 18.0	
	comp=Z,268nm,18.4s,baz=53,slow=32						
ZALV	**Zalesovo Beam**	**95.23**	**360**	LR	LR	04 24 59.7	
	comp=Z,202nm,21.9s,baz=249,slow=34						
USRK	**Ussuriysk Arra**	**95.30**	**32**	LR	LR	04 27 31.1	
	comp=Z,180nm,18.2s,baz=213,slow=35						
PPT2	**Papeete2**	**102.44**	**127**	*e*LR	LR	04 18 47.7	
	202nm,27.0s						
BCIP	**Isla Barro Col**	**144.98**	**207**	*e*PKPdf	PKPbc	03 51 12.0	+0.3
INK	**Inuvik**	**146.38**	**25**	*e*PKPbc	**PKPbc**	**03 51 14.2**	**-0.3**
INK	**Inuvik**	**146.38**	**25**	PKPbc	**PKPdf**	**03 51 13.7**	**+0.6**
	1.7nm,0.8s,baz=345,slow=5.7,SNR=5.6						

IDC 16 03:42:17.2±8.7, 14°.93S×174°.29W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/17, mbtmp3.6/3, Error ellipse: s-maj=388.4km s-min=36.1km az=139.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**49.12**	**256**	P	P	03 51 07.5	+0.4
	0.4nm,0.6s,baz=91,slow=6.8,SNR=3.9						
ASAR	**Alice Springs**	**49.44**	**252**	P	P	03 51 08.6	-0.9
	0.9nm,0.5s,baz=86,slow=8.3,SNR=13						
ILAR	**Eielson Array**	**82.16**	**11**	P	P	03 54 38.9	-0.6
	0.2nm,0.6s,baz=224,slow=5.7,SNR=4.1						
BRTR	**Keskin Array B**	**145.25**	**321**	PKPbc	PKPdf	04 01 57.5	+0.1
	0.8nm,0.8s,baz=112,slow=2.5,SNR=4.9						

IDC 16 04:06:38.3±1.7, 15°.27S×171°.86W, h0km, mb3.8/3, mb1 4.2/3, mb1mx3.8/20, mbtmp3.8/3, MS3.6/2, Ms1 3.5/2, ms1mx3.1/28, Error ellipse: s-maj=51.3km s-min=20.2km az=120.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.36**	**3**	Pn	Pg	04 07 04.5	0.0
	183nm,0.3s,baz=110,slow=1.1,SNR=140						
AFI					Sn	Sn	04 07 24.1	+0.7
	403nm,0.3s,baz=190,slow=22,SNR=24						
RAO	**Raoul Island**	**14.99**	**201**	LR	LR	04 14 50.5	
	comp=Z,101nm,18.7s,baz=67,slow=33						
H11S2	**WAKE ISLAND Hy**	**39.64**	**327**	T	T	04 56 18.9	
	baz=148,slow=0.7,SNR=36						
H11S3	**WAKE ISLAND Hy**	**39.66**	**327**	T	T	04 56 20.0	
	baz=148,slow=0.7,SNR=23						
H11S1	**WAKE ISLAND Hy**	**39.66**	**327**	T	T	04 56 20.8	
	baz=148,slow=0.7,SNR=6.8						
H11N3	**WAKE ISLAND Hy**	**40.56**	**328**	T	T	04 57 25.4	
	baz=148,slow=0.7,SNR=6.0						
H11N1	**WAKE ISLAND Hy**	**40.57**	**328**	T	T	04 57 25.7	
	baz=148,slow=0.7,SNR=8.1						
H11N2	**WAKE ISLAND Hy**	**40.58**	**328**	T	T	04 57 26.6	
	baz=148,slow=0.7,SNR=5.7						
WRA	**Warramunga Arr**	**51.32**	**257**	P	P	04 15 44.8	0.0
	0.6nm,0.7s,baz=95,slow=11,SNR=4.1						
ASAR	**Alice Springs**	**51.56**	**252**	P	P	04 15 46.0	-0.6
	1.5nm,0.5s,baz=87,slow=7.8,SNR=22						
NVAR	**Mina Array Bea**	**73.25**	**41**	P	P	04 18 11.4	-0.4
	0.3nm,0.7s,baz=234,slow=8.8,SNR=4.3						
MAW	**Mawson**	**88.39**	**198**	LR	LR	04 53 08.0	
	comp=Z,57nm,20.5s,baz=277,slow=32						
BRTR	**Keskin Array B**	**146.98**	**322**	PKPbc	PKPbc	04 26 23.6	+0.2
	1.6nm,0.8s,baz=101,slow=1.3,SNR=6.6						

IDC 16 04:19:27.3±2.7, 0°.51N×127°.60E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/21, mbtmp3.3/3, Error ellipse: s-maj=244.1km s-min=27.4km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.38**	**162**	P	P	04 24 16.2	-0.4
	0.7nm,0.7s,baz=341,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**24.80**	**166**	P	P	04 24 51.5	+0.2
	0.5nm,0.7s,baz=348,slow=9.4,SNR=4.8						
MKAR	**Makanchi Array**	**60.68**	**326**	P	P	04 29 40.5	-0.1
	0.2nm,0.4s,baz=119,slow=6.8,SNR=4.7						

IDC 16 04:21:30.3±10.0, 15°.70S×176°.73W, h325km±106km, mb3.2/5, mb1 3.6/5, mb1mx3.3/18, mbtmp3.2/5, Error ellipse: s-maj=100.8km s-min=25.8km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.65**	**257**	P	P	04 29 27.1	-0.4
	0.2nm,0.3s,baz=95,slow=6.6,SNR=3.4						
ASAR	**Alice Springs**	**46.96**	**252**	P	P	04 29 29.9	0.0
	3.0nm,0.6s,baz=85,slow=8.1,SNR=43						
NVAR	**Mina Array Bea**	**76.73**	**43**	P	P	04 32 46.6	0.0
	0.9nm,0.8s,baz=227,slow=9.0,SNR=7.6						
ILAR	**Eielson Array**	**83.40**	**12**	P	P	04 33 20.9	-0.3
	0.7nm,0.6s,baz=219,slow=5.2,SNR=22						
TXAR	**Lajitas Array**	**83.46**	**57**	P	P	04 33 22.6	+0.2
	0.6nm,0.8s,baz=249,slow=3.5,SNR=5.7						
ARCES	**ARCESS Array B**	**124.43**	**351**	PKP	PKPdf	04 39 49.4	-1.0
	5.1nm,0.9s,baz=24,slow=3.3,SNR=5.6						
BRTR	**Keskin Array B**	**144.30**	**318**	PKP	PKPab	04 40 27.4	0.0
	0.6nm,0.6s,baz=117,slow=3.6,SNR=4.2						
GERES	**GERESS Array B**	**145.86**	**348**	PKPbc	PKPbc	04 40 31.7	-0.1
	0.3nm,0.4s,baz=30,slow=6.0,SNR=3.1						

*IDC **16** 04:26:11.5±3.0, 9°.72S×112°.55E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/21, mbtmp3.4/3, Error ellipse: s-maj=164.0km s-min=28.1km az=47.0*

*ISCJB **16** 04:26:18.5±0.9, 9°.58S±0°.06×112°.93E±0°.06, h36km, mb3.4/3, Error ellipse: s-maj=9.9km s-min=8.0km az=139.3*

*DJA **16** 04:26:22.4±1.7, 9°.S±5°×11°.3E±°, h39km±20km, M3.8/10, MLv3.8/10*

ISC 16 04:26:18.3±1.4, 9°.6S±0°.1×112°.89E±0°.07, h36km, n13, σ1$ 53/15, mb3.6/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GMJI	**Gumukmas**	**1.45**	**22**	P	**Pn**	**04 26 42.9**	**+0.9**
GMJI				S	**Sn**	**04 26 57.5**	**-2.3**
KRKI	**Karangkates**	**1.52**	**343**	P	**Pn**	**04 26 44.8**	**+1.8**
KRKI				S	**Sn**	**04 27 01.4**	**-0.1**
PWJI	**Pagerwojo**	**1.92**	**326**	P	**Pn**	**04 26 48.5**	**0.0**
PWJI				S	**Sn**	**04 27 10.8**	**-0.6**
BLJI	**Banyuglugur**	**2.00**	**20**	P	**Pn**	**04 26 51.5**	**+2.0**
BLJI				S	**Sn**	**04 27 12.6**	**-0.6**
SJI	**Sawahan**	**2.18**	**329**	P	**Pn**	**04 26 53.5**	**+1.4**
PCJI	**Pacitan**	**2.21**	**310**	P	**Pn**	**04 26 53.4**	**+1.0**
ABJI	**Asem Bagus**	**2.25**	**36**	P	Pn	04 26 56.6	+3.6
WOJI	**Wonogiri, Jawa**	**2.63**	**312**	P	**Pn**	**04 26 58.8**	**+0.5**
NGJI	**Ngawi**	**2.65**	**328**	P	**Pn**	**04 27 01.3**	**+2.8**
BJII	**Banjamegara**	**3.89**	**306**	P	Pn	04 27 22.6	+7.0
WRA	**Warramunga Arr**	**23.11**	**119**	P	**P**	**04 31 21.0**	**-0.2**
	0.5nm,0.7s,baz=291,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**24.45**	**127**	P	**P**	**04 31 34.9**	**+0.9**
	1.4nm,0.7s,baz=304,slow=9.2,SNR=18						
MKAR	**Makanchi Array**	**62.45**	**337**	P	**P**	**04 36 36.3**	**-1.5**
	0.3nm,0.5s,baz=145,slow=7.4,SNR=3.7						

IDC 16 04:37:41.7±2.4, 28°.97S×178°.67W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/16, mbtmp3.5/2, Error ellipse: s-maj=147.7km s-min=14.5km az=16.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.71**	**113**	Pn	Pn	04 37 59.6	+0.5
	165nm,0.3s,baz=101,slow=12,SNR=15						
RAO				Sn	Sn	04 38 10.5	-0.2
	258nm,0.3s,baz=81,slow=18,SNR=12						
ASAR	**Alice Springs**	**42.62**	**266**	P	P	04 45 39.5	-0.5
	0.2nm,0.5s,baz=104,slow=7.3,SNR=3.4						
WRA	**Warramunga Arr**	**43.40**	**271**	P	P	04 45 47.3	+0.3
	0.6nm,0.4s,baz=110,slow=8.2,SNR=9.6						
FINES	**FINESS Array B**	**143.61**	**340**	PKP	PKPbc	04 57 15.5	+0.3
	1.1nm,0.5s,baz=55,slow=4.6,SNR=9.5						

IDC 16 04:45:05.0±1.5, 12°.37S×165°.47E, h0km, mb4.0/6, mb1 4.2/8, mb1mx3.9/21, mbtmp4.0/8, ML3.7/2, MS2.9/1, Ms1 2.9/1, ms1mx2.7/33, Error ellipse: s-maj=44.4km s-min=25.1km az=124.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.16**	**298**	LR	LR	04 48 43.4	
	comp=Z,122nm,21.8s,baz=153,slow=35						
DZM	**Mont Dzumac**	**9.69**	**175**	Pn	Pn	04 47 27.1	+1.2
	0.3nm,0.3s,baz=324,slow=19,SNR=4.6						
CTA	**Charters Tower**	**19.97**	**245**	P	Pn	04 49 40.7	0.0
	0.2nm,0.3s,baz=68,slow=13,SNR=6.6						
WRA	**Warramunga Arr**	**30.80**	**252**	P	P	04 51 21.9	-0.8
	1.6nm,0.8s,baz=80,slow=9.1,SNR=7.5						
ASAR	**Alice Springs**	**31.98**	**245**	P	P	04 51 31.9	-1.2
	1.7nm,0.7s,baz=72,slow=9.4,SNR=20						
CMAR	**Chiang Mai Arr**	**72.40**	**294**	P	P	04 56 34.4	+0.8
	0.7nm,0.4s,baz=120,slow=4.8,SNR=6.1						
SONM	**Songino Array**	**79.57**	**324**	P	P	04 57 14.9	+0.8
	0.2nm,0.3s,baz=120,slow=5.7,SNR=2.6						
ILAR	**Eielson Array**	**84.85**	**19**	P	P	04 57 40.6	-0.6
	0.6nm,0.6s,baz=252,slow=5.4,SNR=11						
MKAR	**Makanchi Array**	**94.30**	**317**	P	P	04 58 25.9	-0.6
	1.1nm,0.8s,baz=98,slow=6.1,SNR=9.3						

*NIED **16** 04:56:00, 26°.50N×126°.10E, h8km, Mw4.3 Best double couple: $M_0$2.97000×10^{15} NP1:ϕ_{s}36.00000°, δ59.00000°, λ-134.00000°. NP2:ϕ_{s}277.00000°, δ52.00000°, λ-41.00000°.*

*IDC **16** 04:56:29.1±0.9, 26°.14N×125°.53E, h0km, mb4.0/7, mb1 4.1/9, mb1mx3.9/28, mbtmp4.0/9, ML3.5/2, MS3.6/9, Ms1 3.6/9, ms1mx3.4/46, Error ellipse: s-maj=41.7km s-min=15.4km az=72.0*

*JMA **16** 04:56:29.1±0.1, 26°.49N×126°.14E, h5km±2km, M3.9*

*ISCJB **16** 04:56:31.4±1.0, 26°.45N±0°.05×126°.22E±0°.06, h30km±9km, mb4.0/8, MS3.8/5, Error ellipse: s-maj=11.0km s-min=5.2km az=43.4*

ISC 16 04:56:32.7±1.4, 26°.31N±0°.07×126°.30E±0°.06, h24km±11km, n31, σ1$ 20/29, mb4.2/8, MS3.7/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**0.44**	**88**	P	**Pb**	**04 56 40.8**	**-1.1**
JKE				S	**Sb**	**04 56 48.9**	**+0.7**
JAGN	**Aguni-jima**	**0.89**	**72**	P	**Pb**	**04 56 48.0**	**-1.5**
JAGN				*e*S	**Sn**	**04 57 01.6**	**-0.3**
JJT2	**Tamagusuku 2**	**1.32**	**97**	P	**Pb**	**04 56 56.6**	**-0.2**
JJT2				*e*S	**Sb**	**04 57 16.6**	**+3.4**
JIH	**Iheya**	**1.66**	**64**	P	**Pn**	**04 56 59.8**	**-0.5**
JOGS	**Gusukube**	**1.74**	**208**	P	**Pn**	**04 57 01.9**	**+0.5**
JOGS				*e*S	**Sb**	**04 57 25.3**	**-0.1**
JMJ	**Miyako jima 2**	**1.74**	**211**	P	**Pn**	**04 57 01.4**	**-0.1**
JMJ				S	**Sb**	**04 57 25.7**	**+0.2**
JOW	**Kunigami**	**1.85**	**73**	P	**Pn**	**04 57 02.6**	**-0.3**
JTJ	**Tarama**	**2.20**	**221**	P	**Pn**	**04 57 08.0**	**+0.3**
JIJ	**Ishigaki jima**	**2.75**	**226**	P	**Pn**	**04 57 12.8**	**-2.5**
JIJ				*e*S	**Sn**	**04 57 49.2**	**+1.4**
JTK	**Tokunoshima**	**2.79**	**58**	P	**Pn**	**04 57 14.6**	**-1.2**
JKRS	**Kuro-shima**	**2.92**	**226**	P	**Pn**	**04 57 17.6**	**-0.1**
IRIF	**Iriomote-Funau**	**3.04**	**230**	P	**Pn**	**04 57 19.7**	**+0.4**
JAMN	**Amaminishikomi**	**3.21**	**52**	P	**Pn**	**04 57 21.2**	**-0.4**
YOJ	**Yonaguni jima**	**3.50**	**239**	P	**Pn**	**04 57 25.6**	**0.0**
JAM	**Amami Oshima**	**3.61**	**54**	P	**Pn**	**04 57 27.0**	**-0.2**
JNU	**Nakatsue**	**7.87**	**29**	Pn	Pn	04 58 32.6	+6.9
	0.7nm,0.3s,baz=176,slow=14,SNR=5.7						
JNU				LR	LR	05 01 39.6	
	comp=Z,296nm,20.8s,baz=36,slow=37						
KSRS	**Korea Array**	**11.20**	**7**	Pn	**Pn**	**04 59 12.7**	**+1.4**
	0.2nm,0.3s,baz=188,slow=11,SNR=3.8						
KSRS				LR	LR	05 03 06.9	
	comp=Z,179nm,20.7s,baz=177,slow=35						
JCJ	**Chichijima**	**14.23**	**83**	LR	LR	05 05 03.0	
	comp=Z,64nm,20.4s,baz=248,slow=34						
MJAR	**Matsushiro Ar**	**14.39**	**42**	LR	LR	05 05 43.5	
	comp=Z,86nm,21.0s,baz=250,slow=37						
ASAJ	**Asahikawa**	**22.13**	**32**	LR	LR	05 09 49.3	
	comp=Z,158nm,18.2s,baz=148,slow=35						
SONM	**Songino Array**	**26.57**	**329**	P	**P**	**05 02 07.7**	**-1.2**
	5.0nm,1.0s,baz=145,slow=11,SNR=14						
SONM				LR	LR	05 13 38.2	
	comp=Z,182nm,18.2s,baz=5.8,slow=39						
MKAR	**Makanchi Array**	**40.19**	**312**	P	P	05 04 03.9	-3.2
	0.9nm,0.6s,baz=102,slow=10,SNR=12						
ZALV	**Zalesovo Beam**	**41.14**	**323**	P	**P**	**05 04 16.5**	**+1.7**
	3.7nm,0.7s,baz=122,slow=7.0,SNR=8.4						
KURBB	**Kurchatov Arra**	**43.60**	**317**	P	P	05 04 31.6	-3.3
	0.5nm,0.7s,baz=105,slow=8.1,SNR=5.6						
FITZ	**Fitzroy Crossi**	**44.15**	**181**	P	**P**	**05 04 38.3**	**-1.2**
	3.2nm,0.7s,baz=1.8,slow=9.0,SNR=11						
AAK	**Ala-Archa**	**45.00**	**305**	LR	LR	05 23 46.6	
	comp=Z,97nm,19.6s,baz=210,slow=37						
WRA	**Warramunga Arr**	**46.64**	**170**	P	**P**	**05 04 58.9**	**-0.4**
	2.2nm,0.7s,baz=352,slow=8.3,SNR=8.1						
ASAR	**Alice Springs**	**50.23**	**171**	P	**P**	**05 05 26.8**	**-0.2**
	1.2nm,0.7s,baz=355,slow=10,SNR=12						
ASAR				PcP	**PcP**	**05 06 44.8**	**-1.1**
	0.5nm,0.6s,baz=345,slow=3.7,SNR=4.2						
STKA	**Stephens Creek**	**59.68**	**165**	P	**P**	**05 06 35.1**	**0.0**
	1.8nm,0.7s,baz=329,slow=2.1,SNR=5.4						
AKASG	**Malin Array Be**	**74.34**	**319**	LR	LR	05 41 58.9	
	comp=Z,123nm,20.4s,baz=270,slow=37						
NOA	**NORSAR Array B**	**78.47**	**333**	LR	LR	05 43 21.2	
	comp=Z,69nm,19.9s,baz=310,slow=36						

*IDC **16** 05:00:45.2±0.6, 52°.91N×167°.02W, h0km, mb4.2/27, mb1 4.3/29, mb1mx4.3/38, mbtmp4.2/29, ML3.8/2, MS3.9/11, Ms1 3.9/11, ms1mx3.6/55, Error ellipse: s-maj=18.8km s-min=9.7km az=179.0*

*ISCJB **16** 05:00:46.7±1.1, 52°.61N±0°.04×167°.00W±0°.04, h25km±7km, mb4.5/68, MS4.0/15, Error ellipse: s-maj=7.2km s-min=4.0km az=167.6*

*BJI **16** 05:00:48.5, 53°.40N×167°.75W, h10km, mB4.9/10, mb4.8/21, Ms4.7/11, Ms7 4.3/9*

*MOS **16** 05:00:48.6±1.0, 52°.87N×167°.01W, h33km, mb5.2/26, Error ellipse: s-maj=12.1km s-min=6.8km az=93.1*

*NEIC **16** 05:00:50.4±1.0, 52°.79N×167°.04W, h35km±6km, mb4.7/26, ML4.1(AEIC), Error ellipse: s-maj=6.1km s-min=2.9km az=168.0*

ISC 16 05:00:47.3±0.5, 52°.74N±0°.05×166°.97W±0°.03, h15km±2km, n253, σ1$ 22/264, mb4.6/70, MS4.1/15, 12C-2D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKFG	**Magazine Ridge**	**0.88**	**320**	P	**Pg**	**05 01 04.7**	**+0.3**
OKFG				S	**Sn**	**05 01 19.3**	**+1.8**
OKTU	**Okmok Mt. Tuli**	**0.91**	**315**	P	**Pn**	**05 01 06.0**	**+0.4**
OKSO	**Okmok South**	**0.95**	**311**	P	**Pb**	**05 01 05.5**	**+0.1**
OKSO				S	**Sn**	**05 01 22.1**	**+2.8**
OKSP	**Okmok Steeple**	**0.95**	**303**	P	**Pg**	**05 01 05.8**	**+0.1**
OKCE	**Okmok Cone E**	**0.99**	**314**	P	**Pg**	**05 01 06.8**	**+0.2**
MGOD	**Makushin Gods**	**1.05**	**3**	P	**Pn**	**05 01 07.6**	**0.0**
MREP	**Makushin Rep't**	**1.08

NEW	**Newport**	**31.50**	**78**	P		**P**	**05 07 08.2**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=280,slow=8.6,SNR=7.3							
YBH	**Yreka Blue Hor**	**31.52**	**92**	P		**P**	**05 07 10.4**	**+1.8**
YBH	**Yreka Blue Hor**	**31.52**	**92**	P		**P**	**05 07 10.4**	**+1.8**
	comp=Z,1.8nm,0.6s,baz=278,slow=6.1,SNR=4.1							
YBH				LR		LR	05 19 10.0	
	comp=Z,202nm,18.7s,baz=25,slow=35							
EDM	**Edmonton**	**31.65**	**67**	*e*P		**P**	**05 07 09.8**	**+0.2**
EDM	**Edmonton**	**31.65**	**67**	*e*P		**P**	**05 07 09.8**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**32.00**	**273**	*c* P		P	05 07 21.7	+9.1
YUK				*i*			05 08 24.8	
YUK				*i* PPP		PPP	05 08 39.8	
YUK				*i* SS		SS	05 14 41.4	+0.9
YUK				MLR		MLR		
	comp=Z,59nm,16.0s							
YUK				MLR		MLR		
	comp=E,137nm,16.0s							
YUK				MLR		MLR		
	comp=N,60nm,16.0s							
MOD	**Modoc**	**32.89**	**90**	*e*P		**P**	**05 07 22.0**	**+1.3**
	comp=N,288nm,3.0s							
J08A	**Circle Bar Ran**	**33.17**	**87**	*e*P		**P**	**05 07 24.1**	**+1.1**
	comp=N,71nm,2.7s							
TIXI	**Tiksi**	**33.17**	**329**	*ce*P		**P**	**05 07 22.5**	**-0.1**
TIXI				pmax		pmax		
	comp=Z,3.0nm,1.2s							
ASAJ	**Asahikawa**	**33.93**	**276**	LR		LR	05 19 00.4	
	comp=Z,177nm,19.4s,baz=79,slow=32							
YAK	**Yakutsk**	**34.03**	**311**	*e*P		**P**	**05 07 30.0**	**-0.2**
YAK				pmax		pmax		
	comp=Z,7.0nm,0.9s							
RES	**Resolute Bay**	**35.40**	**26**	P		**P**	**05 07 41.2**	**-0.6**
RES	**Resolute Bay**	**35.40**	**26**	P		**P**	**05 07 41.2**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=264,slow=14,SNR=8.6							
WAKR	**Walker**	**35.48**	**94**	*e*P		**P**	**05 07 44.1**	**+0.9**
	comp=Z,2.0nm,0.6s							
MCMT	**McKenzie Canyo**	**35.77**	**81**	*e*P		**P**	**05 07 45.4**	**-0.3**
	comp=Z,1.4nm,0.6s							
NVAR	**Mina Array Bea**	**36.21**	**93**	P		**P**	**05 07 50.5**	**+0.9**
NVAR				PcP		**PcP**	**05 10 15.1**	**+0.5**
NVAR	**Mina Array Bea**	**36.21**	**93**	P		**P**	**05 07 50.5**	**+0.9**
	comp=Z,1.9nm,0.6s,baz=304,slow=9.0,SNR=7.8							
NVAR				PcP		**PcP**	**05 10 15.1**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=282,slow=4.5,SNR=3.4							
ELK	**Elko**	**36.65**	**88**	P		**P**	**05 07 53.4**	**+0.1**
ELK	**Elko**	**36.65**	**88**	P		**P**	**05 07 53.4**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=275,slow=23,SNR=7.1							
H11N2	**WAKE ISLAND Hy**	**38.69**	**222**	T		T	05 49 34.3	
	baz=27,slow=0.7,SNR=6.6							
H11N3	**WAKE ISLAND Hy**	**38.69**	**222**	T		T	05 49 46.0	
	baz=27,slow=0.7,SNR=263							
H11N1	**WAKE ISLAND Hy**	**38.70**	**222**	T		T	05 49 43.4	
	baz=27,slow=0.7,SNR=289							
BW06	**Boulder Array**	**38.89**	**81**	*e*P		**P**	**05 08 11.9**	**-0.4**
	comp=Z,2.4nm,0.6s							
PDAR	**Pinedale Array**	**38.89**	**81**	P		**P**	**05 08 12.2**	**-0.1**
PDAR	**Pinedale Array**	**38.89**	**81**	P		**P**	**05 08 12.2**	**-0.1**
	comp=Z,2.3nm,0.6s,baz=294,slow=4.9,SNR=21							
H11S1	**WAKE ISLAND Hy**	**39.87**	**221**	T		T	05 51 10.8	
	baz=25,slow=0.7,SNR=519							
H11S2	**WAKE ISLAND Hy**	**39.88**	**221**	T		T	05 51 11.8	
	baz=25,slow=0.7,SNR=280							
H11S3	**WAKE ISLAND Hy**	**39.88**	**221**	T		T	05 51 04.7	
	baz=25,slow=0.7,SNR=282							
MJAR	**Matsushiro Arr**	**41.17**	**269**	P		**P**	**05 08 31.6**	**+0.7**
MJAR	**Matsushiro Arr**	**41.17**	**269**	P		**P**	**05 08 31.6**	**+0.7**
	comp=Z,4.8nm,0.8s,baz=52,slow=6.5,SNR=13							
MJAR				LR		LR	05 23 06.8	
	comp=Z,155nm,20.3s,baz=40,slow=33							
MAJO	**Matsushiro**	**41.17**	**269**	*c* P		**P**	**05 08 30.7**	**-0.2**
MAJO				pmax		pmax		
	comp=Z,24nm,0.9s							
MAJO	**Matsushiro**	**41.17**	**269**	*e*P		**P**	**05 08 31.8**	**+0.9**
	comp=Z,20nm,0.8s							
MAT	**Matsushiro**	**41.17**	**269**	P		**P**	**05 08 30.3**	**-0.6**
MAT				*e*S		**S**	**05 14 43.2**	**-0.3**
MDJ	**Mudanjiang**	**41.42**	**285**	P		**P**	**05 08 34.1**	**+1.3**
MDJ				AMB		AMB		
	comp=Z,6.0nm,0.4s							
MDJ				AMB		AMB		
	comp=Z,50nm,6.1s							
PV01	**Paradox Valley**	**42.31**	**86**	*e*P		**P**	**05 08 40.0**	**-0.5**
CN2	**Changchun**	**44.32**	**287**	*e*P		**P**	**05 08 54.3**	**-2.0**
KSRS	**Korea Array**	**46.81**	**278**	P		**P**	**05 09 16.5**	**+0.4**
	comp=Z,8.1nm,0.9s,baz=54,slow=7.9,SNR=17							
KSRS				LR		LR	05 26 28.9	
	comp=Z,67nm,20.0s,baz=10.0,slow=33							
KSAR	**Wonju Array Be**	**46.84**	**278**	P		**P**	**05 09 16.5**	**+0.2**
SUMG	**Summit**	**49.98**	**18**	*i* P		**P**	**05 09 39.2**	**-1.4**
SUMG				pmax		pmax		
	comp=Z,9.0nm,0.8s							
SUMG	**Summit**	**49.98**	**18**	*i* P		**P**	**05 09 39.2**	**-1.4**
	comp=Z,9.2nm,0.8s							
TXAR	**Lajitas Array**	**51.28**	**91**	P		**P**	**05 09 50.4**	**-0.2**
TXAR	**Lajitas Array**	**51.28**	**91**	P		**P**	**05 09 50.4**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=303,slow=6.9,SNR=12							
TLY	**Talaya**	**51.29**	**307**	*e*P		**P**	**05 09 47.2**	**-3.1**
TLY				pmax		pmax		
	comp=Z,3.0nm,1.0s							
SONM	**Songino Array**	**52.36**	**302**	P		**P**	**05 09 57.5**	**-0.9**
SONM	**Songino Array**	**52.36**	**302**	P		**P**	**05 09 57.5**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=54,slow=7.2,SNR=9.5							
SONM				LR		LR	05 34 49.6	
	comp=Z,151nm,18.4s,baz=4.6,slow=39							
HHC	**Hu-ho-hao-te**	**54.15**	**292**	*e*P		**P**	**05 10 11.6**	**-0.1**
HHC				pP		**pP**	**05 10 16.3**	**-0.3**
HHC				sP		**sP**	**05 10 18.8**	**+0.3**
HHC				PP		**PP**	**05 12 14.6**	**+1.6**
HHC				S		**S**	**05 17 46.5**	**-1.2**
HHC				sS		**sS**	**05 17 54.3**	**-1.5**
HHC				AMB		AMB		
	comp=Z,30nm,1.0s							
HHC				AMB		AMB		
	comp=Z,500nm,6.3s							
HHC				LR		LR		
	comp=Z,360nm,16.7s							
HHC				LR		LR		
	comp=Z,560nm,16.7s							
HHC				LR		LR		
	comp=Z,330nm,16.3s							
HVS	**Khovu-Aksy**	**56.33**	**312**	*i* P		**P**	**05 10 26.6**	**-0.6**
HVS				pmax		pmax		
	comp=Z,23nm,1.4s							
ARCES	**ARCESS Array B**	**57.69**	**355**	P		**P**	**05 10 37.0**	**+0.5**
ARCES	**ARCESS Array B**	**57.69**	**355**	P		**P**	**05 10 37.0**	**+0.5**
	comp=Z,8.4nm,1.0s,baz=29,slow=6.3,SNR=10							
ZALV	**Zalesovo Beam**	**58.12**	**319**	P		**P**	**05 10 38.3**	**-1.4**
ZALV	**Zalesovo Beam**	**58.12**	**319**	P		**P**	**05 10 38.3**	**-1.4**
ZALV	**Zalesovo Beam**	**58.12**	**319**	P		**P**	**05 10 38.3**	**-1.4**
	comp=Z,0.8nm,0.3s,baz=44,slow=6.6,SNR=3.7							
ZALV				LR		LR	05 36 59.4	
	comp=Z,176nm,18.1s,baz=69,slow=38							
XAN	**Xi'an**	**60.38**	**288**	P		**P**	**05 10 55.5**	**-0.2**
XAN				AMB		AMB		
	comp=Z,3.0nm,1.1s							
XAN				AMB		AMB		
	comp=Z,41nm,7.8s							
GTA	**Gaotai**	**61.60**	**298**	*e*P		**P**	**05 11 03.5**	**-0.5**
GTA				pP		**pP**	**05 11 08.0**	**-1.0**
GTA				sP		**sP**	**05 11 10.5**	**-0.4**
GTA				S		**S**	**05 19 27.3**	**+1.9**
GTA				sS		**sS**	**05 19 34.5**	**+0.9**
GTA				AMB		AMB		
	comp=Z,7.0nm,1.0s							
GTA				AMB		AMB		
	comp=Z,160nm,5.2s							
GTA				LR		LR		
	comp=Z,170nm,16.6s							
GTA				LR		LR		
	comp=Z,160nm,17.1s							
GTA				LR		LR		
	comp=Z,260nm,17.8s							
KURK	**Kurchatov**	**63.05**	**320**	*ce*P		**P**	**05 11 12.6**	**-0.8**
KURK				pmax		pmax		
	comp=Z,2.0nm,0.9s							
KURK	**Kurchatov**	**63.05**	**320**	P		**P**	**05 11 12.7**	**-0.7**
KURBB	**Kurchatov Arra**	**63.16**	**319**	P		**P**	**05 11 12.7**	**-1.4**
	comp=Z,8.8nm,1.0s,baz=48,slow=7.5,SNR=19							
BRVK	**Borovoye**	**64.25**	**326**	*ce*P		**P**	**05 11 21.2**	**0.0**
BRVK				pmax		pmax		
	comp=Z,7.0nm,1.5s							
WMQ	**Urumqi**	**64.44**	**309**	*e*P		P	05 11 27.1	+4.3
WMQ				AMB		AMB		
	comp=Z,11nm,0.6s							
WMQ				AMB		AMB		
	comp=Z,120nm,5.4s							
WMQ				LR		LR		
	comp=Z,180nm,6.8s							
WMQ				LR		LR		
	comp=Z,210nm,6.4s							
MK31	**Makanchi Array**	**64.60**	**315**	*e*P		**P**	**05 11 22.2**	**-1.5**
MK31	**Makanchi Array**	**64.60**	**315**	*e*P		**P**	**05 11 22.2**	**-1.5**
MKAR	**Makanchi Array**	**64.60**	**315**	P		**P**	**05 11 22.5**	**-1.2**
MKAR	**Makanchi Array**	**64.60**	**315**	P		**P**	**05 11 22.5**	**-1.2**
MKAR	**Makanchi Array**	**64.60**	**315**	P		**P**	**05 11 22.5**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=46,slow=5.4,SNR=14							
MKAR				LR		LR	05 40 21.4	
	comp=Z,141nm,18.1s,baz=352,slow=37							
ARU	**Arti**	**64.94**	**334**	*d* P		**P**	**05 11 25.0**	**-0.7**
ARU							05 13 44.9	
ARU				S		**S**	**05 20 07.1**	**+0.8**
ARU				SS		**SS**	**05 24 10.4**	**-6.5**
ARU				pmax		pmax		
	comp=Z,10.0nm,1.0s							
CD2	**Chengdu**	**65.64**	**289**	P		**P**	**05 11 31.0**	**+0.3**
CD2				pP		**pP**	**05 11 35.8**	**+0.1**
CD2				sP		**sP**	**05 11 38.0**	**+0.4**
CD2				PP		**PP**	**05 13 57.5**	**+2.7**
CD2				S		**S**	**05 20 15.0**	**-0.8**
CD2				sS		**sS**	**05 20 22.0**	**-2.0**
CD2				AMB		AMB		
	comp=Z,30nm,0.8s							
CD2				LR		LR		
	comp=Z,190nm,6.0s							
CD2				LR		LR		
	comp=Z,170nm,14.3s							
FINES	**FINESS Array B**	**65.69**	**353**	P		**P**	**05 11 29.2**	**-1.3**
FINES	**FINESS Array B**	**65.69**	**353**	P		**P**	**05 11 29.2**	**-1.3**
	comp=Z,2.4nm,0.4s,baz=17,slow=5.5,SNR=16							
FINES				LR		LR	05 41 16.7	
	comp=Z,195nm,19.3s,baz=192,slow=37							
NB2	**NORSAR Subarra**	**66.56**	**1**	P		**P**	**05 11 35.3**	**-0.8**
	comp=Z,1.7nm,1.0s,baz=3.2,slow=6.5							
NOA	**NORSAR Array B**	**66.56**	**1**	P		**P**	**05 11 35.6**	**-0.5**
NOA	**NORSAR Array B**	**66.56**	**1**	P		**P**	**05 11 35.6**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=1.4,slow=6.4,SNR=4.1							
GYA	**Guiyang**	**67.27**	**284**	*e*P		**P**	**05 11 42.3**	**+1.0**
GYA				AMB		AMB		
	comp=Z,10.0nm,1.0s							
AKTO	**Aktyubinsk**	**70.40**	**331**	LR		LR	05 45 03.0	
	comp=Z,94nm,18.4s,baz=205,slow=38							
OBN	**Obninsk**	**70.75**	**346**	⇑ *e*P		**P**	**05 12 00.9**	**-1.4**
OBN				*e*			05 14 34.9	
OBN				pmax		pmax		
	comp=Z,6.0nm,0.4s							
ABKAR	**Akbulak array**	**70.87**	**330**	*e*P		**P**	**05 12 02.5**	**-0.7**
	comp=Z,3.9nm,0.8s							
AAK	**Ala-Archa**	**71.25**	**317**	⇑ *i* P		**P**	**05 12 05.6**	**-0.2**
AAK				pmax		pmax		
	comp=Z,14nm,1.0s							
AAK	**Ala-Archa**	**71.25**	**317**	*e*P		**P**	**05 12 05.3**	**-0.5**
	comp=Z,5.9nm,1.0s							
AAK	**Ala-Archa**	**71.25**	**317**	P		**P**	**05 12 05.5**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=204,slow=12,SNR=8.7							
KKAR	**Karatay Array**	**72.47**	**320**	*e*P		**P**	**05 12 12.5**	**-0.4**
KKAR				pmax		pmax		
	comp=Z,9.0nm,1.2s							
KKAR	**Karatay Array**	**72.47**	**320**	*e*P		**P**	**05 12 12.5**	**-0.4**
	comp=Z,8.9nm,1.2s							
KSH	**Kashi**	**73.19**	**314**	P		P	05 12 20.8	+3.4
KSH				pP		pP	05 12 25.8	+3.4
KSH				sP		sP	05 12 31.4	+7.1
KSH				PcP		**PcP**	**05 12 37.6**	**+3.7**
KSH				PP		PP	05 15 09.3	+10
KSH				S		**SKiKP**	**05 21 49.8**	**+1.5**
KSH				SKS		**ScS**	**05 22 25.3**	**+0.2**
KSH				AMB		AMB		
	comp=Z,9.0nm,1.1s							
KSH				LR		LR		
	comp=Z,71nm,6.3s							
KSH				LR		LR		
	comp=Z,69nm,5.2s							
KSH				LR		LR		
	comp=Z,120nm,7.1s							
SUW	**Suwalki**	**73.28**	**354**	*e*P		**P**	**05 12 16.6**	**-0.8**
SUW				pmax		pmax		
	comp=Z,40nm,1.1s							
SUW	**Suwalki**	**73.28**	**354**	*e*P		**P**	**05 12 16.6**	**-0.8**
	comp=Z,40nm,1.1s							
LSA	**Lhasa**	**73.59**	**297**	*e*P		**P**	**05 12 21.2**	**+0.9**
LSA				pmax		pmax		
	comp=Z,5.0nm,0.6s							
LSA	**Lhasa**	**73.59**	**297**	*e*P		**P**	**05 12 21.2**	**+0.9**
	comp=Z,4.6nm,0.6s							
AKASG	**Malin Array Be**	**76.03**	**349**	P		**P**	**05 12 32.2**	**-1.2**
AKASG	**Malin Array Be**	**76.03**	**349**	P		**P**	**05 12 32.2**	**-1.2**
AKASG	**Malin Array Be**	**76.03**	**349**	P		**P**	**05 12 32.2**	**-1.2**
	comp=Z,2.6nm,0.5s,baz=10,slow=5.7,SNR=17							
KIEV	**Kiev**	**76.03**	**349**	*c* i P		**P**	**05 12 32.1**	**-1.4**
CLL	**Collm**	**76.32**	**0**	*e*P		**P**	**05 12 33.0**	**-2.1**
CLL				pmax		pmax		
	comp=Z,26nm,0.9s							
CLL	**Collm**	**76.32**	**0**	*e*P		**P**	**05 12 35.0**	**-0.1**
DPC	**Dobruska-Polom**	**77.24**	**358**	*e*P		**P**	**05 12 40.6**	**+0.2**
DPC				*e*			05 12 51.7	
DPC	**Dobruska-Polom**	**77.24**	**358**	*e*P		**P**	**05 12 40.6**	**+0.2**
DPC				*e*pP		**PcP**	**05 12 51.7**	**+0.6**
TAPN	**Taplejung**	**77.29**	**298**	*e*P		**P**	**05 12 40.7**	**-0.7**
	comp=Z,21nm,1.1s							
BAIF	**Baives**	**77.30**	**6**	*e*P		**P**	**05 12 40.5**	**-0.1**
	comp=Z,20nm,0.9s							
BAIF	**Baives**	**77.30**	**6**	*e*P		**P**	**05 12 40.5**	**-0.1**
BAIF				pmax		pmax		
	comp=Z,20nm,0.9s							
BAIF	**Baives**	**77.30**	**6**	*e*P		**P**	**05 12 40.5**	**-0.1**
	comp=Z,20nm,0.9s							
KWP	**Kalwaria Pacla**	**77.67**	**354**	*e*P		**P**	**05 12 42.5**	**-0.3**
KWP				pmax		pmax		
	comp=Z,31nm,1.2s							
KWP	**Kalwaria Pacla**	**77.67**	**354**	*e*P		**P**	**05 12 42.5**	**-0.3**
	comp=Z,31nm,1.2s							
GUN	**Gumba**	**77.82**	**300**	*e*P		**P**	**05 12 43.8**	**-0.6**
JIRN	**Jiri**	**77.85**	**300**	*e*P		**P**	**05 12 44.3**	**-0.3**
CMAR	**Chiang Mai Arr**	**77.95**	**285**	P		**P**	**05 12 45.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**77.95**	**285**	P		**P**	**05 12 45.0**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=23,slow=6.1,SNR=11							
STHS	**Stebnicka Huta**	**77.98**	**355**	*e*P		**P**	**05 12 45.6**	**+1.1**
STHS				pmax		pmax		
	comp=Z,7.0nm,1.3s							
STHS	**Stebnicka Huta**	**77.98**	**355**	*e*P		**P**	**05 12 45.6**	**+1.1**
RAMN	**Ramite**	**78.20**	**299**	*e*P		**P**	**05 12 45.8**	**-0.6**
	comp=Z,37nm,1.1s							
FLN	**La Foliniere**	**78.22**	**9**	*e*P		**P**	**05 12 46.3**	**+0.5**
FLN	**La Foliniere**	**78.22**	**9**	*e*P		**P**	**05 12 46.3**	**+0.5**
FLN	**La Foliniere**	**78.22**	**9**	*e*P		**P**	**05 12 46.3**	**+0.5**
KKN	**Kakani**	**78.23**	**300**	*e*P		**P**	**05 12 45.6**	**-0.9**
GKN	**Gorkha**	**78.39**	**301**	*e*P		**P**	**05 12 46.8**	**-0.5**
LDF	**La Druitiere**	**78.42**	**9**	*e*P		**P**	**05 12 47.5**	**+0.6**
LDF	**La Druitiere**	**78.42**	**9**	*e*P		**P**	**05 12 47.5**	**+0.6**
LDF	**La Druitiere**	**78.42**	**9**	*e*P		**P**	**05 12 47.5**	**+0.6**
DMN	**Daman**	**78.47**	**300**	*e*P		**P**	**05 12 47.9**	**0.0**
KHC	**Kasperske Hory**	**78.50**	**360**	*ce*P		**P**	**05 12 47.7**	**+0.3**
KHC				pmax		pmax		
	comp=Z,31nm,1.3s							
KHC	**Kasperske Hory**	**78.50**	**360**	*e*P		**P**	**05 12 47.2**	**-0.2**
GRR	**Gorron**	**78.55**	**9**	*e*P		**P**	**05 12 47.3**	**-0.3**
	comp=Z,42nm,1.3s							
GRR	**Gorron**	**78.55**	**9**	*e*P		**P**	**05 12 47.3**	**-0.3**
GRR				pmax		pmax		
	comp=Z,42nm,1.3s							
GRR	**Gorron**	**78.55**	**9**	*e*P		**P**	**05 12 47.3**	**-0.3**
	comp=Z,42nm,1.3s							
DANN	**Dangsing**	**78.57**	**302**	*e*P		**P**	**05 12 48.3**	**-0.2**
	comp=Z,24nm,0.7s							
GERES	**GERESS Array B**	**78.79**	**360**	P		**P**	**05 12 49.0**	**-0.1**
GERES	**GERESS Array B**	**78.79**	**360**	P		**P**	**05 12 49.0**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=48,slow=6.0,SNR=4.3							
PAGF	**Fort de Pagny**	**78.89**	**5**	*e*P		**P**	**05 12 49.8**	**+0.3**
PAGF	**Fort de Pagny**	**78.89**	**5**	*e*P		**P**	**05 12 49.8**	**+0.3**
CDF	**Champ du Feu**	**79.10**	**4**	*e*P		**P**	**05 12 50.7**	**-0.1**
CDF	**Champ du Feu**	**79.10**	**4**	*e*P		**P**	**05 12 50.7**	**-0.1**
CDF	**Champ du Feu**	**79.10**	**4**	*e*P		**P**	**05 12 50.7**	**-0.1**
KOLN	**Koldanda**	**79.12**	**302**	*e*P		**P**	**05 12 51.0**	**-0.4**
SFTF	**Sexfontaines**	**79.20**	**5**	*e*P		**P**	**05 12 51.0**	**-0.2**
SFTF	**Sexfontaines**	**79.20**	**5**	*e*P		**P**	**05 12 51.0**	**-0.2**
GOF	**Gofitskoye**	**79.22**	**339**	*e*P		**P**	**05 12 50.3**	**-1.1**
HAU	**Haudompre**	**79.47**	**5**	*e*P		**P**	**05 12 52.5**	**-0.2**
HAU	**Haudompre**	**79.47**	**5**	*e*P		**P**	**05 12 52.5**	**-0.2**
HAU	**Haudompre**	**79.47**	**5**	*e*P		**P**	**05 12 52.5**	**-0.2**
PSZ	**Piszkesteto**	**79.54**	**355**	*e*P		**P**	**05 12 54.4**	**+1.2**
PSZ				pmax		pmax		
	comp=Z,7.0nm,0.8s							
PSZ	**Piszkesteto**	**79.54**	**355**	*e*P		**P**	**05 12 54.4**	**+1.2**
	comp=Z,6.9nm,0.8s							
CONA	**Conrad Observa**	**79.68**	**358**	⇑ *i* P		**P**	**05 12 54.7**	**+0.8**
	comp=Z,10nm,1.4s							
HINF	**Hinteralfeld**	**79.68**	**4**	*e*P		**P**	**05 12 53.4**	**-0.5**
HINF	**Hinteralfeld**	**79.68**	**4**	*e*P		**P**	**05 12 53.4**	**-0.5**
HINF	**Hinteralfeld**	**79.68**	**4**	*e*P		**P**	**05 12 53.4**	**-0.5**
LOR	**Lormes**	**80.06**	**6**	*e*P		**P**	**05 12 55.8**	**-0.1**
LOR	**Lormes**	**80.06**	**6**	*e*P		**P**	**05 12 55.8**	**-0.1**
SSF	**Saint Saulge**	**80.24**	**7**	*e*P		**P**	**05 12 56.8**	**-0.1**
	comp=Z,30nm,1.4s							
SSF	**Saint Saulge**	**80.24**	**7**	*e*P		**P**	**05 12 56.8**	**-0.1**
SSF				pmax		pmax		
	comp=Z,30nm,1.4s							
SSF	**Saint Saulge**	**80.24**	**7**	*e*P		**P**	**05 12 56.8**	**-0.1**
	comp=Z,30nm,1.4s							
KIV	**Kislovodsk**	**80.35**	**339**	⇑ *e*P		**P**	**05 12 58.4**	**+0.7**
KIV				*i*			05 15 56.4	
KIV				*e*S		**S**	**05 23 01.6**	**-1.1**
KIV				*e*SS		**SS**	**05 28 07.1**	**-5.5**
KIV				pmax		pmax		
	comp=Z,10.0nm,1.0s							
KIV				MLR		MLR		
	comp=Z,100nm,17.0s							
MFF	**Saint Martin d**	**80.39**	**9**	*e*P		**P**	**05 12 57.7**	**0.0**
	comp=Z,21nm,1.1s							
MFF	**Saint Martin d**	**80.39**	**9**	*e*P		**P**	**05 12 57.7**	**0.0**
MFF				pmax		pmax		
	comp=Z,21nm,1.1s							
MFF	**Saint Martin d**	**80.39**	**9**	*e*P		**P**	**05 12 57.7**	**0.0**
	comp=Z,21nm,1.1s							
AVF	**Avril sur Loir**	**80.50**	**7**	*e*P		**P**	**05 12 57.9**	**-0.4**
	comp=Z,40nm,1.5s							
AVF	**Avril sur Loir**	**80.50**	**7**	*e*P		**P**	**05 12 57.9**	**-0.4**
AVF				pmax		pmax		
	comp=Z,40nm,1.5s							
AVF	**Avril sur Loir**	**80.50**	**7**	*e*P		**P**	**05 12 57.9**	**-0.4**
	comp=Z,40nm,1.5s							
KBZ	**Khabaz**	**80.52**	**339**	P		**P**	**05 12 58.7**	**+0.3**
KBZ	**Khabaz**	**80.52**	**339**	P		**P**	**05 12 58.7**	**+0.3**
KBZ	**Khabaz**	**80.52**	**339**	P		**P**	**05 12 58.7**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=132,slow=2.9,SNR=5.9							
FETA	**Feichten**	**80.59**	**2**	⇑ *i* P		**P**	**05 12 59.8**	**+0.8**
	comp=Z,8.2nm,1.1s							
SMF	**Signal de Mont**	**80.68**	**6**	*e*P		**P**	**05 12 58.8**	**-0.5**
SMF	**Signal de Mont**	**80.68**	**6**	*e*P		**P**	**05 12 58.8**	**-0.5**
SMF	**Signal de Mont**	**80.68**	**6**	*e*P		**P**	**05 12 58.8**	**-0.5**
BGF	**Bois d'Agland**	**80.69**	**7**	*e*P		**P**	**05 12 59.0**	**-0.3**
BGF	**Bois d'Agland**	**80.69**	**7**	*e*P		**P**	**05 12 59.0**	**-0.3**
BGF	**Bois d'Agland**	**80.69**	**7**	*e*P		**P**	**05 12 59.0**	**-0.3**
ABTA	**Abfaltersbach**	**80.89**	**0**	⇓ *i* PcP		**P**	**05 13 02.0**	**+1.5**
	comp=Z,15nm,1.2s							
TCF	**Toulx Ste Croi**	**80.91**	**8**	*e*P		**P**	**05 13 00.2**	**-0.3**
TCF	**Toulx Ste Croi**	**80.91**	**8**	*e*P		**P**	**05 13 00.2**	**-0.3**
TCF	**Toulx Ste Croi**	**80.91**	**8**	*e*P		**P**	**05 13 00.2**	**-0.3**
LPL	**La Plagne**	**81.97**	**4**	*e*P		**P**	**05 13 07.4**	**+1.0**
LPL	**La Plagne**	**81.97**	**4**	*e*P		**P**	**05 13 07.4**	**+1.0**
LPL	**La Plagne**	**81.97**	**4**	*e*P		**P**	**05 13 07.4**	**+1.0**
LPG	**La Plagne**	**81.99**	**4**	*e*P		**P**	**05 13 07.7**	**+1.1**
LPG	**La Plagne**	**81.99**	**4**	*e*P		**P**	**05 13 07.7**	**+1.1**
LPG	**La Plagne**	**81.99**	**4**	*e*P		**P**	**05 13 07.7**	**+1.1**
CAF	**Calviac**	**82.25**	**8**	*e*P		**P**	**05 13 08.5**	**+0.8**
	comp=Z,25nm,1.3s							
CAF	**Calviac**	**82.25**	**8**	*e*P		**P**	**05 13 08.5**	**+0.8**
CAF				pmax		pmax		
	comp=Z,25nm,1.3s							
CAF	**Calviac**	**82.25**	**8**	*e*P		**P**	**05 13 08.5**	**+0.8**
	comp=Z,25nm,1.3s							
MBDF	**Montbardon**	**82.76**	**4**	*e*P		**P**	**05 13 12.6**	**+2.1**
	comp=Z,15nm,0.9s							
MBDF	**Montbardon**	**82.76**	**4**	*e*P		**P**	**05 13 12.6**	**+2.1**
MBDF		

VHO			*e*S	Sn	05 03 35.4	-2.4
R15V		**3.67 284**	*e*P	Pn	05 02 58.8	+0.1
R15V			*e*S	Sn	05 03 40.2	-0.6
HUIG	**Huatulco**	**4.67 122**	*e*P	Pn	05 03 12.4	+0.1
HUIG			*e*S	Sn	05 04 00.8	-4.4
CCIG	**Comitan**	**7.98 103**	*i* P	Pn	05 03 56.9	-1.0

ISCJB **16** *05:03:33.3±0.6,25.°50S±0.°07×179.°76E±0.°09, h507*^{km}*, mb4.2/21, Error ellipse: s-maj=12.0km s-min=7.7km az=139.5*
IDC **16** *05:03:34.0±1.0,25.°48S×179.°71E, h499*^{km}*±11*^{km}*, mb3.8/15, mb1 3.8/18, mb1mx3.7/24, mbtmp4.6/18, Error ellipse: s-maj=13.4km s-min=11.8km az=10.0*
NEIC **16** *05:03:34.0±0.9,25.°50S×179.°78E, h504*^{km}*±9*^{km}*, mb4.3/10, Error ellipse: s-maj=11.8km s-min=9.0km az=48.0*
AUST **16** *05:03:38.5,24.°66S×179.°91E, h600*^{km}

ISC 16 05:03:34.3±0.5,25.°51S±0.°08×179.°77E±0.°09, h507^{km}**, n95, σ0.98/100, mb4.1/21, 1D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.26 152**		*e*Pn	**P**	**05 04 55.4**	**+0.2**
RAO				S	**S**	**05 05 59.7**	**-1.5**
RAO	**Raoul Island**	**4.26 152**		P	**P**	**05 04 55.5**	**+0.4**
	176nm,0.3s,baz=63,slow=23,SNR=18						
RAO				S	**S**	**05 05 59.7**	**-1.5**
	38nm,0.3s,baz=90,slow=20,SNR=2.4						
DZM	**Mont Dzumac**	**12.67 283**		*e*Pn	**P**	**05 06 19.9**	**-0.2**
DZM	**Mont Dzumac**	**12.67 283**		P	**P**	**05 06 19.9**	**-0.2**
	0.4nm,0.3s,baz=106,slow=14,SNR=8.3						
URZ	**Urewera**	**12.91 189**		P	**P**	**05 06 20.9**	**-1.4**
URZ	**Urewera**	**12.91 189**		P	**P**	**05 06 20.9**	**-1.4**
	1.8nm,0.3s,baz=9.7,slow=9.3,SNR=8.1						
KHZ	**Kahutara**	**17.63 195**		*e*P	**P**	**05 07 09.4**	**-1.4**
	6.2nm,0.6s						
LHI	**Lord Howe Isla**	**19.14 247**		P	**P**	**05 07 27.3**	**+2.6**
	baz=20,SNR=3.9						
RPZ	**Rata Peaks**	**19.50 199**		P	**P**	**05 07 26.9**	**-1.0**
RPZ	**Rata Peaks**	**19.50 199**		P	**P**	**05 07 26.9**	**-1.0**
	0.7nm,0.3s,baz=331,slow=4.8,SNR=6.0						
ARMA	**Armidale**	**25.30 252**		*e*P	**P**	**05 08 21.5**	**+1.2**
ARMA	**Armidale**	**25.30 252**		P	**P**	**05 08 21.8**	**+1.5**
	baz=26,SNR=11						
EIDS	**Eidsvold**	**25.89 264**		*e*P	**P**	**05 08 25.7**	**+0.3**
	16nm,0.8s						
EIDS	**Eidsvold**	**25.89 264**		P	**P**	**05 08 26.0**	**+0.7**
	baz=26,SNR=6.2						
MGCD	**Mangrove Creek**	**26.07 246**		P	**P**	**05 08 28.8**	**+1.9**
	baz=26,SNR=10						
RMQ	**Roma**	**27.86 261**		P	**P**	**05 08 44.4**	**+1.7**
	baz=28,SNR=7.2						
CMSA	**Cobar Meteorol**	**30.45 251**		P	**P**	**05 09 05.7**	**+0.4**
	baz=31,SNR=29						
CTA	**Charters Tower**	**31.31 273**		P	**P**	**05 09 13.2**	**+0.5**
CTA	**Charters Tower**	**31.31 273**		P	**P**	**05 09 13.2**	**+0.5**
	19nm,0.3s,baz=101,slow=11,SNR=60						
CTAO	**Charters Tower**	**31.31 273**		*e*P	**P**	**05 09 13.0**	**+0.2**
	30nm,0.6s						
TOO	**Toolangi**	**31.42 239**		P	**P**	**05 09 14.9**	**+1.4**
	baz=32,SNR=6.2						
QLP	**Quilpie**	**31.88 260**		P	**P**	**05 09 17.6**	**+0.1**
	baz=32,SNR=12						
MTSU	**Mount Surprise**	**33.64 275**		P	**P**	**05 09 33.2**	**+0.6**
	baz=34,SNR=43						
STKA	**Stephens Creek**	**33.95 250**		*e*P	**P**	**05 09 35.5**	**+0.5**
	1.2nm,0.4s						
STKA				PcP	**PcP**	**05 12 00.1**	**+1.2**
STKA	**Stephens Creek**	**33.95 250**		P	**P**	**05 09 35.6**	**+0.5**
	baz=34,SNR=35						
STKA	**Stephens Creek**	**33.95 250**		P	**P**	**05 09 35.7**	**+0.6**
	6.0nm,0.4s,baz=98,slow=11,SNR=47						
STKA				PcP	**PcP**	**05 12 00.1**	**+1.2**
	1.7nm,0.6s,baz=45,slow=5.7,SNR=4.1						
PMG	**Port Moresby**	**34.85 291**		*e*P	**P**	**05 09 42.2**	**-0.5**
	29nm,0.8s						
PMG	**Port Moresby**	**34.85 291**		P	**P**	**05 09 42.5**	**-0.3**
	17nm,0.6s,baz=107,slow=4.7,SNR=7.9						
COEN	**Coen**	**36.19 281**		*e*P	**P**	**05 09 54.0**	**0.0**
	149nm,0.8s						
COEN	**Coen**	**36.19 281**		P	**P**	**05 09 54.2**	**+0.2**
	baz=36,SNR=18						
BBOO	**Buckleboo**	**38.64 249**		P	**P**	**05 10 13.2**	**-0.7**
	baz=39,SNR=16						
AS31	**Alice Springs**	**41.59 262**		*e*P	**P**	**05 10 37.3**	**-0.4**
ASAR	**Alice Springs**	**41.59 262**		P	**P**	**05 10 37.4**	**-0.3**
ASAR				S	**S**	**05 16 15.9**	**-1.1**
ASAR	**Alice Springs**	**41.59 262**		P	**P**	**05 10 37.4**	**-0.3**
	8.2nm,0.4s,baz=90,slow=7.6,SNR=159						
ASAR				S	**S**	**05 16 15.9**	**-1.1**
	0.9nm,0.7s,baz=100,slow=17,SNR=7.8						
WRAB	**Tennant Creek**	**42.11 268**		*e*P	**P**	**05 10 40.9**	**-0.9**
	8.5nm,0.3s						
WRA	**Warramunga Arr**	**42.11 268**		P	**P**	**05 10 41.3**	**-0.6**
WRA				PcP	**PcP**	**05 12 25.2**	**+0.4**
WRA				S	**S**	**05 16 23.2**	**-1.4**
WRA	**Warramunga Arr**	**42.11 268**		P	**P**	**05 10 41.3**	**-0.6**
	8.2nm,0.3s,baz=98,slow=6.8,SNR=181						
WRA				PcP	**PcP**	**05 12 25.2**	**+0.4**
	1.6nm,0.9s,baz=97,slow=3.3,SNR=3.2						
WRA				S	**S**	**05 16 23.2**	**-1.4**
	3.3nm,1.0s,baz=104,slow=15,SNR=5.2						
KDU	**Kakadu**	**46.25 277**		P	**P**	**05 11 12.9**	**-0.9**
	baz=46,SNR=5.4						
MTN	**Manton Dam**	**47.39 276**		P	P	05 11 31.9	+9.3
	baz=47,SNR=3.8						
KNRA	**Kununurra**	**48.49 271**		P	**P**	**05 11 30.6**	**-0.1**
	baz=49,SNR=14						
FITZ	**Fitzroy Crossi**	**50.51 267**		*e*P	**P**	**05 11 45.2**	**-0.5**
	4.9nm,0.5s						
FITZ	**Fitzroy Crossi**	**50.51 267**		P	**P**	**05 11 45.6**	**0.0**
	baz=51,SNR=21						
FITZ	**Fitzroy Crossi**	**50.51 267**		P	**P**	**05 11 45.5**	**-0.2**
	4.0nm,0.5s,baz=111,slow=7.0,SNR=34						
VNDA	**Vanda**	**52.76 185**		P	**P**	**05 12 02.5**	**+1.5**
VNDA	**Vanda**	**52.76 185**		P	**P**	**05 12 02.5**	**+1.5**
	0.5nm,0.8s,baz=358,slow=6.5,SNR=3.6						
KLBR	**Kellerberrin**	**54.19 248**		P	**P**	**05 12 11.3**	**-0.6**
	baz=54,SNR=7.7						
NWAO	**Narrogin (SRO)**	**54.39 247**		P	**P**	**05 12 11.8**	**-1.5**
NWAO	**Narrogin (SRO)**	**54.39 247**		P	**P**	**05 12 11.8**	**-1.5**
	3.0nm,0.7s,baz=101,slow=10,SNR=3.0						
BATI	**Baumata**	**55.15 275**		P	**P**	**05 12 19.9**	**+0.9**
BATI	**Baumata**	**55.15 275**		P	**P**	**05 12 19.9**	**+0.9**
	21nm,0.5s,baz=121,slow=5.9,SNR=2.9						
CASY	**Casey**	**58.58 206**		*e*P	**P**	**05 12 41.4**	**-0.2**
	5.8nm,0.6s						
QSPA	**South Pole Qui**	**64.58 180**		*e*P	**P**	**05 13 22.3**	**+1.3**
	6.0nm,1.1s						
MJAR	**Matsushiro Arr**	**73.11 326**		P	**P**	**05 14 12.4**	**-0.4**
MJAR	**Matsushiro Arr**	**73.11 326**		P	**P**	**05 14 12.4**	**-0.4**
	4.9nm,0.9s,baz=167,slow=5.7,SNR=8.9						
JNU	**Nakatsue**	**74.59 319**		*e*P	**P**	**05 14 19.8**	**-1.5**
	2.0nm,0.6s						
JNU	**Nakatsue**	**74.59 319**		P	**P**	**05 14 19.5**	**-1.8**
	5.0nm,0.7s,baz=120,slow=3.5,SNR=4.5						
MAW	**Mawson**	**76.17 201**		*e*P	**P**	**05 14 30.2**	**+0.7**
	0.4nm,0.5s						
MAW	**Mawson**	**76.17 201**		P	**P**	**05 14 30.4**	**+0.9**
	baz=77,SNR=9.2						
MAW	**Mawson**	**76.17 201**		P	**P**	**05 14 30.4**	**+0.9**
	1.7nm,0.5s,baz=113,slow=4.7,SNR=16						
KSRS	**Korea Array**	**79.35 320**		P	**P**	**05 14 47.6**	**+0.5**
	2.6nm,0.7s,baz=136,slow=6.1,SNR=9.8						
KSAR	**Wonju Array Be**	**79.36 320**		P	**P**	**05 14 47.6**	**+0.5**
PETK	**Petropavlovsk-**	**80.61 347**		P	**P**	**05 14 53.6**	**+0.2**
PETK	**Petropavlovsk-**	**80.61 347**		P	**P**	**05 14 53.6**	**+0.2**
	3.4nm,0.7s,baz=132,slow=9.4,SNR=5.6						
SYO	**Syowa Base**	**81.40 193**		*e*P	**P**	**05 14 56.0**	**-1.4**
CMAR	**Chiang Mai Arr**	**89.89 290**		P	**P**	**05 15 40.8**	**+1.4**
CMAR	**Chiang Mai Arr**	**89.89 290**		P	**P**	**05 15 40.8**	**+1.4**
	1.3nm,0.6s,baz=136,slow=4.0,SNR=7.3						
ILAR	**Eielson Array**	**93.64 14**		P	**P**	**05 15 54.7**	**-0.8**
ILAR	**Eielson Array**	**93.64 14**		P	**P**	**05 15 54.7**	**-0.8**
	0.5nm,1.0s,baz=226,slow=5.6,SNR=4.3						
KURK	**Kurchatov**	**116.21 316**		PKP	**PKPdf**	**05 21 18.9**	**-0.5**
KURBB	**Kurchatov Arra**	**116.25 316**		PKP	**PKPdf**	**05 21 18.9**	**-0.6**
	0.9nm,0.8s,baz=92,slow=2.2,SNR=7.7						
KKAR	**Karatay Array**	**120.66 307**		*e*PKPdf	**PKPdf**	**05 21 27.7**	**-0.5**
BVAR	**Borovoye Array**	**121.50 318**		PKP	**PKPdf**	**05 21 27.6**	**-1.9**
BVAR	**Borovoye Array**	**121.50 318**		PKP	**PKPdf**	**05 21 27.6**	**-1.9**
	1.2nm,0.5s,baz=74,slow=11,SNR=4.5						
AKTO	**Aktyubinsk**	**129.30 315**		PKP	**PKPdf**	**05 21 43.3**	**-1.2**
AKTO	**Aktyubinsk**	**129.30 315**		PKP	**PKPdf**	**05 21 43.3**	**-1.2**
	0.4nm,0.3s,baz=326,slow=3.6,SNR=4.1						

ARCES	**ARCESS Array B**	**133.41 348**		PKP	**PKPdf**	**05 21 52.7**	**+0.9**
ARCES	**ARCESS Array B**	**133.41 348**		PKP	**PKPdf**	**05 21 52.7**	**+0.9**
	4.7nm,1.0s,baz=59,slow=3.0,SNR=7.5						
FINES	**FINESS Array B**	**139.90 341**		PKPpre	PKPpre	05 21 55.4	
FINES				SKPbc	**SKiKP**	**05 24 54.5**	**+0.3**
FINES	**FINESS Array B**	**139.90 341**		PKhKP	PKPpre	05 21 55.4	
	2.4nm,0.9s,baz=16,slow=2.8,SNR=3.9						
FINES				SKPbc	**SKiKP**	**05 24 54.5**	**+0.3**
	1.2nm,0.5s,baz=32,slow=5.0,SNR=5.5						
NB2	**NORSAR Subarra**	**143.63 351**		PKP	PKPab	05 22 08.6	-0.7
	comp=Z,9.2nm,0.8s,baz=20,slow=3.8						
NOA	**NORSAR Array B**	**143.63 351**		PKP	PKPbc	05 22 08.9	-0.5
NOA	**NORSAR Array B**	**143.63 351**		PKP	PKPbc	05 22 08.9	-0.5
	comp=Z,7.8nm,0.8s,baz=16,slow=5.0,SNR=19						
NACGM	**Naroch**	**144.55 333**		*e*	PKPbc	05 22 10.0	-2.4
AKASG	**Malin Array Be**	**146.19 326**		PKPbc	**PKPbc**	**05 22 16.7**	**-0.6**
AKASG	**Malin Array Be**	**146.19 326**		PKPbc	**PKPbc**	**05 22 16.7**	**-0.6**
	comp=Z,2.2nm,0.4s,baz=42,slow=4.0,SNR=18						
ASF	**Jabal al Asfar**	**146.92 290**		PKPbc	**PKPbc**	**05 22 20.7**	**+0.6**
ASF	**Jabal al Asfar**	**146.92 290**		PKPbc	**PKPbc**	**05 22 20.7**	**+0.6**
	comp=Z,3.6nm,0.6s,baz=19,slow=5.6,SNR=5.5						
MMAI	**Mount Meron Ar**	**148.14 292**		PKPbc	**PKPbc**	**05 22 24.3**	**+1.1**
MMAI	**Mount Meron Ar**	**148.14 292**		PKPbc	**PKPbc**	**05 22 24.3**	**+1.1**
	comp=Z,3.2nm,0.4s,baz=76,slow=3.5,SNR=6.4						
BR131	**Keskin Array S**	**148.35 305**		*e*PKPbc	**PKPbc**	**05 22 23.5**	**0.0**
BRTR	**Keskin Array B**	**148.35 305**		PKPbc	**PKPbc**	**05 22 23.6**	**0.0**
BRTR	**Keskin Array B**	**148.35 305**		PKPbc	**PKPbc**	**05 22 23.6**	**0.0**
	comp=Z,1.2nm,0.5s,baz=135,slow=3.9,SNR=6.3						
CLL	**Collm**	**152.32 342**		*i* PKPbc	**PKPbc**	**05 22 32.6**	**+0.4**
	comp=Z,5.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**167.57 189**		PKPab	**PKPab**	**05 23 52.0**	**+0.1**
TORD	**Torodi Ar. Bea**	**167.57 189**		PKPab	**PKPab**	**05 23 52.0**	**+0.1**
	comp=Z,0.5nm,0.9s,baz=180,slow=2.6,SNR=3.9						

MEX 16 05:05:25.8±0.5, 18.°30N×100.°23W, h55^{km}**±5**^{km}**, MD3.5, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.11 262**		*e*P	Pn	05 05 32.8	-1.5
ARIG				*i* S	Sn	05 05 38.7	-1.8
MEIG	**Mezcala**	**0.69 122**		*e*P	Pn	05 05 38.4	-1.4
MEIG				*e*S	Sn	05 05 48.3	-1.6
PLIG	**Platanillo**	**0.70 82**		*e*P	Pn	05 05 38.1	-1.7
PLIG				*i* S	Sn	05 05 48.0	-2.2
TOVM	**TOLUCA**	**1.11 28**		*e*P	Pn	05 05 44.2	-1.4
TOVM				*i* S	Sn	05 05 58.5	-1.8
YAIG	**Yautepec**	**1.24 63**		*e*P	Pn	05 05 45.3	-1.7
YAIG				*i* S	Sn	05 06 00.7	-2.2
CAIG	**El Cayaco**	**1.24 182**		*e*P	Pn	05 05 45.9	-1.0
CAIG				*e*S	Sn	05 06 00.6	-2.1
MZVM		**1.30 47**		*e*P	Pn	05 05 47.1	-0.6
MZVM				*e*S	Sn	05 06 03.3	-0.7
SZVM	**Salazar**	**1.30 38**		*e*P	Pn	05 05 46.9	-1.4
SZVM				*e*S	Sn	05 06 03.4	-1.7
ZIIG	**Zihuatanejo**	**1.36 240**		*e*P	Pn	05 05 47.6	-0.9
ZIIG				*e*S	Sn	05 06 02.6	-2.9
MOIG	**Morelia**	**1.65 327**		*e*P	Pn	05 05 50.0	-2.7
MOIG				*e*S	Sn	05 06 09.7	-3.4
PPM	**Popocatepetl**	**1.70 63**		*e*P	Pn	05 05 52.7	-1.1
PPM				*e*S	Sn	05 06 12.5	-2.5
TPIG	**Tehuac#an**	**2.73 87**		*e*P	Pn	05 06 06.8	-0.6
TPIG				*e*S	Sn	05 06 37.2	-2.2
PNIG	**Pinotepa**	**2.76 133**		*e*P	Pn	05 06 08.0	+0.3
PNIG				*e*S	Sn	05 06 38.3	-1.6

ISCJB **16** *05:16:04.9±0.6, 18.°4N±0.°1×64.°64W±0.°03, h101*^{km}*±6*^{km}*, Error ellipse: s-maj=17.6km s-min=3.2km az=12.8*
TRN **16** *05:16:05.1, 18.°60N×64.°43W, h102*^{km}*, M4.0, M4.0(FDF)*
NEIC **16** *05:16:07.1, 18.°35N×64.°67W, h92*^{km}*, MD3.7(RSPR), After RSPR.*
RSPR **16** *05:16:07.1, 18.°35N×64.°67W, h92*^{km}*, MD3.7/18*

ISC 16 05:16:05.9±1.4, 18.°4N±0.°1×64.°64W±0.°04, h95^{km}**±8**^{km}**, n59, σ0.52/80, 29C-14D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.02**	**92**	*i*P	**Pn**	**05 16 19.6**	**+0.5**
TBVI	**Tortola**	**0.02**	**92**	*i* Pu	**Pn**	**05 16 19.6**	**+0.5**
STVI	**Saint Thomas**	**0.30 258**		*e*P	**Pn**	**05 16 20.3**	**+0.5**
STVI	**Saint Thomas**	**0.30 258**		*e*P	**Pn**	**05 16 20.3**	**+0.5**
STVI				*e*S	**Sn**	**05 16 30.6**	**+0.3**
CDVI	**St. Croix**	**0.67 190**		*e*P	**Pn**	**05 16 22.4**	**-0.1**
CDVI	**St. Croix**	**0.67 190**		*e*P	**Pn**	**05 16 22.4**	**-0.1**
CDVI				*e*S	**Sn**	**05 16 34.3**	**-0.7**
MTP	**Monte Pirata**	**0.92 250**		*e*P	**Pn**	**05 16 25.3**	**+0.2**
MTP	**Monte Pirata**	**0.92 250**		*e*P	**Pn**	**05 16 25.3**	**+0.2**
MTP				*e*S	**Sn**	**05 16 39.1**	**-0.4**
CBYP	**Canovanas**	**1.16 263**		*e*P	**Pn**	**05 16 27.8**	**-0.1**
CBYP	**Canovanas**	**1.16 263**		*e*P	**Pn**	**05 16 27.8**	**-0.1**
CBYP				*e*S	**Sn**	**05 16 44.1**	**-0.3**
HUMP	**Col San Antoni**	**1.18 257**		*e*P	**Pn**	**05 16 28.2**	**+0.2**
HUMP	**Col San Antoni**	**1.18 257**		*e*P	**Pn**	**05 16 28.2**	**+0.2**
HUMP				*e*S	**Sn**	**05 16 44.2**	**-0.4**
CPD	**Cerro la Pandu**	**1.27 253**		*e*P	**Pn**	**05 16 29.2**	**+0.1**
CPD	**Cerro la Pandu**	**1.27 253**		*e*P	**Pn**	**05 16 29.2**	**+0.1**
CPD				*e*S	**Sn**	**05 16 46.3**	**-0.2**
SJG	**San Juan**	**1.47 258**		*e*P	**Pn**	**05 16 31.5**	**+0.1**
SJG				*e*S	**Sn**	**05 16 50.9**	**+0.1**
SJG	**San Juan**	**1.47 258**		*e*P	**Pn**	**05 16 31.5**	**+0.1**
SJG				*e*S	**Sn**	**05 16 50.9**	**+0.1**
SABA	**Saba**	**1.55 121**		*e*P	**Pn**	**05 16 33.0**	**+0.5**
SABA	**Saba**	**1.55 121**		*i*P	**Pn**	**05 16 33.0**	**+0.5**
SABA				*e*S	**Sn**	**05 16 52.8**	**+0.1**
SABA	**Saba**	**1.55 121**		*e*P	**Pn**	**05 16 33.0**	**+0.5**
SABA				*e*S	**Sn**	**05 16 53.6**	**+0.9**
CELP	**Cerrillos**	**1.87 260**		*e*P	**Pn**	**05 16 37.0**	**+0.4**
CELP				*e*S	**Sn**	**05 16 59.6**	**-0.5**
CELP	**Cerrillos**	**1.87 260**		*e*P	**Pn**	**05 16 37.0**	**+0.4**
CELP				*e*S	**Sn**	**05 16 59.6**	**-0.5**
OBIP	**Obispado Ponce**	**1.90 259**		*e*P	**Pn**	**05 16 37.4**	**+0.4**
OBIP	**Obispado Ponce**	**1.90 259**		*e*P	**Pn**	**05 16 37.4**	**+0.4**
OBIP				*e*S	**Sn**	**05 17 00.6**	**-0.1**
AOPR	**Arecibo Observ**	**2.01 268**		*e*P	**Pn**	**05 16 38.5**	**+0.2**
AOPR	**Arecibo Observ**	**2.01 268**		*e*P	**Pn**	**05 16 38.5**	**+0.2**
LRS	**Lares**	**2.10 267**		*e*P	**Pn**	**05 16 39.7**	**+0.1**
LRS				*e*S	**Sn**	**05 17 05.1**	**-0.2**
LRS	**Lares**	**2.10 267**		*e*P	**Pn**	**05 16 39.7**	**+0.1**
LRS				*e*S	**Sn**	**05 17 05.1**	**-0.2**
SKI	**Saint Kitts**	**2.11 120**		*i*P	**Pn**	**05 16 40.0**	**+0.3**
SKI				*e*S	**Sn**	**05 17 05.4**	**-0.1**
GBPR	**Guanica, Bosqu**	**2.17 259**		*e*P	**Pn**	**05 16 41.1**	**+0.6**
GBPR	**Guanica, Bosqu**	**2.17 259**		*e*P	**Pn**	**05 16 41.1**	**+0.6**
GBPR				*e*S	**Sn**	**05 17 07.5**	**+0.5**
LSP	**Las Mesas**	**2.33 264**		*e*P	**Pn**	**05 16 43.3**	**+0.6**
LSP	**Las Mesas**	**2.33 264**		*e*P	**Pn**	**05 16 43.3**	**+0.6**
LSP				*e*S	**Sn**	**05 17 11.2**	**+0.3**
AGPR	**Aguadilla, PR**	**2.34 272**		*e*P	**Pn**	**05 16 42.6**	**-0.1**
AGPR	**Aguadilla, PR**	**2.34 272**		*e*P	**Pn**	**05 16 42.6**	**-0.1**
CRPR	**Cabo Rojo, PR**	**2.38 260**		*e*P	**Pn**	**05 16 43.2**	**0.0**
CRPR	**Cabo Rojo, PR**	**2.38 260**		*e*P	**Pn**	**05 16 43.2**	**0.0**
CRPR				*e*S	**Sn**	**05 17 12.2**	**+0.3**
MPR	**Mayaguez**	**2.38 265**		*e*P	**Pn**	**05 16 43.6**	**+0.3**
MPR	**Mayaguez**	**2.38 265**		*e*P	**Pn**	**05 16 43.6**	**+0.3**
IDE	**Isla Desecheo**	**2.69 270**		*i*P	**Pn**	**05 16 47.5**	**+0.1**
IDE	**Isla Desecheo**	**2.69 270**		*i* Pu	**Pn**	**05 16 47.5**	**+0.1**
ANWB	**Willy Bob**	**2.82 105**		*i*P	**Pn**	**05 16 48.0**	**-1.1**
ANWB				*e*S	**Sn**	**05 17 19.6**	**-2.8**
LZG	**Guadaloupe-1**	**3.55 129**		*e*P	**Pn**	**05 16 59.3**	**+0.3**
SEG	**Port Louis**	**3.60 123**		*i*P	**Pn**	**05 16 59.8**	**+0.2**
MLG	**Mont-d'or**	**3.65 129**		*i*P	**Pn**	**05 17 00.7**	**+0.3**
FNG	**Fond-Bernard**	**3.67 129**		*i*P	**Pn**	**05 17 01.0**	**+0.3**
CRG	**Carmichael**	**3.69 129**		*e*P	**Pn**	**05 17 01.5**	**+0.5**
SCG	**Saint Claude**	**3.69 130**		*e*P	**Pn**	**05 17 01.2**	**+0.2**
TAG	**Tarade**	**3.70 129**		*e*P	**Pn**	**05 17 01.4**	**+0.3**
BCG	**Bois Riant Cap**	**3.70 128**		*e*P	**Pn**	**05 17 01.6**	**+0.5**
ECG	**Echelle**	**3.71 129**		*e*P	**Pn**	**05 17 01.5**	**+0.2**
HMG	**Houelmont**	**3.71 130**		*e*P	**Pn**	**05 17 01.3**	**+0.2**
PHG	**Guadaloupe-2**	**3.73 129**		*e*P	**Pn**	**05 17 01.8**	**+0.3**
DOG	**Dongo Capester**	**3.74 129**		*e*P	**Pn**	**05 17 02.1**	**+0.6**
TBG	**Guadaloupe-3**	**3.84 131**		*e*P	**Pn**	**05 17 02.7**	**-0.1**
DEG	**La Desirade**	**4.01 121**		*e*P	**Pn**	**05 17 04.5**	**-0.8**
MGG	**Marie-Galante**	**4.04 128**		*e*P	**Pn**	**05 17 06.2**	**+0.7**
DR12	**Loma Pena Alta**	**4.51 275**		*e*P	**Pn**	**05 17 11.8**	**-0.2**
DR12	**Loma Pena Alta**	**4.51 275**		*e*P	**Pn**	**05 17 11.8**	**-0.2**
SDDR	**Presa de Saban**	**6.32 276**		*e*Pn	**Pn**	**05 17 35.9**	**-0.8**
	43nm,0.6s						
SDDR				*e*Sn	**Sn**	**05 18 46.6**	**-0.9**

MAN 16 05:19:17, 10.°17N×121.°98E, h1^{km}**, mb4.0, ML2.8, MS2.4, 1D, Panay**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.75**	**53**	*e*P	Pb	05 19 32.4	-0.6
GUIM				*e*S	Sn	05 19 46.0	-0.9
CUYO	**Cuyo Island**	**1.17 306**		*e*P	Pn	05 19 41.0	+0.5
RCP	**Roxas**	**1.58 28**		*e*P	Pg	05 19 47.6	+0.3
RCP				*e*S	Sg	05 20 08.2	+0.4
BUSP	**Coron**	**2.53 316**		*e*P	Pn	05 19 59.7	+0.5
PAGZ	**Pagadian**	**2.69 149**		*e*P	Pn	05 20 03.1	+1.7
ENPP	**El Nido**	**2.72 293**		*e*P	Pn	05 20 03.3	+1.5
MSLP	**Maasin**	**2.83 90**		*e*P	Pn	05 20 05.0	+1.5

IDC **16** *05:20:24.7±1.1, 11.°21S×162.°32E, h0*^{km}*, mb4.1/9, mb1 4.3/11, mb1mx4.1/22, mbtmp4.2/11, ML4.6/2, MS3.7/8, Ms1 3.7/8, ms1mx3.5/37, Error ellipse: s-maj=27.6km s-min=20.9km az=127.0*
ISCJB **16** *05:20:29.8±0.7, 11.°20S±0.°06×162.°33E±0.°08, h46*^{km}*, mb4.0/12, MS3.7/7, Error ellipse: s-maj=12.4km s-min=6.9km az=147.1*
NEIC **16** *05:20:30.0±0.8, 11.°13S×162.°35E, h35*^{km}*, mb4.4/9, Error ellipse: s-maj=16.1km s-min=14.1km az=83.0*

ISC 16 05:20:31.4±0.8, 11.°16S±0.°08×162.°33E±0.°09, h46^{km}**, n53, σ1.35/47, mb4.0/12, MS3.6/7, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.91 306**		Pn	**Pn**	**05 21 12.8**	**-2.4**
HNR				Sn	**Sn**	**05 21 50.9**	**+2.0**
HNR	**Honiara**	**2.91 306**		Pn	**Pn**	**05 21 12.8**	**-2.4**
	108nm,0.3s,baz=134,slow=5.6,SNR=13						
HNR				Sn	**Sn**	**05 21 50.9**	**+2.0**
	302nm,0.3s,baz=202,slow=23,SNR=11						
HNR				LR	LR	05 22 14.3	
	comp=Z,720nm,21.2s,baz=125,slow=37						
DZM	**Mont Dzumac**	**11.54 161**		*e*Pn	**Pn**	**05 23 10.9**	**-2.8**
DZM				Sn	**Sn**	**05 25 21.4**	**+0.2**
DZM	**Mont Dzumac**	**11.54 161**		Pn	**Pn**	**05 23 15.0**	**+1.4**
	0.5nm,0.3s,baz=194,slow=22,SNR=6.7						
DZM				Sn	**Sn**	**05 25 21.4**	**+0.2**
	0.3nm,0.3s,baz=90,slow=24,SNR=6.7						
PMG	**Port Moresby**	**15.03 275**		*e*P	**P**	**05 24 04.6**	**-0.9**
	53nm,1.3s						
PMG	**Port Moresby**	**15.03 275**		Pn	**P**	**05 24 05.4**	**-0.1**
	0.7nm,0.3s,baz=82,slow=10,SNR=

Salvador

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
AIES	Las Flores	0.28	14⇓	eP		Pn	05 20 54.5	+0.8
AIES				eS		Sn	05 21 02.1	+1.3
AIES				AML		AML	05 21 06.5	
	comp=Z,61μm,0.2s							
AIES	Las Flores	0.28	14⇓	eP		Pn	05 20 54.5	+0.8
AIES				eS		Sn	05 21 02.1	+1.3
AIES				AML		AML	05 21 06.5	
	comp=Z,61μm,0.2s							
LFRS	El Faro	0.44	8⇓	iP		Pn	05 20 56.3	+1.0
LFRS	El Faro	0.44	8⇓	iP		Pn	05 20 56.3	+1.0
SNVI	San Vicente	0.50	33⇓	iP		Pn	05 20 57.4	+1.4
SNVI	San Vicente	0.50	33⇓	iP		Pn	05 20 57.4	+1.4
SNET	Serv Nac Est T	0.51	348⇓	iP		Pn	05 20 57.0	+1.0
SNET				eS		Sn	05 21 06.6	+1.8
SNET				AML		AML	05 21 08.0	
	comp=Z,110μm,0.4s							
SNET	Serv Nac Est T	0.51	348⇓	iP		Pn	05 20 57.0	+1.0
SNET				eS		Sn	05 21 06.6	+1.8
SNET				AML		AML	05 21 08.0	
	comp=Z,110μm,0.4s							
BOQS	Boqueron	0.57	344⇑	iP		Pn	05 20 57.9	+1.1
BOQS	Boqueron	0.57	344⇑	iP		Pn	05 20 57.9	+1.1
SBLS	San Blas	0.81	323⇓	iP		Pn	05 21 00.3	+0.6
SBLS	San Blas	0.81	323⇓	iP		Pn	05 21 00.3	+0.6
SNJE	San Jose	0.82	325⇓	iP		Pn	05 21 00.5	+0.7
SNJE	San Jose	0.82	325⇓	iP		Pn	05 21 00.5	+0.7
VSM	San Miguel	0.86	74	eP		Pn	05 21 02.5	+2.2
VSM	San Miguel	0.86	74	eP		Pn	05 21 02.5	+2.2
BLLM	Bellamira	0.90	73	eP		Pn	05 21 02.9	+2.3
BLLM	Bellamira	0.90	73	eP		Pn	05 21 02.9	+2.3
CAHU	Cacacuatique	1.06	57	eP		Pn	05 21 05.1	+2.3
CAHU	Cacacuatique	1.06	57	eP		Pn	05 21 05.1	+2.3
CNCH	Conchagua	1.26	86	eP		Pn	05 21 07.2	+1.8
CNCH	Conchagua	1.26	86	eP		Pn	05 21 07.2	+1.8
NBG	Las Nubes	1.83	320	eP		Pn	05 21 15.5	+2.2
NBG	Las Nubes	1.83	320	eP		Pn	05 21 15.5	+2.2
PCG	Pacaya	1.88	310	eP		Pn	05 21 15.4	+1.5
PCG	Pacaya	1.88	310	eP		Pn	05 21 15.4	+1.5
TGUH	Tegucigalpa,Un	1.99	64	eP	n	Pn	05 21 17.7	+2.5
FUG	Fuego 3	2.09	307⇓	eP		Pn	05 21 17.9	+1.1
FUG	Fuego 3	2.09	307⇓	eP		Pn	05 21 17.9	+1.1
APG	El Apazote	2.23	324	P		Pn	05 21 19.4	+0.7
APG				S		Sn	05 21 50.5	+5.3
APG	El Apazote	2.23	324	P		Pn	05 21 19.4	+0.7
	comp=Z,88nm,0.3s,baz=131,slow=8.8,SNR=1159							
APG				S		Sn	05 21 50.5	+5.3
	comp=Z,174nm,0.3s,baz=133,slow=15,SNR=6.3							
JAT	Jato	2.69	295	eP		Pn	05 21 25.5	+0.7
JAT	Jato	2.69	295	eP		Pn	05 21 25.5	+0.7
NY14	Universidad de	4.32	125	iP		Pn	05 21 48.4	+1.3
NY14				iS		Sn	05 22 40.1	+3.8
NY14	Universidad de	4.32	125	iP		Pn	05 21 48.4	+1.3
NY14				iS		Sn	05 22 40.1	+3.8
LAPC	Finca la Perla	4.34	123	iP		Pn	05 21 47.3	0.0
LAPC	Finca la Perla	4.34	123	iP		Pn	05 21 47.3	0.0
GB1A	Boringuen Arri	4.34	122	iP		Pn	05 21 47.9	+0.5
GB1A	Borinquen Arri	4.34	122	iP		Pn	05 21 47.9	+0.5
BUEV	Buena Vista	4.34	123	iP		Pn	05 21 47.9	+0.4
BUEV	Buena Vista	4.34	123	iP		Pn	05 21 47.9	+0.4
LIM1	Limonal	4.52	123	iP		Pn	05 21 50.1	+0.2
LIM1	Limonal	4.52	123	iP		Pn	05 21 50.1	+0.2
CUI	Cuipilapa	4.62	123	iP		Pn	05 21 51.6	+0.4
CUI	Cuipilapa	4.62	123	iP		Pn	05 21 51.6	+0.4
JTS	JuntasAbangare	5.00	125	eP	n	Pn	05 21 57.9	+1.5
JTS				S		Sn	05 22 52.3	-0.5
JTS	JuntasAbangare	5.00	125	P		Pn	05 21 57.7	+1.3
	comp=Z,41nm,0.3s,baz=326,slow=6.8,SNR=167							
JTS				S		Sn	05 22 52.3	-0.5
	comp=Z,22nm,0.3s,baz=310,slow=18,SNR=1.8							
JCR	Jicaral	5.14	130	eP		Pn	05 22 00.1	+1.7
JCR				eS		Sn	05 22 57.4	+0.9
JCR	Jicaral	5.14	130	eP		Pn	05 22 00.1	+1.7
JCR				eS		Sn	05 22 57.4	+0.9
CGA2	Cerro Gallo 2	5.54	124	eP		Pn	05 22 06.9	+2.9
CGA2				eS		Sn	05 23 08.7	+2.2
CGA2	Cerro Gallo 2	5.54	124	eP		Pn	05 22 06.9	+2.9
CGA2				eS		Sn	05 23 08.7	+2.2
SJS	Escuela Geolog	5.92	123	eP		Pn	05 22 12.1	+3.0
SJS				eS		Sn	05 23 20.2	+4.4
SJS	Escuela Geolog	5.92	123	eP		Pn	05 22 12.1	+3.0
SJS				eS		Sn	05 23 20.2	+4.4
QCR	Quepos	6.13	127	eP		Pn	05 22 14.4	+2.5
QCR				eS		Sn	05 23 21.8	+1.1
QCR	Quepos	6.13	127	eP		Pn	05 22 14.4	+2.5
QCR				eS		Sn	05 23 21.8	+1.1
BUS	Buena Vista	6.38	124	eP		Pn	05 22 18.7	+3.0
BUS				eS		Sn	05 23 31.3	+3.9
BUS	Buena Vista	6.38	124	eP		Pn	05 22 18.7	+3.0
BUS				eS		Sn	05 23 31.3	+3.9
TEIG	Tepich	7.05	6	eP	n	Pn	05 22 27.1	+2.7
ACR	Cerro Adams	7.38	127	eP		Pn	05 22 31.6	+2.5
ACR	Cerro Adams	7.38	127	eP		Pn	05 22 31.6	+2.5
BCIP	Isla Barro Col	9.95	113	eP	n	Pn	05 23 06.2	+2.0
MTDJ	Mount Denham	12.23	64	eP	n	Pn	05 23 39.2	+3.8
	comp=Z,18nm,0.7s							
OTAV	Otavalo	16.65	140	eP		P	05 24 35.6	+0.1
	comp=Z,9.7nm,0.9s							
ROSC	El Rosal	16.78	118	eP		P	05 24 38.3	+1.4
ROSC	El Rosal	16.78	118	P		P	05 24 38.3	+1.4
	comp=Z,0.6nm,0.3s,baz=109,slow=10,SNR=9.5							
ROSC					LR	LR	05 31 40.0	
	comp=Z,38nm,20.3s,baz=205,slow=40							
HKT	Hockley	17.80	341	eP		P	05 24 49.9	+2.4
	comp=Z,74nm,2.1s							
732A	Laxson Ranch,	18.47	329	⇓P		Pn	05 24 56.1	+0.4
	baz=18,SNR=14							
SDV	Santo Domingo	18.64	101	eP		P	05 24 57.0	-0.2
	comp=Z,29nm,0.6s							
TIGA	Tifton	18.86	15	eP		Pn	05 25 01.8	+1.4
VBMS	Vicksburg	18.99	356	eP		Pn	05 25 03.2	+1.4
	comp=Z,34nm,0.6s							
632A	Uvalde	19.02	330	⇑P		Pn	05 25 02.0	-0.3
	baz=19,SNR=20							
631A	Perdido Creek	19.33	328	⇓P		P	05 25 05.0	+0.6
	baz=19,SNR=18							
532A	Rocksprings	19.59	331	⇑P		P	05 25 08.0	+0.7
	baz=20,SNR=33							
JCT	Junction City	19.84	332	eP		P	05 25 10.6	+0.6
	comp=Z,33nm,0.6s							
JCT	Junction City	19.84	332	⇓P		P	05 25 10.5	+0.6
	baz=20,SNR=28							
LRAL	Lakeview Retre	19.85	5	eP		Pn	05 25 12.1	0.0
	comp=Z,10nm,0.8s							
531A	Rocksprings	19.93	330	⇓P		P	05 25 11.5	+0.6
	baz=20,SNR=9.7							
432A	Menard	20.17	332	⇑P		P	05 25 14.2	+0.6
	baz=20,SNR=23							
WHTX	Lake Whitney	20.22	339	⇑P		P	05 25 15.0	+0.9
	baz=20,SNR=10							
530A	J-C Ranch, Com	20.31	328	⇑P		P	05 25 15.9	+0.8
	baz=20,SNR=28							
431A	Sonora	20.39	330	⇓P		P	05 25 16.6	+0.6
	baz=20,SNR=31							
332A	Millersview	20.58	333	⇑P		P	05 25 18.6	+0.6
	baz=21,SNR=36							
628A	Black Gap, Mar	20.64	324	⇑P		Pn	05 25 20.5	-1.1
	baz=21,SNR=24							
529A	Stev Forest Ra	20.76	326	⇑P		P	05 25 20.5	+0.5
	baz=21,SNR=14							
430A	Baggett Ranch,	20.78	329	⇑P		P	05 25 21.0	+0.8
	baz=21,SNR=22							
331A	San Angelo	20.82	332	⇑P		P	05 25 21.0	+0.4
	baz=21,SNR=58							
627A	Terlingua Ranc	20.91	323	⇑P		Pn	05 25 23.6	-1.2
	baz=21,SNR=30							
232A	Coleman	20.97	334	⇓P		P	05 25 22.5	+0.3
	baz=21,SNR=33							
429A	Davenport Ranc	20.98	328	⇓P		P	05 25 23.0	+0.6
	baz=21,SNR=53							
TXAR	Lajitas Array	20.98	322	P		Pn	05 25 24.3	-1.4
TXAR				PcP		PcP	05 29 28.6	+0.6
TXAR				ScP		ScP	05 33 00.9	+1.0
TXAR	Lajitas Array	20.98	322	P		Pn	05 25 24.3	-1.4
	comp=Z,11nm,0.6s,baz=142,slow=10.0,SNR=128							
TXAR				PcP		PcP	05 29 28.6	+0.6
	comp=Z,2.5nm,1.0s,baz=134,slow=3.6,SNR=5.5							
TXAR				ScP		ScP	05 33 00.9	+1.0
	comp=Z,0.6nm,0.7s,baz=145,slow=7.5,SNR=4.9							
TXAR					LR	LR	05 35 11.3	
	comp=Z,134nm,19.9s,baz=5.0,slow=41							
528A	Cox Ranch, San	21.10	325	⇑P		P	05 25 24.1	+0.4
	baz=21,SNR=9.9							
OXF	Oxford	21.23	359	eP		P	05 25 26.9	+2.0
	comp=Z,156nm,1.1s							
OXF				e			05 25 44.9	
330A	Mertzon	21.26	330	⇓P		P	05 25 25.0	-0.3
	baz=21,SNR=10							
231A	Bronte	21.30	333	⇑P		P	05 25 25.8	0.0
	baz=21,SNR=12							
626A	Big Bend Ranch	21.42	322	⇓P		P	05 25 28.4	+1.3
	baz=22,SNR=15							
428A	Kincaid Ranch,	21.48	327	⇑P		P	05 25 28.5	+0.8
	baz=22,SNR=7.1							
527A	Woodward Ranch	21.55	324	⇑P		P	05 25 29.1	+0.6
	baz=22,SNR=6.2							
ABTX	Abilene, Hawle	21.61	335	⇑P		P	05 25 29.2	+0.1
	baz=22,SNR=21							
230A	Sterling City	21.62	331	⇓P		P	05 25 28.6	-0.7
	baz=22,SNR=6.0							
MIAR	Mount Ida	21.64	350	eP		P	05 25 30.7	+1.4
	comp=Z,41nm,0.7s							
UALR	University of	21.69	353	eP		P	05 25 31.7	+1.9
	comp=Z,63nm,0.9s							
329A	Wagon Wheel Ra	21.72	329	⇑P		P	05 25 29.7	-0.6
	baz=22							
526A	Mary Lane Ranc	21.77	323	⇓P		P	05 25 31.7	+0.8
	baz=22,SNR=9.4							
427A	Hayter Ranch,	21.96	325	⇑P		P	05 25 32.8	-0.2
	baz=22							
131A	Roby	21.97	334	⇑P		P	05 25 32.9	0.0
	baz=22,SNR=10.0							
229A	Bryant Ranch,	22.02	330	⇑P		P	05 25 33.2	-0.3
	baz=22,SNR=12							
328A	Wristen Ranch,	22.06	327	⇓P		P	05 25 33.6	-0.3
	baz=22,SNR=21							
SWET	Sewanee	22.12	7	eP		P	05 25 35.6	+1.1
	comp=Z,27nm,0.8s							
SWET				e			05 25 51.4	
Z32A	Haskell	22.14	336	⇓P		P	05 25 34.7	-0.1
	baz=22,SNR=56							
130A	Snyder	22.15	333	⇓P		P	05 25 34.2	-0.7
	baz=22,SNR=19							
426A	McDonald Obser	22.18	324	⇑P		P	05 25 34.5	-0.9
	baz=22							
Z31A	Sharp Cattle R	22.42	335	⇓P		P	05 25 37.2	-0.6
	baz=23,SNR=38							
228A	UT Block 9, Go	22.53	329	⇓P		P	05 25 38.0	-1.0
	baz=23,SNR=9.6							
CPCT	Cooper Cave	22.55	10	eP		P	05 25 39.5	+0.4
CPCT				e			05 25 56.3	
129A	Stewart Farms,	22.60	331	⇑P		P	05 25 37.3	-2.4
	baz=23,SNR=9.1							
326A	Caldwell Ranch	22.64	325	⇓P		P	05 25 39.5	-0.6
	baz=23,SNR=9.5							
GNAR	Gosnell	22.70	358	eP		P	05 25 42.1	+1.5
	comp=Z,361nm,1.0s							
GNAR				e			05 25 56.7	
LPIG	La Paz	22.79	301		LR	LR	05 35 33.5	
	comp=Z,193nm,20.8s,baz=301,slow=38							
227A	Bennet, Jal	22.81	328	⇓P		P	05 25 41.0	-0.9
	baz=23,SNR=9.2							
Z30A	Sanderson Ranc	22.81	333	⇓P		P	05 25 40.5	-1.4
	baz=23,SNR=35							
425A	Indio Mountain	22.82	323	⇑P		P	05 25 41.2	-1.0
	baz=23							
ATAH	Atahualpa	22.83	152	P		P	05 25 44.2	+1.6
ATAH	Atahualpa	22.83	152	P		P	05 25 44.2	+1.6
	comp=Z,15nm,0.9s,baz=333,slow=5.1,SNR=9.9							
ATAH					LR	LR	05 33 32.9	
	comp=Z,228nm,20.8s,baz=0.8,slow=34							
WVT	Waverly	22.87	3	eP		P	05 25 43.3	+0.9
	comp=Z,11nm,0.8s							
WVT				e			05 25 57.9	
128A	Castleberry Fa	22.89	330	⇑P		P	05 25 41.4	-1.4
	baz=23,SNR=19							
TKL	Tuckaleechee C	22.89	11	eP		P	05 25 43.5	+0.9
TKL				e			05 25 58.0	
TKL	Tuckaleechee C	22.89	11	P		P	05 25 43.0	+0.4
	comp=Z,3.4nm,0.4s,baz=178,slow=6.8,SNR=7.3							
TKL					LR	LR	05 35 18.2	
	comp=Z,292nm,19.1s,baz=31,slow=39							
KMSC	Kings Mountain	22.97	17	⇓P		P	05 25 43.4	0.0
	baz=23							
Y31A	Rekieta Farm,	23.03	336	⇑P		P	05 25 43.7	-0.4
	baz=23,SNR=34							
Z29A	Hungry Hill Ra	23.05	332	⇑P		P	05 25 43.0	-1.3
	baz=23,SNR=24							
WMOK	Wichita Mounta	23.17	339	eP		P	05 25 44.1	-1.4
	comp=Z,58nm,1.1s							
WMOK				e			05 25 58.9	
Y30A	Stafford Cattl	23.22	334	⇓P		P	05 25 45.3	-0.7
	baz=23,SNR=51							
325A	Bean Ranch, Si	23.24	324	⇓P		P	05 25 46.2	-0.2
	baz=23,SNR=5.9							
226B	Tecolote Peak,	23.32	326	⇓P		P	05 25 46.6	-0.5
	baz=23,SNR=11							
127A	Arkansas Junct	23.36	328	⇑P		P	05 25 46.9	-0.5
	baz=23							
PARMO	Parma	23.38	359	eP		P	05 25 49.0	+1.6
PARMO				e			05 26 04.2	
Z28A	Tucker Farm, M	23.38	331	⇓P		P	05 25 46.4	-1.2
	baz=24,SNR=17							
GDL2	Guadalupe Moun	23.52	326	eP		P	05 25 49.7	+0.7
Y29A	Porterfield Fa	23.54	333	⇓P		P	05 25 48.4	-0.6
	baz=24,SNR=15							
324A	Moseley Ranch,	23.59	323	⇓P		P	05 25 49.4	-0.2
	baz=24,SNR=13							
126A	Clayton Basin,	23.68	327	⇑P		P	05 25 49.7	-0.7
	baz=24							
X30A	Coker Ranch, T	23.70	335	⇑P		P	05 25 50.3	-0.1
	baz=24,SNR=81							
225A	Deer Hill, Car	23.71	325	⇑P		P	05 25 50.4	-0.3
	baz=24,SNR=7.6							
Z27A	Tatum	23.80	330	⇑P		P	05 25 50.4	-1.1
	baz=24,SNR=16							
STVI	Saint Thomas	23.81	74	eP		P	05 25 50.7	-0.8
	comp=Z,12nm,0.7s							
Y28A	McKinney Farm,	23.83	332	⇓P		P	05 25 51.0	-0.7
	baz=24,SNR=13							
W31A	Holland Ranch,	23.99	338	⇓P		P	05 25 52.7	-0.4
	baz=24,SNR=8.5							
125A	Gardner Draw,	24.03	326	⇓P		P	05 25 53.0	-0.6
	baz=24,SNR=11							
X29A	Tulia	24.05	334	⇓P		P	05 25 53.5	-0.1
	baz=24,SNR=24							
224A	Cornudas Mount	24.08	324	⇑P		P	05 25 54.0	0.0
	baz=24,SNR=11							
MSTX	Muleshoe	24.13	331	eP		P	05 25 54.5	+0.1
MSTX	Muleshoe	24.13	331	⇑P		P	05 25 53.9	-0.6
	baz=24,SNR=24							
Z26A	Caprock	24.15	328	⇓P		P	05 25 54.1	-0.6
	baz=24,SNR=9.4							
W30A	Crocket Farms	24.22	337	⇑P		P	05 25 55.8	+0.5
	baz=24,SNR=6.8							
Y27A	Causey	24.24	331	⇓P		P	05 25 55.1	-0.4
	baz=24,SNR=26							
X28A	Dimmitt	24.32	333	⇓P		P	05 25 56.2	0.0
	baz=24,SNR=18							
SIUC	Southern Illin	24.43	360	eP		P	05 25 56.8	-0.1
	comp=Z,48nm,0.7s							
SIUC				e			05 26 12.3	
124A	Stringfield Ra	24.50	325	⇑P		P	05 25 59.0	+1.0
	baz=25,SNR=17							
Z25A	Roll	24.54	327	⇓P		P	05 25 58.8	+0.5
	baz=25,SNR=24							
Y26A	Elida	24.59	330	⇓P		P	05 25 58.7	0.0
	baz=25							
X27A	F and S Farms,	24.84	332	⇑P		P	05 26 01.0	+0.1
	baz=25,SNR=7.8							
Z24A	Sheeppen Canyo	24.93	326	⇑P		P	05 26 02.6	+0.7
	baz=25,SNR=14							
W28A	Vega	24.95	334	⇑P		P	05 26 02.5	+0.6
	baz=25,SNR=10							
U31A	Nine Bar Ranch	25.02	339	⇓P		P	05 26 02.7	+0.2
	baz=25							
222A	Williams Famil	25.03	322	⇓P		P	05 26 03.3	+0.7
	baz=25,SNR=5.0							
Y25A	Mesa, Roswell	25.03	328	⇓P		P	05 26 03.5	+0.8
	baz=25,SNR=17							
WCI	Wyandotte Cave	25.07	5	eP		P	05 26 02.2	-0.6
	comp=Z,11nm,0.8s							
X26A	CR and CF Fran	25.09	330	⇑P		P	05 26 03.0	-0.2
	baz=25							
W27A	Bowe Ranch, En	25.17	332	⇑P		P	05 26 04.3	+0.4
	baz=25,SNR=20							
V29A	Stinnett	25.20	336	⇓P		P	05 26 04.5	+0.4
	baz=25							
Z23A	Rita Site, Whi	25.36	325	⇓P		P	05 26 06.5	+0.8
	baz=25,SNR=7.4							
SLM	Saint Louis	25.37	358	eP		P	05 26 08.2	+2.7
	comp=Z,66nm,0.8s							
SLM				e			05 26 23.6	
V28A	Channing	25.38	335	⇓P		P	05 26 06.2	+0.4
	baz=26,SNR=20							
320A	Kipp Ranch, An	25.40	318	⇑P		P	05 26 06.1	0.0
	baz=25,SNR=5.9							
Y24A	Capitan	25.42	327	⇓P		P	05 26 06.9	+0.6
	baz=26,SNR=18							
U30A	WK&E Inc. Balk	25.45	338	⇑P		P	05 26 07.0	+0.7
	baz=26,SNR=7.2							
OLIL	Olney	25.46	2	eP		P	05 26 06.4	+0.1
	comp=Z,23nm,0.9s							
OLIL				e			05 26 24.1	
X25A	Clemmons Ranch	25.49	329	⇑P		P	05 26 07.3	+0.4
	baz=26,SNR=6.9							
U29A	Oasis Ranch, S	25.61	337	⇓P		P	05 26 08.9	+1.1
	baz=26,SNR=15							
T31A	Randall Ranch,	25.62	340	⇑P		P	05 26 07.9	0.0
	baz=26							
V27A	Dan Oppiter Fa	25.65	334	⇑P		P	05 26 08.7	+0.4
	baz=26,SNR=12							
121A	Cookes Peak, D	25.74	322	⇑P		P	05 26 09.6	+0.5
	baz=26							
Y23A	Lovelace Mesa,	25.76	326	⇓P		P	05 26 10.5	+1.1
	baz=26,SNR=21							
Z22A	Elephant Butte	25.77	324	⇑P		P	05 26 10.1	+0.7
	baz=26							
220A	Playas Peak, P	25.77	319	⇓P		P	05 26 10.5	+1.1
	baz=26,SNR=6.4							
T30A	Plains	25.87	339	⇑P		P	05 26 10.7	+0.5
	baz=26							
319A	Douglas	25.91	318	⇓P		P	05 26 11.8	+1.1
	baz=26,SNR=5.8							
X24A	Lazy VL Ranch,	25.92	328	⇓P		P	05 26 11.5	+0.7
	baz=26							
U28A	Mallet	25.92	335	⇓P		P	05 26 10.9	+0.2
	baz=26							
S32A	Newby Ranch, P	25.93	342	⇑P		P	05 26 11.1	+0.4
	baz=26							
W25A	X Bar L Ranch,	25.95	330	⇑P		P	05 26 11.6	+0.6
	baz=26,SNR=8.6							
V26A	Tequesquite Ra	26.10	332	⇓P		P	05 26 13.0	+0.6
	baz=26,SNR=22							
U27A	Thompson Grove	26.21	334	⇓P		P	05 26 13.3	0.0
	baz=26,SNR=18							
BNM	Barren Site	26.24	326	eP		P	05 26 14.5	+0.8
	comp=Z,9.6nm,0.9s							
T29A	Hugoton	26.24	338	⇑P		P	05 26 13.8	+0.3
	baz=26,SNR=10							
Y22A	Socorro	26.27	325	⇓P		P	05 26 15.3	+1.3
	baz=26,SNR=7.4							
120A	U Bar Ranch, L	26.27	320	⇓P		P	05 26 15.0	+1.0
	baz=26,SNR=4.4							
LPM	Los Pinos Moun	26.36	326	eP		P	05 26 15.4	+0.7
	comp=Z,8.3nm,1.0s							
W24A	Lazy 6 Ranch,	26.41	329	⇑P		P	05 26 15.9	+0.7
	baz=26,SNR=12							
T28A	Walsh	26.52	336	⇓P		P	05 26 15.5	-0.6
	baz=27							
V25A	Rancho No Teng	26.52	331	⇓P		P	05 26 16.8	+0.5
	baz=27,SNR=22							
U26A	Atchley Ranch,	26.58	333	⇓P		P	05 26 17.1	+0.3
	baz=27,SNR=20							
S29A	Ulysses	26.58	338	⇑P		P	05 26 17.1	+0.5
	baz=27,SNR=7.9							
Z20A	Nine Sixteen R	26.63	321	⇓P		P	05 26 17.3	+0.1
	baz=27							
KSU1	Kansas State U	26.65	347	eP		P	05 26 16.3	-0.8
	comp=Z,12nm,0.6s							
R31A	Burdett	26.66	342	⇑P		P	05 26 17.7	+0.5
	baz=27							
T27A	Campo	26.71	335	⇑P		P	05 26 18.1	+0.3
	baz=27							
X22A	Bernardo	26.71	326	⇑P		P	05 26 19.6	+1.7
	baz=27							
Y21A	Point of Rocks	26.72	324	⇑P		P	05 26 19.8	+1.7
	baz=27,SNR=8.8							
ANMO	Albuquerque	26.75	327	eP		P	05 26 19.3	+1.0
	comp=Z,2.2nm,0.7s							
ANMO				PcP		PcP	05 29 39.9	-0.5
ANMO	Albuquerque	26.75	327	P		P	05 26 18.8	+0.5
	comp=Z,1.7nm,0.6s,baz=138,slow=9.3,SNR=11							
ANMO				PcP		PcP	05 29 39.9	-0.5
	comp=Z,2.6nm,1.0s,baz=166,slow=5.8,SNR=4.4							
ANMO					LR	LR	05 38 32.4	
	comp=Z,130nm,21.8s,baz=123,slow=40							
V24A	Rampart Ranch,	26.75	330	⇓P		P	05 26 19.2	+0.9
	baz=27,SNR=12							
W23A	Werner Place,	26.75	328	⇓P		P	05 26 19.4	+1.1
	baz=27,SNR=22							
S28A	Manter	26.84	337	⇑P		P	05 26 18.9	-0.1
	baz=27,SNR=9.3							
U25A	Circle Dot Ran	26.89	332	⇓P		P	05 26 20.1	+0.6
	baz=27,SNR=13							
R30A	Dighton	26.89	340	⇓P		P	05 26 20.0	+0.6
	baz=27,SNR=5.3							

U21A	Nageezi baz=29,SNR=12	28.50	328	⇑P	P	05 26 36.2 +2.1
P28A	Saint Francis baz=29,SNR=5.2	28.55	339	⇓P	P	05 26 34.7 +0.5
O30A	MW Ranch, Wils baz=29	28.56	342	⇓P	P	05 26 34.8 +0.6
T22A	Edith baz=29	28.57	329	⇑P	P	05 26 35.5 +0.9
Q26A	Hugo baz=29	28.63	336	⇑P	P	05 26 35.9 +0.9
214A	Organ Pipe Nat baz=29,SNR=6.0	28.65	315	⇑P	P	05 26 36.3 +1.2
S23A	Nye Farm, Mont baz=29	28.69	331	⇑P	P	05 26 36.8 +1.2
R24A	Sanders Place, baz=29,SNR=11	28.71	333	⇓P	P	05 26 37.0 +1.2
P27A	Ficken Ranch, baz=29	28.83	338	⇓P	P	05 26 37.5 +0.8
T21A	Navajo Lake baz=29	28.87	328	⇑P	P	05 26 38.1 +0.8
Q25A	Bedland, Calha baz=29,SNR=6.8	28.92	335	⇓P	P	05 26 38.4 +0.8
U20A	Newcomb baz=29,SNR=6.3	28.92	326	⇑P	P	05 26 38.8 +1.1
R23A	Moffat baz=29,SNR=11	29.00	332	⇑P	P	05 26 39.7 +1.2
S22A	4UR Ranch, Cre baz=29,SNR=22	29.11	330	⇓P	P	05 26 40.6 +1.1
P26A	Davis Ranch, A baz=29	29.12	337	⇓P	P	05 26 40.4 +1.0
BGNE	Belgrade comp=Z,41nm,0.5s	29.20	346	eP	P	05 26 40.0 +0.1
BGNE	Belgrade baz=29,SNR=8.8	29.20	346	⇑P	P	05 26 40.2 +0.3
X16A	Lo Mia Camp, P baz=29,SNR=5.6	29.26	320	⇑P	P	05 26 41.6 +0.9
Q24A	Divide baz=29	29.34	334	⇑P	P	05 26 41.7 +0.2
M31A	Lambtecht Ranc baz=30,SNR=8.8	29.34	345	⇑P	P	05 26 42.0 +0.8
O27A	Beecher Island baz=30	29.35	339	⇓P	P	05 26 42.0 +0.7
P25A	Willow Gulch B baz=30	29.39	336	⇑P	P	05 26 42.7 +0.9
R22A	Saguache, Gunn baz=30,SNR=7.0	29.46	331	⇑P	P	05 26 43.6 +1.0
N28A	Pribbeno Ranch baz=30	29.48	341	⇓P	P	05 26 43.5 +1.0
S21A	Coal Bank Pass baz=30,SNR=7.0	29.52	329	⇓P	P	05 26 43.7 +0.6
MVCO	Mesa Verde comp=Z,43nm,2.0s	29.54	327	eP	P	05 26 44.4 +1.2
MVCO	Mesa Verde baz=30	29.54	327	⇑P	P	05 26 44.0 +0.8
Z14A	Wintersburg baz=30	29.57	317	⇑P	P	05 26 44.4 +1.1
Q23A	Hartsel baz=30	29.59	333	⇑P	P	05 26 44.5 +0.8
JFWS	Jewell Farm comp=Z,59nm,1.5s	29.64	358	eP	P	05 26 43.5 -0.2
JFWS				e		05 26 59.3
O26A	Horse Wrangler baz=30	29.70	338	⇑P	P	05 26 45.7 +1.2
M30A	Dale-Ortello V baz=30	29.76	344	⇑P	P	05 26 45.3 +0.4
113A	Mohawk Valley, baz=30	29.78	315	⇓P	P	05 26 46.2 +1.1
M29A	Burnside Ranch baz=30,SNR=5.6	29.91	342	⇑P	P	05 26 46.8 +0.6
N27A	Anderson Farm, baz=30	29.92	339	⇓P	P	05 26 47.5 +1.1
WUAZ	Wupatki baz=30	29.95	322	⇓P	P	05 26 47.2 +0.5
R21A	Cimarron baz=30	29.95	330	⇓P	P	05 26 47.6 +0.8
Y14A	Wickenburg baz=30	29.96	318	⇑P	P	05 26 47.5 +0.7
P23A	Jefferson baz=30,SNR=16	29.98	333	⇑P	P	05 26 48.4 +1.3
Q22A	Crested Butte, baz=30,SNR=15	30.04	332	⇓P	P	05 26 48.3 +0.6
M28A	Bar X Bar Ranc baz=30	30.07	341	⇑P	P	05 26 48.8 +1.1
L30A	Spencer Herefo baz=30,SNR=7.4	30.10	344	⇓P	P	05 26 48.6 +0.7
R20A	Redvale baz=30,SNR=6.9	30.22	329	⇑P	P	05 26 50.3 +1.2
ISCO	Idaho Springs comp=Z,6.9nm,0.7s	30.23	334	eP	P	05 26 49.6 +0.3
ISCO	Idaho Springs baz=30,SNR=12	30.23	334	⇑P	P	05 26 50.1 +0.7
PV01	Paradox Valley comp=Z,228nm,0.7s	30.27	329	eP	P	05 26 50.3 +0.6
O24A	Longmont baz=30	30.28	335	⇑P	P	05 26 50.5 +0.9
SMCO	Snowmass comp=Z,11nm,0.8s	30.32	332	eP	P	05 26 50.9 +0.6
Q21A	Lamborn Mesa, baz=30	30.33	331	⇓P	P	05 26 51.1 +1.0
PV05	Paradox Valley	30.50	328	eP	P	05 26 52.6 +0.9
P22A	Eagle baz=31,SNR=10	30.56	333	⇑P	P	05 26 53.0 +0.8
PV04	Paradox Valley	30.64	329	eP	P	05 26 54.1 +1.2
GLA	Glamis comp=Z,11nm,0.6s	30.68	314	eP	P	05 26 55.0 +1.9
GLA	Glamis baz=31	30.68	314	⇓P	P	05 26 54.1 +1.0
PV10	Paradox Valley comp=Z,241nm,0.8s	30.70	328	eP	P	05 26 53.9 +0.4
O23A	Lake Granby, G baz=31,SNR=12	30.70	334	⇑P	P	05 26 54.4 +0.9
K30A	Basset baz=31,SNR=14	30.75	345	⇓P	P	05 26 54.6 +0.9
N24A	Carr baz=31	30.80	336	⇓P	P	05 26 55.3 +1.1
P21A	Newcastle baz=31,SNR=9.8	30.82	332	⇓P	P	05 26 55.6 +1.1
PV09	Paradox Valley	30.84	328	eP	P	05 26 56.0 +1.2
Y12C	Blythe baz=31	30.86	316	⇑P	P	05 26 55.8 +1.1
PDMCI	Parker Dam,Lak baz=31,SNR=6.8	30.93	317	⇓P	P	05 26 56.4 +1.1
O22A	Kremmling baz=31,SNR=7.1	30.93	333	⇓P	P	05 26 56.0 +0.4
M25A	Palm-Egli Farm baz=31	31.01	338	⇓P	P	05 26 57.3 +1.2
K29A	Lazy Trails An baz=31,SNR=14	31.02	344	⇑P	P	05 26 56.8 +0.8
U15A	North Rim baz=31	31.11	322	⇓P	P	05 26 58.4 +1.2
ECSD	EROS Data Cent comp=Z,25nm,1.5s	31.11	349	eP	P	05 26 56.0 -0.8
ECSD				epP	pP	05 27 10.9 -0.5
P20A	De Beque baz=31,SNR=6.8	31.24	331	⇑P	P	05 26 58.9 +0.8
N23A	Red Feather La baz=31,SNR=7.2	31.29	335	⇓P	P	05 26 59.4 +0.8
SWSC	Sam W. Stewart baz=31	31.29	313	⇑P	P	05 26 59.7 +1.2
M24A	Cheyenne baz=31	31.33	337	⇑P	P	05 26 59.7 +0.8
J30A	Dallas baz=32,SNR=16	31.34	345	⇓P	P	05 26 58.8 +0.1
DVTC	Desert V Tower baz=31,SNR=5.8	31.36	313	⇑P	P	05 27 01.2 +2.0
O21A	Pagoda baz=32	31.39	332	⇓P	P	05 27 00.7 +1.3
N22A	Wattenberg Ran baz=32,SNR=10	31.42	334	⇓P	P	05 27 00.9 +1.1
PHWY	Pilot Hill comp=Z,4.3nm,0.7s	31.43	336	eP	P	05 26 59.7 -0.3
BC3	Big Chuckawall baz=32,SNR=9.6	31.45	315	⇓P	P	05 27 01.4 +1.5
IRM	Iron Mountain baz=32,SNR=6.1	31.52	316	⇓P	P	05 27 01.2 +0.6
K27A	Fluecklinger Fa baz=32	31.53	341	⇑P	P	05 27 01.4 +0.9
J29A	Okreek baz=32,SNR=30	31.62	344	⇑P	P	05 27 02.0 +0.8
O20A	White River Ci baz=32,SNR=17	31.67	331	⇓P	P	05 27 03.1 +1.1
MONP	Monument Peak baz=32,SNR=6.2	31.71	313	⇑P	P	05 27 03.7 +1.4
I30A	Oacoma baz=32,SNR=22	31.87	346	⇓P	P	05 27 03.6 +0.2
J27A	Elkhorn Farm, baz=32,SNR=8.5	31.95	342	⇑P	P	05 27 05.1 +0.8
M22A	Cedar Creek Ra baz=32	31.98	335	⇓P	P	05 27 05.1 +0.4
BELC	Belle Mtn. Jos baz=32,SNR=5.1	32.02	315	⇑P	P	05 27 05.8 +0.8
SRU	San Rafael comp=Z,7.4nm,0.6s	32.02	328	eP	P	05 27 06.5 +1.6
SPMN	St. Paul comp=Z,24nm,0.7s	32.08	355	eP	P	05 27 04.5 -0.7
SPMN	St. Paul baz=32,SNR=13	32.08	355	⇓P	P	05 27 04.7 -0.5
PFO	Pinyon Flat Ob baz=32	32.12	314	⇓P	P	05 27 06.9 +1.0
I29A	Vivian Onida baz=32,SNR=26	32.19	345	⇑P	P	05 27 06.7 +0.5
Q16A	Castle Valley baz=32,SNR=6.1	32.22	327	⇑P	P	05 27 07.9 +1.2
O19A	Miners Draw (B baz=32,SNR=7.4	32.22	331	⇓P	P	05 27 07.2 +0.5
L23A	Garrett baz=32,SNR=11	32.22	337	⇑P	P	05 27 07.3 +0.5
GMRC	Granite Mounta baz=32,SNR=9.5	32.23	316	⇑P	P	05 27 07.3 +0.5
N20A	Spence Gulch, baz=32,SNR=17	32.24	332	⇑P	P	05 27 08.0 +1.0
BRSD	Miller comp=Z,49nm,0.9s	32.27	347	eP	P	05 27 06.6 -0.3
BRSD	Miller baz=32,SNR=8.8	32.27	347	⇑P	P	05 27 06.5 -0.4
J26A	Sides Ranch, S baz=32	32.34	341	⇑P	P	05 27 07.9 +0.3
I28A	Midland baz=32,SNR=14	32.40	344	⇓P	P	05 27 08.2 +0.1
L22A	Ellis Ranch, M baz=32	32.44	336	⇓P	P	05 27 09.6 +1.0
MURC	Murrieta baz=33	32.64	313	⇑P	P	05 27 11.2 +0.9
J25A	Sunshine Ranch baz=33	32.65	340	⇓P	P	05 27 11.2 +0.9
HEC	Hector,Ludlow baz=33,SNR=7.0	32.71	316	⇑P	P	05 27 12.4 +1.5
I27A	Quinn baz=33	32.71	343	⇑P	P	05 27 11.7 +0.8
H29A	Onida baz=33,SNR=7.0	32.73	345	⇓P	P	05 27 10.7 -0.3
M20A	Sweetwater, Wa baz=33,SNR=6.1	32.73	333	⇑P	P	05 27 12.2 +0.9
K23A	Bowen Ranch, D baz=33	32.74	337	⇑P	P	05 27 12.1 +0.9
TUQ	Turquoise Moun baz=33	32.78	317	⇓P	P	05 27 12.7 +1.0
BBRC	Big Bear Solar baz=33,SNR=6.0	32.80	315	⇑P	P	05 27 13.7 +1.8
G30A	Faulkton baz=33,SNR=12	32.96	347	⇑P	P	05 27 12.2 -0.7
H28A	Mission Ridge baz=33,SNR=20	32.99	344	⇓P	P	05 27 13.5 +0.3
K22A	Casper baz=33,SNR=7.1	33.00	336	⇓P	P	05 27 13.9 +0.4
I25A	Rochford baz=33,SNR=7.4	33.19	341	⇓P	P	05 27 15.8 +0.7
L20A	Wamsutter baz=33,SNR=9.6	33.22	333	⇓P	P	05 27 15.9 +0.4
MPU	Maple Canyon comp=Z,12nm,0.8s	33.26	328	eP	P	05 27 16.4 +0.5
MPU				epP	pP	05 27 31.8 +1.3
K21A	Alcova baz=33	33.27	335	⇑P	P	05 27 16.7 +0.7
GSC	Goldstone comp=Z,11nm,1.3s	33.30	316	eP	P	05 27 17.7 +1.6
GSC	Goldstone baz=33	33.30	316	⇓P	P	05 27 16.8 +0.7
BFSC	Mount Baldy Ra baz=33	33.30	314	⇑P	P	05 27 17.4 +1.2
G28A	Parade baz=34,SNR=7.0	33.33	345	⇑P	P	05 27 16.4 +0.2
I24A	Kuemmerle Ranc baz=34	33.34	339	⇓P	P	05 27 17.2 +0.8
DAU	Daniels Canyon	33.36	328	eP	P	05 27 18.5 +1.7
RSSD	Black Hills comp=Z,45nm,0.8s	33.38	340	eP	P	05 27 16.9 +0.1
H26A	Fairpoint baz=34,SNR=5.6	33.43	342	⇓P	P	05 27 17.6 +0.5
MWC	Mount Wilson comp=Z,8.3nm,1.0s	33.57	314	eP	P	05 27 20.5 +1.9
JLU	Jordanelle comp=Z,4.6nm,0.6s	33.60	328	eP	P	05 27 20.4 +1.5
J22A	Midwest baz=34,SNR=10	33.63	337	⇓P	P	05 27 19.2 +0.3
H25A	Fruitdale baz=34	33.68	341	⇑P	P	05 27 20.2 +0.9
F29A	Eureka baz=34,SNR=5.7	33.78	346	⇓P	P	05 27 19.2 -0.9
M17A	Scullys Gap (B baz=34	33.87	330	⇓P	P	05 27 21.7 +0.6
SAML	Samuel comp=Z,22nm,1.0s	33.87	129	eP	P	05 27 19.7 -1.5
SAML				epP	pP	05 27 34.7 -1.2
EDW2	Edwards Air Fo baz=34	33.87	315	⇑P	P	05 27 21.7 +0.7
L18A	Fontenelle, Gr baz=34,SNR=12	33.92	331	⇑P	P	05 27 22.3 +0.8
J21A	Lysite baz=34,SNR=23	33.95	336	⇑P	P	05 27 22.8 +1.0
LRMC	Laurel Mountai baz=34,SNR=5.9	33.99	316	⇑P	P	05 27 23.3 +1.1
G26A	Maurine baz=34,SNR=16	33.99	343	⇓P	P	05 27 22.1 +0.2
FURC	Furnace Creek, baz=34	34.00	318	⇑P	P	05 27 23.5 +1.5
DUG	Dugway comp=Z,2.4nm,0.8s	34.02	327	eP	P	05 27 24.2 +1.8
DUG	Dugway baz=34	34.02	327	⇓P	P	05 27 23.7 +1.3
F28A	McLaughlin baz=34,SNR=6.3	34.03	345	⇑P	P	05 27 22.1 -0.1
I22A	9 Mile Ranch, baz=34,SNR=15	34.04	337	⇓P	P	05 27 22.9 +0.4
H24A	Dirks Ranch, A baz=34,SNR=21	34.10	340	⇑P	P	05 27 23.7 +0.7
G25A	Newell baz=34,SNR=8.2	34.14	342	⇑P	P	05 27 23.8 +0.5
G27A	Dupree baz=34,SNR=17	34.16	343	⇑P	P	05 27 21.6 -1.8
MPMC	Manual Prospec baz=34,SNR=8.5	34.18	317	⇓P	P	05 27 24.8 +0.9
J20A	Shoshoni baz=34,SNR=8.2	34.21	335	⇓P	P	05 27 24.6 +0.6
E30A	Jud baz=34,SNR=9.2	34.22	348	⇑P	P	05 27 23.2 -0.7
I21A	Big Trails, Te baz=34,SNR=7.5	34.28	336	⇑P	P	05 27 24.7 +0.1
R11A	Troy Canyon, C comp=Z,38nm,2.7s	34.35	322	eP	P	05 27 26.4 +1.0
R11A	Troy Canyon, C baz=34	34.35	322	⇓P	P	05 27 26.0 +0.7
BW06	Boulder Array comp=Z,5.3nm,0.8s	34.37	333	eP	P	05 27 25.2 -0.3
PDAR	Pinedale Array	34.37	333	P	P	05 27 24.6 -0.8
PDAR				PcP	PcP	05 29 59.5 -0.8
PDAR				ScP	ScP	05 33 41.2 +0.7
PDAR	Pinedale Array comp=Z,3.2nm,0.7s,baz=132,slow=11,SNR=26	34.37	333	P	P	05 27 24.6 -0.8
PDAR				PcP	PcP	05 29 59.5 -0.8
PDAR	comp=Z,2.5nm,0.7s,baz=144,slow=5.8,SNR=9.8			ScP	ScP	05 33 41.2 +0.7
PDAR	comp=Z,1.8nm,1.0s,baz=143,slow=5.2,SNR=8.0			LR	LR	05 44 27.7
E29A	comp=Z,181nm,19.2s,baz=313,slow=42 Napoleon baz=35,SNR=5.2	34.44	347	⇑P	P	05 27 25.2 -0.6
F26A	Lodgepole baz=35,SNR=31	34.52	343	⇑P	P	05 27 27.3 +0.7
J19A	Crowheart baz=35,SNR=12	34.55	334	⇑P	P	05 27 27.1 +0.1
G24A	Alzada baz=35,SNR=14	34.57	341	⇓P	P	05 27 27.8 +0.8
ARVC	Arvin baz=35	34.59	314	⇓P	P	05 27 29.1 +1.9
H22A	Clearmont baz=35,SNR=9.4	34.59	338	⇓P	P	05 27 27.6 +0.4
ISA	Isabella comp=Z,4.0nm,1.0s	34.63	315	eP	P	05 27 29.4 +1.8
ISA	Isabella baz=35,SNR=5.7	34.63	315	⇓P	P	05 27 29.1 +1.5
BGU	Big Grassy Mou comp=Z,4.6nm,0.9s	34.65	327	eP	P	05 27 28.7 +0.8
E28A	Huff baz=35,SNR=5.1	34.68	346	⇑P	P	05 27 27.6 -0.3
EYMN	Ely	34.71	357	eP	P	05 27 26.8 -1.3
EYMN	comp=Z,19nm,0.9s			epP	pP	05 27 44.8 +1.9
I20A	Worland baz=35,SNR=22	34.73	336	⇑P	P	05 27 29.4 +1.0
E27A	Carson baz=35,SNR=13	34.76	345	⇓P	P	05 27 28.9 +0.4
D30A	Buchanan baz=35,SNR=18	34.77	348	⇓P	P	05 27 28.1 -0.5
G23A	Biddle baz=35,SNR=14	34.78	340	⇓P	P	05 27 29.3 +0.5
F25A	Bowman baz=35,SNR=11	34.82	342	⇓P	P	05 27 29.6 +0.5
H21A	Big Horn, Sher baz=35,SNR=26	34.87	337	⇓P	P	05 27 30.1 +0.4
D29A	Pettibone, Tap baz=35,SNR=7.2	34.89	347	⇑P	P	05 27 29.0 -0.7
E26A	Carlson Angus baz=35,SNR=9.8	35.03	344	⇓P	P	05 27 31.0 0.0
F24A	Ekalaka baz=35,SNR=24	35.04	341	⇓P	P	05 27 31.7 +0.6
H20A	Greybull baz=35,SNR=13	35.12	336	⇑P	P	05 27 32.1 +0.3
HVU	Hansel Valley comp=Z,5.5nm,0.7s	35.14	329	eP	P	05 27 33.1 +1.0
VES	Vestal, Richgr baz=35	35.14	315	⇑P	P	05 27 33.6 +1.7
I19A	Meeteetse baz=35,SNR=12	35.15	335	⇓P	P	05 27 32.9 +0.7
PKM	Peak Mountain baz=35	35.16	313	⇑P	P	05 27 33.0 +0.6
D28A	Regan baz=35,SNR=15	35.23	346	⇑P	P	05 27 32.6 -0.1
F23A	Volborg baz=35,SNR=21	35.24	340	⇑P	P	05 27 33.2 +0.4
C30A	Mose, Pekin baz=35,SNR=13	35.29	349	⇑P	P	05 27 32.5 -0.5
E25A	Miller Ranch, baz=35,SNR=21	35.32	343	⇑P	P	05 27 34.1 +0.6
REDW	Red Top Meadow comp=Z,33nm,0.7s	35.42	332	eP	P	05 27 34.8 +0.3
G21A	Lodge Grass baz=36,SNR=16	35.44	338	⇑P	P	05 27 34.9 +0.3
AGMN	Agassiz Nation comp=Z,24nm,1.0s	35.45	352	eP	P	05 27 33.4 -1.0
SNOW	Snow King Moun comp=Z,41nm,0.6s	35.45	332	eP	P	05 27 35.4 +0.6
LOHW	Long Hollow comp=Z,12nm,0.6s	35.50	333	eP	P	05 27 35.9 +0.7
LOHW				epP	pP	05 27 50.5 +0.4
D26A	Manning baz=36,SNR=8.0	35.54	344	⇑P	P	05 27 35.2 0.0
TPAW	Teton Pass comp=Z,13nm,0.6s	35.56	332	eP	P	05 27 36.5 +0.6
F22A	Rosebud baz=36,SNR=7.5	35.58	339	⇑P	P	05 27 35.9 +0.2
RRI2	Red Ridge comp=Z,70nm,1.8s	35.62	332	eP	P	05 27 37.0 +0.7
E24A	Baker baz=36,SNR=20	35.64	342	⇑P	P	05 27 36.9 +0.7
MDND	Maddock baz=36,SNR=6.3	35.65	348	⇑P	P	05 27 35.6 -0.5
H19A	Powell baz=36,SNR=8.1	35.67	335	⇓P	P	05 27 37.0 +0.4
C28A	Hausauer Farms baz=36,SNR=5.8	35.69	347	⇓P	P	05 27 36.5 0.0
ELK	Elko comp=Z,1.9nm,0.7s	35.73	325	eP	P	05 27 37.6 +0.4
ELK				PcP	PcP	05 30 05.4 +1.1
ELK				pPcP		05 30 21.8
ELK	Elko comp=Z,2.6nm,0.8s,baz=267,slow=23,SNR=14	35.73	325	P	P	05 27 37.9 +0.7
ELK	comp=Z,0.8nm,0.6s,baz=45,slow=1.4,SNR=4.0			PcP	PcP	05 30 05.4 +1.1
ELK	comp=Z,0.9nm,0.6s,baz=112,slow=11,SNR=3.7			pPcP		05 30 21.8
I17A	Pilgrim Ck. baz=36,SNR=8.3	35.73	333	⇓P	P	05 27 38.3 +1.1
G20A	Bridger baz=36,SNR=12	35.82	337	⇑P	P	05 27 37.7 -0.1
IMW	Indian Meadow comp=Z,11nm,0.6s	35.88	333	eP	P	05 27 38.5 0.0
D25A	Fairfield baz=36,SNR=6.0	35.89	343	⇑P	P	05 27 38.9 +0.6
LPAZ	La Paz comp=Z,4.9nm,0.8s	35.89	144	eP	P	05 27 39.7 +0.4
LPAZ	La Paz comp=Z,3.9nm,0.7s,baz=332,slow=7.1,SNR=24	35.89	144	P	P	05 27 39.6 +0.4
LPAZ				LR	LR	05 43 09.9
E23A	comp=Z,144nm,21.9s,baz=143,slow=38 Ismay baz=36,SNR=23	35.90	341	⇓P	P	05 27 38.8 +0.4
FLWY	Flagg Ranch comp=Z,7.8nm,0.8s	35.92	333	eP	P	05 27 39.6 +0.8
F21A	Absaloka Mine, baz=36	35.93	338	⇑P	P	05 27 38.5 -0.1
H18A	Shoshone NF, C baz=36,SNR=20	35.95	335	⇓P	P	05 27 39.4 +0.3
B30A	Myrvik Farm, E baz=36,SNR=12	35.98	350	⇑P	P	05 27 38.5 -0.5
NV11	Mina Array Sit	35.99	320	eP	P	05 27 40.4 +1.0
NV11				epP	pP	05 27 57.1 +2.9
E22A	Miles City baz=36,SNR=16	36.05	340	⇓P	P	05 27 40.0 +0.3
NVAR	Mina Array Bea	36.08	319	P	P	05 27 41.1 +0.9
NVAR				pP	pP	05 27 58.0 +2.8
NVAR				PcP	PcP	05 30 05.9 +0.5
NVAR				pPcP		05 30 23.6
NVAR				ScP	ScP	05 33 48.6 +1.8
NVAR	Mina Array Bea comp=Z,4.1nm,0.9s,baz=140,slow=7.9,SNR=23	36.08	319	P	P	05 27 41.1 +0.9
NVAR	comp=Z,3.0nm,0.7s,baz=140,slow=8.9,SNR=7.5			pP	pP	05 27 58.0 +2.8
NVAR	comp=Z,4.8nm,0.8s,baz=138,slow=4.2,SNR=13			PcP	PcP	05 30 05.9 +0.5
NVAR	comp=Z,3.0nm,0.7s,baz=134,slow=4.4,SNR=6.7			pPcP		05 30 23.6
NVAR	comp=Z,1.5nm,0.8s,baz=141,slow=4.2,SNR=6.7			ScP	ScP	05 33 48.6 +1.8
H17A	Grant Village baz=36	36.11	334	⇓P	P	05 27 40.9 +0.4
D24A	Glendive baz=36,SNR=18	36.15	342	⇓P	P	05 27 41.4 +0.9
RLMT	Red Lodge comp=Z,12nm,0.8s	36.15	336	eP	P	05 27 40.6 -0.2
B29A	Wagenman Farm, baz=36,SNR=11	36.19	348	⇓P	P	05 27 40.6 -0.2
C26A	Wahner Farm, P baz=36,SNR=8.1	36.19	345	⇓P	P	05 27 40.9 +0.1
F20A	Billings baz=36,SNR=16	36.28	337	⇓P	P	05 27 42.1 +0.4
LAO	LASA Array comp=Z,20nm,0.8s	36.37	340	eP	P	05 27 42.5 +0.1
B28A	Dugan Ranch, T baz=36,SNR=12	36.38	347	⇑P	P	05 27 42.4 0.0
A30A	Hoffart Farm, baz=37,SNR=11	36.45	350	⇓P	P	05 27 42.4 -0.6
D23A	Lindsay baz=37,SNR=10	36.47	341	⇑P	P	05 27 44.0 +0.7
YMR	Madison River comp=Z,16nm,0.8s	36.50	333	eP	P	05 27 44.7 +1.0
YMR				epP	pP	05 28 00.0 +1.5
E21A	Keefer Ranch, baz=37,SNR=16	36.53	339	⇓P	P	05 27 44.3 +0.5
C24A	Savage baz=37	36.55	343	⇑P	P	05 27 44.7 +0.8
A29A	Manning Farm, baz=37,SNR=12	36.60	349	⇑P	P	05 27 43.7 -0.6
F19A	Roth Farm, Mol baz=37,SNR=15	36.63	337	⇓P	P	05 27 45.1 +0.4
D22A	Cohagen baz=37,SNR=33	36.76	340	⇑P	P	05 27 46.5 +0.8
A28A	Rude Farm, Bot baz=37	36.79	348	⇓P	P	05 27 45.4 -0.5
GCMT	Greycliff comp=Z,7.8nm,0.6s	36.86	336	eP	P	05 27 46.8 +0.1
E20A	Meyer Farm, Mu baz=37,SNR=18	36.87	338	⇑P	P	05 27 47.5 +0.8
B25A	Knox Farm, Ray baz=37,SNR=6.9	36.88	344	⇓P	P	05 27 47.2 +0.6
D21A	La Casta Ranch baz=37,SNR=16	36.95	340	⇑P	P	05 27 48.2 +0.8
C23A	Lambert baz=37,SNR=16	37.02	342	⇑P	P	05 27 48.7 +0.8
A27A	Ledoux Ranch, baz=37	37.04	347	⇑P	P	05 27 48.1 +0.1
E19A	Rath Farm, Rou baz=37,SNR=9.4	37.08	337	⇑P	P	05 27 48.9 +0.4
A26A	Wade Farm, Ken	37.17	346	⇑P	P	05 27 49.2 0.0

baz=37,SNR=11
C22A Vida 37.19 341 ⇑P P 05 27 50.0 +0.7
baz=37,SNR=38
CMB Columbia Colle 37.20 317 eP P 05 27 51.3 +1.7
comp=Z,2.8nm,0.8s
HLID Hailey 37.27 329 eP P 05 27 50.6 +0.4
comp=Z,5.6nm,1.1s
HLID epP pP 05 28 06.0 +0.9
HLID Hailey 37.27 329 ⇓P P 05 27 50.1 -0.1
baz=37
DGMT Dagmar 37.34 343 eP P 05 27 51.0 +0.4
comp=Z,73nm,0.6s
DGMT epP pP 05 28 06.0 +0.6
DGMT Dagmar 37.34 343 ⇑P P 05 27 51.2 +0.6
baz=38,SNR=28
ULM Lac du Bonnet 37.37 353 eP P 05 27 49.2 -1.5
comp=Z,9.1nm,0.7s
ULM ScP ScP 05 33 51.2 +0.2
ULM Lac du Bonnet 37.37 353 P P 05 27 49.2 -1.5
comp=Z,8.4nm,0.6s,baz=160,slow=9.8,SNR=16
ULM ScP ScP 05 33 51.2 +0.2
comp=Z,2.4nm,0.6s,baz=344,slow=5.1,SNR=3.1
ULM LR LR 05 44 43.5
comp=Z,335nm,19.4s,baz=52,slow=39
D20A Manuel Ranch, 37.37 338 ⇑P P 05 27 51.7 +0.8
baz=38,SNR=26
MCMT McKenzie Canyo 37.46 332 eP P 05 27 52.9 +0.9
comp=Z,6.9nm,0.6s
MCMT epP pP 05 28 08.7 +1.8
B23A Brockton 37.56 343 ⇓P P 05 27 53.1 +0.6
baz=38,SNR=13
C21A Desert Coulee 37.65 340 ⇑P P 05 27 53.8 +0.5
baz=38,SNR=26
A24A Westby 37.70 344 ⇑P P 05 27 54.2 +0.6
baz=38,SNR=11
D19A Cripps Ranch, 37.70 338 ⇑P P 05 27 54.4 +0.6
baz=38,SNR=17
B22A Reddig Ranch S 37.71 342 ⇑P P 05 27 54.3 +0.6
baz=38,SNR=22
DLMT Dillon 37.76 333 eP P 05 27 55.1 +0.8
comp=Z,5.2nm,0.8s
C20A Veseth Ranch, 37.86 339 ⇓P P 05 27 55.5 +0.5
baz=38,SNR=26
A23A Redstone 37.97 343 ⇑P P 05 27 56.6 +0.7
baz=38,SNR=13
LRM Limekiln Ridge 38.05 333 eP P 05 27 57.6 +0.7
LRM epP pP 05 28 13.2 +1.3
B21A Ellsworth Farm 38.15 341 ⇑P P 05 27 58.1 +0.7
baz=38,SNR=5.1
C19A Slack Wire Ran 38.25 338 ⇓P P 05 27 58.8 +0.5
baz=38,SNR=29
A22A Carney Farms, 38.30 342 ⇓P P 05 27 59.6 +0.8
baz=38,SNR=15
B20A Solberg Farm, 38.49 340 ⇓P P 05 28 00.9 +0.6
baz=39,SNR=11
A21A Bergtoll Ranch 38.61 341 ⇓P P 05 28 02.0 +0.7
baz=39,SNR=15
EGMT Eagleton 38.75 338 eP P 05 28 02.9 +0.4
comp=Z,28nm,0.8s
EGMT Eagleton 38.75 338 ⇓P P 05 28 02.8 +0.3
baz=39,SNR=14
WVOR Wild Horse Val 38.75 324 eP P 05 28 03.1 +0.4
comp=Z,3.5nm,0.7s
B19A Brinkman Farms 38.82 339 ⇑P P 05 28 03.8 +0.7
baz=39,SNR=33
A20A Cobblestone Ra 38.84 340 ⇓P P 05 28 04.0 +0.8
baz=39,SNR=31
A19A Klindworth Far 39.16 339 ⇓P P 05 28 06.2 +0.3
baz=39,SNR=12
J08A Circle Bar Ran 39.26 326 eP P 05 28 07.3 +0.4
comp=Z,7.1nm,0.6s
MSO Missoula 39.49 333 eP P 05 28 08.8 +0.2
comp=Z,37nm,2.0s
MSO Missoula 39.49 333 ⇑P P 05 28 08.9 +0.2
baz=40
SIV San Ignacio 40.12 135 LR LR 05 45 10.5
comp=Z,179nm,18.4s,slow=37
I07A Izee 40.30 326 eP P 05 28 15.6 +0.1
comp=Z,98nm,3.0s
F10A Beach Ranch, E 40.39 330 eP P 05 28 15.8 -0.4
comp=Z,8.1nm,0.9s
BSMT Bassoo Peak 40.64 333 eP P 05 28 18.1 -0.3
LVC Limon Verde 40.72 151 eP P 05 28 20.9 +1.5
comp=Z,4.5nm,0.6s
E09A Wood Farm, Sta 41.23 329 eP P 05 28 23.1 +0.1
comp=Z,43nm,2.1s
NEW Newport 41.99 332 eP P 05 28 28.0 -1.2
comp=Z,1.8nm,0.6s
NEW Newport 41.99 332 ⇓P P 05 28 28.1 -1.2
baz=42
NEW Newport 41.99 332 P P 05 28 28.2 -1.0
comp=Z,1.5nm,0.5s,baz=133,slow=9.5,SNR=8.3
H04A Detroit Lake 42.17 325 eP P 05 28 30.6 -0.2
comp=Z,11nm,0.9s
C09A Chrisman Ranch 42.19 331 eP P 05 28 31.2 +0.3
comp=Z,7.1nm,0.6s
C09A ePcP PcP 05 30 24.1 -0.1
FFC Flin Flon 42.65 349 eP P 05 28 34.0 -0.4
comp=Z,32nm,0.6s
EDM Edmonton 44.34 339 eP P 05 28 47.6 -0.5
EDM epP pP 05 29 04.1 +0.7
SCHQ Schefferville 45.07 18 eP P 05 28 52.5 -1.4
comp=Z,36nm,1.2s
SCHQ PcP PcP 05 30 31.6 -2.2
SCHQ Schefferville 45.07 18 P P 05 28 52.0 -1.9
comp=Z,8.6nm,0.6s,baz=212,slow=5.3,SNR=12
SCHQ PcP PcP 05 30 31.6 -2.2
comp=Z,3.3nm,0.5s,baz=237,slow=7.4,SNR=4.8
H03N2 Juan Fernandez 47.37 168 T T 06 19 33.7
baz=346,slow=0.7,SNR=8.0
H03N1 Juan Fernandez 47.38 168 T T 06 19 38.2
baz=346,slow=0.7,SNR=7.8
H03N3 Juan Fernandez 47.39 168 T T 06 19 33.8
baz=346,slow=0.7,SNR=8.6
CFAA Coronel Fontan 48.84 156 P P 05 29 24.1 +0.5
CFAA Coronel Fontan 48.84 156 P P 05 29 24.1 +0.5
comp=Z,0.5nm,0.8s,baz=325,slow=5.7,SNR=17
BDFB Brasilia 49.74 124 P P 05 29 29.3 -1.5
BDFB pP pP 05 29 44.9 -1.3
BDFB Brasilia 49.74 124 P P 05 29 29.3 -1.5
comp=Z,1.9nm,0.5s,baz=285,slow=12,SNR=4.9
BDFB pP pP 05 29 44.9 -1.3
comp=Z,3.8nm,0.4s,baz=284,slow=9.9,SNR=6.3
BDFB LR LR 05 52 48.8
comp=Z,73nm,18.1s,baz=184,slow=39
CPUP Villa Florida 49.99 142 P P 05 29 30.9 -1.5
CPUP Villa Florida 49.99 142 P P 05 29 30.9 -1.5
comp=Z,0.9nm,0.5s,baz=330,slow=12,SNR=3.3
CPUP LR LR 05 53 29.0
comp=Z,83nm,18.2s,baz=330,slow=39
YKA Yellowknife Ar 52.48 345 P P 05 29 49.6 -0.9
YKA pP pP 05 30 05.0 -1.1
YKA Yellowknife Ar 52.48 345 P P 05 29 49.6 -0.9
comp=Z,16nm,0.7s,baz=142,slow=7.7,SNR=30
YKA pP pP 05 30 05.0 -1.1
comp=Z,6.3nm,0.7s,baz=148,slow=7.4,SNR=5.4
DLBC Dease Lake 54.55 335 eP P 05 30 06.0 +0.1
DLBC epP pP 05 30 22.1 +0.6
INK Inuvik 62.02 343 eP P 05 30 56.5 -1.2
comp=Z,21nm,1.1s
INK epP pP 05 31 12.7 -0.9
EGAK Eagle 62.51 338 eP P 05 30 59.7 -1.4
comp=Z,4.0nm,0.9s
DOT Dot Lake 63.09 336 eP P 05 31 04.1 -0.9
comp=Z,6.9nm,0.8s
ILAR Eielson Array 64.69 336 P P 05 31 13.9 -1.6
ILAR Eielson Array 64.69 336 P P 05 31 13.9 -1.6
comp=Z,3.9nm,0.6s,baz=166,slow=4.6,SNR=62
MCK McKinley 65.11 335 eP P 05 31 17.3 -0.9
comp=Z,9.2nm,1.0s
COLA College 65.11 336 eP P 05 31 16.8 -1.4
comp=Z,39nm,1.2s
TRF Thorofare Moun 65.57 334 eP P 05 31 20.4 -1.0
comp=Z,8.2nm,1.0s
BPAW Bear Paw Mtn. 66.09 335 eP P 05 31 22.8 -1.8
comp=Z,7.9nm,0.6s
CAST Castle Rocks 66.32 334 eP P 05 31 24.4 -1.6
comp=Z,4.5nm,0.8s
COLD Coldfoot 66.91 338 eP P 05 31 29.9 +0.2
comp=Z,9.5nm,1.2s
NOA NORSAR Array B 83.51 29 LR LR 06 08 13.2
comp=Z,96nm,20.0s,baz=305,slow=34
ARCES ARCESS Array B 86.02 19 P P 05 33 15.8 -1.9
ARCES ARCESS Array B 86.02 19 P P 05 33 15.8 -1.9
comp=Z,3.3nm,0.9s,baz=318,slow=3.4,SNR=4.0
TORD Torodi Ar. Bea 87.84 77 P P 05 33 25.3 -2.2
TORD Torodi Ar. Bea 87.84 77 P P 05 33 25.3 -2.2
comp=Z,0.3nm,0.7s,baz=285,slow=5.3,SNR=3.7
ZALV Zalesovo Beam 112.93 4 PP PP 05 40 00.2 -2.0
ZALV Zalesovo Beam 112.93 4 PP PP 05 40 00.2 -2.0
comp=Z,1.0nm,0.8s,baz=334,slow=9.6,SNR=4.4
SONM Songino Array 117.70 348 PKP **PKPdf 05 39 22.7 -1.0**
SONM Songino Array 117.70 348 PKP **PKPdf 05 39 22.7 -1.0**
comp=Z,1.2nm,0.7s,baz=355,slow=2.4,SNR=7.6
MKAR Makanchi Array 119.80 7 PKP **PKPdf 05 39 25.5 -2.2**
MKAR Makanchi Array 119.80 7 PKP **PKPdf 05 39 25.5 -2.2**
comp=Z,0.5nm,0.6s,baz=292,slow=3.4,SNR=5.5
MAW Mawson 122.61 168 PKP **PKPdf 05 39 33.1 +0.8**
MAW Mawson 122.61 168 PKP **PKPdf 05 39 33.1 +0.8**
comp=Z,1.7nm,0.8s,baz=229,slow=3.4,SNR=4.8
HHC Hu-ho-hao-te 122.92 341 ePKP PKPdf 05 39 27.3 -6.7
HHC PP **PP 05 41 13.9 +2.0**
HHC PKS **PKSdf 05 43 06.1 -4.6**
HHC SKS SKSdf 05 46 30.8 -10
HHC SKKS SKKSac 05 47 58.4 -8.8
HHC PPMZ
comp=Z,140nm,8.8s
HHC LR LR
comp=Z,200nm,20.1s
HHC LR LR
comp=Z,430nm,19.6s
HHC LR LR
comp=Z,290nm,20.6s
WMQ Urumqi 123.19 3 ePKP **PKPdf 05 39 34.4 0.0**
WMQ PPMZ
comp=Z,130nm,5.2s
WMQ LR LR
comp=Z,120nm,19.8s
WMQ LR LR
comp=Z,110nm,23.6s
WMQ LR LR
comp=Z,110nm,22.2s
GTA Gaotai 127.02 351 PKP **PKPdf 05 39 41.5 -0.4**
GTA sPKP 05 40 18.9
NJ2 Nanjing 127.64 330 eP **Pdif 05 36 25.3 -0.7**
NJ2 AMB AMB
comp=Z,20nm,0.6s
STKA Stephens Creek 130.07 239 PKP **PKPdf 05 39 51.5 +3.9**
STKA Stephens Creek 130.07 239 PKP **PKPdf 05 39 51.5 +3.9**
comp=Z,0.9nm,0.6s,baz=308,slow=4.3,SNR=3.0
CD2 Chengdu 134.44 344 PKP **PKPdf 05 39 55.3 -0.8**
GYA Guiyang 137.71 339 ePdif **Pdif 05 37 08.4 -2.7**
GYA PKP **PKPdf 05 40 00.8 -1.6**
GYA PP **PP 05 42 51.5 +3.5**
GYA PPMZ
comp=Z,90nm,7.8s
WRA Warramunga Arr 137.90 255 PKP **PKPdf 05 40 02.1 -0.6**
WRA pPKP **pPKPdf 05 40 19.1 -0.9**
WRA SKPbc **SKiKP 05 43 34.6 -1.3**
WRA Warramunga Arr 137.90 255 PKP **PKPdf 05 40 02.1 -0.6**
comp=Z,2.4nm,1.0s,baz=94,slow=1.9,SNR=6.3
WRA pPKP **pPKPdf 05 40 19.1 -0.9**
comp=Z,1.4nm,0.5s,baz=88,slow=2.0,SNR=5.4
WRA SKPbc **SKiKP 05 43 34.6 -1.3**
comp=Z,1.4nm,1.0s,baz=107,slow=1.4,SNR=3.9
ASAR Alice Springs 138.02 249 PKPpre PKPpre 05 39 57.8
ASAR PKP **PKPdf 05 40 03.6 +0.8**
ASAR pPKP pPKPdf 05 40 21.4 +1.2
ASAR SKP 05 43 34.9
ASAR SKPab **SKPab 05 43 42.5 +2.3**
ASAR Alice Springs 138.02 249 PKhKP PKPpre 05 39 57.8
comp=Z,0.2nm,0.5s,baz=92,slow=3.0,SNR=4.3
ASAR PKP **PKPdf 05 40 03.6 +0.8**
comp=Z,1.3nm,0.8s,baz=100,slow=2.7,SNR=6.6
ASAR pPKP pPKPdf 05 40 21.4 +1.2
comp=Z,1.1nm,0.7s,baz=90,slow=1.9,SNR=5.3
ASAR SKP 05 43 34.9
comp=Z,1.2nm,1.1s,baz=140,slow=3.1,SNR=4.5
ASAR SKPab **SKPab 05 43 42.5 +2.3**
comp=Z,0.3nm,0.6s,baz=103,slow=2.3,SNR=4.2
FITZ Fitzroy Crossi 146.21 257 ePKPbc **PKPbc 05 40 18.3 -0.3**
FITZ epPKPdf **pPKPdf 05 40 37.0 +2.1**
HYB Hyderabad 147.25 22 iPKP **PKPdf 05 40 18.0 -1.3**
CMAR Chiang Mai Arr 147.57 346 PKPbc **PKPdf 05 40 20.5 +0.7**
CMAR pPKPbc **pPKPbc 05 40 37.2 -2.4**
CMAR SKPbc **SKiKP 05 43 56.8 +0.8**
CMAR Chiang Mai Arr 147.57 346 PKPbc **PKPdf 05 40 20.5 +0.7**
comp=Z,6.7nm,0.8s,baz=340,slow=3.5,SNR=43
CMAR pPKPbc **pPKPbc 05 40 37.2 -2.4**
comp=Z,2.3nm,0.8s,baz=345,slow=3.3,SNR=2.3
CMAR SKPbc **SKiKP 05 43 56.8 +0.8**
comp=Z,0.7nm,0.4s,baz=324,slow=2.6,SNR=9.2
KSM Kuching 155.84 306 ePKPab **PKPab 05 40 59.2 -0.1**

IDC 16 05:21:08.0±7.9, 15°29S×173°05W, h0km, mb4.1/2, mb1 4.4/2, mb1mx3.8/20, mbtmp4.1/2, Error ellipse: s-maj=408.5km s-min=26.6km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.84**	**42**	Pn	Pn	05 21 40.0	-1.1
	6.3nm,0.3s,baz=56,slow=16,SNR=5.0						
AFI				Sn	Sn	05 21 59.3	-5.9
	36nm,0.3s,baz=62,slow=22,SNR=8.9						
H11S2	**WAKE ISLAND Hy**	**39.04**	**329**	T	T	06 10 23.3	
	baz=151,slow=0.7,SNR=6.6						
H11S3	**WAKE ISLAND Hy**	**39.05**	**329**	T	T	06 10 37.7	
	baz=151,slow=0.7,SNR=5.5						
H11S1	**WAKE ISLAND Hy**	**39.06**	**329**	T	T	06 10 27.0	
	baz=151,slow=0.7,SNR=5.6						
H11N3	**WAKE ISLAND Hy**	**39.98**	**330**	T	T	06 11 51.4	
	baz=151,slow=0.7,SNR=3.3						
H11N1	**WAKE ISLAND Hy**	**39.98**	**330**	T	T	06 11 48.3	
	baz=151						
H11N2	**WAKE ISLAND Hy**	**40.00**	**330**	T	T	06 11 45.9	
	baz=151,slow=0.7,SNR=3.1						
WRA	**Warramunga Arr**	**50.19**	**257**	P	P	05 30 05.3	-0.7
	1.1nm,0.8s,baz=90,slow=6.9,SNR=4.1						
ASAR	**Alice Springs**	**50.46**	**252**	P	P	05 30 07.8	-0.3
	3.5nm,0.6s,baz=87,slow=8.5,SNR=33						
BRTR	**Keskin Array B**	**146.28**	**321**	PKPbc	PKPab	05 40 51.9	0.0
	1.5nm,0.9s,baz=57,slow=5.3,SNR=5.4						

IDC 16 05:37:22.5±1.4, 15°16S×173°47W, h0km, mb3.9/7, mb1 4.2/7, mb1mx4.0/20, mbtmp3.9/7, MS3.8/3, Ms1 3.8/3, ms1mx3.4/32, Error ellipse: s-maj=92.1km s-min=21.8km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.06**	**53**	Pn	Pn	05 37 53.7	-4.8
	68nm,0.3s,baz=69,slow=2.5,SNR=40						
AFI				Sn	Sn	05 38 14.2	-11
	482nm,0.3s,baz=233,slow=20,SNR=21						
URZ	**Urewera**	**24.47**	**198**	LR	LR	05 51 01.3	
	comp=Z,70nm,20.4s,baz=330,slow=34						
H11S2	**WAKE ISLAND Hy**	**38.72**	**329**	T	T	06 25 53.5	
	baz=152,slow=0.7,SNR=18						
H11S3	**WAKE ISLAND Hy**	**38.73**	**329**	T	T	06 25 54.4	
	baz=152,slow=0.7,SNR=14						
H11S1	**WAKE ISLAND Hy**	**38.74**	**329**	T	T	06 25 35.4	
	baz=152,slow=0.7,SNR=11						
H11N3	**WAKE ISLAND Hy**	**39.67**	**330**	T	T	06 27 21.7	
	baz=152,slow=0.7,SNR=14						
H11N1	**WAKE ISLAND Hy**	**39.67**	**330**	T	T	06 27 25.4	
	baz=152,slow=0.7,SNR=14						
H11N2	**WAKE ISLAND Hy**	**39.68**	**330**	T	T	06 27 23.1	
	baz=152,slow=0.7,SNR=14						
STKA	**Stephens Creek**	**44.10**	**240**	P	P	05 45 32.8	+0.1
	4.0nm,1.0s,baz=66,slow=2.7,SNR=4.6						
ASAR	**Alice Springs**	**50.12**	**252**	P	P	05 46 19.1	-0.8
	2.0nm,0.7s,baz=86,slow=8.2,SNR=26						
LPIG	**La Paz**	**72.97**	**59**	LR	LR	06 12 29.7	
	comp=Z,138nm,21.2s,baz=121,slow=29						
NVAR	**Mina Array Bea**	**74.19**	**42**	P	P	05 49 01.6	0.0
	0.3nm,0.4s,baz=230,slow=9.3,SNR=3.8						
TXAR	**Lajitas Array**	**80.53**	**56**	P	P	05 49 37.1	-0.1
	1.2nm,1.0s,baz=213,slow=6.5,SNR=8.4						
ANMO	**Albuquerque**	**80.70**	**50**	P	P	05 49 38.2	+0.2
	0.7nm,0.6s,baz=175,slow=11,SNR=4.7						
PDAR	**Pinedale Array**	**82.13**	**42**	P	P	05 49 45.4	-0.2
	0.8nm,0.8s,baz=192,slow=2.9,SNR=6.8						
ILAR	**Eielson Array**	**82.22**	**11**	P	P	05 49 44.2	-1.0
	0.5nm,0.7s,baz=217,slow=6.0,SNR=8.1						
MAW	**Mawson**	**88.00**	**199**	LR	LR	06 27 37.6	
	comp=Z,70nm,18.4s,baz=64,slow=34						
GERES	**GERESS Array B**	**145.89**	**352**	PKPbc	PKPab	05 57 04.4	-0.1
	0.5nm,0.3s,baz=83,slow=4.4,SNR=4.3						
BRTR	**Keskin Array B**	**145.93**	**321**	PKPbc	PKPab	05 57 05.1	+0.1
	1.5nm,0.8s,baz=141,slow=4.3,SNR=6.1						

IDC 16 06:00:41.2±11.0, 20°22N×145°20E, h110km±105km, mb3.4/9, mb1 3.6/9, mb1mx3.3/27, mbtmp3.4/9, Error ellipse: s-maj=35.4km s-min=21.6km az=73.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**22.82**	**322**	P	P	06 05 35.1	+0.3
	0.6nm,0.4s,baz=145,slow=8.6,SNR=3.2						
WRA	**Warramunga Arr**	**41.31**	**196**	P	P	06 08 15.8	-0.3
	0.5nm,0.6s,baz=27,slow=8.6,SNR=6.9						
ZALV	**Zalesovo Beam**	**56.53**	**322**	P	P	06 10 11.9	0.0
	0.3nm,0.4s,baz=108,slow=9.3,SNR=2.2						
MKAR	**Makanchi Array**	**57.08**	**313**	P	P	06 10 16.8	+0.8
	0.5nm,0.6s,baz=91,slow=7.8,SNR=5.3						
KURBB	**Kurchatov Arra**	**59.88**	**317**	P	P	06 10 35.4	0.0
	0.5nm,0.4s,baz=92,slow=7.6,SNR=9.9						
ILAR	**Eielson Array**	**62.50**	**27**	P	P	06 10 52.3	-0.5
	0.3nm,0.7s,baz=252,slow=4.6,SNR=6.1						
BVAR	**Borovoye Array**	**65.01**	**320**	P	P	06 11 09.4	-0.1
	0.7nm,0.3s,baz=100,slow=8.3,SNR=5.0						
NVAR	**Mina Array Bea**	**82.58**	**52**	P	P	06 12 53.5	+0.9
	0.2nm,0.3s,baz=282,slow=4.5,SNR=3.5						
FINES	**FINESS Array B**	**85.31**	**335**	P	P	06 13 04.3	-1.4
	0.8nm,0.4s,baz=75,slow=5.9,SNR=8.3						
LPAZ	**La Paz**	**148.14**	**88**	PKPbc	PKPbc	06 20 15.5	-0.3
	0.7nm,0.7s,baz=18,slow=6.4,SNR=3.4						

NNC 16 06:04:57.2±3.5, 39°00N×70°28E, h0km, mb3.9, mpv3.5, 1C-4D, Error ellipse: s-maj=26.9km s-min=22.9km az=27.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.10**	**2**	⇑Pn	Pn	06 06 04.1	+2.9
	4.5nm,0.5s,baz=193,slow=14,SNR=67						
KK31				⇓Sn	Sb	06 06 56.2	-4.4
	4.2nm,0.4s						
KK31				⇓Lg	Lg	06 07 11.1	
	7.0nm,0.5s,baz=182,slow=28,SNR=8.3						
TKM2	**Tokmak 2**	**5.61**	**44**	⇓Pn	Pn	06 06 21.8	-0.5
	4.7nm,0.7s						
TKM2				⇓Sn	Sn	06 07 28.4	+0.8
	6.2nm,0.9s						
AB31	**Akbulak array**	**12.65**	**328**	Pn	Pn	06 07 59.9	+1.7
	0.7nm,0.5s,baz=162,slow=11,SNR=15						
AB31				Sn	Sn	06 10 17.6	-2.1
	0.6nm,0.5s,baz=139,slow=23,SNR=6.4						

*ISK **16** 06:05:34.8, 38°51N×31°88E, h5km, MD3.5*
*ISCJB **16** 06:05:35.7±0.5, 38°52N±0°02×31°82E±0°02, h2km±4km, Error ellipse: s-maj=3.6km s-min=2.7km az=26.1*
*DDA **16** 06:05:35.5, 38°43N×31°78E, h8km, MD3.3*
*CSEM **16** 06:05:36.1±0.1, 38°50N×31°84E, h2km, MD3.3, Error ellipse: s-maj=3.5km s-min=2.8km az=32.0*

ISC 16 06:05:36.0±1.0, 38°52N±0°02×31°84E±0°02, h8km±8km, n136, σ1°23/166, 4C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDHN	**Kadinhani**	**0.22**	**90**	i P	Pg	06 05 40.4	-0.1
KDHN				i S	Sg	06 05 43.7	+0.2
KDHN	**Kadinhani**	**0.22**	**90**	i P	Pg	06 05 40.4	-0.1
KDHN				i S	Sg	06 05 43.7	+0.2
KIZT	**Kizilcal**	**0.36**	**5**	PG	Pg	06 05 42.9	-0.2
KIZT	**Kizilcal**	**0.36**	**5**	i Pg	Pg	06 05 42.9	-0.2
LADK	**Ladik-KONYA**	**0.52**	**128**	PG	Pg	06 05 46.0	-0.2
LADK				eSG	Sg	06 05 52.9	-0.2
LADK	**Ladik-KONYA**	**0.52**	**128**	i Pg	Pg	06 05 46.0	-0.2
LADK				eSg	Sg	06 05 52.9	-0.2
KONT	**Konya--Tatoy**	**0.71**	**144**	ePG	Pg	06 05 49.2	-0.4
KONT				eSG	Sg	06 05 59.4	+0.5
KONT	**Konya--Tatoy**	**0.71**	**144**	ePg	Pg	06 05 49.2	-0.4
KONT				eSg	Sg	06 05 59.4	+0.5
BOLV	**Bolvadin**	**0.72**	**286**	i P	Pg	06 05 49.8	-0.2
BOLV				i S	Sg	06 05 59.4	0.0
BOLV	**Bolvadin**	**0.72**	**286**	i P	Pg	06 05 49.8	-0.2
BOLV				i S	Sg	06 05 59.4	0.0
SVRH	**Sivrihisar-ESK**	**0.96**	**345**	ePG	Pg	06 05 54.4	0.0
SVRH	**Sivrihisar-ESK**	**0.96**	**345**	ePg	Pg	06 05 54.4	0.0
SHUT	**Suhut-Afyon**	**1.01**	**272**	ePG	Pg	06 05 55.1	-0.3
SHUT				eSG	Sn	06 06 11.8	+0.7
SHUT	**Suhut-Afyon**	**1.01**	**272**	ePg	Pg	06 05 55.1	-0.3
SHUT				eSg	Sn	06 06 11.8	+0.7
SUTC	**Sutluce-Ispart**	**1.24**	**213**	ePN	Pb	06 05 59.2	-0.5
SUTC	**Sutluce-Ispart**	**1.24**	**213**	ePn	Pb	06 05 59.2	-0.5
ISP	**Isparta**	**1.25**	**236**	ePN	Pn	06 05 59.3	-0.6
ISP	**Isparta**	**1.25**	**236**	⇓iP	Sn	06 06 19.7	+2.7
ISP	**Isparta**	**1.25**	**236**	ePn	Pn	06 05 59.3	-0.6
ESKT	**Eskisehir**	**1.26**	**323**	ePN	Pn	06 05 59.9	-0.2
ESKT	**Eskisehir**	**1.26**	**323**	ePn	Pn	06 05 59.9	-0.2
SEYT	**Eskypehyr**	**1.26**	**323**	i P	Pn	06 05 59.8	-0.3
SEYT				i S	Sb	06 06 15.0	-1.6
SEYT	**Eskypehyr**	**1.26**	**323**	i P	Pn	06 05 59.8	-0.3
SEYT				i S	Sb	06 06 15.0	-1.6
AFSR	**Afˇar-Bala (A**	**1.33**	**46**	ePN	Pn	06 06 01.2	+0.1
AFSR	**Afˇar-Bala (A**	**1.33**	**46**	ePn	Pn	06 06 01.2	+0.1
SULT	**Sultanhani-AKS**	**1.36**	**103**	ePN	Pn	06 06 01.1	-0.3
SULT	**Sultanhani-AKS**	**1.36**	**103**	ePn	Pn	06 06 01.1	-0.3
BBAL	**Bala**	**1.43**	**44**	i P	Pg	06 06 04.0	+0.5
BBAL				i S	Sg	06 06 22.8	+0.8
BBAL	**Bala**	**1.43**	**44**	i P	Pg	06 06 04.0	+0.5
BBAL				i S	Sg	06 06 22.8	+0.8
BCK	**Bucak**	**1.45**	**223**	ePN	Pb	06 06 03.4	+0.1
BCK	**Bucak**	**1.45**	**223**	ePn	Pb	06 06 03.4	+0.1
ANTO	**Ankara**	**1.54**	**29**	ePN	Pb	06 06 04.8	-0.1
ANTO	**Ankara**	**1.54**	**29**	iP	Pb	06 06 05.3	+0.5
ANTO	**Ankara**	**1.54**	**29**	ePn	Pb	06 06 04.8	-0.1
ANTO	**Ankara**	**1.54**	**29**	iP	Pb	06 06 05.3	+0.5
LOD	**Lodumlu**	**1.54**	**28**	ePN	Pb	06 06 04.7	-0.3
LOD	**Lodumlu**	**1.54**	**28**	ePn	Pb	06 06 04.7	-0.3
HDMB	**Hadim**	**1.64**	**162**	ePN	Pn	06 06 06.0	+0.6
HDMB	**Hadim**	**1.64**	**162**	ePn	Pn	06 06 06.0	+0.6
BORA	**Eskisehir**	**1.73**	**322**	i P	Pn	06 06 06.5	-0.1
BORA				i S	Sn	06 06 27.9	-1.0
BORA	**Eskisehir**	**1.73**	**322**	i P	Pn	06 06 06.5	-0.1
BORA				i S	Sn	06 06 27.9	-1.0
KHL	**Karahalli**	**1.83**	**264**	ePN	Pb	06 06 09.3	-0.5
KHL	**Karahalli**	**1.83**	**264**	ePn	Pb	06 06 09.3	-0.5
KHAL	**Karahalli**	**1.85**	**266**	i P	Pn	06 06 08.4	+0.2
KHAL				i S	Sn	06 06 29.7	-2.1
KHAL	**Karahalli**	**1.85**	**266**	i P	Pn	06 06 08.4	+0.2
KHAL				i S	Sn	06 06 29.7	-2.1
KORT	**Korkueli**	**1.92**	**218**	i P	Pn	06 06 07.6	-1.6
KORT				i S	Sg	06 06 39.5	+1.7
KORT	**Korkueli**	**1.92**	**218**	i P	Pn	06 06 07.6	-1.6
GDZ	**Gediz**	**1.93**	**288**	i P	Pn	06 06 09.3	0.0
GDZ				i S	Sn	06 06 32.5	-1.3
GDZ	**Gediz**	**1.93**	**288**	i P	Pn	06 06 09.3	0.0
GDZ				i S	Sn	06 06 32.5	-1.3
MDUB	**Mudurnu**	**2.01**	**346**	ePN	Pb	06 06 12.1	-0.8
MDUB	**Mudurnu**	**2.01**	**346**	ePn	Pb	06 06 12.1	-0.8
ERMK	**Ermenek**	**2.06**	**155**	i P	Pn	06 06 11.8	+0.6
ERMK				i S	Sb	06 06 39.1	-0.6
ERMK	**Ermenek**	**2.06**	**155**	i P	Pn	06 06 11.8	+0.6
ERMK				i S	Sb	06 06 39.1	-0.6
TVSB	**Tavsanli**	**2.07**	**297**	ePN	Pn	06 06 12.2	+1.0
TVSB	**Tavsanli**	**2.07**	**297**	ePn	Pn	06 06 12.2	+1.0
GPA	**Golpazari**	**2.12**	**327**	ePN	Pn	06 06 13.4	+1.6
GPA	**Golpazari**	**2.12**	**327**	ePn	Pn	06 06 13.5	+1.6
GULT	**Gulveren**	**2.17**	**332**	ePN	Pn	06 06 13.9	+1.4
GULT	**Gulveren**	**2.17**	**332**	ePn	Pn	06 06 13.9	+1.4
GOLH	**Golhisar**	**2.21**	**235**	iP

KULA	Kula-Manisa	2.49 271	*e*Pn		Pn	06 06 18.0	+1.0
DEMI	Demirci	2.49 283	*i* P		Pn	06 06 17.1	+0.1
DEMI	Demirci	2.49 283	*i* P		Pn	06 06 17.1	+0.1
ADVT	Abdulvahap	2.51 320	*e*PN		Pn	06 06 19.0	+1.9
ADVT	Abdulvahap	2.51 320	*e*Pn		Pn	06 06 19.0	+1.9
MANT	Manisa	2.57 270	*i* P		Pn	06 06 18.2	0.0
MANT	Manisa	2.57 270	*i* P		Pn	06 06 18.2	0.0
GULE	Gulek	2.63 117	*i* P		Pn	06 06 18.3	-0.7
GULE	Gulek	2.63 117	*i* P		Pn	06 06 18.3	-0.7
ULDT	Uludag	2.65 309	*i* P		Pn	06 06 19.5	+0.3
ULDT	Uludag	2.65 309	*i* P		Pn	06 06 19.5	+0.3
IKL	Isikli	2.71 147	*e*PN		Pn	06 06 20.9	+0.9
IKL	Isikli	2.71 147	*e*Pn		Pn	06 06 20.9	+0.9
CORM	Corum	2.73 52	*e*PN		Pn	06 06 21.1	+0.8
CORM	Corum	2.73 52	*e*Pn		Pn	06 06 21.1	+0.8
DST	Dursunbey	2.73 294	*e*PN		Pn	06 06 22.1	+1.9
DST	Dursunbey	2.73 294	*e*Pn		Pn	06 06 22.1	+1.9
KIZK	Mersin	2.74 137	*i* P		Pn	06 06 21.0	+0.7
KIZK			*i* S		Sb	06 06 60.0	+0.9
KIZK	Mersin	2.74 137	*i* P		Pn	06 06 21.0	+0.7
SAFT	Safranbolu	2.79 13	*e*PN		Pn	06 06 22.4	+1.3
SAFT	Safranbolu	2.79 13	*e*Pn		Pn	06 06 22.4	+1.3
GEMT	Gemlik	2.80 314	*e*PN		Pn	06 06 23.3	+2.1
GEMT	Gemlik	2.80 314	*e*Pn		Pn	06 06 23.3	+2.1
DURS	Dursunbey	2.83 293	*i* P		Pn	06 06 21.9	+0.2
DURS	Dursunbey	2.83 293	*i* P		Pn	06 06 21.9	+0.2
KARA	Karaisali	2.84 115	*e*PN		Pn	06 06 22.4	+0.7
KARA	Karaisali	2.84 115	*e*Pn		Pn	06 06 22.4	+0.7
HRT	Hereke	2.84 325	*e*PN		Pn	06 06 23.6	+1.8
HRT	Hereke	2.84 325	*e*Pn		Pn	06 06 23.6	+1.8
AKAS	Kas	2.90 219	*i* P		Pn	06 06 24.3	+1.7
AKAS			*e*S		Sn	06 07 00.3	+2.6
AKAS	Kas	2.90 219	*i* P		Pn	06 06 24.3	+1.7
AKAS			*e*S		Sn	06 07 00.3	+2.6
YOZ	Yozgat	2.93 67	*e*PN		Pn	06 06 23.1	0.0
YOZ	Yozgat	2.93 67	*e*Pn		Pn	06 06 23.1	0.0
MDNY	Mudanya-Bursa	2.94 310	*e*PN		Pn	06 06 25.3	+2.3
MDNY	Mudanya-Bursa	2.94 310	*e*Pn		Pn	06 06 25.3	+2.3
TOS	Tosya	3.02 33	*e*PN		Pn	06 06 25.8	+1.5
TOS	Tosya	3.02 33	*e*Pn		Pn	06 06 25.8	+1.5
ARMT	Armutlu	3.08 313	*e*PN		Pn	06 06 26.9	+1.9
ARMT	Armutlu	3.08 313	*e*Pn		Pn	06 06 26.9	+1.9
SILT	Sile	3.12 328	*e*PN		Pn	06 06 27.6	+2.0
SILT	Sile	3.12 328	*e*Pn		Pn	06 06 27.6	+2.0
BNN	Bunyan	3.15 83	*e*PN		Pn	06 06 26.9	+0.7
BNN	Bunyan	3.15 83	*e*Pn		Pn	06 06 26.9	+0.7
AKS	Akhisar	3.17 278	*e*PN		Pn	06 06 28.8	+2.6
AKS	Akhisar	3.17 278	*e*Pn		Pn	06 06 28.8	+2.6
KCTX	Karacabey (Bur	3.21 304	*e*PN		Pn	06 06 29.2	+2.4
KCTX	Karacabey (Bur	3.21 304	*e*Pn		Pn	06 06 29.2	+2.4
BALB	Balikesir	3.28 291	*e*PN		Pn	06 06 30.0	+2.3
BALB	Balikesir	3.28 291	*e*Pn		Pn	06 06 30.0	+2.3
ISK	Istanbul-Kandi	3.32 321	*e*PN		Pn	06 06 31.1	+2.8
ISK	Istanbul-Kandi	3.32 321	*e*Pn		Pn	06 06 31.1	+2.8
BALY	Balya	3.50 292	*i* P		Pn	06 06 30.7	-0.1
BALY			*i* S		Sb	06 07 19.9	-1.0
BALY	Balya	3.50 292	*i* P		Pn	06 06 30.7	-0.1
GONE	Gonen-Balikesi	3.56 297	*e*PN		Pn	06 06 34.1	+2.5
GONE	Gonen-Balikesi	3.56 297	*e*Pn		Pn	06 06 34.2	+2.5
SVSK	Karacayir	4.24 69	*e*PN		Pn	06 06 42.5	+1.5
SVSK	Karacayir	4.24 69	*e*Pn		Pn	06 06 42.5	+1.5
TIRR	Tirgusor	6.46 338	⇓*i* P		Pn	06 07 11.8	+0.3
TIRR	Tirgusor	6.46 338	⇓*i* P		Pn	06 07 11.8	+0.3
TLB	Topalu	6.69 336	⇑*i* P		Pn	06 07 14.5	-0.1
TLB	Topalu	6.69 336	⇑*i* P		Pn	06 07 14.5	-0.1
CFR	Carcaliu	7.20 339	⇓*i* P		Pn	06 07 20.9	-0.7
CFR	Carcaliu	7.20 339	⇓*i* P		Pn	06 07 20.9	-0.7

IDC 16 07:10:48.2±3.0, 15°18S×72°49W, h125km±27km, mb3.6/9, mb1 3.7/11, mb1mx3.6/20, mbtmp3.9/11, MS3.6/1, Ms1 3.6/1, ms1mx2.9/35, Error ellipse: s-maj=26.1km s-min=13.8km az=73.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.34**	**105**	P	P	Pn	07 11 53.6	+0.4
	6.5nm,0.3s,baz=278,slow=9.3,SNR=198							
ATAH	**Atahualpa**	**9.87**	**323**	S		Sn	07 14 52.7	-4.1
	0.6nm,0.3s,baz=43,slow=19,SNR=2.8							
SIV	**San Ignacio**	**11.04**	**96**	P	P	Pn	07 13 19.5	-3.0
	1.3nm,0.3s,baz=287,slow=10.0,SNR=21							
SIV				LR	LR		07 17 44.4	
	comp=Z,290nm,19.2s,slow=38							
CFAA	**Coronel Fontan**	**16.80**	**167**	P	P	Pn	07 14 35.0	-1.0
	0.0nm,0.3s,baz=347,slow=14,SNR=4.4							
H03N1	**Juan Fernandez**	**19.09**	**197**	T	T		07 33 47.1	
	baz=16,slow=0.7,SNR=12							
H03N2	**Juan Fernandez**	**19.09**	**197**	T	T		07 33 46.4	
	baz=16,slow=0.7,SNR=12							
H03N3	**Juan Fernandez**	**19.10**	**197**	T	T		07 33 48.1	
	baz=16,slow=0.7,SNR=12							
ROSC	**El Rosal**	**19.99**	**355**	P	P		07 15 11.8	+0.3
	0.7nm,0.3s,baz=268,slow=17,SNR=3.5							
BDFB	**Brasilia**	**23.60**	**94**	P	P		07 15 48.0	0.0
	2.7nm,0.6s,baz=261,slow=9.9,SNR=6.9							
USHA	**Ushuaia**	**39.69**	**176**	P	P		07 18 07.3	-0.5
	32nm,1.1s,baz=322,slow=13,SNR=3.0							
TXAR	**Lajitas Array**	**53.52**	**326**	P	P		07 19 55.5	-0.6
	0.3nm,0.5s,baz=153,slow=9.8,SNR=4.5							
PDAR	**Pinedale Array**	**66.97**	**331**	P	P		07 21 27.6	0.0
	0.4nm,0.8s,baz=156,slow=2.5,SNR=3.1							
ULM	**Lac du Bonnet**	**68.32**	**344**	P	P		07 21 34.5	-1.1
	1.2nm,0.4s,baz=194,slow=8.3,SNR=3.2							
NVAR	**Mina Array Bea**	**68.44**	**323**	P	P		07 21 37.6	+0.6
	0.4nm,0.8s,baz=150,slow=5.9,SNR=4.3							
SNAA	**Sanae**	**69.32**	**162**	*e*P	P		07 21 42.1	+0.4
QSPA	**South Pole Qui**	**74.97**	**180**	P	P		07 22 15.4	-0.1
	1.8nm,0.5s							
TORD	**Torodi Ar. Bea**	**78.61**	**73**	P	P		07 22 36.2	-0.5
	0.7nm,0.7s,baz=256,slow=4.2,SNR=3.3							
VNDA	**Vanda**	**82.44**	**190**	P	P		07 22 56.7	+0.7
	1.1nm,0.9s,baz=132,slow=4.6,SNR=6.3							
MAW	**Mawson**	**91.31**	**164**	P	P		07 23 39.9	+0.6
	1.1nm,0.9s,baz=254,slow=8.1,SNR=3.6							
ASAR	**Alice Springs**	**133.56**	**214**	PKP		PKPdf	07 29 50.5	-0.2
	0.3nm,0.7s,baz=118,slow=2.0,SNR=4.8							
WRA	**Warramunga Arr**	**136.25**	**218**	PKP		PKPdf	07 29 53.5	-2.2
	0.8nm,0.7s,baz=146,slow=1.8,SNR=4.7							
ZALV	**Zalesovo Beam**	**137.43**	**20**	PKhKP		PKPpre	07 29 51.2	
	0.3nm,0.3s,baz=303,slow=6.7,SNR=2.2							
ZALV				PKP		PKPdf	07 29 55.8	-1.0
	1.2nm,0.5s,baz=301,slow=2.6,SNR=6.2							
MKAR	**Makanchi Array**	**142.12**	**28**	PKP		PKPdf	07 30 04.4	-1.3
	0.3nm,0.7s,baz=318,slow=1.9,SNR=3.8							
MJAR	**Matsushiro Arr**	**145.37**	**314**	PKPbc		PKPdf	07 30 11.1	-0.5
	1.1nm,0.5s,baz=188,slow=1.7,SNR=5.1							
SONM	**Songino Array**	**147.43**	**1**	PKPbc		PKPbc	07 30 18.1	+0.6
	2.2nm,0.7s,baz=306,slow=1.5,SNR=14							
KSRS	**Korea Array**	**151.37**	**325**	PKPbc		PKPbc	07 30 27.9	+0.4
	1.5nm,0.7s,baz=351,slow=1.8,SNR=4.4							

*ISCJB **16** 07:13:10.4±0.7, 37°56S±0°05×177°33E±0°07, h155km±4km, mb3.4/2, Error ellipse: s-maj=9.8km s-min=8.5km az=161.4*
*IDC **16** 07:13:10.9±2.7, 38°56S×177°51E, h159km±7km, mb3.2/2, mb1 3.4/2, mb1mx3.2/15, mbtmp3.2/2, Error ellipse: s-maj=111.2km s-min=35.8km az=177.0*
*NEIC **16** 07:13:12.5, 37°41S×177°35E, h133km, MG4.2(WEL), After WEL.*
*WEL **16** 07:13:12.2±0.3, 37°39S×177°36E, h133km±2km, ML4.2/8, Error ellipse: s-maj=1.9km s-min=1.8km az=0.0*

ISC 16 07:13:10.8±1.0, 37°47S±0°06×177°36E±0°05, h150km±6km, n118, σ1°32/129, 27C-8D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.14**	**246**	⇑PN	P	Pn	07 13 30.0	-1.0
WIZ				SN		Sn	07 13 44.2	-2.0
WIZ	**White Island**	**0.14**	**246**	⇑Pn	P	Pn	07 13 30.0	-1.0
WIZ				Sn		Sn	07 13 44.2	-2.0
OPRZ	**Ohinepanea**	**0.74**	**239**	⇑PN	P	Pn	07 13 33.5	0.0
OPRZ				SN		Sn	07 13 49.5	-1.4
OPRZ	**Ohinepanea**	**0.74**	**239**	⇑Pn	P	Pn	07 13 33.5	0.0
OPRZ				Sn		Sn	07 13 49.5	-1.4
MXZ	**Matakaoa Point**	**0.76**	**97**	⇑PN	P	Pn	07 13 33.7	0.0
MXZ				SN		Sn	07 13 50.7	-0.4
MXZ				AML	AML		07 13 51.1	
MXZ				AML	AML		07 13 51.2	
MXZ				AML	AML		07 13 51.3	
MXZ	**Matakaoa Point**	**0.76**	**97**	⇑Pn	P	Pn	07 13 33.7	0.0
MXZ				Sn		Sn	07 13 50.7	-0.4
URZ	**Urewera**	**0.81**	**194**	⇑PN	P	Pn	07 13 34.2	+0.2
URZ				AML	AML		07 13 51.4	
URZ				AML	AML		07 13 53.4	
URZ	**Urewera**	**0.81**	**194**	⇑Pn	P	Pn	07 13 34.2	+0.2
URZ	**Urewera**	**0.81**	**194**	P	P	Pn	07 13 33.9	-0.2
	139nm,0.3s,baz=292,slow=2.4,SNR=443							
URZ				S		Sn	07 13 50.9	-1.0
	107nm,0.3s,baz=191,slow=22,SNR=40							
MWZ	**Matawai**	**0.88**	**171**	⇑PN	P	Pn	07 13 35.0	+0.4
MWZ				SN		Sn	07 13 52.3	-0.5
MWZ				AML	AML		07 13 53.5	
MWZ				AML	AML		07 13 53.8	
MWZ				AML	AML		07 13 53.8	
MWZ	**Matawai**	**0.88**	**171**	⇑Pn	P	Pn	07 13 35.0	+0.4
MWZ				Sn		Sn	07 13 52.3	-0.5
PUZ	**Puketiti**	**0.93**	**130**	⇑PN	P	Pn	07 13 35.4	+0.3
PUZ				SN		Sn	07 13 52.3	-1.3
PUZ				AML	AML		07 13 54.7	
PUZ	**Puketiti**	**0.93**	**130**	⇑Pn	P	Pn	07 13 35.4	+0.3
PUZ				Sn		Sn	07 13 52.3	-1.3
TARZ	**Mount Tarawera**	**1.02**	**221**	⇑PN	P	Pn	07 13 36.6	+0.8
TARZ	**Mount Tarawera**	**1.02**	**221**	⇑Pn	P	Pn	07 13 36.6	+0.8
RRRZ	**Republican Roa**	**1.09**	**217**	PN	P	Pn	07 13 36.8	+0.4
RRRZ	**Republican Roa**	**1.09**	**217**	Pn	P	Pn	07 13 36.8	+0.4
CNGZ	**Carnagh Statio**	**1.22**	**147**	⇑PN	P	Pn	07 13 38.7	+1.1
CNGZ	**Carnagh Statio**	**1.22**	**147**	⇑Pn	P	Pn	07 13 38.7	+1.1
PRRZ	**Plateau Road**	**1.28**	**216**	⇑PN	P	Pn	07 13 38.9	+0.7
PRRZ				SN		Sn	07 13 59.9	+0.8
PRRZ	**Plateau Road**	**1.28**	**216**	⇑Pn	P	Pn	07 13 38.9	+0.7
PRRZ				Sn		Sn	07 13 59.9	+0.8
ALRZ	**Allen Road**	**1.35**	**216**	⇑PN	P	Pn	07 13 39.7	+0.8
ALRZ	**Allen Road**	**1.35**	**216**	⇑Pn	P	Pn	07 13 39.7	+0.8
RAHZ	**Arahi**	**1.46**	**188**	⇑PN	P	Pn	07 13 40.9	+0.9
RAHZ	**Arahi**	**1.46**	**188**	⇑Pn	P	Pn	07 13 40.9	+0.9
KUZ	**Kuaotunu**	**1.49**	**298**	⇓PN	P	Pn	07 13 40.1	-0.2
KUZ	**Kuaotunu**	**1.49**	**298**	⇓Pn	P	Pn	07 13 40.1	-0.2
TOZ	**Tahuroa Road**	**1.50**	**259**	⇓PN	P	Pn	07 13 41.4	+1.1
TOZ	**Tahuroa Road**	**1.50**	**259**	⇓Pn	P	Pn	07 13 41.4	+1.1
PRGZ	**Paritu Road**	**1.51**	**164**	⇑PN	P	Pn	07 13 41.3	+0.8
PRGZ				SN		Sn	07 14 04.7	+1.3
PRGZ	**Paritu Road**	**1.51**	**164**	⇑Pn	P	Pn	07 13 41.3	+0.8
PRGZ				Sn		Sn	07 14 04.7	+1.3
KNZ	**Kokohu**	**1.57**	**171**	PN	P	Pn	07 13 41.6	+0.6
KNZ	**Kokohu**	**1.57**	**171**	Pn	P	Pn	07 13 41.6	+0.6
NMHZ	**Naumai**	**1.68**	**195**	PN	P	Pn	07 13 43.6	+1.2
NMHZ	**Naumai**	**1.68**	**195**	Pn	P	Pn	07 13 43.6	+1.2
MHGZ	**Mahia Peninsul**	**1.74**	**166**	⇑PN	P	Pn	07 13 43.9	+1.0
MHGZ	**Mahia Peninsul**	**1.74**	**166**	⇑Pn	P	Pn	07 13 43.9	+1.0
MKAZ	**Moumakai**	**1.78**	**281**	⇓PN	P	Pn	07 13 44.5	+1.1
MKAZ	**Moumakai**	**1.78**	**281**	⇓Pn	P	Pn	07 13 44.5	+1.1
BKZ	**Black Stump Fm**	**1.83**	**202**	PN	P	Pn	07 13 41.3	-2.7
BKZ				AML	AML		07 14 12.4	
BKZ				AML	AML		07 14 13.1	
BKZ	**Black Stump Fm**	**1.83**	**202**	Pn	P	Pn	07 13 41.3	-2.7
MCHZ	**McNeill Hill**	**2.04**	**195**	PN	P	Pn	07 13 47.3	+0.9
MCHZ	**McNeill Hill**	**2.04**	**195**	Pn	P	Pn	07 13 47.3	+0.9
KRVZ	**Karewarewa**	**2.11**	**219**	PN	P	Pn	07 13 48.7	+1.3
KRVZ	**Karewarewa**	**2.11**	**219**	Pn	P	Pn	07 13 48.7	+1.3
CKHZ	**Cape Kidnapper**	**2.20**	**186**	PN	P	Pn	07 13 48.8	+0.5
CKHZ	**Cape Kidnapper**	**2.20**	**186**	Pn	P	Pn	07 13 48.8	+0.5
FWVZ	**Far West T-bar**	**2.28**	**218**	PN	P	Pn	07 13 50.2	+0.8
FWVZ	**Far West T-bar**	**2.28**	**218**	Pn	P	Pn	07 13 50.2	+0.8
WHVZ	**Whangaehu Hut**	**2.28**	**217**	PN	P	Pn	07 13 50.3	+0.8
KAHZ	**Kahuranaki**	**2.35**	**189**	PN	P	Pn	07 13 50.4	+0.3
KAHZ	**Kahuranaki**	**2.35**	**189**	Pn	P	Pn	07 13 50.4	+0.3
MTVZ	**Mangateitei**	**2.42**	**217**	PN	P	Pn	07 13 52.3	+1.3
MTVZ	**Mangateitei**	**2.42**	**217**	Pn	P	Pn	07 13 52.3	+1.3
PXZ	**Pawanui**	**2.59**	**188**	PN	P	Pn	07 13 53.0	+0.1
PXZ				AML	AML		07 14 26.6	
PXZ				AML	AML		07 14 26.7	
PXZ				AML	AML		07 14 27.3	
PXZ				AML	AML		07 14 27.4	
PXZ	**Pawanui**	**2.59**	**188**	Pn	P	Pn	07 13 53.0	+0.1
PNHZ	**Pukenui**	**2.60**	**200**	PN	P	Pn	07 13 53.0	-0.3
PNHZ	**Pukenui**	**2.60**	**200**	Pn	P	Pn	07 13 52.9	-0.3
WPHZ	**Waipukurau**	**2.69**	**195**	PN	P	Pn	07 13 54.3	0.0
WPHZ	**Waipukurau**	**2.69**	**195**	Pn	P	Pn	07 13 54.3	0.0
TSZ	**Takapari Road**	**2.81**	**202**	PN	P	Pn	07 13 55.2	-0.5
TSZ	**Takapari Road**	**2.81**	**202**	Pn	P	Pn	07 13 55.2	-0.5
PRHZ	**Porangahau**	**2.85**	**191**	PN	P	Pn	07 13 55.8	-0.5
PRHZ	**Porangahau**	**2.85**	**191**	Pn	P	Pn	07 13 55.8	-0.5
WAZ	**Wanganui**	**2.94**	**218**	PN	P	Pn	07 13 58.1	+0.7
WAZ	**Wanganui**	**2.94**	**218**	Pn	P	Pn	07 13 58.7	+1.3
ANWZ	**Angora Road**	**3.07**	**193**	PN	P	Pn	07 13 58.6	-0.3
PRWZ	**Pori Road**	**3.27**	**199**	PN	P	Pn	07 14 01.6	+0.1
BFZ	**Birch Farm**	**3.32**	**195**	⇓PN	P	Pn	07 14 01.5	-0.7
BFZ	**Birch Farm**	**3.32**	**195**	⇓Pn	P	Pn	07 14 01.5	-0.7
MRZ	**Mangatainoka R**	**3.48**	**203**	PN	P	Pn	07 14 02.9	-1.3
MRZ				AML	AML		07 14 44.2	
MRZ				AML	AML		07 14 44.9	
MRZ	**Mangatainoka R**	**3.48**	**203**	Pn	P	Pn	07 14 03.0	-1.2
TIWZ	**Tintock**	**3.50**	**199**	PN	P	Pn	07 14 03.9	-0.6
TIWZ	**Tintock**	**3.50**	**199**	Pn	P	Pn	07 14 04.0	-0.6
HOWZ	**Holdsworth Sta**	**3.71**	**202**	PN	P	Pn	07 14 05.7	-1.6
HOWZ	**Holdsworth Sta**	**3.71**	**202**	Pn	P	Pn	07 14 05.7	-1.6
OGWZ	**Otaki Gorge**	**3.75**	**206**	PN	P	Pn	07 14 06.6	-1.1
OGWZ	**Otaki Gorge**	**3.75**	**206**	Pn	P	Pn	07 14 06.6	-1.1
TMWZ	**Te Maipa**	**3.81**	**197**	PN	P	Pn	07 14 07.1	-1.4
TMWZ	**Te Maipa**	**3.81**	**197**	Pn	P	Pn	07 14 07.1	-1.4
KIW	**Kapiti Island**	**3.88**	**209**	PN	P	Pn	07 14 08.0	-1.5
KIW	**Kapiti Island**	**3.88**	**209**	Pn	P	Pn	07 14 08.0	-1.5
MTW	**Mount Morrison**	**3.96**	**201**	PN	P	Pn	07 14 08.7	-1.7
MTW	**Mount Morrison**	**3.96**	**201**	Pn	P	Pn	07 14 08.8	-1.7
CAW	**Cannon Point**	**4.04**	**205**	PN	P	Pn	07 14 09.9	-1.7
CAW	**Cannon Point**	**4.04**	**205**	Pn	P	Pn	07 14 09.9	-1.7
TRWZ	**Traveller**	**4.13**	**198**	⇑PN	P	Pn	07 14 11.2	-1.5
TRWZ	**Traveller**	**4.13**	**198**	Pn	P	Pn	07 14 11.2	-1.5
PAWZ	**Paruwai Farm**	**4.18**	**200**	PN	P	Pn	07 14 11.4	-2.0
PAWZ	**Paruwai Farm**	**4.18**	**200**	Pn	P	Pn	07 14 11.4	-2.0
MSWZ	**Moikau Station**	**4.26**	**202**	PN	P	Pn	07 14 12.5	-2.0
MSWZ	**Moikau Station**	**4.26**	**202**	Pn	P	Pn	07 14 12.5	-2.0
DUWZ	**D'Urville Isla**	**4.27**	**218**	PN	P	Pn	07 14 14.9	+0.4
BHW	**Baring Head**	**4.38**	**205**	PN	P	Pn	07 14 14.4	-1.5
BHW	**Baring Head**	**4.38**	**205**	Pn	P	Pn	07 14 14.4	-1.5
PLWZ	**Palliser**	**4.41**	**201**	PN	P	Pn	07 14 14.1	-2.3
PLWZ	**Palliser**	**4.41**	**201**	Pn	P	Pn	07 14 14.1	-2.3
TCW	**Tory Channel**	**4.44**	**212**	PN	P	Pn	07 14 14.8	-1.9
TCW				AML	AML		07 15 08.7	
TCW	**Tory Channel**	**4.44**	**212**	Pn	P	Pn	07 14 14.8	-1.9
NNZ	**Nelson**	**4.85**	**218**	PN	P	Pn	07 14 21.1	-1.1
NNZ	**Nelson**	**4.85**	**218**	Pn	P	Pn	07 14 21.1	-1.1
BSWZ	**Blackbirch Sta**	**5.02**	**211**	PN	P	Pn	07 14 22.9	-1.5
BSWZ	**Blackbirch Sta**	**5.02**	**211**	Pn	P	Pn	07 14 22.9	-1.5
THZ	**Tophouse**	**5.50**	**217**	PN	P	Pn	07 14 28.9	-1.9
THZ	**Tophouse**	**5.50**	**217**	Pn	P	Pn	07 14 28.9	-1.9
KHZ	**Kahutara**	**5.75**	**209**	PN	P	Pn	07 14 31.3	-2.7
KHZ	**Kahutara**	**5.75**	**209**	Pn	P	Pn	07 14 31.8	-2.3
LTZ	**Lake Taylor**	**6.58**	**215**	PN	P	Pn	07 14 42.6	-2.7
LTZ	**Lake Taylor**	**6.58**	**215**	Pn	P	Pn	07 14 42.3	-3.0
OXZ	**Oxford**	**7.12**	**213**	PN	P	Pn	07 14 48.7	-3.6
MQZ	**McQueen's Vall**	**7.18**	**208**	PN	P	Pn	07 14 49.0	-4.2
MQZ	**McQueen's Vall**	**7.18**	**208**	Pn	P	Pn	07 14 49.0	-4.2
ODZ	**Otahua Downs**	**9.10**	**212**	PN	P	Pn	07 15 15.7	-3.1
ODZ	**Otahua Downs**	**9.10**	**212**	Pn	P	Pn	07 15 15.7	-3.1
ASAR	**Alice Springs**	**39.52**	**278**	P	P	P	07 20 28.4	+1.3
	0.5nm,0.7s,baz=122,slow=8.5,SNR=9.3							
WRA	**Warramunga Arr**	**41.18**	**283**	P	P	P	07 20 42.5	+1.8
	0.6nm,0.3s,baz=130,slow=6.4,SNR=5.2							
ARCES	**ARCESS Array B**	**144.47**	**343**	PKPbc		PKPbc	07 32 28.2	+1.1
	4.2nm,0.8s,baz=60,slow=2.2,SNR=9.0							
FINES	**FINESS Array B**	**150.06**	**332**	PKPbc		PKPbc	07 32 43.9	+1.2
	2.1nm,0.9s,baz=70,slow=1.6,SNR=2.3							

IDC 16 07:15:34.1±2.3, 0°78S×138°41E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/19, mbtmp3.7/5, ML3.8/1, Error ellipse: s-maj=81.6km s-min=24.5km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.46**	**192**	P	P	P	07 20 02.4	-0.2
	0.3nm,0.3s,baz=10,slow=12,SNR=12							
FITZ	**Fitzroy Crossi**	**21.30**	**215**	P	P	P	07 20 22.4	-0.2
	1.3nm,0.7s,baz=45,slow=13,SNR=4.8							
ASAR	**Alice Springs**	**23.17**	**191**	P	P	P	07 20 43.0	+0.5
	1.9nm,0.7s,baz=20,slow=11,SNR=27							
STKA	**Stephens Creek**	**31.08**	**175**	P	P	P	07 21 53.9	-0.3
	2.8nm,1.0s,baz=0.0,slow=8.1,SNR=2.1							
MKAR	**Makanchi Array**	**68.09**	**322**	P	P	P	07 26 35.8	0.0
	0.3nm,0.6s,baz=116,slow=6.6,SNR=3.6							

*ECX **16** 07:31:27.0±0.8, 30°08N×114°10W, h2km±12km, MD4.3, ML4.6*
*MEX **16** 07:31:28.5±0.3, 30°09N×113°98W, h10km, MD4.4*
*IDC **16** 07:31:32.0±1.8, 30°41N×113°92W, h0km, mb4.2/2, mb1 4.0/9, mb1mx3.8/30, mbtmp3.7/9, ML3.3/7, MS3.7/8, Ms1 3.7/8, ms1mx3.5/40, Error ellipse: s-maj=29.6km s-min=10.5km az=34.0*
*NEIC **16** 07:31:33.4±1.0, 30°25N×113°88W, h10km, mb4.2/6, Error ellipse: s-maj=12.7km s-min=7.9km az=209.0*

ISC 16 07:31:25.9±2.3, 29°7N±0°1×114°26W±0°07, h13km±13km, n83, σ1°84/75, MS3.7/4, 4C-3D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**1.68**	**322**	*e*P	P	Pn	07 31 53.5	-1.8
SPX				*e*S		Sn	07 32 14.4	-2.5
SPX				⇓*e*			07 32 23.5	
	comp=N,4μm,1.2s							
SPIG	**San Pedro Mart**	**1.68**	**322**	*i* P	P	Pn	07 31 53.4	-1.9
SPIG				*i* S		Sn	07 32 13.3	-3.6
ECBX	**El Chinero**	**1.87**	**339**	*e*P	P	Pn	07 31 52.0	-5.6
ECBX				*e*S		Sn	07 32 13.8	-7.3
ECBX				⇑*e*			07 32 24.5	
	comp=N,6μm,1.2s							
EMX	**El Mayor**	**2.41**	**340**	*e*P	P	Pn	07 32 05.2	+0.2
EMX				*e*S		Sn	07 32 33.5	-0.9
EMX				⇑*e*			07 32 51.9	
	comp=N,3μm,1.0s							
ZAX	**El Zacaton**	**2.49**	**316**	*e*P	P	Pn	07 32 06.7	+0.5
RDX	**Rancho Dawling**	**2.63**	**327**	*e*P	P	Pn	07 32 06.8	-1.4
RDX				*e*S		Sn	07 32 39.6	-0.5
RDX				⇓*e*			07 33 04.0	
	comp=N,2μm,0.9s							
ECNX	**Esteban Cantu**	**2.79**	**314**	*e*P	P	Pn	07 32 10.9	+0.5
ECNX				*e*S		Sn	07 32 44.3	+0.4
ECNX				⇑*e*			07 33 07.4	
	comp=E,4μm,0.9s							
CPBX	**Cerro Prieto**	**2.83**	**342**	*e*P	P	Pn	07 32 11.3	+0.5
CPBX				⇓*e*			07 33 28.4	
	comp=N,5μm,0.8s							
PBX	**Punta Banda**	**2.92**	**314**	*e*P	P	Pn	07 32 12.9	+0.8
HSI

	comp=N,14nm,1.3s								
I07A	**Izee**	**14.93**	**345**	*e*Pn		**P**	**07 34 59.8**	**-2.5**
MCMT	**McKenzie Canyo**	**15.12**	**4**	*e*Pn		**Pn**	**07 35 01.1**	**+1.7**
	comp=N,2.4nm,1.2s							
DLMT	**Dillon**	**15.66**	**4**	*e*P		**P**	**07 35 08.4**	**-2.2**
	comp=N,61nm,2.3s							
G08A	**Pilot Rock**	**15.97**	**348**	*e*Pn		**P**	**07 35 16.8**	**+2.9**
RSSD	**Black Hills**	**16.51**	**27**	*e*P		**Pn**	**07 35 17.2**	**-0.1**
	comp=N,29nm,0.9s							
MSO	**Missoula**	**17.08**	**1**	*e*Pn		**P**	**07 35 25.8**	**-0.4**
	comp=N,27nm,1.5s							
CHMT	**Chamberlain Mo**	**17.18**	**2**	*e*P		**P**	**07 35 26.9**	**-0.5**
	comp=N,7.0nm,1.4s							
KSU1	**Kansas State U**	**17.28**	**53**	*e*P		**P**	**07 35 30.2**	**+1.8**
	comp=N,11nm,1.1s							
LON	**Longmire**	**17.99**	**343**	*e*P		**P**	**07 35 37.5**	**+1.3**
	comp=N,48nm,2.0s							
EDM	**Edmonton**	**23.49**	**1**	*e*P		**P**	**07 36 35.9**	**+0.7**
BBB	**Bella Bella**	**24.67**	**339**	LR		LR	07 45 48.3	
	comp=N,206nm,18.6s,baz=87,slow=36							
APG	**El Apazote**	**26.36**	**119**	LR		LR	07 47 10.7	
	comp=N,176nm,19.9s,baz=272,slow=36							
DLBC	**Dease Lake**	**30.70**	**344**	P		**P**	**07 37 42.5**	**+2.3**
DLBC	**Dease Lake**	**30.70**	**344**	P		**P**	**07 37 42.5**	**+2.3**
	comp=N,7.7nm,1.1s,baz=163,slow=11,SNR=4.2							
DLBC				LR		LR	07 50 28.0	
	comp=N,291nm,18.1s,baz=113,slow=38							
JTS	**JuntasAbangare**	**33.48**	**119**	LR		LR	07 51 44.4	
	comp=N,174nm,21.1s,baz=338,slow=36							
ILAR	**Eielson Array**	**40.56**	**339**	P		P	07 39 07.5	+2.8
ILAR	**Eielson Array**	**40.56**	**339**	P		P	07 39 07.5	+2.8
	comp=N,1.9nm,0.9s,baz=155,slow=7.3,SNR=18							
IM04	**Indian Mountai**	**43.55**	**338**	*e*P		P	07 39 32.0	+2.9

*PGC **16** 07:34:50.0±14.0, 47.54N×129.13W, h10km, ML3.4/8, Mw4.0, 297km Wsw of Tofino, Bc Off Coast Of Washington*
*ISCJB **16** 07:34:53.1±1.0, 47.88N±0.04×128.8W±0.1, h8km, mb3.9/3, MS4.0/7, Error ellipse: s-maj=12.2km s-min=6.3km az=6.0*
*IDC **16** 07:34:53.8±3.4, 47.88N×128.88W, h0km, mb3.9/3, mb1 4.1/7, mb1mx3.8/29, mbtmp3.9/7, ML3.5/4, MS3.8/12, Ms1 3.8/12, ms1mx3.6/46, Error ellipse: s-maj=63.8km s-min=19.2km az=73.0*
*NEIC **16** 07:34:55.8±2.1, 47.95N×128.70W, h10km, mb4.1/1, Error ellipse: s-maj=33.1km s-min=12.9km az=78.0*

ISC 16 07:34:56.7±1.4, 47.92N±0.07×128.7W±0.1, h8km, n47, σ1§99/35, mb4.0/3, MS4.0/7, 9D, Off coast of Washington

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BTB	**Buttle Lake**	**2.60**	**52**	⇓Pn	**Pn**	**Pn**	**07 35 37.0**	**-2.3**
BTB				⇑Sn	Sn	**Sn**	**07 36 12.2**	**+1.0**
WOSB	**Woss**	**2.64**	**31**	⇓Pn	**Pn**	**Pn**	**07 35 38.1**	**-1.5**
MAYB	**Maynard**	**2.68**	**21**	⇑Pn	**Pn**	**Pn**	**07 35 38.2**	**-2.1**
MGB	**Mount Grey**	**2.87**	**66**	⇑Pn	**Pn**	**Pn**	**07 35 40.6**	**-2.2**
ALB	**Alberni**	**2.89**	**61**	⇓Pn	**Pn**	**Pn**	**07 35 40.0**	**-3.0**
PFB	**Port Renfrew**	**2.91**	**75**	⇓Pn	**Pn**	**Pn**	**07 35 40.4**	**-2.9**
PFB				⇓Sn		**Sn**	**07 36 17.2**	**-1.2**
NCRB	**Newcastle Ridg**	**3.03**	**34**	⇑Pn	**Pn**	**Pn**	**07 35 43.5**	**-1.6**
CBB	**Campbell River**	**3.04**	**45**	⇓Pn	**Pn**	**Pn**	**07 35 43.8**	**-1.3**
CBB				⇓Sn		**Sn**	**07 36 23.0**	**+1.3**
YOUB	**Youbou, Lake C**	**3.10**	**70**	⇑Pn	**Pn**	**Pn**	**07 35 43.3**	**-2.7**
GHNB	**Nanoose**	**3.26**	**63**	⇑Pn	**Pn**	**Pn**	**07 35 46.7**	**-1.4**
NLWA	**Neilton Lookou**	**3.29**	**97**	*e*Pn	**Pn**	**Pn**	**07 35 46.4**	**-2.2**
LZB	**Mount Lazard**	**3.32**	**76**	⇓Pn	**Pn**	**Pn**	**07 35 46.1**	**-2.9**
PGC	**Sidney**	**3.57**	**76**	*e*Pn	**Pn**	**Pn**	**07 35 50.3**	**-2.0**
BBB	**Bella Bella**	**4.29**	**5**	⇓Pn	**Pn**	**Pn**	**07 35 59.6**	**-2.6**
BBB	**Bella Bella**	**4.29**	**5**	Pn	**Pn**	**Pn**	**07 36 00.1**	**-2.2**
BBB	**Bella Bella**	**4.29**	**5**	Pn	**Pn**	**Pn**	**07 36 00.1**	**-2.2**
	3.6nm,0.3s,baz=200,slow=12,SNR=15							
BBB				LR		LR	07 37 19.3	
	comp=Z,172nm,18.7s,baz=335,slow=34							
COR	**Corvallis**	**5.00**	**130**	*e*Pn		**Pn**	**07 36 09.4**	**-2.5**
HUMO	**Hull Mountain**	**6.67**	**141**	*e*Pn		**Pn**	**07 36 33.6**	**-1.4**
	11nm,1.3s							
YBH	**Yreka Blue Hor**	**7.50**	**143**	*e*Pn		**Pn**	**07 36 45.6**	**-0.7**
	12nm,1.3s							
YBH	**Yreka Blue Hor**	**7.50**	**143**	Pn		**Pn**	**07 36 45.7**	**-0.7**
	0.1nm,0.3s,baz=324,slow=17,SNR=5.6							
NEW	**Newport**	**7.75**	**83**	LR		LR	07 39 59.4	
	comp=Z,728nm,21.1s,baz=235,slow=39							
MOD	**Modoc**	**8.45**	**132**	*e*Pn		**Pn**	**07 36 59.2**	**-0.4**
WVOR	**Wild Horse Val**	**8.96**	**124**	*e*Pn		**Pn**	**07 37 08.1**	**+1.6**
	5.9nm,1.2s							
DLBC	**Dease Lake**	**10.57**	**356**	LR		LR	07 41 15.3	
	comp=Z,271nm,19.3s,baz=136,slow=36							
NVAR	**Mina Array Bea**	**12.12**	**138**	Pn		**Pn**	**07 37 52.2**	**+2.4**
NVAR	**Mina Array Bea**	**12.12**	**138**	Pn		**Pn**	**07 37 52.2**	**+2.4**
	0.1nm,0.3s,baz=320,slow=12,SNR=3.3							
PDAR	**Pinedale Array**	**14.39**	**104**	Pn		**Pn**	**07 38 23.4**	**+2.6**
PDAR	**Pinedale Array**	**14.39**	**104**	Pn		**Pn**	**07 38 23.4**	**+2.6**
	0.1nm,0.3s,baz=293,slow=13,SNR=10							
PDAR				LR		LR	07 43 40.8	
	comp=Z,441nm,21.2s,baz=18,slow=36							
ILAR	**Eielson Array**	**19.55**	**336**	LR		LR	07 45 45.7	
	comp=Z,200nm,20.9s,baz=133,slow=33							
ANMO	**Albuquerque**	**21.01**	**120**	*e*P		**P**	**07 39 39.8**	**-1.1**
	10.0nm,1.2s							
ANMO	**Albuquerque**	**21.01**	**120**	P		**P**	**07 39 39.7**	**-1.1**
	6.5nm,1.1s,baz=321,slow=11,SNR=5.6							
ULM	**Lac du Bonnet**	**21.52**	**71**	P		**P**	**07 39 46.9**	**+0.9**
ULM	**Lac du Bonnet**	**21.52**	**71**	P		**P**	**07 39 46.9**	**+0.9**
	6.6nm,1.1s,baz=293,slow=16,SNR=3.1							
ULM				LR		LR	07 47 43.5	
	comp=Z,322nm,19.6s,baz=254,slow=36							
TXAR	**Lajitas Array**	**26.75**	**125**	P		**P**	**07 40 36.1**	**-0.8**
TXAR	**Lajitas Array**	**26.75**	**125**	P		**P**	**07 40 36.1**	**-0.8**
	2.7nm,1.1s,baz=317,slow=6.8,SNR=5.2							
SADO	**Sadowa**	**33.87**	**76**	LR		LR	07 55 51.9	
	comp=Z,489nm,18.2s,baz=276,slow=37							
TKL	**Tuckaleechee C**	**35.17**	**94**	LR		LR	07 56 23.8	
	comp=Z,318nm,18.4s,baz=40,slow=36							
FX1	**Attu Island--F**	**36.52**	**300**	LR		LR	07 54 16.9	
	comp=Z,68nm,21.4s,baz=276,slow=32							
H11N2	**WAKE ISLAND Hy**	**58.54**	**265**	T		T	08 47 48.1	
	baz=48,slow=0.7,SNR=30							
H11N3	**WAKE ISLAND Hy**	**58.54**	**265**	T		T	08 47 46.6	
	baz=48,slow=0.7,SNR=34							
H11N1	**WAKE ISLAND Hy**	**58.56**	**265**	T		T	08 47 49.3	
	baz=48,slow=0.7,SNR=27							
H11S1	**WAKE ISLAND Hy**	**59.53**	**264**	T		T	08 49 06.5	
	baz=45,slow=0.7,SNR=6.4							
H11S2	**WAKE ISLAND Hy**	**59.54**	**264**	T		T	08 49 07.1	
	baz=45,slow=0.7,SNR=14							
H11S3	**WAKE ISLAND Hy**	**59.55**	**264**	T		T	08 49 09.4	
	baz=45,slow=0.7,SNR=5.4							
USRK	**Ussuriysk Arra**	**64.18**	**308**	LR		LR	08 15 25.8	
	comp=Z,89nm,18.1s,baz=359,slow=38							
PPT	**Papeete**	**67.82**	**202**	LR		LR	08 09 56.0	
	comp=Z,137nm,21.3s,baz=290,slow=31							
ZALV	**Zalesovo Beam**	**74.62**	**340**	LR		LR	08 22 42.4	
	comp=Z,69nm,18.3s,baz=69,slow=38							

IDC 16 07:35:23.9±2.4, 15.83S×173.07W, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/21, mbtmp3.7/5, ML1.4/1, Error ellipse: s-maj=117.0km s-min=19.6km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.28**	**33**	Pn	Pn	Pn	07 36 01.1	-1.9
	6.3nm,0.3s,baz=225,slow=14,SNR=6.5							
AFI				Sn	Sn		07 36 31.4	-0.4
	32nm,0.3s,baz=347,slow=21,SNR=9.7							
WRA	**Warramunga Arr**	**50.06**	**257**	P	P		07 44 20.2	-0.7
	0.4nm,0.8s,baz=94,slow=7.9,SNR=3.4							
ASAR	**Alice Springs**	**50.28**	**252**	P	P		07 44 21.4	-1.2
	2.9nm,0.7s,baz=88,slow=8.4,SNR=45							
NVAR	**Mina Array Bea**	**74.43**	**42**	P	P		07 47 03.7	-0.6
	0.2nm,0.5s,baz=232,slow=10.0,SNR=2.5							
ILAR	**Eielson Array**	**82.80**	**11**	P	P		07 47 50.1	+0.5
	0.6nm,0.6s,baz=227,slow=6.1,SNR=24							
GERES	**GERESS Array B**	**146.61**	**352**	PKPbc	PKPab		07 55 08.2	-0.4
	0.2nm,0.4s,baz=29,slow=8.2,SNR=2.7							
BRTR	**Keskin Array B**	**146.69**	**321**	PKPbc	PKPab		07 55 09.2	-0.1
	0.8nm,0.6s,baz=72,slow=2.4,SNR=3.4							

*ISCJB **16** 07:45:09.5±0.9, 11.8S±0.1×166.8E±0.1, h10km, mb4.2/13, MS3.5/1, Error ellipse: s-maj=19.2km s-min=17.7km az=43.4*
*IDC **16** 07:45:10.6±1.4, 11.59S×166.53E, h0km, mb4.2/7, mb1 4.4/8, mb1mx4.0/22, mbtmp4.2/8, ML3.5/1, MS3.6/1, Ms1 3.5/1, ms1mx3.0/25, Error ellipse: s-maj=47.9km s-min=22.4km az=130.0*
*NEIC **16** 07:45:14.8±0.8, 11.71S×166.72E, h35km, mb4.3/10, Error ellipse: s-maj=17.5km s-min=15.4km az=112.0*

ISC 16 07:45:11.6±1.0, 11.65S±0.1×166.7E±0.2, h10km, n34, σ1§19/32, mb4.2/13, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.40**	**181**	*e*Pn		**Pn**	**07 47 41.9**	**+0.9**
DZM				Sn		Sn	07 49 28.2	-10
DZM	**Mont Dzumac**	**10.40**	**181**	Pn		**Pn**	**07 47 42.9**	**+1.8**
	0.4nm,0.3s,baz=314,slow=20,SNR=7.4							
DZM				Sn		Sn	07 49 28.2	-10
	0.1nm,0.3s,baz=273,slow=17,SNR=2.3							
EIDS	**Eidsvold**	**20.10**	**225**	*e*P		**P**	**07 49 46.8**	**+1.2**
	54nm,1.2s							
EIDS	**Eidsvold**	**20.10**	**225**	P		Pn	07 49 47.1	-0.3
	baz=14,SNR=5.1							
CTA	**Charters Tower**	**21.34**	**244**	P		**P**	**07 50 00.2**	**+1.1**
CTA	**Charters Tower**	**21.34**	**244**	P		**P**	**07 50 00.2**	**+1.1**
	9.7nm,0.9s,baz=69,slow=13,SNR=13							
CTAO	**Charters Tower**	**21.34**	**244**	*e*P		**P**	**07 50 00.3**	**+1.3**
	12nm,0.9s							
RMQ	**Roma**	**22.43**	**226**	P		**P**	**07 50 11.6**	**+0.8**
	baz=16,SNR=6.9							
MTSU	**Mount Surprise**	**22.52**	**251**	P		**P**	**07 50 13.9**	**+2.0**
	baz=16,SNR=6.3							
ARMA	**Armidale**	**23.33**	**214**	*e*P		**P**	**07 50 19.2**	**-1.0**
	16nm,1.0s							
ARMA	**Armidale**	**23.33**	**214**	P		**P**	**07 50 21.2**	**+1.0**
	baz=18,SNR=5.2							
STKA	**Stephens Creek**	**30.66**	**225**	*e*P		**P**	**07 51 25.8**	**-0.6**
	0.6nm,0.7s							
STKA	**Stephens Creek**	**30.66**	**225**	P		**P**	**07 51 26.3**	**-0.1**
	baz=24,SNR=5.6							
STKA	**Stephens Creek**	**30.66**	**225**	P		**P**	**07 51 25.8**	**-0.6**
	3.1nm,0.8s,baz=39,slow=8.5,SNR=7.6							
STKA				LR		LR	08 02 39.8	
	comp=Z,106nm,18.3s,baz=26,slow=34							
WRAB	**Tennant Creek**	**32.12**	**251**	*e*P		**P**	**07 51 38.7**	**-0.7**
	7.7nm,1.2s							
WRA	**Warramunga Arr**	**32.13**	**251**	P		**P**	**07 51 38.4**	**-1.1**
WRA	**Warramunga Arr**	**32.13**	**251**	P		**P**	**07 51 38.4**	**-1.1**
	0.3nm,0.3s,baz=58,slow=7.0,SNR=8.0							
AS31	**Alice Springs**	**33.34**	**244**	*e*P		**P**	**07 51 48.8**	**-1.3**
ASAR	**Alice Springs**	**33.34**	**244**	P		**P**	**07 51 48.5**	**-1.6**
ASAR	**Alice Springs**	**33.34**	**244**	P		**P**	**07 51 48.5**	**-1.6**
	5.0nm,0.8s,baz=74,slow=9.6,SNR=62							
FITZ	**Fitzroy Crossi**	**40.10**	**256**	*e*P		**P**	**07 52 48.3**	**+0.6**
	4.1nm,0.8s							
FITZ	**Fitzroy Crossi**	**40.10**	**256**	P		**P**	**07 52 48.5**	**+0.8**
	baz=34,SNR=4.2							
FITZ	**Fitzroy Crossi**	**40.10**	**256**	P		**P**	**07 52 48.3**	**+0.6**
	2.0nm,0.9s,baz=86,slow=5.5,SNR=7.2							
MBWA	**Marble Bar**	**45.86**	**252**	*e*P		**P**	**07 53 34.2**	**-0.2**
	18nm,1.1s							
MEEK	**Meekatharra**	**47.50**	**245**	P		**P**	**07 53 46.6**	**-0.7**
	baz=41,SNR=8.3							
VNDA	**Vanda**	**65.94**	**181**	*e*P		**P**	**07 55 55.6**	**-1.9**
	1.8nm,1.0s							
SBA	**Scott Base**	**66.23**	**180**	*e*P		**P**	**07 55 58.0**	**-1.4**
	1.5nm,0.8s							
QSPA	**South Pole Qui**	**78.39**	**180**	*e*P		P	07 57 09.1	-3.3
	1.3nm,0.6s							
ILAR	**Eielson Array**	**83.77**	**18**	P		**P**	**07 57 42.0**	**+1.2**
ILAR	**Eielson Array**	**83.77**	**18**	P		**P**	**07 57 42.0**	**+1.2**
	1.1nm,0.6s,baz=241,slow=5.0,SNR=29							
MKAR	**Makanchi Array**	**94.54**	**317**	P		**P**	**07 58 33.1**	**+0.5**
MKAR	**Makanchi Array**	**94.54**	**317**	P		**P**	**07 58 33.1**	**+0.5**
	0.2nm,0.3s,baz=84,slow=6.5,SNR=8.9							
ARCES	**ARCESS Array B**	**117.10**	**346**	PKP		**PKPdf**	**08 03 55.2**	**-1.2**
ARCES	**ARCESS Array B**	**117.10**	**346**	PKP		**PKPdf**	**08 03 55.2**	**-1.2**
	0.9nm,0.5s,baz=348,slow=3.8,SNR=5.4							

IDC 16 07:47:47.2±8.0, 15.71S×172.75W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.6/21, mbtmp3.5/4, ML1.1/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/26, Error ellipse: s-maj=323.0km s-min=25.7km az=136.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.03**	**28**	Pn	Pn	Pn	07 48 21.2	-1.6
	3.7nm,0.3s,baz=205,slow=15,SNR=4.2							
AFI				Sn	Sn		07 48 46.0	-2.9
	9.4nm,0.3s,baz=201,slow=10,SNR=4.9							
AFI				LR	LR		07 48 51.8	
	comp=Z,738nm,19.9s,baz=149,slow=32							
WRA	**Warramunga Arr**	**50.38**	**257**	P	P		07 56 46.6	0.0
	0.4nm,0.9s,baz=95,slow=8.3,SNR=3.5							
ASAR	**Alice Springs**	**50.61**	**252**	P	P		07 56 47.6	-0.7
	0.4nm,0.6s,baz=89,slow=7.8,SNR=6.8							
ILAR	**Eielson Array**	**82.63**	**11**	P	P		08 00 13.2	+1.2
	0.6nm,0.9s,baz=228,slow=6.9,SNR=4.4							

*ECX **16** 07:52:35.2±0.2, 30.10N×113.97W, h4km, MD4.2, ML4.6*
*ISCJB **16** 07:52:36.7±0.8, 29.97N±0.07×114.10W±0.03, h10km, mb4.1/3, MS3.9/8, Error ellipse: s-maj=9.9km s-min=3.7km az=12.5*
*NEIC **16** 07:52:41.5±1.3, 30.11N×113.86W, h10km, mb4.1/12, Error ellipse: s-maj=16.4km s-min=6.7km az=202.0*
*IDC **16** 07:52:43.2±2.4, 30.58N×113.73W, h0km, mb4.2/3, mb1 4.0/10, mb1mx3.8/30, mbtmp3.7/10, ML3.5/7, MS3.8/15, Ms1 3.8/15, ms1mx3.6/48, Error ellipse: s-maj=41.2km s-min=12.5km az=35.0*

ISC 16 07:52:38.8±1.1, 29.97N±0.09×114.22W±0.05, h10km, n98, σ1§75/88, mb4.1/3, MS3.9/8, 3C-1D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**1.52**	**315**	*e*P	Pn		07 53 03.0	-3.4
SPX				*e*S	**Sn**		**07 53 24.8**	**-1.6**
SPX				⇓*e*			07 53 33.5	
	comp=N,4μm,1.1s							
ECBX	**El Chinero**	**1.66**	**335**	*e*P	Pn		07 53 02.1	-5.9
ECBX				*e*S	**Sn**		**07 53 24.3**	**-5.1**
EMX	**El Mayor**	**2.20**	**337**	*e*P	Pn		07 53 10.2	-5.2
EMX				*e*S	**Sn**		**07 53 38.8**	**-3.8**
EMX				⇑*e*			07 54 32.5	
	comp=N,3μm,1.2s							
ZAX	**El Zacaton**	**2.35**	**312**	*e*P	**Pn**		**07 53 15.6**	**-2.0**
RDX	**Rancho Dawling**	**2.45**	**323**	*e*P	**Pn**		**07 53 16.7**	**-2.4**
RDX				*e*S	**Sn**		**07 53 49.0**	**-0.2**
RDX				⇑*e*			07 54 10.2	
	comp=N,3μm,0.9s							
ECNX	**Esteban Cantu**	**2.65**	**310**	*e*P	**Pn**		**07 53 19.8**	**-1.9**
ECNX				*e*S	**Sn**		**07 53 54.7**	**+0.7**
PBX	**Punta Banda**	**2.79**	**310**	*e*P	**Pn**		**07 53 21.8**	**-1.8**
GLA	**Glamis**	**3.12**	**351**	*e*Pn	Pn		07 53 23.4	-4.8
CBX	**Cerro Bola**	**3.14**	**319**	*e*P	**Pn**		**07 53 26.2**	**-2.3**
CBX				⇑*e*			07 54 29.1	
	comp=N,2μm,0.8s							
BAR	**Barrett**	**3.42**	**323**	*e*Pn	**Pn**		**07 53 29.7**	**-2.6**
TUC	**Tucson**	**3.76**	**51**	*e*Pn	Pn		07 53 33.0	-4.0
PFO	**Pinyon Flat Ob**	**4.10**	**333**	*e*Pn	Pn		07 53 38.1	-3.6
PFO				Lg	Lg		07 54 41.0	
PFO	**Pinyon Flat Ob**	**4.10**	**333**	Pn	Pn		07 53 38.3	-3.4
	comp=N,0.4nm,0.3s,baz=144,slow=13,SNR=7.0							
PFO				Lg	Lg		07 54 41.0	
	comp=N,3.8nm,0.3s,baz=76,slow=18,SNR=3.7							
PFO				LR	LR		07 55 21.2	
	comp=N,2μm,18.5s,baz=176,slow=42							
LDFC	**Landfair**	**5.15**	**352**	*e*Pn	**Pn**		**07 53 55.0**	**-1.1**
MWC	**Mount Wilson**	**5.35**	**323**	*e*Pn	**Pn**		**07 53 58.7**	**-0.2**
MWC				*e*Pg	Pb		07 54 16.2	+3.7
GSC	**Goldstone**	**5.75**	**338**	*e*Pn	Pn		07 54 08.7	+4.3
GSC				*e*Pg	**Pg**		**07 54 28.8**	**-0.2**
OSI	**Osito Adit**	**6.00**	**322**	*e*Pn	**Pn**		**07 54 10.1**	**+2.4**
	comp=N,34nm,0.8s							
WUAZ	**Wupatki**	**6.03**	**23**	*e*Pn	**Pn**		**07 54 05.3**	**-2.9**
	comp=N,33nm,0.8s							
SHPR	**Sheep Range**	**6.57**	**353**	*e*Pn	**Pn**		**07 54 12.9**	**-2.7**
LPIG	**La Paz**	**6.80**	**148**	LR	LR		07 57 03.0	
	comp=N,816nm,21.3s,baz=140,slow=36							
LENM	**Lemitar**	**7.44**	**54**	*e*Pn	**Pn**		**07 54 25.4**	**-2.2**
LENM				*e*Sg	**Sg**		**07 56 41.0**	**+3.4**
LAZ	**Ladron**	**7.45**	**52**	*e*Pn	**Pn**		**07 54 25.8**	**-2.0**
	comp=N,11nm,1.3s							
CCUT	**Cedar City**	**7.60**	**5**	*e*Pn	**Pn**		**07 54 28.4**	**-1.4**
BNM	**Barren Site**	**7.67**	**55**	*e*Pn	**Pn**		**07 54 28.8**	**-2.1**
	comp=N,3.2nm,0.3s							
LPM	**Los Pinos Moun**	**7.75**	**54**	*e*Pn	**Pn**		**07 54 28.9**	**-3.1**
LPM				*e*Sb	**Sg**		**07 56 49.6**	**+1.8**
MNTX	**Cornudas Mount**	**7.79**	**75**	*e*Pn	**Pn**		**07 54 31.4**	**-0.9**
	comp=N,11nm,1.3s							
MTUM	**Tungsten Hills**	**8.21**	**335**	*e*Pn	**Pn**		**07 54 37.5**	**-0.6**
MTUM				*e*Sb	**Sg**		**07 57 04.1**	**+1.8**
ANMO	**Albuquerque**	**8.22**	**51**	*e*Pn	**Pn**		**07 54 36.0**	**-2.4**
	comp=N,6.8nm,1.0s							
ANMO				Sn	Sn		07 56 03.0	-8.4
ANMO				Lg	Lg		07 56 53.3	
ANMO	**Albuquerque**	**8.22**	**51**	Pn	**Pn**		**07 54 35.9**	**-2.6**
	comp=N,0.3nm,0.3s,baz=227,slow=13,SNR=11							
ANMO				Sn	Sn		07 56 03.0	-8.4
	comp=N,0.1nm,0.3s,baz=274,slow=16,SNR=2.7							
ANMO				Lg	Lg		07 56 53.3	
	comp=N,0.6nm,0.3s,baz=43,slow=19,SNR=3.1							
ANMO				LR	LR		07 57 38.0	
	comp=N,377nm,18.0s,baz=238,slow=39							
R11A	**Troy Canyon, C**	**8.44**	**353**	*e*Pn	**Pn**		**07 54 39.6**	**-1.7**
MVCO	**Mesa Verde**	**8.66**	**32**	*e*Pn	**Pn**		**07 54 43.8**	**-0.6**
MVU	**Marysvale**	**8.68**	**10**	*e*Pn	**Pn**		**07 54 44.7**	**+0.1**
NVAR	**Mina Array Bea**	**9.09**	**339**	Pn	**Pn**		**07 54 52.3**	**+2.0**
NVAR				Lg	Lg		07 57 23.4	
NVAR	**Mina Array Bea**	**9.09**	**339**	Pn	**Pn**		**07 54 52.3**	**+2.0**
	comp=N,0.1nm,0.3s,baz=160,slow=16,SNR=12							
NVAR				Lg	Lg		07 57 23.4	
	baz=166,slow=34,SNR=2.3							
NVAR				LR	LR		07 58 20.6	
	comp=N,402nm,19.8s,baz=321,slow=39							
TXAR	**Lajitas Array**	**9.20**	**91**	Pn	**Pn**		**07 54 53.0**	**+1.3**
TXAR				Sn	**Sn**		**07 56 34.0**	**-1.5**
TXAR				Lg	Lg		07 57 26.9	
TXAR	**Lajitas Array**	**9.20**	**91**	Pn	**Pn**		**07 54 53.0**	**+1.3**
	comp=N,0.5nm,0.3s,baz=266,slow=16,SNR=14							
TXAR				Sn	**Sn**		**07 56 34.0**	**-1.5**
	comp=N,0.2nm,0.3s,baz=284,slow=13,SNR=2.6							
TXAR				Lg	Lg		07 57 26.9	
	comp=N,0.3nm,0.3s,baz=278,slow=19,SNR=4.4							
PV01	**Paradox Valley**	**9.40**	**28**	*e*Pn	**Pn**		**07 54 53.0**	**-1.5**
	comp=N,784nm,0.9s							
PV04	**Paradox Valley**	**9.49**	**26**	*e*Pn	**Pn**		**07 54 55.1**	**-0.6**
WAKR	**Walker**	**9.55**	**335**	*e*Pn	Pn		07 55 01.0	+4.5
SRU	**San Rafael**	**9.62**	**17**	*e*Pn	**Pn**		**07 54 57.0**	**-0.5**
TMUT	**Trail Mountain**	**9.63**	**14**	*e*Pn	**Pn**		**07 54 57.0**	**-0.8**
	comp=N,4.0nm,0.8s							
DUG	**Dugway**	**10.27**	**6**	*e*Pn	**Pn**		**07 55 07.4**	**+1.0**
MSTX	**Muleshoe**	**10.51**	**65**	*e*Pn	Pn		07 55 15.3	+5.7
DAU	**Daniels Canyon**	**10.70**	**12**	*e*Pn	**Pn**		**07 55 13.4**	**+1.0**
	comp=N,7.0nm,1.1s							
ELK	**Elko**	**10.79**	**356**	Pn	**Pn**		**07 55 11.7**	**-1.9**
ELK	**Elko**	**10.79**	**356**	Pn	**Pn**		**07 55 11.7**	**-1.9**
	comp=N,0.2nm,0.3s,baz=126,slow=14,SNR=5.9							
ELK				LR	LR		07 59 33.5	
	comp=N,294nm,19.0s,baz=179,slow=40							
BEKR	**Beckworth**	**11.08**	**335**	*e*Pn	**Pn**		**07 55 19.8**	**+2.2**
	comp=N,15nm,1.7s							
MOD	**Modoc**	**12.88**	**339**	*e*Pn	**Pn**		**07 55 44.9**	**+2.7**
	comp=N,191nm,1.7s							
PDAR	**Pinedale Array**	**13.31**	**15**	Pn	**Pn**		**07 55 48.0**

0.3nm,0.5s,baz=33,slow=2.2,SNR=4.3

*ISCJB **16** 08:27:47.3±0.6, 17°.98S±0°.07×178°.56W±0°.05, h564km±8km, mb4.4/63, Error ellipse: s-maj=11.6km s-min=4.9km az=147.5*
*IDC **16** 08:27:47.1±1.4, 17°.92S×178°.49W, h552km±17km, mb3.8/16, mb1 4.0/18, mb1mx3.8/25, mbtmp4.7/18, Error ellipse: s-maj=14.7km s-min=10.8km az=146.0*
*BJI **16** 08:27:48.6, 17°.90S×178°.50W, h568km, mb5.0/1, mb4.8/5*
*NEIC **16** 08:27:48.7±0.5, 17°.93S×178°.56W, h570km±6km, mb4.4/47, Error ellipse: s-maj=9.7km s-min=4.7km az=143.0*
*AUST **16** 08:27:49.5±0.4, 17°.93S×178°.50W, h576km±4km, Error ellipse: s-maj=7.2km s-min=6.4km az=21.0*

ISC 16 08:27:48.3±0.5, 18°.00S±0°.07×178°.42W±0°.06, h568km±5km, n139, σ1§13/160, mb4.4/63, 10C-18D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
MSVF	**Nonsavu**	**3.37**	**274**	*e*Pn		**P**	**08 29 09.0**	**+1.8**
AFI	**Afiamalu**	**7.58**	**58**	*e*Pn		**P**	**08 29 41.3**	**-1.4**
AFI				S		**S**	**08 31 13.7**	**-2.5**
AFI	**Afiamalu**	**7.58**	**58**	P		**P**	**08 29 41.2**	**-1.4**
	23nm,0.3s,baz=27,slow=5.1,SNR=17							
AFI				S		**S**	**08 31 13.7**	**-2.5**
	2.1nm,0.3s,baz=131,slow=20,SNR=2.7							
NIUE	**Niue**	**8.13**	**99**	⇓P		**P**	**08 29 49.3**	**+1.5**
	baz=8.2,SNR=10							
DZM	**Mont Dzumac**	**14.79**	**252**	*e*Pn		**P**	**08 30 54.8**	**-0.6**
	48nm,0.7s							
DZM	**Mont Dzumac**	**14.79**	**252**	P		**P**	**08 30 55.2**	**-0.1**
	4.2nm,0.3s,baz=79,slow=15,SNR=76							
URZ	**Urewera**	**20.56**	**190**	*e*P		**P**	**08 31 48.4**	**+0.1**
	14nm,0.5s							
URZ				S		**S**	**08 35 00.7**	**-1.7**
URZ	**Urewera**	**20.56**	**190**	P		**P**	**08 31 47.1**	**-1.2**
	10nm,0.8s,baz=333,slow=2.3,SNR=4.1							
URZ				S		**S**	**08 35 00.7**	**-1.7**
	6.6nm,0.9s,baz=0.0,slow=20,SNR=2.3							
KHZ	**Kahutara**	**25.28**	**194**	*e*P		**P**	**08 32 30.3**	**0.0**
	7.2nm,0.6s							
RPZ	**Rata Peaks**	**27.13**	**197**	P		**P**	**08 32 46.5**	**-0.1**
RPZ	**Rata Peaks**	**27.13**	**197**	P		**P**	**08 32 46.5**	**-0.1**
	5.7nm,0.7s,baz=322,slow=5.1,SNR=3.6							
EIDS	**Eidsvold**	**29.23**	**250**	*e*P		**P**	**08 33 04.8**	**-0.4**
	27nm,0.8s							
EIDS	**Eidsvold**	**29.23**	**250**	P		**P**	**08 33 04.7**	**-0.4**
	baz=29,SNR=7.0							
ARMA	**Armidale**	**29.88**	**240**	*e*P		**P**	**08 33 11.6**	**+0.8**
	26nm,0.7s							
ARMA	**Armidale**	**29.88**	**240**	⇓P		**P**	**08 33 11.1**	**+0.3**
	baz=30,SNR=20							
MGCD	**Mangrove Creek**	**31.23**	**235**	P		**P**	**08 33 23.4**	**+1.2**
	baz=31,SNR=4.5							
RMQ	**Roma**	**31.46**	**249**	⇓P		**P**	**08 33 24.8**	**+0.5**
	baz=31,SNR=26							
CNB	**Canberra Magne**	**33.36**	**232**	P		**P**	**08 33 41.2**	**+0.9**
	baz=33,SNR=48							
CTA	**Charters Tower**	**33.42**	**261**	P		**P**	**08 33 40.2**	**-0.8**
CTA	**Charters Tower**	**33.42**	**261**	⇓P		**P**	**08 33 40.4**	**-0.6**
	baz=33							
CTA	**Charters Tower**	**33.42**	**261**	P		**P**	**08 33 40.2**	**-0.8**
	19nm,0.7s,baz=88,slow=11,SNR=42							
CTAO	**Charters Tower**	**33.42**	**261**	*e*P		**P**	**08 33 40.0**	**-1.0**
	25nm,0.8s							
CAN	**Canberra**	**33.64**	**233**	⇑P		**P**	**08 33 43.4**	**+0.8**
	baz=34							
MILA	**Mila**	**34.21**	**230**	⇓P		**P**	**08 33 48.2**	**+0.7**
	baz=34							
PMG	**Port Moresby**	**34.47**	**280**	*e*P		**P**	**08 33 49.7**	**-0.1**
	70nm,0.9s							
PMG	**Port Moresby**	**34.47**	**280**	P		**P**	**08 33 49.7**	**-0.1**
	64nm,0.9s,baz=81,slow=5.9,SNR=15							
CMSA	**Cobar Meteorol**	**35.09**	**241**	P		**P**	**08 33 54.9**	**+0.2**
	baz=35,SNR=58							
MTSU	**Mount Surprise**	**35.39**	**264**	⇓P		**P**	**08 33 56.7**	**-0.8**
	baz=35							
QLP	**Quilpie**	**35.49**	**249**	P		**P**	**08 33 57.7**	**-0.4**
	baz=35,SNR=43							
COEN	**Coen**	**37.09**	**271**	*e*P		**P**	**08 34 11.2**	**-0.4**
	248nm,0.8s							
COEN	**Coen**	**37.09**	**271**	⇓P		**P**	**08 34 11.1**	**-0.4**
	baz=37,SNR=28							
TOO	**Toolangi**	**37.10**	**231**	⇓P		**P**	**08 34 12.0**	**+0.7**
	baz=37,SNR=19							
STKA	**Stephens Creek**	**38.58**	**241**	*e*P		**P**	**08 34 23.9**	**+0.6**
	12nm,1.0s							
STKA	**Stephens Creek**	**38.58**	**241**	P		**P**	**08 34 23.9**	**+0.6**
	baz=38,SNR=33							
STKA	**Stephens Creek**	**38.58**	**241**	P		**P**	**08 34 23.9**	**+0.6**
	38nm,0.6s,baz=90,slow=9.4,SNR=77							
ARPS	**Mount Arapiles**	**39.59**	**234**	⇑P		**P**	**08 34 31.6**	**+0.3**
	baz=40,SNR=7.5							
HTT	**Hallett**	**41.09**	**240**	⇓P		**P**	**08 34 43.9**	**+0.5**
	baz=41							
JAY	**Jayapura**	**42.92**	**286**	P		**P**	**08 34 58.0**	**-0.1**
	baz=43,SNR=13							
BBOO	**Buckleboo**	**43.35**	**241**	*e*P		**P**	**08 35 01.0**	**-0.1**
	884nm,0.8s							
BBOO	**Buckleboo**	**43.35**	**241**	P		**P**	**08 35 01.1**	**-0.1**
	baz=43,SNR=65							
WRAB	**Tennant Creek**	**44.59**	**260**	*e*P		**P**	**08 35 09.3**	**-1.6**
	15nm,0.6s							
WRA	**Warramunga Arr**	**44.60**	**260**	P		**P**	**08 35 09.4**	**-1.6**
WRA					PcP	**PcP**	**08 36 41.2**	**-0.3**
WRA	**Warramunga Arr**	**44.60**	**260**	P		**P**	**08 35 09.4**	**-1.6**
	19nm,0.8s,baz=96,slow=6.8,SNR=174							
WRA					PcP	**PcP**	**08 36 41.2**	**-0.3**
	2.4nm,0.8s,baz=94,slow=2.6,SNR=4.1							
AS17	**Alice Springs**	**44.67**	**254**	⇓P		**P**	**08 35 11.0**	**-0.6**
	baz=45							
AS15	**Alice Springs**	**44.75**	**254**	⇑P		**P**	**08 35 11.6**	**-0.5**
	baz=45							
AS31	**Alice Springs**	**44.75**	**254**	*e*P		**P**	**08 35 11.3**	**-0.9**
AS12	**Alice Springs**	**44.76**	**254**	⇑P		**P**	**08 35 11.8**	**-0.4**
	baz=45							
ASAR	**Alice Springs**	**44.76**	**254**	P		**P**	**08 35 11.6**	**-0.6**
ASAR					PcP	**PcP**	**08 36 41.8**	**-0.2**
ASAR					ScP	**ScP**	**08 39 42.2**	**+1.7**
ASAR				S		**S**	**08 41 05.6**	**-2.9**
ASAR	**Alice Springs**	**44.76**	**254**	P		**P**	**08 35 11.6**	**-0.6**
	150nm,0.7s,baz=88,slow=8.4,SNR=1938							
ASAR					PcP	**PcP**	**08 36 41.8**	**-0.2**
	3.7nm,0.8s,baz=90,slow=3.9,SNR=4.2							
ASAR					ScP	**ScP**	**08 39 42.2**	**+1.7**
	0.9nm,0.9s,baz=97,slow=4.8,SNR=4.6							
ASAR				S		**S**	**08 41 05.6**	**-2.9**
	1.9nm,1.1s,baz=93,slow=15,SNR=7.2							
KDU	**Kakadu**	**47.55**	**269**	P		**P**	**08 35 32.3**	**-1.0**
	baz=48,SNR=13							
MTN	**Manton Dam**	**48.79**	**269**	⇓P		**P**	**08 35 41.2**	**-1.3**
	baz=49,SNR=6.9							
KNRA	**Kununurra**	**50.47**	**264**	P		**P**	**08 35 53.7**	**-1.1**
	baz=50,SNR=14							
BNDI	**Bandanaira**	**52.24**	**278**	⇑P		**P**	**08 36 06.5**	**-1.2**
	baz=52							
FITZ	**Fitzroy Crossi**	**53.00**	**261**	*e*P		**P**	**08 36 12.6**	**-0.5**
	53nm,1.6s							
FITZ	**Fitzroy Crossi**	**53.00**	**261**	⇓P		**P**	**08 36 12.7**	**-0.3**
	baz=53,SNR=7.1							
FITZ	**Fitzroy Crossi**	**53.00**	**261**	P		**P**	**08 36 12.2**	**-0.8**
	5.5nm,0.8s,baz=106,slow=3.0,SNR=17							
SOEI	**Soe**	**56.06**	**270**	⇓P		**P**	**08 36 35.4**	**+0.8**
	baz=56,SNR=8.6							
MBWA	**Marble Bar**	**58.04**	**256**	*e*P		**P**	**08 36 46.9**	**-1.1**
	16nm,0.8s							
MEEK	**Meekatharra**	**58.39**	**249**	P		**P**	**08 36 49.1**	**-1.2**
	baz=58,SNR=12							
KLBR	**Kellerberrin**	**58.78**	**244**	P		**P**	**08 36 51.9**	**-0.9**
	baz=59,SNR=9.2							
NWAO	**Narrogin (SRO)**	**59.16**	**242**	*e*P		**P**	**08 36 54.6**	**-0.7**
	14nm,1.0s							
RKGY	**Rocky Gully**	**59.31**	**240**	⇓P		**P**	**08 36 56.5**	**+0.2**
	baz=59							
BLDU	**Ballidu**	**59.73**	**245**	⇓P		**P**	**08 36 58.3**	**-0.8**
	baz=60,SNR=7.0							
VNDA	**Vanda**	**60.35**	**185**	*e*P		**P**	**08 37 03.8**	**+1.5**
	1.4nm,0.8s							
VNDA	**Vanda**	**60.35**	**185**	P		**P**	**08 37 03.6**	**+1.3**
	1.1nm,0.7s,baz=344,slow=6.5,SNR=7.8							
MORW	**Morawa**	**60.43**	**246**	⇑P		**P**	**08 37 03.0**	**-0.8**
	baz=60,SNR=7.2							
GIRL	**Giralia**	**62.86**	**253**	⇓P		**P**	**08 37 19.2**	**-0.5**
	baz=63,SNR=6.0							
CASY	**Casey**	**66.05**	**205**	*e*P		**P**	**08 37 39.4**	**+0.5**
	13nm,1.1s							
MJAR	**Matsushiro Arr**	**67.98**	**323**	P		**P**	**08 37 49.9**	**-1.4**
MJAR	**Matsushiro Arr**	**67.98**	**323**	P		**P**	**08 37 49.9**	**-1.4**
	0.7nm,0.6s,baz=155,slow=4.0,SNR=4.4							
UGM	**Wanagama**	**69.63**	**268**	⇑P		**P**	**08 38 01.4**	**-0.4**
	baz=70,SNR=4.3							
QSPA	**South Pole Qui**	**72.05**	**180**	*e*P		**P**	**08 38 15.8**	**+0.7**
	11nm,1.0s							
KSM	**Kuching**	**72.69**	**277**	*e*P		**P**	**08 38 19.3**	**-0.3**
	28nm,0.8s							
KSM	**Kuching**	**72.69**	**277**	⇑P		**P**	**08 38 20.0**	**+0.4**
	baz=73,SNR=9.0							
LEM	**Lembang**	**72.70**	**268**	⇑P		**P**	**08 38 20.0**	**+0.1**
	baz=73							
ISA	**Isabella**	**77.89**	**46**	*e*P		**P**	**08 38 49.4**	**+1.2**
	10nm,1.0s							
CMB	**Columbia Colle**	**77.92**	**43**	*e*P		**P**	**08 38 48.9**	**+0.7**
	7.5nm,1.0s							
WAKR	**Walker**	**78.80**	**43**	*e*P		**P**	**08 38 54.2**	**+1.1**
HUMO	**Hull Mountain**	**78.98**	**38**	*e*P		**P**	**08 38 54.5**	**+0.7**
	4.5nm,0.9s							
NVAR	**Mina Array Bea**	**79.50**	**44**	P		**P**	**08 38 57.5**	**+0.6**
NVAR					pP	**pP**	**08 40 56.7**	**-0.4**
NVAR	**Mina Array Bea**	**79.50**	**44**	P		**P**	**08 38 57.5**	**+0.6**
	5.2nm,0.8s,baz=223,slow=9.1,SNR=44							
NVAR					pP	**pP**	**08 40 56.7**	**-0.4**
	0.4nm,0.8s,baz=243,slow=8.0,SNR=2.4							
CN2	**Changchun**	**80.09**	**322**	*e*P		**P**	**08 39 02.3**	**+2.8**
MOD	**Modoc**	**80.17**	**40**	*e*P		**P**	**08 39 00.9**	**+0.7**
	34nm,0.8s							
K05A	**Summer Lake**	**80.28**	**39**	*e*P		**P**	**08 39 02.2**	**+1.4**
	19nm,1.0s							
H04A	**Detroit Lake**	**80.68**	**37**	*e*P		**P**	**08 39 03.1**	**+0.5**
	39nm,1.8s							
PINOR	**Pine Mountain**	**80.92**	**38**	*e*P		**P**	**08 39 05.5**	**+1.7**
	16nm,1.0s							
R11A	**Troy Canyon, C**	**81.27**	**45**	*e*P		**P**	**08 39 07.0**	**+0.9**
	34nm,2.6s							
WVOR	**Wild Horse Val**	**81.49**	**40**	*e*P		**P**	**08 39 07.2**	**+0.3**
	10nm,1.0s							
I07A	**Izee**	**81.89**	**39**	*e*P		**P**	**08 39 10.2**	**+1.2**
	7.6nm,0.8s							
J08A	**Circle Bar Ran**	**82.10**	**40**	*e*P		**P**	**08 39 11.1**	**+1.1**
	10nm,0.9s							
CCUT	**Cedar City**	**82.39**	**47**	*e*P		**P**	**08 39 12.6**	**+0.9**
	6.0nm,0.9s							
ELK	**Elko**	**82.73**	**43**	*e*P		**P**	**08 39 13.9**	**+0.5**
	4.0nm,1.0s							
G08A	**Pilot Rock**	**82.89**	**38**	*e*P		**P**	**08 39 14.8**	**+0.8**
	5.1nm,0.8s							
HAWA	**Hanford**	**83.19**	**37**	*e*P		**P**	**08 39 15.7**	**+0.4**
	14nm,1.1s							
CAST	**Castle Rocks**	**83.72**	**12**	*e*P		**P**	**08 39 15.8**	**-1.8**
MAW	**Mawson**	**83.77**	**200**	*e*P		**P**	**08 39 18.4**	**+0.6**
	0.4nm,0.8s							
MAW	**Mawson**	**83.77**	**200**	P		**P**	**08 39 18.7**	**+0.9**
	baz=84,SNR=5.5							
MAW	**Mawson**	**83.77**	**200**	P		**P**	**08 39 18.3**	**+0.6**
	3.3nm,0.8s,baz=116,slow=6.9,SNR=12							
PSI	**Prapat**	**83.88**	**275**	⇑P		**P**	**08 39 19.0**	**-0.6**
	baz=84							
TRF	**Thorofare Moun**	**84.11**	**12**	*e*P		**P**	**08 39 18.5**	**-1.1**
	9.6nm,0.8s							
F10A	**Beach Ranch, E**	**84.28**	**38**	*e*P		**P**	**08 39 21.0**	**+0.2**
	10nm,0.9s							
B08A	**Colville Reser**	**84.42**	**35**	*e*P		**P**	**08 39 21.4**	**0.0**
	6.8nm,0.9s							
GSI	**Gunungsitoli**	**84.70**	**273**	⇓P		**P**	**08 39 23.5**	**0.0**
	baz=85							
HLID	**Hailey**	**84.71**	**41**	*e*P		**P**	**08 39 24.4**	**+1.3**
	4.6nm,0.8s							
GYA	**Guiyang**	**85.08**	**300**	*e*P		**P**	**08 39 25.4**	**+0.2**
GYA					pP	**pP**	**08 41 28.9**	**+1.4**
GYA					sP	**sP**	**08 42 25.0**	**+0.1**
GYA					PP	**PP**	**08 42 54.3**	**+1.1**
GYA					SKS	**SKSac**	**08 48 53.3**	**-3.0**
GYA					S	**S**	**08 49 07.8**	**-0.3**
GYA					AMB	AMB		
	comp=Z,10.0nm,1.0s							
NEW	**Newport**	**85.59**	**36**	*e*P		**P**	**08 39 27.2**	**+0.1**
	7.0nm,1.1s							
PV10	**Paradox Valley**	**85.79**	**48**	*e*P		**P**	**08 39 28.6**	**+0.1**
	65nm,0.8s							
COLA	**College**	**85.87**	**13**	*e*P		**P**	**08 39 26.6**	**-1.3**
	21nm,1.0s							
ILAR	**Eielson Array**	**85.98**	**13**	P		**P**	**08 39 27.2**	**-1.3**
ILAR	**Eielson Array**	**85.98**	**13**	P		**P**	**08 39 27.2**	**-1.3**
	1.6nm,0.7s,baz=226,slow=5.1,SNR=17							
TXAR	**Lajitas Array**	**86.06**	**58**	P		**P**	**08 39 31.5**	**+1.7**
TXAR	**Lajitas Array**	**86.06**	**58**	P		**P**	**08 39 31.5**	**+1.7**
	5.3nm,0.8s,baz=214,slow=6.1,SNR=33							
ANMO	**Albuquerque**	**86.17**	**52**	*e*P		**P**	**08 39 30.8**	**+0.5**
	4.2nm,1.0s							
RRI2	**Red Ridge**	**86.56**	**42**	*e*P		**P**	**08 39 33.1**	**+1.1**
	9.5nm,0.8s							
DLMT	**Dillon**	**86.74**	**40**	*e*P		**P**	**08 39 33.7**	**+1.0**
	6.1nm,0.9s							
TPAW	**Teton Pass**	**86.86**	**42**	*e*P		**P**	**08 39 34.1**	**+0.6**
	6.0nm,1.0s							
REDW	**Red Top Meadow**	**86.87**	**42**	*e*P		**P**	**08 39 34.0**	**+0.5**
	8.5nm,1.1s							
SNOW	**Snow King Moun**	**86.98**	**42**	*e*P		**P**	**08 39 34.5**	**+0.5**
	9.7nm,1.0s							
IMW	**Indian Meadow**	**87.06**	**42**	*e*P		**P**	**08 39 35.2**	**+0.7**
	6.8nm,0.9s							
MOOW	**Moose Ponds**	**87.12**	**42**	*e*P		**P**	**08 39 35.4**	**+0.8**
	16nm,1.8s							
LOHW	**Long Hollow**	**87.14**	**42**	*e*P		**P**	**08 39 35.5**	**+0.7**
	6.7nm,1.1s							
FLWY	**Flagg Ranch**	**87.31**	**42**	*e*P		**P**	**08 39 37.0**	**+1.5**
	20nm,1.6s							
HHC	**Hu-ho-hao-te**	**87.33**	**314**	*e*P		P	08 39 38.8	+3.3
HHC					pP	pP	08 41 36.5	-2.3
HHC					SKS	**SKSac**	**08 49 10.5**	**+1.1**
HHC					S	**S**	**08 49 28.3**	**-0.5**
HHC					sS	sS	08 53 01.5	-7.0
HHC					SS	**SS**	**08 55 37.0**	**+5.6**
HHC					AMB	AMB		
	comp=Z,42nm,1.1s							
HHC					AMB	AMB		
	comp=Z,160nm,6.3s							
PDAR	**Pinedale Array**	**87.43**	**43**	P		**P**	**08 39 36.5**	**+0.4**
PDAR	**Pinedale Array**	**87.43**	**43**	P		**P**	**08 39 36.5**	**+0.4**
	3.0nm,0.7s,baz=219,slow=3.2,SNR=28							
COLD	**Coldfoot**	**87.51**	**11**	*e*P		**P**	**08 39 34.9**	**-0.7**
	5.1nm,1.1s							
CMAR	**Chiang Mai Arr**	**88.91**	**290**	P		**P**	**08 39 44.1**	**+0.9**
CMAR	**Chiang Mai Arr**	**88.91**	**290**	P		**P**	**08 39 44.1**	**+0.9**
	2.2nm,0.3s,baz=109,slow=3.4,SNR=5.3							
SYO	**Syowa Base**	**89.06**	**193**	⇓*e*P		**P**	**08 39 41.3**	**-1.6**
CD2	**Chengdu**	**89.11**	**303**	P		**P**	**08 39 44.1**	**+0.1**
CD2					AMB	AMB		
	comp=Z,10.0nm,0.5s							
INK	**Inuvik**	**91.98**	**15**	P		**P**	**08 39 54.8**	**-1.4**
INK	**Inuvik**	**91.98**	**15**	P		**P**	**08 39 54.8**	**-1.4**
	2.3nm,0.8s,baz=244,slow=5.8,SNR=4.2							
MKAR	**Makanchi Array**	**109.19**	**314**	PKiKP		**PKiKP**	**08 45 13.1**	**-1.0**
MKAR	**Makanchi Array**	**109.19**	**314**	PKiKP		**PKiKP**	**08 45 13.1**	**-1.0**
	0.2nm,0.5s,baz=246,slow=0.6,SNR=3.2							
BR131	**Keskin Array S**	**144.84**	**315**	*e*PKPdf		**PKPdf**	**08 46 21.5**	**0.0**
BRTR	**Keskin Array B**	**144.84**	**315**	PKP		**PKPdf**	**08 46 21.4**	**0.0**
BRTR	**Keskin Array B**	**144.84**	**315**	PKP		**PKPdf**	**08 46 21.4**	**0.0**
	2.8nm,0.9s,baz=113,slow=1.6,SNR=11							
TORD	**Torodi Ar. Bea**	**175.17**	**181**	PKPab		**PKPab**	**08 48 34.3**	**+0.4**
TORD	**Torodi Ar. Bea**	**175.17**	**181**	PKPab		**PKPab**	**08 48 34.3**	**+0.4**
	0.3nm,0.6s,baz=171,slow=3.1,SNR=2.6							

*MOS **16** 08:41:54.0±0.9, 5°.82N×126°.89E, h77km, mb4.8/18, Error ellipse: s-maj=22.1km s-min=7.6km az=111.5*
*AUST **16** 08:41:57.0, 6°.00N×127°.01E, h100km*
*MAN **16** 08:41:58, 5°.92N×127°.11E, h109km, mb5.4, ML4.3, MS4.6*
*DJA **16** 08:41:58.6±0.8, 6°N±6°×12°7E±°, h10km, M4.8/6, mb5.0/2, mb5.1/6, MLv4.7/2, Mw(mB)4.3/2*
*BJI **16** 08:41:58.2, 5°.57N×126°.93E, h125km, mb5.0/14, mb4.8/24*
*ISCJB **16** 08:41:58.5±0.5, 5°.80N±0°.03×127°.02E±0°.05, h116km±4km, mb4.5/55, Error ellipse: s-maj=8.7km s-min=3.8km az=166.9*
*IDC **16** 08:41:59.8±2.0, 5°.79N×126°.92E, h113km±18km, mb4.0/22, mb1 4.1/23, mb1mx4.1/30, mbtmp4.4/23, Error ellipse: s-maj=19.8km s-min=8.4km az=85.0*
*NEIC **16** 08:42:00.7±0.8, 5°.78N×126°.91E, h122km±8km, mb4.6/13, Error ellipse: s-maj=11.5km s-min=5.0km az=76.0*
ISC 16 08:42:00.9±0.5, 5°.80N±0°.04×126°.94E±0°.06, h122km±3km, h122km:pP-P, n145, σ1§57/196, mb4.5/55, 13C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
MATI	**Mati**	**1.33**	**329**	*e*P		**Pn**	**08 42 24.4**	**-2.2**
MATI				*e*S		**Sn**	**08 42 42.9**	**-3.2**
DAV	**Davao City (W)**	**1.85**	**313**	P		**Pn**	**08 42 32.6**	**-0.1**
DAV	**Davao City (W)**	**1.85**	**313**	*e*Pn		**Pn**	**08 42 32.6**	**-0.1**
DMPH	**Davao City--Mi**	**1.91**	**312**	⇑*i*P		**Pn**	**08 42 31.9**	**-1.5**
DMPH				*e*S		**Sn**	**08 42 57.6**	**-0.6**
GSPH	**General Santos**	**2.00**	**278**	*e*P		Pn	08 42 31.0	-3.6
GSPH				*e*S		**Sn**	**08 42 55.3**	**-5.1**
KCP	**Kidapawan**	**2.20**	**303**	⇑*i*P		**Pn**	**08 42 35.7**	**-1.3**
KCP				*i* S		**Sn**	**08 43 03.3**	**-1.4**
BIPH	**Bislig**	**2.44**	**346**	⇑*e*P		**Pn**	**08 42 38.3**	**-1.8**
BIPH				*e*S		Sn	08 43 03.7	-6.4
SGSI	**Sangihe**	**2.53**	**214**	P		**Pn**	**08 42 40.2**	**-1.0**
BUKP	**Musuan**	**2.78**	**318**	*e*P		**Pn**	**08 42 43.8**	**-0.7**
CTBH	**Cotabato--PC H**	**3.03**	**298**	⇓*e*P		**Pn**	**08 42 48.8**	**+1.1**
CTBH				*i* S		**Sn**	**08 43 22.6**	**-1.1**
CGP	**Cagayan de Oro**	**3.45**	**320**	⇑*i*P		**Pn**	**08 42 52.2**	**-1.0**
CGP				*i* S		**Sn**	**08 43 33.6**	**-0.2**
PAGZ	**Pagadian**	**4.08**	**300**	*e*P		**Pn**	**08 43 01.1**	**-0.5**
TNTI	**Ternate**	**5.01**	**175**	P		**Pn**	**08 43 13.5**	**-0.6**
TNTI	**Ternate**	**5.01**	**175**	*e*Pn		**Pn**	**08 43 13.3**	**-0.9**
KMSI	**Cibinong**	**5.97**	**210**	P		**Pn**	**08 43 27.1**	**+0.1**
	370nm,0.7s							
MRSI	**Marisa**	**7.27**	**224**	P		**Pn**	**08 43 44.2**	**-0.4**
	145nm,0.7s,1μm							
LUWI	**Luwuk**	**7.97**	**212**	P		**Pn**	**08 43 54.8**	**+0.8**
LUWI	**Luwuk**	**7.97**	**212**	P		**Pn**	**08 43 55.2**	**+1.2**
	baz=8.2,SNR=4.8							
APSI	**Ampana**	**8.50**	**219**	P		**Pn**	**08 44 01.5**	**+0.2**
AAI	**Ambon**	**9.51**	**172**	P		**Pn**	**08 44 13.0**	**-1.8**
TTSI	**Tana Toraja**	**11.30**	**219**	P		**Pn**	**08 44 38.8**	**-0.1**
SPSI	**Sidrap Palu**	**12.05**	**217**	P		**Pn**	**08 44 46.8**	**-2.1**
KAPI	**Kappang**	**12.92**	**214**	P		**Pn**	**08 44 57.7**	**-2.4**
	33nm,0.8s							
KAPI	**Kappang**	**12.92**	**214**	*e*Pn		**Pn**	**08 44 57.2**	**-2.9**
KAPI	**Kappang**	**12.92**	**214**	P		**Pn**	**08 44 57.3**	**-2.8**
	1.4nm,0.3s,baz=31,slow=8.3,SNR=12							
SBUM	**Sibu**	**15.05**	**258**	P		**P**	**08 45 30.6**	**+0.8**
	43nm,0.8s,373nm							
SBUM	**Sibu**	**15.05**	**258**	*e*P		**P**	**08 45 31.1**	**+1.3**
	31nm,0.8s							
SOEI	**Soe**	**15.68**	**190**	P		**P**	**08 45 39.7**	**+2.9**
	70nm,0.7s							
SOEI	**Soe**	**15.68**	**190**	P		P	08 45 43.1	+6.2
	baz=16,SNR=4.0							
BATI	**Baumata**	**16.23**	**192**	P		**P**	**08 45 46.5**	**+3.7**
BATI	**Baumata**	**16.23**	**192**	P		**P**	**08 45 43.8**	**+0.9**
BATI	**Baumata**	**16.23**	**192**	P		**P**	**08 45 43.8**	**+0.9**
	8.7nm,0.3s,baz=328,slow=2.8,SNR=8.3							
MTN	**Manton Dam**	**18.98**	**167**	P		**P**	**08 46 13.5**	**+0.5**
	baz=19,SNR=6.2							
KDU	**Kakadu**	**19.17**	**163**	P		**P**	**08 46 15.1**	**0.0**
	baz=20,SNR=25							
KNRA	**Kununurra**	**21.41**	**175**	P		**P**	**08 46 39.1**	**-0.1**
	baz=22,SNR=37							
FITZ	**Fitzroy Crossi**	**23.78**	**183**	*e*P		**P**	**08 47 02.4**	**0.0**
	20nm,1.3s							
FITZ	**Fitzroy Crossi**	**23.78**	**183**	P		**P**	**08 47 03.0**	**+0.5**
	baz=24,SNR=15							
FITZ	**Fitzroy Crossi**	**23.78**	**183**	P		**P**	**08 47 02.0**	**-0.5**
	8.9nm,0.7s,baz=22,slow=7.8,SNR=40							
COEN	**Coen**	**25.39**	**141**	*e*P		**P**	**08 47 16.7**	**-0.5**
	102nm,1.2s							
CBIJ	**Chichi jima**	**25.68**	**33**	P		**P**	**08 47 17.7**	**-1.9**
JCJ	**Chichijima**	**25.68**	**33**	P		**P**	**08 47 17.7**	**-1.9**
	42nm,0.4s,baz=238,slow=6.0,SNR=14							
WRAB	**Tennant Creek**	**26.59**	**164**	*i* P		**P**	**08 47 25

LZH					AMB	AMB			
	comp=Z,170nm,5.0s								
BLDU	**Ballidu**	**37.51**	**195**		P	**P**	**08 49 02.8**	**-0.2**	
	baz=38,SNR=10								
HHC	**Hu-ho-hao-te**	**37.52**	**341**		*e*P	**P**	**08 49 04.8**	**+1.6**	
HHC					pP	**pP**	**08 49 33.3**	**+2.9**	
HHC					PP	**PnPn**	**08 50 38.6**	**+5.0**	
HHC					S	**S**	**08 54 44.8**	**+1.6**	
HHC					sS	**sS**	**08 55 32.5**	**+1.9**	
HHC					SS	**SS**	**08 57 25.4**	**-7.4**	
HHC					ScS	**ScS**	**08 59 00.5**	**-3.2**	
HHC					AMB	AMB			
	comp=Z,46nm,0.8s								
HHC					AMB	AMB			
	comp=Z,220nm,6.5s								
HHC					LR	LR			
	comp=Z,530nm,15.7s								
HHC					LR	LR			
	comp=Z,610nm,15.2s								
HHC					LR	LR			
	comp=Z,260nm,15.1s								
CN2	**Changchun**	**37.87**	**358**		*e*P	**P**	**08 49 07.1**	**+1.2**	
KLBR	**Kellerberrin**	**38.20**	**193**		P	**P**	**08 49 08.8**	**0.0**	
	baz=39,SNR=6.1								
USRK	**Ussuriysk Arra**	**38.50**	**6**		P	**P**	**08 49 12.0**	**+0.8**	
	comp=Z,4.2nm,0.4s,baz=184,slow=7.7,SNR=16								
MDJ	**Mudanjiang**	**38.73**	**3**		P	**P**	**08 49 14.1**	**+1.0**	
MDJ					AMB	AMB			
	comp=Z,8.0nm,0.7s								
MDJ					AMB	AMB			
	comp=Z,37nm,5.4s								
BBOO	**Buckleboo**	**39.36**	**168**		P	**P**	**08 49 18.5**	**0.0**	
	baz=40,SNR=13								
NWAO	**Narrogin (SRO)**	**39.60**	**193**		*e*P	**P**	**08 49 20.7**	**+0.2**	
	comp=Z,9.6nm,0.3s								
NWAO	**Narrogin (SRO)**	**39.60**	**193**		P	**P**	**08 49 20.7**	**+0.2**	
	comp=Z,14nm,0.5s,baz=20,slow=8.0,SNR=19								
STKA	**Stephens Creek**	**39.99**	**160**		*e*P	**P**	**08 49 23.7**	**0.0**	
	comp=Z,2.4nm,0.9s								
STKA	**Stephens Creek**	**39.99**	**160**		P	**P**	**08 49 23.9**	**+0.2**	
	baz=40,SNR=17								
STKA	**Stephens Creek**	**39.99**	**160**		P	**P**	**08 49 23.9**	**+0.1**	
	comp=Z,11nm,0.8s,baz=347,slow=6.8,SNR=20								
ASAJ	**Asahikawa**	**40.57**	**17**		P	**P**	**08 49 29.8**	**+1.4**	
ASAJ	**Asahikawa**	**40.57**	**17**		P	**P**	**08 49 29.8**	**+1.4**	
	comp=Z,5.6nm,0.5s,baz=206,slow=9.3,SNR=11								
RKGY	**Rocky Gully**	**41.28**	**192**		P	**P**	**08 49 35.8**	**+1.6**	
	baz=42,SNR=8.5								
GTA	**Gaotai**	**41.45**	**328**		P	**P**	**08 49 36.5**	**+0.6**	
GTA					pP	**pP**	**08 50 03.3**	**-0.3**	
GTA					sP	**sP**	**08 50 18.8**	**+1.4**	
GTA					S	**S**	**08 55 42.9**	**+0.8**	
GTA					sS	**sS**	**08 56 28.6**	**-1.5**	
GTA					SS	**SS**	**08 58 46.8**	**-4.5**	
GTA					AMB	AMB			
	comp=Z,10.0nm,0.9s								
GTA					AMB	AMB			
	comp=Z,130nm,4.5s								
GTA					LR	LR			
	comp=Z,140nm,15.2s								
GTA					LR	LR			
	comp=Z,89nm,16.2s								
GTA					LR	LR			
	comp=Z,170nm,15.7s								
SONM	**Songino Array**	**45.42**	**341**		P	**P**	**08 50 07.8**	**+0.2**	
SONM					PcP	**PcP**	**08 51 45.3**	**+0.6**	
SONM	**Songino Array**	**45.42**	**341**		P	**P**	**08 50 07.8**	**+0.2**	
	comp=Z,1.2nm,0.4s,baz=151,slow=6.8,SNR=14								
SONM					PcP	**PcP**	**08 51 45.3**	**+0.6**	
	comp=Z,0.4nm,0.6s,baz=131,slow=4.4,SNR=2.8								
TLY	**Talaya**	**49.65**	**341**	*ce*	P	**P**	**08 50 40.9**	**+0.9**	
TLY					pmax	pmax			
	comp=Z,7.0nm,1.2s								
WMQ	**Urumqi**	**51.17**	**324**		*e*P	**P**	**08 50 53.3**	**+1.6**	
WMQ					AMB	AMB			
	comp=Z,10.0nm,0.5s								
WMQ					AMB	AMB			
	comp=Z,130nm,4.4s								
WMQ					LR	LR			
	comp=Z,180nm,6.8s								
WMQ					LR	LR			
	comp=Z,150nm,7.2s								
WMQ					LR	LR			
	comp=Z,46nm,18.0s								
HVS	**Khovu-Aksy**	**52.97**	**334**	*i*	P	**P**	**08 51 05.7**	**+0.8**	
HVS					pmax	pmax			
	comp=Z,21nm,0.6s								
PETK	**Petropavlovsk-**	**53.45**	**23**		P	**P**	**08 51 08.7**	**+0.4**	
PETK	**Petropavlovsk-**	**53.45**	**23**		P	**P**	**08 51 08.7**	**+0.4**	
PETK	**Petropavlovsk-**	**53.45**	**23**		P	**P**	**08 51 08.7**	**+0.4**	
	comp=Z,4.8nm,0.7s,baz=180,slow=5.8,SNR=9.1								
MK31	**Makanchi Array**	**56.00**	**324**	*ce*	P	**P**	**08 51 26.5**	**-0.3**	
MK31					pmax	pmax			
	comp=Z,5.0nm,0.5s								
MK31	**Makanchi Array**	**56.00**	**324**	*e*	P	**P**	**08 51 26.4**	**-0.3**	
MKAR	**Makanchi Array**	**56.00**	**324**	*e*	P	**P**	**08 51 26.8**	**0.0**	
MKAR							08 52 24.2		
MKAR	**Makanchi Array**	**56.00**	**324**	*e*	P	**P**	**08 51 26.8**	**0.0**	
MKAR					PcP	**PcP**	**08 52 24.2**	**+0.5**	
MKAR	**Makanchi Array**	**56.00**	**324**		P	**P**	**08 51 26.8**	**0.0**	
	comp=Z,6.7nm,0.6s,baz=123,slow=8.3,SNR=96								
MKAR					PcP	**PcP**	**08 52 24.2**	**+0.5**	
	comp=Z,0.5nm,0.6s,baz=108,slow=4.0,SNR=3.9								
YAK	**Yakutsk**	**56.15**	**2**	⇑	*i*P	**P**	**08 51 27.2**	**-0.3**	
YAK					pmax	pmax			
	comp=Z,24nm,0.7s								
KSH	**Kashi**	**56.75**	**314**		P	**P**	**08 51 34.8**	**+2.4**	
KSH					pP	**pP**	**08 52 05.1**	**+3.5**	
KSH					sP	sP	08 52 20.4	+5.3	
KSH					PP	**PP**	**08 53 43.9**	**+4.0**	
KSH					S	**S**	**08 59 16.4**	**+0.4**	
KSH					ScS	**ScS**	**09 01 05.4**	**-4.7**	
KSH					SS	**SS**	**09 03 09.3**	**+3.5**	
KSH					AMB	AMB			
	comp=Z,11nm,1.3s								
KSH					AMB	AMB			
	comp=Z,170nm,5.4s								
KSH					LR	LR			
	comp=Z,64nm,5.3s								
KSH					LR	LR			
	comp=Z,56nm,6.4s								
KSH					LR	LR			
	comp=Z,70nm,5.7s								
TKM2	**Tokmak 2**	**58.36**	**318**		*e*P	**P**	**08 51 43.8**	**+0.1**	
TKM2					pmax	pmax			
	comp=Z,3.0nm,0.8s								
TKM2	**Tokmak 2**	**58.36**	**318**		*e*P	**P**	**08 51 43.8**	**+0.1**	
	comp=Z,3.2nm,0.8s								
ZAA0	**Zalesovo Array**	**58.86**	**332**		*e*P	**P**	**08 51 45.6**	**-1.1**	
ZALV	**Zalesovo Beam**	**58.86**	**332**		*i* P	**P**	**08 51 46.2**	**-0.4**	
ZALV					pmax	pmax			
	comp=Z,1.0nm,0.3s								
ZALV	**Zalesovo Beam**	**58.86**	**332**		P	**P**	**08 51 45.9**	**-0.8**	
ZALV	**Zalesovo Beam**	**58.86**	**332**		P	**P**	**08 51 45.9**	**-0.8**	
	comp=Z,1.1nm,0.3s,baz=124,slow=6.3,SNR=8.0								
AAK	**Ala-Archa**	**58.98**	**317**	⇓	*i* P	**P**	**08 51 48.5**	**+0.5**	
AAK					pmax	pmax			
	comp=Z,6.0nm,1.3s								
AAK	**Ala-Archa**	**58.98**	**317**		P	**P**	**08 51 48.8**	**+0.8**	
AAK	**Ala-Archa**	**58.98**	**317**		P	**P**	**08 51 48.8**	**+0.8**	
	comp=Z,1.2nm,0.5s,baz=150,slow=14,SNR=2.9								
EKS2	**Erkin-Say**	**59.48**	**317**		*e*P	**P**	**08 51 51.9**	**+0.5**	
EKS2					pmax	pmax			
	comp=Z,5.0nm,0.9s								
EKS2	**Erkin-Say**	**59.48**	**317**		*e*P	**P**	**08 51 51.9**	**+0.5**	
	comp=Z,5.0nm,0.9s								
KURK	**Kurchatov**	**60.13**	**327**	*ce*	P	**P**	**08 51 55.2**	**-0.2**	
KURK					pmax	pmax			
	comp=Z,23nm,1.2s								
KURK	**Kurchatov**	**60.13**	**327**		*e*P	**P**	**08 51 55.4**	**0.0**	
	comp=Z,30nm,1.1s								
KK31	**Karatay Array**	**61.88**	**316**		*i* P	**P**	**08 52 05.8**	**-1.7**	
VOSK	**Vostochnaya**	**65.27**	**326**		*e*P	**P**	**08 52 29.0**	**-0.5**	
VOSK	**Vostochnaya**	**65.27**	**326**		*e*P	**P**	**08 52 29.0**	**-0.5**	
BVA0	**Borovoye Array**	**65.72**	**326**		*i* P	**P**	**08 52 32.6**	**+0.2**	
BVA0					pmax	pmax			
	comp=Z,12nm,0.9s								
TIXI	**Tiksi**	**65.78**	**1**	*ce*	P	**P**	**08 52 32.1**	**-0.4**	
TIXI					pmax	pmax			
	comp=Z,7.0nm,1.2s								
BRVK	**Borovoye**	**65.79**	**326**	*ce*	P	**P**	**08 52 32.8**	**-0.1**	
BRVK					pmax	pmax			
	comp=Z,23nm,1.0s								
BRVK	**Borovoye**	**65.79**	**326**		*e*P	**P**	**08 52 32.9**	**0.0**	
	comp=Z,16nm,0.8s								
AB31	**Akbulak array**	**70.70**	**320**	*ce*	P	**P**	**08 53 03.0**	**-0.5**	
AB31					pmax	pmax			
	comp=Z,4.0nm,0.6s								
ABKAR	**Akbulak array**	**70.70**	**320**	*e*	P	**P**	**08 53 03.2**	**-0.3**	
ARU	**Arti**	**73.31**	**327**	*c i*	P	**P**	**08 53 18.3**	**-0.7**	
ARU					*PP	**pP**	**08 53 46.5**	**-3.1**	
ARU					S	**SKiKP**	**09 02 38.8**	**+0.6**	
ARU					SS	**SS**	**09 07 25.7**	**+3.7**	
ARU					pmax	pmax			
	comp=Z,10.0nm,1.7s								
IMA2	**Indian Mountai**	**80.42**	**24**		*e*P	**P**	**08 53 59.8**	**+0.9**	
ZEI	**Tsey**	**80.98**	**312**		*e*P	**P**	**08 54 01.5**	**-1.0**	
ZEI					pmax	pmax			
	comp=Z,6.0nm,1.0s								
KIV	**Kislovodsk**	**81.87**	**313**	⇓	*e*P	**P**	**08 54 06.6**	**-0.4**	
KIV					*e*PP	pP	08 54 32.1	-6.0	
KIV					*e*S	**S**	**09 04 09.3**	**-1.4**	
KIV					pmax	pmax			
	comp=Z,10.0nm,1.2s								
ILAR	**Eielson Array**	**83.16**	**26**		P	**P**	**08 54 11.8**	**-1.2**	
ILAR	**Eielson Array**	**83.16**	**26**		P	**P**	**08 54 11.8**	**-1.2**	
	comp=Z,0.7nm,0.7s,baz=246,slow=4.6,SNR=11								
KLMR	**Klimovskoe**	**83.72**	**331**		*e*P	**P**	**08 54 14.9**	**-1.1**	
KLMR					pmax	pmax			
	comp=Z,13nm,1.1s								
VNDA	**Vanda**	**85.44**	**173**		P	**P**	**08 54 24.2**	**-0.1**	
VNDA	**Vanda**	**85.44**	**173**		P	**P**	**08 54 24.2**	**-0.1**	
	comp=Z,0.7nm,0.6s,baz=313,slow=6.7,SNR=11								
OBN	**Obninsk**	**85.50**	**325**	⇑	*e*P	**P**	**08 54 25.2**	**+0.2**	
OBN					*e*PP	pP	08 54 46.1	-10	
OBN					*e*S	S	09 04 35.1	-11	
OBN					pmax	pmax			
	comp=Z,6.0nm,1.1s								
ARCES	**ARCESS Array B**	**88.59**	**340**		P	**P**	**08 54 38.7**	**-1.0**	
ARCES	**ARCESS Array B**	**88.59**	**340**		P	**P**	**08 54 38.7**	**-1.0**	
	comp=Z,1.2nm,0.3s,baz=86,slow=5.8,SNR=17								
BRTR	**Keskin Array B**	**88.87**	**310**		P	**P**	**08 54 40.5**	**-1.4**	
BRTR	**Keskin Array B**	**88.87**	**310**		P	**P**	**08 54 40.5**	**-1.4**	
	comp=Z,1.7nm,1.0s,baz=160,slow=3.9,SNR=4.4								
FINES	**FINESS Array B**	**90.12**	**332**		P	**P**	**08 54 46.8**	**-0.2**	
FINES	**FINESS Array B**	**90.12**	**332**		P	**P**	**08 54 46.8**	**-0.2**	
	comp=Z,1.1nm,0.4s,baz=59,slow=4.9,SNR=11								
AKASG	**Malin Array Be**	**90.43**	**321**		P	**P**	**08 54 47.3**	**-1.4**	
AKASG	**Malin Array Be**	**90.43**	**321**		P	**P**	**08 54 47.3**	**-1.4**	
AKASG	**Malin Array Be**	**90.43**	**321**		P	**P**	**08 54 47.3**	**-1.4**	
	comp=Z,0.2nm,0.3s,baz=67,slow=5.4,SNR=3.0								
STHS	**Stebnicka Huta**	**95.73**	**321**		*e*P	**P**	**08 55 13.0**	**-0.1**	
STHS	**Stebnicka Huta**	**95.73**	**321**		*e*P	**P**	**08 55 13.0**	**-0.1**	
TORD	**Torodi Ar. Bea**	**122.45**	**289**		PKP	**PKPdf**	**09 00 41.8**	**-1.1**	
TORD	**Torodi Ar. Bea**	**122.45**	**289**		PKP	**PKPdf**	**09 00 41.8**	**-1.1**	
	comp=Z,0.4nm,0.5s,baz=53,slow=1.6,SNR=5.7								

IDC 16 09:02:32.7±1.4, 12.16°S×165.56°E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.7/21, mbtmp3.7/7, ML3.1/1, Error ellipse: s-maj=45.8km s-min=25.2km az=127.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.89**	**175**	Pn	Pn	09 04 56.7	+0.3
	0.1nm,0.3s,baz=291,slow=17,SNR=4.8						
CTA	**Charters Tower**	**20.14**	**244**	P	P	09 07 09.1	+0.4
	0.9nm,0.3s,baz=80,slow=13,SNR=3.6						
WRA	**Warramunga Arr**	**30.95**	**251**	P	P	09 08 51.9	+0.1
	0.8nm,0.8s,baz=80,slow=8.9,SNR=3.7						
ASAR	**Alice Springs**	**32.15**	**245**	P	P	09 09 01.2	-1.1
	1.2nm,0.9s,baz=78,slow=8.6,SNR=8.8						
SONM	**Songino Array**	**79.45**	**324**	P	P	09 14 41.6	+0.4
	0.2nm,0.3s,baz=116,slow=3.4,SNR=2.8						
ILAR	**Eielson Array**	**84.62**	**19**	P	P	09 15 06.6	-1.2
	0.4nm,0.6s,baz=265,slow=5.5,SNR=8.6						
MKAR	**Makanchi Array**	**94.20**	**317**	P	P	09 15 54.0	+0.2
	0.4nm,0.7s,baz=111,slow=5.3,SNR=4.4						
ARCES	**ARCESS Array B**	**117.36**	**345**	PKP	PKPdf	09 21 21.0	+1.2
	7.6nm,1.1s,baz=122,slow=1.2,SNR=3.7						

IDC 16 09:03:45.3±0.8, 16.14°S×173.21°W, h0km, mb4.0/9, mb1 4.2/10, mb1mx4.0/24, mbtmp4.0/10, ML2.3/1, MS3.8/1, Ms1 3.8/1, ms1mx3.1/42, Error ellipse: s-maj=37.6km s-min=17.2km az=123.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.61**	**32**	Pn	Pn	09 04 26.9	-2.0
	32nm,0.3s,baz=209,slow=12,SNR=22						
AFI				Sn	Sn	09 04 56.0	-5.4
	98nm,0.3s,baz=98,slow=21,SNR=9.2						
DZM	**Mont Dzumac**	**20.10**	**250**	*e*P	Pn	09 08 26.9	+4.3
	31nm,1.2s						
DZM				*e*LR	LR	09 13 11.0	
	396nm,25.4s						
DZM	**Mont Dzumac**	**20.10**	**250**	P	P	09 08 21.4	+0.5
	8.2nm,0.8s,baz=86,slow=19,SNR=11						
PPT	**Papeete**	**22.66**	**97**	LR	LR	09 15 04.4	
	comp=Z,222nm,18.4s,baz=356,slow=30						
PPT2	**Papeete2**	**22.66**	**97**	*e*LR	LR	09 14 01.1	
	224nm,26.0s						
TBI	**Tubuai**	**23.46**	**112**	*e*LR	LR	09 14 28.3	
	217nm,27.0s						
URZ	**Urewera**	**23.63**	**199**	P	P	09 08 57.2	-1.0
	3.4nm,0.4s,baz=327,slow=4.1,SNR=5.3						
H11S2	**WAKE ISLAND Hy**	**39.68**	**329**	T	T	09 52 55.8	
	baz=152,slow=0.7,SNR=4.1						
H11S3	**WAKE ISLAND Hy**	**39.70**	**329**	T	T	09 53 01.1	
	baz=152,slow=0.7,SNR=4.6						
H11S1	**WAKE ISLAND Hy**	**39.70**	**329**	T	T	09 52 59.1	
	baz=152,slow=0.7,SNR=5.6						
H11N3	**WAKE ISLAND Hy**	**40.64**	**331**	T	T	09 54 30.2	
	baz=152						
H11N1	**WAKE ISLAND Hy**	**40.64**	**331**	T	T	09 54 33.5	
	baz=152						
H11N2	**WAKE ISLAND Hy**	**40.65**	**331**	T	T	09 54 43.3	
	baz=152						
STKA	**Stephens Creek**	**43.83**	**241**	P	P	09 11 51.3	-2.1
	3.8nm,0.7s,baz=71,slow=8.6,SNR=6.7						
VNDA	**Vanda**	**62.67**	**186**	P	P	09 14 12.7	+1.3
	0.5nm,0.8s,baz=22,slow=2.5,SNR=3.6						
ASAJ	**Asahikawa**	**72.26**	**328**	P	P	09 15 13.0	+0.6
	7.8nm,1.0s,baz=72,slow=6.4,SNR=5.2						
NVAR	**Mina Array Bea**	**74.75**	**42**	P	P	09 15 28.0	+0.4
	0.9nm,0.8s,baz=222,slow=8.8,SNR=7.4						
PDAR	**Pinedale Array**	**82.69**	**42**	P	P	09 16 10.7	-0.5
	0.7nm,0.8s,baz=235,slow=3.2,SNR=6.1						
ILAR	**Eielson Array**	**83.13**	**11**	P	P	09 16 12.9	+0.3
	0.3nm,0.7s,baz=238,slow=6.1,SNR=6.8						
MAW	**Mawson**	**87.16**	**199**	P	P	09 16 32.3	-0.7
	0.5nm,0.5s,baz=144,slow=8.2,SNR=6.1						
KMBO	**Kilima Mbogo**	**145.37**	**243**	PKPbc	PKPdf	09 23 27.4	+0.8
	1.5nm,0.7s,baz=63,slow=4.5,SNR=2.7						

BJI ***16*** *09:07:30.9, 7.84S×129.57E, h15km, mB4.9/16, mb4.9/25, Ms4.4/3, Ms7 4.0/3*

MOS ***16*** *09:07:37.2±1.3, 7.38S×129.23E, h33km, mb5.0/20, Error ellipse: s-maj=14.2km s-min=7.7km az=119.2*

NEIC ***16*** *09:07:38.6±0.3, 7.57S×129.45E, h35km, mb4.9/16, Error ellipse: s-maj=10.6km s-min=6.7km az=70.0*

AUST ***16*** *09:07:41.0±0.5, 7.68S×129.09E, h45km±6km, Error ellipse: s-maj=5.1km s-min=3.6km az=83.0*

ISCJB ***16*** *09:07:42.0±0.2, 7.59S±0.03×129.35E±0.03, h79km, mb4.7/57, Error ellipse: s-maj=4.1km s-min=3.5km az=149.1*

IDC ***16*** *09:07:41.2±1.6, 7.46S×129.24E, h54km±13km, mb4.5/24, mb1 4.5/26, mb1mx4.5/30, mbtmp4.5/26, MS3.9/17, Ms1 3.9/17, ms1mx3.8/44, Error ellipse: s-maj=14.7km s-min=9.3km az=72.0*

GCMT ***16*** *09:07:43.9±0.3, 7.56S×129.29E, h66km±2km, MW4.9, Moment Tensor Solution. s33,c36; s59,c89; Moment tensor: Scale 10¹⁶Nm; Mrr-2.56±.16; Mθθ1.55±.13; Mφφ1.01±.15; Mrθ1.50±.08; Mθφ1.23±.09; Mφr0.44±.10; Best double couple: M₀3.00000×10¹⁶ NP1:φ₁242.00000°, δ61.00000°, λ-79.00000°. NP2:φ₂41.00000°, δ31.00000°, λ-109.00000°. Principal axes: T 2.9300, Plg15.0000°, Azm324.0000°; N 0.1200, Plg9.0000°, Azm57.0000°; P -3.0500, Plg72.0000°, Azm178.0000°; Data Used: ll IU G CN IC.*

BKK ***16*** *09:07:44.9±0.4, 8°S±3°×12°9E±°, h70km±5km, M4.9/21, mb5.2/12, mb5.0/21, MLv5.5/3, Mw(mB)4.6/12*

DJA ***16*** *09:07:45.2±0.2, 8°S±2°×12°9E±°, h68km±4km, M4.9/40, mB5.4/16, mb5.1/40, Mw(mB)4.8/16*

ISC 16 09:07:43.5±0.3, 7.64S±0.04×129.32E±0.04, h79km, n244, σ1961/236, mb4.7/57, 29C-10D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.99**	**100**	P	Pn	09 08 19.9	+4.7
BNDI	**Bandanaira**	**3.15**	**11**	P	**Pn**	**09 08 30.7**	**-0.2**
BNDI	**Bandanaira**	**3.15**	**11**	⇑P	**Pn**	**09 08 30.4**	**-0.6**
	baz=3.3,SNR=26						
TLE	**Tual**	**3.93**	**60**	P	**Pn**	**09 08 42.7**	**+1.1**
TLE				S	Sn	09 09 18.4	-8.2
TLE	**Tual**	**3.93**	**60**	⇑P	**Pn**	**09 08 42.1**	**+0.6**
	baz=4.2,SNR=23						
AAI	**Ambon**	**4.09**	**344**	P	**Pn**	**09 08 43.1**	**-0.5**
AAI	**Ambon**	**4.09**	**344**	⇑P	**Pn**	**09 08 43.0**	**-0.7**
	baz=4.1,SNR=38						
NLAI	**Namlea**	**4.90**	**333**	P	**Pn**	**09 08 55.3**	**+0.5**
SOEI	**Soe**	**5.42**	**247**	P	**Pn**	**09 09 02.5**	**+0.6**
MTN	**Manton Dam**	**5.47**	**161**	⇑P	**Pn**	**09 09 01.6**	**-0.9**
	baz=5.5,SNR=8.8						
FAKI	**Fak Fak**	**5.52**	**32**	P	**Pn**	**09 09 02.6**	**-0.7**
	471nm,1.1s,6μm						
FAKI				S	Sn	09 09 54.6	-11
	471nm,1.1s,6μm						
FAKI	**Fak Fak**	**5.52**	**32**	⇑P	**Pn**	**09 09 02.9**	**-0.4**
	baz=5.7,SNR=117						
KMPI	**Kaimana, Papua**	**5.89**	**48**	P	**Pn**	**09 09 10.8**	**+2.6**
	465nm,0.7s						
KDU	**Kakadu**	**5.89**	**149**	P	**Pn**	**09 09 05.6**	**-2.7**
	baz=6.0,SNR=266						
BATI	**Baumata**	**6.14**	**245**	P	**Pn**	**09 09 12.0**	**+0.3**
	139nm,0.6s,3μm						
BATI	**Baumata**	**6.14**	**245**	P	**Pn**	**09 09 11.3**	**-0.5**
BATI				S	**Sn**	**09 10 18.2**	**-2.4**
BATI	**Baumata**	**6.14**	**245**	P	**Pn**	**09 09 11.3**	**-0.5**
	55nm,0.3s,baz=112,slow=4.2,SNR=28						
BATI				S	**Sn**	**09 10 18.2**	**-2.4**
	48nm,0.3s,baz=63,slow=11,SNR=2.9						
SWI	**Sorong**	**7.01**	**16**	P	**Pn**	**09 09 23.5**	**0.0**
	326nm,0.9s						
SWI	**Sorong**	**7.01**	**16**	⇑P	**Pn**	**09 09 23.3**	**-0.2**
	baz=7.1,SNR=11						
BBSI	**Bau Bau**	**7.04**	**287**	P	Pn	09 09 27.2	+3.2
MMRI	**Maumere**	**7.08**	**262**	P	**Pn**	**09 09 25.7**	**+1.1**
	157nm,1.1s						
MMRI	**Maumere**	**7.08**	**262**	*e*Pn	**Pn**	**09 09 25.6**	**+1.0**
LBMI	**Labuha**	**7.19**	**345**	P	Pn	09 09 29.4	+3.4
KNRA	**Kununurra**	**8.00**	**184**	⇑P	**Pn**	**09 09 34.2**	**-2.9**
	baz=8.0,SNR=143						
TNTI	**Ternate**	**8.58**	**347**	P	**Pn**	**09 09 47.3**	**+2.3**
TNTI	**Ternate**	**8.58**	**347**	*e*Pn	**Pn**	**09 09 47.0**	**+2.0**
LUWI	**Luwuk**	**9.25**	**315**	P	Pn	09 09 57.6	+3.4
	153nm,1.0s,2μm						
BAKI	**Biak**	**9.31**	**47**	P	**Pn**	**09 09 57.8**	**+2.7**
	274nm,0.8s,2μm						
BAKI				S	**Sn**	**09 11 37.6**	**-0.6**
	274nm,0.8s,2μm						
BKSI	**Bulukumba**	**9.43**	**284**	P	**Pn**	**09 09 58.5**	**+1.9**
KMSI	**Cibinong**	**9.75**	**327**	P	Pn	09 10 07.5	+6.6
	380nm,1.2s						
KAPI	**Kappang**	**9.86**	**285**	P	**Pn**	**09 10 05.4**	**+2.9**
	48nm,1.1s,815nm						
KAPI	**Kappang**	**9.86**	**285**	*e*Pn	**Pn**	**09 10 03.2**	**+0.6**
KAPI				*e*Sn	**Sn**	**09 11 52.7**	**+1.1**
KAPI	**Kappang**	**9.86**	**285**	P	**Pn**	**09 10 03.0**	**+0.5**
	2.6nm,0.3s,baz=114,slow=5.1,SNR=14						
KAPI				S	**Sn**	**09 11 53.5**	**+1.9**
	0.8nm,0.3s,baz=225,slow=20,SNR=2.0						
KAPI				LR	LR	09 14 47.9	
	comp=Z,335nm,18.6s,baz=119,slow=44						
APSI	**Ampana**	**10.16**	**311**	P	**Pn**	**09 10 09.7**	**+3.1**
SPSI	**Sidrap Palu**	**10.18**	**290**	P	**Pn**	**09 10 09.7**	**+2.8**
TTSI	**Tana Toraja**	**10.51**	**295**	P	Pn	09 10 18.3	+7.0
	62nm,1.2s						
MRSI	**Marisa**	**10.92**	**317**	P	Pn	09 10 20.3	+3.4
	142nm,1.3s,3μm						
FITZ	**Fitzroy Crossi**	**11.00**	**199**	*e*Pn	Pn	09 10 13.9	-4.1
FITZ				S	Sn	09 12 06.4	-13
FITZ				*e*Sn	Sn	09 12 07.5	-12
FITZ	**Fitzroy Crossi**	**11.00**	**199**	⇑P	Pn	09 10 13.9	-4.1
	baz=11,SNR=49						
FITZ	**Fitzroy Crossi**	**11.00**	**199**	P	Pn	09 10 13.9	-4.1
	7.1nm,0.3s,baz=37,slow=12,SNR=136						
FITZ				S	Sn	09 12 06.4	-13
	16nm,0.3s,baz=81,slow=15,SNR=13						
FITZ				LR	LR	09 15 29.3	
	comp=Z,792nm,19.6s,baz=27,slow=42						
MJSI	**Majene**	**11.06**	**291**	P	Pn	09 10 24.0	+5.1
PCI	**Palu**	**11.58**	**305**	P	Pn	09 10 40.8	+15
SGSI	**Sangihe**	**11.87**	**341**	P	**Pn**	**09 10 31.7**	**+1.8**

CTA LR LR 09 20 50.7
comp=Z,709nm,20.9s,baz=30,slow=38
CTAO Charters Tower 20.55 129 *e*P Pn 09 12 18.0 -0.8
CTAO *e*S **S** **09 16 01.4 0.0**
CTAO pmax pmax
comp=Z,57nm,1.0s
CTAO Charters Tower 20.55 129 *e*P Pn 09 12 18.0 -0.7
comp=Z,57nm,1.0s
CTAO *e*S **S** **09 16 01.4 0.0**
GIRL Giralia 20.81 223 ⇑P **P** **09 12 20.0 +1.4**
baz=21,SNR=10
KSM Kuching 21.02 295 P **P** **09 12 21.2 +0.3**
KSM Kuching 21.02 295 P **P** **09 12 21.3 +0.3**
comp=Z,95nm,1.1s,comp=Z,889nm
KSM Kuching 21.02 295 *e*P **P** **09 12 20.6 -0.3**
comp=Z,65nm,0.8s
KSM Kuching 21.02 295 ⇑P **P** **09 12 20.4 -0.6**
baz=21,SNR=12
MEEK Meekatharra 21.46 207 P **P** **09 12 25.3 -0.3**
baz=21,SNR=13
QLP Quilpie 23.57 145 ⇑P **P** **09 12 48.4 +1.2**
baz=24,SNR=192
QLP ⇓P **P** **09 12 49.1 +2.0**
baz=24
PPBI Pangkal Pinang 23.73 282 P **P** **09 12 49.9 +1.2**
comp=Z,70nm,0.2s,comp=Z,11μm
MORW Morawa 24.71 209 ⇑P **P** **09 12 57.8 +0.3**
baz=25,SNR=12
MDSI Maura Dua 25.20 276 P P 09 13 08.8 +6.8
comp=Z,12nm,1.4s
BLDU Ballidu 25.73 206 P **P** **09 13 07.0 +0.3**
baz=26,SNR=15
BBOO Buckleboo 25.81 167 *e*P **P** **09 13 07.8 +0.4**
comp=Z,424nm,0.6s
BBOO Buckleboo 25.81 167 ⇑P **P** **09 13 08.1 +0.7**
baz=26,SNR=23
KLBR Kellerberrin 26.16 203 P **P** **09 13 11.4 +0.9**
baz=26,SNR=6.2
RMQ Roma 26.32 138 ⇓P **P** **09 13 13.8 +1.7**
baz=26,SNR=11
STKA Stephens Creek 26.69 156 P **P** **09 13 16.2 +0.9**
STKA S **S** **09 17 41.1 -3.9**
STKA Stephens Creek 26.69 156 P **P** **09 13 16.2 +0.9**
baz=27,SNR=29
STKA Stephens Creek 26.69 156 P **P** **09 13 16.2 +0.9**
comp=Z,35nm,0.9s,baz=331,slow=8.5,SNR=35
STKA S **S** **09 17 41.1 -3.9**
comp=Z,4.6nm,0.9s,baz=252,slow=19,SNR=1.5
STKA LR LR 09 24 32.8
comp=Z,520nm,20.6s,baz=271,slow=38
MYKOM **Kota Tinggi 27.08 289** P **P** **09 13 20.6 +1.5**
HTT Hallett 27.16 162 ⇑P **P** **09 13 20.5 +0.9**
baz=27
NWAO Narrogin (SRO) 27.55 202 P **P** **09 13 23.7 +0.8**
NWAO Narrogin (SRO) 27.55 202 P **P** **09 13 23.7 +0.8**
comp=Z,16nm,0.6s,baz=26,slow=8.8,SNR=13
NWAO LR LR 09 24 29.8
comp=Z,354nm,21.8s,baz=207,slow=36
CMSA Cobar Meteorol 28.26 149 P **P** **09 13 30.7 +1.3**
baz=28,SNR=66
RKGY Rocky Gully 29.15 201 ⇓P **P** **09 13 39.7 +2.5**
baz=29,SNR=11
PPI Padang Panjang 29.70 283 P **P** **09 13 45.1 +2.7**
comp=Z,19nm,1.0s
HNR Honiara 30.33 96 LR LR 09 26 11.0
comp=Z,181nm,21.7s,baz=292,slow=36
ARMA Armidale 30.82 140 ⇑P **P** **09 13 54.4 +2.1**
baz=31,SNR=3.7
ARPS Mount Arapiles 31.16 160 ⇓P **P** **09 13 56.8 +1.9**
baz=31,SNR=57
PSI Prapat 32.05 288 P **P** **09 14 00.8 -2.4**
PSI Prapat 32.05 288 P **P** **09 14 00.8 -2.4**
comp=Z,12nm,0.7s,baz=80,slow=16,SNR=8.7
CNB Canberra Magne 33.11 149 P **P** **09 14 14.0 +1.8**
baz=33,SNR=5.4
TOO Toolangi 33.21 156 ⇑P **P** **09 14 15.7 +2.8**
baz=33,SNR=11
CBIJ Chichi jima 36.71 19 P **P** **09 14 42.1 -1.0**
JCJ Chichijima 36.71 19 P **P** **09 14 42.1 -1.0**
comp=Z,19nm,0.3s,baz=179,slow=22,SNR=8.0
JCJ LR LR 09 27 42.8
comp=Z,111nm,21.3s,baz=146,slow=33
DZM Mont Dzumac 38.51 116 *e*P **P** **09 14 59.9 +1.3**
comp=Z,25nm,1.2s
DZM Mont Dzumac 38.51 116 *e*LR LR 09 25 30.1
comp=Z,634nm,30.1s
DZM Mont Dzumac 38.51 116 P **P** **09 14 59.7 +1.1**
DZM Mont Dzumac 38.51 116 P **P** **09 14 59.7 +1.1**
comp=Z,5.8nm,0.7s,baz=150,slow=22,SNR=8.6
DZM LR LR 09 29 50.0
comp=Z,252nm,21.1s,baz=0.7,slow=34
CMAR Chiang Mai Arr 39.64 311 P **P** **09 15 07.5 -0.4**
CMAR ScP **ScP** **09 20 58.0 +2.4**
CMAR Chiang Mai Arr 39.64 311 P **P** **09 15 07.5 -0.4**
comp=Z,2.9nm,0.5s,baz=144,slow=7.3,SNR=9.2
CMAR ScP **ScP** **09 20 58.0 +2.4**
comp=Z,1.0nm,0.3s,baz=158,slow=3.6,SNR=12
CMAR LR LR 09 30 25.7
comp=Z,146nm,20.7s,baz=150,slow=35
CHTO Chiang Mai 39.85 312 *e*P **P** **09 15 09.4 -0.3**
CHTO pmax pmax
comp=Z,54nm,1.0s
CHTO Chiang Mai 39.85 312 P **P** **09 15 11.1 +1.4**
comp=Z,57nm,1.3s
CHTO Chiang Mai 39.85 312 *e*P **P** **09 15 09.4 -0.3**
comp=Z,54nm,1.0s
CHTO Chiang Mai 39.85 312 P **P** **09 15 11.1 +1.4**
comp=Z,57nm,1.3s
CMAI Chiengmai2 40.48 313 P **P** **09 15 14.2 -0.8**
comp=Z,9.9nm,0.6s,comp=Z,1μm
JNU Nakatsue 40.56 2 P **P** **09 15 13.4 -1.9**
JNU Nakatsue 40.56 2 P **P** **09 15 13.4 -1.9**
comp=Z,6.0nm,0.7s,baz=203,slow=2.2,SNR=5.6
JNU LR LR 09 30 11.9
comp=Z,127nm,20.6s,baz=230,slow=33
WHN Wuhan 40.59 340 P **P** **09 15 15.0 -0.6**
KMI Kunming 41.60 322 P **P** **09 15 24.4 +0.2**
KMI AMB AMB
comp=Z,17nm,0.7s
MJAR Matsushiro Arr 44.73 10 P **P** **09 15 46.7 -2.3**
MJAR ScP **ScP** **09 21 17.8 +2.2**
MJAR Matsushiro Arr 44.73 10 P **P** **09 15 46.7 -2.3**
comp=Z,5.7nm,0.7s,baz=194,slow=11,SNR=20
MJAR ScP **ScP** **09 21 17.8 +2.2**
comp=Z,1.9nm,1.0s,baz=205,slow=4.4,SNR=4.4
MJAR LR LR 09 32 05.2
comp=Z,76nm,21.1s,baz=195,slow=33
MAJO Matsushiro 44.74 10 *i*P **P** **09 15 46.4 -2.6**
MAJO pmax pmax
comp=Z,14nm,1.0s
MAJO Matsushiro 44.74 10 *e*P **P** **09 15 46.7 -2.3**
comp=Z,11nm,0.7s
MAT Matsushiro 44.74 10 P **P** **09 15 46.8 -2.2**
KSAR Wonju Array Be 44.87 358 P **P** **09 15 49.5 -0.5**
KSRS Korea Array 44.88 358 P **P** **09 15 49.5 -0.6**
comp=Z,4.6nm,0.7s,baz=174,slow=9.3,SNR=7.1
KSRS LR LR 09 31 51.5
comp=Z,133nm,20.6s,baz=162,slow=32
XAN Xi'an 45.74 336 P **P** **09 15 55.0 -2.1**
XAN AMB AMB
comp=Z,3.0nm,0.8s
RPZ Rata Peaks 51.15 142 *e*P **P** **09 16 40.6 +2.1**
comp=Z,88nm,1.0s
RPZ Rata Peaks 51.15 142 P **P** **09 16 40.8 +2.2**
comp=Z,62nm,0.9s,baz=307,slow=3.1,SNR=23
USRK Ussuriysk Arra 51.66 2 P **P** **09 16 41.4 -0.7**
comp=Z,3.6nm,0.6s,baz=185,slow=7.4,SNR=17
USRK LR LR 09 36 22.9
comp=Z,100nm,20.5s,baz=320,slow=33
LSA Lhasa 52.20 317 P **P** **09 16 46.8 -0.3**
LSA AMB AMB
comp=Z,30nm,0.8s
LSA Lhasa 52.20 317 *e*P **P** **09 16 47.3 +0.2**
LSA pmax pmax
comp=Z,21nm,0.8s
LSA Lhasa 52.20 317 *e*P **P** **09 16 47.3 +0.2**
comp=Z,21nm,0.8s
URZ Urewera 52.72 133 P **P** **09 16 51.0 +0.8**
URZ Urewera 52.72 133 P **P** **09 16 51.0 +0.8**
comp=Z,5.9nm,0.7s,baz=278,slow=7.1,SNR=4.9
URZ LR LR 09 36 06.6
comp=Z,167nm,20.1s,baz=324,slow=32
ASAJ Asahikawa 52.90 12 P **P** **09 16 50.9 -0.5**
ASAJ Asahikawa 52.90 12 P **P** **09 16 50.9 -0.5**
comp=Z,7.2nm,0.5s,baz=228,slow=14,SNR=18
ASAJ LR LR 09 36 43.9
comp=Z,147nm,21.0s,baz=57,slow=33

ODAN Odare 53.17 312 *e*P **P** **09 16 53.0 -1.1**
comp=Z,29nm,0.5s
TAPN Taplejung 53.22 312 *e*P **P** **09 16 53.4 -1.0**
comp=Z,28nm,0.4s
RAMN Ramite 53.81 311 *e*P **P** **09 16 57.8 -0.9**
comp=Z,48nm,0.7s
RAO Raoul Island 53.95 121 LR LR 09 38 02.8
comp=Z,195nm,18.4s,baz=310,slow=34
GTA Gaotai 54.21 332 *e*P **P** **09 17 01.0 -0.3**
GTA pP pP 09 17 08.0 -13
GTA sP sP 09 17 11.3 -19
GTA AMB AMB
comp=Z,15nm,0.8s
GTA AMB AMB
comp=Z,90nm,5.2s
GTA LR LR
comp=Z,100nm,17.6s
GTA LR LR
comp=Z,92nm,17.6s
GTA LR LR
comp=Z,130nm,18.0s
JIRN Jiri 54.51 312 *e*P **P** **09 17 02.8 -1.1**
comp=Z,18nm,0.6s
GUN Gumba 54.87 312 *e*P **P** **09 17 05.5 -1.1**
comp=Z,33nm,0.7s
PKI Pulchoki 55.04 311 *e*P **P** **09 17 06.3 -1.4**
comp=Z,13nm,0.6s
PKIN Phulchoki 55.05 311 *e*P **P** **09 17 07.3 -0.4**
comp=Z,5.9nm,0.5s
KKN Kakani 55.25 311 *e*P **P** **09 17 09.0 -0.1**
comp=Z,21nm,0.8s
DMN Daman 55.28 311 *e*P **P** **09 17 08.3 -1.1**
GKN Gorkha 55.84 311 *e*P **P** **09 17 12.0 -1.3**
comp=Z,12nm,0.3s
HABR Khabarovsk 56.10 5 *e*P P 09 17 10.9 -3.6
HABR *e**SP sP 09 17 19.6 -24
HABR *e* 09 18 09.8
HABR *e* 09 19 15.0
HABR *e*S **S** **09 24 57.2 -0.1**
HABR *e**SS sS 09 25 07.2 -24
HABR *e* 09 26 58.7
HABR SSS SSS 09 30 56.3
HABR pmax pmax
comp=Z,31nm,2.0s
HABR MLR MLR
comp=Z,119nm,16.0s
KOLN Koldanda 56.50 310 *e*P **P** **09 17 16.8 -1.2**
comp=Z,24nm,0.7s
KLR Kul'dur 56.67 2 *e*P P 09 17 14.4 -4.2
DANN Dangsing 56.68 311 *e*P **P** **09 17 18.1 -1.3**
SONM Songino Array 58.84 342 P **P** **09 17 34.4 +0.4**
SONM ScP **ScP** **09 22 17.7 +1.4**
SONM Songino Array 58.84 342 P **P** **09 17 34.4 +0.4**
comp=Z,4.2nm,0.8s,baz=153,slow=6.9,SNR=16
SONM ScP **ScP** **09 22 17.7 +1.4**
comp=Z,0.5nm,0.5s,baz=164,slow=4.6,SNR=4.4
CASY Casey 59.97 189 *e*P **P** **09 17 42.8 +1.5**
comp=Z,20nm,1.1s
ZAK Zakamensk 62.05 341 *e*P P 09 17 52.6 -3.2
ZAK *e* 09 21 49.3
ZAK pmax pmax
comp=Z,3.0nm,1.3s
WMQ Urumqi 63.57 328 P **P** **09 18 06.1 +0.2**
WMQ AMB AMB
comp=Z,16nm,0.4s
WMQ AMB AMB
comp=Z,180nm,4.4s
PETK Petropavlovsk- 65.14 18 P **P** **09 18 16.0 0.0**
PETK Petropavlovsk- 65.14 18 P **P** **09 18 15.9 0.0**
PETK Petropavlovsk- 65.14 18 P **P** **09 18 15.9 0.0**
comp=Z,5.9nm,0.7s,baz=178,slow=5.8,SNR=10.0
HVS Khovu-Aksy 66.11 336 *i*P **P** **09 18 22.2 -0.1**
HVS pmax pmax
comp=Z,77nm,0.9s
MK31 Makanchi Array 68.39 327 *ce*P **P** **09 18 35.9 -0.9**
MK31 pmax pmax
comp=Z,6.0nm,0.6s
MK31 Makanchi Array 68.39 327 *e*P **P** **09 18 36.3 -0.5**
MKAR Makanchi Array 68.39 327 P **P** **09 18 36.2 -0.6**
MKAR Makanchi Array 68.39 327 P **P** **09 18 36.2 -0.6**
MKAR Makanchi Array 68.39 327 P **P** **09 18 36.2 -0.6**
comp=Z,7.8nm,0.6s,baz=128,slow=7.9,SNR=69
YAK Yakutsk 69.46 0 *ce*P **P** **09 18 42.2 -0.8**
YAK pmax pmax
comp=Z,19nm,0.7s
TKM2 Tokmak 2 70.05 321 *e*P **P** **09 18 46.8 -0.6**
TKM2 pmax pmax
comp=Z,6.0nm,0.6s
TKM2 Tokmak 2 70.05 321 *e*P **P** **09 18 46.8 -0.6**
comp=Z,5.6nm,0.6s
AAK Ala-Archa 70.60 320 *ce*P **P** **09 18 50.3 -0.3**
AAK pmax pmax
comp=Z,59nm,2.5s
AAK Ala-Archa 70.60 320 P **P** **09 18 50.5 -0.2**
AAK Ala-Archa 70.60 320 P **P** **09 18 50.5 -0.2**
comp=Z,3.6nm,0.8s,baz=137,slow=5.7,SNR=10.0
KBL Kabul 70.66 311 ⇓P **P** **09 18 51.5 +0.2**
baz=71
EKS2 Erkin-Say 71.07 320 *e*P **P** **09 18 53.6 +0.1**
EKS2 pmax pmax
comp=Z,9.0nm,1.0s
EKS2 Erkin-Say 71.07 320 *e*P **P** **09 18 53.5 +0.1**
comp=Z,9.1nm,1.0s
ZAA0 Zalesovo Array 71.86 334 *e*P **P** **09 18 56.5 -1.3**
ZALV Zalesovo Beam 71.86 334 P **P** **09 18 56.3 -1.5**
ZALV Zalesovo Beam 71.86 334 P **P** **09 18 56.2 -1.5**
ZALV Zalesovo Beam 71.86 334 P **P** **09 18 56.2 -1.5**
comp=Z,11nm,0.8s,baz=126,slow=5.5,SNR=19
VNDA Vanda 71.90 173 *e*P **P** **09 18 58.9 +1.3**
VNDA Vanda 71.90 173 P **P** **09 18 58.5 +0.9**
comp=Z,5.6nm,0.8s,baz=318,slow=6.4,SNR=41
KURK Kurchatov 72.72 329 *ce*P **P** **09 19 02.2 -0.7**
KURK pmax pmax
comp=Z,10.0nm,0.8s
KURK Kurchatov 72.72 329 *e*P **P** **09 19 03.0 +0.1**
comp=Z,9.2nm,0.8s
SBA Scott Base 72.79 172 *e*P **P** **09 19 05.3 +2.3**
SBA pmax pmax
comp=Z,4.0nm,0.7s
SBA Scott Base 72.79 172 *e*P **P** **09 19 05.3 +2.3**
comp=Z,4.2nm,0.7s
KK31 Karatay Array 73.38 319 *ce*P **P** **09 19 06.6 -0.5**
KK31 pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 73.38 319 *e*P **P** **09 19 06.9 -0.2**
KKAR pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 73.38 319 *e*P **P** **09 19 06.9 -0.2**
comp=Z,2.9nm,0.8s
MAW Mawson 74.11 201 P **P** **09 19 12.9 +2.0**
MAW Mawson 74.11 201 P **P** **09 19 12.7 +1.8**
baz=74,SNR=74
MAW Mawson 74.11 201 P **P** **09 19 12.9 +2.0**
comp=Z,20nm,0.7s,baz=74,slow=7.0,SNR=87
IDAH Dahanechah 77.17 306 *e*P **P** **09 19 29.6 +0.2**
VOSK Vostochnaya 77.79 328 *i*P **P** **09 19 31.1 -0.9**
VOSK pmax pmax
comp=Z,2.0nm,0.8s
IMYA Miami 78.11 310 *e*P **P** **09 19 36.5 +2.0**
BVA0 Borovoye Array 78.25 328 *i*P **P** **09 19 34.3 -0.3**
BVA0 pmax pmax
comp=Z,7.0nm,1.0s
BRVK Borovoye 78.32 328 *ce*P **P** **09 19 32.2 -2.8**
BRVK pmax pmax
comp=Z,14nm,1.7s
TBI Tubuai 78.98 112 *e*LR LR 09 44 15.5
comp=Z,196nm,31.8s
TIXI Tiksi 79.13 360 *ce*P **P** **09 19 38.2 -0.8**
TIXI pmax pmax
comp=Z,6.0nm,1.0s
PPT2 Papeete2 79.28 106 *e*LR LR 09 44 26.5
comp=Z,177nm,30.2s
QSPA South Pole Qui 82.34 180 *e*P **P** **09 19 57.3 +0.8**
comp=Z,12nm,0.9s
AB31 Akbulak array 82.59 322 *ce*P **P** **09 19 57.0 -0.9**
AB31 pmax pmax
comp=Z,4.0nm,0.5s
SYO Syowa Base 82.82 201 ⇓*e*P **P** **09 19 59.2 +0.4**
AKTO Aktyubinsk 84.17 322 *i*P P 09 20 02.7 -3.3
AKTO pmax pmax
comp=Z,1.0nm,0.6s
AKTO Aktyubinsk 84.17 322 P **P** **09 20 04.1 -2.0**
AKTO Aktyubinsk 84.17 322 P **P** **09 20 04.1 -2.0**
comp=Z,5.0nm,0.8s,baz=120,slow=5.7,SNR=15
ARU Arti 85.89 328 *c i*P **P** **09 20 12.9 -1.6**

ARU 09 23 29.0
ARU S **S** **09 30 36.5 -4.9**
ARU SS **SS** **09 36 20.8 +0.2**
ARU pmax pmax
comp=Z,13nm,1.7s
ZEI Tsey 91.79 313 *e*P P 09 20 47.9 +4.9
ZEI pmax pmax
comp=Z,3.0nm,0.8s
KMBO Kilima Mbogo 91.90 269 P **P** **09 20 43.9 -0.4**
KMBO Kilima Mbogo 91.90 269 P **P** **09 20 43.9 -0.4**
comp=Z,1.3nm,0.7s,baz=16,slow=18,SNR=2.8
ILAR Eielson Array 94.21 25 P **P** **09 20 51.5 -1.9**
ILAR PKKP **PKKPdf** **09 37 55.1 -0.9**
ILAR Eielson Array 94.21 25 P **P** **09 20 51.5 -1.9**
comp=Z,0.7nm,0.7s,baz=262,slow=4.5,SNR=12
ILAR PKKP **PKKPdf** **09 37 55.1 -0.9**
comp=Z,0.7nm,1.0s,baz=38,slow=2.0,SNR=4.8
SNAA Sanae 94.89 194 *e*P **P** **09 20 58.5 +1.9**
comp=Z,14nm,1.4s
ARCES ARCESS Array B 101.94 340 PKKPbc PKKPbc 09 37 33.9 -1.7
ARCES ARCESS Array B 101.94 340 PKKPbc PKKPbc 09 37 33.9 -1.7
comp=Z,6.4nm,1.0s,baz=302,slow=3.9,SNR=4.1
ISA Isabella 112.44 55 *e*PKIKP **PKiKP** **09 26 08.8 -2.3**
ISA Isabella 112.44 55 *e*PKPdf **PKiKP** **09 26 08.8 -2.3**
SNOW Snow King Moun 116.78 45 *e*PKPdf **PKPdf** **09 26 21.2 +1.8**
PDAR Pinedale Array 117.82 45 PKP **PKPdf** **09 26 22.1 +0.7**
PDAR Pinedale Array 117.82 45 PKP **PKPdf** **09 26 22.1 +0.7**
comp=Z,0.5nm,0.6s,baz=217,slow=1.5,SNR=5.0
FFC Flin Flon 117.85 31 *i* PKIKP **PKPdf** **09 26 18.1 -2.7**
PV01 Paradox Valley 119.78 50 *e*PKPdf **PKPdf** **09 26 26.6 +1.3**
TORD Torodi Ar. Bea 128.27 281 PKP **PKPdf** **09 26 42.0 +0.1**
TORD SKPbc SKiKP 09 29 55.6 -16
TORD Torodi Ar. Bea 128.27 281 PKP **PKPdf** **09 26 42.0 +0.1**
comp=Z,1.5nm,0.5s,baz=60,slow=1.8,SNR=18
TORD SKPbc SKiKP 09 29 55.6 -16
comp=Z,1.9nm,1.1s,baz=59,slow=2.0,SNR=5.1
JCT Junction City 128.81 57 *e*PKIKP **PKPdf** **09 26 44.4 +1.8**
JCT Junction City 128.81 57 *e*PKPdf **PKPdf** **09 26 44.4 +1.8**
DBIC Dimbokro 134.54 272 PKP **PKPdf** **09 26 54.9 +1.1**
DBIC SKPbc **SKPab** **09 30 19.2 -1.2**
DBIC Dimbokro 134.54 272 PKP **PKPdf** **09 26 54.9 +1.1**
comp=Z,1.9nm,0.4s,baz=175,slow=4.1,SNR=5.1
DBIC SKPbc **SKPab** **09 30 19.2 -1.2**
comp=Z,8.4nm,1.0s,baz=86,slow=5.9,SNR=3.9
APG El Apazote 140.36 76 PKP **PKPdf** **09 27 06.3 +1.5**
APG El Apazote 140.36 76 PKP **PKPdf** **09 27 06.3 +1.5**
comp=Z,4.3nm,1.0s,baz=270,slow=2.0,SNR=5.4
CPUP Villa Florida 145.62 169 PKPbc **PKPab** **09 27 15.2 +1.0**
CPUP Villa Florida 145.62 169 PKPbc **PKPab** **09 27 15.2 +1.0**
comp=Z,7.9nm,0.5s,baz=172,slow=2.4,SNR=23
LPAZ La Paz 150.61 144 PKP **PKPdf** **09 27 24.1 +1.4**
LPAZ PKPbc **PKiKP** **09 27 30.0 +1.1**
LPAZ PKPab **PKPab** **09 27 36.7 +1.7**
LPAZ La Paz 150.61 144 PKP **PKPdf** **09 27 24.1 +1.4**
comp=Z,3.2nm,0.9s,baz=332,slow=3.8,SNR=28
LPAZ PKPbc **PKiKP** **09 27 30.0 +1.1**
comp=Z,15nm,0.8s,baz=118,slow=3.0,SNR=42
LPAZ PKPab **PKPab** **09 27 36.7 +1.7**
comp=Z,18nm,0.7s,baz=208,slow=1.6,SNR=20
BDFB Brasilia 156.72 187 PKP **PKPdf** **09 27 31.7 +0.9**
BDFB Brasilia 156.72 187 PKP **PKPdf** **09 27 31.7 +0.9**
comp=Z,3.5nm,0.7s,baz=212,slow=8.3,SNR=5.6

*ISK **16** 09:23:07.9, 39.°11N×32.°79E, h3km, MD3.6*
*DDA **16** 09:23:08.3, 39.°06N×32.°88E, h7km, MD3.1*
*CSEM **16** 09:23:09.1±0.1, 39.°12N×32.°80E, h2km, MD3.6, Error ellipse: s-maj=3.0km s-min=2.4km az=128.0*
ISC 16 09:23:08.6±1.2, **39.°11N**±0.°02×**32.°80E**±0.°02, **h14**km±11km, **n83**,σ1**9**/**65**/**95**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFSR	**Afar-Bala (A**	**0.40**	**32**	*e*PG		**Pb**	**09 23 16.2**	**-1.4**
AFSR				*e*SG		**Sb**	**09 23 22.6**	**-1.1**
AFSR	**Afar-Bala (A**	**0.40**	**32**	*e*Pg		**Pb**	**09 23 16.2**	**-1.4**
AFSR				*e*Sg		**Sb**	**09 23 22.6**	**-1.1**
BBAL	**Bala**	**0.50**	**30**	*i* P		**Pb**	**09 23 19.0**	**-0.3**
BBAL				*i* S		**Sb**	**09 23 26.9**	**+0.3**
KIZT	**Kizilcal**	**0.75**	**253**	*e*PG		**Pb**	**09 23 23.4**	**-0.2**
KIZT				*e*SG		**Sb**	**09 23 33.7**	**-0.1**
KIZT	**Kizilcal**	**0.75**	**253**	*e*Pg		**Pb**	**09 23 23.4**	**-0.2**
KIZT				*e*Sg		**Sb**	**09 23 33.7**	**-0.1**
ANTO	**Ankara**	**0.76**	**360**	*e*PG		**Pb**	**09 23 23.7**	**-0.1**
ANTO				*e*SG		**Sn**	**09 23 35.2**	**-1.2**
ANTO	**Ankara**	**0.76**	**360**	*e*Pg		**Pb**	**09 23 23.7**	**-0.1**
ANTO				*e*Sg		**Sn**	**09 23 35.2**	**-1.2**
LOD	**Lodumlu**	**0.78**	**358**	*e*PG		**Pb**	**09 23 22.7**	**-1.4**
LOD	**Lodumlu**	**0.78**	**358**	*e*Pg		**Pb**	**09 23 22.7**	**-1.4**
KDHN	**Kadinhani**	**0.79**	**223**	*i* P		**Pb**	**09 23 23.5**	**-0.7**
KDHN				*i* S		**Sb**	**09 23 35.8**	**+0.9**
KDHN	**Kadinhani**	**0.79**	**223**	*i* P		**Pb**	**09 23 23.5**	**-0.7**
KDHN				*i* S		**Sb**	**09 23 35.8**	**+0.9**
LADK	**Ladik-KONYA**	**0.97**	**201**	*e*PG		**Pb**	**09 23 26.8**	**-0.5**
LADK	**Ladik-KONYA**	**0.97**	**201**	*e*Pg		**Pb**	**09 23 26.8**	**-0.5**
SVRH	**Sivrihisar-ESK**	**1.05**	**289**	*e*PG		**Pn**	**09 23 28.6**	**-0.4**
SVRH	**Sivrihisar-ESK**	**1.05**	**289**	*e*Pg		**Pn**	**09 23 28.6**	**-0.4**
SULT	**Sultanhani-AKS**	**1.07**	**148**	*e*PG		**Pn**	**09 23 29.6**	**+0.3**
SULT	**Sultanhani-AKS**	**1.07**	**148**	*e*Pg		**Pn**	**09 23 29.6**	**+0.3**
KONT	**Konya--Tatoy**	**1.21**	**197**	*e*PN		**Pn**	**09 23 31.4**	**+0.2**
KONT	**Konya--Tatoy**	**1.21**	**197**	*e*Pn		**Pn**	**09 23 31.4**	**+0.2**
CDAG	**Cicekdag**	**1.32**	**67**	*i* P		**Pb**	**09 23 32.8**	**-0.5**
CDAG				*i* S		**Sn**	**09 23 50.8**	**+0.6**
ELDT	**Eldivan**	**1.46**	**19**	*i* P		**Pg**	**09 23 35.7**	**-1.1**
ELDT				*i* S		**Sg**	**09 23 57.2**	**+1.4**
ELDT	**Eldivan**	**1.46**	**19**	*i* P		**Pg**	**09 23 35.7**	**-1.1**
ELDT				*i* S		**Sg**	**09 23 57.2**	**+1.4**
BOLV	**Bolvadin**	**1.49**	**256**	*i* P		**Pg**	**09 23 38.5**	**+1.1**
BOLV	**Bolvadin**	**1.49**	**256**	*i* P		**Pg**	**09 23 38.5**	**+1.1**
SEYT	**Eskypehyr**	**1.57**	**286**	*i* P		**Pg**	**09 23 38.5**	**-0.2**
SEYT	**Eskypehyr**	**1.57**	**286**	*i* P		**Pg**	**09 23 38.5**	**-0.2**
CANT	**Cankiri**	**1.62**	**23**	*e*PN		**Pg**	**09 23 38.1**	**-1.7**
NIG	**Nigde**	**1.73**	**124**	*e*PN		**Pb**	**09 23 40.3**	**-0.1**
NIG	**Nigde**	**1.73**	**124**	*e*Pn		**Pb**	**09 23 40.3**	**-0.1**
CORM	**Corum**	**1.77**	**52**	*e*PN		**Pb**	**09 23 40.4**	**-0.6**
CORM	**Corum**	**1.77**	**52**	*e*Pn		**Pb**	**09 23 40.4**	**-0.6**
MDUB	**Mudurnu**	**1.84**	**318**	*e*PN		**Pb**	**09 23 41.1**	**-1.0**
MDUB	**Mudurnu**	**1.84**	**318**	*e*Pn		**Pb**	**09 23 41.1**	**-1.0**
SHUT	**Suhut-Afyon**	**1.84**	**253**	*e*PN		**Pb**	**09 23 41.8**	**-0.4**
SHUT	**Suhut-Afyon**	**1.84**	**253**	*e*Pn		**Pb**	**09 23 41.8**	**-0.4**
YOZ	**Yozgat**	**2.02**	**74**	*e*PN		**Pb**	**09 23 44.4**	**-0.9**
YOZ	**Yozgat**	**2.02**	**74**	*e*Pn		**Pb**	**09 23 44.4**	**-0.9**
SAFT	**Safranbolu**	**2.13**	**358**	*e*PN		**Pb**	**09 23 45.5**	**-1.5**
SAFT	**Safranbolu**	**2.13**	**358**	*e*Pn		**Pb**	**09 23 45.6**	**-1.5**
TOS	**Tosya**	**2.14**	**26**	*e*PN		**Pn**	**09 23 44.8**	**+0.7**
TOS	**Tosya**	**2.14**	**26**	*e*Pn		**Pn**	**09 23 44.8**	**+0.7**
HDMB	**Hadim**	**2.15**	**187**	*e*PN		**Pb**	**09 23 46.3**	**-1.3**
HDMB	**Hadim**	**2.15**	**187**	*e*Pn		**Pb**	**09 23 46.3**	**-1.3**
SUTC	**Sutluce-Ispart**	**2.16**	**222**	*e*PN		**Pb**	**09 23 46.5**	**-1.0**
SUTC	**Sutluce-Ispart**	**2.16**	**222**	*e*Pn		**Pb**	**09 23 46.6**	**-1.0**
ISP	**Isparta**	**2.20**	**235**	*e*PN		**Pb**	**09 23 47.6**	**-0.7**
ISP	**Isparta**	**2.20**	**235**	*e*Pn		**Pb**	**09 23 47.6**	**-0.7**
GULT	**Gulveren**	**2.20**	**308**	*e*PN		**Pb**	**09 23 46.3**	**-2.0**
GULT	**Gulveren**	**2.20**	**308**	*e*Pn		**Pb**	**09 23 46.3**	**-2.0**
BNN	**Bunyan**	**2.39**	**95**	*e*PN		**Pb**	**09 23 49.4**	**-2.1**
BNN	**Bunyan**	**2.39**	**95**	*e*Pn		**Pb**	**09 23 49.4**	**-2.1**
BCK	**Bucak**	**2.39**	**227**	*e*PN		**Pb**	**09 23 49.7**	**-1.8**
BCK	**Bucak**	**2.39**	**227**	*e*Pn		**Pb**	**09 23 49.7**	**-1.8**
CAVI	**Cavuskoy**	**2.53**	**297**	*e*PN		**Pb**	**09 23 51.1**	**-2.8**
CAVI	**Cavuskoy**	**2.53**	**297**	*e*Pn		**Pb**	**09 23 51.1**	**-2.8**
KARA	**Karaisali**	**2.56**	**135**	*e*PN		**Pb**	**09 23 52.1**	**-2.3**
KARA	**Karaisali**	**2.56**	**135**	*e*Pn		**Pb**	**09 23 52.1**	**-2.3**
KHL	**Karahalli**	**2.68**	**254**	*e*PN		**Pb**	**09 23 53.4**	**-3.0**
KHL	**Karahalli**	**2.68**	**254**	*e*Pn		**Pb**	**09 23 53.4**	**-3.0**
ADVT	**Abdulvahap**	**2.71**	**300**	*e*PN		**Pn**	**09 23 53.3**	**+1.6**
ADVT	**Abdulvahap**	**2.71**	**300**	*e*Pn		**Pn**	**09 23 53.3**	**+1.6**
KOZT	**Kozan**	**2.88**	**123**	*e*PN		**Pn**	**09 23 56.5**	**+2.3**
KOZT	**Kozan**	**2.88**	**123**	*e*Pn		**Pn**	**09 23 56.5**	**+2.3**
GAZI	**Gazipasa**	**2.89**	**188**	*i* P		**Pb**	**09 23 57.2**	**-2.8**
GAZI	**Gazipasa**	**2.89**	**188**	*i* P		**Pb**	**09 23 57.2**	**-2.8**
IKL	**Isikli**	**2.95**	**166**	*e*PN		**Pb**	**09 23 57.8**	**-3.1**
IKL	**Isikli**	**2.95**	**166**	*e*Pn		**Pb**	**09 23 57.8**	**-3.1**
HRT	**Hereke**	**2.95**	**306**	*e*PN		**Pn**	**09 23 57.4**	**+2.2**
HRT	**Hereke**	**2.95**	**306**	*e*Pn		**Pn**	**09 23 57.4**	**+2.2**
BZK	**Bozkurt**	**3.00**	**17**	*e*PN		**Pn**	**09 23 57.7**	**+2.0**
BZK	**Bozkurt**	**3.00**	**17**	*e*Pn		**Pn**	**09 23 57.7**	**+2.0**
DIKM	**Dikmen**	**3.16**	**36**	*e*

KVT	Kavak	3.18	51	ePn	Pn	09 24 00.5	+2.2	
SVSK	Karacayir	3.35	75	ePN	Pn	09 24 03.0	+2.5	
SVSK	Karacayir	3.35	75	ePN	Pn	09 24 03.0	+2.5	
ARMT	Armutlu	3.36	297	ePN	Pn	09 24 02.9	+2.1	
ARMT	Armutlu	3.36	297	ePN	Pn	09 24 02.9	+2.1	
RSDY	Resadiye-TOKAT	3.72	68	ePN	Pn	09 24 08.4	+2.7	
RSDY	Resadiye-TOKAT	3.72	68	ePN	Pn	09 24 08.4	+2.7	

IDC 16 09:23:11.5±0.9, 13°.99N×145°.06E, h115km±8km, mb3.7/16, mb1 3.9/16, mb1mx3.7/30, mbtmp3.7/16, Error ellipse: s-maj=21.8km s-min=12.8km az=101.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy 21.24**	**75**		T	T	09 50 01.5	
	baz=258,slow=0.7						
H11S1	**WAKE ISLAND Hy 21.26**	**75**		T	T	09 50 02.7	
	baz=258,slow=0.7						
H11S2	**WAKE ISLAND Hy 21.26**	**75**		T	T	09 50 02.7	
	baz=258						
H11N1	**WAKE ISLAND Hy 21.65**	**72**		T	T	09 51 00.8	
	baz=260,slow=0.7,SNR=6.0						
H11N2	**WAKE ISLAND Hy 21.66**	**72**		T	T	09 50 58.5	
	baz=260,slow=0.7,SNR=4.4						
H11N3	**WAKE ISLAND Hy 21.67**	**72**		T	T	09 50 56.8	
	baz=260,slow=0.7,SNR=6.9						
MJAR	**Matsushiro Arr**	**23.28**	**346**	P	P	09 28 09.0	-0.1
	1.0nm,0.7s,baz=170,slow=9.1,SNR=3.8						
CTA	**Charters Tower**	**33.88**	**178**	P	P	09 29 43.2	-0.2
	0.8nm,0.4s,baz=5.1,slow=14,SNR=3.1						
WRA	**Warramunga Arr**	**35.33**	**198**	P	P	09 29 54.9	-1.0
	1.3nm,0.7s,baz=23,slow=9.8,SNR=14						
WRA				pP	pP	09 30 21.8	+0.2
	0.6nm,0.6s,baz=23,slow=9.1,SNR=2.7						
ASAR	**Alice Springs**	**38.98**	**196**	P	P	09 30 26.1	-0.6
	0.2nm,0.5s,baz=22,slow=10,SNR=5.0						
ASAR				pP	pP	09 30 53.8	+1.0
	0.2nm,0.6s,baz=24,slow=9.7,SNR=2.5						
CMAR	**Chiang Mai Arr**	**44.41**	**282**	PcP	PcP	09 32 55.0	+1.9
	0.8nm,0.4s,baz=103,slow=1.7,SNR=6.0						
MKAR	**Makanchi Array**	**61.33**	**316**	P	P	09 33 15.8	+0.7
	0.7nm,0.6s,baz=96,slow=9.2,SNR=6.7						
KURBB	**Kurchatov Arra**	**64.44**	**320**	P	P	09 33 36.0	+0.4
	2.1nm,0.6s,baz=102,slow=6.7,SNR=8.4						
ILAR	**Eielson Array**	**68.14**	**25**	P	P	09 33 57.4	-1.6
	0.9nm,0.5s,baz=249,slow=6.1,SNR=32						
ILAR				pP	pP	09 34 26.7	-0.8
	0.3nm,0.7s,baz=246,slow=6.6,SNR=1.6						
BVAR	**Borovoye Array**	**69.73**	**322**	P	P	09 34 09.1	+0.1
	1.5nm,0.5s,baz=99,slow=9.5,SNR=4.7						
INK	**Inuvik**	**73.93**	**22**	P	P	09 34 33.1	-0.6
	1.5nm,0.8s,baz=262,slow=7.1,SNR=3.6						
YKA	**Yellowknife Ar**	**82.43**	**27**	P	P	09 35 20.1	-0.6
	1.6nm,0.6s,baz=287,slow=5.2,SNR=3.1						
YBH	**Yreka Blue Hor**	**82.48**	**49**	P	P	09 35 22.7	+1.1
	2.7nm,0.7s,baz=298,slow=1.9,SNR=8.6						
NEW	**Newport**	**84.81**	**42**	P	P	09 35 33.6	+0.3
	2.6nm,0.6s,baz=277,slow=4.7,SNR=9.9						
NVAR	**Mina Array Bea**	**86.53**	**51**	P	P	09 35 43.2	+1.0
	0.5nm,0.4s,baz=269,slow=5.8,SNR=8.0						
ARCES	**ARCESS Array B**	**86.77**	**342**	P	P	09 35 42.3	-0.1
	2.9nm,0.9s,baz=71,slow=7.8,SNR=4.5						
ELK	**Elko**	**88.18**	**49**	P	P	09 35 50.9	+0.8
	3.3nm,0.7s,baz=19,slow=2.3,SNR=21						
FINES	**FINESS Array B**	**90.88**	**335**	P	P	09 35 59.4	-2.6
	1.2nm,0.6s,baz=58,slow=5.4,SNR=3.9						
PDAR	**Pinedale Array**	**91.56**	**45**	P	P	09 36 06.0	+0.1
	0.4nm,0.8s,baz=213,slow=3.1,SNR=3.4						
TORD	**Torodi Ar. Bea**	**134.79**	**305**	PKP	PKPdf	09 42 16.6	-1.2
	0.3nm,0.6s,baz=112,slow=1.6,SNR=3.1						
DBIC	**Dimbokro**	**143.77**	**303**	PKP	PKPbc	09 42 32.3	+0.3
	2.4nm,0.5s,baz=51,slow=3.6,SNR=8.9						
LPAZ	**La Paz**	**147.90**	**98**	PKPbc	PKPbc	09 42 45.5	+0.5
	1.1nm,0.9s,baz=284,slow=4.2,SNR=3.7						

IDC 16 09:23:59.6±2.9, 30°.15N×114°.13W, h0km, mb3.5/1, mb1 3.5/6, mb1mx3.4/27, mbtmp3.1/6, ML3.2/5, MS3.2/5, Ms1 3.2/5, ms1mx3.0/30, Error ellipse: s-maj=43.8km s-min=11.4km az=30.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFO	**Pinyon Flat Ob**	**3.98**	**331**	Pn	Pn	09 24 58.4	-3.6
	0.2nm,0.3s,baz=136,slow=14,SNR=3.6						
PFO				Lg	Lg	09 25 59.8	
	1.4nm,0.3s,baz=237,slow=17,SNR=3.1						
PFO				LR	LR	09 26 32.7	
	comp=Z,294nm,19.4s,baz=159,slow=38						
LPIG	**La Paz**	**6.92**	**150**	LR	LR	09 27 23.6	
	comp=Z,94nm,20.4s,baz=200,slow=30						
ANMO	**Albuquerque**	**8.05**	**52**	Pn	Pn	09 25 56.7	-1.4
	0.1nm,0.3s,baz=240,slow=17,SNR=3.5						
ANMO				Sn	Sn	09 27 24.5	-5.7
	0.1nm,0.3s,baz=260,slow=17,SNR=2.5						
ANMO				Lg	Lg	09 28 10.3	
	0.1nm,0.3s,baz=10,slow=5.0,SNR=3.1						
NVAR	**Mina Array Bea**	**8.95**	**338**	Pn	Pn	09 26 10.6	+0.1
	0.1nm,0.3s,baz=159,slow=11,SNR=3.3						
NVAR				LR	LR	09 29 13.0	
	comp=Z,104nm,18.7s,baz=323,slow=35						
TXAR	**Lajitas Array**	**9.13**	**92**	Pn	Pn	09 26 13.7	+0.8
	0.1nm,0.3s,baz=267,slow=15,SNR=3.2						
TXAR				Sn	Sn	09 27 55.8	-0.7
	0.2nm,0.3s,baz=273,slow=20,SNR=3.9						
TXAR				Lg	Lg	09 28 48.0	
	0.2nm,0.3s,baz=247,slow=27,SNR=4.5						
ELK	**Elko**	**10.62**	**355**	Pn	Pn	09 26 35.8	+2.5
	0.1nm,0.3s,baz=208,slow=17,SNR=3.3						
PDAR	**Pinedale Array**	**13.12**	**15**	Pn	Pn	09 27 11.5	+4.0
	0.0nm,0.3s,baz=225,slow=8.9,SNR=2.3						
YBH	**Yreka Blue Hor**	**13.48**	**331**	LR	LR	09 32 30.6	
	comp=Z,119nm,20.2s,baz=24,slow=38						
BBB	**Bella Bella**	**24.32**	**339**	LR	LR	09 39 43.7	
	comp=Z,159nm,18.3s,baz=256,slow=39						
ILAR	**Eielson Array**	**40.21**	**339**	P	P	09 31 38.0	+0.5
	0.6nm,0.8s,baz=146,slow=7.9,SNR=8.1						

IDC 16 09:24:45.2±5.9, 20°.77S×178°.95W, h611km±57km, mb3.0/7, mb1 3.3/8, mb1mx3.0/20, mbtmp3.0/8, Error ellipse: s-maj=117.7km s-min=26.0km az=150.0

ISC 16 09:24:48.4±2.4, 20°.6S±0°.8×179°.1W±0°.4, h645km, n10, σ0s86/11, mb3.5/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.55**	**261**	P	**P**	**09 27 41.6**	**0.0**
	0.2nm,0.3s,baz=86,slow=23,SNR=4.0						
CTA	**Charters Tower**	**32.45**	**265**	P	**P**	**09 30 28.8**	**+0.1**
	1.9nm,0.4s,baz=93,slow=12,SNR=7.9						
ASAR	**Alice Springs**	**43.49**	**257**	P	**P**	**09 31 57.0**	**-0.6**
	3.3nm,0.6s,baz=96,slow=7.9,SNR=62						
ASAR				PcP	**PcP**	**09 33 31.1**	**+0.7**
	0.4nm,0.5s,baz=104,slow=3.8,SNR=7.0						
WRA	**Warramunga Arr**	**43.56**	**262**	P	**P**	**09 31 57.3**	**-0.8**
	1.4nm,0.5s,baz=97,slow=7.4,SNR=31						
FITZ	**Fitzroy Crossi**	**51.99**	**263**	P	**P**	**09 33 01.2**	**+0.7**
	0.6nm,0.5s,baz=121,slow=5.9,SNR=3.1						
NVAR	**Mina Array Bea**	**81.80**	**44**	P	**P**	**09 36 03.0**	**+0.8**
	0.3nm,0.5s,baz=219,slow=7.0,SNR=3.6						
ILAR	**Eielson Array**	**88.63**	**13**	P	**P**	**09 36 34.2**	**+0.1**
	0.5nm,0.9s,baz=222,slow=5.3,SNR=3.6						
PDAR	**Pinedale Array**	**89.74**	**44**	P	**P**	**09 36 39.4**	**-0.7**
	0.4nm,0.6s,baz=190,slow=4.6,SNR=3.6						
AKASG	**Malin Array Be**	**142.58**	**330**	PKP	**PKPdf**	**09 43 07.9**	**-1.5**
	2.8nm,0.6s,baz=42,slow=4.2,SNR=9.7						
BRTR	**Keskin Array B**	**146.13**	**312**	PKPbc	**PKPbc**	**09 43 19.1**	**+0.7**
	0.9nm,0.6s,baz=132,slow=2.1,SNR=4.5						

AUST 16 09:26:45.8, 23°.45S×177°.45W, h600km
ISCJB 16 09:26:53.1±0.6, 23°.59S±0°.06×179°.35W±0°.09, h550km, mb4.0/9, Error ellipse: s-maj=11.0km s-min=7.8km az=19.1
IDC 16 09:26:53.8±2.6, 23°.43S×179°.59W, h523km±27km, mb3.5/9, mb1 3.6/11, mb1mx3.3/23, mbtmp3.5/11, Error ellipse: s-maj=20.7km s-min=16.5km az=66.0

ISC 16 09:26:53.8±0.7, 23°.71S±0°.08×179°.3W±0°.1, h550km, n27, σ2s01/26, mb4.1/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.65**	**168**	S	**S**	**09 29 47.1**	**0.0**
	59nm,0.3s,baz=270,slow=20,SNR=2.7						

AFI	**Afiamalu**	**12.04**	**37**	P	**P**	**09 29 32.7**	**-0.3**	
	6.0nm,0.3s,baz=228,slow=16,SNR=2.4							
AFI				S	**S**	**09 31 38.7**	**-5.2**	
	1.3nm,0.3s,baz=261,slow=19,SNR=2.0							
DZM	**Mont Dzumac**	**13.29**	**274**	P	P	09 29 42.7	-3.1	
	0.2nm,0.3s,baz=150,slow=20,SNR=3.1							
URZ	**Urewera**	**14.84**	**191**	P	**P**	**09 30 00.8**	**-0.6**	
	1.2nm,0.3s,baz=355,slow=2.3,SNR=10							
URZ				S	**S**	**09 32 32.0**	**-3.9**	
	0.8nm,0.3s,baz=353,slow=16,SNR=6.2							
RPZ	**Rata Peaks**	**21.50**	**199**	P	**P**	**09 31 05.1**	**+1.9**	
	12nm,0.6s,baz=195,slow=0.9,SNR=15							
EIDS	**Eidsvold**	**27.02**	**260**	P	**P**	**09 31 52.5**	**+0.1**	
	baz=29,SNR=5.0							
CMSA	**Cobar Meteorol**	**31.93**	**248**	P	**P**	**09 32 35.0**	**+0.2**	
	baz=34,SNR=8.3							
CTA	**Charters Tower**	**32.17**	**270**	P	**P**	**09 32 36.2**	**-0.8**	
	9.5nm,0.5s,baz=97,slow=12,SNR=32							
QLP	**Quilpie**	**33.11**	**257**	P	**P**	**09 32 44.6**	**-0.2**	
	baz=35,SNR=4.1							
TOO	**Toolangi**	**33.13**	**237**	P	**P**	**09 32 45.9**	**+1.0**	
	baz=35,SNR=7.8							
STKA	**Stephens Creek**	**35.43**	**248**	P	**P**	**09 33 04.3**	**+0.1**	
	3.2nm,0.4s,baz=94,slow=10,SNR=6.8							
ASAR	**Alice Springs**	**42.75**	**260**	P	**P**	**09 34 02.8**	**-0.6**	
	2.8nm,0.5s,baz=96,slow=7.4,SNR=26							
ASAR				S	**S**	**09 39 43.0**	**-4.7**	
	0.5nm,0.7s,baz=97,slow=14,SNR=6.1							
WRA	**Warramunga Arr**	**43.11**	**266**	P	**P**	**09 34 05.0**	**-1.2**	
	2.0nm,0.3s,baz=92,slow=8.5,SNR=57							
TLE	**Tual**	**49.52**	**283**	P	**P**	**09 34 55.9**	**+1.1**	
	baz=51,SNR=4.2							
FITZ	**Fitzroy Crossi**	**51.53**	**265**	P	**P**	**09 35 09.4**	**+0.1**	
	0.8nm,0.5s,baz=97,slow=8.1,SNR=3.2							
VNDA	**Vanda**	**54.63**	**185**	P	P	09 35 34.6	+4.2	
	1.0nm,0.6s,baz=349,slow=7.1,SNR=9.1							
MORW	**Morawa**	**57.59**	**250**	P	**P**	**09 35 52.0**	**+0.3**	
	baz=59,SNR=3.3							
JNU	**Nakatsue**	**73.84**	**318**	P	**P**	**09 37 33.1**	**+0.3**	
	5.7nm,0.7s,baz=125,slow=18,SNR=4.3							
MAW	**Mawson**	**78.17**	**200**	P	P	09 37 59.7	+3.6	
	1.4nm,0.6s,baz=114,slow=8.7,SNR=6.6							
MKAR	**Makanchi Array**	**112.53**	**313**	PKiKP	**PKiKP**	**09 44 29.1**	**+1.4**	
	0.1nm,0.4s,baz=198,slow=2.3,SNR=3.4							
KURBB	**Kurchatov Arra**	**115.58**	**316**	PKP	**PKPdf**	**09 44 34.1**	**+0.7**	
	0.3nm,0.8s,baz=116,slow=1.9,SNR=4.5							
ARCES	**ARCESS Array B**	**131.84**	**349**	PKP	**PKPdf**	**09 45 05.9**	**+1.9**	
	7.1nm,1.0s,baz=20,slow=3.9,SNR=4.6							
HFS	**Hagfors**	**142.49**	**349**	PKhKP	PKPpre	09 45 22.4		
	1.8nm,0.3s,baz=31,slow=3.5,SNR=7.6							
AKASG	**Malin Array Be**	**145.18**	**328**	PKP	**PKPbc**	**09 45 30.4**	**+0.8**	
	2.0nm,0.5s,baz=42,slow=4.0,SNR=5.8							
BRTR	**Keskin Array B**	**148.01**	**308**	PKPbc	**PKPbc**	**09 45 38.1**	**+0.1**	
	0.5nm,0.5s,baz=137,slow=3.7,SNR=3.3							
EKA	**Eskdalemuir Ar**	**148.28**	**4**	PKPbc	**PKPbc**	**09 45 39.9**	**+2.0**	
	0.6nm,0.4s,baz=3.3,slow=2.7,SNR=3.6							
TORD	**Torodi Ar. Bea**	**169.46**	**185**	PKPab	**PKPab**	**09 47 18.8**	**+3.1**	
	0.8nm,0.7s,baz=184,slow=4.5,SNR=4.6							

CSEM 16 09:34:03.8±0.4, 38°.32N×38°.05E, h8km, MD2.6, Error ellipse: s-maj=8.6km s-min=7.1km az=18.0
DDA 16 09:34:04.2, 38°.27N×38°.14E, h7km, MD2.8

ISK 16 09:34:04.3, 38°.29N×38°.12E, h14km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKCD	**Akcadag**	**0.15**	**274**	*i* Pg	Pg	09 34 07.8	-0.6
AKCD				*i* Sg	Sg	09 34 10.7	-0.4
MALT	**Malatya**	**0.24**	**83**	*e*PG	Pb	09 34 10.5	-0.2
MALT				*e*SG	Sg	09 34 13.9	+0.4
MALT	**Malatya**	**0.24**	**83**	*e*Pg	Pb	09 34 10.5	-0.2
MALT				*e*Sg	Sg	09 34 13.9	+0.5
DARE	**Darende-Malaty**	**0.57**	**300**	*e*PG	Pg	09 34 15.8	0.0
DARE				*e*SG	Sb	09 34 24.6	+0.1
ELZG	**Elazig**	**0.71**	**72**	*e*P	Pg	09 34 18.1	-0.4
ELZG				*e*S	Sb	09 34 28.6	0.0
ELZG	**Elazig**	**0.71**	**72**	*e*P	Pg	09 34 18.1	-0.3
ELZG				*e*S	Sb	09 34 28.6	0.0
KEMA	**Kemaliye**	**1.02**	**16**	*e*P	Pb	09 34 23.8	-0.2
KEMA				*e*S	Sn	09 34 39.0	+0.3
KEMA	**Kemaliye**	**1.02**	**16**	*e*P	Pb	09 34 23.8	-0.2
KEMA				*e*S	Sn	09 34 39.0	+0.3
PTK	**Pertek**	**1.17**	**58**	*e*PN	Pn	09 34 26.0	-0.5
PTK				*e*SN	Sg	09 34 43.0	+0.5
PTK	**Pertek**	**1.17**	**58**	*e*Pn	Pn	09 34 26.0	-0.5
PTK				*e*Sn	Sg	09 34 43.1	+0.6
ILIC	**ilic-Erzincan**	**1.22**	**17**	*e*PN	Pg	09 34 27.9	-0.1
ILIC	**ilic-Erzincan**	**1.22**	**17**	*e*Pn	Pg	09 34 27.9	0.0
KMRS	**Kahramanmaras**	**1.24**	**231**	*e*PN	Pb	09 34 27.7	+0.2
KMRS	**Kahramanmaras**	**1.24**	**231**	*e*Pn	Pb	09 34 27.7	+0.1
AYKD	**Aykdinkavak**	**1.35**	**230**	*e*P	Pg	09 34 31.0	+0.6
AYKD				*e*S	Sg	09 34 48.5	+0.3
PINB	**Pinarbasi**	**1.40**	**287**	*e*P	Pg	09 34 33.0	+1.4
PINB				*e*S	Sg	09 34 53.1	+3.0
PINB	**Pinarbasi**	**1.40**	**287**	*e*P	Pg	09 34 33.0	+1.3
PINB				*e*S	Sg	09 34 53.1	+2.9

CSEM 16 09:34:10.2, 37°.57N×35°.73E, h21km, MD2.3, After ISK

ISK 16 09:34:10.2, 37°.57N×35°.73E, h21km, MD2.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOZT	**Kozan**	**0.12**	**138**	*e*PG	Pb	09 34 15.6	-1.1
KOZT				*e*SG	Sb	09 34 17.7	-3.6
KOZT	**Kozan**	**0.12**	**138**	*e*Pg	Pb	09 34 15.6	-1.1
KOZT				*e*Sg	Sb	09 34 17.7	-3.6
CEYT	**Ceyhan**	**0.56**	**178**	*e*PG	Pb	09 34 21.8	+0.4
CEYT				*e*SG	Sn	09 34 30.4	-1.2
CEYT	**Ceyhan**	**0.56**	**178**	*e*Pg	Pb	09 34 21.8	+0.4
CEYT				*e*Sg	Sn	09 34 30.4	-1.1
KARA	**Karaisali**	**0.62**	**240**	*e*PG	Pb	09 34 22.6	+0.2
KARA				*e*SG	Sn	09 34 32.1	-1.0
KARA	**Karaisali**	**0.62**	**240**	*e*Pg	Pb	09 34 22.6	+0.2
KARA				*e*Sg	Sn	09 34 32.1	-0.9
KMRS	**Kahramanmaras**	**0.94**	**94**	*e*PG	Pn	09 34 28.4	+0.2
KMRS	**Kahramanmaras**	**0.94**	**94**	*e*Pg	Pn	09 34 28.4	+0.2

NAO 16 09:37:06.0±2.1, 67°.58N×33°.95E, ML2.7
HEL 16 09:37:08.1±0.3, 67°.72N×33°.67E, h0km, ML2.3, Explosion
CSEM 16 09:37:10.8±0.3, 67°.70N×33°.10E, h1km, ML2.3, Error ellipse: s-maj=6.1km s-min=4.4km az=79.0, Mining explosion.

ISC 16 09:37:06.9±2.3, 67°.72N±0°.05×33°.8E±0°.1, h0km, n21, σ1s06/31, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	**0.33**	**251**	Pg	**Pg**	**09 37 13.7**	**+0.6**
	baz=68,slow=14						
APA0				Lg	Lg	09 37 18.4	
	baz=96,slow=37						
APA0				Rg	Rg	09 37 20.1	
	baz=106,slow=37						
APA0	**Apatity Array**	**0.33**	**251**	Pg	**Pg**	**09 37 13.7**	**+0.6**
	baz=68,slow=14						
APA0				Lg	Lg	09 37 18.4	
	baz=96,slow=37						
APA0				Rg	Rg	09 37 20.1	
	baz=106,slow=37						
APA0	**Apatity Array**	**0.33**	**251**	Pg	**Pg**	**09 37 13.7**	**+0.6**
	baz=68,slow=12,SNR=122						
APA0				Lg	Lg	09 37 18.5	
	baz=96,slow=31						
VRF	**Varrio**	**1.60**	**273**	*e*PG	**Pn**	**09 37 36.2**	**-0.2**
VRF				*e*SN	**Sg**	**09 37 57.9**	**-0.2**
VRF	**Varrio**	**1.60**	**273**	Pg	**Pn**	**09 37 36.1**	**-0.2**
KU6	**Riekki**	**2.29**	**224**	*e*P	**Pn**	**09 37 46.5**	**+0.5**
KU6				*e*SB	**Sb**	**09 38 16.3**	**-1.7**
KU6				MSG		09 38 20.2	
	comp=Z,10nm,0.3s						
KU6	**Riekki**	**2.29**	**224**	P	**Pn**	**09 37 46.4**	**+0.5**
KU6				Sb	**Sb**	**09 38 16.3**	**-1.7**
MSF	**Maaselka**	**2.61**	**228**	*e*PB	**Pb**	**09 37 53.2**	**-1.3**
MSF				*e*SG	**Sb**	**09 38 27.0**	**-0.1**
SGF	**Sodankyl**	**2.80**	**268**	*e*P	**Pn**	**09 37 53.5**	**+0.6**
SGF				*e*SG	**Sb**	**09 38 32.9**	**+0.4**
SGF	**Sodankyl**	**2.80**	**268**	P	**Pn**	**09 37 53.5**	**+0.6**
SGF				Sg	**Sb**	**09 38 32.9**	**+0.4**
KEV	**Kevo**	**3.21**	**313**	*e*P	**Pn**	**09 37 60.0**	**+1.4**
KEV				MSG		09 38 53.8	
	comp=Z,18nm,0.3s						

KEV	**Kevo**	**3.21**	**313**	P	**Pn**	**09 37 59.9**	**+1.4**	
RNF	**Rovaniemi**	**3.23**	**254**	*e*P	**Pn**	**09 37 59.4**	**+0.6**	
RNF				*e*SG	**Sb**	**09 38 44.8**	**-0.1**	
RNF	**Rovaniemi**	**3.23**	**254**	P	**Pn**	**09 37 59.4**	**+0.6**	
RNF				Sg	**Sb**	**09 38 44.8**	**-0.1**	
ARA0	**ARCESS Array S**	**3.54**	**305**	Pn	**Pn**	**09 38 03.5**	**+0.4**	
	baz=122,slow=16							
ARA0				Sn	**Sn**	**09 38 45.6**	**0.0**	
	baz=124,slow=28							
ARA0				Lg	Lg	09 38 57.0		
	baz=112,slow=28							
ARA0	**ARCESS Array S**	**3.54**	**305**	Pn	**Pn**	**09 38 03.5**	**+0.4**	
	baz=122,slow=16							
ARA0				Sn	**Sn**	**09 38 45.6**	**0.0**	
	baz=124,slow=28							
ARA0				Lg	Lg	09 38 57.0		
	baz=112,slow=28							
ARA0	**ARCESS Array S**	**3.54**	**305**	*e*P	**Pn**	**09 38 03.3**	**+0.2**	
ARA0				*e*SB	**Sb**	**09 38 51.8**	**-2.1**	
ARA0	**ARCESS Array S**	**3.54**	**305**	Pn	**Pn**	**09 38 03.5**	**+0.4**	
	baz=122,slow=14,SNR=50							
ARA0				Sn	**Sn**	**09 38 45.6**	**0.0**	
	baz=124,slow=25,SNR=50							
ARA0				Lg	Lg	09 38 57.0		
	baz=112,slow=26,SNR=105							
HEF	**Hetta**	**3.87**	**285**	MSG		09 39 12.7		
	comp=Z,4.6nm,0.2s							
OUL	**Oulu**	**4.13**	**234**	*e*SG	**Sb**	**09 39 14.2**	**+3.5**	
KJN	**Kajaani**	**4.42**	**217**	MSG		09 39 23.3		
	comp=Z,5.0nm,0.3s							

IDC 16 09:37:31.0±0.5, 11°.96S×165°.63E, h0km, mb4.5/28, mb1 4.6/29, mb1mx4.6/31, mbtmp4.5/29, ML4.2/1, Error ellipse: s-maj=16.0km s-min=12.2km az=95.0
ISCJB 16 09:37:31.0±3.2, 12°.01S±0°.05×165°.70E±0°.04, h8km±20km, mb4.7/52, MS4.8/2, Error ellipse: s-maj=8.6km s-min=7.2km az=0.5
MOS 16 09:37:34.4±1.6, 12°.01S×165°.79E, h33km, mb5.2/10, Error ellipse: s-maj=13.4km s-min=10.8km az=10.9
DJA 16 09:37:35.8±0.6, 12°.5±7°×16°.6E±°, h30km, M5.0/3, mB6.7/1, mb5.0/3, Mw(mB)6.5/1
BJI 16 09:37:35.3, 11°.44S×165°.86E, h28km, mB5.2/21, mb4.9/30, Ms5.1/6, Ms7 4.9/8
NEIC 16 09:37:36.5±1.0, 11°.95S×165°.80E, h37km±9km, mb5.0/14, Error ellipse: s-maj=7.9km s-min=7.3km az=129.0
BKK 16 09:37:40.4±0.5, 11°.5±9°×16°.5E±°, h10km, M4.9/10, mb4.9/10

ISC 16 09:37:36.0±0.5, 11°.98S±0°.06×165°.82E±0°.06, h33km±2km, h33km:pP-P,n143, σ1s35/169, mb4.8/52, 2C-1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.30**	**293**	Pn	**Pn**	**09 39 07.3**	**+0.7**
HNR				Sn	**Sn**	**09 40 17.9**	**+0.3**
HNR	**Honiara**	**6.30**	**293**	Pn	**Pn**	**09 39 07.3**	**+0.7**
	25nm,0.3s,baz=358,slow=8.4,SNR=9.5						
HNR				Sn	**Sn**	**09 40 17.9**	**+0.3**
	baz=180,slow=18,SNR=2.9						
DZM	**Mont Dzumac**	**10.05**	**177**	*e*Pn	**Pn**	**09 39 57.6**	**-0.6**
	119nm,0.9s						
DZM				*e*LR	LR	09 42 27.9	
	1μm,24.1s						
DZM	**Mont Dzumac**	**10.05**	**177**	*e*Pn	**Pn**	**09 39 57.8**	**-0.4**
DZM	**Mont Dzumac**	**10.05**	**177**	Pn	**Pn**	**09 39 57.8**	**-0.4**
	2.2nm,0.3s,baz=90,slow=24,SNR=28						
MSVF	**Nonsavu**	**13.13**	**117**	*e*P	**Pn**	**09 40 39.8**	**-0.5**
MSVF	**Nonsavu**	**13.13**	**117**	*e*Pn	**Pn**	**09 40 39.8**	**-0.5**
TARA	**Tarawa**	**15.01**	**29**	*e*Pn	**Pn**	**09 41 05.6**	**-0.3**
PMG	**Port Moresby**	**18.51**	**276**	P	**Pn**	**09 41 52.8**	**+2.7**
PMG	**Port Moresby**	**18.51**	**276**	*e*P	**P**	**09 41 49.6**	**-0.1**
	40nm,1.2s						
PMG	**Port Moresby**	**18.51**	**276**	P	**Pn**	**09 41 52.5**	**+2.4**
	0.3nm,0.3s,baz=110,slow=11,SNR=6.7						
EIDS	**Eidsvold**	**19.27**	**224**	*e*P	**Pn**	**09 41 59.8**	**+0.7**
	46nm,1.4s						
CTA	**Charters Tower**	**20.44**	**244**	P	**P**	**09 42 12.1**	**+1.3**
CTA	**Charters Tower**	**20.44**	**244**	P	**P**	**09 42 12.1**	**+1.3**
	20nm,0.9s,baz=70,slow=12,SNR=31						
CTAO	**Charters Tower**	**20.44**	**244**	*e*P	**P**	**09 42 12.0**	**+1.3**
CTAO				pmax	pmax		
	comp=Z,53nm,1.2s						
CTAO	**Charters Tower**	**20.44**	**244**	*e*P	**P**	**09

	comp=Z,27nm,1.0s								
IPM	**Ipoh**	**66.46**	**280**	*e*P		**P**	**09 48 23.5**	**+0.7**
	comp=Z,27nm,1.1s								
CN2	**Changchun**	**66.58**	**329**	*e*P		**P**	**09 48 20.5**	**-2.4**
KLR	**Kul'dur**	**67.94**	**337**	*e*P		**P**	09 48 35.4	+4.0
PSI	**Prapat**	**68.07**	**278**	P		**P**	**09 48 31.7**	**-1.4**
PSI	**Prapat**	**68.07**	**278**	P		**P**	**09 48 31.7**	**-1.4**
	comp=Z,9.5nm,0.9s,baz=116,slow=2.7,SNR=8.3								
ENH	**Enshi**	**68.54**	**309**	*e*P		**P**	**09 48 35.1**	**-0.5**
	comp=Z,14nm,0.7s								
GYA	**Guiyang**	**69.00**	**304**	*e*P		**P**	**09 48 38.8**	**+0.1**
GYA				pP		**pP**	**09 48 50.4**	**+1.5**
GYA				PcP		**PcP**	**09 49 02.6**	**-0.2**
GYA				ScP			09 53 01.0		
GYA				S		**S**	**09 57 40.3**	**-1.5**
GYA				sS		**sS**	**09 57 57.8**	**-0.8**
GYA				SKS		**SKSac**	**09 58 32.4**	**-4.2**
GYA				SS		**SS**	**10 02 08.9**	**+0.7**
GYA				AMB		AMB			
	comp=Z,10.0nm,1.0s								
GYA				AMB		AMB			
	comp=Z,90nm,5.3s								
GYA				LR		LR			
	comp=Z,450nm,18.1s								
GYA				LR		LR			
	comp=Z,390nm,19.9s								
GYA				LR		LR			
	comp=Z,430nm,18.6s								
XAN	**Xi'an**	**70.80**	**313**	P		**P**	**09 48 49.6**	**+0.1**
XAN				pP		**pP**	**09 48 59.6**	**-0.2**
XAN				AMB		AMB			
	comp=Z,2.0nm,1.0s								
CMAR	**Chiang Mai Arr**	**72.55**	**294**	P		**P**	**09 49 01.1**	**+0.7**
CMAR	**Chiang Mai Arr**	**72.55**	**294**	P		**P**	**09 49 01.1**	**+0.7**
	comp=Z,4.9nm,0.8s,baz=116,slow=4.6,SNR=24								
HHC	**Hu-ho-hao-te**	**72.59**	**320**	*e*P		**P**	**09 49 00.0**	**-0.2**
HHC				pP		**pP**	**09 49 11.0**	**+0.5**
HHC				PP		**PP**	**09 51 42.0**	**-0.2**
HHC				S		**S**	**09 58 22.3**	**-0.6**
HHC				sS		**sS**	**09 58 37.9**	**-2.0**
HHC				SKS		**SKSac**	**09 58 57.0**	**-6.0**
HHC				ScS		**ScS**	**09 59 05.0**	**-0.2**
HHC				AMB		AMB			
	comp=Z,32nm,1.0s								
HHC				AMB		AMB			
	comp=Z,240nm,5.3s								
HHC				LR		LR			
	comp=Z,330nm,15.8s								
HHC				LR		LR			
	comp=Z,350nm,15.6s								
HHC				LR		LR			
	comp=Z,240nm,16.4s								
CD2	**Chengdu**	**73.23**	**308**	P		**P**	**09 49 04.8**	**+0.7**
CD2				AMB		AMB			
	comp=Z,20nm,0.5s								
LZH	**Lanzhou**	**75.44**	**312**	*e*P		**P**	**09 49 17.9**	**+0.8**
LZH				pP		**pP**	**09 49 28.6**	**+1.2**
LZH				sP		**sP**	**09 49 32.5**	**+1.3**
LZH				AMB		AMB			
	comp=Z,21nm,1.1s								
LZH				AMB		AMB			
	comp=Z,160nm,5.3s								
QSPA	**South Pole Qui**	**78.03**	**180**	*e*P		**P**	**09 49 30.3**	**-0.8**
	comp=Z,26nm,1.0s								
YAK	**Yakutsk**	**79.01**	**344**	⇓ *i*P		**P**	**09 49 37.7**	**+1.4**
YAK				pmax		pmax			
	comp=Z,16nm,0.7s								
SONM	**Songino Array**	**79.46**	**324**	P		**P**	**09 49 39.5**	**+0.2**
SONM	**Songino Array**	**79.46**	**324**	P		**P**	**09 49 39.5**	**+0.2**
	comp=Z,4.4nm,1.0s,baz=135,slow=5.4,SNR=13								
GTA	**Gaotai**	**79.76**	**314**	*e*P		**P**	**09 49 41.8**	**+0.7**
GTA				pP		**pP**	**09 49 52.1**	**+0.7**
GTA				sP		**sP**	**09 49 56.3**	**+1.1**
GTA				S		**S**	**09 59 44.1**	**+2.2**
GTA				AMB		AMB			
	comp=Z,5.0nm,1.1s								
GTA				AMB		AMB			
	comp=Z,100nm,6.2s								
PPLA	**Purkeypile**	**81.39**	**18**	*e*P		P	09 49 52.8	+3.5
	comp=Z,3.3nm,0.9s								
ZAK	**Zakamensk**	**82.51**	**325**	*e*P		**P**	**09 49 52.8**	**-2.6**
ZAK				pmax		pmax			
	comp=Z,7.0nm,1.0s								
TLY	**Talaya**	**82.94**	**326**	*e*P		**P**	**09 49 57.6**	**+0.1**
TLY				*e*			09 50 08.2		
TLY				pmax		pmax			
	comp=Z,8.0nm,0.9s								
MAW	**Mawson**	**83.89**	**202**	*e*P		**P**	**09 50 02.4**	**+0.2**
MAW	**Mawson**	**83.89**	**202**	P		**P**	**09 50 01.7**	**-0.4**
	comp=Z,2.1nm,0.8s,baz=78,slow=8.0,SNR=5.4								
ILAR	**Eielson Array**	**84.37**	**18**	P		**P**	**09 50 06.3**	**+1.8**
ILAR	**Eielson Array**	**84.37**	**18**	P		**P**	**09 50 06.3**	**+1.8**
	comp=Z,1.3nm,0.9s,baz=252,slow=4.7,SNR=12								
YBH	**Yreka Blue Hor**	**84.49**	**45**	P		**P**	**09 50 08.1**	**+2.3**
YBH	**Yreka Blue Hor**	**84.49**	**45**	P		**P**	**09 50 08.1**	**+2.3**
	comp=Z,3.2nm,0.9s,baz=228,slow=4.1,SNR=9.0								
EDW2	**Edwards Air Fo**	**85.72**	**53**	P		**P**	**09 50 13.1**	**+1.0**
	baz=86								
MPMC	**Manual Prospec**	**86.47**	**52**	P		**P**	**09 50 17.5**	**+1.6**
	baz=87								
NVAR	**Mina Array Bea**	**86.57**	**50**	P		**P**	**09 50 17.3**	**+0.9**
NVAR	**Mina Array Bea**	**86.57**	**50**	P		**P**	**09 50 17.3**	**+0.9**
	comp=Z,1.3nm,0.8s,baz=236,slow=6.8,SNR=11								
HEC	**Hector,Ludlow**	**87.01**	**54**	P		**P**	**09 50 19.6**	**+1.1**
	baz=87								
TIXI	**Tiksi**	**87.02**	**349**	*i* P		**P**	**09 50 20.0**	**+2.5**
TIXI				pmax		pmax			
	comp=Z,8.0nm,1.4s								
BELC	**Belle Mtn. Jos**	**87.04**	**55**	P		**P**	**09 50 19.7**	**+1.0**
	baz=87								
FURC	**Furnace Creek,**	**87.08**	**52**	P		**P**	**09 50 19.7**	**+1.2**
	baz=87								
HVS	**Khovu-Aksy**	**88.33**	**323**	*i* P		**P**	**09 50 24.3**	**-0.1**
HVS				pmax		pmax			
	comp=Z,38nm,1.4s								
R11A	**Troy Canyon, C**	**88.59**	**50**	P		**P**	**09 50 27.4**	**+1.3**
	baz=89								
W13A	**Hualapai Mount**	**89.02**	**54**	P		**P**	**09 50 29.6**	**+1.4**
	baz=89								
WMQ	**Urumqi**	**89.80**	**315**	P		**P**	**09 50 30.9**	**-0.6**
WMQ				pP		**pP**	**09 50 41.5**	**-0.5**
WMQ				sP		**sP**	**09 50 45.4**	**-0.4**
WMQ				AMB		AMB			
	comp=Z,12nm,0.7s								
WMQ				AMB		AMB			
	comp=Z,110nm,4.0s								
NEW	**Newport**	**90.40**	**41**	P		**P**	**09 50 35.7**	**+1.6**
NEW	**Newport**	**90.40**	**41**	P		**P**	**09 50 35.6**	**+1.5**
	baz=90								
NEW	**Newport**	**90.40**	**41**	P		**P**	**09 50 35.7**	**+1.6**
	comp=Z,0.9nm,0.5s,baz=213,slow=17,SNR=4.2								
U15A	**North Rim**	**90.61**	**53**	P		**P**	**09 50 36.5**	**+0.8**
	baz=91								
HLID	**Hailey**	**90.88**	**46**	P		**P**	**09 50 38.0**	**+1.4**
	baz=91								
SYO	**Syowa Base**	**90.91**	**197**	⇑ *e*P		**P**	**09 50 33.6**	**-2.5**
DUG	**Dugway**	**91.15**	**49**	P		**P**	**09 50 39.5**	**+1.5**
	baz=91								
BSMT	**Bassoo Peak**	**91.79**	**41**	*e*P		**P**	**09 50 42.0**	**+1.3**
	comp=Z,2.8nm,0.7s								
X18A	**Snowflake**	**92.02**	**55**	P		**P**	**09 50 44.1**	**+2.0**
	baz=92								
PDAR	**Pinedale Array**	**94.13**	**47**	P		**P**	**09 50 53.1**	**+1.4**
PDAR	**Pinedale Array**	**94.13**	**47**	P		**P**	**09 50 53.1**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=305,slow=11,SNR=2.6								
U21A	**Nageezi**	**94.25**	**54**	P		**P**	**09 50 53.9**	**+1.5**
	baz=94								
MK31	**Makanchi Array**	**94.25**	**317**	*e*P		**P**	**09 50 51.7**	**-0.3**
MK31				*e*PP		**pP**	**09 51 02.7**	**+0.3**
MK31	**Makanchi Array**	**94.25**	**317**	*e*P		**P**	**09 50 51.7**	**-0.3**
MK31				*ep*P		**pP**	**09 51 02.7**	**+0.3**
MKAR	**Makanchi Array**	**94.25**	**317**	P		**P**	**09 50 51.3**	**-0.6**
MKAR	**Makanchi Array**	**94.25**	**317**	P		**P**	**09 50 51.3**	**-0.6**
MKAR	**Makanchi Array**	**94.25**	**317**	P		**P**	**09 50 51.3**	**-0.6**
	comp=Z,5.0nm,0.8s,baz=100,slow=6.3,SNR=29								
ZAA0	**Zalesovo Array**	**94.35**	**324**	*e*P		**P**	**09 50 50.7**	**-1.5**
ZAA0				*ep*P		**pP**	**09 51 01.6**	**-1.1**
ZALV	**Zalesovo Beam**	**94.35**	**324**	P		**P**	**09 50 50.2**	**-2.0**
ZALV	**Zalesovo Beam**	**94.35**	**324**	P		**P**	**09 50 50.2**	**-2.0**
ZALV	**Zalesovo Beam**	**94.35**	**324**	P		**P**	**09 50 50.2**	**-2.0**
	comp=Z,5.2nm,0.9s,baz=104,slow=6.3,SNR=18								
SNAA	**Sanae**	**96.19**	**184**	*e*P		**P**	**09 50 58.9**	**-1.5**
	comp=Z,8.6nm,1.1s								
SNAA				*ep*P		**pP**	**09 51 09.8**	**-1.1**
SNAA	**Sanae**	**96.19**	**184**	P		**P**	**09 50 59.0**	**-1.5**
	comp=Z,0.8nm,0.8s,baz=218,slow=20,SNR=4.4								
TXAR	**Lajitas Array**	**96.21**	**61**	P		**P**	**09 51 03.4**	**+1.9**
TXAR	**Lajitas Array**	**96.21**	**61**	P		**P**	**09 51 03.4**	**+1.9**
	comp=Z,0.3nm,0.6s,baz=193,slow=3.7,SNR=3.4								
KURK	**Kurchatov**	**97.40**	**320**	P		**P**	**09 51 05.6**	**-0.5**
KURK	**Kurchatov**	**97.40**	**320**	P		**P**	**09 51 05.6**	**-0.5**
KURBB	**Kurchatov Arra**	**97.44**	**320**	P		**P**	**09 51 05.6**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=97,slow=3.5,SNR=6.0								
BVAR	**Borovoye Array**	**102.73**	**322**	P		**Pdif**	**09 51 29.7**	**-0.2**
BVAR	**Borovoye Array**	**102.73**	**322**	P		**Pdif**	**09 51 29.7**	**-0.2**
BVAR	**Borovoye Array**	**102.73**	**322**	P		**Pdif**	**09 51 29.7**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=85,slow=4.8,SNR=3.5								
ARCES	**ARCESS Array B**	**117.25**	**345**	PKP		**PKPdf**	**09 56 15.1**	**-2.3**
ARCES	**ARCESS Array B**	**117.25**	**345**	PKP		**PKPdf**	**09 56 15.1**	**-2.3**
	comp=Z,7.1nm,1.0s,baz=66,slow=1.7,SNR=12								
BOSA	**Boshof**	**124.48**	**223**	PKP		**PKPdf**	**09 56 32.5**	**-0.3**
BOSA	**Boshof**	**124.48**	**223**	PKP		**PKPdf**	**09 56 32.5**	**-0.3**
	comp=Z,4.1nm,0.9s,baz=75,slow=4.2,SNR=3.8								
BRTR	**Keskin Array B**	**129.65**	**312**	PKP		**PKPdf**	**09 56 41.5**	**-0.8**
BRTR	**Keskin Array B**	**129.65**	**312**	PKP		**PKPdf**	**09 56 41.5**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=123,slow=4.6,SNR=4.3								
DAVOX	**Davos/Dischmat**	**139.81**	**334**	PKP		**PKPdf**	**09 57 00.1**	**-0.9**
DAVOX	**Davos/Dischmat**	**139.81**	**334**	PKP		**PKPdf**	**09 57 00.1**	**-0.9**
	comp=Z,2.6nm,0.7s,baz=301,slow=9.2,SNR=3.7								
KEST	**Kesra**	**148.20**	**322**	*e*PKPbc		**PKPbc**	**09 57 19.1**	**0.0**
KEST	**Kesra**	**148.20**	**322**	PKPbc		**PKPbc**	**09 57 18.0**	**-1.2**
	comp=Z,4.6nm,0.8s,baz=330,slow=3.1,SNR=6.9								
ESDC	**Sonseca Array**	**150.97**	**344**	PKPab		**PKPab**	**09 57 33.5**	**+0.3**
ESDC	**Sonseca Array**	**150.97**	**344**	PKPab		**PKPab**	**09 57 33.5**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=26,slow=4.5,SNR=6.4								
TORD	**Torodi Ar. Bea**	**164.46**	**276**	PKP		**PKPdf**	**09 57 36.1**	**-1.2**
TORD				PKPab		**PKPab**	**09 58 33.9**	**+1.8**
TORD	**Torodi Ar. Bea**	**164.46**	**276**	PKP		**PKPdf**	**09 57 36.1**	**-1.2**
	comp=Z,2.6nm,1.1s,baz=4.6,slow=1.3,SNR=6.3								
TORD				PKPab		**PKPab**	**09 58 33.9**	**+1.8**
	comp=Z,1.3nm,0.9s,baz=111,slow=3.3,SNR=4.2								

CSEM ***16*** *09:37:36.6±0.4, 61.32N×4.91E, h2km, ML1.8, Error ellipse: s-maj=7.5km s-min=4.0km az=119.0*
NAO ***16*** *09:37:36.1±4.5, 61.44N×4.81E, ML1.9*
BER 16 09:37:35.7±3.6, 61.37N×4.50E, h0km±12km, MD1.5, ML1.8, ML1.9(NAO)**, Southern Norway**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SUE	**Sulen**	**0.34**	**158**	*e*P		Pg		09 37 42.4	+0.1
SUE				*e*S		Sg		09 37 48.0	+1.4
SUE				AML		AML		09 37 48.4	
	comp=Z,81nm,0.1s								
SUE	**Sulen**	**0.34**	**158**	*e*P		Pg		09 37 42.4	+0.2
	SNR=90								
HYA	**Hoyanger**	**0.84**	**104**	*e*P		Pg		09 37 51.1	-0.7
HYA				*e*S		Sg		09 38 03.4	+0.7
HYA				AML		AML		09 38 04.5	
	comp=Z,57nm,0.2s								
ASK	**Askoy**	**0.96**	**159**	*e*P		Pg		09 37 52.0	-2.0
ASK				*e*S		Sg		09 38 06.4	0.0
RUND	**Rundenannen**	**1.05**	**156**	*e*P		Pg		09 37 53.9	-2.1
RUND				*e*S		Sg		09 38 09.0	-0.6
RUND				AML		AML		09 38 11.2	
	comp=Z,30nm,0.2s								
BER	**Bergen**	**1.07**	**157**	*e*P		Pg		09 37 54.6	-1.6
BER				*e*S		Sg		09 38 10.1	-0.1
BER				AML		AML		09 38 11.5	
	comp=Z,36nm,0.2s								
BER	**Bergen**	**1.07**	**157**	*e*P		Pg		09 37 54.6	-1.6
	SNR=90								
BER				*e*S		Sg		09 38 10.1	0.0
	comp=Z,25nm,0.1s,SNR=90								
EGD	**Espegrend**	**1.16**	**162**	*e*P		Pg		09 37 55.6	-2.3
EGD				*e*S		Sg		09 38 12.0	-1.0
EGD				AML		AML		09 38 12.8	
	comp=Z,25nm,0.1s								
ODD1	**Odda**	**1.80**	**143**	*e*P		Pn		09 38 06.0	-2.1
ODD1				*e*S		Sn		09 38 29.4	-2.2
ODD1				AML		AML		09 38 32.3	
	comp=Z,16nm,0.3s								
ODD1	**Odda**	**1.80**	**143**	*e*P		Pn		09 38 06.0	-2.1
	SNR=50								
ODD1				*e*S		Sn		09 38 29.5	-2.2
	comp=Z,16nm,0.3s,SNR=50								
MOL	**Molde**	**1.88**	**49**	*e*P		Pn		09 38 08.0	-1.0
MOL				*e*S		Sn		09 38 33.1	-0.2
MOL				AML		AML		09 38 34.2	
	comp=Z,15nm,0.3s								
MOL	**Molde**	**1.88**	**49**	*e*P		Pn		09 38 08.0	-1.0
	SNR=50								
MOL				*e*S		Sn		09 38 33.1	-0.2
	comp=Z,15nm,0.3s,SNR=50								
KMY	**Karmoy**	**2.20**	**170**	*e*P		Pn		09 38 10.7	-2.7
NB2	**NORSAR Subarra**	**3.27**	**93**	Pn		Pn		09 38 26.2	-2.0
	baz=277,slow=14								
NB2				Pg		Pb		09 38 31.5	-3.1
NB2				Sn		Sn		09 39 03.4	-4.4
	baz=283,slow=22								
NB2				Lg		Lg		09 39 14.2	
	baz=277,slow=37								
NB2	**NORSAR Subarra**	**3.27**	**93**	Pn		Pn		09 38 26.2	-2.0
	baz=277,slow=14								
NB2				Pg		Pb		09 38 31.5	-3.1
NB2				Sn		Sn		09 39 03.4	-4.4
	baz=283,slow=22								
NB2				Lg		Lg		09 39 14.2	
	baz=277,slow=37								
NB2	**NORSAR Subarra**	**3.27**	**93**	Pn		Pn		09 38 26.2	-2.0
	baz=277,slow=13,SNR=50								
NB2				Sn		Sn		09 39 03.4	-4.4
	baz=283,slow=22,SNR=50								
NB2				Lg		Lg		09 39 14.2	
	baz=277,slow=31,SNR=3.4								
SNART	**Snartemo**	**3.34**	**155**	*e*P		Pn		09 38 26.8	-2.3
HFS	**Hagfors**	**4.68**	**101**	Pn		Pn		09 38 45.4	-2.1
	baz=275,slow=11								
HFS				Sn		Sn		09 39 37.3	-5.2
	baz=285,slow=22								
HFS				Lg		Lg		09 39 59.8	
	baz=274,slow=28								
HFS	**Hagfors**	**4.68**	**101**	Pn		Pn		09 38 45.4	-2.1
	baz=275,slow=11								
HFS				Sn		Sn		09 39 37.3	-5.2
	baz=285,slow=22								
HFS				Lg		Lg		09 39 59.8	
	baz=274,slow=28								
HFS	**Hagfors**	**4.68**	**101**	Pn		Pn		09 38 45.4	-2.1
	baz=275,slow=10,SNR=50								
HFS				Sn		Sn		09 39 37.3	-5.2
	baz=285,slow=22,SNR=50								
HFS				Lg		Lg		09 39 59.8	
	baz=274,slow=27								

ISCJB ***16*** *09:40:52.2±0.7, 59.29N±0.03×27.02E±0.08, h0km, Error ellipse: s-maj=6.1km s-min=3.8km az=12.7*
CSEM ***16*** *09:40:52.3±0.4, 59.28N×27.14E, h1km, ML2.4, Error ellipse: s-maj=8.8km s-min=4.3km az=108.0, Mining explosion.*
NAO ***16*** *09:40:52.6±1.1, 59.29N×26.86E, ML2.4*
HEL ***16*** *09:40:53.7±0.1, 59.29N×27.05E, h0km, ML2.1, Explosion*
BER ***16*** *09:40:53.6±1.5, 59.31N×26.93E, h0km, ML2.4(NAO), Suspected explosion*
ISC 16 09:40:53.3±0.9, 59.31N±0.03×27.05E±0.04, h0km, n36, σ1§44/47, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.86**	**191**	Pg		Pg		**09 41 08.8**	**-0.9**
VSU				Lg		Lg		09 41 20.2	
VSU	**Vasula**	**0.86**	**191**	Pg		Pg		**09 41 08.8**	**-0.9**
VSU				Lg		Lg		09 41 20.2	
VSU	**Vasula**	**0.86**	**191**	*e*P		Pg		**09 41 08.8**	**-0.9**
VSU				*e*S		Sg		**09 41 19.6**	**-1.2**
VSU	**Vasula**	**0.86**	**191**	Pg		Pg		**09 41 08.8**	**-0.9**
VSU				S		Sg		**09 41 19.6**	**-1.2**
VSU				Lg		Lg		09 41 20.2	
VJF	**Virojoki**	**1.26**	**11**	*e*P		Pg		**09 41 15.8**	**-1.6**
VJF				*e*S		Sg		**09 41 33.1**	**-0.7**
VJF	**Virojoki**	**1.26**	**11**	P		Pg		**09 41 15.8**	**-1.6**
VJF				S		Sg		**09 41 33.1**	**-0.7**
SRPE	**Suurupi**	**1.37**	**278**	*e*P		Pg		**09 41 19.1**	**-0.5**
	SNR=50								
SRPE				*e*S		Sg		**09 41 37.2**	**-0.1**
	351nm,1.0s,SNR=50								
PVF	**Pernaja**	**1.38**	**335**	*e*P		Pn		**09 41 18.4**	**-1.3**
PVF				*e*S		Sg		**09 41 36.2**	**-1.3**
PVF	**Pernaja**	**1.38**	**335**	P		Pn		**09 41 18.4**	**-1.3**
PVF				S		Sg		**09 41 36.2**	**-1.3**
MEF	**Metsahovi**	**1.62**	**305**	*e*PG		Pn		**09 41 23.0**	**0.0**
MEF				*e*SG		Sn		**09 41 44.0**	**-0.7**
MEF	**Metsahovi**	**1.62**	**305**	*e*S		Sn		**09 41 43.9**	**-0.8**
	34nm,1.0s,SNR=50								
MEF	**Metsahovi**	**1.62**	**305**	*e*P		Pn		**09 41 23.1**	**0.0**
	SNR=50								
MTSE	**Matsula**	**1.77**	**252**	*e*PG		Pn		**09 41 25.6**	**+0.5**
MTSE				*e*S		Sn		**09 41 47.9**	**-0.4**
MTSE	**Matsula**	**1.77**	**252**	S		Sn		**09 41 47.9**	**-0.4**
MTSE	**Matsula**	**1.77**	**252**	Pg		Pn		**09 41 25.6**	**+0.5**
MTSE				*e*S		Sb		**09 41 49.3**	**-0.1**
	SNR=50								
FIA0	**FINESS Array S**	**2.20**	**348**	Pn		Pn		**09 41 30.5**	**-0.5**
	baz=166,slow=16								
FIA0				Lg		Lg		09 42 01.4	
	baz=166,slow=37								
FIA0				Rg		Rg		09 42 13.6	
	baz=167,slow=37								
FIA0	**FINESS Array S**	**2.20**	**348**	Pn		Pn		**09 41 30.5**	**-0.5**
	baz=166,slow=16								
FIA0				Lg		Lg		09 42 01.4	
	baz=166,slow=37								
FIA0				Rg		Rg		09 42 13.6	
	baz=167,slow=37								
FIA0	**FINESS Array S**	**2.20**	**348**	*e*P		Pn		**09 41 31.8**	**+0.8**
FIA0				*e*S		Sn		**09 41 59.9**	**+1.0**
FIA0				MSG				09 41 59.9	
	comp=Z,7.1nm,0.5s								
FIA0				*e*RG		Rg		09 42 13.4	
FIA0	**FINESS Array S**	**2.20**	**348**	S		Sn		**09 41 59.9**	**+1.0**
FIA0	**FINESS Array S**	**2.20**	**348**	Pn		Pn		**09 41 30.5**	**-0.5**
	baz=166,slow=15								
FIA0	**FINESS Array S**	**2.20**	**348**	P		Pn		**09 41 31.8**	**+0.8**
FIA0				Lg		Lg		09 42 01.4	
	baz=166,slow=30,SNR=90								
KAF	**Kangasniemi**	**2.84**	**353**	*e*P		Pn		**09 41 40.7**	**+0.8**
KAF				*e*S		Sn		**09 42 15.1**	**+0.4**
KAF				MSG				09 42 15.1	
	comp=Z,6.2nm,0.4s								
KAF	**Kangasniemi**	**2.84**	**353**	P		Pn		**09 41 40.6**	**+0.8**
KAF				S		Sn		**09 42 15.1**	**+0.4**
KEF	**Keuruu**	**3.06**	**341**	*e*SG		Sb		**09 42 27.0**	**+0.5**
KEF				MSG				09 42 27.0	
	comp=Z,6.5nm,0.4s								
RAF	**Rauma**	**3.15**	**305**	*e*S		Sn		**09 42 24.2**	**+1.9**
	comp=Z,8.7nm,0.3s,SNR=50								
SUF	**Sumiainen**	**3.45**	**353**	*e*SB		Sb		**09 42 38.4**	**+0.7**
SUF				MSG				09 42 38.4	
	comp=Z,4.2nm,0.4s								
SUF	**Sumiainen**	**3.45**	**353**	Sb		Sb		**09 42 38.4**	**+0.7**
AAL	**Aland**	**3.68**	**287**	*e*SG		Sb		**09 42 47.5**	**+3.5**
JOF	**Joensuu**	**4.17**	**28**	*e*P		Pn		**09 42 00.1**	**+2.0**
JOF				*e*SG		Sb		**09 43 02.9**	**+4.5**
JOF				MSG				09 43 02.9	
	comp=Z,5.6nm,0.4s								
JOF	**Joensuu**	**4.17**	**28**	P		Pn		**09 42 00.1**	**+2.0**
HFS	**Hagfors**	**6.81**	**283**	Lg		Lg		09 44 21.2	
	baz=93,slow=37								
HFS	**Hagfors**	**6.81**	**283**	Lg		Lg		09 44 21.2	
	baz=93,slow=37								
HFS	**Hagfors**	**6.81**	**283**	Lg		Lg		09 44 21.2	
	baz=93,slow=33								
ARA0	**ARCESS Array S**	**10.29**	**357**	Pn		Pn		**09 43 19.6**	**-2.4**
	baz=174,slow=14								
ARA0	**ARCESS Array S**	**10.29**	**357**	Pn		Pn		**09 43 19.6**	**-2.4**
	baz=174,slow=14								
ARA0	**ARCESS Array S**	**10.29**	**357**	Pn		Pn		**09 43 19.6**	**-2.4**
	baz=174,slow=13,SNR=5.1								

CSEM ***16*** *09:44:58.7, 39.14N×27.60E, h7km, MD2.7, After ISK*
ISK 16 09:44:58.7, 39.14N×27.60E, h7km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.31**	**147**	*e*PG		Pg		09 45 05.7	+0.8
AKS				*e*SG		Sb		09 45 10.9	-1.1
AKS	**Akhisar**	**0.31**	**147**	*e*Pg		Pg		09 45 05.7	+0.8
AKS				*e*Sg		Sb		09 45 10.9	-1.1
IZM	**Izmir**	**0.79**	**199**	*e*PG		Pg		09 45 14.0	0.0
IZM	**Izmir**	**0.79**	**199**	*e*Pg		Pg		09 45 14.0	+0.1
BLCB	**Balcova**	**0.87**	**210**	*e*PG		Pg		09 45 15.8	+0.3
BLCB				*e*SG		Sb		09 45 28.3	+0.3
BLCB	**Balcova**	**0.87**	**210**	*e*Pg		Pb		09 45 15.8	-0.3
BLCB				*e*Sg		Sb		09 45 28.3	+0.3
KULA	**Kula-Manisa**	**1.04**	**127**	*e*PG		Pg		09 45 18.4	-0.4
KULA

SUTC	**Sutluce-Ispart**	**2.15**	**223**	*e*Pn	**Pn**	**09 46 45.8**	**+1.4**
CTKT	**Corum**	**2.16**	**44**	*e*P	**Pb**	**09 46 47.0**	**-0.7**
CTKT				*e*S	**Sb**	**09 47 15.8**	**+1.1**
CTKT	**Corum**	**2.16**	**44**	*e*P	**Pb**	**09 46 47.0**	**-0.7**
CTKT				*e*S	**Sb**	**09 47 15.8**	**+1.1**
TOS	**Tosya**	**2.16**	**25**	*e*PN	**Pn**	**09 46 45.6**	**+1.0**
TOS	**Tosya**	**2.16**	**25**	*e*Pn	**Pn**	**09 46 45.6**	**+1.0**
GULT	**Gulveren**	**2.24**	**308**	*e*PN	**Pn**	**09 46 46.2**	**+0.5**
GULT	**Gulveren**	**2.24**	**308**	*e*Pn	**Pn**	**09 46 46.2**	**+0.5**
BNN	**Bunyan**	**2.36**	**94**	*e*PN	**Pb**	**09 46 49.7**	**-1.4**
BNN	**Bunyan**	**2.36**	**94**	*e*Pn	**Pb**	**09 46 49.7**	**-1.4**
TVSB	**Tavsanli**	**2.64**	**279**	*e*PN	**Pn**	**09 46 52.4**	**+1.2**
TVSB	**Tavsanli**	**2.64**	**279**	*e*Pn	**Pn**	**09 46 52.4**	**+1.2**

ROM 16 09:49:21.6±0.2, 42°.50N×13°.40E, h12km±1km, Md1.5/4, Ml1.3/3, Error ellipse: s-maj=1.9km s-min=1.2km az=33.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAMP	**Campotosto**	**0.04**	**13**	Pg	Pg	09 49 24.1	+0.1
CAMP				Sg	Sg	09 49 25.7	+0.1
	85nm,0.5s						
TERO	**Teramo**	**0.20**	**51**	Pg	Pg	09 49 26.3	+0.3
TERO				Sg	Sg	09 49 29.8	+0.9
	43nm,0.2s						
NRCA	**Norcia**	**0.39**	**328**	Pg	Pg	09 49 29.6	0.0
NRCA				Sg	Sg	09 49 35.8	+0.9
	28nm,0.1s						

NIED ***16*** *09:50:00, 35°.90N×137°.60E, h11km, Mw3.4 Best double couple: M₀1.67000×10¹⁴ NP1:φs238.00000°, δ68.00000°, λ156.00000°. NP2:φs338.00000°, δ68.00000°, λ23.00000°.*

JMA 16 09:50:05.4, 35°.95N×137°.65E, h9km±1km, M3.5, 4D Broadband fault plane solution: P waves. NP1: φs71.00000°, δ82.00000°, λ-160.00000°. **NP2:** φs338.00000°, δ70.00000°, λ-9.00000°. **Principal axes:** T Plg8.0000°, Azm203.0000°; N Plg68.0000°, Azm92.0000°; P Plg20.0000°, Azm296.0000°; **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JGN	**Niukaw**	**0.38**	**315**	⇓P	Pg	09 50 13.0	-0.1
JNT	**Takato**	**0.40**	**101**	⇓P	Pg	09 50 13.2	-0.3
JTT	**Ttatey**	**0.70**	**339**	⇓P	Pg	09 50 19.3	+0.3
MAT	**Matsushiro**	**0.74**	**37**	P	Pg	09 50 19.4	-0.4
MAT				S	Sg	09 50 29.1	-0.5
MAT	**Matsushiro**	**0.74**	**37**	P	Pg	09 50 19.4	-0.4
JGM	**Miyama**	**0.80**	**252**	⇓P	Pg	09 50 20.5	-0.3

BKK ***16*** *09:52:48.9±0.2, 7°S±2°×10°5E±°, h10km, M6.2/43, mb5.9/43, mB6.4/40, MLv6.6/8, Mw(mB)6.2/40, Mwp6.3/18*

MOS ***16*** *09:52:49.2±1.2, 6°.40S×105°.24E, h33km, mb6.1/67, MS5.7/56, Error ellipse: s-maj=8.4km s-min=4.7km az=120.5*

BJI ***16*** *09:52:50.0, 6°.60S×105°.20E, h48km, mB5.9/60, mb5.7/60, Ms6.0/79, Ms7 5.8/69*

DJA ***16*** *09:52:50.0±1.8, 7°S±5°×10°5E±°, h10km, M6.4/26, mb6.3/11, mB6.7/11, MLv6.4/26, Mw(mB)6.5/11*

NEIC ***16*** *09:52:50.8±0.1, 6°.53S×105°.22E, h38km, mb5.9/88, ME5.8, MS5.8/135, MW6.1, MW6.1, Error ellipse: s-maj=4.3km s-min=3.5km az=216.0, Moment Tensor Solution. s50 Moment tensor: Scale 10¹⁸Nm; Mrr1.43; Mθθ-1.11; Mφφ-0.32; Mrθ0.58; Mrφ0.43; Mθr-0.01; Best double couple: M₀1.50000×10¹⁸ NP1:φs106.00000°, δ56.00000°, λ82.00000°. NP2:φs301.00000°, δ35.00000°, λ102.00000°. Principal axes: T 1.5600, Plg77.0000°, Azm348.0000°; N -0.1600, Plg6.0000°, Azm110.0000°; P -1.4100, Plg10.0000°, Azm201.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt [V] at Suaka Margasatwa Ujungkulon; [IV] at Banten, Cisarua, Depok, Sukabumi and Tangerang; [III] at Bogor and Jakarta; [II] at Bandung, Java. Also felt at Bekasi, Cianjur, Cibitung, Cilegon, Cileungsi, Ciputat, Cirebon, Karawang, Pacet, Pelabuhanratu, Pondokaren, Serang and Serpong. Felt [IV] at Tanjungkarang-Telukbetung, Sumatra.

IDC ***16*** *09:52:51.1±1.1, 6°.46S×105°.35E, h39km±8km, mb5.5/46, mb1 5.5/47, mb1mx5.5/47, mbtmp5.7/47, ML5.2/2, MS5.6/41, Ms1 5.6/41, ms1mx5.5/45 Error ellipse: s-maj=10.3km s-min=8.1km az=50.0*

ISCJB ***16*** *09:52:53.6±0.3, 6°.57S±0°.02×105°.26E±0°.02, h74km±2km, mb5.8/178, Error ellipse: s-maj=3.9km s-min=2.5km az=34.7*

AUST ***16*** *09:52:53.7±0.7, 6°.57S×105°.22E, h62km±6km, Error ellipse: s-maj=7.8km s-min=4.6km az=41.0*

GCMT ***16*** *09:52:55.4±0.1, 7°.07S×105°.09E, h45km, MW6.1, Moment Tensor Solution. s118,c269; s94,c152; Moment tensor: Scale 10¹⁸Nm; Mrr1.47±.01; Mθθ-1.38±.01; Mφφ-0.09±.01; Mrθ0.71±.01; Mrφ0.72±.01; Mθr-0.06±.01; Best double couple: M₀1.70000×10¹⁸ NP1:φs105.00000°, δ57.00000°, λ79.00000°. NP2:φs304.00000°, δ34.00000°, λ106.00000°. Principal axes: T 1.6400, Plg75.0000°, Azm344.0000°; N 0.1900, Plg9.0000°, Azm111.0000°; P -1.8400, Plg12.0000°, Azm203.0000°; Data Used: II IU CN IC G. Surface waves: sta=115, comp=253, per= 50.*

NEIC ***16*** *09:52:59.5±0.0, 7°.23S×104°.85E, h42km, Moment Tensor Solution. s151 Moment tensor: Scale 10¹⁸Nm; Mrr1.51; Mθθ-1.19; Mφφ-0.32; Mrθ0.87; Mrφ0.55; Mθr-0.43; Best double couple: M₀1.80000×10¹⁸ NP1:φs296.00000°, δ28.00000°, λ90.00000°. NP2:φs116.00000°, δ62.00000°, λ90.00000°. Principal axes: T 1.8000, Plg73.0000°, Azm26.0000°; N -0.0600, Plg0.0000°, Azm295.0000°; P -1.7500, Plg16.0000°, Azm205.0000°;*

ISC 16 09:52:52.6±0.2, 6°.52S±0°.03×105°.24E±0°.03, h55km±1km, h54km: pP-P, n1732, σ1.9: 47/1907, mb5.9/175, MS5.8/209, 86C-19D, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBJI	**Serang**	**0.97**	**66**	P	**Pn**	**09 53 12.5**	**+2.5**
BLSI	**Bandar Lampung**	**1.14**	**0**	P	Pn	09 53 16.1	+3.7
KASI	**Kota Agung**	**1.23**	**323**	P	**Pn**	**09 53 16.0**	**+2.4**
KASI				S	Sn	09 53 36.3	+7.1
SKJI	**Sukabumi**	**1.39**	**111**	P	**Pn**	**09 53 14.9**	**-0.9**
SKJI				S	**Sn**	**09 53 35.8**	**+2.6**
CBJI	**Citeko**	**1.60**	**87**	P	Pn	09 53 22.1	+3.5
KLI	**Kotabumi**	**1.69**	**347**	P	Pn	09 53 24.3	+4.6
LWLI	**Liwa**	**1.90**	**322**	P	**Pn**	**09 53 25.3**	**+2.6**
MDSI	**Maura Dua**	**2.28**	**332**	P	Pn	09 53 31.9	+4.1
LEM	**Lembang**	**2.38**	**98**	P	**Pn**	**09 53 32.4**	**+3.0**
LEM	**Lembang**	**2.38**	**98**	⇑P	**Pn**	**09 53 32.5**	**+3.0**
	baz=2.4						
CISI	**Cisompet, Garu**	**2.76**	**112**	P	**Pn**	**09 53 34.4**	**0.0**
CISI	**Cisompet, Garu**	**2.76**	**112**	⇓P	**Pn**	**09 53 35.5**	**+1.1**
	baz=2.8						
MNAI	**Manna**	**3.12**	**313**	P	**Pn**	**09 53 42.4**	**+3.0**
MNAI	**Manna**	**3.12**	**313**	*e*Pn	**Pn**	**09 53 41.7**	**+2.3**
LHSI	**Lahat**	**3.17**	**327**	P	Pn	09 53 44.1	+4.0
PMBI	**Palembang**	**3.59**	**353**	P	Pn	09 53 51.1	+5.2
KPJI	**Karang Pucung**	**3.75**	**103**	P	**Pn**	**09 53 49.6**	**+1.6**
TGJI	**Tegal**	**3.87**	**95**	P	**Pn**	**09 53 52.3**	**+2.6**
CLJI	**Cilicap**	**3.93**	**108**	P	Pn	09 53 53.9	+3.4
XMIS	**Christmas Isla**	**3.96**	**174**	*e*Pn	Pn	09 53 42.5	-8.5
XMIS				*e*Sn	Sn	09 54 22.6	-14
PPBI	**Pangkal Pinang**	**4.42**	**12**	P	Pn	09 54 01.7	+4.5
MASI	**Maura Aman, Be**	**4.49**	**318**	P	**Pn**	**09 54 01.3**	**+3.1**
BJII	**Banjamegara**	**4.51**	**101**	P	**Pn**	**09 54 00.2**	**+1.7**
YOGI	**Yogyakarta**	**5.18**	**105**	P	**Pn**	**09 54 10.4**	**+2.8**
	8μm,1.3s,244μm95nm						
UGM	**Wanagama**	**5.42**	**105**	P	**Pn**	**09 54 13.0**	**+2.0**
	4μm,1.5s,103μm47nm						
UGM	**Wanagama**	**5.42**	**105**	*e*Pn	**Pn**	**09 54 12.3**	**+1.3**
UGM	**Wanagama**	**5.42**	**105**	P	**Pn**	**09 54 12.1**	**+1.1**
	baz=5.4,SNR=344						
WOJI	**Wonogiri, Jawa**	**5.79**	**103**	P	**Pn**	**09 54 17.8**	**+1.8**
	2μm,1.0s,51μm23nm						
PCJI	**Pacitan**	**6.12**	**106**	P	**Pn**	**09 54 21.8**	**+1.3**
	4μm,1.3s,85μm34nm						
NGJI	**Ngawi**	**6.23**	**98**	P	Pn	09 54 26.5	+4.4
SJI	**Sawahan**	**6.59**	**101**	P	**Pn**	**09 54 29.1**	**+2.1**
	2μm,1.0s,52μm16nm						
PWJI	**Pagerwojo**	**6.68**	**103**	P	**Pn**	**09 54 30.3**	**+2.1**
	3μm,0.9s,80μm34nm						
RGRI	**Rengat**	**6.78**	**335**	P	Pn	09 54 36.8	+7.3
GRJI	**Gresik**	**7.20**	**94**	P	Pn	09 54 38.9	+3.6
	1μm,0.7s,14μm4.8nm						
KRKI	**Karangkates**	**7.34**	**103**	P	**Pn**	**09 54 39.9**	**+2.7**
	4μm,0.5s,66μm35nm						
PBKI	**Pangkalan Bun**	**7.44**	**60**	P	Pn	09 54 42.3	+3.6
	2μm,0.8s,31μm14nm						
PPI	**Padang Panjang**	**7.72**	**321**	P	**Pn**	**09 54 43.2**	**+0.8**
	278nm,0.6s,11μm3.1nm						
PPI	**Padang Panjang**	**7.72**	**321**	P	**Pn**	**09 54 44.5**	**+2.1**
	baz=7.8,SNR=15						
GMJI	**Gumukmas**	**8.32**	**103**	P	**Pn**	**09 54 53.0**	**+2.3**
MYKOM	**Kota Tinggi**	**8.37**	**350**	P	Pn	09 54 56.9	+5.6
KMMI	**Kalianget**	**8.68**	**94**	P	Pn	09 54 59.9	+4.3
KGM	**Kluang**	**8.69**	**347**	P	Pn	09 55 00.8	+5.0
KSM	**Kuching**	**9.41**	**33**	P	Pn	09 55 12.2	+6.6
KSM	**Kuching**	**9.41**	**33**	*e*Pn	Pn	09 55 09.7	+4.1
KSM				*e*Sn	Sn	09 57 01.2	+11
KSM	**Kuching**	**9.41**	**33**	P	Pn	09 55 09.4	+3.8
	baz=9.5,SNR=26						
COCO	**West Island**	**10.03**	**235**	*e*P	Pn	09 55 09.9	-4.1
COCO				*e*		09 56 59.8	
COCO	**West Island**	**10.03**	**235**	P	Pn	09 55 10.1	-4.0
	SNR=47						
COCO	**West Island**	**10.03**	**235**	*e*Pn	Pn	09 55 09.9	-4.1
COCO				*e*Sn	**Sn**	**09 56 59.8**	**-5.4**
FRIM	**Kepong**	**10.34**	**339**	P	**Pn**	**09 55 21.5**	**+3.2**
PSI	**Prapat**	**11.20**	**326**	Pn	Pn	09 55 26.0	-4.2
PSI	**Prapat**	**11.20**	**326**	Pn	Pn	09 55 26.0	-4.2
	3.3nm,0.3s,baz=160,slow=11,SNR=17						
PSI					LR	LR	10 00 39.4
	comp=Z,57μm,20.8s,baz=142,slow=42						
SBUM	**Sibu**	**11.31**	**38**	P	Pn	09 55 38.3	+6.7
SBUM	**Sibu**	**11.31**	**38**	*e*Pn	Pn	09 55 37.2	+5.6
IPM	**Ipoh**	**11.70**	**339**	P	**Pn**	**09 55 39.8**	**+2.8**
IPM	**Ipoh**	**11.70**	**339**	*e*Pn	**Pn**	**09 55 39.3**	**+2.3**
KTGM	**Kuala Trenggan**	**11.95**	**350**	P	Pn	09 55 44.7	+4.3
BTM	**Bintulu**	**12.43**	**39**	P	P	09 55 52.3	-4.9
KULM	**Kulim**	**12.59**	**339**	P	**Pn**	**09 55 50.3**	**+1.2**
KULM	**Kulim**	**12.59**	**339**	*e*Pn	**Pn**	**09 55 49.2**	**+0.2**
KULM				*e*Sn	Sn	09 58 00.2	-7.7
KAPI	**Kappang**	**14.51**	**85**	P	**Pn**	**09 56 15.7**	**+0.6**
	SNR=88						
KAPI	**Kappang**	**14.51**	**85**	*e*Pn	**Pn**	**09 56 15.3**	**+0.2**
KAPI	**Kappang**	**14.51**	**85**	Pn	**Pn**	**09 56 15.0**	**-0.1**
	3.3nm,0.3s,baz=267,slow=10,SNR=78						
KAPI					LR	LR	10 02 30.7
	comp=Z,33μm,20.0s,baz=22,slow=40						
TSM	**Tawau**	**16.56**	**50**	P	**P**	**09 56 46.0**	**+2.9**
KKM	**Kota Kinabalu**	**16.60**	**42**	P	**P**	**09 56 45.7**	**+2.0**
KKM	**Kota Kinabalu**	**16.60**	**42**	*e*Pn	**P**	**09 56 45.3**	**+1.6**
	3μm,1.9s						
KKM	**Kota Kinabalu**	**16.60**	**42**	⇑P	**P**	**09 56 45.4**	**+1.8**
	baz=17,SNR=35						
SDKM	**Sandakan**	**16.98**	**45**	P	**P**	**09 56 50.6**	**+2.8**
MMRI	**Maumere**	**16.98**	**98**	*e*Pn	**Pn**	**09 56 42.7**	**-3.9**
MYLDM	**Lahad Datu**	**17.61**	**49**	P	**P**	**09 56 59.3**	**+4.6**
KDM	**Kudat**	**17.66**	**41**	P	**P**	**09 56 59.1**	**+3.9**
LUWI	**Luwuk**	**18.31**	**73**	⇑P	**Pn**	**09 57 04.1**	**+1.2**
	baz=18,SNR=35						
BATI	**Baumata**	**18.59**	**103**	Pn	**P**	**09 57 03.9**	**-1.7**
BATI				S	**Sn**	**10 00 31.4**	**-2.2**
BATI	**Baumata**	**18.59**	**103**	Pn	**P**	**09 57 03.9**	**-1.7**
	33nm,0.3s,baz=290,slow=1.0,SNR=23						
BATI				S		**Sn**	**10 00 31.4**	**-2.2**
	26nm,0.3s,baz=295,slow=17,SNR=4.5						
SOEI	**Soe**	**19.11**	**101**	⇑P	**P**	**09 57 10.5**	**-0.8**
	baz=19,SNR=254						
MBWA	**Marble Bar**	**20.22**	**137**	P	**P**	**09 57 23.9**	**+0.7**
	SNR=29						
MBWA	**Marble Bar**	**20.22**	**137**	*e*P	**P**	**09 57 22.9**	**-0.3**
MBWA				*e*S	S	10 00 50.7	-17
MBWA					LR	LR	
	comp=Z,34μm,21.0s						
PPR	**Puerto Princes**	**21.04**	**40**	⇓P	P	09 57 37.8	+5.7
UBPT	**Khong Chiam**	**21.66**	**1**	P	**P**	**09 57 41.5**	**+2.8**
	comp=Z,334nm,2.2s,comp=Z,7μm						
PBA	**Port Blair**	**21.92**	**325**	*e*P	P	09 57 38.6	-2.9
PBA					AMB	AMB	09 58 24.9
	comp=Z,91nm,2.3s						
IPIL	**Ipil**	**22.37**	**51**	*e*P	**P**	**09 57 50.4**	**+3.9**
ENPP	**El Nido**	**22.57**	**39**	*e*P	**P**	**09 57 50.3**	**+1.8**
FITZ	**Fitzroy Crossi**	**22.99**	**122**	*e*P	**P**	**09 57 51.6**	**-1.2**
	comp=Z,449nm,1.3s						
FITZ				S	**S**	**10 01 55.0**	**-4.4**
FITZ				*e*S	Sn	10 02 00.8	-18
FITZ	**Fitzroy Crossi**	**22.99**	**122**	P	**P**	**09 57 51.6**	**-1.2**
	baz=23,SNR=203						
FITZ	**Fitzroy Crossi**	**22.99**	**122**	P	**P**	**09 57 51.5**	**-1.3**
	comp=Z,198nm,1.0s,baz=303,slow=9.5,SNR=152						
FITZ					S	**S**	**10 01 55.0**	**-4.4**
	comp=Z,19nm,0.7s,baz=41,slow=19,SNR=2.3						
FITZ					LR	LR	10 06 30.5
	comp=Z,16μm,21.9s,baz=305,slow=36						
PAGZ	**Pagadian**	**23.04**	**52**	*e*P	**P**	**09 57 56.1**	**+2.6**
TNTI	**Ternate**	**23.24**	**73**	*e*P	**P**	**09 57 54.3**	**-1.1**
	comp=Z,17μm,1.7s						
CUYO	**Cuyo Island**	**23.33**	**42**	*e*P	**P**	**09 57 57.9**	**+1.6**
CTBH	**Cotabato--PC H**	**23.36**	**55**	⇑P	**P**	**09 57 57.3**	**+0.7**
BUSP	**Coron**	**23.66**	**39**	*e*P	**P**	**09 58 01.1**	**+1.8**
MEEK	**Meekatharra**	**23.72**	**149**	⇑P	**P**	**09 57 58.9**	**-1.0**
	baz=24,SNR=47						
SNPH	**Sibulan**	**23.87**	**49**	*e*P	P	09 58 07.5	+6.1
GUIM	**Jordan**	**24.25**	**46**	*e*P	**P**	**09 58 07.4**	**+2.6**
DMPH	**Davao City--Mi**	**24.32**	**57**	⇑*e*P	**P**	**09 58 08.2**	**+2.8**
DAV	**Davao City (W)**	**24.37**	**57**	P	**P**	**09 58 08.7**	**+2.9**
	SNR=25						
DAV	**Davao City (W)**	**24.37**	**57**	⇑*e*P	**P**	**09 58 08.2**	**+2.4**
DAV	**Davao City (W)**	**24.37**	**57**	*e*P	**P**	**09 58 08.9**	**+3.0**
	comp=Z,8μm,1.8s						
DAV					LR	LR	
	comp=Z,21μm,21.0s						
BUKP	**Musuan**	**24.40**	**54**	*e*P	**P**	**09 58 08.6**	**+2.4**
CGP	**Cagayan de Oro**	**24.44**	**53**	⇓*e*P	**P**	**09 58 10.2**	**+3.7**
SJMP	**San Jose**	**24.59**	**40**	*e*P	**P**	**09 58 10.6**	**+2.8**
MORW	**Morawa**	**24.64**	**157**	P	**P**	**09 58 07.6**	**-0.7**
	baz=25,SNR=39						
KNRA	**Kununurra**	**24.79**	**114**	P	**P**	**09 58 08.7**	**-1.0**
	baz=25,SNR=1000						
MATI	**Mati**	**24.87**	**58**	*e*P	**P**	**09 58 13.1**	**+2.7**
RCP	**Roxas**	**25.01**	**44**	⇓*e*P	**P**	**09 58 13.4**	**+1.7**
LLP	**Lapu-Lapu**	**25.05**	**48**	⇑*e*P	**P**	**09 58 14.6**	**+2.6**
CM31	**Chiang Mai Arr**	**25.58**	**346**	*e*P	**P**	**09 58 15.9**	**-0.9**
	comp=Z,62nm,0.6s						
CMAR	**Chiang Mai Arr**	**25.58**	**346**	P	**P**	**09 58 15.6**	**-1.2**
CMAR				PcP	**PcP**	**10 01 48.0**	**+1.0**
CMAR				ScP	**ScP**	**10 05 22.6**	**+0.7**
CMAR				*e*		10 31 11.2	
CMAR	**Chiang Mai Arr**	**25.58**	**346**	P	**P**	**09 58 15.6**	**-1.2**
	comp=Z,82nm,0.7s,baz=180,slow=8.9,SNR=93						
CMAR					PcP	**PcP**	**10 01 48.0**	**+1.0**
	comp=Z,20nm,0.8s,baz=200,slow=3.1,SNR=8.9						
CMAR					ScP	**ScP**	**10 05 22.6**	**+0.7**
	comp=Z,3.6nm,0.8s,baz=204,slow=4.6,SNR=4.5						
CMAR					LR	LR	10 09 15.2
	comp=Z,20μm,19.7s,baz=172,slow=38						
CMAR					P3KPbc		10 31 11.2
	comp=Z,0.5nm,0.3s,baz=310,slow=4.4,SNR=5.2						
MSLP	**Maasin**	**25.60**	**50**	*e*P	**P**	**09 58 18.3**	**+1.2**
QIZ	**Qiongzhong**	**25.79**	**10**	P	**P**	**09 58 20.4**	**+1.8**
QIZ				pP	**pP**	**09 58 35.9**	**+3.6**
QIZ				sP	**sP**	**09 58 40.8**	**+2.0**
QIZ				S	**S**	**10 02 49.3**	**+5.1**
QIZ				AMB	AMB		
	comp=Z,3μm,12.1s						
QIZ					LR	LR	
	comp=Z,31μm,18.0s						
QIZ					LR	LR	
	comp=Z,44μm,20.9s						
QIZ	**Qiongzhong**	**25.79**	**10**	*e*P	**P**	**09 58 20.0**	**+1.3**
	comp=Z,530nm,1.5s						
QIZ					LR	LR	
	comp=Z,46μm,21.0s						
CHTO	**Chiang Mai**	**25.92**	**346**	*e*P	**P**	**09 58 18.4**	**-1.5**
CHTO				pmax	pmax		
	comp=Z,379nm,0.8s						
CHTO					MLR	MLR	
	comp=Z,18μm,20.0s						
CHTO	**Chiang Mai**	**25.92**	**346**	P	**P**	**09 58 19.0**	**-0.9**
	SNR=33						
CHTO	**Chiang Mai**	**25.92**	**346**	*e*P	**P**	**09 58 18.4**	**-1.5**
	comp=Z,379nm,0.8s						
CHTO					LR	LR	
	comp=Z,18μm,20.0s						
CHTO	**Chiang Mai**	**25.92**	**346**	P	**P**	**09 58 18.7**	**-1.2**
	comp=Z,644nm,0.8s,comp=Z,8μm						
OCLP	**Ormoc**	**26.00**	**48**	*e*P	P	09 58 26.1	+5.4
MTN	**Manton Dam**	**26.27**	**106**	P	**P**	**09 58 21.9**	**-1.2**
	baz=26,SNR=1000						
BLDU	**Ballidu**	**26.28**	**157**	P	**P**	**09 58 22.7**	**-0.4**
	baz=26,SNR=17						
SWI	**Sorong**	**26.55**	**79**	P	**P**	**09 58 25.7**	**0.0**
	baz=27,SNR=7.3						
FAKI	**Fak Fak**	**27.15**	**84**	P	**P**	**09 58 30.3**	**-0.8**
	baz=27,SNR=47						
TLE	**Tual**	**27.36**	**90**	P	**P**	**09 58 33.2**	**+0.3**
	baz=27,SNR=10						
KDU	**Kakadu**	**27.53**	**105**	P	**P**	**09 58 32.8**	**-1.6**
	baz=28,SNR=442						
PALK	**Pallekele**	**28.05**	**299**	P	P	09 58 42.5	+3.4
	SNR=45						
PALK	**Pallekele**	**28.05**	**299**	*e*P	**P**	**09 58 42.3**	**+3.2**
	comp=Z,296nm,1.3s						
PALK				*e*PcP	**PcP**	**10 01 56.2**	**+3.2**
NWAO	**Narrogin (SRO)**	**28.55**	**159**	*e*P	**P**	**09 58 42.8**	**-0.6**
	comp=Z,115nm,1.2s						
NWAO				*e*S	**S**	**10 03 24.5**	**-3.2**
NWAO	**Narrogin (SRO)**	**28.55**	**159**	P	**P**	**09 58 41.4**	**-2.0**
	comp=Z,52nm,0.9s,baz=325,slow=11,SNR=20						
NWAO					LR	LR	10 08 39.9
	comp=Z,33μm,21.7s,baz=326,slow=33						
H01W3	**Cape Leeuwin H**	**29.40**	**165**	T	T	10 29 12.0	
	baz=344,slow=0.7,SNR=149						
H01W1	**Cape Leeuwin H**	**29.41**	**165**	T	T	10 29 13.7	
	baz=344,slow=0.7,SNR=119						
H01W2	**Cape Leeuwin H**	**29.41**	**165**	T	T	10 29 14.8	
	baz=344,slow=0.7,SNR=2465						
HKC	**Hong Kong Obse**	**29.95**	**17**	*e*P	**P**	**09 58 56.0**	**+0.2**
RKGY	**Rocky Gully**	**29.98**	**160**	P	**P**	**09 58 56.3**	**+0.2**
	baz=30,SNR=16						
GZH	**Guangzhou**	**30.47**	**15**	P	P	09 59 07.0	+6.6
GZH				PP	PP	10 00 29.9	+20
GZH				S	S	10 04 04.1	+6.2
GZH				sS	sS	10 04 46.4	+25
GZH				SS	SS	10 05 56.3	-13
GZH				AMB	AMB		
	comp=Z,3μm,9.6s						
GZH					LR	LR	
	comp=N,22μm,20.8s						
GZH					LR	LR	
	comp=E,17μm,19.0s						
GZH					LR	LR	
	comp=Z,38μm,22.1s						
WRA	**Warramunga Arr**	**31.24**	**118**	P	**P**	**09 59 06.7**	**-0.7**
WRA				S	**S**	**10 04 05.1**	**-5.1**
WRA				*e*		10 30 49.8	
WRA				PKKKP		10 32 03.9	
WRA	**Warramunga Arr**	**31.24**	**118**	P	**P**	**09 59 06.7**	**-0.7**
	comp=Z,126nm,0.6s,baz=288,slow=10.0,SNR=465						
WRA					S	**S**	**10 04 05.1**	**-5.1**
	comp=Z,26nm,1.1s,baz=282,slow=17,SNR=6.6						
WRA					LR	LR	10 12 36.9	
	comp=Z,10μm,21.6s,baz=290,slow=38						
WRA					P3KPbc		10 30 49.8	
	comp=Z,5.4nm,0.9s,baz=116,slow=4.3,SNR=22						
WRA					P3KP		10 32 03.9	
	comp=Z,1.7nm,1.1s,baz=45,slow=3.0,SNR=4.6						
WRAB	**Tennant Creek**	**31.25**	**118**	*ce*P	**P**	**09 59 06.1**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,1μm,1.2s						
WRAB				MLR	MLR		
	comp=Z,23μm,20.0s						
WRAB	**Tennant Creek**	**31.25**	**118**	*e*P	**P**	**09 59 06.9**	**-0.5**
	comp=Z,469nm,1.1s						
WRAB					LR	LR	
	comp=Z,10μm,21.0s						
KMI	**Kunming**	**31.54**	**356**	P	**P**	**09 59 11.8**	**+1.7**
KMI				pP	**pP**	**09 59 22.9**	**-1.0**
KMI				PcP	**PcP**	**10 02 03.8**	**+1.8**
KMI				S	**S**	**10 04 18.3**	**+3.2**
KMI				PcS	**PcS**	**10 05 49.1**	**+2.4**
KMI				AMB	AMB		
	comp=Z,74nm,0.8s						
KMI					LR	LR	
	comp=Z,38μm,17.3s						
KMI					LR	LR	
	comp=Z,14μm,15.4s						
KMI					LR	LR	
	comp=Z,46μm,17.9s						
MDRS	**Chennai**	**31.55**	**308**	*e*P	**P**	**09 59 10.6**	**+0.6**
MDRS					AMB	AMB	09 59 14.3	
	comp=Z,405nm,0.6s						
TRD	**Trivandrum**	**31.90**	**298**	*e*P	**P**	**09 59 13.3**	**+0.1**
TRD					AMB	AMB	09 59 19.4	
	comp=Z,268nm,1.8s						
PALU	**Palau**	**32.25**	**65**	P	**P**	**09 59 16.2**	**0.0**
	baz=32,SNR=4.8						
VIS	**Vishakhapatnam**	**32.38**	**318**	*e*P	**P**	**09 59 16.9**	**-0.4**
VIS					AMB	AMB	09 59 21.9	
	comp=Z,378nm,3.1s						
AS31	**Alice Springs**	**32.39**	**125**	*e*P	**P**	**09 59 17.0**	**-0.5**
ASAR	**Alice Springs**	**32.39**	**125**	P	**P**	**09 59 17.0**	**-0.5**
ASAR				PcP	**PcP**	**10 02 05.0**	**+0.8**
ASAR				S	**S**	**10 04 25.4**	**-2.8**

NACB	**Ninganchiao**	**34.42**	**27**	*e*P		**P**	**09 59 36.6**	**+1.6**	
	comp=Z,43nm,0.8s								
SHL	**Shillong**	**34.43**	**338**	*e*P		**P**	**09 59 34.0**	**-1.3**	
	comp=Z,34nm,0.7s								
SHL				*i* PCP		**PcP**	**10 02 11.0**	**+1.0**	
SHL				*i* x		x	10 04 57.0		
SHL				*i* x		x	10 09 12.0		
YHNB	**Yeheng**	**34.76**	**26**	*e*P		**P**	**09 59 39.9**	**+1.9**	
	comp=Z,422nm,1.8s								
YHNB				LR		LR			
	comp=Z,15μm,21.0s								
TATO	**Taipei**	**35.07**	**26**	PFAKE			09 59 50.0	+9.4	
TATO				LR		LR			
	comp=Z,10μm,21.0s								
HYB	**Hyderabad**	**35.51**	**312**	⇑*i*P		**P**	**09 59 44.5**	**0.0**	
	comp=Z,380nm,1.0s								
HYB				*e*PP		**PP**	**10 01 06.0**	**0.0**	
HYB				*e*PcP		**PcP**	**10 02 14.0**	**+0.9**	
HYB				*e*S		**S**	**10 05 16.0**	**-0.4**	
HYB	**Hyderabad**	**35.51**	**312**	*e*P		**P**	**09 59 45.3**	**+0.8**	
HYB				AMB		AMB	09 59 48.5		
	comp=Z,355nm,2.2s								
JAY	**Jayapura**	**35.57**	**85**	⇑P		**P**	**09 59 43.9**	**-1.2**	
	baz=36								
ENH	**Enshi**	**36.80**	**6**	*e*P		**P**	**09 59 55.4**	**0.0**	
	comp=Z,89nm,0.6s								
ENH				*e*PcP		**PcP**	**10 02 17.7**	**+1.0**	
CD2	**Chengdu**	**37.24**	**358**	P		**P**	**10 00 00.0**	**+0.9**	
CD2				pP		**pP**	**10 00 14.3**	**+1.1**	
CD2				sP		**sP**	**10 00 21.0**	**+1.5**	
CD2				PP		**PnPn**	**10 01 28.6**	**+2.6**	
CD2				S		**S**	**10 05 43.8**	**+1.3**	
CD2				sS		**sS**	**10 06 09.5**	**+3.3**	
CD2				SS		**SnSn**	**10 08 21.8**	**-0.7**	
CD2				LR		LR			
	comp=Z,14μm,19.0s								
CD2				LR		LR			
	comp=Z,19μm,14.2s								
ODAN	**Odare**	**37.41**	**333**	*e*P		**P**	**09 59 59.9**	**-1.0**	
	comp=Z,800nm,0.7s								
LATR	**Latur**	**37.61**	**312**	⇑*ex*		P	09 59 51.7	-11	
LATR				*ex*		x	09 59 55.8		
	comp=Z,498nm,1.8s								
NGP	**Nagpur**	**37.64**	**318**	*e*P		**P**	**10 00 01.6**	**-1.1**	
NGP				*ex*		x	10 00 06.0		
	comp=Z,434nm,1.7s								
NGP				*ex*		x	10 05 47.7		
TAPN	**Taplejung**	**37.70**	**334**	*e*P		**P**	**10 00 02.5**	**-0.9**	
	comp=Z,986nm,0.8s								
RAMN	**Ramite**	**37.85**	**332**	*e*P		**P**	**10 00 04.0**	**-0.6**	
	comp=Z,510nm,0.6s								
WHN	**Wuhan**	**37.87**	**13**	⇓P		**P**	**10 00 06.6**	**+2.3**	
WHN				sP		**sP**	**10 00 25.4**	**+0.6**	
WHN				S		**S**	**10 05 56.4**	**+4.5**	
WHN				LR		LR			
	comp=Z,13μm,15.6s								
WHN				LR		LR			
	comp=Z,18μm,13.1s								
WHN				LR		LR			
	comp=Z,31μm,21.2s								
COEN	**Coen**	**38.01**	**104**	*e*P		**P**	**10 00 04.8**	**-1.1**	
	comp=Z,5μm,1.3s								
COEN				*e*PcP		**PcP**	**10 02 22.5**	**+1.8**	
COEN				*e*S		**S**	**10 05 53.8**	**-0.9**	
COEN	**Coen**	**38.01**	**104**	P		**P**	**10 00 05.0**	**-0.9**	
	baz=38,SNR=135								
GOA	**Goa**	**38.03**	**305**	*e*P		**P**	**10 00 06.3**	**+0.3**	
GOA				AMB		AMB	10 00 10.9		
	comp=Z,473nm,1.2s								
JBP	**Jabalpur**	**38.47**	**321**	⇑*e*P		**P**	**10 00 10.4**	**+0.9**	
JBP				*ex*		x	10 05 59.4		
LSA	**Lhasa**	**38.47**	**340**	P		**P**	**10 00 09.5**	**-0.5**	
LSA				S		**S**	**10 06 04.3**	**+2.3**	
LSA				AMB		AMB			
	comp=Z,100nm,0.7s								
LSA				AMB		AMB			
	comp=Z,1μm,10.0s								
LSA	**Lhasa**	**38.47**	**340**	*e*P		**P**	**10 00 10.2**	**+0.2**	
LSA				pmax		pmax			
	comp=Z,165nm,0.6s								
LSA				MLR		MLR			
	comp=Z,14μm,22.0s								
LSA	**Lhasa**	**38.47**	**340**	*e*P		**P**	**10 00 10.2**	**+0.2**	
	comp=Z,165nm,0.6s								
LSA				LR		LR			
	comp=Z,14μm,22.0s								
JIRN	**Jiri**	**38.65**	**332**	*e*P		**P**	**10 00 10.6**	**-0.8**	
	comp=Z,993nm,0.8s								
AKL	**Akola**	**38.74**	**315**	⇓*i*P		**P**	**10 00 13.4**	**+1.6**	
AKL				AMP			10 00 17.2		
	comp=Z,577nm,1.7s								
AKL				*i* x		x	10 06 04.6		
BBOO	**Buckleboo**	**38.80**	**136**	*e*P		**P**	**10 00 11.5**	**-0.8**	
	comp=Z,3μm,1.0s								
BBOO	**Buckleboo**	**38.80**	**136**	P		**P**	**10 00 11.4**	**-0.8**	
	baz=39,SNR=60								
PKI	**Pulchoki**	**38.94**	**331**	*e*P		**P**	**10 00 13.4**	**-0.4**	
	comp=Z,344nm,0.8s								
PKIN	**Phulchoki**	**38.95**	**331**	*e*P		**P**	**10 00 14.2**	**+0.4**	
	comp=Z,115nm,0.5s								
GUN	**Gumba**	**39.00**	**332**	*e*P		**P**	**10 00 13.3**	**-1.1**	
	comp=Z,722nm,0.6s								
DMN	**Daman**	**39.11**	**331**	*e*P		**P**	**10 00 15.3**	**+0.1**	
	comp=Z,1μm,0.9s								
KKN	**Kakani**	**39.18**	**331**	*e*P		**P**	**10 00 15.4**	**-0.3**	
	comp=Z,776nm,0.8s								
GKN	**Gorkha**	**39.67**	**331**	*e*P		**P**	**10 00 19.6**	**-0.1**	
	comp=Z,585nm,0.5s								
POO	**Poona**	**39.72**	**309**	⇑*i*P		**P**	**10 00 20.0**	**-0.2**	
	comp=Z,760nm,1.0s								
POO				*e*P		**P**	**10 00 20.5**	**+0.4**	
POO				AMB		AMB	10 00 23.0		
	comp=Z,503nm,1.0s								
POO				*i* PP		**PP**	**10 01 52.0**	**-0.3**	
MTSU	**Mount Surprise**	**39.79**	**111**	P		**P**	**10 00 20.9**	**+0.2**	
	baz=40,SNR=82								
JOW	**Kunigami**	**39.96**	**33**	*e*P		**P**	**10 00 22.9**	**+1.0**	
	comp=Z,36nm,1.0s								
KOLN	**Koldanda**	**39.99**	**329**	*e*P		**P**	**10 00 22.4**	**0.0**	
	comp=Z,1μm,0.6s								
BHPL	**Bhopal**	**40.17**	**318**	*e*P		**P**	**10 00 24.5**	**+0.6**	
BHPL				AMB		AMB	10 00 26.1		
	comp=Z,334nm,0.0s								
DANN	**Dangsing**	**40.38**	**330**	*e*P		**P**	**10 00 25.2**	**-0.6**	
	comp=Z,1μm,0.7s								
SSE	**Sheshan**	**40.39**	**21**	⇑P		**P**	**10 00 26.8**	**+1.4**	
SSE				pP		**pP**	**10 00 42.0**	**+2.4**	
SSE				S		**S**	**10 06 31.6**	**+1.8**	
SSE				sS		**sS**	**10 06 58.0**	**+4.3**	
SSE				AMB		AMB			
	comp=Z,83nm,1.5s								
SSE				AMB		AMB			
	comp=Z,1μm,7.7s								
SSE				LR		LR			
	comp=Z,2μm,18.0s								
SSE				LR		LR			
	comp=Z,5μm,18.0s								
SSE				LR		LR			
	comp=Z,7μm,22.5s								
XAN	**Xi'an**	**40.48**	**5**	P		**P**	**10 00 25.6**	**-0.6**	
XAN				pP		**pP**	**10 00 38.1**	**-2.3**	
XAN				sP		**sP**	**10 00 43.5**	**-3.3**	
XAN				PP		**PnPn**	**10 02 05.3**	**+0.6**	
XAN				S		**S**	**10 06 29.3**	**-2.0**	
XAN				sS		**sS**	**10 06 50.3**	**-4.9**	
XAN				SS		SS	10 09 23.5	-9.2	
XAN				AMB		AMB			
	comp=Z,26nm,1.0s								
XAN				AMB		AMB			
	comp=Z,400nm,7.8s								
XAN				LR		LR			
	comp=Z,11μm,20.1s								
XAN				LR		LR			
	comp=Z,5μm,18.3s								
XAN				LR		LR			
	comp=Z,6μm,20.1s								
NJ2	**Nanjing**	**40.49**	**18**	*e*P		**P**	**10 00 26.9**	**+0.7**	
NJ2				pP		**pP**	**10 00 42.6**	**+2.2**	
NJ2				sP		**sP**	**10 00 48.5**	**+1.7**	
NJ2				PP		**PnPn**	**10 02 03.6**	**-1.1**	
NJ2				S		**S**	**10 06 35.0**	**+3.7**	
NJ2				AMB		AMB			
	comp=Z,120nm,1.4s								
NJ2				AMB		AMB			
	comp=Z,2μm,9.3s								
NJ2				LR		LR			
	comp=Z,9μm,16.1s								
NJ2				LR		LR			
	comp=Z,10μm,16.7s								
NJ2				LR		LR			
	comp=Z,11μm,17.4s								
BOM	**Bombay**	**40.73**	**309**	*ex*		**PcP**	**10 02 28.0**	**-1.2**	
PMG	**Port Moresby**	**41.60**	**97**	P		**P**	**10 00 35.5**	**-0.2**	
PMG				S		**S**	**10 06 45.4**	**-2.9**	
PMG	**Port Moresby**	**41.60**	**97**	P		**P**	**10 00 35.5**	**-0.2**	
	comp=Z,1μm,0.7s,baz=294,slow=2.6,SNR=201								
PMG				S		**S**	**10 06 45.4**	**-2.9**	
	comp=Z,24nm,1.0s,baz=159,slow=21,SNR=18								
PMG				LR		LR	10 19 37.5		
	comp=Z,4μm,21.9s,baz=140,slow=39								
CTA	**Charters Tower**	**42.00**	**113**	P		**P**	**10 00 39.0**	**+0.1**	
CTA				S		**S**	**10 06 52.4**	**-1.8**	
CTA	**Charters Tower**	**42.00**	**113**	P		**P**	**10 00 39.0**	**+0.1**	
	comp=Z,90nm,1.1s,baz=286,slow=10,SNR=116								
CTA				S		**S**	**10 06 52.4**	**-1.8**	
	comp=Z,14nm,1.0s,baz=57,slow=18,SNR=8.3								
CTA				LR		LR	10 18 55.0		
	comp=Z,5μm,21.9s,baz=80,slow=37								
CTAO	**Charters Tower**	**42.00**	**113**	*e*P		**P**	**10 00 38.8**	**-0.1**	
CTAO				*e*S		**S**	**10 06 54.2**	**0.0**	
CTAO				pmax		pmax			
	comp=Z,158nm,0.9s								
CTAO				MLR		MLR			
	comp=Z,6μm,20.0s								
CTAO	**Charters Tower**	**42.00**	**113**	*e*P		**P**	**10 00 38.8**	**-0.1**	
	comp=Z,158nm,0.9s								
CTAO				*e*S		**S**	**10 06 54.2**	**0.0**	
CTAO				LR		LR			
	comp=Z,6μm,20.0s								
QLP	**Quilpie**	**42.12**	**123**	P		**P**	**10 00 40.7**	**+0.9**	
	baz=42,SNR=242								
STKA	**Stephens Creek**	**42.27**	**131**	P		**P**	**10 00 41.1**	**+0.2**	
STKA				S		**S**	**10 06 55.4**	**-2.4**	
STKA	**Stephens Creek**	**42.27**	**131**	P		**P**	**10 00 41.2**	**+0.2**	
	baz=42,SNR=402								
STKA	**Stephens Creek**	**42.27**	**131**	P		**P**	**10 00 41.1**	**+0.2**	
	comp=Z,703nm,0.9s,baz=299,slow=8.2,SNR=327								
STKA				S		**S**	**10 06 55.4**	**-2.4**	
	comp=Z,29nm,1.1s,baz=202,slow=23,SNR=5.1								
STKA				LR		LR	10 18 46.3		
	comp=Z,18μm,20.4s,baz=290,slow=37								
LZH	**Lanzhou**	**42.40**	**358**	*e*P		**P**	**10 00 42.3**	**+0.3**	
LZH				pP		**pP**	**10 00 54.4**	**-1.9**	
LZH				sP		**sP**	**10 00 58.5**	**-4.1**	
LZH				PcP		**PcP**	**10 02 31.8**	**-2.7**	
LZH				*e*S		**S**	**10 07 02.0**	**+2.2**	
LZH				sS		**sS**	**10 07 25.1**	**+1.3**	
LZH				SS		**SS**	**10 10 06.0**	**-4.7**	
LZH				AMB		AMB			
	comp=Z,240nm,1.0s								
LZH				AMB		AMB			
	comp=Z,2μm,5.5s								
LZH				LR		LR			
	comp=Z,12μm,13.6s								
LZH				LR		LR			
	comp=Z,5μm,11.1s								
LZH				LR		LR			
	comp=Z,17μm,17.9s								
LGTI	**Lohaghat**	**43.09**	**327**	*e*P		**P**	**10 00 49.9**	**+2.4**	
TIA	**Tai'an**	**43.94**	**14**	⇑P		**P**	**10 00 53.5**	**-0.8**	
TIA				PP		**PcP**	**10 02 40.0**	**+0.5**	
TIA				S		**S**	**10 07 22.1**	**0.0**	
TIA				AMB		AMB			
	comp=Z,50nm,1.2s								
TIA				AMB		AMB			
	comp=Z,2μm,9.0s								
TIA				LR		LR			
	comp=Z,10μm,23.2s								
TIA				LR		LR			
	comp=Z,8μm,21.4s								
TIA				LR		LR			
	comp=Z,14μm,19.9s								
GUMO	**Guam**	**44.12**	**63**	PFAKE			10 01 10.0	+14	
GUMO				LR		LR			
	comp=Z,3μm,20.0s								
NDI	**New Delhi**	**44.20**	**324**	*e*P		**P**	**10 00 54.5**	**-2.0**	
NDI				*ex*		x	10 07 19.5		
TIY	**Taiyuan**	**44.51**	**8**	*e*P		**P**	**10 00 59.0**	**+0.1**	
TIY				pP		**pP**	**10 01 14.3**	**+1.1**	
TIY				PcP		**PcP**	**10 02 41.6**	**+0.1**	
TIY				S		**S**	**10 07 32.6**	**+2.1**	
TIY				AMB		AMB			
	comp=Z,1μm,6.0s								
TIY				LR		LR			
	comp=Z,11μm,15.3s								
TIY				LR		LR			
	comp=Z,6μm,12.7s								
TIY				LR		LR			
	comp=Z,10μm,16.2s								
ARPS	**Mount Arapiles**	**44.95**	**137**	P		**P**	**10 01 03.4**	**+1.0**	
	baz=45,SNR=32								
DDI	**Dehra Dun**	**44.96**	**326**	*ex*		**P**	**10 01 01.0**	**-1.6**	
DDI				*eP*		**P**	**10 01 02.6**	**0.0**	
DDI				AMB		AMB	10 01 04.9		
	comp=Z,2μm,0.9s								
CMSA	**Cobar Meteorol**	**45.23**	**129**	P		**P**	**10 01 05.3**	**+0.6**	
	baz=45,SNR=403								
BHJ	**Bhuj**	**45.66**	**312**	*e*P		**P**	**10 01 08.8**	**+0.6**	
BHJ				AMB		AMB	10 01 13.5		
	comp=Z,609nm,2.3s								
RMQ	**Roma**	**45.91**	**121**	P		**P**	**10 01 11.4**	**+1.2**	
	baz=46,SNR=46								
GTA	**Gaotai**	**45.97**	**354**	⇑P		**P**	**10 01 10.8**	**+0.3**	
GTA				pP		**pP**	**10 01 23.3**	**-1.6**	
GTA				sP		**sP**	**10 01 28.5**	**-2.7**	
GTA				PcP		**PcP**	**10 02 48.5**	**+1.9**	
GTA				ScP		**ScP**	**10 06 37.6**	**+2.3**	
GTA				PcS		**PcS**	**10 06 41.0**	**-0.1**	
GTA				S		**S**	**10 07 51.5**	**-0.1**	
GTA				sS		**sS**	**10 08 11.4**	**-4.5**	
GTA				ScS		**ScS**	**10 11 02.8**	**+1.2**	
GTA				SS		SS	10 11 07.4	-10	
GTA				AMB		AMB			
	comp=Z,110nm,1.9s								
GTA				AMB		AMB			
	comp=Z,2μm,5.9s								
GTA				LR		LR			
	comp=Z,12μm,19.9s								
GTA				LR		LR			
	comp=Z,11μm,19.5s								
GTA				LR		LR			
	comp=Z,13μm,21.4s								
SMLA	**Simla**	**46.06**	**326**	*i* P		**P**	**10 01 11.2**	**0.0**	
SMLA				AMB		AMB	10 01 13.4		
	comp=Z,690nm,0.8s								
SMLA				*i* x		x	10 07 42.6		
JNU	**Nakatsue**	**46.33**	**30**	P		**P**	**10 01 12.7**	**-0.7**	
	comp=Z,24nm,1.7s								
JNU	**Nakatsue**	**46.33**	**30**	P		**P**	**10 01 12.7**	**-0.7**	
	comp=Z,36nm,0.4s,baz=192,slow=2.9,SNR=55								
JNU				LR		LR	10 23 07.6		
	comp=Z,4μm,18.0s,baz=172,slow=39								
SDNR	**Sundarnagar**	**46.46**	**326**	*ex*		P	10 01 05.0	-9.4	
BTO	**Baotou**	**47.09**	**5**	*e*P		**P**	**10 01 19.5**	**+0.2**	
BJT	**Baijiatuau**	**47.39**	**11**	*e*P		**P**	**10 01 22.1**	**+0.7**	
	comp=Z,56nm,0.5s								
BJT				LR		LR			
	comp=Z,12μm,20.0s								
DHRM	**DHARAMSHALA**	**47.40**	**326**	*e*P		**P**	**10 01 21.9**	**0.0**	
DHRM				AMB		AMB	10 01 24.3		
	comp=Z,867nm,1.6s								
BJI	**Beijing**	**47.41**	**11**	P		**P**	**10 01 21.5**	**-0.1**	
BJI				sP		**sP**	**10 01 44.3**	**+2.0**	
BJI				PcP		**PcP**	**10 02 53.4**	**+2.0**	
BJI				ScP		**ScP**	**10 06 43.1**	**+2.0**	
BJI				PcS		**PcS**	**10 06 48.3**	**+1.6**	
BJI				S		**S**	**10 08 13.6**	**+1.7**	
BJI				sS		**sS**	**10 08 36.6**	**+0.4**	
BJI				AMB		AMB			
	comp=Z,100nm,0.8s								
BJI				AMB		AMB			
	comp=Z,2μm,13.0s								
BJI				LR		LR			
	comp=Z,13μm,18.6s								
BJI				LR		LR			
	comp=Z,4μm,15.4s								
BJI				LR		LR			
	comp=Z,9μm,31.2s								
HHC	**Hu-ho-hao-te**	**47.49**	**7**	*i* P		**P**	**10 01 22.9**	**+0.6**	
HHC				pP		**pP**	**10 01 38.4**	**+1.6**	
HHC				PP		**PP**	**10 03 14.1**	**-0.2**	
HHC				S		**S**	**10 08 14.4**	**+1.2**	
HHC				sS		**sS**	**10 08 41.1**	**+3.5**	
HHC				ScS		**ScS**	**10 11 06.3**	**-5.1**	
HHC				SS		**SS**	**10 11 37.1**	**-4.8**	
HHC				AMB		AMB			
	comp=Z,160nm,1.1s								
HHC				AMB		AMB			
	comp=Z,3μm,8.5s								
HHC				LR		LR			
	comp=Z,26μm,18.4s								
HHC				LR		LR			
	comp=Z,14μm,17.5s								
HHC				LR		LR			
	comp=Z,29μm,18.0s								
EIDS	**Eidsvold**	**47.60**	**118**	*e*P		**P**	**10 01 23.6**	**+0.2**	
	comp=Z,580nm,1.6s								
EIDS	**Eidsvold**	**47.60**	**118**	P		**P**	**10 01 24.0**	**+0.5**	
	baz=48,SNR=44								
DL2	**Dalian**	**47.68**	**17**	P		**P**	**10 01 23.6**	**-0.1**	
DL2				S		**S**	**10 08 13.8**	**-2.0**	
DL2				AMB		AMB			
	comp=Z,130nm,1.0s								
DL2				AMB		AMB			
	comp=Z,2μm,5.9s								
DL2				LR		LR			
	comp=Z,5μm,17.5s								
DL2				LR		LR			
	comp=Z,5μm,17.5s								
TOO	**Toolangi**	**47.85**	**136**	P		**P**	**10 01 26.9**	**+1.6**	
	baz=48,SNR=21								
THN	**Thein Dam**	**47.86**	**326**	*e*P		**P**	**10 01 22.0**	**-3.2**	
INCN	**Inchon**	**48.11**	**23**	*e*P		**P**	**10 01 27.3**	**+0.2**	
	comp=Z,32nm,0.8s								
INCN				LR		LR			
	comp=Z,5μm,20.0s								
MRIV	**Mauritius Mete**	**48.24**	**249**	*e*P		**P**	**10 01 27.5**	**-0.9**	
KSAR	**Wonju Array Be**	**48.57**	**24**	P		**P**	**10 01 31.4**	**+0.8**	
KSAR				PcP		**PcP**	**10 02 56.1**	**+0.5**	
KSAR				pPcP			10 03 07.7		
KSRS	**Korea Array**	**48.60**	**24**	P		**P**	**10 01 31.4**	**+0.6**	
	comp=Z,43nm,0.8s,baz=226,slow=7.5,SNR=77								
KSRS				PcP		**PcP**	**10 02 56.1**	**+0.4**	
	comp=Z,32nm,0.9s,baz=208,slow=3.9,SNR=8.3								
KSRS				pPcP			10 03 07.7		
	comp=Z,24nm,0.9s,baz=204,slow=4.2,SNR=4.4								
KSRS				LR		LR	10 22 44.9		
	comp=Z,3μm,20.1s,baz=225,slow=37								
JCJ	**Chichijima**	**48.94**	**45**	P		**P**	**10 01 30.9**	**-2.7**	
	comp=Z,110nm,0.3s,baz=197,slow=3.5,SNR=34								
CBIJ	**Chichi jima**	**48.94**	**45**	P		**P**	**10 01 30.9**	**-2.7**	
CAN	**Canberra**	**49.33**	**132**	*e*P		**P**	**10 01 37.4**	**+0.8**	
CAN				pmax		pmax			
	comp=Z,525nm,1.1s								
CAN				MLR		MLR			
	comp=Z,16μm,22.0s								
CAN	**Canberra**	**49.33**	**132**	*e*P		**P**	**10 01 37.4**	**+0.8**	
	comp=Z,525nm,1.1s								
CAN				LR		LR			
	comp=Z,16μm,22.0s								
ARMA	**Armidale**	**49.55**	**125**	*e*P		**P**	**10 01 40.0**	**+1.6**	
	comp=Z,382nm,1.4s								
ARMA	**Armidale**	**49.55**	**125**	P		**P**	**10 01 39.8**	**+1.4**	
	baz=50,SNR=29								
CNB	**Canberra Magne**	**49.59**	**132**	P		**P**	**10 01 39.4**	**+0.7**	
	baz=50,SNR=31								
MGCD	**Mangrove Creek**	**50.10**	**128**	P		**P**	**10 01 43.8**	**+1.3**	
	baz=50,SNR=109								
MILA	**Mila**	**50.19**	**134**	⇑P		**P**	**10 01 43.4**	**+0.3**	
	baz=50,SNR=12								
MOO	**Moorlands**	**51.48**	**141**	P		**P**	**10 01 53.8**	**+1.1**	
	baz=52,SNR=8.2								
TAU	**Tasmania Unive**	**51.81**	**141**	*e*P		**P**	**10 01 56.0**	**+0.9**	
TAU				pmax		pmax			
	comp=Z,164nm,1.1s								
TAU				MLR		MLR			
	comp=Z,11μm,20.0s								
TAU	**Tasmania Unive**	**51.81**	**141**	*e*P		**P**	**10 01 56.0**	**+0.9**	
	comp=Z,164nm,1.1s								
TAU				LR		LR			
	comp=Z,11μm,20.0s								
PAF	**Port-aux-Franc**	**51.88**	**208**	PFAKE			10 02 10.0	+15	
PAF				LR		LR			
	comp=Z,14μm,21.0s								
WMQ	**Urumqi**	**52.56**	**344**	P		**P**	**10 02 00.8**	**+0.1**	
WMQ				pP		**pP**	**10 02 16.5**	**+1.2**	
WMQ				sP		**sP**	**10 02 23.5**	**+1.9**	
WMQ				PcP		**PcP**	**10 03 09.8**	**-0.6**	
WMQ				PP		**PP**	**10 04 01.9**	**+1.7**	
WMQ				PcS		**PcS**	**10 07 06.6**	**-2.3**	
WMQ				S		**S**	**10 09 22.4**	**-1.3**	
WMQ				sS		**sS**	**10 09 49.4**	**+1.1**	
WMQ				ScS		**ScS**	**10 11 41.5**	**-4.3**	
WMQ				SS		**SS**	**10 12 59.9**	**-2.9**	
WMQ				AMB		AMB			
	comp=Z,140nm,0.8s								
WMQ				AMB		AMB			
	comp=Z,2μm,5.2s								
WMQ				LR		LR			
	comp=Z,6μm,17.0s								
WMQ				LR		LR			
	comp=Z,5μm,17.6s								
WMQ				LR		LR			
	comp=Z,8μm,26.4s								
MAT	**Matsushiro**	**52.80**	**33**	P		**P**	**10 02 00.7**	**-1.9**	
MAT				S		**S**	**10 09 25.4**	**-1.8**	
MAJO	**Matsushiro**	**52.80**	**33**	*c i*P		**P**	**10 02 00.9**	**-1.7**	
MAJO				pmax		pmax			
	comp=Z,245nm,2.0s								
MAJO				MLR		MLR			
	comp=Z,4μm,21.0s								
MAJO	**Matsushiro**	**52.80**	**33**	*e*P		**P**	**10 02 00.7**	**-1.8**	
	comp=Z,321nm,1.6s								
MAJO				LR		LR			
	comp=Z,4μm,22.0s								
MJAR	**Matsushiro Arr**	**52.80**	**33**	P		**P**	**10 02 01.1**	**-1.5**	
MJAR				PcP		**PcP**	**10 03 11.0**	**-0.4**	
MJAR				pPcP			10 03 24.9		
MJAR				ScP		**ScP**	**10 07 03.5**	**-0.9**	
MJAR	**Matsushiro Arr**	**52.80**	**33**	P		**P**	**10 02 01.1**	**-1.5**	
	comp=Z,17nm,0.5s,baz=217,slow=8.2,SNR=59								
MJAR				PcP		**PcP**	**10 03 11.0**	**-0.4**	
	comp=Z,29nm,0.8s,baz=215,slow=5.4,SNR=7.7								
MJAR				pPcP			10 03 24.9		
	comp=Z,21nm,0.8s,baz=210,slow=5.6,SNR=5.2								
MJAR				ScP		**ScP**	**10 07 03.5**	**-0.9**	
	comp=Z,4.2nm,0.9s,baz=217,slow=7.6,SNR=4.0								
MJAR				LR		LR	10 25 18.1		
	comp=Z,3μm,20.3s,baz=310,slow=37								
KSH	**Kashi**	**53.20**	**332**	P		**P**	**10 02 04.6**	**-1.0**	
KSH				pP		**pP**	**10 02 21.3**	**+1.1**	
KSH				sP		**sP**	**10 02 27.4**	**+0.9**	
KSH				S		**S**	**10 09 29.9**	**-2.8**	
KSH				AMB		AMB			
	comp=Z,150nm,1.0s								
KSH				AMB		AMB			
	comp=Z,2μm,3.1s								
KSH				LR		LR			
	comp=Z,4μm,21.6s								
KSH

SONM e 10 39 32.1
SONM Songino Array 54.12 1 P **P** **10 02 12.8 +0.6**
comp=Z,70nm,0.5s,baz=174,slow=8.4,SNR=177
SONM PcP **PcP** **10 03 17.2 +0.8**
comp=Z,54nm,0.6s,baz=187,slow=4.3,SNR=17
SONM ScP **ScP** **10 07 10.3 +0.2**
comp=Z,6.9nm,0.8s,baz=164,slow=4.1,SNR=4.4
SONM LR LR 10 28 03.6
comp=Z,25μm,19.6s,baz=177,slow=39
SONM PKPPKP **P'P'df** **10 32 23.3 -2.5**
comp=Z,0.5nm,0.3s,baz=9.5,slow=1.8,SNR=3.5
SONM P4KPbc 10 39 32.1
comp=Z,0.9nm,0.7s,baz=184,slow=3.7,SNR=6.7
JMDO Jabal Madar 54.34 303 P **P** **10 02 15.6 +1.5**
SNR=36
PATS Pohnpei 54.59 77 P **P** **10 02 15.5 -0.5**
baz=55,SNR=5.3
SMDO Samad 54.69 304 P **P** **10 02 18.6 +1.8**
SNR=67
BSY Bisya 55.25 303 P **P** **10 02 22.7 +2.0**
SNR=53
ULHL Ulahol 55.26 334 *i* P **P** **10 02 19.6 -1.0**
ULHL Ulahol 55.26 334 P **P** **10 02 19.6 -1.0**
SNR=37
MDJ Mudanjiang 55.42 21 P **P** **10 02 21.6 +0.1**
MDJ pP **pP** **10 02 35.3 -0.9**
MDJ sP **sP** **10 02 40.6 -1.8**
MDJ PcP **PcP** **10 03 22.9 +1.7**
MDJ PP **PP** **10 04 24.1 -1.8**
MDJ PcS **PcS** **10 07 22.8 +1.6**
MDJ S **S** **10 09 56.5 -5.6**
MDJ sS **sS** **10 10 22.3 -4.6**
MDJ ScS **ScS** **10 12 07.3 +1.5**
MDJ SS **SS** **10 13 42.3 -5.4**
MDJ AMB AMB
comp=Z,120nm,1.0s
MDJ AMB AMB
comp=Z,2μm,9.2s
MDJ LR LR
comp=Z,4μm,23.6s
MDJ LR LR
comp=Z,2μm,25.1s
MDJ LR LR
comp=Z,5μm,23.2s
MDJ Mudanjiang 55.42 21 *e*P **P** **10 02 21.5 +0.1**
comp=Z,63nm,0.6s
MDJ LR LR
comp=Z,5μm,22.0s
HOQ Hoqain 55.53 304 P **P** **10 02 24.7 +2.0**
SNR=67
KZA Kyzart 55.57 333 *i* P **P** **10 02 23.0 -0.1**
KZA Kyzart 55.57 333 P **P** **10 02 23.1 -0.1**
SNR=100
RBK Rabkut 55.77 296 P **P** **10 02 26.0 +1.5**
SNR=77
USRK Ussuriysk Arra 55.95 23 P **P** **10 02 25.4 +0.2**
comp=Z,263nm,0.5s,baz=206,slow=5.6,SNR=299
USRK LR LR 10 28 13.8
comp=Z,4μm,20.7s,baz=229,slow=38
LHI Lord Howe Isla 55.98 124 ⇑P **P** **10 02 26.7 +0.9**
baz=56,SNR=5.7
ARQ Araqi 56.07 304 P **P** **10 02 28.1 +1.5**
SNR=50
TKM2 Tokmak 2 56.09 334 *i* P **P** **10 02 26.0 -0.6**
TKM2 Tokmak 2 56.09 334 P **P** **10 02 26.0 -0.6**
SNR=201
TKM2 Tokmak 2 56.09 334 *e*P **P** **10 02 25.7 -0.9**
comp=Z,102nm,0.6s
TKM2 LR LR
comp=Z,7μm,21.0s
KBK Karagaybulak 56.16 333 *i* P **P** **10 02 27.1 +0.1**
KBK Karagaybulak 56.16 333 P **P** **10 02 27.2 +0.1**
SNR=45
AML Almayashu 56.32 332 *i* P **P** **10 02 28.6 +0.2**
AML Almayashu 56.32 332 P **P** **10 02 28.6 +0.2**
SNR=16
AAK Ala-Archa 56.35 333 ⇑ *i*P **P** **10 02 27.6 -0.8**
AAK pmax pmax
comp=Z,619nm,2.8s
AAK MLR MLR
comp=Z,15μm,20.0s
AAK Ala-Archa 56.35 333 P **P** **10 02 28.3 -0.1**
SNR=69
AAK Ala-Archa 56.35 333 P **P** **10 02 28.1 -0.3**
SNR=58
AAK Ala-Archa 56.35 333 *e*P **P** **10 02 27.9 -0.5**
comp=Z,54nm,0.9s
AAK Ala-Archa 56.35 333 LR LR 10 28 13.8
comp=Z,5μm,21.3s,baz=138,slow=38
CHMS Chumysh 56.52 333 *i* P **P** **10 02 30.9 +1.5**
CHMS Chumysh 56.52 333 P **P** **10 02 30.9 +1.5**
SNR=16
ABTO Aybut 56.53 296 P **P** **10 02 31.1 +1.2**
SNR=91
EKS2 Erkin-Say 56.70 333 *e*P **P** **10 02 30.4 -0.4**
EKS2 pmax pmax
comp=Z,201nm,0.9s
EKS2 MLR MLR
comp=Z,6μm,21.0s
EKS2 Erkin-Say 56.70 333 P **P** **10 02 30.7 -0.1**
SNR=202
EKS2 Erkin-Say 56.70 333 *e*P **P** **10 02 30.4 -0.4**
comp=Z,202nm,0.9s
EKS2 LR LR
comp=Z,6μm,21.0s
USP Ospenovka 56.85 334 *i* P **P** **10 02 31.7 0.0**
USP Ospenovka 56.85 334 P **P** **10 02 31.7 0.0**
SNR=5.4
MK31 Makanchi Array 56.85 341 *ce*P **P** **10 02 30.8 -0.9**
MK31 pmax pmax
comp=Z,15nm,0.3s
MK31 Makanchi Array 56.85 341 *e*P **P** **10 02 30.9 -0.9**
MKAR Makanchi Array 56.85 341 P **P** **10 02 31.0 -0.7**
MKAR S S 10 10 27.9 +6.6
MKAR P'P' 10 32 23.2
MKAR *e* 10 39 44.2
MKAR Makanchi Array 56.85 341 P **P** **10 02 31.0 -0.7**
comp=Z,44nm,0.5s,baz=148,slow=8.1,SNR=242
MKAR S S 10 10 27.9 +6.6
comp=Z,3.3nm,1.0s,baz=142,slow=7.3,SNR=3.7
MKAR PKPPKP **P'P'df** **10 32 23.2 +1.2**
comp=Z,0.9nm,1.0s,baz=252,slow=2.3,SNR=3.5
MKAR LR LR 10 33 02.8
comp=Z,5μm,19.5s,baz=150,slow=42
MKAR P4KPbc 10 39 44.2
comp=Z,1.4nm,0.7s,baz=153,slow=5.0,SNR=14
HIA Hailar 56.98 11 *e*P **P** **10 02 32.1 -0.4**
comp=Z,75nm,0.6s
HIA LR LR
comp=Z,9μm,20.0s
ASHO Ashiyiah 57.04 305 P **P** **10 02 35.1 +1.7**
SNR=60
BANOM Banah 57.40 306 P **P** **10 02 37.2 +1.2**
SNR=22
ABPO Ambohimpanom 57.69 252 *e*P **P** **10 02 39.0 +0.7**
ABPO pmax pmax
comp=Z,136nm,1.6s
ABPO MLR MLR
comp=Z,5μm,22.0s
ABPO Ambohimpanom 57.69 252 *e*P **P** **10 02 39.0 +0.7**
comp=Z,136nm,1.6s
ABPO LR LR
comp=Z,5μm,22.0s
OPO Ambohidratompo 57.70 252 P **P** **10 02 38.9 +0.6**
OPO Ambohidratompo 57.70 252 P **P** **10 02 38.9 +0.6**
comp=Z,25nm,1.1s,baz=84,slow=6.6,SNR=17
OPO LR LR 10 22 09.4
comp=Z,9μm,20.8s,baz=65,slow=30
IBND Bandar-abas 57.92 308 *e*P **P** **10 02 41.2 +1.7**
TLY Talaya 57.98 359 *c i*P **P** **10 02 40.7 +1.2**
TLY pmax pmax
comp=Z,80nm,1.1s
TLY MLR MLR
comp=Z,12μm,21.0s
IDAH Dahanechah 58.16 315 *e*P **P** **10 02 42.1 +0.7**
HVS Khovu-Aksy 58.27 351 ⇑ *i*P **P** **10 02 40.8 -0.9**
HVS pmax pmax
comp=Z,93nm,0.8s
HVS MLR MLR
comp=Z,34μm,18.0s
KK31 Karatay Array 58.58 331 *ce*P **P** **10 02 43.0 -0.9**
KK31 pmax pmax
comp=Z,72nm,0.8s
KKAR Karatay Array 58.58 331 *e*P **P** **10 02 42.5 -1.4**
KKAR pmax pmax
comp=Z,24nm,0.6s
KKAR Karatay Array 58.58 331 *e*P **P** **10 02 42.5 -1.4**
comp=Z,24nm,0.6s
IKOO Kooshah 58.59 314 *e*P **P** **10 02 44.9 +0.4**
ITEG Tejag 59.03 315 *e*P **P** **10 02 48.0 +0.6**
CASY Casey 59.78 178 *e*P **P** **10 02 51.5 -0.3**
comp=Z,186nm,1.3s
CASY LR LR
comp=Z,6μm,22.0s
IMYA Miami 60.04 319 *e*P **P** **10 02 54.3 0.0**
IMOG Moghan 60.41 318 *e*P **P** **10 02 56.8 -0.2**
ISRO Mashad 60.44 318 *e*P **P** **10 02 56.5 -0.4**
ASAJ Asahikawa 60.61 30 *e*P **P** **10 02 57.1 -0.7**
comp=Z,45nm,0.8s
ASAJ Asahikawa 60.61 30 LR LR 10 31 33.7
comp=Z,3μm,18.7s,baz=312,slow=38
DZM Mont Dzumac 60.92 112 *e*P **P** **10 03 00.8 +0.3**
comp=Z,274nm,1.3s
DZM *e*S **S** **10 11 20.6 +5.6**
comp=Z,2μm,27.1s
DZM *e*LR LR 10 21 12.7
comp=Z,16μm,25.4s
DZM Mont Dzumac 60.92 112 *e*P **P** **10 03 00.6 +0.1**
comp=Z,238nm,1.4s
IAKL Akhelmad 61.08 318 *e*P **P** **10 03 01.3 -0.2**
IKRD Kardeh 61.34 318 *e*P P 10 02 59.3 -3.9
KURBB Kurchatov Arra 61.41 341 P **P** **10 03 02.5 -0.5**
comp=Z,72nm,1.0s,baz=158,slow=6.3,SNR=126
KURBB PKPPKP **P'P'df** **10 32 14.1 -0.9**
comp=Z,0.3nm,0.2s,baz=317,slow=2.9,SNR=7.6
KURK Kurchatov 61.46 341 *e*P **P** **10 03 02.9 -0.5**
KURK pmax pmax
comp=Z,80nm,1.0s
KURK MLR MLR
comp=Z,4μm,21.0s
KURK Kurchatov 61.46 341 P **P** **10 03 03.3 -0.2**
SNR=68
KURK Kurchatov 61.46 341 *e*P **P** **10 03 02.9 -0.5**
comp=Z,80nm,1.0s
KURK P'P' 10 32 14.1
KURK LR LR
comp=Z,4μm,21.0s
IEMG Emamgholi 61.61 319 *e*P **P** **10 03 05.4 +0.3**
ISFR Sfrayin 61.83 318 *e*P **P** **10 03 06.4 -0.2**
ZAA0 Zalesovo Array 62.64 347 *e*P **P** **10 03 10.2 -1.0**
ZALV Zalesovo Beam 62.64 347 P **P** **10 03 10.4 -0.9**
ZALV pmax pmax
comp=Z,78nm,0.6s
ZALV MLR MLR
comp=Z,17μm,20.3s
ZALV Zalesovo Beam 62.64 347 P **P** **10 03 10.3 -0.9**
ZALV P'P' 10 32 14.8
ZALV Zalesovo Beam 62.64 347 P **P** **10 03 10.3 -0.9**
comp=Z,78nm,0.6s,baz=134,slow=4.3,SNR=180
ZALV PKPPKP **P'P'df** **10 32 14.8 +2.1**
comp=Z,0.9nm,0.6s,baz=304,slow=3.4,SNR=5.7
ZALV LR LR 10 32 55.0
comp=Z,17μm,20.3s,baz=152,slow=38
YSS Yuzh-Sakhalins 62.76 28 α *i*P **P** **10 03 12.0 -0.2**
YSS *e* 10 03 24.5
YSS *e* 10 03 44.0
YSS *e*S S 10 11 28.0 -9.0
YSS *e*PPS PPS 10 11 52.0
YSS pmax pmax
comp=Z,400nm,1.0s
YSS pmax pmax
comp=Z,2μm,2.0s
YSS MLR MLR
comp=N,3μm,20.0s
YSS MLR MLR
comp=Z,3μm,20.0s
YSS MLR MLR
comp=E,2μm,18.0s
IMND Minoodasht 63.68 317 *e*P **P** **10 03 20.0 +1.5**
IGAR Gharneh 63.68 311 *e*P **P** **10 03 19.9 +1.0**
IZEF Zefreh 63.69 312 *e*P **P** **10 03 18.7 -0.3**
TRBA At Turbah 63.79 288 *e*P **P** **10 03 21.6 +1.7**
MCQ Macquarie Isla 64.24 149 *e*P **P** **10 03 23.4 +1.5**
MCQ Macquarie Isla 64.24 149 *e*P **P** **10 03 23.4 +1.5**
comp=E,14μm,1.1s
MCQ Macquarie Isla 64.24 149 P **P** **10 03 23.9 +2.0**
baz=64,SNR=5.4
ISFB Sefidab 64.44 313 *e*P **P** **10 03 24.0 +0.3**
IKLH Kolahrood 64.45 312 *e*P **P** **10 03 24.5 +0.5**
DRV Dumont d'Urvil 64.63 165 P P 10 03 06.0 -18
DRV S S 10 11 42.0 -18
DRV SS SS 10 15 49.0 -22
DRV L L 10 18 00.0
DRV R 10 22 00.0
IFIR Firoozkooh 64.69 314 *e*P **P** **10 03 26.3 +0.7**
IVRN Varamin 65.12 313 *e*P **P** **10 03 29.2 +1.1**
IDMV Damavand 65.18 314 *e*P **P** **10 03 29.5 +0.8**
QRN Al-Qurain 65.34 306 *e*P **P** **10 03 30.3 +0.7**
QRN AMb AMB 10 03 33.0
comp=Z,1μm,1.0s
QRN Al-Qurain 65.34 306 *e*P **P** **10 03 30.1 +0.5**
QRN AMb AMB 10 03 33.0
comp=Z,1μm,1.0s
WAKE Wake Island 65.66 66 PFAKE 10 03 40.0 +8.2
WAKE LR LR
comp=Z,2μm,20.0s
KBD Kabd 65.69 306 *e*P **P** **10 03 32.3 +0.5**
KBD AMb AMB 10 03 35.5
comp=Z,559nm,0.9s
KBD Kabd 65.69 306 *e*P **P** **10 03 32.2 +0.4**
KBD AMb AMB 10 03 35.5
comp=Z,559nm,0.9s
RDF Al-Radifah 65.71 306 *e*P **P** **10 03 33.1 +1.1**
RDF AMb AMB 10 03 35.9
comp=Z,1μm,1.2s
RDF Al-Radifah 65.71 306 *e*P **P** **10 03 33.0 +1.0**
RDF AMb AMB 10 03 35.9
comp=Z,1μm,1.2s
VOSK Vostochnaya 65.79 338 *i* P **P** **10 03 30.7 -1.3**
VOSK pmax pmax
comp=Z,55nm,1.1s
UMR Umm Al-Rimmam 65.82 306 *e*P **P** **10 03 33.3 +0.7**
UMR AMb AMB 10 03 35.9
comp=Z,1μm,0.6s
UMR Umm Al-Rimmam 65.82 306 *e*P **P** **10 03 33.4 +0.8**
UMR AMb AMB 10 03 35.9
comp=Z,1μm,0.7s
IR3 Iran Long-Peri 65.85 313 *e*P **P** **10 03 34.0 +1.2**
IR5 Iran Long-Peri 66.05 313 *e*P **P** **10 03 35.3 +1.1**
NAAY Al-Naaiem 66.08 306 *e*P **P** **10 03 34.6 +0.3**
NAAY AMb AMB 10 03 37.4
comp=Z,429nm,0.7s
NAAY Al-Naaiem 66.08 306 *e*P **P** **10 03 34.6 +0.3**
NAAY AMb AMB 10 03 37.3
comp=Z,429nm,0.7s
IMHD Mahdasht 66.21 314 *e*P **P** **10 03 36.4 +1.3**
BVAR Borovoye Array 66.25 338 P **P** **10 03 31.8 -3.1**
BVAR pmax pmax
comp=Z,68nm,0.5s
BVAR Borovoye Array 66.25 338 P **P** **10 03 31.8 -3.1**
BVAR Borovoye Array 66.25 338 P **P** **10 03 31.8 -3.1**
comp=Z,29nm,0.4s,baz=144,slow=9.1,SNR=8.1
BRVK Borovoye 66.32 338 *c i*P **P** **10 03 34.8 -0.5**
BRVK pmax pmax
comp=Z,346nm,2.5s
BRVK MLR MLR
comp=Z,9μm,20.0s
BRVK Borovoye 66.32 338 P **P** **10 03 35.2 -0.1**
SNR=66
BRVK Borovoye 66.32 338 *e*P **P** **10 03 34.5 -0.8**
comp=Z,104nm,0.8s
BRVK LR LR
comp=Z,7μm,22.0s
RST Umm Al-Ruwaisa 66.38 306 *e*P **P** **10 03 36.3 +0.1**
RST AMb AMB 10 03 38.8
comp=Z,7μm,0.7s
RST Umm Al-Ruwaisa 66.38 306 *e*P **P** **10 03 36.3 +0.1**
RST AMb AMB 10 03 38.8
comp=Z,7μm,0.7s
IRAZ Razeghan 66.61 313 *e*P **P** **10 03 38.8 +0.9**
IGZV Ghazvin 66.86 314 *e*P **P** **10 03 40.2 +0.8**
MAW Mawson 67.33 196 *e*P **P** **10 03 41.8 +0.3**
comp=Z,0.5nm,0.7s
MAW Mawson 67.33 196 P **P** **10 03 41.9 +0.3**
baz=67,SNR=73
MAW Mawson 67.33 196 P **P** **10 03 42.1 +0.5**
comp=Z,77nm,0.9s,baz=47,slow=6.6,SNR=115
MAW LR LR 10 26 46.2
comp=Z,8μm,21.8s,baz=28,slow=30
DESE Dese 67.59 285 *e*P **P** **10 03 47.6 +3.0**
TARA Tarawa 68.00 86 *e*P **P** **10 03 47.6 +0.8**
comp=Z,880nm,1.6s
TARA LR LR
comp=Z,2μm,20.0s
KMBO Kilima Mbogo 68.00 271 *e*P **P** **10 03 47.6 +0.4**
KMBO Kilima Mbogo 68.00 271 P **P** **10 03 48.4 +1.3**
SNR=30
KMBO Kilima Mbogo 68.00 271 *e*P **P** **10 03 47.5 +0.4**
comp=Z,152nm,1.6s
KMBO Kilima Mbogo 68.00 271 ⇓P **P** **10 03 48.4 +1.3**
baz=68,SNR=7.3
KMBO Kilima Mbogo 68.00 271 P **P** **10 03 47.9 +0.8**
comp=Z,30nm,1.1s,baz=45,slow=7.7,SNR=40
KMBO LR LR 10 28 20.4
comp=Z,12μm,21.7s,baz=92,slow=31
AB31 Akbulak array 68.11 330 *ce*P **P** **10 03 46.9 +0.1**
ABKAR Akbulak array 68.11 330 *e*P **P** **10 03 46.9 +0.2**
comp=Z,1μm,0.6s
RPZ Rata Peaks 68.11 135 *e*P **P** **10 03 46.4 -0.6**
comp=Z,272nm,1.2s
RPZ Rata Peaks 68.11 135 P **P** **10 03 46.2 -0.8**
comp=Z,84nm,0.9s,baz=254,slow=4.8,SNR=34
ODZ Otahua Downs 68.12 136 *e*P **P** **10 03 47.0 0.0**
comp=Z,76nm,1.3s
IVIS Veis 68.51 311 *e*P **P** **10 03 48.0 -1.7**
ILIN Lien 68.59 311 *e*P **P** **10 03 49.6 -0.8**
OUZ Omahuta 68.61 125 *e*P **P** **10 03 51.3 +1.1**
comp=Z,47nm,1.3s
IGHG Ghaleghazi 68.64 311 *e*P **P** **10 03 50.4 -0.3**
IDHR Dehrash 68.93 311 *e*P **P** **10 03 51.5 -0.9**
KHZ Kahutara 69.65 133 *e*P **P** **10 03 56.1 -0.4**
comp=Z,244nm,1.3s
AKTO Aktyubinsk 69.83 330 P **P** **10 03 56.0 -1.4**
AKTO pmax pmax
comp=Z,308nm,0.9s
AKTO Aktyubinsk 69.83 330 P **P** **10 03 56.0 -1.4**
AKTO Aktyubinsk 69.83 330 P **P** **10 03 56.0 -1.4**
comp=Z,308nm,0.9s,baz=117,slow=9.1
SNZO South Karori 70.32 131 *e*P **P** **10 03 60.0 -0.7**
comp=Z,169nm,1.4s
SNZO LR LR
comp=Z,9μm,20.0s
YAK Yakutsk 70.91 12 *c i*P **P** **10 04 03.0 -0.7**
YAK *e* 10 04 22.6
YAK *e* 10 06 44.4
YAK *e*PPP PPP 10 08 30.9
YAK *e*S **S** **10 13 10.0 -4.9**
YAK *e**SS **SKSac** **10 13 54.8 -6.4**
YAK *e* 10 13 58.1
YAK pmax pmax
comp=Z,358nm,0.9s
YAK pmax pmax
comp=N,120nm,1.1s
YAK pmax pmax
comp=E,67nm,1.1s
YAK pmax pmax
comp=N,90nm,2.9s
YAK pmax pmax
comp=Z,157nm,2.8s
YAK pmax pmax
comp=E,77nm,2.5s
YAK smax smax
comp=N,651nm,4.7s
YAK smax smax
comp=E,244nm,4.4s
YAK MLR MLR
comp=Z,4μm,17.0s
YAK MLR MLR
comp=N,4μm,16.0s
YAK MLR MLR
comp=E,2μm,17.0s
MSVF Nonsavu 71.70 106 *e*P **P** **10 04 09.9 +0.3**
MSVF pmax pmax
comp=Z,242nm,1.5s
MSVF MLR MLR
comp=Z,5μm,20.0s
MSVF Nonsavu 71.70 106 *e*P **P** **10 04 09.9 +0.3**
comp=Z,242nm,1.5s
MSVF LR LR
comp=Z,5μm,20.0s
URZ Urewera 71.77 128 *e*P **P** **10 04 12.2 +2.7**
comp=Z,72nm,1.1s
URZ Urewera 71.77 128 P **P** **10 04 08.2 -1.3**
comp=Z,5.3nm,0.3s,baz=305,slow=7.3,SNR=3.8
MAK Makhachkala 71.77 319 *e*P **P** **10 04 09.5 +0.2**
CUKT Cukurca 72.01 312 *e*P **P** **10 04 11.1 0.0**
HAKT HAKKARI 72.06 313 *i*P **P** **10 04 12.1 +0.5**
GNI Garni 72.38 316 P **P** **10 04 14.5 +1.2**
SNR=65
GNI Garni 72.38 316 P **P** **10 04 14.3 +0.9**
GNI LR LR
comp=Z,3μm,22.0s
GNI Garni 72.38 316 P **P** **10 04 14.3 +0.9**
comp=Z,90nm,0.8s,baz=342,slow=3.0,SNR=55
DGRG David-gareji 72.50 317 P **P** **10 04 15.5 +1.6**
POGA Pongola 72.51 243 *e*P **P** **10 04 11.5 -2.7**
POGA AMB AMB 10 04 38.7
comp=Z,97nm,4.0s
POGA Pongola 72.51 243 P **P** **10 04 11.5 -2.7**
comp=Z,97nm,4.0s
CLDR Caldiran 72.55 314 *e*P **P** **10 04 15.3 +0.9**
GEVA Gevas 72.83 313 *i*P **P** **10 04 16.7 +0.6**
DYDN Diyadin 72.87 315 *i*P **P** **10 04 17.7 +1.4**
SIRT Sirnak 72.97 312 *e*P **P** **10 04 17.0 +0.2**
TBLG Delisi 73.06 317 P **P** **10 04 18.0 +0.9**
KZR Kazreti 73.13 317 P **P** **10 04 18.8 +1.2**
AGRB Hanur-Agry 73.38 314 *e*P **P** **10 04 20.3 +1.1**
EAK Akyaka 73.39 316 *i*P **P** **10 04 20.7 +1.4**
TUTA Tutak 73.44 314 *i*P **P** **10 04 20.7 +1.0**
ARU Arti 73.44 335 *c i*P **P** **10 04 19.2 +0.2**
ARU pmax pmax
comp=Z,760nm,1.0s
ARU MLR MLR
comp=Z,8μm,19.0s
DIGO Kars 73.44 315 *i*P **P** **10 04 20.6 +0.9**
TATV Tatvan 73.48 313 *i*P **P** **10 04 20.8 +0.9**
KARS Kars 73.74 315 *e*P **P** **10 04 22.8 +1.5**
AKH Akhalkalaki 73.77 316 P **P** **10 04 22.5 +1.0**
EATA Eleskirt 73.84 315 *i*P **P** **10 04 23.2 +1.1**
MSNA Messina 73.90 249 *e*P **P** **10 04 23.4 +0.8**
MSNA AMB AMB 10 04 24.0
comp=Z,76nm,2.1s
MSNA Messina 73.90 249 P **P** **10 04 23.4 +0.8**
comp=Z,76nm,2.1s
PEA0B Petropavlovsk- 74.03 30 *e*P **P** **10 04 22.4 -0.2**
PETK Petropavlovsk- 74.03 30 P **P** **10 04 22.3 -0.3**
PETK pmax pmax
comp=Z,106nm,0.7s
PETK MLR MLR
comp=Z,2μm,20.9s
PETK Petropavlovsk- 74.03 30 P **P** **10 04 22.2 -0.3**
PETK Petropavlovsk- 74.03 30 P **P** **10 04 22.2 -0.3**
comp=Z,106nm,0.7s,baz=194,slow=4.6,SNR=136
PETK LR LR 10 38 00.8
comp=Z,2μm,20.9s,baz=228,slow=37
MARD Mardin 74.13 312 *i*P **P** **10 04 24.6 +1.0**
ONI Oni 74.28 317 P **P** **10 04 25.3 +1.0**
VRTB Varto-Mus 74.31 314 *e*P **P** **10 04 26.3 +1.6**
HOMI Horasan 74.33 315 *i*P **P** **10 04 26.2 +1.3**
EPOS Posof 74.33 316 *i*P P 10 04 19.9 -4.9
MAZI Mazidag 74.43 312 *e*P **P** **10 04 26.0 +0.7**
BNGL BINGOL 74.46 313 *i*P **P** **10 04 27.0 +1.4**
PET Petropavlovsk 74.46 30 ⇑ *i*P **P** **10 04 24.5 -0.5**
PET *i**PP **PcP** **10 04 38.7 -0.6**
PET *i* 10 07 07.3
PET *i**SS **S** **10 13 56.9 +1.3**
PET pmax pmax
comp=Z,2μm,7.0s
PET pmax pmax
comp=Z,571nm,0.6s
PET pmax pmax
comp=Z,2μm,13.1s
PET pmax pmax
comp=Z,600nm,21.6s
KSD Kokstad 74.52 240 *e*P **P** **10 04 25.3 -0.9**
KSD AMB AMB 10 04 39.1
comp=Z,212nm,3.5s
KSD Kokstad 74.52 240 P **P** **10 04 25.3 -0.9**
comp=Z,212nm,3.5s
MBAR Mbarara 74.53 271 *e*P **P** **10 04 26.4 -0.1**
MBAR Mbarara 74.53 271 P **P** **10 04 26.4 -0.1**
MBAR LR LR
comp=Z,556nm,21.0s
ERZM Erzurum 74.66 314 *e*P **P** **10 04 28.3 +1.5**
EZM Erzurum 74.66 314 *e*P **P** **10 04 28.2 +1.3**
DAGI Agillar 74.73 316 *i*P **P** **10 04 28.0 +1.0**

ARTV Artvin 74.76 316 *i* P P 10 04 28.0 +0.7
DDEM Demirkent 74.77 315 *i* P P 10 04 28.2 +1.0
BNGB Bing¶ll 74.81 313 *e*P P 10 04 28.5 +1.0
DBAD Bademkaya 74.86 315 *i* P P 10 04 28.8 +1.1
DBOC Borcka 75.00 316 *i* P P 10 04 29.3 +0.8
KIG Kigali 75.06 270 *e*P pP 10 04 42.1 -2.8
KIG AMB AMB 10 04 44.8
comp=Z,44nm,2.2s
KIG Kigali 75.06 270 P pP 10 04 42.1 -2.8
BCA Borcka 75.07 316 *e*P P 10 04 29.3 +0.5
KBZ Khabaz 75.12 318 P P 10 04 29.8 +0.8
KBZ S S 10 14 02.8 -0.6
KBZ pmax pmax
comp=Z,310nm,0.9s
KBZ smax smax
comp=N,1.0nm,0.6s
KBZ Khabaz 75.12 318 P P 10 04 29.8 +0.8
KBZ S S 10 14 02.8 -0.6
KBZ Khabaz 75.12 318 P P 10 04 29.8 +0.8
comp=N,310nm,0.9s,baz=113,slow=4.4,SNR=216
KBZ S S 10 14 02.8 -0.6
comp=N,1.1nm,0.6s,baz=4.0,slow=19,SNR=4.8
KBZ LR LR 10 43 18.5
comp=N,2µm,21.7s,baz=309,slow=40
KOPT Kop Dagi 75.32 314 *i* P P 10 04 32.1 +1.4
KIV Kislovodsk 75.36 319*c* *i*P P 10 04 31.2 +0.7
KIV pmax pmax
comp=Z,333nm,1.0s
KIV MLR MLR
comp=Z,2µm,22.0s
SYO Syowa Base 75.36 200⇑ *i*P P 10 04 34.2 +4.3
RAO Raoul Island 75.38 118 PFAKE 10 04 40.0 +9.1
RAO LR LR
comp=Z,7µm,20.0s
ASF Jabal al Asfar 75.45 305 P P 10 04 33.0 +1.7
ASF Jabal al Asfar 75.45 305 P P 10 04 33.0 +1.7
comp=Z,146nm,0.9s,baz=73,slow=2.6,SNR=164
SLR Silverton 75.47 245 *e*P P 10 04 32.1 +0.4
SLR AMB AMB 10 04 56.5
comp=Z,102nm,1.8s
SLR Silverton 75.47 245 P P 10 04 32.1 +0.4
SLR pmax pmax
comp=Z,102nm,1.8s
SLR Silverton 75.47 245 P P 10 04 32.1 +0.4
comp=Z,102nm,1.8s
URFA Urfa 75.63 311 *e*P P 10 04 33.4 +1.2
PTK Pertek 75.71 313 *e*P P 10 04 33.7 +0.8
ERZN Erzincan 75.72 313 *e*P P 10 04 33.5 +0.7
EUZM Uzumlu 75.78 314 *i* P P 10 04 34.5 +1.3
LSZ Lusaka 75.86 256 *e*P P 10 04 34.4 +0.4
LSZ Lusaka 75.86 256 P P 10 04 34.7 +0.7
SNR=16
LSZ Lusaka 75.86 256 *e*P P 10 04 34.2 +0.2
comp=Z,90nm,1.2s
LSZ LR LR
comp=Z,15µm,20.0s
ELZG Elazig 75.87 312 *i* P P 10 04 35.1 +1.4
ATAB Bozova 76.04 311 *i* P P 10 04 35.8 +1.3
EZC Erzincan 76.05 314 *e*P P 10 04 35.4 +0.7
SEK Senekal 76.05 243 *e*P P 10 04 35.0 0.0
SEK AMB AMB 10 05 10.8
comp=Z,102nm,5.7s
SEK Senekal 76.05 243 P P 10 04 35.0 0.0
comp=Z,102nm,5.7s
KLOF Kloof 76.07 245 *e*P P 10 04 35.9 +0.7
KLOF AMB AMB 10 04 37.2
comp=Z,56nm,3.7s
KLOF Kloof 76.07 245 P P 10 04 35.9 +0.7
comp=Z,56nm,3.7s
MACK Trabzon 76.18 315 *i* P P 10 04 36.3 +1.1
GUMT Gumushane 76.21 314 *e*P P 10 04 36.4 +0.8
MALT Malatya 76.22 312 *e*P P 10 04 36.8 +1.2
MALT Malatya 76.22 312⇑ *i*P P 10 04 36.8 +1.2
KELT Kelkit 76.26 314 *i* P P 10 04 36.9 +1.0
PRYS Parys 76.29 244 *e*P P 10 04 35.9 -0.4
PRYS AMB AMB 10 05 07.9
comp=Z,60nm,2.5s
PRYS Parys 76.29 244 P P 10 04 35.9 -0.4
comp=Z,60nm,2.5s
EIL Elat 76.34 303 P P 10 04 37.5 +1.1
EIL Elat 76.34 303 P P 10 04 37.5 +1.1
baz=76,SNR=101
EIL Elat 76.34 303 P P 10 04 37.5 +1.1
comp=Z,192nm,0.9s,baz=113,slow=2.3,SNR=112
KEMA Kemaliye 76.50 313 *i* P P 10 04 38.3 +1.1
ILIC ilic-Erzincan 76.51 313 *e*P P 10 04 38.4 +1.2
GZT Gaziantep 76.55 311 *i* P P 10 04 38.8 +1.2
AKCD Akcadag 76.59 312 *i* P P 10 04 38.8 +1.0
RCY Rachaya 76.69 307 *e*P P 10 04 40.3 +1.8
KUZU Kuzuini 76.73 310 *i* P P 10 04 39.8 +1.3
VNDA Vanda 76.76 169 P P 10 04 37.6 -0.2
VNDA S S 10 14 18.0 -2.5
VNDA PKKPbc **PKKPbc** 10 23 49.0 -1.8
VNDA P'P'ab 10 31 37.5
VNDA P'P' 10 31 45.8
VNDA Vanda 76.76 169 P P 10 04 37.6 -0.2
comp=Z,54nm,1.2s,baz=300,slow=5.7,SNR=105
VNDA S S 10 14 18.0 -2.5
comp=Z,1.4nm,1.1s,baz=202,slow=20,SNR=7.7
VNDA PKKPbc **PKKPbc** 10 23 49.0 -1.8
comp=Z,0.8nm,0.6s,baz=90,slow=4.0,SNR=5.6
VNDA PKP2ab 10 31 37.5
comp=Z,0.3nm,0.4s,baz=344,slow=2.8,SNR=4.1
VNDA PKPPKP **P'P'df** 10 31 45.8 -4.8
comp=Z,1.2nm,0.8s,baz=35,slow=4.6,SNR=6.1
VNDA LR LR 10 35 21.7
comp=Z,5µm,19.1s,baz=321,slow=33
HWQ Hawqa 76.84 307 *e*P P 10 04 40.5 +1.3
MMAI Mount Meron Ar 76.90 306 P P 10 04 41.5 +1.9
MMAI Mount Meron Ar 76.90 306 P P 10 04 41.5 +1.9
comp=Z,159nm,0.9s,baz=100,slow=8.5,SNR=92
MMAI LR LR 10 38 57.5
comp=Z,7µm,20.6s,baz=110,slow=36
ESPY Espiye-Giresun 76.91 314 *e*P P 10 04 39.8 +0.4
DARE Darende-Malaty 77.01 312 *e*P P 10 04 40.9 +0.9
GRM Grahamstown 77.05 237 *e*P P 10 04 40.0 -0.3
GRM AMB AMB 10 05 11.5
comp=Z,241nm,5.6s
GRM Grahamstown 77.05 237 P P 10 04 40.0 -0.3
GRM pmax pmax
comp=Z,241nm,5.6s
GRM Grahamstown 77.05 237 P P 10 04 40.0 -0.3
comp=Z,241nm,5.6s
KMRS Kahramanmaras 77.10 311 *e*P P 10 04 41.3 +0.8
SOC Sochi 77.19 317*c* *i*P P 10 04 40.7 -0.1
SOC *e* 10 04 49.0
SOC *e*'PP **pP** 10 04 55.4 -0.8
SOC *e*PPP PPP 10 09 24.1
SOC *i* S **S** 10 14 23.2 -3.0
SOC *e*'SS **ScS** 10 14 58.7 +4.8
SOC *e*SS **SS** 10 19 27.4 +2.3
SOC *e*SSS SSS 10 22 49.2
SOC pmax pmax
comp=Z,351nm,1.0s
SOC MLR MLR
comp=Z,4µm,22.0s
SOC MLR MLR
comp=N,3µm,22.0s
SOC MLR MLR
comp=E,2µm,22.0s
GRSN GIRESUNGRSN 77.23 314 *e*P P 10 04 41.3 +0.1
YAYL Yayladag 77.24 309 *i* P P 10 04 42.6 +1.2
COBT Iskenderun 77.28 310 *i* P P 10 04 42.9 +1.2
ANDN Andirin 77.54 311 *i* P P 10 04 44.2 +1.1
SCER sogukcermik 77.69 313 *i* P P 10 04 45.0 +1.1
RSDY Resadiye-TOKAT 77.73 314 *e*P P 10 04 45.2 +1.3
SVSK Karacayir 77.81 313 *e*P P 10 04 45.7 +1.4
CEYT Ceyhan 77.81 310 *e*P P 10 04 45.3 +0.8
SOE Somerset East 77.84 238 *e*P P 10 04 44.7 -0.1
SOE AMB AMB 10 04 56.1
comp=Z,134nm,2.6s
SOE Somerset East 77.84 238 P P 10 04 44.7 -0.1
comp=Z,134nm,2.6s
PINB Pinarbasi 77.84 312 *i* P P 10 04 45.6 +0.7
SBA Scott Base 77.85 169 *e*P P 10 04 44.5 +0.6
SBA pmax pmax
comp=Z,64nm,1.1s
SBA MLR MLR
comp=Z,6µm,22.0s
SBA Scott Base 77.85 169 *e*P P 10 04 44.5 +0.6
comp=Z,64nm,1.1s
SBA LR LR
comp=Z,6µm,22.0s
KOZT Kozan 77.90 310 *e*P P 10 04 46.8 +1.8

HVD Gariep Dam 77.90 240 *e*P P 10 04 44.7 -0.6
HVD AMB AMB 10 05 47.6
comp=Z,109nm,3.9s
HVD Gariep Dam 77.90 240 P P 10 04 44.7 -0.6
HVD pmax pmax
comp=Z,109nm,3.9s
HVD Gariep Dam 77.90 240 P P 10 04 44.7 -0.6
comp=Z,109nm,3.9s
LBTB Lobatse 77.91 246 *e*P P 10 04 45.1 -0.3
LBTB AMB AMB 10 04 47.8
comp=Z,83nm,5.5s
LBTB Lobatse 77.91 246 *e*P P 10 04 45.7 +0.3
comp=Z,27nm,0.8s
SEY Seymchan 77.94 20⇑ *i*P P 10 04 43.8 -0.8
SWZ Schweizer 78.09 244 *e*P P 10 04 46.5 0.0
SWZ AMB AMB 10 05 04.8
comp=Z,104nm,3.1s
SWZ Schweizer 78.09 244 P P 10 04 46.5 0.0
comp=Z,104nm,3.1s
BOSA Boshof 78.13 242 *e*P P 10 04 47.4 +0.8
BOSA AMB AMB 10 04 52.8
comp=Z,93nm,5.8s
BOSA Boshof 78.13 242 *e*P P 10 04 47.6 +1.0
comp=Z,33nm,0.7s
BOSA Boshof 78.13 242 P P 10 04 47.0 +0.3
comp=Z,29nm,0.6s,baz=98,slow=4.2,SNR=62
BOSA LR LR 10 32 39.0
comp=Z,4µm,21.7s,baz=66,slow=30
ERBA Erbaa 78.23 314 *i* P P 10 04 47.7 +0.9
TOKT Tokat 78.23 313 *e*P P 10 04 46.8 -0.1
BNN Bunyan 78.31 312 *e*P P 10 04 47.7 +0.4
TOKA Tokat 78.31 313 *i* P P 10 04 48.4 +1.2
KARA Karaisali 78.42 310 *e*P P 10 04 48.7 +0.9
GULE Gulek 78.64 310 *i* P P 10 04 50.2 +1.0
KVT Kavak 78.87 314 *e*P P 10 04 48.8 -1.4
KIZK Mersin 78.89 309 *e*P P 10 04 50.7 +0.3
NIG Nigde 79.01 311 *e*P P 10 04 51.6 +0.2
AVNT Avonos 79.02 311 *i* P P 10 04 51.8 +0.5
LFK Lefkose 79.03 308 *e*P P 10 04 52.1 +0.8
CSS Prodhromos 79.10 307 P P 10 04 52.1 +0.5
CSS Prodhromos 79.10 307 *e*P P 10 04 52.5 +0.9
CSS Prodhromos 79.10 307 *e*P P 10 04 51.8 +0.2
comp=Z,510nm,0.9s
CSS LR LR
comp=Z,7µm,20.0s
HAVZ Havza 79.10 314 *i* P P 10 04 52.6 +1.1
ANN Anapa 79.16 318*c* *i*P P 10 04 50.7 -1.0
ANN *i* *PP **pP** 10 05 09.1 +2.0
ANN *e*S **S** 10 14 46.8 -0.5
ANN pmax pmax
comp=Z,126nm,1.3s
ANN MLR MLR
comp=N,2µm,24.0s
ANN MLR MLR
comp=E,3µm,24.0s
ANN MLR MLR
comp=Z,3µm,24.0s
IKL Isikli 79.17 309 *e*P P 10 04 52.2 +0.3
LEF Lefka 79.49 307 *e*P P 10 04 54.3 +0.6
TIXI Tiksi 79.55 7*c* *i*P P 10 04 52.0 -1.2
TIXI pmax pmax
comp=Z,767nm,2.5s
TIXI MLR MLR
comp=Z,5µm,21.0s
CORM Corum 79.61 313 *e*P P 10 04 54.8 +0.3
DIKM Dikmen 79.61 314 *e*P P 10 04 54.7 +0.4
CTKT Corum 79.63 313 *i* P P 10 04 55.4 +0.8
SULT Sultanhani-AKS 79.86 311 *e*P P 10 04 56.1 +0.9
ERMK Ermenek 79.89 309 *i* P P 10 04 57.0 +0.9
BYBT Boyabat 79.91 314 *e*P P 10 04 56.2 +0.4
BR131 Keskin Array S 80.20 312 *e*P P 10 04 57.8 +0.2
comp=Z,93nm,0.8s
BRTR Keskin Array B 80.20 312 P P 10 04 57.7 0.0
BRTR Keskin Array B 80.20 312 P P 10 04 57.7 0.0
comp=Z,93nm,0.7s,baz=132,slow=6.2,SNR=189
BRTR LR LR 10 42 11.2
comp=Z,5µm,21.0s,baz=101,slow=37
GAZI Gazipasa 80.24 308 *i* P P 10 04 58.2 +0.5
HDMB Hadim 80.30 309 *e*P P 10 04 58.5 +0.1
TOS Tosya 80.31 313 *e*P P 10 04 59.3 +1.1
VSR Storozhevoye 80.45 324*c* *i*P P 10 04 58.5 0.0
CANT Cankiri 80.48 313 *e*P P 10 05 00.0 +1.0
BBAL Bala 80.53 312 *i* P P 10 05 01.1 +1.6
ILGA Ilgaz 80.54 313 *i* P P 10 05 00.2 +0.6
AFSR Af˘ar-Bala (A 80.55 312 *e*P P 10 05 00.3 +0.8
ELDT Eldivan 80.58 313 *i* P P 10 05 00.3 +0.6
BZK Bozkurt 80.60 314 *e*P P 10 05 00.7 +1.1
KONT Konya--Tatoy 80.66 310 *e*P P 10 05 00.4 +0.4
LADK Ladik-KONYA 80.73 310 *e*P P 10 05 00.2 -0.3
ANTO Ankara 80.87 312 *e*P P 10 05 01.5 +0.3
ANTO pmax pmax
comp=Z,419nm,1.5s
ANTO MLR MLR
comp=Z,5µm,20.0s
ANTO Ankara 80.87 312 P P 10 05 02.0 +0.9
SNR=58
ANTO Ankara 80.87 312 *e*P P 10 05 00.9 -0.2
ANTO Ankara 80.87 312⇑ *i*P P 10 05 01.7 +0.5
ANTO Ankara 80.87 312 *e*P P 10 05 01.5 +0.3
comp=Z,418nm,1.5s
ANTO LR LR
comp=Z,5µm,20.0s
LOD Lodumlu 80.90 312 *e*P P 10 05 01.9 +0.6
KIZT Kizilcal 81.28 311 *e*P P 10 05 01.7 -1.7
SAFT Safranbolu 81.34 313 *e*P P 10 05 04.1 +0.6
SIM Simferopol' 81.44 317 *i* P P 10 05 08.6 +4.7
SUTC Sutluce-Ispart 81.58 309 *e*P P 10 05 04.8 -0.2
AFI Afiamalu 81.67 103 P P 10 05 05.3 -0.6
baz=219,slow=5.3
AFI LR LR 10 39 27.2
comp=Z,1µm,21.8s,baz=110,slow=34
SVRH Sivrihisar-ESK 81.70 311 *e*P P 10 05 06.1 +0.5
ANTB Antalya 81.70 309 *e*P P 10 05 04.2 -1.3
SUR Sutherland 81.86 238 *e*P P 10 05 07.7 +1.0
SUR AMB AMB 10 05 09.8
comp=Z,211nm,6.0s
SUR Sutherland 81.86 238 *e*P P 10 05 08.7 +1.9
comp=Z,162nm,1.3s
SUR LR LR
comp=Z,13µm,22.0s
SUR Sutherland 81.86 238 P P 10 05 08.2 +1.4
comp=Z,52nm,0.9s,baz=92,slow=4.1,SNR=21
BCK Bucak 81.89 309 *e*P P 10 05 04.4 -2.3
BOLV Bolvadin 81.94 310 *i* P P 10 05 07.5 +0.6
KORT Korkueli 81.96 309 *e*P P 10 05 07.0 -0.1
ISP Isparta 82.04 310 P P 10 05 07.2 -0.2
ISP Isparta 82.04 310*c* *i*P P 10 05 07.6 +0.2
ISP pmax pmax
comp=Z,316nm,2.2s
ISP Isparta 82.04 310 *e*P P 10 05 06.6 -0.8
ISP Isparta 82.04 310 *e*P P 10 05 08.3 +0.9
comp=Z,59nm,0.8s
ISP LR LR
comp=Z,5µm,22.0s
MIDW Midway 82.04 60 *e*P P 10 05 09.2 +1.8
comp=Z,255nm,1.5s
MIDW LR LR
comp=Z,2µm,21.0s
FX1 Attu Island--F 82.14 35 *e*P P 10 05 07.0 -0.4
FX1 Attu Island--F 82.14 35 P P 10 05 06.5 -0.9
comp=Z,44nm,1.0s,baz=34,slow=7.5,SNR=7.0
SHUT Suhut-Afyon 82.20 310 *e*P P 10 05 07.6 -0.6
MDUB Mudurnu 82.21 312 *e*P P 10 05 08.4 +0.1
SEYT Eskypehyr 82.22 311 *i* P P 10 05 09.1 +0.7
ELL Elmali 82.25 308 *e*P P 10 05 09.4 +0.8
KDZE Karadeniz Ereo 82.26 313 *e*P P 10 05 07.8 -0.6
AKAS Kas 82.36 308 *e*P P 10 05 08.5 -0.6
BORA Eskisehir 82.61 312 *i* P P 10 05 10.9 +0.6
GOLH Golhisar 82.63 309 *e*P P 10 05 10.9 +0.4
GLHS Gihisar (BURDU 82.66 309 *e*P P 10 05 21.8 +11
GULT Gulveren 82.70 312 *e*P P 10 05 11.6 +0.8
CVNA Calvinia 82.79 239 *e*P P 10 05 12.2 +0.7
CVNA AMB AMB 10 05 43.9
comp=Z,179nm,3.3s
CVNA Calvinia 82.79 239 P P 10 05 12.2 +0.7
comp=Z,179nm,3.3s
FETY Fethiye 82.86 308 *e*P P 10 05 10.6 -1.0
SPNC Sapanca-Adapaz 82.92 312 *e*P P 10 05 12.2 +0.4
KHL Karahalli 82.92 310 *e*P P 10 05 11.6 -0.4
KHAL Karahalli 82.96 310 *i* P P 10 05 12.7 +0.5
DNZL Cakiroluk 83.14 309 *i* P P 10 05 13.2 0.0
GDZ Gediz 83.14 311 *i* P P 10 05 13.8 +0.7
CAVI Cavuskoy 83.14 312 *e*P P 10 05 13.3 +0.3
DALY Dalyan (Mu¯la 83.24 308 *e*P P 10 05 14.5 +1.0

TVSB Tavsanli 83.24 311 *e*P P 10 05 13.6 0.0
ADVT Abdulvahap 83.28 312 *e*P P 10 05 14.0 +0.3
OBN Obninsk 83.37 327*c* *i*P P 10 05 14.5 +0.7
OBN pmax pmax
comp=Z,872nm,1.7s
HRT Hereke 83.43 312 *e*P P 10 05 14.9 +0.4
QSPA South Pole Qui 83.47 180 *e*P P 10 05 13.9 -0.5
comp=Z,185nm,1.3s
QSPA LR LR
comp=Z,4µm,19.0s
QSPA South Pole Qui 83.47 180 P P 10 05 13.8 -0.5
comp=Z,36nm,0.6s
SILT Sile 83.53 313 *e*P P 10 05 14.6 -0.3
YER Yerkesik 83.60 308 *e*P P 10 05 15.2 -0.3
KULA Kula-Manisa 83.63 310 P P 10 05 15.8 +0.2
KULA Kula-Manisa 83.63 310 *e*P P 10 05 16.2 +0.6
KULA Kula-Manisa 83.63 310 P P 10 05 15.8 +0.2
GEMT Gemlik 83.69 312 *e*P P 10 05 15.9 +0.1
DEMI Demirci 83.71 310 *i* P P 10 05 16.8 +0.8
MDNY Mudanya-Bursa 83.89 312 *e*P P 10 05 16.5 -0.3
ISK Istanbul-Kandi 83.93 312 P P 10 05 17.8 +0.8
ISK Istanbul-Kandi 83.93 312 P P 10 05 17.8 +0.8
ISK Istanbul-Kandi 83.93 312 *e*P P 10 05 17.1 +0.1
ISK Istanbul-Kandi 83.93 312 P P 10 05 17.8 +0.8
ARMT Armutlu 83.96 312 *e*P P 10 05 17.0 -0.1
KLYT Kilyos 83.99 313 *e*P P 10 05 17.7 +0.4
DURS Dursunbey 84.02 311 *i* P P 10 05 18.3 +0.7
AYDN Tasoluk 84.03 309 *i* P P 10 05 19.1 +1.5
DAT Datca 84.06 308 *e*P P 10 05 16.5 -1.4
AYDB Zeytinkoy-Aydi 84.09 309 *e*P P 10 05 19.1 +1.1
BGKT Bogazkoy 84.17 312 *e*P P 10 05 17.0 -1.1
BDRM Kayabasi 84.24 308 *i* P P 10 05 18.9 +0.3
KCTX Karacabey (Bur 84.26 311 *e*P P 10 05 18.4 -0.3
BODT Bodrum 84.34 308 *e*P P 10 05 19.1 -0.1
AKHS Akhisar 84.36 310 *i* P P 10 05 20.6 +1.3
AKS Akhisar 84.36 310 *e*P P 10 05 19.9 +0.7
CTKS Kestanelik-??a 84.38 312 *e*P P 10 05 19.2 -0.1
ELBA Catalca 84.41 312 *i* P P 10 05 20.1 +0.6
BALB Balikesir 84.48 311 *e*P P 10 05 20.1 +0.4
GCAM G?zelcaml? 84.54 309 *i* P P 10 05 21.3 +1.1
CTVL Yal??k??y-??at 84.59 313 *e*P P 10 05 19.8 -0.5
SLVT Silivri 84.59 312 *e*P P 10 05 21.0 +0.7
IZM Izmir 84.67 309 *e*P P 10 05 22.9 +2.0
BALY Balya 84.69 311 *i* P P 10 05 21.8 +0.9
GONE Gonen-Balikesi 84.71 311 *e*P P 10 05 21.1 +0.1
ZKR Zakros 84.80 306 *e*P P 10 05 20.4 -1.2
BLCB Balcova 84.84 309 *e*P P 10 05 22.9 +1.3
MAIT Maitri 85.05 199 *e*P P 10 05 21.6 -0.5
KRBG Karabiga-Canak 85.08 311 *e*P P 10 05 23.6 +0.8
PHSR Pinarhisar 85.19 313 *e*P P 10 05 24.2 +0.9
TIRR Tirgusor 85.21 316 *e*P P 10 05 24.0 +0.6
TIRR pmax pmax
comp=Z,314nm,1.6s
TIRR Tirgusor 85.21 316⇑ *i*P P 10 05 24.2 +0.9
TIRR Tirgusor 85.21 316 *e*P P 10 05 24.0 +0.6
comp=Z,314nm,1.6s
SART Tekirdag 85.23 312 *i* P P 10 05 24.1 +0.5
RKY Sarkoy-Tekirda 85.23 312 *e*P P 10 05 23.5 -0.2
NPS Neapolis 85.32 306 P P 10 05 24.7 +0.5
NPS Neapolis 85.32 306 P P 10 05 24.7 +0.5
NPS Neapolis 85.32 306 *e*P P 10 05 25.7 +1.5
NPS Neapolis 85.32 306 P P 10 05 24.7 +0.5
LAST Lasithi 85.41 306 P P 10 05 25.3 +0.6
LAST Lasithi 85.41 306 P P 10 05 25.3 +0.6
LPK Lapseki 85.48 311 *e*P P 10 05 26.0 +1.2
TLB Topalu 85.50 316⇓ *i*P P 10 05 25.8 +1.0
KIS Kishinev 85.56 318⇑ *i*P P 10 05 25.0 0.0
comp=Z,2µm,6.0s
KIS Kishinev 85.56 318 *e*PP PP 10 08 42.0 -2.3
KIS *i* S **S** 10 15 51.0 -1.7
KIS Kishinev 85.56 318 *i* PS 10 16 32.0
KIS *e*SS SS 10 21 20.0 -10
KIS LRM MLR 10 47 10.0
comp=Z,2µm,24.0s
CFR Carcaliu 85.57 316⇑ *i*P P 10 05 26.0 +0.9
CHOS Chios island 85.59 309 *e*P P 10 05 26.3 +0.8
PRK Paraskevi 85.61 310 *e*P P 10 05 25.5 +0.1
SANT Santorini 85.66 307 *e*P P 10 05 25.6 -0.2
SANT Santorini 85.66 307 PFAKE 10 05 40.0 +14
SANT LR LR
comp=Z,2µm,20.0s
TSUM Tsumeb 85.69 251 *e*P P 10 05 27.6 +1.1
comp=Z,74nm,1.4s
TSUM LR LR
comp=Z,11µm,22.0s
APE Apeiranthos 85.74 308 *e*P P 10 05 25.5 -0.8
APE Apeiranthos 85.74 308 *e*P P 10 05 26.5 +0.3
APE Apeiranthos 85.74 308⇑ *i*P P 10 05 26.1 -0.1
EDRB Edirne 85.81 313 P P 10 05 27.3 +0.9
EDRB Edirne 85.81 313 *e*P P 10 05 26.9 +0.5
EDRB Edirne 85.81 313 P P 10 05 27.3 +0.9
WIN Windhoek 85.83 248 *e*P P 10 05 27.7 +0.5
WIN AMB AMB 10 05 30.1
comp=Z,39nm,5.5s
WIN Windhoek 85.83 248 P P 10 05 27.7 +0.5
WIN pmax pmax
comp=Z,39nm,5.5s
WIN Windhoek 85.83 248 P P 10 05 27.7 +0.5
comp=Z,39nm,5.5s
IDI Anoyia 85.90 306 P P 10 05 28.4 +1.3
IDI Anoyia 85.90 306 *e*P P 10 05 27.5 +0.4
IDI Anoyia 85.90 306 *e*P P 10 05 28.9 +1.8
comp=Z,303nm,1.3s
IDI Anoyia 85.90 306 P P 10 05 28.0 +0.8
comp=Z,73nm,0.6s,baz=92,slow=6.5,SNR=38
IDI LR LR 10 44 47.0
comp=Z,3µm,21.7s,baz=94,slow=36
SIVA Sivas 85.92 306 P P 10 05 27.7 +0.6
SIVA Sivas 85.92 306 *e*P P 10 05 27.5 +0.4
SIVA Sivas 85.92 306 P P 10 05 27.7 +0.6
ENEZ Enez 86.00 312 *e*P P 10 05 27.4 0.0
JMB Yambol 86.06 313 P P 10 05 29.0 +1.4
JMB Yambol 86.06 313 P P 10 05 29.0 +1.4
JMB Yambol 86.06 313 *e*P P 10 05 28.3 +0.7
JMB Yambol 86.06 313 *i* P P 10 05 29.7 +2.1
JMB Yambol 86.06 313 P P 10 05 29.0 +1.4
ALN Alexandroupoli 86.12 312 P P 10 05 28.4 +0.5
ALN Alexandroupoli 86.12 312 P P 10 05 28.4 +0.5
ALN Alexandroupoli 86.12 312 *e*P P 10 05 27.9 0.0
ALN Alexandroupoli 86.12 312 *e*P P 10 05 28.5 +0.5
ALN Alexandroupoli 86.12 312 P P 10 05 28.4 +0.5
AKASG Malin Array Be 86.23 322 P P 10 05 27.8 -0.5
AKASG 10 08 48.0
AKASG pmax pmax
comp=Z,20nm,0.5s
AKASG pmax pmax
comp=Z,23nm,0.7s
AKASG Malin Array Be 86.23 322 P P 10 05 27.8 -0.5
AKASG PP **PP** 10 08 48.0 -1.7
AKASG PKKPbc **PKKPbc** 10 23 28.2 -0.5
AKASG Malin Array Be 86.23 322 P P 10 05 27.8 -0.5
comp=Z,20nm,0.5s,baz=87,slow=4.1,SNR=82
AKASG PP **PP** 10 08 48.0 -1.7
comp=Z,23nm,0.7s,baz=87,slow=5.9,SNR=11
AKASG PKKPbc **PKKPbc** 10 23 28.2 -0.5
comp=Z,0.2nm,0.3s,baz=332,slow=3.2,SNR=4.7
AKASG LR LR 10 51 29.1
comp=Z,3µm,20.8s,baz=90,slow=41
KIEV Kiev 86.24 322*c* *i*P P 10 05 28.4 +0.1
KIEV Kiev 86.24 322 *e*P P 10 05 27.9 -0.4
comp=Z,138nm,1.2s
KIEV LR LR
comp=Z,3µm,21.0s
GHRR 86.28 317⇑ *i*P P 10 05 30.6 +2.0
GVD Gavdhos 86.47 305 *e*P P 10 05 30.2 +0.4
VAM Vamos 86.48 306 P P 10 05 31.1 +1.2
VAM Vamos 86.48 306 P P 10 05 31.1 +1.2
VAM Vamos 86.48 306 *e*P P 10 05 31.6 +1.7
VAM Vamos 86.48 306 P P 10 05 31.1 +1.2
LIA Limnos Island 86.56 311 *e*P P 10 05 30.6 +0.5
ISR Istrita 86.66 316⇓ *i*P P 10 05 32.3 +1.7
SZH Strazhica 86.69 314 *i* P P 10 05 31.4 +0.7
VRI Vrincioaia 86.70 317⇑ *i*P P 10 05 32.5 +1.8
KARN Karanos 86.71 306 *e*P P 10 05 30.7 -0.3
KDZ Kurdzhali 86.74 312 *i* P P 10 05 32.2 +1.2
PLOR Plostina 86.75 317⇑ *i*P P 10 05 32.4 +1.4
TESR Tescani 86.89 317⇑ *i*P P 10 05 33.0 +1.4
MLR Muntele Rosu 87.15 316⇑ *i*P P 10 05 34.5 +1.4
MLR Muntele Rosu 87.15 316 P P 10 05 34.1 +1.1
MLR PP **PP** 10 08 60.0 +2.5
MLR Muntele Rosu 87.15 316 P P 10 05 34.1 +1.1
comp=Z,17nm,0.6s,baz=87,slow=2.0

MLR PP **PP** **10 08 60.0 +2.5**
comp=Z,4.2nm,0.8s,baz=246,slow=5.5,SNR=3.2
MLR LR LR 10 47 26.3
comp=Z,847nm,21.8s,baz=294,slow=38
RZN Rozhen **87.26 312** *i* P **P** **10 05 34.8 +1.0**
KAVA Kavala **87.28 312** P **P** **10 05 34.3 +0.7**
KAVA Kavala **87.28 312** *eP* **P** **10 05 34.3 +0.7**
KAVA Kavala **87.28 312** P **P** **10 05 34.3 +0.7**
ATH Athens Observa **87.32 309** *eP* **P** **10 05 34.1 +0.2**
PLD Plovdiv **87.35 313** P **P** **10 05 34.9 +1.0**
PLD Plovdiv **87.35 313** P **P** **10 05 34.9 +1.0**
PLD Plovdiv **87.35 313** *eP* **P** **10 05 34.2 +0.3**
PLD Plovdiv **87.35 313** *i* P **P** **10 05 34.4 +0.5**
PLD Plovdiv **87.35 313** P **P** **10 05 34.9 +1.0**
OUR Ouranopolis **87.55 311** *eP* **P** **10 05 33.5 -1.4**
OUR Ouranopolis **87.55 311** *eP* **P** **10 05 35.7 +0.8**
DID Didima **87.62 308** P **P** **10 05 34.2 -1.2**
DID Didima **87.62 308** P **P** **10 05 34.2 -1.2**
DIDY Didyma **87.63 308** P **P** **10 05 35.3 -0.2**
PAIG Paliouri **87.70 310** P **P** **10 05 36.2 +0.5**
PAIG Paliouri **87.70 310** P **P** **10 05 36.2 +0.5**
PAIG Paliouri **87.70 310** *eP* **P** **10 05 36.0 +0.3**
PAIG Paliouri **87.70 310** P **P** **10 05 36.2 +0.5**
VOIR **87.76 316**⇑ *iP* **P** **10 05 36.3 +0.4**
ADK Adak **87.78 37** *eP* **P** **10 05 36.5 +0.8**
ADK pmax pmax
comp=Z,1µm,1.8s
ADK MLR MLR
comp=Z,2µm,21.0s
ADK Adak **87.78 37** *eP* **P** **10 05 36.5 +0.8**
comp=Z,1µm,1.8s
ADK LR LR
comp=Z,2µm,21.0s
NVR Nevrokopi **87.83 312** P **P** **10 05 36.5 +0.2**
NVR Nevrokopi **87.83 312** P **P** **10 05 36.5 +0.2**
LTK Loutraki **87.92 308** P **P** **10 05 35.9 -0.9**
LTK Loutraki **87.92 308** P **P** **10 05 35.9 -0.9**
NEO Neokhori **87.94 310** *eP* **P** **10 05 36.6 -0.3**
PLG Polygyros **87.96 311** P **P** **10 05 36.8 -0.2**
PLG Polygyros **87.96 311** P **P** **10 05 36.8 -0.2**
PLG Polygyros **87.96 311** P **P** **10 05 36.8 -0.2**
MMB Musomiste **87.97 312** *iP* **P** **10 05 37.3 +0.3**
ACOR Acrocorinthos **87.97 308** P P 10 05 31.6 -5.4
XOR Xorichti **87.97 310** *eP* **P** **10 05 36.5 -0.5**
MICGM Minsk **87.98 325**⇑ *iP* **P** **10 05 35.0 -1.6**
LKR Lokris **88.00 309** P **P** **10 05 36.9 -0.2**
LKR Lokris **88.00 309** P **P** **10 05 36.9 -0.2**
PUL Pulkovo **88.08 331**⇓ *iP* **P** **10 05 38.1 +1.1**
PUL pmax pmax
comp=Z,221nm,0.5s
BURAR Bucovina Array **88.08 318**⇑ *iP* **P** **10 05 39.1 +1.6**
SOH Sokhos **88.11 311** P **P** **10 05 37.2 -0.5**
SOH Sokhos **88.11 311** P **P** **10 05 37.2 -0.5**
SOH Sokhos **88.11 311** *eP* **P** **10 05 37.9 +0.2**
SOH Sokhos **88.11 311** P **P** **10 05 37.2 -0.5**
DYR Agios Nikonas **88.20 307** P **P** **10 05 38.1 -0.1**
HORT Hortiatis **88.26 311** P **P** **10 05 38.4 0.0**
HORT Hortiatis **88.26 311** P **P** **10 05 38.4 0.0**
VLX Vlachokerasia **88.27 308** P **P** **10 05 38.9 +0.3**
VLX Vlachokerasia **88.27 308** P **P** **10 05 38.9 +0.3**
MPEP Malo Peshtene **88.28 314** *i* P **P** **10 05 39.5 +1.1**
GUR Goura **88.39 308** P **P** **10 05 39.4 +0.3**
GUR Goura **88.39 308** P **P** **10 05 39.4 +0.3**
KKB Krupnik **88.49 312** *i* P **P** **10 05 39.5 +0.1**
KNT Kendrikon **88.51 312** P **P** **10 05 39.0 -0.5**
KNT Kendrikon **88.51 312** P **P** **10 05 39.0 -0.5**
KNT Kendrikon **88.51 312** *eP* **P** **10 05 39.7 +0.2**
KNT Kendrikon **88.51 312** P **P** **10 05 39.0 -0.5**
VTS Vitosha **88.53 313** P **P** **10 05 39.9 +0.2**
VTS Vitosha **88.53 313** P **P** **10 05 39.9 +0.2**
VTS Vitosha **88.53 313** *eP* **P** **10 05 39.7 0.0**
VTS Vitosha **88.53 313**⇑ *iP* **P** **10 05 40.4 +0.7**
VTS Vitosha **88.53 313** *i* P **P** **10 05 40.3 +0.6**
VTS Vitosha **88.53 313** P **P** **10 05 39.9 +0.2**
JOF Joensuu **88.53 334** *ep* **P** **10 05 39.8 +0.8**
comp=Z,144nm,0.7s
KLV Kalavryta, Ach **88.56 308** P **P** **10 05 40.1 +0.2**
KLV Kalavryta, Ach **88.56 308** P **P** **10 05 40.1 +0.2**
AGG Agios Georgios **88.58 309** P **P** **10 05 39.7 -0.2**
AGG Agios Georgios **88.58 309** P **P** **10 05 39.7 -0.2**
AGG Agios Georgios **88.58 309** *eP* **P** **10 05 39.8 -0.2**
AGG Agios Georgios **88.58 309** P **P** **10 05 39.7 -0.2**
ITM Ithomi **88.59 307** P **P** **10 05 40.7 +0.7**
ITM Ithomi **88.59 307** P **P** **10 05 40.7 +0.7**
KALE Kalithea **88.62 309** P **P** **10 05 39.4 -0.8**
KALE Kalithea **88.62 309** P **P** **10 05 39.4 -0.8**
LIT Litokhoron **88.63 310** P **P** **10 05 40.4 +0.3**
LIT Litokhoron **88.63 310** P **P** **10 05 40.4 +0.3**
LIT Litokhoron **88.63 310** *eP* **P** **10 05 40.4 +0.3**
LIT Litokhoron **88.63 310** P **P** **10 05 40.4 +0.3**
LOT Lotru **88.64 316**⇑ *iP* **P** **10 05 41.0 +0.8**
TRIZ Trizonia **88.67 309** P **P** **10 05 40.3 0.0**
LAKA Lakka **88.72 309** P **P** **10 05 40.9 +0.3**
LAKA Lakka **88.72 309** P **P** **10 05 40.9 +0.3**
MAKR Makrakomi, Fth **88.73 309** P **P** **10 05 40.7 +0.1**
MAKR Makrakomi, Fth **88.73 309** P **P** **10 05 40.7 +0.1**
VAY Valandovo **88.78 312** P **P** **10 05 40.4 -0.3**
VAY Valandovo **88.78 312** P **P** **10 05 40.4 -0.3**
VAY Valandovo **88.78 312** P **P** **10 05 40.4 -0.3**
VAY Valandovo **88.78 312** *i* P **P** **10 05 41.0 +0.2**
EFP Efpalio **88.81 309** P **P** **10 05 41.6 +0.7**
LVZ Lovozero **88.82 339** *ceP* **P** **10 05 40.3 -0.1**
LVZ pmax pmax
comp=Z,402nm,1.7s
GRG Griva **88.84 311** P **P** **10 05 41.2 +0.1**
GRG Griva **88.84 311** P **P** **10 05 41.2 +0.1**
GRG Griva **88.84 311** *eP* **P** **10 05 41.4 +0.3**
GRG Griva **88.84 311** P **P** **10 05 41.2 +0.1**
DRO Drossia **88.88 308** P **P** **10 05 43.0 +1.6**
THL Klokotos Trika **88.91 310** P **P** **10 05 40.1 -1.3**
THL Klokotos Trika **88.91 310** *eP* **P** **10 05 40.7 -0.7**
EVR Evrytania **88.96 309** P **P** **10 05 42.5 +0.7**
EVR Evrytania **88.96 309** P **P** **10 05 42.5 +0.7**
RLS Riolos of Patr **89.09 308** P **P** **10 05 42.5 +0.2**
RLS Riolos of Patr **89.09 308** P **P** **10 05 42.5 +0.2**
IIGN Ignalina **89.11 326** *eP* **P** **10 05 42.3 +0.4**
IIGN AMB AMB 10 05 46.5
comp=Z,106nm,0.7s
PVO Paravola **89.13 309** P **P** **10 05 43.8 +1.3**
AXS Araxos **89.18 308** P **P** **10 05 43.7 +1.0**
ISAL Salakas **89.21 326** *eP* **P** **10 05 42.8 +0.4**
ISAL AMB AMB 10 05 47.5
comp=Z,44nm,0.9s
DEV Deva **89.32 316**⇑ *iP* **P** **10 05 45.7 +2.5**
PDO Prodromos **89.39 309** P **P** **10 05 43.7 0.0**
SNAA Sanae **89.46 198** *eP* **P** **10 05 44.5 +1.0**
SNAA Sanae **89.46 198** *epP* pP 10 05 54.1 -5.1
SNAA Sanae **89.46 198** *esP* sP 10 06 05.6 +0.4
SNAA Sanae **89.46 198** *eP* **P** **10 05 43.9 +0.4**
SNAA Sanae **89.46 198** P **P** **10 05 44.4 +0.9**
SNAA Sanae **89.46 198** P **P** **10 05 44.4 +0.9**
comp=Z,32nm,1.1s,baz=101,slow=4.4,SNR=59
VSU Vasula **89.53 329** *ciP* **P** **10 05 44.5 +0.7**
VSU pmax pmax
comp=Z,563nm,1.0s
FNA Florina **89.58 311** P **P** **10 05 44.3 -0.3**
FNA Florina **89.58 311** *eP* **P** **10 05 43.3 -1.3**
FNA Florina **89.58 311** P **P** **10 05 44.3 -0.3**
SKO Skopje **89.72 312** *i* P **P** **10 05 47.5 +2.4**
NEST Nestorio **89.77 311** P **P** **10 05 44.8 -0.8**
JAN Janina **89.81 310** *eP* **P** **10 05 47.1 +1.4**
TRPA Tarpa **89.95 318**⇑ *iP* **P** **10 05 46.8 +0.8**
TRPA Tarpa **89.95 318**⇑ *eP* **P** **10 05 46.9 +0.9**
KWP Kalwaria Pacla **90.10 320** *eP* **P** **10 05 47.4 +0.7**
KWP pmax pmax
comp=Z,99nm,1.0s
KWP MLR MLR
comp=Z,2µm,19.0s
KWP Kalwaria Pacla **90.10 320**⇓ *iP* **P** **10 05 47.6 +0.9**
KWP Kalwaria Pacla **90.10 320** *eP* **P** **10 05 47.4 +0.7**
comp=Z,99nm,1.0s
KWP LR LR
comp=Z,2µm,19.0s
KWP Kalwaria Pacla **90.10 320** *eP* **P** **10 05 47.9 +1.2**
KWP *ePP* **PP** **10 09 21.4 +0.7**
KWP *eSKSac* **SKSac** **10 16 12.5 -0.7**
KWP *eS* **S** **10 16 36.6 +0.7**
KWP *epS* **pS** **10 16 58.3 +2.3**
KWP LMZ LR 10 47 22.8
BZS Buzias **90.16 316**⇓ *iP* **P** **10 05 47.8 +0.7**
SIRR Siria **90.24 316**⇑ *iP* **P** **10 05 48.5 +1.0**

KOLS Kolonicke sedl **90.26 319** *eP* **P** **10 05 48.8 +1.3**
PHP Peshkopia **90.41 312** P **P** **10 05 48.4 -0.1**
PHP Peshkopia **90.41 312** P **P** **10 05 48.4 -0.1**
PHP Peshkopia **90.41 312** P **P** **10 05 48.4 -0.1**
SRN Sarande **90.49 310** P **P** **10 05 48.1 -0.7**
SRN Sarande **90.49 310** P **P** **10 05 48.1 -0.7**
FIA1 FINESS Array S **90.52 332** *eP* **P** **10 05 49.3 +0.9**
FINES FINESS Array B **90.52 332** P **P** **10 05 48.6 +0.2**
FINES FINESS Array B **90.52 332** P **P** **10 05 48.6 +0.2**
comp=Z,71nm,0.6s,baz=106,slow=5.5,SNR=157
FINES LR LR 10 51 44.4
comp=Z,3µm,21.5s,baz=103,slow=39
KAF Kangasniemi **90.56 333** *ep* **P** **10 05 50.9 +2.3**
comp=Z,125nm,0.6s
SUW Suwalki **90.57 324** *eP* **P** **10 05 49.4 +0.6**
SUW pmax pmax
comp=Z,185nm,0.8s
SUW Suwalki **90.57 324** *eP* **P** **10 05 49.4 +0.6**
comp=Z,185nm,0.8s
SUW Suwalki **90.57 324** *eP* **P** **10 05 49.1 +0.3**
SUW *epP* **pP** **10 06 06.6 +2.1**
SUW *eS* **S** **10 16 39.2 -0.8**
SUW *epS* **pS** **10 17 01.2 +1.1**
SUW LMZ LR 10 46 15.3
KEK Kerkira **90.62 310** P **P** **10 05 48.6 -0.8**
KEK Kerkira **90.62 310** P **P** **10 05 48.6 -0.8**
TIR Tirane **90.79 311** *eP* **P** **10 05 52.6 +2.4**
TIR pmax pmax
comp=Z,126nm,1.0s
TIR MLR MLR
comp=Z,4µm,21.0s
TIR Tirane **90.79 311** *eP* **P** **10 05 52.6 +2.4**
comp=Z,126nm,1.0s
TIR LR LR
comp=Z,4µm,21.0s
PVY Plav **90.90 313** *eP* **P** **10 05 50.3 -0.5**
IVA Berane **90.98 313**⇑ *iP* **P** **10 05 51.1 0.0**
STHS Stebnicka Huta **91.00 319** *eP* **P** **10 05 52.2 +1.2**
DIVS Divibare **91.08 314** P **P** **10 05 52.1 +0.5**
VNA2 Neumayer--Watz **91.10 198** *eP* **P** **10 05 53.3 +2.2**
VNA2 Neumayer--Watz **91.10 198** *epP* pP 10 06 02.2 -4.6
VNA2 Neumayer--Watz **91.10 198** *esP* sP 10 06 09.1 -3.7
ULC Ulcinj **91.34 312**⇑ *iP* **P** **10 05 51.9 -0.8**
TTG Podgorica **91.39 312** *eP* **P** **10 05 53.4 +0.5**
DRME Dracevica, Mon **91.41 312** *eP* **P** **10 05 53.4 +0.4**
PLE Pljevlja **91.41 313** *eP* **P** **10 05 53.3 +0.1**
VNA1 Neumayer--Stat **91.48 198** *eP* **P** **10 05 54.6 +1.8**
VNA1 Neumayer--Stat **91.48 198** *epP* pP 10 06 04.0 -4.5
VNA1 Neumayer--Stat **91.48 198** *esP* sP 10 06 09.5 -5.0
PKSN Nyarlorinc **91.55 317**⇓ *eP* **P** **10 05 54.7 +1.2**
NIE Niedzica **91.60 319** *eP* **P** **10 05 54.0 +0.2**
NIE *ePcP* **PcP** **10 05 54.9 +0.2**
NIE *ePP* **PP** **10 09 33.9 +1.2**
NIE *eSKKSac* S 10 16 41.5 -8.3
NIE L L 10 54 46.0
comp=Z,3µm,19.5s
NKY Niksic **91.63 313**⇑ *iP* **P** **10 05 53.2 -1.0**
BEL Belsk **91.65 322** *eP* **P** **10 05 54.5 +0.6**
BEL *epP* **pP** **10 06 13.9 +4.3**
BEL *eS* **S** **10 16 51.3 +1.4**
BEL LMZ LR 10 56 25.3
NKME Niksic **91.66 313**⇑ *iP* **P** **10 05 54.2 0.0**
PSZ Piszkesteto **91.67 318** *eP* **P** **10 05 54.6 +0.4**
PSZ pmax pmax
comp=Z,42nm,1.1s
PSZ MLR MLR
comp=Z,3µm,21.0s
PSZ Piszkesteto **91.67 318** *eP* **P** **10 05 54.6 +0.4**
comp=Z,42nm,1.1s
PSZ LR LR
comp=Z,3µm,21.0s
PSZ Piszkesteto **91.67 318**⇑ *eP* **P** **10 05 54.8 +0.6**
PKS2 Kecel **91.94 316**⇓ *eP* **P** **10 05 57.8 +2.4**
HCY Herceg Novi **91.95 312** *eP* **P** **10 05 56.1 +0.6**
BRY Bratogost **91.97 313** *eP* **P** **10 05 56.0 +0.2**
KEV Kevo **92.01 340** *eP* **P** **10 05 56.1 +1.0**
KEV pmax pmax
comp=Z,37nm,0.6s
KEV Kevo **92.01 340** *ep* **P** **10 05 56.1 +1.0**
comp=Z,37nm,0.6s
KEV Kevo **92.01 340** *eP* **P** **10 05 56.1 +1.0**
comp=Z,28nm,0.6s
KEV LR LR
comp=Z,4µm,21.0s
PKS7 Kunszentmiklos **92.05 317**⇓ *eP* **P** **10 05 57.9 +2.1**
BUD Budapest **92.20 317**⇑ *eP* **P** **10 05 57.3 +0.8**
RAR Rarotonga **92.30 112** PFAKE 10 06 10.0 +12
RAR LR LR
comp=Z,4µm,22.0s
PKSM Moragy **92.30 316**⇑ *iP* **P** **10 05 57.6 +0.5**
PKSM Moragy **92.30 316**⇑ *eP* **P** **10 05 57.5 +0.5**
ARCES ARCESS Array B **92.48 340** P **P** **10 05 57.1 -0.2**
ARCES ARCESS Array B **92.48 340** P **P** **10 05 57.1 -0.2**
comp=Z,69nm,0.8s,baz=99,slow=5.6,SNR=144
ARCES LR LR 10 53 50.5
comp=Z,4µm,19.6s,baz=107,slow=40
ARE0 ARCESS Array S **92.48 340** *eP* **P** **10 05 57.5 +0.2**
ARE0 ARCESS Array S **92.48 340** *eP* **P** **10 05 57.8 +0.5**
ARE0 *ePP* **PP** **10 09 30.1 -5.0**
PKS9 Tamasi **92.60 316**⇓ *eP* **P** **10 06 00.4 +2.0**
PKSG **92.61 317**⇓ *eP* **P** **10 06 00.4 +2.0**
GAMB Gambell **92.73 26** *eP* **P** **10 05 59.4 +0.8**
comp=Z,535nm,1.6s
OKC Ostrava-Krasne **93.05 320** *eP* **P** **10 06 01.3 +0.9**
OKC *epP* **pP** **10 06 14.7 -1.5**
OKC *ePP* **PP** **10 09 43.7 -0.4**
OKC *eSKKS* **SKKSac** **10 16 50.2 +1.5**
OKC AMS AMS 10 55 00.0
comp=Z,2µm,21.2s
CEL Celeste **93.47 308** *eP* **P** **10 06 03.7 +1.0**
comp=Z,106nm,1.2s
BEHE Becsehely **93.61 316**⇑ *eP* **P** **10 06 04.4 +1.3**
CUC Castrocucco **93.70 310** PFAKE 10 06 20.0 +16
CUC LR LR
comp=Z,3µm,22.0s
SOP Sopron **93.88 317**⇑ *eP* **P** **10 06 04.4 +0.1**
KRLC Kraliky **93.95 320** *eP* **P** **10 06 05.6 +0.9**
KRLC *epP* **pP** **10 06 18.8 -1.6**
KRLC *ePP* **PP** **10 09 51.6 +0.4**
VRAC Vranov **94.01 319** P **P** **10 06 05.2 +0.3**
VRAC PP PP **10 09 51.8 +0.3**
VRAC Vranov **94.01 319** P **P** **10 06 05.2 +0.3**
comp=Z,4.1nm,0.7s,baz=151,slow=9.9,SNR=7.8
VRAC PP **PP** **10 09 51.8 +0.3**
comp=Z,12nm,1.0s,baz=98,slow=8.6,SNR=14
VRAC LR LR 10 51 36.2
comp=Z,2µm,19.7s,baz=248,slow=38
HOPEN Hopen **94.01 347** *eP* **P** **10 06 05.7 +1.4**
UNV Unalaska Valle **94.18 36** *eP* **P** **10 06 06.3 +0.9**
comp=Z,204nm,1.3s
DPC Dobruska-Polom **94.27 320** *eP* **P** **10 06 07.1 +1.0**
DPC *epP* **pP** **10 06 20.4 -1.5**
DPC *ePP* **PP** **10 09 53.3 -0.3**
DPC *eSKKS* **SKKSac** **10 16 56.0 -1.9**
DPC *eXS* **sS** **10 17 38.4 -1.8**
DPC AMS AMS 10 56 10.0
comp=Z,10µm,19.7s
KSP Ksiaz **94.33 321** *eP* **P** **10 06 07.2 +0.9**
KSP *epP* **pP** **10 06 25.6 +3.5**
KSP *ePP* **PP** **10 09 54.6 +0.6**
KSP *eS* **S** **10 17 16.7 +2.9**
KSP *eSS* **SS** **10 23 34.5 -2.0**
KSP LMZ LR 10 51 58.0
CONA Conrad Observa **94.37 318**⇑ *iPcP* **P** **10 06 06.8 +0.1**
comp=Z,551nm,5.6s
UPC Upice **94.48 320** *eP* **P** **10 06 08.3 +1.3**
UPC *epP* **pP** **10 06 20.3 -2.5**
UPC *ePP* **PP** **10 09 52.9 -2.3**
ARSA Arzberg **94.54 317** *i PcP* **PcP** **10 06 08.2 +0.5**
comp=Z,678nm,4.8s,SNR=6.8
TNA Tin City **94.57 25** *eP* **P** **10 06 07.5 +0.4**
comp=Z,36nm,1.0s
BOJS Bojanci **94.59 315** *i* P **P** **10 06 07.8 +0.2**
BOJS *ePP* **PP** **10 09 56.4 +0.2**
BOJS *i* 10 10 13.6
BOJS *eS* SKSac 10 16 54.6 +16
BOJS *eSS* SS 10 23 47.6 +7.3
AKUT Akutan **94.63 36** *eP* **P** **10 06 07.2 -0.3**
comp=Z,365nm,1.4s
TREC Trest **94.73 319** *eP* **P** **10 06 09.1 +0.9**
TREC *ePP* **PP** **10 09 57.0 -0.2**
TREC AMS AMS 10 50 40.0
comp=Z,3µm,22.4s

PERS Pernice **94.77 316** *i* P **P** **10 06 08.9 +0.4**
PERS *eSKSac* SKSac 10 16 53.6 +14
TRO Tromso **94.77 339** *eP* **P** **10 06 08.8 +1.0**
SOKA Soboth **94.83 316**⇑ *iPcP* **PcP** **10 06 09.2 +0.1**
comp=Z,720nm,4.6s,SNR=7.8
LJU Ljubljana **95.13 316** *i* P **P** **10 06 10.8 +0.7**
LJU *eSKSac* **SKSac** **10 16 42.7 +1.3**
LJU *eS* **S** **10 17 19.7 -1.3**
LJU *eSS* **SS** **10 23 41.5 -6.6**
OBKA Obir **95.15 316**⇑ *iPcP* **PcP** **10 06 10.7 +0.2**
comp=Z,529nm,3.3s
PRU Pruhonice **95.39 320** *eP* **P** **10 06 12.4 +1.3**
PRU *epP* **pP** **10 06 24.9 -2.0**
PRU *ePP* **PP** **10 10 01.9 -0.3**
PRU *ex* x 10 16 55.9
PRU *eS* S 10 17 30.2 +7.2
PRU AMS AMS 10 56 40.0
comp=Z,3µm,20.9s
PVCC Panska Ves **95.41 320** *eP* **P** **10 06 12.4 +1.2**
PVCC *epP* **pP** **10 06 25.8 -1.2**
PVCC *ePP* **PP** **10 10 01.0 -1.4**
PVCC AMS AMS 10 52 20.0
comp=Z,3µm,22.0s
MOA Molln **95.43 317**⇑ *iP* **P** **10 06 10.7 -0.8**
comp=Z,470nm,4.4s
PRA Prague **95.46 320** P **P** **10 06 13.0 +1.5**
PRA PP **PP** **10 10 02.0 -0.8**
BSD Bornholm Skovb **95.48 325** *i* P **P** **10 06 11.5 +0.1**
BSD
comp=Z,2µm,18.0s
VOY Vojsko **95.57 316** *eP* **P** **10 06 13.2 +1.0**
VOY *e* 10 06 25.7
VOY *e* 10 10 06.3
MYKA Terra Mystica **95.78 316**⇑ *iPcP* **P** **10 06 13.1 0.0**
comp=Z,803nm,5.8s
BRG Berggiesshubel **95.82 320** *eP* **P** **10 06 14.0 +0.9**
comp=Z,98nm,1.9s
BRG *ePP* **PP** **10 10 03.5 -2.0**
comp=Z,36nm,1.3s
BRG SKS SKSac 10 16 52.0 +7.2
BRG S **ScS** **10 17 30.0 +2.6**
BRG SS **SS** **10 23 56.0 -1.6**
BRG
comp=N,3µm,20.7s
BRG
comp=E,2µm,18.3s
BRG
comp=Z,3µm,19.9s
BRG Berggiesshubel **95.82 320** *ePdiff* **P** **10 06 13.7 +0.6**
BRG *epP* **pP** **10 06 27.3 -1.6**
BRG *esP* **sP** **10 06 34.9 0.0**
BRG *ePP* **PP** **10 10 05.8 +0.2**
GEC2 GERESS Array S **95.87 318** *ePdiff* **P** **10 06 13.8 +0.3**
GEC2 *epP* **pP** **10 06 27.5 -1.8**
GEC2 *esP* **sP** **10 06 35.4 +0.1**
GERES GERESS Array B **95.87 318** P **P** **10 06 13.2 -0.3**
GERES PP **PP** **10 10 06.1 0.0**
GERES GERESS Array B **95.87 318** P **P** **10 06 13.2 -0.3**
comp=Z,2.7nm,0.5s,baz=87,slow=7.2,SNR=9.6
GERES PP **PP** **10 10 06.1 0.0**
comp=Z,7.2nm,0.7s,baz=96,slow=7.1,SNR=7.4
GERES LR LR 10 57 06.3
comp=Z,1µm,21.4s,baz=90,slow=40
KHC Kasperske Hory **95.97 319**⇓ *iP* **P** **10 06 14.9 +1.1**
KHC pmax pmax
comp=Z,74nm,1.7s
KHC Kasperske Hory **95.97 319** *eP* **P** **10 06 15.0 +1.1**
KHC *epP* **pP** **10 06 26.4 -3.2**
KHC *ePP* **PP** **10 10 05.9 -0.9**
KHC *ex* x 10 17 02.2
KHC *eSP* SP 10 18 45.8 -1.0
KHC AMS AMS 10 50 40.0
comp=Z,2µm,23.4s
KHC Kasperske Hory **95.97 319** *eP* **P** **10 06 15.3 +1.4**
comp=Z,5.0nm,0.8s
STEI Steigen **95.99 338** *eP* **P** **10 06 13.8 +0.4**
KBA Koelnbreinsper **96.01 317**⇑ *iP* **P** **10 06 13.9 -0.4**
comp=Z,599nm,6.2s
SPA0 Spitsbergen Ar **96.10 348** *eP* **P** **10 06 14.3 +0.5**
SPITS Spitsbergen Ar **96.10 348** P **P** **10 06 14.3 +0.5**
SPITS Spitsbergen Ar **96.10 348** P **P** **10 06 14.3 +0.5**
comp=Z,22nm,0.4s,baz=100,slow=9.6,SNR=86
SPITS LR LR 10 56 03.1
comp=Z,6µm,21.2s,baz=110,slow=40
HFS Hagfors **96.37 330** P **P** **10 06 15.8 +0.4**
HFS PP **PP** **10 10 05.1 -4.5**
HFS Hagfors **96.37 330** P **P** **10 06 15.8 +0.4**
comp=Z,41nm,0.7s,baz=114,slow=3.6,SNR=46
HFS PP **PP** **10 10 05.1 -4.5**
comp=Z,17nm,0.8s,baz=98,slow=11,SNR=4.7
HFS LR LR 10 55 09.6
comp=Z,2µm,19.5s,baz=186,slow=39
RJOB Jochberg **96.42 317** *ePdiff* **P** **10 06 16.2 +0.2**
WET Wettzell **96.42 319** *ePdiff* **P** **10 06 16.4 +0.5**
WET *epP* **pP** **10 06 29.2 -2.5**
WET *esP* **sP** **10 06 35.9 -1.8**
CLL Collm **96.44 321** *esP* sP 10 06 37.5 -0.1
CLL Collm **96.44 321** *i* P **P** **10 06 15.5 -0.4**
comp=Z,70nm,2.2s
CLL *ePlp* 10 06 17.0
comp=Z,500nm,13.5s
CLL *i* sP sP 10 06 31.1 -6.5
comp=Z,23nm,1.5s
CLL *ePP* **PP** **10 10 06.0 -4.3**
comp=Z,57nm,1.7s
CLL *ePPlp* 10 10 22.0
CLL *eSKSac* **SKSac** **10 16 53.0 +5.0**
CLL *eS* **ScS** **10 17 35.0 +2.6**
CLL *esS* **sS** **10 17 56.0 -2.8**
CLL *ePS* **PS** **10 18 50.0 -9.1**
CLL *eSS* **SS** **10 24 02.0 -4.2**
LOF Lofoten **96.63 338** *eP* **P** **10 06 17.9 +1.5**
TANN Tannenbergstha **96.75 320** *ePdiff* **P** **10 06 17.6 +0.2**
TANN *epP* **pP** **10 06 31.5 -1.7**
TANN *esP* **sP** **10 06 38.8 -0.4**
STOK Stokkvaagen **96.82 336** *eP* **P** **10 06 20.0 +2.8**
ROTZ Rotzenmuhle **96.89 319** *ePdiff* **P** **10 06 18.9 +0.9**
ROTZ *epP* **pP** **10 06 32.4 -1.4**
ROTZ *esP* **sP** **10 06 40.0 +0.2**
ROTZ *ePP* **PP** **10 10 14.5 +0.7**
COP Copenhagen **96.92 325** *i* P **P** **10 06 18.8 +0.9**
COP
comp=Z,1µm,20.0s
KBS Kingsbay **96.99 349** *i* P **P** **10 06 18.6 +0.8**
KBS Kingsbay **96.99 349** PFAKE 10 06 30.0 +12
KBS LR LR
comp=Z,4µm,22.0s
WTTA Wattenberg **97.19 317**⇓ *iP* **P** **10 06 19.1 -0.5**
comp=Z,205nm,2.6s
NSS Namsos **97.25 334** *eP* Pdif 10 06 21.4 +2.1
NC602 NORSAR Array S **97.45 330** *eP* Pdif 10 06 20.8 +0.5
FUR Furstenfeldbru **97.45 318** *epP* **pP** **10 06 33.9 -2.5**
FUR *esP* sP 10 06 40.0 -2.4
XMAS Kiritimati **97.49 89** PFAKE 10 06 30.0 +8.4
XMAS LR LR
comp=Z,3µm,20.0s
GRF Grafenberg Arr **97.52 319** *ePdiff* Pdif 10 06 22.8 +1.9
GRF *epP* pP 10 06 34.0 -2.7
GRF *ePP* **PP** **10 10 20.3 +1.5**
NB2 NORSAR Subarra **97.61 331** P Pdif 10 06 22.6 +1.5
comp=Z,89nm,2.0s,baz=74,slow=5.1
NB2 NORSAR Subarra **97.61 331** P Pdif 10 06 22.6 +1.5
baz=74,slow=5.1
NOA NORSAR Array B **97.61 331** P Pdif 10 06 21.3 +0.2
NOA PP **PP** **10 10 17.3 -1.8**
NOA PKKP **PKKPbc** **10 22 59.2 -0.6**
NOA NORSAR Array B **97.61 331** P Pdif 10 06 21.3 +0.2
comp=Z,23nm,1.1s,baz=90,slow=4.5,SNR=8.9
NOA PP **PP** **10 10 17.3 -1.8**
comp=Z,6.2nm,0.7s,baz=99,slow=7.0,SNR=7.0
NOA PKKP **PKKPbc** **10 22 59.2 -0.6**
comp=Z,0.8nm,0.6s,baz=280,slow=2.2,SNR=3.2
NOA LR LR 10 58 26.0
comp=Z,3µm,20.9s,baz=95,slow=40
RETA Reutte **97.78 317**⇑ *iP* **P** **10 06 21.9 -0.3**
comp=Z,233nm,2.7s
FETA Feichten **97.80 316**⇑ *iPcP* **P** **10 06 22.3 0.0**
comp=Z,363nm,3.5s
VLC Villacollemand **97.98 314** PFAKE 10 06 30.0 +6.9
VLC LR LR
comp=Z,4µm,21.0s
CLZ Clausthal **98.09 321** *ePdiff* Pdif 10 06 23.6 +0.2
UBBA Unterbreizbach **98.32 320** *ePdiff* **P** **10 06 24.2 0.0**
DAVOX Davos/Dischmat **98.38 316** P Pdif 10 06 25.5 +0.5

DAVOX PP **PP** **10 10 21.3 -4.3**
DAVOX Davos/Dischmat 98.38 316 P Pdif 10 06 25.5 +0.5
comp=Z,4.7nm,0.5s,baz=112,slow=6.2,SNR=10
DAVOX PP **PP** **10 10 21.3 -4.3**
comp=Z,7.5nm,0.8s,baz=77,slow=8.2,SNR=4.1
DAVOX LR LR 10 53 23.1
comp=Z,3µm,21.0s,baz=68,slow=37
DAVA Damuels 98.38 317 *i* / Pdiff Pdif 10 06 25.1 +0.1
comp=Z,360nm,3.0s,SNR=6.4
KONO Kongsberg 98.44 329 PFAKE 10 06 40.0 +15
KONO LR LR
comp=Z,2µm,22.0s
KEST Kesra 98.54 305 *e*P Pdif 10 06 27.8 +1.9
KEST PP **PP** **10 10 22.4 -4.7**
KEST Kesra 98.54 305 P Pdif 10 06 26.3 +0.4
comp=Z,4.0nm,0.9s,baz=358,slow=4.2,SNR=5.7
KEST PP **PP** **10 10 22.4 -4.7**
comp=Z,3.3nm,0.9s,baz=304,slow=8.9,SNR=4.4
KEST LR LR 10 49 27.8
comp=Z,1µm,21.3s,baz=17,slow=34
KIP Kipapa 98.61 69 PFAKE 10 06 40.0 +14
KIP LR LR
comp=Z,3µm,21.0s
VSL Villasalto 98.62 309 PFAKE 10 06 40.0 +14
VSL LR LR
comp=Z,1µm,19.0s
TUE Stuetta 98.74 316 PFAKE 10 06 40.0 +13
TUE LR LR
comp=Z,2µm,22.0s
STU Stuttgart 98.84 318 *e*PP PP 10 10 29.3 +0.4
TNS Taunus Mts 99.32 320 *e*Pdiff **Pdif** **10 06 29.2 +0.3**
TNS *e*PP **PP** **10 10 32.8 +0.3**
BFO Black Forest 99.42 318 *i* P **Pdif** **10 06 34.7 +5.3**
BFO Black Forest 99.42 318 *e*Pdiff **Pdif** **10 06 30.4 +1.0**
BFO Black Forest 99.42 318 PFAKE 10 06 40.0 +11
BFO LR LR
comp=Z,2µm,22.0s
FELD Feldberg im Sc 99.65 317 *e*P **Pdif** **10 06 29.5 -1.1**
LANF Langenberg 99.76 318 *e*P **Pdif** **10 06 30.4 -0.5**
CDF Champ du Feu 100.12 318 *e*P **Pdif** **10 06 30.7 -1.9**
comp=Z,17nm,1.0s
CDF Champ du Feu 100.12 318 *e*P **Pdif** **10 06 30.7 -1.9**
CDF pmax pmax
comp=Z,17nm,1.0s
CDF Champ du Feu 100.12 318 *e*P **Pdif** **10 06 30.7 -1.9**
comp=Z,17nm,1.0s
ECH Echery 100.21 318 *e*P **Pdif** **10 06 33.6 +0.7**
ECH Echery 100.21 318 PFAKE 10 06 40.0 +7.1
ECH LR LR
comp=Z,2µm,22.0s
MOF Molkenrain 100.23 317 *e*P **Pdif** **10 06 31.9 -1.2**
IM04 Indian Mountai 100.39 24 *e*Pdif **Pdif** **10 06 33.6 +0.3**
IMA2 Indian Mountai 100.41 24 *e*Pdif **Pdif** **10 06 33.9 +0.3**
LOMF Lomont 100.46 317 *e*P **Pdif** **10 06 33.0 -1.1**
LPG La Plagne 100.56 315 *e*P **Pdif** **10 06 33.2 -1.7**
comp=Z,23nm,1.0s
LPG La Plagne 100.56 315 *e*P **Pdif** **10 06 33.2 -1.7**
LPG pmax pmax
comp=Z,23nm,1.0s
LPG La Plagne 100.56 315 *e*P **Pdif** **10 06 33.2 -1.7**
comp=Z,23nm,1.0s
LPL La Plagne 100.57 315 *e*P **Pdif** **10 06 33.0 -1.9**
LPL La Plagne 100.57 315 *e*P **Pdif** **10 06 33.0 -1.9**
LPL La Plagne 100.57 315 *e*P **Pdif** **10 06 33.0 -1.9**
BNI Bardonecchia 100.62 315 PFAKE 10 06 50.0 +15
BNI LR LR
comp=Z,4µm,21.0s
WLF Walferdange 100.82 319 *e*P **Pdif** **10 06 37.5 +2.0**
WLF pmax pmax
comp=Z,14nm,0.7s
WLF MLR MLR
comp=Z,2µm,19.0s
WLF Walferdange 100.82 319 *e*Pdif **Pdif** **10 06 37.5 +2.0**
comp=Z,14nm,0.7s
WLF LR LR
comp=Z,2µm,19.0s
CABF La Chapelle 100.99 316 *e*P **Pdif** **10 06 35.4 -1.1**
comp=Z,127nm,1.7s
CABF La Chapelle 100.99 316 *e*P **Pdif** **10 06 35.4 -1.1**
CABF pmax pmax
comp=Z,127nm,1.7s
CABF La Chapelle 100.99 316 *e*P **Pdif** **10 06 35.4 -1.1**
comp=Z,127nm,1.7s
THEF They Montfort 100.99 318 *e*P **Pdif** **10 06 35.8 -0.6**
ORIF Oris-en-Rattie 101.19 314 *e*P **Pdif** **10 06 35.9 -1.6**
ORIF Oris-en-Rattie 101.19 314 *e*P **Pdif** **10 06 35.9 -1.6**
ORIF Oris-en-Rattie 101.19 314 *e*P **Pdif** **10 06 35.9 -1.6**
TBI Tubuai 101.33 115 *e*Pdif **Pdif** **10 06 44.3 +5.8**
comp=Z,290nm,28.8s
TBI Tubuai 101.33 115 *e*PP PP 10 10 43.7 -4.6
comp=Z,386nm,27.2s
TBI *e*SKSac **SKSac** **10 17 17.2 +3.5**
comp=Z,928nm,28.8s
TBI *e*Sdif **Sdif** **10 18 17.1 +2.5**
comp=Z,1µm,31.8s
TBI *e*SP **SP** **10 19 46.5 +0.6**
comp=Z,2µm,28.0s
TBI *e*SS **SS** **10 25 21.5 +5.5**
comp=Z,1µm,29.0s
TBI Tubuai 101.33 115 *e*LQ LQ 10 35 40.4
comp=Z,3µm,37.8s
TBI *e*LR LR 10 39 58.2
comp=Z,5µm,33.0s
TAM Tamanrasset 101.43 292 *e*P **Pdif** **10 06 41.2 +2.1**
TAM pmax pmax
comp=Z,21nm,1.6s
TAM MLR MLR
comp=Z,3µm,22.0s
TAM Tamanrasset 101.43 292 *e*Pdif **Pdif** **10 06 41.2 +2.1**
comp=Z,21nm,1.6s
TAM LR LR
comp=Z,3µm,22.0s
PPLA Purkeypile 101.49 27 *e*Pdif **Pdif** **10 06 38.2 -0.2**
comp=Z,33nm,1.4s
COLD Coldfoot 101.60 23 *e*Pdif **Pdif** **10 06 40.5 +1.9**
comp=Z,8.6nm,1.0s
BPAW Bear Paw Mtn. 101.84 26 *e*Pdif **Pdif** **10 06 40.3 +0.5**
comp=Z,52nm,1.4s
KDAK Kodiak Island 101.97 32 PFAKE 10 06 50.0 +10
KDAK LR LR
comp=Z,3µm,22.0s
SSB Saint Sauveur 102.13 315 PFAKE 10 06 50.0 +8.4
SSB LR LR
comp=Z,2µm,20.0s
PPT2 Papeete2 102.38 110 *e*Pdif **Pdif** **10 06 44.8 +1.5**
comp=Z,362nm,27.5s
PPT2 Papeete2 102.38 110 *e*PP PP 10 10 46.1 -10
comp=Z,380nm,27.2s
PPT2 *e*SKSac **SKSac** **10 17 22.4 +3.3**
comp=Z,928nm,25.8s
PPT2 *e*Sdif **Sdif** **10 18 26.5 +2.9**
comp=Z,2µm,30.2s
PPT2 *e*SP **SP** **10 19 54.8 -2.5**
comp=Z,655nm,28.5s
PPT2 *e*SS **SS** **10 25 36.3 +5.4**
comp=Z,2µm,29.2s
PPT2 Papeete2 102.38 110 *e*LR LR 10 40 33.1
comp=Z,8µm,22.8s
LOR Lormes 102.48 317 *e*P **Pdif** **10 06 41.6 -1.4**
LOR Lormes 102.48 317 *e*P **Pdif** **10 06 41.6 -1.4**
SMF Signal de Mont 102.53 316 *e*P **Pdif** **10 06 43.5 +0.2**
SMF Signal de Mont 102.53 316 *e*P **Pdif** **10 06 43.5 +0.2**
SMF Signal de Mont 102.53 316 *e*P **Pdif** **10 06 43.5 +0.2**
SSF Saint Saulge 102.73 317 *e*P **Pdif** **10 06 42.8 -1.4**
SSF Saint Saulge 102.73 317 *e*P **Pdif** **10 06 42.8 -1.4**
SSF Saint Saulge 102.73 317 *e*P **Pdif** **10 06 42.8 -1.4**
MCK McKinley 102.80 26 *e*P **Pdif** **10 06 43.9 -0.2**
MCK pmax pmax
comp=Z,65nm,1.5s
MCK McKinley 102.80 26 *e*Pdif **Pdif** **10 06 43.9 -0.2**
comp=Z,65nm,1.5s
AVF Avril sur Loir 102.86 316 *e*P **Pdif** **10 06 45.1 +0.4**
AVF Avril sur Loir 102.86 316 *e*P **Pdif** **10 06 45.1 +0.4**
AVF Avril sur Loir 102.86 316 *e*P **Pdif** **10 06 45.1 +0.4**
COLA College 103.02 25 *e*P **Pdif** **10 06 45.5 +0.5**
COLA pmax pmax
comp=Z,186nm,2.1s
COLA MLR MLR
comp=Z,2µm,21.0s
COLA College 103.02 25 *e*Pdif **Pdif** **10 06 45.5 +0.5**
comp=Z,186nm,2.1s
COLA LR LR
comp=Z,2µm,21.0s
PMR Palmer 103.12 28 *e*P **Pdif** **10 06 46.6 +1.1**
PMR pmax pmax
comp=Z,58nm,1.9s
PMR Palmer 103.12 28 *e*Pdif **Pdif** **10 06 46.5 +1.1**
comp=Z,58nm,1.9s
ILAR Eielson Array 103.45 25 Pdif **Pdif** **10 06 45.2 -1.7**
ILAR PP **PP** **10 10 58.1 -5.0**
ILAR PKiKP **PKiKP** **10 11 05.4 -0.1**
ILAR PKKPbc **PKKPbc** **10 22 40.5 -2.6**
ILAR P'P' 10 30 56.5
ILAR Eielson Array 103.45 25 Pdiff **Pdif** **10 06 45.2 -1.7**
comp=Z,0.8nm,0.8s,baz=278,slow=4.0,SNR=7.7
ILAR PP **PP** **10 10 58.1 -5.0**
comp=Z,3.2nm,0.9s,baz=304,slow=7.0,SNR=5.4
ILAR PKiKP **PKiKP** **10 11 05.4 -0.1**
comp=Z,2.3nm,0.8s,baz=278,slow=3.4,SNR=8.7
ILAR PKKPbc **PKKPbc** **10 22 40.5 -2.6**
comp=Z,1.5nm,0.7s,baz=126,slow=1.7,SNR=15
ILAR PKPPKP **P'P'df** **10 30 56.5 -3.2**
comp=Z,0.3nm,0.9s,baz=188,slow=1.8,SNR=4.7
TOA0 Torodi Ar. Sit 104.61 282 *e*Pdif **Pdif** **10 06 53.6 +0.4**
TORD Torodi Ar. Bea 104.61 282 Pdif **Pdif** **10 06 53.3 +0.1**
TORD PKiKP **PKiKP** **10 11 09.6 +0.5**
TORD PKKPbc **PKKPbc** **10 22 36.8 -1.2**
TORD Torodi Ar. Bea 104.61 282 Pdiff **Pdif** **10 06 53.3 +0.1**
comp=Z,4.1nm,1.0s,baz=84,slow=2.8,SNR=16
TORD PKiKP **PKiKP** **10 11 09.6 +0.5**
comp=Z,2.5nm,0.9s,baz=338,slow=3.1,SNR=6.4
TORD PKKPbc **PKKPbc** **10 22 36.8 -1.2**
comp=Z,0.4nm,0.5s,baz=309,slow=3.9,SNR=4.1
MENT Mentasta 105.27 26 *e*Pdif **Pdif** **10 06 56.2 +1.1**
ESK Eskdalemuir 105.80 326 PFAKE 10 11 20.0
ESK LR LR
comp=Z,2µm,20.0s
EGAK Eagle 105.80 24 PFAKE 10 11 20.0
EGAK LR LR
comp=Z,2µm,21.0s
INK Inuvik 107.23 19 Pdif **Pdif** **10 07 03.6 0.0**
INK PKiKP **PKiKP** **10 11 12.7 +0.4**
INK PKKPbc **PKKPbc** **10 22 29.1 -2.4**
INK Inuvik 107.23 19 Pdiff **Pdif** **10 07 03.6 0.0**
comp=Z,2.2nm,0.8s,baz=275,slow=7.2,SNR=5.6
INK PKiKP **PKiKP** **10 11 12.7 +0.4**
comp=Z,6.6nm,0.8s,baz=280,slow=1.0,SNR=9.8
INK PKKPbc **PKKPbc** **10 22 29.1 -2.4**
comp=Z,3.6nm,1.0s,baz=51,slow=8.6,SNR=4.3
TRIS Tristan da Cun 107.46 228 PFAKE 10 11 30.0
TRIS LR LR
comp=Z,4µm,21.0s
SHEL Horse Pasture 108.15 251 PFAKE 10 11 30.0
SHEL LR LR
comp=Z,7µm,20.0s
PMSA Palmer Station 108.45 185 PFAKE 10 11 30.0
PMSA LR LR
comp=Z,15µm,19.0s
ESDC Sonseca Array 108.90 310 PKiKP **PKiKP** **10 11 17.3 +0.9**
ESDC PP **PP** **10 11 42.7 -1.4**
ESDC Sonseca Array 108.90 310 PKiKP **PKiKP** **10 11 17.3 +0.9**
comp=Z,0.3nm,0.3s,baz=70,slow=3.1,SNR=8.3
ESDC PP **PP** **10 11 42.7 -1.4**
comp=Z,7.2nm,0.9s,baz=69,slow=6.8,SNR=8.2
PAB San Pablo 109.21 310 PFAKE 10 11 30.0
PAB LR LR
comp=Z,3µm,22.0s
DBIC Dimbokro 110.62 275 PP PP 10 11 54.5 -2.8
DBIC Dimbokro 110.62 275 PP PP 10 11 54.5 -2.8
comp=Z,6.9nm,1.0s,baz=97,slow=9.4,SNR=3.2
BORG Borgarnes 110.84 338 PFAKE 10 11 30.0
BORG LR LR
comp=Z,3µm,19.0s
RES Resolute Bay 110.89 6 PKiKP **PKiKP** **10 11 19.2 +0.1**
RES Resolute Bay 110.89 6 PKiKP **PKiKP** **10 11 19.2 +0.1**
comp=Z,8.4nm,0.9s,baz=235,slow=2.5,SNR=9.2
MVO Moncorvo 110.99 312 *e*LR LR 10 48 49.0
comp=Z,2µm,18.0s
PBAR Barrancos 111.49 308 *e*PKP **PKiKP** **10 11 22.9 +1.7**
PBAR Barrancos 111.49 308 *e*PP PP 10 12 02.4 -0.3
MTE **Manteigas 111.51 311** *e*PP PP 10 12 03.8 +0.9
MTE *i* P **PS** **10 21 41.2 +5.3**
MTE Manteigas 111.51 311 *e*LR LR 10 48 56.2
comp=Z,2µm,20.0s
MTE Manteigas 111.51 311 PFAKE 10 11 30.0
MTE LR LR
comp=Z,2µm,21.0s
PCBR Castelo Branco 111.55 310 *e*PKP **PKiKP** **10 11 23.1 +1.8**
PMRV Marv??o 111.56 310 *e*PP PP 10 12 09.1 +5.9
PMRV Marv??o 111.56 310 *e*LR LR 10 51 48.8
comp=Z,1µm,18.0s
PESTR Estremoz 111.80 309 *e*PKP **PKiKP** **10 11 23.5 +1.6**
PESTR Estremoz 111.80 309 PP PP 10 12 04.1 -0.9
RTC Rabat Centre 111.92 304 PFAKE 10 11 30.0
RTC LR LR
comp=Z,3µm,21.0s
PVAQ Vaqueiros 112.14 308 *e*PP PP 10 12 08.2 +0.8
PVAQ *i* P x 10 21 42.9
PVAQ Vaqueiros 112.14 308 *e*LR LR 10 50 15.3
comp=Z,1µm,22.0s
PBEJ Beja 112.15 308 *e*PKP **PKiKP** **10 11 24.9 +2.4**
PBEJ Beja 112.15 308 *e*PP PP 10 12 09.0 +1.5
EVO Evora 112.19 309 *e*PKiKP **PKiKP** **10 11 23.5 +0.9**
comp=Z,25nm,1.0s
EVOP Sao Brissos 112.27 309 *e*PKiKP **PKiKP** **10 11 23.5 +0.8**
EVOP Sao Brissos 112.27 309 *e*PKPdf **PKiKP** **10 11 23.5 +0.8**
PBDV Barranco-do-Ve 112.33 308 *e*PP PP 10 12 09.9 +1.1
PCVE Castro Verde 112.35 308 *e*PKP **PKiKP** **10 11 24.4 +1.5**
PCVE Castro Verde 112.35 308 *e*PP PP 10 12 09.5 +0.5
PNCL Nicolau / Gran 112.66 309 *e*PKP **PKiKP** **10 11 24.7 +1.2**
PNCL Nicolau / Gran 112.66 309 *e*PP PP 10 12 10.8 -0.3
MORF Marmelete 112.89 308 *e*PKP **PKiKP** **10 11 25.5 +1.5**
MORF Marmelete 112.89 308 *e*PP PP 10 12 12.8 0.0
PTEO Sao Teotonio 112.90 308 *e*PKP **PKiKP** **10 11 25.3 +1.4**
PTEO Sao Teotonio 112.90 308 *e*PP PP 10 12 23.3 +10
WRAK Wrangell Islan 112.93 31 PFAKE 10 11 40.0
WRAK LR LR
comp=Z,2µm,20.0s
LIS Lisbon 113.03 309 *e*PP PP 10 12 13.2 -0.5
LIS AMS AMS 11 15 00.5
comp=Z,2µm,18.0s
LIS Lisbon 113.03 309 *e*PP PP 10 12 13.2 -0.5
LIS Lisbon 113.03 309 A A 11 15 00.5
comp=Z,2µm,18.0s
PFVI Vila Bisbo 113.05 308 *e*PP PP 10 12 13.7 -0.3
DLBC Dease Lake 113.18 28 PKiKP **PKiKP** **10 11 24.2 +0.3**
DLBC Dease Lake 113.18 28 PKiKP **PKiKP** **10 11 24.2 +0.3**
comp=Z,14nm,1.3s,baz=219,slow=0.6,SNR=7.3
RKT Rikitea 114.23 119 *e*PP PP 10 12 17.0 -5.5
comp=Z,385nm,30.2s
RKT *e*SKSac **SKSac** **10 18 12.0 +2.5**
comp=Z,397nm,29.5s
RKT *e*SP **SP** **10 21 58.7 +4.1**
comp=Z,3µm,29.2s
RKT *e*SS SS 10 28 17.7 +7.4
comp=Z,2µm,31.5s
RKT Rikitea 114.23 119 *e*LQ LQ 10 40 55.0
comp=Z,2µm,34.0s
RKT *e*LR LR 10 45 59.8
comp=Z,8µm,25.8s
YKA Yellowknife Ar 117.00 20 PKP **PKPdf** **10 11 30.5 -0.5**
YKA PKKPbc **PKKPab** **10 22 01.1 +0.5**
YKA Yellowknife Ar 117.00 20 PKP **PKPdf** **10 11 30.5 -0.5**
comp=Z,12nm,0.8s,baz=275,slow=2.4,SNR=38
YKA PKKPbc **PKKPab** **10 22 01.1 +0.5**
comp=Z,3.4nm,0.8s,baz=123,slow=3.6,SNR=4.2
SFJD Kangerlussuaq 117.39 350 PKP **PKPdf** **10 11 32.3 +0.6**
SFJD LR LR
comp=Z,5µm,21.0s
SFJD Kangerlussuaq 117.39 350 PKP **PKPdf** **10 11 32.3 +0.6**
comp=Z,13nm,1.0s,baz=226,slow=2.4,SNR=4.3
ASCN Ascension 118.08 257 PFAKE 10 11 50.0 +15
ASCN LR LR
comp=Z,2µm,20.0s
EFI East Falkland 120.29 192 PFAKE 10 11 50.0 +12
EFI LR LR
comp=Z,3µm,22.0s
PMOZ Porto Moniz, M 120.64 304 *e*LR LR 10 53 08.8
comp=Z,2µm,20.0s
NLWA Neilton Lookou 121.64 37 PFAKE 10 11 50.0 +9.5
NLWA LR LR
comp=Z,2µm,21.0s
JCW Jim Creek 122.39 36 P **PKPdf** **10 11 42.9 +1.0**
RPW Rockport 122.50 35 P **PKPdf** **10 11 42.2 0.0**
FRB Frobisher Bay 122.70 357 PKP **PKPdf** **10 11 41.9 -0.1**
FRB Frobisher Bay 122.70 357 PKP **PKPdf** **10 11 41.9 -0.1**
comp=Z,22nm,1.0s,baz=286,slow=6.5,SNR=10
LON Longmire 123.19 37 *e*PKiKP **PKPdf** **10 11 44.1 +0.6**
LON Longmire 123.19 37 *e*PKPdf **PKPdf** **10 11 44.1 +0.6**
NLW Nelson Butte 123.37 35 P **PKPdf** **10 11 44.5 +0.5**
WPW White Pass 123.37 37 P **PKPdf** **10 11 44.7 +0.7**
ETW Entiat 123.62 35 P **PKPdf** **10 11 44.4 0.0**
TBM Table Mountain 123.69 36 P **PKPdf** **10 11 45.4 +0.9**
EDM Edmonton 123.85 27 *e*PKiKP **PKPdf** **10 11 44.8 +0.2**
EDM Edmonton 123.85 27 *e*PKPdf **PKPdf** **10 11 44.8 +0.2**
VLL Laurance Lake 123.90 38 P **PKPdf** **10 11 45.8 +0.8**
HUMO Hull Mountain 124.40 42 *e*PKPdf **PKPdf** **10 11 46.7 +0.7**
KTRM Thompson Ridge 124.42 43 P **PKPdf** **10 11 47.8 +1.6**
KHMM Horse Mountain 124.62 44 *e*PKPdf **PKPdf** **10 11 47.8 +1.2**
HAWA Hanford 124.72 36 *e*PKPdf **PKPdf** **10 11 47.4 +1.0**
HAWA LR LR
comp=Z,2µm,22.0s
YBH Yreka Blue Hor 124.95 43 PKP **PKPdf** **10 11 47.6 +0.5**
YBH *e*PKPdf **PKiKP** **10 11 49.0 +1.5**
YBH PP **PP** **10 13 31.7 -4.1**
YBH Yreka Blue Hor 124.95 43 PKP **PKPdf** **10 11 47.6 +0.5**
comp=Z,11nm,0.8s,baz=32,slow=2.4,SNR=12
YBH PP **PP** **10 13 31.7 -4.1**
comp=Z,2.7nm,0.9s,baz=264,slow=9.0,SNR=3.1
VIPM Ingram Point 125.02 39 PKiKP **PKPdf** **10 11 48.2 +0.9**
VIPM Ingram Point 125.02 39 P **PKPdf** **10 11 48.2 +0.9**
NEW Newport 125.06 33 PKP **PKPdf** **10 11 47.2 +0.2**
NEW PP **PP** **10 13 34.3 -1.8**
NEW LR LR
comp=Z,2µm,19.0s
NEW Newport 125.06 33 P **PKPdf** **10 11 47.3 +0.2**
baz=125
NEW Newport 125.06 33 PKP **PKPdf** **10 11 47.2 +0.2**
comp=Z,23nm,0.9s,baz=340,slow=0.7,SNR=46
NEW PP **PP** **10 13 34.3 -1.8**
comp=Z,3.7nm,1.0s,baz=219,slow=5.9,SNR=4.0
KCPM Cahto Peak 125.20 45 *e*PKPdf **PKPdf** **10 11 49.0 +1.3**
KIPM Iron Peak 125.23 45 *e*PKPdf **PKPdf** **10 11 49.2 +1.4**
WDC Whiskeytown Da 125.56 44 *e*PKiKP **PKPdf** **10 11 48.4 +0.2**
WDC Whiskeytown Da 125.56 44 *e*PKPdf **PKPdf** **10 11 48.4 +0.2**
CMLA Cha da Macela 125.66 312 PFAKE 10 12 00.0 +12
CMLA LR LR
comp=Z,2µm,19.0s
HOPS Hopland 125.84 46 *e*PKPdf **PKPdf** **10 11 50.3 +1.5**
WALA Waterton Lakes 126.28 31 *e*PKPdf **PKPdf** **10 11 49.7 +0.2**
MOD Modoc 126.48 42 *e*PKPdf **PKPdf** **10 11 50.5 +0.4**
BSMT Bassoo Peak 126.57 33 *e*PKPdf **PKPdf** **10 11 49.9 -0.2**
BLMT Blacktail Moun 126.70 32 *e*PKPdf **PKPdf** **10 11 50.7 +0.3**
BMO Blue Mountains 126.86 37 *e*PKiKP **PKPdf** **10 11 50.9 +0.2**
BMO MLR MLR
comp=Z,2µm,22.0s
BMO Blue Mountains 126.86 37 *e*PKPdf **PKPdf** **10 11 50.9 +0.2**
BMO LR LR
comp=Z,2µm,22.0s
JTMT Jette 126.90 32 *e*PKPdf **PKPdf** **10 11 51.0 +0.2**
YBMT Yellow Bay 126.97 32 *e*PKPdf **PKPdf** **10 11 51.1 +0.3**
FFC Flin Flon 127.18 19 *e*PKiKP **PKPdf** **10 11 51.2 +0.3**
FFC MLR MLR
comp=Z,2µm,21.0s
FFC Flin Flon 127.18 19 *e*PKPdf **PKPdf** **10 11 51.2 +0.3**
FFC LR LR
comp=Z,2µm,21.0s
SWMT Swartz Lake 127.20 33 *e*PKPdf **PKPdf** **10 11 51.7 +0.4**
WVOR Wild Horse Val 127.30 40 *e*PKiKP **PKPdf** **10 11 52.7 +1.1**
WVOR MLR MLR
comp=Z,2µm,20.0s
WVOR Wild Horse Val 127.30 40 *e*PKPdf **PKPdf** **10 11 52.7 +1.1**
WVOR LR LR
comp=Z,2µm,20.0s
BEKR Beckworth 127.38 44 *e*PKPdf **PKPdf** **10 11 52.3 +0.3**
SLMT Seeley Lake 127.63 33 *e*PKPdf **PKPdf** **10 11 52.5 +0.3**
MSO Missoula 127.65 33 P **PKPdf** **10 11 52.1 0.0**
baz=128
SAO San Andreas Ge 127.92 48 *e*PKiKP **PKPdf** **10 11 53.1 +0.3**
SAO San Andreas Ge 127.92 48 *e*PKPdf **PKPdf** **10 11 53.1 +0.3**
CHMT Chamberlain Mo 127.97 33 *e*PKPdf **PKPdf** **10 11 53.2 +0.3**
PAHR Pah Rah Range 128.12 44 *e*PKPdf **PKPdf** **10 11 54.0 +0.7**
CMB Columbia Colle 128.16 46 *e*PKiKP **PKPdf** **10 11 53.6 +0.3**
CMB Columbia Colle 128.16 46 *e*PKPdf **PKPdf** **10 11 53.6 +0.3**
WAKR Walker 128.62 45 *e*PKPdf **PKPdf** **10 11 55.5 +1.1**
A19A Klindworth Far 128.91 28 P **PKPdf** **10 11 54.4 0.0**
baz=129
EGMT Eagleton 129.05 30 *e*PKPdf **PKPdf** **10 11 55.3 +0.5**
EGMT LR LR
comp=Z,2µm,19.0s
EGMT Eagleton 129.05 30 P **PKPdf** **10 11 55.1 +0.3**
baz=129
LRM Limekiln Ridge 129.08 33 *e*PKPdf **PKPdf** **10 11 55.7 +0.6**
B19A Brinkman Farms 129.15 29 P **PKPdf** **10 11 55.3 +0.5**
baz=129
BMN Battle Mountai 129.22 42 *e*PKiKP **PKPdf** **10 11 55.8 +0.4**
BMN Battle Mountai 129.22 42 *e*PKPdf **PKPdf** **10 11 55.8 +0.4**
DLMT Dillon 129.28 34 *e*PKPdf **PKPdf** **10 11 56.1 +0.7**
HLID Hailey 129.31 37 *e*PKPdf **PKPdf** **10 11 56.6 +1.0**
HLID LR LR
comp=Z,2µm,20.0s
HLID Hailey 129.31 37 P **PKPdf** **10 11 56.6 +1.0**
baz=129
A20A Cobblestone Ra 129.33 28 P **PKPdf** **10 11 55.5 +0.3**
baz=129
NVAR Mina Array Bea 129.45 44 PKPpre PKPpre 10 11 42.0
NVAR PKP **PKiKP** **10 11 56.7 -0.1**
NVAR SKPab SKPbc 10 15 14.9 +1.6
NVAR Mina Array Bea 129.45 44 PKhKP PKPpre 10 11 42.0
comp=Z,0.8nm,0.8s,baz=290,slow=2.7,SNR=5.2
NVAR PKP **PKiKP** **10 11 56.7 -0.1**
comp=Z,9.1nm,0.6s,baz=281,slow=2.4,SNR=39
NVAR SKPab SKPbc 10 15 14.9 +1.5
comp=Z,1.4nm,0.7s,baz=280,slow=2.7,SNR=3.8
MCMT McKenzie Canyo 129.47 35 *e*PKPdf **PKPdf** **10 11 56.5 +0.7**
NV11 Mina Array Sit 129.55 44 *e*PKPdf **PKPdf** **10 11 57.0 +0.9**
NV11 *e*PP **PP** **10 14 04.0 -2.2**
NV11 *e*SKPdf **SKiKP** **10 15 29.3 +0.9**
SMMC Simmler 129.57 49 P **PKPdf** **10 11 57.2 +1.1**
baz=130
C19A Slack Wire Ran 129.59 30 P **PKPdf** **10 11 56.1 +0.3**
baz=130
B20A Solberg Farm, 129.59 28 P **PKPdf** **10 11 55.8 0.0**
baz=130
PKM Peak Mountain 129.88 49 P **PKPdf** **10 11 58.7 +1.8**
baz=130
VES Vestal, Richgr 130.03 48 P **PKPdf** **10 11 57.3 +0.4**
baz=130
D19A Cripps Ranch, 130.07 30 P **PKPdf** **10 11 57.2 +0.5**
baz=130
B21A Ellsworth Farm 130.07 28 P **PKPdf** **10 11 57.7 +1.1**
baz=130
C20A Veseth Ranch, 130.11 29 P **PKPdf** **10 11 57.0 +0.3**
baz=130
A22A Carney Farms, 130.16 26 P **PKPdf** **10 11 56.9 +0.1**
baz=130
QLMT Earthquake Lak 130.26 34 *e*PKPdf **PKPdf** **10 11 58.9 +1.6**
QLMT *e*PP **PP** **10 14 07.7 -2.8**
ELK Elko 130.35 40 *e*PKPdf **PKPdf** **10 11 58.3 +0.6**
ELK PKP **PKPdf** **10 11 58.5 +0.8**
ELK PP **PP** **10 14 09.8 -1.7**
ELK *e*PP PP 10 14 10.1 -1.4
ELK SKPbc **SKPbc** **10 15 17.4 +0.9**
ELK *e*SKPdf **SKPab** **10 15 18.6 +2.2**
ELK Elko 130.35 40 PKP **PKPdf** **10 11 58.5 +0.8**
comp=Z,12nm,0.4s,baz=326,slow=0.5,SNR=64
ELK PP **PP** **10 14 09.8 -1.7**
comp=Z,3.4nm,0.9s,baz=63,slow=1.1,SNR=4.2
ELK SKPbc **SKPbc** **10 15 17.4 +0.9**
comp=Z,5.0nm,0.7s,baz=11,slow=3.4,SNR=5.2
C21A Desert Coulee 130.47 28 P **PKPdf** **10 11 57.7 +0.3**
baz=130
D20A Manuel Ranch, 130.49 30 P **PKPdf** **10 11 57.9 +0.4**
baz=130
CWC Cottonwood Cre 130.51 47 P **PKPdf** **10 11 57.9 -0.1**
baz=130
ARVC Arvin 130.52 49 P **PKPdf** **10 11 58.0 +0.2**
baz=130
ISA Isabella 130.56 48 *e*PKiKP **PKPdf** **10 11 58.5 +0.5**
ISA Isabella 130.56 48 *e*PKPdf **PKPdf** **10 11 58.5 +0.5**
ISA Isabella 130.56 48 P **PKPdf** **10 11 58.2 +0.3**
baz=130
GCMT Greycliff 130.59 32 *e*PKPdf **PKPdf** **10 11 58.3 +0.4**
E19A Rath Farm, Rou 130.59 31 P **PKPdf** **10 11 57.9 +0.2**
baz=130
YMR Madison River 130.62 34 *e*PKPdf **PKPdf** **10 11 58.8 +0.7**
YMR *e*PP **PP** **10 14 11.6 -1.3**
YMR *e*SKPbc **SKPab** **10 15 20.4 +3.0**
B22A Reddig Ranch S 130.63 27 P **PKPdf** **10 11 58.3 +0.6**
baz=131
A23A Redstone 130.63 26 P **PKPdf** **10 11 58.2 +0.5**
baz=131
YNR Norris Junctio 130.75 34 *e*PKPdf **PKPdf** **10 12 01.2 +2.9**
YFT Old Faithful 130.83 34 *e*PKPdf **PKPdf** **10 12 01.2 +2.7**
E20A Meyer Farm, Mu 130.90 30 P **PKPdf** **10 11 58.5 +0.2**

baz=131
F19A Roth Farm, Mol 130.93 31 P PKPdf 10 11 58.6 +0.1
baz=131
B23A Brockton 130.96 26 P PKPdf 10 11 58.4 +0.1
baz=131
LKWY Lake 131.00 33 ePKIKP PKPdf 10 12 01.6 +2.8
LKWY MLR MLR
comp=Z,3µm,20.0s
LKWY Lake 131.00 33 ePKPdf PKPdf 10 12 01.6 +2.8
LKWY LR LR
comp=Z,3µm,20.0s
H17A Grant Village 131.01 34 P PKPdf 10 12 00.7 +1.8
baz=131
A24A Westby 131.04 25 P PKPdf 10 11 59.3 +0.9
baz=131
D21A La Casta Ranch 131.06 29 P PKPdf 10 11 59.2 +0.6
baz=131
C22A Vida 131.09 28 P PKPdf 10 11 59.4 +0.8
baz=131
MPMC Manual Prospec 131.10 47 P PKPdf 10 11 59.9 +0.7
baz=131
IMW Indian Meadow 131.12 35 ePKPdf PKPdf 10 12 00.1 +1.0
FLWY Flagg Ranch 131.14 34 ePKPdf PKPdf 10 11 59.5 +0.4
LRMC Laurel Mountai 131.22 48 P PKPdf 10 12 00.1 +0.8
baz=131
RLMT Red Lodge 131.25 32 ePKPdf PKPdf 10 12 00.7 +1.5
RLMT LR LR
comp=Z,3µm,20.0s
RRI2 Red Ridge 131.25 35 ePKPdf PKPdf 10 12 00.8 +1.4
EDW2 Edwards Air Fo 131.25 49 P PKPdf 10 12 00.3 +1.0
baz=131
DGMT Dagmar 131.30 26 ePKPdf PKPdf 10 11 59.9 +0.9
DGMT LR LR
comp=Z,2µm,22.0s
DGMT Dagmar 131.30 26 P PKPdf 10 11 59.7 +0.7
baz=131
I17A Pilgrim Ck. 131.31 34 P PKPdf 10 12 00.6 +1.2
baz=131
HVU Hansel Valley 131.32 38 ePKIKP PKPdf 10 12 00.7 +1.3
HVU Hansel Valley 131.32 38 ePKPdf PKPdf 10 12 00.7 +1.3
MOOW Moose Ponds 131.32 35 ePKPdf PKPdf 10 11 57.7 -1.7
MOOW ePP PP 10 14 22.2 +4.8
MOOW eSKPbc SKPab 10 15 22.3 +1.9
H18A Shoshone NF, C 131.33 33 P PKPdf 10 12 00.2 +0.8
baz=131
R11A Troy Canyon, C 131.36 43 P PKPdf 10 12 00.6 +1.0
baz=131
C23A Lambert 131.37 27 P PKPdf 10 12 00.9 +1.8
baz=131
F20A Billings 131.37 31 P PKPdf 10 11 59.6 +0.4
baz=131
TPAW Teton Pass 131.37 35 ePKPdf PKPdf 10 11 59.8 +0.3
FURC Furnace Creek, 131.37 46 P PKPdf 10 11 59.8 +0.5
baz=131
D22A Cohagen 131.38 28 P PKPdf 10 11 59.8 +0.6
baz=131
E21A Keefer Ranch, 131.39 29 P PKPdf 10 11 59.6 +0.4
baz=131
A25A Svangstu Ranch 131.40 25 P PKPdf 10 12 00.1 +1.0
baz=131
SCHQ Schefferville 131.40 354 ePKPdf PKPdf 10 11 59.5 +0.6
SCHQ PKP PKPdf 10 11 59.8 +0.9
SCHQ ePP PP 10 14 16.1 -0.8
SCHQ SKPbc SKPbc 10 15 19.7 +0.1
SCHQ eSKPbc SKPab 10 15 20.7 +0.7
SCHQ Schefferville 131.40 354 PKP PKPdf 10 11 59.8 +0.9
comp=Z,12nm,0.5s,baz=39,slow=3.8,SNR=18
SCHQ SKPbc SKPbc 10 15 19.7 +0.1
comp=Z,26nm,0.9s,baz=18,slow=4.5,SNR=7.4
PASC Pasadena Art C 131.40 49 ePKPdf PKPdf 10 12 00.9 +1.4
MWC Mount Wilson 131.47 49 ePKIKP PKPdf 10 12 01.3 +1.4
MWC Mount Wilson 131.47 49 ePKPdf PKPdf 10 12 01.3 +1.4
LOHW Long Hollow 131.49 35 ePKPdf PKPdf 10 12 00.3 +0.6
SNOW Snow King Moun 131.50 35 ePKPdf PKPdf 10 12 00.7 +1.0
REDW Red Top Meadow 131.51 35 ePKPdf PKPdf 10 11 59.9 +0.1
REDW eSKPbc SKPab 10 15 23.1 +1.9
CIS Catalina Islan 131.55 50 P PKPdf 10 12 01.4 +1.5
baz=132
SCI San Clemente I 131.60 51 P PKPdf 10 12 01.1 +1.1
baz=132
BGU Big Grassy Mou 131.66 39 ePKPdf PKPdf 10 11 59.6 -0.4
H19A Powell 131.69 33 P PKPdf 10 12 01.4 +1.4
baz=132
LAO LASA Array 131.70 29 ePKPdf PKPdf 10 12 02.1 +2.3
LAO LR LR
comp=Z,2µm,22.0s
AHID Auburn Hatcher 131.73 36 PFAKE 10 12 10.0 +10
AHID LR LR
comp=Z,2µm,20.0s
G20A Bridger 131.73 31 P PKPdf 10 12 00.4 +0.4
baz=132
BFSC Mount Baldy Ra 131.77 49 P PKPdf 10 12 00.8 +0.4
baz=132
SPUT South Promonto 131.79 38 ePKPdf PKPdf 10 12 01.5 +1.2
D23A Lindsay 131.82 28 P PKPdf 10 12 00.7 +0.7
baz=132
F21A Absaloka Mine, 131.87 30 P PKPdf 10 12 01.0 +0.8
baz=132
A26A Wade Farm, Ken 131.87 24 P PKPdf 10 12 00.9 +0.9
baz=132
B25A Knox Farm, Ray 131.90 25 P PKPdf 10 12 01.9 +1.8
baz=132
C24A Savage 131.91 27 P PKPdf 10 12 01.2 +1.0
baz=132
GSC Goldstone 131.94 47 ePKIKP PKPdf 10 12 02.0 +1.4
GSC Goldstone 131.94 47 ePKPdf PKPdf 10 12 02.0 +1.4
GSC Goldstone 131.94 47 P PKPdf 10 12 01.3 +0.7
baz=132
E22A Miles City 132.01 29 P PKPdf 10 12 01.4 +1.0
baz=132
SHOC Shoshone 132.05 46 P PKPdf 10 12 01.8 +1.1
baz=132
I19A Meeteetse 132.11 33 P PKPdf 10 12 01.9 +1.0
baz=132
A27A Ledoux Ranch, 132.15 23 P PKPdf 10 12 01.0 +0.5
baz=132
DUG Dugway 132.20 40 ePKIKP PKPdf 10 12 01.9 +0.8
DUG e 10 14 22.4
DUG MLR MLR
comp=Z,2µm,22.0s
DUG Dugway 132.20 40 ePKPdf PKPdf 10 12 01.9 +0.8
DUG ePP PP 10 14 22.4 -0.8
DUG eSKPbc SKPab 10 15 24.7 +0.6
DUG LR LR
comp=Z,2µm,22.0s
DUG Dugway 132.20 40 P PKPdf 10 12 01.9 +0.8
baz=132
G21A Lodge Grass 132.25 31 P PKPdf 10 12 01.5 +0.5
baz=132
D24A Glendive 132.27 27 P PKPdf 10 12 01.8 +0.9
baz=132
E23A Ismay 132.27 28 P PKPdf 10 12 01.8 +0.9
baz=132
C25A Freed Ranch, W 132.29 26 P PKPdf 10 12 01.7 +0.8
baz=132
BBRC Big Bear Solar 132.31 49 P PKPdf 10 12 02.7 +1.2
baz=132
F22A Rosebud 132.33 30 P PKPdf 10 12 02.5 +1.5
baz=132
H20A Greybull 132.34 32 P PKPdf 10 12 01.8 +0.6
baz=132
MURC Murrieta 132.38 50 P PKPdf 10 12 02.9 +1.4
baz=132
HEC Hector Ludlow 132.50 48 P PKPdf 10 12 02.6 +0.9
baz=132
TUQ Turquoise Moun 132.52 47 P PKPdf 10 12 02.8 +1.1
baz=132
A28A Rude Farm, Bot 132.56 23 P PKPdf 10 12 02.8 +1.5
baz=132
SHPR Sheep Range 132.56 45 ePKPdf PKPdf 10 12 03.1 +1.3
B27A Peters Farms, 132.58 24 P PKPdf 10 12 02.2 +0.9
baz=132
J19A Crowheart 132.58 34 P PKPdf 10 12 03.2 +1.5
baz=132
BW06 Boulder Array 132.62 35 ePKPdf PKPdf 10 12 02.9 +1.0
BW06 eSKPbc SKPab 10 15 26.9 +0.9
BW06 LR LR
comp=Z,2µm,20.0s
PDAR Pinedale Array 132.62 35 PKPpre PKPpre 10 11 49.6
PDAR PKP PKPdf 10 12 02.2 +0.3
PDAR SKPbc SKPab 10 15 25.6 -0.4
PDAR SKKPbc SKKPbc 10 24 49.7 +1.0
PDAR Pinedale Array 132.62 35 PKhKP PKPpre 10 11 49.6
comp=Z,1.2nm,0.7s,baz=58,slow=3.4,SNR=4.1
PDAR PKP PKPdf 10 12 02.2 +0.3
comp=Z,8.1nm,0.7s,baz=197,slow=0.9,SNR=26
PDAR SKPbc SKPab 10 15 25.6 -0.4
comp=Z,5.1nm,0.9s,baz=237,slow=1.7,SNR=4.9
PDAR SKKPbc SKKPbc 10 24 49.7 +1.0
comp=Z,1.3nm,0.9s,baz=108,slow=2.9,SNR=5.0
I20A Worland 132.63 33 P PKPdf 10 12 02.5 +0.8
baz=133
D25A Fairfield 132.69 26 P PKPdf 10 12 02.5 +0.8
baz=133
E24A Baker 132.69 28 P PKPdf 10 12 02.8 +1.2
baz=133
RPN Rapa Nui 132.69 137 PFAKE 10 12 10.0 +7.8
RPN LR LR
comp=Z,3µm,20.0s
C26A Wahner Farm, P 132.69 25 P PKPdf 10 12 03.0 +1.4
baz=133
G22A Birney 132.71 30 P PKPdf 10 12 02.5 +0.7
baz=133
H21A Big Horn, Sher 132.74 31 P PKPdf 10 12 02.6 +0.7
baz=133
M17A Scullys Gap (B 132.78 37 P PKPdf 10 12 02.6 +0.4
baz=133
F23A Volborg 132.79 29 P PKPdf 10 12 02.0 +0.1
baz=133
NLU North Lily Min 132.81 39 ePKPdf PKPdf 10 12 01.7 -0.6
JLU Jordanelle 132.82 38 ePKPdf PKPdf 10 12 04.1 +1.7
L18A Fontenelle, Gr 132.87 36 P PKPdf 10 12 03.6 +1.2
baz=133
B28A Dugan Ranch, T 132.90 23 P PKPdf 10 12 02.6 +0.6
baz=133
A29A Manning Farm, 132.94 22 P PKPdf 10 12 02.1 +0.1
baz=133
PFO Pinyon Flat Ob 132.94 49 PKPpre PKPpre 10 11 52.2
PFO PKP PKiKP 10 12 04.4 +0.6
PFO ePKPdf PKPdf 10 12 05.3 +2.7
PFO SKPbc SKPbc 10 15 26.6 +0.8
PFO LR LR
comp=Z,2µm,21.0s
PFO Pinyon Flat Ob 132.94 49 P PKPdf 10 12 03.5 +0.9
baz=133
PFO Pinyon Flat Ob 132.94 49 PKhKP PKPpre 10 11 52.2
comp=Z,1.7nm,0.7s,baz=222,slow=6.0,SNR=3.5
PFO PKP PKiKP 10 12 04.4 +0.6
comp=Z,0.5nm,0.3s,baz=272,slow=19,SNR=12
PFO SKPbc SKPbc 10 15 26.6 +0.8
comp=Z,8.8nm,1.1s,baz=275,slow=3.5,SNR=6.1
ULM Lac du Bonnet 132.96 18 PKPpre PKPpre 10 11 54.5
ULM PKP PKPdf 10 12 01.8 -0.2
ULM ePKPdf PKiKP 10 12 02.0 -1.1
ULM SKPbc SKPbc 10 15 25.2 0.0
ULM Lac du Bonnet 132.96 18 PKhKP PKPpre 10 11 54.5
comp=Z,2.9nm,0.8s,baz=251,slow=7.4,SNR=3.5
ULM PKP PKPdf 10 12 01.8 -0.2
comp=Z,40nm,0.7s,baz=319,slow=3.4,SNR=34
ULM SKPbc SKPbc 10 15 25.2 0.0
comp=Z,26nm,1.1s,baz=344,slow=4.3,SNR=6.9
GMRC Granite Mounta 133.02 47 P PKPdf 10 12 04.1 +1.4
baz=133
C27A Sayler Ranch, 133.03 25 P PKPdf 10 12 03.4 +1.2
baz=133
MPU Maple Canyon 133.05 39 ePKPdf PKPdf 10 12 04.1 +1.3
DAU Daniels Canyon 133.05 38 ePKIKP PKPdf 10 12 04.8 +1.9
DAU Daniels Canyon 133.05 38 ePKPdf PKPdf 10 12 04.8 +1.9
J20A Shoshoni 133.06 33 P PKPdf 10 12 03.6 +1.0
baz=133
ARUT Antelope Range 133.10 43 ePKIKP PKPdf 10 12 04.5 +1.6
ARUT Antelope Range 133.10 43 ePKPdf PKPdf 10 12 04.5 +1.6
BELC Belle Mtn. Jos 133.12 49 P PKPdf 10 12 01.3 -1.6
baz=133
H22A Clearmont 133.12 31 P PKPdf 10 12 03.0 +0.4
baz=133
E25A Miller Ranch, 133.15 27 P PKPdf 10 12 02.4 -0.1
baz=133
F24A Ekalaka 133.16 28 P PKPdf 10 12 01.9 -0.7
baz=133
D26A Manning 133.17 26 P PKPdf 10 12 01.3 -1.2
baz=133
BAR Barrett 133.17 51 ePKPdf PKPdf 10 12 04.9 +2.0
G23A Biddle 133.17 30 P PKPdf 10 12 01.6 -1.0
baz=133
I21A Big Trails, Te 133.17 32 P PKPdf 10 12 01.8 -1.0
baz=133
A30A Hoffart Farm, 133.26 21 P PKPdf 10 12 02.0 -0.6
baz=133
B29A Wagenman Farm, 133.27 22 P PKPdf 10 12 02.9 +0.3
baz=133
MONP Monument Peak 133.27 50 P PKPdf 10 12 02.7 -0.7
baz=133
CCUT Cedar City 133.28 43 ePKPdf PKPdf 10 12 03.7 +0.4
CCUT ePP PP 10 14 27.1 -3.2
LDFC Landfair 133.28 47 ePKPdf PKPdf 10 12 06.2 +3.0
J21A Lysite 133.41 33 P PKPdf 10 12 03.0 -0.3
baz=133
C28A Hausauer Farms 133.48 24 P PKPdf 10 12 03.1 0.0
baz=133
D27A Center 133.50 25 P PKPdf 10 12 02.7 -0.4
baz=133
MVU Marysvale 133.53 41 ePKPdf PKPdf 10 12 04.7 +1.0
MVU LR LR
comp=Z,1µm,21.0s
I22A 9 Mile Ranch, 133.54 32 P PKPdf 10 12 03.0 -0.5
baz=134
G24A Alzada 133.55 29 P PKPdf 10 12 03.0 -0.4
baz=134
F25A Bowman 133.56 28 P PKPdf 10 12 01.8 -1.5
baz=134
E26A Carlson Angus 133.59 26 P PKPdf 10 12 01.9 -1.5
baz=134
B30A Myrvik Farm, E 133.66 22 P PKPdf 10 12 03.3 0.0
baz=134
IRM Iron Mountain 133.67 48 P PKPdf 10 12 05.1 +1.3
baz=134
MDND Maddock 133.68 23 P PKPdf 10 12 03.2 -0.2
baz=134
SWSC Sam W. Stewart 133.73 50 P PKPdf 10 12 04.8 +0.9
baz=134
TMUT Trail Mountain 133.73 40 ePKPdf PKPdf 10 12 04.0 -0.2
L20A Wamsutter 133.80 35 P PKPdf 10 12 04.4 +0.3
baz=134
D28A Regan 133.83 24 P PKPdf 10 12 04.2 +0.4
baz=134
J22A Midwest 133.88 32 P PKPdf 10 12 04.0 -0.1
baz=134
H24A Dirks Ranch, A 133.91 29 P PKPdf 10 12 03.3 -0.8
baz=134
F26A Lodgepole 133.97 27 P PKPdf 10 12 04.4 +0.3
baz=134
Q16A Castle Valley 133.97 40 P PKPdf 10 12 04.9 +0.4
baz=134
K21A Alcova 133.99 33 P PKPdf 10 12 04.8 +0.4
baz=134
E27A Carson 134.01 26 P PKPdf 10 12 04.9 +0.8
baz=134
TRQA Tornquist 134.09 194 ePKPdf PKPdf 10 12 05.4 +0.9
TRQA LR LR
comp=Z,3µm,19.0s
G25A Newell 134.12 28 P PKPdf 10 12 05.5 +1.1
baz=134
W13A Hualapai Mount 134.15 46 P PKPdf 10 12 05.7 +0.8
baz=134
M20A Sweetwater, Wa 134.22 35 P PKPdf 10 12 04.2 -0.7
baz=134
C30A Mose, Pekin 134.23 22 P PKPdf 10 12 04.6 +0.2
baz=134
F27A Lemmon 134.25 27 P PKPdf 10 12 04.2 -0.4
baz=134
E28A Huff 134.27 25 P PKPdf 10 12 04.5 -0.1
baz=134
SRU San Rafael 134.27 39 ePKIKP PKPdf 10 12 05.0 -0.1
SRU San Rafael 134.27 39 ePKPdf PKPdf 10 12 05.0 -0.1
D29A Pettibone, Tap 134.33 24 P PKPdf 10 12 04.7 0.0
baz=134
K22A Casper 134.37 33 P PKPdf 10 12 03.9 -1.2
baz=134
GLA Glamis 134.41 49 ePKIKP PKPdf 10 12 06.7 +1.4
GLA Glamis 134.41 49 ePKPdf PKPdf 10 12 06.7 +1.4
O19A Miners Draw (B 134.42 37 P PKPdf 10 12 05.6 +0.4
baz=134
H25A Fruitdale 134.46 29 P PKPdf 10 12 05.8 +0.7
baz=134
I24A Kuemmerle Ranc 134.52 30 P PKPdf 10 12 06.1 +0.8
baz=134
U15A North Rim 134.60 44 P PKPdf 10 12 06.3 +0.4
baz=135
D30A Buchanan 134.62 23 P PKPdf 10 12 06.3 +1.1
baz=134
RSSD Black Hills 134.62 30 ePKIKP PKPdf 10 12 05.9 +0.3
RSSD Black Hills 134.62 30 ePKPdf PKPdf 10 12 05.9 +0.3
AGMN Agassiz Nation 134.66 20 ePKPdf PKPdf 10 12 06.2 +0.9
AGMN LR LR
comp=Z,3µm,21.0s
G27A Dupree 134.67 27 P PKPdf 10 12 04.6 -0.8
baz=135
E29A Napoleon 134.71 24 P PKPdf 10 12 05.5 +0.1
baz=135
K23A Bowen Ranch, D 134.78 32 P PKPdf 10 12 06.5 +0.6
baz=135
F28A McLaughlin 134.80 26 P PKPdf 10 12 06.3 +0.7
baz=135
I25A Rochford 134.84 30 P PKPdf 10 12 06.6 +0.6
baz=135
J24A Dixon Ranch, L 134.88 31 P PKPdf 10 12 06.6 +0.6
baz=135
O20A White River Ci 135.05 37 P PKPdf 10 12 07.6 +1.1
baz=135
E30A Jud 135.05 24 P PKPdf 10 12 06.4 +0.4
baz=135
H27A Howes 135.17 28 P PKPdf 10 12 07.2 +0.9
baz=135
L23A Garrett 135.19 33 P PKPdf 10 12 07.1 +0.4
baz=135
F29A Eureka 135.22 25 P PKPdf 10 12 06.9 +0.5
baz=135
K24A Anderson Ranch 135.23 32 P PKPdf 10 12 08.3 +1.6
baz=135
I26A New Underwood 135.26 29 P PKPdf 10 12 07.6 +1.0
baz=135
J25A Sunshine Ranch 135.27 30 P PKPdf 10 12 07.7 +1.0
baz=135
Y14A Wickenburg 135.35 47 P PKPdf 10 12 08.4 +1.3
baz=135
G28A Parade 135.35 26 P PKPdf 10 12 07.9 +1.2
baz=135
P20A De Beque 135.36 38 P PKPdf 10 12 08.3 +1.3
baz=135
F30A Leola 135.55 24 P PKPdf 10 12 07.8 +0.8
baz=136
I27A Quinn 135.61 28 P PKPdf 10 12 07.7 +0.5
baz=136
M23A Laramie 135.62 34 P PKPdf 10 12 08.2 +0.7
baz=136
H28A Mission Ridge 135.62 27 P PKPdf 10 12 07.6 +0.4
baz=136
L24A Wheatland 135.65 32 P PKPdf 10 12 08.2 +0.7
baz=136
J26A Sides Ranch, S 135.69 30 P PKPdf 10 12 08.3 +0.9
baz=136
WUAZ Wupatki 135.71 44 ePKPdf PKPdf 10 12 09.0 +1.2
WUAZ LR LR
comp=Z,2µm,22.0s
WUAZ Wupatki 135.71 44 P PKPdf 10 12 08.6 +0.8
baz=136
PV04 Paradox Valley 135.72 39 ePKPdf PKPdf 10 12 09.3 +1.5
Q20A Ridgley Place, 135.75 38 P PKPdf 10 12 08.7 +0.8
baz=136
PHWY Pilot Hill 135.88 34 ePKPdf PKPdf 10 12 07.9 -0.2
N23A Red Feather La 135.88 34 P PKPdf 10 12 09.0 +0.9
baz=136
P21A Newcastle 135.91 37 P PKPdf 10 12 09.0 +0.9
baz=136
H29A Onida 136.02 26 P PKPdf 10 12 08.9 +1.0
baz=136
G30A Faulkton 136.07 25 P PKPdf 10 12 07.5 -0.5
baz=136
I28A Midland 136.07 28 P PKPdf 10 12 08.8 +0.8
baz=136
L25A Engebretsen Ra 136.08 32 P PKPdf 10 12 09.1 +0.9
baz=136
PV01 Paradox Valley 136.08 39 ePKPdf PKPdf 10 12 10.0 +1.5
PV01 ePP PP 10 14 46.7 -1.3
PV01 eSKPbc SKPbc 10 15 37.3 +1.3
K26A Motz Farm, Whi 136.08 30 P PKPdf 10 12 09.3 +1.1
baz=136
M24A Cheyenne 136.11 33 P PKPdf 10 12 09.3 +0.9
baz=136
Q21A Lamborn Mesa, 136.27 38 P PKPdf 10 12 09.7 +0.9
baz=136
EYMN Ely 136.32 16 ePKPdf PKPdf 10 12 08.4 0.0
EYMN LR LR
comp=Z,4µm,22.0s
SMCO Snowmass 136.41 37 ePKPdf PKPdf 10 12 10.6 +1.3
SMCO ePP PP 10 14 51.9 +1.7
214A Organ Pipe Nat 136.42 49 P PKPdf 10 12 10.0 +1.0
baz=136
I29A Vivian Onida 136.45 27 P PKPdf 10 12 09.7 +1.0
baz=136
J28A Allard Ranch, 136.49 28 P PKPdf 10 12 09.8 +0.9
baz=136
N24A Carr 136.52 34 P PKPdf 10 12 09.7 +0.6
baz=136
M25A Palm-Egli Farm 136.54 32 P PKPdf 10 12 09.6 +0.5
baz=136
K27A Flueckinger Fa 136.55 30 P PKPdf 10 12 09.7 +0.7
baz=136
R21A Cimarron 136.57 38 P PKPdf 10 12 11.2 +1.7
baz=136
L26A Underwood Farm 136.62 31 P PKPdf 10 12 09.8 +0.6
baz=136
Q22A Crested Butte, 136.65 37 P PKPdf 10 12 10.7 +1.0
baz=137
MVCO Mesa Verde 136.68 40 ePKPdf PKPdf 10 12 08.8 -0.8
MVCO LR LR
comp=Z,2µm,20.0s
MVCO Mesa Verde 136.68 40 P PKPdf 10 12 10.3 +0.6
baz=137
BRSD Miller 136.71 25 P PKPdf 10 12 10.3 +1.1
baz=137
ISCO Idaho Springs 136.80 35 PFAKE 10 12 20.0 +10
ISCO LR LR
comp=Z,2µm,19.0s
ISCO Idaho Springs 136.80 35 P PKPdf 10 12 10.4 +0.5
baz=137
S21A Coal Oank Pass 136.86 39 P PKPdf 10 12 07.8 -2.2
baz=137
J29A Okreek 136.92 27 P PKPdf 10 12 10.4 +0.7
baz=137
I30A Oacoma 136.93 26 P PKPdf 10 12 11.1 +1.5
baz=137
P23A Jefferson 136.96 36 P PKPdf 10 12 10.5 +0.2
baz=137
K28A Ten Mile Ranch 136.97 29 P PKPdf 10 12 11.1 +1.3
baz=137
W18A Petrified Fore 137.05 44 P PKPdf 10 12 11.5 +1.2
baz=137
R22A Saguache, Gunn 137.15 38 P PKPdf 10 12 11.6 +1.0
baz=137
U20A Newcomb 137.16 41 P PKPdf 10 12 11.6 +1.1
baz=137
X18A Snowflake 137.22 44 P PKPdf 10 12 11.7 +1.1
baz=137
J30A Dallas 137.36 27 P PKPdf 10 12 11.5 +1.0
baz=137
P24A Kohler Place, 137.40 35 P PKPdf 10 12 11.9 +1.0
baz=137
S22A 4UR Ranch, Cre 137.41 38 P PKPdf 10 12 12.0 +0.9
baz=137
N26A Koester Ranch, 137.41 32 P PKPdf 10 12 11.8 +1.1
baz=137
K29A Lazy Trails An 137.43 28 P PKPdf 10 12 11.7 +1.0
baz=137
T21A Navajo Lake 137.43 40 P PKPdf 10 12 10.7 -0.4
baz=137
O25A Wiggins 137.43 34 P PKPdf 10 12 11.9 +1.1
baz=137
V20A Brimhall 137.53 42 P PKPdf 10 12 12.5 +1.3
baz=138
R23A Moffat 137.74 37 P PKPdf 10 12 12.5 +0.8
baz=138
TUC Tucson 137.77 48 PFAKE 10 12 20.0 +8.4
TUC LR LR
comp=Z,2µm,22.0s
O26A Horse Wrangler 137.78 33 P PKPdf 10 12 12.6 +1.1
baz=138
N27A Anderson Farm, 137.79 32 P PKPdf 10 12 12.1 +0.7
baz=138
K30A Basset 137.82 27 P PKPdf 10 12 12.1 +0.8
baz=138
W20A Ramah 137.89 43 P PKPdf 10 12 12.7 +0.8
baz=138
S23A Nye Farm, Mont 137.94 38 P PKPdf 10 12 13.3 +1.3
baz=138
OGNE Ogallala 137.95 31 PFAKE 10 12 20.0 +8.3
OGNE LR LR
comp=Z,3µm,22.0s
V21A Milan 138.07 41 P PKPdf 10 12 13.6 +1.3
baz=138

R24A Sanders Place, 138.14 37 P PKPdf 10 12 13.7 +1.4
baz=138
Q25A Bedland, Calha 138.18 35 P PKPdf 10 12 13.5 +1.2
baz=138
SDCO Great Sand Dun 138.22 37 ePKPdf PKPdf 10 12 12.8 +0.2
SDCO LR LR
comp=Z,3µm,22.0s
P26A Davis Ranch, A 138.24 34 P PKPdf 10 12 13.2 +0.8
baz=138
ECSD EROS Data Cent 138.26 24 ePKPdf PKPdf 10 12 12.6 +0.5
ECSD LR LR
comp=Z,2µm,21.0s
O27A Beecher Island 138.27 32 P PKPdf 10 12 12.9 +0.5
baz=138
L30A Spencer Herefo 138.34 28 P PKPdf 10 12 11.5 -0.9
baz=138
T23A Casias Ranch, 138.34 39 P PKPdf 10 12 14.8 +2.0
baz=138
SPMN St. Paul 138.37 19 P PKPdf 10 12 13.8 +1.6
baz=138
N28A Pribbeno Ranch 138.39 31 P PKPdf 10 12 13.5 +1.0
baz=138
S24A Houchin Ranch, 138.46 37 P PKPdf 10 12 14.9 +1.9
baz=138
W21A San Fidel 138.47 42 P PKPdf 10 12 14.8 +1.9
baz=138
V22A San Miguel Ran 138.48 41 P PKPdf 10 12 14.2 +1.2
baz=138
L31A Butterfield Fa 138.56 27 P PKPdf 10 12 13.9 +1.2
baz=138
Q26A Hugo 138.59 35 P PKPdf 10 12 13.8 +0.8
baz=138
Y20A Horse Springs, 138.65 44 P PKPdf 10 12 14.3 +0.9
baz=139
R25A Fountain Ranch 138.68 36 P PKPdf 10 12 12.5 -0.7
baz=139
U23A El Rito 138.69 40 P PKPdf 10 12 14.4 +1.1
baz=139
T24B San Luis 138.73 38 P PKPdf 10 12 14.9 +1.4
baz=139
X21A Alamocita Cree 138.76 43 P PKPdf 10 12 14.7 +1.1
baz=139
N29A Votaw Ranch, W 138.76 30 P PKPdf 10 12 14.6 +1.4
baz=139
S25A Robets Cordova 138.91 37 P PKPdf 10 12 14.3 +0.6
baz=139
Z20A Nine Sixteen R 138.94 45 P PKPdf 10 12 15.2 +1.4
baz=139
KSCO Kaye Shedlock' 139.03 34 P PKPdf 10 12 15.3 +1.5
baz=139
V23A Ortiz Mt. (NFS 139.05 40 P PKPdf 10 12 15.3 +1.2
baz=139
R26A Arlington 139.06 35 P PKPdf 10 12 15.2 +1.4
baz=139
Y21A Point of Rocks 139.08 44 P PKPdf 10 12 16.2 +2.0
baz=139
P28A Saint Francis 139.10 32 P PKPdf 10 12 14.8 +0.9
baz=139
M31A Lambtecht Ranc 139.16 28 P PKPdf 10 12 15.3 +1.5
baz=139
120A U Bar Ranch, L 139.21 46 P PKPdf 10 12 15.5 +1.2
baz=139
U24A Moreno Valley 139.21 39 P PKPdf 10 12 15.8 +1.4
baz=139
LAZ Ladron 139.22 43 ePKPdf PKPdf 10 12 14.1 -0.3
X22A Bernardo 139.25 42 P PKPdf 10 12 15.6 +1.2
baz=139
RCBR Riachuelo 139.33 253 PFAKE 10 12 30.0 +15
RCBR LR LR
comp=Z,4µm,20.0s
ANMO Albuquerque 139.35 42 PKPpre PKPpre 10 12 05.7
ANMO PKP PKPdf 10 12 14.3 -0.3
ANMO ePKPdf PKiKP 10 12 16.1 -0.8
ANMO SKPbc SKPbc 10 15 46.5 +0.9
ANMO LR LR
comp=Z,2µm,21.0s
ANMO Albuquerque 139.35 42 PKPpre PKPpre 10 12 05.7
comp=Z,3.5nm,0.8s,baz=257,slow=4.5,SNR=9.8
ANMO PKP PKPdf 10 12 14.3 -0.3
comp=Z,23nm,0.9s,baz=218,slow=2.8,SNR=22
ANMO SKPbc SKPbc 10 15 46.5 +0.9
comp=Z,5.7nm,0.9s,baz=238,slow=7.7,SNR=4.0
Q28A Sharon Springs 139.42 33 P PKPdf 10 12 16.0 +1.5
baz=139
W23A Warner Place, 139.43 41 P PKPdf 10 12 16.2 +1.4
baz=139
R27A Eads 139.44 35 P PKPdf 10 12 16.0 +1.5
baz=139
LENM Lemitar 139.47 43 ePKPdf PKPdf 10 12 16.3 +1.5
BGNE Belgrade 139.49 27 P PKPdf 10 12 16.3 +1.9
baz=139
P29A Atwood 139.51 32 P PKPdf 10 12 16.0 +1.5
baz=139
Y22D IRIS PASSCAL I 139.56 43 P PKPdf 10 12 16.4 +1.5
baz=140
Y22A Socorro 139.61 43 P PKPdf 10 12 16.6 +1.5
baz=140
LPM Los Pinos Moun 139.61 42 ePKPdf PKPdf 10 12 13.9 -1.2
220A Playas Peak, P 139.62 47 P PKPdf 10 12 16.6 +1.5
baz=140
V24A Rampart Ranch, 139.65 40 P PKPdf 10 12 16.5 +1.4
baz=140
BNM Barren Site 139.71 43 ePKPdf PKPdf 10 12 09.4 -6.0
T26A Comanche Natio 139.74 37 P PKPdf 10 12 16.5 +1.3
baz=140
X23A Hourglass Bar 139.75 42 P PKPdf 10 12 16.6 +1.2
baz=140
U25A Circle Dot Ran 139.75 38 P PKPdf 10 12 16.5 +1.2
baz=140
S27A Las Animas 139.80 35 P PKPdf 10 12 16.8 +1.5
baz=140
121A Cookes Peak, D 139.82 46 P PKPdf 10 12 18.0 +2.5
baz=140
W24A Lazy 6 Ranch, 139.88 40 P PKPdf 10 12 17.0 +1.5
baz=140
SPB Sao Paulo 139.90 221 PFAKE 10 12 30.0 +14
SPB LR LR
comp=Z,4µm,20.0s
P30A Selden 139.91 31 P PKPdf 10 12 17.0 +1.7
baz=140
320A Kipp Ranch, An 139.92 48 P PKPdf 10 12 17.1 +1.5
baz=140
N32A Stulken Farm, 139.93 28 P PKPdf 10 12 17.1 +1.9
baz=140
R28A Tribune 139.95 34 P PKPdf 10 12 16.6 +1.2
baz=140
V25A Rancho No Teng 139.99 39 P PKPdf 10 12 17.1 +1.4
baz=140
Z22A Elephant Butte 140.00 44 P PKPdf 10 12 17.0 +1.2
baz=140
Q29A Oakley 140.01 32 P PKPdf 10 12 17.2 +1.7
baz=140
221A Mesquite Ranch 140.11 46 P PKPdf 10 12 17.4 +1.4
baz=140
U26A Atchley Ranch, 140.16 38 P PKPdf 10 12 17.5 +1.4
baz=140
Y23A Lovelace Mesa, 140.22 42 P PKPdf 10 12 17.7 +1.5
baz=140
W25A X Bar L Ranch, 140.48 40 P PKPdf 10 12 18.5 +1.9
baz=140
Y24A Capitan 140.64 42 P PKPdf 10 12 18.4 +1.4
baz=141
U27A Thompson Grove 140.70 37 P PKPdf 10 12 18.6 +1.7
baz=141
Q31A Ellis 140.75 31 P PKPdf 10 12 18.8 +2.0
baz=141
W26A Owens Ranch, T 141.00 39 P PKPdf 10 12 19.5 +2.0
baz=141
Z24A Sheeppen Canyo 141.04 43 P PKPdf 10 12 19.4 +1.7
baz=141
T29A Hugoton 141.08 35 P PKPdf 10 12 18.9 +1.4
baz=141
U28A Mallet 141.08 36 P PKPdf 10 12 18.7 +1.2
baz=141
PKME Peaks-Kenny Pk 141.11 354 PFAKE 10 12 30.0 +13
PKME LR LR
comp=Z,6µm,21.0s
SCIA State Center 141.13 22 PFAKE 10 12 30.0 +13
SCIA LR LR
comp=Z,3µm,20.0s
Y25A Mesa, Roswell 141.13 41 P PKPdf 10 12 18.9 +1.1
baz=141
JFWS Jewell Farm 141.25 18 PFAKE 10 12 30.0 +12
JFWS LR LR
comp=Z,4µm,21.0s
X26A CR and CF Fran 141.31 40 P PKPdf 10 12 20.0 +1.9
baz=141
124A Stringfield Ra 141.35 44 P PKPdf 10 12 20.1 +1.8
baz=141
W27A Bowe Ranch, En 141.45 39 P PKPdf 10 12 20.4 +2.1
baz=141
V28A Channing 141.51 37 P PKPdf 10 12 20.5 +2.1
baz=141
CFAA Coronel Fontan 141.59 189 SKPbc SKPbc 10 15 50.7 -0.7
CFAA Coronel Fontan 141.59 189 SKPbc SKPbc 10 15 50.7 -0.7
comp=Z,1.3nm,0.9s,baz=236,slow=3.4,SNR=5.5
SADO Sadowa 141.70 5 PKPpre PKPpre 10 12 13.3
SADO Sadowa 141.70 5 PKhKP PKPpre 10 12 13.3
comp=Z,10nm,0.5s,baz=324,slow=4.2,SNR=12
FRNY Flat Rock 141.81 359 ePKPdf PKPdf 10 12 13.6 -4.9
WVL Waterville 141.84 354 ePKPdf PKPdf 10 12 18.8 +0.4
V29A Stinnett 141.84 36 P PKPdf 10 12 20.4 +1.5
baz=142
MNTX Cornudas Mount 141.98 45 ePKPdf PKPdf 10 12 15.9 -3.3
MNTX LR LR
comp=Z,2µm,22.0s
Z26A Caprock 142.00 42 P PKPdf 10 12 16.2 -3.1
baz=142
KSU1 Kansas State U 142.04 28 ePKPdf PKPdf 10 12 14.6 -4.5
KSU1 LR LR
comp=Z,2µm,21.0s
LONY Lake Ozonia 142.04 360 ePKPdf PKPdf 10 12 13.9 -5.0
LONY LR LR
comp=Z,4µm,22.0s
324A Moseley Ranch, 142.05 45 P PKPdf 10 12 16.3 -3.2
baz=142
225A Deer Hill, Car 142.13 44 P PKPdf 10 12 16.4 -3.3
baz=142
Y27A Causey 142.15 40 P PKPdf 10 12 16.3 -3.3
baz=142
W29A Amraillo 142.28 37 P PKPdf 10 12 16.5 -3.2
baz=142
LBNH Lisbon 142.34 357 PFAKE 10 12 30.0 +11
LBNH LR LR
comp=Z,5µm,22.0s
MSTX Muleshoe 142.34 40 P PKPdf 10 12 16.7 -3.2
baz=142
X28A Dimmitt 142.35 39 P PKPdf 10 12 16.8 -3.1
baz=142
126A Clayton Basin, 142.36 42 P PKPdf 10 12 16.6 -3.4
baz=142
V30A Spur Ranch, Mi 142.41 36 P PKPdf 10 12 16.9 -3.0
baz=142
U31A Nine Bar Ranch 142.45 34 P PKPdf 10 12 16.6 -3.4
baz=142
325A Bean Ranch, Si 142.45 45 P PKPdf 10 12 17.0 -3.3
baz=142
Z27A Tatum 142.48 41 P PKPdf 10 12 16.6 -3.5
baz=142
226B Tecolote Peak, 142.60 43 P PKPdf 10 12 17.2 -3.2
baz=143
MDV Middlebury 142.64 358 ePKPdf PKPdf 10 12 17.1 -2.8
NCB Newcomb 142.69 359 ePKPdf PKPdf 10 12 16.1 -4.0
NCB LR LR
comp=Z,3µm,20.0s
X29A Tulia 142.70 38 P PKPdf 10 12 17.2 -3.3
baz=143
Y28A McKinney Farm, 142.72 39 P PKPdf 10 12 17.5 -3.1
baz=143
425A Indio Mountain 142.77 46 P PKPdf 10 12 18.0 -2.8
baz=143
127A Arkansas Junct 142.78 42 P PKPdf 10 12 18.4 -2.3
baz=143
Z28A Tucker Farm, M 143.03 40 P PKPbc 10 12 17.9 -0.1
baz=143
Y29A Peterfield Fa 143.11 39 P PKPbc 10 12 18.1 -0.1
baz=143
326A Caldwell Ranch 143.18 44 P PKPbc 10 12 18.5 0.0
baz=143
X30A Coker Ranch, T 143.21 37 P PKPbc 10 12 18.5 +0.1
baz=143
227A Bennet, Jal 143.23 43 P PKPbc 10 12 18.9 +0.4
baz=143
CPUP Villa Florida 143.23 207 ePKPdf PKPbc 10 12 18.9 +0.4
CPUP PKP PKPab 10 12 19.1 +1.9
CPUP Villa Florida 143.23 207 PKP PKPbc 10 12 19.1 +0.6
comp=Z,4.4nm,0.5s,baz=138,slow=1.8,SNR=16
W31A Holland Ranch, 143.24 36 P PKPbc 10 12 19.1 +0.7
baz=143
ACCN Adirondack Com 143.27 359 ePKPdf PKPbc 10 12 17.9 -0.3
128A Castleberry Fa 143.39 41 P PKPbc 10 12 19.1 +0.1
baz=143
Z29A Hungry Hill Ra 143.48 40 P PKPbc 10 12 18.9 -0.3
baz=143
426A McDonald Obser 143.52 45 P PKPbc 10 12 20.0 +0.4
baz=144
Y30A Stafford Cattl 143.58 38 P PKPbc 10 12 19.9 +0.5
baz=144
X31A McDonald Ranch 143.61 36 P PKPbc 10 12 20.0 +0.5
baz=144
228A UT Block 9, Go 143.63 42 P PKPbc 10 12 20.0 +0.3
baz=144
129A Stewart Farms, 143.79 41 P PKPbc 10 12 20.4 +0.2
baz=144
526A Mary Lane Ranc 143.82 46 P PKPbc 10 12 21.1 +0.7
baz=144
Z30A Sanderson Ranc 143.83 39 P PKPbc 10 12 20.4 +0.2
baz=144
427A Hayter Ranch, 143.85 44 P PKPbc 10 12 20.3 -0.1
baz=144
Y31A Rekieta Farm, 143.91 37 P PKPbc 10 12 20.5 +0.1
baz=144
TRY Troy 143.92 359 ePKPdf PKPbc 10 12 20.3 +0.2
328A Wristen Ranch, 143.94 43 P PKPbc 10 12 21.4 +0.8
baz=144
HRV Adam Dziewonsk 144.04 356 ePKIKP PKPbc 10 12 20.3 -0.1
HRV Adam Dziewonsk 144.04 356 ePKPdf PKPbc 10 12 20.3 -0.1
626A Big Bend Ranch 144.07 47 P PKPbc 10 12 21.5 +0.4
baz=144
527A Woodward Ranch 144.11 45 P PKPdf 10 12 22.2 -0.9
baz=144
WES Weston 144.15 356 ePKIKP PKPbc 10 12 20.7 0.0
WES Weston 144.15 356 ePKPdf PKPbc 10 12 20.7 -0.1
WMOK Wichita Mounta 144.23 35 ePKIKP PKPab 10 12 20.9 0.0
WMOK MLR MLR
comp=Z,3µm,19.0s
WMOK Wichita Mounta 144.23 35 ePKPdf PKPab 10 12 20.9 0.0
WMOK LR LR
comp=Z,3µm,19.0s
ERPA Erie 144.24 7 ePKPdf PKPbc 10 12 21.1 0.0
ERPA LR LR
comp=Z,3µm,20.0s
229A Bryant Ranch, 144.24 41 P PKPbc 10 12 22.4 +0.8
baz=144
QUA2 Belchertown 144.32 357 ePKPdf PKPbc 10 12 21.6 +0.3
Y32A R-U Farms, Ver 144.37 37 P PKPbc 10 12 22.2 +0.4
baz=144
130A Snyder 144.39 40 P PKPbc 10 12 22.2 +0.3
baz=144
Z31A Sharp Cattle R 144.42 38 P PKPbc 10 12 22.3 +0.3
baz=144
428A Kincaid Ranch, 144.42 44 P PKPdf 10 12 23.3 -0.4
baz=144
329A Wagon Wheel Ra 144.43 42 P PKPbc 10 12 22.7 +0.6
baz=144
BINY Binghamton 144.45 2 ePKPdf PKPab 10 12 21.6 +0.1
BINY LR LR
comp=Z,4µm,21.0s
LCO Las Campanas 144.47 186 ePKPdf PKPbc 10 12 23.0 +0.4
LCO LR LR
comp=Z,3µm,21.0s
SFIN Scholer Farm 144.51 16 P PKPbc 10 12 22.2 +0.2
baz=144
TXAR Lajitas Array 144.53 47 PKP PKPdf 10 12 23.3 -0.5
TXAR Lajitas Array 144.53 47 PKP PKPdf 10 12 23.3 -0.5
comp=Z,138nm,0.6s,baz=299,slow=0.7,SNR=554
BRYW Bryant College 144.63 356 ePKPdf PKPbc 10 12 22.5 +0.1
627A Terlingua Ranc 144.67 46 P PKPdf 10 12 24.3 +0.2
baz=145
528A Cox Ranch, San 144.68 45 P PKPdf 10 12 24.0 -0.1
baz=145
ALLY Alegheny Colle 144.69 7 ePKPdf PKPab 10 12 22.0 -0.4
131A Roby 144.70 39 P PKPdf 10 12 23.6 -0.4
baz=145
230A Sterling City 144.75 41 P PKPdf 10 12 24.0 -0.2
baz=145
Z32A Haskell 144.83 37 P PKPdf 10 12 24.0 -0.1
baz=145
628A Black Gap, Mar 145.00 46 P PKPdf 10 12 25.1 +0.4
baz=145
330A Mertzon 145.02 42 P PKPdf 10 12 24.6 0.0
baz=145
429A Davenport Ranc 145.02 43 P PKPdf 10 12 24.7 +0.1
baz=145
SLM Saint Louis 145.09 21 ePKIKP PKPbc 10 12 23.7 -0.2
SLM Saint Louis 145.09 21 ePKPbc PKPbc 10 12 23.6 -0.2
529A Stev Forest Ra 145.10 44 P PKPdf 10 12 25.1 +0.3
baz=145
ABTX Abilene, Hawle 145.20 38 P PKPdf 10 12 25.2 +0.4
baz=145
231A Bronte 145.23 40 P PKPdf 10 12 25.1 +0.2
baz=145
YLE Yale 145.31 358 ePKPbc PKPbc 10 12 24.2 -0.2
430A Baggett Ranch, 145.37 42 P PKPab 10 12 25.5 +0.2
baz=145
BDFB Brasilia 145.56 230 PKPbc PKPab 10 12 26.6 +0.2
BDFB Brasilia 145.56 230 PKPbc PKPab 10 12 26.6 +0.2
comp=Z,49nm,0.8s,baz=105,slow=3.0,SNR=46
331A San Angelo 145.57 41 P PKPab 10 12 26.2 +0.2
baz=146
ACSO Alum Creek Sta 145.63 11 ePKPbc PKPdf 10 12 25.3 0.0
ACSO LR LR
comp=Z,3µm,21.0s
232A Coleman 145.69 39 P PKPab 10 12 26.9 +0.4
baz=146
530A J-C Ranch, Com 145.69 43 P PKPab 10 12 27.1 +0.6
baz=146
OLIL Olney 145.73 19 ePKPbc PKPdf 10 12 25.6 +0.1
BLO Bloomington 145.80 16 ePKP2 PKPbc 10 12 25.9 -0.2
BLO Bloomington 145.80 16 ePKPbc PKPbc 10 12 25.9 -0.2
431A Sonora 145.85 42 P PKPbc 10 12 26.8 +0.2
baz=146
CPNY Central Park 145.86 359 ePKPbc PKPbc 10 12 26.4 +0.2
SSPA Standing Stone 145.91 4 ePKPbc PKPdf 10 12 25.9 +0.2
332A Millersview 145.97 40 P PKPab 10 12 27.8 +0.3
baz=146
BRNJ Basking Ridge 145.98 360 ePKPbc PKPab 10 12 27.1 0.0
531A Rocksprings 146.22 43 P PKPbc 10 12 27.9 +0.2
baz=146
432A Menard 146.26 41 P PKPbc 10 12 28.1 +0.2
baz=146
SIUC Southern Illin 146.27 21 ePKPbc PKPbc 10 12 27.1 -0.5
JCT Junction City 146.51 41 ePKP2 PKPdf 10 12 27.8 +0.7
JCT MLR MLR
comp=Z,3µm,21.0s
JCT Junction City 146.51 41 ePKPbc PKPdf 10 12 27.8 +0.7
JCT LR LR
comp=Z,3µm,21.0s
JCT Junction City 146.51 41 P PKPbc 10 12 28.2 -0.4
baz=146
USIN University of 146.57 19 ePKPbc PKPbc 10 12 28.1 -0.3
631A Perdido Creek 146.67 44 P PKPbc 10 12 28.5 -0.6
baz=147
532A Rocksprings 146.67 42 P PKPbc 10 12 28.6 -0.5
baz=147
MCWV Mont Chateau 146.69 7 ePKPbc PKPbc 10 12 28.9 +0.1
MCWV LR LR
comp=Z,6µm,21.0s
WCI Wyandotte Cave 146.74 17 ePKP2 PKPdf 10 12 27.6 +0.3
WCI Wyandotte Cave 146.74 17 ePKPbc PKPdf 10 12 27.6 +0.3
WHTX Lake Whitney 146.97 37 P PKPbc 10 12 30.5 +0.7
baz=147
PARMO Parma 147.01 22 ePKPbc PKPbc 10 12 29.3 -0.4
MIAR Mount Ida 147.14 29 ePKP2 PKPdf 10 12 29.1 +1.1
MIAR MLR MLR
comp=Z,3µm,20.0s
MIAR Mount Ida 147.14 29 ePKPdf PKPdf 10 12 29.1 +1.1
MIAR ePKPbc PKPbc 10 12 30.9 +0.7
MIAR ePKPab PKiKP 10 12 32.7 +0.1
MIAR LR LR
comp=Z,3µm,20.0s
632A Uvalde 147.15 43 P PKPbc 10 12 29.5 -0.9
baz=147
SDMD Soldier's Deli 147.20 3 ePKPbc PKPbc 10 12 29.7 -0.5
732A Laxson Ranch, 147.50 44 P PKPbc 10 12 30.4 -1.0
baz=148
GNAR Gosnell 147.52 23 ePKPdf PKPbc 10 12 30.0 -1.2
GNAR ePKPbc PKPab 10 12 31.9 -1.3
GNAR ePKPab PKiKP 10 12 33.9 +0.6
GLAT Glass 147.53 22 ePKPdf PKPdf 10 12 29.0 +0.4
GLAT ePKPbc PKPbc 10 12 31.9 +0.7
GLAT ePKPab PKiKP 10 12 33.8 +0.4
UALR University of 147.53 28 ePKPdf PKPdf 10 12 28.3 -0.4
UALR ePKPbc PKPbc 10 12 31.8 +0.5
UALR ePKPab PKiKP 10 12 34.4 +1.0
HBAR Harrisburg 147.61 25 ePKPdf PKPdf 10 12 28.9 +0.1
HBAR ePKPbc PKPbc 10 12 30.5 -1.0
HBAR ePKPab PKPab 10 12 33.9 +0.3
HALT Halls 147.83 23 ePKPdf PKPdf 10 12 29.6 +0.5
HALT ePKPbc PKPbc 10 12 32.3 +0.3
HALT ePKPab PKiKP 10 12 33.9 -0.1
WVT Waverly 148.18 20 ePKIKP PKPdf 10 12 29.6 -0.1
WVT e 10 12 33.1
WVT e 10 12 36.7
WVT Waverly 148.18 20 ePKPdf PKPdf 10 12 29.6 -0.1
WVT ePKPbc PKPbc 10 12 33.1 +0.2
WVT ePKPab PKPab 10 12 36.7 +0.8
CBN Corbin 148.36 4 ePKPdf PKPdf 10 12 30.9 +1.1
CBN ePKPbc PKPbc 10 12 34.0 +0.6
CBN ePKPab PKPab 10 12 36.3 -0.2
CBN LR LR
comp=Z,3µm,22.0s
JSRW J. Sargeant Re 148.83 5 ePKPdf PKPdf 10 12 30.0 -0.7
JSRW ePKPbc PKiKP 10 12 35.4 -0.6
JSRW ePKPab PKPab 10 12 39.0 +0.6
BLA Blacksburg 149.01 9 ePKIKP PKPdf 10 12 31.5 +0.4
BLA e 10 12 39.3
BLA MLR MLR
comp=Z,3µm,21.0s
BLA Blacksburg 149.01 9 ePKPdf PKPdf 10 12 31.5 +0.4
BLA ePKPbc PKPbc 10 12 35.3 +0.1
BLA ePKPab PKPab 10 12 39.3 +0.1
BLA LR LR
comp=Z,3µm,21.0s
OXF Oxford 149.03 24 ePKIKP PKPdf 10 12 32.2 +1.1
OXF e 10 12 39.4
OXF MLR MLR
comp=Z,2µm,21.0s
OXF Oxford 149.03 24 ePKPdf PKPdf 10 12 32.2 +1.1
OXF ePKPbc PKPbc 10 12 34.9 -0.3
OXF ePKPab PKPab 10 12 39.4 +0.1
OXF LR LR
comp=Z,2µm,21.0s
VWCC Virginia Weste 149.04 8 ePKPdf PKPdf 10 12 32.4 +1.3
VWCC ePKPbc PKPbc 10 12 35.1 -0.1
VWCC ePKPab PKPab 10 12 40.3 +0.9
TZTN Tazewell 149.05 14 ePKPdf PKPdf 10 12 31.0 -0.1
TZTN ePKPbc PKPbc 10 12 35.7 +0.5
TZTN ePKPab PKPab 10 12 40.9 +1.4
HKT Hockley 149.39 38 ePKPdf PKPdf 10 12 32.4 +0.7
HKT ePKPbc PKiKP 10 12 37.0 -0.3
SWET Sewanee 149.64 18 ePKPdf PKPdf 10 12 31.5 -0.6
SWET ePKPbc PKPbc 10 12 36.3 -0.5
SWET ePKPab PKPab 10 12 42.5 +0.7
KVTX Kingsville 149.67 44 PFAKE 10 12 40.0 -2.2
KVTX LR LR
comp=Z,3µm,21.0s
CPCT Cooper Cave 149.84 16 ePKPdf PKPdf 10 12 32.6 +0.2
CPCT ePKPbc PKPbc 10 12 37.1 -0.1
CPCT ePKPab PKPab 10 12 42.8 +0.2
TKL Tuckaleechee C 149.84 15 ePKPdf PKPdf 10 12 33.1 +0.7
TKL PKPbc PKPbc 10 12 37.4 +0.1
TKL Tuckaleechee C 149.84 15 PKPbc PKPbc 10 12 37.4 +0.1
comp=Z,140nm,0.5s,baz=333,slow=0.9,SNR=27
LVC Limon Verde 150.49 191 ePKPdf PKPdf 10 12 35.5 +1.3
LVC ePKPbc PKiKP 10 12 40.6 +0.4
LVC ePKPab PKPab 10 12 45.8 -0.1
LVC LR LR
comp=Z,3µm,21.0s
VBMS Vicksburg 150.50 28 ePKPdf PKPdf 10 12 35.8 +2.3
VBMS ePKPbc PKiKP 10 12 39.5 -0.1
VBMS ePKPab PKPab 10 12 46.5 +1.0
VBMS LR LR
comp=Z,3µm,20.0s
LRAL Lakeview Retre 151.26 22 ePKPdf PKPdf 10 12 35.3 +0.6
LRAL ePKPbc PKiKP 10 12 41.1 -0.1
LRAL LR LR
comp=Z,3µm,22.0s
CNNC Cliffs of the 151.27 5 PFAKE 10 12 50.0 +1.5
CNNC LR LR
comp=Z,4µm,20.0s
BBSR BB Station 152.62 341 ePKPbc PKPbc 10 12 44.8 +1.1
BBSR LR LR
comp=Z,3µm,21.0s
BRAL Brewton 153.04 24 ePKPbc PKPbc 10 12 45.4 +0.7
BRAL LR LR
comp=Z,4µm,21.0s
SIV San Ignacio 153.85 211 PKP PKPdf 10 12 39.0 0.0

SIV					PKPbc	**PKiKP**	**10 12 47.1 +0.1**			
SIV					PKPab	**PKPab**	**10 13 00.3 +0.4**			
SIV	**San Ignacio**	**153.85**	**211**		PKP	**PKPdf**	**10 12 39.0 0.0**			
	comp=Z,14nm,1.1s,baz=167,slow=1.9,SNR=26									
SIV					PKPbc	**PKiKP**	**10 12 47.1 +0.1**			
	comp=Z,12nm,0.6s,baz=116,slow=5.6,SNR=6.2									
SIV					PKPab	**PKPab**	**10 13 00.3 +0.4**			
	comp=Z,25nm,0.6s,baz=151,slow=5.8,SNR=24									
LPAZ	**La Paz**	**156.41**	**196**		PKP	**PKPdf**	**10 12 43.9 +0.7**			
LPAZ	**La Paz**	**156.41**	**196**		PKP	**PKPdf**	**10 12 43.9 +0.7**			
	comp=Z,24nm,1.1s,baz=80,slow=1.2,SNR=46									
SAML	**Samuel**	**160.79**	**217**		*e*PKPdf	**PKPdf**	**10 12 47.8 +0.1**			
SAML					LR	LR				
	comp=Z,4μm,20.0s									
TEIG	**Tepich**	**161.08**	**43**		*e*PKPdf	**PKPdf**	**10 12 47.8 0.0**			
TEIG					LR	LR				
	comp=Z,2μm,20.0s									
APG	**El Apazote**	**162.43**	**60**		PKP	**PKPdf**	**10 12 48.4 -1.3**			
APG	**El Apazote**	**162.43**	**60**		PKP	**PKPdf**	**10 12 48.4 -1.3**			
	comp=Z,22nm,1.0s,baz=316,slow=5.7,SNR=18									
PAYG	**Puerto Ayora**	**162.94**	**114**		PFAKE		10 13 00.0 +10			
PAYG					LR	LR				
	comp=Z,2μm,20.0s									
ANWB	**Willy Bob**	**163.17**	**312**		PFAKE		10 13 00.0 +10			
ANWB					LR	LR				
	comp=Z,2μm,22.0s									
BBGH	**Gun Hill**	**163.65**	**295**		PFAKE		10 13 00.0 +9.5			
BBGH					LR	LR				
	comp=Z,5μm,22.0s									
GRTK	**Grand Turk**	**164.68**	**347**		PFAKE		10 13 00.0 +8.7			
GRTK					LR	LR				
	comp=Z,4μm,21.0s									
MTP	**Monte Pirata**	**165.40**	**323**		*e*PKPdf	**PKPdf**	**10 12 52.4 +0.4**			
MTP					*e*PKPab	**PKPab**	**10 13 50.3 +0.4**			
CBYP	**Canovanas**	**165.44**	**324**		*e*PKPdf	**PKPdf**	**10 12 52.4 +0.3**			
TGUH	**Tegucigalpa,Un**	**165.59**	**58**		*e*PKPdf	**PKPdf**	**10 12 51.9 -0.3**			
TGUH					LR	LR				
	comp=Z,2μm,20.0s									
GRGR	**Grenville**	**165.92**	**294**		PFAKE		10 13 00.0 +7.5			
GRGR					LR	LR				
	comp=Z,2μm,22.0s									
ATAH	**Atahualpa**	**165.96**	**165**		PKP	**PKPdf**	**10 12 54.6 +1.5**			
ATAH					PKPab	**PKPab**	**10 13 54.0 +1.1**			
ATAH	**Atahualpa**	**165.96**	**165**		PKP	**PKPdf**	**10 12 54.6 +1.5**			
	comp=Z,38nm,1.1s,baz=189,slow=1.8,SNR=27									
ATAH					PKPab	**PKPab**	**10 13 54.0 +1.1**			
	comp=Z,39nm,1.2s,baz=217,slow=2.3,SNR=4.0									
LRS	**Lares**	**165.98**	**327**		*e*PKPdf	**PKPdf**	**10 12 52.8 +0.3**			
CELP	**Cerrillos**	**166.01**	**326**		*e*PKPdf	**PKPdf**	**10 12 53.0 +0.5**			
CELP					*e*PKPab	**PKPab**	**10 13 53.9 +1.3**			
OBIP	**Obispado Ponce**	**166.05**	**326**		*e*PKPdf	**PKPdf**	**10 12 53.0 +0.5**			
LSP	**Las Mesas**	**166.20**	**328**		*e*PKPdf	**PKPdf**	**10 12 53.7 +1.0**			
LSP					*e*PKPab	**PKPab**	**10 13 55.0 +1.4**			
CRPR	**Cabo Rojo, PR**	**166.36**	**328**		*e*PKPdf	**PKPdf**	**10 12 52.8 0.0**			
GTBY	**Guantanamo Bay**	**166.66**	**1**		*e*PKPdf	**PKPdf**	**10 12 52.6 -0.4**			
GTBY					*e*PKPab	**PKPab**	**10 13 56.1 +0.8**			
GTBY					LR	LR				
	comp=Z,3μm,21.0s									
SDDR	**Presa de Saban**	**167.16**	**345**		*e*PKPdf	**PKPdf**	**10 12 53.5 +0.1**			
SDDR					LR	LR				
	comp=Z,4μm,22.0s									
MTDJ	**Mount Denham**	**168.05**	**13**		*e*PKPdf	**PKPdf**	**10 12 54.1 0.0**			
MTDJ					*e*PKPab	**PKPab**	**10 14 02.4 +0.8**			
MTDJ					LR	LR				
	comp=Z,3μm,21.0s									
JTS	**JuntasAbangare**	**169.24**	**69**		PKP	**PKPdf**	**10 12 53.6 -1.4**			
JTS					*e*PKPdf	PKPdf	10 12 53.8 -1.1			
JTS					PKPab	**PKPab**	**10 14 06.7 -0.6**			
JTS					LR	LR				
	comp=Z,4μm,21.0s									
JTS	**JuntasAbangare**	**169.24**	**69**		PKP	**PKPdf**	**10 12 53.6 -1.4**			
	comp=Z,12nm,1.1s,baz=259,slow=1.4,SNR=5.2									
JTS					PKPab	**PKPab**	**10 14 06.7 -0.6**			
	comp=Z,22nm,0.8s,baz=329,slow=5.1,SNR=10									
OTAV	**Otavalo**	**172.76**	**149**		*e*PKPdf	**PKPdf**	**10 12 57.7 +0.3**			
OTAV					*e*PKPab	**PKPab**	**10 14 25.7 +2.5**			
OTAV					LR	LR				
	comp=Z,5μm,22.0s									
BCIP	**Isla Barro Col**	**174.32**	**62**		*e*PKPdf	**PKPdf**	**10 12 56.4 -0.9**			
BCIP					LR	LR				
	comp=Z,3μm,21.0s									
SDV	**Santo Domingo**	**175.28**	**300**		*e*PKPdf	**PKPdf**	**10 12 57.7 -0.2**			
ROSC	**El Rosal**	**178.30**	**195**		*e*PKPdf	**PKPdf**	**10 12 58.5 -0.2**			
ROSC	**El Rosal**	**178.30**	**195**		PKP	**PKPdf**	**10 12 58.5 -0.2**			
	comp=Z,21nm,0.9s,baz=94,slow=23,SNR=27									

*ISCJB **16** 10:01:06.9±0.4,6.78S±0.05×104.94E±0.03,h40km, mb4.5/31,Error ellipse: s-maj=7.0km s-min=4.2km az=20.3*
*AUST **16** 10:01:07.2±2.8,7.12S×104.96E,h11km,Error ellipse: s-maj=1.7km s-min=1.0km az=13.0*
*IDC **16** 10:01:08.8±0.7,6.45S×105.20E,h40km±5km,mb4.1/26, mb1 4.2/27,mb1mx4.2/32,mbtmp4.4/27,Error ellipse: s-maj=15.4km s-min=10.7km az=51.0*
*NEIC **16** 10:01:08.1±0.3,6.45S×105.18E,h35km,mb5.2/2,Error ellipse: s-maj=9.7km s-min=6.5km az=220.0*
*DJA **16** 10:01:09.3±0.8,7.5±3×10.5E±, h11km±7km,M5.1/15, mb5.4/1,MLv4.9/15*

ISC 16 10:01:08.7±0.7,6.54S±0.07×105.05E±0.06,h41km±5km, n117,σ1§23/119,mb4.5/31,Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KASI	**Kota Agung**	**1.15**	**331**	P		Pn	10 01 32.6	+4.3
KASI				S		Sn	10 01 51.6	+8.8
SBJI	**Serang**	**1.15**	**69**	P		**Pn**	**10 01 28.7**	**+0.4**
SBJI				S		**Sn**	**10 01 46.5**	**+3.7**
BLSI	**Bandar Lampung**	**1.18**	**9**	P		Pn	10 01 32.6	+3.9
BLSI				S		Sn	10 01 51.6	+8.1
SKJI	**Sukabumi**	**1.57**	**107**	P		**Pn**	**10 01 33.3**	**-0.7**
SKJI				S		**Sn**	**10 01 54.0**	**+0.9**
KLI	**Kotabumi**	**1.67**	**353**	P		Pn	10 01 42.2	+6.7
DBJI	**Dramaga**	**1.69**	**91**	P		**Pn**	**10 01 37.3**	**+1.6**
DBJI				S		**Sn**	**10 01 57.8**	**+1.7**
CBJI	**Citeko**	**1.79**	**86**	P		**Pn**	**10 01 39.6**	**+2.5**
LWLI	**Liwa**	**1.80**	**327**	P		Pn	10 01 42.7	+5.3
MDSI	**Maura Dua**	**2.21**	**337**	P		Pn	10 01 48.7	+5.8
LEM	**Lembang**	**2.57**	**97**	P		**Pn**	**10 01 49.5**	**+1.6**
LEM	**Lembang**	**2.57**	**97**	P		**Pn**	**10 01 50.0**	**+2.1**
	baz=2.7,SNR=34							
CISI	**Cisompet, Garu**	**2.92**	**110**	P		**Pn**	**10 01 52.6**	**-0.2**
CISI	**Cisompet, Garu**	**2.92**	**110**	P		**Pn**	**10 01 52.5**	**-0.2**
	baz=2.9,SNR=25							
MNAI	**Manna**	**3.00**	**316**	P		Pn	10 01 58.7	+4.9
MNAI	**Manna**	**3.00**	**316**	P		Pn	10 02 00.4	+6.6
	baz=3.4,SNR=4.2							
LHSI	**Lahat**	**3.09**	**330**	P		Pn	10 02 01.4	+6.4
KPJI	**Karang Pucung**	**3.93**	**102**	P		**Pn**	**10 02 09.2**	**+2.7**
TGJI	**Tegal**	**4.06**	**95**	P		**Pn**	**10 02 10.5**	**+2.2**
CLJI	**Cilicap**	**4.11**	**107**	P		**Pn**	**10 02 10.2**	**+1.3**
PPBI	**Pangkal Pinang**	**4.48**	**14**	P		Pn	10 02 18.9	+4.8
BJII	**Banjamegara**	**4.69**	**100**	P		**Pn**	**10 02 17.5**	**+0.4**
UGM	**Wanagama**	**5.60**	**104**	P		**Pn**	**10 02 31.2**	**+1.7**
UGM				S		**Sn**	**10 03 33.2**	**+0.6**
UGM	**Wanagama**	**5.60**	**104**	P		**Pn**	**10 02 32.3**	**+2.8**
	baz=5.6,SNR=6.7							
PCJI	**Pacitan**	**6.30**	**106**	P		**Pn**	**10 02 40.1**	**+1.1**
PWJI	**Pagerwojo**	**6.86**	**103**	P		**Pn**	**10 02 47.4**	**+0.6**
GRJI	**Gresik**	**7.39**	**93**	P		Pn	10 02 57.8	+3.8
GMJI	**Gumukmas**	**8.50**	**102**	P		**Pn**	**10 03 10.7**	**+1.4**
KAPI	**Kappang**	**14.71**	**85**	Pn		**Pn**	**10 04 31.5**	**-2.6**
KAPI	**Kappang**	**14.71**	**85**	Pn		**Pn**	**10 04 31.5**	**-2.6**
	0.5nm,0.3s,baz=135,slow=19,SNR=1.9							
BATI	**Baumata**	**18.77**	**102**	P		**P**	**10 05 23.5**	**-1.0**
BATI				S		**Sn**	**10 08 53.5**	**-1.1**
BATI	**Baumata**	**18.77**	**102**	P		**P**	**10 05 23.5**	**-1.0**
	39nm,0.3s,baz=284,slow=9.2,SNR=11							
BATI				S		**Sn**	**10 08 53.5**	**-1.1**
	4.1nm,0.3s,baz=306,slow=19,SNR=4.9							
SOEI	**Soe**	**19.29**	**101**	P		**P**	**10 05 30.3**	**0.0**
	baz=19,SNR=8.2							
CMAR	**Chiang Mai Arr**	**25.56**	**346**	P		**P**	**10 06 31.8**	**-2.0**
CMAR	**Chiang Mai Arr**	**25.56**	**346**	P		**P**	**10 06 31.8**	**-2.0**
	2.7nm,0.7s,baz=172,slow=6.9,SNR=1.9							
MTN	**Manton Dam**	**26.45**	**106**	P		**P**	**10 06 45.1**	**+3.1**
	baz=26,SNR=8.5							
FAKI	**Fak Fak**	**27.34**	**84**	P		**P**	**10 06 51.0**	**+0.9**
	baz=28,SNR=4.6							
KDU	**Kakadu**	**27.70**	**105**	P		**P**	**10 06 55.8**	**+2.5**
	baz=28,SNR=9.0							
H01W3	**Cape Leeuwin H**	**29.43**	**165**	T		T	10 37 33.3	
	baz=342,slow=0.7,SNR=83							
H01W1	**Cape Leeuwin H**	**29.44**	**165**	T		T	10 37 33.3	
	baz=342,slow=0.7,SNR=105							
H01W2	**Cape Leeuwin H**	**29.44**	**165**	T		T	10 37 31.2	
	baz=342,slow=0.7,SNR=90							
WRA	**Warramunga Arr**	**31.40**	**118**	P		**P**	**10 07 25.0**	**-1.0**
WRA	**Warramunga Arr**	**31.40**	**118**	P		**P**	**10 07 25.0**	**-1.0**
	11nm,1.0s,baz=290,slow=12,SNR=3.3							
H08S2	**Diego Garcia H**	**32.32**	**266**	T		T	10 41 48.0	
	baz=90,slow=0.7,SNR=138							
H08S3	**Diego Garcia H**	**32.33**	**266**	T		T	10 41 48.7	
	baz=90,slow=0.7,SNR=117							
H08S1	**Diego Garcia H**	**32.34**	**266**	T		T	10 41 49.3	
	baz=90,slow=0.7,SNR=125							
ASAR	**Alice Springs**	**32.54**	**125**	P		**P**	**10 07 35.9**	**-0.1**
ASAR	**Alice Springs**	**32.54**	**125**	P		**P**	**10 07 35.9**	**-0.1**
	3.0nm,0.8s,baz=308,slow=8.1,SNR=2.9							
COEN	**Coen**	**38.19**	**104**	*e*P		**P**	**10 08 25.6**	**+0.9**
	166nm,0.8s							
PMG	**Port Moresby**	**41.78**	**97**	*e*P		**P**	**10 08 53.7**	**-0.8**
PMG	**Port Moresby**	**41.78**	**97**	P		**P**	**10 08 53.2**	**-1.3**
	75nm,0.8s,baz=263,slow=5.1,SNR=21							
CTA	**Charters Tower**	**42.16**	**113**	P		**P**	**10 08 57.0**	**-0.6**
CTA	**Charters Tower**	**42.16**	**113**	P		**P**	**10 08 57.0**	**-0.6**
	12nm,1.2s,baz=301,slow=5.9,SNR=2.0							
STKA	**Stephens Creek**	**42.39**	**131**	P		**P**	**10 08 59.1**	**-0.2**
STKA	**Stephens Creek**	**42.39**	**131**	P		**P**	**10 08 59.9**	**+0.6**
	baz=42,SNR=5.6							
STKA	**Stephens Creek**	**42.39**	**131**	P		**P**	**10 08 59.1**	**-0.2**
	12nm,0.6s,baz=288,slow=8.4,SNR=9.8							
KSAR	**Wonju Array Be**	**48.67**	**24**	P		**P**	**10 09 49.6**	**+0.8**
KSRS	**Korea Array**	**48.70**	**24**	P		**P**	**10 09 49.6**	**+0.6**
	1.4nm,0.7s,baz=212,slow=7.2,SNR=4.5							
MJAR	**Matsushiro Arr**	**52.93**	**34**	P		**P**	**10 10 18.6**	**-2.3**
MJAR						PcP	**PcP**	**10 11 29.0**	**-0.5**
MJAR	**Matsushiro Arr**	**52.93**	**34**	P		**P**	**10 10 18.6**	**-2.3**
	1.0nm,0.4s,baz=207,slow=8.1,SNR=4.3							
MJAR						PcP	**PcP**	**10 11 29.0**	**-0.5**
	1.3nm,0.7s,baz=215,slow=5.3,SNR=3.2							
SONM	**Songino Array**	**54.15**	**1**	P		**P**	**10 10 29.2**	**-0.6**
SONM						PcP	**PcP**	**10 11 34.4**	**+0.4**
SONM						pPcP		10 11 46.8	
SONM	**Songino Array**	**54.15**	**1**	P		**P**	**10 10 29.2**	**-0.6**
	1.6nm,0.6s,baz=180,slow=7.7,SNR=5.5							
SONM						PcP	**PcP**	**10 11 34.4**	**+0.4**
	2.0nm,0.6s,baz=178,slow=3.7,SNR=5.7							
SONM						pPcP		10 11 46.8	
	2.1nm,0.7s,baz=165,slow=4.0,SNR=5.1							
USRK	**Ussuriysk Arra**	**56.05**	**23**	P		**P**	**10 10 43.0**	**-0.3**
	14nm,0.6s,baz=207,slow=6.0,SNR=32							
USRK						pP	**pP**	**10 10 54.5**	**-0.8**
	3.4nm,0.5s,baz=210,slow=8.6,SNR=4.2							
MKAR	**Makanchi Array**	**56.81**	**341**	P		**P**	**10 10 48.7**	**-0.1**
MKAR	**Makanchi Array**	**56.81**	**341**	P		**P**	**10 10 48.7**	**-0.1**
	1.0nm,0.4s,baz=152,slow=8.5,SNR=17							
ASAJ	**Asahikawa**	**60.73**	**30**	P		**P**	**10 11 15.2**	**-0.8**
ASAJ	**Asahikawa**	**60.73**	**30**	P		**P**	**10 11 15.2**	**-0.8**
	7.8nm,0.9s,baz=188,slow=12,SNR=4.7							
KURBB	**Kurchatov Arra**	**61.37**	**341**	P		**P**	**10 11 20.3**	**0.0**
	1.4nm,0.7s,baz=161,slow=5.8,SNR=3.3							
KURBB						pPcP		10 12 14.6	
	0.7nm,0.5s,baz=151,slow=2.7,SNR=5.2							
KURK	**Kurchatov**	**61.42**	**341**	P		**P**	**10 11 20.3**	**-0.4**
KURK						pPcP		10 12 14.6	
ZALV	**Zalesovo Beam**	**62.62**	**347**	P		**P**	**10 11 28.5**	**-0.1**
ZALV	**Zalesovo Beam**	**62.62**	**347**	P		**P**	**10 11 28.5**	**-0.1**
	1.6nm,0.4s,baz=152,slow=6.0,SNR=7.9							
BVAR	**Borovoye Array**	**66.20**	**338**	P		**P**	**10 11 51.5**	**-0.6**
BVAR	**Borovoye Array**	**66.20**	**338**	P		**P**	**10 11 51.5**	**-0.6**
	2.9nm,0.6s,baz=141,slow=9.6,SNR=4.6							
MAW	**Mawson**	**67.26**	**196**	P		**P**	**10 11 59.4**	**+0.9**
MAW	**Mawson**	**67.26**	**196**	P		**P**	**10 11 59.5**	**+0.9**
	baz=67,SNR=4.9							
MAW	**Mawson**	**67.26**	**196**	P		**P**	**10 11 59.4**	**+0.9**
	4.2nm,0.8s,baz=40,slow=7.3,SNR=6.8							
ABKAR	**Akbulak array**	**68.03**	**330**	*e*P		**P**	**10 12 04.5**	**+0.7**
	19nm,0.6s							
AKTO	**Aktyubinsk**	**69.75**	**330**	P		**P**	**10 12 13.6**	**-0.8**
AKTO	**Aktyubinsk**	**69.75**	**330**	P		**P**	**10 12 13.6**	**-0.8**
	3.8nm,0.6s,baz=143,slow=3.1,SNR=7.9							
PETK	**Petropavlovsk-**	**74.14**	**30**	P		**P**	**10 12 39.6**	**-1.1**
PETK	**Petropavlovsk-**	**74.14**	**30**	P		**P**	**10 12 39.6**	**-1.1**
	5.2nm,0.7s,baz=204,slow=6.6,SNR=5.1							
ASF	**Jabal al Asfar**	**75.31**	**306**	P		**P**	**10 12 49.9**	**+1.8**
ASF	**Jabal al Asfar**	**75.31**	**306**	P		**P**	**10 12 49.9**	**+1.8**
	1.4nm,0.4s,baz=44,slow=6.5,SNR=4.1							
MMAI	**Mount Meron Ar**	**76.76**	**306**	P		**P**	**10 12 56.9**	**+0.6**
MMAI	**Mount Meron Ar**	**76.76**	**306**	P		**P**	**10 12 56.9**	**+0.6**
	0.4nm,0.2s,baz=93,slow=7.2,SNR=2.5							
VNDA	**Vanda**	**76.78**	**169**	P		**P**	**10 12 54.9**	**-0.5**
VNDA	**Vanda**	**76.78**	**169**	P		**P**	**10 12 54.9**	**-0.5**
	0.8nm,0.8s,baz=259,slow=5.6,SNR=3.0							
BOSA	**Boshof**	**77.96**	**242**	P		**P**	**10 13 04.1**	**+0.9**
BOSA	**Boshof**	**77.96**	**242**	P		**P**	**10 13 04.1**	**+0.9**
	4.8nm,0.8s,baz=119,slow=1.0,SNR=5.8							
BRTR	**Keskin Array B**	**80.08**	**312**	P		**P**	**10 13 15.3**	**+0.8**
BRTR						pP	**pP**	**10 13 27.8**	**+0.8**
BRTR	**Keskin Array B**	**80.08**	**312**	P		**P**	**10 13 15.3**	**+0.8**
	2.2nm,0.6s,baz=141,slow=6.6,SNR=7.0							
BRTR						pP	**pP**	**10 13 27.8**	**+0.8**
	3.0nm,0.7s,baz=137,slow=7.7,SNR=7.6							
AKASG	**Malin Array Be**	**86.13**	**322**	P		**P**	**10 13 45.5**	**+0.2**
AKASG						pP	**pP**	**10 13 57.5**	**-0.5**
AKASG	**Malin Array Be**	**86.13**	**322**	P		**P**	**10 13 45.5**	**+0.2**
	0.4nm,0.3s,baz=87,slow=4.3,SNR=4.1							
AKASG						pP	**pP**	**10 13 57.5**	**-0.5**
	1.3nm,0.5s,baz=85,slow=4.3,SNR=4.3							
MLR	**Muntele Rosu**	**87.03**	**316**	P		**P**	**10 13 52.3**	**+2.2**
MLR	**Muntele Rosu**	**87.03**	**316**	P		**P**	**10 13 52.3**	**+2.2**
	0.5nm,0.7s,baz=92,slow=18,SNR=2.7							
SNAA	**Sanae**	**89.39**	**198**	*e*P		**P**	**10 14 00.9**	**+0.2**
	10nm,1.2s							
FINES	**FINESS Array B**	**90.45**	**332**	P		**P**	**10 14 06.8**	**+1.2**
FINES	**FINESS Array B**	**90.45**	**332**	P		**P**	**10 14 06.8**	**+1.2**
	3.4nm,0.9s,baz=116,slow=4.4,SNR=3.5							
ARCES	**ARCESS Array B**	**92.43**	**340**	P		**P**	**10 14 15.0**	**+0.3**
ARCES	**ARCESS Array B**	**92.43**	**340**	P		**P**	**10 14 15.0**	**+0.3**
	4.7nm,0.9s,baz=100,slow=4.7,SNR=3.7							
SPITS	**Spitsbergen Ar**	**96.08**	**348**	P		**P**	**10 14 30.5**	**-0.8**
SPITS	**Spitsbergen Ar**	**96.08**	**348**	P		**P**	**10 14 30.5**	**-0.8**
	11nm,1.0s,baz=82,slow=15,SNR=2.7							
NVAR	**Mina Array Bea**	**129.60**	**44**	PKP		**PKPdf**	**10 20 15.2**	**+1.3**
NVAR	**Mina Array Bea**	**129.60**	**44**	PKP		**PKPdf**	**10 20 15.2**	**+1.3**
	0.3nm,0.6s,baz=306,slow=3.2,SNR=2.6							
PDAR	**Pinedale Array**	**132.74**	**35**	PKP		**PKPdf**	**10 20 20.8**	**+1.0**
PDAR	**Pinedale Array**	**132.74**	**35**	PKP		**PKPdf**	**10 20 20.8**	**+1.0**
	0.5nm,0.7s,baz=94,slow=2.7,SNR=3.0							
TXAR	**Lajitas Array**	**144.69**	**47**	PKP		**PKPdf**	**10 20 41.1**	**-0.7**
TXAR						pPKP	**pPKPdf**	**10 20 54.0**	**-0.8**
TXAR	**Lajitas Array**	**144.69**	**47**	PKP		**PKPdf**	**10 20 41.1**	**-0.7**
	5.3nm,0.6s,baz=287,slow=1.2,SNR=26							
TXAR						pPKP	**pPKPdf**	**10 20 54.0**	**-0.8**
	3.8nm,0.8s,baz=306,slow=0.7,SNR=8.6							
BDFB	**Brasilia**	**145.40**	**230**	PKPbc		**PKPdf**	**10 20 43.1**	**-0.2**
BDFB	**Brasilia**	**145.40**	**230**	PKPbc		**PKPdf**	**10 20 43.1**	**-0.2**
	5.0nm,0.9s,baz=155,slow=6.2,SNR=4.0							
OLIL	**Olney**	**145.81**	**18**	*e*PKPbc		**PKPab**	**10 20 44.7**	**+0.5**
JCT	**Junction City**	**146.66**	**41**	*e*PKPdf		**PKPdf**	**10 20 44.7**	**-0.3**
JCT				*e*PKPbc		**PKPbc**	**10 20 46.4**	**-0.3**
MIAR	**Mount Ida**	**147.25**	**29**	*e*PKPbc		**PKPbc**	**10 20 48.0**	**-0.1**
WVT	**Waverly**	**148.27**	**20**	*e*PKPbc		**PKPbc**	**10 20 50.7**	**-0.1**
TKL	**Tuckaleechee C**	**149.90**	**14**	PKPbc		**PKPbc**	**10 20 54.0**	**-1.1**
TKL	**Tuckaleechee C**	**149.90**	**14**	PKPbc		**PKPbc**	**10 20 54.0**	**-1.1**
	3.6nm,0.5s,baz=315,slow=4.3,SNR=6.3							
SIV	**San Ignacio**	**153.74**	**211**	PKPab		**PKPab**	**10 21 18.1**	**+1.1**
SIV	**San Ignacio**	**153.74**	**211**	PKPab		**PKPab**	**10 21 18.1**	**+1.1**
	1.0nm,0.7s,baz=180,slow=9.1,SNR=3.8							

*CSEM **16** 10:19:44.2±0.4,38.66N×31.85E,h8km, MD2.7,Error ellipse: s-maj=10.7km s-min=6.0km az=87.0*

ISK 16 10:19:43.6,38.68N×31.90E,h7km,MD2.7,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KIZT	**Kizilcal**	**0.20**	**355**	*e*PG		Pg	10 19 48.3	+0.5
KIZT	**Kizilcal**	**0.20**	**355**	*e*Pg		Pg	10 19 48.3	+0.5
LADK	**Ladik-KONYA**	**0.60**	**143**	*e*PG		Pg	10 19 55.2	-0.2
LADK				*e*SG		Sg	10 20 04.2	+0.8
LADK	**Ladik-KONYA**	**0.60**	**143**	*e*Pg		Pg	10 19 55.2	-0.2
LADK				*e*Sg		Sg	10 20 04.2	+0.8
KONT	**Konya--Tatoy**	**0.82**	**154**	*e*PG		Pb	10 20 00.2	0.0
KONT				*e*SG		Sb	10 20 12.2	+0.7
KONT	**Konya--Tatoy**	**0.82**	**154**	*e*Pg		Pb	10 20 00.2	0.0
KONT				*e*Sg		Sb	10 20 12.2	+0.7
SULT	**Sultanhani-AKS**	**1.36**	**110**	*e*PN		Pg	10 20 09.7	-0.1
SULT	**Sultanhani-AKS**	**1.36**	**110**	*e*Pn		Pg	10 20 09.7	-0.1
SUTC	**Sutluce-Ispart**	**1.40**	**211**	*e*PN		Pn	10 20 09.7	0.0
SUTC	**Sutluce-Ispart**	**1.40**	**211**	*e*Pn		Pn	10 20 09.7	0.0
HDMB	**Hadim**	**1.78**	**165**	*e*PN		Pb	10 20 15.9	-0.8
HDMB	**Hadim**	**1.78**	**165**	*e*Pn		Pb	10 20 16.0	-0.8

*ISCJB **16** 10:19:59.9±0.8,39.11N×32.82E±0.05,h2km±9km, Error ellipse: s-maj=8.0km s-min=4.7km az=36.9*
*ISK **16** 10:19:59.8,39.11N×32.82E,h4km,MD2.5*
*DDA **16** 10:19:59.5,39.09N×32.83E,h7km,MD2.8*
*CSEM **16** 10:20:00.1±0.2,39.08N×32.84E,h2km,MD2.5,Error ellipse: s-maj=5.9km s-min=4.1km az=145.0*

ISC 16 10:20:00.1±1.0,39.09N±0.03×32.84E±0.03,h11km±11km, n22,σ0§55/35,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
AFSR	**Afʼar-Bala (A**	**0.40**	**26**	*e*PG		**Pg**	**10 20 07.7**	**-0.4**
AFSR				*e*SG		**Sg**	**10 20 13.8**	**+0.4**
AFSR	**Afʼar-Bala (A**	**0.40**	**26**	*e*Pg		**Pg**	**10 20 07.7**	**-0.4**
AFSR				*e*Sg		**Sg**	**10 20 13.8**	**+0.3**
BBAL	**Bala**	**0.51**	**25**	*e*P		**Pg**	**10 20 10.5**	**+0.5**
BBAL				*e*S		**Sg**	**10 20 17.6**	**+0.8**
BBAL	**Bala**	**0.51**	**25**	*e*P		**Pg**	**10 20 10.5**	**+0.5**
ANTO	**Ankara**	**0.78**	**357**	*e*PG		**Pb**	**10 20 15.7**	**-0.1**
ANTO				*e*SG		**Sb**	**10 20 26.4**	**0.0**
ANTO	**Ankara**	**0.78**	**357**	*e*Pg		**Pb**	**10 20 15.7**	**-0.1**
ANTO				*e*Sg		**Sb**	**10 20 26.4**	**0.0**
KDHN	**Kadinhani**	**0.80**	**225**	*e*P		**Pg**	**10 20 15.3**	**-0.3**
KDHN				*e*S		**Sg**	**10 20 26.2**	**+0.1**
KDHN	**Kadinhani**	**0.80**	**225**	*e*P		**Pg**	**10 20 15.3**	**-0.3**
KDHN				*e*S		**Sg**	**10 20 26.2**	**+0.1**
SVRH	**Sivrihisar-ESK**	**1.09**	**290**	*e*PG		**Pg**	**10 20 20.5**	**-0.5**
SVRH				*e*SG		**Sb**	**10 20 35.9**	**+0

	comp=N,17nm,1.0s								
MNTX					Sg		Sg	10 31 19.0	-0.7
ARUT	**Antelope Range**	**7.75**	**4**	*e*Pn		**Pn**	**10 29 04.2**	**-3.0**
	comp=N,449nm,0.4s								
ARUT				*e*Sg		**Sg**	**10 31 23.7**	**+0.6**
HPIG		**8.01**	**111**	*i* P		**Pn**	**10 29 09.0**	**-1.8**
HPIG				*i* S		**Sn**	**10 30 39.0**	**-2.5**
HPIG		**8.01**	**111**	*i* P		**Pn**	**10 29 09.0**	**-1.8**
HPIG				*i* S		**Sn**	**10 30 39.0**	**-2.5**
ANMO	**Albuquerque**	**8.07**	**51**	*e*Pn		**Pn**	**10 29 10.7**	**-1.1**
ANMO					Sn	**Sn**	**10 30 37.6**	**-5.4**
ANMO					Lg	Lg	10 31 24.4		
ANMO	**Albuquerque**	**8.07**	**51**		Pn	**Pn**	**10 29 10.1**	**-1.6**
	comp=N,0.9nm,0.3s,baz=232,slow=14,SNR=18								
ANMO					Sn	**Sn**	**10 30 37.6**	**-5.4**
	comp=N,0.2nm,0.3s,baz=232,slow=19,SNR=1.8								
ANMO					Lg	Lg	10 31 24.4		
	comp=N,0.4nm,0.3s,baz=343,slow=13,SNR=2.3								
MTUM	**Tungsten Hills**	**8.20**	**334**	*e*Pn		**Pn**	**10 29 15.5**	**+2.0**
R11A	**Troy Canyon, C**	**8.38**	**352**	*e*Pn		**Pn**	**10 29 14.2**	**-1.8**
MVCO	**Mesa Verde**	**8.52**	**31**	*e*Pn		**Pn**	**10 29 17.0**	**-1.0**
MVU	**Marysvale**	**8.58**	**10**	*e*Pn		**Pn**	**10 29 18.3**	**-0.5**
GDL2	**Guadalupe Moun**	**8.59**	**73**	*e*Pn		Pn	10 29 26.0	+7.2
PV05	**Paradox Valley**	**9.01**	**26**	*e*Pn		**Pn**	**10 29 25.0**	**+0.4**
TXAR	**Lajitas Array**	**9.07**	**92**	Pn		**Pn**	**10 29 26.7**	**+1.4**
TXAR					Sn	**Sn**	**10 31 07.0**	**-0.4**
TXAR					Lg	Lg	10 32 04.5		
TXAR	**Lajitas Array**	**9.07**	**92**	Pn		**Pn**	**10 29 26.7**	**+1.4**
	comp=N,1.2nm,0.3s,baz=264,slow=13,SNR=16								
TXAR					Sn	**Sn**	**10 31 07.0**	**-0.4**
	comp=N,0.3nm,0.3s,baz=286,slow=17,SNR=2.7								
TXAR					Lg	Lg	10 32 04.5		
	comp=N,0.7nm,0.3s,baz=284,slow=32,SNR=5.1								
TXAR					LR	LR	10 33 10.4		
	comp=N,5µm,21.3s,baz=0.0,slow=40								
NVAR	**Mina Array Bea**	**9.07**	**338**	Pn		**Pn**	**10 29 26.2**	**+0.7**
NVAR					Lg	Lg	10 32 01.7		
NVAR	**Mina Array Bea**	**9.07**	**338**	Pn		**Pn**	**10 29 26.2**	**+0.7**
	comp=N,0.2nm,0.3s,baz=165,slow=11,SNR=24								
NVAR					Lg	Lg	10 32 01.7		
	baz=178,slow=30,SNR=2.3								
NVAR					LR	LR	10 32 56.2		
	comp=N,2µm,18.9s,baz=203,slow=39								
PV01	**Paradox Valley**	**9.27**	**28**	*e*Pn		**Pn**	**10 29 26.4**	**-1.8**
	comp=N,117nm,0.6s								
PV04	**Paradox Valley**	**9.36**	**26**	*e*Pn		**Pn**	**10 29 29.6**	**+0.2**
PV09	**Paradox Valley**	**9.37**	**24**	*e*Pn		**Pn**	**10 29 30.5**	**+0.9**
PV15	**Paradox Valley**	**9.48**	**28**	*e*Pn		**Pn**	**10 29 31.4**	**+0.3**
SRU	**San Rafael**	**9.51**	**17**	*e*Pn		**Pn**	**10 29 31.5**	**+0.1**
TMUT	**Trail Mountain**	**9.53**	**13**	*e*Pn		**Pn**	**10 29 32.2**	**+0.5**
WAKR	**Walker**	**9.54**	**334**	*e*Pn		Pn	10 29 35.1	+3.2
CMB	**Columbia Colle**	**9.54**	**328**	*e*Pn		**Pn**	**10 29 34.7**	**+2.9**
MAIG	**Mazatlaan**	**9.65**	**133**	*e*P		**Pn**	**10 29 33.6**	**+0.4**
MAIG				*i* S		**Sn**	**10 31 19.5**	**-2.1**
MAIG	**Mazatlaan**	**9.65**	**133**	*e*P		**Pn**	**10 29 33.6**	**+0.4**
MAIG				*i* S		**Sn**	**10 31 19.5**	**-2.1**
NLU	**North Lily Min**	**10.03**	**9**	*e*Pn		Pn	10 29 41.8	+3.3
MPU	**Maple Canyon**	**10.15**	**11**	*e*Pn		**Pn**	**10 29 42.7**	**+2.5**
DUG	**Dugway**	**10.18**	**5**	*e*Pn		**Pn**	**10 29 42.2**	**+1.5**
MSTX	**Muleshoe**	**10.35**	**65**	*e*Pn		Pn	10 29 47.8	+4.9
SDCO	**Great Sand Dun**	**10.47**	**40**	*e*Pn		**Pn**	**10 29 44.6**	**0.0**
	comp=N,16nm,1.5s								
PAHR	**Pah Rah Range**	**10.59**	**337**	*e*Pn		**Pn**	**10 29 47.4**	**+1.3**
DAU	**Daniels Canyon**	**10.60**	**12**	*e*Pn		**Pn**	**10 29 47.7**	**+1.2**
BMN	**Battle Mountai**	**10.69**	**347**	*e*Pn		Pn	10 29 52.7	+5.2
ELK	**Elko**	**10.72**	**355**	Pn		**Pn**	**10 29 46.0**	**-2.2**
ELK					Lg	Lg	10 32 53.2		
ELK	**Elko**	**10.72**	**355**	Pn		**Pn**	**10 29 46.0**	**-2.2**
	comp=N,0.5nm,0.3s,baz=181,slow=10,SNR=10								
ELK					Lg	Lg	10 32 53.2		
	baz=90,slow=20,SNR=2.3								
ELK					LR	LR	10 33 59.4		
	comp=N,2µm,18.5s,baz=179,slow=39								
JLU	**Jordanelle**	**10.75**	**11**	*e*Pn		**Pn**	**10 29 49.7**	**+1.2**
SMCO	**Snowmass**	**10.82**	**31**	*e*Pn		**Pn**	**10 29 50.0**	**+0.4**
BGU	**Big Grassy Mou**	**10.89**	**4**	*e*Pn		**Pn**	**10 29 52.3**	**+1.9**
BEKR	**Beckworth**	**11.08**	**334**	*e*Pn		**Pn**	**10 29 54.9**	**+2.0**
	comp=N,20nm,1.3s								
HVU	**Hansel Valley**	**11.76**	**5**	*e*Pn		**Pn**	**10 30 03.6**	**+1.4**
ISCO	**Idaho Springs**	**11.95**	**33**	*e*Pn		Pn	10 30 11.6	+6.7
JCT	**Junction City**	**12.34**	**84**	*e*Pn		Pn	10 30 15.2	+5.2
RWWY	**Rawlins**	**12.88**	**24**	*e*Pn		**P**	**10 30 26.6**	**-1.8**
WVOR	**Wild Horse Val**	**12.91**	**345**	*e*Pn		**Pn**	**10 30 19.4**	**+1.6**
	comp=N,37nm,1.3s								
PDAR	**Pinedale Array**	**13.21**	**15**	Pn		**Pn**	**10 30 22.3**	**+0.3**
PDAR					Lg	Lg	10 34 06.7		
PDAR	**Pinedale Array**	**13.21**	**15**	Pn		**Pn**	**10 30 22.3**	**+0.3**
	comp=N,0.1nm,0.3s,baz=188,slow=8.4,SNR=20								
PDAR					Lg	Lg	10 34 06.7		
	comp=N,0.0nm,0.3s,baz=167,slow=25,SNR=2.5								
PHWY	**Pilot Hill**	**13.22**	**30**	*e*Pn		Pn	10 30 26.5	+4.1
RRI2	**Red Ridge**	**13.46**	**9**	*e*Pn		**Pn**	**10 30 26.8**	**+1.2**
HLID	**Hailey**	**13.50**	**359**	*e*Pn		Pn	10 30 29.2	+3.2
REDW	**Red Top Meadow**	**13.54**	**10**	*e*Pn		**Pn**	**10 30 27.3**	**+0.7**
YBH	**Yreka Blue Hor**	**13.60**	**331**	Pn		**Pn**	**10 30 29.4**	**+2.1**
YBH	**Yreka Blue Hor**	**13.60**	**331**	Pn		**Pn**	**10 30 29.4**	**+2.1**
	comp=N,0.1nm,0.3s,baz=169,slow=10,SNR=3.3								
YBH					LR	LR	10 35 18.8		
	comp=N,2µm,21.6s,baz=270,slow=36								
TPAW	**Teton Pass**	**13.65**	**10**	*e*Pn		**Pn**	**10 30 29.2**	**+1.0**
J08A	**Circle Bar Ran**	**13.75**	**346**	*e*Pn		**Pn**	**10 30 31.2**	**+1.9**
K05A	**Summer Lake**	**13.80**	**338**	*e*Pn		**Pn**	**10 30 33.0**	**+2.9**
LOHW	**Long Hollow**	**13.82**	**11**	*e*Pn		**Pn**	**10 30 31.0**	**+0.6**
MOOW	**Moose Ponds**	**13.94**	**10**	*e*Pn		**Pn**	**10 30 31.9**	**0.0**
KRMB	**Red Mountain**	**13.96**	**328**	*e*Pn		**P**	**10 30 37.6**	**-2.7**
IMW	**Indian Meadow**	**14.05**	**9**	*e*Pn		**Pn**	**10 30 35.5**	**+1.8**
FLWY	**Flagg Ranch**	**14.27**	**10**	*e*Pn		**Pn**	**10 30 38.2**	**+1.6**
HUMO	**Hull Mountain**	**14.44**	**333**	*e*Pn		**P**	**10 30 45.1**	**-0.4**
YFT	**Old Faithful**	**14.61**	**9**	*e*Pn		**Pn**	**10 30 42.2**	**+1.0**
	comp=N,38nm,1.3s								
I07A	**Izee**	**14.67**	**344**	*e*Pn		**Pn**	**10 30 44.2**	**+2.3**
PINOR	**Pine Mountain**	**14.78**	**340**	*e*Pn		**Pn**	**10 30 45.9**	**+2.6**
MCMT	**McKenzie Canyo**	**14.79**	**3**	P		**Pn**	**10 30 45.8**	**+2.1**
YNR	**Norris Junctio**	**14.89**	**9**	*e*Pn		**Pn**	**10 30 46.7**	**+1.6**
	comp=N,55nm,1.3s								
QLMT	**Earthquake Lak**	**14.91**	**7**	*e*Pn		**Pn**	**10 30 48.1**	**+2.8**
BMO	**Blue Mountains**	**15.01**	**351**	*e*Pn		**Pn**	**10 30 47.8**	**+1.3**
	comp=N,18nm,1.1s								
KEBM	**Edson Butte**	**15.23**	**330**	*e*Pn		**Pn**	**10 30 47.9**	**-1.5**
	comp=N,71nm,1.0s								
DLMT	**Dillon**	**15.34**	**4**	*e*Pn		**Pn**	**10 30 53.0**	**+2.0**
	comp=N,36nm,1.3s								
G08A	**Pilot Rock**	**15.71**	**347**	*e*Pn		**P**	**10 30 58.1**	**-1.6**
	comp=N,24nm,1.1s								
LRM	**Limekiln Ridge**	**15.81**	**4**	*e*Pn		**Pn**	**10 30 58.1**	**+1.0**
H04A	**Detroit Lake**	**15.97**	**338**	*e*Pn		**Pn**	**10 31 00.2**	**+1.2**
	comp=N,46nm,1.4s								
G06A	**Carlson Farm,**	**16.03**	**343**	*e*Pn		**P**	**10 31 01.8**	**-1.4**
	comp=N,98nm,1.8s								
GCMT	**Greycliff**	**16.10**	**11**	*e*Pn		**Pn**	**10 31 01.3**	**+0.6**
	comp=N,19nm,1.3s								
F10A	**Beach Ranch, E**	**16.10**	**352**	*e*Pn		**P**	**10 31 04.8**	**+0.7**
	comp=N,24nm,1.2s								
RSSD	**Black Hills**	**16.15**	**27**	*e*Pn		**Pn**	**10 31 01.0**	**-0.5**
	comp=N,165nm,1.2s								
VLL	**Laurance Lake**	**16.52**	**341**	P		**P**	**10 31 07.7**	**-1.0**
BLTW	**Bickleton**	**16.56**	**345**	P		**P**	**10 31 07.8**	**-1.2**
E09A	**Wood Farm, Sta**	**16.75**	**350**	*e*Pn		**P**	**10 31 10.3**	**-0.8**
	comp=N,23nm,1.1s								
MSO	**Missoula**	**16.77**	**0**	*e*Pn		**Pn**	**10 31 09.6**	**+0.4**
	comp=N,52nm,1.4s								
CHMT	**Chamberlain Mo**	**16.86**	**2**	*e*Pn		**Pn**	**10 31 11.4**	**+0.9**
HAWA	**Hanford**	**16.88**	**347**	*e*P		**P**	**10 31 13.6**	**+1.0**
	comp=N,37nm,1.4s								
KSU1	**Kansas State U**	**16.96**	**53**	*e*P		**P**	**10 31 17.5**	**+4.0**
	comp=N,22nm,1.1s								
TRW	**Toppenish Ridg**	**17.00**	**344**	P		**P**	**10 31 13.5**	**-0.5**
BGNE	**Belgrade**	**17.16**	**44**	*e*P		**P**	**10 31 18.0**	**+2.2**
	comp=N,52nm,1.1s								
SLMT	**Seeley Lake**	**17.18**	**1**	*e*Pn		**Pn**	**10 31 15.2**	**+0.8**
SWMT	**Swartz Lake**	**17.45**	**0**	*e*Pn		**Pn**	**10 31 18.2**	**+0.5**
JTMT	**Jette**	**17.68**	**360**	*e*Pn		**P**	**10 31 21.9**	**+0.4**
LAO	**LASA Array**	**17.71**	**18**	*e*Pn		**Pn**	**10 31 20.1**	**-0.9**
	comp=N,85nm,1.2s								
LON	**Longmire**	**17.74**	**342**	*e*Pn		**P**	**10 31 22.3**	**+0.1**
	comp=N,19nm,1.2s								
BSMT	**Bassoo Peak**	**17.80**	**358**	*e*Pn		**P**	**10 31 22.7**	**-0.2**
YBMT	**Yellow Bay**	**17.80**	**0**	*e*Pn		**P**	**10 31 23.3**	**+0.5**
	comp=N,6.9nm,1.1s								
FMW	**Mount Fremont**	**17.87**	**343**	P		**P**	**10 31 24.1**	**+0.4**
LTY	**Liberty**	**17.94**	**345**	*e*P		**P**	**10 31 25.4**	**+1.1**
	comp=N,56nm,2.0s								
C09A	**Chrisman Ranch**	**18.03**	**351**	*e*Pn		**Pn**	**10 31 24.9**	**0.0**
	comp=N,25nm,1.3s								
E03A	**Lebam**	**18.07**	**338**	*e*P		**P**	**10 31 27.1**	**+1.5**
	comp=N,92nm,1.0s								
D05A	**Enumclaw**	**18.19**	**342**	*e*P		**P**	**10 31 28.4**	**+1.4**
	comp=N,106nm,1.4s								
ETW	**Entiat**	**18.20**	**346**	P		**P**	**10 31 27.2**	**-0.1**
WTV	**Waterville**	**18.21**	**347**	P		**Pn**	**10 31 27.0**	**-0.1**
EGMT	**Eagleton**	**18.26**	**9**	*e*Pn		**P**	**10 31 28.5**	**+0.6**
NEW	**Newport**	**18.35**	**353**	P		**Pn**	**10 31 28.5**	**-0.3**
NEW	**Newport**	**18.35**	**353**	P		**Pn**	**10 31 28.5**	**-0.3**
	comp=N,0.2nm,0.3s,baz=170,slow=13,SNR=8.3								
BRSD	**Miller**	**18.70**	**36**	*e*Pn		**Pn**	**10 31 34.0**	**+1.0**
	comp=N,45nm,1.4s								
ECSD	**EROS Data Cent**	**19.48**	**41**	*e*P		**P**	**10 31 41.6**	**+0.4**
	comp=N,49nm,1.4s								
DGMT	**Dagmar**	**19.90**	**20**	*e*P		**Pn**	**10 31 46.7**	**-0.7**
	comp=N,52nm,1.1s								
MDND	**Maddock**	**20.98**	**28**	*e*P		**P**	**10 31 57.6**	**+0.1**
	comp=N,70nm,1.3s								
SPMN	**St. Paul**	**22.55**	**42**	*e*P		**P**	**10 32 15.1**	**+0.6**
	comp=N,52nm,1.9s								
AGMN	**Agassiz Nation**	**22.95**	**32**	*e*P		**P**	**10 32 18.2**	**-0.4**
	comp=N,32nm,1.4s								
JFWS	**Jewell Farm**	**22.97**	**49**	*e*P		**P**	**10 32 21.2**	**+2.4**
	comp=N,94nm,1.7s								
EDM	**Edmonton**	**23.17**	**1**	*e*P		**P**	**10 32 19.6**	**-1.2**
ULM	**Lac du Bonnet**	**24.39**	**29**	*e*P		**P**	**10 32 31.9**	**-0.7**
ULM	**Lac du Bonnet**	**24.39**	**29**	P		**P**	**10 32 31.0**	**-1.5**
	comp=N,24nm,1.2s,baz=219,slow=10,SNR=8.4								
BBB	**Bella Bella**	**24.44**	**339**	LR		LR	10 42 20.7		
	comp=N,2µm,19.9s,baz=183,slow=38								
TEIG	**Tepich**	**25.25**	**107**	*e*P		P	10 32 47.0	+6.5	
	comp=N,11nm,1.2s								
TKL	**Tuckaleechee C**	**25.99**	**70**	P		**P**	**10 32 48.5**	**+1.3**
TKL	**Tuckaleechee C**	**25.99**	**70**	P		**P**	**10 32 48.5**	**+1.3**
	comp=N,2.3nm,0.6s,baz=252,slow=13,SNR=2.9								
TKL					LR	LR	10 43 15.9		
	comp=N,1µm,21.0s,baz=250,slow=37								
FFC	**Flin Flon**	**26.16**	**16**	*e*P		**P**	**10 32 47.9**	**-0.6**
	comp=N,364nm,2.9s								
APG	**El Apazote**	**26.36**	**119**	P		**P**	**10 32 52.8**	**+1.8**
APG	**El Apazote**	**26.36**	**119**	P		**P**	**10 32 52.8**	**+1.8**
	comp=N,10nm,1.2s,baz=303,slow=11,SNR=3.7								
APG					LR	LR	10 44 03.9		
	comp=N,1µm,18.4s,baz=130,slow=38								
DLBC	**Dease Lake**	**30.45**	**343**	P		**P**	**10 33 28.3**	**+1.5**
DLBC	**Dease Lake**	**30.45**	**343**	P		**P**	**10 33 28.3**	**+1.5**
	comp=N,20nm,1.1s,baz=138,slow=7.6,SNR=11								
DAWY	**Dawson**	**37.63**	**342**	*e*P		**P**	**10 34 30.2**	**+1.2**
DOT	**Dot Lake**	**38.66**	**339**	*e*P		P	10 34 41.5	+3.9	
	comp=N,14nm,1.3s								
EGAK	**Eagle**	**38.67**	**342**	*e*P		**P**	**10 34 39.4**	**+1.7**
	comp=N,20nm,1.1s								
PMR	**Palmer**	**39.03**	**334**	*e*P		**P**	**10 34 42.5**	**+1.8**
	comp=N,21nm,1.2s								
SPU	**Mount Spurr**	**39.93**	**332**	*e*P		**P**	**10 34 49.9**	**+1.6**
INK	**Inuvik**	**39.97**	**349**	P		**P**	**10 34 48.5**	**0.0**
INK	**Inuvik**	**39.97**	**349**	P		**P**	**10 34 48.5**	**0.0**
	comp=N,12nm,1.1s,baz=146,slow=7.5,SNR=9.4								
INK					LR	LR	10 52 21.4		
	comp=N,1µm,21.3s,baz=284,slow=38								
MCK	**McKinley**	**40.31**	**337**	*e*P		**P**	**10 34 52.9**	**+1.5**
	comp=N,14nm,1.1s								
ILAR	**Eielson Array**	**40.33**	**339**	P		**P**	**10 34 52.5**	**+0.9**
ILAR	**Eielson Array**	**40.33**	**339**	P		**P**	**10 34 52.5**	**+0.9**
	comp=N,9.0nm,1.1s,baz=151,slow=6.7,SNR=50								
TRF	**Thorofare Moun**	**40.60**	**336**	*e*P		**P**	**10 34 54.8**	**+0.8**
	comp=N,20nm,1.2s								
COLA	**College**	**40.70**	**339**	*e*P		**P**	**10 34 56.9**	**+2.3**
	comp=N,22nm,1.3s								
PPLA	**Purkeypile**	**40.96**	**334**	*e*P		**P**	**10 34 58.4**	**+1.5**
	comp=N,35nm,1.1s								
CAST	**Castle Rocks**	**41.23**	**335**	*e*P		**P**	**10 34 59.6**	**+0.6**
	comp=N,12nm,1.0s								
BPAW	**Bear Paw Mtn.**	**41.24**	**336**	*e*P		**P**	**10 35 00.2**	**+1.1**
	comp=N,20nm,1.1s								
SVW2	**Sparrevohn**	**41.34**	**331**	*e*P		**P**	**10 35 00.6**	**+0.6**
	comp=N,13nm,1.3s								
COLD	**Coldfoot**	**43.00**	**340**	*e*P		**P**	**10 35 15.4**	**+2.1**
	comp=N,21nm,1.2s								
IM04	**Indian Mountai**	**43.32**	**338**	*e*P		**P**	**10 35 16.7**	**+0.6**
IMA2	**Indian Mountai**	**43.35**	**338**	*e*P		**P**	**10 35 16.6**	**+0.2**
OTAV	**Otavalo**	**45.01**	**125**	*e*P		P	10 35 35.7	+5.1	
	comp=N,6.3nm,1.1s								
SUMG	**Summit**	**57.33**	**20**	*i* P		**P**	**10 37 02.6**	**+0.2**
	comp=N,10.0nm,1.1s								
SUMG	**Summit**	**57.33**	**20**	*e*P		**P**	**10 37 03.0**	**+0.7**
LPAZ	**La Paz**	**63.87**	**130**	P		P	10 37 55.1	+7.1	
LPAZ	**La Paz**	**63.87**	**130**	P		P	10 37 55.1	+7.1	
	comp=N,1.2nm,0.8s,baz=100,slow=11,SNR=4.3								
SIV	**San Ignacio**	**68.55**	**124**	P		P	10 38 22.2	+4.8	
SIV	**San Ignacio**	**68.55**	**124**	P		P	10 38 22.2	+4.8	
	comp=N,3.3nm,0.8s,baz=313,slow=6.2,SNR=7.4								
NOA	**NORSAR Array B**	**78.97**	**24**	P		**P**	**10 39 17.8**	**-0.1**
NOA	**NORSAR Array B**	**78.97**	**24**	P		**P**	**10 39 17.8**	**-0.1**
	comp=N,0.7nm,0.6s,baz=311,slow=5.2,SNR=2.4								
FINES	**FINESS Array B**	**83.28**	**18**	P		**P**	**10 39 41.6**	**+0.9**
FINES	**FINESS Array B**	**83.28**	**18**	P		**P**	**10 39 41.6**	**+0.9**
	comp=N,2.5nm,0.8s,baz=344,slow=8.8,SNR=3.0								
USRK	**Ussuriysk Arra**	**84.67**	**319**	P		**P**	**10 39 49.1**	**+0.9**
	comp=6.7nm,1.1s,baz=35,slow=2.9,SNR=5.1								
ESDC	**Sonseca Array**	**85.02**	**47**	P		**P**	**10 39 51.5**	**+1.3**
ESDC	**Sonseca Array**	**85.02**	**47**	P		**P**	**10 39 51.5**	**+1.3**
	comp=N,0.2nm,0.3s,baz=302,slow=2.9,SNR=3.5								
MAJO	**Matsushiro**	**85.26**	**310**	*e*P		**P**	**10 39 52.6**	**+1.3**
	comp=N,10nm,1.0s								
MJAR	**Matsushiro Arr**	**85.26**	**310**	P		**P**	**10 39 51.5**	**+0.2**
MJAR	**Matsushiro Arr**	**85.26**	**310**	P		**P**	**10 39 51.5**	**+0.2**
	comp=N,3.7nm,1.0s,baz=28,slow=2.7,SNR=12								
JCJ	**Chichijima**	**87.60**	**300**	LR		LR	11 17 04.2		
	comp=N,343nm,18.9s,baz=328,slow=34								
CN2	**Changchun**	**88.57**	**321**	*e*P		**P**	**10 40 06.8**	**-0.5**
AKASG	**Malin Array Be**	**93.30**	**22**	P		**P**	**10 40 29.0**	**-0.1**
AKASG	**Malin Array Be**	**93.30**	**22**	P		**P**	**10 40 29.0**	**-0.1**
	comp=N,0.3nm,0.3s,baz=338,slow=3.3,SNR=4.4								
SONM	**Songino Array**	**94.39**	**334**	P		**P**	**10 40 36.5**	**+2.1**
SONM	**Songino Array**	**94.39**	**334**	P		**P**	**10 40 36.5**	**+2.1**
	comp=N,0.6nm,0.7s,baz=51,slow=2.3,SNR=6.1								
ZALV	**Zalesovo Beam**	**94.78**	**349**	P		P	10 40 39.8	+4.0	
ZALV	**Zalesovo Beam**	**94.78**	**349**	P		P	10 40 39.8	+4.0	
	comp=N,0.7nm,0.7s,baz=347,slow=5.0,SNR=3.2								
HHC	**Hu-ho-hao-te**	**97.79**	**327**	*e*P		**P**	**10 40 48.1**	**-1.9**
HHC				pP		**pP**	**10 40 53.3**	**-0.6**
HHC				PP		**PP**	**10 44 51.4**	**+4.2**
HHC				SKS		**SKSac**	**10 51 22.3**	**-5.4**
HHC				S		S	10 52 09.1	-6.8	
HHC				SS		**SS**	**10 58 54.0**	**-1.0**
HHC				LR	LR				
	comp=N,200nm,17.7s								
HHC				LR	LR				
	comp=N,190nm,16.2s								
HHC				LR	LR				
	comp=N,260nm,17.1s								
NJ2	**Nanjing**	**100.43**	**316**	*e*P		**Pdif**	**10 41 02.8**	**+1.1**
NJ2				AMB		AMB			
	comp=N,10.0nm,0.6s								
CD2	**Chengdu**	**109.52**	**326**	Pdif		**Pdif**	**10 41 43.3**	**+1.0**
WRA	**Warramunga Arr**	**117.98**	**262**	PKP		**PKPdf**	**10 46 03.1**	**+1.4**
WRA	**Warramunga Arr**	**117.98**	**262**	PKP		**PKPdf**	**10 46 03.1**	**+1.4**
	comp=N,0.7nm,0.9s,baz=37,slow=1.7,SNR=5.3								
ASAR	**Alice Springs**	**119.81**	**258**	PKPpre		PKPpre	10 46 05.3		
ASAR	**Alice Springs**	**119.81**	**258**	PKhKP		PKPpre	10 46 05.3		
	comp=N,1.0nm,1.0s,baz=143,slow=0.8,SNR=6.0								
CMAR	**Chiang Mai Arr**	**122.25**	**322**	PKP		**PKPdf**	**10 46 11.8**	**+1.8**
CMAR	**Chiang Mai Arr**	**122.25**	**322**	PKP		**PKPdf**	**10 46 11.8**	**+1.8**
	comp=N,1.2nm,0.4s,baz=316,slow=2.4,SNR=7.5								

CSEM ***16*** *10:31:00.2, 37°.12N×30°.57E, h3km, MD2.3, After ISK*

ISK 16 10:31:00.2, 37°.12N×30°.57E, h3km, MD2.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s	ISC
ANTB	**Antalya**	**0.23**	**162**	*e*PG	Pg	10	31	05.8	+1.2
ANTB	**Antalya**	**0.23**	**162**	*e*Pg	Pg	10	31	05.8	+1.2
BCK	**Bucak**	**0.34**	**3**	*e*PG	Pg	10	31	07.9	+0.9
BCK				*e*SG	Sb	10	31	13.4	-1.7
BCK	**Bucak**	**0.34**	**3**	*e*Pg	Pg	10	31	07.9	+0.9
BCK				*e*Sg	Sb	10	31	13.4	-1.7
SUTC	**Sutluce-Ispart**	**0.50**	**44**	*e*PG	Pg	10	31	10.1	+0.1
SUTC				*e*SG	Sb	10	31	18.4	-1.3
SUTC	**Sutluce-Ispart**	**0.50**	**44**	*e*Pg	Pg	10	31	10.1	+0.1
SUTC				*e*Sg	Sb	10	31	18.4	-1.3
ELL	**Elmali**	**0.64**	**235**	*e*PG	Pg	10	31	13.4	+0.7
ELL				*e*SG	Sb	10	31	23.0	-0.8
ELL	**Elmali**	**0.64**	**235**	*e*Pg	Pg	10	31	13.4	+0.7
ELL				*e*Sg	Sb	10	31	23.0	-0.8
HDMB	**Hadim**	**1.54**	**95**	*e*PN	Pb	10	31	29.5	-0.2
HDMB	**Hadim**	**1.54**	**95**	*e*Pn	Pb	10	31	29.5	-0.3

CSEM ***16*** *10:31:10.1, 40°.02N×33°.53E, h5km, MD2.6, After ISK*

ISK 16 10:31:10.1, 40°.02N×33°.53E, h5km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s	ISC
ANTO	**Ankara**	**0.58**	**255**	*e*PG	Pb	10	31	22.6	-0.4
ANTO				*e*SG	Sb	10	31	31.8	+0.2
ANTO	**Ankara**	**0.58**	**255**	*e*Pg	Pb	10	31	22.6	-0.3
ANTO				*e*Sg	Sb	10	31	31.8	+0.2
AFSR	**Afʿar-Bala (A**	**0.67**	**212**	*e*PG	Pb	10	31	23.8	-0.6
AFSR	**Afʿar-Bala (A**	**0.67**	**212**	*e*Pg	Pb	10	31	23.8	-0.6
CORM	**Corum**	**0.86**	**79**	*e*PG	Pb	10	31	27.9	+0.1
CORM	**Corum**	**0.86**	**79**	*e*Pg	Pb	10	31	27.9	+0.1
SAFT	**Safranbolu**	**1.38**	**333**	*e*PN	Pg	10	31	37.4	+0.8
SAFT	**Safranbolu**	**1.38**	**333**	*e*Pn	Pg	10	31	37.4	+0.8
SULT	**Sultanhani-AKS**	**1.82**	**180**	*e*PN	Pb	10	31	43.8	-0.2
SULT	**Sultanhani-AKS**	**1.82**	**180**	*e*Pn	Pb	10	31	43.8	-0.2

TCW				AML	AML	10 43 00.3	
TCW				AML	AML	10 43 00.7	
BHW	**Baring Head**	**3.12**	**194**	⇓PN	Pn	10 42 21.9	-2.7
BHW				AML	AML	10 43 00.1	
PLWZ	**Palliser**	**3.22**	**189**	⇓PN	Pn	10 42 23.0	-2.9
TUWZ	**Tuamarina**	**3.39**	**206**	PN	Pn	10 42 25.1	-3.0
TUWZ				AML	AML	10 43 05.8	
TUWZ				AML	AML	10 43 06.1	
NNZ	**Nelson**	**3.43**	**214**	PN	Pn	10 42 25.5	-3.0
BSWZ	**Blackbirch Sta**	**3.67**	**204**	PN	Pn	10 42 28.6	-3.0
THZ	**Tophouse**	**4.08**	**213**	PN	Pn	10 42 33.4	-3.5
KHZ	**Kahutara**	**4.41**	**203**	⇓PN	Pn	10 42 37.9	-3.3
KHZ				AML	AML	10 43 28.4	
DSZ	**Denniston Nort**	**4.60**	**222**	PN	Pn	10 42 39.2	-4.5
LTZ	**Lake Taylor**	**5.19**	**211**	PN	Pn	10 42 46.5	-4.9
OXZ	**Oxford**	**5.74**	**209**	PN	Pn	10 42 52.6	-6.0
CRLZ	**Canterbury Las**	**5.75**	**205**	PN	Pn	10 42 53.6	-5.0
MQZ	**McQueen's Vall**	**5.86**	**204**	⇑PN	Pn	10 42 54.7	-5.3
WVZ	**Waitaha Valley**	**6.11**	**218**	PN	Pn	10 42 59.0	-4.4
RPZ	**Rata Peaks**	**6.46**	**213**	PN	Pn	10 43 03.7	-4.4
FOZ	**Fox Glacier**	**6.99**	**220**	PN	Pn	10 43 09.0	-6.0
LBZ	**Lake Benmore**	**7.38**	**214**	PN	Pn	10 43 15.4	-4.8
ODZ	**Otahua Downs**	**7.73**	**209**	PN	Pn	10 43 20.1	-4.8
JCZ	**Jackson Bay**	**7.83**	**221**	PN	Pn	10 43 20.0	-6.3
EAZ	**Earnscleugh**	**8.43**	**214**	PN	Pn	10 43 29.2	-4.9
TUZ	**Tuapeka**	**8.88**	**210**	PN	Pn	10 43 36.0	-4.1

AUST ***16*** *10:51:57.7, 3.°50N×122.°50E, h0km*
ISCJB ***16*** *10:52:38.1±0.5, 0.°45N±0.°05×122.°15E±0.°06, h143km±5km, mb3.9/11, Error ellipse: s-maj=10.0km s-min=7.0km az=152.9*
IDC ***16*** *10:52:39.1±0.9, 0.°43N×122.°19E, h142km±8km, mb3.7/11, mb1 3.8/13, mb1mx3.6/28, mbtmp3.7/13, Error ellipse: s-maj=31.1km s-min=10.0km az=68.0*
DJA ***16*** *10:52:39.0±1.0, 1.°N±5.°×12.°2E±.°, h118km±9km, M4.3/6, mb4.5/1, mB4.8/1, MLv4.2/6, Mw(mB)4.0/1*

ISC 16 10:52:39.0±0.6, **0.°50N**±0.°06×**122.°08E**±0.°07, **h136**km±5km, **n42**, σ1**s26**/49, **mb4.0**/11, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.14**	**262**	P	**Pn**	**10 52 55.9**	**-1.6**
TOLI	**Toli-Toli**	**1.42**	**296**	P	**Pn**	**10 53 06.1**	**-0.6**
TOLI				S	**Sn**	**10 53 25.8**	**-2.0**
APSI	**Ampana**	**1.46**	**197**	P	**Pn**	**10 53 06.6**	**-0.5**
LUWI	**Luwuk**	**1.68**	**155**	P	**Pn**	**10 53 12.1**	**+2.5**
LUWI				S	**Sn**	**10 53 34.5**	**+1.5**
LUWI	**Luwuk**	**1.68**	**155**	P	**Pn**	**10 53 08.9**	**-0.7**
	baz=4.5,SNR=23						
KMSI	**Cibinong**	**1.91**	**88**	S	**Sn**	**10 53 36.8**	**-0.8**
TTSI	**Tana Toraja**	**4.18**	**213**	P	**Pn**	**10 53 41.8**	**+0.5**
KKSI	**Kolaka, Sulawe**	**4.66**	**185**	P	**Pn**	**10 53 47.7**	**+0.1**
SPSI	**Sidrap Palu**	**5.00**	**207**	P	**Pn**	**10 53 52.5**	**+0.4**
BNSI	**Bone**	**5.25**	**202**	P	**Pn**	**10 53 56.9**	**+1.4**
KAPI	**Kappang**	**5.95**	**203**	P	**Pn**	**10 54 04.0**	**-0.8**
	2.2nm,0.3s,baz=28,slow=6.8,SNR=8.3						
MTN	**Manton Dam**	**16.01**	**146**	P	**Pn**	**10 56 16.6**	**-0.1**
	baz=18,SNR=11						
KDU	**Kakadu**	**16.67**	**142**	P	**P**	**10 56 24.9**	**+0.2**
	baz=19,SNR=3.6						
KNRA	**Kununurra**	**17.38**	**158**	P	**P**	**10 56 32.7**	**+0.3**
	baz=20,SNR=8.8						
KGM	**Kluang**	**18.81**	**275**	P	**Pn**	**10 56 50.4**	**+0.1**
FITZ	**Fitzroy Crossi**	**18.81**	**169**	P	**P**	**10 56 47.9**	**-0.3**
	baz=22,SNR=8.7						
FITZ	**Fitzroy Crossi**	**18.81**	**169**	P	**P**	**10 56 47.9**	**-0.3**
	1.1nm,0.3s,baz=360,slow=7.3,SNR=37						
WRA	**Warramunga Arr**	**23.60**	**150**	P	**P**	**10 57 35.8**	**-1.8**
	0.7nm,0.3s,baz=328,slow=10,SNR=49						
WRA				PcP	**PcP**	**11 01 17.5**	**-1.5**
	0.4nm,0.6s,baz=329,slow=2.2,SNR=4.5						
ASAR	**Alice Springs**	**26.63**	**155**	P	**P**	**10 58 04.2**	**-0.8**
	1.0nm,0.5s,baz=345,slow=14,SNR=33						
ASAR				pP	**pP**	**10 58 33.0**	**-0.9**
	0.4nm,0.8s,baz=336,slow=12,SNR=2.5						
ASAR				PcP	**PcP**	**11 01 24.9**	**-0.9**
	0.9nm,0.6s,baz=341,slow=2.2,SNR=12						
MEEK	**Meekatharra**	**27.18**	**187**	P	**P**	**10 58 08.6**	**-1.3**
	baz=30,SNR=7.9						
CMAR	**Chiang Mai Arr**	**28.89**	**309**	P	**P**	**10 58 27.8**	**+2.6**
	2.4nm,0.7s,baz=136,slow=7.2,SNR=19						
MORW	**Morawa**	**29.96**	**191**	P	**P**	**10 58 33.5**	**-0.9**
	baz=33,SNR=3.5						
BLDU	**Ballidu**	**31.36**	**189**	P	**P**	**10 58 45.5**	**-1.2**
	baz=35,SNR=7.1						
STKA	**Stephens Creek**	**37.13**	**152**	P	**P**	**10 59 36.3**	**-0.2**
	baz=40,SNR=3.5						
STKA	**Stephens Creek**	**37.13**	**152**	P	**P**	**10 59 35.4**	**-1.1**
	1.7nm,0.5s,baz=306,slow=11,SNR=4.0						
TAPN	**Taplejung**	**42.43**	**312**	*eP*	**P**	**11 00 22.4**	**+1.6**
	15nm,0.6s						
RAMN	**Ramite**	**43.05**	**311**	*eP*	**P**	**11 00 27.4**	**+1.7**
	34nm,0.7s						
JIRN	**Jiri**	**43.73**	**311**	*eP*	**P**	**11 00 32.8**	**+1.4**
	28nm,0.6s						
GUN	**Gumba**	**44.10**	**311**	*eP*	**P**	**11 00 35.8**	**+1.5**
	39nm,0.6s						
KKN	**Kakani**	**44.49**	**311**	*eP*	**P**	**11 00 38.6**	**+1.4**
DMN	**Daman**	**44.52**	**310**	*eP*	**P**	**11 00 39.0**	**+1.4**
	22nm,0.8s						
GKN	**Gorkha**	**45.08**	**311**	*eP*	**P**	**11 00 43.2**	**+1.3**
	28nm,0.6s						
KOLN	**Koldanda**	**45.76**	**310**	*eP*	**P**	**11 00 48.6**	**+1.4**
	31nm,0.6s						
DANN	**Dangsing**	**45.92**	**310**	*eP*	**P**	**11 00 49.7**	**+1.1**
	46nm,0.6s						
ASAJ	**Asahikawa**	**47.12**	**20**	P	**P**	**11 00 57.2**	**-0.1**
	6.4nm,1.0s,baz=123,slow=9.6,SNR=4.7						
SONM	**Songino Array**	**49.08**	**346**	P	**P**	**11 01 13.5**	**+1.0**
	1.2nm,0.6s,baz=165,slow=8.8,SNR=8.0						
SONM				pP	**pP**	**11 01 45.2**	**+1.4**
	0.2nm,0.3s,baz=150,slow=39,SNR=2.8						
MKAR	**Makanchi Array**	**57.71**	**329**	P	**P**	**11 02 16.3**	**+0.9**
	2.8nm,0.6s,baz=125,slow=8.4,SNR=24						
MKAR				pP	**pP**	**11 02 49.3**	**+1.7**
	0.7nm,0.6s,baz=118,slow=9.8,SNR=2.7						
ZALV	**Zalesovo Beam**	**61.48**	**336**	P	**P**	**11 02 40.3**	**-0.8**
	1.5nm,0.7s,baz=131,slow=6.1,SNR=9.5						
BVAR	**Borovoye Array**	**67.58**	**329**	P	**P**	**11 03 20.5**	**-0.3**
	2.0nm,0.6s,baz=138,slow=7.4,SNR=7.7						
AKTO	**Aktyubinsk**	**73.36**	**323**	P	**P**	**11 03 55.0**	**-0.9**
	1.0nm,0.3s,baz=136,slow=3.6,SNR=7.0						
VNDA	**Vanda**	**80.86**	**172**	P	**P**	**11 04 36.2**	**-1.1**
	0.5nm,0.7s,baz=328,slow=5.3,SNR=4.7						
TORD	**Torodi Ar. Bea**	**119.39**	**285**	PKP	**PKPdf**	**11 11 11.4**	**-1.9**
	0.9nm,0.8s,baz=68,slow=0.8,SNR=6.2						

ISCJB ***16*** *10:53:03.9±0.9, 53.°38N±0.°09×62.°92E±0.°09, h0km, mb3.6/1, Error ellipse: s-maj=13.4km s-min=6.1km az=158.6*
CSEM ***16*** *10:53:07.1, 53.°26N×62.°97E, h0km, mb3.5, After NNC*
NNC ***16*** *10:53:07.1±2.6, 53.°26N×62.°97E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=35.5km s-min=7.0km az=151.0*
IDC ***16*** *10:53:08.4±1.4, 53.°92N×63.°14E, h0km, mb3.6/1, mb1 3.4/5, mb1mx3.2/31, mbtmp3.3/5, ML3.1/3, MS3.5/1, Ms1 3.5/1, ms1mx3.2/48, Error ellipse: s-maj=25.7km s-min=9.4km az=166.0*

ISC 16 10:53:06.0±1.2, **53.°4N**±0.°1×**62.°91E**±0.°06, **h0**km, **n16**, σ1**s24**/26, **10C-6D, Western Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKTO	**Aktyubinsk**	**4.26**	**227**	⇑Pg	**Pb**	**10 54 21.7**	**-0.1**
	3.1nm,0.6s						
AKTO				⇑Lg	Lg	10 55 19.8	
	28nm,0.8s						
AKTO	**Aktyubinsk**	**4.26**	**227**	Pg	**Pb**	**10 54 21.7**	**-0.1**
	3.1nm,0.6s						
AKTO				Lg	Lg	10 55 19.8	
	28nm,0.8s						
AKTO	**Aktyubinsk**	**4.26**	**227**	Pn	**Pb**	**10 54 21.8**	**+0.1**
	0.6nm,0.3s,baz=68,slow=15,SNR=9.3						
AKTO				Sn	**Sb**	**10 55 15.3**	**+1.6**
	1.4nm,0.3s,baz=146,slow=6.4,SNR=9.7						
AKTO				LR	LR	10 56 42.0	
	comp=Z,524nm,21.8s,baz=297,slow=45						
BRVK	**Borovoye**	**4.45**	**92**	⇑Pn	**Pn**	**10 54 15.7**	**+1.1**
	3.5nm,0.7s						
BRVK				⇑Pg	**Pg**	**10 54 30.0**	**-1.2**
	4.5nm,0.5s						
BRVK				⇑Lg	Lg	10 55 27.0	
	24nm,0.6s						
BRVK	**Borovoye**	**4.45**	**92**	Pn	**Pn**	**10 54 15.7**	**+1.1**
	3.5nm,0.7s						
BRVK	**Borovoye**	**4.45**	**92**	Pg	**Pg**	**10 54 30.0**	**-1.2**
	4.5nm,0.5s						
BRVK				Lg	Lg	10 55 27.0	
	24nm,0.6s						
BVA0	**Borovoye Array**	**4.51**	**92**	⇑Pn	**Pn**	**10 54 13.6**	**-2.0**
	3.0nm,0.6s,baz=266,slow=14,SNR=6.2						
BVA0				⇓Sn	**Sn**	**10 55 08.8**	**+0.1**
	3.3nm,0.6s,baz=269,slow=30,SNR=6.1						
BVA0				⇓Lg	Lg	10 55 28.8	
	19nm,0.8s,baz=254,slow=28,SNR=5.3						
BVA0	**Borovoye Array**	**4.51**	**92**	Pn	**Pn**	**10 54 13.6**	**-2.0**
	3.0nm,0.6s,SNR=6.2						
BVA0				Sn	**Sn**	**10 55 08.8**	**+0.1**
	3.3nm,0.6s,SNR=6.1						
BVA0				Lg	Lg	10 55 28.8	
	19nm,0.8s,SNR=5.3						
BVAR	**Borovoye Array**	**4.51**	**92**	Pn	**Pn**	**10 54 17.4**	**+1.9**
	1.3nm,0.3s,baz=281,slow=15,SNR=12						
BVAR				Sn	**Sn**	**10 55 08.9**	**+0.2**
	1.7nm,0.3s,baz=290,slow=22,SNR=5.5						
BVAR				Lg	Lg	10 55 29.5	
	2.5nm,0.3s,baz=285,slow=28,SNR=6.8						
AB31	**Akbulak array**	**4.58**	**205**	⇓Pn	**Pn**	**10 54 16.6**	**+0.2**
	0.7nm,0.4s,baz=25,slow=14,SNR=30						
AB31				⇑Pg	**Pb**	**10 54 28.7**	**+1.6**
	1.3nm,0.4s,baz=29,slow=14,SNR=12						
AB31				⇑Sn	**Sn**	**10 55 08.6**	**-1.7**
	2.0nm,0.5s,baz=13,slow=24,SNR=8.4						
AB31				⇑Lg	Lg	10 55 28.9	
	9.1nm,0.5s,baz=16,slow=27,SNR=6.1						
AB31	**Akbulak array**	**4.58**	**205**	Pn	**Pn**	**10 54 16.6**	**+0.2**
	0.7nm,0.4s,SNR=30						
AB31	**Akbulak array**	**4.58**	**205**	Pg	**Pb**	**10 54 28.7**	**+1.6**
	1.3nm,0.4s,SNR=12						
AB31				Sn	**Sn**	**10 55 08.6**	**-1.7**
	2.0nm,0.5s,SNR=8.4						
AB31				Lg	Lg	10 55 28.9	
	9.1nm,0.5s,SNR=6.1						
VOSK	**Vostochnaya**	**4.92**	**95**	⇑Pn	**Pn**	**10 54 22.7**	**+1.5**
	0.7nm,0.4s						
VOSK				⇓Pg	**Pg**	**10 54 39.1**	**-1.1**
	1.3nm,0.5s						
VOSK				⇓Sn	**Sn**	**10 55 19.9**	**+1.2**
	3.1nm,0.6s						
VOSK				⇓Lg	Lg	10 55 40.1	
	12nm,0.6s						
ZALV	**Zalesovo Beam**	**12.99**	**79**	Pn	**Pn**	**10 56 11.2**	**-0.4**
	0.1nm,0.3s,baz=276,slow=14,SNR=2.7						
MKAR	**Makanchi Array**	**14.08**	**110**	Pn	**Pn**	**10 56 25.9**	**-0.6**
	baz=310,slow=16,SNR=1.9						
FINES	**FINESS Array B**	**21.12**	**307**	P	**P**	**10 57 52.4**	**+0.5**
	1.5nm,0.5s,baz=97,slow=12,SNR=12						

IDC ***16*** *10:55:46.5±2.1, 1.°24N×99.°98E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.7/25, mbtmp3.8/6, ML4.5/1, Error ellipse: s-maj=80.5km s-min=20.5km az=51.0*

ISC 16 10:55:52.0±1.4, **1.°4N**±0.°2×**100.°1E**±0.°1, **h35**km, **n16**, σ0**s74**/10, **mb4.1**/5, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**1.81**	**320**	Pn	**Pn**	**10 56 19.9**	**-0.9**
	16nm,0.3s,baz=149,slow=8.1,SNR=38						
PSI				Sn	**Sn**	**10 56 42.4**	**-0.2**
	28nm,0.3s,baz=208,slow=18,SNR=14						
FRIM	**Kepong**	**2.37**	**40**	P	Pn	10 56 44.1	+16
IPM	**Ipoh**	**3.18**	**17**	P	Pn	10 56 47.2	+7.5
MYKOM	**Kota Tinggi**	**3.77**	**84**	P	**Pn**	**10 56 47.0**	**-0.8**
KULM	**Kulim**	**3.89**	**8**	P	Pn	10 56 54.6	+5.3
KTGM	**Kuala Trenggan**	**4.93**	**38**	P	Pn	10 57 11.3	+7.6
CMAR	**Chiang Mai Arr**	**16.98**	**356**	P	**P**	**10 59 48.0**	**-0.5**
	0.6nm,0.3s,baz=192,slow=13,SNR=3.7						
H08S2	**Diego Garcia H**	**28.96**	**251**	T	T	11 29 48.1	
	baz=73						
H08S3	**Diego Garcia H**	**28.97**	**252**	T	T	11 29 46.1	
	baz=73						
H08S1	**Diego Garcia H**	**28.98**	**252**	T	T	11 29 45.3	
	baz=73						
WRA	**Warramunga Arr**	**39.73**	**124**	P	**P**	**11 03 21.2**	**-0.3**
	0.7nm,1.0s,baz=298,slow=8.8,SNR=2.7						
ASAR	**Alice Springs**	**41.25**	**129**	PcP	**PcP**	**11 05 33.0**	**+0.4**
	0.3nm,0.7s,baz=280,slow=2.9,SNR=4.4						
SONM	**Songino Array**	**46.56**	**6**	P	**P**	**11 04 17.2**	**+0.8**
	0.3nm,0.4s,baz=184,slow=5.8,SNR=2.6						
MKAR	**Makanchi Array**	**47.79**	**344**	P	**P**	**11 04 26.5**	**+0.5**
	1.1nm,0.6s,baz=145,slow=7.0,SNR=5.9						
ZALV	**Zalesovo Beam**	**53.85**	**349**	P	**P**	**11 05 12.4**	**+1.0**
	1.0nm,0.5s,baz=175,slow=8.1,SNR=8.2						
FINES	**FINESS Array B**	**81.15**	**332**	P	**P**	**11 08 03.5**	**-0.2**
	5.3nm,1.1s,baz=114,slow=9.3,SNR=3.3						

IDC 16 11:17:17.6±5.1, **0.°86N**×**99.°06E, h0**km, **mb3.8**/2, **mb1 3.7**/3, **mb1mx3.3**/26, **mbtmp3.6**/3, **ML3.8**/1, **Error ellipse: s-maj=301.3km s-min=48.0km az=92.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**1.94**	**356**	Pn	Pn	11 17 51.0	-1.0
	18nm,0.3s,baz=146,slow=14,SNR=36						
PSI				Sn	Sn	11 18 13.6	-3.6
	24nm,0.3s,baz=202,slow=18,SNR=13						
CMAR	**Chiang Mai Arr**	**17.49**	**360**	P	P	11 21 24.8	+0.3
	0.1nm,0.3s,baz=184,slow=11,SNR=4.6						
MKAR	**Makanchi Array**	**48.04**	**345**	P	P	11 25 58.7	0.0
	0.5nm,0.5s,baz=155,slow=7.7,SNR=7.3						
ZALV	**Zalesovo Beam**	**54.21**	**350**	P	P	11 26 44.3	-0.6
	0.7nm,0.5s,baz=177,slow=7.2,SNR=6.2						

IDC 16 11:38:56.3±3.8, **30.°40N**×**114.°05W, h0**km, **mb3.6**/1, **mb1 3.4**/5, **mb1mx3.4**/26, **mbtmp3.1**/5, **ML2.8**/4, **MS3.6**/1, **Ms1 3.7**/1, **ms1mx3.3**/36, **Error ellipse: s-maj=71.5km s-min=11.1km az=25.0, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFO	**Pinyon Flat Ob**	**3.80**	**328**	Pn	Pn	11 39 53.8	-2.5
	0.1nm,0.3s,baz=175,slow=12,SNR=2.2						
PFO				Lg	Lg	11 41 02.6	
	3.3nm,0.3s,baz=294,slow=8.9,SNR=7.1						
ANMO	**Albuquerque**	**7.84**	**53**	Pn	Pn	11 40 52.4	+0.4
	0.1nm,0.3s,baz=232,slow=15,SNR=3.6						
ANMO				Lg	Lg	11 43 09.2	
	0.1nm,0.3s,baz=188,slow=19,SNR=2.5						
NVAR	**Mina Array Bea**	**8.75**	**337**	Pn	Pn	11 41 07.1	+2.7
	0.1nm,0.3s,baz=162,slow=13,SNR=2.8						
NVAR				Lg	Lg	11 43 47.8	
	0.1nm,0.3s,baz=137,slow=26,SNR=2.7						
NVAR				LR	LR	11 44 04.0	
	comp=Z,447nm,21.3s,baz=39,slow=35						
TXAR	**Lajitas Array**	**9.08**	**94**	Pn	Pn	11 41 09.9	+1.1
	0.1nm,0.3s,baz=264,slow=14,SNR=3.8						
TXAR				Sn	Sn	11 42 50.0	-1.9
	0.1nm,0.3s,baz=285,slow=25,SNR=4.0						
TXAR				Lg	Lg	11 43 42.8	
	0.1nm,0.3s,baz=253,slow=25,SNR=4.1						
ILAR	**Eielson Array**	**40.00**	**339**	P	P	11 46 34.0	+1.4
	0.8nm,0.7s,baz=149,slow=7.3,SNR=13						

AUST ***16*** *11:38:35.2±99.0, 34.°76S×175.°42W, h0km±1km, Error ellipse: s-maj=13.4km s-min=2.2km az=246.0*
NEIC ***16*** *11:39:03.2±1.4, 32.°83S×178.°48W, h43km±11km, mb4.6/2, Error ellipse: s-maj=18.1km s-min=11.9km az=111.0*
IDC ***16*** *11:39:04.6±1.0, 32.°62S×178.°69W, h45km±7km, mb4.1/6, mb1 4.4/7, mb1mx3.9/19, mbtmp4.2/7, ML4.9/1, Error ellipse: s-maj=23.9km s-min=21.7km az=138.0*

ISC 16 11:39:02.5±0.6, **32.°87S**±0.°06×**178.°4W**±0.°1, **h32**km, **n53**, σ1**s62**/61, **mb4.4**/7, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.63**	**6**	P	**Pn**	**11 39 55.5**	**-1.0**
RAO				S	**Sn**	**11 40 38.5**	**+0.3**
RAO	**Raoul Island**	**3.63**	**6**	P	**Pn**	**11 39 55.5**	**-1.0**
	107nm,0.3s,baz=224,slow=22,SNR=5.6						
RAO				S	**Sn**	**11 40 38.5**	**+0.3**
	87nm,0.3s,baz=72,slow=20,SNR=3.5						
URZ	**Urewera**	**6.51**	**213**	P	**Pn**	**11 40 34.5**	**-1.6**
URZ				S	**Sn**	**11 41 48.3**	**-1.0**
	3.3nm,0.3s,baz=110,slow=2.8,SNR=25						
URZ				S	**Sn**	**11 41 48.3**	**-1.0**
	5.2nm,0.3s,baz=26,slow=18,SNR=6.1						
OUZ	**Omahuta**	**7.06**	**248**	*e*Pn	**Pn**	**11 40 45.5**	**+1.9**
	28nm,0.6s						
RPZ	**Rata Peaks**	**13.63**	**214**	P	**Pn**	**11 42 13.6**	**0.0**
RPZ				S	Sn	11 44 27.7	-16
RPZ	**Rata Peaks**	**13.63**	**214**	P	**Pn**	**11 42 13.6**	**0.0**
	0.7nm,0.3s,baz=22,slow=16,SNR=4.0						
RPZ				S	Sn	11 44 27.7	-16
	0.2nm,0.3s,baz=30,slow=20,SNR=3.0						
DZM	**Mont Dzumac**	**17.21**	**305**	P	**Pn**	**11 43 01.0**	**+0.4**
DZM				S	Sn	11 45 45.3	-26
DZM	**Mont Dzumac**	**17.21**	**305**	P	**Pn**	**11 43 01.0**	**+0.4**
	0.1nm,0.3s,baz=123,slow=18,SNR=4.2						
DZM				S	Sn	11 45 45.3	-26
	0.4nm,0.3s,baz=37,slow=17,SNR=6.2						
CMSA	**Cobar Meteorol**	**30.34**	**263**	P	**P**	**11 45 11.6**	**+0.3**
	baz=32,SNR=6.3						
CTA	**Charters Tower**	**33.95**	**283**	P	**P**	**11 45 42.3**	**-0.8**
CTA				pP	**pP**	**11 45 55.5**	**+3.1**
CTA	**Charters Tower**	**33.95**	**283**	P	**P**	**11 45 42.3**	**-0.8**
	4.8nm,0.6s,baz=107,slow=10,SNR=12						
CTA				pP	**pP**	**11 45 55.5**	**+3.1**
	2.5nm,0.5s,baz=115,slow=11,SNR=3.2						
CTAO	**Charters Tower**	**33.95**	**283**	*e*P	**P**	**11 45 42.2**	**-0.9**
	5.1nm,0.6s						
MTSU	**Mount Surprise**	**36.52**	**284**	P	**P**	**11 46 04.9**	**-0.3**
	baz=39,SNR=5.2						
COEN	**Coen**	**39.70**	**289**	P	**P**	**11 46 31.5**	**-0.6**
	baz=43,SNR=8.1						
AS31	**Alice Springs**	**42.71**	**270**	*e*P	**P**	**11 46 54.9**	**-1.9**
ASAR	**Alice Springs**	**42.71**	**270**	P	**P**	**11 46 54.7**	**-2.1**
ASAR				pP	**pP**	**11 47 08.5**	**+2.2**
ASAR	**Alice Springs**	**42.71**	**270**	P	**P**	**11 46 54.7**	**-2.1**
	6.0nm,0.7s,baz=108,slow=7.5,SNR=74						
ASAR				pP	**pP**	**11 47 08.5**	**+2.2**
	1.5nm,0.5s,baz=110,slow=7.6,SNR=4.9						
WRAB	**Tennant Creek**	**43.92**	**275**	*e*P	**P**	**11 47 04.3**	**-2.2**
	7.1nm,0.5s						
WRA	**Warramunga Arr**	**43.92**	**275**	P	**P**	**11 47 04.5**	**-2.0**
WRA				pP	**pP**	**11 47 17.2**	**+1.1**
WRA	**Warramunga Arr**	**43.92**	**275**	P	**P**	**11 47 04.5**	**-2.0**
	4.7nm,0.4s,baz=112,slow=10,SNR=168						
WRA				pP	**pP**	**11 47 17.2**	**+1.1**
	1.1nm,0.3s,baz=116,slow=6.6,SNR=5.6						
MMPI	**Merauke**	**45.16**	**293**	P	P	11 47 25.4	+8.9
	baz=48,SNR=4.1						
KDU	**Kakadu**	**49.07**	**282**	P	**P**	**11 47 44.5**	**-2.4**
	baz=52,SNR=4.7						
MTN	**Manton Dam**	**50.09**	**281**	P	**P**	**11 47 52.4**	**-2.3**
	baz=53,SNR=4.2						
KNRA	**Kununurra**	**50.61**	**277**	P	**P**	**11 47 56.8**	**-1.9**
	baz=53,SNR=6.7						
FITZ	**Fitzroy Crossi**	**52.07**	**272**	P	**P**	**11 48 07.5**	**-2.1**
	baz=54,SNR=4.7						
QSPA	**South Pole Qui**	**57.25**	**180**	P	**P**	**11 48 49.9**	**+3.2**
QSPA	**South Pole Qui**	**57.25**	**180**	P	**P**	**11 48 49.8**	**+3.2**
	2.5nm,0.7s						
MAW	**Mawson**	**69.89**	**201**	P	**P**	**11 50 10.5**	**+0.6**
MAW	**Mawson**	**69.89**	**201**	P	**P**	**11 50 10.5**	**+0.6**
	1.8nm,0.9s,baz=100,slow=6.3,SNR=3.8						
H03N3	**Juan Fernandez**	**79.59**	**123**	T	T	13 19 49.4	
	baz=238,slow=0.7,SNR=28						
H03N2	**Juan Fernandez**	**79.59**	**123**	T	T	13 19 47.2	
	baz=238,slow=0.7,SNR=14						
H03N1	**Juan Fernandez**	**79.60**	**123**	T	T	13 19 59.1	
	baz=238,slow=0.7,SNR=20						
NVAR	**Mina Array Bea**	**90.27**	**43**	P	**P**	**11 52 02.1**	**+1.9**
NVAR	**Mina Array Bea**	**90.27**	**43**	P	**P**	**11 52 02.1**	**+1.9**
	0.2nm,0.6s,baz=210,slow=7.0,SNR=3.6						
MKAR	**Makanchi Array**	**119.09**	**309**	PKP	**PKPdf**	**11 57 46.1**	**-1.6**
MKAR	**Makanchi Array**	**119.09**	**309**	PKP	**PKPdf**	**11 57 46.1**	**-1.6**
	0.5nm,0.6s,baz=187,slow=1.1,SNR=5.9						
ZALV	**Zalesovo Beam**	**119.64**	**318**	PKP	**PKPdf**	**11 57 46.7**	**-1.8**
ZALV	**Zalesovo Beam**	**119.64**	**318**	PKP	**PKPdf**	**11 57 46.7**	**-1.8**
	0.4nm,0.4s,baz=129,slow=2.0,SNR=4.1						
ARCES	**ARCESS Array B**	**140.92**	**347**	PKPpre	PKPpre	11 58 22.9	
ARCES				PKP	**PKiKP**	**11 58 30.0**	**-1.0**
ARCES	**ARCESS Array B**	**140.92**	**347**	PK

	comp=Z,1μm,20.5s,baz=165,slow=40							
LPIG	**La Paz**	**7.11**	**153**	LR	LR	12 17 37.3		
	comp=Z,748nm,20.4s,baz=333,slow=37							
ANMO	**Albuquerque**	**7.66**	**53**	Pn	Pn	12 15 09.8	+0.2	
	0.4nm,0.3s,baz=230,slow=14,SNR=12							
ANMO				Lg	Lg	12 17 22.8		
	0.2nm,0.3s,baz=209,slow=14,SNR=2.3							
NVAR	**Mina Array Bea**	**8.72**	**336**	Pn	Pn	12 15 26.0	+1.8	
	0.1nm,0.3s,baz=162,slow=15,SNR=12							
NVAR				Lg	Lg	12 17 56.8		
	baz=167,slow=21,SNR=2.0							
NVAR				LR	LR	12 19 12.6		
	comp=Z,365nm,18.2s,baz=281,slow=41							
TXAR	**Lajitas Array**	**8.93**	**95**	Pn	Pn	12 15 28.2	+1.3	
	0.2nm,0.3s,baz=257,slow=14,SNR=5.0							
TXAR				Sn	Sn	12 17 05.1	-3.2	
	baz=288,slow=23,SNR=2.7							
TXAR				Lg	Lg	12 18 06.7		
	0.5nm,0.3s,baz=268,slow=27,SNR=6.3							
TXAR				LR	LR	12 19 09.2		
	comp=Z,665nm,21.1s,baz=10.0,slow=40							
ELK	**Elko**	**10.29**	**354**	Pn	Pn	12 15 45.8	+0.1	
	0.1nm,0.3s,baz=199,slow=13,SNR=5.4							
PDAR	**Pinedale Array**	**12.73**	**15**	Pn	Pn	12 16 21.9	+2.9	
	0.1nm,0.3s,baz=168,slow=14,SNR=4.4							
PDAR				Lg	Lg	12 20 08.9		
	0.0nm,0.3s,baz=197,slow=18,SNR=2.1							
YBH	**Yreka Blue Hor**	**13.29**	**330**	LR	LR	12 21 07.7		
	comp=Z,302nm,21.4s,baz=152,slow=36							
NEW	**Newport**	**17.92**	**353**	P	P	12 17 28.0	+0.2	
	0.1nm,0.3s,baz=182,slow=15,SNR=4.4							
ULM	**Lac du Bonnet**	**23.91**	**29**	P	P	12 18 32.7	+0.8	
	2.3nm,0.8s,baz=172,slow=6.0,SNR=3.4							
BBB	**Bella Bella**	**24.08**	**338**	LR	LR	12 28 58.5		
	comp=Z,213nm,19.2s,baz=317,slow=39							
APG	**El Apazote**	**26.44**	**120**	LR	LR	12 31 54.1		
	comp=Z,226nm,18.1s,baz=260,slow=42							
JTS	**JuntasAbangare**	**33.57**	**121**	LR	LR	12 34 59.0		
	comp=Z,143nm,20.0s,baz=149,slow=39							
ILAR	**Eielson Array**	**39.97**	**339**	P	P	12 20 52.6	+0.2	
	2.0nm,0.7s,baz=151,slow=7.7,SNR=31							
CMAR	**Chiang Mai Arr**	**121.99**	**323**	PKP	PKPdf	12 32 11.9	-1.6	
	0.4nm,0.4s,baz=345,slow=2.8,SNR=5.4							

IDC 16 12:23:12.0±1.9, 15°.61S×173°.36W, h0km, mb3.9/6, mb1 4.3/6, mb1mx4.0/20, mbtmp3.9/6, MS3.3/1, Ms1 3.3/1, ms1mx2.9/37, Error ellipse: s-maj=115.9km s-min=22.3km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.28**	**42**	Pn	Pn	12 23 43.8	-7.2
	18nm,0.3s,baz=127,slow=4.5,SNR=22						
AFI				Sn	Sn	12 24 03.9	-16
	137nm,0.3s,baz=4.5,slow=21,SNR=19						
RAR	**Rarotonga**	**14.04**	**115**	LR	LR	12 30 06.1	
	comp=Z,129nm,20.8s,baz=135,slow=30						
H11S2	**WAKE ISLAND Hy**	**39.16**	**329**	T	T	13 11 29.9	
	baz=152,slow=0.7,SNR=38						
H11S3	**WAKE ISLAND Hy**	**39.17**	**329**	T	T	13 11 32.4	
	baz=152,slow=0.7,SNR=22						
H11S1	**WAKE ISLAND Hy**	**39.18**	**329**	T	T	13 11 31.2	
	baz=152,slow=0.7,SNR=26						
H11N3	**WAKE ISLAND Hy**	**40.11**	**330**	T	T	13 12 49.6	
	baz=153,slow=0.7,SNR=22						
H11N1	**WAKE ISLAND Hy**	**40.11**	**330**	T	T	13 12 43.6	
	baz=153,slow=0.7,SNR=20						
H11N2	**WAKE ISLAND Hy**	**40.13**	**330**	T	T	13 13 04.0	
	baz=153,slow=0.7,SNR=23						
WRA	**Warramunga Arr**	**49.84**	**257**	P	P	12 32 06.2	-1.2
	0.7nm,0.8s,baz=93,slow=6.7,SNR=8.1						
ASAR	**Alice Springs**	**50.09**	**252**	P	P	12 32 09.3	+0.1
	3.6nm,0.7s,baz=87,slow=8.0,SNR=52						
NVAR	**Mina Array Bea**	**74.45**	**42**	P	P	12 34 53.0	+0.4
	0.8nm,0.8s,baz=236,slow=7.5,SNR=6.4						
TXAR	**Lajitas Array**	**80.69**	**56**	P	P	12 35 27.1	-0.4
	1.0nm,0.9s,baz=230,slow=9.7,SNR=6.1						
PDAR	**Pinedale Array**	**82.39**	**42**	P	P	12 35 36.2	-0.2
	2.2nm,1.1s,baz=207,slow=2.2,SNR=8.4						
ILAR	**Eielson Array**	**82.64**	**11**	P	P	12 35 35.5	-1.3
	0.4nm,0.7s,baz=223,slow=6.1,SNR=6.0						
BRTR	**Keskin Array B**	**146.34**	**321**	PKPbc	PKPab	12 42 56.2	+0.2
	1.4nm,0.7s,baz=124,slow=1.3,SNR=6.6						
GERES	**GERESS Array B**	**146.35**	**352**	PKPbc	PKPab	12 42 55.4	-0.3
	0.5nm,0.2s,baz=90,slow=2.9,SNR=3.4						

MAN 16 12:32:50, 13°.45N×124°.53E, h32km, mb4.4, ML3.3, MS3.1, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVCP	**Virac**	**0.39**	**292**	↓*i*P	Pn	12 33 01.1	+1.7
CNP	**Catarman**	**0.94**	**172**	*e*P	Pb	12 33 07.9	0.0
CNP				*e*S	Sb	12 33 20.1	0.0
AUQP	**San Andres**	**1.81**	**266**	*e*P	Pn	12 33 19.9	+1.0
RCP	**Roxas**	**2.56**	**223**	↑*e*P	Pn	12 33 31.6	+2.3
BOAC	**Boac**	**2.61**	**271**	*e*P	Pn	12 33 31.5	+1.6

*BJI **16** 12:49:19.6, 24°.68N×96°.23E, h11km, mb4.3/4, ML3.5/8*
*ISCJB **16** 12:49:21.0±0.6, 24°.85N±0°.08×96°.18E±0°.05, h21km, mb3.6/7, MS3.6/1, Error ellipse: s-maj=12.5km s-min=5.8km az=16.5*
*IDC **16** 12:49:20.5±1.0, 24°.97N×96°.38E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.6/30, mbtmp3.7/8, ML3.7/1, MS3.6/1, Ms1 3.6/1, ms1mx2.9/54, Error ellipse: s-maj=58.3km s-min=14.0km az=65.0*
ISC 16 12:49:23.6±0.8, 25°.0N±0°.1×96°.32E±0°.07, h21km, n24, σ2§08/27, mb3.6/7, 1C, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**4.06**	**279**	↑*i*P	**Pn**	**12 50 26.0**	**+1.4**
SHL				*i* S	**Sn**	**12 51 15.0**	**+3.4**
KMI	**Kunming**	**5.83**	**87**	Pn	**Pn**	**12 50 47.1**	**-1.9**
KMI				Sg	Sb	12 52 24.8	+10
KMI				SMN			
	comp=Z,32nm,1.1s						
KMI				SME			
	comp=Z,24nm,1.1s						
LSA	**Lhasa**	**6.58**	**317**	Pn	Pn	12 51 03.5	+3.9
LSA				SME			
	comp=Z,7.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**6.92**	**159**	Pn	**Pn**	**12 51 03.1**	**-0.7**
	0.4nm,0.3s,baz=333,slow=12,SNR=12						
CMAR				Pg	Pb	12 51 27.9	+4.7
	0.4nm,0.3s,baz=339,slow=17,SNR=16						
CMAR				Lg	Lg	12 52 56.8	
	0.4nm,0.3s,baz=343,slow=27,SNR=3.7						
TAPN	**Taplejung**	**8.09**	**289**	*e*P	**Pn**	**12 51 19.9**	**-0.2**
	18nm,0.3s						
TAPN				*e*S	**Sn**	**12 52 48.2**	**-2.9**
ODAN	**Odare**	**8.25**	**285**	*e*P	**Pn**	**12 51 22.7**	**+0.4**
	28nm,0.5s						
ODAN				*e*S	**Sn**	**12 52 56.3**	**+1.2**
RAMN	**Ramite**	**8.96**	**285**	*e*P	**Pn**	**12 51 32.2**	**+0.1**
	26nm,0.5s						
RAMN				*e*S	**Sn**	**12 53 13.1**	**+0.5**
JIRN	**Jiri**	**9.47**	**289**	*e*P	**Pn**	**12 51 38.2**	**-1.0**
	22nm,0.4s						
GUN	**Gumba**	**9.80**	**290**	*e*P	**Pn**	**12 51 41.0**	**-2.7**
	16nm,0.4s						
PKI	**Pulchoki**	**10.13**	**287**	*e*P	**Pn**	**12 51 47.2**	**-0.9**
	20nm,0.6s						
PKIN	**Phulchoki**	**10.14**	**287**	*e*P	**Pn**	**12 51 47.2**	**-1.0**
	17nm,0.6s						
KKN	**Kakani**	**10.29**	**288**	*e*P	**Pn**	**12 51 49.0**	**-1.2**
	8.9nm,0.4s						
GKN	**Gorkha**	**10.89**	**289**	*e*P	**Pn**	**12 51 56.7**	**-1.7**
	36nm,0.7s						
GKN				*e*S	**Sn**	**12 53 57.5**	**-2.2**
DANN	**Dangsing**	**11.72**	**289**	*e*P	**Pn**	**12 52 07.5**	**-2.4**
	12nm,0.6s						
KOLN	**Koldanda**	**11.74**	**287**	*e*P	**Pn**	**12 52 09.0**	**-1.0**
	9.1nm,0.5s						
HHC	**Hu-ho-hao-te**	**20.31**	**35**	*e*P	Pn	12 54 00.8	+0.4
HHC				PP	**PnPn**	**12 54 22.3**	**+6.9**
HHC				AMB	AMB		
	comp=Z,29nm,0.9s						
SONM	**Songino Array**	**24.18**	**17**	P	**P**	**12 54 38.3**	**-0.3**
	0.8nm,0.9s,baz=193,slow=12,SNR=4.8						
MKAR	**Makanchi Array**	**24.49**	**336**	P	**P**	**12 54 42.0**	**+0.7**
	3.1nm,0.8s,baz=147,slow=9.0,SNR=32						
AAK	**Ala-Archa**	**25.16**	**320**	P	**P**	**12 54 47.7**	**+0.1**
	0.5nm,0.3s,baz=89,slow=2.6,SNR=4.3						
KURBB	**Kurchatov Arra**	**29.06**	**336**	P	**P**	**12 55 22.4**	**+0.1**
	0.6nm,0.5s,baz=147,slow=9.2,SNR=6.0						
ZALV	**Zalesovo Beam**	**30.19**	**346**	P	**P**	**12 55 31.9**	**-0.3**
	0.6nm,0.5s,baz=166,slow=7.4,SNR=4.8						
EIL	**Elat**	**54.18**	**290**	LR	LR	13 23 04.1	
	comp=Z,56nm,20.2s,baz=78,slow=37						
WRA	**Warramunga Arr**	**57.98**	**137**	P	**P**	**12 59 13.9**	**-0.9**
	0.6nm,0.9s,baz=326,slow=7.6,SNR=2.9						
ASAR	**Alice Springs**	**60.54**	**140**	P	**P**	**12 59 33.6**	**+1.0**
	0.5nm,0.7s,baz=320,slow=6.5,SNR=12						

IDC 16 12:50:13.6±3.5, 16°.24N×148°.15E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/26, mbtmp3.8/5, MS3.6/1, Ms1 3.6/1, ms1mx2.9/51, Error ellipse: s-maj=109.2km s-min=25.3km az=80.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**25.50**	**182**	LR	LR	13 04 57.4	
	comp=Z,142nm,19.7s,baz=188,slow=35						
WRA	**Warramunga Arr**	**38.44**	**201**	P	P	12 57 37.1	-0.1
	1.4nm,0.7s,baz=22,slow=9.0,SNR=6.6						
ASAR	**Alice Springs**	**42.04**	**200**	P	P	12 58 06.8	-0.2
	0.2nm,0.6s,baz=25,slow=8.5,SNR=7.1						
CMAR	**Chiang Mai Arr**	**46.91**	**280**	P	P	12 58 46.3	0.0
	0.5nm,0.3s,baz=98,slow=6.6,SNR=4.2						
MKAR	**Makanchi Array**	**61.85**	**315**	P	P	13 00 35.7	+1.1
	0.2nm,0.6s,baz=98,slow=8.0,SNR=2.8						
KURBB	**Kurchatov Arra**	**64.70**	**319**	P	P	13 00 52.8	-0.6
	1.0nm,0.4s,baz=98,slow=6.9,SNR=14						

*IDC **16** 12:57:58.7±0.8, 10°.09S×124°.68E, h0km, mb4.1/8, mb1 4.1/8, mb1mx3.9/20, mbtmp4.1/8, Error ellipse: s-maj=28.8km s-min=18.0km az=37.0*
*ISCJB **16** 12:58:00.4±0.3, 10°.65S±0°.04×124°.54E±0°.04, h33km, mb4.0/9, Error ellipse: s-maj=7.6km s-min=4.3km az=138.3*
*AUST **16** 12:58:02.9, 10°.50S×124°.52E, h30km*
*NEIC **16** 12:58:02.3±0.4, 10°.49S×124°.72E, h35km, mb4.8/1, Error ellipse: s-maj=17.8km s-min=6.3km az=49.0*
*DJA **16** 12:58:03.0±0.7, 11°.S±.5°×12°.5E±.°, h19km±.7km, M4.6/3, mb5.0/2, mB5.3/2, MLv4.3/3, Mw(mB)4.7/2*
ISC 16 12:58:01.5±0.5, 10°.61S±0°.06×124°.69E±0°.06, h35km, n73, σ2§25/61, mb4.1/9, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.95**	**334**	P	**Pn**	**12 58 19.8**	**+1.3**
SOEI	**Soe**	**0.95**	**334**	P	**Pn**	**12 58 19.4**	**+0.9**
	baz=0.8,SNR=1000						
BATI	**Baumata**	**1.08**	**292**	P	**Pn**	**12 58 20.9**	**+0.6**
BATI	**Baumata**	**1.08**	**292**	Pn	**Pn**	**12 58 20.9**	**+0.6**
BATI				Sn	**Sn**	**12 58 33.7**	**-0.4**
BATI	**Baumata**	**1.08**	**292**	Pn	**Pn**	**12 58 20.9**	**+0.6**
	1μm,0.3s,baz=120,slow=3.8,SNR=2253						
BATI				Sn	**Sn**	**12 58 33.7**	**-0.4**
	1μm,0.3s,baz=72,slow=20,SNR=17						
MMRI	**Maumere**	**3.11**	**309**	P	**Pn**	**12 58 48.5**	**+0.3**
BBSI	**Bau Bau**	**5.51**	**337**	P	**Pn**	**12 59 24.2**	**+3.1**
KNRA	**Kununurra**	**6.41**	**142**	P	Pn	12 59 37.6	+4.1
	baz=6.6,SNR=273						
MTN	**Manton Dam**	**6.69**	**110**	P	Pn	12 59 42.2	+4.8
	baz=6.9,SNR=118						
BKSI	**Bulukumba**	**6.93**	**319**	P	**Pn**	**12 59 41.7**	**+1.0**
	127nm,0.7s,1μm						
KAPI	**Kappang**	**7.41**	**318**	Pn	**Pn**	**12 59 47.8**	**+0.6**
KAPI	**Kappang**	**7.41**	**318**	Pn	**Pn**	**12 59 47.8**	**+0.6**
	3.3nm,0.3s,baz=156,slow=8.2,SNR=13						
FITZ	**Fitzroy Crossi**	**7.50**	**173**	Pn	**Pn**	**12 59 51.4**	**+2.9**
FITZ				Sn	**Sn**	**13 01 11.6**	**-0.8**
FITZ	**Fitzroy Crossi**	**7.50**	**173**	P	**Pn**	**12 59 51.4**	**+2.9**
	baz=7.7,SNR=259						
FITZ	**Fitzroy Crossi**	**7.50**	**173**	Pn	**Pn**	**12 59 51.4**	**+2.9**
	14nm,0.3s,baz=10,slow=11,SNR=230						
FITZ				Sn	**Sn**	**13 01 11.6**	**-0.8**
	25nm,0.3s,baz=341,slow=7.3,SNR=36						
BNSI	**Bone**	**7.66**	**323**	P	Pn	12 59 55.6	+4.9
KDU	**Kakadu**	**7.90**	**106**	P	Pn	12 59 58.7	+4.7
	baz=8.1,SNR=130						
SPSI	**Sidrap Palu**	**8.21**	**323**	P	**Pn**	**13 00 00.5**	**+2.3**
TTSI	**Tana Toraja**	**8.94**	**327**	P	Pn	13 00 12.4	+4.2
TLE	**Tual**	**9.38**	**59**	P	Pn	13 00 18.9	+4.6
	baz=9.5,SNR=7.0						
FAKI	**Fak Fak**	**10.71**	**45**	P	Pn	13 00 37.4	+4.8
	baz=11,SNR=6.0						
WRA	**Warramunga Arr**	**13.14**	**136**	Pn	**Pn**	**13 01 06.4**	**+0.6**
WRA				Sn	**Sn**	**13 03 25.8**	**-4.9**
WRA	**Warramunga Arr**	**13.14**	**136**	Pn	**Pn**	**13 01 06.4**	**+0.6**
	1.2nm,0.3s,baz=313,slow=13,SNR=36						
WRA				Sn	**Sn**	**13 03 25.8**	**-4.9**
	8.0nm,0.3s,baz=312,slow=24,SNR=14						
WRAB	**Tennant Creek**	**13.14**	**136**	*e*Pn	**Pn**	**13 01 06.5**	**+0.8**
	6.7nm,0.4s						
WRAB				*e*Sn	Sn	13 03 24.0	-6.7
PCJI	**Pacitan**	**13.54**	**279**	P	Pn	13 01 08.0	-3.3
UGM	**Wanagama**	**14.23**	**280**	P	**Pn**	**13 01 19.3**	**-1.5**
	baz=14,SNR=4.5						
AS31	**Alice Springs**	**15.68**	**147**	*e*Pn	**Pn**	**13 01 41.9**	**+2.0**
AS31				*e*Sn	**Sn**	**13 04 26.8**	**-5.8**
ASAR	**Alice Springs**	**15.68**	**147**	Pn	**Pn**	**13 01 41.6**	**+1.7**
ASAR				Sn	**Sn**	**13 04 27.5**	**-5.1**
ASAR	**Alice Springs**	**15.68**	**147**	Pn	**Pn**	**13 01 41.6**	**+1.7**
	1.5nm,0.3s,baz=317,slow=11,SNR=146						
ASAR				Sn	**Sn**	**13 04 27.5**	**-5.1**
	2.4nm,0.3s,baz=311,slow=20,SNR=16						
CISI	**Cisompet, Garu**	**16.93**	**279**	P	**Pn**	**13 01 55.7**	**-0.3**
	baz=17,SNR=4.6						
MEEK	**Meekatharra**	**16.94**	**199**	P	**P**	**13 01 57.9**	**+0.3**
	baz=17,SNR=13						
CBJI	**Citeko**	**18.12**	**282**	P	**Pn**	**13 02 10.8**	**+0.2**
COEN	**Coen**	**18.37**	**102**	Pn	**Pn**	**13 02 15.2**	**+1.5**
COEN				*e*Sn	**Sn**	**13 05 32.0**	**-6.0**
COEN	**Coen**	**18.37**	**102**	P	Pn	13 02 19.1	+5.4
	baz=19,SNR=5.8						
MORW	**Morawa**	**20.06**	**203**	P	Pn	13 02 34.7	+0.8
	baz=20,SNR=4.6						
MTSU	**Mount Surprise**	**20.42**	**114**	P	Pn	13 02 42.8	+4.6
	baz=21,SNR=10						
KASI	**Kota Agung**	**20.61**	**283**	P	**P**	**13 02 37.4**	**-0.6**
BLDU	**Ballidu**	**21.24**	**199**	P	P	13 02 50.0	+5.4
	baz=21,SNR=6.3						
CTA	**Charters Tower**	**22.81**	**117**	P	P	13 03 07.3	+5.8
CTA	**Charters Tower**	**22.81**	**117**	P	P	13 03 07.3	+5.8
	0.9nm,0.4s,baz=293,slow=7.7,SNR=2.7						
BBOO	**Buckleboo**	**24.45**	**156**	P	**P**	**13 03 21.7**	**+4.6**
	baz=25,SNR=14						
STKA	**Stephens Creek**	**26.31**	**146**	P	P	13 03 39.0	+4.9
STKA	**Stephens Creek**	**26.31**	**146**	P	P	13 03 39.0	+4.9
	1.0nm,0.4s,baz=321,slow=9.1,SNR=6.9						
CMAR	**Chiang Mai Arr**	**38.47**	**318**	P	**P**	**13 05 19.4**	**-1.0**
CMAR	**Chiang Mai Arr**	**38.47**	**318**	P	**P**	**13 05 19.4**	**-1.0**
	2.6nm,0.8s,baz=140,slow=6.5,SNR=19						
LSA	**Lhasa**	**51.48**	**322**	*e*P	**P**	**13 07 04.4**	**0.0**
	5.3nm,0.5s						
H08S2	**Diego Garcia H**	**51.57**	**269**	T	T	14 02 34.2	
	baz=99,slow=0.7,SNR=28						
H08S3	**Diego Garcia H**	**51.58**	**269**	T	T	14 02 34.4	
	baz=99,slow=0.7,SNR=19						
H08S1	**Diego Garcia H**	**51.59**	**269**	T	T	14 02 35.0	
	0.9nm,0.4s,baz=99,slow=0.7,SNR=29						
TAPN	**Taplejung**	**52.05**	**317**	*e*P	**P**	**13 07 07.7**	**-0.7**
	13nm,0.7s						
RAMN	**Ramite**	**52.54**	**316**	*e*P	**P**	**13 07 11.4**	**-0.6**
	11nm,0.5s						
H08N1	**Diego Garcia H**	**53.20**	**270**	T	T	14 04 59.9	
	baz=155,slow=0.7,SNR=6.9						
H08N2	**Diego Garcia H**	**53.22**	**270**	T	T	14 05 01.4	
	baz=155,slow=0.7,SNR=4.9						
H08N3	**Diego Garcia H**	**53.23**	**270**	T	T	14 05 04.0	
	baz=155,slow=0.7,SNR=4.6						
JIRN	**Jiri**	**53.27**	**316**	*e*P	**P**	**13 07 16.8**	**-0.8**
	9.6nm,0.7s						
GUN	**Gumba**	**53.65**	**316**	*e*P	**P**	**13 07 19.4**	**-0.9**
	12nm,0.6s						
GKN	**Gorkha**	**54.55**	**316**	*e*P	**P**	**13 07 25.7**	**-0.9**
	3.9nm,0.3s						
DANN	**Dangsing**	**55.37**	**315**	*e*P	**P**	**13 07 30.9**	**-1.8**
	14nm,0.5s						
SONM	**Songino Array**	**60.42**	**346**	P	**P**	**13 08 07.0**	**-0.6**
SONM	**Songino Array**	**60.42**	**346**	P	**P**	**13 08 07.0**	**-0.6**
	0.4nm,0.6s,baz=159,slow=9.3,SNR=4.3						
MK31	**Makanchi Array**	**68.54**	**330**	*e*P	**P**	**13 09 00.9**	**+0.3**
MKAR	**Makanchi Array**	**68.54**	**330**	P	**P**	**13 09 00.5**	**0.0**
MKAR	**Makanchi Array**	**68.54**	**330**	P	**P**	**13 09 00.5**	**0.0**
	2.8nm,0.6s,baz=135,slow=7.8,SNR=41						
AAK	**Ala-Archa**	**70.06**	**323**	P	**P**	**13 09 09.6**	**-0.7**
AAK	**Ala-Archa**	**70.06**	**323**	P	**P**	**13 09 09.6**	**-0.7**
	0.8nm,0.3s,baz=151,slow=10,SNR=3.7						
ZALV	**Zalesovo Beam**	**72.64**	**337**	P	**P**	**13 09 24.9**	**-0.5**
ZALV	**Zalesovo Beam**	**72.64**	**337**	P	**P**	**13 09 24.9**	**-0.5**
	1.3nm,0.6s,baz=137,slow=6.0,SNR=8.2						
KURBB	**Kurchatov Arra**	**72.98**	**331**	P	**P**	**13 09 27.0**	**-0.5**
	0.9nm,0.2s,baz=146,slow=5.4,SNR=7.0						
KURK	**Kurchatov**	**73.00**	**331**	P	**P**	**13 09 26.9**	**-0.6**
PDAR	**Pinedale Array**	**123.15**	**46**	PKP	**PKPdf**	**13 16 58.2**	**+3.1**
PDAR	**Pinedale Array**	**123.15**	**46**	PKP	**PKPdf**	**13 16 58.2**	**+3.1**
	0.4nm,0.7s,baz=197,slow=4.6,SNR=3.8						
TORD	**Torodi Ar. Bea**	**124.25**	**279**	PKP	**PKPdf**	**13 16 59.6**	**+2.0**
TORD	**Torodi Ar. Bea**	**124.25**	**279**	PKP	**PKPdf**	**13 16 59.6**	**+2.0**
	0.6nm,0.6s,baz=71,slow=1.8,SNR=5.5						

IDC 16 13:00:29.5±1.4, 5°.44S×151°.41E, h0km, mb3.9/5, mb1 4.2/6, mb1mx3.8/18, mbtmp3.9/6, ML3.3/1, MS4.0/2, Ms1 3.9/2, ms1mx3.2/35, Error ellipse: s-maj=62.3km s-min=27.0km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.77**	**227**	Pn	Pn	13 01 57.1	+0.6
	5.1nm,0.3s,baz=36,slow=9.3,SNR=19						
PMG				Sn	Sn	13 02 57.6	-5.8
	15nm,0.3s,baz=310,slow=22,SNR=11						
ASAR	**Alice Springs**	**24.75**	**221**	P	P	13 05 52.5	-0.6
	2.7nm,0.5s,baz=59,slow=11,SNR=2.3						
STKA	**Stephens Creek**	**27.86**	**198**	LR	LR	13 17 35.4	
	comp=Z,145nm,19.1s,baz=25,slow=37						
SONM	**Songino Array**	**66.14**	**329**	P	P	13 11 18.8	-0.1
	0.5nm,0.8s,baz=114,slow=3.5,SNR=3.0						
ZALV	**Zalesovo Beam**	**80.92**	**327**	P	P	13 12 46.0	+0.4
	0.4nm,0.3s,baz=112,slow=6.9,SNR=2.7						
ILAR	**Eielson Array**	**83.27**	**22**	P	P	13 12 57.3	-0.5
	0.8nm,0.6s,baz=247,slow=5.3,SNR=11						
NVAR	**Mina Array Bea**	**93.56**	**52**	P	P	13 13 48.6	+0.5
	0.3nm,0.7s,baz=256,slow=7.3,SNR=4.4						
NVAR				LR	LR	13 52 46.3	
	comp=Z,114nm,19.3s,baz=58,slow=34						
TORD	**Torodi Ar. Bea**	**149.18**	**287**	PKPbc	PKPbc	13 20 20.7	-0.4
	2.5nm,0.9s,baz=68,slow=2.6,SNR=12						

*MOS **16** 13:10:39.4±0.9, 5°.03N×127°.53E, h33km, mb5.1/21, Error ellipse: s-maj=15.5km s-min=6.6km az=118.9*
*ISCJB **16** 13:10:47.0±0.4, 5°.03N±0°.02×127°.57E±0°.03, h103km±.3km, mb4.7/75, Error ellipse: s-maj=5.6km s-min=3.0km az=158.3*
*BJI **16** 13:10:46.9, 4°.68N×127°.57E, h121km, mB5.0/23, mb5.0/38*
*IDC **16** 13:10:47.5±1.3, 5°.01N×127°.44E, h94km±.10km, mb4.2/27, mb1 4.3/29, mb1mx4.2/34, mbtmp4.2/29, MS3.6/4, Ms1 3.7/4, ms1mx3.2/35, Error ellipse: s-maj=14.7km s-min=7.9km az=77.0*
*MAN **16** 13:10:47, 5°.02N×127°.48E, h119km, mb5.5, ML4.5, MS4.8*
*NEIC **16** 13:10:49.3±0.5, 4°.97N×127°.49E, h111km±.4km, mb4.9/27, Error ellipse: s-maj=6.4km s-min=4.0km az=72.0*
*AUST **16** 13:10:49.5±0.5, 4°.97N×127°.62E, h118km±.5km, Error ellipse: s-maj=6.8km s-min=3.8km az=59.0*
*DJA **16** 13:10:50.6±0.6, 5°.N±.6°×12°.7E±.°, h118km±.5km, M4.9/11, mB5.2/7, mb4.9/11, MLv5.3/1, Mw(mB)4.5/7*
*BKK **16** 13:10:50.4±0.8, 5°.N±.5°×12°.8E±.°, h117km±.6km, M4.9/19, mB5.2/11, mb4.9/19, MLv5.4/3, Mw(mB)4.6/11, Mwp5.5/1*
ISC 16 13:10:51.1±0.4, 5°.02N±0°.03×127°.44E±0°.05, h124km±.2km, n282, σ1§43/340, mb4.7/75, 12C-19D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**2.25**	**328**	*e*P	Pn	13 11 24.2	-3.7
MATI				*e*S	Sn	13 11 49.9	-6.2
SGSI	**Sangihe**	**2.32**	**235**	P	Pn	13 11 25.4	-3.4
GSPH	**General Santos**	**2.70**	**293**	*e*P	Pn	13 11 28.6	-5.1
GSPH				*e*S	Sn	13 11 60.0	-6.5
DAV	**Davao City (W)**	**2.75**	**318**	*e*Pn	**Pn**	**13 11 32.9**	**-1.5**
DMPH	**Davao City--Mi**	**2.81**	**317**	↑*e*P	**Pn**

TPUB **Ta-pu** 19.32 341 *e*P P 13 15 06.3 -0.5
34nm,1.1s
YHNB **Yeheng** 20.39 344 *e*P P 13 15 18.6 +0.2
27nm,0.8s
KNRA **Kununurra** 20.61 176 ⇓P P 13 15 20.3 -0.3
baz=21,SNR=34
QIZ **Qiongzhong** 22.10 311 P P 13 15 36.8 +0.3
QIZ AMB AMB
comp=Z,22nm,0.9s
FITZ **Fitzroy Crossi** 23.05 184 *e*P P 13 15 44.6 -1.2
FITZ ScP **ScP** 13 23 00.8 +2.8
FITZ **Fitzroy Crossi** 23.05 184 ⇓P P 13 15 44.6 -1.2
baz=23,SNR=29
FITZ **Fitzroy Crossi** 23.05 184 P P 13 15 44.4 -1.4
12nm,0.4s,baz=16,slow=10.0,SNR=77
FITZ ScP **ScP** 13 23 00.8 +2.8
1.6nm,0.7s,baz=77,slow=0.5,SNR=5.6
MYKOM **Kota Tinggi** 23.76 263 P P 13 15 53.3 +0.9
MYKOM **Kota Tinggi** 23.76 263 P P 13 15 52.4 0.0
KTGM **Kuala Trenggan** 24.21 272 P P 13 15 57.2 +0.7
KGM **Kluang** 24.26 264 P P 13 15 58.6 +1.6
PMG **Port Moresby** 24.32 126 LR LR 13 25 00.2
comp=Z,152nm,18.7s,baz=132,slow=35
COEN **Coen** 24.48 141 *e*P P 13 15 56.7 -2.2
66nm,0.7s
COEN **Coen** 24.48 141 P P 13 15 57.3 -1.6
baz=24,SNR=10
WRAB **Tennant Creek** 25.71 165 ⇓*i*P P 13 16 07.9 -2.1
WRAB pmax pmax
comp=Z,64nm,1.0s
WRAB **Tennant Creek** 25.71 165 *e*P P 13 16 08.4 -1.6
comp=Z,26nm,0.8s
WRA **Warramunga Arr** 25.72 165 P P 13 16 07.3 -2.8
WRA ScP **ScP** 13 23 07.9 +2.5
WRA **Warramunga Arr** 25.72 165 P P 13 16 07.3 -2.8
comp=Z,5.7nm,0.3s,baz=357,slow=8.7,SNR=129
WRA ScP **ScP** 13 23 07.9 +2.5
comp=Z,2.6nm,0.9s,baz=342,slow=3.4,SNR=7.4
CHBT **CHBT** 25.95 289 P P 13 16 12.8 +0.6
comp=Z,19nm,0.8s,comp=Z,2µm
CBIJ **Chichijima** 26.07 31 P P 13 16 11.1 -2.1
JCJ **Chichijima** 26.07 31 P P 13 16 11.1 -2.1
comp=Z,19nm,0.4s,baz=303,slow=23,SNR=6.6
IPM **Ipoh** 26.33 270 P P 13 16 15.8 +0.1
IPM **Ipoh** 26.33 270 P P 13 16 15.2 -0.5
IPM **Ipoh** 26.33 270 *e*P P 13 16 15.1 -0.6
comp=Z,26nm,0.8s
KULM **Kulim** 26.68 272 P P 13 16 19.1 +0.2
KULM **Kulim** 26.68 272 P P 13 16 18.7 -0.2
KULM **Kulim** 26.68 272 *e*P P 13 16 18.4 -0.5
comp=Z,22nm,0.8s
NJ2 **Nanjing** 28.07 344 *e*P P 13 16 32.4 +1.4
NJ2 AMB AMB
comp=Z,10.0nm,0.5s
JNU **Nakatsue** 28.14 6 P P 13 16 30.0 -1.7
JNU **Nakatsue** 28.14 6 P P 13 16 30.0 -1.7
comp=Z,6.4nm,0.9s,baz=78,slow=9.3,SNR=3.8
WHN **Wuhan** 28.23 336 P P 13 16 34.3 +1.9
PBKT **Sadao Pong** 28.38 296 P P 13 16 34.0 +0.1
PBKT **Sadao Pong** 28.38 296 P P 13 16 34.0 +0.1
comp=Z,16nm,1.1s
MTSU **Mount Surprise** 28.40 145 ⇓P P 13 16 33.2 -0.9
baz=28,SNR=31
PSI **Prapat** 28.53 267 P P 13 16 34.6 -0.9
PSI **Prapat** 28.53 267 P P 13 16 34.6 -0.9
comp=Z,12nm,0.7s,baz=74,slow=7.1,SNR=13
GYA **Guiyang** 29.13 319 ⇓*i*P P 13 16 41.1 +0.4
GYA pP **pP** 13 17 08.3 +0.7
GYA sP **sP** 13 17 24.0 +2.1
GYA PP **PnPn** 13 17 40.8 +1.1
GYA PcP **PcP** 13 19 45.3 -0.3
GYA S **S** 13 21 22.8 -1.0
GYA sS **sS** 13 22 10.5 -0.4
GYA SS **SnSn** 13 23 03.5 +0.5
GYA ScP **ScP** 13 23 16.0 +0.1
GYA PcS **PcS** 13 23 28.8 +0.1
GYA ScS **ScS** 13 27 09.4 -1.0
GYA AMB AMB
comp=Z,20nm,1.0s
GYA AMB AMB
comp=Z,90nm,4.6s
AS05 **Alice Springs** 29.20 168 ⇓P P 13 16 40.5 -0.7
baz=29
AS04 **Alice Springs** 29.20 168 ⇓P P 13 16 40.3 -0.9
baz=29
AS31 **Alice Springs** 29.20 168 *e*P P 13 16 40.0 -1.2
AS31 *e*PcP **PcP** 13 19 45.5 -0.1
ASPA **Alice Springs** 29.20 168 ⇓P P 13 16 40.3 -0.9
baz=29
ASAR **Alice Springs** 29.20 168 P P 13 16 40.1 -1.1
ASAR PcP **PcP** 13 19 45.8 +0.2
ASAR S **S** 13 21 23.7 -1.1
ASAR ScP **ScP** 13 23 18.2 +2.2
ASAR **Alice Springs** 29.20 168 P P 13 16 40.1 -1.1
comp=Z,5.5nm,0.6s,baz=354,slow=7.9,SNR=97
ASAR PcP **PcP** 13 19 45.8 +0.2
comp=Z,1.2nm,0.3s,baz=350,slow=2.2,SNR=6.8
ASAR S **S** 13 21 23.7 -1.1
comp=Z,1.6nm,1.0s,baz=358,slow=18,SNR=5.5
ASAR ScP **ScP** 13 23 18.2 +2.2
comp=Z,0.7nm,0.8s,baz=357,slow=2.3,SNR=4.5
KCSI **Kotacane, Aceh** 29.62 268 P P 13 16 43.7 -1.3
GSI **Gunungsitoli** 30.04 264 P P 13 16 47.0 -1.7
ENH **Enshi** 30.29 328 *e*P P 13 16 50.9 +0.2
comp=Z,18nm,0.8s
CRAI **Chiangrai** 30.35 302 P P 13 16 51.1 -0.3
comp=Z,30nm,0.7s
CM31 **Chiang Mai Arr** 30.86 298 *e*P P 13 16 55.8 -0.2
comp=Z,5.0nm,0.6s
CMAR **Chiang Mai Arr** 30.86 298 P P 13 16 56.0 0.0
CMAR ScP **ScP** 13 23 24.6 +3.1
CMAR **Chiang Mai Arr** 30.86 298 P P 13 16 56.0 0.0
comp=Z,6.3nm,0.8s,baz=102,slow=7.0,SNR=58
CMAR ScP **ScP** 13 23 24.6 +3.1
comp=Z,0.7nm,0.8s,baz=137,slow=1.5,SNR=6.5
CMAR LR LR 13 29 47.0
comp=Z,67nm,19.5s,baz=90,slow=37
CHTO **Chiang Mai** 31.00 299 *e*P P 13 16 56.9 -0.2
CHTO pmax pmax
comp=Z,66nm,0.8s
CHTO **Chiang Mai** 31.00 299 P P 13 16 57.1 0.0
CHTO **Chiang Mai** 31.00 299 *e*P P 13 16 56.9 -0.2
comp=Z,66nm,0.8s
CHTO **Chiang Mai** 31.00 299 P P 13 16 56.7 -0.4
comp=Z,102nm,0.7s
KMI **Kunming** 31.00 313 P P 13 16 57.9 +0.6
KMI pP **pP** 13 17 26.5 +2.1
KMI AMB AMB
comp=Z,11nm,1.2s
CTA **Charters Tower** 31.06 144 P P 13 16 57.0 -0.6
CTA PcP **PcP** 13 19 51.8 +1.3
CTA **Charters Tower** 31.06 144 ⇑P P 13 16 57.0 -0.6
baz=31
CTA **Charters Tower** 31.06 144 P P 13 16 57.0 -0.6
comp=Z,7.1nm,0.7s,baz=326,slow=12,SNR=13
CTA PcP **PcP** 13 19 51.8 +1.3
comp=Z,1.9nm,0.8s,baz=56,slow=3.6,SNR=3.0
CTAO **Charters Tower** 31.06 144 *e*P P 13 16 57.4 -0.2
CTAO pmax pmax
comp=Z,8.0nm,0.7s
CTAO **Charters Tower** 31.06 144 *e*P P 13 16 57.4 -0.2
comp=Z,7.7nm,0.7s
CMAI **Chiengmai2** 31.35 301 P P 13 17 00.1 -0.3
comp=Z,88nm,0.7s,comp=Z,3µm
KSAR **Wonju Array Be** 32.27 1 P P 13 17 08.6 +0.6
KSAR ScP **ScP** 13 23 28.3 +2.4
KSRS **Korea Array** 32.28 1 P P 13 17 08.6 +0.5
comp=Z,2.6nm,0.7s,baz=180,slow=10,SNR=9.3
KSRS ScP **ScP** 13 23 28.3 +2.4
comp=Z,1.2nm,0.7s,baz=187,slow=3.8,SNR=4.6
MEEK **Meekatharra** 32.61 195 P P 13 17 10.7 -0.4
baz=33,SNR=19
MJAR **Matsushiro Arr** 32.89 16 P P 13 17 11.7 -1.8
MJAR **Matsushiro Arr** 32.89 16 P P 13 17 11.7 -1.8
comp=Z,0.9nm,0.5s,baz=190,slow=11,SNR=5.0
MAT **Matsushiro** 32.89 16 P P 13 17 10.7 -2.8
XAN **Xi'an** 33.61 332 P P 13 17 19.9 +0.1
XAN AMB AMB
comp=Z,14nm,0.7s
XAN AMB AMB
comp=Z,26nm,6.2s
CD2 **Chengdu** 34.05 322 P P 13 17 26.3 +2.7
CD2 pP **pP** 13 17 52.1 +1.2
CD2 sP **sP** 13 18 06.0 +0.8
CD2 PP **PP** 13 18 44.6 +1.4
CD2 S **S** 13 22 43.3 +3.1
CD2 sS **sS** 13 23 28.4 +0.7
CD2 SS **SnSn** 13 24 59.8 -1.8
CD2 AMB AMB
comp=Z,60nm,0.5s
CD2 AMB AMB
comp=Z,230nm,5.1s
CD2 LR LR
comp=Z,150nm,8.3s
CD2 LR LR
comp=Z,160nm,10.7s
QLP **Quilpie** 35.38 153 P P 13 17 33.7 -1.3
baz=35,SNR=5.0
MORW **Morawa** 35.62 197 P P 13 17 37.1 0.0
baz=36,SNR=9.0
BJT **Baijiatuan** 36.30 345 *e*P P 13 17 43.1 +0.4
comp=Z,70nm,0.5s
BJI **Beijing** 36.31 345 P P 13 17 46.8 +4.0
BLDU **Balidu** 36.89 196 ⇑P P 13 17 47.8 -0.1
baz=37,SNR=19
RMQ **Roma** 37.52 148 ⇑P P 13 17 51.3 -1.9
baz=38,SNR=6.4
LZH **Lanzhou** 37.77 328 *e*P P 13 17 57.3 +1.9
LZH pP **pP** 13 18 23.6 +0.5
LZH sP **sP** 13 18 40.3 +3.0
LZH PP **PnPn** 13 19 31.1 +4.3
LZH PcP **PcP** 13 20 09.8 0.0
LZH *e*S **S** 13 23 39.3 +2.2
LZH sS **sS** 13 24 28.0 +2.8
LZH SS **SS** 13 26 23.8 -4.4
LZH AMB AMB
comp=Z,57nm,1.1s
LZH AMB AMB
comp=Z,170nm,4.0s
EIDS **Eidsvold** 37.95 144 ⇑P P 13 17 55.6 -1.3
baz=38,SNR=4.5
HHC **Hu-ho-hao-te** 38.41 340 *e*P P 13 18 01.8 +1.1
HHC pP **pP** 13 18 27.0 -1.4
HHC PP **PnPn** 13 19 36.8 +2.5
HHC S **S** 13 23 48.8 +2.2
HHC sS **sS** 13 24 34.3 -0.4
HHC SS **SS** 13 26 37.3 -3.5
HHC ScS **ScS** 13 27 58.8 +0.1
HHC AMB AMB
comp=Z,39nm,0.9s
HHC AMB AMB
comp=Z,250nm,5.4s
HHC LR LR
comp=Z,320nm,12.9s
HHC LR LR
comp=Z,320nm,13.4s
HHC LR LR
comp=Z,380nm,13.1s
BBOO **Buckleboo** 38.50 168 P P 13 18 00.7 -0.7
baz=39,SNR=16
CN2 **Changchun** 38.66 358 *e*P P 13 17 59.6 -3.0
NWAO **Narrogin (SRO)** 38.96 194 P P 13 18 05.1 -0.2
NWAO **Narrogin (SRO)** 38.96 194 P P 13 18 05.1 -0.2
comp=Z,27nm,0.8s,baz=34,slow=8.7,SNR=13
STKA **Stephens Creek** 39.09 161 *e*P P 13 18 05.7 -0.6
STKA ScP **ScP** 13 23 52.5 +1.7
STKA **Stephens Creek** 39.09 161 P P 13 18 05.7 -0.6
baz=39,SNR=45
STKA **Stephens Creek** 39.09 161 P P 13 18 05.6 -0.7
comp=Z,22nm,0.7s,baz=334,slow=8.3,SNR=63
STKA ScP **ScP** 13 23 52.6 +1.7
comp=Z,2.5nm,1.0s,baz=320,slow=7.9,SNR=3.2
USRK **Ussuriysk Arra** 39.23 5 P P 13 18 06.8 -0.4
comp=Z,1.1nm,0.4s,baz=184,slow=8.3,SNR=5.8
USRK LR LR 13 35 25.6
comp=Z,95nm,19.5s,baz=177,slow=38
MDJ **Mudanjiang** 39.48 2 P P 13 18 11.4 +2.0
MDJ AMB AMB
comp=Z,7.0nm,0.6s
MDJ AMB AMB
comp=Z,49nm,6.0s
SHL **Shillong** 39.71 305 ⇓*i*P P 13 18 13.0 +1.2
CMSA **Cobar Meteorol** 40.31 156 P P 13 18 15.8 -0.6
baz=40,SNR=8.0
RKGY **Rocky Gully** 40.63 193 ⇑P P 13 18 20.4 +1.4
baz=41,SNR=4.8
ASAJ **Asahikawa** 41.16 17 P P 13 18 23.2 0.0
ASAJ **Asahikawa** 41.16 17 P P 13 18 23.2 0.0
comp=Z,9nm,0.8s,baz=168,slow=28,SNR=5.2
YUK **Yuzh-Kuril'sk** 42.10 20 *d*iP P 13 18 18.7 -12
YUK *i* 13 20 26.8
YUK *i* SSS SSS 13 27 55.4
YUK MLR MLR
comp=N,1µm,22.0s
YUK MLR MLR
comp=E,405nm,22.0s
LSA **Lhasa** 42.14 310 P P 13 18 33.6 +1.6
LSA **Lhasa** 42.14 310 *e*P P 13 18 33.4 +1.4
LSA pmax pmax
comp=Z,18nm,0.6s
LSA **Lhasa** 42.14 310 *e*P P 13 18 33.4 +1.4
comp=Z,18nm,0.6s
ARMA **Armidale** 42.17 148 *e*P P 13 18 30.8 -0.9
comp=Z,16nm,0.8s
ARMA **Armidale** 42.17 148 ⇓P P 13 18 30.9 -0.8
baz=42,SNR=11
GTA **Gaotai** 42.37 328 ⇓P P 13 18 34.4 +1.0
GTA pP **pP** 13 19 01.3 -0.2
GTA sP **sP** 13 19 17.4 +1.9
GTA S **S** 13 24 47.6 +2.0
GTA sS sS 13 25 38.3 +4.0
GTA SS **SS** 13 27 55.0 -4.3
GTA AMB AMB
comp=Z,23nm,0.7s
GTA AMB AMB
comp=Z,100nm,6.6s
GTA LR LR
comp=Z,92nm,16.1s
GTA LR LR
comp=Z,110nm,15.4s
GTA LR LR
comp=Z,160nm,17.6s
ARPS **Mount Arapiles** 43.70 163 P P 13 18 43.8 0.0
baz=44,SNR=8.5
TAPN **Taplejung** 43.85 305 *e*P P 13 18 45.8 +0.2
comp=Z,31nm,0.7s
ODAN **Odare** 43.92 304 *e*P P 13 18 46.3 +0.2
comp=Z,68nm,0.8s
RAMN **Ramite** 44.61 304 *e*P P 13 18 51.8 +0.2
comp=Z,59nm,0.8s
JIRN **Jiri** 45.21 305 *e*P P 13 18 56.7 +0.2
comp=Z,91nm,0.6s
GUN **Gumba** 45.56 305 *e*P P 13 18 59.5 +0.2
comp=Z,98nm,0.5s
PKI **Pulchoki** 45.82 304 *e*P P 13 19 00.9 -0.4
comp=Z,28nm,0.7s
PKIN **Phulchoki** 45.83 304 *e*P P 13 19 01.8 +0.5
comp=Z,20nm,0.6s
KKN **Kakani** 46.01 304 *e*P P 13 19 02.4 -0.2
comp=Z,35nm,0.7s
DMN **Daman** 46.08 304 *e*P P 13 19 03.1 -0.2
comp=Z,38nm,0.8s
SONM **Songino Array** 46.32 340 P P 13 19 04.5 -0.1
SONM ScP **ScP** 13 24 21.9 +2.0
SONM **Songino Array** 46.32 340 P P 13 19 04.5 -0.1
comp=Z,2.9nm,0.4s,baz=152,slow=7.8,SNR=27
SONM ScP **ScP** 13 24 21.9 +2.0
comp=Z,0.4nm,0.9s,baz=128,slow=6.1,SNR=4.9
GKN **Gorkha** 46.61 304 *e*P P 13 19 06.9 -0.4
comp=Z,33nm,0.6s
DZM **Mont Dzumac** 46.72 127 P P 13 19 06.8 -1.3
DZM **Mont Dzumac** 46.72 127 P P 13 19 06.8 -1.3
comp=Z,15nm,0.6s,baz=305,slow=23,SNR=36
KOLN **Koldanda** 47.39 303 *e*P P 13 19 13.7 +0.3
comp=Z,103nm,0.5s
DANN **Dangsing** 47.46 304 *e*P P 13 19 14.1 +0.1
comp=Z,154nm,0.6s
ZAK **Zakamensk** 49.55 340 *e*P P 13 19 27.9 -1.6
ZAK pmax pmax
comp=Z,2.0nm,1.0s
WMQ **Urumqi** 52.09 324 P P 13 19 49.6 +1.1
WMQ pP **pP** 13 20 19.0 +1.3
WMQ sP **sP** 13 20 33.3 +1.8
WMQ S **S** 13 27 02.3 -0.8
WMQ ScS **ScS** 13 29 23.3 -3.0
WMQ SS **SS** 13 30 38.9 -3.1
WMQ AMB AMB
comp=Z,27nm,1.0s
WMQ AMB AMB
comp=Z,170nm,4.8s
WMQ LR LR
comp=Z,210nm,6.6s
WMQ LR LR
comp=Z,240nm,6.2s
WMQ LR LR
comp=Z,130nm,21.0s
PETK **Petropavlovsk-** 53.98 22 P P 13 20 03.4 +1.3
PETK **Petropavlovsk-** 53.98 22 P P 13 20 03.4 +1.3
PETK **Petropavlovsk-** 53.98 22 P P 13 20 03.4 +1.3
comp=Z,5.5nm,0.9s,baz=216,slow=4.5,SNR=9.5
THN **Thein Dam** 55.37 306 *e*P P 13 20 10.0 -2.5
YAK **Yakutsk** 56.91 1 *e*P P 13 20 21.7 -1.2
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.3s
YAK pmax pmax
comp=N,5.0nm,1.0s
MK31 **Makanchi Array** 56.91 324 *e*P P 13 20 24.1 +0.8
MK31 **Makanchi Array** 56.91 324 *e*P P 13 20 24.1 +0.8
MKAR **Makanchi Array** 56.91 324 P P 13 20 23.9 +0.6
MKAR S **S** 13 28 09.9 +2.3
MKAR **Makanchi Array** 56.91 324 P P 13 20 23.9 +0.6
MKAR ScP **ScP** 13 25 07.2 +1.6
MKAR S **S** 13 28 09.9 +2.3
comp=N,9.6nm,0.5s,baz=118,slow=7.8,SNR=180
MKAR **Makanchi Array** 56.91 324 P P 13 20 23.9 +0.6
MKAR ScP **ScP** 13 25 07.2 +1.6
comp=N,1.0nm,0.8s,baz=115,slow=5.8,SNR=4.5
MKAR S **S** 13 28 09.9 +2.3
comp=N,1.7nm,1.1s,baz=121,slow=14,SNR=4.6
KSH **Kashi** 57.65 314 P P 13 20 31.3 +2.6
KSH pP **pP** 13 21 00.3 +2.0
KSH sP sP 13 21 16.9 +4.9
KSH PP **PP** 13 22 42.3 +4.4
KSH S **S** 13 28 19.0 +1.4
KSH sS **sS** 13 29 11.1 +2.4
KSH SS **SS** 13 32 09.3 -0.5
KSH AMB AMB
comp=N,12nm,0.7s
KSH AMB AMB
comp=N,49nm,3.6s
KSH LR LR
comp=N,36nm,4.0s
KSH LR LR
comp=N,98nm,5.1s
KSH LR LR
comp=N,89nm,6.7s
KZA **Kyzart** 59.16 317 *i* P P 13 20 41.2 +1.7
KZA **Kyzart** 59.16 317 P P 13 20 41.2 +1.7
SNR=12
TKM2 **Tokmak 2** 59.26 318 *i* P P 13 20 40.9 +1.0
TKM2 pmax pmax
comp=Z,13nm,0.8s
TKM2 **Tokmak 2** 59.26 318 P P 13 20 41.0 +1.0
SNR=9.1
TKM2 **Tokmak 2** 59.26 318 *e*P P 13 20 41.0 +1.0
comp=Z,12nm,0.7s
KBK **Karagaybulak** 59.59 317 *i* P P 13 20 43.9 +1.7
KBK **Karagaybulak** 59.59 317 P P 13 20 44.0 +1.7
SNR=9.3
ZAA0 **Zalesovo Array** 59.77 332 *e*P P 13 20 42.2 -0.7
ZALV **Zalesovo Beam** 59.77 332 P P 13 20 42.5 -0.4
ZALV **Zalesovo Beam** 59.77 332 P P 13 20 42.5 -0.4
ZALV **Zalesovo Beam** 59.77 332 P P 13 20 42.5 -0.4
comp=Z,3.2nm,0.3s,baz=124,slow=6.5,SNR=18
CHMS **Chumysh** 59.86 318 *i* P P 13 20 44.9 +1.1
CHMS **Chumysh** 59.86 318 P P 13 20 45.0 +1.1
SNR=5.0
AAK **Ala-Archa** 59.89 317 *i* P P 13 20 45.3 +1.1
AAK pmax pmax
comp=Z,34nm,1.7s
AAK **Ala-Archa** 59.89 317 P P 13 20 45.9 +1.7
SNR=8.5
AAK **Ala-Archa** 59.89 317 *e*P P 13 20 45.4 +1.2
comp=Z,7.6nm,0.9s
USP **Ospenovka** 60.14 318 *i* P P 13 20 46.7 +1.0
USP **Ospenovka** 60.14 318 P P 13 20 46.7 +1.0
SNR=19
AML **Almayashu** 60.24 316 *i* P P 13 20 48.3 +1.4
AML **Almayashu** 60.24 316 P P 13 20 48.4 +1.4
SNR=29
EKS2 **Erkin-Say** 60.39 317 *e*P P 13 20 49.0 +1.4
EKS2 pmax pmax
comp=Z,21nm,0.7s
EKS2 **Erkin-Say** 60.39 317 P P 13 20 49.0 +1.4
SNR=20
EKS2 **Erkin-Say** 60.39 317 *e*P P 13 20 49.0 +1.4
comp=Z,21nm,0.7s
KURK **Kurchatov** 61.05 327 *d*iP P 13 20 52.1 +0.4
KURK pmax pmax
comp=Z,9.0nm,0.6s
KURK **Kurchatov** 61.05 327 *e*P P 13 20 52.3 +0.6
comp=Z,13nm,0.5s
NVS **Novosibirsk** 61.05 333 *e*P P 13 20 49.6 -2.0
NVS pmax pmax
comp=N,3.0nm,0.8s
NVS pmax pmax
comp=Z,6.0nm,0.8s
NVS pmax pmax
comp=E,1.0nm,0.5s
KBL **Kabul** 61.31 307 *e*P P 13 20 54.5 +0.4
KBL pmax pmax
comp=Z,21nm,0.8s
KBL **Kabul** 61.31 307 *e*P P 13 20 54.5 +0.4
comp=Z,21nm,0.8s
KBL **Kabul** 61.31 307 P P 13 20 54.6 +0.5
baz=62,SNR=6.5
RPZ **Rata Peaks** 62.41 146 LR LR 13 46 23.4
comp=Z,63nm,18.4s,baz=136,slow=34
KK31 **Karatay Array** 62.78 316 *i* P P 13 21 03.5 0.0
KK31 pmax pmax
comp=Z,14nm,0.6s
KKAR **Karatay Array** 62.78 316 *e*P P 13 21 04.2 +0.7
KKAR **Karatay Array** 62.78 316 *e*P P 13 21 04.2 +0.7
VOSK **Vostochnaya** 66.18 326 *i* P P 13 21 25.4 0.0
VOSK pmax pmax
comp=Z,4.0nm,0.5s
VOSK **Vostochnaya** 66.18 326 *e*P P 13 21 24.8 -0.7
comp=Z,14nm,0.6s
TIXI **Tiksi** 66.55 0 ⇑*i*P P 13 21 27.1 -0.3
TIXI pmax pmax
comp=Z,16nm,2.0s
BVA0 **Borovoye Array** 66.64 326 *i* P P 13 21 28.6 +0.3
BVA0 pmax pmax
comp=Z,6.0nm,0.7s
BVAR **Borovoye Array** 66.64 326 P P 13 21 26.2 -2.1
BVAR **Borovoye Array** 66.64 326 P P 13 21 26.2 -2.1
BVAR **Borovoye Array** 66.64 326 P P 13 21 26.2 -2.1
comp=Z,4.8nm,0.6s,baz=120,slow=8.9,SNR=26
BRVK **Borovoye** 66.71 326 *d*iP P 13 21 29.3 +0.6
BRVK pmax pmax
comp=Z,12nm,0.7s
BRVK **Borovoye** 66.71 326 *e*P P 13 21 28.0 -0.7
comp=Z,12nm,0.6s
IDAH **Dahanechah** 68.46 303 *e*P P 13 21 41.5 +1.0
IMYA **Miami** 68.83 307 *e*P P 13 21 43.1 +0.5
IKOO **Kooshah** 69.14 303 *e*P P 13 21 45.1 +0.4
IMOG **Moghan** 69.40 307 *e*P P 13 21 45.9 -0.4
IAKL **Akhelmad** 69.94 307 *e*P P 13 21 50.4 +0.8
IEMG **Emamgholi** 70.15 308 *e*P P 13 21 51.7 +0.9
IKRD **Kardeh** 70.16 307 *e*P P 13 21 46.6 -4.3
AB31 **Akbulak array** 71.61 320 *i* P P 13 21 59.2 +0.2
AB31 pmax pmax
comp=Z,5.0nm,0.4s
ABKAR **Akbulak array** 71.61 320 *e*P P 13 21 59.8 +0.7
IBAF **Bafgh** 71.95 301 *e*P P 13 21 57.8 -3.9
CASY **Casey** 72.18 187 *e*P P 13 22 02.3 +0.3
comp=Z,7.0nm,1.0s
AKTO **Aktyubinsk** 73.10 321 *i* P P 13 22 05.6 -2.3
AKTO pmax pmax
comp=Z,6.0nm,0.5s
SVE **Sverdlovsk** 73.24 328 *e*P P 13 22 09.2 +0.6
SVE pmax pmax
comp=Z,8.0nm,0.6s
ISRV **Sarvestan** 73.90 299 *e*P P 13 22 13.2 -0.2
IPAR **Pars** 73.98 299 *e*P P 13 22 14.9 +1.0
ARU **Arti** 74.23 327 *de*P P 13 22 14.5 +0.1
ARU S S 13 31 47.0 +9.1
ARU pmax pmax
comp=Z,5.0nm,0.5s
IFIR **Firoozkooh** 74.65 305 *e*P P 13 22 18.1 +0.5
ISFB **Sefidab** 74.97 304 *e*P P 13 22 20.1 +0.9
IVRN **Varamin** 75.43 305 *e*P P 13 22 22.7 +0.8
IKLH **Kolahrood** 75.45 303 *e*P P 13 22 23.2 +1.0
RDF **Al-Radifah** 78.75 298 *e*P P 13 22 40.7 +0.3

RDF					AMb	AMB	13 22 42.3		
	comp=Z,23nm,0.8s								
NAY	**Al-Naaiem**	**79.02**	**299**	*e*P	**P**		**13 22 41.4**	**-0.5**	
NAY					AMb	AMB	13 22 43.5		
	comp=Z,12nm,0.6s								
RST	**Umm Al-Ruwaisa**	**79.23**	**299**	*e*P	**P**		**13 22 43.1**	**+0.1**	
IMA2	**Indian Mountai**	**80.92**	**24**	*e*P	**P**		**13 22 52.7**	**+1.2**	
BPAW	**Bear Paw Mtn.**	**81.82**	**26**	*e*P	**P**		**13 22 56.8**	**+0.6**	
ZEI	**Tsey**	**81.87**	**312**	*e*P	**P**		**13 22 58.7**	**+1.6**	
ZEI					pmax	pmax			
	comp=Z,4.0nm,0.6s								
MCK	**McKinley**	**82.70**	**26**	*e*pP	pP		13 23 29.7	-2.6	
ILAR	**Eielson Array**	**83.64**	**25**	P	**P**		**13 23 05.4**	**-0.2**	
ILAR	**Eielson Array**	**83.64**	**25**	P	**P**		**13 23 05.4**	**-0.2**	
	comp=Z,0.6nm,0.7s,baz=247,slow=5.5,SNR=10								
VNDA	**Vanda**	**84.61**	**173**	*e*P	**P**		**13 23 10.1**	**-0.1**	
	comp=Z,1.8nm,0.8s								
VNDA	**Vanda**	**84.61**	**173**	P	**P**		**13 23 10.2**	**+0.1**	
	comp=Z,2.1nm,0.7s,baz=324,slow=5.6,SNR=19								
KLMR	**Klimovskoe**	**84.64**	**331**	*e*P	P		13 23 15.5	+4.9	
KLMR					pmax	pmax			
	comp=Z,14nm,1.3s								
MAW	**Mawson**	**85.20**	**200**	P	**P**		**13 23 13.5**	**+0.2**	
MAW	**Mawson**	**85.20**	**200**	P	**P**		**13 23 13.5**	**+0.2**	
	comp=Z,1.6nm,0.8s,baz=79,slow=7.8,SNR=5.7								
APA	**Apatity**	**86.94**	**337**	‖ *i*P	P		13 23 35.0	+13	
ARCES	**ARCESS Array B**	**89.49**	**340**	P	**P**		**13 23 32.9**	**-1.0**	
ARCES	**ARCESS Array B**	**89.49**	**340**	P	**P**		**13 23 32.9**	**-1.0**	
	comp=Z,1.1nm,0.4s,baz=81,slow=5.8,SNR=8.4								
BRTR	**Keskin Array B**	**89.75**	**310**	P	**P**		**13 23 36.5**	**+0.6**	
BRTR	**Keskin Array B**	**89.75**	**310**	P	**P**		**13 23 36.5**	**+0.6**	
	comp=Z,0.8nm,0.6s,baz=142,slow=3.7,SNR=4.7								
FINES	**FINESS Array B**	**91.03**	**332**	P	**P**		**13 23 40.2**	**-1.1**	
FINES	**FINESS Array B**	**91.03**	**332**	P	**P**		**13 23 40.2**	**-1.1**	
	comp=Z,1.8nm,0.7s,baz=28,slow=3.6,SNR=6.2								
AKASG	**Malin Array Be**	**91.34**	**321**	P	**P**		**13 23 41.9**	**-1.0**	
AKASG	**Malin Array Be**	**91.34**	**321**	P	**P**		**13 23 41.9**	**-1.0**	
AKASG	**Malin Array Be**	**91.34**	**321**	P	**P**		**13 23 41.9**	**-1.0**	
	comp=Z,0.6nm,0.4s,baz=67,slow=5.0,SNR=3.6								
TXAR	**Lajitas Array**	**120.25**	**52**	PKP	**PKPdf**		**13 29 29.0**	**+0.6**	
TXAR				PP	**PP**		**13 30 54.4**	**-0.9**	
TXAR	**Lajitas Array**	**120.25**	**52**	PKP	**PKPdf**		**13 29 29.0**	**+0.6**	
	comp=Z,0.3nm,0.7s,baz=270,slow=1.8,SNR=2.8								
TXAR				PP	**PP**		**13 30 54.4**	**-0.9**	
	comp=Z,0.3nm,0.7s,baz=251,slow=4.7,SNR=2.8								
TORD	**Torodi Ar. Bea**	**123.18**	**289**	PKP	**PKPdf**		**13 29 34.3**	**+0.1**	
TORD	**Torodi Ar. Bea**	**123.18**	**289**	PKP	**PKPdf**		**13 29 34.3**	**+0.1**	
	comp=Z,0.3nm,0.4s,baz=85,slow=2.5,SNR=4.2								
TRQA	**Tornquist**	**146.01**	**167**	*e*PKPdf	**PKPdf**		**13 30 16.3**	**+0.3**	
CFAA	**Coronel Fontan**	**149.74**	**153**	PKPbc	**PKPbc**		**13 30 27.4**	**+0.3**	
CFAA	**Coronel Fontan**	**149.74**	**153**	PKPbc	**PKPbc**		**13 30 27.4**	**+0.3**	
	comp=Z,1.9nm,0.6s,baz=219,slow=2.9,SNR=27								
LPAZ	**La Paz**	**161.06**	**127**	PKPab	**PKPab**		**13 31 21.6**	**-0.5**	
LPAZ	**La Paz**	**161.06**	**127**	PKPab	**PKPab**		**13 31 21.6**	**-0.5**	
	comp=Z,3.9nm,0.9s,baz=218,slow=4.5,SNR=8.4								

ISCJB ***16*** *13:17:16.1±0.6, 41°.81N±0°.02×15°.89E±0°.03, h30km±5km, Error ellipse: s-maj=4.5km s-min=3.6km az=157.7*
CSEM ***16*** *13:17:16.6±0.1, 41°.75N×15°.89E, h30km, ML3.7/5, Error ellipse: s-maj=2.8km s-min=2.2km az=67.0*
ROM ***16*** *13:17:16.0±0.1, 41°.76N×15°.90E, h31km±1km, Ml2.8/25, Error ellipse: s-maj=2.7km s-min=1.7km az=20.0*

ISC 16 13:17:16.5±0.9, 41°.76N±0°.02×15°.86E±0°.03, h30km±3km, n77, σ0°66/100, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MSAG	**Monte S. Angel**	**0.06**	**144**	Pg	**Pb**		**13 17 21.8**	**0.0**
MSAG				Sg	**Sb**		**13 17 25.6**	**+0.2**
	2μm,0.1s							
MSAG	**Monte S. Angel**	**0.06**	**144**	Pg	**Pb**		**13 17 21.8**	**0.0**
MSAG				Sg	**Sb**		**13 17 25.6**	**+0.2**
	2μm,0.1s							
MS1	**Monte Sant'Ang**	**0.08**	**133**	*i* Pg	**Pb**		**13 17 22.0**	**+0.1**
MS1				*e*Sg	**Sb**		**13 17 26.1**	**+0.5**
SGRT	**San Giovanni R**	**0.09**	**266**	Pg	**Pb**		**13 17 21.8**	**-0.2**
SGRT				Sg	**Sn**		**13 17 25.1**	**-0.6**
	6μm,0.2s							
SGRT	**San Giovanni R**	**0.09**	**266**	Pg	**Pb**		**13 17 21.8**	**-0.2**
SGRT				Sg	**Sn**		**13 17 25.1**	**-0.6**
	6μm,0.2s							
MELA	**Melanico ??? S**	**0.55**	**265**	Pg	**Pb**		**13 17 27.6**	**-0.2**
MELA				Sg	**Sb**		**13 17 36.0**	**+0.4**
	2μm,0.3s							
MELA	**Melanico ??? S**	**0.55**	**265**	Pg	**Pb**		**13 17 27.6**	**-0.2**
MELA				Sg	**Sb**		**13 17 36.0**	**+0.4**
	2μm,0.3s							
MOCO	**Biccari - m.te**	**0.66**	**234**	Pg	**Pb**		**13 17 29.4**	**-0.2**
CIGN	**Sant'Elia a Pi**	**0.72**	**262**	Pg	**Pn**		**13 17 30.5**	**-0.2**
CIGN	**Sant'Elia a Pi**	**0.72**	**262**	Pg	**Pn**		**13 17 30.5**	**-0.2**
SGTA	**Sant Agata di**	**0.73**	**211**	Pg	**Pn**		**13 17 30.6**	**-0.2**
	443nm,0.4s							
SGTA	**Sant Agata di**	**0.73**	**211**	Pg	**Pn**		**13 17 30.6**	**-0.2**
	443nm,0.4s							
MRVN	**Minervino Murg**	**0.74**	**160**	Pg	**Pn**		**13 17 30.4**	**-0.6**
MRVN				Sg	**Sn**		**13 17 41.3**	**0.0**
	218nm,0.2s							
MRVN	**Minervino Murg**	**0.74**	**160**	Pg	**Pn**		**13 17 30.4**	**-0.6**
MRVN				Sg	**Sn**		**13 17 41.3**	**0.0**
	218nm,0.2s							
CDT	**Castel del Mon**	**0.74**	**155**	*e*Pg	**Pn**		**13 17 30.5**	**-0.5**
CDT				*e*Sg	**Sn**		**13 17 43.6**	**+2.3**
PALZ	**Palazzo San Ge**	**0.82**	**175**	Pg	**Pb**		**13 17 31.8**	**-0.5**
	253nm,0.4s							
PALZ	**Palazzo San Ge**	**0.82**	**175**	Pg	**Pb**		**13 17 31.8**	**-0.5**
	253nm,0.4s							
VULT	**Monte Vulture**	**0.83**	**193**	Pg	**Pb**		**13 17 32.5**	**0.0**
	471nm,0.2s							
VULT	**Monte Vulture**	**0.83**	**193**	Pg	**Pb**		**13 17 32.5**	**0.0**
	471nm,0.2s							
CAFE	**Carife**	**0.87**	**213**	Pg	**Pb**		**13 17 33.1**	**-0.1**
CAFE				Sg	**Sb**		**13 17 46.0**	**+1.5**
CAFE	**Carife**	**0.87**	**213**	Pg	**Pb**		**13 17 33.1**	**-0.1**
CAFE				Sg	**Sb**		**13 17 46.0**	**+1.5**
FRES	**Fresagrandinar**	**0.92**	**284**	Pg	**Pb**		**13 17 33.9**	**0.0**
	288nm,0.5s							
FRES	**Fresagrandinar**	**0.92**	**284**	Pg	**Pb**		**13 17 33.9**	**0.0**
	288nm,0.5s							
SNAL	**S. Angelo Dei**	**0.97**	**211**	Pg	**Pb**		**13 17 34.4**	**-0.4**
SNAL				Sg	**Sb**		**13 17 48.1**	**+0.8**
	128nm,0.2s							
SNAL	**S. Angelo Dei**	**0.97**	**211**	Pg	**Pb**		**13 17 34.4**	**-0.4**
SNAL				Sg	**Sb**		**13 17 48.1**	**+0.8**
	128nm,0.2s							
ACER	**Acerenza**	**0.97**	**176**	Pg	**Pb**		**13 17 35.0**	**+0.1**
	345nm,0.4s							
ACER	**Acerenza**	**0.97**	**176**	Pg	**Pb**		**13 17 35.0**	**+0.1**
	345nm,0.4s							
BSSO	**Busso**	**0.97**	**258**	Pg	**Pb**		**13 17 34.9**	**0.0**
BSSO	**Busso**	**0.97**	**258**	Pg	**Pb**		**13 17 34.9**	**0.0**
BAI	**Bari**	**1.00**	**130**	*e*Pg	**Pn**		**13 17 34.3**	**-0.2**
BAI				*e*Sg	**Sb**		**13 17 49.9**	**+1.7**
AMUR	**Altamura**	**1.02**	**147**	Pg	**Pn**		**13 17 34.5**	**-0.3**
	219nm,0.2s							
AMUR	**Altamura**	**1.02**	**147**	Pg	**Pn**		**13 17 34.5**	**-0.3**
	219nm,0.2s							
MRLC	**Muro Lucano**	**1.04**	**196**	Pg	**Pn**		**13 17 34.4**	**-0.7**
	118nm,0.3s							
MRLC	**Muro Lucano**	**1.04**	**196**	Pg	**Pn**		**13 17 34.4**	**-0.7**
	118nm,0.3s							
PTRJ	**Pietraroja**	**1.08**	**249**	Pg	**Pb**		**13 17 36.8**	**+0.2**
PTRJ				Sg	**Sb**		**13 17 50.9**	**+0.5**
PTRJ	**Pietraroja**	**1.08**	**249**	Pg	**Pb**		**13 17 36.8**	**+0.2**
PTRJ				Sg	**Sb**		**13 17 50.9**	**+0.5**
MCRV	**Calabrutti - M**	**1.11**	**208**	Pg	**Pn**		**13 17 35.9**	**-0.2**
	117nm,0.2s							
MCRV	**Calabrutti - M**	**1.11**	**208**	Pg	**Pn**		**13 17 35.9**	**-0.2**
	117nm,0.2s							
MIGL	**Miglionico**	**1.23**	**159**	Pg	**Pn**		**13 17 37.7**	**0.0**
	807nm,0.5s							
MIGL	**Miglionico**	**1.23**	**159**	Pg	**Pn**		**13 17 37.7**	**0.0**
	807nm,0.5s							
VAGA	**Valle Agricola**	**1.27**	**255**	Pg	**Pn**		**13 17 38.7**	**+0.4**
VAGA	**Valle Agricola**	**1.27**	**255**	Pg	**Pn**		**13 17 38.7**	**+0.4**
MATE	**Matera**	**1.28**	**150**	Pg	**Pn**		**13 17 38.2**	**-0.1**
	186nm,0.5s							
MATE	**Matera**	**1.28**	**150**	Pg	**Pn**		**13 17 38.2**	**-0.1**
	186nm,0.5s							
LPEL	**Lama dei Pelig**	**1.29**	**283**	Pg	**Pb**		**13 17 39.4**	**-0.8**
	154nm,0.4s							
LPEL	**Lama dei Pelig**	**1.29**	**283**	Pg	**Pb**		**13 17 39.4**	**-0.8**
	154nm,0.4s							
NOCI	**Noci**	**1.33**	**137**	Pg	**Pn**		**13 17 39.0**	**0.0**
	300nm,0.3s							
NOCI	**Noci**	**1.33**	**137**	Pg	**Pn**		**13 17 39.0**	**0.0**
	300nm,0.3s							
CDRU	**Civita di Ruta**	**1.34**	**199**	Pg	**Pn**		**13 17 38.5**	**-0.7**
	36nm,0.2s							
CDRU	**Civita di Ruta**	**1.34**	**199**	Pg	**Pn**		**13 17 38.5**	**-0.7**
	36nm,0.2s							
MCEL	**Monticello**	**1.44**	**182**	Pg	**Pn**		**13 17 40.2**	**-0.4**
	47nm,0.3s							
MCEL	**Monticello**	**1.44**	**182**	Pg	**Pn**		**13 17 40.2**	**-0.4**
	47nm,0.3s							
CRAC	**Craco**	**1.46**	**163**	Pg	**Pb**		**13 17 41.6**	**-1.5**
	294nm,0.2s							
CRAC	**Craco**	**1.46**	**163**	Pg	**Pb**		**13 17 41.6**	**-1.5**
	294nm,0.2s							
INTR	**Introdacqua**	**1.48**	**280**	Pg	**Pb**		**13 17 42.6**	**-0.9**
	104nm,0.8s							
INTR	**Introdacqua**	**1.48**	**280**	Pg	**Pb**		**13 17 42.6**	**-0.9**
	104nm,0.8s							
MTSN	**Montesano sull**	**1.50**	**183**	Pg	**Pn**		**13 17 40.2**	**-1.2**
	64nm,0.7s							
MTSN	**Montesano sull**	**1.50**	**183**	Pg	**Pn**		**13 17 40.2**	**-1.2**
	64nm,0.7s							
PE1	**Pezze di Greco**	**1.52**	**129**	*e*Pg	**Pn**		**13 17 41.7**	**+0.2**
SCHR	**S. Chirico Rap**	**1.57**	**174**	Pg	**Pn**		**13 17 42.1**	**-0.3**
	27nm,0.3s							
SIRI	**Monte Sirino -**	**1.58**	**180**	Pg	**Pn**		**13 17 41.9**	**-0.6**
	55nm,0.2s							
SIRI	**Monte Sirino -**	**1.58**	**180**	Pg	**Pn**		**13 17 41.9**	**-0.6**
	55nm,0.2s							
TAR1	**Taranto**	**1.64**	**138**	*e*Pn	**Pb**		**13 17 45.4**	**-0.6**
MGR	**Morigerati**	**1.64**	**188**	Pg	**Pn**		**13 17 42.8**	**-0.5**
	35nm,0.4s							
MGR	**Morigerati**	**1.64**	**188**	Pg	**Pn**		**13 17 42.8**	**-0.5**
	35nm,0.4s							
STON	**Ston**	**1.76**	**50**	*e*Pn	**Pn**		**13 17 45.3**	**+0.4**
STON				Sn	**Sn**		**13 18 05.1**	**-1.1**
STON	**Ston**	**1.76**	**50**	*e*Pn	**Pn**		**13 17 45.3**	**+0.4**
STON				Sn	**Sn**		**13 18 05.1**	**-1.1**
CUC	**Castrocucco**	**1.77**	**181**	Pg	**Pn**		**13 17 45.0**	**-0.1**
	36nm,0.5s							
CUC	**Castrocucco**	**1.77**	**181**	Pg	**Pn**		**13 17 45.0**	**-0.1**
	36nm,0.5s							
UDBI	**Udbina**	**2.77**	**359**	*i* Pn	**Pn**		**13 17 59.4**	**+0.5**
UDBI				Sn	**Sn**		**13 18 31.1**	**-0.2**
UDBI	**Udbina**	**2.77**	**359**	*i* Pn	**Pn**		**13 17 59.3**	**+0.5**
UDBI				Sn	**Sn**		**13 18 31.0**	**-0.2**
NVLJ	**Novalja**	**2.89**	**346**	*e*Pn	**Pn**		**13 18 00.6**	**0.0**
NVLJ				Sn	**Sn**		**13 18 33.0**	**-1.3**
NVLJ	**Novalja**	**2.89**	**346**	*e*Pn	**Pn**		**13 18 00.5**	**0.0**
NVLJ				Sn	**Sn**		**13 18 32.9**	**-1.3**
BOJS	**Bojanci**	**3.77**	**353**	*i* Pn	**Pn**		**13 18 13.7**	**+1.1**
BOJS								
	comp=Z,5.0nm,0.1s							
BOJS	**Bojanci**	**3.77**	**353**	*i* Pn	**Pn**		**13 18 13.6**	**+1.1**
	comp=Z,5.0nm,0.1s							
VISS	**Visnje**	**4.11**	**350**	*i* Pn	**Pn**		**13 18 17.8**	**+0.6**
VISS	**Visnje**	**4.11**	**350**	*i* Pn	**Pn**		**13 18 17.8**	**+0.6**

IDC 16 13:23:35.7±7.5, 15°.29S×72°.77W, h155km±63km, mb3.4/1, mb1 3.5/3, mb1mx3.2/20, mbtmp3.4/3, Error ellipse: s-maj=108.2km s-min=63.6km az=159.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LPAZ	**La Paz**	**4.57**	**103**	P		Pn	13 24 45.1	+0.7
	4.0nm,0.3s,baz=278,slow=10,SNR=84							
SIV	**San Ignacio**	**11.29**	**95**	P		Pn	13 26 10.7	-1.9
	1.1nm,0.3s,baz=280,slow=12,SNR=8.0							
H03N1	**Juan Fernandez**	**18.91**	**196**	T		T	13 46 26.9	
	baz=15,slow=0.7,SNR=385							
H03N2	**Juan Fernandez**	**18.91**	**196**	T		T	13 46 27.1	
	baz=15,slow=0.7,SNR=196							
H03N3	**Juan Fernandez**	**18.93**	**196**	T		T	13 46 24.7	
	baz=15,slow=0.7,SNR=283							
TORD	**Torodi Ar. Bea**	**78.89**	**73**	P		P	13 35 22.9	+0.5
	0.6nm,0.7s,baz=260,slow=4.9,SNR=4.2							
ASAR	**Alice Springs**	**133.32**	**214**	PKP		PKPdf	13 42 33.5	-0.7
	0.2nm,0.6s,baz=136,slow=2.7,SNR=5.9							
WRA	**Warramunga Arr**	**136.00**	**218**	PKP		PKPdf	13 42 38.7	-0.5
	0.7nm,0.8s,baz=132,slow=2.0,SNR=4.1							
ZALV	**Zalesovo Beam**	**137.62**	**20**	PKP		PKPdf	13 42 41.0	-0.1
	1.3nm,0.9s,baz=339,slow=3.8,SNR=4.2							
KURBB	**Kurchatov Arra**	**137.83**	**27**	PKP		PKPdf	13 42 41.8	+0.2
	0.1nm,0.2s,baz=314,slow=2.2,SNR=2.9							
SONM	**Songino Array**	**147.54**	**1**	PKPbc		PKPbc	13 43 00.8	-1.0
	1.2nm,0.5s,baz=331,slow=2.4,SNR=10							

SZGRF ***16*** *13:42:56.4, 17°.37S×178°.45W, h33km, Fiji Islands region*
IDC ***16*** *13:43:50.3±1.4, 17°.58S×178°.93W, h511±16km, mb3.7/17, mb1 3.9/19, mb1mx3.9/21, mbtmp4.6/19, Error ellipse: s-maj=15.4km s-min=10.6km az=125.0*
AUST ***16*** *13:43:50.7±1.2, 17°.31S×179°.02W, h505km, Error ellipse: s-maj=1.5km s-min=1.1km az=288.0*
ISCJB ***16*** *13:43:51.4±0.4, 17°.60S±0°.07×178°.91W±0°.07, h539km, mb4.1/17, Error ellipse: s-maj=10.9km s-min=7.7km az=144.0*
BJI ***16*** *13:43:51.8, 17°.60S×178°.70W, h539km, mB4.6/6, mb4.7/7*
BGS ***16*** *13:43:53.2±2.6, 17°.60S×178°.73W, h539km, mb5.1*

ISC 16 13:43:52.7±0.5, 17°.63S±0°.09×178°.96W±0°.08, h539km, n119, σ0°89/113, mb4.1/17, 13C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**7.84**	**63**	P		P	13 45 44.7	-4.0
	19nm,0.3s,baz=26,slow=5.7,SNR=16							
AFI				S		S	13 47 13.5	-10
	0.8nm,0.3s,baz=307,slow=20,SNR=1.9							
NIUE	**Niue**	**8.70**	**101**	P		**P**	**13 45 56.5**	**-0.7**
	baz=8.8,SNR=3.5							
DZM	**Mont Dzumac**	**14.42**	**250**	P		**P**	**13 46 55.9**	**-0.5**
	2.1nm,0.3s,baz=67,slow=21,SNR=27							
URZ	**Urewera**	**20.84**	**189**	P		**P**	**13 47 54.9**	**-1.9**
	7.2nm,0.6s,baz=201,slow=2.0,SNR=7.2							
RPZ	**Rata Peaks**	**27.34**	**196**	P		**P**	**13 48 53.4**	**-1.0**
	2.7nm,0.4s,baz=238,slow=19,SNR=4.1							
EIDS	**Eidsvold**	**28.87**	**249**	P		**P**	**13 49 08.1**	**+0.1**
	baz=29,SNR=18							
ARMA	**Armidale**	**29.63**	**239**	P		**P**	**13 49 15.9**	**+1.2**
	baz=30,SNR=56							
MGCD	**Mangrove Creek**	**31.02**	**234**	P		**P**	**13 49 27.9**	**+1.3**
	baz=31,SNR=45							
RMQ	**Roma**	**31.12**	**248**	P		**P**	**13 49 28.5**	**+1.0**
	baz=31,SNR=104							
RABL	**Rabaul**	**31.27**	**292**	P		P	13 49 25.7	-3.3
	baz=31,SNR=5.4							
PATS	**Pohnpei**	**33.09**	**315**	P		**P**	**13 49 44.3**	**-0.1**
	baz=33,SNR=3.8							
CNB	**Canberra Magne**	**33.18**	**232**	P		**P**	**13 49 46.2**	**+1.2**
	baz=33,SNR=58							
MILA	**Mila**	**34.06**	**229**	P		**P**	**13 49 53.5**	**+1.1**
	baz=34,SNR=7.5							
CMSA	**Cobar Meteorol**	**34.83**	**240**	P		**P**	**13 49 59.4**	**+0.7**
	baz=35,SNR=137							
MTSU	**Mount Surprise**	**34.92**	**263**	P		**P**	**13 49 59.5**	**-0.2**
	baz=35,SNR=11							
QLP	**Quilpie**	**35.14**	**249**	P		**P**	**13 50 01.7**	**+0.3**
	baz=35,SNR=85							
COEN	**Coen**	**36.58**	**270**	P		**P**	**13 50 14.1**	**+0.6**
	baz=36,SNR=20							
TOO	**Toolangi**	**36.94**	**230**	P		**P**	**13 50 17.3**	**+1.1**
	baz=37,SNR=25							
MOO	**Moorlands**	**37.94**	**222**	P		**P**	**13 50 25.5**	**+1.2**
	baz=38,SNR=4.3							
STKA	**Stephens Creek**	**38.30**	**241**	P		**P**	**13 50 28.4**	**+1.1**
	baz=38,SNR=106							
STKA	**Stephens Creek**	**38.30**	**241**	P		**P**	**13 50 28.4**	**+1.1**
	31nm,0.5s,baz=90,slow=9.5,SNR=141							
ARPS	**Mount Arapiles**	**39.39**	**233**	P		**P**	**13 50 36.7**	**+0.6**
	baz=40,SNR=11							
MMPI	**Merauke**	**40.56**	**278**	P		P	13 50 41.9	-3.9
	baz=40,SNR=4.8							
JAY	**Jayapura**	**42.32**	**286**	P		**P**	**13 51 00.8**	**+1.0**
	baz=42,SNR=4.0							
BBOO	**Buckleboo**	**43.08**	**241**	P		**P**	**13 51 05.9**	**+0.5**
	baz=43,SNR=63							
WRA	**Warramunga Arr**	**44.16**	**259**	P		**P**	**13 51 13.1**	**-0.9**
	12nm,0.8s,baz=94,slow=7.4,SNR=55							
WRA					ScP	**ScP**	**13 55 50.3**	**+2.4**
	1.3nm,0.8s,baz=88,slow=4.0,SNR=4.0							
WRA				S		**S**	**13 57 04.0**	**-4.3**
	0.9nm,0.9s,baz=92,slow=14,SNR=4.0							
ASAR	**Alice Springs**	**44.36**	**254**	P		**P**	**13 51 15.5**	**0.0**
	119nm,0.7s,baz=88,slow=8.1,SNR=143							
ASAR					ScP	**ScP**	**13 55 51.2**	**+2.5**
	1.8nm,0.8s,baz=95,slow=4.4,SNR=5.7							
ASAR				S		**S**	**13 57 08.9**	**-2.1**
	4.5nm,1.0s,baz=85,slow=16,SNR=25							
KDU	**Kakadu**	**47.04**	**269**	P		**P**	**13 51 35.7**	**-0.2**
	baz=47,SNR=39							
MTN	**Manton Dam**	**48.28**	**268**	P		**P**	**13 51 44.8**	**-0.4**
	baz=48,SNR=16							
KNRA	**Kununurra**	**49.99**	**264**	P		**P**	**13 51 57.7**	**-0.2**
	baz=50,SNR=19							
SWI	**Sorong**	**51.67**	**283**	P		**P**	**13 52 11.0**	**+0.8**
	baz=52,SNR=4.2							
BNDI	**Bandanaira**	**51.67**	**278**	P		P	13 52 03.6	-6.6
	baz=52,SNR=11							
FITZ	**Fitzroy Crossi**	**52.55**	**260**	P		**P**	**13 52 16.9**	**+0.4**
	baz=52,SNR=18							
SOEI	**Soe**	**55.54**	**270**	P		**P**	**13 52 39.5**	**+1.7**
	baz=56,SNR=16							
MEEK	**Meekatharra**	**58.04**	**249**	P		**P**	**13 52 54.2**	**-0.4**
	baz=58,SNR=16							
BLDU	**Ballidu**	**59.42**	**244**	P		**P**	**13 53 03.4**	**-0.4**
	baz=60,SNR=12							
MORW	**Morawa**	**60.11**	**246**	P		**P**	**13 53 08.1**	**-0.2**
	baz=60,SNR=7.6							
VNDA	**Vanda**	**60.67**	**185**	P		**P**	**13 53 12.5**	**+1.2**
	0.9nm,0.7s,baz=352,slow=8.1,SNR=9.0							
GIRL	**Giralia**	**62.47**	**253**	P		**P**	**13 53 25.1**	**+1.2**
	baz=62,SNR=3.3							
MJAR	**Matsushiro Arr**	**67.37**	**324**	P		**P**	**13 53 54.0**	**-0.4**
	12nm,0.7s,baz=168,slow=6.9,SNR=35							
UGM	**Wanagama**	**69.13**	**268**	P		**P**	**13 54 05.7**	**0.0**
	baz=69,SNR=4.0							
PETK	**Petropavlovsk-**	**73.28**	**346**	P		**P**	**13 54 28.8**	**-0.3**
	15nm,0.8s,baz=142,slow=8.3,SNR=14							
KSRS	**Korea Array**	**74.15**	**319**	P		**P**	**13 54 32.9**	**-1.4**
	2.0nm,0.8s,baz=130,slow=6.6,SNR=5.4							
USRK	**Ussuriysk Arra**	**76.09**	**326**	P		**P**	**13 54 46.2**	**+1.2**
	3.5nm,0.7s,baz=102,slow=5.1,SNR=6.7							
NVAR	**Mina Array Bea**	**79.59**	**44**	P		**P**	**13 55 04.4**	**+0.1**
	4.1nm,0.7s,baz=225,slow=9.3,SNR=40							
MAW	**Mawson**	**83.94**	**200**	P		**P**	**13 55 25.0**	**-0.7**
	1.5nm,0.6s,baz=127,slow=9.9,SNR=11							
ILAR	**Eielson Array**	**85.74**	**13**	P		**P**	**13 55 33.0**	**-1.3**
	3.3nm,0.7s,baz=225,slow=5.0,SNR=45							
TXAR	**Lajitas Array**	**86.29**	**58**	P		**P**	**13 55 39.7**	**+1.7**
	2.6nm,0.7s,baz=218,slow=6.1,SNR=20							
PDAR	**Pinedale Array**	**87.51**	**44**	P		**P**	**13 55 43.5**	**0.0**
	2.6nm,0.7s,baz=217,slow=3.4,SNR=16							
CMAR	**Chiang Mai Arr**	**88.30**	**290**	P		**P**	**13 55 48.1**	**+0.7**
	0.4nm,0.7s,baz=130,slow=2.5,SNR=5.4							
SONM	**Songino Array**	**93.00**	**319**	P		**P**	**13 56 08.6**	**-0.1**
	0.4nm,0.5s,baz=129,slow=4.0,SNR=5.4							
YKA	**Yellowknife Ar**	**94.30**	**25**	P		**P**	**13 56 13.1**	**-1.0**
	2.3nm,0.7s,baz=254,slow=4.5,SNR=3.8							
ZALV	**Zalesovo Beam**	**107.69**	**322**	PKiKP		**PKiKP**	**14 01 17.1**	**-1.3**
	0.6nm,0.6s,baz=282,slow=1.3,SNR=3.0							
MKAR	**Makanchi Array**	**108.57**	**314**	PKiKP		**PKiKP**	**14 01 19.4**	**-0.9**
	0.4nm,0.5s,

GRUS	**Gruza**	**1.38**	**357**	*e*Pg	Pg	14 00 38.3	-2.0
GRUS				*e*Sg	Sb	14 00 58.6	-0.1
ZAPS	**Zavoj**	**1.53**	**59**	*e*Pg	Pn	14 00 41.8	-0.7
ZAPS				*e*Sg	Sn	14 01 01.9	-1.2
ZAPS	**Zavoj**	**1.53**	**59**	*e*Pg	Pn	14 00 41.8	-0.7
ZAPS				*e*Sg	Sn	14 01 01.9	-1.2
VTS	**Vitosha**	**1.76**	**87**	*e*Pg	Pn	14 00 45.4	-0.4
VTS				*e*Sg	Sg	14 01 10.4	-0.3
VTS	**Vitosha**	**1.76**	**87**	*e*Pg	Pn	14 00 45.4	-0.4
VTS				*e*Sg	Sg	14 01 10.4	-0.3

*ISCJB **16** 14:20:22.3±0.4, 7°.52S±0°.04×128°.89E±0°.06, h131km, mb3.8/10, Error ellipse: s-maj=7.8km s-min=6.0km az=2.6*
*IDC **16** 14:20:22.6±3.6, 7°.36S×129°.04E, h122km±33km, mb3.7/10, mb1 3.7/12, mb1mx3.7/21, mbtmp3.7/12, MS3.0/1, Ms1 3.0/1, ms1mx2.6/29, Error ellipse: s-maj=32.4km s-min=14.1km az=76.0*
*AUST **16** 14:20:24.8±0.0, 7°.61S×128°.97E, h115km, Error ellipse: s-maj=1.0km s-min=0.8km az=288.0*

ISC 16 14:20:23.7±0.6, **7°.49S**±0°.07×**128°.95E**±0°.07, **h131**km, **n30, σ1°68/30, mb3.7/10, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**3.10**	**18**	P	**Pn**	**14 21 14.1**	**+2.4**
	baz=3.2,SNR=4.0						
AAI	**Ambon**	**3.86**	**349**	P	**Pn**	**14 21 23.8**	**+2.2**
	baz=4.0,SNR=6.9						
TLE	**Tual**	**4.19**	**64**	P	**Pn**	**14 21 28.6**	**+2.5**
	baz=4.2,SNR=5.8						
SOEI	**Soe**	**5.15**	**244**	P	**Pn**	**14 21 41.0**	**+2.1**
	baz=5.1,SNR=12						
FAKI	**Fak Fak**	**5.61**	**36**	P	**Pn**	**14 21 44.5**	**-0.5**
	baz=5.7,SNR=12						
MTN	**Manton Dam**	**5.73**	**158**	P	**Pn**	**14 21 47.7**	**+1.0**
	baz=5.6,SNR=113						
BATI	**Baumata**	**5.88**	**242**	P	**Pn**	**14 21 50.2**	**+1.5**
	6.7nm,0.3s,baz=68,slow=19,SNR=22						
BATI				S	**Sn**	**14 22 53.7**	**-1.3**
	26nm,0.3s,baz=49,slow=20,SNR=14						
BATI				LR	LR	14 24 13.0	
	comp=Z,137nm,18.7s,baz=266,slow=38						
KDU	**Kakadu**	**6.22**	**146**	P	**Pn**	**14 21 53.8**	**+0.6**
	baz=6.1,SNR=312						
KNRA	**Kununurra**	**8.13**	**181**	P	**Pn**	**14 22 18.3**	**-0.7**
	baz=8.1,SNR=58						
FITZ	**Fitzroy Crossi**	**11.03**	**197**	P	**Pn**	**14 22 55.5**	**-2.2**
	baz=11,SNR=28						
FITZ	**Fitzroy Crossi**	**11.03**	**197**	P	**Pn**	**14 22 55.3**	**-2.5**
	2.9nm,0.3s,baz=30,slow=11,SNR=96						
FITZ				S	Sn	14 24 50.8	-8.5
	3.4nm,0.3s,baz=316,slow=23,SNR=7.3						
JAY	**Jayapura**	**12.71**	**68**	P	Pn	14 23 11.3	-8.7
	baz=13,SNR=4.1						
WRA	**Warramunga Arr**	**13.43**	**158**	P	**Pn**	**14 23 26.4**	**-2.8**
	3.0nm,0.3s,baz=332,slow=12,SNR=67						
WRA				S	Sn	14 25 47.2	-10
	2.6nm,0.3s,baz=328,slow=24,SNR=8.6						
COEN	**Coen**	**15.38**	**116**	P	**P**	**14 23 56.1**	**+0.6**
	baz=15,SNR=8.1						
ASAR	**Alice Springs**	**16.77**	**164**	P	**P**	**14 24 09.6**	**-1.3**
	1.2nm,0.3s,baz=341,slow=9.7,SNR=129						
ASAR				S	Sn	14 27 08.4	-9.5
	0.7nm,0.3s,baz=355,slow=29,SNR=6.6						
MTSU	**Mount Surprise**	**18.32**	**127**	P	**Pn**	**14 24 30.1**	**+0.5**
	baz=18,SNR=8.5						
MEEK	**Meekatharra**	**21.43**	**206**	P	**P**	**14 25 04.1**	**+2.7**
	baz=21,SNR=4.5						
MORW	**Morawa**	**24.67**	**208**	P	**P**	**14 25 35.3**	**+2.9**
	baz=25,SNR=3.9						
STKA	**Stephens Creek**	**26.97**	**156**	P	**P**	**14 25 53.8**	**+0.6**
	1.5nm,0.9s,baz=353,slow=8.1,SNR=2.9						
NWAO	**Narrogin (SRO)**	**27.54**	**202**	P	**P**	**14 25 59.5**	**+1.2**
	3.7nm,0.6s,baz=35,slow=9.1,SNR=3.3						
CMAR	**Chiang Mai Arr**	**39.26**	**311**	P	**P**	**14 27 39.6**	**-0.3**
	0.6nm,0.4s,baz=143,slow=5.7,SNR=7.6						
MJAR	**Matsushiro Arr**	**44.66**	**11**	P	**P**	**14 28 21.4**	**-2.0**
	0.8nm,0.8s,baz=200,slow=9.6,SNR=3.8						
KSRS	**Korea Array**	**44.72**	**359**	P	**P**	**14 28 22.9**	**-0.9**
	0.7nm,0.6s,baz=177,slow=8.8,SNR=4.5						
SONM	**Songino Array**	**58.59**	**342**	P	**P**	**14 30 07.3**	**+0.4**
	0.5nm,0.7s,baz=160,slow=5.3,SNR=2.7						
MKAR	**Makanchi Array**	**68.07**	**327**	P	**P**	**14 31 08.7**	**-0.6**
	3.6nm,0.5s,baz=119,slow=7.9,SNR=28						
ZALV	**Zalesovo Beam**	**71.57**	**334**	P	**P**	**14 31 28.8**	**-1.7**
	1.0nm,0.4s,baz=128,slow=4.3,SNR=5.7						
KURBB	**Kurchatov Arra**	**72.39**	**329**	P	**P**	**14 31 34.7**	**-0.7**
	2.2nm,0.5s,baz=129,slow=5.0,SNR=9.7						
MAW	**Mawson**	**74.11**	**201**	P	**P**	**14 31 45.9**	**+0.7**
	0.9nm,0.5s,baz=64,slow=12,SNR=7.3						
TORD	**Torodi Ar. Bea**	**127.88**	**281**	PKP	**PKPdf**	**14 39 15.0**	**0.0**
	0.4nm,0.7s,baz=54,slow=1.2,SNR=2.9						
LPAZ	**La Paz**	**150.95**	**144**	PKPbc	**PKPbc**	**14 40 03.9**	**+1.1**
	1.0nm,0.4s,baz=315,slow=1.4,SNR=6.3						

*IDC **16** 14:23:58.8±2.0, 39°.39N×72°.66E, h0km, mb3.8/4, mb1 3.6/9, mb1mx3.4/32, mbtmp3.5/9, ML3.3/5, Error ellipse: s-maj=42.4km s-min=15.1km az=136.0*
*ISCJB **16** 14:24:04.6±1.3, 39°.6N±0°.1×72°.0E±0°.1, h33km, mb3.8/4, Error ellipse: s-maj=20.1km s-min=8.6km az=151.6*
*NNC **16** 14:24:08.0±6.8, 39°.77N×71°.45E, h26km±38km, mb3.8, mpv3.6, Error ellipse: s-maj=52.3km s-min=29.3km az=4.0*

ISC 16 14:24:06.4±1.3, **39°.7N**±0°.1×**72°.08E**±0°.08, **h33**km, **n25, σ2§17/25, mb3.8/4, 7C-6D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**2.71**	**26**	P	**Pn**	**14 24 49.8**	**+1.8**
	SNR=250						
EKS2	**Erkin-Say**	**3.21**	**23**	P	**Pn**	**14 24 56.2**	**+1.6**
	SNR=52						
KZA	**Kyzart**	**3.37**	**44**	P	**Pn**	**14 24 58.6**	**+1.6**
	SNR=9.2						
AAK	**Ala-Archa**	**3.44**	**31**	P	**Pn**	**14 24 59.8**	**+2.0**
	SNR=11						
AAK	**Ala-Archa**	**3.44**	**31**	Pn	**Pn**	**14 24 57.4**	**-0.4**
	4.8nm,0.3s,baz=193,slow=6.6,SNR=51						
AAK				Sn	**Sn**	**14 25 41.4**	**+3.9**
	15nm,0.3s,baz=180,slow=20,SNR=12						
KK31	**Karatay Array**	**3.59**	**341**	⇓Pn	**Pn**	**14 25 02.0**	**+2.3**
	4.6nm,0.4s,baz=160,slow=12,SNR=74						
KK31				⇑Pg	**Pb**	**14 25 10.7**	**+1.6**
	5.7nm,0.3s,baz=145,slow=17,SNR=18						
KK31				⇑Lg	Lg	14 25 55.9	
	21nm,0.3s,baz=163,slow=30,SNR=6.9						
KBK	**Karagaybulak**	**3.65**	**35**	P	**Pn**	**14 25 02.9**	**+2.1**
	SNR=8.2						
CHMS	**Chumysh**	**3.85**	**31**	P	**Pn**	**14 25 05.0**	**+1.7**
	SNR=12						
USP	**Ospenovka**	**3.99**	**26**	P	**Pn**	**14 25 06.6**	**+1.4**
	SNR=16						
ULHL	**Ulahol**	**4.04**	**50**	P	**Pn**	**14 25 06.2**	**+0.1**
	SNR=9.7						
TKM2	**Tokmak 2**	**4.16**	**38**	⇑Pn	**Pn**	**14 25 08.5**	**+0.8**
	17nm,0.6s						
TKM2				⇑Sn	**Sb**	**14 26 06.0**	**-2.8**
	37nm,0.6s						
MK31	**Makanchi Array**	**10.27**	**43**	⇓Pn	Pn	14 26 42.3	+11
	0.9nm,0.8s,baz=229,slow=13,SNR=3.8						
MK31				⇓Lg	Lg	14 29 41.3	
	2.0nm,0.6s						
MKAR	**Makanchi Array**	**10.27**	**43**	Pn	Pn	14 26 29.3	-2.0
	0.0nm,0.3s,baz=228,slow=14,SNR=2.5						
MKAR				Lg	Lg	14 29 15.6	
	0.1nm,0.3s,baz=213,slow=23,SNR=3.1						
KURBB	**Kurchatov Arra**	**11.81**	**20**	⇑Pn	**Pn**	**14 26 55.2**	**+2.8**
	1.5nm,0.8s						
KURBB	**Kurchatov Arra**	**11.81**	**20**	Pn	Pn	14 26 49.4	-3.1
	0.1nm,0.3s,baz=212,slow=9.7,SNR=6.7						
KURBB				Lg	Lg	14 30 08.8	
	0.1nm,0.3s,baz=213,slow=28,SNR=5.5						
KURK	**Kurchatov**	**11.92**	**21**	⇑Pn	**Pn**	**14 26 52.6**	**-1.3**
	0.5nm,0.8s						
AB31	**Akbulak array**	**12.87**	**322**	⇓Pn	**Pn**	**14 27 04.8**	**-2.1**
	1.1nm,0.7s,baz=131,slow=12,SNR=18						
AB31				⇓Sn	**Sn**	**14 29 24.6**	**-4.3**
	1.0nm,0.5s						
VOSK	**Vostochnaya**	**13.04**	**357**	⇓Lg	Lg	14 30 53.8	
	6.6nm,1.2s						
BVAR	**Borovoye Array**	**13.37**	**356**	Pn	**Pn**	**14 27 14.2**	**+0.6**
	0.1nm,0.3s,baz=160,slow=10,SNR=2.2						
BVAR				Lg	Lg	14 30 59.8	
	0.2nm,0.3s,baz=158,slow=23,SNR=2.7						
AKTO	**Aktyubinsk**	**14.59**	**322**	⇑Pn	**Pn**	**14 27 30.5**	**+0.1**
	2.1nm,0.8s						
ZALV	**Zalesovo Beam**	**16.66**	**27**	Pn	**Pn**	**14 27 53.9**	**-3.2**
	0.4nm,0.3s,baz=210,slow=12,SNR=6.0						
ZALV				Lg	Lg	14 32 43.1	
	0.1nm,0.3s,baz=213,slow=26,SNR=2.4						
BRTR	**Keskin Array B**	**29.42**	**283**	P	**P**	**14 30 08.6**	**+1.7**
	0.7nm,0.4s,baz=66,slow=7.6,SNR=5.1						
FINES	**FINESS Array B**	**35.36**	**323**	P	**P**	**14 30 58.6**	**+0.2**
	1.5nm,0.9s,baz=99,slow=12,SNR=4.1						
TORD	**Torodi Ar. Bea**	**66.67**	**268**	P	**P**	**14 34 54.8**	**+0.7**
	0.7nm,0.6s,baz=41,slow=4.2,SNR=6.4						
ILAR	**Eielson Array**	**71.46**	**17**	P	**P**	**14 35 21.3**	**-1.8**
	0.7nm,1.1s,baz=333,slow=2.3,SNR=4.3						

IDC 16 14:28:56.1±2.8, **12°.54S**×**165°.74E, h0**km, **mb3.7/5, mb1 3.9/5, mb1mx3.7/19, mbtmp3.7/5, Error ellipse: s-maj=114.2km s-min=30.6km az=141.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.00**	**252**	P	P	14 35 15.1	-0.4
	0.6nm,0.7s,baz=82,slow=8.2,SNR=4.3						
ASAR	**Alice Springs**	**32.14**	**245**	P	P	14 35 25.1	-0.6
	0.5nm,0.7s,baz=76,slow=9.3,SNR=7.3						
CMAR	**Chiang Mai Arr**	**72.71**	**294**	P	P	14 40 26.9	+0.4
	0.2nm,0.3s,baz=134,slow=5.2,SNR=4.5						
ILAR	**Eielson Array**	**84.92**	**18**	P	P	14 41 31.1	-1.6
	0.4nm,0.7s,baz=237,slow=6.2,SNR=6.0						
MKAR	**Makanchi Array**	**94.60**	**317**	P	P	14 42 18.4	-0.6
	0.4nm,0.6s,baz=102,slow=5.3,SNR=5.4						
ARCES	**ARCESS Array B**	**117.77**	**345**	PKP	PKPdf	14 47 44.3	+0.4
	4.0nm,1.0s,baz=48,slow=1.3,SNR=2.7						
KEST	**Kesra**	**148.58**	**321**	PKPbc	PKPbc	14 48 47.1	+1.5
	1.4nm,0.5s,baz=59,slow=4.7,SNR=3.7						

IDC 16 14:38:28.8±2.9, **12°.48S**×**164°.68E, h0**km, **mb3.6/3, mb1 3.8/5, mb1mx3.6/21, mbtmp3.8/5, ML3.8/2, Error ellipse: s-maj=57.9km s-min=35.1km az=69.0, Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.55**	**303**	Pn	Pn	14 39 54.4	+1.8
	27nm,0.3s,baz=211,slow=4.5,SNR=6.9						
HNR				Sn	Sn	14 41 04.8	+7.6
	baz=180,slow=20,SNR=1.5						
DZM	**Mont Dzumac**	**9.68**	**170**	Pn	Pn	14 40 50.4	+0.8
	0.1nm,0.3s,baz=3.5,slow=19,SNR=3.8						
CTA	**Charters Tower**	**19.22**	**244**	P	Pn	14 43 00.7	+5.1
	0.2nm,0.3s,baz=58,slow=15,SNR=4.0						
WRA	**Warramunga Arr**	**30.03**	**252**	P	P	14 44 39.5	-0.2
	0.4nm,0.3s,baz=79,slow=9.5,SNR=4.2						
ASAR	**Alice Springs**	**31.23**	**245**	P	P	14 44 49.9	-0.4
	0.5nm,0.8s,baz=74,slow=9.2,SNR=8.1						
MKAR	**Makanchi Array**	**93.85**	**317**	P	P	14 51 47.8	-0.4
	0.3nm,0.7s,baz=103,slow=4.2,SNR=2.9						

MAN 16 14:39:02, 8°.90N×126°.59E, h41km, **mb4.5, ML3.4, MS3.2, 1C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.75**	**198**	⇑*i*P	Pn	14 39 18.0	+1.9
BIPH				*i* S	Sn	14 39 25.6	-0.7
BUTP	**Butuan**	**0.96**	**274**	*e*P	Pn	14 39 19.8	+0.8
BUTP				*e*S	Sn	14 39 33.8	+2.3
BUKP	**Musuan**	**1.82**	**236**	*e*P	Pn	14 39 32.9	+1.9
CGP	**Cagayan de Oro**	**1.93**	**257**	⇓*i*P	Pn	14 39 34.0	+1.7
CGP				*i* S	Sn	14 39 56.8	+1.4
MATI	**Mati**	**1.97**	**190**	*e*P	Pn	14 39 34.2	+1.3

*IDC **16** 14:46:07.8±0.6, 16°.39S×173°.34W, h0km, mb4.5/18, mb1 4.6/20, mb1mx4.5/28, mbtmp4.5/20, ML3.1/2, MS3.7/9, Ms1 3.7/9, ms1mx3.6/25, Error ellipse: s-maj=23.2km s-min=13.2km az=130.0*
*NEIC **16** 14:46:08.2±0.4, 16°.47S×173°.15W, h10km, mb4.5/3, Error ellipse: s-maj=13.2km s-min=8.3km az=149.0*
*ISCJB **16** 14:46:09.9±0.4, 16°.51S±0°.07×173°.18W±0°.06, h32km, mb4.5/20, MS3.9/7, Error ellipse: s-maj=10.3km s-min=7.5km az=146.9*
*AUST **16** 14:46:13.9, 16°.51S×172°.85W, h60km*

ISC 16 14:46:12.1±0.4, **16°.47S**±0°.07×**173°.15W**±0°.07, **h32**km, **n106, σ1§21/95, mb4.5/20, MS3.7/7, 6C-2D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.87**	**28**	*e*Pn	Pn	14 46 51.2	-4.5
AFI				*e*Sn	**Sn**	**14 47 28.3**	**-1.0**
AFI	**Afiamalu**	**2.87**	**28**	Pn	**Pn**	**14 46 53.5**	**-2.3**
	44nm,0.3s,baz=113,slow=3.4,SNR=35						
AFI				Sn	Sn	14 47 21.3	-8.0
	168nm,0.3s,baz=199,slow=18,SNR=18						
NIUE	**Niue**	**4.01**	**131**	P	**Pn**	**14 47 10.3**	**-1.1**
	baz=3.8,SNR=46						
MSVF	**Nonsavu**	**8.51**	**260**	*e*Pn	**Pn**	**14 48 13.0**	**-0.3**
	95nm,1.4s						
RAO	**Raoul Island**	**13.46**	**198**	LR	LR	14 53 17.6	
	comp=Z,75nm,21.4s,baz=67,slow=32						
RAR	**Rarotonga**	**13.51**	**112**	Pn	**Pn**	**14 49 19.5**	**-2.1**
	3.1nm,0.7s						
RAR	**Rarotonga**	**13.51**	**112**	Pn	**Pn**	**14 49 19.5**	**-2.1**
	6.5nm,0.3s,SNR=10						
RAR				LR	LR	14 53 11.7	
	comp=Z,428nm,21.1s,baz=225,slow=31						
DZM	**Mont Dzumac**	**20.05**	**251**	*e*P	**Pn**	**14 50 45.5**	**+0.8**
	36nm,1.0s						
DZM				*e*LR	LR	14 55 45.9	
	654nm,25.4s						
DZM	**Mont Dzumac**	**20.05**	**251**	P	**P**	**14 50 41.2**	**-1.6**
DZM	**Mont Dzumac**	**20.05**	**251**	P	**P**	**14 50 41.2**	**-1.6**
	0.2nm,0.3s,baz=272,slow=24,SNR=11						
PPT2	**Papeete2**	**22.56**	**96**	*e*LR	LR	14 56 38.3	
	330nm,25.0s						
PPT	**Papeete**	**22.56**	**96**	LR	LR	14 57 30.7	
	comp=Z,230nm,18.8s,baz=17,slow=30						
TBI	**Tubuai**	**23.28**	**111**	*e*LR	LR	14 56 52.0	
	443nm,26.0s						
URZ	**Urewera**	**23.34**	**200**	*e*P	**P**	**14 51 16.8**	**-0.8**
URZ	**Urewera**	**23.34**	**200**	P	**P**	**14 51 16.9**	**-0.8**
	8.1nm,0.4s,baz=37,slow=6.7,SNR=18						
RPZ	**Rata Peaks**	**30.29**	**203**	*e*P	**P**	**14 52 19.3**	**-1.1**
RPZ	**Rata Peaks**	**30.29**	**203**	P	**P**	**14 52 20.3**	**-0.1**
	6.9nm,0.9s,baz=38,slow=6.1,SNR=3.8						
ARMA	**Armidale**	**35.01**	**240**	P	**P**	**14 53 01.3**	**-0.7**
	baz=35,SNR=12						
RKT	**Rikitea**	**36.44**	**107**	*e*LR	LR	15 03 04.9	
	272nm,27.2s						
CTA	**Charters Tower**	**38.65**	**258**	P	**P**	**14 53 31.1**	**-1.9**
CTA	**Charters Tower**	**38.65**	**258**	P	**P**	**14 53 31.1**	**-1.9**
	2.2nm,0.4s,baz=103,slow=9.9,SNR=7.1						
PMG	**Port Moresby**	**39.26**	**275**	P	**P**	**14 53 37.8**	**-0.3**
PMG	**Port Moresby**	**39.26**	**275**	P	**P**	**14 53 37.8**	**-0.3**
	13nm,0.7s,baz=95,slow=7.7,SNR=4.2						
CMSA	**Cobar Meteorol**	**40.23**	**240**	P	**P**	**14 53 44.8**	**-1.2**
	baz=40,SNR=21						
MTSU	**Mount Surprise**	**40.58**	**261**	P	**P**	**14 53 50.8**	**+1.7**
	baz=41,SNR=4.6						
QLP	**Quilpie**	**40.74**	**248**	P	**P**	**14 53 48.6**	**-1.7**
	baz=41,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**40.96**	**331**	T	T	15 36 48.2	
	baz=153,slow=0.7,SNR=19						
H11N1	**WAKE ISLAND Hy**	**40.96**	**331**	T	T	15 36 50.9	
	baz=153,slow=0.7,SNR=15						
H11N2	**WAKE ISLAND Hy**	**40.98**	**331**	T	T	15 36 51.2	
	baz=153,slow=0.7,SNR=21						
COEN	**Coen**	**42.16**	**267**	*e*P	**P**	**14 54 01.8**	**-0.4**
COEN	**Coen**	**42.16**	**267**	P	**P**	**14 54 02.8**	**+0.6**
	baz=42,SNR=5.4						
STKA	**Stephens Creek**	**43.72**	**241**	*e*P	**P**	**14 54 13.1**	**-1.5**
	3.3nm,0.9s						
STKA	**Stephens Creek**	**43.72**	**241**	P	**P**	**14 54 13.9**	**-0.6**
	baz=44,SNR=13						
STKA	**Stephens Creek**	**43.72**	**241**	P	**P**	**14 54 13.2**	**-1.3**
	13nm,0.8s,baz=84,slow=8.5,SNR=18						
STKA				LR	LR	15 09 22.9	
	comp=Z,101nm,20.6s,baz=27,slow=32						
MMPI	**Merauke**	**45.98**	**274**	P	P	14 54 24.7	-8.0
	baz=46,SNR=5.2						
BBOO	**Buckleboo**	**48.49**	**241**	P	**P**	**14 54 51.8**	**-0.3**
	baz=49,SNR=9.7						
WRAB	**Tennant Creek**	**49.84**	**258**	*e*P	**P**	**14 55 00.6**	**-2.0**
	6.4nm,1.0s						
WRA	**Warramunga Arr**	**49.84**	**258**	P	**P**	**14 55 00.9**	**-1.8**
WRA				PcP	**PcP**	**14 56 23.1**	**0.0**
WRA	**Warramunga Arr**	**49.84**	**258**	P	**P**	**14 55 00.9**	**-1.8**
	1.7nm,0.3s,baz=92,slow=7.1,SNR=23						
WRA				PcP	**PcP**	**14 56 23.1**	**0.0**
	3.5nm,1.0s,baz=87,slow=4.2,SNR=5.7						
AS31	**Alice Springs**	**50.02**	**253**	*e*P	**P**	**14 55 01.8**	**-2.2**
ASAR	**Alice Springs**	**50.02**	**253**	P	**P**	**14 55 02.5**	**-1.5**
ASAR	**Alice Springs**	**50.02**	**253**	P	**P**	**14 55 02.5**	**-1.5**
	18nm,0.5s,baz=89,slow=8.4,SNR=412						
KDU	**Kakadu**	**52.64**	**266**	P	**P**	**14 55 22.9**	**-0.7**
	baz=53,SNR=9.9						
MTN	**Manton Dam**	**53.89**	**266**	P	**P**	**14 55 31.9**	**-1.0**
	baz=54,SNR=10.0						
KNRA	**Kununurra**	**55.65**	**262**	P	**P**	**14 55 44.6**	**-1.0**
	baz=56,SNR=8.3						
SWI	**Sorong**	**56.88**	**280**	P	**P**	**14 55 54.9**	**+0.5**
	baz=57,SNR=3.6						
FITZ	**Fitzroy Crossi**	**58.23**	**259**	P	**P**	**14 56 02.9**	**-0.9**
FITZ	**Fitzroy Crossi**	**58.23**	**259**	P	**P**	**14 56 03.3**	**-0.6**
	baz=58,SNR=6.0						
FITZ	**Fitzroy Crossi**	**58.23**	**259**	P	**P**	**14 56 02.9**	**-0.9**
	2.0nm,0.8s,baz=101,slow=5.2,SNR=7.8						
SOEI	**Soe**	**61.12**	**268**	P	**P**	**14 56 25.5**	**+1.4**
	baz=61,SNR=20						
BATI	**Baumata**	**61.60**	**267**	P	**P**	**14 56 26.9**	**-0.2**
BATI	**Baumata**	**61.60**	**267**	P	**P**	**14 56 26.9**	**-0.2**
	21nm,0.7s,baz=104,slow=4.2,SNR=4.4						
VNDA	**Vanda**	**62.34**	**186**	P	**P**	**14 56 33.6**	**+2.5**
	0.7nm,0.8s,baz=1.8,slow=7.1,SNR=5.5						
VNDA				LR	LR	15 18 53.3	
	comp=Z,48nm,21.8s,baz=316,slow=32						
MEEK	**Meekatharra**	**63.64**	**248**	P	**P**	**14 56 39.3**	**-1.3**
	baz=64,SNR=5.1						
WSI	**Waingapu**	**64.95**	**267**	P	**P**	**14 56 47.6**	**-1.7**
	baz=65,SNR=3.2						
PETK	**Petropavlovsk-**	**73.72**	**342**	P	**P**	**14 57 42.9**	**+0.2**
PETK	**Petropavlovsk-**	**73.72**	**342**	P	**P**	**14 57 42.9**	**+0.2**
	12nm,0.9s,baz=114,slow=7.6,SNR=14						
UGM	**Wanagama**	**74.74**	**266**	P	**P**	**14 57 49.8**	**+0.2**
	baz=75,SNR=3.5						
NVAR	**Mina Array Bea**	**74.96**	**42**	P	**P**	**14 57 51.9**	**+1.3**
NVAR	**Mina Array Bea**	**74.96**	**42**	P	**P**	**14 57 51.9**	**+1.3**
	2.1nm,0.8s,baz=228,slow=10,SNR=16						
KSRS	**Korea Array**	**77.09**	**316**	LR	LR	15 26 11.7	
	comp=Z,31nm,19.5s,baz=110,slow=31						
KSM	**Kuching**	**77.53**	**275**	P	**P**	**14 58 07.2**	**+1.8**
	baz=78,SNR=4.5						
USRK	**Ussuriysk Arra**	**78.38**	**323**	P	**P**	**14 58 09.3**	**-0.1**
	1.9nm,0.8s,baz=151,slow=3.3,SNR=4.5						
TXAR	**Lajitas Array**	**81.01**	**56**	LR	LR	15 25 25.0	
	comp=Z,92nm,20.0s,baz=180,slow=29						
MCK	**McKinley**	**82.12**	**11**	*e*P	**P**	**14 58 27.8**	**-1.4**
	12nm,1.1s						
PDAR	**Pinedale Array**	**82.90**	**42**	P	**P**	**14 58 34.3**	**+0.3**
PDAR	**Pinedale Array**	**82.90**	**42**	P	**P**	**14 58 34.3**	**+0.3**
	2.5nm,0.7s,baz=211,slow=3.3,SNR=21						
ILAR	**Eielson Array**	**83.44**	**11**	P	**P**	**14 58 35.9**	**-0.1**
ILAR	**Eielson Array**	**83.44**	**11**	P	**P**	**14 58 35.9**	**-0.1**
	1.1nm,0.6s,baz=233,slow=6.2,SNR=47						
H03N2	**Juan Fernandez**	**84.51**	**123**	T	T	16 32 28.1	
	baz=254,slow=0.7,SNR=5.0						
H03N3	**Juan Fernandez**	**84.52**	**123**	T	T	16 32 27.0	
	baz=254,slow=0.7,SNR=4.0						
H03N1	**Juan Fernandez**	**84.53**	**123**	T	T	16 32 29.2	
	baz=254,slow=0.7,SNR=5.3						
MAW	**Mawson**	**86.86**	**199**	*e*P	**P**	**14 58 53.7**	**+0.5**
MAW	**Mawson**	**86.86**	**199**	P	**P**	**14 58 55.1**	**+1.8**
	baz=87,SNR=8.9						
MAW	**Mawson**	**86.86**	**199**	P	**P**	**14 58 53.5**	**+0.3**
	2.3nm,0.7s,baz=146,slow=8.5,SNR=15						
MAW				LR	LR	15 33 08.4	
	comp=Z,100nm,18.3s,baz=287,slow=32						
CMAR	**Chiang Mai Arr**	**93.18**	**288**	P	**P**	**14 59 24.9**	**+1.0**
CMAR	**Chiang Mai Arr**	**93.18**	**288**	P	**P**	**14 59 24.9**	**+1.0**
	2.4nm,0.8s,baz=98,slow=3.7,SNR=21						
CMAR				LR	LR	15 37 01.4	
	comp=Z,49nm,19.4s,baz=345,slow=33						
SONM	**Songino Array**	**95.80**	**318**	P	**P**	**14 59 35.7

HNR				Sn	**Sn**	16 05 48.9	-2.5
HNR	**Honiara**	**6.97**	**296**	Pn	**Pn**	16 04 32.5	-1.0
	60nm,0.3s,baz=163,slow=4.4,SNR=26						
HNR				Sn	**Sn**	16 05 48.9	-2.5
	23nm,0.3s,baz=127,slow=20,SNR=4.1						
DZM	**Mont Dzumac**	**9.43**	**179**	Pn	**Pn**	16 05 06.3	-1.0
DZM				Sn	**Sn**	16 06 50.2	-1.7
DZM	**Mont Dzumac**	**9.43**	**179**	Pn	**Pn**	16 05 06.3	-1.0
	1.7nm,0.3s,baz=350,slow=12,SNR=20						
DZM				Sn	**Sn**	16 06 50.2	-1.7
	baz=143,slow=20,SNR=1.4						
TARA	**Tarawa**	**15.35**	**26**	*eP*	**Pn**	16 06 23.7	-3.4
	108nm,0.4s						
EIDS	**Eidsvold**	**19.16**	**226**	*eP*	**P**	16 07 11.7	-1.1
	32nm,1.1s						
EIDS	**Eidsvold**	**19.16**	**226**	P	**Pn**	16 07 15.1	+0.9
	baz=19,SNR=6.7						
CTA	**Charters Tower**	**20.60**	**246**	P	**P**	16 07 29.6	+1.0
CTA	**Charters Tower**	**20.60**	**246**	P	**P**	16 07 29.6	+1.0
	7.1nm,0.9s,baz=81,slow=12,SNR=9.2						
PATS	**Pohnpei**	**20.86**	**337**	P	**P**	16 07 32.5	+1.1
	baz=21,SNR=5.1						
RMQ	**Roma**	**21.50**	**227**	P	**P**	16 07 40.1	+2.1
	baz=22,SNR=7.3						
MTSU	**Mount Surprise**	**21.88**	**253**	P	**P**	16 07 43.2	+1.0
	baz=22,SNR=10						
ARMA	**Armidale**	**22.33**	**215**	P	**P**	16 07 48.4	+1.3
	baz=22,SNR=4.0						
QLP	**Quilpie**	**24.94**	**233**	P	**P**	16 08 13.9	+1.8
	baz=25,SNR=3.7						
CMSA	**Cobar Meteorol**	**26.73**	**222**	P	**P**	16 08 30.9	+2.7
	baz=27,SNR=6.6						
URZ	**Urewera**	**27.32**	**161**	P	**P**	16 08 33.0	-0.3
URZ	**Urewera**	**27.32**	**161**	P	**P**	16 08 33.0	-0.3
	9.2nm,0.9s,baz=260,slow=6.1,SNR=3.4						
URZ				LR	LR	16 17 10.3	
	comp=Z,124nm,20.2s,baz=70,slow=32						
STKA	**Stephens Creek**	**29.71**	**226**	P	**P**	16 08 55.5	+0.8
	15nm,0.8s						
STKA	**Stephens Creek**	**29.71**	**226**	P	**P**	16 08 56.3	+1.5
	baz=30,SNR=5.2						
STKA	**Stephens Creek**	**29.71**	**226**	P	**P**	16 08 55.5	+0.8
	6.4nm,0.7s,baz=41,slow=7.5,SNR=13						
STKA				LR	LR	16 20 56.7	
	comp=Z,200nm,19.4s,baz=26,slow=37						
KHZ	**Kahutara**	**30.38**	**169**	*eP*	**P**	16 09 00.4	0.0
RPZ	**Rata Peaks**	**31.29**	**173**	*eP*	**P**	16 09 08.8	+0.3
RPZ	**Rata Peaks**	**31.29**	**173**	P	**P**	16 09 08.7	+0.3
	5.3nm,0.5s,baz=355,slow=14,SNR=11						
RPZ				LR	LR	16 18 45.2	
	comp=Z,104nm,19.2s,baz=5.5,slow=31						
WRA	**Warramunga Arr**	**31.48**	**252**	P	**P**	16 09 09.9	-0.6
WRA	**Warramunga Arr**	**31.48**	**252**	P	**P**	16 09 09.9	-0.6
	1.5nm,0.7s,baz=81,slow=9.2,SNR=8.2						
AS31	**Alice Springs**	**32.60**	**246**	*eP*	**P**	16 09 18.7	-1.6
ASAR	**Alice Springs**	**32.60**	**246**	P	**P**	16 09 19.5	-0.9
ASAR				PcP	**PcP**	16 12 05.5	-0.1
ASAR				ScP	ScP	16 15 54.5	+10
ASAR	**Alice Springs**	**32.60**	**246**	P	**P**	16 09 19.5	-0.9
	2.5nm,0.9s,baz=75,slow=9.4,SNR=26						
ASAR				PcP	**PcP**	16 12 05.5	-0.1
	0.4nm,0.5s,baz=60,slow=3.2,SNR=4.2						
ASAR				ScP	ScP	16 15 54.5	+10
	0.6nm,0.8s,baz=92,slow=2.7,SNR=5.2						
ASAR				LR	LR	16 21 24.9	
	comp=Z,163nm,21.9s,baz=100,slow=34						
BBOO	**Buckleboo**	**34.19**	**229**	P	**P**	16 09 34.8	+0.8
	baz=34,SNR=10						
KNRA	**Kununurra**	**36.48**	**261**	P	**P**	16 09 54.5	+0.7
	baz=36,SNR=6.2						
FITZ	**Fitzroy Crossi**	**39.51**	**257**	P	**P**	16 10 20.6	+1.2
	baz=39,SNR=6.3						
FITZ	**Fitzroy Crossi**	**39.51**	**257**	LR	LR	16 25 13.5	
	comp=Z,83nm,21.8s,baz=59,slow=34						
CBIJ	**Chichi jima**	**45.87**	**330**	P	**P**	16 11 10.7	-0.1
JCJ	**Chichijima**	**45.87**	**330**	P	**P**	16 11 10.7	-0.1
	14nm,0.5s,baz=68,slow=19,SNR=5.7						
MEEK	**Meekatharra**	**46.76**	**245**	P	**P**	16 11 18.8	+0.9
	baz=47,SNR=6.2						
NWAO	**Narrogin (SRO)**	**49.05**	**237**	LR	LR	16 32 20.2	
	comp=Z,170nm,20.0s,baz=334,slow=36						
MORW	**Morawa**	**49.36**	**242**	P	P	16 11 48.1	+10
	baz=49,SNR=3.3						
MAJO	**Matsushiro**	**55.58**	**333**	*eP*	**P**	16 12 22.3	-1.4
	8.9nm,0.6s						
MAT	**Matsushiro**	**55.58**	**333**	P	**P**	16 12 23.5	-0.2
KSRS	**Korea Array**	**61.44**	**326**	P	**P**	16 13 05.8	+1.3
	3.8nm,0.8s,baz=131,slow=6.6,SNR=8.0						
KSAR	**Wonju Array Be**	**61.45**	**326**	P	**P**	16 13 05.8	+1.2
USRK	**Ussuriysk Arra**	**64.56**	**333**	P	**P**	16 13 26.3	+1.3
	8.7nm,0.8s,baz=134,slow=6.2,SNR=15						
VNDA	**Vanda**	**64.97**	**181**	*eP*	**P**	16 13 26.1	-1.2
	1.4nm,0.6s						
VNDA	**Vanda**	**64.97**	**181**	P	**P**	16 13 27.7	+0.5
	0.8nm,0.5s,baz=354,slow=6.9,SNR=11						
SBA	**Scott Base**	**65.26**	**180**	*eP*	**P**	16 13 28.3	-0.8
	3.5nm,0.8s						
PETK	**Petropavlovsk-**	**65.85**	**354**	LR	LR	16 37 40.4	
	comp=Z,70nm,19.5s,baz=69,slow=32						
CMAR	**Chiang Mai Arr**	**73.21**	**294**	P	**P**	16 14 21.3	+2.0
CMAR	**Chiang Mai Arr**	**73.21**	**294**	P	**P**	16 14 21.3	+2.0
	4.8nm,0.8s,baz=124,slow=4.6,SNR=35						
CHTO	**Chiang Mai**	**73.33**	**294**	*eP*	**P**	16 14 19.4	-0.7
	22nm,1.3s						
SONM	**Songino Array**	**80.22**	**324**	P	**P**	16 14 59.5	+1.1
SONM	**Songino Array**	**80.22**	**324**	P	**P**	16 14 59.5	+1.1
	3.9nm,0.6s,baz=144,slow=7.0,SNR=24						
MAW	**Mawson**	**83.49**	**202**	*eP*	**P**	16 15 14.2	-1.0
	1.3nm,0.3s						
MAW	**Mawson**	**83.49**	**202**	P	**P**	16 15 16.0	+0.8
	baz=84,SNR=9.5						
MAW	**Mawson**	**83.49**	**202**	P	**P**	16 15 15.8	+0.7
	4.6nm,0.6s,baz=106,slow=6.5,SNR=25						
ILAR	**Eielson Array**	**84.81**	**18**	P	**P**	16 15 20.1	-1.7
ILAR	**Eielson Array**	**84.81**	**18**	P	**P**	16 15 20.1	-1.7
	1.1nm,0.5s,baz=247,slow=4.9,SNR=9.6						
TAPN	**Taplejung**	**85.81**	**299**	*eP*	**P**	16 15 28.9	+0.9
ODAN	**Odare**	**85.95**	**299**	*eP*	**P**	16 15 29.4	+0.8
	9.9nm,0.6s						
NVAR	**Mina Array Bea**	**86.62**	**50**	P	**P**	16 15 33.0	+1.3
NVAR	**Mina Array Bea**	**86.62**	**50**	P	**P**	16 15 33.0	+1.3
	0.8nm,0.7s,baz=238,slow=8.9,SNR=8.5						
RAMN	**Ramite**	**86.65**	**298**	*eP*	**P**	16 15 33.0	+0.9
	5.0nm,0.5s						
JIRN	**Jiri**	**87.19**	**299**	*eP*	**P**	16 15 35.7	+0.8
GUN	**Gumba**	**87.52**	**299**	*eP*	**P**	16 15 37.2	+0.8
PKI	**Pulchoki**	**87.84**	**299**	*eP*	**P**	16 15 38.6	+0.7
PKIN	**Phulchoki**	**87.85**	**299**	*eP*	**P**	16 15 37.9	0.0
	4.4nm,0.6s						
KKN	**Kakani**	**88.00**	**299**	*eP*	**P**	16 15 39.2	+0.6
	6.3nm,0.6s						
DMN	**Daman**	**88.11**	**299**	*eP*	**P**	16 15 40.1	+1.0
	20nm,0.6s						
GKN	**Gorkha**	**88.61**	**299**	*eP*	**P**	16 15 41.7	+0.4
	11nm,0.5s						
DANN	**Dangsing**	**89.44**	**299**	*eP*	**P**	16 15 45.5	+0.1
	12nm,0.6s						
ELK	**Elko**	**89.58**	**48**	P	**P**	16 15 47.8	+2.0
ELK	**Elko**	**89.58**	**48**	P	**P**	16 15 47.8	+2.0
	0.5nm,0.3s,baz=100,slow=20,SNR=4.0						
SYO	**Syowa Base**	**90.46**	**197**	*eP*	**P**	16 15 48.0	-1.0
MK31	**Makanchi Array**	**95.00**	**317**	*eP*	**P**	16 16 10.1	-0.3
MKAR	**Makanchi Array**	**95.00**	**317**	P	**P**	16 16 11.2	+0.8
MKAR	**Makanchi Array**	**95.00**	**317**	P	**P**	16 16 11.2	+0.8
	6.2nm,0.8s,baz=97,slow=6.4,SNR=68						
ZAA0	**Zalesovo Array**	**95.11**	**324**	*eP*	**P**	16 16 08.2	-2.4
ZALV	**Zalesovo Beam**	**95.11**	**324**	P	**P**	16 16 10.4	-0.2
ZALV	**Zalesovo Beam**	**95.11**	**324**	P	**P**	16 16 10.4	-0.2
	6.2nm,0.8s,baz=117,slow=4.6,SNR=30						
BVAR	**Borovoye Array**	**103.48**	**322**	P	**Pdif**	16 16 48.2	0.0
	0.6nm,0.6s,baz=119,slow=5.1,SNR=5.3						
ARCES	**ARCESS Array B**	**117.95**	**345**	PKP	**PKPdf**	16 21 33.1	-0.5
ARCES	**ARCESS Array B**	**117.95**	**345**	PKP	**PKPdf**	16 21 33.1	-0.5
	2.6nm,0.8s,baz=58,slow=1.9,SNR=11						
FINES	**FINESS Array B**	**123.39**	**338**	PKP	**PKPdf**	16 21 44.0	-0.2
FINES	**FINESS Array B**	**123.39**	**338**	PKP	**PKPdf**	16 21 44.0	-0.2
	1.8nm,0.8s,baz=307,slow=4.1,SNR=4.9						
AKASG	**Malin Array Be**	**128.44**	**326**	PKP	**PKPdf**	16 21 54.3	+0.1
AKASG	**Malin Array Be**	**128.44**	**326**	PKP	**PKPdf**	16 21 54.3	+0.1
	0.2nm,0.3s,baz=63,slow=2.2,SNR=4.3						
EIL	**Elat**	**131.90**	**299**	PKP	**PKPdf**	16 22 02.8	+1.4
EIL	**Elat**	**131.90**	**299**	PKP	**PKPdf**	16 22 02.8	+1.4
	1.2nm,0.7s,baz=5.2,slow=11,SNR=4.4						
KEST	**Kesra**	**148.95**	**322**	PKPbc	**PKPbc**	16 22 36.2	+0.2
KEST	**Kesra**	**148.95**	**322**	PKPbc	**PKPbc**	16 22 36.2	+0.2
	4.5nm,0.6s,baz=273,slow=1.0,SNR=17						
ESDC	**Sonseca Array**	**151.68**	**344**	PKPbc	**PKPbc**	16 22 42.4	0.0
ESDC	**Sonseca Array**	**151.68**	**344**	PKPbc	**PKPbc**	16 22 42.4	0.0
	0.3nm,0.4s,baz=332,slow=1.7,SNR=6.4						
TORD	**Torodi Ar. Bea**	**164.96**	**274**	PKPab	**PKPab**	16 23 49.7	+0.4
TORD	**Torodi Ar. Bea**	**164.96**	**274**	PKPab	**PKPab**	16 23 49.7	+0.4
	1.9nm,0.8s,baz=78,slow=5.0,SNR=10						

ISCJB ***16*** *16:14:44.1±0.5,3.89N±0.06×126.0E±0.1,h107km, mb4.0/9,Error ellipse: s-maj=21.4km s-min=5.7km az=161.9*

IDC ***16*** *16:14:45.0±9.0,3.85N×125.37E,h114km±90km,mb3.7/9, mb1 3.8/9,mb1mx3.6/24,mbtmp3.7/9,Error ellipse: s-maj=50.4km s-min=14.9km az=78.0*

AUST ***16*** *16:14:55.9,3.50N×126.00E,h200km*

ISC 16 16:14:45.2±0.6,3.91N±0.07×125.8E±0.1,h107km,n27, σ1s47/26,mb4.0/9,1C-1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.31**	**339**	*eP*	**Pn**	**16 15 23.9**	**+1.6**
GSPH				*eS*	**Sn**	**16 15 52.2**	**+1.7**
MATI	**Mati**	**3.05**	**9**	*eP*	**Pn**	**16 15 33.4**	**+1.5**
DMPH	**Davao City--Mi**	**3.16**	**355**	*iP*	Pn	16 15 37.6	+4.3
DMPH				*i* S	Sn	16 15 58.6	-12
IPIL	**Ipil**	**4.99**	**321**	*eP*	**Pn**	**16 16 00.9**	**+3.0**
LUWI	**Luwuk**	**5.76**	**211**	P	Pn	16 16 16.7	+8.4
	baz=5.6,SNR=3.7						
SWI	**Sorong**	**7.25**	**131**	P	**Pn**	**16 16 30.9**	**+2.3**
	baz=6.8,SNR=5.4						
AAI	**Ambon**	**7.93**	**162**	P	**Pn**	**16 16 39.4**	**+1.6**
	baz=7.5,SNR=5.2						
FAKI	**Fak Fak**	**9.38**	**136**	P	Pn	16 17 00.1	+2.6
	baz=9.0,SNR=4.8						
SOEI	**Soe**	**13.66**	**186**	P	**P**	**16 18 01.9**	**+2.1**
	baz=13,SNR=5.1						
BATI	**Baumata**	**14.18**	**188**	P	**P**	**16 18 04.7**	**-0.8**
	4.1nm,0.3s,baz=301,slow=1.7,SNR=7.3						
MTN	**Manton Dam**	**17.48**	**162**	P	**P**	**16 18 41.1**	**-0.9**
	baz=17,SNR=6.5						
KDU	**Kakadu**	**17.79**	**158**	P	**P**	**16 18 44.9**	**-0.5**
	baz=17,SNR=16						
MMPI	**Merauke**	**19.07**	**130**	P	**P**	**16 18 58.3**	**-1.1**
	baz=19,SNR=3.2						
KNRA	**Kununurra**	**19.69**	**171**	P	**P**	**16 19 06.7**	**+0.6**
	baz=19,SNR=6.3						
FITZ	**Fitzroy Crossi**	**21.88**	**180**	P	**P**	**16 19 29.1**	**-0.5**
	baz=22,SNR=26						
FITZ	**Fitzroy Crossi**	**21.88**	**180**	P	**P**	**16 19 28.5**	**-1.0**
	5.1nm,0.5s,baz=9.3,slow=7.7,SNR=41						
WRA	**Warramunga Arr**	**25.16**	**161**	P	**P**	**16 19 59.9**	**-0.8**
	9.2nm,0.4s,baz=341,slow=10,SNR=36						
ASAR	**Alice Springs**	**28.54**	**164**	P	**P**	**16 20 30.7**	**-0.3**
	0.8nm,0.4s,baz=341,slow=7.1,SNR=94						
MEEK	**Meekatharra**	**31.15**	**192**	P	**P**	**16 20 53.7**	**-0.4**
	baz=31,SNR=5.2						
KSRS	**Korea Array**	**33.44**	**3**	P	**P**	**16 21 13.9**	**+0.1**
	1.2nm,0.5s,baz=182,slow=9.3,SNR=7.0						
BBOO	**Buckleboo**	**37.80**	**166**	P	**P**	**16 21 51.4**	**+0.2**
	baz=38,SNR=24						
STKA	**Stephens Creek**	**38.65**	**158**	P	**P**	**16 21 58.7**	**+0.3**
	baz=38,SNR=18						
STKA	**Stephens Creek**	**38.65**	**158**	P	**P**	**16 21 58.5**	**+0.2**
	3.3nm,0.3s,baz=328,slow=8.2,SNR=21						
USRK	**Ussuriysk Arra**	**40.50**	**7**	P	**P**	**16 22 13.4**	**-0.1**
	2.4nm,0.7s,baz=183,slow=8.1,SNR=7.1						
SONM	**Songino Array**	**46.83**	**342**	P	**P**	**16 23 02.8**	**-1.6**
	0.2nm,0.3s,baz=147,slow=9.6,SNR=2.9						
MKAR	**Makanchi Array**	**56.86**	**326**	P	**P**	**16 24 16.7**	**-2.1**
	0.5nm,0.6s,baz=121,slow=8.0,SNR=7.8						
MKAR				PcP	**PcP**	**16 25 11.6**	**-1.6**
	0.4nm,0.8s,baz=100,slow=6.7,SNR=3.7						
KURBB	**Kurchatov Arra**	**61.07**	**328**	P	**P**	**16 24 45.5**	**-2.3**
	0.4nm,0.2s,baz=124,slow=6.3,SNR=4.3						

MAN 16 16:15:15,7.39N×125.37E,h10km,mb4.3,ML3.1,MS2.9, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUKP	**Musuan**	**0.57**	**328**	*eP*	Pb	16 15 27.7	+0.5
BUKP				*eS*	Sn	16 15 40.7	+1.8

DJA 16 16:37:29.2±1.4,8.S±5.×107.E±.,h11km±12km,M4.0/12, MLv4.0/12,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.85**	**39**	P	Pg	16 37 44.7	-1.1
SKJI	**Sukabumi**	**1.40**	**330**	P	Pn	16 37 52.5	-2.2
LEM	**Lembang**	**1.43**	**14**	P	Pn	16 37 53.7	-1.6
DBJI	**Dramaga**	**1.73**	**343**	P	Pn	16 37 58.4	-0.9
CLJI	**Cilicap**	**1.80**	**74**	P	Pb	16 38 01.2	-1.0
KPJI	**Karang Pucung**	**1.87**	**62**	P	Pn	16 38 00.3	-0.8
TGJI	**Tegal**	**2.27**	**54**	P	Pn	16 38 06.2	-0.5
UGM	**Wanagama**	**3.24**	**85**	P	Pn	16 38 19.0	-1.0
PCJI	**Pacitan**	**3.87**	**90**	P	Pn	16 38 28.1	-0.6
SJI	**Sawahan**	**4.48**	**84**	P	Pn	16 38 37.8	+0.6
PWJI	**Pagerwojo**	**4.49**	**88**	P	Pn	16 38 36.4	-0.9
MDSI	**Maura Dua**	**4.82**	**320**	P	Pn	16 38 41.0	-0.7

IDC ***16*** *16:40:44.1±1.3,7.42S×129.62E,h0km,mb3.7/3, mb1 3.9/7,mb1mx3.6/21,mbtmp3.8/7,ML4.0/4,MS3.0/2, Ms1 3.0/2,ms1mx2.7/31,Error ellipse: s-maj=43.6km s-min=21.2km az=73.0*

AUST ***16*** *16:40:51.8,7.98S×129.04E,h20km*

ISC 16 16:40:45.0±0.8,7.48S±0.06×129.55E±0.07,h10km,n19, σ1s55/14,mb3.7/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.96**	**7**	P	**Pg**	**16 41 42.8**	**+1.0**
	baz=3.6,SNR=3.6						
TLE	**Tual**	**3.66**	**60**	P	**Pg**	**16 41 54.2**	**-0.9**
	baz=4.4,SNR=9.7						
AAI	**Ambon**	**4.01**	**340**	P	**Pb**	**16 41 55.0**	**-0.8**
	baz=4.4,SNR=8.9						
FAKI	**Fak Fak**	**5.27**	**31**	P	**Pb**	**16 42 16.2**	**-1.1**
	baz=6.0,SNR=13						
MTN	**Manton Dam**	**5.55**	**164**	P	Pn	16 42 13.6	+5.9
	baz=5.3,SNR=3.3						
SOEI	**Soe**	**5.69**	**246**	P	Pn	16 42 14.6	+4.7
	baz=5.0,SNR=4.5						
KDU	**Kakadu**	**5.92**	**151**	P	Pn	16 42 17.1	+4.3
	baz=5.8,SNR=34						
BATI	**Baumata**	**6.42**	**245**	Pn	Pn	16 42 23.4	+3.7
	5.7nm,0.3s,baz=74,slow=4.7,SNR=6.5						
BATI				Sn	**Sn**	**16 43 30.2**	**-2.9**
	6.5nm,0.3s,baz=61,slow=19,SNR=4.3						
KNRA	**Kununurra**	**8.18**	**185**	P	**Pn**	**16 42 45.6**	**+1.7**
	baz=7.7,SNR=28						
FITZ	**Fitzroy Crossi**	**11.22**	**199**	P	**Pn**	**16 43 25.5**	**-0.1**
	baz=11,SNR=18						
FITZ	**Fitzroy Crossi**	**11.22**	**199**	Pn	**Pn**	**16 43 25.3**	**-0.3**
	0.6nm,0.3s,baz=21,slow=13,SNR=21						
FITZ				Sn	Sn	16 45 18.5	-13
	1.5nm,0.3s,baz=140,slow=19,SNR=10						
FITZ				LR	LR	16 47 16.0	
	comp=Z,41nm,21.9s,baz=292,slow=35						
WRA	**Warramunga Arr**	**13.23**	**160**	Pn	**Pn**	**16 43 52.9**	**-0.2**
	0.9nm,0.3s,baz=335,slow=14,SNR=11						
WRA				Sn	Sn	16 46 10.7	-10
	1.3nm,0.3s,baz=331,slow=22,SNR=8.2						
COEN	**Coen**	**14.85**	**117**	P	P	16 44 28.1	+7.1
	baz=15,SNR=6.2						
ASAR	**Alice Springs**	**16.62**	**166**	Pn	**Pn**	**16 44 37.4**	**-1.0**
	0.3nm,0.3s,baz=345,slow=10,SNR=25						
ASAR				Sn	Sn	16 47 34.4	-8.8
	0.4nm,0.3s,baz=345,slow=26,SNR=8.4						
QLP	**Quilpie**	**23.57**	**145**	P	P	16 46 01.0	+5.1
	baz=24,SNR=7.7						
BBOO	**Buckleboo**	**25.92**	**167**	P	**P**	**16 46 19.8**	**+2.3**
	baz=26,SNR=7.1						
STKA	**Stephens Creek**	**26.74**	**157**	P	**P**	**16 46 26.8**	**+1.9**
	1.4nm,0.8s,baz=346,slow=12,SNR=2.7						
STKA				LR	LR	16 56 39.3	
	comp=Z,70nm,19.0s,baz=20,slow=36						
ZALV	**Zalesovo Beam**	**71.82**	**334**	P	**P**	**16 52 07.7**	**-0.1**
	0.2nm,0.3s,baz=121,slow=6.9,SNR=2.5						
KURBB	**Kurchatov Arra**	**72.69**	**329**	P	**P**	**16 52 14.2**	**+1.2**
	0.4nm,0.7s,baz=135,slow=5.3,SNR=5.1						

IDC 16 16:55:16.2±5.2,54.34S×143.49E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.7/12,mbtmp3.6/3,MS3.9/7,Ms1 3.9/7, ms1mx3.7/21,Error ellipse: s-maj=229.0km s-min=54.6km az=96.0,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**20.83**	**71**	LR	LR	17 06 15.6	
	comp=Z,641nm,18.5s,baz=187,slow=32						
STKA	**Stephens Creek**	**22.50**	**356**	P	P	17 00 17.2	0.0
	1.2nm,0.8s,baz=180,slow=4.0,SNR=2.3						
STKA				LR	LR	17 07 14.6	
	comp=Z,100nm,20.2s,baz=360,slow=32						
URZ	**Urewera**	**27.90**	**69**	LR	LR	17 10 34.2	
	comp=Z,282nm,19.7s,baz=220,slow=33						
H01W1	**Cape Leeuwin H**	**28.21**	**302**	T	T	17 31 11.7	
	baz=142						
H01W2	**Cape Leeuwin H**	**28.21**	**302**	T	T	17 31 11.1	
	baz=142						
H01W3	**Cape Leeuwin H**	**28.23**	**302**	T	T	17 31 12.9	
	baz=142						
NWAO	**Narrogin (SRO)**	**28.33**	**308**	LR	LR	17 09 52.2	
	comp=Z,421nm,21.9s,baz=5.6,slow=31						
ASAR	**Alice Springs**	**31.47**	**343**	P	P	17 01 39.8	+0.3
	0.5nm,0.8s,baz=164,slow=9.9,SNR=9.0						
WRA	**Warramunga Arr**	**35.05**	**345**	P	P	17 02 10.2	-0.5
	1.9nm,0.8s,baz=170,slow=7.2,SNR=6.3						
MAW	**Mawson**	**38.25**	**218**	LR	LR	17 17 59.6	
	comp=Z,130nm,18.0s,baz=332,slow=36						
H08S2	**Diego Garcia H**	**72.78**	**281**	T	T	18 26 54.6	
	baz=144						
H08S1	**Diego Carcia H**	**72.78**	**281**	T	T	18 27 00.5	
	baz=144						
H08S3	**Diego Garcia H**	**72.79**	**281**	T	T	18 26 51.0	
	baz=144						
BOSA	**Boshof**	**81.80**	**232**	LR	LR	17 36 42.8	
	comp=Z,94nm,18.2s,baz=180,slow=30						
CMAR	**Chiang Mai Arr**	**81.90**	**318**	LR	LR	17 42 47.6	
	comp=Z,77nm,18.7s,baz=329,slow=35						
FINES	**FINESS Array B**	**147.19**	**308**	PKPbc	PKPbc	17 14 59.2	-0.7
	2.1nm,0.9s,baz=101,slow=3.5,SNR=2.3						

IDC 16 17:03:24.3±1.8,2.44N×95.60E,h0km,mb3.5/6,mb1 3.6/8, mb1mx3.5/27,mbtmp3.5/8,ML3.5/2,Error ellipse: s-maj=57.8km s-min=19.8km az=53.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.34**	**84**	Pn	Pn	17 04 17.9	0.0
	1.5nm,0.3s,baz=247,slow=12,SNR=5.1						
CMAR	**Chiang Mai Arr**	**16.25**	**11**	Pn	Pn	17 07 14.6	+0.4
	0.2nm,0.3s,baz=198,slow=11,SNR=6.8						
H08S2	**Diego Garcia H**	**25.14**	**246**	T	T	17 35 06.9	
	baz=67,slow=0.7,SNR=76						
H08S3	**Diego Garcia H**	**25.14**	**246**	T	T	17 35 14.0	
	baz=67,slow=0.7,SNR=90						
H08S1	**Diego Carcia H**	**25.15**	**246**	T	T	17 35 15.2	
	baz=67,slow=0.7,SNR=75						
H01W3	**Cape Leeuwin H**	**41.00**	**157**	T	T	17 54 44.5	
	baz=332,slow=0.7,SNR=78						
H01W2	**Cape Leeuwin H**	**41.02**	**157**	T	T	17 54 45.3	
	baz=332,slow=0.7,SNR=118						
H01W1	**Cape Leeuwin H**	**41.02**	**157**	T	T	17 54 49.9	
	baz=332,slow=0.7,SNR=84						
WRA	**Warramunga Arr**	**44.05**	**122**	P	P	17 11 34.5	+0.2
	0.6nm,1.0s,baz=285,slow=4.2,SNR=2.8						
ASAR	**Alice Springs**	**45.41**	**127**	P	P	17 11 44.6	-0.5
	0.1nm,0.7s,baz=305,slow=7.5,SNR=4.7						
MKAR	**Makanchi Array**	**45.67**	**347**	P	P	17 11 46.4	-0.5
	0.5nm,0.4s,baz=157,slow=9.4,SNR=13						
SONM	**Songino Array**	**46.17**	**10**	P	P	17 11 50.3	-0.6
	0.8nm,0.7s,baz=192,slow=9.0,SNR=4.9						
ZALV	**Zalesovo Beam**	**52.10**	**352**	P	P	17 12 36.5	+0.4
	0.9nm,0.5s,baz=188,slow=5.2,SNR=6.8						
BVAR	**Borovoye Array**	**54.57**	**342**	P	P	17 12 54.3	+0.

MOR8	**Moi Rana**	**2.72**	**254**	*e*P		**Pn**	**17 07 09.3**	**+1.0**
	SNR=50								
OUL	**Oulu**	**2.85**	**132**	*e*P		**Pn**	**17 07 10.9**	**+0.8**
OUL	**Oulu**	**2.85**	**132**	P		**Pn**	**17 07 10.8**	**+0.8**
LOF	**Lofoten**	**3.01**	**294**	*e*P		**Pn**	**17 07 12.0**	**-0.2**
LOF				AML		AML	17 08 05.7	
	comp=Z,6.8nm,0.1s								
LOF	**Lofoten**	**3.01**	**294**	*e*P		**Pn**	**17 07 12.0**	**-0.2**
	SNR=50								
ARA0	**ARCESS Array S**	**3.02**	**33**	Pn		**Pn**	**17 07 12.4**	**+0.1**
	baz=208,slow=16								
ARA0				Sn		**Sn**	**17 07 47.5**	**-1.6**
	baz=198,slow=18								
ARA0	**ARCESS Array S**	**3.02**	**33**	Pn		**Pn**	**17 07 12.4**	**+0.1**
	baz=208,slow=16								
ARA0				Sn		**Sn**	**17 07 47.5**	**-1.6**
	baz=198,slow=18								
ARA0	**ARCESS Array S**	**3.02**	**33**	*e*P		**Pn**	**17 07 12.8**	**+0.5**
ARA0				*e*S		**Sn**	**17 07 50.2**	**+1.1**
ARA0	**ARCESS Array S**	**3.02**	**33**	Pn		**Pn**	**17 07 12.4**	**+0.1**
	baz=208,slow=14,SNR=50								
ARA0	**ARCESS Array S**	**3.02**	**33**	P		**Pn**	**17 07 12.8**	**+0.5**
ARA0				Sn		**Sn**	**17 07 47.5**	**-1.6**
	baz=198,slow=18,SNR=50								
ARA0				S		**Sn**	**17 07 50.2**	**+1.1**
ARCES	**ARCESS Array B**	**3.02**	**33**	Pn		**Pn**	**17 07 12.5**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=211,slow=14,SNR=58								
ARCES				Sn		**Sn**	**17 07 49.9**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=228,slow=23,SNR=13								
ARE0	**ARCESS Array S**	**3.02**	**33**	*e*P		**Pn**	**17 07 12.6**	**+0.3**
ARE0	**ARCESS Array S**	**3.02**	**33**	*e*P		**Pn**	**17 07 12.6**	**+0.3**
	SNR=50								
FLOS	**Flostrand**	**3.08**	**260**	*e*P		**Pn**	**17 07 14.6**	**+1.5**
FLOS				AML		AML	17 08 04.9	
	comp=Z,8.4nm,0.4s								
UMAU	**Umeaa**	**3.20**	**182**	*e*P		**Pn**	**17 07 15.5**	**+0.7**
UMAU	**Umeaa**	**3.20**	**182**	P		**Pn**	**17 07 15.5**	**+0.7**
VRF	**Varrio**	**3.44**	**75**	*e*P		**Pn**	**17 07 18.7**	**+0.5**
VRF				*e*PG		**Pb**	**17 07 26.6**	**+1.6**
VRF				*e*SB		**Sb**	**17 08 07.1**	**-0.2**
VRF				MSG			17 08 15.8	
	comp=Z,6.8nm,0.2s								
VRF	**Varrio**	**3.44**	**75**	P		**Pn**	**17 07 18.6**	**+0.5**
KEV	**Kevo**	**3.52**	**37**	*e*P		**Pn**	**17 07 19.2**	**-0.1**
KEV				*e*PG		**Pb**	**17 07 28.1**	**+1.6**
KEV				*e*S		**Sn**	**17 08 01.6**	**0.0**
KEV				MSG			17 08 19.4	
	comp=Z,4.6nm,0.2s								
KEV	**Kevo**	**3.52**	**37**	P		**Pn**	**17 07 19.2**	**-0.1**
VAF	**Ylistaro**	**4.11**	**169**	*e*P		**Pn**	**17 07 28.3**	**+0.9**
VAF				*e*S		**Sn**	**17 08 17.2**	**+1.1**
VAF				MSG			17 08 39.8	
	comp=Z,2.5nm,0.2s								
VAF	**Ylistaro**	**4.11**	**169**	P		**Pn**	**17 07 28.2**	**+0.9**
VAF				S		**Sn**	**17 08 17.1**	**+1.1**
APA0	**Apatity Array**	**4.72**	**78**	Pn		**Pn**	**17 07 35.4**	**-0.3**
	baz=270,slow=12								
APA0				Sn		**Sn**	**17 08 30.2**	**-0.8**
	baz=280,slow=28								
APA0	**Apatity Array**	**4.72**	**78**	Pn		**Pn**	**17 07 35.4**	**-0.3**
	baz=270,slow=12								
APA0				Sn		**Sn**	**17 08 30.2**	**-0.8**
	baz=280,slow=28								
APA0	**Apatity Array**	**4.72**	**78**	Pn		**Pn**	**17 07 35.4**	**-0.3**
	baz=270,slow=12,SNR=50								
APA0				Sn		**Sn**	**17 08 30.2**	**-0.8**
	baz=280,slow=24,SNR=50								
SUF	**Sumiainen**	**4.91**	**150**	MSG			17 08 59.2	
	comp=Z,1.8nm,0.2s								
FIA0	**FINESS Array S**	**6.08**	**156**	Pn		**Pn**	**17 07 55.5**	**+1.1**
	baz=350,slow=16								
FIA0				Sn		**Sn**	**17 09 04.5**	**-0.1**
	baz=344,slow=22								
FIA0	**FINESS Array S**	**6.08**	**156**	Pn		**Pn**	**17 07 55.5**	**+1.1**
	baz=350,slow=16								
FIA0				Sn		**Sn**	**17 09 04.5**	**-0.1**
	baz=344,slow=22								
FIA0	**FINESS Array S**	**6.08**	**156**	Pn		**Pn**	**17 07 55.5**	**+1.1**
	baz=350,slow=15,SNR=50								
FIA0				Sn		**Sn**	**17 09 04.4**	**-0.1**
	baz=344,slow=22,SNR=50								
FINES	**FINESS Array B**	**6.08**	**156**	Pn		**Pn**	**17 07 53.9**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=345,slow=14,SNR=11								
FINES				Sn		**Sn**	**17 09 04.8**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=347,slow=20,SNR=6.0								
RAF	**Rauma**	**6.08**	**176**	*e*P		**Pn**	**17 07 54.7**	**+0.4**
RAF				*e*S		**Sn**	**17 09 03.5**	**-1.1**
RAF	**Rauma**	**6.08**	**176**	P		**Pn**	**17 07 54.7**	**+0.4**
RAF				S		**Sn**	**17 09 03.4**	**-1.1**
AAL	**Aland**	**6.93**	**184**	*e*P		**Pn**	**17 08 05.3**	**-0.6**
AAL				*e*S		**Sn**	**17 09 22.3**	**-3.1**
AAL	**Aland**	**6.93**	**184**	P		**Pn**	**17 08 05.3**	**-0.6**
NB2	**NORSAR Subarra**	**7.38**	**220**	Pn		**Pn**	**17 08 11.3**	**-0.8**
	baz=27,slow=14								
NB2	**NORSAR Subarra**	**7.38**	**220**	Pn		**Pn**	**17 08 11.3**	**-0.8**
	baz=27,slow=13,SNR=50								
NB2	**NORSAR Subarra**	**7.38**	**220**	Pn		**Pn**	**17 08 11.4**	**-0.8**
	baz=27,slow=13,SNR=50								
NOA	**NORSAR Array B**	**7.38**	**220**	Pn		**Pn**	**17 08 12.3**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=51,slow=17,SNR=2.6								
NOA				Sn		**Sn**	**17 09 33.0**	**-3.6**
	comp=Z,0.1nm,0.3s,baz=92,slow=18,SNR=2.4								
HFS	**Hagfors**	**7.66**	**208**	Pn		**Pn**	**17 08 15.6**	**-0.3**
	baz=24,slow=12								
HFS	**Hagfors**	**7.66**	**208**	Pn		**Pn**	**17 08 15.6**	**-0.3**
	baz=24,slow=12								
HFS	**Hagfors**	**7.66**	**208**	Pn		**Pn**	**17 08 15.6**	**-0.3**
	baz=24,slow=12,SNR=50								
HFS	**Hagfors**	**7.66**	**208**	Pn		**Pn**	**17 08 14.6**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=26,slow=14,SNR=5.5								
HFS				Sn		**Sn**	**17 09 41.5**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=23,slow=30,SNR=4.0								
SPA0	**Spitsbergen Ar**	**11.25**	**355**	Pn		**Pn**	**17 09 06.9**	**+1.9**
SPA0	**Spitsbergen Ar**	**11.25**	**355**	Pn		**Pn**	**17 09 06.9**	**+1.9**
SPA0	**Spitsbergen Ar**	**11.25**	**355**	Pn		**Pn**	**17 09 06.9**	**+1.9**
	SNR=50								

BJI **16** *17:16:53.8, 12˙.31S×166˙.63E, h9km, mB5.2/29, mb4.9/39, Ms4.9/27, Ms7 4.5/29*

IDC **16** *17:16:54.7±0.5, 12˙.30S×166˙.00E, h0km, mb4.6/19, mb1 4.7/22, mb1mx4.6/26, mbtmp4.6/22, ML4.0/3, MS4.2/14, Ms1 4.2/14, ms1mx4.0/32, Error ellipse: s-maj=18.6km s-min=13.5km az=99.0*

ISCJB **16** *17:16:56.1±0.3, 12˙.45S±0˙.04×165˙.90E±0˙.06, h10km, mb5.0/66, MS4.3/20, Error ellipse: s-maj=8.0km s-min=5.6km az=6.6*

MOS **16** *17:16:58.9±1.1, 12˙.44S×165˙.82E, h33km, mb5.2/14, Error ellipse: s-maj=11.2km s-min=9.6km az=9.5*

NEIC **16** *17:17:00.4±0.3, 12˙.38S×165˙.94E, h35km, mb5.1/26, Error ellipse: s-maj=9.0km s-min=7.3km az=97.0*

GCMT **16** *17:17:01.9±0.3, 12˙.45S×165˙.84E, h15km±1km, MW4.9, Moment Tensor Solution. s21,c22; s59,c85; Moment tensor: Scale 10^{16}Nm; Mrr 1.72±.16; Mθθ -0.19±.09; Mφφ -1.54±.11; Mrθ 1.36±.28; Mθφ 0.39±.05; Mφr -1.76±.31; Best double couple: M0 2.80000×10^{16} NP1:φs 148.00000°, δ 72.00000°, λ 80.00000°. NP2:φs 357.00000°, δ 21.00000°, λ 118.00000°. Principal axes: T 2.8900, Plg 62.0000°, Azm 42.0000°; N -0.2300, Plg 10.0000°, Azm 151.0000°; P -2.6700, Plg 26.0000°, Azm 246.0000°; Data Used: IU CN IC G II. Surface wave period 40 sec.*

AUST **16** *17:17:07.9±3.0, 12˙.57S×166˙.10E, h106km±25km Error ellipse: s-maj=14.9km s-min=8.8km az=86.0*

DJA **16** *17:17:11.3±1.3, 13˙S±6˙×16˙6E±˙, h100km±13km, M4.7/22, mB5.2/7, mb4.9/22, Mw(mB)4.6/7*

ISC 16 17:16:58.7±0.4, 12˙.55S±0˙.04×165˙.94E±0˙.05, h17km±1km, n211, σ1§83/255, mb5.1/66, MS4.3/21, 8C-7D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.64**	**297**	Pn		**Pn**	**17 18 32.7**	**-2.9**
HNR				Sn		**Sn**	**17 19 46.5**	**-4.5**
HNR	**Honiara**	**6.64**	**297**	Pn		**Pn**	**17 18 32.7**	**-2.9**
	23nm,0.3s,baz=206,slow=0.9,SNR=36							
HNR				Sn		**Sn**	**17 19 46.4**	**-4.5**
	baz=210,slow=20,SNR=1.8							
DZM	**Mont Dzumac**	**9.48**	**177**	*e*Pn		**Pn**	**17 19 15.6**	**+0.9**
	136nm,1.1s							
DZM				*e*LR		LR	17 21 26.8	
	868nm,25.8s							
DZM	**Mont Dzumac**	**9.48**	**177**	Pn		**Pn**	**17 19 17.1**	**+2.4**
	2.2nm,0.3s,baz=1.2,slow=17,SNR=19							
DZM				Sn		**Sn**	**17 20 56.9**	**-4.1**
	0.5nm,0.3s,baz=319,slow=19,SNR=3.4							
DZM				LR		LR	17 22 13.5	
	comp=Z,434nm,20.9s,baz=15,slow=33							
MSVF	**Nonsavu**	**12.78**	**115**	*e*P		**P**	**17 20 08.3**	**-2.5**
MSVF	**Nonsavu**	**12.78**	**115**	*e*Pn		**P**	**17 20 08.3**	**-2.5**
TARA	**Tarawa**	**15.45**	**27**	*e*Pn		**Pn**	**17 20 37.8**	**+1.8**
	187nm,1.1s							
PMG	**Port Moresby**	**18.70**	**278**	P		**Pn**	**17 21 19.1**	**+2.3**
	44nm,1.5s,1μm							
PMG	**Port Moresby**	**18.70**	**278**	P		**P**	**17 21 15.9**	**-0.4**
PMG				*e*Pn		**Pn**	**17 21 17.1**	**+0.4**
PMG				*e*			17 21 30.3	
PMG	**Port Moresby**	**18.70**	**278**	P		**P**	**17 21 15.9**	**-0.4**
	0.3nm,0.3s,baz=78,slow=9.4,SNR=11							
EIDS	**Eidsvold**	**18.95**	**226**	*e*Pn		**Pn**	**17 21 21.8**	**+2.0**
	114nm,1.3s							
EIDS	**Eidsvold**	**18.95**	**226**	⇓P		**Pn**	**17 21 21.8**	**+2.0**
	baz=19,SNR=16							
CTA	**Charters Tower**	**20.31**	**246**	P		**P**	**17 21 33.5**	**-0.5**
CTA	**Charters Tower**	**20.31**	**246**	⇑P		Pn	17 21 35.5	-0.6
	baz=20							
CTA	**Charters Tower**	**20.31**	**246**	P		**P**	**17 21 33.5**	**-0.5**
	30nm,1.0s,baz=73,slow=13,SNR=29							
CTAO	**Charters Tower**	**20.31**	**246**	*e*P		Pn	17 21 35.5	-0.6
CTAO				pmax		pmax		
	comp=Z,56nm,1.1s							
CTAO	**Charters Tower**	**20.31**	**246**	*e*Pn		Pn	17 21 35.5	-0.6
	comp=Z,56nm,1.1s							
RMQ	**Roma**	**21.28**	**227**	P		**P**	**17 21 47.1**	**+2.6**
	baz=21,SNR=30							
MTSU	**Mount Surprise**	**21.57**	**252**	P		**P**	**17 21 49.1**	**+1.5**
	baz=22,SNR=17							
AFI	**Afiamalu**	**21.74**	**96**	LR		LR	17 29 05.7	
	comp=Z,841nm,18.4s,baz=238,slow=34							
ARMA	**Armidale**	**22.17**	**214**	*e*P		**P**	**17 21 55.5**	**+1.3**
	comp=Z,65nm,1.1s							
ARMA	**Armidale**	**22.17**	**214**	P		**P**	**17 21 55.9**	**+1.8**
	baz=22,SNR=6.9							
COEN	**Coen**	**22.20**	**264**	*e*P		**P**	**17 21 54.9**	**+0.5**
	comp=Z,445nm,0.9s							
COEN	**Coen**	**22.20**	**264**	P		**P**	**17 21 55.1**	**+0.7**
	baz=22,SNR=17							
QLP	**Quilpie**	**24.70**	**232**	P		**P**	**17 22 20.1**	**+1.0**
	baz=25,SNR=24							
RIV	**Riverview**	**25.11**	**210**	⇑P		**P**	**17 22 26.0**	**+3.4**
	baz=25							
CMSA	**Cobar Meteorol**	**26.55**	**221**	P		**P**	**17 22 36.9**	**+1.2**
	baz=27,SNR=28							
CNB	**Canberra Magne**	**27.18**	**211**	⇑P		**P**	**17 22 44.3**	**+2.8**
	baz=27							
CAN	**Canberra**	**27.37**	**211**	⇓P		**P**	**17 22 45.4**	**+2.3**
	baz=28							
STKA	**Stephens Creek**	**29.51**	**225**	*e*P		**P**	**17 23 03.3**	**+1.1**
	comp=Z,7.2nm,1.0s							
STKA	**Stephens Creek**	**29.51**	**225**	P		**P**	**17 23 03.7**	**+1.5**
	baz=30,SNR=16							
STKA	**Stephens Creek**	**29.51**	**225**	P		**P**	**17 23 03.7**	**+1.5**
	comp=Z,21nm,0.8s,baz=30,slow=7.5,SNR=32							
STKA				LR		LR	17 34 55.5	
	comp=Z,1μm,18.3s,baz=25,slow=36							
TOO	**Toolangi**	**30.91**	**213**	P		**P**	**17 23 16.5**	**+1.9**
	baz=31,SNR=5.7							
WRAB	**Tennant Creek**	**31.16**	**252**	⇑*i*P		**P**	**17 23 16.7**	**-0.3**
WRAB				pmax		pmax		
	comp=Z,93nm,2.1s							
WRAB	**Tennant Creek**	**31.16**	**252**	*e*P		**P**	**17 23 16.1**	**-0.9**
	comp=Z,18nm,1.1s							
WRAB				*e*PcP		**PcP**	**17 26 13.2**	**+1.2**
WRAB	**Tennant Creek**	**31.16**	**252**	P		**P**	**17 23 15.2**	**-1.8**
	comp=Z,84nm,1.0s,SNR=7.6							
WRA	**Warramunga Arr**	**31.18**	**252**	P		**P**	**17 23 15.9**	**-1.2**
WRA				PcP		**PcP**	**17 26 12.3**	**+0.3**
WRA	**Warramunga Arr**	**31.18**	**252**	P		**P**	**17 23 15.9**	**-1.2**
	comp=Z,13nm,1.0s,baz=84,slow=8.8,SNR=23							
WRA				PcP		**PcP**	**17 26 12.3**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=100,slow=9.6,SNR=4.9							
RPZ	**Rata Peaks**	**31.37**	**173**	*e*P		**P**	**17 23 18.8**	**+0.3**
	comp=Z,47nm,1.0s							
RPZ	**Rata Peaks**	**31.37**	**173**	P		**P**	**17 23 19.2**	**+0.7**
	comp=Z,24nm,0.6s,baz=324,slow=1.1,SNR=25							
AS31	**Alice Springs**	**32.31**	**245**	*e*P		**P**	**17 23 25.9**	**-1.2**
ASAR	**Alice Springs**	**32.32**	**245**	P		**P**	**17 23 26.2**	**-1.0**
ASAR				PcP		**PcP**	**17 26 14.6**	**-0.6**
ASAR	**Alice Springs**	**32.32**	**245**	P		**P**	**17 23 26.2**	**-1.0**
	comp=Z,17nm,0.8s,baz=72,slow=8.3,SNR=134							
ASAR				PcP		**PcP**	**17 26 14.6**	**-0.6**
	comp=Z,5.7nm,1.1s,baz=80,slow=1.9,SNR=6.9							
ASAR				LR		LR	17 36 35.9	
	comp=Z,586nm,18.4s,baz=133,slow=36							
ODZ	**Otahua Downs**	**32.64**	**174**	*e*P		**P**	**17 23 31.9**	**+2.3**
	comp=Z,36nm,1.2s							
KDU	**Kakadu**	**32.64**	**266**	P		**P**	**17 23 29.8**	**-0.3**
	baz=33,SNR=7.7							
RAR	**Rarotonga**	**33.86**	**109**	LR		LR	17 35 00.2	
	comp=Z,251nm,20.5s,baz=135,slow=32							
MTN	**Manton Dam**	**33.94**	**266**	P		**P**	**17 23 41.5**	**+0.1**
	baz=34,SNR=6.5							
BBOO	**Buckleboo**	**33.97**	**229**	*e*P		**P**	**17 23 41.6**	**+0.2**
	comp=Z,509nm,0.8s							
BBOO	**Buckleboo**	**33.97**	**229**	P		**P**	**17 23 41.8**	**+0.4**
	baz=34,SNR=17							
TAU	**Tasmania Unive**	**34.28**	**205**	*e*P		**P**	**17 23 45.0**	**+1.0**
TAU				pmax		pmax		
	comp=Z,36nm,1.2s							
TAU	**Tasmania Unive**	**34.28**	**205**	*e*P		**P**	**17 23 45.0**	**+1.0**
	comp=Z,36nm,1.2s							
KNRA	**Kununurra**	**36.16**	**261**	P		**P**	**17 24 00.3**	**-0.2**
	baz=36,SNR=9.1							
BNDI	**Bandanaira**	**36.48**	**279**	⇓P		**P**	**17 24 01.9**	**-1.3**
	baz=37							
FITZ	**Fitzroy Crossi**	**39.20**	**257**	*e*P		**P**	**17 24 25.6**	**-0.6**
	comp=Z,57nm,1.3s							
FITZ				*e*			17 24 38.1	
FITZ	**Fitzroy Crossi**	**39.20**	**257**	P		**P**	**17 24 25.9**	**-0.3**
	baz=39,SNR=9.8							
PPT	**Papeete**	**43.17**	**102**	LR		LR	17 39 36.5	
	comp=Z,442nm,19.6s,baz=257,slow=32							
PPT2	**Papeete2**	**43.17**	**102**	*e*S		**S**	**17 31 29.3**	**+4.0**
	comp=Z,143nm,29.2s							
PPT2				*e*LQ		LQ	17 35 17.7	
	comp=Z,504nm,24.2s							
PPT2				*e*LR		LR	17 37 09.0	
	comp=Z,682nm,27.0s,baz=270							
TBI	**Tubuai**	**43.61**	**111**	*e*S		**S**	**17 31 34.6**	**+3.2**
	comp=Z,120nm,26.5s							
TBI				*e*LR		LR	17 37 13.5	
	comp=Z,220nm,28.5s							
MBWA	**Marble Bar**	**44.91**	**253**	*e*P		**P**	**17 25 12.8**	**-0.1**
	comp=Z,21nm,0.9s							
KAPI	**Kappang**	**46.20**	**275**	P		**P**	**17 25 23.1**	**0.0**
	comp=Z,28nm,1.8s							
MEEK	**Meekatharra**	**46.48**	**245**	P		**P**	**17 25 25.5**	**+0.3**
	baz=47,SNR=8.4							
NWAO	**Narrogin (SRO)**	**48.80**	**237**	*e*P		**P**	**17 25 42.7**	**-0.4**
	comp=Z,29nm,0.9s							
NWAO	**Narrogin (SRO)**	**48.80**	**237**	P		**P**	**17 25 43.2**	**+0.1**
	comp=Z,33nm,0.9s,baz=70,slow=6.9,SNR=13							
MORW	**Morawa**	**49.08**	**242**	⇓P		**P**	**17 25 45.2**	**-0.2**
	baz=49,SNR=7.3							
KKM	**Kota Kinabalu**	**52.76**	**288**	*e*P		**P**	**17 26 13.2**	**-0.1**
	comp=Z,84nm,1.3s							
MAJO	**Matsushiro**	**55.38**	**333**	⇓*i*P		**P**	**17 26 32.6**	**+0.6**
MAJO				pmax		pmax		
	comp=Z,24nm,1.4s							
MAJO	**Matsushiro**	**55.38**	**333**	*e*P		**P**	**17 26 32.2**	**+0.2**
	comp=Z,42nm,1.5s							
MAT	**Matsushiro**	**55.38**	**333**	P		**P**	**17 26 29.8**	**-2.2**
MAT				S		**S**	**17 34 15.6**	**-0.2**
JNU	**Nakatsue**	**56.40**	**325**	P		**P**	**17 26 37.6**	**-1.8**
JNU	**Nakatsue**	**56.40**	**325**	P		**P**	**17 26 37.6**	**-1.8**
	comp=Z,11nm,1.0s,baz=54,slow=8.7,SNR=2.5							
YULB	**Yu-li**	**56.42**	**309**	*e*P		**P**	**17 26 40.5**	**+0.9**
	comp=Z,12nm,1.0s							
NACB	**Ninganchiao**	**56.64**	**310**	P		**P**	**17 26 41.5**	**+0.4**
RKT	**Rikitea**	**56.90**	**109**	*e*LR		LR	17 43 25.5	
	comp=Z,206nm,30.8s							
KSM	**Kuching**	**56.94**	**280**	P		**P**	**17 26 45.5**	**+2.0**
	comp=Z,25nm,1.1s							
KSM	**Kuching**	**56.94**	**280**	*e*P		**P**	**17 26 43.2**	**-0.3**
	comp=Z,22nm,1.0s							
KSM	**Kuching**	**56.94**	**280**	⇓P		**P**	**17 26 42.5**	**-1.1**
	baz=57,SNR=5.5							
YHNB	**Yeheng**	**57.09**	**310**	*e*P		**P**	**17 26 43.2**	**-1.2**
	comp=Z,18nm,1.0s							
YUK	**Yuzh-Kuril'sk**	**59.21**	**343**	*i*		**PP**	**17 29 07.0**	**-2.9**
YUK				*i* SS		SS	17 39 00.7	0.0
YUK				MLR		MLR		
	comp=Z,165nm,19.0s							
ASAJ	**Asahikawa**	**60.26**	**341**	P		**P**	**17 27 04.7**	**-1.4**
ASAJ	**Asahikawa**	**60.26**	**341**	P		**P**	**17 27 04.7**	**-1.4**
	comp=Z,9.1nm,0.7s,baz=179,slow=10,SNR=15							
KSRS	**Korea Array**	**61.22**	**326**	P		**P**	**17 27 09.8**	**-3.0**
	comp=Z,1.4nm,0.6s,baz=133,slow=7.4,SNR=6.1							
KSAR	**Wonju Array Be**	**61.23**	**326**	P		**P**	**17 27 09.8**	**-3.1**
YSS	**Yuzh-Sakhalins**	**62.77**	**342**	⇓*i*P		**P**	**17 27 21.8**	**-1.1**
YSS				pmax		pmax		
	comp=Z,34nm,1.4s							
NJ2	**Nanjing**	**63.22**	**316**	*e*P		**P**	**17 27 27.6**	**+1.4**
NJ2				AMB		AMB		
	comp=Z,20nm,0.5s							
USRK	**Ussuriysk Arra**	**64.36**	**334**	P		**P**	**17 27 31.2**	**-2.3**
	comp=Z,21nm,1.1s,baz=134,slow=5.5,SNR=14							
VNDA	**Vanda**	**65.00**	**181**	*e*P		**P**	**17 27 37.2**	**-0.1**
	comp=Z,11nm,1.3s							
VNDA	**Vanda**	**65.00**	**181**	P		**P**	**17 27 37.5**	**+0.2**
	comp=Z,5.7nm,1.1s,baz=344,slow=5.8,SNR=12							
VNDA				LR		LR	17 53 38.2	
	comp=Z,272nm,18.0s,baz=353,slow=34							
CASY	**Casey**	**65.06**	**202**	*e*P		**P**	**17 27 36.4**	**-1.4**
	comp=Z,30nm,1.5s							
SBA	**Scott Base**	**65.31**	**180**	*e*P		**P**	**17 27 40.2**	**+0.9**
SBA				pmax		pmax		
	comp=Z,8.0nm,0.9s							
SBA	**Scott Base**	**65.31**	**180**	*e*P		**P**	**17 27 40.2**	**+0.9**
	comp=Z,8.2nm,0.9s							
MDJ	**Mudanjiang**	**65.76**	**332**	P		**P**	**17 27 44.3**	**+1.7**
MDJ				pP		**pP**	**17 27 47.3**	**-1.0**
MDJ				sP		**sP**	**17 27 48.8**	**-1.6**
MDJ				PcP		**PcP**	**17 28 14.9**	**+1.2**
MDJ				PP		**PP**	**17 30 09.1**	**+1.4**
MDJ				S		**S**	**17 36 31.5**	**+3.3**
MDJ				ScS		**ScS**	**17 37 39.5**	**+1.8**
MDJ				SS		**SS**	**17 40 48.3**	**+5.1**
MDJ				AMB		AMB		
	comp=Z,16nm,1.4s							
MDJ				AMB		AMB		
	comp=Z,56nm,4.8s							
MDJ				LR		LR		
	comp=Z,110nm,10.8s							
MDJ				LR		LR		
	comp=Z,77nm,11.4s							
MDJ				LR		LR		
	comp=Z,90nm,13.1s							
PETK	**Petropavlovsk-**	**65.77**	**355**	LR		LR	17 51 57.0	
	comp=Z,65nm,20.7s,baz=299,slow=32							
HABR	**Khabarovsk**	**66.64**	**338**	*e*P		**P**	**17 27 48.2**	**0.0**
HABR				*e*			17 28 17.2	
HABR				*e*			17 30 14.7	
HABR				*e*S		**S**	**17 36 40.1**	**+1.3**
HABR				*e*			17 37 45.2	
HABR				*e*SS		**SS**	**17 40 58.2**	**+1.5**
HABR				pmax		pmax		
	comp=N,30nm,1.8s							
HABR				pmax		pmax		
	comp=Z,24nm,1.8s							
HABR				pmax		pmax		
	comp=E,24nm,1.8s							
IPM	**Ipoh**	**66.67**	**280**	P		**P**	**17 27 50.0**	**+0.8**
	comp=E,16nm,1.2s,comp=E,311nm							
IPM	**Ipoh**	**66.67**	**280**	*e*P		**P**	**17 27 47.5**	**-1.6**
	comp=E,18nm,1.2s							
IPM				*e*			17 27 59.5	
CN2	**Changchun**	**67.12**	**329**	*e*P		**P**	**17 27 53.8**	**+2.4**
CN2				AMB		AMB		
	comp=E,10.0nm,0.7s							
CN2				LR		LR		
	comp=E,200nm,18.0s							
KULM	**Kulim**	**67.25**	**281**	P		**P**	**17 27 52.8**	**-0.1**
SKNT	**Sakolnakorn**	**67.87**	**294**	P		**P**	**17 27 59.6**	**+2.9**
	comp=E,28nm,1.4s							
KLR	**Kul'dur**	**68.50**	**337**	*e*P		P	17 27 53.8	-6.2
KLR				pmax		pmax		
	comp=E,35nm,1.8s							
KLR				pmax		pmax		
	comp=Z,100nm,1.8s							
NONG	**Nongkai**	**69.01**	**295**	P		**P**	**17 28 05.9**	**+2.1**
	comp=Z,32nm,1.0s,comp=Z,4μm							
GSI	**Gunungsitoli**	**69.20**	**276**	⇑P		**P**	**17 28 03.9**	**-1.2**
	baz=69							
GYA	**Guiyang**	**69.42**	**305**	P		**P**	**17 28 08.1**	**+1.8**
GYA				PP		**PP**	**17 30 41.1**	**+1.1**
GYA			

	comp=Z,440nm,15.1s							
HHC				LR	LR			
	comp=Z,290nm,16.2s							
CMAI	**Chiengmai2**	**73.30**	**295**	P	**P**	**17**	**28**	**31.1 +1.1**
	comp=Z,113nm,0.7s,comp=Z,7µm							
CD2	**Chengdu**	**73.66**	**308**	P	**P**	**17**	**28**	**33.9 +2.2**
CD2				pP	**pP**	**17**	**28**	**38.6 +1.1**
CD2				sP	**sP**	**17**	**28**	**40.9 +1.3**
CD2				PP	**PP**	**17**	**31**	**20.1 +3.8**
CD2				S	**S**	**17**	**38**	**03.5 +1.6**
CD2				sS	**sS**	**17**	**38**	**10.5 -0.8**
CD2				AMB	AMB			
	comp=Z,110nm,4.7s							
CD2				LR	LR			
	comp=Z,140nm,7.1s							
CD2				LR	LR			
	comp=Z,210nm,9.5s							
LZH	**Lanzhou**	**75.90**	**312**	*e*P	**P**	**17**	**28**	**47.3 +2.5**
LZH				pP	**pP**	**17**	**28**	**52.8 +2.3**
LZH				sP	**sP**	**17**	**28**	**56.8 +4.2**
LZH				PcP	**PcP**	**17**	**28**	**59.9 +2.7**
LZH				AMB	AMB			
	comp=Z,12nm,1.1s							
CLNS	**Chul'man**	**77.03**	**338**	*e*P	**P**	**17**	**28**	**51.5 +1.0**
CLNS				pmax	pmax			
	comp=Z,6.0nm,1.3s							
CLNS				pmax	pmax			
	comp=N,12nm,1.2s							
CLNS				pmax	pmax			
	comp=E,3.0nm,0.9s							
QSPA	**South Pole Qui**	**77.47**	**180**	*e*P	**P**	**17**	**28**	**53.0 -0.1**
	comp=E,47nm,1.0s							
CIT	**Chita**	**78.55**	**330**	*e*P	**P**	**17**	**28**	**58.5 -0.6**
CIT				*e*		17	29	09.8
CIT				pmax	pmax			
	comp=Z,100nm,1.2s							
YAK	**Yakutsk**	**79.58**	**344**	*e*P	**P**	**17**	**29**	**03.5 -0.9**
YAK				pmax	pmax			
	comp=Z,29nm,1.5s							
SONM	**Songino Array**	**79.98**	**324**	P	P	17	29	03.5 -3.6
SONM	**Songino Array**	**79.98**	**324**	P	P	17	29	03.5 -3.6
	comp=Z,1.9nm,0.7s,baz=164,slow=10,SNR=13							
GTA	**Gaotai**	**80.23**	**314**	P	**P**	**17**	**29**	**09.8 +1.1**
GTA				pP	**pP**	**17**	**29**	**14.8 +0.3**
GTA				sP	**sP**	**17**	**29**	**16.9 +0.3**
GTA				S	**S**	**17**	**39**	**14.8 +1.4**
GTA				sS	**sS**	**17**	**39**	**21.6 -1.3**
GTA				SS	**SS**	**17**	**44**	**28.8 +4.0**
GTA				AMB	AMB			
	comp=Z,17nm,1.2s							
GTA				AMB	AMB			
	comp=Z,64nm,6.2s							
GTA				LR	LR			
	comp=Z,120nm,16.6s							
GTA				LR	LR			
	comp=Z,130nm,16.2s							
GTA				LR	LR			
	comp=Z,170nm,16.2s							
SHL	**Shillong**	**81.39**	**299**	*e*P	**P**	**17**	**29**	**17.0 +1.7**
ZAK	**Zakamensk**	**83.03**	**325**⇑	*i*P	**P**	**17**	**29**	**22.0 -1.2**
ZAK				pmax	pmax			
	comp=Z,9.0nm,1.1s							
MAW	**Mawson**	**83.41**	**202**	P	**P**	**17**	**29**	**23.7 -1.0**
MAW	**Mawson**	**83.41**	**202**	P	**P**	**17**	**29**	**23.7 -1.0**
	comp=Z,2.3nm,1.0s,baz=88,slow=6.2,SNR=4.4							
MAW				LR	LR	18	05	30.9
	comp=Z,129nm,18.2s,baz=272,slow=35							
TLY	**Talaya**	**83.47**	**326**	*e*P	P	17	29	35.9 +11
TLY				pmax	pmax			
	comp=Z,27nm,1.1s							
ILAR	**Eielson Array**	**84.87**	**18**	P	P	17	29	28.1 -4.1
ILAR	**Eielson Array**	**84.87**	**18**	P	P	17	29	28.1 -4.1
	comp=Z,0.7nm,0.8s,baz=234,slow=4.5,SNR=6.5							
ILAR				LR	LR	18	04	02.8
	comp=Z,173nm,18.3s,baz=175,slow=33							
TAPN	**Taplejung**	**85.49**	**299**	*e*P	**P**	**17**	**29**	**36.3 -0.2**
	comp=Z,46nm,1.2s							
ODAN	**Odare**	**85.63**	**299**	*e*P	**P**	**17**	**29**	**36.3 -0.8**
	comp=Z,41nm,1.0s							
RAMN	**Ramite**	**86.33**	**298**	*e*P	**P**	**17**	**29**	**40.0 -0.6**
	comp=Z,68nm,1.5s							
NVAR	**Mina Array Bea**	**86.84**	**50**	P	**P**	**17**	**29**	**41.5 -1.3**
NVAR	**Mina Array Bea**	**86.84**	**50**	P	**P**	**17**	**29**	**41.5 -1.3**
	comp=Z,0.2nm,0.3s,baz=224,slow=6.2,SNR=3.7							
JIRN	**Jiri**	**86.88**	**299**	*e*P	**P**	**17**	**29**	**43.3 -0.1**
	comp=Z,30nm,1.0s							
PALK	**Pallekele**	**86.94**	**278**	*e*P	**P**	**17**	**29**	**43.8 +0.1**
GUN	**Gumba**	**87.21**	**299**	*e*P	**P**	**17**	**29**	**44.6 -0.4**
	comp=Z,46nm,1.1s							
PKI	**Pulchoki**	**87.52**	**299**	*e*P	**P**	**17**	**29**	**45.8 -0.7**
	comp=Z,42nm,1.0s							
PKIN	**Phulchoki**	**87.53**	**299**	*e*P	**P**	**17**	**29**	**46.0 -0.5**
KKN	**Kakani**	**87.69**	**299**	*e*P	**P**	**17**	**29**	**46.7 -0.4**
	comp=Z,20nm,0.9s							
DMN	**Daman**	**87.79**	**299**	*e*P	**P**	**17**	**29**	**47.4 -0.3**
	comp=Z,54nm,0.9s							
GLA	**Glamis**	**87.94**	**56**	P	**P**	**17**	**29**	**46.1 -1.9**
GLA				pmax	pmax			
	comp=Z,49nm,0.8s							
GLA	**Glamis**	**87.94**	**56**	P	**P**	**17**	**29**	**46.1 -1.9**
	comp=Z,49nm,0.8s							
GKN	**Gorkha**	**88.29**	**299**	*e*P	**P**	**17**	**29**	**48.7 -1.2**
	comp=Z,49nm,1.0s							
KOLN	**Koldanda**	**89.12**	**299**	*e*P	**P**	**17**	**29**	**52.8 -1.1**
	comp=Z,14nm,0.8s							
DANN	**Dangsing**	**89.13**	**299**	*e*P	**P**	**17**	**29**	**52.6 -1.5**
	comp=Z,32nm,0.8s							
WMQ	**Urumqi**	**90.28**	**315**	P	**P**	**17**	**29**	**59.0 +0.2**
WMQ				pP	**pP**	**17**	**30**	**03.8 -0.8**
WMQ				sP	**sP**	**17**	**30**	**06.0 -0.7**
WMQ				S	**S**	**17**	**40**	**50.1 -2.3**
WMQ				SS	**SS**	**17**	**46**	**52.0 -0.6**
WMQ				AMB	AMB			
	comp=Z,14nm,0.9s							
WMQ				AMB	AMB			
	comp=Z,180nm,5.0s							
WMQ				LR	LR			
	comp=Z,110nm,18.8s							
WMQ				LR	LR			
	comp=Z,100nm,16.6s							
WMQ				LR	LR			
	comp=Z,77nm,19.0s							
SYO	**Syowa Base**	**90.41**	**197**⇑	*e*pP	pP	17	30	02.8 -1.9
HYB	**Hyderabad**	**91.24**	**287**	*i* P	**P**	**17**	**30**	**05.0 +1.2**
PDAR	**Pinedale Array**	**94.43**	**47**	LR	LR	18	10	53.3
	comp=Z,112nm,18.3s,baz=205,slow=34							
MK31	**Makanchi Array**	**94.74**	**317**	*e*P	**P**	**17**	**30**	**17.2 -2.0**
MK31	**Makanchi Array**	**94.74**	**317**	*e*P	**P**	**17**	**30**	**17.2 -2.0**
MKAR	**Makanchi Array**	**94.74**	**317**	P	**P**	**17**	**30**	**17.6 -1.7**
MKAR	**Makanchi Array**	**94.74**	**317**	P	**P**	**17**	**30**	**17.6 -1.7**
MKAR	**Makanchi Array**	**94.74**	**317**	P	**P**	**17**	**30**	**17.6 -1.7**
	comp=Z,7.3nm,1.0s,baz=90,slow=5.0,SNR=15							
MKAR				LR	LR	18	14	24.0
	comp=Z,76nm,18.3s,baz=215,slow=36							
ZALV	**Zalesovo Beam**	**94.88**	**324**	P	**P**	**17**	**30**	**18.1 -1.6**
ZALV	**Zalesovo Beam**	**94.88**	**324**	P	**P**	**17**	**30**	**18.1 -1.6**
ZALV	**Zalesovo Beam**	**94.88**	**324**	P	**P**	**17**	**30**	**18.1 -1.6**
	comp=Z,3.2nm,0.7s,baz=108,slow=3.9,SNR=18							
POO	**Poona**	**95.85**	**288**	*e*P	**P**	**17**	**30**	**24.0 -1.0**
NVS	**Novosibirsk**	**95.99**	**325**	*e*P	**P**	**17**	**30**	**23.8 -0.9**
NVS				pmax	pmax			
	comp=Z,9.0nm,1.7s							
NVS				pmax	pmax			
	comp=E,5.0nm,1.4s							
TXAR	**Lajitas Array**	**96.38**	**61**	P	**P**	**17**	**30**	**25.8 -1.5**
TXAR	**Lajitas Array**	**96.38**	**61**	P	**P**	**17**	**30**	**25.8 -1.5**
	comp=E,0.2nm,0.8s,baz=193,slow=3.7,SNR=2.0							
TXAR				LR	LR	18	06	07.0
	comp=E,188nm,18.8s,baz=25,slow=31							
KURK	**Kurchatov**	**97.91**	**320**⇑	*i*P	Pdif	17	30	33.7 +0.2
KURK				pmax	pmax			
	comp=Z,2.0nm,1.5s							
BVAR	**Borovoye Array**	**103.24**	**322**	P	**Pdif**	**17**	**30**	**54.8 -2.4**
BVAR	**Borovoye Array**	**103.24**	**322**	Pdif	**Pdif**	**17**	**30**	**54.8 -2.4**
BVAR	**Borovoye Array**	**103.24**	**322**	Pdiff	**Pdif**	**17**	**30**	**54.8 -2.4**
	comp=Z,0.8nm,0.9s,baz=96,slow=6.1,SNR=4.2							
ARCES	**ARCESS Array B**	**117.83**	**345**	PKP	**PKPdf**	**17**	**35**	**40.4 -3.3**
ARCES				PKKPbc	**PKKPbc**	**17**	**46**	**05.6 -1.4**
ARCES	**ARCESS Array B**	**117.83**	**345**	PKP	**PKPdf**	**17**	**35**	**40.4 -3.3**
	comp=Z,3.3nm,0.7s,baz=69,slow=1.7,SNR=13							
ARCES				PKKPbc	**PKKPbc**	**17**	**46**	**05.6 -1.4**
	comp=Z,2.2nm,0.8s,baz=285,slow=6.0,SNR=3.6							
FINES	**FINESS Array B**	**123.23**	**338**	PKP	**PKPdf**	**17**	**35**	**50.8 -3.4**
FINES	**FINESS Array B**	**123.23**	**338**	PKP	**PKPdf**	**17**	**35**	**50.8 -3.4**
	comp=Z,1.9nm,0.6s,baz=29,slow=4.4,SNR=6.7							
NOA	**NORSAR Array B**	**128.19**	**345**	PKKPbc	PKKPbc	17	45	32.5
NOA	**NORSAR Array B**	**128.19**	**345**	PKKPbc	PKKPbc	17	45	32.5
	comp=Z,1.0nm,0.8s,baz=121,slow=3.5,SNR=3.4							
AKASG	**Malin Array Be**	**128.21**	**326**	PKIKP	**PKPdf**	**17**	**36**	**02.8 -1.3**
AKASG	**Malin Array Be**	**128.21**	**326**	PKP	**PKPdf**	**17**	**36**	**02.8 -1.3**
AKASG	**Malin Array Be**	**128.21**	**326**	PKP	**PKPdf**	**17**	**36**	**02.8 -1.3**
	comp=Z,1.0nm,0.6s,baz=55,slow=1.4,SNR=8.5							
BR131	**Keskin Array S**	**130.10**	**312**	*e*PKPdf	**PKPdf**	**17**	**36**	**09.0 +0.7**
BRTR	**Keskin Array B**	**130.10**	**312**	PKP	**PKPdf**	**17**	**36**	**06.8 -1.4**
BRTR				SKPbc	**SKPbc**	**17**	**39**	**32.4 +2.0**
BRTR	**Keskin Array B**	**130.10**	**312**	PKP	**PKPdf**	**17**	**36**	**06.8 -1.4**
	comp=Z,1.3nm,0.9s,baz=165,slow=5.1,SNR=8.7							
BRTR				SKPbc	**SKPbc**	**17**	**39**	**32.4 +2.0**
	comp=Z,3.0nm,1.1s,baz=45,slow=0.7,SNR=7.8							
KOLS	**Kolonicke sedl**	**132.92**	**328**	*e*PKIKP	**PKPdf**	**17**	**36**	**15.3 +2.2**
KOLS	**Kolonicke sedl**	**132.92**	**328**	*e*PKP	**PKPdf**	**17**	**36**	**15.3 +2.2**
UZH	**Uzhgorod**	**133.09**	**327**	*e*PKIKP	PKPdf	17	36	05.8 -7.6
UZH				*e*		17	36	10.4
STHS	**Stebnicka Huta**	**133.15**	**329**	*e*PKIKP	**PKPdf**	**17**	**36**	**16.0 +2.5**
STHS	**Stebnicka Huta**	**133.15**	**329**	*e*PKP	**PKPdf**	**17**	**36**	**16.0 +2.5**
CLL	**Collm**	**135.54**	**336**	*e*PKPdf	**PKPdf**	**17**	**36**	**18.0 +0.1**
CLL				*i* PKiKP	**PKiKP**	**17**	**36**	**20.5 +1.0**
CLL				*e*SKPbc	**SKPbc**	**17**	**39**	**42.0 -6.5**
CLL				*i* SKPab	**SKPab**	**17**	**39**	**49.5 -3.4**
KHC	**Kasperske Hory**	**136.96**	**333**	*e*PKIKP	**PKPdf**	**17**	**36**	**20.0 -0.7**
KHC	**Kasperske Hory**	**136.96**	**333**	*e*PKPdf	**PKPdf**	**17**	**36**	**20.0 -0.7**
GERES	**GERESS Array B**	**137.12**	**333**	PKP	**PKPdf**	**17**	**36**	**19.8 -1.3**
GERES				SKPbc	**SKPbc**	**17**	**39**	**54.4 +0.9**
GERES	**GERESS Array B**	**137.12**	**333**	PKP	**PKPdf**	**17**	**36**	**19.8 -1.3**
	comp=Z,1.2nm,0.7s,baz=63,slow=0.3,SNR=7.5							
GERES				SKPbc	**SKPbc**	**17**	**39**	**54.4 +0.9**
	comp=Z,1.9nm,1.0s,baz=98,slow=2.7,SNR=7.9							
VSL	**Villasalto**	**146.09**	**327**	*e*PKPdf	**PKPbc**	**17**	**36**	**38.2 +0.1**
KEST	**Kesra**	**148.71**	**322**	PKPbc	**PKPbc**	**17**	**36**	**44.5 -1.2**
KEST	**Kesra**	**148.71**	**322**	PKPbc	**PKPbc**	**17**	**36**	**44.5 -1.2**
	comp=Z,2.7nm,0.9s,baz=293,slow=8.8,SNR=5.3							
CMAH	**Djebel Manchou**	**149.22**	**325**	P	**PKPbc**	**17**	**36**	**47.4 +0.5**
ABSA	**Djebel Ababsia**	**149.44**	**324**	P	**PKPbc**	**17**	**36**	**47.8 +0.3**
CKFL	**Kef-Lekhel**	**149.77**	**325**	P	**PKPbc**	**17**	**36**	**50.5 +2.2**
CASM	**Ain Smara**	**150.00**	**325**	P	**PKPbc**	**17**	**36**	**50.1 +1.3**
CTEI	**Djebel Teioual**	**150.19**	**325**	P	**PKPbc**	**17**	**36**	**51.7 +2.3**
SET	**Setif**	**150.64**	**327**	P	**PKPbc**	**17**	**36**	**51.0 +0.6**
ESDC	**Sonseca Array**	**151.54**	**343**	PKPbc	**PKPbc**	**17**	**36**	**50.1 -2.2**
ESDC	**Sonseca Array**	**151.54**	**343**	PKPbc	**PKPbc**	**17**	**36**	**50.1 -2.2**
	comp=Z,2.5nm,0.8s,baz=7.1,slow=3.4,SNR=11							
ESLA	**Sonseca Array**	**151.54**	**343**	*e*PKPdf	**PKPdf**	**17**	**36**	**48.6 +2.4**
TORD	**Torodi Ar. Bea**	**164.62**	**274**	PKP	**PKPdf**	**17**	**37**	**01.5 -1.1**
TORD				PKPab	**PKPab**	**17**	**37**	**58.2 +0.3**
TORD	**Torodi Ar. Bea**	**164.62**	**274**	PKP	**PKPdf**	**17**	**37**	**01.5 -1.1**
	comp=Z,2.9nm,1.1s,baz=24,slow=1.3,SNR=10							
TORD				PKPab	**PKPab**	**17**	**37**	**58.2 +0.3**
	comp=Z,6.9nm,1.0s,baz=83,slow=2.3,SNR=15							
DBIC	**Dimbokro**	**169.21**	**238**	PKPab	**PKPab**	**17**	**38**	**18.8 +0.7**
DBIC	**Dimbokro**	**169.21**	**238**	PKPab	**PKPab**	**17**	**38**	**18.8 +0.7**
	comp=Z,7.7nm,1.0s,baz=123,slow=3.5,SNR=5.1							

IDC 16 17:27:33.8±1.3, 12.79S×166.05E, h0km, mb3.9/8, mb1 4.1/10, mb1mx3.9/20, mbtmp3.9/10, ML3.6/2, Error ellipse: s-maj=37.5km s-min=24.1km az=113.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
HNR	**Honiara**	**6.85**	**298**	Pn	Pn	17	29	14.5	-1.1
	5.8nm,0.3s,baz=357,slow=13,SNR=6.3								
DZM	**Mont Dzumac**	**9.24**	**178**	Pn	Pn	17	29	47.2	-1.4
	0.1nm,0.3s,baz=102,slow=19,SNR=2.3								
STKA	**Stephens Creek**	**29.41**	**226**	P	P	17	33	38.7	-0.4
	2.4nm,0.8s,baz=54,slow=7.8,SNR=5.1								
WRA	**Warramunga Arr**	**31.20**	**253**	P	P	17	33	55.3	+0.2
	0.6nm,0.6s,baz=85,slow=9.0,SNR=4.6								
ASAR	**Alice Springs**	**32.31**	**246**	P	P	17	34	05.7	+0.8
	4.8nm,0.6s,baz=90,slow=7.8,SNR=166								
ASAR				PcP	PcP	17	36	53.1	-0.1
	0.4nm,1.1s,baz=90,slow=2.8,SNR=4.1								
CMAR	**Chiang Mai Arr**	**73.08**	**294**	P	P	17	39	07.0	+0.5
	0.7nm,0.5s,baz=136,slow=3.4,SNR=5.2								
SONM	**Songino Array**	**80.23**	**324**	P	P	17	39	46.1	-0.4
	0.3nm,0.7s,baz=151,slow=9.9,SNR=2.9								
ILAR	**Eielson Array**	**85.06**	**18**	P	P	17	40	11.8	+0.7
	0.3nm,0.8s,baz=244,slow=6.3,SNR=3.1								
MKAR	**Makanchi Array**	**94.98**	**317**	P	P	17	40	58.0	-0.4
	0.4nm,0.7s,baz=84,slow=5.9,SNR=3.9								
ZALV	**Zalesovo Beam**	**95.13**	**324**	P	P	17	40	57.9	-1.0
	0.3nm,0.4s,baz=46,slow=4.2,SNR=2.2								

IDC 16 17:38:28.5±2.7, 5.41S×147.36E, h198km±34km, mb3.2/6, mb1 3.4/8, mb1mx3.2/18, mbtmp3.2/8, Error ellipse: s-maj=49.4km s-min=20.7km az=124.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
PMG	**Port Moresby**	**3.98**	**183**	P	Pn	17	39	31.8	+1.8
	5.2nm,0.3s,baz=238,slow=15,SNR=56								
PMG				S	Sn	17	40	17.6	-0.7
	18nm,0.3s,baz=21,slow=15,SNR=10								
COEN	**Coen**	**9.44**	**206**	P	Pn	17	40	42.7	+2.1
	baz=28,SNR=6.9								
KDU	**Kakadu**	**16.38**	**243**	P	P	17	42	06.4	-0.4
	baz=38,SNR=10								
MTN	**Manton Dam**	**17.63**	**244**	P	P	17	42	20.5	-0.1
	baz=40,SNR=7.5								
WRA	**Warramunga Arr**	**19.21**	**220**	P	P	17	42	38.2	+0.4
	0.6nm,0.3s,baz=45,slow=12,SNR=16								
ASAR	**Alice Springs**	**22.30**	**214**	P	P	17	43	10.6	+0.6
	0.7nm,0.5s,baz=47,slow=8.9,SNR=18								
FITZ	**Fitzy Crossi**	**24.68**	**237**	P	P	17	43	31.1	-0.4
	5.6nm,0.5s,baz=50,slow=9.2,SNR=51								
SONM	**Songino Array**	**64.07**	**331**	P	P	17	48	42.9	+1.5
	0.6nm,0.9s,baz=123,slow=4.3,SNR=4.2								
MKAR	**Makanchi Array**	**77.28**	**320**	P	P	17	50	01.0	-0.1
	0.2nm,0.6s,baz=100,slow=8.3,SNR=3.2								
ZALV	**Zalesovo Beam**	**78.71**	**328**	P	P	17	50	07.5	-1.2
	0.3nm,0.4s,baz=123,slow=5.3,SNR=2.5								
ILAR	**Eielson Array**	**84.80**	**23**	P	P	17	50	40.5	+0.2
	0.5nm,1.1s,baz=207,slow=7.1,SNR=3.1								
TORD	**Torodi Ar. Bea**	**145.29**	**285**	PKPbc	PKPdf	17	57	42.9	-0.8
	0.2nm,0.4s,baz=55,slow=2.7,SNR=5.2								

*ISCJB **16** 17:51:35.6±0.6, 25.15S±0.05×70.79W±0.1, h10km, mb4.2/8, Error ellipse: s-maj=15.5km s-min=6.8km az=9.8*
*IDC **16** 17:51:35.2±0.9, 25.25S×70.98W, h0km, mb4.1/5, mb1 4.3/7, mb1mx4.0/18, mbtmp4.1/7, ML4.4/2, MS2.9/1, Ms1 3.0/1, ms1mx2.6/26, Error ellipse: s-maj=27.9km s-min=26.4km az=26.0*
*NEIC **16** 17:51:37.5±3.0, 25.16S×70.95W, h13km±18km, mb4.6/4, Error ellipse: s-maj=15.5km s-min=6.8km az=92.0*
ISC 16 17:51:36.8±0.5, 25.14S±0.04×70.94W±0.10, h10km, n48, σ1§18/47, mb4.5/8, 1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
LVC	**Limon Verde**	**3.13**	**37**	*e*Pn	**Pn**	**17**	**52**	**28.9**	**+2.5**
LVC				*e*Pb	**Pb**	**17**	**52**	**33.0**	**+0.3**
LVC				*e*Pg	**Pg**	**17**	**52**	**36.1**	**-0.7**
LVC				*e*Sn	**Sb**	**17**	**53**	**12.3**	**+1.2**
LCO	**Las Campanas**	**3.86**	**177**	*e*Pn	**Pn**	**17**	**52**	**37.3**	**+0.7**
LCO				*e*Pg	**Pb**	**17**	**52**	**47.3**	**+2.0**
LCO				*e*Sg	**Sg**	**17**	**53**	**37.4**	**-3.7**
CFAA	**Coronel Fontan**	**6.87**	**160**	Pn	**Pn**	**17**	**53**	**17.0**	**-0.7**
CFAA				Lg	Lg	17	54	54.1	
CFAA	**Coronel Fontan**	**6.87**	**160**	Pn	**Pn**	**17**	**53**	**17.0**	**-0.7**
	0.1nm,0.3s,baz=333,slow=13,SNR=3.5								
CFAA				Lg	Lg	17	54	54.1	
	0.3nm,0.3s,baz=146,slow=14,SNR=7.1								
ARE	**Arequipa**	**8.65**	**356**	*e*P	**Pn**	**17**	**53**	**41.0**	**-1.4**
ARE				*e*S	**Sn**	**17**	**55**	**17.0**	**-3.2**
LPAZ	**La Paz**	**9.19**	**17**	Pn	**Pn**	**17**	**53**	**50.2**	**+0.1**
LPAZ	**La Paz**	**9.19**	**17**	Pn	**Pn**	**17**	**53**	**50.2**	**+0.1**
	1.2nm,0.3s,baz=195,slow=4.4,SNR=5.6								
LPAZ				LR	LR	17	56	25.1	
	comp=Z,72nm,19.6s,baz=41,slow=31								
H03N1	**Juan Fernandez**	**10.80**	**218**	T	T	18	05	24.0	
	baz=45								
H03N2	**Juan Fernandez**	**10.81**	**218**	T	T	18	05	24.8	
	baz=45,SNR=19								
H03N3	**Juan Fernandez**	**10.82**	**218**	T	T	18	05	23.8	
	baz=45,SNR=7.9								
SIV	**San Ignacio**	**12.96**	**47**	Pn	**Pn**	**17**	**54**	**41.6**	**+0.3**
SIV	**San Ignacio**	**12.96**	**47**	Pn	**Pn**	**17**	**54**	**41.6**	**+0.3**
	1.3nm,0.3s,baz=249,slow=12,SNR=12								
TRQA	**Tornquist**	**14.96**	**152**	Pn	**Pn**	**17**	**55**	**08.6**	**+0.2**
	9.8nm,0.8s								
SAML	**Samuel**	**17.72**	**26**	*e*Pn	**P**	**17**	**55**	**45.0**	**+0.3**
	3.6nm,0.9s								
BDFB	**Brasilia**	**23.45**	**71**	P	**P**	**17**	**56**	**46.0**	**-0.6**
BDFB	**Brasilia**	**23.45**	**71**	P	**P**	**17**	**56**	**46.0**	**-0.6**
	4.4nm,0.9s,baz=261,slow=7.8,SNR=3.9								
VNA1	**Neumayer--Stat**	**57.52**	**159**	*e*P	P	18	01	38.4	+12
VNA2	**Neumayer--Watz**	**57.88**	**160**	*e*P	**P**	**18**	**01**	**29.4**	**+0.9**
SNAA	**Sanae**	**59.49**	**160**	*e*P	**P**	**18**	**01**	**40.6**	**+0.8**
SNAA	**Sanae**	**59.49**	**160**	*e*P	**P**	**18**	**01**	**40.2**	**+0.4**
	5.1nm,0.9s								
TXAR	**Lajitas Array**	**62.62**	**328**	P	**P**	**18**	**02**	**01.8**	**+0.2**
TXAR	**Lajitas Array**	**62.62**	**328**	P	**P**	**18**	**02**	**01.8**	**+0.2**
	0.8nm,0.9s,baz=149,slow=9.2,SNR=7.2								
QSPA	**South Pole Qui**	**65.07**	**180**	*e*P	**P**	**18**	**02**	**18.2**	**+0.9**
	2.6nm,0.9s								
DBIC	**Dimbokro**	**71.57**	**73**	P	**P**	**18**	**02**	**57.5**	**-1.2**
	16nm,1.3s								
DBIC	**Dimbokro**	**71.57**	**73**	P	**P**	**18**	**02**	**59.6**	**+0.9**
	3.2nm,0.7s,baz=244,slow=8.8,SNR=4.4								
SYO	**Syowa Base**	**73.77**	**159**‖	*e*P	**P**	**18**	**03**	**10.7**	**-0.2**
NVAR	**Mina Array Bea**	**77.25**	**324**	P	**P**	**18**	**03**	**32.8**	**+1.3**
NVAR	**Mina Array Bea**	**77.25**	**324**	P	**P**	**18**	**03**	**32.8**	**+1.3**
	0.5nm,0.8s,baz=113,slow=2.7,SNR=3.7								
TOA0	**Torodi Ar. Sit**	**80.33**	**71**	*e*P	**P**	**18**	**03**	**49.0**	**+0.3**
TORD	**Torodi Ar. Bea**	**80.33**	**71**	P	**P**	**18**	**03**	**49.4**	**+0.7**
TORD	**Torodi Ar. Bea**	**80.33**	**71**	P	**P**	**18**	**03**	**49.4**	**+0.7**
	6.7nm,0.8s,baz=261,slow=5.1,SNR=33								
NEW	**Newport**	**83.97**	**331**	P	**P**	**18**	**04**	**08.4**	**+1.2**
	2.8nm,0.8s								
ASAR	**Alice Springs**	**125.84**	**208**	PKP	**PKPdf**	**18**	**10**	**38.3**	**-1.4**
ASAR	**Alice Springs**	**125.84**	**208**	PKP	**PKPdf**	**18**	**10**	**38.3**	**-1.4**
	0.7nm,0.8s,baz=131,slow=2.8,SNR=3.0								
H11S2	**WAKE ISLAND Hyd**	**26.40**	**275**	T	T	20	30	25.0	
	baz=110,slow=0.6,SNR=22								
H11S1	**WAKE ISLAND Hyd**	**26.41**	**275**	T	T	20	30	27.0	
	baz=110,slow=0.6,SNR=3.3								
H11S3	**WAKE ISLAND Hyd**	**26.42**	**275**	T	T	20	30	24.1	
	baz=110,slow=0.6,SNR=16								
WRA	**Warramunga Arr**	**128.89**	**211**	PKP	**PKPdf**	**18**	**10**	**44.1**	**-1.4**
WRA	**Warramunga Arr**	**128.89**	**211**	PKP	**PKPdf**	**18**	**10**	**44.1**	**-1.4**
	0.8nm,0.7s,baz=142,slow=1.6,SNR=3.3								
ZAA0	**Zalesovo Array**	**146.03**	**26**	*e*PKPbc	**PKPbc**	**18**	**11**	**16.9**	**+0.3**
ZALV	**Zalesovo Beam**	**146.03**	**26**	PKPbc	**PKPbc**	**18**	**11**	**17.1**	**+0.5**
ZALV	**Zalesovo Beam**	**146.03**	**26**	PKPbc	**PKPbc**	**18**	**

comp=Z,62nm,19.3s,baz=197,slow=33
ILAR Eielson Array 84.40 18 P **P 18 32 36.2 -1.1**
ILAR Eielson Array 84.40 18 P **P 18 32 36.2 -1.1**
1.1nm,0.6s,baz=244,slow=4.8,SNR=20
NVAR Mina Array Bea 85.69 49 P **P 18 32 45.5 +0.8**
NVAR Mina Array Bea 85.69 49 P **P 18 32 45.5 +0.8**
0.3nm,0.4s,baz=230,slow=6.9,SNR=4.4
MKAR Makanchi Array 95.78 317 P **P 18 33 29.8 -1.8**
MKAR Makanchi Array 95.78 317 P **P 18 33 29.8 -1.8**
0.8nm,0.8s,baz=123,slow=5.3,SNR=2.6
CLL Collm 136.16 337 *e*PKiKP **PKiKP 18 39 30.0 +1.8**
ESDC Sonseca Array 151.95 346 PKPbc **PKPbc 18 39 59.8 -0.9**
ESDC Sonseca Array 151.95 346 PKPbc **PKPbc 18 39 59.8 -0.9**
1.2nm,0.8s,baz=30,slow=2.4,SNR=4.9

PRE 16 18:32:28.0±3.8, 31°.28S×20°.71E, h5km, ML3.8, 3C-1D, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CVNA	**Calvinia**	**0.83**	**256**	↑*i*P		Pg	18 32 44.3	+0.1
CVNA				*e*S		Sg	18 32 54.0	-1.0
CVNA				AML		AML	18 32 54.8	
	comp=Z,990nm,0.4s							
SUR	**Sutherland**	**1.10**	**175**	↑*i*P		Pb	18 32 49.8	-0.1
SUR				*e*S		Sg	18 33 02.9	-1.1
SUR				AML		AML	18 33 06.6	
	comp=Z,166nm,0.3s							
CER	**Ceres**	**2.40**	**210**	↓*i*P		Pn	18 33 08.6	+0.6
CER				*e*S		Sn	18 33 39.0	+1.3
CER				AML		AML	18 33 43.9	
	comp=Z,86nm,0.4s							
KOMG	**Komaggas**	**3.15**	**297**	*e*P		Pn	18 33 19.0	+0.8
KOMG				*e*S		Sn	18 33 56.5	+0.3
KOMG				AML		AML	18 34 06.9	
	comp=Z,123nm,0.4s							
ELIM	**Elim**	**3.41**	**193**	↑*i*P		Pn	18 33 22.0	+0.1
ELIM				*e*S		Sn	18 34 01.9	-0.8
ELIM				AML		AML	18 34 18.1	
	comp=Z,115nm,0.4s							
HVD	**Gariep Dam**	**4.17**	**82**	*e*P		Pn	18 33 36.0	+3.4
HVD				*e*S		Sn	18 34 22.6	+0.8
HVD				AML		AML	18 34 43.2	
	comp=Z,158nm,0.5s							
SOE	**Somerset East**	**4.37**	**110**	*e*P		Pn	18 33 32.6	-2.5
SOE				*e*S		Sn	18 34 25.8	-0.7
SOE				AML		AML	18 34 49.5	
	comp=Z,67nm,0.6s							
BUFB	**Buffelsbos**	**4.45**	**131**	*e*P		Pn	18 33 37.3	+1.2
BUFB				*e*S		Sn	18 34 28.1	-0.2
BUFB				AML		AML	18 34 51.4	
	comp=Z,41nm,0.2s							
BOSA	**Boshof**	**4.76**	**57**	*e*P		Pn	18 33 41.1	+0.5
BOSA				*e*S		Sn	18 34 34.3	-2.0
BOSA				AML		AML	18 35 02.7	
	comp=Z,45nm,0.5s							
GRM	**Grahamstown**	**5.32**	**114**	*e*P		Pn	18 33 49.3	+1.2
GRM				*e*S		Sn	18 34 48.4	-1.4
GRM				AML		AML	18 35 22.5	
	comp=Z,44nm,0.3s							
SWZ	**Schweizer**	**5.74**	**46**	*e*P		Pn	18 33 54.4	+0.2
SWZ				*e*S		Sn	18 34 58.8	-1.8
SWZ				AML		AML	18 35 34.8	
	comp=Z,31nm,0.6s							
SEK	**Senekal**	**6.70**	**66**	*e*P		Pn	18 34 10.2	+3.0
SEK				*e*S		Sn	18 35 20.7	-3.4
SEK				AML		AML	18 36 02.6	
	comp=Z,46nm,0.9s							
PRYS	**Parys**	**7.26**	**55**	*e*P		Pn	18 34 16.4	+1.4
PRYS				*e*S		Sn	18 35 34.7	-3.2
PRYS				AML		AML	18 36 28.4	
	comp=Z,8.1nm,0.5s							
KSD	**Kokstad**	**7.52**	**87**	*e*P		Pn	18 34 20.6	+2.1
KSD				*e*S		Sn	18 35 41.9	-2.5
KSD				AML		AML	18 36 30.8	
	comp=Z,30nm,0.4s							
LBTB	**Lobatse**	**7.59**	**36**	*e*P		Pn	18 34 19.9	+0.5
LBTB				*e*S		Sn	18 35 40.4	-5.6
LBTB				AML		AML	18 36 28.4	
	comp=Z,18nm,0.4s							
SLR	**Silverton**	**8.65**	**52**	*e*P		Pn	18 34 35.0	+0.9
SLR				*e*S		Sn	18 36 05.6	-6.7
SLR				AML		AML	18 37 11.7	
	comp=Z,22nm,0.4s							
WIN	**Windhoek**	**9.25**	**339**	*e*S		Sn	18 36 19.9	-7.2
WIN				AML		AML	18 37 28.9	
	comp=Z,3.8nm,0.6s							
WIN	**Windhoek**	**9.25**	**339**	S		Sn	18 36 19.9	-7.2
POGA	**Pongola**	**10.28**	**70**	*e*P		Pn	18 34 58.0	+1.7
POGA				*e*S		Sn	18 36 47.9	-4.1
POGA				AML		AML	18 37 58.2	
	comp=Z,11nm,0.6s							
MSNA	**Messina**	**12.18**	**45**	*e*P		Pn	18 35 18.8	-3.4
MSNA				*e*S		Sn	18 37 29.2	-9.3
MSNA				AML		AML	18 39 00.6	
	comp=Z,6.0nm,0.5s							
TSUM	**Tsumeb**	**12.35**	**346**	*e*S		Sn	18 37 41.0	-2.0

PRE 16 18:35:48.8±3.1, 31°.30S×20°.67E, h5km, ML4.0, 2C-1D, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CVNA	**Calvinia**	**0.80**	**256**	↑*i*P		Pg	18 36 04.3	0.0
CVNA				*e*S		Sg	18 36 14.5	-0.3
CVNA				AML		AML	18 36 15.0	
	comp=Z,1μm,0.5s							
SUR	**Sutherland**	**1.09**	**174**	↑*i*P		Pg	18 36 09.7	-0.2
SUR				*e*S		Sg	18 36 23.1	-1.1
SUR				AML		AML	18 36 26.4	
	comp=Z,300nm,0.6s							
CER	**Ceres**	**2.37**	**209**	*e*P		Pb	18 36 30.3	-1.7
CER				*e*S		Sn	18 36 57.5	-0.3
CER				AML		AML	18 37 03.9	
	comp=Z,137nm,0.4s							
KOMG	**Komaggas**	**3.13**	**298**	*e*P		Pn	18 36 39.7	+0.9
KOMG				*e*S		Sn	18 37 16.2	-0.4
KOMG				AML		AML	18 37 26.9	
	comp=Z,244nm,0.4s							
ELIM	**Elim**	**3.38**	**193**	↓*i*P		Pn	18 36 41.9	-0.4
ELIM				*e*S		Sn	18 37 21.9	-1.0
ELIM				AML		AML	18 37 38.2	
	comp=Z,202nm,0.4s							
HVD	**Gariep Dam**	**4.20**	**82**	*e*P		Pn	18 36 55.9	+2.1
HVD				*e*S		Sn	18 37 42.8	-0.6
HVD				AML		AML	18 38 02.4	
	comp=Z,296nm,0.5s							
SOE	**Somerset East**	**4.39**	**110**	*e*P		Pn	18 36 57.2	+1.0
SOE				*e*S		Sn	18 37 46.3	-1.5
SOE				AML		AML	18 38 09.3	
	comp=Z,139nm,0.4s							
BUFB	**Buffelsbos**	**4.46**	**131**	*e*P		Pn	18 36 56.8	-0.2
BUFB				*e*S		Sn	18 37 48.0	-1.3
BUFB				AML		AML	18 38 25.5	
	comp=Z,52nm,0.2s							
BOSA	**Boshof**	**4.79**	**57**	*e*P		Pn	18 37 03.0	+1.2
BOSA				*e*S		Sn	18 37 57.8	-0.2
BOSA				AML		AML	18 38 22.2	
	comp=Z,85nm,0.5s							
GRM	**Grahamstown**	**5.34**	**114**	*e*P		Pn	18 37 12.8	+3.6
GRM				*e*S		Sn	18 38 11.9	+0.7
GRM				AML		AML	18 38 42.6	
	comp=Z,83nm,0.3s							
SWZ	**Schweizer**	**5.78**	**46**	*e*P		Pn	18 37 15.1	-0.4
SWZ				*e*S		Sn	18 38 18.7	-3.6
SWZ				AML		AML	18 38 49.2	
	comp=Z,63nm,0.4s							
SEK	**Senekal**	**6.73**	**66**	*e*P		Pn	18 37 31.9	+3.4
SEK				*e*S		Sn	18 38 40.3	-5.5
SEK				AML		AML	18 39 22.0	
	comp=Z,90nm,0.9s							
PRYS	**Parys**	**7.29**	**55**	*e*P		Pn	18 37 38.7	+2.4
PRYS				*e*S		Sn	18 38 57.0	-2.6
PRYS				AML		AML	18 39 48.9	
	comp=Z,15nm,0.5s							
KSD	**Kokstad**	**7.55**	**87**	*e*P		Pn	18 37 40.4	+0.6
KSD				*e*S		Sn	18 39 01.9	-4.1
KSD				AML		AML	18 39 51.1	
	comp=Z,63nm,0.4s							
LBTB	**Lobatse**	**7.62**	**36**	*e*P		Pn	18 37 40.3	-0.4
LBTB				*e*S		Sn	18 39 01.0	-6.6
LBTB				AML		AML	18 39 48.5	
	comp=Z,39nm,0.4s							
SLR	**Silverton**	**8.69**	**52**	*e*S		Sn	18 39 26.8	-7.2
SLR				AML		AML	18 40 23.5	
	comp=Z,48nm,0.4s							
WIN	**Windhoek**	**9.26**	**339**	*e*S		Sn	18 39 44.1	-4.0
WIN				AML		AML	18 40 49.3	
	comp=Z,7.2nm,0.7s							
WIN	**Windhoek**	**9.26**	**339**	S		Sn	18 39 44.1	-4.0
POGA	**Pongola**	**10.32**	**70**	*e*S		Sn	18 40 10.4	-3.2
POGA				AML		AML	18 41 24.2	
	comp=Z,16nm,0.6s							
MSNA	**Messina**	**12.21**	**45**	*e*S		Sn	18 40 51.6	-8.6
MSNA				AML		AML	18 42 15.4	
	comp=Z,13nm,0.6s							
TSUM	**Tsumeb**	**12.36**	**346**	*e*S		Sn	18 40 58.1	-5.9

GUC ***16*** *19:00:57.7±0.5, 21°.59S×68°.53W, h137km±4km, ML3.6*
ISCJB ***16*** *19:00:58.1±0.9, 21°.58S±0°.05×68°.5W±0°.2, h138km±13km, mb3.5/1, Error ellipse: s-maj=25.2km s-min=7.6km az=4.1*
IDC ***16*** *19:01:00.8±9.1, 21°.48S×67°.80W, h123km±68km, mb3.5/1, mb1 3.3/2, mb1mx3.1/16, mbtmp3.2/2, Error ellipse: s-maj=125.4km s-min=70.4km az=74.0*

ISC 16 19:00:59.0±1.3, 21°.56S±0°.06×68°.5W±0°.2, h132km±13km, n13, σ0§80/20, 8C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB09	**Plate Boundary**	**0.72**	**251**	↑*i*P		**Pn**	**19 01 19.6**	**-0.3**
PB09				*i*S		**Sn**	**19 01 35.7**	**0.0**
PB09				AML		AML	19 01 38.6	
	comp=E,2μm,0.4s							
PB01	**Plate Boundary**	**1.04**	**299**	↑*i*P		**Pn**	**19 01 22.4**	**-0.2**
PB01				*i*S		**Sn**	**19 01 40.8**	**+0.4**
PB01				AML		AML	19 01 44.5	
	comp=E,778nm,0.2s							
PB04	**Plate Boundary**	**1.14**	**232**	↑*i*P		Pn	19 01 29.2	+5.7
PB04				*i*S		Sn	19 01 53.3	+11
PB04				AML		AML	19 02 01.1	
	comp=N,391nm,0.1s							
PB07	**Plate Boundary**	**1.29**	**262**	↑*i*P		**Pn**	**19 01 24.9**	**-0.2**
PB07				*i*S		**Sn**	**19 01 45.4**	**+0.5**
PB07				AML		AML	19 01 47.0	
	comp=E,960nm,0.2s							
MACH	**Maria Elena**	**1.32**	**241**	↑*i*P		**Pn**	**19 01 25.0**	**-0.5**
MACH				*i*S		**Sn**	**19 01 46.0**	**+0.3**
HMBC	**Humberstone**	**1.81**	**315**	↑*i*P		**Pn**	**19 01 30.9**	**0.0**
HMBC				*i*S		**Sn**	**19 01 56.0**	**+0.7**
HMBC				AML		AML	19 01 57.5	
	comp=E,612nm,0.3s							
CEN1	**Los Morros**	**2.40**	**220**	*e*P		**Pn**	**19 01 40.2**	**+2.1**
CEN1				AML		AML	19 02 20.6	
	comp=N,127nm,0.5s							
PSGC	**Pisagua**	**2.47**	**322**	↑*i*P		**Pn**	**19 01 38.3**	**-0.7**
PSGC				*i*S		**Sn**	**19 02 09.7**	**0.0**
PSGC				AML		AML	19 02 11.2	
	comp=E,181nm,0.7s							
MNMC	**Minimini**	**2.62**	**337**	↑*i*P		**Pn**	**19 01 41.5**	**+0.3**
MNMC				*e*S		**Sn**	**19 02 14.5**	**+1.0**
MNMC				AML		AML	19 02 19.1	
	comp=N,312nm,0.5s							
PB10	**Plate Boundary**	**2.71**	**224**	*e*P		**Pn**	**19 01 41.5**	**-0.5**
PB10				AML		AML	19 02 24.4	
	comp=N,389nm,0.3s							
LPAZ	**La Paz**	**5.26**	**4**	P		**Pn**	**19 02 17.2**	**+1.0**
	comp=N,0.6nm,0.3s,baz=181,slow=6.8,SNR=22							
LPAZ				S		**Sn**	**19 03 16.2**	**0.0**
	comp=N,0.2nm,0.3s,baz=43,slow=9.4,SNR=3.6							
TORD	**Torodi Ar. Bea**	**77.03**	**70**	P		**P**	**19 12 36.9**	**-1.2**
	comp=N,0.8nm,0.6s,baz=259,slow=5.8,SNR=6.7							
MKAR	**Makanchi Array**	**145.47**	**36**	PKPbc		**PKPab**	**19 20 22.6**	**+0.5**
	comp=N,0.2nm,0.4s,baz=313,slow=3.5,SNR=4.5							

ROM 16 19:06:36.5±0.1, 42°.57N×13°.21E, h12km±2km, Md1.6/3, Ml0.9/3, Error ellipse: s-maj=0.8km s-min=0.3km az=176.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LNSS	**Leonessa**	**0.13**	**285**	Pg		Pg	19 06 40.2	+0.3
LNSS				Sg		Sg	19 06 42.9	+0.5
	19nm,0.3s							
NRCA	**Norcia**	**0.27**	**345**	Pg		Pg	19 06 42.6	+0.3
NRCA				Sg		Sg	19 06 47.2	+1.0
	10.0nm,0.1s							

IDC 16 19:16:28.1±9.0, 5°.75S×151°.11E, h77km±63km, mb2.9/2, mb1 3.3/3, mb1mx3.0/17, mbtmp3.1/3, ML2.7/1, Error ellipse: s-maj=139.0km s-min=55.7km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.34**	**227**	P		Pn	19 17 45.6	+0.3
	1.6nm,0.3s,baz=27,slow=8.2,SNR=8.4							
PMG				S		Sn	19 18 46.3	+0.7
	2.9nm,0.3s,baz=242,slow=15,SNR=5.0							
WRA	**Warramunga Arr**	**21.56**	**228**	P		P	19 21 11.2	-0.3
	0.5nm,0.5s,baz=53,slow=9.9,SNR=2.4							
ASAR	**Alice Springs**	**24.32**	**221**	P		P	19 21 38.9	+0.1
	0.5nm,0.5s,baz=54,slow=9.6,SNR=10							
TORD	**Torodi Ar. Bea**	**148.97**	**286**	PKPbc		PKPbc	19 36 07.8	-0.5
	0.2nm,0.4s,baz=90,slow=2.1,SNR=3.8							

IDC ***16*** *19:23:02.4±1.4, 4°.25S×98°.21E, h0km, mb3.7/11, mb1 3.7/11, mb1mx3.6/25, mbtmp3.7/11, MS2.8/1, Ms1 2.8/1, ms1mx2.6/27, Error ellipse: s-maj=44.3km s-min=19.6km az=51.0*
ISCJB ***16*** *19:23:06.1±0.9, 3°.98S±0°.08×99°.03E±0°.06, h33km, mb3.7/11, Error ellipse: s-maj=12.1km s-min=6.6km az=29.4*
DJA ***16*** *19:23:12.4±0.9, 4°S±9°×10°0E±1°, h203km±16km, M4.1/6, mb3.3/1, MLv4.5/6*

ISC 16 19:23:10.4±1.3, 3°.8S±0°.1×99°.2E±0°.1, h35km, n25, σ1§97/22, mb3.8/11, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PDSI	**Padang**	**3.17**	**24**	P		**Pn**	**19 23 58.1**	**+0.3**
PDSI				S		**Sn**	**19 24 36.2**	**+1.8**
PPI	**Padang Panjang**	**3.56**	**20**	P		**Pn**	**19 24 03.4**	**+0.2**
MNAI	**Manna**	**3.81**	**98**	P		**Pn**	**19 24 05.7**	**-0.9**
MNAI				S		**Sn**	**19 24 51.0**	**+0.7**
LHSI	**Lahat**	**4.34**	**90**	P		**Pn**	**19 24 13.8**	**-0.1**
LHSI				S		**Sn**	**19 25 04.4**	**+1.1**
LWLI	**Liwa**	**5.01**	**104**	P		**Pn**	**19 24 23.7**	**+0.4**
LWLI				S		**Sn**	**19 25 16.3**	**-3.8**
MDSI	**Maura Dua**	**5.04**	**98**	P		**Pn**	**19 24 22.4**	**-1.1**
MDSI				S		**Sn**	**19 25 17.9**	**-2.6**
PSI	**Prapat**	**6.59**	**358**	LR		LR	19 27 19.1	
	comp=Z,78nm,20.3s,baz=205,slow=37							
KCSI	**Kotacane, Aceh**	**7.43**	**349**	P		**Pn**	**19 24 56.7**	**+0.2**
KCSI				S		**Sn**	**19 26 15.9**	**-3.7**
CMAR	**Chiang Mai Arr**	**22.14**	**359**	P		**P**	**19 28 03.9**	**+0.6**
	0.7nm,0.8s,baz=186,slow=7.8,SNR=10.0							
H08S2	**Diego Garcia H**	**26.81**	**261**	T		T	19 56 20.0	
	baz=85,SNR=12							
H08S3	**Diego Garcia H**	**26.82**	**261**	T		T	19 56 18.8	
	baz=85,slow=0.7,SNR=12							
H08S1	**Diego Garcia H**	**26.83**	**261**	T		T	19 56 24.1	
	baz=85,slow=0.7,SNR=7.9							
H01W3	**Cape Leeuwin H**	**33.88**	**158**	T		T	20 05 16.1	
	baz=333,slow=0.7,SNR=15							
H01W2	**Cape Leeuwin H**	**33.89**	**158**	T		T	20 05 21.6	
	baz=333,slow=0.7,SNR=14							
H01W1	**Cape Leeuwin H**	**33.89**	**158**	T		T	20 05 15.7	
	baz=333,slow=0.7,SNR=12							
WRA	**Warramunga Arr**	**37.83**	**118**	P		**P**	**19 30 26.1**	**+2.1**
	0.8nm,0.8s,baz=291,slow=8.6,SNR=3.7							
ASAR	**Alice Springs**	**38.89**	**124**	P		**P**	**19 30 34.8**	**+1.8**
	0.3nm,0.8s,baz=303,slow=7.9,SNR=4.9							
KSRS	**Korea Array**	**49.00**	**30**	P		P	19 31 59.1	+5.3
	0.7nm,0.5s,baz=229,slow=7.9,SNR=3.5							
SONM	**Songino Array**	**51.83**	**6**	P		**P**	**19 32 15.7**	**+0.6**
	0.2nm,0.5s,baz=191,slow=7.0,SNR=3.5							
MKAR	**Makanchi Array**	**52.57**	**345**	P		**P**	**19 32 18.9**	**-1.6**
	0.9nm,0.8s,baz=153,slow=8.3,SNR=5.7							
USRK	**Ussuriysk Arra**	**56.15**	**28**	P		**P**	**19 32 49.2**	**+2.6**
	0.4nm,0.3s,baz=217,slow=5.3,SNR=4.3							
KURBB	**Kurchatov Arra**	**57.07**	**344**	P		**P**	**19 32 50.7**	**-2.3**
	0.2nm,0.5s,baz=163,slow=3.6,SNR=3.3							
ZALV	**Zalesovo Beam**	**58.81**	**350**	P		**P**	**19 33 03.6**	**-1.4**
	1.6nm,0.6s,baz=178,slow=5.8,SNR=11							
BVAR	**Borovoye Array**	**61.61**	**341**	P		**P**	**19 33 21.7**	**-2.6**
	0.7nm,0.5s,baz=133,slow=10,SNR=4.2							
BRTR	**Keskin Array B**	**73.95**	**313**	P		P	19 34 38.5	-4.1
	1.0nm,0.7s,baz=122,slow=5.2,SNR=6.7							

IDC ***16*** *19:29:10.8±0.5, 35°.02N×91°.94E, h0km, mb4.3/19, mb1 4.4/25, mb1mx4.3/33, mbtmp4.3/25, ML4.1/5, MS4.2/24, Ms1 4.2/24, ms1mx4.2/32, Error ellipse: s-maj=18.2km s-min=11.3km az=39.0*
NEIC ***16*** *19:29:13.0±0.3, 35°.18N×92°.14E, h10km, mb5.1/24, Error ellipse: s-maj=10.3km s-min=6.6km az=45.0*
ISCJB ***16*** *19:29:12.1±1.0, 35°.19N±0°.02×92°.19E±0°.03, h12km±6km, mb4.6/56, MS4.4/35, Error ellipse: s-maj=4.0km s-min=3.4km az=36.9*
BJI ***16*** *19:29:12.0, 35°.24N×92°.19E, h9km, mB4.9/27, mb4.6/39, ML4.5/5, Ms4.9/56, Ms7 4.6/51*
MOS ***16*** *19:29:14.8±1.7, 35°.13N×92°.13E, h33km, mb4.8/29, MS4.3/23, Error ellipse: s-maj=8.9km s-min=4.8km az=118.9*
GCMT ***16*** *19:29:15.0±0.2, 35°.17N×92°.34E, h21km±1km, MW4.9, Moment Tensor Solution. s26,c31; s76,c117; Moment tensor: Scale 10^16 Nm; Mrr0.23±.14; Mθθ-3.24±.11; Mφφ3.01±.11; Mrθ0.40±.20; Mrφ-0.61±.09; Mθφ0.45±.21; Best double couple: M0 3.20000×10^16 NP1:φs40.00000°, δ89.00000°, λ11.00000°. NP2:φs309.00000°, δ79.00000°, λ179.00000°. Principal axes: T 3.1300, Plg8.0000°, Azm265.0000°; N 0.2300, Plg79.0000°, Azm43.0000°; P -3.3500, Plg7.0000°, Azm174.0000°; Data Used: II IU CN IC G.*
DJA ***16*** *19:29:18.3±0.6, 35°N±12°×9°2E±1°1, h10km, M4.9/8, mB5.4/3, mb5.0/8, Mw(mB)4.8/3*
BKK ***16*** *19:29:18.8±0.6, 35°N±11°×9°2E±1°0, h10km, M4.9/13, mB5.4/6, mb4.8/13, Mw(mB)4.9/6*

ISC 16 19:29:13.5±0.6, 35°.12N±0°.04×92°.12E±0°.03, h13km±3km, n247, σ1§71/238, mb4.7/56, MS4.5/36, 7C-7D, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LSA	**Lhasa**	**5.47**	**189**	Pn		Pn	19 30 40.3	+5.2
LSA				LR		LR		
	comp=N,4μm,9.0s							
LSA				LR		LR		
	comp=E,8μm,6.3s							
LSA				LR		LR		
	comp=Z,9μm,8.4s							
LSA	**Lhasa**	**5.47**	**189**	*e*P		Pn	19 30 39.7	+4.6
LSA				pmax		pmax		
	comp=Z,275nm,1.2s							
LSA	**Lhasa**	**5.47**	**189**	*e*Pn		Pn	19 30 39.6	+4.6
	comp=Z,275nm,1.2s							
GTA	**Gaotai**	**7.48**	**53**	Pn		**Pn**	**19 31 01.8**	**-0.6**
GTA				Sn		**Sn**	**19 32 28.6**	**+1.5**
GTA				LR		LR		
	comp=Z,10μm,14.5s							
GTA				LR		LR		
	comp=Z,5μm,12.6s							
GTA				LR		LR		
	comp=Z,4μm,12.4s							
TAPN	**Taplejung**	**8.62**	**207**	*e*P		Pn	19 31 21.9	+3.7
	comp=Z,67nm,1.0s							
GUN	**Gumba**	**8.94**	**218**	*e*P		Pn	19 31 28.8	+6.1
	comp=Z,43nm,1.0s							
JIRN	**Jiri**	**9.00**	**216**	*e*P		Pn	19 31 29.2	+5.7
	comp=Z,30nm,0.7s							
ODAN	**Odare**	**9.18**	**207**	*e*P		**Pn**	**19 31 28.7**	**+2.9**
	comp=Z,67nm,0.9s							
WMQ	**Urumqi**	**9.33**	**340**	P		**Pn**	**19 31 28.8**	**+1.1**
WMQ				pP			19 31 32.0	
WMQ				sP			19 31 34.8	
WMQ				S		**Sn**	**19 33 14.5**	**+1.9**
WMQ				PcP		**PcP**	**19 37 49.3**	**+2.2**
WMQ				ScS		**ScS**	**19 44 51.3**	**-1.8**
WMQ				AMB		AMB		
	comp=Z,62nm,0.6s							
WMQ				AMB		AMB		
	comp=Z,160nm,3.8s							
WMQ				LR		LR		
	comp=Z,4μm,11.4s							
WMQ				LR		LR		
	comp=Z,5μm,8.2s							
WMQ				LR		LR		
	comp=Z,2μm,16.0s							
KKN	**Kakani**	**9.35**	**220**	*e*P		Pn	19 31 32.7	+4.5
	comp=Z,27nm,0.8s							
RAMN	**Ramite**	**9.42**	**212**	*e*P		**Pn**	**19 31 31.8**	**+2.7**
	comp=Z,202nm,0.9s							
PKI	**Pulchoki**	**9.46**	**219**	*e*P		Pn	19 31 34.4	+4.6
	comp=Z,26nm,0.7s							
PKIN	**Phulchoki**	**9.46**	**219**	*e*P		Pn	19 31 34.5	+4.7
	comp=Z,23nm,0.8s							
SHL	**Shillong**	**9.53**	**181**	*e*P		**Pn**	**19 31 29.7**	**-0.9**
GKN	**Gorkha**	**9.54**	**224**	*e*P		Pn	19 31 35.1	+4.4
	comp=Z,29nm,0.9s							
DMN	**Daman**	**9.59**	**221**	*e*P		Pn	19 31 35.6	+4.1
	comp=Z,82nm,1.4s							
LZH	**Lanzhou**	**9.60**	**81**	*e*P		**Pn**	**19 31 30.3**	**-1.2**
LZH				pP			19 31 32.8	
LZH				*e*S		**Sn**	**19 33 17.3**	**-2.0**
LZH				AMB		AMB		
	comp=Z,22nm,1.0s							
LZH				AMB		AMB		
	comp=Z,170nm,5.1s							
LZH				LR		LR		
	comp=Z,4μm,8.4s							
LZH				LR		LR		
	comp=Z,3μm,8.4s							
LZH				LR		LR		
	comp=Z,4μm,11.4s							
DANN	**Dangsing**	**9.81**	**229**	*e*P		Pn	19 31 39.1	+4.6
	comp=Z,65nm,1.3s							
KOLN	**Koldanda**	**10.32**	**227**	*e*P		**Pn**	**19 31 44.0**	**+2.5**
	comp=Z,17nm,0.8s							
CD2	**Chengdu**	**10.63**	**110**	P		**Pn**	**19 31 47.3**	**+1.7**
CD2				pP			19 31 50.5	
CD2				sP			19 31 53.4	
CD2				PP		**PnPn**	**19 31 55.6**	**+2.4**
CD2				S		**Sn**	**19 33 46.0**	**+1.4**
CD2				sS			19 33 51.5	
CD2				SS		**SnSn**	**19 34 00.0**	**+3.8**
CD2				AMB		AMB		
	comp=Z,90nm,1.0s							
CD2				AMB		AMB		
	comp=Z,120nm,3.5s							
CD2				LR		LR		
	comp=Z,12μm,6.5s							
CD2				LR		LR		
	comp=Z,6μm,8.9s							
BOK	**Bokaro**	**12.52**	**207**	*e*P		**Pn**	**19 32 10.9**	**-0.5**
DDI	**

KSH AMB AMB
comp=Z,6.0nm,0.9s
KSH LR LR
comp=Z,120nm,2.7s
KSH LR LR
comp=Z,2μm,7.4s
KSH LR LR
comp=Z,950nm,7.7s
KSH LR LR
comp=Z,480nm,6.6s
MK31 Makanchi Array 13.81 331 *e*P **Pn 19 32 27.1 -1.8**
MK31 Makanchi Array 13.81 331 *e*Pn **Pn 19 32 27.1 -1.8**
MKAR Makanchi Array 13.81 331 P **Pn 19 32 26.7 -2.2**
MKAR pmax pmax
comp=Z,3.0nm,0.3s
MKAR Makanchi Array 13.81 331 Pn **Pn 19 32 26.7 -2.2**
MKAR Makanchi Array 13.81 331 Pn **Pn 19 32 26.7 -2.2**
comp=Z,2.5nm,0.3s,baz=143,slow=13,SNR=132
MKAR LR LR 19 37 57.4
comp=Z,538nm,18.3s,baz=147,slow=38
XAN Xi'an 13.89 90 P Pn 19 32 26.1 -4.0
XAN pP pP 19 32 30.1
XAN LR LR
comp=Z,860nm,9.5s
XAN LR LR
comp=Z,1μm,12.9s
XAN LR LR
comp=Z,950nm,12.9s
AAA Alma-Ata 14.29 309 *e*P **Pn 19 32 37.5 +2.0**
AAA pmax pmax
comp=Z,400nm,4.0s
AAA MLR MLR
comp=Z,2μm,13.0s
KZA Kyzart 14.89 303 *i* P **Pn 19 32 45.1 +1.0**
KZA Kyzart 14.89 303 P **Pn 19 32 45.1 +1.0**
SNR=8.7
TKM2 Tokmak 2 15.00 306 *e*P **Pn 19 32 45.5 +0.1**
TKM2 pmax pmax
comp=Z,23nm,0.8s
TKM2 Tokmak 2 15.00 306 P **Pn 19 32 46.4 +1.0**
SNR=6.6
TKM2 Tokmak 2 15.00 306 *e*Pn **Pn 19 32 45.5 +0.1**
comp=Z,23nm,0.8s
GYA Guiyang 15.18 121 P **Pn 19 32 45.5 -2.2**
GYA PP **pP 19 32 57.3 +0.7**
GYA S **Sn 19 35 38.1 +2.3**
GYA AMB AMB
comp=Z,20nm,1.0s
GYA AMB AMB
comp=Z,110nm,4.2s
GYA LR LR
comp=Z,3μm,9.8s
GYA LR LR
comp=Z,2μm,9.2s
GYA LR LR
comp=Z,4μm,12.1s
ENH Enshi 15.40 103 *e*Pn **Pn 19 32 47.5 -3.0**
comp=Z,31nm,1.0s
CHMS Chumysh 15.60 305 *i* P **P 19 32 56.4 -0.8**
CHMS Chumysh 15.60 305 P **P 19 32 56.5 -0.8**
SNR=9.0
FRU Bishkek 15.62 305 *e*P **P 19 33 01.0 +3.5**
FRU pmax pmax
comp=Z,76nm,1.8s
AAK Ala-Archa 15.62 304 *i* P **Pn 19 32 55.2 +1.7**
AAK pmax pmax
comp=Z,46nm,1.3s
AAK Ala-Archa 15.62 304 P **Pn 19 32 55.3 +1.7**
SNR=8.8
AAK Ala-Archa 15.62 304 Pn **Pn 19 32 51.0 -2.5**
AAK Ala-Archa 15.62 304 Pn **P 19 32 55.9 -1.8**
comp=Z,165nm,1.0s,SNR=8.9
AAK Ala-Archa 15.62 304 Pn **Pn 19 32 51.0 -2.5**
comp=Z,0.1nm,0.3s,baz=106,slow=14,SNR=11
AAK LR LR 19 39 41.4
comp=Z,988nm,20.6s,baz=103,slow=40
CHCP Chirah Chowk 15.64 270 P **Pn 19 32 52.6 -1.0**
AML Almayashu 15.99 301 *i* P **P 19 33 05.4 +3.4**
AML Almayashu 15.99 301 P **P 19 33 05.5 +3.4**
SNR=9.4
HVS Khovu-Aksy 16.05 4*c i*P **Pn 19 32 57.2 -1.6**
HVS pmax pmax
comp=Z,270nm,2.0s
EKS2 Erkin-Say 16.12 303 *e*P **Pn 19 33 01.1 +1.2**
EKS2 pmax pmax
comp=Z,50nm,1.1s
EKS2 Erkin-Say 16.12 303 P **P 19 33 07.4 +4.2**
SNR=8.8
EKS2 Erkin-Say 16.12 303 *e*P **Pn 19 33 01.1 +1.2**
comp=Z,50nm,1.1s
CMAI Chiengmai2 16.32 156 P **Pn 19 33 03.8 +1.2**
comp=Z,63nm,1.2s,comp=Z,14μm
HHC Hu-ho-hao-te 16.35 64 *e*P Pn 19 32 58.0 -4.8
HHC pP pP 19 33 11.6 +2.1
HHC PP **PnPn 19 33 13.6 +1.9**
HHC sS **S 19 36 14.0 -2.6**
HHC SS **SnSn 19 36 17.1 +0.1**
HHC AMB AMB
comp=Z,34nm,1.0s
HHC AMB AMB
comp=Z,160nm,5.8s
HHC LR LR
comp=Z,3μm,8.6s
HHC LR LR
comp=Z,3μm,8.3s
HHC LR LR
comp=Z,3μm,11.0s
CRAI Chiangrai 16.53 152 P **Pn 19 33 04.9 -0.2**
comp=Z,101nm,1.6s
SONM Songino Array 16.57 36 Pn **Pn 19 33 06.4 +0.9**
SONM Lg Lg 19 37 57.0
SONM Songino Array 16.57 36 Pn **Pn 19 33 06.4 +0.9**
comp=Z,0.6nm,0.3s,baz=225,slow=10,SNR=31
SONM Lg Lg 19 37 57.0
comp=Z,0.0nm,0.3s,baz=243,slow=26,SNR=5.4
SONM LR LR 19 39 48.3
comp=Z,599nm,18.5s,baz=223,slow=38
THW Thamme Wali 17.06 268 P **Pn 19 33 09.8 -2.0**
ZAK Zakamensk 17.28 25 *e*P **Pn 19 33 15.3 +0.8**
ZAK pmax pmax
comp=Z,21nm,1.2s
CHTO Chiang Mai 17.34 158 *e*P **Pn 19 33 15.7 +0.5**
CHTO pmax pmax
comp=Z,62nm,1.3s
CHTO Chiang Mai 17.34 158 P **P 19 33 17.4 +0.8**
comp=Z,66nm,0.9s
CHTO Chiang Mai 17.34 158 *e*P **Pn 19 33 15.7 +0.5**
comp=Z,62nm,1.3s
CHTO Chiang Mai 17.34 158 P **P 19 33 17.4 +0.8**
comp=Z,66nm,0.9s
BHPL Bhopal 17.43 231 *e*P **Pn 19 33 16.1 -0.4**
CM31 Chiang Mai Arr 17.67 158 *e*P **Pn 19 33 19.7 +0.2**
comp=Z,11nm,1.0s
CMAR Chiang Mai Arr 17.67 158 P **Pn 19 33 17.1 -2.3**
CMAR Chiang Mai Arr 17.67 158 P **Pn 19 33 17.1 -2.3**
comp=Z,0.2nm,0.3s,baz=337,slow=11,SNR=18
CMAR LR LR 19 40 53.5
comp=Z,705nm,21.6s,baz=151,slow=40
MOY Mondy 17.73 18 *e*P **P 19 33 23.7 +2.9**
NGP Nagpur 18.05 223 *ex* **Pn 19 33 20.5 -3.5**
NGP *ex* x 19 33 37.8
comp=Z,40nm,1.2s
NGP *ex* x 19 36 54.0
KURBB Kurchatov Arra 18.37 332 P **P 19 33 26.9 -0.8**
comp=Z,0.6nm,0.3s,baz=141,slow=11,SNR=51
KURK Kurchatov 18.41 332⇑ *i*P **P 19 33 28.1 -0.1**
KURK pmax pmax
comp=Z,45nm,2.1s
KURK Kurchatov 18.41 332⇓ *e*P **P 19 33 26.9 -1.2**
comp=Z,13nm,0.9s
KURK Kurchatov 18.41 332 Pn **P 19 33 27.2 -1.0**
comp=Z,172nm,0.8s,SNR=7.7
TLY Talaya 18.51 23*c i*P Pn 19 33 40.0 +10
TLY pmax pmax
comp=Z,26nm,1.3s
TLY MLR MLR
comp=Z,1μm,13.0s
KKAR Karatay Array 18.53 302 *e*P **Pn 19 33 30.9 +1.1**
KKAR pmax pmax
comp=Z,4.0nm,0.4s
KKAR Karatay Array 18.53 302 *e*P **Pn 19 33 30.9 +1.1**
comp=Z,3.5nm,0.4s
KBL Kabul 18.95 275 *e*P **P 19 33 34.8 +0.3**
KBL pmax pmax
comp=Z,119nm,1.0s
KBL Kabul 18.95 275 *e*P **P 19 33 34.8 +0.3**
comp=Z,119nm,1.0s

VIS Vishakhapatnam 19.02 207 *e*P **Pn 19 33 35.9 +0.1**
IRK Irkutsk 19.19 23 *e*P **Pn 19 33 38.1 +0.3**
IRK pmax pmax
comp=Z,55nm,2.1s
WHN Wuhan 19.22 97 P **Pn 19 33 37.8 -0.5**
WHN S **Sn 19 37 07.4 -6.1**
WHN LR LR
comp=Z,5μm,9.5s
WHN LR LR
comp=Z,3μm,11.6s
WHN LR LR
comp=Z,7μm,18.9s
ZAA0 Zalesovo Array 19.51 347 *e*P **P 19 33 40.8 +0.6**
ZALV Zalesovo Beam 19.51 347 P **Pn 19 33 41.4 -0.1**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV MLR MLR
comp=Z,542nm,18.7s
ZALV Zalesovo Beam 19.51 347 P **Pn 19 33 41.4 -0.1**
ZALV Zalesovo Beam 19.51 347 P **Pn 19 33 41.4 -0.1**
comp=Z,0.7nm,0.3s,baz=163,slow=11,SNR=40
ZALV LR LR 19 41 29.2
comp=Z,542nm,18.7s,baz=70,slow=38
AKL Akola 19.57 227 *e*P **P 19 33 40.5 -0.7**
NONG Nongkai 19.62 147 P Pn 19 33 48.7 +5.6
comp=Z,57nm,0.8s,comp=Z,9μm
BJT Baijiatuan 19.66 68 P **P 19 33 39.4 -2.6**
BJI Beijing 19.67 68 P **Pn 19 33 43.6 +0.1**
BJI AMB AMB
comp=Z,13nm,0.7s
BJI AMB AMB
comp=Z,300nm,3.9s
BJI LR LR
comp=Z,1μm,12.1s
BJI LR LR
comp=Z,1μm,13.6s
BJI LR LR
comp=Z,910nm,23.3s
PBKT Sadao Pong 20.10 155 P Pn 19 33 50.0 +1.2
comp=Z,24nm,0.9s,comp=Z,2μm
PBKT Sadao Pong 20.10 155 P Pn 19 33 50.0 +1.2
comp=Z,24nm,0.9s,comp=Z,2μm
TIA Tai'an 20.34 80 *e*P **P 19 33 48.9 -0.5**
TIA S Sn 19 37 40.5 +0.1
TIA LR LR
comp=Z,1μm,9.5s
TIA LR LR
comp=Z,1μm,11.0s
TIA LR LR
comp=Z,2μm,11.6s
NVS Novosibirsk 20.66 345 *e*P **P 19 33 51.2 -1.6**
NVS *e* 19 34 20.9
NVS *e*S **S 19 37 40.2 -2.9**
NVS pmax pmax
comp=N,85nm,1.8s
NVS pmax pmax
comp=Z,105nm,1.8s
NVS pmax pmax
comp=E,28nm,0.9s
NVS smax smax
comp=N,17nm,2.2s
NVS smax smax
comp=E,9.0nm,1.5s
HYB Hyderabad 21.38 218 *i* P **P 19 34 04.0 +3.1**
HYB *e*S **S 19 37 56.0 -2.0**
LATR Latur 21.63 224 *ex* P 19 33 54.4 -9.0
DGPR DIGLIPUR 21.86 178 *e*P **P 19 34 05.4 -0.6**
DGPR AMB AMB 19 34 08.6
comp=Z,30nm,0.5s
QIZ Qiongzhong 22.44 131 P **P 19 34 11.4 -0.8**
QIZ S **S 19 38 18.9 +0.6**
QIZ AMB AMB
comp=Z,30nm,2.3s
QIZ LR LR
comp=Z,4μm,16.2s
QIZ LR LR
comp=Z,2μm,16.9s
QIZ LR LR
comp=Z,2μm,12.7s
NJ2 Nanjing 22.46 90 *e*P **P 19 34 12.0 -0.3**
NJ2 pP **pP 19 34 19.5 +3.4**
NJ2 sP sP 19 34 24.0 +6.1
NJ2 S **S 19 38 16.0 -2.5**
NJ2 sS **sS 19 38 22.3 -2.6**
NJ2 AMB AMB
comp=Z,90nm,1.4s
NJ2 AMB AMB
comp=Z,110nm,5.2s
NJ2 LR LR
comp=Z,740nm,12.6s
NJ2 LR LR
comp=Z,1μm,15.8s
NJ2 LR LR
comp=Z,5μm,12.1s
CIT Chita 22.81 36 *e*P **P 19 34 17.0 +1.1**
CIT *e* 19 34 24.8
CIT *e* 19 34 32.8
CIT *e* 19 34 45.4
CIT pmax pmax
comp=Z,43nm,1.4s
BHJ Bhuj 22.84 245 *e*P **P 19 34 16.9 +0.5**
UBPT Khong Chiam 23.11 145 P P 19 34 26.4 +7.2
comp=Z,48nm,1.5s
UBPT Khong Chiam 23.11 145 P P 19 34 26.4 +7.2
comp=Z,48nm,1.5s
POO Poona 23.15 229⇓ *i*P **P 19 34 19.0 -0.7**
comp=Z,130nm,1.0s
POO *e*P **pP 19 34 20.1 -3.5**
BVAR Borovoye Array 23.59 326 P **P 19 34 22.5 -1.3**
BVAR pmax pmax
comp=Z,8.0nm,0.8s
BVAR MLR MLR
comp=Z,971nm,18.9s
BVAR Borovoye Array 23.59 326 P **P 19 34 22.5 -1.3**
BVAR Borovoye Array 23.59 326 P **P 19 34 22.5 -1.3**
comp=Z,3.0nm,0.8s,baz=124,slow=13,SNR=40
BVAR LR LR 19 44 03.5
comp=Z,970nm,18.9s,baz=129,slow=38
BRVK Borovoye 23.66 326⇓ *i*P **P 19 34 26.2 +1.7**
BRVK pmax pmax
comp=Z,81nm,1.5s
BRVK Borovoye 23.66 326 *e*P **P 19 34 26.1 +1.6**
comp=Z,141nm,1.5s
BRVK Borovoye 23.66 326 P **P 19 34 26.7 +2.2**
comp=Z,270nm,1.0s,SNR=28
DL2 Dalian 23.82 72 *e*P P 19 34 31.6 +5.5
DL2 S Sn 19 38 53.1 -11
DL2 AMB AMB
comp=Z,54nm,1.4s
DL2 AMB AMB
comp=Z,340nm,3.0s
DL2 LR LR
comp=N,1μm,3.3s
DL2 LR LR
comp=Z,780nm,13.7s
CHBT CHBT 24.11 155 P P 19 34 34.8 +5.8
comp=Z,21nm,1.3s
CHBT CHBT 24.11 155 P P 19 34 34.8 +5.8
comp=Z,21nm,1.3s
MDRS Chennai 24.44 209 *e*P **P 19 34 31.9 -0.1**
MDRS AMB AMB 19 34 37.2
comp=Z,30nm,0.8s
QZH Quanzhou 25.00 107⇓ *i*P **P 19 34 38.3 +1.3**
QZH S **S 19 39 01.1 +0.5**
QZH LR LR
comp=Z,2μm,8.3s
SNY Shenyang 25.43 65 ⇓P **P 19 34 43.0 +2.2**
SNY AMB AMB
comp=Z,27nm,1.7s
SNY LR LR
comp=Z,600nm,13.7s
SNY LR LR
comp=Z,800nm,10.4s
SNY LR LR
comp=Z,1μm,11.9s
ISRO Mashad 26.47 282 *e*P **P 19 34 52.4 +2.0**
SURT Suratani 26.75 165 P P 19 35 06.6 +14
IKRD Kardeh 27.18 283 *e*P P 19 34 52.2 -4.8
KSAR Wonju Array Be 28.82 75 P **P 19 35 11.2 -0.2**
KSRS Korea Array 28.85 75 P **P 19 35 11.2 -0.4**
comp=Z,5.3nm,1.1s,baz=279,slow=7.9,SNR=7.9
KSRS LR LR 19 46 47.1
comp=Z,220nm,19.0s,baz=111,slow=36
AKTO Aktyubinsk 29.03 312 P **P 19 35 10.5 -2.5**
AKTO pmax pmax
comp=Z,4.0nm,0.9s
AKTO MLR MLR
comp=Z,939nm,18.5s
AKTO Aktyubinsk 29.03 312 P **P 19 35 10.5 -2.5**
AKTO Aktyubinsk 29.03 312 P **P 19 35 10.5 -2.5**
comp=Z,3.6nm,0.8s,baz=112,slow=7.9,SNR=8.7
AKTO LR LR 19 48 18.5
comp=Z,939nm,18.5s,baz=296,slow=40
TRD Trivandrum 29.91 211⇓ *e*P **P 19 35 22.4 +1.3**
MDJ Mudanjiang 30.06 60 P **P 19 35 20.0 -2.2**
MDJ PcP **PcP 19 38 22.6 -1.3**
MDJ S **S 19 40 17.6 -2.5**
MDJ ScP **ScP 19 42 05.6 -0.1**
MDJ AMB AMB
comp=Z,3.0nm,0.7s
MDJ AMB AMB
comp=Z,46nm,3.5s
MDJ LR LR
comp=Z,500nm,10.3s
MDJ LR LR
comp=Z,720nm,16.7s
MDJ LR LR
comp=Z,930nm,17.2s
SVE Sverdlovsk 30.37 325⇑ *e*P **P 19 35 27.6 +2.7**
SVE *e*S **S 19 40 23.9 -0.9**
SVE pmax pmax
comp=Z,15nm,1.3s
SVE MLR MLR
comp=Z,983nm,16.0s
ARU Arti 31.16 324*d i*P **P 19 35 33.9 +2.1**
ARU 19 36 35.3
ARU S **S 19 40 41.3 +4.2**
ARU pmax pmax
comp=Z,16nm,1.7s
ARU MLR MLR
comp=Z,465nm,14.0s
USRK Ussuriysk Arra 31.74 61 LR LR 19 49 23.7
comp=Z,896nm,19.0s,baz=262,slow=38
JNU Nakatsue 32.02 82 P **P 19 35 42.1 +2.4**
JNU Nakatsue 32.02 82 P **P 19 35 42.1 +2.4**
comp=Z,9.7nm,0.8s,baz=243,slow=14,SNR=4.5
YAK Yakutsk 35.76 29 *e*P **P 19 36 13.5 +1.7**
YAK pmax pmax
comp=Z,10.0nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.4s
YAK MLR MLR
comp=Z,426nm,14.0s
YAK MLR MLR
comp=N,250nm,16.0s
YAK MLR MLR
comp=E,260nm,12.0s
DGRG David-gareji 36.87 294 P P 19 36 27.2 +5.6
MAJO Matsushiro 37.12 74 P **P 19 36 22.1 -1.7**
MAJO pmax pmax
comp=Z,5.0nm,0.9s
MAJO Matsushiro 37.12 74 P **P 19 36 22.1 -1.7**
comp=Z,5.4nm,0.9s
ZEI Tsey 37.84 297 *e*P P 19 36 36.4 +6.4
ZEI pmax pmax
comp=Z,2.0nm,0.7s
ONI Oni 38.19 296 P **P 19 36 32.8 0.0**
KBZ Khabaz 38.50 298 P **P 19 36 35.5 +0.2**
KBZ pmax pmax
comp=Z,1.0nm,0.9s
KBZ MLR MLR
comp=Z,299nm,19.3s
KBZ Khabaz 38.50 298 P **P 19 36 35.5 +0.2**
KBZ Khabaz 38.50 298 P **P 19 36 35.5 +0.2**
comp=Z,1.4nm,0.9s,baz=321,slow=6.5,SNR=2.9
KBZ LR LR 19 54 57.0
comp=Z,299nm,19.3s,baz=265,slow=40
KIV Kislovodsk 38.63 299⇑ *e*P P 19 36 40.6 +4.1
KIV *e*S **S 19 42 33.3 +0.7**
KIV pmax pmax
comp=Z,7.0nm,1.7s
KIV MLR MLR
comp=Z,200nm,16.0s
VSR Storozhevoye 40.90 310 *e*P **P 19 36 55.7 +0.6**
VSR pmax pmax
comp=N,7.0nm,1.3s
VSR pmax pmax
comp=E,10.0nm,1.3s
VSR pmax pmax
comp=Z,10.0nm,1.3s
YUK Yuzh-Kuril'sk 41.72 61*c i*P P 19 37 07.1 +5.1
YUK *i* 19 38 41.2
YUK *i* 19 38 59.5
YUK *i* PPP PPP 19 39 06.0
YUK *i* SS SS 19 46 24.7 +0.7
YUK *i* SSS SSS 19 46 52.3
YUK MLR MLR
comp=Z,408nm,21.0s
YUK MLR MLR
comp=E,734nm,21.0s
YUK MLR MLR
comp=N,828nm,21.0s
KLMR Klimovskoe 42.00 324 *e*P **P 19 37 04.4 +0.4**
KLMR pmax pmax
comp=Z,32nm,1.1s
KLMR MLR MLR
comp=Z,921nm,17.0s
OBN Obninsk 42.67 316⇑ *e*P **P 19 37 11.8 +2.2**
OBN *e*S **S 19 43 29.1 -3.2**
OBN *e*SS **SS 19 46 42.3 -0.1**
OBN pmax pmax
comp=Z,18nm,1.5s
OBN MLR MLR
comp=Z,500nm,15.0s
BR131 Keskin Array S 45.96 294 *e*P **P 19 37 38.0 +1.7**
comp=Z,2.5nm,0.7s
BRTR Keskin Array B 45.96 294 P **P 19 37 34.9 -1.5**
BRTR Keskin Array B 45.96 294 P **P 19 37 34.9 -1.5**
comp=Z,1.0nm,0.7s,baz=107,slow=5.5,SNR=3.6
BRTR LR LR 20 00 13.2
comp=Z,130nm,19.7s,baz=234,slow=41
AKASG Malin Array Be 47.19 310 P **P 19 37 43.5 -2.2**
AKASG MLR MLR
comp=Z,377nm,18.1s
AKASG Malin Array Be 47.19 310 P **P 19 37 43.5 -2.2**
AKASG Malin Array Be 47.19 310 P **P 19 37 43.5 -2.2**
comp=Z,0.1nm,0.2s,baz=74,slow=6.4,SNR=3.1
AKASG LR LR 20 01 28.4
comp=Z,377nm,18.1s,baz=55,slow=41
FINES FINESS Array B 48.53 324 P **P 19 37 53.8 -2.1**
FINES FINESS Array B 48.53 324 P **P 19 37 53.8 -2.1**
comp=Z,2.5nm,0.8s,baz=123,slow=10,SNR=4.9
FINES LR LR 19 59 13.4
comp=Z,405nm,18.5s,baz=268,slow=37
PETK Petropavlovsk- 48.60 47 LR LR 20 00 11.2
comp=Z,319nm,18.3s,baz=96,slow=38
ARCES ARCESS Array B 49.41 335 PcP **PcP 19 39 25.9 +1.2**
ARCES ARCESS Array B 49.41 335 PcP **PcP 19 39 25.9 +1.2**
comp=Z,2.6nm,0.7s,baz=90,slow=4.9,SNR=7.4
ARCES LR LR 20 01 17.1
comp=Z,531nm,19.2s,baz=101,slow=39
UZH Uzhgorod 51.97 308 P **P 19 38 19.0 -3.1**
UZH *e* 19 38 26.8
STHS Stebnicka Huta 52.47 309 *e*P **P 19 38 26.1 +0.2**
STHS Stebnicka Huta 52.47 309 *e*P **P 19 38 26.1 +0.2**
OKC Ostrava-Krasne 54.34 310 *e*P **P 19 38 41.9 +2.4**
OKC Ostrava-Krasne 54.34 310 *e*P **P 19 38 41.9 +2.4**
KRLC Kraliky 55.13 311 *e*P **P 19 38 47.5 +2.1**
KRLC Kraliky 55.13 311 *e*P **P 19 38 47.5 +2.1**
DPC Dobruska-Polom 55.34 311 *e*P **P 19 38 48.1 +1.2**
DPC Dobruska-Polom 55.34 311 *e*P **P 19 38 48.1 +1.2**
DPC AMS AMS 20 03 30.0
NB2 NORSAR Subarra 55.71 324 P **P 19 38 49.9 +0.6**
comp=Z,3.9nm,0.8s,baz=79,slow=7.4
NOA NORSAR Array B 55.71 324 P **P 19 38 48.4 -0.9**
NOA NORSAR Array B 55.71 324 P **P 19 38 48.4 -0.9**
comp=Z,2.0nm,0.7s,baz=79,slow=7.2,SNR=5.6
NOA LR LR 20 03 44.6
comp=Z,190nm,18.4s,baz=80,slow=37
TREC Trest 56.15 310 AMS AMS 20 06 50.0
comp=Z,500nm,16.2s
PRU Pruhonice 56.54 311 *e*P **P 19 38 57.9 +2.5**
PRU MLR MLR
comp=Z,500nm,19.3s
PRU Pruhonice 56.54 311 *e*P **P 19 38 57.9 +2.5**
PRU AMS AMS 20 04 10.0
comp=Z,500nm,19.3s
BRG Berggiesshubel 56.66 312 *e*P **P 19 38 57.4 +1.1**
comp=Z,5.1nm,1.1s
BRG
comp=N,389nm,13.4s

BRG comp=E,572nm,16.1s
BRG comp=Z,484nm,17.5s
BRG Berggiesshubel 56.66 312 *e*P **P 19 38 57.4 +1.1**
comp=Z,5.1nm,1.1s
BRG Berggiesshubel 56.66 312 *e*P **P 19 38 57.4 +1.1**
BRG pmax pmax comp=Z,5.0nm,1.1s
BRG MLR MLR comp=N,389nm,13.4s
BRG MLR MLR comp=E,572nm,16.1s
BRG MLR MLR comp=Z,484nm,17.5s
CLL Collm 57.11 313 *e*P **P 19 39 01.0 +1.6**
CLL Collm 57.11 313 *e*(P) **P 19 39 01.0 +1.6**
CLL L L 20 07 00.0 comp=Z,200nm,20.5s
KHC Kasperske Hory 57.40 310 *e*P P 19 39 06.6 +5.1
KHC MLR MLR comp=Z,500nm,13.9s
KHC Kasperske Hory 57.40 310 *e*pP **P 19 39 06.6 +5.1**
KHC AMS AMS 20 07 20.0 comp=Z,500nm,13.9s
GERES GERESS Array B 57.40 310 P **P 19 39 00.1 -1.6**
GERES GERESS Array B 57.40 310 P **P 19 39 00.1 -1.6**
comp=Z,0.9nm,0.8s,baz=35,slow=3.3,SNR=6.3
GERES LR LR 20 08 20.7 comp=Z,350nm,18.4s,baz=272,slow=41
CDF Champ du Feu 61.56 311 *e*P **P 19 39 30.2 -0.2**
comp=Z,37nm,1.5s
CDF Champ du Feu 61.56 311 *e*P **P 19 39 30.2 -0.2**
CDF pmax pmax comp=Z,37nm,1.5s
CDF Champ du Feu 61.56 311 *e*P **P 19 39 30.2 -0.2**
comp=Z,37nm,1.5s
KMBO Kilima Mbogo 62.58 247 P **P 19 39 36.6 -1.2**
KMBO Kilima Mbogo 62.58 247 P **P 19 39 36.6 -1.2**
comp=Z,2.0nm,0.8s,baz=36,slow=18,SNR=6.2
LPG La Plagne 63.02 308 *e*P **P 19 39 40.3 -0.1**
comp=Z,17nm,0.9s
LPG La Plagne 63.02 308 *e*P **P 19 39 40.3 -0.1**
LPG pmax pmax comp=Z,17nm,0.9s
LPG La Plagne 63.02 308 *e*P **P 19 39 40.3 -0.1**
comp=Z,17nm,0.9s
LPL La Plagne 63.02 308 *e*P **P 19 39 40.7 +0.3**
comp=Z,30nm,1.3s
LPL La Plagne 63.02 308 *e*P **P 19 39 40.7 +0.3**
LPL pmax pmax comp=Z,30nm,1.3s
LPL La Plagne 63.02 308 *e*P **P 19 39 40.7 +0.3**
comp=Z,30nm,1.3s
SBF Sospel 63.23 306 *e*P **P 19 39 41.5 -0.1**
comp=Z,62nm,1.1s
SBF Sospel 63.23 306 *e*P **P 19 39 41.5 -0.1**
SBF pmax pmax comp=Z,62nm,1.1s
SBF Sospel 63.23 306 *e*P **P 19 39 41.5 -0.1**
comp=Z,62nm,1.1s
MBDF Montbardon 63.31 307 *e*P **P 19 39 41.6 -0.6**
MBDF Montbardon 63.31 307 *e*P **P 19 39 41.6 -0.6**
MBDF Montbardon 63.31 307 *e*P **P 19 39 41.6 -0.6**
ORIF Oris-en-Rattie 63.81 308 *e*P **P 19 39 45.1 -0.4**
comp=Z,22nm,1.1s
ORIF Oris-en-Rattie 63.81 308 *e*P **P 19 39 45.1 -0.4**
ORIF pmax pmax comp=Z,22nm,1.1s
ORIF Oris-en-Rattie 63.81 308 *e*P **P 19 39 45.1 -0.4**
comp=Z,22nm,1.1s
SMF Signal de Mont 64.40 310 *e*P **P 19 39 49.0 -0.2**
comp=Z,30nm,1.3s
SMF Signal de Mont 64.40 310 *e*P **P 19 39 49.0 -0.2**
SMF pmax pmax comp=Z,30nm,1.3s
SMF Signal de Mont 64.40 310 *e*P **P 19 39 49.0 -0.2**
comp=Z,30nm,1.3s
KEST Kesra 65.36 297 LR LR 20 13 10.7 comp=Z,70nm,18.8s,baz=191,slow=40
SUMG Summit 67.32 346 *e*P **P 19 40 08.7 +0.6**
SUMG pmax pmax comp=Z,25nm,1.3s
SUMG Summit 67.32 346 *e*P **P 19 40 08.7 +0.6**
comp=Z,25nm,1.3s
COLD Coldfoot 67.71 22 *e*P **P 19 40 10.8 +0.7**
comp=Z,6.9nm,0.9s
WRAB Tennant Creek 67.86 137 *e*P **P 19 40 13.3 +1.7**
WRAB pmax pmax comp=Z,14nm,1.2s
WRAB Tennant Creek 67.86 137 *e*P **P 19 40 13.3 +1.7**
comp=Z,14nm,1.2s
WRA Warramunga Arr 67.86 137 P **P 19 40 11.4 -0.2**
WRA Warramunga Arr 67.86 137 P **P 19 40 11.4 -0.2**
comp=Z,7.2nm,1.0s,baz=333,slow=6.7,SNR=14
PMG Port Moresby 68.26 119 P P 19 40 18.8 +4.6
PMG Port Moresby 68.26 119 *e*P **P 19 40 12.7 -1.6**
comp=Z,32nm,1.1s
PMG Port Moresby 68.26 119 P **P 19 40 13.9 -0.3**
comp=Z,23nm,1.0s,baz=189,slow=4.3,SNR=5.1
OPO Ambohidratompo 68.33 226 P **P 19 40 13.2 -1.6**
OPO Ambohidratompo 68.33 226 P **P 19 40 13.2 -1.6**
comp=Z,3.9nm,0.9s,baz=45,slow=2.9,SNR=3.3
PPLA Purkeypile 69.74 26 *e*P **P 19 40 22.1 -0.9**
comp=Z,130nm,2.0s
COLA College 69.95 23 *e*P **P 19 40 25.4 +1.3**
COLA pmax pmax comp=Z,47nm,1.1s
COLA College 69.95 23 *e*P **P 19 40 25.4 +1.3**
comp=Z,47nm,1.1s
ILAR Eielson Array 70.33 23 P **P 19 40 26.9 +0.5**
ILAR Eielson Array 70.33 23 P **P 19 40 26.9 +0.5**
comp=Z,4.5nm,0.4s,baz=296,slow=5.3,SNR=25
ILAR LR LR 20 14 39.8 comp=Z,207nm,18.7s,baz=320,slow=39
RES Resolute Bay 70.37 2 P P 19 40 21.7 -4.8
AS31 Alice Springs 70.62 140 *e*P **P 19 40 30.7 +1.9**
ASAR Alice Springs 70.62 140 P **P 19 40 27.6 -1.1**
ASAR Alice Springs 70.62 140 P **P 19 40 27.6 -1.1**
comp=Z,3.3nm,0.8s,baz=329,slow=6.2,SNR=19
EGAK Eagle 72.09 21 *e*P **P 19 40 38.3 +1.2**
comp=Z,11nm,1.3s
ESDC Sonseca Array 72.71 307 P **P 19 40 42.4 +1.1**
ESDC Sonseca Array 72.71 307 P **P 19 40 42.4 +1.1**
comp=Z,0.7nm,0.8s,baz=68,slow=3.5,SNR=2.9
ESDC LR LR 20 17 12.5 comp=Z,79nm,20.0s,baz=335,slow=40
CTAO Charters Tower 75.18 128 P **P 19 40 57.9 +2.1**
CTAO pmax pmax comp=Z,12nm,1.1s
CTAO Charters Tower 75.18 128 P **P 19 40 57.9 +2.1**
comp=Z,12nm,1.1s
STKA Stephens Creek 81.25 139 *e*P **P 19 41 28.7 -0.4**
STKA Stephens Creek 81.25 139 P **P 19 41 28.8 -0.4**
comp=Z,6.3nm,1.0s,baz=318,slow=4.3,SNR=7.3
TOA0 Torodi Ar. Sit 82.90 281 *e*P **P 19 41 38.3 0.0**
TORD Torodi Ar. Bea 82.90 281 P **P 19 41 36.7 -1.6**
TORD Torodi Ar. Bea 82.90 281 P **P 19 41 36.7 -1.6**
comp=Z,2.2nm,0.6s,baz=44,slow=4.6,SNR=43
TORD LR LR 20 19 04.9 comp=Z,98nm,21.0s,baz=275,slow=36
LBTB Lobatse 86.82 236 *e*P **P 19 42 00.2 +2.4**
comp=Z,9.2nm,1.0s
SCHQ Schefferville 88.59 348 LR LR 20 24 00.5 comp=Z,210nm,19.0s,baz=83,slow=37
BOSA Boshof 89.41 234 LR LR 20 21 15.1 comp=Z,136nm,19.4s,baz=256,slow=35
DBIC Dimbokro 91.88 279 P **P 19 42 23.2 +1.3**
comp=Z,4.8nm,0.9s
DBIC Dimbokro 91.88 279 LR LR 20 25 36.6 comp=Z,187nm,21.7s,baz=37,slow=37
SAML Samuel 145.52 313 *e*PKPdf **PKPbc 19 48 52.1 +0.1**
SIV San Ignacio 149.37 302 PKPbc **PKPbc 19 49 03.5 +0.8**
SIV San Ignacio 149.37 302 PKPbc **PKPbc 19 49 03.5 +0.8**
comp=Z,1.7nm,0.7s,baz=297,slow=1.7,SNR=4.6
CPUP Villa Florida 152.40 280 PKPbc **PKPbc 19 49 08.4 -1.1**
CPUP Villa Florida 152.40 280 PKPbc **PKPbc 19 49 08.4 -1.1**
comp=Z,0.6nm,0.4s,baz=135,slow=8.6,SNR=2.7

ROM 16 19:37:12.9±0.1, 42°.64N×13°.27E, h8km, Md1.6/3, Ml0.8/2, Error ellipse: s-maj=0.5km s-min=0.4km az=118.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.17**	**257**	Pg	Pg	19 37 17.2	+0.5
LNSS	17nm,0.4s			Sg	Sg	19 37 20.3	+1.0
NRCA	**Norcia**	**0.22**	**329**	Pg	Pg	19 37 18.1	+0.5
NRCA	16nm,0.1s			Sg	Sg	19 37 22.1	+1.4

IDC 16 19:52:53.6±3.2, 29°.02N×114°.80W, h0km, mb3.4/1, mb1 3.7/2, mb1mx3.5/22, mbtmp3.2/2, ML3.7/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/23, Error ellipse: s-maj=45.8km s-min=13.3km az=39.0, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFO	**Pinyon Flat Ob**	**4.79**	**343**	Pg	Pb	19 54 15.1	-3.5
PFO	1.0nm,0.3s,baz=178,slow=13,SNR=13			Sn	Sn	19 55 01.6	-1.8
TXAR	**Lajitas Array**	**9.74**	**85**	Pn	Pn	19 55 16.8	+1.6
TXAR	1.7nm,0.3s,baz=84,slow=17,SNR=4.3			Lg	Lg	19 57 56.4	
NVAR	**Mina Array Bea**	**9.82**	**344**	Pg	Pn	19 55 52.4	+36
YBH	**Yreka Blue Hor**	**14.22**	**335**	LR	LR	20 01 01.9	
ILAR	**Eielson Array**	**41.05**	**340**	P	P	20 00 36.7	-1.8

0.2nm,0.3s,baz=260,slow=15,SNR=3.8
0.2nm,0.3s,baz=265,slow=28,SNR=7.0
0.1nm,0.3s,baz=168,slow=18,SNR=4.4
comp=Z,107nm,19.1s,baz=38,slow=34
0.4nm,0.6s,baz=154,slow=7.1,SNR=6.6

*IDC **16** 20:12:16.2±2.8, 3°.44S×100°.67E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.6/23, mbtmp3.6/7, Error ellipse: s-maj=99.3km s-min=20.7km az=58.0*
*DJA **16** 20:12:22.2±1.6, 4°.5S×10°.1E±, h19km±19km, M4.1/8, MLv4.1/8*
ISC 16 20:12:19.9±1.1, 3°.46S±0°.08×100°.78E±0°.09, h29km, n20, σ1s81/17, mb3.8/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**1.49**	**78**	P	**Pb**	**20 12 47.6**	**+0.6**
MNAI	**Manna**	**2.35**	**113**	P	**Pb**	**20 12 59.6**	**-2.0**
PDSI	**Padang**	**2.55**	**353**	P	**Pb**	**20 13 02.5**	**-2.5**
PDSI				S	**Sb**	**20 13 36.8**	**+0.8**
SDSI	**Sungai Dareh**	**2.59**	**14**	P	**Pb**	**20 13 04.5**	**-1.2**
SDSI				S	**Sb**	**20 13 37.7**	**+0.6**
LHSI	**Lahat**	**2.76**	**98**	P	**Pb**	**20 13 06.6**	**-2.0**
LHSI				S	**Sb**	**20 13 39.1**	**-2.9**
PPI	**Padang Panjang**	**3.00**	**353**	P	**Pb**	**20 13 09.9**	**-2.9**
MDSI	**Maura Dua**	**3.54**	**107**	P	Pn	20 13 16.2	+3.2
LWLI	**Liwa**	**3.62**	**116**	P	Pn	20 13 17.2	+3.1
CMAR	**Chiang Mai Arr**	**21.85**	**355**	P	**P**	**20 17 08.6**	**-1.7**
	0.3nm,0.3s,baz=185,slow=9.1,SNR=4.1						
H08S2	**Diego Garcia H**	**28.46**	**260**	T	T	20 47 48.2	
	baz=83,slow=0.7,SNR=96						
H08S3	**Diego Garcia H**	**28.46**	**260**	T	T	20 47 47.0	
	baz=83,slow=0.7,SNR=102						
H08S1	**Diego Garcia H**	**28.47**	**260**	T	T	20 47 44.4	
	baz=83,slow=0.7,SNR=100						
WRA	**Warramunga Arr**	**36.59**	**119**	P	**P**	**20 19 24.8**	**+1.0**
	0.4nm,0.3s,baz=307,slow=8.5,SNR=4.7						
ASAR	**Alice Springs**	**37.77**	**125**	P	**P**	**20 19 34.8**	**+0.9**
	0.2nm,0.3s,baz=300,slow=7.8,SNR=5.3						
SONM	**Songino Array**	**51.31**	**5**	P	**P**	**20 21 23.2**	**+1.6**
	1.2nm,0.7s,baz=182,slow=9.4,SNR=14						
MKAR	**Makanchi Array**	**52.63**	**344**	P	**P**	**20 21 30.9**	**-0.5**
	0.6nm,0.6s,baz=162,slow=9.7,SNR=4.8						
USRK	**Ussuriysk Arra**	**55.08**	**27**	P	**P**	**20 21 50.0**	**+0.7**
	1.8nm,0.7s,baz=217,slow=9.6,SNR=4.6						
ZALV	**Zalesovo Beam**	**58.74**	**349**	P	**P**	**20 22 15.3**	**+0.3**
	0.4nm,0.4s,baz=159,slow=6.2,SNR=4.3						
PPT2	**Papeete2**	**107.58**	**110**	*e*LR	LR	20 25 29.5	
	266nm,26.5s						
TXAR	**Lajitas Array**	**145.35**	**39**	PKPbc	**PKPdf**	**20 31 57.8**	**+1.9**
	0.3nm,0.5s,baz=72,slow=0.4,SNR=3.8						

*IDC **16** 20:19:34.0±1.6, 6°.79S×131°.46E, h0km, mb3.9/5, mb1 3.9/9, mb1mx3.8/19, mbtmp3.9/9, ML3.8/4, MS3.7/1, Ms1 3.7/1, ms1mx2.7/33, Error ellipse: s-maj=49.7km s-min=23.4km az=88.0*
*ISCJB **16** 20:19:37.8±0.5, 6°.86S±0°.05×131°.31E±0°.07, h36km, mb3.8/5, MS3.6/1, Error ellipse: s-maj=10.0km s-min=6.6km az=14.7*
*AUST **16** 20:19:40.0, 6°.97S×131°.55E, h35km*
ISC 16 20:19:38.5±0.8, 7°.00S±0°.06×131°.43E±0°.09, h36km, n21, σ1s88/17, mb3.8/5, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**1.88**	**44**	P	**Pn**	**20 20 09.2**	**+1.2**
	baz=1.8,SNR=70						
BNDI	**Bandanaira**	**2.89**	**328**	P	**Pn**	**20 20 22.3**	**+0.3**
	baz=2.9,SNR=4.8						
FAKI	**Fak Fak**	**4.14**	**11**	P	**Pn**	**20 20 36.9**	**-2.2**
	baz=4.1,SNR=100						
KDU	**Kakadu**	**5.74**	**170**	P	Pn	20 21 06.1	+4.9
	baz=5.8,SNR=39						
MTN	**Manton Dam**	**5.81**	**183**	P	Pn	20 21 08.1	+5.9
	baz=5.9,SNR=86						
SWI	**Sorong**	**6.10**	**358**	P	**Pn**	**20 21 04.2**	**-1.9**
	baz=6.1,SNR=8.6						
SOEI	**Soe**	**7.60**	**248**	P	Pn	20 21 32.6	+5.8
	baz=7.7,SNR=5.3						
BATI	**Baumata**	**8.31**	**247**	Pn	**Pn**	**20 21 37.8**	**+1.2**
	1.1nm,0.3s,baz=88,slow=18,SNR=2.4						
BATI				Sn	**Sn**	**20 23 10.6**	**+1.3**
	2.3nm,0.3s,baz=270,slow=20,SNR=3.1						
KNRA	**Kununurra**	**9.01**	**197**	P	Pn	20 21 50.9	+4.8
	baz=9.1,SNR=28						
LUWI	**Luwuk**	**10.47**	**304**	P	Pn	20 22 11.1	+5.0
	baz=11,SNR=3.1						
FITZ	**Fitzroy Crossi**	**12.39**	**207**	P	Pn	20 22 36.0	+3.6
	baz=12,SNR=5.6						
FITZ	**Fitzroy Crossi**	**12.39**	**207**	Pn	**Pn**	**20 22 34.3**	**+1.8**
	0.5nm,0.3s,baz=29,slow=11,SNR=33						
FITZ				Sn	**Sn**	**20 24 46.8**	**-2.5**
	0.8nm,0.3s,baz=262,slow=21,SNR=8.6						
WRA	**Warramunga Arr**	**13.17**	**168**	Pn	**Pn**	**20 22 45.1**	**+2.0**
	0.5nm,0.3s,baz=333,slow=14,SNR=5.7						
WRA				Sn	**Sn**	**20 25 06.4**	**-2.1**
	1.0nm,0.3s,baz=353,slow=23,SNR=4.4						
ASAR	**Alice Springs**	**16.74**	**172**	Pn	**P**	**20 23 32.9**	**+0.6**
	0.3nm,0.3s,baz=359,slow=9.8,SNR=23						
ASAR				Sn	**Sn**	**20 26 31.1**	**-4.2**
	0.1nm,0.3s,baz=359,slow=29,SNR=4.3						
CISI	**Cisompet, Garu**	**23.43**	**267**	P	P	20 24 55.3	+11
	baz=24,SNR=3.7						
HNR	**Honiara**	**28.32**	**97**	LR	LR	20 35 01.1	
	comp=Z,141nm,20.0s,baz=161,slow=33						
CMAR	**Chiang Mai Arr**	**40.83**	**309**	P	**P**	**20 27 16.7**	**-0.2**
	0.2nm,0.3s,baz=147,slow=7.2,SNR=3.3						
SONM	**Songino Array**	**58.90**	**341**	P	**P**	**20 29 34.3**	**+0.3**
	0.5nm,0.7s,baz=179,slow=6.5,SNR=5.5						
MKAR	**Makanchi Array**	**69.01**	**326**	P	**P**	**20 30 40.7**	**+0.3**
	1.2nm,0.4s,baz=114,slow=8.2,SNR=33						
ZALV	**Zalesovo Beam**	**72.22**	**333**	P	**P**	**20 30 59.4**	**-0.3**
	0.5nm,0.5s,baz=134,slow=4.3,SNR=3.5						
KURBB	**Kurchatov Arra**	**73.26**	**328**	P	**P**	**20 31 05.8**	**-0.1**
	0.9nm,0.2s,baz=116,slow=6.3,SNR=3.2						

*NNC **16** 20:27:37.2±9.2, 38°.12N×70°.28E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=72.1km s-min=67.3km az=7.0*
ISC 16 20:27:47.6±2.4, 38°.7N±0°.2×69°.96E±0°.09, h27km, n10, σ1s79/14, 5C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.45**	**5**	⇑Pn	**Pn**	**20 28 54.8**	**+1.4**
	1.2nm,0.3s,baz=172,slow=12,SNR=64						
KK31				⇑Sn	**Sb**	**20 29 59.0**	**+0.8**
	8.0nm,0.5s,baz=184,slow=28,SNR=7.8						
AML	**Almayashu**	**4.48**	**38**	P	**Pn**	**20 28 52.8**	**-1.3**
	SNR=13						
AAK	**Ala-Archa**	**5.25**	**40**	P	**Pn**	**20 29 04.0**	**-0.4**
	SNR=8.9						
KZA	**Kyzart**	**5.28**	**48**	P	**Pn**	**20 29 06.2**	**+1.2**
	SNR=9.0						
KBK	**Karagaybulak**	**5.50**	**42**	P	**Pn**	**20 29 09.2**	**+1.3**
	SNR=24						
CHMS	**Chumysh**	**5.65**	**38**	P	**Pn**	**20 29 10.3**	**+0.5**
	SNR=5.1						
TKM2	**Tokmak 2**	**6.03**	**43**	⇓Pn	**Pn**	**20 29 15.2**	**+0.1**
	9.0nm,0.6s						
TKM2				⇓Sn	**Sn**	**20 30 22.7**	**-0.6**
	7.2nm,0.8s						
TKM2	**Tokmak 2**	**6.03**	**43**	P	**Pn**	**20 29 15.4**	**+0.2**
	SNR=12						
AB31	**Akbulak array**	**12.80**	**329**	⇑Pn	**Pn**	**20 30 48.7**	**+1.1**
	0.6nm,0.4s,baz=146,slow=12,SNR=31						
AB31				Sn	**Sn**	**20 33 10.5**	**+1.5**
	0.9nm,0.6s,baz=153,slow=24,SNR=4.3						
AKTO	**Aktyubinsk**	**14.50**	**328**	⇑Pn	**P**	**20 31 17.2**	**-0.1**
	2.1nm,0.8s						
AKTO				⇑Sn	**S**	**20 34 04.9**	**-4.8**
	2.1nm,0.9s						

IDC 16 20:30:36.9±0.9, 11°.29S×166°.21E, h0km, mb4.0/11, mb1 4.1/13, mb1mx4.0/21, mbtmp4.0/13, ML4.1/2, MS3.0/1, Ms1 3.0/1, ms1mx2.7/27, Error ellipse: s-maj=27.4km s-min=19.4km az=129.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.43**	**286**	Pn	Pn	20 32 13.1	+0.2
	12nm,0.3s,baz=282,slow=12,SNR=2.0						
DZM	**Mont Dzumac**	**10.73**	**179**	Pn	Pn	20 33 13.7	+1.7
	0.5nm,0.3s,baz=0.5,slow=23,SNR=7.5						
DZM				Sn	Sn	20 35 07.9	-5.2
	0.2nm,0.3s,baz=108,slow=20,SNR=1.7						
DZM				LR	LR	20 36 32.0	
	comp=Z,88nm,21.4s,baz=178,slow=33						
CTA	**Charters Tower**	**21.09**	**243**	P	P	20 35 25.1	+2.0
	3.9nm,0.7s,baz=80,slow=6.1,SNR=4.2						
STKA	**Stephens Creek**	**30.58**	**224**	P	P	20 36 53.4	+0.8
	1.3nm,0.7s,baz=75,slow=12,SNR=3.5						
WRA	**Warramunga Arr**	**31.82**	**250**	P	P	20 37 03.3	-0.5
	2.0nm,0.8s,baz=82,slow=8.8,SNR=9.1						
ASAR	**Alice Springs**	**33.09**	**244**	P	P	20 37 14.2	-0.6
	1.9nm,0.7s,baz=70,slow=9.5,SNR=24						
ASAR				PcP	PcP	20 39 57.5	-1.0
	0.6nm,0.8s,baz=62,slow=2.5,SNR=5.3						
FITZ	**Fitzroy Crossi**	**39.76**	**255**	P	P	20 38 11.8	0.0
	2.4nm,0.7s,baz=92,slow=5.8,SNR=13						
VNDA	**Vanda**	**66.26**	**181**	P	P	20 41 25.0	-1.5
	0.5nm,0.7s,baz=315,slow=8.0,SNR=3.8						
CMAR	**Chiang Mai Arr**	**72.62**	**293**	P	P	20 42 07.5	+0.6
	0.7nm,0.4s,baz=123,slow=4.0,SNR=4.6						
SONM	**Songino Array**	**79.13**	**324**	P	P	20 42 43.4	-0.2
	0.5nm,0.5s,baz=180,slow=9.1,SNR=5.8						
ILAR	**Eielson Array**	**83.60**	**18**	P	P	20 43 07.3	+0.5
	0.4nm,0.6s,baz=251,slow=5.5,SNR=9.5						
NVAR	**Mina Array Bea**	**85.83**	**50**	P	P	20 43 20.1	+1.1
	0.3nm,0.4s,baz=220,slow=6.7,SNR=4.5						
MKAR	**Makanchi Array**	**94.01**	**317**	P	P	20 43 56.9	-0.2
	1.1nm,0.7s,baz=81,slow=6.3,SNR=10						
ZALV	**Zalesovo Beam**	**94.02**	**324**	P	P	20 43 55.1	-1.7
	0.4nm,0.3s,baz=129,slow=4.7,SNR=3.6						

*IDC **16** 20:33:16.1±2.3, 6°.75S×104°.81E, h0km, mb3.8/4, mb1 3.8/4, mb1mx3.5/22, mbtmp3.8/4, Error ellipse: s-maj=99.6km s-min=27.8km az=58.0*
*ISCJB **16** 20:33:21.8±1.3, 7°.0S±0°.1×105°.05E±0°.08, h23km, mb3.8/4, Error ellipse: s-maj=17.2km s-min=6.4km az=36.2*
*DJA **16** 20:33:24.2±1.2, 7°.5S×10°.5E±, h22km±14km, M4.0/10, MLv4.0/10*
ISC 16 20:33:19.7±1.3, 7°.0S±0°.1×104°.92E±0°.09, h23km, n21, σ1s99/17, mb3.8/4, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**1.50**	**344**	P	**Pb**	**20 33 48.0**	**+1.2**
KASI				S	**Sb**	**20 34 09.6**	**+4.2**
BLSI	**Bandar Lampung**	**1.63**	**12**	P	**Pn**	**20 33 48.0**	**+1.1**
SKJI	**Sukabumi**	**1.63**	**91**	P	**Pb**	**20 33 49.2**	**+0.2**
DBJI	**Dramaga**	**1.87**	**77**	P	**Pn**	**20 33 50.7**	**+0.5**
DBJI				S	**Sn**	**20 34 11.7**	**-1.4**
CBJI	**Citeko**	**2.00**	**74**	P	**Pn**	**20 33 53.7**	**+1.7**
KLI	**Kotabumi**	**2.10**	**358**	P	**Pb**	**20 33 55.9**	**-1.1**
LWLI	**Liwa**	**2.12**	**336**	P	**Pb**	**20 33 58.4**	**+0.9**
MDSI	**Maura Dua**	**2.58**	**343**	P	**Pb**	**20 34 03.6**	**-1.6**
LEM	**Lembang**	**2.68**	**87**	P	**Pn**	**20 34 04.2**	**+2.6**
CISI	**Cisompet, Garu**	**2.93**	**102**	P	**Pn**	**20 34 06.4**	**+1.4**
H01W3	**Cape Leeuwin H**	**29.06**	**164**	T	T	21 09 43.9	
	baz=343,slow=0.7,SNR=24						
H01W2	**Cape Leeuwin H**	**29.06**	**164**	T	T	21 09 48.3	
	baz=343,slow=0.7,SNR=29						
H01W1	**Cape Leeuwin H**	**29.06**	**164**	T	T	21 10 10.3	
	baz=343,slow=0.7,SNR=23						
H08S2	**Diego Garcia H**	**32.16**	**267**	T	T	21 14 02.1	
	baz=90,slow=0.7,SNR=46						
H08S3	**Diego Garcia H**	**32.17**	**267**	T	T	21 13 59.5	
	baz=90,slow=0.7,SNR=52						
H08S1	**Diego Garcia H**	**32.18**	**267**	T	T	21 13 57.8	
	baz=90,slow=0.7,SNR=50						
STKA	**Stephens Creek**	**42.21**	**131**	P	**P**	**20 41 12.7**	**+1.6**
	1.3nm,0.6s,baz=308,slow=7.3,SNR=7.2						
USRK	**Ussuriysk Arra**	**56.49**	**23**	P	**P**	**20 42 57.2**	**-2.8**
	1.4nm,0.5s,baz=197,slow=4.8,SNR=5.9						
MKAR	**Makanchi Array**	**57.18**	**342**	P	**P**	**20 43 02.8**	**-2.0**
	0.3nm,0.5s,baz=163,slow=9.1,SNR=6.0						
ZALV	**Zalesovo Beam**	**63.01**	**347**	P	**P**	**20 43 43.0**	**-1.6**
	0.4nm,0.5s,baz=164,slow=9.7,SNR=2.6						
TXAR	**Lajitas Array**	**145.08**	**47**	PKPbc	**PKPbc**	**20 52 55.5**	**0.0**
	0.8nm,0.6s,baz=237,slow=0.6,SNR=7.7						

*IDC **16** 20:46:30.4±1.1, 20°.03N×121°.48E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/23, mbtmp3.7/7, Error ellipse: s-maj=52.6km s-min=17.2km az=62.0*
*ISCJB **16** 20:46:35.0±0.8, 20°.15N±0°.05×121°.3E±0°.1, h34km, mb3.5/7, Error ellipse: s-maj=17.4km s-min=6.9km az=0.2*
*MAN **16** 20:46:34, 20°.11N×121°.12E, h14km, mb5.1, ML4.0, MS4.2*
ISC 16 20:46:36.3±1.0, 20°.10N±0°.08×121°.2E±0°.1, h34km, n14, σ1s67/17, mb3.6/7, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**1.86**	**199**	‖*i*P	**Pn**	**20 47 05.4**	**-0.4**
PIP				*e*S	**Sn**	**20 47 26.9**	**-1.2**
APYP	**Conner**	**2.22**	**180**	*e*P	**Pn**	**20 47 11.6**	**+0.8**
SIPP	**Brgy, Tapao**	**2.29**	**199**	‖*e*P	**Pn**	**20 47 11.5**	**-0.2**
SIPP				*i* S	**Sn**	**20 47 40.2**	**+1.6**
ABRA	**Dolores**	**2.49**	**192**	*e*P	**Pn**	**20 47 15.0**	**+0.6**
ABRA				*e*S	**Sn**	**20 47 45.3**	**+1.7**
CAUP	**Cauayan**	**3.18**	**170**	*e*P	**Pn**	**20 47 26.8**	**+2.8**
PALP	**Palanan**	**3.22**	**159**	*e*P	**Pn**	**20 47 25.3**	**+0.8**
BALP	**Baler**	**4.34**	**176**	*e*P	**Pn**	**20 47 42.3**	**+2.3**
CMAR	**Chiang Mai Arr**	**21.11**	**269**	P	**P**	**20 51 19.8**	**+1.5**
	0.5nm,0.4s,baz=73,slow=7.9,SNR=5.6						
SONM	**Songino Array**	**30.18**	**340**	P	**P**	**20 52 44.8**	**+1.4**
	0.1nm,0.5s,baz=157,slow=7.8,SNR=2.6						
MKAR	**Makanchi Array**	**41.38**	**319**	P	**P**	**20 54 19.5**	**+0.2**
	0.7nm,0.6s,baz=112,slow=9.4,SNR=7.5						
WRA	**Warramunga Arr**	**41.81**	**161**	P	**P**	**20 54 20.6**	**-2.4**
	2.1nm,0.7s,baz=342,slow=8.9,SNR=7.3						
ZALV	**Zalesovo Beam**	**43.74**	**329**	P	**P**	**20 54 37.7**	**-0.5**
	0.5nm,0.5s,baz=108,slow=9.5,SNR=3.9						
ASAR	**Alice Springs**	**45.22**	**164**	P	**P**	**20 54 48.6**	**-1.8**
	1.4nm,0.7s,baz=344,slow=7.0,

ISC 16 21:05:51.3±1.5, 37.05N×0.07×141.89E±0.09, h19km, n14, σ1°47/19, mb3.5/4, 3C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.87	292	P	Pn	21 06 09.6	+1.1
ONAJ	Iwakimizuishiy	0.87	274	⇑P	Pb	21 06 07.0	-0.8
ONAJ				S	Sb	21 06 17.2	-1.9
JHO	Hitachi	1.14	248	P	Pn	21 06 09.8	-2.5
JMM	Marumori	1.19	313	⇑P	Pn	21 06 12.8	-0.1
JFT	Otama	1.32	291	⇑P	Pb	21 06 15.1	-0.4
JFT				*eS*	Sn	21 06 29.6	-2.2
JIO	Ouri	1.46	343	P	Pb	21 06 18.2	+0.3
JIO				S	Sg	21 06 39.4	+0.8
JOU	Okura	1.63	324	P	Pg	21 06 21.7	-1.0
JFY	Yanaizu	1.78	282	P	Pn	21 06 21.7	+0.7
MAT	Matsushiro	3.00	261	P	Pn	21 06 38.2	+0.4
MAT				S	Sn	21 07 16.2	+3.0
ASAJ	Asahikawa	7.08	4	P	Pn	21 07 32.7	-1.1
	0.8nm,0.3s,baz=132,slow=28,SNR=5.8						
ASAJ				Sn	Sn	21 08 52.4	-1.3
	0.3nm,0.3s,baz=24,slow=20,SNR=2.2						
SONM	Songino Array	28.09	304	P	P	21 11 42.6	+0.9
	0.9nm,0.8s,baz=107,slow=9.2,SNR=7.6						
CMAR	Chiang Mai Arr	41.87	256	P	P	21 13 40.6	+0.3
	0.2nm,0.4s,baz=46,slow=4.3,SNR=4.2						
ZALV	Zalesovo Beam	42.18	312	P	P	21 13 43.8	+1.2
	0.4nm,0.4s,baz=101,slow=7.5,SNR=2.8						
MKAR	Makanchi Array	44.43	302	P	P	21 14 01.8	+1.0
	0.3nm,0.5s,baz=82,slow=12,SNR=4.3						

MAN 16 21:10:48, 18.34N×120.77E, h2km, mb4.1, ML2.9, MS2.6, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	Pasuquin	0.15	263	⇓*iP*	Pg	21 10 52.5	+1.7
PIP				*eS*	Sg	21 11 00.2	+7.3
SIPP	Brgy, Tapao	0.51	216	⇓*eP*	Pb	21 10 59.3	-0.5
SIPP				*i S*	Sb	21 11 11.8	+4.1
APYP	Conner	0.66	137	*eP*	Pg	21 11 00.8	+0.3
APYP				*eS*	Sg	21 11 09.5	+0.4
ABRA	Dolores	0.69	185	*eP*	Pb	21 11 02.1	-0.7
ABRA				*eS*	Sb	21 11 12.4	-0.5
BALP	Baler	2.70	163	*eP*	Pn	21 11 34.4	+2.0

IDC 16 21:59:02.0±4.3, 17.40S×176.46W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/17, mbtmp4.0/4, Error ellipse: s-maj=186.4km s-min=39.1km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	40.50	241	P	P	22 06 42.5	-0.4
	3.2nm,0.9s,baz=86,slow=12,SNR=4.6						
WRA	Warramunga Arr	46.55	259	P	P	22 07 32.3	+0.4
	0.5nm,0.4s,baz=96,slow=7.5,SNR=2.9						
ASAR	Alice Springs	46.72	254	P	P	22 07 33.0	-0.2
	2.0nm,0.7s,baz=88,slow=8.1,SNR=20						
CMAR	Chiang Mai Arr	90.47	289	P	P	22 12 06.0	-0.3
	0.5nm,0.6s,baz=97,slow=3.1,SNR=4.9						
BRTR	Keskin Array B	145.72	317	PKPbc	PKPdf	22 18 41.5	-1.5
	0.5nm,0.6s,baz=108,slow=3.3,SNR=3.1						
GERES	GERESS Array B	147.57	347	PKPbc	PKPbc	22 18 48.6	+0.2
	0.4nm,0.4s,baz=2.9,slow=2.7,SNR=5.7						

MEX 16 22:03:11.3±0.7, 16.31N×100.65W, h17km±49km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.82	27	*i* P	Pb	22 03 23.9	-3.2
CAIG				*i* S	Sb	22 03 34.8	-3.2
ACX	Acapulco	0.94	54	*e*P	Pb	22 03 24.9	-4.4
ACX				*i* S	Sb	22 03 36.9	-4.6
ZIIG	Zihuatanejo	1.51	329	*i* P	Pn	22 03 34.4	-3.1
ZIIG				*i* S	Sn	22 03 51.2	-5.6
ARIG	Puente Sto Nin	1.98	8	*i* P	Pn	22 03 41.5	-2.7
ARIG				*i* S	Sn	22 04 04.9	-3.8
PLIG	Platanillo	2.35	28	*e*P	Pn	22 03 47.1	-2.0
PLIG				*i* S	Sn	22 04 13.4	-4.3
PNIG	Pinotepa	2.43	88	*i* P	Pn	22 03 47.5	-2.7
PNIG				*i* S	Sn	22 04 15.0	-4.5
YAIG	Yautepec	2.96	31	*e*P	Pn	22 03 55.5	-2.2
YAIG				*i* S	Sn	22 04 28.7	-4.2
PPM	Popocatepetl	3.36	35	*i* P	Pn	22 04 01.2	-2.4
PPM				*i* S	Sn	22 04 39.6	-3.9

IDC 16 22:28:22.8±5.4, 17.74S×178.66W, h592km±64km, mb3.1/7, mb1 3.5/7, mb1mx3.2/17, mbtmp3.1/7, Error ellipse: s-maj=82.4km s-min=22.0km az=155.0

ISC 16 22:28:20.9±2.1, 17.8S±0.6×178.5W±0.4, h579km, n15, σ0°87/14, mb3.7/7, 1C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	44.54	259	P	P	22 35 42.1	-0.3
	0.3nm,0.3s,baz=96,slow=7.2,SNR=2.1						
ASAR	Alice Springs	44.71	254	P	P	22 35 44.0	+0.2
	1.1nm,0.6s,baz=87,slow=8.7,SNR=16						
ASAR				PcP	PcP	22 37 12.8	-0.6
	0.4nm,0.4s,baz=100,slow=3.5,SNR=4.5						
NVAR	Mina Array Bea	79.44	44	P	P	22 39 29.4	+1.2
	0.9nm,0.7s,baz=226,slow=8.9,SNR=7.9						
ILAR	Eielson Array	85.83	13	P	P	22 39 59.2	-0.2
	0.9nm,0.4s,baz=220,slow=4.7,SNR=18						
TXAR	Lajitas Array	86.04	58	P	P	22 40 03.0	+1.7
	1.1nm,0.7s,baz=208,slow=7.6,SNR=8.7						
PDAR	Pinedale Array	87.36	43	P	P	22 40 08.0	+0.5
	0.8nm,0.6s,baz=209,slow=2.2,SNR=8.3						
CMAR	Chiang Mai Arr	88.75	290	P	P	22 40 15.3	+1.1
	0.4nm,0.3s,baz=116,slow=4.1,SNR=3.3						
ARCES	ARCESS Array B	126.21	350	PKP	PKPdf	22 46 16.9	-0.7
	3.8nm,0.9s,baz=346,slow=2.5,SNR=4.0						
FINES	FINESS Array B	133.08	344	PKP	PKPdf	22 46 30.2	-0.5
	3.0nm,1.0s,baz=349,slow=1.4,SNR=3.4						
KWP	Kalwaria Pacla	143.95	336	⇓*iP*	PKPab	22 46 51.3	+0.7
BRTR	Keskin Array B	144.65	315	PKP	PKPab	22 46 53.0	-0.8
	0.7nm,0.5s,baz=116,slow=3.7,SNR=6.2						
NIE	Niedzica	145.00	338	*e*PX	PKPbc	22 46 54.6	+1.0
TRPA	Tarpa	145.22	335	⇑*iP*	PKPab	22 46 54.5	-1.0
ARR	Arges	146.43	330	⇓*iP*	PKPab	22 46 58.9	-1.6
GERES	GERESS Array B	147.50	345	PKPbc	PKPbc	22 47 00.5	-0.1
	1.1nm,0.5s,baz=25,slow=3.4,SNR=16						

IDC 16 22:52:54.7±1.7, 20.39S×175.27W, h0km, mb4.0/7, mb1 4.3/7, mb1mx4.0/19, mbtmp4.0/7, Error ellipse: s-maj=100.3km s-min=21.9km az=158.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	37.82	281	P	P	23 00 13.2	-0.1
	12nm,0.8s,baz=119,slow=12,SNR=3.5						
ASAR	Alice Springs	47.03	256	P	P	23 01 28.6	+0.3
	3.6nm,0.7s,baz=91,slow=8.2,SNR=38						
WRA	Warramunga Arr	47.15	261	P	P	23 01 28.9	-0.3
	5.3nm,0.8s,baz=96,slow=9.1,SNR=13						
NVAR	Mina Array Bea	79.21	42	P	P	23 05 02.0	0.0
	0.1nm,0.3s,baz=293,slow=0.7,SNR=2.3						
TXAR	Lajitas Array	84.86	56	P	P	23 05 31.7	-0.1
	0.1nm,0.4s,baz=224,slow=6.3,SNR=2.0						
ILAR	Eielson Array	87.67	12	P	P	23 05 45.0	+0.4
	0.2nm,0.5s,baz=212,slow=5.8,SNR=5.4						
CMAR	Chiang Mai Arr	92.50	289	P	P	23 06 07.3	-1.0
	0.6nm,0.6s,baz=91,slow=3.1,SNR=4.8						
BVAR	Borovoye Array	120.64	320	PKP	PKPdf	23 11 48.0	-0.3
	0.2nm,0.3s,baz=106,slow=1.9,SNR=4.1						
ARCES	ARCESS Array B	129.25	351	PKP	PKPdf	23 12 04.5	+0.2
	2.7nm,0.8s,baz=307,slow=3.3,SNR=3.1						
AKASG	Malin Array Be	144.11	333	PKP	PKPbc	23 12 30.1	-0.2
	0.6nm,0.4s,baz=40,slow=4.7,SNR=6.8						
BRTR	Keskin Array B	148.63	314	PKPbc	PKPbc	23 12 44.5	+0.3
	1.3nm,0.7s,baz=148,slow=5.3,SNR=8.0						
GERES	GERESS Array B	150.71	348	PKPbc	PKPbc	23 12 47.9	-1.0
	0.4nm,0.7s,baz=48,slow=1.5,SNR=5.7						

NIED 16 23:30:00, 46.10N×151.70E, h32km, Mw4.1 Best double couple: M0 1.41000×10^15 NP1:φs 127.00000°, δ 79.00000°, λ -20.00000°. NP2:φs 221.00000°, δ 70.00000°, λ -168.00000°.

ISCJB 16 23:30:27.3±0.5, 45.69N±0.08×151.88E±0.08, h30km, mb3.9/23, MS3.6/3, Error ellipse: s-maj=12.9km s-min=3.8km az=145.2

MOS 16 23:30:29.3±1.0, 45.88N×151.89E, h43km, mb4.4/12, Error ellipse: s-maj=12.1km s-min=9.2km az=83.1

JMA 16 23:30:30.0±0.7, 46.08N×151.69E, h30km, M4.5

IDC 16 23:30:33.0±2.6, 46.04N×151.73E, h55km±23km, mb3.6/21, mb1 3.8/26, mb1mx3.8/34, mbtmp3.7/26, ML3.6/5, MS3.3/5, Ms1 3.4/5, ms1mx3.0/39, Error ellipse: s-maj=22.1km s-min=12.9km az=153.0

ISC 16 23:30:28.9±0.7, 45.61N±0.09×151.93E±0.08, h30km, n95, σ1°37/85, mb4.0/23, MS3.7/3, 10C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	2.89	264	*e*PN	Pn	23 31 13.7	+0.9
KUR				*eS*	Sn	23 31 46.7	+0.2
KUR				pmax	pmax		
	comp=Z,27nm,0.2s						
KUR				pmax	pmax		
	comp=E,186nm,0.5s						
KUR				pmax	pmax		
	comp=N,76nm,0.5s						
NEM2	Nemuro 2	4.97	245	P	Pn	23 31 42.3	+1.0
NEM2				*eS*	Sn	23 32 36.0	-1.7
JRA	Rausu	5.13	253	P	Pn	23 31 45.8	+2.2
JNK	Nakash	5.54	251	P	Pn	23 31 52.0	+2.8
SKR	Severo-Kuril's	5.79	27	*e*PN	Pn	23 31 49.2	-3.5
SKR				pmax	pmax		
	comp=Z,90nm,0.7s						
JAK	Akkeshi	5.81	246	P	Pn	23 31 54.1	+1.1
JAK				*eS*	Sn	23 32 57.3	-1.3
JTKR	Abashiri--Toko	5.94	257	P	Pn	23 31 57.9	+3.2
JAR	Ashorobuto	6.28	251	P	Pn	23 32 02.2	+2.7
JAR				*eS*	Sn	23 33 10.7	+0.5
JMP	Maruseppu	6.31	258	P	Pn	23 32 03.5	+3.7
JOB	Onbets	6.42	248	P	Pn	23 32 03.7	+2.5
JOB				*eS*	Sn	23 33 12.0	-1.4
YSS	Yuzh-Sakhalins	6.50	285	*e*PN	Pn	23 32 03.8	+1.4
YSS				pmax	pmax		
	comp=Z,8.0nm,0.5s						
JKK2	Kamakawa 2	6.77	258	P	Pn	23 32 10.1	+4.0
ASAJ	Asahikawa	6.80	261	P	Pn	23 32 10.1	+3.5
	comp=Z,3.1nm,0.3s,baz=80,slow=14,SNR=7.5						
ASAJ				LR	LR	23 34 44.2	
	comp=Z,139nm,19.9s,baz=1.2,slow=37						
JCH	Churui	6.86	247	P	Pn	23 32 08.3	+1.0
JCH				*eS*	Sn	23 33 21.7	-2.6
JEM	Erimo	7.29	244	P	Pn	23 32 16.0	+2.7
JEM				*eS*	Sn	23 33 31.7	-3.3
JNBK	Urakawa-nobuka	7.42	247	P	Pn	23 32 15.7	+0.7
JNBK				*eS*	Sn	23 33 34.0	-4.0
JBT2	Biratori 2	7.44	251	P	Pn	23 32 18.1	+2.8
PETK	Petropavlovsk-	8.39	25	*e*PN	Pn	23 32 29.3	+1.0
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	Petropavlovsk-	8.39	25	P	Pn	23 32 27.4	-1.0
	comp=Z,0.5nm,0.3s,baz=359,slow=6.7,SNR=3.5						
JNB	Noboribetsu	8.45	252	P	Pn	23 32 30.5	+1.3
JKB	Kayabe	8.72	249	P	Pn	23 32 33.8	+0.9
JSH	Shimam	9.05	255	P	Pn	23 32 40.5	+3.1
JYM2	Yakumo 2	9.05	251	P	Pn	23 32 38.7	+1.3
JANG	Nango	9.25	239	P	Pn	23 32 39.1	-1.1
JANG				*eS*	Sn	23 34 15.9	-7.3
JTM	Tenmabayashi	9.28	243	P	Pn	23 32 41.2	+0.6
JTM				*eS*	Sn	23 34 18.0	-5.9
JSR	Shiriuchi	9.30	248	P	Pn	23 32 41.2	+0.4
JTH	Tanohata	9.32	236	*eS*	Sn	23 34 16.0	-8.9
JOSM	Okushiri--Mats	9.67	253	P	Pn	23 32 47.4	+1.6
OFUJ	Ofunato	10.01	233	P	Pn	23 32 50.7	+0.1
OFUJ				*eS*	Sn	23 34 34.5	-7.3
JRG	Rokugo	10.39	237	P	Pn	23 32 56.7	+0.9
JIO	Ouri	10.63	231	*eS*	Sn	23 34 50.5	-6.5
USRK	Ussuriysk Arra	14.21	271	P	Pn	23 33 48.2	+0.3
	comp=Z,3.3nm,0.3s,baz=85,slow=16,SNR=4.5						
FX1	Attu Island--F	15.62	55	P	Pn	23 34 07.3	+0.7
	comp=Z,0.9nm,0.3s,baz=6.1,slow=22,SNR=7.5						
KSRS	Korea Array	19.68	254	P	P	23 34 56.8	+1.3
	comp=Z,0.2nm,0.3s,baz=56,slow=12,SNR=6.3						
KSRS				LR	LR	23 41 52.9	
	comp=Z,40nm,18.9s,baz=5.0,slow=34						
YAK	Yakutsk	20.87	330	*ce*P	P	23 35 08.5	+0.4
YAK				pmax	pmax		
	comp=Z,21nm,0.6s						
H11N2	WAKE ISLAND Hy	28.62	149	T	T	00 07 00.5	
	baz=341,slow=0.7,SNR=1646						
H11N1	WAKE ISLAND Hy	28.63	150	T	T	00 06 56.9	
	baz=341,slow=0.7,SNR=848						
H11N3	WAKE ISLAND Hy	28.64	149	T	T	00 06 58.4	
	baz=341,slow=0.7,SNR=912						
SONM	Songino Array	30.95	291	P	P	23 36 41.9	-1.3
	comp=Z,0.2nm,0.4s,baz=70,slow=8.3,SNR=2.6						
ILAR	Eielson Array	37.95	38	P	P	23 37 42.4	-0.9
	comp=Z,0.4nm,0.5s,baz=264,slow=7.2,SNR=3.9						
ZALV	Zalesovo Beam	42.62	306	P	P	23 38 21.4	-0.7
ZALV						23 40 13.3	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZALV	Zalesovo Beam	42.62	306	P	P	23 38 21.4	-0.7
	comp=Z,0.3nm,0.5s,baz=61,slow=7.2,SNR=2.4						
ZALV				PcP	PcP	23 40 13.3	-0.4
	comp=Z,1.3nm,0.7s,baz=67,slow=3.9,SNR=7.4						
ZALV				LR	LR	23 56 56.8	
	comp=Z,46nm,20.2s,baz=249,slow=38						
INK	Inuvik	43.05	32	P	P	23 38 25.4	0.0
	comp=Z,2.4nm,0.7s,baz=306,slow=7.5,SNR=5.5						
MKAR	Makanchi Array	46.74	298	P	P	23 38 54.7	-0.4
MKAR						23 40 28.1	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	46.74	298	P	P	23 38 54.7	-0.4
	comp=Z,1.0nm,0.6s,baz=68,slow=7.3,SNR=9.9						
MKAR				PcP	PcP	23 40 28.1	0.0
	comp=Z,0.8nm,0.6s,baz=238,slow=1.7,SNR=7.0						
CMAR	Chiang Mai Arr	51.30	256	P	P	23 39 32.1	+1.8
	comp=Z,1.0nm,0.3s,baz=35,slow=8.0,SNR=9.9						
YKA	Yellowknife Ar	52.33	36	P	P	23 39 37.7	+0.3
	comp=Z,0.7nm,0.5s,baz=298,slow=6.9,SNR=4.0						
TAPN	Taplejung	53.34	273	*eP*	P	23 39 46.5	+0.8
	comp=Z,4.3nm,0.4s						
AAK	Ala-Archa	53.61	297	LR	LR	00 04 06.7	
	comp=Z,65nm,18.6s,baz=206,slow=38						
JIRN	Jiri	54.22	275	*eP*	P	23 39 52.6	+0.4
	comp=Z,9.9nm,0.6s						
GUN	Gumba	54.28	275	*eP*	P	23 39 52.7	+0.1
	comp=Z,8.5nm,0.3s						
RAMN	Ramite	54.37	274	*eP*	P	23 39 53.1	-0.1
	comp=Z,13nm,0.4s						
KKN	Kakani	54.78	275	*eP*	P	23 39 56.7	+0.6
	comp=Z,5.6nm,0.4s						
PKIN	Phulchoki	54.83	275	*eP*	P	23 39 56.2	-0.3
	comp=Z,2.4nm,0.4s						
DMN	Daman	55.01	275	*eP*	P	23 39 58.2	+0.4
	comp=Z,3.7nm,0.4s						
GKN	Gorkha	55.09	276	*eP*	P	23 39 58.4	+0.1
	comp=Z,10nm,0.7s						
DANN	Dangsing	55.49	277	*eP*	P	23 40 01.9	+0.6
	comp=Z,18nm,0.6s						
KOLN	Koldanda	55.96	276	*eP*	P	23 40 04.9	+0.3
	comp=Z,4.0nm,0.4s						
ARCES	ARCESS Array B	58.66	341	P	P	23 40 20.0	-2.7
	comp=Z,7.3nm,1.1s,baz=64,slow=7.1,SNR=2.8						
SUMG	Summit	61.89	4	*i* P	P	23 40 44.8	-0.5
SUMG				pmax	pmax		
	comp=Z,6.0nm,1.1s						
SUMG	Summit	61.89	4	*i* P	P	23 40 44.8	-0.5
	comp=Z,6.3nm,1.1s						
FFC	Flin Flon	62.14	39	*i* P	P	23 40 52.6	+5.9
NVAR	Mina Array Bea	63.69	61	P	P	23 40 58.0	+0.3
	comp=Z,0.5nm,0.7s,baz=294,slow=7.4,SNR=4.8						
FINES	FINESS Array B	64.72	334	P	P	23 41 00.8	-2.9
	comp=Z,1.5nm,0.6s,baz=33,slow=6.7,SNR=12						
PDAR	Pinedale Array	66.08	53	P	P	23 41 13.8	+0.7
	comp=Z,0.6nm,0.8s,baz=229,slow=1.6,SNR=4.6						
NOA	NORSAR Array B	69.03	341	P	P	23 41 28.8	-2.5
	comp=Z,1.0nm,0.7s,baz=30,slow=5.5,SNR=8.4						
NOA				LR	LR	00 14 26.7	
	comp=Z,40nm,19.3s,baz=330,slow=38						
HFS	Hagfors	69.23	339	P	P	23 41 30.6	-1.8
	comp=Z,1.1nm,0.3s,baz=36,slow=3.6,SNR=15						
ASAR	Alice Springs	70.87	197	P	P	23 41 45.5	+2.6
	comp=Z,0.2nm,0.7s,baz=17,slow=6.8,SNR=2.8						
KBZ	Khabaz	71.06	314	P	P	23 41 43.2	-0.6
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KBZ	Khabaz	71.06	314	P	P	23 41 43.2	-0.6
	comp=Z,1.4nm,0.8s,baz=345,slow=2.5,SNR=3.6						
AKASG	Malin Array Be	72.03	326	P	P	23 41 47.7	-1.9
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	72.03	326	P	P	23 41 47.7	-1.9
	comp=Z,0.9nm,0.4s,baz=34,slow=5.9,SNR=5.6						
BURAR	Bucovina Array	76.08	326	⇓P	P	23 42 12.7	-0.7
BURAR	Bucovina Array	76.08	326	⇓*iP*	P	23 42 12.7	-0.7
TESR	Tescani	76.40	325	⇑*iP*	P	23 42 14.2	-1.0
TRPA	Tarpa	76.68	328	⇑*iP*	P	23 42 16.0	-0.7
EKA	Eskdalemuir Ar	77.25	346	P	P	23 42 18.1	-1.6
	comp=Z,0.4nm,0.3s,baz=17,slow=5.2,SNR=8.2						
MALT	Malatya	77.32	312	⇑P	P	23 42 20.4	-0.2
MALT	Malatya	77.32	312	⇑*iP*	P	23 42 20.4	-0.2
MLR	Muntele Rosu	77.52	324	P	P	23 42 20.2	-1.4
	comp=Z,0.6nm,0.7s,baz=263,slow=20,SNR=8.8						
VOIR		77.92	325	⇓P	P	23 42 23.8	0.0
VOIR		77.92	325	⇓*iP*	P	23 42 23.8	0.0
ARR	Arges	78.15	325	⇑*iP*	P	23 42 25.6	+0.5
BRTR	Keskin Array B	78.65	316	P	P	23 42 27.2	-0.8
	comp=Z,0.9nm,0.8s,baz=72,slow=4.0,SNR=6.4						
KHC	Kasperske Hory	78.90	334	*ce*P	P	23 42 27.5	-1.6
KHC				pmax	pmax		
	comp=Z,39nm,2.5s						
GERES	GERESS Array B	79.11	333	P	P	23 42 29.5	-0.8
	comp=Z,0.8nm,0.6s,baz=38,slow=5.2,SNR=8.6						
BZS	Buzias	79.13	327	⇓P	P	23 42 29.4	-0.9
BZS	Buzias	79.13	327	⇓*iP*	P	23 42 29.4	-0.9
VTS	Vitosha	81.02	324	⇑P	P	23 42 40.7	-0.1
VTS	Vitosha	81.02	324	⇑*iP*	P	23 42 40.7	-0.1
BFO	Black Forest	81.17	336	*i* P	P	23 42 40.5	-0.9
MMAI	Mount Meron Ar	82.94	311	P	P	23 42 50.9	-0.1
	comp=Z,1.2nm,0.6s,baz=45,slow=8.3,SNR=3.6						
H03N2	Juan Fernandez	139.56	91	T	T	02 25 34.4	
	SNR=24						
H03N3	Juan Fernandez	139.57	91	T	T	02 25 40.0	
	SNR=24						
H03N1	Juan Fernandez	139.58	91	T	T	02 25 36.0	
	SNR=25						

IDC 16 23:30:59.4±0.6, 18.61S×63.41W, h0km, mb4.4/14, mb1 4.5/19, mb1mx4.4/27, mbtmp4.4/19, ML4.3/4, MS4.2/5, Ms1 4.2/5, ms1mx3.7/20, Error ellipse: s-maj=15.8km s-min=12.8km az=32.0

ISCJB 16 23:31:01.0±0.3, 18.62S±0.04×63.40W±0.05, h24km, mb4.8/52, MS4.5/5, Error ellipse: s-maj=6.5km s-min=5.9km az=137.7

NEIC 16 23:31:04.6±0.8, 18.61S×63.42W, h43km±7km, mb5.0/45, Error ellipse: s-maj=8.8km s-min=6.1km az=65.0

BJI 16 23:31:06.7, 18.60S×63.40W, h44km, mB5.0/4, Ms5.3/5, Ms7 5.0/5

ISC 16 23:31:02.8±0.4, 18.60S±0.05×63.37W±0.05, h24km, n323, σ1°19/337, mb5.0/54, MS4.5/5, 111C-103D, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	San Ignacio	3.40	40	Pn	Pn	23 31 55.2	+0.8
	40nm,0.3s,baz=251,slow=10,SNR=207						
SIV				Sn	Sn	23 32 36.4	+2.5
	81nm,0.3s,baz=239,slow=18,SNR=8.9						
SIV				Lg	Lg	23 32 48.2	
	185nm,0.3s,baz=308,slow=22,SNR=8.7						
LPAZ	La Paz	5.10	296	*e*Pn	Pn	23 32 20.3	+2.1
LPAZ				*e*Sn	Sn	23 33 16.6	-0.1
LPAZ	La Paz	5.10	296	Pn	Pn	23 32 18.8	+0.5
	13nm,0.3s,baz=109,slow=11,SNR=252						
LPAZ				Sn	Sn	23 33 17.6	+0.9
	29nm,0.3s,baz=261,slow=18,SNR=3.8						
LPAZ				Lg	Lg	23 33 40.5	
	24nm,0.3s,baz=201,slow=16,SNR=5.4						
LVC	Limon Verde	6.55	232	*e*Pn	Pn	23 32 39.4	+1.5
ARE	Arequipa	8.04	284	*e*P	Pn	23 33 03.0	+4.6
CPUP	Villa Florida	9.50	145	*e*Pn	Pn	23 33 16.8	-1.4
CPUP	Villa Florida	9.50	145	Pn	Pn	23 33 16.7	-1.4
	6.7nm,0.3s,baz=308,slow=12,SNR=30						
CPUP				LR	LR	23 37 18.5	
	comp=Z,727nm,19.4s,baz=58,slow=40						
SAML	Samuel	9.60	1	*e*Pn	Pn	23 33 18.7	-0.8
SAML				*e*Sn	Sn	23 35 03.1	-3.6
CFAA	Coronel Fontan	13.67	198	*e*Pn	Pn	23 34 14.6	-0.6
CFAA	Coronel Fontan	13.67	198	Pn	Pn	23 34 14.6	-0.6
	0.0nm,0.3s,baz=12,slow=15,SNR=5.4						
BDFB	Brasilia	14.97	81	*e*Pn	P	23 34 36.3	-2.0
BDFB	Brasilia	14.97	81	Pn	Pn	23 34 33.8	+0.8
	0.4nm,0.3s,baz=247,slow=16,SNR=4.8						
BDFB				LR	LR	23 41 09.6	
	comp=Z,1μm,19.6s,baz=257,slow=41						
ATAH	Atahualpa	18.54	306	P	Pn	23 35 18.8	+0.3
	0.4nm,0.3s,baz=322,slow=2.7,SNR=3.8						
TRQA	Tornquist	19.42	177	*eP*	P	23 35 27.4	+0.1
	24nm,

TXAR Lajitas Array 61.51 320 P P 23 41 17.7 -0.3
0.9nm,0.7s,baz=143,slow=8.8,SNR=7.5
330A Mertzon 61.56 323 ⇓P P 23 41 18.1 -0.1
baz=62
528A Cox Ranch, San 61.58 321 ⇑P P 23 41 18.5 0.0
baz=62
ABTX Abilene, Hawle 61.64 325 eP P 23 41 17.8 -0.9
8.3nm,0.7s
ABTX Abilene, Hawle 61.64 325 ⇑P P 23 41 18.8 +0.1
baz=62
VNA2 Neumayer--Watz 61.71 162 eP P 23 41 19.9 +1.2
VNA2 Neumayer--Watz 61.71 162 el 23 41 23.1
230A Sterling City 61.89 324 ⇓P P 23 41 20.5 +0.1
baz=62
428A Kincaid Ranch, 61.93 322 ⇑P P 23 41 21.0 +0.3
baz=62,SNR=6.1
626A Big Bend Ranch 61.95 320 ⇓P P 23 41 20.8 -0.1
baz=62,SNR=5.9
527A Woodward Ranch 62.06 321 ⇓P P 23 41 21.9 +0.1
baz=62
Z32A Haskell 62.08 326 ⇑P P 23 41 21.2 -0.5
baz=62,SNR=5.8
329A Wagon Wheel Ra 62.08 323 ⇓P P 23 41 21.3 -0.4
baz=62,SNR=6.0
131A Roby 62.08 325 ⇓P P 23 41 21.8 +0.1
baz=62
526A Mary Lane Ranc 62.28 320 ⇓P P 23 41 23.3 +0.1
baz=62
TUL1 Tulsa 62.31 331 ⇓P P 23 41 23.3 +0.2
baz=62
130A Snyder 62.34 324 ⇑P P 23 41 23.5 +0.1
baz=62
229A Bryant Ranch, 62.34 323 ⇓P P 23 41 23.2 -0.3
baz=62
427A Hayter Ranch, 62.44 321 ⇑P P 23 41 23.6 -0.6
baz=63
Z31A Sharp Cattle R 62.44 326 ⇑P P 23 41 23.8 -0.3
baz=63,SNR=7.8
328A Wristen Ranch, 62.48 322 ⇑P P 23 41 23.8 -0.6
baz=63,SNR=6.7
Y32A R-V Farms, Ver 62.60 327 ⇑P P 23 41 25.3 +0.2
baz=63
426A McDonald Obser 62.68 321 ⇑P P 23 41 26.0 0.0
baz=63
WMOK Wichita Mounta 62.83 328 eP P 23 41 25.6 -1.0
72nm,2.3s
DBIC Dimbokro 62.90 72 eP P 23 41 28.4 +0.9
44nm,1.9s
DBIC Dimbokro 62.90 72 P P 23 41 28.4 +0.9
1.8nm,0.8s,baz=279,slow=2.9,SNR=2.4
DBIC LR LR 00 06 02.3
comp=Z,151nm,19.3s,baz=250,slow=33
Z30A Sanderson Ranc 62.95 325 ⇓P P 23 41 26.6 -0.9
baz=63
Y31A Rekieta Farm, 63.00 326 ⇑P P 23 41 27.8 0.0
baz=63
326A Caldwell Ranch 63.12 321 ⇓P P 23 41 28.5 -0.2
baz=63
128A Castleberry Fa 63.20 323 ⇓P P 23 41 28.8 -0.5
baz=63
Z29A Hungry Hill Ra 63.24 324 ⇑P P 23 41 29.0 -0.5
baz=64
425A Indio Mountain 63.34 320 ⇑P P 23 41 29.9 -0.4
baz=64,SNR=5.8
SNAA Sanae 63.36 162 eP P 23 41 30.4 +0.7
SNAA Sanae 63.36 162 el P 23 41 33.6 +3.9
SNAA Sanae 63.36 162 eP P 23 41 29.5 -0.2
4.8nm,1.0s
SNAA Sanae 63.36 162 P P 23 41 30.4 +0.7
1.2nm,0.8s,baz=325,slow=8.8,SNR=9.9
X31A McDonald Ranch 63.36 327 ⇓P P 23 41 29.7 -0.5
baz=64,SNR=7.4
Z28A Tucker Farm, M 63.64 324 ⇑P P 23 41 31.7 -0.5
baz=64
X30A Coker Ranch, T 63.69 326 ⇑P P 23 41 32.0 -0.4
baz=64,SNR=6.7
127A Arkansas Junct 63.74 323 ⇓P P 23 41 32.6 -0.3
baz=64
325A Bean Ranch, Si 63.75 321 ⇓P P 23 41 32.7 -0.3
baz=64,SNR=8.1
226B Tecolote Peak, 63.78 322 ⇓P P 23 41 33.0 -0.1
baz=64
126A Clayton Basin, 64.10 322 ⇑P P 23 41 35.5 +0.3
baz=64
324A Moseley Ranch, 64.11 320 ⇑P P 23 41 34.9 -0.4
baz=64
Z27A Tatum 64.13 323 ⇑P P 23 41 34.8 -0.6
baz=64
X29A Tulia 64.14 325 ⇓P P 23 41 35.1 -0.3
baz=64
225A Deer Hill, Car 64.19 321 ⇑P P 23 41 35.7 -0.1
baz=64
MNTX Cornudas Mount 64.23 321 eP P 23 41 34.3 -1.6
58nm,2.9s
MSTX Muleshoe 64.36 324 eP P 23 41 35.1 -1.9
7.7nm,0.8s
MSTX Muleshoe 64.36 324 ⇑P P 23 41 36.2 -0.7
baz=65
125A Gardner Draw, 64.48 322 ⇑P P 23 41 37.1 -0.7
baz=65
Y27A Causey 64.52 324 ⇑P P 23 41 37.2 -0.7
baz=65,SNR=5.3
Z26A Caprock 64.53 323 ⇑P P 23 41 37.7 -0.3
baz=65
224A Cornudas Mount 64.58 321 ⇑P P 23 41 37.5 -0.9
baz=65,SNR=5.4
W29A Amraillo 64.62 326 ⇑P P 23 41 38.0 -0.6
baz=65
Z25A Roswell 64.96 322 ⇑P P 23 41 40.6 -0.3
baz=65
124A Stringfield Ra 64.98 321 ⇓P P 23 41 41.0 -0.1
baz=65
T31A Randall Ranch, 65.13 329 ⇑P P 23 41 42.2 +0.5
baz=65
U30A WK&E Inc. Balk 65.18 327 ⇑P P 23 41 42.4 +0.3
baz=65
KSU1 Kansas State U 65.29 332 eP P 23 41 41.1 -1.6
15nm,0.8s
W27A Bowe Ranch, En 65.34 325 ⇓P P 23 41 43.2 -0.1
baz=66
X26A CR and CF Fran 65.37 324 ⇑P P 23 41 43.3 -0.2
baz=66
Z24A Sheeppen Canyo 65.38 322 ⇓P P 23 41 43.6 -0.1
baz=66
Y25A Mesa, Roswell 65.41 323 ⇑P P 23 41 43.9 +0.1
baz=66
S31A Mullinville 65.44 329 ⇑P P 23 41 44.2 +0.4
baz=66
222A Williams Famil 65.55 320 ⇓P P 23 41 45.2 +0.4
baz=66
Z23A Rita Site, Whi 65.84 321 ⇓P P 23 41 47.0 +0.5
baz=66
W25A X Bar L Ranch, 66.22 324 ⇓P P 23 41 49.2 +0.2
baz=66
U27A Thompson Grove 66.22 326 ⇑P P 23 41 48.5 -0.5
baz=66
121A Cookes Peak, D 66.27 320 ⇓P P 23 41 50.2 +0.9
baz=66
Z22A Elephant Butte 66.27 321 ⇓P P 23 41 50.1 +0.8
baz=66
V26A Tequesquite Ra 66.28 325 ⇑P P 23 41 49.3 0.0
baz=66
220A Playas Peak, P 66.30 319 ⇑P P 23 41 50.2 +0.7
baz=66
R30A Dighton 66.35 329 ⇓P P 23 41 50.2 +0.5
baz=67
319A Douglas 66.42 318 ⇑P P 23 41 51.0 +0.7
baz=67
S28A Manter 66.63 327 ⇓P P 23 41 51.8 +0.3
baz=67
T27A Campo 66.65 326 ⇑P P 23 41 51.9 +0.2
baz=67
U26A Atchley Ranch, 66.70 325 ⇑P P 23 41 51.9 -0.1
baz=67,SNR=6.1
Z21A St. Cloud Mine 66.73 320 ⇓P P 23 41 53.0 +0.7
baz=67,SNR=5.7
X23A Hourglass Bar 66.75 322 ⇑P P 23 41 52.7 +0.3
baz=67
Y22A Socorro 66.75 321 ⇑P P 23 41 53.2 +0.8
baz=67
W24A Lazy 6 Ranch, 66.75 323 ⇓P P 23 41 52.8 +0.4
baz=67
V25A Rancho No Teng 66.76 324 ⇑P P 23 41 52.8 +0.3
baz=67,SNR=5.2
120A U Bar Ranch, L 66.80 319 ⇑P P 23 41 53.5 +0.8
baz=67
Q30A Quinter 66.87 329 ⇑P P 23 41 52.9 0.0
baz=67

R29A Marienthal 66.89 328 ⇑P P 23 41 53.6 +0.5
baz=67
P31A Stockton 66.90 330 ⇑P P 23 41 53.6 +0.5
baz=67
V24A Rampart Ranch, 67.05 324 ⇓P P 23 41 54.5 +0.1
baz=67
U25A Circle Dot Ran 67.06 325 ⇓P P 23 41 54.7 +0.3
baz=67
W23A Warner Place, 67.14 323 ⇓P P 23 41 55.4 +0.4
baz=67
Z20A Nine Sixteen R 67.16 320 ⇓P P 23 41 55.7 +0.7
baz=67
ANMO Albuquerque 67.16 322 eP P 23 41 53.9 -1.1
104nm,3.0s
Q29A Oakley 67.17 329 ⇓P P 23 41 55.2 +0.4
baz=67
LAZ Ladron 67.18 322 eP P 23 41 54.1 -1.1
T26A Comanche Natio 67.20 326 ⇓P P 23 41 55.6 +0.3
baz=67
Y21A Point of Rocks 67.22 321 ⇓P P 23 41 56.4 +0.9
baz=67
S26A Kim 67.47 326 ⇓P P 23 41 57.3 +0.5
baz=68
Y20A Horse Springs, 67.57 320 ⇓P P 23 41 58.8 +1.0
baz=68
V23A Ortiz Mt. (NFS 67.57 323 ⇓P P 23 41 58.7 +1.0
baz=68
X21A Alamocita Cree 67.59 321 ⇑P P 23 41 58.7 +0.9
baz=68,SNR=5.8
T25A Trinidad 67.61 325 ⇓P P 23 41 58.8 +0.9
baz=68
R27A Eads 67.62 327 ⇑P P 23 41 59.2 +1.4
baz=68
P29A Atwood 67.70 329 ⇑P P 23 41 59.1 +0.9
baz=68
O30A MW Ranch, Wils 67.74 330 ⇑P P 23 41 59.0 +0.7
baz=68
BGNE Belgrade 67.85 332 ⇑P P 23 41 58.8 -0.3
baz=68
R26A Arlington 67.96 327 ⇓P P 23 42 00.1 +0.1
baz=68
TUC Tucson 67.99 318 eP P 23 41 58.5 -1.7
20nm,2.0s
S25A Robets Cordova 68.00 326 ⇑P P 23 42 00.9 +0.6
baz=68
T24B San Luis 68.08 325 ⇓P P 23 42 01.8 +0.9
baz=68
X20A Quemado 68.08 321 ⇑P P 23 42 01.5 +0.6
baz=68
V22A San Miguel Ran 68.11 323 ⇑P P 23 42 02.0 +1.0
baz=68
S24A Houchin Ranch, 68.41 325 ⇑P P 23 42 04.2 +1.2
baz=69
V21A Milan 68.45 322 ⇓P P 23 42 04.2 +1.0
baz=69
P27A Ficken Ranch, 68.47 328 ⇓P P 23 42 03.7 +0.6
baz=69
W20A Ramah 68.48 321 ⇓P P 23 42 04.2 +0.8
baz=69,SNR=6.1
SDCO Great Sand Dun 68.64 325 eP P 23 42 03.4 -1.0
4.7nm,0.9s
R24A Sanders Place, 68.78 326 ⇑P P 23 42 05.9 +0.7
baz=69
T22A Edith 68.89 324 ⇑P P 23 42 06.7 +0.8
baz=69,SNR=5.9
U21A Nageezi 68.90 323 ⇑P P 23 42 06.7 +0.7
baz=69
V20A Brimhall 68.93 322 ⇓P P 23 42 06.7 +0.6
baz=69
X18A Snowflake 68.95 320 ⇑P P 23 42 07.7 +1.4
baz=69
214A Organ Pipe Nat 69.08 316 ⇑P P 23 42 08.5 +1.6
baz=69
P25A Willow Gulch B 69.24 327 ⇓P P 23 42 10.2 +2.2
baz=70
OGNE Ogallala 69.27 330 ⇓P P 23 42 10.7 +2.7
baz=70
M28A Bar X Bar Ranc 69.31 330 ⇓P P 23 42 09.7 +1.5
baz=70
U20A Newcomb 69.36 322 ⇑P P 23 42 09.8 +1.0
baz=70
O26A Horse Wrangler 69.36 328 ⇓P P 23 42 10.2 +1.5
baz=70
S22A 4UR Ranch, Cre 69.37 324 ⇓P P 23 42 10.2 +1.2
baz=70
X16A Lo Mia Camp, P 69.79 319 ⇑P P 23 42 12.7 +1.2
baz=70
MVCO Mesa Verde 69.93 323 eP P 23 42 11.7 -0.6
39nm,1.8s
MVCO Mesa Verde 69.93 323 ⇑P P 23 42 13.3 +0.9
baz=70
ISCO Idaho Springs 70.20 327 ⇑P P 23 42 14.9 +0.8
baz=70
R21A Cimarron 70.21 324 ⇓P P 23 42 14.8 +0.7
baz=70
Y14A Wickenburg 70.47 318 ⇓P P 23 42 16.9 +1.4
baz=71
WUAZ Wupatki 70.47 320 eP P 23 42 14.9 -0.7
35nm,2.1s
WUAZ Wupatki 70.47 320 ⇑P P 23 42 17.2 +1.6
baz=71
R20A Redvale 70.54 324 ⇓P P 23 42 17.0 +1.0
baz=71,SNR=5.4
Q21A Lamborn Mesa, 70.55 325 ⇑P P 23 42 16.9 +0.8
baz=71
O22A Kremmling 70.96 326 ⇓P P 23 42 19.3 +0.7
baz=71
P21A Newcastle 70.98 325 ⇑P P 23 42 19.6 +0.9
baz=71
M24A Cheynne 71.04 328 ⇑P P 23 42 19.7 +0.7
baz=71
N23A Red Feather La 71.18 327 ⇓P P 23 42 21.1 +1.2
baz=71
TOA0 Torodi Ar. Sit 71.46 69 eP P 23 42 20.9 -1.0
TORD Torodi Ar. Bea 71.46 69 P P 23 42 22.6 +0.7
5.2nm,0.7s,baz=260,slow=5.9,SNR=45
TORD LR LR 00 12 24.0
comp=Z,244nm,18.4s,baz=240,slow=35
P20A De Beque 71.47 325 ⇓P P 23 42 22.8 +1.1
baz=72
QSPA South Pole Qui 71.58 180 eP P 23 42 21.3 -0.6
72nm,2.7s
J26A Sides Ranch, S 71.59 331 ⇓P P 23 42 23.0 +0.9
baz=72
U15A North Rim 71.64 320 ⇓P P 23 42 23.9 +1.1
baz=72
W13A Hualapai Mount 71.76 318 ⇓P P 23 42 25.3 +1.7
baz=72
BC3 Big Chuckawall 71.87 316 ⇓P P 23 42 25.4 +1.3
baz=72
M22A Cedar Creek Ra 71.89 327 ⇑P P 23 42 25.6 +1.4
baz=72
L23A Garrett 71.95 328 ⇑P P 23 42 25.7 +1.1
baz=72
IRM Iron Mountain 71.98 317 ⇓P P 23 42 26.1 +1.5
baz=72
N20A Spence Gulch, 72.35 326 ⇓P P 23 42 27.9 +0.9
baz=73
J24A Dixon Ranch, L 72.36 330 ⇓P P 23 42 28.0 +1.2
baz=73
K23A Bowen Ranch, D 72.39 329 ⇓P P 23 42 28.0 +0.9
baz=73
SRU San Rafael 72.39 323 eP P 23 42 26.3 -0.9
94nm,3.0s
O19A Miners Draw (B 72.44 325 ⇑P P 23 42 28.0 +0.7
baz=73
I25A Rochford 72.44 331 ⇓P P 23 42 28.1 +0.7
baz=73
BELC Belle Mtn. Jos 72.44 316 ⇑P P 23 42 29.2 +1.7
baz=73
AGMN Agassiz Nation 72.66 338 eP P 23 42 27.1 -1.2
72nm,1.9s
GMRC Granite Mounta 72.70 317 ⇑P P 23 42 30.5 +1.4
baz=73,SNR=5.7
D30A Buchanan 72.75 336 ⇓P P 23 42 29.1 +0.2
baz=73
CCUT Cedar City 73.02 320 eP P 23 42 30.9 -0.1
40nm,2.5s
K21A Alcova 73.12 328 ⇑P P 23 42 32.0 +0.6
baz=73,SNR=8.5
HEC Hector,Ludlow 73.16 317 ⇓P P 23 42 33.6 +1.9
baz=73
J22A Midwest 73.30 329 ⇑P P 23 42 32.3 -0.1
baz=74,SNR=5.2
H24A Dirks Ranch, A 73.37 331 ⇓P P 23 42 33.0 +0.2
baz=74
I22A 9 Mile Ranch, 73.66 329 ⇓P P 23 42 34.5 0.0
baz=74

BFSC Mount Baldy Ra 73.68 315 ⇓P P 23 42 35.4 +0.6
baz=74
J21A Lysite 73.73 328 ⇓P P 23 42 35.4 +0.3
baz=74
GSC Goldstone 73.76 317 ⇓P P 23 42 35.9 +0.7
baz=74
JLU Jordanelle 73.93 324 eP P 23 42 35.7 -0.6
54nm,2.2s
I21A Big Trails, Te 73.99 329 ⇓P P 23 42 36.2 -0.3
baz=74,SNR=5.8
J20A Shoshoni 74.06 328 ⇑P P 23 42 37.6 +0.7
baz=74
L18A Fontenelle, Gr 74.06 326 ⇓P P 23 42 37.9 +0.8
baz=74
M17A Scullys Gap (B 74.09 325 ⇓P P 23 42 37.7 +0.5
baz=74
G23A Biddle 74.11 331 ⇓P P 23 42 37.0 0.0
baz=74
F24A Ekalaka 74.16 331 ⇓P P 23 42 37.5 +0.2
baz=74
EDW2 Edwards Air Fo 74.28 316 ⇓P P 23 42 39.5 +1.2
baz=74
ULM Lac du Bonnet 74.32 339 eP P 23 42 37.4 -0.6
53nm,1.8s
ULM Lac du Bonnet 74.32 339 P P 23 42 37.4 -0.6
6.2nm,0.6s,baz=144,slow=6.3,SNR=11
BW06 Boulder Array 74.40 327 eP P 23 42 37.8 -1.2
PD31 Pinedale Array 74.40 327 eP P 23 42 39.0 +0.1
PDAR Pinedale Array 74.40 327 P P 23 42 39.0 +0.1
1.6nm,0.5s,baz=124,slow=8.4,SNR=16
A29A Manning Farm, 74.42 336 ⇑P P 23 42 38.8 +0.1
baz=75
DUG Dugway 74.43 323 eP P 23 42 38.1 -1.0
DUG Dugway 74.43 323 ⇑P P 23 42 40.3 +1.2
baz=75
H21A Big Horn, Sher 74.47 329 ⇓P P 23 42 38.9 -0.3
baz=75
J19A Crowheart 74.49 327 ⇓P P 23 42 40.0 +0.5
baz=75
F23A Volborg 74.50 331 ⇑P P 23 42 39.5 +0.2
baz=75
FURC Furnace Creek, 74.51 318 ⇑P P 23 42 41.1 +1.7
baz=75
I20A Worland 74.51 328 ⇓P P 23 42 40.0 +0.6
baz=75
MPMC Manual Prospec 74.66 317 ⇑P P 23 42 41.1 +0.5
baz=75
D25A Fairfield 74.67 333 ⇑P P 23 42 41.0 +0.8
baz=75
H20A Greybull 74.83 329 ⇑P P 23 42 41.7 +0.4
baz=75
R11A Troy Canyon, C 74.88 320 eP P 23 42 41.0 -0.7
23nm,2.3s
R11A Troy Canyon, C 74.88 320 ⇑P P 23 42 43.0 +1.2
baz=75
I19A Meeteetse 75.01 328 ⇑P P 23 42 42.6 +0.2
baz=75
BGU Big Grassy Mou 75.04 323 eP P 23 42 41.3 -1.3
4.1nm,0.9s
ISA Isabella 75.07 316 ⇑P P 23 42 44.1 +1.3
baz=75
CWC Cottonwood Cre 75.27 317 ⇓P P 23 42 45.5 +1.4
baz=75
E22A Miles City 75.29 331 ⇑P P 23 42 44.0 +0.1
baz=76
G20A Bridger 75.47 329 ⇑P P 23 42 45.2 +0.2
baz=76
REDW Red Top Meadow 75.50 326 eP P 23 42 43.5 -1.8
12nm,1.4s
PKM Peak Mountain 75.51 315 ⇓P P 23 42 46.2 +0.7
baz=76
LOHW Long Hollow 75.54 327 eP P 23 42 44.8 -0.8
29nm,1.9s
TPAW Teton Pass 75.64 326 eP P 23 42 44.2 -1.9
83nm,2.9s
MOOW Moose Ponds 75.71 327 eP P 23 42 45.5 -0.9
40nm,2.1s
RRI2 Red Ridge 75.73 326 eP P 23 42 46.2 -0.5
24nm,1.6s
H18A Shoshone NF, C 75.80 328 ⇓P P 23 42 47.1 0.0
baz=76
IMW Indian Meadow 75.91 327 eP P 23 42 47.0 -0.7
38nm,1.8s
D22A Cohagen 75.93 331 ⇓P P 23 42 48.6 +1.1
baz=76
DGMT Dagmar 76.06 333 ⇑P P 23 42 49.3 +1.2
baz=76
H17A Grant Village 76.07 327 eP P 23 42 48.5 -0.1
104nm,2.8s
H17A Grant Village 76.07 327 ⇑P P 23 42 49.8 +1.2
baz=76
D21A La Casta Ranch 76.24 331 ⇑P P 23 42 50.0 +0.7
baz=76
C22A Vida 76.25 332 ⇑P P 23 42 50.0 +0.7
baz=76
F19A Roth Farm, Mol 76.28 329 ⇑P P 23 42 49.7 +0.2
baz=76
A24A Westby 76.33 334 ⇓P P 23 42 50.9 +1.2
baz=77
E20A Meyer Farm, Mu 76.36 330 ⇑P P 23 42 50.5 +0.5
baz=77
B23A Brockton 76.40 333 ⇑P P 23 42 51.5 +1.4
baz=77
NV01 Mina Array Sit 76.61 319 eP P 23 42 49.9 -1.8
NVAR Mina Array Bea 76.61 319 P P 23 42 52.4 +0.7
1.0nm,0.8s,baz=145,slow=5.9,SNR=8.8
E19A Rath Farm, Rou 76.64 330 ⇑P P 23 42 52.3 +0.8
baz=77
A23A Redstone 76.73 333 ⇓P P 23 42 52.8 +0.9
baz=77
D20A Manuel Ranch, 76.79 330 ⇑P P 23 42 52.8 +0.4
baz=77
C20A Veseth Ranch, 77.18 331 ⇑P P 23 42 54.9 +0.4
baz=77
D19A Cripps Ranch, 77.19 330 ⇓P P 23 42 54.9 +0.2
baz=77
A22A Carney Farms, 77.20 333 ⇑P P 23 42 55.4 +0.8
baz=77
SYO Syowa Base 77.34 159 eP P 23 42 55.0 -0.1
HLID Hailey 77.55 325 eP P 23 42 54.9 -2.0
4.3nm,0.8s
HLID Hailey 77.55 325 ⇓P P 23 42 58.2 +1.4
baz=78,SNR=8.7
C19A Slack Wire Ran 77.68 330 ⇓P P 23 42 57.9 +0.5
baz=78
B20A Solberg Farm, 77.72 331 ⇓P P 23 42 58.0 +0.5
baz=78
A20A Cobblestone Ra 78.00 332 ⇑P P 23 42 59.7 +0.6
baz=78
B19A Brinkman Farms 78.16 331 ⇓P P 23 43 00.8 +0.8
baz=78
EGMT Eagleton 78.22 330 ⇑P P 23 43 01.1 +0.7
baz=78
A19A Klindworth Far 78.41 331 ⇑P P 23 43 02.0 +0.7
baz=79
J08A Circle Bar Ran 79.70 323 eP P 23 43 07.8 -0.9
5.7nm,0.8s
MOD Modoc 79.91 321 eP P 23 43 10.8 +0.9
84nm,1.7s
BMO Blue Mountains 79.97 324 eP P 23 43 08.3 -1.7
26nm,1.9s
BOSA Boshof 80.15 117 LR LR 00 15 39.1
comp=Z,148nm,18.6s,baz=80,slow=33
ESDC Sonseca Array 80.16 42 eP P 23 43 11.1 -0.1
ESDC Sonseca Array 80.16 42 P P 23 43 11.1 -0.1
0.8nm,0.7s,baz=244,slow=5.1,SNR=6.4
I07A Izee 80.74 323 eP P 23 43 13.0 -1.2
37nm,1.9s
K05A Summer Lake 80.75 321 eP P 23 43 13.7 -0.7
75nm,1.8s
PINOR Pine Mountain 81.37 322 eP P 23 43 17.2 -0.2
47nm,1.8s
E09A Wood Farm, Sta 81.47 325 eP P 23 43 16.4 -1.5
14nm,1.3s
C09A Chrisman Ranch 82.33 326 eP P 23 43 20.9 -1.5
50nm,1.9s
EDM Edmonton 83.49 332 eP P 23 43 27.0 -1.4
MAW Mawson 85.52 162 eP P 23 43 38.5 +0.1
11nm,2.9s
MAW Mawson 85.52 162 P P 23 43 38.6 +0.1
1.7nm,0.8s,baz=240,slow=16,SNR=3.9
YKA Yellowknife Ar 90.30 339 P P 23 44 01.9 +0.7
1.1nm,0.6s,baz=123,slow=4.5,SNR=5.9
YKB5 Yellowknife Ar 90.30 339 eP P 23 43 59.4 -1.8
DLBC Dease Lake 94.13 331 P P 23 44 19.9 +0.7
3.1nm,0.8s,baz=98,slow=8.9,SNR=3.8
AS01 Alice Springs 134.72 203 ePKPdf PKPdf 23 50 19.7 -0.6
AS12 Alice Springs 134.73 203 ePKPdf PKPdf 23 50 21.0 +0.7

ASAR	**Alice Springs**	**134.73**	**203**	PKP	**PKPdf**	**23 50 21.0**	**+0.7**	
	0.9nm,0.7s,baz=146,slow=1.8,SNR=12							
ZAA0	**Zalesovo Array**	**137.06**	**27**	*e*PKPpre	PKPpre	23 50 15.9		
ZAA0				*e*PKPdf	**PKPdf**	**23 50 24.1**	**+0.6**	
ZALV	**Zalesovo Beam**	**137.06**	**27**	PKP	**PKPdf**	**23 50 24.8**	**+1.3**	
	1.4nm,0.5s,baz=291,slow=2.9,SNR=9.1							
MK32	**Makanchi Array**	**140.21**	**37**	*e*PKPdf	PKPpre	23 50 26.2		
MKAR	**Makanchi Array**	**140.21**	**37**	PKhKP	PKPpre	23 50 26.2		
	0.6nm,0.7s,baz=328,slow=2.7,SNR=4.8							
WMQ	**Urumqi**	**145.04**	**38**	PKPbc	**PKPdf**	**23 50 38.8**	**+0.5**	
WMQ				PP	**PP**	**23 54 01.4**	**+5.0**	
WMQ				SKKS		00 00 46.8		
WMQ				SS	**SS**	**00 12 46.8**	**+2.0**	
WMQ				PPMZ				
	comp=Z,35nm,13.0s							
WMQ				LR	LR			
	comp=N,70nm,16.4s							
WMQ				LR	LR			
	comp=E,46nm,20.0s							
WMQ				LR	LR			
	comp=Z,59nm,17.6s							
SONA0	**Songino Array**	**149.67**	**14**	*e*PKPbc	**PKPbc**	**23 50 51.6**	**+1.0**	
SONM	**Songino Array**	**149.67**	**14**	PKPbc	**PKPbc**	**23 50 51.6**	**+1.0**	
	1.7nm,0.6s,baz=278,slow=1.5,SNR=17							
USRK	**Ussuriysk Arra**	**151.41**	**337**	PKPbc	**PKPbc**	**23 50 55.7**	**+1.0**	
	3.0nm,0.6s,baz=312,slow=4.0,SNR=7.6							
HHC	**Hu-ho-hao-te**	**157.40**	**10**	*e*PKP	**PKPdf**	**23 50 56.8**	**-0.4**	
HHC				pPKP	**pPKPdf**	**23 51 07.6**	**+2.3**	
HHC				sPKP		23 51 11.3		
HHC				PP	**PP**	**23 55 08.8**	**+2.3**	
HHC				SKS	**SKSdf**	**23 57 57.3**	**-4.6**	
HHC				SKKS	**SKKSac**	**00 01 54.5**	**-0.9**	
HHC				SS	**SS**	**00 15 00.8**	**+0.6**	
HHC				LR	LR			
	comp=N,220nm,19.8s							
HHC				LR	LR			
	comp=E,210nm,19.2s							
HHC				LR	LR			
	comp=Z,230nm,20.4s							
KSRS	**Korea Array**	**158.77**	**335**	PKPab	**PKPab**	**23 51 35.1**	**+0.7**	
	1.7nm,0.8s,baz=18,slow=4.7,SNR=4.7							
KS15	**Wonju Array Si**	**158.80**	**335**	*e*PKPab	**PKPab**	**23 51 35.1**	**+0.6**	
CD2	**Chengdu**	**163.08**	**41**	PKP	**PKPdf**	**23 51 02.4**	**-1.3**	
CD2				pPKP	**pPKPdf**	**23 51 17.3**	**+5.4**	
CD2				sPKP		23 51 22.8		
CD2				PKS	**PKSdf**	**23 54 34.4**	**-2.5**	
CD2				PP	**PP**	**23 55 40.6**	**+2.6**	
CD2				SKS	**SKSdf**	**23 58 00.3**	**-6.9**	
CD2				SKKS	**SKKSac**	**00 02 21.8**	**-3.6**	
CD2				SS	**SS**	**00 15 58.9**	**-2.6**	
CD2				PPMZ				
	120nm,7.1s							
CD2				LR	LR			
	comp=N,240nm,4.3s							
CD2				LR	LR			
	comp=Z,130nm,9.5s							
KMI	**Kunming**	**165.57**	**61**	PKP	**PKPdf**	**23 51 05.1**	**-1.2**	
GYA	**Guiyang**	**167.92**	**48**	*e*PKP	**PKPdf**	**23 51 06.8**	**-1.2**	
GYA				pPKP	**pPKPdf**	**23 51 22.0**	**+5.9**	
GYA				sPKP		23 51 29.8		
GYA				PKS	**PKSdf**	**23 54 38.5**	**-2.3**	
GYA				PP	**PP**	**23 56 05.4**	**+1.9**	
GYA				PPMZ				
	comp=Z,120nm,8.0s							

*IDC **16** 23:56:10.8±0.9, 1.°87N×97.°65E, h0km, mb4.1/9, mb1 4.2/10, mb1mx3.9/26, mbtmp4.1/10, ML4.4/1, Error ellipse: s-maj=16.8km s-min=16.1km az=33.0*

*ISCJB **16** 23:56:18.9±0.5, 2.°12N±0.°04×97.°84E±0.°04, h46km, mb4.1/9, Error ellipse: s-maj=6.5km s-min=5.9km az=40.8*

*DJA **16** 23:56:19.9±0.7, 2.°N±3.°×9.°8E±.°, h17km±15km, M4.1/5, MLv4.1/5*

ISC 16 23:56:18.7±0.7, 2.°06N±0.°05×97.°87E±0.°05, h46km, n28, σ1s71/24, mb4.2/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.81**	**201**	P	**Pn**	**23 56 35.3**	**+1.5**
GSI				S	**Sn**	**23 56 47.0**	**+2.3**
PSI	**Prapat**	**1.28**	**55**	Pg	**Pn**	**23 56 40.4**	**+0.1**
	26nm,0.3s,baz=263,slow=5.6,SNR=116						
PSI				Lg	Lg	23 56 57.6	
	50nm,0.3s,baz=311,slow=19,SNR=10						
KCSI	**Kotacane, Aceh**	**1.45**	**356**	P	**Pn**	**23 56 43.9**	**+1.4**
KCSI				S	**Sn**	**23 57 01.4**	**+1.0**
SNSI	**Sinabang, Aceh**	**1.58**	**283**	P	**Pn**	**23 56 45.7**	**+1.5**
SNSI				S	**Sn**	**23 57 03.8**	**+0.3**
LHMI	**Lhok Sumawe**	**3.28**	**344**	P	**Pn**	**23 57 10.3**	**+2.7**
PPI	**Padang Panjang**	**3.56**	**135**	P	Pn	23 57 16.3	+4.9
FRIM	**Kepong**	**3.93**	**73**	P	Pn	23 57 19.7	+3.2
IPM	**Ipoh**	**3.96**	**53**	P	**Pn**	**23 57 19.0**	**+2.0**
IPM	**Ipoh**	**3.96**	**53**	P	**Pn**	**23 57 19.2**	**+2.2**
KULM	**Kulim**	**4.24**	**41**	P	**Pn**	**23 57 22.5**	**+1.7**
KULM	**Kulim**	**4.24**	**41**	P	**Pn**	**23 57 22.9**	**+2.1**
KULM	**Kulim**	**4.24**	**41**	P	**Pn**	**23 57 22.1**	**+1.3**
KGM	**Kluang**	**5.45**	**90**	P	**Pn**	**23 57 40.3**	**+2.9**
MYKOM	**Kota Tinggi**	**5.98**	**92**	P	Pn	23 57 49.5	+4.8
KTGM	**Kuala Trenggan**	**6.17**	**58**	P	**Pn**	**23 57 50.2**	**+2.9**
CMAR	**Chiang Mai Arr**	**16.33**	**4**	Pn	**Pn**	**00 00 05.5**	**+0.6**
	0.5nm,0.3s,baz=197,slow=12,SNR=4.8						
H08S2	**Diego Garcia H**	**27.09**	**249**	T	T	00 29 35.4	
	baz=70,slow=0.7,SNR=46						
H08S3	**Diego Garcia H**	**27.09**	**249**	T	T	00 29 33.6	
	baz=70,slow=0.7,SNR=63						
H08S1	**Diego Carcia H**	**27.11**	**249**	T	T	00 29 34.7	
	baz=70,slow=0.7,SNR=46						
FITZ	**Fitzroy Crossi**	**33.90**	**127**	P	P	00 02 55.6	-1.9
	1.8nm,0.9s,baz=258,slow=14,SNR=3.4						
WRA	**Warramunga Arr**	**41.93**	**123**	P	**P**	**00 04 04.0**	**-1.3**
	3.5nm,0.5s,baz=301,slow=9.1,SNR=7.2						
ASAR	**Alice Springs**	**43.39**	**128**	P	**P**	**00 04 16.2**	**-0.8**
	0.4nm,0.4s,baz=299,slow=7.8,SNR=6.8						
SONM	**Songino Array**	**46.19**	**8**	P	**P**	**00 04 38.1**	**-0.9**
	0.8nm,0.5s,baz=188,slow=9.7,SNR=9.0						
MKAR	**Makanchi Array**	**46.58**	**345**	P	**P**	**00 04 41.6**	**-0.4**
	0.9nm,0.6s,baz=155,slow=9.1,SNR=15						
ZALV	**Zalesovo Beam**	**52.82**	**350**	P	**P**	**00 05 29.0**	**-0.4**
	2.0nm,0.3s,baz=168,slow=6.7,SNR=17						
STKA	**Stephens Creek**	**53.44**	**133**	P	**P**	**00 05 33.1**	**-1.2**
	1.0nm,0.4s,baz=325,slow=12,SNR=3.0						
FINES	**FINESS Array B**	**79.55**	**332**	P	**P**	**00 08 19.8**	**-0.8**
	3.1nm,0.9s,baz=83,slow=4.6,SNR=5.2						
ARCES	**ARCESS Array B**	**81.95**	**340**	P	**P**	**00 08 32.6**	**-0.7**
	2.8nm,1.0s,baz=85,slow=5.4,SNR=4.0						

IDC 17 00:05:47.3±1.4, 18.°85S×63.°22W, h0km, mb3.9/1, mb1 3.7/5, mb1mx3.5/22, mbtmp3.5/5, ML4.0/3, MS3.8/1, Ms1 3.8/1, ms1mx3.2/12, Error ellipse: s-maj=32.2km s-min=26.2km az=24.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIV	**San Ignacio**	**3.50**	**36**	Pn	Pn	00 06 43.1	0.0
	4.1nm,0.3s,baz=252,slow=11,SNR=30						
SIV				LR	LR	00 08 24.9	
	comp=Z,1μm,20.8s,slow=45						
LPAZ	**La Paz**	**5.33**	**298**	Pn	Pn	00 07 08.0	-1.1
	3.3nm,0.3s,baz=119,slow=9.1,SNR=78						
LPAZ				Pg	Pb	00 07 26.0	+3.8
	1.8nm,0.3s,baz=121,slow=19,SNR=10						
CPUP	**Villa Florida**	**9.22**	**145**	Pn	Pn	00 08 01.3	-0.3
	0.5nm,0.3s,baz=329,slow=12,SNR=3.8						
CFAA	**Coronel Fontan**	**13.49**	**199**	Pn	Pn	00 09 00.6	+0.5
	0.0nm,0.3s,baz=207,slow=4.5,SNR=2.1						
TORD	**Torodi Ar. Bea**	**71.42**	**69**	P	P	00 17 10.3	+0.3
	1.0nm,0.7s,baz=252,slow=6.7,SNR=5.6						
SONM	**Songino Array**	**149.87**	**14**	PKPbc	PKPbc	00 25 38.8	-0.8
	0.5nm,0.8s,baz=330,slow=5.1,SNR=3.8						

*IDC **17** 00:06:44.5±0.5, 18.°59S×63.°41W, h0km, mb4.5/16, mb1 4.6/21, mb1mx4.5/27, mbtmp4.4/21, ML4.5/5, MS4.2/5, Ms1 4.2/5, ms1mx3.9/12, Error ellipse: s-maj=14.4km s-min=11.2km az=53.0*

*ISCJB **17** 00:06:46.3±0.2, 18.°62S±0.°04×63.°42W±0.°04, h24km, mb5.0/82, MS4.5/5, Error ellipse: s-maj=5.9km s-min=5.3km az=136.1*

*NEIC **17** 00:06:49.3±1.9, 18.°58S×63.°36W, h34km±2km, mb5.1/81, Error ellipse: s-maj=13.3km s-min=12.4km az=87.0*

NEIC Felt [II] at Santa Cruz. Also felt at Montero, Sucre, Valle Grande and Villa Serano.

*GCMT **17** 00:06:50.9±0.3, 18.°55S×63.°42W, h12km, MW4.9, Moment Tensor Solution. s16,c18; s59,c89; Moment tensor: Scale 10^16^Nm; Mrr2.47±.09; Mθθ-0.04±.09; Mφφ-2.43±.08; Mrθ0.82±.41; Mrφ-0.22±.07; Mθφ0.40±.24; Best double couple: M0 2.60000×10^16^ NP1:φs21.00000°, δ53.00000°, λ110.00000°. NP2:φs170.00000°, δ42.00000°, λ66.00000°. Principal axes: T 2.7300, Plg73.0000°, Azm348.0000°; N -0.2300, Plg16.0000°, Azm189.0000°; P -2.5000, Plg6.0000°, Azm97.0000°; Data Used: lI lU G IC CN. Surface wave period40 sec.*

*BJI **17** 00:06:53.3, 18.°50S×63.°30W, h45km, mB5.3/11, Ms5.2/7, Ms7 5.0/9*

ISC 17 00:06:48.1±0.3, 18.°63S±0.°05×63.°37W±0.°05, h24km, n304, σ1s24/326, mb5.1/83, MS4.5/5, 67C-63D, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIV	**San Ignacio**	**3.42**	**40**	*e*Pn	**Pn**	**00 07 40.6**	**+0.6**
SIV				*e*Sb	**Sb**	**00 08 31.3**	**+2.0**
SIV	**San Ignacio**	**3.42**	**40**	Pn	**Pn**	**00 07 40.6**	**+0.6**
	31nm,0.3s,baz=238,slow=13,SNR=9.3						
SIV				Sn	**Sn**	**00 08 20.7**	**+0.8**
	62nm,0.3s,baz=257,slow=14,SNR=6.7						
SIV				Lg	Lg	00 08 31.3	
	105nm,0.3s,baz=280,slow=17,SNR=6.3						
LPAZ	**La Paz**	**5.11**	**296**	*e*Pn	**Pn**	**00 08 05.0**	**+1.3**
LPAZ				*e*Sn	**Sn**	**00 09 01.5**	**-0.8**
LPAZ	**La Paz**	**5.11**	**296**	Pn	**Pn**	**00 08 02.9**	**-0.8**
	24nm,0.3s,baz=123,slow=11,SNR=28						
LPAZ				Pg	**Pb**	**00 08 18.8**	**+1.7**
	17nm,0.3s,baz=114,slow=18,SNR=6.5						
LPAZ				Sn	**Sn**	**00 09 01.5**	**-0.8**
	40nm,0.3s,baz=67,slow=18,SNR=3.9						
LPAZ				Lg	Lg	00 09 24.4	
	25nm,0.3s,baz=234,slow=19,SNR=2.8						
LPAZ				LR	LR	00 09 30.3	
	comp=Z,392nm,20.2s,baz=114,slow=33						
LVC	**Limon Verde**	**6.53**	**232**	*e*Pn	**Pn**	**00 08 25.0**	**+2.1**
CPUP	**Villa Florida**	**9.48**	**145**	*e*Pn	**Pn**	**00 09 01.8**	**-1.4**
CPUP	**Villa Florida**	**9.48**	**145**	Pn	**Pn**	**00 09 01.5**	**-1.6**
	9.8nm,0.3s,baz=315,slow=15,SNR=19						
CPUP				Lg	Lg	00 11 44.5	
	4.6nm,0.3s,baz=222,slow=18,SNR=3.0						
CPUP				LR	LR	00 13 04.2	
	comp=Z,1μm,21.4s,baz=315,slow=40						
SAML	**Samuel**	**9.63**	**1**	*e*Pn	**Pn**	**00 09 04.2**	**-1.1**
SAML				*e*Sn	**Sn**	**00 10 48.4**	**-4.3**
CFAA	**Coronel Fontan**	**13.64**	**198**	*e*Pn	**Pn**	**00 09 58.5**	**-1.7**
CFAA	**Coronel Fontan**	**13.64**	**198**	Pn	**Pn**	**00 09 58.5**	**-1.7**
	0.0nm,0.3s,baz=11,slow=14,SNR=9.3						
CFAA				Lg	Lg	00 13 58.7	
	0.0nm,0.3s,baz=158,slow=19,SNR=2.4						
BDFB	**Brasilia**	**14.98**	**81**	*e*Pn	**P**	**00 10 21.1**	**-2.7**
BDFB	**Brasilia**	**14.98**	**81**	Pn	**Pn**	**00 10 19.6**	**+1.1**
	0.3nm,0.3s,baz=231,slow=13,SNR=2.8						
BDFB				Lg	Lg	00 14 46.8	
	0.6nm,0.3s,baz=151,slow=17,SNR=3.5						
BDFB				LR	LR	00 16 55.3	
	comp=Z,2μm,20.8s,baz=256,slow=41						
ATAH	**Atahualpa**	**18.56**	**306**	P	**Pn**	**00 11 04.3**	**+0.2**
	0.4nm,0.3s,baz=116,slow=15,SNR=5.6						
TRQA	**Tornquist**	**19.39**	**177**	*e*P	**P**	**00 11 12.3**	**-0.1**
	87nm,1.2s						
OTAV	**Otavalo**	**23.90**	**320**	*e*P	**P**	**00 12 01.3**	**+0.6**
	40nm,1.3s						
ROSC	**El Rosal**	**25.72**	**334**	*e*P	**P**	**00 12 18.7**	**+1.5**
ROSC	**El Rosal**	**25.72**	**334**	P	**P**	**00 12 18.1**	**+0.9**
	12nm,0.7s,baz=114,slow=20,SNR=11						
ROSC				Lg	Lg	00 20 15.9	
	4.0nm,0.4s,baz=107,slow=19,SNR=2.0						
SDV	**Santo Domingo**	**28.27**	**345**	*e*P	**P**	**00 12 39.3**	**-0.6**
	16nm,1.1s						
CRPR	**Cabo Rojo, PR**	**36.59**	**354**	*e*P	**P**	**00 13 52.2**	**-0.2**
	172nm,1.8s						
CELP	**Cerrillos**	**36.62**	**355**	*e*P	**P**	**00 13 51.7**	**-1.0**
LRS	**Lares**	**36.85**	**354**	*e*P	**P**	**00 13 53.0**	**-1.7**
APG	**El Apazote**	**42.77**	**320**	P	**P**	**00 14 43.6**	**-0.6**
	5.8nm,0.6s,baz=137,slow=10.0,SNR=5.1						
APG				LR	LR	00 33 22.8	
	comp=Z,369nm,19.8s,baz=106,slow=37						
TEIG	**Tepich**	**45.69**	**326**	*e*P	**P**	**00 15 05.5**	**-1.8**
	50nm,1.8s						
KMSC	**Kings Mountain**	**56.13**	**342**	*e*P	**P**	**00 16 25.9**	**+0.3**
	101nm,1.8s						
KMSC	**Kings Mountain**	**56.13**	**342**	⇑P	**P**	**00 16 26.1**	**+0.4**
	baz=56,SNR=5.1						
TKL	**Tuckaleechee C**	**57.35**	**340**	*e*P	**P**	**00 16 33.9**	**-0.5**
TKL	**Tuckaleechee C**	**57.35**	**340**	P	**P**	**00 16 33.4**	**-1.0**
	12nm,0.7s,baz=154,slow=8.5,SNR=14						
HKT	**Hockley**	**57.55**	**326**	*e*P	**P**	**00 16 34.9**	**-0.8**
	18nm,1.2s						
732A	**Laxson Ranch,**	**58.89**	**322**	⇑P	**P**	**00 16 45.1**	**-0.1**
	baz=59						
WVT	**Waverly**	**59.18**	**337**	*e*P	**P**	**00 16 45.5**	**-1.5**
	104nm,1.8s						
632A	**Uvalde**	**59.37**	**323**	⇓P	**P**	**00 16 48.8**	**+0.2**
	baz=60,SNR=5.4						
631A	**Perdido Creek**	**59.75**	**322**	⇓P	**P**	**00 16 50.7**	**-0.4**
	baz=60,SNR=7.9						
532A	**Rocksprings**	**59.90**	**323**	⇑P	**P**	**00 16 52.4**	**+0.1**
	baz=60,SNR=7.7						
WHTX	**Lake Whitney**	**60.01**	**327**	⇑P	**P**	**00 16 52.8**	**-0.1**
	baz=60						
JCT	**Junction City**	**60.11**	**324**	*e*P	**P**	**00 16 52.6**	**-1.1**
	32nm,1.6s						
JCT	**Junction City**	**60.11**	**324**	⇓P	**P**	**00 16 53.6**	**-0.1**
	baz=60						
MIAR	**Mount Ida**	**60.19**	**331**	*e*P	**P**	**00 16 52.5**	**-1.6**
	61nm,1.8s						
531A	**Rocksprings**	**60.29**	**323**	⇓P	**P**	**00 16 55.2**	**+0.2**
	baz=60,SNR=13						
432A	**Menard**	**60.41**	**324**	⇑P	**P**	**00 16 55.6**	**-0.1**
	baz=61,SNR=11						
431A	**Sonora**	**60.72**	**323**	⇑P	**P**	**00 16 57.5**	**-0.4**
	baz=61,SNR=8.6						
530A	**J-C Ranch, Com**	**60.74**	**322**	⇓P	**P**	**00 16 57.7**	**-0.3**
	baz=61,SNR=7.8						
PBMO	**Poplar Bluff**	**60.75**	**335**	*e*P	**P**	**00 16 56.1**	**-1.7**
	203nm,1.8s						
332A	**Millersview**	**60.76**	**324**	⇓P	**P**	**00 16 58.1**	**0.0**
	baz=61,SNR=18						
331A	**San Angelo**	**61.09**	**324**	⇓P	**P**	**00 17 00.0**	**-0.3**
	baz=61,SNR=5.5						
232A	**Coleman**	**61.10**	**325**	⇑P	**P**	**00 17 00.4**	**0.0**
	baz=61,SNR=13						
430A	**Baggett Ranch,**	**61.15**	**323**	⇑P	**P**	**00 17 00.5**	**-0.4**
	baz=61,SNR=8.2						
628A	**Black Gap, Mar**	**61.17**	**321**	⇑P	**P**	**00 17 01.2**	**+0.3**
	baz=61,SNR=9.6						
529A	**Stev Forest Ra**	**61.23**	**322**	⇓P	**P**	**00 17 01.5**	**+0.1**
	baz=61,SNR=5.4						
VNA1	**Neumayer--Stat**	**61.30**	**162**	*e*P	**P**	**00 17 02.8**	**+1.6**
ACSO	**Alum Creek Sta**	**61.35**	**343**	*e*P	**P**	**00 17 00.9**	**-0.9**
	25nm,0.7s						
429A	**Davenport Ranc**	**61.41**	**322**	⇑P	**P**	**00 17 02.3**	**-0.3**
	baz=62,SNR=8.1						
627A	**Terlingua Ranc**	**61.45**	**320**	⇓P	**P**	**00 17 02.4**	**-0.5**
	baz=62,SNR=6.0						
231A	**Bronte**	**61.50**	**324**	⇓P	**P**	**00 17 02.7**	**-0.4**
	baz=62,SNR=5.5						
LTX	**Lajitas**	**61.53**	**320**	*e*P	**P**	**00 17 02.1**	**-1.4**
TXAR	**Lajitas Array**	**61.53**	**320**	P	**P**	**00 17 02.1**	**-1.4**
	1.2nm,0.7s,baz=145,slow=6.6,SNR=7.6						
TX31	**Lajitas Ar. Si**	**61.53**	**320**	*e*P	**P**	**00 17 02.1**	**-1.4**
330A	**Mertzon**	**61.58**	**323**	⇓P	**P**	**00 17 03.7**	**0.0**
	baz=62						
528A	**Cox Ranch, San**	**61.60**	**321**	⇓P	**P**	**00 17 03.6**	**-0.3**
	baz=62						
ABTX	**Abilene, Hawle**	**61.66**	**325**	*e*P	**P**	**00 17 03.3**	**-0.9**
ABTX	**Abilene, Hawle**	**61.66**	**325**	⇓P	**P**	**00 17 04.0**	**-0.2**
	baz=62						
VNA2	**Neumayer--Watz**	**61.68**	**162**	*e*P	**P**	**00 17 04.7**	**+0.9**
	baz=284,slow=7.9						
230A	**Sterling City**	**61.91**	**324**	⇑P	**P**	**00 17 05.8**	**-0.1**
	baz=62						
428A	**Kincaid Ranch,**	**61.95**	**322**	⇑P	**P**	**00 17 06.4**	**+0.2**
	baz=62						
626A	**Big Bend Ranch**	**61.97**	**320**	⇓P	**P**	**00 17 06.3**	**-0.1**
	baz=62,SNR=6.2						
527A	**Woodward Ranch**	**62.08**	**321**	⇑P	**P**	**00 17 06.8**	**-0.3**
	baz=62						
Z32A	**Haskell**	**62.10**	**326**	⇑P	**P**	**00 17 07.2**	**+0.1**
	baz=62,SNR=5.8						
329A	**Wagon Wheel Ra**	**62.10**	**323**	⇑P	**P**	**00 17 06.9**	**-0.4**
	baz=62,SNR=6.3						
131A	**Roby**	**62.10**	**325**	⇑P	**P**	**00 17 07.2**	**0.0**
	baz=62,SNR=8.8						
526A	**Mary Lane Ranc**	**62.30**	**320**	⇓P	**P**	**00 17 08.6**	**-0.1**
	baz=62,SNR=6.2						
TUL1	**Tulsa**	**62.33**	**331**	*e*P	**P**	**00 17 07.7**	**-0.9**
TUL1	**Tulsa**	**62.33**	**331**	⇓P	**P**	**00 17 08.8**	**+0.2**
	baz=62						
427A	**Hayter Ranch,**	**62.46**	**321**	⇓P	**P**	**00 17 09.5**	**-0.2**
	baz=63						
Z31A	**Sharp Cattle R**	**62.46**	**326**	⇑P	**P**	**00 17 09.5**	**-0.1**
	baz=63,SNR=9.8						
328A	**Wristen Ranch,**	**62.50**	**322**	⇓P	**P**	**00 17 09.8**	**-0.1**
	baz=63,SNR=6.6						
Y32A	**R-V Farms, Ver**	**62.62**	**327**	⇓P	**P**	**00 17 10.7**	**+0.1**
	baz=63,SNR=5.9						
426A	**McDonald Obser**	**62.70**	**321**	⇓P	**P**	**00 17 11.3**	**-0.1**
	baz=63						
SFIN	**Scholer Farm**	**62.73**	**340**	*e*P	**P**	**00 17 09.6**	**-1.5**
	52nm,1.5s						
WMOK	**Wichita Mounta**	**62.85**	**328**	*e*P	**P**	**00 17 11.7**	**-0.4**
	27nm,1.5s						
Z30A	**Sanderson Ranc**	**62.97**	**325**	⇑P	**P**	**00 17 12.6**	**-0.3**
	baz=63,SNR=7.6						
Y31A	**Rekieta Farm,**	**63.02**	**326**	⇑P	**P**	**00 17 13.4**	**+0.2**
	baz=63,SNR=6.7						
SNAA	**Sanae**	**63.33**	**162**	*e*P	**P**	**00 17 15.6**	**+0.7**
SNAA	**Sanae**	**63.33**	**162**	*e*P	**P**	**00 17 15.5**	**+0.7**
	38nm,1.3s						
SNAA	**Sanae**	**63.33**	**162**	P	**P**	**00 17 15.4**	**+0.5**
	5.0nm,1.1s,baz=310,slow=5.8,SNR=14						
425A	**Indio Mountain**	**63.36**	**320**	⇑P	**P**	**00 17 15.4**	**-0.3**
	baz=64,SNR=5.8						
X31A	**McDonald Ranch**	**63.38**	**327**	⇑P	**P**	**00 17 15.6**	**-0.1**
	baz=64,SNR=8.4						
X30A	**Coker Ranch, T**	**63.71**	**326**	⇓P	**P**	**00 17 17.6**	**-0.3**
	baz=64,SNR=6.0						
127A	**Arkansas Junct**	**63.76**	**323**	⇑P	**P**	**00 17 19.9**	**+1.6**
	baz=64						
325A	**Bean Ranch, Si**	**63.77**	**321**	⇑P	**P**	**00 17 18.2**	**-0.3**
	baz=64,SNR=7.9						
Y28A	**McKinney Farm,**	**64.05**	**325**	⇑P	**P**	**00 17 21.5**	**+1.3**
	baz=64						
126A	**Clayton Basin,**	**64.12**	**322**	⇓P	**P**	**00 17 21.4**	**+0.7**
	baz=64						
225A	**Deer Hill, Car**	**64.21**	**321**	⇓P	**P**	**00 17 22.0**	**+0.7**
	baz=64						
MSTX	**Muleshoe**	**64.39**	**324**	*e*P	**P**	**00 17 21.2**	**-1.1**
MSTX	**Muleshoe**	**64.39**	**324**	⇑P	**P**	**00 17 21.9**	**-0.5**
	baz=65,SNR=5.7						
125A	**Gardner Draw,**	**64.50**	**322**	⇓P	**P**	**00 17 23.2**	**0.0**
	baz=65						
Y27A	**Causey**	**64.54**	**324**	⇓P	**P**	**00 17 23.0**	**-0.4**
	baz=65,SNR=6.3						
224A	**Cornudas Mount**	**64.60**	**321**	⇑P	**P**	**00 17 23.2**	**-0.6**
	baz=65,SNR=5.9						
Z25A	**Roswell**	**64.98**	**322**	⇑P	**P**	**00 17 25.8**	**-0.5**
	baz=65						
KSU1	**Kansas State U**	**65.31**	**332**	*e*P	**P**	**00 17 27.0**	**-1.2**
	80nm,1.6s						
X26A	**CR and CF Fran**	**65.39**	**324**	⇑P	**P**	**00 17 28.8**	**-0.2**
	baz=66						
Z24A	**Sheeppen Canyo**	**65.40**	**322**	⇑P	**P**	**00 17 28.8**	**-0.3**
	baz=66,SNR=5.9						
V28A	**Channing**	**65.42**	**326**	⇑P	**P**	**00 17 30.6**	**+1.5**
	baz=66						
U29A	**Oasis Ranch, S**	**65.45**	**327**	⇓P	**P**	**00 17 30.9**	**+1.7**
	baz=66						
W26A	**Owens Ranch, T**	**65.76**	**324**	⇓P	P	00 17 26.4	-4.9
	baz=66						
W25A	**X Bar L Ranch,**	**66.24**	**324**	⇑P	**P**	**00 17 34.4**	**-0.1**
	baz=66,SNR=5.2						
U27A	**Thompson Grove**	**66.25**	**326**	⇓P	**P**	**00 17 34.7**	**+0.3**
	baz=66						
S29A	**Ulysses**	**66.28**	**328**	⇓P	**P**	**00 17 35.0**	**+0.5**
	baz=66						
121A	**Cookes Peak, D**	**66.29**	**320**	⇑P	**P**	**00 17 36.2**	**+1.4**
	baz=66						
Z22A	**Elephant Butte**	**66.29**	**321**	⇓P	**P**	**00 17 35.5**	**+0.8**
	baz=66,SNR=5.3						
V26A	**Tequesquite Ra**	**66.30**	**325**	⇑P	**P**	**00 17 34.9**	**+0.1**
	baz=66						
220A	**Playas Peak, P**	**66.32**	**319**	⇑P	**P**	**00 17 35.7**	**+0.7**
	baz=66,SNR=7.4						
X24A	**Lazy VL Ranch,**	**66.32**	**323**	⇑P	**P**	**00 17 35.2**	**+0.1**
	baz=66,SNR=6.2						
R30A	**Dighton**	**66.38**	**329**	⇓P	**P

WUAZ	**Wupatki**	70.49	320	*e*P	P	00 18 00.9 -0.2
	13nm,1.3s					
WUAZ	**Wupatki**	70.49	320	⇑P	P	00 18 02.4 +1.4
	baz=71					
SMCO	**Snowmass**	70.50	325	*e*P	P	00 18 00.1 -1.2
	93nm,3.0s					
R20A	**Redvale**	70.56	324	⇑P	P	00 18 02.9 +1.4
	baz=71					
N24A	**Carr**	70.61	328	⇑P	P	00 18 03.1 +1.5
	baz=71					
PV01	**Paradox Valley**	70.63	324	*e*P	P	00 18 02.9 +0.9
O22A	**Kremmling**	70.98	326	⇓P	P	00 18 04.6 +0.5
	baz=71,SNR=8.3					
P21A	**Newcastle**	71.00	325	⇓P	P	00 18 05.3 +1.2
	baz=71					
M24A	**Cheyenne**	71.06	328	⇑P	P	00 18 05.5 +1.1
	baz=71					
Y12C	**Blythe**	71.34	317	⇑P	P	00 18 07.2 +1.2
	baz=72					
TOA0	**Torodi Ar. Sit**	71.48	69	*e*P	P	00 18 06.9 -0.4
TORD	**Torodi Ar. Bea**	71.48	69	P	P	00 18 07.4 +0.2
	7.3nm,0.8s,baz=250,slow=6.0,SNR=25					
QSPA	**South Pole Qui**	71.55	180	*e*P	P	00 18 07.6 +0.6
	29nm,1.4s					
J26A	**Sides Ranch, S**	71.61	331	⇓P	P	00 18 09.4 +1.9
	baz=72					
U15A	**North Rim**	71.65	320	⇑P	P	00 18 09.8 +1.6
	baz=72,SNR=7.4					
W13A	**Hualapai Mount**	71.78	318	⇓P	P	00 18 10.4 +1.5
	baz=72					
F30A	**Leola**	71.84	335	⇑P	P	00 18 10.8 +1.9
	baz=72					
O20A	**White River Ci**	71.86	325	⇓P	P	00 18 10.8 +1.5
	baz=72					
IRM	**Iron Mountain**	72.00	317	⇓P	P	00 18 11.5 +1.4
	baz=72,SNR=5.5					
J25A	**Sunshine Ranch**	72.01	330	⇓P	P	00 18 12.0 +2.0
	baz=72					
SRU	**San Rafael**	72.41	323	*e*P	P	00 18 11.8 -0.8
	7.0nm,1.0s					
O19A	**Miners Draw (B**	72.46	325	⇑P	P	00 18 13.7 +0.9
	baz=73					
I25A	**Rochford**	72.46	331	⇑P	P	00 18 13.5 +0.7
	baz=73,SNR=5.8					
PFO	**Pinyon Flat Ob**	72.52	316	⇑P	P	00 18 14.6 +1.3
	baz=73					
LDFC	**Landfair**	72.55	318	*e*P	P	00 18 12.4 -1.1
	22nm,0.4s					
AGMN	**Agassiz Nation**	72.68	338	*e*P	P	00 18 12.8 -1.0
	43nm,1.8s					
GMRC	**Granite Mounta**	72.72	317	⇓P	P	00 18 15.8 +1.3
	baz=73,SNR=7.3					
K22A	**Casper**	72.78	328	*e*P	P	00 18 13.3 -1.4
	42nm,1.8s					
MVU	**Marysvale**	72.98	322	*e*P	P	00 18 14.6 -1.5
	24nm,1.6s					
CCUT	**Cedar City**	73.03	320	*e*P	P	00 18 16.2 -0.2
	39nm,2.1s					
K21A	**Alcova**	73.14	328	⇓P	P	00 18 17.9 +1.1
	baz=73,SNR=14					
SCHQ	**Schefferville**	73.23	358	*e*P	P	00 18 16.3 -0.6
	446nm,2.9s					
SCHQ	**Schefferville**	73.23	358	P	P	00 18 16.3 -0.6
	4.3nm,0.8s,baz=8.3,slow=10,SNR=2.9					
J22A	**Midwest**	73.32	329	⇑P	P	00 18 18.1 +0.2
	baz=74,SNR=6.5					
MPU	**Maple Canyon**	73.66	323	*e*P	P	00 18 19.9 -0.1
	8.0nm,1.0s					
MDND	**Maddock**	73.71	335	*e*P	P	00 18 19.5 -0.4
MDND	**Maddock**	73.71	335	⇓P	P	00 18 20.2 +0.3
	baz=74,SNR=5.7					
GSC	**Goldstone**	73.78	317	*e*P	P	00 18 20.6 -0.1
	65nm,2.5s					
JLU	**Jordanelle**	73.95	324	*e*P	P	00 18 21.8 0.0
	92nm,2.4s					
I21A	**Big Trails, Te**	74.02	329	⇓P	P	00 18 22.0 +0.1
	baz=74,SNR=7.8					
EDW2	**Edwards Air Fo**	74.30	316	⇓P	P	00 18 24.7 +1.0
	baz=74					
ULM	**Lac du Bonnet**	74.34	339	*e*P	P	00 18 22.4 -1.1
	55nm,1.8s					
ULM	**Lac du Bonnet**	74.34	339	P	P	00 18 22.8 -0.7
	6.9nm,0.6s,baz=151,slow=8.5,SNR=14					
PD31	**Pinedale Array**	74.42	327	*e*P	P	00 18 24.1 -0.3
PDAR	**Pinedale Array**	74.42	327	P	P	00 18 24.1 -0.3
	2.0nm,0.7s,baz=122,slow=8.6,SNR=16					
BW06	**Boulder Array**	74.42	327	*e*P	P	00 18 23.5 -1.0
DUG	**Dugway**	74.45	323	*e*P	P	00 18 24.3 -0.2
	7.8nm,1.1s					
DUG	**Dugway**	74.45	323	⇓P	P	00 18 25.7 +1.1
	baz=75,SNR=5.8					
J19A	**Crowheart**	74.51	327	⇓P	P	00 18 25.5 +0.6
	baz=75,SNR=5.4					
H20A	**Greybull**	74.86	329	⇑P	P	00 18 26.8 +0.1
	baz=75,SNR=5.8					
R11A	**Troy Canyon, C**	74.89	320	*e*P	P	00 18 27.6 +0.4
	18nm,1.8s					
R11A	**Troy Canyon, C**	74.89	320	⇑P	P	00 18 28.6 +1.4
	baz=75,SNR=5.4					
G21A	**Lodge Grass**	75.01	330	⇑P	P	00 18 29.2 +1.6
	baz=75					
BGU	**Big Grassy Mou**	75.06	323	*e*P	P	00 18 28.3 +0.3
	11nm,1.2s					
ISA	**Isabella**	75.08	316	*e*P	P	00 18 27.3 -1.0
	13nm,1.5s					
ISA	**Isabella**	75.08	316	⇑P	P	00 18 29.8 +1.6
	baz=75					
REDW	**Red Top Meadow**	75.52	326	*e*P	P	00 18 30.5 -0.3
	20nm,1.5s					
LOHW	**Long Hollow**	75.56	327	*e*P	P	00 18 30.9 -0.1
	34nm,1.7s					
TPAW	**Teton Pass**	75.66	326	*e*P	P	00 18 31.6 0.0
MOOW	**Moose Ponds**	75.73	327	*e*P	P	00 18 31.3 -0.6
	44nm,2.1s					
RRI2	**Red Ridge**	75.75	326	*e*P	P	00 18 32.0 -0.2
	48nm,1.8s					
TSUM	**Tsumeb**	75.84	106	*e*P	P	00 18 32.6 -0.5
	68nm,1.9s					
IMW	**Indian Meadow**	75.93	327	*e*P	P	00 18 32.1 -1.0
	49nm,1.8s					
H17A	**Grant Village**	76.09	327	*e*P	P	00 18 33.6 -0.5
F19A	**Roth Farm, Mol**	76.30	329	⇓P	P	00 18 35.6 +0.5
	baz=76,SNR=6.2					
YMR	**Madison River**	76.48	327	*e*P	P	00 18 35.9 -0.3
	260nm,2.9s					
GCMT	**Greycliff**	76.61	329	*e*P	P	00 18 36.5 -0.3
NV01	**Mina Array Sit**	76.63	319	*e*P	P	00 18 36.6 -0.6
NVAR	**Mina Array Bea**	76.63	319	P	P	00 18 37.8 +0.7
	1.7nm,0.8s,baz=137,slow=5.5,SNR=14					
QLMT	**Earthquake Lak**	76.83	327	*e*P	P	00 18 37.8 -0.4
SYO	**Syowa Base**	77.31	159⇓	*e*P	P	00 18 40.0 -0.3
SYO	**Syowa Base**	77.31	159⇓	*e*PcP	PcP	00 18 49.4 -1.4
WAKR	**Walker**	77.38	318	*e*P	P	00 18 41.6 +0.2
HLID	**Hailey**	77.57	325	*e*P	P	00 18 42.8 +0.5
	6.0nm,0.8s					
HLID	**Hailey**	77.57	325	⇓P	P	00 18 43.5 +1.2
	baz=78,SNR=9.5					
MCMT	**McKenzie Canyo**	77.57	326	*e*P	P	00 18 42.4 +0.1
CMB	**Columbia Colle**	77.72	317	*e*P	P	00 18 41.7 -1.4
	49nm,2.6s					
PAHR	**Pah Rah Range**	78.06	319	*e*P	P	00 18 44.0 -1.1
	20nm,1.3s					
EGMT	**Eagleton**	78.25	330	*e*P	P	00 18 44.8 -1.1
	147nm,2.8s					
BEKR	**Beckworth**	78.76	319	*e*P	P	00 18 48.5 -0.5
	9.7nm,1.8s					
TBI	**Tubuai**	79.36	249	*e*LR	LR	00 43 34.6
	254nm,27.5s					
MSO	**Missoula**	79.48	327	*e*P	P	00 18 52.2 -0.4
J08A	**Circle Bar Ran**	79.72	323	*e*P	P	00 18 53.9 -0.1
	17nm,1.2s					
MOD	**Modoc**	79.93	321	*e*P	P	00 18 54.5 -0.8
	69nm,1.5s					
BMO	**Blue Mountains**	79.99	324	*e*P	P	00 18 54.0 -1.5
	21nm,1.4s					
HOPS	**Hopland**	79.99	317	*e*P	P	00 18 54.7 -0.8
	49nm,0.5s					
BOSA	**Boshof**	80.14	117	*e*P	P	00 18 58.0 +1.2
BOSA	**Boshof**	80.14	117	P	P	00 18 58.0 +1.2
	12nm,1.2s,baz=279,slow=8.4,SNR=4.6					
ESDC	**Sonseca Array**	80.18	42	*e*P	P	00 18 57.8 +1.3
ESDC	**Sonseca Array**	80.18	42	P	P	00 18 57.8 +1.3
	0.9nm,0.6s,baz=246,slow=5.5,SNR=8.3					
YBMT	**Yellow Bay**	80.20	328	*e*P	P	00 18 54.6 -2.0
ES19	**SONSECA Array**	80.24	42	*e*P	P	00 18 57.5 +0.6
VNDA	**Vanda**	80.52	189	*e*P	P	00 18 58.6 +0.9
	22nm,2.1s					
VNDA	**Vanda**	80.52	189	P	P	00 18 58.7 +0.9
	1.2nm,1.0s,baz=140,slow=3.3,SNR=4.6					
WDC	**Whiskeytown Da**	80.54	318	*e*P	P	00 18 57.3 -1.1
	21nm,1.8s					
F10A	**Beach Ranch, E**	80.65	325	*e*P	P	00 18 59.3 +0.3
	118nm,2.8s					
KCPM	**Cahto Peak**	80.70	317	*e*P	P	00 18 58.0 -1.5
	34nm,1.8s					
I07A	**Izee**	80.75	323	*e*P	P	00 18 58.6 -1.0
	45nm,2.2s					
K05A	**Summer Lake**	80.76	321	*e*P	P	00 18 58.7 -1.1
	54nm,1.6s					
PPT2	**Papeete2**	81.07	254	*e*LR	LR	00 44 22.9
	249nm,24.8s					
G08A	**Pilot Rock**	81.18	324	*e*P	P	00 19 00.5 -1.4
	14nm,1.5s					
YBH	**Yreka Blue Hor**	81.30	319	*e*P	P	00 19 02.2 -0.4
	6.8nm,1.0s					
PINOR	**Pine Mountain**	81.39	322	*e*P	P	00 19 03.6 +0.8
	60nm,1.9s					
E09A	**Wood Farm, Sta**	81.49	325	*e*P	P	00 19 02.3 -1.0
	10nm,1.1s					
KRMB	**Red Mountain**	81.92	319	*e*P	P	00 19 06.0 +0.1
	149nm,2.9s					
HUMO	**Hull Mountain**	81.94	320	*e*P	P	00 19 03.2 -2.6
	6.2nm,1.0s					
HAWA	**Hanford**	82.17	325	*e*P	P	00 19 05.8 -1.2
	88nm,2.5s					
D08A	**Wollman Farm,**	82.24	325	*e*P	P	00 19 07.0 -0.3
	47nm,1.8s					
C09A	**Chrisman Ranch**	82.36	326	*e*P	P	00 19 06.7 -1.1
	12nm,0.8s					
LTY	**Liberty**	83.31	325	*e*P	P	00 19 11.0 -1.9
	27nm,1.7s					
EDM	**Edmonton**	83.52	332	*e*P	P	00 19 12.8 -1.0
MAW	**Mawson**	85.50	162	*e*P	P	00 19 23.8 +0.1
	4.0nm,1.4s					
MAW	**Mawson**	85.50	162	P	P	00 19 24.7 +1.1
	4.1nm,1.0s,baz=225,slow=5.7,SNR=7.9					
LSZ	**Lusaka**	86.66	105	*e*P	P	00 19 30.2 -0.3
	96nm,2.5s					
BORG	**Borgarnes**	89.13	17	LR	LR	00 56 54.6
	comp=Z,244nm,18.3s,baz=181,slow=34					
YKA	**Yellowknife Ar**	90.32	339	P	P	00 19 46.5 -0.1
	3.3nm,0.9s,baz=125,slow=4.4,SNR=7.5					
YKB5	**Yellowknife Ar**	90.32	339	*e*P	P	00 19 46.5 -0.1
ILAR	**Eielson Array**	103.95	334	PP	PP	00 25 05.5 -0.5
	0.4nm,0.9s,baz=106,slow=5.2,SNR=4.2					
ILB	**Eielson Array**	103.95	334	*e*PP	PP	00 25 05.5 -0.5
STKA	**Stephens Creek**	124.36	206	*e*PKPdf	PKPdf	00 25 46.0 +0.4
STKA	**Stephens Creek**	124.36	206	PKP	PKPdf	00 25 45.3 -0.3
	2.5nm,0.9s,baz=79,slow=3.8,SNR=4.3					
ABKAR	**Akbulak array**	125.53	42	*e*PKPdf	PKPdf	00 25 47.6 +0.4
VOSK	**Vostochnaya**	130.94	35	*e*PKPdf	PKPdf	00 25 57.4 -0.1
AS01	**Alice Springs**	134.69	203	*e*PKPdf	PKPdf	00 26 05.3 -0.2
AS12	**Alice Springs**	134.70	203	*e*PKPdf	PKPdf	00 26 05.7 +0.2
ASAR	**Alice Springs**	134.70	203	PKP	PKPdf	00 26 05.7 +0.2
	0.9nm,0.8s,baz=148,slow=1.9,SNR=9.5					
ZAA0	**Zalesovo Array**	137.09	27	*e*PKPdf	PKPdf	00 26 08.5 -0.4
ZALV	**Zalesovo Beam**	137.09	27	PKP	PKPdf	00 26 09.1 +0.2
	2.0nm,0.6s,baz=309,slow=1.1,SNR=11					
AAK	**Ala-Archa**	137.16	47	*e*PKPdf	PKPdf	00 26 08.7 -0.9
WRA	**Warramunga Arr**	137.91	205	*e*PKPdf	PKPdf	00 26 11.6 +0.1
WRA	**Warramunga Arr**	137.91	205	PKP	PKPdf	00 26 11.6 +0.1
	4.2nm,1.0s,baz=153,slow=2.0,SNR=7.0					
KSH	**Kashi**	139.26	51	PKP	PKPdf	00 26 16.4 +2.9
KSH				PP	PP	00 29 13.5 +6.3
KSH				PKS	PKSdf	00 29 49.4 -0.3
KSH				SKS	SKSdf	00 33 22.9 +0.1
KSH				SKKS	SKKSac	00 35 50.5 -10
KSH				PPMZ		
	comp=Z,130nm,4.9s					
KSH				LR	LR	
	comp=N,63nm,4.3s					
KSH				LR	LR	
	comp=E,110nm,6.1s					
KSH				LR	LR	
	comp=Z,120nm,7.3s					
MK32	**Makanchi Array**	140.24	37	*e*PKPpre	PKPpre	00 26 10.7
MK32				*e*PKPdf	PKPdf	00 26 15.5 +0.6
MKAR	**Makanchi Array**	140.24	37	PKhKP	PKPpre	00 26 10.7
	0.8nm,0.8s,baz=336,slow=2.7,SNR=3.6					
MKAR				PKP	PKPdf	00 26 15.5 +0.6
	0.7nm,0.6s,baz=312,slow=2.6,SNR=5.8					
MK01	**Makanchi Array**	140.26	37	*e*PKPdf	PKPdf	00 26 14.5 -0.5
WMQ	**Urumqi**	145.07	38	PKP	PKPdf	00 26 24.3 +0.6
WMQ				pPKP	pPKPdf	00 26 34.9 +3.1
WMQ				SKS	SKSdf	00 33 28.1 -3.5
WMQ				SKKS	SKKSac	00 36 31.4 -1.8
WMQ				SS	SS	00 48 32.4 +2.0
WMQ				PPMZ		
	comp=Z,22nm,14.2s					
WMQ				LR	LR	
	comp=N,72nm,20.6s					
WMQ				LR	LR	
	comp=E,83nm,21.6s					
WMQ				LR	LR	
	comp=Z,59nm,19.0s					
SONA1	**Songino Array**	149.69	14	*e*PKPdf	PKPdf	00 26 32.4 +1.1
SONA0	**Songino Array**	149.70	14	*e*PKPbc	PKPbc	00 26 36.7 +0.7
SONM	**Songino Array**	149.70	14	PKPbc	PKPbc	00 26 36.7 +0.7
	2.7nm,0.7s,baz=0.0,slow=3.0,SNR=14					
USRK	**Ussuriysk Arra**	151.44	337	PKPbc	PKPbc	00 26 39.8 -0.2
	4.2nm,0.7s,baz=85,slow=1.7,SNR=7.8					
MDJ	**Mudanjiang**	151.91	340	PKPbc	PKPdf	00 26 35.1 +0.4
MDJ				PP	PP	00 30 21.8 +0.7
MDJ				LR	LR	
	comp=N,42nm,21.4s					
MDJ				LR	LR	
	comp=E,52nm,24.5s					
MDJ				LR	LR	
	comp=Z,39nm,24.5s					
CN2	**Changchun**	153.83	345	*e*PKPbc	PKPdf	00 26 37.3 -0.2
GTA	**Gaotai**	154.69	32	PKPbc	PKPbc	00 26 45.9 -1.7
HHC	**Hu-ho-hao-te**	157.44	10	*e*PKP	PKPdf	00 26 42.8 +0.2
HHC				pPKP	pPKPdf	00 26 53.4 +2.7
HHC				sPKP		00 26 57.5
HHC				PP	PP	00 30 55.6 +3.7
HHC				SKS	SKSdf	00 33 43.3 -3.9
HHC				SKKS	SKKSac	00 37 39.6 -1.3
HHC				SS	SS	00 50 48.8 +3.0
HHC				PPMZ		
	comp=Z,220nm,9.7s					
HHC				LR	LR	
	comp=N,160nm,20.6s					
HHC				LR	LR	
	comp=E,150nm,19.8s					
HHC				LR	LR	
	comp=Z,170nm,20.2s					
KSRS	**Korea Array**	158.80	334	PKPab	PKPab	00 27 20.7 +0.9
	2.5nm,0.8s,baz=19,slow=2.3,SNR=4.4					
KS15	**Wonju Array Si**	158.82	335	*e*PKPab	PKPab	00 27 20.7 +0.7
CD2	**Chengdu**	163.11	41	PKP	PKPdf	00 26 48.8 -0.3
CD2				pPKP	pPKPdf	00 27 03.1 +5.9
CD2				sPKP		00 27 08.3
CD2				PKS	PKSdf	00 30 20.8 -1.5
CD2				PP	PP	00 31 27.0 +3.6
CD2				SKS	SKSdf	00 33 47.0 -5.5
CD2				SKKS	SKKSac	00 38 08.5 -2.3
CD2				SS	SS	00 51 45.5 -1.6
CD2				PPMZ		
	170nm,8.3s					
CD2				LR	LR	
	comp=N,170nm,5.9s					
CD2				LR	LR	
	comp=Z,210nm,7.1s					
KMI	**Kunming**	165.59	61	PKP	PKPdf	00 26 51.1 -0.6
KMI				PP	PP	00 31 41.8 +4.4
KMI				PPMZ		
	comp=Z,78nm,5.1s					
KMI				LR	LR	
	comp=Z,76nm,25.2s					
NJ2	**Nanjing**	166.49	352	*e*PKP	PKPdf	00 26 52.1 +0.2
GYA	**Guiyang**	167.95	48	*e*PKP	PKPdf	00 26 51.6 -1.7
GYA				pPKP	pPKPdf	00 27 05.8 +4.4
GYA				sPKP		00 27 12.0
GYA				PKPab	PKPab	00 28 01.4 +0.8
GYA				PKS	PKSdf	00 30 23.9 -2.2
GYA				PP	PP	00 31 51.5 +2.5
GYA				PPMZ		
	comp=Z,120nm,8.2s					

IDC **17** *00:10:58.7±2.8, 35°.77N×136°.13E, h339km±30km, mb2.8/5, mb1 2.9/7, mb1mx2.8/28, mbtmp2.8/7, Error ellipse:*
s-maj=27.8km s-min=18.9km az=92.0

ISCJB **17** *00:10:59.1±0.6, 35°.69N±0°.09×135°.8E±0°.1, h350km±5km, mb2.9/5, Error ellipse: s-maj=14.7km s-min=13.0km az=15.0*

JMA **17** *00:11:00.4±0.2, 35°.83N×135°.77E, h338km±2km, M2.7*

ISC 17 00:10:59.8±0.8, 35°.8N±0°.1×135°.81E±0°.08, h344km±7km, n16, σ1s 08/21, mb3.1/5, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFM	**Mihama**	0.26	147	P	Pn	00 11 43.5	+0.5
JWT	**Wachi**	0.57	216	P	Pn	00 11 43.5	-0.1
JWT				S	S	00 12 17.3	-1.3
JGM	**Miyama**	0.74	93	P	Pn	00 11 43.9	-0.1
JGM				S	S	00 12 18.3	-1.1
JIE	**Ise**	1.54	151	P	Pn	00 11 48.3	+0.7
JIE				S	S	00 12 25.6	-0.3
MAT	**Matsushiro**	2.10	67	P	Pn	00 11 51.0	-0.2
MAT				*e*S	S	00 12 32.3	-0.1
MAT	**Matsushiro**	2.10	67	P	Pn	00 11 51.3	+0.1
JSZ	**Suzu**	2.11	36	P	Pn	00 11 51.3	+0.1
JRY	**Ryogami san**	2.53	83	P	Pn	00 11 55.5	+0.9
JRY				*e*S	S	00 12 39.8	+1.2
JOD2	**Odawara 2**	2.72	99	S	S	00 12 43.7	+2.2
KSRS	**Korea Array**	6.57	287	P	Pn	00 12 38.0	+1.2
	0.2nm,0.3s,baz=102,slow=13,SNR=3.9						
USRK	**Ussuriysk Arra**	8.94	342	P	Pn	00 13 05.4	+0.6
	0.6nm,0.3s,baz=161,slow=11,SNR=8.5						
SONM	**Songino Array**	24.88	308	P	P	00 15 53.8	+1.5
	0.8nm,0.6s,baz=112,slow=8.9,SNR=6.6						
MKAR	**Makanchi Array**	40.98	303	P	P	00 18 10.6	+0.4
	0.2nm,0.4s,baz=79,slow=7.8,SNR=4.7						
ILAR	**Eielson Array**	52.98	32	P	P	00 19 39.5	-2.1
	0.2nm,0.7s,baz=269,slow=6.3,SNR=2.5						
WRA	**Warramunga Arr**	55.40	182	P	P	00 19 59.3	-0.2
	0.5nm,0.4s,baz=355,slow=7.5,SNR=4.1						
ASAR	**Alice Springs**	59.12	182	P	P	00 20 24.6	-0.6
	0.3nm,0.4s,baz=5.9,slow=6.8,SNR=5.2						

ISCJB **17** *00:15:13.9±0.2, 12°.17N±0°.03×86°.53W±0°.03, h143km±2km, mb4.7/117, Error ellipse: s-maj=5.9km s-min=2.5km az=37.1*

IDC **17** *00:15:14.2±0.7, 12°.36N×86°.23W, h132km±4km, mb4.1/20, mb1 4.3/23, mb1mx4.3/28, mbtmp4.2/23, MS4.1/4, Ms1 4.0/4, ms1mx3.4/31, Error ellipse: s-maj=17.9km s-min=8.5km az=57.0*

GCMT **17** *00:15:15.5±0.4, 12°.18N×86°.70W, h136km±6km, MW4.9, Moment Tensor Solution. s16,c16; s68,d69; Moment tensor: Scale 10^16 Nm; Mrr=0.37±.15; Mθθ=0.05±.15; Mφφ=-0.43±.19; Mrθ=1.29±.08; Mrφ=-0.50±.19; Mθφ=-2.20±.11; Best double couple: M=0.2.60000×10^16 NP1:φs=153.00000°, δ=88.00000°, λ=79.00000°. NP2:φs=54.00000°, δ=11.00000°, λ=171.00000°. Principal axes: T 2.8400, Plg=46.0000°, Azm=52.0000°; N -0.4800, Plg=11.0000°, Azm=153.0000°; P -2.3600, Plg=42.0000°, Azm=253.0000°; Data Used: IU II G IC CN.*

NEIC **17** *00:15:15.9±0.6, 12°.13N×86°.59W, h150km±5km, mb4.9/106 Error ellipse: s-maj=5.5km s-min=3.2km az=218.0*

NEIC Felt at Leon, Managua and Matagalpa. Felt [II] at San Salvador, El Salvador.

CASC **17** *00:15:15.8±2.3, 11°.98N×86°.80W, h96km±20km, MD4.4, ML5.0*

BJI **17** *00:15:17.6, 12°.20N×86°.50W, h153km, mB5.0/3*

ISC 17 00:15:13.6±0.5, 12°.12N±0°.05×86°.62W±0°.04, h131km±3km, h131km:pP-P, n573, σ1s 30/630, mb4.8/119, 148C-130D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	0.06	26	⇓*i*P	Pn	00 15 31.1	-0.3
COPN	**Copaltepe**	0.06	26	⇓*i*P	Pn	00 15 31.1	-0.3
CNGN	**Cerro Negro**	0.38	349	⇑*i*P	Pn	00 15 31.9	-0.4
CNGN				*e*S	Sn	00 15 43.7	-2.7
CNGN	**Cerro Negro**	0.38	349	⇑*i*P	Pn	00 15 31.9	-0.4
CNGN				*e*S	Sn	00 15 43.7	-2.7
CNCH	**Conchagua**	1.65	314	⇑*e*P	Pn	00 15 43.9	+0.3
CNCH				*e*S	Sn	00 16 03.3	-3.2
CNCH	**Conchagua**	1.65	314	⇑*e*P	Pn	00 15 43.9	+0.3
CNCH				*e*S	Sn	00 16 03.3	-3.2
GB1A	**Borinquen Arri**	1.77	137	*i*P	Pn	00 15 45.8	+0.8
GB1A				*i*S	Sn	00 16 09.6	+0.7
GB1A	**Borinquen Arri**	1.77	137	*i*P	Pn	00 15 45.8	+0.8
GB1A				*i*S	Sn	00 16 09.6	+0.7
BUEV	**Buena Vista**	1.77	138	*i*P	Pn	00 15 46.0	+1.0
BUEV				*i*S	Sn	00 16 10.2	+1.2
BUEV	**Buena Vista**	1.77	138	*i*P	Pn	00 15 46.0	+1.0
BUEV				*i*S	Sn	00 16 10.2	+1.2
GPS1	**Guardaparques**	1.83	137	*i*P	Pn	00 15 46.8	+1.1
GPS1	**Guardaparques**	1.83	137	*i*P	Pn	00 15 46.8	+1.1
GPS2	**Hotel Rinc˜ón**	1.84	137	*i*P	Pn	00 15 46.8	+0.9
GPS2	**Hotel Rinc˜ón**	1.84	137	*i*P	Pn	00 15 46.8	+0.9
LIM1	**Limonal**	1.95	136	⇓*i*P	Pn	00 15 48.2	+1.1
LIM1				*i*S	Sn	00 16 13.9	+1.2
LIM1	**Limonal**	1.95	136	⇓*i*P	Pn	00 15 48.2	+1.1
LIM1				*i*S	Sn	00 16 13.9	+1.2
GUAB	**Guayabo de Bag**	1.96	136	*i*P	Pn	00 15 47.9	+0.7
GUAB	**Guayabo de Bag**	1.96	136	*i*P	Pn	00 15 47.9	+0.7
HORNC	**Hornillas**	1.99	135	⇓*i*P	Pn	00 15 48.5	+0.8
HORNC	**Hornillas**	1.99	135	⇓*i*P	Pn	00 15 48.5	+0.8
TGUH	**Tegucigalpa,Un**	2.03	342	*e*Pn	Pn	00 15 49.3	+1.3
TGUH				*e*Sn	Sn	00 16 17.4	+3.2
CUI	**Cuipilapa**	2.04	135	⇓*i*P	Pn	00 15 49.3	+1.1
CUI	**Cuipilapa**	2.04	135	⇓*i*P	Pn	00 15 49.3	+1.1
BLLM	**Bellamira**	2.05	310	*e*P	Pn	00 15 48.9	+0.5
BLLM	**Bellamira**	2.05	310	*e*P	Pn	00 15 48.9	+0.5
VSM	**San Miguel**	2.07	309	*e*P	Pn	00 15 48.8	0.0
VSM	**San Miguel**	2.07	309	*e*P	Pn	00 15 48.8	0.0
AM

BUS eS Sn 00 17 00.2 +4.6
BUS Buena Vista 3.80 132 ⇑eP Pn 00 16 13.3 +2.1
BUS eS Sn 00 17 00.2 +4.6
MRL Marmol 4.18 315 ⇑eP Pn 00 16 18.7 +2.7
MRL Marmol 4.18 315 ⇓eP Pn 00 16 18.7 +2.7
IXG Ixpaco 4.25 299 ⇓eP Pn 00 16 18.6 +1.7
IXG eS Sn 00 17 05.5 -0.7
IXG Ixpaco 4.25 299 ⇓eP Pn 00 16 18.6 +1.7
IXG eS Sn 00 17 05.5 -0.7
NBG Las Nubes 4.38 304 eP Pn 00 16 21.5 +2.9
NBG Las Nubes 4.38 304 eP Pn 00 16 21.5 +2.9
PCG Pacaya 4.49 301 eP Pn 00 16 22.7 +2.5
PCG Pacaya 4.49 301 eP Pn 00 16 22.7 +2.5
APG El Apazote 4.71 308 P Pn 00 16 24.2 +1.1
comp=Z,68nm,0.3s,baz=126,slow=8.4,SNR=187
APG S Sn 00 17 07.9 -9.2
comp=Z,29nm,0.3s,baz=84,slow=13,SNR=6.0
FUG Fuego 3 4.71 300 eP Pn 00 16 24.9 +1.8
FUG eS Sn 00 17 16.7 -0.4
FUG Fuego 3 4.71 300 eP Pn 00 16 24.9 +1.8
FUG eS Sn 00 17 16.7 -0.4
ACR Cerro Adams 4.84 135 eP Pn 00 16 27.0 +2.3
ACR eS Sn 00 17 20.2 +0.3
ACR Cerro Adams 4.84 135 eP Pn 00 16 27.0 +2.3
ACR eS Sn 00 17 20.2 +0.3
JAT Jato 5.35 295 eP Pn 00 16 33.7 +2.2
JAT eS Sn 00 17 27.4 -4.6
JAT Jato 5.35 295 eP Pn 00 16 33.7 +2.2
JAT eS Sn 00 17 27.4 -4.6
BCIP Isla Barro Col 7.29 113 ePn Pn 00 16 58.9 +1.4
TEIG Tepich 8.21 349 ePn Pn 00 17 12.0 +2.0
TEIG eSn Sn 00 18 43.2 +2.0
GTBY Guantanamo Bay 13.51 53 ePn Pn 00 18 21.8 +1.7
ROSC El Rosal 14.13 120 eP P 00 18 31.4 -0.7
ROSC El Rosal 14.13 120 P Pn 00 18 28.0 -0.5
comp=Z,1.6nm,0.3s,baz=270,slow=20,SNR=1.9
OTAV Otavalo 14.32 145 ePn P 00 18 34.6 +0.3
SDV Santo Domingo 16.05 100 ePn Pn 00 18 52.9 +0.7
comp=Z,40nm,0.9s
SDDR Presa de Saban 16.26 63 ePn P 00 18 56.8 +1.5
comp=Z,37nm,0.9s
BRAL Brewton 18.80 359 eP Pn 00 19 24.8 -0.2
comp=Z,325nm,1.4s
TIGA Tifton 19.43 8 eP P 00 19 31.3 +1.5
TIGA Tifton 19.43 8 ⇑P P 00 19 31.6 +1.8
baz=20,SNR=15
HKT Hockley 19.70 336 eP P 00 19 33.4 +0.7
comp=Z,36nm,1.3s
CRPR Cabo Rojo, PR 19.72 70 eP P 00 19 33.1 0.0
comp=Z,78nm,0.8s
MPR Mayaguez 19.75 70 eP P 00 19 34.2 +0.8
comp=Z,70nm,0.8s
LSP Las Mesas 19.79 70 eP P 00 19 35.3 +1.5
AGP Aguadilla 19.80 69 eP Pn 00 19 36.2 -0.6
comp=Z,612nm,1.8s
LRS Lares 20.04 70 eP P 00 19 35.9 -0.6
AOPR Arecibo Observ 20.13 70 eP P 00 19 37.7 +0.1
comp=Z,88nm,1.2s
OBIP Obispado Ponce 20.19 71 eP P 00 19 39.0 +0.8
comp=Z,184nm,1.5s
CELP Cerrillos 20.23 71 eP P 00 19 39.2 +0.6
732A Laxson Ranch, 20.69 325 ⇓P P 00 19 45.0 +1.5
baz=21,SNR=16
ATAH Atahualpa 20.81 156 P Pn 00 19 48.0 -1.1
comp=Z,23nm,0.7s,baz=4.0,slow=5.5,SNR=13
LRAL Lakeview Retre 20.82 359 eP P 00 19 46.1 +1.3
comp=Z,51nm,0.6s
CPD Cerro la Pandu 20.83 71 eP P 00 19 46.6 +1.5
comp=Z,30nm,0.8s
HUMP Col San Antoni 20.92 71 eP P 00 19 45.4 -0.6
CBYP Canovanas 20.94 70 eP P 00 19 47.0 +0.7
comp=Z,30nm,0.8s
MTP Monte Pirata 21.18 71 eP P 00 19 49.0 +0.2
comp=Z,62nm,0.9s
632A Uvalde 21.20 327 ⇓P P 00 19 50.7 +1.8
baz=21,SNR=9.7
631A Perdido Creek 21.55 325 ⇓P P 00 19 54.8 +2.1
baz=22,SNR=15
532A Rocksprings 21.75 328 ⇑P P 00 19 55.8 +1.0
baz=22,SNR=12
STVI Saint Thomas 21.79 71 eP P 00 19 56.4 +1.1
comp=Z,160nm,1.1s
JCT Junction City 21.97 328 eP P 00 19 57.6 +0.5
comp=Z,20nm,0.8s
JCT Junction City 21.97 328 ⇓P P 00 19 58.3 +1.1
baz=22,SNR=8.5
531A Rocksprings 22.12 326 ⇑P P 00 20 00.4 +1.8
baz=22
WHTX Lake Whitney 22.15 335 eP P 00 19 59.2 +0.3
WHTX Lake Whitney 22.15 335 ⇑P P 00 20 00.3 +1.5
baz=22,SNR=8.6
432A Menard 22.29 329 ⇑P P 00 20 01.5 +1.2
baz=22,SNR=10
OXF Oxford 22.43 354 eP P 00 20 00.3 -1.4
comp=Z,100nm,0.8s
530A J-C Ranch, Com 22.54 325 ⇓P P 00 20 04.3 +1.4
baz=23,SNR=20
431A Sonora 22.56 327 ⇓P P 00 20 04.3 +1.4
baz=23,SNR=17
332A Millersview 22.67 330 ⇑P P 00 20 04.9 +0.8
baz=23,SNR=44
331A San Angelo 22.96 328 ⇑P P 00 20 07.9 +1.1
baz=23,SNR=38
628A Black Gap, Mar 22.97 321 ⇑P P 00 20 08.2 +1.3
baz=23,SNR=14
430A Baggett Ranch, 22.98 326 ⇓P P 00 20 07.9 +0.9
baz=23,SNR=8.7
SWET Sewanee 23.00 1 eP P 00 20 07.7 +0.6
comp=Z,54nm,0.6s
232A Coleman 23.04 331 ⇑P P 00 20 08.5 +1.0
baz=23,SNR=24
UALR University of 23.14 348 eP P 00 20 08.1 -0.4
comp=Z,28nm,0.9s
MIAR Mount Ida 23.20 345 eP P 00 20 09.5 +0.6
comp=Z,44nm,1.0s
429A Davenport Ranc 23.21 325 ⇑P P 00 20 10.2 +0.9
baz=23,SNR=28
627A Terlingua Ranc 23.25 320 ⇑P P 00 20 11.0 +1.3
baz=23,SNR=22
CPCT Cooper Cave 23.30 4 eP P 00 20 11.8 +1.9
LTX Lajitas 23.34 320 eP P 00 20 11.6 +1.1
LTX ePcP PcP 00 23 54.1 +0.4
LTX eScP ScP 00 27 19.8 0.0
TXAR Lajitas Array 23.34 320 P P 00 20 11.6 +1.1
comp=Z,344nm,0.7s,baz=141,slow=10,SNR=154
TXAR PcP PcP 00 23 54.1 +0.4
comp=Z,1.6nm,0.6s,baz=133,slow=3.8,SNR=4.9
TXAR ScP ScP 00 27 19.8 0.0
comp=Z,1.4nm,0.8s,baz=145,slow=5.4,SNR=6.9
TX31 Lajitas Ar. Si 23.34 320 eP P 00 20 11.9 +1.4
528A Cox Ranch, San 23.39 323 ⇓P P 00 20 12.1 +1.2
baz=24,SNR=8.3
231A Bronte 23.41 330 ⇓P P 00 20 11.5 +0.6
baz=24,SNR=8.9
KMSC Kings Mountain 23.41 11 eP P 00 20 12.7 +1.8
KMSC Kings Mountain 23.41 11 ⇓P P 00 20 12.9 +2.0
baz=24,SNR=19
330A Mertzon 23.42 327 ⇓P P 00 20 11.7 +0.6
baz=24,SNR=13
TKL Tuckaleechee C 23.57 6 eP P 00 20 13.7 +1.3
TKL Tuckaleechee C 23.57 6 P P 00 20 12.2 -0.1
comp=Z,50nm,0.9s,baz=177,slow=11,SNR=36
ABTX Abilene, Hawle 23.65 332 eP P 00 20 13.8 +0.7
ABTX Abilene, Hawle 23.65 332 ⇓P P 00 20 13.9 +0.7
baz=24,SNR=13
428A Kincaid Ranch, 23.74 324 ⇑P P 00 20 15.6 +1.5
baz=24,SNR=19
230A Sterling City 23.77 328 ⇑P P 00 20 14.9 +0.6
baz=24,SNR=11
626A Big Bend Ranch 23.79 319 ⇓P P 00 20 16.2 +1.7
baz=24,SNR=25
HALT Halls 23.81 355 eP P 00 20 14.8 +0.3
527A Woodward Ranch 23.88 321 ⇑P P 00 20 16.4 +1.1
baz=24,SNR=14
329A Wagon Wheel Ra 23.92 326 ⇓P P 00 20 16.6 +1.0
baz=24,SNR=23
WVT Waverly 23.93 358 eP P 00 20 16.4 +0.8
comp=Z,280nm,2.7s
GNAR Gosnell 23.94 353 eP P 00 20 15.6 0.0
131A Roby 24.04 330 ⇑P P 00 20 17.5 +0.8
baz=24,SNR=12
526A Mary Lane Ranc 24.11 320 ⇓P P 00 20 18.6 +1.1
baz=24,SNR=15
Z32A Haskell 24.15 333 ⇑P P 00 20 19.2 +1.6
baz=24,SNR=37
GLAT Glass 24.16 355 eP P 00 20 18.2 +0.5

229A Bryant Ranch, 24.20 327 ⇑P P 00 20 19.2 +1.1
baz=24,SNR=13
427A Hayter Ranch, 24.25 323 ⇑P P 00 20 19.6 +0.9
baz=24
130A Snyder 24.26 329 ⇑P P 00 20 19.4 +0.7
baz=24
328A Wristen Ranch, 24.30 325 ⇑P P 00 20 20.1 +1.0
baz=24,SNR=26
CNNC Cliffs of the 24.34 18 eP P 00 20 17.3 -1.9
comp=Z,82nm,0.8s
GRGR Grenville 24.41 87 eP P 00 20 20.6 +0.5
comp=Z,216nm,0.9s
Z31A Sharp Cattle R 24.46 332 ⇑P P 00 20 21.9 +1.4
baz=24,SNR=26
TZTN Tazewell 24.47 6 eP P 00 20 21.1 +0.6
comp=Z,39nm,0.8s
426A McDonald Obser 24.50 322 ⇑P P 00 20 22.2 +1.1
baz=25
PARMO Parma 24.60 354 eP P 00 21.5 -0.1
ANWB Willy Bob 24.61 74 eP P 00 20 20.0 -2.0
comp=Z,89nm,0.9s
Y32A R-V Farms, Ver 24.72 334 ⇑P P 00 20 23.7 +0.8
baz=25,SNR=12
228A UT Block 9, Go 24.74 326 ⇑P P 00 20 23.3 +0.2
baz=25,SNR=8.8
129A Stewart Farms, ⇑P P 00 20 24.7 +1.5
baz=25
PBMO Poplar Bluff 24.79 353 eP P 00 21.7 -1.7
comp=Z,21nm,0.6s
Z30A Sanderson Ranc 24.90 330 ⇑P P 00 20 24.9 +0.4
baz=25,SNR=16
326A Caldwell Ranch 24.93 323 ⇑P P 00 20 26.0 +1.2
baz=25,SNR=12
227A Bennet, Jal 25.04 325 ⇑P P 00 20 27.6 +1.8
baz=25
Y31A Rekieta Farm, 25.05 332 ⇑P P 00 20 26.9 +1.0
baz=25,SNR=17
128A Castleberry Fa 25.07 327 ⇓P P 00 20 26.8 +0.7
baz=25,SNR=18
WMOK Wichita Mounta 25.08 336 eP P 00 20 25.4 -0.7
comp=Z,44nm,0.9s
TUL1 Tulsa 25.09 342 eP P 00 20 25.3 -0.9
TUL1 Tulsa 25.09 342 ⇑P P 00 20 26.3 +0.1
baz=25,SNR=9.5
Z29A Hungry Hill Ra 25.16 329 ⇓P P 00 20 27.3 +0.4
baz=25,SNR=11
425A Indio Mountain 25.17 320 ⇓P P 00 20 28.0 +0.9
baz=25,SNR=16
Y30A Stafford Cattl 25.27 331 ⇓P P 00 20 29.1 +1.2
baz=25,SNR=8.9
X31A McDonald Ranch 25.49 334 ⇓P P 00 20 31.2 +1.4
baz=26,SNR=12
Z28A Tucker Farm, M 25.53 328 ⇓P P 00 20 31.0 +0.7
baz=26,SNR=17
325A Bean Ranch, Si 25.57 321 ⇑P P 00 20 31.3 +0.6
baz=26,SNR=6.2
127A Arkansas Junct 25.58 326 ⇓P P 00 20 31.2 +0.4
baz=26,SNR=7.8
SIUC Southern Illin 25.59 355 eP P 00 20 29.8 -0.8
comp=Z,25nm,0.8s
226B Tecolote Peak, 25.59 324 ⇑P P 00 20 32.4 +1.6
baz=26,SNR=25
BLA Blacksburg 25.59 12 eP P 00 20 30.6 -0.1
comp=Z,207nm,2.0s
Y29A Porterfield Fa 25.63 330 ⇓P P 00 20 32.5 +1.4
baz=26
VWCC Virginia Weste 25.72 12 eP P 00 20 33.5 +1.7
X30A Coker Ranch, T 25.73 332 ⇑P P 00 20 32.9 +0.9
baz=26,SNR=23
GDL2 Guadalupe Moun 25.80 324 eP P 00 20 33.6 +0.9
126A Clayton Basin, 25.93 325 ⇓P P 00 20 35.0 +1.2
baz=26,SNR=14
324A Moseley Ranch, 25.93 321 ⇓P P 00 20 34.4 +0.5
baz=26,SNR=11
Y28A McKinney Farm, 25.95 329 ⇑P P 00 20 35.3 +1.2
baz=26
Z27A Tatum 25.99 327 ⇓P P 00 20 34.4 0.0
baz=26,SNR=9.1
225A Deer Hill, Car 26.00 323 ⇓P P 00 20 36.0 +1.4
baz=26,SNR=12
WCI Wyandotte Cave 26.00 1 eP P 00 20 34.3 -0.1
comp=Z,21nm,0.8s
MNTX Cornudas Mount 26.05 321 eP P 00 20 34.9 +0.1
comp=Z,7.1nm,0.8s
X29A Tulia 26.12 331 ⇓P P 00 20 37.0 +1.5
baz=26,SNR=10
MSTX Muleshoe 26.27 329 eP P 00 20 36.2 -0.7
MSTX Muleshoe 26.27 329 ⇑P P 00 20 37.3 +0.4
baz=26,SNR=16
125A Gardner Draw, 26.30 324 ⇑P P 00 20 38.3 +1.1
baz=26,SNR=17
Z26A Caprock 26.37 326 ⇓P P 00 20 38.7 +0.9
baz=26,SNR=7.1
224A Cornudas Mount 26.39 322 ⇓P P 00 20 38.9 +0.8
baz=26,SNR=14
Y27A Causey 26.40 328 ⇑P P 00 20 38.3 +0.2
baz=26,SNR=14
X28A Dimmitt 26.42 330 ⇓P P 00 20 39.0 +0.8
baz=26
OLIL Olney 26.54 357 eP P 00 20 38.4 -0.7
comp=Z,18nm,0.7s
URVA University of 26.62 16 eP P 00 20 41.4 +1.5
JSRW J. Sargeant Re 26.64 16 eP P 00 20 41.2 +1.2
Y26A Elida 26.78 327 ⇓P P 00 20 42.6 +1.0
baz=27
Z25A Roswell 26.79 325 ⇓P P 00 20 43.2 +1.5
baz=27,SNR=7.9
124A Stringfield Ra 26.79 323 ⇓P P 00 20 43.3 +1.5
baz=27,SNR=21
BLO Bloomington 26.94 0 eP P 00 20 42.8 +0.1
comp=Z,15nm,0.6s
X27A F and S Farms, 26.97 329 ⇑P P 00 20 44.2 +1.0
baz=27
Z24A Sheeppen Canyo 27.19 324 ⇑P P 00 20 46.6 +1.3
baz=27,SNR=16
Y25A Mesa, Roswell 27.25 326 ⇑P P 00 20 47.0 +1.2
baz=27,SNR=8.2
CBN Corbin 27.25 16 eP P 00 20 47.2 +1.6
comp=Z,65nm,0.6s
X26A CR and CF Fran 27.26 328 ⇑P P 00 20 46.8 +1.0
baz=27,SNR=5.4
W27A Bone Ranch, En 27.28 330 ⇑P P 00 20 47.1 +1.2
baz=27,SNR=12
U30A WK&E Inc. Balk 27.39 335 ⇓P P 00 20 47.5 +0.6
baz=28
V28A Channing 27.43 332 ⇑P P 00 20 48.1 +0.8
baz=28
T31A Randall Ranch, 27.50 337 ⇑P P 00 20 47.8 +0.1
baz=28
Z23A Rita Site, Whi 27.65 323 ⇓P P 00 20 50.9 +1.5
baz=28
Y24A Capitan 27.67 325 ⇑P P 00 20 50.9 +1.4
baz=28,SNR=12
V27A Dan Oppiter Fa 27.72 331 ⇓P P 00 20 50.8 +0.9
baz=28
221A Mesquite Ranch 27.76 319 ⇓P P 00 20 51.8 +1.5
baz=28
320A Kipp Ranch, An 27.82 317 ⇓P P 00 20 53.0 +2.1
baz=28
S31A Mullinville 27.88 338 ⇓P P 00 20 51.7 +0.5
baz=28,SNR=7.2
Y23A Lovelace Mesa, 28.03 324 ⇑P P 00 20 54.3 +1.6
baz=28,SNR=12
MCWV Mont Chateau 28.07 11 eP P 00 20 54.1 +1.2
comp=Z,30nm,0.6s
Z22A Elephant Butte 28.09 322 ⇓P P 00 20 54.9 +1.7
baz=28
121A Cookes Peak, D 28.11 320 ⇑P P 00 20 55.6 +2.1
baz=28,SNR=9.9
W25A X Bar L Ranch, 28.11 328 ⇑P P 00 20 54.6 +1.2
baz=28,SNR=7.5
X24A Lazy VL Ranch, 28.14 326 ⇓P P 00 20 55.4 +1.7
baz=28,SNR=5.7
SFIN Scholer Farm 28.15 359 eP P 00 20 53.2 -0.3
comp=Z,322nm,2.6s
220A Playas Peak, P 28.18 318 ⇑P P 00 20 55.9 +1.9
baz=28
ACSO Alum Creek Sta 28.18 6 eP P 00 20 54.5 +0.7
comp=Z,37nm,0.5s
V26A Tequesquite Ra 28.22 330 ⇑P P 00 20 55.2 +0.9
baz=28,SNR=5.5
U27A Thompson Grove 28.26 332 ⇑P P 00 20 56.0 +1.3
baz=28
KSU1 Kansas State U 28.30 343 eP P 00 20 55.2 +0.4
comp=Z,30nm,0.8s
319A Douglas 28.36 316 ⇑P P 00 20 57.7 +2.1
baz=28,SNR=5.2
R31A Burdett 28.49 338 ⇓P P 00 20 57.5 +0.9
baz=29

BNM Barren Site 28.51 324 eP P 00 20 58.5 +1.3
T28A Walsh 28.51 333 ⇓P P 00 20 57.5 +0.6
baz=29
S29A Ulysses 28.52 335 ⇑P P 00 20 58.4 +1.5
baz=29
SDMD Soldier's Deli 28.53 16 eP P 00 20 58.2 +1.4
comp=Z,34nm,0.6s
LPM Los Pinos Moun 28.63 324 eP P 00 20 59.1 +1.0
120A U Bar Ranch, L 28.66 319 ⇑P P 00 21 00.5 +2.2
baz=29,SNR=6.4
V25A Rancho No Teng 28.67 328 ⇑P P 00 20 59.7 +1.3
baz=29
U26A Atchley Ranch, 28.67 330 ⇑P P 00 21 00.1 +1.6
baz=29
LENM Lemitar 28.73 323 eP P 00 21 00.6 +1.7
R30A Dighton 28.76 337 ⇑P P 00 21 00.0 +1.0
baz=29,SNR=7.4
S28A Manter 28.82 334 ⇑P P 00 21 00.8 +1.3
baz=29,SNR=5.1
P33A Williams Farm, 28.92 342 ⇑P P 00 21 01.1 +0.7
baz=29,SNR=6.9
V24A Rampart Ranch, 28.92 327 ⇓P P 00 21 02.1 +1.4
baz=29
W23A Werner Place, 28.97 326 ⇓P P 00 21 03.0 +1.9
baz=29,SNR=12
ANMO Albuquerque 28.99 325 eP P 00 21 01.4 +0.1
comp=Z,8.6nm,1.1s
ANMO Albuquerque 28.99 325 P P 00 21 02.8 +1.5
comp=Z,6.6nm,0.8s,baz=140,slow=6.4,SNR=18
X22A Bernardo 28.99 324 ⇑P P 00 21 03.6 +2.4
baz=29
LAZ Ladron 28.99 323 eP P 00 21 02.8 +1.6
Z20A Nine Sixteen R 29.00 320 ⇓P P 00 21 03.5 +2.2
baz=29,SNR=6.3
Y21A Point of Rocks 29.03 322 ⇓P P 00 21 04.1 +2.3
baz=29,SNR=8.2
MVL Millersville 29.21 16 eP P 00 21 04.4 +1.5
comp=Z,19nm,0.6s
W22A Albuquerque 29.31 325 ⇑P P 00 21 06.3 +2.2
baz=29
P32A Huiting Farm, 29.37 341 ⇓P P 00 21 05.0 +0.6
baz=30
Y20A Horse Springs, 29.39 321 ⇑P P 00 21 07.1 +2.2
baz=30,SNR=15
X21A Alamosita Cree 29.40 323 ⇓P P 00 21 07.1 +2.2
baz=30,SNR=6.7
R28A Tribune 29.42 335 ⇓P P 00 21 06.1 +1.2
baz=30,SNR=6.1
SSPA Standing Stone 29.43 14 eP P 00 21 06.4 +1.6
comp=Z,111nm,1.5s
P31A Stockton 29.54 340 ⇓P P 00 21 07.0 +1.1
baz=30
T25A Trinidad 29.59 330 ⇑P P 00 21 07.7 +1.2
baz=30
R27A Eads 29.79 334 ⇓P P 00 21 09.3 +1.2
baz=30
W21A San Fidel 29.79 324 ⇓P P 00 21 09.7 +1.3
baz=30
O32A Brockman Farm, 29.86 342 ⇓P P 00 21 09.2 +0.6
baz=30
P30A Selden 29.86 339 ⇑P P 00 21 09.7 +0.9
baz=30
U23A El Rito 29.87 327 ⇑P P 00 21 10.8 +1.8
baz=30,SNR=14
ALLY Alegheny Colle 29.96 10 eP P 00 21 09.7 +0.2
comp=Z,92nm,1.3s
LUPA Lehigh Univers 30.05 17 eP P 00 21 10.4 +0.1
comp=Z,85nm,1.6s
P29A Atwood 30.16 338 ⇑P P 00 21 12.6 +1.1
baz=30
U22A Llaves 30.26 326 ⇑P P 00 21 14.3 +1.8
baz=30,SNR=6.2
V21A Milan 30.27 325 ⇑P P 00 21 14.7 +2.0
baz=30
N32A Stulken Farm, 30.32 342 ⇑P P 00 21 13.7 +0.9
baz=30
O30A MW Ranch, Wils 30.36 339 ⇓P P 00 21 14.2 +1.1
baz=30,SNR=8.4
ERPA Erie 30.44 10 eP P 00 21 13.9 +0.2
comp=Z,146nm,1.3s
P28A Saint Francis 30.45 337 ⇓P P 00 21 15.0 +1.0
baz=30
N31A Bailey Ranch, 30.58 341 ⇑P P 00 21 15.7 +0.6
baz=31
SDCO Great Sand Dun 30.60 330 eP P 00 21 16.3 +0.7
comp=Z,6.7nm,0.8s
ODNJ Ogdensburg 30.72 18 eP P 00 21 17.0 +0.8
comp=Z,166nm,2.0s
V20A Brimhall 30.74 324 ⇑P P 00 21 18.6 +1.8
baz=31
X18A Snowflake 30.78 320 ⇑P P 00 21 19.1 +2.0
baz=31,SNR=5.4
JFWS Jewell Farm 30.84 355 eP P 00 21 17.0 -0.2
comp=Z,20nm,0.7s
BGNE Belgrade 30.87 343 eP P 00 21 17.8 +0.2
BGNE Belgrade 30.87 343 ⇑P P 00 21 18.0 +0.4
baz=31,SNR=12
O28A Krutsinger Ran 30.93 337 ⇑P P 00 21 19.9 +1.7
baz=31
W18A Petrified Fore 31.03 321 eP P 00 21 21.4 +2.1
comp=Z,22nm,0.8s
W18A Petrified Fore 31.03 321 ⇓P P 00 21 21.5 +2.2
baz=31,SNR=7.5
M31A Lambtecht Ranc 31.06 342 ⇑P P 00 21 20.2 +0.9
baz=31,SNR=8.6
R23A Moffat 31.11 330 ⇑P P 00 21 21.8 +1.8
baz=31,SNR=5.5
N29A Votaw Ranch, W 31.12 339 ⇓P P 00 21 21.0 +1.2
baz=31
U20A Newcomb 31.18 324 ⇑P P 00 21 21.5 +0.9
baz=31
S22A 4UR Ranch, Cre 31.27 328 ⇓P P 00 21 23.1 +1.6
baz=31,SNR=8.3
BINY Binghamton 31.37 15 eP P 00 21 20.8 -1.2
comp=Z,59nm,0.8s
P25A Willow Gulch B 31.40 333 ⇑P P 00 21 23.8 +1.3
baz=32
MMNY Mt. Morris Dam 31.42 12 eP P 00 21 22.0 -0.4
comp=Z,141nm,1.2s
R22A Saguache, Gunn 31.60 329 ⇓P P 00 21 26.0 +1.6
baz=32,SNR=8.9
X16A Lo Mia Camp, P 31.66 319 ⇑P P 00 21 26.8 +2.0
baz=32,SNR=16
M29A Burnside Ranch 31.70 340 ⇓P P 00 21 26.4 +1.5
baz=32
S21A Coal Bank Pass 31.71 327 ⇓P P 00 21 26.6 +1.2
baz=32,SNR=5.5
OGNE Ogallala 31.74 338 ⇑P P 00 21 27.3 +2.0
baz=32
MVCO Mesa Verde 31.77 326 eP P 00 21 27.0 +1.2
comp=Z,8.2nm,0.8s
MVCO Mesa Verde 31.77 326 ⇑P P 00 21 27.2 +1.5
baz=32,SNR=5.2
L30A Spencer Herefo 31.84 341 ⇑P P 00 21 27.8 +1.7
baz=32
P23A Jefferson 32.05 331 ⇑P P 00 21 30.3 +2.0
baz=32
Q22A Crested Butte, 32.16 329 ⇓P P 00 21 30.7 +1.4
baz=32
ISCO Idaho Springs 32.28 332 eP P 00 21 30.8 +0.4
comp=Z,31nm,2.1s
ISCO Idaho Springs 32.28 332 ⇓P P 00 21 31.3 +1.0
baz=32
WUAZ Wupatki 32.31 320 eP P 00 21 30.7 +0.3
comp=Z,15nm,0.9s
WUAZ Wupatki 32.31 320 ⇓P P 00 21 32.5 +2.1
baz=32,SNR=13
M27A Reverse DX Ran 32.38 338 ⇓P P 00 21 32.7 +1.8
baz=32
Y14A Wickenburg 32.40 316 ⇓P P 00 21 32.5 +1.3
baz=32
R20A Redvale 32.41 327 ⇓P P 00 21 33.3 +1.9
baz=32
SMCO Snowmass 32.44 330 eP P 00 21 33.0 +1.2
comp=Z,11nm,1.3s
K30A Basset 32.47 342 ⇑P P 00 21 32.7 +1.1
baz=33,SNR=10
L28A Connealy Angus 32.49 339 ⇓P P 00 21 33.1 +1.2
baz=33
TRY Troy 32.51 18 eP P 00 21 33.7 +1.9
QUA2 Belchertown 32.52 20 eP P 00 21 33.0 +1.0
ECSD EROS Data Cent 32.66 347 eP P 00 21 32.4 -0.8
comp=Z,34nm,1.3s
PV05 Paradox Valley 32.72 326 eP P 00 21 35.4 +1.3
K29A Lazy Trails An 32.76 341 ⇑P P 00 21 35.3 +1.1
baz=33
PV04 Paradox Valley 32.84 327 eP P 00 21 36.5 +1.4

PV10 Paradox Valley 32.90 327 eP P 00 21 36.5 +0.7
WES Weston 32.96 21 eP P 00 21 36.0 +0.2
J30A Dallas 33.03 343 ⇓P P 00 21 36.7 +0.3
baz=33,SNR=7.8
PV09 Paradox Valley 33.04 327 eP P 00 21 37.5 +0.5
ACCN Adirondack Com 33.10 17 eP P 00 21 39.1 +2.0
comp=Z,31nm,1.1s
J29A Okreek 33.35 342 ⇑P P 00 21 40.0 +0.7
baz=33,SNR=33
P20A De Beque 33.39 329 ⇓P P 00 21 41.4 +1.5
baz=34,SNR=12
SPMN St. Paul 33.41 352 eP P 00 21 39.3 -0.4
SPMN St. Paul 33.41 352 ⇑P P 00 21 39.2 -0.5
baz=34,SNR=19
U15A North Rim 33.46 321 ⇓P P 00 21 42.2 +1.6
baz=34,SNR=5.9
N22A Wattenberg Ran 33.47 332 ⇑P P 00 21 42.5 +2.0
baz=34
NCB Newcomb 33.49 16 eP P 00 21 41.4 +1.0
comp=Z,413nm,2.9s
I30A Oacoma 33.55 343 ⇑P P 00 21 40.9 0.0
baz=34
LPAZ La Paz 33.63 147 eP P 00 21 43.7 +1.1
comp=Z,20nm,1.5s
J28A Allard Ranch, 33.65 341 ⇓P P 00 21 42.9 +1.0
baz=34,SNR=10
J27A Elkhorn Farm, 33.76 340 ⇑P P 00 21 44.5 +1.7
baz=34,SNR=7.1
O20A White River Ci 33.80 329 eP P 00 21 43.9 +0.5
O20A White River Ci 33.80 329 ⇑P P 00 21 45.1 +1.7
baz=34,SNR=7.0
MDV Middlebury 33.81 18 eP P 00 21 43.7 +0.5
HNH Hanover 33.82 19 eP P 00 21 42.4 -0.8
PTN Potsdam (NY) 33.84 15 eP P 00 21 44.4 +1.0
comp=Z,153nm,0.8s
I29A Vivian Onida 33.90 342 ⇑P P 00 21 44.2 +0.2
baz=34,SNR=11
BRSD Miller 33.91 344 eP P 00 21 43.9 -0.2
BRSD Miller 33.91 344 ⇓P P 00 21 43.6 -0.4
baz=34,SNR=8.7
LONY Lake Ozonia 33.99 15 eP P 00 21 45.7 +0.9
comp=Z,50nm,0.8s
I28A Midland 34.15 341 ⇑P P 00 21 46.8 +0.7
baz=34
L23A Garrett 34.20 334 ⇓P P 00 21 48.1 +1.2
baz=34,SNR=5.1
SRU San Rafael 34.24 326 eP P 00 21 48.6 +1.4
comp=Z,11nm,0.7s
N20A Spence Gulch, 34.34 330 ⇓P P 00 21 49.5 +1.4
baz=34,SNR=6.7
O19A Miners Draw (B 34.37 329 ⇓P P 00 21 49.8 +1.5
baz=34
LBNH Lisbon 34.41 19 eP P 00 21 49.8 +1.4
comp=Z,840nm,2.8s
FRNY Flat Rock 34.46 16 eP P 00 21 49.4 +0.6
comp=Z,47nm,1.3s
I27A Quinn 34.50 340 ⇑P P 00 21 50.3 +1.1
baz=35,SNR=12
J25A Sunshine Ranch 34.52 338 ⇓P P 00 21 50.6 +1.1
baz=35
G30A Faulkton 34.59 344 ⇑P P 00 21 49.5 -0.5
baz=35
H28A Mission Ridge 34.71 342 ⇑P P 00 21 51.2 +0.2
baz=35
H27A Howes 35.01 341 ⇑P P 00 21 54.5 +0.9
baz=35
I25A Rochford 35.03 338 ⇓P P 00 21 55.3 +1.4
baz=35
G28A Parade 35.04 342 ⇓P P 00 21 54.5 +0.7
baz=35
H26A Fairpoint 35.22 340 ⇑P P 00 21 56.9 +1.5
baz=35,SNR=11
I24A Kuemmerle Ranc 35.23 337 ⇑P P 00 21 56.8 +1.2
baz=35
F29A Eureka 35.43 344 ⇑P P 00 21 56.4 -0.7
baz=36,SNR=5.1
MPU Maple Canyon 35.48 326 eP P 00 21 57.5 -0.4
comp=Z,16nm,1.0s
DAU Daniels Canyon 35.56 327 eP P 00 21 59.2 +0.5
G26A Maurine 35.76 341 ⇓P P 00 22 00.5 +0.5
baz=36,SNR=9.4
E30A Jud 35.81 345 ⇑P P 00 21 59.9 -0.5
baz=36,SNR=15
EYMN Ely 35.94 354 eP P 00 22 00.5 -1.0
comp=Z,19nm,1.1s
G25A Newell 35.95 340 ⇑P P 00 22 02.8 +1.2
baz=36
G27A Dupree 35.95 340 ⇑P P 00 21 59.4 -2.2
baz=36,SNR=7.6
H24A Dirks Ranch, A 35.96 338 ⇓P P 00 22 02.7 +1.0
baz=36,SNR=6.7
I22A 9 Mile Ranch, 35.99 335 ⇑P P 00 22 02.9 +0.9
baz=36
M17A Scullys Gap (B 36.02 329 ⇑P P 00 22 03.3 +0.8
baz=36,SNR=7.1
L18A Fontenelle, Gr 36.04 330 ⇑P P 00 22 03.6 +1.0
baz=36,SNR=6.4
E29A Napoleon 36.06 345 ⇑P P 00 22 02.2 -0.3
baz=36,SNR=6.4
J20A Shoshoni 36.23 333 ⇓P P 00 22 05.6 +1.5
baz=36
DUG Dugway 36.26 325 ⇑P P 00 22 06.1 +1.6
baz=36,SNR=5.6
D30A Buchanan 36.34 346 ⇑P P 00 22 04.6 -0.3
baz=36,SNR=16
E28A Huff 36.34 344 ⇑P P 00 22 04.8 -0.1
baz=36,SNR=6.1
BW06 Boulder Array 36.45 331 eP P 00 22 06.2 +0.1
PD31 Pinedale Array 36.45 331 eP P 00 22 06.2 +0.1
PD31 epP pP 00 22 36.0 +1.2
PD31 ePcP PcP 00 24 27.7 +0.2
PD31 eScP ScP 00 28 00.8 -1.2
PDAR Pinedale Array 36.45 331 P P 00 22 06.2 +0.1
comp=Z,3.4nm,0.6s,baz=128,slow=10,SNR=26
PDAR pP pP 00 22 36.0 +1.2
comp=Z,3.7nm,0.8s,baz=115,slow=8.4,SNR=5.7
PDAR PcP PcP 00 24 27.7 +0.2
comp=Z,0.4nm,0.4s,baz=100,slow=3.3,SNR=4.8
PDAR ScP ScP 00 28 00.8 -1.2
comp=Z,0.8nm,0.6s,baz=126,slow=4.6,SNR=6.8
E27A Carson 36.46 343 ⇓P P 00 22 06.5 +0.6
baz=37,SNR=9.1
D29A Pettibone, Tap 36.50 345 ⇓P P 00 22 05.9 -0.4
baz=37,SNR=10
F25A Bowman 36.60 340 ⇑P P 00 22 08.1 +0.9
baz=37
MPMC Manual Prospec 36.63 316 ⇓P P 00 22 09.2 +1.4
baz=37,SNR=7.2
R11A Troy Canyon, C 36.71 320 eP P 00 22 09.9 +1.6
comp=Z,9.4nm,1.5s
R11A Troy Canyon, C 36.71 320 ⇓P P 00 22 09.9 +1.6
baz=37
I20A Worland 36.73 334 ⇓P P 00 22 09.2 +0.9
baz=37
H21A Big Horn, Sher 36.82 335 ⇑P P 00 22 09.6 +0.4
baz=37
C30A Mose, Pekin 36.84 347 ⇑P P 00 22 08.9 -0.2
baz=37,SNR=6.4
F24A Ekalaka 36.87 339 ⇑P P 00 22 10.3 +0.9
baz=37
D28A Regan 36.88 344 ⇓P P 00 22 09.8 +0.3
baz=37,SNR=14
AGMN Agassiz Nation 36.88 350 eP P 00 22 08.8 -0.6
comp=Z,21nm,0.7s
BGU Big Grassy Mou 36.88 326 eP P 00 22 11.2 +1.5
comp=Z,6.0nm,1.0s
G22A Birney 37.01 337 ⇑P P 00 22 11.6 +0.9
baz=37
D27A Center 37.07 343 ⇑P P 00 22 11.4 +0.4
baz=37,SNR=7.7
E25A Miller Ranch, 37.09 341 ⇑P P 00 22 12.2 +0.9
baz=37
MDND Maddock 37.24 346 eP P 00 22 12.7 +0.2
MDND Maddock 37.24 346 ⇓P P 00 22 12.7 +0.2
baz=37,SNR=23
D26A Manning 37.26 342 ⇓P P 00 22 12.9 +0.2
baz=37
C28A Hausauer Farms 37.31 345 ⇑P P 00 22 13.2 +0.1
baz=37,SNR=7.4
E24A Baker 37.44 340 ⇑P P 00 22 15.4 +1.1
baz=38,SNR=5.0
B30A Myrvik Farm, E 37.51 347 ⇓P P 00 22 14.4 -0.4
baz=38,SNR=16
REDW Red Top Meadow 37.52 331 eP P 00 22 15.9 +0.8
comp=Z,27nm,0.9s
SNOW Snow King Moun 37.55 331 eP P 00 22 15.0 -0.4
comp=Z,24nm,0.9s
LOHW Long Hollow 37.59 331 eP P 00 22 16.4 +0.7
comp=Z,7.2nm,1.0s
C27A Sayler Ranch, 37.61 343 ⇓P P 00 22 15.9 +0.3
baz=38
D25A Fairfield 37.64 341 ⇓P P 00 22 17.1 +1.2
baz=38
TPAW Teton Pass 37.66 331 eP P 00 22 17.1 +0.7
comp=Z,11nm,0.8s
SIV San Ignacio 37.67 137 eP P 00 22 16.2 -0.3
SIV San Ignacio 37.67 137 P P 00 22 16.2 -0.3
comp=Z,11nm,0.6s,baz=307,slow=10,SNR=8.6
RRI2 Red Ridge 37.73 330 eP P 00 22 17.8 +0.8
comp=Z,29nm,1.4s
B29A Wagenman Farm, 37.76 346 ⇓P P 00 22 16.9 +0.1
baz=38,SNR=16
MOOW Moose Ponds 37.76 331 eP P 00 22 17.7 +0.6
comp=Z,5.5nm,0.9s
G20A Bridger 37.79 335 ⇑P P 00 22 18.2 +0.9
baz=38
I17A Pilgrim Ck. 37.81 331 ⇑P P 00 22 18.8 +1.3
baz=38
C26A Wahner Farm, P 37.88 343 ⇑P P 00 22 18.1 +0.3
baz=38,SNR=8.5
E22A Miles City 37.91 338 ⇑P P 00 22 19.2 +0.9
baz=38,SNR=5.7
D24A Glendive 37.94 340 ⇑P P 00 22 19.8 +1.4
baz=38
A30A Hoffart Farm, 37.97 347 ⇓P P 00 22 18.1 -0.5
baz=38,SNR=11
B28A Dugan Ranch, T 37.98 345 ⇓P P 00 22 19.0 +0.3
baz=38,SNR=8.3
ELK Elko 38.01 324 eP P 00 22 19.5 +0.2
comp=Z,5.0nm,0.8s
C25A Freed Ranch, W 38.12 342 ⇑P P 00 22 20.4 +0.5
baz=38,SNR=7.5
RLMT Red Lodge 38.15 334 eP P 00 22 20.8 +0.4
comp=Z,5nm,2.3s
A29A Manning Farm, 38.16 347 ⇓P P 00 22 20.0 -0.1
baz=38,SNR=24
B27A Peters Farms, 38.18 344 ⇓P P 00 22 20.7 +0.4
baz=38,SNR=5.4
LAO LASA Array 38.23 338 eP P 00 22 21.8 +1.0
comp=Z,312nm,3.0s
D23A Lindsay 38.28 339 ⇑P P 00 22 22.2 +0.9
baz=38,SNR=9.7
B26A Jensen Ranch, 38.42 343 ⇑P P 00 22 24.1 +1.7
baz=38
NV01 Mina Array Sit 38.48 318 eP P 00 22 24.6 +1.3
NV01 ePcP PcP 00 24 34.3 +0.6
NV01 eS S 00 28 10.1 +0.9
NVAR Mina Array Bea 38.48 318 P P 00 22 25.0 +1.7
comp=Z,3.8nm,0.7s,baz=130,slow=7.7,SNR=30
NVAR PcP PcP 00 24 34.3 +0.6
comp=Z,2.9nm,0.8s,baz=131,slow=4.2,SNR=8.3
NVAR ScP S 00 28 10.1 +0.8
comp=Z,1.5nm,0.7s,baz=126,slow=4.6,SNR=11
B25A Knox Farm, Ray 38.59 342 ⇓P P 00 22 25.5 +1.7
baz=39
D22A Cohagen 38.60 339 ⇓P P 00 22 24.9 +1.0
baz=39,SNR=7.7
LVC Limon Verde 38.64 153 eP P 00 22 26.9 +2.2
comp=Z,10nm,1.0s
ULM Lac du Bonnet 38.77 351 eP P 00 22 24.2 -1.1
comp=Z,38nm,1.1s
ULM Lac du Bonnet 38.77 351 P P 00 22 24.0 -1.3
comp=Z,24nm,0.6s,baz=165,slow=12,SNR=39
E20A Meyer Farm, Mu 38.80 336 ⇑P P 00 22 26.6 +1.0
baz=39,SNR=10.0
C23A Lambert 38.82 340 ⇓P P 00 22 27.0 +1.3
baz=39
D21A La Casta Ranch 38.83 338 ⇑P P 00 22 27.2 +1.4
baz=39
A26A Wade Farm, Ken 38.84 344 ⇑P P 00 22 26.1 +0.2
baz=39,SNR=5.4
GCMT Graycliff 38.85 334 eP P 00 22 26.5 +0.3
C22A Vida 39.01 339 ⇓P P 00 22 28.3 +1.0
baz=39,SNR=14
DGMT Dagmar 39.09 341 eP P 00 22 28.3 +0.3
comp=Z,33nm,0.8s
DGMT Dagmar 39.09 341 ⇓P P 00 22 28.6 +0.7
baz=39,SNR=11
A25A Svangstu Ranch 39.18 343 ⇓P P 00 22 29.2 +0.5
baz=39,SNR=6.0
WAKR Walker 39.26 318 eP P 00 22 31.4 +1.6
D20A Manuel Ranch, 39.28 337 ⇓P P 00 22 30.5 +0.9
baz=39,SNR=5.8
B23A Brockton 39.33 341 ⇓P P 00 22 31.2 +1.2
baz=39,SNR=6.2
A24A Westby 39.43 342 ⇓P P 00 22 32.1 +1.3
baz=40
HLID Hailey 39.45 328 eP P 00 22 32.2 +1.0
comp=Z,3.9nm,0.8s
HLID Hailey 39.45 328 ⇑P P 00 22 32.3 +1.0
baz=40,SNR=6.2
B22A Reddig Ranch S 39.52 340 ⇑P P 00 22 32.5 +0.9
baz=40,SNR=6.7
MCMT McKenzie Canyo 39.57 330 eP P 00 22 34.1 +1.9
D19A Cripps Ranch, 39.63 336 ⇓P P 00 22 33.4 +0.8
baz=40
A23A Redstone 39.73 341 ⇓P P 00 22 34.3 +1.0
baz=40
C20A Veseth Ranch, 39.75 337 ⇑P P 00 22 34.6 +1.2
baz=40
A22A Carney Farms, 40.09 340 ⇑P P 00 22 37.5 +1.2
baz=40,SNR=6.9
LRM Limekiln Ridge 40.12 332 eP P 00 22 37.7 +0.9
C19A Slack Wire Ran 40.17 336 ⇓P P 00 22 37.7 +0.8
baz=40,SNR=6.4
B20A Solberg Farm, 40.36 338 ⇑P P 00 22 39.8 +1.3
baz=40
BEKR Beckworth 40.61 319 eP P 00 22 41.5 +0.7
comp=Z,3.4nm,0.9s
EGMT Eagleton 40.68 336 eP P 00 22 41.2 +0.1
comp=Z,84nm,2.3s
A20A Cobblestone Ra 40.69 338 ⇑P P 00 22 42.2 +1.0
baz=41,SNR=8.5
B19A Brinkman Farms 40.72 337 ⇓P P 00 22 42.6 +1.2
baz=41
WVOR Wild Horse Val 41.05 323 eP P 00 22 45.4 +1.0
comp=Z,10nm,0.8s
CHMT Chamberlain Mo 41.30 332 eP P 00 22 45.8 -0.6
J08A Circle Bar Ran 41.53 325 eP P 00 22 48.4 +0.2
comp=Z,5.5nm,0.8s
MSO Missoula 41.56 332 eP P 00 22 48.8 +0.3
comp=Z,16nm,1.4s
SLMT Seeley Lake 41.66 332 eP P 00 22 48.9 -0.4
BMO Blue Mountains 41.85 327 eP P 00 22 50.7 -0.1
comp=Z,5.1nm,0.9s
YBMT Yellow Bay 42.35 333 eP P 00 22 54.8 -0.1
JTMT Jette 42.39 332 eP P 00 22 55.2 0.0
F10A Beach Ranch, E 42.56 328 eP P 00 22 56.6 0.0
comp=Z,11nm,1.0s
BSMT Bassoo Peak 42.70 332 eP P 00 22 58.0 +0.2
G08A Pilot Rock 43.02 326 eP P 00 23 00.9 +0.6
comp=Z,30nm,2.1s
KHMM Horse Mountain 43.33 318 eP P 00 23 03.5 +0.6
comp=Z,73nm,2.1s
E09A Wood Farm, Sta 43.40 328 eP P 00 23 03.5 +0.4
comp=Z,6.8nm,1.0s
HUMO Hull Mountain 43.75 321 eP P 00 23 05.3 -0.7
comp=Z,100nm,3.0s
KRMB Red Mountain 43.77 319 eP P 00 23 08.0 +1.5
comp=Z,88nm,2.6s
HAWA Hanford 44.04 327 eP P 00 23 08.4 +0.1
comp=Z,8.0nm,0.8s
DRLN Deer Lake 44.16 27 eP P 00 23 09.4 +0.3
comp=Z,234nm,1.9s
FFC Flin Flon 44.19 347 eP P 00 23 09.4 +0.1
comp=Z,44nm,0.9s
FFC Flin Flon 44.19 347 P P 00 23 09.0 -0.4
comp=Z,142nm,0.9s,SNR=5.9
H04A Detroit Lake 44.46 324 eP P 00 23 12.0 +0.2
comp=Z,12nm,0.9s
KEBM Edson Butte 44.75 320 eP P 00 23 15.2 +1.1
comp=Z,57nm,1.2s
LTY Liberty 45.19 327 eP P 00 23 18.1 +0.5
comp=Z,75nm,2.4s
B08A Colville Reser 45.23 329 eP P 00 23 17.6 -0.1
comp=Z,78nm,2.6s
F04A Amboy 45.33 325 eP P 00 23 19.4 +0.8
comp=Z,19nm,1.2s
SCHQ Schefferville 45.36 16 eP P 00 23 18.3 -0.4
comp=Z,24nm,0.5s
SCHQ Schefferville 45.36 16 P P 00 23 18.3 -0.4
comp=Z,21nm,0.4s,baz=219,slow=8.5,SNR=123
SCHQ LR LR 00 44 12.9
comp=Z,164nm,19.1s,baz=72,slow=39
LON Longmire 45.49 326 eP P 00 23 20.1 +0.2
comp=Z,50nm,2.2s
EDM Edmonton 46.22 338 eP P 00 23 25.2 -0.2
E03A Lebam 46.33 325 eP P 00 23 26.9 +0.5
comp=Z,48nm,1.3s
FCC Fort Churchill 46.89 355 eP P 00 23 30.1 -0.4
CFAA Coronel Fontan 46.92 158 eP P 00 23 33.0 +1.9
CFAA ePcP PcP 00 25 01.8 0.0
CFAA Coronel Fontan 46.92 158 P P 00 23 33.0 +1.9
comp=Z,0.5nm,0.6s,baz=329,slow=8.5,SNR=6.1
CFAA PcP PcP 00 25 01.8 0.0
comp=Z,0.4nm,0.6s,baz=320,slow=3.4,SNR=4.6
NLWA Neilton Lookou 47.00 326 eP P 00 23 32.4 +0.8
comp=Z,141nm,2.0s
A05A Maple Falls 47.03 329 eP P 00 23 31.5 -0.3
comp=Z,167nm,2.8s
BDFB Brasilia 47.12 125 eP P 00 23 31.3 -1.8
BDFB Brasilia 47.12 125 P P 00 23 31.3 -1.8
comp=Z,5.2nm,0.7s,baz=302,slow=9.6,SNR=3.4
CPUP Villa Florida 47.67 144 eP P 00 23 36.0 -1.0
CPUP Villa Florida 47.67 144 P P 00 23 36.0 -1.0
comp=Z,1.7nm,0.5s,baz=322,slow=9.9,SNR=4.2
CPUP LR LR 00 44 58.5
comp=Z,150nm,18.1s,baz=317,slow=38
YKA Yellowknife Ar 54.14 344 P P 00 24 23.9 -1.0
comp=Z,3.8nm,0.8s,baz=136,slow=8.2,SNR=10
YKA pP pP 00 24 55.0 -0.6
comp=Z,2.9nm,0.7s,baz=144,slow=6.9,SNR=4.7
YKA PcP PcP 00 25 26.5 -1.3
comp=Z,0.8nm,0.5s,baz=146,slow=3.9,SNR=4.6
YKB5 Yellowknife Ar 54.14 344 eP P 00 24 23.9 -1.0
YKB5 epP pP 00 24 55.0 -0.6
YKB5 ePcP PcP 00 25 26.6 -1.3
IL1 Eielson Array 66.65 336 eP P 00 25 49.3 -0.6
ILAR Eielson Array 66.65 336 P P 00 25 48.8 -1.1
comp=Z,2.1nm,0.9s,baz=121,slow=4.4,SNR=25
ILB Eielson Array 66.65 336 eP P 00 25 48.8 -1.1
EVO Evora 73.68 53⇑P P 00 26 32.5 -0.8
comp=Z,17nm,0.8s
ROSF Rostrenen 76.64 43 eP P 00 26 47.9 -2.2
comp=Z,39nm,1.0s
QUIF Quistinic 76.74 43 eP P 00 26 48.6 -2.0
comp=Z,11nm,0.8s
ESDC Sonseca Array 76.75 52 eP P 00 26 49.7 -1.3
ESDC epP pP 00 27 22.9 -0.8
ESDC Sonseca Array 76.75 52 P P 00 26 49.7 -1.3
comp=Z,4.5nm,0.7s,baz=284,slow=5.3,SNR=33
ESDC pP pP 00 27 22.9 -0.8
comp=Z,1.9nm,0.7s,baz=287,slow=5.7,SNR=5.4
ES19 SONSECA Array 76.80 52 eP P 00 26 49.8 -1.4
GRR Gorron 78.25 43 eP P 00 26 57.5 -1.5
FLN La Foliniere 78.46 42 eP P 00 26 58.7 -1.5
SJPF Ste Jean 78.49 48 eP P 00 26 59.1 -1.4
comp=Z,17nm,0.8s
LDF La Druitiere 78.72 43 eP P 00 26 58.7 -2.9
comp=Z,12nm,0.8s
MFF Saint Martin d 78.90 45 eP P 00 27 00.6 -2.0
comp=Z,19nm,0.9s
LIC Lamto 80.53 86 eP P 00 27 09.9 -2.1
comp=Z,5.1nm,0.6s
TCF Toulx Ste Croi 80.55 45 eP P 00 27 09.9 -1.7
DBIC Dimbokro 80.61 85 eP P 00 27 09.8 -2.6
comp=Z,47nm,1.9s
DBIC Dimbokro 80.61 85 P P 00 27 09.8 -2.6
comp=Z,1.5nm,0.6s,baz=196,slow=7.4,SNR=3.0
SPITS Spitsbergen Ar 80.86 12 LR LR 01 03 24.7
comp=Z,129nm,19.9s,baz=205,slow=36
SSF Saint Saulge 81.33 44 eP P 00 27 13.6 -2.0
LOR Lormes 81.53 44 eP P 00 27 14.3 -2.5
comp=Z,15nm,1.1s
SFTF Sexfontaines 82.17 42 eP P 00 27 17.8 -2.3
NB200 NORSAR Array S 83.26 29 eP P 00 27 23.5 -1.9
NB200 epP pP 00 27 57.0 -1.6
NOA NORSAR Array B 83.26 29 P P 00 27 23.5 -1.9
comp=Z,0.8nm,0.8s,baz=285,slow=5.0,SNR=3.4
NOA pP pP 00 27 57.0 -1.6
comp=Z,2.4nm,0.9s,baz=289,slow=5.5,SNR=4.3
NOA PKPPKP P'P'df 00 53 53.2 +2.2
comp=Z,1.3nm,0.8s,baz=247,slow=8.7,SNR=3.6
TOA0 Torodi Ar. Sit 85.69 78 eP P 00 27 35.7 -2.8
TORD Torodi Ar. Bea 85.69 78 P P 00 27 35.7 -2.8
comp=Z,0.6nm,0.6s,baz=277,slow=5.4,SNR=12
TORD PKKPbc PKKPbc 00 45 41.2 +1.4
comp=Z,1.0nm,0.8s,baz=80,slow=2.3,SNR=7.9
TORD PKPPKP P'P'df 00 53 47.8 -0.7
comp=Z,1.0nm,1.0s,baz=77,slow=2.2,SNR=4.9
ARA0 ARCESS Array S 86.23 19 eP P 00 27 39.5 -0.7
ARCES ARCESS Array B 86.23 19 P P 00 27 39.5 -0.7
comp=Z,2.6nm,0.9s,baz=297,slow=6.0,SNR=4.9
ARCES PKKPbc PKKPbc 00 45 37.8 -2.6
comp=Z,1.3nm,0.7s,baz=115,slow=3.4,SNR=6.1
GEC2 GERESS Array S 87.66 41 eP P 00 27 44.2 -3.4
GEC2 epP pP 00 28 18.4 -2.6
GERES GERESS Array B 87.66 41 P P 00 27 44.2 -3.4
comp=Z,0.6nm,0.8s,baz=270,slow=2.8,SNR=5.6
GERES pP pP 00 28 18.5 -2.6
comp=Z,0.5nm,0.6s,baz=292,slow=5.2,SNR=3.0
FIA0 FINESS Array S 89.91 26 eP P 00 27 55.0 -2.7
FINES FINESS Array B 89.91 26 P P 00 27 55.0 -2.7
comp=Z,3.7nm,1.0s,baz=284,slow=5.6,SNR=3.1
FINES PKKP PKKPdf 00 45 28.5 +2.7
comp=Z,5.5nm,1.1s,baz=90,slow=1.4,SNR=4.9
FINES LR LR 01 12 11.7
comp=Z,80nm,18.3s,baz=261,slow=38
ZALV Zalesovo Beam 113.79 6 PKKPbc PKKPbc 00 44 18.1 -3.6
comp=Z,0.7nm,0.7s,baz=225,slow=3.9,SNR=3.1
BOSA Boshof 114.82 116 ePKiKP PKPdf 00 33 38.5 -1.2
BOSA Boshof 114.82 116 PKP PKPdf 00 33 38.5 -1.2
comp=Z,2.4nm,0.6s,baz=259,slow=1.8,SNR=7.1
BOSA PKKPbc PKKPbc 00 44 17.4 +0.1
comp=Z,4.4nm,1.0s,baz=76,slow=4.4,SNR=5.4
CN2 Changchun 117.14 334 ePKP PKPdf 00 33 50.0 +6.5
SONA0 Songino Array 119.20 350 ePKPdf PKPdf 00 33 46.3 -1.3
SONM Songino Array 119.20 350 PKP PKPdf 00 33 46.3 -1.3
comp=Z,0.5nm,0.5s,baz=17,slow=1.5,SNR=4.3
SONM PKKPbc PKKPbc 00 44 01.0 -1.8
comp=Z,1.4nm,0.8s,baz=181,slow=4.4,SNR=9.4
MK32 Makanchi Array 120.52 9 ePKPdf PKPdf 00 33 46.1 -3.9
MKAR Makanchi Array 120.52 9 PKhKP PKPpre 00 33 46.1
comp=Z,0.2nm,0.6s,baz=338,slow=1.6,SNR=3.0
KSRS Korea Array 120.98 328 PKP PKPdf 00 33 51.6 +0.5
comp=Z,2.3nm,0.7s,baz=0.5,slow=2.0,SNR=6.3
KS15 Wonju Array Si 121.01 328 ePKPdf PKPdf 00 33 51.6 +0.5
MAW Mawson 121.04 167 ePKPdf PKPdf 00 33 50.0 -0.2
MAW Mawson 121.04 167 PKP PKPdf 00 33 50.0 -0.2
comp=Z,2.8nm,0.6s,baz=238,slow=3.1,SNR=17
WMQ Urumqi 124.09 5 ePKP PKPdf 00 33 57.0 0.0
WMQ LR LR
comp=Z,160nm,17.0s
WMQ LR LR
comp=Z,89nm,21.2s
WMQ LR LR
comp=Z,54nm,20.4s
HHC Hu-ho-hao-te 124.67 343 ePKP PKPdf 00 33 56.0 -2.3
HHC sPKP 00 34 55.5
HHC SKS SKSdf 00 40 50.6 -7.7
HHC SKKS SKKSac 00 42 21.9 -11
HHC PPMZ
comp=Z,120nm,9.4s
HHC LR LR
comp=Z,140nm,19.4s
HHC LR LR
comp=Z,190nm,19.6s
HHC LR LR
comp=Z,170nm,19.2s
GTA Gaotai 128.38 354 PKP PKPdf 00 34 05.4 0.0
GTA sPKP 00 35 04.6
NJ2 Nanjing 129.76 332 ePKP PKPdf 00 34 08.1 +0.1
STKA Stephens Creek 131.61 238 ePKPdf PKPdf 00 34 12.2 +0.7
STKA eSKPbc SKPab 00 37 26.4 +0.5
STKA Stephens Creek 131.61 238 PKP PKPdf 00 34 13.0 +1.5
comp=Z,11nm,0.6s,baz=98,slow=2.8,SNR=33
STKA SKPbc SKPab 00 37 26.4 +0.5
comp=Z,1.1nm,0.5s,baz=130,slow=17,SNR=3.4
CD2 Chengdu 136.07 347 PKP PKPdf 00 34 19.3 -0.7
GYA Guiyang 139.53 341 ePdif Pdif 00 31 38.8 -1.7
GYA ePKP PKiKP 00 34 29.1 +0.1
GYA sPKP 00 35 23.0
GYA PP PP 00 37 24.3 +3.3
GYA PPMZ
comp=Z,110nm,7.6s
AS12 Alice Springs 139.90 248 ePKPpre PKPpre 00 34 19.7
AS12 ePKPdf PKPdf 00 34 28.1 +0.9
AS12 eSKPbc SKPbc 00 37 51.5 +0.3
ASAR Alice Springs 139.90 248 PKhKP PKPpre 00 34 19.7
comp=Z,4.0nm,0.7s,baz=113,slow=3.7,SNR=22
ASAR PKP PKPdf 00 34 28.1 +0.9
comp=Z,13nm,0.8s,baz=105,slow=2.1,SNR=42

ASAR				SKP			00 37 51.5	
	comp=Z,1.3nm,0.7s,baz=101,slow=2.4,SNR=8.0							
WRAB	**Tennant Creek**	**139.95**	**253**	*e*PKPdf	**PKPdf**		**00 34 27.8**	**+0.4**
WRA	**Warramunga Arr**	**139.96**	**253**	*e*PKPpre	PKPpre		00 34 21.6	
WRA				*e*PKPdf	**PKPdf**		**00 34 28.9**	**+1.5**
WRA				*e*SKPbc	**SKPbc**		**00 37 51.2**	**-0.2**
WRA	**Warramunga Arr**	**139.96**	**253**	PKhKP	PKPpre		00 34 21.6	
	comp=Z,1.9nm,0.4s,baz=93,slow=2.8,SNR=9.1							
WRA				PKP	**PKPdf**		**00 34 28.9**	**+1.5**
	comp=Z,23nm,0.6s,baz=91,slow=2.3,SNR=57							
WRA				SKP			00 37 51.2	
	comp=Z,1.8nm,0.7s,baz=91,slow=2.6,SNR=5.0							
KMI	**Kunming**	**141.87**	**346**	PKP	**PKPdf**		**00 34 30.5**	**-0.5**
FITZ	**Fitzroy Crossi**	**148.32**	**255**	*e*PKPdf	**PKPdf**		**00 34 42.6**	**+0.8**
CM31	**Chiang Mai Arr**	**149.12**	**350**	*e*PKPdf	**PKPdf**		**00 34 42.5**	**-0.8**
CM31				*e*PKPbc	**PKPbc**		**00 34 47.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**149.12**	**350**	PKP	**PKPdf**		**00 34 42.5**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=316,slow=2.3,SNR=6.8							
CMAR				PKPbc	**PKPbc**		**00 34 47.0**	**-0.5**
	comp=Z,2.8nm,0.8s,baz=347,slow=3.7,SNR=13							
CM01	**Chiang Mai Arr**	**149.16**	**350**	*e*PKPdf	**PKPdf**		**00 34 43.2**	**-0.1**
NWAO	**Narrogin (SRO)**	**149.90**	**223**	*e*PKPbc	**PKPbc**		**00 34 49.4**	**+0.4**

IDC 17 00:44:03.2±1.6, 18°73'S×63°31'W, h0km, mb3.5/2, mb1 3.8/5, mb1mx3.6/21, mbtmp3.6/5, ML4.0/3, Error ellipse: s-maj=29.2km s-min=21.8km az=146.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIV	**San Ignacio**	**3.46**	**38**	Pn	Pn	00 44 59.3	+0.8
	5.5nm,0.3s,baz=250,slow=12,SNR=42						
SIV				Sn	Sn	00 45 40.3	+0.1
	7.6nm,0.3s,baz=283,slow=18,SNR=4.2						
SIV				Lg	Lg	00 45 53.2	
	8.5nm,0.3s,baz=142,slow=19,SNR=3.6						
LPAZ	**La Paz**	**5.20**	**297**	Pn	Pn	00 45 23.9	+0.8
	2.2nm,0.3s,baz=116,slow=8.8,SNR=117						
LPAZ				Sn	Sn	00 46 20.8	-3.7
	4.9nm,0.3s,baz=32,slow=19,SNR=7.1						
LPAZ				Lg	Lg	00 46 42.5	
	2.0nm,0.3s,baz=252,slow=19,SNR=2.5						
CPUP	**Villa Florida**	**9.37**	**145**	Pn	Pn	00 46 19.7	+0.1
	0.6nm,0.3s,baz=314,slow=17,SNR=3.8						
TXAR	**Lajitas Array**	**61.64**	**320**	P	P	00 54 22.6	-0.5
	0.2nm,0.4s,baz=122,slow=8.6,SNR=5.6						
TORD	**Torodi Ar. Bea**	**71.46**	**69**	P	P	00 55 26.2	+0.1
	0.5nm,0.7s,baz=241,slow=6.6,SNR=5.1						

IDC 17 00:52:46.5±1.0, 1°.00N×123°.51E, h0km, mb4.0/8, mb1 4.3/11, mb1mx4.0/28, mbtmp4.2/11, ML4.5/3, MS3.3/2, Ms1 3.3/2, ms1mx2.8/35, Error ellipse: s-maj=37.3km s-min=14.6km az=64.0

NEIC 17 00:52:47.7±0.6, 1°.03N×123°.53E, h10km, mb4.2/2, Error ellipse: s-maj=17.8km s-min=7.7km az=59.0

NEIC Felt [II] at Gorontalo.

ISCJB 17 00:52:50.2±0.5, 0°.97N±0°.05×123°.47E±0°.05, h32km, mb3.9/9, MS3.5/1, Error ellipse: s-maj=6.6km s-min=6.5km az=7.1

AUST 17 00:52:53.8, 1°.00N×123°.50E, h60km

DJA 17 00:52:53.5±0.6, 1°.N±4°×12°.3E±°, h30km±8km, M5.0/4, mB5.4/1, mb5.2/4, MLv5.0/3, Mw(mB)4.8/1

ISC 17 00:52:51.9±0.6, 0°.96N±0°.06×123°.44E±0°.06, h32km, n49, σ1§50/51, mb3.9/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.66**	**126**	P	**Pn**	**00 53 07.3**	**+2.2**
MRSI	**Marisa**	**1.58**	**252**	P	**Pn**	**00 53 18.5**	**+0.8**
LUWI	**Luwuk**	**2.10**	**199**	P	**Pn**	**00 53 26.4**	**+1.5**
LUWI	**Luwuk**	**2.10**	**199**	P	**Pn**	**00 53 26.4**	**+1.5**
	baz=2.2,SNR=172						
APSI	**Ampana**	**2.58**	**224**	P	**Pn**	**00 53 32.6**	**+1.1**
SGSI	**Sangihe**	**3.42**	**38**	P	**Pn**	**00 53 44.6**	**+1.6**
LBMI	**Labuha**	**4.36**	**111**	P	**Pn**	**00 53 57.8**	**+1.8**
TTSI	**Tana Toraja**	**5.38**	**222**	P	**Pn**	**00 54 12.0**	**+2.0**
	317nm,0.7s,3μm						
SPSI	**Sidrap Palu**	**6.12**	**217**	P	**Pn**	**00 54 21.6**	**+1.5**
	122nm,0.6s						
BNSI	**Bone**	**6.28**	**212**	P	**Pn**	**00 54 24.9**	**+2.5**
	218nm,0.8s						
MJSI	**Majene**	**6.32**	**225**	P	**Pn**	**00 54 25.2**	**+2.2**
MYLDM	**Lahad Datu**	**6.47**	**310**	P	**Pn**	**00 54 27.4**	**+2.4**
KAPI	**Kappang**	**6.99**	**212**	P	**Pn**	**00 54 32.6**	**+0.5**
KAPI	**Kappang**	**6.99**	**212**	*e*Pn	**Pn**	**00 54 32.2**	**+0.2**
	44nm,0.6s						
KAPI				*e*Sn	**Sn**	**00 55 51.0**	**+0.4**
KAPI	**Kappang**	**6.99**	**212**	Pn	**Pn**	**00 54 32.3**	**+0.2**
	11nm,0.3s,baz=39,slow=6.0,SNR=31						
KAPI				Sn	**Sn**	**00 55 50.5**	**0.0**
	1.8nm,0.3s,baz=270,slow=20,SNR=2.9						
KAPI				LR	LR	00 57 47.8	
	comp=Z,119nm,19.9s,baz=355,slow=43						
BKSI	**Bulukumba**	**7.07**	**208**	P	**Pn**	**00 54 35.3**	**+2.1**
KKM	**Kota Kinabalu**	**8.80**	**305**	*e*Pn	**Pn**	**00 54 54.8**	**-2.4**
KKM	**Kota Kinabalu**	**8.80**	**305**	P	**Pn**	**00 54 58.6**	**+1.4**
	baz=8.8,SNR=4.4						
FAKI	**Fak Fak**	**9.61**	**114**	P	**Pn**	**00 55 09.7**	**+1.5**
	baz=9.6,SNR=3.3						
BATI	**Baumata**	**11.10**	**179**	P	**Pn**	**00 55 30.2**	**+1.7**
BATI	**Baumata**	**11.10**	**179**	Pn	**Pn**	**00 55 28.1**	**-0.4**
BATI	**Baumata**	**11.10**	**179**	Pn	**Pn**	**00 55 28.1**	**-0.4**
	2.6nm,0.3s,baz=354,slow=10,SNR=4.1						
TLE	**Tual**	**11.36**	**125**	P	**Pn**	**00 55 34.0**	**+1.8**
TLE	**Tual**	**11.36**	**125**	P	**Pn**	**00 55 34.7**	**+2.5**
	baz=11,SNR=3.2						
KSM	**Kuching**	**13.14**	**272**	P	**P**	**00 56 07.9**	**+1.7**
	baz=13,SNR=3.2						
FITZ	**Fitzroy Crossi**	**19.07**	**174**	*e*P	**P**	**00 57 11.0**	**-0.8**
	9.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.07**	**174**	P	**P**	**00 57 11.3**	**-0.5**
	baz=19,SNR=20						
FITZ	**Fitzroy Crossi**	**19.07**	**174**	P	**P**	**00 57 11.3**	**-0.5**
	1.1nm,0.3s,baz=6.1,slow=11,SNR=34						
IPM	**Ipoh**	**22.66**	**279**	*e*P	**P**	**00 57 49.9**	**-0.8**
	7.3nm,0.6s						
WRAB	**Tennant Creek**	**23.36**	**153**	*e*P	**P**	**00 57 56.3**	**-1.5**
WRA	**Warramunga Arr**	**23.36**	**153**	P	**P**	**00 57 56.2**	**-1.6**
WRA	**Warramunga Arr**	**23.36**	**153**	P	**P**	**00 57 56.2**	**-1.6**
	2.0nm,0.5s,baz=334,slow=10,SNR=7.9						
COEN	**Coen**	**24.53**	**128**	P	**P**	**00 58 08.4**	**-0.5**
	baz=25,SNR=8.5						
PSI	**Prapat**	**24.57**	**275**	P	**P**	**00 58 08.8**	**-0.7**
PSI	**Prapat**	**24.57**	**275**	P	**P**	**00 58 10.6**	**+1.1**
	baz=25,SNR=9.0						
PSI	**Prapat**	**24.57**	**275**	P	**P**	**00 58 08.8**	**-0.7**
	9.2nm,0.5s,baz=83,slow=9.1,SNR=12						
PSI				LR	LR	01 07 27.8	
	comp=Z,128nm,18.1s,baz=273,slow=36						
ASAR	**Alice Springs**	**26.51**	**158**	P	**P**	**00 58 26.3**	**-0.4**
ASAR	**Alice Springs**	**26.51**	**158**	P	**P**	**00 58 26.3**	**-0.4**
	0.9nm,0.5s,baz=347,slow=12,SNR=13						
MEEK	**Meekatharra**	**27.83**	**189**	P	**P**	**00 58 36.0**	**-2.5**
	baz=28,SNR=4.0						
CMAR	**Chiang Mai Arr**	**29.67**	**307**	P	**P**	**00 58 54.1**	**-1.0**
CMAR	**Chiang Mai Arr**	**29.67**	**307**	P	**P**	**00 58 54.1**	**-1.0**
	0.5nm,0.3s,baz=96,slow=7.3,SNR=2.4						
STKA	**Stephens Creek**	**36.91**	**154**	P	**P**	**00 59 56.7**	**-1.3**
STKA	**Stephens Creek**	**36.91**	**154**	P	**P**	**00 59 56.7**	**-1.3**
	3.1nm,1.0s,baz=334,slow=11,SNR=4.1						
MKAR	**Makanchi Array**	**58.04**	**328**	P	**P**	**01 02 41.2**	**-0.7**
MKAR	**Makanchi Array**	**58.04**	**328**	P	**P**	**01 02 41.2**	**-0.7**
	0.4nm,0.5s,baz=129,slow=8.0,SNR=5.6						
ZALV	**Zalesovo Beam**	**61.63**	**335**	P	**P**	**01 03 07.8**	**+1.4**
ZALV	**Zalesovo Beam**	**61.63**	**335**	P	**P**	**01 03 07.8**	**+1.4**
	0.3nm,0.3s,baz=120,slow=11,SNR=1.8						
KURBB	**Kurchatov Arra**	**62.36**	**329**	P	**P**	**01 03 09.3**	**-2.1**
	0.2nm,0.4s,baz=139,slow=7.0,SNR=4.9						
KURK	**Kurchatov**	**62.37**	**330**	P	**P**	**01 03 09.3**	**-2.1**

ISCJB 17 01:05:10.0±0.8, 48°.4N±0°.1×154°.4E±0°.1, h51km, mb3.7/7, Error ellipse: s-maj=20.1km s-min=7.5km az=140.3

MOS 17 01:05:09.6±1.6, 48°.42N×154°.41E, h48km, mb4.0/4, Error ellipse: s-maj=30.8km s-min=14.8km az=60.7

IDC 17 01:05:12.5±2.7, 48°.44N×154°.31E, h57km±25km, mb3.4/7, mb1 3.8/11, mb1mx3.5/29, mbtmp3.6/11, ML3.6/4, Error ellipse: s-maj=40.9km s-min=16.2km az=159.0

ISC 17 01:05:11.8±1.0, 48°.5N±0°.2×154°.4E±0°.1, h51km, n22, σ1§47/14, mb3.7/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.52**	**26**	*e*PN	**Pn**	**01 05 47.9**	**-2.2**
SKR				*e*S	**Sn**	**01 06 19.0**	**-0.5**
SKR				pmax	pmax		
	comp=N,80nm,0.4s						
SKR				pmax	pmax		
	comp=Z,100nm,0.4s						
SKR				pmax	pmax		
	comp=E,60nm,0.3s						
SKR				smax	smax		
	comp=N,170nm,0.3s						
SKR				smax	smax		
	comp=E,390nm,0.3s						
PETK	**Petropavlovsk-**	**5.13**	**23**	PN	**Pn**	**01 06 28.4**	**+2.5**
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PETK	**Petropavlovsk-**	**5.13**	**23**	P	**Pn**	**01 06 28.4**	**+2.5**
	comp=Z,3.4nm,0.3s,baz=182,slow=15,SNR=25						
ASAJ	**Asahikawa**	**9.22**	**246**	P	**Pn**	**01 07 22.4**	**+0.3**
	comp=Z,1.7nm,0.3s,baz=90,slow=12,SNR=2.4						
FX1	**Attu Island--F**	**12.72**	**63**	P	**Pn**	**01 08 09.2**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=280,slow=12,SNR=4.9						
FX1				S	Sn	01 10 19.9	-10
	comp=Z,2.5nm,0.3s,baz=55,slow=19,SNR=7.7						
USRK	**Ussuriysk Arra**	**16.01**	**263**	P	**P**	**01 08 55.1**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=63,slow=9.1,SNR=4.7						
KSRS	**Korea Array**	**22.14**	**250**	P	**P**	**01 10 02.8**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=45,slow=11,SNR=5.0						
H11N2	**WAKE ISLAND Hy**	**30.39**	**156**	T	T	01 42 59.8	
	baz=347,slow=0.7,SNR=40						
H11N1	**WAKE ISLAND Hy**	**30.40**	**156**	T	T	01 43 00.7	
	baz=347,slow=0.7,SNR=60						
H11N3	**WAKE ISLAND Hy**	**30.40**	**156**	T	T	01 43 04.8	
	baz=347,slow=0.7,SNR=37						
H11S1	**WAKE ISLAND Hy**	**31.50**	**157**	T	T	01 44 23.4	
	baz=348,slow=0.7,SNR=276						
H11S3	**WAKE ISLAND Hy**	**31.51**	**157**	T	T	01 44 17.7	
	baz=348,slow=0.7,SNR=287						
H11S2	**WAKE ISLAND Hy**	**31.52**	**157**	T	T	01 44 24.5	
	baz=348,slow=0.7,SNR=221						
SONM	**Songino Array**	**31.60**	**287**	P	**P**	**01 11 28.5**	**-1.1**
	comp=Z,0.2nm,0.7s,baz=67,slow=13,SNR=2.2						
ILAR	**Eielson Array**	**34.70**	**40**	P	**P**	**01 11 55.5**	**-0.8**
	comp=Z,0.8nm,1.0s,baz=275,slow=9.9,SNR=7.2						
NVAR	**Mina Array Bea**	**60.91**	**64**	P	**P**	**01 15 20.5**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=300,slow=7.2,SNR=5.6						
FINES	**FINESS Array B**	**62.86**	**335**	P	**P**	**01 15 31.5**	**-0.4**
	comp=Z,4.0nm,1.1s,baz=27,slow=9.5,SNR=2.8						
TXAR	**Lajitas Array**	**75.94**	**62**	P	**P**	**01 16 53.5**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=301,slow=5.9,SNR=4.9						
BRTR	**Keskin Array B**	**77.72**	**317**	P	**P**	**01 17 04.6**	**+1.4**
	comp=Z,0.7nm,1.0s,baz=35,slow=5.3,SNR=3.6						
H03N2	**Juan Fernandez**	**137.91**	**89**	T	T	03 57 51.3	
	baz=307,slow=0.7,SNR=11						
H03N1	**Juan Fernandez**	**137.92**	**89**	T	T	03 57 47.5	
	baz=307,slow=0.7,SNR=13						
H03N3	**Juan Fernandez**	**137.92**	**89**	T	T	03 57 50.1	
	baz=307,slow=0.7,SNR=11						

IDC 17 01:06:49.5±0.9, 1°.71S×116°.16E, h0km, mb4.2/9, mb1 4.3/10, mb1mx4.0/25, mbtmp4.2/10, ML4.0/1, MS3.3/2, Ms1 3.3/2, ms1mx2.9/39, Error ellipse: s-maj=75.6km s-min=12.7km az=53.0, Borneo

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**4.86**	**133**	Pn	Pn	01 08 04.0	+0.1
	6.3nm,0.3s,baz=319,slow=9.4,SNR=25						
KAPI				Lg	Lg	01 09 25.7	
	13nm,0.3s,baz=135,slow=20,SNR=3.7						
KAPI				LR	LR	01 10 14.3	
	comp=Z,154nm,18.0s,baz=312,slow=42						
WRA	**Warramunga Arr**	**25.38**	**137**	P	P	01 12 18.1	-0.6
	4.0nm,0.8s,baz=315,slow=10,SNR=11						
CMAR	**Chiang Mai Arr**	**26.24**	**321**	P	P	01 12 27.2	+0.7
	0.9nm,0.3s,baz=147,slow=8.1,SNR=5.3						
ASAR	**Alice Springs**	**27.78**	**143**	P	P	01 12 41.1	+0.6
	0.8nm,0.6s,baz=316,slow=8.0,SNR=11						
JNU	**Nakatsue**	**37.33**	**21**	LR	LR	01 31 26.4	
	comp=Z,99nm,20.6s,baz=188,slow=40						
STKA	**Stephens Creek**	**38.41**	**144**	P	P	01 14 12.6	-0.4
	2.2nm,0.5s,baz=319,slow=7.6,SNR=8.8						
SONM	**Songino Array**	**50.08**	**351**	P	P	01 15 46.4	0.0
	2.0nm,0.8s,baz=171,slow=9.0,SNR=18						
MKAR	**Makanchi Array**	**56.72**	**333**	P	P	01 16 35.8	+0.6
	3.5nm,0.7s,baz=140,slow=7.6,SNR=25						
ZALV	**Zalesovo Beam**	**61.27**	**339**	P	P	01 17 05.9	-0.6
	1.0nm,0.5s,baz=155,slow=6.2,SNR=5.5						
BVAR	**Borovoye Array**	**66.58**	**332**	P	P	01 17 41.6	+0.1
	baz=119,slow=8.9						
BRTR	**Keskin Array B**	**85.33**	**310**	P	P	01 19 29.0	0.0
	0.5nm,0.6s,baz=117,slow=8.4,SNR=2.8						
ARCES	**ARCESS Array B**	**91.82**	**339**	P	P	01 19 57.7	-1.4
	2.5nm,0.8s,baz=99,slow=5.6,SNR=4.5						

ISCJB 17 01:42:08.8±0.3, 14°.80S±0°.09×173°.88W±0°.06, h10km, mb4.6/53, MS4.7/4, Error ellipse: s-maj=13.9km s-min=6.2km az=150.9

IDC 17 01:42:08.1±0.5, 14°.85S×173°.65W, h0km, mb4.2/15, mb1 4.4/15, mb1mx4.4/21, mbtmp4.2/15, Error ellipse: s-maj=27.7km s-min=14.6km az=133.0

NEIC 17 01:42:10.1±0.2, 14°.79S×173°.83W, h10km, mb4.7/32, Error ellipse: s-maj=11.9km s-min=5.4km az=140.0

BJI 17 01:42:12.2, 14°.10S×174°.44W, h6km, mB5.1/10, mb5.0/14, Ms5.1/7, Ms7 4.7/7

ISC 17 01:42:09.9±0.4, 14°.77S±0°.09×173°.74W±0°.09, h10km, n206, σ1§12/206, mb4.7/53, MS4.8/4, 41C-27D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.09**	**66**	*e*Pn	Pn	01 42 35.9	-9.1
AFI				Sn	Sn	01 42 56.0	-15
AFI	**Afiamalu**	**2.09**	**66**	Pn	Pn	01 42 35.9	-9.1
	152nm,0.3s,baz=51,slow=2.5,SNR=45						
AFI				Sn	Sn	01 42 56.0	-15
	566nm,0.3s,baz=68,slow=18,SNR=17						
MSVF	**Nonsavu**	**8.41**	**248**	*e*Pn	Pn	01 44 21.9	+10
KNTN	**Kanton**	**12.08**	**10**	*e*Pn	**Pn**	**01 45 00.8**	**-1.4**
DZM	**Mont Dzumac**	**20.14**	**246**	*e*P	Pn	01 46 51.4	+5.1
	84nm,1.4s						
DZM				*e*LR	LR	01 51 42.1	
	1μm,26.4s						
DZM	**Mont Dzumac**	**20.14**	**246**	P	**P**	**01 46 44.8**	**+0.3**
DZM	**Mont Dzumac**	**20.14**	**246**	P	**P**	**01 46 44.8**	**+0.3**
	4.7nm,0.8s,baz=76,slow=17,SNR=4.1						
PPT2	**Papeet2**	**23.38**	**100**	*e*P	P	01 47 09.6	-9.4
	101nm,1.5s						
PPT2				*e*LQ	LQ	01 51 42.1	
	1μm,27.5s						
PPT2				*e*LR	LR	01 52 43.9	
	817nm,25.5s						
TBI	**Tubuai**	**24.46**	**114**	*e*LQ	LQ	01 52 10.2	
	984nm,28.8s						
TBI				*e*LR	LR	01 53 06.5	
	706nm,26.2s						
URZ	**Urewera**	**24.76**	**197**	P	**P**	**01 47 31.7**	**0.0**
URZ	**Urewera**	**24.76**	**197**	P	**P**	**01 47 31.7**	**0.0**
	7.2nm,0.7s,baz=333,slow=6.8,SNR=3.8						
PMOR	**Pomariorio Ree**	**24.98**	**94**	*e*P	P	01 47 26.5	-7.4
	82nm,1.1s						
VAH	**Vaihoa**	**25.23**	**94**	*e*P	P	01 47 28.5	-7.7
	77nm,1.1s						
RKT	**Rikitea**	**37.51**	**109**	*e*LR	LR	01 59 09.6	
	379nm,24.0s						
H11S2	**WAKE ISLAND Hy**	**38.25**	**329**	T	T	02 30 34.2	
	baz=152,slow=0.7,SNR=8.4						
H11S3	**WAKE ISLAND Hy**	**38.27**	**329**	T	T	02 30 35.7	
	baz=152,slow=0.7,SNR=8.0						
H11S1	**WAKE ISLAND Hy**	**38.27**	**329**	T	T	02 30 29.1	
	baz=152,slow=0.7,SNR=44						
CTAO	**Charters Tower**	**38.46**	**256**	*e*P	**P**	**01 49 32.2**	**-0.2**
	7.0nm,1.1s						
H11N3	**WAKE ISLAND Hy**	**39.20**	**330**	T	T	02 31 37.4	
	baz=152,slow=0.7,SNR=14						
H11N1	**WAKE ISLAND Hy**	**39.21**	**330**	T	T	02 31 44.3	
	baz=152,slow=0.7,SNR=16						
H11N2	**WAKE ISLAND Hy**	**39.22**	**330**	T	T	02 31 38.5	
	baz=152,slow=0.7,SNR=17						
COEN	**Coen**	**41.70**	**265**	*e*P	**P**	**01 49 58.9**	**-0.4**
STKA	**Stephens Creek**	**44.07**	**239**	*e*P	**P**	**01 50 19.3**	**+1.0**
	0.9nm,1.0s						
STKA	**Stephens Creek**	**44.07**	**239**	P	**P**	**01 50 19.3**	**+1.0**

	3.0nm,0.8s,baz=59,slow=5.9,SNR=4.4							
WRAB	**Tennant Creek**	**49.66**	**256**	*e*P	**P**		**01 51 01.4**	**-0.9**
	9.0nm,1.0s							
WRA	**Warramunga Arr**	**49.67**	**256**	P	**P**		**01 51 01.0**	**-1.4**
WRA	**Warramunga Arr**	**49.67**	**256**	P	**P**		**01 51 01.0**	**-1.4**
	4.1nm,0.7s,baz=90,slow=7.0,SNR=14							
AS31	**Alice Springs**	**49.99**	**251**	*e*P	**P**		**01 51 03.2**	**-1.5**
ASAR	**Alice Springs**	**49.99**	**251**	P	**P**		**01 51 03.4**	**-1.4**
ASAR	**Alice Springs**	**49.99**	**251**	P	**P**		**01 51 03.4**	**-1.4**
	20nm,0.6s,baz=86,slow=7.9,SNR=241							
VNDA	**Vanda**	**63.97**	**186**	*e*P	**P**		**01 52 43.0**	**+0.1**
	1.4nm,0.9s							
VNDA	**Vanda**	**63.97**	**186**	P	**P**		**01 52 43.0**	**+0.1**
	0.4nm,0.5s,baz=6.3,slow=5.7,SNR=3.9							
KAPI	**Kappang**	**66.03**	**271**	*e*P	**P**		**01 52 56.8**	**-0.6**
	19nm,1.3s							
MJAR	**Matsushiro Arr**	**68.24**	**320**	P	**P**		**01 53 13.0**	**+2.0**
MJAR	**Matsushiro Arr**	**68.24**	**320**	P	**P**		**01 53 13.0**	**+2.0**
	0.7nm,0.3s,baz=157,slow=6.6,SNR=5.2							
MWC	**Mount Wilson**	**71.94**	**46**	*e*P	**P**		**01 53 33.1**	**-0.8**
	9.2nm,0.9s							
ISA	**Isabella**	**72.44**	**45**	*e*P	**P**		**01 53 37.2**	**+0.4**
	2.1nm,0.8s							
CMB	**Columbia Colle**	**72.51**	**42**	*e*P	**P**		**01 53 37.6**	**+0.4**
	2.5nm,0.9s							
YBH	**Yreka Blue Hor**	**73.30**	**37**	*e*P	**P**		**01 53 42.8**	**+1.0**
	2.3nm,0.8s							
YBH	**Yreka Blue Hor**	**73.30**	**37**	P	**P**		**01 53 42.0**	**+0.2**
	1.6nm,0.8s,baz=183,slow=7.0,SNR=6.4							
BEKR	**Beckworth**	**73.60**	**40**	*e*P	**P**		**01 53 43.7**	**0.0**
	2.1nm,1.0s							
HUMO	**Hull Mountain**	**73.70**	**37**	*e*P	**P**		**01 53 45.7**	**+1.7**
	18nm,1.8s							
NVAR	**Mina Array Bea**	**74.09**	**42**	P	**P**		**01 53 45.9**	**-0.8**
NVAR	**Mina Array Bea**	**74.09**	**42**	P	**P**		**01 53 45.9**	**-0.8**
	1.3nm,0.7s,baz=226,slow=9.8,SNR=10							
MOD	**Modoc**	**74.83**	**38**	*e*P	**P**		**01 53 51.9**	**+1.0**
	29nm,1.1s							
K05A	**Summer Lake**	**74.97**	**37**	*e*P	**P**		**01 53 53.5**	**+1.8**
	17nm,1.3s							
SHPR	**Sheep Range**	**75.15**	**45**	*e*P	**P**		**01 53 52.6**	**-0.2**
	28nm,1.9s							
QSPA	**South Pole Qui**	**75.27**	**180**	*e*P	**P**		**01 53 54.0**	**+1.0**
	6.1nm,1.0s							
WVOR	**Wild Horse Val**	**76.15**	**39**	*e*P	**P**		**01 53 58.7**	**+0.3**
	7.3nm,1.1s							
TUC	**Tucson**	**76.25**	**51**	*e*P	**P**		**01 53 59.8**	**+0.7**
	7.4nm,1.4s							
I07A	**Izee**	**76.60**	**37**	*e*P	P		01 54 07.1	+6.3
	14nm,1.4s							
J08A	**Circle Bar Ran**	**76.78**	**38**	*e*P	**P**		**01 54 03.4**	**+1.5**
	14nm,1.5s							
319A	**Douglas**	**76.97**	**52**	⇓P	**P**		**01 54 05.0**	**+1.8**
	baz=77							
WUAZ	**Wupatki**	**77.32**	**48**	⇓P	**P**		**01 54 06.3**	**+1.1**
	baz=78							
ELK	**Elko**	**77.33**	**42**	*e*P	**P**		**01 54 06.5**	**+1.3**
	6.9nm,1.4s							
G08A	**Pilot Rock**	**77.62**	**36**	*e*P	**P**		**01 54 07.9**	**+1.3**
	12nm,1.4s							
220A	**Playas Peak, P**	**77.78**	**52**	⇓P	**P**		**01 54 08.8**	**+1.0**
	baz=78,SNR=6.1							
120A	**U Bar Ranch, L**	**77.98**	**52**	⇑P	**P**		**01 54 10.5**	**+1.6**
	baz=78							
Z20A	**Nine Sixteen R**	**78.26**	**51**	⇑P	**P**		**01 54 12.3**	**+1.8**
	baz=78,SNR=5.1							
MDJ	**Mudanjiang**	**78.33**	**322**	P	**P**		**01 54 10.3**	**0.0**
MDJ				pP	**pP**		**01 54 13.3**	**-0.3**
MDJ				sP	**sP**		**01 54 15.0**	**+0.2**
MDJ				PcP	**PcP**		**01 54 18.3**	**-1.3**
MDJ				S	**S**		**02 04 06.1**	**+0.3**
MDJ				LR	LR			
	comp=N,290nm,21.4s							
MDJ				LR	LR			
	comp=E,310nm,22.3s							
MDJ				LR	LR			
	comp=Z,490nm,24.1s							
221A	**Mesquite Ranch**	**78.40**	**52**	⇓P	**P**		**01 54 12.5**	**+1.3**
	baz=79							
121A	**Cookes Peak, D**	**78.62**	**52**	⇑P	**P**

MSTX	**Muleshoe** baz=83	**83.04**	**52**	⇓P		**P**	**01 54 37.0**	**+1.0**
N22A	**Wattenberg Ran** baz=83	**83.19**	**45**	⇑P		**P**	**01 54 37.4**	**+0.6**
J20A	**Shoshoni** baz=84,SNR=6.6	**83.25**	**42**	⇑P		**P**	**01 54 37.8**	**+0.8**
U26A	**Atchley Ranch,** baz=84	**83.26**	**50**	⇑P		**P**	**01 54 37.8**	**+0.6**
S25A	**Robets Cordova** baz=84,SNR=6.8	**83.27**	**48**	⇓P		**P**	**01 54 37.8**	**+0.6**
O23A	**Lake Granby, G** baz=84	**83.30**	**46**	⇓P		**P**	**01 54 38.2**	**+0.8**
K21A	**Alcova** baz=84,SNR=6.9	**83.47**	**43**	⇑P		**P**	**01 54 38.4**	**+0.3**
I20A	**Worland** baz=84,SNR=5.8	**83.50**	**41**	⇑P		**P**	**01 54 39.0**	**+0.8**
J21A	**Lysite** baz=84,SNR=15	**83.66**	**42**	⇑P		**P**	**01 54 39.9**	**+0.8**
L22A	**Ellis Ranch, M** baz=84,SNR=6.5	**83.74**	**44**	⇑P		**P**	**01 54 40.5**	**+1.0**
H20A	**Greybull** baz=84	**83.83**	**41**	⇓P		**P**	**01 54 40.9**	**+1.1**
Y29A	**Porterfield Fa** baz=84	**83.84**	**53**	⇑P		**P**	**01 54 41.1**	**+1.0**
130A	**Snyder** baz=84	**83.92**	**54**	⇓P		**P**	**01 54 41.3**	**+0.8**
Q25A	**Bedland, Calha** baz=84	**83.92**	**47**	⇓P		**P**	**01 54 41.5**	**+0.9**
K22A	**Casper** baz=84	**83.95**	**43**	⇓P		**P**	**01 54 41.8**	**+1.3**
S26A	**Kim** baz=84	**83.96**	**49**	⇑P		**P**	**01 54 41.3**	**+0.6**
I21A	**Big Trails, Te** baz=84,SNR=8.0	**83.97**	**42**	⇑P		**P**	**01 54 40.8**	**+0.2**
G20A	**Bridger** baz=84	**84.03**	**40**	⇑P		**P**	**01 54 41.9**	**+1.0**
Z30A	**Sanderson Ranc** baz=84	**84.05**	**53**	⇑P		**P**	**01 54 41.0**	**-0.1**
231A	**Bronte** baz=84	**84.19**	**55**	⇑P		**P**	**01 54 42.5**	**+0.6**
P25A	**Willow Gulch B** baz=84,SNR=6.3	**84.22**	**47**	⇑P		**P**	**01 54 42.7**	**+0.7**
R26A	**Arlington** baz=84	**84.25**	**48**	⇑P		**P**	**01 54 42.4**	**+0.3**
L23A	**Garrett** baz=84,SNR=6.6	**84.27**	**44**	⇓P		**P**	**01 54 42.8**	**+0.5**
J22A	**Midwest** baz=84,SNR=8.0	**84.32**	**42**	⇓P		**P**	**01 54 42.8**	**+0.4**
W29A	**Amraillo** baz=84	**84.33**	**52**	⇓P		**P**	**01 54 43.4**	**+0.8**
F20A	**Billings** baz=85	**84.34**	**40**	⇓P		**P**	**01 54 43.5**	**+1.1**
H21A	**Big Horn, Sher** baz=85	**84.50**	**41**	⇑P		**P**	**01 54 43.7**	**+0.5**
I22A	**9 Mile Ranch,** baz=85	**84.53**	**42**	⇓P		**P**	**01 54 44.1**	**+0.6**
D19A	**Cripps Ranch,** baz=85,SNR=5.7	**84.54**	**38**	⇑P		**P**	**01 54 44.3**	**+1.0**
M24A	**Cheyenne** baz=85	**84.58**	**45**	⇑P		**P**	**01 54 44.8**	**+1.0**
C19A	**Slack Wire Ran** baz=85,SNR=5.8	**84.71**	**38**	⇑P		**P**	**01 54 45.4**	**+1.2**
D20A	**Manuel Ranch,** baz=85	**84.95**	**39**	⇓P		**P**	**01 54 46.3**	**+0.9**
ABTX	**Abilene, Hawle**	**84.97**	**55**	*e*P		**P**	**01 54 45.9**	**+0.1**
ABTX	**Abilene, Hawle** baz=85	**84.97**	**55**	⇑P		**P**	**01 54 46.1**	**+0.3**
V30A	**Spur Ranch, Mi** baz=86	**85.30**	**51**	⇑P		**P**	**01 54 48.2**	**+0.7**
C20A	**Veseth Ranch,** baz=86,SNR=6.6	**85.32**	**38**	⇓P		**P**	**01 54 48.4**	**+1.2**
Z32A	**Haskell** baz=86	**85.34**	**54**	⇓P		**P**	**01 54 48.2**	**+0.6**
H24A	**Dirks Ranch, A** baz=86,SNR=5.8	**86.15**	**42**	⇓P		**P**	**01 54 51.3**	**-0.2**
GYA	**Guiyang**	**87.45**	**298**	*e*P		**P**	**01 54 57.8**	**-0.5**
GYA				PP		**PP**	**01 58 23.5**	**+0.3**
GYA				SKS		**SKSac**	**02 05 22.3**	**-4.4**
GYA				S		**SKKSac**	**02 05 37.4**	**+1.4**
GYA	comp=Z,10.0nm,1.0s			AMB		AMB		
GYA	comp=Z,90nm,6.0s			AMB		AMB		
GYA	comp=N,370nm,20.8s			LR		LR		
GYA	comp=E,260nm,21.2s			LR		LR		
GYA	comp=Z,320nm,20.1s			LR		LR		
MAW	**Mawson** 0.9nm,0.9s	**88.28**	**199**	*e*P		**P**	**01 54 59.8**	**-1.5**
MAW	**Mawson** 2.7nm,0.7s,baz=126,slow=8.7,SNR=10	**88.28**	**199**	P		**P**	**01 55 00.3**	**-1.0**
HHC	**Hu-ho-hao-te**	**88.36**	**313**	*e*P		**P**	**01 55 02.1**	**-0.2**
HHC				pP		**pP**	**01 55 05.3**	**-0.3**
HHC				sP		**sP**	**01 55 08.8**	**+2.0**
HHC				PP		**PP**	**01 58 32.3**	**+2.2**
HHC				SKS		**SKSac**	**02 05 28.5**	**-3.0**
HHC				S		**S**	**02 05 45.1**	**-2.7**
HHC				sS		**sS**	**02 05 53.4**	**+0.1**
HHC	comp=Z,29nm,1.2s			AMB		AMB		
HHC	comp=Z,140nm,5.3s			AMB		AMB		
HHC	comp=N,320nm,17.8s			LR		LR		
HHC	comp=E,240nm,17.2s			LR		LR		
HHC	comp=Z,360nm,17.7s			LR		LR		
YKA	**Yellowknife Ar**	**89.65**	**23**	P		**P**	**01 55 07.2**	**-0.4**
YKA	**Yellowknife Ar** 1.6nm,0.9s,baz=235,slow=4.1,SNR=4.7	**89.65**	**23**	P		**P**	**01 55 07.3**	**-0.4**
KMI	**Kunming**	**90.45**	**296**	P		**P**	**01 55 14.3**	**+1.7**
KMI	comp=Z,8.0nm,0.5s			AMB		AMB		
CD2	**Chengdu**	**91.20**	**302**	P		**P**	**01 55 16.1**	**+0.4**
CD2	comp=Z,10.0nm,0.5s			AMB		AMB		
LZH	**Lanzhou**	**92.58**	**307**	*e*P		**P**	**01 55 25.1**	**+2.9**
LZH				pP		**pP**	**01 55 29.4**	**+3.9**
LZH				sP		sP	01 55 32.4	+5.7
LZH	comp=Z,17nm,1.0s			AMB		AMB		
SONM	**Songino Array**	**94.16**	**318**	P		**P**	**01 55 28.6**	**-0.5**
SONM	**Songino Array** 0.3nm,0.7s,baz=132,slow=4.3,SNR=3.0	**94.16**	**318**	P		**P**	**01 55 28.6**	**-0.5**
GTA	**Gaotai**	**96.53**	**309**	*e*P		P	01 55 46.4	+6.3
GTA				pP		pP	01 55 51.3	+7.8
GTA				sP		sP	01 55 53.4	+8.7
GTA	comp=Z,3.0nm,0.8s			AMB		AMB		
WMQ	**Urumqi**	**106.20**	**312**	*e*P		**Pdif**	**01 56 23.4**	**+0.3**
WMQ	comp=Z,9.0nm,0.5s			AMB		AMB		
WMQ	comp=Z,140nm,5.4s			LR		LR		
WMQ	comp=N,200nm,22.6s			LR		LR		
WMQ	comp=E,78nm,20.2s			LR		LR		
WMQ	comp=Z,110nm,22.2s			LR		LR		
KURK	**Kurchatov**	**112.45**	**319**	*e*PKP		**PKiKP**	**02 00 45.1**	**-1.1**
EKS2	**Erkin-Say**	**116.35**	**310**	*e*PKPdf		**PKPdf**	**02 00 54.8**	**+0.6**
BRVK	**Borovoye**	**117.24**	**322**	*e*PKPdf		**PKPdf**	**02 00 55.1**	**-0.3**
ARCES	**ARCESS Array B**	**123.94**	**352**	PKP		**PKPdf**	**02 01 08.7**	**+0.9**
ARCES	**ARCESS Array B** comp=Z,4.8nm,0.9s,baz=48,slow=1.3,SNR=4.2	**123.94**	**352**	PKP		**PKPdf**	**02 01 08.7**	**+0.9**
ABKAR	**Akbulak array**	**124.52**	**320**	*e*PKPdf		**PKPdf**	**02 01 10.2**	**+0.7**
AKASG	**Malin Array Be**	**139.63**	**337**	PKP		**PKPdf**	**02 01 37.8**	**-0.1**
AKASG	**Malin Array Be** comp=Z,0.8nm,0.7s,baz=28,slow=2.7,SNR=4.0	**139.63**	**337**	PKP		**PKPdf**	**02 01 37.8**	**-0.1**
CLL	**Collm**	**143.15**	**353**	*e*PKPdf		PKPbc	02 01 42.0	+1.0
TNS	**Taunus Mts**	**144.60**	**358**	*e*PKP		**PKPdf**	**02 01 46.7**	**-0.1**
GRF	**Grafenberg Arr**	**144.94**	**354**	*e*PKP		**PKPdf**	**02 01 47.5**	**+0.1**
GRFO	**Grafenberg**	**144.94**	**354**	*e*PKPdf		**PKPdf**	**02 01 47.6**	**+0.2**
PSZ	**Piszkesteto**	**145.07**	**344**	*e*PKPdf		**PKPdf**	**02 01 47.9**	**+0.2**
SMOL	**Smolenice**	**145.11**	**347**	*e*PKP		**PKPdf**	**02 01 48.9**	**+1.2**
MLR	**Muntele Rosu**	**145.16**	**335**	PKPbc		**PKPdf**	**02 01 48.5**	**+0.5**
MLR	**Muntele Rosu** baz=27,slow=4.5	**145.16**	**335**	PKPbc		**PKPdf**	**02 01 48.5**	**+0.5**
WLF	**Walferdange**	**145.20**	**0**	*e*PKPbc		**PKPdf**	**02 01 49.2**	**+1.4**
KHC	**Kasperske Hory**	**145.21**	**352**	*e*PKP		**PKPbc**	**02 01 43.5**	**-4.0**
KHC				*ep*PKP		**PKPdf**	**02 01 49.5**	**+1.6**
KHC	**Kasperske Hory**	**145.21**	**352**	*e*PKPbc		**PKPdf**	**02 01 48.3**	**+0.3**
BR131	**Keskin Array S**	**145.46**	**321**	*e*PKPbc		**PKPab**	**02 01 49.7**	**+0.8**
BRTR	**Keskin Array B**	**145.46**	**321**	PKPbc		**PKPab**	**02 01 49.1**	**+0.1**
BRTR	**Keskin Array B** comp=Z,7.2nm,0.9s,baz=93,slow=1.9,SNR=20	**145.46**	**321**	PKPbc		**PKPab**	**02 01 49.1**	**+0.1**
GERES	**GERESS Array B**	**145.47**	**351**	PKPbc		**PKPab**	**02 01 48.6**	**-0.1**
GERES	**GERESS Array B** comp=Z,2.4nm,0.9s,baz=358,slow=2.9,SNR=16	**145.47**	**351**	PKPbc		**PKPab**	**02 01 48.6**	**-0.1**
KMBO	**Kilima Mbogo**	**145.50**	**245**	*e*PKPbc		**PKPdf**	**02 01 48.2**	**-1.5**
KMBO	**Kilima Mbogo** comp=Z,1.1nm,0.8s,baz=124,slow=3.6,SNR=3.9	**145.50**	**245**	PKPbc		**PKPdf**	**02 01 49.0**	**-0.7**
ANTO	**Ankara**	**145.88**	**322**	*e*PKPbc		**PKPbc**	**02 01 49.9**	**-0.1**
CONA	**Conrad Observa** comp=Z,17nm,2.1s	**145.99**	**348**	⇑*ip*PKPdf		pPKPdf	02 01 52.0	-0.8
STU	**Stuttgart**	**146.01**	**357**	*e*PKP		**PKPab**	**02 01 52.2**	**+1.7**
STU	**Stuttgart**	**146.01**	**357**	*e*PKPbc		**PKPbc**	**02 01 50.2**	**+0.2**
BFO	**Black Forest**	**146.49**	**357**	*e*PKP		**PKPab**	**02 01 53.1**	**+0.7**
BFO	**Black Forest**	**146.49**	**357**	*e*PKPbc		**PKPab**	**02 01 52.7**	**+0.3**
ECH	**Echery**	**146.64**	**359**	*e*PKPbc		**PKPab**	**02 01 53.5**	**+0.5**
FETA	**Feichten** comp=Z,8.8nm,1.1s	**147.63**	**354**	⇑*ip*PKPbc		**PKPab**	**02 01 57.3**	**+0.3**
ABTA	**Abfaltersbach** comp=Z,9.3nm,0.9s	**147.69**	**352**	⇑*is*PKPdf		**PKPbc**	**02 01 55.9**	**+0.9**
DAVOX	**Davos/Dischmat**	**147.94**	**355**	PKPbc		**PKPbc**	**02 01 56.0**	**+0.1**
DAVOX	**Davos/Dischmat** comp=Z,2.7nm,0.7s,baz=214,slow=3.6,SNR=7.1	**147.94**	**355**	PKPbc		**PKPbc**	**02 01 56.0**	**+0.1**
TUE	**Stuetta**	**148.29**	**356**	*e*PKPdf		**PKPdf**	**02 01 53.9**	**+0.5**
CSS	**Prodhromos**	**148.43**	**314**	*e*PKPdf		**PKPdf**	**02 01 53.1**	**-0.7**
CSS				*e*PKPbc		**PKPbc**	**02 01 56.2**	**-1.1**
CSS				*e*PKPab		**PKiKP**	**02 01 59.3**	**+0.5**
SSB	**Saint Sauveur**	**149.55**	**2**	*e*PKPbc		**PKPbc**	**02 01 59.2**	**-0.6**
ESDC	**Sonseca Array**	**153.62**	**18**	PKPbc		**PKPbc**	**02 02 09.7**	**+0.4**
ESDC				PKPab		**PKPab**	**02 02 21.5**	**-0.3**
ESDC	**Sonseca Array** comp=Z,0.3nm,0.6s,baz=325,slow=4.2,SNR=3.0	**153.62**	**18**	PKPbc		**PKPbc**	**02 02 09.7**	**+0.4**
ESDC	comp=Z,0.5nm,0.8s,baz=329,slow=3.1,SNR=4.4			PKPab		**PKPab**	**02 02 21.5**	**-0.3**
TORD	**Torodi Ar. Bea**	**175.29**	**109**	PKP		**PKPdf**	**02 02 19.1**	**-2.1**
TORD	**Torodi Ar. Bea** comp=Z,0.9nm,1.0s,baz=240,slow=2.8,SNR=3.9	**175.29**	**109**	PKP		**PKPdf**	**02 02 19.1**	**-2.1**

IDC 17 01:42:18.0±1.9, 18.69S×63.28W, h0km, mb3.8/1, mb1 3.8/4, mb1mx3.6/21, mbtmpg3.6/4, ML4.0/3, MS2.6/1, Ms1 2.8/1, ms1mx2.3/25, Error ellipse: s-maj=29.2km s-min=23.9km az=148.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SIV	**San Ignacio** 5.8nm,0.3s,baz=245,slow=17,SNR=18	**3.42**	**38**	Op Pn		Pn	01 43 13.2	+0.5
SIV	3.6nm,0.3s,baz=232,slow=17,SNR=11			Sn		Sn	01 43 45.7	-8.2
SIV	4.4nm,0.3s,baz=315,slow=20,SNR=4.4			Lg		Lg	01 44 06.5	
LPAZ	**La Paz** 1.9nm,0.3s,baz=116,slow=10,SNR=15	**5.21**	**297**	Pn		Pn	01 43 38.9	+0.9
LPAZ	1.0nm,0.3s,baz=0.0,slow=20,SNR=2.9			Sn		Sn	01 44 37.4	-2.0
LPAZ	comp=Z,67nm,20.3s,baz=302,slow=38			LR		LR	01 45 36.8	
CPUP	**Villa Florida** 0.5nm,0.3s,baz=320,slow=15,SNR=3.1	**9.38**	**145**	Pn		Pn	01 44 34.8	+0.3
TORD	**Torodi Ar. Bea** 0.9nm,0.9s,baz=255,slow=7.6,SNR=3.9	**71.42**	**69**	P		P	01 53 40.4	-0.3

*IDC **17** 01:47:17.5±0.6, 14.86S×173.72W, h0km, mb4.1/12, mb1 4.4/12, mb1mx4.2/20, mbtmp4.1/12, MS4.6/27, Ms1 4.6/27, ms1mx4.5/33, Error ellipse: s-maj=32.9km s-min=15.7km az=139.0*

*BJI **17** 01:47:17.3, 14.90S×173.84W, h5km, mB5.4/13, mb5.0/17, Ms5.0/11, Ms7 4.9/12*

*NEIC **17** 01:47:19.2±0.2, 14.99S×173.75W, h10km, mb4.7/30, Error ellipse: s-maj=15.6km s-min=6.7km az=140.0*

*ISCJB **17** 01:47:20.2±0.3, 15.06S±0.09×173.76W±0.07, h30km, mb4.7/47, MS4.6/32, Error ellipse: s-maj=14.5km s-min=7.6km az=148.1*

*GCMT **17** 01:47:25.5±0.2, 14.81S×173.22W, h14km±1km, MW5.2, Moment Tensor Solution. s57,c85; s98,c174; Moment tensor: Scale 10^{16}Nm; Mrr0.65±.13; Mθθ3.83±.13; Mϕϕ-4.47±.13; Mrθ1.48±.31; Mrϕ4.57±.12; Mθϕ4.26±.45; Best double couple: Mo7.70000×10^{16} NP1:ϕ20.00000°, δ87.00000°, λ144.00000°. NP2:ϕ112.00000°, δ54.00000°, λ3.00000°. Principal axes: T 7.4300, Plg27.0000°, Azm329.0000°; N 0.4600, Plg53.0000°, Azm196.0000°; P -7.8800, Plg23.0000°, Azm72.0000°; Data Used: II IU IC G CN.*

ISC 17 01:47:22.0±0.4, 15.02S±0.09×173.67W±0.08, h30km, n143, σ1s50/130, mb4.8/47, MS4.7/32, 6C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.14**	**59**	Op *e*Pn		Pn	01 47 44.8	-11
AFI				Sn		Sn	01 48 03.6	-18
AFI	**Afiamalu** 140nm,0.3s,baz=159,slow=3.3,SNR=21	**2.14**	**59**	Pn		Pn	01 47 44.8	-11
AFI	406nm,0.3s,baz=10,slow=22,SNR=11			Sn		Sn	01 48 03.6	-18
MSVF	**Nonsavu**	**8.39**	**250**	*e*Pn		Pb	01 49 34.4	-12
RAR	**Rarotonga** comp=Z,2μm,19.9s,baz=315,slow=29	**14.57**	**117**	LR		LR	01 54 25.2	
DZM	**Mont Dzumac** 63nm,1.6s	**20.11**	**247**	*e*P		Pn	01 52 00.9	+5.4
DZM	5μm,26.1s			*e*LR		LR	01 56 52.4	
DZM	**Mont Dzumac**	**20.11**	**247**	P		**P**	**01 51 54.3**	**+0.8**
DZM	**Mont Dzumac** 2.2nm,0.8s,baz=75,slow=16,SNR=2.0	**20.11**	**247**	P		**P**	**01 51 54.3**	**+0.8**
DZM	comp=Z,931nm,21.2s,baz=271,slow=32			LR		LR	01 57 52.6	
PPT	**Papeete** comp=Z,704nm,18.3s,baz=128,slow=31	**23.26**	**100**	LR		LR	01 59 13.8	
PPT2	**Papeete2** 5μm,28.0s	**23.26**	**100**	*e*LQ		LQ	01 56 50.1	
PPT2	3μm,25.0s,baz=265			*e*LR		LR	01 57 52.9	
TBI	**Tubuai** 4μm,28.2s	**24.29**	**114**	*e*LQ		LQ	01 57 19.4	
TBI	3μm,26.2s,baz=295			*e*LR		LR	01 58 15.3	
URZ	**Urewera** comp=Z,3μm,20.1s,baz=283,slow=34	**24.54**	**198**	LR		LR	02 01 23.3	
PMOR	**Pomariorio Ree** 142nm,1.4s	**24.89**	**93**	*e*P		**P**	**01 52 40.7**	**-1.7**
VAH	**Vaihoa** 59nm,1.1s	**25.14**	**94**	*e*P		**P**	**01 52 42.8**	**-1.8**
HNR	**Honiara** comp=Z,2μm,20.4s,baz=320,slow=33	**26.36**	**279**	LR		LR	02 01 37.8	
RPZ	**Rata Peaks** 57nm,1.5s	**31.43**	**201**	*e*P		**P**	**01 53 40.0**	**-0.6**
RKT	**Rikitea** 876nm,26.2s	**37.36**	**108**	*e*LQ		LQ	02 02 58.6	
RKT	2μm,25.8s,baz=283			*e*LR		LR	02 04 14.4	
H11S2	**WAKE ISLAND Hy** baz=149,slow=0.7	**38.51**	**329**	T		T	02 36 01.8	
H11S3	**WAKE ISLAND Hy** baz=149	**38.52**	**329**	T		T	02 36 03.6	
H11S1	**WAKE ISLAND Hy** baz=149,slow=0.7	**38.53**	**329**	T		T	02 36 07.3	
PMG	**Port Moresby** comp=Z,482nm,18.3s,baz=72,slow=35	**38.65**	**274**	LR		LR	02 09 35.1	
H11N3	**WAKE ISLAND Hy** baz=151,slow=0.7,SNR=3.8	**39.46**	**330**	T		T	02 37 08.4	
H11N1	**WAKE ISLAND Hy** baz=151,slow=0.7,SNR=7.9	**39.46**	**330**	T		T	02 37 11.7	
H11N2	**WAKE ISLAND Hy** baz=151,slow=0.7,SNR=4.1	**39.48**	**330**	T		T	02 37 08.0	
STKA	**Stephens Creek** 2.1nm,1.2s	**44.00**	**240**	*e*P		**P**	**01 55 26.4**	**-0.6**
STKA	**Stephens Creek** 1.6nm,0.8s,baz=117,slow=9.0,SNR=3.2	**44.00**	**240**	P		**P**	**01 55 25.6**	**-1.4**
STKA	comp=Z,655nm,19.8s,baz=56,slow=33			LR		LR	02 11 39.8	
WRAB	**Tennant Creek** 10.0nm,1.1s	**49.67**	**256**	*e*P		**P**	**01 56 10.3**	**-1.1**
WRA	**Warramunga Arr**	**49.68**	**256**	P		**P**	**01 56 10.0**	**-1.5**
WRA	**Warramunga Arr** 2.1nm,0.5s,baz=89,slow=6.8,SNR=7.7	**49.68**	**256**	P		**P**	**01 56 10.0**	**-1.5**
WRA	comp=Z,655nm,19.7s,baz=80,slow=34			LR		LR	02 14 59.6	
AS31	**Alice Springs**	**49.98**	**252**	*e*P		**P**	**01 56 12.9**	**-0.9**
ASAR	**Alice Springs**	**49.98**	**252**	P		**P**	**01 56 12.5**	**-1.4**
ASAR	**Alice Springs** 8.8nm,0.6s,baz=87,slow=8.0,SNR=69	**49.98**	**252**	P		**P**	**01 56 12.5**	**-1.4**
ASAR	comp=Z,1μm,21.2s,baz=90,slow=34			LR		LR	02 15 20.0	
JCJ	**Chichijima** comp=Z,609nm,21.1s,baz=138,slow=31	**59.91**	**314**	LR		LR	02 18 22.6	
VNDA	**Vanda** 3.0nm,1.2s	**63.72**	**186**	*e*P		**P**	**01 57 52.4**	**+2.0**
VNDA	**Vanda** 1.7nm,1.0s,baz=22,slow=8.1,SNR=6.1	**63.72**	**186**	P		**P**	**01 57 53.0**	**+2.6**
VNDA	comp=Z,238nm,18.5s,baz=21,slow=32			LR		LR	02 21 54.1	
MJAR	**Matsushiro Arr** comp=Z,583nm,22.0s,baz=130,slow=31	**68.48**	**320**	LR		LR	02 22 41.6	
MWC	**Mount Wilson** 9.4nm,1.1s	**72.06**	**46**	*e*P		**P**	**01 58 44.3**	**+0.6**
PETK	**Petropavlovsk-** comp=Z,110nm,19.8s,baz=156,slow=33	**72.19**	**342**	LR		LR	02 26 34.1	
CMB	**Columbia Colle** 1.9nm,0.8s	**72.65**	**42**	*e*P		**P**	**01 58 47.4**	**+0.4**
YBH	**Yreka Blue Hor** 5.3nm,1.0s	**73.46**	**37**	*e*P		**P**	**01 58 51.6**	**-0.1**
YBH	**Yreka Blue Hor** 1.6nm,0.6s,baz=281,slow=5.2,SNR=7.6	**73.46**	**37**	P		**P**	**01 58 51.1**	**-0.6**
YBH	comp=Z,398nm,20.6s,baz=239,slow=30			LR		LR	02 23 21.5	
BEKR	**Beckworth** 1.3nm,0.8s	**73.75**	**40**	*e*P		**P**	**01 58 52.6**	**-1.0**
HUMO	**Hull Mountain** 6.3nm,1.2s	**73.86**	**37**	*e*P		**P**	**01 58 54.2**	**+0.2**
NVAR	**Mina Array Bea** 1.2nm,0.8s,baz=228,slow=9.5,SNR=11	**74.22**	**42**	P		**P**	**01 58 55.2**	**-1.3**
NVAR	**Mina Array Bea**	**74.22**	**42**	P		**P**	**01 58 55.2**	**-1.3**
NVAR	comp=Z,387nm,18.4s,baz=257,slow=30			LR		LR	02 24 29.5	
QSPA	**South Pole Qui** 11nm,1.2s	**75.02**	**180**	*e*P		**P**	**01 59 01.3**	**+0.7**
K05A	**Summer Lake** 163nm,2.5s	**75.13**	**37**	*e*P		**P**	**01 59 01.9**	**+0.3**
SHPR	**Sheep Range**	**75.28**	**45**	*e*P		**P**	**01 59 01.4**	**-1.1**
KSRS	**Korea Array** comp=Z,235nm,21.2s,baz=129,slow=31	**75.71**	**316**	LR		LR	02 26 16.0	
PINOR	**Pine Mountain** 9.8nm,1.0s	**75.80**	**36**	*e*P		**P**	**01 59 06.3**	**+1.2**
WVOR	**Wild Horse Val** 5.2nm,1.0s	**76.30**	**39**	*e*P		**P**	**01 59 08.1**	**-0.1**
TUC	**Tucson**	**76.35**	**51**	*e*P		**P**	**01 59 08.2**	**-0.4**
USRK	**Ussuriysk Arra** comp=Z,533nm,20.5s,baz=297,slow=31	**76.93**	**323**	LR		LR	02 26 55.0	
J08A	**Circle Bar Ran** 10nm,1.3s	**76.93**	**38**	*e*P		**P**	**01 59 13.2**	**+1.4**
BBB	**Bella Bella** comp=Z,176nm,19.8s,baz=101,slow=29	**77.67**	**27**	LR		LR	02 24 43.8	
G08A	**Pilot Rock** 12nm,1.6s	**77.78**	**36**	*e*P		**P**	**01 59 19.3**	**+2.8**
MDJ	**Mudanjiang**	**78.57**	**322**	P		P	01 59 15.4	-5.3
MDJ				pP		pP	01 59 18.5	-12
MDJ				sP		sP	01 59 19.6	-14
MDJ				PcP		**PcP**	**01 59 25.8**	**-3.8**
MDJ	**Mudanjiang**	**78.57**	**322**	S		**S**	**02 09 19.8**	**+4.5**
MDJ	**Mudanjiang**	**78.57**	**322**	ScS		**ScS**	**02 09 45.3**	**+5.7**
MDJ	**Mudanjiang**	**78.57**	**322**	SS		SS	02 14 30.0	+10
MDJ	comp=N,290nm,21.7s			LR		LR		
MDJ	comp=E,310nm,28.3s			LR		LR		
MDJ	comp=Z,440nm,25.6s			LR		LR		
DUG	**Dugway** comp=Z,4.0nm,1.1s	**78.76**	**43**	*e*P		**P**	**01 59 23.6**	**+1.6**
BMRM	**Bremner River** comp=Z,35nm,1.5s	**79.22**	**14**	*e*P		**P**	**01 59 24.8**	**+0.9**
TMUT	**Trail Mountain** comp=Z,9.4nm,0.9s	**79.39**	**44**	*e*P		**P**	**01 59 27.6**	**+2.0**
HLID	**Hailey** comp=Z,4.8nm,0.9s	**79.50**	**39**	*e*P		**P**	**01 59 26.3**	**+0.3**
NJ2	**Nanjing**	**79.73**	**307**	*e*P		**P**	**01 59 26.8**	**-0.5**
NJ2	comp=Z,10.0nm,0.5s			AMB		AMB		
BNM	**Barren Site**	**80.29**	**51**	*e*P		**P**	**01 59 31.8**	**+1.1**
TRF	**Thorofare Moun** comp=Z,11nm,1.0s	**80.30**	**10**	*e*P		**P**	**01 59 30.9**	**+1.0**
NEW	**Newport** comp=Z,117nm,20.2s,baz=231,slow=31	**80.54**	**34**	LR		LR	02 28 17.1	
TXAR	**Lajitas Array**	**80.62**	**56**	P		**P**	**01 59 32.1**	**-0.2**
TXAR	**Lajitas Array** comp=Z,0.5nm,0.6s,baz=261,slow=4.1,SNR=5.5	**80.62**	**56**	P		**P**	**01 59 32.1**	**-0.2**
TXAR	comp=Z,385nm,20.4s,baz=210,slow=30			LR		LR	02 27 27.8	
CN2	**Changchun**	**80.63**	**320**	*e*P		**P**	**01 59 30.3**	**-1.6**
PV01	**Paradox Valley** comp=Z,405nm,1.0s	**80.65**	**46**	*e*P		**P**	**01 59 32.7**	**+0.3**
ANMO	**Albuquerque** comp=Z,8.0nm,1.3s	**80.76**	**50**	*e*P		**P**	**01 59 34.2**	**+1.1**
MCK	**McKinley** comp=Z,11nm,1.0s	**80.80**	**11**	*e*P		**P**	**01 59 31.7**	**-0.7**
RRI2	**Red Ridge** comp=Z,6.5nm,1.0s	**81.32**	**41**	*e*P		**P**	**01 59 36.3**	**+0.3**
REDW	**Red Top Meadow** comp=Z,20nm,1.6s	**81.62**	**41**	*e*P		**P**	**01 59 39.3**	**+1.8**
TPAW	**Teton Pass** comp=Z,112nm,2.9s	**81.62**	**41**	*e*P		**P**	**01 59 37.6**	**+0.1**
IMW	**Indian Meadow**	**81.83**	**40**	*e*P		**P**	**01 59 38.8**	**+0.1**
COLA	**College** comp=Z,15nm,0.9s	**82.04**	**11**	*e*P		**P**	**01 59 38.6**	**-0.2**
FLWY	**Flagg Ranch** comp=Z,50nm,2.0s	**82.07**	**40**	*e*P		**P**	**01 59 40.5**	**+0.6**
ILAR	**Eielson Array**	**82.13**	**11**	P		**P**	**01 59 38.5**	**-0.9**
ILAR	**Eielson Array** comp=Z,1.3nm,0.9s,baz=197,slow=6.4,SNR=10	**82.13**	**11**	P		**P**	**01 59 38.5**	**-0.9**
ILAR	comp=Z,160nm,18.6s,baz=208,slow=35			LR		LR	02 35 04.9	
PDAR	**Pinedale Array**	**82.16**	**42**	P		**P**	**01 59 39.2**	**-1.1**
PDAR	**Pinedale Array** comp=Z,1.5nm,0.9s,baz=212,slow=3.2,SNR=7.1	**82.16**	**42**	P		**P**	**01 59 39.2**	**-1.1**
PDAR	comp=Z,306nm,18.1s,baz=248,slow=32			LR		LR	02 30 50.1	
SMCO	**Snowmass** comp=Z,32nm,1.8s	**82.24**	**46**	*e*P		**P**	**01 59 42.3**	**+1.2**
QIZ	**Qiongzhong**	**82.53**	**292**	P		**P**	**01 59 40.8**	**-1.7**
QIZ				S		**S**	**02 09 57.9**	**+0.1**
QIZ

HHC				sS	**ScS**	**02 11 01.3**	**-1.1**
HHC				SS	**SS**	**02 16 48.3**	**-0.2**
HHC				AMB	AMB		
	comp=Z,46nm,1.0s						
HHC				AMB	AMB		
	comp=Z,380nm,5.6s						
HHC				LR	LR		
	comp=Z,300nm,17.2s						
HHC				LR	LR		
	comp=Z,290nm,17.4s						
HHC				LR	LR		
	comp=Z,350nm,17.2s						
YKA	**Yellowknife Ar**	**89.86**	**23**	P	**P**	**02 00 16.5**	**-1.0**
YKA	**Yellowknife Ar**	**89.86**	**23**	P	**P**	**02 00 16.5**	**-1.0**
	comp=Z,1.6nm,0.9s,baz=230,slow=4.8,SNR=5.6						
KMI	**Kunming**	**90.63**	**296**	P	**P**	**02 00 24.6**	**+2.2**
KMI				S	**S**	**02 11 15.9**	**-0.9**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.8s						
KMI				LR	LR		
	comp=Z,120nm,20.2s						
KMI				LR	LR		
	comp=Z,190nm,16.7s						
KMI				LR	LR		
	comp=Z,200nm,14.8s						
CD2	**Chengdu**	**91.39**	**302**	P	**P**	**02 00 26.6**	**+1.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**92.25**	**288**	LR	LR	02 41 26.8	
	comp=Z,178nm,18.5s,baz=130,slow=35						
LZH	**Lanzhou**	**92.79**	**306**	*e*P	**P**	**02 00 30.5**	**-1.6**
LZH				pP	**PcP**	**02 00 35.9**	**+3.2**
LZH				sP	sP	02 00 38.8	-6.4
LZH				AMB	AMB		
	comp=Z,25nm,1.1s						
LZH				AMB	AMB		
	comp=Z,150nm,5.3s						
ULM	**Lac du Bonnet**	**93.80**	**39**	LR	LR	02 37 00.3	
	comp=Z,486nm,18.4s,baz=35,slow=32						
SONM	**Songino Array**	**94.39**	**318**	LR	LR	02 37 47.3	
	comp=Z,335nm,21.6s,baz=134,slow=32						
WMQ	**Urumqi**	**106.42**	**312**	*e*P	**Pdif**	**02 01 33.8**	**+0.8**
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.6s						
WMQ				AMB	AMB		
	comp=Z,150nm,4.4s						
WMQ				LR	LR		
	comp=N,220nm,22.6s						
WMQ				LR	LR		
	comp=E,82nm,20.2s						
WMQ				LR	LR		
	comp=Z,130nm,22.2s						
MK31	**Makanchi Array**	**110.38**	**315**	*e*PKP	**PKiKP**	**02 05 51.2**	**-0.1**
KURK	**Kurchatov**	**112.69**	**319**	*e*PKP	**PKiKP**	**02 05 57.0**	**+1.5**
EKS2	**Erkin-Say**	**116.57**	**310**	*e*PKPdf	**PKPdf**	**02 06 04.2**	**+0.7**
BRVK	**Borovoye**	**117.48**	**322**	*e*PKPdf	**PKPdf**	**02 06 02.2**	**-2.5**
ARCES	**ARCESS Array B**	**124.20**	**352**	PKP	**PKPdf**	**02 06 18.9**	**+1.7**
ARCES	**ARCESS Array B**	**124.20**	**352**	PKP	**PKPdf**	**02 06 18.9**	**+1.7**
	comp=Z,3.7nm,0.9s,baz=336,slow=1.1,SNR=3.5						
ABKAR	**Akbulak array**	**124.76**	**320**	*e*PKPdf	**PKPdf**	**02 06 19.1**	**+0.4**
AKASG	**Malin Array Be**	**139.89**	**337**	PKP	**PKPdf**	**02 06 47.7**	**+0.5**
AKASG	**Malin Array Be**	**139.89**	**337**	PKP	**PKPdf**	**02 06 47.7**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=26,slow=2.3,SNR=6.1						
CFR	**Carcaliu**	**144.75**	**333**	⇑*i*P	**PKPab**	**02 06 50.0**	**-4.8**
PSZ	**Piszkesteto**	**145.33**	**344**	⇑*i*P	**PKPdf**	**02 07 01.8**	**+4.7**
PSZ	**Piszkesteto**	**145.33**	**344**	*e*PKPbc	**PKPdf**	**02 06 58.2**	**+1.1**
MLR	**Muntele Rosu**	**145.42**	**335**	⇑*i*P	**PKPdf**	**02 06 57.9**	**+0.5**
MLR	**Muntele Rosu**	**145.42**	**335**	PKPbc	**PKPdf**	**02 06 58.2**	**+0.9**
MLR	**Muntele Rosu**	**145.42**	**335**	PKPbc	**PKPdf**	**02 06 58.2**	**+0.9**
	baz=106,slow=4.1						
WLF	**Walferdange**	**145.45**	**0**	*e*PKPbc	**PKPab**	**02 06 57.8**	**+0.5**
KMBO	**Kilima Mbogo**	**145.46**	**245**	*e*PKPbc	**PKPab**	**02 06 59.3**	**+0.5**
KMBO	**Kilima Mbogo**	**145.46**	**245**	PKPbc	**PKPab**	**02 06 59.6**	**+0.9**
	comp=Z,1.1nm,0.9s,baz=33,slow=3.6,SNR=3.5						
KHC	**Kasperske Hory**	**145.47**	**352**	PKPbc	**PKPab**	**02 06 57.7**	**+0.2**
BR131	**Keskin Array S**	**145.70**	**321**	*e*PKPbc	**PKPab**	**02 07 00.1**	**+1.3**
BRTR	**Keskin Array B**	**145.70**	**321**	PKPbc	**PKPab**	**02 06 58.6**	**-0.2**
BRTR	**Keskin Array B**	**145.70**	**321**	PKPbc	**PKPab**	**02 06 58.6**	**-0.2**
	comp=Z,5.6nm,0.9s,baz=118,slow=3.0,SNR=22						
GERES	**GERESS Array B**	**145.73**	**351**	PKPbc	**PKPbc**	**02 06 58.0**	**-0.1**
GERES	**GERESS Array B**	**145.73**	**351**	PKPbc	**PKPbc**	**02 06 58.0**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=11,slow=2.7,SNR=11						
VOIR		**145.82**	**336**	⇑*i*P	**PKPab**	**02 07 00.5**	**+1.6**
ANTO	**Ankara**	**146.12**	**322**	*e*PKPbc	**PKPab**	**02 07 00.0**	**-0.2**
STU	**Stuttgart**	**146.26**	**357**	*e*PKPbc	**PKPbc**	**02 06 59.2**	**-0.4**
SIRR	**Siria**	**146.30**	**341**	⇑*i*P	**PKPab**	**02 07 02.7**	**+2.1**
BFO	**Black Forest**	**146.75**	**358**	*e*PKPbc	**PKPab**	**02 07 01.8**	**-0.5**
BZS	**Buzias**	**146.89**	**340**	⇓*i*P	**PKPbc**	**02 07 01.7**	**+0.1**
ECH	**Echery**	**146.90**	**359**	*e*PKPbc	**PKPab**	**02 07 02.2**	**-0.7**
PKSM	**Moragy**	**147.24**	**344**	⇑*i*P	**PKPab**	**02 07 04.0**	**-0.2**
DAVOX	**Davos/Dischmat**	**148.20**	**355**	PKPbc	**PKPbc**	**02 07 06.4**	**+1.0**
DAVOX	**Davos/Dischmat**	**148.20**	**355**	PKPbc	**PKPbc**	**02 07 06.4**	**+1.0**
	comp=Z,1.7nm,0.5s,baz=8.6,slow=5.3,SNR=5.0						
TUE	**Stuetta**	**148.54**	**356**	*e*PKPdf	**PKPdf**	**02 07 03.9**	**+1.2**
TUE				*e*PKPbc	**PKiKP**	**02 07 06.9**	**-0.9**
TUE				*e*PKPab	**PKPab**	**02 07 10.2**	**+0.5**
CSS	**Prodhromos**	**148.66**	**314**	*e*PKPdf	**PKPdf**	**02 07 02.5**	**-0.5**
CSS				*e*PKPab	**PKPab**	**02 07 10.7**	**+0.3**
BNI	**Bardonecchia**	**150.06**	**360**	*e*PKPdf	**PKPdf**	**02 07 05.2**	**+0.2**
ESDC	**Sonseca Array**	**153.84**	**18**	PKPab	**PKPab**	**02 07 31.8**	**+0.2**
ESDC	**Sonseca Array**	**153.84**	**18**	PKPab	**PKPab**	**02 07 31.8**	**+0.2**
	comp=Z,1.4nm,0.9s,baz=328,slow=4.4,SNR=6.6						
TORD	**Torodi Ar. Bea**	**175.13**	**112**	PKPab	**PKPab**	**02 09 05.9**	**+0.2**
TORD	**Torodi Ar. Bea**	**175.13**	**112**	PKPab	**PKPab**	**02 09 05.9**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=226,slow=4.0,SNR=2.7						

ISCJB ***17*** *01:47:51.0±0.7,48.56N±0.07×155.8E±0.1, h33km, mb3.9/15, Error ellipse: s-maj=14.3km s-min=6.5km az=36.7*

MOS ***17*** *01:47:52.9±1.3,48.61N×155.76E, h54km, mb4.2/12, Error ellipse: s-maj=14.7km s-min=9.0km az=79.0*

IDC ***17*** *01:47:54.2±2.4, 48.60N×155.62E, h46km±22km, mb3.6/11, mb1 3.7/15, mb1mx3.6/28, mbtmp3.7/15, ML3.5/4, MS2.9/1, Ms1 2.9/1, ms1mx2.5/41, Error ellipse: s-maj=28.6km s-min=18.5km az=122.0*

ISC 17 01:47:52.5±0.8, 48.64N±0.10×155.97E±0.09, h35km, n37, σ1.965/31, mb4.0/15, 6C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SKR	**Severo-Kuril's**	**2.04**	**3**	*e*PN		**Pn**	**01 48 24.0**	**-0.3**
SKR				*e*S		**Sn**	**01 48 51.0**	**+2.5**
SKR				pmax		pmax		
	comp=Z,110nm,0.4s							
SKR				smax		smax		
	comp=E,320nm,0.5s							
SKR				smax		smax		
	comp=N,180nm,0.4s							
PETK	**Petropavlovsk-**	**4.60**	**13**	*e*PN		Pn	01 49 05.0	+5.5
PETK				pmax		pmax		
	comp=Z,4.0nm,0.3s							
PETK	**Petropavlovsk-**	**4.60**	**13**	P		Pn	01 49 03.9	+4.4
	comp=Z,3.6nm,0.3s,baz=180,slow=14,SNR=43							
PETK				S		Sn	01 50 11.8	+20
	baz=184,slow=17,SNR=2.0							
PETK				LR		LR	01 51 23.6	
	comp=Z,141nm,18.7s,baz=56,slow=45							
PET	**Petropavlovsk**	**4.70**	**20**	*e*PN		Pn	01 49 06.0	+5.2
KUR	**Kuril'sk**	**6.51**	**241**	⇓*i*PN		**Pn**	**01 49 27.0**	**+1.3**
KUR				S		**Sn**	**01 50 41.1**	**+2.4**
KUR				pmax		pmax		
	comp=Z,36nm,0.8s							
KUR				pmax		pmax		
	comp=N,23nm,0.1s							
KUR				pmax		pmax		
	comp=E,21nm,0.1s							
KUR				smax		smax		
	comp=N,38nm,2.7s							
KUR				smax		smax		
	comp=E,11nm,0.1s							
YSS	**Yuzh-Sakhalins**	**9.06**	**264**	*i* PN		**Pn**	**01 50 02.7**	**+2.1**
ASAJ	**Asahikawa**	**10.29**	**249**	P		**Pn**	**01 50 16.6**	**-0.8**
	comp=E,0.6nm,0.3s,baz=81,slow=18,SNR=5.2							
FX1	**Attu Island--F**	**11.68**	**62**	P		**Pn**	**01 50 39.6**	**+3.2**
	comp=E,1.9nm,0.3s,baz=258,slow=2.3,SNR=14							
FX1				S		**Sn**	**01 52 42.3**	**-3.1**
	comp=E,4.8nm,0.3s,baz=93,slow=21,SNR=10							
USRK	**Ussuriysk Arra**	**17.10**	**264**	P		**Pn**	**01 51 46.0**	**-2.5**
	comp=E,0.2nm,0.3s,baz=72,slow=12,SNR=2.6							
KSRS	**Korea Array**	**23.22**	**252**	P		**P**	**01 52 54.6**	**-1.5**
	comp=E,1.4nm,0.6s,baz=53,slow=9.6,SNR=5.0							
TIXI	**Tiksi**	**26.25**	**341**	⇑*e*P		**P**	**01 53 23.5**	**-0.3**
TIXI				pmax		pmax		
	comp=Z,2.0nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**30.16**	**159**	T		T	02 25 48.2	
	baz=340							
H11N1	**WAKE ISLAND Hy**	**30.18**	**159**	T		T	02 26 00.0	
	baz=340							
H11N3	**WAKE ISLAND Hy**	**30.18**	**159**	T		T	02 26 03.1	
	baz=340							
H11S1	**WAKE ISLAND Hy**	**31.30**	**160**	T		T	02 27 23.9	
	baz=348							
H11S3	**WAKE ISLAND Hy**	**31.31**	**160**	T		T	02 27 18.7	
	baz=348,slow=0.7							
H11S2	**WAKE ISLAND Hy**	**31.32**	**160**	T		T	02 27 19.1	
	baz=348,slow=0.7							
SONM	**Songino Array**	**32.56**	**288**	P		**P**	**01 54 18.7**	**-1.6**
	comp=Z,0.2nm,0.5s,baz=60,slow=8.5,SNR=3.2							
MKAR	**Makanchi Array**	**47.79**	**297**	*e*P		**P**	**01 56 25.6**	**-0.5**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**47.79**	**297**	P		**P**	**01 56 25.2**	**-1.0**
	comp=Z,1.3nm,0.5s,baz=69,slow=7.6,SNR=14							
KURK	**Kurchatov**	**47.93**	**303**	⇑*i*P		**P**	**01 56 26.7**	**-0.4**
KURK				pmax		pmax		
	comp=Z,1.0nm,0.5s							
AAK	**Ala-Archa**	**54.72**	**297**	⇑*i*P		**P**	**01 57 18.4**	**+0.1**
AAK				pmax		pmax		
	comp=Z,5.0nm,1.3s							
ARCES	**ARCESS Array B**	**56.69**	**341**	P		**P**	**01 57 31.2**	**-0.6**
	comp=Z,4.0nm,0.9s,baz=47,slow=7.9,SNR=7.2							
FINES	**FINESS Array B**	**63.13**	**336**	P		**P**	**01 58 16.5**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=32,slow=8.2,SNR=6.4							
NOA	**NORSAR Array B**	**67.03**	**342**	P		**P**	**01 58 42.1**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=28,slow=6.6,SNR=3.2							
WRA	**Warramunga Arr**	**70.96**	**202**	P		**P**	**01 59 05.9**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=5.3,slow=10,SNR=3.3							
AKASG	**Malin Array Be**	**71.02**	**327**	*e*P		**P**	**01 59 06.4**	**+0.1**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**71.02**	**327**	P		**P**	**01 59 06.4**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=32,slow=6.2,SNR=8.5							
KIEV	**Kiev**	**71.03**	**327**	*e*P		**P**	**01 59 06.9**	**+0.6**
ASAR	**Alice Springs**	**74.64**	**201**	P		**P**	**01 59 28.5**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=18,slow=6.3,SNR=3.0							
BURAR	**Bucovina Array**	**75.04**	**328**	⇑P		**P**	**01 59 31.8**	**+1.5**
BURAR	**Bucovina Array**	**75.04**	**328**	⇑*i*P		**P**	**01 59 31.8**	**+1.5**
CLL	**Collm**	**75.51**	**337**	*i* P		**P**	**01 59 30.6**	**-2.1**
CLL				pmax		pmax		
	comp=Z,7.0nm,1.8s							
CLL	**Collm**	**75.51**	**337**	*i* P		**P**	**01 59 30.6**	**-2.1**
	comp=Z,17nm,1.8s							
ARR	**Arges**	**77.17**	**327**	⇑*i*P		**P**	**01 59 45.5**	**+3.1**
GERES	**GERESS Array B**	**77.56**	**336**	P		**P**	**01 59 44.9**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=28,slow=4.4,SNR=6.5							
BRTR	**Keskin Array B**	**78.30**	**318**	P		**P**	**01 59 49.2**	**+0.4**
	comp=Z,1.5nm,0.9s,baz=74,slow=2.2,SNR=8.3							

IDC 17 02:01:18.9±1.9, 15.24S×173.52W, h0km, mb3.7/6, mb1 4.2/6, mb1mx3.9/19, mbtmp3.7/6, Error ellipse: s-maj=115.6km s-min=23.0km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
AFI	**Afiamalu**	**2.14**	**52**	Pn		Pn	02 01 50.3	-5.7
	12nm,0.3s,baz=183,slow=19,SNR=15							
AFI				Sn		Sn	02 02 10.0	-13
	57nm,0.3s,baz=180,slow=24,SNR=9.6							
H11S2	**WAKE ISLAND Hy**	**38.77**	**329**	T		T	02 49 44.8	
	baz=152,slow=0.7,SNR=18							
H11S3	**WAKE ISLAND Hy**	**38.78**	**329**	T		T	02 49 38.9	
	baz=152,slow=0.7,SNR=24							
H11S1	**WAKE ISLAND Hy**	**38.78**	**329**	T		T	02 49 39.5	
	baz=152,slow=0.7,SNR=21							
H11N3	**WAKE ISLAND Hy**	**39.71**	**330**	T		T	02 50 54.7	
	baz=152,slow=0.7,SNR=17							
H11N1	**WAKE ISLAND Hy**	**39.72**	**330**	T		T	02 50 50.8	
	baz=152,slow=0.7,SNR=32							
H11N2	**WAKE ISLAND Hy**	**39.73**	**330**	T		T	02 50 51.1	
	baz=152,slow=0.7,SNR=18							
WRA	**Warramunga Arr**	**49.77**	**257**	P		P	02 10 13.3	-0.4
	0.4nm,0.6s,baz=91,slow=6.5,SNR=5.1							
ASAR	**Alice Springs**	**50.05**	**252**	P		P	02 10 15.3	-0.5
	3.0nm,0.8s,baz=87,slow=7.9,SNR=27							
NVAR	**Mina Array Bea**	**74.28**	**42**	P		P	02 12 58.0	-0.4
	0.3nm,0.6s,baz=224,slow=8.4,SNR=3.6							
TXAR	**Lajitas Array**	**80.62**	**55**	P		P	02 13 34.4	+0.4
	0.8nm,1.1s,baz=228,slow=5.4,SNR=4.3							
PDAR	**Pinedale Array**	**82.22**	**42**	P		P	02 13 42.3	-0.1
	0.5nm,0.6s,baz=206,slow=3.9,SNR=5.7							
ILAR	**Eielson Array**	**82.31**	**11**	P		P	02 13 41.3	-0.7
	0.9nm,1.0s,baz=221,slow=4.8,SNR=6.4							
BRTR	**Keskin Array B**	**145.96**	**321**	PKPbc		PKPab	02 21 01.8	+0.3
	0.4nm,0.7s,baz=45,slow=3.8,SNR=5.2							
GERES	**GERESS Array B**	**145.96**	**351**	PKPbc		PKPdf	02 21 00.3	+0.3
	0.7nm,0.8s,baz=5.6,slow=4.0,SNR=5.3							

IDC 17 02:09:38.2±0.6, 30.41S×65.40W, h180km±6km, mb3.2/5, mb1 3.5/9, mb1mx3.4/19, mbtmp3.3/9, MS3.4/1, Ms1 3.3/1, ms1mx2.5/9, Error ellipse: s-maj=25.0km s-min=10.5km az=153.0, Cordoba Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CFAA	**Coronel Fontan**	**2.71**	**243**	P		Pn	02 10 23.8	+0.4
	1.4nm,0.3s,baz=62,slow=12,SNR=14							
CFAA				S		Sn	02 10 58.8	0.0
	6.5nm,0.3s,baz=263,slow=19,SNR=27							
CPUP	**Villa Florida**	**8.19**	**62**	P		Pn	02 11 32.7	-1.3
	1.4nm,0.3s,baz=226,slow=11,SNR=11							
CPUP				S		Sn	02 12 45.4	-20
	1.0nm,0.3s,baz=252,slow=19,SNR=4.4							
LPAZ	**La Paz**	**14.28**	**349**	P		Pn	02 12 52.6	-0.7
	1.0nm,0.3s,baz=150,slow=5.2,SNR=19							
SIV	**San Ignacio**	**14.89**	**16**	P		Pn	02 12 59.5	-0.6
	0.5nm,0.3s,baz=218,slow=13,SNR=8.0							
BDFB	**Brasilia**	**21.68**	**51**	LR		LR	02 23 41.0	
	comp=Z,96nm,20.5s,baz=222,slow=39							
TXAR	**Lajitas Array**	**69.71**	**325**	P		P	02 20 27.2	-1.4
	0.2nm,0.5s,baz=161,slow=8.4,SNR=3.4							
BOSA	**Boshof**	**76.63**	**115**	P		P	02 21 08.8	-0.7
	2.4nm,0.6s,baz=308,slow=5.4,SNR=3.4							
TORD	**Torodi Ar. Bea**	**77.66**	**67**	P		P	02 21 13.7	-1.5
	0.4nm,0.8s,baz=224,slow=4.0,SNR=5.7							
TORD				pP		pP	02 21 57.6	-1.2
	0.3nm,0.7s,baz=223,slow=6.7,SNR=1.9							
PDAR	**Pinedale Array**	**83.36**	**329**	P		P	02 21 46.0	+0.8
	0.5nm,0.8s,baz=114,slow=6.3,SNR=3.6							
NVAR	**Mina Array Bea**	**84.41**	**321**	P		P	02 21 50.1	-0.4
	0.2nm,0.7s,baz=178,slow=4.5,SNR=3.8							
ASAR	**Alice Springs**	**123.13**	**201**	PKP		PKPdf	02 28 13.3	-0.7
	0.3nm,0.5s,baz=141,slow=1.7,SNR=4.4							
WRA	**Warramunga Arr**	**126.46**	**203**	PKP		PKPdf	02 28 20.0	-0.4
	0.4nm,0.3s,baz=166,slow=1.5,SNR=2.4							
AAK	**Ala-Archa**	**145.84**	**58**	PKPbc		PKPab	02 28 56.9	-0.3
	0.6nm,0.3s,baz=208,slow=6.6,SNR=6.5							
KURBB	**Kurchatov Arra**	**146.41**	**43**	PKPbc		PKPbc	02 28 57.6	0.0
	0.8nm,0.4s,baz=296,slow=3.6,SNR=12							
KURBB				pPKPbc		pPKPbc	02 29 44.2	+0.3
	0.3nm,0.5s,baz=291,slow=3.3,SNR=2.7							
ZALV	**Zalesovo Beam**	**148.15**	**34**	PKPbc		PKPbc	02 29 03.0	+0.7
	1.0nm,0.3s,baz=298,slow=3.1,SNR=4.7							
MKAR	**Makanchi Array**	**150.19**	**48**	PKPbc		PKPbc	02 29 07.9	+0.3
	0.8nm,0.6s,baz=290,slow=2.7,SNR=7.0							
MKAR				pPKPbc		pPKPbc	02 29 54.4	+0.1
	0.5nm,0.6s,baz=321,slow=1.7,SNR=3.8							

GUC 17 02:29:52.0±0.8, 21.16S×68.90W, h128km±5km, ML3.9, 5C-4D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PB01	**Plate Boundary**	**0.56**	**282**	⇓*i*P		Pn	02 30 11.8	+0.4
PB01				*i* S		Sn	02 30 26.4	+0.4
PB01				AML		AML	02 30 27.2	
	comp=N,5μm,0.3s							
PB09	**Plate Boundary**	**0.71**	**207**	⇑*i*P		Pn	02 30 13.0	+0.5
PB09				*i* S		Sn	02 30 28.8	+0.7
PB09				AML		AML	02 30 31.3	
	comp=E,4μm,0.9s							
PB07	**Plate Boundary**	**1.08**	**238**	⇑*i*P		Pn	02 30 16.8	+1.1
PB07				*i* S		Sn	02 30 34.8	+1.1
PB07				AML		AML	02 30 36.8	
	comp=N,2μm,0.5s							
HMBC	**Humberstone**	**1.27**	**313**	⇓*i*P		Pn	02 30 18.5	+0.8
HMBC				*i* S		Sn	02 30 38.4	+1.2
HMBC				AML		AML	02 30 39.5	
	comp=E,3μm,0.3s							
MACH	**Maria Elena**	**1.30**	**218**	⇑*i*P		Pn	02 30 18.9	+0.8
MACH				*i* S		Sn	02 30 39.0	+1.0
PSGC	**Pisagua**	**1.93**	**323**	⇓*i*P		Pn	02 30 25.6	+0.3
PSGC				*i* S		Sn	02 30 51.7	+1.1
PSGC				AML		AML	02 30 52.8	
	comp=E,518nm,0.5s							
MNMC	**Minimini**	**2.12**	**342**	⇓*i*P		Pn	02 30 28.6	+0.8
MNMC				*i* S		Sn	02 30 56.5	+1.4
MNMC				AML		AML	02 30 58.2	
	comp=N,1μm,0.3s							
PB10	**Plate Boundary**	**2.80**	**213**	⇑*i*P		Pn	02 30 36.6	+0.7
ANCH	**Antofagasta**	**2.87**	**209**	⇑*i*P		Pn	02 30 38.0	+1.1
ANCH				*e*S		Sn	02 31 11.1	-0.4
ANCH				AML		AML	02 31 14.2	
	comp=E,496nm,0.1s							

GUC 17 02:37:01.2±0.6, 23.93S×67.49W, h242km±28km, ML4.2, 5C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PB04	**Plate Boundary**	**2.48**	**312**	⇑*i*P		Pn	02 37 54.8	+7.2
PB04				*i* S		S	02 38 35.6	+11
PB04				AML		AML	02 38 38.2	
	comp=N,217nm,0.3s							
CEN1	**Los Morros**	**2.54**	**282**	⇓*i*P		Pn	02 37 50.6	+2.1
CEN1				*i* S		S	02 38 28.9	+3.2
PB09	**Plate Boundary**	**2.67**	**322**	⇓*i*P		Pn	02 37 52.2	+2.2
PB09				*i* S		S	02 38 30.4	+2.1
PB09				AML		AML	02 38 32.0	
	comp=N,375nm,0.6s							
ANCH	**Antofagasta**	**2.69**	**275**	⇑*i*P		Pn	02 37 52.1	+2.3
ANCH				*i* S		S	02 38 30.0	+1.9
MACH	**Maria Elena**	**2.71**	**309**	*e*S		S	02 38 31.4	+2.3
PB10	**Plate Boundary**	**2.84**	**278**	⇑*i*P		Pn	02 37 53.6	+2.1
PB10				*i* S		S	02 38 33.3	+2.2
PB10				AML		AML	02 38 35.9	
	comp=N,475nm,0.4s							
PB07	**Plate Boundary**	**3.12**	**314**	⇑*i*P		Pn	02 37 56.8	+2.0
PB07				*i* S		S	02 38 39.4	+2.4
PB07				AML		AML	02 38 42.7	
	comp=E,178nm,0.5s							
PB01	**Plate Boundary**	**3.42**	**327**	⇑*i*P		Pn	02 37 59.4	+1.4
PB01				*e*S		S	02 38 44.5	+1.6
PB01				AML		AML	02 38 47.5	
	comp=E,116nm,0.4s							

KRSC 17 02:37:02.1±4.4, 55.25N×162.90E, h5km±5km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KBTR	**Krutoberegovo**	**0.96**	**357**	*e*P		Pn	02 37 23.0	+0.7
KBTR				*e*S		Sn	02 37 37.8	+1.5
MKZ	**Mys Kozlova**	**0.97**	**225**	*e*P		Pg	02 37 20.8	+0.1
MKZ				*e*S		Sg	02 37 33.5	+0.3
ZLN	**Zelenaya**	**1.42**	**304**	*e*P		Pb	02 37 28.9	-0.2
ZLN				*e*S		Sb	02 37 47.4	-0.2
LGNR	**Loginova**	**1.50**	**305**	*e*S		Sg	02 37 51.5	+0.4
BZMR	**Bezymyannaya**	**1.53**	**298**	*e*P		Pb	02 37 31.0	-0.2
BZMR				*e*S		Sg	02 37 51.5	-0.1
BZWR	**Bezymyannyi-We**	**1.54**	**299**	*e*P		Pb	02 37 31.2	-0.2
BZWR				*e*S		Sg	02 37 52.2	+0.2
SMKR	**Semkarok**	**1.56**	**329**	*e*P		Pb	02 37 31.1	-0.5
SMKR				*e*S		Sb	02 37 51.8	+0.1
TUMR	**Tumrok**	**1.58**	**272**	*e*P		Pb	02 37 31.6	-0.3
TUMR				*e*S		Sn	02 37 51.9	+0.1
KMNR	**Kamenistaya**	**1.60**	**290**	*e*P		Pb	02 37 32.1	-0.1
KMNR				*e*S		Sg	02 37 53.4	-0.3
KIRR	**Kirishev**	**1.61**	**297**	*e*P		Pb	02 37 32.2	-0.4
KIRR				*e*S		Sb	02 37 53.7	+0.3
BDR	**Baidarnaya**	**1.63**	**325**	*e*P		Pb	02 37 32.3	-0.4
BDR				*e*S		Sn

CONE	Cono NE Rev Vo	3.92	39	P	Pn	02 49 19.5	+0.1	
LITE	Lita	4.29	24	P	Pn	02 49 24.6	+0.3	
ATAH	Atahualpa	4.34	157	Pn	Pn	02 49 26.4	+1.2	
	9.6nm,0.3s,baz=14,slow=8.9,SNR=51							
ATAH				Pg		02 49 39.0		
	13nm,0.3s,baz=12,slow=8.4,SNR=23							
ATAH				Sn	Sn	02 50 21.4	+6.6	
	23nm,0.3s,baz=127,slow=20,SNR=3.7							
ATAH				Lg	Lg	02 50 38.6		
	25nm,0.3s,baz=333,slow=20,SNR=7.1							
JTS	JuntasAbangare	14.17	340	LR	LR	02 56 13.9		
	comp=Z,69nm,19.5s,baz=194,slow=34							
PDAR	Pinedale Array	52.86	333	P	P	02 57 32.3	-0.3	
	0.4nm,0.6s,baz=128,slow=8.2,SNR=4.3							
NVAR	Mina Array Bea	54.34	323	P	P	02 57 44.8	+1.2	
	1.1nm,0.6s,baz=132,slow=7.5,SNR=13							
ULM	Lac du Bonnet	54.87	348	P	P	02 57 46.0	-0.9	
	3.1nm,0.9s,baz=190,slow=6.1,SNR=3.0							
TORD	Torodi Ar. Bea	82.75	76	P	P	03 00 37.7	-3.3	
	0.4nm,0.9s,baz=276,slow=6.4,SNR=2.6							
ILAR	Eielson Array	83.12	337	P	P	03 00 40.8	-1.0	
	0.5nm,1.0s,baz=132,slow=4.0,SNR=3.2							

IDC ***17*** *02:49:56.6±1.4, 34°.36N×24°.17E, h0km, mb3.5/4, mb1 3.5/6, mb1mx3.4/28, mbtmp3.5/6, ML2.9/2, Error ellipse: s-maj=38.2km s-min=19.8km az=128.0*

ISCJB ***17*** *02:49:58.4±1.3, 34°.25N±0°.06×24°.05E±0°.07, h23km±9km, mb3.5/4, Error ellipse: s-maj=10.2km s-min=8.3km az=45.0*

CSEM ***17*** *02:49:59.2±0.7, 34°.36N×24°.04E, h2km, MD3.1, Error ellipse: s-maj=13.6km s-min=8.4km az=25.0*

ATH ***17*** *02:50:00.5, 34°.41N×24°.11E, h17km±6km, MD3.1/4*

THE ***17*** *02:50:00.6, 34°.45N×24°.01E, h0km±4km, Error ellipse: s-maj=5.8km s-min=1.5km az=205.0*

ISC 17 02:49:59.8±1.4, 34°.38N±0°.06×24°.10E±0°.04, h18km±5km, n44, σ1♀23/54, mb3.6/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.46	359	P	Pg		02 50 08.8	-0.3
GVD				S	Sb		02 50 15.9	0.0
GVD	Gavdhos	0.46	359	P	Pg		02 50 08.8	-0.3
GVD				S	Sb		02 50 15.9	0.0
SIVA	Sivas	0.87	43	P	Pn		02 50 17.8	+0.7
SIVA				S	Sn		02 50 31.0	+1.7
SIVA	Sivas	0.87	43	P	Pn		02 50 17.8	+0.7
SIVA				S	Sn		02 50 31.0	+1.7
VAM	Vamos	1.03	5	P	Pb		02 50 18.2	-0.9
VAM				S	Sg		02 50 33.3	0.0
VAM	Vamos	1.03	5	*e*PN	Pb		02 50 19.1	0.0
VAM				*e*SN	Sn		02 50 33.5	+0.2
VAM	Vamos	1.03	5	P	Pb		02 50 18.2	-0.9
VAM	Vamos	1.03	5	*e*Pn	Pb		02 50 19.1	0.0
VAM				S	Sg		02 50 33.3	0.0
KARN	Karanos	1.03	352	P	Pb		02 50 18.1	-1.0
KARN				S	Sg		02 50 33.4	0.0
KARN	Karanos	1.03	352	P	Pb		02 50 18.1	-1.0
KARN				S	Sg		02 50 33.4	0.0
IDI	Anoyia	1.12	36	P	Pb		02 50 20.9	+0.3
IDI	Anoyia	1.12	36	P	Pb		02 50 20.9	+0.3
IDI	Anoyia	1.12	36	Pn	Pb		02 50 20.4	-0.3
	6.0nm,0.3s,baz=223,slow=16,SNR=42							
IDI				Sn	Sn		02 50 37.9	+2.3
	17nm,0.3s,baz=332,slow=18,SNR=10							
LAST	Lasithi	1.38	55	P	Pg		02 50 26.6	+0.1
LAST	Lasithi	1.38	55	P	Pg		02 50 26.6	+0.1
NPS	Neapolis	1.53	54	P	Pb		02 50 28.5	+1.0
NPS	Neapolis	1.53	54	*e*PN	Pb		02 50 28.6	+1.0
NPS	Neapolis	1.53	54	*e*Pn	Pb		02 50 28.6	+1.0
ANKY	Antikythira Is	1.62	337	P	Pb		02 50 29.1	-0.1
ANKY	Antikythira Is	1.62	337	*e*PN	Pb		02 50 30.5	+1.3
ANKY	Antikythira Is	1.62	337	P	Pb		02 50 29.1	-0.1
ANKY	Antikythira Is	1.62	337	*e*Pn	Pb		02 50 30.5	+1.3
ZKR	Zakros	1.89	67	P	Pb		02 50 34.0	+0.1
ZKR	Zakros	1.89	67	P	Pb		02 50 34.0	+0.1
KYTH	Kithira	2.08	336	*e*PN	Pb		02 50 36.4	-0.7
KYTH	Kithira	2.08	336	*e*Pn	Pb		02 50 36.4	-0.7
VLI	Veliai	2.52	338	P	Pn		02 50 40.9	+1.1
VLI	Veliai	2.52	338	P	Pn		02 50 40.9	+1.1
KARP	Karpathos	2.77	64	P	Pn		02 50 45.9	+2.6
KARP	Karpathos	2.77	64	*e*PN	Pn		02 50 46.0	+2.6
KARP	Karpathos	2.77	64	P	Pn		02 50 45.9	+2.6
ITM	Ithomi	3.30	328	P	Pn		02 50 52.3	+1.7
ITM	Ithomi	3.30	328	P	Pn		02 50 52.3	+1.7
TURN	Turunc	4.43	55	*i* P	Pn		02 51 03.0	-3.1
TURN				*i* S	Sn		02 51 51.4	-5.9
AKAS	Kas	4.87	66	*i* P	Pn		02 51 13.1	+0.8
AKAS				*i* S	Sn		02 52 05.4	-2.9
AKAS	Kas	4.87	66	*i* P	Pn		02 51 13.1	+0.8
GOLH	Golhisar	5.28	56	*i* P	Pn		02 51 18.6	+0.8
GOLH				*i* S	Sn		02 52 15.5	-2.7
GOLH	Golhisar	5.28	56	*i* P	Pn		02 51 18.7	+0.8
MMAI	Mount Meron Ar	9.52	95	Pn	Pn		02 52 14.9	-1.2
	0.1nm,0.3s,baz=270,slow=10,SNR=3.0							
EIL	Elat	10.34	114	Pn	Pn		02 52 26.4	-0.8
	0.2nm,0.3s,baz=297,slow=4.5,SNR=4.7							
TORD	Torodi Ar. Bea	29.32	229	P	P		02 56 02.1	+0.6
	0.3nm,0.5s,baz=33,slow=7.6,SNR=4.8							
MKAR	Makanchi Array	44.94	56	P	P		02 58 12.7	-0.9
	0.3nm,0.4s,baz=273,slow=7.1,SNR=5.2							
ZALV	Zalesovo Beam	46.17	46	P	P		02 58 21.0	-2.2
	0.7nm,0.5s,baz=263,slow=8.6,SNR=3.5							
SONM	Songino Array	60.66	50	P	P		03 00 08.2	-1.7
	0.3nm,0.6s,baz=292,slow=5.1,SNR=2.9							

IDC ***17*** *03:03:34.4±0.8, 11°.20S×166°.32E, h0km, mb4.1/14, mb1 4.2/15, mb1mx4.1/23, mbtmp4.0/15, ML3.7/1, MS3.3/4, Ms1 3.3/4, ms1mx3.0/35, Error ellipse: s-maj=26.8km s-min=17.0km az=125.0*

NEIC ***17*** *03:03:39.8±0.2, 11°.23S×166°.24E, h35km, mb4.4/14, Error ellipse: s-maj=7.6km s-min=6.3km az=138.0*

ISCJB ***17*** *03:03:40.7±0.4, 11°.37S±0°.07×166°.22E±0°.07, h59km, mb4.2/23, MS3.4/3, Error ellipse: s-maj=10.2km s-min=8.9km az=154.0*

ISC 17 03:03:42.2±0.5, 11°.41S±0°.07×166°.28E±0°.08, h59km, n57, σ0♀98/51, mb4.2/23, MS3.4/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.53	287	Pn	Pn		03 05 15.8	0.0
HNR	Honiara	6.53	287	Pn	Pn		03 05 15.7	0.0
	20nm,0.3s,baz=121,slow=5.9,SNR=2.8							
DZM	Mont Dzumac	10.60	179	*e*Pn	Pn		03 06 11.6	+0.1
DZM				Sn	Sn		03 08 05.9	-2.8
DZM	Mont Dzumac	10.60	179	Pn	Pn		03 06 12.6	+1.1
	0.6nm,0.3s,baz=184,slow=20,SNR=8.8							
DZM				Sn	Sn		03 08 05.9	-2.8
	0.2nm,0.3s,baz=319,slow=19,SNR=2.3							
DZM				LR	LR		03 09 01.5	
	comp=Z,33nm,19.9s,baz=37,slow=30							
MSVF	Nonsavu	13.01	120	*e*Pn	Pn		03 06 44.9	+0.5
PMG	Port Moresby	18.91	274	*e*P	P		03 07 56.3	-1.9
	6.0nm,0.5s							
EIDS	Eidsvold	19.98	224	*e*P	Pn		03 08 11.6	-0.5
	6.8nm,0.9s							
CTA	Charters Tower	21.09	243	P	P		03 08 23.8	+1.8
CTA	Charters Tower	21.09	243	P	P		03 08 23.8	+1.8
	2.8nm,0.6s,baz=67,slow=13,SNR=4.8							
AFI	Afiamalu	21.55	99	LR	LR		03 14 43.5	
	comp=Z,206nm,19.0s,baz=161,slow=31							
RAO	Raoul Island	23.07	143	LR	LR		03 15 44.6	
	comp=Z,123nm,19.6s,baz=17,slow=31							
H11S2	WAKE ISLAND Hy	29.72	1	T	T		03 40 46.4	
	baz=184							
H11S3	WAKE ISLAND Hy	29.72	1	T	T		03 40 44.8	
	baz=184							
H11S1	WAKE ISLAND Hy	29.74	1	T	T		03 40 32.7	
	baz=184							
STKA	Stephens Creek	30.54	224	*e*P	P		03 09 51.9	+1.7
	0.6nm,0.9s							
STKA	Stephens Creek	30.54	224	P	P		03 09 51.7	+1.5
	1.8nm,0.8s,baz=52,slow=12,SNR=4.8							
STKA				LR	LR		03 21 58.4	
	comp=Z,69nm,18.9s,baz=22,slow=36							
H11N1	WAKE ISLAND Hy	30.94	1	T	T		03 41 55.8	
	baz=185							
H11N3	WAKE ISLAND Hy	30.94	1	T	T		03 41 53.0	
	baz=185							
H11N2	WAKE ISLAND Hy	30.95	1	T	T		03 41 58.4	
	baz=185							

WRAB	Tennant Creek	31.84	251	*e*P	P		03 10 01.9	+0.1
	5.6nm,0.9s							
WRA	Warramunga Arr	31.85	251	P	P		03 10 02.0	+0.1
WRA	Warramunga Arr	31.85	251	P	P		03 10 02.0	+0.1
	2.8nm,0.8s,baz=81,slow=9.1,SNR=9.0							
AS31	Alice Springs	33.10	244	*e*P	P		03 10 12.1	-0.7
ASAR	Alice Springs	33.10	244	P	P		03 10 12.8	0.0
ASAR	Alice Springs	33.10	244	P	P		03 10 12.8	0.0
	2.5nm,0.7s,baz=73,slow=9.6,SNR=30							
FITZ	Fitzroy Crossi	39.79	255	*e*P	P		03 11 10.2	+0.3
	2.8nm,0.8s							
FITZ	Fitzroy Crossi	39.79	255	P	P		03 11 10.7	+0.9
	1.8nm,0.6s,baz=34,slow=7.3,SNR=8.0							
MJAR	Matsushiro Arr	54.54	332	P	P		03 13 03.1	-1.2
MJAR	Matsushiro Arr	54.54	332	P	P		03 13 03.1	-1.2
	1.3nm,0.8s,baz=167,slow=7.2,SNR=4.1							
MAJO	Matsushiro	54.54	332	*e*P	P		03 13 03.0	-1.3
	3.9nm,0.7s							
VNDA	Vanda	66.14	181	*e*P	P		03 14 23.5	+0.6
	2.9nm,1.2s							
VNDA	Vanda	66.14	181	P	P		03 14 23.9	+1.0
	1.6nm,1.0s,baz=352,slow=7.5,SNR=7.7							
SBA	Scott Base	66.43	180	*e*P	P		03 14 25.9	+1.1
	3.6nm,1.0s							
PSI	Prapat	68.44	278	P	P		03 14 38.3	-0.4
PSI	Prapat	68.44	278	P	P		03 14 38.3	-0.4
	1.3nm,0.4s,baz=117,slow=6.8,SNR=4.1							
QSPA	South Pole Qui	78.59	180	*e*P	P		03 15 37.5	+0.1
	7.7nm,1.1s							
SONM	Songino Array	79.27	324	P	P		03 15 41.2	-0.2
SONM	Songino Array	79.27	324	P	P		03 15 41.2	-0.2
	0.5nm,0.5s,baz=128,slow=5.3,SNR=5.3							
ILAR	Eielson Array	83.70	18	P	P		03 16 03.6	-0.7
ILAR	Eielson Array	83.70	18	P	P		03 16 03.6	-0.7
	0.4nm,0.6s,baz=252,slow=5.4,SNR=16							
YBH	Yreka Blue Hor	83.78	45	*e*P	P		03 16 05.9	+0.6
	21nm,1.9s							
ISA	Isabella	84.88	52	*e*P	P		03 16 10.4	-0.7
	1.0nm,0.6s							
EGAK	Eagle	85.54	20	*e*P	P		03 16 13.8	+0.2
	2.7nm,0.6s							
NVAR	Mina Array Bea	85.86	50	P	P		03 16 16.0	-0.1
NVAR	Mina Array Bea	85.86	50	P	P		03 16 16.0	-0.1
	0.3nm,0.6s,baz=243,slow=6.0,SNR=3.1							
WVOR	Wild Horse Val	86.87	46	*e*P	P		03 16 20.8	0.0
	4.2nm,1.4s							
TMUT	Trail Mountain	91.43	50	*e*P	P		03 16 42.3	-0.3
	7.4nm,1.1s							
MKAR	Makanchi Array	94.15	317	P	P		03 16 54.8	+0.2
MKAR	Makanchi Array	94.15	317	P	P		03 16 54.8	+0.2
	2.1nm,0.7s,baz=98,slow=6.0,SNR=15							
ZALV	Zalesovo Beam	94.16	324	P	P		03 16 54.2	-0.2
ZALV	Zalesovo Beam	94.16	324	P	P		03 16 54.2	-0.2
	0.6nm,0.5s,baz=83,slow=3.3,SNR=3.7							
YKA	Yellowknife Ar	95.06	27	P	P		03 16 58.9	+0.5
YKA	Yellowknife Ar	95.06	27	P	P		03 16 58.9	+0.5
	0.7nm,0.7s,baz=252,slow=4.9,SNR=3.9							
ARCES	ARCESS Array B	116.82	346	PKP	PKPdf		03 22 18.9	-0.6
ARCES	ARCESS Array B	116.82	346	PKP	PKPdf		03 22 18.9	-0.6
	3.4nm,0.9s,baz=70,slow=1.1,SNR=3.9							
GRFO	Grafenberg	136.63	336	*e*PKPdf	PKPdf		03 22 57.6	-0.2
ECH	Echery	139.37	339	*e*PKPdf	PKPdf		03 23 03.4	+0.5

AUST ***17*** *03:07:52.0±2.0, 0°.76S×137°.54E, h165km, Error ellipse: s-maj=3.1km s-min=1.2km az=353.0*

IDC ***17*** *03:07:57.2±1.7, 2°.21S×137°.62E, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.6/18, mbtmp3.7/5, ML3.6/2, MS3.5/1, Ms1 3.5/1, ms1mx2.7/34, Error ellipse: s-maj=88.0km s-min=18.4km az=103.0*

ISC 17 03:08:07.1±2.3, 2°.38S±0°.2×137°.7E±0°.2, h35km, n11, σ2♀95/10, mb3.6/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JAY	Jayapura	3.00	85	P	Pn		03 08 50.5	-1.7
	baz=3.6,SNR=12							
FAKI	Fak Fak	5.46	268	P	Pn		03 09 16.0	-10
	baz=5.7,SNR=4.7							
KDU	Kakadu	11.12	208	P	Pn		03 10 45.2	+1.5
	baz=13,SNR=17							
MTN	Manton Dam	11.93	213	P	Pn		03 10 57.1	+2.3
	baz=14,SNR=10							
KNRA	Kununurra	15.55	214	P	Pn		03 11 44.3	+0.4
	baz=17,SNR=6.3							
WRA	Warramunga Arr	17.37	191	P	P		03 12 07.7	-0.3
	0.4nm,0.3s,baz=12,slow=12,SNR=4.2							
WRA				S	Sn		03 15 19.2	-0.2
	0.1nm,0.3s,baz=7.5,slow=23,SNR=5.7							
FITZ	Fitzroy Crossi	19.29	217	P	P		03 12 28.5	-0.5
	0.1nm,0.3s,baz=51,slow=14,SNR=2.0							
FITZ				S	S		03 15 59.2	-6.4
	0.1nm,0.3s,baz=210,slow=17,SNR=4.3							
ASAR	Alice Springs	21.09	190	P	P		03 12 51.1	+2.5
	1.6nm,0.4s,baz=16,slow=10,SNR=32							
ASAR				S	Sn		03 16 50.0	+0.9
	3.4nm,1.0s,baz=10,slow=23,SNR=9.2							
STKA	Stephens Creek	29.17	173	P	P		03 14 06.7	+1.5
	0.7nm,0.5s,baz=343,slow=11,SNR=3.9							
ASAJ	Asahikawa	46.90	5	LR	LR		03 34 14.7	
	comp=Z,49nm,20.1s,baz=159,slow=34							
ILAR	Eielson Array	86.31	25	P	P		03 20 37.7	-7.5
	0.2nm,0.7s,baz=267,slow=4.2,SNR=3.2							

ISK ***17*** *03:24:03.8, 37°.17N×37°.41E, h5km, MD2.6*

DDA ***17*** *03:24:04.0, 37°.15N×37°.44E, h7km, MD2.8*

CSEM ***17*** *03:24:04.1±0.3, 37°.16N×37°.46E, h2km, MD2.9, Error ellipse: s-maj=7.1km s-min=4.3km az=144.0*

ISC 17 03:24:04.3±1.2, 37°.14N±0°.04×37°.43E±0°.03, h7km±9km, n23, σ0♀89/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GZT	Gaziantep	0.24	26	*i* P	Pg		03 24 08.1	-1.2
GZT	Gaziantep	0.24	26	*i* P	Pg		03 24 07.9	-1.3
GZT				*i* S	Sg		03 24 16.5	+3.9
KUZU	Kuzuini	0.46	218	*i* P	Pb		03 24 14.2	-0.5
KUZU				*i* S	Sb		03 24 22.3	+0.6
KUZU	Kuzuini	0.46	218	*i* P	Pb		03 24 14.2	-0.5
KUZU				*i* S	Sb		03 24 22.3	+0.6
KMRS	Kahramanmaras	0.56	311	*e*PG	Pg		03 24 14.6	-0.5
KMRS				*e*SG	Sg		03 24 22.2	-0.3
KMRS	Kahramanmaras	0.56	311	*e*Pg	Pg		03 24 14.6	-0.5
KMRS				*e*Sg	Sg		03 24 22.2	-0.3
AYKD	Aykdinkavak	0.57	300	*i* P	Pg		03 24 15.1	-0.2
AYKD				*i* S	Sg		03 24 23.0	+0.3
ATAB	Bozova	0.77	64	*i* P	Pg		03 24 18.2	-0.8
ATAB				*i* S	Sn		03 24 32.4	-1.0
ATAB	Bozova	0.77	64	*i* P	Pg		03 24 18.2	-0.8
ATAB				*i* S	Sn		03 24 32.4	-1.0
ANDN	Andirin	0.97	298	*i* P	Pg		03 24 22.4	-0.6
ANDN				*i* S	Sn		03 24 37.6	-0.9
ANDN	Andirin	0.97	298	*i* P	Pg		03 24 22.4	-0.6
COBT	Iskenderun	1.12	237	*i* P	Pn		03 24 26.9	+0.3
COBT				*i* S	Sb		03 24 42.0	+0.9
COBT	Iskenderun	1.12	237	*i* P	Pn		03 24 26.9	+0.3
COBT				*i* S	Sb		03 24 42.0	+0.9
URFA	Urfa	1.15	74	*e*PN	Pg		03 24 26.1	-0.3
URFA				*e*SN	Sn		03 24 42.8	-0.2
URFA	Urfa	1.15	74	*e*Pn	Pg		03 24 26.1	-0.3
URFA				*e*Sn	Sn		03 24 42.8	-0.2
AKCD	Akcadag	1.22	19	*i* P	Pb		03 24 27.5	-0.4
AKCD				*i* S	Sn		03 24 45.2	+0.4
AKCD	Akcadag	1.22	19	*i* P	Pb		03 24 27.5	-0.4
AKCD				*i* S	Sn		03 24 45.2	+0.4
MALT	Malatya	1.42	34	*e*PN	Pb		03 24 30.7	-0.5
MALT				*e*SN	Sn		03 24 49.9	+0.3
MALT	Malatya	1.42	34	*e*Pn	Pb		03 24 30.7	-0.5
MALT				*e*Sn	Sn		03 24 49.9	+0.3
DARE	Darende-Malaty	1.44	2	*e*PN	Pg		03 24 31.2	-0.6
DARE				*e*SN	Sg		03 24 50.0	-0.4
DARE	Darende-Malaty	1.44	2	*e*Pn	Pg		03 24 31.2	-0.6
DARE				*e*Sn	Sg		03 24 50.0	-0.4
PINB	Pinarbasi	1.74	333	*e*P	Pb		03 24 36.5	-0.2
PINB				*i* S	Sg		03 25 01.2	+0.9
PINB	Pinarbasi	1.74	333	*e*P	Pb		03 24 36.5	-0.2
PINB				*i* S	Sg		03 25 01.2	+0.9

IDC 17 03:36:36.9±11.0, 3°.99S×127°.66E, h224km±122km, mb3.1/3, mb1 3.3/5, mb1mx3.1/23, mbtmp3.2/5, Error ellipse: s-maj=111.1km s-min=32.5km az=53.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	14.17	188	P	Pn		03 39 48.3	+0.2
	0.2nm,0.3s,baz=13,slow=13,SNR=5.5							
WRA	Warramunga Arr	17.14	158	P	Pn		03 40 23.3	-0.5
	0.8nm,0.3s,baz=337,slow=11,SNR=6.8							
ASAR	Alice Springs	20.47	163	P	P		03 40 57.1	-0.8
	0.8nm,0.3s,baz=345,slow=12,SNR=24							
STKA	Stephens Creek	30.68	156	P	P		03 42 30.9	+0.2
	0.8nm,0.4s,baz=336,slow=9.7,SNR=6.5							
MKAR	Makanchi Array	64.45	327	P	P		03 46 49.4	0.0
	0.4nm,0.6s,baz=132,slow=7.7,SNR=3.8							

IDC ***17*** *03:37:37.6±0.6, 35°.19S×78°.67E, h0km, mb4.3/18, mb1 4.4/18, mb1mx4.3/25, mbtmp4.3/18, MS4.4/22, Ms1 4.4/22, ms1mx4.2/32, Error ellipse: s-maj=18.7km s-min=15.4km az=9.0*

ISCJB ***17*** *03:37:38.3±0.3, 35°.35S±0°.07×78°.65E±0°.08, h14km, mb4.6/40, MS4.4/22, Error ellipse: s-maj=10.2km s-min=9.0km az=170.4*

NEIC ***17*** *03:37:39.4±0.3, 35°.33S×78°.62E, h10km, mb4.8/26, Error ellipse: s-maj=9.7km s-min=8.5km az=175.0*

GCMT ***17*** *03:37:42.9±0.2, 35°.18S×78°.59E, h14km±1km, MW5.1, Moment Tensor Solution. s49,c71; s88,c133; Moment tensor: Scale 10^16 Nm; Mrr-1.16±.14; Mθθ-4.72±.14; Mφφ5.88±.17; Mrθ1.20±.32; Mrφ0.48±.12; Mθr-0.61±.29; Best double couple: M0 5.50000×10^16 NP1:φs319.00000°, δ81.00000°, λ-164.00000°. NP2:φp227.00000°, δ75.00000°, λ-9.00000°. Principal axes: T 5.9500, Plg5.0000°, Azm92.0000°; N -0.8200, Plg72.0000°, Azm348.0000°; P -5.1200, Plg17.0000°, Azm184.0000°; Data Used: ll IU G IC CN.*

ISC 17 03:37:40.0±0.4, 35°.30S±0°.09×78°.59E±0°.09, h14km, n88, σ1♀02/64, mb4.6/40, MS4.5/22, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
H08S2	Diego Garcia H	28.09	347	T	T		04 12 37.0	
	baz=170,slow=0.7,SNR=339							
H08S1	Diego Garcia H	28.09	347	T	T		04 12 36.1	
	baz=170,slow=0.7,SNR=433							
H08S3	Diego Garcia H	28.11	347	T	T		04 12 38.6	
	baz=170,slow=0.7,SNR=517							
H01W2	Cape Leeuwin H	28.99	100	T	T		04 14 00.7	
	baz=258,slow=0.7,SNR=175							
H01W3	Cape Leeuwin H	29.00	100	T	T		04 13 57.0	
	baz=258,slow=0.7,SNR=876							
H01W1	Cape Leeuwin H	29.01	100	T	T		04 13 58.0	
	baz=258,slow=0.7,SNR=592							
H08N1	Diego Garcia H	29.65	345	T	T		04 14 41.4	
	SNR=6.6							
H08N3	Diego Garcia H	29.65	345	T	T		04 14 40.1	
	SNR=8.8							
H08N2	Diego Garcia H	29.67	345	T	T		04 14 44.6	
	SNR=8.9							
NWAO	Narrogin (SRO)	31.95	97	LR	LR		03 53 39.4	
	comp=Z,1μm,21.9s,baz=90,slow=30							
OPO	Ambohidratompo	32.39	293	LR	LR		03 54 07.8	
	comp=Z,894nm,19.1s,baz=108,slow=30							
MAW	Mawson	33.58	191	*e*P	P		03 44 18.6	-0.7
	1.8nm,0.9s							
MAW	Mawson	33.58	191	LR	LR		03 55 12.8	
	comp=Z,686nm,19.4s,baz=14,slow=31							
PALK	Pallekele	42.39	3	*e*P	P		03 45 33.5	-0.7
	17nm,1.2s							
BOSA	Boshof	45.29	263	*e*P	P		03 45 57.9	+0.3
	24nm,1.2s							
BOSA	Boshof	45.29	263	P	P		03 45 57.4	-0.1
	7.3nm,0.8s,baz=120,slow=9.0,SNR=8.6							
BOSA				LR	LR		04 00 46.9	
	comp=Z,836nm,21.1s,baz=115,slow=31							
KULM	Kulim	45.40	32	*e*P	P		03 45 59.8	+1.4
	19nm,1.3s							
LBTB	Lobatse	46.48	268	*e*P	P		03 46 06.7	-0.3
	15nm,0.9s							
LBTB	Lobatse	46.48	268	P	P		03 46 06.6	-0.4
	19nm,1.0s,baz=125,slow=7.1,SNR=17							
SUR	Sutherland	47.49	256	*e*P	P		03 46 16.1	+1.2
	46nm,1.1s							
SUR	Sutherland	47.49	256	P	P		03 46 15.9	+1.0
	26nm,1.0s,baz=111,slow=9.9,SNR=13							
SUR				LR	LR		04 01 54.3	
	comp=Z,692nm,18.9s,baz=194,slow=31							
KAPI	Kappang	48.44	61	*e*P	P		03 46 22.7	+0.5
	15nm,1.0s							
ASAR	Alice Springs	48.98	92	P	P		03 46 25.3	-1.0
ASAR	Alice Springs	48.98	92	P	P		03 46 25.3	-1.0
	1.7nm,0.8s,baz=240,slow=6.2,SNR=15							
ASAR				LR	LR		04 04 38.7	
	comp=Z,330nm,18.5s,baz=266,slow=33							
AS31	Alice Springs	48.98	92	*e*P	P		03 46 25.8

	0.9nm,0.8s,baz=191,slow=6.9,SNR=5.1									
KBZ	**Khabaz**	**85.10**	**335**	P	**P**	**03 50 15.8**	**+0.6**			
KBZ	**Khabaz**	**85.10**	**335**	P	**P**	**03 50 15.8**	**+0.6**			
	1.2nm,0.7s,baz=108,slow=3.2,SNR=3.1									
BR131	**Keskin Array S**	**85.40**	**327**	*e*P	**P**	**03 50 15.9**	**-1.0**			
BRTR	**Keskin Array B**	**85.40**	**327**	P	**P**	**03 50 16.9**	**0.0**			
BRTR	**Keskin Array B**	**85.40**	**327**	P	**P**	**03 50 16.9**	**0.0**			
	1.9nm,0.8s,baz=141,slow=5.8,SNR=3.7									
KURBB	**Kurchatov Arra**	**85.55**	**360**	P	**P**	**03 50 16.8**	**-0.5**			
	1.5nm,0.8s,baz=190,slow=5.0,SNR=15									
KURK	**Kurchatov**	**85.65**	**0**	*e*P	**P**	**03 50 16.7**	**-1.0**			
	9.1nm,1.3s									
KSRS	**Korea Array**	**85.65**	**37**	LR	LR	04 24 42.2				
	comp=Z,68nm,20.2s,baz=183,slow=33									
ABKAR	**Akbulak array**	**85.80**	**348**	*e*P	**P**	**03 50 20.9**	**+2.4**			
	1.1nm,0.7s									
IDI	**Anoyia**	**86.25**	**319**	LR	LR	04 22 55.8				
	comp=Z,59nm,21.0s,baz=241,slow=32									
SONM	**Songino Array**	**86.43**	**18**	P	**P**	**03 50 20.6**	**-1.2**			
SONM	**Songino Array**	**86.43**	**18**	P	**P**	**03 50 20.6**	**-1.2**			
	1.1nm,0.8s,baz=203,slow=6.2,SNR=8.5									
SONM				LR	LR	04 26 23.2				
	comp=Z,182nm,19.0s,baz=84,slow=34									
TOA0	**Torodi Ar. Sit**	**87.09**	**288**	*e*P	**P**	**03 50 27.1**	**+1.4**			
TORD	**Torodi Ar. Bea**	**87.09**	**288**	P	**P**	**03 50 25.6**	**-0.2**			
TORD	**Torodi Ar. Bea**	**87.09**	**288**	P	**P**	**03 50 25.6**	**-0.2**			
	1.5nm,0.9s,baz=140,slow=3.7,SNR=7.0									
TORD				LR	LR	04 26 38.7				
	comp=Z,598nm,20.8s,baz=140,slow=34									
AKTO	**Aktyubinsk**	**87.28**	**347**	LR	LR	04 24 19.2				
	comp=Z,223nm,18.3s,baz=54,slow=32									
ASCN	**Ascension**	**87.87**	**262**	*e*P	**P**	**03 50 29.2**	**-0.3**			
	226nm,1.0s									
BVAR	**Borovoye Array**	**88.25**	**355**	P	**P**	**03 50 29.4**	**-0.9**			
BVAR	**Borovoye Array**	**88.25**	**355**	P	**P**	**03 50 29.4**	**-0.9**			
	0.4nm,0.4s,baz=168,slow=7.4,SNR=2.5									
BVAR				LR	LR	04 28 31.4				
	comp=Z,132nm,18.4s,baz=346,slow=35									
BRVK	**Borovoye**	**88.29**	**355**	*e*P	**P**	**03 50 32.5**	**+2.0**			
	3.0nm,0.9s									
DBIC	**Dimbokro**	**88.49**	**279**	LR	LR	04 25 16.9				
	comp=Z,428nm,21.4s,baz=104,slow=32									
ZALV	**Zalesovo Beam**	**89.05**	**4**	P	**P**	**03 50 35.6**	**+1.6**			
ZALV	**Zalesovo Beam**	**89.05**	**4**	P	**P**	**03 50 35.6**	**+1.6**			
	0.4nm,0.3s,baz=201,slow=7.6,SNR=2.6									
MAJO	**Matsushiro**	**90.45**	**44**	*e*P	**P**	**03 50 41.9**	**+0.7**			
	12nm,1.2s									
TBI	**Tubuai**	**106.01**	**135**	*e*LR	LR	04 27 17.8				
	191nm,31.8s									
PPT2	**Papeete2**	**110.34**	**131**	*e*LR	LR	04 29 22.8				
	156nm,33.2s									
YKA	**Yellowknife Ar**	**151.55**	**13**	PKPbc	**PKPbc**	**03 57 31.0**	**-1.9**			
YKA	**Yellowknife Ar**	**151.55**	**13**	PKPbc	**PKPbc**	**03 57 31.0**	**-1.9**			
	1.6nm,1.0s,baz=341,slow=3.3,SNR=3.1									

IDC ***17*** *03:47:04.5±0.4, 55˚.30N×162˚.46E, h0km, mb4.3/35, mb1 4.4/38, mb1mx4.4/41, mbtmp4.3/38, ML4.0/3, MS3.9/13, Ms1 3.9/13, ms1mx3.7/41, Error ellipse: s-maj=12.3km s-min=9.1km az=175.0*

MOS ***17*** *03:47:04.9±1.2, 55˚.29N×162˚.53E, h9km, mb4.8/54, Error ellipse: s-maj=8.0km s-min=5.1km az=79.5*

KRSC ***17*** *03:47:04.3±3.0, 55˚.22N×162˚.78E, h5km±5km, ML4.9*

ISCJB ***17*** *03:47:07.9±0.5, 55˚.25N±0˚.02×162˚.63E±0˚.02, h26km±3km, mb4.7/125, MS4.1/21, Error ellipse: s-maj=3.2km s-min=1.9km az=153.4*

BJI ***17*** *03:47:09.9, 55˚.48N×162˚.33E, h37km, mB5.0/21, mb4.6/27, Ms4.7/22, Ms7 4.4/22*

NEIC ***17*** *03:47:12.5±0.9, 55˚.45N×162˚.25E, h50km±8km, mb4.8/72, Error ellipse: s-maj=5.6km s-min=2.9km az=160.0*

ISC 17 03:47:10.7±0.3, 55˚.27N±0˚.02×162˚.59E±0˚.02, h36km; h36km:pP-P,n540,σ1s49/598,mb4.7/125,MS4.1/21, 119C-104D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.87**	**215**		Op PN	Pn	03 47 22.4	-3.9
MKZ					S	**Sn**	**03 47 34.1**	**-3.6**
MKZ	**Mys Kozlova**	**0.87**	**215**		*e*P	Pn	03 47 22.4	-3.9
MKZ					*i* S	**Sn**	**03 47 34.1**	**-3.6**
KBTR	**Krutoberegovo**	**0.95**	**8**		PN	**Pn**	**03 47 24.5**	**-3.0**
KBTR					S	**Sn**	**03 47 38.0**	**-1.9**
KBTR	**Krutoberegovo**	**0.95**	**8**		*e*P	**Pn**	**03 47 24.5**	**-3.0**
KBTR					*i* S	**Sn**	**03 47 38.0**	**-1.9**
ZLN	**Zelenaya**	**1.26**	**307**		*e*P	**Pn**	**03 47 30.9**	**-1.0**
CIRR	**Tsirk**	**1.35**	**310**		*e*P	**Pn**	**03 47 31.7**	**-1.4**
LGNR	**Loginova**	**1.35**	**308**		*e*P	**Pn**	**03 47 31.6**	**-1.7**
LGNR					*i* S	**Sn**	**03 47 51.5**	**+1.4**
BZMR	**Bezymyannaya**	**1.37**	**300**		*e*P	**Pn**	**03 47 32.4**	**-0.9**
BZMR					*i* S	**Sn**	**03 47 54.3**	**+4.0**
BZWR	**Bezymyannyi-We**	**1.38**	**301**		*e*P	**Pn**	**03 47 32.8**	**-0.7**
BZWR					*i* S	**Sn**	**03 47 54.6**	**+4.0**
TUMR	**Tumrok**	**1.40**	**272**		*e*P	**Pn**	**03 47 33.0**	**-0.7**
TUMR					*i* S	**Sn**	**03 47 52.4**	**+1.4**
KMNR	**Kamenistaya**	**1.43**	**291**		P	**Pn**	**03 47 33.3**	**-0.8**
KMNR					S	**Sn**	**03 47 54.2**	**+2.6**
KIRR	**Kirishev**	**1.45**	**299**		*e*P	**Pn**	**03 47 34.4**	**-0.1**
KIRR					*i* S	**Sn**	**03 47 55.9**	**+3.6**
SMKR	**Semkarok**	**1.46**	**335**		*e*P	**Pn**	**03 47 33.0**	**-1.6**
SMKR					*i* S	**Sn**	**03 47 53.4**	**+0.9**
KRSR	**Krestovskiy**	**1.49**	**311**		*e*P	**Pn**	**03 47 33.7**	**-1.3**
KRSR					*i* S	**Sn**	**03 47 55.7**	**+2.5**
KLY	**Klyuchi**	**1.52**	**315**		PN	**Pn**	**03 47 32.5**	**-2.7**
KLY					S	**Sn**	**03 47 53.4**	**-0.3**
KLY	**Klyuchi**	**1.52**	**315**		*e*P	**Pn**	**03 47 32.5**	**-2.7**
KLY					*i* S	**Sn**	**03 47 53.4**	**-0.3**
KPT	**Kopyto**	**1.52**	**299**		*e*P	**Pn**	**03 47 35.1**	**-0.2**
KPT					*i* S	**Sn**	**03 47 56.2**	**+2.4**
BDR	**Baidarnaya**	**1.52**	**330**		*e*P	**Pn**	**03 47 34.3**	**-1.1**
KOZR	**Kozyr**	**1.73**	**299**		PN	**Pn**	**03 47 38.7**	**+0.6**
KOZR					S	**Sn**	**03 48 01.7**	**+2.8**
KOZ	**Kozyrevsk**	**1.73**	**298**		*e*P	**Pn**	**03 47 38.7**	**+0.5**
KOZ					*i* S	**Sn**	**03 48 01.7**	**+2.6**
SRDR	**Sredinnyy**	**1.94**	**304**		*e*P	**Pn**	**03 47 41.1**	**0.0**
SRDR					*i* S	**Sn**	**03 48 08.4**	**+4.3**
BKI	**Bering**	**1.94**	**90**		PN	**Pn**	**03 47 38.0**	**-3.0**
BKI					S	**Sn**	**03 48 01.7**	**-2.3**
BKI	**Bering**	**1.94**	**90**		*e*P	**Pn**	**03 47 38.0**	**-3.0**
BKI					*i* S	**Sn**	**03 48 01.7**	**-2.3**
KII	**Karymskiy**	**2.20**	**237**		*e*P	**Pn**	**03 47 43.4**	**-1.3**
ESO	**Esso**	**2.31**	**288**		PN	**Pn**	**03 47 45.5**	**-0.6**
ESO	**Esso**	**2.31**	**288**		*e*P	**Pn**	**03 47 45.5**	**-0.6**
NLC	**Nalytchevo**	**2.83**	**224**		PN	**Pn**	**03 47 51.2**	**-2.1**
NLC					S	**Sn**	**03 48 24.8**	**-1.4**
NLC	**Nalytchevo**	**2.83**	**224**		*e*P	**Pn**	**03 47 51.2**	**-2.1**
NLC					*i* S	**Sn**	**03 48 24.8**	**-1.4**
SDLR	**Sedlovina**	**2.95**	**229**		*e*P	**Pn**	**03 47 53.8**	**-1.2**
SDLR					*i* S	**Sn**	**03 48 29.8**	**+0.6**
KRER	**Koryakskii**	**2.99**	**230**		*e*P	**Pn**	**03 47 53.3**	**-2.4**
SMAR	**Somma**	**2.99**	**229**		*e*P	**Pn**	**03 47 54.5**	**-1.2**
SMAR					*i* S	**Sn**	**03 48 29.6**	**-0.8**
KRX	**Arik**	**3.00**	**232**		*e*P	**Pn**	**03 47 55.4**	**-0.3**
KRX					*i* S	**Sn**	**03 48 32.4**	**+2.0**
AVH	**Avacha**	**3.02**	**230**		*e*P	**Pn**	**03 47 55.6**	**-0.4**
AVH					*i* S	**Sn**	**03 48 33.3**	**+2.4**
UGLR	**Uglovaya**	**3.02**	**229**		*e*P	**Pn**	**03 47 55.1**	**-0.9**
UGLR					*i* S	**Sn**	**03 48 31.0**	**0.0**
KOK	**Koryaka**	**3.05**	**231**		*e*P	**Pn**	**03 47 56.5**	**+0.1**
GNL	**Ganaly**	**3.14**	**242**		P	**Pn**	**03 47 57.3**	**-0.3**
INSR	**Institute**	**3.22**	**228**		*e*P	**Pn**	**03 47 59.6**	**+1.0**
INSR					*i* S	**Sn**	**03 48 38.0**	**+2.4**
PET	**Petropavlovsk**	**3.23**	**227**	*de*	PN	**Pn**	**03 47 58.3**	**-0.5**
PET					*e*S	**Sn**	**03 48 37.4**	**+1.6**
PET					pmax	pmax		
	comp=Z,685nm,0.7s							
PET					smax	smax		
	comp=E,1μm,0.9s							
PET					smax	smax		
	comp=N,908nm,0.6s							
PET	**Petropavlovsk**	**3.23**	**227**		*e*P	**Pn**	**03 47 58.2**	**-0.5**
PET					*i* S	**Sn**	**03 48 36.7**	**+0.9**
PEA0B	**Petropavlovsk-**	**3.60**	**235**		*e*Pn	**Pn**	**03 48 05.0**	**+1.2**
PEA0B					*e*Sn	**Sn**	**03 48 47.3**	**+2.3**
PETK	**Petropavlovsk-**	**3.60**	**235**		PN	Pn	03 48 00.5	-3.3
PETK							03 48 53.4	
PETK					pmax	pmax		
	comp=Z,7.0nm,0.3s							
PETK					smax	smax		
	comp=N,10.0nm,0.3s							
PETK	**Petropavlovsk-**	**3.60**	**235**		Pn	Pn	03 48 00.5	-3.3
PETK					Sn	Sn	03 48 53.4	+8.4
PETK	**Petropavlovsk-**	**3.60**	**235**		Pn	Pn	03 48 00.5	-3.3
	comp=N,6.9nm,0.3s,baz=74,slow=17,SNR=7.4							
PETK					Sn	Sn	03 48 53.4	+8.4
	comp=N,9.5nm,0.3s,baz=269,slow=22,SNR=7.2							
PETK					LR	LR	03 49 34.8	
	comp=N,1μm,19.0s,baz=56,slow=42							
RUS	**Russkaya**	**3.73**	**222**		PN	**Pn**	**03 48 04.9**	**-0.7**
RUS	**Russkaya**	**3.73**	**222**		*e*P	**Pn**	**03 48 04.9**	**-0.7**
RUS					*i* S	**Sn**	**03 48 46.6**	**-1.5**
GRL	**Gorelyy**	**3.81**	**226**		*e*P	**Pn**	**03 48 07.9**	**+1.0**
MTVR	**Mutnovka**	**3.82**	**225**		*e*P	**Pn**	**03 48 06.9**	**-0.1**
MTVR					*i* S	**Sn**	**03 48 53.5**	**+2.9**
APC	**Apacha**	**3.97**	**236**		*e*P	**Pn**	**03 48 09.7**	**+0.8**
OSSR	**Ossora**	**4.00**	**3**		*e*P	**Pn**	**03 48 09.6**	**+0.2**
OSSR					*i* S	**Sn**	**03 48 54.9**	**0.0**
ASAK	**Asacha**	**4.01**	**226**		*e*P	**Pn**	**03 48 10.3**	**+0.8**
ASAK					*i* S	**Sn**	**03 48 58.8**	**+3.6**
PALN	**Palana**	**4.09**	**341**		*e*P	**Pn**	**03 48 12.4**	**+1.8**
PAU	**Pauzhetka**	**5.14**	**225**		PN	**Pn**	**03 48 25.5**	**+0.5**
PAU	**Pauzhetka**	**5.14**	**225**		*e*P	**Pn**	**03 48 25.5**	**+0.5**
TILK	**Tilichiki**	**5.53**	**19**		*e*P	**Pn**	**03 48 30.3**	**0.0**
SKR	**Severo-Kuril's**	**6.03**	**223**		*e*PN	**Pn**	**03 48 35.0**	**-2.2**
SKR					pmax	pmax		
	comp=N,270nm,1.0s							
SKR					pmax	pmax		
	comp=E,220nm,1.0s							
SKR					pmax	pmax		
	comp=Z,400nm,1.0s							
SKR					MLR	MLR		
	comp=Z,3μm,12.0s							
SKR					MLR	MLR		
	comp=N,3.0nm,12.0s							
SKR					MLR	MLR		
	comp=E,3μm,12.0s							
FX1	**Attu Island--F**	**6.67**	**107**		*e*Pn	**Pn**	**03 48 43.0**	**-3.0**
FX1					Sn	Sn	03 49 54.2	-6.3
FX1	**Attu Island--F**	**6.67**	**107**		Pn	Pn	03 48 42.5	-3.4
	comp=E,21nm,0.3s,baz=202,slow=2.1,SNR=35							
FX1					Sn	Sn	03 49 54.2	-6.3
	comp=E,14nm,0.3s,baz=123,slow=18,SNR=11							
FX1					LR	LR	03 51 19.0	
	comp=E,1μm,21.6s,baz=272,slow=38							
YSS	**Yuzh-Sakhalins**	**14.94**	**244**		*e*P	**Pn**	**03 50 37.8**	**-1.1**
YSS					MLR	MLR		
	comp=Z,800nm,14.0s							
YSS					MLR	MLR		
	comp=N,1μm,13.0s							
YUK	**Yuzh-Kuril'sk**	**15.56**	**231**	*c*	*i*P	**Pn**	**03 50 48.4**	**+1.3**
YUK					*i* S	**Sn**	**03 53 37.3**	**-0.9**
YUK					pmax	pmax		
	comp=N,27nm,0.5s							
YUK					pmax	pmax		
	comp=E,36nm,0.9s							
YUK					pmax	pmax		
	comp=Z,57nm,0.9s							
ASAJ	**Asahikawa**	**17.01**	**237**		*e*Pn	**P**	**03 51 06.5**	**-0.6**
	comp=Z,25nm,1.1s							
ASAJ	**Asahikawa**	**17.01**	**237**		Pn	**Pn**	**03 51 04.2**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=316,slow=2.3,SNR=9.0							
ASAJ					LR	LR	03 57 14.9	
	comp=Z,391nm,19.4s,baz=308,slow=36							
HABR	**Khabarovsk**	**18.23**	**260**		P	**P**	**03 51 18.1**	**-2.4**
HABR					S	**Sn**	**03 54 40.6**	**-2.2**
HABR					MLR	MLR		
	comp=Z,462nm,19.0s							
YAK	**Yakutsk**	**18.25**	**305**		*e*P	**Pn**	**03 51 22.7**	**+2.0**
YAK					*e*S	**Sn**	**03 54 41.4**	**-1.7**
YAK					pmax	pmax		
	comp=Z,22nm,0.9s							
YAK					pmax	pmax		
	comp=E,12nm,1.3s							
YAK					pmax	pmax		
	comp=N,5.0nm,1.3s							
YAK					pmax	pmax		
	comp=Z,71nm,1.5s							
YAK					pmax	pmax		
	comp=E,116nm,2.0s							
YAK					pmax	pmax		
	comp=N,47nm,2.0s							
YAK					smax	smax		
	comp=N,192nm,4.2s							
YAK					smax	smax		
	comp=E,177nm,4.4s							
YAK					MLR	MLR		
	comp=Z,488nm,14.0s							
YAK					MLR	MLR		
	comp=E,359nm,12.0s							
YAK					MLR	MLR		
	comp=N,199nm,17.0s							
KLR	**Kul'dur**	**19.71**	**265**		*e*P	**Pn**	**03 51 41.2**	**+2.8**
KLR					MLR	MLR		
	comp=E,500nm,11.5s							
KLR					MLR	MLR		
	comp=Z,4μm,11.5s							
CLNS	**Chul'man**	**20.94**	**290**		*e*P	Pn	03 51 53.6	+0.9
CLNS					*e*		03 52 10.5	
CLNS					*e*S	Sn	03 55 45.0	-3.1
CLNS					*e*		03 55 59.9	
CLNS					*e*SS	SnSn	03 56 21.2	+18
CLNS					pmax	pmax		
	comp=Z,6.0nm,0.9s							
CLNS					pmax	pmax		
	comp=E,4.0nm,0.9s							
CLNS					pmax	pmax		
	comp=N,8.0nm,1.0s							
CLNS					pmax	pmax		
	comp=E,18nm,0.9s							
CLNS					pmax	pmax		
	comp=Z,15nm,1.2s							
CLNS					pmax	pmax		
	comp=N,22nm,1.3s							
CLNS					smax	smax		
	comp=E,41nm,10.2s							
CLNS					smax	smax		
	comp=N,38nm,10.7s							
CLNS					MLR	MLR		
	comp=Z,246nm,7.0s							
CLNS					MLR	MLR		
	comp=N,196nm,10.0s							
CLNS					MLR	MLR		
	comp=E,587nm,12.0s							
CHGN	**Chignik**	**21.76**	**71**		*e*P	**P**	**03 52 00.9**	**+2.3**
TIXI	**Tiksi**	**21.79**	**332**		*i*P	**P**	**03 51 58.9**	**0.0**
TIXI					pmax	pmax		
	comp=Z,49nm,0.9s							
USRK	**Ussuriysk Arra**	**22.48**	**253**		P	**P**	**03 52 03.9**	**-2.7**
	comp=Z,0.9nm,0.5s,baz=142,slow=40,SNR=2.9							
USRK					LR	LR	04 01 45.3	
	comp=Z,308nm,18.1s,baz=40,slow=39							
SVW2	**Sparrevohn**	**22.49**	**58**		*e*P	**P**	**03 52 08.3**	**+1.7**
	comp=Z,63nm,2.0s							
IM04	**Indian Mountai**	**23.40**	**45**		*e*P	**P**	**03 52 15.7**	**-0.2**
IMA2	**Indian Mountai**	**23.45**	**45**		*e*P	**P**	**03 52 16.0**	**-0.5**
MDJ	**Mudanjiang**	**23.54**	**257**		P	P	03 52 23.5	+6.2
MDJ					pP	pP	03 52 31.9	+4.6
MDJ					sP	sP	03 52 36.6	+4.8
MDJ					PcP	**PcP**	**03 56 04.6**	**+2.9**
MDJ					S	**S**	**03 56 34.9**	**+6.3**
MDJ					sS	Sn	03 56 53.8	+3.5
MDJ					LR	LR		
	comp=N,320nm,20.7s							
MDJ					LR	LR		
	comp=E,200nm,20.7s							
MDJ					LR	LR		
	comp=Z,480nm,16.6s							
RSO	**Redoubt South**	**23.93**	**59**		*e*P	**P**	**03 52 21.8**	**+0.6**
PPLA	**Purkeypile**	**23.99**	**53**		*e*P	**P**	**03 52 23.1**	**+1.4**
	comp=Z,78nm,1.4s							
CAST	**Castle Rocks**	**24.02**	**52**		*e*P	**P**	**03 52 22.3**	**+0.5**
	comp=Z,23nm,1.3s							
SPU	**Mount Spurr**	**24.19**	**57**		*e*P	**P**	**03 52 24.1**	**+0.7**
BPAW	**Bear Paw Mtn.**	**24.50**	**50**		*e*P	**P**	**03 52 26.3**	**+0.2**
	comp=Z,25nm,1.3s							
TRF	**Thorofare Moun**	**24.83**	**52**		*e*P	**P**	**03 52 29.4**	**+0.2**
	comp=Z,26nm,1.0s							
COLD	**Coldfoot**	**24.95**	**43**		*e*P	**P**	**03 52 30.0**	**-0.1**
	comp=Z,18nm,0.8s							
MAJO	**Matsushiro**	**25.05**	**232**		*e*P	**P**	**03 52 31.6**	**+0.3**
MAJO					pmax	pmax		
	comp=Z,33nm,0.7s							
MAJO	**Matsushiro**	**25.05**	**232**		*e*P	**P**	**03 52 31.6**	**+0.3**
	comp=Z,33nm,0.7s							
MAT	**Matsushiro**	**25.05**	**232**		P	**P**	**03 52 31.1**	**-0.2**
MAT					S	S	03 56 59.8	+6.8
MJAR	**Matsushiro Arr**	**25.05**	**232**		P	**P**	**03 52 31.1**	**-0.2**
MJAR	**Matsushiro Arr**	**25.05**	**232**		P	**P**	**03 52 31.1**	**-0.2**
MJAR					LR	LR	04 02 45.6	
	comp=Z,27nm,1.1s,baz=18,slow=7.7,SNR=34							
MJAR					LR	LR	04 02 45.6	
	comp=Z,183nm,21.0s,baz=45,slow=38							
MCK	**McKinley**	**25.42**	**51**		*e*P	**P**	**03 52 34.8**	**+0.4**
MCK					pmax	pmax		
	comp=Z,72nm,2.0s							
MCK	**McKinley**	**25.42**	**51**		*e*P	**P**	**03 52 34.8**	**+0.4**
	comp=Z,72nm,2.0s							
SEW	**Seward**	**25.62**	**59**		*e*P	**P**	**03 52 38.1**	**+1.9**
	comp=Z,43nm,1.2s							
COLA	**College**	**25.84**	**48**		*e*P	**P**	**03 52 38.3**	**+0.1**
COLA					pmax	pmax		
	comp=Z,28nm,1.4s							
COLA	**College**	**25.84**	**48**		*e*P	**P**	**03 52 38.3**	**+0.1**
	comp=Z,28nm,1.4s							
ILAR	**Eielson Array**	**26.25**	**48**		P	**P**	**03 52 41.0**	**-0.9**
ILAR					PcP	**PcP**	**03 56 06.2**	**-1.1**
ILAR	**Eielson Array**	**26.25**	**48**		P	**P**	**03 52 41.0**	**-0.9**
	comp=Z,10nm,1.0s,baz=264,slow=7.6,SNR=68							
ILAR					PcP	**PcP**	**03 56 06.3**	**-1.1**
	comp=Z,0.6nm,0.9s,baz=284,slow=5.7,SNR=3.4							
ILAR					LR	LR	04 03 23.4	
	comp=Z,172nm,19.8s,baz=120,slow=37							
CN2	**Changchun**	**26.37**	**260**		*e*P	**P**	**03 52 43.1**	**-0.1**
CN2					*e*S	**S**	**03 57 10.4**	**-3.3**
CN2					AMB	AMB		
	comp=Z,10.0nm,0.6s							
CN2					AMB	AMB		
	comp=Z,200nm,4.0s							
CN2					LR	LR		
	comp=Z,400nm,16.0s							
CN2					LR	LR		
	comp=Z,400nm,16.0s							
CN2					LR	LR		
	comp=Z,400nm,16.0s							
EGAK	**Eagle**	**28.70**	**48**		*e*P	**P**	**03 53 03.0**	**-0.9**
	comp=Z,8.8nm,0.8s							
KSRS	**Korea Array**	**29.41**	**247**		LR	LR	04 04 28.3	
	comp=Z,100nm,18.8s,baz=246,slow=36							
DAWY	**Dawson**	**29.57**	**49**		*e*P	**P**	**03 53 11.8**	**+0.2**
HYT	**Haines Junctio**	**31.19**	**55**		*e*P	**P**	**03 53 27.4**	**+1.3**
INK	**Inuvik**	**31.25**	**40**		*e*P	**P**	**03 53 26.7**	**+0.4**
	comp=Z,8.2nm,1.1s							
INK	**Inuvik**	**31.25**	**40**		P	**P**	**03 53 25.9**	**-0.4**
	comp=Z,3.5nm,1.1s,baz=296,slow=6.6,SNR=7.5							
INK					LR	LR	04 07 03.6	
	comp=Z,155nm,21.6s,baz=318,slow=38							
BJI	**Beijing**	**34.07**	**263**		P	**P**	**03 53 51.6**	**+0.4**
BJI					S	**S**	**03 59 13.3**	**-0.9**
BJI					AMB	AMB		
	comp=Z,6.0nm,0.5s							
BJI					LR	LR		
	comp=Z,490nm,14.9s							
BJI					LR	LR		
	comp=Z,410nm,16.9s							
BJI					LR	LR		
	comp=Z,220nm,15.9s							
SONM	**Songino Array**	**34.87**	**282**		P	**P**	**03 53 58.1**	**-0.2**
SONM					PcP	**PcP**	**03 56 29.9**	**-0.5**
SONM	**Songino Array**	**34.87**	**282**		P	**P**	**03 53 58.1**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=57,slow=9.0,SNR=10							
SONM					PcP	**PcP**	**03 56 29.9**	**-0.5**
	comp=Z,2.8nm,0.8s,baz=64,slow=3.4,SNR=13							
SONM					LR	LR	04 09 27.1	
	comp=Z,246nm,19.5s,baz=39,slow=39							
ZAK	**Zakamensk**	**35.22**	**287**		*e*P	**P**	**03 54 02.1**	**+0.9**
ZAK					pmax	pmax		
	comp=Z,2.0nm,1.6s							
DLBC	**Dease Lake**	**35.59**	**57**		*e*P	**P**	**03 54 05.5**	**+1.2**
H11N2	**WAKE ISLAND Hy**	**35.63**	**173**		T	T	04 31 51.3	
	baz=359							
H11N3	**WAKE ISLAND Hy**	**35.64**	**173**		T	T	04 31 51.8	
	baz=359							
H11N1	**WAKE ISLAND Hy**	**35.64**	**173**		T	T	04 31 52.7	
	baz=359							
HHC	**Hu-ho-hao-te**	**36.16**	**268**		*e*P	**P**	**03 54 07.1**	**-2.3**
HHC					pP	**pP**	**03 54 16.9**	**-3.0**
HHC					sP	**sP**	**03 54 20.8**	**-3.5**
HHC					PP	**PnPn**	**03 55 29.4**	**-1.8**
HHC					S	**S**	**03 59 42.6**	**-4.1**
HHC					sS	sS	03 59 58.5	-5.5
HHC					SS	**SnSn**	**04 02 06.3**	**-7.6**
HHC					AMB	AMB		
	comp=Z,33nm,0.9s							
HHC					AMB	AMB		
	comp=Z,200nm,5.5s							
HHC					LR	LR		
	comp=Z,560nm,13.9s							
HHC					LR	LR		
	comp=Z,630nm,13.4s							
HHC					LR	LR		
	comp=Z,640nm,12.7s							
NJ2	**Nanjing**	**38.35**	**251**		*e*P	**P**	**03 54 29.0**	**+1.1**
NJ2					pP	**pP**	**03 54 38.1**	**-0.3**
NJ2					sP	**sP**	**03 54 41.9**	**-0.9**
NJ2					S	**ScP**	**04 00 22.5**	**-3.2**
NJ2					sS	**sS**	**04 00 36.5**	**-0.7**
NJ2					AMB	AMB		

comp=Z,200nm,15.5s
WMQ Urumqi 47.64 289 P P 03 55 53.6 +11
WMQ pP pP 03 56 06.0 +12
WMQ sP sP 03 56 11.3 +13
WMQ PcP PP 03 57 24.1 -10
WMQ S S 04 02 43.5 +7.5
WMQ ScS ScS 04 05 40.8 +7.5
WMQ Urumqi 47.64 289 SS SS 04 06 05.1 +1.2
WMQ AMB AMB
comp=Z,32nm,0.6s
WMQ AMB AMB
comp=Z,220nm,5.0s
WMQ LR LR
comp=N,380nm,17.4s
WMQ LR LR
comp=E,310nm,16.4s
WMQ LR LR
comp=Z,290nm,24.2s
KURK Kurchatov 47.84 301 P **P** **03 55 42.4 -1.9**
KURK 03 57 11.7
KURK pmax pmax
comp=Z,2.0nm,0.6s
KURK pmax pmax
comp=Z,3.0nm,0.9s
KURK Kurchatov 47.84 301 *eP* **P** **03 55 41.8 -2.5**
comp=Z,11nm,1.2s
KURK PcP **PcP** **03 57 11.7 -0.9**
KURBB Kurchatov Arra 47.94 301 P **P** **03 55 42.4 -2.7**
comp=Z,2.0nm,0.6s,baz=57,slow=8.2,SNR=17
KURBB PcP **PcP** **03 57 11.7 -1.3**
comp=Z,2.5nm,0.9s,baz=46,slow=3.4,SNR=7.5
E09A Wood Farm, Sta 48.19 66 *eP* **P** **03 55 48.8 +1.7**
comp=Z,15nm,1.4s
MK31 Makanchi Array 48.54 295 *eP* **P** **03 55 48.4 -1.5**
MK31 Makanchi Array 48.54 295 *eP* **P** **03 55 48.4 -1.5**
MKAR Makanchi Array 48.54 295 *eP* **P** **03 55 49.0 -0.9**
MKAR Makanchi Array 48.54 295 *eP* **P** **03 55 49.0 -0.9**
MKAR Makanchi Array 48.54 295 P **P** **03 55 47.6 -2.3**
comp=Z,2.0nm,0.7s,baz=56,slow=7.4,SNR=13
YBH Yreka Blue Hor 48.94 73 P **P** **03 55 53.6 +0.6**
YBH Yreka Blue Hor 48.94 73 P **P** **03 55 53.7 +0.6**
comp=Z,1.4nm,0.8s,baz=205,slow=3.2,SNR=5.6
BSMT Basoo Peak 49.03 62 *eP* **P** **03 55 55.1 +1.3**
K05A Summer Lake 49.26 71 *eP* **P** **03 55 58.2 +2.6**
comp=Z,53nm,2.1s
JTMT Jette 49.36 62 *eP* **P** **03 55 57.9 +1.7**
GYA Guiyang 49.40 258 *eP* **P** **03 55 57.8 +1.1**
GYA pP **pP** **03 56 08.4 +0.9**
GYA PP **PP** **03 57 51.3 +0.5**
GYA ScP **ScP** **04 01 11.0 +0.1**
GYA S **S** **04 03 01.6 +0.5**
GYA sS **sS** **04 03 18.5 -0.4**
GYA SS **SS** **04 06 27.8 -5.0**
GYA AMB AMB
comp=Z,20nm,1.0s
GYA AMB AMB
comp=Z,110nm,4.9s
GYA LR LR
comp=Z,470nm,18.3s
GYA LR LR
comp=Z,380nm,19.0s
GYA LR LR
comp=Z,450nm,17.5s
SWMT Swartz Lake 49.66 62 *eP* **P** **03 55 59.5 +1.0**
comp=Z,2.8nm,1.0s
SLMT Seeley Lake 50.09 62 *eP* **P** **03 56 03.5 +1.6**
VOSK Vostochnaya 50.13 308 *eP* **P** **03 56 00.0 -1.9**
VOSK pmax pmax
comp=Z,19nm,2.0s
VOSK Vostochnaya 50.13 308 *eP* **P** **03 55 60.0 -1.9**
comp=Z,19nm,2.0s
MOD Modoc 50.14 71 *eP* **P** **03 56 04.5 +2.3**
comp=Z,42nm,1.4s
MSO Missoula 50.14 63 ⇓P **P** **03 56 02.4 +0.2**
baz=50
BVAR Borovoye Array 50.19 308 P **P** **03 55 59.9 -2.4**
BVAR 03 57 19.9
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR pmax pmax
comp=Z,1.0nm,0.4s
BVAR Borovoye Array 50.19 308 P **P** **03 55 59.9 -2.4**
BVAR PcP **PcP** **03 57 19.9 -1.2**
BVAR Borovoye Array 50.19 308 P **P** **03 55 59.9 -2.4**
comp=Z,1.7nm,0.6s,baz=52,slow=9.3,SNR=7.6
BVAR PcP **PcP** **03 57 19.9 -1.2**
comp=Z,0.7nm,0.4s,baz=72,slow=4.7,SNR=3.6
BRVK Borovoye 50.22 308 *d iP* **P** **03 56 00.5 -2.0**
BRVK pmax pmax
comp=Z,5.0nm,1.1s
BRVK Borovoye 50.22 308 *eP* **P** **03 56 00.5 -2.0**
comp=Z,4.6nm,1.0s
WVOR Wild Horse Val 50.67 70 *eP* **P** **03 56 08.6 +2.4**
WVOR pmax pmax
comp=Z,3.0nm,1.0s
WVOR Wild Horse Val 50.67 70 *eP* **P** **03 56 08.6 +2.4**
comp=Z,2.7nm,1.0s
KEV Kevo 51.21 342 *eP* **P** **03 56 09.2 -0.6**
KEV Kevo 51.21 342 *ep* **P** **03 56 09.2 -0.6**
comp=Z,0.3nm,0.3s
A19A Klindworth Far 51.30 58 ⇓P **P** **03 56 10.3 -0.6**
baz=51
EGMT Eagleton 51.43 59 ⇓P **P** **03 56 11.1 -0.7**
baz=51
SUMG Summit 51.61 8 *eP* **P** **03 56 12.5 -0.7**
SUMG pmax pmax
comp=Z,21nm,1.1s
SUMG Summit 51.61 8 *eP* **P** **03 56 12.5 -0.7**
comp=Z,21nm,1.1s
ARCES ARCESS Array B 51.67 342 P **P** **03 56 12.6 -0.6**
ARCES ARCESS Array B 51.67 342 P **P** **03 56 12.6 -0.6**
comp=Z,3.8nm,0.9s,baz=32,slow=8.6,SNR=2.8
A20A Cobblestone Ra 51.73 57 ⇑P **P** **03 56 14.8 +0.8**
baz=52
C19A Slack Wire Ran 51.97 59 ⇓P **P** **03 56 17.3 +1.5**
baz=52
B20A Solberg Farm, 51.99 58 ⇑P **P** **03 56 16.9 +1.0**
baz=52
HLID Hailey 52.13 66 *eP* **P** **03 56 18.1 +0.9**
comp=Z,3.5nm,1.3s
HLID Hailey 52.13 66 ⇓P **P** **03 56 17.8 +0.5**
baz=52
A21A Bergtoll Ranch 52.13 57 ⇓P **P** **03 56 17.0 -0.1**
baz=52
D19A Cripps Ranch, 52.45 59 ⇑P **P** **03 56 20.4 +0.9**
baz=52
C20A Veseth Ranch, 52.50 58 ⇑P **P** **03 56 20.4 +0.7**
baz=52
KMI Kunming 52.64 260 P **P** **03 56 22.9 +1.6**
KMI pP **pP** **03 56 33.5 +1.4**
KMI sP **sP** **03 56 37.8 +1.4**
KMI PP **PP** **03 58 23.0 +2.6**
KMI S **S** **04 03 44.5 -1.7**
KMI sS **sS** **04 04 02.9 -1.2**
KMI SS **SS** **04 07 21.3 -3.3**
KMI AMB AMB
comp=Z,5.0nm,0.6s
KMI AMB AMB
comp=Z,34nm,3.1s
KMI LR LR
comp=Z,340nm,15.3s
KMI LR LR
comp=Z,160nm,16.2s
KMI LR LR
comp=Z,240nm,11.7s
ARU Arti 52.79 317 *c iP* **P** **03 56 20.2 -1.5**
ARU 03 58 16.9
ARU S **S** **04 03 44.1 -3.0**
ARU SS **SS** **04 07 20.0 -5.2**
ARU pmax pmax
comp=Z,5.0nm,0.8s
D20A Manuel Ranch, 52.87 59 ⇑P **P** **03 56 23.1 +0.6**
baz=53
E20A Meyer Farm, Mu 53.28 60 ⇓P **P** **03 56 26.2 +0.7**
baz=53
F19A Roth Farm, Mol 53.33 61 ⇓P **P** **03 56 26.6 +0.6**
baz=53
B23A Brockton 53.42 56 ⇑P **P** **03 56 26.0 -0.5**
baz=53
C22A Vida 53.50 57 ⇑P **P** **03 56 26.3 -0.8**
baz=53
H17A Grant Village 53.53 63 *eP* **P** **03 56 30.0 +2.4**
H17A Grant Village 53.53 63 ⇑P **P** **03 56 28.1 +0.5**
baz=53
QIZ Qiongzhong 53.59 249 P **P** **03 56 29.8 +1.8**
QIZ S **S** **04 04 00.8 +2.0**

NVAR Mina Array Bea 53.66 73 P **P** **03 56 29.6 +0.9**
NVAR Mina Array Bea 53.66 73 P **P** **03 56 29.6 +0.9**
comp=Z,4.1nm,0.9s,baz=310,slow=7.0,SNR=23
ELK Elko 53.67 69 *eP* **P** **03 56 29.9 +1.2**
comp=Z,3.1nm,1.1s
FLWY Flagg Ranch 53.69 63 *eP* **P** **03 56 30.6 +1.8**
comp=Z,70nm,2.5s
IMW Indian Meadow 53.70 64 *eP* **P** **03 56 30.4 +1.5**
comp=Z,6.5nm,1.0s
F20A Billings 53.76 60 ⇓P **P** **03 56 30.2 +1.1**
baz=54
D22A Cohagen 53.78 58 ⇑P **P** **03 56 29.8 +0.7**
baz=54
DGMT Dagmar 53.79 55 ⇑P **P** **03 56 29.9 +0.7**
baz=54
C23A Lambert 53.80 57 ⇑P **P** **03 56 30.4 +1.1**
baz=54
H18A Shoshone NF, C 53.80 62 ⇓P **P** **03 56 31.1 +1.6**
baz=54
I17A Pilgrim Ck. 53.87 63 ⇑P **P** **03 56 32.5 +2.5**
baz=54
MOOW Moose Ponds 53.90 64 *eP* **P** **03 56 32.7 +2.4**
comp=Z,41nm,2.5s
TPAW Teton Pass 53.98 64 *eP* **P** **03 56 32.5 +1.6**
comp=Z,64nm,2.5s
LOHW Long Hollow 54.07 64 *eP* **P** **03 56 33.1 +1.5**
comp=Z,28nm,2.3s
REDW Red Top Meadow 54.12 64 *eP* **P** **03 56 32.3 +0.3**
comp=Z,91nm,2.8s
G20A Bridger 54.14 61 ⇓P **P** **03 56 32.3 +0.3**
baz=54
H19A Powell 54.14 62 ⇓P **P** **03 56 32.8 +0.9**
baz=54
D23A Lindsay 54.23 57 ⇑P **P** **03 56 31.0 -1.4**
baz=54
G21A Lodge Grass 54.64 60 ⇓P **P** **03 56 35.8 +0.2**
baz=54
TKM2 Tokmak 2 54.66 296 *eP* **P** **03 56 35.6 -0.2**
TKM2 pmax pmax
comp=Z,5.0nm,1.0s
TKM2 Tokmak 2 54.66 296 *eP* **P** **03 56 35.6 -0.2**
comp=Z,4.7nm,1.0s
H20A Greybull 54.77 61 ⇓P **P** **03 56 36.5 0.0**
baz=55
I20A Worland 55.09 62 ⇓P **P** **03 56 37.9 -0.9**
baz=55
G22A Birney 55.09 60 ⇑P **P** **03 56 38.3 -0.5**
baz=55
J19A Crowheart 55.11 63 ⇓P **P** **03 56 39.7 +0.6**
baz=55
H21A Big Horn, Sher 55.15 60 ⇑P **P** **03 56 40.0 +0.8**
baz=55
F23A Volborg 55.17 59 ⇓P **P** **03 56 38.7 -0.7**
baz=55
R11A Troy Canyon, C 55.20 71 *eP* **P** **03 56 40.9 +1.1**
comp=Z,6.6nm,1.4s
R11A Troy Canyon, C 55.20 71 ⇓P **P** **03 56 40.7 +0.9**
baz=55
BW06 Boulder Array 55.21 64 *eP* **P** **03 56 40.5 +0.7**
comp=Z,12nm,1.5s
PDAR Pinedale Array 55.21 64 P **P** **03 56 40.3 +0.4**
PDAR Pinedale Array 55.21 64 P **P** **03 56 40.3 +0.4**
comp=Z,3.3nm,0.9s,baz=317,slow=3.8,SNR=18
PDAR LR LR 04 19 41.7
comp=Z,121nm,19.7s,baz=260,slow=35
A28A Rude Farm, Bot 55.30 53 ⇓P **P** **03 56 40.6 +0.5**
baz=55
DUG Dugway 55.36 68 *eP* **P** **03 56 42.3 +1.5**
DUG pmax pmax
comp=Z,8.0nm,1.0s
DUG Dugway 55.36 68 *eP* **P** **03 56 42.3 +1.5**
comp=Z,7.6nm,1.0s
DUG Dugway 55.36 68 ⇓P **P** **03 56 42.4 +1.5**
baz=55,SNR=8.4
AAK Ala-Archa 55.43 296 ⇓*iP* **P** **03 56 42.3 +0.9**
AAK pmax pmax
comp=Z,14nm,1.1s
AAK Ala-Archa 55.43 296 *eP* **P** **03 56 43.2 +1.8**
comp=Z,11nm,1.0s
AAK Ala-Archa 55.43 296 P **P** **03 56 40.6 -0.7**
comp=Z,3.7nm,0.7s,baz=73,slow=1.3,SNR=7.1
J20A Shoshoni 55.54 62 ⇑P **P** **03 56 43.3 +1.2**
baz=55
M17A Scullys Gap (B 55.57 65 ⇑P **P** **03 56 43.4 +0.9**
baz=56
L18A Fontenelle, Gr 55.57 65 ⇑P **P** **03 56 43.7 +1.3**
baz=55
ISA Isabella 55.57 76 *eP* P 03 56 45.1 +2.8
ISA pmax pmax
comp=Z,5.0nm,1.1s
ISA Isabella 55.57 76 *eP* P 03 56 45.1 +2.8
comp=Z,5.1nm,1.1s
ISA Isabella 55.57 76 ⇑P **P** **03 56 43.0 +0.6**
baz=56
E25A Miller Ranch, 55.58 57 ⇑P **P** **03 56 43.0 +0.8**
baz=55
B28A Dugan Ranch, T 55.59 53 ⇑P **P** **03 56 42.9 +0.7**
baz=55
A29A Manning Farm, 55.76 52 ⇑P **P** **03 56 43.7 +0.2**
baz=56
EKS2 Erkin-Say 55.78 297 *eP* **P** **03 56 45.7 +1.9**
EKS2 pmax pmax
comp=Z,20nm,1.4s
EKS2 Erkin-Say 55.78 297 *eP* **P** **03 56 45.6 +1.9**
comp=Z,20nm,1.4s
JLU Jordanelle 55.78 67 *eP* P 03 56 47.2 +3.2
comp=Z,30nm,2.0s
KLMR Klimovskoe 55.80 330 *eP* **P** **03 56 41.2 -2.3**
KLMR pmax pmax
comp=Z,26nm,1.8s
MPMC Manual Prospec 55.82 75 ⇓P **P** **03 56 45.8 +1.5**
baz=56
FURC Furnace Creek, 55.87 74 ⇓P **P** **03 56 45.8 +1.4**
baz=56
NLU North Lily Min 55.92 68 *eP* **P** **03 56 46.6 +1.6**
comp=Z,11nm,1.1s
G24A Alzada 55.94 58 ⇑P **P** **03 56 44.7 -0.1**
baz=56
I22A 9 Mile Ranch, 55.95 61 ⇓P **P** **03 56 45.3 +0.2**
baz=56
B29A Wagenman Farm, 56.04 53 ⇓P **P** **03 56 46.0 +0.6**
baz=56
E26A Carlson Angus 56.05 56 ⇓P **P** **03 56 45.2 -0.4**
baz=56
MPU Maple Canyon 56.11 67 *eP* **P** **03 56 49.0 +2.7**
comp=Z,8.8nm,0.9s
JOF Joensuu 56.20 336 *eP* **P** **03 56 44.3 -2.0**
JOF pmax pmax
comp=Z,4.0nm,0.7s
JOF Joensuu 56.20 336 *ep* **P** **03 56 44.3 -2.0**
comp=Z,4.1nm,0.7s
ULM Lac du Bonnet 56.27 49 P **P** **03 56 47.1 +0.1**
ULM Lac du Bonnet 56.27 49 P **P** **03 56 47.1 +0.1**
comp=Z,4.5nm,0.9s,baz=309,slow=7.4,SNR=5.1
J22A Midwest 56.30 61 ⇑P **P** **03 56 48.5 +0.9**
baz=56
MDND Maddock 56.38 53 *eP* **P** **03 56 49.7 +1.8**
comp=Z,31nm,1.1s
MDND Maddock 56.38 53 ⇑P **P** **03 56 48.6 +0.7**
baz=56
D28A Regan 56.41 54 ⇑P **P** **03 56 49.6 +1.5**
baz=56
EDW2 Edwards Air Fo 56.41 76 ⇑P **P** **03 56 50.0 +1.7**
baz=56
K21A Alcova 56.48 62 ⇓P **P** **03 56 49.4 +0.5**
baz=56
SHOC Shoshone 56.61 74 ⇑P **P** **03 56 51.1 +1.4**
baz=57
G27A Dupree 56.62 57 ⇑P P 03 56 53.5 +3.9
baz=57
GSC Goldstone 56.76 75 *eP* **P** **03 56 52.6 +1.8**
GSC pmax pmax
comp=Z,9.0nm,1.1s
GSC Goldstone 56.76 75 *eP* **P** **03 56 52.6 +1.8**
comp=Z,8.8nm,1.1s
GSC Goldstone 56.76 75 ⇑P **P** **03 56 51.8 +1.0**
baz=57
E28A Huff 56.81 55 ⇑P **P** **03 56 50.6 -0.3**
baz=57
K22A Casper 56.84 62 ⇑P **P** **03 56 51.8 +0.4**
baz=57
M20A Sweetwater, Wa 56.84 64 ⇓P **P** **03 56 51.1 -0.4**
baz=57
MWC Mount Wilson 56.86 77 *eP* **P** **03 56 51.9 +0.2**
MWC pmax pmax
comp=Z,8.0nm,0.8s
MWC Mount Wilson 56.86 77 *eP* **P** **03 56 51.9 +0.2**
comp=Z,8.2nm,0.8s

MVU Marysvale 56.91 69 *eP* **P** **03 56 54.5 +2.4**
comp=Z,49nm,2.6s
KSH Kashi 56.92 293 *eP* P 03 56 58.0 +6.0
KSH pP pP 03 57 04.6 +1.7
KSH sP sP 03 57 08.3 +1.1
KSH S **S** **04 04 43.4 +0.2**
KSH sS sS 04 05 02.6 +1.4
KSH SS **SS** **04 08 34.6 +3.4**
KSH AMB AMB
comp=Z,4.0nm,0.5s
KSH AMB AMB
comp=Z,29nm,4.1s
KSH LR LR
comp=Z,55nm,5.2s
KSH LR LR
comp=Z,180nm,7.4s
KSH LR LR
comp=Z,130nm,6.1s
D29A Pettibone, Tap 56.96 54 ⇓P **P** **03 56 52.6 +0.6**
baz=57
CCUT Cedar City 56.99 71 *eP* **P** **03 56 54.6 +2.0**
comp=Z,14nm,1.8s
RSSD Black Hills 57.00 59 *eP* **P** **03 56 53.5 +0.9**
RSSD pmax pmax
comp=Z,43nm,1.3s
RSSD Black Hills 57.00 59 *eP* **P** **03 56 53.5 +0.9**
comp=Z,43nm,1.3s
KKAR Karatay Array 57.10 299 *eP* **P** **03 56 52.0 -1.1**
KKAR Karatay Array 57.10 299 *eP* **P** **03 56 52.0 -1.1**
TUQ Turquoise Moun 57.15 74 ⇓P **P** **03 56 55.8 +2.2**
baz=57
Q16A Castle Valley 57.16 68 *eP* **P** **03 56 55.3 +1.5**
Q16A Castle Valley 57.16 68 ⇑P **P** **03 56 55.1 +1.3**
baz=57,SNR=6.2
I25A Rochford 57.22 59 ⇑P **P** **03 56 53.7 -0.4**
baz=57
O19A Miners Draw (B 57.22 65 ⇓P **P** **03 56 54.9 +0.8**
baz=57
N20A Spence Gulch, 57.28 64 ⇓P **P** **03 56 56.3 +1.7**
baz=57,SNR=17
E29A Napoleon 57.30 54 ⇓P **P** **03 56 55.5 +1.0**
baz=57
D30A Buchanan 57.31 53 ⇑P **P** **03 56 53.6 -0.8**
baz=57
L22A Ellis Ranch, M 57.34 62 ⇓P **P** **03 56 56.5 +1.5**
baz=57
SRU San Rafael 57.36 67 *eP* **P** **03 56 56.8 +1.6**
SRU pmax pmax
comp=Z,15nm,1.1s
SRU San Rafael 57.36 67 *eP* **P** **03 56 56.8 +1.6**
comp=Z,16nm,1.1s
HEC Hector,Ludlow 57.37 75 ⇓P **P** **03 56 56.5 +1.4**
baz=57
AKTO Aktyubinsk 57.43 313 P **P** **03 56 52.3 -3.0**
AKTO pmax pmax
comp=Z,2.0nm,0.6s
AKTO Aktyubinsk 57.43 313 P **P** **03 56 52.3 -3.0**
AKTO Aktyubinsk 57.43 313 P **P** **03 56 52.3 -3.0**
comp=Z,2.3nm,0.6s,baz=20,slow=6.1,SNR=6.0
ABKAR Akbulak array 57.50 311 *eP* **P** **03 56 54.2 -1.5**
H27A Howes 57.58 57 ⇓P **P** **03 56 56.7 +0.3**
baz=57
L23A Garrett 57.64 62 ⇑P **P** **03 56 58.0 +0.8**
baz=58,SNR=7.5
E30A Jud 57.69 54 ⇓P **P** **03 56 58.0 +0.9**
baz=58
P19A Cripple Cowboy 57.78 66 ⇓P **P** **03 56 59.4 +1.2**
baz=58
O20A White River Ci 57.80 65 ⇑P **P** **03 56 59.5 +1.2**
baz=58
I27A Quinn 58.01 58 ⇑P **P** **03 57 00.1 +0.6**
baz=58
KAF Kangasniemi 58.05 337 *eP* **P** **03 56 57.1 -2.3**
KAF pmax pmax
comp=Z,4.0nm,0.7s
KAF Kangasniemi 58.05 337 *ep* **P** **03 56 57.1 -2.3**
comp=Z,3.5nm,0.7s
H28A Mission Ridge 58.05 57 ⇓P **P** **03 57 01.0 +1.2**
baz=58
J26A Sides Ranch, S 58.07 59 ⇑P **P** **03 57 00.6 +0.6**
baz=58
F30A Leola 58.13 55 ⇑P **P** **03 56 59.8 -0.5**
baz=58
G29A Hoven 58.19 56 ⇓P **P** **03 57 01.7 +1.0**
baz=58
P20A De Beque 58.19 66 ⇓P **P** **03 57 02.3 +1.3**
baz=58
N22A Wattenberg Ran 58.23 63 ⇑P **P** **03 57 01.7 +0.4**
baz=58
109C Camp Elliot, M 58.38 77 ⇑P **P** **03 57 04.5 +2.3**
baz=58
N23A Red Feather La 58.42 63 ⇓P **P** **03 57 04.0 +1.3**
baz=58
H29A Onida 58.48 56 ⇓P **P** **03 57 03.4 +0.7**
baz=58
I28A Midland 58.48 57 ⇑P **P** **03 57 03.5 +0.8**
baz=58
PV09 Paradox Valley 58.54 67 *eP* **P** **03 57 05.0 +1.4**
G30A Faulkton 58.60 55 ⇓P **P** **03 57 04.2 +0.6**
baz=58
J27A Elkhorn Farm, 58.63 58 ⇑P **P** **03 57 04.7 +0.8**
baz=58
Q20A Ridgley Place, 58.65 66 ⇑P **P** **03 57 05.1 +0.9**
baz=58
P21A Newcastle 58.66 65 ⇑P **P** **03 57 05.4 +1.0**
baz=58
FINES FINESS Array B 58.70 337 P **P** **03 57 03.0 -0.9**
FINES FINESS Array B 58.70 337 P **P** **03 57 03.0 -0.9**
comp=Z,8.3nm,0.8s,baz=43,slow=8.4,SNR=22
PV04 Paradox Valley 58.74 67 *eP* **P** **03 57 06.2 +1.4**
PV05 Paradox Valley 58.87 67 *eP* **P** **03 57 07.3 +1.5**
J28A Allard Ranch, 58.88 58 ⇓P **P** **03 57 06.9 +1.3**
baz=59,SNR=5.7
I29A Vivian Onida 58.88 57 ⇑P **P** **03 57 06.5 +1.0**
baz=59
K27A Flueckinger Fa 58.93 59 ⇑P **P** **03 57 06.7 +0.7**
baz=59
O23A Lake Granby, G 58.94 63 ⇓P **P** **03 57 08.5 +2.2**
baz=59
P22A Eagle 58.97 64 ⇓P **P** **03 57 07.8 +1.4**
baz=59
Q21A Lamborn Mesa, 59.11 66 ⇓P **P** **03 57 08.5 +1.0**
baz=59
SMCO Snowmass 59.17 65 *eP* **P** **03 57 09.3 +1.3**
comp=Z,8.4nm,1.0s
Y12C Blythe 59.17 74 ⇑P **P** **03 57 09.3 +1.6**
baz=59
R20A Redvale 59.17 67 ⇓P **P** **03 57 08.3 +0.4**
baz=59
J29A Okreek 59.33 57 ⇑P **P** **03 57 09.1 +0.4**
baz=59
K28A Ten Mile Ranch 59.35 58 ⇑P **P** **03 57 10.1 +1.2**
baz=59
I30A Oacoma 59.38 56 ⇑P **P** **03 57 10.1 +1.1**
baz=59
ISCO Idaho Springs 59.40 63 *eP* **P** **03 57 11.3 +1.8**
ISCO pmax pmax
comp=Z,16nm,1.4s
ISCO Idaho Springs 59.40 63 *eP* **P** **03 57 11.3 +1.8**
comp=Z,16nm,1.4s
ISCO Idaho Springs 59.40 63 ⇑P **P** **03 57 10.8 +1.3**
baz=59,SNR=7.6
Q22A Crested Butte, 59.43 65 ⇑P **P** **03 57 11.0 +1.2**
baz=59
R21A Cimarron 59.47 66 ⇓P **P** **03 57 11.6 +1.7**
baz=59,SNR=10.0
WUAZ Wupatki 59.57 71 *eP* **P** **03 57 11.8 +1.3**
comp=Z,8.7nm,1.0s
WUAZ Wupatki 59.57 71 ⇓P **P** **03 57 12.0 +1.4**
baz=60
P23A Jefferson 59.61 64 ⇑P **P** **03 57 12.8 +1.8**
baz=60
CHTO Chiang Mai 59.77 259 *eP* **P** **03 57 11.7 -0.2**
CHTO pmax pmax
comp=Z,21nm,0.9s
CHTO Chiang Mai 59.77 259 *eP* **P** **03 57 11.7 -0.2**
comp=Z,21nm,0.9s
S21A Coal Bank Pass 59.87 67 ⇑P **P** **03 57 14.2 +1.4**
baz=60,SNR=5.9
CMAR Chiang Mai Arr 60.05 259 P **P** **03 57 12.7 -1.2**
CMAR Chiang Mai Arr 60.05 259 P **P** **03 57 12.7 -1.2**
comp=Z,1.5nm,0.6s,baz=21,slow=6.9,SNR=8.2
CMAR LR LR 04 25 51.4
comp=Z,147nm,19.5s,baz=178,slow=39
S22A 4UR Ranch, Cre 60.31 66 ⇑P **P** **03 57 17.4 +1.6**
baz=60
P25A Willow Gulch B 60.36 63 ⇑P **P** **03 57 17.0 +1.0**

	baz=60								
M29A	Burnside Ranch	60.64	59	⇑	P		P	03 57 18.3	+0.6
	baz=60								
O27A	Beecher Island	60.70	61	⇑	P		P	03 57 19.5	+1.4
	baz=60								
P26A	Davis Ranch, A	60.74	62	⇓	P		P	03 57 19.7	+1.2
	baz=61								
Q25A	Bedland, Calha	60.77	63	⇓	P		P	03 57 19.8	+1.1
	baz=61								
T22A	Edith	60.82	66	⇓	P		P	03 57 20.8	+1.5
	baz=61								
R24A	Sanders Place,	60.84	64	⇓	P		P	03 57 19.9	+0.6
	baz=61								
ECSD	EROS Data Cent	60.84	55	*e*P	P		P	03 57 19.3	+0.3
	comp=Z,35nm,1.7s								
U21A	Nageezi	60.87	67	⇓	P		P	03 57 21.5	+1.9
	baz=61								
L31A	Butterfield Fa	60.98	57	⇑	P		P	03 57 20.9	+0.9
	baz=61								
O28A	Krutsinger Ran	61.10	61	⇓	P		P	03 57 22.0	+1.1
	baz=61								
P27A	Ficken Ranch,	61.13	62	⇓	P		P	03 57 21.9	+0.8
	baz=61								
Q26A	Hugo	61.13	63	⇓	P		P	03 57 22.3	+1.1
	baz=61								
R25A	Fountain Ranch	61.33	64	⇑	P		P	03 57 24.4	+1.9
	baz=61								
W20A	Ramah	61.40	69	⇓	P		P	03 57 25.2	+2.0
	baz=61								
SPMN	St. Paul	61.44	51	⇓	P		P	03 57 24.0	+1.0
	baz=61								
KSCO	Kaye Shedlock'	61.52	62	⇑	P		P	03 57 24.8	+1.1
	baz=61								
P28A	Saint Francis	61.53	61	⇓	P		P	03 57 24.5	+0.7
	baz=61								
T24B	San Luis	61.58	65	⇑	P		P	03 57 24.3	-0.2
	baz=62								
S25A	Robets Cordova	61.62	64	⇑	P		P	03 57 24.3	-0.3
	baz=62								
R26A	Arlington	61.64	63	⇓	P		P	03 57 25.9	+1.3
	baz=62,SNR=8.2								
V22A	San Miguel Ran	61.65	67	⇓	P		P	03 57 25.7	+0.8
	baz=62								
U23A	El Rito	61.72	66	⇑	P		P	03 57 26.7	+1.5
	baz=62								
NB2	NORSAR Subarra	61.85	345		P		P	03 57 24.3	-1.2
	comp=Z,4.3nm,0.8s,baz=18,slow=7.4								
NOA	NORSAR Array B	61.85	345		P		P	03 57 24.2	-1.4
NOA	NORSAR Array B	61.85	345		P		P	03 57 24.2	-1.4
	comp=Z,2.9nm,1.1s,baz=19,slow=6.6,SNR=3.4								
BGNE	Belgrade	61.90	57	⇑	P		P	03 57 27.4	+1.3
	baz=62								
O30A	MW Ranch, Wils	61.91	59	⇑	P		P	03 57 27.6	+1.3
	baz=62								
P29A	Atwood	61.92	60	⇑	P		P	03 57 27.5	+1.2
	baz=62								
R27A	Eads	61.98	63	⇑	P		P	03 57 27.5	+0.6
	baz=62								
T25A	Trinidad	62.03	65	⇑	P		P	03 57 28.8	+1.5
	baz=62								
NAO01	NORSAR Array S	62.08	345	*e*P	P		P	03 57 25.1	-1.9
	comp=Z,26nm,1.3s								
S26A	Kim	62.14	64	⇓	P		P	03 57 29.4	+1.3
	baz=62								
V23A	Ortiz Mt. (NFS	62.16	67	⇑	P		P	03 57 29.5	+1.2
	baz=62								
O31A	Woolen Ranch,	62.29	59	⇓	P		P	03 57 29.2	+0.4
	baz=62								
P30A	Selden	62.30	60	⇑	P		P	03 57 29.4	+0.5
	baz=62								
X21A	Alamocita Cree	62.30	69	⇑	P		P	03 57 30.7	+1.4
	baz=62								
HFS	Hagfors	62.31	343		P		P	03 57 27.3	-1.3
HFS	Hagfors	62.31	343		P		P	03 57 27.3	-1.3
	comp=Z,3.9nm,1.0s,baz=70,slow=6.3,SNR=3.6								
Y20A	Horse Springs,	62.40	70	⇑	P		P	03 57 31.6	+1.8
	baz=62								
T26A	Comanche Natio	62.42	64	⇑	P		P	03 57 31.0	+1.1
	baz=62								
U25A	Circle Dot Ran	62.59	65	⇓	P		P	03 57 31.9	+0.8
	baz=62								
ANMO	Albuquerque	62.63	68	*e*P	P		P	03 57 32.5	+1.2
	comp=Z,74nm,2.9s								
V24A	Rampart Ranch,	62.66	66	⇓	P		P	03 57 33.1	+1.5
	baz=62								
LAZ	Ladron	62.68	69	*e*P	P		P	03 57 32.0	+0.3
	comp=Z,4.4nm,1.4s								
P31A	Stockton	62.75	59	⇑	P		P	03 57 33.0	+1.1
	baz=63								
Q30A	Quinter	62.75	60	⇑	P		P	03 57 33.0	+1.0
	baz=63								
V25A	Rancho No Teng	62.91	66	⇑	P		P	03 57 34.4	+1.2
	baz=63								
U26A	Atchley Ranch,	62.94	65	⇑	P		P	03 57 34.2	+0.7
	baz=63								
S28A	Manter	62.97	63	⇑	P		P	03 57 33.9	+0.4
	baz=63								
W24A	Lazy 6 Ranch,	62.98	67	⇑	P		P	03 57 35.2	+1.5
	baz=63								
SCHQ	Schefferville	63.04	30		P		P	03 57 32.4	-1.1
SCHQ	Schefferville	63.04	30		P		P	03 57 32.4	-1.1
	comp=Z,6.8nm,0.8s,baz=6.1,slow=7.5,SNR=4.8								
X23A	Hourglass Bar	63.05	68	⇓	P		P	03 57 35.6	+1.4
	baz=63								
P32A	Huiting Farm,	63.05	59	⇓	P		P	03 57 34.4	+0.5
	baz=63								
T28A	Walsh	63.22	63	⇑	P		P	03 57 36.2	+1.0
	baz=63								
R30A	Dighton	63.26	61	⇓	P		P	03 57 35.6	+0.3
	baz=63								
S29A	Ulysses	63.34	62	⇓	P		P	03 57 35.7	-0.2
	baz=63								
V26A	Tequesquite Ra	63.38	65	⇑	P		P	03 57 36.2	0.0
	baz=63								
U27A	Thompson Grove	63.40	64	⇑	P		P	03 57 37.1	+0.7
	baz=63								
W25A	X Bar L Ranch,	63.47	66	⇑	P		P	03 57 37.8	+0.9
	baz=63								
Y23A	Lovelace Mesa,	63.62	68	⇓	P		P	03 57 38.7	+0.7
	baz=64								
SCIA	State Center	63.84	54	*e*P	P		P	03 57 39.6	+0.6
	comp=Z,40nm,1.3s								
Y24A	Capitan	63.95	68	⇓	P		P	03 57 41.0	+0.8
	baz=64								
W27A	Bowe Ranch, En	64.32	65	⇑	P		P	03 57 42.8	+0.4
	baz=64								
Y25A	Mesa, Roswell	64.34	67	⇑	P		P	03 57 43.3	+0.7
	baz=64								
Z24A	Sheeppen Canyo	64.45	68	⇓	P		P	03 57 44.1	+0.7
	baz=64								
X27A	F and S Farms,	64.62	65	⇑	P		P	03 57 45.4	+1.0
	baz=64								
Y27A	Causey	65.18	66	⇓	P		P	03 57 48.5	+0.5
	baz=65								
Z26A	Caprock	65.22	67	⇑	P		P	03 57 49.5	+1.1
	baz=65								
MSTX	Muleshoe	65.32	66	*e*P	P		P	03 57 49.9	+0.9
	comp=Z,16nm,1.4s								
MSTX	Muleshoe	65.32	66	⇓	P		P	03 57 50.0	+1.1
	baz=65								
224A	Cornudas Mount	65.33	69	⇓	P		P	03 57 49.9	+0.8
	baz=65								
125A	Gardner Draw,	65.34	68	⇑	P		P	03 57 50.3	+1.2
	baz=65								
X29A	Tulia	65.50	65	⇑	P		P	03 57 50.8	+0.7
	baz=65								
Z27A	Tatum	65.59	66	⇓	P		P	03 57 51.2	+0.5
	baz=66								
226B	Tecolote Peak,	66.05	68	⇓	P		P	03 57 55.2	+1.5
	baz=66								
X31A	McDonald Ranch	66.24	63	⇑	P		P	03 57 55.2	+0.4
	baz=66								
Z29A	Hungry Hill Ra	66.42	65	⇑	P		P	03 57 56.9	+0.9
	baz=66								
128A	Castleberry Fa	66.52	66	⇑	P		P	03 57 57.3	+0.7
	baz=66								
Y31A	Rekieta Farm,	66.62	64	⇓	P		P	03 57 58.6	+1.3
	baz=66								
Z30A	Sanderson Ranc	66.70	65	⇑	P		P	03 57 57.9	+0.1
	baz=67								
326A	Caldwell Ranch	66.75	68	⇑	P		P	03 57 59.5	+1.4
	baz=67								
WMOK	Wichita Mounta	66.77	62	*e*P	P		P	03 57 57.9	-0.2
WMOK				pmax	pmax				
	comp=Z,10.0nm,1.0s								
WMOK	Wichita Mounta	66.77	62	*e*P	P		P	03 57 57.9	-0.2
	comp=Z,9.7nm,1.0s								
129A	Stewart Farms,	66.83	66	⇓	P		P	03 57 59.4	+0.7
	baz=67								
Y32A	R-V Farms, Ver	67.01	63	⇓	P		P	03 57 59.9	+0.2
	baz=67								
Z31A	Sharp Cattle R	67.19	64	⇓	P		P	03 58 00.9	+0.1
	baz=67								
328A	Wristen Ranch,	67.31	68	⇑	P		P	03 58 02.1	+0.4
	baz=67								
AKASG	Malin Array Be	67.48	330		P		P	03 58 00.6	-1.8
AKASG					pmax	pmax			
	comp=Z,3.0nm,0.6s								
AKASG	Malin Array Be	67.48	330		P		P	03 58 00.6	-1.8
AKASG	Malin Array Be	67.48	330		P		P	03 58 00.6	-1.8
	comp=Z,3.5nm,0.7s,baz=27,slow=6.5,SNR=8.6								
KIEV	Kiev	67.50	330	*e*P			P	03 58 00.9	-1.5
KIEV	Kiev	67.50	330	*e*P			P	03 58 00.9	-1.5
Z32A	Haskell	67.54	64	⇑	P		P	03 58 03.5	+0.5
	baz=67								
526A	Mary Lane Ranc	67.67	69	⇑	P		P	03 58 05.1	+1.0
	baz=68								
329A	Wagon Wheel Ra	67.67	67	⇓	P		P	03 58 04.8	+0.9
	baz=68								
428A	Kincaid Ranch,	67.89	68	⇑	P		P	03 58 06.5	+1.1
	baz=68								
TXAR	Lajitas Array	68.47	70		P		P	03 58 09.5	+0.5
TXAR	Lajitas Array	68.47	70		P		P	03 58 09.5	+0.5
	comp=Z,6.0nm,1.0s,baz=300,slow=4.1,SNR=17								
TXAR					LR		LR	04 30 51.3	
	comp=Z,86nm,19.4s,baz=175,slow=38								
627A	Terlingua Ranc	68.52	69	⇑	P		P	03 58 10.3	+0.9
	baz=68								
430A	Baggett Ranch,	68.61	67	⇓	P		P	03 58 10.4	+0.5
	baz=68								
529A	Stev Forest Ra	68.61	68	⇑	P		P	03 58 10.1	+0.2
	baz=68								
331A	San Angelo	68.62	66	⇓	P		P	03 58 09.6	-0.3
	baz=68								
332A	Millersview	68.92	65	⇓	P		P	03 58 12.3	+0.6
	baz=69								
KBZ	Khabaz	68.94	318		P		P	03 58 11.1	-0.5
KBZ					pmax	pmax			
	comp=Z,1.0nm,0.6s								
KBZ	Khabaz	68.94	318		P		P	03 58 11.1	-0.5
KBZ	Khabaz	68.94	318		P		P	03 58 11.1	-0.5
	comp=Z,1.3nm,0.6s,baz=270,slow=3.0,SNR=2.9								
SIUC	Southern Illin	69.03	54	*e*P			P	03 58 12.7	+0.5
	comp=Z,18nm,1.0s								
EKA	Eskdalemuir Ar	69.15	351		P		P	03 58 11.8	-0.9
EKA	Eskdalemuir Ar	69.15	351		P		P	03 58 11.8	-0.9
	comp=Z,0.3nm,0.4s,baz=24,slow=5.4,SNR=3.2								
432A	Menard	69.30	66	⇓	P		P	03 58 13.9	-0.2
	baz=69								
ZEI	Tsey	69.35	316	*e*P			P	03 58 15.6	+1.2
ZEI					pmax	pmax			
	comp=Z,10.0nm,1.5s								
531A	Rocksprings	69.47	67	⇑	P		P	03 58 16.2	+1.0
	baz=69								
MIAR	Mount Ida	69.52	59	*e*P			P	03 58 16.2	+0.9
MIAR					pmax	pmax			
	comp=Z,92nm,2.3s								
MIAR	Mount Ida	69.52	59	*e*P			P	03 58 16.2	+0.9
	comp=Z,92nm,2.3s								
JCT	Junction City	69.61	66	*e*P			P	03 58 16.9	+0.9
JCT				*e**PP			PcP	03 58 38.8	0.0
JCT					pmax	pmax			
	comp=Z,12nm,1.0s								
JCT	Junction City	69.61	66	*e*P			P	03 58 16.9	+0.9
	comp=Z,12nm,1.0s								
JCT				*ep*P			PcP	03 58 38.8	0.0
JCT	Junction City	69.61	66	⇓	P		P	03 58 16.0	0.0
	baz=70								
KAPI	Kappang	69.70	226	*e*P			P	03 58 18.4	+1.8
	comp=Z,13nm,1.1s								
532A	Rocksprings	69.83	66	⇑	P		P	03 58 16.9	-0.6
	baz=70								
KULM	Kulim	69.93	249	*e*P			P	03 58 19.0	+0.9
	comp=Z,32nm,1.5s								
KWP	Kalwaria Pacla	70.22	334	⇓	P		P	03 58 18.7	-0.7
KWP	Kalwaria Pacla	70.22	334	⇓	*i*P		P	03 58 18.7	-0.7
KWP	Kalwaria Pacla	70.22	334	*e*P			P	03 58 18.9	-0.6
	comp=Z,18nm,1.0s								
632A	Uvalde	70.39	67	⇑	P		P	03 58 20.9	+0.1
	baz=70								
IPM	Ipoh	70.41	249	*e*P			P	03 58 20.6	-0.5
	comp=Z,7.4nm,0.9s								
STHS	Stebnicka Huta	70.79	334	*e*P			P	03 58 23.0	+0.1
STHS					pmax	pmax			
	comp=Z,4.0nm,0.9s								
STHS	Stebnicka Huta	70.79	334	*e*P			P	03 58 23.0	+0.1
CLL	Collm	70.82	340	*e*P			P	03 58 22.0	-1.0
CLL	Collm	70.82	340	*e*(P)			P	03 58 22.0	-1.0
CLL				*ep*P			pP	03 58 33.0	-1.2
	comp=Z,9.0nm,1.0s								
CLL				*es*P			sP	03 58 38.0	-0.5
732A	Laxson Ranch,	70.91	67	⇑	P		P	03 58 24.7	+0.7
	baz=71								
WVT	Waverly	70.97	54	*e*P			P	03 58 23.9	-0.3
WVT					pmax	pmax			
	comp=Z,7.0nm,0.9s								
WVT	Waverly	70.97	54	*e*P			P	03 58 23.9	-0.3
	comp=Z,7.4nm,0.9s								
UPC	Upice	70.97	338	*e*P		P		03 58 32.7	+8.7
UPC				*e*				03 58 37.6	
UPC	Upice	70.97	338	*e*P		P		03 58 32.7	+8.7
UPC				*ex*		x		03 58 37.6	
BRG	Berggiesshubel	71.05	340	*e*(P)		P		03 58 34.4	+10
	comp=Z,5.7nm,1.1s								
BRG	Berggiesshubel	71.05	340	*e*P		P		03 58 34.4	+10
BRG					pmax	pmax			
	comp=Z,6.0nm,1.1s								
DPC	Dobruska-Polom	71.05	338	*e*P		P		03 58 34.3	+10
DPC	Dobruska-Polom	71.05	338	*e*P		P		03 58 34.3	+10
OKC	Ostrava-Krasne	71.13	337	*e*P		P		03 58 24.7	-0.2
OKC	Ostrava-Krasne	71.13	337	*e*P		P		03 58 24.7	-0.2
UZH	Uzhgorod	71.25	333	*e*P		P		03 58 31.5	+5.8
UZH				*e*				03 58 35.3	
UZH				*e*				03 58 52.0	
BURAR	Bucovina Array	71.40	331	⇓	P		P	03 58 26.2	-0.6
BURAR	Bucovina Array	71.40	331	⇓	*i*P		P	03 58 26.2	-0.6
TRPA	Tarpa	71.65	333	⇓	*i*P		P	03 58 27.8	-0.3
PRU	Pruhonice	71.77	339	*e*P		P		03 58 38.8	+10
PRU	Pruhonice	71.77	339	*e*P		P		03 58 38.8	+10
VRI	Vrincioaia	72.57	329	⇓	P		P	03 58 35.2	+1.5
VRI	Vrincioaia	72.57	329	⇓	*i*P		P	03 58 35.2	+1.5
SWET	Sewanee	72.59	53	*e*P			P	03 58 34.2	+0.1
	comp=Z,13nm,1.0s								
KHC	Kasperske Hory	72.78	339	*e*P		P		03 58 40.7	+5.8
KHC	Kasperske Hory	72.78	339	*e*P		P		03 58 40.7	+5.8
GERES	GERESS Array B	73.03	339		P	P		03 58 35.4	-1.1
GERES	GERESS Array B	73.03	339		P	P		03 58 35.4	-1.1
	comp=Z,0.6nm,0.7s,baz=34,slow=7.1,SNR=6.5								
MLR	Muntele Rosu	73.14	330	⇑	*i*P		P	03 58 37.4	+0.2
VOIR		73.44	330	⇓	P		P	03 58 39.1	+0.2
VOIR		73.44	330	⇓	*i*P		P	03 58 39.1	+0.2
SIRR	Siria	73.60	333	⇓	*i*P		P	03 58 39.7	-0.1
ARR	Arges	73.62	331	⇓	*i*P		P	03 58 39.9	-0.1
MSAB	Monastry St. A	73.85	328	⇑	*i*P		P	03 58 42.2	+1.0
BZS	Buzias	74.22	333	⇑	P		P	03 58 42.9	-0.4
BZS	Buzias	74.22	333	⇑	*i*P		P	03 58 42.8	-0.5
KMSC	Kings Mountain	74.71	50	⇑	P		P	03 58 45.6	-0.8
	baz=74								
MALT	Malatya	75.32	318	⇑	P		P	03 58 51.4	+1.4
MALT	Malatya	75.32	318	⇑	*i*P		P	03 58 51.4	+1.4
BR131	Keskin Array S	75.85	322	*e*P			P	03 58 52.1	-0.9
	comp=Z,1.8nm,0.8s								
BRTR	Keskin Array B	75.85	322		P		P	03 58 51.7	-1.4
BRTR	Keskin Array B	75.85	322		P		P	03 58 51.7	-1.4
	comp=Z,1.3nm,0.9s,baz=58,slow=5.1,SNR=6.9								
CTA	Charters Tower	76.33	196		P		P	03 58 55.2	-0.4
CTA	Charters Tower	76.33	196		P		P	03 58 55.2	-0.4
	comp=Z,5.9nm,1.0s,baz=342,slow=8.4,SNR=5.4								
CTAO	Charters Tower	76.33	196	*e*P			P	03 58 55.9	+0.2
CTAO					pmax	pmax			
	comp=Z,8.0nm,0.9s								
CTAO	Charters Tower	76.33	196	*e*P			P	03 58 55.9	+0.2
	comp=Z,7.7nm,0.9s								
TIGA	Tifton	76.82	53	⇑	P		P	03 58 58.0	-0.5
	baz=77								
WRAB	Tennant Creek	78.67	207	*e*P			P	03 59 08.6	-0.1
WRAB					pmax	pmax			
	comp=Z,10.0nm,0.9s								
WRAB	Tennant Creek	78.67	207	*e*P			P	03 59 08.6	-0.1
	comp=Z,10nm,0.9s								
WRA	Warramunga Arr	78.68	207		P		P	03 59 07.6	-1.1
WRA	Warramunga Arr	78.68	207		P		P	03 59 07.6	-1.1
	comp=Z,8.0nm,0.9s,baz=21,slow=5.7,SNR=17								
RST	Umm Al-Ruwaisa	79.27	307	*e*P			P	03 59 09.4	-2.7
RST					AMb		AMB	03 59 11.7	
	comp=Z,226nm,0.9s								
NAY	Al-Naaiem	79.37	307	*e*P			P	03 59 10.4	-2.2
NAY					AMb		AMB	03 59 20.9	
	comp=Z,16nm,1.2s								
RDF	Al-Radifah	79.50	306	*e*P			P	03 59 11.2	-2.2
RDF					AMb		AMB	03 59 13.9	
	comp=Z,41nm,1.2s								
FITZ	Fitzroy Crossi	79.53	216	*e*P			P	03 59 14.0	+0.6
	comp=Z,7.9nm,1.1s								
AS31	Alice Springs	82.35	206	*e*P			P	03 59 28.9	+0.5
ASAR	Alice Springs	82.35	206		P		P	03 59 28.9	+0.4
ASAR	Alice Springs	82.35	206		P		P	03 59 28.8	+0.4
	comp=Z,9.0nm,0.9s,baz=14,slow=5.1,SNR=67								
ESDC	Sonseca Array	84.73	350		P		P	03 59 40.6	-0.1
ESDC	Sonseca Array	84.73	350		P		P	03 59 40.6	-0.1
	comp=Z,1.8nm,0.9s,baz=359,slow=6.1,SNR=8.8								
ESDC					LR		LR	04 42 31.1	
	comp=Z,86nm,18.6s,baz=340,slow=39								
CMLA	Cha da Macela	87.08	6	*i*P			P	03 59 55.4	+3.1
STKA	Stephens Creek	88.64	198		P		P	03 59 59.4	-0.1
STKA	Stephens Creek	88.64	198		P		P	03 59 59.4	-0.1
	comp=Z,2.2nm,0.6s,baz=351,slow=6.8,SNR=6.5								
LVC	Limon Verde	129.99	71	*e*PKPdf			PKPdf	04 06 17.5	+1.0
VNDA	Vanda	132.52	180	PKP			PKPdf	04 06 19.4	+0.1
VNDA				*e*PKPdf			PKiKP	04 06 20.9	+0.5
VNDA	Vanda	132.52	180	PKP			PKPdf	04 06 19.4	+0.1
	comp=Z,0.7nm,1.0s,baz=36,slow=1.6,SNR=3.4								
LCO	Las Campanas	134.05	78	*e*PKPdf			PKPdf	04 06 25.2	+1.2
TSUM	Tsumeb	135.33	310	*e*PKPdf			PKPdf	04 06 26.4	-0.1
LBTB	Lobatse	136.43	296	*e*PKPdf			PKPdf	04 06 28.6	+0.3
MAW	Mawson	142.60	218	PKP			PKPdf	04 06 35.3	-2.7
MAW	Mawson	142.60	218	PKP			PKPdf	04 06 35.3	-2.7
	comp=Z,1.9nm,1.0s,baz=98,slow=3.9,SNR=3.1								
SUR	Sutherland	144.84	295	*e*PKPdf			PKPbc	04 06 42.5	-0.1
QSPA	South Pole Qui	145.02	180	*e*PKPbc			PKPbc	04 06 41.1	-0.8
QSPA	South Pole Qui	145.02	180	PKPbc			PKPbc	04 06 40.6	-1.3
TRQA	Tornquist	145.61	79	*e*PKPbc			PKPbc	04 06 44.4	-0.3
SYO	Syowa Base	151.31	219	⇑	*e*P		PKPbc	04 06 57.5	-1.1
SNAA	Sanae	162.39	195	*e*PKPdf			PKPdf	04 07 06.2	-0.5
SNAA				*e*PKPab			PKPab	04 07 54.5	-0.2

MEX 17 04:17:55.7±0.6, 16°.38N×94°.48W, h95km±11km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TGIG		1.36	73	*i*	P	Pn	04 18 19.1	-0.9
TGIG				*i*	S	Sn	04 18 36.4	-2.1
PCIG		1.39	119	*e*	P	Pn	04 18 19.3	-1.0
PCIG				*e*	S	Sn	04 18 37.2	-1.6
HUIG	Huatulco	1.68	249	*e*	P	Pn	04 18 22.3	-1.7
HUIG				*i*	S	Sn	04 18 44.2	-1.3
CCIG	Comitan	2.25	92	*e*	P	Pn	04 18 30.3	-1.3
CCIG				*i*	S	Sn	04 18 56.8	-2.3
VHO	Vista Hermosa	2.27	288	*e*	P	Pn	04 18 31.5	-0.4
VHO				*i*	S	Sn	04 18 58.3	-1.3
TPIG	Tehuac#an	3.42	307	*i*	P	Pn	04 18 46.6	-0.6
TPIG				*i*	S	Sn	04 19 26.3	-0.7
UTMO	Huajuapan	3.49	295	*i*	P	Pn	04 18 48.5	+0.2
UTMO				*i*	S	Sn	04 19 27.2	-1.7
PNIG	Pinotepa	3.50	271	*e*	P	Pn	04 18 47.5	-0.6
PNIG				*e*	S	Sn	04 19 27.9	-0.9

ISCJB 17 04:25:19.2±0.3, 57°.57N±0°.03×156°.18W±0°.06, h120km±2km, mb3.7/11, Error ellipse: s-maj=5.9km s-min=3.5km az=42.5

NEIC 17 04:25:21.9, 57°.54N×156°.16W, h108km, MG3.5(AEIC), After AEIC.

IDC 17 04:25:22.2±6.0, 57°.96N×156°.28W, h113km±46km, mb3.4/11, mb1 3.7/13, mb1mx3.5/32, mbtmp3.5/13, Error ellipse: s-maj=44.4km s-min=15.3km az=52.0

ISC 17 04:25:20.4±0.7, 57°.58N±0°.04×156°.21W±0°.04, h112km±5km, n93, σ1°22/112, mb3.7/11, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PLK4	Peulik 4	0.10	304		P	Pn	04 25 36.4	+0.4
PLK4					S	Sn	04 25 44.8	-2.9
PLK1	Peulik 1	0.31	317		P	Pn	04 25 36.7	+0.3
PLBL	Peulik Blue Cr	0.35	291		P	Pn	04 25 37.0	+0.3
PLBL					S	Sn	04 25 48.4	-0.4
PLK5	Peulik 5	0.55	320		P	Pn	04 25 38.3	+0.5
KJL	Kejulik	0.59	35		P	Pn	04 25 38.5	+0.4
KJL					S	Sn	04 25 51.0	-0.4
CAHL	Cahill	0.68	45		P	Pn	04 25 39.1	+0.3
ANCK	Angle Creek

TRF	**Thorofare Moun**	**6.58**	**24**	P	**Pn**	**04 26 54.4**	**-0.1**
RAGM	**Ragged Mountai**	**6.59**	**60**	P	**Pn**	**04 26 53.6**	**-1.1**
GOAT	**Goat Mountain**	**6.64**	**58**	P	**Pn**	**04 26 55.0**	**-0.3**
BMRM	**Bremner River**	**6.85**	**55**	P	**Pn**	**04 26 57.6**	**-0.5**
NICHA	**Nichawak Mount**	**6.88**	**62**	P	**Pn**	**04 26 58.6**	**+0.1**
RND	**Reindeer**	**6.88**	**29**	P	**Pn**	**04 26 58.0**	**-0.6**
BPAW	**Bear Paw Mtn.**	**7.02**	**19**	*e*Pn	**Pn**	**04 26 59.7**	**-0.7**
MCK	**McKinley**	**7.13**	**27**	*e*Pn	**Pn**	**04 27 01.2**	**-0.7**
PAX	**Paxson**	**7.59**	**40**	*e*Pn	**Pn**	**04 27 07.9**	**-0.3**
MENT	**Mentasta**	**8.20**	**44**	*e*Pn	**Pn**	**04 27 16.0**	**-0.5**
COLA	**College**	**8.35**	**25**	*e*Pn	**Pn**	**04 27 16.3**	**-2.0**
ILAR	**Eielson Array**	**8.50**	**28**	P	**Pn**	**04 27 18.1**	**-2.2**
	4.0nm,0.3s,baz=215,slow=13,SNR=425						
ILAR				S	Sn	04 28 47.2	-7.2
	0.9nm,0.3s,baz=210,slow=25,SNR=4.2						
IM04	**Indian Mountai**	**8.50**	**7**	*e*Pn	**Pn**	**04 27 20.8**	**+0.3**
DOT	**Dot Lake**	**8.52**	**39**	*e*Pn	**Pn**	**04 27 20.3**	**-0.4**
IMA2	**Indian Mountai**	**8.60**	**7**	*e*Pn	**Pn**	**04 27 22.2**	**+0.2**
COLD	**Coldfoot**	**10.07**	**13**	*e*Pn	**Pn**	**04 27 39.4**	**-2.3**
EGAK	**Eagle**	**10.22**	**39**	*e*Pn	**Pn**	**04 27 41.3**	**-2.3**
DAWY	**Dawson**	**10.45**	**45**	*e*Pn	**Pn**	**04 27 46.7**	**-0.2**
DLBC	**Dease Lake**	**13.88**	**75**	P	**P**	**04 28 37.8**	**+1.2**
	0.3nm,0.3s,baz=236,slow=11,SNR=4.7						
DLBC				S	**Sn**	**04 31 01.4**	**-3.4**
	0.2nm,0.3s,baz=151,slow=19,SNR=4.0						
INK	**Inuvik**	**14.79**	**34**	P	**Pn**	**04 28 41.8**	**-1.7**
	0.5nm,0.3s,baz=198,slow=11,SNR=14						
YKA	**Yellowknife Ar**	**21.06**	**59**	P	**P**	**04 29 56.6**	**+1.5**
	1.2nm,0.3s,baz=273,slow=9.6,SNR=24						
YBH	**Yreka Blue Hor**	**26.50**	**112**	P	**P**	**04 30 51.1**	**+3.9**
	1.2nm,0.6s,baz=304,slow=3.5,SNR=8.0						
NVAR	**Mina Array Bea**	**31.20**	**111**	P	**P**	**04 31 31.5**	**+2.5**
	1.2nm,0.6s,baz=304,slow=10.0,SNR=13						
PDAR	**Pinedale Array**	**32.62**	**97**	P	**P**	**04 31 43.5**	**+2.2**
	0.7nm,0.5s,baz=319,slow=4.2,SNR=9.4						
TXAR	**Lajitas Array**	**45.84**	**105**	P	**P**	**04 33 33.0**	**+1.9**
	0.3nm,0.7s,baz=307,slow=4.6,SNR=4.2						
FINES	**FINESS Array B**	**61.30**	**359**	P	**P**	**04 35 22.3**	**-1.0**
	3.0nm,1.1s,baz=358,slow=9.5,SNR=4.6						
HFS	**Hagfors**	**62.36**	**6**	P	**P**	**04 35 29.4**	**-1.0**
	1.9nm,0.9s,baz=347,slow=5.9,SNR=3.9						
MKAR	**Makanchi Array**	**65.24**	**320**	P	**P**	**04 35 49.8**	**+0.2**
	0.3nm,0.4s,baz=32,slow=5.6,SNR=5.3						
EKA	**Eskdalemuir Ar**	**65.35**	**17**	P	**P**	**04 35 50.0**	**-0.1**
	0.7nm,0.5s,baz=335,slow=4.7,SNR=5.2						
AKASG	**Malin Array Be**	**71.99**	**356**	P	**P**	**04 36 29.8**	**-1.6**
	0.3nm,0.3s,baz=9.3,slow=5.9,SNR=4.1						
ESDC	**Sonseca Array**	**80.34**	**21**	P	**P**	**04 37 19.2**	**+0.3**
	0.3nm,0.4s,baz=344,slow=4.7,SNR=6.2						

IDC 17 04:38:27.1±1.7, 18°.63S×63°.38W, h0km, mb3.8/1, mb1 3.8/4, mb1mx3.6/21, mbtmp3.7/4, ML4.1/3, MS2.8/1, Ms1 2.9/1, ms1mx2.4/30, Error ellipse: s-maj=30.8km s-min=18.4km az=28.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIV	**San Ignacio**	**3.43**	**40**	Pn	Pn	04 39 22.8	+0.8
	6.8nm,0.3s,baz=236,slow=14,SNR=62						
SIV				Sn	Sn	04 40 04.2	+0.8
	5.9nm,0.3s,baz=206,slow=16,SNR=5.6						
LPAZ	**La Paz**	**5.10**	**296**	Pn	Pn	04 39 47.6	+1.9
	2.8nm,0.3s,baz=119,slow=12,SNR=80						
LPAZ				Sn	Sn	04 40 44.4	-1.4
	1.9nm,0.3s,baz=54,slow=19,SNR=3.9						
LPAZ				Lg	Lg	04 41 08.5	
	1.2nm,0.3s,baz=208,slow=18,SNR=3.9						
LPAZ				LR	LR	04 42 16.2	
	comp=Z,102nm,21.4s,baz=72,slow=45						
CPUP	**Villa Florida**	**9.48**	**145**	Pn	Pn	04 40 44.0	-1.1
	0.7nm,0.3s,baz=311,slow=11,SNR=4.8						
CPUP				Lg	Lg	04 43 31.1	
	0.8nm,0.3s,baz=210,slow=20,SNR=1.9						
TORD	**Torodi Ar. Bea**	**71.49**	**69**	P	P	04 49 49.8	-0.5
	0.7nm,0.7s,baz=254,slow=5.8,SNR=4.9						

IDC 17 04:40:52.0±8.3, 2°.96N×126°.93E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/22, mbtmp3.6/3, Error ellipse: s-maj=236.1km s-min=131.6km az=75.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.89**	**163**	P	P	04 46 07.3	-0.3
	1.3nm,0.5s,baz=341,slow=10,SNR=4.7						
ASAR	**Alice Springs**	**27.32**	**166**	P	P	04 46 39.0	+0.2
	0.1nm,0.4s,baz=349,slow=9.4,SNR=3.8						
STKA	**Stephens Creek**	**37.34**	**159**	P	P	04 48 06.3	-0.1
	1.5nm,0.8s,baz=325,slow=12,SNR=3.1						

CSEM 17 04:51:18.8, 37°.13N×23°.04W, h5km, ML3.1, After PDA
PDA 17 04:51:18.8±1.0, 37°.13N×23°.04W, h5km, MD3.6, ML3.1, Error ellipse: s-maj=9.5km s-min=7.9km az=45.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSMN	**Pico do Norte,**	**1.63**	**266**	*e*P	Pn	04 51 43.3	-4.8
PSMN				*e*S	Sn	04 52 01.5	-8.0
PSMN				A	A	04 52 05.2	
	53nm,0.2s						
PSMN	**Pico do Norte,**	**1.63**	**266**	*e*P	Pn	04 51 43.3	-4.8
PSMN				*e*S	Sn	04 52 01.5	-8.0
PSMA	**Santa Maria**	**1.68**	**266**	*e*P	Pn	04 51 43.9	-4.9
PSMA				*e*S	Sn	04 52 03.1	-7.6
PSMA				A	A	04 52 06.5	
	56nm,0.1s						
BART	**Pico Bartolome**	**1.81**	**292**	*e*P	Pn	04 51 45.6	-5.2
BART				*e*S	Sn	04 52 06.2	-8.1
BART				A	A	04 52 13.0	
	58nm,0.4s						
BART	**Pico Bartolome**	**1.81**	**292**	*e*P	Pn	04 51 45.6	-5.2
BART				*e*S	Sn	04 52 06.2	-8.1
CMLA	**Cha da Macela**	**2.08**	**289**	*e*P	Pn	04 51 50.1	-4.2
CMLA				*e*S	Sn	04 52 12.6	-8.0
CMLA				A	A	04 52 28.3	
	57nm,0.3s						
CMLA	**Cha da Macela**	**2.08**	**289**	*e*P	Pn	04 51 50.1	-4.2
CMLA				*e*S	Sn	04 52 12.6	-8.0
PDA	**Ponta Delgada**	**2.18**	**287**	*e*S	Sn	04 52 15.0	-8.0
PDA	**Ponta Delgada**	**2.18**	**287**	*e*S	Sn	04 52 15.0	-8.0
PSET	**Sete Cidades**	**2.24**	**289**	*e*S	Sn	04 52 17.2	-7.6
PSET				A	A	04 52 23.0	
	55nm,0.3s						
PSET	**Sete Cidades**	**2.24**	**289**	*e*S	Sn	04 52 17.2	-7.6
ADH	**Angra Heroismo**	**3.65**	**296**	*e*P	Pn	04 52 12.9	-3.1
ADH	**Angra Heroismo**	**3.65**	**296**	*e*P	Pn	04 52 12.9	-3.1
PICO	**Pico**	**4.48**	**289**	*e*P	Pn	04 52 23.1	-4.4
PICO	**Pico**	**4.48**	**289**	*e*P	Pn	04 52 23.1	-4.4

IDC 17 04:55:47.9±2.7, 15°.26S×173°.36W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.8/20, mbtmp3.7/5, Error ellipse: s-maj=161.1km s-min=24.5km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.04**	**49**	Pn	Pn	04 56 17.6	-6.0
	24nm,0.3s,baz=227,slow=3.2,SNR=15						
AFI				Sn	Sn	04 56 38.8	-11
	106nm,0.3s,baz=179,slow=22,SNR=19						
H11S2	**WAKE ISLAND Hy**	**38.87**	**329**	T	T	05 44 07.7	
	baz=152,slow=0.7,SNR=23						
H11S3	**WAKE ISLAND Hy**	**38.88**	**329**	T	T	05 44 09.1	
	baz=152,slow=0.7,SNR=28						
H11S1	**WAKE ISLAND Hy**	**38.89**	**329**	T	T	05 44 08.7	
	baz=152,slow=0.7,SNR=26						
H11N3	**WAKE ISLAND Hy**	**39.81**	**330**	T	T	05 45 20.6	
	baz=156						
H11N1	**WAKE ISLAND Hy**	**39.82**	**330**	T	T	05 45 22.8	
	baz=156						
H11N2	**WAKE ISLAND Hy**	**39.83**	**330**	T	T	05 45 21.7	
	baz=156						
WRA	**Warramunga Arr**	**49.92**	**257**	P	P	05 04 45.0	+1.1
	0.4nm,0.5s,baz=91,slow=7.3,SNR=2.8						
ASAR	**Alice Springs**	**50.19**	**252**	P	P	05 04 44.4	-1.6
	2.4nm,0.7s,baz=86,slow=7.8,SNR=24						
NVAR	**Mina Array Bea**	**74.20**	**42**	P	P	05 07 27.4	+0.4
	0.3nm,0.7s,baz=228,slow=9.5,SNR=3.7						
PDAR	**Pinedale Array**	**82.14**	**42**	P	P	05 08 10.9	-0.1
	0.4nm,0.7s,baz=238,slow=5.2,SNR=3.5						
ILAR	**Eielson Array**	**82.30**	**11**	P	P	05 08 09.7	-1.4
	0.8nm,1.0s,baz=201,slow=5.0,SNR=5.1						

BRTR	**Keskin Array B**	**146.08**	**321**	PKPbc	PKPab	05 15 31.3	+0.3
	0.7nm,1.0s,baz=23,slow=4.7,SNR=2.3						

IDC 17 05:00:53.2±0.9, 0°.58S×133°.04E, h0km, mb4.1/7, mb1 4.3/9, mb1mx4.0/24, mbtmp4.1/9, ML4.3/2, Error ellipse: s-maj=46.9km s-min=16.8km az=75.0
ISCJB 17 05:00:56.3±0.6, 0°.56S±0°.06×133°.16E±0°.04, h32km, mb4.0/9, Error ellipse: s-maj=8.1km s-min=6.3km az=1.0
DJA 17 05:00:57.4±0.6, 1°.S±6°×13°.3E±°, h30km, M4.7/3, mb5.1/1, mB5.3/1, MLv4.5/3, Mw(mB)4.7/1
NEIC 17 05:00:58.5±0.6, 0°.63S×133°.10E, h35km, mb4.0/7, Error ellipse: s-maj=19.4km s-min=9.4km az=72.0
AUST 17 05:01:05.1, 0°.99S×132°.50E, h100km
ISC 17 05:00:57.5±0.7, 0°.54S±0°.07×133°.08E±0°.05, h32km, n42, σ1°10/41, mb4.0/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**1.85**	**260**	P	**Pn**	**05 01 27.8**	**+0.8**
SWI				S	**Sb**	**05 01 52.4**	**-1.1**
SWI	**Sorong**	**1.85**	**260**	P	**Pn**	**05 01 26.8**	**-0.3**
	baz=1.2,SNR=57						
FAKI	**Fak Fak**	**2.51**	**199**	P	**Pn**	**05 01 37.3**	**+1.2**
FAKI				S	**Sn**	**05 02 07.3**	**+1.7**
FAKI	**Fak Fak**	**2.51**	**199**	P	**Pn**	**05 01 36.5**	**+0.4**
	baz=1.9,SNR=145						
BAKI	**Biak**	**3.09**	**102**	P	**Pn**	**05 01 44.3**	**+0.1**
BAKI				S	**Sn**	**05 02 19.4**	**-0.7**
KMPI	**Kaimana, Papua**	**3.16**	**169**	P	**Pn**	**05 01 46.7**	**+1.6**
TLE	**Tual**	**5.08**	**184**	P	**Pn**	**05 02 12.5**	**+1.0**
TLE	**Tual**	**5.08**	**184**	P	**Pn**	**05 02 12.7**	**+1.2**
	baz=4.7,SNR=16						
KDU	**Kakadu**	**12.08**	**183**	P	**Pn**	**05 03 45.6**	**-2.0**
	baz=12,SNR=73						
MTN	**Manton Dam**	**12.38**	**189**	P	**Pn**	**05 03 50.0**	**-1.7**
	baz=12,SNR=38						
KNRA	**Kununurra**	**15.63**	**196**	P	**Pn**	**05 04 32.7**	**-3.0**
	baz=15,SNR=18						
COEN	**Coen**	**16.66**	**144**	*e*P	**Pn**	**05 04 47.2**	**-1.5**
	144nm,1.4s						
FITZ	**Fitzroy Crossi**	**18.92**	**202**	*e*P	**P**	**05 05 15.4**	**-0.4**
	3.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**18.92**	**202**	P	**P**	**05 05 15.6**	**-0.2**
	baz=18,SNR=4.0						
FITZ	**Fitzroy Crossi**	**18.92**	**202**	P	**P**	**05 05 14.8**	**-1.0**
	0.3nm,0.3s,baz=42,slow=14,SNR=12						
WRAB	**Tennant Creek**	**19.32**	**176**	*e*P	**P**	**05 05 19.9**	**-0.3**
	5.5nm,0.6s						
WRA	**Warramunga Arr**	**19.32**	**176**	P	**P**	**05 05 19.8**	**-0.5**
WRA	**Warramunga Arr**	**19.32**	**176**	P	**P**	**05 05 19.8**	**-0.5**
	1.6nm,0.3s,baz=356,slow=11,SNR=24						
MTSU	**Mount Surprise**	**20.68**	**148**	P	Pn	05 05 36.9	-0.7
	baz=21,SNR=4.6						
AS31	**Alice Springs**	**23.00**	**178**	*e*P	**P**	**05 05 59.4**	**-0.5**
ASAR	**Alice Springs**	**23.00**	**178**	P	**P**	**05 05 59.5**	**-0.4**
ASAR	**Alice Springs**	**23.00**	**178**	P	**P**	**05 05 59.5**	**-0.4**
	7.6nm,0.5s,baz=358,slow=10,SNR=67						
CTA	**Charters Tower**	**23.32**	**147**	P	**P**	**05 06 04.5**	**+1.5**
CTA	**Charters Tower**	**23.32**	**147**	P	**P**	**05 06 04.5**	**+1.5**
	16nm,0.7s,baz=331,slow=12,SNR=24						
CTAO	**Charters Tower**	**23.32**	**147**	*e*P	**P**	**05 06 03.9**	**+0.8**
	20nm,0.7s						
QLP	**Quilpie**	**28.03**	**158**	P	**P**	**05 06 45.5**	**-0.5**
	baz=28,SNR=3.7						
STKA	**Stephens Creek**	**32.19**	**166**	*e*P	**P**	**05 07 21.7**	**-1.0**
	2.9nm,0.9s						
STKA	**Stephens Creek**	**32.19**	**166**	P	**P**	**05 07 22.3**	**-0.4**
	baz=32,SNR=14						
STKA	**Stephens Creek**	**32.19**	**166**	P	**P**	**05 07 21.9**	**-0.8**
	5.1nm,0.5s,baz=344,slow=7.6,SNR=22						
ARPS	**Mount Arapiles**	**36.95**	**168**	P	**P**	**05 08 04.2**	**+0.4**
	baz=37,SNR=13						
H11N1	**WAKE ISLAND Hy**	**38.77**	**57**	T	T	05 49 34.6	
	baz=245,slow=0.7,SNR=42						
H11N2	**WAKE ISLAND Hy**	**38.79**	**57**	T	T	05 49 35.9	
	baz=245,slow=0.7,SNR=43						
H11N3	**WAKE ISLAND Hy**	**38.79**	**57**	T	T	05 49 35.7	
	baz=245,slow=0.7,SNR=26						
MKAR	**Makanchi Array**	**64.69**	**324**	P	**P**	**05 11 33.9**	**+1.4**
MKAR	**Makanchi Array**	**64.69**	**324**	P	**P**	**05 11 33.9**	**+1.4**
	0.5nm,0.5s,baz=112,slow=8.6,SNR=5.8						
KURK	**Kurchatov**	**68.76**	**326**	*e*P	**P**	**05 11 59.5**	**+1.2**
	1.0nm,0.8s						
KURBB	**Kurchatov Arra**	**68.76**	**326**	P	**P**	**05 11 59.1**	**+0.8**
	0.9nm,0.6s,baz=124,slow=6.2,SNR=8.3						
VNDA	**Vanda**	**78.47**	**174**	P	**P**	**05 12 55.2**	**+0.2**
VNDA	**Vanda**	**78.47**	**174**	P	**P**	**05 12 55.2**	**+0.2**
	1.0nm,0.7s,baz=326,slow=3.2,SNR=5.6						
MAW	**Mawson**	**82.05**	**201**	*e*P	**P**	**05 13 15.0**	**+0.7**
	0.5nm,1.1s						
ILAR	**Eielson Array**	**86.23**	**25**	P	**P**	**05 13 35.9**	**+0.2**
ILAR	**Eielson Array**	**86.23**	**25**	P	**P**	**05 13 35.9**	**+0.2**
	0.2nm,0.6s,baz=252,slow=5.1,SNR=7.5						

IDC 17 05:20:46.9±2.1, 0°.89N×126°.23E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/21, mbtmp3.5/3, MS3.2/1, Ms1 3.2/1, ms1mx2.8/15, Error ellipse: s-maj=194.5km s-min=24.9km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.18**	**159**	P	P	05 25 44.3	-0.6
	0.6nm,0.6s,baz=338,slow=11,SNR=3.3						
ASAR	**Alice Springs**	**25.52**	**163**	P	P	05 26 17.9	+0.4
	0.4nm,0.4s,baz=343,slow=11,SNR=7.5						
KSRS	**Korea Array**	**36.42**	**2**	LR	LR	05 45 15.6	
	comp=Z,32nm,18.1s,baz=55,slow=40						
MKAR	**Makanchi Array**	**59.61**	**326**	P	P	05 30 52.7	-0.1
	0.3nm,0.3s,baz=118,slow=7.3,SNR=8.1						

IDC 17 05:23:03.6±0.6, 51°.67N×176°.78E, h0km, mb4.2/24, mb1 4.3/26, mb1mx4.2/38, mbtmp4.2/26, ML4.1/2, MS3.5/6, Ms1 3.5/6, ms1mx3.3/36, Error ellipse: s-maj=16.3km s-min=10.0km az=9.0
BJI 17 05:23:04.7, 51°.80N×176°.15E, h5km, mB4.9/6, mb4.7/17, Ms4.8/5, Ms7 4.3/2
ISCJB 17 05:23:06.6±1.3, 51°.70N±0°.06×176°.57E±0°.04, h26km±9km, mb4.4/57, MS3.8/7, Error ellipse: s-maj=9.4km s-min=3.6km az=4.0
NEIC 17 05:23:07.0±1.9, 51°.65N×176°.54E, h20km±11km, mb4.4/32, ML4.1(AEIC), Error ellipse: s-maj=7.9km s-min=4.2km az=184.0
ISC 17 05:23:07.1±0.5, 51°.72N±0°.09×176°.61E±0°.03, h18km±2km, n155, σ1°02/167, mb4.3/56, MS3.7/8, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**1.21**	**78**	P	**Pn**	**05 23 28.4**	**-0.7**
LSSA				S	**Sb**	**05 23 44.7**	**+0.1**
LSNW	**Little Sitkin**	**1.21**	**77**	P	**Pn**	**05 23 28.4**	**-0.7**
LSSE	**Little Sitkin**	**1.24**	**79**	P	**Pn**	**05 23 28.9**	**-0.6**
LSSE				S	**Sn**	**05 23 46.1**	**+0.5**
AMKA	**Amchitka**	**1.71**	**100**	P	**Pn**	**05 23 35.4**	**-0.6**
AMKA				S	**Sn**	**05 23 58.2**	**+0.7**
CETU	**Semis' Tuman**	**1.81**	**81**	P	**Pn**	**05 23 37.7**	**+0.4**
CETU				S	**Sb**	**05 24 01.2**	**-0.7**
CESW	**Semis' Southwe**	**1.84**	**83**	P	**Pn**	**05 23 37.8**	**0.0**
SMY	**Shemya**	**1.85**	**304**	P	**Pn**	**05 23 37.1**	**-0.7**
SMY				S	**Sn**	**05 24 00.3**	**-0.4**
CEAP	**Semis' Anvil P**	**1.86**	**80**	P	**Pn**	**05 23 38.1**	**0.0**
CEAP				S	**Sn**	**05 24 01.1**	**-0.1**
CERAA	**Semis' Rag'd T**	**1.92**	**83**	P	**Pn**	**05 23 38.9**	**+0.1**
FX1	**Attu Island--F**	**2.42**	**300**	Pn	**Pn**	**05 23 45.8**	**+0.1**
FX1				Sn	**Sn**	**05 24 16.1**	**+1.3**
FX1	**Attu Island--F**	**2.42**	**300**	Pn	**Pn**	**05 23 45.8**	**+0.1**
	188nm,0.3s,baz=147,slow=6.1,SNR=760						
FX1				Sn	**Sn**	**05 24 16.1**	**+1.3**
	290nm,0.3s,baz=265,slow=22,SNR=12						
GANE	**Gareloi Northe**	**2.87**	**86**	P	**Pn**	**05 23 52.1**	**+0.2**
GALAA	**Gareloi Lava P**	**2.87**	**87**	P	**Pn**	**05 23 52.3**	**+0.3**
GAEA	**Gareloi East**	**2.89**	**87**	P	**Pn**	**05 23 52.0**	**-0.1**
TASE	**Tanaga Southea**	**3.33**	**86**	P	**Pn**	**05 23 58.7**	**+0.5**
TASE				S	**Sn**	**05 24 37.8**	**+0.5**
TAFP	**Tanaga Falls P**	**3.36**	**85**	P	**Pn**	**05 23 59.0**	**+0.3**
TAPA	**Tanaga Point A**	**3.47**	**86**	P	**Pn**	**05 24 00.8**	**+0.7**
KICM	**Kanaga Island**	**3.85**	**85**	P	**Pn**	**05 24 05.8**	**+0.5**
KIKV	**Kanaga Island**	**3.87**	**85**	P	**Pn**	**05 24 06.3**	**+0.7**
ADK	**Adak**	**4.17**	**85**	P	**Pn**	**05 24 10.0**	**+0.3**
ADAG	**Mount Adagdak**	**4.22**	**84**	P	**Pn**	**05 24 10.4**	**0.0**

ETKA	**Kagalaska Isla**	**4.34**	**85**	P	**Pn**	**05 24 12.5**	**+0.4**
GSMY	**Great Sitkin M**	**4.56**	**83**	P	**Pn**	**05 24 16.0**	**+0.9**
AKUT	**Akutan**	**10.91**	**70**	*e*Pn	**Pn**	**05 25 45.0**	**+2.9**
PETK	**Petropavlovsk-**	**11.63**	**284**	Pn	**Pn**	**05 25 50.7**	**-1.3**
PETK				Sn	Sn	05 27 53.8	-7.6
PETK	**Petropavlovsk-**	**11.63**	**284**	Pn	**Pn**	**05 25 50.7**	**-1.3**
	0.5nm,0.3s,baz=98,slow=18,SNR=6.0						
PETK				Sn	Sn	05 27 53.8	-7.6
	1.0nm,0.3s,baz=77,slow=22,SNR=7.1						
PETK				LR	LR	05 30 13.8	
	comp=Z,144nm,18.9s,baz=98,slow=37						
SDPT	**Sand Point**	**14.08**	**66**	*e*Pn	**Pn**	**05 26 27.0**	**+1.5**
SVW2	**Sparrevohn**	**17.89**	**48**	*e*P	**P**	**05 27 17.9**	**+2.6**
	11nm,0.8s						
OHAK	**Old Harbor**	**18.25**	**61**	*e*P	**Pn**	**05 27 17.2**	**-1.8**
	59nm,1.8s						
KDAK	**Kodiak Island**	**18.68**	**59**	*e*P	**P**	**05 27 22.4**	**-1.5**
	124nm,1.9s						
RSO	**Redoubt South**	**19.04**	**51**	*e*P	**Pn**	**05 27 29.3**	**+0.4**
SPU	**Mount Spurr**	**19.55**	**49**	*e*Pn	**Pn**	**05 27 35.6**	**+0.8**
PPLA	**Purkeypile**	**20.00**	**44**	*e*P	**Pn**	**05 27 41.0**	**+0.7**
	19nm,0.8s						
CAST	**Castle Rocks**	**20.23**	**43**	*e*Pn	Pn	05 27 43.3	+0.5
	11nm,0.8s						
SEW	**Seward**	**20.59**	**53**	*e*P	**P**	**05 27 44.8**	**+0.2**
	50nm,0.9s						
RC01	**Rabbit Creek A**	**20.62**	**50**	*e*P	Pn	05 27 46.5	-0.9
	29nm,0.8s						
IM04	**Indian Mountai**	**20.65**	**35**	*e*P	**P**	**05 27 45.6**	**+0.2**
IMA2	**Indian Mountai**	**20.73**	**35**	*e*P	**P**	**05 27 47.4**	**+1.0**
BPAW	**Bear Paw Mtn.**	**20.93**	**41**	*e*P	Pn	05 27 50.0	-1.0
	10nm,0.8s						
TRF	**Thorofare Moun**	**21.00**	**43**	*e*P	**P**	**05 27 50.4**	**+1.1**
	48nm,1.7s						
PMR	**Palmer**	**21.02**	**49**	*e*P	**P**	**05 27 51.8**	**+2.5**
	61nm,2.1s						
MCK	**McKinley**	**21.66**	**43**	*e*P	**P**	**05 27 57.5**	**+1.2**
	5.3nm,0.8s						
COLA	**College**	**22.46**	**41**	*e*P	**P**	**05 28 06.7**	**+1.9**
	10nm,0.8s						
DIV	**Divide**	**22.53**	**51**	*e*P	**P**	**05 28 06.8**	**+1.1**
	17nm,0.8s						
ILAR	**Eielson Array**	**22.82**	**41**	P	**P**	**05 28 07.2**	**-1.6**
ILAR	**Eielson Array**	**22.82**	**41**	P	**P**	**05 28 07.2**	**-1.6**
	3.6nm,0.9s,baz=248,slow=6.5,SNR=41						
PAX	**Paxson**	**22.98**	**46**	*e*P	**P**	**05 28 10.3**	**-0.1**
	25nm,0.8s						
BMRM	**Bremner River**	**23.07**	**51**	*e*P	**P**	**05 28 11.0**	**-0.3**
	18nm,0.8s						
DOT	**Dot Lake**	**23.74**	**45**	*e*P	**P**	**05 28 17.4**	**-0.5**
	7.7nm,0.8s						
MENT	**Mentasta**	**23.76**	**46**	*e*P	**P**	**05 28 19.1**	**+1.0**
ASAJ	**Asahikawa**	**23.86**	**265**	*e*P	**P**	**05 28 20.5**	**+1.3**
	4.1nm,0.8s						
ASAJ	**Asahikawa**	**23.86**	**265**	P	**P**	**05 28 21.0**	**+1.8**
	9.7nm,0.9s,baz=93,slow=17,SNR=4.9						
ASAJ				LR	LR	05 36 54.4	
	comp=Z,69nm,19.3s,baz=117,slow=35						
EGAK	**Eagle**	**25.21**	**43**	*e*P	**P**	**05 28 30.6**	**-0.7**
	19nm,0.7s						
DAWY	**Dawson**	**25.85**	**44**	*e*P	**P**	**05 28 36.8**	**-0.4**
HYT	**Haines Junctio**	**26.53**	**52**	*e*P	**P**	**05 28 45.0**	**+1.5**
INK	**Inuvik**	**28.85**	**36**	P	**P**	**05 29 04.0**	**0.0**
INK	**Inuvik**	**28.85**	**36**	P	**P**	**05 29 04.0**	**0.0**
	0.9nm,0.4s,baz=10,slow=29,SNR=4.7						
INK				LR	LR	05 41 08.7	
	comp=Z,81nm,20.7s,baz=350,slow=38						
MDJ	**Mudanjiang**	**31.69**	**276**	P	P	05 29 38.9	+10
MDJ				AMB	AMB		
	comp=Z,18nm,1.4s						
MDJ				AMB	AMB		
	comp=Z,59nm,4.9s						
H11N2	**WAKE ISLAND Hy**	**32.82**	**197**	T	T	06 04 43.5	
	baz=13,slow=0.7,SNR=473						
H11N3	**WAKE ISLAND Hy**	**32.83**	**197**	T	T	06 04 44.3	
	baz=13,slow=0.

GTA					LR		LR		
	comp=Z,480nm,18.0s								
TUC	**Tucson**	**54.97**	**81**	*eP*		**P**		**05 32 36.3**	**-0.9**
	comp=Z,1.2nm,0.7s								
CD2	**Chengdu**	**56.09**	**278**	P		**P**		**05 32 46.0**	**+0.9**
CD2				AMB		AMB			
	comp=Z,10.0nm,0.5s								
KURK	**Kurchatov**	**56.67**	**311**	*eP*		**P**		**05 32 48.0**	**-0.9**
	comp=Z,2.1nm,0.4s								
WMQ	**Urumqi**	**56.72**	**300**	*eP*		**P**		**05 32 52.3**	**+2.8**
WMQ				AMB		AMB			
	comp=Z,9.0nm,0.6s								
WMQ				AMB		AMB			
	comp=Z,110nm,4.0s								
WMQ				LR		LR			
	comp=Z,320nm,12.2s								
WMQ				LR		LR			
	comp=Z,210nm,8.2s								
KURBB	**Kurchatov Arra**	**56.78**	**311**	P		**P**		**05 32 49.2**	**-0.4**
	comp=Z,3.6nm,0.4s,baz=41,slow=7.0,SNR=26								
ARCES	**ARCESS Array B**	**57.22**	**348**	P		**P**		**05 32 51.6**	**-0.9**
ARCES	**ARCESS Array B**	**57.22**	**348**	P		**P**		**05 32 51.6**	**-0.9**
	comp=Z,3.2nm,0.9s,baz=20,slow=5.4,SNR=13								
GYA	**Guiyang**	**57.44**	**272**	*eP*		**P**		**05 32 54.0**	**-0.8**
GYA				AMB		AMB			
	comp=Z,10.0nm,1.0s								
MK31	**Makanchi Array**	**57.54**	**306**	*eP*		**P**		**05 32 54.2**	**-1.0**
MKAR	**Makanchi Array**	**57.54**	**306**	P		**P**		**05 32 53.9**	**-1.3**
MKAR	**Makanchi Array**	**57.54**	**306**	P		**P**		**05 32 53.9**	**-1.3**
	comp=Z,1.1nm,0.4s,baz=48,slow=5.7,SNR=15								
BVAR	**Borovoye Array**	**58.74**	**317**	P		**P**		**05 33 03.1**	**-0.3**
BVAR	**Borovoye Array**	**58.74**	**317**	P		**P**		**05 33 03.1**	**-0.3**
	comp=Z,3.2nm,0.5s,baz=50,slow=6.0,SNR=18								
BRVK	**Borovoye**	**58.76**	**317**	*eP*		**P**		**05 33 03.0**	**-0.5**
	comp=Z,4.9nm,0.5s								
KMI	**Kunming**	**60.84**	**274**	P		**P**		**05 33 19.0**	**+0.5**
KMI				AMB		AMB			
	comp=Z,7.0nm,0.5s								
TXAR	**Lajitas Array**	**61.41**	**78**	P		**P**		**05 33 21.5**	**-0.7**
TXAR	**Lajitas Array**	**61.41**	**78**	P		**P**		**05 33 21.5**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=298,slow=4.6,SNR=26								
AAK	**Ala-Archa**	**64.41**	**307**	P		**P**		**05 33 42.0**	**-0.1**
AAK	**Ala-Archa**	**64.41**	**307**	P		**P**		**05 33 42.0**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=113,slow=7.7,SNR=3.4								
FINES	**FINESS Array B**	**64.76**	**345**	P		**P**		**05 33 42.7**	**-1.1**
FINES	**FINESS Array B**	**64.76**	**345**	P		**P**		**05 33 42.7**	**-1.1**
	comp=Z,1.4nm,0.7s,baz=21,slow=5.9,SNR=7.2								
AKTO	**Aktyubinsk**	**65.70**	**322**	P		**P**		**05 33 48.6**	**-1.5**
AKTO	**Aktyubinsk**	**65.70**	**322**	P		**P**		**05 33 48.6**	**-1.5**
	comp=Z,1.4nm,0.4s,baz=57,slow=10,SNR=4.7								
ABKAR	**Akbulak array**	**65.89**	**320**	*eP*		**P**		**05 33 51.0**	**-0.3**
	comp=Z,1.1nm,0.6s								
KKAR	**Karatay Array**	**66.00**	**310**	*eP*		**P**		**05 33 51.7**	**-0.5**
	comp=Z,1.5nm,0.5s								
NOA	**NORSAR Array B**	**66.99**	**352**	P		**P**		**05 33 58.2**	**0.0**
NOA	**NORSAR Array B**	**66.99**	**352**	P		**P**		**05 33 58.3**	**0.0**
	comp=Z,0.7nm,0.6s,baz=121,slow=6.2,SNR=5.1								
HFS	**Hagfors**	**67.66**	**351**	P		**P**		**05 34 02.6**	**+0.2**
HFS	**Hagfors**	**67.66**	**351**	P		**P**		**05 34 02.6**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=54,slow=10,SNR=6.1								
CMAR	**Chiang Mai Arr**	**68.13**	**272**	P		**P**		**05 34 05.5**	**-0.5**
CMAR	**Chiang Mai Arr**	**68.13**	**272**	P		**P**		**05 34 05.5**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=21,slow=7.7,SNR=3.6								
CMAR				LR		LR		06 05 12.8	
	comp=Z,29nm,18.7s,baz=110,slow=37								
TAPN	**Taplejung**	**68.38**	**287**	*eP*		**P**		**05 34 08.5**	**+0.6**
	comp=Z,5.8nm,0.4s								
ODAN	**Odare**	**68.94**	**287**	*eP*		**P**		**05 34 11.9**	**+0.7**
	comp=Z,4.7nm,0.4s								
GUN	**Gumba**	**69.05**	**289**	*eP*		**P**		**05 34 11.9**	**-0.2**
	comp=Z,10nm,0.4s								
JIRN	**Jiri**	**69.05**	**288**	*eP*		**P**		**05 34 12.4**	**+0.3**
	comp=Z,12nm,0.6s								
RAMN	**Ramite**	**69.34**	**287**	*eP*		**P**		**05 34 13.6**	**-0.2**
	comp=Z,18nm,0.4s								
KKN	**Kakani**	**69.49**	**289**	*eP*		**P**		**05 34 14.7**	**0.0**
	comp=Z,8.0nm,0.5s								
PKI	**Pulchoki**	**69.58**	**289**	*eP*		**P**		**05 34 15.5**	**+0.2**
	comp=Z,6.8nm,0.4s								
PKIN	**Phulchoki**	**69.58**	**289**	*eP*		**P**		**05 34 16.3**	**+1.0**
	comp=Z,5.6nm,0.5s								
GKN	**Gorkha**	**69.71**	**290**	*eP*		**P**		**05 34 16.3**	**+0.4**
	comp=Z,5.7nm,0.3s								
DMN	**Daman**	**69.73**	**289**	*eP*		**P**		**05 34 16.6**	**+0.4**
	comp=Z,5.0nm,0.4s								
DANN	**Dangsing**	**69.97**	**290**	*eP*		**P**		**05 34 18.3**	**+0.6**
	comp=Z,9.9nm,0.7s								
KOLN	**Koldanda**	**70.49**	**290**	*eP*		**P**		**05 34 20.7**	**-0.1**
	comp=Z,3.5nm,0.4s								
EKA	**Eskdalemuir Ar**	**73.32**	**360**	P		**P**		**05 34 36.2**	**-0.8**
EKA	**Eskdalemuir Ar**	**73.32**	**360**	P		**P**		**05 34 36.2**	**-0.8**
	comp=Z,1.8nm,0.9s,baz=1,1,slow=4.3,SNR=3.4								
AKASG	**Malin Array Be**	**74.28**	**339**	P		**P**		**05 34 42.0**	**-0.8**
AKASG	**Malin Array Be**	**74.28**	**339**	P		**P**		**05 34 41.9**	**-0.8**
	comp=Z,1.2nm,0.4s,baz=22,slow=5.7,SNR=6.8								
WRA	**Warramunga Arr**	**80.35**	**220**	P		**P**		**05 35 15.5**	**-1.5**
WRA	**Warramunga Arr**	**80.35**	**220**	P		**P**		**05 35 15.5**	**-1.5**
	comp=Z,2.0nm,0.8s,baz=35,slow=6.0,SNR=8.0								
FITZ	**Fitzroy Crossi**	**82.48**	**228**	*eP*		**P**		**05 35 28.3**	**0.0**
	comp=Z,3.4nm,0.6s								
BRTR	**Keskin Array B**	**83.38**	**332**	P		**P**		**05 35 33.8**	**+0.7**
BRTR	**Keskin Array B**	**83.38**	**332**	P		**P**		**05 35 33.8**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=14,slow=3.7,SNR=3.0								
ASAR	**Alice Springs**	**83.88**	**219**	P		**P**		**05 35 35.1**	**-0.4**
ASAR	**Alice Springs**	**83.88**	**219**	P		**P**		**05 35 35.1**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=19,slow=5.4,SNR=21								
STKA	**Stephens Creek**	**88.74**	**209**	P		**P**		**05 35 59.7**	**+0.6**
STKA	**Stephens Creek**	**88.74**	**209**	P		**P**		**05 35 59.7**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=0.0,slow=11,SNR=2.9								
TORD	**Torodi Ar. Bea**	**115.26**	**355**	PKP		**PKPdf**		**05 41 45.8**	**-1.7**
TORD	**Torodi Ar. Bea**	**115.26**	**355**	PKP		**PKPdf**		**05 41 45.8**	**-1.7**
	comp=Z,0.1nm,0.5s,baz=207,slow=2.9,SNR=2.8								
MAW	**Mawson**	**145.00**	**218**	*e*PKPdf		PKPbc		05 42 40.0	-1.0
MAW	**Mawson**	**145.00**	**218**	PKPbc		PKPbc		05 42 40.7	-0.2
	comp=Z,5.4nm,0.7s,baz=74,slow=4.3,SNR=23								
LBTB	**Lobatse**	**145.38**	**309**	*e*PKPdf		**PKPab**		**05 42 44.3**	**+0.5**
BOSA	**Boshof**	**148.54**	**306**	PKPbc		**PKPbc**		**05 42 53.0**	**+0.3**
BOSA	**Boshof**	**148.54**	**306**	PKPbc		**PKPbc**		**05 42 53.0**	**+0.3**
	comp=Z,4.3nm,1.1s,baz=269,slow=21,SNR=4.0								

ellipse: s-maj=2.8km s-min=0.9km az=172.0
*IDC **17** 06:20:37.7±4.0, 34.66N×26.08E, h55km±45km, mb3.4/3, mb1 3.5/6, mb1mx3.3/27, mbtmp3.5/6, ML3.6/3, Error ellipse: s-maj=29.0km s-min=23.8km az=124.0*

ISC 17 06:20:35.1±1.1, 35.03N±0.04×25.94E±0.02, h18km±4km, n114, σ1§15/149, mb3.5/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.25**	**69**	P	**Pb**	**06 20 40.8**	**-0.2**
ZKR				S	**Sb**	**06 20 45.6**	**+0.7**
ZKR	**Zakros**	**0.25**	**69**	P	**Pb**	**06 20 40.8**	**-0.2**
ZKR				S	**Sb**	**06 20 45.6**	**+0.7**
NPS	**Neapolis**	**0.36**	**312**	P	**Pg**	**06 20 42.8**	**+0.1**
NPS				S	**Sb**	**06 20 49.4**	**+1.1**
NPS	**Neapolis**	**0.36**	**312**	*e*PB	**Pg**	**06 20 41.3**	**-1.4**
NPS	**Neapolis**	**0.36**	**312**	*e*Pb	**Pg**	**06 20 41.3**	**-1.4**
NPS	**Neapolis**	**0.36**	**312**	P	**Pg**	**06 20 42.8**	**+0.1**
NPS				S	**Sb**	**06 20 49.4**	**+1.1**
LAST	**Lasithi**	**0.40**	**290**	P	**Pg**	**06 20 42.8**	**-0.6**
LAST				S	**Sb**	**06 20 49.9**	**+0.3**
LAST	**Lasithi**	**0.40**	**290**	P	**Pg**	**06 20 42.8**	**-0.6**
LAST				S	**Sb**	**06 20 49.9**	**+0.3**
IDI	**Anoyia**	**0.90**	**287**	P	**Pb**	**06 20 51.2**	**-1.0**
IDI				S	**Sg**	**06 21 04.9**	**+0.4**
IDI	**Anoyia**	**0.90**	**287**	*e*PN	**Pb**	**06 20 51.5**	**-0.7**
IDI				*e*SN	**Sb**	**06 21 03.9**	**+0.0**
IDI	**Anoyia**	**0.90**	**287**	P	**Pb**	**06 20 51.2**	**-1.0**
IDI				*e*Sn	**Sb**	**06 21 03.9**	**0.0**
IDI				S	**Sg**	**06 21 04.9**	**+0.4**
SIVA	**Sivas**	**0.93**	**270**	P	**Pb**	**06 20 51.4**	**-1.2**
SIVA				S	**Sn**	**06 21 06.1**	**0.0**
SIVA	**Sivas**	**0.93**	**270**	P	**Pb**	**06 20 51.4**	**-1.2**
SIVA				S	**Sn**	**06 21 06.1**	**0.0**
KARP	**Karpathos**	**1.13**	**62**	P	**Pn**	**06 20 56.3**	**+0.2**
KARP				S	**Sg**	**06 21 14.1**	**+2.3**
KARP	**Karpathos**	**1.13**	**62**	*e*PB	**Pn**	**06 20 56.4**	**+0.3**
KARP				*e*SN	**Sg**	**06 21 13.5**	**+1.7**
KARP	**Karpathos**	**1.13**	**62**	P	**Pn**	**06 20 56.3**	**+0.2**
KARP				*e*Sn	**Sg**	**06 21 13.5**	**+1.7**
KARP				S	**Sg**	**06 21 14.1**	**+2.3**
SANT	**Santorini**	**1.40**	**344**	P	**Pb**	**06 21 00.8**	**+0.1**
SANT	**Santorini**	**1.40**	**344**	*e*PN	**Pn**	**06 21 00.0**	**+0.2**
SANT				*e*SN	**Sn**	**06 21 00.8**	**-2.0**
SANT	**Santorini**	**1.40**	**344**	*e*Pn	**Pn**	**06 21 00.0**	**+0.2**
SANT	**Santorini**	**1.40**	**344**	P	**Pb**	**06 21 00.8**	**+0.1**
SANT				*e*Sn	**Sn**	**06 21 15.8**	**-2.0**
THR6	**Thira Island,**	**1.40**	**342**	P	**Pb**	**06 21 00.9**	**+0.2**
THR6	**Thira Island,**	**1.40**	**342**	P	**Pb**	**06 21 00.9**	**+0.2**
THR3	**Thira Island,**	**1.45**	**343**	P	**Pn**	**06 21 01.2**	**+0.8**
THR3	**Thira Island,**	**1.45**	**343**	P	**Pn**	**06 21 01.2**	**+0.8**
VAM	**Vamos**	**1.47**	**285**	P	**Pb**	**06 21 02.0**	**0.0**
VAM				S	**Sb**	**06 21 23.3**	**+0.9**
VAM	**Vamos**	**1.47**	**285**	*e*PN	**Pn**	**06 21 01.5**	**+0.7**
VAM				*e*SN	**Sb**	**06 21 20.7**	**+0.3**
VAM	**Vamos**	**1.47**	**285**	*e*Pn	**Pn**	**06 21 01.5**	**+0.7**
VAM	**Vamos**	**1.47**	**285**	P	**Pb**	**06 21 02.0**	**0.0**
VAM				*e*Sn	**Sb**	**06 21 20.7**	**+0.3**
VAM				S	**Sb**	**06 21 23.3**	**+0.9**
THR2	**Thira island,**	**1.48**	**344**	P	**Pn**	**06 21 01.6**	**+0.8**
THR2	**Thira island,**	**1.48**	**344**	P	**Pn**	**06 21 01.6**	**+0.8**
GVD	**Gavdhos**	**1.53**	**264**	P	**Pb**	**06 21 02.9**	**-0.1**
GVD	**Gavdhos**	**1.53**	**264**	P	**Pb**	**06 21 02.9**	**-0.1**
KARN	**Karanos**	**1.70**	**283**	P	**Pn**	**06 21 05.1**	**+1.2**
KARN	**Karanos**	**1.70**	**283**	P	**Pn**	**06 21 05.1**	**+1.2**
NISR	**Nisiros**	**1.85**	**31**	P	**Pn**	**06 21 07.5**	**+1.5**
NISR	**Nisiros**	**1.85**	**31**	P	**Pn**	**06 21 07.5**	**+1.5**
NIS1	**Nisyros Isl.**	**1.87**	**32**	P	**Pb**	**06 21 08.1**	**-0.7**
NIS1	**Nisyros Isl.**	**1.87**	**32**	*e*PN	**Pn**	**06 21 07.4**	**+1.1**
NIS1	**Nisyros Isl.**	**1.87**	**32**	*e*Pn	**Pn**	**06 21 07.4**	**+1.1**
NIS1	**Nisyros Isl.**	**1.87**	**32**	P	**Pb**	**06 21 08.1**	**-0.7**
APE	**Apeiranthos**	**2.07**	**351**	P	**Pn**	**06 21 09.4**	**+0.4**
APE				S	**Sb**	**06 21 36.7**	**-0.8**
APE	**Apeiranthos**	**2.07**	**351**	*e*PN	**Pn**	**06 21 09.2**	**+0.2**
APE				*e*SN	**Sn**	**06 21 33.6**	**-0.7**
APE	**Apeiranthos**	**2.07**	**351**	P	**Pn**	**06 21 09.4**	**+0.4**
APE				*e*Sn	**Sn**	**06 21 33.6**	**-0.7**
APE				S	**Sb**	**06 21 36.7**	**-0.8**
ARG	**Arkhangelos**	**2.14**	**56**	*e*PB	**Pn**	**06 21 12.0**	**+2.0**
ARG				*e*SN	**Sb**	**06 21 38.4**	**-1.3**
ARG	**Arkhangelos**	**2.14**	**56**	*e*Pn	**Pn**	**06 21 12.0**	**+2.0**
ARG				*e*Sn	**Sb**	**06 21 38.4**	**-1.3**
ANKY	**Antikythira Is**	**2.31**	**292**	*e*PN	**Pn**	**06 21 13.0**	**+0.7**
ANKY				*e*SN	**Sn**	**06 21 40.4**	**+0.1**
ANKY	**Antikythira Is**	**2.31**	**292**	*e*Pn	**Pn**	**06 21 13.0**	**+0.7**
ANKY				*e*Sn	**Sn**	**06 21 40.4**	**+0.1**
KYTH	**Kithira**	**2.67**	**299**	P	**Pn**	**06 21 18.6**	**+1.3**
KYTH	**Kithira**	**2.67**	**299**	*e*PN	**Pn**	**06 21 18.4**	**+1.1**
KYTH	**Kithira**	**2.67**	**299**	P	**Pn**	**06 21 18.6**	**+1.3**
SMG	**Samos**	**2.77**	**15**	*e*PN	**Pn**	**06 21 19.2**	**+0.5**
SMG				*e*SN	**Sn**	**06 21 51.3**	**-0.4**
SMG	**Samos**	**2.77**	**15**	*e*Pn	**Pn**	**06 21 19.2**	**+0.5**
SMG				*e*Sn	**Sn**	**06 21 51.3**	**-0.4**
VLI	**Veliai**	**2.96**	**306**	P	**Pn**	**06 21 22.2**	**+0.9**
VLI				S	**Sn**	**06 21 59.3**	**+2.9**
VLI	**Veliai**	**2.96**	**306**	*e*PN	**Pn**	**06 21 21.6**	**+0.3**
VLI				*e*SN	**Sn**	**06 21 55.2**	**+0.9**
VLI	**Veliai**	**2.96**	**306**	*e*Pn	**Pn**	**06 21 21.6**	**+0.3**
VLI	**Veliai**	**2.96**	**306**	P	**Pn**	**06 21 22.2**	**+0.9**
VLI				*e*Sn	**Sn**	**06 21 55.5**	**-0.9**
VLI				S	**Sn**	**06 21 59.3**	**+2.9**
DIDY	**Didyma**	**3.29**	**319**	*e*PN	**Pn**	**06 21 26.2**	**+0.3**
DIDY	**Didyma**	**3.29**	**319**	*e*Pn	**Pn**	**06 21 26.2**	**+0.3**
DID	**Didima**	**3.30**	**319**	*e*PN	**Pn**	**06 21 25.9**	**0.0**
DID	**Didima**	**3.30**	**319**	*e*Pn	**Pn**	**06 21 25.9**	**0.0**
CHOS	**Chios island**	**3.36**	**2**	*e*PN	**Pn**	**06 21 26.8**	**0.0**
CHOS	**Chios island**	**3.36**	**2**	*e*Pn	**Pn**	**06 21 26.8**	**0.0**
DYR	**Agios Nikonas**	**3.40**	**302**	*e*PN	**Pn**	**06 21 28.4**	**+1.1**
DYR	**Agios Nikonas**	**3.40**	**302**	*e*Pn	**Pn**	**06 21 28.4**	**+1.1**
VLX	**Vlachokerasia**	**3.71**	**310**	*e*PN	**Pn**	**06 21 32.3**	**+0.7**
VLX	**Vlachokerasia**	**3.71**	**310**	*e*Pn	**Pn**	**06 21 32.3**	**+0.7**
LTK	**Loutraki**	**3.83**	**322**	*e*PN	**Pn**	**06 21 34.6**	**+1.4**
LTK	**Loutraki**	**3.83**	**322**	*e*Pn	**Pn**	**06 21 34.6**	**+1.4**
PYL	**PYLOS**	**3.88**	**300**	*e*PN	**Pn**	**06 21 35.5**	**+1.6**
PYL	**PYLOS**	**3.88**	**300**	*e*Pn	**Pn**	**06 21 35.5**	**+1.6**
ITM	**Ithomi**	**3.89**	**305**	*e*PN	**Pn**	**06 21 34.8**	**+0.7**
ITM	**Ithomi**	**3.89**	**305**	*e*Pn	**Pn**	**06 21 34.8**	**+0.7**
GUR	**Goura**	**4.10**	**316**	*e*PN	**Pn**	**06 21 38.0**	**+1.0**
GUR	**Goura**	**4.10**	**316**	*e*Pn	**Pn**	**06 21 38.0**	**+1.0**
MRKA	**Markates**	**4.13**	**334**	*e*PN	**Pn**	**06 21 37.8**	**+0.5**
MRKA	**Markates**	**4.13**	**334**	*e*Pn	**Pn**	**06 21 37.8**	**+0.5**
PRK	**Paraskevi**	**4.22**	**4**	*e*PN	**Pn**	**06 21 39.2**	**+0.6**
PRK	**Paraskevi**	**4.22**	**4**	*e*Pn	**Pn**	**06 21 39.2**	**+0.6**
KLV	**Kalavryta, Ach**	**4.29**	**316**	*e*PN	**Pn**	**06 21 41.3**	**+1.8**
KLV	**Kalavryta, Ach**	**4.29**	**316**	*e*Pn	**Pn**	**06 21 41.3**	**+1.8**
DESF	**Desfina**	**4.35**	**322**	*e*PN	**Pn**	**06 21 41.7**	**+1.3**
DESF	**Desfina**	**4.35**	**322**	*e*Pn	**Pn**	**06 21 41.7**	**+1.3**
DSF	**Desfina**	**4.35**	**322**	*e*PN	**Pn**	**06 21 40.8**	**+0.4**
DSF	**Desfina**	**4.35**	**322**	*e*Pn	**Pn**	**06 21 40.8**	**+0.4**
SMIA	**Simia**	**4.42**	**331**	*e*PN	**Pn**	**06 21 42.2**	**+0.8**
SMIA	**Simia**	**4.42**	**331**	*e*Pn	**Pn**	**06 21 42.2**	**+0.8**
DRO	**Drossia**	**4.49**	**312**	*e*PN	**Pn**	**06 21 44.2**	**+2.0**
DRO	**Drossia**	**4.49**	**312**	*e*Pn	**Pn**	**06 21 44.2**	**+2.0**
LAKA	**Lakka**	**4.52**	**316**	*e*PN	**Pn**	**06 21 43.4**	**+0.7**
LAKA	**Lakka**	**4.52**	**316**	*e*Pn	**Pn**	**06 21 43.4**	**+0.7**
KALE	**Kalithea**	**4.54**	**319**	*e*PN	**Pn**	**06 21 44.4**	**+1.4**
KALE	**Kalithea**	**4.54**	**319**	*e*Pn	**Pn**	**06 21 44.4**	**+1.4**
TRIZ	**Trizonia**	**4.55**	**318**	*e*PN	**Pn**	**06 21 43.9**	**+0.8**
TRIZ	**Trizonia**	**4.55**	**318**	*e*Pn	**Pn**	**06 21 43.9**	**+0.8**
SFD	**Strofades**	**4.56**	**301**	*e*PN	**Pn**	**06 21 45.3**	**+2.1**
SFD	**Strofades**	**4.56**	**301**	*e*Pn	**Pn**	**06 21 45.3**	**+2.1**
SKIA	**Skiathos**	**4.58**	**335**	*e*PN	**Pn**	**06 21 44.9**	**+1.4**
SKIA	**Skiathos**	**4.58**	**335**	*e*Pn	**Pn**	**06 21 44.9**	**+1.4**
EFP	**Efpalio**	**4.69**	**318**	*e*PN	**Pn**	**06 21 46.2**	**+1.2**
EFP	**Efpalio**	**4.69**	**318**	*e*Pn	**Pn**	**06 21 46.2**	**+1.2**
AGG	**Agios Georgios**	**4.92**	**325**	*e*PN	**Pn**	**06 21 49.4**	**+1.1**
AGG	**Agios Georgios**	**4.92**	**325**	*e*Pn	**Pn**	**06 21 49.4**	**+1.1**
MAKR	**Makrakomi, Fth**	**5.01**	**324**	*e*PN	**Pn**	**06 21 50.6**	**+1.1**
MAKR	**Makrakomi, Fth**	**5.01**	**324**	*e*Pn	**Pn**	**06 21 50.6**	**+1.1**
EVR	**Evrytania**	**5.10**	**321**	*e*PN	**Pn**	**06 21 51.8**	**+1.1**
EVR	**Evrytania**	**5.10**	**321**	*e*Pn	**Pn**	**06 21 51.8**	**+1.1**
THL	**Klokotos Trika**	**5.50**	**327**	*e*PN	**Pn**	**06 21 57.4**	**+1.2**
THL	**Klokotos Trika**	**5.50**	**327**	*e*Pn	**Pn**	**06 21 57.4**	**+1.2**
BRTR	**Keskin Array B**	**7.72**	**50**	P	**Pn**	**06 22 29.8**	**+3.1**
	0.2nm,0.3s,baz=232,slow=15,SNR=4.3						
MMAI	**Mount Meron Ar**	**8.11**	**102**	P	**Pn**	**06 22 30.8**	**-1.3**
	3.3nm,0.3s,baz=266,slow=11,SNR=14						
MMAI				S	**Sn**	**06 23 59.5**	**-3.9**
	0.9nm,0.3s,baz=283,slow=28,SNR=2.7						
EIL	**Elat**	**9.31**	**123**	P	Pn	06 22 45.4	-3.0
	0.8nm,0.3s,baz=326,slow=8.0,SNR=6.7						
EIL				S	Sn	06 24 25.1	-7.6
	0.4nm,0.3s,baz=49,slow=20,SNR=3.7						
TORD	**Torodi Ar. Bea**	**30.90**	**231**	P	P	06 26 48.2	-2.6
	0.4nm,0.5s,baz=35,slow=8.2,SNR=6.9						
ARCES	**ARCESS Array B**	**34.56**	**360**	P	**P**	**06 27 23.1**	**+0.7**
	2.0nm,0.9s,baz=178,slow=6.9,SNR=2.8						
MKAR	**Makanchi Array**	**43.32**	**56**	P	**P**	**06 28 35.4**	**-0.6**
	0.4nm,0.6s,baz=276,slow=6.3,SNR=4.2						

MEX 17 05:54:25.6±0.6, 17.89N×103.22W, h4km±3km, MD3.5, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.42**	**343**	*eP*	Pg	05 54 33.3	-0.4
MMIG				*i* S	Sg	05 54 39.4	+0.3
R15V		**1.47**	**331**	*eP*	Pn	05 54 49.0	-3.9
R15V				*i* S	Sb	05 55 07.9	-4.8
EZ5V		**1.63**	**347**	*eP*	Pn	05 54 52.0	-3.4
EZ5V				*i* S	Sn	05 55 11.7	-5.4
ZIIG	**Zihuatanejo**	**1.69**	**99**	*i* P	Pn	05 54 52.0	-4.0
ZIIG				*i* S	Sn	05 55 13.5	-4.6
ARIG	**Puente Sto Nin**	**2.76**	**81**	*i* P	Pn	05 55 08.2	-2.4
ARIG				*i* S	Sn	05 55 40.4	-4.1

IDC 17 06:18:33.1±4.3, 15.43S×173.42W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/19, mbtmp3.6/3, Error ellipse: s-maj=294.8km s-min=28.9km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.20**	**47**	Pn	Pn	06 19 01.1	-10
	46nm,0.3s,baz=86,slow=4.0,SNR=40						
AFI				Sn	Sn	06 19 20.0	-19
	82nm,0.3s,baz=257,slow=23,SNR=9.4						
WRA	**Warramunga Arr**	**49.81**	**257**	P	P	06 27 27.8	-0.5
	0.5nm,0.7s,baz=84,slow=7.9,SNR=4.6						
ASAR	**Alice Springs**	**50.08**	**252**	P	P	06 27 30.4	+0.1
	0.9nm,0.5s,baz=87,slow=8.0,SNR=20						
NVAR	**Mina Array Bea**	**74.37**	**42**	P	P	06 30 13.2	0.0
	0.2nm,0.7s,baz=210,slow=7.0,SNR=3.0						
BRTR	**Keskin Array B**	**146.17**	**321**	PKPbc	PKPdf	06 38 15.2	+0.2
	0.9nm,0.8s,baz=347,slow=1.6,SNR=3.7						

*ISCJB **17** 06:20:34.7±0.7, 34.97N±0.05×25.96E±0.03, h25km±3km, mb3.6/3, Error ellipse: s-maj=8.2km s-min=3.7km az=174.4*
*CSEM **17** 06:20:35.5±0.3, 35.06N×25.92E, h10km, MD3.4, Error ellipse: s-maj=6.2km s-min=2.8km az=168.0*
*ATH **17** 06:20:35.8, 35.17N×25.87E, h25km, MD3.4/16*
*THE **17** 06:20:35.0, 34.99N×25.91E, h1km±1km, ML3.1/3, Error ellipse: s-maj=6.2km s-min=3.1km az=168.0*

*BJI **17** 06:24:32.9, 51.50N×176.70E, h10km, mB5.1/3, mb4.7/5, Ms4.8/2*
*IDC **17** 06:24:35.6±0.9, 51.62N×176.74E, h0km, mb3.7/10, mb1 4.0/12, mb1mx3.8/32, mbtmp3.7/12, ML3.5/2, MS3.5/8, Ms1 3.5/8, ms1mx3.2/42, Error ellipse: s-maj=26.4km s-min=11.6km az=13.0*
*NEIC **17** 06:24:36.9±1.6, 51.52N×176.73E, h10km, mb4.3/11, ML3.9(AEIC), Error ellipse: s-maj=27.6km s-min=10.1km az=204.0*

ISC 17 06:24:36.4±0.8, 51.66N±0.1×176.70E±0.03, h10km±4km, n63, σ1§66/60, mb4.1/21, MS3.6/9, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**1.17**	**74**	P	**Pb**	**06 24 55.9**	**-2.8**
LSSA				S	**Sn**	**06 25 15.5**	**+0.6**
LSNW	**Little Sitkin**	**1.18**	**73**	P	**Pb**	**06 24 56.0**	**-2.9**
LSNW				S	**Sn**	**06 25 15.6**	**+0.6**
LSSE	**Little Sitkin**	**1.20**	**75**	P	**Pn**	**06 24 56.3**	**-3.0**
LSSE				S	**Sn**	**06 25 17.3**	**+1.7**
AMKA	**Amchitka**	**1.65**	**98**	*e*Pn	**Pg**	**06 25 07.0**	**-1.0**
AMKA				*e*Sn	**Sg**	**06 25 29.3**	**0.0**
CETU	**Semis' Tuman**	**1.77**	**78**	P	**Pn**	**06 25 05.2

comp=Z,81nm,19.9s,baz=206,slow=35

MAW	**Mawson**	**144.96**	**218**	PKP	**PKPdf**	06 44 13.0	**+0.8**
	1.9nm,0.7s,baz=89,slow=5.0,SNR=10.0						

*ISCJB **17** 06:31:48.2±0.3, 40.61N±0.02×28.02E±0.02, h4km±3km, Error ellipse: s-maj=3.2km s-min=2.9km az=163.6*
*CSEM **17** 06:31:48.7±0.1, 40.61N×28.03E, h10km, MD2.8, Error ellipse: s-maj=1.8km s-min=1.7km az=156.0*
*DDA **17** 06:31:48.3, 40.60N×28.03E, h19km, MD3.6*
*ISK **17** 06:31:48.1, 40.60N×28.03E, h8km, MD2.8*

ISC 17 06:31:48.7±0.9, **40.61N**±0.02×**28.03E**±0.02, **h12**km±8km, **n85**, σ0**844**/114, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNT	**Bandirma**	**0.27**	**198**	*e*PG	**Pg**	**06 31 54.6**	**+0.3**
BNT				*e*SG	**Sg**	**06 31 57.6**	**-0.5**
BNT	**Bandirma**	**0.27**	**198**	*e*Pg	**Pg**	**06 31 54.6**	**+0.3**
BNT				*e*Sg	**Sg**	**06 31 57.6**	**-0.5**
KCTX	**Karacabey (Bur**	**0.43**	**144**	*e*PG	**Pg**	**06 31 56.9**	**-0.3**
KCTX				*e*SG	**Sg**	**06 32 02.5**	**-0.4**
KCTX	**Karacabey (Bur**	**0.43**	**144**	*e*Pg	**Pg**	**06 31 56.9**	**-0.3**
KCTX				*e*Sg	**Sg**	**06 32 02.5**	**-0.4**
TKR	**Tekirdag**	**0.53**	**315**	*e*PG	**Pb**	**06 31 59.7**	**-0.3**
TKR				*e*SG	**Sb**	**06 32 07.8**	**+0.2**
TKR	**Tekirdag**	**0.53**	**315**	*e*Pg	**Pb**	**06 31 59.7**	**-0.3**
TKR				*e*Sg	**Sb**	**06 32 07.8**	**+0.2**
KRBG	**Karabiga-Canak**	**0.60**	**249**	*e*PG	**Pg**	**06 32 00.0**	**-0.4**
KRBG				*e*SG	**Sg**	**06 32 08.3**	**0.0**
KRBG	**Karabiga-Canak**	**0.60**	**249**	*e*Pg	**Pg**	**06 32 00.0**	**-0.4**
KRBG				*e*Sg	**Sg**	**06 32 08.3**	**0.0**
ELBA	**Catalca**	**0.61**	**30**	*i* P	**Pg**	**06 32 00.8**	**+0.1**
ELBA				*i* S	**Sg**	**06 32 09.3**	**+0.4**
ELBA	**Catalca**	**0.61**	**30**	*i* P	**Pg**	**06 32 00.8**	**+0.1**
ELBA				*i* S	**Sg**	**06 32 09.3**	**+0.4**
GONE	**Gonen-Balikesi**	**0.62**	**205**	*e*PG	**Pg**	**06 32 00.9**	**0.0**
GONE				*e*SG	**Sg**	**06 32 09.0**	**-0.1**
GONE	**Gonen-Balikesi**	**0.62**	**205**	*e*Pg	**Pg**	**06 32 00.9**	**0.0**
GONE				*e*Sg	**Sg**	**06 32 09.0**	**-0.1**
SLVT	**Silivri**	**0.63**	**12**	*e*PG	**Pb**	**06 32 01.5**	**-0.2**
SLVT	**Silivri**	**0.63**	**12**	*e*Pg	**Pb**	**06 32 01.5**	**-0.2**
ARMT	**Armutlu**	**0.64**	**94**	*e*PG	**Pg**	**06 32 01.1**	**0.0**
ARMT				*e*SG	**Sb**	**06 32 10.4**	**-0.2**
ARMT	**Armutlu**	**0.64**	**94**	*e*Pg	**Pg**	**06 32 01.1**	**0.0**
SART	**Tekirdag**	**0.65**	**277**	*i* P	**Pg**	**06 32 01.3**	**-0.1**
SART				*i* S	**Sg**	**06 32 10.3**	**+0.3**
SART	**Tekirdag**	**0.65**	**277**	*i* P	**Pg**	**06 32 01.3**	**-0.1**
SART				*i* S	**Sg**	**06 32 10.3**	**+0.3**
RKY	**Sarkoy-Tekirda**	**0.65**	**277**	*e*PG	**Pg**	**06 32 01.3**	**-0.1**
RKY	**Sarkoy-Tekirda**	**0.65**	**277**	*e*Pg	**Pg**	**06 32 01.3**	**-0.1**
MDNY	**Mudanya-Bursa**	**0.70**	**110**	*e*PG	**Pg**	**06 32 01.9**	**-0.2**
MDNY	**Mudanya-Bursa**	**0.70**	**110**	*e*Pg	**Pg**	**06 32 02.0**	**-0.2**
CTKS	**Kestanelik-??a**	**0.72**	**30**	*e*PG	**Pg**	**06 32 02.5**	**-0.2**
CTKS	**Kestanelik-??a**	**0.72**	**30**	*e*Pg	**Pg**	**06 32 02.5**	**-0.2**
BGKT	**Bogazkoy**	**0.80**	**45**	*e*PG	**Pg**	**06 32 03.8**	**-0.4**
BGKT	**Bogazkoy**	**0.80**	**45**	*e*Pg	**Pg**	**06 32 03.8**	**-0.4**
CTYL	**Yal??k??y-??at**	**0.88**	**13**	*e*PG	**Pg**	**06 32 05.6**	**-0.2**
CTYL	**Yal??k??y-??at**	**0.88**	**13**	*e*Pg	**Pg**	**06 32 05.6**	**-0.2**
GEMT	**Gemlik**	**0.90**	**101**	*e*PG	**Pg**	**06 32 06.0**	**-0.1**
GEMT	**Gemlik**	**0.90**	**101**	*e*Pg	**Pg**	**06 32 06.0**	**-0.1**
ISK	**Istanbul-Kandi**	**0.90**	**60**	*e*PG	**Pg**	**06 32 05.3**	**-0.9**
ISK	**Istanbul-Kandi**	**0.90**	**60**	*e*Pg	**Pg**	**06 32 05.3**	**-0.9**
BALY	**Balya**	**0.93**	**200**	*i* P	**Pg**	**06 32 06.4**	**-0.2**
BALY				*i* S	**Sb**	**06 32 19.5**	**+0.5**
BALY	**Balya**	**0.93**	**200**	*i* P	**Pb**	**06 32 06.4**	**-0.2**
BALY				*i* S	**Sb**	**06 32 19.5**	**+0.5**
ULDT	**Uludag**	**0.97**	**119**	*i* P	**Pn**	**06 32 08.9**	**+0.6**
ULDT				*i* S	**Sg**	**06 32 20.0**	**0.0**
ULDT	**Uludag**	**0.97**	**119**	*i* P	**Pn**	**06 32 08.9**	**+0.6**
ULDT				*i* S	**Sg**	**06 32 20.0**	**0.0**
LPK	**Lapseki**	**1.00**	**256**	*e*PG	**Pb**	**06 32 07.5**	**-0.4**
LPK	**Lapseki**	**1.00**	**256**	*e*Pg	**Pb**	**06 32 07.5**	**-0.4**
KLYT	**Kilyos**	**1.00**	**50**	*e*PG	**Pb**	**06 32 07.5**	**-0.4**
KLYT	**Kilyos**	**1.00**	**50**	*e*Pg	**Pb**	**06 32 07.5**	**-0.4**
DURS	**Dursunbey**	**1.07**	**161**	*i* P	**Pb**	**06 32 09.1**	**-0.1**
DURS				*i* S	**Sg**	**06 32 23.4**	**+0.2**
DURS	**Dursunbey**	**1.07**	**161**	*i* P	**Pb**	**06 32 09.1**	**-0.1**
DURS				*i* S	**Sg**	**06 32 23.4**	**+0.2**
PHSR	**Pinarhisar**	**1.09**	**340**	*e*PN	**Pb**	**06 32 09.1**	**-0.4**
PHSR	**Pinarhisar**	**1.09**	**340**	*e*Pn	**Pb**	**06 32 09.1**	**-0.4**
DST	**Dursunbey**	**1.10**	**156**	*e*PN	**Pb**	**06 32 09.1**	**-0.7**
DST	**Dursunbey**	**1.10**	**156**	*e*Pn	**Pb**	**06 32 09.1**	**-0.7**
ERIK	**Erikli-Kesan**	**1.16**	**273**	*e*PN	**Pb**	**06 32 10.5**	**-0.1**
ERIK	**Erikli-Kesan**	**1.16**	**273**	*e*Pn	**Pb**	**06 32 10.5**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.21**	**260**	*e*PN	**Pb**	**06 32 11.5**	**0.0**
GELI	**Tayfur-Gelibol**	**1.21**	**260**	*e*Pn	**Pb**	**06 32 11.5**	**0.0**
HRT	**Hereke**	**1.26**	**80**	*e*PN	**Pb**	**06 32 12.5**	**0.0**
HRT	**Hereke**	**1.26**	**80**	*e*Pn	**Pb**	**06 32 12.5**	**0.0**
ADVT	**Abdulvahap**	**1.31**	**97**	*e*PN	**Pb**	**06 32 13.2**	**-0.1**
ADVT	**Abdulvahap**	**1.31**	**97**	*e*Pn	**Pb**	**06 32 13.2**	**-0.1**
SILT	**Sile**	**1.34**	**66**	*e*PN	**Pb**	**06 32 13.5**	**-0.2**
SILT	**Sile**	**1.34**	**66**	*e*Pn	**Pb**	**06 32 13.5**	**-0.2**
ENEZ	**Enez**	**1.43**	**276**	*e*PN	**Pb**	**06 32 14.9**	**-0.4**
ENEZ	**Enez**	**1.43**	**276**	*e*Pn	**Pb**	**06 32 14.9**	**-0.4**
CAVI	**Cavuskoy**	**1.44**	**106**	*e*PN	**Pn**	**06 32 15.1**	**+0.4**
CAVI	**Cavuskoy**	**1.44**	**106**	*e*Pn	**Pn**	**06 32 15.1**	**+0.4**
ALN	**Alexandroupoli**	**1.53**	**281**	*e*PB	**Pb**	**06 32 17.1**	**+0.1**
EDRB	**Edirne**	**1.57**	**322**	*e*PN	**Pn**	**06 32 16.4**	**0.0**
EDRB	**Edirne**	**1.57**	**322**	*e*Pn	**Pn**	**06 32 16.4**	**0.0**
TVSB	**Tavsanli**	**1.60**	**136**	*e*PN	**Pn**	**06 32 17.4**	**+0.5**
TVSB	**Tavsanli**	**1.60**	**136**	*e*Pn	**Pn**	**06 32 17.4**	**+0.5**
DEMI	**Demirci**	**1.66**	**161**	*i* P	**Pn**	**06 32 17.7**	**+0.1**
DEMI				*i* S	**Sn**	**06 32 38.4**	**-0.5**
DEMI	**Demirci**	**1.66**	**161**	*i* P	**Pn**	**06 32 17.7**	**+0.1**
DEMI				*i* S	**Sn**	**06 32 38.4**	**-0.5**
AKS	**Akhisar**	**1.74**	**186**	*e*PN	**Pn**	**06 32 19.4**	**+0.7**
AKS	**Akhisar**	**1.74**	**186**	*e*Pn	**Pn**	**06 32 19.4**	**+0.7**
AKHS	**Akhisar**	**1.74**	**186**	*i* P	**Pn**	**06 32 18.8**	**+0.1**
AKHS				*i* S	**Sg**	**06 32 43.8**	**-0.8**
AKHS	**Akhisar**	**1.74**	**186**	*i* P	**Pn**	**06 32 18.8**	**+0.1**
AKHS				*i* S	**Sg**	**06 32 43.8**	**-0.8**
GPA	**Golpazari**	**1.77**	**100**	*e*PN	**Pn**	**06 32 19.9**	**+0.7**
GPA	**Golpazari**	**1.77**	**100**	*e*Pn	**Pn**	**06 32 19.9**	**+0.7**
GDZ	**Gediz**	**1.89**	**143**	*i* P	**Pg**	**06 32 24.4**	**-0.6**
GDZ				*i* S	**Sb**	**06 32 47.4**	**+0.6**
GDZ	**Gediz**	**1.89**	**143**	*i* P	**Pg**	**06 32 24.4**	**-0.6**
GDZ				*i* S	**Sb**	**06 32 47.4**	**+0.6**
GULT	**Gulveren**	**1.90**	**95**	*e*PN	**Pn**	**06 32 21.7**	**+0.6**
GULT	**Gulveren**	**1.90**	**95**	*e*Pn	**Pn**	**06 32 21.7**	**+0.6**
SMTH	**Samothraki Isl**	**1.91**	**267**	*e*PB	**Pn**	**06 32 20.6**	**-0.5**
PRK	**Paraskevi**	**1.92**	**225**	*e*PG	**Pb**	**06 32 24.6**	**+1.0**
BORA	**Eskisehir**	**2.00**	**111**	*e*P	**Pb**	**06 32 24.4**	**-0.6**
BORA				*e*S	**Sb**	**06 32 50.8**	**+1.0**
BORA	**Eskisehir**	**2.00**	**111**	*e*P	**Pb**	**06 32 24.4**	**-0.6**
BORA				*e*S	**Sb**	**06 32 50.8**	**+1.0**
KULA	**Kula-Manisa**	**2.15**	**167**	*e*PN	**Pn**	**06 32 25.3**	**+0.8**
KULA	**Kula-Manisa**	**2.15**	**167**	*e*Pn	**Pn**	**06 32 25.3**	**+0.8**
LIA	**Limnos Island**	**2.29**	**253**	*e*PB	**Pb**	**06 32 30.4**	**+0.4**
CHOS	**Chios island**	**2.70**	**215**	*e*PN	**Pg**	**06 32 39.4**	**-1.0**

*IDC **17** 06:33:06.7±1.9, 52.42N×167.36W, h0km, mb3.9/7, mb1 3.9/8, mb1mx3.7/31, mbtmp3.8/8, ML3.1/1, Error ellipse: s-maj=42.9km s-min=30.2km az=7.0*
*ISCJB **17** 06:33:09.5±1.6, 52.48N±0.06×166.93W±0.09, h24km±10km, mb3.9/7, Error ellipse: s-maj=10.2km s-min=8.2km az=148.8*
*NEIC **17** 06:33:09.9, 52.54N×166.95W, h2km, ML3.1(AEIC), After AEIC.*

ISC 17 06:33:08.9±2.3, **52.56N**±0.08×**166.99W**±0.06, **h6**km±12km, **n38**, σ0**880**/40, **mb4.1**/7, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKFG	**Magazine Ridge**	**1.02**	**327**	P	**Pn**	**06 33 29.4**	**-0.3**
OKFG				S	**Sb**	**06 33 42.8**	**+0.3**
OKTU	**Okmok Mt. Tuli**	**1.04**	**323**	P	**Pn**	**06 33 30.6**	**+0.5**
OKSP	**Okmok Steeple**	**1.05**	**312**	P	**Pn**	**06 33 30.5**	**+0.4**
OKSO	**Okmok South**	**1.06**	**319**	P	**Pn**	**06 33 30.1**	**-0.3**
OKSO				S	**Sn**	**06 33 45.5**	**0.0**
OKCE	**Okmok Cone E**	**1.12**	**321**	P	**Pn**	**06 33 31.4**	**+0.3**
NIKH	**Nikolski High**	**1.20**	**291**	P	**Pn**	**06 33 32.6**	**+0.4**
NIKH				S	**Sn**	**06 33 49.2**	**+0.4**
MGOD	**Makushin Gods**	**1.24**	**3**	P	**Pg**	**06 33 32.4**	**-0.2**
MGOD				S	**Sb**	**06 33 49.6**	**+0.7**
MSOM	**Makushin Julie**	**1.26**	**1**	P	**Pg**	**06 33 32.4**	**-0.6**
MSOM				S	**Sn**	**06 33 50.5**	**+0.4**
MREP	**Makushin Rep't**	**1.26**	**7**	P	**Pg**	**06 33 33.0**	**0.0**
UNV	**Unalaska Valle**	**1.32**	**13**	P	**Pn**	**06 33 33.2**	**-0.6**
UNV				S	**Sg**	**06 33 50.5**	**-0.8**
MCIR	**Makushin Cirqu**	**1.39**	**2**	P	**Pn**	**06 33 34.9**	**0.0**
MTBL	**Makushin Table**	**1.42**	**7**	P	**Pn**	**06 33 35.7**	**+0.4**
MTBL				S	**Sb**	**06 33 54.3**	**+0.1**
ZRO	**Akutan Zero**	**1.65**	**21**	P	**Pn**	**06 33 38.0**	**-0.3**
AKRB	**Akutan Reef Bi**	**1.67**	**19**	P	**Pn**	**06 33 38.7**	**+0.1**
AKUT	**Akutan**	**1.74**	**24**	P	**Pn**	**06 33 39.1**	**-0.4**
AKGG	**Akutan Green G**	**1.75**	**20**	P	**Pn**	**06 33 39.5**	**-0.2**
AKGG				S	**Sg**	**06 34 05.2**	**+0.2**
ILAR	**Eielson Array**	**15.99**	**32**	Pn	**Pn**	**06 36 55.9**	**+1.7**
ILAR	**Eielson Array**	**15.99**	**32**	Pn	**Pn**	**06 36 55.9**	**+1.7**
	0.0nm,0.3s,baz=228,slow=13,SNR=2.9						
INK	**Inuvik**	**22.39**	**33**	P	**P**	**06 38 08.8**	**+1.2**
INK	**Inuvik**	**22.39**	**33**	P	**P**	**06 38 08.8**	**+1.2**
	1.6nm,0.6s,baz=238,slow=9.5,SNR=5.5						
H11N2	**WAKE ISLAND Hy**	**38.54**	**222**	T	T	07 22 11.3	
	baz=27,slow=0.7,SNR=11						
H11N3	**WAKE ISLAND Hy**	**38.55**	**222**	T	T	07 22 06.1	
	baz=27,slow=0.7,SNR=8.8						
H11N1	**WAKE ISLAND Hy**	**38.56**	**222**	T	T	07 22 12.0	
	baz=27,slow=0.7,SNR=11						
H11S1	**WAKE ISLAND Hy**	**39.72**	**221**	T	T	07 23 36.7	
	baz=24,slow=0.7,SNR=5.0						
H11S2	**WAKE ISLAND Hy**	**39.73**	**221**	T	T	07 23 38.9	
	baz=24,slow=0.7,SNR=5.5						
H11S3	**WAKE ISLAND Hy**	**39.73**	**221**	T	T	07 23 37.1	
	baz=24,slow=0.7,SNR=2.8						
TXAR	**Lajitas Array**	**51.29**	**91**	P	**P**	**06 42 14.5**	**+0.8**
TXAR	**Lajitas Array**	**51.29**	**91**	P	**P**	**06 42 14.5**	**+0.8**
	0.1nm,0.4s,baz=307,slow=6.5,SNR=2.3						
ARCES	**ARCESS Array B**	**57.87**	**355**	P	**P**	**06 43 01.3**	**+0.5**
ARCES	**ARCESS Array B**	**57.87**	**355**	P	**P**	**06 43 01.3**	**+0.5**
	9.1nm,1.1s,baz=15,slow=7.5,SNR=3.7						
MKAR	**Makanchi Array**	**64.72**	**315**	P	**P**	**06 43 47.0**	**-0.5**
MKAR	**Makanchi Array**	**64.72**	**315**	P	**P**	**06 43 47.0**	**-0.5**
	0.2nm,0.3s,baz=44,slow=5.4,SNR=4.0						
FINES	**FINESS Array B**	**65.87**	**353**	P	**P**	**06 43 53.9**	**-0.8**
FINES	**FINESS Array B**	**65.87**	**353**	P	**P**	**06 43 53.9**	**-0.8**
	1.4nm,0.5s,baz=19,slow=6.5,SNR=9.0						
EKA	**Eskdalemuir Ar**	**71.64**	**10**	P	**P**	**06 44 29.1**	**-1.7**
EKA	**Eskdalemuir Ar**	**71.64**	**10**	P	**P**	**06 44 29.1**	**-1.7**
	1.1nm,0.7s,baz=352,slow=4.4,SNR=3.1						
AKASG	**Malin Array Be**	**76.20**	**349**	P	**P**	**06 44 56.8**	**-0.8**
AKASG	**Malin Array Be**	**76.20**	**349**	P	**P**	**06 44 56.8**	**-0.8**
	1.0nm,0.5s,baz=9.3,slow=4.8,SNR=4.7						

*ISCJB **17** 06:44:58.2±1.8, 52.47N±0.07×166.92W±0.08, h28km±12km, mb3.9/11, MS2.9/1, Error ellipse: s-maj=11.3km s-min=7.9km az=167.0*
*NEIC **17** 06:44:58.8, 52.59N×166.98W, h9km, ML3.1(AEIC), After AEIC.*
*IDC **17** 06:45:05.7±4.1, 52.69N×166.92W, h71km±36km, mb3.5/8, mb1 3.6/10, mb1mx3.4/32, mbtmp3.5/10, ML3.0/2, MS3.0/1, Ms1 3.0/1, ms1mx2.4/39, Error ellipse: s-maj=41.3km s-min=20.8km az=180.0*

ISC 17 06:44:59.1±2.8, **52.61N**±0.10×**166.94W**±0.06, **h16**km±15km, **n34**, σ1**910**/31, **mb4.0**/11, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKFG	**Magazine Ridge**	**1.00**	**324**	P	**Pb**	**06 45 17.7**	**-0.3**
OKFG				S	**Sn**	**06 45 32.0**	**-0.2**
OKTU	**Okmok Mt. Tuli**	**1.02**	**320**	P	**Pn**	**06 45 18.6**	**-0.3**
OKSP	**Okmok Steeple**	**1.04**	**309**	P	**Pn**	**06 45 19.1**	**-0.1**
OKSO	**Okmok South**	**1.05**	**316**	P	**Pb**	**06 45 18.6**	**-0.4**
OKSO				S	**Sn**	**06 45 33.4**	**-0.2**
OKCE	**Okmok Cone E**	**1.11**	**318**	P	**Pn**	**06 45 19.6**	**-0.4**
MREP	**Makushin Rep't**	**1.21**	**5**	P	**Pn**	**06 45 21.4**	**-0.1**
NIKH	**Nikolski High**	**1.22**	**288**	P	**Pb**	**06 45 20.7**	**-1.1**
NIKH				S	**Sn**	**06 45 37.8**	**+0.1**
UNV	**Unalaska Valle**	**1.27**	**12**	P	**Pn**	**06 45 21.2**	**-1.0**
UNV				S	**Sn**	**06 45 41.2**	**+2.3**
MCIR	**Makushin Cirqu**	**1.34**	**1**	P	**Pn**	**06 45 23.5**	**+0.2**
MTBL	**Makushin Table**	**1.37**	**6**	P	**Pn**	**06 45 23.3**	**-0.4**
MTBL				S	**Sg**	**06 45 42.9**	**-0.5**
ZRO	**Akutan Zero**	**1.59**	**21**	P	**Pn**	**06 45 26.4**	**-0.2**
AKRB	**Akutan Reef Bi**	**1.61**	**18**	P	**Pn**	**06 45 27.3**	**+0.4**
LVA	**Lava Point**	**1.65**	**19**	P	**Pn**	**06 45 28.0**	**+0.6**
AKGG	**Akutan Green G**	**1.69**	**19**	P	**Pn**	**06 45 28.3**	**+0.3**
FX1	**Attu Island--F**	**12.06**	**279**	P	**Pn**	**06 47 52.6**	**+2.4**
	0.3nm,0.3s,baz=85,slow=11,SNR=5.2						
ILAR	**Eielson Array**	**15.93**	**32**	P	**P**	**06 48 45.0**	**-0.9**
	0.0nm,0.3s,baz=230,slow=9.1,SNR=3.2						
PETK	**Petropavlovsk-**	**21.23**	**286**	P	**P**	**06 49 47.3**	**+3.2**
	1.2nm,0.4s,baz=84,slow=13,SNR=5.8						
INK	**Inuvik**	**22.34**	**33**	P	**P**	**06 49 56.6**	**+0.8**
	2.1nm,0.8s,baz=265,slow=11,SNR=6.0						
H11N2	**WAKE ISLAND Hy**	**38.60**	**222**	T	T	07 33 48.6	
	baz=26,slow=0.7,SNR=16						
H11N3	**WAKE ISLAND Hy**	**38.60**	**222**	T	T	07 34 00.5	
	baz=26,slow=0.7,SNR=15						
H11N1	**WAKE ISLAND Hy**	**38.61**	**222**	T	T	07 33 56.8	
	baz=26,slow=0.7,SNR=13						
H11S1	**WAKE ISLAND Hy**	**39.78**	**221**	T	T	07 35 28.0	
	baz=24,slow=0.7,SNR=5.4						
H11S2	**WAKE ISLAND Hy**	**39.79**	**221**	T	T	07 35 28.7	
	baz=24,slow=0.7,SNR=6.4						
H11S3	**WAKE ISLAND Hy**	**39.79**	**221**	T	T	07 35 16.9	
	baz=24,slow=0.7,SNR=4.2						
MJAR	**Matsushiro Arr**	**41.19**	**269**	LR	LR	07 07 54.1	
	comp=Z,18nm,19.8s,baz=245,slow=33						
TXAR	**Lajitas Array**	**51.26**	**91**	P	**P**	**06 54 02.2**	**0.0**
	0.2nm,0.8s,baz=305,slow=6.5,SNR=3.4						
KEV	**Kevo**	**57.52**	**354**	*ep*	P	06 54 55.7	+8.7
	4.8nm,0.9s						
JOF	**Joensuu**	**63.92**	**351**	*ep*	**P**	**06 55 29.8**	**-0.9**
	0.5nm,0.4s						
BVAR	**Borovoye Array**	**64.36**	**326**	P	**P**	**06 55 33.6**	**-0.2**
	1.0nm,0.6s,baz=17,slow=6.0,SNR=1.6						
MKAR	**Makanchi Array**	**64.71**	**315**	P	**P**	**06 55 34.9**	**-1.2**
	0.7nm,0.6s,baz=54,slow=9.9,SNR=7.8						
KAF	**Kangasniemi**	**65.14**	**353**	*ep*	**P**	**06 55 37.4**	**-1.2**
	3.1nm,0.6s						
FINES	**FINESS Array B**	**65.82**	**353**	P	**P**	**06 55 42.1**	**-1.0**
	1.9nm,0.5s,baz=16,slow=7.2,SNR=13						
NOA	**NORSAR Array B**	**66.69**	**1**	P	**P**	**06 55 47.9**	**-0.8**
	0.5nm,0.7s,baz=357,slow=6.2,SNR=2.8						
AKASG	**Malin Array Be**	**76.16**	**349**	P	**P**	**06 56 45.1**	**-0.9**
	1.1nm,0.5s,baz=14,slow=6.0,SNR=4.7						

*ISCJB **17** 06:56:33.8±0.4, 59.75N±0.03×23.12E±0.05, h0km, Error ellipse: s-maj=4.2km s-min=3.2km az=152.4*
*CSEM **17** 06:56:34.6±0.2, 59.77N×23.20E, h2km, ML2.0, Error ellipse: s-maj=5.9km s-min=4.5km az=156.0, Mining explosion.*
*IDC **17** 06:56:35.6±2.5, 59.79N×23.08E, h0km, mb1 3.2/3, mb1mx3.0/28, mbtmp3.1/3, ML2.6/2, Error ellipse: s-maj=30.2km s-min=7.9km az=158.0*
*HEL **17** 06:56:35.2±0.1, 59.74N×23.07E, h0km, ML2.0, ML1.9(UPP), Explosion*
*UPP **17** 06:56:39.3, 59.76N×22.55E, h0km, ML1.9, Suspected Mining explosion.*

ISC 17 06:56:34.2±0.7, **59.76N**±0.03×**23.02E**±0.03, **h0**km, **n41**, σ1**941**/65, **Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**0.83**	**56**	*e*P	**Pg**	**06 56 49.9**	**-0.1**
MEF				*e*S	**Sg**	**06 57 00.5**	**-0.4**
MEF	**Metsahovi**	**0.83**	**56**	P	**Pg**	**06 56 49.9**	**-0.1**
MEF				S	**Sg**	**06 57 00.4**	**-0.4**
MTSE	**Matsula**	**1.12**	**158**	*e*P	**Pg**	**06 56 54.8**	**-0.9**
MTSE				*e*S	**Sg**	**06 57 08.7**	**-1.6**
MTSE	**Matsula**	**1.12**	**158**	P	**Pg**	**06 56 54.7**	**-0.9**
MTSE				S	**Sg**	**06 57 08.6**	**-1.6**
RAF	**Rauma**	**1.41**	**334**	*e*P	**Pn**	**06 57 00.9**	**-0.2**
RAF				*e*S	**Sg**	**06 57 19.7**	**+0.2**
RAF	**Rauma**	**1.41**	**334**	P	**Pn**	**06 57 00.8**	**-0.2**
RAF				S	**Sg**	**06 57 19.7**	**+0.2**
AAL	**Aland**	**1.58**	**287**	*e*P	**Pn**	**06 57 03.6**	**+0.2**
AAL				*e*S	**Sn**	**06 57 24.2**	**-0.2**
AAL	**Aland**	**1.58**	**287**	P	**Pn**	**06 57 03.9**	**+0.5**
AAL				S	**Sn**	**06 57 24.9**	**+0.4**
PVF	**Pernaja**	**1.62**	**60**	*e*P	**Pn**	**06 57 03.9**	**-0.1**
PVF				*e*S	**Sn**	**06 57 24.8**	**-0.8**
PVF				MSG		06 57 30.4	
	comp=Z,13nm,0.2s						
PVF	**Pernaja**	**1.62**	**60**	P	**Pn**	**06 57 03.9**	**-0.1**
PVF				S	**Sn**	**06 57 24.8**	**-0.8**
FIA0	**FINESS Array S**	**2.27**	**40**	*e*PB	**Pb**	**06 57 15.1**	**-0.8**
FIA0				*e*SB	**Sb**	**06 57 44.0**	**-0.5**
FIA0				MSG		06 57 46.5	
	comp=Z,8.6nm,0.2s						
FIA0	**FINESS Array S**	**2.27**	**40**	Pb	**Pb**	**06 57 15.1**	**-0.8**
FIA0				Sb	**Sb**	**06 57 43.9**	**-0.5**
FINES	**FINESS Array B**	**2.27**	**40**	Pn	**Pb**	**06 57 15.0**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=224,slow=15,SNR=118						
FINES				Lg		06 57 44.5	
	comp=Z,1.9nm,0.3s,baz=224,slow=25,SNR=31						
VSU	**Vasula**	**2.31**	**123**	*e*PB	**Pn**	**06 57 15.3**	**+1.8**
VSU				*e*SG	**Sb**	**06 57 45.5**	**-0.3**
VSU	**Vasula**	**2.31**	**123**	Pb	**Pn**	**06 57 15.2**	**+1.8**
VJF	**Virojoki**	**2.40**	**69**	*e*P	**Pn**	**06 57 14.8**	**+0.1**
VJF				*e*SG	**Sb**	**06 57 48.5**	**+0.3**
VJF				MSG		06 57 51.0	
	comp=Z,5.5nm,0.1s						
VJF	**Virojoki**	**2.40**	**69**	P	**Pn**	**06 57 14.7**	**+0.1**
VJF				Sg	**Sb**	**06 57 48.5**	**+0.3**
FORU	**Forsmark**	**2.51**	**287**	*e*P	**Pn**	**06 57 18.8**	**+2.7**
FORU	**Forsmark**	**2.51**	**287**	P	**Pn**	**06 57 18.8**	**+2.7**
KEF	**Keuruu**	**2.58**	**20**	*e*PB	**Pb**	**06 57 20.7**	**-0.5**
KEF				*e*SB	**Sb**	**06 57 53.7**	**+0.3**
KEF	**Keuruu**	**2.58**	**20**	Pb	**Pb**	**06 57 20.7**	**-0.5**
KEF				Sb	**Sb**	**06 57 53.7**	**+0.3**
FLYU	**Flymyra**	**2.61**	**280**	*e*P	**Pn**	**06 57 20.1**	**+2.5**
FLYU				*e*S	**Sn**	**06 57 51.6**	**+1.7**
FLYU	**Flymyra**	**2.61**	**280**	P	**Pn**	**06 57 20.0**	**+2.5**
FLYU				S	**Sn**	**06 57 51.6**	**+1.7**
NYNU	**Nynaeshamn**	**2.68**	**256**	*e*P	**Pn**	**06 57 20.1**	**+1.7**
NYNU	**Nynaeshamn**	**2.68**	**256**	P	**Pn**	**06 57 20.1**	**+1.7**
UPP	**Uppsala**	**2.73**	**274**	*e*P	Pn	06 57 22.7	+3.6
UPP	**Uppsala**	**2.73**	**274**	P	Pn	06 57 22.7	+3.6
KAF	**Kangasniemi**	**2.85**	**33**	*e*PB	**Pn**	**06 57 23.6**	**+2.7**
KAF				*e*SB	**Sb**	**06 58 00.5**	**-0.9**
KAF	**Kangasniemi**	**2.85**	**33**	Pb	**Pn**	**06 57 23.6**	**+2.7**
KAF				Sb	**Sb**	**06 58 00.4**	**-0.9**
BACU	**Backbrunna**	**2.99**	**274**	*e*P	**Pn**	**06 57 24.1**	**+1.4**
BACU	**Backbrunna**	**2.99**	**274**	P	**Pn**	**06 57 24.1**	**+1.4**
OSTU	**

SMY S Sn 07 26 51.3 +0.4
FX1 Attu Island--F 0.81 311 Pn Pn 07 26 49.9 0.0
FX1 Sn Sn 07 27 02.2 +1.4
FX1 Attu Island--F 0.81 311 Pn Pn 07 26 49.9 0.0
5µm,0.3s,baz=84,slow=15
FX1 Sn Sn 07 27 02.2 +1.4
6µm,0.3s,baz=0.0,slow=20,SNR=19
LSNW Little Sitkin 2.70 97 P Pn 07 27 15.4 -0.5
LSNW S Sn 07 27 48.3 +1.0
LSSA Little Sitkin 2.71 97 P Pn 07 27 15.9 0.0
LSPA Little Sitkin 2.74 97 P Pn 07 27 15.7 -0.7
LSSE Little Sitkin 2.74 97 P Pn 07 27 16.2 -0.2
CETU Semis' Tuman 3.30 95 P Pn 07 27 23.9 -0.3
AMKA Amchitka 3.33 105 P Pn 07 27 23.5 -1.0
AMKA S Sn 07 28 02.5 -0.2
CEAP Semis' Anvil P 3.35 94 P Pn 07 27 24.5 -0.2
CESW Semis' Southwe 3.35 96 P Pn 07 27 23.8 -1.0
GANE Gareloi Northe 4.38 94 P Pn 07 27 38.4 -0.6
GALAA Gareloi Lava P 4.39 95 P Pn 07 27 38.9 -0.3
TASE Tanaga Southea 4.83 93 P Pn 07 27 44.8 -0.3
TAFL Tanaga Flats 4.93 94 P Pn 07 27 46.0 -0.4
TAFL S Sn 07 28 43.7 +1.5
TAPA Tanaga Point A 4.97 93 P Pn 07 27 46.6 -0.4
KICM Kanaga Island 5.33 91 P Pn 07 27 52.0 0.0
KIKV Kanaga Island 5.36 92 P Pn 07 27 51.9 -0.5
ADK Adak 5.65 91 P Pn 07 27 56.0 -0.4
ADK S Sn 07 28 59.2 -0.8
ADK Adak 5.65 91 P Pn 07 27 56.0 -0.4
ADK S Sn 07 28 59.1 -0.8
ADAG Mount Adagdak 5.69 90 P Pn 07 27 57.3 +0.4
ETKA Kagalaska Isla 5.83 91 P Pn 07 27 59.5 +0.7
GSCK Great Sitkin C 5.96 90 P Pn 07 27 59.9 -0.7
GSMY Great Sitkin M 6.02 89 P Pn 07 28 01.5 +0.1
PET Petropavlovsk 9.45 280 eP Pn 07 28 48.8 +0.4
PET eS Sn 07 30 32.5 -0.7
PET MLR MLR
comp=Z,400nm,17.0s
PEA0B Petropavlovsk- 10.02 281 ePn Pn 07 28 56.9 +0.6
PETK Petropavlovsk- 10.02 281 P Pn 07 28 57.5 +1.2
PETK 07 30 45.5
PETK pmax pmax
comp=Z,7.0nm,0.3s
PETK smax smax
comp=N,5.0nm,0.3s
PETK Petropavlovsk- 10.02 281 Pn Pn 07 28 57.5 +1.2
PETK Sn Sn 07 30 45.5 -1.8
PETK Petropavlovsk- 10.02 281 Pn Pn 07 28 57.5 +1.2
comp=N,7.0nm,0.3s,baz=95,slow=18,SNR=63
PETK Sn Sn 07 30 45.5 -1.8
comp=N,4.6nm,0.3s,baz=66,slow=27,SNR=4.9
PETK LR LR 07 32 46.9
comp=N,409nm,21.6s,baz=94,slow=37
SPIA Saint Paul Isl 10.21 56 ePn Pn 07 29 01.4 +2.7
SKR Severo-Kuril's 11.38 269 ⇓P Pn 07 29 10.0 -4.7
SKR pmax pmax
comp=E,80nm,0.5s
SKR pmax pmax
comp=Z,110nm,0.5s
SKR pmax pmax
comp=N,120nm,0.8s
UNV Unalaska Valle 11.71 75 ePn Pn 07 29 22.4 +3.2
AKUT Akutan 12.14 74 ePn Pn 07 29 28.3 +3.2
SVW2 Sparrevohn 18.60 50 ePn Pn 07 30 49.8 +0.9
comp=N,42nm,1.4s
OHAK Old Harbor 19.26 62 eP P 07 30 53.8 -1.8
comp=N,38nm,0.8s
KDAK Kodiak Island 19.65 61 eP P 07 30 58.6 -1.3
comp=N,79nm,1.3s
KDAK Kodiak Island 19.65 61 P P 07 30 58.5 -1.3
comp=N,196nm,1.1s,SNR=13
RSO Redoubt South 19.83 53 eP Pn 07 31 03.0 -0.7
SPU Mount Spurr 20.29 51 ePn Pn 07 31 08.1 -1.0
YUK Yuzh-Kuril'sk 20.52 257 d iP P 07 31 08.6 -0.7
YUK i 07 31 22.9
YUK i S S 07 34 56.6 +0.2
YUK i SS SnSn 07 35 19.8 +2.9
PPLA Purkeypile 20.61 46 eP Pn 07 31 11.7 -1.3
comp=N,106nm,1.2s
CAST Castle Rocks 20.80 45 eP P 07 31 08.9 -3.3
comp=N,37nm,0.9s
YSS Yuzh-Sakhalins 20.94 268 ⇑ iP P 07 31 15.0 +1.2
YSS e*SP sP 07 31 33.0 +3.2
YSS eS S 07 35 04.0 -0.6
YSS pmax pmax
comp=Z,40nm,1.0s
IM04 Indian Mountai 21.02 37 eP P 07 31 14.5 -0.1
IMA2 Indian Mountai 21.09 37 eP P 07 31 16.1 +0.7
RC01 Rabbit Creek A 21.38 52 eP P 07 31 20.3 +1.8
comp=Z,19nm,1.0s
BPAW Bear Paw Mtn. 21.46 43 eP P 07 31 20.0 +0.7
comp=Z,41nm,1.1s
PMR Palmer 21.74 50 eP P 07 31 23.0 +0.7
PMR pmax pmax
comp=Z,11nm,0.7s
PMR Palmer 21.74 50 eP P 07 31 23.0 +0.7
comp=Z,11nm,0.7s
MCK McKinley 22.24 45 eP P 07 31 27.3 -0.4
MCK pmax pmax
comp=Z,23nm,0.8s
MCK McKinley 22.24 45 eP P 07 31 27.2 -0.4
comp=Z,23nm,0.8s
ASAJ Asahikawa 22.44 261 eP P 07 31 30.6 +0.6
comp=Z,23nm,1.0s
ASAJ Asahikawa 22.44 261 P P 07 31 30.6 +0.6
comp=Z,44nm,0.9s,baz=71,slow=6.2,SNR=18
ASAJ LR LR 07 39 54.7
comp=Z,269nm,19.5s,baz=253,slow=36
COLD Coldfoot 22.84 36 eP P 07 31 34.0 +0.1
comp=Z,16nm,1.0s
COLA College 22.98 42 eP P 07 31 35.7 +0.3
COLA pmax pmax
comp=Z,62nm,0.8s
COLA College 22.98 42 eP P 07 31 35.7 +0.3
comp=Z,62nm,0.8s
ILAR Eielson Array 23.35 43 P P 07 31 37.2 -1.9
ILAR PcP PcP 07 35 23.2 -1.2
ILAR Eielson Array 23.35 43 P P 07 31 37.2 -1.9
comp=Z,6.5nm,0.6s,baz=250,slow=8.9,SNR=53
ILAR PcP PcP 07 35 23.2 -1.2
comp=Z,1.3nm,0.7s,baz=274,slow=3.5,SNR=5.3
ILAR LR LR 07 40 42.6
comp=Z,189nm,18.6s,baz=94,slow=37
PAX Paxson 23.64 48 eP P 07 31 41.5 -0.4
PAX pmax pmax
comp=Z,26nm,0.8s
PAX Paxson 23.64 48 eP P 07 31 41.5 -0.4
comp=Z,26nm,0.8s
BMRM Bremner River 23.86 53 eP P 07 31 43.4 -0.6
comp=Z,27nm,1.0s
DOT Dot Lake 24.36 46 eP P 07 31 47.9 -0.7
comp=Z,15nm,0.8s
MENT Mentasta 24.42 48 eP P 07 31 48.3 -0.8
HABR Khabarovsk 25.02 277 eP P 07 31 52.8 -1.8
HABR e*PP pP 07 32 02.2 -3.8
HABR e 07 32 26.2
HABR e 07 35 27.6
HABR eS S 07 36 14.8 -0.6
HABR e*SS sS 07 36 30.5 -4.2
HABR pmax pmax
comp=N,51nm,2.1s
HABR pmax pmax
comp=E,55nm,2.1s
HABR pmax pmax
comp=Z,47nm,2.1s
YAK Yakutsk 25.47 310 eP P 07 31 57.3 -1.2
YAK e*PP pP 07 32 10.0 0.0
YAK e 07 32 36.7
YAK e 07 35 25.7
YAK eS S 07 36 23.9 +1.6
YAK e*SS sS 07 36 38.3 -3.3
YAK eSS SnSn 07 37 47.4 +30
YAK e 07 42 50.4
YAK pmax pmax
comp=Z,130nm,1.0s
YAK pmax pmax
comp=E,67nm,1.2s
YAK pmax pmax
comp=N,18nm,1.2s
YAK pmax pmax
comp=Z,69nm,1.1s
YAK pmax pmax
comp=E,37nm,1.3s
YAK pmax pmax
comp=N,24nm,1.3s
YAK smax smax
comp=N,68nm,2.0s
YAK smax smax
comp=E,109nm,2.6s
YAK MLR MLR
comp=E,229nm,17.0s
YAK MLR MLR
comp=N,76nm,19.0s
EGAK Eagle 25.77 44 eP P 07 32 00.2 -1.0
comp=N,23nm,0.8s
DAWY Dawson 26.46 46 eP P 07 32 07.9 +0.4
KLR Kul'dur 26.72 280 eP P 07 32 06.2 -3.8
KLR pmax pmax
comp=Z,50nm,1.6s
HYT Haines Junctio 27.33 53 eP P 07 32 15.6 0.0
TIXI Tiksi 27.65 331 ⇓ eP P 07 32 18.2 +0.1
TIXI pmax pmax
comp=Z,16nm,1.2s
TIXI MLR MLR
comp=Z,307nm,16.0s
CLNS Chul'man 28.39 299 eP P 07 32 24.6 -0.3
CLNS pmax pmax
comp=Z,7.0nm,1.3s
CLNS pmax pmax
comp=N,6.0nm,1.2s
CLNS pmax pmax
comp=E,5.0nm,1.2s
CLNS MLR MLR
comp=Z,236nm,20.0s
CLNS MLR MLR
comp=N,151nm,16.0s
CLNS MLR MLR
comp=E,333nm,18.0s
USRK Ussuriysk Arra 28.88 271 P P 07 32 29.2 -0.1
comp=E,8.4nm,0.9s,baz=60,slow=6.3,SNR=9.8
USRK PcP PcP 07 35 37.4 -0.3
comp=E,0.9nm,0.5s,baz=312,slow=2.2,SNR=5.0
USRK LR LR 07 43 48.3
comp=E,195nm,21.3s,baz=33,slow=36
INK Inuvik 29.23 37 eP P 07 32 31.8 -0.3
comp=E,6.5nm,0.8s
INK Inuvik 29.23 37 P P 07 32 31.2 -1.0
comp=E,3.0nm,0.6s,baz=295,slow=12,SNR=17
MAJO Matsushiro 29.77 252 eP P 07 32 38.8 +1.4
MAJO pmax pmax
comp=Z,25nm,0.9s
MAJO Matsushiro 29.77 252 eP P 07 32 38.8 +1.4
comp=Z,25nm,0.9s
MAT Matsushiro 29.77 252 P P 07 32 38.3 +1.0
MJAR Matsushiro Arr 29.77 252 P P 07 32 38.4 +1.0
MJAR Matsushiro Arr 29.77 252 P P 07 32 38.4 +1.0
comp=Z,4.0nm,0.6s,baz=51,slow=6.6,SNR=16
MJAR LR LR 07 43 31.8
comp=Z,106nm,20.3s,baz=50,slow=34
MDJ Mudanjiang 30.14 273 P P 07 32 40.8 +0.3
MDJ pP pP 07 32 51.4 -0.7
MDJ sP sP 07 32 57.3 +0.1
MDJ S S 07 37 41.3 +5.1
MDJ AMB AMB
comp=Z,18nm,1.3s
MDJ AMB AMB
comp=Z,71nm,5.2s
MDJ LR LR
comp=Z,160nm,17.8s
MDJ LR LR
comp=Z,230nm,21.0s
MDJ LR LR
comp=Z,250nm,24.2s
DLBC Dease Lake 31.45 56 eP P 07 32 53.0 +0.9
H11N2 WAKE ISLAND Hy 33.06 193 T T 08 08 07.4
baz=11,slow=0.7,SNR=353
H11N3 WAKE ISLAND Hy 33.07 193 T T 08 08 13.3
baz=11,slow=0.7,SNR=680
H11N1 WAKE ISLAND Hy 33.07 193 T T 08 08 13.9
baz=11,slow=0.7,SNR=672
CN2 Changchun 33.10 275 ⇑ P P 07 33 05.9 -0.6
CN2 AMB AMB
comp=Z,20nm,0.8s
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,600nm,18.0s
CN2 LR LR
comp=Z,500nm,18.0s
CN2 LR LR
comp=Z,300nm,20.0s
H11S1 WAKE ISLAND Hy 34.29 193 T T 08 09 44.8
baz=9.3,slow=0.7,SNR=855
H11S3 WAKE ISLAND Hy 34.30 193 T T 08 09 46.0
baz=9.3,slow=0.7,SNR=550
H11S2 WAKE ISLAND Hy 34.30 193 T T 08 09 46.1
baz=9.3,slow=0.7,SNR=440
KSRS Korea Array 35.33 264 P P 07 33 27.6 +1.7
comp=Z,18nm,0.8s,baz=55,slow=8.4,SNR=41
KSRS LR LR 07 46 57.5
comp=Z,87nm,18.4s,baz=248,slow=35
KSAR Wonju Array Be 35.37 264 P P 07 33 27.6 +1.4
JNU Nakatsue 36.47 255 P P 07 33 36.7 +1.0
JNU Nakatsue 36.47 255 P P 07 33 36.7 +1.0
comp=Z,11nm,0.8s,baz=174,slow=19,SNR=4.3
JNU LR LR 07 47 49.4
comp=Z,155nm,19.2s,baz=55,slow=35
YKA Yellowknife Ar 37.70 46 P P 07 33 45.8 0.0
YKA PcP PcP 07 36 01.9 -0.2
YKA Yellowknife Ar 37.70 46 P P 07 33 45.7 0.0
comp=Z,4.2nm,0.7s,baz=286,slow=7.2,SNR=12
YKA PcP PcP 07 36 01.8 -0.2
comp=Z,1.4nm,0.5s,baz=291,slow=3.3,SNR=6.1
RES Resolute Bay 40.64 24 eP P 07 34 10.1 0.0
comp=Z,25nm,1.4s
BJI Beijing 40.92 276 P P 07 34 14.3 +1.5
BJI S S 07 40 22.1 +0.8
BJI AMB AMB
comp=Z,20nm,0.8s
BJI LR LR
comp=Z,210nm,20.9s
BJI LR LR
comp=Z,160nm,17.5s
BJI LR LR
comp=Z,170nm,30.2s
B08A Colville Reser 41.27 68 eP P 07 34 15.5 -0.2
comp=Z,9.8nm,0.9s
TLY Talaya 41.81 298 eP P 07 34 20.8 +0.7
TLY eS S 07 40 31.4 -3.0
TLY pmax pmax
comp=Z,25nm,0.9s
TLY MLR MLR
comp=Z,741nm,20.0s
TLY Talaya 41.81 298 P P 07 34 20.9 +0.8
comp=Z,140nm,0.9s,SNR=5.6
EDM Edmonton 42.09 59 eP P 07 34 21.6 -0.7
EDM Edmonton 42.09 59 eP P 07 34 21.6 -0.7
C09A Chrisman Ranch 42.16 68 eP P 07 34 22.4 -0.6
comp=Z,12nm,1.0s
HAWA Hanford 42.20 71 eP P 07 34 23.1 -0.3
comp=Z,8.6nm,0.6s
SONM Songino Array 42.27 292 P P 07 34 24.9 +0.9
SONM PcP PcP 07 36 17.0 -0.1
SONM Songino Array 42.27 292 P P 07 34 24.9 +0.9
comp=Z,14nm,0.8s,baz=58,slow=9.8,SNR=45
SONM PcP PcP 07 36 17.0 -0.1
comp=Z,4.1nm,0.8s,baz=67,slow=2.1,SNR=5.6
SONM LR LR 07 52 37.6
comp=Z,199nm,20.9s,baz=241,slow=37
ALE Alert 42.39 9 P P 07 34 25.3 +0.9
comp=Z,92nm,0.6s,SNR=7.8
NEW Newport 42.57 67 eP P 07 34 25.9 -0.4
comp=Z,12nm,0.9s
NEW e 07 34 37.0
ZAK Zakamensk 42.67 297 eP P 07 34 26.7 -0.5
ZAK pmax pmax
comp=Z,10.0nm,0.8s
E09A Wood Farm, Sta 42.94 70 eP P 07 34 30.3 +1.0
comp=Z,12nm,1.3s
HHC Hu-ho-hao-te 43.22 280 eP P 07 34 31.4 -0.4
HHC pP pP 07 34 44.1 +0.3
HHC sP sP 07 34 48.8 0.0
HHC PP PP 07 36 14.5 +1.9
HHC PcP PcP 07 36 21.8 +1.4
HHC S S 07 40 55.3 -0.3
HHC sS sS 07 41 14.3 -1.2
HHC SS SS 07 44 00.8 -8.6
HHC ScS ScS 07 44 24.5 -3.5
HHC AMB AMB
comp=Z,55nm,1.1s
HHC AMB AMB
comp=Z,200nm,5.1s
HHC LR LR
comp=Z,370nm,15.3s
HHC LR LR
comp=Z,460nm,15.7s
HHC LR LR
comp=Z,300nm,15.1s
WDC Whiskeytown Da 43.80 79 eP P 07 34 35.8 -0.5
WDC pmax pmax
comp=Z,9.0nm,1.2s
WDC Whiskeytown Da 43.80 79 eP P 07 34 35.8 -0.5
comp=Z,8.9nm,1.2s
WALA Waterton Lakes 43.93 64 eP P 07 34 36.8 -0.6
comp=Z,2.2nm,1.3s
WALA e 07 34 47.8
BSMT Bassoo Peak 44.11 66 eP P 07 34 38.3 -0.6
BLMT Blacktail Moun 44.26 66 eP P 07 34 40.4 +0.2
BLMT e 07 34 50.5
BTO Baotou 44.30 281 eP P 07 34 41.1 +0.6
BMO Blue Mountains 44.36 71 eP P 07 34 40.1 -0.8
comp=Z,1.7nm,0.6s
JTMT Jette 44.45 66 eP P 07 34 40.6 -1.0
JTMT e 07 34 50.9
NJ2 Nanjing 44.48 265 eP P 07 34 41.3 -0.5
NJ2 pP pP 07 34 53.1 -0.7
NJ2 sP sP 07 34 58.3 -0.6
NJ2 PP PP 07 36 26.1 +0.1
NJ2 S S 07 41 13.0 -0.8
NJ2 sS sS 07 41 35.0 +1.2
NJ2 AMB AMB
comp=Z,30nm,1.0s
NJ2 AMB AMB
comp=Z,620nm,7.8s
NJ2 LR LR
comp=Z,510nm,17.4s
NJ2 LR LR
comp=Z,350nm,11.9s
NJ2 LR LR
comp=Z,180nm,26.1s
YBMT Yellow Bay 44.53 66 eP P 07 34 42.2 -0.1
comp=Z,11nm,1.0s
YBMT e 07 34 52.6
WVOR Wild Horse Val 45.01 75 eP P 07 34 46.9 +0.8
WVOR pmax pmax
comp=Z,3.0nm,0.8s
WVOR Wild Horse Val 45.01 75 eP P 07 34 46.9 +0.8
comp=Z,2.6nm,0.8s
MSO Missoula 45.16 67 eP P 07 34 46.4 -0.8
comp=Z,7.2nm,0.8s
SLMT Seeley Lake 45.17 66 eP P 07 34 47.0 -0.4
CHMT Chamberlain Mo 45.50 67 eP P 07 34 49.2 -0.8
CHMT e 07 34 59.9
HVS Khovu-Aksy 47.36 302 c iP P 07 35 04.6 +0.2
HVS pmax pmax
comp=Z,37nm,0.7s
NVAR Mina Array Bea 47.70 79 P P 07 35 06.8 -0.5
NVAR Mina Array Bea 47.70 79 P P 07 35 06.8 -0.5
comp=Z,0.9nm,0.6s,baz=292,slow=7.6,SNR=6.7
NVAR LR LR 07 51 53.4
comp=Z,186nm,21.9s,baz=77,slow=32
WHN Wuhan 48.29 268 ⇑ P P 07 35 12.3 +0.6
WHN pP pP 07 35 25.4 +1.6
WHN AMB AMB
comp=Z,160nm,0.8s
FLWY Flagg Ranch 48.62 68 eP P 07 35 14.8 +0.4
comp=Z,57nm,2.2s
XAN Xi'an 49.21 275 P P 07 35 19.0 +0.2
XAN AMB AMB
comp=Z,5.0nm,1.1s
XAN AMB AMB
comp=Z,16nm,4.7s
SSLB Suanglung 49.22 256 eP P 07 35 20.1 +1.1
comp=Z,13nm,0.7s
A24A Westby 49.37 59 ⇓ P P 07 35 19.6 -0.2
baz=49,SNR=6.5
R11A Troy Canyon, C 49.38 77 eP P 07 35 19.3 -0.9
C23A Lambert 49.41 61 ⇑ P P 07 35 20.3 +0.1
baz=49,SNR=10.0
LAO LASA Array 49.53 63 eP P 07 35 21.0 -0.1
comp=Z,4.3nm,0.7s
LAO e 07 35 32.0
DGMT Dagmar 49.54 60 eP P 07 35 20.9 -0.3
comp=Z,22nm,0.9s
TPUB Ta-pu 49.78 256 eP P 07 35 23.8 +0.5
comp=Z,36nm,0.8s
DUG Dugway 49.83 73 eP P 07 35 25.3 +1.7
DUG pmax pmax
comp=Z,7.0nm,1.0s
DUG Dugway 49.83 73 eP P 07 35 25.3 +1.7
comp=Z,6.6nm,1.0s
BW06 Boulder Array 50.09 69 eP P 07 35 25.1 -0.5
comp=Z,3.2nm,0.7s
PDAR Pinedale Array 50.09 69 P P 07 35 24.6 -1.0
PDAR Pinedale Array 50.09 69 P P 07 35 24.6 -1.0
comp=Z,2.3nm,0.8s,baz=300,slow=3.2,SNR=13
PDAR LR LR 07 54 59.7
comp=Z,90nm,21.4s,baz=143,slow=34
ZAA0 Zalesovo Array 50.12 310 eP P 07 35 24.4 -1.0
ZALV Zalesovo Beam 50.12 310 P P 07 35 24.5 -0.9
ZALV 07 36 44.8
ZALV pmax pmax
comp=Z,4.0nm,0.6s
ZALV pmax pmax
comp=Z,8.0nm,0.7s
ZALV MLR MLR
comp=Z,176nm,18.8s
ZALV Zalesovo Beam 50.12 310 P P 07 35 24.5 -0.9
ZALV PcP PcP 07 36 44.8 +0.5
ZALV Zalesovo Beam 50.12 310 P P 07 35 24.5 -0.9
comp=Z,4.1nm,0.6s,baz=54,slow=6.4,SNR=9.2
ZALV PcP PcP 07 36 44.8 +0.5
comp=Z,8.0nm,0.7s,baz=35,slow=4.3,SNR=10
ZALV LR LR 07 58 01.0
comp=Z,176nm,18.8s,baz=261,slow=38
NVS Novosibirsk 50.32 311 eP P 07 35 23.9 -3.0
NVS e 07 37 22.3
NVS pmax pmax
comp=N,7.0nm,0.8s
NVS pmax pmax
comp=E,14nm,0.8s
NVS pmax pmax
comp=Z,23nm,0.8s
NVS pmax pmax
comp=E,7.0nm,1.1s
NVS pmax pmax
comp=Z,13nm,1.1s
JLU Jordanelle 50.37 72 eP P 07 35 26.6 -1.3
comp=Z,16nm,1.6s
JLU e 07 35 37.4
J20A Shoshoni 50.56 67 ⇑ P P 07 35 30.6 +1.5
baz=50
F23A Volborg 50.57 63 ⇑ P P 07 35 29.0 -0.1
baz=50,SNR=5.2
MWC Mount Wilson 50.62 83 eP P 07 35 29.7 0.0
MWC pmax pmax
comp=Z,25nm,1.3s
MWC Mount Wilson 50.62 83 eP P 07 35 29.6 0.0
comp=Z,25nm,1.3s
E24A Baker 50.65 62 ⇓ P P 07 35 30.3 +0.7
baz=50
GSC Goldstone 50.65 81 eP P 07 35 31.3 +1.5
GSC pmax pmax
comp=Z,10.0nm,0.9s
GSC Goldstone 50.65 81 eP P 07 35 31.3 +1.5
comp=Z,9.9nm,0.9s
A27A Ledoux Ranch, 50.79 58 ⇓ P P 07 35 31.1 +0.5
baz=51
BFSC Mount Baldy Ra 50.85 83 ⇓ P P 07 35 35.7 +4.3
baz=51
LZH Lanzhou 50.92 281 eP P 07 35 33.3 +1.4
LZH pP pP 07 35 45.9 +1.8
LZH sP sP 07 35 52.0 +2.9
LZH AMB AMB
comp=Z,43nm,1.0s
LZH AMB AMB
comp=Z,210nm,5.0s
LZH LR LR
comp=Z,130nm,12.0s
LZH LR LR
comp=Z,350nm,14.4s
LZH LR LR
comp=Z,260nm,16.2s
C26A Wahner Farm, P 51.04 59 ⇓ P P 07 35 32.8 +0.3
baz=51,SNR=5.7
B27A Peters Farms, 51.12 58 ⇑ P P 07 35 33.5 +0.4
baz=51

GTA	**Gaotai**	**51.13**	**287**	⇑P		**P**		**07 35 34.3**	**+0.9**
GTA				pP		**pP**		**07 35 46.8**	**+1.2**
GTA				sP		**sP**		**07 35 52.3**	**+1.7**
GTA				PcP		**PcP**		**07 36 49.8**	**+1.3**
GTA				S		**S**		**07 42 47.8**	**-0.4**
GTA				sS		**sS**		**07 43 09.1**	**+0.6**
GTA				SS		**SS**		**07 46 21.9**	**-1.4**
GTA				AMB		AMB			
	comp=Z,46nm,0.9s								
GTA				AMB		AMB			
	comp=Z,76nm,6.2s								
GTA				LR		LR			
	comp=Z,300nm,21.4s								
GTA				LR		LR			
	comp=Z,500nm,22.8s								
GTA				LR		LR			
	comp=Z,310nm,19.5s								
E25A	**Miller Ranch,**	**51.17**	**62**	⇓P		**P**		**07 35 34.0**	**+0.5**
	baz=51								
TMUT	**Trail Mountain**	**51.36**	**73**	*e*P		**P**		**07 35 34.9**	**-0.5**
	comp=Z,5.2nm,0.7s								
J22A	**Midwest**	**51.43**	**66**	⇓P		**P**		**07 35 35.9**	**+0.3**
	baz=51,SNR=6.4								
ENH	**Enshi**	**51.46**	**271**	*e*P		**P**		**07 35 36.0**	**+0.1**
	comp=Z,26nm,1.0s								
B28A	**Dugan Ranch, T**	**51.56**	**58**	⇑P		**P**		**07 35 36.7**	**+0.3**
	baz=51								
E26A	**Carlson Angus**	**51.70**	**61**	⇑P		**P**		**07 35 37.2**	**-0.2**
	baz=52,SNR=7.4								
A29A	**Manning Farm,**	**51.85**	**57**	⇑P		**P**		**07 35 38.5**	**0.0**
	baz=52,SNR=5.3								
SRU	**San Rafael**	**51.88**	**73**	*e*P		**P**		**07 35 39.3**	**+0.2**
SRU				pmax		pmax			
	comp=Z,6.0nm,0.9s								
SRU	**San Rafael**	**51.88**	**73**	*e*P		**P**		**07 35 39.2**	**+0.2**
	comp=Z,6.4nm,0.9s								
D28A	**Regan**	**52.25**	**59**	⇓P		**P**		**07 35 42.0**	**+0.5**
	baz=52								
F27A	**Lemmon**	**52.31**	**61**	⇑P		**P**		**07 35 42.2**	**+0.2**
	baz=52								
MDND	**Maddock**	**52.34**	**58**	*e*P		**P**		**07 35 42.1**	**0.0**
MDND				*e*				07 35 53.2	
MDND	**Maddock**	**52.34**	**58**	⇑P		**P**		**07 35 42.2**	**0.0**
	baz=52,SNR=5.3								
G26A	**Maurine**	**52.37**	**62**	⇑P		**P**		**07 35 42.4**	**-0.1**
	baz=52,SNR=6.3								
P19A	**Cripple Cowboy**	**52.44**	**72**	⇑P		**P**		**07 35 44.7**	**+1.4**
	baz=52								
E28A	**Huff**	**52.58**	**60**	⇑P		**P**		**07 35 43.8**	**-0.1**
	baz=52								
B30A	**Myrvik Farm, E**	**52.61**	**57**	⇑P		**P**		**07 35 44.0**	**-0.1**
	baz=52,SNR=5.4								
G27A	**Dupree**	**52.68**	**62**	⇑P		**P**		**07 35 44.4**	**-0.3**
	baz=52								
ULM	**Lac du Bonnet**	**52.70**	**54**	P		**P**		**07 35 44.2**	**-0.6**
ULM	**Lac du Bonnet**	**52.70**	**54**	P		**P**		**07 35 44.2**	**-0.6**
	comp=Z,5.6nm,0.7s,baz=292,slow=11,SNR=6.1								
ULM				LR		LR		07 58 55.8	
	comp=Z,152nm,19.9s,baz=320,slow=37								
F28A	**McLaughlin**	**52.98**	**61**	⇓P		**P**		**07 35 47.4**	**+0.4**
	baz=53								
C30A	**Mose, Pekin**	**53.01**	**58**	⇑P		**P**		**07 35 47.3**	**+0.2**
	baz=53								
PV09	**Paradox Valley**	**53.10**	**73**	*e*P		**P**		**07 35 48.2**	**0.0**
D30A	**Buchanan**	**53.25**	**58**	⇑P		**P**		**07 35 48.5**	**-0.4**
	baz=53,SNR=5.8								
SUMG	**Summit**	**53.30**	**12**	*e*P		**P**		**07 35 49.0**	**-0.4**
SUMG				pmax		pmax			
	comp=Z,39nm,1.2s								
SUMG	**Summit**	**53.30**	**12**	*i* P		**P**		**07 35 49.7**	**+0.3**
	comp=Z,20nm,1.0s								
SUMG				*i*				07 36 00.9	
SUMG	**Summit**	**53.30**	**12**	*e*P		**P**		**07 35 49.0**	**-0.4**
	comp=Z,39nm,1.2s								
N23A	**Red Feather La**	**53.36**	**68**	⇑P		**P**		**07 35 51.1**	**+1.0**
	baz=53								
I27A	**Quinn**	**53.46**	**63**	⇓P		**P**		**07 35 51.0**	**+0.5**
	baz=53								
E30A	**Jud**	**53.56**	**59**	⇑P		**P**		**07 35 51.3**	**+0.1**
	baz=53,SNR=6.5								
H28A	**Mission Ridge**	**53.62**	**62**	⇑P		**P**		**07 35 51.7**	**0.0**
	baz=53,SNR=6.5								
PV01	**Paradox Valley**	**53.67**	**73**	*e*P		**P**		**07 35 54.0**	**+1.6**
	comp=Z,630nm,1.2s								
WUAZ	**Wupatki**	**53.78**	**77**	*e*P		**P**		**07 35 53.3**	**+0.2**
	comp=Z,6.4nm,1.2s								
SMCO	**Snowmass**	**53.91**	**71**	*e*P		**P**		**07 35 54.2**	**0.0**
	comp=Z,1.9nm,0.8s								
SMCO				*e*				07 36 06.0	
AGMN	**Agassiz Nation**	**53.97**	**56**	*e*P		**P**		**07 35 53.6**	**-0.5**
	comp=Z,15nm,0.8s								
AGMN				*e*				07 36 04.1	
I28A	**Midland**	**53.99**	**63**	⇓P		**P**		**07 35 54.9**	**+0.6**
	baz=54								
J27A	**Elkhorn Farm,**	**54.02**	**64**	⇑P		**P**		**07 35 56.3**	**+1.6**
	baz=54								
H29A	**Onida**	**54.09**	**62**	⇓P		**P**		**07 35 54.9**	**-0.2**
	baz=54								
J28A	**Allard Ranch,**	**54.33**	**63**	⇓P		**P**		**07 35 57.4**	**+0.5**
	baz=54								
G30A	**Faulkton**	**54.34**	**60**	⇑P		**P**		**07 35 56.8**	**-0.1**
	baz=54								
S21A	**Coal Bank Pass**	**54.45**	**73**	⇑P		**P**		**07 35 58.5**	**+0.4**
	baz=54								
CD2	**Chengdu**	**54.52**	**276**	P		**P**		**07 35 58.8**	**+0.4**
CD2				pP		**pP**		**07 36 11.4**	**+0.7**
CD2				sP		**sP**		**07 36 16.8**	**+1.1**
CD2				PP		**PP**		**07 38 02.6**	**+1.9**
CD2				S		**S**		**07 43 32.3**	**-2.1**
CD2				sS		**sS**		**07 43 53.8**	**-1.0**
CD2				SS		**SS**		**07 47 14.5**	**-2.4**
CD2				AMB		AMB			
	comp=Z,30nm,0.8s								
CD2				AMB		AMB			
	comp=Z,70nm,4.3s								
CD2				LR		LR			
	comp=Z,170nm,7.1s								
CD2				LR		LR			
	comp=Z,250nm,16.6s								
J29A	**Okreek**	**54.84**	**63**	⇑P		**P**		**07 36 00.5**	**-0.1**
	baz=55,SNR=5.5								
BRSD	**Miller**	**54.89**	**61**	*e*P		**P**		**07 36 00.6**	**-0.3**
BRSD	**Miller**	**54.89**	**61**	⇑P		**P**		**07 36 01.0**	**+0.1**
	baz=55								
S22A	**4UR Ranch, Cre**	**54.95**	**72**	⇓P		**P**		**07 36 03.9**	**+2.2**
	baz=55								
I30A	**Oacoma**	**54.99**	**62**	⇓P		**P**		**07 36 01.7**	**+0.1**
	baz=55								
WMQ	**Urumqi**	**55.09**	**298**	P		**P**		**07 36 03.1**	**+0.7**
WMQ				pP		**pP**		**07 36 15.8**	**+1.1**
WMQ				sP		**sP**		**07 36 21.1**	**+1.4**
WMQ				PcP		**PcP**		**07 37 03.9**	**+0.6**
WMQ				S		**S**		**07 43 40.9**	**-0.9**
WMQ				sS		**sS**		**07 44 02.8**	**+0.5**
WMQ				ScS		**ScS**		**07 45 44.8**	**-2.9**
WMQ				SS		**SS**		**07 47 24.8**	**-0.6**
WMQ				AMB		AMB			
	comp=Z,73nm,0.8s								
WMQ				AMB		AMB			
	comp=Z,150nm,4.4s								
WMQ				LR		LR			
	comp=Z,340nm,25.0s								
WMQ				LR		LR			
	comp=Z,330nm,25.0s								
WMQ				LR		LR			
	comp=Z,290nm,24.0s								
KURK	**Kurchatov**	**55.11**	**310**	*c i*P		**P**		**07 36 02.3**	**0.0**
KURK				pmax		pmax			
	comp=Z,118nm,1.2s								
KURK				MLR		MLR			
	comp=Z,180nm,20.0s								
KURK	**Kurchatov**	**55.11**	**310**	P		**P**		**07 36 02.6**	**+0.3**
	SNR=48								
KURK	**Kurchatov**	**55.11**	**310**	*e*P		**P**		**07 36 02.5**	**+0.2**
	comp=Z,74nm,0.9s								
KURK				PcP		**PcP**		**07 37 03.8**	**+0.6**
KURK	**Kurchatov**	**55.11**	**310**	P		**P**		**07 36 02.4**	**+0.1**
	comp=Z,986nm,0.9s,SNR=33								
KURBB	**Kurchatov Arra**	**55.22**	**309**	P		**P**		**07 36 03.1**	**0.0**
	comp=Z,71nm,0.8s,baz=49,slow=7.2,SNR=192								
KURBB				PcP		**PcP**		**07 37 03.8**	**+0.2**
	comp=Z,5.5nm,0.8s,baz=39,slow=5.0,SNR=4.6								
P25A	**Willow Gulch B**	**55.29**	**69**	⇑P		**P**		**07 36 06.2**	**+2.1**
	baz=55								
K30A	**Basset**	**55.72**	**63**	⇓P		**P**		**07 36 07.6**	**+0.7**
	baz=56								
KEV	**Kevo**	**55.87**	**347**	*e*P		**P**		**07 36 06.1**	**-1.4**
KEV				pmax		pmax			
	comp=Z,5.0nm,0.6s								
KEV	**Kevo**	**55.87**	**347**	*e*p		**P**		**07 36 06.1**	**-1.4**
	comp=Z,5.2nm,0.6s								
GYA	**Guiyang**	**55.92**	**270**	⇑*i*P		**P**		**07 36 08.8**	**+0.2**
GYA				pP		**pP**		**07 36 21.4**	**+0.4**
GYA				sP		**sP**		**07 36 27.0**	**+1.0**
GYA				PcP		**PcP**		**07 37 09.0**	**+2.1**
GYA				PP		**PP**		**07 38 14.6**	**+1.2**
GYA				ScP		**ScP**		**07 41 02.8**	**+0.7**
GYA				S		**S**		**07 43 48.9**	**-4.5**
GYA				sS		**sS**		**07 44 10.9**	**-3.0**
GYA				SS		**SS**		**07 47 34.8**	**-4.5**
GYA				AMB		AMB			
	comp=Z,20nm,0.8s								
GYA				AMB		AMB			
	comp=Z,120nm,5.4s								
GYA				LR		LR			
	comp=Z,580nm,19.2s								
GYA				LR		LR			
	comp=Z,470nm,20.8s								
GYA				LR		LR			
	comp=Z,540nm,18.8s								
MK31	**Makanchi Array**	**55.94**	**304**	*i* P		**P**		**07 36 07.7**	**-0.7**
MK31				pmax		pmax			
	comp=Z,19nm,0.5s								
MK31	**Makanchi Array**	**55.94**	**304**	*e*P		**P**		**07 36 07.8**	**-0.6**
MKAR	**Makanchi Array**	**55.94**	**304**	P		**P**		**07 36 07.9**	**-0.5**
MKAR				pmax		pmax			
	comp=Z,24nm,0.7s								
MKAR				MLR		MLR			
	comp=Z,297nm,20.5s								
MKAR	**Makanchi Array**	**55.94**	**304**	*e*P		**P**		**07 36 08.0**	**-0.5**
MKAR	**Makanchi Array**	**55.94**	**304**	P		**P**		**07 36 07.9**	**-0.5**
	comp=Z,24nm,0.7s,baz=52,slow=7.9,SNR=70								
MKAR				LR		LR		08 01 20.3	
	comp=Z,297nm,20.5s,baz=8.6,slow=37								
ARCES	**ARCESS Array B**	**56.28**	**347**	P		**P**		**07 36 10.0**	**-0.5**
ARCES	**ARCESS Array B**	**56.28**	**347**	P		**P**		**07 36 10.0**	**-0.5**
	comp=Z,7.9nm,0.7s,baz=34,slow=9.0,SNR=16								
ARCES				LR		LR		08 03 00.2	
	comp=Z,130nm,19.9s,baz=22,slow=39								
U23A	**El Rito**	**56.29**	**73**	⇓P		P		07 36 15.7	+4.3
	baz=56								
LVZ	**Lovozero**	**56.32**	**343**	*i* P		**P**		**07 36 10.7**	**-0.1**
LVZ				pmax		pmax			
	comp=Z,56nm,1.3s								
TUC	**Tucson**	**56.34**	**79**	*e*P		**P**		**07 36 12.2**	**+0.7**
TUC				pmax		pmax			
	comp=Z,5.0nm,1.4s								
TUC	**Tucson**	**56.34**	**79**	*e*P		**P**		**07 36 12.2**	**+0.7**
	comp=Z,5.2nm,1.4s								
EYMN	**Ely**	**56.39**	**54**	*e*P		**P**		**07 36 10.9**	**-0.7**
	comp=Z,18nm,0.8s								
EYMN				*e*				07 36 21.9	
ECSD	**EROS Data Cent**	**56.62**	**60**	*e*P		**P**		**07 36 11.4**	**-1.8**
	comp=Z,8.3nm,0.9s								
ECSD				*e*				07 36 22.2	
P29A	**Atwood**	**57.07**	**66**	⇓P		**P**		**07 36 18.9**	**+2.3**
	baz=57,SNR=6.7								
O30A	**MW Ranch, Wils**	**57.16**	**65**	⇓P		**P**		**07 36 19.4**	**+2.1**
	baz=57								
VOSK	**Vostochnaya**	**57.19**	**315**	P		**P**		**07 36 16.9**	**-0.3**
VOSK				pmax		pmax			
	comp=Z,18nm,0.7s								
VOSK	**Vostochnaya**	**57.19**	**315**	*e*P		**P**		**07 36 17.1**	**0.0**
	comp=Z,23nm,0.8s								
BVA0	**Borovoye Array**	**57.23**	**316**	*i* P		**P**		**07 36 17.4**	**-0.1**
BVA0				pmax		pmax			
	comp=Z,31nm,0.6s								
BVAR	**Borovoye Array**	**57.23**	**316**	P		**P**		**07 36 17.6**	**+0.2**
BVAR				pmax		pmax			
	comp=Z,29nm,0.6s								
BVAR	**Borovoye Array**	**57.23**	**316**	P		**P**		**07 36 17.6**	**+0.2**
BVAR	**Borovoye Array**	**57.23**	**316**	P		**P**		**07 36 17.6**	**+0.2**
	comp=Z,28nm,0.6s,baz=50,slow=7.3,SNR=90								
V24A	**Rampart Ranch,**	**57.24**	**73**	⇑P		P		07 36 21.8	+3.7
	baz=57								
BRVK	**Borovoye**	**57.26**	**316**	*c i*P		**P**		**07 36 17.6**	**0.0**
BRVK				pmax		pmax			
	comp=Z,33nm,0.6s								
BRVK	**Borovoye**	**57.26**	**316**	P		**P**		**07 36 18.0**	**+0.4**
	SNR=14								
BRVK	**Borovoye**	**57.26**	**316**	*e*P		**P**		**07 36 17.1**	**-0.4**
	comp=Z,39nm,0.7s								
BRVK	**Borovoye**	**57.26**	**316**	P		**P**		**07 36 17.2**	**-0.4**
	comp=Z,435nm,0.5s,SNR=20								
BGNE	**Belgrade**	**57.37**	**63**	*e*P		**P**		**07 36 18.6**	**-0.1**
BGNE				*e*				07 36 28.8	
W24A	**Lazy 6 Ranch,**	**57.52**	**73**	⇓P		P		07 36 23.6	+3.6
	baz=57								
SOKR	**Solikamsk**	**57.55**	**328**	⇑*i*P		**P**		**07 36 20.2**	**+0.7**
SOKR				pmax		pmax			
	comp=Z,20nm,1.0s								
SPMN	**St. Paul**	**57.59**	**57**	*e*P		**P**		**07 36 19.7**	**-0.4**
SPMN				*e*				07 36 30.0	
P31A	**Stockton**	**57.99**	**66**	⇑P		**P**		**07 36 24.8**	**+1.7**
	baz=58								
O32A	**Brockman Farm,**	**58.09**	**64**	⇓P		**P**		**07 36 25.0**	**+1.3**
	baz=58								
SVE	**Sverdlovsk**	**58.32**	**324**	⇓*e*P		**P**		**07 36 25.8**	**+0.8**
SVE				pmax		pmax			
	comp=Z,22nm,0.9s								
TMCR	**Tamitsa**	**58.92**	**339**	*e*P		**P**		**07 36 29.5**	**+0.5**
TMCR				*e*				07 38 41.2	
TMCR				pmax		pmax			
	comp=Z,53nm,0.8s								
KMI	**Kunming**	**59.30**	**272**	P		**P**		**07 36 32.8**	**+0.2**
KMI				S		**S**		**07 44 36.3**	**-1.6**
KMI				AMB		AMB			
	comp=Z,22nm,1.2s								
KMI				LR		LR			
	comp=Z,120nm,14.1s								
KMI				LR		LR			
	comp=Z,120nm,15.0s								
KMI				LR		LR			
	comp=Z,120nm,15.3s								
ARU	**Arti**	**59.37**	**324**	*c i*P		**P**		**07 36 32.8**	**+0.5**
ARU								07 38 41.9	
ARU				S		**S**		**07 44 38.6**	**+1.1**
ARU				SS		**SS**		**07 48 29.3**	**-2.6**
ARU				pmax		pmax			
	comp=Z,39nm,0.8s								
ARU	**Arti**	**59.37**	**324**	P		**P**		**07 36 32.3**	**0.0**
	comp=Z,259nm,0.8s,SNR=9.3								
QIZ	**Qiongzhong**	**59.52**	**262**	P		**P**		**07 36 35.0**	**+1.2**
QIZ				pP		**pP**		**07 36 45.5**	**-0.7**
QIZ				sP		**sP**		**07 36 51.4**	**+0.2**
QIZ				S		**S**		**07 44 42.0**	**+1.7**
QIZ				AMB		AMB			
	comp=Z,260nm,3.7s								
SCIA	**State Center**	**59.69**	**60**	*e*P		**P**		**07 36 35.0**	**+0.3**
	comp=Z,61nm,1.3s								
SCIA				*e*				07 36 45.1	
MNTX	**Cornudas Mount**	**60.01**	**76**	*e*P		**P**		**07 36 36.9**	**-0.2**
	comp=Z,5.5nm,0.9s								
JFWS	**Jewell Farm**	**60.52**	**57**	*e*P		**P**		**07 36 39.8**	**-0.6**
JFWS				pmax		pmax			
	comp=Z,15nm,0.8s								
JFWS	**Jewell Farm**	**60.52**	**57**	*e*P		**P**		**07 36 39.8**	**-0.6**
	comp=Z,15nm,0.8s								
JOF	**Joensuu**	**61.41**	**342**	*e*P		**P**		**07 36 45.0**	**-1.1**
JOF				pmax		pmax			
	comp=Z,19nm,0.6s								
JOF	**Joensuu**	**61.41**	**342**	*e*p		**P**		**07 36 45.0**	**-1.1**
	comp=Z,19nm,0.6s								
WMOK	**Wichita Mounta**	**61.70**	**69**	*e*P		**P**		**07 36 48.8**	**+0.2**
WMOK	**Wichita Mounta**	**61.70**	**69**	*e*P		**P**		**07 36 48.8**	**+0.2**
SCHQ	**Schefferville**	**61.82**	**35**	*e*P		**P**		**07 36 48.8**	**-0.3**
	comp=Z,32nm,0.8s								
SCHQ				*e*				07 37 00.1	
SCHQ	**Schefferville**	**61.82**	**35**	P		**P**		**07 36 48.6**	**-0.4**
	comp=Z,35nm,0.7s,baz=330,slow=6.5,SNR=27								
SCHQ				LR		LR		08 06 14.8	
	comp=Z,273nm,18.1s,baz=28,slow=39								
TKM2	**Tokmak 2**	**62.05**	**305**	*e*P		**P**		**07 36 51.3**	**+0.3**
TKM2				pmax		pmax			
	comp=Z,22nm,0.8s								
TKM2	**Tokmak 2**	**62.05**	**305**	*e*P		**P**		**07 36 51.3**	**+0.3**
	comp=Z,22nm,0.8s								
ULHL	**Ulahol**	**62.21**	**304**	*i* P		**P**		**07 36 52.6**	**+0.5**
USP	**Ospenovka**	**62.34**	**306**	*i* P		**P**		**07 36 53.5**	**+0.7**
CHMS	**Chumysh**	**62.41**	**305**	*i* P		**P**		**07 36 53.9**	**+0.7**
KBK	**Karagaybulak**	**62.56**	**305**	*i* P		**P**		**07 36 55.1**	**+0.7**
TXAR	**Lajitas Array**	**62.74**	**77**	P		**P**		**07 36 55.1**	**-0.6**
TXAR	**Lajitas Array**	**62.74**	**77**	P		**P**		**07 36 55.1**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=305,slow=5.0,SNR=18								
TXAR				LR		LR		08 01 08.1	
	comp=Z,116nm,18.2s,baz=0.0,slow=33								
AAK	**Ala-Archa**	**62.81**	**305**	P		**P**		**07 36 56.5**	**+0.5**
AAK				pmax		pmax			
	comp=Z,25nm,0.8s								
AAK	**Ala-Archa**	**62.81**	**305**	P		**P**		**07 36 56.8**	**+0.8**
	SNR=13								
AAK	**Ala-Archa**	**62.81**	**305**	*e*P		**P**		**07 36 56.6**	**+0.5**
	comp=Z,28nm,0.9s								
AAK	**Ala-Archa**	**62.81**	**305**	P		**P**		**07 36 56.0**	**-0.1**
	comp=Z,199nm,0.7s,SNR=14								
AAK	**Ala-Archa**	**62.81**	**305**	P		**P**		**07 36 56.5**	**+0.5**
	comp=Z,25nm,0.8s,baz=103,slow=3.5,SNR=23								
KZA	**Kyzart**	**62.84**	**304**	*i* P		**P**		**07 36 57.3**	**+0.8**
LSA	**Lhasa**	**62.99**	**284**	*e*P		**P**		**07 36 58.9**	**+1.2**
LSA				pmax		pmax			
	comp=Z,10.0nm,0.6s								
LSA	**Lhasa**	**62.99**	**284**	*e*P		**P**		**07 36 58.9**	**+1.2**
	comp=Z,9.5nm,0.6s								
KAF	**Kangasniemi**	**63.07**	**344**	*e*P		**P**		**07 36 55.8**	**-1.4**
KAF				pmax		pmax			
	comp=Z,17nm,0.7s								
KAF	**Kangasniemi**	**63.07**	**344**	*e*p		**P**		**07 36 55.8**	**-1.4**
	comp=Z,17nm,0.7s								
EKS2	**Erkin-Say**	**63.15**	**306**	*e*P		**P**		**07 36 59.0**	**+0.7**
EKS2				pmax		pmax			
	comp=Z,38nm,0.8s								
EKS2	**Erkin-Say**	**63.15**	**306**	*e*P		**P**		**07 36 59.0**	**+0.7**
	comp=Z,38nm,0.8s								
AML	**Almayashu**	**63.58**	**305**	*i* P		**P**		**07 37 02.5**	**+1.1**
FIA1	**FINESS Array S**	**63.73**	**344**	*e*P		**P**		**07 37 01.7**	**+0.1**
FINES	**FINESS Array B**	**63.73**	**344**	P		**P**		**07 37 01.3**	**-0.3**
FINES	**FINESS Array B**	**63.73**	**344**	P		**P**		**07 37 01.3**	**-0.3**
	comp=Z,23nm,0.8s,baz=28,slow=8.6,SNR=37								
FINES				LR		LR		08 06 12.7	
	comp=Z,212nm,20.1s,baz=139,slow=37								
SFIN	**Scholer Farm**	**63.98**	**57**	*e*P		**P**		**07 37 03.2**	**-0.4**
	comp=Z,44nm,1.3s								
JCT	**Junction City**	**64.19**	**73**	*e*P		**P**		**07 37 05.0**	**-0.2**
JCT				pmax		pmax			
	comp=Z,7.0nm,0.8s								
JCT	**Junction City**	**64.19**	**73**	*e*P		**P**		**07 37 05.0**	**-0.2**
	comp=Z,6.7nm,0.8s								
AKTO	**Aktyubinsk**	**64.26**	**320**	P		**P**		**07 37 04.4**	**-0.9**
AKTO				pmax		pmax			
	comp=Z,26nm,0.9s								
AKTO	**Aktyubinsk**	**64.26**	**320**	P		**P**		**07 37 04.4**	**-0.9**
AKTO	**Aktyubinsk**	**64.26**	**320**	P		**P**		**07 37 04.4**	**-0.9**
	comp=Z,26nm,0.9s,baz=48,slow=7.1,SNR=74								
NONG	**Nongkai**	**64.33**	**266**	P		**P**		**07 37 06.8**	**+0.6**
	comp=Z,24nm,0.8s,comp=Z,5μm								
KSH	**Kashi**	**64.35**	**302**	P		P		07 37 10.8	+4.6
KSH				pP		pP		07 37 23.3	+4.6
KSH				sP		sP		07 37 28.9	+5.2
KSH				PcP		**PcP**		**07 37 41.8**	**+1.4**
KSH				S		**S**		**07 45 45.3**	**+4.2**
KSH				SS		SS		07 49 59.9	+9.2
KSH				AMB		AMB			
	comp=Z,44nm,0.8s								
KSH				LR		LR			
	comp=Z,85nm,5.5s								
KSH				LR		LR			
	comp=Z,84nm,5.8s								
KSH				LR		LR			
	comp=Z,130nm,6.1s								
CRAI	**Chiangrai**	**64.39**	**270**	P		**P**		**07 37 07.1**	**+0.5**
	comp=Z,17nm,0.8s,comp=Z,1μm								
AB31	**Akbulak array**	**64.42**	**319**	*i* P		**P**		**07 37 06.5**	**+0.2**
AB31				pmax		pmax			
	comp=Z,13nm,0.5s								
ABKAR	**Akbulak array**	**64.42**	**319**	*e*P		**P**		**07 37 06.8**	**+0.5**
	comp=Z,29nm,0.8s								
KK31	**Karatay Array**	**64.42**	**308**	*i* P		**P**		**07 37 06.3**	**-0.2**
KK31				pmax		pmax			
	comp=Z,20nm,0.5s								
KKAR	**Karatay Array**	**64.42**	**308**	*e*P		**P**		**07 37 06.8**	**+0.3**
KKAR	**Karatay Array**	**64.42**	**308**	*e*P		**P**		**07 37 06.8**	**+0.3**
CMAI	**Chiengmai2**	**65.43**	**271**	P		**P**		**07 37 13.9**	**+0.4**
	comp=Z,22nm,1.1s,comp=Z,1μm								
MYLDM	**Lahad Datu**	**65.46**	**245**	P		P		07 37 17.0	+3.5
	comp=Z,30nm,1.2s								
MYLDM	**Lahad Datu**	**65.46**	**245**	*e*P		**P**		**07 37 15.5**	**+2.0**
	comp=Z,32nm,1.1s								
SHL	**Shillong**	**65.59**	**281**	*e*P		**P**		**07 37 14.0**	**-0.5**
NB2	**NORSAR Subarra**	**66.13**	**351**	P		**P**		**07 37 17.0**	**-0.3**
	comp=Z,20nm,0.7s,baz=12,slow=6.5								
NB2	**NORSAR Subarra**	**66.13**	**351**	P		**P**		**07 37 17.0**	**-0.3**
	baz=12,slow=6.5								
NOA	**NORSAR Array B**	**66.13**	**351**	P		**P**		**07 37 17.3**	**0.0**
NOA	**NORSAR Array B**	**66.13**	**351**	P		**P**		**07 37 17.3**	**0.0**
	comp=Z,19nm,0.7s,baz=12,slow=6.4,SNR=53								
NOA				LR		LR		08 07 11.1	
	comp=Z,58nm,18.4s,baz=265,slow=37								
CHTO	**Chiang Mai**	**66.34**	**270**	*e*P		**P**		**07 37 18.4**	**-0.8**
CHTO				pmax		pmax			
	comp=Z,81nm,0.8s			

SSPA Standing Stone 68.37 51 *e*P **P 07 37 31.1 -0.6**
comp=Z,13nm,0.7s
SSPA *e* 07 37 41.1
SWET Sewanee 68.46 60 *e*P **P 07 37 30.9 -1.6**
comp=Z,31nm,1.3s
KOLN Koldanda 68.86 288 *e*P **P 07 37 35.5 +0.3**
comp=Z,62nm,0.8s
CHBT CHBT 68.92 264 P **P 07 37 36.3 +0.9**
comp=Z,38nm,0.8s,comp=Z,2µm
CHBT CHBT 68.92 264 P **P 07 37 36.3 +0.9**
comp=Z,38nm,0.8s,comp=Z,2µm
TKL Tuckaleechee C 69.26 58 P **P 07 37 36.4 -1.0**
TKL Tuckaleechee C 69.26 58 P **P 07 37 36.4 -1.0**
comp=Z,10.0nm,1.0s,baz=103,slow=5.4,SNR=6.0
TKL LR LR 08 09 31.5
comp=Z,192nm,18.2s,baz=117,slow=37
VRHR Novokhopersk 69.42 330 *e*P **P 07 37 37.2 -0.8**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,50nm,0.8s
SDMD Soldier's Deli 69.83 51 *e*P **P 07 37 40.2 -0.6**
comp=Z,40nm,1.3s
VSR Storozhevoye 70.04 332 *e*P **P 07 37 42.0 +0.1**
VSR *e**SP sP 07 37 53.6 -5.9
VSR pmax pmax
comp=Z,30nm,0.9s
VSR pmax pmax
comp=N,10.0nm,0.5s
VSR pmax pmax
comp=E,8.0nm,0.5s
VORD Divnogorie 70.23 332 *e*P **P 07 37 42.9 -0.1**
VORD pmax pmax
comp=E,30nm,0.4s
VORD pmax pmax
comp=Z,10.0nm,0.4s
KMSC Kings Mountain 70.92 57 *e*P **P 07 37 46.4 -1.2**
SBUM Sibu 71.24 249 P **P 07 37 51.3 +1.7**
comp=Z,29nm,0.7s
SBUM Sibu 71.24 249 *e*P **P 07 37 50.6 +1.0**
comp=Z,38nm,1.6s
SUW Suwalki 71.27 342 *e*P **P 07 37 49.2 -0.1**
SUW Suwalki 71.27 342 *e*P **P 07 37 49.2 -0.1**
KBL Kabul 71.72 303 *e*P **P 07 37 52.0 -0.6**
KBL pmax pmax
comp=Z,66nm,0.7s
KBL Kabul 71.72 303 *e*P **P 07 37 52.0 -0.6**
comp=Z,66nm,0.7s
KBL Kabul 71.72 303 P **P 07 37 51.9 -0.6**
baz=70,SNR=9.7
AKASG Malin Array Be 73.12 338 P **P 07 38 00.5 +0.1**
AKASG pmax pmax
comp=Z,16nm,0.6s
AKASG MLR MLR
comp=Z,160nm,21.7s
AKASG Malin Array Be 73.12 338 P **P 07 38 00.5 +0.1**
AKASG Malin Array Be 73.12 338 P **P 07 38 00.5 +0.1**
comp=Z,15nm,0.6s,baz=25,slow=5.9,SNR=26
AKASG LR LR 08 12 27.8
comp=Z,160nm,21.7s,baz=5.0,slow=38
KIEV Kiev 73.13 338 *e*P **P 07 38 00.6 +0.1**
KIEV *e* 07 38 10.6
KIEV pmax pmax
comp=Z,18nm,0.7s
KIEV Kiev 73.13 338 *e*P **P 07 38 00.6 +0.1**
comp=Z,18nm,0.7s
KIEV *e* 07 38 10.6
BSEG Bad Segeberg 73.22 350 *e*P **P 07 38 01.8 +0.9**
BSEG pmax pmax
comp=Z,36nm,1.0s
BSEG Bad Segeberg 73.22 350 *e*P **P 07 38 01.8 +0.9**
comp=Z,36nm,1.0s
SURT Suratani 74.03 264 P **P 07 38 06.9 +0.7**
comp=Z,19nm,1.1s
GOF Gofitskoye 74.26 326 *e*P P 07 38 03.8 -3.4
DZM Mont Dzumac 74.42 187 *e*LR LR 08 01 01.3
comp=Z,347nm,23.3s
IEMG Emamgholi 74.48 312 *e*P **P 07 38 10.1 +1.1**
IMYA Miami 74.69 310 *e*P **P 07 38 10.6 +0.5**
ISHV Shirvan 74.82 312 *e*P **P 07 38 11.8 +1.0**
IKRD Kardeh 75.07 311 *e*P P 07 38 09.0 -3.4
ISFR Sfrayin 75.08 312 *e*P **P 07 38 13.4 +1.0**
IBBN Ibbenburen 75.08 351 *e*P **P 07 38 12.6 +0.8**
comp=Z,35nm,0.8s
IBBN *e*pP **pP 07 38 23.9 -0.7**
IBBN *e*sP **sP 07 38 29.1 -0.4**
LVV L'vov 75.09 341 *e*P **P 07 38 12.8 +0.9**
IAKL Akhelmad 75.10 311 *e*P **P 07 38 12.5 -0.1**
IMOG Moghan 75.23 311 *e*P **P 07 38 14.5 +1.1**
CLZ Clausthal 75.28 350 *e*P **P 07 38 13.2 +0.2**
CLZ *e**PP **pP 07 38 24.9 -0.9**
CLZ pmax pmax
comp=Z,13nm,1.1s
CLZ Clausthal 75.28 350 *e*P **P 07 38 13.2 +0.2**
comp=Z,13nm,1.1s
CLZ *e*pP **pP 07 38 24.9 -0.9**
KIV Kislovodsk 75.35 326⇑ *i*P **P 07 38 14.9 +1.3**
KIV *i* 07 38 25.8
KIV pmax pmax
comp=Z,21nm,0.9s
KBZ Khabaz 75.48 326 P **P 07 38 15.4 +1.2**
KBZ pmax pmax
comp=Z,18nm,0.8s
KBZ Khabaz 75.48 326 P **P 07 38 15.4 +1.2**
KBZ Khabaz 75.48 326 P **P 07 38 15.4 +1.2**
comp=Z,18nm,0.8s,baz=72,slow=1.9,SNR=38
KBZ LR LR 08 17 34.5
comp=Z,126nm,20.0s,baz=20,slow=40
KSP Ksiaz 75.48 346⇑ *e*P **P 07 38 14.5 +0.3**
KSP Ksiaz 75.48 346 *e*P **P 07 38 14.5 +0.3**
CLL Collm 75.49 348 *i*P **P 07 38 13.6 -0.6**
CLL *i**PP pP 07 38 21.1 -5.9
CLL pmax pmax
comp=Z,17nm,1.0s
CLL Collm 75.49 348 *e*P **P 07 38 14.1 -0.1**
comp=Z,22nm,1.8s
CLL Collm 75.49 348 *i*P **P 07 38 13.6 -0.6**
comp=Z,6.0nm,1.0s
CLL *i* pP pP 07 38 21.1 -5.9
comp=Z,11nm,1.2s
KWP Kalwaria Pacla 75.54 341 *e*P **P 07 38 15.5 +1.0**
KWP pmax pmax
comp=Z,101nm,1.0s
KWP Kalwaria Pacla 75.54 341⇑ *i*P **P 07 38 15.8 +1.3**
KWP Kalwaria Pacla 75.54 341 *e*P **P 07 38 15.5 +1.0**
comp=Z,100nm,1.0s
KWP Kalwaria Pacla 75.54 341 *e*P **P 07 38 15.8 +1.3**
BRG Berggiesshubel 75.79 347 *e*P **P 07 38 15.9 0.0**
comp=Z,6.5nm,0.8s
BRG *e* 07 38 27.3
comp=Z,5.6nm,1.0s
BRG *e*PKPPKP P'P'df 08 05 19.6 -21
comp=Z,2.1nm,0.7s
BRG Berggiesshubel 75.79 347 *e*P **P 07 38 15.9 0.0**
BRG *e* 07 38 27.3
BRG pmax pmax
comp=Z,7.0nm,0.9s
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG Berggiesshubel 75.79 347 *e*P **P 07 38 16.0 0.0**
comp=Z,6.0nm,0.9s
BRG *e*pP **PcP 07 38 27.4 -1.0**
UPC Upice 75.85 346 *e*P **P 07 38 17.0 +0.7**
UPC *e* 07 38 28.1
UPC Upice 75.85 346⇑ *e*P **P 07 38 17.0 +0.7**
UPC *e*pP **PcP 07 38 28.1 -0.6**
ZEI Tsey 75.95 325 *e*P **P 07 38 14.3 -2.9**
ZEI pmax pmax
comp=Z,31nm,1.0s
DPC Dobruska-Polom 75.96 346⇑ *i*P **P 07 38 17.9 +0.9**
DPC *e* 07 38 29.1
DPC Dobruska-Polom 75.96 346⇑ *i*P **P 07 38 17.9 +0.9**
DPC *e*pP **PcP 07 38 29.1 -0.1**
DPC Dobruska-Polom 75.96 346 *e*P **P 07 38 17.9 +0.9**
comp=Z,109nm,0.9s
BUG Bochum--Univer 75.98 352 *e*P **P 07 38 17.3 +0.3**
comp=Z,19nm,1.2s
STHS Stebnicka Huta 76.02 342 *e*P **P 07 38 18.8 +1.5**
STHS pmax pmax
comp=Z,24nm,1.5s
STHS Stebnicka Huta 76.02 342 *e*P **P 07 38 18.8 +1.5**
PVCC Panska Ves 76.04 347 *e*P **P 07 38 18.0 +0.6**
PVCC Panska Ves 76.04 347⇑ *e*P **P 07 38 18.0 +0.6**

KRLC Kraliky 76.16 345⇑ *i*P **P 07 38 18.7 +0.6**
KRLC Kraliky 76.16 345⇑ *i*P **P 07 38 18.7 +0.6**
OKC Ostrava-Krasne 76.17 344⇑ *i*P **P 07 38 19.0 +0.9**
OKC Ostrava-Krasne 76.17 344⇑ *i*P **P 07 38 19.0 +0.9**
NIE Niedzica 76.19 343 *e*P **P 07 38 19.7 +1.4**
NIE *e**PP **PcP 07 38 30.5 +0.3**
NIE Niedzica 76.19 343 *e*P **P 07 38 19.7 +1.4**
NIE *e*pP **PcP 07 38 30.5 +0.3**
IPM Ipoh 76.20 259 P **P 07 38 18.6 -0.2**
comp=Z,15nm,0.9s
IPM Ipoh 76.20 259 *e*P **P 07 38 17.8 -1.0**
comp=Z,13nm,0.8s
KOLS Kolonicke sedl 76.29 341 *e*P **P 07 38 19.9 +1.1**
KOLS pmax pmax
comp=Z,18nm,1.0s
KOLS Kolonicke sedl 76.29 341 *e*P **P 07 38 19.9 +1.1**
ANN Anapa 76.31 330 *e*P **P 07 38 20.9 +2.0**
ANN *e* 07 38 32.9
ANN *e*S **S 07 48 05.5 +5.4**
ANN pmax pmax
comp=Z,43nm,1.3s
PPT Papeete 76.42 145 LR LR 08 11 06.7
comp=Z,247nm,18.2s,baz=349,slow=35
TANN Tannenbergstha 76.44 348 *e*P **P 07 38 19.9 +0.2**
comp=Z,13nm,1.7s
TANN *e*pP **PcP 07 38 31.2 -0.1**
TANN *e*sP **sP 07 38 36.0 -1.4**
PPT2 Papeete2 76.44 145 *e*LR LR 08 01 48.0
comp=Z,339nm,24.0s,baz=342
UZH Uzhgorod 76.57 341⇓ *i*P **P 07 38 20.6 +0.2**
UZH *i* 07 38 29.0
PRU Pruhonice 76.57 347 *e*P **P 07 38 20.9 +0.5**
PRU *e* 07 38 31.9
PRU Pruhonice 76.57 347⇑ *e*P **P 07 38 20.9 +0.5**
PRU *e*pP **PcP 07 38 31.9 +0.1**
SOC Sochi 76.67 328 *e*P **P 07 38 20.5 -0.5**
SOC *e* 07 41 13.5
SOC *e*PPP PPP 07 42 59.0
SOC *e*S **S 07 48 00.6 -3.6**
SOC *e*SS **SS 07 53 01.8 +2.7**
SOC pmax pmax
comp=Z,15nm,0.7s
SOC MLR MLR
comp=Z,182nm,16.0s
MEM Membach 76.92 352 P **P 07 38 22.9 +0.6**
comp=Z,15nm,1.5s
BURAR Bucovina Array 76.93 339⇓ *i*P **P 07 38 23.4 +0.8**
BURAR Bucovina Array 76.93 339⇓ *i*P **P 07 38 23.4 +0.8**
VRAC Vranov 76.93 345⇓ *i*P **P 07 38 23.7 +1.3**
TRPA Tarpa 77.00 341⇑ *i*P **P 07 38 24.5 +1.7**
TRPA Tarpa 77.00 341⇑ *e*P **P 07 38 24.5 +1.7**
TNS Taunus Mts 77.08 351 *e*P **P 07 38 22.7 -0.6**
TNS *e**PP **PcP 07 38 34.7 +0.6**
TNS *e**SP **sP 07 38 40.2 -0.8**
TNS pmax pmax
comp=Z,23nm,1.8s
TNS Taunus Mts 77.08 351 *e*P **P 07 38 22.7 -0.6**
comp=Z,23nm,1.8s
TNS *e*pP **PcP 07 38 34.7 +0.6**
TNS *e*sP **sP 07 38 40.2 -0.8**
ROTZ Rotzenmuhle 77.10 348 *e*P **P 07 38 24.1 +0.7**
comp=Z,32nm,2.1s
SNF Seneffe 77.15 353 P **P 07 38 24.7 +1.1**
BCLA Clavier 77.16 353 P **P 07 38 23.9 +0.2**
comp=Z,8.7nm,1.2s
GRF Grafenberg Arr 77.30 349 *e*P **P 07 38 24.6 +0.1**
GRF pmax pmax
comp=Z,12nm,1.2s
GRF Grafenberg Arr 77.30 349 *e*P **P 07 38 24.6 +0.1**
comp=Z,12nm,1.2s
GRF *e*L L 08 07 22.3
comp=Z,115nm,19.7s
GIVF Givet 77.52 353 *e*P **P 07 38 25.8 +0.1**
GIVF Givet 77.52 353 *e*P **P 07 38 25.8 +0.1**
GIVF Givet 77.52 353 *e*P **P 07 38 25.8 +0.1**
DOU Dourbes 77.54 353 P **P 07 38 26.4 +0.6**
KHC Kasperske Hory 77.55 347⇑ *i*P **P 07 38 26.2 +0.3**
KHC *e* 07 38 38.3
KHC Kasperske Hory 77.55 347⇑ *i*P **P 07 38 26.2 +0.3**
KHC *e*pP **pP 07 38 38.3 -0.4**
KHC Kasperske Hory 77.55 347 *e*P **P 07 38 26.2 +0.3**
comp=Z,14nm,1.1s
SMOL Smolenice 77.57 344 *e*P **P 07 38 27.5 +1.5**
SMOL Smolenice 77.57 344 *e*P **P 07 38 27.5 +1.5**
BAIF Baives 77.60 353⇑ *i*P **P 07 38 26.5 +0.4**
comp=Z,44nm,1.1s
BAIF Baives 77.60 353⇑ *i*P **P 07 38 26.5 +0.4**
BAIF pmax pmax
comp=Z,44nm,1.1s
BAIF Baives 77.60 353⇑ *i*P **P 07 38 26.5 +0.4**
comp=Z,44nm,1.1s
WET Wettzell 77.63 348 *e*P **P 07 38 27.2 +0.8**
WET pmax pmax
comp=Z,13nm,1.5s
WET Wettzell 77.63 348 *e*P **P 07 38 27.2 +0.8**
comp=Z,13nm,1.5s
TESR Tescani 77.65 338⇑ *i*P **P 07 38 27.1 +0.6**
PSZ Piszkesteto 77.71 343⇑ *i*P **P 07 38 28.6 +1.6**
PSZ Piszkesteto 77.71 343⇑ *i*P **P 07 38 28.6 +1.6**
PSZ Piszkesteto 77.71 343 *e*P **P 07 38 28.5 +1.6**
comp=Z,28nm,1.1s
PSZ Piszkesteto 77.71 343⇑ *e*P **P 07 38 28.5 +1.6**
IDAH Dahanechah 77.74 308 *e*P **P 07 38 27.5 0.0**
GEC2 GERESS Array S 77.81 347 *e*P **P 07 38 27.8 +0.3**
GEC2 *e**PP **pP 07 38 39.2 -1.1**
GEC2 pmax pmax
comp=Z,16nm,1.4s
GEC2 GERESS Array S 77.81 347 *e*P **P 07 38 27.8 +0.3**
comp=Z,16nm,1.4s
GEC2 *e*pP **pP 07 38 39.2 -1.1**
GEC2 GERESS Array S 77.81 347 *e*P **P 07 38 27.8 +0.3**
comp=Z,3µm,1.5s
GEC2 *e* 07 38 39.4
GERES GERESS Array B 77.81 347 P **P 07 38 28.1 +0.6**
GERES GERESS Array B 77.81 347 P **P 07 38 28.1 +0.6**
comp=Z,3.2nm,0.8s,baz=32,slow=5.2,SNR=30
GERES LR LR 08 18 04.9
comp=Z,132nm,18.4s,baz=337,slow=40
CJR Cluj-Napoca 78.14 340⇑ P **P 07 38 30.9 +1.6**
CJR Cluj-Napoca 78.14 340⇑ *i*P **P 07 38 30.9 +1.6**
VRI Vrincioaia 78.24 337⇓ *i*P **P 07 38 30.9 +1.1**
VRI Vrincioaia 78.24 337⇓ *i*P **P 07 38 30.9 +1.1**
PLOR Plostina 78.27 337⇑ *i*P **P 07 38 31.0 +1.0**
PLOR Plostina 78.27 337⇑ *i*P **P 07 38 31.0 +1.0**
BUD Budapest 78.29 343⇑ *e*P **P 07 38 31.9 +1.9**
TLCR 78.37 336⇑ P **P 07 38 31.6 +1.2**
TLCR 78.37 336⇑ *i*P **P 07 38 31.6 +1.2**
CONA Conrad Observa 78.39 345⇑ *i*P **P 07 38 31.7 +1.1**
comp=Z,17nm,1.0s,SNR=7.1
IKOO Kooshah 78.41 309 *e*P **P 07 38 31.2 -0.1**
STU Stuttgart 78.44 350 *e*P **P 07 38 31.4 +0.6**
comp=Z,13nm,0.8s
STU *e*sP **sP 07 38 47.2 -1.3**
PKSG 78.49 343⇓ *e*P **P 07 38 33.1 +2.0**
SOP Sopron 78.52 345 *e*P **P 07 38 32.0 +0.8**
CFR Carcaliu 78.54 336⇓ P **P 07 38 32.3 +0.9**
CFR Carcaliu 78.54 336⇓ *i*P **P 07 38 32.3 +0.9**
PKST T"s 78.68 344⇓ *e*P **P 07 38 34.0 +1.8**
PKS7 Kunszentmiklos 78.69 343⇓ *e*P **P 07 38 34.3 +2.1**
PKSN Nyarlorinc 78.70 342⇓ *e*P **P 07 38 34.3 +2.0**
PSI Prapat 78.80 260 P **P 07 38 33.5 +0.2**
PSI Prapat 78.80 260 P **P 07 38 33.5 +0.2**
comp=Z,5.0nm,0.4s,baz=135,slow=1.4,SNR=4.3
BFO Black Forest 78.96 350 *e*P **P 07 38 34.2 +0.4**
BFO *e* 07 38 45.6
BFO pmax pmax
comp=Z,8.0nm,0.8s
BFO Black Forest 78.96 350 *e*P **P 07 38 33.9 +0.1**
comp=Z,11nm,0.9s
BFO Black Forest 78.96 350 *e*P **P 07 38 34.2 +0.4**
comp=Z,7.9nm,0.8s
BFO *e* 07 38 45.6
PAGF Fort de Pagny 78.98 352⇑ *i*P **P 07 38 34.4 +0.6**
comp=Z,16nm,1.1s
PAGF Fort de Pagny 78.98 352⇑ *i*P **P 07 38 34.4 +0.6**
comp=Z,16nm,1.1s
CDF Champ du Feu 78.98 351⇑ *i*P **P 07 38 34.1 +0.1**
comp=Z,14nm,0.8s
CDF Champ du Feu 78.98 351⇑ *i*P **P 07 38 34.1 +0.1**
CDF pmax pmax
comp=Z,14nm,0.8s
CDF Champ du Feu 78.98 351⇑ *i*P **P 07 38 34.1 +0.1**
comp=Z,14nm,0.8s
RJOB Jochberg 79.02 347 *e*P **P 07 38 34.8 +0.7**

comp=Z,6.0nm,0.9s
VOIR 79.03 338⇑ P **P 07 38 35.7 +1.5**
VOIR 79.03 338⇑ *i*P **P 07 38 35.7 +1.5**
IGZV Ghazvin 79.04 317 *e*P **P 07 38 34.4 -0.2**
MEZF Maizieres J'vi 79.09 353 *e*P **P 07 38 34.8 +0.4**
comp=Z,31nm,1.0s
MEZF Maizieres J'vi 79.09 353 *e*P **P 07 38 34.8 +0.4**
comp=Z,31nm,1.0s
ARSA Arzberg 79.10 345⇓ *i*P **P 07 38 35.6 +1.1**
comp=Z,13nm,1.0s,SNR=6.2
TLB Topalu 79.12 336⇑ P **P 07 38 35.5 +0.9**
TLB Topalu 79.12 336⇑ *i*P **P 07 38 35.5 +0.9**
TIRR Tirgusor 79.15 336⇑ P **P 07 38 35.3 +0.5**
TIRR Tirgusor 79.15 336⇑ *i*P **P 07 38 35.3 +0.5**
FLN La Foliniere 79.15 356 *e*P **P 07 38 34.4 -0.3**
comp=Z,48nm,1.1s
FLN *e*R
comp=Z,136nm,17.0s
FLN La Foliniere 79.15 356 *e*P **P 07 38 34.4 -0.3**
FLN pmax pmax
comp=Z,48nm,1.1s
FLN La Foliniere 79.15 356 *e*P **P 07 38 34.4 -0.3**
comp=Z,48nm,1.1s
ARR Arges 79.19 339⇑ *i*P **P 07 38 36.7 +1.6**
ECH Echery 79.19 351 *e*P **P 07 38 35.1 +0.1**
ECH pmax pmax
comp=Z,5.0nm,0.9s
ECH Echery 79.19 351 *e*P **P 07 38 35.1 +0.1**
comp=Z,4.9nm,0.9s
PKS2 Kecel 79.21 343⇓ *e*P **P 07 38 36.8 +1.7**
PKS9 Tamasi 79.29 343⇓ *e*P **P 07 38 36.2 +0.7**
LOT Lotru 79.30 339⇑ *i*P **P 07 38 36.7 +0.9**
LDF La Druitiere 79.31 356 *e*P **P 07 38 35.3 -0.3**
comp=Z,16nm,0.8s
LDF La Druitiere 79.31 356 *e*P **P 07 38 35.3 -0.3**
LDF pmax pmax
comp=Z,17nm,0.8s
LDF La Druitiere 79.31 356 *e*P **P 07 38 35.3 -0.3**
comp=Z,16nm,0.8s
SFTF Sexfontaines 79.39 353⇑ *i*P **P 07 38 36.2 +0.2**
comp=Z,37nm,0.8s
SFTF Sexfontaines 79.39 353⇑ *i*P **P 07 38 36.2 +0.2**
comp=Z,37nm,0.8s
HAU Haudompre 79.47 352 *e*P **P 07 38 36.6 +0.1**
comp=Z,32nm,1.1s
HAU *e*R
comp=Z,160nm,21.5s
HAU Haudompre 79.47 352 *e*P **P 07 38 36.6 +0.1**
HAU pmax pmax
comp=Z,32nm,1.1s
HAU Haudompre 79.47 352 *e*P **P 07 38 36.6 +0.1**
comp=Z,32nm,1.1s
IR3 Iran Long-Peri 79.48 316 *e*P **P 07 38 34.2 -2.7**
GRR Gorron 79.54 357 *e*P **P 07 38 36.9 +0.1**
comp=Z,39nm,0.8s
GRR Gorron 79.54 357 *e*P **P 07 38 36.9 +0.1**
GRR pmax pmax
comp=Z,39nm,0.8s
GRR Gorron 79.54 357 *e*P **P 07 38 36.9 +0.1**
comp=Z,39nm,0.8s
IVRN Varamin 79.58 315 *e*P **P 07 38 36.3 -1.1**
PKSM Moragy 79.59 343⇓ *e*P **P 07 38 38.4 +1.3**
KBA Koelnbreinsper 79.59 347⇑ *i*P **P 07 38 38.7 +1.4**
comp=Z,44nm,0.9s,SNR=6.4
BZS Buzias 79.59 341⇓ P **P 07 38 38.2 +1.0**
BZS Buzias 79.59 341⇓ *i*P **P 07 38 38.2 +1.0**
HINF Hinteralfeld 79.61 351 *e*P **P 07 38 37.2 -0.1**
HINF Hinteralfeld 79.61 351 *e*P **P 07 38 37.2 -0.1**
HINF Hinteralfeld 79.61 351 *e*P **P 07 38 37.2 -0.1**
WTTA Wattenberg 79.64 348⇑ *i*P **P 07 38 38.2 +0.6**
comp=Z,30nm,1.5s,SNR=6.8
ROSF Rostrenen 79.66 358 *e*P **P 07 38 37.6 +0.1**
ROSF Rostrenen 79.66 358 *e*P **P 07 38 37.6 +0.1**
ROSF Rostrenen 79.66 358 *e*P **P 07 38 37.6 +0.1**
SGMF Saint Gilles 79.72 358 *e*P **P 07 38 37.9 +0.1**
comp=Z,17nm,0.7s
SGMF Saint Gilles 79.72 358 *e*P **P 07 38 37.9 +0.1**
SGMF pmax pmax
comp=Z,17nm,0.7s
SGMF Saint Gilles 79.72 358 *e*P **P 07 38 37.9 +0.1**
comp=Z,17nm,0.7s
SOKA Soboth 79.73 346⇓ *i*P **P 07 38 39.0 +0.9**
comp=Z,26nm,1.0s,SNR=12
PERS Pernice 79.76 346 *i*P **P 07 38 39.1 +0.9**
HYB Hyderabad 79.77 285⇑ *i*P **P 07 38 38.0 -0.6**
GROS Grobnik 79.87 345 *i*P **P 07 38 40.9 +0.8**
GROS *i* pP **pP 07 38 50.9 -0.7**
WRAB Tennant Creek 79.89 218 *e*P **P 07 38 37.6 -1.4**
WRAB Tennant Creek 79.89 218 *e*P **P 07 38 37.6 -1.4**
WRA Warramunga Arr 79.91 218 P **P 07 38 38.3 -0.8**
WRA Warramunga Arr 79.91 218 P **P 07 38 38.3 -0.8**
comp=Z,8.8nm,0.7s,baz=32,slow=6.0,SNR=19
OBKA Obir 79.97 346⇑ *i*P **P 07 38 40.3 +0.9**
comp=Z,33nm,0.8s,SNR=9.8
IRAZ Razeghan 80.00 317 *e*P **P 07 38 40.2 +0.3**
ABTA Abfaltersbach 80.03 347 *i*P **P 07 38 40.0 +0.4**
comp=Z,16nm,1.0s,SNR=6.0
QUIF Quistinic 80.08 358 *e*P **P 07 38 40.2 +0.5**
QUIF Quistinic 80.08 358 *e*P **P 07 38 40.2 +0.5**
QUIF Quistinic 80.08 358 *e*P **P 07 38 40.2 +0.5**
ROBS Robic 80.38 347 *i*P **P 07 38 41.3 -0.1**
LOR Lormes 80.41 353⇑ *i*P **P 07 38 40.6 -1.0**
comp=Z,26nm,0.9s
LOR *e*R
comp=Z,128nm,21.5s
LOR Lormes 80.41 353⇑ *i*P **P 07 38 40.6 -1.0**
comp=Z,26nm,0.9s
FUORN Ofenpass-Fuorn 80.44 349 *e*P **P 07 38 43.1 +1.0**
comp=Z,12nm,0.9s
SSF Saint Saulge 80.64 354⇑ *i*P **P 07 38 43.0 +0.2**
comp=Z,17nm,0.8s
SSF Saint Saulge 80.64 354⇑ *i*P **P 07 38 43.0 +0.2**
SSF pmax pmax
comp=Z,17nm,0.8s
SSF Saint Saulge 80.64 354⇑ *i*P **P 07 38 43.0 +0.2**
comp=Z,17nm,0.8s
TUE Stuetta 80.69 349 *e*P **P 07 38 44.5 +1.1**
comp=Z,12nm,1.0s
IBAF Bafgh 80.72 311 *e*P **P 07 38 42.1 -1.6**
CABF La Chapelle 80.88 352⇑ *i*P **P 07 38 44.7 +0.5**
CABF La Chapelle 80.88 352⇑ *i*P **P 07 38 44.7 +0.5**
CABF La Chapelle 80.88 352⇑ *i*P **P 07 38 44.7 +0.5**
AVF Avril sur Loir 80.92 354⇑ *i*P **P 07 38 44.4 +0.1**
comp=Z,26nm,1.0s
AVF Avril sur Loir 80.92 354⇑ *i*P **P 07 38 44.4 +0.1**
AVF pmax pmax
comp=Z,26nm,1.0s
AVF Avril sur Loir 80.92 354⇑ *i*P **P 07 38 44.4 +0.1**
comp=Z,26nm,1.0s
SMF Signal de Mont 81.03 353⇑ *i*P **P 07 38 45.0 +0.1**
comp=Z,22nm,0.9s
SMF Signal de Mont 81.03 353⇑ *i*P **P 07 38 45.0 +0.1**
SMF pmax pmax
comp=Z,22nm,0.9s
SMF Signal de Mont 81.03 353⇑ *i*P **P 07 38 45.0 +0.1**
comp=Z,22nm,0.9s
MFF Saint Martin d 81.30 356 *e*P **P 07 38 46.6 +0.3**
comp=Z,16nm,0.9s
MFF Saint Martin d 81.30 356 *e*P **P 07 38 46.6 +0.3**
MFF pmax pmax
comp=Z,16nm,0.9s
MFF Saint Martin d 81.30 356 *e*P **P 07 38 46.6 +0.3**
comp=Z,16nm,0.9s
TCF Toulx Ste Croi 81.49 354⇑ *i*P **P 07 38 47.5 +0.1**
comp=Z,18nm,0.9s
TCF Toulx Ste Croi 81.49 354⇑ *i*P **P 07 38 47.5 +0.1**
TCF pmax pmax
comp=Z,18nm,0.9s
TCF Toulx Ste Croi 81.49 354⇑ *i*P **P 07 38 47.5 +0.1**
comp=Z,18nm,0.9s
POO Poona 81.65 289 *e*P **P 07 38 48.0 -0.7**
TBI Tubuai 81.80 147 *e*SS SS 07 54 24.7 +6.5
comp=Z,61nm,32.0s
TBI *e*LR LR 08 04 20.3
comp=Z,344nm,29.5s,baz=329
FITZ Fitzroy Crossi 81.82 226 *e*P **P 07 38 49.1 -0.2**
comp=Z,22nm,1.3s
FITZ Fitzroy Crossi 81.82 226 P **P 07 38 49.2 0.0**
comp=Z,9.1nm,0.6s,baz=13,slow=4.5,SNR=16
MALT Malatya 81.83 326⇑ P **P 07 38 50.8 +1.4**
MALT Malatya 81.83 326⇑ *i*P **P 07 38 50.8 +1.4**
LPL La Plagne 81.91 351⇑ *i*P **P 07 38 51.0 +1.2**
LPL La Plagne 81.91 351⇑ *i*P **P 07 38 51.0 +1.2**
LPL La Plagne 81.91 351⇑ *i*P **P 07 38 51.0 +1.2**
LPG La Plagne 81.92 351⇑ *i*P **P 07 38 51.2 +1.2**

comp=Z,54nm,1.2s
LPG La Plagne 81.92 351 ⇑*iP* **P 07 38 51.2 +1.2**
LPG pmax pmax
comp=Z,54nm,1.2s
LPG La Plagne 81.92 351 ⇑*iP* **P 07 38 51.2 +1.2**
comp=Z,54nm,1.2s
BR131 Keskin Array S 82.09 330 *eP* **P 07 38 51.3 +0.5**
comp=Z,12nm,0.7s
BRTR Keskin Array B 82.09 330 P **P 07 38 51.4 +0.6**
BRTR Keskin Array B 82.09 330 P **P 07 38 51.4 +0.6**
comp=Z,16nm,0.8s,baz=54,slow=3.1,SNR=75
BRTR LR LR 08 18 24.7
comp=Z,94nm,21.3s,baz=182,slow=38
VTS Vitosha 82.15 339 ⇑*iP* **P 07 38 51.2 +0.1**
VTS Vitosha 82.15 339 ⇑*iP* **P 07 38 51.2 +0.1**
ANTO Ankara 82.21 331 *eP* **P 07 38 52.7 +1.3**
ANTO pmax pmax
comp=Z,14nm,0.9s
ANTO Ankara 82.21 331 *eP* **P 07 38 52.7 +1.3**
comp=Z,14nm,0.9s
KBSD Kabsdagh 82.27 324 *iP* **P 07 38 51.3 -0.4**
ORIF Oris-en-Rattie 82.58 352 ⇑*iP* **P 07 38 54.2 +1.0**
comp=Z,24nm,0.8s
ORIF *e*R
comp=Z,164nm,22.2s
ORIF Oris-en-Rattie 82.58 352 ⇑*iP* **P 07 38 54.2 +1.0**
ORIF pmax pmax
comp=Z,25nm,0.8s
ORIF Oris-en-Rattie 82.58 352 ⇑*iP* **P 07 38 54.2 +1.0**
comp=Z,24nm,0.8s
MBDF Montbardon 82.69 351 ⇑*iP* **P 07 38 54.8 +1.0**
comp=Z,23nm,0.7s
MBDF Montbardon 82.69 351 ⇑*iP* **P 07 38 54.8 +1.0**
MBDF pmax pmax
comp=Z,23nm,0.7s
MBDF Montbardon 82.69 351 ⇑*iP* **P 07 38 54.8 +1.0**
comp=Z,23nm,0.7s
VIVF Saint-Julien-I 82.74 352 ⇑*iP* **P 07 38 54.6 +0.6**
comp=Z,36nm,1.1s
VIVF Saint-Julien-I 82.74 352 ⇑*iP* **P 07 38 54.6 +0.6**
VIVF pmax pmax
comp=Z,36nm,1.1s
VIVF Saint-Julien-I 82.74 352 ⇑*iP* **P 07 38 54.6 +0.6**
comp=Z,36nm,1.1s
CAF Calviac 82.86 354 *eP* **P 07 38 55.3 +0.7**
comp=Z,17nm,0.8s
CAF Calviac 82.86 354 *eP* **P 07 38 55.3 +0.7**
CAF pmax pmax
comp=Z,17nm,0.8s
CAF Calviac 82.86 354 *eP* **P 07 38 55.3 +0.7**
comp=Z,17nm,0.8s
SFNV Sufian 82.94 324 *iP* **P 07 38 56.5 +1.3**
IPAR Pars 83.36 312 *eP* **P 07 38 57.4 -0.4**
ASAR Alice Springs 83.47 217 P **P 07 38 57.5 -0.3**
ASAR Alice Springs 83.47 217 P **P 07 38 57.5 -0.3**
comp=Z,2.9nm,0.7s,baz=24,slow=5.3,SNR=12
ASAR LR LR 08 10 48.4
comp=Z,128nm,21.4s,baz=277,slow=32
SBF Sospel 83.47 350 ⇑*iP* **P 07 38 58.1 +0.3**
comp=Z,65nm,0.9s
SBF Sospel 83.47 350 ⇑*iP* **P 07 38 58.1 +0.3**
SBF pmax pmax
comp=Z,65nm,0.9s
SBF Sospel 83.47 350 ⇑*iP* **P 07 38 58.1 +0.3**
comp=Z,65nm,0.9s
SMRF Simiane la Rot 83.54 352 *eP* **P 07 39 00.3 +2.2**
comp=Z,64nm,1.0s
SMRF Simiane la Rot 83.54 352 *eP* **P 07 39 00.3 +2.2**
comp=Z,64nm,1.0s
ISRV Sarvestan 83.72 311 *eP* **P 07 38 59.4 -0.2**
TGUH Tegucigalpa,Un 84.14 75 *eP* **P 07 39 02.0 +0.5**
comp=Z,41nm,1.3s
TGUH *e* 07 39 12.4
JHLN Al Jahlan 84.20 325 *iP* **P 07 39 03.5 +1.9**
MTLF Montolieu 84.42 354 ⇑*iP* **P 07 39 03.3 +0.7**
comp=Z,27nm,0.9s
MTLF Montolieu 84.42 354 ⇑*iP* **P 07 39 03.3 +0.7**
MTLF pmax pmax
comp=Z,27nm,0.9s
MTLF Montolieu 84.42 354 ⇑*iP* **P 07 39 03.3 +0.7**
comp=Z,27nm,0.9s
SJPF Ste Jean 84.82 357 *eP* **P 07 39 05.5 +0.9**
comp=Z,16nm,0.7s
SJPF Ste Jean 84.82 357 *eP* **P 07 39 05.5 +0.9**
SJPF pmax pmax
comp=Z,16nm,0.7s
SJPF Ste Jean 84.82 357 *eP* **P 07 39 05.5 +0.9**
comp=Z,16nm,0.7s
EPF Esparros 84.84 355 *eP* **P 07 39 04.5 -0.3**
comp=Z,14nm,0.9s
EPF Esparros 84.84 355 *eP* **P 07 39 04.5 -0.3**
EPF pmax pmax
comp=Z,14nm,0.9s
EPF Esparros 84.84 355 *eP* **P 07 39 04.5 -0.3**
comp=Z,14nm,0.9s
ETSF Etsaut 85.01 356 ⇑*iP* **P 07 39 06.4 +0.8**
comp=Z,19nm,0.7s
ETSF Etsaut 85.01 356 ⇑*iP* **P 07 39 06.4 +0.8**
ETSF pmax pmax
comp=Z,19nm,0.7s
ETSF Etsaut 85.01 356 ⇑*iP* **P 07 39 06.4 +0.8**
comp=Z,19nm,0.7s
KBD Kabd 86.32 315 *eP* **P 07 39 11.9 -0.4**
KBD AMb AMB 07 39 13.7
comp=Z,26nm,1.1s
RST Umm Al-Ruwaisa 86.33 316 *eP* **P 07 39 11.5 -0.9**
RST AMb AMB 07 39 12.8
comp=Z,357nm,0.9s
MARH Ras Al Marh 86.37 326 *iP* **P 07 39 14.6 +1.7**
PALK Pallekele 86.42 277 *eP* **P 07 39 13.1 +0.1**
comp=Z,23nm,1.0s
NAY Al-Naaiem 86.45 316 *eP* **P 07 39 12.2 -0.7**
NAY AMb AMB 07 39 13.1
comp=Z,31nm,0.8s
WBK Wadi Bani Khal 86.53 303 ⇓*P* **P 07 39 12.9 -0.5**
SNR=6.1
RDF Al-Radifah 86.60 315 *eP* **P 07 39 13.6 -0.1**
RDF AMb AMB 07 39 14.5
comp=Z,70nm,0.7s
SMDO Samad 86.62 304 ⇓*P* **P 07 39 13.5 -0.4**
SNR=6.9
ZALF Zalf 87.08 325 *iP* **P 07 39 16.4 +0.4**
ARQ Araqi 87.16 305 ⇑*P* **P 07 39 15.9 -0.6**
SNR=7.6
JMDO Jabal Madar 87.17 304 ⇑*P* **P 07 39 16.0 -0.5**
SNR=10
RKT Rikitea 87.25 134 *e*LR LR 08 06 40.3
comp=Z,205nm,35.8s
BSY Bisya 87.31 305 ⇓*P* **P 07 39 16.8 -0.5**
SNR=9.2
ESDC Sonseca Array 88.33 359 P **P 07 39 21.0 -0.9**
ESDC Sonseca Array 88.33 359 P **P 07 39 21.0 -0.9**
comp=Z,0.7nm,0.4s,baz=352,slow=4.9,SNR=8.0
JTS JuntasAbangare 88.49 75 LR LR 08 15 39.1
comp=Z,63nm,21.1s,baz=104,slow=33
STKA Stephens Creek 88.59 207 *eP* **P 07 39 22.5 -0.3**
comp=Z,0.9nm,0.8s
STKA Stephens Creek 88.59 207 P **P 07 39 22.4 -0.3**
comp=Z,2.8nm,0.6s,baz=10,slow=8.0,SNR=7.8
TORD Torodi Ar. Bea 114.44 352 PKIKP **PKiKP 07 45 09.0 -1.2**
TORD PKIKP **PKKPdf 07 56 07.5 -1.1**
TORD Torodi Ar. Bea 114.44 352 PKiKP **PKiKP 07 45 09.0 -1.2**
comp=Z,1.0nm,0.8s,baz=342,slow=1.8,SNR=8.2
TORD PKKP **PKKPdf 07 56 07.5 -1.1**
comp=Z,0.8nm,0.8s,baz=184,slow=5.0,SNR=3.7
DBIC Dimbokro 121.19 359 PKP **PKPdf 07 45 22.3 -0.9**
DBIC Dimbokro 121.19 359 PKP **PKPdf 07 45 22.3 -0.9**
comp=Z,5.5nm,1.0s,baz=93,slow=3.0,SNR=6.0
LIC Lamto 121.64 359 *e*PKIKP **PKPdf 07 45 23.1 -1.0**
comp=Z,6.9nm,0.7s
LIC Lamto 121.64 359 *e*PKPdf **PKPdf 07 45 23.1 -1.0**
QSPA South Pole Qui 142.11 180 *e*PKP **PKPdf 07 45 56.8 -4.1**
LBTB Lobatse 143.80 307 *e*PKPdf PKPbc 07 46 03.0 0.0
MAW Mawson 144.58 218 *e*PKPdf **PKPab 07 46 02.9 -0.8**
MAW PKP PKPbc 07 46 03.1 -0.9
MAW Mawson 144.58 218 PKP **PKPab 07 46 03.1 -0.7**
comp=Z,13nm,0.7s,baz=82,slow=4.3,SNR=47
BOSA Boshof 146.94 304 *e*PKPbc **PKPbc 07 46 12.0 -0.6**
BOSA Boshof 146.94 304 PKPbc **PKPbc 07 46 12.2 -0.3**
comp=Z,13nm,0.6s,baz=33,slow=2.1,SNR=33

*IDC **17** 07:26:49.1±3.5, 7.°51S×127.°93E, h101km±33km, mb3.7/6, mb1 4.0/9, mb1mx3.8/20, mbtmp3.8/9, Error ellipse: s-maj=42.6km s-min=16.2km az=78.0*

*AUST **17** 07:26:50.9±0.0, 7.°55S×127.°76E, h141km, Error ellipse: s-maj=1.1km s-min=0.8km az=293.0*
*ISCJB **17** 07:26:52.0±0.5, 7.°59S±0.°05×126.°01E±0.°06, h142km, mb3.8/6, Error ellipse: s-maj=8.1km s-min=6.6km az=29.2*
*DJA **17** 07:26:53.2±0.4, 8.°5±6.°×12.°8E±.°, h180km±29km, M4.6/5, mb4.6/4, mB5.2/2, MLv4.7/5, Mw(mB)4.6/2*
ISC 17 07:26:53.5±0.7, 7.°61S±0.°07×128.°03E±0.°07, h142km, n29, σ1°45/31, mb3.9/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AAI	**Ambon**	**3.90**	**2**	P		**Pn**	**07 27 52.7**	**+0.4**
SOEI	**Soe**	**4.29**	**240**	P		**Pn**	**07 27 58.1**	**+0.6**
SOEI	**Soe**	**4.29**	**240**	P		**Pn**	**07 27 58.1**	**+0.6**
baz=4.1,SNR=38								
BATI	**Baumata**	**5.02**	**239**	P		**Pn**	**07 28 07.6**	**+0.4**
BATI				S		**Sn**	**07 29 04.3**	**-0.3**
BATI	**Baumata**	**5.02**	**239**	P		**Pn**	**07 28 07.7**	**+0.5**
151nm,0.3s,baz=118,slow=2.4,SNR=79								
BATI				S		**Sn**	**07 29 04.1**	**-0.5**
54nm,0.3s,baz=150,slow=20,SNR=6.7								
TLE	**Tual**	**5.07**	**68**	P		**Pn**	**07 28 08.2**	**+0.4**
213nm,0.7s,2μm0.8nm								
TLE	**Tual**	**5.07**	**68**	P		**Pn**	**07 28 08.8**	**+1.0**
baz=5.3,SNR=12								
MTN	**Manton Dam**	**6.03**	**150**	P		**Pn**	**07 28 21.2**	**+0.6**
baz=6.2,SNR=39								
FAKI	**Fak Fak**	**6.28**	**42**	P		**Pn**	**07 28 22.0**	**-1.9**
FAKI	**Fak Fak**	**6.28**	**42**	P		**Pn**	**07 28 22.2**	**-1.7**
baz=6.4,SNR=27								
KDU	**Kakadu**	**6.68**	**139**	P		**Pn**	**07 28 29.1**	**-0.2**
baz=6.9,SNR=145								
SWI	**Sorong**	**7.44**	**26**	P		**Pn**	**07 28 42.4**	**+2.9**
baz=7.5,SNR=3.7								
KNRA	**Kununurra**	**8.05**	**175**	P		**Pn**	**07 28 46.6**	**-1.1**
baz=8.2,SNR=156								
FITZ	**Fitzroy Crossi**	**10.69**	**192**	P		**Pn**	**07 29 19.7**	**-3.1**
baz=11,SNR=135								
FITZ	**Fitzroy Crossi**	**10.69**	**192**	P		**Pn**	**07 29 20.0**	**-2.9**
6.6nm,0.3s,baz=25,slow=10,SNR=144								
FITZ				S		Sn	07 31 13.6	-7.3
2.4nm,0.3s,baz=90,slow=20,SNR=2.9								
WRA	**Warramunga Arr**	**13.70**	**154**	P		**Pn**	**07 29 59.6**	**-2.4**
2.4nm,0.3s,baz=320,slow=14,SNR=28								
WRA				S		Sn	07 32 20.8	-13
3.5nm,0.3s,baz=324,slow=24,SNR=16								
COEN	**Coen**	**16.16**	**114**	P		**P**	**07 30 34.6**	**+1.3**
baz=16,SNR=7.8								
ASAR	**Alice Springs**	**16.93**	**161**	P		**P**	**07 30 42.0**	**+0.2**
0.9nm,0.3s,baz=333,slow=10,SNR=84								
ASAR				S		S	07 33 39.9	-11
0.6nm,0.3s,baz=330,slow=12,SNR=4.8								
STKA	**Stephens Creek**	**27.26**	**154**	P		**P**	**07 32 25.4**	**+0.9**
1.8nm,0.6s,baz=324,slow=9.6,SNR=4.5								
PPI	**Padang Panjang**	**28.44**	**283**	P		P	07 32 27.8	-7.5
baz=28,SNR=3.3								
CMSA	**Cobar Meteorol**	**28.96**	**148**	P		**P**	**07 32 41.1**	**+1.5**
baz=29,SNR=11								
ARPS	**Mount Arapiles**	**31.64**	**159**	P		**P**	**07 33 05.2**	**+2.0**
baz=32,SNR=5.6								
KSRS	**Korea Array**	**44.83**	**360**	P		**P**	**07 34 52.6**	**-0.8**
1.3nm,0.6s,baz=180,slow=10.0,SNR=4.1								
MJAR	**Matsushiro Arr**	**44.95**	**12**	P		**P**	**07 34 53.4**	**-1.0**
1.1nm,0.3s,baz=183,slow=12,SNR=4.3								
MKAR	**Makanchi Array**	**67.68**	**328**	P		**P**	**07 37 35.1**	**-0.3**
1.0nm,0.5s,baz=123,slow=5.2,SNR=2.5								
ZALV	**Zalesovo Beam**	**71.28**	**335**	P		**P**	**07 37 55.7**	**-1.5**
0.8nm,0.4s,baz=137,slow=5.9,SNR=3.6								
MAW	**Mawson**	**73.67**	**201**	P		**P**	**07 38 12.2**	**+0.9**
0.6nm,0.6s,baz=98,slow=5.6,SNR=6.7								
CPUP	**Villa Florida**	**145.87**	**171**	PKPbc		**PKPbc**	**07 46 16.8**	**-0.2**
1.8nm,0.5s,baz=222,slow=3.3,SNR=5.7								
LPAZ	**La Paz**	**151.37**	**146**	PKPbc		**PKPbc**	**07 46 31.8**	**-0.5**
0.7nm,0.4s,baz=156,slow=4.6,SNR=7.7								
LPAZ				PKPab		**PKPab**	**07 46 42.1**	**+1.4**
1.8nm,0.6s,baz=221,slow=2.7,SNR=8.9								

*ISCJB **17** 07:27:30.5±0.3, 12.°98N±0.°05×88.°93W±0.°04, h55km, mb4.4/38, MS3.5/3, Error ellipse: s-maj=8.1km s-min=2.7km az=38.6*
*CASC **17** 07:27:32.9±1.8, 13.°00N×88.°91W, h44km±20km, MD4.2, ML4.6, mb4.4(NEIC)*
*IDC **17** 07:27:36.0±2.2, 13.°28N×88.°44W, h99km±20km, mb3.8/13, mb1 4.1/14, mb1mx3.9/24, mbtmp3.8/14, MS3.1/3, Ms1 3.0/3, ms1mx2.9/28, Error ellipse: s-maj=35.7km s-min=11.6km az=51.0*
*BJI **17** 07:27:35.2, 13.°10N×88.°70W, h90km, mB4.6/1, Ms7 4.6/2*
*NEIC **17** 07:27:36.3±1.0, 13.°10N×88.°66W, h104km±8km, mb4.4/29, MD4.5(SNET), Error ellipse: s-maj=14.4km s-min=5.2km az=51.0*
NEIC Felt [III] at San Salvador.
ISC 17 07:27:31.4±0.4, 13.°06N±0.°05×88.°89W±0.°04, h55km, n309, σ1°43/318, mb4.4/38, MS3.2/3, 108C-105D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AIES	**Las Flores**	**0.43**	**338**	*e*P		**Pn**	**07 27 43.2**	**+1.0**
AIES				*e*S		**Sn**	**07 27 52.0**	**+2.0**
AIES				AML		AML	07 27 58.2	
comp=Z,20μm,0.5s								
SNVI	**San Vicente**	**0.56**	**5**	⇓*iP*		**Pn**	**07 27 45.3**	**+1.5**
LFRS	**El Faro**	**0.59**	**343**	⇓*iP*		**Pn**	**07 27 45.2**	**+1.1**
LBRS	**Las Brisas**	**0.69**	**348**	⇓*iP*		**Pn**	**07 27 47.2**	**+1.8**
VSM	**San Miguel**	**0.70**	**58**	⇓*iP*		**Pn**	**07 27 47.6**	**+1.9**
SNET	**Serv Nac Est T**	**0.71**	**332**	*iP*		**Pn**	**07 27 46.7**	**+1.1**
SNET				*e*S		**Sn**	**07 27 57.6**	**+1.7**
SNET				AML		AML	07 27 59.5	
comp=Z,17μm,0.2s								
BLLM	**Bellamira**	**0.74**	**59**	*e*P		**Pn**	**07 27 47.8**	**+1.9**
BOQS	**Boqueron**	**0.77**	**331**	⇑*iP*		**Pn**	**07 27 47.9**	**+1.4**
CAHU	**Cacaotatique**	**0.97**	**43**	⇓*iP*		**Pn**	**07 27 51.2**	**+2.2**
CNCH	**Conchagua**	**1.05**	**78**	*e*P		**Pn**	**07 27 51.6**	**+1.6**
SBLS	**San Blas**	**1.06**	**318**	⇓*iP*		**Pn**	**07 27 51.5**	**+1.3**
SNJE	**San Jose**	**1.07**	**319**	*e*P		**Pn**	**07 27 51.6**	**+1.3**
RTR	**El Retiro**	**1.11**	**319**	*e*P		**Pn**	**07 27 52.5**	**+1.5**
TGUH	**Tegucigalpa,Un**	**1.86**	**57**	*e*P		**Pn**	**07 28 03.1**	**+2.2**
TGUH	**Tegucigalpa,Un**	**1.86**	**57**	*e*Pn		**Pn**	**07 28 03.0**	**+2.1**
NBG	**Las Nubes**	**2.08**	**317**	*e*P		**Pn**	**07 28 07.0**	**+2.9**
MRL	**Marmol**	**2.14**	**339**	⇑*e*P		Pn	07 28 08.3	+3.4
CNGN	**Cerro Negro**	**2.21**	**104**	*e*S		**Sn**	**07 28 33.2**	**+1.4**
FUG	**Fuego 3**	**2.35**	**306**	*e*P		**Pn**	**07 28 10.4**	**+2.7**
COPN	**Copaltepe**	**2.41**	**111**	*e*P		**Pn**	**07 28 09.1**	**+0.7**
APG	**El Apazote**	**2.47**	**322**	P		**Pn**	**07 28 08.9**	**-0.5**
APG				S		Sn	07 28 50.3	+12
APG	**El Apazote**	**2.47**	**322**	P		**Pn**	**07 28 08.9**	**-0.5**
comp=Z,14nm,0.3s,baz=326,slow=15,SNR=22								
APG				S		Sn	07 28 50.3	+12
comp=Z,22nm,0.3s,baz=61,slow=19,SNR=3.3								
HUEN		**2.75**	**105**	*e*P		**Pn**	**07 28 13.9**	**+1.0**
JAT	**Jato**	**2.95**	**295**	*e*P		**Pn**	**07 28 18.1**	**+2.4**
VCR	**Vista de Mar**	**4.32**	**132**	*e*P		**Pn**	**07 28 36.4**	**+1.7**
JTS	**JuntasAbangare**	**4.74**	**125**	*e*Pn		Pn	07 28 43.7	+3.5
JTS				S		**Sn**	**07 29 33.7**	**-0.3**
JTS	**JuntasAbangare**	**4.74**	**125**	P		**Pn**	**07 28 42.6**	**+2.3**
comp=Z,11nm,0.3s,baz=311,slow=22,SNR=83								
JTS				S		**Sn**	**07 29 33.7**	**-0.3**
comp=Z,5.6nm,0.3s,baz=319,slow=20,SNR=1.7								
JTS				LR		LR	07 30 59.6	
comp=Z,147nm,22.0s,baz=158,slow=45								
JCR	**Jicaral**	**4.88**	**130**	⇓*eP*		**Pn**	**07 28 44.7**	**+2.4**
CGA2	**Cerro Gallo 2**	**5.28**	**124**	*eP*		Pn	07 28 51.5	+3.6
CGA2				*e*S		**Sn**	**07 29 48.6**	**+1.0**
SJS	**Escuela Geolog**	**5.66**	**123**	*eP*		Pn	07 28 57.1	+4.0
QCR	**Quepos**	**5.87**	**127**	⇓*eP*		Pn	07 28 58.8	+3.0
BUS	**Buena Vista**	**6.12**	**124**	⇓*eP*		Pn	07 29 03.1	+3.4
BUS				*e*S		**Sn**	**07 30 08.5**	**-0.1**
TEIG	**Tepich**	**7.15**	**5**	*e*Pn		Pn	07 29 16.9	+3.5
ROSC	**El Rosal**	**16.52**	**118**	*eP*		**Pn**	**07 31 20.6**	**+0.7**
SDV	**Santo Domingo** comp=Z,12nm,0.9s	**18.39**	**101**	*eP*		**P**	**07 31 41.9**	**-0.4**
632A	**Uvalde** baz=19,SNR=5.4	**19.24**	**330**	⇑*P*		**Pn**	**07 31 54.2**	**+1.6**
631A	**Perdido Creek** baz=20,SNR=5.9	**19.56**	**328**	⇑*P*		**P**	**07 31 56.2**	**+1.5**
532A	**Rocksprings** baz=20,SNR=9.7	**19.81**	**331**	⇓*P*		**P**	**07 31 59.2**	**+1.7**
LRAL	**Lakeview Retre** comp=Z,4.9nm,0.7s	**19.96**	**5**	*eP*		**Pn**	**07 32 01.6**	**+0.4**
JCT	**Junction City** comp=Z,8.2nm,0.6s	**20.06**	**332**	*eP*		**P**	**07 32 01.6**	**+1.4**
JCT	**Junction City** baz=20,SNR=7.3	**20.06**	**332**	⇓*P*		**P**	**07 32 02.3**	**+2.1**
531A	**Rocksprings** baz=20	**20.16**	**329**	⇓*P*		**P**	**07 32 03.5**	**+2.3**
432A	**Menard** baz=20,SNR=7.6	**20.39**	**332**	⇓*P*		**P**	**07 32 05.8**	**+2.0**
530A	**J-C Ranch, Com** baz=21,SNR=9.1	**20.54**	**328**	⇑*P*		**P**	**07 32 07.8**	**+2.4**
431A	**Sonora** baz=21,SNR=12	**20.61**	**330**	⇑*P*		**P**	**07 32 08.0**	**+1.9**
332A	**Millersview** baz=21,SNR=7.0	**20.80**	**333**	⇓*P*		**P**	**07 32 10.4**	**+2.3**
628A	**Black Gap, Mar** baz=21,SNR=5.7	**20.88**	**324**	⇑*P*		**P**	**07 32 11.3**	**+2.2**
430A	**Baggett Ranch,** baz=21,SNR=6.1	**21.00**	**329**	⇓*P*		**P**	**07 32 12.5**	**+2.1**
331A	**San Angelo** baz=21,SNR=14	**21.04**	**332**	⇑*P*		**P**	**07 32 11.6**	**+0.8**
627A	**Terlingua Ranc** baz=21,SNR=8.2	**21.15**	**323**	⇑*P*		**P**	**07 32 14.4**	**+2.3**
232A	**Coleman** baz=21,SNR=11	**21.19**	**334**	⇑*P*		**P**	**07 32 14.2**	**+1.8**
429A	**Davenport Ranc** baz=21,SNR=10	**21.21**	**328**	⇓*P*		**P**	**07 32 15.1**	**+2.5**
TXAR	**Lajitas Array**	**21.23**	**322**	P		**P**	**07 32 14.9**	**+2.1**
TXAR				PcP		**PcP**	**07 36 16.6**	**+0.1**
TXAR	**Lajitas Array** comp=Z,4.0nm,0.6s,baz=140,slow=10,SNR=57	**21.23**	**322**	P		**P**	**07 32 14.9**	**+2.1**
TXAR				PcP		**PcP**	**07 36 16.6**	**+0.1**
comp=Z,0.4nm,0.6s,baz=140,slow=4.5,SNR=4.2								
TXAR				LR		LR	07 41 51.8	
comp=Z,30nm,19.4s,baz=180,slow=40								
330A	**Mertzon** baz=22	**21.48**	**330**	⇑*P*		**P**	**07 32 17.5**	**+2.0**
231A	**Bronte** baz=22	**21.52**	**333**	⇑*P*		**P**	**07 32 18.0**	**+2.1**
626A	**Big Bend Ranch** baz=22	**21.67**	**322**	⇓*P*		**P**	**07 32 19.8**	**+2.2**
MIAR	**Mount Ida** comp=Z,81nm,2.2s	**21.81**	**350**	*eP*		**P**	**07 32 21.1**	**+2.2**
ABTX	**Abilene, Hawle**	**21.82**	**335**	*eP*		**P**	**07 32 20.1**	**+0.9**
ABTX	**Abilene, Hawle** baz=22	**21.82**	**335**	⇑*P*		**P**	**07 32 20.7**	**+1.6**
329A	**Wagon Wheel Ra** baz=22,SNR=8.8	**21.94**	**329**	⇑*P*		**P**	**07 32 23.1**	**+2.6**
526A	**Mary Lane Ranc** baz=22	**22.01**	**323**	⇓*P*		**P**	**07 32 23.8**	**+2.6**
131A	**Roby** baz=22	**22.18**	**334**	⇑*P*		**P**	**07 32 24.8**	**+1.7**
427A	**Hayter Ranch,** baz=22	**22.20**	**325**	⇓*P*		**P**	**07 32 25.5**	**+2.2**
SWET	**Sewanee** comp=Z,5.0nm,0.7s	**22.23**	**6**	*eP*		**P**	**07 32 24.5**	**+1.0**
229A	**Bryant Ranch,** baz=22	**22.25**	**330**	⇓*P*		**P**	**07 32 25.5**	**+1.7**
328A	**Wristen Ranch,** baz=22,SNR=9.0	**22.29**	**327**	⇑*P*		**P**	**07 32 26.3**	**+2.1**
Z32A	**Haskell** baz=22,SNR=10.0	**22.36**	**336**	⇓*P*		**P**	**07 32 25.3**	**+0.5**
130A	**Snyder** baz=22,SNR=8.8	**22.37**	**332**	⇓*P*		**P**	**07 32 26.9**	**+1.8**
426A	**McDonald Obser** baz=23	**22.42**	**324**	⇓*P*		**P**	**07 32 27.8**	**+2.0**
ATAH	**Atahualpa** comp=Z,109nm,21.8s,baz=196,slow=32	**22.61**	**152**	LR		LR	07 39 39.6	
Z31A	**Sharp Cattle R** baz=23,SNR=6.6	**22.63**	**335**	⇑*P*		**P**	**07 32 28.1**	**+0.3**
228A	**UT Block 9, Go** baz=23	**22.76**	**329**	⇓*P*		**P**	**07 32 30.6**	**+1.3**
129A	**Stewart Farms,** baz=23,SNR=7.8	**22.82**	**331**	⇓*P*		**P**	**07 32 30.0**	**+0.2**
326A	**Caldwell Ranch** baz=23	**22.88**	**325**	⇑*P*		**P**	**07 32 31.0**	**+0.6**
Y32A	**R-V Farms, Ver** baz=23	**22.96**	**337**	⇑*P*		**P**	**07 32 31.3**	**+0.2**
TKL	**Tuckaleechee C**	**22.97**	**11**	P		**P**	**07 32 32.2**	**+0.9**
TKL	**Tuckaleechee C** comp=Z,2.3nm,0.5s,baz=173,slow=14,SNR=5.8	**22.97**	**11**	P		**P**	**07 32 32.2**	**+0.9**
WVT	**Waverly** comp=Z,3.8nm,0.8s	**22.99**	**2**	*eP*		**P**	**07 32 32.5**	**+1.1**
KMSC	**Kings Mountain**	**23.03**	**16**	*eP*		**P**	**07 32 32.5**	**+0.7**
Z30A	**Sanderson Ranc** baz=23,SNR=19	**23.03**	**333**	⇓*P*		**P**	**07 32 32.9**	**+1.0**
128A	**Castleberry Fa** baz=23	**23.11**	**330**	⇑*P*		**P**	**07 32 33.3**	**+0.5**
Y31A	**Rekieta Farm,** baz=23,SNR=9.3	**23.24**	**335**	⇓*P*		**P**	**07 32 34.5**	**+0.6**
Z29A	**Hungry Hill Ra** baz=23,SNR=18	**23.27**	**332**	⇓*P*		**P**	**07 32 35.2**	**+0.9**
WMOK	**Wichita Mounta** comp=Z,9.5nm,1.3s	**23.37**	**339**	*eP*		**P**	**07 32 35.5**	**+0.3**
Y30A	**Stafford Cattl** baz=24,SNR=12	**23.43**	**334**	⇓*P*		**P**	**07 32 37.4**	**+1.6**
325A	**Bean Ranch, Si** baz=24	**23.48**	**324**	⇑*P*		**P**	**07 32 37.6**	**+1.1**
226B	**Tecolote Peak,** baz=24	**23.56**	**326**	⇑*P*		**P**	**07 32 38.1**	**+1.1**
TUL1	**Tulsa**	**23.59**	**346**	*eP*		**P**	**07 32 38.4**	**+1.2**
TUL1	**Tulsa** baz=24	**23.59**	**346**	⇓*P*		**P**	**07 32 38.3**	**+1.1**
127A	**Arkansas Junct** baz=24	**23.59**	**328**	⇑*P*		**P**	**07 32 38.1**	**+0.7**
Z28A	**Tucker Farm, M** baz=24,SNR=6.5	**23.61**	**331**	⇑*P*		**P**	**07 32 38.6**	**+1.1**
X31A	**McDonald Ranch** baz=24,SNR=5.2	**23.72**	**337**	⇑*P*		**P**	**07 32 39.0**	**+0.5**
Y29A	**Porterfield Fa** baz=24,SNR=7.3	**23.75**	**333**	⇑*P*		**P**	**07 32 39.5**	**+0.6**
324A	**Moseley Ranch,** baz=24	**23.83**	**323**	⇑*P*		**P**	**07 32 40.8**	**+1.1**
X30A	**Coker Ranch, T** baz=24,SNR=29	**23.91**	**335**	⇓*P*		**P**	**07 32 41.7**	**+1.5**
225A	**Deer Hill, Car** baz=24	**23.94**	**325**	⇓*P*		**P**	**07 32 41.6**	**+0.9**
Z27A	**Tatum** baz=24,SNR=5.9	**24.03**	**329**	⇓*P*		**P**	**07 32 41.7**	**+0.3**
Y28A	**McKinney Farm,** baz=24	**24.05**	**332**	⇑*P*		**P**	**07 32 42.5**	**+0.9**
W31A	**Holland Ranch,** baz=24	**24.20**	**337**	⇓*P*		**P**	**07 32 44.0**	**+1.2**
X29A	**Tulia** baz=24,SNR=11	**24.26**	**334**	⇓*P*		**P**	**07 32 44.2**	**+0.7**
125A	**Gardner Draw,** baz=24	**24.27**	**326**	⇑*P*		**P**	**07 32 45.4**	**+1.8**
224A	**Cornudas Mount** baz=24	**24.32**	**324**	⇓*P*		**P**	**07 32 45.3**	**+1.3**
MSTX	**Muleshoe**	**24.35**	**331**	*eP*		**P**	**07 32 44.6**	**+0.2**
MSTX	**Muleshoe** baz=24,SNR=5.9	**24.35**	**331**	⇓*P*		**P**	**07 32 44.6**	**+0.2**
226A	**Caprock** baz=24	**24.38**	**328**	⇓*P*		**P**	**07 32 45.8**	**+1.2**
Y27A	**Causey

	baz=26,SNR=7.1						
U27A	**Thompson Grove**	26.42	334	⇑P		P	07 33 03.7 +0.6
	baz=27						
T29A	**Hugoton**	26.44	337	⇓P		P	07 33 04.6 +1.4
	baz=27						
Y22A	**Socorro**	26.50	325	⇑P		P	07 33 06.3 +2.4
	baz=27						
W24A	**Lazy 6 Ranch,**	26.64	329	⇑P		P	07 33 06.4 +1.3
	baz=27						
T28A	**Walsh**	26.73	336	⇑P		P	07 33 06.8 +1.0
	baz=27						
V25A	**Rancho No Teng**	26.75	331	⇑P		P	07 33 07.5 +1.4
	baz=27,SNR=6.4						
S29A	**Ulysses**	26.79	338	⇓P		P	07 33 07.9 +1.6
	baz=27						
U26A	**Atchley Ranch,**	26.80	333	⇓P		P	07 33 07.5 +0.9
	baz=27						
V24A	**Rampart Ranch,**	26.98	330	⇑P		P	07 33 09.4 +1.2
	baz=27						
ANMO	**Albuquerque**	26.98	327	P		P	07 33 10.4 +2.2
ANMO				PcP		PcP	07 36 29.2 +0.4
ANMO	**Albuquerque**	26.98	327	P		P	07 33 10.4 +2.2
	comp=Z,0.7nm,0.5s,baz=123,slow=10.0,SNR=4.4						
ANMO				PcP		PcP	07 36 29.2 +0.4
	comp=Z,0.6nm,0.5s,baz=340,slow=7.7,SNR=4.4						
W23A	**Werner Place,**	26.98	328	⇓P		P	07 33 10.3 +2.0
	baz=27,SNR=5.6						
S28A	**Manter**	27.05	337	⇑P		P	07 33 09.5 +0.8
	baz=27						
U25A	**Circle Dot Ran**	27.11	332	⇓P		P	07 33 10.5 +1.1
	baz=27						
Y20A	**Horse Springs,**	27.30	323	⇑P		P	07 33 12.6 +1.5
	baz=28						
X21A	**Alamocita Cree**	27.34	324	⇓P		P	07 33 12.9 +1.4
	baz=28						
R28A	**Tribune**	27.68	338	⇑P		P	07 33 15.5 +1.1
	baz=28						
T25A	**Trinidad**	27.71	333	⇓P		P	07 33 16.2 +1.4
	baz=28						
U23A	**El Rito**	27.91	329	⇑P		P	07 33 18.1 +1.6
	baz=28,SNR=10						
P31A	**Stockton**	27.94	343	⇑P		P	07 33 17.7 +1.1
	baz=28						
T24B	**San Luis**	28.10	331	⇑P		P	07 33 19.5 +1.2
	baz=28						
S25A	**Robets Cordova**	28.16	333	⇓P		P	07 33 20.5 +1.7
	baz=28						
U22A	**Llaves**	28.28	328	⇑P		P	07 33 21.4 +1.5
	baz=28						
S24A	**Houchin Ranch,**	28.49	332	⇑P		P	07 33 23.8 +2.0
	baz=29						
R25A	**Fountain Ranch**	28.50	334	⇑P		P	07 33 23.8 +2.1
	baz=29						
KSCO	**Kaye Shedlock'**	28.57	337	⇑P		P	07 33 23.6 +1.2
	baz=29						
V20A	**Brimhall**	28.70	325	⇓P		P	07 33 24.8 +1.2
	baz=29						
U21A	**Nageezi**	28.74	327	⇑P		P	07 33 26.7 +2.8
	baz=29						
214A	**Organ Pipe Nat**	28.91	315	⇓P		P	07 33 27.2 +2.0
	baz=29						
R24A	**Sanders Place,**	28.93	333	⇓P		P	07 33 27.4 +1.8
	baz=29						
Q25A	**Bedland, Calha**	29.13	335	⇓P		P	07 33 28.5 +1.1
	baz=29						
S22A	**4UR Ranch, Cre**	29.34	330	⇑P		P	07 33 31.0 +1.7
	baz=30,SNR=7.0						
BGNE	**Belgrade**	29.38	346	*e*P		P	07 33 29.9 +0.6
BGNE	**Belgrade**	29.38	346	⇓P		P	07 33 30.2 +0.9
	baz=30						
S21A	**Coal Bank Pass**	29.75	329	⇑P		P	07 33 34.1 +1.1
	baz=30						
P23A	**Jefferson**	30.19	333	⇑P		P	07 33 38.5 +1.6
	baz=30						
Q22A	**Crested Butte,**	30.26	331	⇓P		P	07 33 38.6 +1.1
	baz=30						
ISCO	**Idaho Springs**	30.45	334	*e*P		P	07 33 39.7 +0.5
	comp=Z,1.2nm,0.6s						
ISCO	**Idaho Springs**	30.45	334	⇓P		P	07 33 40.3 +1.1
	baz=31						
R20A	**Redvale**	30.45	329	⇓P		P	07 33 40.5 +1.5
	baz=31						
SMCO	**Snowmass**	30.54	332	*e*P		P	07 33 41.4 +1.3
	comp=Z,2.7nm,0.6s						
PV04	**Paradox Valley**	30.87	328	*e*P		P	07 33 43.8 +1.0
O23A	**Lake Granby, G**	30.92	334	⇓P		P	07 33 44.7 +1.4
	baz=31						
K30A	**Basset**	30.94	345	⇓P		P	07 33 44.0 +0.9
	baz=31						
P21A	**Newcastle**	31.04	331	⇓P		P	07 33 46.6 +2.3
	baz=31						
O22A	**Kremmling**	31.15	333	⇓P		P	07 33 46.3 +1.0
	baz=31						
K29A	**Lazy Trails An**	31.21	344	⇑P		P	07 33 46.5 +1.0
	baz=31						
N23A	**Red Feather La**	31.50	335	⇑P		P	07 33 49.5 +1.1
	baz=32						
J30A	**Dallas**	31.52	345	⇑P		P	07 33 48.7 +0.5
	baz=32						
N22A	**Wattenberg Ran**	31.64	334	⇑P		P	07 33 50.5 +0.9
	baz=32						
J29A	**Okreek**	31.81	344	⇓P		P	07 33 51.5 +0.7
	baz=32						
O20A	**White River Ci**	31.90	331	⇑P		P	07 33 53.6 +1.8
	baz=32						
I30A	**Oacoma**	32.06	346	⇑P		P	07 33 53.5 +0.6
	baz=32						
J27A	**Elkhorn Farm,**	32.15	342	⇑P		P	07 33 55.1 +1.3
	baz=32						
SPMN	**St. Paul**	32.23	355	*e*P		P	07 33 53.4 -1.0
SPMN	**St. Paul**	32.23	355	⇓P		P	07 33 53.9 -0.5
	baz=32						
SRU	**San Rafael**	32.25	327	*e*P		P	07 33 57.0 +2.2
	comp=Z,9.3nm,1.7s						
L23A	**Garrett**	32.43	336	⇓P		P	07 33 57.7 +1.2
	baz=33						
O19A	**Miners Draw (B**	32.44	330	⇓P		P	07 33 58.0 +1.5
	baz=33						
N20A	**Spence Gulch,**	32.46	332	⇓P		P	07 33 58.8 +2.0
	baz=33						
I28A	**Midland**	32.59	343	⇑P		P	07 33 58.5 +0.9
	baz=33						
L22A	**Ellis Ranch, M**	32.65	335	⇓P		P	07 34 00.3 +1.9
	baz=33						
H29A	**Onida**	32.92	345	⇑P		P	07 34 00.9 +0.5
	baz=33						
G30A	**Faulkton**	33.14	347	⇑P		P	07 34 02.5 +0.1
	baz=33						
H28A	**Mission Ridge**	33.17	344	⇓P		P	07 34 03.7 +1.0
	baz=33						
K22A	**Casper**	33.21	336	⇓P		P	07 34 04.3 +1.1
	baz=33						
I25A	**Rochford**	33.38	340	⇓P		P	07 34 06.2 +1.4
	baz=34						
H27A	**Howes**	33.43	343	⇑P		P	07 34 05.8 +0.9
	baz=34						
RSSD	**Black Hills**	33.57	340	*e*P		P	07 34 07.4 +1.0
	comp=Z,20nm,0.6s						
SAML	**Samuel**	33.61	129	*e*P		P	07 34 05.6 -1.2
	comp=Z,5.9nm,0.8s						
SAML				*e*			07 34 20.9
JLU	**Jordanelle**	33.83	328	*e*P		P	07 34 11.4 +2.7
	comp=Z,25nm,2.4s						
J22A	**Midwest**	33.84	337	⇓P		P	07 34 09.6 +0.9
	baz=34						
J21A	**Lysite**	34.16	336	⇓P		P	07 34 12.7 +1.2
	baz=34,SNR=9.2						
G26A	**Maurine**	34.18	343	⇓P		P	07 34 11.9 +0.4
	baz=34						
I22A	**9 Mile Ranch,**	34.24	337	⇑P		P	07 34 13.2 +1.0
	baz=34						
H24A	**Dirks Ranch, A**	34.30	340	⇓P		P	07 34 13.4 +0.9
	baz=34,SNR=6.3						
G27A	**Dupree**	34.36	342	⇑P		P	07 34 11.1 -1.9
	baz=34						
E30A	**Jud**	34.39	348	⇓P		P	07 34 13.3 +0.1
	baz=34						
J20A	**Shoshoni**	34.43	335	⇑P		P	07 34 14.7 +0.9
	baz=35						
F27A	**Lemmon**	34.55	344	⇓P		P	07 34 15.0 +0.3
	baz=35						
PDAR	**Pinedale Array**	34.59	333	P		P	07 34 15.6 +0.3
PDAR				PcP		PcP	07 36 48.0 -0.9
PDAR	**Pinedale Array**	34.59	333	P		P	07 34 15.6 +0.3
	comp=Z,1.1nm,0.6s,baz=130,slow=12,SNR=12						
PDAR				PcP		PcP	07 36 48.0 -0.9
	comp=Z,1.5nm,0.8s,baz=182,slow=2.7,SNR=5.4						
F26A	**Lodgepole**	34.71	343	⇓P		P	07 34 17.3 +1.3
	baz=35						
J19A	**Crowheart**	34.76	334	⇑P		P	07 34 17.4 +0.7
	baz=35						
G24A	**Alzada**	34.77	341	⇓P		P	07 34 17.8 +1.2
	baz=35						
H22A	**Clearmont**	34.80	338	⇓P		P	07 34 18.5 +1.6
	baz=35						
I20A	**Worland**	34.94	335	⇑P		P	07 34 19.4 +1.3
	baz=35,SNR=10.0						
D30A	**Buchanan**	34.94	348	⇑P		P	07 34 18.3 +0.3
	baz=35						
E27A	**Carson**	34.94	345	⇑P		P	07 34 19.0 +1.0
	baz=35						
G23A	**Biddle**	34.98	339	⇓P		P	07 34 19.4 +0.9
	baz=35						
H21A	**Big Horn, Sher**	35.08	337	⇓P		P	07 34 20.2 +0.8
	baz=35,SNR=8.0						
F24A	**Ekalaka**	35.24	341	⇑P		P	07 34 21.4 +0.7
	baz=35,SNR=5.6						
G22A	**Birney**	35.31	339	⇓P		P	07 34 21.8 +0.5
	baz=35						
H20A	**Greybull**	35.33	336	⇑P		P	07 34 22.4 +0.9
	baz=36,SNR=5.8						
I19A	**Meeteetse**	35.36	335	⇑P		P	07 34 23.0 +1.1
	baz=36						
D28A	**Regan**	35.41	346	⇑P		P	07 34 22.5 +0.4
	baz=36						
F23A	**Volborg**	35.44	340	⇑P		P	07 34 23.4 +1.0
	baz=36						
E25A	**Miller Ranch,**	35.51	343	⇑P		P	07 34 23.6 +0.7
	baz=36						
REDW	**Red Top Meadow**	35.64	332	*e*P		P	07 34 25.1 +0.8
	comp=Z,6.9nm,0.6s						
LPAZ	**La Paz**	35.66	144	*e*P		P	07 34 25.7 +0.6
	comp=Z,0.8nm,0.5s						
LPAZ	**La Paz**	35.66	144	P		P	07 34 25.4 +0.3
	comp=Z,0.9nm,0.7s,baz=320,slow=5.9,SNR=6.5						
SNOW	**Snow King Moun**	35.67	332	*e*P		P	07 34 25.9 +1.3
	comp=Z,8.7nm,0.6s						
LOHW	**Long Hollow**	35.72	333	*e*P		P	07 34 26.1 +1.1
	comp=Z,2.8nm,0.7s						
D26A	**Manning**	35.73	344	⇓P		P	07 34 25.5 +0.7
	baz=36						
TPAW	**Teton Pass**	35.78	332	*e*P		P	07 34 26.9 +1.3
	comp=Z,49nm,2.5s						
F22A	**Rosebud**	35.78	339	⇓P		P	07 34 26.3 +1.0
	baz=36						
MDND	**Maddock**	35.82	348	*e*P		P	07 34 25.7 +0.2
MDND	**Maddock**	35.82	348	⇓P		P	07 34 26.1 +0.6
	baz=36						
E24A	**Baker**	35.84	342	⇓P		P	07 34 26.4 +0.7
	baz=36						
RRI2	**Red Ridge**	35.84	332	*e*P		P	07 34 27.2 +1.1
	comp=Z,13nm,1.6s						
H19A	**Powell**	35.88	335	⇑P		P	07 34 27.2 +1.0
	baz=36						
MOOW	**Moose Ponds**	35.89	333	*e*P		P	07 34 26.6 +0.2
	comp=Z,1.2nm,0.6s						
G20A	**Bridger**	36.03	337	⇑P		P	07 34 28.2 +0.8
	baz=36						
E23A	**Ismay**	36.09	341	⇑P		P	07 34 28.8 +0.9
	baz=36,SNR=8.0						
IMW	**Indian Meadow**	36.10	333	*e*P		P	07 34 28.1 -0.2
	comp=Z,1.0nm,1.1s						
FLWY	**Flagg Ranch**	36.13	333	*e*P		P	07 34 29.8 +1.3
	comp=Z,46nm,2.1s						
H18A	**Shoshone NF, C**	36.16	335	⇑P		P	07 34 29.2 +0.4
	baz=36,SNR=21						
E22A	**Miles City**	36.25	340	⇓P		P	07 34 30.1 +0.9
	baz=36,SNR=6.6						
NVAR	**Mina Array Bea**	36.33	319	P		P	07 34 31.1 +0.9
NVAR				PcP		PcP	07 36 54.9 +0.8
NVAR	**Mina Array Bea**	36.33	319	P		P	07 34 31.1 +0.9
	comp=Z,1.0nm,0.7s,baz=132,slow=7.5,SNR=13						
NVAR				PcP		PcP	07 36 54.9 +0.8
	comp=Z,1.2nm,0.6s,baz=116,slow=4.1,SNR=4.4						
D24A	**Glendive**	36.34	342	⇑P		P	07 34 30.7 +0.7
	baz=36						
RLMT	**Red Lodge**	36.37	335	*e*P		P	07 34 30.8 +0.4
	comp=Z,2.9nm,0.6s						
F20A	**Billings**	36.49	337	⇑P		P	07 34 32.3 +0.9
	baz=37						
B28A	**Dugan Ranch, T**	36.55	347	⇓P		P	07 34 32.3 +0.6
	baz=37						
LAO	**LASA Array**	36.56	340	*e*P		P	07 34 32.2 +0.3
	comp=Z,3.4nm,0.6s						
C25A	**Freed Ranch, W**	36.58	344	⇓P		P	07 34 32.6 +0.6
	baz=37,SNR=6.1						
D23A	**Lindsay**	36.66	341	⇓P		P	07 34 33.8 +1.0
	baz=37						
E21A	**Keefer Ranch,**	36.73	339	⇓P		P	07 34 34.2 +0.9
	baz=37						
A29A	**Manning Farm,**	36.77	349	⇑P		P	07 34 34.0 +0.4
	baz=37						
F19A	**Roth Farm, Mol**	36.84	336	⇑P		P	07 34 35.0 +0.6
	baz=37,SNR=7.4						
D22A	**Cohagen**	36.95	340	⇓P		P	07 34 36.4 +1.2
	baz=37,SNR=9.4						
E20A	**Meyer Farm, Mu**	37.08	338	⇑P		P	07 34 37.4 +1.0
	baz=37,SNR=10.0						
D21A	**La Casita Ranch**	37.15	339	⇑P		P	07 34 38.1 +1.1
	baz=37						
C23A	**Lambert**	37.22	342	⇑P		P	07 34 38.4 +1.0
	baz=37						
E19A	**Rath Farm, Rou**	37.29	337	⇑P		P	07 34 39.0 +0.9
	baz=37						
A26A	**Wade Farm, Ken**	37.36	346	⇑P		P	07 34 39.3 +0.7
	baz=38						
C22A	**Vida**	37.38	341	⇑P		P	07 34 40.2 +1.3
	baz=38						
HLID	**Hailey**	37.50	329	*e*P		P	07 34 40.4 +0.4
	comp=Z,1.7nm,0.8s						
HLID	**Hailey**	37.50	329	⇓P		P	07 34 41.0 +1.0
	baz=38						
ULM	**Lac du Bonnet**	37.53	353	P		P	07 34 39.0 -1.0
ULM				PcP		PcP	07 36 53.5 -3.6
ULM	**Lac du Bonnet**	37.53	353	P		P	07 34 39.0 -1.0
	comp=Z,2.9nm,0.4s,baz=163,slow=9.0,SNR=8.8						
ULM				PcP		PcP	07 36 53.5 -3.6
	comp=Z,4.2nm,0.7s,baz=268,slow=8.1,SNR=3.1						
DGMT	**Dagmar**	37.53	343	*e*P		P	07 34 40.9 +0.9
	comp=Z,22nm,0.9s						
DGMT	**Dagmar**	37.53	343	⇑P		P	07 34 40.9 +0.9
	baz=38						
D20A	**Manuel Ranch,**	37.58	338	⇓P		P	07 34 41.7 +1.2
	baz=38,SNR=12						
B23A	**Brockton**	37.75	342	⇑P		P	07 34 43.1 +1.2
	baz=38						
C21A	**Desert Coulee**	37.85	340	⇑P		P	07 34 43.5 +0.7
	baz=38						
A24A	**Westby**	37.89	344	⇓P		P	07 34 43.6 +0.5
	baz=38						
B22A	**Reddig Ranch S**	37.91	341	⇓P		P	07 34 43.9 +0.6
	baz=38						
D19A	**Cripps Ranch,**	37.91	338	⇓P		P	07 34 44.4 +1.0
	baz=38,SNR=11						
C20A	**Veseth Ranch,**	38.06	339	⇑P		P	07 34 45.7 +1.1
	baz=38,SNR=14						
C19A	**Slack Wire Ran**	38.45	338	⇑P		P	07 34 48.8 +0.9
	baz=39,SNR=14						
A22A	**Carney Farms,**	38.50	342	⇑P		P	07 34 49.5 +1.3
	baz=39						
B20A	**Solberg Farm,**	38.69	340	⇓P		P	07 34 51.2 +1.3
	baz=39						
A21A	**Bergtoll Ranch**	38.81	341	⇑P		P	07 34 52.3 +1.4
	baz=39						
EGMT	**Eagleton**	38.95	338	*e*P		P	07 34 53.0 +0.9
	comp=Z,17nm,0.6s						
EGMT	**Eagleton**	38.95	338	⇑P		P	07 34 53.2 +1.0
	baz=39,SNR=11						
B19A	**Brinkman Farms**	39.02	339	⇓P		P	07 34 53.7 +1.0
	baz=39,SNR=14						
A20A	**Cobblestone Ra**	39.04	340	⇑P		P	07 34 54.0 +1.2
	baz=39,SNR=9.8						
A19A	**Klindworth Far**	39.36	339	⇑P		P	07 34 56.3 +0.8
	baz=40,SNR=5.5						
MOD	**Modoc**	39.63	322	*e*P		P	07 34 58.5 +0.5
	comp=Z,28nm,1.2s						
SCHQ	**Schefferville**	45.12	18	P		P	07 35 40.6 -1.5
SCHQ	**Schefferville**	45.12	18	P		P	07 35 40.6 -1.5
	comp=Z,2.8nm,0.5s,baz=296,slow=5.4,SNR=11						
BDFB	**Brasilia**	49.48	124	P		P	07 36 15.5 -1.2
BDFB	**Brasilia**	49.48	124	P		P	07 36 15.5 -1.2
	comp=Z,3.0nm,0.5s,baz=285,slow=14,SNR=8.2						
YKA	**Yellowknife Ar**	52.67	345	P		P	07 36 39.1 -0.7
YKA	**Yellowknife Ar**	52.67	345	P		P	07 36 39.1 -0.7
	comp=Z,3.5nm,0.4s,baz=131,slow=8.5,SNR=27						
DLBC	**Dease Lake**	54.76	335	*e*P		P	07 36 55.3 0.0
INK	**Inuvik**	62.21	343	*e*P		P	07 37 46.2 -0.7
	comp=Z,5.1nm,0.6s						
INK	**Inuvik**	62.21	343	P		P	07 37 45.9 -1.0
	comp=Z,4.9nm,0.6s,baz=118,slow=5.8,SNR=11						
ILAR	**Eielson Array**	64.90	336	P		P	07 38 03.5 -1.3
ILAR	**Eielson Array**	64.90	336	P		P	07 38 03.5 -1.3
	comp=Z,1.3nm,0.8s,baz=129,slow=5.7,SNR=20						
ARCES	**ARCESS Array B**	86.07	19	P		P	07 40 03.5 -2.3
ARCES	**ARCESS Array B**	86.07	19	P		P	07 40 03.5 -2.3
	comp=Z,3.5nm,0.9s,baz=343,slow=3.8,SNR=3.9						
TORD	**Torodi Ar. Bea**	87.65	77	P		P	07 40 11.0 -3.6
TORD	**Torodi Ar. Bea**	87.65	77	P		P	07 40 11.0 -3.6
	comp=Z,0.2nm,0.4s,baz=287,slow=5.7,SNR=4.4						
MKAR	**Makanchi Array**	119.90	7	PKP		PKPdf	07 46 13.2 -2.6
MKAR	**Makanchi Array**	119.90	7	PKP		PKPdf	07 46 13.2 -2.6
	comp=Z,0.2nm,0.4s,baz=342,slow=2.6,SNR=5.1						
HHC	**Hu-ho-hao-te**	123.12	342	*e*PKP		PKPdf	07 46 20.8 -1.5
HHC				sPKP			07 46 58.5
HHC				PP		PP	07 48 02.4 +1.2
HHC				PKS		PKSdf	07 49 55.8 -3.3
HHC				SKS		SKSdf	07 53 21.3 -8.7
HHC				SKKS		SKKSac	07 54 45.9 -11
HHC				SS		SS	08 04 37.0 -4.2
HHC				LR		LR	
	comp=Z,84nm,19.9s						
WMQ	**Urumqi**	123.31	3	*e*PKP		PKPdf	07 46 20.8 -1.8
KSH	**Kashi**	125.83	14	PKP		PKPdf	07 46 28.6 +1.0
KSH				sPKP			07 47 06.9
KSH				PP		PP	07 48 22.0 +2.7
KSH				SKS		SKSdf	07 53 28.8 -6.4
KSH				SKKS		SKKSac	07 55 08.3 -5.9
KSH				SS		SS	08 05 11.1 -4.2
KSH				PPMZ			
	comp=Z,25nm,4.4s						
KSH				LR		LR	
	comp=Z,67nm,7.4s						
CD2	**Chengdu**	134.63	345	PKP		PKPdf	07 46 42.8 -1.6
CMAR	**Chiang Mai Arr**	147.75	346	PKPbc		PKPdf	07 47 07.8 -0.3
CMAR	**Chiang Mai Arr**	147.75	346	PKPbc		PKPdf	07 47 07.8 -0.3
	comp=Z,1.2nm,0.4s,baz=0.7,slow=2.6,SNR=6.2						

MOS **17** *07:42:38.3±1.0, 6.64S×130.38E, h33km, mb5.1/7, Error ellipse: s-maj=17.5km s-min=7.9km az=117.6*
NEIC **17** *07:42:40.4±0.3, 6.63S×130.38E, h35km, mb4.5/8, Error ellipse: s-maj=11.4km s-min=6.4km az=66.0*
IDC **17** *07:42:41.3±3.6, 6.64S×130.45E, h44km±39km, mb4.2/12, mb1 4.3/14, mb1mx4.2/20, mbtmp4.2/14, ML4.7/3, MS3.2/4, Ms1 3.2/4, ms1mx3.0/27, Error ellipse: s-maj=27.8km s-min=20.2km az=67.0*
ISCJB **17** *07:42:42.9±0.2, 6.72S±0.03×130.38E±0.04, h78km, mb4.4/22, Error ellipse: s-maj=5.5km s-min=3.9km az=165.8*
AUST **17** *07:42:44.0±0.0, 6.80S×130.43E, h41km, Error ellipse: s-maj=0.8km s-min=0.6km az=273.0*
BJI **17** *07:42:44.2, 6.99S×130.61E, h122km, mB4.7/1, mb4.7/7*
DJA **17** *07:42:45.8±0.3, 7.S±2.×13.0E±., h106km±6km, M4.8/5, mb5.1/2, MLv4.7/5*

ISC 17 07:42:44.4±0.4, 6.77S±0.04×130.45E±0.05, h78km, n127, σ1.9 69/121, mb4.5/22, 4D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	1.47	145	P	Pn	07 43 13.7	+4.4
SAUI				S	Sn	07 43 36.1	+8.0
BNDI	**Bandanaira**	2.30	346	P	**Pn**	**07 43 21.0**	**+0.7**
BNDI				S	**Sn**	**07 43 48.8**	**+1.1**
BNDI	**Bandanaira**	2.30	346	P	**Pn**	**07 43 20.1**	**-0.2**
	baz=2.3,SNR=8.4						
TLE	**Tual**	2.54	64	P	**Pn**	**07 43 26.0**	**+2.5**
TLE				S	**Sn**	**07 43 56.6**	**+3.1**
TLE	**Tual**	2.54	64	P	**Pn**	**07 43 26.2**	**+2.7**
	baz=2.6,SNR=42						
AAI	**Ambon**	3.80	324	P	**Pn**	**07 43 38.5**	**-2.1**
AAI	**Ambon**	3.80	324	P	**Pn**	**07 43 40.4**	**-0.2**
	baz=3.8,SNR=5.6						
FAKI	**Fak Fak**	4.23	25	P	**Pn**	**07 43 45.0**	**-1.4**
FAKI	**Fak Fak**	4.23	25	P	**Pn**	**07 43 45.1**	**-1.3**
	baz=4.3,SNR=67						
NLAI	**Namlea**	4.84	316	P	**Pn**	**07 43 55.7**	**+0.9**
SWI	**Sorong**	5.92	8	P	**Pn**	**07 44 08.0**	**-1.6**
SWI	**Sorong**	5.92	8	P	**Pn**	**07 44 09.2**	**-0.4**
	baz=6.0,SNR=4.7						
MTN	**Manton Dam**	6.07	174	P	Pn	07 44 13.7	+2.1
	baz=6.1,SNR=45						
KDU	**Kakadu**	6.21	161	P	**Pn**	**07 44 14.9**	**+1.4**
	baz=6.2,SNR=326						
LBMI	**Labuha**	6.76	334	S	**Sn**	**07 45 35.6**	**-1.1**
SOEI	**Soe**	6.80	244	P	**Pn**	**07 44 22.4**	**+0.8**
SOEI				S	**Sn**	**07 45 41.3**	**+3.6**
SOEI	**Soe**	6.80	244	P	**Pn**	**07 44 24.4**	**+2.7**
	baz=6.8,SNR=11						
BATI	**Baumata**	7.53	243	P	**Pn**	**07 44 32.9**	**+1.3**
BATI	**Baumata**	7.53	243	P	**Pn**	**07 44 34.6**	**+3.0**
BATI				S	**Sn**	**07 45 55.8**	**+0.4**
BATI	**Baumata**	7.53	243	P	**Pn**	**07 44 34.6**	**+3.0**
	32nm,0.3s,baz=90,slow=3.5,SNR=14						
BATI				S	**Sn**	**07 45 55.8**	**+0.4**
	42nm,0.3s,baz=16,slow=18,SNR=9.8						
BAKI	**Biak**	7.91	46	P	**Pn**	**07 44 37.3**	**+0.5**
WAMI	**Wamena**	8.71	71	P	Pn	07 44 52.2	+4.5
KNRA	**Kununurra**	9.00	190	P	**Pn**	**07 44 52.0**	**+0.3**
	baz=9.0,SNR=115						
LUWI	**Luwuk**	9.54	306	P	**Pn**	**07 45 01.5**	**+2.5**
KMSI	**Cibinong**	9.74	318	P	**Pn**	**07 45 02.4**	**+0.7**
APSI	**Ampana**	10.53	303	P	Pn	07 45 15.9	+3.4
KAPI	**Kappang**	10.78	279	LR	LR	07 49 11.0	
	comp=Z,128nm,20.5s,baz=108,slow=36						
FITZ	**Fitzroy Crossi**	12.20	202	*e*Pn	**Pn**	**07 45 32.5**	**-2.7**
	11nm,0.7s						
FITZ				*e*Sn	Sn	07 47 39.8	-10
FITZ	**Fitzroy Crossi**	12.20	202	P	**Pn**	**07

BBOO	**Buckleboo**	**26.43**	**169**	P		**P**	**07 48 16.0**	**+2.0**	
	baz=26,SNR=5.6								
BLDU	**Ballidu**	**27.00**	**207**	P		P	07 48 24.3	+5.3	
	baz=27,SNR=5.7								
STKA	**Stephens Creek**	**27.06**	**159**	*eP*		**P**	**07 48 21.7**	**+2.1**	
	comp=Z,0.5nm,0.6s								
STKA	**Stephens Creek**	**27.06**	**159**	P		**P**	**07 48 22.2**	**+2.6**	
	baz=27,SNR=14								
STKA	**Stephens Creek**	**27.06**	**159**	P		**P**	**07 48 22.1**	**+2.4**	
	comp=Z,2.9nm,0.3s,baz=335,slow=10,SNR=20								
STKA					LR	LR	07 58 32.6		
	comp=Z,50nm,20.1s,baz=20,slow=35								
CMSA	**Cobar Meteorol**	**28.47**	**152**	P		P	07 48 35.3	+3.1	
	baz=29,SNR=9.5								
ARPS	**Mount Arapiles**	**31.62**	**162**	P		P	07 49 03.6	+3.6	
	baz=32,SNR=5.6								
PSI	**Prapat**	**32.87**	**286**	P		**P**	**07 49 12.1**	**+0.7**	
PSI	**Prapat**	**32.87**	**286**	P		**P**	**07 49 12.8**	**+1.4**	
	baz=33,SNR=5.5								
PSI	**Prapat**	**32.87**	**286**	P		**P**	**07 49 12.1**	**+0.7**	
	comp=Z,16nm,0.9s,baz=99,slow=5.0,SNR=9.6								
CMAR	**Chiang Mai Arr**	**39.93**	**309**	P		**P**	**07 50 10.6**	**-0.7**	
CMAR	**Chiang Mai Arr**	**39.93**	**309**	P		**P**	**07 50 10.6**	**-0.7**	
	comp=Z,4.8nm,0.5s,baz=140,slow=7.5,SNR=32								
CHTO	**Chiang Mai**	**40.13**	**310**	*eP*		**P**	**07 50 11.8**	**-1.2**	
CHTO					pmax	pmax			
	comp=Z,68nm,1.0s								
CHTO	**Chiang Mai**	**40.13**	**310**	*eP*		**P**	**07 50 11.8**	**-1.2**	
	comp=Z,68nm,1.0s								
WHN	**Wuhan**	**40.18**	**338**	P		**P**	**07 50 13.3**	**+0.1**	
KMI	**Kunming**	**41.62**	**321**	P		**P**	**07 50 24.9**	**-0.5**	
KMI					AMB	AMB			
	comp=Z,17nm,0.7s								
MJAR	**Matsushiro Arr**	**43.69**	**9**	P		**P**	**07 50 40.1**	**-1.7**	
MJAR	**Matsushiro Arr**	**43.69**	**9**	P		**P**	**07 50 40.1**	**-1.7**	
	comp=Z,1.0nm,0.5s,baz=190,slow=10,SNR=4.6								
KSAR	**Wonju Array Be**	**44.05**	**357**	P		**P**	**07 50 43.8**	**-0.7**	
KSRS	**Korea Array**	**44.06**	**357**	P		**P**	**07 50 43.8**	**-0.8**	
	comp=Z,0.5nm,0.3s,baz=180,slow=8.3,SNR=2.7								
USRK	**Ussuriysk Arra**	**50.75**	**1**	P		**P**	**07 51 37.1**	**+0.6**	
	comp=Z,1.3nm,0.5s,baz=203,slow=7.0,SNR=4.0								
ODAN	**Odare**	**53.44**	**311**	*eP*		**P**	**07 51 55.8**	**-1.2**	
	comp=Z,21nm,0.7s								
TAPN	**Taplejung**	**53.47**	**311**	*eP*		**P**	**07 51 56.0**	**-1.3**	
	comp=Z,37nm,0.9s								
GTA	**Gaotai**	**53.99**	**331**	*eP*		**P**	**07 52 00.3**	**-0.4**	
GTA					AMB	AMB			
	comp=Z,8.0nm,0.9s								
RAMN	**Ramite**	**54.09**	**310**	*eP*		**P**	**07 52 00.9**	**-0.9**	
	comp=Z,48nm,0.7s								
JIRN	**Jiri**	**54.77**	**311**	*eP*		**P**	**07 52 05.7**	**-1.2**	
	comp=Z,14nm,0.5s								
GUN	**Gumba**	**55.14**	**311**	*eP*		**P**	**07 52 08.3**	**-1.2**	
	comp=Z,34nm,0.7s								
PKI	**Pulchoki**	**55.31**	**310**	*eP*		**P**	**07 52 09.3**	**-1.4**	
	comp=Z,8.7nm,0.5s								
PKIN	**Phulchoki**	**55.33**	**310**	*eP*		**P**	**07 52 09.5**	**-1.3**	
	comp=Z,6.7nm,0.6s								
KKN	**Kakani**	**55.53**	**310**	*eP*		**P**	**07 52 10.7**	**-1.4**	
	comp=Z,16nm,0.8s								
DMN	**Daman**	**55.56**	**310**	*eP*		**P**	**07 52 11.2**	**-1.2**	
	comp=Z,37nm,1.0s								
GKN	**Gorkha**	**56.12**	**310**	*eP*		**P**	**07 52 14.8**	**-1.5**	
	comp=Z,28nm,0.6s								
KOLN	**Koldanda**	**56.80**	**309**	*eP*		**P**	**07 52 20.2**	**-1.0**	
	comp=Z,25nm,0.8s								
DANN	**Dangsing**	**56.97**	**310**	*eP*		**P**	**07 52 21.2**	**-1.3**	
	comp=Z,27nm,1.0s								
SONM	**Songino Array**	**58.37**	**341**	P		**P**	**07 52 31.9**	**+0.2**	
SONM	**Songino Array**	**58.37**	**341**	P		**P**	**07 52 31.9**	**+0.2**	
	comp=Z,1.9nm,0.4s,baz=161,slow=7.1,SNR=8.5								
PETK	**Petropavlovsk-**	**63.97**	**18**	P		**P**	**07 53 09.2**	**-0.1**	
PETK	**Petropavlovsk-**	**63.97**	**18**	P		**P**	**07 53 09.2**	**-0.1**	
PETK	**Petropavlovsk-**	**63.97**	**18**	P		**P**	**07 53 09.2**	**-0.1**	
	comp=Z,4.8nm,0.7s,baz=175,slow=3.6,SNR=3.5								
HVS	**Khovu-Aksy**	**65.77**	**336**	*d iP*		**P**	**07 53 21.5**	**+0.4**	
HVS					pmax	pmax			
	comp=Z,33nm,0.8s								
MK31	**Makanchi Array**	**68.28**	**327**	*eP*		**P**	**07 53 37.0**	**-0.1**	
MK31	**Makanchi Array**	**68.28**	**327**	*eP*		**P**	**07 53 37.0**	**-0.1**	
MKAR	**Makanchi Array**	**68.28**	**327**	P		**P**	**07 53 37.1**	**0.0**	
MKAR	**Makanchi Array**	**68.28**	**327**	P		**P**	**07 53 37.1**	**0.0**	
MKAR	**Makanchi Array**	**68.28**	**327**	P		**P**	**07 53 37.1**	**0.0**	
	comp=Z,8.8nm,0.5s,baz=118,slow=8.4,SNR=105								
YAK	**Yakutsk**	**68.60**	**360**	*eP*		**P**	**07 53 38.1**	**-0.6**	
KZA	**Kyzart**	**69.89**	**319**	*i* P		**P**	**07 53 48.6**	**+0.9**	
KZA	**Kyzart**	**69.89**	**319**	P		**P**	**07 53 48.6**	**+0.9**	
	SNR=10								
TKM2	**Tokmak 2**	**70.09**	**320**	*i* P		**P**	**07 53 48.8**	**+0.2**	
TKM2	**Tokmak 2**	**70.09**	**320**	P		**P**	**07 53 48.8**	**+0.2**	
	SNR=8.8								
AAK	**Ala-Archa**	**70.65**	**320**	⇓*eP*		**P**	**07 53 52.7**	**+0.7**	
AAK					pmax	pmax			
	comp=Z,36nm,1.6s								
AAK	**Ala-Archa**	**70.65**	**320**	P		**P**	**07 53 52.8**	**+0.7**	
	SNR=5.9								
AAK	**Ala-Archa**	**70.65**	**320**	*eP*		**P**	**07 53 52.4**	**+0.4**	
	comp=Z,7.8nm,1.1s								
AML	**Almayashu**	**70.93**	**319**	*i* P		**P**	**07 53 54.7**	**+0.7**	
AML	**Almayashu**	**70.93**	**319**	P		**P**	**07 53 54.7**	**+0.7**	
	SNR=14								
USP	**Ospenovka**	**70.96**	**320**	*i* P		**P**	**07 53 53.8**	**+0.1**	
USP	**Ospenovka**	**70.96**	**320**	P		**P**	**07 53 53.8**	**+0.1**	
	SNR=9.1								
EKS2	**Erkin-Say**	**71.13**	**319**	*i* P		**P**	**07 53 55.7**	**+0.9**	
EKS2	**Erkin-Say**	**71.13**	**319**	P		**P**	**07 53 55.7**	**+0.9**	
	SNR=5.2								
SEY	**Seymchan**	**71.50**	**10**	*i* P		**P**	**07 53 56.8**	**+0.4**	
ZAA0	**Zalesovo Array**	**71.58**	**334**	*eP*		**P**	**07 53 56.2**	**-0.9**	
ZALV	**Zalesovo Beam**	**71.58**	**334**	P		**P**	**07 53 56.5**	**-0.6**	
ZALV	**Zalesovo Beam**	**71.58**	**334**	P		**P**	**07 53 56.5**	**-0.6**	
ZALV	**Zalesovo Beam**	**71.58**	**334**	P		**P**	**07 53 56.5**	**-0.6**	
	comp=Z,9nm,0.6s,baz=121,slow=5.9,SNR=9.4								
KURK	**Kurchatov**	**72.55**	**328**	⇓*eP*		**P**	**07 54 02.9**	**-0.1**	
KURK					pmax	pmax			
	comp=Z,4.0nm,1.5s								
KURK	**Kurchatov**	**72.55**	**328**	*eP*		**P**	**07 54 02.2**	**-0.8**	
	comp=Z,5.6nm,1.3s								
BRVK	**Borovoye**	**78.18**	**328**	*d iP*		**P**	**07 54 35.1**	**-0.1**	
BRVK					pmax	pmax			
	comp=Z,4.0nm,0.9s								
TIXI	**Tiksi**	**78.27**	**359**	*i* P		**P**	**07 54 34.6**	**-0.7**	
TIXI					pmax	pmax			
	comp=Z,1.0nm,0.7s								
QSPA	**South Pole Qui**	**83.20**	**180**	*eP*		**P**	**07 55 04.0**	**+2.0**	
	comp=Z,1.9nm,0.9s								
AKTO	**Aktyubinsk**	**84.16**	**322**	P		**P**	**07 55 06.1**	**-1.0**	
AKTO	**Aktyubinsk**	**84.16**	**322**	P		**P**	**07 55 06.0**	**-1.0**	
AKTO	**Aktyubinsk**	**84.16**	**322**	P		**P**	**07 55 06.0**	**-1.0**	
	comp=Z,1.2nm,0.5s,baz=111,slow=6.2,SNR=5.0								
ILAR	**Eielson Array**	**92.95**	**25**	P		**P**	**07 55 47.7**	**-1.0**	
ILAR	**Eielson Array**	**92.95**	**25**	P		**P**	**07 55 47.7**	**-1.0**	
	comp=Z,0.4nm,0.7s,baz=273,slow=4.6,SNR=2.9								
PAX	**Paxson**	**93.29**	**27**	*eP*		**P**	**07 55 49.6**	**-0.8**	
PAX					pmax	pmax			
	comp=Z,6.0nm,0.8s								
PAX	**Paxson**	**93.29**	**27**	*eP*		**P**	**07 55 49.6**	**-0.8**	
	comp=Z,6.5nm,0.8s								
KIS	**Kishinev**	**102.85**	**317**	*e*			08 11 56.0		
KIS					LRM	MLR	08 16 00.0		
	comp=Z,300nm,20.0s								
TORD	**Torodi Ar. Bea**	**129.20**	**281**	PKP		**PKPdf**	**08 01 44.8**	**+0.1**	
TORD	**Torodi Ar. Bea**	**129.20**	**281**	PKP		**PKPdf**	**08 01 44.8**	**+0.1**	
	comp=Z,0.2nm,0.5s,baz=118,slow=2.0,SNR=3.0								

SKHL 17 07:50:14.6±0.7, 48°75'N×142°13'E, h10km, mb3.9/1, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
UGL	**Uglegorsk**	**0.33**	**353**	*eP*g		Pg	07 50 21.3	+0.1
UGL					AMB	AMB	07 50 21.7	
	110nm,0.4s							
UGL				*i* Sg		Sg	07 50 26.0	+0.4
UGL				A		A	07 50 28.5	
	2μm,0.5s							
UGL				A		A	07 50 28.5	
	4μm,0.5s							
YSS	**Yuzh-Sakhalins**	**1.85**	**167**	*e*Pb		Pb	07 50 48.0	-0.4
YSS				*e*Pg		Pg	07 50 51.3	+1.3
YSS				*e*Sb		Sb	07 51 11.0	-0.5
YSS				*e*Sg		Sg	07 51 17.6	+3.7
YSS				A		A	07 51 21.0	
	50nm,0.4s							
TYV	**Tymovskoe**	**2.14**	**9**	*e*Pb		Pb	07 50 53.0	-0.5
TYV				*e*Pg		Pg	07 50 57.5	+1.8
TYV				AMB		AMB	07 50 58.8	
	22nm,0.8s							
TYV				*e*Sg		Sg	07 51 27.0	+3.5
TYV				A		A	07 51 35.2	
	40nm,1.0s							
TYV				A		A	07 51 35.2	
	44nm,1.0s							

IGQ 17 08:37:49.2, 3°13S×77°65W, h12km±145km, Mb4.1, Ms3.9, 2C-5D, Error ellipse: s-maj=10.1km s-min=2.4km az=4.0, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PAT1	**Patacocha**	**1.79**	**334**	P		Pb	08 38 22.7	+0.1
BPAT	**Tungurahua Vol**	**1.79**	**334**	S		Sg	08 38 46.8	-1.2
BPAT	**Tungurahua Vol**	**1.79**	**334**	P		Pb	08 38 22.9	+0.2
ARRY	**Arrayan**	**1.80**	**333**	S		Sb	08 38 46.4	+0.8
ARRY	**Arrayan**	**1.80**	**333**	P		Pb	08 38 22.4	-0.2
BMAS	**Trigal station**	**1.81**	**333**	P		Pb	08 38 23.0	+0.1
ULBA	**Ulba**	**1.83**	**336**	P		Pb	08 38 23.1	-0.1
BULB	**Ulba Tungurahu**	**1.84**	**336**	⇓S		Sb	08 38 47.6	+0.8
BULB	**Ulba Tungurahu**	**1.84**	**336**	⇓P		Pb	08 38 23.0	-0.4
BRUN	**Tungurahua Vol**	**1.86**	**336**	⇑P		Pb	08 38 23.5	-0.1
RUN5	**Runtun**	**1.87**	**336**	P		Pb	08 38 23.5	-0.2
JUI6	**Juive**	**1.88**	**334**	P		Pb	08 38 24.7	+0.8
IGUA	**Igualata**	**1.90**	**329**	P		Pg	08 38 25.7	-0.8
PISA	**Pisayambo**	**2.18**	**340**	S		Sb	08 38 56.7	-0.1
PISA	**Pisayambo**	**2.18**	**340**	P		Pb	08 38 27.9	-1.4
BMOR	**Cotopaxi Volca**	**2.51**	**341**	S		Sb	08 39 05.6	-0.9
BMOR	**Cotopaxi Volca**	**2.51**	**341**	P		Pb	08 38 33.2	-1.9
COV1	**Cotopaxi Volc**	**2.54**	**344**	P		Pb	08 38 34.2	-1.5
BTAM	**Cotopaxi Volca**	**2.55**	**343**	⇓S		Sb	08 39 06.4	-1.1
BTAM	**Cotopaxi Volca**	**2.55**	**343**	⇓P		Pn	08 38 33.3	+2.1
BREF	**Cotopaxi Volca**	**2.57**	**342**	⇓P		Pb	08 38 34.1	-1.9
BVC2	**Cotopaxi Volca**	**2.57**	**343**	P		Pb	08 38 34.4	-1.7
BNAS	**Cotopaxi Volca**	**2.58**	**341**	⇑P		Pb	08 38 34.4	-1.7
VC1	**Cotopaxi 1**	**2.58**	**343**	P		Pb	08 38 33.9	-2.3
PITA	**Cotopaxi Volc**	**2.67**	**343**	S		Sb	08 39 10.2	-0.6
PITA	**Cotopaxi Volc**	**2.67**	**343**	P		Pb	08 38 35.2	-2.4
GGP	**Refugio Guagua**	**3.08**	**342**	P		Pb	08 38 46.3	+1.5
PINO	**Pino**	**3.10**	**342**	P		Pb	08 38 47.1	+2.0
CAYA	**Cayambe**	**3.20**	**354**	S		Sg	08 39 32.1	-1.1
CAYA	**Cayambe**	**3.20**	**354**	P		Pb	08 38 47.8	+1.1
OTAV	**Otavalo**	**3.44**	**347**	P		Pb	08 38 52.1	+1.4

ISCJB 17 08:40:40.8±0.4, 59°.77N±0°.03×23°.08E±0°.05, h0km, Error ellipse: s-maj=4.2km s-min=3.2km az=158.4
CSEM 17 08:40:41.7±0.3, 59°.78N×23°.14E, h2km, ML1.7, Error ellipse: s-maj=6.3km s-min=5.0km az=157.0, Mining explosion.
UPP 17 08:40:42.1, 59°.79N×23°.14E, h0km, ML2.0, Suspected Mining explosion.
HEL 17 08:40:42.5±0.1, 59°.75N×23°.06E, h0km, ML1.7, ML2.0(UPP), Explosion
IDC 17 08:40:43.5±2.2, 59°.87N×23°.02E, h0km, mb1 3.2/3, mb1mx3.0/28, mbtmp3.1/3, ML2.8/2, Error ellipse: s-maj=27.4km s-min=7.6km az=159.0

ISC 17 08:40:41.0±0.8, 59.77N±0°.03×23.04E±0°.03, h0km, n39, σ1$38/66, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MEF	**Metsahovi**	**0.81**	**56**	*eP*		**Pg**	**08 40 57.1**	**+0.5**
MEF				*e*S		**Sg**	**08 41 07.8**	**+0.7**
MEF	**Metsahovi**	**0.81**	**56**	P		**Pg**	**08 40 57.0**	**+0.5**
MEF				S		**Sg**	**08 41 07.8**	**+0.7**
MTSE	**Matsula**	**1.14**	**159**	*eP*		**Pg**	**08 41 02.4**	**-0.4**
MTSE				*e*S		**Sg**	**08 41 16.5**	**-0.9**
MTSE	**Matsula**	**1.14**	**159**	P		**Pg**	**08 41 02.3**	**-0.4**
MTSE				S		**Sg**	**08 41 16.5**	**-0.9**
RAF	**Rauma**	**1.41**	**334**	*eP*		**Pn**	**08 41 07.8**	**-0.1**
RAF				*e*S		**Sb**	**08 41 26.9**	**+0.3**
RAF	**Rauma**	**1.41**	**334**	P		**Pn**	**08 41 07.7**	**-0.1**
RAF				S		**Sb**	**08 41 26.8**	**+0.3**
AAL	**Aland**	**1.59**	**286**	*eP*		**Pn**	**08 41 10.5**	**+0.1**
AAL				*e*S		**Sn**	**08 41 30.7**	**-0.7**
AAL	**Aland**	**1.59**	**286**	P		**Pn**	**08 41 10.4**	**+0.1**
AAL				S		**Sn**	**08 41 30.7**	**-0.7**
PVF	**Pernaja**	**1.61**	**60**	*eP*		**Pb**	**08 41 11.3**	**-0.2**
PVF				*e*S		**Sg**	**08 41 32.2**	**-0.5**
PVF				MSG			08 41 38.4	
	comp=Z,4.3nm,0.1s							
PVF	**Pernaja**	**1.61**	**60**	P		**Pb**	**08 41 11.3**	**-0.2**
PVF				S		**Sg**	**08 41 32.1**	**-0.5**
FIA0	**FINESS Array S**	**2.25**	**40**	*e*PB		**Pb**	**08 41 22.0**	**-0.4**
FIA0				*e*SG		**Sg**	**08 41 52.0**	**-1.1**
FIA0				MSG			08 41 54.6	
	comp=Z,4.1nm,0.2s							
FIA0	**FINESS Array S**	**2.25**	**40**	Pb		**Pb**	**08 41 21.9**	**-0.4**
FIA0				Sg		**Sg**	**08 41 51.9**	**-1.1**
FINES	**FINESS Array B**	**2.25**	**40**	Pn		**Pb**	**08 41 22.1**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=227,slow=15,SNR=81							
FINES				Lg		Lg	08 41 51.5	
	comp=Z,1.9nm,0.3s,baz=224,slow=25,SNR=25							
VSU	**Vasula**	**2.31**	**123**	*e*PB		**Pb**	**08 41 22.8**	**-0.8**
VSU				*e*SG		**Sb**	**08 41 52.7**	**0.0**
VSU	**Vasula**	**2.31**	**123**	Pb		**Pb**	**08 41 22.7**	**-0.8**
VJF	**Virojoki**	**2.38**	**69**	*eP*		**Pn**	**08 41 21.7**	**+0.5**
VJF				*e*SG		**Sg**	**08 41 55.8**	**-1.7**
VJF				MSG			08 41 58.9	
	comp=Z,3.7nm,0.1s							
VJF	**Virojoki**	**2.38**	**69**	P		**Pn**	**08 41 21.7**	**+0.5**
FORU	**Forsmark**	**2.51**	**286**	*eP*		**Pn**	**08 41 25.6**	**+2.5**
FORU				*e*S		**Sn**	**08 41 56.8**	**+2.4**
FORU	**Forsmark**	**2.51**	**286**	P		**Pn**	**08 41 25.5**	**+2.5**
FORU				S		**Sn**	**08 41 56.7**	**+2.4**
KEF	**Keuruu**	**2.56**	**20**	*e*PB		**Pb**	**08 41 27.6**	**-0.2**
KEF				*e*SB		**Sb**	**08 42 00.7**	**+0.9**
KEF	**Keuruu**	**2.56**	**20**	Pb		**Pb**	**08 41 27.6**	**-0.2**
KEF				Sb		**Sb**	**08 42 00.7**	**+0.9**
UPP	**Uppsala**	**2.74**	**274**	*eP*		**Pn**	**08 41 28.4**	**+2.3**
UPP	**Uppsala**	**2.74**	**274**	P		**Pn**	**08 41 28.4**	**+2.3**
KAF	**Kangasniemi**	**2.84**	**33**	*e*PB		**Pb**	**08 41 30.7**	**-1.7**
KAF				*e*SB		**Sb**	**08 42 07.7**	**0.0**
KAF	**Kangasniemi**	**2.84**	**33**	Pb		**Pb**	**08 41 30.7**	**-1.7**
KAF				Sb		**Sb**	**08 42 07.7**	**0.0**
BACU	**Backbrunna**	**3.00**	**274**	*eP*		**Pn**	**08 41 31.4**	**+1.7**
BACU				*e*S		**Sn**	**08 42 07.9**	**+1.5**
BACU	**Backbrunna**	**3.00**	**274**	P		**Pn**	**08 41 31.4**	**+1.7**
BACU				S		**Sn**	**08 42 07.8**	**+1.5**
OSTU	**Oestervaala**	**3.00**	**281**	*eP*		**Pn**	**08 41 31.1**	**+1.4**
OSTU	**Oestervaala**	**3.00**	**281**	P		**Pn**	**08 41 31.1**	**+1.4**
IGGU	**Iggoen**	**3.05**	**294**	*eP*		**Pn**	**08 41 31.6**	**+1.1**
IGGU	**Iggoen**	**3.05**	**294**	P		**Pn**	**08 41 31.6**	**+1.1**
VAF	**Ylistaro**	**3.29**	**357**	*eP*		**Pn**	**08 41 38.3**	**-1.8**
VAF				*e*SB		**Sb**	**08 42 19.4**	**-1.2**
VAF	**Ylistaro**	**3.29**	**357**	Pb		**Pb**	**08 41 38.3**	**-1.8**
VAF				Sb		**Sb**	**08 42 19.3**	**-1.2**
SUF	**Sumiainen**	**3.31**	**26**	*eP*		**Pn**	**08 41 37.1**	**+3.1**
SUF				*e*SB		**Sb**	**08 42 20.1**	**-1.3**
SUF	**Sumiainen**	**3.31**	**26**	P		**Pn**	**08 41 37.1**	**+3.1**
SUF				Sb		**Sb**	**08 42 20.1**	**-1.3**
ESKU	**Eskilstuna**	**3.43**	**264**	*eP*		**Pn**	**08 41 37.0**	**+1.3**
ESKU	**Eskilstuna**	**3.43**	**264**	P		**Pn**	**08 41 37.0**	**+1.3**
NOA	**NORSAR Array B**	**6.00**	**287**	Pn		**Pn**	**08 42 11.3**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=87,slow=18,SNR=3.0							
NOA					Sn	**Sn**	**08 43 16.7**	**-3.5**
	comp=Z,0.1nm,0.3s,baz=99,slow=16,SNR=2.7							
NOA				Lg		Lg	08 43 47.8	
	comp=Z,0.2nm,0.3s,baz=81,slow=19,SNR=2.9							
ARCES	**ARCESS Array B**	**9.86**	**5**	Pn		**Pn**	**08 43 03.2**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=183,slow=14,SNR=14							

IDC 17 08:44:02.5±1.3, 11°77S×165°56E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.8/20, mbtmp3.7/6, ML3.8/1, MS3.7/2, Ms1 3.7/2, ms1mx3.0/28, Error ellipse: s-maj=46.2km s-min=25.9km az=135.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.28**	**175**	Pn		Pn	08 46 31.0	-0.6
	0.8nm,0.3s,baz=344,slow=19,SNR=13							
DZM					Sn	Sn	08 48 19.7	-8.0
	0.1nm,0.3s,baz=317,slow=19,SNR=2.4							
AFI	**Afiamalu**	**22.20**	**98**	LR		LR	08 55 23.4	
	comp=Z,169nm,18.6s,baz=140,slow=31							

WRA	**Warramunga Arr**	**31.07**	**251**	P		P	08 50 23.2	+0.6	
	0.4nm,0.5s,baz=84,slow=9.1,SNR=5.7								
ASAR	**Alice Springs**	**32.31**	**244**	P		P	08 50 33.2	-0.3	
	0.9nm,0.7s,baz=67,slow=9.6,SNR=16								
ILAR	**Eielson Array**	**84.25**	**19**	P		P	08 56 35.6	-0.1	
	0.3nm,0.8s,baz=224,slow=6.0,SNR=3.3								
NVAR	**Mina Array Bea**	**86.63**	**50**	P		P	08 56 48.8	+0.3	
	0.1nm,0.3s,baz=218,slow=6.8,SNR=3.7								
MKAR	**Makanchi Array**	**93.92**	**317**	P		P	08 57 21.7	-0.5	
	0.7nm,0.8s,baz=103,slow=5.6,SNR=5.1								
MKAR					LR	LR	09 36 37.4		
	comp=Z,41nm,20.4s,baz=178,slow=34								

ISCJB 17 08:51:38.1±0.7, 46°.14N±0°.03×20°.30E±0°.03, h1km±5km, Error ellipse: s-maj=4.7km s-min=3.2km az=179.2
CSEM 17 08:51:39.1±0.1, 46°.15N×20°.30E, h10km, ML2.2, Error ellipse: s-maj=3.1km s-min=2.3km az=4.0
BEO 17 08:51:40.1±0.4, 46°.15N×20°.31E, h20km±5km, ML2.2/1

ISC 17 08:51:39.7±1.1, 46°.13N±0°.02×20°.31E±0°.02, h9km±10km, n44, σ1$03/69, 11C-6D, Hungary

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PKSN	**Nyarlorinc**	**0.82**	**338**	*e*		**Sb**	**08 52 06.9**	**-0.6**
PKSN	**Nyarlorinc**	**0.82**	**338**	*e*Sn		**Sb**	**08 52 06.9**	**-0.6**
PKS2	**Kecel**	**0.84**	**296**	⇑*e*pn		**Pb**	**08 51 56.5**	**0.0**
PKS2				*e*pg		**Pn**	**08 51 59.9**	**+2.2**
PKS2				*e*sn		**Sn**	**08 52 09.3**	**-0.9**
PKS2	**Kecel**	**0.84**	**296**	⇑*e*Pn		**Pb**	**08 51 56.5**	**0.0**
PKS2				*e*Sn		**Sn**	**08 52 09.3**	**-0.9**
SIRR	**Siria**	**0.95**	**81**	⇓*i*P		**Pg**	**08 51 57.6**	**-0.4**
SIRR	**Siria**	**0.95**	**81**	S		**Sg**	**08 52 10.0**	**-0.3**
SIRR	**Siria**	**0.95**	**81**	⇓*i*P		**Pg**	**08 51 57.6**	**-0.4**
SIRR				S		**Sg**	**08 52 10.0**	**-0.3**
FGSL	**Fruska Gora**	**1.03**	**200**	⇓*i*Pg		**Pg**	**08 52 00.2**	**+0.6**
FGSL				*e*Sg		**Sb**	**08 52 13.0**	**-0.5**
FRQS	**Fruska Gora**	**1.03**	**200**	⇓*i*Pg		**Pg**	**08 52 00.2**	**+0.6**
FRQS				*e*Sg		**Sb**	**08 52 13.0**	**-0.5**
BZS	**Buzias**	**1.05**	**119**	*e*Pg		**Pb**	**08 51 59.7**	**-0.3**
BZS				*e*Sg		**Sb**	**08 52 13.7**	**-0.2**
BZS	**Buzias**	**1.05**	**119**	⇑*i*P		**Pb**	**08 51 59.6**	**-0.4**
BZS	**Buzias**	**1.05**	**119**	S		**Sb**	**08 52 14.0**	**+0.1**
BZS	**Buzias**	**1.05**	**119**	⇑*i*P		**Pb**	**08 51 59.6**	**-0.4**
BZS				*e*Sg		**Sb**	**08 52 13.7**	**-0.2**
BZS				S		**Sb**	**08 52 14.0**	**+0.1**
PKSM	**Moragy**	**1.16**	**275**	*e*Pg		**Pb**	**08 52 00.6**	**-1.4**
PKSM				*e*Sg		**Sg**	**08 52 17.3**	**+0.2**
PKSM	**Moragy**	**1.16**	**275**	⇓*i*P		**Pb**	**08 52 01.0**	**-1.0**
PKSM	**Moragy**	**1.16**	**275**	S		**Sn**	**08 52 18.6**	**+0.5**
PKSM	**Moragy**	**1.16**	**275**	⇑*e*pn		**Pb**	**08 52 00.4**	**-1.6**
PKSM				*e*sn		**Sb**	**08 52 16.2**	**-0.9**
PKSM	**Moragy**	**1.16**	**275**	*e*Pg		**

THN				*e*S		**Sn**	08 59 03.5	-0.2
SARP	**Sargodha**	**6.22**	**188**	P		**Pn**	**08 58 05.1**	**+3.1**
SMLA	**Simla**	**7.50**	**157**	*i* P		**Pn**	**08 58 20.9**	**+1.7**
SMLA				*i* S		**Sn**	**08 59 40.0**	**-2.8**
BISR	**Bishrakh**	**9.99**	**161**	*ex*		Sn	09 00 24.5	-18
AYAN	**Aya Nagar**	**9.99**	**163**	*e*P		**Pn**	**08 58 53.2**	**+0.6**
AYAN				*e*S		Sn	09 00 32.8	-10
KHET	**Khetri**	**10.14**	**170**	*e*S		Sn	09 00 30.7	-16
KHET				AML		AML	09 00 42.8	
	comp=N,109nm,0.0s							
KHET				AML		AML	09 00 42.8	
	comp=E,127nm,0.2s							
KUDL	**Kundal**	**10.19**	**166**	*e*P		**Pn**	**08 58 54.2**	**-0.9**
KUDL				*e*S		Sn	09 00 35.2	-13
KUDL				AML		AML	09 00 50.8	
	comp=N,13nm,0.2s							
KUDL				AML		AML	09 00 53.1	
	comp=E,12nm,0.4s							
SONA	**Sohna**	**10.21**	**163**	*e*P		**Pn**	**08 58 55.8**	**+0.4**
SONA				*e*S		Sn	09 00 36.8	-11
SONA				AML		AML	09 00 45.3	
	comp=E,22nm,0.2s							
SONA				AML		AML	09 00 47.5	
	comp=N,14nm,0.2s							
MK31	**Makanchi Array**	**10.74**	**33**	⇓P		Pn	08 59 11.6	+9.2
	comp=N,0.6nm,0.5s,baz=210,slow=10,SNR=7.6							
MKAR	**Makanchi Array**	**10.74**	**33**	P		**Pn**	**08 59 02.3**	**-0.2**
MKAR	**Makanchi Array**	**10.74**	**33**	P		**Pn**	**08 59 02.3**	**-0.2**
	comp=N,0.1nm,0.3s,baz=226,slow=5.8,SNR=3.6							
IAKL	**Akhelmad**	**12.02**	**267**	*e*P		**Pn**	**08 59 18.6**	**-0.9**
DANN	**Dangsing**	**12.83**	**136**	*e*P		**Pn**	**08 59 29.0**	**-1.1**
	comp=N,60nm,0.3s							
KURBB	**Kurchatov Arra**	**12.98**	**14**	⇓P		**P**	**08 59 36.6**	**-0.2**
	comp=N,9.0nm,0.7s							
KURBB	**Kurchatov Arra**	**12.98**	**14**	P		Pn	**08 59 29.5**	**-2.1**
	baz=200,slow=11,SNR=5.4							
KURK	**Kurchatov**	**13.09**	**14**	⇓P		**P**	**08 59 37.6**	**-0.4**
	comp=N,4.0nm,0.7s							
KURK	**Kurchatov**	**13.09**	**14**	*d i* P		**P**	**08 59 37.6**	**-0.4**
KURK				pmax		pmax		
	comp=Z,8.0nm,1.7s							
KOLN	**Koldanda**	**13.20**	**138**	*e*P		**Pn**	**08 59 33.9**	**-1.0**
	comp=Z,32nm,0.4s							
GKN	**Gorkha**	**13.58**	**135**	*e*P		**Pn**	**08 59 39.2**	**-0.5**
	comp=Z,39nm,0.3s							
KKN	**Kakani**	**14.11**	**133**	*e*P		**Pn**	**08 59 45.8**	**-0.6**
	comp=Z,32nm,0.5s							
DMN	**Daman**	**14.15**	**134**	*e*P		**Pn**	**08 59 46.2**	**-0.8**
	comp=Z,14nm,0.3s							
PKIN	**Phulchoki**	**14.34**	**134**	*e*P		**Pn**	**08 59 48.4**	**-1.0**
	comp=Z,30nm,0.5s							
PKI	**Pulchoki**	**14.35**	**134**	*e*P		**Pn**	**08 59 49.1**	**-0.5**
	comp=Z,24nm,0.4s							
GUN	**Gumba**	**14.37**	**131**	*e*P		**Pn**	**08 59 49.2**	**-0.6**
	comp=Z,19nm,0.4s							
JIRN	**Jiri**	**14.74**	**131**	*e*P		**Pn**	**08 59 53.7**	**-0.8**
	comp=Z,88nm,0.6s							
VOSK	**Vostochnaya**	**14.76**	**353**	⇑P		**Pn**	**08 59 56.2**	**+2.0**
	comp=Z,2.8nm,0.5s							
VOSK	**Vostochnaya**	**14.76**	**353**	P		**P**	**08 59 56.8**	**+0.3**
VOSK				pmax		pmax		
	comp=Z,3.0nm,0.5s							
AB31	**Akbulak array**	**14.94**	**323**	⇑P		**Pn**	**08 59 54.8**	**-1.7**
	comp=Z,3.2nm,0.7s							
AB31	**Akbulak array**	**14.94**	**323**	*ce*P		**Pn**	**08 59 54.7**	**-1.7**
AB31				pmax		pmax		
	comp=Z,1.0nm,0.2s							
BVA0	**Borovoye Array**	**15.11**	**352**	⇓P		**P**	**09 00 01.0**	**+0.6**
	comp=Z,5.6nm,0.5s,baz=150,slow=12,SNR=38							
BVA0	**Borovoye Array**	**15.11**	**352**	*i* P		**P**	**09 00 01.0**	**+0.6**
BVA0				pmax		pmax		
	comp=Z,9.0nm,0.6s							
BVAR	**Borovoye Array**	**15.11**	**352**	P		**Pn**	**08 59 58.0**	**-0.6**
BVAR				pmax		pmax		
	comp=Z,2.0nm,0.3s							
BVAR	**Borovoye Array**	**15.11**	**352**	P		**Pn**	**08 59 58.0**	**-0.6**
	comp=Z,2.1nm,0.3s,baz=163,slow=10,SNR=34							
BRVK	**Borovoye**	**15.16**	**352**	*c i* P		**P**	**09 00 01.9**	**+1.0**
BRVK				pmax		pmax		
	comp=Z,6.0nm,0.6s							
RAMN	**Ramite**	**15.51**	**132**	*e*P		**Pn**	**09 00 02.8**	**-1.2**
	comp=Z,32nm,0.5s							
TAPN	**Taplejung**	**15.89**	**128**	*e*P		**Pn**	**09 00 08.8**	**+0.1**
	comp=Z,15nm,0.3s							
ODAN	**Odare**	**16.05**	**130**	*e*P		**Pn**	**09 00 10.3**	**-0.3**
	comp=Z,19nm,0.4s							
AKTO	**Aktyubinsk**	**16.66**	**323**	⇓P		**P**	**09 00 16.1**	**-1.5**
	comp=Z,1.9nm,0.4s							
AKTO	**Aktyubinsk**	**16.66**	**323**	P		**P**	**09 00 15.8**	**-1.8**
AKTO				S		Sn	09 03 13.8	-9.5
AKTO				pmax		pmax		
	comp=Z,1.0nm,0.3s							
AKTO	**Aktyubinsk**	**16.66**	**323**	P		**P**	**09 00 15.8**	**-1.8**
	comp=Z,1.1nm,0.3s,baz=132,slow=12,SNR=12							
AKTO				S		Sn	09 03 13.8	-9.5
	comp=Z,0.2nm,0.3s,baz=180,slow=20,SNR=5.7							
ZALV	**Zalesovo Beam**	**17.59**	**22**	*e*P		**P**	**09 00 27.8**	**+0.1**
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ZALV	**Zalesovo Beam**	**17.59**	**22**	P		**P**	**09 00 27.4**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=217,slow=11,SNR=16							
HVS	**Khovu-Aksy**	**19.21**	**41**	*i* P		**Pn**	**09 00 49.2**	**+1.2**
HVS				pmax		pmax		
	comp=Z,28nm,1.5s							
ARU	**Arti**	**20.95**	**336**	*c i* P		**P**	**09 01 04.6**	**+0.5**
ARU							09 01 34.5	
ARU				S		**S**	**09 04 49.5**	**0.0**
ARU				pmax		pmax		
	comp=Z,12nm,1.7s							
RDF	**Al-Radifah**	**23.61**	**255**	*e*P		**P**	**09 01 32.1**	**+1.4**
NAY	**Al-Naaiem**	**23.68**	**256**	*e*P		**P**	**09 01 32.4**	**+1.0**
NAY				AMb		AMB	09 01 33.3	
	comp=Z,9.5nm,0.7s							
RST	**Umm Al-Ruwaisa**	**23.75**	**257**	*e*P		**P**	**09 01 32.6**	**+0.6**
RST				AMb		AMB	09 01 33.6	
	comp=Z,130nm,0.7s							
JOF	**Joensuu**	**35.63**	**328**	*e*P		P	09 03 12.8	-3.6
JOF	**Joensuu**	**35.63**	**328**	*ep*		P	09 03 12.8	-3.6
	comp=Z,0.2nm,0.3s							
FINES	**FINESS Array B**	**37.42**	**324**	P		**P**	**09 03 31.7**	**+0.1**
	comp=Z,1.1nm,0.4s,baz=109,slow=11,SNR=12							
ARCES	**ARCESS Array B**	**40.54**	**336**	P		**P**	**09 03 57.6**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=106,slow=7.7,SNR=8.5							
HFS	**Hagfors**	**43.19**	**321**	P		**P**	**09 04 18.9**	**-0.2**
	comp=Z,1.5nm,0.4s,baz=103,slow=11,SNR=8.3							
TIXI	**Tiksi**	**43.48**	**22**	*i* P		**P**	**09 04 20.8**	**-0.5**
TIXI				pmax		pmax		
	comp=Z,1.0nm,0.4s							
NOA	**NORSAR Array B**	**44.45**	**322**	P		**P**	**09 04 28.6**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=94,slow=7.6,SNR=3.1							
SPITS	**Spitsbergen Ar**	**46.46**	**346**	P		**P**	**09 04 45.7**	**+0.9**
	comp=Z,14nm,1.1s,baz=92,slow=8.9,SNR=2.9							
MJAR	**Matsushiro Arr**	**50.36**	**71**	LR		LR	09 27 07.2	
	comp=Z,144nm,19.2s,baz=120,slow=36							
SEY	**Seymchan**	**51.88**	**35**	⇑*e*P		**P**	**09 05 25.2**	**-0.9**
TORD	**Torodi Ar. Bea**	**67.92**	**270**	P		**P**	**09 07 15.4**	**-1.0**
	comp=Z,1.8nm,0.5s,baz=47,slow=5.7,SNR=30							
WRA	**Warramunga Arr**	**81.02**	**124**	P		**P**	**09 08 30.9**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=324,slow=4.8,SNR=6.1							
ASAR	**Alice Springs**	**83.42**	**127**	P		**P**	**09 08 43.2**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=317,slow=5.0,SNR=4.9							

PRE ***17*** *09:00:54.3±3.6, 7.66S×36.07E, h10km, ML4.6*

ISC 17 09:00:47.1±2.4, 7.7S±0.1×36.1E±0.1, h10km, n5, σ2s58/6, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MAUS	**Longido**	**5.00**	**7**	*i* P		**Pb**	**09 02 13.3**	**-1.6**
MAUS				*i* S		**Sn**	**09 03 04.1**	**+3.7**
KMBO	**Kilima Mbogo**	**6.66**	**10**	*e*P		Pn	09 02 34.4	+9.0
KMBO				*e*S		**Sn**	**09 03 41.5**	**-0.1**
KIG	**Kigali**	**8.33**	**313**	*e*P		Pn	09 02 56.2	+7.9
KIG				*e*S		**Sn**	**09 04 24.1**	**+1.6**
KIG				AML		AML	09 05 08.2	
	comp=Z,43nm,0.4s							
MBAR	**Mbarara**	**8.90**	**323**	*e*P		Pn	09 03 04.8	+8.9
MBAR				*e*S		**Sn**	**09 04 35.4**	**-1.0**
LSZ	**Lusaka**	**10.80**	**225**	*e*S		**Sn**	**09 05 23.6**	**+0.5**

IDC 17 09:08:01.6±2.9, 8.64S×118.72E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.3/22, mbtmp3.2/3, ML3.2/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/15, Error ellipse: s-maj=250.3km s-min=26.3km az=51.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BATI	**Baumata**	**5.12**	**108**	LR		LR	09 11 07.3	
	comp=Z,158nm,20.2s,baz=117,slow=36							
WRA	**Warramunga Arr**	**18.84**	**128**	P		P	09 12 22.6	-0.6
	0.1nm,0.3s,baz=300,slow=12,SNR=7.3							
ASAR	**Alice Springs**	**20.85**	**138**	P		P	09 12 45.8	+0.5
	0.4nm,0.5s,baz=313,slow=9.4,SNR=11							
MKAR	**Makanchi Array**	**64.01**	**333**	P		P	09 18 37.0	-0.1
	0.2nm,0.7s,baz=134,slow=6.2,SNR=3.3							

NIED ***17*** *09:25:00.36˚60N×140˚60E, h98km, Mw4.1 Best double couple: M0 1.45000×10^15 NP1:φs227.00000°, δ55.00000°, λ-114.00000°. NP2:φs85.00000°, δ41.00000°, λ-60.00000°.*

ISCJB ***17*** *09:25:54.1±0.6, 36.62N±0.06×140.65E±0.07, h103km±3km, mb3.8/11, Error ellipse: s-maj=11.0km s-min=7.3km az=142.5*

IDC ***17*** *09:25:55.6±0.6, 36.58N×140.48E, h101km±4km, mb3.6/11, mb1 3.9/13, mb1mx3.7/28, mbtmp3.6/13, MS2.6/1, Ms1 2.6/1, ms1mx2.3/41, Error ellipse: s-maj=14.5km s-min=8.7km az=175.0*

JMA ***17*** *09:25:55.3±0.1, 36.60N×140.59E, h95km±1km, M4.2 Broadband fault plane solution: P waves. NP1: φs215.00000°, δ66.00000°, λ-125.00000°. NP2: φs94.00000°, δ41.00000°, λ-38.00000°. Principal axes: T Plg14.0000°, Azm329.0000°; N Plg31.0000°, Azm230.0000°; P Plg55.0000°, Azm80.0000°;*

JMA Felt II J1.

ISC 17 09:25:55.5±0.6, 36.67N±0.06×140.64E±0.06, h102km±4km, n34, σ1s28/43, mb3.9/11, 3C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHO	**Hitachi**	**0.08**	**223**	⇓P		**Pn**	**09 26 08.6**	**-1.1**
JHO				S		**Sn**	**09 26 18.3**	**-2.0**
JFK	**Kawauchi**	**0.72**	**15**	⇓P		**Pn**	**09 26 13.2**	**-0.2**
JFK				S		**Sn**	**09 26 26.5**	**-0.3**
JFT	**Otama**	**0.88**	**344**	⇑P		**Pn**	**09 26 14.8**	**-0.1**
JFT				S		**Sn**	**09 26 29.3**	**-0.1**
JAG	**Ashikaga**	**0.98**	**256**	⇓P		**Pn**	**09 26 14.9**	**-1.0**
JFY	**Yanaizu**	**1.05**	**315**	⇓P		**Pn**	**09 26 16.4**	**-0.2**
JFY				*e*S		**Sn**	**09 26 32.2**	**-0.4**
JKT	**Katashina**	**1.12**	**275**	⇓P		**Pn**	**09 26 16.9**	**-0.6**
JKT				S		**Sn**	**09 26 34.3**	**+0.2**
JMM	**Marumori**	**1.20**	**6**	⇑P		**Pn**	**09 26 18.0**	**-0.3**
JMM				S		**Sn**	**09 26 34.9**	**-0.6**
JHK	**Hiroka**	**1.42**	**294**	⇓P		**Pn**	**09 26 20.6**	**-0.3**
JRY	**Ryogami san**	**1.55**	**246**	⇓P		**Pn**	**09 26 21.7**	**-0.8**
JNS	**Sasagawa**	**1.56**	**318**	⇑P		**Pn**	**09 26 22.2**	**-0.4**
MJAR	**Matsushiro Arr**	**1.96**	**267**	P		**Pn**	**09 26 27.2**	**-0.4**
	12nm,0.3s,baz=88,slow=14,SNR=168							
MJAR				S		**Sn**	**09 26 48.0**	**-4.2**
	11nm,0.3s,baz=50,slow=48,SNR=12							
MAT	**Matsushiro**	**1.96**	**267**	P		**Pn**	**09 26 27.5**	**-0.2**
MAT				S		**Sn**	**09 26 51.9**	**-0.3**
ASAJ	**Asahikawa**	**7.59**	**11**	P		**Pn**	**09 27 40.5**	**-2.8**
	2.5nm,0.3s,baz=212,slow=14,SNR=24							
ASAJ				S		**Sn**	**09 29 03.2**	**-4.3**
	1.1nm,0.3s,baz=131,slow=20,SNR=3.5							
ASAJ				LR		LR	09 30 47.8	
	comp=Z,42nm,18.1s,baz=162,slow=38							
JCJ	**Chichijima**	**9.64**	**172**	P		Pn	09 28 06.0	-5.3
	16nm,0.3s,baz=270,slow=22,SNR=9.5							
JCJ				S		Sn	09 29 46.6	-11
	12nm,0.3s,baz=276,slow=23,SNR=4.6							
USRK	**Ussuriysk Arra**	**10.00**	**321**	P		**Pn**	**09 28 16.5**	**+0.5**
	0.7nm,0.3s,baz=141,slow=12,SNR=12							
KSRS	**Korea Array**	**10.19**	**278**	P		**Pn**	**09 28 19.1**	**+0.4**
	0.1nm,0.3s,baz=109,slow=14,SNR=5.1							
SONM	**Songino Array**	**27.48**	**305**	P		**P**	**09 31 31.9**	**-0.2**
	1.6nm,0.6s,baz=109,slow=13,SNR=3.6							
SONM				pP		**pP**	**09 31 55.7**	**+1.0**
	1.7nm,0.6s,baz=91,slow=5.9,SNR=3.0							
H11N2	**WAKE ISLAND Hy**	**28.51**	**119**	T		T	10 01 49.7	
	baz=315,slow=0.7,SNR=12							
H11N1	**WAKE ISLAND Hy**	**28.51**	**119**	T		T	10 01 57.3	
	baz=315,slow=0.7,SNR=35							
H11N3	**WAKE ISLAND Hy**	**28.52**	**119**	T		T	10 01 58.5	
	baz=315,slow=0.7,SNR=24							
H11S1	**WAKE ISLAND Hy**	**29.19**	**121**	T		T	10 02 48.1	
	baz=318,slow=0.7,SNR=34							
H11S3	**WAKE ISLAND Hy**	**29.19**	**121**	T		T	10 02 45.3	
	baz=318,slow=0.7,SNR=22							
H11S2	**WAKE ISLAND Hy**	**29.21**	**121**	T		T	10 02 51.5	
	baz=318,slow=0.7,SNR=14							
ZALV	**Zalesovo Beam**	**41.70**	**313**	P		**P**	**09 33 34.2**	**+0.3**
	2.0nm,0.7s,baz=82,slow=6.7,SNR=6.4							
ZALV				pP		**pP**	**09 33 57.3**	**-0.3**
	0.5nm,0.3s,baz=76,slow=6.1,SNR=1.8							
MKAR	**Makanchi Array**	**43.78**	**302**	P		**P**	**09 33 51.2**	**+0.2**
	1.8nm,0.7s,baz=86,slow=10,SNR=20							
ILAR	**Eielson Array**	**50.13**	**32**	P		**P**	**09 34 40.9**	**+1.0**
	1.3nm,0.8s,baz=273,slow=6.6,SNR=20							
ILAR				pP		**pP**	**09 35 04.5**	**+0.2**
	0.5nm,0.6s,baz=265,slow=5.7,SNR=3.6							
BVAR	**Borovoye Array**	**50.36**	**312**	P		**P**	**09 34 41.8**	**0.0**
	0.6nm,0.5s,baz=74,slow=6.8,SNR=3.0							
WRA	**Warramunga Arr**	**56.62**	**187**	P		**P**	**09 35 26.9**	**-1.0**
	3.2nm,0.6s,baz=4.3,slow=7.1,SNR=36							
ASAR	**Alice Springs**	**60.35**	**187**	P		**P**	**09 35 53.2**	**-0.6**
	0.9nm,0.7s,baz=6.5,slow=5.3,SNR=14							
ASAR				sP		**sP**	**09 36 31.1**	**+0.9**
	0.5nm,0.7s,baz=11,slow=9.8,SNR=2.6							
AKASG	**Malin Array Be**	**74.20**	**322**	P		**P**	**09 37 21.1**	**+0.2**
	0.2nm,0.3s,baz=51,slow=5.9,SNR=3.4							
AKASG				pP		**pP**	**09 37 45.4**	**-1.5**
	1.8nm,0.9s,baz=46,slow=5.4,SNR=2.9							
NVAR	**Mina Array Bea**	**75.70**	**53**	P		**P**	**09 37 31.5**	**+1.4**
	1.0nm,0.7s,baz=289,slow=5.7,SNR=11							
PDAR	**Pinedale Array**	**78.36**	**45**	P		**P**	**09 37 45.4**	**+0.5**
	0.4nm,0.6s,baz=288,slow=1.4,SNR=5.0							
TXAR	**Lajitas Array**	**90.83**	**52**	P		**P**	**09 38 48.6**	**+0.8**
	0.4nm,0.5s,baz=306,slow=2.3,SNR=7.6							
TXAR				pP		**pP**	**09 39 15.4**	**+0.8**
	0.2nm,0.6s,baz=296,slow=2.7,SNR=3.1							
TXAR				sP		**sP**	**09 39 25.7**	**+0.2**
	0.4nm,0.9s,baz=149,slow=2.6,SNR=3.0							
LPAZ	**La Paz**	**147.41**	**59**	PKPbc		**PKPbc**	**09 45 28.8**	**+0.1**
	1.0nm,0.7s,baz=330,slow=3.7,SNR=4.3							

IDC 17 09:30:10.3±5.3, 28.04S×179.74W, h464km±52km, mb2.7/2, mb1 3.1/4, mb1mx2.8/17, mbtmp2.9/4, Error ellipse: s-maj=57.2km s-min=34.7km az=52.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**10.53**	**194**	P		P	09 32 33.3	+0.3
	2.2nm,0.3s,baz=14,slow=4.2,SNR=16							
URZ				S		S	09 34 30.3	-0.2
	1.1nm,0.3s,baz=0.0,slow=20,SNR=14							
DZM	**Mont Dzumac**	**13.86**	**292**	P		P	09 33 09.2	0.0
	0.1nm,0.3s,baz=112,slow=19,SNR=3.0							
ASAR	**Alice Springs**	**41.76**	**265**	P		P	09 37 18.2	+0.3
	0.4nm,0.6s,baz=90,slow=7.1,SNR=7.7							
WRA	**Warramunga Arr**	**42.52**	**271**	P		P	09 37 23.4	-0.7
	0.7nm,0.6s,baz=105,slow=8.2,SNR=5.5							
AKASG	**Malin Array Be**	**148.50**	**324**	PKPbc		PKPbc	09 49 03.1	-0.5
	0.6nm,0.5s,baz=34,slow=2.3,SNR=6.5							

IDC 17 09:36:34.6±4.2, 18.50S×179.57W, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.6/17, mbtmp3.7/3, Error ellipse: s-maj=308.7km s-min=29.4km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.44**	**260**	P		P	09 44 39.2	-0.5
	0.4nm,0.5s,baz=95,slow=6.8,SNR=7.8							
ASAR	**Alice Springs**	**43.57**	**255**	P		P	09 44 40.8	+0.1
	3.3nm,0.5s,baz=88,slow=8.2,SNR=78							
NVAR	**Mina Array Bea**	**80.61**	**44**	P		P	09 48 49.7	+0.1
	0.1nm,0.3s,baz=213,slow=6.5,SNR=2.7							

MEX 17 09:49:09.6±0.5, 17.42N×101.81W, h3km±4km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.38**	**60**	*e*P		Pg	09 49 16.7	-0.2
ZIIG				*i* S		Sg	09 49 22.1	+0.2
CAIG	**El Cayaco**	**1.52**	**104**	*i* P		Pn	09 49 34.0	-3.7
CAIG				*i* S		Sn	09 49 53.0	-5.1
ARIG	**Puente Sto Nin**	**1.64**	**58**	*e*P		Pn	09 49 35.5	-3.9
ARIG				*i* S		Sn	09 49 56.7	-4.3
MMIG	**Aquila**	**1.70**	**301**	*i* P		Pn	09 49 36.5	-3.7
MMIG				*i* S		Sn	09 49 56.9	-5.5
ACX	**Acapulco**	**1.95**	**106**	*e*P		Pn	09 49 38.7	-4.9
ACX				*i* S		Sn	09 50 03.4	-5.2
MEIG	**Mezcala**	**2.15**	**76**	*e*P		Pn	09 49 43.0	-3.5
MEIG				*i* S		Sn	09 50 09.4	-4.4
MOIG	**Morelia**	**2.32**	**15**	*i* P		Pn	09 49 45.5	-3.7
MOIG				*i* S		Sn	09 50 14.1	-4.3
PLIG	**Platanillo**	**2.40**	**66**	*i* P		Pn	09 49 46.8	-3.2
PLIG				*e*S		Sn	09 50 15.7	-4.3
R15V		**2.70**	**311**	*e*P		Pn	09 49 51.3	-2.7
R15V				*i* S		Sn	09 50 22.8	-4.5
YAIG	**Yautepec**	**2.98**	**61**	*i* P		Pn	09 49 55.9	-2.1
YAIG				*i* S		Sn	09 50 31.1	-3.3
PPM	**Popocatepetl**	**3.44**	**61**	*i* P		Pn	09 50 02.6	-2.3
PPM				*i* S		Sn	09 50 42.8	-3.8
PNIG	**Pinotepa**	**3.67**	**106**	*e*P		Pn	09 50 04.5	-2.9
PNIG				*i* S		Sn	09 50 46.6	-4.7
UTMO	**Huajuapan**	**3.84**	**83**	*i* P		Pn	09 50 08.1	-1.9
UTMO				*i* S		Sn	09 50 53.7	-2.2
VHO	**Vista Hermosa**	**4.87**	**93**	*i* P		Pn	09 50 22.4	-1.6
VHO				*i* S		Sn	09 51 19.9	-1.2

IDC 17 10:13:12.6±1.8, 3.74S×126.58E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.5/22, mbtmp3.5/3, ML3.1/1, Error ellipse: s-maj=158.1km s-min=25.6km az=65.0, Buru

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.80**	**155**	P		Pn	10 17 21.1	-0.8
	0.1nm,0.3s,baz=334,slow=11,SNR=5.8							
ASAR	**Alice Springs**	**21.04**	**161**	P		P	10 17 57.9	-0.4
	0.5nm,0.6s,baz=335,slow=10,SNR=8.7							
MKAR	**Makanchi Array**	**63.66**	**328**	P		P	10 23 46.0	+0.3
	0.8nm,0.4s,baz=122,slow=7.3,SNR=16							

AUST ***17*** *10:45:24.3±0.5, 16.53S×171.72W, h0km, Error ellipse: s-maj=14.4km s-min=6.7km az=18.0*

IDC ***17*** *10:45:25.2±0.4, 16.38S×171.91W, h0km, mb5.0/20, mb1 5.1/20, mb1mx5.1/22, mbtmp5.0/20, MS5.1/26, Ms1 5.1/26, ms1mx5.1/31, Error ellipse: s-maj=18.4km s-min=13.7km az=128.0*

ISCJB ***17*** *10:45:25.5±0.1, 16.46S±0.04×171.92W±0.02, h10km, mb5.5/203, MS5.3/208, Error ellipse: s-maj=5.9km s-min=2.4km az=155.4*

BJI ***17*** *10:45:25.6, 15.80S×171.66W, h6km, mB5.9/44, mb5.3/43, Ms5.4/44, Ms7 5.2/44*

SZGRF ***17*** *10:45:26.4, 16.95S×173.26W, h10km, mb5.3, Tonga Islands*

NEIC ***17*** *10:45:26.6±0.1, 16.37S×171.99W, h10km, mb5.7/144, MS5.3/147, MW5.7, Error ellipse: s-maj=5.4km s-min=2.7km az=140.0*

NEIC Felt at Apia and Manase.

MOS ***17*** *10:45:29.8±1.3, 16.15S×172.08W, h33km, mb5.8/39, MS5.2/49, Error ellipse: s-maj=9.6km s-min=6.5km az=59.0*

GCMT ***17*** *10:45:30.4±0.1, 16.36S×171.62W, h12km, MW5.7, Moment Tensor Solution. s78,c126; s62,c69; Moment tensor: Scale 10^17Nm; Mrr-3.05±.04; Mθθ-1.15±.04; Mφφ4.19±.03; Mrθ0.71±.12; Mrφ0.61±.03; Mθφ0.12±.09; Best double couple: M0 3.80000×10^17 NP1:φs204.00000°, δ49.00000°, λ-65.00000°. NP2:φs349.00000°, δ46.00000°, λ-116.00000°. Principal axes: T 4.2600, Plg2.0000°, Azm277.0000°; N -0.9900, Plg18.0000°, Azm7.0000°; P -3.2900, Plg71.0000°, Azm182.0000°; Data Used: ll lU lC G CN. Surface waves: sta=110, comp=220, per= 50.*

DJA ***17*** *10:45:34.8±0.3, 17.5S±5.5×172.2W±, h70km, M5.9/11, mB6.2/11, mb5.6/11, Mw(mB)6.0/11*

NEIC ***17*** *10:45:46.9±0.0, 16.25S×171.92W, h10km, Moment Tensor Solution. s114 Moment tensor: Scale 10^17Nm; Mrr-3.21; Mθθ-0.89; Mφφ4.10; Mrθ-3.02; Mθφ0.40; Mrφ-0.41; Best double couple: M0 4.70000×10^17 NP1:φs157.00000°, δ48.00000°, λ-137.00000°. NP2:φs36.00000°, δ60.00000°, λ-49.00000°. Principal axes: T 4.2100, Plg6.0000°, Azm98.0000°; N 1.0800, Plg33.0000°, Azm192.0000°; P -5.2900, Plg55.0000°, Azm358.0000°;*

ISC 17 10:45:27.1±0.3, 16.40S±0.04×171.85W±0.04, h14km±1km, h14km: pP-P, n1214, σ1s26/1220, mb5.7/203, MS5.3/208, 218C-245D, Samoa Islands region

| Code | Station Name | Δ° | AZ° | Phase |

URZ	**Urewera**	**23.84**	**202**	*e*P		**P**	**10 50 40.3**	**+0.4**
	comp=Z,170nm,0.7s								
URZ	**Urewera**	**23.84**	**202**	P		**P**	**10 50 39.6**	**-0.3**
	comp=Z,97nm,1.0s,baz=16,slow=3.4,SNR=18								
BKZ	**Black Stump Fm**	**24.87**	**202**	*e*P		**P**	**10 50 48.0**	**-1.4**
	comp=Z,93nm,1.2s								
BFZ	**Birch Farm**	**26.30**	**201**	*e*P		**P**	**10 51 05.7**	**+3.4**
	comp=Z,135nm,1.2s								
SNZO	**South Karori**	**27.40**	**202**		PFAKE		10 51 20.0	+7.9
SNZO					LR	LR			
	comp=Z,3µm,22.0s								
HNR	**Honiara**	**28.32**	**281**		LR	LR	11 00 55.5		
	comp=Z,22µm,20.9s,baz=116,slow=33								
KHZ	**Kahutara**	**28.79**	**203**	P		**P**	**10 51 24.3**	**-0.3**
	comp=Z,65nm,0.9s								
RPZ	**Rata Peaks**	**30.85**	**205**	P		**P**	**10 51 45.4**	**+2.5**
RPZ	**Rata Peaks**	**30.85**	**205**	P		**P**	**10 51 45.4**	**+2.5**
	comp=Z,9.4nm,0.6s,baz=45,slow=16,SNR=4.5								
RKT	**Rikitea**	**35.27**	**107**	*e*S		S	10 57 48.0	-7.3
	comp=Z,906nm,29.9s								
RKT				*e*LQ		LQ	11 00 10.6		
	comp=Z,1µm,26.5s								
RKT				*e*LR		LR	11 01 24.8		
	comp=Z,17µm,28.8s,baz=278								
EIDS	**Eidsvold**	**35.66**	**249**	*e*P		**P**	**10 52 24.9**	**-0.1**
	comp=Z,15nm,1.0s								
EIDS	**Eidsvold**	**35.66**	**249**	⇓P		**P**	**10 52 22.8**	**-2.3**
	baz=36,SNR=3.8								
ARMA	**Armidale**	**36.13**	**241**	*e*P		**P**	**10 52 28.1**	**-1.0**
	comp=Z,68nm,1.3s								
ARMA	**Armidale**	**36.13**	**241**	P		**P**	**10 52 28.0**	**-1.0**
	baz=36,SNR=15								
MGCD	**Mangrove Creek**	**37.32**	**236**	⇓P		**P**	**10 52 38.2**	**-0.8**
	baz=37,SNR=5.1								
CNB	**Canberra Magne**	**39.34**	**234**	⇓P		**P**	**10 52 55.2**	**-1.0**
	baz=39,SNR=14								
CAN	**Canberra**	**39.63**	**234**	*e*P		**P**	**10 52 58.7**	**+0.2**
CAN					pmax	pmax			
	comp=Z,136nm,1.4s								
CAN					MLR	MLR			
	comp=Z,3µm,20.0s								
CAN	**Canberra**	**39.63**	**234**	*e*P		**P**	**10 52 58.7**	**+0.2**
	comp=Z,136nm,1.4s								
CAN					LR	LR			
	comp=Z,3µm,20.0s								
CAN	**Canberra**	**39.63**	**234**	⇓P		**P**	**10 52 57.8**	**-0.7**
	baz=40								
CTA	**Charters Tower**	**39.88**	**258**	⇓P		**P**	**10 52 59.4**	**-1.4**
	baz=40								
CTAO	**Charters Tower**	**39.88**	**258**		PFAKE		10 53 10.0	+9.2
CTAO					LR	LR			
	comp=Z,4µm,20.0s								
KIP	**Kipapa**	**39.97**	**20***d*	*i*P		**P**	**10 53 03.3**	**+2.0**
KIP					pmax	pmax			
	comp=Z,129nm,1.7s								
KIP					MLR	MLR			
	comp=Z,944nm,16.0s								
KIP	**Kipapa**	**39.97**	**20**	*e*P		**P**	**10 53 03.0**	**+1.7**
MILA	**Mila**	**40.08**	**231**	⇓P		**P**	**10 53 02.3**	**0.0**
	baz=40								
PMG	**Port Moresby**	**40.50**	**275**	P		**P**	**10 53 06.6**	**+0.7**
PMG	**Port Moresby**	**40.50**	**275**	*e*P		**P**	**10 53 05.1**	**-0.8**
	comp=Z,88nm,1.4s								
PMG					LR	LR			
	comp=Z,4µm,20.0s								
H11S2	**WAKE ISLAND Hy**	**40.59**	**328**		T	T	11 36 25.6		
	baz=151,slow=0.7,SNR=17								
H11S3	**WAKE ISLAND Hy**	**40.61**	**328**		T	T	11 36 30.3		
	baz=151,slow=0.7,SNR=2.3								
H11S1	**WAKE ISLAND Hy**	**40.61**	**328**		T	T	11 36 19.0		
	baz=151,slow=0.7,SNR=1.5								
WAKE	**Wake Island**	**41.28**	**328**		PFAKE		10 53 20.0	+7.8
WAKE					LR	LR			
	comp=Z,2µm,20.0s								
CMSA	**Cobar Meteorol**	**41.35**	**241**	⇑P		**P**	**10 53 11.5**	**-1.3**
	baz=41,SNR=36								
H11N3	**WAKE ISLAND Hy**	**41.52**	**329**		T	T	11 37 16.1		
	SNR=20								
H11N1	**WAKE ISLAND Hy**	**41.53**	**329**		T	T	11 36 31.2		
	baz=251,slow=0.7,SNR=3.0								
H11N2	**WAKE ISLAND Hy**	**41.54**	**329**		T	T	11 36 38.1		
	baz=149,slow=0.7,SNR=18								
MTSU	**Mount Surprise**	**41.82**	**261**	P		**P**	**10 53 15.6**	**-1.3**
	baz=42,SNR=12								
QLP	**Quilpie**	**41.92**	**248**	⇑P		**P**	**10 53 15.6**	**-1.9**
	baz=42,SNR=19								
TOO	**Toolangi**	**43.01**	**232**	⇑P		**P**	**10 53 25.7**	**-0.6**
	baz=43,SNR=15								
COEN	**Coen**	**43.41**	**267**	*e*P		**P**	**10 53 29.3**	**-0.4**
	comp=Z,618nm,1.3s								
COEN	**Coen**	**43.41**	**267**	P		**P**	**10 53 29.3**	**-0.4**
	baz=44,SNR=10								
TAU	**Tasmania Unive**	**43.62**	**224**		PFAKE		10 53 40.0	+9.0
TAU					LR	LR			
	comp=Z,2µm,19.0s								
MIDW	**Midway**	**44.68**	**353**		PFAKE		10 53 50.0	+10
MIDW					LR	LR			
	comp=Z,2µm,19.0s								
STKA	**Stephens Creek**	**44.84**	**241**	*e*P		**P**	**10 53 40.3**	**-0.8**
	comp=Z,33nm,1.2s								
STKA	**Stephens Creek**	**44.84**	**241**	⇑P		**P**	**10 53 40.6**	**-0.5**
	baz=45,SNR=71								
STKA	**Stephens Creek**	**44.84**	**241**	P		**P**	**10 53 40.4**	**-0.8**
	comp=Z,112nm,1.1s,baz=75,slow=7.1,SNR=87								
STKA					LR	LR	11 11 09.6		
	comp=Z,2µm,19.0s,baz=75,slow=34								
ARPS	**Mount Arapiles**	**45.60**	**234**	⇓P		**P**	**10 53 46.4**	**-0.6**
	baz=46,SNR=14								
HTT	**Hallett**	**47.31**	**240**	⇓P		**P**	**10 53 59.8**	**-0.8**
	baz=47								
JAY	**Jayapura**	**48.64**	**281**	⇓P		**P**	**10 54 10.4**	**-0.7**
	baz=49,SNR=3.3								
BBOO	**Buckleboo**	**49.61**	**241**	*e*P		**P**	**10 54 17.4**	**-0.9**
	comp=Z,3µm,1.3s								
BBOO	**Buckleboo**	**49.61**	**241**	⇑P		**P**	**10 54 17.5**	**-0.7**
	baz=50,SNR=49								
WRAB	**Tennant Creek**	**51.06**	**257**	*e*P		**P**	**10 54 28.6**	**-0.8**
WRAB					pmax	pmax			
	comp=Z,42nm,1.1s								
WRAB					MLR	MLR			
	comp=Z,3µm,19.0s								
WRAB	**Tennant Creek**	**51.06**	**257**	*e*P		**P**	**10 54 28.6**	**-0.8**
	comp=Z,42nm,1.1s								
WRAB					LR	LR			
	comp=Z,3µm,19.0s								
WRAB	**Tennant Creek**	**51.06**	**257**	P		**P**	**10 54 28.1**	**-1.3**
	comp=Z,198nm,1.3s,SNR=10								
WRA	**Warramunga Arr**	**51.07**	**257**	P		**P**	**10 54 27.9**	**-1.6**
WRA					PcP	**PcP**	**10 55 45.1**	**-0.3**
WRA	**Warramunga Arr**	**51.07**	**257**	P		**P**	**10 54 27.9**	**-1.6**
	comp=Z,15nm,0.9s,baz=96,slow=7.5,SNR=95								
WRA					PcP	**PcP**	**10 55 45.1**	**-0.3**
	comp=Z,6.4nm,1.0s,baz=91,slow=4.8,SNR=5.1								
WRA					LR	LR	11 14 56.1		
	comp=Z,4µm,18.5s,baz=100,slow=35								
AS06	**Alice Springs**	**51.16**	**253**	⇑P		**P**	**10 54 28.6**	**-1.6**
	baz=51								
AS10	**Alice Springs**	**51.22**	**253**	⇑P		**P**	**10 54 28.9**	**-1.7**
	baz=51								
AS31	**Alice Springs**	**51.22**	**253**	*e*P		**P**	**10 54 28.9**	**-1.7**
AS12	**Alice Springs**	**51.23**	**253**	⇑P		**P**	**10 54 29.1**	**-1.5**
	baz=51								
ASAR	**Alice Springs**	**51.23**	**253**	P		**P**	**10 54 29.0**	**-1.6**
ASAR	**Alice Springs**	**51.23**	**253**	P		**P**	**10 54 29.0**	**-1.6**
	comp=Z,88nm,0.8s,baz=87,slow=8.1,SNR=163								
ASAR					LR	LR	11 15 30.2		
	comp=Z,2µm,18.6s,baz=91,slow=35								
GUMO	**Guam**	**52.13**	**302**		PFAKE		10 54 50.0	+13
GUMO					LR	LR			
	comp=Z,2µm,22.0s								
KDU	**Kakadu**	**53.88**	**266**	⇑P		**P**	**10 54 49.4**	**-1.0**
	baz=54,SNR=7.5								
MTN	**Manton Dam**	**55.14**	**266**	P		**P**	**10 54 58.5**	**-1.0**
	baz=55,SNR=8.7								
KNRA	**Kununurra**	**56.89**	**262**	⇓P		**P**	**10 55 11.3**	**-0.8**
	baz=57,SNR=12								
SWI	**Sorong**	**58.10**	**279**	⇓P		**P**	**10 55 20.6**	**0.0**
	baz=58								
RPN	**Rapa Nui**	**58.53**	**112**		PFAKE		10 55 40.0	+17
RPN					LR	LR			
	comp=Z,3µm,19.0s								
FITZ	**Fitzroy Crossi**	**59.46**	**258**	*e*P		**P**	**10 55 29.7**	**-0.4**
	comp=Z,60nm,1.5s								
FITZ				*e*PcP		**PcP**	**10 56 19.2**	**+1.5**
FITZ	**Fitzroy Crossi**	**59.46**	**258**	⇑P		**P**	**10 55 29.9**	**-0.2**
	baz=60,SNR=7.8								
AAI	**Ambon**	**60.16**	**275**	P		**P**	**10 55 37.1**	**+2.1**
NLAI	**Namlea**	**61.34**	**275**	P		**P**	**10 55 46.0**	**+3.1**
LBMI	**Labuha**	**61.73**	**278**	P		**P**	**10 55 48.1**	**+2.5**
JCJ	**Chichijima**	**62.12**	**314**	LR		LR	11 18 35.2		
	comp=Z,956nm,19.9s,baz=126,slow=32								
TNTI	**Ternate**	**62.31**	**280**	P		**P**	**10 55 51.4**	**+1.9**
SOEI	**Soe**	**62.37**	**267**	P		**P**	**10 55 52.0**	**+1.9**
SOEI	**Soe**	**62.37**	**267**	⇑P		**P**	**10 55 51.0**	**+1.0**
	baz=62,SNR=18								
SBA	**Scott Base**	**62.38**	**185**	*e*P		**P**	**10 55 50.5**	**+1.6**
SBA				*e*			10 56 25.2		
SBA					pmax	pmax			
	comp=Z,32nm,0.8s								
SBA					MLR	MLR			
	comp=Z,823nm,19.0s								
SBA	**Scott Base**	**62.38**	**185**	*e*P		**P**	**10 55 50.5**	**+1.6**
	comp=Z,32nm,0.8s								
SBA				*e*PcP		**PcP**	**10 56 25.2**	**-3.2**
SBA				LR		LR			
	comp=Z,823nm,19.0s								
VNDA	**Vanda**	**62.54**	**186**	*e*P		**P**	**10 55 51.1**	**+1.1**
	comp=Z,110nm,1.8s								
VNDA	**Vanda**	**62.54**	**186**	P		**P**	**10 55 51.1**	**+1.1**
	comp=Z,8.6nm,0.7s,baz=13,slow=6.3,SNR=17								
VNDA					LR	LR	11 19 44.6		
	comp=Z,668nm,19.0s,baz=25,slow=33								
BATI	**Baumata**	**62.85**	**267**	P		**P**	**10 55 54.0**	**+0.9**
MBWA	**Marble Bar**	**64.52**	**254**	*e*P		**P**	**10 56 03.8**	**-0.2**
	comp=Z,302nm,1.3s								
MBWA					LR	LR			
	comp=Z,5µm,21.0s								
MMRI	**Maumere**	**64.58**	**268**	P		**P**	**10 56 04.4**	**-0.1**
MEEK	**Meekatharra**	**64.82**	**248**	⇑P		**P**	**10 56 05.3**	**-0.7**
	baz=65,SNR=18								
SGSI	**Sangihe**	**65.00**	**282**	P		**P**	**10 56 10.2**	**+2.9**
BBSI	**Bau Bau**	**65.06**	**272**	P		**P**	**10 56 08.3**	**+0.6**
NWAO	**Narrogin (SRO)**	**65.43**	**241**	*e*P		**P**	**10 56 08.8**	**-1.0**
	comp=Z,284nm,1.8s								
NWAO					LR	LR			
	comp=Z,1µm,19.0s								
BLDU	**Ballidu**	**66.07**	**243**	⇑P		**P**	**10 56 13.3**	**-0.7**
	baz=66,SNR=27								
DAV	**Davao City (W)**	**66.14**	**286**		PFAKE		10 56 30.0	+15
DAV					LR	LR			
	comp=Z,1µm,20.0s								
MORW	**Morawa**	**66.81**	**245**	P		**P**	**10 56 18.4**	**-0.3**
	baz=67,SNR=16								
APSI	**Ampana**	**67.22**	**276**	P		**P**	**10 56 23.9**	**+2.3**
MRSI	**Marisa**	**67.36**	**278**	P		**P**	**10 56 22.6**	**+0.1**
BKSI	**Bulukumba**	**67.45**	**271**	P		**P**	**10 56 22.6**	**-0.4**
BNSI	**Bone**	**67.71**	**272**	P		**P**	**10 56 26.5**	**+1.8**
KAPI	**Kappang**	**67.89**	**271**	P		**P**	**10 56 27.4**	**+1.6**
KAPI	**Kappang**	**67.89**	**271**	*e*P		**P**	**10 56 25.0**	**-0.8**
	comp=Z,70nm,1.1s								
KAPI					LR	LR			
	comp=Z,1µm,22.0s								
ADK	**Adak**	**68.13**	**357**		PFAKE		10 56 40.0	+14
ADK					LR	LR			
	comp=Z,630nm,20.0s								
SPSI	**Sidrap Palu**	**68.16**	**272**	P		**P**	**10 56 28.7**	**+1.2**
TTSI	**Tana Toraja**	**68.36**	**273**	P		**P**	**10 56 30.0**	**+1.3**
TOLI	**Toli-Toli**	**68.65**	**278**	P		**P**	**10 56 31.3**	**+0.7**
MJSI	**Majene**	**69.03**	**272**	P		**P**	**10 56 34.5**	**+1.6**
MMSI	**Mamuju**	**69.33**	**273**	P		**P**	**10 56 36.5**	**+1.7**
CASY	**Casey**	**70.12**	**205**	*e*P		**P**	**10 56 38.0**	**-0.7**
	comp=Z,26nm,1.1s								
CASY				*e*PcP		**PcP**	**10 56 57.5**	**-3.2**
CASY				LR		LR			
	comp=Z,504nm,20.0s								
MTNI	**Mataram**	**70.40**	**267**	P		**P**	**10 56 41.8**	**+0.4**
MJAR	**Matsushiro Arr**	**70.67**	**319**	P		**P**	**10 56 42.4**	**-0.1**
MJAR	**Matsushiro Arr**	**70.67**	**319**	P		**P**	**10 56 42.4**	**-0.1**
	comp=Z,5.0nm,0.9s,baz=158,slow=5.7,SNR=9.8								
MJAR					LR	LR	11 21 33.9		
	comp=Z,1µm,21.7s,baz=130,slow=31								
MAJO	**Matsushiro**	**70.67**	**319**	*e*P		**P**	**10 56 41.9**	**-0.6**
MAJO					pmax	pmax			
	comp=Z,18nm,1.4s								
MAJO					MLR	MLR			
	comp=Z,1µm,22.0s								
MAJO	**Matsushiro**	**70.67**	**319**	*e*P		**P**	**10 56 41.9**	**-0.6**
	comp=Z,18nm,1.4s								
MAJO					LR	LR			
	comp=Z,1µm,22.0s								
MAT	**Matsushiro**	**70.67**	**319**	P		**P**	**10 56 42.0**	**-0.5**
MAT				S		**S**	**11 06 02.2**	**+5.8**
SCI	**San Clemente I**	**70.73**	**46**	⇓P		**P**	**10 56 45.1**	**+2.2**
	baz=71								
SBC	**Santa Barbara**	**70.80**	**44**	⇓P		**P**	**10 56 45.4**	**+2.1**
	baz=71								
PKM	**Peak Mountain**	**71.00**	**43**	⇓P		**P**	**10 56 45.9**	**+1.1**
	baz=71								
BLG	**Laguna Peak**	**71.04**	**44**	⇓P		**P**	**10 56 45.6**	**+0.8**
	baz=71								
CIS	**Catalina Islan**	**71.08**	**45**	⇓P		**P**	**10 56 45.4**	**+0.3**
	baz=71								
SAO	**San Andreas Ge**	**71.10**	**41**	*e*P		**P**	**10 56 45.9**	**+0.8**
SAO					pmax	pmax			
	comp=Z,138nm,1.8s								
SAO	**San Andreas Ge**	**71.10**	**41**	*e*P		**P**	**10 56 45.9**	**+0.8**
	comp=Z,138nm,1.8s								
SMMC	**Simmler**	**71.13**	**43**	⇓P		**P**	**10 56 46.2**	**+0.8**
	baz=71,SNR=6.8								
FMP	**Fort Macarthur**	**71.33**	**45**	⇑P		**P**	**10 56 47.6**	**+1.0**
	baz=72								
KUR	**Kuril'sk**	**71.41**	**331**	⇑*i*P		**P**	**10 56 44.9**	**-1.9**
KUR				S		**S**	**11 06 07.1**	**+2.5**
KUR					pmax	pmax			
	comp=Z,194nm,2.5s								
KUR					pmax	pmax			
	comp=E,59nm,1.2s								
KUR					pmax	pmax			
	comp=Z,288nm,2.4s								
KUR					MLR	MLR			
	comp=N,324nm,18.0s								
KUR					MLR	MLR			
	comp=E,320nm,18.0s								
KUR					MLR	MLR			
	comp=Z,442nm,18.0s								
SRBI	**Singaraja**	**71.45**	**267**	P		**P**	**10 56 48.3**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**71.47**	**329**	*i*P		**P**	**10 56 44.3**	**-2.9**
YUK				*i*			10 57 04.0		
YUK				*i*			10 59 21.2		
YUK				*i*S		**S**	**11 06 00.4**	**-5.0**
YUK				*e*SS		**SS**	**11 10 41.2**	**+0.4**
YUK					pmax	pmax			
	comp=N,73nm,0.7s								
YUK					pmax	pmax			
	comp=Z,598nm,1.4s								
YUK					pmax	pmax			
	comp=E,70nm,0.7s								
HOPS	**Hopland**	**71.52**	**38**	*e*P		**P**	**10 56 48.1**	**+0.5**
	comp=E,74nm,1.5s								
OSI	**Osito Adit**	**71.56**	**44**	*e*P		**P**	**10 56 49.0**	**+0.9**
	comp=E,9.4nm,0.6s								
OSI	**Osito Adit**	**71.56**	**44**	⇑P		**P**	**10 56 50.0**	**+1.9**
	baz=72								
DECC	**Green Verdugo**	**71.61**	**45**	⇓P		**P**	**10 56 50.2**	**+1.9**
	baz=72								
PASC	**Pasadena Art C**	**71.67**	**45**	*e*P		**P**	**10 56 49.5**	**+0.9**
	comp=E,17nm,1.1s								
KCPM	**Cahto Peak**	**71.67**	**37**	*e*P		**P**	**10 56 50.2**	**+1.6**
	comp=E,69nm,1.7s								
109C	**Camp Elliot, M**	**71.67**	**46**	⇑P		**P**	**10 56 50.2**	**+1.6**
	baz=72,SNR=6.7								
MWC	**Mount Wilson**	**71.78**	**45**	*e*P		**P**	**10 56 50.3**	**+0.8**
MWC					pmax	pmax			
	comp=Z,229nm,2.0s								
MWC	**Mount Wilson**	**71.78**	**45**	*e*P		**P**	**10 56 50.3**	**+0.8**
	comp=Z,229nm,2.0s								
ARVC	**Arvin**	**71.79**	**44**	⇑P		**P**	**10 56 50.8**	**+1.4**
	baz=72,SNR=5.4								
KIPM	**Iron Peak**	**71.81**	**37**	*e*P		**P**	**10 56 49.1**	**-0.4**
	comp=Z,208nm,1.9s								
BAR	**Barrett**	**71.86**	**47**	*e*P		**P**	**10 56 50.5**	**+0.7**
	comp=Z,98nm,1.9s								
MURC	**Murrieta**	**72.01**	**46**	⇓P		**P**	**10 56 52.0**	**+1.2**
	baz=72,SNR=8.0								
VES	**Vestal, Richgr**	**72.05**	**43**	⇑P		**P**	**10 56 52.2**	**+1.4**
	baz=72,SNR=12								
BFSC	**Mount Baldy Ra**	**72.06**	**45**	⇑P		**P**	**10 56 51.9**	**+0.7**
	baz=72,SNR=7.8								
MYLDM	**Lahad Datu**	**72.10**	**281**	P		P	10 56 55.7	+4.0
MYLDM	**Lahad Datu**	**72.10**	**281**	P		**P**	**10 56 54.7**	**+3.0**
	comp=Z,142nm,1.7s,comp=Z,3µm								
MONP	**Monument Peak**	**72.15**	**47**	⇓P		**P**	**10 56 52.9**	**+1.1**
	baz=72,SNR=17								
EDW2	**Edwards Air Fo**	**72.21**	**44**	⇓P		**P**	**10 56 53.1**	**+1.1**
	baz=72,SNR=18								
DVTC	**Desert V Tower**	**72.25**	**47**	⇑P		**P**	**10 56 54.0**	**+1.7**
	baz=72								
LPIG	**La Paz**	**72.31**	**57**	LR		LR	11 23 49.3		
	comp=Z,2µm,18.8s,baz=309,slow=32								
ISA	**Isabella**	**72.34**	**43**	*e*P		**P**	**10 56 53.6**	**+0.8**
ISA					pmax	pmax			
	comp=Z,81nm,1.6s								
ISA	**Isabella**	**72.34**	**43**	*e*P		**P**	**10 56 53.6**	**+0.8**
	comp=Z,81nm,1.6s								
ISA	**Isabella**	**72.34**	**43**	⇑P		**P**	**10 56 54.0**	**+1.2**
	baz=73,SNR=35								
KHMM	**Horse Mountain**	**72.37**	**36**	*e*P		**P**	**10 56 54.0**	**+1.2**
	comp=Z,123nm,1.8s								
TSM	**Tawau**	**72.41**	**280**	P		**P**	**10 56 55.8**	**+2.3**
ABJI	**Asem Bagus**	**72.46**	**267**	P		**P**	**10 56 56.7**	**+2.9**
PFO	**Pinyon Flat Ob**	**72.53**	**46**	*e*P		**P**	**10 56 54.5**	**+0.5**
	comp=Z,179nm,2.3s								
PFO	**Pinyon Flat Ob**	**72.53**	**46**	P		**P**	**10 56 54.4**	**+0.5**
	comp=Z,102nm,1.7s,SNR=6.4								
PFO	**Pinyon Flat Ob**	**72.53**	**46**	⇓P		**P**	**10 56 54.8**	**+0.9**
	baz=73,SNR=9.4								
PFO	**Pinyon Flat Ob**	**72.53**	**46**	LR		LR	11 25 20.7		
	comp=Z,2µm,18.4s,baz=183,slow=33								
CMB	**Columbia Colle**	**72.55**	**40**	*e*P		**P**	**10 56 54.3**	**+0.4**
CMB					pmax	pmax			
	comp=Z,115nm,1.8s								
CMB	**Columbia Colle**	**72.55**	**40**	*e*P		**P**	**10 56 54.3**	**+0.4**
	comp=Z,115nm,1.8s								
BBRC	**Big Bear Solar**	**72.58**	**45**	⇑P		**P**	**10 56 55.7**	**+1.4**
	baz=73,SNR=5.8								
SWSC	**Sam W. Stewart**	**72.62**	**47**	⇓P		**P**	**10 56 55.5**	**+1.2**
	baz=73,SNR=11								
LRMC	**Laurel Mountai**	**72.75**	**44**	⇓P		**P**	**10 56 56.1**	**+0.8**
	baz=73,SNR=22								
WDC	**Whiskeytown Da**	**72.86**	**37**	*e*P		**P**	**10 56 56.5**	**+0.9**
WDC					pmax	pmax			
	comp=Z,110nm,1.7s								
WDC	**Whiskeytown Da**	**72.86**	**37**	*e*P		**P**	**10 56 56.5**	**+0.9**
	comp=Z,110nm,1.7s								
KMMI	**Kalianget**	**72.91**	**268**	P		**P**	**10 56 58.6**	**+2.1**
CWC	**Cottonwood Cre**	**73.06**	**43**	⇓P		**P**	**10 56 58.4**	**+1.4**
	baz=73,SNR=12								
BELC	**Belle Mtn. Jos**	**73.06**	**46**	⇑P		**P**	**10 56 57.8**	**+0.7**
	baz=73,SNR=15								
BLJI	**Banyuglugur**	**73.09**	**267**	P		**P**	**10 56 57.3**	**-0.2**
GMJI	**Gumukmas**	**73.10**	**266**	P		**P**	**10 57 00.6**	**+3.0**
ASAJ	**Asahikawa**	**73.18**	**328**	*e*P		**P**	**10 56 57.9**	**+0.5**
	comp=Z,24nm,1.4s								
MPMC	**Manual Prospec**	**73.22**	**43**	⇓P		**P**	**10 56 59.0**	**+0.9**
	baz=74,SNR=37								
GSC	**Goldstone**	**73.24**	**44**	*e*P		**P**	**10 56 58.8**	**+0.7**
GSC	**Goldstone**	**73.24**	**44**	*e*P		**P**	**10 56 58.8**	**+0.7**
GSC	**Goldstone**	**73.24**	**44**	⇓P		**P**	**10 56 58.9**	**+0.8**
	baz=74,SNR=16								
BC3	**Big Chuckawall**	**73.25**	**47**	⇑P		**P**	**10 56 59.0**	**+0.8**
	baz=74,SNR=18								
MLAC	**Mammoth Lakes**	**73.27**	**41**	⇑P		**P**	**10 57 00.2**	**+1.8**
	baz=74								
HEC	**Hector,Ludlow**	**73.30**	**45**	⇓P		**P**	**10 56 58.9**	**+0.4**
	baz=74,SNR=18								
CHGN	**Chignik**	**73.30**	**8**	*e*P		**P**	**10 56 57.5**	**-0.3**
TIN	**Tinemaha**	**73.32**	**42**	⇑P		**P**	**10 57 00.3**	**+1.7**
	baz=74								
GLA	**Glamis**	**73.36**	**47**	*e*P		**P**	**10 56 59.6**	**+0.8**
GLA					pmax	pmax			
	comp=Z,82nm,1.7s								
GLA	**Glamis**	**73.36**	**47**	*e*P		**P**	**10 56 59.6**	**+0.8**
	comp=Z,82nm,1.7s								
GLA	**Glamis**	**73.36**	**47**	⇓P		**P**	**10 56 59.5**	**+0.7**
	baz=74								
WAKR	**Walker**	**73.42**	**40**	*e*P		**P**	**10 57 00.0**	**+0.8**
	comp=Z,148nm,1.7s								
SDKM	**Sandakan**	**73.48**	**281**	P		**P**	**10 57 01.2**	**+1.3**
YBH	**Yreka Blue Hor**	**73.51**	**36**	*e*P		**P**	**10 57 00.6**	**+1.1**
	comp=Z,45nm,1.3s								
YBH	**Yreka Blue Hor**	**73.51**	**36**	LR		LR	11 24 45.7		
	comp=Z,2µm,18.7s,baz=269,slow=32								
QSPA	**South Pole Qui**	**73.65**	**180**	*e*P		**P**	**10 57 00.4**	**+0.3**
	comp=Z,1µm,2.6s								
QSPA					LR	LR			
	comp=Z,893nm,19.0s								
MTKI	**Muara Teweh, K**	**73.67**	**274**	P		**P**	**10 57 03.8**	**+2.8**
PET	**Petropavlovsk**	**73.68**	**342**	*e*P		**P**	**10 57 00.4**	**+0.3**
PET				*e*			10 59 46.8		
PET				*e*S		**SKiKP**	**11 06 28.4**	**-1.4**
PET				*e*SS		**

	comp=Z,60nm,1.0s								
YSS						pmax		pmax	
	comp=Z,1µm,4.0s								
Y14A	**Wickenburg**	**75.12**	**47**	⇓	P		**P**		**10 57 10.0 +0.9**
	baz=75,SNR=20								
W13A	**Hualapai Mount**	**75.12**	**46**	⇓	P		**P**		**10 57 10.4 +1.2**
	baz=75,SNR=10								
NGJI	**Ngawi**	**75.23**	**267**		P		**P**		**10 57 09.7 -0.4**
PCJI	**Pacitan**	**75.29**	**266**		P		**P**		**10 57 11.6 +1.2**
KDAK	**Kodiak Island**	**75.62**	**11**		*e*P		**P**		**10 57 11.5 +0.3**
	comp=Z,174nm,1.4s								
KDAK						LR		LR	
	comp=Z,1µm,19.0s								
KDAK	**Kodiak Island**	**75.62**	**11**		P		**P**		**10 57 11.9 +0.6**
	comp=Z,338nm,0.8s,SNR=12								
R11A	**Troy Canyon, C**	**75.78**	**42**		*e*P		**P**		**10 57 13.4 +0.5**
R11A					*e*PcP		**PcP**		**10 57 23.5 -2.1**
R11A	**Troy Canyon, C**	**75.78**	**42**	⇑	P		**P**		**10 57 14.0 +1.1**
	baz=76								
TUC	**Tucson**	**75.88**	**50**		*e*P		**P**		**10 57 14.6 +1.1**
TUC					*e*				10 57 25.2
TUC						pmax		pmax	
	comp=Z,280nm,1.9s								
TUC						MLR		MLR	
	comp=Z,2µm,21.0s								
TUC	**Tucson**	**75.88**	**50**		*e*P		**P**		**10 57 14.6 +1.1**
	comp=Z,280nm,1.9s								
TUC					*e*PcP		**PcP**		**10 57 25.2 -0.8**
TUC					LR		LR		
	comp=Z,2µm,21.0s								
BMN	**Battle Mountai**	**75.95**	**40**		*e*P		**P**		**10 57 14.3 +0.5**
BMN					*e*				10 57 26.0
BMN						pmax		pmax	
	comp=Z,165nm,1.8s								
BMN						MLR		MLR	
	comp=Z,1µm,19.0s								
BMN	**Battle Mountai**	**75.95**	**40**		*e*P		**P**		**10 57 14.3 +0.5**
	comp=Z,165nm,1.8s								
BMN					*e*PcP		**PcP**		**10 57 26.0 -0.1**
BMN					LR		LR		
	comp=Z,1µm,19.0s								
UGM	**Wanagama**	**75.99**	**266**	⇓	P		**P**		**10 57 14.6 +0.2**
	baz=76								
PBKI	**Pangkalan Bun**	**76.27**	**271**		P		P		10 57 19.4 +3.4
WVOR	**Wild Horse Val**	**76.30**	**38**		*e*P		**P**		**10 57 16.3 +0.6**
WVOR					*e*				11 00 08.0
WVOR						pmax		pmax	
	comp=Z,158nm,1.8s								
WVOR						MLR		MLR	
	comp=Z,2µm,19.0s								
WVOR	**Wild Horse Val**	**76.30**	**38**		*e*P		**P**		**10 57 16.3 +0.6**
	comp=Z,158nm,1.8s								
WVOR					*e*PP		**PP**		**11 00 08.0 +0.5**
WVOR					LR		LR		
	comp=Z,2µm,19.0s								
NACB	**Ninganchiao**	**76.44**	**300**		*e*P		**P**		**10 57 16.2 -0.5**
	comp=Z,69nm,1.3s								
VIPM	**Ingram Point**	**76.47**	**35**		P		**P**		**10 57 17.0 +0.3**
VIPM	**Ingram Point**	**76.47**	**35**		P		**P**		**10 57 17.0 +0.3**
X16A	**Lo Mia Camp, P**	**76.47**	**48**	⇓	P		**P**		**10 57 17.8 +0.9**
	baz=77,SNR=48								
VFP	**Flag Point**	**76.53**	**34**		P		**P**		**10 57 17.9 +0.9**
319A	**Douglas**	**76.54**	**51**	⇑	P		**P**		**10 57 18.2 +0.9**
	baz=77,SNR=22								
BTM	**Bintulu**	**76.62**	**277**		P		**P**		**10 57 20.3 +2.2**
NLWA	**Neilton Lookou**	**76.67**	**31**		*e*P		**P**		**10 57 17.0 -0.6**
	comp=Z,262nm,2.3s								
NLWA						LR		LR	
	comp=Z,2µm,19.0s								
CCUT	**Cedar City**	**76.80**	**44**		*e*P		**P**		**10 57 20.0 +1.2**
	comp=Z,180nm,1.9s								
CCUT					*e*PcP		**PcP**		**10 57 30.3 +0.3**
YHNB	**Yeheng**	**76.83**	**301**		*e*P		**P**		**10 57 16.5 -2.5**
	comp=Z,167nm,1.6s								
YHNB						LR		LR	
	comp=Z,1µm,22.0s								
TATO	**Taipei**	**76.86**	**301**		PFAKE				10 57 30.0 +11
TATO						LR		LR	
	comp=Z,1µm,20.0s								
ARUT	**Antelope Range**	**76.88**	**44**		*e*P		**P**		**10 57 20.2 +1.0**
ARUT					*e*				10 57 30.8
ARUT						pmax		pmax	
	comp=Z,7.0nm,0.7s								
ARUT	**Antelope Range**	**76.88**	**44**		*e*P		**P**		**10 57 20.2 +1.0**
	comp=Z,7.1nm,0.7s								
ARUT					*e*PcP		**PcP**		**10 57 30.8 +0.6**
BJII	**Banjamegara**	**76.92**	**266**		P		**P**		**10 57 18.8 -1.0**
U15A	**North Rim**	**76.92**	**46**	⇑	P		**P**		**10 57 20.5 +0.9**
	baz=77,SNR=36								
WUAZ	**Wupatki**	**77.08**	**47**		*e*P		**P**		**10 57 21.6 +1.2**
	comp=Z,323nm,2.2s								
WUAZ					*e*PcP		**PcP**		**10 57 32.0 +0.8**
WUAZ					LR		LR		
	comp=Z,1µm,19.0s								
WUAZ	**Wupatki**	**77.08**	**47**	⇑	P		**P**		**10 57 21.1 +0.7**
	baz=77,SNR=23								
320A	**Kipp Ranch, An**	**77.09**	**52**	⇓	P		**P**		**10 57 21.2 +0.8**
	baz=77,SNR=27								
MIR	**Mirnyy**	**77.12**	**204**	⇓	*i*P		**P**		**10 57 21.5 +1.7**
MIR					*e*S		**PnS**		**11 07 50.0 +2.6**
MIR						pmax		pmax	
	comp=Z,220nm,2.0s								
MIR						pmax		pmax	
	comp=Z,700nm,2.0s								
MIR						MLR		MLR	
	comp=N,700nm,17.0s								
MIR						MLR		MLR	
	comp=E,700nm,17.0s								
MIR						MLR		MLR	
	comp=Z,970nm,17.0s								
SBUM	**Sibu**	**77.22**	**276**		P		**P**		**10 57 22.7 +1.3**
SBUM	**Sibu**	**77.22**	**276**		P		**P**		**10 57 23.1 +1.7**
	comp=Z,43nm,1.6s,comp=Z,1µm								
STKI	**Sintang**	**77.23**	**274**		P		**P**		**10 57 24.0 +2.5**
LON	**Longmire**	**77.29**	**33**		*e*P		**P**		**10 57 21.2 +0.1**
LON					*e*				10 57 32.8
LON						pmax		pmax	
	comp=Z,199nm,2.2s								
LON	**Longmire**	**77.29**	**33**		*e*P		**P**		**10 57 21.1 +0.1**
	comp=Z,199nm,2.2s								
LON					*e*PcP		**PcP**		**10 57 32.8 +1.1**
220A	**Playas Peak, P**	**77.36**	**51**	⇑	P		**P**		**10 57 23.3 +1.3**
	baz=78,SNR=53								
ELK	**Elko**	**77.36**	**41**		*e*P		**P**		**10 57 22.3 +0.4**
	comp=Z,118nm,1.9s								
ELK					*e*PcP		**PcP**		**10 57 33.2 +0.8**
WPW	**White Pass**	**77.39**	**33**		P		**P**		**10 57 22.2 +0.5**
120A	**U Bar Ranch, L**	**77.58**	**51**	⇓	P		**P**		**10 57 24.2 +0.9**
	baz=78,SNR=24								
X18A	**Snowflake**	**77.59**	**48**	⇑	P		**P**		**10 57 24.5 +1.3**
	baz=78								
TGJI	**Tegal**	**77.60**	**266**		P		**P**		**10 57 24.4 +0.9**
KPJI	**Karang Pucung**	**77.66**	**266**		P		**P**		**10 57 25.7 +1.8**
PGC	**Sidney**	**77.73**	**30**		*e*P		**P**		**10 57 24.0 +0.6**
	comp=Z,14nm,1.8s								
PGC					*e*PcP		**PcP**		**10 57 33.9 +0.4**
Z20A	**Nine Sixteen R**	**77.89**	**50**	⇑	P		**P**		**10 57 26.3 +1.4**
	baz=78,SNR=42								
KSRS	**Korea Array**	**77.92**	**315**		P		**P**		**10 57 26.5 +1.8**
	comp=Z,13nm,1.1s,baz=115,slow=6.1,SNR=14								
KSRS						LR		LR	11 27 12.2
	comp=Z,513nm,20.9s,baz=117,slow=32								
KSAR	**Wonju Array Be**	**77.94**	**315**		P		**P**		**10 57 26.5 +1.6**
221A	**Mesquite Ranch**	**77.97**	**51**	⇓	P		**P**		**10 57 26.7 +1.3**
	baz=78,SNR=16								
W18A	**Petrified Fore**	**78.04**	**48**	⇓	P		**P**		**10 57 27.1 +1.3**
	baz=78								
MVU	**Marysvale**	**78.08**	**44**		*e*P		**P**		**10 57 27.1 +1.1**
	comp=Z,49nm,1.1s								
MVU						LR		LR	
	comp=Z,2µm,21.0s								
RSO	**Redoubt South**	**78.13**	**10**		*e*P		**P**		**10 57 25.4 -0.2**
	comp=Z,84nm,1.1s								
RSO					*e*PcP		**PcP**		**10 57 35.4 +0.2**
RSO					*e*PP		**PP**		**11 00 20.9 -1.6**
121A	**Cookes Peak, D**	**78.21**	**51**	⇓	P		**P**		**10 57 27.9 +1.2**
	baz=78,SNR=21								
REDWA	**Red Mountain**	**78.25**	**34**		P		**P**		**10 57 27.5 +1.1**
HAWA	**Hanford**	**78.26**	**34**		*e*P		**P**		**10 57 26.9 +0.4**
	comp=Z,123nm,1.8s								
HAWA					*e*PcP		**PcP**		**10 57 37.6 +1.8**
HAWA					LR		LR		
	comp=Z,2µm,19.0s								
SEW	**Seward**	**78.37**	**11**		*e*P		**P**		**10 57 26.6 -0.1**
	comp=Z,206nm,1.6s								
Y20A	**Horse Springs,**	**78.43**	**49**	⇑	P		**P**		**10 57 29.3 +1.3**
	baz=79,SNR=86								
222A	**Williams Famil**	**78.52**	**52**	⇑	P		**P**		**10 57 29.9 +1.5**
	baz=79,SNR=11								
BMO	**Blue Mountains**	**78.54**	**36**		*e*P		**P**		**10 57 28.2 0.0**
	comp=Z,126nm,1.8s								
BMO					*e*PcP		**PcP**		**10 57 37.9 +0.7**
BMO					LR		LR		
	comp=Z,2µm,20.0s								
DUG	**Dugway**	**78.59**	**42**		*e*P		**P**		**10 57 29.1 +0.5**
DUG					*e*				10 57 40.0
DUG						pmax		pmax	
	comp=Z,68nm,1.5s								
DUG						MLR		MLR	
	comp=Z,1µm,19.0s								
DUG	**Dugway**	**78.59**	**42**		*e*P		**P**		**10 57 29.1 +0.5**
	comp=Z,68nm,1.5s								
DUG					*e*PcP		**PcP**		**10 57 40.0 +2.3**
DUG					LR		LR		
	comp=Z,1µm,19.0s								
DUG	**Dugway**	**78.59**	**42**	⇑	P		**P**		**10 57 29.1 +0.5**
	baz=79,SNR=25								
ETW	**Entiat**	**78.61**	**33**		P		**P**		**10 57 28.8 +0.2**
X20A	**Quemado**	**78.64**	**49**	⇑	P		**P**		**10 57 30.4 +1.3**
	baz=79,SNR=43								
Z21A	**St. Cloud Mine**	**78.66**	**50**	⇓	P		**P**		**10 57 30.8 +1.6**
	baz=79,SNR=66								
CISI	**Cisompet, Garu**	**78.67**	**265**		P		**P**		**10 57 29.6 +0.1**
KSM	**Kuching**	**78.76**	**275**		P		**P**		**10 57 31.6 +1.6**
KSM	**Kuching**	**78.76**	**275**		P		**P**		**10 57 31.8 +1.8**
	comp=Z,198nm,1.5s,comp=Z,3µm								
KSM	**Kuching**	**78.76**	**275**		*e*P		**P**		**10 57 31.0 +1.0**
	comp=Z,254nm,1.3s								
KSM						LR		LR	
	comp=Z,548nm,19.0s								
KSM	**Kuching**	**78.76**	**275**	⇑	P		**P**		**10 57 30.7 +0.7**
	baz=79,SNR=21								
INCN	**Inchon**	**78.81**	**315**		PFAKE				10 57 40.0 +10
INCN						LR		LR	
	comp=Z,785nm,21.0s								
BGU	**Big Grassy Mou**	**78.85**	**41**		*e*P		**P**		**10 57 30.6 +0.5**
	comp=Z,136nm,1.9s								
BGU					*e*PcP		**PcP**		**10 57 40.8 +2.0**
WTV	**Waterville**	**78.86**	**33**		P		**P**		**10 57 30.0 +0.1**
122A	**Conniff Cattle**	**78.87**	**51**	⇓	P		**P**		**10 57 31.8 +1.5**
	baz=79,SNR=21								
W20A	**Ramah**	**78.92**	**48**	⇑	P		**P**		**10 57 32.2 +1.5**
	baz=79,SNR=74								
NLU	**North Lily Min**	**78.94**	**43**		*e*P		**P**		**10 57 31.2 +0.5**
	comp=Z,290nm,2.4s								
223A	**Chaparral, Ant**	**78.98**	**52**	⇑	P		**P**		**10 57 32.1 +1.2**
	baz=79								
Q16A	**Castle Valley**	**78.99**	**44**		*e*P		**P**		**10 57 32.2 +1.3**
Q16A	**Castle Valley**	**78.99**	**44**	⇓	P		**P**		**10 57 32.3 +1.3**
	baz=79,SNR=23								
Y21A	**Point of Rocks**	**78.99**	**50**	⇑	P		**P**		**10 57 32.8 +1.7**
	baz=79,SNR=41								
LEM	**Lembang**	**79.05**	**266**		P		**P**		**10 57 31.8 0.0**
USRK	**Ussuriysk Arra**	**79.08**	**323**		P		**P**		**10 57 32.8 +1.8**
	comp=Z,6.5nm,0.9s,baz=157,slow=5.6,SNR=7.0								
USRK						LR		LR	11 25 58.8
	comp=Z,1µm,21.9s,baz=124,slow=31								
X21A	**Alamocita Cree**	**79.11**	**49**	⇑	P		**P**		**10 57 32.9 +1.2**
	baz=79,SNR=34								
SAW	**Saint Andrews**	**79.16**	**33**		P		**P**		**10 57 31.6 +0.2**
Z22A	**Elephant Butte**	**79.16**	**51**	⇑	P		**P**		**10 57 33.3 +1.4**
	baz=79,SNR=44								
TMUT	**Trail Mountain**	**79.16**	**44**		*e*P		**P**		**10 57 32.9 +0.9**
	comp=Z,530nm,1.5s								
RC01	**Rabbit Creek A**	**79.23**	**11**		*e*P		**P**		**10 57 31.2 -0.2**
	comp=Z,153nm,1.5s								
QZH	**Quanzhou**	**79.24**	**300**	⇑	*i*P		**P**		**10 57 32.0 -0.3**
QZH					S		**S**		**11 07 32.0 -0.4**
QZH					AMB		AMB		
	comp=Z,2µm,4.6s								
QZH					LR		LR		
	comp=Z,1µm,13.1s								
QZH					LR		LR		
	comp=Z,760nm,12.7s								
QZH					LR		LR		
	comp=Z,4µm,38.4s								
F10A	**Beach Ranch, E**	**79.26**	**35**		P		**P**		**10 57 31.8 -0.3**
MPU	**Maple Canyon**	**79.26**	**43**		*e*P		**P**		**10 57 33.3 +0.9**
	comp=Z,65nm,1.5s								
V20A	**Brimhall**	**79.28**	**48**	⇓	P		**P**		**10 57 33.4 +0.8**
	baz=80,SNR=6.1								
123A	**Bell Site, Whi**	**79.39**	**51**	⇓	P		**P**		**10 57 33.8 +0.6**
	baz=80								
SPUT	**South Promonto**	**79.43**	**41**		*e*P		**P**		**10 57 33.8 +0.6**
	comp=Z,235nm,2.0s								
324A	**Moseley Ranch,**	**79.45**	**53**	⇓	P		**P**		**10 57 34.2 +0.7**
	baz=80,SNR=29								
HLID	**Hailey**	**79.47**	**39**		*e*P		**P**		**10 57 34.2 +0.8**
	comp=Z,47nm,1.3s								
HLID					LR		LR		
	comp=Z,1µm,19.0s								
HLID	**Hailey**	**79.47**	**39**	⇓	P		**P**		**10 57 34.7 +1.3**
	baz=80,SNR=40								
Y22A	**Socorro**	**79.47**	**50**	⇑	P		**P**		**10 57 34.5 +0.8**
	baz=80,SNR=29								
HVU	**Hansel Valley**	**79.48**	**41**		*e*P		**P**		**10 57 33.3 -0.2**
HVU					*e*				10 57 44.2
HVU						pmax		pmax	
	comp=Z,153nm,1.8s								
HVU	**Hansel Valley**	**79.48**	**41**		*e*P		**P**		**10 57 33.3 -0.2**
	comp=Z,153nm,1.8s								
HVU					*e*PcP		**PcP**		**10 57 44.2 +2.7**
SRU	**San Rafael**	**79.52**	**44**		*e*P		**P**		**10 57 34.6 +0.8**
SRU						pmax		pmax	
	comp=Z,229nm,2.0s								
SRU	**San Rafael**	**79.52**	**44**		*e*P		**P**		**10 57 34.6 +0.8**
	comp=Z,229nm,2.0s								
U20A	**Newcomb**	**79.52**	**47**	⇓	P		**P**		**10 57 35.2 +1.4**
	baz=80,SNR=11								
W21A	**San Fidel**	**79.53**	**49**	⇓	P		**P**		**10 57 35.4 +1.4**
	baz=80,SNR=5.3								
425A	**Indio Mountain**	**79.54**	**54**	⇓	P		**P**		**10 57 34.7 +0.6**
	baz=80,SNR=29								
LAZ	**Ladron**	**79.56**	**49**		*e*P		**P**		**10 57 35.5 +1.4**
	comp=Z,114nm,1.9s								
Y22D	**IRIS PASSCAL I**	**79.57**	**50**	⇑	P		**P**		**10 57 35.6 +1.4**
	baz=80,SNR=7.3								
LENM	**Lemitar**	**79.57**	**50**		*e*P		**P**		**10 57 35.5 +1.3**
	comp=Z,139nm,1.9s								
MNTX	**Cornudas Mount**	**79.64**	**53**		*e*P		**P**		**10 57 35.2 +0.8**
	comp=Z,161nm,2.0s								
MNTX					LR		LR		
	comp=Z,1µm,21.0s								
626A	**Big Bend Ranch**	**79.67**	**55**	⇓	P		**P**		**10 57 35.5 +0.8**
	baz=80,SNR=19								
JLU	**Jordanelle**	**79.69**	**42**		*e*P		**P**		**10 57 35.3 +0.5**
	comp=Z,44nm,1.2s								
224A	**Cornudas Mount**	**79.70**	**52**	⇓	P		**P**		**10 57 36.0 +1.1**
	baz=80,SNR=42								
Z23A	**Rita Site, Whi**	**79.70**	**51**	⇑	P		**P**		**10 57 36.0 +1.2**
	baz=80,SNR=18								
X22A	**Bernardo**	**79.71**	**49**	⇑	P		**P**		**10 57 36.3 +1.4**
	baz=80,SNR=10								
DAU	**Daniels Canyon**	**79.71**	**43**		*e*P		**P**		**10 57 36.1 +1.1**
DAU						pmax		pmax	
	comp=Z,210nm,2.1s								
DAU	**Daniels Canyon**	**79.71**	**43**		*e*P		**P**		**10 57 36.1 +1.1**
	comp=Z,210nm,2.1s								
WRAK	**Wrangell Islan**	**79.74**	**21**		*e*P		**P**		**10 57 34.8 +0.5**
	comp=Z,32nm,1.2s								
WRAK					LR		LR		
	comp=Z,850nm,21.0s								
SSE	**Sheshan**	**79.75**	**307**		*e*P		**P**		**10 57 36.3 +1.4**
SSE					pP		**pP**		**10 57 39.3 -0.3**
SSE					S		**S**		**11 07 37.4 -0.1**
SSE					sS		**sS**		**11 07 42.3 -2.9**
SSE					AMB		AMB		
	comp=Z,21nm,0.6s								
SSE					AMB		AMB		
	comp=Z,350nm,7.8s								
SSE					LR		LR		
	comp=Z,280nm,24.1s								
SSE					LR		LR		
	comp=Z,550nm,24.2s								
SSE					LR		LR		
	comp=Z,800nm,26.2s								
325A	**Bean Ranch, Si**	**79.81**	**53**	⇑	P		**P**		**10 57 36.3 +0.7**
	baz=80,SNR=30								
PMR	**Palmer**	**79.81**	**11**		*e*P		**P**		**10 57 32.4 -2.2**
PMR						pmax		pmax	
	comp=Z,172nm,1.6s								
PMR	**Palmer**	**79.81**	**11**		*e*P		**P**		**10 57 32.4 -2.2**
	comp=Z,172nm,1.6s								
BNM	**Barren Site**	**79.82**	**50**		*e*P		**P**		**10 57 36.8 +1.2**
	comp=Z,185nm,2.0s								
V21A	**Milan**	**79.87**	**48**	⇑	P		**P**		**10 57 36.8 +1.0**
	baz=80								
LPM	**Los Pinos Moun**	**79.89**	**50**		*e*P		**P**		**10 57 36.7 +0.7**
	comp=Z,47nm,1.3s								
CBJI	**Citeko**	**79.89**	**266**		P		**P**		**10 57 34.4 -1.7**
526A	**Mary Lane Ranc**	**79.92**	**55**	⇑	P		**P**		**10 57 36.8 +0.7**
	baz=80,SNR=21								
MVCO	**Mesa Verde**	**79.94**	**46**		*e*P		**P**		**10 57 36.8 +0.6**
	comp=Z,138nm,1.9s								
MVCO						LR		LR	
	comp=Z,1µm,19.0s								
MVCO	**Mesa Verde**	**79.94**	**46**	⇑	P		**P**		**10 57 37.0 +0.8**
	baz=80,SNR=7.4								
TXAR	**Lajitas Array**	**79.94**	**55**		P		**P**		**10 57 37.3 +1.1**
TXAR	**Lajitas Array**	**79.94**	**55**		P		**P**		**10 57 37.3 +1.1**
	comp=Z,5.8nm,1.0s,baz=218,slow=6.2,SNR=41								
TXAR						LR		LR	11 28 25.1
	comp=Z,1µm,18.1s,baz=15,slow=32								
DBJI	**Dramaga**	**79.95**	**266**		P		**P**		**10 57 38.9 +2.4**
HABR	**Khabarovsk**	**79.98**	**327**		*e*P		**P**		**10 57 34.4 -1.4**
HABR					*e*				10 57 41.8
HABR					*e*				11 00 35.4
HABR					*e*S		**S**		**11 07 38.2 -1.0**
HABR					*e**SS		**sS**		**11 07 43.8 -3.1**
HABR					*e*				11 07 58.6
HABR					*e*SS		**SS**		**11 12 48.1 -1.5**
124A	**Stringfield Ra**	**80.03**	**52**	⇓	P		**P**		**10 57 37.9 +1.1**
	baz=80,SNR=24								
DIV	**Divide**	**80.04**	**13**		*e*P		**P**		**10 57 35.8 -0.1**
	comp=Z,91nm,1.0s								
W22A	**Albuquerque**	**80.08**	**49**	⇓	P		**P**		**10 57 38.6 +1.7**
	baz=80,SNR=6.0								
BMRM	**Bremner River**	**80.14**	**13**		*e*P		**P**		**10 57 36.4 0.0**
	comp=Z,158nm,1.3s								
Y23A	**Lovelace Mesa,**	**80.14**	**50**	⇓	P		**P**		**10 57 38.2 +0.9**
	baz=80,SNR=17								
U21A	**Nageezi**	**80.15**	**47**	⇓	P		**P**		**10 57 38.1 +0.7**
	baz=80,SNR=56								
627A	**Terlingua Ranc**	**80.21**	**55**	⇓	P		**P**		**10 57 38.7 +1.0**
	baz=80,SNR=25								
426A	**McDonald Obser**	**80.23**	**54**	⇑	P		**P**		**10 57 38.6 +0.7**
	baz=80,SNR=36								
PV04	**Paradox Valley**	**80.25**	**45**		*e*P		**P**		**10 57 38.6 +0.8**
225A	**Deer Hill, Car**	**80.25**	**52**	⇓	P		**P**		**10 57 39.1 +1.2**
	baz=80,SNR=18								
ANMO	**Albuquerque**	**80.31**	**49**		*e*P		**P**		**10 57 39.3 +1.1**
	comp=Z,205nm,1.9s								
ANMO						LR		LR	
	comp=Z,2µm,22.0s								
527A	**Woodward Ranch**	**80.33**	**55**	⇑	P		**P**		**10 57 39.1 +0.7**
	baz=80								
X23A	**Hourglass Bar**	**80.34**	**50**	⇑	P		**P**		**10 57 39.8 +1.4**
	baz=81								
PV01	**Paradox Valley**	**80.35**	**46**		*e*P		**P**		**10 57 39.0 +0.7**
	comp=Z,29µm,2.2s								
Z24A	**Sheeppen Canyo**	**80.38**	**51**	⇓	P		**P**		**10 57 39.4 +0.8**
	baz=81,SNR=19								
V22A	**San Miguel Ran**	**80.44**	**48**	⇓	P		**P**		**10 57 39.9 +1.0**
	baz=81								
R20A	**Redvale**	**80.50**	**46**	⇑	P		**P**		**10 57 39.8 +0.7**
	baz=81,SNR=19								
T21A	**Navajo Lake**	**80.51**	**47**	⇓	P		**P**		**10 57 40.6 +1.4**
	baz=81								
326A	**Caldwell Ranch**	**80.55**	**53**	⇑	P		**P**		**10 57 40.0 +0.6**
	baz=81,SNR=12								
Y24A	**Capitan**	**80.60**	**51**	⇓	P		**P**		**10 57 40.7 +0.9**
	baz=81,SNR=35								
125A	**Gardner Draw,**	**80.61**	**52**	⇓	P		**P**		**10 57 41.3 +1.5**
	baz=81,SNR=17								
628A	**Black Gap, Mar**	**80.62**	**56**	⇑	P		**P**		**10 57 41.2 +1.4**
	baz=81,SNR=21								
GDL2	**Guadalupe Moun**	**80.64**	**53**		*e*P		**P**		**10 57 41.1 +1.2**
	comp=Z,179nm,1.9s								
W23A	**Werner Place,**	**80.64**	**49**	⇑	P		**P**		**10 57 40.9 +0.9**
	baz=81,SNR=24								
M17A	**Scullys Gap (B**	**80.65**	**42**	⇑	P		**P**		**10 57 40.3 +0.4**
	baz=81,SNR=13								
S21A	**Coal Bank Pass**	**80.65**	**46**	⇓	P		**P**		**10 57 41.4 +1.3**
	baz=81,SNR=35								
SBJI	**Serang**	**80.66**	**266**		P		**P**		**10 57 40.9 +0.6**
U22A	**Llaves**	**80.70**	**48**	⇓	P		**P**		**10 57 41.2 +0.9**
	baz=81,SNR=9.0								
NEW	**Newport**	**80.70**	**34**		*e*P		**P**		**10 57 40.2 +0.4**
	comp=Z,60nm,1.9s								
NEW						LR		LR	
	comp=Z,2µm,19.0s								
NEW	**Newport**	**80.70**	**34**	⇑	P		**P**		**10 57 40.7 +0.9**
	baz=81,SNR=6.3								
MDJ	**Mudanjiang**	**80.73**	**322**		P		**P**		**10 57 41.3 +1.4**
MDJ					pP		**pP**		**10 57 44.6 0.0**
MDJ					sP		**sP**		**10 57 45.8 -0.5**
MDJ					S		**S**		**11 07 50.5 +3.2**
MDJ					sS		**sS**		**11 07 55.9 +0.9**
MDJ					AMB		AMB		
	comp=Z,420nm,4.6s								
MDJ					LR		LR		
	comp=Z,940nm,29.1s							

baz=82,SNR=12
REDW Red Top Meadow 81.53 40 eP P 10 57 44.7 +0.1
comp=Z,191nm,1.9s
V24A Rampart Ranch, 81.53 49 ⇓P P 10 57 46.2 +1.5
baz=82,SNR=22
TPAW Teton Pass 81.53 40 eP P 10 57 45.2 +0.6
comp=Z,236nm,2.1s
DLMT Dillon 81.55 38 eP P 10 57 44.8 +0.3
comp=Z,135nm,1.9s
DLMT ePP PP 11 00 50.8 -0.5
O20A White River Ci 81.56 44 eP P 10 57 45.5 +0.7
O20A White River Ci 81.56 44 ⇓P P 10 57 45.8 +1.1
baz=82,SNR=6.4
T23A Casias Ranch, 81.59 48 ⇓P P 10 57 46.1 +1.0
baz=82,SNR=15
MSO Missoula 81.60 36 ⇑P P 10 57 45.3 +0.6
baz=82,SNR=13
127A Arkansas Junct 81.61 52 ⇓P P 10 57 46.0 +1.0
baz=82,SNR=10
SNOW Snow King Moun 81.64 40 eP P 10 57 45.7 +0.6
comp=Z,270nm,2.1s
R22A Saguache, Gunn 81.64 46 ⇑P P 10 57 46.9 +1.5
baz=82,SNR=29
BLSI Bandar Lampung 81.71 267 P P 10 57 46.7 +0.8
PAYG Puerto Ayora 81.72 88 PFAKE 10 58 00.0 +14
PAYG LR LR
comp=Z,2μm,19.0s
BSMT Basson Peak 81.72 35 eP P 10 57 44.9 -0.5
comp=Z,279nm,2.2s
PPBI Pangkal Pinang 81.73 270 P P 10 57 46.1 +0.1
HYT Haines Junctio 81.74 16 eP P 10 57 45.8 +0.6
IMW Indian Meadow 81.76 40 eP P 10 57 46.4 +0.5
comp=Z,138nm,1.8s
PAX Paxson 81.77 12 eP P 10 57 44.4 -0.8
PAX e 11 00 51.3
PAX pmax pmax
comp=Z,127nm,1.7s
PAX Paxson 81.77 12 eP P 10 57 44.4 -0.8
comp=Z,127nm,1.7s
PAX ePP PP 11 00 51.3 -1.2
TNA Tin City 81.77 2 eP P 10 57 45.3 +0.4
comp=Z,39nm,1.1s
P21A Newcastle 81.79 45 ⇓P P 10 57 47.2 +1.2
baz=82,SNR=9.7
Y26A Elida 81.80 51 ⇑P P 10 57 47.1 +1.0
baz=82,SNR=6.0
MOOW Moose Ponds 81.80 40 eP P 10 57 46.2 +0.3
comp=Z,156nm,2.1s
LOHW Long Hollow 81.81 40 eP P 10 57 46.3 +0.2
comp=Z,192nm,2.1s
MCK McKinley 81.83 10 eP P 10 57 45.1 -0.3
MCK pmax pmax
comp=Z,265nm,1.6s
MCK McKinley 81.83 10 eP P 10 57 45.1 -0.3
comp=Z,265nm,1.6s
Q22A Crested Butte, 81.84 46 ⇑P P 10 57 47.7 +1.3
baz=82,SNR=49
U24A Moreno Valley 81.84 48 ⇑P P 10 57 48.2 +1.7
baz=82,SNR=14
BPAW Bear Paw Mtn. 81.85 9 eP P 10 57 43.9 -1.6
comp=Z,59nm,1.6s
429A Davenport Ranc 81.88 55 ⇓P P 10 57 47.1 +0.6
baz=82,SNR=41
N20A Spence Gulch, 81.89 43 ⇑P P 10 57 47.5 +1.0
baz=82,SNR=25
LRM Limekiln Ridge 81.89 37 eP P 10 57 46.5 +0.1
comp=Z,919nm,2.0s
W25A X Bar L Ranch, 81.89 50 ⇓P P 10 57 47.5 +0.9
baz=82,SNR=16
S23A Nye Farm, Mont 81.92 47 ⇑P P 10 57 48.4 +1.6
baz=82,SNR=5.2
JTMT Jette 81.94 35 eP P 10 57 46.2 -0.3
comp=Z,81nm,2.1s
SMCO Snowmass 81.94 45 eP P 10 57 47.8 +0.7
comp=Z,245nm,1.9s
NJ2 Nanjing 81.95 307 eP P 10 57 47.0 +0.3
NJ2 pP pP 10 57 51.1 -0.3
NJ2 sP sP 10 57 52.1 -1.0
NJ2 S SKSac 11 08 05.0 -1.9
NJ2 sS SKKSac 11 08 09.5 -0.6
NJ2 SS SS 11 13 24.5 +4.7
NJ2 AMB AMB
comp=Z,30nm,1.0s
NJ2 AMB AMB
comp=Z,620nm,7.8s
NJ2 LR LR
comp=Z,820nm,21.3s
NJ2 LR LR
comp=Z,930nm,21.0s
NJ2 LR LR
comp=Z,1μm,21.8s
228A UT Block 9, Go 81.96 53 ⇓P P 10 57 47.6 +0.7
baz=82,SNR=5.4
QLMT Earthquake Lak 81.96 39 eP P 10 57 47.9 +1.1
comp=Z,46nm,2.3s
SWMT Swartz Lake 81.96 35 eP P 10 57 46.4 -0.2
comp=Z,21nm,1.6s
I17A Pilgrim Ck. 81.99 40 ⇓P P 10 57 48.6 +1.6
baz=82,SNR=12
Z27A Tatum 81.99 52 ⇑P P 10 57 47.8 +0.7
baz=82,SNR=11
FLWY Flagg Ranch 82.00 40 eP P 10 57 47.7 +0.7
comp=Z,314nm,2.1s
BW06 Boulder Array 82.03 41 eP P 10 57 47.1 -0.1
comp=Z,192nm,2.2s
BW06 LR LR
comp=Z,2μm,19.0s
PDAR Pinedale Array 82.03 41 P P 10 57 47.1 0.0
PDAR Pinedale Array 82.03 41 P P 10 57 47.1 0.0
comp=Z,5.4nm,1.0s,baz=226,slow=3.9,SNR=34
PDAR LR LR 11 30 49.1
comp=Z,2μm,18.0s,baz=247,slow=33
CHMT Chamberlain Mo 82.04 36 eP P 10 57 47.0 -0.2
comp=Z,161nm,2.3s
V25A Rancho No Teng 82.06 49 ⇓P P 10 57 48.6 +1.2
baz=82,SNR=26
T24B San Luis 82.06 48 ⇓P P 10 57 48.8 +1.2
baz=82,SNR=22
X26A CR and CF Fran 82.08 51 ⇓P P 10 57 48.2 +0.6
baz=82,SNR=15
SLMT Seeley Lake 82.09 36 eP P 10 57 46.6 -0.7
comp=Z,128nm,2.3s
MENT Mentasta 82.09 13 eP P 10 57 47.2 +0.4
DLBC Dease Lake 82.10 21 eP P 10 57 47.3 +0.3
O21A Pagoda 82.11 44 ⇑P P 10 57 48.4 +0.7
baz=82,SNR=6.0
YFT Old Faithful 82.11 39 eP P 10 57 49.5 +1.9
comp=Z,60nm,1.5s
530A J-C Ranch, Com 82.12 56 ⇓P P 10 57 48.3 +0.5
baz=82,SNR=13
YMR Madison River 82.15 39 eP P 10 57 49.1 +1.3
comp=Z,320nm,2.0s
YBMT Yellow Bay 82.15 35 eP P 10 57 46.8 -0.8
comp=Z,3.0nm,0.7s
329A Wagon Wheel Ra 82.17 54 ⇑P P 10 57 48.5 +0.5
baz=82,SNR=14
KLR Kul'dur 82.17 327 eP P 10 57 43.5 -4.0
KLR eS S 11 07 56.0 -6.0
KLR pmax pmax
comp=Z,120nm,2.0s
H17A Grant Village 82.24 39 eP P 10 57 50.0 +1.6
128A Castleberry Fa 82.25 53 ⇓P P 10 57 49.1 +0.7
baz=82,SNR=20
M20A Sweetwater, Wa 82.26 43 ⇓P P 10 57 49.5 +1.0
baz=82,SNR=11
R23A Moffat 82.27 47 ⇓P P 10 57 49.7 +1.0
baz=82,SNR=22
Y27A Causey 82.27 51 ⇓P P 10 57 49.2 +0.6
baz=82,SNR=22
P22A Eagle 82.29 45 ⇓P P 10 57 49.6 +1.0
baz=82,SNR=17
SDCO Great Sand Dun 82.29 47 eP P 10 57 49.4 +0.6
comp=Z,131nm,2.0s
SDCO LR LR
comp=Z,1μm,19.0s
YNR Norris Junctio 82.35 39 eP P 10 57 50.5 +1.6
comp=Z,214nm,2.0s
W26A Owens Ranch, T 82.35 50 ⇓P P 10 57 49.8 +0.9
baz=83,SNR=7.0
KASI Kota Agung 82.39 266 P P 10 57 51.3 +1.9
631A Perdido Creek 82.43 56 ⇓P P 10 57 49.9 +0.5
baz=83,SNR=16
LKWY Lake 82.44 39 eP P 10 57 51.0 +1.6
LKWY pmax pmax
comp=Z,91nm,1.6s
LKWY MLR MLR
comp=Z,1μm,20.0s
LKWY Lake 82.44 39 eP P 10 57 51.0 +1.6
comp=Z,91nm,1.6s
LKWY LR LR
comp=Z,1μm,20.0s
S24A Houchin Ranch, 82.45 47 ⇑P P 10 57 50.4 +0.8
baz=83,SNR=24
U25A Circle Dot Ran 82.46 49 ⇓P P 10 57 50.4 +0.8
baz=83,SNR=17
430A Baggett Ranch, 82.46 55 ⇑P P 10 57 50.1 +0.6
baz=83,SNR=10
229A Bryant Ranch, 82.50 54 ⇑P P 10 57 50.5 +0.8
baz=83
J19A Crowheart 82.60 41 ⇓P P 10 57 50.7 +0.6
baz=83,SNR=22
Q23A Hartsel 82.60 46 ⇓P P 10 57 51.4 +1.0
baz=83
MSTX Muleshoe 82.60 52 eP P 10 57 50.7 +0.4
MSTX Muleshoe 82.60 52 ⇑P P 10 57 51.0 +0.8
baz=83,SNR=21
Z28A Tucker Farm, M 82.61 52 ⇓P P 10 57 51.1 +0.9
baz=83
V26A Tequesquite Ra 82.64 49 ⇓P P 10 57 51.3 +0.8
baz=83,SNR=12
732A Laxson Ranch, 82.65 57 ⇓P P 10 57 51.3 +0.8
baz=83,SNR=7.3
X27A F and S Farms, 82.65 51 ⇑P P 10 57 51.6 +1.1
baz=83,SNR=10.0
DOT Dot Lake 82.66 12 eP P 10 57 49.7 -0.1
comp=Z,164nm,1.6s
O22A Kremmling 82.70 45 ⇑P P 10 57 51.9 +1.1
baz=83,SNR=39
129A Stewart Farms, 82.73 53 ⇓P P 10 57 51.9 +1.0
baz=83,SNR=6.5
531A Rocksprings 82.75 56 ⇓P P 10 57 52.0 +1.0
baz=83,SNR=23
330A Mertzon 82.76 54 ⇓P P 10 57 51.8 +0.7
baz=83,SNR=7.0
T25A Trinidad 82.79 48 ⇑P P 10 57 52.3 +1.0
baz=83,SNR=11
R24A Sanders Place, 82.79 47 ⇓P P 10 57 52.2 +0.9
baz=83,SNR=26
CN2 Changchun 82.81 320 eP P 10 57 51.3 +0.4
CN2 SS SS 11 13 28.1 -4.0
CN2 AMB AMB
comp=Z,30nm,1.0s
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,600nm,21.0s
CN2 LR LR
comp=Z,600nm,21.0s
CN2 LR LR
comp=Z,600nm,22.0s
P23A Jefferson 82.81 46 ⇓P P 10 57 52.2 +0.7
baz=83,SNR=17
PMBI Palembang 82.83 269 P P 10 57 53.2 +1.4
W27A Bowe Ranch, En 82.86 50 ⇓P P 10 57 52.3 +0.7
baz=83,SNR=15
WALA Waterton Lakes 82.89 34 eP P 10 57 51.4 0.0
comp=Z,4.2nm,1.8s
431A Sonora 82.91 55 ⇑P P 10 57 52.2 +0.3
baz=83
U26A Atchley Ranch, 82.94 49 ⇓P P 10 57 52.6 +0.6
baz=83,SNR=22
LWLI Liwa 82.94 267 P P 10 57 55.2 +2.7
DL2 Dalian 82.94 314 P P 10 57 52.0 +0.3
DL2 AMB AMB
comp=Z,75nm,1.7s
DL2 AMB AMB
comp=Z,400nm,4.5s
DL2 LR LR
comp=Z,850nm,17.6s
DL2 LR LR
comp=Z,730nm,18.4s
H18A Shoshone NF, C 82.94 39 ⇑P P 10 57 52.3 +0.3
baz=83,SNR=12
MDSI Maura Dua 82.97 267 P P 10 57 52.6 +0.1
Y28A McKinney Farm, 82.97 52 ⇑P P 10 57 52.7 +0.5
baz=83,SNR=10.0
RWWY Rawlins 83.00 43 eP P 10 57 58.4 +6.1
comp=Z,499nm,2.1s
230A Sterling City 83.00 54 ⇑P P 10 57 52.5 +0.2
baz=83,SNR=6.2
S25A Robets Cordova 83.01 48 ⇓P P 10 57 52.9 +0.5
baz=83,SNR=31
SNY Shenyang 83.02 317 ⇓P P 10 57 52.1 +0.1
SNY AMB AMB
comp=Z,41nm,2.5s
SNY AMB AMB
comp=Z,690nm,8.7s
SNY LR LR
comp=Z,530nm,26.4s
SNY LR LR
comp=Z,630nm,28.8s
I19A Meeteetse 83.03 40 ⇓P P 10 57 52.9 +0.5
baz=83,SNR=16
N22A Wattenberg Ran 83.07 44 ⇓P P 10 57 53.4 +0.7
baz=83,SNR=21
COLA College 83.08 10 eP P 10 57 51.4 -0.4
COLA pmax pmax
comp=Z,688nm,1.5s
COLA MLR MLR
comp=Z,575nm,20.0s
COLA College 83.08 10 eP P 10 57 51.4 -0.4
comp=Z,688nm,1.5s
COLA LR LR
comp=Z,575nm,20.0s
Q24A Divide 83.10 46 ⇓P P 10 57 54.1 +1.1
baz=83,SNR=10
632A Uvalde 83.10 57 ⇑P P 10 57 53.4 +0.6
baz=83,SNR=11
Z29A Hungry Hill Ra 83.11 53 ⇑P P 10 57 53.4 +0.5
baz=83,SNR=13
ILAR Eielson Array 83.15 10 P P 10 57 51.4 -0.8
ILAR Eielson Array 83.15 10 P P 10 57 51.4 -0.8
comp=Z,12nm,1.0s,baz=217,slow=4.6,SNR=53
ILAR LR LR 11 33 37.9
comp=Z,541nm,18.1s,baz=11,slow=35
O23A Lake Granby, G 83.15 45 ⇓P P 10 57 54.0 +0.8
baz=83,SNR=19
ISCO Idaho Springs 83.17 45 eP P 10 57 53.7 +0.4
ISCO pmax pmax
comp=Z,138nm,2.0s
ISCO MLR MLR
comp=Z,1μm,19.0s
ISCO Idaho Springs 83.17 45 eP P 10 57 53.7 +0.4
comp=Z,138nm,2.0s
ISCO LR LR
comp=Z,1μm,19.0s
ISCO Idaho Springs 83.17 45 ⇓P P 10 57 53.9 +0.6
baz=83,SNR=15
IM04 Indian Mountai 83.25 7 eP P 10 57 53.0 +0.3
532A Rocksprings 83.25 56 ⇑P P 10 57 54.3 +0.7
baz=84,SNR=13
J20A Shoshoni 83.25 41 ⇓P P 10 57 54.4 +0.9
baz=84,SNR=21
M22A Cedar Creek Ra 83.26 43 ⇓P P 10 57 54.5 +0.8
baz=84,SNR=8.1
X28A Dimmitt 83.27 51 ⇓P P 10 57 54.5 +0.8
baz=84
331A San Angelo 83.31 55 ⇑P P 10 57 54.8 +0.9
baz=84,SNR=6.1
R25A Fountain Ranch 83.33 47 ⇓P P 10 57 54.7 +0.7
baz=84,SNR=12
IMA2 Indian Mountai 83.35 7 eP P 10 57 53.6 +0.2
H19A Powell 83.36 40 ⇓P P 10 57 54.9 +0.9
baz=84,SNR=26
Y29A Porterfield Fa 83.39 52 ⇑P P 10 57 54.7 +0.4
baz=84,SNR=15
T26A Comanche Natio 83.39 48 ⇑P P 10 57 54.8 +0.4
baz=84,SNR=8.4
130A Snyder 83.41 53 ⇓P P 10 57 55.0 +0.6
baz=84,SNR=9.9
RLMT Red Lodge 83.42 39 eP P 10 57 55.0 +0.6
comp=Z,53nm,1.4s
RLMT LR LR
comp=Z,924nm,19.0s
K21A Alcova 83.43 42 ⇑P P 10 57 54.9 +0.5
baz=84,SNR=22
N23A Red Feather La 83.45 44 ⇓P P 10 57 55.5 +0.8
baz=84,SNR=11
JCT Junction City 83.47 56 eP P 10 57 54.7 -0.1
JCT pmax pmax
comp=Z,72nm,1.8s
JCT MLR MLR
comp=Z,1μm,21.0s
JCT Junction City 83.47 56 eP P 10 57 54.7 -0.1
comp=Z,72nm,1.8s
JCT LR LR
comp=Z,1μm,21.0s
JCT Junction City 83.47 56 ⇓P P 10 57 55.4 +0.7
baz=84
GCMT Greycliff 83.52 39 eP P 10 57 55.5 +0.7
comp=Z,75nm,1.6s
I20A Worland 83.52 41 ⇓P P 10 57 55.4 +0.6
baz=84,SNR=27
Z30A Sanderson Ranc 83.56 53 ⇑P P 10 57 55.3 +0.1
baz=84,SNR=20
X29A Tulia 83.61 51 ⇑P P 10 57 55.8 +0.4
baz=84,SNR=15
U27A Thompson Grove 83.62 49 ⇑P P 10 57 55.8 +0.4
baz=84,SNR=12
432A Menard 83.63 55 ⇑P P 10 57 55.9 +0.3
baz=84,SNR=10
231A Bronte 83.64 54 ⇑P P 10 57 55.8 +0.2
baz=84,SNR=9.0
J21A Lysite 83.66 41 ⇓P P 10 57 56.4 +0.8
baz=84,SNR=38
L22A Ellis Ranch, M 83.67 43 ⇓P P 10 57 56.8 +1.1
baz=84,SNR=12
S26A Kim 83.67 48 ⇓P P 10 57 56.2 +0.4
baz=84,SNR=14
O24A Longmont 83.68 45 ⇑P P 10 57 56.6 +0.8
baz=84
Q25A Bedland, Calha 83.70 47 ⇑P P 10 57 56.8 +0.9
baz=84,SNR=8.9
V28A Channing 83.77 50 ⇑P P 10 57 57.3 +1.0
baz=84
LHSI Lahat 83.78 268 P P 10 57 57.1 +0.4
H20A Greybull 83.87 40 ⇑P P 10 57 57.2 +0.6
baz=84,SNR=16
332A Millersview 83.87 55 ⇑P P 10 57 57.3 +0.5
baz=84,SNR=19
SEY Seymchan 83.88 344 ⇓eP P 10 57 55.6 -0.4
131A Roby 83.88 54 ⇑P P 10 57 57.4 +0.6
baz=84,SNR=7.7
KVTX Kingsville 83.89 59 PFAKE 10 58 10.0 +13
KVTX LR LR
comp=Z,2μm,19.0s
K22A Casper 83.91 42 ⇑P P 10 57 57.3 +0.4
baz=84,SNR=10
W29A Amraillo 83.93 51 ⇓P P 10 57 57.6 +0.5
baz=84,SNR=7.9
T27A Campo 83.97 49 ⇑P P 10 57 57.6 +0.4
baz=84,SNR=16
PHWY Pilot Hill 83.97 44 eP P 10 57 57.8 +0.4
comp=Z,188nm,2.1s
I21A Big Trails, Te 83.98 41 ⇑P P 10 57 58.0 +0.8
baz=84,SNR=25
Y30A Stafford Cattl 83.98 52 ⇓P P 10 57 57.9 +0.6
baz=84,SNR=8.6
F19A Roth Farm, Mol 83.99 39 ⇑P P 10 57 57.8 +0.7
baz=84,SNR=21
R26A Arlington 83.99 47 ⇑P P 10 57 57.9 +0.6
baz=84,SNR=24
P25A Willow Gulch B 84.03 46 ⇑P P 10 57 58.0 +0.5
baz=84,SNR=13
DAWY Dawson 84.03 14 eP P 10 57 57.0 +0.2
U28A Mallet 84.04 50 ⇓P P 10 57 58.1 +0.5
baz=84,SNR=6.3
G20A Bridger 84.11 40 ⇓P P 10 57 58.4 +0.6
baz=84,SNR=7.6
S27A Las Animas 84.11 48 ⇓P P 10 57 58.4 +0.4
baz=84
N24A Carr 84.14 45 ⇑P P 10 57 59.1 +1.1
baz=84,SNR=12
232A Coleman 84.15 55 ⇓P P 10 57 58.6 +0.4
baz=84,SNR=29
L23A Garrett 84.19 43 P P 10 57 58.8 +0.4
baz=84,SNR=18
Q26A Hugo 84.21 47 ⇑P P 10 57 59.6 +1.1
baz=84,SNR=11
X30A Coker Ranch, T 84.23 52 ⇑P P 10 57 59.4 +0.8
baz=84,SNR=13
EGAK Eagle 84.26 13 eP P 10 57 57.8 -0.1
comp=Z,262nm,2.0s
EGAK LR LR
comp=Z,1μm,19.0s
J22A Midwest 84.30 42 ⇑P P 10 57 59.3 +0.4
baz=84,SNR=17
O25A Wiggins 84.33 45 ⇓P P 10 57 59.9 +0.9
baz=85
Z31A Sharp Cattle R 84.33 53 ⇓P P 10 57 59.4 +0.3
baz=84,SNR=21
V29A Stinnett 84.34 50 ⇓P P 10 58 00.6 +1.5
baz=85
E19A Rath Farm, Rou 84.39 38 ⇑P P 10 58 00.1 +1.0
baz=85,SNR=22
T28A Walsh 84.43 49 ⇑P P 10 58 00.3 +0.7
baz=85,SNR=15
F20A Billings 84.44 39 ⇓P P 10 58 00.6 +1.1
baz=85,SNR=11
ABTX Abilene, Hawle 84.44 54 eP P 10 57 59.9 +0.3
ABTX Abilene, Hawle 84.44 54 ⇑P P 10 58 00.5 +0.9
baz=85,SNR=31
R27A Eads 84.44 48 ⇑P P 10 58 00.3 +0.6
baz=85,SNR=14
M24A Cheyenne 84.47 44 ⇓P P 10 58 00.8 +1.1
baz=85,SNR=11
Y31A Rekieta Farm, 84.50 52 ⇓P P 10 58 00.6 +0.7
baz=85,SNR=11
I22A 9 Mile Ranch, 84.53 41 ⇑P P 10 58 00.6 +0.6
baz=85,SNR=12
H21A Big Horn, Sher 84.54 40 ⇓P P 10 58 00.9 +1.0
baz=85,SNR=7.9
K23A Bowen Ranch, D 84.54 43 ⇑P P 10 58 00.8 +0.7
baz=85,SNR=9.1
P26A Davis Ranch, A 84.62 46 ⇑P P 10 58 01.6 +1.0
baz=85,SNR=7.3
EGMT Eagleton 84.64 37 eP P 10 58 00.7 +0.3
comp=Z,81nm,1.7s
EGMT ePP PP 11 01 15.6 -0.8
EGMT LR LR
comp=Z,2μm,20.0s
EGMT Eagleton 84.64 37 ⇓P P 10 58 01.2 +0.9
baz=85,SNR=7.6
QIZ Qiongzhong 84.66 291 P P 10 58 04.3 +3.3
QIZ S S 11 08 28.9 +0.4
QIZ AMB AMB
comp=Z,630nm,8.8s
QIZ LR LR
comp=Z,490nm,26.3s
QIZ LR LR
comp=Z,2μm,27.7s
QIZ Qiongzhong 84.66 291 PFAKE 10 58 10.0 +9.0
QIZ LR LR
comp=Z,837nm,22.0s
N25A Grover 84.67 45 ⇓P P 10 58 02.1 +1.3
baz=85
D19A Cripps Ranch, 84.70 38 ⇓P P 10 58 01.5 +0.9
baz=85,SNR=27
G21A Lodge Grass 84.73 40 ⇓P P 10 58 01.7 +0.8
baz=85
W30A Crocket Farms 84.75 51 ⇓P P 10 58 02.3 +1.1
baz=85
U29A Oasis Ranch, S 84.77 50 ⇓P P 10 58 01.9 +0.6
baz=85
S28A Manter 84.79 49 ⇓P P 10 58 02.5 +1.2
baz=85,SNR=6.7
E20A Meyer Farm, Mu 84.80 38 ⇑P P 10 58 02.2 +1.0
baz=85,SNR=12
Z32A Haskell 84.84 53 ⇑P P 10 58 02.6 +1.0
baz=85,SNR=36
KSCO Kaye Shedlock' 84.88 47 eP P 10 58 02.7 +0.9
KSCO Kaye Shedlock' 84.88 47 ⇓P P 10 58 02.8 +1.0
baz=85,SNR=10.0
WHN Wuhan 84.89 304 ⇓iP P 10 58 02.5 +0.6
WHN S S 11 08 34.5 +4.2
WHN AMB AMB
comp=Z,1μm,4.9s
WHN LR LR
comp=Z,790nm,13.9s
WHN LR LR
comp=Z,460nm,15.2s
WHN LR LR
comp=Z,2μm,19.7s
C19A Slack Wire Ran 84.89 37 ⇓P P 10 58 02.6 +1.0
baz=85,SNR=28
COLD Coldfoot 84.91 8 eP P 10 58 01.4 +0.3
comp=Z,171nm,1.9s
V30A Spur Ranch, Mi 84.91 51 ⇓P P 10 58 03.1 +1.2
baz=85,SNR=7.8
O26A Horse Wrangler 84.94 46 ⇑P P 10 58 03.3 +1.1
baz=85
H22A Clearmont 84.95 41 ⇓P P 10 58 03.5 +1.4
baz=85

M25A Palm-Egli Farm 84.97 44 ⇓P P 10 58 03.3 +1.1
baz=85
X31A McDonald Ranch 84.98 52 ⇓P P 10 58 03.2 +0.9
baz=85,SNR=9.1
TIA Tai'an 84.99 310 ⇑P P 10 58 03.8 +1.5
TIA S S 11 08 35.8 +4.7
TIA AMB AMB
comp=Z,30nm,2.0s
TIA AMB AMB
comp=Z,990nm,8.3s
TIA LR LR
comp=Z,530nm,19.8s
TIA LR LR
comp=Z,450nm,20.7s
TIA LR LR
comp=Z,600nm,23.7s
MYKOM **Kota Tinggi** 85.03 273 P P 10 58 04.5 +1.5
MYKOM **Kota Tinggi** 85.03 273 P P 10 58 04.6 +1.6
comp=Z,56nm,1.9s,comp=Z,2µm
T29A Hugoton 85.04 49 ⇓P P 10 58 03.6 +1.0
baz=85
K24A Anderson Ranch 85.05 43 ⇑P P 10 58 03.8 +1.1
baz=85
F21A Absaloka Mine, 85.07 39 ⇑P P 10 58 04.2 +1.6
baz=85
D20A Manuel Ranch, 85.10 38 ⇓P P 10 58 04.1 +1.5
baz=85,SNR=20
Y32A R-V Farms, Ver 85.14 53 ⇑P P 10 58 03.8 +0.7
baz=85,SNR=26
P27A Ficken Ranch, 85.15 47 ⇑P P 10 58 03.8 +0.6
baz=85,SNR=6.0
R28A Tribune 85.17 48 ⇓P P 10 58 04.2 +0.9
baz=85,SNR=17
I23A Meade Ranch, G 85.21 42 ⇑P P 10 58 04.6 +1.2
baz=85
W31A Holland Ranch, 85.23 51 ⇑P P 10 58 04.7 +1.1
baz=85,SNR=12
U30A WK&E Inc. Balk 85.25 50 ⇑P P 10 58 04.8 +1.1
baz=86
G22A Birney 85.29 40 ⇑P P 10 58 05.1 +1.4
baz=86
B19A Brinkman Farms 85.32 36 ⇑P P 10 58 05.0 +1.2
baz=86
L25A Engebretsen Ra 85.35 44 ⇑P P 10 58 05.1 +0.9
baz=86
S29A Ulysses 85.36 49 ⇑P P 10 58 05.1 +0.9
baz=86
J24A Dixon Ranch, L 85.43 42 ⇑P P 10 58 05.7 +1.2
baz=86
E21A Keefer Ranch, 85.45 39 ⇓P P 10 58 06.0 +1.6
baz=86,SNR=6.7
Q28A Sharon Springs 85.46 47 ⇓P P 10 58 05.8 +1.1
baz=86,SNR=5.3
C20A Veseth Ranch, 85.49 37 ⇑P P 10 58 05.5 +1.0
baz=86,SNR=16
O27A Beecher Island 85.49 46 ⇓P P 10 58 05.9 +1.1
baz=86
EDM Edmonton 85.57 31 eP P 10 58 04.2 -0.6
EDM Edmonton 85.57 31 eP P 10 58 04.2 -0.6
F22A Rosebud 85.58 40 ⇑P P 10 58 06.3 +1.2
baz=86
M26A McRoberts Ranc 85.60 45 ⇓P P 10 58 06.4 +1.0
baz=86
KGM Kluang 85.60 273 P P 10 58 07.0 +1.1
A19A Klindworth Far 85.68 36 ⇓P P 10 58 06.5 +0.9
baz=86,SNR=6.8
R29A Marienthal 85.68 48 ⇓P P 10 58 06.7 +0.9
baz=86,SNR=6.4
I24A Kuemmerle Ranc 85.70 42 ⇑P P 10 58 06.8 +1.0
baz=86
N27A Anderson Farm, 85.72 45 ⇓P P 10 58 07.1 +1.2
baz=86
P28A Saint Francis 85.73 47 ⇑P P 10 58 07.3 +1.3
baz=86
D21A La Casta Ranch 85.76 38 ⇓P P 10 58 07.2 +1.2
baz=86,SNR=6.8
U31A Nine Bar Ranch 85.78 50 ⇑P P 10 58 07.2 +0.9
baz=86
G23A Biddle 85.84 41 ⇑P P 10 58 07.3 +0.9
baz=86
S30A Montezuma 85.84 49 ⇑P P 10 58 07.3 +0.7
baz=86
B20A Solberg Farm, 85.84 37 ⇓P P 10 58 07.6 +1.3
baz=86
RGRI Rengat 85.89 271 P P 10 58 10.5 +3.2
WHTX Lake Whitney 85.91 55 eP P 10 58 07.3 +0.4
WHTX Lake Whitney 85.91 55 ⇓P P 10 58 08.1 +1.1
baz=86
WMOK Wichita Mounta 85.93 52 PFAKE 10 58 20.0 +13
WMOK LR LR
comp=Z,1µm,20.0s
O28A Krutsinger Ran 85.95 46 ⇑P P 10 58 08.4 +1.3
baz=86
Q29A Oakley 85.99 48 ⇓P P 10 58 08.5 +1.2
baz=86,SNR=5.0
LAO LASA Array 86.04 39 eP P 10 58 08.1 +0.7
comp=Z,342nm,2.3s
LAO LR LR
comp=Z,995nm,21.0s
C21A Desert Coulee 86.07 38 ⇓P P 10 58 08.3 +0.8
baz=86
F23A Volborg 86.08 40 ⇓P P 10 58 08.6 +1.0
baz=86,SNR=5.2
E22A Miles City 86.08 39 ⇓P P 10 58 08.8 +1.2
baz=86
A20A Cobblestone Ra 86.12 36 ⇓P P 10 58 08.5 +0.8
baz=86,SNR=11
K26A Motz Farm, Whi 86.12 43 ⇑P P 10 58 08.9 +1.0
baz=86
OGNE Ogallala 86.12 45 PFAKE 10 58 20.0 +12
OGNE LR LR
comp=Z,2µm,19.0s
H24A Dirks Ranch, A 86.16 41 ⇑P P 10 58 08.7 +0.7
baz=86,SNR=12
T31A Randall Ranch, 86.20 50 ⇓P P 10 58 09.3 +1.0
baz=86
RSSD Black Hills 86.20 42 eP P 10 58 08.0 -0.4
RSSD pmax pmax
comp=Z,136nm,1.4s
RSSD Black Hills 86.20 42 eP P 10 58 08.0 -0.4
comp=Z,136nm,1.4s
R30A Dighton 86.24 48 ⇑P P 10 58 09.5 +0.9
baz=86
D22A Cohagen 86.29 39 ⇑P P 10 58 10.0 +1.5
baz=86
P29A Atwood 86.32 47 ⇓P P 10 58 09.9 +1.0
baz=86
I25A Rochford 86.35 42 ⇓P P 10 58 10.1 +1.0
baz=87
B21A Ellsworth Farm 86.42 37 ⇑P P 10 58 10.5 +1.4
baz=87
HKT Hockley 86.45 58 eP P 10 58 10.3 +0.7
HKT pmax pmax
comp=Z,12nm,1.4s
HKT Hockley 86.45 58 eP P 10 58 10.3 +0.7
comp=Z,12nm,1.4s
E23A Ismay 86.50 39 ⇑P P 10 58 11.0 +1.4
baz=87
G24A Alzada 86.51 41 ⇓P P 10 58 10.9 +1.2
baz=87
S31A Mullinville 86.55 49 ⇓P P 10 58 11.0 +1.0
baz=87
Q30A Quinter 86.56 48 ⇑P P 10 58 11.2 +1.1
baz=87
O29A 4D Ranch, Culb 86.63 47 ⇓P P 10 58 11.8 +1.3
baz=87
H25A Fruitdale 86.70 42 ⇑P P 10 58 11.8 +1.1
baz=87
KTGM Kuala Trenggan 86.72 276 P P 10 58 13.1 +1.7
F24A Ekalaka 86.73 40 ⇓P P 10 58 12.0 +1.2
baz=87
K27A Flueckinger Fa 86.75 44 ⇓P P 10 58 12.4 +1.4
baz=87
A21A Bergtoll Ranch 86.75 37 ⇑P P 10 58 12.2 +1.4
baz=87
R31A Burdett 86.78 49 ⇑P P 10 58 12.2 +1.1
baz=87
D23A Lindsay 86.88 39 ⇓P P 10 58 12.9 +1.4
baz=87
B22A Reddig Ranch S 86.95 38 ⇑P P 10 58 12.7 +1.0
baz=87,SNR=6.0
G25A Newell 87.08 41 ⇓P P 10 58 13.4 +0.9
baz=87
J27A Elkhorn Farm, 87.13 43 ⇓P P 10 58 13.7 +0.8
baz=87
E24A Baker 87.14 40 ⇓P P 10 58 13.7 +1.0
baz=87
Q31A Ellis 87.16 48 ⇑P P 10 58 14.3 +1.3
baz=87
O30A MW Ranch, Wils 87.17 47 ⇓P P 10 58 14.5 +1.4
baz=87
C23A Lambert 87.19 38 ⇓P P 10 58 14.0 +1.1
baz=87
H26A Fairpoint 87.23 42 ⇑P P 10 58 14.5 +1.2
baz=88
BJT Baijiatuao 87.23 313 eP P 10 58 13.8 +0.5
comp=Z,285nm,1.9s
BJT LR LR
comp=Z,648nm,22.0s
BJI Beijing 87.24 313 P P 10 58 13.8 +0.6
BJI PP PP 11 01 35.0 -2.5
BJI S S 11 08 51.8 -1.1
BJI sS sS 11 09 00.9 +0.3
BJI SS SS 11 14 38.3 +0.8
BJI AMB AMB
comp=Z,50nm,2.2s
BJI AMB AMB
comp=Z,780nm,4.2s
BJI LR LR
comp=Z,320nm,28.3s
BJI LR LR
comp=Z,410nm,26.3s
BJI LR LR
comp=Z,790nm,26.0s
M29A Burnside Ranch 87.25 45 ⇓P P 10 58 14.7 +1.3
baz=88
MAW Mawson 87.32 198 eP P 10 58 13.4 +0.2
comp=Z,62nm,2.0s
MAW Mawson 87.32 198 ⇑P P 10 58 13.6 +0.4
baz=87,SNR=8.6
MAW Mawson 87.32 198 P P 10 58 13.5 +0.2
comp=Z,16nm,0.9s,baz=122,slow=6.2,SNR=32
MAW LR LR 11 33 11.7
comp=Z,933nm,20.7s,baz=111,slow=33
A22A Carney Farms, 87.33 37 ⇑P P 10 58 15.0 +1.4
baz=88
F25A Bowman 87.38 41 ⇑P P 10 58 15.2 +1.2
baz=88
P31A Stockton 87.38 48 ⇑P P 10 58 15.5 +1.4
baz=88
D24A Glendive 87.39 39 ⇑P P 10 58 15.2 +1.3
baz=88
C24A Savage 87.52 39 ⇑P P 10 58 15.9 +1.3
baz=88
FRIM Kepong 87.57 274 P P 10 58 16.5 +1.0
B23A Brockton 87.62 38 ⇑P P 10 58 16.3 +1.3
baz=88,SNR=7.5
G26A Maurine 87.64 41 ⇓P P 10 58 16.1 +0.9
baz=88
PPI Padang Panjang 87.71 270 P P 10 58 14.4 -1.8
COCO West Island 87.86 258 PFAKE 10 58 30.0 +13
COCO LR LR
comp=Z,2µm,22.0s
D25A Fairfield 88.02 39 ⇑P P 10 58 18.5 +1.6
baz=88
DGMT Dagmar 88.09 38 PFAKE 10 58 30.0 +13
DGMT LR LR
comp=Z,2µm,19.0s
DGMT Dagmar 88.09 38 ⇓P P 10 58 18.4 +1.1
baz=88
J29A Okreek 88.31 44 ⇓P P 10 58 20.0 +1.6
baz=88
O32A Brockman Farm, 88.45 47 ⇑P P 10 58 20.8 +1.6
baz=89
IPM Ipoh 88.50 275 P P 10 58 21.7 +1.7
IPM Ipoh 88.50 275 P P 10 58 21.0 +1.1
comp=Z,159nm,1.1s,comp=Z,2µm
IPM Ipoh 88.50 275 eP P 10 58 20.7 +0.8
comp=Z,117nm,1.4s
I29A Vivian Onida 88.58 43 ⇑P P 10 58 21.0 +1.4
baz=89
B25A Knox Farm, Ray 88.61 39 ⇑P P 10 58 20.8 +1.1
baz=89
G28A Parade 88.62 42 ⇑P P 10 58 21.0 +1.2
baz=89
TUL1 Tulsa 88.64 52 eP P 10 58 20.8 +0.8
ENH Enshi 88.71 302 eP P 10 58 21.5 +0.9
TGUH Tegucigalpa,Un 88.84 75 eP P 10 58 22.4 +1.0
comp=Z,66nm,1.6s
TGUH LR LR
comp=Z,1µm,22.0s
H29A Onida 88.89 43 ⇓P P 10 58 22.2 +1.2
baz=89
INK Inuvik 88.89 13 eP P 10 58 20.0 -0.5
comp=Z,216nm,2.0s
HIA Hailar 88.89 322 PFAKE 10 58 30.0 +9.0
HIA LR LR
comp=Z,1µm,22.0s
A25A Svangstu Ranch 88.94 38 ⇓P P 10 58 23.1 +1.8
baz=89
BGNE Belgrade 88.99 46 ⇓P P 10 58 22.7 +1.1
baz=89
KULM Kulim 89.08 276 P P 10 58 24.6 +1.9
KULM Kulim 89.08 276 P P 10 58 25.1 +2.4
comp=Z,67nm,1.7s,comp=Z,2µm
KULM Kulim 89.08 276 P P 10 58 22.2 -0.4
comp=Z,122nm,1.5s
KULM LR LR
comp=Z,597nm,20.0s
I30A Oacoma 89.11 44 ⇑P P 10 58 23.3 +1.1
baz=89
KSU1 Kansas State U 89.20 49 PFAKE 10 58 30.0 +7.3
KSU1 LR LR
comp=Z,2µm,22.0s
SKNT Sakolnakorn 89.32 288 P P 10 58 26.7 +3.0
comp=Z,81nm,2.9s,comp=Z,2µm
A26A Wade Farm, Ken 89.56 38 ⇓P P 10 58 25.7 +1.6
baz=90
CHBT CHBT 89.61 283 P P 10 58 28.0 +2.9
comp=Z,60nm,1.6s,comp=Z,1µm
CHBT CHBT 89.61 283 P P 10 58 28.0 +2.9
comp=Z,60nm,1.6s,comp=Z,1µm
TEIG Tepich 89.75 69 eP P 10 58 27.5 +1.9
comp=Z,62nm,1.8s
TEIG LR LR
comp=Z,2µm,21.0s
GYA Guiyang 89.83 298 ⇑iP P 10 58 27.8 +1.8
GYA PP PP 11 01 58.3 -0.5
GYA SKS SKSac 11 08 59.0 +2.2
GYA S S 11 09 19.4 +1.1
GYA SS SS 11 15 17.4 +1.4
GYA AMB AMB
comp=Z,60nm,1.0s
GYA AMB AMB
comp=Z,300nm,5.8s
GYA LR LR
comp=Z,670nm,22.6s
GYA LR LR
comp=Z,650nm,22.0s
GYA LR LR
comp=Z,1µm,24.8s
MIAR Mount Ida 89.86 54 eP P 10 58 26.8 +1.0
MIAR pmax pmax
comp=Z,112nm,2.3s
MIAR MLR MLR
comp=Z,1µm,20.0s
MIAR Mount Ida 89.86 54 eP P 10 58 26.8 +1.0
comp=Z,112nm,2.3s
MIAR LR LR
comp=Z,1µm,20.0s
JTS JuntasAbangare 89.93 79 eP P 10 58 28.5 +1.9
comp=Z,2µm,2.0s
JTS LR LR
comp=Z,3µm,20.0s
JTS JuntasAbangare 89.93 79 P P 10 58 28.1 +1.5
comp=Z,238nm,1.8s,SNR=6.7
PSI Prapat 90.04 273 P P 10 58 27.2 -0.1
PSI Prapat 90.04 273 ⇑P P 10 58 27.6 +0.3
baz=90
PSI Prapat 90.04 273 P P 10 58 27.2 -0.1
comp=Z,47nm,1.1s,baz=138,slow=2.1,SNR=58
NONG Nongkai 90.40 289 P P 10 58 31.0 +2.3
comp=Z,42nm,1.7s,comp=Z,2µm
XAN Xi'an 90.42 305 P P 10 58 29.1 +0.6
XAN pP pP 10 58 33.0 -0.2
XAN sP sP 10 58 35.8 +0.9
XAN PP PP 11 02 00.3 -3.0
XAN SKS SKSac 11 08 56.6 -3.2
XAN AMB AMB
comp=Z,8.0nm,1.5s
XAN AMB AMB
comp=Z,81nm,5.3s
XAN LR LR
comp=Z,370nm,21.6s
XAN LR LR
comp=Z,160nm,19.4s
XAN LR LR
comp=Z,190nm,23.3s
YKA Yellowknife Ar 90.43 23 P P 10 58 27.7 -0.1
YKA Yellowknife Ar 90.43 23 P P 10 58 27.7 -0.1
comp=Z,6.5nm,0.8s,baz=236,slow=4.4,SNR=20
YAK Yakutsk 90.62 336 eP P 10 58 26.0 -2.7
YAK e*PP pP 10 58 34.8 +1.4
YAK e 11 02 07.2
YAK eS SKSac 11 08 54.6 -4.9
YAK e 11 09 25.2
YAK pmax pmax
comp=Z,10.0nm,1.0s
YAK pmax pmax
comp=N,2.0nm,1.3s
YAK pmax pmax
comp=E,5.0nm,1.6s
YAK pmax pmax
comp=N,141nm,3.8s
YAK pmax pmax
comp=Z,119nm,3.0s
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK smax smax
comp=E,42nm,2.8s
YAK smax smax
comp=N,146nm,4.1s
YAK MLR MLR
comp=Z,382nm,23.0s
YAK MLR MLR
comp=N,442nm,30.0s
YAK MLR MLR
comp=E,68nm,23.0s
HHC Hu-ho-hao-te 90.80 312 eP P 10 58 30.6 +0.4
HHC pP pP 10 58 35.8 +0.9
HHC sP sP 10 58 38.1 +1.5
HHC PP PP 11 02 08.6 +2.4
HHC SKS SKSac 11 09 02.5 +0.7
HHC S S 11 09 23.9 -2.7
HHC sS sS 11 09 32.3 -2.1
HHC SS SS 11 15 31.4 +1.9
HHC AMB AMB
comp=E,88nm,1.5s
HHC AMB AMB
comp=E,490nm,5.4s
HHC LR LR
comp=E,640nm,17.7s
HHC LR LR
comp=E,730nm,18.1s
HHC LR LR
comp=E,1µm,18.6s
GSI Gunungsitoli 90.91 271 P P 10 58 33.2 +2.0
ECSD EROS Data Cent 90.92 45 PFAKE 10 58 40.0 +9.4
ECSD LR LR
comp=Z,1µm,19.0s
EFI East Falkland 91.23 145 PFAKE 10 58 40.0 +8.1
EFI LR LR
comp=Z,1µm,19.0s
A29A Manning Farm, 91.25 39 ⇑P P 10 58 32.9 +0.9
baz=92
KCSI Kotacane, Aceh 91.34 273 P P 10 58 33.9 +0.7
VBMS Vicksburg 91.51 57 PFAKE 10 58 50.0 +16
VBMS LR LR
comp=Z,1µm,20.0s
LCO Las Campanas 91.56 121 PFAKE 10 58 50.0 +16
LCO LR LR
comp=Z,2µm,20.0s
BTO Baotou 91.81 312 eP P 10 58 35.5 +0.6
A30A Hoffart Farm, 91.82 39 ⇑P P 10 58 35.4 +0.8
baz=92
SNAA Sanae 91.83 177 eP P 10 58 34.5 +0.1
SNAA Sanae 91.83 177 ePcP PcP 10 58 35.9 +0.6
SNAA Sanae 91.83 177 eP P 10 58 34.1 -0.3
comp=Z,193nm,2.3s
SURT Suratani 91.87 279 P P 10 58 39.2 +3.6
comp=Z,64nm,1.2s,comp=Z,992nm
SYO Syowa Base 91.91 191⇑eP P 10 58 32.7 -2.0
SYO Syowa Base 91.91 191⇑ePcP P 10 58 34.4 -0.3
PBKT Sadao Pong 91.96 287 P P 10 58 38.4 +2.5
comp=Z,34nm,1.8s,comp=Z,1µm
PBKT Sadao Pong 91.96 287 P P 10 58 38.4 +2.5
comp=Z,34nm,1.8s,comp=Z,1µm
FFC Flin Flon 92.12 33 iP P 10 58 37.3 +1.4
FFC Flin Flon 92.12 33 PFAKE 10 58 50.0 +14
FFC LR LR
comp=Z,1µm,19.0s
VNA2 Neumayer--Watz 92.23 175 eP P 10 58 37.0 +0.7
SCIA State Center 92.61 47 PFAKE 10 58 50.0 +12
SCIA LR LR
comp=Z,2µm,21.0s
KMI Kunming 92.80 295 P P 10 58 38.9 -1.1
KMI pP PcP 10 58 42.1 +1.4
KMI PP PP 11 02 24.4 +1.9
KMI SKS SKSac 11 09 13.1 -1.0
KMI S S 11 09 41.6 -4.0
KMI SS SS 11 15 57.8 -1.4
KMI AMB AMB
comp=Z,10.0nm,1.0s
KMI AMB AMB
comp=Z,360nm,5.7s
KMI LR LR
comp=Z,330nm,18.2s
KMI LR LR
comp=Z,500nm,20.4s
KMI LR LR
comp=Z,1µm,30.3s
NANT Nan 92.83 289 P P 10 58 42.4 +2.4
comp=Z,37nm,1.4s,comp=Z,9µm
AGMN Agassiz Nation 93.08 40 PFAKE 10 58 50.0 +10
AGMN LR LR
comp=Z,2µm,19.0s
OXF Oxford 93.10 55 PFAKE 10 58 50.0 +9.2
OXF LR LR
comp=Z,2µm,20.0s
OTAV Otavalo 93.33 91 PFAKE 10 58 50.0 +7.0
OTAV LR LR
comp=Z,1µm,21.0s
CRAI Chiangrai 93.52 290 P P 10 58 45.4 +2.2
comp=Z,8.7nm,2.1s,comp=Z,372nm
CD2 Chengdu 93.60 301 P P 10 58 44.6 +1.3
CD2 pP pP 10 58 49.4 +1.4
CD2 sP sP 10 58 51.6 +1.9
CD2 PP PP 11 02 32.3 +3.9
CD2 SKS SKSac 11 09 19.8 +1.9
CD2 S S 11 09 50.8 -1.3
CD2 sS sS 11 09 58.0 -1.9
CD2 SS SS 11 16 11.8 +1.7
CD2 AMB AMB
comp=Z,20nm,0.5s
CD2 AMB AMB
comp=Z,280nm,8.5s
CD2 LR LR
comp=Z,860nm,22.0s
CD2 LR LR
comp=Z,1µm,26.2s
ULM Lac du Bonnet 93.78 39 P P 10 58 43.1 -0.5
ULM Lac du Bonnet 93.78 39 P P 10 58 43.1 -0.5
comp=Z,4.8nm,1.0s,baz=250,slow=4.4,SNR=4.2
ULM LR LR 11 37 34.6
comp=Z,2µm,18.3s,baz=248,slow=33
BRAL Brewton 93.96 59 PFAKE 10 59 00.0 +15
BRAL LR LR
comp=Z,1µm,19.0s
CM31 Chiang Mai Arr 94.34 288 eP P 10 58 48.8 +1.8
CMAR Chiang Mai Arr 94.34 288 P P 10 58 48.1 +1.2
CMAR Chiang Mai Arr 94.34 288 P P 10 58 48.1 +1.2
comp=Z,2.4nm,0.7s,baz=90,slow=2.4,SNR=17
CMAR LR LR 11 36 30.2
comp=Z,635nm,21.4s,baz=281,slow=32
CHTO Chiang Mai 94.44 288 eP P 10 58 47.8 +0.4
CHTO pmax pmax
comp=Z,93nm,1.5s
CHTO MLR MLR
comp=Z,750nm,22.0s
CHTO Chiang Mai 94.44 288 P P 10 58 49.6 +2.2
CHTO Chiang Mai 94.44 288 eP P 10 58 47.8 +0.4
comp=Z,93nm,1.5s
CHTO LR LR
comp=Z,750nm,22.0s
CHTO Chiang Mai 94.44 288 P P 10 58 49.6 +2.2
comp=Z,65nm,1.9s,comp=Z,2µm
BCIP Isla Barro Col 94.46 82 PFAKE 10 59 00.0 +12
BCIP LR LR
comp=Z,742nm,20.0s
LRAL Lakeview Retre 94.59 57 PFAKE 10 59 00.0 +12

LRAL LR LR
comp=Z,1μm,19.0s
CMAI Chiengmai2 94.64 289 P **P** 10 58 50.8 +2.3
TRQA Tornquist 94.89 132 PFAKE 10 59 00.0 +11
TRQA LR LR
comp=Z,2μm,20.0s
LZH Lanzhou 95.02 306 *e*P **P** 10 58 52.4 +2.5
LZH pP **pP** 10 58 56.0 +1.4
LZH sP **sP** 10 58 59.3 +3.1
LZH PP **PP** 11 02 35.0 -4.5
LZH *e*S **S** 11 10 01.4 -3.1
LZH sS **sS** 11 10 11.5 -0.8
LZH AMB AMB
comp=Z,24nm,1.0s
LZH AMB AMB
comp=Z,140nm,4.6s
LZH LR LR
comp=Z,280nm,13.2s
LZH LR LR
comp=Z,440nm,18.0s
LZH LR LR
comp=Z,1μm,19.2s
JFWS Jewell Farm 95.02 47 PFAKE 10 59 00.0 +11
JFWS LR LR
comp=Z,2μm,22.0s
LVC Limon Verde 95.24 115 PFAKE 10 59 00.0 +8.6
LVC LR LR
comp=Z,2μm,20.0s
EYMN Ely 95.72 42 PFAKE 10 59 00.0 +7.4
EYMN LR LR
comp=Z,1μm,21.0s
TIXI Tiksi 96.37 344⇑ *i*P **P** **10 58 55.0 +0.1**
TIXI pmax pmax
comp=Z,23nm,3.0s
TIXI MLR MLR
comp=Z,365nm,20.0s
SONM Songino Array 96.58 318 P **P** **10 58 56.2 -0.4**
SONM Songino Array 96.58 318 P **P** **10 58 56.2 -0.4**
comp=Z,1.2nm,0.5s,baz=111,slow=6.3,SNR=2.6
SONM LR LR 11 36 16.6
comp=Z,835nm,21.4s,baz=290,slow=32
LPAZ La Paz 98.07 110 P Pdif 10 59 06.3 +1.5
LPAZ La Paz 98.07 110 P Pdif 10 59 06.3 +1.5
comp=Z,1.2nm,0.8s,baz=239,slow=4.4,SNR=6.4
LPAZ LR LR 11 33 25.2
comp=Z,1μm,20.9s,baz=273,slow=29
PBA Port Blair 98.33 280 *e*P P 10 59 03.9 -1.2
DGPR DIGLIPUR 98.55 281 *e*P **P** **10 59 04.5 -1.6**
ROSC El Rosal 98.56 87 LR LR 11 33 46.7
comp=Z,1μm,21.5s,baz=202,slow=29
GTA Gaotai 98.97 308 P Pdif 10 59 08.8 +1.2
GTA pP pP 10 59 13.8 +1.5
GTA sP sP 10 59 16.0 +2.0
GTA PP **PP** **11 03 13.3 +3.5**
GTA S **S** **11 10 35.0 -3.1**
GTA sS sS 11 10 43.9 -2.1
GTA SS **SS** **11 17 27.3 +1.4**
GTA AMB AMB
comp=Z,6.0nm,1.5s
GTA AMB AMB
comp=Z,130nm,6.9s
GTA LR LR
comp=Z,440nm,22.8s
GTA LR LR
comp=Z,760nm,23.8s
GTA LR LR
comp=Z,750nm,20.9s
MTDJ Mount Denham 98.97 74 PFAKE 10 59 20.0 +12
MTDJ LR LR
comp=Z,866nm,19.0s
ACSO Alum Creek Sta 99.56 51 PFAKE 10 59 20.0 +10
ACSO LR LR
comp=Z,2μm,19.0s
BLA Blacksburg 100.84 54 PFAKE 10 59 30.0 +14
BLA LR LR
comp=Z,2μm,21.0s
GTBY Guantanamo Bay 101.60 73 PFAKE 10 59 30.0 +10
GTBY LR LR
comp=Z,764nm,20.0s
MCWV Mont Chateau 101.79 52 *e*Pdif **Pdif** **10 59 21.8 +1.7**
MCWV LR LR
comp=Z,2μm,21.0s
SHL Shillong 102.42 293 *e*P **Pdif** **10 59 23.3 -0.1**
CNNC Cliffs of the 102.44 57 PFAKE 10 59 30.0 +7.0
CNNC LR LR
comp=Z,1μm,19.0s
CBN Corbin 103.41 54 PFAKE 10 59 40.0 +13
CBN LR LR
comp=Z,2μm,20.0s
LSA Lhasa 103.89 297 PFAKE 10 59 40.0 +10
LSA LR LR
comp=Z,536nm,21.0s
SDDR Presa de Saban 104.91 74 PFAKE 11 04 00.0
SDDR LR LR
comp=Z,2μm,21.0s
SAML Samuel 105.08 104 PFAKE 11 04 00.0
SAML LR LR
comp=Z,1μm,20.0s
BINY Binghamton 105.11 50 PFAKE 11 04 00.0
BINY LR LR
comp=Z,2μm,19.0s
GRTK Grand Turk 105.58 72 PFAKE 11 04 00.0
GRTK LR LR
comp=Z,1μm,21.0s
LONY Lake Ozonia 106.45 48 PFAKE 11 04 00.0
LONY LR LR
comp=Z,2μm,22.0s
NCB Newcomb 106.63 48 PFAKE 11 04 00.0
NCB LR LR
comp=Z,2μm,20.0s
BOK Bokaro 107.42 290 *ex* PKiKP 11 04 01.6 +7.5
LBNH Lisbon 108.30 48 PFAKE 11 04 10.0
LBNH LR LR
comp=Z,2μm,20.0s
VIS Vishakhapatnam 108.60 284 *e*P **Pdif** **10 59 49.3 -1.4**
WMQ Urumqi 108.64 311 *e*Pdif **Pdif** **10 59 51.1 +0.6**
WMQ PP **PP** **11 04 25.3 +3.5**
WMQ S **Sdif** **11 11 53.0 -5.6**
WMQ SS **SS** **11 19 36.8 -1.8**
WMQ PPMZ
comp=Z,220nm,4.8s
WMQ LR LR
comp=Z,470nm,26.2s
WMQ LR LR
comp=Z,380nm,25.6s
WMQ LR LR
comp=Z,430nm,25.4s
PKME Peaks-Kenny Pk 110.25 47 PFAKE 11 04 10.0
PKME LR LR
comp=Z,2μm,19.0s
ZALV Zalesovo Beam 110.93 322 *i* PKiKP **PKiKP** **11 03 58.9 -0.8**
ZALV pmax pmax
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 110.93 322 PKiKP **PKiKP** **11 03 58.9 -0.8**
ZALV Zalesovo Beam 110.93 322 PKiKP **PKiKP** **11 03 58.9 -0.8**
comp=Z,1.6nm,0.7s,baz=110,slow=2.1,SNR=6.5
DGAR Diego Garcia 112.13 255 PFAKE 11 04 10.0
DGAR LR LR
comp=Z,2μm,19.0s
GRGR Grenville 112.50 83 PFAKE 11 04 20.0
GRGR LR LR
comp=Z,409nm,20.0s
MK31 Makanchi Array 112.59 314 *e*PKiKP **PKiKP** **11 04 02.3 -0.9**
MK31 Makanchi Array 112.59 314 *e*PKPdf **PKiKP** **11 04 02.3 -0.9**
MKAR Makanchi Array 112.59 314 *i* PKiKP **PKiKP** **11 04 02.1 -1.1**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 112.59 314 PKiKP **PKiKP** **11 04 02.1 -1.1**
MKAR PKKPbc **PKKPbc** **11 14 53.2 -0.2**
MKAR PKKPab **PKKPab** **11 15 00.1 +0.7**
MKAR Makanchi Array 112.59 314 PKiKP **PKiKP** **11 04 02.1 -1.1**
comp=Z,2.1nm,0.7s,baz=68,slow=1.6,SNR=2.3
MKAR PKKPbc **PKKPbc** **11 14 53.2 -0.2**
comp=Z,0.4nm,0.9s,baz=254,slow=4.1,SNR=2.7
MKAR PKKPab **PKKPab** **11 15 00.1 +0.7**
comp=Z,0.6nm,0.8s,baz=258,slow=6.1,SNR=4.9
TRD Trivandrum 112.61 273 *e*P **PKiKP** **11 04 02.7 -1.4**
TRD AMS AMS 11 47 27.7
comp=Z,700nm,17.2s
SPB Sao Paulo 112.71 125 PFAKE 11 04 20.0
SPB LR LR
comp=Z,2μm,20.0s
BBSR BB Station 112.90 61 PFAKE 11 04 20.0
BBSR LR LR
comp=Z,750nm,20.0s
HYB Hyderabad 113.00 282 *e*P **PKiKP** **11 04 04.1 -0.7**
NGP Nagpur 113.19 286 *e*P **PKiKP** **11 04 05.1 0.0**
ANWB Willy Bob 113.49 78 PFAKE 11 04 20.0
ANWB LR LR
comp=Z,644nm,20.0s
BBGH Gun Hill 114.72 83 PFAKE 11 04 20.0 +12
BBGH LR LR
comp=Z,970nm,22.0s
KURK Kurchatov 114.87 319⇑ *i*PKIKP PKPdf 11 04 06.5 -0.8
KURK pmax pmax
comp=Z,6.0nm,1.7s
KURK Kurchatov 114.87 319 PKP PKPdf 11 04 06.7 -0.7
KURK PP **PP** **11 05 03.1 -2.9**
KURK PKKPbc **PKKPbc** **11 14 45.0 -0.7**
KURK LR LR
comp=Z,220nm,22.0s
KURBB Kurchatov Arra 114.94 319 PKP PKPdf 11 04 06.7 -0.8
comp=Z,2.7nm,0.8s,baz=100,slow=1.9,SNR=28
KURBB PP **PP** **11 05 03.1 -3.4**
comp=Z,6.9nm,1.4s,baz=89,slow=6.7,SNR=12
KURBB PKKPbc **PKKPbc** **11 14 45.0 -0.4**
comp=Z,0.2nm,0.3s,baz=274,slow=4.3,SNR=5.9
BHPL Bhopal 114.99 288 *e*P PKPdf 11 04 05.3 -3.2
AKL Akola 115.00 286 *e*P PKPdf 11 04 08.0 -0.5
DDI Dehra Dun 115.22 296 *e*P **PKPdf** **11 04 09.2 +0.5**
SMLA Simla 116.05 297 *e*P **PKPdf** **11 04 10.1 -0.1**
DHRM DHARAMSHALA 116.85 298 *e*P **PKPdf** **11 04 10.4 -1.7**
SFJD Kangerlussuaq 116.98 22 PFAKE 11 04 20.0 +9.1
SFJD LR LR
comp=Z,2μm,21.0s
KSH Kashi 117.26 306 PKP **PKPdf** **11 04 13.9 +1.4**
KSH PP **PP** **11 05 26.5 +3.1**
KSH PKS **PKSdf** **11 07 49.5 +0.2**
KSH SKS **SKSdf** **11 11 26.8 +2.3**
KSH SKKS **SKKSac** **11 12 25.1 +1.1**
KSH PPMZ
comp=Z,230nm,6.7s
KSH LR LR
comp=Z,92nm,4.4s
KSH LR LR
comp=Z,110nm,7.4s
KSH LR LR
comp=Z,390nm,13.2s
KBS Kingsbay 117.42 359 PFAKE 11 04 20.0 +8.5
KBS LR LR
comp=Z,411nm,20.0s
TKM2 Tokmak 2 117.44 310 *e*PKIKP **PKPdf** **11 04 12.5 -0.3**
TKM2 *e* 11 05 25.1
TKM2 MLR MLR
comp=Z,355nm,22.0s
TKM2 Tokmak 2 117.44 310 *e*PKPdf **PKPdf** **11 04 12.5 -0.3**
TKM2 *e*PP **PP** **11 05 25.1 +0.5**
TKM2 LR LR
comp=Z,355nm,22.0s
POO Poona 117.61 283 *e*P **PKPdf** **11 04 11.5 -2.1**
AAK Ala-Archa 118.27 310⇑ *i*PKIKP **PKPdf** **11 04 14.6 +0.2**
AAK pmax pmax
comp=Z,8.0nm,1.7s
AAK Ala-Archa 118.27 310 PKP **PKPdf** **11 04 14.3 -0.1**
AAK LR LR
comp=Z,539nm,22.0s
AAK Ala-Archa 118.27 310 PKP **PKPdf** **11 04 14.3 -0.1**
comp=Z,2.2nm,0.8s,baz=172,slow=8.3,SNR=5.5
BOM Bombay 118.63 283 *ex* PKPdf 11 04 09.2 -6.3
EKS2 Erkin-Say 118.79 310 PFAKE 11 04 30.0 +15
EKS2 LR LR
comp=Z,468nm,20.0s
BVAR Borovoye Array 119.58 322 PKIKP **PKPdf** **11 04 16.0 -0.4**
BVAR pmax pmax
comp=Z,3.0nm,0.6s
BVAR Borovoye Array 119.58 322 PKP **PKPdf** **11 04 16.0 -0.4**
BVAR Borovoye Array 119.58 322 PKP **PKPdf** **11 04 16.0 -0.4**
comp=Z,2.7nm,0.6s,baz=90,slow=1.5,SNR=7.9
BRVK Borovoye 119.64 322⇑ *i*PKIKP **PKPdf** **11 04 16.5 0.0**
BRVK pmax pmax
comp=Z,12nm,1.7s
BRVK Borovoye 119.64 322 PFAKE 11 04 30.0 +14
BRVK LR LR
comp=Z,732nm,22.0s
BHJ Bhuj 122.09 287 *e*P **PKPdf** **11 04 20.1 -2.0**
KBL Kabul 122.94 301 *e*PKIKP **PKPdf** **11 04 24.2 +0.5**
KBL Kabul 122.94 301 *e*PKPdf **PKPdf** **11 04 24.2 +0.5**
ARU Arti 124.97 329 *i* PKIKP **PKPdf** **11 04 27.0 +0.4**
ARU 11 06 14.1
ARU 11 11 29.5
ARU MLR MLR
comp=Z,633nm,22.0s
KEV Kevo 125.40 352 PFAKE 11 04 40.0 +13
KEV LR LR
comp=Z,547nm,20.0s
ARCES ARCESS Array B 125.80 353 PKP **PKPdf** **11 04 27.8 -0.1**
ARCES ARCESS Array B 125.80 353 PKP **PKPdf** **11 04 27.8 -0.1**
comp=Z,4.9nm,0.8s,baz=222,slow=1.2,SNR=7.5
APA Apatity 126.32 348⇓ *i*PKIKP **PKPdf** **11 04 34.0 +5.1**
APA *i* 11 11 32.0
APA *i* SS SS 11 23 20.0 -6.1
ABKAR Akbulak array 126.94 320 *e*PKPdf **PKPdf** **11 04 30.3 -0.3**
AKTO Aktyubinsk 127.69 322 PKIKP **PKPdf** **11 04 30.6 -1.4**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO Aktyubinsk 127.69 322 PKP **PKPdf** **11 04 30.6 -1.4**
AKTO Aktyubinsk 127.69 322 PKP **PKPdf** **11 04 30.6 -1.4**
comp=Z,2.7nm,0.9s,baz=38,slow=3.3,SNR=5.7
ABPO Ambohimpanom 127.88 229 PFAKE 11 04 40.0 +6.4
ABPO LR LR
comp=Z,1μm,21.0s
OPO Ambohidratompo 128.19 229 PKP **PKPdf** **11 04 35.3 +1.1**
OPO Ambohidratompo 128.19 229 PKP **PKPdf** **11 04 35.3 +1.1**
comp=Z,2.2nm,0.5s,baz=67,slow=2.7,SNR=3.4
MSEY Mahe Island 128.73 250 PFAKE 11 04 50.0 +15
MSEY LR LR
comp=Z,1μm,22.0s
RCBR Riachuelo 131.15 113 PFAKE 11 04 50.0 +10
RCBR LR LR
comp=Z,1μm,19.0s
BOSA Boshof 132.28 200 PKP **PKPdf** **11 04 42.6 +1.0**
BOSA Boshof 132.28 200 PKP **PKPdf** **11 04 42.6 +1.0**
comp=Z,4.0nm,0.9s,baz=152,slow=1.0,SNR=4.7
FINES FINESS Array B 133.23 348 PKP **PKPdf** **11 04 41.7 -0.5**
FINES FINESS Array B 133.23 348 PKP **PKPdf** **11 04 41.7 -0.5**
comp=Z,2.6nm,0.8s,baz=46,slow=8.2,SNR=4.9
NOA NORSAR Array B 135.37 358 PKP **PKPdf** **11 04 47.0 +0.7**
NOA NORSAR Array B 135.37 358 PKP **PKPdf** **11 04 46.9 +0.7**
comp=Z,1.2nm,0.9s,baz=14,slow=4.1,SNR=2.7
OBN Obninsk 135.62 337⇑ *i*PKIKP **PKPdf** **11 04 48.5 +1.7**
OBN *i* 11 05 04.9
OBN pmax pmax
comp=Z,9.0nm,1.1s
OBN MLR MLR
comp=Z,100nm,17.0s
KBZ Khabaz 139.91 320 PKIKP **PKPdf** **11 04 54.0 -1.1**
KBZ pmax pmax
comp=Z,1.0nm,0.4s
KBZ Khabaz 139.91 320 PKP **PKPdf** **11 04 54.0 -1.1**
KBZ Khabaz 139.91 320 PKP **PKPdf** **11 04 54.0 -1.1**
comp=Z,0.9nm,0.4s,baz=40,slow=2.5,SNR=3.6
KIV Kislovodsk 139.92 321 *e*PKIKP **PKPdf** **11 04 58.6 +3.4**
KIV *e* 11 07 51.4
KIV pmax pmax
comp=Z,4.0nm,1.0s
ESK Eskdalemuir 140.19 10 PFAKE 11 05 10.0 +15
ESK LR LR
comp=Z,480nm,20.0s
GNI Garni 140.44 314 PFAKE 11 05 10.0 +14
GNI LR LR
comp=Z,245nm,20.0s
AKASG Malin Array Be 141.82 338 PKHKP PKPpre 11 04 52.6
AKASG 11 04 56.2
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 141.82 338 PKPpre PKPpre 11 04 52.6
AKASG PKP **PKPdf** **11 04 56.2 -2.1**
AKASG Malin Array Be 141.82 338 PKhKP PKPpre 11 04 52.6
comp=Z,1.5nm,0.6s,baz=32,slow=3.6,SNR=11
AKASG PKP **PKPdf** **11 04 56.2 -2.1**
comp=Z,1.0nm,0.5s,baz=39,slow=3.8,SNR=11
KIEV Kiev 141.84 338 PFAKE 11 05 10.0 +12
KIEV LR LR
comp=Z,733nm,22.0s
SOC Sochi 141.91 322 *e*PKIKP **PKPdf** **11 04 57.2 -1.5**
SOC *i* 11 05 02.1
SOC *e* 11 07 59.8
SOC pmax pmax
comp=Z,17nm,0.8s
SOC pmax pmax
comp=Z,11nm,0.7s
SOC pmax pmax
comp=Z,14nm,0.6s
SOC pmax pmax
comp=E,44nm,0.6s
ANN Anapa 142.47 325 *i* PKHKP PKPpre 11 04 43.6
ANN pmax pmax
comp=Z,42nm,1.0s
ANN MLR MLR
comp=N,574nm,23.0s
ANN MLR MLR
comp=E,610nm,23.0s
ANN MLR MLR
comp=Z,516nm,23.0s
LSZ Lusaka 142.82 213 *e*PKPdf **PKPdf** **11 04 57.9 -3.5**
LSZ LR LR
comp=Z,653nm,20.0s
TSUM Tsumeb 143.42 195 *e*PKPdf PKPbc 11 04 60.0 +0.6
TSUM LR LR
comp=Z,954nm,19.0s
SIM Simferopol' 144.13 328 *i* PKIKP **PKPdf** **11 05 06.7 +4.1**
SIM 11 08 20.9
SIM PPP PPP 11 12 06.4
SIM pmax pmax
comp=Z,110nm,9.7s
LVV L'vov 144.27 342 *e*PKHKP **PKPab** **11 04 59.0 -1.6**
CLZ Clausthal 144.60 358 *e*PKIKP PKPbc 11 05 01.9 0.0
CLZ Clausthal 144.60 358 *e*PKPbc PKPbc 11 05 01.9 0.0
KWP Kalwaria Pacla 144.81 344 *e*PKIKP **PKPab** **11 05 02.6 0.0**
KWP Kalwaria Pacla 144.81 344 *e*PKPdf PKPbc 11 05 02.6 0.0
KWP LR LR
comp=Z,810nm,22.0s
KWP Kalwaria Pacla 144.81 344 *e*PKP **PKPab** **11 05 02.6 0.0**
CLL Collm 144.96 355 *i* PKIKP **PKPab** **11 05 02.4 -0.6**
CLL MLR MLR
comp=Z,800nm,19.1s
CLL pmax pmax
comp=Z,86nm,2.1s
CLL MLR MLR
comp=Z,500nm,20.5s
CLL Collm 144.96 355 *e*PKPbc **PKPab** **11 05 02.8 -0.2**
CLL Collm 144.96 355 *i* PKPdf **PKPab** **11 05 02.4 -0.6**
comp=Z,86nm,2.0s
CLL *e* 11 05 31.0
CLL *e*PP **PP** **11 08 20.0 -0.8**
CLL *e*SKPbc **SKPbc** **11 08 42.0 -1.0**
CLL *e*SS SS 11 27 18.0 +8.9
CLL Lm MLR 12 16 00.0
comp=N,500nm,18.7s
CLL Lm MLR 12 16 00.0
comp=E,400nm,18.4s
CLL Lm MLR 12 16 00.0
comp=Z,800nm,19.1s
KIS Kishinev 145.01 335 *e*PKP **PKPbc** **11 05 03.0 -0.4**
KIS LRM MLR 12 08 10.0
comp=Z,600nm,22.0s
KIS Kishinev 145.01 335 *e*PKIKP **PKPbc** **11 05 03.0 -0.4**
KIS MLR MLR
comp=Z,600nm,20.0s
KIS MLR MLR
comp=Z,600nm,22.0s
KSP Ksiaz 145.03 351 *e*PKIKP **PKPbc** **11 05 03.2 -0.1**
KSP Ksiaz 145.03 351 *e*PKP **PKPbc** **11 05 03.1 -0.2**
BRG Berggiesshubel 145.30 354 *e*PKP **PKPdf** **11 05 04.5 0.0**
comp=Z,260nm,2.6s
BRG
comp=N,476nm,19.6s
BRG
comp=E,329nm,15.7s
BRG
comp=Z,639nm,17.0s
BRG Berggiesshubel 145.30 354 *e*PKIKP **PKPdf** **11 05 04.5 0.0**
BRG pmax pmax
comp=Z,260nm,2.6s
BRG MLR MLR
comp=N,476nm,19.6s
BRG MLR MLR
comp=E,329nm,15.7s
BRG MLR MLR
comp=Z,639nm,17.0s
BRG Berggiesshubel 145.30 354 *e*PKPbc **PKPbc** **11 05 04.1 -0.1**
STHS Stebnicka Huta 145.39 345 *e*PKIKP **PKPab** **11 05 05.1 +0.4**
STHS Stebnicka Huta 145.39 345 *e*PKP **PKPab** **11 05 05.1 +0.4**
UPC Upice 145.40 351 *i* PKIKP **PKPbc** **11 05 04.2 -0.3**
UPC Upice 145.40 351 *i* PKP **PKPbc** **11 05 04.2 -0.3**
RAC Raciborz 145.44 349 *e*PKIKP **PKPab** **11 05 05.2 +0.4**
RAC MLR MLR
comp=Z,800nm,21.4s
DPC Dobruska-Polom 145.50 351 *i* PKIKP **PKPab** **11 05 05.1 0.0**
DPC Dobruska-Polom 145.50 351 *i* PKP **PKPab** **11 05 05.1 0.0**
DPC AMS AMS 12 20 40.0
UCC Uccle 145.56 4 PKP **PKPab** **11 05 06.0 +0.8**
KOLS Kolonicke sedl 145.57 343 *e*PKIKP **PKPdf** **11 05 04.6 -0.4**
KOLS Kolonicke sedl 145.57 343 *e*PKP **PKPdf** **11 05 04.6 -0.4**
PVCC Panska Ves 145.57 353 *e*PKIKP **PKPab** **11 05 05.4 +0.1**
PVCC *e* 11 05 12.3
PVCC MLR MLR
comp=Z,800nm,23.1s
PVCC Panska Ves 145.57 353 *e*PKP **PKPab** **11 05 05.4 +0.1**
PVCC *e*pPKP **pPKPdf** **11 05 12.3 +2.6**
PVCC AMS AMS 12 16 00.0
comp=Z,800nm,23.1s
NIE Niedzica 145.62 346 *e*PKIKP **PKPdf** **11 05 04.6 -0.5**
NIE Niedzica 145.62 346 *e*PKPbc **PKPdf** **11 05 04.6 -0.5**
MALT Malatya 145.62 315⇑⇑ *e*PKIKP **PKPab** **11 05 07.0 +0.9**
MALT Malatya 145.62 315⇑ *i*P **PKPab** **11 05 07.0 +0.9**
BEBN Eben Emael 145.63 3 PKP **PKPbc** **11 05 05.2 0.0**
OKC Ostrava-Krasne 145.68 348 *i* PKIKP **PKPbc** **11 05 05.5 +0.1**
OKC MLR MLR
comp=Z,500nm,19.4s
OKC Ostrava-Krasne 145.68 348 *i* PKP **PKPbc** **11 05 05.5 +0.1**
OKC AMS AMS 12 20 10.0
comp=Z,500nm,19.4s
KRLC Kraliky 145.69 350 *i* PKIKP **PKPbc** **11 05 05.6 +0.1**
KRLC *e* 11 05 12.8
KRLC Kraliky 145.69 350 *i* PKP **PKPbc** **11 05 05.6 +0.1**
KRLC *ex* x 11 05 12.8
MEM Membach 145.84 2 PKP **PKPdf** **11 05 04.1 -1.2**
UZH Uzhgorod 145.84 343 *e*PKP2 **PKPbc** **11 05 05.7 -0.2**
UZH *e* 11 11 50.5
UZH *e* 11 12 06.7
BURAR Bucovina Array 145.84 339⇓ *i*PKP2 **PKPbc** **11 05 06.0 -0.1**
BURAR Bucovina Array 145.84 339⇓ *i*P **PKPbc** **11 05 06.0 -0.1**
SNF Seneffe 145.84 4 PKP **PKPab** **11 05 06.2 -0.1**
TANN Tannenbergstha 145.90 355 *e*PKPbc **PKPbc** **11 05 06.0 -0.2**
BCLA Clavier 145.99 3 PKP **PKPbc** **11 05 06.6 +0.2**
ATD Arta Tunnel 146.01 266 PKPbc **PKPab** **11 05 08.8 +0.7**
ATD Arta Tunnel 146.01 266 PKPbc **PKPab** **11 05 08.8 +0.7**
comp=Z,21nm,0.7s,baz=108,slow=4.5,SNR=17
PRA Prague 146.04 353 PKP **PKPab** **11 05 07.0 0.0**
PRU Pruhonice 146.10 353 *i* PKP2 **PKPbc** **11 05 06.8 +0.1**
PRU MLR MLR
comp=Z,700nm,15.5s
PRU Pruhonice 146.10 353 *i* PKP **PKPbc** **11 05 06.8 +0.1**
PRU AMS AMS 12 17 20.0
comp=Z,700nm,15.5s
TRPA Tarpa 146.22 343⇑ *i*P **PKPbc** **11 05 07.4 +0.3**
TRPA Tarpa 146.22 343⇓ *e*PKPdf **PKPdf** **11 05 06.5 +0.4**
TESR Tescani 146.26 337⇑ *i*P **PKPdf** **11 05 06.6 +0.4**
TNS Taunus Mts 146.27 360 *e*PKP2 **PKPbc** **11 05 07.6 +0.3**
TNS Taunus Mts 146.27 360 *e*PKPbc **PKPbc** **11 05 07.6 +0.3**
DOU Dourbes 146.27 4 PKP **PKPbc** **11 05 07.5 +0.3**
KMBO Kilima Mbogo 146.41 242 *e*PKPbc **PKPbc** **11 05 09.4 +0.3**
KMBO LR LR
comp=Z,589nm,19.0s
KMBO Kilima Mbogo 146.41 242 PKPbc **PKPab** **11 05 10.0 +0.1**
comp=Z,42nm,1.0s,baz=89,slow=3.0,SNR=51
TLCR 146.46 333⇑ PKP2 **PKPdf** **11 05 07.2 +0.6**
TLCR 146.46 333⇑ *i*P **PKPdf** **11 05 07.2 +0.6**
VRAC Vranov 146.47 350⇓ *i*P **PKPbc** **11 05 08.1 +0.2**
VRAC Vranov 146.47 350 PKPbc **PKPbc** **11 05 08.0 +0.2**
VRAC Vranov 146.47 350 PKPbc **PKPbc** **11 05 08.0 +0.2**
comp=Z,2.6nm,0.4s,baz=9.4,slow=2.8,SNR=30
TREC Trest 146.66 351 *e*PKP2 **PKPab** **11 05 09.0 -0.5**
TREC MLR MLR
comp=Z,800nm,21.7s
TREC Trest 146.66 351 *e*PKP **PKPab** **11 05 09.0 -0.5**
TREC AMS AMS 12 16 00.0
comp=Z,800nm,21.7s

GRF	Grafenberg Arr	146.70	356	ePKP2	PKPbc	11 05 08.9	+0.4
GRF	Grafenberg Arr	146.70	356	ePKPbc	PKPbc	11 05 08.9	+0.4
GRF				eL	L	12 15 15.8	
	comp=Z,603nm,21.4s						
GRFO	Grafenberg	146.71	356	ePKP2	PKPab	11 05 09.6	0.0
GRFO	Grafenberg	146.71	356	ePKPbc	PKPab	11 05 09.6	0.0
ODBI	Odobesti	146.73	336	⇓iP	PKPab	11 05 11.4	+1.6
CFR	Carcaliu	146.76	334	⇑PKIKP	PKPdf	11 05 06.7	-0.4
CFR	Carcaliu	146.76	334	⇑iP	PKPdf	11 05 06.7	-0.4
VRI	Vrincioaia	146.77	336	⇑PKP2	PKPbc	11 05 08.4	-0.5
VRI	Vrincioaia	146.77	336	⇑iP	PKPbc	11 05 08.4	-0.5
WLF	Walferdange	146.78	2	PKP	PKPbc	11 05 09.5	-0.4
WLF	Walferdange	146.78	2	ePKP2	PKPab	11 05 09.6	-0.4
WLF				MLR	MLR		
	comp=Z,860nm,19.0s						
WLF	Walferdange	146.78	2	ePKPbc	PKPab	11 05 09.4	-0.5
WLF	Walferdange	146.78	2	ePKPbc	PKPab	11 05 09.6	-0.4
WLF				LR	LR		
	comp=Z,860nm,19.0s						
PLOR	Plostina	146.81	336	⇓PKP2	PKPbc	11 05 08.2	-0.8
PLOR	Plostina	146.81	336	⇓iP	PKPbc	11 05 08.2	-0.8
KHC	Kasperske Hory	147.06	353	iPKIKP	PKPdf	11 05 08.0	+0.5
KHC				e		11 05 20.1	
KHC				MLR	MLR		
	comp=Z,700nm,19.0s						
KHC	Kasperske Hory	147.06	353	iPKP	PKPdf	11 05 08.0	+0.5
KHC				ex	x	11 05 20.1	
KHC				AMS	AMS	12 16 00.0	
	comp=Z,700nm,19.0s						
KHC	Kasperske Hory	147.06	353	ePKPbc	PKPbc	11 05 08.9	-0.7
SMOL	Smolenice	147.09	349	ePKP2	PKPab	11 05 10.7	-0.5
SMOL	Smolenice	147.09	349	ePKP	PKPab	11 05 10.7	-0.5
PSZ	Piszkesteto	147.12	345	⇓PKP2	PKPab	11 05 11.0	-0.4
PSZ	Piszkesteto	147.12	345	⇓iP	PKPab	11 05 11.0	-0.4
PSZ	Piszkesteto	147.12	345	ePKPdf	PKPdf	11 05 08.4	+0.6
PSZ				ePKPbc	PKPab	11 05 10.7	-0.7
PSZ				LR	LR		
	comp=Z,522nm,19.0s						
PSZ	Piszkesteto	147.12	345	⇑ePKPdf	PKPbc	11 05 08.9	-0.9
WET	Wettzell	147.12	354	ePKP2	PKPbc	11 05 09.7	-0.1
WET	Wettzell	147.12	354	ePKPbc	PKPbc	11 05 09.7	-0.1
DOPR	Dopca	147.19	338	⇓iP	PKPab	11 05 11.3	-0.4
TLB	Topalu	147.27	333	⇓PKP2	PKPbc	11 05 10.5	+0.3
TLB	Topalu	147.27	333	⇓iP	PKPbc	11 05 10.5	+0.3
GEC2	GERESS Array S	147.33	353	ePKP2	PKPbc	11 05 10.2	-0.2
GEC2	GERESS Array S	147.33	353	ePKPbc	PKPbc	11 05 10.2	-0.2
GERES	GERESS Array B	147.33	353	PKPbc	PKPbc	11 05 10.6	+0.1
GERES	GERESS Array B	147.33	353	PKPbc	PKPbc	11 05 10.6	+0.1
	comp=Z,2.2nm,0.6s,baz=23,slow=2.9,SNR=15						
MLR	Muntele Rosu	147.39	336	PKPbc	PKPbc	11 05 11.2	+0.4
MLR	Muntele Rosu	147.39	336	PKPbc	PKPbc	11 05 11.2	+0.4
	comp=Z,4.4nm,0.8s,baz=336,slow=2.7,SNR=23						
ISR	Istrita	147.46	335	⇑PKP2	PKPbc	11 05 11.4	+0.5
ISR	Istrita	147.46	335	⇑iP	PKPbc	11 05 11.4	+0.5
LANF	Langenberg	147.51	0	PKP	PKPdf	11 05 09.3	+1.0
STU	Stuttgart	147.71	359	ePKPbc	PKPbc	11 05 11.6	+0.3
BUD	Budapest	147.73	346	⇓ePKPdf	PKPdf	11 05 07.6	-1.0
VOIR		147.77	337	⇓PKP2	PKPbc	11 05 12.1	+0.4
VOIR		147.77	337	⇓iP	PKPbc	11 05 12.1	+0.4
BR131	Keskin Array S	147.87	321	ePKPbc	PKPbc	11 05 12.4	+0.1
BRTR	Keskin Array B	147.87	321	PKPbc	PKPbc	11 05 12.2	-0.1
BRTR	Keskin Array B	147.87	321	PKPbc	PKPbc	11 05 12.2	-0.1
	comp=Z,24nm,0.8s,baz=68,slow=1.2,SNR=42						
PSN	Preselentsi	147.93	332	iP	PKPab	11 05 13.5	-1.1
CONA	Conrad Observa	147.93	350	⇑iPKPdf	PKPdf	11 05 08.0	-1.1
	comp=Z,119nm,2.1s,SNR=16						
PKSG		147.96	347	⇓ePKPdf	PKPdf	11 05 10.5	+1.5
ARR	Arges	147.98	338	⇑iP	PKPbc	11 05 13.0	+0.7
SOP	Sopron	148.04	349	ePKPdf	PKPdf	11 05 07.0	-2.2
WLS	Welschbruch	148.07	1	PKP	PKPbc	11 05 12.2	-0.2
PKSN	Nyarlorinc	148.07	345	⇓e	PKPbc	11 05 13.5	+1.1
PKS7	Kunszentmiklos	148.11	346	⇓e	PKPab	11 05 14.0	-1.2
BFO	Black Forest	148.16	360	ePKP2	PKPbc	11 05 12.7	+0.1
BFO	Black Forest	148.16	360	ePKPbc	PKPbc	11 05 12.7	+0.1
BFO	Black Forest	148.16	360	PFAKE		11 05 20.0	+4.6
BFO				LR	LR		
	comp=Z,628nm,19.0s						
PKST	T"s	148.16	347	⇓ePKPdf	PKPdf	11 05 09.8	+0.4
SIRR	Siria	148.16	342	⇑iP	PKPbc	11 05 12.4	-0.3
THEF	They Montfort	148.21	3	PKP	PKPbc	11 05 12.4	-0.3
FUR	Furstenfeldbru	148.22	356	ePKP2	PKPbc	11 05 12.6	-0.2
FUR	Furstenfeldbru	148.22	356	ePKPbc	PKPbc	11 05 12.6	-0.2
MOA	Molln	148.24	352	⇑iPKPdf	PKPdf	11 05 08.4	-1.1
	comp=Z,62nm,2.4s,SNR=9.7						
MOA	Molln	148.24	352	ePKPbc	PKPbc	11 05 12.7	-0.1
ECH	Echery	148.26	1	ePKP2	PKPbc	11 05 12.7	-0.2
ECH				MLR	MLR		
	comp=Z,752nm,21.0s						
ECH	Echery	148.26	1	PKP	PKPbc	11 05 12.0	-0.9
ECH	Echery	148.26	1	ePKPbc	PKPbc	11 05 12.7	-0.2
ECH				LR	LR		
	comp=Z,752nm,21.0s						
ANTO	Ankara	148.28	322	⇓PKP2	PKPbc	11 05 13.8	+0.5
ANTO	Ankara	148.28	322	⇓iP	PKPbc	11 05 13.8	+0.5
ANTO	Ankara	148.28	322	ePKPbc	PKPbc	11 05 14.2	+0.9
ANTO				LR	LR		
	comp=Z,323nm,21.0s						
RJOB	Jochberg	148.52	354	ePKPbc	PKPbc	11 05 13.2	-0.4
FELD	Feldberg im Sc	148.62	0	PKP	PKPdf	11 05 10.9	+0.6
PKS2	Kecel	148.62	345	⇓e	PKPab	11 05 15.7	-1.6
MOF	Molkenrain	148.63	1	PKP	PKPbc	11 05 14.3	+0.4
ARSA	Arzberg	148.64	350	⇑iPKPdf	PKPdf	11 05 10.2	0.0
	comp=Z,40nm,1.7s,SNR=11						
PRD	Provadia	148.66	332	iP	PKPbc	11 05 15.5	+1.5
PKS9	Tamasi	148.75	346	⇓ePKPdf	PKPdf	11 05 12.0	+1.7
BZS	Buzias	148.76	342	⇑PKIKP	PKPdf	11 05 10.1	-0.3
BZS	Buzias	148.76	342	⇑iP	PKPdf	11 05 10.1	-0.3
RETA	Reutte	148.93	357	⇑iPKPdf	PKPdf	11 05 11.4	+0.7
	comp=Z,60nm,1.8s,SNR=12						
PKSM	Moragy	149.02	346	⇓PKIKP	PKPdf	11 05 10.4	-0.4
PKSM	Moragy	149.02	346	⇓iP	PKPdf	11 05 10.4	-0.4
PKSM	Moragy	149.02	346	⇓ePKPdf	PKPdf	11 05 10.2	-0.6
OBER	Oberstdorf	149.03	357	ePKPbc	PKPbc	11 05 15.0	0.0
WTTA	Wattenberg	149.09	355	⇑ipPKPdf	PKPdf	11 05 11.9	+0.8
	comp=Z,63nm,1.8s,SNR=11						
KBA	Koelnbreinsper	149.11	353	⇑iPKPdf	PKPdf	11 05 11.0	-0.2
	comp=Z,42nm,2.1s,SNR=7.9						
KBA	Koelnbreinsper	149.11	353	ePKPbc	PKPbc	11 05 15.1	-0.2
LOMF	Lomont	149.12	2	PKP	PKPbc	11 05 14.6	-0.6
DAVA	Damuels	149.17	358	⇑iPKPdf	PKPdf	11 05 11.2	-0.1
	comp=Z,75nm,2.0s,SNR=11						
DAVA	Damuels	149.17	358	ePKPbc	PKPbc	11 05 15.5	+0.1
BEHE	Becsehely	149.17	348	⇓e	PKPbc	11 05 15.3	+0.1
SZH	Strazhica	149.24	334	iP	PKPbc	11 05 16.5	+1.0
SOKA	Soboth	149.28	351	⇓iPKPdf	PKPdf	11 05 10.5	-0.8
	comp=Z,50nm,2.0s,SNR=9.9						
PERS	Pernice	149.30	351	ePKPdf	PKPdf	11 05 10.6	-0.8
PERS				ePKPbc	PKPbc	11 05 15.2	-0.5
FETA	Feichten	149.40	357	⇓ipPKPdf	PKPdf	11 05 13.2	+1.6
	comp=Z,44nm,1.4s,SNR=7.7						
SACV	Santiago Islan	149.41	88	PFAKE		11 05 20.0	-1.5
SACV				LR	LR		
	comp=Z,462nm,19.0s						
MYKA	Terra Mystica	149.52	353	⇑iPKPdf	PKPdf	11 05 12.1	+0.5
	comp=Z,45nm,1.8s,SNR=11						
ABTA	Abfaltersbach	149.53	354	⇓iPKPdf	PKPdf	11 05 10.7	-1.0
	comp=Z,74nm,2.0s,SNR=8.9						
JMB	Yambol	149.60	332	P	PKPbc	11 05 17.8	+1.4
JMB	Yambol	149.60	332	PKP2	PKPbc	11 05 17.8	+1.4
JMB	Yambol	149.60	332	P	PKPbc	11 05 17.8	+1.4
DAVOX	Davos/Dischmat	149.68	358	PKPbc	PKPbc	11 05 17.4	+0.7
DAVOX	Davos/Dischmat	149.68	358	PKPbc	PKPbc	11 05 17.4	+0.7
	comp=Z,7.9nm,0.7s,baz=25,slow=3.7,SNR=15						
LJU	Ljubljana	149.97	351	ePKPdf	PKPdf	11 05 12.3	0.0
LJU				ePKPbc	PKPbc	11 05 17.2	-0.1
TUE	Stuetta	150.00	358	ePKPdf	PKPdf	11 05 12.4	-0.3
TUE				ePKPbc	PKPbc	11 05 17.2	-0.3
TUE				LR	LR		
	comp=Z,788nm,20.0s						
MPEP	Malo Peshtene	150.03	337	iP	PKPbc	11 05 19.1	+1.6
VOY	Vojsko	150.07	352	ePKPdf	PKPdf	11 05 12.8	+0.2
VOY				e		11 05 17.7	
OG01	Vacheresse	150.14	2	PKP	PKPbc	11 05 19.1	+1.4
AGO	Saint Agoulin	150.14	7	PKP	PKPbc	11 05 18.4	+0.7
PLDF	La Plantade	150.28	6	PKP	PKPbc	11 05 18.4	+0.3
MMAI	Mount Meron Ar	150.35	309	PKPbc	PKPbc	11 05 19.7	+1.1
MMAI				PKPab	PKPab	11 05 26.4	+1.5
MMAI	Mount Meron Ar	150.35	309	PKPbc	PKPbc	11 05 19.7	+1.1
	comp=Z,18nm,0.9s,baz=46,slow=3.6,SNR=6.1						
MMAI				PKPab	PKPab	11 05 26.4	+1.5
	comp=Z,13nm,0.9s,baz=96,slow=3.7,SNR=4.1						
BOJS	Bojanci	150.38	350	ePKPdf	PKPdf	11 05 13.2	+0.2
BOJS				ePKPbc	PKPbc	11 05 18.6	+0.4
PYM	Petit Puy Mans	150.43	7	PKP	PKPbc	11 05 17.6	-0.8
PGB	Panagyurishte	150.55	335	iP	PKPbc	11 05 20.0	+1.2
DIVS	Divibare	150.62	342	P	PKPbc	11 05 19.3	+0.3
KDZ	Kurdzhali	150.78	333	iP	PKPbc	11 05 20.2	+0.9
RSL	Roselend	150.78	2	PKP	PKPbc	11 05 20.4	+1.0
CSS	Prodhromos	150.87	314	P	PKPdf	11 05 14.6	+0.5
CSS	Prodhromos	150.87	314	ePKPdf	PKPdf	11 05 14.7	+0.6
CSS				ePKPbc	PKiKP	11 05 20.1	-0.3
CSS				LR	LR		
	comp=Z,375nm,22.0s						
PGAV	Gavieira, Arco	150.88	26	ePKPbc	PKPbc	11 05 20.0	+0.3
PGAV	Gavieira, Arco	150.88	26	eLR	LR	12 02 14.8	
	comp=Z,715nm,20.0s						
VTS	Vitosha	150.89	337	P	PKPdf	11 05 14.6	+0.5
VTS	Vitosha	150.89	337	⇓PKIKP	PKPbc	11 05 19.9	+0.2
VTS	Vitosha	150.89	337	⇓iP	PKPbc	11 05 19.9	+0.2
VTS	Vitosha	150.89	337	iP	PKPbc	11 05 20.3	+0.6
VTS	Vitosha	150.89	337	P	PKPdf	11 05 14.6	+0.5
ISP	Isparta	150.96	322	⇓PKIKP	PKPbc	11 05 19.1	-0.9
ISP	Isparta	150.96	322	⇓iP	PKPbc	11 05 19.1	-0.9
ISP	Isparta	150.96	322	ePKPdf	PKPdf	11 05 13.8	-0.5
ISP				ePKPbc	PKiKP	11 05 20.5	-0.1
ISP				LR	LR		
	comp=Z,353nm,19.0s						
LBL	Lubilhac	150.97	7	PKP	PKPbc	11 05 20.2	+0.5
SSB	Saint Sauveur	151.05	5	ePKIKP	PKPbc	11 05 20.0	+0.1
SSB				MLR	MLR		
	comp=Z,786nm,21.0s						
SSB	Saint Sauveur	151.05	5	ePKPbc	PKPbc	11 05 20.0	+0.1
SSB				LR	LR		
	comp=Z,786nm,21.0s						
BNI	Bardonecchia	151.41	2	ePKIKP	PKPbc	11 05 20.5	-0.4
BNI				e		11 05 29.2	
BNI				MLR	MLR		
	comp=Z,1μm,19.0s						
BNI	Bardonecchia	151.41	2	ePKPbc	PKPbc	11 05 20.5	-0.4
BNI				ePKPab	PKPab	11 05 29.1	+0.2
BNI				LR	LR		
	comp=Z,1μm,19.0s						
MMB	Musomiste	151.54	335	iP	PKPbc	11 05 21.0	-0.1
KKB	Krupnik	151.56	336	iP	PKPbc	11 05 21.9	+0.8
POLO	Lamas de Olo	151.57	26	ePKPbc	PKPbc	11 05 22.9	+1.6
NVR	Nevrokopi	151.68	335	P	PKPdf	11 05 15.5	+0.3
NVR	Nevrokopi	151.68	335	P	PKPdf	11 05 15.5	+0.3
KAVA	Kavala	151.70	333	P	PKPbc	11 05 21.4	0.0
KAVA	Kavala	151.70	333	P	PKPbc	11 05 21.4	0.0
PMOZ	Porto Moniz, M	151.86	50	eLR	LR	11 56 55.2	
	comp=Z,623nm,18.0s						
MBAR	Mbarara	152.03	235	PKPbc	PKPdf	11 05 19.5	+2.8
MBAR				LR	LR		
	comp=Z,671nm,20.0s						
MBAR	Mbarara	152.03	235	PKPbc	PKPdf	11 05 19.5	+2.8
	comp=Z,19nm,1.0s,baz=120,slow=6.4,SNR=18						
MVO	Moncorvo	152.06	25	ePKPdf	PKPdf	11 05 16.4	+0.6
MVO	Moncorvo	152.06	25	ePKPbc	PKPbc	11 05 22.9	+0.5
MVO	Moncorvo	152.06	25	ePKPab	PKPab	11 05 32.2	+0.5
MVO	Moncorvo	152.06	25	eLR	LR	12 02 46.1	
	comp=Z,483nm,20.0s						
SKO	Skopje	152.07	339	ePKP	PKPbc	11 05 23.6	+1.3
EIL	Elat	152.11	303	PKPbc	PKPbc	11 05 23.9	+1.1
EIL	Elat	152.11	303	PKPbc	PKPbc	11 05 23.9	+1.1
	comp=Z,16nm,0.8s,baz=82,slow=18,SNR=2.8						
VAY	Valandovo	152.22	336	ePKP	PKPbc	11 05 23.2	+0.6
VLC	Villacollemand	152.27	357	PFAKE		11 05 30.0	-2.4
VLC				LR	LR		
	comp=Z,639nm,21.0s						
LARF	Larrau	152.33	15	PKP	PKPdf	11 05 18.1	+2.0
PCAS	Casmilo, Conde	152.34	28	ePKPab	PKPab	11 05 33.3	+0.4
REYF	Montagne du Re	152.44	14	PKP	PKPdf	11 05 17.8	+1.5
MTE	Manteigas	152.48	27	ePKPab	PKPab	11 05 33.2	-0.3
MTE	Manteigas	152.48	27	eLR	LR	12 01 24.5	
	comp=Z,789nm,20.0s						
MTE	Manteigas	152.48	27	PFAKE		11 05 30.0	-3.5
MTE				LR	LR		
	comp=Z,901nm,21.0s						
GRG	Griva	152.60	336	P	PKPdf	11 05 16.5	-0.1
GRG	Griva	152.60	336	PKIKP	PKPdf	11 05 16.5	-0.1
GRG	Griva	152.60	336	P	PKPdf	11 05 16.5	-0.1
PTOM	Tomar	152.73	29	ePKPab	PKPab	11 05 34.9	+0.4
BIA	Bitola	152.95	338	ePKP	PKPbc	11 05 24.8	+0.5
FNA	Florina	153.14	337	P	PKPdf	11 05 17.2	-0.2
FNA	Florina	153.14	337	PKIKP	PKPdf	11 05 17.2	-0.2
FNA	Florina	153.14	337	P	PKPdf	11 05 17.2	-0.2
TIR	Tirane	153.16	340	PKIKP	PKPdf	11 05 17.7	+0.4
TIR				MLR	MLR		
	comp=Z,1μm,22.0s						
TIR	Tirane	153.16	340	PKPdf	PKPdf	11 05 17.7	+0.4
TIR				LR	LR		
	comp=Z,1μm,22.0s						
PMTG	Montargil	153.26	29	ePKPdf	PKPdf	11 05 17.6	+0.1
PMTG	Montargil	153.26	29	ePKPbc	PKPbc	11 05 26.3	+1.3
PMTG	Montargil	153.26	29	ePKPab	PKPab	11 05 35.3	-1.4
PMRV	Marv??o	153.35	28	ePKPdf	PKPdf	11 05 15.9	-1.8
PMRV	Marv??o	153.35	28	ePKPab	PKPab	11 05 36.6	-0.5
PMRV	Marv??o	153.35	28	eLR	LR	12 00 25.9	
	comp=Z,704nm,20.0s						
PESTR	Estremoz	153.71	29	ePKPab	PKPab	11 05 38.5	-0.2
EVO	Evora	153.78	30	ePKPab	PKPab	11 05 38.9	-0.1
AGG	Agios Georgios	154.27	334	P	PKPdf	11 05 17.0	-2.0
AGG	Agios Georgios	154.27	334	PKIKP	PKPdf	11 05 17.0	-2.0
AGG	Agios Georgios	154.27	334	P	PKPdf	11 05 17.0	-2.0
PAB	San Pablo	154.49	23	PFAKE		11 05 30.0	+2.2
PAB				LR	LR		
	comp=Z,1μm,20.0s						
ESDC	Sonseca Array	154.52	22	PKPbc	PKPbc	11 05 29.0	+1.2
ESDC				PKPab	PKPab	11 05 42.4	+0.3
ESDC	Sonseca Array	154.52	22	PKPbc	PKPbc	11 05 29.0	+1.2
	comp=Z,0.1nm,0.3s,baz=326,slow=2.7,SNR=5.3						
ESDC				PKPab	PKPab	11 05 42.4	+0.3
	comp=Z,2.5nm,0.8s,baz=324,slow=3.8,SNR=9.2						
PBAR	Barrancos	154.53	29	ePKPab	PKPab	11 05 39.1	-3.0
EVR	Evrytania	154.58	335	P	PKPdf	11 05 20.5	+1.0
EVR	Evrytania	154.58	335	P	PKPdf	11 05 20.5	+1.0
IGT	Igoumenitsa	154.62	338	P	PKPdf	11 05 20.0	+0.6
IGT	Igoumenitsa	154.62	338	PKIKP	PKPdf	11 05 20.0	+0.6
IGT	Igoumenitsa	154.62	338	P	PKPdf	11 05 20.0	+0.6
SANT	Santorini	154.86	326	PFAKE		11 05 30.0	+1.4
SANT				LR	LR		
	comp=Z,321nm,20.0s						
CUC	Castrocucco	155.57	346	PFAKE		11 05 30.0	+9.2
CUC				LR	LR		
	comp=Z,502nm,20.0s						
VSL	Villasalto	156.97	358	PFAKE		11 05 30.0	+7.4
VSL				LR	LR		
	comp=Z,916nm,19.0s						
RTC	Rabat Centre	157.89	35	PFAKE		11 05 40.0	+16
RTC				LR	LR		
	comp=Z,613nm,19.0s						
KEST	Kesra	160.72	357	PKPab	PKPab	11 06 06.5	-2.4
KEST	Kesra	160.72	357	PKPab	PKPab	11 06 06.6	-2.4
	comp=Z,1.8nm,0.9s,baz=346,slow=4.2,SNR=2.4						
LIC	Lamto	163.60	127	ePKP2	PKPab	11 06 21.7	-0.5
	comp=Z,31nm,1.0s						
TIC	Toumodi	163.87	125	ePKP2	PKPab	11 06 23.0	-0.4
	comp=Z,7.1nm,0.2s						
KIC	Kosan Boka	163.91	127	ePKP2	PKPab	11 06 22.9	-0.7
	comp=Z,149nm,1.7s						
DBIC	Dimbokro	164.01	126	PKP	PKPdf	11 05 31.4	+0.4
DBIC				PKPab	PKPab	11 06 24.5	+0.5
DBIC	Dimbokro	164.01	126	PKP	PKPdf	11 05 31.4	+0.4
	comp=Z,8.1nm,1.1s,baz=315,slow=1.4,SNR=3.3						
DBIC				PKPab	PKPab	11 06 24.5	+0.5
	comp=Z,7.4nm,0.8s,baz=212,slow=5.4,SNR=5.5						
TOA0	Torodi Ar. Sit	172.97	117	ePKPdf	PKPdf	11 05 35.9	-1.0
TORD	Torodi Ar. Bea	172.97	117	PKP	PKPdf	11 05 35.5	-1.4
TORD				PKPab	PKPab	11 07 03.5	-0.1
TORD				PP	PP	11 10 53.4	-1.8
TORD	Torodi Ar. Bea	172.97	117	PKP	PKPdf	11 05 35.5	-1.4
	comp=Z,4.3nm,0.9s,baz=258,slow=1.3,SNR=23						
TORD				PKPab	PKPab	11 07 03.5	-0.1
	comp=Z,7.9nm,1.1s,baz=252,slow=3.2,SNR=11						
TORD				PP	PP	11 10 53.4	-1.8
	comp=Z,4.1nm,1.4s,baz=254,slow=1.6,SNR=7.0						
TAM	Tamanrasset	173.18	21	ePKIKP	PKPdf	11 05 37.3	+0.3
TAM				e		11 07 04.2	
TAM				MLR	MLR		
	comp=Z,1μm,19.0s						
TAM	Tamanrasset	173.18	21	ePKPdf	PKPdf	11 05 37.3	+0.3
TAM				ePKPab	PKPab	11 07 04.2	-0.1
TAM				LR	LR		
	comp=Z,1μm,19.0s						

*ISCJB **17** 10:53:55.9±0.4,35.54N±0.03×51.50E±0.02,h12km±4km, Error ellipse: s-maj=4.6km s-min=3.1km az=176.1*
*TEH **17** 10:53:56.5,35.56N×51.50E,h12km,ML4.0*
*THR **17** 10:53:56.7±2.2,35.47N×51.57E,h15km±12km,ML3.9*
*CSEM **17** 10:53:57.1±0.2,35.57N×51.50E,h20km,ML4.0,Error ellipse: s-maj=5.1km s-min=3.6km az=3.0*

ISC 17 10:53:56.4±1.0,35.57N±0.02×51.49E±0.02,h12km±9km, n57,σ0962/72,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
IAFJ	Afjeh	0.34	33	e		Sb	10 54 09.4	-0.7
	comp=Z,14μm,0.0s							
IAFJ				ePg	Pg		10 54 03.7	+0.2
IAFJ				eSg	Sg		10 54 08.9	+0.7
IR3	Iran Long-Peri	0.39	256	ePg	Pb		10 54 04.9	-0.3
IR3	Iran Long-Peri	0.39	256	ePg	Pb		10 54 04.9	-0.3
DAMV	Damavand	0.40	81	ePg	Pg		10 54 04.3	-0.2
DAMV				eSg	Sg		10 54 10.1	+0.1
DAMV				AML	AML		10 54 10.5	
	comp=N,11μm,0.2s							
DAMV	Damavand	0.40	81	ePg	Pg		10 54 04.3	-0.2
DAMV				eSg	Sg		10 54 10.1	+0.1
IDMV	Damavand	0.45	89	eSg	Sg		10 54 11.7	+0.3
IDMV				ePg	Pg		10 54 05.2	-0.1
IDMV				e			10 54 14.3	
	comp=Z,77μm,0.1s							
CHTH	Charan	0.45	319	ePg	Pn		10 54 08.7	-0.2
CHTH				AML	AML		10 54 15.9	
	comp=N,6μm,0.1s							
CHTH	Charan	0.45	319	ePg	Pn		10 54 08.7	-0.2
IVRN	Varamin	0.61	161	eSg	Sg		10 54 16.6	+0.3
IVRN				ePg	Pg		10 54 08.2	-0.1
IVRN				e			10 54 20.1	
	comp=Z,92μm,0.1s							
IMHD	Mahdasht	0.68	280	eSg	Sb		10 54 19.2	-0.3
IMHD				ePg	Pg		10 54 09.7	+0.1
IMHD				e			10 54 21.6	
	comp=Z,78μm,0.1s							
IR5	Iran Long-Peri	0.82	245	ePg	Pg		10 54 12.0	-0.3
IR5				eSg	Sb		10 54 23.9	+0.2
IR5	Iran Long-Peri	0.82	245	ePg	Pg		10 54 12.0	-0.3
IR5				eSg	Sb		10 54 23.9	+0.2
IFIR	Firoozkooh	1.04	86	ePg	Pb		10 54 15.6	-0.8
IFIR				eSg	Sb		10 54 29.4	-0.7
IFIR				e			10 54 30.6	
	comp=Z,56μm,0.1s							
IFIR	Firoozkooh	1.04	86	ePg	Pb		10 54 15.6	-0.8
IFIR				eSg	Sb		10 54 29.4	-0.7
GHVR	GHOM	1.10	188	ePg	Pb		10 54 17.0	-0.3
GHVR				AML	AML		10 54 37.0	
	comp=E,2μm,0.3s							
GHVR	GHOM	1.10	188	ePg	Pb		10 54 17.0	-0.3
ILAS	Lasjerd	1.22	98	ePg	Pn		10 54 18.9	-0.5
ILAS				e			10 54 37.9	
	comp=Z,25μm,0.0s							
ILAS	Lasjerd	1.22	98	ePg	Pn		10 54 18.9	-0.5
IRAZ	Razeghan	1.28	263	ePn	Pn		10 54 19.8	-0.5
IRAZ				eSg	Sn		10 54 37.7	+0.2
IRAZ				e			10 54 39.9	
	comp=Z,42μm,0.1s							
I

KBSD				*eS*		**Sn**	**10 59 15.1**	**-0.9**	
	comp=Z,2µm,0.5s,SNR=40								
MARD	**Mardin**	**2.61**	**310**	*i* P		**Pn**	**10 58 44.5**	**-0.2**	
MARD				*eS*		**Sb**	**10 59 19.7**	**-1.6**	
GEVA	**Gevas**	**2.64**	**356**	*i* P		**Pn**	**10 58 45.8**	**+0.6**	
GEVA				*eS*		**Sn**	**10 59 18.8**	**+1.2**	
GEVA	**Gevas**	**2.64**	**356**	*i* P		**Pn**	**10 58 45.8**	**+0.6**	
GEVA				*eS*		**Sn**	**10 59 18.8**	**+1.2**	
SFNV	**Sufian**	**2.68**	**287**	*eP*		**Pn**	**10 58 45.1**	**-0.6**	
SFNV				*eS*		**Sb**	**10 59 23.2**	**-0.4**	
SFNV				AML	AML		10 59 44.7		
	comp=Z,2µm,0.6s								
SFNV	**Sufian**	**2.68**	**287**	*eP*		**Pn**	**10 58 45.1**	**-0.6**	
	SNR=45								
SFNV				*eS*		**Sb**	**10 59 23.2**	**-0.4**	
	comp=Z,2µm,0.6s,SNR=40								
IDHR	**Dehrash**	**2.71**	**110**	*eSg*		**Sn**	**10 59 19.3**	**-0.1**	
IDHR				*e*			10 59 29.0		
	comp=Z,9µm,0.2s								
BEST	**Besiri**	**2.75**	**324**	*i* P		**Pb**	**10 58 49.7**	**-1.8**	
BEST				*i* S		**Sb**	**10 59 25.1**	**-0.3**	
BTMT	**Batman**	**2.90**	**331**	*ePN*		**Pn**	**10 58 51.1**	**+2.4**	
BTMT	**Batman**	**2.90**	**331**	*ePN*		**Pn**	**10 58 51.1**	**+2.4**	
MAZI	**Mazidag**	**2.90**	**309**	*ePN*		**Pn**	**10 58 51.6**	**+2.9**	
MAZI	**Mazidag**	**2.90**	**309**	*ePN*		**Pn**	**10 58 51.6**	**+2.9**	
IGHG	**Ghaleghazi**	**3.00**	**116**	*ePn*		**Pn**	**10 58 50.0**	**-0.2**	
IGHG				*e*			10 59 55.1		
	comp=Z,8µm,0.4s								
IGHG	**Ghaleghazi**	**3.00**	**116**	*ePn*		**Pn**	**10 58 50.0**	**-0.2**	
ILIN	**Lien**	**3.09**	**103**	*ePn*		**Pn**	**10 58 49.9**	**-1.6**	
ILIN				*eSg*		**Sn**	**10 59 28.4**	**-0.4**	
ILIN				*e*			10 59 33.1		
	comp=Z,4µm,0.2s								
ILIN	**Lien**	**3.09**	**103**	*ePn*		**Pn**	**10 58 49.9**	**-1.6**	
IVIS	**Veis**	**3.13**	**110**	*ePn*		**Pn**	**10 58 51.1**	**-0.8**	
IVIS				*e*			10 59 44.3		
	comp=Z,3µm,0.2s								
IVIS	**Veis**	**3.13**	**110**	*ePn*		**Pn**	**10 58 51.1**	**-0.8**	
DIY	**Diyarbakir**	**3.31**	**313**	*ePN*		**Pb**	**10 59 00.6**	**-0.6**	
IBDR	**Badra**	**3.36**	**139**	*ePn*		Pn	10 58 48.0	-6.9	
DIYA	**Diyarbakir**	**3.40**	**312**	*i* P		**Pb**	**10 59 01.4**	**-1.2**	
DIYA				*i* S		**Sb**	**10 59 44.8**	**+0.7**	
CLDR	**Caldiran**	**3.50**	**8**	*ePN*		**Pn**	**10 58 59.3**	**+2.2**	
CLDR	**Caldiran**	**3.50**	**8**	*ePn*		**Pn**	**10 58 59.3**	**+2.2**	
RTB	**Rutbah**	**3.61**	**224**	*i* Pg		**Pb**	**10 59 08.1**	**+1.9**	
RTB	**Rutbah**	**3.61**	**224**	*i* Pg		**Pb**	**10 59 08.1**	**+1.9**	
	SNR=90								
IKOM	**Komasi**	**3.77**	**112**	*ePn*		**Pn**	**10 59 00.0**	**-0.7**	
IKOM				*e*			11 00 26.6		
	comp=Z,4µm,0.3s								
IKOM	**Komasi**	**3.77**	**112**	*ePn*		**Pn**	**10 59 00.0**	**-0.7**	
BINT	**Bingol**	**3.90**	**326**	*ePn*		**Pn**	**10 59 04.0**	**+1.5**	
AGRB	**Hanur-Agry**	**3.91**	**357**	*ePn*		**Pn**	**10 59 04.0**	**+1.4**	
AGRB	**Hanur-Agry**	**3.91**	**357**	*ePn*		**Pn**	**10 59 04.0**	**+1.4**	
BNGB	**Bing¶ll**	**3.91**	**329**	*ePN*		**Pn**	**10 59 04.0**	**+1.3**	
JHLN	**Al Jahlan**	**3.95**	**271**	*eP*		**Pn**	**10 59 05.4**	**+2.4**	
JHLN				*eS*		**Sb**	**10 59 57.1**	**-2.9**	
JHLN				AML	AML		11 00 16.6		
	comp=Z,725nm,0.5s								
JHLN	**Al Jahlan**	**3.95**	**271**	*eP*		**Pn**	**10 59 05.4**	**+2.4**	
	SNR=45								
PTK	**Pertek**	**4.47**	**317**	*ePN*		**Pn**	**10 59 12.7**	**+2.3**	
PTK	**Pertek**	**4.47**	**317**	*ePN*		**Pn**	**10 59 12.7**	**+2.3**	
EZM	**Erzurum**	**4.50**	**341**	*ePN*		**Pn**	**10 59 12.4**	**+1.6**	
GNI	**Garni**	**4.62**	**14**	*ePN*		**Pn**	**10 59 15.0**	**+2.7**	
GNI	**Garni**	**4.62**	**14**	*ePn*		**Pn**	**10 59 15.0**	**+2.7**	
GNI	**Garni**	**4.62**	**14**	Pn		Pn	10 59 16.3	+4.0	
	comp=Z,0.9nm,0.3s,baz=171,slow=13,SNR=1.7								
GNI				Pg		**Pb**	**10 59 26.4**	**+3.0**	
	comp=Z,1.3nm,0.3s,baz=235,slow=3.8,SNR=7.1								
GNI				Lg		Lg	11 00 37.2		
	comp=Z,1.3nm,0.3s,baz=316,slow=22,SNR=6.4								
GNI				LR		LR	11 01 35.0		
	comp=Z,137nm,18.9s,baz=183,slow=46								
ERZN	**Erzincan**	**4.83**	**325**	*ePN*		Pn	10 59 20.5	+5.3	
EZC	**Erzincan**	**5.13**	**324**	*ePN*		Pn	10 59 25.1	+5.7	
EZC	**Erzincan**	**5.13**	**324**	*ePn*		**Pn**	**10 59 20.5**	**+1.1**	
NSR	**Nassriya**	**5.22**	**152**	*i* Pn		Pn	10 59 14.2	-6.3	
NSR	**Nassriya**	**5.22**	**152**	*i* Pn		Pn	10 59 14.2	-6.3	
	SNR=39								
KMRS	**Kahramanmaras**	**5.46**	**291**	*ePN*		Pb	10 59 33.5	-4.2	
DARE	**Darende-Malaty**	**5.47**	**304**	*ePN*		Pb	10 59 32.5	-5.5	
GUMT	**Gumushane**	**5.65**	**329**	*ePN*		Pn	10 59 32.0	+5.5	
HTY	**Hatay**	**5.83**	**277**	*ePN*		Pb	10 59 40.1	-3.8	
HWQ	**Hawqa**	**6.19**	**259**	*eP*		**Pn**	**10 59 33.1**	**-0.8**	
HWQ	**Hawqa**	**6.19**	**259**	*eP*		**Pn**	**10 59 33.1**	**-0.8**	
CEYT	**Ceyhan**	**6.23**	**285**	*ePN*		Pb	10 59 45.0	-5.9	
ESPY	**Espiye-Giresun**	**6.35**	**327**	*ePN*		Pn	10 59 42.0	+6.0	
ASF	**Jabal al Asfar**	**6.36**	**239**	Pn		**Pn**	**10 59 36.9**	**+0.7**	
	comp=Z,0.9nm,0.3s,baz=348,slow=12,SNR=4.8								
ASF				Lg		Lg	11 01 12.0		
	comp=Z,1.8nm,0.3s,baz=278,slow=15,SNR=3.1								
ASF				LR		LR	11 02 26.7		
	comp=Z,347nm,19.1s,baz=179,slow=42								
BHL	**Bhannes**	**6.53**	**257**	*eP*		Pg	11 00 15.2	+8.1	
BNN	**Bunyan**	**6.73**	**300**	*ePN*		Pn	10 59 49.5	+8.1	
RST	**Umm Al-Ruwaisa**	**6.90**	**152**	*eP*		**Pn**	**10 59 41.1**	**-2.5**	
RST	**Umm Al-Ruwaisa**	**6.90**	**152**	*eP*		**Pn**	**10 59 41.1**	**-2.5**	
MMAI	**Mount Meron Ar**	**7.04**	**250**	Pn		**Pn**	**10 59 46.4**	**+0.8**	
	comp=Z,3.0nm,0.3s,baz=67,slow=16,SNR=7.1								
MMAI				Lg		Lg	11 01 45.2		
	comp=Z,9.3nm,0.3s,baz=98,slow=37,SNR=7.6								
MMAI				LR		LR	11 02 49.6		
	comp=Z,249nm,18.9s,baz=100,slow=41								
NAY	**Al-Naaiem**	**7.22**	**151**	*eP*		**Pn**	**10 59 45.9**	**-2.1**	
NAY				AML	AML		11 01 05.9		
	comp=Z,9.9nm,0.5s								
NAY	**Al-Naaiem**	**7.22**	**151**	*eP*		**Pn**	**10 59 45.9**	**-2.1**	
IKLH	**Kolahrood**	**7.23**	**107**	*ePn*		**Pn**	**10 59 46.1**	**-2.3**	
IKLH				*e*			11 01 18.7		
	comp=N,416nm,0.2s								
IKLH	**Kolahrood**	**7.23**	**107**	*ePn*		**Pn**	**10 59 46.1**	**-2.3**	
KBD	**Kabd**	**7.47**	**149**	*eP*		**Pn**	**10 59 49.1**	**-2.2**	
KBD				AML	AML		11 01 12.7		
	comp=Z,12nm,0.3s								
KBD	**Kabd**	**7.47**	**149**	*eP*		**Pn**	**10 59 49.1**	**-2.2**	
RDF	**Al-Radifah**	**7.63**	**151**	*eP*		**Pn**	**10 59 51.6**	**-2.0**	
RDF				AML	AML		11 01 14.3		
	comp=Z,12nm,0.6s								
RDF	**Al-Radifah**	**7.63**	**151**	*eP*		**Pn**	**10 59 51.6**	**-2.0**	
IGAR	**Gharneh**	**7.96**	**112**	*ePn*		**Pn**	**10 59 55.8**	**-2.5**	
IZEF	**Zefreh**	**7.97**	**108**	*ePn*		**Pn**	**10 59 56.4**	**-2.2**	
IZEF	**Zefreh**	**7.97**	**108**	*ePn*		**Pn**	**10 59 56.4**	**-2.2**	
KBZ	**Khabaz**	**8.05**	**358**	Pn		**Pn**	**11 00 02.1**	**+2.8**	
	comp=Z,0.1nm,0.3s,baz=180,slow=15,SNR=3.2								
KBZ				LR		LR	11 03 49.7		
	comp=Z,305nm,18.1s,baz=178,slow=43								
BRTR	**Keskin Array B**	**8.65**	**301**	Pn		**Pn**	**11 00 10.3**	**+2.6**	
	comp=Z,0.2nm,0.3s,baz=119,slow=15,SNR=5.9								
BRTR				Sn		Sn	11 01 34.1	-12	
	comp=Z,0.1nm,0.3s,baz=129,slow=21,SNR=4.3								
EIL	**Elat**	**9.23**	**232**	Lg		Lg	11 02 55.4		
	comp=Z,2.5nm,0.3s,baz=359,slow=14,SNR=8.9								
EIL				LR		LR	11 04 18.4		
	comp=Z,278nm,19.6s,baz=90,slow=41								
MLR	**Muntele Rosu**	**16.40**	**312**	Pn		**Pn**	**11 01 53.1**	**+0.4**	
	comp=Z,0.0nm,0.3s,baz=22,slow=22,SNR=2.1								
AKASG	**Malin Array Be**	**18.14**	**330**	P		**Pn**	**11 02 14.0**	**-0.3**	
	comp=Z,0.6nm,0.3s,baz=137,slow=12,SNR=20								
AKTO	**Aktyubinsk**	**18.21**	**31**	P		**Pn**	**11 02 13.8**	**-1.3**	
	comp=Z,0.3nm,0.3s,baz=244,slow=8.5,SNR=4.5								
GERES	**GERESS Array B**	**25.37**	**310**	P		**P**	**11 03 30.2**	**+0.5**	
	comp=Z,4.2nm,0.8s,baz=114,slow=9.3,SNR=29								
BVAR	**Borovoye Array**	**25.77**	**39**	P		**P**	**11 03 32.8**	**-0.5**	
	comp=Z,1.0nm,0.6s,baz=246,slow=7.4,SNR=5.1								
HFS	**Hagfors**	**31.02**	**331**	P		**P**	**11 04 20.4**	**+0.4**	
	comp=Z,3.8nm,0.8s,baz=143,slow=12,SNR=3.6								
ILAR	**Eielson Array**	**79.57**	**4**	P		**P**	**11 10 10.1**	**+0.9**	
	comp=Z,0.2nm,0.8s,baz=328,slow=5.9,SNR=4.8								

IDC 17 11:08:00.2±8.1, 13°.02S×166°.54E, h33km±61km, mb4.0/12, mb1 4.1/13, mb1mx4.0/21, mbtmp3.9/13, ML3.9/1, Error ellipse: s-maj=30.7km s-min=22.4km az=112.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.00**	**181**	Pn		Pn	11 10 08.9	+0.8
	1.2nm,0.3s,baz=0.0,slow=20,SNR=24							
DZM				Sn		Sn	11 11 47.6	-0.9
	baz=132,slow=22,SNR=2.6							
STKA	**Stephens Creek**	**29.60**	**227**	P		P	11 14 03.8	+1.3
	0.9nm,0.3s,baz=51,slow=6.5,SNR=2.8							
STKA				PcP		PcP	11 17 06.2	-0.6
	2.1nm,0.5s,baz=45,slow=1.4,SNR=4.1							
WRA	**Warramunga Arr**	**31.59**	**253**	P		P	11 14 18.9	-1.4
	0.4nm,0.6s,baz=82,slow=8.5,SNR=4.6							
WRA				PcP		PcP	11 17 12.3	0.0
	0.6nm,1.0s,baz=186,slow=32,SNR=3.9							
ASAR	**Alice Springs**	**32.66**	**246**	P		P	11 14 28.5	-1.1
	2.1nm,0.7s,baz=73,slow=9.8,SNR=31							
ASAR				PcP		PcP	11 17 14.1	-1.1
	0.9nm,1.0s,baz=90,slow=2.9,SNR=5.0							
MJAR	**Matsushiro Arr**	**56.07**	**333**	P		P	11 17 35.2	-1.0
	1.6nm,0.7s,baz=166,slow=7.4,SNR=4.4							
KSRS	**Korea Array**	**61.94**	**326**	P		P	11 18 18.3	+1.5
	2.1nm,1.0s,baz=55,slow=31,SNR=3.5							
USRK	**Ussuriysk Arra**	**65.05**	**333**	P		P	11 18 38.2	+0.9
	3.0nm,0.7s,baz=150,slow=9.3,SNR=4.7							
CMAR	**Chiang Mai Arr**	**73.61**	**294**	P		P	11 19 31.2	+0.4
	0.7nm,0.4s,baz=123,slow=5.1,SNR=7.3							
ILAR	**Eielson Array**	**85.13**	**18**	P		P	11 20 31.1	-1.5
	1.1nm,0.6s,baz=243,slow=5.0,SNR=17							
NVAR	**Mina Array Bea**	**86.70**	**50**	P		P	11 20 42.3	+1.0
	0.4nm,0.6s,baz=234,slow=5.1,SNR=4.6							
MKAR	**Makanchi Array**	**95.48**	**317**	P		P	11 21 21.9	0.0
	2.2nm,0.8s,baz=105,slow=5.4,SNR=14							
ZALV	**Zalesovo Beam**	**95.60**	**324**	P		P	11 21 20.7	-1.5
	0.8nm,0.6s,baz=101,slow=3.0,SNR=4.2							
KURBB	**Kurchatov Arra**	**98.69**	**320**	P		P	11 21 35.3	-0.8
	0.3nm,0.6s,baz=94,slow=3.7,SNR=4.1							
TORD	**Torodi Ar. Bea**	**165.24**	**272**	PKPab		PKPab	11 29 00.1	+0.3
	0.9nm,0.8s,baz=78,slow=4.6,SNR=5.3							

IDC 17 11:33:28.3±4.4, 16°.86S×177°.71W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.9/18, mbtmp4.0/4, Error ellipse: s-maj=197.0km s-min=32.9km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**39.72**	**240**	P		P	11 41 02.8	+0.1
	1.3nm,0.6s,baz=44,slow=8.8,SNR=4.0							
WRA	**Warramunga Arr**	**45.48**	**258**	P		P	11 41 49.7	0.0
	1.3nm,0.6s,baz=95,slow=8.9,SNR=46							
ASAR	**Alice Springs**	**45.72**	**253**	P		P	11 41 51.1	-0.5
	1.8nm,0.5s,baz=81,slow=8.1,SNR=4.2							
ILAR	**Eielson Array**	**84.73**	**13**	P		P	11 46 03.8	-0.1
	0.2nm,0.4s,baz=219,slow=4.5,SNR=8.1							

IDC 17 12:01:48.8±5.3, 36°.39N×70°.40E, h170km±55km, mb3.3/5, mb1 3.3/7, mb1mx3.0/28, mbtmp3.2/7, MS3.6/1, Ms1 3.6/1, ms1mx3.0/30, Error ellipse: s-maj=63.0km s-min=38.1km az=119.0
ISCJB 17 12:01:53.0±1.3, 36°.8N±0°.1×70°.3E±0°.1, h204km, mb3.4/4, Error ellipse: s-maj=18.5km s-min=9.8km az=140.6
NNC 17 12:01:56.5±8.0, 36°.99N×70°.41E, h210km±104km, mb2.6, mpv3.7, Error ellipse: s-maj=78.6km s-min=39.8km az=9.0

ISC 17 12:01:53.7±1.7, 36°.7N±0°.2×70°.4E±0°.1, h204km, n17, σ1=96/19, mb3.5/4, 3C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AML	**Almayashu**	**5.96**	**24**	P		**Pn**	**12 03 20.8**	**+0.1**
	SNR=50							
KK31	**Karatay Array**	**6.35**	**1**	⇓P		**Pn**	**12 03 25.7**	**+0.2**
	0.7nm,0.2s,baz=181,slow=14,SNR=58							
KK31				⇑S		**S**	**12 04 36.4**	**-1.7**
	1.8nm,0.5s,baz=184,slow=21,SNR=5.1							
EKS2	**Erkin-Say**	**6.46**	**23**	P		**Pn**	**12 03 27.4**	**+0.4**
	SNR=5.2							
KZA	**Kyzart**	**6.52**	**34**	P		**Pn**	**12 03 28.0**	**-0.1**
	SNR=7.4							
AAK	**Ala-Archa**	**6.68**	**27**	P		**Pn**	**12 03 30.3**	**+0.4**
	SNR=5.3							
AAK	**Ala-Archa**	**6.68**	**27**	P		**Pn**	**12 03 30.1**	**+0.2**
	1.6nm,0.3s,baz=173,slow=6.2,SNR=13							
AAK				S		**S**	**12 04 46.1**	**+0.1**
	0.5nm,0.3s,baz=332,slow=21,SNR=13							
TKM2	**Tokmak 2**	**7.36**	**31**	⇓P		**Pn**	**12 03 38.2**	**-0.5**
	6.3nm,0.5s							
TKM2				⇑S		**S**	**12 05 00.2**	**-1.9**
	1.8nm,0.8s							
TKM2	**Tokmak 2**	**7.36**	**31**	P		**Pn**	**12 03 38.9**	**+0.2**
	SNR=5.1							
MKAR	**Makanchi Array**	**13.39**	**38**	P		**Pn**	**12 04 56.5**	**+0.8**
	0.2nm,0.3s,baz=217,slow=12,SNR=8.1							
AB31	**Akbulak array**	**14.63**	**332**	⇑P		**P**	**12 05 13.5**	**+1.5**
	0.9nm,0.7s,baz=165,slow=12,SNR=11							
AKTO	**Aktyubinsk**	**16.32**	**331**	⇓P		**P**	**12 05 29.3**	**-1.4**
	0.8nm,0.5s							
ZALV	**Zalesovo Beam**	**19.90**	**26**	P		**P**	**12 06 10.0**	**+0.6**
	0.8nm,0.3s,baz=214,slow=11,SNR=5.7							
GNI	**Garni**	**20.35**	**287**	LR		LR	12 15 50.0	
	comp=Z,189nm,20.2s,baz=339,slow=41							
FINES	**FINESS Array B**	**37.00**	**326**	P		**P**	**12 08 44.3**	**+1.0**
	2.1nm,0.9s,baz=108,slow=8.9,SNR=3.8							
ARCES	**ARCESS Array B**	**40.73**	**338**	P		**P**	**12 09 15.1**	**+1.0**
	2.5nm,0.9s,baz=110,slow=7.8,SNR=5.8							
NOA	**NORSAR Array B**	**43.89**	**323**	P		**P**	**12 09 40.3**	**+0.6**
	1.1nm,0.9s,baz=94,slow=7.6,SNR=3.1							
TORD	**Torodi Ar. Bea**	**65.23**	**268**	P		**P**	**12 12 11.8**	**-1.8**
	0.2nm,0.5s,baz=45,slow=6.0,SNR=3.6							

IDC 17 12:09:09.3±5.3, 12°.82S×166°.16E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/18, mbtmp3.4/3, Error ellipse: s-maj=262.2km s-min=35.9km az=141.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.30**	**253**	P		P	12 15 31.7	+0.3
	0.4nm,0.6s,baz=84,slow=9.3,SNR=4.5							
ASAR	**Alice Springs**	**32.40**	**246**	P		P	12 15 40.8	-0.4
	0.3nm,0.7s,baz=72,slow=9.5,SNR=4.6							
ILAR	**Eielson Array**	**85.06**	**18**	P		P	12 21 46.5	0.0
	0.3nm,0.7s,baz=232,slow=5.6,SNR=4.0							

TIF 17 12:17:51.3, 42°.58N×43°.47E, h12km
DDA 17 12:17:51.6, 42°.39N×43°.45E, h3km, MD3.3
CSEM 17 12:17:52.1±0.2, 42°.53N×43°.49E, h2km, mb4.1, Error ellipse: s-maj=5.0km s-min=2.8km az=119.0
MOS 17 12:17:52.4±1.2, 42°.58N×43°.48E, h9km, mb4.1/1, Error ellipse: s-maj=0.1km s-min=0.0km az=30.4
AZER 17 12:17:59.8±99.0, 42°.27N×43°.89E, h8km±86km, Error ellipse: s-maj=746.3km s-min=21.3km az=300.0

ISC 17 12:17:52.0±0.8, 42°.53N±0°.02×43°.45E±0°.02, h7km±5km, n74, σ0=92/118, 5C-10D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ONI	**Oni**	**0.06**	**3**	*i* PG		**Pg**	**12 17 53.8**	**0.0**
ONI	**Oni**	**0.06**	**3**	P		**Pg**	**12 17 53.8**	**0.0**
ONI				S		**Sg**	**12 17 55.4**	**+0.2**
ONI	**Oni**	**0.06**	**3**	*i* Pg		**Pg**	**12 17 53.8**	**0.0**
DIGR	**Digorskoe uzhe**	**0.39**	**15**	⇓*i* PG		**Pg**	**12 17 58.7**	**-0.9**
DIGR				*i* S		**Sg**	**12 18 04.0**	**-0.7**
DIGR	**Digorskoe uzhe**	**0.39**	**15**	*i* Pg		**Pg**	**12 17 58.7**	**-0.9**
DIGR				*i* Sg		**Sg**	**12 18 04.0**	**-0.7**
ZEI	**Tsey**	**0.42**	**52**	*d i* PG		**Pg**	**12 17 59.7**	**-0.6**
ZEI	**Tsey**	**0.42**	**52**	*i* Pg		**Pg**	**12 17 59.7**	**-0.6**
LACR	**Lac**	**0.69**	**64**	⇓*i* PG		**Pg**	**12 18 04.7**	**-0.7**
LACR				*i* S		**Sg**	**12 18 14.1**	**-0.4**
LACR	**Lac**	**0.69**	**64**	*i* Pg		**Pg**	**12 18 04.7**	**-0.7**
LACR				*i* Sg		**Sg**	**12 18 14.1**	**-0.4**
KORR	**Kora**	**0.72**	**39**	*c i* PG		**Pg**	**12 18 05.5**	**-0.4**
KORR	**Kora**	**0.72**	**39**	*i* Pg		**Pg**	**12 18 05.5**	**-0.4**
GUDG	**Gudauri**	**0.76**	**94**	P		**Pg**	**12 18 06.2**	**-0.5**
GUDG				S		**Sb**	**12 18 17.3**	**-1.2**
LSNR	**Lesken**	**0.80**	**20**	⇓*i* PG		**Pg**	**12 18 06.9**	**-0.5**
LSNR				*eS*		**Sg**	**12 18 17.5**	**-0.3**
LSNR	**Lesken**	**0.80**	**20**	*i* Pg		**Pg**	**12 18 06.9**	**-0.5**
LSNR				*eSg*		**Sg**	**12 18 17.5**	**-0.3**
ARNR	**Ardon**	**0.90**	**43**	⇑*i* PG		**Pb**	**12 18 09.5**	**-0.4**
ARNR				*eS*		**Sb**	**12 18 21.6**	**-0.5**
ARNR	**Ardon**	**0.90**	**43**	*i* Pg		**Pb**	**12 18 09.5**	**-0.4**
ARNR				*eSg*		**Sb**	**12 18 21.6**	**-0.5**
STDR	**Stavd-Durt**	**0.95**	**28**	⇓*i* PG		**Pb**	**12 18 11.1**	**+0.2**
STDR				*eS*		**Sb**	**12 18 24.0**	**+0.2**
STDR	**Stavd-Durt**	**0.95**	**28**	*i* Pg		**Pb**	**12 18 11.1**	**+0.2**
STDR				*eSg*		**Sb**	**12 18 24.0**	**+0.2**
NCK	**Nalchik**	**0.97**	**6**	*i* PG		**Pg**	**12 18 10.5**	**-0.2**
NCK	**Nalchik**	**0.97**	**6**	*i* Pg		**Pg**	**12 18 10.5**	**-0.2**
VLKR	**Vladikavkaz**	**1.04**	**60**	*e*PG		**Pg**	**12 18 11.8**	**-0.3**
VLKR				*eS*		**Sb**	**12 18 25.9**	**-0.5**
VLKR	**Vladikavkaz**	**1.04**	**60**	*e*Pg		**Pg**	**12 18 11.8**	**-0.3**
VLKR				*eSg*		**Sb**	**12 18 25.9**	**-0.5**
AKH	**Akhalkalaki**	**1.12**	**178**	*i* PG		**Pb**	**12 18 13.4**	**-0.4**
AKH	**Akhalkalaki**	**1.12**	**178**	P		**Pb**	**12 18 13.4**	**-0.4**
AKH				S		**Sb**	**12 18 29.6**	**+1.1**
AKH	**Akhalkalaki**	**1.12**	**178**	*i* Pg		**Pb**	**12 18 13.4**	**-0.4**
SNJR	**Sundja**	**1.14**	**61**	*e*PG		**Pb**	**12 18 13.7**	**-0.4**
SNJR				*eS*		**Sb**	**12 18 29.0**	**-0.2**
SNJR	**Sundja**	**1.14**	**61**	*e*Pg		**Pb**	**12 18 13.7**	**-0.4**
SNJR				*eSg*		**Sb**	**12 18 29.0**	**-0.2**
EPOS	**Posof**	**1.16**	**208**	*i* P		Pg	12 18 07.4	-6.8
EPOS				*i* S		**Sg**	**12 18 24.1**	**-5.1**
BTKR	**Batakoyurt**	**1.17**	**43**	⇓*i* PG		**Pg**	**12 18 13.3**	**-1.1**
BTKR				*eS*		**Sg**	**12 18 29.0**	**-0.5**
BTKR	**Batakoyurt**	**1.17**	**43**	*i* Pg		**Pg**	**12 18 13.3**	**-1.1**
BTKR				*eSg*		**Sg**	**12 18 29.0**	**-0.5**
TBLG	**Delisi**	**1.25**	**129**	*e*PG		**Pg**	**12 18 15.5**	**-0.4**
TBLG	**Delisi**	**1.25**	**129**	P		**Pg**	**12 18 15.6**	**-0.4**
TBLG				S		**Sn**	**12 18 33.5**	**+0.6**
TBLG	**Delisi**	**1.25**	**129**	*e*Pg		**Pg**	**12 18 15.5**	**-0.4**
KZR	**Kazreti**	**1.35**	**147**	P		**Pn**	**12 18 17.1**	**-0.3**
KZR				S		**Sn**	**12 18 35.6**	**0.0**
PRTR	**Priterechnaya**	**1.37**	**26**	*e*PG		**Pg**	**12 18 17.7**	**-0.6**
PRTR				*eS*		**Sb**	**12 18 35.8**	**+0.2**
PRTR	**Priterechnaya**	**1.37**	**26**	*e*Pg		**Pg**	**12 18 17.7**	**-0.6**
PRTR				*eSg*		**Sb**	**12 18 35.8**	**+0.2**
TRKR	**Terskaya**	**1.52**	**38**	*e*PG		**Pb**	**12 18 20.0**	**-0.6**
TRKR				*eS*		**Sb**	**12 18 40.1**	**+0.1**
TRKR	**Terskaya**	**1.52**	**38**	*e*Pg		**Pb**	**12 18 20.0**	**-0.6**
TRKR				*eSg*		**Sb**	**12 18 40.1**	**+0.1**
KIV	**Kislovodsk**	**1.53**	**339**	⇓*i* PG		**Pb**	**12 18 20.4**	**-0.4**
KIV				*i* S		**Sn**	**12 18 38.8**	**-1.3**
KIV				pmax	pmax			
	comp=Z,145nm,1.1s							
KIV	**Kislovodsk**	**1.53**	**339**	*i* Pg		**Pb**	**12 18 20.4**	**-0.4**
	comp=Z,145nm,1.1s							
KIV				*i* Sg		**Sn**	**12 18 38.8**	**-1.3**
ARTV	**Artvin**	**1.76**	**221**	*i* P		**Pn**	**12 18 23.8**	**+0.7**
ARTV				*i* S		**Sb**	**12 18 47.7**	**+0.7**
ARTV	**Artvin**	**1.76**	**221**	*i* P		**Pn**	**12 18 23.8

STKA	**Stephens Creek**	**37.90**	**244**	P	**P**	**12 58 05.7**	**+0.3**
	baz=37,SNR=7.2						
STKA	**Stephens Creek**	**37.90**	**244**	P	**P**	**12 58 05.5**	**0.0**
	1.8nm,0.5s,baz=86,slow=8.7,SNR=8.9						
ASAR	**Alice Springs**	**44.60**	**257**	P	**P**	**12 58 58.1**	**-0.6**
	7.0nm,0.8s,baz=91,slow=7.7,SNR=114						
ASAR				PcP	**PcP**	**13 00 30.4**	**+0.1**
	0.8nm,0.6s,baz=106,slow=3.8,SNR=7.6						
WRA	**Warramunga Arr**	**44.67**	**262**	P	**P**	**12 58 58.2**	**-1.1**
	2.9nm,0.5s,baz=97,slow=8.6,SNR=7.1						
WRA				PcP	**PcP**	**13 00 30.5**	**0.0**
	0.9nm,1.0s,baz=107,slow=2.5,SNR=2.7						
KDU	**Kakadu**	**47.99**	**271**	P	**P**	**12 59 23.9**	**-0.6**
	baz=46,SNR=3.4						
MTN	**Manton Dam**	**49.21**	**270**	P	**P**	**12 59 32.7**	**-0.8**
	baz=47,SNR=3.4						
KNRA	**Kununurra**	**50.72**	**266**	P	**P**	**12 59 44.1**	**-0.5**
	baz=49,SNR=5.0						
FITZ	**Fitzroy Crossi**	**53.09**	**262**	P	**P**	**13 00 01.5**	**-0.2**
	baz=51,SNR=6.4						
FITZ	**Fitzroy Crossi**	**53.09**	**262**	P	**P**	**13 00 01.3**	**-0.4**
	1.3nm,0.5s,baz=60,slow=4.5,SNR=13						
ILAR	**Eielson Array**	**88.15**	**13**	P	**P**	**13 03 26.8**	**-0.4**
	0.2nm,0.4s,baz=210,slow=5.2,SNR=3.6						
PDAR	**Pinedale Array**	**88.82**	**43**	P	**P**	**13 03 32.6**	**+1.5**
	0.3nm,0.5s,baz=212,slow=3.9,SNR=3.9						
CMAR	**Chiang Mai Arr**	**90.11**	**290**	P	**P**	**13 03 38.0**	**+0.7**
	0.3nm,0.3s,baz=107,slow=4.9,SNR=3.8						
AKASG	**Malin Array Be**	**142.90**	**331**	PKP	**PKPdf**	**13 10 03.4**	**-3.0**
	0.2nm,0.4s,baz=42,slow=3.9,SNR=11						
BRTR	**Keskin Array B**	**146.77**	**313**	PKPbc	**PKPdf**	**13 10 14.0**	**+0.5**
	0.9nm,0.6s,baz=140,slow=4.4,SNR=5.0						
GERES	**GERESS Array B**	**150.06**	**344**	PKPbc	**PKPbc**	**13 10 24.3**	**+0.1**
	0.2nm,0.2s,baz=31,slow=3.1,SNR=5.0						

IDC 17 13:03:46.6±4.9, 13°35S×77°01W, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.8/19, mbtmp3.9/6, ML4.1/1, MS3.3/1, Ms1 3.3/1, ms1mx3.0/19, Error ellipse: s-maj=202.5km s-min=27.7km az=31.0, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**9.07**	**110**	Pn	Pn	13 06 00.0	+0.3
	0.9nm,0.3s,baz=293,slow=12,SNR=17						
ROSC	**El Rosal**	**18.28**	**9**	LR	LR	13 14 31.7	
	comp=Z,105nm,20.1s,baz=208,slow=35						
TXAR	**Lajitas Array**	**49.63**	**329**	P	P	13 12 40.6	+0.4
	0.4nm,0.7s,baz=133,slow=10.0,SNR=3.7						
ANMO	**Albuquerque**	**55.56**	**331**	P	P	13 13 25.4	+1.2
	0.8nm,0.6s,baz=114,slow=12,SNR=3.7						
NVAR	**Mina Array Bea**	**64.38**	**325**	P	P	13 14 24.4	-0.5
	0.6nm,0.7s,baz=146,slow=6.6,SNR=6.8						
ULM	**Lac du Bonnet**	**65.46**	**347**	P	P	13 14 30.3	-0.9
	2.8nm,0.8s,baz=152,slow=16,SNR=3.0						
TORD	**Torodi Ar. Bea**	**82.31**	**75**	P	P	13 16 10.9	+0.1
	0.3nm,0.5s,baz=255,slow=4.3,SNR=5.2						
SONM	**Songino Array**	**145.50**	**356**	PKPbc	PKPbc	13 23 25.4	-1.6
	1.2nm,0.5s,baz=354,slow=2.9,SNR=3.2						

IDC 17 13:12:35.4±1.5, 2°39N×126°85E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.7/21, mbtmp3.5/5, Error ellipse: s-maj=107.6km s-min=23.0km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.39**	**183**	P	Pn	13 17 15.5	-0.5
	1.2nm,0.9s,baz=7.8,slow=11,SNR=1.8						
WRA	**Warramunga Arr**	**23.38**	**162**	P	P	13 17 45.8	-0.1
	0.6nm,0.4s,baz=338,slow=11,SNR=16						
ASAR	**Alice Springs**	**26.79**	**166**	P	P	13 18 17.1	-0.3
	0.2nm,0.3s,baz=344,slow=7.3,SNR=16						
ASAR				PcP	PcP	13 21 39.9	-0.8
	0.3nm,0.7s,baz=342,slow=2.1,SNR=4.6						
STKA	**Stephens Creek**	**36.84**	**159**	P	P	13 19 45.3	-0.2
	1.1nm,0.6s,baz=345,slow=9.5,SNR=6.6						
MKAR	**Makanchi Array**	**58.72**	**326**	P	P	13 22 35.2	+0.1
	0.2nm,0.4s,baz=115,slow=7.6,SNR=6.0						

*IDC **17** 13:18:36.1±0.4, 13°.15S×166°.58E, h0km, mb4.8/23, mb1 4.9/25, mb1mx4.8/26, mbtmp4.8/25, ML3.4/1, MS5.0/19, Ms1 5.0/19, ms1mx4.9/25, Error ellipse: s-maj=9.2km s-min=8.9km az=42.0*

*NEIC **17** 13:18:40.4±0.3, 13°.02S×166°.42E, h35km, mb5.3/50, Error ellipse: s-maj=9.1km s-min=6.7km az=144.0*

*MOS **17** 13:18:40.3±1.4, 12°.99S×166°.28E, h33km, mb5.6/27, MS5.1/8, Error ellipse: s-maj=9.7km s-min=8.2km az=40.5*

*ISCJB **17** 13:18:43.0±0.2, 13°.11S±0°.04×166°.53E±0°.03, h65km, mb5.3/100, Error ellipse: s-maj=5.6km s-min=4.1km az=141.7*

*GCMT **17** 13:18:44.7±0.1, 13°.08S×166°.22E, h26km, MW5.6, Moment Tensor Solution. s108,c204; s99,c216; Moment tensor: Scale 10¹⁷Nm; Mrr2.61±.04; Mθθ-0.14±.03; Mϕϕ-2.48±.03; Mrθ0.99±.07; Mrϕ0.99±.03; Mθϕ-0.97±.07; Best double couple: Mo3.10000×10¹⁷ NP1:ϕs148.00000°, δ58.00000°, λ77.00000°. NP2: ϕs352.00000°, δ34.00000°, λ110.00000°. Principal axes: T 3.0100, Plg73.0000°, Azm25.0000°; N 0.1000, Plg11.0000°, Azm155.0000°; P -3.1200, Plg13.0000°, Azm248.0000°; Data Used: II IU IC G CN. Surface waves from 110 sta.*

*DJA **17** 13:18:45.9±1.3, 13°.5S±6°×16°.6E±°, h47km±13km, M5.0/16, mB5.6/11, mb5.0/16, Mw(mB)5.1/11*

*BJI **17** 13:18:47.7, 12°.52S×165°.90E, h63km, mB5.6/43, mb5.4/52, Ms5.2/51, Ms7 4.9/51*

*AUST **17** 13:18:47.2±1.1, 13°.03S×166°.34E, h74km±14km, Error ellipse: s-maj=10.6km s-min=8.3km az=46.0*

ISC 17 13:18:44.8±0.3, 13°06S±0°.03×166°40E±0°.04, h63km±2km, h63km:pP-P, n354, σ1s96/422, mb5.2/100, 27C-16D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.29**	**299**	Pn	**Pn**	**13 20 26.7**	**-2.0**
HNR				Sn	**Sn**	**13 21 45.0**	**-5.0**
HNR	**Honiara**	**7.29**	**299**	Pn	**Pn**	**13 20 26.7**	**-2.0**
	68nm,0.3s,baz=106,slow=17,SNR=29						
HNR				Sn	**Sn**	**13 21 45.0**	**-5.0**
	28nm,0.3s,baz=248,slow=19,SNR=2.9						
HNR				LR	LR	13 22 43.4	
	comp=Z,6μm,19.6s,baz=130,slow=33						
DZM	**Mont Dzumac**	**8.96**	**180**	*e*Pn	**Pn**	**13 20 49.8**	**-1.8**
	576nm,0.8s						
DZM				*e*LR	LR	13 22 55.6	
	13μm,23.9s						
DZM	**Mont Dzumac**	**8.96**	**180**	Pn	**Pn**	**13 20 49.5**	**-2.1**
DZM				Sn	**Sn**	**13 22 27.9**	**-3.2**
DZM	**Mont Dzumac**	**8.96**	**180**	Pn	**Pn**	**13 20 49.5**	**-2.1**
	2.7nm,0.3s,baz=3.9,slow=23,SNR=79						
DZM				Sn	**Sn**	**13 22 27.9**	**-3.2**
	baz=41,slow=20,SNR=1.9						
MSVF	**Nonsavu**	**12.15**	**114**	*e*P	**Pn**	**13 21 38.0**	**+2.7**
MSVF	**Nonsavu**	**12.15**	**114**	*e*Pn	**Pn**	**13 21 38.0**	**+2.7**
MSVF	**Nonsavu**	**12.15**	**114**	Pn	Pn	13 21 38.9	+3.6
	1μm,1.5s,SNR=15						
TARA	**Tarawa**	**15.72**	**25**	*e*Pn	**Pn**	**13 22 21.3**	**-1.1**
	378nm,1.2s						
EIDS	**Eidsvold**	**18.93**	**227**	*e*Pn	**P**	**13 23 00.2**	**-0.4**
	86nm,1.3s						
EIDS	**Eidsvold**	**18.93**	**227**	⇓P	**Pn**	**13 23 03.1**	**+1.2**
	baz=19,SNR=4.8						
PMG	**Port Moresby**	**19.22**	**279**	P	**Pn**	**13 23 05.4**	**0.0**
	95nm,1.2s,2μm						
PMG	**Port Moresby**	**19.22**	**279**	*e*Pn	**P**	**13 23 01.5**	**-2.4**
	196nm,1.5s						
PMG				S	**Sn**	**13 26 43.7**	**+3.3**
PMG	**Port Moresby**	**19.22**	**279**	P	**Pn**	**13 23 04.6**	**-0.8**
	0.3nm,0.3s,baz=125,slow=4.0,SNR=7.0						
PMG				S	**Sn**	**13 26 43.7**	**+3.3**
	0.3nm,0.3s,baz=73,slow=19,SNR=2.1						
CTA	**Charters Tower**	**20.52**	**247**	P	**P**	**13 23 18.1**	**0.0**
CTA				S	Sn	13 27 09.9	-1.9
CTA	**Charters Tower**	**20.52**	**247**	⇑P	**P**	**13 23 18.9**	**+0.8**
	baz=20						
CTA	**Charters Tower**	**20.52**	**247**	P	**P**	**13 23 18.1**	**0.0**
	14nm,1.0s,baz=52,slow=12,SNR=6.7						
CTA				S	Sn	13 27 09.9	-1.9
	3.7nm,0.9s,baz=301,slow=19,SNR=2.8						
CTA				LR	LR	13 30 18.8	
	comp=Z,6μm,20.2s,baz=66,slow=34						
CTAO	**Charters Tower**	**20.52**	**247**	*e*P	**P**	**13 23 16.8**	**-1.3**
CTAO				pmax	pmax		
	comp=Z,125nm,1.5s						
CTAO	**Charters Tower**	**20.52**	**247**	*e*Pn	**P**	**13 23 16.8**	**-1.3**
	comp=Z,125nm,1.5s						
AFI	**Afiamalu**	**21.24**	**95**	P	**P**	**13 23 21.9**	**-4.0**
AFI	**Afiamalu**	**21.24**	**95**	P	**P**	**13 23 21.9**	**-4.0**
	comp=Z,15nm,0.7s,baz=285,slow=16,SNR=1.9						
AFI				S	Sn	13 27 28.7	-0.5
	comp=Z,15nm,0.7s,baz=198,slow=19,SNR=1.8						
RMQ	**Roma**	**21.27**	**228**	⇓P	**P**	**13 23 27.5**	**+1.4**
	baz=21,SNR=27						
PATS	**Pohnpei**	**21.34**	**337**	⇑P	**P**	**13 23 27.3**	**+0.5**
	baz=21,SNR=30						
MANU	**Manus Island**	**21.79**	**299**	⇑P	**P**	**13 23 33.1**	**+1.4**
	baz=22						
MTSU	**Mount Surprise**	**21.85**	**254**	⇑P	**P**	**13 23 33.1**	**+0.8**
	baz=22,SNR=14						
ARMA	**Armidale**	**22.01**	**216**	*e*P	**P**	**13 23 33.1**	**-1.0**
	comp=Z,77nm,1.1s						
ARMA	**Armidale**	**22.01**	**216**	⇑P	**P**	**13 23 37.1**	**+3.0**
	baz=22,SNR=5.3						
COEN	**Coen**	**22.60**	**265**	*e*P	**P**	**13 23 37.2**	**-3.2**
	comp=Z,2μm,1.9s						
COEN	**Coen**	**22.60**	**265**	⇑P	**P**	**13 23 40.7**	**+0.2**
	baz=22,SNR=5.8						
KNTN	**Kanton**	**23.94**	**67**	*e*P	**P**	**13 23 50.0**	**-3.3**
	comp=Z,683nm,1.9s						
MGCD	**Mangrove Creek**	**24.43**	**212**	⇓P	**P**	**13 24 01.1**	**+3.5**
	baz=24,SNR=5.5						
QLP	**Quilpie**	**24.76**	**234**	P	**P**	**13 24 01.5**	**+0.9**
	baz=25,SNR=8.7						
CMSA	**Cobar Meteorol**	**26.47**	**223**	P	**P**	**13 24 18.6**	**+2.5**
	baz=26,SNR=8.7						
URZ	**Urewera**	**26.84**	**161**	P	**P**	**13 24 17.5**	**-1.9**
URZ				S	**S**	**13 28 54.1**	**+2.8**
URZ	**Urewera**	**26.84**	**161**	P	**P**	**13 24 17.5**	**-1.9**
	comp=Z,13nm,0.3s,baz=223,slow=4.3,SNR=30						
URZ				S	**S**	**13 28 54.1**	**+2.8**
	comp=Z,9.3nm,1.0s,baz=330,slow=14,SNR=2.0						
URZ				LR	LR	13 33 20.9	
	comp=Z,4μm,20.9s,baz=336,slow=33						
CNB	**Canberra Magne**	**26.98**	**212**	⇑P	**P**	**13 24 21.9**	**+1.2**
	baz=27						
STKA	**Stephens Creek**	**29.47**	**227**	*e*P	**P**	**13 24 42.2**	**-0.8**
	comp=Z,7.1nm,1.1s						
STKA				PcP	**PcP**	**13 27 48.4**	**+1.0**
STKA				S	S	13 29 39.4	+6.5
STKA	**Stephens Creek**	**29.47**	**227**	P	**P**	**13 24 44.3**	**+1.4**
	baz=30,SNR=7.8						
STKA	**Stephens Creek**	**29.47**	**227**	P	**P**	**13 24 43.3**	**+0.4**
	comp=Z,3.7nm,0.8s,baz=60,slow=9.5,SNR=9.7						
STKA				PcP	**PcP**	**13 27 48.4**	**+1.0**
	comp=Z,30nm,0.9s,baz=44,slow=3.6,SNR=12						
STKA				S	S	13 29 39.4	+6.5
	comp=Z,1.1nm,0.7s,baz=94,slow=16,SNR=1.7						
STKA				LR	LR	13 36 01.0	
	comp=Z,4μm,18.8s,baz=186,slow=35						
TOO	**Toolangi**	**30.72**	**214**	⇓P	**P**	**13 24 55.0**	**+1.1**
	baz=31,SNR=4.2						
RPZ	**Rata Peaks**	**30.81**	**173**	*e*P	**P**	**13 24 52.1**	**-2.5**
	comp=Z,31nm,0.8s						
RPZ				S	**S**	**13 29 54.6**	**+1.1**
RPZ	**Rata Peaks**	**30.81**	**173**	P	**P**	**13 24 52.7**	**-1.9**
	comp=Z,19nm,0.7s,baz=355,slow=11,SNR=8.7						
RPZ				S	**S**	**13 29 54.7**	**+1.1**
	comp=Z,8.5nm,0.8s,baz=21,slow=17,SNR=2.4						
WRAB	**Tennant Creek**	**31.44**	**253**	*e*P	**P**	**13 24 58.0**	**-2.5**
WRAB				pmax	pmax		
	comp=Z,12nm,1.0s						
WRAB	**Tennant Creek**	**31.44**	**253**	*e*P	**P**	**13 24 58.0**	**-2.5**
	comp=Z,12nm,1.0s						
WRA	**Warramunga Arr**	**31.45**	**253**	P	**P**	**13 25 00.5**	**-0.1**
WRA				PcP	**PcP**	**13 27 53.4**	**+0.7**
WRA				ScP	ScP	13 31 37.8	+7.2
WRA	**Warramunga Arr**	**31.45**	**253**	P	**P**	**13 25 00.5**	**-0.1**
	comp=Z,6.9nm,1.0s,baz=85,slow=8.9,SNR=17						
WRA				PcP	**PcP**	**13 27 53.4**	**+0.7**
	comp=Z,12nm,1.0s,baz=79,slow=2.5,SNR=10.0						
WRA				ScP	ScP	13 31 37.8	+7.2
	comp=Z,2.2nm,0.9s,baz=80,slow=4.0,SNR=5.2						
WRA				LR	LR	13 36 56.7	
	comp=Z,5μm,18.5s,baz=80,slow=35						
HTT	**Hallett**	**32.21**	**226**	⇑P	**P**	**13 25 09.0**	**+1.9**
	baz=32						
BAKI	**Biak**	**32.24**	**289**	P	pP	13 25 20.6	-2.4
AS06	**Alice Springs**	**32.45**	**246**	⇓P	**P**	**13 25 08.9**	**-0.5**
	baz=32						
AS01	**Alice Springs**	**32.48**	**246**	⇓P	**P**	**13 25 09.1**	**-0.5**
	baz=32						
AS09	**Alice Springs**	**32.49**	**246**	⇓P	**P**	**13 25 09.4**	**-0.3**
	baz=32						
AS31	**Alice Springs**	**32.52**	**246**	*e*P	**P**	**13 25 08.7**	**-1.3**
ASAR	**Alice Springs**	**32.52**	**246**	P	**P**	**13 25 09.3**	**-0.6**
ASAR				PcP	**PcP**	**13 27 56.2**	**+0.6**
ASAR				S	**S**	**13 30 20.3**	**-0.6**
ASAR				ScP	**ScP**	**13 31 41.2**	**+7.0**
ASAR	**Alice Springs**	**32.52**	**246**	P	**P**	**13 25 09.3**	**-0.6**
	comp=Z,6.7nm,0.7s,baz=73,slow=9.3,SNR=59						
ASAR				PcP	**PcP**	**13 27 56.2**	**+0.6**
	comp=Z,13nm,0.9s,baz=82,slow=3.1,SNR=16						
ASAR				S	**S**	**13 30 20.3**	**-0.6**
	comp=Z,0.2nm,0.8s,baz=99,slow=11,SNR=2.4						
ASAR				ScP	**ScP**	**13 31 41.2**	**+7.0**
	comp=Z,2.4nm,0.9s,baz=98,slow=3.3,SNR=8.5						
ASAR				LR	LR	13 38 14.4	
	comp=Z,6μm,18.0s,baz=72,slow=36						
AS13	**Alice Springs**	**32.52**	**246**	⇑P	**P**	**13 25 09.2**	**-0.8**
	baz=32						
BBOO	**Buckleboo**	**33.97**	**230**	⇓P	**P**	**13 25 23.7**	**+1.3**
	baz=34,SNR=7.9						
KNRA	**Kununurra**	**36.52**	**261**	⇑P	**P**	**13 25 45.7**	**+1.2**
	baz=36,SNR=5.9						
FITZ	**Fitzroy Crossi**	**39.52**	**257**	*e*P	**P**	**13 26 06.8**	**-3.0**
	comp=Z,50nm,1.6s						
FITZ				PcP	**PcP**	**13 28 17.2**	**+0.7**
FITZ				S	**S**	**13 32 08.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**39.52**	**257**	⇑P	**P**	**13 26 09.4**	**-0.4**
	baz=40,SNR=4.1						
FITZ	**Fitzroy Crossi**	**39.52**	**257**	P	**P**	**13 26 10.5**	**+0.7**
	comp=Z,12nm,1.2s,baz=95,slow=10,SNR=3.6						
FITZ				PcP	**PcP**	**13 28 17.2**	**+0.7**
	comp=Z,18nm,1.0s,baz=102,slow=3.9,SNR=4.9						
FITZ				S	**S**	**13 32 08.0**	**+0.1**
	comp=Z,1.6nm,0.9s,baz=90,slow=20,SNR=2.0						
BATI	**Baumata**	**41.92**	**269**	P	**P**	**13 26 30.8**	**+1.2**
BATI	**Baumata**	**41.92**	**269**	P	**P**	**13 26 30.8**	**+1.2**
	comp=Z,29nm,0.8s,baz=180,slow=8.1,SNR=3.5						
BATI				S	**S**	**13 32 47.0**	**+3.2**
	comp=Z,27nm,1.1s,baz=73,slow=11,SNR=2.2						
PPT	**Papeete**	**42.63**	**102**	LR	LR	13 39 50.8	
	comp=Z,771nm,20.0s,baz=268,slow=30						
PPT2	**Papeete2**	**42.63**	**102**	*e*S	S	13 33 01.2	+7.0
	comp=Z,2μm,26.5s						
PPT2				*e*LQ	LQ	13 36 36.9	
	comp=Z,6μm,27.5s						
PPT2				*e*LR	LR	13 38 26.6	
	comp=Z,2μm,23.0s,baz=268						
TBI	**Tubuai**	**43.01**	**110**	*e*S	S	13 33 07.3	+7.7
	comp=Z,1μm,27.2s						
TBI				*e*LQ	LQ	13 36 47.4	
	comp=Z,3μm,29.8s						
TBI				*e*LR	LR	13 38 38.1	
	comp=Z,2μm,24.0s,baz=285						
MEEK	**Meekatharra**	**46.67**	**246**	⇓P	**P**	**13 27 08.0**	**+0.5**
	baz=47,SNR=8.9						
KAPI	**Kapiri**	**46.69**	**275**	P	pP	13 27 23.0	-1.0
NWAO	**Narrogin (SRO)**	**48.90**	**238**	*e*P	**P**	**13 27 22.1**	**-2.5**
	comp=Z,25nm,0.9s						
BLDU	**Ballidu**	**48.91**	**241**	⇓P	**P**	**13 27 26.6**	**+1.9**
	baz=49						
MORW	**Morawa**	**49.25**	**243**	⇓P	**P**	**13 27 28.2**	**+0.8**
	baz=49,SNR=6.2						
MYLDM	**Lahad Datu**	**50.91**	**288**	P	**P**	**13 27 43.1**	**+3.0**
MYLDM	**Lahad Datu**	**50.91**	**288**	P	P	13 27 52.0	+12
MYLDM	**Lahad Datu**	**50.91**	**288**	*e*P	**P**	**13 27 37.9**	**-2.2**
	comp=Z,82nm,1.3s						
TSM	**Tawau**	**51.18**	**286**	P	P	13 27 36.8	-5.4
SDKM	**Sandakan**	**52.29**	**288**	P	P	13 27 44.3	-6.1
KDM	**Kudat**	**53.09**	**289**	P	P	13 27 51.0	-5.3
KKM	**Kota Kinabalu**	**53.34**	**288**	P	P	13 27 53.7	-4.6
KKM	**Kota Kinabalu**	**53.34**	**288**	*e*P	**P**	**13 27 55.5**	**-2.8**
	comp=Z,86nm,1.2s						
SBUM	**Sibu**	**55.93**	**282**	P	P	13 28 13.3	-3.6
SBUM	**Sibu**	**55.93**	**282**	P	**P**	**13 28 19.0**	**+2.1**
	comp=Z,16nm,1.8s,comp=Z,624nm						
SBUM	**Sibu**	**55.93**	**282**	*e*P	P	13 28 13.0	-3.9
	comp=Z,56nm,1.8s						
MAJO	**Matsushiro**	**56.05**	**333**	*e*P	**P**	**13 28 15.2**	**-2.2**
MAJO				pmax	pmax		
	comp=Z,131nm,1.2s						
MAJO	**Matsushiro**	**56.05**	**333**	*e*P	**P**	**13 28 15.2**	**-2.2**
	comp=Z,131nm,1.2s						
MAT	**Matsushiro**	**56.05**	**333**	P	**P**	**13 28 17.5**	**+0.1**
MAT				S	**S**	**13 35 55.6**	**-5.7**
RKT	**Rikitea**	**56.31**	**109**	*e*S	S	13 36 12.7	+7.4
	comp=Z,1μm,27.5s						
RKT				*e*SS	**SS**	**13 39 59.5**	**+6.5**
	comp=Z,626nm,28.0s						
RKT				*e*LQ	LQ	13 42 25.6	
	comp=Z,1μm,30.8s						
RKT				*e*LR	LR	13 44 47.2	
	comp=Z,1μm,25.5s						
DRV	**Dumont d'Urvil**	**56.38**	**192**	P	P	13 28 07.0	-12
DRV				S	**S**	**13 35 59.0**	**-5.8**
DRV				SS	SS	13 40 04.0	+12
DRV				L	L	13 42 00.0	
DRV				R		13 45 00.0	
JNU	**Nakatsue**	**57.08**	**324**	*e*P	**P**	**13 28 22.0**	**-2.8**
	comp=Z,149nm,2.0s						
JNU	**Nakatsue**	**57.08**	**324**	P	**P**	**13 28 25.7**	**+0.9**
	comp=Z,37nm,0.8s,baz=142,slow=4.0,SNR=15						
KSM	**Kuching**	**57.47**	**280**	P	**P**	**13 28 29.5**	**+1.6**
KSM	**Kuching**	**57.47**	**280**	P	**P**	**13 28 30.0**	**+2.1**
	comp=Z,36nm,1.2s,comp=Z,640nm						
KSM	**Kuching**	**57.47**	**280**	*e*P	P	13 28 24.2	-3.7
	comp=Z,48nm,1.2s						
KSM	**Kuching**	**57.47**	**280**	⇓P	**P**	**13 28 29.3**	**+1.4**
	baz=57						
YHNB	**Yeheng**	**57.77**	**310**	*e*P	P	13 28 26.2	-3.6
	comp=Z,42nm,1.0s						
YUK	**Yuzh-Kuril'sk**	**59.83**	**343**	*i* P	P	13 28 38.5	-5.1
YUK				*i* *PP	pP	13 28 56.7	-3.7
YUK				*i*		13 30 52.1	
YUK				*i* S	**S**	**13 36 46.0**	**-4.4**
YUK				*i* SS	**SS**	**13 40 49.4**	**+1.6**
YUK				pmax	pmax		
	comp=E,148nm,0.7s						
YUK				pmax	pmax		
	comp=N,142nm,0.7s						
YUK				pmax	pmax		
	comp=Z,455nm,1.3s						
QZH	**Quanzhou**	**60.01**	**309**	⇑*i*P	**P**	**13 28 44.0**	**-1.2**
QZH				S	**S**	**13 36 55.4**	**+2.1**
QZH				AMB	AMB		
	comp=Z,1μm,9.2s						
QZH				LR	LR		
	comp=Z,1μm,20.2s						
KUR	**Kuril'sk**	**60.40**	**345**	*e*P	**P**	**13 28 45.9**	**-1.6**
KUR				pmax	pmax		
	comp=Z,606nm,2.7s						
KUR				pmax	pmax		
	comp=N,22nm,0.8s						
KUR				pmax	pmax		
	comp=E,99nm,1.5s						
KUR				MLR	MLR		
	comp=N,2μm,18.0s						
KUR				MLR	MLR		
	comp=E,859nm,18.0s						
KUR				MLR	MLR		
	comp=Z,1μm,18.0s						
ASAJ	**Asahikawa**	**60.90**	**341**	*e*P	**P**	**13 28 48.6**	**-2.3**
	comp=Z,63nm,1.5s						
ASAJ	**Asahikawa**	**60.90**	**341**	P	**P**	**13 28 51.6**	**+0.6**
	comp=Z,30nm,0.8s,baz=200,slow=7.1,SNR=19						
SSE	**Sheshan**	**61.74**	**316**	*e*P	**P**	**13 28 55.1**	**-1.8**
SSE				pP	**pP**	**13 29 14.6**	**+0.8**
SSE				S	**S**	**13 37 13.3**	**-1.9**
SSE				AMB	AMB		
	comp=Z,37nm,0.7s						
SSE				AMB	AMB		
	comp=Z,220nm,3.9s						
SSE				LR	LR		
	comp=Z,440nm,18.2s						
SSE				LR	LR		
	comp=Z,450nm,18.2s						
SSE				LR	LR		
	comp=Z,680nm,17.8s						
KSRS	**Korea Array**	**61.90**	**326**	P	**P**	**13 28 58.9**	**+1.1**
	comp=Z,18nm,1.0s,baz=146,slow=6.6,SNR=27						
KSRS				PcP	**PcP**	**13 29 39.2**	**+1.1**
	comp=Z,14nm,1.0s,baz=142,slow=4.7,SNR=7.9						
KSRS				S	S	13 37 25.4	+8.5
	comp=Z,1.1nm,0.9s,baz=171,slow=16,SNR=2.8						
KSRS				LR	LR	13 55 11.9	
	comp=Z,352nm,19.2s,baz=150,slow=35						
KSAR	**Wonju Array Be**	**61.91**	**326**	P	**P**	**13 28 58.9**	**+1.0**
INCN	**Inchon**	**62.63**	**325**	*e*P	**P**	**13 29 00.8**	**-2.0**
	comp=Z,281nm,1.8s						
YSS	**Yuzh-Sakhalins**	**63.39**	**342**	*α i*P	**P**	**13 29 08.0**	**+0.4**
YSS				*e*		13 29 15.8	
YSS				*e*S	**S**	**13 37 38.0**	**+2.6**
YSS				*e*PS	**PnS**	**13 37 55.0**	**-5.4**
YSS				pmax	pmax		
	comp=Z,90nm,1.0s						
MYKOM	**Kota Tinggi**	**63.77**	**279**	P	**P**	**13 29 11.7**	**+0.9**
NJ2	**Nanjing**	**63.90**	**316**	*e*P	**P**	**13 29 11.9**	**+0.7**
NJ2				pP	**pP**	**13 29 28.3**	**+0.1**
NJ2				sP	**sP**	**13 29 34.1**	**-1.2**
NJ2				PP	**PP**	**13

comp=Z,751nm,21.4s,baz=173,slow=31
MDJ Mudanjiang 66.42 332 P **P** **13 29 28.1 +0.8**
MDJ pP **pP** **13 29 44.3 -0.1**
MDJ sP **sP** **13 29 51.3 -0.1**
MDJ AMB AMB
comp=Z,120nm,1.3s
MDJ AMB AMB
comp=Z,450nm,4.6s
MDJ LR LR
comp=Z,400nm,16.3s
MDJ LR LR
comp=Z,400nm,15.6s
MDJ LR LR
comp=Z,580nm,21.5s
IPM Ipoh 67.21 281 P **P** **13 29 33.3 +0.3**
IPM Ipoh 67.21 281 P **P** **13 29 34.4 +1.4**
comp=Z,37nm,1.3s,comp=Z,777nm
IPM Ipoh 67.21 281 *e*P P 13 29 29.5 -3.5
comp=Z,26nm,0.9s
HABR Khabarovsk 67.28 338 *ce*P **P** **13 29 32.9 +0.2**
HABR *e**PP **pP** **13 29 49.9 +0.1**
HABR *e* 13 29 59.0
HABR *e* 13 32 00.3
HABR PPP PPP 13 33 37.4
HABR *S* **S** **13 38 22.8 -0.1**
HABR *e* 13 38 43.3
HABR *e**SS **sS** **13 38 52.9 +1.1**
HABR *e* 13 39 22.5
HABR *e*SS **SS** **13 42 42.2 -1.8**
HABR pmax pmax
comp=Z,353nm,1.4s
HABR pmax pmax
comp=E,65nm,1.4s
HABR pmax pmax
comp=N,60nm,1.1s
HABR pmax pmax
comp=Z,867nm,2.5s
HABR MLR MLR
comp=Z,323nm,20.0s
TIA Tai'an 67.54 318 ⇑P **P** **13 29 35.5 +0.9**
TIA AMB AMB
comp=Z,430nm,4.9s
TIA LR LR
comp=Z,470nm,15.7s
TIA LR LR
comp=Z,470nm,18.1s
TIA LR LR
comp=Z,670nm,17.2s
CN2 Changchun 67.79 329 ⇑P **P** **13 29 37.3 +1.3**
CN2 AMB AMB
comp=Z,30nm,1.1s
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,500nm,16.0s
CN2 LR LR
comp=Z,500nm,16.0s
CN2 LR LR
comp=Z,400nm,18.0s
KULM Kulim 67.79 281 P **P** **13 29 34.2 -2.5**
KULM Kulim 67.79 281 *e*P **P** **13 29 34.3 -2.4**
comp=Z,31nm,1.3s
SKNT Sakolnakorn 68.49 294 P P 13 29 48.6 +7.6
comp=Z,32nm,1.2s
PSI Prapat 68.78 278 P **P** **13 29 43.5 +0.5**
PSI Prapat 68.78 278 P **P** **13 29 43.7 +0.6**
baz=69,SNR=6.4
PSI Prapat 68.78 278 P **P** **13 29 43.5 +0.5**
comp=Z,8.8nm,0.9s,baz=168,slow=4.9,SNR=8.9
KLR Kul'dur 69.15 336 ⇓ *i*P **P** **13 29 42.0 -2.4**
KLR *e*S **S** **13 38 50.0 +4.8**
KLR pmax pmax
comp=N,45nm,1.6s
KLR pmax pmax
comp=E,88nm,1.6s
KLR pmax pmax
comp=Z,350nm,1.6s
KLR pmax pmax
comp=Z,1μm,8.0s
NONG Nongkai 69.64 295 P **P** **13 29 49.9 +1.9**
comp=Z,68nm,1.1s,comp=Z,3μm
ENH Enshi 69.66 309 *e*P **P** **13 29 45.6 -2.4**
comp=Z,26nm,0.9s
GYA Guiyang 70.08 305 P **P** **13 29 51.8 +1.0**
GYA pP **PcP** **13 30 11.8 -0.7**
GYA PP **PP** **13 32 31.1 +4.4**
GYA sS sS 13 39 20.0 -6.3
GYA SKS **SKSac** **13 39 43.3 -3.7**
GYA AMB AMB
comp=Z,20nm,1.0s
GYA AMB AMB
comp=Z,180nm,7.8s
GYA LR LR
comp=Z,490nm,17.8s
GYA LR LR
comp=Z,480nm,20.4s
GYA LR LR
comp=Z,690nm,19.7s
BJI Beijing 70.45 321 P **P** **13 29 53.8 +1.3**
BJI pP **pP** **13 30 08.3 -1.4**
BJI sP **sP** **13 30 15.4 -1.3**
BJI PP **PP** **13 32 30.1 +0.7**
BJI sS **sS** **13 39 29.5 -0.3**
BJI AMB AMB
comp=Z,49nm,1.6s
BJI AMB AMB
comp=Z,620nm,6.8s
BJI LR LR
comp=Z,580nm,17.6s
BJI LR LR
comp=Z,650nm,20.0s
BJI LR LR
comp=Z,590nm,20.5s
PBKT Sadao Pong 71.04 293 P **P** **13 29 59.1 +2.5**
PBKT Sadao Pong 71.04 293 P **P** **13 29 59.1 +2.5**
comp=Z,17nm,2.2s
MIR Mirnyy 71.50 204 *e*P **P** **13 30 00.0 +1.5**
MIR MLR MLR
comp=N,700nm,17.0s
MIR MLR MLR
comp=E,1μm,17.0s
MIR MLR MLR
comp=Z,1μm,17.0s
XAN Xi'an 71.95 313 P **P** **13 30 03.0 +1.2**
XAN pP **PcP** **13 30 22.0 +1.8**
XAN sP **sP** **13 30 30.5 +4.4**
XAN PP **PP** **13 32 47.1 +4.5**
XAN S **S** **13 39 21.5 +3.0**
XAN AMB AMB
comp=Z,9.0nm,1.5s
XAN AMB AMB
comp=Z,130nm,7.1s
XAN LR LR
comp=Z,290nm,17.2s
XAN LR LR
comp=Z,160nm,17.2s
XAN LR LR
comp=Z,190nm,19.1s
NANT Nan 72.07 295 P **P** **13 30 04.7 +1.9**
comp=Z,29nm,1.4s,comp=Z,4μm
KMI Kunming 72.72 302 P **P** **13 30 08.1 +1.3**
KMI pP **pP** **13 30 25.4 +1.3**
KMI sP **sP** **13 30 33.1 +2.0**
KMI PP **PP** **13 32 53.8 +4.3**
KMI S **S** **13 39 26.0 -2.0**
KMI sS **sS** **13 39 57.3 +0.1**
KMI SKS **SKSac** **13 40 00.1 -7.1**
KMI AMB AMB
comp=Z,25nm,1.3s
KMI AMB AMB
comp=Z,430nm,6.3s
KMI LR LR
comp=Z,260nm,17.2s
KMI LR LR
comp=Z,450nm,12.8s
KMI LR LR
comp=Z,610nm,16.7s
CRAI Chiangrai 72.87 296 P **P** **13 30 09.4 +1.9**
comp=Z,32nm,1.1s,comp=Z,2μm
CMAR Chiang Mai Arr 73.51 294 P **P** **13 30 12.8 +1.5**
CMAR Chiang Mai Arr 73.51 294 P **P** **13 30 12.8 +1.5**
comp=Z,7.6nm,0.9s,baz=118,slow=4.4,SNR=46
CMAR S SKiKP 13 39 45.1 +8.6
comp=Z,0.2nm,0.5s,baz=116,slow=24,SNR=2.6
CMAR LR LR 14 02 45.6
comp=Z,280nm,19.2s,baz=303,slow=36
CHTO Chiang Mai 73.63 294 *e*P **P** **13 30 10.2 -1.9**
CHTO pmax pmax
comp=Z,109nm,1.4s
CHTO Chiang Mai 73.63 294 *e*P **P** **13 30 10.2 -1.9**
comp=Z,109nm,1.4s
CHTO Chiang Mai 73.63 294 P **P** **13 30 13.8 +1.7**
comp=Z,85nm,1.8s,comp=Z,2μm
HHC Hu-ho-hao-te 73.78 320 *e*P **P** **13 30 14.8 +2.2**
HHC PcP **pP** **13 30 30.3 +0.4**
HHC pP pwP 13 30 35.4 +5.5
HHC PP **PP** **13 33 02.1 +4.0**
HHC S **S** **13 39 38.8 -0.3**
HHC ScS **SKSac** **13 40 11.4 -2.8**
HHC AMB AMB
comp=Z,860nm,8.3s
HHC LR LR
comp=Z,1μm,16.9s
HHC LR LR
comp=Z,1μm,17.8s
HHC LR LR
comp=Z,2μm,17.3s
CMAI Chiengmai2 73.93 295 P **P** **13 30 15.9 +1.9**
comp=Z,86nm,1.4s,comp=Z,4μm
CD2 Chengdu 74.33 308 P **P** **13 30 14.5 -1.5**
CD2 pP **pP** **13 30 33.0 -0.3**
CD2 sP **sP** **13 30 40.8 +0.5**
CD2 PP **PP** **13 33 03.0 +0.1**
CD2 S **S** **13 39 48.3 +2.7**
CD2 SKS SKSac 13 40 10.0 -8.7
CD2 sS **sS** **13 40 13.3 -1.6**
CD2 SS **SS** **13 44 30.6 -2.5**
CD2 AMB AMB
comp=Z,30nm,0.5s
CD2 AMB AMB
comp=Z,510nm,9.3s
CD2 LR LR
comp=Z,520nm,14.9s
CD2 LR LR
comp=Z,580nm,16.7s
HIA Hailar 74.43 330 *e*P P 13 30 12.8 -3.4
comp=Z,181nm,1.3s
BTO Baotou 74.62 319 *e*P **P** **13 30 19.6 +2.1**
SEY Seymchan 76.54 353 ⇑ *e*P **P** **13 30 27.9 +0.1**
LZH Lanzhou 76.58 312 *e*P P 13 30 32.1 +3.2
LZH PcP **PcP** **13 30 41.8 +1.6**
LZH pP pP 13 30 51.1 +4.8
LZH sP sP 13 30 58.3 +5.0
LZH PP **PP** **13 33 23.4 +1.4**
LZH *e*S **S** **13 40 10.0 -0.6**
LZH SKS **SKSac** **13 40 32.3 -3.2**
LZH AMB AMB
comp=Z,85nm,1.2s
LZH AMB AMB
comp=Z,350nm,4.6s
LZH LR LR
comp=Z,300nm,12.9s
LZH LR LR
comp=Z,640nm,17.8s
LZH LR LR
comp=Z,710nm,18.4s
QSPA South Pole Qui 76.95 180 *e*P **P** **13 30 29.1 -1.3**
comp=Z,103nm,1.1s
CLNS Chul'man 77.68 338 *e*P **P** **13 30 35.6 +1.2**
CLNS *e* 13 30 41.6
CLNS *e**PP **PcP** **13 30 45.4 +1.1**
CLNS *e* 13 33 35.0
CLNS *e*PPP PPP 13 35 18.3
CLNS *e*S **S** **13 40 25.9 +4.6**
CLNS *e* 13 41 06.8
CLNS pmax pmax
comp=Z,66nm,1.0s
CLNS pmax pmax
comp=E,9.0nm,1.0s
CLNS pmax pmax
comp=N,31nm,1.1s
CLNS pmax pmax
comp=Z,13nm,1.0s
CLNS pmax pmax
comp=N,12nm,1.1s
CLNS pmax pmax
comp=E,7.0nm,1.3s
CLNS smax smax
comp=N,237nm,10.6s
CLNS smax smax
comp=E,221nm,10.6s
CLNS MLR MLR
comp=Z,284nm,15.0s
CLNS MLR MLR
comp=N,245nm,16.0s
CLNS MLR MLR
comp=E,285nm,16.0s
CIT Chita 79.22 330 *e*P **P** **13 30 44.6 +1.6**
CIT pmax pmax
comp=Z,331nm,1.5s
YAK Yakutsk 80.20 343 *e*P **P** **13 30 47.1 -0.9**
YAK *e* 13 30 59.8
YAK *e*S **S** **13 40 45.8 -2.0**
YAK *e**SS sS 13 41 28.2 +11
YAK *e*SS **SS** **13 45 57.1 -3.1**
YAK pmax pmax
comp=Z,36nm,0.9s
YAK pmax pmax
comp=E,7.0nm,1.4s
YAK pmax pmax
comp=N,14nm,1.3s
YAK pmax pmax
comp=Z,134nm,5.3s
YAK pmax pmax
comp=N,155nm,4.3s
YAK pmax pmax
comp=E,67nm,4.2s
YAK smax smax
comp=N,93nm,3.7s
YAK smax smax
comp=E,64nm,3.7s
YAK MLR MLR
comp=Z,2μm,18.0s
YAK MLR MLR
comp=E,797nm,21.0s
YAK MLR MLR
comp=N,1μm,20.0s
SONM Songino Array 80.66 324 P **P** **13 30 52.3 +1.2**
SONM Songino Array 80.66 324 P **P** **13 30 52.3 +1.2**
comp=N,37nm,1.1s,baz=138,slow=5.9,SNR=43
SONM LR LR 14 04 35.2
comp=N,549nm,20.8s,baz=333,slow=34
GTA Gaotai 80.91 314 ⇑P **P** **13 30 54.8 +2.2**
GTA pP **pP** **13 31 11.5 +1.4**
GTA sP **sP** **13 31 18.4 +1.3**
GTA AMB AMB
comp=N,60nm,1.3s
GTA AMB AMB
comp=N,630nm,8.1s
GTA LR LR
comp=N,310nm,18.5s
GTA LR LR
comp=N,440nm,21.4s
GTA LR LR
comp=N,400nm,19.5s
SHL Shillong 82.04 298 *e*P **P** **13 31 01.0 +2.1**
PMR Palmer 82.22 20 *e*P **P** **13 30 57.2 -1.6**
PMR pmax pmax
comp=Z,17nm,1.1s
PMR Palmer 82.22 20 *e*P **P** **13 30 57.2 -1.6**
comp=Z,17nm,1.1s
CAST Castle Rocks 82.67 17 *e*P **P** **13 31 00.0 -1.1**
comp=Z,26nm,0.9s
MAW Mawson 83.10 202 P **P** **13 31 03.6 +0.3**
MAW Mawson 83.10 202 ⇓P **P** **13 31 03.8 +0.4**
baz=83
MAW Mawson 83.10 202 P **P** **13 31 03.6 +0.3**
comp=Z,4.7nm,1.0s,baz=97,slow=7.5,SNR=8.9
MAW LR LR 14 04 08.5
comp=Z,688nm,19.6s,baz=96,slow=33
TRF Thorofare Moun 83.22 18 *e*P **P** **13 31 01.8 -2.4**
comp=Z,16nm,0.9s
ZAK Zakamensk 83.71 325 *e*P **P** **13 31 08.0 +1.1**
ZAK pmax pmax
comp=Z,64nm,1.2s
MCK McKinley 83.84 18 *e*P **P** **13 31 04.9 -2.3**
MCK pmax pmax
comp=Z,18nm,1.2s
MCK McKinley 83.84 18 *e*P **P** **13 31 04.9 -2.3**
comp=Z,18nm,1.2s
IRK Irkutsk 84.09 327 *e*P **P** **13 31 08.4 -0.3**
IRK pmax pmax
comp=Z,166nm,1.9s
TLY Talaya 84.15 326 *c i*P **P** **13 31 09.9 +0.9**
TLY *e*S **S** **13 41 32.6 +3.8**
TLY pmax pmax
comp=Z,108nm,1.0s
TLY MLR MLR
comp=Z,398nm,19.0s
TLY Talaya 84.15 326 P **P** **13 31 10.4 +1.4**
comp=Z,501nm,0.9s,SNR=9.6
IM04 Indian Mountai 84.17 15 *e*P **P** **13 31 06.8 -2.0**
COLA College 85.00 18 *e*P **P** **13 31 12.1 -0.8**
COLA pmax pmax
comp=Z,36nm,0.9s
COLA College 85.00 18 *e*P **P** **13 31 12.1 -0.8**
comp=Z,36nm,0.9s
CMB Columbia Colle 85.16 49 *e*P **P** **13 31 12.3 -2.2**
CMB pmax pmax
comp=Z,6.0nm,1.1s
CMB Columbia Colle 85.16 49 *e*P **P** **13 31 12.3 -2.2**
comp=Z,6.4nm,1.1s
ILAR Eielson Array 85.22 18 P **P** **13 31 12.8 -1.2**
ILAR PKKP **PKKPdf** **13 49 15.9 +0.5**
ILAR Eielson Array 85.22 18 P **P** **13 31 12.8 -1.2**
comp=Z,2.9nm,0.6s,baz=231,slow=6.1,SNR=36
ILAR PKKP **PKKPdf** **13 49 15.9 +0.5**
comp=Z,0.8nm,1.1s,baz=20,slow=2.9,SNR=4.8
ILAR LR LR 14 06 26.5
comp=Z,782nm,18.1s,baz=234,slow=34
DOT Dot Lake 85.34 20 *e*P **P** **13 31 13.6 -1.2**
comp=Z,15nm,1.0s
MOY Mondy 85.59 325 *e*P **P** **13 31 17.0 +0.6**
MOY pmax pmax
comp=Z,123nm,3.6s
ISA Isabella 85.80 52 P **P** **13 31 16.4 -1.3**
baz=86
EDW2 Edwards Air Fo 85.92 53 P **P** **13 31 17.0 -1.3**
baz=86
BFSC Mount Baldy Ra 85.97 54 P **P** **13 31 17.2 -1.4**
baz=86
COLD Coldfoot 86.06 16 *e*P **P** **13 31 19.1 +0.9**
comp=Z,13nm,0.9s
K05A Summer Lake 86.47 45 *e*P **P** **13 31 18.7 -2.4**
comp=Z,70nm,2.0s
MONP Monument Peak 86.53 55 P **P** **13 31 20.2 -1.4**
baz=87
MOD Modoc 86.58 46 *e*P P 13 31 18.2 -3.3
comp=Z,72nm,1.4s
MPMC Manual Prospec 86.68 52 P **P** **13 31 21.1 -1.1**
baz=87
PFO Pinyon Flat Ob 86.72 55 P **P** **13 31 21.3 -1.1**
baz=87
NVAR Mina Array Bea 86.83 50 P **P** **13 31 22.1 -0.8**
NVAR PKKPbc **PKKPbc** **13 49 17.6 -0.5**
NVAR P'P' 13 57 23.9
NVAR Mina Array Bea 86.83 50 P **P** **13 31 22.1 -0.8**
comp=Z,1.0nm,0.7s,baz=230,slow=6.5,SNR=9.5
NVAR PKKPbc **PKKPbc** **13 49 17.6 -0.5**
comp=Z,0.9nm,0.7s,baz=106,slow=3.4,SNR=5.2
NVAR PKPPKP **P'P'df** **13 57 23.9 +0.4**
comp=Z,1.6nm,1.0s,baz=83,slow=2.8,SNR=8.6
NVAR LR LR 14 05 29.4
comp=Z,3μm,18.5s,baz=105,slow=32
NV11 Mina Array Sit 86.94 50 *e*P **P** **13 31 21.0 -2.4**
GSC Goldstone 86.97 53 P **P** **13 31 22.5 -1.0**
baz=87
EGAK Eagle 87.04 20 *e*P **P** **13 31 21.0 -2.0**
comp=Z,17nm,0.9s
SWSC Sam W. Stewart 87.05 55 P **P** **13 31 23.1 -0.7**
baz=87
BELC Belle Mtn. Jos 87.20 54 P **P** **13 31 23.1 -1.6**
baz=87
FURC Furnace Creek, 87.29 52 P **P** **13 31 23.4 -1.5**
baz=87
BC3 Big Chuckawall 87.53 55 P **P** **13 31 25.5 -0.8**
baz=88
SHOC Shoshone 87.56 52 P **P** **13 31 24.7 -1.5**
baz=88
TUQ Turquoise Moun 87.70 53 P **P** **13 31 25.9 -1.2**
baz=88
GMRC Granite Mounta 87.70 54 P **P** **13 31 25.9 -1.2**
baz=88
GLA Glamis 87.86 56 P **P** **13 31 26.7 -1.0**
baz=88
I07A Izee 87.89 44 *e*P **P** **13 31 26.0 -1.8**
comp=Z,72nm,2.5s
IRM Iron Mountain 87.92 54 P **P** **13 31 27.5 -0.6**
baz=88
TIXI Tiksi 88.18 349 *c i*P **P** **13 31 28.1 -0.2**
TIXI pmax pmax
comp=Z,32nm,1.7s
Y12C Blythe 88.30 55 P **P** **13 31 29.6 -0.2**
baz=88
J08A Circle Bar Ran 88.35 45 *e*P **P** **13 31 27.4 -2.5**
comp=Z,16nm,1.4s
SHPR Sheep Range 88.61 52 *e*P **P** **13 31 30.1 -1.3**
comp=Z,21nm,1.6s
G08A Pilot Rock 88.68 43 *e*P **P** **13 31 30.0 -1.4**
comp=Z,66nm,2.5s
PDMCI Parker Dam,Lak 88.76 54 P **P** **13 31 31.5 -0.4**
baz=89
R11A Troy Canyon, C 88.83 50 *e*P **P** **13 31 31.9 -0.5**
comp=Z,19nm,1.8s
R11A Troy Canyon, C 88.83 50 P **P** **13 31 31.4 -1.1**
baz=89
B08A Colville Reser 89.49 40 *e*P **P** **13 31 33.8 -1.3**
comp=Z,33nm,1.8s
HVS Khovu-Aksy 89.53 323 *c i*P **P** **13 31 36.2 +0.9**
HVS pmax pmax
comp=Z,323nm,1.1s
E09A Wood Farm, Sta 89.62 42 *e*P **P** **13 31 35.4 -0.3**
comp=Z,18nm,1.4s
F10A Beach Ranch, E 90.05 43 *e*P **P** **13 31 37.1 -0.7**
comp=Z,51nm,1.9s
SYO Syowa Base 90.05 197 ⇓ *e*P P 13 31 34.0 -3.3
CCUT Cedar City 90.29 52 *e*P **P** **13 31 37.5 -1.8**
comp=Z,18nm,1.7s
U15A North Rim 90.80 53 P **P** **13 31 41.6 -0.2**
baz=91
NEW Newport 90.85 41 P **P** **13 31 41.1 -0.3**
baz=91
X16A Lo Mia Camp, P 90.94 55 P **P** **13 31 42.7 +0.3**
baz=91
WMQ Urumqi 90.96 315 P **P** **13 31 42.8 +0.7**
WMQ pP **pP** **13 32 03.4 +3.5**
WMQ sP **sP** **13 32 11.8 +5.0**
WMQ SKS **SKSac** **13 42 05.8 -2.9**
WMQ S **S** **13 42 30.5 -4.0**
WMQ SS **SS** **13 48 37.8 -1.6**
WMQ AMB AMB
comp=Z,51nm,1.6s
WMQ AMB AMB
comp=Z,520nm,3.6s
WMQ LR LR
comp=Z,330nm,17.0s
WMQ LR LR
comp=Z,320nm,16.1s
WMQ LR LR
comp=Z,330nm,25.4s
HLID Hailey 91.22 46 *e*P **P** **13 31 41.1 -2.3**
comp=Z,6.7nm,1.3s
HLID Hailey 91.22 46 P **P** **13 31 42.8 -0.7**
baz=91
WUAZ Wupatki 91.28 54 P **P** **13 31 43.2 -0.7**
baz=91
MVU Marysvale 91.42 51 *e*P **P** **13 31 44.9 +0.3**
comp=Z,8.8nm,1.4s
KRAR Krasnoyarsk 91.76 327 *i*P P 13 31 51.8 +6.5
KRAR pmax pmax
comp=Z,18nm,0.5s
HYB Hyderabad 91.83 287 *i*P P 13 31 42.0 -4.6
319A Douglas 91.94 58 P **P** **13 31 46.9 -0.1**
baz=92
X18A Snowflake 92.16 55 P **P** **13 31 47.3 -0.7**
baz=92
Y20A Horse Springs, 93.28 56 P **P** **13 31 53.2 -0.1**
baz=93
PDAR Pinedale Array 94.44 47 PKKPbc PKKPbc 13 48 57.5 -1.5
PDAR Pinedale Array 94.44 47 PKKPbc PKKPbc 13 48 57.5 -1.5
comp=Z,1.2nm,0.8s,baz=86,slow=4.0,SNR=7.4
PDAR LR LR 14 11 31.8
comp=Z,1μm,18.1s,baz=98,slow=34
LPM Los Pinos Moun 94.78 56 *e*P P 13 31 57.1 -3.0
SNAA Sanae 95.15 183 *e*P **P** **13 32 00.3 -0.6**
MK31 Makanchi Array 95.42 317 *e*P **P** **13 32 00.3 -2.2**
MK31 Makanchi Array 95.42 317 *e*P **P** **13 32 00.3 -2.2**
MKAR Makanchi Array 95.42 317 P **P** **13 32 03.5 +1.0**
MKAR Makanchi Array 95.42 317 P **P** **13 32 03.5 +1.0**

MKAR Makanchi Array 95.42 317 P **P** 13 32 03.5 +1.0
comp=Z,33nm,1.0s,baz=102,slow=6.2,SNR=136
MKAR PP **PP** 13 35 49.7 -4.3
comp=Z,2.8nm,1.2s,baz=96,slow=8.8,SNR=3.8
MKAR PKKPbc **PKKPbc** 13 48 53.9 -2.4
comp=Z,1.0nm,1.0s,baz=282,slow=2.8,SNR=5.2
MKAR LR LR 14 14 56.2
comp=Z,251nm,19.5s,baz=194,slow=35
ZAA0 Zalesovo Array 95.56 324 *e*P **P** 13 31 59.9 -3.0
ZALV Zalesovo Beam 95.56 324 *i* P **P** 13 32 03.0 +0.1
ZALV pmax pmax
comp=Z,26nm,0.9s
ZALV Zalesovo Beam 95.56 324 P **P** 13 32 03.0 +0.1
ZALV Zalesovo Beam 95.56 324 P **P** 13 32 03.0 +0.1
comp=Z,26nm,0.9s,baz=108,slow=4.8,SNR=102
ZALV LR LR 14 18 31.7
comp=Z,446nm,18.1s,baz=71,slow=38
VNA2 Neumayer--Watz 96.11 182 *e*P **P** 13 32 05.7 +0.5
baz=148,slow=3.8
TXAR Lajitas Array 96.23 61 P **P** 13 32 05.5 -1.2
TXAR PKKPbc **PKKPbc** 13 48 53.7 +0.2
TXAR P'P' 13 57 05.8
TXAR Lajitas Array 96.23 61 P **P** 13 32 05.5 -1.2
comp=Z,0.3nm,0.7s,baz=289,slow=2.8,SNR=3.3
TXAR PKKPbc **PKKPbc** 13 48 53.7 +0.2
comp=Z,0.4nm,0.8s,baz=108,slow=5.8,SNR=3.6
TXAR PKPPKP **P'P'df** 13 57 05.8 -0.9
comp=Z,0.5nm,0.9s,baz=86,slow=3.7,SNR=2.1
TXAR LR LR 14 09 49.3
comp=Z,977nm,18.7s,baz=280,slow=32
VNA1 Neumayer--Stat 96.41 182 *e*P **P** 13 32 05.7 -0.8
YKA Yellowknife Ar 96.46 27 P **P** 13 32 06.8 0.0
YKA Yellowknife Ar 96.46 27 P **P** 13 32 06.8 0.0
comp=Z,0.4nm,0.3s,baz=260,slow=5.0,SNR=5.1
NVS Novosibirsk 96.67 325⇑ *i*P **P** 13 32 06.9 -1.0
NVS *e* 13 32 20.8
NVS *e* 13 42 39.8
NVS pmax pmax
comp=E,41nm,1.6s
NVS pmax pmax
comp=Z,37nm,2.4s
NVS pmax pmax
comp=E,23nm,1.9s
KSH Kashi 98.51 309 *e*P Pdif 13 32 20.5 +3.7
KSH pP pP 13 32 36.0 +1.4
KSH sP sP 13 32 46.6 +5.1
KURK Kurchatov 98.59 320*c* *i*P **P** 13 32 16.7 0.0
KURK pmax pmax
comp=Z,13nm,1.7s
AAK Ala-Archa 100.11 311⇑ *i*P **Pdif** 13 32 24.4 +0.5
AAK pmax pmax
comp=Z,11nm,1.3s
H03N2 Juan Fernandez 102.53 129 T T 15 26 45.8
baz=262
H03N3 Juan Fernandez 102.53 129 T T 15 26 40.5
baz=262
H03N1 Juan Fernandez 102.54 129 T T 15 26 46.3
baz=262
ICHK Chekchek 115.37 300 *e*P **Pdif** 13 33 27.8 -4.3
ARCES ARCESS Array B 118.44 345 PKP **PKPdf** 13 37 25.0 +0.3
ARCES ARCESS Array B 118.44 345 PKP **PKPdf** 13 37 25.0 +0.3
comp=Z,4.1nm,0.8s,baz=72,slow=2.9,SNR=9.0
ZEI Tsey 122.51 313 *i* PKIKP **PKPdf** 13 37 34.0 +0.4
ZEI pmax pmax
comp=Z,13nm,1.9s
OBN Obninsk 122.85 328 *e*PKIKP **PKPdf** 13 37 33.1 -0.4
OBN *i* 13 39 09.9
OBN *i* SS SS 13 55 46.3 -4.2
OBN pmax pmax
comp=Z,7.0nm,1.3s
KIV Kislovodsk 123.09 314⇓ *i*PKIKP **PKPdf** 13 37 35.6 +1.1
KIV *i* 13 39 14.3
KIV pmax pmax
comp=Z,7.0nm,1.0s
BOSA Boshof 124.07 222 PKP **PKPdf** 13 37 37.5 +0.5
BOSA Boshof 124.07 222 PKP **PKPdf** 13 37 37.5 +0.5
comp=Z,23nm,0.9s,baz=124,slow=3.2,SNR=23
SOC Sochi 125.26 314 *i* PKIKP **PKPdf** 13 37 36.9 -1.6
SOC *e* 13 39 24.7
SOC *e*PS **PS** 13 49 27.1 -3.8
SOC pmax pmax
comp=Z,5.0nm,0.5s
SOC MLR MLR
comp=Z,318nm,20.0s
KMBO Kilima Mbogo 127.64 258 PKP **PKPdf** 13 37 46.0 +1.7
KMBO Kilima Mbogo 127.64 258 PKP **PKPdf** 13 37 46.0 +1.7
comp=Z,2.1nm,0.7s,baz=104,slow=4.2,SNR=6.5
AKASG Malin Array Be 128.89 326 PKIKP **PKPdf** 13 37 45.7 +0.4
AKASG 13 39 52.9
AKASG Malin Array Be 128.89 326 PKP **PKPdf** 13 37 45.7 +0.4
AKASG PP **PP** 13 39 52.9 +0.4
AKASG Malin Array Be 128.89 326 PKhKP PKPpre 13 37 33.9
comp=Z,0.2nm,0.3s,baz=62,slow=4.5,SNR=3.3
AKASG PKP **PKPdf** 13 37 45.7 +0.4
comp=Z,0.2nm,0.3s,baz=54,slow=2.3,SNR=14
AKASG PP **PP** 13 39 52.9 +0.4
comp=Z,0.5nm,0.6s,baz=44,slow=6.2,SNR=6.6
BRTR Keskin Array B 130.78 312 PKP **PKPdf** 13 37 48.1 -1.3
BRTR PP **PP** 13 40 03.8 -1.8
BRTR SKPbc **SKiKP** 13 41 16.0 -5.0
BRTR Keskin Array B 130.78 312 PKP **PKPdf** 13 37 48.1 -1.3
comp=Z,1.0nm,1.0s,baz=128,slow=4.0,SNR=3.6
BRTR PP **PP** 13 40 03.8 -1.8
comp=Z,1.8nm,0.9s,baz=69,slow=7.9,SNR=2.8
BRTR SKPbc **SKiKP** 13 41 16.0 -5.0
comp=Z,1.8nm,0.9s,baz=151,slow=3.3,SNR=4.3
KIS Kishinev 131.01 322 *e* **PP** 13 40 05.0 -1.5
KIS LRM MLR 13 46 10.0
comp=Z,700nm,20.0s
KOLS Kolonicke sedl 133.59 328 *e*PKIKP **PKPdf** 13 37 55.0 +0.8
KOLS Kolonicke sedl 133.59 328 *e*PKP **PKPdf** 13 37 55.0 +0.8
STHS Stebnicka Huta 133.82 329 *e*PKIKP PKPdf 13 38 02.3 +7.6
STHS *e* 13 40 25.6
STHS Stebnicka Huta 133.82 329 *e* PKPdf 13 38 02.3 +7.6
STHS *e*PP **PP** 13 40 25.6 +1.3
OKC Ostrava-Krasne 135.05 331 AMS AMS 14 41 00.0
comp=Z,400nm,19.4s
KRLC Kraliky 135.51 332 *e* **PP** 13 40 35.7 +0.8
KRLC Kraliky 135.51 332 *e*PP PP 13 40 35.7 +0.8
DPC Dobruska-Polom 135.52 333 *e* **PP** 13 40 35.2 +0.2
DPC Dobruska-Polom 135.52 333 *e*PP PP 13 40 35.2 +0.2
DPC AMS AMS 14 41 10.0
UPC Upice 135.54 333 *e*PKIKP **PKPdf** 13 37 59.9 +2.1
UPC Upice 135.54 333 *e*PKPdf **PKPdf** 13 37 59.9 +2.1
TSUM Tsumeb 135.59 224 *e*PKPdf **PKPdf** 13 37 57.3 -1.8
PVCC Panska Ves 136.15 334 AMS AMS 14 44 40.0
comp=Z,900nm,20.1s
BRG Berggiesshubel 136.15 335 *e*PKP **PKPdf** 13 38 01.6 +2.6
comp=Z,16nm,1.6s
BRG Berggiesshubel 136.15 335 *e*PKP **PKPdf** 13 38 01.6 +2.6
comp=Z,16nm,1.6s
BRG Berggiesshubel 136.15 335 *e*PKIKP **PKPdf** 13 38 01.6 +2.6
BRG pmax pmax
comp=Z,16nm,1.6s
CLL Collm 136.20 336 *i* PP PP 13 40 38.1 -0.9
comp=Z,41nm,2.1s
CLL LmV 14 39 00.0
comp=Z,500nm,20.5s
PRA Prague 136.55 334 PP PP 13 40 42.0 +0.7
PRU Pruhonice 136.57 334 *e*PKIKP **PKPdf** 13 38 00.9 +1.2
PRU *e* 13 40 41.0
PRU MLR MLR
comp=Z,700nm,19.3s
PRU Pruhonice 136.57 334 *e*PKPdf **PKPdf** 13 38 00.9 +1.2
PRU *e*PP **PP** 13 40 41.0 -0.4
PRU AMS AMS 14 40 40.0
comp=Z,700nm,19.3s
TREC Trest 136.66 332 AMS AMS 14 39 40.0
comp=Z,700nm,23.6s
KHC Kasperske Hory 137.62 334 *e*PKIKP **PKPdf** 13 38 02.6 +0.8
KHC MLR MLR
comp=Z,700nm,19.6s
KHC Kasperske Hory 137.62 334 *e*PKPdf **PKPdf** 13 38 02.6 +0.8
KHC AMS AMS 14 42 10.0
comp=Z,700nm,19.6s
GERES GERESS Array B 137.78 333 PKP **PKPdf** 13 38 02.7 +0.6
GERES PP **PP** 13 40 49.3 +0.1
GERES SKPbc **SKPab** 13 41 37.2 -1.1
GERES GERESS Array B 137.78 333 PKhKP PKPpre 13 37 52.4
comp=Z,0.3nm,0.3s,baz=29,slow=3.0,SNR=9.2
GERES PKP **PKPdf** 13 38 02.7 +0.6
comp=Z,0.4nm,0.5s,baz=14,slow=1.2,SNR=4.4
GERES PP **PP** 13 40 49.3 +0.1
comp=Z,0.2nm,0.3s,baz=72,slow=5.7,SNR=5.1
GERES SKPbc **SKPab** 13 41 37.2 -1.1
comp=Z,0.2nm,0.4s,baz=79,slow=2.1,SNR=4.8
GRF Grafenberg Arr 138.17 336 *e*PP PP 13 40 52.4 +1.0
BNI Bardonecchia 143.74 335 *e*PKIKP PKPbc 13 38 11.3 +0.6
BNI Bardonecchia 143.74 335 *e*PKPdf PKPbc 13 38 11.3 +0.5
BST Brest 143.98 349 PKP PKPbc 13 38 11.3 +0.1
PLDF La Plantade 144.11 339 PKP **PKPdf** 13 38 13.2 -0.4
AGO Saint Agoulin 144.20 340 PKP PKPbc 13 38 12.7 +0.7
SAOF Saorge 144.24 334 PKP PKPbc 13 38 12.8 +0.7
AUTN L'Aution 144.28 334 PKP PKPbc 13 38 12.8 +0.2
TOUF Mont Tournerai 144.35 334 PKP PKPbc 13 38 13.0 +0.3
SSB Saint Sauveur 144.38 338 *e*PKIKP PKPbc 13 38 12.7 +0.1
SSB Saint Sauveur 144.38 338 *e*PKPdf PKPbc 13 38 12.7 +0.1
LUCF Luceram 144.40 334 PKP PKPbc 13 38 13.2 +0.4
MVIF Mont Vial 144.48 334 PKP PKPbc 13 38 13.7 +0.6
PYM Petit Puy Mans 144.51 340 PKP PKPbc 13 38 13.2 +0.2
REVF Revere 144.51 333 PKP PKPbc 13 38 13.2 +0.2
OG25 Le Caire 144.55 335 PKP **PKPdf** 13 38 14.9 +0.4
CALN Calern 144.71 334 PKP PKPbc 13 38 14.3 +0.5
LBL Lubilhac 144.88 339 PKP **PKPdf** 13 38 15.3 +0.3
FRNF Fournols 144.98 340 PKP **PKPdf** 13 38 15.3 +0.2
KEST Kesra 149.39 321 PKPbc **PKPbc** 13 38 27.6 +0.4
KEST *e*PKPab **PKiKP** 13 38 28.6 +0.3
KEST Kesra 149.39 321 PKPbc **PKPbc** 13 38 27.6 +0.4
comp=Z,12nm,0.9s,baz=209,slow=1.2,SNR=11
PBRG Braganca 150.75 349 *e*PKPbc **PKPbc** 13 38 30.7 +0.4
PBRG Braganca 150.75 349 *e*PKPab **PKPab** 13 38 38.7 +1.3
POLO Lamas de Olo 151.34 351 *e*PKPbc **PKPbc** 13 38 32.8 +1.0
MVO Moncorvo 151.42 350 *e*PKPbc **PKPbc** 13 38 32.9 +1.0
PVRL Vila Real 151.43 351 *e*PKPbc **PKPbc** 13 38 32.5 +0.6
PVRL Vila Real 151.43 351 *e*PKPab **PKPab** 13 38 42.0 +1.8
ESDC Sonseca Array 152.16 344 PKPbc **PKPbc** 13 38 34.0 +0.4
ESDC PKPab **PKPab** 13 38 43.3 0.0
ESDC Sonseca Array 152.16 344 PKPbc **PKPbc** 13 38 34.0 +0.4
comp=Z,4.7nm,0.9s,baz=18,slow=2.2,SNR=20
ESDC PKPab **PKPab** 13 38 43.3 0.0
comp=Z,6.3nm,0.7s,baz=15,slow=3.9,SNR=22
MTE Manteigas 152.25 350 *e*PKPbc **PKPbc** 13 38 35.0 +1.2
PCBR Castelo Branco 152.79 350 *e*PKPab **PKPab** 13 38 47.4 +1.6
PTOM Tomar 153.16 351 *e*PKPbc **PKPbc** 13 38 36.7 +1.0
PMRV Marv??o 153.17 349 *e*PKPbc **PKPbc** 13 38 36.4 +0.6
PMTG Montargil 153.66 351 *e*PKPbc **PKPbc** 13 38 37.2 +0.3
PMTG Montargil 153.66 351 *e*PKPab **PKPab** 13 38 47.4 -2.2
PESTR Estremoz 153.75 349 *e*PKPab **PKPab** 13 38 51.5 +1.5
EVO Evora 154.15 350 *e*PKPab **PKPab** 13 38 53.0 +1.3
PBAR Barrancos 154.32 348 *e*PKPab **PKPab** 13 38 53.6 +1.2
PBEJ Beja 154.62 349 *e*PKPab **PKPab** 13 38 55.6 +1.9
PNCL Nicolau / Gran 154.65 351 *e*PKPab **PKPab** 13 38 55.2 +1.4
PCVE Castro Verde 155.03 349 *e*PKPab **PKPab** 13 38 56.9 +1.5
PVAQ Vaqueiros 155.20 349 *e*PKPab **PKPab** 13 38 57.9 +1.8
PTEO Sao Teotonio 155.23 351 *e*PKPab **PKPab** 13 38 58.3 +2.0
MORF Marmelete 155.46 350 *e*PKPab **PKPab** 13 38 58.8 +1.5
TOA0 Torodi Ar. Sit 165.10 272 *e*PKPdf **PKPdf** 13 38 41.1 -1.7
TORD Torodi Ar. Bea 165.10 272 PKP **PKPdf** 13 38 42.6 -0.3
TORD PKPab **PKPab** 13 39 40.9 +0.8
TORD Torodi Ar. Bea 165.10 272 PKP **PKPdf** 13 38 42.6 -0.3
comp=Z,7.7nm,1.1s,baz=19,slow=0.8,SNR=25
TORD PKPab **PKPab** 13 39 40.9 +0.8
comp=Z,5.7nm,1.0s,baz=72,slow=2.9,SNR=14
DBIC Dimbokro 169.30 234 PKP **PKPdf** 13 38 45.7 -0.3
DBIC Dimbokro 169.30 234 PKP **PKPdf** 13 38 45.7 -0.3
comp=Z,4.7nm,0.9s,baz=329,slow=1.5,SNR=4.0

*ISCJB **17** 14:01:56.4±0.7,43.°82N±0.°06×147.°23E±0.°07, h91km±5km, mb3.7/10, Error ellipse: s-maj=11.8km s-min=5.6km az=139.2*
*SKHL **17** 14:01:58.2±0.0, 43.°84N×147.°15E, h90km, mb4.9/3, msh5.6/2*
*MOS **17** 14:01:58.2±1.3, 44.°05N×147.°13E, h98km, mb3.9/7, Error ellipse: s-maj=17.1km s-min=12.8km az=93.5*
*JMA **17** 14:01:58.0±0.1, 43.°68N×147.°21E, h72km±3km, M4.1*
*IDC **17** 14:01:59.3±3.1, 44.°14N×147.°20E, h95km±22km, mb3.5/9, mb1 3.8/12, mb1mx3.5/27, mbtmp3.5/12, Error ellipse: s-maj=58.9km s-min=17.0km az=171.0*
ISC 17 14:01:56.5±1.1, 43.°78N±0.°07×147.°29E±0.°07, h81km±9km, n46, σ1°20/53, mb3.8/10, 2C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.06**	**284***c*	*i*PN		**Pn**	**14 02 16.6**	**+0.4**
YUK				*i* S		**Sn**	**14 02 30.4**	**-0.7**
YUK	comp=E,173nm,0.2s			pmax	pmax			
YUK	comp=Z,539nm,0.2s			pmax	pmax			
YUK	comp=N,127nm,0.1s			pmax	pmax			
YUK	comp=E,4μm,0.5s			smax	smax			
YUK	comp=N,4μm,0.5s			smax	smax			
YUK	**Yuzh-Kuril'sk**	**1.06**	**284**⇑	*i*P		**Pn**	**14 02 16.6**	**+0.4**
YUK	comp=N,127nm,0.1s			AMB	AMB		14 02 17.2	
YUK	comp=N,173nm,0.2s			AMB	AMB		14 02 17.2	
YUK	comp=N,539nm,0.2s			AMB	AMB		14 02 17.2	
YUK				*i* S		**Sn**	**14 02 30.4**	**-0.7**
YUK	comp=N,4μm,0.5s			A	A		14 02 33.0	
YUK	comp=N,4μm,0.5s			A	A		14 02 33.0	
NEM2	**Nemuro 2**	**1.20**	**250**	P		**Pn**	**14 02 18.1**	**+0.2**
NEM2				*e*S		**Sn**	**14 02 33.0**	**-1.0**
KUR	**Kuril'sk**	**1.51**	**16***d*	*i*PN		**Pn**	**14 02 22.8**	**+0.9**
KUR	comp=E,45nm,0.1s			pmax	pmax			
KUR	comp=Z,163nm,0.1s			pmax	pmax			
KUR	comp=N,15nm,0.1s			pmax	pmax			
KUR	**Kuril'sk**	**1.51**	**16**⇓	*i*P		**Pn**	**14 02 22.8**	**+0.9**
KUR	comp=N,140nm,0.5s			AMB	AMB		14 02 23.2	
KUR	comp=N,163nm,0.1s			AMB	AMB		14 02 23.2	
KUR	comp=N,15nm,0.1s			AMB	AMB		14 02 23.2	
KUR	comp=N,45nm,0.1s			AMB	AMB		14 02 23.2	
KUR				*i* S		**Sn**	**14 02 41.3**	**+0.2**
KUR	comp=N,760nm,0.5s			A	A		14 02 42.0	
KUR	comp=N,230nm,0.5s			A	A		14 02 42.0	
JRA	**Rausu**	**1.57**	**276**	P		**Pn**	**14 02 23.8**	**+1.1**
JRA				*e*S		**Sn**	**14 02 43.4**	**+0.8**
JNK	**Nakash**	**1.87**	**265**	P		**Pn**	**14 02 27.3**	**+0.7**
JNK				*e*S		**Sn**	**14 02 49.0**	**-0.6**
JAK	**Akkeshi**	**2.04**	**248**	P		**Pn**	**14 02 29.4**	**+0.5**
JAK				*e*S		**Sn**	**14 02 53.2**	**-0.5**
JTKR	**Abashiri--Toko**	**2.45**	**276**	P		**Pn**	**14 02 35.8**	**+1.5**
JTKR				*e*S		**Sn**	**14 03 04.8**	**+1.4**
JAR	**Ashorobuto**	**2.60**	**260**	P		**Pn**	**14 02 37.8**	**+1.4**
JAR				*e*S		**Sn**	**14 03 07.8**	**+0.7**
JOB	**Onbets**	**2.67**	**252**	P		**Pn**	**14 02 38.5**	**+1.3**
JOB				*e*S		**Sn**	**14 03 08.5**	**-0.1**
JMP	**Maruseppu**	**2.85**	**276**	P		**Pn**	**14 02 41.3**	**+1.6**
JCH	**Churui**	**3.10**	**249**	P		**Pn**	**14 02 44.0**	**+0.9**
JCH				*e*S		**Sn**	**14 03 18.6**	**-0.4**
JKK2	**Kamakawa 2**	**3.29**	**273**	P		**Pn**	**14 02 47.5**	**+1.9**
ASAJ	**Asahikawa**	**3.40**	**277**	P		**Pn**	**14 02 49.6**	**+2.4**
ASAJ	**Asahikawa**	**3.40**	**277**	P		**Pn**	**14 02 49.4**	**+2.2**
	comp=N,8.1nm,0.3s,baz=79,slow=15,SNR=109							
ASAJ				S		Sn	14 03 37.0	+11
	comp=N,5.7nm,0.3s,baz=198,slow=19,SNR=6.6							
JFR	**Furan**	**3.47**	**261**	P		**Pn**	**14 02 50.3**	**+2.1**
JEM	**Erimo**	**3.51**	**241**	*e*S		**Sn**	**14 03 29.6**	**+0.6**
JSE	**Soyaes**	**3.57**	**291**	P		**Pn**	**14 02 50.8**	**+1.3**
JNBK	**Urakawa-nobuka**	**3.65**	**247**	P		**Pn**	**14 02 51.3**	**+0.8**
JNBK				*e*S		**Sn**	**14 03 30.4**	**-2.0**
YSS	**Yuzh-Sakhalins**	**4.50**	**316**	*i* PN		**Pn**	**14 03 03.5**	**+1.4**
YSS	**Yuzh-Sakhalins**	**4.50**	**316**⇓	*i*P		**Pn**	**14 03 03.2**	**+1.1**
YSS				AMB	AMB		14 03 04.2	
	comp=N,50nm,0.3s							
YSS				*e*S		**Sn**	**14 03 51.8**	**-1.3**
YSS				A	A		14 03 55.7	
	comp=N,40nm,1.0s							
USRK	**Ussuriysk Arra**	**11.03**	**277**	P		**Pn**	**14 04 31.8**	**+0.6**
	comp=N,0.1nm,0.3s,baz=156,slow=7.3,SNR=2.9							
PETK	**Petropavlovsk-**	**11.60**	**33**	PN		**Pn**	**14 04 38.3**	**-0.6**
PETK	**Petropavlovsk-**	**11.60**	**33**	P		**Pn**	**14 04 38.3**	**-0.6**
	comp=N,0.3nm,0.3s,baz=195,slow=14,SNR=7.3							
YAK	**Yakutsk**	**21.01**	**337**	*i* P		**P**	**14 06 29.7**	**-3.3**
SONM	**Songino Array**	**28.55**	**293**	P		**P**	**14 07 44.3**	**-0.2**
	comp=N,0.9nm,0.6s,baz=90,slow=7.6,SNR=2.4							
H11N2	**WAKE ISLAND Hy**	**29.06**	**139**	T		T	14 38 37.3	
	baz=333,slow=0.7,SNR=178							
H11N1	**WAKE ISLAND Hy**	**29.07**	**139**	T		T	14 38 39.6	
	baz=333,slow=0.7,SNR=153							
H11N3	**WAKE ISLAND Hy**	**29.08**	**139**	T		T	14 38 39.9	
	baz=333,slow=0.7,SNR=185							
H11S1	**WAKE ISLAND Hy**	**30.03**	**141**	T		T	14 39 50.9	
	baz=335,slow=0.7,SNR=187							
H11S3	**WAKE ISLAND Hy**	**30.04**	**141**	T		T	14 39 57.1	
	baz=335,slow=0.7,SNR=139							
H11S2	**WAKE ISLAND Hy**	**30.05**	**141**	T		T	14 39 53.5	
	baz=335,slow=0.7,SNR=104							
COLA	**College**	**40.99**	**36**	*i* P		**P**	**14 09 32.8**	**+1.9**
ILAR	**Eielson Array**	**41.40**	**36**	P		**P**	**14 09 33.7**	**-0.6**
	comp=N,1.2nm,0.9s,baz=259,slow=6.2,SNR=14							
MKAR	**Makanchi Array**	**44.66**	**298**	*e*P		**P**	**14 10 01.4**	**+0.5**
MKAR	comp=Z,2.0nm,0.5s			pmax	pmax			
MKAR	**Makanchi Array**	**44.66**	**298**	P		**P**	**14 10 00.8**	**0.0**
	comp=Z,1.5nm,0.5s,baz=78,slow=9.2,SNR=22							
KURK	**Kurchatov**	**45.59**	**304**	*i* P		**P**	**14 10 08.1**	**0.0**
KURK	comp=Z,4.0nm,2.2s			pmax	pmax			
FINES	**FINESS Array B**	**64.89**	**333**	P		**P**	**14 12 25.9**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=28,slow=8.6,SNR=7.6							
NVAR	**Mina Array Bea**	**67.48**	**58**	P		**P**	**14 12 44.5**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=291,slow=6.5,SNR=5.3							
PDAR	**Pinedale Array**	**69.81**	**50**	P		**P**	**14 12 58.4**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=316,slow=2.5,SNR=3.9							
KBZ	**Khabaz**	**69.85**	**312**	P		**P**	**14 12 59.0**	**+0.8**
KBZ	comp=Z,1.0nm,0.6s			pmax	pmax			
KBZ	**Khabaz**	**69.85**	**312**	P		**P**	**14 12 59.0**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=39,slow=6.5,SNR=4.1							
AKASG	**Malin Array Be**	**71.61**	**324**	*e*P		**P**	**14 13 09.2**	**+0.4**
AKASG	comp=Z,1.0nm,0.4s			pmax	pmax			
AKASG	**Malin Array Be**	**71.61**	**324**	P		**P**	**14 13 07.0**	**-1.8**
	comp=Z,0.7nm,0.4s,baz=37,slow=6.1,SNR=5.9							
TXAR	**Lajitas Array**	**82.55**	**56**	P		**P**	**14 14 11.1**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=305,slow=6.3,SNR=3.2							

IGQ 17 14:05:26.9, 3.°92S×80.°15W, h59km±137km, Mb4.3, Ms4.1, 4C-3D, Error ellipse: s-maj=10.2km s-min=3.2km az=4.7, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ARNL	**Arenillas**	**0.38**	**13**	⇓S		Sn	14 05 45.2	-0.2
ARNL	**Arenillas**	**0.38**	**13**	⇓P		Pn	14 05 37.4	-0.3
CATE	**Catamayo**	**0.78**	**93**	⇑S		Sn	14 05 53.8	+0.1
CATE	**Catamayo**	**0.78**	**93**	⇑P		Pn	14 05 42.7	+0.3
IGUA	**Iguiltata**	**2.85**	**32**	P		Pn	14 06 11.0	+0.2
BMAS	**Trigal station**	**2.93**	**35**	⇑P		Pn	14 06 12.4	+0.8
ARRY	**Arrayan**	**2.94**	**35**	P		Pn	14 06 12.2	+0.4
PAT1	**Patacocha**	**2.95**	**36**	P		Pn	14 06 12.9	+0.9
BPAT	**Tungurahua Vol**	**2.96**	**36**	⇓P		Pn	14 06 12.6	+0.5
RETU	**Refugio**	**2.99**	**35**	P		Pn	14 06 13.5	+0.9
JUI6	**Juive**	**3.00**	**34**	P		Pn	14 06 13.1	+0.6
ULBA	**Ulba**	**3.01**	**35**	P		Pn	14 06 13.8	+1.1
BULB	**Ulba Tungurahu**	**3.02**	**35**	P		Pn	14 06 13.8	+1.0
RUN5	**Runtun**	**3.03**	**35**	P		Pn	14 06 13.8	+0.9
BRUN	**Tungurahua Vol**	**3.03**	**35**	⇑P		Pn	14 06 13.4	+0.4
PISA	**Pisayambo**	**3.35**	**32**	P		Pn	14 06 18.1	+0.6
PAST	**Pastocalle**	**3.54**	**25**	P		Pn	14 06 23.7	+3.6
BMOR	**Cotopaxi Volca**	**3.59**	**28**	P		Pn	14 06 24.8	+3.8
CAMI	**Rancho Maria**	**3.62**	**27**	P		Pn	14 06 24.0	+2.8
NAS2	**Nasa**	**3.67**	**27**	P		Pn	14 06 24.3	+2.5
TAMB	**Tambo**	**3.67**	**29**	P		Pn	14 06 22.8	+0.8
VC1	**Cotopaxi 1**	**3.70**	**28**	P		Pn	14 06 26.5	+4.2
ANTI	**Antisana**	**3.98**	**30**	P		Pn	14 06 27.6	+1.3
TERV	**Terraza Guagua**	**4.03**	**23**	P		Pn	14 06 27.8	+0.8
GGP	**Refugio Guagua**	**4.04**	**23**	P		Pn	14 06 28.4	+1.3
PINO	**Pino**	**4.05**	**22**	P		Pn	14 06 28.6	+1.4
OTAV	**Otavalo**	**4.47**	**22**	P		Pn	14 06 33.5	+0.7

*IDC **17** 14:32:23.6±16.0, 5.°78S×128.°86E, h237km±187km, mb3.1/2, mb1 3.3/4, mb1mx3.1/18, mbtmp3.1/4, Error ellipse: s-maj=143.5km s-min=41.5km az=46.0*
*ISCJB **17** 14:32:30.7±0.7, 6.°25S±0.°06×128.°5E±0.°1, h322km, mb3.3/2, Error ellipse: s-maj=13.7km s-min=8.2km az=178.0*
*AUST **17** 14:32:32.4±3.0, 6.°29S×128.°70E, h314km, Error ellipse: s-maj=1.7km s-min=1.2km az=299.0*
ISC 17 14:32:31.3±0.9, 6.°26S±0.°09×128.°5E±0.°1, h322km, n12, σ1°08/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.21**	**39**	P		**Pn**	**14 33 23.1**	**+1.4**
	baz=2.1,SNR=4.2							
TLE	**Tual**	**4.23**	**82**	P		**Pn**	**14 33 42.3**	**+1.0**
	baz=4.1,SNR=37							
FAKI	**Fak Fak**	**4.98**	**48**	P		**Pn**	**14 33 48.9**	**-0.6**
	baz=4.9,SNR=26							
SOEI	**Soe**	**5.46**	**230**	P		**Pn**	**14 33 56.1**	**+0.9**
	baz=5.6,SNR=95							
SWI	**Sorong**	**6.01**	**27**	P		**Pn**	**14 34 02.2**	**+0.7**
	baz=6.0,SNR=6.8							
MTN	**Manton Dam**	**7.03**	**159**	P		**Pn**	**14 34 14.0**	**+0.5**
	baz=7.0,SNR=23							
KDU	**Kakadu**	**7.48**	**149**	P		**Pn**	**14 34 19.1**	**+0.2**
	baz=7.4,SNR=51							
KNRA	**Kununurra**	**9.36**	**179**	P		**Pn**	**14 34 42.4**	**+0.8**
	baz=9.4,SNR=43							
WRA	**Warramunga Arr**	**14.73**	**158**	P		**P**	**14 35 44.7**	**+0.3**
	0.5nm,0.3s,baz=338,slow=11,SNR=16							
WRA				S		**S**	**14 38 22.9**	**-1.7**
	0.1nm,0.3s,baz=339,slow=19,SNR=4.1							
ASAR	**Alice Springs**	**18.06**	**164**	P		**P**	**14 36 21.9**	**+1.4**
	0.6nm,0.3s,baz=346,slow=12,SNR=56							
CMAR	**Chiang Mai Arr**	**38.14**	**311**	P		**P**	**14 39 19.9**	**-0.9**
	0.5nm,0.6s,baz=134,slow=6.4,SNR=7.1							
MKAR	**Makanchi Array**	**66.81**	**327**	P		**P**	**14 42 48.5**	**-0.5**
	0.8nm,0.6s,baz=116,slow=8.3,SNR=11							

*ISCJB **17** 14:51:58.0±0.8, 9.°26S±0.°07×79.°0W±0.°1, h60km, mb3.8/6, MS3.3/2, Error ellipse: s-maj=18.5km s-min=8.1km az=157.2*
*IDC **17** 14:51:58.3±1.0, 9.°45S×79.°18W, h54km±7km, mb3.5/6, mb1 3.8/9, mb1mx3.7/22, mbtmp3.5/9, MS3.4/4, Ms1 3.4/4, ms1mx3.2/18, Error ellipse: s-maj=22.4km s-min=11.6km az=101.0*
*NEIC **17** 14:52:00.2±2.2, 9.°23S×78.°69W, h35km, mb4.0/2, ML4.2(ARE), Error ellipse: s-maj=42.1km s-min=12.2km az=71.0*
NEIC Felt [III] at Chimbote.
ISC 17 14:51:58.9±0.9, 9.°36S±0.°09×79.°1W±0.°1, h60km, n23, σ1°43/21, mb3.8/6, Off coast of northern Peru

| Code | Station Name | Δ° | AZ° | Phase | ID | ISC

	comp=Z,98nm,18.4s,baz=279,slow=30							
H03N2	**Juan Fernandez**	**23.96**	**180**	T	T	15 22 04.4		
	baz=359,slow=0.7,SNR=31							
H03N1	**Juan Fernandez**	**23.96**	**180**	T	T	15 22 04.5		
	baz=359,slow=0.7,SNR=34							
H03N3	**Juan Fernandez**	**23.98**	**180**	T	T	15 22 05.2		
	baz=359,slow=0.7,SNR=31							
TXAR	**Lajitas Array**	**45.20**	**329**	P	**P**	**15 00 10.1**	**-0.3**	
	0.5nm,0.7s,baz=138,slow=11,SNR=4.0							
PDAR	**Pinedale Array**	**58.88**	**334**	P	**P**	**15 01 51.0**	**-0.9**	
	0.9nm,1.0s,baz=142,slow=7.6,SNR=5.5							
NVAR	**Mina Array Bea**	**59.99**	**325**	P	**P**	**15 02 00.9**	**+1.2**	
	0.6nm,0.7s,baz=131,slow=7.0,SNR=6.1							
PPT	**Papeete**	**68.75**	**255**	LR	LR	15 23 39.5		
	comp=Z,22nm,21.7s,baz=18,slow=28							
TORD	**Torodi Ar. Bea**	**83.22**	**76**	P	**P**	**15 04 20.0**	**+0.4**	
	1.4nm,0.9s,baz=267,slow=5.0,SNR=6.5							
TORD				pP	**pP**	**15 04 35.5**	**-0.9**	
	1.4nm,0.8s,baz=289,slow=4.9,SNR=5.8							
ESDC	**Sonseca Array**	**84.66**	**49**	P	**P**	**15 04 26.9**	**+0.5**	
	0.2nm,0.4s,baz=273,slow=4.7,SNR=5.5							
ESDC				pP	**pP**	**15 04 42.5**	**-0.8**	
	0.5nm,0.5s,baz=252,slow=5.3,SNR=2.7							
ILAR	**Eielson Array**	**89.22**	**337**	P	**P**	**15 04 48.6**	**+0.6**	
	0.9nm,1.0s,baz=141,slow=3.6,SNR=7.3							
ILAR				pP	**pP**	**15 05 03.7**	**-1.3**	
	0.7nm,0.9s,baz=126,slow=4.6,SNR=4.5							
ZALV	**Zalesovo Beam**	**133.69**	**13**	PKP	**PKPdf**	**15 11 09.8**	**+1.0**	
	0.3nm,0.4s,baz=298,slow=3.2,SNR=3.7							
CMAR	**Chiang Mai Arr**	**170.75**	**12**	PKPab	**PKPab**	**15 13 18.0**	**-1.2**	
	0.6nm,0.7s,baz=328,slow=4.6,SNR=5.8							

MEX 17 15:03:49.5±0.6, 14.73N×92.81W, h30km±17km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.05**	**338**	*e*P	Pn	15 04 05.7	-2.5
PCIG				*i* S	Sn	15 04 19.0	-2.9
CCIG	**Comitan**	**1.68**	**23**	*i* P	Pn	15 04 15.7	-1.4
CCIG				*i* S	Sn	15 04 35.0	-2.8
TGIG		**2.06**	**352**	*i* P	Pn	15 04 21.1	-1.2
TGIG				*i* S	Sn	15 04 44.1	-2.9

IDC ***17*** *15:42:12.7±1.6, 11.43S×118.04E, h0km, mb4.0/2, mb1 3.7/7, mb1mx3.5/21, mbtmp3.7/7, ML3.4/5, Error ellipse: s-maj=48.6km s-min=20.9km az=46.0*
ISCJB ***17*** *15:42:15.7±0.6, 11.41S±0.06×118.19E±0.06, h36km, mb4.0/3, Error ellipse: s-maj=8.8km s-min=7.9km az=153.8*
AUST ***17*** *15:42:16.8, 11.48S×117.93E, h25km*
ISC 17 15:42:17.7±0.8, 11.35S±0.07×118.19E±0.08, h36km, n17, σ1§34/17, mb4.1/3, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**2.66**	**51**	P	Pn	15 43 15.2	+17
	baz=3.0,SNR=4.3						
BATI	**Baumata**	**5.50**	**79**	Pn	**Pn**	**15 43 38.3**	**+1.2**
	6.5nm,0.3s,baz=267,slow=3.3,SNR=6.8						
BATI				Sn	**Sn**	**15 44 38.5**	**-0.6**
	7.4nm,0.3s,baz=205,slow=20,SNR=7.2						
SOEI	**Soe**	**6.18**	**76**	P	**Pn**	**15 43 48.9**	**+2.3**
	baz=6.5,SNR=4.0						
KAPI	**Kappang**	**6.48**	**14**	Pn	**Pn**	**15 43 51.8**	**+1.1**
	2.8nm,0.3s,baz=189,slow=4.3,SNR=5.3						
KAPI				Sn	**Sn**	**15 44 59.9**	**-3.5**
	10nm,0.3s,baz=186,slow=20,SNR=11						
UGM	**Wanagama**	**8.30**	**294**	P	**Pn**	**15 44 16.2**	**+0.6**
	baz=8.1,SNR=5.1						
FITZ	**Fitzroy Crossi**	**9.84**	**134**	P	**Pn**	**15 44 36.9**	**+0.1**
	baz=10.0,SNR=14						
FITZ	**Fitzroy Crossi**	**9.84**	**134**	Pn	**Pn**	**15 44 36.5**	**-0.3**
	0.3nm,0.3s,baz=347,slow=3.6,SNR=12						
FITZ				Sn	Sn	15 46 18.4	-7.7
	0.5nm,0.3s,baz=184,slow=20,SNR=6.2						
KNRA	**Kununurra**	**11.14**	**114**	P	**Pn**	**15 44 55.3**	**+0.7**
	baz=11,SNR=4.6						
GIRL	**Giralia**	**11.85**	**198**	P	**Pn**	**15 45 03.6**	**-0.5**
	baz=12,SNR=19						
MEEK	**Meekatharra**	**15.21**	**179**	P	**Pn**	**15 45 48.6**	**-1.3**
	baz=15,SNR=9.5						
WRA	**Warramunga Arr**	**17.73**	**121**	P	**Pn**	**15 46 21.7**	**-0.2**
	0.1nm,0.3s,baz=301,slow=9.9,SNR=3.9						
MORW	**Morawa**	**17.74**	**186**	P	**Pn**	**15 46 21.3**	**-0.6**
	baz=18,SNR=22						
BLDU	**Ballidu**	**19.22**	**184**	P	**Pn**	**15 46 39.6**	**-0.3**
	baz=19,SNR=11						
ASAR	**Alice Springs**	**19.33**	**131**	P	**Pn**	**15 46 40.6**	**-0.7**
	0.1nm,0.3s,baz=318,slow=13,SNR=4.9						
ASAR				S	S	15 50 04.1	-13
	0.0nm,0.3s,baz=301,slow=23,SNR=3.2						
NWAO	**Narrogin (SRO)**	**21.49**	**182**	P	P	15 47 08.6	+5.3
	3.7nm,0.5s,baz=2.4,slow=14,SNR=10.0						
NWAO				S	S	15 50 45.2	-15
	3.6nm,0.6s,baz=157,slow=13,SNR=4.3						
MKAR	**Makanchi Array**	**66.19**	**334**	P	**P**	**15 53 02.4**	**+0.6**
	1.4nm,0.7s,baz=140,slow=6.8,SNR=15						
ZALV	**Zalesovo Beam**	**70.95**	**340**	P	**P**	**15 53 31.5**	**+0.3**
	0.5nm,0.4s,baz=148,slow=3.2,SNR=3.3						

KRSC 17 15:53:59.4±6.1, 55.19N×162.93E, h10km±10km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.94**	**228**	P	Pb	15 54 17.7	0.0
MKZ				*i* S	Sg	15 54 29.9	+0.2
KBTR	**Krutoberegovo**	**1.02**	**357**	P	Pn	15 54 21.0	+1.2
KBTR				*i* S	Sn	15 54 35.2	+1.0
ZLN	**Zelenaya**	**1.46**	**305**	P	Pg	15 54 27.3	-0.4
ZLN				*i* S	Sb	15 54 46.0	+0.4
BZMR	**Bezymyannaya**	**1.57**	**299**	P	Pb	15 54 28.9	+0.1
BZMR				*i* S	Sb	15 54 49.4	+0.5
BZWR	**Bezymyannyi-We**	**1.58**	**300**	P	Pb	15 54 28.5	-0.5
BZWR				*i* S	Sn	15 54 48.7	+0.2
TUMR	**Tumrok**	**1.60**	**274**	P	Pn	15 54 28.4	+0.5
TUMR				*i* S	Sn	15 54 48.6	0.0
SMKR	**Semkarok**	**1.62**	**330**	P	Pn	15 54 28.7	+0.6
KMNR	**Kamenistaya**	**1.64**	**291**	P	Pb	15 54 29.4	-0.4
KMNR				*i* S	Sb	15 54 50.4	-0.1
KIRR	**Kirishev**	**1.66**	**299**	P	Pb	15 54 30.0	-0.2
KIRR				*i* S	Sb	15 54 51.3	0.0
BDR	**Baidarnaya**	**1.69**	**326**	P	Pn	15 54 29.8	+0.7
KRSR	**Krestovskiy**	**1.69**	**309**	P	Pn	15 54 29.8	+0.7
KRSR				*i* S	Sn	15 54 50.4	-0.5
KLY	**Klyuchi**	**1.71**	**312**	P	Pn	15 54 28.8	-0.4
KLY				*i* S	Sn	15 54 50.1	-1.0
KPT	**Kopyto**	**1.72**	**298**	P	Pb	15 54 30.8	-0.5
KPT				*i* S	Sb	15 54 53.0	-0.1
KOZ	**Kozyrevsk**	**1.94**	**298**	P	Pb	15 54 34.0	-0.9
KOZ				*i* S	Sb	15 54 58.4	-0.7
SRDR	**Sredinnyy**	**2.14**	**303**	P	Pb	15 54 37.0	-1.3
SRDR				*i* S	Sb	15 55 03.7	-1.3
ESO	**Esso**	**2.51**	**289**	P	Pn	15 54 40.9	+0.6
NLC	**Nalytchevo**	**2.92**	**228**	P	Pn	15 54 47.6	+1.8
NLC				*i* S	Sn	15 55 21.7	+0.8
SDLR	**Sedlovina**	**3.05**	**233**	P	Pn	15 54 47.9	+0.1
SMAR	**Somma**	**3.10**	**233**	P	Pn	15 54 50.6	+2.0
SMAR				*i* S	Sn	15 55 27.0	+1.1
KRX	**Arik**	**3.11**	**236**	P	Pn	15 54 50.7	+2.0
UGLR	**Uglovaya**	**3.12**	**232**	P	Pn	15 54 51.6	+2.8
AVH	**Avacha**	**3.13**	**234**	P	Pn	15 54 50.9	+2.1
AVH				*i* S	Sn	15 55 27.6	+1.3
GNL	**Ganaly**	**3.27**	**245**	P	Pn	15 54 52.8	+1.9
PET	**Petropavlovsk**	**3.32**	**231**	P	Pn	15 54 53.9	+2.5
PET				*i* S	Sn	15 55 33.1	+2.2
RUS	**Russkaya**	**3.81**	**225**	P	Pn	15 55 00.1	+2.1
RUS				*i* S	Sn	15 55 43.8	+1.0
MTVR	**Mutnovka**	**3.91**	**228**	P	Pn	15 55 02.5	+2.9

WEL 17 16:15:38.3±0.2, 45.08S×167.45E, h94km±1km, ML4.1/14, 10C-4D, Error ellipse: s-maj=1.6km s-min=1.3km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.45**	**208**	⇑PN	Pn	16 15 52.9	-0.2
DCZ				SN	Sn	16 16 04.2	0.0
DCZ				SN		16 16 04.2	
DCZ				AML	AML	16 16 04.8	
DCZ				AML	AML	16 16 04.8	
MSZ	**Milford Sound**	**0.53**	**40**	⇑PN	Pn	16 15 53.9	+0.2
MSZ				SN	Sn	16 16 05.9	+0.7
MSZ				AML	AML	16 16 07.7	
MSZ				AML	AML	16 16 07.8	
MSZ				AML	AML	16 16 07.8	
MLZ	**Mavora Lakes**	**0.57**	**118**	⇑PN	Pn	16 15 53.9	-0.2
MLZ				SN	Sn	16 16 05.6	-0.4
MLZ				AML	AML	16 16 06.4	
WHZ	**Wether Hill Ro**	**0.88**	**157**	⇓PN	Pn	16 15 57.0	-0.1
WHZ				SN	Sn	16 16 10.5	-0.6
WHZ				AML	AML	16 16 11.0	
WKZ	**Wanaka**	**1.14**	**78**	⇑PN	Pn	16 16 00.0	+0.1
WKZ				SN	Sn	16 16 16.1	-0.2
WKZ				AML	AML	16 16 18.5	
PYZ	**Puysegur Point**	**1.21**	**206**	PN	Pn	16 16 01.0	+0.3
PYZ				SN	Sn	16 16 18.0	+0.2
EAZ	**Earnscleugh**	**1.32**	**97**	⇑PN	Pn	16 16 02.0	-0.1
EAZ				SN	Sn	16 16 18.8	-1.2
EAZ				AML	AML	16 16 19.3	
EAZ				AML	AML	16 16 20.2	
EAZ				AML	AML	16 16 20.2	
JCZ	**Jackson Bay**	**1.37**	**43**	⇑PN	Pn	16 16 02.5	-0.4
JCZ				SN	Sn	16 16 20.5	-0.9
JCZ				AML	AML	16 16 22.8	
TUZ	**Tuapeka**	**1.76**	**120**	PN	Pn	16 16 07.3	-0.2
TUZ				SN	Sn	16 16 27.5	-2.4
TUZ				AML	AML	16 16 28.1	
APZ	**The Paps**	**1.79**	**168**	PN	Pn	16 16 07.5	-0.5
SYZ	**Scrubby Hill**	**1.87**	**142**	PN	Pn	16 16 08.6	-0.4
SYZ				SN	Sn	16 16 30.6	-1.7
LBZ	**Lake Benmore**	**2.07**	**71**	⇑PN	Pn	16 16 10.0	-1.5
LBZ				AML	AML	16 16 35.0	
LBZ				AML	AML	16 16 35.0	
LBZ				AML	AML	16 16 35.4	
LBZ				AML	AML	16 16 35.4	
FOZ	**Fox Glacier**	**2.21**	**47**	⇑PN	Pn	16 16 12.8	-0.5
FOZ				AML	AML	16 16 42.2	
FOZ				AML	AML	16 16 42.3	
FOZ				AML	AML	16 16 42.5	
FOZ				AML	AML	16 16 44.7	
ODZ	**Otahua Downs**	**2.26**	**90**	⇓PN	Pn	16 16 13.0	-1.1
HHSZ	**Highcliff Hill**	**2.35**	**111**	PN	Pn	16 16 14.9	-0.4
RPZ	**Rata Peaks**	**2.92**	**63**	⇑PN	Pn	16 16 20.5	-2.4
RPZ				SN	Sn	16 16 53.7	-3.5
RPZ				AML	AML	16 16 54.7	
WVZ	**Waitaha Valley**	**3.10**	**51**	⇓PN	Pn	16 16 22.8	-2.5
OXZ	**Oxford**	**3.73**	**64**	PN	Pn	16 16 30.2	-3.6
OXZ				SN	Sn	16 17 10.9	-6.0
MQZ	**McQueen's Vall**	**3.97**	**72**	⇓PN	Pn	16 16 34.2	-2.8
CRLZ	**Canterbury Las**	**4.00**	**70**	PN	Pn	16 16 34.9	-2.4
LTZ	**Lake Taylor**	**4.17**	**58**	PN	Pn	16 16 36.4	-3.3
LTZ				AML	AML	16 17 23.4	
DSZ	**Denniston Nort**	**4.60**	**45**	⇑PN	Pn	16 16 42.8	-2.8
THZ	**Tophouse**	**5.17**	**52**	PN	Pn	16 16 49.8	-3.6
THZ				AML	AML	16 17 47.6	
TUWZ	**Tuamarina**	**5.98**	**55**	PN	Pn	16 17 03.2	-1.1
CAW	**Cannon Point**	**6.84**	**57**	*e*PN	Pn	16 17 11.9	-4.1

NNC 17 16:16:20.0±12.0, 37.05N×70.25E, h0km, mb3.7, mpv3.2, 5C-2D, Error ellipse: s-maj=98.8km s-min=68.5km az=173.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.05**	**2**	⇓Pn	Pn	16 17 52.6	+1.9
	0.3nm,0.2s,baz=179,slow=14,SNR=6.5						
KK31				⇓Sn	Sn	16 19 00.0	-0.7
	1.4nm,0.3s,baz=181,slow=22,SNR=9.4						
TKM2	**Tokmak 2**	**7.15**	**33**	⇑Pn	Pn	16 18 00.8	-5.4
	1.8nm,0.7s						
TKM2				⇑Sn	Sn	16 19 33.6	+5.3
	0.7nm,0.6s						
AB31	**Akbulak array**	**14.31**	**332**	⇑P	Pn	16 19 46.1	+2.3
	0.2nm,0.3s,baz=137,slow=14,SNR=17						
AB31				⇑S	Sn	16 22 20.1	-3.1
	0.7nm,0.6s,baz=152,slow=23,SNR=5.3						
AKTO	**Aktyubinsk**	**16.00**	**331**	⇑P	P	16 20 11.3	+1.3
	2.4nm,0.6s						

ISCJB ***17*** *16:16:42.4±0.6, 9.16S±0.05×127.20E±0.05, h33km, mb4.0/6, Error ellipse: s-maj=7.6km s-min=6.1km az=139.1*
AUST ***17*** *16:16:42.2±3.1, 9.10S×127.00E, h0km, Error ellipse: s-maj=1.2km s-min=0.8km az=343.0*
IDC ***17*** *16:16:45.8±4.2, 9.14S×127.16E, h57km±44km, mb3.7/5, mb1 4.0/9, mb1mx3.7/20, mbtmp3.9/9, ML4.3/4, MS2.7/1, Ms1 2.7/1, ms1mx2.4/38, Error ellipse: s-maj=34.4km s-min=13.6km az=35.0*
NEIC ***17*** *16:16:45.3±1.5, 9.15S×127.09E, h54km±16km, mb4.8/1, Error ellipse: s-maj=16.5km s-min=9.2km az=209.0*
ISC 17 16:16:44.6±0.7, 9.15S±0.06×127.17E±0.06, h35km, n34, σ1§41/36, mb4.0/6, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**2.93**	**258**	P	**Pn**	**16 17 29.0**	**+0.2**
	baz=2.8,SNR=17						
BATI	**Baumata**	**3.62**	**253**	P	**Pn**	**16 17 38.5**	**+0.4**
BATI				S	**Sn**	**16 18 21.7**	**+2.1**
BATI	**Baumata**	**3.62**	**253**	P	**Pn**	**16 17 38.5**	**+0.4**
	11nm,0.3s,baz=155,slow=1.9,SNR=23						
BATI				S	**Sn**	**16 18 21.7**	**+2.1**
	16nm,0.3s,baz=315,slow=23,SNR=12						
MTN	**Manton Dam**	**5.35**	**134**	P	Pn	16 18 08.4	+6.4
	baz=5.5,SNR=162						
KDU	**Kakadu**	**6.29**	**125**	P	Pn	16 18 20.6	+5.8
	baz=6.5,SNR=24						
KNRA	**Kununurra**	**6.68**	**167**	P	Pn	16 18 24.3	+4.1
	baz=6.8,SNR=116						
FAKI	**Fak Fak**	**7.98**	**40**	P	**Pn**	**16 18 40.6**	**+2.4**
	baz=8.1,SNR=6.0						
FITZ	**Fitzroy Crossi**	**9.03**	**189**	P	**Pn**	**16 18 53.8**	**+1.4**
FITZ				S	**Sn**	**16 20 32.9**	**0.0**
FITZ	**Fitzroy Crossi**	**9.03**	**189**	P	**Pn**	**16 18 54.0**	**+1.5**
	baz=9.1,SNR=46						
FITZ	**Fitzroy Crossi**	**9.03**	**189**	P	**Pn**	**16 18 53.8**	**+1.4**
	2.3nm,0.3s,baz=18,slow=11,SNR=69						
FITZ				S	**Sn**	**16 20 32.9**	**0.0**
	1.1nm,0.3s,baz=261,slow=19,SNR=4.7						
FITZ				LR	LR	16 23 17.4	
	comp=Z,46nm,19.2s,baz=256,slow=43						
WRAB	**Tennant Creek**	**12.78**	**148**	*e*Pn	**Pn**	**16 19 44.8**	**+1.0**
	10nm,0.6s						
WRA	**Warramunga Arr**	**12.78**	**148**	P	**Pn**	**16 19 45.1**	**+1.2**
WRA				S	**Sn**	**16 22 04.8**	**-0.1**
WRA	**Warramunga Arr**	**12.78**	**148**	P	**Pn**	**16 19 45.1**	**+1.2**
	2.4nm,0.3s,baz=334,slow=11,SNR=85						
WRA				S	**Sn**	**16 22 04.8**	**-0.1**
	1.2nm,0.3s,baz=324,slow=20,SNR=5.7						
MBWA	**Marble Bar**	**13.93**	**210**	*e*Pn	**Pn**	**16 19 57.5**	**-2.1**
AS31	**Alice Springs**	**15.81**	**157**	*e*Pn	**Pn**	**16 20 25.2**	**+0.5**
ASAR	**Alice Springs**	**15.81**	**157**	P	**Pn**	**16 20 25.1**	**+0.4**
ASAR				S	**Sn**	**16 23 18.0**	**-1.0**
ASAR	**Alice Springs**	**15.81**	**157**	P	**Pn**	**16 20 25.1**	**+0.4**
	1.5nm,0.3s,baz=314,slow=9.9,SNR=95						
ASAR				S	**Sn**	**16 23 18.0**	**-1.0**
	0.3nm,0.3s,baz=335,slow=24,SNR=6.1						
COEN	**Coen**	**16.39**	**108**	*e*Pn	**Pn**	**16 20 31.6**	**-0.5**
COEN	**Coen**	**16.39**	**108**	P	**P**	**16 20 35.3**	**+0.6**
	baz=17,SNR=5.3						
MTSU	**Mount Surprise**	**18.89**	**120**	P	Pn	16 21 09.8	+6.8
	baz=19,SNR=5.0						
MEEK	**Meekatharra**	**19.20**	**204**	P	**Pn**	**16 21 10.2**	**+3.6**
	baz=19,SNR=5.6						
MORW	**Morawa**	**22.41**	**206**	P	P	16 21 53.8	+14
	baz=22,SNR=3.3						
QLP	**Quilpie**	**23.71**	**139**	P	P	16 21 59.5	+6.1
	baz=24,SNR=5.1						
STKA	**Stephens Creek**	**26.29**	**151**	P	**P**	**16 22 17.1**	**+0.2**
STKA	**Stephens Creek**	**26.29**	**151**	P	**P**	**16 22 17.1**	**+0.2**
	0.8nm,0.2s,baz=309,slow=13,SNR=1.8						
CMAR	**Chiang Mai Arr**	**39.09**	**315**	P	**P**	**16 24 07.2**	**-1.5**
CMAR	**Chiang Mai Arr**	**39.09**	**315**	P	**P**	**16 24 07.2**	**-1.5**
	0.5nm,0.5s,baz=147,slow=5.4,SNR=3.8						
CASY	**Casey**	**58.19**	**188**	*e*P	**P**	**16 26 32.9**	**-1.9**
	6.4nm,0.8s						
PETK	**Petropavlovsk-**	**67.24**	**19**	P	**P**	**16 27 35.0**	**-0.3**
PETK	**Petropavlovsk-**	**67.24**	**19**	P	**P**	**16 27 35.0**	**-0.3**
	4.3nm,1.1s,baz=176,slow=7.4,SNR=6.5						
MKAR	**Makanchi Array**	**68.53**	**329**	P	**P**	**16 27 42.1**	**-1.4**
MKAR	**Makanchi Array**	**68.53**	**329**	P	**P**	**16 27 42.1**	**-1.4**
	0.6nm,0.6s,baz=122,slow=7.6,SNR=10.0						
ZALV	**Zalesovo Beam**	**72.30**	**335**	P	**P**	**16 28 04.4**	**-2.0**
ZALV	**Zalesovo Beam**	**72.30**	**335**	P	**P**	**16 28 04.4**	**-2.0**
	1.3nm,0.6s,baz=130,slow=4.9,SNR=5.8						

IDC 17 16:23:32.9±4.3, 13.30S×166.83E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/18, mbtmp3.9/5, MS4.9/1, Ms1 4.9/1, ms1mx3.3/25, Error ellipse: s-maj=165.2km s-min=31.5km az=137.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.79**	**254**	P	P	16 29 59.3	-0.1
	0.8nm,0.7s,baz=83,slow=9.1,SNR=4.6						
ASAR	**Alice Springs**	**32.81**	**247**	P	P	16 30 08.3	0.0
	1.2nm,0.7s,baz=74,slow=9.9,SNR=17						
JNU	**Nakatsue**	**57.52**	**324**	LR	LR	16 52 30.3	
	comp=Z,1μm,21.9s,baz=108,slow=30						
ILAR	**Eielson Array**	**85.31**	**18**	P	P	16 36 11.2	-0.2
	0.4nm,0.9s,baz=230,slow=4.5,SNR=4.7						
MKAR	**Makanchi Array**	**95.88**	**317**	P	P	16 37 01.1	-0.5
	0.6nm,0.6s,baz=92,slow=5.6,SNR=6.7						
ZALV	**Zalesovo Beam**	**96.00**	**324**	P	P	16 37 02.2	+0.4
	0.4nm,0.4s,baz=90,slow=3.2,SNR=3.3						

IDC ***17*** *16:26:13.7±1.0, 13.14S×166.34E, h0km, mb4.1/10, mb1 4.3/12, mb1mx4.1/22, mbtmp4.2/12, ML4.3/2, MS4.0/10, Ms1 4.0/10, ms1mx3.8/25, Error ellipse: s-maj=26.5km s-min=20.0km az=94.0*
ISCJB ***17*** *16:26:15.1±0.6, 13.20S±0.06×166.25E±0.07, h20km, mb4.3/12, MS4.2/7, Error ellipse: s-maj=11.7km s-min=7.0km az=143.9*
NEIC ***17*** *16:26:15.1±4.8, 13.19S×166.46E, h15km±30km, mb4.9/3, Error ellipse: s-maj=14.5km s-min=11.7km az=211.0*
GCMT ***17*** *16:26:22.0±0.3, 13.13S×166.20E, h17km, MW5.0, Moment Tensor Solution. s43,c57; s64,c102; Moment tensor: Scale 10¹⁶Nm; Mrr3.53±.17; Mθθ-0.21±.12; Mφφ-3.32±.13; Mrθ1.51±.32; Mrφ0.78±.08; Mθφ-1.42±.29; Best double couple: M₀4.10000×10¹⁶ NP1:φ₁151.00000°, δ60.00000°, λ74.00000°. NP2:φ₂0.00000°, δ33.00000°, λ115.00000°. Principal axes: T 4.2200, Plg71.0000°, Azm26.0000°; N -0.2900, Plg13.0000°, Azm159.0000°; P -3.9300, Plg14.0000°, Azm253.0000°; Data Used: ll lU lC G CN.*
ISC 17 16:26:16.5±0.6, 13.13S±0.07×166.40E±0.07, h20km, n38, σ1§14/40, mb4.3/12, MS4.1/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.32**	**299**	Pn	**Pn**	**16 28 02.1**	**-0.2**
HNR				Sn	**Sn**	**16 29 25.0**	**+0.1**
HNR	**Honiara**	**7.32**	**299**	P	**Pn**	**16 28 02.1**	**-0.2**
	9.8nm,0.3s,baz=92,slow=7.8,SNR=5.7						
HNR				Sn	**Sn**	**16 29 25.0**	**+0.1**
	11nm,0.3s,baz=197,slow=19,SNR=4.1						
HNR				LR	LR	16 29 37.7	
	comp=Z,176nm,20.5s,baz=125,slow=28						
DZM	**Mont Dzumac**	**8.89**	**180**	*e*Pn	**Pn**	**16 28 25.5**	**+1.5**
	134nm,1.4s						
DZM				*e*LR	LR	16 30 43.0	
	2μm,24.2s						
DZM	**Mont Dzumac**	**8.89**	**180**	Pn	**Pn**	**16 28 23.9**	**-0.2**
DZM				Sn	**Sn**	**16 30 04.7**	**+1.0**
DZM	**Mont Dzumac**	**8.89**	**180**	Pn	**Pn**	**16 28 23.9**	**-0.2**
	1.9nm,0.3s,baz=204,slow=20,SNR=4.1						
DZM				Sn	**Sn**	**16 30 04.7**	**+1.0**
	1.1nm,0.3s,baz=54,slow=18,SNR=2.6						
DZM				LR	LR	16 30 55.5	
	comp=Z,340nm,21.6s,baz=10,slow=32						
MSVF	**Nonsavu**	**12.13**	**114**	*e*Pn	**Pn**	**16 29 05.7**	**-2.7**
	88nm,1.7s						
PMG	**Port Moresby**	**19.23**	**279**	LR	LR	16 36 58.1	
	comp=Z,242nm,18.7s,baz=131,slow=34						
CTA	**Charters Tower**	**20.50**	**248**	P	**P**	**16 30 53.8**	**+0.3**
CTA	**Charters Tower**	**20.50**	**248**	P	**P**	**16 30 53.8**	**+0.3**
	1.4nm,0.4s,baz=66,slow=10.0,SNR=2.4						
AFI	**Afiamalu**	**21.23**	**95**	LR	LR	16 37 54.9	
	comp=Z,552nm,18.5s,baz=257,slow=33						
ARMA	**Armidale**	**21.96**	**216**	*e*P	**P**	**16 31 08.3**	**-1.0**
	69nm,1.4s						
STKA	**Stephens Creek**	**29.43**	**227**	P	**P**	**16 32 19.8**	**+0.9**
STKA	**Stephens Creek**	**29.43**	**227**	P	**P**	**16 32 19.8**	**+0.9**
	2.8nm,0.8s,baz=28,slow=10,SNR=6.3						
STKA				LR	LR	16 44 19.3	
	comp=Z,892nm,18.8s,baz=50,slow=37						
RPZ	**Rata Peaks**	**30.74**	**173**	LR	LR	16 41 55.7	
	comp=Z,127nm,20.2s,baz=25,slow=31						
WRA	**Warramunga Arr**	**31.43**	**253**	P	**P**	**16 32 35.5**	**-1.3**
WRA	**Warramunga Arr**	**31.43**	**253**	P	**P**	**16 32 35.5**	**-1.3**
	1.2nm,0.8s,baz=83,slow=8.6,SNR=6.0

ATD				Pg		**Pb**	**16 30 39.2**	**-0.8**
	28nm,0.3s,baz=274,slow=8.9,SNR=23							
ATD				Lg		Lg	16 31 26.6	
	13nm,0.3s,baz=359,slow=23,SNR=9.2							
TRBA	**At Turbah**	**4.15**	**90**	*i* P		**Pn**	**16 30 43.1**	**0.0**
TRBA				*e*			16 30 43.5	
	baz=236,slow=8.6							
TRBA				AMb		AMB	16 30 43.8	
	comp=Z,0.9nm,0.2s							
TRBA				*i* S		**Sb**	**16 31 43.0**	**0.0**
FURI	**Furi**	**4.52**	**195**	*e*P		**Pg**	**16 31 03.3**	**-2.9**
FURI				S		**Sg**	**16 32 06.5**	**+1.6**
KMBO	**Kilima Mbogo**	**14.56**	**190**	LR		LR	16 39 29.2	
	comp=Z,48nm,21.9s,baz=91,slow=41							
MBAR	**Mbarara**	**16.50**	**214**	Lg		Lg	16 38 22.9	
	comp=Z,0.4nm,0.3s,baz=300,slow=20,SNR=4.4							
MBAR				LR		LR	16 39 53.2	
	comp=Z,177nm,18.5s,baz=353,slow=37							
BRTR	**Keskin Array B**	**26.89**	**349**	P		**P**	**16 35 21.6**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=165,slow=12,SNR=3.5							
GNI	**Garni**	**27.09**	**8**	LR		LR	16 46 04.5	
	comp=Z,45nm,19.5s,baz=107,slow=36							
TORD	**Torodi Ar. Bea**	**37.12**	**274**	P		**P**	**16 36 50.9**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=80,slow=5.9,SNR=3.5							
AKASG	**Malin Array Be**	**38.29**	**349**	P		**P**	**16 36 59.6**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=171,slow=7.3,SNR=5.9							
GERES	**GERESS Array B**	**41.51**	**334**	P		**P**	**16 37 26.6**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=145,slow=4.9,SNR=7.4							
BOSA	**Boshof**	**43.99**	**199**	LR		LR	16 57 52.1	
	comp=Z,33nm,18.5s,baz=201,slow=38							
ESDC	**Sonseca Array**	**46.57**	**313**	P		**P**	**16 38 07.9**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=115,slow=7.1,SNR=5.3							
MKAR	**Makanchi Array**	**48.72**	**38**	P		**P**	**16 38 24.7**	**+0.4**
	comp=Z,1.2nm,0.9s,baz=226,slow=6.1,SNR=6.7							
ZALV	**Zalesovo Beam**	**53.73**	**31**	P		**P**	**16 39 02.1**	**+0.4**
	comp=Z,1.5nm,0.9s,baz=251,slow=8.8,SNR=5.7							
CMAR	**Chiang Mai Arr**	**56.86**	**77**	P		**P**	**16 39 24.8**	**-0.1**
	comp=Z,1.4nm,0.9s,baz=277,slow=7.9,SNR=11							

ISCJB ***17*** *16:43:37.2±0.7,26°46S×0°03×70°8W×0°2,h59km±11km, mb3.9/1,Error ellipse: s-maj=26.8km s-min=4.9km az=1.1*
NEIC ***17*** *16:43:38.5±0.8,26°46S×70°70W,h38km±28km, MG4.3(GUC),Error ellipse: s-maj=34.5km s-min=7.0km az=92.0*
NEIC Felt [II] at Caldera, Chanaral and Diego de Almagro.
GUC ***17*** *16:43:39.0±0.7,26°51S×70°68W,h40km±3km,ML4.3*
IDC ***17*** *16:43:58.7±3.5,24°98S×68°03W,h0km,mb4.0/1, mb1 4.0/2,mb1mx3.6/17,mbtmp3.9/2,ML3.8/1,Error ellipse: s-maj=116.9km s-min=55.7km az=69.0*

ISC 17 16:43:38.2±2.6,26°45S±0°03×70°8W±0°1,h39km±11km, n21,σ1°32/30,2C-5D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
CDCH	**Caldera**	**0.61**	**182**	⇑*i*P	**Pn**	**16 43 50.9**		**+0.4**
CDCH				*i* S	**Sn**	**16 43 59.4**		**+0.2**
CDCH	**Caldera**	**0.61**	**182**	⇑*i*P	**Pn**	**16 43 50.9**		**+0.4**
CDCH				*i* S	**Sn**	**16 43 59.4**		**+0.2**
CDCH				AML	AML	16 44 01.2		
	comp=E,15μm,0.3s							
CPCH	**Copiapo**	**0.99**	**157**	⇓*i*P	**Pn**	**16 43 55.6**		**+0.1**
CPCH				*i* S	**Sn**	**16 44 07.9**		**-0.4**
CPCH	**Copiapo**	**0.99**	**157**	⇓*i*P	**Pn**	**16 43 55.6**		**+0.1**
CPCH				*i* S	**Sn**	**16 44 07.9**		**-0.4**
CPCH				AML	AML	16 44 10.4		
	comp=E,82μm,0.1s							
VACH	**Vallenar**	**2.12**	**179**	⇓*i*P	**Pn**	**16 44 11.9**		**+0.8**
VACH				*i* S	**Sn**	**16 44 37.4**		**+1.2**
VACH	**Vallenar**	**2.12**	**179**	⇓*i*P	**Pn**	**16 44 11.9**		**+0.8**
VACH				*i* S	**Sn**	**16 44 37.4**		**+1.2**
VACH				AML	AML	16 44 43.5		
	comp=N,6μm,0.5s							
LCO	**Las Campanas**	**2.55**	**178**	*e*Pn	**Pn**	**16 44 17.6**		**+0.3**
LCO				*e*Sn	**Sn**	**16 44 46.4**		**-0.9**
LCO	**Las Campanas**	**2.55**	**178**	AML	AML	16 45 03.8		
	comp=E,1μm,0.4s							
ANCH	**Antofagasta**	**2.78**	**7**	*e*P	**Pn**	**16 44 20.6**		**+0.4**
ANCH				*i* S	**Sn**	**16 44 53.5**		**+1.1**
ANCH	**Antofagasta**	**2.78**	**7**	*e*P	**Pn**	**16 44 20.6**		**+0.4**
ANCH				*i* S	**Sn**	**16 44 53.5**		**+1.1**
ANCH				AML	AML	16 45 16.1		
	comp=E,588nm,0.5s							
PB10	**Plate Boundary**	**2.93**	**4**	⇓*i*P	**Pn**	**16 44 22.5**		**+0.2**
PB10				*i* S	**Sn**	**16 44 57.3**		**+1.0**
PB10				AML	AML	16 45 14.2		
	comp=E,2μm,0.6s							
CEN1	**Los Morros**	**3.09**	**10**	*i* P	**Pn**	**16 44 23.1**		**-1.6**
CEN1				*i* S	**Sn**	**16 44 57.8**		**-2.7**
CEN1	**Los Morros**	**3.09**	**10**	*i* P	**Pn**	**16 44 23.1**		**-1.6**
CEN1				*i* S	**Sn**	**16 44 57.8**		**-2.7**
CEN1				AML	AML	16 45 16.7		
	comp=E,417nm,0.4s							
LVC	**Limon Verde**	**4.19**	**25**	*e*Pn	**Pn**	**16 44 41.2**		**+1.5**
LVC				*e*Sn	**Sn**	**16 45 31.2**		**+3.6**
LPAZ	**La Paz**	**10.41**	**14**	*e*Pn	**Pn**	**16 46 05.6**		**+0.1**
LPAZ	**La Paz**	**10.41**	**14**	Pn	**Pn**	**16 46 05.7**		**+0.1**
	comp=E,0.5nm,0.3s,baz=195,slow=6.5,SNR=12							
TRQA	**Tornquist**	**13.76**	**149**	*e*Pn	**Pn**	**16 46 49.4**		**-1.3**
SAML	**Samuel**	**18.84**	**24**	*e*P	**P**	**16 47 55.1**		**+0.3**
TORD	**Torodi Ar. Bea**	**80.64**	**70**	P	P	16 55 58.3		+11
	comp=E,1.1nm,0.7s,baz=253,slow=5.6,SNR=6.2							
ZALV	**Zalesovo Beam**	**147.14**	**27**	PKP	PKPab	17 03 35.9		+18
	comp=E,1.1nm,0.8s,baz=308,slow=3.5,SNR=4.9							
MKAR	**Makanchi Array**	**150.59**	**39**	PKPbc	PKPab	17 03 45.3		+13
	comp=E,0.5nm,0.6s,baz=327,slow=3.5,SNR=5.5							

JMA ***17*** *16:51:44.6±0.1,33°33N×137°55E,h403km,M3.0*
ISCJB ***17*** *16:51:50.2±0.4,33°49N±0°08×137°53E±0°08,h352km, mb3.0/7,Error ellipse: s-maj=11.0km s-min=8.5km az=153.4*
IDC ***17*** *16:51:51.7±2.1,33°47N×137°40E,h347km±24km,mb2.8/7, mb1 3.0/11,mb1mx2.9/30,mbtmp2.9/11,Error ellipse: s-maj=22.2km s-min=13.8km az=107.0*

ISC 17 16:51:51.5±0.7,33°54N±0°09×137°49E±0°07,h352km,n30, σ0°96/31,mb3.0/7,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
TTO3	**TONANKAI O.B.S**	**0.33**	**347**	P	**Pn**	**16 52 35.4**		**0.0**
TTO2	**TONANKAI O.B.S**	**0.43**	**297**	P	**Pn**	**16 52 35.2**		**-0.2**
TK02	**Tokai 2**	**0.46**	**29**	P	**Pn**	**16 52 35.2**		**-0.4**
TTO4	**TONANKAI O.B.S**	**0.47**	**5**	P	**Pn**	**16 52 35.3**		**-0.2**
TTO1	**TONANKAI O.B.S**	**0.59**	**278**	P	**Pn**	**16 52 35.5**		**-0.3**
TTO5	**TONANKAI O.B.S**	**0.74**	**15**	P	**Pn**	**16 52 36.2**		**-0.1**
TK04	**Tokai 4**	**0.90**	**21**	P	**Pn**	**16 52 36.9**		**0.0**
JIE	**Ise**	**1.07**	**323**	P	**Pn**	**16 52 36.9**		**-0.8**
JWZ	**Kozaga**	**1.48**	**270**	P	**Pn**	**16 52 38.3**		**-1.5**
JWY	**Kouya**	**1.72**	**294**	P	**Pn**	**16 52 40.4**		**-0.8**
JOD2	**Odawara 2**	**2.17**	**37**	P	**Pn**	**16 52 43.8**		**-0.4**
JGM	**Miyama**	**2.25**	**344**	P	**Pn**	**16 52 44.1**		**-0.7**
JWT	**Wachi**	**2.45**	**316**	P	**Pn**	**16 52 45.2**		**-1.1**
JAI	**Aioi**	**2.52**	**277**	P	**Pn**	**16 52 45.9**		**-1.2**
JRY	**Ryogami san**	**2.73**	**25**	P	**Pn**	**16 52 48.6**		**0.0**
JKG	**Kaga**	**2.89**	**341**	P	**Pn**	**16 52 49.0**		**-1.0**
MAT	**Matsushiro**	**3.06**	**11**	P	**Pn**	**16 52 50.4**		**-1.1**
MAT				S	S	16 53 30.6		-9.1
MAT	**Matsushiro**	**3.06**	**11**	P	**Pn**	**16 52 50.7**		**-0.8**
BSO1	**Boso 1**	**3.10**	**68**	P	**Pn**	**16 52 49.3**		**-1.9**
BSO1				S	**S**	**16 53 36.7**		**-2.7**
JNU	**Nakatsue**	**5.55**	**268**	P	**Pn**	**16 53 16.7**		**-0.7**
	0.6nm,0.3s,baz=159,slow=14,SNR=5.2							
KSRS	**Korea Array**	**8.72**	**299**	P	**Pn**	**16 53 54.3**		**+0.1**
	0.6nm,0.3s,baz=110,slow=13,SNR=23							
ASAJ	**Asahikawa**	**11.29**	**19**	P	**P**	**16 54 25.2**		**+0.3**
	0.2nm,0.3s,baz=211,slow=12,SNR=6.8							
USRK	**Ussurisyk Arra**	**11.47**	**340**	P	**P**	**16 54 27.1**		**+0.1**
	0.6nm,0.3s,baz=149,slow=10,SNR=11							
CMAR	**Chiang Mai Arr**	**37.52**	**256**	P	**P**	**16 58 33.1**		**-0.2**
	0.2nm,0.4s,baz=47,slow=8.0,SNR=3.5							
MKAR	**Makanchi Array**	**43.36**	**305**	P	**P**	**16 59 20.3**		**+0.1**
	0.2nm,0.4s,baz=85,slow=9.4,SNR=6.4							
WRA	**Warramunga Arr**	**53.27**	**184**	P	**P**	**17 00 34.9**		**-0.4**
	0.5nm,0.4s,baz=0.6,slow=7.6,SNR=10							
ILAR	**Eielson Array**	**54.11**	**31**	P	**P**	**17 00 41.7**		**+0.6**
	0.3nm,0.6s,baz=255,slow=5.4,SNR=5.7							
ASAR	**Alice Springs**	**56.99**	**184**	P	**P**	**17 01 01.6**		**0.0**
	0.2nm,0.3s,baz=0.6,slow=4.2,SNR=16							
STKA	**Stephens Creek**	**65.18**	**176**	P	**P**	**17 01 56.3**		**+0.4**
	0.5nm,0.5s,baz=68,slow=4.0,SNR=2.0							
NVAR	**Mina Array Bea**	**79.67**	**51**	P	**P**	**17 03 22.9**		**+1.8**
	0.2nm,0.5s,baz=268,slow=5.4,SNR=2.8							

IDC ***17*** *16:52:28.7±2.1,32°87N×139°20E,h166km±20km,mb3.4/7, mb1 3.6/10,mb1mx3.4/27,mbtmp3.5/10,MS3.5/2, Ms1 3.5/2,ms1mx2.8/26,Error ellipse: s-maj=29.2km s-min=11.9km az=84.0*
ISCJB ***17*** *16:52:31.7±0.5,32°98N±0°07×139°37E±0°06, h217km±4km,mb3.5/7,Error ellipse: s-maj=10.6km s-min=8.4km az=4.1*
JMA ***17*** *16:52:33.2±0.3,33°06N×139°40E,h213km±3km,M3.8*

ISC 17 16:52:33.4±0.8,33°03N±0°07×139°36E±0°06,h212km±6km, n32,σ1°11/36,mb3.9/7,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
JHCJ	**Hachijojimakas**	**0.37**	**84**	S	**S**	**16 53 22.3**		**-1.1**
JHJ2	**Mitsune**	**0.39**	**78**	P	**Pn**	**16 53 01.3**		**-0.3**
JHJ2				S	**S**	**16 53 24.1**		**+0.6**
JMY	**Miyakejima3**	**1.04**	**7**	P	**Pn**	**16 53 04.9**		**+0.2**
JKO	**Kozu shima**	**1.17**	**351**	P	**Pn**	**16 53 05.4**		**-0.1**
TK02	**Tokai 2**	**1.62**	**305**	P	**Pn**	**16 53 09.5**		**+0.6**
TK02				S	**S**	**16 53 37.5**		**+1.0**
TK03	**Tokai 3**	**1.62**	**315**	S	**S**	**16 53 38.4**		**+1.7**
TK01	**Tokai 1**	**1.65**	**297**	S	**S**	**16 53 36.0**		**-0.8**
JIM2	**Oshima 3**	**1.68**	**2**	P	**Pn**	**16 53 09.6**		**-0.2**
JIZS	**Izushimoda**	**1.73**	**347**	P	**Pn**	**16 53 10.3**		**+0.1**
JIZS				S	**S**	**16 53 38.4**		**-0.3**
TK04	**Tokai 4**	**1.83**	**318**	P	**Pn**	**16 53 11.5**		**+0.5**
TK04				S	**S**	**16 53 40.8**		**+0.7**
BSO3	**Boso 3**	**2.01**	**28**	P	**Pn**	**16 53 12.1**		**-0.5**
BSO1	**Boso 1**	**2.10**	**39**	P	**Pn**	**16 53 13.1**		**-0.1**
BSO1				S	**S**	**16 53 45.4**		**+1.2**
TTO1	**TONANKAI O.B.S**	**2.23**	**286**	P	**Pn**	**16 53 14.9**		**0.0**
JOD2	**Odawara 2**	**2.24**	**354**	P	**Pn**	**16 53 15.3**		**+0.1**
JYN	**Shimob**	**2.55**	**345**	P	**Pn**	**16 53 19.1**		**+0.5**
JIE	**Ise**	**2.59**	**302**	P	**Pn**	**16 53 18.7**		**-0.3**
JIE				S	**S**	**16 53 53.5**		**-0.9**
JRY	**Ryogami san**	**3.00**	**353**	P	**Pn**	**16 53 23.6**		**-0.1**
JWZ	**Kozaga**	**3.09**	**280**	P	**Pn**	**16 53 24.1**		**-0.6**
JWY	**Kouya**	**3.36**	**292**	P	**Pn**	**16 53 27.9**		**0.0**
JAG	**Ashikaga**	**3.38**	**1**	P	**Pn**	**16 53 26.7**		**-1.4**
JAG				*e*S	**S**	**16 54 07.6**		**-3.3**
JCJ	**Chichijima**	**6.40**	**157**	P	Pn	16 54 00.6		-5.5
	12nm,0.3s,baz=280,slow=24,SNR=14							
JCJ				S	S	16 55 10.1		-9.5
	21nm,0.3s,baz=285,slow=21,SNR=9.2							
KSRS	**Korea Array**	**10.34**	**298**	LR	LR	16 58 38.2		
	comp=Z,71nm,20.2s,baz=130,slow=36							
ASAJ	**Asahikawa**	**11.35**	**12**	P	**Pn**	**16 55 08.3**		**-1.3**
	1.3nm,0.3s,baz=254,slow=21,SNR=12							
USRK	**Ussuriysk Arra**	**12.54**	**335**	P	**Pn**	**16 55 24.1**		**-0.5**
	baz=150,slow=15,SNR=3.6							
MKAR	**Makanchi Array**	**44.93**	**305**	P	**P**	**17 00 27.8**		**+0.7**
	0.1nm,0.4s,baz=92,slow=8.7,SNR=2.8							
BVAR	**Borovoye Array**	**52.09**	**314**	LR	LR	17 24 38.8		
	comp=Z,126nm,18.1s,baz=102,slow=37							
WRA	**Warramunga Arr**	**52.90**	**186**	P	**P**	**17 01 26.2**		**-1.5**
	1.6nm,0.4s,baz=1.1,slow=7.7,SNR=45							
ILAR	**Eielson Array**	**53.78**	**31**	P	**P**	**17 01 34.9**		**+1.3**
	0.5nm,0.7s,baz=276,slow=6.3,SNR=5.7							
ASAR	**Alice Springs**	**56.62**	**186**	P	**P**	**17 01 53.1**		**-1.3**
	0.8nm,0.3s,baz=13,slow=13,SNR=49							
STKA	**Stephens Creek**	**64.60**	**178**	P	**P**	**17 02 47.7**		**-0.3**
	1.2nm,0.4s,baz=340,slow=6.9,SNR=8.2							
FINES	**FINESS Array B**	**71.56**	**332**	P	**P**	**17 03 30.1**		**-0.9**
	4.6nm,1.0s,baz=42,slow=6.4,SNR=3.1							
NVAR	**Mina Array Bea**	**78.76**	**51**	P	**P**	**17 04 15.4**		**+2.6**
	0.4nm,0.8s,baz=297,slow=6.6,SNR=3.6							

IDC 17 17:00:50.5±10.0,18°45N×148°09E,h0km,mb3.7/5, mb1 3.8/5,mb1mx3.5/26,mbtmp3.7/5,Error ellipse: s-maj=416.5km s-min=23.3km az=83.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
WRA	**Warramunga Arr**	**40.47**	**200**	P	P	17 08 30.9		-0.2
	0.4nm,0.8s,baz=22,slow=8.2,SNR=4.3							
ASAR	**Alice Springs**	**44.09**	**199**	P	P	17 09 00.5		-0.1
	0.5nm,0.6s,baz=20,slow=7.0,SNR=7.5							
ZALV	**Zalesovo Beam**	**59.59**	**322**	P	P	17 10 55.8		-0.2
	0.7nm,0.6s,baz=115,slow=8.6,SNR=3.6							
KURBB	**Kurchatov Arra**	**63.02**	**318**	P	P	17 11 19.2		0.0
	0.7nm,0.6s,baz=91,slow=7.4,SNR=16							
BVAR	**Borovoye Array**	**68.11**	**321**	P	P	17 11 52.3		+0.2
	0.6nm,0.6s,baz=95,slow=7.8,SNR=5.0							

IDC 17 17:01:16.8±3.1,5°63N×127°45E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.3/22,mbtmp3.3/3,Error ellipse: s-maj=239.3km s-min=30.1km az=66.0,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
WRA	**Warramunga Arr**	**26.30**	**165**	P	P	17 06 53.2		-1.2
	0.8nm,0.9s,baz=346,slow=9.8,SNR=4.8							
ASAR	**Alice Springs**	**29.79**	**168**	P	P	17 07 27.1		+1.4
	0.3nm,1.0s,baz=342,slow=10,SNR=2.9							
MKAR	**Makanchi Array**	**56.43**	**324**	P	P	17 11 00.2		-0.1
	0.1nm,0.5s,baz=120,slow=6.8,SNR=3.1							

IDC ***17*** *17:08:06.6±1.9,30°19N×57°59E,h0km,mb3.9/13, mb1 4.0/18,mb1mx3.9/35,mbtmp3.9/18,ML3.5/4,MS3.3/7, Ms1 3.4/7,ms1mx3.1/49,Error ellipse: s-maj=41.1km s-min=14.9km az=160.0*
ISCJB ***17*** *17:08:07.9±0.3,30°16N±0°03×57°56E±0°05,h15km, mb3.8/12,MS3.1/2,Error ellipse: s-maj=5.9km s-min=3.5km az=12.5*
CSEM ***17*** *17:08:08.7±0.1,30°16N×57°65E,h2km,Ms4.1,Error ellipse: s-maj=5.2km s-min=2.8km az=99.0*
THR ***17*** *17:08:08.8±0.3,30°18N×57°44E,h12km±5km,ML4.1*
TEH ***17*** *17:08:10.0,30°17N×57°68E,h4km,ML4.3*
KISR ***17*** *17:08:11.1±0.4,30°54N×56°77E,h5km±999km,ML3.7*
OMAN ***17*** *17:08:28.0±99.0,28°97N×57°64E,h34km±54km,Error ellipse: s-maj=199.8km s-min=10.7km az=9.0*

ISC 17 17:08:08.6±0.5,30°14N±0°04×57°52E±0°05,h15km,n94, σ1°84/90,mb3.9/12,6C-3D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
KRBR	**Kerman**	**0.68**	**257**	*e*Pg	**Pg**	**17 08 21.1**		**-0.7**
KRBR				AML	AML	17 08 36.2		
	comp=E,8μm,0.3s							
KRBR	**Kerman**	**0.68**	**257**	*e*Pg	**Pg**	**17 08 21.1**		**-0.7**
IBAF	**Bafgh**	**2.21**	**311**	*e*Pn	**Pb**	**17 08 47.7**		**-0.7**
IBAF				*e*		17 09 26.0		
	comp=Z,19μm,0.2s							
IBAF	**Bafgh**	**2.21**	**311**	*e*Pn	**Pb**	**17 08 47.7**		**-0.7**
IKOO	**Kooshah**	**2.61**	**29**	*e*Pn	**Pn**	**17 08 50.6**		**+0.1**
IKOO				*e*Sg	**Sb**	**17 09 28.4**		**+1.2**
IKOO				*e*		17 09 32.1		
	comp=Z,24μm,0.1s							
IKOO	**Kooshah**	**2.61**	**29**	*e*Pn	**Pn**	**17 08 50.6**		**+0.1**
IKOO				*e*Sg	**Sb**	**17 09 28.4**		**+1.2**
IMEH	**Mehriz**	**2.79**	**297**	*e*Pn	**Pb**	**17 08 56.0**		**-2.3**
IMEH				*e*		17 09 42.3		
	comp=Z,7μm,0.2s							
IMEH	**Mehriz**	**2.79**	**297**	*e*Pn	**Pb**	**17 08 56.0**		**-2.3**
IBND	**Bandar-abas**	**2.81**	**198**	*e*Pn	**Pb**	**17 08 56.5**		**-2.0**
IBND				*e*		17 09 53.2		
	comp=Z,16μm,0.4s							
IBND	**Bandar-abas**	**2.81**	**198**	*e*Pn	**Pb**	**17 08 56.5**		**-2.0**
ITEG	**Tejag**	**2.94**	**211**	⇑*e*Pn	**Pn**	**17 08 55.3**		**+0.3**
ITEG				*e*		17 09 03.3		
	comp=Z,19μm,0.1s							
ITEG	**Tejag**	**2.94**	**211**	⇑*e*Pn	**Pn**	**17 08 55.3**		**+0.3**
BNDS	**Bandar-Abbas**	**2.97**	**204**	*e*Pn	**Pn**	**17 08 58.1**		**+2.7**
BNDS				AML	AML	17 09 42.6		
	comp=N,630nm,0.8s							
BNDS				AML	AML	17 09 44.9		
	comp=E,691nm,0.8s							
BNDS	**Bandar-Abbas**	**2.97**	**204**	*e*Pn	**Pn**	**17 08 58.1**		**+2.7**
IDAH	**Dahanechah**	**3.28**	**37**	*e*Pn	**Pn**	**17 09 00.7**		**+1.0**
IDAH				*e*		17 10 04.5		
	comp=Z,9μm,0.3s							
IDAH	**Dahanechah**	**3.28**	**37**	*e*Pn	**Pn**	**17 09 00.7**		**+1.0**
ICHK	**Chekchek**	**3.39**	**309**	*e*Pn	Pn	17 09 04.8		+3.6
ICHK				*e*		17 10 07.7		
	comp=Z,6μm,0.3s							
ICHK	**Chekchek**	**3.39**	**309**	*e*Pn	Pn	17 09 04.8		+3.6
TABS	**Tabas**	**3.52**	**355**	*e*Pn	**Pn**	**17 09 04.7**		**+1.9**
TABS				AML	AML	17 10 12.2		
	comp=N,353nm,0.6s							
TABS	**Tabas**	**3.52**	**355**	*e*Pn	**Pn**	**17 09 04.7**		**+1.9**
IMON	**Monand**	**3.55**	**30**	*e*		17 09 16.6		
	comp=Z,5μm,0.1s							
IMON				*e*Pn	**Pn**	**17 09 04.3**		**+0.9**
ISAD	**Sadrabad**	**3.73**	**299**	*e*Pn	Pn	17 09 09.6		+3.6
ISAD				*e*		17 10 16.8		
	comp=Z,3μm,0.2s							
ISAD	**Sadrabad**	**3.73**	**299**	*e*Pn	Pn	17 09 09.6		+3.6
ISRV	**Sarvestan**	**3.90**	**260**	*e*Pn	Pn	17 09 12.4		+4.1
ISRV				*e*		17 10 50.7		
	comp=Z,3μm,0.5s							
ISRV	**Sarvestan**	**3.90**	**260**	*e*Pn	Pn	17 09 12.4		+4.1
BANOM	**Banah**	**4.33**	**195**	⇓P	**Pn**	**17 09 15.6**		**+1.6**
	SNR=16							
BANOM				⇓S	Sn	17 09 54.9		-9.4
BANOM	**Banah**	**4.33**	**195**	P	**Pn**	**17 09 15.6**		**+1.6**
	SNR=16							
BANOM				Sn	**Sn**	**17 10 04.2**		**-0.1**
GHIR	**Ghir-Karzin**	**4.37**	**246**	*e*PN5	**Pn**	**17 09 16.5**		**+2.0**
IZEF	**Zefreh**	**5.21**	**303**	*e*Pn	Pn	17 09 29.6		+3.3
IZEF				*e*		17 11 00.2		
	comp=Z,919nm,0.5s							
IZEF	**Zefreh**	**5.21**	**303**	*e*Pn	Pn	17 09 29.6		+3.3
NAZ	**Nazwa, Dubai**	**5.39**	**198**	Pn	**Pn**	**17 09 31.0**		**+2.6**
HATD	**Hatta, Dubai**	**5.43**	**193**	Pn	**Pn**	**17 09 31.3**		**+2.2**
ASHO	**Ashiyiah**	**5.59**	**194**	⇑P	**Pn**	**17 09 33.9**		**+2.7**
	SNR=13							
ASHO	**Ashiyiah**	**5.59**	**194**	P	**Pn**	**17 09 33.9**		**+2.7**
	SNR=13							
FAQ	**Al Faqa, Dubai**	**5.64**	**198**	Pn	**Pn**	**17 09 34.1**		**+2.2**
ASUD	**Al Ashush, Dub**	**5.83**	**200**	Pn	**Pn**	**17 09 36.8**		**+2.4**
ISFB	**Sefidab**	**6.13**	**315**	*e*Pn	**Pn**	**17 09 41.7**		**+3.0**
ISFB				*e*		17 11 35.9		
	comp=Z,1μm,0.5s							
ISFB	**Sefidab**	**6.13**	**315**	*e*Pn	**Pn**	**17 09 41.7**		**+3.0**
IMOG	**Moghan**	**6.15**	**14**	*e*Pn	**Pn**	**17 09 40.6**		**+1.5**
IMOG				*e*		17 09 44.6		
	comp=Z,285nm,0.2s							
IMOG	**Moghan**	**6.15**	**14**	*e*Pn	**Pn**	**17 09 40.6**		**+1.5**
ISRO	**Mashad**	**6.37**	**14**	*e*Pn	**Pn**	**17 09 42.8**		**+0.8**
ISRO	**Mashad**	**6.37**	**14**	*e*Pn	**Pn**	**17 09 42.8**		**+0.8**
IAKL	**Akhelmad**	**6.53**	**9**	*e*Pn	**Pn**	**17 09 45.3**		**+1.0**
IAKL				*e*		17 09 50.3		
	comp=Z,430nm,0.1s							
HOQ	**Hoqain**	**6.53**	**182**	⇓P	**Pn**	**17 09 46.0**		**+1.9**
	SNR=18							
HOQ	**Hoqain**	**6.53**	**182**	P	**Pn**	**17 09 46.0**		**+1.9**
	SNR=18							
IMYA	**Miami**	**6.55**	**19**	*e*Pn	**Pn**	**17 09 45.2**		**+0.6**
IMYA				*e*		17 12 04.5		
	comp=Z,464nm,0.4s							
IMYA	**Miami**	**6.55**	**19**	*e*Pn	**Pn**	**17 09 45.2**		**+0.6**
IKRD	**Kardeh**	**6.67**	**7**	*e*Pn	**Pn**	**17 09 49.1**		**+2.8**
IKRD	**Kardeh**	**6.67**	**7**	*e*Pn	**Pn**	**17 09 49.1**		**+2.8**
IFIR	**Firoozkooh**	**6.79**	**325**	*e*Pn	**Pn**	**17 09 50.8**		**+2.8**
IFIR				*e*		17 10 29.7		
	comp=Z,230nm,0.1s							
IFIR	**Firoozkooh**	**6.79**	**325**	*e*Pn	**Pn**	**17 09 50.8**		**+2.8**
ARQ	**Araqi**	**6.83**	**188**	⇑P	**Pn**	**17 09 50.4**		**+2.1**
	SNR=27							
ARQ	**Araqi**	**6.83**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**1.39**	**353**	*eP*	**Pb**	**17 35 47.8**	**+0.1**
NPS				*eS*	**Sb**	**17 36 05.3**	**+0.3**
NPS	**Neapolis**	**1.39**	**353**	*eP*	**Pb**	**17 35 47.8**	**+0.1**
NPS				*eS*	**Sb**	**17 36 05.3**	**+0.3**
IDI	**Anoyia**	**1.60**	**331**	*eP*	**Pn**	**17 35 50.1**	**+1.0**
IDI				*eS*	**Sn**	**17 36 09.3**	**+0.3**
IDI	**Anoyia**	**1.60**	**331**	*eP*	**Pn**	**17 35 50.1**	**+1.0**
IDI				*eS*	**Sn**	**17 36 09.3**	**+0.3**
IDI	**Anoyia**	**1.60**	**331**	Pn	**Pn**	**17 35 49.8**	**+0.7**
	3.2nm,0.3s,baz=166,slow=17,SNR=25						
IDI				Sn	**Sb**	**17 36 10.8**	**-0.5**
	6.6nm,0.3s,baz=9.1,slow=19,SNR=7.4						
KARP	**Karpathos**	**1.99**	**33**	*eP*	**Pb**	**17 35 57.3**	**-0.6**
KARP				*eS*	**Sb**	**17 36 22.1**	**-0.2**
KARP	**Karpathos**	**1.99**	**33**	*eP*	**Pb**	**17 35 57.3**	**-0.6**
KARP				*eS*	**Sb**	**17 36 22.1**	**-0.2**
VAM	**Vamos**	**2.03**	**319**	*eP*	**Pn**	**17 35 55.8**	**+0.9**
VAM	**Vamos**	**2.03**	**319**	*eP*	**Pn**	**17 35 55.8**	**+0.9**
SANT	**Santorini**	**2.50**	**353**	*eP*	**Pn**	**17 36 02.8**	**+1.4**
SANT	**Santorini**	**2.50**	**353**	*eP*	**Pn**	**17 36 02.8**	**+1.4**
APE	**Apeiranthos**	**3.19**	**356**	*eP*	**Pn**	**17 36 12.2**	**+1.3**
APE	**Apeiranthos**	**3.19**	**356**	*eP*	**Pn**	**17 36 12.2**	**+1.3**
KYTH	**Kithira**	**3.31**	**317**	*eP*	**Pn**	**17 36 13.3**	**+0.7**
KYTH	**Kithira**	**3.31**	**317**	*eP*	**Pn**	**17 36 13.3**	**+0.7**
VLI	**Veliai**	**3.69**	**321**	*eP*	**Pn**	**17 36 17.7**	**0.0**
VLI	**Veliai**	**3.69**	**321**	*eP*	**Pn**	**17 36 17.7**	**0.0**
MMAI	**Mount Meron Ar**	**8.05**	**94**	Pn	**Pn**	**17 37 17.6**	**0.0**
	0.9nm,0.3s,baz=287,slow=20,SNR=4.2						
MMAI				Sn	**Sn**	**17 38 49.2**	**+1.4**
	1.3nm,0.3s,baz=268,slow=19,SNR=3.4						
BRTR	**Keskin Array B**	**8.55**	**45**	Pn	**Pn**	**17 37 24.2**	**-0.4**
	0.0nm,0.3s,baz=246,slow=11,SNR=2.7						
BRTR				Sn	**Sn**	**17 39 00.9**	**+0.6**
	0.1nm,0.3s,baz=208,slow=25,SNR=2.3						
EIL	**Elat**	**8.82**	**116**	Pn	**Pn**	**17 37 27.7**	**-0.6**
	0.2nm,0.3s,baz=326,slow=11,SNR=2.6						
EIL				Sn	**Sn**	**17 39 07.4**	**+0.6**
	0.2nm,0.3s,baz=305,slow=16,SNR=2.9						
AKASG	**Malin Array Be**	**16.99**	**7**	Pn	**Pn**	**17 39 17.0**	**-1.0**
	0.5nm,0.3s,baz=198,slow=11,SNR=3.8						
GERES	**GERESS Array B**	**17.47**	**332**	P	**Pn**	**17 39 22.4**	**-1.8**
	0.1nm,0.3s,baz=154,slow=12,SNR=3.2						
FINES	**FINESS Array B**	**27.58**	**0**	P	**P**	**17 41 05.8**	**-1.2**
	1.8nm,0.8s,baz=270,slow=9.7,SNR=4.1						
TORD	**Torodi Ar. Bea**	**30.12**	**233**	P	**P**	**17 41 30.8**	**+0.7**
	0.7nm,0.7s,baz=36,slow=9.0,SNR=5.7						
MKAR	**Makanchi Array**	**44.03**	**55**	P	**P**	**17 43 27.9**	**+0.2**
	0.2nm,0.5s,baz=283,slow=7.2,SNR=2.5						
ZALV	**Zalesovo Beam**	**45.50**	**45**	P	**P**	**17 43 40.4**	**+1.1**
	0.4nm,0.4s,baz=297,slow=6.3,SNR=2.5						

IDC 17 17:55:15.4±3.1,13°18S×166°65E,h48km±25km,mb3.9/7, mb1 4.1/9,mb1mx3.8/20,mbtmp4.0/9,ML4.2/2,MS3.2/2, Ms1 3.2/2,ms1mx2.9/26,Error ellipse: s-maj=29.4km s-min=18.2km az=69.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.56**	**299**	P	Pn	17 57 03.1	+0.1
	15nm,0.3s,baz=192,slow=6.5,SNR=6.5						
HNR				S	Sn	17 58 27.6	+0.2
	18nm,0.3s,baz=170,slow=22,SNR=6.8						
DZM	**Mont Dzumac**	**8.84**	**181**	P	Pn	17 57 21.6	+0.8
	0.7nm,0.3s,baz=354,slow=21,SNR=15						
DZM				S	Sn	17 58 58.8	-0.3
	0.3nm,0.3s,baz=311,slow=19,SNR=2.0						
DZM				LR	LR	18 00 11.7	
	comp=Z,124nm,20.5s,baz=26,slow=34						
STKA	**Stephens Creek**	**29.57**	**227**	P	P	18 01 16.4	+0.6
	1.1nm,0.6s,baz=33,slow=12,SNR=3.9						
RPZ	**Rata Peaks**	**30.66**	**174**	LR	LR	18 12 44.6	
	comp=Z,50nm,19.5s,baz=350,slow=34						
WRA	**Warramunga Arr**	**31.65**	**253**	P	P	18 01 34.0	-0.4
	1.4nm,0.6s,baz=86,slow=9.4,SNR=21						
WRA				PcP	PcP	18 04 24.7	-1.1
	0.6nm,0.8s,baz=78,slow=3.4,SNR=3.0						
ASAR	**Alice Springs**	**32.69**	**247**	P	P	18 01 43.0	-0.5
	2.1nm,0.6s,baz=73,slow=9.6,SNR=54						
ASAR				PcP	PcP	18 04 28.2	-0.4
	0.9nm,0.8s,baz=66,slow=2.4,SNR=8.8						
CMAR	**Chiang Mai Arr**	**73.78**	**294**	P	P	18 06 45.7	+0.5
	1.9nm,0.8s,baz=128,slow=4.4,SNR=15						
ILAR	**Eielson Array**	**85.25**	**18**	P	P	18 07 46.2	-0.4
	0.5nm,0.5s,baz=244,slow=4.8,SNR=12						
MKAR	**Makanchi Array**	**95.67**	**317**	P	P	18 08 36.4	+0.3
	0.7nm,0.6s,baz=95,slow=7.0,SNR=7.6						
ZALV	**Zalesovo Beam**	**95.80**	**324**	P	P	18 08 36.2	-0.2
	0.5nm,0.5s,baz=134,slow=6.2,SNR=3.3						
H03N3	**Juan Fernandez**	**102.26**	**129**	T	T	20 04 35.9	
	baz=244,slow=0.7,SNR=120						
H03N2	**Juan Fernandez**	**102.26**	**129**	T	T	20 04 35.0	
	baz=244,slow=0.7,SNR=48						
H03N1	**Juan Fernandez**	**102.28**	**129**	T	T	20 04 35.0	
	baz=244,slow=0.7,SNR=84						
TORD	**Torodi Ar. Bea**	**165.35**	**272**	PKPab	PKPab	18 16 13.7	+0.1
	0.7nm,0.8s,baz=73,slow=4.0,SNR=4.1						

*IDC **17** 18:09:32.8±2.9, 15°.05S×167°.44E, h103km±24km, mb4.0/13,mb1 4.1/14,mb1mx4.0/22,mbtmp4.0/14,Error ellipse: s-maj=18.9km s-min=17.6km az=88.0*
*ISCJB **17** 18:09:34.3±0.6, 15°.15S±0°.07×167°.4E±0°.1, h129km, mb4.0/13,Error ellipse: s-maj=14.8km s-min=9.4km az=0.8*
*AUST **17** 18:10:45.6±1.9, 16°.26S×162°.31E, h461km,Error ellipse: s-maj=2.3km s-min=1.4km az=324.0*

ISC 17 18:09:35.6±0.6,15°.14S±0°.09×167°.5E±0°.1,h129km,n33, σ1s59/35,mb4.1/12,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.96**	**188**	P	**Pn**	**18 11 15.0**	**-0.2**
	6.4nm,0.3s,baz=224,slow=14,SNR=101						
DZM				S	**Sn**	**18 12 31.9**	**-1.1**
	11nm,0.3s,baz=308,slow=23,SNR=12						
EIDS	**Eidsvold**	**18.43**	**234**	P	**Pn**	**18 13 43.5**	**+0.7**
	baz=14,SNR=5.1						
RMQ	**Roma**	**20.80**	**234**	P	Pn	18 14 14.2	+3.6
	baz=16,SNR=5.3						
QLP	**Quilpie**	**24.49**	**239**	P	**P**	**18 14 43.6**	**+0.7**
	baz=20,SNR=4.5						
URZ	**Urewera**	**24.55**	**162**	P	P	**18 14 43.5**	**+0.3**
	12nm,0.8s,baz=116,slow=14,SNR=11						
STKA	**Stephens Creek**	**28.89**	**230**	P	**P**	**18 15 23.7**	**+1.3**
	baz=24,SNR=6.0						
STKA	**Stephens Creek**	**28.89**	**230**	P	**P**	**18 15 23.2**	**+0.8**
	5.4nm,0.6s,baz=41,slow=7.8,SNR=21						
STKA				PcP	**PcP**	**18 18 28.7**	**+0.2**
	1.7nm,0.7s,baz=115,slow=8.2,SNR=4.4						
WRA	**Warramunga Arr**	**31.93**	**257**	P	**P**	**18 15 47.5**	**-1.9**
	0.7nm,0.6s,baz=84,slow=8.8,SNR=9.4						
ASAR	**Alice Springs**	**32.73**	**250**	P	**P**	**18 15 55.3**	**-1.0**
	5.8nm,0.8s,baz=81,slow=8.8,SNR=73						
ASAR				PcP	**PcP**	**18 18 39.5**	**+0.6**
	0.6nm,0.8s,baz=90,slow=2.5,SNR=5.1						
ASAR				ScP	**ScP**	**18 22 13.9**	**+2.8**
	0.4nm,0.7s,baz=98,slow=3.8,SNR=5.7						
ASAR				PKiKP	**PKiKP**	**18 26 04.3**	**-1.3**
	0.2nm,0.6s,baz=102,slow=1.8,SNR=4.5						
BBOO	**Buckleboo**	**33.50**	**233**	P	**P**	**18 16 03.5**	**+0.7**
	baz=29,SNR=11						
KNRA	**Kununurra**	**37.31**	**264**	P	**P**	**18 16 34.9**	**-0.6**
	baz=32,SNR=3.3						
FITZ	**Fitzroy Crossi**	**40.15**	**260**	P	**P**	**18 16 59.2**	**-0.1**
	baz=35,SNR=4.3						
FITZ	**Fitzroy Crossi**	**40.15**	**260**	P	**P**	**18 16 59.1**	**-0.2**
	2.8nm,0.8s,baz=97,slow=7.4,SNR=7.1						
MEEK	**Meekatharra**	**46.82**	**248**	P	**P**	**18 17 52.7**	**0.0**
	baz=42,SNR=4.4						
NWAO	**Narrogin (SRO)**	**48.72**	**239**	P	**P**	**18 18 06.4**	**-0.8**
	7.0nm,0.9s,baz=185,slow=6.7,SNR=3.7						
VNDA	**Vanda**	**62.45**	**181**	P	**P**	**18 19 44.8**	**+0.1**
	1.2nm,0.5s,baz=2.1,slow=6.6,SNR=23						
CMAR	**Chiang Mai Arr**	**75.31**	**294**	P	**P**	**18 21 04.8**	**-0.4**
	1.1nm,0.6s,baz=130,slow=4.9,SNR=8.6						
MAW	**Mawson**	**81.58**	**202**	P	**P**	**18 21 40.0**	**+1.3**
	1.5nm,0.6s,baz=195,slow=5.4,SNR=4.7						
ILAR	**Eielson Array**	**86.85**	**18**	P	**P**	**18 22 04.5**	**-0.8**
	0.4nm,0.6s,baz=236,slow=5.1,SNR=12						
NVAR	**Mina Array Bea**	**87.38**	**49**	P	**P**	**18 22 08.9**	**+0.2**
	0.2nm,0.5s,baz=232,slow=4.4,SNR=3.1						
SNAA	**Sanae**	**93.15**	**183**	*eP*	**P**	**18 22 34.0**	**-0.8**
VNA2	**Neumayer--Watz**	**94.07**	**182**	*eP*	**P**	**18 22 38.9**	**-0.1**
	baz=190,slow=5.0						
MKAR	**Makanchi Array**	**97.65**	**316**	P	Pdif	18 22 56.1	+0.4
	1.1nm,0.7s,baz=89,slow=7.1,SNR=12						
ZALV	**Zalesovo Beam**	**97.85**	**324**	P	**P**	**18 22 55.3**	**-1.0**
	1.8nm,0.8s,baz=119,slow=5.8,SNR=8.2						
KBL	**Kabul**	**105.29**	**302**	P	**Pdif**	**18 23 37.5**	**+7.4**
	baz=102,SNR=6.6						
ARCES	**ARCESS Array B**	**120.70**	**345**	PKP	**PKPdf**	**18 28 11.3**	**-0.4**
	2.3nm,0.6s,baz=58,slow=1.9,SNR=14						
BOSA	**Boshof**	**123.20**	**220**	PKP	**PKPdf**	**18 28 18.3**	**+0.3**
	3.1nm,1.0s,baz=117,slow=4.5,SNR=2.8						
FINES	**FINESS Array B**	**126.19**	**338**	PKP	**PKPdf**	**18 28 22.6**	**+0.3**
	6.0nm,1.2s,baz=237,slow=4.8,SNR=3.9						
NOA	**NORSAR Array B**	**131.08**	**345**	PKP	**PKPdf**	**18 28 32.5**	**+0.7**
	0.6nm,0.7s,baz=338,slow=2.2,SNR=3.2						
GERES	**GERESS Array B**	**140.11**	**333**	PKhKP	PKPpre	18 28 42.4	
	0.3nm,0.6s,baz=26,slow=2.5,SNR=3.4						
GERES				PKP	**PKiKP**	**18 28 50.9**	**-0.6**
	0.3nm,0.7s,baz=48,slow=1.5,SNR=3.9						
DAVOX	**Davos/Dischmat**	**143.34**	**334**	PKP	PKPbc	18 28 53.4	+0.9
	5.2nm,0.6s,baz=270,slow=2.0,SNR=13						
ESDC	**Sonseca Array**	**154.44**	**345**	PKPab	**PKPab**	**18 29 36.1**	**+0.2**
	0.1nm,0.3s,baz=14,slow=5.8,SNR=4.5						
TORD	**Torodi Ar. Bea**	**166.08**	**264**	PKP	**PKPdf**	**18 29 25.8**	**-0.4**
	1.2nm,0.6s,baz=355,slow=0.8,SNR=10						

*IDC **17** 18:11:52.3±1.1,34°.05N×25°.42E, h0km, mb3.6/8, mb1 3.8/13,mb1mx3.7/30,mbtmp3.6/13,ML4.0/5,Error ellipse: s-maj=22.0km s-min=19.6km az=44.0*
*ISCJB **17** 18:11:54.7±1.5,33°.97N±0°.06×25°.42E±0°.05,h31km±11km, mb3.5/8,Error ellipse: s-maj=9.8km s-min=6.2km az=11.4*
*THE **17** 18:11:55.8,34°.14N×25°.35E, h0km±4km,Error ellipse: s-maj=8.4km s-min=1.4km az=174.0*
*CSEM **17** 18:11:56.5±0.5,34°.19N×25°.40E,h10km,MD3.6,Error ellipse: s-maj=10.7km s-min=4.8km az=2.0*
*ATH **17** 18:11:59.0,34°.33N×25°.35E, h35km±2km,MD3.6/11*
*ISK **17** 18:11:59.8,34°.64N×25°.75E,h5km,MD3.7*

ISC 17 18:11:56.5±1.8,34°09N±0°.07×25°38E±0°.04,h26km±12km, n73,σ1s04/87,mb3.6/8,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.04**	**333**	P	**Pb**	**18 12 14.7**	**-1.1**
SIVA				S	**Sn**	**18 12 29.8**	**+0.7**
SIVA	**Sivas**	**1.04**	**333**	P	**Pb**	**18 12 14.7**	**-1.1**
SIVA				S	**Sn**	**18 12 29.8**	**+0.7**
LAST	**Lasithi**	**1.07**	**4**	P	**Pn**	**18 12 14.5**	**-1.5**
LAST				S	**Sn**	**18 12 31.7**	**+1.6**
LAST	**Lasithi**	**1.07**	**4**	P	**Pn**	**18 12 14.5**	**-1.5**
LAST				S	**Sn**	**18 12 31.7**	**+1.6**
NPS	**Neapolis**	**1.19**	**9**	P	**Pn**	**18 12 17.1**	**-0.4**
NPS	**Neapolis**	**1.19**	**9**	*e*PN	**Pn**	**18 12 17.4**	**-0.1**
NPS	**Neapolis**	**1.19**	**9**	P	**Pn**	**18 12 17.1**	**-0.4**
NPS	**Neapolis**	**1.19**	**9**	*e*Pn	**Pn**	**18 12 17.4**	**-0.1**
ZKR	**Zakros**	**1.24**	**34**	P	**Pn**	**18 12 18.4**	**+0.3**
ZKR				S	**Sb**	**18 12 35.9**	**+1.2**
ZKR	**Zakros**	**1.24**	**34**	P	**Pn**	**18 12 18.4**	**+0.3**
ZKR				S	**Sb**	**18 12 35.9**	**+1.2**
IDI	**Anoyia**	**1.26**	**342**	P	**Pn**	**18 12 17.9**	**-0.7**
IDI	**Anoyia**	**1.26**	**342**	*e*PG	**Pb**	**18 12 19.3**	**-0.3**
IDI				*e*SG	**Sn**	**18 12 34.0**	**-0.8**
IDI	**Anoyia**	**1.26**	**342**	*e*PN	**Pn**	**18 12 18.7**	**+0.1**
IDI				*e*SN	**Sn**	**18 12 32.3**	**-2.5**
IDI	**Anoyia**	**1.26**	**342**	P	**Pn**	**18 12 17.9**	**-0.7**
IDI	**Anoyia**	**1.26**	**342**	*e*Pn	**Pn**	**18 12 18.7**	**+0.1**
IDI	**Anoyia**	**1.26**	**342**	*e*Pg	**Pb**	**18 12 19.3**	**-0.3**
IDI				*e*Sg	**Sn**	**18 12 34.0**	**-0.8**
IDI	**Anoyia**	**1.26**	**342**	Pn	**Pn**	**18 12 17.7**	**-0.8**
	31nm,0.3s,baz=163,slow=17,SNR=97						
GVD	**Gavdhos**	**1.30**	**305**	P	**Pn**	**18 12 19.3**	**+0.3**
GVD	**Gavdhos**	**1.30**	**305**	P	**Pn**	**18 12 19.3**	**+0.3**
VAM	**Vamos**	**1.64**	**324**	P	**Pn**	**18 12 24.5**	**+0.9**
VAM	**Vamos**	**1.64**	**324**	*e*PN	**Pn**	**18 12 24.5**	**+0.9**
VAM				*e*SB	**Sn**	**18 12 43.3**	**-0.5**
VAM	**Vamos**	**1.64**	**324**	P	**Pn**	**18 12 24.5**	**+0.9**
VAM				*e*Sb	**Sn**	**18 12 43.3**	**-0.5**
KARN	**Karanos**	**1.78**	**318**	P	**Pn**	**18 12 26.4**	**+0.8**
KARN	**Karanos**	**1.78**	**318**	P	**Pn**	**18 12 26.4**	**+0.8**
KARP	**Karpathos**	**2.07**	**45**	*e*PN	**Pn**	**18 12 31.0**	**+1.4**
KARP				*e*SN	**Sn**	**18 12 55.3**	**+0.8**
KARP	**Karpathos**	**2.07**	**45**	*e*Pn	**Pn**	**18 12 31.0**	**+1.4**
KARP				*e*Sn	**Sn**	**18 12 55.3**	**+0.8**
THR6	**Thira Island,**	**2.26**	**0**	P	**Pn**	**18 12 33.1**	**+0.9**
THR6	**Thira Island,**	**2.26**	**0**	P	**Pn**	**18 12 33.1**	**+0.9**
SANT	**Santorini**	**2.28**	**2**	*e*PN	**Pn**	**18 12 32.8**	**+0.3**
SANT	**Santorini**	**2.28**	**2**	*e*Pn	**Pn**	**18 12 32.8**	**+0.3**
THR3	**Thira Island,**	**2.32**	**0**	P	**Pn**	**18 12 33.6**	**+0.7**
THR3	**Thira Island,**	**2.32**	**0**	P	**Pn**	**18 12 33.6**	**+0.7**
ANKY	**Antikythira Is**	**2.46**	**317**	*e*PN	**Pn**	**18 12 36.6**	**+1.6**
ANKY	**Antikythira Is**	**2.46**	**317**	*e*Pn	**Pn**	**18 12 36.6**	**+1.6**
KYTH	**Kithira**	**2.91**	**319**	P	**Pn**	**18 12 42.5**	**+1.3**
KYTH	**Kithira**	**2.91**	**319**	*e*PN	**Pn**	**18 12 42.8**	**+1.6**
KYTH	**Kithira**	**2.91**	**319**	P	**Pn**	**18 12 42.5**	**+1.3**
KYTH	**Kithira**	**2.91**	**319**	*e*Pn	**Pn**	**18 12 42.8**	**+1.6**
APE	**Apeiranthos**	**2.98**	**2**	*e*PN	**Pn**	**18 12 42.4**	**+0.3**
APE	**Apeiranthos**	**2.98**	**2**	*e*PN	**Pn**	**18 12 42.3**	**+0.3**
APE	**Apeiranthos**	**2.98**	**2**	*e*Pn	**Pn**	**18 12 42.4**	**+0.3**
ARG	**Arkhangelos**	**3.09**	**46**	*e*PN	**Pn**	**18 12 45.5**	**+1.9**
ARG	**Arkhangelos**	**3.09**	**46**	*e*Pn	**Pn**	**18 12 45.5**	**+1.9**
DAT	**Datca**	**3.19**	**34**	*e*PN	**Pn**	**18 12 44.1**	**-1.0**
DAT	**Datca**	**3.19**	**34**	*e*Pn	**Pn**	**18 12 44.1**	**-1.0**
VLI	**Veliai**	**3.30**	**323**	P	**Pn**	**18 12 46.4**	**0.0**
VLI				S	**Sn**	**18 13 26.1**	**+1.3**
VLI	**Veliai**	**3.30**	**323**	*e*PN	**Pn**	**18 12 47.8**	**+1.4**
VLI	**Veliai**	**3.30**	**323**	P	**Pn**	**18 12 46.4**	**0.0**
VLI	**Veliai**	**3.30**	**323**	*e*Pn	**Pn**	**18 12 47.8**	**+1.4**
VLI				S	**Sn**	**18 13 26.1**	**+1.3**
DIDY	**Didyma**	**3.81**	**333**	*e*PN	**Pn**	**18 12 53.3**	**-0.3**
DIDY	**Didyma**	**3.81**	**333**	*e*Pn	**Pn**	**18 12 53.3**	**-0.3**
DALY	**Dalyan (Mu¨la**	**3.82**	**44**	*e*PN	**Pn**	**18 12 53.3**	**-0.2**
DALY	**Dalyan (Mu¨la**	**3.82**	**44**	*e*Pn	**Pn**	**18 12 53.3**	**-0.2**
YER	**Yerkesik**	**3.85**	**37**	*e*PN	**Pn**	**18 12 53.7**	**-0.4**
YER	**Yerkesik**	**3.85**	**37**	*e*Pn	**Pn**	**18 12 53.7**	**-0.4**
ITM	**Ithomi**	**4.17**	**319**	*e*PN	**Pn**	**18 13 00.2**	**+1.7**
ITM	**Ithomi**	**4.17**	**319**	*e*Pn	**Pn**	**18 13 00.2**	**+1.7**
ELL	**Elmali**	**4.55**	**53**	*e*PN	**Pn**	**18 13 04.5**	**+0.7**
ELL	**Elmali**	**4.55**	**53**	*e*Pn	**Pn**	**18 13 04.5**	**+0.7**
MMAI	**Mount Meron Ar**	**8.44**	**94**	Pn	**Pn**	**18 13 54.8**	**-2.3**
	0.9nm,0.3s,baz=278,slow=12,SNR=4.6						
EIL	**Elat**	**9.25**	**116**	Pn	**Pn**	**18 14 06.8**	**-1.5**
	0.5nm,0.3s,baz=276,slow=6.4,SNR=5.2						
VRAC	**Vranov**	**16.54**	**339**	Pn	**P**	**18 15 48.3**	**-0.7**
	0.3nm,0.3s,baz=153,slow=6.8,SNR=3.1						
AKASG	**Malin Array Be**	**16.84**	**8**	Pn	**Pn**	**18 15 50.4**	**+0.1**
	1.5nm,0.3s,baz=201,slow=10,SNR=12						
GERES	**GERESS Array B**	**17.11**	**333**	P	**P**	**18 15 55.2**	**-0.2**
	0.3nm,0.3s,baz=141,slow=12,SNR=12						
ESDC	**Sonseca Array**	**24.06**	**292**	P	**P**	**18 17 09.7**	**0.0**
	0.2nm,0.5s,baz=76,slow=9.0,SNR=3.5						
HFS	**Hagfors**	**27.16**	**347**	P	**P**	**18 17 37.0**	**-0.5**
	2.2nm,1.0s,baz=162,slow=15,SNR=3.1						
FINES	**FINESS Array B**	**27.38**	**1**	P	**P**	**18 17 37.3**	**-2.1**
	3.6nm,1.0s,baz=187,slow=15,SNR=3.4						
EKA	**Eskdalemuir Ar**	**29.02**	**326**	P	**P**	**18 17 55.4**	**+1.3**
	1.7nm,1.0s,baz=116,slow=9.6,SNR=4.1						
TORD	**Torodi Ar. Bea**	**29.95**	**232**	P	**P**	**18 18 02.3**	**-0.4**
	0.3nm,0.6s,baz=32,slow=9.5,SNR=3.2						
ARCES	**ARCESS Array B**	**35.50**	**0**	P	**P**	**18 18 50.6**	**-0.1**
	3.8nm,1.0s,baz=190,slow=10.0,SNR=2.4						
MKAR	**Makanchi Array**	**44.22**	**56**	P	**P**	**18 20 03.9**	**+0.4**
	0.3nm,0.5s,baz=278,slow=7.1,SNR=6.8						
ILAR	**Eielson Array**	**81.28**	**357**	P	**P**	**18 24 09.6**	**-0.4**
	0.2nm,0.6s,baz=342,slow=5.0,SNR=3.5						
DZM	**Mont Dzumac**	**143.83**	**81**	PKP	PKPbc	18 31 29.2	+1.6
	4.1nm,0.8s,baz=243,slow=4.5,SNR=3.8						

*IDC **17** 18:23:16.6±2.9, 23°.76S×179°.22E, h498km±37km, mb3.3/6, mb1 3.6/8,mb1mx3.3/18,mbtmp3.4/8,Error ellipse: s-maj=36.6km s-min=20.0km az=158.0*
*ISCJB **17** 18:23:18.5±0.7,23°.77S±0°.09×179°.2E±0°.1, h537km, mb3.8/6,Error ellipse: s-maj=14.2km s-min=11.2km az=37.9*
*AUST **17** 18:23:21.2±0.0,23°.34S×179°.17E, h565km,Error ellipse: s-maj=2.1km s-min=1.4km az=308.0*

ISC 17 18:23:19.4±0.7,23°97S±0°09×179°24E±0°08,h537km,n16, σ0s91/14,mb3.8/6,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**11.20**	**66**	P	**P**	**18 25 49.7**	**+0.1**
	baz=11,SNR=4.7						
AFI	**Afiamalu**	**13.12**	**42**	P	P	18 26 05.3	-4.5
	7.3nm,0.3s,baz=303,slow=16,SNR=7.5						
URZ	**Urewera**	**14.36**	**187**	P	**P**	**18 26 23.1**	**+0.9**
	2.0nm,0.3s,baz=339,slow=5.6,SNR=9.7						
URZ				S	**S**	**18 28 52.3**	**-0.7**
	0.4nm,0.3s,baz=292,slow=19,SNR=3.5						
CMSA	**Cobar Meteorol**	**30.54**	**248**	P	**P**	**18 28 50.1**	**+0.9**
	baz=31,SNR=8.9						
CTA	**Charters Tower**	**30.78**	**271**	P	**P**	**18 28 51.1**	**-0.3**
	3.6nm,0.3s,baz=82,slow=8.0,SNR=12						
STKA	**Stephens Creek**	**34.05**	**248**	P	**P**	**18 29 19.9**	**+0.8**
	baz=34,SNR=5.9						
STKA	**Stephens Creek**	**34.05**	**248**	P	**P**	**18 29 19.9**	**+0.8**
	2.7nm,0.7s,baz=90,slow=9.4,SNR=7.1						
PATS	**Pohnpei**	**36.80**	**324**	P	P	18 29 35.2	-6.9
	baz=36,SNR=3.5						
ASAR	**Alice Springs**	**41.33**	**261**	P	**P**	**18 30 18.1**	**-0.5**
	3.9nm,0.9s,baz=90,slow=7.9,SNR=28						
WRA	**Warramunga Arr**	**41.70**	**266**	P	**P**	**18 30 20.4**	**-1.3**
	2.5nm,0.9s,baz=90,slow=6.1,SNR=29						
KNRA	**Kununurra**	**47.99**	**270**	P	**P**	**18 31 09.5**	**-0.4**
	baz=48,SNR=3.0						
PPI	**Padang Panjang**	**79.62**	**274**	P	**P**	**18 34 31.4**	**-0.1**
	baz=80,SNR=3.8						
CMAR	**Chiang Mai Arr**	**88.90**	**291**	P	**P**	**18 35 18.8**	**+1.7**
	0.3nm,0.5s,baz=126,slow=4.7,SNR=3.8						
TXAR	**Lajitas Array**	**91.06**	**58**	P	**P**	**18 35 27.4**	**+0.4**
	0.4nm,0.8s,baz=206,slow=8.0,SNR=4.9						
HFS	**Hagfors**	**142.47**	**348**	PKhKP	PKPpre	18 41 46.1	
	12nm,1.2s,baz=95,slow=6.4,SNR=6.3						
GERES	**GERESS Array B**	**152.67**	**339**	PKPbc	**PKPbc**	**18 42 14.7**	**-0.6**
	0.1nm,0.3s,baz=111,slow=2.2,SNR=3.6						

IDC 17 18:23:52.1±1.6,11°23S×165°61E,h0km,mb3.8/3, mb1 4.1/4,mb1mx3.7/19,mbtmp3.9/4,ML4.2/1,Error ellipse: s-maj=52.6km s-min=33.0km az=117.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.81**	**176**	Pn	Pn	18 26 28.7	+0.3
	1.8nm,0.3s,baz=18,slow=12,SNR=24						
WRA	**Warramunga Arr**	**31.30**	**250**	P	P	18 30 14.2	0.0
	0.8nm,0.6s,baz=83,slow=9.5,SNR=8.2						
ILAR	**Eielson Array**	**83.73**	**19**	P	P	18 36 22.6	0.0
	0.4nm,0.6s,baz=231,slow=5.1,SNR=10						
MKAR	**Makanchi Array**	**93.56**	**317**	P	P	18 37 10.1	-0.1
	0.3nm,0.7s,baz=116,slow=6.6,SNR=4.2						

*IDC **17** 18:34:03.1±0.8, 2°

TOO	**Toolangi**	**37.13**	**231**	P	**P**	**18 55 56.9**	**+0.1**
	baz=37,SNR=5.6							
STKA	**Stephens Creek**	**38.57**	**241**	P	**P**	**18 56 08.7**	**+0.2**
	baz=38,SNR=22							
STKA	**Stephens Creek**	**38.57**	**241**	P	**P**	**18 56 08.8**	**+0.4**
	13nm,0.8s,baz=81,slow=7.8,SNR=37							
BBOO	**Buckleboo**	**43.34**	**241**	P	**P**	**18 56 46.0**	**-0.3**
	baz=43,SNR=14							
WRA	**Warramunga Arr**	**44.53**	**259**	P	**P**	**18 56 54.9**	**-0.7**
	6.0nm,0.6s,baz=91,slow=9.3,SNR=114							
ASAR	**Alice Springs**	**44.70**	**254**	P	**P**	**18 56 56.5**	**-0.3**
	39nm,0.8s,baz=87,slow=9.5,SNR=932							
ASAR				PcP	**PcP**	**18 58 26.2**	**-0.5**
	0.8nm,0.7s,baz=92,slow=4.7,SNR=2.8							
KDU	**Kakadu**	**47.43**	**269**	P	**P**	**18 57 17.6**	**-0.1**
	baz=48,SNR=8.1							
MTN	**Manton Dam**	**48.67**	**268**	P	**P**	**18 57 26.4**	**-0.5**
	baz=49,SNR=9.2							
KNRA	**Kununurra**	**50.37**	**264**	P	**P**	**18 57 38.6**	**-0.7**
	baz=50,SNR=11							
FITZ	**Fitzroy Crossi**	**52.92**	**260**	P	**P**	**18 57 57.4**	**-0.2**
	baz=53,SNR=12							
FITZ	**Fitzroy Crossi**	**52.92**	**260**	P	**P**	**18 57 57.2**	**-0.5**
	0.8nm,0.3s,baz=101,slow=5.2,SNR=22							
MEEK	**Meekatharra**	**58.35**	**249**	P	**P**	**18 58 34.1**	**-1.0**
	baz=58,SNR=7.6							
MORW	**Morawa**	**60.41**	**246**	P	**P**	**18 58 47.8**	**-0.9**
	baz=60,SNR=3.3							
VNDA	**Vanda**	**60.53**	**185**	P	**P**	**18 58 49.2**	**+0.6**
	0.4nm,0.9s,baz=349,slow=5.2,SNR=2.3							
NVAR	**Mina Array Bea**	**79.44**	**44**	P	**P**	**19 00 42.4**	**+0.8**
	2.1nm,0.8s,baz=226,slow=9.0,SNR=13							
ILAR	**Eielson Array**	**85.82**	**13**	P	**P**	**19 01 11.8**	**-0.8**
	0.5nm,0.4s,baz=221,slow=5.6,SNR=12							
TXAR	**Lajitas Array**	**86.05**	**58**	P	**P**	**19 01 16.1**	**+1.4**
	2.7nm,0.9s,baz=217,slow=6.0,SNR=20							
PDAR	**Pinedale Array**	**87.37**	**43**	P	**P**	**19 01 20.9**	**+0.1**
	1.5nm,0.9s,baz=205,slow=2.5,SNR=8.9							
CMAR	**Chiang Mai Arr**	**88.73**	**290**	P	**P**	**19 01 28.8**	**+1.4**
	0.6nm,0.9s,baz=118,slow=4.2,SNR=4.2							
GERES	**GERESS Array B**	**147.49**	**345**	PKPbc	**PKPbc**	**19 08 12.6**	**-1.3**
	0.3nm,0.4s,baz=37,slow=3.3,SNR=3.9							

IDC ***17*** *18:52:30.4±0.7, 37.75N×21.50E, h0km, mb4.0/15, mb1 4.0/19, mb1mx3.9/34, mbtmp3.9/19, ML3.8/4, MS3.1/2, Ms1 3.2/2, ms1mx2.5/47, Error ellipse: s-maj=15.2km s-min=13.9km az=136.0*

MOS ***17*** *18:52:32.8±1.3, 37.66N×21.17E, h33km, mb4.3/17, Error ellipse: s-maj=11.5km s-min=4.3km az=73.0*

CSEM ***17*** *18:52:33.5±0.4, 37.68N×21.25E, h14km±2km, mb4.1/13, Error ellipse: s-maj=6.0km s-min=3.8km az=59.0*

THE ***17*** *18:52:34.5, 37.74N×21.36E, h0km±2km, ML3.8/6, Error ellipse: s-maj=2.2km s-min=0.9km az=255.0*

TEH ***17*** *18:52:34.1, 37.76N×21.38E, h5km, ML4.8*

ATH ***17*** *18:52:34.6, 37.76N×21.39E, h22km±1km, MD3.6/47, ML3.5*

HLW ***17*** *18:52:34.4, 37.67N×21.84E, h25km±15km, Md4.2, Ml4.2*

SKO ***17*** *18:52:47.2, 38.76N×21.46E, h0km*

ISC 17 18:52:33.1±0.4, 37.73N±0.01×21.32E±0.01, h13km±2km, n374, σ1s54/403, mb4.1/26, 28C-8D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
RLS	**Riolos of Patr**	**0.35**	**20**	P	**Pb**	**18**	**52**	**41.6**	**+0.4**
RLS				S	**Sg**	**18**	**52**	**46.1**	**+1.2**
RLS	**Riolos of Patr**	**0.35**	**20**	*e*PB	**Pb**	**18**	**52**	**41.5**	**+0.4**
RLS				*e*SB	**Sb**	**18**	**52**	**47.5**	**+0.9**
RLS	**Riolos of Patr**	**0.35**	**20**	P	**Pb**	**18**	**52**	**41.6**	**+0.4**
RLS				S	**Sg**	**18**	**52**	**46.1**	**+1.2**
RLS				*e*Sb	**Sb**	**18**	**52**	**47.5**	**+0.9**
AMT	**Artemida-Makis**	**0.37**	**122**	P	**Pb**	**18**	**52**	**41.7**	**+0.2**
AMT				S	**Sb**	**18**	**52**	**47.1**	**-0.1**
DRO	**Drossia**	**0.38**	**54**	P	**Pb**	**18**	**52**	**41.9**	**+0.1**
DRO				S	**Sb**	**18**	**52**	**47.2**	**-0.4**
SFD	**Strofades**	**0.54**	**207**	P	**Pb**	**18**	**52**	**46.1**	**+1.8**
SFD				S	**Sn**	**18**	**52**	**55.9**	**+0.6**
KFL	**Anninata**	**0.56**	**312**	P	**Pb**	**18**	**52**	**47.0**	**+2.1**
UPR	**University Cam**	**0.66**	**34**	P	**Pb**	**18**	**52**	**47.5**	**+0.9**
UPR				S	**Sb**	**18**	**52**	**56.8**	**+1.1**
LAKA	**Lakka**	**0.73**	**46**	P	**Pg**	**18**	**52**	**47.4**	**+0.1**
LAKA				S	**Sb**	**18**	**52**	**58.9**	**+1.3**
LAKA	**Lakka**	**0.73**	**46**	*e*PN	**Pg**	**18**	**52**	**48.0**	**+0.7**
LAKA				*e*SN	**Sb**	**18**	**52**	**57.7**	**+0.1**
LAKA	**Lakka**	**0.73**	**46**	P	**Pg**	**18**	**52**	**47.4**	**+0.1**
LAKA	**Lakka**	**0.73**	**46**	*e*Pn	**Pg**	**18**	**52**	**48.0**	**+0.7**
LAKA				*e*Sn	**Sb**	**18**	**52**	**57.7**	**+0.1**
LAKA				S	**Sb**	**18**	**52**	**58.9**	**+1.3**
KLV	**Kalavryta, Ach**	**0.73**	**64**	P	**Pg**	**18**	**52**	**47.2**	**-0.1**
KLV				S	**Sb**	**18**	**52**	**59.0**	**+1.4**
KLV	**Kalavryta, Ach**	**0.73**	**64**	*e*PN	**Pg**	**18**	**52**	**47.8**	**+0.5**
KLV				*e*SN	**Sb**	**18**	**52**	**57.8**	**+0.2**
KLV	**Kalavryta, Ach**	**0.73**	**64**	P	**Pg**	**18**	**52**	**47.2**	**-0.1**
KLV	**Kalavryta, Ach**	**0.73**	**64**	*e*Pn	**Pg**	**18**	**52**	**47.8**	**+0.5**
KLV				*e*Sn	**Sb**	**18**	**52**	**57.8**	**+0.2**
KLV				S	**Sb**	**18**	**52**	**59.0**	**+1.4**
VLS	**Valsamata**	**0.73**	**308**	P	**Pg**	**18**	**52**	**48.3**	**+1.0**
VLS				S	**Sn**	**18**	**53**	**01.0**	**+0.9**
VLS	**Valsamata**	**0.73**	**308**	*e*PN	**Pg**	**18**	**52**	**48.7**	**+1.4**
VLS				*e*SN	**Sn**	**18**	**53**	**01.4**	**+1.1**
VLS	**Valsamata**	**0.73**	**308**	P	**Pg**	**18**	**52**	**48.3**	**+1.0**
VLS	**Valsamata**	**0.73**	**308**	*e*Pn	**Pg**	**18**	**52**	**48.7**	**+1.4**
VLS				S	**Sn**	**18**	**53**	**01.0**	**+0.9**
ITM	**Ithomi**	**0.73**	**138**	P	**Pg**	**18**	**52**	**47.8**	**+0.5**
ITM				S	**Sb**	**18**	**52**	**59.0**	**+1.3**
ITM	**Ithomi**	**0.73**	**138**	*e*PN	**Pg**	**18**	**52**	**48.2**	**+0.9**
ITM				*e*SN	**Sb**	**18**	**52**	**59.2**	**+1.5**
ITM	**Ithomi**	**0.73**	**138**	P	**Pg**	**18**	**52**	**47.8**	**+0.5**
ITM	**Ithomi**	**0.73**	**138**	*e*Pn	**Pg**	**18**	**52**	**48.2**	**+0.9**
ITM				S	**Sb**	**18**	**52**	**59.0**	**+1.3**
PSA1	**Psathopyrgos**	**0.74**	**37**	*e*PB	**Pg**	**18**	**52**	**47.2**	**-0.3**
PSA1				*e*SN	**Sb**	**18**	**52**	**58.5**	**+0.6**
EFP	**Efpalio**	**0.83**	**34**	P	**Pg**	**18**	**52**	**49.3**	**0.0**
EFP				S	**Sb**	**18**	**53**	**02.0**	**+1.4**
GUR	**Goura**	**0.84**	**75**	P	**Pg**	**18**	**52**	**49.0**	**-0.3**
GUR				S	**Sb**	**18**	**53**	**01.1**	**+0.3**
TRIZ	**Trizonia**	**0.87**	**43**	P	**Pg**	**18**	**52**	**49.9**	**0.0**
TRIZ				S	**Sb**	**18**	**53**	**02.0**	**+0.4**
TRIZ	**Trizonia**	**0.87**	**43**	*e*PN	**Pg**	**18**	**52**	**50.2**	**+0.3**
TRIZ				*e*SN	**Sb**	**18**	**53**	**02.3**	**+0.7**
TRIZ	**Trizonia**	**0.87**	**43**	P	**Pg**	**18**	**52**	**49.9**	**0.0**
TRIZ	**Trizonia**	**0.87**	**43**	*e*Pn	**Pg**	**18**	**52**	**50.2**	**+0.3**
TRIZ				S	**Sb**	**18**	**53**	**02.0**	**+0.4**
PDO	**Prodromos**	**0.87**	**353**	P	**Pg**	**18**	**52**	**50.7**	**+0.7**
PDO				S	**Sn**	**18**	**53**	**04.5**	**+0.8**
PYL	**PYLOS**	**0.90**	**158**	P	**Pg**	**18**	**52**	**50.7**	**+0.2**
PYL				S	**Sb**	**18**	**53**	**03.6**	**+1.2**
PVO	**Paravola**	**0.90**	**10**	P	**Pb**	**18**	**52**	**51.5**	**+0.9**
PVO				S	**Sb**	**18**	**53**	**04.2**	**+1.7**
VLX	**Vlachokerasia**	**0.92**	**113**	P	**Pg**	**18**	**52**	**51.0**	**+0.2**
VLX				S	**Sb**	**18**	**53**	**04.0**	**+0.9**
KALE	**Kalithea**	**0.93**	**44**	P	**Pg**	**18**	**52**	**51.0**	**0.0**
KALE				S	**Sn**	**18**	**53**	**05.6**	**+0.5**
KALE	**Kalithea**	**0.93**	**44**	*e*PN	**Pg**	**18**	**52**	**51.4**	**+0.4**
KALE				*e*SN	**Sg**	**18**	**53**	**03.0**	**-0.1**
KALE	**Kalithea**	**0.93**	**44**	P	**Pg**	**18**	**52**	**51.0**	**0.0**
KALE	**Kalithea**	**0.93**	**44**	*e*Pn	**Pg**	**18**	**52**	**51.4**	**+0.4**
KALE				*e*Sn	**Sg**	**18**	**53**	**03.0**	**-0.1**
KALE				S	**Sn**	**18**	**53**	**05.6**	**+0.5**
DSF	**Desfina**	**1.17**	**54**	P	**Pb**	**18**	**52**	**55.3**	**+0.1**
DSF				S	**Sn**	**18**	**53**	**11.8**	**+0.7**
DESF	**Desfina**	**1.18**	**54**	*e*PN	**Pb**	**18**	**52**	**55.4**	**+0.1**
DESF				*e*SN	**Sb**	**18**	**53**	**10.7**	**+0.2**
DESF	**Desfina**	**1.18**	**54**	*e*Pn	**Pb**	**18**	**52**	**55.4**	**+0.1**
DESF				*e*Sn	**Sb**	**18**	**53**	**10.7**	**+0.2**
EVR	**Evrytania**	**1.25**	**18**	P	**Pn**	**18**	**52**	**57.0**	**+0.7**
EVR				S	**Sn**	**18**	**53**	**17.2**	**+4.2**
EVR	**Evrytania**	**1.25**	**18**	*e*PN	**Pb**	**18**	**52**	**57.5**	**+1.0**
EVR	**Evrytania**	**1.25**	**18**	P	**Pn**	**18**	**52**	**57.0**	**+0.7**
EVR	**Evrytania**	**1.25**	**18**	*e*Pn	**Pb**	**18**	**52**	**57.5**	**+1.0**
EVR				S	**Sn**	**18**	**53**	**17.2**	**+4.2**
DYR	**Agios Nikonas**	**1.26**	**140**	P	**Pn**	**18**	**52**	**57.6**	**+1.1**
DYR				S	**Sn**	**18**	**53**	**15.8**	**+2.5**
LTK	**Loutraki**	**1.34**	**77**	P	**Sg**	**18**	**53**	**58.4**	**+0.9**
LTK				S	**Sg**	**18**	**53**	**16.2**	**0.0**
MAKR	**Makrakomi, Fth**	**1.43**	**26**	P	**Pb**	**18**	**53**	**00.4**	**+0.7**
MAKR				S	**Sg**	**18**	**53**	**21.1**	**+1.9**
MAKR	**Makrakomi, Fth**	**1.43**	**26**	*e*PN	**Pg**	**18**	**53**	**01.2**	**+0.6**
MAKR				*e*SN	**Sb**	**18**	**53**	**19.0**	**+1.2**
MAKR	**Makrakomi, Fth**	**1.43**	**26**	P	**Pb**	**18**	**53**	**00.4**	**+0.7**
MAKR				*e*Sn	**Sb**	**18**	**53**	**19.0**	**+1.2**
MAKR				S	**Sg**	**18**	**53**	**21.1**	**+1.9**
AXAR	**Agios Charalam**	**1.48**	**45**	P	**Pn**	**18**	**53**	**00.7**	**+1.3**
AXAR				S	**Sg**	**18**	**53**	**22.4**	**+1.7**
AXAR	**Agios Charalam**	**1.48**	**45**	P	**Pn**	**18**	**53**	**00.7**	**+1.3**
AXAR				S	**Sg**	**18**	**53**	**22.4**	**+1.7**
AGG	**Agios Georgios**	**1.52**	**31**	P	**Pb**	**18**	**53**	**01.5**	**+0.4**
AGG	**Agios Georgios**	**1.52**	**31**	*e*PN	**Pg**	**18**	**53**	**02.4**	**+0.2**
AGG	**Agios Georgios**	**1.52**	**31**	P	**Pb**	**18**	**53**	**01.5**	**+0.4**
AGG	**Agios Georgios**	**1.52**	**31**	*e*Pn	**Pg**	**18**	**53**	**02.4**	**+0.2**
DIDY	**Didyma**	**1.52**	**99**	P	**Pb**	**18**	**53**	**01.7**	**+0.4**
DIDY				S	**Sg**	**18**	**53**	**22.5**	**+0.3**
DIDY	**Didyma**	**1.52**	**99**	*e*PN	**Pb**	**18**	**53**	**02.2**	**+0.9**
DIDY				*e*SN	**Sb**	**18**	**53**	**21.8**	**+1.2**
DIDY	**Didyma**	**1.52**	**99**	P	**Pb**	**18**	**53**	**01.7**	**+0.4**
DIDY	**Didyma**	**1.52**	**99**	*e*Pn	**Pb**	**18**	**53**	**02.2**	**+0.9**
DIDY				*e*Sn	**Sb**	**18**	**53**	**21.8**	**+1.2**
DIDY				S	**Sg**	**18**	**53**	**22.5**	**+0.3**
DID	**Didima**	**1.54**	**98**	P	**Pb**	**18**	**53**	**02.6**	**+1.1**
DID				S	**Sb**	**18**	**53**	**21.4**	**+0.5**
VLI	**Veliai**	**1.64**	**128**	P	**Pb**	**18**	**53**	**04.4**	**+1.2**
VLI				S	**Sg**	**18**	**53**	**27.6**	**+1.7**
VLI	**Veliai**	**1.64**	**128**	*e*PN	**Pg**	**18**	**53**	**04.9**	**+0.3**
VLI				*e*SN	**Sb**	**18**	**53**	**25.2**	**+1.4**
VLI	**Veliai**	**1.64**	**128**	P	**Pb**	**18**	**53**	**04.4**	**+1.2**
VLI	**Veliai**	**1.64**	**128**	*e*Pn	**Pg**	**18**	**53**	**04.9**	**+0.3**
VLI				*e*Sn	**Sb**	**18**	**53**	**25.2**	**+1.4**
VLI				S	**Sg**	**18**	**53**	**27.6**	**+1.7**
NAIG	**Nisos Aigina**	**1.72**	**88**	*e*PN	**Pb**	**18**	**53**	**04.9**	**+0.3**
NAIG	**Nisos Aigina**	**1.72**	**88**	*e*Pn	**Pb**	**18**	**53**	**04.9**	**+0.3**
SMIA	**Simia**	**1.88**	**52**	P	**Pb**	**18**	**53**	**07.0**	**-0.3**
SMIA				S	**Sg**	**18**	**53**	**33.2**	**-0.3**
SMIA	**Simia**	**1.88**	**52**	*e*PN	**Pb**	**18**	**53**	**07.0**	**-0.3**
SMIA	**Simia**	**1.88**	**52**	*e*Pn	**Pb**	**18**	**53**	**07.0**	**-0.3**
SMIA	**Simia**	**1.88**	**52**	P	**Pb**	**18**	**53**	**07.4**	**+0.1**
SMIA				S	**Sg**	**18**	**53**	**33.2**	**-0.3**
THL	**Klokotos Trika**	**1.91**	**16**	P	**Pb**	**18**	**53**	**07.7**	**-0.1**
THL				S	**Sg**	**18**	**53**	**34.8**	**+0.2**
THL	**Klokotos Trika**	**1.91**	**16**	*e*PN	**Pb**	**18**	**53**	**08.1**	**+0.3**
THL	**Klokotos Trika**	**1.91**	**16**	P	**Pb**	**18**	**53**	**07.7**	**-0.1**
THL	**Klokotos Trika**	**1.91**	**16**	*e*Pn	**Pb**	**18**	**53**	**08.1**	**+0.3**
THL				*e*Sn	**Sg**	**18**	**53**	**34.8**	**+0.2**
ATH	**Athens Observa**	**1.91**	**82**	P	**Pb**	**18**	**53**	**07.4**	**-0.5**
ATH	**Athens Observa**	**1.91**	**82**	*e*PN	**Pn**	**18**	**53**	**07.3**	**+1.9**
ATH				*e*SN	**Sn**	**18**	**53**	**30.8**	**+1.5**
ATH	**Athens Observa**	**1.91**	**82**	P	**Pn**	**18**	**53**	**07.4**	**-0.5**
ATH				*e*Sn	**Sn**	**18**	**53**	**30.8**	**+1.5**
IGT	**Igoumenitsa**	**1.96**	**337**	P	**Pn**	**18**	**53**	**07.9**	**+1.9**
IGT	**Igoumenitsa**	**1.96**	**337**	*e*PB	**Pn**	**18**	**53**	**07.5**	**+1.5**
IGT	**Igoumenitsa**	**1.96**	**337**	*e*Pb	**Pn**	**18**	**53**	**07.5**	**+1.5**
IGT	**Igoumenitsa**	**1.96**	**337**	P	**Pn**	**18**	**53**	**07.9**	**+1.9**
JAN	**Janina**	**1.96**	**349**	P	**Pb**	**18**	**53**	**08.8**	**+0.1**
JAN	**Janina**	**1.96**	**349**	*e*PN	**Pb**	**18**	**53**	**08.8**	**+0.1**
JAN	**Janina**	**1.96**	**349**	P	**Pb**	**18**	**53**	**08.8**	**+0.1**
ATHU	**Athens Univers**	**1.97**	**82**	P	**Pn**	**18**	**53**	**07.9**	**+1.8**
ATHU	**Athens Univers**	**1.97**	**82**	P	**Pn**	**18**	**53**	**07.9**	**+1.8**
KYTH	**Kithira**	**2.00**	**136**	P	**Pb**	**18**	**53**	**10.1**	**+0.8**
KYTH	**Kithira**	**2.00**	**136**	*e*PN	**Pb**	**18**	**53**	**10.3**	**+1.0**
KYTH	**Kithira**	**2.00**	**136**	P	**Pb**	**18**	**53**	**10.1**	**+0.8**
MRKA	**Markates**	**2.04**	**61**	P	**Pn**	**18**	**53**	**08.9**	**+1.8**
MRKA				S	**Sb**	**18**	**53**	**36.3**	**+1.1**
MRKA	**Markates**	**2.04**	**61**	*e*PN	**Pn**	**18**	**53**	**09.0**	**+1.8**
MRKA	**Markates**	**2.04**	**61**	P	**Pn**	**18**	**53**	**08.9**	**+1.8**
MRKA				S	**Sb**	**18**	**53**	**36.3**	**+1.1**
PTL	**Penteli**	**2.04**	**80**	P	**Pn**	**18**	**53**	**08.8**	**+1.6**
PTL				S	**Sb**	**18**	**53**	**36.5**	**+1.2**
PTL	**Penteli**	**2.04**	**80**	*e*PN	**Pn**	**18**	**53**	**08.7**	**+1.6**
PTL	**Penteli**	**2.04**	**80**	P	**Pn**	**18**	**53**	**08.8**	**+1.6**
PTL				S	**Sb**	**18**	**53**	**36.5**	**+1.2**
ERET	**Eretria**	**2.09**	**69**	P	**Pn**	**18**	**53**	**09.9**	**+2.0**
ERET	**Eretria**	**2.09**	**69**	P	**Pn**	**18**	**53**	**09.9**	**+2.0**
NEO	**Neokhori**	**2.17**	**43**	*e*PN	**Pb**	**18**	**53**	**11.5**	**-0.8**
NEO	**Neokhori**	**2.17**	**43**	*e*Pn	**Pb**	**18**	**53**	**11.5**	**-0.8**
XOR	**Xorichti**	**2.20**	**41**	P	**Pn**	**18**	**53**	**11.5**	**+2.2**
XOR	**Xorichti**	**2.20**	**41**	*e*PN	**Pn**	**18**	**53**	**11.6**	**+2.2**
XOR	**Xorichti**	**2.20**	**41**	P	**Pn**	**18**	**53**	**11.5**	**+2.2**
SKIA	**Skiathos**	**2.21**	**49**	P	**Pn**	**18**	**53**	**11.4**	**+1.9**
SKIA	**Skiathos**	**2.21**	**49**	*e*PN	**Pn**	**18**	**53**	**11.5**	**+1.9**
SKIA	**Skiathos**	**2.21**	**49**	P	**Pn**	**18**	**53**	**11.4**	**+1.9**
KEK	**Kerkira**	**2.31**	**329**	P	**Pn**	**18**	**53**	**12.5**	**+1.7**
KEK	**Kerkira**	**2.31**	**329**	*e*PN	**Pn**	**18**	**53**	**12.6**	**+1.7**
KEK	**Kerkira**	**2.31**	**329**	P	**Pn**	**18**	**53**	**12.5**	**+1.7**
SRN	**Sarande**	**2.38**	**335**	*e*PN	**Pn**	**18**	**53**	**13.5**	**+1.7**
SRN				*e*SN	**Sn**	**18**	**53**	**52.2**	**-0.7**
MRMA	**Marmari**	**2.44**	**81**	P	**Pn**	**18**	**53**	**15.1**	**+2.4**
MRMA	**Marmari**	**2.44**	**81**	P	**Pn**	**18**	**53**	**15.1**	**+2.4**
ANKY	**Antikythira Is**	**2.45**	**139**	*e*PN	**Pn**	**18**	**53**	**15.6**	**+2.9**
ANKY	**Antikythira Is**	**2.45**	**139**	*e*Pn	**Pn**	**18**	**53**	**15.6**	**+2.9**
AOS	**Alonnisos**	**2.47**	**54**	P	**Pn**	**18**	**53**	**14.6**	**+1.5**
AOS				S	**Sn**	**18**	**53**	**45.1**	**+2.0**
AOS	**Alonnisos**	**2.47**	**54**	*e*PN	**Pn**	**18**	**53**	**14.7**	**+1.6**
AOS	**Alonnisos**	**2.47**	**54**	P	**Pn**	**18**	**53**	**14.6**	**+1.5**
AOS				S	**Sn**	**18**	**53**	**45.1**	**+2.0**
LIT	**Litokhoron**	**2.54**	**21**	P	**Pn**	**18**	**53**	**16.1**	**+2.1**
LIT	**Litokhoron**	**2.54**	**21**	*e*PN	**Pn**	**18**	**53**	**16.1**	**+2.1**
LIT	**Litokhoron**	**2.54**	**21**	P	**Pn**	**18**	**53**	**16.1**	**+2.1**
KZN	**Kozani**	**2.60**	**8**	P	**Pn**	**18**	**53**	**17.9**	**+3.0**
KZN	**Kozani**	**2.60**	**8**	*e*PB	**Pn**	**18**	**53**	**17.9**	**+3.0**
KZN	**Kozani**	**2.60**	**8**	P	**Pn**	**18**	**53**	**17.9**	**+3.0**
NEST	**Nestorio**	**2.69**	**356**	P	**Pb**	**18**	**53**	**20.0**	**-1.2**
NEST	**Nestorio**	**2.69**	**356**	*e*PB	**Pb**	**18**	**53**	**19.9**	**-1.2**
NEST	**Nestorio**	**2.69**	**356**	P	**Pb**	**18**	**53**	**20.0**	**-1.2**
PAIG	**Paliouri**	**2.87**	**39**	P	**Pn**	**18**	**53**	**20.3**	**+1.8**
PAIG	**Paliouri**	**2.87**	**39**	*e*PN	**Pn**	**18**	**53**	**20.2**	**+1.8**
PAIG	**Paliouri**	**2.87**	**39**	P	**Pn**	**18**	**53**	**20.3**	**+1.8**
FNA	**Florina**	**3.05**	**1**	P	**Pn**	**18**	**53**	**23.2**	**+2.1**
FNA	**Florina**	**3.05**	**1**	*e*PN	**Pn**	**18**	**53**	**23.3**	**+2.1**
FNA	**Florina**	**3.05**	**1**	P	**Pn**	**18**	**53**	**23.2**	**+2.1**
PLG	**Polygyros**	**3.12**	**31**	P	**Pn**	**18**	**53**	**24.0**	**+2.0**
PLG	**Polygyros**	**3.12**	**31**	*e*PN	**Pn**	**18**	**53**	**23.3**	**+1.3**
PLG	**Polygyros**	**3.12**	**31**	*e*Pn	**Pn**	**18**	**53**	**23.3**	**+1.3**
PLG	**Polygyros**	**3.12**	**31**	P	**Pn**	**18**	**53**	**24.0**	**+2.0**
KARN	**Karanos**	**3.13**	**137**	P	**Pn**	**18**	**53**	**24.4**	**+2.3**
KARN	**Karanos**	**3.13**	**137**	P	**Pn**	**18**	**53**	**24.4**	**+2.3**
HORT	**Hortiatis**	**3.18**	**25**	P	**Pn**	**18**	**53**	**24.9**	**+2.0**
HORT	**Hortiatis**	**3.18**	**25**	*e*PN	**Pn**	**18**	**53**	**24.4**	**+1.5**
HORT	**Hortiatis**	**3.18**	**25**	*e*Pn	**Pn**	**18**	**53**	**24.4**	**+1.5**
HORT	**Hortiatis**	**3.18**	**25**	P	**Pn**	**18**	**53**	**24.9**	**+2.0**
VAM	**Vamos**	**3.28**	**134**	P	**Pn**	**18**	**53**	**26.2**	**+2.0**
VAM	**Vamos**	**3.28**	**134**	*e*PN	**Pn**	**18**	**53**	**26.4**	**+2.2**
VAM	**Vamos**	**3.28**	**134**	P	**Pn**	**18**	**53**	**26.2**	**+2.0**
BIA	**Bitola**	**3.28**	**0**	*e*Pn	**Pn**	**18**	**53**	**26.5**	**+2.2**
OUR	**Ouranopolis**	**3.33**	**38**	P	**Pn**	**18**	**53**	**26.6**	**+1.8**
OUR	**Ouranopolis**	**3.33**	**38**	*e*PN	**Pn**	**18**	**53**	**26.3**	**+1.5**
OUR	**Ouranopolis**	**3.33**	**38**	*e*Pn	**Pn**	**18**	**53**	**26.3**	**+1.5**
OUR	**Ouranopolis**	**3.33**	**38**	P	**Pn**	**18**	**53**	**26.6**	**+1.8**
APE	**Apeiranthos**	**3.42**	**100**	⇑P	Pn	18	53	29.4	+3.3
APE	**Apeiranthos**	**3.42**	**100**	*e*PN	**Pn**	**18**	**53**	**29.3**	**+3.2**
APE	**Apeiranthos**	**3.42**	**100**	*e*PN	**Pn**	**18**	**53**	**29.0**	**+2.9**
APE	**Apeiranthos**	**3.42**	**100**	⇑*i*P	Pn	18	53	29.4	+3.3
APE	**Apeiranthos**	**3.42**	**100**	*e*Pn	**Pn**	**18**	**53**	**29.0**	**+2.9**
APE	**Apeiranthos**	**3.42**	**100**	P	Pn	18	53	29.4	+3.3
SOH	**Sokhos**	**3.47**	**26**	P	**Pn**	**18**	**53**	**29.5**	**+2.7**
SOH	**Sokhos**	**3.47**	**26**	*e*PN	**Pn**	**18**	**53**	**29.1**	**+2.3**
SOH	**Sokhos**	**3.47**	**26**	*e*Pn	**Pn**	**18**	**53**	**29.1**	**+2.3**
SOH	**Sokhos**	**3.47**	**26**	P	**Pn**	**18**	**53**	**29.5**	**+2.7**
KNT	**Kendrikon**	**3.64**	**19**	P	**Pn**	**18**	**53**	**31.6**	**+2.5**
KNT	**Kendrikon**	**3.64**	**19**	*e*PN	**Pn**	**18**	**53**	**31.4**	**+2.3**
KNT	**Kendrikon**	**3.64**	**19**	P	**Pn**	**18**	**53**	**31.6**	**+2.5**
LIA	**Limnos Island**	**3.71**	**53**	P	**Pn**	**18**	**53**	**31.6**	**+1.5**
LIA	**Limnos Island**	**3.71**	**53**	*e*PN	**Pn**	**18**	**53**	**31.8**	**+1.7**
LIA	**Limnos Island**	**3.71**	**53**	*e*Pn	**Pn**	**18**	**53**	**31.8**	**+1.7**
VAY	**Valandovo**	**3.71**	**15**	P	**Pn**	**18**	**53**	**33.0**	**+2.8**
VAY	**Valandovo**	**3.71**	**15**	*e*Pn	**Pn**	**18**	**53**	**32.3**	**+2.2**
VAY	**Valandovo**	**3.71**	**15**	P	**Pn**	**18**	**53**	**33.0**	**+2.8**
IDI	**Anoyia**	**3.77**	**129**	*e*PN	**Pn**	**18**	**53**	**32.7**	**+1.7**
IDI	**Anoyia**	**3.77**	**129**	Pn	**Pn**	**18**	**53**	**30.7**	**-0.3**
	2.3nm,0.3s,baz=310,slow=15,SNR=15								
IDI					Sn	**Sn**	**18**	**54**	**13.8**	**-1.5**
	7.6nm,0.3s,baz=292,slow=19,SNR=4.6								
CHOS	**Chios island**	**3.79**	**79**	*e*PN	**Pn**	**18**	**53**	**33.5**	**+2.1**
CHOS	**Chios island**	**3.79**	**79**	*e*Pn	**Pn**	**18**	**53**	**33.5**	**+2.1**
SRS	**Serrai**	**3.81**	**27**	P	**Pn**	**18**	**53**	**33.9**	**+2.4**
SRS	**Serrai**	**3.81**	**27**	*e*PN	**Pn**	**18**	**53**	**33.5**	**+2.0**
SRS	**Serrai**	**3.81**	**27**	*e*Pn	**Pn**	**18**	**53**	**33.5**	**+2.0**
SRS	**Serrai**	**3.81**	**27**	P	**Pn**	**18**	**53**	**33.9**	**+2.4**
PHP	**Peshkopia**	**4.01**	**351**	*e*PN	**Pn**	**18**	**53**	**35.7**	**+1.5**
PHP				*e*SN	Sn	18	54	13.1	-8.0
PHP	**Peshkopia**	**4.01**	**351**	P	**Pn**	**18**	**53**	**36.4**	**+2.2**
PHP	**Peshkopia**	**4.01**	**351**	P	**Pn**	**18**	**53**	**36.4**	**+2.2**
KAVA	**Kavala**	**4.09**	**36**	P	**Pn**	**18**	**53**	**36.9**

	comp=E,7.0nm,0.6s								
VSR					pmax		pmax		
	comp=E,8.0nm,0.6s								
VSR	**Storozhevoye**	**18.48**	**37**	*eP*		**P**		**18 56 47.5**	**-1.1**
VRHR	**Novokhopersk**	**19.64**	**41**	*eP*		**P**		**18 57 02.1**	**+0.8**
VRHR					pmax		pmax		
	comp=Z,10.0nm,0.7s								
VRHR					pmax		pmax		
	comp=N,4.0nm,0.3s								
VRHR					pmax		pmax		
	comp=E,9.0nm,0.7s								
VRHR	**Novokhopersk**	**19.64**	**41**	*eP*		**P**		**18 57 02.1**	**+0.8**
	comp=E,4.0nm,0.3s								
ESDC	**Sonseca Array**	**19.81**	**283**	P		**P**		**18 57 05.0**	**+1.6**
	comp=E,0.2nm,0.3s,baz=78,slow=11,SNR=8.3								
OBN	**Obninsk**	**20.24**	**26**	*eP*		**P**		**18 57 07.0**	**-0.8**
OBN				*i*				18 57 20.4	
OBN					pmax		pmax		
	comp=Z,12nm,0.9s								
OBN	**Obninsk**	**20.24**	**26**	*eP*		**P**		**18 57 07.0**	**-0.8**
	comp=Z,12nm,0.9s								
IDHR	**Dehrash**	**20.43**	**91**	*eP*		**P**		**18 57 09.5**	**-0.9**
IDHR	**Dehrash**	**20.43**	**91**	*eP*		**P**		**18 57 09.5**	**-0.9**
ILIN	**Lien**	**20.83**	**90**	*eP*		**P**		**18 57 13.3**	**-1.4**
ILIN	**Lien**	**20.83**	**90**	*eP*		**P**		**18 57 13.3**	**-1.4**
IVIS	**Veis**	**20.85**	**91**	*eP*		**P**		**18 57 13.9**	**-0.8**
IVIS	**Veis**	**20.85**	**91**	*eP*		**P**		**18 57 13.9**	**-0.8**
VSU	**Vasula**	**21.05**	**8**	*d iP*		**P**		**18 57 16.1**	**-0.4**
VSU					pmax		pmax		
	comp=Z,205nm,1.2s								
VSU	**Vasula**	**21.05**	**8**	*i P*		**P**		**18 57 16.1**	**-0.4**
	comp=Z,205nm,1.2s								
IKOM	**Komasi**	**21.47**	**92**	*eP*		**P**		**18 57 19.8**	**-1.7**
IKOM	**Komasi**	**21.47**	**92**	*eP*		**P**		**18 57 19.8**	**-1.7**
MDT	**Midelt**	**21.70**	**265**	P		**P**		**18 57 24.6**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=120,slow=8.1,SNR=4.3								
HFS	**Hagfors**	**22.94**	**350**	P		**P**		**18 57 35.4**	**-1.4**
	comp=Z,2.0nm,0.4s								
HFS	**Hagfors**	**22.94**	**350**	P		**P**		**18 57 35.4**	**-1.4**
	comp=Z,2.3nm,0.4s,baz=163,slow=11,SNR=19								
FINES	**FINESS Array A**	**23.92**	**6**	P		**P**		**18 57 45.2**	**-1.3**
	comp=Z,3.0nm,0.4s								
FINES	**FINESS Array B**	**23.92**	**6**	P		**P**		**18 57 45.2**	**-1.3**
	comp=Z,2.8nm,0.4s,baz=180,slow=9.4,SNR=40								
FINES					LR		LR	19 07 14.8	
	comp=Z,72nm,18.5s,baz=265,slow=37								
EKA	**Eskdalemuir Ar**	**24.16**	**325**	P		**P**		**18 57 48.7**	**0.0**
	comp=Z,3.0nm,0.7s								
EKA	**Eskdalemuir Ar**	**24.16**	**325**	P		**P**		**18 57 48.7**	**0.0**
	comp=Z,2.5nm,0.7s,baz=124,slow=9.2,SNR=12								
NB2	**NORSAR Subarra**	**24.18**	**348**	P		**P**		**18 57 47.5**	**-1.6**
	comp=Z,4.4nm,1.1s,baz=160,slow=9.3								
NOA	**NORSAR Array B**	**24.18**	**348**	P		**P**		**18 57 47.4**	**-1.6**
	comp=Z,31nm,18.6s								
NOA	**NORSAR Array B**	**24.18**	**348**	P		**P**		**18 57 47.4**	**-1.6**
	comp=Z,1.7nm,1.0s,baz=154,slow=9.4,SNR=7.5								
NOA					LR		LR	19 08 06.6	
	comp=Z,31nm,18.6s,baz=270,slow=39								
KAF	**Kangasniemi**	**24.60**	**6**	*eP*		**P**		**18 57 50.9**	**-1.8**
KAF					pmax		pmax		
	comp=Z,4.0nm,0.5s								
KAF	**Kangasniemi**	**24.60**	**6**	*ep*		**P**		**18 57 50.9**	**-1.8**
	comp=Z,4.4nm,0.5s								
KAF	**Kangasniemi**	**24.60**	**6**	*eP*		**P**		**18 57 50.9**	**-1.8**
	comp=Z,4.0nm,0.5s								
IKLH	**Kolahrood**	**24.96**	**91**	*eP*		**P**		**18 57 57.1**	**+0.5**
IKLH	**Kolahrood**	**24.96**	**91**	*eP*		**P**		**18 57 57.1**	**+0.5**
IZEF	**Zefreh**	**25.70**	**91**	*eP*		**P**		**18 58 01.9**	**-1.3**
IZEF	**Zefreh**	**25.70**	**91**	*eP*		**P**		**18 58 01.9**	**-1.3**
KLMR	**Klimovskoe**	**25.83**	**21**	*eP*		P		18 57 59.4	-4.4
KLMR					pmax		pmax		
	comp=Z,25nm,1.6s								
JOF	**Joensuu**	**25.95**	**10**	*eP*		**P**		**18 58 02.9**	**-2.0**
JOF					pmax		pmax		
	comp=Z,2.0nm,0.5s								
JOF	**Joensuu**	**25.95**	**10**	*ep*		**P**		**18 58 02.9**	**-2.0**
	comp=Z,1.6nm,0.5s								
AKTO	**Aktyubinsk**	**28.95**	**52**	P		P		18 58 29.3	-2.7
AKTO					pmax		pmax		
	comp=Z,2.0nm,0.8s								
AKTO	**Aktyubinsk**	**28.95**	**52**	P		P		18 58 29.3	-2.7
	comp=Z,2.2nm,0.8s,baz=251,slow=9.3,SNR=9.1								
TORD	**Torodi Ar. Bea**	**30.09**	**221**	P		**P**		**18 58 42.5**	**+0.2**
	comp=Z,3.1nm,0.7s,baz=32,slow=9.1,SNR=23								
ARU	**Arti**	**30.98**	**41**	*c iP*		**P**		**18 58 48.2**	**-1.7**
ARU					S		**S**	**19 03 50.9**	**-3.1**
ARU					pmax		pmax		
	comp=Z,4.0nm,1.0s								
ARCES	**ARCESS Array B**	**31.95**	**3**	P		P		18 58 56.2	-2.0
	comp=Z,1.3nm,0.5s,baz=194,slow=8.8,SNR=8.8								
SVE	**Sverdlovsk**	**32.19**	**41**	*eP*		**P**		**18 58 59.6**	**-0.9**
SVE					pmax		pmax		
	comp=Z,13nm,0.9s								
SVE	**Sverdlovsk**	**32.19**	**41**	*eP*		**P**		**18 58 59.6**	**-0.9**
	comp=Z,13nm,0.9s								
KEV	**Kevo**	**32.23**	**4**	*eP*		**P**		**18 58 59.5**	**-1.2**
KEV					pmax		pmax		
	comp=Z,1.0nm,0.4s								
KEV	**Kevo**	**32.23**	**4**	*ep*		**P**		**18 58 59.5**	**-1.2**
	comp=Z,0.6nm,0.4s								
KEV	**Kevo**	**32.23**	**4**	*eP*		**P**		**18 58 59.5**	**-1.2**
	comp=Z,1.0nm,0.4s								
BRVK	**Borovoye**	**36.87**	**49**	*eP*		**P**		**18 59 40.7**	**-0.3**
BRVK					pmax		pmax		
	comp=Z,6.0nm,1.0s								
BRVK	**Borovoye**	**36.87**	**49**	*eP*		**P**		**18 59 40.7**	**-0.3**
	comp=Z,6.0nm,1.0s								
BVAR	**Borovoye Array**	**36.93**	**49**	P		**P**		**18 59 40.3**	**-1.2**
BVAR					pmax		pmax		
	comp=Z,2.0nm,0.6s								
BVAR	**Borovoye Array**	**36.93**	**49**	P		**P**		**18 59 40.3**	**-1.2**
	comp=Z,2.0nm,0.6s								
BVAR	**Borovoye Array**	**36.93**	**49**	P		**P**		**18 59 40.3**	**-1.2**
	comp=Z,1.5nm,0.6s,baz=243,slow=6.3,SNR=12								
DBIC	**Dimbokro**	**39.00**	**224**	P		**P**		**18 59 59.9**	**+0.6**
	comp=Z,4.3nm,1.0s,baz=21,slow=13,SNR=3.5								
AAK	**Ala-Archa**	**40.37**	**66**	*eP*		**P**		**19 00 12.2**	**+1.5**
AAK					pmax		pmax		
	comp=Z,3.0nm,0.8s								
AAK	**Ala-Archa**	**40.37**	**66**	*eP*		**P**		**19 00 12.2**	**+1.5**
	comp=Z,3.0nm,0.8s								
KURK	**Kurchatov**	**42.04**	**53**	*i P*		**P**		**19 00 22.9**	**-1.2**
KURK					pmax		pmax		
	comp=Z,2.0nm,1.2s								
KURK	**Kurchatov**	**42.04**	**53**	*i P*		**P**		**19 00 22.9**	**-1.2**
	comp=Z,2.0nm,1.2s								
NVS	**Novosibirsk**	**44.52**	**47**	*eP*		P		19 00 40.4	-3.7
NVS					pmax		pmax		
	comp=E,5.0nm,1.2s								
NVS					pmax		pmax		
	comp=Z,10.0nm,1.2s								
MKAR	**Makanchi Array**	**45.00**	**58**	*ceP*		**P**		**19 00 46.7**	**-1.4**
MKAR					pmax		pmax		
	comp=Z,1.0nm,0.5s								
MKAR	**Makanchi Array**	**45.00**	**58**	*eP*		**P**		**19 00 46.7**	**-1.4**
	comp=Z,1.0nm,0.5s								
MKAR	**Makanchi Array**	**45.00**	**58**	P		**P**		**19 00 46.8**	**-1.4**
	comp=Z,1.2nm,0.5s,baz=275,slow=7.7,SNR=23								
ZALV	**Zalesovo Beam**	**45.52**	**48**	P		**P**		**19 00 50.6**	**-1.5**
ZALV					pmax		pmax		
	comp=Z,4.0nm,0.4s								
ZALV	**Zalesovo Beam**	**45.52**	**48**	P		**P**		**19 00 50.6**	**-1.5**
	comp=Z,4.0nm,0.4s								
ZALV	**Zalesovo Beam**	**45.52**	**48**	P		**P**		**19 00 50.6**	**-1.5**
	comp=Z,4.4nm,0.4s,baz=274,slow=8.5,SNR=23								
CMAR	**Chiang Mai Arr**	**69.33**	**82**	P		**P**		**19 03 39.0**	**-1.6**
CMAR	**Chiang Mai Arr**	**69.33**	**82**	P		**P**		**19 03 39.0**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=299,slow=8.2,SNR=2.8								
ILAR	**Eielson Array**	**77.41**	**355**	P		**P**		**19 04 28.2**	**+0.7**
ILAR	**Eielson Array**	**77.41**	**355**	P		**P**		**19 04 28.2**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=344,slow=3.6,SNR=4.4								
PDAR	**Pinedale Array**	**88.27**	**326**	P		**P**		**19 05 24.6**	**+0.1**
	comp=Z,0.4nm,0.9s,baz=34,slow=3.4,SNR=3.4								
ASAR	**Alice Springs**	**121.50**	**97**	PKP		**PKPdf**		**19 11 23.4**	**-3.2**
	comp=Z,0.1nm,0.6s,baz=308,slow=1.7,SNR=3.3								

IDC 17 19:05:41.0±2.7, 6°04'N×126°75'E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/22, mbtmp3.2/3, Error ellipse: s-maj=218.4km s-min=27.2km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.88**	**164**	P		P	19 11 23.5	-0.3
	0.2nm,0.6s,baz=344,slow=9.6,SNR=6.5							
ASAR	**Alice Springs**	**30.34**	**167**	P		P	19 11 54.9	+0.2
	0.2nm,0.6s,baz=342,slow=7.6,SNR=4.7							
MKAR	**Makanchi Array**	**55.69**	**324**	P		P	19 15 19.2	-0.1
	0.1nm,0.4s,baz=117,slow=6.1,SNR=5.1							

PRE 17 19:11:03.8±1.8, 3°99S×34°81E, h10km, ML3.5, Lake Victoria region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**3.75**	**41**	*eP*		Pn	19 12 03.2	+1.1
KMBO				*eS*		Sn	19 12 45.4	-1.2
KIG	**Kigali**	**5.15**	**293**	*eP*		Pn	19 12 22.3	+1.0
KIG				*eS*		Sn	19 13 19.5	-1.4
KIG				AML		AML	19 13 50.9	
	comp=Z,30nm,0.5s							
MBAR	**Mbarara**	**5.28**	**310**	*eP*		Pn	19 12 22.0	-1.0
MBAR				*eS*		Sn	19 13 22.3	-1.8

WEL 17 19:21:42.9±0.4, 38°39S×175°77E, h169km±3km, ML3.7/8, 5C, Error ellipse: s-maj=3.3km s-min=2.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TWVZ	**Taurewa**	**0.73**	**201**	PN		Pn	19 22 07.4	-0.4
FWVZ	**Far West T-bar**	**0.88**	**191**	PN		Pn	19 22 08.7	-0.2
FWVZ				SN		Sn	19 22 28.4	-0.6
TUVZ	**Tukino**	**0.88**	**186**	PN		Pn	19 22 08.8	0.0
TUVZ				SN		Sn	19 22 29.1	+0.2
WHVZ	**Whangaehu Hut**	**0.90**	**189**	PN		Pn	19 22 08.9	-0.1
WHVZ				SN		Sn	19 22 29.3	0.0
TRVZ	**Turoa**	**0.92**	**191**	PN		Pn	19 22 09.1	-0.1
BKZ	**Black Stump Fm**	**0.96**	**144**	↑PN		Pn	19 22 09.2	-0.1
BKZ				SN		Sn	19 22 27.2	-2.4
BKZ				SN			19 22 28.1	
PKVZ	**Pokaka**	**0.96**	**200**	PN		Pn	19 22 09.1	-0.1
PKVZ				SN		Sn	19 22 29.5	-0.2
URZ	**Urewera**	**1.06**	**83**	PN		Pn	19 22 09.7	-0.3
NMHZ	**Naumai**	**1.07**	**131**	PN		Pn	19 22 09.6	-0.5
NMHZ				SN		Sn	19 22 32.0	+0.8
VRZ	**Vera Road**	**1.08**	**227**	PN		Pn	19 22 09.9	-0.2
BHHZ	**Black Hill Sta**	**1.12**	**168**	PN		Pn	19 22 10.2	-0.4
MCHZ	**McNeill Hill**	**1.27**	**146**	PN		Pn	19 22 12.8	+1.0
MWZ	**Matawai**	**1.38**	**88**	PN		Pn	19 22 12.8	0.0
MWZ				SN		Sn	19 22 34.8	-1.1
WAZ	**Wanganui**	**1.49**	**204**	PN		Pn	19 22 13.4	-0.4
WAZ				SN		Sn	19 22 37.2	-0.7
PNHZ	**Pukenui**	**1.56**	**168**	PN		Pn	19 22 14.2	-0.3
KNZ	**Kokohu**	**1.61**	**114**	PN		Pn	19 22 15.6	+0.6
KNZ				SN		Sn	19 22 39.3	-0.5
CKHZ	**Cape Kidnapper**	**1.62**	**142**	PN		Pn	19 22 15.6	+0.5
KAHZ	**Kahuranaki**	**1.64**	**149**	PN		Pn	19 22 15.8	+0.4
KAHZ				SN		Sn	19 22 40.5	-0.1
TSZ	**Takapari Road**	**1.67**	**175**	PN		Pn	19 22 15.3	-0.4
WPHZ	**Waipukurau**	**1.75**	**163**	PN		Pn	19 22 16.3	-0.2
WPHZ				SN		Sn	19 22 40.2	-2.3
MHGZ	**Mahia Peninsul**	**1.83**	**115**	PN		Pn	19 22 18.0	+0.6
DVHZ	**Dannevirke**	**1.93**	**171**	↑PN		Pn	19 22 17.6	-0.8
PRHZ	**Porangahau**	**1.99**	**161**	↑PN		Pn	19 22 18.8	-0.3
PRHZ				SN		Sn	19 22 44.6	-2.6
POWZ	**Post Office Ro**	**2.00**	**180**	PN		Pn	19 22 18.2	-1.0
ANWZ	**Angora Road**	**2.14**	**165**	PN		Pn	19 22 20.3	-0.4
ANWZ				SN		Sn	19 22 47.2	-2.9
PRWZ	**Pori Road**	**2.17**	**176**	*e*PN		Pn	19 22 19.5	-1.5
MRZ	**Mangatainoka R**	**2.27**	**184**	↑PN		Pn	19 22 20.8	-1.4
MRZ				SN		Sn	19 22 48.9	-4.0
MRZ				AML		AML	19 22 51.9	
BFZ	**Birch Farm**	**2.32**	**171**	PN		Pn	19 22 21.8	-1.0
BFZ				SN		Sn	19 22 49.9	-4.0
TIWZ	**Tintock**	**2.38**	**178**	PN		Pn	19 22 22.3	-1.3
OGWZ	**Otaki Gorge**	**2.47**	**191**	PN		Pn	19 22 23.0	-1.5
HOWZ	**Holdsworth Sta**	**2.51**	**184**	PN		Pn	19 22 23.3	-1.8
CPWZ	**Castlepoint**	**2.54**	**173**	PN		Pn	19 22 24.4	-1.0
KIW	**Kapiti Island**	**2.56**	**195**	AML		AML	19 22 19.6	
KIW				PN		Pn	19 22 23.7	-1.9
TMWZ	**Te Maipa**	**2.71**	**178**	PN		Pn	19 22 25.8	-1.7
CAW	**Cannon Point**	**2.77**	**191**	PN		Pn	19 22 26.2	-2.0
CAW				AML		AML	19 23 01.2	
CAW				AML		AML	19 23 01.5	
MTW	**Mount Morrison**	**2.77**	**184**	PN		Pn	19 22 26.0	-2.2
MTW				AML		AML	19 23 01.2	
DUWZ	**D'Urville Isla**	**2.80**	**210**	PN		Pn	19 22 26.6	-2.0
PAWZ	**Paruwai Farm**	**3.00**	**185**	PN		Pn	19 22 28.7	-2.3
TRWZ	**Traveller**	**3.00**	**181**	PN		Pn	19 22 28.9	-2.1
TRWZ				AML		AML	19 23 05.8	
TCW	**Tory Channel**	**3.04**	**202**	PN		Pn	19 22 29.2	-2.3
TCW				AML		AML	19 23 06.6	
TCW				AML		AML	19 23 06.8	
MSWZ	**Moikau Station**	**3.05**	**187**	PN		Pn	19 22 29.1	-2.5
MSWZ				AML		AML	19 23 05.7	
PLWZ	**Palliser**	**3.20**	**187**	PN		Pn	19 22 30.8	-2.7
TUWZ	**Tuamarina**	**3.35**	**204**	PN		Pn	19 22 32.3	-3.0
NNZ	**Nelson**	**3.37**	**212**	PN		Pn	19 22 32.6	-3.0
THZ	**Tophouse**	**4.02**	**212**	*e*PN		Pn	19 22 40.5	-3.5
KHZ	**Kahutara**	**4.37**	**202**	PN		Pn	19 22 45.1	-3.2
DSZ	**Denniston Nort**	**4.53**	**221**	SN		Sn	19 23 36.5	-6.9
LTZ	**Lake Taylor**	**5.13**	**210**	*e*PN		Pn	19 22 54.6	-3.8
MQZ	**McQueen's Vall**	**5.81**	**203**	↑PN		Pn	19 23 02.1	-5.1
MQZ				SN		Sn	19 24 03.4	-10
ODZ	**Otahua Downs**	**7.67**	**208**	*e*PN		Pn	19 23 26.9	-4.9

IDC 17 19:26:32.1±0.9, 8°12S×130°40E, h0km, mb4.0/6, mb1 4.3/10, mb1mx4.1/19, mbtmp4.1/10, ML4.3/4, Error ellipse: s-maj=29.1km s-min=18.2km az=77.0
ISCJB 17 19:26:35.5±0.5, 8°16S±0°04×130°35E±0°06, h33km, mb3.9/6, Error ellipse: s-maj=8.0km s-min=5.9km az=172.2
AUST 17 19:26:37.7, 7°97S×130°56E, h60km

ISC 17 19:26:37.6±0.6, 8°18S±0°06×130°35E±0°07, h35km, n24, σ2s05/28, mb4.0/6, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BNDI	**Bandanaira**	**3.67**	**353**	P		**Pn**	**19 27 33.5**	**+1.6**
	baz=3.5,SNR=3.4							
MTN	**Manton Dam**	**4.69**	**171**	P		**Pn**	**19 27 48.7**	**+2.7**
	baz=4.9,SNR=84							
KDU	**Kakadu**	**4.94**	**155**	P		**Pn**	**19 27 51.5**	**+2.2**
	baz=5.1,SNR=75							
AAI	**Ambon**	**4.96**	**334**	P		**Pn**	**19 27 51.4**	**+1.8**
	baz=4.9,SNR=5.9							
FAKI	**Fak Fak**	**5.56**	**20**	P		**Pn**	**19 27 56.1**	**-1.9**
	baz=5.3,SNR=27							
BATI	**Baumata**	**6.90**	**253**	Pn		**Pn**	**19 28 16.4**	**0.0**
	1.2nm,0.3s,baz=112,slow=16,SNR=2.8							
BATI				Sn		**Sn**	**19 29 35.5**	**+1.6**
	17nm,0.3s,baz=195,slow=23,SNR=12							
SWI	**Sorong**	**7.33**	**7**	P		**Pn**	**19 28 20.3**	**-1.9**
	baz=7.1,SNR=5.4							
KNRA	**Kununurra**	**7.61**	**192**	P		**Pn**	**19 28 27.2**	**+1.2**
	baz=7.9,SNR=76							
FITZ	**Fitzroy Crossi**	**10.87**	**204**	P		**Pn**	**19 29 10.9**	**+0.1**
	baz=11,SNR=18							
FITZ	**Fitzroy Crossi**	**10.87**	**204**	Pn		**Pn**	**19 29 10.7**	**-0.1**
	2.8nm,0.3s,baz=32,slow=11,SNR=79							
FITZ				Sn		**Sn**	**19 31 07.6**	**-3.8**
	3.4nm,0.3s,baz=274,slow=22,SNR=7.0							
WRA	**Warramunga Arr**	**12.31**	**162**	Pn		**Pn**	**19 29 28.9**	**-1.7**
	2.5nm,0.3s,baz=351,slow=13,SNR=56							
WRA				Sn		**Sn**	**19 31 43.6**	**-3.0**
	3.1nm,0.3s,baz=327,slow=21,SNR=8.4							
COEN	**Coen**	**13.83**	**116**	P		**Pn**	**19 29 52.7**	**+1.5**
	baz=14,SNR=4.9							
ASAR	**Alice Springs**	**15.77**	**168**	Pn		**Pn**	**19 30 15.2**	**-1.9**
	1.1nm,0.3s,baz=341,slow=8.4,SNR=113							
ASAR				Sn		**Sn**	**19 33 08.9**	**-2.0**
	0.6nm,0.3s,baz=355,slow=22,SNR=5.5							
MTSU	**Mount Surprise**	**16.80**	**127**	P		**Pn**	**19 30 30.8**	**+0.4**
	baz=17,SNR=11							
MEEK	**Meekatharra**	**21.47**	**210**	P		**P**	**19 31 25.1**	**+1.8**
	baz=22,SNR=3.5							
QLP	**Quilpie**	**22.55**	**146**	P		**P**	**19 31 38.8**	**+4.0**
	baz=23,SNR=3.7							
MORW	**Morawa**	**24.76**	**211**	P		**P**	**19 31 58.8**	**+2.7**
	baz=25,SNR=4.3							
STKA	**Stephens Creek**	**25.79**	**158**	P		**P**	**19 32 08.5**	**+3.0**
	baz=26,SNR=6.0							
STKA	**Stephens Creek**	**25.79**	**158**	P		**P**	**19 32 05.7**	**+0.3**
	2.2nm,0.9s,baz=338,slow=9.3,SNR=5.2							
CMAR	**Chiang Mai Arr**	**40.76**	**311**	P		**P**	**19 34 14.5**	**-1.1**
	0.3nm,0.6s,baz=132,slow=7.2,SNR=3.8							
KSRS	**Korea Array**	**45.45**	**357**	P		**P**	**19 34 52.6**	**-0.6**
	0.8nm,0.5s,baz=175,slow=9.6,SNR=6.6							
MKAR	**Makanchi Array**	**69.40**	**327**	P		**P**	**19 37 42.8**	**+0.7**
	5.6nm,0.7s,baz=117,slow=8.3,SNR=79							
ZALV	**Zalesovo Beam**	**72.79**	**334**	P		**P**	**19 38 01.2**	**-1.1**
	1.6nm,0.7s,baz=123,slow=5.5,SNR=11							
ILAR	**Eielson Array**	**94.26**	**25**	P		**P**	**19 39 52.2**	**-0.7**
	0.6nm,0.8s,baz=267,slow=4.7,SNR=7.7							

PRE 17 19:29:59.1±2.1, 5°40S×34°94E, h10km, ML3.8

ISC 17 19:30:01.4±4.5, 5°3S±0°3×34°85E±0°08, h10km, n4, σ2s01/7, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MAUS	**Longido**	**3.10**	**37**	*i P*		Pg	19 31 07.9	+7.0
MAUS				*i* S		**Sn**	**19 31 29.0**	**+1.1**
KMBO	**Kilima Mbogo**	**4.75**	**30**	*eP*		**Pn**	**19 31 13.6**	**+0.3**
KMBO				*eS*		**Sn**	**19 32 06.0**	**-2.5**
KIG	**Kigali**	**5.78**	**304**	*eP*		**Pn**	**19 31 26.4**	**-1.1**
KIG				*eS*		**Sn**	**19 32 33.2**	**-0.8**
KIG				AML		AML	19 33 13.7	
	comp=Z,36nm,0.5s							
MBAR	**Mbarara**	**6.17**	**318**	*eP*		**Pn**	**19 31 35.4**	**+2.5**
MBAR				*eS*		**Sn**	**19 32 43.3**	**-0.4**

IDC 17 19:32:58.6±4.2, 3°80S×147°99E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/16, mbtmp3.7/3, MS3.5/1, Ms1 3.4/1, ms1mx2.8/20, Error ellipse: s-maj=131.6km s-min=49.9km az=110.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.84**	**219**	P		P	19 37 43.0	+0.8
	2.8nm,1.0s,baz=42,slow=10,SNR=6.3							
ASAR	**Alice Springs**	**23.98**	**213**	P		P	19 38 14.2	-0.9
	0.9nm,0.8s,baz=42,slow=7.4,SNR=4.6							
FITZ	**Fitzroy Crossi**	**26.09**	**235**	P		P	19 38 34.5	+0.2
	1.0nm,0.9s,baz=67,slow=7.7,SNR=3.8							
STKA	**Stephens Creek**	**28.57**	**191**	LR		LR	19 49 49.6	
	comp=Z,92nm,21.7s,baz=21,slow=35							
TORD	**Torodi Ar. Bea**	**145.43**	**288**	PKPbc		PKPbc	19 52 38.8	-0.9
	0.6nm,0.9s,baz=91,slow=4.7,SNR=4.1							

ISCJB 17 19:35:01.8±0.7, 36°88N±0°05×2°41E±0°06, h14km, Error ellipse: s-maj=7.5km s-min=5.3km az=41.6
CRAAG 17 19:35:01.9, 36°66N×2°41E, Ml2.8
CSEM 17 19:35:03.2±0.4, 36°85N×2°47E, h18km±5km, ML2.6/6, Error ellipse: s-maj=9.9km s-min=6.4km az=178.0
MDD 17 19:35:03.9±0.6, 36°79N×2°55E, h19km±9km, mb3.5/2, Error ellipse: s-maj=8.9km s-min=6.9km az=174.0, PRXIMO

ISC 17 19:35:01.9±0.9, 36°87N±0°05×2°48E±0°04, h14km, n23, σ1s31/35, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ABA	**Alger-Bouzarea**	**0.45**	**98**	P		**Pb**	**19 35 12.0**	**+0.3**
ABA	**Alger-Bouzarea**	**0.45**	**98**	Pg		**Pb**	**19 35 12.0**	**+0.3**
ABA	**Alger-Bouzarea**	**0.45**	**98**	P		**Pb**	**19 35 12.0**	**+0.3**
EMHD	**Djebel Mahouad**	**0.77**	**150**	P		**Pg**	**19 35 14.5**	**-2.4**
EMHD	**Djebel Mahouad**	**0.77**	**150**	Pg		**Pg**	**19 35 14.5**	**-2.4**
EMHD	**Djebel Mahouad**	**0.77**	**150**	P		**Pg**	**19 35 14.5**	**-2.4**
ADJB	**Djebel Djouab**	**1.05**	**132**	P		**Pg**	**19 35 22.7**	**+0.5**
ADJB	**Djebel Djouab**	**1.05**	**132**	Pn		**Pg**	**19 35 22.7**	**+0.5**
ADJB	**Djebel Djouab**	**1.05**	**132**	P		**Pg**	**19 35 22.7**	**+0.5**
OKGL	**Djebel Kef Gue**	**1.69**	**241**	Pg		**Pg**	**19 35

ASAR				S		**Sn**	**19 55 42.3**	**-0.3**
	0.2nm,0.3s,baz=323,slow=17,SNR=6.0							
STKA	**Stephens Creek**	**26.83**	**154**	P		**P**	**19 54 25.9**	**-2.5**
	0.6nm,0.5s,baz=308,slow=12,SNR=2.9							

IDC 17 20:23:29.6±7.7, 17°.44S×178°.35W, h540km±93km, mb3.1/9, mb1 3.4/9, mb1mx3.2/18, mbtmp3.1/9, Error ellipse: s-maj=46.2km s-min=23.1km az=176.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**27.68**	**197**	P	P	20 28 34.0	-0.4
	5.8nm,0.5s,baz=45,slow=8.6,SNR=4.5						
STKA	**Stephens Creek**	**38.90**	**241**	P	P	20 30 09.3	+0.2
	1.5nm,0.5s,baz=82,slow=9.5,SNR=11						
WRA	**Warramunga Arr**	**44.77**	**259**	P	P	20 30 55.0	-0.6
	1.0nm,0.4s,baz=94,slow=6.9,SNR=33						
ASAR	**Alice Springs**	**44.97**	**254**	P	P	20 30 56.9	-0.2
	3.0nm,0.5s,baz=85,slow=8.9,SNR=40						
NVAR	**Mina Array Bea**	**79.06**	**44**	P	P	20 34 38.7	+0.3
	0.3nm,0.6s,baz=218,slow=9.4,SNR=3.9						
ILAR	**Eielson Array**	**85.43**	**13**	P	P	20 35 09.1	-0.6
	0.4nm,0.4s,baz=219,slow=5.0,SNR=19						
TXAR	**Lajitas Array**	**85.70**	**58**	P	P	20 35 12.8	+0.8
	0.6nm,0.7s,baz=223,slow=6.3,SNR=7.5						
PDAR	**Pinedale Array**	**86.98**	**43**	P	P	20 35 17.6	-0.4
	0.4nm,0.7s,baz=228,slow=1.8,SNR=4.2						
CMAR	**Chiang Mai Arr**	**88.78**	**290**	P	P	20 35 28.0	+1.5
	0.4nm,0.7s,baz=113,slow=4.1,SNR=3.7						
BRTR	**Keskin Array B**	**144.49**	**315**	PKP	PKPdf	20 42 03.7	-1.3
	1.1nm,0.8s,baz=125,slow=4.3,SNR=6.3						
GERES	**GERESS Array B**	**147.18**	**345**	PKPbc	PKPbc	20 42 11.1	-1.3
	0.9nm,0.5s,baz=26,slow=3.0,SNR=12						

ECX 17 20:32:16.4±0.8, 31°.99N×114°.91W, h14km±5km, MD3.4, ML3.5, 6C-4D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.28**	**270**	↑*e*P	Pg	20 32 20.8	-1.6
EMX				*e*S	Sg	20 32 24.8	-1.5
ECBX	**El Chinero**	**0.53**	**193**	↓*e*P	Pg	20 32 25.6	-1.3
ECBX				*e*S	Sg	20 32 33.1	-0.8
ECBX				↓*e*		20 32 35.0	
	comp=E,3µm,0.3s						
CPBX	**Cerro Prieto**	**0.55**	**322**	↑*e*P	Pg	20 32 26.4	-0.7
RDX	**Rancho Dawling**	**0.88**	**266**	↑*e*P	Pg	20 32 31.8	-1.9
RDX				*e*S	Sg	20 32 44.1	-1.4
RDX				↑*e*		20 32 45.1	
	comp=N,891nm,0.6s						
SPX	**San Pedro Mart**	**1.05**	**207**	*e*P	Pb	20 32 34.8	-2.1
RMX	**La Rumorosa**	**1.17**	**302**	↑*e*P	Pn	20 32 36.9	-1.6
RMX				*e*S	Sb	20 32 52.2	-1.6
ZAX	**El Zacaton**	**1.26**	**248**	↓*e*P	Pn	20 32 37.8	-1.9
ZAX				*e*S	Sb	20 32 55.4	-0.8
ECNX	**Esteban Cantu**	**1.48**	**258**	↑*e*P	Pn	20 32 41.1	-1.7
ECNX				*e*S	Sn	20 33 01.5	-0.5
CBX	**Cerro Bola**	**1.52**	**283**	*e*P	Pn	20 32 41.6	-1.9
PBX	**Punta Banda**	**1.57**	**261**	↓*e*P	Pn	20 32 42.6	-1.3
PBX				*e*S	Sb	20 33 04.6	-0.3

IDC 17 20:36:50.9±1.1, 4°.97N×125°.69E, h0km, mb4.1/7, mb1 4.4/8, mb1mx4.0/24, mbtmp4.2/8, ML4.8/1, Error ellipse: s-maj=64.5km s-min=20.2km az=79.0
ISCJB 17 20:36:55.2±0.7, 4°.63N±0°.06×124°.6E±0°.2, h33km, mb3.8/7, Error ellipse: s-maj=25.8km s-min=7.3km az=171.2
MAN 17 20:36:55, 4°.63N×124°.36E, h32km, mb4.7, ML3.6, MS3.5

ISC 17 20:36:56.2±0.9, 4°.62N±0°.08×124°.5E±0°.2, h35km, n13, σ1§80/10, mb3.7/7, 1C, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**2.60**	**355**	*e*P	**Pn**	**20 37 36.1**	**+0.4**
CTBH				*i* S	**Sn**	**20 38 05.8**	**-0.3**
MATI	**Mati**	**2.91**	**37**	*e*P	**Pn**	**20 37 40.0**	**0.0**
BUKP	**Musuan**	**3.29**	**10**	*e*P	Pn	20 37 37.4	-7.9
BUKP				*e*S	Px	20 37 49.0	
PAGZ	**Pagadian**	**3.39**	**341**	*e*P	**Pn**	**20 37 46.6**	**-0.1**
CGP	**Cagayan de Oro**	**3.82**	**3**	↑*e*P	Px	20 38 17.6	
CGP				*e*S	Sn	20 38 45.0	+8.7
BATI	**Baumata**	**14.75**	**183**	Pn	**P**	**20 40 27.1**	**-0.9**
	3.8nm,0.3s,baz=278,slow=2.7,SNR=6.6						
FITZ	**Fitzroy Crossi**	**22.60**	**177**	P	**P**	**20 41 55.6**	**+1.7**
	5.4nm,0.7s,baz=20,slow=4.1,SNR=22						
WRA	**Warramunga Arr**	**26.26**	**159**	P	**P**	**20 42 27.7**	**-0.7**
	3.2nm,0.5s,baz=341,slow=9.3,SNR=55						
ASAR	**Alice Springs**	**29.57**	**162**	P	**P**	**20 42 58.0**	**0.0**
	0.4nm,0.4s,baz=342,slow=7.5,SNR=16						
STKA	**Stephens Creek**	**39.78**	**157**	P	**P**	**20 44 26.2**	**+0.4**
	3.3nm,0.8s,baz=327,slow=16,SNR=6.0						
MKAR	**Makanchi Array**	**55.56**	**326**	P	P	20 46 32.0	+3.8
	0.4nm,0.6s,baz=118,slow=7.9,SNR=4.5						
VNDA	**Vanda**	**84.59**	**172**	P	**P**	**20 49 25.5**	**+0.1**
	0.3nm,0.6s,baz=311,slow=11,SNR=5.0						
ILAR	**Eielson Array**	**85.27**	**25**	P	P	20 49 24.5	-4.6
	0.2nm,0.9s,baz=262,slow=6.1,SNR=2.7						

DHMR 17 20:46:34.0±0.6, 12°.35N×45°.79E, h28km±144km, ML3.7, 2C-1D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBOS		**1.61**	**341**	↑*i*P	Pn	20 47 02.0	+1.0
LBOS				*i* S	Sb	20 47 23.6	0.0
BDHA	**Al Bayda'**	**1.64**	**352**	↑*i*P	Pn	20 47 01.9	+0.6
BDHA				*i* S	Sb	20 47 24.3	0.0
BDHA				AML	AML	20 47 24.7	
	comp=E,1µm,0.4s						
TRBA	**At Turbah**	**1.86**	**298**	↓*i*P	Pb	20 47 06.0	-1.6
TRBA				*i* S	Sb	20 47 30.3	-0.4

IDC 17 20:59:52.5±1.1, 32°.69N×105°.62E, h0km, mb3.5/7, mb1 3.6/8, mb1mx3.5/27, mbtmp3.4/8, ML3.4/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/37, Error ellipse: s-maj=66.9km s-min=18.6km az=56.0
BJI 17 20:59:56.4, 32°.42N×104°.99E, h10km, ML3.8/12, Ms3.6/1, Ms7 3.3/1

ISC 17 20:59:53.5±0.7, 32°.49N±0°.05×105°.32E±0°.06, h11km, n14, σ1§40/17, mb3.6/7, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.06**	**221**	Pg	**Pn**	**21 00 27.8**	**-0.4**
CD2				Sg	**Sn**	**21 00 52.4**	**-1.5**
CD2				SMN			
	2µm,0.7s						
CD2				SME			
	850nm,0.7s						
XAN	**Xi'an**	**3.39**	**62**	Pn	**Pb**	**21 00 52.0**	**-1.6**
XAN				Pg	Pg	21 01 04.3	+5.9
XAN				Sn	**Sg**	**21 01 43.3**	**+1.0**
XAN				Sg	Sg	21 01 53.8	+12
XAN				SMN			
	comp=Z,110nm,0.4s						
XAN				SME			
	comp=Z,47nm,0.6s						
LZH	**Lanzhou**	**3.79**	**342**	*e*Pg	**Pb**	**21 01 00.4**	**-0.1**
LZH				Sn	**Sb**	**21 01 44.1**	**-2.4**
LZH				Sg	**Sg**	**21 01 54.5**	**-0.8**
LZH				SMN			
	150nm,0.4s						
LZH				SME			
	470nm,0.6s						
LZH				LR	LR		
	comp=N,260nm,5.4s						
LZH				LR	LR		
	comp=E,400nm,4.1s						
LZH				LR	LR		
	comp=Z,220nm,5.6s						
GYA	**Guiyang**	**6.12**	**169**	Pn	Pn	21 01 27.8	+3.8
GYA				Pg	**Pg**	**21 01 49.8**	**-1.0**
GYA				Sn	**Sn**	**21 02 33.3**	**-0.8**
GYA				SMN			
	50nm,0.7s						
GYA				SME			
	50nm,0.7s						
HHC	**Hu-ho-hao-te**	**9.73**	**29**	*e*P	Pn	21 02 17.4	+3.9
HHC				AMB	AMB		
	comp=Z,36nm,1.2s						
HHC				AMB	AMB		
	comp=Z,210nm,5.7s						
CMAR	**Chiang Mai Arr**	**15.11**	**204**	Pn	**P**	**21 03 33.1**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=13,slow=8.8,SNR=4.8						
MKAR	**Makanchi Array**	**22.66**	**316**	P	**P**	**21 04 57.2**	**+2.4**
	comp=Z,0.2nm,0.6s,baz=116,slow=12,SNR=5.1						
ZALV	**Zalesovo Beam**	**25.96**	**332**	LR	LR	21 15 12.4	
	comp=Z,41nm,20.1s,baz=69,slow=36						
KURBB	**Kurchatov Arra**	**26.80**	**320**	P	**P**	**21 05 35.2**	**+1.8**
	comp=Z,0.2nm,0.6s,baz=129,slow=9.1,SNR=5.2						
BRTR	**Keskin Array B**	**56.97**	**299**	P	**P**	**21 09 39.0**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=95,slow=6.5,SNR=2.8						
FINES	**FINESS Array B**	**57.00**	**326**	P	**P**	**21 09 39.8**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=95,slow=8.6,SNR=7.5						
WRA	**Warramunga Arr**	**59.07**	**148**	P	**P**	**21 09 55.1**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=338,slow=7.3,SNR=7.9						
ASAR	**Alice Springs**	**62.16**	**150**	P	**P**	**21 10 15.7**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=331,slow=6.7,SNR=4.6						
NOA	**NORSAR Array B**	**64.05**	**327**	P	**P**	**21 10 26.9**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=73,slow=6.9,SNR=3.3						

IDC 17 21:39:53.9±1.3, 51°.87N×171°.28W, h0km, mb3.5/6, mb1 3.8/8, mb1mx3.6/29, mbtmp3.5/8, ML3.1/2, Error ellipse: s-maj=57.8km s-min=14.7km az=5.0
ISCJB 17 21:39:56.8±1.8, 51°.7N±0°.1×171°.21W±0°.07, h33km±15km, mb3.5/6, Error ellipse: s-maj=18.3km s-min=4.2km az=161.6
NEIC 17 21:39:58.0, 51°.87N×171°.24W, h8km, ML3.1(AEIC), After AEIC.

ISC 17 21:39:59.4±2.2, 51°.8N±0°.2×171°.23W±0°.08, h40km±19km, n24, σ1§00/31, mb3.6/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.87**	**50**	P	**Pn**	**21 40 27.1**	**-1.7**
NIKH				S	**Sn**	**21 40 48.9**	**-2.3**
OKSP	**Okmok Steeple**	**2.31**	**50**	P	**Pn**	**21 40 34.7**	**-0.2**
OKSP				S	**Sn**	**21 41 02.5**	**+0.5**
OKSO	**Okmok South**	**2.43**	**49**	P	**Pn**	**21 40 35.8**	**-0.9**
OKSO				S	**Sn**	**21 41 06.5**	**+1.4**
OKCE	**Okmok Cone E**	**2.47**	**48**	P	**Pn**	**21 40 37.5**	**+0.3**
OKTU	**Okmok Mt. Tuli**	**2.50**	**50**	P	**Pn**	**21 40 37.9**	**+0.3**
GSMY	**Great Sitkin M**	**3.00**	**276**	P	**Pn**	**21 40 43.9**	**-0.5**
GSMY				S	**Sn**	**21 41 19.6**	**+0.6**
GSTD	**Great Sitkin T**	**3.05**	**277**	P	**Pn**	**21 40 44.4**	**-0.8**
GSTD				S	**Sn**	**21 41 22.0**	**+1.5**
GSCK	**Great Sitkin C**	**3.06**	**276**	P	**Pn**	**21 40 44.6**	**-0.7**
MSOM	**Makushin Julie**	**3.29**	**51**	P	**Pn**	**21 40 48.2**	**0.0**
MSOM				S	**Sn**	**21 41 27.8**	**+1.7**
ADAG	**Mount Adagdak**	**3.33**	**275**	P	**Pn**	**21 40 49.2**	**+0.3**
MREP	**Makushin Rep't**	**3.38**	**52**	P	**Pn**	**21 40 49.8**	**+0.1**
MREP				S	**Sn**	**21 41 30.4**	**+1.9**
ADK	**Adak**	**3.38**	**273**	P	**Pn**	**21 40 48.6**	**-1.0**
MTBL	**Makushin Table**	**3.50**	**50**	P	**Pn**	**21 40 51.5**	**+0.1**
UNV	**Unalaska Valle**	**3.52**	**53**	P	**Pn**	**21 40 50.4**	**-1.1**
KINC	**Kanaga Island**	**3.66**	**274**	P	**Pn**	**21 40 53.0**	**-0.4**
GANE	**Gareloi Northe**	**4.68**	**273**	P	**Pn**	**21 41 07.0**	**-0.5**
FX1	**Attu Island--F**	**9.62**	**283**	Pn	**Pn**	**21 42 14.9**	**-0.2**
	0.5nm,0.3s,baz=138,slow=12,SNR=4.3						
ILAR	**Eielson Array**	**18.07**	**35**	P	**P**	**21 44 06.3**	**-0.7**
	0.0nm,0.3s,baz=238,slow=11,SNR=4.0						
NVAR	**Mina Array Bea**	**38.81**	**89**	P	**P**	**21 47 21.3**	**+0.9**
	0.3nm,0.6s,baz=298,slow=7.4,SNR=4.4						
PDAR	**Pinedale Array**	**41.64**	**77**	P	**P**	**21 47 43.9**	**+0.1**
	0.9nm,0.9s,baz=312,slow=6.9,SNR=4.4						
TXAR	**Lajitas Array**	**53.91**	**87**	P	**P**	**21 49 18.7**	**-0.1**
	0.6nm,0.9s,baz=284,slow=5.0,SNR=6.1						
KURBB	**Kurchatov Arra**	**62.13**	**317**	P	**P**	**21 50 15.8**	**-0.1**
	0.3nm,0.6s,baz=42,slow=7.0,SNR=4.1						
MKAR	**Makanchi Array**	**63.35**	**313**	P	**P**	**21 50 23.3**	**-0.9**
	0.3nm,0.5s,baz=54,slow=6.5,SNR=5.4						
CMAR	**Chiang Mai Arr**	**75.61**	**282**	P	**P**	**21 51 40.6**	**+0.4**
	0.5nm,0.6s,baz=30,slow=6.3,SNR=4.5						

DJA 17 21:51:33.8±0.3, 7°.5S×124°.4E±°, h578km, M4.6/8, mb4.7/5, mB4.6/1, MLv4.5/8, Mw(mB)3.8/1
ISCJB 17 21:51:34.8±0.3, 7°.31S±0°.04×123°.96E±0°.05, h550km, mb3.7/8, Error ellipse: s-maj=6.8km s-min=4.6km az=156.7
AUST 17 21:51:34.6±0.0, 7°.20S×124°.04E, h578km, Error ellipse: s-maj=1.5km s-min=1.3km az=39.0
IDC 17 21:51:36.7±1.0, 7°.48S×123°.88E, h577km±16km, mb3.2/8, mb1 3.3/12, mb1mx3.2/22, mbtmp3.3/12, Error ellipse: s-maj=33.4km s-min=9.7km az=64.0

ISC 17 21:51:35.5±0.5, 7°.41S±0°.06×124°.04E±0°.07, h550km, n50, σ1§41/57, mb3.8/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.34**	**175**	P	**P**	**21 52 49.3**	**+2.3**
SOEI				S	**S**	**21 53 46.2**	**+1.0**
SOEI	**Soe**	**2.34**	**175**	P	**P**	**21 52 49.6**	**+2.6**
	baz=2.6,SNR=37						
BATI	**Baumata**	**2.81**	**188**	P	**P**	**21 52 52.2**	**+2.8**
BATI				S	**S**	**21 53 48.6**	**-1.0**
BATI	**Baumata**	**2.81**	**188**	P	**P**	**21 52 52.4**	**+2.9**
	326nm,0.3s,baz=112,slow=3.5,SNR=287						
BATI				S	**S**	**21 53 48.6**	**-1.0**
	100nm,0.3s,baz=290,slow=1.1,SNR=9.9						
BKSI	**Bulukumba**	**4.41**	**298**	P	**P**	**21 53 02.4**	**+1.8**
BKSI				S	S	21 53 55.2	-15
KAPI	**Kappang**	**4.88**	**299**	P	**P**	**21 53 06.3**	**+1.9**
KAPI	**Kappang**	**4.88**	**299**	P	**P**	**21 53 06.0**	**+1.6**
	4.6nm,0.3s,baz=147,slow=4.6,SNR=22						
NLAI	**Namlea**	**5.14**	**36**	P	**P**	**21 53 09.4**	**+2.8**
NLAI				S	**S**	**21 54 22.2**	**+1.3**
AAI	**Ambon**	**5.54**	**48**	P	**P**	**21 53 11.2**	**+1.1**
LUWI	**Luwuk**	**6.45**	**349**	P	P	21 53 14.4	-4.0
	baz=6.3,SNR=7.3						
MTNI	**Mataram**	**7.89**	**261**	P	**P**	**21 53 32.5**	**+0.3**
KMSI	**Cibinong**	**7.93**	**360**	P	**P**	**21 53 34.6**	**+2.0**
	256nm,0.7s,0.9nm						
KMSI				S	**S**	**21 55 11.4**	**+2.8**
	256nm,0.7s,0.9nm						
MRSI	**Marisa**	**8.11**	**345**	P	**P**	**21 53 35.6**	**+1.2**
	75nm,0.9s,0.2nm						
MTN	**Manton Dam**	**8.83**	**128**	P	**P**	**21 53 43.3**	**+1.8**
	baz=9.0,SNR=4.8						
FAKI	**Fak Fak**	**9.31**	**62**	P	**P**	**21 53 47.0**	**+0.5**
	132nm,0.8s,1µm						
FAKI				S	**S**	**21 55 30.9**	**-3.1**
	132nm,0.8s,1µm						
FAKI	**Fak Fak**	**9.31**	**62**	P	**P**	**21 53 46.4**	**-0.1**
	baz=9.2,SNR=26						
KNRA	**Kununurra**	**9.43**	**151**	P	**P**	**21 53 48.9**	**+1.3**
	baz=9.7,SNR=58						
SWI	**Sorong**	**9.70**	**48**	P	**P**	**21 53 51.0**	**+0.6**
	35nm,0.9s						
FITZ	**Fitzroy Crossi**	**10.74**	**172**	P	**P**	**21 54 02.1**	**+1.0**
	baz=11,SNR=133						
FITZ	**Fitzroy Crossi**	**10.74**	**172**	P	**P**	**21 54 02.1**	**+1.0**
	7.5nm,0.3s,baz=15,slow=8.3,SNR=302						
FITZ				S	**S**	**21 56 00.2**	**-0.5**
	0.5nm,0.3s,baz=38,slow=18,SNR=3.7						
SGSI	**Sangihe**	**11.12**	**8**	P	**P**	**21 54 05.2**	**+0.1**
UGM	**Wanagama**	**13.41**	**267**	P	**P**	**21 54 27.5**	**-1.2**
	baz=13,SNR=6.5						
KPJI	**Karang Pucung**	**14.99**	**269**	P	P	21 54 55.7	+11
WRA	**Warramunga Arr**	**15.97**	**142**	P	**P**	**21 54 54.5**	**-0.4**
	0.7nm,0.3s,baz=311,slow=12,SNR=8.1						
WRA				S	**S**	**21 57 37.5**	**-0.1**
	0.3nm,0.3s,baz=319,slow=18,SNR=8.3						
LEM	**Lembang**	**16.31**	**271**	P	**P**	**21 54 59.6**	**+1.3**
CBJI	**Citeko**	**17.09**	**272**	P	**P**	**21 55 03.9**	**-1.3**
GIRL	**Giralia**	**17.85**	**211**	P	**P**	**21 55 13.0**	**+1.0**
	baz=18,SNR=3.3						
ASAR	**Alice Springs**	**18.73**	**151**	P	**P**	**21 55 20.1**	**0.0**
	0.7nm,0.3s,baz=320,slow=7.8,SNR=28						
ASAR				S	**S**	**21 58 21.7**	**-1.1**
	0.1nm,0.3s,baz=340,slow=21,SNR=7.3						
MEEK	**Meekatharra**	**19.81**	**194**	P	**P**	**21 55 30.1**	**+0.2**
	baz=20,SNR=7.7						
BBOO	**Buckleboo**	**27.63**	**158**	P	**P**	**21 56 39.9**	**+0.5**
	baz=28,SNR=8.9						
STKA	**Stephens Creek**	**29.33**	**148**	P	**P**	**21 56 55.3**	**+1.1**
	1.0nm,0.5s,baz=339,slow=19,SNR=5.1						
CMAR	**Chiang Mai Arr**	**35.69**	**316**	P	**P**	**21 57 48.0**	**-0.2**
	0.7nm,0.7s,baz=150,slow=7.0,SNR=7.0						
KSRS	**Korea Array**	**44.77**	**4**	P	**P**	**21 59 00.5**	**0.0**
	2.3nm,0.6s,baz=179,slow=7.4,SNR=7.5						
ODAN	**Odare**	**49.21**	**315**	*e*P	**P**	**21 59 33.6**	**-0.8**
	10nm,0.5s						
TAPN	**Taplejung**	**49.30**	**316**	*e*P	**P**	**21 59 34.1**	**-0.9**
	8.8nm,0.4s						
RAMN	**Ramite**	**49.82**	**315**	*e*P	**P**	**21 59 38.5**	**-0.4**
	21nm,0.6s						
JIRN	**Jiri**	**50.55**	**315**	*e*P	**P**	**21 59 43.5**	**-0.8**
	12nm,0.7s						
GUN	**Gumba**	**50.92**	**315**	*e*P	**P**	**21 59 46.3**	**-0.6**
	13nm,0.5s						
PKI	**Pulchoki**	**51.04**	**315**	*e*P	**P**	**21 59 46.7**	**-1.1**
	11nm,0.5s						
PKIN	**Phulchoki**	**51.05**	**315**	*e*P	**P**	**21 59 46.8**	**-1.0**
	2.9nm,0.4s						
KKN	**Kakani**	**51.26**	**315**	*e*P	**P**	**21 59 48.0**	**-1.3**
	8.1nm,0.8s						
DMN	**Daman**	**51.28**	**314**	*e*P	**P**	**21 59 48.7**	**-0.8**
	9.3nm,0.9s						
GKN	**Gorkha**	**51.84**	**314**	*e*P	**P**	**21 59 52.6**	**-0.8**
	12nm,0.5s						
USRK	**Ussuriysk Arra**	**51.87**	**7**	P	**P**	**21 59 52.5**	**-0.5**
	2.8nm,0.5s,baz=181,slow=7.1,SNR=10.0						
KOLN	**Koldanda**	**52.45**	**314**	*e*P	**P**	**21 59 57.1**	**-0.7**
	14nm,0.7s						
DANN	**Dangsing**	**52.67**	**314**	*e*P	**P**	**21 59 58.6**	**-0.9**
	17nm,0.6s						
SONM	**Songino Array**	**57.17**	**346**	P	**P**	**22 00 28.6**	**-1.8**
	1.3nm,0.6s,baz=174,slow=6.8,SNR=4.6						
MKAR	**Makanchi Array**	**65.46**	**330**	P	**P**	**22 01 23.6**	**-0.9**
	1.5nm,0.5s,baz=134,slow=7.8,SNR=25						
PETK	**Petropavlovsk-**	**66.70**	**21**	P	**P**	**22 01 32.5**	**+0.5**
	5.5nm,0.8s,baz=214,slow=12,SNR=3.5						
ZALV	**Zalesovo Beam**	**69.46**	**336**	P	**P**	**22 01 47.1**	**-1.6**
	2.6nm,0.8s,baz=132,slow=4.0,SNR=11						

IDC 17 22:08:12.3±4.5, 7°.44S×128°.47E, h89km±45km, mb3.6/6, mb1 3.8/9, mb1mx3.6/19, mbtmp3.7/9, Error ellipse: s-maj=54.3km s-min=20.6km az=64.0
AUST 17 22:08:15.5, 7°.49S×128°.54E, h100km
ISCJB 17 22:08:16.2±0.5, 7°.55S±0°.06×128°.43E±0°.06, h151km, mb3.7/6, Error ellipse: s-maj=9.0km s-min=7.7km az=15.3

ISC 17 22:08:17.8±0.7, 7°.60S±0°.07×128°.45E±0°.08, h151km, n20, σ1§93/22, mb3.7/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.66**	**242**	P	**Pn**	**22 09 26.8**	**-0.1**
	baz=4.8,SNR=19						
TLE	**Tual**	**4.68**	**66**	P	**Pn**	**22 09 26.9**	**-0.2**
	baz=4.6,SNR=5.8						
BATI	**Baumata**	**5.39**	**241**	P	**Pn**	**22 09 36.4**	**-0.1**
	34nm,0.3s,baz=133,slow=2.2,SNR=34						
BATI				S	**Sn**	**22 10 34.5**	**-3.5**
	26nm,0.3s,baz=142,slow=20,SNR=12						
MTN	**Manton Dam**	**5.85**	**153**	P	**Pn**	**22 09 42.7**	**+0.2**
	baz=5.9,SNR=34						
FAKI	**Fak Fak**	**5.99**	**39**	P	**Pn**	**22 09 41.9**	**-2.6**
	baz=5.9,SNR=7.4						
KDU	**Kakadu**	**6.42**	**142**	P	**Pn**	**22 09 50.0**	**-0.2**
	baz=6.5,SNR=37						
KNRA	**Kununurra**	**8.04**	**178**	P	**Pn**	**22 10 11.2**	**-0.5**
	baz=8.2,SNR=27						
FITZ	**Fitzroy Crossi**	**10.80**	**194**	P	**Pn**	**22 10 47.5**	**-0.8**
	baz=11,SNR=10.0						
FITZ	**Fitzroy Crossi**	**10.80**	**194**	P	**Pn**	**22 10 46.0**	**-2.3**
	1.8nm,0.3s,baz=27,slow=12,SNR=48						
FITZ				S	Sn	22 12 39.6	-8.2
	2.9nm,0.3s,baz=82,slow=14,SNR=10						
WRA	**Warramunga Arr**	**13.54**	**156**	P	**Pn**	**22 11 21.6**	**-2.3**
	1.1nm,0.3s,baz=343,slow=13,SNR=6.1						
WRA				S	Sn	22 13 43.5	-10
	2.6nm,0.3s,baz=342,slow=20,SNR=13						
ASAR	**Alice Springs**	**16.82**	**162**	P	**Pn**	**22 12 05.3**	**+0.8**
	0.7nm,0.3s,baz=338,slow=10,SNR=28						
ASAR				S	**Sn**	**22 15 09.7**	**-2.9**
	0.7nm,0.3s,baz=319,slow=20,SNR=9.0						
MEEK	**Meekatharra**	**21.12**	**205**	P	**P**	**22 12 53.3**	**+2.6**
	baz=21,SNR=8.1						
MORW	**Morawa**	**24.35**	**207**	P	**P**	**22 13 25.4**	**+3.6**
	baz=25,SNR=5.5						
STKA	**Stephens Creek**	**27.09**	**155**	P	**P**	**22 13 49.5**	**+3.0**
	0.7nm,0.6s,baz=327,slow=12,SNR=4.7						
CMAR	**Chiang Mai Arr**	**38.96**	**312**	P	**P**	**22 15 29.9**	**+0.4**
	0.6nm,0.5s,baz=140,slow=6.9,SNR=5.9						
KSRS	**Korea Array**	**44.82**	**359**	P	**P**	**22 16 15.8**	**-0.8**
	0.8nm,0.5s,baz=182,slow=9.0,SNR=4.4						
SONM	**Songino Array**	**58.53**	**343**	P	**P**	**22 17 58.8**	**+0.4**
	1.2nm,0.6s,baz=159,slow=6.5,SNR=4.2						
MKAR	**Makanchi Array**	**67.89**	**328**	P	**P**	**22 19 00.6**	**+0.6**
	1.0nm,0.6s,baz=116,slow=8.9,SNR=17						
ZALV	**Zalesovo Beam**	**71.44**	**335**	P	**P**	**22 19 21.2**	**-0.3**
	1.9nm,0.6s,baz=123,slow=4.8,SNR=9.0						
TORD	**Torodi Ar. Bea**	**127.41**	**281**	PKP	**PKPdf**	**22 27 06.9**	**+1.2**
	0.2nm,0.6s,baz=93,slow=2.1,SNR=4.0						

**IDC 17 22:27:18.7±4.2, 12°.37S×166°.58E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.7/18, mbtmp3.9/4, MS3.0/1, Ms1 3.0/1, ms1

az=91.9

BJI ***18*** *00:39:41.1,0˝.28N×29˝.77E, h14km, mB5.1/17, mb5.0/23, Ms5.0/11, Ms7 4.6/15*

IDC ***18*** *00:39:42.4±0.4, 0˝.60N×30˝.14E, h0km, mb4.5/23, mb1 4.6/24, mb1mx4.5/29, mbtmp4.5/24, ML4.0/1, MS4.1/23, Ms1 4.1/23, ms1mx4.0/33, Error ellipse: s-maj=15.2km s-min=8.7km az=81.0*

NEIC ***18*** *00:39:43.2±0.2, 0˝.56N×30˝.15E, h10km, mb5.0/37, Error ellipse: s-maj=8.4km s-min=4.7km az=94.0*

NEIC Felt [IV] at Fort Portal. Also felt at Bombo, Bundibugyo, Kampala, Mpigi and Tororo.

GCMT ***18*** *00:39:44.4±0.2, 0˝.70N×30˝.03E, h13km, MW4.9, Moment Tensor Solution. s39,c48; s81,c104; Moment tensor: Scale 10^16 Nm; Mrr=-2.69±.13; Mθθ 1.49±.09; Mφφ 1.20±.11; Mrθ 0.72±.22; Mθφ 1.04±.06; Mrφ 0.10±.26; Best double couple: M◎2.60000×10^16 NP1:φs237.00000°, δ52.00000°, λ-81.00000°. NP2:φs42.00000°, δ39.00000°, λ-101.00000°. Principal axes: T 2.4700, Plg7.0000°, Azm320.0000°; N 0.3400, Plg7.0000°, Azm51.0000°; P -2.8100, Plg80.0000°, Azm186.0000°; Data Used: IU II G CN IC.*

DJA ***18*** *00:39:49.1±0.4, 0˚N±5˚×3˚OE±˚, h35km, M5.8/9, mB5.3/3, mb5.0/9, MLv6.3/1, Mw(mB)4.7/3*

SZGRF ***18*** *00:39:49.9, 0˚.58N×27˚.88E, h33km, mb4.9, MS4.2, Zaire*

ISC 18 00:39:44.3±0.4, 0˚.47N±0˚.03×30˚.14E±0˚.05, h16km±2km, h16km:pP-P, n374, σ1‡38/390, mb4.9/146, MS4.2/33, 44C-22D, Uganda

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**1.22**	**151**	⇓*iP*		**Pb**		**00 40 07.2**	**+0.2**
MBAR				*eS*		**Sg**		**00 40 24.2**	**+0.3**
MBAR	**Mbarara**	**1.22**	**151**	*e*Pn		**Pn**		**00 40 07.1**	**+0.2**
MBAR				*e*Pg		**Pb**		**00 40 07.4**	**+0.3**
MBAR				*e*Sb		**Sn**		**00 40 23.1**	**0.0**
MBAR	**Mbarara** 41μm,0.5s	**1.22**	**151**	Pn		**Pb**		**00 40 07.3**	**+0.2**
MBAR	**Mbarara** 2μm,0.3s,baz=151,slow=22,SNR=7664	**1.22**	**151**	Pg		**Pn**		**00 40 07.0**	**+0.2**
MBAR	2μm,0.3s,baz=72,slow=20,SNR=28			Lg		Lg		00 40 23.8	
KIG	**Kigali**	**2.41**	**182**	⇑*iP*		**Pb**		**00 40 26.2**	**-1.3**
KIG				*e*S		**Sn**		**00 40 51.8**	**-0.9**
KIG	**Kigali**	**2.41**	**182**	P		**Pb**		**00 40 26.2**	**-1.3**
KIG				S		**Sn**		**00 40 51.8**	**-0.9**
KMBO	**Kilima Mbogo**	**7.29**	**103**	⇑*iP*		**Pn**		**00 41 30.5**	**+0.1**
KMBO				*e*S		**Sn**		**00 42 50.9**	**-2.1**
KMBO	**Kilima Mbogo**	**7.29**	**103**	*e*Pn		**Pn**		**00 41 30.9**	**+0.5**
KMBO				*e*Sn		**Sn**		**00 42 50.7**	**-2.3**
KMBO				*e*Sb		Sb		00 43 28.4	+11
KMBO	**Kilima Mbogo** 2.8nm,0.3s,baz=273,slow=15,SNR=74	**7.29**	**103**	Pn		**Pn**		**00 41 30.1**	**-0.4**
KMBO	9.7nm,0.3s,baz=265,slow=18,SNR=5.7			Sn		**Sn**		**00 42 48.8**	**-4.2**
KMBO	27nm,0.3s,baz=5.7,slow=23,SNR=13			Lg		Lg		00 43 28.4	
MAUS	**Longido**	**7.29**	**116**	*i* P		**Pn**		**00 41 30.4**	**0.0**
MAUS				*i* S		Sg		00 43 29.2	-9.3
FURI	**Furi**	**11.94**	**45**	*e*Pn		**Pn**		**00 42 33.2**	**-1.1**
LSZ	**Lusaka**	**15.76**	**187**	*e*P		**Pn**		**00 43 25.6**	**-0.3**
LSZ				*e*S		**Sn**		**00 46 17.3**	**-3.2**
LSZ	**Lusaka** 61nm,1.4s	**15.76**	**187**	*e*Pn		**Pn**		**00 43 25.1**	**-0.8**
LSZ				*e*S		**S**		**00 46 32.5**	**-2.6**
LSZ				*e*PcP		PcP		00 48 31.6	+5.8
LSZ	**Lusaka** 0.4nm,0.3s,baz=5.9,slow=11,SNR=32	**15.76**	**187**	Pn		**Pn**		**00 43 25.1**	**-0.8**
LSZ	0.6nm,0.3s,baz=7.8,slow=14,SNR=2.5			Sn		**S**		**00 46 32.5**	**-2.6**
LSZ	1.4nm,0.3s,baz=109,slow=16,SNR=11			Lg		Lg		00 48 00.4	
LSZ	comp=Z,930nm,19.1s,baz=210,slow=33			LR		LR		00 48 31.6	
ATD	**Arta Tunnel** 0.5nm,0.3s,baz=90,slow=20,SNR=2.5	**16.73**	**48**	Lg		Lg		00 48 33.0	
ATD	comp=Z,367nm,19.4s,baz=207,slow=41			LR		LR		00 51 00.4	
RUDU	**RUNDU**	**20.94**	**209**	⇑*iP*		Pn		00 44 28.4	-1.0
RUDU	comp=Z,59nm,0.7s			AMB		AMB		00 44 30.2	
RUDU	**RUNDU** comp=Z,59nm,0.7s	**20.94**	**209**	P		Pn		00 44 28.4	-1.0
MSNA	**Messina**	**22.67**	**180**	*e*P		**P**		**00 44 47.5**	**+2.2**
MSNA				*e*S		Sn		00 49 28.4	+21
MSNA	**Messina**	**22.67**	**180**	P		**P**		**00 44 47.5**	**+2.2**
MSNA				S		Sn		00 49 28.4	+21
TSUM	**Tsumeb**	**23.11**	**212**	*e*P		**P**		**00 44 50.7**	**+0.8**
TSUM	**Tsumeb** comp=Z,31nm,1.1s	**23.11**	**212**	*e*P		**P**		**00 44 49.8**	**0.0**
TSUM	**Tsumeb** comp=Z,11nm,0.9s,baz=43,slow=8.6,SNR=12	**23.11**	**212**	P		**P**		**00 44 50.5**	**+0.6**
TSUM	comp=Z,15nm,1.0s,baz=83,slow=20,SNR=3.7			Lg		Lg		00 51 43.1	
TSUM	comp=Z,518nm,20.5s,baz=36,slow=37			LR		LR		00 53 54.6	
OPO	**Ambohidratompo**	**25.27**	**139**	*e*P		**P**		**00 45 14.4**	**+4.2**
OPO	**Ambohidratompo** comp=Z,4.3nm,0.9s,baz=290,slow=11,SNR=3.2	**25.27**	**139**	P		**P**		**00 45 14.4**	**+4.2**
OPO	comp=Z,791nm,21.8s,baz=7.9,slow=35			LR		LR		00 54 41.4	
ABPO	**Ambohimpanom**	**25.62**	**140**	*e*P		**P**		**00 45 13.4**	**0.0**
ABPO	comp=Z,198nm,2.8s			pmax		pmax			
ABPO	**Ambohimpanom** comp=Z,198nm,2.8s	**25.62**	**140**	*e*P		**P**		**00 45 13.4**	**0.0**
LBTB	**Lobatse**	**25.71**	**190**	*e*P		**P**		**00 45 16.5**	**+2.4**
LBTB	comp=Z,78nm,1.6s			AMB		AMB		00 45 21.4	
LBTB	**Lobatse** comp=Z,84nm,1.3s	**25.71**	**190**	*e*P		**P**		**00 45 14.6**	**+0.5**
LBTB	**Lobatse** comp=Z,39nm,1.1s,baz=24,slow=9.7,SNR=16	**25.71**	**190**	P		**P**		**00 45 16.4**	**+2.4**
LBTB	comp=Z,22nm,1.2s,baz=305,slow=20,SNR=4.9			Lg		Lg		00 53 12.6	
LBTB	comp=Z,613nm,21.5s,baz=23,slow=34			LR		LR		00 54 32.4	
SLR	**Silverton**	**26.11**	**184**	*e*P		**P**		**00 45 14.8**	**-3.0**
SLR	comp=Z,42nm,1.5s			AMB		AMB		00 45 23.2	
SLR	**Silverton** comp=Z,42nm,1.5s	**26.11**	**184**	P		**P**		**00 45 14.8**	**-3.0**
SLR	comp=Z,66nm,3.5s			pmax		pmax			
SLR	**Silverton** comp=Z,42nm,1.5s	**26.11**	**184**	P		**P**		**00 45 14.8**	**-3.0**
RAYN	**Ar Rayn** comp=Z,34nm,1.4s	**27.34**	**32**	*e*P		**P**		**00 45 28.9**	**0.0**
PRYS	**Parys**	**27.36**	**185**	*e*P		**P**		**00 45 27.7**	**-1.4**
PRYS	comp=Z,20nm,2.3s			AMB		AMB		00 45 37.7	
PRYS	**Parys** comp=Z,20nm,2.3s	**27.36**	**185**	P		**P**		**00 45 27.7**	**-1.4**
SWZ	**Schweizer**	**27.88**	**189**	*e*P		**P**		**00 45 33.6**	**0.0**
SWZ	comp=Z,45nm,5.4s			AMB		AMB		00 45 36.5	
SWZ	**Schweizer** comp=Z,45nm,5.4s	**27.88**	**189**	P		**P**		**00 45 33.6**	**0.0**
SEK	**Senekal**	**28.73**	**185**	*e*P		**P**		**00 45 43.1**	**+1.9**
SEK	comp=Z,66nm,3.5s			AMB		AMB		00 45 58.5	
SEK	**Senekal** comp=Z,66nm,3.5s	**28.73**	**185**	P		**P**		**00 45 43.1**	**+1.9**
BOSA	**Boshof**	**29.29**	**189**	⇓*iP*		**P**		**00 45 48.2**	**+2.0**
BOSA	comp=Z,58nm,3.5s			AMB		AMB		00 46 31.3	
BOSA	**Boshof** comp=Z,19nm,1.0s	**29.29**	**189**	*e*P		**P**		**00 45 45.6**	**-0.6**
BOSA				*e*ScS		ScS		00 56 40.7	+12
BOSA	**Boshof** comp=Z,12nm,0.9s,baz=18,slow=9.0,SNR=11	**29.29**	**189**	P		**P**		**00 45 48.2**	**+2.0**
BOSA	comp=Z,24nm,1.1s,baz=278,slow=17,SNR=3.6			Lg		Lg		00 55 04.7	
BOSA	comp=Z,558nm,19.3s,baz=12,slow=35			LR		LR		00 56 40.7	
EIL	**Elat**	**29.40**	**9**	*e*P		**P**		**00 45 48.3**	**+1.2**
EIL	**Elat** comp=Z,1.0nm,0.7s,baz=291,slow=7.2,SNR=4.5	**29.40**	**9**	P		**P**		**00 45 48.3**	**+1.2**
EIL	comp=Z,0.6nm,0.3s,baz=159,slow=14,SNR=3.6			Lg		Lg		00 55 17.3	
EIL	comp=Z,241nm,18.9s,baz=89,slow=35			LR		LR		00 56 54.1	
TOA0	**Torodi Ar. Sit**	**30.87**	**295**	*e*P		**P**		**00 45 58.8**	**-1.4**
TORD	**Torodi Ar. Bea**	**30.87**	**295**	P		**P**		**00 45 59.6**	**-0.6**
TORD	comp=Z,5.6nm,0.8s,baz=104,slow=7.2,SNR=46			Lg		Lg		00 55 43.3	
TORD	comp=Z,4.3nm,0.9s,baz=127,slow=23,SNR=5.1			LR		LR		00 58 25.6	
SUR	**Sutherland** comp=Z,570nm,18.3s,baz=110,slow=36	**33.84**	**194**	*e*P		**P**		**00 46 28.7**	**+2.5**
SUR	comp=Z,40nm,4.0s			AMB		AMB		00 46 42.0	
SUR	**Sutherland** comp=Z,404nm,2.4s	**33.84**	**194**	P		**P**		**00 46 28.7**	**+2.5**
SUR	**Sutherland** comp=Z,222nm,1.3s,SNR=5.0	**33.84**	**194**	P		P		00 46 29.6	+3.3
SUR	**Sutherland** comp=Z,34nm,1.0s,baz=344,slow=2.4,SNR=12	**33.84**	**194**	P		**P**		**00 46 29.1**	**+2.9**
CSS	**Prodhromos**	**34.45**	**5**	*e*P		**P**		**00 46 30.0**	**-1.3**
KIC	**Kosan Boka** comp=Z,38nm,1.3s	**35.29**	**280**	*e*P		**P**		**00 46 37.7**	**-1.2**
DBIC	**Dimbokro** comp=Z,7.6nm,0.8s	**35.45**	**281**	*e*P		**P**		**00 46 39.5**	**-0.8**
DBIC	**Dimbokro** comp=Z,3.9nm,0.4s,baz=85,slow=9.1,SNR=18	**35.45**	**281**	P		**P**		**00 46 39.5**	**-0.8**
DBIC	comp=Z,237nm,20.7s,baz=84,slow=35			LR		LR		01 00 37.4	
LIC	**Lamto** comp=Z,7.4nm,0.5s	**35.55**	**280**	*e*P		**P**		**00 46 40.4**	**-0.8**
LIC	comp=Z,353nm,20.0s			*e*R					
LIC	**Lamto** comp=Z,13nm,0.5s	**35.55**	**280**	*e*P		**P**		**00 46 40.7**	**-0.5**
TIC	**Toumodi** comp=Z,6.6nm,0.2s	**35.61**	**281**	*e*P		**P**		**00 46 41.3**	**-0.4**
ISRV	**Sarvestan**	**36.15**	**35**	*e*P		**P**		**00 46 46.3**	**-0.2**
IPAR	**Pars**	**36.46**	**35**	*e*P		**P**		**00 46 49.1**	**0.0**
IGHG	**Ghaleghazi**	**37.03**	**23**	*e*P		**P**		**00 46 54.6**	**+0.8**
IKOM	**Komasi**	**37.27**	**24**	*e*P		**P**		**00 46 56.8**	**+1.0**
IDHR	**Dehrash**	**37.29**	**22**	*e*P		**P**		**00 46 58.0**	**+2.0**
IVIS	**Veis**	**37.32**	**23**	*e*P		**P**		**00 46 56.5**	**+0.4**
ISAD	**Sadrabad**	**38.39**	**33**	*e*P		**P**		**00 47 06.3**	**+0.9**
IKLH	**Kolahrood**	**38.39**	**30**	*e*P		**P**		**00 47 06.6**	**+1.2**
MALT	**Malatya**	**38.43**	**11**	⇑P		**P**		**00 47 07.3**	**+1.9**
MALT	**Malatya**	**38.43**	**11**	⇑*iP*		**P**		**00 47 07.3**	**+1.9**
IZEF	**Zefreh**	**38.43**	**31**	*e*P		**P**		**00 47 06.8**	**+1.1**
BR101	**Keskin Array S**	**39.20**	**4**	*e*P		**P**		**00 47 11.9**	**0.0**
BRTR	**Keskin Array B** comp=Z,3.8nm,0.8s,baz=184,slow=9.2,SNR=25	**39.20**	**4**	P		**P**		**00 47 11.9**	**0.0**
IBAF	**Bafgh**	**39.20**	**35**	*e*P		**P**		**00 47 13.2**	**+1.1**
BR231	**Keskin MP Arra**	**39.26**	**3**	*e*P		**P**		**00 47 11.9**	**-0.5**
IRAZ	**Razeghan**	**39.35**	**26**	*e*P		**P**		**00 47 16.4**	**+3.1**
ISFB	**Sefidab**	**39.55**	**29**	*e*P		**P**		**00 47 16.3**	**+1.5**
IVRN	**Varamin**	**39.83**	**28**	*e*P		**P**		**00 47 18.8**	**+1.7**
KEST	**Kesra** comp=Z,5.4nm,0.9s,baz=271,slow=8.3,SNR=6.1	**40.07**	**333**	P		**P**		**00 47 19.7**	**+0.6**
KEST	comp=Z,102nm,18.7s,baz=290,slow=36			LR		LR		01 04 00.2	
ISRB	**Sarab**	**40.53**	**22**	*e*P		**P**		**00 47 24.9**	**+1.8**
IHRS	**Heris**	**40.75**	**21**	*e*P		**P**		**00 47 26.7**	**+1.8**
IANJ	**Anjilo**	**41.27**	**30**	*e*P		**P**		**00 47 31.0**	**+1.8**
GNI	**Garni** comp=Z,81nm,2.2s	**41.68**	**17**	*e*P		**P**		**00 47 31.1**	**-1.3**
IKOO	**Kooshah**	**41.85**	**38**	*e*P		**P**		**00 47 35.9**	**+1.8**
ITEG	**Tejag**	**42.02**	**37**	*e*P		**P**		**00 47 35.9**	**+0.5**
VTS	**Vitosha**	**42.40**	**352**	⇑P		**P**		**00 47 37.5**	**-0.8**
VTS	**Vitosha**	**42.40**	**352**	⇑*iP*		**P**		**00 47 37.5**	**-0.8**
AKH	**Akhalkalaki**	**42.51**	**15**	P		**P**		**00 47 41.2**	**+2.0**
DGRG	**David-gareji**	**43.06**	**17**	P		**P**		**00 47 46.1**	**+2.5**
TBLG	**Delisi**	**43.14**	**16**	P		**P**		**00 47 46.2**	**+2.0**
ONI	**Oni**	**43.61**	**14**	P		**P**		**00 47 49.2**	**+1.2**
GUDG	**Gudauri**	**43.75**	**15**	P		**P**		**00 47 49.9**	**+0.5**
ZEI	**Tsey** comp=Z,23nm,1.4s	**43.91**	**15**	*e*P		**P**		**00 47 50.0**	**-0.5**
ZEI				pmax		pmax			
TLB	**Topalu**	**43.97**	**358**	⇑P		**P**		**00 47 50.9**	**+0.2**
TLB	**Topalu**	**43.97**	**358**	⇑*iP*		**P**		**00 47 50.9**	**+0.2**
SULR		**44.16**	**356**	⇑*iP*		**P**		**00 47 52.7**	**+0.5**
KBZ	**Khabaz**	**44.55**	**13**	*e*P		**P**		**00 47 55.2**	**-0.2**
KBZ	**Khabaz**	**44.55**	**13**	*e*P		**P**		**00 47 55.2**	**-0.2**
KBZ	**Khabaz** comp=Z,3.7nm,1.0s,baz=165,slow=4.2,SNR=4.9	**44.55**	**13**	P		**P**		**00 47 55.2**	**-0.2**
CFR	**Carcaliu**	**44.56**	**358**	⇑P		**P**		**00 47 55.9**	**+0.5**
CFR	**Carcaliu**	**44.56**	**358**	⇑*iP*		**P**		**00 47 55.9**	**+0.5**
IKRD	**Kardeh**	**44.66**	**33**	*e*P		P		00 48 02.2	+5.4
IAKL	**Akhelmad**	**44.67**	**33**	*e*P		**P**		**00 47 58.2**	**+1.3**
KIV	**Kislovodsk**	**44.72**	**13**	⇓*iP*		**P**		**00 47 58.4**	**+1.5**
KIV				*i*				00 49 41.4	
KIV	comp=Z,20nm,1.2s			pmax		pmax			
ARR	**Arges**	**44.98**	**355**	⇑*iP*		**P**		**00 47 58.6**	**-0.3**
MLR	**Muntele Rosu**	**44.99**	**356**	⇑*iP*		**P**		**00 47 58.6**	**-0.4**
VOIR		**45.01**	**355**	⇓P		**P**		**00 47 59.1**	**0.0**
VOIR		**45.01**	**355**	⇓*iP*		**P**		**00 47 59.1**	**0.0**
GZR	**Gura Zlata**	**45.21**	**353**	⇓P		**P**		**00 48 00.7**	**0.0**
GZR	**Gura Zlata**	**45.21**	**353**	⇓*iP*		**P**		**00 48 00.7**	**0.0**
PLOR	**Plostina**	**45.30**	**357**	⇑P		**P**		**00 48 02.0**	**+0.6**
PLOR	**Plostina**	**45.30**	**357**	⇑*iP*		**P**		**00 48 02.0**	**+0.6**
VRI	**Vrincioaia**	**45.31**	**357**	⇑P		**P**		**00 48 02.1**	**+0.6**
VRI	**Vrincioaia**	**45.31**	**357**	⇑*iP*		**P**		**00 48 02.1**	**+0.6**
GHRR		**45.47**	**357**	⇑*iP*		**P**		**00 48 03.3**	**+0.6**
BZS	**Buzias**	**45.59**	**352**	⇑P		**P**		**00 48 03.8**	**+0.2**
BZS	**Buzias**	**45.59**	**352**	⇑*iP*		**P**		**00 48 03.8**	**+0.2**
GOF	**Gofitskoye**	**45.85**	**13**	*e*P		**P**		**00 48 06.6**	**+0.9**
GOF	comp=Z,30nm,1.1s			pmax		pmax			
TESR	**Tescani**	**45.96**	**357**	⇑*iP*		**P**		**00 48 05.9**	**-0.7**
SIRR	**Siria**	**46.22**	**352**	⇑*iP*		**P**		**00 48 09.2**	**+0.6**
CJR	**Cluj-Napoca**	**46.41**	**354**	⇑*iP*		**P**		**00 48 12.3**	**+2.1**
BOJS	**Bojanci**	**46.74**	**346**	*i* P		**P**		**00 48 13.3**	**+0.6**
PKS2	**Kecel**	**46.83**	**350**	⇓*e*P		**P**		**00 48 16.3**	**+2.9**
PKS9	**Tamasi**	**47.09**	**349**	⇓*e*P		**P**		**00 48 16.3**	**+0.8**
PKSN	**Nyarlorinc**	**47.11**	**350**	⇓*e*P		P		00 48 18.9	+3.4
VISS	**Visnje**	**47.12**	**345**	*i* P		**P**		**00 48 16.4**	**+0.7**
BURAR	**Bucovina Array**	**47.16**	**355**	⇑P		**P**		**00 48 16.0**	**-0.1**
BURAR	**Bucovina Array**	**47.16**	**355**	⇑*iP*		**P**		**00 48 16.0**	**-0.1**
BUR04	**Bucovina Ar. S**	**47.16**	**355**	*e*P		**P**		**00 48 16.3**	**+0.2**
PKS7	**Kunszentmiklos**	**47.38**	**350**	⇓*e*P		**P**		**00 48 20.4**	**+2.8**
JAVS	**Javornik**	**47.40**	**345**	*i* P		**P**		**00 48 18.1**	**+0.1**
FRF	**La Foret Royal** comp=Z,56nm,1.2s	**47.76**	**337**	*e*P		**P**		**00 48 19.6**	**-1.1**
PKST	**T˜˜s**	**47.79**	**349**	⇓*e*		**P**		**00 48 23.4**	**+2.5**
BUD	**Budapest**	**47.82**	**350**	⇓*e*		**P**		**00 48 23.9**	**+2.8**
PERS	**Pernice**	**47.83**	**346**	*i* P		P		00 48 31.3	+10
PKSG		**47.85**	**349**	⇓*e*P		**P**		**00 48 21.9**	**+0.6**
SOKA	**Soboth** comp=Z,8.0nm,1.1s	**47.89**	**346**	⇑*i*pP		**P**		**00 48 24.0**	**+2.2**
TRPA	**Tarpa**	**47.93**	**353**	⇓*i*P		**P**		**00 48 23.7**	**+1.8**
TRPA	**Tarpa**	**47.93**	**353**	⇓*e*		**P**		**00 48 24.0**	**+2.1**
PSZ	**Piszkesteto**	**48.09**	**351**	⇑P		**P**		**00 48 23.1**	**-0.3**
PSZ	**Piszkesteto**	**48.09**	**351**	⇑*i*P		**P**		**00 48 23.1**	**-0.3**
PSZ	**Piszkesteto** comp=Z,18nm,1.2s	**48.09**	**351**	*e*P		**P**		**00 48 22.2**	**-1.1**
PSZ	**Piszkesteto**	**48.09**	**351**	⇑*e*P		**P**		**00 48 23.0**	**-0.3**
UZH	**Uzhgorod**	**48.45**	**353**	⇑*e*P		**P**		**00 48 26.2**	**+0.2**
UZH				*e*				00 48 31.7	
MBDF	**Montbardon** comp=Z,62nm,1.2s	**48.70**	**338**	*e*P		**P**		**00 48 27.4**	**-0.7**
KOLS	**Kolonicke sedl**	**48.75**	**353**	*e*P		**P**		**00 48 29.2**	**+0.9**
KOLS	comp=Z,6.0nm,1.1s			pmax		pmax			
KOLS	**Kolonicke sedl**	**48.75**	**353**	*e*P		**P**		**00 48 29.2**	**+0.9**
BNI	**Bardonecchia**	**49.01**	**338**	*e*P		**P**		**00 48 29.6**	**-0.9**
BNI	comp=Z,135nm,2.3s			pmax		pmax			
BNI	**Bardonecchia** comp=Z,135nm,2.3s	**49.01**	**338**	*e*P		**P**		**00 48 29.6**	**-0.9**
FUORN	**Ofenpass-Fuorn** comp=Z,19nm,1.4s	**49.15**	**342**	*e*P		**P**		**00 48 31.4**	**-0.4**
MOA	**Molln** comp=Z,32nm,1.6s	**49.17**	**346**	⇓*i*P		**P**		**00 48 31.4**	**-0.2**
ORIF	**Oris-en-Rattie** comp=Z,112nm,1.7s	**49.20**	**337**	*e*P		**P**		**00 48 30.7**	**-1.2**
ORIF	comp=Z,236nm,20.8s			*e*R					
TUE	**Stuetta** comp=Z,52nm,1.4s	**49.31**	**341**	*e*P		**P**		**00 48 32.2**	**-0.7**
LASF	**Ste Croix** comp=Z,105nm,1.5s	**49.32**	**335**	*e*P		**P**		**00 48 31.6**	**-1.2**
WTTA	**Wattenberg** comp=Z,20nm,1.1s,SNR=6.3	**49.33**	**343**	⇓*i*P		**P**		**00 48 32.5**	**-0.5**
STHS	**Stebnicka Huta**	**49.36**	**352**	*e*P		**P**		**00 48 33.5**	**+0.6**
STHS	comp=Z,4.0nm,1.4s			pmax		pmax			
STHS	**Stebnicka Huta**	**49.36**	**352**	*e*P		**P**		**00 48 33.5**	**+0.6**
LPG	**La Plagne** comp=Z,38nm,1.2s	**49.36**	**338**	*e*P		**P**		**00 48 31.8**	**-1.6**
LPL	**La Plagne** comp=Z,21nm,0.9s	**49.39**	**338**	*e*P		**P**		**00 48 31.7**	**-1.8**
KWP	**Kalwaria Pacla**	**49.39**	**354**	⇓P		**P**		**00 48 33.6**	**+0.4**
KWP	**Kalwaria Pacla**	**49.39**	**354**	⇓*i*P		**P**		**00 48 33.6**	**+0.4**
KWP	**Kalwaria Pacla** comp=Z,23nm,1.1s	**49.39**	**354**	*e*P		**P**		**00 48 33.5**	**+0.4**
KWP	**Kalwaria Pacla**	**49.39**	**354**	*e*P		**P**		**00 48 33.9**	**+0.7**
RJOB	**Jochberg** comp=Z,53nm,2.2s	**49.44**	**345**	*e*P		**P**		**00 48 34.2**	**+0.6**
MTLF	**Montolieu**	**49.45**	**333**	*e*P		**P**		**00 48 32.7**	**-1.0**
NIE	**Niedzica**	**49.49**	**352**	*e*P		**P**		**00 48 34.7**	**+0.7**
NIE	**Niedzica**	**49.49**	**352**	*e*P		**P**		**00 48 34.7**	**+0.7**
VIVF	**Saint-Julien-l** comp=Z,50nm,1.6s	**49.62**	**336**	*e*P		**P**		**00 48 33.2**	**-1.9**
KBL	**Kabul** comp=Z,3.0nm,0.6s	**49.69**	**43**	*e*P		**P**		**00 48 35.6**	**-0.4**
KBL				pmax		pmax			
KBL	**Kabul** comp=Z,2.7nm,0.6s	**49.69**	**43**	*e*P		**P**		**00 48 35.6**	**-0.4**
DAVA	**Damuels** comp=Z,42nm,1.4s,SNR=8.4	**49.87**	**342**	⇑*i*P		**P**		**00 48 36.1**	**-1.0**
ES19	**SONSECA Array**	**49.88**	**326**	*e*P		**P**		**00 48 35.4**	**-1.7**
ESDC	**Sonseca Array**	**49.90**	**326**	*e*P		**P**		**00 48 37.2**	**-0.1**
ESDC	**Sonseca Array** comp=Z,4.7nm,0.7s,baz=130,slow=6.3,SNR=30	**49.90**	**326**	P		**P**		**00 48 37.2**	**-0.1**
ESDC	comp=Z,292nm,19.4s,baz=90,slow=38			LR		LR		01 10 49.0	
SENIN	**Lac Senin/Sane** comp=Z,7.9nm,0.9s	**49.91**	**339**	*e*P		**P**		**00 48 36.3**	**-1.1**
PAB	**San Pablo**	**50.03**	**325**	*e*P		**P**		**00 48 37.6**	**-0.7**
PAB	comp=Z,68nm,1.2s			pmax		pmax			
PAB	**San Pablo** comp=Z,68nm,1.2s	**50.03**	**325**	*e*P		**P**		**00 48 37.6**	**-0.7**
VRAC	**Vranov**	**50.03**	**348**	⇑*i*P		**P**		**00 48 38.0**	**-0.1**
KIEV	**Kiev**	**50.05**	**359**	*e*P		**P**		**00 48 37.6**	**-0.5**
KIEV	**Kiev** comp=Z,43nm,2.0s	**50.05**	**359**	*e*P		**P**		**00 48 37.0**	**-1.1**
AKASG	**Malin Array Be**	**50.06**	**359**	*ce*P		**P**		**00 48 37.5**	**-0.7**
AKASG	comp=Z,10.0nm,1.2s			pmax		pmax			
AKASG	**Malin Array Be** comp=Z,2.5nm,0.8s,baz=184,slow=6.6,SNR=15	**50.06**	**359**	P		**P**		**00 48 36.7**	**-1.5**
AKBB	**Malin Array Si**	**50.06**	**359**	*e*P		**P**		**00 48 36.7**	**-1.5**
AKBB	**Malin Array Si**	**50.06**	**359**	*e*P		**P**		**00 48 36.7**	**-1.5**
EPF	**Esparros** comp=Z,23nm,1.1s	**50.08**	**332**	*e*P		**P**		**00 48 37.4**	**-1.2**
GEC2	**GERESS Array S**	**50.23**	**346**	*e*P		**P**		**00 48 39.3**	**-0.4**
GEC2	comp=Z,17nm,1.3s			pmax		pmax			
GEC2	**GERESS Array S** comp=Z,17nm,1.3s	**50.23**	**346**	*e*P		**P**		**00 48 39.3**	**-0.4**
GEC2	**GERESS Array S**	**50.23**	**346**	*e*P		**P**		**00 48 38.8**	**-1.0**
GERES	**GERESS Array B** comp=Z,3.9nm,0.9s,baz=157,slow=7.2,SNR=18	**50.23**	**346**	P		**P**		**00 48 38.9**	**-0.8**
GERES				LR		LR		01 10 48.2	
OKC	**Ostrava-Krasne** comp=Z,86nm,20.7s,baz=295,slow=37	**50.25**	**350**	*e*P		**P**		**00 48 39.5**	**-0.1**
OKC	**Ostrava-Krasne**	**50.25**	**350**	*e*P		**P**		**00 48 39.5**	**-0.1**
TREC	**Trest**	**50.25**	**348**	*e*P		**P**		**00 48 39.0**	**-0.7**
TREC	**Trest**	**50.25**	**348**	*e*P		**P**		**00 48 39.0**	**-0.7**
ETSF	**Etsaut** comp=Z,36nm,1.3s	**50.41**	**331**	*e*P		**P**		**00 48 40.6**	**-0.5**
KHC	**Kasperske Hory**	**50.53**	**346**	*d i*P		**P**		**00 48 41.2**	**-0.7**
KHC	comp=Z,148nm,1.2s			pmax		pmax			
KHC	comp=Z,912nm,21.0s			MLR		MLR			
KHC	**Kasperske Hory**	**50.53**	**346**	*e*P		**P**		**00 48 41.0**	**-0.9**
KHC				*ep*P		**pP**		**00 48 43.4**	**-3.7**
KHC				*ex*		x		00 49 28.5	
KHC	**Kasperske Hory** comp=Z,20nm,

	comp=Z,176nm,20.0s								
AVF	**Avril sur Loir**	**51.74**	**337**	*e*P		**P**	**00 48 49.9**	**-1.1**	
	comp=Z,36nm,1.3s								
BGF	**Bois d'Agland**	**51.75**	**336**	*e*P		**P**	**00 48 50.2**	**-0.9**	
	comp=Z,25nm,1.1s								
TCF	**Toulx Ste Croi**	**51.80**	**336**	*e*P		**P**	**00 48 50.5**	**-0.9**	
	comp=Z,58nm,1.2s								
WERN	**Wernitzgruen**	**51.90**	**346**	*e*P		**P**	**00 48 53.7**	**+1.6**	
	comp=Z,20nm,1.2s								
SSF	**Saint Saulge**	**51.90**	**337**	*e*P		**P**	**00 48 50.7**	**-1.5**	
	comp=Z,24nm,1.2s								
LOR	**Lormes**	**51.94**	**337**	*e*P		**P**	**00 48 51.1**	**-1.4**	
	comp=Z,16nm,0.9s								
LOR				*e*R					
	comp=Z,224nm,19.8s								
THEF	**They Montfort**	**51.97**	**340**	*e*P		**P**	**00 48 51.6**	**-1.0**	
GUNZ	**Gunzen**	**51.98**	**346**	*e*P		**P**	**00 48 54.2**	**+1.5**	
	comp=Z,21nm,1.5s								
TANN	**Tannenbergstha**	**51.99**	**346**	*e*P		**P**	**00 48 54.0**	**+1.1**	
	comp=Z,10.0nm,1.2s								
LANF	**Langenberg**	**52.02**	**341**	*e*P		**P**	**00 48 52.9**	**-0.1**	
PCBR	**Castelo Branco**	**52.05**	**323**	*e*P		**P**	**00 48 53.5**	**+0.1**	
	comp=Z,14nm,1.9s								
WERD	**Werda**	**52.06**	**346**	*e*P		**P**	**00 48 55.0**	**+1.7**	
	comp=Z,19nm,1.4s								
BRG	**Berggiesshubel**	**52.07**	**347**	*e*P		**P**	**00 48 54.0**	**+0.7**	
	comp=Z,7.1nm,1.2s								
BRG	**Berggiesshubel**	**52.07**	**347**	*e*P		**P**	**00 48 54.0**	**+0.7**	
BRG					pmax	pmax			
	comp=Z,7.0nm,1.2s								
BRG	**Berggiesshubel**	**52.07**	**347**	*e*P		**P**	**00 48 54.1**	**+0.7**	
	comp=Z,8.0nm,1.3s								
SFTF	**Sexfontaines**	**52.28**	**339**	*e*P		**P**	**00 48 54.3**	**-0.7**	
	comp=Z,73nm,1.1s								
PAGF	**Fort de Pagny**	**52.34**	**340**	*e*P		**P**	**00 48 54.6**	**-0.8**	
HYF	**Humbligny**	**52.41**	**337**	*e*P		**P**	**00 48 55.0**	**-1.0**	
MTE	**Manteigas**	**52.44**	**324**	*e*LR		LR	01 07 31.2		
	comp=Z,47nm,16.0s								
MEZF	**Maizieres J'vi**	**52.53**	**339**	*e*P		**P**	**00 48 56.2**	**-0.6**	
	comp=Z,54nm,1.2s								
MVO	**Moncorvo**	**52.63**	**325**	*e*P		**P**	**00 49 00.4**	**+2.6**	
	comp=Z,22nm,1.2s								
MVO	**Moncorvo**	**52.63**	**325**	*e*LR		LR	01 08 28.9		
	comp=Z,329nm,20.0s								
CLL	**Collm**	**52.69**	**347**	*i* P		**P**	**00 48 56.7**	**-1.2**	
CLL					pmax	pmax			
	comp=Z,41nm,1.7s								
CLL	**Collm**	**52.69**	**347**	*e*P		**P**	**00 48 58.7**	**+0.8**	
	comp=Z,19nm,1.7s								
CLL	**Collm**	**52.69**	**347**	*i* P		**P**	**00 48 56.7**	**-1.2**	
	comp=Z,19nm,1.7s								
CLL				*i* (sP)		**sP**	**00 49 05.3**	**+0.2**	
NEUB	**Neuenburg**	**52.90**	**346**	*e*P		**P**	**00 49 00.7**	**+1.3**	
	comp=Z,23nm,1.4s								
TNS	**Taunus Mts**	**52.91**	**343**	*e*P		**P**	**00 48 59.3**	**-0.4**	
TNS					pmax	pmax			
	comp=Z,26nm,1.2s								
TNS	**Taunus Mts**	**52.91**	**343**	*e*P		**P**	**00 48 59.3**	**-0.4**	
	comp=Z,26nm,1.2s								
UBBA	**Unterbreizbach**	**53.00**	**344**	*e*P		**P**	**00 49 00.9**	**+0.8**	
	comp=Z,31nm,1.7s								
MFF	**Saint Martin d**	**53.04**	**334**	*e*P		**P**	**00 48 59.8**	**-0.8**	
	comp=Z,26nm,1.2s								
WLF	**Walferdange**	**53.15**	**341**	P		**P**	**00 49 00.6**	**-0.7**	
	comp=Z,12nm,1.4s								
POLO	**Lamas de Olo**	**53.21**	**325**	*e*P		**P**	**00 49 04.2**	**+2.1**	
	comp=Z,14nm,1.6s								
RUE	**Ruedersdorf**	**53.61**	**348**	*e*P		**P**	**00 49 05.8**	**+1.1**	
	comp=Z,28nm,1.3s								
RUE	**Ruedersdorf**	**53.61**	**348**	*e*P		**P**	**00 49 03.9**	**-0.8**	
	comp=Z,30nm,1.4s								
SUW	**Suwalki**	**53.68**	**355**	*e*P		**P**	**00 49 04.8**	**-0.4**	
SUW	**Suwalki**	**53.68**	**355**	*e*P		**P**	**00 49 04.2**	**-0.9**	
	comp=Z,55nm,1.1s								
SUW	**Suwalki**	**53.68**	**355**	*e*P		**P**	**00 49 04.7**	**-0.4**	
PGAV	**Gavieira, Arco**	**53.86**	**325**	*e*LR		LR	01 10 11.8		
	comp=Z,378nm,20.0s								
GIVF	**Givet**	**53.97**	**340**	*e*P		**P**	**00 49 06.0**	**-1.3**	
	comp=Z,82nm,1.2s								
MEM	**Membach**	**54.01**	**341**	P		**P**	**00 49 09.2**	**+1.6**	
	comp=Z,9.4nm,1.2s								
DOU	**Dourbes**	**54.04**	**340**	P		**P**	**00 49 06.7**	**-1.2**	
	comp=Z,8.9nm,1.9s								
BCLA	**Clavier**	**54.08**	**341**	P		**P**	**00 49 07.8**	**-0.3**	
	comp=Z,15nm,1.6s								
BAIF	**Baives**	**54.14**	**340**	*e*P		**P**	**00 49 07.2**	**-1.4**	
	comp=Z,76nm,1.5s								
BEBN	**Eben Emael**	**54.28**	**341**	P		**P**	**00 49 08.2**	**-1.4**	
NACGM	**Naroch**	**54.33**	**358**	*e*		**P**	**00 49 08.0**	**-1.9**	
BUG	**Bochum--Univer**	**54.34**	**343**	*e*P		**P**	**00 49 09.9**	**-0.1**	
	comp=Z,43nm,1.4s								
NRDL	**Niedersach Rie**	**54.49**	**345**	*e*P		**P**	**00 49 11.1**	**+0.1**	
	comp=Z,38nm,1.2s								
LDF	**La Druitiere**	**54.59**	**336**	*e*P		**P**	**00 49 10.9**	**-1.0**	
	comp=Z,94nm,1.4s								
OBN	**Obninsk**	**54.72**	**5**	*e*P		**P**	**00 49 13.2**	**+0.5**	
OBN				*i*			00 50 18.3		
OBN				*e*			00 51 23.3		
OBN					pmax	pmax			
	comp=Z,42nm,1.6s								
GRR	**Gorron**	**54.73**	**335**	*e*P		**P**	**00 49 11.9**	**-1.1**	
	comp=Z,80nm,1.4s								
ABKAR	**Akbulak array**	**54.93**	**23**	*e*P		**P**	**00 49 13.6**	**-0.8**	
MOS	**Moscow**	**55.43**	**5**	*e*P		**P**	**00 49 17.1**	**-0.7**	
MOS					pmax	pmax			
	comp=Z,103nm,1.3s								
MOS					pmax	pmax			
	comp=Z,100nm,1.4s								
KKAR	**Karatay Array**	**55.70**	**35**	*e*P		**P**	**00 49 19.3**	**-0.8**	
KKAR	**Karatay Array**	**55.70**	**35**	*e*P		**P**	**00 49 19.3**	**-0.8**	
KSH	**Kashi**	**57.04**	**41**	P		**P**	**00 49 29.4**	**-0.5**	
KSH				pP		**pP**	**00 49 33.8**	**-1.3**	
KSH				sP		**sP**	**00 49 35.8**	**-1.3**	
KSH				PcP		**PcP**	**00 50 26.0**	**+1.2**	
KSH				PP		**PP**	**00 51 35.6**	**-1.1**	
KSH				S		S	00 57 16.6	-7.5	
KSH				ScS		**ScS**	**00 59 14.3**	**-4.7**	
KSH				AMB		AMB			
	comp=Z,33nm,0.6s								
KSH				AMB		AMB			
	comp=Z,130nm,6.1s								
KSH				LR		LR			
	comp=Z,89nm,5.8s								
KSH				LR		LR			
	comp=Z,70nm,5.0s								
KSH				LR		LR			
	comp=Z,90nm,4.7s								
EKS2	**Erkin-Say**	**57.37**	**37**	*e*P		**P**	**00 49 30.3**	**-1.8**	
EKS2					pmax	pmax			
	comp=Z,10.0nm,0.6s								
EKS2	**Erkin-Say**	**57.37**	**37**	*e*P		**P**	**00 49 30.3**	**-1.8**	
	comp=Z,10nm,0.6s								
AAK	**Ala-Archa**	**57.78**	**38**	⇑*i*P		**P**	**00 49 34.6**	**-0.5**	
AAK					pmax	pmax			
	comp=Z,7.0nm,0.4s								
AAK				MLR		MLR			
	comp=Z,318nm,17.0s								
AAK	**Ala-Archa**	**57.78**	**38**	*e*P		**P**	**00 49 32.8**	**-2.3**	
	comp=Z,12nm,0.6s								
AAK	**Ala-Archa**	**57.78**	**38**	P		P	00 49 30.6	-4.5	
	comp=Z,81nm,0.4s,SNR=5.4								
TKM2	**Tokmak 2**	**58.62**	**38**	⇓Pn		P	00 49 37.4	-3.6	
	comp=Z,1.4nm,0.6s								
TKM2				⇑Pg		pP	00 49 41.8	-4.5	
	comp=Z,2.4nm,0.4s								
TKM2				⇑Lg		Lg	00 50 28.1		
	comp=Z,7.2nm,0.7s								
TKM2	**Tokmak 2**	**58.62**	**38**	*e*P		**P**	**00 49 38.5**	**-2.5**	
TKM2					pmax	pmax			
	comp=Z,6.0nm,0.6s								
TKM2	**Tokmak 2**	**58.62**	**38**	*e*P		**P**	**00 49 38.5**	**-2.5**	
	comp=Z,6.4nm,0.6s								
ARU	**Arti**	**60.31**	**18**	*e*	*i*P	**P**	**00 49 52.6**	**+0.5**	
ARU				*e*			00 50 39.1		
ARU							00 52 05.9		
ARU					S	**S**	**00 58 07.5**	**+1.7**	
ARU					SS	**SS**	**01 02 01.7**	**-1.8**	
ARU					pmax	pmax			
	comp=Z,34nm,1.2s								
ARU	**Arti**	**60.31**	**18**	P		**P**	**00 49 52.4**	**+0.3**	
	comp=Z,113nm,1.5s,SNR=9.8								
KLMR	**Klimovskoe**	**60.66**	**5**	*e*P		**P**	**00 49 52.3**	**-2.1**	
KLMR					pmax	pmax			
	comp=Z,59nm,1.3s								
FIA0	**FINESS Array S**	**60.90**	**358**	*e*P		**P**	**00 49 55.7**	**-0.3**	
FIA0	**FINESS Array S**	**60.90**	**358**	*e*P		**P**	**00 49 55.6**	**-0.3**	
FINES	**FINESS Array B**	**60.90**	**358**	P		**P**	**00 49 55.6**	**-0.3**	
	comp=Z,6.2nm,0.8s,baz=174,slow=3.5,SNR=14								
FINES					LR	LR	01 19 52.0		
	comp=Z,118nm,21.8s,baz=115,slow=40								
KONO	**Kongsberg**	**61.15**	**348**	*i* P		**P**	**00 49 57.2**	**-0.6**	
KONO					pmax	pmax			
	comp=Z,92nm,1.1s								
KONO					MLR	MLR			
	comp=Z,1µm,19.0s								
SVE	**Sverdlovsk**	**61.29**	**19**	⇑*i*P		**P**	**00 49 59.7**	**+0.9**	
SVE					pmax	pmax			
	comp=Z,28nm,1.5s								
KAF	**Kangasniemi**	**61.56**	**358**	*e*P		**P**	**00 50 00.2**	**-0.3**	
KAF					pmax	pmax			
	comp=Z,13nm,0.7s								
KAF	**Kangasniemi**	**61.56**	**358**	*e*p		**P**	**00 50 00.2**	**-0.3**	
	comp=Z,13nm,0.7s								
BRVK	**Borovoye**	**62.11**	**26**	⇓*e*P		**P**	**00 50 03.9**	**-0.5**	
BRVK					pmax	pmax			
	comp=Z,12nm,1.2s								
BRVK					MLR	MLR			
	comp=Z,131nm,16.0s								
BRVK	**Borovoye**	**62.11**	**26**	*e*P		**P**	**00 50 02.3**	**-2.1**	
	comp=Z,11nm,1.2s								
NB2	**NORSAR Subarra**	**62.13**	**350**	P		**P**	**00 50 04.2**	**-0.2**	
	comp=Z,20nm,1.2s,baz=162,slow=6.5								
NB200	**NORSAR Array S**	**62.13**	**350**	*e*P		**P**	**00 50 04.1**	**-0.3**	
NOA	**NORSAR Array B**	**62.13**	**350**	P		**P**	**00 50 04.1**	**-0.3**	
	comp=Z,4.9nm,0.8s,baz=160,slow=6.7,SNR=15								
NOA					LR	LR	01 20 07.7		
	comp=Z,97nm,18.6s,baz=165,slow=39								
VOSK	**Vostochnaya**	**62.19**	**27**	*e*P		**P**	**00 50 03.0**	**-1.9**	
VOSK					pmax	pmax			
	comp=Z,15nm,1.5s								
VOSK	**Vostochnaya**	**62.19**	**27**	*e*P		**P**	**00 50 03.0**	**-1.9**	
	comp=Z,15nm,1.5s								
NBO02	**NORSAR Array S**	**62.21**	**350**	*e*P		**P**	**00 50 03.3**	**-1.6**	
JOF	**Joensuu**	**62.30**	**1**	*e*P		**P**	**00 50 04.9**	**-0.6**	
JOF					pmax	pmax			
	comp=Z,4.0nm,0.6s								
JOF	**Joensuu**	**62.30**	**1**	*e*p		**P**	**00 50 04.9**	**-0.6**	
	comp=Z,3.9nm,0.6s								
TMCR	**Tamitsa**	**63.82**	**4**	*e*P		**P**	**00 50 15.8**	**+0.3**	
TMCR					pmax	pmax			
	comp=Z,46nm,1.3s								
KURK	**Kurchatov**	**64.68**	**32**	⇑*e*P		**P**	**00 50 22.0**	**+0.5**	
KURK					pmax	pmax			
	comp=Z,14nm,1.7s								
KURK					MLR	MLR			
	comp=Z,79nm,14.0s								
KURK	**Kurchatov**	**64.68**	**32**	*e*P		**P**	**00 50 20.2**	**-1.2**	
	comp=Z,15nm,1.5s								
MK01	**Makanchi Array**	**64.69**	**37**	*e*P		**P**	**00 50 20.3**	**-1.4**	
MK32	**Makanchi Array**	**64.70**	**37**	*e*P		**P**	**00 50 21.5**	**-0.2**	
MKAR	**Makanchi Array**	**64.70**	**37**	*ce*P		**P**	**00 50 21.5**	**-0.2**	
MKAR					pmax	pmax			
	comp=Z,3.0nm,0.8s								
MKAR	**Makanchi Array**	**64.70**	**37**	*e*P		**P**	**00 50 19.6**	**-2.1**	
MKAR	**Makanchi Array**	**64.70**	**37**	P		**P**	**00 50 21.5**	**-0.2**	
	comp=Z,3.4nm,0.8s,baz=238,slow=5.2,SNR=27								
MKAR					LR	LR	01 21 38.7		
	comp=Z,59nm,20.1s,baz=353,slow=39								
WMQ	**Urumqi**	**66.80**	**42**	P		**P**	**00 50 37.3**	**+1.9**	
WMQ				pP		**pP**	**00 50 41.9**	**+1.2**	
WMQ				sP		**sP**	**00 50 44.3**	**+1.6**	
WMQ				S		**S**	**00 59 27.6**	**+0.2**	
WMQ				ScS		**SKSac**	**01 00 30.3**	**-1.7**	
WMQ				SS		**SS**	**01 03 47.3**	**+1.7**	
WMQ				AMB		AMB			
	comp=Z,9.0nm,1.0s								
WMQ				AMB		AMB			
	comp=Z,120nm,5.4s								
WMQ				LR		LR			
	comp=Z,190nm,10.6s								
WMQ				LR		LR			
	comp=Z,140nm,6.8s								
WMQ				LR		LR			
	comp=Z,110nm,22.8s								
ARA0	**ARCESS Array S**	**69.02**	**358**	*e*P		**P**	**00 50 47.8**	**-0.9**	
ARCES	**ARCESS Array B**	**69.02**	**358**	P		**P**	**00 50 47.8**	**-0.9**	
	comp=Z,3.8nm,0.8s,baz=162,slow=5.0,SNR=9.4								
ARCES					LR	LR	01 23 58.0		
	comp=Z,150nm,21.2s,baz=339,slow=39								
NVS	**Novosibirsk**	**69.27**	**30**	*e*P		**P**	**00 50 49.7**	**-0.9**	
NVS					pmax	pmax			
	comp=Z,36nm,1.5s								
NVS					pmax	pmax			
	comp=N,19nm,1.5s								
ZAA0	**Zalesovo Array**	**69.62**	**31**	*e*P		**P**	**00 50 51.4**	**-1.4**	
ZALV	**Zalesovo Beam**	**69.62**	**31**	*i* P		**P**	**00 50 54.7**	**+2.0**	
ZALV					pmax	pmax			
	comp=Z,6.0nm,1.0s								
ZALV	**Zalesovo Beam**	**69.62**	**31**	P		**P**	**00 50 52.0**	**-0.8**	
	comp=Z,6.3nm,1.0s,baz=256,slow=6.0,SNR=14								
ZALV					LR	LR	01 23 47.7		
	comp=Z,92nm,19.1s,baz=248,slow=38								
SYO	**Syowa Base**	**69.64**	**176**	⇑*e*P		**P**	**00 50 54.6**	**+2.0**	
CM31	**Chiang Mai Arr**	**69.77**	**71**	*e*P		**P**	**00 50 55.2**	**+0.8**	
CMAR	**Chiang Mai Arr**	**69.77**	**71**	P		**P**	**00 50 55.2**	**+0.8**	
	comp=Z,1.0nm,0.3s,baz=260,slow=6.9,SNR=4.9								
CMAR					LR	LR	01 23 04.5		
	comp=Z,88nm,18.6s,baz=243,slow=37								
MAW	**Mawson**	**71.65**	**167**	*e*P		**P**	**00 51 06.8**	**+2.0**	
	comp=Z,4.9nm,1.1s								
MAW	**Mawson**	**71.65**	**167**	P		**P**	**00 51 07.8**	**+3.0**	
	comp=Z,14nm,1.0s,baz=316,slow=7.0,SNR=21								
MAW					LR	LR	01 21 26.6		
	comp=Z,95nm,18.5s,baz=160,slow=35								
HVS	**Khovu-Aksy**	**73.34**	**36**	*i* P		**P**	**00 51 14.5**	**-0.9**	
HVS					pmax	pmax			
	comp=Z,9.0nm,0.8s								
KMI	**Kunming**	**74.07**	**64**	P		**P**	**00 51 21.6**	**+1.2**	
KMI				S		**S**	**01 00 52.6**	**-0.6**	
KMI					AMB	AMB			
	comp=Z,8.0nm,0.6s								
KMI					LR	LR			
	comp=Z,53nm,15.4s								
GTA	**Gaotai**	**74.09**	**49**	P		P	00 51 24.6	+4.5	
GTA				pP		pP	00 51 29.3	+3.8	
GTA				sP		sP	00 51 31.8	+4.4	
GTA				S		S	01 01 01.8	+9.1	
GTA				sS		sS	01 01 10.3	+8.8	
GTA				AMB		AMB			
	comp=Z,6.0nm,1.5s								
GTA				AMB		AMB			
	comp=Z,130nm,6.2s								
GTA				LR		LR			
	comp=Z,75nm,17.1s								
GTA				LR		LR			
	comp=Z,81nm,16.1s								
GTA				LR		LR			
	comp=Z,100nm,16.6s								
SNAA	**Sanae**	**75.06**	**190**	*e*P		P	00 51 29.2	+4.2	
VNA1	**Neumayer--Stat**	**75.31**	**192**	*e*P		P	00 51 31.1	+4.8	
VNA2	**Neumayer--Watz**	**75.34**	**192**	*e*P		P	00 51 30.8	+4.3	
CD2	**Chengdu**	**75.73**	**58**	P		**P**	**00 51 31.0**	**+1.3**	
CD2				pP		**pP**	**00 51 35.8**	**+0.8**	
CD2				sP		**sP**	**00 51 38.0**	**+1.0**	
CD2				PP		**PP**	**00 54 22.8**	**+3.2**	
CD2				S		**S**	**01 01 11.0**	**-0.1**	
CD2				SS		**SS**	**01 06 05.4**	**+2.4**	
CD2				AMB		AMB			
	comp=Z,10.0nm,0.5s								
CD2				AMB		AMB			
	comp=Z,110nm,7.2s								
CD2				LR		LR			
	comp=Z,180nm,7.2s								
CD2				LR		LR			
	comp=Z,190nm,8.4s								
GYA	**Guiyang**	**77.73**	**63**	*e*P		**P**	**00 51 42.8**	**+1.6**	
GYA				PP		**PP**	**00 54 38.6**	**+1.9**	
GYA				S		**S**	**01 01 31.3**	**-2.1**	
GYA				SKS		**SKSac**	**01 01 49.8**	**-5.0**	
GYA				SS		**SS**	**01 06 35.3**	**+1.6**	
GYA				AMB		AMB			
	comp=Z,20nm,1.0s								
GYA				AMB		AMB			
	comp=Z,120nm,5.2s								
GYA				LR		LR			
	comp=Z,520nm,21.8s								
GYA				LR		LR			
	comp=Z,480nm,22.4s								
GYA				LR		LR			
	comp=Z,490nm,20.7s								
BDFB	**Brasilia**	**78.72**	**254**	*e*P		**P**	**00 51 48.6**	**+1.8**	
BDFB	**Brasilia**	**78.72**	**254**	P		**P**	**00 51 48.6**	**+1.8**	
BDFB					LR	LR	01 20 53.5		
	comp=Z,3.7nm,0.9s,baz=223,slow=1.2,SNR=4.9								
ZAK	**Zakamensk**	**78.94**	**39**	*e*P		P	00 51 51.0	+3.7	
ZAK					pmax	pmax			
	comp=Z,3.0nm,1.4s								
SONA0	**Songino Array**	**80.44**	**42**	*e*P		**P**	**00 51 57.1**	**+1.5**	
SONM	**Songino Array**	**80.44**	**42**	P		**P**	**00 51 57.1**	**+1.5**	
	comp=Z,0.5nm,0.5s,baz=335,slow=24,SNR=4.1								
SONA1	**Songino Array**	**80.45**	**42**	*e*P		**P**	**00 51 56.9**	**+1.2**	
HHC	**Hu-ho-hao-te**	**83.20**	**49**	*e*P		**P**	**00 52 11.1**	**+0.8**	
HHC				pP		pP	00 52 21.8	+6.1	
HHC				sP		sP	00 52 25.8	+8.2	
HHC				PP		**PP**	**00 55 22.8**	**+1.1**	
HHC				S		**S**	**01 02 28.0**	**-2.2**	
HHC				SS		**SS**	**01 07 56.3**	**+1.5**	
HHC				AMB		AMB			
	comp=Z,33nm,1.1s								
HHC				AMB		AMB			
	comp=Z,180nm,5.6s								
HHC				LR		LR			
	comp=Z,160nm,15.5s								
SUMG	**Summit**	**83.24**	**344**	*e*P		P	00 52 13.8	+3.6	
SUMG					pmax	pmax			
	comp=Z,8.0nm,1.1s								
SUMG	**Summit**	**83.24**	**344**	*i* P		P	00 52 13.8	+3.6	
	comp=Z,8.2nm,1.1s								
SUMG	**Summit**	**83.24**	**344**	*e*P		**P**	**00 52 08.7**	**-1.5**	
	comp=Z,21nm,1.3s								
CASY	**Casey**	**86.55**	**156**	*e*P		**P**	**00 52 24.9**	**-1.5**	
	comp=Z,13nm,1.2s								
CPUP	**Villa Florida**	**87.93**	**244**	*e*P		**P**	**00 52 35.0**	**+1.0**	
CPUP	**Villa Florida**	**87.93**	**244**	P		**P**	**00 52 35.0**	**+1.0**	
	comp=Z,1.1nm,0.5s,baz=102,slow=7.5,SNR=2.8								
NJ2	**Nanjing**	**88.66**	**58**	*e*P		**P**	**00 52 37.3**	**0.0**	
NJ2					AMB	AMB			
	comp=Z,20nm,0.6s								
QSPA	**South Pole Qui**	**90.49**	**180**	*e*P		**P**	**00 52 43.9**	**-1.4**	
	comp=Z,22nm,1.2s								
TIXI	**Tiksi**	**92.31**	**18**	⇑*i*P		**P**	**00 52 56.5**	**+3.1**	
TIXI					pmax	pmax			
	comp=Z,10.0nm,2.0s								
SAML	**Samuel**	**93.35**	**261**	*e*P		P	00 52 56.0	-3.5	
	comp=Z,5.8nm,1.1s								
CN2	**Changchun**	**93.52**	**46**	*e*P		**P**	**00 53 00.6**	**+1.0**	
CN2				*e*S		**S**	**01 04 05.3**	**-2.3**	
CN2					AMB	AMB			
	comp=Z,10.0nm,0.6s								
CN2					AMB	AMB			
	comp=Z,200nm,4.0s								
CN2					LR	LR			
	comp=Z,200nm,17.0s								
CN2					LR	LR			
	comp=Z,200nm,17.0s								
CN2					LR	LR			
	comp=Z,200nm,19.0s								
MDJ	**Mudanjiang**	**96.41**	**45**	P		**P**	**00 53 12.8**	**0.0**	
MDJ					AMB	AMB			
	comp=Z,12nm,1.6s								
MDJ					AMB	AMB			
	comp=Z,160nm,5.5s								
LPAZ	**La Paz**	**98.07**	**254**		LR	LR	01 31 58.3		
	comp=Z,73nm,19.5s,baz=245,slow=32								
USRK	**Ussuriysk Arra**	**98.17**	**45**		LR	LR	01 43 51.0		
	comp=Z,92nm,20.5s,baz=321,slow=39								
VNDA	**Vanda**	**98.78**	**171**		LR	LR	01 39 59.9		
	comp=Z,154nm,18.0s,baz=229,slow=37								
PD31	**Pinedale Array**	**123.79**	**325**	*e*PKPdf		**PKPdf**	**00 58 42.3**	**+0.1**	
PDAR	**Pinedale Array**	**123.79**	**325**	PKP		**PKPdf**	**00 58 42.3**	**+0.1**	
	comp=Z,1.4nm,1.1s,baz=108,slow=3.3,SNR=5.2								
LTX	**Lajitas**	**126.90**	**308**	*e*PKIKP		**PKPdf**	**00 58 47.4**	**-1.0**	
LTX	**Lajitas**	**126.90**	**308**	*e*PKPdf		**PKPdf**	**00 58 47.4**	**-1.0**	
TXAR	**Lajitas Array**	**126.90**	**308**	PKP		**PKPdf**	**00 58 47.4**	**-1.0**	
	comp=Z,1.2nm,0.9s,baz=110,slow=3.2,SNR=6.3								
NV01	**Mina Array Sit**	**131.62**	**327**	*e*PKPdf		**PKPdf**	**00 58 59.4**	**+2.2**	
NVAR	**Mina Array Bea**	**131.62**	**327**	PKP		**PKPdf**	**00 58 59.4**	**+2.2**	
	comp=Z,1.4nm,1.0s,baz=110,slow=1.5,SNR=8.9								

MEX 18 00:41:23.4±1.0, 14°44N×93°33W, h11^{km}±22^{km}, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PCIG		**1.26**	**5**	*e*P		Pn	00 41 42.5	-4.4
PCIG				*i* S		Sb	00 41 58.5	-4.8
CCIG	**Comitan**	**2.16**	**32**	*e*P		Pn	00 41 56.1	-3.5
CCIG				*i* S		Sn	00 42 22.2	-4.4
TGIG		**2.33**	**5**	*i* P		Pn	00 41 59.5	-2.3
TGIG				*i* S		Sn	00 42 26.1	-4.3
HUIG	**Huatulco**	**2.98**	**297**	*e*P		Pn	00 42 08.8	-1.9
HUIG				*i* S		Sn	00 42 42.5	-4.0

IDC ***18*** *00:56:56.1±1.3, 25°.49N×128°.12E, h0^{km}, mb3.9/7, mb1 4.0/8, mb1mx3.8/25, mbtmp3.9/8, ML2.5/1, Error ellipse: s-maj=63.1km s-min=19.8km az=70.0*
ISCJB ***18*** *00:56:57.5±0.6, 25°.64N±0°.04×128°.51E±0°.04, h30^{km}, mb3.8/7, Error ellipse: s-maj=5.5km s-min=4.8km az=166.3*
JMA ***18*** *00:56:57.6±0.

0.5nm,0.3s,baz=27,slow=12,SNR=6.4
KNRA Kununurra 17.96 228 P **P** **01 11 38.0 +1.1**
baz=18,SNR=5.3
SOEI Soe 19.10 251 P **Pn** **01 11 51.1 +0.5**
baz=19,SNR=4.4
BATI Baumata 19.80 250 P **P** **01 11 58.1 +0.9**
6.7nm,0.3s,baz=45,slow=1.1,SNR=12
ASAR Alice Springs 21.39 202 P **P** **01 12 14.3 0.0**
1.9nm,0.7s,baz=28,slow=11,SNR=21
FITZ Fitzroy Crossi 21.80 228 P **P** **01 12 20.3 +1.6**
baz=22,SNR=7.2
FITZ Fitzroy Crossi 21.80 228 P **P** **01 12 17.4 -1.3**
5.1nm,0.7s,baz=31,slow=13,SNR=9.7
MORW Morawa 35.53 222 P **P** **01 14 23.6 0.0**
baz=36,SNR=3.2
PMBI Palembang 37.76 270 P P 01 14 56.9 +14
baz=38,SNR=7.2
MKAR Makanchi Array 73.09 321 P **P** **01 18 56.7 +0.2**
0.2nm,0.5s,baz=120,slow=5.8,SNR=3.9
ZALV Zalesovo Beam 74.91 329 P **P** **01 19 07.2 +0.3**
0.5nm,0.5s,baz=106,slow=4.8,SNR=2.5
ILAR Eielson Array 85.30 24 P **P** **01 20 02.5 -0.4**
0.2nm,0.5s,baz=260,slow=4.2,SNR=4.8

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*PRE **18** 01:08:55.6±1.9,0.38S×29.73E,h10km,ML4.0*
ISC 18 01:08:57.8±2.8,0.5S±0.1×29.9E±0.1,h10km,n5,σ0.51/9, Zaire

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**0.86**	**99**	*e*P	**Pb**	**01 09 15.0**	**+0.1**
MBAR				*e*S	**Sn**	**01 09 28.8**	**-0.1**
KIG	**Kigali**	**1.49**	**173**	*e*P	**Pb**	**01 09 25.3**	**-0.4**
KIG				*e*S	**Sg**	**01 09 46.5**	**+0.7**
KIG				AML	AML	01 09 51.4	
	comp=Z,2μm,0.3s						
MAUS	**Longido**	**7.17**	**108**	*i* P	**Pn**	**01 10 42.2**	**-0.8**
MAUS				*i* S	**Sn**	**01 12 04.3**	**-0.4**
KMBO	**Kilima Mbogo**	**7.39**	**95**	*e*P	**Pn**	**01 10 46.4**	**+0.3**
KMBO				*e*S	**Sn**	**01 12 10.3**	**0.0**
LSZ	**Lusaka**	**14.80**	**186**	*e*P	**Pn**	**01 12 27.8**	**+0.3**
LSZ				*e*S	Sn	01 15 03.2	-8.6

IDC 18 01:32:22.2±2.0,15.17S×173.76W,h0km,mb3.8/5, mb1 4.2/5,mb1mx3.9/17,mbtmp3.8/5,Error ellipse: s-maj=132.9km s-min=28.2km az=150.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.29**	**57**	Pn	Pn	01 32 53.4	-8.1
	7.3nm,0.3s,baz=54,slow=22,SNR=6.3						
AFI				Sn	Sn	01 33 18.1	-12
	18nm,0.3s,baz=18,slow=21,SNR=6.6						
H11S2	**WAKE ISLAND Hy 38.59**		**329**	T	T	02 20 32.2	
	baz=152,slow=0.7,SNR=75						
H11S3	**WAKE ISLAND Hy 38.60**		**329**	T	T	02 20 34.2	
	baz=152,slow=0.7,SNR=113						
H11S1	**WAKE ISLAND Hy 38.60**		**329**	T	T	02 20 36.3	
	baz=152,slow=0.7,SNR=87						
H11N3	**WAKE ISLAND Hy 39.54**		**331**	T	T	02 21 45.0	
	baz=153,slow=0.7,SNR=33						
H11N1	**WAKE ISLAND Hy 39.54**		**331**	T	T	02 21 43.9	
	baz=153,slow=0.7,SNR=38						
H11N2	**WAKE ISLAND Hy 39.56**		**331**	T	T	02 21 45.0	
	baz=153,slow=0.7,SNR=37						
ASAR	**Alice Springs 49.85**		**252**	P	P	01 41 17.5	-0.1
	1.7nm,0.8s,baz=84,slow=8.6,SNR=16						
NVAR	**Mina Array Bea 74.39**		**42**	P	P	01 44 02.5	+0.1
	0.8nm,0.8s,baz=231,slow=5.7,SNR=5.7						
TXAR	**Lajitas Array 80.78**		**56**	P	P	01 44 38.0	-0.2
	0.4nm,0.9s,baz=225,slow=6.9,SNR=4.2						
ILAR	**Eielson Array 82.29**		**11**	P	P	01 44 45.2	0.0
	1.1nm,1.2s,baz=223,slow=6.5,SNR=4.1						
PDAR	**Pinedale Array 82.33**		**42**	P	P	01 44 46.4	+0.1
	0.6nm,0.8s,baz=228,slow=5.6,SNR=6.0						

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*IDC **18** 01:46:34.7±1.6,0.29S×122.86E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.4/21,mbtmp3.4/3,MS4.2/1,Ms1 4.2/1, ms1mx3.2/18,Error ellipse: s-maj=219.7km s-min=25.4km az=62.0*
*ISCJB **18** 01:46:35.0±1.0,0.42S±0.05×122.79E±0.07,h10km, mb3.4/3,MS4.2/1,Error ellipse: s-maj=10.8km s-min=7.2km az=161.0*
*DJA **18** 01:46:35.9±0.8,1°≤4°×12°≤3E±°,h20km,M4.1/4,MLv4.1/4*
ISC 18 01:46:35.6±1.2,0.42S±0.06×122.7E±0.1,h10km,n8, σ1.9/42/9,mb3.4/3,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.62**	**173**	P	**Pg**	**01 46 46.7**	**-1.0**
LUWI				S	**Sg**	**01 46 55.9**	**0.0**
APSI	**Ampana**	**1.16**	**245**	P	**Pn**	**01 46 56.7**	**-1.1**
APSI				S	**Sb**	**01 47 14.7**	**+1.9**
MRSI	**Marisa**	**1.17**	**320**	P	**Pg**	**01 46 57.6**	**-0.4**
TOLI	**Toli-Toli**	**2.44**	**309**	P	**Pb**	**01 47 18.7**	**-0.9**
WRA	**Warramunga Arr**	**22.51**	**150**	P	**P**	**01 51 37.7**	**+2.1**
	0.6nm,0.4s,baz=330,slow=10,SNR=2.9						
ASAR	**Alice Springs**	**25.54**	**156**	P	**P**	**01 52 05.0**	**+0.3**
	0.5nm,0.7s,baz=328,slow=7.2,SNR=9.1						
JNU	**Nakatsue**	**34.24**	**12**	LR	LR	02 05 48.3	
	comp=Z,451nm,21.5s,baz=99,slow=34						
MKAR	**Makanchi Array**	**58.81**	**329**	P	**P**	**01 56 35.0**	**+0.7**
	0.2nm,0.4s,baz=120,slow=8.4,SNR=7.4						

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*NIED **18** 02:01:00,28.70N×140.00E,h420km,Mw5.1 Best double couple: M05.92000×10^16 NP1:φ360.00000°, δ62.00000°,λ-47.00000°. NP2:φ117.00000°,δ49.00000°, λ-142.00000°.*
*BGS **18** 02:01:10.4±1.5,25.77N×140.41E,h421km,mb5.1*
*JMA **18** 02:01:19.6±0.1,28.68N×140.00E,h408km,M4.5*
*MOS **18** 02:01:19.6±0.8,28.70N×139.46E,h378km,mb5.3/79, Error ellipse: s-maj=8.1km s-min=3.7km az=115.7*
*IDC **18** 02:01:20.5±0.6,28.68N×139.54E,h379km±5km,mb4.3/29, mb1 4.4/33,mb1mx4.4/35,mbtmp4.3/33,Error ellipse: s-maj=9.0km s-min=6.7km az=75.0*
*ISCJB **18** 02:01:21.9±0.3,28.82N±0.03×139.44E±0.02, h394km±2km,mb4.9/266,Error ellipse: s-maj=4.2km s-min=2.8km az=160.3*
*BJI **18** 02:01:23.9,28.83N×139.26E,h407km,mB4.8/30, mb5.2/61*
*NEIC **18** 02:01:24.8±0.4,28.72N×139.41E,h420km±4km,mb4.7/99, MW5.1(NIED),Error ellipse: s-maj=3.3km s-min=2.9km az=135.0*
*DJA **18** 02:01:29.9±4.9,29°N≤13°×13°9E≤3°4,h440km±52km, M4.9/9,mB5.4/4,mb5.0/9,Mw(mB)4.8/4*
ISC 18 02:01:23.7±0.3,28.79N±0.04×139.51E±0.03,h406km±2km, h406km:pP-P,n942,σ1.907/1095,mb5.1/276,125C-231D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.90**	**125**	P	P	02 02 19.8	-6.7
CBIJ				*e*S	S	02 03 06.5	-11
CBIJ	**Chichi jima**	**2.90**	**125**	P	P	02 02 19.9	-6.7
CBIJ				S	S	02 03 06.7	-11
JCJ	**Chichijima**	**2.90**	**125**	P	P	02 02 19.9	-6.7
	483nm,0.3s,baz=306,slow=2.3,SNR=201						
JCJ				S	S	02 03 06.7	-11
	889nm,0.3s,baz=302,slow=22,SNR=6.2						
JHHJ	**Haha-jima-NKT**	**3.19**	**132**	P	P	02 02 22.3	-6.6
JHHJ				S	S	02 03 11.7	-10
JHCJ	**Hachijojimakas**	**4.28**	**3**	P	**P**	**02 02 36.9**	**-1.6**
JHCJ				*e*S	S	02 03 32.3	-7.3
JHJ2	**Mitsune**	**4.32**	**3**	P	**P**	**02 02 36.8**	**-2.0**
JHJ2				*e*S	**S**	**02 03 36.1**	**-4.2**
TTO1	**TONANKAI O.B.S**	**5.36**	**335**	P	**P**	**02 02 50.1**	**+1.1**
JKO	**Kozu shima**	**5.39**	**357**	*e*S	**S**	**02 03 54.6**	**-5.6**
JWZ	**Kozaga**	**5.74**	**326**	P	**P**	**02 02 53.9**	**+0.6**
JWZ				S	**S**	**02 04 06.7**	**-0.2**
BSO1	**Boso 1**	**5.98**	**12**	P	**P**	**02 02 53.0**	**-2.3**
BSO1				*e*S	**S**	**02 04 05.8**	**-4.8**
JIE	**Ise**	**6.08**	**338**	P	**P**	**02 02 57.2**	**+0.3**
JIE				S	**S**	**02 04 14.5**	**+0.9**
JOD2	**Odawara 2**	**6.47**	**357**	P	**P**	**02 02 58.9**	**-2.3**
JOD2				*e*S	S	02 04 14.9	-6.4
JTO	**Tosashimizu**	**7.06**	**307**	P	**P**	**02 03 09.1**	**+0.6**
JTO				*e*S	**S**	**02 04 34.7**	**+1.4**
JRY	**Ryogami san**	**7.23**	**356**	P	**P**	**02 03 07.3**	**-3.1**
JRY				*e*S	S	02 04 29.2	-7.6
MAJO	**Matsushiro**	**7.81**	**352**	*d* P	**P**	**02 03 13.7**	**-3.1**
MAJO				pmax	pmax		
	comp=Z,106nm,1.1s						
MAJO	**Matsushiro**	**7.81**	**352**	*e*P	**P**	**02 03 13.9**	**-2.9**
MAJO				*e*S	S	02 04 40.7	-8.2
MAT	**Matsushiro**	**7.81**	**352**	P	P	02 03 13.6	-3.2
MAT				S	S	02 04 42.5	-6.4
JMZ	**Minamidaito 2**	**7.95**	**250**	P	**P**	**02 03 16.8**	**-1.7**
JHS	**Saijyo**	**8.24**	**320**	P	**P**	**02 03 22.6**	**+1.1**
JHS				*e*S	**S**	**02 05 00.3**	**+2.4**
JNU	**Nakatsue**	**8.58**	**302**	*e*P	**P**	**02 03 27.2**	**+1.9**
JNU				S	**S**	**02 05 05.4**	**+0.3**
JNU	**Nakatsue**	**8.58**	**302**	P	**P**	**02 03 27.3**	**+1.9**
	comp=Z,7.4nm,0.3s,baz=99,slow=5.9,SNR=119						
JNU				S	**S**	**02 05 05.4**	**+0.3**
	baz=240,slow=7.0,SNR=1.8						
JAM	**Amami Oshima**	**8.72**	**270**	P	**P**	**02 03 27.0**	**+0.1**
SAI	**Saigo**	**9.05**	**326**	P	**P**	**02 03 31.8**	**+1.4**
JOW	**Kunigami**	**10.14**	**262**	P	**P**	**02 03 44.2**	**+1.4**
JOW	**Kunigami**	**10.14**	**262**	*e*P	**P**	**02 03 44.1**	**+1.4**
JMK	**Ichinoseki**	**10.24**	**8**	P	**P**	**02 03 43.0**	**-0.6**
JMK				S	**S**	**02 05 33.5**	**-5.5**
JTU	**Tsushima**	**10.34**	**306**	P	**P**	**02 03 46.5**	**+1.7**
JKE	**Kume jima 2**	**11.56**	**261**	P	**P**	**02 04 00.0**	**+1.7**
KSRS	**Korea Array**	**12.99**	**315**	P	**P**	**02 04 14.7**	**+0.7**
	comp=Z,1.7nm,0.3s,baz=129,slow=10.0,SNR=32						
KSRS				PcP	**PcP**	**02 09 14.3**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=137,slow=0.9,SNR=4.9						
KSRS				ScP	**ScP**	**02 12 09.8**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=155,slow=1.5,SNR=17						
KSAR	**Wonju Array Be**	**13.01**	**315**	P	**P**	**02 04 14.7**	**+0.5**
KSAR				PcP	**PcP**	**02 09 14.3**	**+0.6**
KSAR				ScP	**ScP**	**02 12 09.8**	**+2.0**
INCN	**Inchon**	**13.83**	**312**	*e*P	**P**	**02 04 22.9**	**-0.3**
ASAJ	**Asahikawa**	**15.50**	**8**	*e*P	**P**	**02 04 42.0**	**+0.9**
	comp=Z,49nm,1.5s						
ASAJ				*e*S	S	02 07 34.7	+10
ASAJ				ScP	**ScP**	**02 12 13.8**	**+1.7**
ASAJ	**Asahikawa**	**15.50**	**8**	P	**P**	**02 04 41.5**	**+0.4**
	comp=Z,1.9nm,0.3s,baz=234,slow=13,SNR=12						
ASAJ				S	**S**	**02 07 25.4**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=151,slow=18,SNR=2.2						
ASAJ				ScP	**ScP**	**02 12 13.8**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=162,slow=3.2,SNR=6.4						
GUMO	**Guam**	**15.92**	**161**	*e*P	**P**	**02 04 46.2**	**+0.2**
	comp=Z,57nm,0.7s						
USRK	**Ussuriysk Arra**	**16.52**	**341**	P	**P**	**02 04 52.1**	**+0.1**
	comp=Z,7.3nm,0.3s,baz=162,slow=11,SNR=187						
USRK				ScP	**ScP**	**02 12 17.1**	**+3.1**
	comp=Z,0.2nm,0.3s,baz=96,slow=8.1,SNR=4.9						
NACB	**Ninganchiao**	**16.69**	**258**	*e*P	**P**	**02 04 53.2**	**-0.9**
	comp=Z,25nm,0.8s						
NACB				*e*S	**S**	**02 07 53.9**	**+5.7**
YHNB	**Yeheng**	**16.71**	**260**	*e*P	**P**	**02 04 53.5**	**-1.0**
	comp=Z,55nm,1.0s						
YHNB				*e*S	**S**	**02 07 48.6**	**-0.3**
YULB	**Yu-li**	**17.22**	**256**	*e*P	**P**	**02 04 58.7**	**-1.1**
	comp=Z,22nm,0.6s						
YULB				*e*S	**S**	**02 08 00.7**	**+2.1**
SSLB	**Suanglung**	**17.37**	**258**	*e*P	**P**	**02 05 00.6**	**-0.7**
	comp=Z,89nm,0.8s						
SSLB				*e*S	**S**	**02 08 02.4**	**+0.8**
TWG	**Pinlang**	**17.63**	**255**	*e*P	**P**	**02 05 03.9**	**-0.2**
	comp=Z,148nm,0.6s						
MDJ	**Mudanjiang**	**17.67**	**336**	P	**P**	**02 05 04.8**	**+0.6**
MDJ				ScS	ScS	02 16 00.0	+3.2
MDJ				AMB	AMB		
	comp=Z,110nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,230nm,6.0s						
MDJ	**Mudanjiang**	**17.67**	**336**	*e*P	**P**	**02 05 04.3**	**+0.2**
	comp=Z,74nm,0.8s						
TPUB	**Ta-pu**	**17.82**	**256**	*e*P	**P**	**02 05 05.8**	**-0.4**
	comp=Z,324nm,2.2s						
TPUB				*e*S	S	02 08 02.7	-7.5
DL2	**Dalian**	**17.93**	**309**	P	**P**	**02 05 05.3**	**-1.8**
DL2				*e*S	**S**	**02 08 07.8**	**-4.1**
DL2				AMB	AMB		
	comp=Z,92nm,0.7s						
DL2				AMB	AMB		
	comp=Z,180nm,5.5s						
NJ2	**Nanjing**	**18.11**	**285**	*e*P	**P**	**02 05 07.0**	**-2.1**
NJ2				S	**S**	**02 08 16.0**	**+0.7**
NJ2				PcP	**PcP**	**02 09 20.9**	**-0.5**
NJ2				ScS	**ScS**	**02 15 56.0**	**-2.6**
NJ2				AMB	AMB		
	comp=Z,130nm,1.3s						
NJ2				AMB	AMB		
	comp=Z,100nm,7.4s						
YSS	**Yuzh-Sakhalins**	**18.31**	**7**	*e*P	**P**	**02 05 10.9**	**-0.1**
YSS				*e*S	**S**	**02 08 17.0**	**-1.5**
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS				smax	smax		
	comp=N,700nm,5.0s						
YSS				smax	smax		
	comp=E,1μm,4.0s						
YSS				smax	smax		
	comp=E,270nm,1.8s						
CN2	**Changchun**	**18.75**	**327**	*e*P	**P**	**02 05 14.9**	**-0.7**
CN2				*es*P	**sP**	**02 07 03.0**	**-1.3**
CN2				*e*S	**S**	**02 08 21.9**	**-4.3**
CN2				PcP	**PcP**	**02 09 22.4**	**+0.1**
CN2				ScP	**ScP**	**02 12 19.9**	**+1.1**
CN2				AMB	AMB		
	comp=E,70nm,1.0s						
CN2				AMB	AMB		
	comp=E,200nm,5.0s						
QZH	**Quanzhou**	**19.05**	**263**	*i* P	**P**	**02 05 15.8**	**-3.1**
QZH				S	**S**	**02 08 28.3**	**-3.4**
QZH				AMB	AMB		
	comp=E,190nm,0.8s						
QZH				AMB	AMB		
	comp=E,720nm,2.6s						
HABR	**Khabarovsk**	**19.96**	**351**	*d* P	**P**	**02 05 27.9**	**+0.9**
HABR				*e*S	**S**	**02 08 47.2**	**+1.4**
HABR						02 16 04.7	
HABR				pmax	pmax		
	comp=E,43nm,1.8s						
HABR				pmax	pmax		
	comp=Z,195nm,0.9s						
HABR				pmax	pmax		
	comp=N,87nm,0.9s						
UGL	**Uglegorsk**	**20.36**	**5**	*e*P	**P**	**02 05 32.0**	**+1.3**
UGL				*e*S	**S**	**02 08 54.0**	**+1.7**
UGL				pmax	pmax		
	comp=Z,66nm,0.8s						
UGL				smax	smax		
	comp=E,1μm,6.0s						
UGL				smax	smax		
	comp=N,500nm,9.0s						
KLR	**Kul'dur**	**21.27**	**346**	*e*P	**P**	**02 05 36.5**	**-2.5**
KLR				pmax	pmax		
	comp=N,80nm,1.6s						
KLR				pmax	pmax		
	comp=E,120nm,1.6s						
KLR				pmax	pmax		
	comp=Z,360nm,1.6s						
WHN	**Wuhan**	**21.93**	**281**	P	**P**	**02 05 45.8**	**+0.6**
WHN				AMB	AMB		
	comp=Z,350nm,0.8s						
BJT	**Baijiatuau**	**22.22**	**306**	*e*P	**P**	**02 05 47.0**	**-0.7**
	comp=Z,33nm,0.5s						
BJI	**Beijing**	**22.22**	**306**	P	**P**	**02 05 46.8**	**-1.0**
BJI				*s*P	**sP**	**02 07 43.0**	**+0.6**
BJI				S	**S**	**02 09 22.4**	**-0.1**
BJI				PcP	**PcP**	**02 09 28.5**	**-0.5**
BJI				AMB	AMB		
	comp=Z,76nm,0.8s						
BJI				AMB	AMB		
	comp=Z,270nm,3.9s						
HIA	**Hailar**	**25.44**	**329**	*e*P	**P**	**02 06 17.1**	**+0.5**
	comp=Z,33nm,0.8s						
HHC	**Hu-ho-hao-te**	**25.80**	**305**	*e*P	**P**	**02 06 19.6**	**-0.4**
HHC				PcP	**PcP**	**02 09 36.5**	**-0.5**
HHC				S	**S**	**02 10 18.8**	**-0.3**
HHC				PcS	**PcS**	**02 13 16.8**	**-1.4**
HHC				AMB	AMB		
	comp=Z,85nm,1.0s						
HHC				AMB	AMB		
	comp=Z,280nm,5.3s						
ENH	**Enshi**	**26.14**	**281**	*e*P	**P**	**02 06 22.9**	**-0.2**
	comp=Z,126nm,0.7s						
ENH				*e*S	**S**	**02 10 24.2**	**-0.4**
H11N2	**WAKE ISLAND Hy 26.49**		**104**	T	T	02 32 59.0	
	baz=299,slow=0.7,SNR=9.7						
H11N1	**WAKE ISLAND Hy 26.49**		**104**	T	T	02 32 54.5	
	baz=299,slow=0.7,SNR=5.4						
H11N3	**WAKE ISLAND Hy 26.51**		**104**	T	T	02 32 55.2	
	baz=299,slow=0.7,SNR=8.1						
XAN	**Xi'an**	**26.57**	**289**	P	**P**	**02 06 27.0**	**+0.1**
XAN				*s*P	**sP**	**02 08 28.0**	**+0.8**
XAN				S	**S**	**02 10 31.3**	**-0.1**
XAN				ScP	**ScP**	**02 12 39.8**	**+0.1**
XAN				AMB	AMB		
	comp=Z,76nm,0.6s						
XAN				AMB	AMB		
	comp=Z,23nm,4.0s						
BTO	**Baotou**	**26.84**	**304**	*e*P	**P**	**02 06 28.9**	**-0.3**
H11S3	**WAKE ISLAND Hy 26.86**		**106**	T	T	02 33 25.9	
	baz=303						
H11S1	**WAKE ISLAND Hy 26.86**		**106**	T	T	02 33 31.0	
	baz=303						
H11S2	**WAKE ISLAND Hy 26.88**		**106**	T	T	02 33 41.0	
	baz=303						
PETK	**Petropavlovsk-**	**27.75**	**24**	ScP	**ScP**	**02 12 43.4**	**+0.6**
PETK	**Petropavlovsk-**	**27.75**	**24**	ScP	**ScP**	**02 12 43.4**	**+0.6**
	comp=Z,8.6nm,0.8s,baz=160,slow=4.6,SNR=9.1						
QIZ	**Qiongzhong**	**28.74**	**257**	P	**P**	**02 06 45.8**	**-0.3**
QIZ				pP	**pP**	**02 07 58.4**	**-1.1**
QIZ				*s*P	**sP**	**02 08 46.9**	**+0.1**
QIZ				S	**S**	**02 11 03.6**	**-2.0**
QIZ				AMB	AMB		
	comp=Z,120nm,2.9s						
GYA	**Guiyang**	**29.15**	**273**	*i* P	**P**	**02 06 49.8**	**0.0**
GYA				*s*P	**sP**	**02 08 52.0**	**+1.4**
GYA				PcP	**PcP**	**02 09 46.5**	**+1.0**
GYA				S	**S**	**02 11 11.6**	**-0.4**
GYA				ScP	**ScP**	**02 12 47.8**	**-0.1**
GYA				sS	**sS**	**02 13 24.1**	**-3.6**
GYA				PcS	**PcS**	**02 13 28.0**	**-1.1**
GYA				ScS	**ScS**	**02 16 41.8**	**-1.4**
GYA				AMB	AMB		
	comp=Z,30nm,1.0s						
GYA				AMB	AMB		
	comp=Z,50nm,3.3s						
CLNS	**Chul'man**	**29.89**	**344**	*e*P	**P**	**02 06 56.5**	**+0.8**
CLNS				pmax	pmax		
	comp=Z,32nm,0.7s						
CLNS				pmax	pmax		
	comp=N,21nm,0.8s						
CLNS				pmax	pmax		
	comp=E,12nm,0.8s						
MYLDM	**Lahad Datu**	**30.79**	**224**	P	**P**	**02 07 06.1**	**+2.1**
MYLDM	**Lahad Datu**	**30.79**	**224**	P	**P**	**02 07 04.5**	**+0.5**
	comp=E,56nm,1.0s						
MYLDM	**Lahad Datu**	**30.79**	**224**	*e*P	**P**	**02 07 04.5**	**+0.5**
	comp=E,40nm,0.9s						
LZH	**Lanzhou**	**30.85**	**293**	*e*P	**P**	**02 07 04.8**	**+0.3**
LZH				pP	**PP**	**02 08 23.9**	**-0.7**
LZH				PP	pP	02 08 29.0	+11
LZH				*s*P	**sP**	**02 09 09.3**	**+3.6**
LZH				PcP	**PcP**	**02 09 51.3**	**+1.4**
LZH				*e*S	**S**	**02 11 37.5**	**-0.7**
LZH				ScP	**ScP**	**02 12 55.8**	**+2.4**
LZH				sS	sS	02 13 49.3	-5.1
LZH				SS	**SS**	**02 14 04.6**	**-6.8**
LZH				AMB	AMB		
	comp=E,65nm,1.3s						
LZH				AMB	AMB		
	comp=E,190nm,4.8s						
CD2	**Chengdu**	**31.01**	**283**	P	**P**	**02 07 06.0**	**+0.2**
CD2				pP	**pP**	**02 08 21.6**	**+1.8**
CD2				PP	**PP**	**02 08 30.8**	**+4.5**
CD2				*s*P	**sP**	**02 09 08.4**	**+1.4**
CD2				S	**S**	**02 11 40.1**	**-0.5**
CD2				sS	**sS**	**02 13 54.9**	**-1.9**
CD2				SS	**SS**	**02 14 09.8**	**-4.8**
CD2				AMB	AMB		
	comp=E,570nm,0.9s						
SDKM	**Sandakan**	**31.25**	**227**	P	**P**	**02 07 08.5**	**+0.4**
SONM	**Songino Array**	**31.86**	**316**	P	**P**	**02 07 13.4**	**+0.3**
SONM				PcP	**PcP**	**02 09 53.0**	**+0.7**
SONM				ScP	**ScP**	**02 12 58.0**	**+1.5**
SONM	**Songino Array**	**31.86**	**316**	P	**P**	**02 07 13.4**	**+0.3**
	comp=E,31nm,0.9s,baz=121,slow=8.2,SNR=100						
SONM				PcP	**PcP**	**02 09 53.0**	**+0.7**
	comp=E,4.3nm,0.5s,baz=129,slow=2.5,SNR=15						
SONM				ScP	**ScP**	**02 12 58.0**	**+1.5**
	comp=E,7.7nm,0.8s,baz=148,slow=3.3,SNR=20						
TSM	**Tawau**	**31.87**	**224**	P	**P**	**02 07 15.6**	**+2.3**
KMI	**Kunming**	**32.90**	**272**	P	**P**	**02 07 22.6**	**+0.2**
KMI				pP	**pP**	**02 08 38.8**	**+1.8**
KMI				PP	**PP**	**02 08 51.4**	**+4.0**
KMI				S	**S**	**02 12 09.8**	**-0.4**
KMI				AMB	AMB		
	comp=E,87nm,1.0s						
KMI				AMB	AMB		
	comp=E,200nm,3.1s						
YAK	**Yakutsk**	**33.88**	**352**	*d* P	**P**	**02 07 29.5**	**-0.4**
YAK				pmax	pmax		
	comp=Z,111nm,0.9s						
GTA	**Gaotai**	**34.30**	**299**	P	**P**	**02 07 34.1**	**+0.1**
GTA				pP	**pP**	**02 08 51.1**	**+2.1**
GTA				PP	**PP**	**02 09 06.4**	**+4.0**
GTA				*s*P	**sP**	**02 09 38.3**	**+2.2**
GTA				PcP	**PcP**	**02 10 00.3**	**+0.8**
GTA				S	**S**	**02 12 30.0**	**-1.0**
GTA				ScP	**ScP**	**02 13 07.3**	**+2.1**
GTA				sS	**sS**	**02 14 48.4**	**-0.1**
GTA				SS	**SS**	**02 15 16.9**	**-4.1**
GTA				ScS	**ScS**	**02 17 08.3**	**-0.7**
GTA				AMB	AMB		
	comp=Z,89nm,0.9s						
GTA				AMB	AMB		
	comp=Z,110nm,5.9s						
FX1	**Attu Island--F**	**34.52**	**36**	*e*P	**P**	**02 07 36.8**	**+1.2**
FX1	**Attu Island--F**	**34.52**	**36**	P	**P**	**02 07 36.8**	**+1.2**
	comp=Z,42nm,0.8s,baz=80,slow=1.4,SNR=13						
SKNT	**Sakolnakorn**	**34.66**	**258**	P	**P**	**02 07 37.7**	**+0.6**
	comp=Z,61nm,1.1s,comp=Z,3μm						
ZAK	**Zakamensk**	**34.78**	**318**	*i* P	**P**	**02 07 38.2**	**+0.3**
IRK	**Irkutsk**	**35.05**	**322**	*e*P	**P**	**02 07 39.4**	**-0.7**
IRK				pmax	pmax		
	comp=Z,73nm,1.2s						
TLY	**Talaya**	**35.14**	**321**	*d* P	**P**	**02 07 41.2**	**+0.4**
TLY				*e*		02 10 02.0	
TLY				pmax	pmax		
	comp=Z,77nm,1.5s						
SEY	**Seymchan**	**35.17**	**10**	*e*P	**P**	**02 07 41.3**	**+0.5**
BTM	**Bintulu**	**35.77**	**229**	P	**P**	**02 07 47.0**	**+0.4**
CRAI	**Chiangrai**	**36.49**	**265**	P	**P**	**02 07 52.8**	**+0.3**
	comp=Z,35nm,1.1s,comp=Z,411nm						
MOY	**Mondy**	**36.63**	**319**	*e*P	**P**	**02 07 53.9**	**+0.5**
MOY				pmax	pmax		
	comp=Z,39nm,1.6s						
SBUM	**Sibu**	**36.90**	**230**	P	**P**	**02 07 56.2**	**+0.2**
AMKA	**Amchitka**	**37.25**	**42**	*e*P	**P**	**

ADK pmax pmax
comp=Z,58nm,1.1s
ADK Adak 39.77 42 *eP* **P 02 08 18.9 -0.1**
comp=Z,58nm,1.1s
HVS Khovu-Aksy 40.76 316*d iP* **P 02 08 27.7 +0.5**
HVS pmax pmax
comp=Z,563nm,1.4s
KTGM Kuala Trenggan 41.59 243 P **P 02 08 35.9 +1.6**
LSA Lhasa 41.96 283 P **P 02 08 38.8 +1.1**
LSA AMB AMB
comp=Z,30nm,0.6s
LSA Lhasa 41.96 283 *eP* **P 02 08 38.7 +1.1**
LSA pmax pmax
comp=Z,14nm,0.6s
LSA Lhasa 41.96 283 *eP* **P 02 08 38.7 +1.1**
comp=Z,14nm,0.6s
COEN Coen 42.64 175 *eP* **P 02 08 43.0 +0.5**
MYKOM Kota Tinggi 43.31 238 P **P 02 08 48.9 +1.0**
MYKOM Kota Tinggi 43.31 238 *eP* **P 02 08 48.9 +1.0**
comp=Z,38nm,1.3s
TIXI Tiksi 43.31 355*d iP* **P 02 08 46.8 -0.2**
TIXI pmax pmax
comp=Z,43nm,0.9s
KGM Kluang 43.56 239 P **P 02 08 51.3 +1.5**
KULM Kulim 43.58 245 P **P 02 08 50.5 +0.5**
KULM Kulim 43.58 245 P **P 02 08 47.1 -2.9**
comp=Z,68nm,0.8s
KULM Kulim 43.58 245 *eP* **P 02 08 49.8 -0.2**
comp=Z,50nm,0.8s
WMQ Urumqi 43.67 305 P **P 02 08 50.9 +0.4**
WMQ pP **pP 02 10 11.6 +2.2**
WMQ PcP **PcP 02 10 30.4 +1.2**
WMQ PP **PP 02 10 41.9 +0.9**
WMQ sP **sP 02 10 57.3 +2.0**
WMQ S **S 02 14 49.3 -0.1**
WMQ sS **sS 02 17 12.8 +0.8**
WMQ ScS **ScS 02 18 02.3 -1.8**
WMQ AMB AMB
comp=Z,120nm,1.1s
WMQ AMB AMB
comp=Z,300nm,3.6s
IPM Ipoh 43.77 244 P **P 02 08 51.5 0.0**
IPM Ipoh 43.77 244 P **P 02 08 52.0 +0.5**
comp=Z,39nm,0.9s
IPM Ipoh 43.77 244 *eP* **P 02 08 50.9 -0.6**
comp=Z,46nm,1.2s
PKDT Phuket 43.96 250 P **P 02 08 53.7 +0.7**
comp=Z,75nm,0.8s
FRIM Kepong 44.07 242 P **P 02 08 53.4 -0.5**
TAPN Taplejung 45.44 281 *eP* **P 02 09 05.2 +0.5**
comp=Z,43nm,0.5s
ODAN Odare 45.84 281 *eP* **P 02 09 08.1 +0.4**
comp=Z,151nm,0.7s
PSI Prapat 46.45 244 P **P 02 09 11.5 -0.9**
PSI PcP **PcP 02 10 39.3 -0.2**
PSI Prapat 46.45 244 P **P 02 09 11.5 -0.9**
comp=Z,34nm,0.8s,baz=35,slow=3.6,SNR=27
PSI PcP **PcP 02 10 39.3 -0.2**
comp=Z,1.7nm,0.4s,baz=318,slow=0.6,SNR=4.1
RAMN Ramite 46.49 281 *eP* **P 02 09 13.2 +0.4**
comp=Z,207nm,0.9s
ZAA0 Zalesovo Array 46.66 318 *eP* **P 02 09 12.6 -0.7**
ZALV Zalesovo Beam 46.66 318 P **P 02 09 12.8 -0.6**
ZALV 02 10 39.1
ZALV pmax pmax
comp=Z,20nm,0.7s
ZALV pmax pmax
comp=Z,23nm,0.6s
ZALV pmax pmax
comp=N,4.0nm,0.8s
ZALV Zalesovo Beam 46.66 318 P **P 02 09 12.8 -0.6**
ZALV PcP **PcP 02 10 39.1 -0.3**
ZALV ScP **ScP 02 13 53.8 +0.4**
ZALV Zalesovo Beam 46.66 318 P **P 02 09 12.8 -0.6**
comp=N,20nm,0.7s,baz=98,slow=7.6,SNR=87
ZALV PcP **PcP 02 10 39.1 -0.3**
comp=N,23nm,0.6s,baz=112,slow=3.5,SNR=22
ZALV ScP **ScP 02 13 53.8 +0.4**
comp=N,3.6nm,0.8s,baz=108,slow=4.8,SNR=6.0
JIRN Jiri 46.66 282 *eP* **P 02 09 15.1 +0.8**
comp=N,293nm,0.8s
GUN Gumba 46.87 282 *eP* **P 02 09 16.5 +0.7**
comp=N,337nm,0.9s
PKI Pulchoki 47.36 282 *eP* **P 02 09 19.6 +0.1**
comp=N,107nm,0.9s
PKIN Phulchoki 47.37 282 *eP* **P 02 09 19.7 +0.2**
comp=N,41nm,0.8s
KKN Kakani 47.41 282 *eP* **P 02 09 20.1 +0.3**
comp=N,177nm,1.0s
MDSI Maura Dua 47.41 232 P **P 02 09 18.7 -0.9**
comp=N,83nm,1.0s,comp=N,2µm
MK31 Makanchi Array 47.58 309 *eP* **P 02 09 20.4 -0.1**
MK31 *e* 02 10 42.9
MK31 Makanchi Array 47.58 309 *eP* **P 02 09 20.4 -0.1**
MK31 *e*PcP **PcP 02 10 42.9 0.0**
MK31 *e*ScP **ScP 02 13 58.5 +1.0**
MKAR Makanchi Array 47.58 309 P **P 02 09 20.1 -0.4**
MKAR 02 10 42.9
MKAR pmax pmax
comp=Z,34nm,0.7s
MKAR pmax pmax
comp=Z,14nm,0.6s
MKAR pmax pmax
comp=N,3.0nm,0.4s
MKAR Makanchi Array 47.58 309 P **P 02 09 20.1 -0.4**
MKAR PcP **PcP 02 10 42.9 +0.1**
MKAR ScP **ScP 02 13 58.4 +0.9**
MKAR *e*ScP ScP 02 13 58.5 +1.0
MKAR Makanchi Array 47.58 309 P **P 02 09 20.1 -0.4**
comp=N,34nm,0.7s,baz=87,slow=10,SNR=187
MKAR PcP **PcP 02 10 42.9 +0.1**
comp=N,14nm,0.6s,baz=81,slow=7.5,SNR=11
MKAR ScP **ScP 02 13 58.4 +0.9**
comp=N,3.0nm,0.4s,baz=79,slow=4.8,SNR=21
DMN Daman 47.61 282 *eP* **P 02 09 21.6 +0.3**
comp=N,125nm,0.8s
NVS Novosibirsk 47.73 319↓ *iP* **P 02 09 20.0 -1.4**
NVS *i* 02 10 41.3
NVS *e* 02 18 27.3
NVS pmax pmax
comp=Z,78nm,1.5s
NVS pmax pmax
comp=E,51nm,1.4s
GKN Gorkha 47.91 283 *eP* **P 02 09 23.8 +0.3**
comp=E,218nm,1.1s
FITZ Fitzroy Crossi 48.51 198 P **P 02 09 26.5 -1.2**
FITZ Fitzroy Crossi 48.51 198 P **P 02 09 26.5 -1.2**
comp=E,3.2nm,0.7s,baz=7.1,slow=7.7,SNR=12
DANN Dangsing 48.57 284 *eP* **P 02 09 29.4 +0.8**
comp=E,280nm,0.9s
WRAB Tennant Creek 48.69 186↓ *eP* **P 02 09 28.1 -1.0**
WRAB pmax pmax
comp=Z,14nm,0.7s
WRAB Tennant Creek 48.69 186 *eP* **P 02 09 28.1 -1.0**
comp=Z,4.9nm,0.5s
WRAB *e*PcP **PcP 02 10 45.4 -1.8**
WRAB *e*ScP **ScP 02 14 03.2 +0.7**
WRA Warramunga Arr 48.70 186 P **P 02 09 27.6 -1.6**
WRA PcP **PcP 02 10 44.4 -2.8**
WRA ScP **ScP 02 14 03.1 +0.6**
WRA Warramunga Arr 48.70 186 P **P 02 09 27.6 -1.6**
comp=Z,8.6nm,0.3s,baz=4.1,slow=7.5,SNR=34
WRA PcP **PcP 02 10 44.4 -2.8**
comp=Z,31nm,1.2s,baz=2.6,slow=4.0,SNR=11
WRA ScP **ScP 02 14 03.1 +0.6**
comp=Z,19nm,0.9s,baz=0.9,slow=4.4,SNR=27
KOLN Koldanda 48.86 283 *eP* **P 02 09 31.1 +0.5**
comp=Z,136nm,0.8s
CTA Charters Tower 49.02 172 P **P 02 09 29.9 -1.7**
CTA ScP **ScP 02 14 04.2 +0.3**
CTA Charters Tower 49.02 172 P **P 02 09 29.9 -1.7**
comp=Z,4.2nm,0.5s,baz=352,slow=8.5,SNR=6.7
CTA ScP **ScP 02 14 04.2 +0.3**
comp=Z,8.2nm,1.0s,baz=344,slow=5.5,SNR=4.4
CTAO Charters Tower 49.02 172 *eP* **P 02 09 31.0 -0.6**
CTAO Charters Tower 49.02 172 *eP* **P 02 09 31.0 -0.6**
comp=Z,5.2nm,0.6s
KURK Kurchatov 50.12 314*d iP* **P 02 09 39.0 -0.3**
KURK pmax pmax
comp=Z,79nm,1.2s
KURK Kurchatov 50.12 314 P **P 02 09 39.1 -0.3**
SNR=55
KURK Kurchatov 50.12 314 *eP* **P 02 09 39.3 -0.1**
comp=Z,56nm,0.9s
KURK *e*PcP **PcP 02 10 51.5 -0.6**
KURK PcP **PcP 02 10 51.9 -0.1**
KURBB Kurchatov Arra 50.17 314 P **P 02 09 39.2 -0.6**
comp=Z,87nm,0.6s,baz=92,slow=8.3,SNR=195
KURBB PcP **PcP 02 10 51.9 -0.3**
comp=Z,6.2nm,0.8s,baz=84,slow=4.0,SNR=4.3
AS31 Alice Springs 52.43 186 *eP* **P 02 09 55.8 -0.8**
ASAR Alice Springs 52.43 186 P **P 02 09 55.1 -1.5**
ASAR PcP **PcP 02 11 01.6 +0.5**
ASAR ScP **ScP 02 14 19.5 +1.0**
ASAR Alice Springs 52.43 186 P **P 02 09 55.1 -1.5**
comp=Z,2.0nm,0.4s,baz=1.5,slow=5.4,SNR=58
ASAR PcP **PcP 02 11 01.6 +0.5**
comp=Z,4.6nm,0.8s,baz=10,slow=3.7,SNR=16
ASAR ScP **ScP 02 14 19.5 +1.0**
comp=Z,4.8nm,0.8s,baz=6.8,slow=4.4,SNR=16
TKM2 Tokmak 2 52.52 304 *eP* **P 02 09 57.9 +0.5**
TKM2 *e* 02 11 01.4
TKM2 pmax pmax
comp=Z,50nm,1.1s
TKM2 Tokmak 2 52.52 304 P **P 02 09 58.2 +0.9**
SNR=33
TKM2 Tokmak 2 52.52 304 *eP* **P 02 09 57.9 +0.5**
comp=Z,50nm,1.1s
TKM2 *e*PcP **PcP 02 11 01.4 -0.1**
TKM2 *e*ScP **ScP 02 14 19.6 +0.5**
KSH Kashi 52.69 299↓ *iP* P 02 10 03.0 +4.4
KSH PcP **PcP 02 11 04.5 +2.4**
KSH pP pP 02 11 28.9 +7.8
KSH sP sP 02 12 10.6 +4.6
KSH S **S 02 16 59.4 +4.8**
KSH ScS **ScS 02 19 04.3 -0.9**
KSH sS sS 02 19 28.3 +5.7
KSH AMB AMB
comp=Z,47nm,0.9s
KZA Kyzart 52.87 303 *i* P **P 02 10 01.6 +1.4**
KZA Kyzart 52.87 303 P **P 02 10 01.6 +1.4**
SNR=19
KBK Karagaybulak 53.02 303 *i* P **P 02 10 01.7 +0.7**
KBK Karagaybulak 53.02 303 P **P 02 10 01.8 +0.7**
SNR=31
CHMS Chumysh 53.12 304 *i* P **P 02 10 01.8 +0.3**
CHMS Chumysh 53.12 304 P **P 02 10 01.9 +0.3**
SNR=14
SVW2 Sparrevohn 53.16 33 *eP* **P 02 10 02.4 +0.9**
comp=Z,20nm,1.2s
SVW2 *e*ScP **ScP 02 14 22.4 +1.2**
MBWA Marble Bar 53.20 203 *eP* **P 02 10 01.3 -0.9**
comp=Z,14nm,0.8s
FRU Bishkek 53.24 304 *i* P **P 02 10 02.0 -0.4**
FRU pmax pmax
comp=Z,110nm,1.8s
USP Ospenovka 53.27 304 *i* P **P 02 10 02.8 +0.2**
USP Ospenovka 53.27 304 P **P 02 10 02.8 +0.2**
SNR=22
AAK Ala-Archa 53.36 304*d iP* **P 02 10 03.6 +0.3**
AAK pmax pmax
comp=Z,96nm,1.4s
AAK Ala-Archa 53.36 304 P **P 02 10 04.0 +0.6**
SNR=16
AAK Ala-Archa 53.36 304 P **P 02 10 03.7 +0.3**
SNR=23
AAK Ala-Archa 53.36 304 *eP* **P 02 10 03.3 -0.1**
comp=Z,25nm,0.9s
AAK *e*PcP **PcP 02 11 04.5 -0.2**
AAK *e*ScP **ScP 02 14 23.6 +0.9**
AAK Ala-Archa 53.36 304 P **P 02 10 03.4 0.0**
comp=Z,20nm,0.8s,baz=110,slow=5.5,SNR=59
AAK PcP **PcP 02 11 04.7 0.0**
comp=Z,8.4nm,0.6s,baz=81,slow=7.0,SNR=6.2
AAK ScP **ScP 02 14 22.8 +0.1**
comp=Z,1.8nm,0.6s,baz=160,slow=4.9,SNR=4.6
EKS2 Erkin-Say 53.88 304 *eP* **P 02 10 07.3 +0.3**
EKS2 *e* 02 11 07.2
EKS2 pmax pmax
comp=Z,23nm,0.9s
EKS2 Erkin-Say 53.88 304 P **P 02 10 07.4 +0.4**
SNR=19
EKS2 Erkin-Say 53.88 304 *eP* **P 02 10 07.3 +0.3**
comp=Z,23nm,0.9s
EKS2 *e*PcP **PcP 02 11 07.2 +0.6**
EKS2 *e*ScP **ScP 02 14 25.6 +0.7**
AML Almayashu 54.01 303 *i* P **P 02 10 09.4 +1.1**
AML Almayashu 54.01 303 P **P 02 10 09.5 +1.1**
SNR=6.1
THN Thein Dam 54.31 291 *eP* **P 02 10 07.4 -2.7**
KDAK Kodiak Island 54.45 38 *eP* **P 02 10 10.7 +0.1**
comp=Z,11nm,0.8s
RSO Redoubt South 54.48 34 *eP* **P 02 10 12.6 +1.5**
RSO *e*ScP **ScP 02 14 29.8 +2.5**
IMA2 Indian Mountai 54.66 27 *eP* **P 02 10 12.6 +0.4**
IMA2 *e*PcP **PcP 02 11 10.4 +1.2**
IMA2 *e*ScP **ScP 02 14 29.0 +1.1**
VOSK Vostochnaya 54.86 316 *eP* **P 02 10 13.5 -0.2**
VOSK pmax pmax
comp=Z,81nm,0.8s
VOSK Vostochnaya 54.86 316 *eP* **P 02 10 13.5 -0.2**
comp=Z,81nm,0.8s
SPU Mount Spurr 54.87 33 *eP* **P 02 10 15.0 +1.3**
SPU *e*ScP **ScP 02 14 29.8 +1.0**
PPLA Purkeypile 54.93 31 *eP* **P 02 10 15.5 +1.3**
comp=Z,5.2nm,0.8s
CAST Castle Rocks 55.03 31 *eP* **P 02 10 15.7 +1.0**
comp=Z,4.2nm,0.8s
BVA0 Borovoye Array 55.20 317 P **P 02 10 15.9 -0.2**
BVA0 pmax pmax
comp=Z,114nm,0.9s
BVAR Borovoye Array 55.20 317 P **P 02 10 16.3 +0.2**
BVAR 02 11 11.7
BVAR S **S 02 17 26.9 -0.3**
BVAR pmax pmax
comp=Z,63nm,0.8s
BVAR pmax pmax
comp=Z,26nm,0.7s
BVAR Borovoye Array 55.20 317 P **P 02 10 16.3 +0.2**
BVAR PcP **PcP 02 11 11.7 +0.3**
BVAR S **S 02 17 26.9 -0.3**
BVAR Borovoye Array 55.20 317 P **P 02 10 16.3 +0.2**
comp=Z,66nm,0.8s,baz=92,slow=8.7,SNR=46
BVAR PcP **PcP 02 11 11.7 +0.3**
comp=Z,26nm,0.7s,baz=85,slow=3.6,SNR=10
BVAR S **S 02 17 26.9 -0.3**
comp=Z,0.4nm,0.4s,baz=91,slow=13.3,SNR=3.9
BRVK Borovoye 55.26 317*d iP* **P 02 10 16.6 +0.1**
BRVK pmax pmax
comp=Z,106nm,0.9s
BRVK Borovoye 55.26 317 P **P 02 10 16.9 +0.4**
SNR=38
BRVK Borovoye 55.26 317 *eP* **P 02 10 16.6 +0.1**
comp=Z,92nm,0.9s
BRVK *e*PcP **PcP 02 11 12.0 +0.4**
BPAW Bear Paw Mtn. 55.57 30 *eP* **P 02 10 19.7 +1.2**
comp=Z,3.3nm,0.7s
BPAW *e*PcP **PcP 02 11 12.4 -0.2**
BPAW *e*ScP **ScP 02 14 33.1 +1.4**
TRF Thorofare Moun 55.83 31 *eP* **P 02 10 21.4 +0.8**
comp=Z,6.1nm,1.1s
RC01 Rabbit Creek A 55.99 34 *eP* **P 02 10 21.5 0.0**
comp=Z,5.1nm,0.5s
KK31 Karatay Array 56.18 305 *i* P **P 02 10 23.4 +0.2**
KK31 pmax pmax
comp=Z,59nm,0.6s
KKAR Karatay Array 56.18 305 *eP* **P 02 10 23.6 +0.4**
KKAR pmax pmax
comp=Z,51nm,0.6s
KKAR Karatay Array 56.18 305 *eP* **P 02 10 23.6 +0.4**
comp=Z,51nm,0.6s
MCK McKinley 56.45 30 *eP* **P 02 10 25.5 +0.8**
MCK pmax pmax
comp=Z,12nm,0.9s
MCK McKinley 56.45 30 *eP* **P 02 10 25.5 +0.8**
comp=Z,12nm,0.9s
MCK *e*ScP **ScP 02 14 35.8 +0.1**
HYB Hyderabad 56.68 273 *iP* **P 02 10 26.0 -1.0**
COLA College 56.97 29 *eP* **P 02 10 29.1 +0.9**
COLA pmax pmax
comp=Z,26nm,0.6s
COLA College 56.97 29 *eP* **P 02 10 29.1 +0.9**
comp=Z,26nm,0.6s
ILAR Eielson Array 57.38 29 P **P 02 10 30.4 -0.7**
ILAR ScP **ScP 02 14 39.9 +0.2**
ILAR S **S 02 17 57.0 +1.8**
ILAR Eielson Array 57.38 29 P **P 02 10 30.4 -0.7**
comp=Z,3.0nm,0.9s,baz=288,slow=6.3,SNR=39
ILAR ScP **ScP 02 14 39.9 +0.2**
comp=Z,0.5nm,0.6s,baz=247,slow=4.6,SNR=5.1
ILAR S **S 02 17 57.0 +1.8**
comp=Z,0.2nm,0.8s,baz=137,slow=27,SNR=4.2
PAX Paxson 58.01 31 *eP* **P 02 10 35.5 0.0**
PAX *e* 02 11 23.0
PAX pmax pmax
comp=Z,6.0nm,1.0s
PAX Paxson 58.01 31 *eP* **P 02 10 35.5 0.0**
comp=Z,5.8nm,1.0s
PAX *e*PcP **PcP 02 11 23.0 +0.7**
PAX *e*ScP **ScP 02 14 43.8 +1.1**
BMRM Bremner River 58.49 34 *eP* **P 02 10 39.6 +0.8**
comp=Z,22nm,1.2s
BMRM *e*ScP **ScP 02 14 46.9 +2.1**
DOT Dot Lake 58.62 31 *eP* **P 02 10 39.6 0.0**
comp=Z,11nm,0.9s
DOT *e*ScP **ScP 02 14 44.0 -1.3**
MENT Mentasta 58.81 31 *eP* **P 02 10 41.9 +1.0**
KBL Kabul 59.16 295 *eP* **P 02 10 43.5 -0.5**
KBL pmax pmax
comp=Z,55nm,1.3s
KBL Kabul 59.16 295 *eP* **P 02 10 43.5 -0.5**
comp=Z,55nm,1.3s
PALK Pallekele 59.26 261 P **P 02 10 44.5 -0.2**
PALK Pallekele 59.26 261 *eP* **P 02 10 44.8 +0.1**
comp=Z,20nm,0.9s
MSVF Nonsavu 59.38 136 *eP* **P 02 10 43.3 -2.1**
MSVF pmax pmax
comp=Z,10.0nm,0.9s
MSVF Nonsavu 59.38 136 *eP* **P 02 10 43.3 -2.1**
comp=Z,10.0nm,0.9s
EGAK Eagle 59.83 29 *eP* **P 02 10 47.6 -0.1**
comp=Z,102nm,2.5s
STKA Stephens Creek 60.36 178 P **P 02 10 50.2 -1.4**
STKA ScP **ScP 02 14 52.6 -0.6**
STKA Stephens Creek 60.36 178 P **P 02 10 50.2 -1.4**
comp=Z,3.6nm,0.7s,baz=339,slow=8.1,SNR=12
STKA ScP **ScP 02 14 52.6 -0.6**
comp=Z,1.6nm,0.8s,baz=350,slow=10,SNR=3.0
SVE Sverdlovsk 60.44 322*c iP* **P 02 10 52.4 +0.4**
SVE pmax pmax
comp=Z,114nm,0.8s
DAWY Dawson 60.66 30 *eP* **P 02 10 54.0 +0.6**
ARU Arti 61.64 321*d iP* **P 02 10 59.8 -0.1**
ARU 02 11 33.3
ARU 02 13 20.4
ARU S **S 02 18 50.6 +1.3**
ARU pmax pmax
comp=Z,174nm,1.0s
HYT Haines Junctio 61.95 33 *eP* **P 02 11 04.0 +1.9**
SOKR Solikamsk 62.03 325*d iP* **P 02 11 02.5 +0.2**
SOKR pmax pmax
comp=Z,110nm,1.3s
AB31 Akbulak array 62.22 313 *i* P **P 02 11 03.6 -0.3**
AB31 pmax pmax
comp=Z,54nm,0.6s
ABKAR Akbulak array 62.22 313 *eP* **P 02 11 03.8 -0.1**
ABKAR *e*PcP **PcP 02 11 37.2 -2.3**
AKTO Aktyubinsk 63.17 315 P **P 02 11 08.1 -2.0**
AKTO 02 11 40.6
AKTO pmax pmax
comp=Z,46nm,0.7s
AKTO pmax pmax
comp=Z,13nm,0.7s
AKTO Aktyubinsk 63.17 315 P **P 02 11 08.1 -2.0**
AKTO PcP **PcP 02 11 40.6 -2.8**
AKTO Aktyubinsk 63.17 315 P **P 02 11 08.1 -2.0**
comp=Z,46nm,0.7s,baz=88,slow=7.6,SNR=154
AKTO PcP **PcP 02 11 40.6 -2.8**
comp=Z,13nm,0.7s,baz=14,slow=1.5,SNR=4.4
AFI Afiamalu 63.38 125 *eP* **P 02 11 12.1 +0.2**
comp=Z,52nm,1.1s
NWAO Narrogin (SRO) 64.92 201 P **P 02 11 20.5 -0.8**
NWAO Narrogin (SRO) 64.92 201 P **P 02 11 20.5 -0.8**
comp=Z,16nm,0.9s,baz=25,slow=5.6,SNR=6.2
IMYA Miami 65.61 299 *eP* **P 02 11 27.1 +0.9**
IMOG Moghan 66.27 299 *eP* **P 02 11 30.8 +0.3**
IEMG Emamgholi 66.37 301 *eP* **P 02 11 31.7 +0.7**
IAKL Akhelmad 66.56 300 *eP* **P 02 11 32.9 +0.7**
IKRD Kardeh 66.68 300 *eP* P 02 11 29.5 -3.4
ISFR Sfrayin 66.98 301 *eP* **P 02 11 35.7 +0.9**
IDAH Dahanechah 67.00 296 *eP* **P 02 11 35.5 +0.5**
IKOO Kooshah 67.79 296 *eP* **P 02 11 40.4 +0.5**
LVZ Lovozero 69.01 337↑ *eP* **P 02 11 46.6 +0.2**
LVZ pmax pmax
comp=Z,39nm,0.9s
TMCR Tamitsa 69.26 333 *eP* **P 02 11 48.3 +0.4**
TMCR *e* 02 14 29.5
TMCR pmax pmax
comp=Z,84nm,0.8s
APA Apatity 69.58 337↑ *iP* **P 02 11 50.0 +0.2**
APA pmax pmax
comp=Z,98nm,0.8s
APA MLR MLR
comp=Z,600nm,17.0s
KLMR Klimovskoe 69.93 329*d iP* **P 02 11 51.9 -0.1**
KLMR pmax pmax
comp=Z,40nm,0.5s
KEV Kevo 70.60 340 *eP* **P 02 11 56.5 +0.6**
KEV pmax pmax
comp=Z,71nm,0.7s
KEV Kevo 70.60 340 *eP* **P 02 11 56.5 +0.6**
comp=Z,70nm,0.7s
RAO Raoul Island 70.61 141 *eP* **P 02 11 56.2 -0.3**
IANJ Anjilo 70.63 300 *eP* **P 02 11 57.5 +0.5**
IBAF Bafgh 70.81 296 *eP* **P 02 11 58.2 +0.1**
RES Resolute Bay 70.97 13 *eP* **P 02 11 58.8 +0.8**
comp=Z,16nm,0.8s
ISHM Shahmirzad 70.97 301 *eP* **P 02 12 00.4 +1.3**
ARCES ARCESS Array B 71.16 340 P **P 02 11 59.9 +0.7**
ARCES ARCESS Array B 71.16 340 P **P 02 11 59.9 +0.7**
comp=Z,62nm,0.5s,baz=68,slow=8.4,SNR=310
ARE0 ARCESS Array S 71.16 340 *eP* **P 02 12 00.1 +0.8**
ILAS Lasjerd 71.38 301 *eP* **P 02 12 02.0 +0.5**
IFIR Firoozkooh 71.44 301 *eP* **P 02 12 02.6 +0.7**
ICHK Chekchek 71.47 297 *eP* **P 02 12 01.8 -0.3**
IMEH Mehriz 71.64 296 *eP* **P 02 12 02.2 -0.9**
YKW3 Yellowknife Ar 71.74 28 *eP* **P 02 12 03.1 +0.4**
comp=Z,0.3nm,1.2s
YKA Yellowknife Ar 71.77 28 P **P 02 12 03.0 +0.1**
YKA Yellowknife Ar 71.77 28 P **P 02 12 03.0 +0.1**
comp=Z,2.1nm,0.6s,baz=298,slow=6.0,SNR=8.4
IDMV Damavand 72.01 301 *eP* **P 02 12 05.4 +0.2**
ISAD Sadrabad 72.16 297 *eP* **P 02 12 06.0 -0.2**
ISFB Sefidab 72.32 300 *eP* **P 02 12 06.9 0.0**
IVRN Varamin 72.46 301 *eP* **P 02 12 07.6 0.0**
JOF Joensuu 72.52 333 *eP* **P 02 12 07.3 0.0**
JOF pmax pmax
comp=Z,146nm,0.6s
JOF Joensuu 72.52 333 *ep* **P 02 12 07.3 0.0**
comp=Z,146nm,0.6s
VRHR Novokhopersk 72.79 319 *eP* **P 02 12 08.4 -0.7**
VRHR pmax pmax
comp=N,30nm,0.7s
VRHR pmax pmax
comp=E,30nm,0.7s
VRHR pmax pmax
comp=Z,250nm,0.7s
IR3 Iran Long-Peri 72.80 301 *eP* **P 02 12 10.0 +0.4**
IZEF Zefreh 72.83 298 *eP* **P 02 12 10.5 +0.5**
MOS Moscow 72.97 325κ *iP* **P 02 12 09.6 -0.5**
MOS pmax pmax
comp=Z,217nm,1.1s
MOS pmax pmax
comp=Z,300nm,1.2s
TRO Tromso 73.00 342 *eP* **P 02 12 10.2 +0.2**
TRO AMB AMB 02 12 13.3
comp=Z,148nm,1.6s
IGZV Ghazvin 73.04 302 *eP* **P 02 12 11.9 +0.7**
ASHO Ashiyiah 73.14 289 P **P 02 12 12.3 +0.6**
SNR=6.6
IKLH Kolahrood 73.24 299 *eP* **P 02 12 12.9 +0.5**
ARQ Araqi 73.31 288 P **P 02 12 13.3 +0.7**
SNR=9.6
IPAR Pars 73.49 295 *eP* **P 02 12 13.8 -0.2**
IRAZ Razeghan 73.65 302 *eP* **P 02 12 14.5 -0.2**
OBN Obninsk 73.79 324↓ *iP* **P 02 12 14.8 0.0**
OBN *i* 02 12 29.0
OBN pmax pmax
comp=Z,187nm,0.9s
DAG Danmarks Havn 73.83 355 *eP* **P 02 12 14.2 -0.4**
DAG pmax pmax
comp=Z,18nm,1.0s
DAG Danmarks Havn 73.83 355 *i* P **P 02 12 14.2 -0.4**
comp=Z,18nm,1.0s

VSR	**Storozhevoye**	74.14	320	*e*P		P		02 12 16.9	0.0
VSR				pmax		pmax			
	comp=N,100nm,0.9s								
VSR				pmax		pmax			
	comp=E,140nm,0.9s								
VSR				pmax		pmax			
	comp=Z,240nm,0.9s								
VORD	**Divnogorie**	74.18	320	*e*P		P		02 12 17.1	0.0
VORD				pmax		pmax			
	comp=E,60nm,0.6s								
VORD				pmax		pmax			
	comp=Z,100nm,0.6s								
ISRB	**Sarab**	74.33	305	*e*P		P		02 12 18.5	0.0
DGRG	**David-gareji**	74.44	309	P		P		02 12 19.6	+0.7
GOF	**Gofitskoye**	74.46	313	*e*P		P		02 12 19.3	+0.4
PUL	**Pulkovo**	74.51	330⇑	*e*P		P		02 12 19.2	+0.4
PUL				pmax		pmax			
	comp=Z,117nm,1.0s								
IHRS	**Heris**	74.57	305	*e*P		P		02 12 19.9	0.0
GUDG	**Gudauri**	74.62	310	P		P		02 12 20.8	+0.7
TBLG	**Delisi**	74.75	309	P		P		02 12 21.1	+0.5
NCK	**Nalchik**	74.77	311⇓	*e*P		P		02 12 21.0	+0.3
ZEI	**Tsey**	74.87	311	*e*P		P		02 12 20.8	-0.7
ZEI				pmax		pmax			
	comp=Z,77nm,0.8s								
KAF	**Kangasniemi**	74.92	333	*e*P		P		02 12 20.9	-0.2
KAF				pmax		pmax			
	comp=Z,76nm,0.6s								
KAF	**Kangasniemi**	74.92	333	*e*p		P		02 12 20.9	-0.2
	comp=Z,76nm,0.6s								
KBZ	**Khabaz**	75.13	312	P		P		02 12 23.3	+0.7
KBZ				pmax		pmax			
	comp=Z,149nm,0.8s								
KBZ	**Khabaz**	75.13	312	P		P		02 12 23.3	+0.7
KBZ	**Khabaz**	75.13	312	P		P		02 12 23.3	+0.7
	comp=Z,149nm,0.8s,baz=94,slow=3.8,SNR=316								
KIV	**Kislovodsk**	75.17	312⇓	*i*P		P		02 12 23.4	+0.4
KIV				*i*				02 12 32.0	
KIV				*e**PP		pP		02 13 51.1	-1.7
KIV				pmax		pmax			
	comp=Z,169nm,0.9s								
ONI	**Oni**	75.25	311	P		P		02 12 24.5	+1.1
IMRD	**Marand**	75.36	306	*e*P		P		02 12 24.3	0.0
FIA1	**FINESS Array S**	75.38	333	*e*P		P		02 12 23.5	-0.1
FINES	**FINESS Array B**	75.38	333	P		P		02 12 23.8	+0.1
FINES	**FINESS Array B**	75.38	333	P		P		02 12 23.8	+0.1
	comp=Z,65nm,0.6s,baz=69,slow=5.3,SNR=650								
GNI	**Garni**	75.42	308	P		P		02 12 25.9	+1.4
	SNR=25								
GNI	**Garni**	75.42	308	*e*P		P		02 12 25.4	+0.9
	comp=Z,60nm,1.0s								
AKH	**Akhalkalaki**	75.73	309	P		P		02 12 27.5	+1.1
B08A	**Colville Reser**	75.89	42	*e*P		P		02 12 27.4	+0.5
	comp=Z,6.6nm,0.9s								
IKOM	**Komasi**	75.97	301	*e*P		P		02 12 26.9	-0.9
EAK	**Akyaka**	75.97	309	*i*P		P		02 12 28.5	+0.8
ILIN	**Lien**	76.06	302	*e*P		P		02 12 27.8	-0.6
EPOS	**Posof**	76.21	310	*i*P		P		02 12 24.0	-5.0
DIGO	**Kars**	76.25	309	*i*P		P		02 12 29.9	+0.6
IVIS	**Veis**	76.31	302	*e*P		P		02 12 29.0	-0.6
MOR8	**Moi Rana**	76.54	340	*e*P		P		02 12 29.0	-1.1
MOR8				AMB		AMB		02 12 29.8	
	comp=Z,124nm,0.7s								
IDHR	**Dehrash**	76.58	302	*e*P		P		02 12 30.2	-1.0
IGHG	**Ghaleghazi**	76.61	302	*e*P		P		02 12 30.7	-0.7
FLOS	**Flostrand**	76.74	340	*e*P		P		02 12 31.2	0.0
VSU	**Vasula**	76.77	330*d*	*i*P		P		02 12 31.6	+0.2
VSU				pmax		pmax			
	comp=Z,550nm,1.2s								
ARTV	**Artvin**	76.89	310	*i*P		P		02 12 33.3	+0.5
DAGI	**Agillar**	76.95	310	*i*P		P		02 12 33.0	0.0
DBOC	**Borcka**	77.00	310	*i*P		P		02 12 33.7	+0.5
NEW	**Newport**	77.24	42	*e*P		P		02 12 35.1	+0.7
	comp=Z,9.9nm,1.1s								
NEW	**Newport**	77.24	42	⇑P		P		02 12 36.2	+1.8
	baz=77								
SOC	**Sochi**	77.26	313*d*	*i*P		P		02 12 34.4	-0.1
SOC				*e*				02 12 41.6	
SOC				*e**PP		pP		02 14 03.2	-1.7
SOC				*e*S		S		02 21 50.0	0.0
SOC				*e*SSS		SSS		02 30 20.3	
SOC				pmax		pmax			
	comp=Z,98nm,0.6s								
E09A	**Wood Farm, Sta**	77.47	44	*e*P		P		02 12 36.6	+1.0
	comp=Z,21nm,1.4s								
EKAR	**Karacoban**	77.67	308	*i*P		P		02 12 38.6	+1.5
RPZ	**Rata Peaks**	77.73	157	P		P		02 12 36.7	-0.1
RPZ	**Rata Peaks**	77.73	157	P		P		02 12 36.7	-0.1
	comp=Z,15nm,0.8s,baz=0.8,slow=18,SNR=3.0								
RBK	**Rabkut**	77.78	283	P		P		02 12 37.6	-0.2
	SNR=5.8								
ERZM	**Erzurum**	77.85	309	*i*P		P		02 12 39.1	+0.9
KBD	**Kabd**	78.00	297	*e*P		P		02 12 38.6	-0.2
KBD				AMb		AMB		02 12 40.0	
	comp=Z,63nm,1.3s								
ANN	**Anapa**	78.13	315⇑	*i*P		P		02 12 38.6	-0.6
ANN				*e**PP		pP		02 14 03.9	-5.9
ANN				*e*S		S		02 21 56.7	-2.5
ANN				pmax		pmax			
	comp=Z,177nm,1.3s								
RDF	**Al-Radifah**	78.22	296	*e*P		P		02 12 40.1	+0.1
RDF				AMb		AMB		02 12 41.3	
	comp=Z,135nm,1.4s								
SIRN	**S¨¨rnak**	78.22	306	*i*P		P		02 12 40.0	0.0
MOD	**Modoc**	78.29	49	*e*P		P		02 12 41.2	+0.8
	comp=Z,30nm,1.3s								
NAY	**Al-Naaiem**	78.32	297	*e*P		P		02 12 40.0	-0.5
NAY				AMb		AMB		02 12 42.1	
	comp=Z,137nm,1.3s								
KOPT	**Kop Dagi**	78.39	309	*i*P		P		02 12 41.3	+0.2
RST	**Umm Al-Ruwaisa**	78.40	297	*e*P		P		02 12 40.3	-0.6
RST				AMb		AMB		02 12 41.6	
	comp=Z,1μm,1.1s								
NSS	**Namsos**	78.42	340	*e*P		P		02 12 40.1	-0.3
NSS				AMB		AMB		02 12 40.9	
	comp=Z,62nm,0.8s								
BNGL	**BINGOL**	78.44	308	*i*P		P		02 12 42.3	+1.0
MICGM	**Minsk**	78.44	326⇓	*i*P		P		02 12 34.0	-6.7
MNK	**Minsk**	78.46	326⇓	*i*P		P		02 12 34.0	-6.8
ISAL	**Salakas**	78.67	328	*e*P		P		02 12 42.5	+0.6
ISAL				AMB		AMB		02 12 43.6	
	comp=Z,72nm,0.9s								
NACGM	**Naroch**	78.75	327	*e*P		P		02 12 40.0	-2.3
IIGN	**Ignalina**	78.75	328	*e*P		P		02 12 42.3	-0.1
IIGN				AMB		AMB		02 12 43.4	
	comp=Z,40nm,1.0s								
J08A	**Circle Bar Ran**	78.78	47	*e*P		P		02 12 43.7	+0.8
	comp=Z,74nm,2.3s								
BMO	**Blue Mountains**	78.79	45	*e*P		P		02 12 43.3	+0.3
BMO				pmax		pmax			
	comp=Z,6.0nm,1.2s								
BMO	**Blue Mountains**	78.79	45	*e*P		P		02 12 43.3	+0.3
	comp=Z,6.3nm,1.2s								
SUMG	**Summit**	78.90	359	*e*P		P		02 12 44.2	+0.9
SUMG				pmax		pmax			
	comp=Z,22nm,0.8s								
SUMG	**Summit**	78.90	359	*i*P		P		02 12 44.3	+0.9
	comp=Z,24nm,0.8s								
SUMG	**Summit**	78.90	359	*e*P		P		02 12 44.2	+0.9
	comp=Z,22nm,0.8s								
EUZM	**Uzumlu**	79.08	309	*i*P		P		02 12 45.5	+0.9
KELT	**Kelkit**	79.17	310	*i*P		P		02 12 46.1	+0.9
BEKR	**Beckworth**	79.22	50	*e*P		P		02 12 46.0	+0.6
	comp=Z,5.1nm,0.9s								
GRSN	**GIRESUNGRSN**	79.46	311	*i*P		P		02 12 45.6	-0.9
KBSD	**Kabsdagh**	79.78	307	*i*P		P		02 12 44.5	-3.7
MSO	**Missoula**	79.82	42	⇓P		P		02 12 49.3	+0.9
	baz=80								
AKASG	**Malin Array Be**	79.85	323	P		P		02 12 48.0	-0.3
AKASG				pmax		pmax			
	comp=Z,58nm,0.7s								
AKASG	**Malin Array Be**	79.85	323	P		P		02 12 48.0	-0.3
AKASG	**Malin Array Be**	79.85	323	P		P		02 12 48.0	-0.3
	comp=Z,56nm,0.7s,baz=49,slow=6.0,SNR=221								
KIEV	**Kiev**	79.87	323*d*	*i*P		P		02 12 48.1	-0.3
KIEV	**Kiev**	79.87	323	*e*P		P		02 12 48.2	-0.2
	comp=Z,70nm,0.7s								
TBLU	**Trondheim**	79.87	339	*e*P		P		02 12 47.3	-0.8
TBLU				AMB		AMB		02 12 48.1	
	comp=Z,51nm,0.7s								
SLMT	**Seeley Lake**	79.87	41	*e*P		P		02 12 48.9	+0.2
PAHR	**Pah Rah Range**	79.95	50	*e*P		P		02 12 49.6	+0.3
	comp=Z,7.1nm,1.0s								
CMB	**Columbia Colle**	80.07	52	*e*P		P		02 12 49.7	-0.1
CMB				*e*				02 14 21.5	
CMB				pmax		pmax			
	comp=Z,7.0nm,0.9s								
CMB	**Columbia Colle**	80.07	52	*e*P		P		02 12 49.7	-0.1
	comp=Z,6.7nm,0.9s								
CMB				*e*				02 14 21.5	
SIM	**Simferopol'**	80.11	316*d*	*i*P		P		02 12 56.6	+6.8
SIM				pmax		pmax			
	comp=Z,104nm,0.9s								
KEMA	**Kemaliye**	80.11	309	*i*P		P		02 12 51.0	+1.0
MALT	**Malatya**	80.62	309	⇑P		P		02 12 54.4	+1.6
MALT	**Malatya**	80.62	309	⇑P		P		02 12 54.4	+1.6
SCER	**sogukcermik**	80.74	310	*i*P		P		02 12 54.1	+0.7
TOKA	**Tokat**	80.94	311	*i*P		P		02 12 54.6	+0.3
SUW	**Suwalki**	80.97	328	*e*P		P		02 12 53.8	-0.4
SUW	**Suwalki**	80.97	328	*e*P		P		02 12 53.8	-0.4
	comp=Z,219nm,0.8s								
SUW	**Suwalki**	80.97	328	*e*P		P		02 12 53.7	-0.4
AKCD	**Akcadag**	80.97	309	*i*P		P		02 12 55.7	+1.1
HAVZ	**Havza**	81.07	312	*i*P		P		02 12 55.7	+0.7
ATAB	**Bozova**	81.12	308	*i*P		P		02 12 56.0	+0.7
DOMB	**Dombas**	81.13	339	*e*P		P		02 12 55.2	+0.3
DOMB				AMB		AMB		02 12 58.0	
	comp=Z,41nm,1.6s								
NB2	**NORSAR Subarra**	81.16	337	P		P		02 12 54.6	-0.4
	comp=Z,39nm,0.7s,baz=44,slow=5.3								
NB2	**NORSAR Subarra**	81.16	337	P		P		02 12 54.6	-0.4
	baz=44,slow=5.3								
NOA	**NORSAR Array B**	81.16	337	P		P		02 12 54.5	-0.6
NOA				PP		PP		02 16 05.2	-1.1
NOA	**NORSAR Array B**	81.16	337	P		P		02 12 54.5	-0.6
	comp=Z,32nm,0.7s,baz=48,slow=5.3,SNR=163								
NOA				PP		PP		02 16 05.2	-1.1
	comp=Z,6.7nm,0.9s,baz=46,slow=7.7,SNR=9.1								
MOL	**Molde**	81.21	340	*e*P		P		02 12 55.6	+0.4
MOL				AMB		AMB		02 12 56.2	
	comp=Z,66nm,1.3s								
LRM	**Limekiln Ridge**	81.23	42	*e*P		P		02 12 56.5	+0.5
HLID	**Hailey**	81.24	45	*e*P		P		02 12 57.0	+1.0
	comp=Z,58nm,3.0s								
HLID	**Hailey**	81.24	45	⇓P		P		02 12 56.9	+1.0
	baz=81								
NVAR	**Mina Array Bea**	81.31	51	P		P		02 12 57.2	+0.7
NVAR	**Mina Array Bea**	81.31	51	P		P		02 12 57.2	+0.7
	comp=Z,5.4nm,0.8s,baz=282,slow=5.5,SNR=52								
NAO01	**NORSAR Array S**	81.41	337	*e*P		P		02 12 55.9	-0.4
	comp=Z,39nm,0.9s								
FFC	**Flin Flon**	81.53	31	*e*P		P		02 12 56.6	-0.5
FFC				pmax		pmax			
	comp=Z,13nm,0.9s								
FFC	**Flin Flon**	81.53	31	*e*P		P		02 12 56.6	-0.5
	comp=Z,13nm,0.9s								
EGMT	**Eagleton**	81.58	39	*e*P		P		02 12 58.6	+1.1
	comp=Z,7.1nm,0.8s								
EGMT	**Eagleton**	81.58	39	⇑P		P		02 12 58.8	+1.3
	baz=82								
GZT	**Gaziantep**	81.69	308	*i*P		P		02 12 59.3	+0.9
B19A	**Brinkman Farms**	81.78	39	⇓P		P		02 12 59.0	+0.5
	baz=82,SNR=6.3								
PINB	**Pinarbasi**	81.82	310	*i*P		P		02 12 60.0	+0.8
CTKT	**Corum**	81.90	312	*i*P		P		02 12 60.0	+0.5
JHLN	**Al Jahlan**	81.90	306	*i*P		P		02 12 58.2	-1.1
ILULI	**Ilulissat**	81.98	4	*e*P		P		02 12 59.7	+0.7
ILULI				pmax		pmax			
	comp=Z,21nm,0.9s								
FCC	**Fort Churchill**	82.10	25	*e*P		P		02 13 00.7	+0.9
FCC	**Fort Churchill**	82.10	25	*e*P		P		02 13 00.7	+0.9
	comp=Z,2.0nm,1.5s								
KIS	**Kishinev**	82.13	320	⇓P		P		02 13 00.3	0.0
KIS	**Kishinev**	82.13	320	⇓P		P		02 13 00.3	0.0
C19A	**Slack Wire Ran**	82.13	39	⇓P		P		02 13 01.0	+0.7
	baz=82								
AYKD	**Aykdinkavak**	82.18	308	*i*P		P		02 13 01.3	+0.5
ELK	**Elko**	82.18	48	*e*P		P		02 13 02.0	+1.0
	comp=Z,4.3nm,1.1s								
RAYN	**Ar Rayn**	82.31	292	*e*P		P		02 13 02.2	+0.4
	comp=Z,147nm,1.4s								
QLMT	**Earthquake Lak**	82.38	43	*e*P		P		02 13 03.5	+1.6
	comp=Z,0.6nm,0.6s								
ANDN	**Andirin**	82.41	309	*i*P		P		02 13 02.8	+0.8
D19A	**Cripps Ranch,**	82.55	40	⇑P		P		02 13 03.7	+1.1
	baz=82,SNR=10.0								
A21A	**Bergtoll Ranch**	82.57	38	⇑P		P		02 13 03.1	+0.6
	baz=82								
ISA	**Isabella**	82.57	53	⇓P		P		02 13 02.0	-0.9
	baz=82								
HYA	**Hoyanger**	82.70	339	*e*P		P		02 13 03.0	+0.1
HYA				AMB		AMB		02 13 05.0	
	comp=Z,74nm,1.4s								
KONO	**Kongsberg**	82.72	337	*e*P		P		02 13 02.4	-0.6
KONO				AMB		AMB		02 13 06.1	
	comp=Z,33nm,1.6s								
KONO	**Kongsberg**	82.72	337⇓	*e*P		P		02 13 02.4	-0.6
KONO				pmax		pmax			
	comp=Z,206nm,1.7s								
IAS	**Iasi**	82.73	320	⇑P		P		02 13 03.7	+0.4
IAS	**Iasi**	82.73	320	⇑P		P		02 13 03.7	+0.4
AVNT	**Avonos**	82.81	310	*i*P		P		02 13 04.3	+0.2
B21A	**Ellsworth Farm**	82.85	38	⇓P		P		02 13 04.3	+0.3
	baz=83,SNR=5.5								
E19A	**Rath Farm, Rou**	83.00	40	⇓P		P		02 13 05.8	+0.9
	baz=83,SNR=10.0								
D20A	**Manuel Ranch,**	83.01	40	⇑P		P		02 13 06.0	+1.2
	baz=83,SNR=10								
COBT	**Iskenderun**	83.01	308	*i*P		P		02 13 05.4	+0.2
MPMC	**Manual Prospec**	83.06	53	⇑P		P		02 13 04.5	-1.0
	baz=83,SNR=5.3								
LVV	**L'vov**	83.09	324	*e*P		P		02 13 04.8	-0.3
A22A	**Carney Farms,**	83.10	37	⇓P		P		02 13 04.5	-0.7
	baz=83								
BR131	**Keskin Array S**	83.12	312	*e*P		P		02 13 05.8	+0.1
	comp=Z,31nm,0.8s								
BRTR	**Keskin Array B**	83.12	312	P		P		02 13 05.5	-0.2
BRTR	**Keskin Array B**	83.12	312	P		P		02 13 05.5	-0.2
	comp=Z,41nm,0.8s,baz=103,slow=3.9,SNR=228								
H17A	**Grant Village**	83.12	43	⇑P		P		02 13 05.0	-0.7
	baz=83								
TLCR		83.15	318	⇑P		P		02 13 06.0	+0.5
TLCR		83.15	318	⇑P		P		02 13 06.0	+0.5
C21A	**Desert Coulee**	83.16	39	⇑P		P		02 13 05.3	-0.2
	baz=83								
R11A	**Troy Canyon, C**	83.19	50	⇑P		P		02 13 05.8	-0.3
	baz=83								
HVU	**Hansel Valley**	83.21	46	*e*P		P		02 13 07.1	+1.0
HVU				pmax		pmax			
	comp=Z,8.0nm,0.6s								
HVU	**Hansel Valley**	83.21	46	*e*P		P		02 13 07.1	+1.0
	comp=Z,7.6nm,0.6s								
LRMC	**Laurel Mountai**	83.22	53	⇓P		P		02 13 06.8	+0.6
	baz=83								
FLWY	**Flagg Ranch**	83.22	43	*e*P		P		02 13 08.0	+1.8
	comp=Z,6.2nm,0.8s								
RRI2	**Red Ridge**	83.25	44	*e*P		P		02 13 08.7	+2.2
	comp=Z,4.5nm,0.8s								
F19A	**Roth Farm, Mol**	83.26	41	⇑P		P		02 13 06.5	+0.3
	baz=83								
FURC	**Furnace Creek,**	83.29	52	⇑P		P		02 13 07.2	+0.8
	baz=83								
EDW2	**Edwards Air Fo**	83.31	54	⇓P		P		02 13 07.3	+0.7
	baz=83								
E20A	**Meyer Farm, Mu**	83.35	40	⇓P		P		02 13 07.9	+1.3
	baz=83								
YAYL	**Yayladag**	83.36	307	*i*P		P		02 13 06.5	-0.4
PRAR	**RASCA**	83.37	321	⇑P		P		02 13 06.8	+0.2
I17A	**Pilgrim Ck.**	83.39	43	⇓P		P		02 13 07.2	+0.1
	baz=83								
RABH	**Abou Rabah**	83.40	306	*i*P		P		02 13 08.4	+1.4
BEL	**Belsk**	83.46	327	*e*P		P		02 13 07.1	+0.2
BEL	**Belsk**	83.46	327	*e*P		P		02 13 07.0	+0.2
GHRR		83.46	320	⇑P		P		02 13 08.0	+1.0
ROOS	**tl_alroos**	83.47	305	*i*P		P		02 13 08.1	+0.7
B22A	**Reddig Ranch S**	83.47	38	⇓P		P		02 13 07.0	-0.1
	baz=83,SNR=5.9								
BGU	**Big Grassy Mou**	83.51	47	*e*P		P		02 13 08.6	+1.0
	comp=Z,3.7nm,0.7s								
H18A	**Shoshone NF, C**	83.51	42	⇓P		P		02 13 08.7	+1.1
	baz=83								
ODD1	**Odda**	83.52	338	*e*P		P		02 13 07.2	+0.1
ODD1				AMB		AMB		02 13 09.0	
	comp=Z,55nm,1.2s								
ASK	**Askoy**	83.54	339	*e*P		P		02 13 06.5	-0.6
ASK				AMB		AMB		02 13 08.4	
	comp=Z,120nm,2.1s								
RUND	**Rundenannen**	83.54	339	*e*P		P		02 13 06.5	-0.6
RUND				AMB		AMB		02 13 07.1	
	comp=Z,88nm,1.1s								
LOHW	**Long Hollow**	83.54	43	*e*P		P		02 13 09.5	+1.7
	comp=Z,2.6nm,0.6s								
CFR	**Carcaliu**	83.55	318	⇑P		P		02 13 08.2	+0.7
CFR	**Carcaliu**	83.55	318	⇑P		P		02 13 08.2	+0.7
BBAL	**Bala**	83.56	312	*i*P		P		02 13 08.7	+0.9
BER	**Bergen**	83.57	339	*e*P		P		02 13 07.3	0.0
BER				AMB		AMB		02 13 11.2	
	comp=Z,58nm,1.8s								
ANTO	**Ankara**	83.60	312	⇑P		P		02 13 08.5	+0.5
ANTO	**Ankara**	83.60	312	P		P		02 13 08.3	+0.4
	SNR=5.7								
ANTO	**Ankara**	83.60	312	⇑P		P		02 13 08.5	+0.5
ANTO	**Ankara**	83.60	312	*e*P		P		02 13 08.2	+0.3
	comp=Z,28nm,0.7s								
TESR	**Tescani**	83.63	320	⇑P		P		02 13 08.2	+0.3
GULE	**Gulek**	83.64	309	*i*P		P		02 13 08.6	+0.3
D21A	**La Casta Ranch**	83.66	39	⇑P		P		02 13 08.2	0.0
	baz=84								
EGD	**Espegrend**	83.69	339	*e*P		P		02 13 07.2	-0.7
BIDA	**Albida**	83.73	306	*i*P		P		02 13 11.0	+2.2
PETR	**Petresti**	83.76	319	⇑P		P		02 13 09.9	+1.4
BUR08	**Bucovina Ar. S**	83.77	322	*e*P		P		02 13 08.9	+0.2
BURAR	**Bucovina Array**	83.78	322	⇑P		P		02 13 09.3	+0.6
BURAR	**Bucovina Array**	83.78	322	⇑P		P		02 13 09.3	+0.6
TIRR	**Tirgusor**	83.80	318	⇑P		P		02 13 09.0	+0.3
TIRR	**Tirgusor**	83.80	318	⇑P		P		02 13 09.0	+0.3
TIRR	**Tirgusor**	83.80	318	*e*P		P		02 13 08.4	-0.3
	comp=Z,30nm,1.0s								
C22A	**Vida**	83.86	38	⇑P		P		02 13 09.1	0.0
	baz=84								
BFSC	**Mount Baldy Ra**	83.86	54	⇑P		P		02 13 09.3	-0.2
	baz=84								
KWP	**Kalwaria Pacla**	83.88	324	⇑P		P		02 13 09.8	+0.7
KWP	**Kalwaria Pacla**	83.88	324	⇑P		P		02 13 09.8	+0.7
KWP	**Kalwaria Pacla**	83.88	324	*e*P		P		02 13 09.4	+0.3
	comp=Z,123nm,1.0s								
KWP	**Kalwaria Pacla**	83.88	324	*e*P		P		02 13 09.1	0.0
H19A	**Powell**	83.91	42	⇑P		P		02 13 09.4	-0.2
	baz=84								
B23A	**Brockton**	83.91	37	⇓P		P		02 13 09.8	+0.5
	baz=84								
GSC	**Goldstone**	83.93	53	*e*P		P		02 13 10.5	+0.8
GSC				pmax		pmax			
	comp=Z,10.0nm,1.0s								
GSC	**Goldstone**	83.93	53	*e*P		P		02 13 10.5	+0.8
	comp=Z,10nm,1.0s								
GSC	**Goldstone**	83.93	53	⇑P		P		02 13 10.4	+0.6
	baz=84,SNR=6.8								
BSD	**Bornholm Skovb**	83.93	332⇓	*i*P		P		02 13 08.3	-0.9
BSD				pmax		pmax			
	comp=Z,69nm,0.8s								
BSD	**Bornholm Skovb**	83.93	332⇓	*i*P		P		02 13 08.3	-0.9
	comp=Z,69nm,0.7s								
TLB	**Topalu**	83.94	318	⇑P		P		02 13 10.0	+0.6
TLB	**Topalu**	83.94	318	⇑P		P		02 13 10.0	+0.6
BLS5	**Blasjo**	83.95	338	*e*P		P		02 13 08.9	-0.4
BLS5				AMB		AMB		02 13 11.0	
	comp=Z,28nm,1.2s								
VRI	**Vrincioaia**	83.96	320	⇑P		P		02 13 10.8	+1.2
VRI	**Vrincioaia**	83.96	320	⇑P		P		02 13 10.8	+1.2
SHOC	**Shoshone**	83.98	52	⇓P		P		02 13 10.4	+0.5
	baz=84								
PLOR	**Plostina**	84.02	320	⇑P		P		02 13 10.2	+0.3
PLOR	**Plostina**	84.02	320	⇑P		P		02 13 10.2	+0.3
DUG	**Dugway**	84.04	47	*e*P		P		02 13 10.8	+0.5
DUG				pmax		pmax			
	comp=Z,7.0nm,0.8s								
DUG	**Dugway**	84.04	47	*e*P		P		02 13 10.8	+0.5
	comp=Z,7.3nm,0.8s								
DUG	**Dugway**	84.04	47	⇓P		P		02 13 11.2	+0.9
	baz=84,SNR=13								
D22A	**Cohagen**	84.06	39	⇓P		P		02 13 09.9	-0.1
	baz=84								
ZALF	**Zalf**	84.07	304	*i*P

comp=Z,24nm,1.8s
I21A Big Trails, Te 85.40 42 ⇓P P 02 13 18.2 +1.3
baz=85
ARR Arges 85.44 320⇓*i*P P 02 13 17.5 +0.5
MONP Monument Peak 85.44 55 ⇑P P 02 13 17.7 +0.3
baz=85
H22A Clearmont 85.48 41 ⇓P P 02 13 18.1 +0.8
baz=85
J21A Lysite 85.58 42 ⇑P P 02 13 19.3 +1.4
baz=86
G23A Biddle 85.66 40 ⇓P P 02 13 18.2 +0.1
baz=86
LRW Lerwick 85.71 341 *e*P P 02 13 17.9 +0.1
LRW AMB AMB 02 13 23.1
comp=Z,81nm,2.2s
BC3 Big Chuckawall 85.73 54 ⇓P P 02 13 19.3 +0.6
baz=86,SNR=6.0
Q16A Castle Valley 85.80 48 ⇓P P 02 13 20.6 +1.5
baz=86
I22A 9 Mile Ranch, 85.82 41 ⇓P P 02 13 19.6 +0.7
baz=86,SNR=5.5
CSS Prodhromos 85.85 308 *e*P P 02 13 18.4 -0.7
comp=Z,40nm,0.8s
CSS *e* 02 14 53.6
GAZI Gazipasa 85.87 309 *i* P P 02 13 17.5 -1.7
OKC Ostrava-Krasne 86.03 326⇓*i*P P 02 13 19.2 -0.4
OKC Ostrava-Krasne 86.03 326⇓*i*P P 02 13 19.2 -0.4
W13A Hualapai Mount 86.07 52 ⇓P P 02 13 20.5 +0.1
baz=86
A28A Rude Farm, Bot 86.07 35 ⇑P P 02 13 20.7 +0.8
baz=86
SRU San Rafael 86.11 47 *e*P P 02 13 21.2 +0.7
SRU pmax pmax
comp=Z,3.0nm,0.6s
SRU San Rafael 86.11 47 *e*P P 02 13 21.2 +0.7
comp=Z,2.6nm,0.6s
J22A Midwest 86.11 42 ⇑P P 02 13 20.8 +0.5
baz=86
K21A Alcova 86.11 43 ⇑P P 02 13 20.9 +0.4
baz=86
KSP Ksiaz 86.24 328⇓*e*P P 02 13 20.4 -0.2
KSP Ksiaz 86.24 328 *e*P P 02 13 20.4 -0.2
RUE Ruedersdorf 86.25 330 *e*P P 02 13 20.2 -0.3
comp=Z,25nm,0.7s
RUE Ruedersdorf 86.25 330 *e*P P 02 13 20.2 -0.3
comp=Z,13nm,0.6s
B28A Dugan Ranch, T 86.32 35 ⇓P P 02 13 21.7 +0.6
baz=86
PSZ Piszkesteto 86.41 324 ⇑P P 02 13 22.0 +0.4
PSZ Piszkesteto 86.41 324⇑*i*P P 02 13 22.0 +0.4
PSZ Piszkesteto 86.41 324 *e*P P 02 13 21.2 -0.4
comp=Z,24nm,0.9s
PSZ Piszkesteto 86.41 324⇓*e* P 02 13 21.2 -0.4
U15A North Rim 86.43 50 ⇑P P 02 13 22.9 +0.7
baz=86
GLA Glamis 86.50 54 ⇑P P 02 13 22.8 +0.6
baz=86
KRLC Kraliky 86.53 327⇓*i*P P 02 13 21.6 -0.5
KRLC Kraliky 86.53 327⇓*i*P P 02 13 21.6 -0.5
SIRR Siria 86.53 322⇓*i*P P 02 13 22.0 -0.1
K22A Casper 86.54 42 ⇑P P 02 13 22.5 0.0
baz=86
N20A Spence Gulch, 86.55 45 ⇓P P 02 13 23.3 +0.7
baz=86
DPC Dobruska-Polom 86.56 328⇓*i*P P 02 13 22.1 -0.1
DPC Dobruska-Polom 86.56 328⇓*i*P P 02 13 22.1 -0.1
UPC Upice 86.60 328⇓*i*P P 02 13 22.1 -0.2
UPC Upice 86.60 328⇓*i*P P 02 13 22.1 -0.2
BSEG Bad Segeberg 86.66 333 *e*P P 02 13 22.0 -0.5
BSEG pmax pmax
comp=Z,17nm,0.8s
BSEG Bad Segeberg 86.66 333 *e*P P 02 13 22.0 -0.5
comp=Z,17nm,0.8s
F26A Lodgepole 86.77 38 ⇓P P 02 13 24.1 +0.8
baz=87
BZS Buzias 86.96 322 ⇑P P 02 13 23.7 -0.4
BZS Buzias 86.96 322⇑*i*P P 02 13 23.6 -0.5
PKSN Nyarlorinc 87.08 323⇓*e* P 02 13 25.2 +0.5
RSSD Black Hills 87.09 40 *e*P P 02 13 25.6 +0.5
RSSD pmax pmax
comp=Z,9.0nm,0.7s
RSSD Black Hills 87.09 40 *e*P P 02 13 25.6 +0.5
comp=Z,9.1nm,0.7s
F27A Lemmon 87.11 38 ⇑P P 02 13 25.1 +0.2
baz=87
VRAC Vranov 87.14 327⇑*i*P P 02 13 25.3 +0.4
BUD Budapest 87.14 324⇑*e* P 02 13 24.7 -0.2
G26A Maurine 87.16 39 ⇓P P 02 13 25.5 +0.4
baz=87
PVCC Panska Ves 87.25 328⇓*i*P P 02 13 25.3 -0.1
PVCC Panska Ves 87.25 328⇓*i*P P 02 13 25.3 -0.1
SMOL Smolenice 87.26 326 *e*P P 02 13 26.0 +0.5
SMOL Smolenice 87.26 326 *e*P P 02 13 26.0 +0.5
ULM Lac du Bonnet 87.29 32 P P 02 13 25.6 0.0
ULM Lac du Bonnet 87.29 32 P P 02 13 25.6 0.0
comp=Z,3.9nm,0.6s,baz=264,slow=3.6,SNR=4.6
BRG Berggiesshubel 87.30 329 *i* P P 02 13 25.0 -0.6
comp=Z,22nm,0.8s
BRG Berggiesshubel 87.30 329 *i* P P 02 13 25.0 -0.6
BRG pmax pmax
comp=Z,22nm,0.8s
BRG Berggiesshubel 87.30 329 *e*P P 02 13 25.2 -0.4
comp=Z,22nm,0.8s
Y14A Wickenburg 87.31 53 ⇓P P 02 13 26.5 +0.4
baz=87
I25A Rochford 87.32 40 ⇑P P 02 13 26.9 +0.8
baz=87
B30A Myrvik Farm, E 87.34 34 ⇓P P 02 13 25.7 -0.2
baz=87
L23A Garrett 87.35 43 ⇓P P 02 13 26.0 -0.4
baz=87
PKS7 Kunszentmiklos 87.35 324⇓*e* P 02 13 25.7 -0.2
CLL Collm 87.41 330⇓*i*P P 02 13 25.3 -0.8
CLL pmax pmax
comp=Z,19nm,0.9s
CLL Collm 87.41 330 *e*P P 02 13 25.4 -0.7
comp=Z,45nm,1.5s
CLL Collm 87.41 330⇓*i*P P 02 13 25.3 -0.8
comp=Z,23nm,0.9s
CLL *e*PP PP 02 16 58.0 +1.2
comp=Z,43nm,2.2s
G27A Dupree 87.47 38 ⇑P P 02 13 27.4 +0.8
baz=87
H26A Fairpoint 87.49 39 ⇑P P 02 13 27.3 +0.5
baz=87
PKSG 87.52 324⇓*e* P 02 13 26.3 -0.4
FBE Freiberg 87.53 329 *e*P P 02 13 26.4 -0.3
comp=Z,43nm,1.0s
Q20A Ridgley Place, 87.62 46 ⇓P P 02 13 27.4 -0.3
baz=88
PRU Pruhonice 87.64 328⇓*i*P P 02 13 26.6 -0.7
PRU Pruhonice 87.64 328⇓*i*P P 02 13 26.6 -0.7
PRU *ex* x 02 14 02.3
TREC Trest 87.68 327⇓*i*P P 02 13 27.0 -0.5
TREC Trest 87.68 327⇓*i*P P 02 13 27.0 -0.5
PKS2 Kecel 87.69 323⇓*e* P 02 13 27.2 -0.3
PKST T's 87.79 324⇓*e* P 02 13 27.3 -0.8
PV15 Paradox Valley 87.86 47 *e*pP pP 02 15 09.8 +7.8
PV01 Paradox Valley 87.92 47 *e*P P 02 13 29.7 +0.5
comp=Z,682nm,1.4s
VTS Vitosha 87.95 319 ⇓P P 02 13 28.7 -0.4
VTS Vitosha 87.95 319⇓*i*P P 02 13 28.7 -0.4
O22A Kremmling 88.00 44 ⇑P P 02 13 30.8 +1.2
baz=88
NEUB Neuenburg 88.03 330 *e*P P 02 13 28.6 -0.4
comp=Z,33nm,1.0s
PKS9 Tamasi 88.11 324⇓*e* P 02 13 28.6 -0.9
CLZ Clausthal 88.17 331 *e*P P 02 13 29.4 -0.3
CLZ pmax pmax
comp=Z,17nm,0.9s
CLZ Clausthal 88.17 331 *e*P P 02 13 29.4 -0.3
comp=Z,17nm,0.9s
P22A Eagle 88.21 45 ⇑P P 02 13 32.2 +1.7
baz=88
I27A Quinn 88.24 39 ⇓P P 02 13 29.8 -0.5
baz=88
SOP Sopron 88.25 325⇑*e* P 02 13 30.2 0.0
TANN Tannenbergstha 88.29 329 *e*P P 02 13 29.8 -0.6
comp=Z,27nm,1.6s
WERD Werda 88.34 329 *e*P P 02 13 30.0 -0.6
comp=Z,12nm,0.9s
PLN Plauen 88.38 329 *e*P P 02 13 30.2 -0.5
comp=Z,57nm,0.9s
GUNZ Gunzen 88.39 329 *e*P P 02 13 30.4 -0.4
comp=Z,19nm,0.8s
MVH1 Achvaich 88.41 342⇑*e*P P 02 13 30.8 +0.1

WERN Wernitzgruen 88.42 329 *e*P P 02 13 30.7 -0.3
comp=Z,72nm,1.7s
CONA Conrad Observa 88.43 326⇓*i*PcP P 02 13 31.0 -0.1
comp=Z,27nm,0.8s,SNR=12
MCD Coleburn Disti 88.44 341 *e*P P 02 13 30.3 -0.5
Q22A Crested Butte, 88.55 46 ⇓P P 02 13 33.3 +1.1
baz=88
N24A Carr 88.62 43 ⇓P P 02 13 31.9 -0.4
baz=88
KHC Kasperske Hory 88.69 328⇓*i*P P 02 13 31.8 -0.4
KHC Kasperske Hory 88.69 328⇓*i*P P 02 13 31.8 -0.4
KHC *ex* x 02 14 00.9
KHC Kasperske Hory 88.69 328 *e*P P 02 13 31.9 -0.4
comp=Z,25nm,0.8s
MANZ Manzenberg 88.76 329 *e*P P 02 13 32.1 -0.4
comp=Z,29nm,1.5s
GEC2 GERESS Array S 88.83 328 *e*P P 02 13 32.3 -0.7
GEC2 pmax pmax
comp=Z,22nm,0.9s
GEC2 GERESS Array S 88.83 328 *e*P P 02 13 32.3 -0.7
comp=Z,22nm,0.9s
GEC2 GERESS Array S 88.83 328 *e*P P 02 13 32.3 -0.7
GERES GERESS Array B 88.83 328 P P 02 13 32.2 -0.8
GERES PP PP 02 17 11.5 +3.3
GERES GERESS Array B 88.83 328 P P 02 13 32.2 -0.8
comp=Z,13nm,0.7s,baz=41,slow=4.6,SNR=155
GERES PP PP 02 17 11.5 +3.3
comp=Z,1.5nm,0.9s,baz=48,slow=7.9,SNR=3.5
ROTZ Rotzenmuhle 88.87 329 *e*P P 02 13 32.9 -0.1
comp=Z,45nm,1.4s
MDO Dochfour 88.88 341 *e*P P 02 13 32.4 -0.5
IBBN Ibbenburen 88.90 333 *e*P P 02 13 32.4 -0.7
comp=Z,71nm,0.9s
BEHE Becsehely 88.96 324⇑*e* P 02 13 33.1 -0.4
U20A Newcomb 88.97 48 ⇑P P 02 13 35.5 +1.5
baz=89
WET Wettzell 89.01 328 *e*P P 02 13 33.4 -0.3
WET pmax pmax
comp=Z,12nm,1.1s
WET Wettzell 89.01 328 *e*P P 02 13 33.4 -0.3
comp=Z,12nm,1.1s
R22A Saguache, Gunn 89.02 46 ⇓P P 02 13 34.8 +0.4
baz=89
ARSA Arzberg 89.06 326⇓*i*PcP P 02 13 33.6 -0.4
comp=Z,22nm,1.1s,SNR=6.7
KAC Achnashellach 89.08 342⇑*e*P P 02 13 32.9 -0.9
MOA Molln 89.26 327⇑*i*PcP P 02 13 34.6 -0.4
comp=Z,22nm,1.0s,SNR=9.5
KPL Plockton 89.32 342 *e*P P 02 13 35.0 +0.1
KPL AMB AMB 02 13 36.4
comp=Z,128nm,2.7s
GRF Grafenberg Arr 89.37 329 *e*P P 02 13 35.2 -0.2
GRF pmax pmax
comp=Z,49nm,1.1s
GRF Grafenberg Arr 89.37 329 *e*P P 02 13 35.2 -0.2
comp=Z,49nm,1.1s
GRFO Grafenberg 89.37 329 *e*P P 02 13 35.0 -0.4
GRFO pmax pmax
comp=Z,45nm,1.1s
GRFO Grafenberg 89.37 329 *e*P P 02 13 35.0 -0.4
comp=Z,45nm,1.1s
WTSB Winterswijk 89.54 333 *e*P P 02 13 35.1 -0.9
comp=Z,26nm,0.7s
R23A Moffat 89.63 46 ⇑P P 02 13 39.3 +2.1
baz=90
M27A Reverse DX Ran 89.66 41 ⇑P P 02 13 38.0 +1.0
baz=90
ESY Stoneypath 89.66 340⇑*e*P P 02 13 36.4 -0.2
SOKA Soboth 89.70 325 *i* PcP P 02 13 36.4 -0.7
comp=Z,40nm,1.0s,SNR=14
BUG Bochum--Univer 89.75 332 *e*P P 02 13 36.3 -0.8
comp=Z,32nm,0.9s
P25A Willow Gulch B 89.85 44 ⇓P P 02 13 38.1 +0.1
baz=90
EBL Broad Law 89.92 340 *e*P P 02 13 37.7 -0.1
EAB Aberfoyle 89.95 341 *e*P P 02 13 37.5 -0.4
RJOB Jochberg 90.05 327 *e*P P 02 13 38.3 -0.3
comp=Z,54nm,0.9s
X20A Quemado 90.05 50 ⇓P P 02 13 40.4 +1.2
baz=90
OBKA Obir 90.06 326⇑*i*PcP P 02 13 37.6 -1.1
comp=Z,22nm,0.9s
R24A Sanders Place, 90.06 45 ⇑P P 02 13 41.2 +2.1
baz=90
U22A Llaves 90.06 48 ⇓P P 02 13 38.5 -0.7
baz=90
TNS Taunus Mts 90.19 331 *e*P P 02 13 38.8 -0.4
TNS pmax pmax
comp=Z,24nm,1.4s
TNS Taunus Mts 90.19 331 *e*P P 02 13 38.8 -0.4
comp=Z,24nm,1.4s
PGBU Glenifferbraes 90.31 341⇑*e*P P 02 13 39.6 0.0
PGBU AMB AMB 02 13 40.4
comp=Z,100nm,1.3s
S24A Houchin Ranch, 90.35 46 ⇑P P 02 13 40.5 -0.1
baz=90
ESK Eskdalemuir 90.35 340 *e*P P 02 13 39.5 -0.3
ESK AMB AMB 02 13 41.2
comp=Z,46nm,2.7s
ESK Eskdalemuir 90.35 340 *i* P P 02 13 40.3 +0.5
ESK Eskdalemuir 90.35 340 *e*P P 02 13 39.3 -0.5
comp=Z,20nm,0.9s
MYKA Terra Mystica 90.42 326⇓*i*P P 02 13 39.0 -1.3
comp=Z,16nm,0.7s,SNR=5.7
ECK Cauldkaine Hil 90.44 340 *e*P P 02 13 39.6 -0.6
FUR Furstenfeldbru 90.45 328 *e*P P 02 13 40.3 -0.1
FUR pmax pmax
comp=Z,92nm,1.0s
FUR Furstenfeldbru 90.45 328 *e*P P 02 13 40.3 -0.1
comp=Z,92nm,1.0s
Y20A Horse Springs, 90.50 50 ⇓P P 02 13 42.6 +1.4
baz=90
U23A El Rito 90.52 47 ⇑P P 02 13 42.5 +1.2
baz=90
X21A Alamocita Cree 90.58 50 ⇓P P 02 13 42.7 +1.1
baz=90
T24B San Luis 90.60 46 ⇓P P 02 13 43.1 +1.4
baz=90
R25A Fountain Ranch 90.62 45 ⇓P P 02 13 42.7 +1.1
baz=90
JAVS Javornik 90.73 325 *i* P P 02 13 40.6 -1.3
Z20A Nine Sixteen R 90.81 51 ⇑P P 02 13 44.0 +1.4
baz=91
HGN Heimansgroeve 90.82 333 *e*P P 02 13 41.4 -0.6
comp=Z,20nm,1.0s
ABTA Abfaltersbach 90.89 327⇓*i*P P 02 13 40.9 -1.7
comp=Z,43nm,0.9s,SNR=14
MEM Membach 90.91 332 *e*P P 02 13 41.9 -0.5
MEM pmax pmax
comp=Z,17nm,1.0s
MEM Membach 90.91 332 *e*P P 02 13 41.9 -0.5
comp=Z,17nm,1.0s
Y21A Point of Rocks 90.92 50 ⇑P P 02 13 43.9 +0.8
baz=91
WTTA Wattenberg 90.93 327⇓*i*PcP P 02 13 41.9 -1.0
comp=Z,36nm,1.3s,SNR=6.8
KESW Keswick, Cumbr 90.94 339 *e*P P 02 13 42.0 -0.5
KESW AMB AMB 02 13 43.4
comp=Z,40nm,2.4s
STU Stuttgart 90.94 330 *e*P P 02 13 42.4 -0.3
STU pmax pmax
comp=Z,44nm,0.9s
STU Stuttgart 90.94 330 *e*P P 02 13 42.1 -0.6
comp=Z,57nm,1.0s
STU Stuttgart 90.94 330 *e*P P 02 13 42.4 -0.3
comp=Z,44nm,0.9s
EYMN Ely 90.95 32 *e*P P 02 13 42.8 0.0
comp=Z,14nm,1.2s
HPK Haverah Park 91.00 338⇑*e*P P 02 13 42.6 -0.2
HPK AMB AMB 02 13 42.9
comp=Z,91nm,1.3s
R26A Arlington 91.05 44 ⇑P P 02 13 44.8 +1.3
baz=91
120A U Bar Ranch, L 91.11 52 ⇓P P 02 13 45.8 +1.8
baz=91
RETA Reutte 91.18 328⇓*i*PcP P 02 13 43.2 -0.7
comp=Z,34nm,1.4s,SNR=8.9
W23A Werner Place, 91.25 48 ⇑P P 02 13 45.7 +1.1
baz=91
Z21A St. Cloud Mine 91.33 51 ⇓P P 02 13 46.6 +1.5
baz=91
LANF Langenberg 91.40 331 *e*P P 02 13 44.0 -0.8
FETA Feichten 91.54 328⇑*i*PcP P 02 13 44.8 -0.9
comp=Z,34nm,1.0s,SNR=12
KBI1 Birley Grange 91.56 338 *e*P P 02 13 44.7 -0.7
220A Playas Peak, P 91.56 52 ⇑P P 02 13 46.9 +0.8
baz=92

WLF Walferdange 91.57 332 *e*P P 02 13 45.6 0.0
WLF pmax pmax
comp=Z,35nm,1.0s
WLF Walferdange 91.57 332 *e*P P 02 13 45.5 0.0
comp=Z,34nm,1.0s
WLF Walferdange 91.57 332 *e*P P 02 13 45.5 0.0
comp=Z,35nm,1.0s
U25A Circle Dot Ran 91.62 46 ⇑P P 02 13 46.9 +0.6
baz=92
BFO Black Forest 91.66 330 *e*P P 02 13 45.4 -0.6
BFO pmax pmax
comp=Z,54nm,1.1s
BFO Black Forest 91.66 330 *e*P P 02 13 45.4 -0.6
comp=Z,54nm,1.1s
BFO Black Forest 91.66 330 *e*P P 02 13 45.4 -0.6
comp=Z,31nm,0.7s
W24A Lazy 6 Ranch, 91.70 48 ⇑P P 02 13 46.6 -0.1
baz=92
DAVA Damuels 91.73 328⇓*i*PcP P 02 13 45.8 -0.7
comp=Z,59nm,1.1s,SNR=16
GIVF Givet 91.78 333⇓*i*P P 02 13 45.4 -1.1
comp=Z,18nm,0.8s
GIVF Givet 91.78 333⇓*i*P P 02 13 45.4 -1.1
GIVF pmax pmax
comp=Z,18nm,0.8s
GIVF Givet 91.78 333⇓*i*P P 02 13 45.4 -1.1
comp=Z,18nm,0.8s
Z22A Elephant Butte 91.84 50 ⇑P P 02 13 48.0 +0.7
baz=92
STNC Stoke 91.92 338 *e*P P 02 13 46.2 -0.8
WLS Welschbruch 92.02 330 *e*P P 02 13 46.8 -0.9
Y23A Lovelace Mesa, 92.04 49 ⇑P P 02 13 48.6 +0.3
baz=92
FUORN Ofenpass-Fuorn 92.05 328 *e*P P 02 13 47.8 -0.4
comp=Z,51nm,0.8s
CDF Champ du Feu 92.06 330⇓*i*P P 02 13 47.2 -0.7
comp=Z,122nm,1.1s
CDF Champ du Feu 92.06 330⇓*i*P P 02 13 47.2 -0.7
CDF pmax pmax
comp=Z,122nm,1.1s
CDF Champ du Feu 92.06 330⇓*i*P P 02 13 47.2 -0.7
comp=Z,122nm,1.1s
BAIF Baives 92.06 333⇓*i*P P 02 13 46.9 -0.8
comp=Z,35nm,1.1s
BAIF Baives 92.06 333⇓*i*P P 02 13 46.9 -0.8
BAIF pmax pmax
comp=Z,35nm,1.1s
BAIF Baives 92.06 333⇓*i*P P 02 13 46.9 -0.8
comp=Z,35nm,1.1s
GMM Mts of Mourne 92.10 341 *e*P P 02 13 47.1 -0.7
FELD Feldberg im Sc 92.14 330 *e*P P 02 13 47.4 -1.0
ECH Echery 92.26 330 *e*P P 02 13 48.0 -0.8
ECH pmax pmax
comp=Z,27nm,1.0s
ECH Echery 92.26 330 *e*P P 02 13 47.9 -0.8
ECH Echery 92.26 330 *e*P P 02 13 48.0 -0.8
comp=Z,27nm,1.0s
WME Myndd Eilian 92.33 339 *e*P P 02 13 48.6 -0.3
FOEL Foel Wylfa 92.41 338 AMB AMB 02 13 48.6
comp=Z,46nm,2.1s
FOEL ⇑*e*P P 02 13 49.0 -0.3
MOF Molkenrain 92.55 330 *e*P P 02 13 49.2 -1.0
TUE Stuetta 92.58 328 *e*P P 02 13 49.7 -0.8
comp=Z,22nm,0.9s
PAGF Fort de Pagny 92.61 331⇓*i*P P 02 13 50.0 -0.3
comp=Z,32nm,0.6s
PAGF Fort de Pagny 92.61 331⇓*i*P P 02 13 50.0 -0.3
comp=Z,32nm,0.6s
HLM1 Long Mynd 92.62 338 *e*P P 02 13 49.2 -1.2
HLM1 AMB AMB 02 13 52.5
comp=Z,20nm,2.7s
HINF Hinteralfeld 92.69 330⇓*i*P P 02 13 49.7 -1.1
comp=Z,40nm,0.9s
HINF Hinteralfeld 92.69 330⇓*i*P P 02 13 49.7 -1.1
HINF pmax pmax
comp=Z,40nm,0.9s
HINF Hinteralfeld 92.69 330⇓*i*P P 02 13 49.7 -1.1
comp=Z,40nm,0.9s
THEF They Montfort 92.75 331 *e*P P 02 13 50.0 -1.0
HAU Haudompre 92.77 331⇓*i*P P 02 13 50.1 -1.0
comp=Z,39nm,0.7s
HAU Haudompre 92.77 331⇓*i*P P 02 13 50.1 -1.0
HAU pmax pmax
comp=Z,39nm,0.7s
HAU Haudompre 92.77 331⇓*i*P P 02 13 50.1 -1.0
comp=Z,39nm,0.7s
MEZF Maizieres J'vi 92.93 332⇓*i*P P 02 13 51.4 -0.4
comp=Z,71nm,0.8s
MEZF Maizieres J'vi 92.93 332⇓*i*P P 02 13 51.4 -0.4
comp=Z,71nm,0.8s
LOMF Lomont 93.06 330 *e*P P 02 13 50.9 -1.6
WOL Wolverton 93.07 337⇑*e*P P 02 13 51.6 -0.7
WOL AMB AMB 02 13 54.5
comp=Z,62nm,1.8s
MCH1 Michaelchurch 93.10 338⇑*e*P P 02 13 52.0 -0.5
MCH1 AMB AMB 02 13 53.9
comp=Z,28nm,1.6s
MONM Monmouth 93.17 338⇑*e*P P 02 13 52.0 -0.8
MONM AMB AMB 02 13 53.2
comp=Z,44nm,1.0s
SFTF Sexfontaines 93.17 331⇓*i*P P 02 13 52.3 -0.6
comp=Z,122nm,0.9s
SFTF Sexfontaines 93.17 331⇓*i*P P 02 13 52.3 -0.6
comp=Z,122nm,0.9s
124A Stringfield Ra 93.19 50 ⇑P P 02 13 52.9 -0.8
baz=93
Z25A Roswell 93.33 49 ⇑P P 02 13 53.3 -0.8
baz=93
224A Cornudas Mount 93.52 50 ⇓P P 02 13 55.7 +0.6
baz=93
SENIN Lac Senin/Sane 93.60 329 *e*P P 02 13 54.5 -0.7
comp=Z,10.0nm,0.8s
125A Gardner Draw, 93.74 50 ⇑P P 02 13 56.1 +0.1
baz=94
CABF La Chapelle 93.95 330⇓*i*P P 02 13 55.8 -0.9
comp=Z,45nm,0.9s
CABF La Chapelle 93.95 330⇓*i*P P 02 13 55.8 -0.9
CABF pmax pmax
comp=Z,45nm,0.9s
CABF La Chapelle 93.95 330⇓*i*P P 02 13 55.8 -0.9
comp=Z,45nm,0.9s
Z27A Tatum 94.30 48 ⇑P P 02 13 56.2 -2.4
baz=94
325A Bean Ranch, Si 94.31 51 ⇑P P 02 13 58.9 +0.2
baz=94
LOR Lormes 94.40 331⇓*i*P P 02 13 57.6 -1.0
comp=Z,54nm,1.0s
LOR Lormes 94.40 331⇓*i*P P 02 13 57.6 -1.0
comp=Z,54nm,1.0s
RSL Roselend 94.42 329 *e*P P 02 13 57.6 -1.3
LPL La Plagne 94.50 329⇓*i*P P 02 13 58.6 -0.8
comp=Z,42nm,0.6s
LPL La Plagne 94.50 329⇓*i*P P 02 13 58.6 -0.8
LPL pmax pmax
comp=Z,42nm,0.6s
LPL La Plagne 94.50 329⇓*i*P P 02 13 58.6 -0.8
comp=Z,42nm,0.6s
LPG La Plagne 94.51 329⇓*i*P P 02 13 58.7 -0.8
comp=Z,49nm,0.6s
LPG La Plagne 94.51 329⇓*i*P P 02 13 58.7 -0.8
LPG pmax pmax
comp=Z,49nm,0.6s
LPG La Plagne 94.51 329⇓*i*P P 02 13 58.7 -0.8
comp=Z,49nm,0.6s
SSF Saint Saulge 94.71 332⇓*i*P P 02 13 59.2 -0.8
comp=Z,41nm,0.9s
SSF Saint Saulge 94.71 332⇓*i*P P 02 13 59.2 -0.8
SSF pmax pmax
comp=Z,41nm,0.9s
SSF Saint Saulge 94.71 332⇓*i*P P 02 13 59.2 -0.8
comp=Z,41nm,0.9s
BNI Bardonecchia 94.88 329 *e*P P 02 14 00.3 -0.7
BNI pmax pmax
comp=Z,10.0nm,0.8s
BNI Bardonecchia 94.88 329 *e*P P 02 14 00.3 -0.7
comp=Z,10nm,0.8s
SMF Signal de Mont 94.90 331⇓*i*P P 02 13 59.8 -1.1
comp=Z,46nm,0.9s
SMF Signal de Mont 94.90 331⇓*i*P P 02 13 59.8 -1.1
SMF pmax pmax
comp=Z,46nm,0.9s
SMF Signal de Mont 94.90 331⇓*i*P P 02 13 59.8 -1.1
comp=Z,46nm,0.9s
HYF Humbligny 94.90 332 *e*P P 02 14 00.7 -0.2
HYF Humbligny 94.90 332 *e*P P 02 14 00.7 -0.2
FLN La Foliniere 94.92 335⇓*i*P P 02 13 59.9 -1.0
comp=Z,32nm,1.0s

FLN	La Foliniere	94.92	335	⇓	*i*P		P	02 13 59.9	-1.0
FLN					pmax	pmax			
	comp=Z,32nm,1.0s								
FLN	La Foliniere	94.92	335	⇓	*i*P		P	02 13 59.9	-1.0
	comp=Z,32nm,1.0s								
LDF	La Druitiere	94.92	334	⇓	*i*P		P	02 14 00.0	-0.9
	comp=Z,26nm,0.7s								
LDF	La Druitiere	94.92	334	⇓	*i*P		P	02 14 00.0	-0.9
LDF					pmax	pmax			
	comp=Z,26nm,0.7s								
LDF	La Druitiere	94.92	334	⇓	*i*P		P	02 14 00.0	-0.9
	comp=Z,26nm,0.7s								
AVF	Avril sur Loir	94.99	331	⇓	*i*P		P	02 14 00.4	-0.8
	comp=Z,71nm,0.9s								
AVF	Avril sur Loir	94.99	331	⇓	*i*P		P	02 14 00.4	-0.8
AVF					pmax	pmax			
	comp=Z,71nm,0.9s								
AVF	Avril sur Loir	94.99	331	⇓	*i*P		P	02 14 00.4	-0.8
	comp=Z,71nm,0.9s								
MBDF	Montbardon	95.09	328	⇓	*i*P		P	02 14 00.3	-1.6
MBDF	Montbardon	95.09	328	⇓	*i*P		P	02 14 00.3	-1.6
MBDF	Montbardon	95.09	328	⇓	*i*P		P	02 14 00.3	-1.6
ORIF	Oris-en-Rattie	95.35	329	⇓	*i*P		P	02 14 02.0	-1.0
	comp=Z,36nm,1.0s								
ORIF	Oris-en-Rattie	95.35	329	⇓	*i*P		P	02 14 02.0	-1.0
ORIF					pmax	pmax			
	comp=Z,36nm,1.0s								
ORIF	Oris-en-Rattie	95.35	329	⇓	*i*P		P	02 14 02.0	-1.0
	comp=Z,36nm,1.0s								
GRR	Gorron	95.37	335	⇓	*i*P		P	02 14 02.2	-0.7
	comp=Z,35nm,0.9s								
GRR	Gorron	95.37	335	⇓	*i*P		P	02 14 02.2	-0.7
GRR					pmax	pmax			
	comp=Z,35nm,0.9s								
GRR	Gorron	95.37	335	⇓	*i*P		P	02 14 02.2	-0.7
	comp=Z,35nm,0.9s								
BGF	Bois d'Agland	95.39	332	⇓	*i*P		P	02 14 02.1	-1.0
	comp=Z,22nm,1.0s								
BGF	Bois d'Agland	95.39	332	⇓	*i*P		P	02 14 02.1	-1.0
BGF					pmax	pmax			
	comp=Z,23nm,1.0s								
BGF	Bois d'Agland	95.39	332	⇓	*i*P		P	02 14 02.1	-1.0
	comp=Z,22nm,1.0s								
SBF	Sospel	95.43	327	⇓	*i*P		P	02 14 02.3	-1.1
SBF	Sospel	95.43	327	⇓	*i*P		P	02 14 02.3	-1.1
SBF	Sospel	95.43	327	⇓	*i*P		P	02 14 02.3	-1.1
PLDF	La Plantade	95.52	331		*e*P		P	02 14 03.2	-0.6
TCF	Toulx Ste Croi	95.87	332	⇓	*i*P		P	02 14 04.5	-0.8
	comp=Z,16nm,0.9s								
TCF	Toulx Ste Croi	95.87	332	⇓	*i*P		P	02 14 04.5	-0.8
TCF					pmax	pmax			
	comp=Z,16nm,0.9s								
TCF	Toulx Ste Croi	95.87	332	⇓	*i*P		P	02 14 04.5	-0.8
	comp=Z,16nm,0.9s								
VIVF	Saint-Julien-l	95.94	330	⇓	*i*P		P	02 14 04.8	-0.8
	comp=Z,27nm,0.8s								
VIVF	Saint-Julien-l	95.94	330	⇓	*i*P		P	02 14 04.8	-0.8
VIVF					pmax	pmax			
	comp=Z,27nm,0.8s								
VIVF	Saint-Julien-l	95.94	330	⇓	*i*P		P	02 14 04.8	-0.8
	comp=Z,27nm,0.8s								
PYM	Petit Puy Mans	95.96	331		*e*P		P	02 14 04.6	-1.2
FRF	La Foret Royal	96.03	328	⇓	*i*P		P	02 14 05.9	-0.2
FRF	La Foret Royal	96.03	328	⇓	*i*P		P	02 14 05.9	-0.2
FRF	La Foret Royal	96.03	328	⇓	*i*P		P	02 14 05.9	-0.2
SGMF	Saint Gilles	96.11	336		*e*P		P	02 14 05.2	-1.0
	comp=Z,27nm,1.1s								
SGMF	Saint Gilles	96.11	336		*e*P		P	02 14 05.2	-1.0
SGMF					pmax	pmax			
	comp=Z,27nm,1.1s								
SGMF	Saint Gilles	96.11	336		*e*P		P	02 14 05.2	-1.0
	comp=Z,27nm,1.1s								
SMRF	Simiane la Rot	96.21	328	⇓	*i*P		P	02 14 06.5	-0.4
SMRF	Simiane la Rot	96.21	328	⇓	*i*P		P	02 14 06.5	-0.4
LMR	La Mourre	96.27	328	⇓	*i*P		P	02 14 06.6	-0.5
LMR	La Mourre	96.27	328	⇓	*i*P		P	02 14 06.6	-0.5
LMR	La Mourre	96.27	328	⇓	*i*P		P	02 14 06.6	-0.5
ROSF	Rostrenen	96.29	336	⇓	*i*P		P	02 14 06.4	-0.7
ROSF	Rostrenen	96.29	336	⇓	*i*P		P	02 14 06.4	-0.7
ROSF	Rostrenen	96.29	336	⇓	*i*P		P	02 14 06.4	-0.7
TXAR	Lajitas Array	96.45	52		P		P	02 14 08.4	+0.1
TXAR					pP	pP		02 15 36.3	-5.9
TXAR	Lajitas Array	96.45	52		P		P	02 14 08.4	+0.1
	comp=Z,0.8nm,0.6s,baz=316,slow=3.4,SNR=12								
TXAR					pP	pP		02 15 36.3	-5.9
	comp=Z,1.0nm,0.9s,baz=298,slow=2.7,SNR=4.0								
MFF	Saint Martin d	96.56	333	⇓	*i*P		P	02 14 07.8	-0.6
	comp=Z,11nm,0.6s								
MFF	Saint Martin d	96.56	333	⇓	*i*P		P	02 14 07.8	-0.6
MFF					pmax	pmax			
	comp=Z,11nm,0.6s								
MFF	Saint Martin d	96.56	333	⇓	*i*P		P	02 14 07.8	-0.6
	comp=Z,11nm,0.6s								
LASF	Ste Croix	96.91	330	⇓	*i*P		P	02 14 10.1	+0.1
	comp=Z,10nm,0.7s								
LASF	Ste Croix	96.91	330	⇓	*i*P		P	02 14 10.1	+0.1
	comp=Z,10nm,0.7s								
RJF	Les Rejaudoux	96.95	332	⇓	*i*P		P	02 14 09.7	-0.4
	comp=Z,7.1nm,0.6s								
RJF	Les Rejaudoux	96.95	332	⇓	*i*P		P	02 14 09.7	-0.4
RJF					pmax	pmax			
	comp=Z,7.0nm,0.6s								
RJF	Les Rejaudoux	96.95	332	⇓	*i*P		P	02 14 09.7	-0.4
	comp=Z,7.1nm,0.6s								
CAF	Calviac	97.02	331	⇓	*i*P		P	02 14 10.1	-0.4
CAF	Calviac	97.02	331	⇓	*i*P		P	02 14 10.1	-0.4
CAF	Calviac	97.02	331	⇓	*i*P		P	02 14 10.1	-0.4
LFF	La Frestale	97.56	332	⇓	*i*P		P	02 14 12.6	-0.3
	comp=Z,15nm,0.5s								
LFF	La Frestale	97.56	332	⇓	*i*P		P	02 14 12.6	-0.3
LFF					pmax	pmax			
	comp=Z,15nm,0.5s								
LFF	La Frestale	97.56	332	⇓	*i*P		P	02 14 12.6	-0.3
	comp=Z,15nm,0.5s								
ETSF	Etsaut	99.77	331	⇓	*i*P		Pdif	02 14 22.8	-0.1
	comp=Z,24nm,1.2s								
ETSF	Etsaut	99.77	331	⇓	*i*P		Pdif	02 14 22.8	-0.1
ETSF					pmax	pmax			
	comp=Z,24nm,1.2s								
ETSF	Etsaut	99.77	331	⇓	*i*P		Pdif	02 14 22.8	-0.1
	comp=Z,24nm,1.2s								
SJPF	Ste Jean	99.87	332	⇓	*i*P		Pdif	02 14 22.5	-0.7
SJPF	Ste Jean	99.87	332	⇓	*i*P		Pdif	02 14 22.5	-0.7
SJPF	Ste Jean	99.87	332	⇓	*i*P		Pdif	02 14 22.5	-0.7
ESDC	Sonseca Array	103.87	332		Pdif		Pdif	02 14 40.2	-0.9
ESDC					PP		PKiKP	02 18 49.6	-6.9
ESDC	Sonseca Array	103.87	332		Pdiff		Pdif	02 14 40.2	-0.9
	comp=Z,0.4nm,0.6s,baz=30,slow=4.4,SNR=4.5								
ESDC					PP		PKiKP	02 18 49.6	-6.9
	comp=Z,0.1nm,0.3s,baz=24,slow=7.9,SNR=4.0								
VNDA	Vanda	106.92	175		*e*PKP		PKiKP	02 19 00.2	-0.5
MAW	Mawson	111.39	204		SKiKP		SKiKP	02 22 05.7	+0.3
	comp=Z,1.1nm,0.5s,baz=71,slow=9.4,SNR=3.8								
LSZ	Lusaka	115.69	266		*e*PKPdf		PKPdf	02 19 19.4	+0.1
QSPA	South Pole Qui	118.55	180		*e*PKPdf		PKPdf	02 19 22.6	-0.7
QSPA					SKP			02 22 18.6	
QSPA	South Pole Qui	118.55	180		PKP		PKPdf	02 19 22.6	-0.7
	comp=Z,7.5nm,0.7s								
QSPA					SKP			02 22 18.6	
SYO	Syowa Base	120.09	204	⇓	*e*PKPdf		PKPdf	02 19 24.4	-1.6
LBTB	Lobatse	121.62	257		*e*PKPdf		PKPdf	02 19 30.3	-0.2
TOA0	Torodi Ar. Sit	121.69	310		*e*PKPdf		PKPdf	02 19 30.0	-0.8
TORD	Torodi Ar. Bea	121.69	310		PKP		PKPdf	02 19 30.0	-0.8
TORD					PP		PP	02 21 01.5	-7.6
TORD					SKP			02 22 27.9	
TORD					PKKPab		PKKPbc	02 29 31.9	+1.1
TORD	Torodi Ar. Bea	121.69	310		PKP		PKPdf	02 19 30.0	-0.8
	comp=Z,10.0nm,0.6s,baz=45,slow=1.0,SNR=209								
TORD					PP		PP	02 21 01.5	-7.6
	comp=Z,3.0nm,0.8s,baz=34,slow=6.4,SNR=5.3								
TORD					SKP			02 22 27.9	
	comp=Z,2.4nm,1.0s,baz=16,slow=1.6,SNR=4.2								
TORD					PKKPab		PKKPbc	02 29 31.9	+1.1
	comp=Z,0.5nm,0.4s,baz=221,slow=3.3,SNR=10.0								
JTS	JuntasAbangare	122.10	54		*e*PKPdf		PKPdf	02 19 31.1	-0.6
DBIC	Dimbokro	130.80	310		*e*PKPdf		PKPdf	02 19 47.7	-0.6
DBIC					SKPbc		SKPab	02 22 34.5	+0.3
DBIC	Dimbokro	130.80	310		PKP		PKPdf	02 19 48.3	+0.1
	comp=Z,8.7nm,0.6s,baz=348,slow=1.0,SNR=22								
DBIC					SKPbc		SKPab	02 22 34.5	+0.3
	comp=Z,18nm,0.7s,baz=31,slow=5.4,SNR=24								
TIC	Toumodi	130.93	310		*e*PKIKP		PKPdf	02 19 48.0	-0.5
	comp=Z,16nm,0.5s								
KIC	Kosan Boka	130.95	310		*e*PKIKP		PKPdf	02 19 48.2	-0.3
	comp=Z,17nm,0.7s								
LIC	Lamto	131.24	310		*e*PKIKP		PKPdf	02 19 47.4	-1.7
	comp=Z,15nm,0.5s								
LIC	Lamto	131.24	310		*e*PKiKP		PKPdf	02 19 48.6	-0.5
LIC	Lamto	131.24	310		*e*PKPdf		PKPdf	02 19 47.4	-1.7
SNAA	Sanae	132.40	195		*e*PKiKP		PKPdf	02 19 49.0	-0.6
SNAA	Sanae	132.40	195		*e*SKPdf		SKPbc	02 22 37.8	+0.2
SNAA	Sanae	132.40	195		*e*PKPdf		PKPdf	02 19 49.0	-0.6
OTAV	Otavalo	133.63	58		*e*PKPdf		PKPdf	02 19 54.4	+0.2
VNA2	Neumayer--Watz	133.96	194		*e*PKiKP		PKPdf	02 19 52.6	+0.1
VNA2	Neumayer--Watz	133.96	194		*e*SKPdf		SKPbc	02 22 43.0	+0.2
VNA1	Neumayer--Stat	134.36	194		*e*SKPdf		SKPbc	02 22 44.6	+0.6
SAML	Samuel	150.94	52		*e*PKPdf		PKPdf	02 20 24.1	+0.3
SAML					*e*PKPbc		PKPbc	02 20 29.9	0.0
LPAZ	La Paz	151.68	70		*e*PKPdf		PKPdf	02 20 26.0	+0.4
LPAZ					*e*PKPbc		PKiKP	02 20 32.8	+0.2
LPAZ	La Paz	151.68	70		PKP		PKPdf	02 20 24.9	-0.6
	comp=Z,1.4nm,0.8s,baz=13,slow=2.1,SNR=7.8								
LPAZ					PKPbc		PKiKP	02 20 33.1	+0.5
	comp=Z,6.7nm,0.7s,baz=337,slow=1.7,SNR=33								
LCO	Las Campanas	153.58	98		*e*PKPdf		PKPdf	02 20 27.8	+0.1
LCO					*e*PKPbc		PKiKP	02 20 36.3	+0.5
LCO					*e*PKPab		PKPab	02 20 51.3	+1.0
LVC	Limon Verde	153.70	83		*e*PKPab		PKPab	02 20 51.5	+0.7
RCBR	Riachuelo	156.75	348		*e*PKPab		PKPab	02 21 02.9	-0.8
CPUP	Villa Florida	164.86	85		*e*PKPdf		PKPdf	02 20 40.0	-0.2
CPUP					*e*PKPab		PKPab	02 21 38.4	-0.6
BDJB	Brasilia	165.18	30		PKP		PKPdf	02 20 40.7	-0.2
BDFB	Brasilia	165.18	30		PKP		PKPdf	02 20 40.7	-0.2
	comp=Z,3.9nm,0.9s,baz=211,slow=2.3,SNR=4.9								

IDC 18 02:08:07.6±2.9, 24°22S×179°80E, h519km±29km, mb3.2/9, mb1 3.4/10, mb1mx3.2/19, mbtmp3.2/10, Error ellipse: s-maj=24.9km s-min=18.0km az=32.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	Urewera	14.19	189	P		P	02 11 08.3	-0.5
	1.2nm,0.3s,baz=258,slow=6.0,SNR=6.8							
URZ				S		S	02 13 37.4	-0.9
	0.4nm,0.3s,baz=228,slow=13,SNR=6.5							
CTA	Charters Tower	31.30	271	P		P	02 13 45.7	+0.5
	6.4nm,0.4s,baz=94,slow=10,SNR=12							
ASAR	Alice Springs	41.81	261	P		P	02 15 11.8	0.0
	1.2nm,0.8s,baz=97,slow=7.2,SNR=11							
ASAR				ScP		ScP	02 19 56.3	-0.5
	1.0nm,0.9s,baz=105,slow=5.8,SNR=5.2							
WRA	Warramunga Arr	42.21	267	P		P	02 15 14.1	-0.9
	2.7nm,0.6s,baz=104,slow=8.1,SNR=9.2							
FITZ	Fitzroy Crossi	50.62	266	P		P	02 16 18.8	0.0
	1.3nm,0.6s,baz=123,slow=18,SNR=6.5							
VNDA	Vanda	54.05	185	P		P	02 16 42.9	+0.4
	0.3nm,0.5s,baz=184,slow=4.3,SNR=3.8							
QSPA	South Pole Qui	65.87	180	P		P	02 18 01.7	+0.3
	3.7nm,0.6s							
MAW	Mawson	77.39	200	P		P	02 19 08.4	0.0
	0.9nm,0.4s,baz=216,slow=4.1,SNR=3.7							
NVAR	Mina Array Bea	85.10	44	P		P	02 19 48.7	-0.1
	0.3nm,0.7s,baz=224,slow=7.6,SNR=2.5							
TXAR	Lajitas Array	90.75	58	P		P	02 20 15.3	-0.1
	0.9nm,0.8s,baz=212,slow=6.0,SNR=6.6							
FINES	FINESS Array B	138.69	341	SKPbc		SKPbc	02 29 18.6	-1.0
	5.4nm,1.1s,baz=50,slow=3.0,SNR=3.4							
TORD	Torodi Ar. Bea	168.85	190	PKPab		PKPab	02 28 28.4	-1.3
	1.0nm,0.9s,baz=180,slow=4.6,SNR=4.8							

IDC 18 02:12:58.6±1.3, 11°90S×166°03E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.7/19, mbtmp3.7/6, ML3.7/1, MS3.4/2, Ms1 3.4/2, ms1mx2.8/27, Error ellipse: s-maj=51.0km s-min=24.2km az=133.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	Mont Dzumac	10.12	178	Pn		Pn	02 15 25.0	-0.4
	0.6nm,0.3s,baz=198,slow=20,SNR=5.9							
DZM				Sn		Sn	02 17 29.2	+9.4
	0.3nm,0.3s,baz=306,slow=19,SNR=2.3							
PMG	Port Moresby	18.71	276	LR		LR	02 23 28.1	
	comp=Z,70nm,21.6s,baz=73,slow=34							
STKA	Stephens Creek	30.02	225	P		P	02 19 10.0	+0.7
	1.0nm,0.6s,baz=36,slow=6.8,SNR=3.2							
WRA	Warramunga Arr	31.46	251	P		P	02 19 21.9	-0.3
	0.5nm,0.7s,baz=84,slow=9.4,SNR=3.9							
ASAR	Alice Springs	32.66	245	P		P	02 19 32.5	-0.3
	0.9nm,0.7s,baz=72,slow=9.9,SNR=10							
RAR	Rarotonga	34.00	110	LR		LR	02 29 33.9	
	comp=Z,123nm,19.7s,baz=225,slow=29							
ILAR	Eielson Array	84.23	18	P		P	02 25 31.4	-0.2
	0.4nm,0.6s,baz=243,slow=6.0,SNR=13							
NVAR	Mina Array Bea	86.36	50	P		P	02 25 43.6	+0.3
	0.2nm,0.6s,baz=244,slow=7.9,SNR=3.1							

MEX 18 02:37:14.5±0.6, 16°20N×99°64W, h16km±19km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ACX	Acapulco	0.70	343	*i* P		Pg	02 37 25.5	-2.7
ACX				*i* S		Sg	02 37 34.4	-3.1
PNIG	Pinotepa	1.47	82	*i* P		Pn	02 37 37.6	-2.7
PNIG				*i* S		Sn	02 37 53.7	-5.6
PLIG	Platanillo	2.18	3	*i* P		Pn	02 37 46.8	-3.5
PLIG				*i* S		Sn	02 38 13.3	-3.9
UTMO	Huajuapan	2.39	47	*i* P		Pn	02 37 50.1	-3.2
UTMO				*i* S		Sn	02 38 18.2	-4.3
YAIG	Yautepec	2.70	12	*i* P		Pn	02 37 53.9	-3.7
YAIG				*i* S		Sn	02 38 26.4	-3.7

NIED ***18*** *02:38:00.44°00N×140°80E, h210km, Mw3.9 Best double couple: M0 8.22000×10^14 NP1:φs 266.00000°, δ 80.00000°, λ -153.00000°. NP2:φs 171.00000°, δ 63.00000°, λ -11.00000°.*

MOS ***18*** *02:38:07.1±0.8, 44°07N×140°79E, h232km, mb3.9/19, Error ellipse: s-maj=12.9km s-min=8.6km az=113.2*

ISCJB ***18*** *02:38:07.5±0.2, 44°01N±0°04×140°86E±0°06, h238km±2km, mb3.8/31, Error ellipse: s-maj=6.9km s-min=5.4km az=26.6*

IDC ***18*** *02:38:08.3±1.1, 44°06N×140°80E, h232km±11km, mb3.5/17, mb1 3.6/19, mb1mx3.5/29, mbtmp3.4/19, Error ellipse: s-maj=14.6km s-min=10.8km az=176.0*

JMA ***18*** *02:38:08.1±0.2, 44°04N×140°80E, h236km±2km, M3.7*

SKHL ***18*** *02:39:30.3±0.5, 47°41N×142°14E, h10km, mb4.1/2*

ISC 18 02:38:08.5±0.6, 44°02N±0°04×140°88E±0°05, h234km±5km, n69, σ0°82/82, mb3.8/31, 11C-12D, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JYG	Yagishiri	0.57	43	⇓P		Pn	02 38 39.3	-0.4
JHR	Hokuryu	0.67	114	⇓P		Pn	02 38 40.7	+0.5
JHR				*e*S		S	02 39 06.3	+1.4
JSK	Shakotan	0.72	204	P		Pn	02 38 40.2	-0.2
JSK				*e*S		S	02 39 04.8	-0.6
JSS	Shosan	0.80	61	⇓P		Pn	02 38 41.0	+0.3
JRR	Rishiri	1.16	15	P		Pn	02 38 43.0	+0.2
ASAJ	Asahikawa	1.24	85	P		Pn	02 38 42.9	-0.5
	60nm,0.3s,baz=253,slow=6.2,SNR=317							
JEW	Eniwo	1.25	160	⇓P		Pn	02 38 43.9	+0.4
JEW				*e*S		S	02 39 11.7	+0.9
JKK2	Kamakawa 2	1.36	95	⇓P		Pn	02 38 44.3	+0.1
JKK2				*e*S		S	02 39 12.1	0.0
JWK2	Keihoku	1.49	29	⇓P		Pn	02 38 45.3	+0.2
JWK2				*e*S		S	02 39 14.0	+0.1
JFR	Furan	1.51	124	⇓P		Pn	02 38 45.2	-0.2
JSE	Soyaes	1.54	52	⇓P		Pn	02 38 45.2	-0.3
JSE				*e*S		S	02 39 13.7	-0.9
JKB	Kayabe	2.13	177	P		Pn	02 38 51.0	+0.1
JKB				*e*S		S	02 39 23.3	-0.8
JTKR	Abashiri--Toko	2.19	90	⇓P		Pn	02 38 51.8	+0.4
JTKR				*e*S		S	02 39 25.7	+0.7
JOSM	Okushiri--Mats	2.19	209	⇑P		Pn	02 38 51.3	-0.2
JOSM				*e*S		S	02 39 25.1	0.0
JNBK	Urakawa-nobuka	2.21	141	⇓P		Pn	02 38 51.6	-0.1
JNBK				*e*S		S	02 39 25.1	-0.4
JAR	Ashorobuto	2.22	108	⇓P		Pn	02 38 52.1	+0.4
JAR				*e*S		S	02 39 26.3	+0.7
JCH	Churui	2.29	127	P		Pn	02 38 51.4	-1.1
JCH				*e*S		S	02 39 23.7	-3.2
JOT	Ohata	2.63	177	P		Pn	02 38 55.9	-0.2
JOT				*e*S		S	02 39 32.8	-0.6
JAK	Akkeshi	2.96	109	P		Pn	02 38 58.5	-1.0
JAK				*e*S		S	02 39 38.2	-1.4
YSS	Yuzh-Sakhalins	3.22	24	*c i* PN		Pn	02 39 01.8	-0.6
YSS				pmax	pmax			
	comp=Z,28nm,0.6s							
YSS	Yuzh-Sakhalins	3.22	24	⇑ *i* Pg		S	02 39 42.2	-2.7
YSS				AMB	AMB		02 39 42.9	
	comp=Z,220nm,0.3s							
YSS				*e*Sg			02 39 50.6	
YSS				A	A		02 39 51.5	
	comp=Z,800nm,0.4s							
YSS				A	A		02 39 51.8	
	comp=Z,780nm,0.4s							
YSS				A	A		02 39 51.8	
	comp=Z,960nm,0.4s							
UGL	Uglegorsk	5.13	9	*e*Pg		Px	02 40 03.7	
UGL				AMB	AMB		02 40 04.8	
	comp=Z,78nm,0.7s							
UGL				*e*Sg		S	02 40 26.5	+0.2
UGL				A	A		02 40 28.0	
	comp=Z,92nm,0.4s							
UGL				A	A		02 40 28.0	
	comp=Z,210nm,0.4s							
UGL				A	A		02 40 28.0	
	comp=Z,120nm,0.4s							
KUR	Kuril'sk	5.13	74	⇑ *i* PN		Pn	02 39 25.8	+0.5
HABR	Khabarovsk	6.02	320	*e*PN		Pn	02 39 32.8	-3.5
HABR				pmax	pmax			
	comp=Z,22nm,1.8s							
USRK	Ussuriysk Arra	6.40	275	P		Pn	02 39 40.1	-1.2
	comp=Z,1.0nm,0.3s,baz=85,slow=14,SNR=15							
TYV	Tymovskoe	6.96	9	*e*Pg		Px	02 40 39.0	
TYV				AMB	AMB		02 40 43.0	
	comp=Z,10.0nm,0.6s							
TYV				*e*Sg		S	02 41 26.5	+18
TYV				A	A		02 41 29.5	
	comp=Z,16nm,0.9s							
MAJO	Matsushiro	7.74	196	*i* PN		Pn	02 39 58.2	-0.2
SKR	Severo-Kuril's	12.29	52	*e*PN		Pn	02 40 51.9	-3.9
PETK	Petropavlovsk-	14.35	45	P		Pn	02 41 21.3	+0.1
PETK				pmax	pmax			
	comp=Z,1.0nm,0.3s							
PETK	Petropavlovsk-	14.35	45	P		Pn	02 41 21.3	+0.1
	comp=Z,0.5nm,0.3s,baz=212,slow=9.3,SNR=7.9							
FX1	Attu Island--F	23.01	56	P		P	02 42 53.3	+0.6
	comp=Z,5.5nm,0.6s,baz=207,slow=4.5,SNR=3.8							
SONM	Songino Array	24.17	291	P		P	02 43 03.4	0.0
	comp=Z,2.1nm,0.5s,baz=84,slow=8.1,SNR=16							
HVS	Khovu-Aksy	32.15	300	*i* P		P	02 44 14.4	+0.4
HVS				pmax	pmax			
	comp=Z,16nm,0.9s							
ZALV	Zalesovo Beam	37.19	306	P		P	02 44 56.8	-0.2
ZALV							02 47 11.3	
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ZALV	Zalesovo Beam	37.19	306	P		P	02 44 56.8	-0.2
	comp=Z,1.2nm,0.3s,baz=78,slow=9.1,SNR=8.1							
ZALV				PcP		PcP	02 47 11.3	-0.1
	comp=Z,0.8nm,0.5s,baz=120,slow=2.0,SNR=3.7							
MK31	Makanchi Array	40.41	295	*ce*P		P	02 45 23.6	-0.1
MK31				pmax	pmax			
	comp=Z,2.0nm,0.4s							
MKAR	Makanchi Array	40.41	295	*ce*P		P	02 45 23.7	0.0
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.5s							
MKAR	Makanchi Array	40.41	295	P		P	02 45 23.6	-0.2
	comp=Z,1.6nm,0.4s,baz=82,slow=10,SNR=30							
KURK	Kurchatov	41.58	302	*d i* P		P	02 45 33.1	-0.1
KURK				pmax	pmax			
	comp=Z,2.0nm,0.5s							
KURBB	Kurchatov Arra	41.66	302	P		P	02 45 33.7	-0.1
	comp=

VVLD	**Villa Vallelon**	**0.15**	**343**	Pg		**Pg**	**02 59 39.7**	**-0.3**
VVLD				Sg		**Sg**	**02 59 42.4**	**-0.2**
CERA	**Filignano**	**0.28**	**117**	Pg		**Pg**	**02 59 41.9**	**-0.1**
CERA				Sg		**Sg**	**02 59 46.3**	**+0.3**
	4µm,0.6s							
CERA	**Filignano**	**0.28**	**117**	Pg		**Pg**	**02 59 41.9**	**-0.1**
CERA				Sg		**Sg**	**02 59 46.3**	**+0.3**
	4µm,0.6s							
GUAR	**Guarcino**	**0.29**	**284**	Pg		**Pg**	**02 59 42.2**	**+0.2**
GUAR				Sg		**Sb**	**02 59 47.1**	**-0.5**
	2µm,0.3s							
GUAR	**Guarcino**	**0.29**	**284**	Pg		**Pg**	**02 59 42.2**	**+0.2**
GUAR				Sg		**Sb**	**02 59 47.1**	**-0.5**
	2µm,0.3s							
INTR	**Introdacqua**	**0.33**	**30**	Pg		**Pg**	**02 59 42.5**	**-0.3**
INTR				Sg		**Sg**	**02 59 47.8**	**+0.3**
	5µm,0.2s							
INTR	**Introdacqua**	**0.33**	**30**	Pg		**Pg**	**02 59 42.5**	**-0.3**
INTR				Sg		**Sg**	**02 59 47.8**	**+0.3**
	5µm,0.2s							
RNI2	**Rionero Sannit**	**0.35**	**94**	Pg		**Pg**	**02 59 43.5**	**+0.3**
RNI2				Sg		**Sb**	**02 59 50.3**	**+0.8**
RNI2	**Rionero Sannit**	**0.35**	**94**	Pg		**Pg**	**02 59 43.5**	**+0.3**
GIUL	**Giuliano Di Ro**	**0.36**	**243**	Pg		**Pb**	**02 59 43.7**	**-0.5**
GIUL				Sg		**Sb**	**02 59 50.0**	**+0.3**
	2µm,0.8s							
GIUL	**Giuliano Di Ro**	**0.36**	**243**	Pg		**Pb**	**02 59 43.7**	**-0.5**
GIUL				Sg		**Sb**	**02 59 50.0**	**+0.3**
	2µm,0.8s							
PTQR	**Pietraquaria**	**0.36**	**325**	Pg		**Pg**	**02 59 43.5**	**+0.1**
PTQR				Sg		**Sg**	**02 59 49.2**	**+0.7**
PTQR	**Pietraquaria**	**0.36**	**325**	Pg		**Pg**	**02 59 43.5**	**+0.1**
PTQR				Sg		**Sg**	**02 59 49.2**	**+0.7**
MIDA	**Miranda**	**0.44**	**101**	Pg		**Pg**	**02 59 44.4**	**-0.3**
MIDA				Sg		**Sb**	**02 59 51.2**	**-0.7**
	1µm,0.3s							
MIDA	**Miranda**	**0.44**	**101**	Pg		**Pg**	**02 59 44.4**	**-0.3**
MIDA				Sg		**Sb**	**02 59 51.2**	**-0.7**
	1µm,0.3s							
LPEL	**Lama dei Pelig**	**0.49**	**49**	Pg		**Pg**	**02 59 44.9**	**-0.9**
LPEL				Sg		**Sg**	**02 59 52.7**	**+0.3**
	2µm,0.3s							
LPEL	**Lama dei Pelig**	**0.49**	**49**	Pg		**Pg**	**02 59 44.9**	**-0.9**
LPEL				Sg		**Sg**	**02 59 52.7**	**+0.3**
	2µm,0.3s							
VAGA	**Valle Agricola**	**0.52**	**127**	Pg		**Pg**	**02 59 46.0**	**-0.2**
VAGA	**Valle Agricola**	**0.52**	**127**	Pg		**Pg**	**02 59 46.0**	**-0.2**
FAGN	**Fagnano**	**0.55**	**352**	Pg		**Pg**	**02 59 46.2**	**-0.6**
FAGN				Sg		**Sb**	**02 59 55.2**	**+0.1**
	4µm,0.4s							
FAGN	**Fagnano**	**0.55**	**352**	Pg		**Pg**	**02 59 46.2**	**-0.6**
CERT	**Cerreto**	**0.57**	**293**	Pg		**Pg**	**02 59 46.9**	**-0.3**
CERT				Sg		**Sb**	**02 59 55.5**	**-0.3**
	2µm,0.7s							
CERT	**Cerreto**	**0.57**	**293**	Pg		**Pg**	**02 59 46.9**	**-0.3**
CERT				Sg		**Sb**	**02 59 55.5**	**-0.3**
	2µm,0.7s							
MSC	**Monte Massico**	**0.58**	**158**	Pg		**Pb**	**02 59 47.4**	**-0.4**
MSC	**Monte Massico**	**0.58**	**158**	Pg		**Pb**	**02 59 47.4**	**-0.4**
SGG	**Gregorio Mates**	**0.62**	**123**	Pg		**Pb**	**02 59 48.3**	**-0.4**
	572nm,0.5s							
SGG	**Gregorio Mates**	**0.62**	**123**	Pg		**Pb**	**02 59 48.3**	**-0.4**
	572nm,0.5s							
TRIV	**Trivento**	**0.65**	**86**	Pg		**Pg**	**02 59 48.3**	**-0.4**
	709nm,0.9s							
TRIV	**Trivento**	**0.65**	**86**	Pg		**Pg**	**02 59 48.3**	**-0.4**
	709nm,0.9s							
VCEL	**Villa Celiera**	**0.68**	**10**	Pg		**Pg**	**02 59 48.7**	**-0.6**
VCEL				Sg		**Sb**	**02 59 59.3**	**+0.3**
	2µm,0.3s							
VCEL	**Villa Celiera**	**0.68**	**10**	Pg		**Pg**	**02 59 48.7**	**-0.6**
VCEL				Sg		**Sb**	**02 59 59.3**	**+0.3**
	2µm,0.3s							
FIAM	**Fiamignano**	**0.69**	**322**	Pg		**Pg**	**02 59 48.9**	**-0.5**
	722nm,0.6s							
FIAM	**Fiamignano**	**0.69**	**322**	Pg		**Pg**	**02 59 48.9**	**-0.5**
	722nm,0.6s							
BSSO	**Busso**	**0.71**	**104**	Pg		**Pg**	**02 59 49.5**	**-0.3**
BSSO	**Busso**	**0.71**	**104**	Pg		**Pg**	**02 59 49.5**	**-0.3**
RDP	**Rocca di Papa**	**0.72**	**273**	Pg		**Pg**	**02 59 49.9**	**-0.2**
	2µm,0.5s							
RDP	**Rocca di Papa**	**0.72**	**273**	Pg		**Pg**	**02 59 49.9**	**-0.2**
	2µm,0.5s							
PTRJ	**Pietraroja**	**0.73**	**119**	Pg		**Pg**	**02 59 50.1**	**-0.1**
PTRJ	**Pietraroja**	**0.73**	**119**	Pg		**Pg**	**02 59 50.1**	**-0.1**
LAV9	**Lanuvio**	**0.74**	**267**	Pg		**Pg**	**02 59 50.1**	**-0.3**
	2µm,0.4s							
LAV9	**Lanuvio**	**0.74**	**267**	Pg		**Pg**	**02 59 50.1**	**-0.3**
	2µm,0.4s							
RMP	**Rome, Mte Porz**	**0.74**	**277**	Pg		**Pg**	**02 59 49.9**	**-0.5**
RMP				Sg		**Sb**	**03 00 01.5**	**+0.9**
	874nm,0.3s							
RMP	**Rome, Mte Porz**	**0.74**	**277**	Pg		**Pg**	**02 59 49.9**	**-0.5**
RMP				Sg		**Sb**	**03 00 01.5**	**+0.9**
	874nm,0.3s							
MTCE	**Montecelio**	**0.76**	**293**	Pg		**Pg**	**02 59 50.0**	**-0.8**
	379nm,0.5s							
MTCE	**Montecelio**	**0.76**	**293**	Pg		**Pg**	**02 59 50.0**	**-0.8**
	379nm,0.5s							
FRES	**Fresagrandinar**	**0.78**	**71**	Pg		**Pg**	**02 59 50.1**	**-1.0**
	2µm,1.0s							
FRES	**Fresagrandinar**	**0.78**	**71**	Pg		**Pg**	**02 59 50.1**	**-1.0**
	2µm,1.0s							
TERO	**Teramo**	**0.90**	**356**	Pg		**Pg**	**02 59 51.8**	**-1.6**
	962nm,0.9s							
TERO	**Teramo**	**0.90**	**356**	Pg		**Pg**	**02 59 51.8**	**-1.6**
	962nm,0.9s							
CIGN	**Sant'Elia a Pi**	**0.92**	**94**	Pg		**Pg**	**02 59 52.8**	**-1.0**
	201nm,0.7s							
CIGN	**Sant'Elia a Pi**	**0.92**	**94**	Pg		**Pg**	**02 59 52.8**	**-1.0**
	201nm,0.7s							
VENT	**Ventotene**	**0.95**	**192**	Pg		**Pg**	**02 59 53.5**	**-0.9**
	297nm,0.5s							
VENT	**Ventotene**	**0.95**	**192**	Pg		**Pg**	**02 59 53.5**	**-0.9**
	297nm,0.5s							
PSB1	**Pescosannita**	**0.98**	**120**	Pg		**Pb**	**02 59 54.9**	**+0.1**
PSB1	**Pescosannita**	**0.98**	**120**	Pg		**Pb**	**02 59 54.9**	**+0.1**
LNSS	**Leonessa**	**1.00**	**332**	Pg		**Pg**	**02 59 54.6**	**-0.7**
	663nm,0.5s							
LNSS	**Leonessa**	**1.00**	**332**	Pg		**Pg**	**02 59 54.6**	**-0.7**
	663nm,0.5s							
MELA	**Melanico ??? S**	**1.08**	**91**	Pg		**Pg**	**02 59 55.2**	**-1.7**
	309nm,0.5s							
MELA	**Melanico ??? S**	**1.08**	**91**	Pg		**Pg**	**02 59 55.2**	**-1.7**
	309nm,0.5s							
MRB1	**Monte Rocchett**	**1.14**	**121**	Pg		**Pn**	**02 59 58.7**	**+1.2**
MRB1	**Monte Rocchett**	**1.14**	**121**	Pg		**Pn**	**02 59 58.7**	**+1.2**
NRCA	**Norcia**	**1.19**	**339**	Pg		**Pb**	**02 59 57.5**	**-0.8**
	235nm,0.6s							
NRCA	**Norcia**	**1.19**	**339**	Pg		**Pb**	**02 59 57.5**	**-0.8**
	235nm,0.6s							
CESX	**Cesi**	**1.21**	**318**	Pg		**Pg**	**02 59 59.4**	**+0.2**
	306nm,0.5s							
CESX	**Cesi**	**1.21**	**318**	Pg		**Pg**	**02 59 59.4**	**+0.2**
	306nm,0.5s							
OFFI	**Offida**	**1.21**	**0**	Pg		**Pb**	**02 59 58.3**	**-0.3**
OFFI	**Offida**	**1.21**	**0**	Pg		**Pb**	**02 59 58.3**	**-0.3**
TOLF	**Tolfa**	**1.30**	**286**	Pg		**Pn**	**03 00 00.1**	**+0.4**
	152nm,0.6s							
TOLF	**Tolfa**	**1.30**	**286**	Pg		**Pn**	**03 00 00.1**	**+0.4**
	152nm,0.6s							
GUMA	**Gualdo di Mace**	**1.35**	**8**	Pg		**Pn**	**03 00 01.1**	**+0.7**
	1µm,0.5s							
GUMA	**Gualdo di Mace**	**1.35**	**8**	Pg		**Pn**	**03 00 01.1**	**+0.7**
	1µm,0.5s							
FDMO	**Fiordimonte**	**1.38**	**342**	Pg		**Pn**	**03 00 00.9**	**0.0**
	226nm,0.5s							
FDMO	**Fiordimonte**	**1.38**	**342**	Pg		**Pn**	**03 00 00.9**	**0.0**
	226nm,0.5s							
SGTA	**Sant Agata di**	**1.40**	**114**	Pg		**Pb**	**03 00 02.3**	**+0.4**
	113nm,0.5s							
SGTA	**Sant Agata di**	**1.40**	**114**	Pg		**Pb**	**03 00 02.3**	**+0.4**
	113nm,0.5s							
CESI	**CESI - Serrava**	**1.40**	**336**	Pg		**Pn**	**03 00 01.7**	**+0.5**
	183nm,0.6s							
CESI	**CESI - Serrava**	**1.40**	**336**	Pg		**Pn**	**03 00 01.7**	**+0.5**
	183nm,0.6s							
MCRV	**Calabrutti - M**	**1.46**	**130**	Pg		**Pn**	**03 00 02.1**	**0.0**
	70nm,0.5s							
MCRV	**Calabrutti - M**	**1.46**	**130**	Pg		**Pn**	**03 00 02.1**	**0.0**
	70nm,0.5s							
MRLC	**Muro Lucano**	**1.67**	**125**	Pg		**Pn**	**03 00 05.1**	**+0.3**
	110nm,1.1s							
NVLJ	**Novalja**	**2.97**	**17**	*e*Pn		**Pn**	**03 00 23.8**	**+1.2**
NVLJ				Sn		**Sn**	**03 00 57.9**	**-0.1**
NVLJ	**Novalja**	**2.97**	**17**	*e*Pn		**Pn**	**03 00 23.8**	**+1.2**
NVLJ				Sn		**Sn**	**03 00 57.8**	**-0.1**
UDBI	**Udbina**	**3.19**	**28**	*e*Pn		**Pn**	**03 00 26.1**	**+0.3**
UDBI				Sn		**Sn**	**03 01 02.3**	**-1.2**
UDBI	**Udbina**	**3.19**	**28**	*e*Pn		**Pn**	**03 00 26.0**	**+0.3**
UDBI				Sn		**Sn**	**03 01 02.3**	**-1.2**
STON	**Ston**	**3.19**	**68**	*e*Pn		**Pn**	**03 00 27.4**	**+1.7**
STON				Sn		**Sn**	**03 01 01.4**	**-2.1**
STON	**Ston**	**3.19**	**68**	*e*Pn		**Pn**	**03 00 27.4**	**+1.7**
STON				Sn		**Sn**	**03 01 01.4**	**-2.1**
BBLS	**Lazići**	**4.72**	**61**	*e*Pn		**Pn**	**03 00 49.4**	**+2.6**
SOKA	**Soboth**	**5.04**	**11**	⇓*i*Pn		**Pn**	**03 00 52.2**	**+0.9**
SOKA	**Soboth**	**5.04**	**11**	Pn		**Pn**	**03 00 52.2**	**+0.9**
ABTA	**Abfaltersbach**	**5.09**	**351**	⇑*i*Pn		**Pn**	**03 00 53.8**	**+1.9**
ABTA	**Abfaltersbach**	**5.09**	**351**	Pn		**Pn**	**03 00 53.8**	**+1.9**
GRUS	**Gruza**	**5.61**	**65**	*e*Pn		**Pn**	**03 01 01.5**	**+2.6**
SELS	**Selova**	**5.70**	**72**	*e*Pn		**Pn**	**03 01 01.1**	**+0.9**
MOA	**Molln**	**6.14**	**4**	⇑*i*Pn		**Pn**	**03 01 08.9**	**+2.7**
MOA	**Molln**	**6.14**	**4**	Pn		**Pn**	**03 01 08.9**	**+2.7**
ZAPS	**Zavoj**	**6.79**	**74**	*e*Pn		**Pn**	**03 01 18.4**	**+3.2**

IDC 18 03:09:41.0±2.5, 16°00S×172°92W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.8/19, mbtmp3.7/5, MS3.2/2, Ms1 3.2/2, ms1mx2.9/32, Error ellipse: s-maj=139.7km s-min=23.2km az=143.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.35**	**28**	Pn		Pn	03 10 15.9	-5.1
	8.8nm,0.3s,baz=50,slow=12,SNR=7.5							
AFI				Sn		Sn	03 10 38.7	-12
	20nm,0.3s,baz=71,slow=22,SNR=8.6							
RAR	**Rarotonga**	**13.49**	**115**	LR		LR	03 16 41.9	
	comp=Z,87nm,19.2s,baz=135,slow=31							
PPT	**Papeete**	**22.40**	**97**	LR		LR	03 20 48.1	
	comp=Z,82nm,19.6s,baz=70,slow=30							
STKA	**Stephens Creek**	**44.15**	**241**	P		P	03 17 51.1	-0.5
	1.1nm,0.3s,baz=98,slow=9.3,SNR=4.6							
WRA	**Warramunga Arr**	**50.16**	**257**	P		P	03 18 38.9	+0.1
	0.3nm,0.4s,baz=92,slow=6.6,SNR=3.3							
ASAR	**Alice Springs**	**50.37**	**252**	P		P	03 18 40.1	-0.3
	1.6nm,0.7s,baz=88,slow=7.8,SNR=27							
NVAR	**Mina Array Bea**	**74.46**	**42**	P		P	03 21 21.7	+0.1
	0.2nm,0.5s,baz=234,slow=7.7,SNR=2.5							
ILAR	**Eielson Array**	**82.94**	**11**	P		P	03 22 06.8	-0.5
	0.3nm,0.6s,baz=234,slow=6.3,SNR=14							
BRTR	**Keskin Array B**	**146.91**	**321**	PKPbc		PKPbc	03 29 26.2	+0.3
	0.8nm,0.8s,baz=51,slow=4.2,SNR=4.1							

*IDC **18** 03:24:05.6±11.0, 9°40N×84°58W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.7/21, mbtmp3.7/5, Error ellipse: s-maj=237.4km s-min=54.0km az=174.0*
*NEIC **18** 03:24:17.3, 10°01N×85°43W, h67km, MD4.5(CASC), After UCR.*
NEIC Felt [III] in the Nandayure area.
*ISCJB **18** 03:24:18.2±0.5, 10°09N±0°04×85°35W±0°04, h55km±4km, mb3.5/5, Error ellipse: s-maj=8.2km s-min=3.9km az=43.6*
*CASC **18** 03:24:18.9±2.5, 10°12N×85°32W, h50km±8km, MD3.6*

ISC 18 03:24:19.4±0.9, 10°11N±0°03×85°34W±0°03, h47km±5km, n68, σ1s10/97, mb3.5/5, 20C-8D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
A494	**Palo Verde**	**0.24**	**357**	⇑*i*P		**Pn**	**03 24 26.6**	**-1.2**
A494				*i* S		**Sn**	**03 24 32.7**	**-1.0**
A494	**Palo Verde**	**0.24**	**357**	⇑*i*P		**Pn**	**03 24 26.6**	**-1.2**
A494				*i* S		**Sn**	**03 24 32.7**	**-1.0**
VCR	**Vista de Mar**	**0.29**	**274**	*e*P		**Pn**	**03 24 26.2**	**-2.1**
VCR				*e*S		**Sn**	**03 24 36.5**	**+1.9**
VCR	**Vista de Mar**	**0.29**	**274**	*e*P		**Pn**	**03 24 26.2**	**-2.1**
VCR				*e*S		**Sn**	**03 24 36.5**	**+1.9**
VCR	**Vista de Mar**	**0.29**	**274**	*e*P		**Pn**	**03 24 26.2**	**-2.1**
VCR				*e*S		**Sn**	**03 24 36.5**	**+1.9**
JCR	**Jicaral**	**0.34**	**139**	⇑*i*P		**Pn**	**03 24 27.0**	**-1.8**
JCR				*e*S		**Sn**	**03 24 38.5**	**+3.1**
JCR	**Jicaral**	**0.34**	**139**	⇑*i*P		**Pn**	**03 24 27.0**	**-1.8**
JCR				*e*S		**Sn**	**03 24 38.5**	**+3.1**
JCR	**Jicaral**	**0.34**	**139**	⇑*i*P		**Pn**	**03 24 27.0**	**-1.8**
JCR				*e*S		**Sn**	**03 24 38.5**	**+3.1**
JTS	**JuntasAbangare**	**0.42**	**64**	*e*Pn		**Pn**	**03 24 28.6**	**-1.0**
CHPA	**Chiripa**	**0.54**	**52**	*i* P		**Pn**	**03 24 30.6**	**-0.6**
CHPA				*i* S		**Sn**	**03 24 39.8**	**+0.3**
CHPA	**Chiripa**	**0.54**	**52**	*i* P		**Pn**	**03 24 30.6**	**-0.6**
CHPA				*i* S		**Sn**	**03 24 39.8**	**+0.3**
LIM1	**Limonal**	**0.59**	**8**	⇑*i*P		**Pn**	**03 24 31.4**	**-0.4**
LIM1				*i* S		**Sn**	**03 24 40.5**	**-0.1**
LIM1	**Limonal**	**0.59**	**8**	⇑*i*P		**Pn**	**03 24 31.4**	**-0.4**
LIM1				*i* S		**Sn**	**03 24 40.5**	**-0.1**
AMAS	**Alto Masis**	**0.60**	**34**	⇑*i*P		**Pn**	**03 24 31.4**	**-0.6**
AMAS				*i* S		**Sn**	**03 24 41.0**	**+0.1**
AMAS	**Alto Masis**	**0.60**	**34**	⇑*i*P		**Pn**	**03 24 31.4**	**-0.6**
AMAS				*i* S		**Sn**	**03 24 41.0**	**+0.1**
GUAB	**Guayabo de Bag**	**0.61**	**10**	*i* P		**Pn**	**03 24 31.2**	**-0.7**
GUAB	**Guayabo de Bag**	**0.61**	**10**	*i* P		**Pn**	**03 24 31.2**	**-0.7**
HORNC	**Hornillas**	**0.62**	**14**	⇑*i*P		**Pn**	**03 24 31.7**	**-0.5**
HORNC	**Hornillas**	**0.62**	**14**	⇑*i*P		**Pn**	**03 24 31.7**	**-0.5**
GPS2	**Hotel Rinc˜‡n**	**0.64**	**359**	*i* P		**Pn**	**03 24 31.9**	**-0.5**
GPS2				*i* S		**Sn**	**03 24 41.8**	**+0.1**
GPS2	**Hotel Rinc˜‡n**	**0.64**	**359**	*i* P		**Pn**	**03 24 31.9**	**-0.5**
GPS2				*i* S		**Sn**	**03 24 41.8**	**+0.1**
GPS1	**Guardaparques**	**0.66**	**359**	*i* P		**Pn**	**03 24 32.1**	**-0.6**
GPS1	**Guardaparques**	**0.66**	**359**	*i* P		**Pn**	**03 24 32.1**	**-0.6**
CASO	**Castillo**	**0.68**	**61**	⇑*i*P		**Pn**	**03 24 32.7**	**-0.1**
CASO				*i* S		**Sn**	**03 24 43.1**	**+0.6**
CASO	**Castillo**	**0.68**	**61**	⇑*i*P		**Pn**	**03 24 32.7**	**-0.1**
CASO				*i* S		**Sn**	**03 24 43.1**	**+0.6**
BUEV	**Buena Vista**	**0.69**	**354**	*i* P		**Pn**	**03 24 32.6**	**-0.5**
BUEV				*i* S		**Sn**	**03 24 42.5**	**-0.4**
BUEV	**Buena Vista**	**0.69**	**354**	*i* P		**Pn**	**03 24 32.6**	**-0.5**
BUEV				*i* S		**Sn**	**03 24 42.5**	**-0.4**
GB1A	**Borinquen Arri**	**0.71**	**355**	*i* P		**Pn**	**03 24 32.8**	**-0.5**
GB1A	**Borinquen Arri**	**0.71**	**355**	*i* P		**Pn**	**03 24 32.8**	**-0.5**
CEDE	**Laguna Cede˜–o**	**0.73**	**59**	⇑*i*P		**Pn**	**03 24 33.5**	**0.0**
CEDE	**Laguna Cede˜–o**	**0.73**	**59**	⇑*i*P		**Pn**	**03 24 33.5**	**0.0**
CGA2	**Cerro Gallo 2**	**0.86**	**96**	⇓*i*P		**Pn**	**03 24 34.7**	**-0.6**
CGA2				*e*S		**Sn**	**03 24 46.9**	**-0.1

DIDY				*e*Sn	**Sg**	**03 43 06.4 +1.4**
DID	**Didima**	**1.37**	**59**	S	**Sb**	**03 43 05.3 +0.3**
LAKA	**Lakka**	**1.44**	**7**	P	**Pn**	**03 42 48.2 +0.5**
LAKA				S	**Sb**	**03 43 07.5 +0.5**
LAKA	**Lakka**	**1.44**	**7**	*e*PN	**Pn**	**03 42 48.3 +0.5**
LAKA	**Lakka**	**1.44**	**7**	*e*Pn	**Pn**	**03 42 48.3 +0.5**
LAKA				S	**Sb**	**03 43 07.5 +0.5**
PSA1	**Psathopyrgos**	**1.52**	**4**	*e*PN	**Pb**	**03 42 50.2 +0.3**
PSA1				*e*SN	**Sg**	**03 43 11.6 +0.9**
LTK	**Loutraki**	**1.55**	**38**	P	**Pb**	**03 42 50.5 0.0**
LTK				S	**Sn**	**03 43 09.1 -0.2**
ANKY	**Antikythira Is**	**1.56**	**126**	P	**Pg**	**03 42 51.7 0.0**
ANKY				S	**Sg**	**03 43 12.4 +0.4**
ANKY	**Antikythira Is**	**1.56**	**126**	*e*PN	**Pg**	**03 42 51.9 +0.2**
ANKY				*e*SN	**Sg**	**03 43 12.2 +0.2**
ANKY	**Antikythira Is**	**1.56**	**126**	*e*Pn	**Pg**	**03 42 51.9 +0.2**
ANKY				*e*Sn	**Sg**	**03 43 12.2 +0.2**
TRIZ	**Trizonia**	**1.58**	**9**	P	**Pb**	**03 42 50.5 -0.4**
TRIZ				S	**Sb**	**03 43 11.3 +0.5**
TRIZ	**Trizonia**	**1.58**	**9**	*e*PN	**Pb**	**03 42 51.4 +0.5**
TRIZ				*e*SN	**Sg**	**03 43 11.9 -0.6**
TRIZ	**Trizonia**	**1.58**	**9**	P	**Pb**	**03 42 50.5 -0.4**
TRIZ	**Trizonia**	**1.58**	**9**	*e*Pn	**Pb**	**03 42 51.4 +0.5**
TRIZ				S	**Sb**	**03 43 11.3 +0.5**
KALE	**Kalithea**	**1.61**	**11**	P	**Pb**	**03 42 51.3 -0.2**
KALE				S	**Sb**	**03 43 11.9 0.0**
KALE	**Kalithea**	**1.61**	**11**	*e*PN	**Pb**	**03 42 51.7 +0.2**
KALE	**Kalithea**	**1.61**	**11**	P	**Pb**	**03 42 51.3 -0.2**
KALE	**Kalithea**	**1.61**	**11**	*e*Pn	**Pb**	**03 42 51.7 +0.2**
KALE				S	**Sb**	**03 43 11.9 0.0**
EFP	**Efpalio**	**1.62**	**4**	P	**Pb**	**03 42 52.1 +0.4**
EFP				S	**Sg**	**03 43 14.8 +0.8**
VLS	**Valsamata**	**1.65**	**326**	P	**Pn**	**03 42 51.4 +0.7**
VLS				S	**Sg**	**03 43 14.6 -0.4**
VLS	**Valsamata**	**1.65**	**326**	*e*PN	**Pn**	**03 42 51.3 +0.6**
VLS				*e*SN	**Sb**	**03 43 13.9 +0.9**
VLS	**Valsamata**	**1.65**	**326**	P	**Pn**	**03 42 51.4 +0.7**
VLS				*e*Sn	**Sb**	**03 43 13.9 +0.9**
VLS				S	**Sg**	**03 43 14.6 -0.4**
NAIG	**Nisos Aigina**	**1.68**	**55**	*e*PN	**Pg**	**03 42 53.6 -0.3**
NAIG	**Nisos Aigina**	**1.68**	**55**	*e*Pn	**Pg**	**03 42 53.6 -0.3**
DSF	**Desfina**	**1.71**	**21**	P	**Pb**	**03 42 53.4 +0.1**
DSF				S	**Sn**	**03 43 12.9 -0.5**
DESF	**Desfina**	**1.72**	**21**	*e*PN	**Pb**	**03 42 53.6 +0.3**
DESF				*e*SN	**Sg**	**03 43 16.2 -0.8**
DESF	**Desfina**	**1.72**	**21**	*e*Pn	**Pb**	**03 42 53.6 +0.3**
DESF				*e*Sn	**Sg**	**03 43 16.2 -0.8**
PVO	**Paravola**	**1.82**	**354**	P	**Pb**	**03 42 55.6 +0.6**
PVO				S	**Sg**	**03 43 23.9 +3.7**
PDO	**Prodromos**	**1.85**	**346**	P	**Pb**	**03 42 55.6 +0.1**
PDO				S	**Sn**	**03 43 17.0 +0.4**
ATH	**Athens Observa**	**1.95**	**53**	*e*PB	**Pn**	**03 42 55.8 +1.1**
ATH				*e*SN	**Sb**	**03 43 22.5 +1.1**
ATH	**Athens Observa**	**1.95**	**53**	*e*Pb	**Pn**	**03 42 55.8 +1.1**
ATH				*e*Sn	**Sb**	**03 43 22.5 +1.1**
AXAR	**Agios Charalam**	**2.08**	**20**	P	**Pn**	**03 42 58.2 +1.6**
AXAR	**Agios Charalam**	**2.08**	**20**	P	**Pn**	**03 42 58.2 +1.6**
PTL	**Penteli**	**2.09**	**53**	*e*PN	**Pb**	**03 42 58.7 -0.9**
PTL				*e*SN	**Sb**	**03 43 24.9 -0.6**
PTL	**Penteli**	**2.09**	**53**	*e*Pn	**Pb**	**03 42 58.7 -0.9**
PTL				*e*Sn	**Sb**	**03 43 24.9 -0.6**
EVR	**Evrytania**	**2.11**	**1**	*e*PN	**Pb**	**03 43 00.6 +0.6**
EVR	**Evrytania**	**2.11**	**1**	*e*Pn	**Pb**	**03 43 00.6 +0.6**
MAKR	**Makrakomi, Fth**	**2.22**	**8**	*e*PN	**Pb**	**03 43 01.4 -0.5**
MAKR	**Makrakomi, Fth**	**2.22**	**8**	*e*Pn	**Pb**	**03 43 01.4 -0.5**
KARN	**Karanos**	**2.24**	**128**	P	**Pb**	**03 43 01.2 -1.0**
KARN	**Karanos**	**2.24**	**128**	P	**Pb**	**03 43 01.2 -1.0**
AGG	**Agios Georgios**	**2.26**	**11**	*e*PN	**Pb**	**03 43 01.5 -1.0**
AGG	**Agios Georgios**	**2.26**	**11**	*e*Pn	**Pb**	**03 43 01.5 -1.0**
SMIA	**Simia**	**2.37**	**29**	*e*PN	**Pb**	**03 43 03.0 -1.4**
SMIA	**Simia**	**2.37**	**29**	*e*Pn	**Pb**	**03 43 03.0 -1.4**
MRKA	**Markates**	**2.39**	**37**	*e*PB	**Pn**	**03 43 02.3 +1.5**
MRKA	**Markates**	**2.39**	**37**	*e*Pb	**Pn**	**03 43 02.3 +1.5**
VAM	**Vamos**	**2.42**	**125**	P	**Pn**	**03 43 03.4 +2.3**
VAM	**Vamos**	**2.42**	**125**	*e*PN	**Pn**	**03 43 03.5 +2.3**
VAM	**Vamos**	**2.42**	**125**	*e*Pn	**Pn**	**03 43 03.5 +2.3**
SKIA	**Skiathos**	**2.72**	**29**	*e*PN	**Pn**	**03 43 07.3 +2.0**
SKIA	**Skiathos**	**2.72**	**29**	*e*Pn	**Pn**	**03 43 07.3 +2.0**
NEO	**Neokhori**	**2.75**	**24**	*e*PN	**Pn**	**03 43 07.5 +1.7**
NEO	**Neokhori**	**2.75**	**24**	*e*Pn	**Pn**	**03 43 07.5 +1.7**
THL	**Klokotos Trika**	**2.76**	**4**	*e*PN	**Pn**	**03 43 08.0 +2.1**
THL	**Klokotos Trika**	**2.76**	**4**	*e*Pn	**Pn**	**03 43 08.0 +2.1**
XOR	**Xorichti**	**2.79**	**23**	*e*PN	**Pn**	**03 43 08.4 +2.0**
XOR	**Xorichti**	**2.79**	**23**	*e*Pn	**Pn**	**03 43 08.4 +2.0**
AOS	**Alonnisos**	**2.90**	**35**	*e*PB	**Pn**	**03 43 10.4 +2.7**
AOS	**Alonnisos**	**2.90**	**35**	*e*Pb	**Pn**	**03 43 10.4 +2.7**
JAN	**Janina**	**2.93**	**346**	*e*PB	**Pn**	**03 43 10.8 +2.5**
JAN	**Janina**	**2.93**	**346**	*e*Pb	**Pn**	**03 43 10.8 +2.5**
IGT	**Igoumenitsa**	**2.94**	**338**	*e*PN	**Pn**	**03 43 09.6 +1.2**
IGT	**Igoumenitsa**	**2.94**	**338**	*e*Pn	**Pn**	**03 43 09.6 +1.2**
IDI	**Anoyia**	**2.96**	**120**	*e*PN	**Pn**	**03 43 09.9 +1.3**
IDI	**Anoyia**	**2.96**	**120**	*e*Pn	**Pn**	**03 43 09.9 +1.3**
THR3	**Thira Island,**	**2.96**	**97**	P	**Pn**	**03 43 11.0 +2.4**
THR3	**Thira Island,**	**2.96**	**97**	P	**Pn**	**03 43 11.0 +2.4**
SANT	**Santorini**	**3.01**	**97**	*e*PN	**Pn**	**03 43 11.3 +1.9**
SANT	**Santorini**	**3.01**	**97**	*e*Pn	**Pn**	**03 43 11.3 +1.9**
APE	**Apeiranthos**	**3.04**	**84**	*e*PN	**Pn**	**03 43 11.4 +1.7**
APE	**Apeiranthos**	**3.04**	**84**	*e*Pn	**Pn**	**03 43 11.4 +1.7**
KEK	**Kerkira**	**3.29**	**333**	*e*PN	**Pn**	**03 43 14.0 +0.9**
KEK	**Kerkira**	**3.29**	**333**	*e*Pn	**Pn**	**03 43 14.0 +0.9**
LIT	**Litokhoron**	**3.34**	**10**	*e*PN	**Pn**	**03 43 16.4 +2.5**
LIT	**Litokhoron**	**3.34**	**10**	*e*Pn	**Pn**	**03 43 16.4 +2.5**
PAIG	**Paliouri**	**3.46**	**25**	*e*PN	**Pn**	**03 43 16.9 +1.4**
PAIG	**Paliouri**	**3.46**	**25**	*e*Pn	**Pn**	**03 43 16.9 +1.4**
NPS	**Neapolis**	**3.48**	**115**	*e*PN	**Pn**	**03 43 17.1 +1.3**
NPS	**Neapolis**	**3.48**	**115**	*e*Pn	**Pn**	**03 43 17.1 +1.3**
KZN	**Kozani**	**3.50**	**0**	*e*PN	**Pn**	**03 43 18.1 +2.1**
KZN	**Kozani**	**3.50**	**0**	*e*Pn	**Pn**	**03 43 18.1 +2.1**
NEST	**Nestorio**	**3.65**	**351**	*e*PN	**Pn**	**03 43 20.8 +2.7**
NEST	**Nestorio**	**3.65**	**351**	*e*Pn	**Pn**	**03 43 20.8 +2.7**
CHOS	**Chios island**	**3.76**	**64**	*e*PN	**Pn**	**03 43 21.9 +2.2**
CHOS	**Chios island**	**3.76**	**64**	*e*Pn	**Pn**	**03 43 21.9 +2.2**
PLG	**Polygyros**	**3.80**	**20**	*e*PN	**Pn**	**03 43 21.5 +1.3**
PLG	**Polygyros**	**3.80**	**20**	*e*Pn	**Pn**	**03 43 21.5 +1.3**
HORT	**Hortiatis**	**3.93**	**15**	*e*PN	**Pn**	**03 43 23.5 +1.5**
HORT	**Hortiatis**	**3.93**	**15**	*e*Pn	**Pn**	**03 43 23.5 +1.5**
FNA	**Florina**	**3.98**	**356**	*e*PN	**Pn**	**03 43 24.3 +1.6**
FNA	**Florina**	**3.98**	**356**	*e*Pn	**Pn**	**03 43 24.3 +1.6**
LIA	**Limnos Island**	**4.10**	**40**	*e*PN	**Pn**	**03 43 26.3 +2.1**
LIA	**Limnos Island**	**4.10**	**40**	*e*Pn	**Pn**	**03 43 26.3 +2.1**
GRG	**Griva**	**4.17**	**7**	*e*PN	**Pn**	**03 43 27.1 +1.8**
GRG	**Griva**	**4.17**	**7**	*e*Pn	**Pn**	**03 43 27.1 +1.8**
KNT	**Kendrikon**	**4.44**	**11**	*e*PN	**Pn**	**03 43 31.3 +2.3**
KNT	**Kendrikon**	**4.44**	**11**	*e*Pn	**Pn**	**03 43 31.3 +2.3**
SRS	**Serrai**	**4.54**	**18**	*e*PN	**Pn**	**03 43 31.9 +1.6**
SRS	**Serrai**	**4.54**	**18**	*e*Pn	**Pn**	**03 43 31.9 +1.6**
KARP	**Karpathos**	**4.55**	**104**	*e*PN	**Pn**	**03 43 32.2 +1.7**
KARP	**Karpathos**	**4.55**	**104**	*e*Pn	**Pn**	**03 43 32.2 +1.7**
NVR	**Nevrokopi**	**4.82**	**19**	*e*PN	**Pn**	**03 43 35.7 +1.4**
NVR	**Nevrokopi**	**4.82**	**19**	*e*Pn	**Pn**	**03 43 35.7 +1.4**
STON	**Ston**	**6.81**	**334**	*e*Pn	**Pn**	**03 44 00.1 -1.4**
STON				S	**Sn**	**03 45 16.3 -2.7**
BRTR	**Keskin Array B**	**9.79**	**69**	P	Pn	03 44 50.2 +7.7
	0.0nm,0.3s,baz=252,slow=14,SNR=2.8					
GERES	**GERESS Array B**	**13.39**	**336**	P	**Pn**	**03 45 32.5 +0.8**
	0.1nm,0.3s,baz=164,slow=14,SNR=2.9					
AKASG	**Malin Array Be**	**14.89**	**19**	P	**P**	**03 45 56.0 -1.7**
	0.3nm,0.3s,baz=214,slow=9.5,SNR=3.7					
FINES	**FINESS Array B**	**24.81**	**5**	P	**P**	**03 47 42.0 -1.5**
	3.5nm,1.0s,baz=191,slow=9.3,SNR=7.7					
NOA	**NORSAR Array B**	**25.16**	**348**	P	**P**	**03 47 45.3 -1.4**
	0.5nm,0.8s,baz=155,slow=9.0,SNR=4.1					
TORD	**Torodi Ar. Bea**	**29.63**	**223**	P	P	03 48 20.4 -6.8
	0.3nm,0.9s,baz=53,slow=10.0,SNR=2.8					
MKAR	**Makanchi Array**	**45.20**	**57**	P	**P**	**03 50 37.9 -0.7**
	0.3nm,0.4s,baz=270,slow=7.5,SNR=5.8					
ZALV	**Zalesovo Beam**	**45.89**	**47**	P	**P**	**03 50 44.3 +0.4**
	1.1nm,0.4s,baz=276,slow=9.8,SNR=3.9					

*ISCJB **18** 04:00:57.6±0.4,51°.32S±0°.08×32°.0W±0°.1,h10km, mb4.3/19,MS3.1/3,Error ellipse: s-maj=12.4km s-min=10.7km az=31.1*

*IDC **18** 04:00:58.0±0.7,51°.35S×32°.03W,h0km,mb4.2/9, mb1 4.2/9,mb1mx4.1/16,mbtmp4.2/9,MS3.2/3,Ms1 3.2/3, ms1mx3.0/21,Error ellipse: s-maj=23.5km s-min=16.6km az=64.0*

*NEIC **18** 04:00:59.3±0.3,51°.32S×32°.06W,h10km,mb4.6/13,Error ellipse: s-maj=8.8km s-min=7.7km az=29.0*

ISC 18 04:00:59.3±0.5,51°.34S±0°.10×32°.1W±0°.1,h10km,n45, σ0s59/38,mb4.4/18,MS3.4/3,South Georgia Rise

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**21.31**	**219**	*e*P	**P**		**04 05 45.6**	**-0.2**
	306nm,2.2s							
SNAA	**Sanae**	**24.22**	**158**	*e*P	**P**		**04 06 16.9**	**+1.1**
	2.1nm,0.6s							
SNAA	**Sanae**	**24.22**	**158**	P	**P**		**04 06 15.5**	**-0.4**
	0.3nm,0.7s,baz=318,slow=16,SNR=4.5							
SNAA				LR	LR		04 12 06.0	
	comp=Z,13nm,21.6s,baz=209,slow=28							
TRQA	**Tornquist**	**24.87**	**291**	*e*P	**P**		**04 06 22.3**	**+0.3**
	7.3nm,0.9s							
CFAA	**Coronel Fontan**	**33.05**	**293**	P	**P**		**04 07 34.1**	**-0.8**
CFAA	**Coronel Fontan**	**33.05**	**293**	P	**P**		**04 07 34.1**	**-0.8**
	0.1nm,0.4s,baz=266,slow=4.4,SNR=3.6							
QSPA	**South Pole Qui**	**38.92**	**180**	*e*P	**P**		**04 08 24.9**	**-0.1**
	11nm,0.5s							
QSPA	**South Pole Qui**	**38.92**	**180**	P	**P**		**04 08 25.0**	**0.0**
	8.5nm,0.7s							
LVC	**Limon Verde**	**40.40**	**301**	*e*P	**P**		**04 08 37.8**	**0.0**
	14nm,1.0s							
SIV	**San Ignacio**	**42.20**	**316**	P	**P**		**04 08 53.0**	**+0.7**
SIV	**San Ignacio**	**42.20**	**316**	P	**P**		**04 08 53.0**	**+0.7**
	2.3nm,0.6s,baz=164,slow=6.7,SNR=9.4							
H10S2	**ASCENSION HYDR**	**44.62**	**25**	T	T		04 57 09.4	
	baz=196,slow=0.7,SNR=15							
H10S3	**ASCENSION HYDR**	**44.62**	**25**	T	T		04 57 10.8	
	baz=196,slow=0.7,SNR=14							
H10S1	**ASCENSION HYDR**	**44.63**	**25**	T	T		04 57 11.9	
	baz=196,slow=0.7,SNR=11							
LPAZ	**La Paz**	**45.25**	**307**	*e*P	**P**		**04 09 18.1**	**+0.5**
	4.4nm,0.7s							
LPAZ	**La Paz**	**45.25**	**307**	P	**P**		**04 09 18.5**	**+0.9**
	3.5nm,0.6s,baz=149,slow=5.1,SNR=29							
MAW	**Mawson**	**45.68**	**148**	P	**P**		**04 09 20.3**	**+0.6**
MAW	**Mawson**	**45.68**	**148**	P	**P**		**04 09 20.3**	**+0.6**
	0.9nm,0.6s,baz=260,slow=17,SNR=3.3							
H10N3	**ASCENSION HYDR**	**45.72**	**25**	T	T		04 58 36.0	
	baz=195,slow=0.7,SNR=19							
H10N1	**ASCENSION HYDR**	**45.73**	**25**	T	T		04 58 36.1	
	baz=195,slow=0.7,SNR=24							
H10N2	**ASCENSION HYDR**	**45.74**	**25**	T	T		04 58 37.2	
	baz=195,slow=0.7,SNR=26							
BOSA	**Boshof**	**48.02**	**85**	*e*P	**P**		**04 09 38.9**	**+0.2**
	24nm,1.5s							
BOSA	**Boshof**	**48.02**	**85**	P	**P**		**04 09 38.5**	**-0.2**
	3.1nm,1.0s,baz=204,slow=11,SNR=2.9							
BOSA				LR	LR		04 28 50.5	
	comp=Z,38nm,18.4s,baz=67,slow=35							
SAML	**Samuel**	**49.39**	**318**	*e*P	P		04 09 45.2	-3.9
	2.5nm,1.0s							
TSUM	**Tsumeb**	**50.32**	**69**	*e*P	**P**		**04 09 56.8**	**+0.4**
	6.3nm,1.2s							
LBTB	**Lobatse**	**50.80**	**82**	*e*P	**P**		**04 09 58.9**	**-1.0**
	13nm,1.4s							
VNDA	**Vanda**	**51.12**	**184**	*e*P	**P**		**04 10 01.3**	**-0.2**
	1.4nm,0.9s							
VNDA	**Vanda**	**51.12**	**184**	P	**P**		**04 10 01.6**	**0.0**
	0.5nm,0.9s,baz=167,slow=2.6,SNR=3.6							
VNDA				LR	LR		04 31 33.4	
	comp=Z,53nm,20.2s,baz=50,slow=36							
LSZ	**Lusaka**	**59.71**	**76**	*e*P	**P**		**04 11 03.3**	**-1.0**
	4.2nm,1.0s							
DBIC	**Dimbokro**	**62.33**	**31**	P	**P**		**04 11 21.9**	**+0.1**
DBIC	**Dimbokro**	**62.33**	**31**	P	**P**		**04 11 21.9**	**+0.1**
	4.7nm,0.8s,baz=149,slow=3.6,SNR=4.9							
TOA0	**Torodi Ar. Sit**	**70.61**	**35**	*e*P	**P**		**04 12 14.8**	**0.0**
TORD	**Torodi Ar. Bea**	**70.61**	**35**	P	**P**		**04 12 15.1**	**+0.4**
TORD	**Torodi Ar. Bea**	**70.61**	**35**	P	**P**		**04 12 15.1**	**+0.4**
	1.8nm,0.6s,baz=199,slow=6.2,SNR=21							
BCIP	**Isla Barro Col**	**72.96**	**310**	*e*P	**P**		**04 12 28.4**	**-0.5**
ESDC	**Sonseca Array**	**93.91**	**21**	P	**P**		**04 14 17.4**	**+0.8**
ESDC	**Sonseca Array**	**93.91**	**21**	P	**P**		**04 14 17.4**	**+0.8**
	0.6nm,0.7s,baz=186,slow=3.0,SNR=4.2							
WVT	**Waverly**	**99.87**	**317**	*e*P	**Pdif**		**04 14 42.5**	**-1.1**
	2.2nm,0.8s							
ABKAR	**Akbulak array**	**127.06**	**55**	*e*PKPdf	**PKPdf**		**04 20 01.7**	**-1.0**
EKS2	**Erkin-Say**	**130.70**	**69**	*e*PKPdf	**PKPdf**		**04 20 10.0**	**0.0**
ILAR	**Eielson Array**	**144.74**	**318**	PKP	**PKPab**		**04 20 33.8**	**0.0**
ILAR	**Eielson Array**	**144.74**	**318**	PKP	**PKPab**		**04 20 33.8**	**0.0**
	1.5nm,0.8s,baz=108,slow=2.2,SNR=20							
COLA	**College**	**145.16**	**318**	*e*PKPdf	**PKPab**		**04 20 35.4**	**+0.1**
MCK	**McKinley**	**145.45**	**316**	*e*PKPdf	**PKPab**		**04 20 37.0**	**+0.5**
BPAW	**Bear Paw Mtn.**	**146.40**	**316**	*e*PKPdf	**PKPbc**		**04 20 38.9**	**-0.3**

*IDC **18** 04:11:17.0±0.8,0°.78S×121°.61E,h0km,mb3.8/7, mb1 4.0/8,mb1mx3.8/23,mbtmp3.9/8,ML4.5/1,MS3.3/5, Ms1 3.3/5,ms1mx3.0/36,Error ellipse: s-maj=44.8km s-min=16.0km az=71.0*

*ISCJB **18** 04:11:19.9±0.5,0°.73S±0°.05×121°.67E±0°.05,h31km, mb3.9/7,MS3.2/3,Error ellipse: s-maj=8.4km s-min=6.7km az=38.3*

*DJA **18** 04:11:20.6±0.9,1°.S±4°.×12°.2E±1°.3,h93km±23km,M4.6/7, MLv4.6/7*

ISC 18 04:11:21.9±0.8,0°.82S±0°.06×121°.76E±0°.06,h31km,n22, σ1s10/20,mb3.9/7,MS3.3/3,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.03**	**102**	P	**Pn**		**04 11 40.0**	**-0.2**
LUWI				S	**Sb**		**04 11 55.1**	**+0.6**
MRSI	**Marisa**	**1.30**	**8**	P	Pn		04 11 40.6	-3.3
TOLI	**Toli-Toli**	**2.16**	**333**	P	**Pn**		**04 11 57.2**	**+1.5**
TTSI	**Tana Toraja**	**2.94**	**221**	P	**Pn**		**04 12 07.0**	**+0.5**
MMSI	**Mamuju**	**3.40**	**237**	P	**Pn**		**04 12 13.1**	**+0.2**
SPSI	**Sidrap Palu**	**3.71**	**212**	P	**Pn**		**04 12 17.8**	**+0.8**
BNSI	**Bone**	**3.92**	**205**	P	**Pn**		**04 12 21.4**	**+1.4**
KAPI	**Kappang**	**4.63**	**206**	P	**Pn**		**04 12 29.3**	**-0.4**
KAPI	**Kappang**	**4.63**	**206**	Pn	**Pn**		**04 12 29.0**	**-0.7**
	22nm,0.3s,baz=34,slow=6.5,SNR=40							
KAPI				Sn	**Sn**		**04 13 22.2**	**-0.2**
	8.1nm,0.3s,baz=45,slow=19,SNR=3.2							
KAPI				LR	LR		04 14 24.5	
	comp=Z,202nm,18.3s,baz=46,slow=41							
BKSI	**Bulukumba**	**4.76**	**200**	P	**Pn**		**04 12 32.0**	**+0.4**
BATI	**Baumata**	**9.52**	**169**	LR	LR		04 18 33.8	
	comp=Z,386nm,18.3s,baz=132,slow=46							
WRA	**Warramunga Arr**	**22.64**	**148**	P	**P**		**04 16 20.8**	**+0.1**
	2.5nm,1.0s,baz=209,slow=12,SNR=4.9							
ASAR	**Alice Springs**	**25.58**	**153**	P	**P**		**04 16 48.4**	**-0.1**
	1.1nm,1.0s,baz=328,slow=7.8,SNR=5.7							
ASAR				PcP	**PcP**		**04 20 19.0**	**-0.3**
	0.2nm,0.7s,baz=3.7,slow=1.6,SNR=4.1							
JNU	**Nakatsue**	**34.84**	**13**	LR	LR		04 30 55.0	
	comp=Z,53nm,19.8s,baz=339,slow=34							
STKA	**Stephens Creek**	**36.13**	**151**	P	**P**		**04 18 23.7**	**+2.4**
	1.1nm,0.7s,baz=315,slow=13,SNR=3.5							
KSRS	**Korea Array**	**38.51**	**8**	LR	LR		04 34 59.5	
	comp=Z,20nm,19.6s,baz=275,slow=37							
ASAJ	**Asahikawa**	**48.45**	**20**	LR	LR		04 39 43.3	
	comp=Z,30nm,18.2s,baz=24,slow=35							
SONM	**Songino Array**	**50.27**	**347**	P	**P**		**04 20 15.3**	**-0.2**
	1.7nm,0.8s,baz=168,slow=8.2,SNR=11							
MKAR	**Makanchi Array**	**58.67**	**329**	P	**P**		**04 21 16.3**	**-0.1**
	1.4nm,0.7s,baz=133,slow=7.7,SNR=18							
ZALV	**Zalesovo Beam**	**62.55**	**336**	P	**P**		**04 21 40.8**	**-1.9**
	0.6nm,0.4s,baz=145,slow=5.4,SNR=4.4							
BVAR	**Borovoye Array**	**68.55**	**330**	P	**P**		**04 22 20.9**	**-0.6**
	0.6nm,0.5s,baz=129,slow=11,SNR=3.9							
TORD	**Torodi Ar. Bea**	**119.42**	**285**	PKP	**PKPdf**		**04 30 07.2**	**-2.2**
	0.3nm,0.8s,baz=130,slow=1.6,SNR=3.3							

*IDC **18** 04:26:28.2±1.5,39°.92N×77°.17E,h0km,mb3.4/6, mb1 3.7/12,mb1mx3.5/32,mbtmp3.5/12,ML3.4/5,MS3.3/1, Ms1 3.3/1,ms1mx2.6/34,Error ellipse: s-maj=21.2km s-min=18.6km az=15.0*

*NNC **18** 04:26:30.6±3.5,40°.19N×77°.42E,h0km,mb4.1,mpv3.7, Error ellipse: s-maj=33.8km s-min=17.2km az=152.0*

*ISCJB **18** 04:26:31.3±0.3,39°.98N±0°.03×77°.58E±0°.05,h28km, mb3.4/6,Error ellipse: s-maj=5.8km s-min=3.8km az=166.1*

*BJI **18** 04:26:32.7,40°.13N×77°.27E,h8km,mb3.8/2,ML3.8/7*

ISC 18 04:26:32.9±0.7,40°.07N±0°.06×77°.37E±0°.07,h28km,n47, σ2s08/46,mb3.5/6,15C-5D,Kyrgyzstan-Xinjiang border region

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

KSH	**Kashi**	**1.21**	**243**	Pg	Pb		04 27 01.5	+6.3
KSH				Sg	Sb		04 27 22.1	+12
KSH				SMN				
	810nm,0.6s							
KSH				SME				
	790nm,0.7s							
ULHL	**Ulahol**	**2.34**	**339**	P	**Pb**		**04 27 12.3**	**-2.2**
	SNR=74							
KZA	**Kyzart**	**2.57**	**322**	P	**Pn**		**04 27 15.4**	**+2.4**
	SNR=218							
TKM2	**Tokmak 2**	**3.15**	**336**	⇓Pn	**Pn**		**04 27 23.4**	**+2.5**
	110nm,1.2s							
TKM2				⇓Lg	Lg		04 28 07.3	
	242nm,0.6s							
TKM2	**Tokmak 2**	**3.15**	**336**	P	**Pn**		**04 27 23.5**	**+2.7**
	SNR=37							
KNDC	**Almaty**	**3.16**	**355**	⇑Pn	**Pn**		**04 27 23.0**	**+2.1**
	10nm,0.5s							
KNDC				⇑Pg	**Pb**		**04 27 28.1**	**-0.3**
	136nm,0.8s							
KNDC				⇑Lg	Lg		04 28 09.3	
	2μm,0.6s							
KBK	**Karagaybulak**	**3.16**	**326**	P	**Pn**		**04 27 23.7**	**+2.7**
	SNR=48							
AAK	**Ala-Archa**	**3.35**	**321**	P	**Pn**		**04 27 26.1**	**+2.5**
	SNR=16							
AAK	**Ala-Archa**	**3.35**	**321**	Pn	**Pn**		**04 27 26.0**	**+2.4**
	2.2nm,0.3s,baz=129,slow=6.8,SNR=32							
AAK				Pg	**Pb**		**04 27 29.9**	**-1.9**
	5.0nm,0.3s,baz=126,slow=15,SNR=49							
AAK				Lg	Lg		04 28 13.0	
	10.0nm,0.3s,baz=352,slow=19,SNR=14							
AML	**Almayashu**	**3.46**	**308**	P	**Pn**		**04 27 27.5**	**+2.3**
	SNR=85							
CHMS	**Chumysh**	**3.53**	**327**	P	**Pn**		**04 27 28.5**	**+2.6**
	SNR=6.2							
EKS2	**Erkin-Say**	**3.74**	**315**	P	**Pn**		**04 27 31.6**	**+2.7**
	SNR=31							
USP	**Ospenovka**	**3.85**	**327**	P	**Pn**		**04 27 33.0**	**+2.7**
	SNR=10							
KK31	**Karatay Array**	**5.97**	**303**	Pn	**Pn**		**04 27 58.8**	**-0.6**
	1.3nm,0.7s,baz=121,slow=12,SNR=10							
KK31				⇑Pg	Pb		04 28 20.1	+3.9
	8.4nm,0.7s,baz=124,slow=15,SNR=6.5							
KK31				⇑Lg	Lg		04 29 32.9	
	28nm,0.9s,baz=120,slow=26,SNR=6.5							
CHCP	**Chirah Chowk**	**7.19**	**208**	P	**Pn**		**04 28 19.3**	**+3.1**
CEP	**Cherat**	**7.61**	**217**	P	**Pn**		**04 28 23.7**	**+1.7**
CEP				S	**Sn**		**04 29 52.0**	**+4.6**
MK31	**Makanchi Array**	**7.62**	**26**	⇑Pn	Pn		04 28 24.8	+2.8

	0.4nm,0.9s,baz=202,slow=9.0,SNR=3.7						
TXAR				LR	LR	05 12 59.5	
	comp=Z,69nm,19.2s,baz=5.0,slow=31						
ILAR	**Eielson Array**	**82.28**	**11**	P	P	04 44 00.5	**-0.6**
	0.4nm,0.9s,baz=226,slow=5.7,SNR=4.9						
BRTR	**Keskin Array B**	**145.72**	**321**	PKPbc	PKPdf	04 51 19.1	-0.2
	1.3nm,1.1s,baz=72,slow=4.0,SNR=3.7						
GERES	**GERESS Array B**	**145.84**	**351**	PKPbc	PKPdf	04 51 18.7	-0.4
	0.3nm,0.5s,baz=20,slow=4.3,SNR=5.8						

*ISCJB **18** 04:33:07.0±1.1, 22.°08S±0.°08×67.°4W±0.°2, h186km±15km, mb3.6/3, Error ellipse: s-maj=25.0km s-min=12.3km az=14.9*
*GUC **18** 04:33:08.2±0.6, 21.°93S×67.°99W, h224km±9km, ML4.0*
*IDC **18** 04:33:13.1±8.6, 21.°71S×67.°10W, h208km±59km, mb3.4/3, mb1 3.4/5, mb1mx3.2/17, mbtmp3.3/5, Error ellipse: s-maj=95.1km s-min=22.7km az=22.0*

ISC 18 04:33:08.9±1.3, 21.°92S±0.°08×67.°5W±0.°2, h182km±15km, n12, σ1§97/15, mb3.9/3, 4C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**Plate Boundary**	**1.66**	**274**	⇑*i* P	**Pn**	**04 33 43.0**	**+0.2**
PB09				*i* S	**Sn**	**04 34 09.2**	**+0.2**
PB09				AML	AML	04 34 13.1	
	comp=E,640nm,0.1s						
PB04	**Plate Boundary**	**1.91**	**259**	⇑P	Pn	04 33 50.9	+5.8
PB04				*i* S	Sn	04 34 23.0	+10
PB04				AML	AML	04 34 25.1	
	comp=N,363nm,0.2s						
MACH	**Maria Elena**	**2.15**	**262**	⇓*i* P	**Pn**	**04 33 47.1**	**-0.9**
MACH				*i* S	**Sn**	**04 34 16.4**	**-1.9**
CEN1	**Los Morros**	**2.93**	**239**	⇓*i* P	**Pn**	**04 33 59.3**	**+2.5**
CEN1				*i* S	**Sn**	**04 34 37.2**	**+3.0**
CEN1				AML	AML	04 34 39.2	
	comp=E,184nm,0.2s						
ANCH	**Antofagasta**	**3.24**	**237**	⇑*i* P	Pn	04 33 58.4	-2.1
ANCH				AML	AML	04 34 38.1	
	comp=N,429nm,0.1s						
PSGC	**Pisagua**	**3.40**	**312**	⇑*i* P	**Pn**	**04 34 02.0**	**-0.7**
PSGC				*i* S	**Sn**	**04 34 42.8**	**-1.9**
PSGC				AML	AML	04 34 45.8	
	comp=E,188nm,0.6s						
LPAZ	**La Paz**	**5.64**	**353**	P	**Pn**	**04 34 34.4**	**+2.6**
	comp=E,2.7nm,0.3s,baz=171,slow=7.3,SNR=66						
LPAZ				S	**Sn**	**04 35 39.4**	**+2.3**
	baz=96,slow=9.2,SNR=2.6						
BDFB	**Brasilia**	**19.43**	**75**	P	**P**	**04 37 19.9**	**-1.9**
	comp=E,0.4nm,0.3s,baz=262,slow=14,SNR=7.0						
TXAR	**Lajitas Array**	**61.75**	**324**	P	**P**	**04 43 09.6**	**+1.2**
	comp=E,0.2nm,0.7s,baz=144,slow=9.4,SNR=2.4						
DBIC	**Dimbokro**	**67.56**	**73**	P	**P**	**04 43 45.0**	**-1.2**
	comp=E,1.6nm,0.7s,baz=251,slow=5.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**76.23**	**70**	P	**P**	**04 44 37.0**	**-0.8**
	comp=E,1.3nm,0.3s,baz=248,slow=5.2,SNR=52						
MKAR	**Makanchi Array**	**145.16**	**37**	PKP	**PKPbc**	**04 52 25.1**	**+0.4**
	comp=E,0.1nm,0.5s,baz=7.3,slow=4.8,SNR=2.3						

IDC 18 04:44:06.5±1.5, 7.°66S×158.°46E, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, ML4.2/1, Error ellipse: s-maj=37.2km s-min=30.9km az=152.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.29**	**140**	Pn	Pn	04 44 46.9	+1.2
	67nm,0.3s,baz=275,slow=5.5,SNR=7.3						
HNR				Sn	Sg	04 45 20.6	+0.3
	26nm,0.3s,baz=352,slow=7.1,SNR=2.7						
WRA	**Warramunga Arr**	**26.36**	**240**	P	P	04 49 45.0	+0.3
	0.4nm,0.9s,baz=78,slow=9.3,SNR=5.9						
ASAR	**Alice Springs**	**28.41**	**233**	P	P	04 50 02.7	-0.4
	0.6nm,0.8s,baz=66,slow=9.9,SNR=5.7						
ILAR	**Eielson Array**	**82.76**	**21**	P	P	04 56 31.7	-0.4
	0.2nm,0.5s,baz=248,slow=4.8,SNR=5.2						

IDC 18 04:45:50.3±1.3, 11.°93S×165.°62E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.7/20, mbtmp3.8/6, ML3.5/1, Error ellipse: s-maj=39.8km s-min=29.8km az=107.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.12**	**176**	Pn	Pn	04 48 17.3	+0.3
	0.4nm,0.3s,baz=343,slow=17,SNR=3.1						
WRA	**Warramunga Arr**	**31.07**	**251**	P	P	04 52 10.6	+0.2
	0.5nm,0.7s,baz=84,slow=9.7,SNR=3.0						
ASAR	**Alice Springs**	**32.29**	**244**	P	P	04 52 21.6	+0.5
	0.6nm,0.6s,baz=70,slow=8.7,SNR=7.6						
QSPA	**South Pole Qui**	**78.08**	**180**	P	P	04 57 50.7	-0.2
	0.9nm,0.7s						
ILAR	**Eielson Array**	**84.39**	**19**	P	P	04 58 25.0	+0.8
	0.1nm,0.3s,baz=234,slow=4.3,SNR=6.3						
MKAR	**Makanchi Array**	**94.08**	**317**	P	P	04 59 09.2	-1.6
	0.8nm,0.9s,baz=106,slow=5.2,SNR=4.7						

*IDC **18** 05:03:59.3±1.8, 2.°64S×121.°78E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.3/22, mbtmp3.4/4, ML4.0/1, Error ellipse: s-maj=36.4km s-min=28.2km az=72.0*
*ISCJB **18** 05:04:02.1±2.7, 2.°57S±0.°04×121.°77E±0.°07, h29km±23km, mb3.2/3, Error ellipse: s-maj=12.2km s-min=5.5km az=24.1*
*DJA **18** 05:04:03.7±0.5, 2.°S±4.°×12.°2E±.°, h85km±17km, M3.5/6, MLv3.5/6*

ISC 18 05:04:02.6±2.4, 2.°53S±0.°05×121.°76E±0.°08, h24km±21km, n13, σ0§85/18, mb3.3/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APSI	**Ampana**	**1.61**	**356**	P	**Pn**	**05 04 29.0**	**-0.6**
APSI				S	**Sb**	**05 04 52.2**	**+0.6**
LUWI	**Luwuk**	**1.79**	**34**	S	**Sb**	**05 04 56.7**	**0.0**
TTSI	**Tana Toraja**	**2.01**	**255**	P	**Pn**	**05 04 35.2**	**+0.1**
TTSI				S	**Sn**	**05 04 58.6**	**-0.9**
SPSI	**Sidrap Palu**	**2.45**	**234**	P	**Pn**	**05 04 42.0**	**+0.9**
BNSI	**Bone**	**2.49**	**222**	P	**Pn**	**05 04 42.6**	**+0.9**
MMSI	**Mamuju**	**2.85**	**267**	P	**Pn**	**05 04 45.7**	**-1.0**
MRSI	**Marisa**	**2.99**	**3**	P	**Pn**	**05 04 48.6**	**0.0**
MRSI				S	**Sn**	**05 05 23.9**	**+0.1**
KAPI	**Kappang**	**3.18**	**219**	P	**Pn**	**05 04 51.0**	**-0.2**
KAPI	**Kappang**	**3.18**	**219**	Pn	**Pn**	**05 04 49.5**	**-1.7**
	18nm,0.3s,baz=14,slow=4.0,SNR=25						
KAPI				Sn	**Sn**	**05 05 28.4**	**0.0**
	8.8nm,0.3s,baz=28,slow=22,SNR=7.6						
BKSI	**Bulukumba**	**3.22**	**211**	P	**Pn**	**05 04 52.0**	**+0.3**
BKSI				S	**Sn**	**05 05 29.6**	**+0.2**
WRA	**Warramunga Arr**	**21.22**	**146**	P	**P**	**05 08 45.8**	**-1.1**
	0.8nm,0.7s,baz=322,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**24.07**	**152**	P	**P**	**05 09 15.9**	**-0.5**
	0.5nm,0.7s,baz=333,slow=10.0,SNR=5.3						
MKAR	**Makanchi Array**	**60.13**	**330**	P	**P**	**05 14 09.4**	**+1.1**
	0.2nm,0.5s,baz=131,slow=7.9,SNR=2.5						

IDC 18 05:04:07.0±3.0, 13.°86S×170.°36E, h612km±34km, mb3.1/8, mb1 3.3/8, mb1mx3.0/21, mbtmp3.1/8, Error ellipse: s-maj=28.5km s-min=21.9km az=126.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**31.85**	**231**	P	P	05 09 44.6	+0.8
	2.7nm,0.4s,baz=46,slow=8.1,SNR=9.0						
WRA	**Warramunga Arr**	**34.94**	**255**	P	P	05 10 09.6	-0.3
	1.7nm,0.3s,baz=84,slow=8.0,SNR=22						
ASAR	**Alice Springs**	**35.78**	**249**	P	P	05 10 16.7	-0.1
	3.5nm,0.4s,baz=76,slow=9.2,SNR=46						
ASAR				ScP	ScP	05 15 16.1	+0.1
	0.7nm,0.6s,baz=92,slow=3.8,SNR=11						
FITZ	**Fitzroy Crossi**	**43.12**	**258**	P	P	05 11 15.9	+0.5
	3.1nm,0.9s,baz=67,slow=7.3,SNR=8.8						
JNU	**Nakatsue**	**60.02**	**322**	P	P	05 13 14.8	-1.6
	5.8nm,0.8s,baz=246,slow=8.4,SNR=3.5						
QSPA	**South Pole Qui**	**76.17**	**180**	P	P	05 14 52.5	-0.9
	1.1nm,1.1s						
NVAR	**Mina Array Bea**	**84.45**	**48**	P	P	05 15 38.5	+1.6
	0.2nm,0.6s,baz=224,slow=9.9,SNR=3.5						
ILAR	**Eielson Array**	**84.80**	**17**	P	P	05 15 38.1	+0.4
	0.2nm,0.4s,baz=237,slow=5.2,SNR=4.9						

PGC 18 06:08:15.1±1.8, 50.°50N×130.°22W, h10km, MLSn3.2/11, Mw3.8/11, 11D, 199km west of Pt. Hardy, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOLB	**Holberg**	**1.34**	**83**	⇓P	Pn	06 08 37.8	-2.0
HOLB				⇓S	Sb	06 08 53.2	-4.3
BPBC	**Brooks Peninsu**	**1.61**	**101**	P	Pn	06 08 40.8	-2.8
BPBC				⇑S	Sn	06 08 59.4	-5.1
PHC	**Port Hardy**	**1.79**	**82**	⇓P	Pn	06 08 44.4	-1.6
PHC				S	Sn	06 09 04.8	-4.0
MAYB	**Maynard**	**1.95**	**92**	⇓Pn	Pn	06 08 46.2	-2.3
MAYB				⇓S	Sn	06 09 08.6	-4.5
EDB	**Eliza Dome**	**2.09**	**106**	⇑Pn	Pn	06 08 47.8	-2.4
EDB				⇓Sn	Sn	06 09 11.5	-4.7
BBB	**Bella Bella**	**2.14**	**37**	⇓Pn	Pn	06 08 49.4	-1.4
BBB				Sn	Sn	06 09 13.8	-3.6
TLCB	**Telegraph Cove**	**2.16**	**88**	⇓Sn	Sn	06 09 14.0	-3.9
BNB	**Barry Inlet**	**2.29**	**336**	Pn	Pn	06 08 51.0	-1.9
BNB				⇓Sn	Sn	06 09 17.4	-3.7
WOSB	**Woss**	**2.37**	**97**	⇑Pn	Pn	06 08 52.6	-1.4
ETB	**Estevan Point**	**2.63**	**114**	Pn	Pn	06 08 56.3	-1.2
GDR	**Gold River**	**2.79**	**103**	Pn	Pn	06 08 57.9	-1.8
MOBC	**Moresby Island**	**2.86**	**338**	⇑Pn	Pn	06 08 58.7	-2.1
MOBC				Sn	Sn	06 09 32.7	-2.6
BNAB	**Bonilla**	**3.01**	**355**	⇓Pn	Pn	06 09 01.1	-1.6
BNAB				⇑Sn	Sn	06 09 35.6	-3.1
DIB	**Dawson Inlet,**	**3.04**	**334**	⇓Pn	Pn	06 09 01.5	-1.7
BTB	**Buttle Lake**	**3.21**	**107**	Pn	Pn	06 09 03.9	-1.8

*PRE **18** 06:17:06.6±1.3, 2.°47N×35.°17E, h10km, ML4.4*

ISC 18 06:17:12.1±4.6, 2.°0N±0.°3×35.°08E±0.°09, h10km, n4, σ1§73/7, Kenya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**3.79**	**145**	*e*P	**Pn**	**06 18 11.2**	**+0.4**
KMBO				*e*S	**Sn**	**06 18 57.3**	**+1.7**
MAUS	**Longido**	**4.97**	**161**	*i* S	**Pn**	**06 18 24.7**	**-2.4**
MBAR	**Mbarara**	**5.05**	**239**	*e*P	**Pn**	**06 18 27.1**	**-1.0**
MBAR				*e*S	**Sn**	**06 19 28.1**	**+1.4**
KIG	**Kigali**	**6.37**	**232**	*e*P	**Pn**	**06 18 46.8**	**+0.5**
KIG				*e*S	**Sn**	**06 19 59.3**	**-0.1**
KIG				AML	AML	06 20 05.4	
	comp=Z,84nm,0.5s						

IDC 18 06:26:52.6±26.0, 6.°96S×127.°49E, h78km±145km, mb3.4/2, mb1 3.8/5, mb1mx3.4/19, mbtmp3.6/5, ML4.0/3, Error ellipse: s-maj=266.5km s-min=82.7km az=9.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.23**	**189**	P	Pn	06 29 30.7	+0.5
	0.4nm,0.3s,baz=13,slow=13,SNR=12						
FITZ				S	Sn	06 31 22.1	-12
	0.4nm,0.3s,baz=99,slow=13,SNR=3.9						
WRA	**Warramunga Arr**	**14.52**	**153**	P	Pn	06 30 12.3	-1.9
	0.9nm,0.3s,baz=323,slow=13,SNR=7.2						
WRA				S	Sn	06 32 38.4	-16
	0.5nm,0.3s,baz=330,slow=22,SNR=5.3						
ASAR	**Alice Springs**	**17.72**	**160**	P	Pn	06 30 55.2	+0.9
	0.9nm,0.3s,baz=341,slow=12,SNR=44						
ASAR				S	Sn	06 33 56.0	-16
	0.0nm,0.3s,baz=339,slow=23,SNR=3.0						
STKA	**Stephens Creek**	**28.07**	**154**	P	P	06 32 36.8	-0.1
	0.8nm,0.4s,baz=324,slow=8.7,SNR=3.2						
VNDA	**Vanda**	**72.80**	**173**	P	P	06 38 12.2	-0.1
	0.4nm,0.6s,baz=338,slow=6.7,SNR=5.2						

IDC 18 06:38:15.7±5.2, 18.°30S×172.°40W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.7/20, mbtmp3.9/3, ML1.7/1, MS3.5/3, Ms1 3.6/3, ms1mx3.0/29, Error ellipse: s-maj=158.3km s-min=35.5km az=125.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.40**	**8**	Pn	Pn	06 39 24.3	+0.4
	2.3nm,0.3s,baz=192,slow=19,SNR=3.5						
AFI				Sn	Sn	06 40 04.6	-11
	9.0nm,0.3s,baz=73,slow=21,SNR=5.5						
AFI				LR	LR	06 40 43.6	
	comp=Z,105nm,19.2s,baz=284,slow=34						
WRA	**Warramunga Arr**	**50.18**	**259**	P	P	06 47 13.1	-0.5
	0.6nm,0.5s,baz=97,slow=8.6,SNR=5.8						
ASAR	**Alice Springs**	**50.19**	**254**	P	P	06 47 14.1	+0.4
	2.0nm,0.8s,baz=86,slow=8.8,SNR=16						
JNU	**Nakatsue**	**74.47**	**313**	LR	LR	07 22 20.3	
	comp=Z,58nm,18.6s,baz=244,slow=36						
LPAZ	**La Paz**	**97.92**	**110**	LR	LR	07 25 25.8	
	comp=Z,47nm,19.8s,baz=105,slow=29						
BRTR	**Keskin Array B**	**148.98**	**319**	PKPbc	PKPbc	06 58 05.0	-1.1
	0.3nm,0.4s,baz=76,slow=6.1,SNR=2.9						

*IDC **18** 06:42:26.8±2.2, 9.°17S×113.°60E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.6/21, mbtmp3.7/6, ML3.3/1, Error ellipse: s-maj=114.1km s-min=19.7km az=53.0*
*ISCJB **18** 06:42:31.0±0.6, 9.°57S±0.°05×113.°50E±0.°04, h26km, mb3.7/5, Error ellipse: s-maj=8.4km s-min=5.1km az=27.3*
*DJA **18** 06:42:34.9±1.5, 9.°S±5.°×11.°4E±.°, h40km±17km, M3.9/6, MLv3.9/6*

ISC 18 06:42:29.9±0.8, 9.°48S±0.°07×113.°42E±0.°04, h26km, n23, σ1§59/24, mb4.0/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GMJI	**Gumukmas**	**1.20**	**1**	P	**Pb**	**06 42 51.7**	**-0.3**
BYJI	**Banyuwangi**	**1.56**	**36**	P	**Pb**	**06 42 58.2**	**0.0**
KRKI	**Karangkates**	**1.62**	**324**	P	**Pb**	**06 43 00.8**	**+1.5**
KRKI				S	**Sb**	**06 43 21.8**	**+2.4**
BLJI	**Banyuglugur**	**1.73**	**6**	P	**Pb**	**06 43 01.6**	**+0.5**
BLJI				S	**Sb**	**06 43 21.2**	**-1.3**
ABJI	**Asem Bagus**	**1.86**	**26**	P	**Pb**	**06 43 03.9**	**+0.7**
DNP	**Denpasar**	**1.94**	**66**	P	**Pb**	**06 43 03.5**	**-1.1**
DNP				S	**Sb**	**06 43 25.9**	**-2.5**
PWJI	**Pagerwojo**	**2.16**	**312**	P	**Pb**	**06 43 07.6**	**-0.8**
PWJI				S	**Sb**	**06 43 33.3**	**-1.4**
SRBI	**Singaraja**	**2.25**	**52**	P	**Pb**	**06 43 07.9**	**-2.0**
SJI	**Sawahan**	**2.38**	**317**	P	**Pb**	**06 43 11.1**	**-1.2**
KMMI	**Kalianget**	**2.47**	**13**	P	**Pb**	**06 43 10.8**	**-3.0**
PCJI	**Pacitan**	**2.56**	**300**	P	**Pb**	**06 43 13.7**	**-1.5**
MTNI	**Mataram**	**2.84**	**73**	P	**Pn**	**06 43 15.5**	**+1.8**
NGJI	**Ngawi**	**2.86**	**317**	P	**Pb**	**06 43 18.6**	**-1.7**
UGM	**Wanagama**	**3.26**	**298**	P	**Pb**	**06 43 24.6**	**-2.6**
FITZ	**Fitzroy Crossi**	**14.63**	**127**	Pn	**Pn**	**06 45 55.6**	**+0.3**
	0.1nm,0.3s,baz=304,slow=8.7,SNR=3.0						
FITZ				Sn	Sn	06 48 22.6	-14
	0.1nm,0.3s,baz=90,slow=7.1,SNR=2.7						
WRA	**Warramunga Arr**	**22.72**	**120**	P	**P**	**06 47 30.6**	**+0.5**
	0.8nm,0.7s,baz=298,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**24.12**	**128**	P	**P**	**06 47 45.1**	**+1.2**
	0.3nm,0.3s,baz=303,slow=8.2,SNR=4.9						
STKA	**Stephens Creek**	**34.32**	**135**	P	**P**	**06 49 15.6**	**+1.0**
	0.8nm,0.4s,baz=304,slow=7.3,SNR=5.1						
H08S2	**Diego Garcia H**	**40.50**	**269**	T	T	07 33 37.0	
	baz=89						
H08S3	**Diego Garcia H**	**40.51**	**269**	T	T	07 33 47.4	
	baz=89						
H08S1	**Diego Garcia H**	**40.52**	**269**	T	T	07 33 44.2	
	baz=89						
SONM	**Songino Array**	**57.40**	**354**	P	**P**	**06 52 15.6**	**-0.7**
	0.8nm,0.4s,baz=172,slow=8.9,SNR=6.3						
MKAR	**Makanchi Array**	**62.53**	**336**	P	**P**	**06 52 50.8**	**-0.6**
	0.7nm,0.5s,baz=146,slow=7.7,SNR=11						

*ISCJB **18** 06:54:17.6±0.2, 38.°29N±0.°01×22.°12E±0.°02, h6km±2km, Error ellipse: s-maj=2.6km s-min=2.2km az=17.8*
*CSEM **18** 06:54:17.5±0.1, 38.°29N×22.°11E, h8km, MD2.9, Error ellipse: s-maj=1.9km s-min=1.7km az=96.0*
*ATH **18** 06:54:17.6, 38.°29N×22.°10E, h9km±1km, MD2.9/17*
*THE **18** 06:54:17.9, 38.°29N×22.°14E, h4km±1km, ML3.1/9, Error ellipse: s-maj=1.3km s-min=0.5km az=273.0*

ISC 18 06:54:17.7±0.8, 38.°29N±0.°01×22.°12E±0.°01, h8km±4km, n77, σ0§61/136, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRIZ	**Trizonia**	**0.08**	**334**	P	**Pg**	**06 54 19.6**	**-0.2**
TRIZ				S	**Sg**	**06 54 21.2**	**-0.1**
TRIZ	**Trizonia**	**0.08**	**334**	*e*Pg	**Pg**	**06 54 19.6**	**-0.2**
TRIZ				*e*Sg	**Sg**	**06 54 21.2**	**-0.1**
TRIZ	**Trizonia**	**0.08**	**334**	P	**Pg**	**06 54 39.6**	**-0.2**
TRIZ				S	**Sg**	**06 54 21.2**	**-0.1**
KALE	**Kalithea**	**0.10**	**10**	P	**Pg**	**06 54 20.0**	**-0.2**
KALE				S	**Sg**	**06 54 22.1**	**+0.1**
KALE	**Kalithea**	**0.10**	**10**	*e*Pg	**Pg**	**06 54 20.0**	**-0.2**
KALE				*e*Sg	**Sg**	**06 54 22.0**	**+0.1**
KALE	**Kalithea**	**0.10**	**10**	P	**Pg**	**06 54 20.0**	**-0.2**
KALE				S	**Sg**	**06 54 22.1**	**+0.1**
LAKA	**Lakka**	**0.12**	**244**	P	**Pg**	**06 54 20.6**	**+0.2**
LAKA	**Lakka**	**0.12**	**244**	*e*PG	**Pg**	**06 54 20.7**	**+0.3**
LAKA				*e*SG	**Sg**	**06 54 22.9**	**+0.6**
LAKA	**Lakka**	**0.12**	**244**	P	**Pg**	**06 54 20.6**	**+0.2**
LAKA				*e*Sg	**Sg**	**06 54 22.9**	**+0.6**
PSA1	**Psathopyrgos**	**0.19**	**280**	*e*PG	**Pg**	**06 54 21.7**	**+0.2**
EFP	**Efpalio**	**0.21**	**309**	P	**Pg**	**06 54 21.9**	**-0.1**
EFP				S	**Sg**	**06 54 25.0**	**0.0**
KLV	**Kalavryta, Ach**	**0.25**	**174**	P	**Pg**	**06 54 22.7**	**0.0**
KLV				S	**Sg**	**06 54 26.9**	**+0.8**
KLV	**Kalavryta, Ach**	**0.25**	**174**	*e*PG	**Pg**	**06 54 22.6**	**-0.1**
KLV	**Kalavryta, Ach**	**0.25**	**174**	*e*Pg	**Pg**	**06 54 22.6**	**-0.1**
KLV				S	**Sg**	**06 54 26.9**	**+0.8**
UPR	**University Cam**	**0.26**	**268**	P	**Pg**	**06 54 23.2**	**+0.3**
UPR				S	**Sg**	**06 54 26.2**	**-0.2**
DSF	**Desfina**	**0.34**	**70**	P	**Pg**	**06 54 24.0**	**-0.5**
DSF				S	**Sg**	**06 54 29.3**	**+0.3**
DESF	**Desfina**	**0.35**	**70**	*e*PG	**Pg**	**06 54 24.3**	**-0.3**
DESF				*e*SB	**Sg**	**06 54 30.2**	**+1.0**
DESF	**Desfina**	**0.35**	**70**	*e*Pg	**Pg**	**06 54 24.3**	**-0.3**
DESF				*e*Sb	**Sg**	**06 54 30.2**	**+1.0**
GUR	**Goura**	**0.40**	**153**	P	**Pg**	**06 54 25.2**	**-0.3**
DRO	**Drossia**	**0.47**	**224**	P	**Pg**	**06 54 26.7**	**-0.1**
DRO				S	**Sg**	**06 54 33.8**	**+0.9**
RLS	**Riolos of Patr**	**0.56**	**246**	P	**Pg**	**06 54 28.4**	**-0.2**
RLS				S	**Sb**	**06 54 38.0**	**+0.1**
RLS	**Riolos of Patr**	**0.56**	**246**	*e*PB	**Pg**	**06 54 28.6**	**0.0**
RLS	**Riolos of Patr**	**0.56**	**246**	P	**Pg**	**06 54 28.4**	**-0.2**
RLS				S	**Sb**	**06 54 38.0**	**+0.1**
PVO	**Paravola**	**0.57**	**305**	P	**Pg**	**06 54 28.4**	**-0.2**
PVO				S	**Sb**	**06 54 37.7**	**-0.4**
AXAR	**Agios Charalam**	**0.64**	**42**	P	**Pg**	**06 54 29.3**	**-0.7**
AXAR				S	**Sb**	**06 54 39.6**	**-0.5**
AXAR	**Agios Charalam**	**0.64**	**42**	P	**Pg**	**06 54 29.3**	**-0.7**
AXAR				S	**Sb**	**06 54 39.6**	**-0.5**
EVR	**Evrytania**	**0.67**	**339**	P	**Pg**	**06 54 30.0**	**-0.6**
EVR				S	**Sb**	**06 54 41.2**	**+0.1**
EVR	**Evrytania**	**0.67**	**339**	*e*PG	**Pg**	**06 54 30.0**	**-0.6**
EVR				*e*SB	**Sg**	**06 54 40.2**	**+0.8**
EVR	**Evrytania**	**0.67**	**339**	P	**Pg**	**06 54 30.0**	**-0.6**
EVR				*e*Sb	**Sg**	**06 54 40.2**	**+0.8**
EVR				S	**Sb**	**06 54 41.2**	**+0.1**
MAKR	**Makrakomi, Fth**	**0.72**	**1**	P	**Pg**	**06 54 31.5**	**-0.1**
MAKR				S	**Sb**	**06 54 42.3**	**-0.2**
MAKR	**Makrakomi, Fth**	**0.72**	**1**	*e*PB	**Pg**	**06 54 31.5**	**-0.1**
MAKR				*e*SB	**Sg**	**06 54 41.7**	**+0.7**
MAKR	**Makrakomi, Fth**	**0.72**	**1**	P	**Pg**	**06 54 31.5**	**-0.1**
MAKR				*e*Sb	**Sg**	**06 54 41.7**	**+0.7**
MAKR				S	**Sb**	**06 54 42.3**	**-0.2**
LTK	**Loutraki**	**0.72**	**112**	P	**Pg**	**06 54 31.8**	**+0.2**
LTK				S	**Sg**	**06 54 41.4**	**+0.4**
AGG	**Agios Georgios**	**0.75**	**13**	P	**Pg**	**06 54 31.0**	**-1.1**
AGG	**Agios Georgios**	**0.75**	**13**	P	**Pg**	**06 54 31.0**	**-1.1**
PDO	**Prodromos**	**0.80**	**293**	P	**Pg**	**06 54 32.3**	**-0.7**
PDO				S	**Sb**	**06 54 44.5**	**-0.1**
AMT	**Artemida-Makis**	**0.82**	**203**	P	**Pg**	**06 54 32.6**	**-0.9**
AMT				S	**Sn**	**06 54 47.1**	**-0.8**
VLX	**Vlachokerasia**	**0.94**	**167**	P	**Pg**	**06 54 34.8**	**-1.0**
VLX				S	**Sb**	**06 54 49.2**	**+0.2**
SMIA	**Simia**	**1.04**	**55**	P	**Pg**	**06 54 37.3**	**-0.3**
SMIA				S	**Sb**	**06 54 51.9**	**+0.3**
SMIA	**Simia**	**1.04**	**55**	*e*PN	**Pb**	**06 54 38.2**	**+0.3**
SMIA				*e*SB	**Sb**	**06 54 51.9**	**+0.3**
SMIA	**Simia**	**1.04**	**55**	P	**Pg**	**06 54 37.3**	**-0.3**
SMIA	**Simia**	**1.04**	**55**	*e*Pn	**Pb**	**06 54 38.2**	**+0.3**
SMIA				S	**Sb**	**06 54 51.9**	**+0.3**
ITM	**Ithomi**	**1.12**	**188**	P	**Pg**	**06 54 38.4**	**-0.8**
ITM				S	**Sn**	**06 54 56.2**	**+0.9**
ITM	**Ithomi**	**1.12**	**188**	*e*PB	**Pg**	**06 54 38.2**	**-1.0**
ITM	**Ithomi**	**1.12**	**188**	*e*PG	**Pg**	**06 54 38.3**	**-0.9**
ITM	**Ithomi**	**1.12**	**188**	P	**Pg**	**06

CAUP	**Cauayan**	**2.27**	**330**	*e*P		**Pn**	**06 56 57.1**	**+1.2**
OTRP	**Odiongan**	**2.76**	**200**	*e*P		**Pn**	**06 57 04.2**	**+1.5**
SJMP	**San Jose**	**3.09**	**216**	*e*P		Pb	06 57 10.6	-3.9
KSRS	**Korea Array**	**22.82**	**10**	P		**P**	**07 01 22.0**	**+0.9**
	0.4nm,0.5s,baz=195,slow=10,SNR=2.4							
FITZ	**Fitzroy Crossi**	**32.96**	**175**	P		**P**	**07 02 50.9**	**-1.9**
	0.9nm,0.7s,baz=0.0,slow=10,SNR=3.1							
SONM	**Songino Array**	**35.54**	**341**	P		**P**	**07 03 16.4**	**+1.3**
	0.2nm,0.5s,baz=145,slow=5.3,SNR=2.5							
WRA	**Warramunga Arr**	**36.44**	**162**	P		**P**	**07 03 21.5**	**-1.4**
	0.4nm,0.6s,baz=346,slow=9.2,SNR=3.2							
ASAR	**Alice Springs**	**39.85**	**164**	P		**P**	**07 03 50.8**	**-0.9**
	0.3nm,0.4s,baz=341,slow=7.4,SNR=7.2							
H11S3	**WAKE ISLAND Hy**	**41.92**	**79**	T		T	07 49 11.2	
	baz=273,slow=0.6,SNR=3.6							
H11S1	**WAKE ISLAND Hy**	**41.93**	**79**	T		T	07 49 10.9	
	baz=273,slow=0.6,SNR=5.1							
H11S2	**WAKE ISLAND Hy**	**41.93**	**79**	T		T	07 49 11.3	
	baz=273,slow=0.6,SNR=3.8							

*ISCJB **18** 07:05:11.2±0.2,63.62N±0.02×149.85W±0.05, h141km±2km, mb3.8/12, Error ellipse: s-maj=3.5km s-min=3.2km az=16.1*
*IDC **18** 07:05:13.0±1.8,63.84N×150.04W,h135km±14km, mb3.6/12,mb1 3.7/14,mb1mx3.5/27,mbtmp3.5/14,Error ellipse: s-maj=23.1km s-min=12.9km az=39.0*
*NEIC **18** 07:05:12.4,63.62N×149.85W,h142km,MG3.5(AEIC), After AEIC.*

ISC 18 07:05:12.5±0.6,63.63N±0.03×149.87W±0.03, h140km±4km,n124,σ1§13/145,mb3.8/12,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.26**	**227**	P	Pn	**Pn**	**07 05 31.9**	**-0.1**
TRF				S	Sn	**Sn**	**07 05 45.9**	**-0.8**
MCK	**McKinley**	**0.43**	**75**	P	Pn	**Pn**	**07 05 32.3**	**-0.1**
MCK				S	Sn	**Sn**	**07 05 46.8**	**-0.8**
KTH	**Kantishna Hill**	**0.48**	**262**	P	Pn	**Pn**	**07 05 32.3**	**-0.4**
KTH				S	Sn	**Sn**	**07 05 47.1**	**-0.9**
RND	**Reindeer**	**0.51**	**115**	P	Pn	**Pn**	**07 05 32.5**	**-0.3**
RND				S	Sn	**Sn**	**07 05 47.3**	**-1.0**
BWN	**Browne**	**0.57**	**18**	P	Pn	**Pn**	**07 05 33.2**	**+0.1**
BWN				S	Sn	**Sn**	**07 05 48.6**	**-0.3**
HUR	**Hurricane**	**0.66**	**171**	P	Pn	**Pn**	**07 05 33.4**	**-0.4**
HUR				S	Sn	**Sn**	**07 05 49.2**	**-0.6**
BPAW	**Bear Paw Mtn.**	**0.69**	**314**	P	Pn	**Pn**	**07 05 32.6**	**-1.3**
BPAW				S	Sn	**Sn**	**07 05 48.8**	**-1.3**
CAST	**Castle Rocks**	**1.01**	**259**	P	Pn	**Pn**	**07 05 36.2**	**-0.3**
CAST				S	Sn	**Sn**	**07 05 53.5**	**-1.2**
NEA	**Nenana**	**1.02**	**20**	P	Pn	**Pn**	**07 05 36.1**	**-0.4**
CHUM	**Lake Minchumin**	**1.12**	**284**	P	Pn	**Pn**	**07 05 37.3**	**-0.1**
CHUM				S	Sn	**Sn**	**07 05 55.4**	**-0.9**
WRH	**Wood River Hil**	**1.15**	**42**	P	Pn	**Pn**	**07 05 37.5**	**-0.3**
WRH				S	Sn	**Sn**	**07 05 55.4**	**-1.6**
DHY	**Denali Highway**	**1.25**	**115**	P	Pn	**Pn**	**07 05 38.8**	**-0.2**
DHY				S	Sn	**Sn**	**07 05 58.6**	**-0.4**
PPLA	**Purkeypile**	**1.28**	**236**	P	Pn	**Pn**	**07 05 39.2**	**+0.1**
CCB	**Clear Creek Bu**	**1.37**	**41**	P	Pn	**Pn**	**07 05 39.5**	**-0.3**
CCB				S	Sn	**Sn**	**07 05 59.5**	**-1.3**
MLY	**Manley**	**1.46**	**345**	P	Pn	**Pn**	**07 05 40.6**	**-0.3**
HDA	**Harding Lake**	**1.50**	**57**	P	Pn	**Pn**	**07 05 41.0**	**-0.3**
MDM	**Murphy Dome**	**1.52**	**27**	P	Pn	**Pn**	**07 05 41.5**	**-0.1**
COLA	**College**	**1.53**	**34**	P	Pn	**Pn**	**07 05 41.2**	**-0.4**
IL1	**Eielson Array**	**1.74**	**47**	P	Pn	**Pn**	**07 05 43.2**	**-0.7**
ILAR	**Eielson Array**	**1.74**	**47**	P	Pn	**Pn**	**07 05 43.5**	**-0.5**
ILAR				S	Sn	**Sn**	**07 06 06.4**	**-1.7**
ILAR	**Eielson Array**	**1.74**	**47**	P	Pn	**Pn**	**07 05 43.5**	**-0.5**
	11nm,0.3s,baz=226,slow=11,SNR=961							
ILAR				S		**Sn**	**07 06 06.4**	**-1.7**
	15nm,0.3s,baz=238,slow=20,SNR=18							

GLM	**Gilmore Dome**	**1.74**	**37**	P		**Pn**	**07 05 43.8**	**-0.3**
DDM	**Donnelly Dome**	**1.79**	**83**	P		**Pn**	**07 05 44.8**	**+0.2**
SKT	**Skwentna**	**1.82**	**206**	P		**Pn**	**07 05 44.2**	**-0.7**
PMR	**Palmer**	**2.07**	**170**	*e*Pn		**Pn**	**07 05 47.1**	**-0.8**
PMR				*e*Sn		**Sn**	**07 06 12.8**	**-2.2**
PAX	**Paxson**	**2.09**	**106**	P		**Pn**	**07 05 47.8**	**-0.4**
SCM	**Sheep Creek Mo**	**2.15**	**146**	P		**Pn**	**07 05 48.0**	**-0.8**
SUA	**Susitna One**	**2.21**	**191**	P		**Pn**	**07 05 49.4**	**-0.2**
STLK	**Strandline Lak**	**2.32**	**204**	P		**Pn**	**07 05 50.7**	**-0.3**
HARP	**HAARP**	**2.47**	**118**	P		**Pn**	**07 05 52.4**	**-0.4**
RC01	**Rabbit Creek A**	**2.55**	**179**	*e*Pn		**Pn**	**07 05 53.3**	**-0.5**
RC01				*e*Sn		**Sn**	**07 06 24.6**	**-0.8**
DOT	**Dot Lake**	**2.59**	**87**	P		**Pn**	**07 05 53.6**	**-0.6**
SCRK	**Sand Creek**	**2.63**	**80**	P		**Pn**	**07 05 54.4**	**-0.5**
SPBG	**Spurr Blockage**	**2.65**	**207**	P		**Pn**	**07 05 55.1**	**0.0**
BGL	**Barrier Glacie**	**2.65**	**207**	P		**Pn**	**07 05 55.3**	**+0.3**
SPU	**Mount Spurr**	**2.66**	**203**	P		**Pn**	**07 05 54.8**	**-0.4**
CKL	**Chakachamna La**	**2.70**	**206**	P		**Pn**	**07 05 55.8**	**+0.1**
KLU	**Klutina**	**2.82**	**138**	P		**Pn**	**07 05 56.0**	**-1.2**
MENT	**Mentasta**	**2.86**	**101**	*e*Pn		**Pn**	**07 05 56.6**	**-1.1**
MENT				*e*Sn		**Sn**	**07 06 29.7**	**-2.9**
PWL	**Port Wells**	**2.87**	**165**	P		**Pn**	**07 05 57.0**	**-0.8**
TT01	**Tatalina**	**2.87**	**258**	P		**Pn**	**07 05 57.4**	**-0.5**
IM3	**Indian Mountai**	**2.89**	**327**	P		**Pn**	**07 05 57.9**	**-0.1**
IM04	**Indian Mountai**	**2.89**	**326**	*e*Pn		**Pn**	**07 05 57.9**	**-0.1**
IM04				*e*Sn		**Sn**	**07 06 29.6**	**-3.6**
IMA2	**Indian Mountai**	**2.94**	**328**	P		**Pn**	**07 05 58.6**	**-0.2**
VLZ	**Valdez**	**3.00**	**145**	P		**Pn**	**07 05 57.9**	**-1.4**
GLI	**Glacier Island**	**3.05**	**154**	P		**Pn**	**07 05 58.8**	**-1.3**
SLKM	**Skilak Lake**	**3.13**	**183**	P		**Pn**	**07 06 00.9**	**-0.4**
DIV	**Divide**	**3.15**	**141**	P		**Pn**	**07 05 60.0**	**-1.5**
RDT	**Redoubt**	**3.29**	**202**	P		**Pn**	**07 06 03.2**	**0.0**
FID	**Port Fidalgo**	**3.30**	**150**	P		**Pn**	**07 06 02.3**	**-1.0**
DFR	**Drift River**	**3.32**	**205**	P		**Pn**	**07 06 03.7**	**0.0**
NCT	**North Crescent**	**3.40**	**206**	P		**Pn**	**07 06 05.0**	**+0.3**
RDWB	**Redoubt West**	**3.45**	**205**	P		**Pn**	**07 06 05.0**	**-0.4**
RSO	**Redoubt South**	**3.45**	**204**	*e*Pn		**Pn**	**07 06 05.5**	**0.0**
RSO				*e*Sn		**Sn**	**07 06 47.6**	**+1.2**
SEW	**Seward**	**3.54**	**177**	P		**Pn**	**07 06 05.5**	**-1.0**
COLD	**Coldfoot**	**3.62**	**358**	P		**Pn**	**07 06 07.3**	**-0.1**
BMRM	**Bremner River**	**3.63**	**135**	P		**Pn**	**07 06 06.2**	**-1.4**
BMRM				*e*Sn		**Sn**	**07 06 48.2**	**-2.1**
EYAK	**Cordova Ski Ar**	**3.65**	**146**	P		**Pn**	**07 06 07.2**	**-0.6**
SVW2	**Sparrevohn**	**3.68**	**229**	P		**Pn**	**07 06 07.4**	**-0.8**
BCA3	**Beaver Creek A**	**3.69**	**95**	P		**Pn**	**07 06 07.5**	**-0.8**
VRDI	**Verde Repeater**	**3.83**	**126**	P		**Pn**	**07 06 09.7**	**-0.8**
MCARA	**McCarthy VSAT**	**3.89**	**122**	P		**Pn**	**07 06 11.2**	**+0.2**
GOAT	**Goat Mountain**	**3.90**	**139**	P		**Pn**	**07 06 10.1**	**-1.1**
ILW	**Iliamna West**	**3.90**	**205**	P		**Pn**	**07 06 11.6**	**+0.2**
BRLK	**Bradley Lake**	**3.91**	**186**	P		**Pn**	**07 06 10.6**	**-0.7**
EGAK	**Eagle**	**3.98**	**69**	P		**Pn**	**07 06 11.4**	**-0.7**
RAGM	**Ragged Mountai**	**4.07**	**141**	P		**Pn**	**07 06 12.7**	**-0.7**
CNPM	**China Poot**	**4.17**	**190**	P		**Pn**	**07 06 13.9**	**-0.8**
PTPK	**Patty Peak**	**4.22**	**122**	P		**Pn**	**07 06 15.4**	**-0.2**
OPT	**Oil Point**	**4.30**	**203**	P		**Pn**	**07 06 16.1**	**-0.3**
BERG	**Berg Lake**	**4.36**	**135**	P		**Pn**	**07 06 16.4**	**-0.7**
BALM	**Baldy**	**4.37**	**123**	P		**Pn**	**07 06 16.5**	**-0.9**
BM3	**Burnt Mountain**	**4.39**	**28**	P		**Pn**	**07 06 17.2**	**-0.3**
NICHA	**Nichawak Mount**	**4.40**	**138**	P		**Pn**	**07 06 16.9**	**-0.8**
KIAG	**Kiagna River**	**4.43**	**124**	P		**Pn**	**07 06 17.2**	**-1.1**
KHIT	**Khitrov Hills**	**4.46**	**133**	P		**Pn**	**07 06 18.3**	**-0.3**
GRIN	**Grindle Hills**	**4.56**	**134**	P		**Pn**	**07 06 19.6**	**-0.3**
SUCK	**Suckling Hills**	**4.59**	**138**	P		**Pn**	**07 06 19.8**	**-0.4**
BARN	**Barnard Glacie**	**4.61**	**120**	P		**Pn**	**07 06 20.6**	**-0.1**
DAWY	**Dawson**	**4.66**	**80**	P		**Pn**	**07 06 20.4**	**-0.7**
ISLE	**Juniper Island**	**4.66**	**127**	P		**Pn**	**07 06 19.8**	**-1.5**
BARK	**Barkley Ridge**	**4.72**	**130**	P		**Pn**	**07 06 21.0**	**-0.8**
KULT	**Kultieth River**	**4.78**	**132**	P		**Pn**	**07 06 22.7**	**-0.1**
GRNC	**Granite Creek**	**4.78**	**124**	P		**Pn**	**07 06 22.0**	**-1.0**
BAGL	**Bagley Icefiel**	**4.83**	**127**	P		**Pn**	**07 06 22.2**	**-1.1**
LOGN	**Logan Glacier**	**5.01**	**120**	P		**Pn**	**07 06 26.2**	**+0.3**
MESA	**MESA**	**5.10**	**129**	P		**Pn**	**07 06 26.5**	**-0.6**
TABL	**Table Mountain**	**5.20**	**124**	P		**Pn**	**07 06 28.6**	**0.0**
RKAV	**Rock Avalanche**	**5.22**	**126**	P		**Pn**	**07 06 28.8**	**0.0**
SAMH	**Samovar Hills**	**5.55**	**125**	P		**Pn**	**07 06 32.9**	**-0.2**
KDAK	**Kodiak Island**	**6.01**	**194**	*e*Pn		**Pn**	**07 06 37.3**	**-1.9**
	4.4nm,0.4s							
KDAK				*e*Sn		**Sn**	**07 07 41.2**	**-5.6**
KABR	**Katmai Barrier**	**6.05**	**207**	P		**Pn**	**07 06 39.2**	**-0.6**
CAHL	**Cahill**	**6.19**	**208**	P		**Pn**	**07 06 41.2**	**-0.4**
HYT	**Haines Junctio**	**6.42**	**110**	P		**Pn**	**07 06 44.9**	**+0.1**
OHAK	**Old Harbor**	**6.64**	**196**	P		**Pn**	**07 06 45.3**	**-2.3**
WHY	**Whitehorse**	**7.62**	**106**	P		**Pn**	**07 07 01.0**	**+0.2**
INK	**Inuvik**	**8.14**	**48**	P		**Pn**	**07 07 08.6**	**+1.0**
INK	**Inuvik**	**8.14**	**48**	P		**Pn**	**07 07 08.6**	**+1.0**
	baz=180,slow=20							
YKA	**Yellowknife Ar**	**15.90**	**78**	P		**P**	**07 08 49.6**	**+0.7**
YKA	**Yellowknife Ar**	**15.90**	**78**	P		**P**	**07 08 49.6**	**+0.7**
	0.1nm,0.3s,baz=294,slow=11,SNR=3.4							
PETK	**Petropavlovsk-**	**28.60**	**273**	P		**P**	**07 10 53.8**	**-1.2**
PETK	**Petropavlovsk-**	**28.60**	**273**	P		**P**	**07 10 53.8**	**-1.2**
	3.2nm,1.1s,baz=46,slow=10,SNR=2.5							
PDAR	**Pinedale Array**	**31.12**	**113**	P		**P**	**07 11 20.1**	**+2.4**
PDAR	**Pinedale Array**	**31.12**	**113**	P		**P**	**07 11 20.1**	**+2.4**
	1.0nm,0.8s,baz=333,slow=2.7,SNR=10							
NVAR	**Mina Array Bea**	**31.49**	**128**	P		**P**	**07 11 23.4**	**+2.4**
NVAR	**Mina Array Bea**	**31.49**	**128**	P		**P**	**07 11 23.4**	**+2.4**
	1.2nm,0.7s,baz=318,slow=7.5,SNR=14							
TXAR	**Lajitas Array**	**45.09**	**117**	P		**P**	**07 13 16.4**	**+2.0**
TXAR	**Lajitas Array**	**45.09**	**117**	P		**P**	**07 13 16.4**	**+2.0**
	1.8nm,0.7s,baz=332,slow=6.6,SNR=18							
ARCES	**ARCESS Array B**	**47.08**	**2**	P		**P**	**07 13 28.9**	**-0.4**
ARCES	**ARCESS Array B**	**47.08**	**2**	P		**P**	**07 13 28.9**	**-0.4**
	6.2nm,0.9s,baz=354,slow=7.3,SNR=4.0							
KSRS	**Korea Array**	**53.84**	**282**	P		**P**	**07 14 21.6**	**+1.1**
	0.9nm,0.5s,baz=32,slow=7.1,SNR=3.1							
SONM	**Songino Array**	**53.86**	**306**	P		**P**	**07 14 21.9**	**+1.1**
SONM	**Songino Array**	**53.86**	**306**	P		**P**	**07 14 21.9**	**+1.1**
	0.8nm,0.7s,baz=7.4,slow=3.7,SNR=4.6							
KSAR	**Wonju Array Be**	**53.87**	**282**	P		**P**	**07 14 21.6**	**+0.9**
FINES	**FINESS Array B**	**55.21**	**2**	P		**P**	**07 14 29.1**	**-0.9**
FINES	**FINESS Array B**	**55.21**	**2**	P		**P**	**07 14 29.1**	**-0.9**
	2.7nm,1.1s,baz=355,slow=9.8,SNR=4.7							
ZALV	**Zalesovo Beam**	**55.31**	**324**	P		**P**	**07 14 29.8**	**-1.1**
ZALV	**Zalesovo Beam**	**55.31**	**324**	P		**P**	**07 14 29.8**	**-1.1**
	0.5nm,0.4s,baz=22,slow=7.4,SNR=2.7							
EKA	**Eskdalemuir Ar**	**58.60**	**22**	P		**P**	**07 14 53.8**	**-0.2**
EKA	**Eskdalemuir Ar**	**58.60**	**22**	P		**P**	**07 14 53.8**	**-0.2**
	0.5nm,0.4s,baz=335,slow=5.2,SNR=9.3							
MKAR	**Makanchi Array**	**62.49**	**322**	P		**P**	**07 15 19.6**	**-0.9**
MKAR	**Makanchi Array**	**62.49**	**322**	P		**P**	**07 15 19.6**	**-0.9**
	0.4nm,0.4s,baz=39,slow=7.1,SNR=10.0							
AKTO	**Aktyubinsk**	**64.19**	**341**	P		**P**	**07 15 30.2**	**-1.4**
AKTO	**Aktyubinsk**	**64.19**	**341**	P		**P**	**07 15 30.2**	**-1.4**
	0.9nm,0.3s,baz=11,slow=10,SNR=3.7							

*NEIC **18** 07:30:59.2,19.49N×65.37W,h86km,MD3.5(RSPR), After RSPR.*

RSPR 18 07:30:59.2,19.49N×65.37W,h86km±7km,MD3.5/4, 12C-4D,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**1.20**	**161**	*e*P	Pn	**Pn**	**07 31 20.2**	**-0.8**
STVI	**Saint Thomas**	**1.20**	**161**	*e*P	Pn	**Pn**	**07 31 20.2**	**-0.8**
STVI				*e*S	Sn	**Sn**	**07 31 37.4**	**0.0**
CBYP	**Canovanas**	**1.29**	**201**	*e*P	Pn	**Pn**	**07 31 21.4**	**-0.9**
CBYP	**Canovanas**	**1.29**	**201**	*e*P	Pn	**Pn**	**07 31 21.4**	**-0.9**
MTP	**Monte Pirata**	**1.39**	**187**	*e*P	Pn	**Pn**	**07 31 22.9**	**-0.6**
MTP	**Monte Pirata**	**1.39**	**187**	*e*P	Pn	**Pn**	**07 31 22.9**	**-0.6**
MTP				*e*S	Sn	**Sn**	**07 31 41.2**	**-0.5**
HUMP	**Col San Antoni**	**1.41**	**199**	*e*P	Pn	**Pn**	**07 31 23.2**	**-0.5**
HUMP	**Col San Antoni**	**1.41**	**199**	*e*P	Pn	**Pn**	**07 31 23.2**	**-0.5**
HUMP				*e*S	Sn	**Sn**	**07 31 41.6**	**-0.6**
CPD	**Cerro la Pandu**	**1.53**	**200**	*e*P	Pn	**Pn**	**07 31 24.9**	**-0.4**
CPD	**Cerro la Pandu**	**1.53**	**200**	*e*P	Pn	**Pn**	**07 31 24.9**	**-0.4**
CPD				*e*S	Sn	**Sn**	**07 31 44.5**	**-0.5**
SJG	**San Juan**	**1.56**	**209**	*e*P	Pn	**Pn**	**07 31 25.0**	**-0.5**
SJG				*e*S	Sn	**Sn**	**07 31 45.5**	**0.0**
SJG	**San Juan**	**1.56**	**209**	*e*P	Pn	**Pn**	**07 31 25.0**	**-0.5**
SJG				*e*S	Sn	**Sn**	**07 31 45.5**	**0.0**
AOPR	**Arecibo Observ**	**1.74**	**229**	*e*P	Pn	**Pn**	**07 31 27.2**	**-0.7**
AOPR	**Arecibo Observ**	**1.74**	**229**	*e*P	Pn	**Pn**	**07 31 27.2**	**-0.7**
AOPR				*e*S	Sn	**Sn**	**07 31 49.3**	**-0.4**
CELP	**Cerrillos**	**1.81**	**219**	*e*Pn	Pn	**Pn**	**07 31 29.2**	**+0.3**
CRPR	**Cabo Rojo, PR**	**2.21**	**229**	*e*P	Pn	**Pn**	**07 31 34.0**	**-0.1**
CRPR	**Cabo Rojo, PR**	**2.21**	**229**	*e*P	Pn	**Pn**	**07 31 34.0**	**-0.1**

IDC 18 07:28:54.6±1.4,27.93S×63.60E,h0km,mb3.8/11, mb1 4.0/11,mb1mx3.9/24,mbtmp3.8/11,MS3.5/3, Ms1 3.5/3,ms1mx3.2/30,Error ellipse: s-maj=48.7km s-min=25.1km az=26.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**17.71**	**298**	LR	LR	LR	07 37 58.5	
	comp=Z,140nm,21.0s,baz=260,slow=31							
MAW	**Mawson**	**39.70**	**180**	LR		LR	07 47 26.6	
	comp=Z,51nm,21.2s,baz=179,slow=28							
CMAR	**Chiang Mai Arr**	**57.42**	**41**	P		P	07 38 44.8	-0.5
	1.0nm,0.4s,baz=226,slow=8.5,SNR=5.8							
ASAR	**Alice Springs**	**62.65**	**104**	P		P	07 39 21.3	-0.1
	0.8nm,0.8s,baz=245,slow=5.9,SNR=7.3							
WRA	**Warramunga Arr**	**64.37**	**100**	P		P	07 39 32.8	+0.1
	1.0nm,1.0s,baz=247,slow=6.1,SNR=4.0							
VNDA	**Vanda**	**64.71**	**166**	LR		LR	08 04 41.7	
	comp=Z,80nm,20.5s,baz=305,slow=33							
TORD	**Torodi Ar. Bea**	**72.51**	**296**	P		P	07 40 22.8	-0.8
	0.9nm,0.8s,baz=112,slow=5.4,SNR=5.4							
BRTR	**Keskin Array B**	**72.87**	**336**	P		P	07 40 25.9	+0.4
	0.2nm,0.3s,baz=139,slow=4.6,SNR=3.8							
MKAR	**Makanchi Array**	**76.28**	**13**	P		P	07 40 45.0	+0.1
	0.5nm,0.7s,baz=180,slow=5.3,SNR=5.5							
KURBB	**Kurchatov Arra**	**79.32**	**10**	P		P	07 41 00.7	-1.0
	0.4nm,0.7s,baz=202,slow=7.0,SNR=3.8							
ZALV	**Zalesovo Beam**	**83.59**	**12**	P		P	07 41 24.9	+0.6
	0.8nm,0.5s,baz=191,slow=1.5,SNR=5.8							
AKASG	**Malin Array Be**	**83.99**	**339**	P		P	07 41 26.4	0.0
	0.2nm,0.3s,baz=150,slow=4.4,SNR=2.0							
SONM	**Songino Array**	**84.66**	**27**	P		P	07 41 30.6	+0.5
	0.6nm,0.8s,baz=196,slow=4.2,SNR=3.5							
ESDC	**Sonseca Array**	**92.04**	**314**	P		P	07 42 06.8	+1.3
	0.2nm,0.4s,baz=123,slow=4.7,SNR=3.4							

IDC 18 07:35:52.9±3.1,11.95S×165.42E,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.7/18,mbtmp3.7/4,MS3.4/1,Ms1 3.3/1, ms1mx2.9/27,Error ellipse: s-maj=146.8km s-min=30.8km az=139.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.57**	**224**	LR	LR	LR	07 52 21.1	
	comp=Z,62nm,18.4s,baz=23,slow=33							
WRA	**Warramunga Arr**	**30.89**	**251**	P		P	07 42 11.5	+0.1
	0.8nm,0.8s,baz=83,slow=9.4,SNR=3.1							
ASAR	**Alice Springs**	**32.11**	**244**	P		P	07 42 21.7	-0.6
	0.6nm,0.7s,baz=71,slow=9.1,SNR=9.0							
ILAR	**Eielson Array**	**84.47**	**19**	P		P	07 48 26.2	-1.0
	0.5nm,0.8s,baz=263,slow=5.5,SNR=9.6							
MKAR	**Makanchi Array**	**93.96**	**317**	P		P	07 49 13.0	+0.2
	0.5nm,0.7s,baz=101,slow=6.3,SNR=6.8							
ARCES	**ARCESS Array B**	**117.12**	**345**	PKP		PKPdf	07 54 40.9	+1.4
	5.0nm,1.0s,baz=75,slow=1.4,SNR=4.4							

*IDC **18** 07:52:28.3±0.7,14.95S×173.60W,h0km,mb3.9/10, mb1 4.2/11,mb1mx4.1/18,mbtmp4.0/11,ML2.7/1,MS3.5/4, Ms1 3.5/4,ms1mx3.2/35,Error ellipse: s-maj=35.1km s-min=16.5km az=142.0*
*NEIC **18** 07:52:31.1±0.4,14.51S×174.12W,h10km,mb4.7/10, Error ellipse: s-maj=17.7km s-min=8.7km az=152.0*
*ISCJB **18** 07:52:36.7±0.4,14.9S±0.1×173.9W±0.1,h73km,mb4.2/21, Error ellipse: s-maj=22.5km s-min=10.0km az=140.1*

ISC 18 07:52:38.2±0.6,14.9S±0.1×173.8W±0.1,h73km,n53, σ0§79/40,mb4.1/21,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.23**	**63**	*e*Pn	Pn	**Pn**	**07 53 02.5**	**-11**
AFI				*e*Sn	Sn	**Sn**	**07 53 23.4**	**-16**
AFI	**Afiamalu**	**2.23**	**63**	Pn	Pn	**Pn**	**07 53 02.5**	**-11**
	164nm,0.3s,baz=55,slow=1.6,SNR=171							
AFI					Sn	**Sn**	**07 53 22.5**	**-17**
	261nm,0.3s,baz=120,slow=21,SNR=13							
MSVF	**Nonsavu**	**8.28**	**249**	*e*Pn	Pn	**Pn**	**07 54 28.8**	**-6.8**
RAR	**Rarotonga**	**14.76**	**117**	*e*Pn	P	**P**	**07 56 07.6**	**+0.4**
DZM	**Mont Dzumac**	**20.00**	**246**	LR	LR	LR	08 02 19.3	
	comp=Z,29nm,18.1s,baz=2.1,slow=29							
URZ	**Urewera**	**24.59**	**197**	LR		LR	08 06 44.3	
	comp=Z,76nm,19.7s,baz=282,slow=35							
EIDS	**Eidsvold**	**34.44**	**247**	*e*P		**P**	**07 59 18.4**	**-0.6**
	45nm,2.0s							
H11S2	**WAKE ISLAND Hy**	**38.34**	**329**	T		T	08 41 03.5	
	baz=152,slow=0.7,SNR=23							
H11S3	**WAKE ISLAND Hy**	**38.35**	**329**	T		T	08 41 17.4	
	baz=152,slow=0.7,SNR=16							
H11S1	**WAKE ISLAND Hy**	**38.36**	**329**	T		T	08 41 04.8	
	baz=152,slow=0.7,SNR=18							
H11N3	**WAKE ISLAND Hy**	**39.29**	**331**	T		T	08 42 35.6	
	baz=152,slow=0.7,SNR=10							
H11N1	**WAKE ISLAND Hy**	**39.30**	**331**	T		T	08 42 13.5	
	baz=152,slow=0.7,SNR=14							
H11N2	**WAKE ISLAND Hy**	**39.31**	**331**	T		T	08 42 14.6	
	baz=152,slow=0.7,SNR=10.0							
STKA	**Stephens Creek**	**43.92**	**239**	P		**P**	**08 00 37.5**	**-0.5**
STKA	**Stephens Creek**	**43.92**	**239**	P		**P**	**08 00 37.5**	**-0.5**
	0.7nm,0.5s,baz=86,slow=15,SNR=1.8							
WRA	**Warramunga Arr**	**49.55**	**256**	P		**P**	**08 01 22.7**	**+0.6**
WRA	**Warramunga Arr**	**49.55**	**256**	P		**P**	**08 01 22.7**	**+0.6**
	0.5nm,0.5s,baz=91,slow=6.8,SNR=8.0							
AS31	**Alice Springs**	**49.86**	**252**	*e*P		**P**	**08 01 24.7**	**+0.3**
ASAR	**Alice Springs**	**49.86**	**252**	P		**P**	**08 01 24.8**	**+0.3**
ASAR	**Alice Springs**	**49.86**	**252**	P		**P**	**08 01 24.8**	**+0.3**
	1.4nm,0.6s,baz=83,slow=8.2,SNR=31							
VNDA	**Vanda**	**63.81**	**186**	P		**P**	**08 03 01.7**	**-0.5**
VNDA	**Vanda**	**63.81**	**186**	P		**P**	**08 03 01.7**	**-0.5**
	1.1nm,0.8s,baz=5.7,slow=9.3,SNR=5.7							
PETK	**Petropavlovsk-**	**72.05**	**342**	P		**P**	**08 03 53.6**	**-0.6**
PETK	**Petropavlovsk-**	**72.05**	**342**	P		**P**	**08 03 53.6**	**-0.6**
	1.7nm,0.8s,baz=151,slow=6.3,SNR=3.1							
YBH	**Yreka Blue Hor**	**73.47**	**37**	LR		LR	08 27 46.2	
	comp=Z,72nm,20.7s,baz=206,slow=29							
NVAR	**Mina Array Bea**	**74.26**	**42**	P		**P**	**08 04 07.8**	**0.0**
NVAR	**Mina Array Bea**	**74.26**	**42**	P		**P**	**08 04 07.8**	**0.0**
	1.5nm,0.8s,baz=224,slow=11,SNR=13							
MOD	**Modoc**	**75.01**	**38**	*e*P		**P**	**08 04 12.5**	**+0.5**
	24nm,1.0s							
QSPA	**South Pole Qui**	**75.12**	**180**	*e*P		**P**	**08 04 11.8**	**-

northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.84**	**46**	Pn	Pn	08 03 39.6	-0.8
	1.3nm,0.3s,baz=214,slow=7.3,SNR=8.5						
H08S2	**Diego Garcia H**	**25.73**	**250**	T	T	08 35 11.9	
	baz=71,slow=0.7,SNR=305						
H08S3	**Diego Garcia H**	**25.73**	**251**	T	T	08 35 12.2	
	baz=71,slow=0.7,SNR=314						
H08S1	**Diego Carcia H**	**25.75**	**250**	T	T	08 35 17.1	
	baz=71,slow=0.7,SNR=353						
H08N1	**Diego Carcia H**	**26.77**	**254**	T	T	08 37 18.4	
	baz=145,SNR=3.4						
H08N2	**Diego Garcia H**	**26.78**	**254**	T	T	08 37 22.4	
	baz=145,SNR=3.7						
H08N3	**Diego Garcia H**	**26.80**	**254**	T	T	08 37 25.2	
	baz=145,SNR=2.7						
H01W3	**Cape Leeuwin H**	**39.03**	**157**	T	T	08 51 38.5	
	baz=333,slow=0.7,SNR=120						
H01W2	**Cape Leeuwin H**	**39.04**	**157**	T	T	08 51 39.5	
	baz=333,slow=0.7,SNR=113						
H01W1	**Cape Leeuwin H**	**39.04**	**157**	T	T	08 51 39.7	
	baz=333,slow=0.7,SNR=80						
WRA	**Warramunga Arr**	**42.12**	**121**	P	P	08 10 47.5	-0.5
	0.6nm,0.9s,baz=305,slow=8.8,SNR=6.4						
ASAR	**Alice Springs**	**43.43**	**127**	P	P	08 10 58.9	+0.2
	0.2nm,0.5s,baz=301,slow=7.7,SNR=4.5						
MKAR	**Makanchi Array**	**47.53**	**346**	P	P	08 11 30.6	-0.1
	0.5nm,0.6s,baz=155,slow=7.3,SNR=3.7						

IDC ***18*** *08:03:59.7±3.0,33°.82N×137°.90E,h0km,mb3.4/2, mb1 3.7/4,mb1mx3.4/28,mbtmp3.6/4,ML3.0/2,Error ellipse: s-maj=100.4km s-min=29.0km az=64.0*

JMA ***18*** *08:04:30.2±0.3,35°.17N×135°.68E,h365km±3km,M2.6*

ISCJB ***18*** *08:04:31.8±0.6,35°.3N±0°.1×135°.72E±0°.07,h350km, mb2.8/2,Error ellipse: s-maj=17.0km s-min=7.7km az=2.1*

ISC 18 08:04:30.2±1.0,35°.1N±0°.1×135°.70E±0°.08,h350km,n17, σ1♀76/20,Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**0.30**	**305**	P	**Pn**	**08 05 15.8**	**+1.7**
JWT				S	**S**	**08 05 51.5**	**+2.2**
JEG	**Eigenji**	**0.57**	**87**	P	**Pn**	**08 05 16.9**	**+2.2**
JKY	**Yasaka**	**0.71**	**317**	P	**Pn**	**08 05 16.5**	**+1.6**
JKN2	**Miekihoku**	**0.99**	**151**	P	**Pn**	**08 05 17.9**	**+1.9**
JIE	**Ise**	**1.10**	**131**	P	**Pn**	**08 05 18.4**	**+2.0**
JKG	**Kaga**	**1.27**	**24**	P	**Pn**	**08 05 18.8**	**+1.7**
MAT	**Matsushiro**	**2.49**	**54**	P	**Pn**	**08 05 26.8**	**+1.6**
JHU	**Hanno**	**3.02**	**75**	P	**Pn**	**08 05 31.2**	**+1.5**
JHU				*e*S	**S**	**08 06 19.5**	**+1.9**
JAG	**Ashikaga**	**3.32**	**66**	P	**Pn**	**08 05 34.1**	**+1.6**
JAG				*e*S	**S**	**08 06 22.5**	**-0.2**
BSO4	**Boso 4**	**3.81**	**90**	*e*S	**S**	**08 06 31.0**	**-0.1**
JYT	**Yasato**	**3.83**	**72**	*e*S	**S**	**08 06 30.0**	**-1.6**
BSO3	**Boso 3**	**3.96**	**93**	*e*S	**S**	**08 06 35.1**	**+1.4**
JHO	**Hitachi**	**4.23**	**68**	P	**Pn**	**08 05 42.3**	**+0.8**
KSRS	**Korea Array**	**6.70**	**293**	Pn	**Pn**	**08 06 09.8**	**+0.8**
	0.5nm,0.3s,baz=107,slow=12,SNR=11						
USRK	**Ussuriysk Arra**	**9.52**	**344**	Pn	**P**	**08 06 43.0**	**-1.1**
	0.3nm,0.3s,baz=149,slow=8.1,SNR=5.3						
WRA	**Warramunga Arr**	**54.77**	**182**	P	**P**	**08 13 22.4**	**-2.4**
	0.3nm,0.3s,baz=359,slow=7.6,SNR=5.4						
ASAR	**Alice Springs**	**58.48**	**182**	P	**P**	**08 13 49.2**	**-1.5**
	0.1nm,0.4s,baz=14,slow=13,SNR=4.9						

ROM 18 08:06:09.6±0.5,35°.01N×14°.72E,h10km,MI3.6/4,Error ellipse: s-maj=25.7km s-min=6.1km az=97.0,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAVL	**Avola**	**1.97**	**9**	Pg	Pn	08 06 43.5	+0.4
HAVL				Sg	Sn	08 07 08.8	+0.9
SSY	**Sortino**	**2.15**	**8**	Pg	Pn	08 06 46.3	+0.7
SSY				Sg	Sb	08 07 14.2	-1.4
	416nm,0.7s						
HVZN	**Vizzini**	**2.16**	**360**	Pg	Pn	08 06 46.3	+0.5
HVZN				Sg	Sn	08 07 13.1	+0.4
	276nm,0.6s						
AGST	**Augusta-Monte**	**2.27**	**10**	Pg	Pn	08 06 48.3	+1.1
AGST				Sg	Sn	08 07 15.3	0.0
	316nm,1.0s						
HCRL	**Carlentini**	**2.28**	**6**	Pg	Pn	08 06 48.0	+0.7
HCRL				Sg	Sn	08 07 15.5	+0.1
	439nm,0.6s						

IDC ***18*** *08:18:47.7±1.5,52°.69N×167°.10W,h0km,mb3.9/13, mb1 4.0/14,mb1mx3.8/32,mbtmp3.8/14,ML3.1/1,MS3.3/1, Ms1 3.3/1,ms1mx2.8/53,Error ellipse: s-maj=37.6km s-min=20.6km az=7.0*

NEIC ***18*** *08:18:49.0,52°.58N×166°.94W,h2km,ML3.1(AEIC),After AEIC.*

ISC 18 08:18:47.9±2.0,52°.52N±0°.07×166°.91W±0°.05,h5km±11km, n57,σ0♀86/54,mb4.1/15,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**1.08**	**326**	P	**Pg**	**08 19 08.9**	**+0.3**
OKFG				S	**Sn**	**08 19 25.7**	**+0.7**
OKTU	**Okmok Mt. Tuli**	**1.11**	**322**	P	**Pb**	**08 19 10.0**	**+0.6**
OKSP	**Okmok Steeple**	**1.11**	**312**	P	**Pn**	**08 19 10.7**	**+0.6**
OKSO	**Okmok South**	**1.13**	**318**	P	**Pg**	**08 19 09.8**	**+0.3**
OKSO				S	**Sn**	**08 19 26.6**	**+0.3**
OKCE	**Okmok Cone E**	**1.19**	**321**	P	**Pg**	**08 19 10.8**	**+0.2**
NIKH	**Nikolski High**	**1.27**	**292**	P	**Pg**	**08 19 12.2**	**+0.1**
MGOD	**Makushin Gods**	**1.28**	**1**	P	**Pn**	**08 19 13.0**	**+0.6**
MREP	**Makushin Rep't**	**1.30**	**4**	P	**Pg**	**08 19 12.9**	**+0.2**
MSOM	**Makushin Julie**	**1.30**	**359**	P	**Pn**	**08 19 13.6**	**+0.9**
UNV	**Unalaska Valle**	**1.35**	**10**	P	**Pg**	**08 19 12.7**	**-1.1**
UNV				S	**Sn**	**08 19 34.1**	**+2.5**
MSW	**Makushin Switc**	**1.40**	**3**	P	**Pg**	**08 19 13.9**	**-0.2**
MSW				S	**Sb**	**08 19 32.5**	**-0.1**
MCIR	**Makushin Cirqu**	**1.44**	**0**	P	**Pn**	**08 19 15.1**	**+0.6**
MTBL	**Makushin Table**	**1.46**	**5**	P	**Pn**	**08 19 15.5**	**+0.6**
ZRO	**Akutan Zero**	**1.67**	**19**	P	**Pn**	**08 19 17.9**	**+0.1**
AKRB	**Akutan Reef Bi**	**1.69**	**17**	P	**Pn**	**08 19 18.7**	**+0.7**
AKRB				S	**Sb**	**08 19 41.3**	**+0.3**
LVA	**Lava Point**	**1.73**	**17**	P	**Pn**	**08 19 18.9**	**+0.4**
AKUT	**Akutan**	**1.76**	**22**	P	**Pn**	**08 19 20.2**	**+1.3**
AKGG	**Akutan Green G**	**1.77**	**18**	P	**Pb**	**08 19 20.7**	**-0.1**
AKSA	**Akutan Strait**	**1.77**	**24**	P	**Pn**	**08 19 19.1**	**-0.1**
ILAR	**Eielson Array**	**16.00**	**32**	Pn	**Pn**	**08 22 32.5**	**-0.8**
ILAR	**Eielson Array**	**16.00**	**32**	Pn	**Pn**	**08 22 32.5**	**-0.8**
	0.0nm,0.3s,baz=236,slow=9.9,SNR=4.1						
PETK	**Petropavlovsk-**	**21.27**	**286**	P	**P**	**08 23 34.4**	**-0.5**
PETK	**Petropavlovsk-**	**21.27**	**286**	P	**P**	**08 23 34.4**	**-0.5**
	2.0nm,0.4s,baz=92,slow=13,SNR=5.3						
DLBC	**Dease Lake**	**21.51**	**59**	LR	LR	08 31 27.1	
	comp=Z,81nm,19.5s,baz=204,slow=35						
INK	**Inuvik**	**22.40**	**32**	P	**P**	**08 23 45.7**	**-1.0**
INK	**Inuvik**	**22.40**	**32**	P	**P**	**08 23 45.7**	**-1.0**
	1.6nm,0.5s,baz=238,slow=7.6						
H11N2	**WAKE ISLAND Hy**	**38.54**	**222**	T	T	09 07 43.8	
	baz=26,slow=0.7,SNR=12						
H11N3	**WAKE ISLAND Hy**	**38.55**	**222**	T	T	09 07 45.2	
	baz=26,slow=0.7,SNR=11						
H11N1	**WAKE ISLAND Hy**	**38.56**	**222**	T	T	09 07 42.0	
	baz=26,slow=0.7,SNR=8.5						
PDAR	**Pinedale Array**	**38.89**	**81**	P	**P**	**08 26 16.1**	**+1.8**
PDAR	**Pinedale Array**	**38.89**	**81**	P	**P**	**08 26 16.1**	**+1.8**
	0.2nm,0.6s,baz=302,slow=4.1,SNR=2.9						
H11S1	**WAKE ISLAND Hy**	**39.72**	**221**	T	T	09 09 13.4	
	baz=20						
H11S2	**WAKE ISLAND Hy**	**39.73**	**221**	T	T	09 09 14.2	
	baz=20						
H11S3	**WAKE ISLAND Hy**	**39.74**	**221**	T	T	09 09 06.5	
	baz=20						
TXAR	**Lajitas Array**	**51.24**	**91**	P	**P**	**08 27 53.7**	**+1.3**
TXAR	**Lajitas Array**	**51.24**	**91**	P	**P**	**08 27 53.7**	**+1.3**
	0.3nm,0.5s,baz=303,slow=5.5,SNR=6.8						
H06E1	**SOCORRO T-PHAS**	**54.74**	**106**	T	T	09 28 31.2	
	SNR=12						
ARCES	**ARCESS Array B**	**57.92**	**355**	P	**P**	**08 28 40.6**	**+0.4**
ARCES	**ARCESS Array B**	**57.92**	**355**	P	**P**	**08 28 40.6**	**+0.4**
	5.6nm,1.1s,baz=27,slow=6.1,SNR=3.8						
JOF	**Joensuu**	**64.02**	**351**	*ep*	**P**	**08 29 21.7**	**0.0**
	1.3nm,0.4s						
BVAR	**Borovoye Array**	**64.44**	**326**	P	**P**	**08 29 24.7**	**-0.1**
BVAR	**Borovoye Array**	**64.44**	**326**	P	**P**	**08 29 24.7**	**-0.1**
	0.5nm,0.3s,baz=30,slow=12,SNR=2.4						
MKAR	**Makanchi Array**	**64.78**	**315**	P	**P**	**08 29 26.0**	**-1.1**
MKAR	**Makanchi Array**	**64.78**	**315**	P	**P**	**08 29 26.0**	**-1.1**
	0.5nm,0.7s,baz=46,slow=6.3,SNR=5.9						
KAF	**Kangasniemi**	**65.23**	**353**	*ep*	**P**	**08 29 29.1**	**-0.6**
	2.4nm,0.5s						
FINES	**FINESS Array B**	**65.92**	**353**	P	**P**	**08 29 33.5**	**-0.6**
FINES	**FINESS Array B**	**65.92**	**353**	P	**P**	**08 29 33.5**	**-0.6**
	1.7nm,0.5s,baz=21,slow=6.8,SNR=20						
NOA	**NORSAR Array B**	**66.78**	**1**	P	**P**	**08 29 38.6**	**-1.1**
NOA	**NORSAR Array B**	**66.78**	**1**	P	**P**	**08 29 38.6**	**-1.1**
	0.5nm,0.6s,baz=0.8,slow=7.1,SNR=2.9						
HFS	**Hagfors**	**67.70**	**360**	P	**P**	**08 29 44.8**	**-0.7**
HFS	**Hagfors**	**67.70**	**360**	P	**P**	**08 29 44.8**	**-0.7**
	1.7nm,0.4s,baz=28,slow=3.4,SNR=22						
EKA	**Eskdalemuir Ar**	**71.67**	**10**	P	**P**	**08 30 10.6**	**+0.5**
EKA	**Eskdalemuir Ar**	**71.67**	**10**	P	**P**	**08 30 10.6**	**+0.5**
	1.7nm,0.9s,baz=0.8,slow=5.0,SNR=3.2						
AKASG	**Malin Array Be**	**76.25**	**350**	P	**P**	**08 30 36.5**	**-0.5**
AKASG	**Malin Array Be**	**76.25**	**350**	P	**P**	**08 30 36.5**	**-0.5**
	0.8nm,0.4s,baz=13,slow=5.8,SNR=4.2						
GERES	**GERESS Array B**	**79.01**	**360**	P	**P**	**08 30 51.4**	**-1.1**
GERES	**GERESS Array B**	**79.01**	**360**	P	**P**	**08 30 51.4**	**-1.1**
	0.4nm,0.8s,baz=8.9,slow=7.0,SNR=3.6						

ISCJB ***18*** *08:20:51.4±0.5,59°.73N±0°.03×23°.00E±0°.06,h0km,Error ellipse: s-maj=4.9km s-min=4.2km az=175.5*

IDC ***18*** *08:20:52.9±2.4,59°.61N×23°.18E,h0km,mb1 3.1/4, mb1mx3.0/27,mbtmp3.0/4,ML2.5/4,Error ellipse: s-maj=32.6km s-min=9.1km az=161.0*

HEL ***18*** *08:20:53.5±0.1,59°.75N×23°.05E,h0km,ML1.9,Explosion*

ISC 18 08:20:51.8±0.8,59°.74N±0°.04×23°.02E±0°.03,h0km,n11, σ1♀04/21,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.84**	**55**	*e*P	**Pg**	**08 21 07.9**	**0.0**
MEF				*e*S	**Sg**	**08 21 19.1**	**+0.4**
MTSE	**Matsula**	**1.11**	**158**	*e*P	**Pb**	**08 21 13.3**	**-0.5**
MTSE				*e*S	**Sb**	**08 21 28.1**	**-0.6**
RAF	**Rauma**	**1.43**	**335**	*e*P	**Pn**	**08 21 18.8**	**-0.2**
RAF				*e*S	**Sg**	**08 21 37.1**	**-0.5**
AAL	**Aland**	**1.59**	**287**	*e*P	**Pb**	**08 21 21.8**	**-0.1**
AAL				*e*S	**Sg**	**08 21 42.8**	**+0.1**
PVF	**Pernaja**	**1.63**	**59**	*e*P	**Pn**	**08 21 22.2**	**+0.4**
PVF				*e*S	**Sn**	**08 21 43.2**	**-0.2**
PVF				MSG		08 21 47.3	
	comp=Z,7.1nm,0.2s						
FINES	**FINESS Array B**	**2.28**	**40**	Pn	**Pb**	**08 21 33.1**	**-0.6**
	comp=Z,2.4nm,0.3s,baz=218,slow=14,SNR=140						
FINES				Sn	**Sb**	**08 22 02.5**	**0.0**
	comp=Z,2.6nm,0.3s,baz=219,slow=24,SNR=27						
VSU	**Vasula**	**2.31**	**122**	*e*PB	**Pb**	**08 21 33.4**	**-0.8**
VSU				*e*SG	**Sb**	**08 22 03.6**	**+0.4**
KEF	**Keuruu**	**2.59**	**20**	*e*PB	**Pb**	**08 21 38.3**	**-0.9**
KEF				*e*SB	**Sb**	**08 22 11.8**	**+0.2**
KEF				MSG		08 22 13.3	
	comp=Z,5.6nm,0.2s						
HFS	**Hagfors**	**4.71**	**279**	Pn	**Pn**	**08 22 06.2**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=100,slow=15,SNR=7.1						
HFS				Sn	**Sn**	**08 22 59.4**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=98,slow=27,SNR=7.6						
HFS				Lg	Lg	08 23 15.4	
	comp=Z,0.4nm,0.3s,baz=93,slow=32,SNR=7.9						
NOA	**NORSAR Array B**	**6.00**	**288**	Pn	**Pn**	**08 22 22.1**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=101,slow=18,SNR=3.1						
NOA				Sn	**Sn**	**08 23 27.9**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=180,slow=15,SNR=2.8						
ARCES	**ARCESS Array B**	**9.89**	**5**	Pn	**Pn**	**08 23 16.1**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=181,slow=13,SNR=12						

BJI ***18*** *08:23:19.4,4°.14S×123°.51E,h25km,mB5.6/49,mb5.3/57, Ms5.1/53,Ms7 5.1/30*

IDC ***18*** *08:23:22.4±0.3,3°.65S×123°.12E,h0km,mb5.2/32, mb1 5.2/33,mb1mx5.2/36,mbtmp5.2/33,ML4.8/1,MS4.2/2, Ms1 4.2/2,ms1mx4.0/28,Error ellipse: s-maj=14.2km s-min=9.7km az=69.0*

NEIC ***18*** *08:23:25.8±1.1,3°.65S×123°.20E,h21km±7km,mb5.6/58, MS5.0/103,MW5.6,Error ellipse: s-maj=4.5km s-min=3.3km az=67.0,Moment Tensor Solution. s30 Moment tensor: Scale 10¹⁷Nm; Mrr=2.99; Mθθ 1.97; Mφφ 1.03; Mrθ0.57; Mrφ-0.08; Mθφ0.75; Best double couple: Mo2.80000×10¹⁷ NP1:φs260.00000°,δ52.00000°, λ-103.00000°. NP2:φs101.00000°,δ39.00000°, λ-74.00000°. Principal axes: T 2.0400, Plg6.0000°, Azm359.0000°; N 1.1600, Plg9.0000°, Azm268.0000°; P -3.1900, Plg78.0000°, Azm122.0000°;*

NEIC Felt [IV] at Baubau and Kendari.

BKK ***18*** *08:23:25.5±0.2,4°.5S×123°.3E±°,h10km,M5.4/43, mb5.4/43,mB5.8/30,MLv5.7/4,Mw(mB)5.4/30,Mwp5.7/3*

ISCJB ***18*** *08:23:26.0±0.3,3°.59S±0°.02×123°.29E±0°.02,h36km±3km, mb5.5/133,MS5.0/125,Error ellipse: s-maj=3.3km s-min=2.7km az=157.5*

GCMT ***18*** *08:23:25.0±0.2,3°.59S×123°.27E,h12km,MW5.4,Moment Tensor Solution. s67,c103; s33,c34; Moment tensor: Scale 10¹⁷Nm; Mrr-1.21±.03; Mθθ 1.09±.03; Mφφ0.12±.04; Mrθ-0.26±.07; Mrφ0.84±.03; Mθφ0.47±.09; Best double couple: Mo1.50000×10¹⁷ NP1:φs217.00000°,δ51.00000°, λ-124.00000°. NP2:φs84.00000°,δ50.00000°, λ-55.00000°. Principal axes: T 1.5700, Plg0.0000°, Azm330.0000°; N -0.1000, Plg26.0000°, Azm240.0000°; P -1.4700, Plg64.0000°, Azm61.0000°; Data Used: IU II IC G CN. Surface waves: sta= 94, comp=173, per= 50.*

MOS ***18*** *08:23:26.4±1.3,3°.55S×123°.14E,h33km,mb5.9/31, MS4.8/13 Error ellipse: s-maj=9.9km s-min=6.1km az=119.0*

DJA ***18*** *08:23:28.6±0.9,4°.5S±1°×12°.3E±°,h36km±9km,M5.4/22, mB5.8/21,mb5.3/22,MLv5.6/14,Mw(mB)5.3/21,Mwp5.8/3*

ISC 18 08:23:26.1±0.3,3°.62S±0°.03×123°.28E±0°.03,h24km±2km, n1008,σ1♀27/1043,mb5.5/133,MS5.0/125,19C-19D, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKSI	**Kolaka, Sulawe**	**1.71**	**251**	P	**Pn**	**08 23 52.7**	**-1.8**
KKSI				S	**Sb**	**08 24 18.0**	**0.0**
BBSI	**Bau Bau**	**1.98**	**201**	P	**Pn**	**08 23 58.1**	**-0.1**
BBSI				S	**Sb**	**08 24 27.4**	**+1.6**
LUWI	**Luwuk**	**2.61**	**349**	P	**Pn**	**08 24 04.8**	**-2.1**
LUWI				S	**Sn**	**08 24 37.2**	**-0.7**
APSI	**Ampana**	**3.15**	**329**	P	**Pn**	**08 24 12.4**	**-1.8**
BNSI	**Bone**	**3.25**	**256**	P	**Pn**	**08 24 15.0**	**-0.7**
BNSI				S	**Sn**	**08 24 57.0**	**+3.3**
TTSI	**Tana Toraja**	**3.50**	**279**	P	**Pn**	**08 24 18.7**	**-0.4**
TTSI				S	**Sn**	**08 25 02.5**	**+2.7**
SPSI	**Sidrap Palu**	**3.52**	**264**	P	**Pn**	**08 24 18.8**	**-0.5**
SPSI				S	**Sn**	**08 25 03.8**	**+3.6**
BKSI	**Bulukumba**	**3.57**	**242**	P	**Pn**	**08 24 21.3**	**+1.3**
BKSI				S	**Sn**	**08 25 02.6**	**+1.1**
KAPI	**Kappang**	**3.77**	**248**	P	**Pn**	**08 24 23.2**	**+0.3**
	SNR=104						
KAPI	**Kappang**	**3.77**	**248**	P	**Pn**	**08 24 22.2**	**-0.7**
KAPI	**Kappang**	**3.77**	**248**	*e*Pn	**Pn**	**08 24 22.2**	**-0.7**
KAPI				Sn	**Sn**	**08 25 05.3**	**-1.3**
KAPI	**Kappang**	**3.77**	**248**	Pn	**Pn**	**08 24 22.6**	**-0.3**
	9μm,0.9s,SNR=77						
KAPI	**Kappang**	**3.77**	**248**	Pn	**Pn**	**08 24 22.8**	**-0.1**
	140nm,0.3s,baz=63,slow=7.0,SNR=243						
KAPI				Sn	**Sn**	**08 25 05.3**	**-1.3**
	206nm,0.3s,baz=249,slow=23,SNR=15						
KAPI				LR	LR	08 25 21.7	
	comp=Z,2μm,20.7s,baz=40,slow=33						
NLAI	**Namlea**	**3.84**	**84**	P	**Pn**	**08 24 25.5**	**+1.8**
NLAI				S	**Sn**	**08 25 09.8**	**+1.7**
KMSI	**Cibinong**	**4.23**	**10**	P	**Pn**	**08 24 28.8**	**-0.3**
KMSI				S	**Sn**	**08 25 18.3**	**+0.5**
MRSI	**Marisa**	**4.29**	**342**	P	**Pn**	**08 24 29.0**	**-0.9**
MRSI				S	**Sn**	**08 25 20.1**	**+0.9**
MJSI	**Majene**	**4.29**	**271**	P	**Pn**	**08 24 31.4**	**+1.5**
MMSI	**Mamuju**	**4.46**	**282**	P	**Pn**	**08 24 33.7**	**+1.4**
AAI	**Ambon**	**4.91**	**91**	P	**Pn**	**08 24 41.4**	**+2.9**
AAI				S	**Sn**	**08 25 34.5**	**-0.2**
MMRI	**Maumere**	**5.09**	**192**	P	**Pn**	**08 24 41.3**	**+0.4**
	1μm,1.5s,14μm51μm3.4nm						
MMRI	**Maumere**	**5.09**	**192**	*e*Pn	**Pn**	**08 24 40.2**	**-0.7**
LBMI	**Labuha**	**5.16**	**55**	P	**Pn**	**08 24 42.3**	**+0.3**
	785nm,1.5s,16μm3.5nm						
LBMI				S	**Sn**	**08 25 41.3**	**+0.5**
	785nm,1.5s,16μm3.5nm						
TOLI	**Toli-Toli**	**5.32**	**332**	P	**Pn**	**08 24 45.8**	**+1.6**
	2μm,0.8s,39μm54μm14nm						
TNTI	**Ternate**	**5.98**	**43**	P	**Pn**	**08 24 52.3**	**-1.0**
TNTI	**Ternate**	**5.98**	**43**	*e*Pn	**Pn**	**08 24 53.1**	**-0.2**
SOEI	**Soe**	**6.17**	**171**	P	**Pn**	**08 24 56.9**	**+0.9**
SGKI	**Sangatta, Kali**	**6.45**	**298**	P	**Pn**	**08 25 01.0**	**+1.4**
BNDI	**Bandanaira**	**6.67**	**98**	P	**Pn**	**08 25 03.8**	**+1.0**
WSI	**Waingapu**	**6.70**	**206**	P	**Pn**	08 25 06.7	+3.6
SGSI	**Sangihe**	**7.60**	**17**	P	**Pn**	**08 25 17.0**	**+1.5**
	2μm,0.9s,18μm5.0nm						
SWI	**Sorong**	**8.44**	**71**	P	**Pn**	**08 25 28.2**	**+1.2**
	1μm,0.9s,10μm						
MTNI	**Mataram**	**8.64**	**234**	P	**Pn**	**08 25 32.0**	**+2.2**
MTKI	**Muara Teweh, K**	**8.79**	**287**	P	Pn	08 25 45.5	+14
FAKI	**Fak Fak**	**8.99**	**86**	P	**Pn**	**08 25 34.1**	**-0.5**
	473nm,1.0s,4μm						
SRBI	**Singaraja**	**9.16**	**241**	P	**Pn**	**08 25 37.9**	**+1.0**
TSMI	**Tawau**	**9.54**	**325**	P	**Pn**	**08 25 41.3**	**-0.8**
TLE	**Tual**	**9.64**	**102**	P	**Pn**	**08 25 46.6**	**+2.1**
KMMI	**Kalianget**	**9.87**	**249**	P	Pn	08 25 50.4	+3.7
	171nm,1.2s,5μm						
ABJI	**Asem Bagus**	**9.90**	**245**	P	Pn	08 25 51.7	+4.6
	120nm,1.4s						
MYLDM	**Lahad Datu**	**9.96**	**331**	P	Pn	08 25 51.2	+3.4
MYLDM	**Lahad Datu**	**9.96**	**331**	P	**Pn**	**08 25 48.6**	**+0.7**
	551nm,1.4s,7μm24μm						
MYLDM	**Lahad Datu**	**9.96**	**331**	*e*Pn	**Pn**	**08 25 48.4**	**+0.5**
BYJI	**Banyuwangi**	**9.97**	**242**	P	Pn	08 25 51.4	+3.3
	364nm,1.2s,10μm						
GMJI	**Gumukmas**	**10.81**	**244**	P	**Pn**	**08 26 01.4**	**+1.8**
	131nm,1.2s,2μm						
DAV	**Davao City (W)**	**10.87**	**12**	Pn	Pn	08 26 03.9	+3.6
	SNR=11						
DAV	**Davao City (W)**	**10.87**	**12**	P	**Pn**	**08 26 00.3**	**0.0**
DAV	**Davao City (W)**	**10.87**	**12**	*e*Pn	**Pn**	**08 26 02.4**	**+2.1**
MATI	**Mati**	**10.91**	**16**	*e*P	**Pn**	**08 26 02.1**	**+1.2**
SDKM	**Sandakan**	**11.03**	**327**	P	Pn	08 26 05.8	+3.2
IPIL	**Ipil**	**11.36**	**356**	*e*P	**Pn**	**08 26 07.5**	**+0.5**
PAGZ	**Pagadian**	**11.39**	**1**	*e*P	**Pn**	**08 26 07.3**	**-0.3**
BUKP	**Musuan**	**11.56**	**9**	*e*P	**Pn**	**08 26 10.8**	**+0.9**
KKM	**Kota Kinabalu**	**11.91**	**324**	P	Pn	08 26 19.0	+4.3
KKM	**Kota Kinabalu**	**11.91**	**324**	P	**Pn**	**08 26 16.7**	**+2.0**
KKM	**Kota Kinabalu**	**11.91**	**324**	*e*Pn	**Pn**	**08 26 16.7**	**+2.0**
DCPH	**Dipolog City**	**12.12**	**0**	*e*P	**Pn**	**08 26 19.2**	**+1.6**
SJI	**Sawahan**	**12.16**	**250**	P	Pn	08 26 22.5	+4.4
PWJI	**Pagerwojo**	**12.22**	**249**	P	**Pn**	**08 26 20.8**	**+2.0**
KDM	**Kudat**	**12.29**	**328**	P	P	08 26 26.3	-5.5
STKI	**Sintang**	**12.35**	**287**	P	**Pn**	**08 26 22.7**	**+2.1**
SBUM	**Sibu**	**12.59**	**298**	P	Pn	08 26 27.9	+4.1
SBUM	**Sibu**	**12.59**	**298**	P	Pn	08 26 27.3	+3.4
	53nm,2.0s,1μm						
SBUM	**Sibu**	**12.59**	**298**	*e*Pn	Pn	08 26 27.2	+3.4
PCJI	**Pacitan**	**12.86**	**249**	P	**Pn**	**08 26 28.7**	**+1.1**
WOJI	**Wonogiri, Jawa**	**12.98**	**251**	P	Pn	08 26 33.3	+4.1
BAKI	**Biak**	**13.05**	**80**	P	**Pn**	**08 26 31.0**	**+0.9**
UGM	**Wanagama**	**13.38**	**251**	P	P	08 26 39.5	-4.6
KSM	**Kuching**	**13.91**	**291**	P	Pn	08 26 45.3	+3.3
KSM	**Kuching**	**13.91**	**291**	P	Pn	08 26 45.5	+3.5
	74nm,1.0s,1μm						
KSM	**Kuching**	**13.91**	**291**	*e*Pn	**Pn**	**08 26 43.0**	**+1.0**
BJII	**Banjamegara**	**14.00**	**254**	P	**Pn**	**08 26 46.3**	**+3.1**
TGJI	**Tegal**	**14.46**	**257**	P	**P**	**08 26 58.2**	**+2.2**
FITZ	**Fitzroy Crossi**	**14.58**	**171**	*e*Pn	Pn	08 26 47.2	-3.8
FITZ				*e*Sn	**Sn**	**08 29 29.0**	**-2.9**
FITZ	**Fitzroy Crossi**	**14.58**	**171**	Pn	Pn	08 26 47.2	-3.8
	1.6nm,0.3s,baz=7.3,slow=8.3,SNR=72						
KPJI	**Karang Pucung**	**14.74**	**255**	P	**Pn**	**08 26 56.1**	**+2.8**
CLJI	**Cilicap**	**14.76**	**253**	P	**P**	**08

comp=Z,65nm,0.9s
GUMO Guam 27.42 51 eP P 08 29 09.7 -0.5
comp=Z,188nm,1.1s
SURT Suratani 27.42 297 P P 08 29 11.2 +0.9
comp=Z,54nm,2.5s,comp=Z,1µm
COCO West Island 27.51 250 iP P 08 29 12.3 +1.2
COCO West Island 27.51 250 PFAKE 08 29 20.0 +8.9
COCO LR LR
comp=Z,2µm,19.0s
CTA Charters Tower 27.74 128 P P 08 29 13.7 +0.5
CTA Charters Tower 27.74 128 P P 08 29 13.7 +0.5
comp=Z,27nm,1.1s,baz=308,slow=11,SNR=9.4
CTAO Charters Tower 27.74 128 eP P 08 29 14.3 +1.1
CTAO pmax pmax
comp=Z,81nm,1.3s
CTAO MLR MLR
comp=Z,2µm,21.0s
CTAO Charters Tower 27.74 128 eP P 08 29 14.3 +1.1
comp=Z,81nm,1.3s
CTAO LR LR
comp=Z,2µm,21.0s
SKNT Sakolnakorn 27.96 318 P P 08 29 15.4 +0.3
comp=Z,86nm,1.4s,comp=Z,2µm
YHNB Yeheng 28.18 356 PFAKE 08 29 30.0 +13
YHNB LR LR
comp=Z,3µm,20.0s
GZH Guangzhou 28.26 340 P P 08 29 22.1 +4.4
GZH LR LR
comp=Z,4µm,14.4s
GZH LR LR
comp=Z,5µm,13.2s
GZH LR LR
comp=Z,6µm,21.0s
TATO Taipei 28.48 357 PFAKE 08 29 30.0 +10
TATO LR LR
comp=Z,3µm,21.0s
QZH Quanzhou 28.76 351⇑ *i*P **P 08 29 20.6 -1.5**
QZH S **S 08 34 06.0 -4.3**
QZH AMB AMB
comp=Z,1µm,8.2s
QZH LR LR
comp=Z,4µm,14.5s
QZH LR LR
comp=Z,4µm,14.4s
QZH LR LR
comp=Z,5µm,29.5s
NWAO Narrogin (SRO) 29.70 190 P P 08 29 29.7 -0.7
NWAO LR LR
comp=Z,2µm,20.0s
NWAO Narrogin (SRO) 29.70 190 P P 08 29 29.7 -0.7
comp=Z,13nm,0.6s,baz=12,slow=8.8,SNR=14
PBKT Sadao Pong 29.81 313 P P 08 29 31.5 0.0
comp=Z,51nm,1.3s
JOW Kunigami 30.66 9 eP P 08 29 39.8 +0.8
BBOO Buckleboo 31.41 159 eP P 08 29 45.1 -0.5
comp=Z,2µm,1.8s
CM31 Chiang Mai Arr 32.50 313 eP P 08 29 56.1 +0.9
comp=Z,26nm,0.8s
CMAR Chiang Mai Arr 32.50 313 P P 08 29 55.5 +0.3
CMAR Chiang Mai Arr 32.50 313 P P 08 29 55.5 +0.3
comp=Z,33nm,1.0s,baz=139,slow=7.0,SNR=126
CRAI Chiangrai 32.67 317 P P 08 29 57.0 +0.2
comp=Z,34nm,1.5s
CHTO Chiang Mai 32.73 314 eP P 08 29 57.2 -0.1
CHTO pmax pmax
comp=Z,509nm,1.3s
CHTO MLR MLR
comp=Z,1µm,20.0s
CHTO Chiang Mai 32.73 314 P P 08 29 58.4 +1.1
SNR=25
CHTO Chiang Mai 32.73 314 eP P 08 29 57.1 -0.1
comp=Z,509nm,1.3s
CHTO LR LR
comp=Z,1µm,20.0s
CHTO Chiang Mai 32.73 314 P P 08 29 57.5 +0.3
comp=Z,356nm,1.2s,comp=Z,5µm
STKA Stephens Creek 32.96 151 P P 08 29 59.0 -0.1
STKA Stephens Creek 32.96 151 P P 08 29 59.0 -0.1
comp=Z,41nm,1.1s,baz=322,slow=8.7,SNR=50
CMAI Chiengmai2 33.39 315 P P 08 30 03.2 0.0
comp=Z,39nm,1.1s,comp=Z,588nm
GYA Guiyang 33.95 333⇓ *i*P **P 08 30 07.1 -0.9**
GYA pP **pP 08 30 19.8 +4.7**
GYA PP **PnPn 08 31 21.3 0.0**
GYA PcP **PcP 08 32 45.6 -0.5**
GYA S **S 08 35 29.1 -2.7**
GYA sS **sS 08 35 47.5 +4.0**
GYA AMB AMB
comp=Z,30nm,1.0s
GYA AMB AMB
comp=Z,80nm,5.6s
GYA LR LR
comp=Z,930nm,16.8s
GYA LR LR
comp=Z,2µm,17.6s
GYA LR LR
comp=Z,2µm,16.8s
SSE Sheshan 34.58 357 eP P 08 30 15.0 +1.8
SSE sP **sP 08 30 23.9 +0.7**
SSE PP **PP 08 31 31.9 0.0**
SSE S **S 08 35 41.9 +0.8**
SSE AMB AMB
comp=Z,52nm,1.1s
SSE AMB AMB
comp=Z,280nm,8.5s
KMI Kunming 34.84 326 P P 08 30 15.8 0.0
KMI pP **pP 08 30 21.8 -1.2**
KMI sP **sP 08 30 23.4 -2.5**
KMI PP **PP 08 31 36.8 +1.7**
KMI S **S 08 35 48.3 +2.5**
KMI SS **SnSn 08 38 03.4 +2.6**
KMI AMB AMB
comp=Z,49nm,1.6s
KMI AMB AMB
comp=Z,390nm,4.5s
KMI LR LR
comp=Z,3µm,22.8s
WHN Wuhan 35.03 347 P P 08 30 17.5 +0.4
WHN S **S 08 35 49.6 +1.6**
WHN LR LR
comp=Z,2µm,11.4s
WHN LR LR
comp=Z,2µm,15.2s
WHN LR LR
comp=Z,4µm,19.4s
CBIJ Chichi jima 35.58 30 P P 08 30 21.9 0.0
JCJ Chichijima 35.58 30 P P 08 30 21.9 0.0
comp=Z,213nm,1.0s,baz=192,slow=8.3,SNR=6.4
JCJ LR LR 08 42 06.7
comp=Z,792nm,20.7s,baz=93,slow=32
NJ2 Nanjing 35.73 354 eP P 08 30 21.1 -1.9
NJ2 PP **PP 08 31 47.5 +3.0**
NJ2 PcP **PcP 08 32 51.1 +0.1**
NJ2 S **S 08 36 03.6 +4.9**
NJ2 AMB AMB
comp=Z,30nm,0.7s
NJ2 AMB AMB
comp=Z,390nm,7.8s
NJ2 LR LR
comp=Z,2µm,19.8s
NJ2 LR LR
comp=Z,2µm,22.4s
NJ2 LR LR
comp=Z,6µm,20.8s
ENH Enshi 36.19 340 eP P 08 30 26.9 -0.3
comp=Z,30nm,0.9s
ENH *e*PcP **PcP 08 32 53.3 +0.8**
HNR Honiara 36.87 101 P P 08 30 33.9 +0.8
HNR Honiara 36.87 101 P P 08 30 33.9 +0.8
comp=Z,125nm,0.8s,baz=202,slow=11,SNR=2.6
JNU Nakatsue 37.25 11 eP P 08 30 35.9 -0.2
comp=Z,37nm,1.1s
JNU Nakatsue 37.25 11 P P 08 30 35.7 -0.4
comp=Z,47nm,0.9s,baz=153,slow=4.2,SNR=18
ARMA Armidale 37.78 138 eP P 08 30 42.2 +1.4
comp=Z,123nm,1.8s
ARMA *e*PcP **PcP 08 32 58.6 +1.1**
CD2 Chengdu 39.06 333 P P 08 30 50.9 -0.6
CD2 pP **pP 08 30 56.1 -2.6**
CD2 sP **sP 08 30 58.9 -2.7**
CD2 PP **PnPn 08 32 25.3 +1.4**
CD2 S **S 08 36 50.4 +0.7**
CD2 SS **SnSn 08 39 36.6 -5.9**
CD2 AMB AMB
comp=Z,60nm,0.5s
CD2 AMB AMB
comp=Z,390nm,5.1s
CD2 LR LR
comp=Z,2µm,16.8s
CD2 LR LR
comp=Z,2µm,19.2s
CAN Canberra 39.52 146 eP P 08 30 56.3 +1.0
CAN *e* 08 33 02.0
CAN pmax pmax
comp=Z,124nm,1.4s
CAN MLR MLR
comp=Z,2µm,19.0s
CAN Canberra 39.52 146 eP P 08 30 56.3 +1.0
comp=Z,124nm,1.4s
CAN *e*PcP **PcP 08 33 02.0 -0.7**
CAN LR LR
comp=Z,2µm,19.0s
XAN Xi'an 39.83 341 P **P 08 30 56.8 -1.0**
XAN pP **pP 08 31 01.8 -3.2**
XAN S S 08 36 54.3 -6.8
XAN AMB AMB
comp=Z,11nm,1.1s
XAN AMB AMB
comp=Z,83nm,6.7s
TIA Tai'an 40.04 352⇓ P **P 08 30 59.6 +0.1**
TIA S **S 08 37 05.6 +1.5**
TIA AMB AMB
comp=Z,590nm,6.9s
TIA LR LR
comp=Z,890nm,15.7s
TIA LR LR
comp=Z,1µm,17.6s
INCN Inchon 41.02 4 eP P 08 31 08.5 +0.9
comp=Z,36nm,0.9s
INCN LR LR
comp=Z,1µm,21.0s
KSAR Wonju Array Be 41.08 6 P **P 08 31 08.9 +0.9**
KSAR PcP **PcP 08 33 08.4 +1.0**
KSRS Korea Array 41.09 6 P **P 08 31 08.9 +0.8**
comp=Z,29nm,0.9s,baz=181,slow=10,SNR=68
KSRS PcP **PcP 08 33 08.4 +0.9**
comp=Z,5.4nm,0.9s,baz=189,slow=3.3,SNR=6.8
SHL Shillong 42.05 315 eP P 08 31 15.5 -0.9
SHL *ex* x 08 35 30.0
MAJO Matsushiro 42.32 18*d iP* **P 08 31 17.3 -1.0**
MAJO Matsushiro 42.32 18 eP P 08 31 17.2 -1.0
comp=Z,361nm,1.8s
MAJO *e*PcP **PcP 08 33 12.0 +0.3**
MAJO LR LR
comp=Z,1µm,19.0s
MAT Matsushiro 42.32 18 P **P 08 31 17.0 -1.2**
MAT S **S 08 37 41.6 +3.6**
LZH Lanzhou 43.48 337 eP P 08 31 28.3 +0.4
LZH pP **pP 08 31 36.3 +1.2**
LZH sP **sP 08 31 40.9 +2.9**
LZH PP **PcP 08 33 15.0 -0.8**
LZH PcP PP 08 33 17.1 +7.8
LZH ScP **ScP 08 37 01.0 -5.0**
LZH *e*S **S 08 37 54.0 -1.4**
LZH SS **SS 08 41 05.8 -4.5**
LZH AMB AMB
comp=Z,53nm,1.2s
LZH AMB AMB
comp=Z,240nm,4.8s
LZH LR LR
comp=Z,2µm,15.8s
LZH LR LR
comp=Z,1µm,14.3s
LZH LR LR
comp=Z,3µm,18.0s
PALK Pallekele 43.84 284 P **P 08 31 30.8 -0.2**
SNR=6.7
PALK Pallekele 43.84 284 *eP* **P 08 31 30.3 -0.7**
comp=Z,32nm,1.3s
PALK Pallekele 43.84 284 P **P 08 31 30.0 -1.0**
comp=Z,105nm,1.6s,SNR=6.8
BJT Baijiatuan 43.92 352 *eP* **P 08 31 30.2 -0.8**
comp=Z,39nm,0.9s
BJT LR LR
comp=Z,1µm,21.0s
BJI Beijing 43.94 352 P **P 08 31 29.6 -1.6**
BJI PP **PP 08 33 13.0 -0.9**
BJI S **S 08 38 02.1 +0.6**
BJI AMB AMB
comp=Z,41nm,1.0s
BJI AMB AMB
comp=Z,550nm,6.4s
BJI LR LR
comp=Z,970nm,18.7s
BJI LR LR
comp=Z,1µm,19.6s
TAU Tasmania Unive 44.59 155 PFAKE 08 31 50.0 +14
TAU LR LR
comp=Z,3µm,22.0s
LSA Lhasa 45.21 319 P **P 08 31 42.6 +0.4**
LSA AMB AMB
comp=Z,40nm,1.9s
LSA Lhasa 45.21 319 *eP* **P 08 31 42.4 +0.2**
LSA pmax pmax
comp=Z,169nm,1.8s
LSA MLR MLR
comp=Z,916nm,20.0s
LSA Lhasa 45.21 319 *eP* **P 08 31 42.4 +0.2**
comp=Z,169nm,1.8s
LSA LR LR
comp=Z,916nm,20.0s
SNY Shenyang 45.24 0⇓ P **P 08 31 40.9 -0.6**
SNY S **S 08 38 19.8 -0.5**
SNY AMB AMB
comp=Z,110nm,1.6s
SNY AMB AMB
comp=Z,620nm,6.5s
SNY LR LR
comp=Z,980nm,20.4s
SNY LR LR
comp=Z,1µm,19.2s
HHC Hu-ho-hao-te 45.54 348 *eP* **P 08 31 43.3 -0.8**
HHC pP **pP 08 31 49.3 -2.1**
HHC sP **sP 08 31 54.0 -0.3**
HHC PP **PP 08 33 29.3 -1.7**
HHC S **S 08 38 25.4 +0.4**
HHC SS **ScS 08 41 41.6 +2.2**
HHC AMB AMB
comp=Z,38nm,1.2s
HHC AMB AMB
comp=Z,700nm,4.2s
HHC LR LR
comp=Z,2µm,13.1s
HHC LR LR
comp=Z,2µm,16.9s
HHC LR LR
comp=Z,3µm,18.0s
DZM Mont Dzumac 45.68 118 *eLR* LR 08 44 32.6
comp=Z,3µm,31.9s
ODAN Odare 46.04 313 *eP* **P 08 31 47.7 -0.8**
comp=Z,473nm,1.8s
TAPN Taplejung 46.10 314 *eP* **P 08 31 48.0 -1.0**
comp=Z,222nm,1.3s
RAMN Ramite 46.67 313 *eP* **P 08 31 52.7 -0.8**
comp=Z,350nm,1.3s
CN2 Changchun 47.25 2 *eP* **P 08 31 57.0 -0.4**
CN2 *e*pP **pP 08 32 09.5 +4.8**
CN2 PcP **PcP 08 33 29.1 +0.7**
CN2 PP **PP 08 33 48.4 -0.3**
CN2 *e*S **S 08 38 47.8 -1.4**
CN2 AMB AMB
comp=Z,30nm,1.3s
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,600nm,19.0s
CN2 LR LR
comp=Z,900nm,19.0s
JIRN Jiri 47.37 313 *eP* **P 08 31 58.0 -1.1**
comp=Z,218nm,1.3s
GUN Gumba 47.74 313 *eP* **P 08 32 00.9 -1.0**
comp=Z,321nm,1.3s
PKI Pulchoki 47.89 313 *eP* **P 08 32 01.7 -1.4**
comp=Z,119nm,1.2s
PKIN Phulchoki 47.91 313 *eP* **P 08 32 01.9 -1.2**
comp=Z,129nm,1.7s
GTA Gaotai 47.97 335⇓ P **P 08 32 03.4 +0.2**
GTA pP **pP 08 32 08.0 -2.5**
GTA sP **sP 08 32 10.3 -3.1**
GTA PcP **PcP 08 33 32.4 +1.1**
GTA PcS **PcS 08 37 25.4 -1.6**
GTA S **S 08 38 59.9 +0.1**
GTA SS **SS 08 42 23.4 -5.6**
GTA AMB AMB
comp=Z,32nm,1.3s
GTA AMB AMB
comp=Z,550nm,5.9s
GTA LR LR
comp=Z,810nm,19.0s
GTA LR LR
comp=Z,1µm,19.5s
KKN Kakani 48.11 313 *eP* **P 08 32 03.5 -1.1**
comp=Z,165nm,1.2s
DMN Daman 48.14 313 *eP* **P 08 32 03.9 -1.0**
comp=Z,172nm,1.1s
USRK Ussuriysk Arra 48.24 8 P **P 08 32 05.2 +0.1**
comp=Z,71nm,0.8s,baz=193,slow=7.0,SNR=75
WAKE Wake Island 48.35 60 PFAKE 08 32 20.0 +14
WAKE LR LR
comp=Z,615nm,19.0s
MDJ Mudanjiang 48.35 6 P **P 08 32 06.9 +1.0**
MDJ pP **pP 08 32 10.1 -3.1**
MDJ PcP **PcP 08 33 32.9 +0.6**
MDJ S **S 08 39 08.1 +3.2**
MDJ AMB AMB
comp=Z,220nm,0.9s
MDJ AMB AMB
comp=Z,620nm,6.6s
MDJ LR LR
comp=Z,1µm,29.6s
MDJ LR LR
comp=Z,380nm,23.3s
MDJ Mudanjiang 48.35 6 *eP* **P 08 32 06.2 +0.2**
comp=Z,216nm,0.9s
MDJ LR LR
comp=Z,1µm,21.0s
GKN Gorkha 48.70 313 *eP* **P 08 32 08.1 -1.0**
comp=Z,195nm,1.2s
HYB Hyderabad 48.83 297 *i* P **P 08 32 08.0 -2.1**
HYB *e*PP **PP 08 34 07.0 +3.5**
HYB *e*S **S 08 39 12.0 -0.4**
KOLN Koldanda 49.34 312 *eP* **P 08 32 13.2 -0.9**
comp=Z,152nm,1.0s
DANN Dangsing 49.54 313 *eP* **P 08 32 14.5 -1.2**
comp=Z,324nm,1.1s
NGP Nagpur 49.83 302 *eP* **P 08 32 14.6 -3.0**
NGP AMB AMB 08 32 15.7
comp=Z,57nm,1.1s
NGP *ex* x 08 39 18.1
TARA Tarawa 49.87 85 *eP* **P 08 32 19.4 +1.3**
comp=Z,266nm,1.6s
ASAJ Asahikawa 50.59 18 *eP* **P 08 32 23.6 +0.5**
comp=Z,78nm,1.4s
ASAJ Asahikawa 50.59 18 P **P 08 32 23.5 +0.5**
comp=Z,68nm,1.0s,baz=233,slow=14,SNR=22
AKL Akola 51.39 300 *i* P **P 08 32 28.1 -1.4**
AKL AMP 08 32 30.7
comp=Z,105nm,1.6s
HIA Hailar 52.76 357 *eP* **P 08 32 39.6 +0.4**
comp=Z,316nm,1.4s
HIA LR LR
comp=Z,1µm,20.0s
YSS Yuzh-Sakhalins 53.21 17*d iP* **P 08 32 42.4 -0.1**
YSS pmax pmax
comp=Z,130nm,1.7s
SONM Songino Array 53.34 346 P **P 08 32 43.5 -0.1**
SONM PcP **PcP 08 33 50.6 -0.4**
SONM ⇑ *e* 09 03 19.2
SONM Songino Array 53.34 346 P **P 08 32 43.5 -0.1**
comp=Z,12nm,0.8s,baz=162,slow=8.8,SNR=78
SONM PcP **PcP 08 33 50.6 -0.4**
comp=Z,7.3nm,0.8s,baz=168,slow=5.6,SNR=4.7
SONM PKP2bc 09 03 19.2
comp=Z,0.7nm,0.8s,baz=339,slow=3.7,SNR=3.1
POO Poona 53.41 296⇑ *iP* P 08 32 41.0 -3.5
comp=Z,96nm,1.2s
SONA Sohna 54.55 309 *eP* **P 08 32 50.7 -2.0**
SONA AMB AMB 08 32 51.5
comp=Z,39nm,0.9s
AYAN Aya Nagar 54.63 309 *eP* **P 08 32 50.4 -2.8**
NDI New Delhi 54.65 309 *ex* P 08 32 48.0 -5.4
BHGR Bahadurgarh 54.87 309 *eP* **P 08 32 52.8 -2.2**
BHGR AMB AMB 08 32 53.4
comp=Z,47nm,0.5s
KUDL Kundal 54.97 308 *eP* **P 08 32 52.9 -2.8**
MSVF Nonsavu 55.41 109 PFAKE 08 33 10.0 +11
MSVF LR LR
comp=Z,632nm,20.0s
RTK Rohtak 55.44 309 *eP* **P 08 32 57.4 -1.7**
RTK AMB AMB 08 32 58.1
comp=Z,56nm,0.7s
KHET Khetri 55.47 308 *eP* **P 08 32 56.4 -2.9**
KKR Kurukshetra 55.56 310 *eP* **P 08 32 58.2 -1.8**
KKR AMB AMB 08 32 59.8
comp=Z,88nm,1.7s
WMQ Urumqi 57.03 330 P **P 08 33 10.3 0.0**
WMQ pP **pP 08 33 14.9 -2.8**
WMQ sP **sP 08 33 17.3 -3.2**
WMQ PcP **PcP 08 34 05.0 -0.2**
WMQ PP **PP 08 35 18.5 +1.3**
WMQ S **S 08 41 03.0 -0.6**
WMQ ScS **ScS 08 42 55.5 -2.8**
WMQ SS **SS 08 44 52.1 -0.5**
WMQ AMB AMB
comp=Z,33nm,1.0s
WMQ AMB AMB
comp=Z,580nm,5.0s
WMQ LR LR
comp=Z,2µm,15.2s
WMQ LR LR
comp=Z,970nm,15.8s
WMQ LR LR
comp=Z,1µm,23.4s
TLY Talaya 57.58 346*d iP* **P 08 33 14.5 +0.6**
TLY pmax pmax
comp=Z,36nm,1.0s
TLY Talaya 57.58 346 P **P 08 33 14.1 +0.2**
comp=Z,176nm,1.6s,SNR=8.6
RPZ Rata Peaks 58.03 141 *eP* **P 08 33 17.1 -0.1**
comp=Z,191nm,1.2s
SNZO South Karori 59.33 137 PFAKE 08 33 40.0 +14
SNZO LR LR
comp=Z,2µm,21.0s
HVS Khovu-Aksy 60.12 339⇑ *iP* **P 08 33 32.0 +0.3**
HVS pmax pmax
comp=Z,194nm,1.0s
KSH Kashi 61.07 319 P **P 08 33 39.3 +0.9**
KSH pP **pP 08 33 47.8 +1.9**
KSH sP **sP 08 33 50.3 +1.5**
KSH PcP **PcP 08 34 22.8 +1.4**
KSH PP **PP 08 35 55.8 +2.6**
KSH S **S 08 41 58.0 +1.7**
KSH SS **SS 08 45 59.9 +3.5**
KSH AMB AMB
comp=Z,210nm,2.9s
KSH LR LR
comp=Z,140nm,9.0s
KSH LR LR
comp=Z,180nm,8.5s
KSH LR LR
comp=Z,730nm,22.6s
RAO Raoul Island 61.17 121 PFAKE 08 33 50.0 +11
RAO LR LR
comp=Z,1µm,21.0s
MK31 Makanchi Array 61.83 329*ceP* **P 08 33 42.7 -0.6**
MK31 pmax pmax
comp=Z,99nm,1.4s
MK31 Makanchi Array 61.83 329 *eP* **P 08 33 43.0 -0.3**
MK31 *e*PcP **PcP 08 34 24.5 +0.3**
MKAR Makanchi Array 61.83 329 P **P 08 33 42.8 -0.5**
MKAR Makanchi Array 61.83 329 P **P 08 33 42.8 -0.5**
MKAR ⇑ *e* 09 02 57.9
MKAR Makanchi Array 61.83 329 P **P 08 33 42.8 -0.5**
comp=Z,10nm,0.9s,baz=127,slow=8.1,SNR=83
MKAR PKP2bc 09 02 57.9
comp=Z,1.2nm,0.9s,baz=29,slow=2.8,SNR=3.9
ULHL Ulahol 62.42 322 *i* P **P 08 33 47.8 +0.2**
ULHL Ulahol 62.42 322 P **P 08 33 47.9 +0.2**
SNR=6.8
KZA Kyzart 62.93 322 *i* P **P 08 33 51.2 -0.1**
KZA Kyzart 62.93 322 P **P 08 33 51.2 -0.1**
SNR=25
CASY Casey 63.18 186 *eP* **P 08 33 51.3 -0.6**
comp=Z,18nm,1.1s
CASY *e*PcP **PcP 08 34 29.5 +0.3**
CASY LR LR
comp=Z,901nm,21.0s

TKM2 **Tokmak 2** 63.19 323 *i* P P 08 33 52.4 -0.3
TKM2 **Tokmak 2** 63.19 323 P P 08 33 52.5 -0.3
SNR=16
TKM2 **Tokmak 2** 63.19 323 *e*P P 08 33 52.5 -0.3
comp=Z,32nm,1.4s
TKM2 LR LR
comp=Z,605nm,19.0s
KBK **Karagaybulak** 63.44 322 *i* P P 08 33 54.8 +0.5
KBK **Karagaybulak** 63.44 322 P P 08 33 54.8 +0.5
SNR=12
PEA0B **Petropavlovsk-** 63.50 22 *e*P P 08 33 53.2 -1.0
PETK **Petropavlovsk-** 63.50 22 P P 08 33 55.6 +1.3
PETK **Petropavlovsk-** 63.50 22 P P 08 33 55.6 +1.3
PETK **Petropavlovsk-** 63.50 22 P P 08 33 55.6 +1.3
comp=Z,40nm,0.9s,baz=198,slow=4.4,SNR=30
KBL **Kabul** 63.50 312 *e*P P 08 33 53.7 -1.3
KBL pmax pmax
comp=Z,96nm,1.3s
KBL **Kabul** 63.50 312 *e*P P 08 33 53.7 -1.3
comp=Z,96nm,1.3s
AAK **Ala-Archa** 63.71 322⇓ *i*P P 08 33 56.4 +0.3
AAK pmax pmax
comp=Z,45nm,1.2s
AAK **Ala-Archa** 63.71 322 P P 08 33 56.2 +0.1
SNR=28
AAK **Ala-Archa** 63.71 322 P P 08 33 56.4 +0.3
SNR=17
AAK **Ala-Archa** 63.71 322 *e*P P 08 33 55.6 -0.5
comp=Z,139nm,1.9s
AAK LR LR
comp=Z,977nm,19.0s
AAK **Ala-Archa** 63.71 322 P P 08 33 55.2 -0.9
comp=Z,111nm,1.1s,SNR=16
PET **Petropavlovsk** 63.80 23⇑ *i*P P 08 33 57.0 +0.8
PET pmax pmax
comp=Z,98nm,1.1s
AML **Almayashu** 63.94 321 *i* P P 08 33 58.3 +0.4
AML **Almayashu** 63.94 321 P P 08 33 58.4 +0.4
SNR=19
DRV **Dumont d'Urvil** 64.00 173 P P 08 33 49.0 -8.4
DRV S S 08 42 22.0 -10
DRV SS SS 08 45 18.0 -83
DRV L L 08 50 00.0
DRV R 08 53 00.0
USP **Ospenovka** 64.05 322 *i* P P 08 33 58.0 -0.2
USP **Ospenovka** 64.05 322 P P 08 33 58.1 -0.2
SNR=19
EKS2 **Erkin-Say** 64.17 321 *i* P P 08 33 59.7 +0.6
EKS2 **Erkin-Say** 64.17 321 P P 08 33 59.7 +0.6
SNR=15
EKS2 **Erkin-Say** 64.17 321 *e*P P 08 33 58.6 -0.4
comp=Z,81nm,1.7s
EKS2 *e*PcP PcP 08 34 34.8 +0.8
EKS2 LR LR
comp=Z,949nm,22.0s
YAK **Yakutsk** 65.66 3*d i*P P 08 34 08.1 0.0
YAK pmax pmax
comp=Z,193nm,0.8s
ZAA0 **Zalesovo Array** 65.71 336 *e*P P 08 34 07.1 -1.6
ZALV **Zalesovo Beam** 65.71 336 *i* P P 08 34 07.8 -0.9
ZALV pmax pmax
comp=Z,65nm,0.9s
ZALV **Zalesovo Beam** 65.71 336 P P 08 34 07.4 -1.2
ZALV P'P' 09 02 42.6
ZALV **Zalesovo Beam** 65.71 336 P P 08 34 07.4 -1.2
comp=Z,65nm,0.9s,baz=123,slow=5.5,SNR=168
ZALV PKPPKP **P'P'df** 09 02 42.6 -3.4
comp=Z,0.3nm,0.3s,baz=323,slow=9.3,SNR=4.4
KURK **Kurchatov** 66.24 331*d i*P P 08 34 12.1 -0.1
KURK pmax pmax
comp=Z,166nm,1.7s
KURK **Kurchatov** 66.24 331 P P 08 34 11.9 -0.3
SNR=57
KURK **Kurchatov** 66.24 331 *e*P P 08 34 11.4 -0.8
comp=Z,108nm,1.1s
KURK LR LR
comp=Z,501nm,21.0s
KURK **Kurchatov** 66.24 331 P P 08 34 12.1 -0.1
comp=Z,858nm,1.1s,SNR=27
KK31 **Karatay Array** 66.45 320*c e*P P 08 34 12.2 -1.5
KK31 pmax pmax
comp=Z,25nm,1.2s
KKAR **Karatay Array** 66.45 320 *e*P P 08 34 11.6 -2.1
KKAR *e* 08 34 43.3
KKAR *e* 08 36 38.2
KKAR pmax pmax
comp=Z,16nm,1.2s
KKAR **Karatay Array** 66.45 320 *e*P P 08 34 11.6 -2.1
comp=Z,16nm,1.2s
KKAR *e*PcP PcP 08 34 43.3 +0.1
KKAR *e*PP PP 08 36 38.2 -2.1
MSEY **Mahe Island** 67.60 266 PFAKE 08 34 30.0 +8.3
MSEY LR LR
comp=Z,1μm,22.0s
WBK **Wadi Bani Khal** 67.92 296 ⇑P P 08 34 23.1 -0.3
SNR=5.7
JMDO **Jabal Madar** 68.64 296 ⇑P P 08 34 27.8 -0.2
SNR=18
SMDO **Samad** 68.85 296 ⇓P P 08 34 28.9 -0.5
SNR=6.5
BSY **Bisya** 69.54 296 ⇑P P 08 34 32.8 -0.8
SNR=14
HOQ **Hoqain** 69.64 297 ⇓P P 08 34 33.3 -0.8
SNR=16
SEY **Seymchan** 69.94 14⇓ *i*P P 08 34 35.7 +0.6
IDAH **Dahanechah** 69.95 307 *e*P P 08 34 34.5 -1.7
FX1 **Attu Island--F** 70.14 30 P P 08 34 37.9 +1.3
FX1 **Attu Island--F** 70.14 30 P P 08 34 37.9 +1.3
comp=Z,63nm,0.9s,baz=152,slow=0.4,SNR=7.8
ARQ **Araqi** 70.28 296 ⇑P P 08 34 37.6 -0.5
SNR=8.2
IKOO **Kooshah** 70.55 306 *e*P P 08 34 38.9 -1.0
ITEG **Tejag** 70.90 307 *e*P P 08 34 40.9 -1.0
UOSS **Wadi Hilu** 70.93 298 P P 08 34 40.1 -2.0
comp=Z,138nm,1.0s,SNR=7.5
IMYA **Miami** 70.94 310 *e*P P 08 34 40.7 -1.4
ASHO **Ashiyiah** 71.00 297 ⇑P P 08 34 41.8 -0.8
SNR=14
IBND **Bandar-abas** 71.24 300 *e*P P 08 34 36.0 -7.8
RBK **Rabkut** 71.25 290 ⇑P P 08 34 43.6 -0.5
SNR=13
ISRO **Mashad** 71.41 310 *e*P P 08 34 43.7 -1.1
IMOG **Moghan** 71.44 310 *e*P P 08 34 44.2 -1.1
BVAR **Borovoye Array** 71.72 330 P P 08 34 45.8 -0.4
BVAR **Borovoye Array** 71.72 330 P P 08 34 45.8 -0.4
BVAR **Borovoye Array** 71.72 330 P P 08 34 45.8 -0.4
comp=Z,50nm,1.0s,baz=140,slow=7.7,SNR=76
BRVK **Borovoye** 71.79 330*d i*P P 08 34 46.3 -0.3
BRVK pmax pmax
comp=Z,239nm,1.7s
BRVK **Borovoye** 71.79 330 P P 08 34 46.3 -0.3
SNR=71
BRVK **Borovoye** 71.79 330 PFAKE 08 35 00.0 +13
BRVK LR LR
comp=Z,637nm,20.0s
BRVK **Borovoye** 71.79 330 P P 08 34 46.5 -0.1
comp=Z,549nm,1.3s,SNR=26
IAKL **Akhelmad** 72.05 310 *e*P P 08 34 48.3 -0.6
ABTO **Aybut** 72.08 289 ⇑P P 08 34 48.3 -0.9
SNR=12
IKRD **Kardeh** 72.28 310 *e*P P 08 34 44.6 -5.7
IEMG **Emamgholi** 72.39 311 *e*P P 08 34 50.8 -0.1
ISFR **Sfrayin** 72.76 310 *e*P P 08 34 52.5 -0.7
IBAF **Bafgh** 73.12 304 *e*P P 08 34 54.3 -0.9
ICHK **Chekchek** 74.24 305 *e*P P 08 35 01.0 -0.9
ISRV **Sarvestan** 74.64 302 *e*P P 08 35 02.8 -1.6
ISAD **Sadrabad** 74.75 304 *e*P P 08 35 02.8 -2.1
IPAR **Pars** 74.79 302 *e*P P 08 35 04.6 -0.7
ADK **Adak** 74.95 34 PFAKE 08 35 20.0 +15
ADK LR LR
comp=Z,810nm,20.0s
TIXI **Tiksi** 75.22 2⇓ *i*P P 08 35 05.3 -1.1
TIXI pmax pmax
comp=Z,91nm,0.9s
ABPO **Ambohimpanom** 75.64 251 PFAKE 08 35 20.0 +10
ABPO LR LR
comp=Z,444nm,19.0s
MAW **Mawson** 75.71 200 P P 08 35 08.8 -0.5
MAW **Mawson** 75.71 200 P P 08 35 08.8 -0.5
comp=Z,25nm,1.2s,baz=64,slow=7.5,SNR=28
AB31 **Akbulak array** 75.75 323*c e*P P 08 35 08.8 -1.1
AB31 pmax pmax
comp=Z,120nm,1.4s
ABKAR **Akbulak array** 75.75 323 *e*P P 08 35 09.0 -1.0
comp=Z,78nm,1.4s

ISFB **Sefidab** 76.52 306 *e*P P 08 35 13.6 -1.2
VNDA **Vanda** 76.64 172 P P 08 35 14.1 -0.4
comp=Z,24nm,1.7s
VNDA **Vanda** 76.64 172 P P 08 35 14.1 -0.4
comp=Z,9.8nm,0.9s,baz=323,slow=5.6,SNR=66
IVRN **Varamin** 77.08 307 *e*P P 08 35 17.7 -0.2
AKTO **Aktyubinsk** 77.36 323 *i* P P 08 35 16.4 -2.6
AKTO pmax pmax
comp=Z,75nm,1.3s
AKTO **Aktyubinsk** 77.36 323 P P 08 35 17.0 -2.0
AKTO **Aktyubinsk** 77.36 323 P P 08 35 17.0 -2.0
comp=Z,16nm,0.9s,baz=106,slow=6.8,SNR=53
SBA **Scott Base** 77.60 171 *e*P P 08 35 20.2 +0.3
SBA pmax pmax
comp=Z,224nm,2.3s
SBA MLR MLR
comp=Z,900nm,21.0s
SBA **Scott Base** 77.60 171 *e*P P 08 35 20.2 +0.3
comp=Z,224nm,2.3s
SBA LR LR
comp=Z,900nm,21.0s
IR3 **Iran Long-Peri** 77.76 307 *e*P P 08 35 21.0 -0.7
KBD **Kabd** 79.23 300 *e*P P 08 35 28.4 -1.5
KBD AMb AMB 08 35 32.5
comp=Z,94nm,1.6s
UMR **Umm Al-Rimmam** 79.28 301 *e*P P 08 35 29.5 -0.6
UMR AMb AMB 08 35 32.6
comp=Z,182nm,1.5s
ARU **Arti** 79.36 329⇓ *i*P P 08 35 29.2 -0.7
ARU pmax pmax
comp=Z,55nm,1.0s
ARU **Arti** 79.36 329 P P 08 35 29.6 -0.3
comp=Z,230nm,1.1s,SNR=14
NAY **Al-Naaiem** 79.63 300 *e*P P 08 35 30.9 -1.1
NAY AMb AMB 08 35 34.4
comp=Z,81nm,1.6s
RST **Umm Al-Ruwaisa** 79.88 301 *e*P P 08 35 32.2 -1.2
RST AMb AMB 08 35 33.8
comp=Z,1μm,1.0s
RAYN **Ar Rayn** 80.26 294 P P 08 35 35.3 -0.3
comp=Z,159nm,1.2s,SNR=16
UNV **Unalaska Valle** 81.40 34 *e*P P 08 35 41.1 +0.2
comp=Z,253nm,1.7s
AKUT **Akutan** 81.90 34 *e*P P 08 35 44.0 +0.5
comp=Z,890nm,1.7s
FALS **False Pass** 83.42 34 *e*P P 08 35 51.9 +0.4
comp=Z,252nm,1.3s
GNI **Garni** 83.58 311 P P 08 35 53.6 +0.7
SNR=11
GNI **Garni** 83.58 311 *e*P P 08 35 53.0 +0.1
comp=Z,30nm,1.4s
GNI LR LR
comp=Z,399nm,22.0s
GNI **Garni** 83.58 311 P P 08 35 53.0 +0.1
comp=Z,2.3nm,0.3s,baz=344,slow=21,SNR=7.7
TBLG **Delisi** 83.87 312 P P 08 35 54.5 +0.3
SYO **Syowa Base** 84.37 201⇓ *i*P P 08 35 54.6 -1.5
SYO **Syowa Base** 84.37 201⇑ *e*pP pP 08 36 01.0 -2.8
AKH **Akhalkalaki** 84.73 312 P P 08 35 59.6 +0.8
ONI **Oni** 84.96 313 P P 08 36 00.8 +1.1
SDPT **Sand Point** 85.18 34 *e*P P 08 36 00.2 -0.2
comp=Z,367nm,1.7s
KBZ **Khabaz** 85.54 314 P P 08 36 02.3 -0.2
KBZ **Khabaz** 85.54 314 P P 08 36 02.3 -0.2
KBZ **Khabaz** 85.54 314 P P 08 36 02.3 -0.2
comp=Z,17nm,0.9s,baz=87,slow=3.9,SNR=32
KIV **Kislovodsk** 85.73 314⇑ *i*P P 08 36 04.1 +0.5
KIV pmax pmax
comp=Z,48nm,1.7s
KIV **Kislovodsk** 85.73 314 P P 08 36 03.7 +0.1
comp=Z,130nm,1.6s,SNR=8.7
KMBO **Kilima Mbogo** 85.96 269 P P 08 36 06.2 +0.6
SNR=22
KMBO **Kilima Mbogo** 85.96 269 *e*P P 08 36 05.7 +0.2
comp=Z,140nm,1.8s
KMBO LR LR
comp=Z,499nm,20.0s
KMBO **Kilima Mbogo** 85.96 269 P P 08 36 06.2 +0.6
comp=Z,14nm,1.0s,baz=60,slow=6.0,SNR=35
TBI **Tubuai** 86.07 113 *e*S S 08 46 35.2 -3.8
comp=Z,178nm,28.0s
TBI **Tubuai** 86.07 113 *e*LQ LQ 08 59 48.0
comp=Z,538nm,32.8s
TBI *e*LR LR 09 03 11.4
comp=Z,560nm,28.0s
PPT2 **Papeete2** 86.20 107 *e*S S 08 46 38.6 -2.1
comp=Z,211nm,25.2s
PPT2 **Papeete2** 86.20 107 *e*LR LR 09 03 40.5
comp=Z,682nm,33.5s
QSPA **South Pole Qui** 86.33 180 *e*P P 08 36 05.5 -0.7
comp=Z,71nm,1.3s
QSPA LR LR
comp=Z,893nm,20.0s
CHGN **Chignik** 86.53 33 *e*P P 08 36 06.6 -0.4
ASF **Jabal al Asfar** 88.84 302 P P 08 36 17.9 -1.0
ASF **Jabal al Asfar** 88.84 302 P P 08 36 17.9 -1.0
comp=Z,6.6nm,0.9s,baz=66,slow=2.1,SNR=20
OHAK **Old Harbor** 89.46 33 *e*P P 08 36 21.5 +0.5
comp=Z,115nm,1.6s
KDAK **Kodiak Island** 89.91 32 *e*P P 08 36 23.3 +0.2
comp=Z,124nm,1.8s
KDAK LR LR
comp=Z,488nm,22.0s
KDAK **Kodiak Island** 89.91 32 P P 08 36 23.0 -0.1
comp=Z,133nm,1.2s,SNR=5.8
RSO **Redoubt South** 90.15 30 *e*P P 08 36 23.9 -0.6
comp=Z,19nm,0.8s
MMAI **Mount Meron Ar** 90.17 303 P P 08 36 25.1 +0.1
MMAI **Mount Meron Ar** 90.17 303 P P 08 36 25.1 +0.1
comp=Z,0.7nm,0.3s,baz=116,slow=3.8,SNR=7.7
IM04 **Indian Mountai** 90.40 24 *e*P P 08 36 25.7 +0.4
IMA2 **Indian Mountai** 90.46 24 *e*P P 08 36 25.5 -0.2
PPLA **Purkeypile** 90.70 27 *e*P P 08 36 26.8 -0.2
comp=Z,92nm,1.6s
OBN **Obninsk** 91.06 325 *e*P P 08 36 27.7 -0.8
OBN *i* S SKSac 08 47 01.1 +2.0
OBN *i* PS PnS 08 48 43.5 +7.3
OBN pmax pmax
comp=Z,32nm,1.4s
BPAW **Bear Paw Mtn.** 91.36 26 *e*P P 08 36 29.6 -0.2
comp=Z,87nm,1.8s
TRF **Thorofare Moun** 91.62 27 *e*P P 08 36 30.7 -0.5
comp=Z,81nm,1.6s
RC01 **Rabbit Creek A** 91.68 29 *e*P P 08 36 30.8 -0.5
comp=Z,125nm,1.7s
SEW **Seward** 91.75 30 *e*P P 08 36 31.5 -0.1
comp=Z,92nm,1.5s
COLD **Coldfoot** 91.96 23 *e*P P 08 36 33.0 +0.5
comp=Z,39nm,1.0s
CSS **Prodhromos** 92.01 305 PFAKE 08 36 40.0 +6.5
CSS LR LR
comp=Z,503nm,22.0s
BR131 **Keskin Array S** 92.01 309 *e*P P 08 36 32.7 -0.9
comp=Z,5.8nm,1.0s
BRTR **Keskin Array B** 92.01 309 P P 08 36 31.2 -2.3
BRTR **Keskin Array B** 92.01 309 P P 08 36 31.2 -2.3
comp=Z,4.2nm,1.0s,baz=130,slow=5.0,SNR=17
PMR **Palmer** 92.01 29 *e*P P 08 36 32.0 -0.8
PMR pmax pmax
comp=Z,92nm,1.6s
PMR **Palmer** 92.01 29 *e*P P 08 36 32.0 -0.8
comp=Z,92nm,1.6s
MCK **McKinley** 92.24 26 *e*P P 08 36 33.4 -0.5
MCK pmax pmax
comp=Z,136nm,1.6s
MCK **McKinley** 92.24 26 *e*P P 08 36 33.4 -0.5
comp=Z,136nm,1.6s
MBAR **Mbarara** 92.49 269 PFAKE 08 36 50.0 +14
MBAR LR LR
comp=Z,482nm,19.0s
ANTO **Ankara** 92.67 310 PFAKE 08 36 50.0 +13
ANTO LR LR
comp=Z,317nm,19.0s
COLA **College** 92.77 25 *e*P P 08 36 35.3 -1.0
COLA pmax pmax
comp=Z,126nm,1.6s
COLA MLR MLR
comp=Z,283nm,19.0s
COLA **College** 92.77 25 *e*P P 08 36 35.3 -1.0
comp=Z,126nm,1.6s
COLA LR LR
comp=Z,283nm,19.0s
ILAR **Eielson Array** 93.18 25 P P 08 36 36.3 -1.9
ILAR PKKP **PKKPdf** 08 53 46.4 -1.2
ILAR P'P' 09 01 57.2
ILAR **Eielson Array** 93.18 25 P P 08 36 36.3 -1.9
comp=Z,7.5nm,1.1s,baz=261,slow=3.9,SNR=28
ILAR PKKP **PKKPdf** 08 53 46.4 -1.2
comp=Z,1.2nm,0.8s,baz=74,slow=1.6,SNR=13
ILAR PKPPKP **P'P'df** 09 01 57.2 +0.1
comp=Z,0.2nm,0.9s,baz=72,slow=2.6,SNR=4.2
DIV **Divide** 93.61 29 *e*P P 08 36 40.9 +0.5
comp=Z,141nm,1.5s
PAX **Paxson** 93.77 27 *e*P P 08 36 41.3 +0.2
PAX pmax pmax
comp=Z,125nm,1.5s
PAX **Paxson** 93.77 27 *e*P P 08 36 41.3 +0.2
comp=Z,125nm,1.5s
LSZ **Lusaka** 93.95 254 P P 08 36 42.2 -0.8
SNR=5.4
LSZ **Lusaka** 93.95 254 *e*P P 08 36 42.5 -0.5
comp=Z,80nm,1.7s
LSZ LR LR
comp=Z,792nm,21.0s
BMRM **Bremner River** 94.18 29 *e*P P 08 36 43.2 +0.3
comp=Z,119nm,1.6s
ISP **Isparta** 94.38 308 PFAKE 08 37 00.0 +16
ISP LR LR
comp=Z,352nm,22.0s
DOT **Dot Lake** 94.41 27 *e*P P 08 36 44.0 +0.1
comp=Z,68nm,1.5s
MENT **Mentasta** 94.57 27 *e*P P 08 36 45.3 +0.6
BOSA **Boshof** 95.31 241 P P 08 36 47.7 -1.3
BOSA **Boshof** 95.31 241 P P 08 36 47.7 -1.3
comp=Z,7.2nm,0.9s,baz=143,slow=3.5,SNR=6.1
AKASG **Malin Array Be** 95.35 320 P P 08 36 47.1 -1.3
AKASG **Malin Array Be** 95.35 320 P P 08 36 47.1 -1.3
AKASG PKKP **PKKPbc** 08 53 41.8 -1.2
AKASG **Malin Array Be** 95.35 320 P P 08 36 47.1 -1.3
comp=Z,7.5nm,0.9s,baz=76,slow=4.3,SNR=34
AKASG PKKP **PKKPbc** 08 53 41.8 -1.2
comp=Z,0.1nm,0.3s,baz=332,slow=2.1,SNR=4.0
KIEV **Kiev** 95.36 320 PFAKE 08 37 00.0 +12
KIEV LR LR
comp=Z,630nm,22.0s
EGAK **Eagle** 95.64 25 PFAKE 08 37 00.0 +11
EGAK LR LR
comp=Z,339nm,20.0s
DAWY **Dawson** 96.45 26 *e*P P 08 36 53.8 +0.5
SPITS **Spitsbergen Ar** 96.96 349 P P 08 36 53.8 -1.5
SPITS **Spitsbergen Ar** 96.96 349 P P 08 36 53.8 -1.5
comp=Z,21nm,0.9s,baz=160,slow=4.6,SNR=4.2
SNAA **Sanae** 97.27 195 *e*P P 08 36 56.9 0.0
KBS **Kingsbay** 97.57 350 PFAKE 08 37 10.0 +12
KBS LR LR
comp=Z,1μm,20.0s
HYT **Haines Junctio** 97.65 29 *e*P P 08 36 58.6 -0.3
MLR **Muntele Rosu** 97.71 315 P P 08 36 58.0 -1.5
MLR **Muntele Rosu** 97.71 315 P P 08 36 58.0 -1.5
comp=Z,1.0nm,0.9s,baz=154,slow=5.3,SNR=4.0
BUR08 **Bucovina Ar. S** 98.11 317 *e*P P 08 37 00.8 -0.4
INK **Inuvik** 98.22 21 P P 08 36 59.3 -1.8
INK **Inuvik** 98.22 21 P P 08 36 59.3 -1.8
comp=Z,9.1nm,1.1s
SANT **Santorini** 98.43 306 PFAKE 08 37 10.0 +7.2
SANT LR LR
comp=Z,230nm,21.0s
SUR **Sutherland** 98.56 237 PFAKE 08 37 10.0 +6.3
SUR LR LR
comp=Z,649nm,19.0s
VNA2 **Neumayer--Watz** 98.89 195 *e*P Pdif 08 37 04.2 +0.1
RKT **Rikitea** 99.36 114 *e*LR LR 09 09 26.5
comp=Z,485nm,31.0s
KWP **Kalwaria Pacla** 99.59 320 PFAKE 08 37 20.0 +12
KWP LR LR
comp=Z,861nm,20.0s
KOLS **Kolonicke sedl** 99.95 319 PDIF **Pdif** 08 37 09.2 -0.1
STHS **Stebnicka Huta** 100.57 319 PDIF **Pdif** 08 37 11.8 -0.2
WRAK **Wrangell Islan** 100.95 33 PFAKE 08 37 30.0 +17
WRAK LR LR
comp=Z,273nm,20.0s
PSZ **Piszkesteto** 101.64 318 PFAKE 08 37 30.0 +13
PSZ LR LR
comp=Z,471nm,19.0s
DLBC **Dease Lake** 101.78 31 P **Pdif** 08 37 18.2 +1.0
DLBC PP **PP** 08 41 27.1 -0.8
DLBC PKiKP **PKiKP** 08 41 42.2 +1.8
DLBC **Dease Lake** 101.78 31 P **Pdif** 08 37 18.2 +1.0
comp=Z,1.2nm,0.8s,baz=31,slow=5.9,SNR=3.0
DLBC PP **PP** 08 41 27.1 -0.8
comp=Z,0.7nm,0.7s,baz=310,slow=12,SNR=3.6
DLBC PKiKP **PKiKP** 08 41 42.2 +1.8
comp=Z,1.9nm,0.8s,baz=282,slow=4.8,SNR=3.4
TIR **Tirane** 102.45 311 PFAKE 08 37 30.0 +9.5
TIR LR LR
comp=Z,539nm,19.0s
OKC **Ostrava-Krasne** 102.50 320 AMS AMS 09 28 20.0
comp=Z,600nm,24.2s
TSUM **Tsumeb** 103.57 249 PFAKE 08 37 40.0 +14
TSUM LR LR
comp=Z,737nm,21.0s
DPC **Dobruska-Polom** 103.57 321 AMS AMS 09 29 00.0
NOA **NORSAR Array B** 103.72 332 Pdif **Pdif** 08 37 24.3 -1.5
NOA **NORSAR Array B** 103.72 332 Pdiff **Pdif** 08 37 24.3 -1.5
comp=Z,0.7nm,0.8s,baz=96,slow=7.6,SNR=3.3
TREC **Trest** 104.30 320 AMS AMS 09 28 30.0
comp=Z,800nm,23.7s
PRU **Pruhonice** 104.76 321 AMS AMS 09 29 30.0
comp=Z,800nm,21.2s
KONO **Kongsberg** 104.93 331 PFAKE 08 37 40.0 +8.9
KONO LR LR
comp=Z,918nm,19.0s
CLL **Collm** 105.42 322 *i* PKiKP **PKiKP** 08 41 47.2 +0.1
comp=Z,8.0nm,1.4s
CLL *e*Sdif Sdif 08 49 24.0 -3.9
CLL *e*PS **PS** 08 51 06.0 -5.2
GERES **GERESS Array B** 105.55 320 Pdif **Pdif** 08 37 32.7 -1.5
GERES PKiKP **PKiKP** 08 41 48.1 +0.5
GERES PKKPbc **PKKPbc** 08 53 13.0 -0.9
GERES **GERESS Array B** 105.55 320 Pdiff **Pdif** 08 37 32.7 -1.5
comp=Z,0.4nm,0.7s,baz=50,slow=2.1,SNR=4.1
GERES PKiKP **PKiKP** 08 41 48.1 +0.5
comp=Z,0.9nm,0.9s,baz=90,slow=1.2,SNR=5.5
GERES PKKPbc **PKKPbc** 08 53 13.0 -0.9
comp=Z,0.4nm,0.7s,baz=306,slow=2.3,SNR=3.6
KHC **Kasperske Hory** 105.56 320 AMS AMS 09 29 20.0
comp=Z,800nm,22.8s
CUC **Castrocucco** 105.68 310 PFAKE 08 42 00.0
CUC LR LR
comp=Z,391nm,21.0s
VLC **Villacollemand** 108.84 316 PFAKE 08 42 10.0
VLC LR LR
comp=Z,449nm,20.0s
TUE **Stuetta** 108.97 318 PFAKE 08 42 10.0
TUE LR LR
comp=Z,581nm,22.0s
BFO **Black Forest** 109.12 320 PFAKE 08 42 10.0
BFO LR LR
comp=Z,603nm,20.0s
ECH **Echery** 109.91 320 PFAKE 08 42 10.0
ECH LR LR
comp=Z,684nm,21.0s
WLF **Walferdange** 110.08 322 PFAKE 08 42 10.0
WLF LR LR
comp=Z,612nm,21.0s
HAWA **Hanford** 111.16 41 PFAKE 08 42 10.0
HAWA LR LR
comp=Z,339nm,20.0s
BNI **Bardonecchia** 111.16 317 PFAKE 08 42 10.0
BNI LR LR
comp=Z,582nm,20.0s
NEW **Newport** 112.09 39 PFAKE 08 42 10.0
NEW LR LR
comp=Z,308nm,21.0s
SSB **Saint Sauveur** 112.53 318 PFAKE 08 42 10.0
SSB LR LR
comp=Z,510nm,19.0s
CMB **Columbia Colle** 112.84 50 *e*PKiKP **PKiKP** 08 42 01.7 +0.1
CMB **Columbia Colle** 112.84 50 *e*PKPdf **PKiKP** 08 42 01.7 +0.1
WVOR **Wild Horse Val** 112.96 45 PFAKE 08 42 10.0
WVOR LR LR
comp=Z,207nm,21.0s
ESK **Eskdalemuir** 113.00 330 PFAKE 08 42 10.0
ESK LR LR
comp=Z,800nm,21.0s
WAKR **Walker** 113.45 49 *e*PKPdf **PKiKP** 08 42 03.1 +0.2
BSMT **Bassoo Peak** 113.70 39 *e*PKPdf **PKiKP** 08 42 03.2 0.0
SMMC **Simmler** 113.78 53 P **PKiKP** 08 42 05.1 +1.7
baz=114
PKM **Peak Mountain** 114.02 53 P PKPdf 08 42 05.6 +1.5
baz=114

NVAR Mina Array Bea 114.33 49 PKP PKPdf 08 42 05.9 +1.3
NVAR PP **PP** **08 42 59.2 -1.1**
NVAR PKKPbc **PKKPbc** **08 52 43.8 -1.5**
NVAR Mina Array Bea 114.33 49 PKP PKPdf 08 42 05.9 +1.3
comp=Z,3.0nm,0.8s,baz=239,slow=2.1,SNR=27
NVAR PP **PP** **08 42 59.2 -1.1**
comp=Z,2.0nm,1.0s,baz=269,slow=8.8,SNR=5.9
NVAR PKKPbc **PKKPbc** **08 52 43.8 -1.5**
comp=Z,0.5nm,0.8s,baz=163,slow=4.3,SNR=5.0
SWMT Swartz Lake 114.33 39 *e*PKPdf PKPdf 08 42 04.7 +0.5
BMN Battle Mountai 114.56 47 PFAKE 08 42 20.0 +15
BMN LR LR
comp=Z,391nm,20.0s
MSO Missoula 114.62 39 P PKPdf 08 42 05.1 +0.3
baz=115
SLMT Seeley Lake 114.75 39 *e*PKPdf PKPdf 08 42 05.3 +0.2
ISA Isabella 114.91 52 P PKPdf 08 42 06.4 +0.8
baz=115
CWC Cottonwood Cre 115.02 51 P **PKPdf** **08 42 06.9 +0.9**
baz=115
CHMT Chamberlain Mo 115.03 39 *e*PKPdf **PKPdf** **08 42 06.1 +0.4**
TPH Tonopah 115.24 49 PFAKE 08 42 20.0 +14
TPH LR LR
comp=Z,360nm,22.0s
EDW2 Edwards Air Fo 115.48 53 P **PKPdf** **08 42 07.6 +0.9**
baz=116
PASC Pasadena Art C 115.50 54 *e*PKPdf **PKPdf** **08 42 07.6 +0.8**
HLID Hailey 115.52 43 *e*PKPdf **PKPdf** **08 42 08.2 +1.4**
HLID *e*PP **PP** **08 43 08.8 +0.3**
HLID LR LR
comp=Z,202nm,21.0s
HLID Hailey 115.52 43 P **PKPdf** **08 42 08.2 +1.4**
baz=116
LRMC Laurel Mountai 115.57 52 P **PKPdf** **08 42 08.5 +1.5**
baz=116
MPMC Manual Prospec 115.58 52 P **PKPdf** **08 42 08.4 +1.3**
baz=116
BFSC Mount Baldy Ra 115.90 54 P **PKPdf** **08 42 08.6 +1.0**
baz=116
ELK Elko 115.90 46 *e*PKPdf **PKPdf** **08 42 08.8 +1.2**
FURC Furnace Creek, 115.96 51 P **PKPdf** **08 42 09.0 +1.5**
baz=116
LRM Limekiln Ridge 115.97 40 *e*PKPdf **PKPdf** **08 42 08.3 +0.7**
MCMT McKenzie Canyo 116.10 41 *e*PKPdf **PKPdf** **08 42 09.0 +1.1**
MCMT *e*PP **PP** **08 43 10.6 -2.0**
GSC Goldstone 116.31 52 *e*PKIKP **PKPdf** **08 42 10.2 +1.8**
GSC Goldstone 116.31 52 *e*PKPdf **PKPdf** **08 42 10.2 +1.8**
GSC Goldstone 116.31 52 P **PKPdf** **08 42 09.8 +1.4**
baz=116
R11A Troy Canyon, C 116.40 49 P **PKPdf** **08 42 09.6 +1.0**
baz=116
BBRC Big Bear Solar 116.49 53 P **PKPdf** **08 42 10.3 +1.4**
baz=116
SHOC Shoshone 116.57 51 P **PKPdf** **08 42 10.2 +1.5**
baz=117
109C Camp Elliot, M 116.68 55 P **PKPdf** **08 42 09.6 +0.5**
baz=117
EGMT Eagleton 116.71 37 *e*PKPdf **PKPdf** **08 42 09.1 +0.4**
EGMT *e*PP **PP** **08 43 15.3 -1.2**
EGMT LR LR
comp=Z,221nm,19.0s
EGMT Eagleton 116.71 37 P **PKPdf** **08 42 09.6 +0.8**
baz=117
HEC Hector,Ludlow 116.81 53 P **PKPdf** **08 42 11.0 +1.6**
baz=117
A19A Klindworth Far 116.89 36 P **PKPdf** **08 42 09.7 +0.6**
baz=117
TAM Tamanrasset 116.94 294 PFAKE 08 42 20.0 +10
TAM LR LR
comp=Z,304nm,20.0s
TUQ Turquoise Moun 116.97 52 P **PKPdf** **08 42 11.2 +1.5**
baz=117
B19A Brinkman Farms 116.99 36 P **PKPdf** **08 42 09.2 -0.1**
baz=117
PFO Pinyon Flat Ob 117.03 54 *e*PKPdf **PKPdf** **08 42 11.0 +1.2**
PFO LR LR
comp=Z,270nm,19.0s
PFO Pinyon Flat Ob 117.03 54 P **PKPdf** **08 42 11.3 +1.4**
baz=117
MONP Monument Peak 117.23 55 P **PKPdf** **08 42 11.6 +1.2**
baz=117
C19A Slack Wire Ran 117.26 37 P **PKPdf** **08 42 10.9 +1.1**
baz=117
SHPR Sheep Range 117.27 51 *e*PKPdf **PKPdf** **08 42 10.4 +0.1**
HVU Hansel Valley 117.29 44 *e*PKIKP **PKPdf** **08 42 10.7 +0.5**
HVU Hansel Valley 117.29 44 *e*PKPdf **PKPdf** **08 42 10.7 +0.5**
BELC Belle Mtn. Jos 117.30 53 P **PKPdf** **08 42 11.8 +1.4**
baz=117
FFC Flin Flon 117.30 28*c i*PKIKP **PKPdf** **08 42 10.4 +0.8**
FFC Flin Flon 117.30 28 PFAKE 08 42 20.0 +10
FFC LR LR
comp=Z,291nm,19.0s
GMRC Granite Mounta 117.36 53 P **PKPdf** **08 42 12.0 +1.5**
baz=117
A20A Cobblestone Ra 117.39 35 P **PKPdf** **08 42 10.0 0.0**
baz=117
YMR Madison River 117.40 41 *e*PKPdf **PKPdf** **08 42 12.2 +1.9**
BGU Big Grassy Mou 117.42 45 *e*PKPdf **PKPdf** **08 42 11.3 +0.8**
BGU *e*PP **PP** **08 43 20.1 -1.7**
B20A Solberg Farm, 117.54 36 P **PKPdf** **08 42 10.8 +0.5**
baz=118
DVTC Desert V Tower 117.55 55 P **PKPdf** **08 42 12.6 +1.7**
baz=118
D19A Cripps Ranch, 117.63 37 P **PKPdf** **08 42 10.9 +0.3**
baz=118
LDFC Landfair 117.71 52 *e*PKPdf **PKPdf** **08 42 12.7 +1.6**
LDFC *e*PP **PP** **08 43 24.0 0.0**
IMW Indian Meadow 117.73 41 *e*PKPdf **PKPdf** **08 42 12.3 +1.2**
SWSC Sam W. Stewart 117.73 55 P **PKPdf** **08 42 12.1 +1.0**
baz=118
GCMT Greycliff 117.75 39 *e*PKPdf **PKPdf** **08 42 11.9 +1.0**
H17A Grant Village 117.76 41 P **PKPdf** **08 42 13.1 +2.0**
baz=118
LKWY Lake 117.81 41 PFAKE 08 42 20.0 +8.8
LKWY LR LR
comp=Z,496nm,21.0s
BC3 Big Chuckawall 117.82 54 P **PKPdf** **08 42 12.4 +1.0**
baz=118
DUG Dugway 117.83 46 *e*PKIKP **PKPdf** **08 42 12.1 +0.9**
DUG *e* 08 43 23.8
DUG MLR MLR
comp=Z,313nm,21.0s
DUG Dugway 117.83 46 *e*PKPdf **PKPdf** **08 42 12.1 +0.9**
DUG *e*PP **PP** **08 43 23.8 -0.9**
DUG LR LR
comp=Z,313nm,21.0s
DUG Dugway 117.83 46 P **PKPdf** **08 42 12.3 +1.1**
baz=118
TPAW Teton Pass 117.88 42 *e*PKPdf **PKPdf** **08 42 11.9 +0.5**
C20A Veseth Ranch, 117.90 37 P **PKPdf** **08 42 11.7 +0.7**
baz=118
A21A Bergtoll Ranch 117.91 35 P **PKPdf** **08 42 11.4 +0.4**
baz=118
IRM Iron Mountain 117.93 53 P **PKPdf** **08 42 12.8 +1.3**
baz=118
I17A Pilgrim Ck. 117.96 41 P **PKPdf** **08 42 12.8 +1.3**
baz=118
REDW Red Top Meadow 118.00 42 *e*PKPdf **PKPdf** **08 42 12.2 +0.6**
E19A Rath Farm, Rou 118.00 38 P **PKPdf** **08 42 11.7 +0.4**
baz=118
SNOW Snow King Moun 118.03 42 *e*PKPdf **PKPdf** **08 42 12.9 +1.2**
LOHW Long Hollow 118.06 42 *e*PKPdf **PKPdf** **08 42 12.9 +1.2**
D20A Manuel Ranch, 118.11 37 P **PKPdf** **08 42 11.9 +0.4**
baz=118
F19A Roth Farm, Mol 118.18 39 P **PKPdf** **08 42 12.1 +0.4**
baz=118
ARUT Antelope Range 118.18 49 *e*PKIKP **PKPdf** **08 42 12.4 +0.4**
ARUT Antelope Range 118.18 49 *e*PKPdf **PKPdf** **08 42 12.3 +0.4**
C21A Desert Coulee 118.38 36 P **PKPdf** **08 42 12.6 +0.7**
baz=118
E20A Meyer Farm, Mu 118.39 38 P **PKPdf** **08 42 12.7 +0.7**
baz=118
A22A Carney Farms, 118.48 35 P **PKPdf** **08 42 12.7 +0.6**
baz=118
Y12C Blythe 118.54 53 P **PKPdf** **08 42 14.1 +1.5**
baz=119
JLU Jordanelle 118.66 45 *e*PKPdf **PKPdf** **08 42 13.8 +0.9**
W13A Hualapai Mount 118.67 52 P **PKPdf** **08 42 14.4 +1.3**
baz=119
H19A Powell 118.67 40 P **PKPdf** **08 42 13.2 +0.5**
baz=119
PDMCI Parker Dam,Lak 118.70 53 P **PKPdf** **08 42 14.1 +1.2**
baz=119
F20A Billings 118.70 39 P **PKPdf** **08 42 13.3 +0.7**
baz=119
B22A Reddig Ranch S 118.78 35 P **PKPdf** **08 42 12.3 -0.4**
baz=119
D21A La Casta Ranch 118.81 37 P **PKPdf** **08 42 12.3 -0.5**
baz=119
MVU Marysvale 118.85 48 PFAKE 08 42 30.0 +17
MVU LR LR
comp=Z,217nm,20.0s
G20A Bridger 118.92 39 P **PKPdf** **08 42 13.5 +0.3**
baz=119
I19A Meeteetse 118.94 41 P **PKPdf** **08 42 13.7 +0.3**
baz=119
E21A Keefer Ranch, 119.01 37 P **PKPdf** **08 42 13.9 +0.7**
baz=119
A23A Redstone 119.08 34 P **PKPdf** **08 42 14.2 +1.0**
baz=119
PDAR Pinedale Array 119.11 42 PKP **PKPdf** **08 42 14.1 +0.4**
PDAR PKKPbc **PKKPbc** **08 52 26.9 -1.7**
PDAR Pinedale Array 119.11 42 PKP **PKPdf** **08 42 14.1 +0.4**
comp=Z,2.5nm,0.8s,baz=222,slow=2.0,SNR=21
PDAR PKKPbc **PKKPbc** **08 52 26.9 -1.7**
comp=Z,2.0nm,0.9s,baz=108,slow=4.8,SNR=12
J19A Crowheart 119.24 41 P **PKPdf** **08 42 14.6 +0.7**
baz=119
D22A Cohagen 119.25 36 P **PKPdf** **08 42 14.9 +1.2**
baz=119
B23A Brockton 119.28 35 P **PKPdf** **08 42 14.6 +0.9**
baz=119
TMUT Trail Mountain 119.31 46 *e*PKPdf **PKPdf** **08 42 15.6 +1.2**
FRB Frobisher Bay 119.38 6 PKP **PKPdf** **08 42 13.9 +0.6**
FRB Frobisher Bay 119.38 6 PKP **PKPdf** **08 42 13.9 +0.6**
comp=Z,28nm,1.1s,baz=315,slow=0.7,SNR=3.1
H20A Greybull 119.39 40 P **PKPdf** **08 42 14.7 +0.6**
baz=119
LAO LASA Array 119.45 37 *e*PKPdf **PKPdf** **08 42 15.6 +1.5**
LAO *e*PP **PP** **08 43 36.1 +0.7**
Q16A Castle Valley 119.47 47 *e*PKPdf **PKPdf** **08 42 15.8 +1.3**
Q16A Castle Valley 119.47 47 P **PKPdf** **08 42 15.3 +0.8**
baz=120
U15A North Rim 119.49 50 P **PKPdf** **08 42 16.5 +1.8**
baz=120
C23A Lambert 119.51 35 P **PKPdf** **08 42 14.9 +0.8**
baz=120
I20A Worland 119.54 40 P **PKPdf** **08 42 14.9 +0.5**
baz=120
G21A Lodge Grass 119.55 39 P **PKPdf** **08 42 15.0 +0.6**
baz=120
A24A Westby 119.59 34 P **PKPdf** **08 42 14.7 +0.5**
baz=120
Y14A Wickenburg 119.70 53 P **PKPdf** **08 42 15.8 +0.9**
baz=120
DGMT Dagmar 119.72 34 P **PKPdf** **08 42 14.8 +0.3**
baz=120
E22A Miles City 119.74 37 P **PKPdf** **08 42 15.5 +0.9**
baz=120
D23A Lindsay 119.82 36 P **PKPdf** **08 42 15.9 +1.2**
baz=120
J20A Shoshoni 119.84 41 P **PKPdf** **08 42 15.8 +0.8**
baz=120
SRU San Rafael 119.87 46 *e*PKIKP **PKPdf** **08 42 16.2 +0.9**
SRU San Rafael 119.87 46 *e*PKPdf **PKPdf** **08 42 16.1 +0.9**
F22A Rosebud 119.88 38 P **PKPdf** **08 42 15.7 +0.8**
baz=120
Z14A Wintersburg 119.92 53 P **PKPdf** **08 42 16.6 +1.3**
baz=120
A25A Svangstu Ranch 120.07 33 P **PKPdf** **08 42 16.3 +1.2**
baz=120
C24A Savage 120.09 35 P **PKPdf** **08 42 16.3 +1.1**
baz=120
E23A Ismay 120.10 37 P **PKPdf** **08 42 16.4 +1.1**
baz=120
G22A Birney 120.12 38 P **PKPdf** **08 42 16.3 +0.9**
baz=120
I21A Big Trails, Te 120.15 40 P **PKPdf** **08 42 16.0 +0.4**
baz=120
J21A Lysite 120.26 41 P **PKPdf** **08 42 16.3 +0.4**
baz=120
D24A Glendive 120.36 36 P **PKPdf** **08 42 17.0 +1.2**
baz=120
H22A Clearmont 120.38 39 P **PKPdf** **08 42 16.8 +0.8**
baz=120
ESDC Sonseca Array 120.40 315 PKP **PKPdf** **08 42 16.0 -0.1**
ESDC Sonseca Array 120.40 315 PKP **PKPdf** **08 42 16.0 -0.1**
comp=Z,2.3nm,0.9s,baz=37,slow=2.0,SNR=12
O19A Miners Draw (B 120.41 45 P **PKPdf** **08 42 16.8 +0.5**
baz=120
B25A Knox Farm, Ray 120.41 34 P **PKPdf** **08 42 16.8 +1.0**
baz=120
214A Organ Pipe Nat 120.42 55 P **PKPdf** **08 42 17.3 +1.0**
baz=120
F23A Volborg 120.43 38 P **PKPdf** **08 42 16.6 +0.7**
baz=120
WUAZ Wupatki 120.49 51 *e*PKPdf **PKPdf** **08 42 18.0 +1.5**
WUAZ *e*PP **PP** **08 43 43.4 +0.2**
WUAZ LR LR
comp=Z,332nm,19.0s
WUAZ Wupatki 120.49 51 P **PKPdf** **08 42 18.2 +1.7**
baz=120
M20A Sweetwater, Wa 120.57 43 P **PKPdf** **08 42 17.3 +0.8**
baz=121
I22A 9 Mile Ranch, 120.63 40 P **PKPdf** **08 42 16.7 +0.2**
baz=121
E24A Baker 120.66 36 P **PKPdf** **08 42 17.3 +1.0**
baz=121
C25A Freed Ranch, W 120.66 35 P **PKPdf** **08 42 17.4 +1.1**
baz=121
A26A Wade Farm, Ken 120.69 33 P **PKPdf** **08 42 17.4 +1.1**
baz=121
G23A Biddle 120.69 38 P **PKPdf** **08 42 17.3 +0.8**
baz=121
K21A Alcova 120.70 41 P **PKPdf** **08 42 17.5 +0.8**
baz=121
PAB San Pablo 120.72 315 PFAKE 08 42 30.0 +13
PAB LR LR
comp=Z,500nm,20.0s
P19A Cripple Cowboy 120.77 45 P **PKPdf** **08 42 18.2 +1.2**
baz=121
X16A Lo Mia Camp, P 120.79 52 P **PKPdf** **08 42 18.6 +1.4**
baz=121
N20A Spence Gulch, 120.79 44 P **PKPdf** **08 42 18.3 +1.2**
baz=121
J22A Midwest 120.86 40 P **PKPdf** **08 42 17.2 +0.3**
baz=121
D25A Fairfield 120.93 35 P **PKPdf** **08 42 18.1 +1.3**
baz=121
F24A Ekalaka 120.94 37 P **PKPdf** **08 42 17.5 +0.5**
baz=121
A27A Ledoux Ranch, 121.08 33 P **PKPdf** **08 42 18.1 +1.0**
baz=121
O20A White River Ci 121.09 44 *e*PKPdf **PKPdf** **08 42 18.8 +1.2**
O20A White River Ci 121.09 44 P **PKPdf** **08 42 19.0 +1.4**
baz=121
K22A Casper 121.17 41 *e*PKPdf **PKPdf** **08 42 17.7 +0.1**
K22A Casper 121.17 41 P **PKPdf** **08 42 18.1 +0.5**
baz=121
G24A Alzada 121.22 38 P **PKPdf** **08 42 17.8 +0.3**
baz=121
E25A Miller Ranch, 121.22 36 P **PKPdf** **08 42 18.5 +1.0**
baz=121
P20A De Beque 121.25 45 P **PKPdf** **08 42 19.1 +1.3**
baz=121
C26A Wahner Farm, P 121.25 34 P **PKPdf** **08 42 18.1 +0.7**
baz=121
PV04 Paradox Valley 121.31 47 *e*PKPdf **PKPdf** **08 42 19.4 +1.3**
B27A Peters Farms, 121.39 33 P **PKPdf** **08 42 18.1 +0.4**
baz=121
H24A Dirks Ranch, A 121.43 38 P **PKPdf** **08 42 18.1 +0.2**
baz=121
F25A Bowman 121.49 37 P **PKPdf** **08 42 18.6 +0.6**
baz=122
D26A Manning 121.50 35 P **PKPdf** **08 42 18.6 +0.6**
baz=122
Q20A Ridgley Place, 121.53 46 P **PKPdf** **08 42 19.8 +1.4**
baz=122
TOA0 Torodi Ar. Sit 121.56 283 *e*PKPdf **PKPdf** **08 42 18.5 -0.3**
TORD Torodi Ar. Bea 121.56 283 PKP **PKPdf** **08 42 17.9 -1.0**
TORD PKKPbc **PKKPab** **08 52 20.0 +0.6**
TORD Torodi Ar. Bea 121.56 283 PKP **PKPdf** **08 42 17.9 -1.0**
comp=Z,4.3nm,0.9s,baz=57,slow=1.7,SNR=21
TORD PKKPbc **PKKPab** **08 52 20.0 +0.6**
comp=Z,1.6nm,0.8s,baz=277,slow=2.8,SNR=7.7
O21A Pagoda 121.60 44 P **PKPdf** **08 42 19.2 +0.6**
baz=122
A28A Rude Farm, Bot 121.63 32 P **PKPdf** **08 42 18.8 +0.6**
baz=122
PV01 Paradox Valley 121.66 47 *e*PKPdf **PKPdf** **08 42 20.1 +1.3**
M22A Cedar Creek Ra 121.69 43 P **PKPdf** **08 42 19.1 +0.3**
baz=122
R20A Redvale 121.77 47 P **PKPdf** **08 42 20.4 +1.4**
baz=122
E26A Carlson Angus 121.79 36 P **PKPdf** **08 42 19.3 +0.7**
baz=122
I24A Kuemmerle Ranc 121.83 39 P **PKPdf** **08 42 18.4 -0.4**
baz=122
B28A Dugan Ranch, T 121.85 33 P **PKPdf** **08 42 19.2 +0.6**
baz=122
W18A Petrified Fore 121.88 50 P **PKPdf** **08 42 20.5 +1.3**
baz=122
G25A Newell 121.90 37 P **PKPdf** **08 42 19.1 +0.3**
baz=122
P21A Newcastle 121.90 45 P **PKPdf** **08 42 20.0 +0.8**
baz=122
X18A Snowflake 121.92 51 P **PKPdf** **08 42 20.6 +1.3**
baz=122
L23A Garrett 121.96 41 P **PKPdf** **08 42 19.6 +0.3**
baz=122
TUC Tucson 121.97 54 *e*PKIKP **PKPdf** **08 42 20.8 +1.4**
TUC Tucson 121.97 54 *e*PKPdf **PKPdf** **08 42 20.8 +1.4**
D27A Center 121.98 35 P **PKPdf** **08 42 19.7 +0.8**
baz=122
F26A Lodgepole 122.00 36 P **PKPdf** **08 42 19.7 +0.7**
baz=122
N22A Wattenberg Ran 122.05 43 P **PKPdf** **08 42 20.6 +1.1**
baz=122
J24A Dixon Ranch, L 122.06 40 P **PKPdf** **08 42 19.1 -0.1**
baz=122
MVCO Mesa Verde 122.06 48 *e*PKPdf **PKPdf** **08 42 21.2 +1.6**
MVCO Mesa Verde 122.06 48 P **PKPdf** **08 42 21.3 +1.6**
baz=122
RSSD Black Hills 122.07 39 *e*PKIKP **PKPdf** **08 42 19.5 +0.1**
RSSD Black Hills 122.07 39 *e*PKPdf **PKPdf** **08 42 19.5 +0.1**
H25A Fruitdale 122.08 38 P **PKPdf** **08 42 19.6 +0.4**
baz=122
Q21A Lamborn Mesa, 122.09 46 P **PKPdf** **08 42 21.0 +1.5**
baz=122
A29A Manning Farm, 122.17 32 P **PKPdf** **08 42 19.4 +0.3**
baz=122
M23A Laramie 122.24 42 P **PKPdf** **08 42 20.3 +0.4**
baz=122
K24A Anderson Ranch 122.25 40 P **PKPdf** **08 42 19.9 +0.2**
baz=122
O22A Kremmling 122.26 44 P **PKPdf** **08 42 20.2 +0.2**
baz=122
R21A Cimarron 122.30 46 P **PKPdf** **08 42 21.1 +1.1**
baz=122
I25A Rochford 122.31 39 P **PKPdf** **08 42 20.1 +0.3**
baz=122
PVRL Vila Real 122.32 318 *e*PKPdf **PKPdf** **08 42 21.0 +1.3**
POLO Lamas de Olo 122.33 318 *e*PKPdf **PKPdf** **08 42 20.9 +1.1**
PCAB Cabril 122.33 318 *e*PKPdf **PKPdf** **08 42 19.9 +0.2**
E27A Carson 122.33 35 P **PKPdf** **08 42 20.2 +0.6**
baz=122
G26A Maurine 122.34 37 P **PKPdf** **08 42 19.8 +0.1**
baz=122
N23A Red Feather La 122.35 43 P **PKPdf** **08 42 20.5 +0.4**
baz=122
P22A Eagle 122.36 45 P **PKPdf** **08 42 21.1 +1.0**
baz=122
PGAV Gavieira, Arco 122.37 319 *e*PKPdf **PKPdf** **08 42 20.5 +0.6**
SMCO Snowmass 122.38 45 *e*PKPdf **PKPdf** **08 42 21.6 +1.2**
B29A Wagenman Farm, 122.38 32 P **PKPdf** **08 42 20.0 +0.4**
baz=122
S21A Coal Bank Pass 122.41 47 P **PKPdf** **08 42 22.2 +1.9**
baz=122
Q22A Crested Butte, 122.56 45 P **PKPdf** **08 42 21.8 +1.2**
baz=123
J25A Sunshine Ranch 122.58 39 P **PKPdf** **08 42 20.4 +0.2**
baz=123
H26A Fairpoint 122.59 38 P **PKPdf** **08 42 20.4 +0.2**
baz=123
MTE Manteigas 122.60 317 PFAKE 08 42 30.0 +10
MTE LR LR
comp=Z,598nm,19.0s
V20A Brimhall 122.61 49 P **PKPdf** **08 42 21.8 +1.2**
baz=123
MDND Maddock 122.62 33 *e*PKPdf **PKPdf** **08 42 20.4 +0.4**
MDND Maddock 122.62 33 P **PKPdf** **08 42 20.4 +0.4**
baz=123
A30A Hoffart Farm, 122.65 31 P **PKPdf** **08 42 20.1 +0.1**
baz=123
O23A Lake Granby, G 122.67 44 P **PKPdf** **08 42 21.8 +1.1**
baz=123
G27A Dupree 122.69 36 P **PKPdf** **08 42 20.9 +0.6**
baz=123
E28A Huff 122.75 35 P **PKPdf** **08 42 21.0 +0.6**
baz=123
PCBR Castelo Branco 122.80 316 *e*PKPdf **PKPdf** **08 42 21.7 +1.1**
W20A Ramah 122.83 50 P **PKPdf** **08 42 22.5 +1.4**
baz=123
M24A Cheyenne 122.84 42 P **PKPdf** **08 42 21.4 +0.5**
baz=123
I26A New Underwood 122.84 38 P **PKPdf** **08 42 21.1 +0.4**
baz=123
T21A Navajo Lake 122.86 48 P **PKPdf** **08 42 22.6 +1.5**
baz=123
PMRV Marv??o 122.92 316 *e*PKPdf **PKPdf** **08 42 21.7 +0.8**
K25A Mack Ranch, Ha 122.92 40 P **PKPdf** **08 42 20.5 -0.4**
baz=123
R22A Saguache, Gunn 122.93 46 P **PKPdf** **08 42 23.5 +2.1**
baz=123
B30A Myrvik Farm, E 122.93 32 P **PKPdf** **08 42 20.4 -0.2**
baz=123
U21A Nageezi 122.98 48 P **PKPdf** **08 42 23.0 +1.6**
baz=123
H27A Howes 123.00 37 P **PKPdf** **08 42 21.0 +0.1**
baz=123
ULM Lac du Bonnet 123.02 29 PKP **PKPdf** **08 42 20.6 -0.1**
ULM Lac du Bonnet 123.02 29 PKP **PKPdf** **08 42 20.6 -0.1**
comp=Z,8.7nm,0.9s,baz=303,slow=3.3,SNR=5.7
X20A Quemado 123.04 51 P **PKPdf** **08 42 23.0 +1.5**
baz=123
ISCO Idaho Springs 123.06 44 P **PKPdf** **08 42 22.5 +0.9**
baz=123
S22A 4UR Ranch, Cre 123.07 47 P **PKPdf** **08 42 23.4 +1.8**
baz=123
L25A Engebretsen Ra 123.08 41 P **PKPdf** **08 42 21.6 +0.4**
baz=123
D29A Pettibone, Tap 123.08 34 P **PKPdf** **08 42 21.2 +0.2**
baz=123
P23A Jefferson 123.09 44 P **PKPdf** **08 42 22.9 +1.3**
baz=123
F28A McLaughlin 123.10 35 P **PKPdf** **08 42 21.5 +0.4**
baz=123
N24A Carr 123.10 42 P **PKPdf** **08 42 22.3 +0.9**
baz=123
PBAR Barrancos 123.20 314 *e*PKPdf **PKPdf** **08 42 21.9 +0.5**
V21A Milan 123.23 49 P **PKPdf** **08 42 22.9 +1.1**
baz=123
O24A Longmont 123.29 43 P **PKPdf** **08 42 22.7 +0.9**
baz=123
PESTR Estremoz 123.30 315 *e*PKPdf **PKPdf** **08 42 22.1 +0.5**
C30A Mose, Pekin 123.31 33 P **PKPdf** **08 42 21.5 +0.2**
baz=123
T22A Edith 123.31 47 P **PKPdf** **08 42 23.6 +1.6**
baz=123
K26A Motz Farm, Whi 123.32 40 P **PKPdf** **08 42 21.8 +0.1**
baz=123
I27A Quinn 123.32 38 P **PKPdf** **08 42 21.7 +0.2**
baz=123
E29A Napoleon 123.35 34 P **PKPdf** **08 42 21.5 0.0**
baz=123
Y20A Horse Springs, 123.36 51 P **PKPdf** **08 42 23.7 +1.5**
baz=123
G28A Parade 123.46 36 P **PKPdf** **08 42 22.0 +0.2**
baz=123
Z20A Nine Sixteen R 123.46 52 P **PKPdf** **08 42 23.4 +1.1**
baz=124
319A Douglas 123.47 54 P **PKPdf** **08 42 23.5 +1.2**
baz=124
W21A San Fidel 123.48 50 P **PKPdf** **08 42 23.8 +1.4**
baz=124
D30A Buchanan 123.52 33 P **PKPdf** **08 42 21.9 +0.1**
baz=124
PTOM Tomar 123.54 316 *e*PKPdf **PKPdf** **08 42 23.4 +1.4**
U22A Llaves 123.60 48 P **PKPdf** **08 42 24.6 +2.1**
baz=124
R23A Moffat 123.61 46 P **PKPdf** **08 42 24.3 +1.7**
baz=124
120A U Bar Ranch, L 123.62 53 P **PKPdf** **08 42 24.1 +1.5**
baz=124
H28A Mission Ridge 123.62 37 P **PKPdf** **08 42 22.6 +0.5**
baz=124
X21A Alamocita Cree 123.62 51 P **PKPdf** **08 42 24.5 +1.8**
baz=124
PMTG Montargil 123.66 316 *e*PKPdf **PKPdf** **08 42 22.5 +0.2**
F29A Eureka 123.67 35 P **PKPdf** **08 42 22.4 +0.3**

baz=124
P24A Kohler Place, 123.68 44 P PKPdf 08 42 24.0 +1.4
baz=124
S23A Nye Farm, Mont 123.69 46 P PKPdf 08 42 24.4 +1.6
baz=124
V22A San Miguel Ran 123.74 49 P PKPdf 08 42 25.2 +2.4
baz=124
EVO Evora 123.74 315 ePKPdf PKPdf 08 42 23.7 +1.3
J27A Elkhorn Farm, 123.78 39 P PKPdf 08 42 23.3 +0.8
baz=124
E30A Jud 123.79 34 P PKPdf 08 42 23.0 +0.7
baz=124
PBEJ Beja 123.85 314 ePKPdf PKPdf 08 42 23.8 +1.1
Y21A Point of Rocks 123.87 51 P PKPdf 08 42 25.1 +1.9
baz=124
I28A Midland 123.89 38 P PKPdf 08 42 22.9 +0.3
baz=124
220A Playas Peak, P 123.91 54 P PKPdf 08 42 24.2 +1.0
baz=124
K27A Flueckinger Fa 123.91 39 P PKPdf 08 42 22.6 -0.2
baz=124
T23A Casias Ranch, 123.94 47 P PKPdf 08 42 24.8 +1.5
baz=124
O25A Wiggins 123.94 43 P PKPdf 08 42 23.4 +0.4
baz=124
G29A Hoven 123.97 36 P PKPdf 08 42 22.8 +0.1
baz=124
PVAQ Vaqueiros 124.01 314 ePKPdf PKPdf 08 42 24.4 +1.4
SDCO Great Sand Dun 124.03 46 PFAKE 08 42 40.0 +17
SDCO LR LR
comp=Z,377nm,19.0s
W22A Albuquerque 124.09 49 P PKPdf 08 42 25.4 +1.9
baz=124
320A Kipp Ranch, An 124.09 54 P PKPdf 08 42 25.2 +1.6
baz=124
R24A Sanders Place, 124.10 45 P PKPdf 08 42 23.9 +0.4
baz=124
U23A El Rito 124.11 48 P PKPdf 08 42 25.2 +1.6
baz=124
Z21A St. Cloud Mine 124.12 52 P PKPdf 08 42 25.2 +1.6
baz=124
F30A Leola 124.12 35 P PKPdf 08 42 23.6 +0.6
baz=124
H29A Onida 124.12 36 P PKPdf 08 42 23.4 +0.3
baz=124
LAZ Ladron 124.14 50 ePKPdf PKPdf 08 42 25.2 +1.6
PCVE Castro Verde 124.14 314 ePKPdf PKPdf 08 42 24.6 +1.4
J28A Allard Ranch, 124.16 38 P PKPdf 08 42 23.7 +0.5
baz=124
P25A Willow Gulch B 124.19 44 P PKPdf 08 42 24.7 +1.2
baz=124
X22A Bernardo 124.20 50 P PKPdf 08 42 25.3 +1.7
baz=124
PBDV Barranco-do-Ve 124.23 313 ePKPdf PKPdf 08 42 25.2 +1.7
S24A Houchin Ranch, 124.28 46 P PKPdf 08 42 25.3 +1.4
baz=124
PNCL Nicolau / Gran 124.29 315 ePKPdf PKPdf 08 42 24.7 +1.2
121A Cookes Peak, D 124.30 53 P PKPdf 08 42 25.4 +1.5
baz=124
AGMN Agassiz Nation 124.31 31 PFAKE 08 42 40.0 +17
AGMN LR LR
comp=Z,612nm,22.0s
V23A Ortiz Mt. (NFS 124.35 48 P PKPdf 08 42 26.0 +2.0
baz=124
LENM Lemitar 124.35 51 ePKPdf PKPdf 08 42 25.6 +1.6
T24B San Luis 124.40 47 P PKPdf 08 42 25.7 +1.6
baz=124
I29A Vivian Onida 124.41 37 P PKPdf 08 42 23.7 +0.1
baz=124
Q25A Bedland, Calha 124.41 44 P PKPdf 08 42 24.8 +0.8
baz=124
Y22D IRIS PASSCAL I 124.42 51 P PKPdf 08 42 26.1 +2.0
baz=124
O26A Horse Wrangler 124.43 42 P PKPdf 08 42 24.3 +0.4
baz=124
ANMO Albuquerque 124.45 49 PKP PKPdf 08 42 24.8 +0.6
ANMO ePKPdf PKiKP 08 42 25.4 +0.9
ANMO Albuquerque 124.45 49 PKP PKPdf 08 42 24.8 +0.6
comp=Z,15nm,1.0s,baz=214,slow=1.8,SNR=49
K28A Ten Mile Ranch 124.46 39 P PKPdf 08 42 24.2 +0.4
baz=124
G30A Faulkton 124.46 35 P PKPdf 08 42 23.9 +0.2
baz=124
221A Mesquite Ranch 124.48 53 P PKPdf 08 42 25.9 +1.7
baz=124
LPM Los Pinos Moun 124.56 50 ePKPdf PKPdf 08 42 24.5 +0.1
W23A Werner Place, 124.60 49 P PKPdf 08 42 25.3 +0.8
baz=125
BNM Barren Site 124.62 50 ePKPdf PKPdf 08 42 25.7 +1.1
PTEO Sao Teotonio 124.67 314 ePKPdf PKPdf 08 42 25.9 +1.7
N27A Anderson Farm, 124.67 41 P PKPdf 08 42 25.0 +0.7
baz=125
Z22A Elephant Butte 124.69 52 P PKPdf 08 42 26.1 +1.5
baz=125
RTC Rabat Centre 124.71 309 PFAKE 08 42 40.0 +16
RTC LR LR
comp=Z,273nm,21.0s
MORF Marmelete 124.72 314 ePKPdf PKPdf 08 42 25.9 +1.5
R25A Fountain Ranch 124.72 45 P PKPdf 08 42 25.3 +0.8
baz=125
J29A Okreek 124.73 38 P PKPdf 08 42 24.5 +0.3
baz=125
P26A Davis Ranch, A 124.73 43 P PKPdf 08 42 25.8 +1.2
baz=125
X23A Hourglass Bar 124.80 50 P PKPdf 08 42 26.4 +1.5
baz=125
S25A Robets Cordova 124.83 46 P PKPdf 08 42 26.0 +1.2
baz=125
122A Conniff Cattle 124.86 52 P PKPdf 08 42 26.6 +1.7
baz=125
Q26A Hugo 124.91 44 P PKPdf 08 42 25.9 +1.0
baz=125
OGNE Ogallala 124.94 41 PFAKE 08 42 40.0 +15
OGNE LR LR
comp=Z,344nm,20.0s
BRSD Miller 124.97 36 ePKPdf PKPdf 08 42 24.2 -0.4
222A Williams Famil 124.99 53 P PKPdf 08 42 26.5 +1.3
baz=125
I30A Oacoma 124.99 37 P PKPdf 08 42 25.0 +0.2
baz=125
O27A Beecher Island 125.01 42 P PKPdf 08 42 25.2 +0.2
baz=125
V24A Rampart Ranch, 125.04 48 P PKPdf 08 42 27.0 +1.7
baz=125
T25A Trinidad 125.07 46 P PKPdf 08 42 26.8 +1.4
baz=125
K29A Lazy Tails An 125.08 38 P PKPdf 08 42 25.4 +0.4
baz=125
M28A Bar X Bar Ranc 125.14 40 P PKPdf 08 42 25.4 +0.2
baz=125
W24A Lazy 6 Ranch, 125.14 49 P PKPdf 08 42 27.0 +1.5
baz=125
Y23A Lovelace Mesa, 125.14 50 P PKPdf 08 42 26.2 +0.7
baz=125
R26A Arlington 125.24 45 P PKPdf 08 42 26.4 +0.9
baz=125
P27A Ficken Ranch, 125.25 43 P PKPdf 08 42 26.0 +0.5
baz=125
Z23A Rita Site, Whi 125.26 51 P PKPdf 08 42 27.1 +1.4
baz=125
J30A Dallas 125.28 37 P PKPdf 08 42 25.5 +0.2
baz=125
L29A Maesberg Ranch 125.36 39 P PKPdf 08 42 25.9 +0.4
baz=125
X24A Lazy VL Ranch, 125.38 50 P PKPdf 08 42 27.0 +1.0
baz=125
N28A Pribbeno Ranch 125.39 41 P PKPdf 08 42 26.0 +0.4
baz=125
U25A Circle Dot Ran 125.39 47 P PKPdf 08 42 27.4 +1.4
baz=125
123A Bell Site, Whi 125.46 52 P PKPdf 08 42 27.6 +1.5
baz=126
V25A Rancho No Teng 125.47 48 P PKPdf 08 42 27.5 +1.4
baz=126
KSCO Kaye Shedlock' 125.48 43 ePKPdf PKPdf 08 42 27.0 +1.0
KSCO Kaye Shedlock' 125.48 43 P PKPdf 08 42 27.0 +1.0
baz=126
O28A Krutsinger Ran 125.52 42 P PKPdf 08 42 26.1 +0.2
baz=126
S26A Kim 125.53 45 P PKPdf 08 42 26.9 +0.8
baz=126
K30A Basset 125.57 38 P PKPdf 08 42 26.4 +0.5
baz=126
Y24A Capitan 125.62 50 P PKPdf 08 42 27.6 +1.2
baz=126
T26A Comanche Natio 125.65 46 P PKPdf 08 42 27.5 +1.1
baz=126
R27A Eads 125.70 44 P PKPdf 08 42 27.4 +1.0
baz=126
P28A Saint Francis 125.80 42 P PKPdf 08 42 26.9 +0.4
baz=126
W25A X Bar L Ranch, 125.85 48 P PKPdf 08 42 27.7 +0.9
baz=126
U26A Atchley Ranch, 125.88 47 P PKPdf 08 42 27.7 +0.8
baz=126
Z24A Sheeppen Canyo 125.91 51 P PKPdf 08 42 28.7 +1.6
baz=126
N29A Votaw Ranch, W 125.92 41 P PKPdf 08 42 27.6 +0.9
baz=126
X25A Clemmons Ranch 125.98 49 P PKPdf 08 42 28.2 +1.1
baz=126
Q28A Sharon Springs 126.00 43 P PKPdf 08 42 28.1 +1.2
baz=126
124A Stringfield Ra 126.07 52 P PKPdf 08 42 28.6 +1.2
baz=126
V26A Tequesquite Ra 126.11 47 P PKPdf 08 42 27.5 +0.2
baz=126
O29A 4D Ranch, Culb 126.16 41 P PKPdf 08 42 27.7 +0.6
baz=126
Y25A Mesa, Roswell 126.19 50 P PKPdf 08 42 28.2 +0.7
baz=126
224A Cornudas Mount 126.25 52 P PKPdf 08 42 28.7 +1.0
baz=126
N30A Shuffle Ranch, 126.27 40 P PKPdf 08 42 28.2 +0.9
baz=126
T27A Campo 126.32 46 P PKPdf 08 42 28.5 +0.9
baz=126
L31A Butterfield Fa 126.32 38 P PKPdf 08 42 27.7 +0.4
baz=126
P29A Atwood 126.34 42 P PKPdf 08 42 28.3 +0.8
baz=126
R28A Tribune 126.36 44 P PKPdf 08 42 28.4 +0.7
baz=126
W26A Owens Ranch, T 126.42 48 P PKPdf 08 42 28.8 +0.9
baz=126
Z25A Roswell 126.43 51 P PKPdf 08 42 28.8 +0.9
baz=126
324A Moseley Ranch, 126.51 53 P PKPdf 08 42 29.1 +0.9
baz=126
U27A Thompson Grove 126.53 46 P PKPdf 08 42 29.1 +1.0
baz=126
X26A CR and CF Fran 126.61 49 P PKPdf 08 42 29.2 +1.0
baz=127
O30A MW Ranch, Wils 126.62 41 P PKPdf 08 42 29.0 +1.0
baz=127
S28A Manter 126.66 45 P PKPdf 08 42 28.7 +0.5
baz=127
Q29A Oakley 126.66 43 P PKPdf 08 42 29.1 +0.9
baz=127
M31A Lambtecht Ranc 126.69 39 P PKPdf 08 42 28.1 0.0
baz=127
EYMN Ely 126.70 29 PFAKE 08 42 40.0 +12
EYMN LR LR
comp=Z,420nm,20.0s
125A Gardner Draw, 126.71 51 P PKPdf 08 42 29.3 +0.8
baz=127
T28A Walsh 126.72 45 P PKPdf 08 42 29.0 +0.6
baz=127
ECSD EROS Data Cent 126.75 35 ePKPdf PKPdf 08 42 28.2 +0.1
ECSD LR LR
comp=Z,275nm,19.0s
225A Deer Hill, Car 126.79 52 P PKPdf 08 42 29.6 +0.9
baz=127
P30A Selden 126.83 42 P PKPdf 08 42 29.1 +0.7
baz=127
Y26A Elida 126.85 50 P PKPdf 08 42 29.4 +0.7
baz=127
325A Bean Ranch, Si 126.94 53 P PKPdf 08 42 29.6 +0.6
baz=127
W27A Bowe Ranch, En 126.95 48 P PKPdf 08 42 29.6 +0.7
baz=127
U28A Mallet 126.98 46 P PKPdf 08 42 29.6 +0.7
baz=127
Z26A Caprock 127.00 50 P PKPdf 08 42 29.4 +0.4
baz=127
X27A F and S Farms, 127.10 48 P PKPdf 08 42 29.5 +0.3
baz=127
O31A Woolen Ranch, 127.11 41 P PKPdf 08 42 28.7 -0.3
baz=127
GDL2 Guadalupe Moun 127.11 52 ePKPdf PKPdf 08 42 30.5 +1.2
Q30A Quinter 127.13 42 P PKPdf 08 42 29.7 +0.7
baz=127
425A Indio Mountain 127.14 54 P PKPdf 08 42 30.1 +0.7
baz=127
BGNE Belgrade 127.18 39 ePKPdf PKPdf 08 42 28.9 -0.1
BGNE Belgrade 127.18 39 P PKPdf 08 42 28.5 -0.5
baz=127
S29A Ulysses 127.19 44 P PKPdf 08 42 30.2 +1.0
baz=127
126A Clayton Basin, 127.21 51 P PKPdf 08 42 30.2 +0.8
baz=127
V28A Channing 127.27 47 P PKPdf 08 42 30.6 +1.2
baz=127
T29A Hugoton 127.29 45 P PKPdf 08 42 30.6 +1.2
baz=127
226B Tecolote Peak, 127.32 52 P PKPdf 08 42 30.6 +1.0
baz=127
Y27A Causey 127.37 49 P PKPdf 08 42 30.4 +0.7
baz=127
P31A Stockton 127.41 41 P PKPdf 08 42 30.3 +0.8
baz=127
R30A Dighton 127.44 43 P PKPdf 08 42 30.2 +0.6
baz=127
CLNB Carlsbad 127.47 52 ePKPdf PKPdf 08 42 30.4 +0.5
W28A Vega 127.50 47 P PKPdf 08 42 30.4 +0.5
baz=128
Z27A Tatum 127.57 50 P PKPdf 08 42 31.0 +0.9
baz=128
MSTX Muleshoe 127.63 49 P PKPdf 08 42 30.7 +0.5
baz=128
S30A Montezuma 127.63 44 P PKPdf 08 42 31.2 +1.2
baz=128
Q31A Ellis 127.67 42 P PKPdf 08 42 30.6 +0.6
baz=128
127A Arkansas Junct 127.71 51 P PKPdf 08 42 31.6 +1.2
baz=128
V29A Stinnett 127.72 46 P PKPdf 08 42 32.0 +1.7
baz=128
O32A Brockman Farm, 127.73 40 P PKPdf 08 42 30.6 +0.5
baz=128
326A Caldwell Ranch 127.75 53 P PKPdf 08 42 31.3 +0.8
baz=128
X28A Dimmitt 127.83 48 P PKPdf 08 42 31.5 +0.9
baz=128
P32A Huiting Farm, 127.87 41 P PKPdf 08 42 31.0 +0.6
baz=128
T30A Plains 127.87 45 P PKPdf 08 42 31.9 +1.4
baz=128
SPMN St. Paul 127.91 32 P PKPdf 08 42 30.6 +0.4
baz=128
R31A Burdett 127.95 43 P PKPdf 08 42 31.7 +1.1
baz=128
426A McDonald Obser 127.95 53 P PKPdf 08 42 32.0 +1.0
baz=128
W29A Amarillo 127.97 47 P PKPdf 08 42 31.8 +1.0
baz=128
227A Bennet, Jal 128.03 52 P PKPdf 08 42 32.3 +1.3
baz=128
U30A WK&E Inc. Balk 128.04 45 P PKPdf 08 42 32.2 +1.4
baz=128
Y28A McKinney Farm, 128.05 49 P PKPdf 08 42 32.0 +1.0
baz=128
526A Mary Lane Ranc 128.12 54 P PKPdf 08 42 31.8 +0.5
baz=128
Z28A Tucker Farm, M 128.21 50 P PKPdf 08 42 32.1 +0.8
baz=128
X29A Tulia 128.23 48 P PKPdf 08 42 31.7 +0.4
baz=128
626A Big Bend Ranch 128.27 55 P PKPdf 08 42 31.9 +0.4
baz=128
DBIC Dimbokro 128.27 276 PKP PKPdf 08 42 31.8 0.0
DBIC Dimbokro 128.27 276 PKP PKPdf 08 42 31.8 0.0
comp=Z,8.5nm,1.1s,baz=311,slow=2.3,SNR=5.3
SCHQ Schefferville 128.29 7 PKP PKPdf 08 42 31.6 +0.9
SCHQ Schefferville 128.29 7 PKP PKPdf 08 42 31.6 +0.9
comp=Z,6.1nm,0.8s,baz=341,slow=6.1,SNR=4.1
S31A Mullinville 128.32 43 P PKPdf 08 42 31.7 +0.4
baz=128
V30A Spur Ranch, Mi 128.37 46 P PKPdf 08 42 32.8 +1.3
baz=128
427A Hayter Ranch, 128.38 53 P PKPdf 08 42 32.7 +1.0
baz=128
128A Castleberry Fa 128.41 50 P PKPdf 08 42 32.2 +0.5
baz=128
T31A Randall Ranch, 128.44 44 P PKPdf 08 42 32.7 +1.2
baz=128
527A Woodward Ranch 128.48 54 P PKPdf 08 42 33.1 +1.1
baz=128
Y29A Porterfield Fa 128.51 49 P PKPdf 08 42 32.9 +1.1
baz=128
228A UT Block 9, Go 128.53 51 P PKPdf 08 42 32.9 +0.9
baz=128
328A Wristen Ranch, 128.65 52 P PKPdf 08 42 33.0 +0.9
baz=129
S32A Newby Ranch, P 128.65 43 P PKPdf 08 42 33.1 +1.2
baz=129
U31A Nine Bar Ranch 128.68 45 P PKPdf 08 42 33.6 +1.6
baz=129
TXAR Lajitas Array 128.72 55 PKP PKPdf 08 42 34.0 +1.6
TXAR PP PP 08 44 38.1 -0.4
TXAR Lajitas Array 128.72 55 PKP PKPdf 08 42 34.0 +1.6
comp=Z,4.1nm,0.8s,baz=206,slow=1.2,SNR=37
TXAR PP PP 08 44 38.1 -0.4
comp=Z,1.4nm,1.0s,baz=295,slow=8.6,SNR=5.2
Z29A Hungry Hill Ra 128.74 49 P PKPdf 08 42 32.8 +0.5
baz=129
X30A Coker Ranch, T 128.84 48 P PKPdf 08 42 32.9 +0.5
baz=129
129A Stewart Farms, 128.88 50 P PKPdf 08 42 33.0 +0.5
baz=129
627A Terlingua Ranc 128.91 55 P PKPdf 08 42 33.5 +0.8
baz=129
428A Kincaid Ranch, 129.00 53 P PKPdf 08 42 34.0 +1.1
baz=129
Y30A Stafford Cattl 129.08 48 P PKPdf 08 42 34.2 +1.3
baz=129
528A Cox Ranch, San 129.13 54 P PKPdf 08 42 34.3 +1.1
baz=129
Z30A Sanderson Ranc 129.16 49 P PKPdf 08 42 34.2 +1.1
baz=129
W31A Holland Ranch, 129.18 46 P PKPdf 08 42 34.1 +1.1
baz=129
229A Bryant Ranch, 129.20 51 P PKPdf 08 42 34.3 +1.1
baz=129
329A Wagon Wheel Ra 129.26 52 P PKPdf 08 42 34.4 +1.1
baz=129
628A Black Gap, Mar 129.30 54 P PKPdf 08 42 34.6 +1.1
baz=129
X31A McDonald Ranch 129.41 47 P PKPdf 08 42 34.7 +1.3
baz=129
Y31A Rekieta Farm, 129.51 48 P PKPdf 08 42 34.7 +1.0
baz=130
130A Snyder 129.58 50 P PKPdf 08 42 35.3 +1.4
baz=130
529A Stev Forest Ra 129.60 53 P PKPdf 08 42 34.7 +0.7
baz=130
429A Davenport Ranc 129.67 53 P PKPdf 08 42 34.5 +0.4
baz=130
230A Sterling City 129.77 51 P PKPdf 08 42 34.6 +0.4
baz=130
Z31A Sharp Cattle R 129.89 49 P PKPdf 08 42 34.9 +0.5
baz=130
330A Mertzon 129.92 51 P PKPdf 08 42 34.9 +0.4
baz=130
131A Roby 129.99 49 P PKPdf 08 42 35.3 +0.7
baz=130
Y32A R-V Farms, Ver 130.10 47 P PKPdf 08 42 35.6 +0.8
baz=130
430A Baggett Ranch, 130.12 52 P PKPdf 08 42 35.7 +0.7
baz=130
530A J-C Ranch, Com 130.30 53 P PKPdf 08 42 36.0 +0.7
baz=130
231A Bronte 130.36 50 P PKPdf 08 42 36.1 +0.8
baz=130
Z32A Haskell 130.39 48 P PKPdf 08 42 36.2 +0.9
baz=130
331A San Angelo 130.54 51 P PKPdf 08 42 36.5 +0.7
baz=131
ABTX Abilene, Hawle 130.57 49 P PKPdf 08 42 36.6 +0.9
baz=131
431A Sonora 130.66 52 P PKPdf 08 42 36.8 +0.8
baz=131
JFWS Jewell Farm 130.83 32 ePKIKP PKPdf 08 42 35.3 -0.6
JFWS Jewell Farm 130.83 32 ePKPdf PKPdf 08 42 35.3 -0.6
232A Coleman 130.90 50 P PKPdf 08 42 37.2 +0.9
baz=131
531A Rocksprings 130.92 53 P PKPdf 08 42 36.8 +0.3
baz=131
332A Millersview 131.04 51 P PKPdf 08 42 36.7 0.0
baz=131
631A Perdido Creek 131.20 53 P PKPdf 08 42 37.3 +0.3
baz=131
432A Menard 131.22 51 P PKPdf 08 42 37.4 +0.4
baz=131
JCT Junction City 131.38 52 ePKIKP PKPdf 08 42 37.8 +0.5
JCT Junction City 131.38 52 ePKPdf PKPdf 08 42 37.8 +0.5
JCT Junction City 131.38 52 P PKPdf 08 42 37.8 +0.5
baz=131
532A Rocksprings 131.44 52 P PKPdf 08 42 37.9 +0.5
baz=132
TUL1 Tulsa 131.74 43 P PKPdf 08 42 38.4 +0.6
baz=132
632A Uvalde 131.79 53 P PKPdf 08 42 38.7 +0.6
baz=132
732A Laxson Ranch, 131.95 54 P PKPdf 08 42 39.1 +0.7
baz=132
WHTX Lake Whitney 132.51 49 P PKPdf 08 42 40.1 +0.8
baz=132
MIAR Mount Ida 134.00 43 ePKIKP PKPdf 08 42 43.7 +1.6
MIAR Mount Ida 134.00 43 ePKPdf PKPdf 08 42 43.6 +1.6
KVTX Kingsville 134.10 54 PFAKE 08 42 50.0 +7.6
KVTX LR LR
comp=Z,4μm,19.0s
HKT Hockley 134.69 50 ePKIKP PKPdf 08 42 43.2 -0.2
HKT Hockley 134.69 50 ePKPdf PKPdf 08 42 43.2 -0.2
OLIL Olney 134.87 35 ePKPdf PKPdf 08 42 44.4 +0.8
BLO Bloomington 135.46 33 ePKIKP PKPdf 08 42 45.0 +0.3
BLO Bloomington 135.46 33 ePKPdf PKPdf 08 42 45.0 +0.3
GNAR Gosnell 135.52 39 ePKPdf PKPdf 08 42 45.7 +0.8
WCI Wyandotte Cave 136.25 34 ePKIKP PKPdf 08 42 45.4 -0.8
WCI Wyandotte Cave 136.25 34 ePKPdf PKPdf 08 42 45.4 -0.8
ACSO Alum Creek Sta 136.52 29 PFAKE 08 43 00.0 +13
ACSO LR LR
comp=Z,471nm,19.0s
OXF Oxford 136.81 41 PFAKE 08 43 00.0 +13
OXF LR LR
comp=Z,374nm,19.0s
VBMS Vicksburg 137.42 44 PFAKE 08 43 00.0 +12
VBMS LR LR
comp=Z,341nm,20.0s
TRQA Tornquist 138.25 174 ePKPdf PKPdf 08 42 49.8 -0.2
TRQA LR LR
comp=Z,583nm,20.0s
LRAL Lakeview Retre 139.29 40 ePKPdf PKPdf 08 42 51.8 -0.1
TKL Tuckaleechee C 139.49 35 ePKPdf PKPdf 08 42 52.7 +0.5
TKL ePP PP 08 45 45.0 -0.9
CBN Corbin 140.75 26 PFAKE 08 43 10.0 +16
CBN LR LR
comp=Z,503nm,21.0s
KMSC Kings Mountain 141.22 33 ePKPdf PKPdf 08 42 48.9 -6.5
CNNC Cliffs of the 142.93 29 PFAKE 08 43 10.0 +12
CNNC LR LR
comp=Z,334nm,20.0s
LCO Las Campanas 144.89 158 ePKPdf PKPab 08 43 00.9 -0.5
LCO LR LR
comp=Z,678nm,21.0s
TEIG Tepich 145.11 59 ePKPbc PKPdf 08 43 03.2 +0.6
TEIG LR LR
comp=Z,404nm,19.0s
SACV Santiago Islan 145.49 291 ePKPbc PKPdf 08 43 03.3 -0.1
SACV LR LR
comp=Z,225nm,20.0s
PAYG Puerto Ayora 146.19 97 ePKPbc PKPbc 08 43 06.0 +0.3
PAYG LR LR
comp=Z,691nm,19.0s
TGUH Tegucigalpa,Un 148.13 69 ePKPdf PKPdf 08 43 07.7 -0.1
TGUH ePKPbc PKiKP 08 43 12.2 -0.6
TGUH LR LR
comp=Z,214nm,21.0s
CPUP Villa Florida 150.22 179 ePKPdf PKPdf 08 43 11.3 +0.4
CPUP PKP PKPdf 08 43 11.9 +1.0
CPUP ePKPbc PKiKP 08 43 16.3 -0.5
CPUP PKPbc PKiKP 08 43 16.5 -0.3
CPUP Villa Florida 150.22 179 PKP PKPdf 08 43 11.9 +1.0
comp=Z,118nm,1.1s,baz=152,slow=1.3,SNR=41
CPUP PKPbc PKiKP 08 43 16.5 -0.3
comp=Z,85nm,1.0s,baz=153,slow=1.4,SNR=48
JTS JuntasAbangare 151.22 75 ePKPbc PKPbc 08 43 19.4 +0.6
JTS LR LR
comp=Z,430nm,19.0s
LVC Limon Verde 151.34 156 ePKPdf PKPdf 08 43 14.0 +0.9

LVC					*e*PKPbc	**PKiKP**	**08 43 20.4**	**+0.8**
LVC					*e*PKPab	**PKPab**	**08 43 28.1**	**+1.0**
LVC					LR	LR		
	comp=Z,643nm,19.0s							
SPB	**Sao Paulo**	**151.47**	**198**		*e*PKPbc	**PKPbc**	**08 43 19.6**	**+0.5**
SPB					LR	LR		
	comp=Z,429nm,19.0s							
GTBY	**Guantanamo Bay**	**155.83**	**46**		PFAKE		08 43 30.0	+11
GTBY					LR	LR		
	comp=Z,298nm,19.0s							
BCIP	**Isla Barro Col**	**156.39**	**75**		PFAKE		08 43 30.0	+10
BCIP					LR	LR		
	comp=Z,310nm,20.0s							
RCBR	**Riachuelo**	**157.18**	**246**		PFAKE		08 43 30.0	+8.8
RCBR					LR	LR		
	comp=Z,521nm,22.0s							
LPAZ	**La Paz**	**157.23**	**151**		PKP	**PKPdf**	**08 43 22.1**	**+0.2**
LPAZ					*e*PKPdf	**PKPdf**	**08 43 22.7**	**+0.8**
LPAZ					PKPab	**PKPab**	**08 43 53.3**	**+0.7**
LPAZ					*e*PKPab	PKPab	08 43 53.5	+1.0
LPAZ	**La Paz**	**157.23**	**151**		PKP	**PKPdf**	**08 43 22.1**	**+0.2**
	comp=Z,6.6nm,1.1s,baz=58,slow=0.5,SNR=18							
LPAZ					PKPab	**PKPab**	**08 43 53.3**	**+0.7**
	comp=Z,5.5nm,0.9s,baz=162,slow=4.1,SNR=5.6							
GRTK	**Grand Turk**	**157.37**	**37**		PFAKE		08 43 30.0	+8.8
GRTK					LR	LR		
	comp=Z,481nm,20.0s							
OTAV	**Otavalo**	**158.03**	**98**		*e*PKPdf	**PKPdf**	**08 43 23.5**	**+0.7**
OTAV					*e*PKPab	**PKPab**	**08 43 56.0**	**-0.2**
OTAV					LR	LR		
	comp=Z,261nm,20.0s							
BDFB	**Brasilia**	**159.01**	**204**		PKP	**PKPdf**	**08 43 23.4**	**0.0**
BDFB					PKPab	**PKPab**	**08 44 00.1**	**+0.5**
BDFB	**Brasilia**	**159.01**	**204**		PKP	**PKPdf**	**08 43 23.4**	**0.0**
	comp=Z,5.7nm,1.0s,baz=153,slow=2.1,SNR=6.3							
BDFB					PKPab	**PKPab**	**08 44 00.1**	**+0.5**
	comp=Z,5.4nm,1.0s,baz=194,slow=4.6,SNR=4.7							
SDDR	**Presa de Saban**	**159.13**	**42**		PFAKE		08 43 30.0	+6.5
SDDR					LR	LR		
	comp=Z,315nm,21.0s							
ROSC	**El Rosal**	**162.40**	**85**		PKP	**PKPdf**	**08 43 27.9**	**+0.3**
ROSC					PKPab	**PKPab**	**08 44 17.1**	**+1.9**
ROSC	**El Rosal**	**162.40**	**85**		PKP	**PKPdf**	**08 43 27.9**	**+0.3**
	comp=Z,1.1nm,0.3s,baz=74,slow=21,SNR=5.0							
ROSC					PKPab	**PKPab**	**08 44 17.1**	**+1.9**
	comp=Z,12nm,0.8s,baz=107,slow=2.8,SNR=11							
ANWB	**Willy Bob**	**165.19**	**19**		PFAKE		08 43 40.0	+10
ANWB					LR	LR		
	comp=Z,501nm,19.0s							
SDV	**Santo Domingo**	**165.22**	**69**		*e*PKPdf	**PKPdf**	**08 43 29.1**	**-0.9**
SAML	**Samuel**	**165.95**	**153**		*e*PKPdf	**PKPdf**	**08 43 30.0**	**-0.3**
SAML					LR	LR		
	comp=Z,403nm,22.0s							
GRGR	**Grenville**	**170.24**	**30**		PFAKE		08 43 40.0	+6.8
GRGR					LR	LR		
	comp=Z,545nm,20.0s							

BJI **18** *08:26:06.1,4.˚50S×123.˚49E,h24km,mB5.6/21,mb5.1/33, Ms5.1/27,Ms7 5.0/18*

IDC **18** *08:26:10.7±0.4,3.˚62S×123.˚24E,h0km,mb5.0/30, mb1 5.0/33,mb1mx4.9/36,mbtmp4.9/33,ML4.5/3,MS4.8/18, Ms1 4.8/18,ms1mx4.6/31,Error ellipse: s-maj=14.7km s-min=10.1km az=71.0*

NEIC **18** *08:26:14.6±1.4,3.˚63S×123.˚25E,h22km±9km,mb5.4/39, Error ellipse: s-maj=5.8km s-min=4.2km az=65.0*

MOS **18** *08:26:14.3±1.0,3.˚63S×123.˚24E,h33km,mb5.4/23,Error ellipse: s-maj=13.1km s-min=6.7km az=117.4*

ISCJB **18** *08:26:16.4±0.4,3.˚62S±0.˚02×123.˚33E±0.˚02,h52km±4km, mb5.1/88,MS4.9/25,Error ellipse: s-maj=4.2km s-min=3.7km az=39.8*

GCMT **18** *08:26:16.1±0.1,3.˚57S×123.˚32E,h12km,MW5.5,Moment Tensor Solution. s83,c128; s99,c235; Moment tensor: Scale 10^17^Nm; Mrr=2.02±.03; Mθθ 1.91±.03; Mϕϕ0.11±.03; Mrθ 0.47±.07; Mθϕ 0.70±.03; Mϕr0.19±.09; Best double couple: M=2.10000×10^17^ NP1:ϕ=250.00000°, δ52.00000°, λ-91.00000°. NP2:ϕ=72.00000°, δ38.00000°, λ-89.00000°. Principal axes: T 2.2100, Plg7.0000°, Azm341.0000°; N -0.1300, Plg1.0000°, Azm251.0000°; P -2.0800, Plg83.0000°, Azm154.0000°; Data Used: II IU IC G CN. Surface waves from 117 sta.*

AUST **18** *08:26:16.3±0.6,3.˚62S×123.˚16E,h40km±7km Error ellipse: s-maj=6.7km s-min=5.1km az=44.0*

DJA **18** *08:26:19.4±0.2,4.˚S±2.˚×12.˚3E±.˚,h42km±5km,M5.3/7, mB5.8/6,mb5.2/7,Mw(mB)5.4/6*

BKK **18** *08:26:28.1±1.0,3.˚S±10.˚×12.˚4E±.˚,h113km±11km,M5.4/10, mB5.7/8,mb5.0/10,MLv5.7/1,Mw(mB)5.2/8*

ISC 18 08:26:15.5±0.3,3.˚67S±0.˚03×123.˚27E±0.˚04,h28km±2km, n488,σ1§19/522,mb5.1/88,MS4.9/25,18C-21D,Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KKSI	**Kolaka, Sulawe**	**1.69**	**253**	P	P		**Pb**	**08 26 47.9**	**+2.0**
BBSI	**Bau Bau**	**1.94**	**201**	P	P		**Pb**	**08 26 50.3**	**+0.2**
LUWI	**Luwuk**	**2.66**	**349**	P	P		**Pn**	**08 26 58.4**	**+2.0**
LUWI	**Luwuk**	**2.66**	**349**	⇑P	P		**Pn**	**08 26 54.4**	**-2.0**
	baz=2.6								
APSI	**Ampana**	**3.18**	**329**	P	P		**Pn**	**08 27 06.0**	**+2.3**
BNSI	**Bone**	**3.23**	**257**	P	P		**Pb**	**08 27 10.3**	**-1.9**
TTSI	**Tana Toraja**	**3.50**	**280**	P	P		**Pn**	**08 27 10.3**	**+2.3**
SPSI	**Sidrap Palu**	**3.50**	**265**	P	P		Pn	08 27 12.4	+4.3
BKSI	**Bulukumba**	**3.54**	**242**	P	P		**Pn**	**08 27 11.3**	**+2.7**
KAPI	**Kappang**	**3.75**	**249**	Pn	P		**Pn**	**08 27 11.8**	**+0.3**
KAPI				Sn	S		**Sn**	**08 27 55.7**	**+0.9**
KAPI				*e*Sn	S		**Sn**	**08 27 56.4**	**+1.6**
KAPI	**Kappang**	**3.75**	**249**	Pn	P		**Pn**	**08 27 12.3**	**+0.8**
	6μm,1.1s,SNR=21								
KAPI	**Kappang**	**3.75**	**249**	Pn	P		**Pn**	**08 27 11.8**	**+0.3**
	87nm,0.3s,baz=155,slow=6.2,SNR=17								
KAPI				Sn	S		**Sn**	**08 27 55.7**	**+0.9**
	78nm,0.3s,baz=44,slow=23,SNR=3.9								
NLAI	**Namlea**	**3.85**	**84**	P	P		Pn	08 27 16.4	+3.5
MRSI	**Marisa**	**4.33**	**342**	P	P		Pb	08 27 25.5	-5.3
AAI	**Ambon**	**4.92**	**90**	P	P		**Pn**	**08 27 28.9**	**+1.3**
AAI	**Ambon**	**4.92**	**90**	⇑P	P		**Pn**	**08 27 29.5**	**+1.9**
	baz=5.0								
MMRI	**Maumere**	**5.04**	**192**	P	P		**Pn**	**08 27 31.4**	**+2.1**
LBMI	**Labuha**	**5.19**	**55**	P	P		**Pn**	**08 27 32.7**	**+1.3**
TNTI	**Ternate**	**6.02**	**43**	P	P		**Pn**	**08 27 41.8**	**-0.9**
TNTI	**Ternate**	**6.02**	**43**	*e*Pn	P		**Pn**	**08 27 41.5**	**-1.3**
SOEI	**Soe**	**6.13**	**171**	P	P		Pn	08 27 48.3	+3.9
SGKI	**Sangatta, Kali**	**6.46**	**299**	P	P		Pn	08 27 53.9	+5.1
BNDI	**Bandanaira**	**6.68**	**98**	P	P		**Pn**	**08 27 51.1**	**-0.6**
BKB	**Balikpapan**	**6.80**	**290**	P	P		Pn	08 27 57.6	+4.2
SGSI	**Sangihe**	**7.65**	**17**	P	P		**Pn**	**08 28 05.1**	**0.0**
SWI	**Sorong**	**8.46**	**71**	P	P		**Pn**	**08 28 16.8**	**+0.6**
FAKI	**Fak Fak**	**9.00**	**86**	P	P		**Pn**	**08 28 22.8**	**-0.9**
SAUI	**Saumlaki**	**9.07**	**119**	P	P		**Pn**	**08 28 27.2**	**+2.6**
SRBI	**Singaraja**	**9.13**	**241**	P	P		Pn	08 28 30.3	+4.8
TLE	**Tual**	**9.64**	**102**	P	P		**Pn**	**08 28 34.9**	**+2.4**
KMPI	**Kaimana, Papua**	**10.42**	**90**	P	P		**Pn**	**08 28 43.3**	**+0.2**
DAV	**Davao City (W)**	**10.91**	**12**	*e*Pn	P		**Pn**	**08 28 52.0**	**+2.1**
DAV				*e*Sn	S		**Sn**	**08 30 48.0**	**-3.2**
KKM	**Kota Kinabalu**	**11.94**	**324**	Pn	P		**Pn**	**08 29 03.4**	**-0.7**
DCPH	**Dipolog City**	**12.17**	**0**	⇑*e*P	P		**Pn**	**08 29 07.3**	**+0.2**
PWJI	**Pagerwojo**	**12.19**	**249**	P	P		**P**	**08 29 19.5**	**-0.1**
SBUM	**Sibu**	**12.60**	**299**	P	P		P	08 29 19.9	-4.3
SBUM	**Sibu**	**12.60**	**299**	*e*Pn	P		Pn	08 29 17.3	+4.3
KDU	**Kakadu**	**12.78**	**135**	⇓P	P		**Pn**	**08 29 16.5**	**+1.2**
	baz=13,SNR=4.4								
PCJI	**Pacitan**	**12.84**	**249**	P	P		Pn	08 29 20.6	+4.4
BAKI	**Biak**	**13.06**	**79**	P	P		**Pn**	**08 29 21.8**	**+2.5**
SRPI	**Serui, Papua**	**13.08**	**83**	P	P		**Pn**	**08 29 20.4**	**+0.8**
KSM	**Kuching**	**13.92**	**291**	P	P		P	08 29 42.9	+4.0
KSM	**Kuching**	**13.92**	**291**	*e*Pn	P		**Pn**	**08 29 28.8**	**-2.3**
KSM				*e*Sn	S		**Sn**	**08 32 02.2**	**-2.6**
BJII	**Banjamegara**	**13.97**	**254**	P	P		P	08 29 42.8	+3.2
TGJI	**Tegal**	**14.44**	**257**	P	P		**P**	**08 29 46.6**	**+2.0**
FITZ	**Fitzroy Crossi**	**14.53**	**171**	Pn	P		**Pn**	**08 29 39.3**	**0.0**
FITZ	**Fitzroy Crossi**	**14.53**	**171**	Pn	P		**Pn**	**08 29 39.3**	**0.0**
	0.6nm,0.3s,baz=308,slow=12,SNR=3.4								
FITZ				LR	LR		08 35 11.8		
	comp=Z,4μm,19.3s,baz=345,slow=37								
KPJI	**Karang Pucung**	**14.72**	**255**	P	P		**P**	**08 29 49.4**	**+1.6**
JAY	**Jayapura**	**17.45**	**87**	P	P		**P**	**08 30 19.3**	**+1.2**
JAY	**Jayapura**	**17.45**	**87**	⇓P	P		**P**	**08 30 19.1**	**+1.0**
	baz=18								
MMPI	**Merauke**	**17.67**	**106**	P	P		**P**	**08 30 21.2**	**+0.7**
MBWA	**Marble Bar**	**17.72**	**191**	*e*P	P		**P**	**08 30 22.0**	**+1.0**
	66nm,1.2s								
BLSI	**Bandar Lampung**	**18.04**	**264**	P	P		**P**	**08 30 27.0**	**+2.3**
PMBI	**Palembang**	**18.48**	**272**	P	P		**Pn**	**08 30 32.8**	**+3.1**
MDSI	**Maura Dua**	**19.06**	**267**	P	P		Pn	08 30 41.8	+5.1
	83nm,1.9s,5μm								
WRAB	**Tennant Creek**	**19.45**	**147**	⇑*e*P	P		**Pn**	**08 30 40.8**	**-0.6**
WRAB				pmax	P		pmax		
	comp=Z,94nm,0.9s								
WRAB	**Tennant Creek**	**19.45**	**147**	*e*Pn	P		**Pn**	**08 30 41.5**	**+0.1**
	comp=Z,85nm,1.1s								
WRA	**Warramunga Arr**	**19.45**	**147**	P	P		**P**	**08 30 39.6**	**-0.5**
WRA	**Warramunga Arr**	**19.45**	**147**	P	P		**P**	**08 30 39.6**	**-0.5**
	comp=Z,2.2nm,0.3s,baz=321,slow=12,SNR=9.1								
WRA				LR	LR		08 37 58.8		
	comp=Z,5μm,19.7s,baz=325,slow=36								
LHSI	**Lahat**	**19.70**	**269**	P	P		**Pn**	**08 30 46.5**	**+2.1**
	comp=Z,182nm,1.4s,comp=Z,5μm								
MYKOM	**Kota Tinggi**	**20.15**	**285**	P	P		Pn	08 30 51.3	+1.6
MYKOM	**Kota Tinggi**	**20.15**	**285**	*e*P	P		**P**	**08 30 48.6**	**+0.9**
	comp=Z,189nm,2.0s								
COEN	**Coen**	**22.15**	**119**	*e*P	P		**P**	**08 31 09.1**	**-0.2**
	comp=Z,586nm,0.9s								
COEN	**Coen**	**22.15**	**119**	⇓P	P		**P**	**08 31 09.1**	**-0.2**
	baz=22,SNR=16								
AS13	**Alice Springs**	**22.36**	**154**	⇓P	P		**P**	**08 31 12.8**	**+1.2**
	baz=23								
ASAR	**Alice Springs**	**22.38**	**154**	P	P		**P**	**08 31 11.8**	**+0.1**
ASAR				PcP	P		**PcP**	**08 35 06.1**	**-0.3**
ASAR	**Alice Springs**	**22.38**	**154**	P	P		**P**	**08 31 11.8**	**+0.1**
	comp=Z,101nm,1.1s,baz=329,slow=9.9,SNR=21								
ASAR				PcP	P		**PcP**	**08 35 06.1**	**-0.3**
	comp=Z,3.7nm,0.7s,baz=352,slow=1.6,SNR=5.7								
ASAR				LR	LR		08 40 18.0		
	comp=Z,5μm,20.3s,baz=320,slow=38								
AS05	**Alice Springs**	**22.39**	**153**	⇓P	P		**P**	**08 31 13.3**	**+1.4**
	baz=23								
AS17	**Alice Springs**	**22.42**	**153**	⇑P	P		**P**	**08 31 13.1**	**+1.0**
	baz=23								
MEEK	**Mekatharra**	**23.27**	**191**	⇓P	P		**P**	**08 31 20.2**	**-0.8**
	baz=23,SNR=11								
IPM	**Ipoh**	**23.65**	**290**	P	P		**P**	**08 31 26.5**	**+1.7**
IPM	**Ipoh**	**23.65**	**290**	*e*P	P		**P**	**08 31 24.7**	**-0.1**
	comp=Z,750nm,2.9s								
KULM	**Kulim**	**24.28**	**291**	*e*P	P		**P**	**08 31 30.4**	**-0.3**
	comp=Z,24nm,0.9s								
PMG	**Port Moresby**	**24.40**	**105**	P	P		**P**	**08 31 31.9**	**+0.1**
	comp=Z,179nm,1.4s,comp=Z,3μm								
PMG	**Port Moresby**	**24.40**	**105**	*e*P	P		**P**	**08 31 31.1**	**-0.7**
PMG	**Port Moresby**	**24.40**	**105**	P	P		**P**	**08 31 30.8**	**-1.0**
	comp=Z,73nm,0.8s,baz=320,slow=6.8,SNR=13								
PSI	**Prapat**	**25.16**	**284**	P	P		**P**	**08 31 37.8**	**-1.0**
PSI	**Prapat**	**25.16**	**284**	P	P		**P**	**08 31 37.8**	**-1.0**
	comp=Z,22nm,0.8s,baz=119,slow=4.2,SNR=4.3								
QIZ	**Qiongzhong**	**26.14**	**330**	P	P		**P**	**08 31 48.3**	**+0.8**
QIZ				S	S		**S**	**08 36 20.3**	**+2.7**
MORW	**Morawa**	**26.18**	**194**	⇓P	P		**P**	**08 31 47.6**	**-0.2**
	baz=26,SNR=9.9								
TPUB	**Ta-pu**	**26.93**	**355**	P	P		**P**	**08 31 58.3**	**+3.8**
	comp=Z,33nm,0.8s								
SSLB	**Suanglung**	**27.38**	**355**	P	P		**P**	**08 32 00.0**	**+1.4**
	comp=Z,28nm,0.9s								
BLDU	**Ballidu**	**27.51**	**192**	⇓P	P		**P**	**08 31 59.4**	**-0.3**
	baz=28,SNR=11								
CTA	**Charters Tower**	**27.72**	**128**	P	P		**P**	**08 32 01.7**	**-0.1**
CTA	**Charters Tower**	**27.72**	**128**	⇓P	P		**P**	**08 32 02.1**	**+0.3**
	baz=28								
CTA	**Charters Tower**	**27.72**	**128**	P	P		**P**	**08 32 01.7**	**-0.1**
	comp=Z,23nm,0.9s,baz=293,slow=10,SNR=7.3								
CTA				LR	LR		08 42 59.5		
	comp=Z,1μm,20.7s,baz=306,slow=36								
CTAO	**Charters Tower**	**27.72**	**128**	*e*P	P		**P**	**08 32 01.8**	**0.0**
CTAO				pmax	pmax				
	comp=Z,44nm,1.0s								
CTAO	**Charters Tower**	**27.72**	**128**	*e*P	P		**P**	**08 32 01.8**	**0.0**
	comp=Z,44nm,1.0s								
SKNT	**Sakolnakorn**	**27.99**	**318**	P	P		P	08 32 11.3	+7.1
	comp=Z,55nm,1.1s,comp=Z,3μm								
NWAO	**Narrogin (SRO)**	**29.65**	**190**	P	P		**P**	**08 32 18.4**	**-0.3**
NWAO	**Narrogin (SRO)**	**29.65**	**190**	P	P		**P**	**08 32 18.4**	**-0.3**
	comp=Z,23nm,0.8s,baz=20,slow=9.1,SNR=9.2								
NWAO				LR	LR		08 44 09.3		
	comp=Z,2μm,18.9s,baz=182,slow=36								
QLP	**Quilpie**	**30.37**	**141**	⇑P	P		**P**	**08 32 25.7**	**+0.5**
	baz=31,SNR=3.1								
JOW	**Kunigami**	**30.70**	**9**	*e*P	P		**P**	**08 32 28.4**	**+0.3**
	comp=Z,19nm,0.9s								
RKGY	**Rocky Gully**	**31.34**	**190**	⇑P	P		**P**	**08 32 33.8**	**+0.2**
	baz=32,SNR=8.5								
BBOO	**Buckleboo**	**31.37**	**159**	⇑P	P		**P**	**08 32 33.9**	**-0.1**
	baz=32,SNR=9.6								
CMAR	**Chiang Mai Arr**	**32.52**	**313**	P	P		**P**	**08 32 44.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**32.52**	**313**	P	P		**P**	**08 32 44.0**	**-0.2**
	comp=Z,16nm,0.9s,baz=140,slow=6.7,SNR=8.9								
CHTO	**Chiang Mai**	**32.75**	**314**	*e*P	P		**P**	**08 32 45.1**	**-1.1**
CHTO				pmax	pmax				
	comp=Z,132nm,1.1s								
CHTO	**Chiang Mai**	**32.75**	**314**	*e*P	P		**P**	**08 32 45.1**	**-1.1**
	comp=Z,132nm,1.1s								
STKA	**Stephens Creek**	**32.93**	**151**	P	P		**P**	**08 32 48.2**	**+0.5**
STKA	**Stephens Creek**	**32.93**	**151**	⇓P	P		**P**	**08 32 47.8**	**+0.1**
	baz=33,SNR=6.2								
STKA	**Stephens Creek**	**32.93**	**151**	P	P		**P**	**08 32 48.2**	**+0.5**
	comp=Z,47nm,0.9s,baz=314,slow=8.5,SNR=9.7								
STKA				LR	LR		08 46 45.7		
	comp=Z,3μm,18.4s,baz=316,slow=37								
CMAI	**Chiengmai2**	**33.41**	**315**	P	P		08 32 57.0	+4.8	
	comp=Z,14nm,1.3s,comp=Z,586nm								
GYA	**Guiyang**	**33.99**	**333**	*e*P	P		**P**	**08 32 58.0**	**+1.0**
GYA				pP	pP		**P**	**08 33 06.4**	**+1.1**
GYA				S	S		**S**	**08 38 22.6**	**+1.9**
GYA				ScS	ScS		**S**	**08 43 18.5**	**-1.7**
GYA				AMB	AMB				
	comp=Z,30nm,1.0s								
GYA				AMB	AMB				
	comp=Z,120nm,5.0s								
GYA				LR	LR				
	comp=Z,2μm,15.9s								
GYA				LR	LR				
	comp=Z,920nm,16.0s								
CMSA	**Cobar Meteorol**	**34.84**	**145**	⇓P	P		**P**	**08 33 04.9**	**+0.6**
	baz=35,SNR=6.4								
KMI	**Kunming**	**34.88**	**326**	P	P		**P**	**08 33 07.3**	**+2.4**
KMI				pP	pP		**P**	**08 33 14.3**	**+1.1**
KMI				PP	PP		**P**	**08 34 25.6**	**+1.3**
KMI				S	S		**S**	**08 38 36.9**	**+2.2**
KMI				sS	sS		**S**	**08 38 48.8**	**+0.4**
KMI				LR	LR				
	comp=Z,1μm,13.0s								
KMI				LR	LR				
	comp=Z,1μm,17.8s								
CBIJ	**Chichi jima**	**35.63**	**30**	P	P		**P**	**08 33 08.8**	**-2.2**
JCJ	**Chichijima**	**35.63**	**30**	P	P		**P**	**08 33 08.8**	**-2.2**
	comp=Z,94nm,0.8s,baz=281,slow=16,SNR=2.9								
NJ2	**Nanjing**	**35.77**	**354**	*e*P	P		**P**	**08 33 14.1**	**+1.9**
NJ2				AMB	AMB				
	comp=Z,20nm,0.6s								
ARPS	**Mount Arapiles**	**37.11**	**155**	P	P		**P**	**08 33 24.2**	**+0.6**
	baz=37,SNR=19								
JNU	**Nakatsue**	**37.29**	**11**	P	P		**P**	**08 33 24.3**	**-1.0**
JNU	**Nakatsue**	**37.29**	**11**	P	P		**P**	**08 33 24.3**	**-1.0**
	comp=Z,16nm,0.8s,baz=156,slow=10.0,SNR=2.8								
CD2	**Chengdu**	**39.10**	**333**	P	P		**P**	**08 33 40.8**	**+0.3**
CD2				pP	pP		**P**	**08 33 47.8**	**-1.1**
CD2				sP	sP		**P**	**08 33 51.1**	**-1.2**
CD2				PP	PnPn		**P**	**08 35 15.1**	**+1.9**
CD2				S	S		**P**	**08 39 39.4**	**+0.8**
CD2				AMB	AMB				
	comp=Z,40nm,1.0s								
CD2				LR	LR				
	comp=Z,2μm,17.4s								
CD2				LR	LR				
	comp=Z,1μm,13.8s								
TOO	**Toolangi**	**39.41**	**152**	⇑P	P		**P**	**08 33 44.6**	**+1.6**
	baz=40,SNR=7.5								
CAN	**Canberra**	**39.49**	**146**	*e*P	P		**P**	**08 33 44.3**	**+0.5**
CAN				*e*				08 35 52.5	
CAN				pmax	pmax				
	comp=Z,87nm,1.3s								
CAN	**Canberra**	**39.49**	**146**	*e*P	P		**P**	**08 33 44.3**	**+0.5**
	comp=Z,87nm,1.3s								
CAN				*e*PcP	PcP			**08 35 52.5**	**+1.2**
CAN	**Canberra**	**39.49**	**146**	⇓P	P		**P**	**08 33 44.8**	**+1.0**
	baz=40								
CNB	**Canberra Magne**	**39.69**	**146**	⇓P	P		**P**	**08 33 47.5**	**+2.0**
	baz=40,SNR=4.0								
XAN	**Xi'an**	**39.87**	**341**	P	P		**P**	**08 33 46.1**	**-0.8**
XAN				pP	pP		**P**	**08 33 52.8**	**-2.5**
XAN				AMB	AMB				
	comp=Z,4.0nm,1.1s								
TIA	**Tai'an**	**40.09**	**352**	⇑P	P		**P**	**08 33 50.8**	**+2.2**
TIA				S	S		**S**	**08 39 50.1**	**-3.0**
TIA				LR	LR				
	comp=Z,890nm,15.7s								
TIA				LR	LR				
	comp=Z,1μm,17.6s								
KSAR	**Wonju Array Be**	**41.12**	**6**	P	P		**P**	**08 33 57.1**	**0.0**
KSRS	**Korea Array**	**41.14**	**6**	P	P		**P**	**08 33 57.1**	**-0.1**
	comp=Z,20nm,0.9s,baz=178,slow=9.5,SNR=12								
KSRS				LR	LR		08 49 48.8		
	comp=Z,1μm,21.3s,baz=189,slow=34								
MAJO	**Matsushiro**	**42.37**	**18**	*de*P	P		**P**	**08 34 08.3**	**+0.9**
MAJO				pmax	pmax				
	comp=Z,34nm,1.1s								
MAT	**Matsushiro**	**42.37**	**18**	P	P		**P**	**08 34 05.4**	**-2.0**
LZH	**Lanzhou**	**43.52**	**337**	*e*P	P		**P**	**08 34 18.8**	**+1.9**
LZH				pP	pP		**P**	**08 34 26.3**	**+0.9**
LZH				sP	sP		**P**	**08 34 31.8**	**+3.1**
LZH				PP	PcP		**P**	**08 36 03.1**	**-1.5**
LZH				*e*S	S		**P**	**08 40 43.3**	**-1.0**
LZH				AMB	AMB				
	comp=Z,27nm,1.2s								
LZH				AMB	AMB				
	comp=Z,290nm,5.8s								
LZH				LR	LR				
	comp=Z,2μm,15.8s								
LZH				LR	LR				
	comp=Z,1μm,14.3s								
LZH				LR	LR				
	comp=Z,3μm,18.0s								
SNY	**Shenyang**	**45.28**	**0**	⇓P	P		**P**	**08 34 29.5**	**-1.2**
SNY				AMB	AMB				
	comp=Z,6.0nm,0.3s								
HHC	**Hu-ho-hao-te**	**45.58**	**348**	*e*P	P		**P**	**08 34 33.8**	**+0.6**
HHC				pP	pP		**P**	08 34 47.1	+5.4
HHC				PP	PP		**P**	**08 36 22.3**	**+2.0**
HHC				S	S		**P**	**08 41 15.9**	**+2.0**
HHC				sS	sS		08 41 36.5	+8.6	
HHC				SS	ScS		**P**	**08 44 32.3**	**+4.4**
HHC				AMB	AMB				
	comp=Z,46nm,1.0s								
HHC				AMB	AMB				
	comp=Z,1μm,6.2s								
HHC				LR	LR				
	comp=Z,1μm,14.3s								
HHC				LR	LR				
	comp=Z,1μm,13.1s								
DZM	**Mont Dzumac**	**45.67**	**117**	P	P		**P**	**08 34 32.4**	**-1.9**
DZM	**Mont Dzumac**	**45.67**	**117**	P	P		**P**	**08 34 32.4**	**-1.9**
	comp=Z,9.6nm,0.9s,baz=236,slow=11,SNR=2.3								
ODAN	**Odare**	**46.07**	**313**	*e*P	P		**P**	**08 34 36.3**	**-1.2**
	comp=Z,55nm,1.2s								
TAPN	**Taplejung**	**46.12**	**314**	*e*P	P		**P**	**08 34 36.8**	**-1.2**
	comp=Z,29nm,0.9s								
RAMN	**Ramite**	**46.69**	**313**	*e*P	P		**P**	**08 34 41.2**	**-1.2**
	comp=Z,85nm,1.1s								
CN2	**Changchun**	**47.29**	**2**	*e*P	P		08 34 51.1	+4.6	
CN2				*e*S	S		**P**	**08 41 41.9**	**+3.7**
CN2				AMB	AMB				
	comp=Z,10.0nm,1.2s								
CN2				AMB	AMB				
	comp=Z,200nm,5.0s								
JIRN	**Jiri**	**47.40**	**313**	*e*P	P		**P**	**08 34 46.4**	**-1.6**
	comp=Z,42nm,1.0s								
GUN	**Gumba**	**47.77**	**313**	*e*P	P		**P**	**08 34 49.6**	**-1.3**
	comp=Z,71nm,1.0s								
PKI	**Pulchoki**	**47.92**	**313**	*e*P	P		**P**	**08 34 51.0**	**-1.0**
	comp=Z,37nm,1.0s								
PKIN	**Phulchoki**	**47.93**	**313**	*e*P	P		**P

KSH LR LR
comp=Z,600nm,10.5s
MK31 Makanchi Array 61.87 329 *e*P **P 08 36 31.5 -0.8**
MK31 *e* 08 37 14.8
MK31 Makanchi Array 61.87 329 *e*P **P 08 36 31.5 -0.8**
MK31 *e*PcP **PcP 08 37 14.8 +1.7**
MKAR Makanchi Array 61.87 329 *e*P **P 08 36 31.7 -0.6**
MKAR Makanchi Array 61.87 329 *e*P **P 08 36 31.7 -0.6**
MKAR Makanchi Array 61.87 329 ⇓P **P 08 36 31.8 -0.5**
baz=62
MKAR Makanchi Array 61.87 329 P **P 08 36 31.6 -0.7**
comp=Z,2.6nm,0.5s,baz=121,slow=8.4,SNR=12
MKAR LR LR 09 03 38.3
comp=Z,760nm,19.0s,baz=135,slow=36
CASY Casey 63.13 186 *e*P **P 08 36 40.0 -0.4**
comp=Z,37nm,1.6s
TKM2 Tokmak 2 63.22 323 *e*P **P 08 36 41.2 -0.5**
TKM2 Tokmak 2 63.22 323 *e*P **P 08 36 41.2 -0.5**
KBL Kabul 63.53 312 *e*P **P 08 36 42.7 -1.2**
KBL pmax pmax
comp=Z,17nm,0.8s
KBL Kabul 63.53 312 *e*P **P 08 36 42.7 -1.2**
comp=Z,17nm,0.8s
KBL Kabul 63.53 312 ⇓P **P 08 36 42.6 -1.2**
baz=64
PETK Petropavlovsk- 63.54 22 P **P 08 36 43.7 +0.4**
PETK Petropavlovsk- 63.54 22 P **P 08 36 43.7 +0.4**
PETK Petropavlovsk- 63.54 22 P **P 08 36 43.7 +0.4**
comp=Z,11nm,0.9s,baz=182,slow=4.5,SNR=5.2
AAK Ala-Archa 63.74 322⇓ *e*P **P 08 36 46.1 +1.1**
AAK pmax pmax
comp=Z,8.0nm,0.8s
AFI Afiamalu 64.82 104 LR LR 09 03 43.9
comp=Z,238nm,18.5s,baz=265,slow=35
YAK Yakutsk 65.70 3⇑ *i*P **P 08 36 56.6 -0.6**
YAK pmax pmax
comp=Z,33nm,0.7s
ZAA0 Zalesovo Array 65.75 336 *e*P **P 08 36 56.1 -1.5**
ZALV Zalesovo Beam 65.75 336 *i*P **P 08 36 56.4 -1.3**
ZALV pmax pmax
comp=Z,15nm,0.7s
ZALV Zalesovo Beam 65.75 336 P **P 08 36 56.4 -1.3**
ZALV ⇑ *e* 09 05 38.7
ZALV Zalesovo Beam 65.75 336 P **P 08 36 56.4 -1.3**
comp=Z,14nm,0.7s,baz=129,slow=5.8,SNR=9.9
ZALV LR LR 09 03 58.8
comp=Z,732nm,20.8s,baz=68,slow=34
ZALV PKP2bc 09 05 38.7
comp=Z,0.5nm,0.4s,baz=289,slow=4.4,SNR=4.2
KURK Kurchatov 66.28 331 *d i*P **P 08 37 00.4 -0.7**
KURK pmax pmax
comp=Z,29nm,1.1s
KURK Kurchatov 66.28 331 *e*P **P 08 37 00.6 -0.5**
comp=Z,24nm,1.0s
KURK Kurchatov 66.28 331 P **P 08 37 00.6 -0.5**
comp=Z,257nm,0.9s,SNR=7.0
SEY Seymchan 69.98 14⇑ *i*P **P 08 37 24.8 +0.7**
FX1 Attu Island--F 70.18 30 P **P 08 37 25.1 -0.5**
FX1 Attu Island--F 70.18 30 P **P 08 37 25.1 -0.5**
comp=Z,14nm,0.8s,baz=202,slow=5.4,SNR=3.3
VOSK Vostochnaya 71.28 329 *e*P **P 08 37 31.1 -1.2**
VOSK pmax pmax
comp=Z,14nm,0.8s
VOSK Vostochnaya 71.28 329 *e*P **P 08 37 31.1 -1.2**
comp=Z,14nm,0.8s
BVAR Borovoye Array 71.75 330 P **P 08 37 34.3 -0.8**
BVAR Borovoye Array 71.75 330 P **P 08 37 34.3 -0.8**
BVAR Borovoye Array 71.75 330 P **P 08 37 34.3 -0.8**
comp=Z,14nm,0.8s,baz=141,slow=9.6,SNR=9.8
BRVK Borovoye 71.82 330⇑ *i*P **P 08 37 35.2 -0.4**
BRVK pmax pmax
comp=Z,23nm,1.0s
BRVK Borovoye 71.82 330 *e*P **P 08 37 35.1 -0.4**
comp=Z,76nm,1.4s
BRVK Borovoye 71.82 330 P **P 08 37 34.8 -0.7**
comp=Z,192nm,1.1s,SNR=7.5
TIXI Tiksi 75.27 2⇑ *i*P **P 08 37 54.2 -1.2**
TIXI pmax pmax
comp=Z,26nm,1.1s
MAW Mawson 75.66 200 P **P 08 37 57.9 +0.1**
MAW Mawson 75.66 200 P **P 08 37 57.9 +0.1**
comp=Z,17nm,1.2s,baz=57,slow=7.9,SNR=8.6
ABKAR Akbulak array 75.78 323 *e*P **P 08 37 58.2 -0.7**
VNDA Vanda 76.60 172 P **P 08 38 02.3 -0.7**
VNDA Vanda 76.60 172 P **P 08 38 02.3 -0.7**
comp=Z,8.0nm,0.7s,baz=306,slow=6.4,SNR=11
VNDA LR LR 09 08 45.4
comp=Z,2μm,21.8s,baz=324,slow=33
AKTO Aktyubinsk 77.39 323 P **P 08 38 05.6 -2.3**
AKTO Aktyubinsk 77.39 323 P **P 08 38 05.6 -2.3**
AKTO Aktyubinsk 77.39 323 P **P 08 38 05.6 -2.3**
comp=Z,7.4nm,0.8s,baz=115,slow=6.0,SNR=7.4
SBA Scott Base 77.56 171 *e*P **P 08 38 08.5 +0.1**
SBA pmax pmax
comp=Z,42nm,1.3s
SBA Scott Base 77.56 171 *e*P **P 08 38 08.5 +0.1**
comp=Z,42nm,1.3s
KBD Kabd 79.24 300 *e*P **P 08 38 17.5 -1.2**
ARU Arti 79.39 329⇑ *e*P **P 08 38 18.1 -0.7**
ARU pmax pmax
comp=Z,22nm,1.1s
ARU Arti 79.39 329 P **P 08 38 17.7 -1.1**
comp=Z,89nm,1.4s,SNR=5.2
NAY Al-Naaiem 79.64 300 *e*P **P 08 38 19.1 -1.7**
NAY AMb AMB 08 38 23.2
comp=Z,31nm,1.4s
RST Umm Al-Ruwaisa 79.90 301 *e*P **P 08 38 20.9 -1.4**
RST AMb AMB 08 38 29.0
comp=Z,554nm,0.8s
RAYN Ar Rayn 80.27 294 *e*P **P 08 38 24.0 -0.4**
comp=Z,21nm,1.4s
AKUT Akutan 81.94 34 *e*P **P 08 38 32.6 +0.1**
comp=Z,164nm,1.4s
SYO Syowa Base 84.33 201⇓ *e*P **P 08 38 43.0 -1.6**
KBZ Khabaz 85.57 314 P **P 08 38 50.7 -0.6**
KBZ Khabaz 85.57 314 P **P 08 38 50.7 -0.6**
KBZ Khabaz 85.57 314 P **P 08 38 50.7 -0.6**
comp=Z,8.6nm,0.9s,baz=161,slow=6.9,SNR=8.1
KBZ LR LR 09 22 42.6
comp=Z,331nm,20.6s,baz=92,slow=40
KIV Kislovodsk 85.75 314 *e*P **P 08 38 52.3 -0.1**
KIV pmax pmax
comp=Z,8.0nm,1.2s
KMBO Kilima Mbogo 85.95 269 *e*P **P 08 38 55.0 +0.8**
KMBO Kilima Mbogo 85.95 269 P **P 08 38 53.5 -0.7**
comp=Z,5.2nm,1.0s,baz=47,slow=6.4,SNR=6.6
PPT Papeete 86.20 107 LR LR 09 14 05.6
comp=Z,282nm,19.4s,baz=357,slow=33
QSPA South Pole Qui 86.29 180 *e*P **P 08 38 53.8 -0.8**
comp=Z,46nm,1.1s
CHGN Chignik 86.57 33 *e*P **P 08 38 54.8 -1.2**
ASF Jabal al Asfar 88.86 302 P **P 08 39 08.0 +0.3**
ASF Jabal al Asfar 88.86 302 P **P 08 39 08.0 +0.3**
comp=Z,2.3nm,0.8s,baz=121,slow=3.9,SNR=3.3
SVW2 Sparrevohn 88.91 29 *e*P **P 08 39 06.6 -0.5**
comp=Z,110nm,2.8s
OHAK Old Harbor 89.50 33 *e*P **P 08 39 09.8 -0.1**
comp=Z,67nm,1.9s
IM04 Indian Mountai 90.45 24 *e*P **P 08 39 13.5 -0.7**
IMA2 Indian Mountai 90.50 24 *e*P **P 08 39 14.1 -0.5**
SPU Mount Spurr 90.62 29 *e*P **P 08 39 14.3 -0.8**
PPLA Purkeypile 90.75 27 *e*P **P 08 39 15.1 -0.8**
comp=Z,74nm,1.9s
OBN Obninsk 91.09 325⇑ *i*P **P 08 39 17.2 -0.2**
OBN *i* 08 39 29.6
OBN pmax pmax
comp=Z,7.0nm,0.8s
BPAW Bear Paw Mtn. 91.41 26 *e*P **P 08 39 17.8 -1.0**
comp=Z,33nm,2.0s
TRF Thorofare Moun 91.66 27 *e*P **P 08 39 19.4 -0.7**
comp=Z,73nm,2.2s
RC01 Rabbit Creek A 91.73 29 *e*P **P 08 39 19.2 -1.0**
comp=Z,20nm,1.3s
SEW Seward 91.79 30 *e*P **P 08 39 20.0 -0.6**
comp=Z,44nm,1.7s
COLD Coldfoot 92.01 23 *e*P **P 08 39 21.0 -0.4**
comp=Z,10nm,1.1s
BRTR Keskin Array B 92.03 309 P **P 08 39 21.0 -1.3**
BRTR Keskin Array B 92.03 309 P **P 08 39 21.0 -1.3**
comp=Z,3.7nm,1.1s,baz=103,slow=3.9,SNR=5.2
BRTR LR LR 09 27 53.8
comp=Z,264nm,20.3s,baz=102,slow=40
PMR Palmer 92.05 29 *e*P **P 08 39 20.7 -1.0**
PMR pmax pmax
comp=Z,142nm,2.7s
PMR Palmer 92.05 29 *e*P **P 08 39 20.7 -1.0**
comp=Z,142nm,2.7s
MCK McKinley 92.28 26 *e*P **P 08 39 21.8 -1.0**
MCK pmax pmax
comp=Z,31nm,1.4s
MCK McKinley 92.28 26 *e*P **P 08 39 21.8 -1.0**
comp=Z,31nm,1.4s
ILAR Eielson Array 93.23 25 P **P 08 39 25.3 -1.8**
ILAR PKKPbc **PKKPdf 08 56 34.5 -1.6**
ILAR Eielson Array 93.23 25 P **P 08 39 25.3 -1.8**
comp=Z,1.4nm,0.9s,baz=263,slow=4.1,SNR=9.5
ILAR PKKPbc **PKKPdf 08 56 34.5 -1.6**
comp=Z,0.4nm,0.9s,baz=20,slow=3.8,SNR=4.3
PAX Paxson 93.82 27 *e*P **P 08 39 29.8 -0.2**
PAX pmax pmax
comp=Z,23nm,1.3s
PAX Paxson 93.82 27 *e*P **P 08 39 29.8 -0.2**
comp=Z,23nm,1.3s
LSZ Lusaka 93.93 254 *e*P **P 08 39 30.8 -0.8**
comp=Z,15nm,1.4s
BMRM Brenner River 94.22 29 *e*P **P 08 39 30.1 -1.8**
comp=Z,62nm,1.8s
MENT Mentasta 94.62 27 *e*P **P 08 39 33.6 0.0**
BOSA Boshof 95.28 241 P **P 08 39 36.5 -1.0**
BOSA Boshof 95.28 241 P **P 08 39 36.5 -1.0**
comp=Z,3.0nm,0.9s,baz=90,slow=12,SNR=2.0
AKASG Malin Array Be 95.38 320 LR LR 09 29 56.1
comp=Z,407nm,20.3s,baz=100,slow=40
FINES FINESS Array B 96.65 331 P **P 08 39 42.9 +0.1**
FINES FINESS Array B 96.65 331 P **P 08 39 42.9 +0.1**
comp=Z,2.6nm,0.9s,baz=98,slow=10.0,SNR=3.1
SPITS Spitsbergen Ar 97.01 349 P **P 08 39 42.3 -1.8**
SPITS Spitsbergen Ar 97.01 349 P **P 08 39 42.3 -1.8**
comp=Z,11nm,0.9s,baz=76,slow=5.2,SNR=3.5
SNAA Sanae 97.23 195 *e*P **P 08 39 45.4 0.0**
comp=Z,10nm,1.2s
HYT Haines Junctio 97.69 29 *e*P **P 08 39 47.0 -0.8**
BUR08 Bucovina Ar. S 98.14 317 *e*P **P 08 39 49.3 -0.7**
KOLS Kolonicke sedl 99.98 319 PDIF **Pdif 08 40 01.4 +3.3**
STHS Stebnicka Huta 100.60 319 PDIF **Pdif 08 40 04.7 +3.9**
PAHR Pah Rah Range 113.21 48 *e*PKiKP **PKiKP 08 44 53.0 +2.0**
NVAR Mina Array Bea 114.36 49 PKP PKPdf 08 44 53.3 -0.1
NVAR Mina Array Bea 114.36 49 PKP PKPdf 08 44 53.3 -0.1
comp=Z,0.7nm,0.8s,baz=251,slow=2.8,SNR=4.4
MSO Missoula 114.67 39 *e*PKiKP PKPdf 08 44 55.5 +1.9
EDW2 Edwards Air Fo 115.51 53 P **PKPdf 08 44 56.1 +0.6**
baz=116
FMP Fort Macarthur 115.55 54 P **PKPdf 08 44 55.9 +0.4**
baz=116
HLID Hailey 115.56 43 *e*PKiKP **PKPdf 08 44 56.6 +1.1**
HLID Hailey 115.56 43 P **PKPdf 08 44 56.0 +0.5**
baz=116
MPMC Manual Prospec 115.61 52 P **PKPdf 08 44 56.0 +0.2**
baz=116
R11A Troy Canyon, C 116.43 49 *e*PKiKP **PKiKP 08 45 00.2 +2.9**
R11A Troy Canyon, C 116.43 49 P **PKPdf 08 44 58.8 +1.5**
baz=116
EGMT Eagleton 116.75 37 P **PKPdf 08 44 57.8 +0.3**
baz=117
HEC Hector,Ludlow 116.85 53 P **PKPdf 08 44 58.6 +0.5**
baz=117
B19A Brinkman Farms 117.03 36 P **PKPdf 08 44 58.6 +0.6**
baz=117
PFO Pinyon Flat Ob 117.06 54 P **PKPdf 08 44 58.6 0.0**
baz=117
MONP Monument Peak 117.27 55 P **PKPdf 08 44 59.2 +0.1**
baz=117
C19A Slack Wire Ran 117.30 37 P **PKPdf 08 44 58.8 +0.2**
baz=117
B20A Solberg Farm, 117.58 36 P **PKPdf 08 44 58.9 -0.2**
baz=118
DVTC Desert V Tower 117.59 55 P **PKPdf 08 44 58.9 -0.7**
baz=118
D19A Cripps Ranch, 117.67 37 P **PKPdf 08 44 59.5 +0.2**
baz=118
SWSC Sam W. Stewart 117.76 55 P **PKPdf 08 44 59.9 +0.1**
baz=118
BC3 Big Chuckawall 117.86 54 P **PKPdf 08 44 59.7 -0.4**
baz=118
DUG Dugway 117.87 46 *e*PKiKP **PKPdf 08 45 02.7 +2.7**
DUG Dugway 117.87 46 *e*PKPdf **PKPdf 08 45 02.7 +2.7**
DUG Dugway 117.87 46 P **PKPdf 08 45 00.3 +0.3**
baz=118
C20A Veseth Ranch, 117.94 37 P **PKPdf 08 44 59.0 -0.7**
baz=118
A21A Bergtoll Ranch 117.95 35 P **PKPdf 08 44 59.3 -0.5**
baz=118
LOHW Long Hollow 118.10 42 *e*PKPdf **PKPdf 08 45 01.2 +0.8**
D20A Manuel Ranch, 118.15 37 P **PKPdf 08 45 00.1 -0.1**
baz=118
W13A Hualapai Mount 118.70 52 P **PKPdf 08 45 01.8 0.0**
baz=119
G20A Bridger 118.96 39 P **PKPdf 08 45 02.1 +0.2**
baz=119
PDAR Pinedale Array 119.15 42 PKP **PKPdf 08 45 00.9 -1.6**
PDAR PKKPbc **PKKPbc 08 55 17.0 -0.2**
PDAR Pinedale Array 119.15 42 PKP **PKPdf 08 45 00.9 -1.6**
comp=Z,1.5nm,1.0s,baz=266,slow=3.9,SNR=4.6
PDAR PKKPbc **PKKPbc 08 55 17.0 -0.2**
comp=Z,0.7nm,0.8s,baz=94,slow=5.9,SNR=5.1
C22A Vida 119.17 36 P **PKPdf 08 45 02.7 +0.5**
baz=119
D22A Cohagen 119.30 36 P **PKPdf 08 45 02.9 +0.5**
baz=119
H20A Greybull 119.43 40 P **PKPdf 08 45 02.8 0.0**
baz=119
LAO LASA Array 119.50 37 *e*PKPdf **PKPdf 08 45 03.0 +0.2**
I20A Worland 119.58 40 P **PKPdf 08 45 02.7 -0.4**
baz=120
E22A Miles City 119.78 37 P **PKPdf 08 45 02.7 -0.6**
baz=120
J20A Shoshoni 119.88 41 P **PKPdf 08 45 04.1 +0.4**
baz=120
SRU San Rafael 119.91 46 *e*PKiKP **PKPdf 08 45 04.2 +0.2**
SRU San Rafael 119.91 46 *e*PKPdf **PKPdf 08 45 04.2 +0.2**
E23A Ismay 120.14 37 P **PKPdf 08 45 04.0 0.0**
baz=120
I21A Big Trails, Te 120.19 40 P **PKPdf 08 45 03.8 -0.6**
baz=120
J21A Lysite 120.30 41 P **PKPdf 08 45 04.0 -0.7**
baz=120
O19A Miners Draw (B 120.45 45 P **PKPdf 08 45 05.0 0.0**
baz=120
F23A Volborg 120.47 38 P **PKPdf 08 45 04.5 -0.2**
baz=120
WUAZ Wupatki 120.52 51 *e*PKPdf **PKPdf 08 45 06.1 +0.9**
WUAZ Wupatki 120.52 51 P **PKPdf 08 45 06.0 +0.7**
baz=120
I22A 9 Mile Ranch, 120.67 40 P **PKPdf 08 45 05.7 +0.5**
baz=121
E24A Baker 120.70 36 P **PKPdf 08 45 05.6 +0.4**
baz=121
A26A Wade Farm, Ken 120.73 33 P **PKPdf 08 45 05.6 +0.5**
baz=121
G23A Biddle 120.73 38 P **PKPdf 08 45 05.6 +0.4**
baz=121
K21A Alcova 120.74 42 P **PKPdf 08 45 05.4 -0.1**
baz=121
P19A Cripple Cowboy 120.81 45 P **PKPdf 08 45 05.9 +0.1**
baz=121
X16A Lo Mia Camp, P 120.83 52 P **PKPdf 08 45 06.7 +0.8**
baz=121
N20A Spence Gulch, 120.83 44 P **PKPdf 08 45 06.1 +0.3**
baz=121
J22A Midwest 120.89 40 P **PKPdf 08 45 05.2 -0.5**
baz=121
F24A Ekalaka 120.99 37 P **PKPdf 08 45 05.7 -0.1**
baz=121
O20A White River Ci 121.13 45 *e*PKPdf **PKPdf 08 45 07.0 +0.7**
O20A White River Ci 121.13 45 P **PKPdf 08 45 06.1 -0.3**
baz=121
PV09 Paradox Valley 121.14 47 *e*PKPdf **PKPdf 08 45 09.6 +3.0**
K22A Casper 121.21 41 *e*PKPdf **PKPdf 08 45 07.5 +1.1**
K22A Casper 121.21 41 P **PKPdf 08 45 05.9 -0.5**
baz=121
P20A De Beque 121.28 45 P **PKPdf 08 45 06.6 0.0**
baz=121
H24A Dirks Ranch, A 121.47 38 P **PKPdf 08 45 06.0 -0.7**
baz=121
TORD Torodi Ar. Bea 121.56 283 PKP **PKPdf 08 45 06.9 -0.6**
TORD Torodi Ar. Bea 121.56 283 PKP **PKPdf 08 45 06.9 -0.6**
comp=Z,1.4nm,1.0s,baz=59,slow=1.9,SNR=3.1
Q20A Ridgley Place, 121.57 46 P **PKPdf 08 45 07.5 +0.3**
baz=122
PV15 Paradox Valley 121.68 47 *e*PKPdf **PKPdf 08 45 08.9 +1.4**
PV01 Paradox Valley 121.69 47 *e*PKPdf **PKPdf 08 45 08.2 +0.7**
E26A Carlson Angus 121.83 36 P **PKPdf 08 45 07.6 +0.3**
baz=122
TUC Tucson 122.00 54 *e*PKPdf **PKPdf 08 45 07.8 -0.3**
MVCO Mesa Verde 122.10 48 *e*PKPdf **PKPdf 08 45 09.4 +1.1**
MVCO Mesa Verde 122.10 48 P **PKPdf 08 45 09.0 +0.7**
baz=122
RSSD Black Hills 122.11 39 *e*PKPdf **PKPdf 08 45 07.6 -0.5**
Q21A Lamborn Mesa, 122.13 46 P **PKPdf 08 45 09.0 +0.7**
baz=122
G27A Dupree 122.14 37 P **PKPdf 08 45 08.9 +1.0**
baz=123
K24A Anderson Ranch 122.29 40 P **PKPdf 08 45 08.8 +0.4**
baz=122
G26A Maurine 122.38 37 P **PKPdf 08 45 08.2 -0.2**
baz=122
S21A Coal Bank Pass 122.44 47 P **PKPdf 08 45 10.4 +1.3**
baz=122
Q22A Crested Butte, 122.59 45 P **PKPdf 08 45 10.0 +0.6**
baz=122
H26A Fairpoint 122.63 38 P **PKPdf 08 45 09.4 +0.5**
baz=122
O23A Lake Granby, G 122.71 44 P **PKPdf 08 45 09.7 +0.2**
baz=123
W20A Ramah 122.86 50 P **PKPdf 08 45 10.3 +0.5**
baz=123
T21A Navajo Lake 122.89 48 P **PKPdf 08 45 11.0 +1.2**
baz=123
R22A Saguache, Gunn 122.97 46 P **PKPdf 08 45 10.6 +0.5**
baz=123
U21A Nageezi 123.02 48 P **PKPdf 08 45 11.1 +1.0**
baz=123
H27A Howes 123.05 37 P **PKPdf 08 45 09.4 -0.3**
baz=123
S22A 4UR Ranch, Cre 123.11 47 P **PKPdf 08 45 11.2 +0.9**
baz=123
I27A Quinn 123.36 38 P **PKPdf 08 45 09.8 -0.5**
baz=123
Y20A Horse Springs, 123.39 51 P **PKPdf 08 45 11.8 +0.9**
baz=123
Z20A Nine Sixteen R 123.49 52 P **PKPdf 08 45 11.6 +0.6**
baz=123
319A Douglas 123.50 55 P **PKPdf 08 45 11.5 +0.4**
baz=124
U22A Llaves 123.64 48 P **PKPdf 08 45 12.3 +0.9**
baz=124
R23A Moffat 123.65 46 P **PKPdf 08 45 12.2 +0.8**
baz=124
120A U Bar Ranch, L 123.65 53 P **PKPdf 08 45 12.4 +1.1**
baz=124
X21A Alamocita Cree 123.66 51 P **PKPdf 08 45 12.5 +1.1**
baz=124
V22A San Miguel Ran 123.78 49 P **PKPdf 08 45 13.0 +1.4**
baz=124
Y21A Point of Rocks 123.90 51 P **PKPdf 08 45 13.1 +1.2**
baz=124
220A Playas Peak, P 123.95 54 P **PKPdf 08 45 12.5 +0.6**
baz=124
T23A Casias Ranch, 123.97 47 P **PKPdf 08 45 12.7 +0.7**
baz=124
320A Kipp Ranch, An 124.13 54 P **PKPdf 08 45 12.9 +0.6**
baz=124
R24A Sanders Place, 124.14 45 P **PKPdf 08 45 12.8 +0.6**
baz=124
U23A El Rito 124.15 48 P **PKPdf 08 45 13.4 +1.1**
baz=124
LAZ Ladron 124.17 50 *e*PKPdf **PKPdf 08 45 13.3 +1.0**
J28A Allard Ranch, 124.20 38 P **PKPdf 08 45 12.2 +0.3**
baz=124
X22A Bernardo 124.23 50 P **PKPdf 08 45 13.5 +1.1**
baz=124
121A Cookes Peak, D 124.33 53 P **PKPdf 08 45 13.7 +1.0**
baz=124
Q25A Bedland, Calha 124.44 44 P **PKPdf 08 45 12.7 -0.1**
baz=124
I29A Vivian Onida 124.45 37 P **PKPdf 08 45 12.0 -0.4**
baz=124
Y22A Socorro 124.48 51 P **PKPdf 08 45 13.3 +0.4**
baz=124
ANMO Albuquerque 124.49 49 PKP **PKPdf 08 45 13.5 +0.6**
ANMO *e*PKPdf **PKiKP 08 45 13.8 +0.5**
ANMO Albuquerque 124.49 49 PKP **PKPdf 08 45 13.5 +0.6**
comp=Z,4.9nm,1.0s,baz=204,slow=2.6,SNR=8.9
G30A Faulkton 124.50 35 P **PKPdf 08 45 12.4 0.0**
baz=124
LPM Los Pinos Moun 124.59 50 *e*PKPdf **PKPdf 08 45 13.9 +0.7**
W23A Werner Place, 124.64 49 P **PKPdf 08 45 14.0 +0.7**
baz=125
BNM Barren Site 124.66 50 *e*PKPdf **PKPdf 08 45 14.2 +0.9**
Z22A Elephant Butte 124.72 52 P **PKPdf 08 45 13.6 +0.2**
baz=125
R25A Fountain Ranch 124.76 45 P **PKPdf 08 45 13.5 +0.2**
baz=125
P26A Davis Ranch, A 124.77 43 P **PKPdf 08 45 13.6 +0.3**
baz=125
J29A Okreek 124.77 38 P **PKPdf 08 45 12.8 -0.2**
baz=125
S25A Robets Cordova 124.87 46 P **PKPdf 08 45 14.7 +1.1**
baz=125
122A Conniff Cattle 124.89 52 P **PKPdf 08 45 14.7 +1.0**
baz=125
Q26A Hugo 124.95 44 P **PKPdf 08 45 14.3 +0.6**
baz=125
V24A Rampart Ranch, 125.07 48 P **PKPdf 08 45 14.9 +0.8**
baz=125
T25A Trinidad 125.11 46 P **PKPdf 08 45 14.7 +0.6**
baz=125
W24A Lazy 6 Ranch, 125.18 49 P **PKPdf 08 45 15.3 +1.0**
baz=125
Y23A Lovelace Mesa, 125.18 50 P **PKPdf 08 45 15.0 +0.7**
baz=125
P27A Ficken Ranch, 125.29 43 P **PKPdf 08 45 14.8 +0.6**
baz=125
J30A Dallas 125.32 37 P **PKPdf 08 45 15.0 +1.0**
baz=125
U25A Circle Dot Ran 125.43 47 P **PKPdf 08 45 15.3 +0.6**
baz=125
V25A Rancho No Teng 125.51 48 P **PKPdf 08 45 15.4 +0.5**
baz=125
S26A Kim 125.57 45 P **PKPdf 08 45 14.4 -0.4**
baz=126
Y24A Capitan 125.66 50 P **PKPdf 08 45 15.4 +0.2**
baz=126
T26A Comanche Natio 125.68 46 P **PKPdf 08 45 15.4 +0.2**
baz=126
P28A Saint Francis 125.84 42 P **PKPdf 08 45 15.2 -0.1**
baz=126
W25A X Bar L Ranch, 125.88 48 P **PKPdf 08 45 16.2 +0.7**
baz=126
U26A Atchley Ranch, 125.92 47 P **PKPdf 08 45 16.8 +1.1**
baz=126
Z24A Sheeppen Canyo 125.94 51 P **PKPdf 08 45 16.7 +1.0**
baz=126
Q28A Sharon Springs 126.04 43 P **PKPdf 08 45 16.2 +0.6**
baz=126
124A Stringfield Ra 126.11 52 P **PKPdf 08 45 17.2 +1.0**
baz=126
Y25A Mesa, Roswell 126.23 50 P **PKPdf 08 45 16.8 +0.6**
baz=126
224A Cornudas Mount 126.28 52 P **PKPdf 08 45 16.8 +0.4**
baz=126
T27A Campo 126.36 46 P **PKPdf 08 45 16.6 +0.2**
baz=126
L31A Butterfield Fa 126.36 38 P **PKPdf 08 45 16.3 +0.2**
baz=126
R28A Tribune 126.40 44 P **PKPdf 08 45 17.6 +1.2**
baz=126
W26A Owens Ranch, T 126.45 48 P **PKPdf 08 45 17.9 +1.3**
baz=126
Z25A Roswell 126.46 51 P **PKPdf 08 45 17.6 +1.0**
baz=126
324A Moseley Ranch, 126.54 53 P **PKPdf 08 45 17.8 +0.9**
baz=126
U27A Thompson Grove 126.57 46 P **PKPdf 08 45 17.3 +0.5**
baz=126
X26A CR and CF Fran 126.64 49 P **PKPdf 08 45 16.8 -0.2**
baz=127
Q29A Oakley 126.70 43 P **PKPdf 08 45 17.1 +0.2**
baz=127
125A Gardner Draw, 126.75 51 P **PKPdf 08 45 18.9 +1.7**
baz=127
T28A Walsh 126.76 45 P **PKPdf 08 45 17.6 +0.5**
baz=127
ECSD EROS Data Cent 126.79 35 *e*PKPdf **PKPdf 08 45 17.1 +0.3**
225A Deer Hill, Car 126.82 52 P **PKPdf 08 45 18.3 +0.9**
baz=127
325A Bean Ranch, Si 126.98 53 P **PKPdf 08 45 18.0 +0.2**
baz=127
W27A Bowe Ranch, En 126.99 48 P **PKPdf 08 45 18.6 +1.0**
baz=127
Q30A Quinter 127.17 42 P **PKPdf 08 45 17.5 -0.2**

	baz=127							
425A	**Indio Mountain**	**127.17**	**54**	P		**PKPdf**	**08 45 18.3**	**+0.1**
	baz=127							
BGNE	**Belgrade**	**127.22**	**39**	P		**PKPdf**	**08 45 17.9**	**+0.1**
	baz=127							
226B	**Tecolote Peak,**	**127.35**	**52**	P		**PKPdf**	**08 45 18.4**	**0.0**
	baz=127							
Y27A	**Causey**	**127.41**	**49**	P		**PKPdf**	**08 45 18.6**	**+0.1**
	baz=127							
Z27A	**Tatum**	**127.60**	**50**	P		**PKPdf**	**08 45 19.4**	**+0.6**
	baz=128							
MSTX	**Muleshoe**	**127.67**	**49**	*e*PKPdf		**PKPdf**	**08 45 21.2**	**+2.3**
MSTX	**Muleshoe**	**127.67**	**49**	P		**PKPdf**	**08 45 19.7**	**+0.8**
	baz=128							
326A	**Caldwell Ranch**	**127.78**	**53**	P		**PKPdf**	**08 45 19.9**	**+0.7**
	baz=128							
X28A	**Dimmitt**	**127.86**	**48**	P		**PKPdf**	**08 45 19.9**	**+0.6**
	baz=128							
P32A	**Huiting Farm,**	**127.91**	**41**	P		**PKPdf**	**08 45 19.4**	**+0.3**
	baz=128							
R31A	**Burdett**	**127.99**	**43**	P		**PKPdf**	**08 45 20.0**	**+0.7**
	baz=128							
U30A	**WK&E Inc. Balk**	**128.07**	**45**	P		**PKPdf**	**08 45 20.3**	**+0.7**
	baz=128							
Y28A	**McKinney Farm,**	**128.09**	**49**	P		**PKPdf**	**08 45 20.2**	**+0.5**
	baz=128							
526A	**Mary Lane Ranc**	**128.16**	**54**	P		**PKPdf**	**08 45 20.3**	**+0.3**
	baz=128							
Z28A	**Tucker Farm, M**	**128.24**	**50**	P		**PKPdf**	**08 45 20.2**	**+0.1**
	baz=128							
626A	**Big Bend Ranch**	**128.30**	**55**	P		**PKPdf**	**08 45 20.8**	**+0.5**
	baz=128							
SCHQ	**Schefferville**	**128.34**	**7**	PKP		**PKPdf**	**08 45 19.7**	**+0.2**
SCHQ	**Schefferville**	**128.34**	**7**	PKP		**PKPdf**	**08 45 19.7**	**+0.2**
	comp=Z,5.0nm,0.9s,baz=270,slow=5.1,SNR=3.4							
427A	**Hayter Ranch,**	**128.42**	**53**	P		**PKPdf**	**08 45 21.3**	**+0.8**
	baz=128							
128A	**Castleberry Fa**	**128.44**	**51**	P		**PKPdf**	**08 45 22.3**	**+1.9**
	baz=128							
527A	**Woodward Ranch**	**128.51**	**54**	P		**PKPdf**	**08 45 20.8**	**+0.1**
	baz=128							
Y29A	**Porterfield Fa**	**128.54**	**49**	P		**PKPdf**	**08 45 20.5**	**0.0**
	baz=128							
328A	**Wristen Ranch,**	**128.68**	**52**	P		**PKPdf**	**08 45 20.9**	**0.0**
	baz=129							
TXAR	**Lajitas Array**	**128.76**	**55**	PKP		**PKPdf**	**08 45 20.9**	**-0.2**
TXAR	**Lajitas Array**	**128.76**	**55**	PKP		**PKPdf**	**08 45 20.9**	**-0.2**
	comp=Z,1.8nm,1.1s,baz=357,slow=0.7,SNR=4.4							
Z29A	**Hungry Hill Ra**	**128.77**	**49**	P		**PKPdf**	**08 45 20.7**	**-0.3**
	baz=129							
X30A	**Coker Ranch, T**	**128.88**	**48**	P		**PKPdf**	**08 45 21.5**	**+0.4**
	baz=129							
129A	**Stewart Farms,**	**128.91**	**50**	P		**PKPdf**	**08 45 20.9**	**-0.4**
	baz=129							
627A	**Terlingua Ranc**	**128.94**	**55**	P		**PKPdf**	**08 45 21.2**	**-0.3**
	baz=129							
428A	**Kincaid Ranch,**	**129.04**	**53**	P		**PKPdf**	**08 45 21.6**	**0.0**
	baz=129							
528A	**Cox Ranch, San**	**129.17**	**54**	P		**PKPdf**	**08 45 24.1**	**+2.2**
	baz=129							
Z30A	**Sanderson Ranc**	**129.20**	**49**	P		**PKPdf**	**08 45 22.4**	**+0.6**
	baz=129							
W31A	**Holland Ranch,**	**129.22**	**46**	P		**PKPdf**	**08 45 22.4**	**+0.6**
	baz=129							
229A	**Bryant Ranch,**	**129.23**	**51**	P		**PKPdf**	**08 45 22.3**	**+0.4**
	baz=129							
329A	**Wagon Wheel Ra**	**129.29**	**52**	P		**PKPdf**	**08 45 22.2**	**+0.1**
	baz=129							
628A	**Black Gap, Mar**	**129.34**	**54**	P		**PKPdf**	**08 45 21.7**	**-0.5**
	baz=129							
X31A	**McDonald Ranch**	**129.45**	**47**	P		**PKPdf**	**08 45 22.3**	**+0.1**
	baz=129							
KSU1	**Kansas State U**	**129.48**	**40**	*e*PKPdf		**PKPdf**	**08 45 22.3**	**+0.2**
529A	**Stev Forest Ra**	**129.64**	**53**	P		**PKPdf**	**08 45 23.0**	**+0.3**
	baz=130							
429A	**Davenport Ranc**	**129.70**	**53**	P		**PKPdf**	**08 45 23.1**	**+0.3**
	baz=130							
430A	**Baggett Ranch,**	**130.16**	**52**	P		**PKPdf**	**08 45 23.9**	**+0.2**
	baz=130							
530A	**J-C Ranch, Com**	**130.33**	**53**	P		**PKPdf**	**08 45 24.3**	**+0.3**
	baz=130							
Z32A	**Haskell**	**130.43**	**48**	P		**PKPdf**	**08 45 24.4**	**+0.3**
	baz=130							
331A	**San Angelo**	**130.58**	**51**	P		**PKPdf**	**08 45 24.7**	**+0.2**
	baz=130							
431A	**Sonora**	**130.69**	**52**	P		**PKPdf**	**08 45 24.9**	**+0.2**
	baz=131							
531A	**Rocksprings**	**130.95**	**53**	P		**PKPdf**	**08 45 25.5**	**+0.3**
	baz=131							
332A	**Millersview**	**131.08**	**51**	P		**PKPdf**	**08 45 25.5**	**+0.1**
	baz=131							
631A	**Perdido Creek**	**131.23**	**53**	P		**PKPdf**	**08 45 25.9**	**+0.2**
	baz=131							
432A	**Menard**	**131.25**	**51**	P		**PKPdf**	**08 45 25.4**	**-0.4**
	baz=131							
JCT	**Junction City**	**131.41**	**52**	*e*PKIKP		**PKPdf**	**08 45 25.9**	**-0.1**
JCT	**Junction City**	**131.41**	**52**	*e*PKPdf		**PKPdf**	**08 45 25.9**	**-0.1**
JCT	**Junction City**	**131.41**	**52**	P		**PKPdf**	**08 45 25.5**	**-0.6**
	baz=131							
532A	**Rocksprings**	**131.48**	**52**	P		**PKPdf**	**08 45 25.8**	**-0.4**
	baz=131							
MIAR	**Mount Ida**	**134.04**	**44**	*e*PKIKP		**PKPdf**	**08 45 32.9**	**+2.0**
MIAR	**Mount Ida**	**134.04**	**44**	*e*PKPdf		**PKPdf**	**08 45 32.9**	**+2.0**
LCO	**Las Campanas**	**144.85**	**158**	*e*PKPdf		PKPbc	08 45 50.2	+0.1
CPUP	**Villa Florida**	**150.17**	**179**	*e*PKPbc		**PKPbc**	**08 46 04.7**	**+0.1**
CPUP	**Villa Florida**	**150.17**	**179**	PKPbc		**PKPbc**	**08 46 04.4**	**-0.2**
	comp=Z,38nm,1.0s,baz=162,slow=3.3,SNR=10							
JTS	**JuntasAbangare**	**151.25**	**75**	*e*PKPbc		**PKPbc**	**08 46 09.4**	**+1.9**
LVC	**Limon Verde**	**151.30**	**156**	*e*PKPbc		**PKPbc**	**08 46 08.0**	**+0.3**
LPAZ	**La Paz**	**157.19**	**151**	PKP		**PKPdf**	**08 46 11.2**	**+0.7**
LPAZ				PKPab		**PKPab**	**08 46 41.4**	**+0.3**
LPAZ	**La Paz**	**157.19**	**151**	PKP		**PKPdf**	**08 46 11.2**	**+0.7**
	comp=Z,2.0nm,1.0s,baz=94,slow=3.7,SNR=2.6							
LPAZ				PKPab		**PKPab**	**08 46 41.4**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=138,slow=2.0,SNR=5.6							
BDFB	**Brasilia**	**158.96**	**204**	PKP		**PKPdf**	**08 46 11.9**	**-0.2**
BDFB				PKPab		**PKPab**	**08 46 47.4**	**-0.7**
BDFB				*e*PKPab		PKPab	08 46 50.0	+1.9
BDFB	**Brasilia**	**158.96**	**204**	PKP		**PKPdf**	**08 46 11.9**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=168,slow=2.0,SNR=1.9							
BDFB				PKPab		**PKPab**	**08 46 47.4**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=173,slow=3.3,SNR=3.1							
ROSC	**El Rosal**	**162.41**	**86**	PKP		**PKPdf**	**08 46 16.9**	**+0.6**
ROSC				PKPab		**PKPab**	**08 47 04.8**	**+0.9**
ROSC	**El Rosal**	**162.41**	**86**	PKP		**PKPdf**	**08 46 16.9**	**+0.6**
	comp=Z,1.3nm,0.4s,baz=253,slow=8.4,SNR=2.2							
ROSC				PKPab		**PKPab**	**08 47 04.8**	**+0.9**
	comp=Z,6.9nm,0.9s,baz=111,slow=4.0,SNR=5.9							

IDC 18 08:53:36.8±1.9, 10°74S×164°87E, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.6/19, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=54.2km s-min=33.7km az=127.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**11.37**	**173**	Pn	Pn	08 56 20.5	-0.2
	0.3nm,0.3s,baz=306,slow=8.7,SNR=3.8						
CTA	**Charters Tower**	**20.19**	**240**	P	Pn	08 58 16.4	+1.3
	7.0nm,0.9s,baz=70,slow=13,SNR=4.2						
H11S2	**WAKE ISLAND Hy**	**29.10**	**4**	T	T	09 30 09.2	
	baz=171						
H11S3	**WAKE ISLAND Hy**	**29.10**	**4**	T	T	09 30 15.0	
	baz=171,SNR=4.3						
H11S1	**WAKE ISLAND Hy**	**29.12**	**4**	T	T	09 30 14.3	
	baz=171						
H11N1	**WAKE ISLAND Hy**	**30.33**	**4**	T	T	09 31 43.4	
	baz=182						
H11N3	**WAKE ISLAND Hy**	**30.33**	**4**	T	T	09 31 48.8	
	baz=182						
H11N2	**WAKE ISLAND Hy**	**30.34**	**4**	T	T	09 31 44.5	
	baz=182						
WRA	**Warramunga Arr**	**30.79**	**249**	P	P	08 59 54.5	+0.1
	0.7nm,0.9s,baz=79,slow=8.7,SNR=4.0						
ASAR	**Alice Springs**	**32.17**	**242**	P	P	09 00 06.5	-0.2
	0.8nm,1.0s,baz=68,slow=10,SNR=7.3						
ILAR	**Eielson Array**	**83.50**	**19**	P	P	09 06 06.2	0.0
	0.3nm,0.7s,baz=231,slow=6.9,SNR=4.3						

IDC 18 08:58:21.4±0.9, 5°90S×151°52E, h0km, mb3.9/10, mb1 4.1/11, mb1mx4.0/17, mbtmp3.9/11, ML3.1/1, Error ellipse: s-maj=34.5km s-min=18.3km az=113.0
ISCJB 18 08:58:26.7±0.6, 5°93S±0°09×151°3E±0°1, h41km, mb3.7/11, Error ellipse: s-maj=17.3km s-min=9.4km az=36.8
AUST 18 08:58:41.5, 7°14S×150°67E, h35km

ISC 18 08:58:28.0±0.7, 6°0S±0°1×151°4E±0°1, h41km, n25, σ1s16/24, mb3.7/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.37**	**231**	Pn	**Pn**	**08 59 47.5**	**+1.9**
	4.2nm,0.3s,baz=46,slow=9.6,SNR=12						
PMG				Sn	**Sn**	**09 00 46.1**	**-0.1**
	6.6nm,0.3s,baz=148,slow=23,SNR=6.4						
CTA	**Charters Tower**	**14.86**	**199**	Pn	**Pn**	**09 01 52.4**	**-3.0**
	0.1nm,0.3s,baz=337,slow=15,SNR=2.7						
KDU	**Kakadu**	**19.78**	**249**	P	**Pn**	**09 02 55.3**	**-1.4**
	baz=19,SNR=4.9						
RMQ	**Roma**	**20.52**	**187**	P	Pn	09 03 04.5	-0.8
	baz=19,SNR=6.3						
MTN	**Manton Dam**	**21.07**	**250**	P	P	09 03 15.4	+6.4
	baz=20,SNR=3.5						
QLP	**Quilpie**	**21.57**	**198**	P	**P**	**09 03 15.7**	**+1.6**
	baz=20,SNR=5.5						
WRA	**Warramunga Arr**	**21.59**	**228**	P	**P**	**09 03 14.2**	**-0.2**
	3.1nm,0.6s,baz=54,slow=11,SNR=22						
KNRA	**Kununurra**	**24.17**	**245**	P	**P**	**09 03 41.4**	**+0.8**
	baz=23,SNR=3.5						
ASAR	**Alice Springs**	**24.31**	**222**	P	**P**	**09 03 42.3**	**+0.4**
	0.5nm,0.6s,baz=57,slow=8.9,SNR=21						
CMSA	**Cobar Meteorol**	**25.96**	**191**	P	**P**	**09 03 58.2**	**+1.4**
	baz=25,SNR=5.3						
STKA	**Stephens Creek**	**27.32**	**198**	P	**P**	**09 04 09.4**	**+0.4**
	baz=26,SNR=8.0						
STKA	**Stephens Creek**	**27.32**	**198**	P	**P**	**09 04 09.0**	**0.0**
	3.4nm,0.8s,baz=12,slow=9.6,SNR=9.1						
FITZ	**Fitzroy Crossi**	**27.84**	**242**	P	**P**	**09 04 13.9**	**+0.1**
	baz=27,SNR=5.5						
FITZ	**Fitzroy Crossi**	**27.84**	**242**	P	**P**	**09 04 13.8**	**+0.1**
	3.5nm,0.6s,baz=72,slow=9.5,SNR=14						
MEEK	**Meekatharra**	**37.34**	**233**	P	**P**	**09 05 37.0**	**+0.2**
	baz=36,SNR=5.9						
SONM	**Songino Array**	**66.59**	**329**	P	**P**	**09 09 14.2**	**0.0**
	0.4nm,0.6s,baz=143,slow=5.9,SNR=3.9						
VNDA	**Vanda**	**71.69**	**178**	P	**P**	**09 09 45.8**	**+0.5**
	0.4nm,0.7s,baz=319,slow=11,SNR=3.2						
MKAR	**Makanchi Array**	**80.29**	**319**	P	**P**	**09 10 35.1**	**+0.3**
	0.1nm,0.5s,baz=106,slow=4.7,SNR=2.3						
ZALV	**Zalesovo Beam**	**81.36**	**327**	P	**P**	**09 10 38.8**	**-1.4**
	0.4nm,0.5s,baz=100,slow=7.9,SNR=2.3						
ILAR	**Eielson Array**	**83.80**	**22**	P	**P**	**09 10 51.1**	**-1.6**
	0.7nm,0.7s,baz=247,slow=4.4,SNR=15						
MAW	**Mawson**	**83.92**	**203**	P	**P**	**09 10 53.6**	**+0.3**
	0.6nm,0.4s,baz=107,slow=6.6,SNR=2.5						
NVAR	**Mina Array Bea**	**93.94**	**52**	P	**P**	**09 11 43.8**	**+1.7**
	0.1nm,0.3s,baz=255,slow=7.2,SNR=2.9						
GERES	**GERESS Array B**	**124.31**	**327**	PKP	**PKPdf**	**09 17 22.7**	**0.0**
	0.5nm,0.6s,baz=79,slow=2.0,SNR=7.3						
TORD	**Torodi Ar. Bea**	**149.28**	**286**	PKPbc	**PKPbc**	**09 18 13.4**	**0.0**
	2.5nm,0.7s,baz=85,slow=2.9,SNR=15						
BDFB	**Brasilia**	**151.18**	**138**	PKPbc	**PKPbc**	**09 18 17.7**	**-0.3**
	2.6nm,0.8s,baz=266,slow=3.2,SNR=5.2						

SKO 18 09:02:35.5, 40°78N×21°49E, h3km, M1.2, ML1.7, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIA	**Bitola**	**0.27**	**332**	*i* Pg	Pg	09 02 41.0	+0.1
BIA				*i* Sg	Sg	09 02 45.1	+0.6
VAY	**Valandovo**	**0.98**	**56**	*i* Pg	Pg	09 02 54.3	0.0
VAY				*i* Sg	Sg	09 03 01.1	-5.9
VAY				*i* Lg	Lg	09 03 11.6	
	comp=E,11nm,0.6s						
VAY				*i* Lg	Lg	09 03 15.8	
	comp=N,33nm,1.2s						

ISCJB 18 09:18:49.8±1.6, 37°3N±0°1×72°5E±0°2, h176km, mb3.3/1, Error ellipse: s-maj=26.5km s-min=15.1km az=34.0
IDC 18 09:19:00.5±6.1, 38°46N×71°12E, h205km±48km, mb3.2/1, mb1 3.0/5, mb1mx2.8/30, mbtmp3.0/5, MS3.1/1, Ms1 3.1/1, ms1mx2.8/18, Error ellipse: s-maj=123.8km s-min=40.1km az=140.0

ISC 18 09:18:50.8±1.7, 37°5N±0°1×72°66E±0°10, h176km, n8, σ3s11/10, 2C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**3.30**	**51**	Pn	**Pn**	**09 19 44.1**	**+1.1**
KSH				Sn	**Sn**	**09 20 18.8**	**-5.0**
KSH				SMN			
	71nm,0.4s						
KSH				SME			
	42nm,0.4s						
AAK	**Ala-Archa**	**5.33**	**15**	P	Pn	09 20 13.0	+3.9
	2.9nm,0.3s,baz=182,slow=2.5,SNR=24						
AAK				S	**Sn**	**09 21 12.5**	**+1.9**
	1.0nm,0.3s,baz=303,slow=22,SNR=14						
AAK				LR	LR	09 22 44.5	
	comp=Z,178nm,19.4s,baz=136,slow=46						
KK31	**Karatay Array**	**5.84**	**344**	Pn	**Pn**	**09 20 16.7**	**+1.0**
	0.6nm,0.3s,baz=160,slow=10,SNR=23						
KK31				⇑Sn	**Sn**	**09 21 18.1**	**-4.4**
	1.1nm,0.3s,baz=166,slow=22,SNR=9.7						
TKM2	**Tokmak 2**	**5.88**	**22**	⇓Pn	**Pn**	**09 20 19.2**	**+2.9**
	4.5nm,0.8s						
TKM2				⇑Sn	**Sn**	**09 21 20.8**	**-2.7**
	2.5nm,0.8s						
MKAR	**Makanchi Array**	**11.72**	**34**	P	P	09 21 42.6	+3.9
	0.1nm,0.3s,baz=207,slow=9.9,SNR=5.6						
KURBB	**Kurchatov Arra**	**13.79**	**16**	P	**P**	**09 22 02.7**	**+1.2**
	0.4nm,0.3s,baz=206,slow=9.8,SNR=4.2						
ZALV	**Zalesovo Beam**	**18.48**	**23**	P	**Pn**	**09 22 55.9**	**+0.4**
	0.3nm,0.3s,baz=209,slow=11,SNR=4.4						
TORD	**Torodi Ar. Bea**	**67.06**	**269**	P	**P**	**09 29 24.5**	**-0.9**
	0.2nm,0.4s,baz=49,slow=5.8,SNR=7.2						

IDC 18 09:19:43.7±7.2, 3°13N×127°31E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/23, mbtmp3.7/4, Error ellipse: s-maj=124.3km s-min=101.9km az=120.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.16**	**184**	P	P	09 24 30.4	-0.3
	1.9nm,0.8s,baz=18,slow=13,SNR=3.1						
WRA	**Warramunga Arr**	**23.94**	**164**	P	P	09 24 59.5	-0.3
	1.9nm,0.7s,baz=344,slow=10,SNR=17						
ASAR	**Alice Springs**	**27.40**	**167**	P	P	09 25 30.7	-0.4
	0.2nm,0.3s,baz=346,slow=8.1,SNR=10						
STKA	**Stephens Creek**	**37.37**	**160**	P	P	09 26 59.0	+0.8
	0.9nm,0.4s,baz=348,slow=8.3,SNR=4.7						

IDC 18 09:23:02.3±1.5, 1°68N×125°86E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.6/21, mbtmp3.8/5, ML3.5/1, Error ellipse: s-maj=105.8km s-min=24.2km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.65**	**181**	P	Pn	09 27 33.7	-0.5
	0.1nm,0.3s,baz=4.4,slow=11,SNR=6.4						
WRA	**Warramunga Arr**	**23.04**	**159**	P	P	09 28 08.6	-0.8
	2.8nm,0.4s,baz=336,slow=10,SNR=42						
ASAR	**Alice Springs**	**26.38**	**163**	P	P	09 28 40.5	-0.1
	0.7nm,0.5s,baz=345,slow=7.6,SNR=18						
ASAR				PcP	PcP	09 32 06.2	-0.4
	0.2nm,0.4s,baz=353,slow=2.1,SNR=5.7						
STKA	**Stephens Creek**	**36.55**	**157**	P	P	09 30 09.9	0.0
	0.8nm,0.4s,baz=349,slow=10,SNR=4.7						
MKAR	**Makanchi Array**	**58.76**	**326**	P	P	09 33 02.4	+0.2
	0.2nm,0.4s,baz=125,slow=7.5,SNR=4.0						

ATH 18 09:33:54.3, 36°01N×26°92E, h34km±6km, MD3.1/6
CSEM 18 09:33:54.6±0.2, 36°07N×26°90E, h20km, MD3.1, Error ellipse: s-maj=5.5km s-min=4.1km az=134.0
ISCJB 18 09:33:55.0±0.5, 36°04N±0°03×26°93E±0°03, h26km±5km, Error ellipse: s-maj=5.2km s-min=3.7km az=42.5
THE 18 09:33:55.2, 36°04N×26°92E, h11km±4km, ML2.9/4, Error ellipse: s-maj=4.8km s-min=0.9km az=90.0

ISC 18 09:33:55.4±1.0, 36°04N±0°02×26°96E±0°02, h27km±11km, n43, σ0s96/72, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.52**	**162**	P	**Pb**	**09 34 05.5**	**-0.5**
KARP				S	**Sb**	**09 34 13.0**	**-0.2**
KARP	**Karpathos**	**0.52**	**162**	*e*PN	**Pb**	**09 34 05.6**	**-0.5**
KARP				*e*SN	**Sb**	**09 34 13.0**	**-0.2**
KARP	**Karpathos**	**0.52**	**162**	P	**Pb**	**09 34 05.5**	**-0.5**
KARP				S	**Sb**	**09 34 13.0**	**-0.2**
NIS1	**Nisyros Isl.**	**0.58**	**17**	P	**Pb**	**09 34 07.5**	**+0.3**
NIS1				S	**Sb**	**09 34 15.3**	**+0.2**
NIS1	**Nisyros Isl.**	**0.58**	**17**	*e*PN	**Pb**	**09 34 07.4**	**+0.3**
NIS1	**Nisyros Isl.**	**0.58**	**17**	*e*Pn	**Pb**	**09 34 07.4**	**+0.3**
NIS1				S	**Sb**	**09 34 15.3**	**+0.2**
ARG	**Arkhangelos**	**0.96**	**79**	P	**Pb**	**09 34 14.1**	**+0.7**
ARG	**Arkhangelos**	**0.96**	**79**	*e*PN	**Pb**	**09 34 14.0**	**+0.7**
ARG				*e*SN	**Sn**	**09 34 27.3**	**+1.5**
ARG	**Arkhangelos**	**0.96**	**79**	*e*Pn	**Pb**	**09 34 14.0**	**+0.7**
ARG				*e*Sn	**Sn**	**09 34 27.3**	**+1.5**
BDRM	**Kayabasi**	**1.09**	**21**	*i* P	**Pn**	**09 34 12.9**	**-2.0**
BDRM				*i* S	**Sb**	**09 34 30.2**	**+0.7**
BDRM	**Kayabasi**	**1.09**	**21**	*i* P	**Pn**	**09 34 12.9**	**-2.0**
BDRM				*i* S	**Sb**	**09 34 30.2**	**+0.7**
ZKR	**Zakros**	**1.11**	**214**	P	**Pn**	**09 34 15.1**	**0.0**
ZKR				S	**Sn**	**09 34 29.5**	**0.0**
ZKR	**Zakros**	**1.11**	**214**	P	**Pn**	**09 34 15.1**	**0.0**
ZKR				S	**Sn**	**09 34 29.5**	**0.0**
SANT	**Santorini**	**1.26**	**286**	P	**Pn**	**09 34 16.6**	**-0.6**
SANT				S	**Sb**	**09 34 34.2**	**-0.1**
SANT	**Santorini**	**1.26**	**286**	P	**Pn**	**09 34 16.6**	**-0.6**
SANT				S	**Sb**	**09 34 34.2**	**-0.1**
NPS	**Neapolis**	**1.35**	**235**	P	**Pn**	**09 34 18.2**	**-0.2**
NPS				S	**Sn**	**09 34 35.3**	**-0.1**
NPS	**Neapolis**	**1.35**	**235**	*e*PN	**Pn**	**09 34 17.9**	**-0.5**
NPS				*e*SN	**Sn**	**09 34 34.5**	**-0.9**
NPS	**Neapolis**	**1.35**	**235**	*e*Pn	**Pn**	**09 34 17.9**	**-0.5**
NPS	**Neapolis**	**1.35**	**235**	P	**Pn**	**09 34 18.2**	**-0.2**
NPS				*e*Sn	**Sn**	**09 34 34.5**	**-0.9**
NPS				S	**Sn**	**09 34 35.3**	**-0.1**
LAST	**Lasithi**	**1.50**	**234**	P	**Pn**	**09 34 20.6**	**+0.1**
LAST				S	**Sn**	**09 34 39.4**	**+0.2**
LAST	**Lasithi**	**1.50**	**234**	P	**Pn**	**09 34 20.6**	**+0.1**
LAST				S	**Sn**	**09 34 39.4**	**+0.2**
APE	**Apeiranthos**	**1.54**	**312**	P	**Pn**	**09 34 20.4**	**-0.7**
APE				S	**Sn**	**09 34 39.8**	**-0.5**
APE	**Apeiranthos**	**1.54**	**312**	*e*PB	**Pn**	**09 34 20.7**	**-0.4**
APE	**Apeiranthos**	**1.54**	**312**	P	**Pn**	**09 34 20.4**	**-0.7**
APE	**Apeiranthos**	**1.54**	**312**	*e*Pb	**Pn**	**09 34 20.7**	**-0.4**
APE				S	**Sn**	**09 34 39.8**	**-0.5**
TURN	**Turunc**	**1.56**	**57**	*i* P	**Pn**	**09 34 18.6**	**-2.7**
TURN				*i* S	Sn	09 34 33.7	-6.9
TURN	**Turunc**	**1.56**	**57**	*i* P	**Pn**	**09 34 18.6**	**-2.7**
SMG	**Samos**	**1.67**	**357**	*e*PN	**Pn**	**09 34 22.4**	**-0.4**
SMG	**Samos**	**1.67**	**357**	*e*Pn	**Pn**	**09 34 22.4**	**-0.4**
GCAM	**G?zelcaml?**	**1.67**	**7**	*i* P	**Pb**	**09 34 25.1**	**-0.3**
GCAM				*i* S	**Sb**	**09 34 50.1**	**+4.1**
GCAM	**G?zelcaml?**	**1.67**	**7**	*i* P	**Pb**	**09 34 25.1**	**-0.3**
AYDN	**Tasoluk**	**1.77**	**24**	*i* P	**Pb**	**09 34 27.6**	**+0.3**
AYDN				*i* S	**Sn**	**09 34 45.3**	**-0.8**
AYDN	**Tasoluk**	**1.77**	**24**	*i* P	**Pb**	**09 34 27.6**	**+0.3**
AYDN				*i* S	**Sn**	**09 34 45.3**	**-0.8**
IDI	**Anoyia**	**1.85**	**247**	P	**Pn**	**09 34 25.0**	**-0.3**
IDI				S	**Sn**	**09 34 48.3**	**+0.4**
IDI	**Anoyia**	**1.85**	**247**	P	**Pn**	**09 34 25.0**	**-0.3**
IDI				S	**Sn**	**09 34 48.3**	**+0.4**
AKAS	**Kas**	**2.15**	**84**	*i* P	**Pn**	**09 34 30.7**	**+1.2**
AKAS				*i* S	**Sn**	**09 34 55.1**	**-0.3**
AKAS	**Kas**	**2.15**	**84**	*i* P	**Pn**	**09 34 30.7**	**+1.2**
AKAS				*i* S	**Sn**	**09 34 55.1**	**-0.3**
VAM	**Vamos**	**2.34**	**255**	*e*PB	**Pn**	**09 34 32.8**	**+0.8**
VAM	**Vamos**	**2.34**	**255**	*e*Pb	**Pn**	**09 34 32.8**	**+0.8**
GOLH	**Golhisar**	**2.41**	**60**	*i* P	**Pb**	**09 34 36.9**	**-1.1**
GOLH				*i* S	**Sb**	**09 35 08.0**	**+0.7**
GOLH	**Golhisar**	**2.41**	**60**	*i* P	**Pb**	**09 34 36.9**	**-1.1**
ANKY	**Antikythira Is**	**2.98**	**268**	*e*PN	**Pn**	**09 34 41.4**	**+0.6**
ANKY	**Antikythira Is**	**2.98**	**268**	*e*Pn	**Pn**	**09 34 41.4**	**+0.6**

IDC 18 09:39:04.6±1.7, 8°92S×124°49E, h0km, mb3.1/1, mb1 3.6/4, mb1mx3.4/19, mbtmp3.4/4, ML3.5/3, Error ellipse: s-maj=116.4km s-min=26.4km az=65.0
*AUST 18 09:39:23.7±3.3,

NEST	Nestorio	0.51	226	*e*Pb	Pg	09 49 27.6	+0.3
GRG	Griva	0.69	74	*e*PB	Pg	09 49 30.7	+0.1
GRG	Griva	0.69	74	*e*Pb	Pg	09 49 30.7	+0.1
VAY	Valandovo	0.96	55	*e*Pg	Pg	09 49 35.4	-0.5
VAY				*i* Sg	Sg	09 49 48.8	+0.5
VAY				*i* Lg	Lg	09 49 49.5	
	comp=N,6.7nm,0.6s						
VAY				*i* Lg	Lg	09 49 51.5	
	comp=E,3.2nm,0.3s						
HORT	Hortiatis	1.21	98	*e*PG	Pg	09 49 40.5	-0.1
HORT	Hortiatis	1.21	98	*e*Pg	Pg	09 49 40.5	-0.1
SOH	Sokhos	1.39	87	*e*PB	Pn	09 49 43.7	-0.2
SOH	Sokhos	1.39	87	*e*Pb	Pn	09 49 43.7	-0.2
SRS	Serrai	1.60	77	*e*PB	Pb	09 49 47.8	0.0
SRS	Serrai	1.60	77	*e*Pb	Pb	09 49 47.8	0.0

IDC 18 10:00:44.7±1.5, 12°54S×165°95E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.7/19, mbtmp3.8/6, ML2.9/1, MS3.6/2, Ms1 3.6/2, ms1mx2.9/28, Error ellipse: s-maj=50.1km s-min=26.5km az=124.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	9.49	177	Pn	Pn	10 03 02.6	-0.2
	0.1nm,0.3s,baz=90,slow=23,SNR=3.7						
AFI	Afiamalu	21.72	96	LR	LR	10 12 36.2	
	comp=Z,73nm,19.3s,baz=220,slow=33						
STKA	Stephens Creek	29.52	225	P	P	10 06 51.8	+0.8
	2.6nm,0.9s,baz=32,slow=10,SNR=4.8						
WRA	Warramunga Arr	31.19	252	P	P	10 07 05.8	-0.2
	0.4nm,0.7s,baz=87,slow=10.0,SNR=3.5						
ASAR	Alice Springs	32.33	245	P	P	10 07 15.1	-0.9
	1.0nm,0.8s,baz=69,slow=9.4,SNR=18						
NWAO	Narrogin (SRO)	48.81	237	LR	LR	10 30 53.9	
	comp=Z,118nm,19.7s,baz=19,slow=37						
ILAR	Eielson Array	84.86	18	P	P	10 13 20.0	-0.9
	0.4nm,0.7s,baz=238,slow=5.1,SNR=4.7						
MKAR	Makanchi Array	94.74	317	P	P	10 14 09.1	+0.9
	0.5nm,0.8s,baz=100,slow=7.2,SNR=5.2						
ESDC	Sonseca Array	151.54	344	PKPbc	PKPbc	10 20 41.6	+0.3
	0.5nm,0.5s,baz=18,slow=3.2,SNR=4.4						

*NEIC **18** 10:14:15.6, 38°71S×176°81E, h64km, ML3.9(WEL), After WEL.*
NEIC Felt at Rotorua.

WEL 18 10:14:15.6±0.1, 38°71S×176°82E, h63km±2km, ML3.9/15, 4C-27D, Error ellipse: s-maj=0.9km s-min=0.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAHZ	Arahi	0.29	135	↑Pn	Pn	10 14 25.7	-0.3
RAHZ				SN	Sn	10 14 33.4	-0.1
RAHZ	Arahi	0.29	135	Pn	Pn	10 14 25.7	-0.3
NMHZ	Naumai	0.39	182	↑Pn	Pn	10 14 26.7	-0.1
NMHZ	Naumai	0.39	182	Pn	Pn	10 14 26.7	-0.1
PRRZ	Plateau Road	0.40	302	PN	Pn	10 14 26.2	-0.6
PRRZ	Plateau Road	0.40	302	Pn	Pn	10 14 26.2	-0.6
ALRZ	Allen Road	0.40	291	↓PN	Pn	10 14 26.4	-0.5
ALRZ				SN	Sn	10 14 34.0	-1.1
ALRZ	Allen Road	0.40	291	↓Pn	Pn	10 14 26.4	-0.5
ALRZ				Sn	Sn	10 14 34.0	-1.0
RRRZ	Republican Roa	0.44	327	↓PN	Pn	10 14 26.7	-0.5
RRRZ	Republican Roa	0.44	327	↓Pn	Pn	10 14 26.7	-0.5
URZ	Urewera	0.51	27	↓PN	Pn	10 14 27.4	-0.4
URZ				SN	Sn	10 14 36.1	-0.6
URZ				AML	AML	10 14 36.7	
URZ	Urewera	0.51	27	↓Pn	Pn	10 14 27.4	-0.4
URZ				Sn	Sn	10 14 36.1	-0.6
BKZ	Black Stump Fm	0.52	209	↑PN	Pn	10 14 27.5	-0.5
BKZ				SN	Sn	10 14 37.8	+0.6
BKZ				AML	AML	10 14 39.8	
BKZ	Black Stump Fm	0.52	209	↑Pn	Pn	10 14 27.5	-0.5
BKZ				Sn	Sn	10 14 37.8	+0.6
HRRZ	Handcock Road	0.53	307	↓PN	Pn	10 14 27.6	-0.5
HRRZ	Handcock Road	0.53	307	↓Pn	Pn	10 14 27.6	-0.5
TARZ	Mount Tarawera	0.54	332	↓PN	Pn	10 14 28.1	-0.2
TARZ	Mount Tarawera	0.54	332	↓Pn	Pn	10 14 28.1	-0.2
TARZ				Sn	Sn	10 14 38.5	+0.9
HLRZ	Highlands Stat	0.59	321	PN	Pn	10 14 28.5	-0.2
HATZ	Hinemaiaia	0.60	252	↓PN	Pn	10 14 28.2	-0.7
HATZ				SN	Sn	10 14 36.9	-1.7
HATZ	Hinemaiaia	0.60	252	↓Pn	Pn	10 14 28.2	-0.7
HATZ				Sn	Sn	10 14 36.9	-1.7
EDRZ	Edgecumbe	0.61	354	↓PN	Pn	10 14 28.7	-0.3
EDRZ	Edgecumbe	0.61	354	↓Pn	Pn	10 14 28.7	-0.3
MKRZ	Makatiti	0.64	334	PN	Pn	10 14 29.8	+0.6
MKRZ	Makatiti	0.64	334	Pn	Pn	10 14 29.8	+0.6
MWZ	Matawai	0.67	56	↓PN	Pn	10 14 29.7	+0.1
MWZ				AML	AML	10 14 43.0	
MWZ				AML	AML	10 14 43.0	
MWZ				AML	AML	10 14 45.8	
MWZ				AML	AML	10 14 45.8	
MWZ	Matawai	0.67	56	↓Pn	Pn	10 14 29.8	+0.1
MWZ				Sn	Sn	10 14 42.9	+2.9
WHTZ	Whakaora	0.68	273	↓PN	Pn	10 14 29.7	-0.1
WHTZ	Whakaora	0.68	273	↓Pn	Pn	10 14 29.7	-0.1
OMRZ	Omania	0.70	330	PN	Pn	10 14 29.5	-0.5
OMRZ	Omania	0.70	330	Pn	Pn	10 14 29.6	-0.4
UTU	Utuhina	0.73	317	↓PN	Pn	10 14 30.4	0.0
UTU	Utuhina	0.73	317	↓Pn	Pn	10 14 30.4	0.0
KNZ	Kokohu	0.73	115	PN	Pn	10 14 30.4	+0.1
KNZ	Kokohu	0.73	115	Pn	Pn	10 14 30.4	+0.1
MARZ	Manawahe	0.73	351	PN	Pn	10 14 30.5	+0.1
MARZ	Manawahe	0.73	351	Pn	Pn	10 14 30.5	+0.1
MCHZ	McNeill Hill	0.74	188	↓PN	Pn	10 14 31.3	+0.8
MCHZ	McNeill Hill	0.74	188	↓Pn	Pn	10 14 31.3	+0.8
LIRZ	Lichensteins R	0.79	334	PN	Pn	10 14 30.9	-0.1
LIRZ	Lichensteins R	0.79	334	Pn	Pn	10 14 30.9	-0.1
RITZ	Rihia Road	0.80	250	↓PN	Pn	10 14 31.1	-0.1
RITZ	Rihia Road	0.80	250	↓Pn	Pn	10 14 31.1	-0.1
KARZ	Kaharoa	0.82	326	↓PN	Pn	10 14 31.1	-0.5
KARZ	Kaharoa	0.82	326	↓Pn	Pn	10 14 31.1	-0.5
RATZ	Rangitukua	0.84	259	PN	Pn	10 14 31.3	-0.4
RATZ	Rangitukua	0.84	259	Pn	Pn	10 14 31.3	-0.4
WATZ	Wairara	0.85	270	PN	Pn	10 14 31.6	-0.3
WATZ	Wairara	0.85	270	Pn	Pn	10 14 31.6	-0.3
PRGZ	Paritu Road	0.86	105	PN	Pn	10 14 31.9	0.0
PRGZ	Paritu Road	0.86	105	Pn	Pn	10 14 31.9	0.0
OPRZ	Ohinepanea	0.89	346	PN	Pn	10 14 31.7	-0.6
OPRZ	Ohinepanea	0.89	346	Pn	Pn	10 14 32.2	-0.1
KATZ	Kakaramea	0.92	253	PN	Pn	10 14 32.7	-0.1
KATZ	Kakaramea	0.92	253	Pn	Pn	10 14 32.7	-0.1
MHGZ	Mahia Peninsul	0.95	118	PN	Pn	10 14 33.3	+0.1
MHGZ	Mahia Peninsul	0.95	118	Pn	Pn	10 14 33.3	+0.1
CKHZ	Cape Kidnapper	0.97	168	PN	Pn	10 14 33.4	+0.1
CKHZ	Cape Kidnapper	0.97	168	Pn	Pn	10 14 33.6	+0.3
BHHZ	Black Hill Sta	0.97	217	PN	Pn	10 14 33.2	-0.3
BHHZ	Black Hill Sta	0.97	217	Pn	Pn	10 14 33.2	-0.3
KRVZ	Karewarewa	1.00	247	PN	Pn	10 14 33.5	-0.3
KRVZ	Karewarewa	1.00	247	Pn	Pn	10 14 33.5	-0.3
OTVZ	Oturere	1.01	243	PN	Pn	10 14 33.8	-0.3
OTVZ	Oturere	1.01	243	Pn	Pn	10 14 33.8	-0.3
WTVZ	West Tongariro	1.04	247	PN	Pn	10 14 34.1	-0.3
WTVZ	West Tongariro	1.04	247	Pn	Pn	10 14 34.1	-0.3
NGZ	Ngauruhoe	1.06	244	PN	Pn	10 14 34.4	-0.3
NGZ	Ngauruhoe	1.06	244	Pn	Pn	10 14 34.4	-0.2
TUVZ	Tukino	1.07	238	PN	Pn	10 14 34.5	-0.3
TUVZ	Tukino	1.07	238	Pn	Pn	10 14 34.5	-0.2
TGRZ	Tauranga	1.07	336	PN	Pn	10 14 34.2	-0.4
TGRZ	Tauranga	1.07	336	Pn	Pn	10 14 34.3	-0.4
TLZ	Tolley Road	1.08	290	PN	Pn	10 14 34.5	-0.3
KAHZ	Kahuranaki	1.08	178	PN	Pn	10 14 35.0	+0.1
KAHZ	Kahuranaki	1.08	178	Pn	Pn	10 14 35.0	+0.1
MOVZ	Moawhango	1.08	230	PN	Pn	10 14 34.4	-0.5
MOVZ	Moawhango	1.08	230	Pn	Pn	10 14 34.5	-0.4
CNGZ	Carnagh Statio	1.11	79	PN	Pn	10 14 36.1	+1.0
CNGZ	Carnagh Statio	1.11	79	Pn	Pn	10 14 36.4	+1.3
WPVZ	Whakapapa	1.11	243	PN	Pn	10 14 35.1	-0.2
WPVZ	Whakapapa	1.11	243	Pn	Pn	10 14 35.1	-0.2
WHVZ	Whangaehu Hut	1.12	239	↓PN	Pn	10 14 35.2	-0.4
FWVZ	Far West T-bar	1.13	241	PN	Pn	10 14 35.3	-0.4
FWVZ	Far West T-bar	1.13	241	Pn	Pn	10 14 35.3	-0.4
DRZ	Dome Shelter	1.13	240	PN	Pn	10 14 35.4	-0.4
DRZ	Dome Shelter	1.13	240	Pn	Pn	10 14 35.4	-0.4
WNVZ	Wahianoa	1.14	237	PN	Pn	10 14 35.4	-0.3
WNVZ	Wahianoa	1.14	237	Pn	Pn	10 14 35.4	-0.3
TWVZ	Taurewa	1.14	251	PN	Pn	10 14 35.1	-0.6
TWVZ	Taurewa	1.14	251	Pn	Pn	10 14 35.1	-0.6
WIZ	White Island	1.22	14	PN	Pn	10 14 36.9	+0.4
WIZ	White Island	1.22	14	Pn	Pn	10 14 37.1	+0.5
MTVZ	Mangateitei	1.25	237	PN	Pn	10 14 36.8	-0.2
MTVZ	Mangateitei	1.25	237	Pn	Pn	10 14 36.9	-0.2
PKVZ	Pokaka	1.29	243	PN	Pn	10 14 37.4	-0.2
PKVZ	Pokaka	1.29	243	Pn	Pn	10 14 37.4	-0.1
PNHZ	Pukenui	1.29	202	PN	Pn	10 14 37.3	-0.3
PNHZ	Pukenui	1.29	202	Pn	Pn	10 14 37.3	-0.3
PUZ	Puketiti	1.30	61	PN	Pn	10 14 38.3	+0.7
PUZ				AML	AML	10 15 06.5	
PUZ				AML	AML	10 15 07.8	
PUZ	Puketiti	1.30	61	Pn	Pn	10 14 38.5	+0.9
PXZ	Pawanui	1.32	179	PN	Pn	10 14 37.2	-0.7
PXZ				AML	AML	10 15 17.2	
PXZ				AML	AML	10 15 17.3	
PXZ				AML	AML	10 15 21.0	
PXZ				AML	AML	10 15 21.0	
PXZ	Pawanui	1.32	179	Pn	Pn	10 14 37.2	-0.7
WPHZ	Waipukurau	1.38	192	PN	Pn	10 14 38.1	-0.7
WPHZ	Waipukurau	1.38	192	Pn	Pn	10 14 38.2	-0.6
TOZ	Tahuroa Road	1.43	313	PN	Pn	10 14 39.2	-0.1
TOZ	Tahuroa Road	1.43	313	Pn	Pn	10 14 39.3	0.0
TSZ	Takapari Road	1.50	206	PN	Pn	10 14 39.7	-0.7
TSZ				AML	AML	10 15 06.6	
TSZ				AML	AML	10 15 19.4	
TSZ	Takapari Road	1.50	206	Pn	Pn	10 14 39.8	-0.6
HIZ	Hauiti	1.55	277	PN	Pn	10 14 41.5	+0.5
HIZ	Hauiti	1.55	277	Pn	Pn	10 14 41.3	+0.3
PRHZ	Porangahau	1.56	185	PN	Pn	10 14 40.1	-1.0
PRHZ	Porangahau	1.56	185	Pn	Pn	10 14 40.2	-0.9
MXZ	Matakaoa Point	1.64	46	PN	Pn	10 14 43.7	+1.5
MXZ				AML	AML	10 15 12.0	
MXZ				AML	AML	10 15 18.3	
MXZ	Matakaoa Point	1.64	46	Pn	Pn	10 14 43.7	+1.5
VRZ	Vera Road	1.66	255	PN	Pn	10 14 43.0	+0.5
VRZ	Vera Road	1.66	255	Pn	Pn	10 14 43.0	+0.5
DVHZ	Dannevirke	1.67	198	PN	Pn	10 14 41.2	-1.4
DVHZ	Dannevirke	1.67	198	Pn	Pn	10 14 41.2	-1.4
WAZ	Wanganui	1.77	233	PN	Pn	10 14 44.7	+0.7
WAZ	Wanganui	1.77	233	Pn	Pn	10 14 44.6	+0.7
ANWZ	Angora Road	1.77	189	PN	Pn	10 14 42.8	-1.1
POWZ	Post Office Ro	1.87	206	PN	Pn	10 14 44.6	-0.7
POWZ	Post Office Ro	1.87	206	Pn	Pn	10 14 44.6	-0.7
PRWZ	Pori Road	1.96	199	PN	Pn	10 14 45.7	-0.8
MHEZ	Mangahewa	1.98	259	PN	Pn	10 14 48.7	+1.9
MHEZ	Mangahewa	1.98	259	Pn	Pn	10 14 48.8	+1.9
BFZ	Birch Farm	2.02	193	PN	Pn	10 14 45.5	-1.8
BFZ	Birch Farm	2.02	193	Pn	Pn	10 14 45.5	-1.8
MKAZ	Moumakai	2.07	320	PN	Pn	10 14 48.3	+0.3
KUZ	Kuaotunu	2.15	336	PN	Pn	10 14 49.0	-0.1
KUZ	Kuaotunu	2.15	336	Pn	Pn	10 14 49.0	-0.1
MRZ	Mangatainoka R	2.17	206	PN	Pn	10 14 47.8	-1.6
MRZ				AML	AML	10 15 26.8	
MRZ				AML	AML	10 15 39.5	
MRZ	Mangatainoka R	2.17	206	Pn	Pn	10 14 47.8	-1.6
TIWZ	Tintock	2.19	199	PN	Pn	10 14 48.1	-1.5
TIWZ	Tintock	2.19	199	Pn	Pn	10 14 48.1	-1.5
NEZ	North Egmont	2.20	254	PN	Pn	10 14 51.6	+1.8
NEZ	North Egmont	2.20	254	Pn	Pn	10 14 51.6	+1.8
DFE	Dawson Falls	2.20	253	PN	Pn	10 14 51.9	+1.9
DFE	Dawson Falls	2.20	253	Pn	Pn	10 14 51.9	+1.9
PKE	Pukeiti	2.26	257	PN	Pn	10 14 52.1	+1.4
PKE	Pukeiti	2.26	257	Pn	Pn	10 14 52.1	+1.4
KHEZ	Kahui Hut	2.26	254	PN	Pn	10 14 52.4	+1.7
OTAZ	Otara	2.31	319	PN	Pn	10 14 52.1	+0.8
OTAZ	Otara	2.31	319	Pn	Pn	10 14 52.5	+1.2
HOWZ	Holdsworth Sta	2.41	204	PN	Pn	10 14 50.4	-2.2
HOWZ	Holdsworth Sta	2.41	204	Pn	Pn	10 14 50.5	-2.1
MTAZ	Motutapu	2.45	321	PN	Pn	10 14 54.2	+1.1
OGWZ	Otaki Gorge	2.46	211	PN	Pn	10 14 50.8	-2.4
OGWZ	Otaki Gorge	2.46	211	Pn	Pn	10 14 50.8	-2.4
TMWZ	Te Maipa	2.50	196	PN	Pn	10 14 51.9	-1.9
TMWZ	Te Maipa	2.50	196	Pn	Pn	10 14 52.0	-1.9
KIW	Kapiti Island	2.60	214	PN	Pn	10 14 53.5	-1.8
KIW				AML	AML	10 15 34.5	
KIW				AML	AML	10 15 38.8	
KIW	Kapiti Island	2.60	214	Pn	Pn	10 14 53.7	-1.6
MTW	Mount Morrison	2.65	202	PN	Pn	10 14 53.3	-2.5
MTW				AML	AML	10 15 47.4	
MTW				AML	AML	10 16 12.5	
MTW	Mount Morrison	2.65	202	Pn	Pn	10 14 53.3	-2.5
CAW	Cannon Point	2.75	209	PN	Pn	10 14 54.9	-2.3
CAW				AML	AML	10 15 46.9	
CAW				AML	AML	10 15 47.6	
CAW	Cannon Point	2.75	209	Pn	Pn	10 14 54.0	-2.3
TRWZ	Traveller	2.82	198	PN	Pn	10 14 55.7	-2.5
TRWZ				AML	AML	10 15 32.9	
TRWZ				AML	AML	10 16 05.3	
TRWZ	Traveller	2.82	198	Pn	Pn	10 14 55.9	-2.4
PAWZ	Paruwai Farm	2.87	201	AML	AML	10 15 58.4	
DUWZ	D'Urville Isla	3.06	226	PN	Pn	10 15 04.2	+2.7
DUWZ	D'Urville Isla	3.06	226	Pn	Pn	10 15 04.2	+2.7
TCW	Tory Channel	3.17	217	PN	Pn	10 15 00.4	-2.6
TCW				AML	AML	10 15 52.7	
TCW				AML	AML	10 15 54.4	
TCW	Tory Channel	3.17	217	Pn	Pn	10 15 00.5	-2.5
TUWZ	Tuamarina	3.50	218	PN	Pn	10 15 04.6	-2.9
TUWZ				AML	AML	10 16 03.1	
TUWZ				AML	AML	10 16 04.8	
TUWZ	Tuamarina	3.50	218	Pn	Pn	10 15 04.6	-2.9
NNZ	Nelson	3.64	225	PN	Pn	10 15 07.1	-2.3
NNZ	Nelson	3.64	225	Pn	Pn	10 15 07.1	-2.3
BSWZ	Blackbirch Sta	3.75	216	PN	Pn	10 15 08.2	-2.7
BSWZ	Blackbirch Sta	3.75	216	Pn	Pn	10 15 08.2	-2.7
THZ	Tophouse	4.28	223	PN	Pn	10 15 15.7	-2.5
THZ	Tophouse	4.28	223	Pn	Pn	10 15 15.7	-2.5
DSZ	Denniston Nort	4.89	230	PN	Pn	10 15 29.2	+2.6
DSZ	Denniston Nort	4.89	230	Pn	Pn	10 15 29.5	+2.9
LTZ	Lake Taylor	5.34	219	PN	Pn	10 15 28.6	-4.1
LTZ	Lake Taylor	5.34	219	Pn	Pn	10 15 28.6	-4.0
MQZ	McQueen's Vall	5.90	211	PN	Pn	10 15 35.3	-5.0
MQZ	McQueen's Vall	5.90	211	Pn	Pn	10 15 35.3	-5.0
CTZ	Chatham Island	7.04	138	PN	Pn	10 15 55.3	-0.7
CTZ	Chatham Island	7.04	138	Pn	Pn	10 15 55.3	-0.7
ODZ	Otahua Downs	7.83	214	PN	Pn	10 16 01.4	-5.3

IDC 18 10:24:32.9±1.1, 12°23S×165°62E, h0km, mb3.9/8, mb1 4.1/10, mb1mx3.9/20, mbtmp3.9/10, ML3.7/2, MS3.6/7, Ms1 3.6/7, ms1mx3.3/32, Error ellipse: s-maj=32.2km s-min=23.2km az=133.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.23	296	Pn	Pn	10 26 05.7	-0.4
	7.6nm,0.3s,baz=60,slow=9.3,SNR=3.1						
HNR				LR	LR	10 28 11.8	
	comp=Z,364nm,21.2s,baz=88,slow=35						
DZM	Mont Dzumac	9.82	176	Pn	Pn	10 26 57.6	+2.0
	0.2nm,0.3s,baz=278,slow=23,SNR=5.1						
DZM				LR	LR	10 30 06.6	
	comp=Z,118nm,19.4s,baz=21,slow=34						
PMG	Port Moresby	18.35	277	LR	LR	10 34 46.5	
	comp=Z,177nm,18.7s,baz=101,slow=33						
AFI	Afiamalu	22.08	97	LR	LR	10 36 10.9	
	comp=Z,123nm,18.7s,baz=259,slow=32						
STKA	Stephens Creek	29.51	225	P	P	10 30 38.6	-0.5
	1.3nm,0.8s,baz=57,slow=17,SNR=2.8						
STKA				LR	LR	10 41 02.2	
	comp=Z,153nm,21.5s,baz=23,slow=34						
WRA	Warramunga Arr	30.98	252	P	P	10 30 51.4	-0.9
	1.6nm,1.1s,baz=82,slow=9.6,SNR=4.6						
ASAR	Alice Springs	32.17	245	P	P	10 31 01.9	-0.8
	1.7nm,0.9s,baz=76,slow=8.8,SNR=12						
ASAR				LR	LR	10 43 13.1	
	comp=Z,124nm,19.1s,baz=92,slow=35						
NWAO	Narrogin (SRO)	48.71	237	LR	LR	10 51 24.4	
	comp=Z,116nm,20.4s,baz=8.8,slow=33						
CMAR	Chiang Mai Arr	72.47	294	P	P	10 36 03.2	+1.4
	0.4nm,0.3s,baz=114,slow=4.3,SNR=5.8						
SONM	Songino Array	79.54	324	P	P	10 36 42.5	+0.7
	0.6nm,0.9s,baz=123,slow=5.5,SNR=4.7						
ILAR	Eielson Array	84.67	19	P	P	10 37 07.2	-1.0
	0.4nm,1.0s,baz=199,slow=4.6,SNR=4.7						
NVAR	Mina Array Bea	86.88	50	P	P	10 37 19.5	-0.6
	0.4nm,0.9s,baz=236,slow=6.4,SNR=3.2						
MKAR	Makanchi Array	94.30	317	P	P	10 37 54.7	+0.4
	0.7nm,0.9s,baz=116,slow=5.5,SNR=8.0						
TORD	Torodi Ar. Bea	164.29	275	PKP	PKPdf	10 44 39.9	+0.4
	1.5nm,1.2s,baz=174,slow=2.9,SNR=4.1						
TORD				PKPab	PKPab	10 45 32.6	-0.9
	0.7nm,1.1s,baz=151,slow=1.5,SNR=3.5						

*ISCJB **18** 10:31:29.1±1.1, 67°60N±0°04×33°6E±0°2, h0km, Error ellipse: s-maj=9.0km s-min=5.1km az=4.4*
*HEL **18** 10:31:29.9±0.4, 67°67N×33°89E, h0km, ML2.1, ML1.7(UPP), Explosion*
*NAO **18** 10:31:32.4±1.3, 67°38N×32°96E, ML2.7*
*IDC **18** 10:31:32.5±1.9, 67°74N×33°70E, h0km, mb1 3.7/5, mb1mx3.3/29, mbtmp3.7/5, ML2.9/5, Error ellipse: s-maj=21.6km s-min=9.5km az=80.0*
*UPP **18** 10:31:33.4, 67°83N×33°20E, h0km, ML1.7, Suspected Mining explosion.*
*CSEM **18** 10:31:34.1±0.5, 67°70N×33°01E, h2km, ML2.7, Error ellipse: s-maj=9.9km s-min=4.7km az=76.0, Mining explosion.*

ISC 18 10:31:29.5±1.7, 67°67N±0°04×33°96E±0°09, h0km, n50, σ1°50/73, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	Apatity Array	0.38	261	Pg	Pg	10 31 36.5	-0.2
APA0				Lg	Lg	10 31 40.5	
APA0				Rg	Rg	10 31 41.6	
APA0	Apatity Array	0.38	261	Pg	Pg	10 31 36.5	-0.2
APA0				Lg	Lg	10 31 40.5	
APA0				Rg	Rg	10 31 41.6	
APA0	Apatity Array	0.38	261	Pg	Pg	10 31 36.5	-0.2
APA0				Lg	Lg	10 31 40.5	
	SNR=50						
VRF	Varrio	1.66	275	*e*PG	Pn	10 31 59.3	-0.6
	baz=94						
VRF				*e*SG	Sn	10 32 20.1	-1.9
VRF				MSG		10 32 20.1	
	comp=Z,9.9nm,0.2s						
VRF	Varrio	1.66	275	Pg	Pn	10 31 59.3	-0.6
VRF				Sg	Sn	10 32 20.0	-1.9
	comp=Z,9.9nm,0.2s						
KU6	Riekki	2.31	226	*e*PB	Pn	10 32 09.9	+1.2
KU6				*e*SG	Sn	10 32 40.1	+2.4
KU6				MSG		10 32 40.1	
	comp=Z,8.9nm,0.4s						
KU6	Riekki	2.31	226	Pb	Pn	10 32 09.9	+1.2
KU6				Sg	Sn	10 32 40.1	+2.4
	comp=Z,8.9nm,0.4s						
MSF	Maaselka	2.63	230	*e*PB	Pn	10 32 15.0	+1.8
MSF				*e*SG	Sb	10 32 50.3	0.0
MSF	Maaselka	2.63	230	Pb	Pn	10 32 15.0	+1.8
MSF				Sg	Sb	10 32 50.3	0.0
SGF	Sodankyl	2.86	269	*e*P	Pn	10 32 17.0	+0.6
SGF				*e*SB	Sn	10 32 54.9	+3.4
SGF	Sodankyl	2.86	269	P	Pn	10 32 17.0	+0.6
SGF				Sb	Sn	10 32 54.9	+3.4
RNF	Rovaniemi	3.28	255	*e*P	Pn	10 32 22.4	+0.3
RNF	Rovaniemi	3.28	255	P	Pn	10 32 22.4	+0.3
KEV	Kevo	3.29	313	*e*P	Pn	10 32 23.3	+1.1
	baz=133						
KEV				MSG	Sb	10 33 09.9	+0.7
	comp=Z,7.6nm,0.4s						
KEV				*e*SG	Sb	10 33 09.9	+0.7
KEV	Kevo	3.29	313	P	Pn	10 32 23.3	+1.1
KEV				Sg	Sb	10 33 09.9	+0.7
ARA0	ARCESS Array S	3.62	305	Pn	Pn	10 32 27.2	+0.4
	baz=122,slow=16						
ARA0				Pg	Pb	10 32 35.8	+1.5
	baz=122,slow=16						
ARA0				Sn	Sn	10 33 08.8	-1.4
	baz=120,slow=28						
ARA0				Lg	Lg	10 33 20.8	
	baz=130,slow=28						
ARA0	ARCESS Array S	3.62	305	Pn	Pn	10 32 27.2	+0.4
	baz=122,slow=16						
ARA0				Pg	Pb	10 32 35.8	+1.5
	baz=122,slow=16						
ARA0				Sn	Sn

*NEIC **18** 10:47:29.7±0.7, 3°.54S×101°.51E, h59km±6km, mb4.6/18, Error ellipse: s-maj=8.0km s-min=5.2km az=57.0*
NEIC Felt [III] at Mukomuko.
*AUST **18** 10:47:29.5±0.3, 3°.50S×101°.44E, h65km, Error ellipse: s-maj=1.1km s-min=0.7km az=236.0*
*ISCJB **18** 10:47:29.2±0.6, 3°.54S±0°.04×101°.54E±0°.04, h71km±4km, mb4.6/58, Error ellipse: s-maj=9.0km s-min=4.1km az=139.8*
*DJA **18** 10:47:30.0±1.0, 4°.5S×10°.2E±°, h18km±9km, M4.9/10, mb5.0/6, mB4.8/2, MLv4.9/10, Mw(mB)4.1/2*
*IDC **18** 10:47:32.0±2.6, 3°.40S×101°.68E, h75km±22km, mb4.2/21, mb1 4.3/23, mb1mx4.3/26, mbtmp4.2/23, MS3.6/3, Ms1 3.6/3, ms1mx3.1/34, Error ellipse: s-maj=20.3km s-min=9.6km az=49.0*
ISC 18 10:47:29.9±0.4, 3°.56S±0°.04×101°.54E±0°.05, h60km±2km, h60km:pP-P, n233, σ1§43/254, mb4.7/58, 18C-16D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**0.81**	**59**	P	**Pn**	**10 47 44.5**	**-1.1**
MNAI	**Manna**	**1.62**	**119**	P	**Pn**	**10 47 56.2**	**0.0**
MNAI				S	**Sn**	**10 48 16.1**	**+0.1**
MNAI	**Manna**	**1.62**	**119**	*e*P	**Pn**	**10 47 55.9**	**-0.3**
MNAI	**Manna**	**1.62**	**119**	P	**Pn**	**10 47 55.8**	**-0.3**
	baz=1.7,SNR=15						
LHSI	**Lahat**	**2.00**	**98**	P	**Pn**	**10 48 02.0**	**+0.7**
LHSI				S	**Sn**	**10 48 21.4**	**-3.8**
MDSI	**Maura Dua**	**2.79**	**109**	P	**Pn**	**10 48 12.8**	**+0.7**
PDSI	**Padang**	**2.85**	**338**	P	**Pn**	**10 48 14.7**	**+1.7**
LWLI	**Liwa**	**2.90**	**120**	P	**Pn**	**10 48 16.7**	**+3.0**
PMBI	**Palembang**	**3.29**	**79**	P	**Pn**	**10 48 19.6**	**+0.7**
PMBI	**Palembang**	**3.29**	**79**	P	**Pn**	**10 48 20.3**	**+1.4**
	baz=3.4,SNR=3.8						
RGRI	**Rengat**	**3.29**	**14**	P	**Pn**	**10 48 20.1**	**+1.1**
PPI	**Padang Panjang**	**3.29**	**340**	P	**Pn**	**10 48 19.7**	**+0.7**
PPI	**Padang Panjang**	**3.29**	**340**	P	**Pn**	**10 48 19.5**	**+0.5**
	baz=3.2,SNR=28						
KASI	**Kota Agung**	**3.53**	**124**	P	**Pn**	**10 48 23.4**	**+1.1**
KLI	**Kotabumi**	**3.55**	**111**	P	Pn	10 48 36.6	+14
PPBI	**Pangkal Pinang**	**4.80**	**73**	P	**Pn**	**10 48 39.4**	**-0.2**
BTDF	**Bukit Timah Da**	**5.38**	**25**	P	**Pn**	**10 48 48.0**	**+0.4**
	baz=5.4,SNR=22						
BTDF				P	**Pn**	**10 48 48.0**	**+0.4**
	baz=5.4,SNR=22						
MYKOM	**Kota Tinggi**	**5.80**	**23**	P	**Pn**	**10 48 54.0**	**+0.7**
MYKOM	**Kota Tinggi**	**5.80**	**23**	P	**Pn**	**10 48 54.4**	**+1.0**
MYKOM	**Kota Tinggi**	**5.80**	**23**	P	**Pn**	**10 48 53.5**	**+0.2**
	100nm,0.9s,1μm0.4nm						
MYKOM	**Kota Tinggi**	**5.80**	**23**	*e*Pn	**Pn**	**10 48 53.0**	**-0.3**
KGM	**Kluang**	**5.82**	**18**	P	**Pn**	**10 48 54.1**	**+0.5**
KGM	**Kluang**	**5.82**	**18**	P	**Pn**	**10 48 54.7**	**+1.0**
FRIM	**Kepong**	**6.76**	**1**	P	**Pn**	**10 49 07.2**	**+0.7**
FRIM	**Kepong**	**6.76**	**1**	P	**Pn**	**10 49 07.6**	**+1.1**
PSI	**Prapat**	**6.84**	**337**	P	**Pn**	**10 49 05.2**	**-2.6**
PSI	**Prapat**	**6.84**	**337**	P	Pn	10 49 00.6	-7.2
	baz=6.7,SNR=6.1						
PSI	**Prapat**	**6.84**	**337**	P	**Pn**	**10 49 05.2**	**-2.6**
	4.4nm,0.3s,baz=336,slow=8.4,SNR=9.7						
PSI				LR	LR	10 52 02.8	
	comp=Z,535nm,18.8s,baz=185,slow=41						
SNSI	**Sinabang, Aceh**	**7.90**	**319**	P	**Pn**	**10 49 22.7**	**+0.6**
	213nm,0.7s,0.8nm						
KCSI	**Kotacane, Aceh**	**7.98**	**332**	P	**Pn**	**10 49 24.3**	**+1.0**
	22nm,0.5s,0.3nm						
IPM	**Ipoh**	**8.01**	**356**	P	**Pn**	**10 49 25.7**	**+2.0**
IPM	**Ipoh**	**8.01**	**356**	P	Pn	10 49 27.2	+3.6
	45nm,0.9s,444nm0.2nm						
IPM	**Ipoh**	**8.01**	**356**	*e*Pn	**Pn**	**10 49 26.1**	**+2.4**
KULM	**Kulim**	**8.84**	**354**	P	**Pn**	**10 49 36.8**	**+1.7**
KULM	**Kulim**	**8.84**	**354**	P	Pn	10 49 44.5	+9.5
KULM	**Kulim**	**8.84**	**354**	*e*Pn	**Pn**	**10 49 35.5**	**+0.5**
KTGM	**Kuala Trenggan**	**8.97**	**10**	P	**Pn**	**10 49 37.5**	**+0.7**
COCO	**West Island**	**9.75**	**208**	*e*P	**Pn**	**10 49 46.7**	**-0.8**
COCO	**West Island**	**9.75**	**208**	*e*Pn	**Pn**	**10 49 46.7**	**-0.8**
UGM	**Wanagama**	**9.92**	**116**	P	**Pn**	**10 49 51.0**	**+1.1**
	baz=10,SNR=5.3						
KSM	**Kuching**	**10.09**	**60**	*e*Pn	**Pn**	**10 49 50.1**	**-2.0**
	8.9nm,0.9s						
KSM	**Kuching**	**10.09**	**60**	P	**Pn**	**10 49 52.4**	**+0.3**
	baz=10,SNR=3.3						
SJI	**Sawahan**	**10.98**	**113**	P	**Pn**	**10 50 06.4**	**+2.0**
	42nm,0.6s						
SBUM	**Sibu**	**12.23**	**61**	P	Pn	10 50 26.2	+4.8
SBUM	**Sibu**	**12.23**	**61**	P	Pn	10 50 25.8	+4.4
SBUM	**Sibu**	**12.23**	**61**	*e*Pn	Pn	10 50 25.5	+4.1
ABJI	**Asem Bagus**	**13.31**	**109**	P	**Pn**	**10 50 39.0**	**+2.9**
KKM	**Kota Kinabalu**	**17.49**	**57**	*e*P	**P**	**10 51 32.4**	**+2.2**
	15nm,1.0s						
SDKM	**Sandakan**	**18.11**	**60**	P	**Pn**	**10 51 39.8**	**+2.3**
KAPI	**Kappang**	**18.22**	**95**	*e*P	**Pn**	**10 51 38.6**	**0.0**
	16nm,0.7s						
KAPI	**Kappang**	**18.22**	**95**	P	**P**	**10 51 37.4**	**-0.9**
	2.6nm,0.3s,baz=293,slow=11,SNR=5.5						
KAPI				LR	LR	10 58 43.4	
	comp=Z,110nm,18.2s,baz=130,slow=37						
MYLDM	**Lahad Datu**	**19.04**	**63**	*e*P	**Pn**	**10 51 49.6**	**+1.0**
	52nm,1.4s						
CMAR	**Chiang Mai Arr**	**22.03**	**353**	P	**P**	**10 52 19.2**	**-0.3**
CMAR				PcP	**PcP**	**10 56 17.1**	**+1.2**
CMAR	**Chiang Mai Arr**	**22.03**	**353**	P	**P**	**10 52 19.2**	**-0.3**
	5.5nm,0.5s,baz=186,slow=8.4,SNR=20						
CMAR				PcP	**PcP**	**10 56 17.1**	**+1.2**
	1.2nm,0.6s,baz=216,slow=3.3,SNR=5.6						
CHTO	**Chiang Mai**	**22.38**	**354**	*e*P	**P**	**10 52 21.9**	**-1.5**
CHTO				pmax	pmax		
	comp=Z,15nm,0.7s						
CHTO	**Chiang Mai**	**22.38**	**354**	*e*P	**P**	**10 52 21.9**	**-1.5**
	comp=Z,15nm,0.7s						
FITZ	**Fitzroy Crossi**	**27.67**	**123**	*e*P	**P**	**10 53 12.6**	**+0.3**
	comp=Z,5.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**27.67**	**123**	P	**P**	**10 53 12.2**	**-0.1**
	baz=28,SNR=13						
FITZ	**Fitzroy Crossi**	**27.67**	**123**	P	**P**	**10 53 12.7**	**+0.3**
	comp=Z,4.4nm,0.6s,baz=295,slow=3.4,SNR=14						
KMI	**Kunming**	**28.54**	**2**	P	P	10 53 25.0	+4.7
KMI				AMB	AMB		
	comp=Z,5.0nm,0.8s						
H08S2	**Diego Garcia H**	**29.18**	**261**	T	T	11 23 15.3	
	baz=84,slow=0.7,SNR=27						
H08S3	**Diego Garcia H**	**29.19**	**261**	T	T	11 23 14.7	
	baz=84,slow=0.7,SNR=36						
H08S1	**Diego Garcia H**	**29.20**	**261**	T	T	11 23 16.8	
	baz=84,slow=0.7,SNR=37						
KNRA	**Kununurra**	**29.36**	**116**	P	**P**	**10 53 26.2**	**-1.2**
	baz=30,SNR=7.4						
GYA	**Guiyang**	**30.25**	**9**	*e*P	**P**	**10 53 34.8**	**-0.5**
GYA				pP	**pP**	**10 53 53.3**	**+3.0**
GYA				sP	**sP**	**10 53 58.9**	**+1.5**
GYA				PP	**PP**	**10 54 41.0**	**-3.7**
GYA				S	**S**	**10 58 36.4**	**+5.4**
GYA				sS	**sS**	**10 59 01.3**	**+4.9**
GYA				ScP	**ScP**	**11 00 12.4**	**+0.1**
GYA				PcS	**PcS**	**11 00 19.8**	**+1.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
GYA				AMB	AMB		
	comp=Z,90nm,4.8s						
GYA				LR	LR		
	comp=Z,530nm,20.5s						
GYA				LR	LR		
	comp=Z,470nm,21.0s						
GYA				LR	LR		
	comp=Z,490nm,20.4s						
H08N1	**Diego Carcia H**	**30.53**	**264**	T	T	11 25 22.5	
	baz=318						
H08N2	**Diego Garcia H**	**30.55**	**264**	T	T	11 25 30.9	
	baz=318,slow=0.7						
H08N3	**Diego Garcia H**	**30.56**	**264**	T	T	11 25 30.2	
	baz=318,slow=0.7						
FAKI	**Fak Fak**	**30.66**	**90**	P	**P**	**10 53 40.1**	**+1.0**
	baz=31,SNR=4.3						
MTN	**Manton Dam**	**30.67**	**109**	P	**P**	**10 53 36.6**	**-2.4**
	baz=31,SNR=3.2						
KDU	**Kakadu**	**31.90**	**108**	P	**P**	**10 53 47.6**	**-2.2**
	baz=32,SNR=3.2						
ODAN	**Odare**	**33.20**	**336**	*e*P	**P**	**10 54 01.2**	**-0.1**
	comp=Z,23nm,0.5s						
TAPN	**Taplejung**	**33.51**	**337**	*e*P	**P**	**10 54 04.6**	**+0.5**
	comp=Z,42nm,0.7s						
RAMN	**Ramite**	**33.60**	**335**	*e*P	**P**	**10 54 05.3**	**+0.5**
	comp=Z,11nm,0.4s						
CD2	**Chengdu**	**34.35**	**3**	P	P	10 54 20.6	+10
CD2				AMB	AMB		
	comp=Z,20nm,0.5s						
CD2				AMB	AMB		
	comp=Z,110nm,5.6s						
JIRN	**Jiri**	**34.39**	**335**	*e*P	**P**	**10 54 12.2**	**+0.3**
	comp=Z,42nm,0.7s						
ENH	**Enshi**	**34.49**	**12**	*e*P	**P**	**10 54 10.9**	**-1.4**
	comp=Z,20nm,0.4s						
PKI	**Pulchoki**	**34.65**	**334**	*e*P	**P**	**10 54 13.9**	**-0.1**
	comp=Z,17nm,0.7s						
PKIN	**Phulchoki**	**34.66**	**334**	*e*P	**P**	**10 54 14.8**	**+0.8**
	comp=Z,8.6nm,0.4s						
GUN	**Gumba**	**34.74**	**335**	*e*P	**P**	**10 54 14.8**	**0.0**
	comp=Z,85nm,0.6s						
DMN	**Daman**	**34.81**	**334**	*e*P	**P**	**10 54 15.3**	**0.0**
	comp=Z,14nm,0.6s						
KKN	**Kakani**	**34.89**	**334**	*e*P	**P**	**10 54 16.1**	**+0.1**
	comp=Z,33nm,0.6s						
GKN	**Gorkha**	**35.36**	**334**	*e*P	**P**	**10 54 20.1**	**+0.2**
	comp=Z,39nm,0.8s						
KOLN	**Koldanda**	**35.63**	**332**	*e*P	**P**	**10 54 22.8**	**+0.5**
	comp=Z,49nm,0.7s						
WRA	**Warramunga Arr**	**35.88**	**120**	P	**P**	**10 54 24.6**	**+0.2**
WRA				S	S	10 59 51.8	-6.6
WRA	**Warramunga Arr**	**35.88**	**120**	P	**P**	**10 54 24.6**	**+0.2**
	comp=Z,3.4nm,0.5s,baz=305,slow=8.5,SNR=100						
WRA				S	S	10 59 51.8	-6.6
	comp=Z,0.7nm,0.8s,baz=294,slow=16,SNR=2.8						
WRAB	**Tennant Creek**	**35.89**	**120**	*e*P	**P**	**10 54 24.3**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.4s						
WRAB	**Tennant Creek**	**35.89**	**120**	*e*P	**P**	**10 54 24.3**	**-0.2**
	comp=Z,7.5nm,0.4s						
DANN	**Dangsing**	**36.05**	**333**	*e*P	**P**	**10 54 26.3**	**+0.3**
	comp=Z,36nm,0.4s						
ASAR	**Alice Springs**	**37.09**	**126**	P	**P**	**10 54 35.0**	**+0.2**
ASAR				S	**S**	**11 00 14.9**	**-1.9**
ASAR	**Alice Springs**	**37.09**	**126**	P	**P**	**10 54 35.0**	**+0.2**
	comp=Z,5.2nm,0.4s,baz=298,slow=7.9,SNR=184						
ASAR				S	**S**	**11 00 14.9**	**-1.9**
	comp=Z,1.0nm,0.9s,baz=298,slow=14,SNR=7.3						
AS31	**Alice Springs**	**37.09**	**126**	*e*P	**P**	**10 54 34.7**	**-0.1**
XAN	**Xi'an**	**38.05**	**10**	P	**P**	**10 54 41.0**	**-1.6**
XAN				AMB	AMB		
	comp=Z,2.0nm,0.5s						
XAN				AMB	AMB		
	comp=Z,32nm,6.5s						
NJ2	**Nanjing**	**39.06**	**24**	*e*P	**P**	**10 54 52.9**	**+1.9**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
LZH	**Lanzhou**	**39.50**	**3**	*e*P	**P**	**10 54 54.6**	**-0.3**
LZH				pP	**pP**	**10 55 09.3**	**-0.9**
LZH				sP	**sP**	**10 55 17.6**	**+0.4**
LZH				AMB	AMB		
	comp=Z,26nm,1.2s						
LZH				AMB	AMB		
	comp=Z,130nm,4.3s						
NDI	**New Delhi**	**39.68**	**325**	*e*P	**P**	**10 54 54.0**	**-2.3**
GTA	**Gaotai**	**42.79**	**358**	*e*P	**P**	**10 55 22.6**	**+0.8**
GTA				pP	**pP**	**10 55 34.4**	**-1.9**
GTA				sP	**sP**	**10 55 40.6**	**-3.6**
GTA				S	**S**	**11 01 43.9**	**+2.2**
GTA				sS	**sS**	**11 02 05.3**	**-2.5**
GTA				SS	**SS**	**11 04 50.8**	**-4.0**
GTA				AMB	AMB		
	comp=Z,6.0nm,1.3s						
GTA				AMB	AMB		
	comp=Z,110nm,5.7s						
GTA				LR	LR		
	comp=Z,130nm,17.1s						
GTA				LR	LR		
	comp=Z,93nm,17.1s						
GTA				LR	LR		
	comp=Z,120nm,18.5s						
BBOO	**Buckleboo**	**43.46**	**136**	P	**P**	**10 55 28.0**	**+0.7**
	baz=44,SNR=5.2						
MTSU	**Mount Surprise**	**44.29**	**112**	P	**P**	**10 55 34.1**	**0.0**
	baz=44,SNR=5.7						
HHC	**Hu-ho-hao-te**	**45.14**	**11**	*e*P	**P**	**10 55 42.9**	**+2.3**
HHC				pP	**pP**	**10 55 54.6**	**-1.5**
HHC				sP	**sP**	**10 56 01.0**	**-2.1**
HHC				PP	**PP**	**10 57 30.5**	**+3.3**
HHC				S	S	11 02 23.5	+7.6
HHC				sS	**sS**	**11 02 43.3**	**+1.2**
HHC				AMB	AMB		
	comp=Z,39nm,0.8s						
HHC				AMB	AMB		
	comp=Z,230nm,5.4s						
HHC				LR	LR		
	comp=Z,300nm,15.5s						
HHC				LR	LR		
	comp=Z,340nm,16.7s						
HHC				LR	LR		
	comp=Z,250nm,17.8s						
QLP	**Quilpie**	**46.81**	**124**	P	**P**	**10 55 54.8**	**+1.0**
	baz=47,SNR=8.6						
STKA	**Stephens Creek**	**46.97**	**131**	*e*P	**P**	**10 55 55.6**	**+0.6**
	comp=Z,3.3nm,0.9s						
STKA	**Stephens Creek**	**46.97**	**131**	P	**P**	**10 55 56.1**	**+1.0**
	baz=47,SNR=26						
STKA	**Stephens Creek**	**46.97**	**131**	P	**P**	**10 55 56.0**	**+1.0**
	comp=Z,9.0nm,0.6s,baz=308,slow=6.9,SNR=57						
KSAR	**Wonju Array Be**	**47.58**	**29**	P	**P**	**10 55 59.4**	**-0.3**
KSRS	**Korea Array**	**47.61**	**29**	P	**P**	**10 55 59.4**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=228,slow=7.7,SNR=5.6						
KBL	**Kabul**	**48.70**	**324**	*e*P	**P**	**10 56 09.3**	**+0.7**
KBL				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KBL	**Kabul**	**48.70**	**324**	*e*P	**P**	**10 56 09.3**	**+0.7**
	comp=Z,8.4nm,0.6s						
WMQ	**Urumqi**	**48.79**	**347**	P	**P**	**10 56 09.5**	**+0.5**
WMQ				pP	**pP**	**10 56 25.1**	**+0.4**
WMQ				sP	**sP**	**10 56 32.1**	**+0.5**
WMQ				PP	**PP**	**10 58 03.8**	**+1.1**
WMQ				S	**S**	**11 03 07.8**	**+0.1**
WMQ				ScS	**ScS**	**11 05 53.0**	**-3.0**
WMQ				SS	**SS**	**11 06 35.4**	**-3.7**
WMQ				AMB	AMB		
	comp=Z,190nm,4.0s						
WMQ				LR	LR		
	comp=Z,180nm,9.2s						
WMQ				LR	LR		
	comp=Z,150nm,10.0s						
WMQ				LR	LR		
	comp=Z,38nm,15.8s						
KSH	**Kashi**	**48.91**	**334**	P	**P**	**10 56 09.3**	**-0.7**
KSH				pP	**pP**	**10 56 26.6**	**+0.9**
KSH				sP	**sP**	**10 56 34.9**	**+2.3**
KSH				PP	**PP**	**10 58 04.8**	**+0.9**
KSH				S	**S**	**11 03 08.3**	**-1.3**
KSH				sS	**sS**	**11 03 36.8**	**+0.7**
KSH				SS	**SS**	**11 06 37.6**	**-3.6**
KSH				AMB	AMB		
	comp=Z,8.0nm,0.6s						
KSH				AMB	AMB		
	comp=Z,76nm,6.1s						
KSH				LR	LR		
	comp=Z,61nm,4.4s						
KSH				LR	LR		
	comp=Z,130nm,5.5s						
KSH				LR	LR		
	comp=Z,81nm,7.1s						
CMSA	**Cobar Meteorol**	**49.94**	**129**	P	**P**	**10 56 19.3**	**+1.5**
	baz=50,SNR=36						
RMQ	**Roma**	**50.58**	**122**	P	**P**	**10 56 24.1**	**+1.2**
	baz=51,SNR=5.2						
SONM	**Songino Array**	**51.36**	**4**	P	**P**	**10 56 28.4**	**0.0**
SONM				PcP	**PcP**	**10 57 42.1**	**-0.4**
SONM	**Songino Array**	**51.36**	**4**	P	**P**	**10 56 28.4**	**0.0**
	comp=Z,11nm,0.6s,baz=188,slow=9.6,SNR=89						
SONM				PcP	**PcP**	**10 57 42.1**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=180,slow=4.1,SNR=4.2						
CN2	**Changchun**	**51.82**	**22**	*e*P	P	10 56 35.9	+4.1
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
TKM2	**Tokmak 2**	**51.88**	**336**	*e*P	**P**	**10 56 32.5**	**0.0**
TKM2				pmax	pmax		
	comp=Z,14nm,0.4s						
TKM2	**Tokmak 2**	**51.88**	**336**	*e*P	**P**	**10 56 32.5**	**0.0**
	comp=Z,14nm,0.4s						
AAK	**Ala-Archa**	**52.10**	**335**	⇓*i*P	**P**	**10 56 34.5**	**+0.4**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
AAK	**Ala-Archa**	**52.10**	**335**	*e*P	**P**	**10 56 34.0**	**-0.1**
	comp=Z,3.2nm,0.7s						
EIDS	**Eidsvold**	**52.25**	**119**	*e*P	**P**	**10 56 35.3**	**-0.1**
	comp=Z,7.3nm,0.8s						
EIDS	**Eidsvold**	**52.25**	**119**	P	**P**	**10 56 35.9**	**+0.6**
	baz=52,SNR=4.0						
EKS2	**Erkin-Say**	**52.43**	**334**	*e*P	**P**	**10 56 36.9**	**+0.4**
EKS2				pmax	pmax		
	comp=Z,12nm,0.8s						
EKS2	**Erkin-Say**	**52.43**	**334**	*e*P	**P**	**10 56 36.9**	**+0.4**
	comp=Z,12nm,0.8s						
MK31	**Makanchi Array**	**52.95**	**344**	*e*P	**P**	**10 56 39.6**	**-0.5**
MK31	**Makanchi Array**	**52.95**	**344**	*e*P	**P**	**10 56 39.5**	**-0.7**
MKAR	**Makanchi Array**	**52.95**	**344**	P	**P**	**10 56 39.6**	**-0.6**
MKAR	**Makanchi Array**	**52.95**	**344**	P	**P**	**10 56 39.5**	**-0.6**
MKAR	**Makanchi Array**	**52.95**	**344**	P	**P**	**10 56 39.5**	**-0.6**
	comp=Z,21nm,0.4s,baz=156,slow=9.0,SNR=389						
ZAK	**Zakamensk**	**53.75**	**1**	*e*P	**P**	**10 56 44.2**	**-1.9**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MDJ	**Mudanjiang**	**54.14**	**24**	P	**P**	**10 56 50.5**	**+1.7**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.6s						
MDJ				AMB	AMB		
	comp=Z,80nm,5.3s						
KKAR	**Karatay Array**	**54.24**	**332**	*e*P	**P**	**10 56 48.8**	**-0.8**
KKAR	**Karatay Array**	**54.24**	**332**	*e*P	**P**	**10 56 48.8**	**-0.8**
USRK	**Ussuriysk Arra**	**54.83**	**26**	P	**P**	**10 56 53.3**	**-0.6**
	comp=Z,7.2nm,0.6s,baz=215,slow=4.1,SNR=20						
HVS	**Khovu-Aksy**	**54.90**	**354**	⇓*i*P	**P**	**10 56 53.4**	**-1.0**
HVS				pmax	pmax		
	comp=Z,14nm,1.2s						
TLY	**Talaya**	**55.06**	**2**	*e*P	**P**	**10 56 55.7**	**+0.3**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s						
IBAF	**Bafgh**	**55.96**	**312**	*e*P	**P**	**10 57 00.7**	**-1.8**
KURBB	**Kurchatov Arra**	**57.48**	**343**	P	**P**	**10 57 11.8**	**-0.8**
	comp=Z,2.8nm,0.3s,baz=161,slow=6.8,SNR=44						
KURBB				PcP	**PcP**	**10 58 05.6**	**-0.1**
	comp=Z,1.7nm,0.5s,baz=157,slow=3.5,SNR=5.1						
KURK	**Kurchatov**	**57.54**	**343**	*e*P	**P**	**10 57 12.2**	**-0.8**
KURK						10 58 05.6	
KURK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KURK	**Kurchatov**	**57.54**	**343**	*e*P	**P**	**10 57 12.2**	**-0.8**
	comp=Z,5.6nm,0.7s						
KURK				PcP	**PcP**	**10 58 05.6**	**-0.3**
ZAA0	**Zalesovo Array**	**58.99**	**349**	*e*P	**P**	**10 57 22.0**	**-1.1**
ZALV	**Zalesovo Beam**	**58.99**	**349**	P	**P**	**10 57 22.2**	**-0.9**
ZALV	**Zalesovo Beam**	**58.99**	**349**	P	**P**	**10 57 22.1**	**-0.9**
ZALV	**Zalesovo Beam**	**58.99**	**349**	P	**P**	**10 57 22.1**	**-0.9**
	comp=Z,11nm,0.5s,baz=167,slow=5.2,SNR=67						
IANJ	**Anjilo**	**59.11**	**315**	*e*P	**P**	**10 57 24.1**	**-0.5**
VOSK	**Vostochnaya**	**61.72**	**339**	*e*P	**P**	**10 57 40.6**	**-1.2**
VOSK	**Vostochnaya**	**61.72**	**339**	*e*P	**P**	**10 57 40.6**	**-1.2**
YSS	**Yuzh-Sakhalins**	**62.01**	**31**	⇑*e*P	**P**	**10 57 42.5**	**-1.3**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
BRVK	**Borovoye**	**62.24**	**339**	*c iP*	**P**	**10 57 44.1**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.7s						
BRVK	**Borovoye**	**62.24**	**339**	*e*P	**P**	**10 57 43.8**	**-1.5**
	comp=Z,6.7nm,0.3s						
ABKAR	**Akbulak array**	**63.74**	**331**	*e*P	**P**	**10 57 54.5**	**-0.8**
	comp=Z,5.9nm,0.6s						
SVE	**Sverdlovsk**	**68.71**	**337**	⇑*i*P	**P**	**10 58 26.7**	**-0.2**
SVE				pmax	pmax		
	comp=Z,11nm,0.7s						
YAK	**Yakutsk**	**68.87**	**14**	⇓*i*P	**P**	**10 58 26.3**	**-1.5**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MAW	**Mawson**	**69.17**	**195**	LR	LR	11 23 09.0	
	comp=Z,70nm,19.8s,baz=209,slow=31						
ARU	**Arti**	**69.25**	**336**	*d iP*	**P**	**10 58 29.7**	**-0.6**
ARU						11 01 01.9	
ARU				S	**S**	**11 07 37.3**	**+5.5**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZEI	**Tsey**	**69.42**	**318**	*e*P	**P**	**10 58 32.1**	**+0.1**
ZEI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KBZ	**Khabaz**	**70.49**	**319**	P	**P**	**10 58 39.0**	**+0.8**
KBZ	**Khabaz**	**70.49**	**319**	P	**P**	**10 58 39.0**	**+0.8**
KBZ	**Khabaz**	**70.49**	**319**	P	**P**	**10 58 39.0**	**+0.8**
	comp=Z,7.7nm,0.8s,baz=115,slow=6.1,SNR=17						
KIV	**Kislovodsk**	**70.72**	**319**	*e*P	**P**	**10 58 39.5**	**-0.3**
KIV				*i* *PP	**pP**	**10 58 51.8**	**-4.5**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
LSZ	**Lusaka**	**73.02**	**255**	*e*P	**P**	**10 58 54.5**	**+0.4**
	comp=Z,3.0nm,0.8s						
PETK	**Petropavlovsk-**	**73.39**	**32**	P	**P**	**10 58 54.3**	**-1.1**
PETK	**Petropavlovsk-**	**73.39**	**32**	P	**P**	**10 58 54.2**	**-1.1**
PETK	**Petropavlovsk-**	**73.39**	**32**	P	**P**	**10 58 54.2**	**-1.1**
	comp=Z,2.8nm,0.5s,baz=205,slow=3.3,SNR=19						
PET	**Petropavlovsk**	**73.85**	**32**	P	**P**	**10 58 57.0**	**-1.0**
PET				pmax	pmax		
	comp=Z,15nm,1.0s						
BR131	**Keskin Array S**	**75.51**	**312**	*e*P	**P**	**10 59 07.6**	**-0.5**
	comp=Z,3.0nm,0.6s						
BRTR	**Keskin Array B**	**75.51**	**312**	P	**P**	**10 59 07.8**	**-0.4**
BRTR	**Keskin Array B**	**75.51**	**312**	P	**P**	**10 59 07.8**	**-0.4**
	comp=Z,4.4nm,0.6s,baz=136,slow=6.9,SNR=29						
BOSA	**Boshof**	**76.26**	**242**	P	**P**	**10 59 14.2**	**+1.4**
BOSA	**Boshof**	**76.26**	**242**	P	**P**	**10 59 14.2**	**+1.4**
	com

	baz=144								
626A	**Big Bend Ranch**	**144.50**	**41**	⇑P		PKPbc	11 06 59.5	+0.6	
	baz=144,SNR=6.3								
428A	**Kincaid Ranch,**	**144.60**	**38**	⇓P		PKPbc	11 06 59.9	+0.6	
	baz=144,SNR=16								
230A	**Sterling City**	**144.69**	**35**	⇑P		**PKPab**	**11 06 59.3**	**0.0**	
	baz=145,SNR=5.4								
528A	**Cox Ranch, San**	**144.94**	**38**	⇓P		PKPbc	11 07 00.8	+0.4	
	baz=145,SNR=8.2								
TXAR	**Lajitas Array**	**144.95**	**40**	PKP		PKPbc	11 07 00.6	+0.1	
TXAR	**Lajitas Array**	**144.95**	**40**	PKP		PKPbc	11 07 00.6	+0.1	
	comp=Z,7.8nm,0.5s,baz=270,slow=0.8,SNR=152								
330A	**Mertzon**	**145.01**	**35**	⇑P		**PKPbc**	**11 07 00.0**	**-0.5**	
	baz=145,SNR=5.4								
627A	**Terlingua Ranc**	**145.04**	**40**	⇑P		**PKPab**	**11 07 00.9**	**+0.1**	
	baz=145,SNR=15								
231A	**Bronte**	**145.10**	**34**	⇓P		**PKPbc**	**11 07 00.2**	**-0.6**	
	baz=145,SNR=6.7								
429A	**Davenport Ranc**	**145.16**	**37**	⇓P		**PKPbc**	**11 07 00.7**	**-0.3**	
	baz=145								
529A	**Stev Forest Ra**	**145.31**	**38**	⇑P		**PKPbc**	**11 07 01.6**	**+0.1**	
	baz=145								
628A	**Black Gap, Mar**	**145.34**	**39**	⇑P		**PKPdf**	**11 07 01.7**	**0.0**	
	baz=145,SNR=18								
430A	**Baggett Ranch,**	**145.43**	**36**	⇑P		**PKPdf**	**11 07 01.6**	**-0.3**	
	baz=145								
232A	**Coleman**	**145.50**	**33**	⇓P		**PKPdf**	**11 07 01.8**	**-0.1**	
	baz=145,SNR=11								
331A	**San Angelo**	**145.51**	**34**	⇓P		**PKPdf**	**11 07 01.8**	**-0.2**	
	baz=145								
530A	**J-C Ranch, Com**	**145.83**	**37**	⇓P		**PKPbc**	**11 07 03.3**	**+0.1**	
	baz=146,SNR=12								
332A	**Millersview**	**145.83**	**34**	⇓P		**PKPbc**	**11 07 03.0**	**-0.1**	
	baz=146,SNR=20								
431A	**Sonora**	**145.87**	**35**	⇓P		**PKPbc**	**11 07 03.3**	**+0.1**	
	baz=146								
MIAR	**Mount Ida**	**146.12**	**23**	*e*PKP2		**PKPdf**	**11 07 03.0**	**+0.1**	
MIAR	**Mount Ida**	**146.12**	**23**	*e*PKPdf		**PKPdf**	**11 07 03.0**	**+0.1**	
432A	**Menard**	**146.19**	**34**	⇑P		**PKPbc**	**11 07 03.9**	**-0.3**	
	baz=146,SNR=5.1								
531A	**Rocksprings**	**146.29**	**36**	⇑P		**PKPbc**	**11 07 04.1**	**-0.5**	
	baz=146,SNR=5.8								
JCT	**Junction City**	**146.48**	**35**	*e*PKP2		**PKPbc**	**11 07 04.5**	**-0.6**	
JCT	**Junction City**	**146.48**	**35**	*e*PKPbc		**PKPbc**	**11 07 04.5**	**-0.6**	
JCT	**Junction City**	**146.48**	**35**	⇓P		**PKPbc**	**11 07 04.7**	**-0.4**	
	baz=146,SNR=16								
TKL	**Tuckaleechee C**	**147.69**	**8**	PKPbc		**PKPbc**	**11 07 07.0**	**-1.2**	
TKL	**Tuckaleechee C**	**147.69**	**8**	PKPbc		**PKPbc**	**11 07 07.0**	**-1.2**	
	comp=Z,3.3nm,0.6s,baz=262,slow=5.1,SNR=6.9								
SWET	**Sewanee**	**147.75**	**12**	*e*PKPdf		**PKPdf**	**11 07 06.3**	**+0.7**	
LRAL	**Lakeview Retre**	**149.61**	**14**	*e*PKPbc		**PKPbc**	**11 07 12.1**	**-1.2**	

IDC 18 11:01:26.0±2.2,6°87S×129°39E, h0km, mb3.5/1, mb1 3.5/3, mb1mx3.3/18, mbtmp3.3/3, ML3.3/2, 1C-1D, Error ellipse: s-maj=128.4km s-min=32.4km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.85**	**160**	Pn	Pn	11 04 43.3	-0.5
	0.2nm,0.3s,baz=339,slow=14,SNR=7.3						
WRA				Sn	Sn	11 07 05.8	-13
	0.4nm,0.3s,baz=329,slow=21,SNR=4.9						
ASAR	**Alice Springs**	**17.25**	**166**	P	Pn	11 05 28.9	+0.3
	0.1nm,0.3s,baz=344,slow=11,SNR=6.5						
ASAR				S	Sn	11 08 24.8	-16
	0.1nm,0.3s,baz=348,slow=27,SNR=4.3						
MK31	**Makanchi Array**	**67.79**	**327**	⇓Pn	P	11 12 23.8	-2.0
	0.4nm,0.7s						
MK31				⇑Lg	Lg	11 13 37.7	
	0.4nm,0.5s,baz=184,slow=25,SNR=5.0						
MKAR	**Makanchi Array**	**67.79**	**327**	P	P	11 12 25.8	0.0
	0.3nm,0.5s,baz=133,slow=6.2,SNR=5.0						

IDC 18 11:06:43.9±1.1,34°.04S×178°.88W, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.9/17, mbtmp4.1/5, ML4.6/1, Error ellipse: s-maj=40.0km s-min=25.1km az=148.0
ISCJB 18 11:06:48.5±2.2,34°.1S±0°.1×178°.8W±0°.3, h50km, mb4.1/7, Error ellipse: s-maj=41.0km s-min=12.8km az=14.5
NEIC 18 11:06:49.5±0.5,34°.08S×178°.95W, h35km, mb4.3/4, Error ellipse: s-maj=15.8km s-min=12.0km az=138.0
ISC 18 11:06:51.2±1.0, 34°.1S±0°.1×179°.0W±0°.2, h50km, n32, σ0$79/36, mb4.1/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**5.23**	**216**	*e*Pn	**Pn**	**11 08 05.3**	**-1.4**
	38nm,0.3s						
URZ				*e*Sn	**Sn**	**11 09 07.5**	**+1.8**
URZ	**Urewera**	**5.23**	**216**	Pn	**Pn**	**11 08 05.6**	**-1.1**
	19nm,0.3s,baz=287,slow=1.8,SNR=147						
URZ				Sn	**Sn**	**11 09 06.4**	**+0.7**
	7.6nm,0.3s,baz=244,slow=20,SNR=9.1						
ARMA	**Armidale**	**25.06**	**270**	*e*P	**P**	**11 12 10.5**	**-0.5**
	50nm,1.8s						
STKA	**Stephens Creek**	**32.99**	**263**	*e*P	**P**	**11 13 21.4**	**0.0**
	0.5nm,1.0s						
STKA	**Stephens Creek**	**32.99**	**263**	P	**P**	**11 13 20.4**	**-1.0**
	0.6nm,0.3s,baz=71,slow=16,SNR=5.7						
AS31	**Alice Springs**	**42.20**	**271**	*e*P	**P**	**11 14 40.1**	**+0.7**
ASAR	**Alice Springs**	**42.20**	**271**	P	**P**	**11 14 40.1**	**+0.7**
ASAR				PcP	**PcP**	**11 16 32.3**	**-0.6**
ASAR	**Alice Springs**	**42.20**	**271**	P	**P**	**11 14 40.1**	**+0.7**
	1.2nm,0.7s,baz=112,slow=7.7,SNR=19						
ASAR				PcP	**PcP**	**11 16 32.3**	**-0.6**
	0.4nm,0.8s,baz=117,slow=3.8,SNR=4.2						
WRAB	**Tennant Creek**	**43.52**	**277**	*e*P	**P**	**11 14 50.0**	**-0.1**
	11nm,1.4s						
WRA	**Warramunga Arr**	**43.53**	**277**	P	**P**	**11 14 50.5**	**+0.4**
WRA	**Warramunga Arr**	**43.53**	**277**	P	**P**	**11 14 50.5**	**+0.4**
	1.9nm,0.6s,baz=118,slow=7.5,SNR=36						
CASY	**Casey**	**51.51**	**209**	*e*P	**P**	**11 15 51.4**	**-0.1**
	2.6nm,0.9s						
FITZ	**Fitzroy Crossi**	**51.61**	**273**	P	**P**	**11 15 53.1**	**+0.3**
FITZ	**Fitzroy Crossi**	**51.61**	**273**	P	**P**	**11 15 53.1**	**+0.3**
	1.4nm,0.7s,baz=97,slow=19,SNR=5.4						
MKAR	**Makanchi Array**	**119.44**	**309**	PKP	**PKPdf**	**11 25 34.4**	**-0.4**
MKAR	**Makanchi Array**	**119.44**	**309**	PKP	**PKPdf**	**11 25 34.4**	**-0.4**
	0.1nm,0.4s,baz=60,slow=1.0,SNR=3.1						
KURK	**Kurchatov**	**122.93**	**312**	PKP	**PKPdf**	**11 25 40.7**	**-0.6**
KURBB	**Kurchatov Arra**	**122.96**	**312**	PKP	**PKPdf**	**11 25 40.7**	**-0.6**
	0.4nm,0.6s,baz=115,slow=1.9,SNR=8.0						
ARCES	**ARCESS Array B**	**141.97**	**346**	PKP	**PKPdf**	**11 26 17.4**	**+0.9**
ARCES	**ARCESS Array B**	**141.97**	**346**	PKP	**PKPdf**	**11 26 17.4**	**+0.9**
	1.9nm,0.8s,baz=50,slow=1.4,SNR=3.9						
JOF	**Joensuu**	**145.47**	**336**	*e*p	**PKPab**	**11 26 23.1**	**0.0**
	0.4nm,0.3s						
KAF	**Kangasniemi**	**147.67**	**338**	*e*p	**PKPbc**	**11 26 29.7**	**+0.4**
FINES	**FINESS Array B**	**148.25**	**337**	PKPbc	**PKPbc**	**11 26 31.4**	**+0.5**
FINES	**FINESS Array B**	**148.25**	**337**	PKPbc	**PKPbc**	**11 26 31.4**	**+0.5**
	2.3nm,0.5s,baz=57,slow=2.6,SNR=17						
NOA	**NORSAR Array B**	**152.22**	**349**	PKPbc	**PKPbc**	**11 26 39.5**	**-1.1**
NOA	**NORSAR Array B**	**152.22**	**349**	PKPbc	**PKPbc**	**11 26 39.5**	**-1.1**
	0.3nm,0.5s,baz=13,slow=4.1,SNR=2.8						
HFS	**Hagfors**	**152.63**	**346**	PKPbc	**PKPbc**	**11 26 42.7**	**+1.3**
HFS	**Hagfors**	**152.63**	**346**	PKPbc	**PKPbc**	**11 26 42.7**	**+1.3**
	1.9nm,0.8s,baz=352,slow=3.2,SNR=3.7						
AKASG	**Malin Array Be**	**153.57**	**317**	PKPbc	**PKPbc**	**11 26 44.2**	**+0.5**
AKASG	**Malin Array Be**	**153.57**	**317**	PKPbc	**PKPbc**	**11 26 44.2**	**+0.5**
	0.5nm,0.6s,baz=125,slow=1.6,SNR=4.0						
TORD	**Torodi Ar. Bea**	**159.16**	**182**	PKPab	**PKPab**	**11 27 21.4**	**+0.2**
TORD	**Torodi Ar. Bea**	**159.16**	**182**	PKPab	**PKPab**	**11 27 21.4**	**+0.2**
	0.5nm,0.8s,baz=184,slow=4.0,SNR=4.5						

IDC 18 11:09:26.9±7.5, 30°.64S×179°.22W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/15, mbtmp3.7/2, Error ellipse: s-maj=315.4km s-min=55.5km az=157.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.05**	**268**	P	P	11 17 19.6	-0.9
	0.3nm,0.5s,baz=103,slow=7.8,SNR=5.2						
WRA	**Warramunga Arr**	**43.06**	**273**	P	P	11 17 29.2	+0.5
	0.7nm,0.4s,baz=111,slow=8.2,SNR=8.4						
FINES	**FINESS Array B**	**145.00**	**339**	PKPbc	PKPbc	11 29 03.9	-0.9
	1.2nm,0.5s,baz=39,slow=4.2,SNR=12						

MEX 18 11:34:25.8±0.8, 17°.38N×101°.64W, h5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.28**	**36**	*i* P	Pg	11 34 30.4	-0.9
ZIIG				*i* S	Sg	11 34 35.0	-0.1
CAIG	**El Cayaco**	**1.35**	**104**	*i* P	Pn	11 34 47.3	-4.1
CAIG				*i* S	Sb	11 35 04.3	-4.9
ARIG	**Puente Sto Nin**	**1.52**	**54**	*i* P	Pn	11 34 50.9	-2.8
ARIG				*i* S	Sn	11 35 09.9	-4.1
PLIG	**Platanillo**	**2.27**	**63**	*i* P	Pn	11 35 01.3	-2.8
PLIG				*i* S	Sn	11 35 27.4	-5.3
MOIG	**Morelia**	**2.33**	**10**	*e*P	Pn	11 35 01.7	-3.5
MOIG				*i* S	Sn	11 35 29.7	-4.7
YAIG	**Yautepec**	**2.86**	**58**	*i* P	Pn	11 35 09.1	-3.2
YAIG				*i* S	Sn	11 35 44.2	-3.1

BJI 18 11:42:29.5, 50°.98N×177°.25W, h65km, mb4.6/1, Ms7 3.8/1
ISCJB 18 11:42:34.5±0.3, 51°.71N±0°.08×177°.57W±0°.04, h78km±2km, mb4.2/21, Error ellipse: s-maj=13.2km s-min=3.3km az=171.6
IDC 18 11:42:35.2±2.6, 51°.87N×177°.74W, h78km±23km, mb3.3/8, mb1 3.7/10, mb1mx3.4/29, mbtmp3.4/10, Error ellipse: s-maj=34.4km s-min=13.2km az=169.0
NEIC 18 11:42:35.2±0.3, 51°.60N×177°.56W, h69km±2km, mb4.0/23, ML3.9(AEIC), Error ellipse: s-maj=9.7km s-min=2.8km az=172.0
ISC 18 11:42:35.0±0.7, 51°.7N±0°.1×177°.56W±0°.03, h73km±4km, n96, σ1$21/101, mb3.9/21, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TAPA	**Tanaga Point A**	**0.23**	**318**	P	**Pn**	**11 42 46.0**	**-0.2**
KIKV	**Kanaga Island**	**0.34**	**46**	P	**Pn**	**11 42 46.5**	**-0.2**
TASE	**Tanaga Southea**	**0.35**	**303**	P	**Pn**	**11 42 46.9**	**0.0**
KICM	**Kanaga Island**	**0.36**	**40**	P	**Pn**	**11 42 46.7**	**-0.2**
TAFP	**Tanaga Falls P**	**0.36**	**314**	P	**Pn**	**11 42 46.6**	**-0.3**
KIRH	**Kanaga Island**	**0.39**	**49**	P	**Pn**	**11 42 47.0**	**-0.2**
KINC	**Kanaga Island**	**0.39**	**43**	P	**Pn**	**11 42 46.9**	**-0.2**
TANO	**Tanaga North**	**0.44**	**308**	P	**Pn**	**11 42 47.7**	**+0.2**
ADK	**Adak**	**0.60**	**66**	P	**Pn**	**11 42 47.9**	**-1.1**
ADK				S	**Sn**	**11 42 59.0**	**-0.3**
ADAG	**Mount Adagdak**	**0.69**	**60**	P	**Pn**	**11 42 49.9**	**0.0**
GAEA	**Gareloi East**	**0.75**	**281**	P	**Pn**	**11 42 50.9**	**+0.2**
ETKA	**Kagalaska Isla**	**0.75**	**73**	P	**Pn**	**11 42 50.4**	**-0.3**
GALAA	**Gareloi Lava P**	**0.76**	**279**	P	**Pn**	**11 42 51.0**	**+0.2**
GANE	**Gareloi Northe**	**0.77**	**283**	P	**Pn**	**11 42 51.1**	**+0.2**
GSCK	**Great Sitkin C**	**0.94**	**67**	P	**Pn**	**11 42 52.8**	**-0.2**
GSTD	**Great Sitkin T**	**0.97**	**64**	P	**Pn**	**11 42 53.1**	**-0.3**
GSTD				S	**Sn**	**11 43 06.8**	**-0.3**
GSMY	**Great Sitkin M**	**1.02**	**66**	P	**Pn**	**11 42 53.5**	**-0.3**
GSTR	**Great Sitkin T**	**1.03**	**64**	*e*Pn	**Pn**	**11 42 54.0**	**0.0**
GSTR				*e*Sn	**Sn**	**11 43 07.2**	**-1.2**
CERAA	**Semis' Rag'd T**	**1.73**	**280**	P	**Pn**	**11 43 03.2**	**+0.2**
CESW	**Semis' Southwe**	**1.80**	**279**	P	**Pn**	**11 43 04.2**	**+0.1**
CEAP	**Semis' Anvil P**	**1.81**	**282**	P	**Pn**	**11 43 04.5**	**+0.4**
CEAP				S	**Sn**	**11 43 26.2**	**0.0**
CETU	**Semis' Tuman**	**1.85**	**281**	P	**Pn**	**11 43 05.2**	**+0.4**
AMKA	**Amchitka**	**1.98**	**263**	P	**Pn**	**11 43 06.4**	**+0.1**
AMKA				S	**Sn**	**11 43 31.1**	**-0.2**
LSPA	**Little Sitkin**	**2.42**	**279**	P	**Pn**	**11 43 13.0**	**+0.7**
LSPA				S	**Sn**	**11 43 41.5**	**+0.6**
LSSE	**Little Sitkin**	**2.42**	**278**	P	**Pn**	**11 43 13.0**	**+0.7**
LSNW	**Little Sitkin**	**2.45**	**279**	P	**Pn**	**11 43 13.1**	**+0.3**
LSSA	**Little Sitkin**	**2.46**	**279**	P	**Pn**	**11 43 13.3**	**+0.5**
NIKH	**Nikolski High**	**5.51**	**73**	P	**Pn**	**11 43 55.6**	**+1.3**
FX1	**Attu Island--F**	**5.83**	**286**	P	**Pn**	**11 43 58.9**	**+0.2**
FX1	**Attu Island--F**	**5.83**	**286**	P	**Pn**	**11 43 56.1**	**-2.6**
	1.4nm,0.3s,baz=85,slow=17,SNR=8.4						
FX1				S	**Sn**	**11 45 00.7**	**-3.4**
	1.7nm,0.3s,baz=106,slow=23,SNR=6.2						
OKCE	**Okmok Cone E**	**6.01**	**69**	P	**Pn**	**11 44 02.9**	**+1.8**
OKTU	**Okmok Mt. Tuli**	**6.07**	**70**	P	**Pn**	**11 44 03.4**	**+1.4**
MSW	**Makushin Switc**	**6.92**	**67**	P	**Pn**	**11 44 14.9**	**+1.2**
SPIA	**Saint Paul Isl**	**6.99**	**35**	P	**Pn**	**11 44 16.2**	**+1.7**
UNV	**Unalaska Valle**	**7.07**	**68**	P	**Pn**	**11 44 17.2**	**+1.6**
AKUT	**Akutan**	**7.56**	**66**	*e*Pn	**Pn**	**11 44 24.4**	**+2.1**
OHAK	**Old Harbor**	**15.14**	**59**	*e*Pn	**Pn**	**11 46 00.7**	**-3.7**
	14nm,1.2s						
PETK	**Petropavlovsk-**	**15.16**	**285**	P	**Pn**	**11 46 02.2**	**-2.4**
	0.1nm,0.3s,baz=102,slow=13,SNR=3.5						
SVW2	**Sparrevohn**	**15.35**	**43**	*e*P	**P**	**11 46 12.0**	**+1.8**
	5.4nm,1.0s						
KDAK	**Kodiak Island**	**15.63**	**57**	*e*Pn	**Pn**	**11 46 07.3**	**-3.2**
	33nm,1.7s						
PPLA	**Purkeypile**	**17.61**	**40**	*e*P	**P**	**11 46 38.2**	**+2.9**
	70nm,2.4s						
SEW	**Seward**	**17.78**	**51**	*e*P	**P**	**11 46 35.6**	**-1.4**
	28nm,1.8s						
CAST	**Castle Rocks**	**17.90**	**39**	*e*P	**P**	**11 46 38.0**	**-0.4**
	12nm,1.4s						
RC01	**Rabbit Creek A**	**17.94**	**47**	*e*P	**Pn**	**11 46 40.4**	**+1.2**
	8.0nm,1.2s						
PMR	**Palmer**	**18.39**	**46**	*e*P	**Pn**	**11 46 45.0**	**+0.5**
	2.0nm,0.8s						
TRF	**Thorofare Moun**	**18.63**	**40**	*e*P	**P**	**11 46 46.9**	**+0.4**
	6.9nm,1.0s						
BPAW	**Bear Paw Mtn.**	**18.66**	**38**	*e*P	**Pn**	**11 46 47.9**	**0.0**
	21nm,1.9s						
IMA2	**Indian Mountai**	**18.82**	**31**	*e*P	**Pn**	**11 46 49.9**	**+0.1**
MCK	**McKinley**	**19.30**	**40**	*e*P	**P**	**11 46 54.6**	**+1.0**
	2.2nm,0.7s						
COLA	**College**	**20.23**	**38**	*e*P	**P**	**11 47 04.9**	**+1.2**
	9.7nm,0.8s						
PAX	**Paxson**	**20.46**	**44**	*e*P	**P**	**11 47 06.9**	**+0.6**
	32nm,2.2s						
ILAR	**Eielson Array**	**20.55**	**39**	P	**P**	**11 47 05.8**	**-1.4**
	0.3nm,0.5s,baz=240,slow=10,SNR=9.4						
ILAR				ScP	**ScP**	**11 54 42.8**	**-2.2**
	0.3nm,0.5s,baz=268,slow=3.4,SNR=5.5						
DOT	**Dot Lake**	**21.28**	**43**	*e*P	**P**	**11 47 15.0**	**0.0**
	3.5nm,0.7s						
DOT				*e*		11 47 30.4	
EGAK	**Eagle**	**22.84**	**41**	*e*P	**P**	**11 47 31.8**	**+0.2**
	30nm,2.1s						
H11N2	**WAKE ISLAND Hy**	**34.11**	**207**	T	T	12 25 35.6	
	baz=22,SNR=426						
H11N3	**WAKE ISLAND Hy**	**34.12**	**207**	T	T	12 25 35.0	
	baz=22,SNR=360						
H11N1	**WAKE ISLAND Hy**	**34.13**	**207**	T	T	12 25 38.8	
	baz=22,SNR=316						
YKA	**Yellowknife Ar**	**34.49**	**47**	P	**P**	**11 49 15.1**	**-0.3**
	0.3nm,0.3s,baz=273,slow=9.3,SNR=4.8						
H11S1	**WAKE ISLAND Hy**	**35.33**	**206**	T	T	12 27 01.5	
	baz=18,slow=0.7,SNR=169						
H11S2	**WAKE ISLAND Hy**	**35.34**	**206**	T	T	12 27 04.0	
	baz=18,slow=0.7,SNR=162						
H11S3	**WAKE ISLAND Hy**	**35.34**	**206**	T	T	12 27 04.0	
	baz=18,slow=0.7,SNR=108						
LTY	**Liberty**	**36.44**	**74**	*e*P	**P**	**11 49 33.0**	**+0.5**
	41nm,2.2s						
H04A	**Detroit Lake**	**36.81**	**78**	*e*P	**P**	**11 49 37.5**	**+2.0**
	103nm,2.4s						
HAWA	**Hanford**	**37.55**	**74**	*e*P	**P**	**11 49 42.2**	**+0.5**
	2.5nm,0.6s						
CN2	**Changchun**	**38.25**	**281**	*e*P	**P**	**11 49 48.3**	**+0.6**
K05A	**Summer Lake**	**38.65**	**80**	*e*P	**P**	**11 49 52.5**	**+1.2**
	76nm,2.0s						
I07A	**Izee**	**38.76**	**78**	*e*P	**P**	**11 49 53.4**	**+1.3**
	30nm,2.2s						
MOD	**Modoc**	**39.47**	**81**	*e*P	**P**	**11 49 59.1**	**+1.1**
	58nm,1.9s						
OHCM	**Honcut**	**40.23**	**85**	*e*P	**P**	**11 50 04.7**	**+0.5**
HLID	**Hailey**	**42.12**	**75**	*e*P	**P**	**11 50 21.8**	**+1.8**
	1.5nm,1.0s						
MCMT	**McKenzie Canyo**	**42.36**	**73**	*e*P	**P**	**11 50 21.8**	**-0.2**
	0.8nm,0.8s						
NVAR	**Mina Array Bea**	**42.75**	**84**	P	**P**	**11 50 26.3**	**+1.2**
	0.5nm,0.8s,baz=272,slow=10,SNR=4.5						
R11A	**Troy Canyon, C**	**44.48**	**82**	*e*P	**P**	**11 50 39.1**	**+0.2**
DUG	**Dugway**	**45.06**	**78**	*e*P	**P**	**11 50 44.0**	**+0.5**
	1.0nm,0.6s						
BW06	**Boulder Array**	**45.49**	**73**	*e*P	**P**	**11 50 46.8**	**-0.2**
	3.2nm,1.0s						
BW06				*e*		11 51 03.5	
PDAR	**Pinedale Array**	**45.49**	**73**	P	**P**	**11 50 46.9**	**-0.1**
	1.2nm,0.7s,baz=316,slow=2.8,SNR=13						
HHC	**Hu-ho-hao-te**	**48.36**	**286**	*e*P	**P**	**11 51 08.6**	**-0.6**
HHC				pP	**pP**	**11 51 28.4**	**+1.0**
HHC				sP	**sP**	**11 51 37.8**	**+2.0**
HHC				PP	**PP**	**11 53 01.8**	**-0.2**
HHC				S	**S**	**11 58 01.8**	**-2.1**
HHC				sS	**sS**	**11 58 34.0**	**-1.0**
HHC				LR	LR		

	comp=Z,83nm,16.7s								
PV10	**Paradox Valley**	**48.48**	**78**	*e*P		**P**	**11 51 11.2**	**+0.8**	
	33nm,0.6s								
PV04	**Paradox Valley**	**48.55**	**78**	*e*P		**P**	**11 51 10.8**	**0.0**	
PV05	**Paradox Valley**	**48.63**	**78**	*e*P		**P**	**11 51 12.4**	**+1.0**	
PV15	**Paradox Valley**	**48.84**	**77**	*e*P		**P**	**11 51 14.7**	**+1.6**	
PV01	**Paradox Valley**	**48.92**	**78**	*e*P		**P**	**11 51 13.7**	**0.0**	
SMCO	**Snowmass**	**49.23**	**75**	*e*P		**P**	**11 51 16.4**	**+0.2**	
	11nm,2.0s								
TXAR	**Lajitas Array**	**57.85**	**82**	P		**P**	**11 52 18.6**	**-0.4**	
	0.3nm,0.5s,baz=306,slow=4.9,SNR=15								
TXAR				PcP		**PcP**	**11 53 10.9**	**+0.2**	
	0.3nm,0.6s,baz=262,slow=0.7,SNR=3.8								
CD2	**Chengdu**	**59.67**	**282**	P		**P**	**11 52 33.1**	**+1.5**	
WMQ	**Urumqi**	**59.84**	**303**	*e*P		**P**	**11 52 35.4**	**+2.8**	
GYA	**Guiyang**	**61.06**	**277**	*e*P		**P**	**11 52 41.0**	**-0.2**	
CMAR	**Chiang Mai Arr**	**71.75**	**277**	P		**P**	**11 53 49.1**	**-0.2**	
	1.0nm,0.7s,baz=26,slow=7.3,SNR=6.1								
WRA	**Warramunga Arr**	**82.75**	**225**	P		**P**	**11 54 50.0**	**-0.7**	
	0.6nm,0.7s,baz=31,slow=5.7,SNR=4.8								
ASAR	**Alice Springs**	**86.21**	**224**	P		**P**	**11 55 08.4**	**+0.3**	
	0.9nm,0.7s,baz=22,slow=5.1,SNR=13								
TORD	**Torodi Ar. Bea**	**115.47**	**1**	PKP		**PKPdf**	**12 01 06.8**	**-1.8**	
	0.1nm,0.3s,baz=334,slow=2.8,SNR=2.6								
H03N2	**Juan Fernandez**	**120.48**	**106**	T		T	14 13 18.4		
	baz=315,slow=0.7,SNR=7.5								
H03N1	**Juan Fernandez**	**120.49**	**106**	T		T	14 13 14.5		
	baz=315,slow=0.7,SNR=8.2								
H03N3	**Juan Fernandez**	**120.49**	**106**	T		T	14 13 11.4		
	baz=315,slow=0.7,SNR=7.7								
MAW	**Mawson**	**147.17**	**218**	PKPbc		**PKPbc**	**12 02 08.2**	**0.0**	
	1.2nm,0.6s,baz=59,slow=4.3,SNR=4.1								
BOSA	**Boshof**	**151.35**	**315**	PKPbc		**PKPbc**	**12 02 19.0**	**-1.1**	
	1.4nm,0.6s,baz=40,slow=1.4,SNR=5.9								

IDC 18 11:50:53.7±1.2, 3°.59S×123°.24E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.5/22, mbtmp3.5/5, ML3.3/2, MS3.2/1, Ms1 3.2/1, ms1mx2.9/21, Error ellipse: s-maj=35.7km s-min=21.0km az=51.0
ISCJB 18 11:50:58.1±0.7, 3°.51S±0°.05×123°.15E±0°.06, h38km, mb3.5/3, Error ellipse: s-maj=8.9km s-min=5.8km az=27.1
DJA 18 11:51:00.6±0.7, 3°.S±4°×12°.3E±°, h78km±34km, M3.7/10, MLv3.7/10
ISC 18 11:50:58.9±0.9, 3°.51S±0°.05×123°.19E±0°.08, h38km, n17, σ1$23/21, mb3.4/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KKSI	**Kolaka, Sulawe**	**1.67**	**247**	P	**Pn**	**11 51 27.4**	**+1.8**
BBSI	**Bau Bau**	**2.06**	**197**	P	**Pn**	**11 51 33.7**	**+2.7**
LUWI	**Luwuk**	**2.48**	**350**	P	**Pn**	**11 51 36.8**	**0.0**
LUWI				S	**Sn**	**11 52 07.1**	**+1.2**
APSI	**Ampana**	**3.00**	**329**	P	**Pn**	**11 51 44.0**	**0.0**
BNSI	**Bone**	**3.20**	**254**	P	**Pn**	**11 51 46.0**	**-0.7**
BNSI				S	**Sn**	**11 52 22.9**	**-0.7**
TTSI	**Tana Toraja**	**3.39**	**278**	P	**Pn**	**11 51 50.0**	**+0.6**
SPSI	**Sidrap Palu**	**3.44**	**262**	P	**Pn**	**11 51 50.5**	**+0.5**
BKSI	**Bulukumba**	**3.55**	**239**	P	**Pn**	**11 51 51.7**	**+0.2**
BKSI	

RAR **Rarotonga** 13.59 113 *e*Pn Pn 12 05 42.8 -3.9
RAR **Rarotonga** 13.59 113 Pn Pn 12 05 42.9 -3.7
6.0nm,0.3s,SNR=16
RAR LR LR 12 09 42.9
comp=Z,4µm,20.3s,baz=135,slow=32
DZM **Mont Dzumac** 20.03 250 *e*P **P** **12 07 06.8 -0.2**
341nm,1.7s
DZM *e*S S 12 10 44.4 -7.6
2µm,23.1s
DZM *e*LR LR 12 11 43.8
14µm,25.1s
DZM **Mont Dzumac** 20.03 250 P **P** **12 07 06.6 -0.4**
DZM **Mont Dzumac** 20.03 250 P **P** **12 07 06.6 -0.4**
1.7nm,0.3s,baz=91,slow=17,SNR=11
OUZ **Omahuta** 22.18 210 *e*P **P** **12 07 28.4 -1.5**
41nm,0.8s
TARA **Tarawa** 22.32 321 *e*P **P** **12 07 32.7 +1.1**
94nm,1.2s
PPT **Papeete** 22.63 96 P **P** **12 07 38.5 +3.6**
PPT **Papeete** 22.63 96 P **P** **12 07 38.5 +3.6**
30nm,0.9s,baz=85,slow=6.9,SNR=3.6
PPT LR LR 12 13 50.2
comp=Z,2µm,21.6s,baz=302,slow=30
PPT2 **Papeete2** 22.63 96 *e*P P 12 07 40.1 +5.1
116nm,1.7s
PPT2 *e*S **S** **12 11 44.0 +1.4**
3µm,28.5s
PPT2 *e*LR LR 12 12 59.6
6µm,24.5s,baz=260
TBI **Tubuai** 23.36 111 *e*S **S** **12 11 55.6 +0.6**
1µm,26.4s
TBI *e*LQ LQ 12 12 14.0
4µm,28.2s
TBI *e*LR LR 12 13 12.9
7µm,27.2s,baz=287
URZ **Urewera** 23.41 199 *e*P **P** **12 07 40.6 -2.2**
895nm,2.6s
URZ **Urewera** 23.41 199 P **P** **12 07 41.2 -1.5**
42nm,0.6s,baz=14,slow=6.3,SNR=27
XMAS **Kiritimati** 24.02 42 *e*P **P** **12 07 47.6 -1.2**
100nm,1.0s
BKZ **Black Stump Fm** 24.44 200 *e*P **P** **12 07 53.9 +1.4**
269nm,2.0s
SNZO **South Karori** 26.96 200 *e*P **P** **12 08 16.3 +1.0**
75nm,1.0s
HNR **Honiara** 27.05 281 LR LR 12 17 26.1
comp=Z,8µm,20.7s,baz=119,slow=33
KHZ **Kahutara** 28.34 201 *e*P **P** **12 08 27.3 -0.3**
41nm,0.9s
RPZ **Rata Peaks** 30.36 203 *e*P **P** **12 08 45.6 0.0**
32nm,0.7s
RPZ **Rata Peaks** 30.36 203 P **P** **12 08 44.4 -1.2**
9.4nm,0.6s,baz=354,slow=3.7,SNR=9.3
RPZ LR LR 12 19 23.0
comp=Z,1µm,21.2s,baz=32,slow=33
ODZ **Otahua Downs** 31.65 202 *e*P **P** **12 08 58.3 +1.4**
19nm,0.8s
EIDS **Eidsvold** 34.47 249 *e*P **P** **12 09 20.7 -1.1**
7.1nm,0.6s
EIDS **Eidsvold** 34.47 249 P **P** **12 09 19.1 -2.6**
baz=35,SNR=3.1
ARMA **Armidale** 35.02 240 *e*P **P** **12 09 25.3 -1.4**
22nm,0.7s
ARMA **Armidale** 35.02 240 P **P** **12 09 25.0 -1.7**
baz=35,SNR=19
RKT **Rikitea** 36.52 107 *e*S **S** **12 15 24.2 +2.7**
324nm,29.0s
RKT *e*LQ LQ 12 17 56.8
1µm,29.0s
RKT *e*LR LR 12 19 14.0
4µm,27.2s,baz=286
RMQ **Roma** 36.69 248 P **P** **12 09 39.1 -1.8**
baz=37,SNR=8.3
CNB **Canberra Magne** 38.32 233 P **P** **12 09 52.7 -2.0**
baz=39,SNR=11
CAN **Canberra** 38.60 233 *e*P **P** **12 09 54.7 -2.3**
CAN pmax pmax
comp=Z,23nm,1.1s
CAN **Canberra** 38.60 233 *e*P **P** **12 09 54.7 -2.3**
comp=Z,23nm,1.1s
CTAO **Charters Tower** 38.62 258 *e*P **P** **12 09 56.1 -1.3**
CTAO pmax pmax
comp=Z,55nm,1.6s
CTAO **Charters Tower** 38.62 258 *e*P **P** **12 09 56.1 -1.3**
comp=Z,55nm,1.6s
PMG **Port Moresby** 39.20 275 *e*P **P** **12 10 03.5 +1.3**
comp=Z,53nm,1.1s
PMG **Port Moresby** 39.20 275 *e*P **P** **12 10 02.5 +0.2**
comp=Z,47nm,1.0s
PMG **Port Moresby** 39.20 275 P **P** **12 10 01.8 -0.4**
comp=Z,31nm,0.8s,baz=136,slow=5.7,SNR=5.8
H11S2 **WAKE ISLAND Hy** 39.89 329 T T 12 52 16.1
baz=152,slow=0.7,SNR=29
H11S3 **WAKE ISLAND Hy** 39.90 329 T T 12 51 58.7
baz=152,slow=0.7,SNR=35
H11S1 **WAKE ISLAND Hy** 39.91 329 T T 12 52 17.4
baz=152,slow=0.7,SNR=26
CMSA **Cobar Meteorol** 40.23 240 P **P** **12 10 08.5 -2.2**
baz=40,SNR=31
KIP **Kipapa** 40.41 22⇑ *i*P **P** **12 10 13.6 +1.6**
KIP pmax pmax
comp=Z,132nm,1.7s
MTSU **Mount Surprise** 40.55 261 P **P** **12 10 13.1 -0.3**
baz=41,SNR=5.6
WAKE **Wake Island** 40.59 330 *e*P **P** **12 10 15.1 +1.5**
comp=Z,587nm,1.7s
QLP **Quilpie** 40.73 248 P **P** **12 10 12.1 -2.7**
baz=41,SNR=11
H11N3 **WAKE ISLAND Hy** 40.85 331 T T 12 53 04.4
baz=156,slow=0.7,SNR=60
H11N1 **WAKE ISLAND Hy** 40.85 331 T T 12 53 38.9
baz=156,SNR=62
H11N2 **WAKE ISLAND Hy** 40.86 331 T T 12 53 05.8
baz=156,slow=0.7,SNR=84
TOO **Toolangi** 42.01 232 P **P** **12 10 23.1 -2.1**
baz=42,SNR=25
COEN **Coen** 42.12 267 *e*P **P** **12 10 26.4 +0.1**
comp=Z,112nm,0.7s
COEN **Coen** 42.12 267 P **P** **12 10 24.0 -2.4**
baz=42,SNR=4.8
STKA **Stephens Creek** 43.73 241 *e*P **P** **12 10 37.3 -1.9**
comp=Z,7.7nm,0.9s
STKA **Stephens Creek** 43.73 241 P **P** **12 10 37.5 -1.7**
baz=44,SNR=29
STKA **Stephens Creek** 43.73 241 P **P** **12 10 37.2 -1.9**
comp=Z,27nm,0.9s,baz=84,slow=8.7,SNR=55
STKA LR LR 12 26 15.1
comp=Z,1µm,21.3s,baz=66,slow=33
ARPS **Mount Arapiles** 44.57 234 P **P** **12 10 43.9 -2.0**
baz=45,SNR=8.1
JAY **Jayapura** 47.37 282 P **P** **12 11 09.7 +1.4**
JAY **Jayapura** 47.37 282 P **P** **12 11 08.4 +0.1**
baz=48,SNR=3.2
BBOO **Buckleboo** 48.50 241 *e*P **P** **12 11 14.6 -2.2**
comp=Z,419nm,1.0s
BBOO **Buckleboo** 48.50 241 P **P** **12 11 14.7 -2.1**
baz=49,SNR=8.5
WRAB **Tennant Creek** 49.81 258⇓ *i*P **P** **12 11 25.0 -2.1**
WRAB pmax pmax
comp=Z,54nm,1.2s
WRAB **Tennant Creek** 49.81 258 *e*P **P** **12 11 24.2 -2.8**
comp=Z,18nm,0.9s
WRAB **Tennant Creek** 49.81 258 P **P** **12 11 24.9 -2.1**
comp=Z,99nm,1.3s,SNR=6.3
WRA **Warramunga Arr** 49.81 258 P **P** **12 11 24.7 -2.4**
WRA **Warramunga Arr** 49.81 258 P **P** **12 11 24.7 -2.4**
comp=Z,6.8nm,0.6s,baz=92,slow=6.7,SNR=28
WRA LR LR 12 31 20.9
comp=Z,2µm,20.4s,baz=100,slow=35
AS31 **Alice Springs** 50.00 253 *e*P **P** **12 11 25.8 -2.6**
ASAR **Alice Springs** 50.00 253 P **P** **12 11 26.2 -2.3**
ASAR **Alice Springs** 50.00 253 P **P** **12 11 26.2 -2.3**
comp=Z,41nm,0.6s,baz=88,slow=8.2,SNR=982
ASAR LR LR 12 31 41.9
comp=Z,2µm,19.0s,baz=95,slow=35
KDU **Kakadu** 52.59 266 P **P** **12 11 46.8 -1.1**
baz=53,SNR=5.8
MTN **Manton Dam** 53.85 266 P **P** **12 11 56.0 -1.2**
baz=54,SNR=7.9
FAKI **Fak Fak** 55.23 278 P **P** **12 12 08.0 +0.6**
baz=56,SNR=3.9
KNRA **Kununurra** 55.62 262 P **P** **12 12 08.4 -1.6**
baz=56,SNR=10
SWI **Sorong** 56.82 280 P **P** **12 12 18.6 -0.1**
SWI **Sorong** 56.82 280 P **P** **12 12 18.6 -0.1**
baz=57,SNR=7.1
FITZ **Fitzroy Crossi** 58.20 259 *e*P **P** **12 12 27.5 -0.9**
comp=Z,3.6nm,0.6s
FITZ **Fitzroy Crossi** 58.20 259 P **P** **12 12 27.7 -0.6**
baz=58,SNR=11
DRV **Dumont d'Urvil** 58.75 200 P P 12 12 18.0 -13
DRV S S 12 20 22.0 -14
DRV L L 12 26 00.0
DRV R 12 30 00.0
SOEI **Soe** 61.08 268 P **P** **12 12 49.7 +1.3**
SOEI **Soe** 61.08 268 P **P** **12 12 48.9 +0.5**
baz=61,SNR=18
SBA **Scott Base** 62.30 185 *e*P **P** **12 12 57.1 +1.6**
SBA pmax pmax
comp=Z,116nm,2.3s
SBA **Scott Base** 62.30 185 *e*P **P** **12 12 57.1 +1.6**
comp=Z,116nm,2.3s
VNDA **Vanda** 62.43 186 *e*P **P** **12 12 56.9 +0.5**
comp=Z,6.4nm,0.9s
VNDA **Vanda** 62.43 186 P **P** **12 12 56.9 +0.5**
comp=Z,1.3nm,0.7s,baz=14,slow=6.9,SNR=6.9
VNDA LR LR 12 36 12.5
comp=Z,164nm,19.6s,baz=15,slow=32
MBWA **Marble Bar** 63.28 254 *e*P **P** **12 13 01.7 -1.3**
comp=Z,25nm,1.2s
MEEK **Meekatharra** 63.63 248 P **P** **12 13 03.3 -1.9**
baz=64,SNR=13
NWAO **Narrogin (SRO)** 64.31 241 *e*P **P** **12 13 09.4 -0.2**
comp=Z,56nm,1.6s
LUWI **Luwuk** 64.82 277 P **P** **12 13 13.4 +0.2**
BLDU **Ballidu** 64.93 243 P **P** **12 13 12.0 -1.7**
baz=65,SNR=17
MORW **Morawa** 65.65 245 P **P** **12 13 16.7 -1.6**
baz=66,SNR=5.0
APSI **Ampana** 65.93 276 P **P** **12 13 21.6 +1.2**
TTSI **Tana Toraja** 67.07 274 P **P** **12 13 29.0 +1.4**
GIRL **Giralia** 68.10 252 P **P** **12 13 33.9 -0.1**
baz=68,SNR=3.6
CASY **Casey** 69.61 205 *e*P **P** **12 13 42.2 -0.4**
comp=Z,162nm,2.5s
FX1 **Attu Island--F** 69.97 351 *e*P **P** **12 13 44.8 -0.1**
FX1 **Attu Island--F** 69.97 351 LR LR 12 38 06.1
comp=Z,534nm,19.6s,baz=180,slow=30
SRBI **Sinjaja** 70.16 267 P **P** **12 13 48.3 +1.3**
UNV **Unalaska Valle** 70.17 4 *e*P **P** **12 13 45.3 -0.8**
comp=Z,57nm,1.5s
YUK **Yuzh-Kuril'sk** 70.79 330 *e i*P P 12 13 58.2 +8.1
YUK *e* 12 16 23.9
YUK *e*PPP PPP 12 18 05.1
YUK *i* S **S** **12 23 03.0 -1.5**
YUK *e*SS **SS** **12 27 40.7 +3.4**
MYLDM **Lahad Datu** 70.83 282 P **P** **12 13 53.1 +2.0**
MYLDM **Lahad Datu** 70.83 282 P **P** **12 13 53.1 +2.0**
MYLDM **Lahad Datu** 70.83 282 P **P** **12 13 53.2 +2.2**
comp=Z,33nm,1.4s
MYLDM **Lahad Datu** 70.83 282 *e*P **P** **12 13 52.8 +1.8**
comp=Z,106nm,1.6s
SMMC **Simmler** 72.00 44 ⇑P **P** **12 13 59.0 +1.3**
baz=72
PTRM **Twissleman Ran** 72.06 43 *e*P **P** **12 13 58.8 +0.7**
SDKM **Sandakan** 72.21 282 P **P** **12 14 01.1 +1.7**
ASAJ **Asahikawa** 72.46 328 *e*P **P** **12 14 00.6 +0.4**
comp=Z,19nm,1.3s
ARVC **Arvin** 72.67 44 ⇓P **P** **12 14 02.4 +0.7**
baz=73
VES **Vestal, Richgr** 72.91 44 ⇑P **P** **12 14 03.7 +0.6**
baz=73
MURC **Murrieta** 72.92 46 ⇑P **P** **12 14 03.8 +0.6**
baz=73
BFSC **Mount Baldy Ra** 72.96 46 ⇓P **P** **12 14 04.0 +0.5**
baz=73
MONP **Monument Peak** 73.08 47 ⇓P **P** **12 14 05.3 +0.9**
baz=73
EDW2 **Edwards Air Fo** 73.09 45 ⇑P **P** **12 14 04.1 -0.2**
baz=73,SNR=8.5
KHMM **Horse Mountain** 73.12 37 *e*P **P** **12 14 04.8 +0.4**
comp=Z,51nm,2.0s
DVTC **Desert V Tower** 73.18 48 ⇑P **P** **12 14 05.7 +0.8**
baz=73
ISA **Isabella** 73.21 44 *e*P **P** **12 14 05.6 +0.6**
ISA pmax pmax
comp=Z,25nm,1.4s
ISA **Isabella** 73.21 44 *e*P **P** **12 14 05.6 +0.6**
comp=Z,25nm,1.4s
ISA **Isabella** 73.21 44 ⇑P **P** **12 14 05.5 +0.6**
baz=74,SNR=9.6
KKM **Kota Kinabalu** 73.26 282 P P 12 14 15.0 +9.3
PET **Petropavlovsk** 73.26 343 *e*P **P** **12 14 04.7 0.0**
PET *e*S **S** **12 23 28.9 -3.5**
PET pmax pmax
comp=E,100nm,5.7s
PET pmax pmax
comp=Z,100nm,13.5s
CMB **Columbia Colle** 73.36 41 *e*P **P** **12 14 06.1 +0.3**
CMB pmax pmax
comp=Z,25nm,1.4s
CMB **Columbia Colle** 73.36 41 *e*P **P** **12 14 06.1 +0.3**
comp=Z,25nm,1.4s
PFO **Pinyon Flat Ob** 73.44 47 *e*P **P** **12 14 06.3 -0.1**
comp=Z,16nm,1.4s
PFO **Pinyon Flat Ob** 73.44 47 ⇑P **P** **12 14 07.1 +0.7**
baz=74
CHGN **Chignik** 73.45 9 *e*P **P** **12 14 06.3 +0.5**
OHCM **Honcut** 73.48 39 *e*P **P** **12 14 06.6 +0.2**
SWSC **Sam W. Stewart** 73.55 48 ⇓P **P** **12 14 07.7 +0.8**
baz=74
SJI **Sawahan** 73.55 267 P **P** **12 14 08.3 +0.8**
PETK **Petropavlovsk-** 73.61 342 P **P** **12 14 07.0 +0.2**
PETK **Petropavlovsk-** 73.61 342 P **P** **12 14 07.0 +0.2**
PETK **Petropavlovsk-** 73.61 342 P **P** **12 14 07.0 +0.2**
comp=Z,9.6nm,0.8s,baz=120,slow=7.8,SNR=19
PETK LR LR 12 41 29.9
comp=Z,116nm,21.8s,baz=38,slow=32
LRMC **Laurel Mountai** 73.63 45 ⇑P **P** **12 14 08.3 +0.7**
baz=74
CWC **Cottonwood Cre** 73.92 44 ⇑P **P** **12 14 09.9 +0.6**
baz=74
BELC **Belle Mtn. Jos** 73.97 47 ⇓P **P** **12 14 09.8 +0.2**
baz=74,SNR=6.2
MPMC **Manual Prospec** 74.09 44 ⇑P **P** **12 14 10.5 +0.2**
baz=74,SNR=16
MTUM **Tungsten Hills** 74.13 43 *e*P **P** **12 14 11.0 +0.5**
GSC **Goldstone** 74.13 45 *e*P **P** **12 14 10.8 +0.4**
GSC pmax pmax
comp=Z,33nm,1.6s
GSC **Goldstone** 74.13 45 *e*P **P** **12 14 10.8 +0.4**
comp=Z,33nm,1.6s
GSC **Goldstone** 74.13 45 ⇑P **P** **12 14 10.5 +0.1**
baz=74,SNR=7.8
BC3 **Big Chuckawall** 74.17 47 ⇑P **P** **12 14 11.2 +0.5**
baz=74,SNR=5.9
HEC **Hector,Ludlow** 74.20 46 ⇓P **P** **12 14 11.0 +0.2**
baz=74
WAKR **Walker** 74.25 41 *e*P **P** **12 14 11.6 +0.5**
YBH **Yreka Blue Hor** 74.25 37 P **P** **12 14 11.8 +0.8**
YBH **Yreka Blue Hor** 74.25 37 P **P** **12 14 11.8 +0.8**
comp=Z,8.2nm,0.9s,baz=198,slow=2.9,SNR=17
GLA **Glamis** 74.29 48 ⇓P **P** **12 14 12.4 +1.1**
baz=74
YSS **Yuzh-Sakhalins** 74.42 330 ⇓ *i*P **P** **12 14 12.7 +1.0**
YSS pmax pmax
comp=Z,48nm,1.7s
GMRC **Granite Mounta** 74.63 46 ⇓P **P** **12 14 13.6 +0.2**
baz=75,SNR=5.5
IRM **Iron Mountain** 74.65 47 ⇓P **P** **12 14 13.6 +0.2**
baz=75,SNR=8.2
HUMO **Hull Mountain** 74.68 36 *e*P **P** **12 14 14.7 +1.4**
comp=Z,70nm,1.8s
UGM **Wanagama** 74.70 266 P **P** **12 14 13.7 -0.4**
baz=75,SNR=3.8
FURC **Furnace Creek,** 74.75 44 ⇓P **P** **12 14 14.0 +0.2**
baz=75,SNR=8.6
TUQ **Turquoise Moun** 74.81 45 ⇓P **P** **12 14 14.7 +0.3**
baz=75
SHOC **Shoshone** 74.82 45 ⇓P **P** **12 14 15.0 +0.6**
baz=75,SNR=10
Y12C **Blythe** 74.88 48 ⇑P **P** **12 14 15.3 +0.7**
baz=75
113A **Mohawk Valley,** 74.91 49 ⇑P **P** **12 14 15.5 +0.6**
baz=75
NVAR **Mina Array Bea** 74.92 42 P **P** **12 14 15.3 +0.3**
NVAR **Mina Array Bea** 74.92 42 P **P** **12 14 15.3 +0.3**
comp=Z,6.8nm,0.9s,baz=227,slow=9.5,SNR=46
NVAR LR LR 12 39 47.5
comp=Z,2µm,21.3s,baz=98,slow=30
PAHR **Pah Rah Range** 74.99 40 *e*P **P** **12 14 15.6 +0.2**
comp=Z,32nm,1.4s
LDFC **Landfair** 75.17 46 *e*P **P** **12 14 17.0 +0.5**
comp=Z,57nm,1.3s
214A **Organ Pipe Nat** 75.19 50 ⇓P **P** **12 14 15.9 -0.7**
baz=75
PDMCI **Parker Dam,Lak** 75.44 47 ⇑P **P** **12 14 18.5 +0.6**
baz=76
MOD **Modoc** 75.77 38 *e*P **P** **12 14 20.0 +0.2**
comp=Z,90nm,1.1s
KDAK **Kodiak Island** 75.83 11 *e*P **P** **12 14 20.0 +0.5**
comp=Z,98nm,1.8s
SHPR **Sheep Range** 75.91 45 *e*P **P** **12 14 21.0 +0.2**
SBUM **Sibu** 75.93 277 P **P** **12 14 21.6 +0.5**
SBUM **Sibu** 75.93 277 P **P** **12 14 21.8 +0.7**
SBUM **Sibu** 75.93 277 *e*P **P** **12 14 21.2 0.0**
comp=Z,24nm,1.5s
K05A **Summer Lake** 75.93 37 *e*P **P** **12 14 21.5 +0.7**
comp=Z,50nm,1.1s
STKI **Sintang** 75.94 274 P **P** **12 14 23.8 +2.6**
W13A **Hualapai Mount** 76.03 47 ⇓P **P** **12 14 21.4 -0.2**
baz=76,SNR=6.0
Y14A **Wickenburg** 76.06 48 ⇓P **P** **12 14 21.7 +0.2**
baz=76,SNR=7.8
TGJI **Tegal** 76.31 267 P **P** **12 14 24.0 +0.7**
H04A **Detroit Lake** 76.44 35 *e*P **P** **12 14 23.8 +0.4**
comp=Z,77nm,1.7s
R11A **Troy Canyon, C** 76.63 43 *e*P **P** **12 14 24.9 0.0**
comp=Z,22nm,1.5s
R11A **Troy Canyon, C** 76.63 43 ⇑P **P** **12 14 25.7 +0.9**
baz=77
BMN **Battle Mountai** 76.76 41 *e*P **P** **12 14 25.5 0.0**
BMN pmax pmax
comp=Z,13nm,1.0s
BMN **Battle Mountai** 76.76 41 *e*P **P** **12 14 25.5 0.0**
comp=Z,13nm,1.0s
TUC **Tucson** 76.86 50 *e*P **P** **12 14 26.3 +0.2**
TUC pmax pmax
comp=Z,21nm,1.5s
TUC **Tucson** 76.86 50 *e*P **P** **12 14 26.2 +0.2**
comp=Z,21nm,1.5s
KSRS **Korea Array** 76.98 316 P **P** **12 14 25.8 -0.8**
comp=Z,2.4nm,1.0s,baz=132,slow=5.0,SNR=4.9
KSRS LR LR 12 46 14.4
comp=Z,168nm,19.1s,baz=131,slow=34
KSAR **Wonju Array Be** 77.00 316 P **P** **12 14 25.8 -0.9**
X16A **Lo Mia Camp, P** 77.42 48 ⇑P **P** **12 14 30.1 +0.7**
baz=78,SNR=7.5
KSM **Kuching** 77.47 275 P **P** **12 14 30.6 +0.7**
KSM **Kuching** 77.47 275 P **P** **12 14 31.5 +1.7**
KSM **Kuching** 77.47 275 *e*P **P** **12 14 29.9 +0.1**
comp=Z,88nm,1.3s
KSM **Kuching** 77.47 275 P **P** **12 14 30.1 +0.3**
baz=78,SNR=18
319A **Douglas** 77.54 52 ⇓P **P** **12 14 30.7 +0.7**
baz=78
I07A **Izee** 77.56 36 *e*P **P** **12 14 30.2 +0.4**
comp=Z,37nm,1.6s
G06A **Carlson Farm,** 77.64 35 *e*P **P** **12 14 30.7 +0.5**
comp=Z,218nm,2.7s
CCUT **Cedar City** 77.68 45 *e*P **P** **12 14 31.5 +0.7**
comp=Z,29nm,1.5s
J08A **Circle Bar Ran** 77.72 38 *e*P **P** **12 14 30.9 +0.2**
comp=Z,27nm,1.3s
LEM **Lembang** 77.76 266 P **P** **12 14 32.2 +0.5**
U15A **North Rim** 77.83 46 ⇑P **P** **12 14 32.4 +0.6**
baz=78,SNR=14
LON **Longmire** 77.97 33 *e*P **P** **12 14 32.2 +0.2**
LON pmax pmax
comp=Z,15nm,1.4s
LON **Longmire** 77.97 33 *e*P **P** **12 14 32.2 +0.2**
comp=Z,16nm,1.4s
WUAZ **Wupatki** 78.01 47 ⇓P **P** **12 14 33.6 +1.0**
baz=78
320A **Kipp Ranch, An** 78.09 52 ⇓P **P** **12 14 34.0 +0.9**
baz=78,SNR=6.6
D05A **Enumclaw** 78.15 33 *e*P **P** **12 14 34.1 +1.2**
comp=Z,83nm,1.4s
ELK **Elko** 78.18 41 *e*P **P** **12 14 34.0 +0.5**
comp=Z,29nm,1.7s
ELK **Elko** 78.18 41 P **P** **12 14 33.6 +0.1**
comp=Z,5.7nm,1.0s,baz=86,slow=23,SNR=18
USRK **Ussuriysk Arra** 78.27 323 P **P** **12 14 33.5 -0.1**
comp=Z,3.3nm,0.9s,baz=134,slow=4.2,SNR=4.0
220A **Playas Peak, P** 78.35 52 ⇓P **P** **12 14 34.9 +0.4**
baz=79,SNR=11
120A **U Bar Ranch, L** 78.57 51 ⇑P **P** **12 14 36.0 +0.2**
baz=79,SNR=6.0
CBJI **Citeko** 78.60 267 P **P** **12 14 35.9 -0.3**
G08A **Pilot Rock** 78.61 36 *e*P **P** **12 14 35.7 +0.1**
comp=Z,28nm,1.3s
DBJI **Dramaga** 78.66 266 P **P** **12 14 35.9 -0.6**
BBB **Bella Bella** 78.67 26 P **P** **12 14 35.7 +0.1**
BBB **Bella Bella** 78.67 26 P **P** **12 14 35.7 +0.1**
comp=Z,7.1nm,1.0s,baz=259,slow=10,SNR=2.4
Z20A **Nine Sixteen R** 78.86 51 ⇑P **P** **12 14 38.3 +0.9**
baz=79,SNR=6.6
LTY **Liberty** 78.89 33 *e*P **P** **12 14 37.3 +0.2**
comp=Z,45nm,1.9s
MVU **Marysvale** 78.95 44 *e*P **P** **12 14 38.7 +0.8**
comp=Z,20nm,1.3s
HAWA **Hanford** 78.96 35 *e*P **P** **12 14 37.4 0.0**
comp=Z,28nm,1.4s
221A **Mesquite Ranch** 78.96 52 ⇓P **P** **12 14 38.8 +0.9**
baz=79
121A **Cookes Peak, D** 79.20 51 ⇓P **P** **12 14 39.2 0.0**
baz=79,SNR=5.2
HABR **Khabarovsk** 79.26 328 *e*P **P** **12 14 38.3 -0.6**
HABR *e* 12 14 45.8
HABR *e* 12 17 37.6
HABR *e*S **S** **12 24 40.0 +1.4**
HABR *e**SS **sS** **12 24 44.9 -1.6**
HABR *e* 12 25 00.5
HABR *e*SS **SS** **12 29 47.0 +1.2**
HABR pmax pmax
comp=N,16nm,1.3s
HABR pmax pmax
comp=E,49nm,2.0s
HABR pmax pmax
comp=Z,49nm,1.3s
Y20A **Horse Springs,** 79.39 50 ⇓P **P** **12 14 41.3 +1.0**
baz=80,SNR=9.9
DUG **Dugway** 79.44 43 *e*P **P** **12 14 40.1 -0.2**
DUG pmax pmax
comp=Z,16nm,1.4s
DUG **Dugway** 79.44 43 *e*P **P** **12 14 40.1 -0.2**
comp=Z,16nm,1.4s
DUG **Dugway** 79.44 43 ⇑P **P** **12 14 40.7 +0.4**
baz=80
RC01 **Rabbit Creek A** 79.45 11 *e*P **P** **12 14 39.5 -0.2**
comp=Z,74nm,1.8s
X20A **Quemado** 79.60 49 ⇓P **P** **12 14 42.5 +1.0**
baz=80
Z21A **St. Cloud Mine** 79.64 51 ⇓P **P** **12 14 42.5 +0.8**
baz=80,SNR=11
BGU **Big Grassy Mou** 79.69 42 *e*P **P** **12 14 40.6 -1.1**
comp=Z,18nm,1.7s
E09A **Wood Farm, Sta** 79.80 35 *e*P **P** **12 14 42.1 +0.1**
comp=Z,18nm,1.3s
122A **Conniff Cattle** 79.86 52 ⇑P **P** **12 14 44.6 +1.8**
baz=80
Q16A **Castle Valley** 79.86 44 ⇓P **P** **12 14 44.0 +1.2**
baz=80
W20A **Ramah** 79.87 49 ⇑P **P** **12 14 44.1 +1.1**
baz=80,SNR=14
MDJ **Mudanjiang** 79.91 322 P **P** **12 14 44.3 +1.7**
MDJ pP **pP** **12 14 47.6 +0.2**
MDJ sP **sP** **12 14 49.6 +0.5**
MDJ PP **PP** **12 17 45.3 +0.8**
MDJ AMB AMB
comp=Z,7.0nm,1.3s
MDJ AMB AMB
comp=Z,82nm,5.4s
MDJ LR LR
comp=Z,64nm,25.9s
MDJ LR LR
comp=Z,35nm,19.8s
MDJ LR LR
comp=Z,120nm,21.9s
Y21A **Point of Rocks** 79.96 50 ⇓P **P** **12 14 44.5 +1.1**
baz=80,SNR=7.0
F10A **Beach Ranch, E** 79.99 36 *e*P **P** **12 14 42.7 -0.4**
comp=Z,44nm,1.6s
PMR **Palmer** 80.03 11 *e*P **P** **12 14 42.4 -0.4**
PMR pmax pmax
comp=Z,31nm,1.4s
PMR **Palmer** 80.03 11 *e*P **P** **12 14 42.4 -0.4**
comp=Z,31nm,1.4s
TMUT **Trail Mountain** 80.03 44 *e*P **P** **12 14 45.0 +1.2**
comp=Z,25nm,1.2s
X21A **Alamocita Cree** 80.08 50 ⇓P **P** **12 14 45.4 +1.4**

baz=80
MPU Maple Canyon 80.12 43 eP P 12 14 44.3 +0.2
comp=Z,8.9nm,1.2s
Z22A Elephant Butte 80.14 51 ⇑P P 12 14 44.7 +0.4
baz=80,SNR=8.6
V20A Brimhall 80.22 48 ⇓P P 12 14 45.5 +0.8
baz=80
HLID Hailey 80.25 39 eP P 12 14 45.1 +0.3
comp=Z,17nm,1.3s
HLID Hailey 80.25 39 ⇑P P 12 14 45.9 +1.2
baz=80
DIV Divide 80.29 13 eP P 12 14 44.5 +0.1
comp=Z,19nm,0.9s
HVU Hansel Valley 80.30 41 eP P 12 14 45.5 +0.5
HVU pmax pmax
comp=Z,85nm,2.4s
HVU Hansel Valley 80.30 41 eP P 12 14 45.5 +0.5
comp=Z,85nm,2.4s
SRU San Rafael 80.40 45 eP P 12 14 46.2 +0.6
SRU pmax pmax
comp=Z,19nm,1.1s
SRU San Rafael 80.40 45 eP P 12 14 46.2 +0.6
comp=Z,19nm,1.1s
BMRM Bremner River 80.41 14 eP P 12 14 44.8 -0.2
comp=Z,83nm,1.5s
PPBI Pangkal Pinang 80.44 271 P P 12 14 47.0 +0.8
Y22A Socorro 80.45 50 ⇓P P 12 14 46.9 +0.9
baz=81
U20A Newcomb 80.45 48 ⇓P P 12 14 46.5 +0.6
baz=81
324A Moseley Ranch, 80.46 53 ⇓P P 12 14 45.9 -0.2
baz=81,SNR=5.5
C09A Chrisman Ranch 80.50 34 eP P 12 14 45.7 -0.1
comp=Z,73nm,1.8s
JLU Jordanelle 80.54 43 eP P 12 14 46.5 +0.1
comp=Z,14nm,1.3s
425A Indio Mountain 80.56 54 ⇑P P 12 14 47.2 +0.6
baz=81,SNR=6.5
X22A Bernardo 80.67 50 ⇑P P 12 14 48.3 +1.1
baz=81
224A Cornudas Mount 80.71 53 ⇑P P 12 14 46.9 -0.5
baz=81,SNR=6.3
626A Big Bend Ranch 80.71 56 ⇑P P 12 14 47.8 +0.4
baz=81
325A Bean Ranch, Si 80.83 54 ⇓P P 12 14 48.2 +0.1
baz=81,SNR=6.6
PV05 Paradox Valley 80.86 46 eP P 12 14 49.3 +1.1
MVCO Mesa Verde 80.86 47 ⇑P P 12 14 48.8 +0.5
baz=81
LPM Los Pinos Moun 80.86 50 eP P 12 14 49.2 +0.9
526A Mary Lane Ranc 80.96 55 ⇓P P 12 14 49.1 +0.3
baz=81
TXAR Lajitas Array 80.99 56 P P 12 14 49.2 +0.3
TXAR Lajitas Array 80.99 56 P P 12 14 49.2 +0.3
comp=Z,5.4nm,1.2s,baz=217,slow=6.0,SNR=19
TXAR LR LR 12 43 15.8
comp=Z,821nm,19.5s,baz=345,slow=30
124A Stringfield Ra 81.03 52 ⇓P P 12 14 50.3 +1.1
baz=81
PV09 Paradox Valley 81.04 46 eP P 12 14 49.9 +0.6
PV10 Paradox Valley 81.05 46 eP P 12 14 49.0 -0.2
comp=Z,167nm,0.9s
U21A Nageezi 81.09 48 ⇑P P 12 14 50.3 +0.8
baz=81,SNR=12
Y23A Lovelace Mesa, 81.12 51 ⇓P P 12 14 50.1 +0.5
baz=81
PV04 Paradox Valley 81.15 46 eP P 12 14 49.9 +0.2
PV01 Paradox Valley 81.25 46 eP P 12 14 50.2 -0.1
comp=Z,2µm,1.4s
225A Deer Hill, Car 81.26 53 ⇑P P 12 14 51.2 +0.9
baz=82,SNR=5.5
426A McDonald Obser 81.26 55 ⇑P P 12 14 51.0 +0.5
baz=82,SNR=8.6
627A Terlingua Ranc 81.26 56 ⇓P P 12 14 50.6 +0.2
baz=82,SNR=6.6
ANMO Albuquerque 81.28 50 eP P 12 14 50.2 -0.2
comp=Z,21nm,1.4s
527A Woodward Ranch 81.37 55 ⇓P P 12 14 51.3 +0.3
baz=82,SNR=5.6
V22A San Miguel Ran 81.39 49 ⇑P P 12 14 51.9 +0.9
baz=82
NEW Newport 81.40 34 eP P 12 14 49.9 -0.7
comp=Z,5.5nm,1.3s
NEW Newport 81.40 34 ⇓P P 12 14 50.7 +0.2
baz=82
NEW Newport 81.40 34 P P 12 14 50.4 -0.2
comp=Z,3.1nm,1.1s,baz=251,slow=5.4,SNR=4.1
NEW LR LR 12 44 42.9
comp=Z,700nm,19.9s,baz=169,slow=31
R20A Redvale 81.41 46 ⇑P P 12 14 51.6 +0.5
baz=82
PV15 Paradox Valley 81.41 46 eP P 12 14 51.5 +0.3
T21A Navajo Lake 81.44 48 ⇓P P 12 14 52.6 +1.3
baz=82
PMBI Palembang 81.54 269 P P 12 14 52.9 +0.9
TRF Thorofare Moun 81.54 10 eP P 12 14 50.2 -0.9
comp=Z,73nm,1.7s
S21A Coal Bank Pass 81.57 47 ⇓P P 12 14 52.7 +0.6
baz=82,SNR=12
Y24A Capitan 81.58 51 ⇓P P 12 14 52.5 +0.4
baz=82,SNR=6.1
SKAG Skagway 81.60 18 eP P 12 14 52.4 +1.2
comp=Z,49nm,1.8s
W23A Werner Place, 81.60 50 ⇑P P 12 14 53.4 +1.2
baz=82
125A Gardner Draw, 81.62 53 ⇓P P 12 14 52.9 +0.7
baz=82
U22A Llaves 81.64 48 ⇑P P 12 14 53.5 +1.2
baz=82
628A Black Gap, Mar 81.67 56 ⇓P P 12 14 53.0 +0.5
baz=82
MDSI Maura Dua 81.68 268 P P 12 14 50.7 -2.1
P19A Cripple Cowboy 81.69 45 ⇓P P 12 14 53.0 +0.4
baz=82
226B Tecolote Peak, 81.75 53 ⇓P P 12 14 53.2 +0.4
baz=82,SNR=8.1
427A Hayter Ranch, 81.83 55 ⇑P P 12 14 54.3 +0.9
baz=82
Q20A Ridgley Place, 81.83 46 ⇑P P 12 14 53.4 +0.1
baz=82,SNR=13
V23A Ortiz Mt. (NFS 81.84 49 ⇑P P 12 14 54.2 +0.8
baz=82,SNR=7.7
Z25A Roswell 81.84 52 ⇑P P 12 14 54.3 +0.9
baz=82
T22A Edith 81.90 48 ⇑P P 12 14 54.8 +1.1
baz=82
O19A Miners Draw (B 81.92 44 ⇓P P 12 14 54.3 +0.6
baz=82
CN2 Changchun 81.95 320 eP P 12 14 53.5 0.0
CN2 eS S 12 25 07.4 +0.4
CN2 AMB AMB
comp=Z,10.0nm,0.7s
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,300nm,17.0s
PAX Paxson 82.01 12 eP P 12 14 52.7 -0.8
PAX pmax pmax
comp=Z,43nm,2.0s
PAX Paxson 82.01 12 eP P 12 14 52.7 -0.8
comp=Z,43nm,2.0s
528A Cox Ranch, San 82.03 55 ⇓P P 12 14 55.6 +1.2
baz=82
P20A De Beque 82.03 45 ⇓P P 12 14 54.8 +0.5
baz=82,SNR=12
MCK McKinley 82.04 11 eP P 12 14 53.2 -0.4
MCK pmax pmax
comp=Z,20nm,0.9s
MCK McKinley 82.04 11 eP P 12 14 53.2 -0.4
comp=Z,20nm,0.9s
RRI2 Red Ridge 82.04 41 eP P 12 14 54.9 +0.5
comp=Z,11nm,1.0s
R21A Cimarron 82.07 46 ⇓P P 12 14 55.3 +0.7
baz=82,SNR=14
HYT Haines Junctio 82.08 17 eP P 12 14 54.8 +0.8
U23A El Rito 82.09 49 ⇓P P 12 14 55.3 +0.6
baz=82,SNR=7.5
126A Clayton Basin, 82.10 53 ⇑P P 12 14 55.3 +0.6
baz=82
Y25A Mesa, Roswell 82.14 51 ⇑P P 12 14 55.0 +0.1
baz=82,SNR=5.5
W24A Lazy 6 Ranch, 82.17 50 ⇑P P 12 14 55.7 +0.6
baz=82
Q21A Lamborn Mesa, 82.27 46 ⇓P P 12 14 56.8 +1.2
baz=82
S22A 4UR Ranch, Cre 82.29 47 ⇑P P 12 14 56.4 +0.6
baz=82,SNR=14
DLMT Dillon 82.33 38 eP P 12 14 56.2 +0.6
comp=Z,16nm,1.1s
428A Kincaid Ranch, 82.34 55 ⇓P P 12 14 56.1 +0.1
baz=82
REDW Red Top Meadow 82.34 41 eP P 12 14 56.2 +0.3
comp=Z,33nm,1.4s
MSO Missoula 82.34 37 eP P 12 14 55.3 -0.4
comp=Z,46nm,1.8s
MSO Missoula 82.34 37 ⇑P P 12 14 56.0 +0.3
baz=83
TPAW Teton Pass 82.35 41 eP P 12 14 56.1 +0.1
comp=Z,23nm,1.4s
Z26A Caprock 82.39 52 ⇑P P 12 14 56.9 +0.7
baz=83
O20A White River Ci 82.44 44 ⇑P P 12 14 57.2 +0.8
baz=83
BSMT Bassoo Peak 82.44 35 eP P 12 14 56.1 -0.1
SNOW Snow King Moun 82.45 41 eP P 12 14 56.8 +0.2
comp=Z,95nm,2.1s
529A Stev Forest Ra 82.46 56 ⇓P P 12 14 57.1 +0.5
baz=83
LHSI Lahat 82.49 268 P P 12 14 55.2 -1.8
V24A Rampart Ranch, 82.49 50 ⇓P P 12 14 57.9 +1.0
baz=83
328A Wristen Ranch, 82.51 54 ⇑P P 12 14 57.3 +0.5
baz=83
T23A Casias Ranch, 82.52 48 ⇓P P 12 14 58.2 +1.2
baz=83
DLBC Dease Lake 82.53 21 P P 12 14 55.9 -0.4
DLBC Dease Lake 82.53 21 P P 12 14 55.9 -0.4
comp=Z,4.3nm,1.1s,baz=179,slow=7.5,SNR=5.2
R22A Saguache, Gunn 82.56 47 ⇓P P 12 14 58.0 +0.8
baz=83,SNR=10
IMW Indian Meadow 82.56 40 eP P 12 14 57.3 +0.2
comp=Z,34nm,1.5s
MOOW Moose Ponds 82.61 40 eP P 12 14 57.3 0.0
comp=Z,15nm,1.5s
LOHW Long Hollow 82.62 41 eP P 12 14 57.0 -0.4
comp=Z,8.6nm,1.1s
LRM Limekiln Ridge 82.66 38 eP P 12 14 57.4 -0.1
P21A Newcastle 82.68 45 ⇓P P 12 14 58.7 +0.9
baz=83
Q22A Crested Butte, 82.75 46 ⇓P P 12 14 58.8 +0.6
baz=83,SNR=14
QLMT Earthquake Lak 82.75 39 eP P 12 14 58.7 +0.8
N20A Spence Gulch, 82.76 44 ⇑P P 12 14 58.2 +0.1
baz=83,SNR=7.6
CHMT Chamberlain Mo 82.78 37 eP P 12 14 57.5 -0.6
I17A Pilgrim Ck. 82.80 40 ⇑P P 12 14 59.3 +1.1
baz=83,SNR=6.9
FLWY Flagg Ranch 82.81 40 eP P 12 14 58.8 +0.5
comp=Z,28nm,1.2s
SMCO Snowmass 82.85 46 eP P 12 14 59.1 +0.2
comp=Z,28nm,1.1s
S23A Nye Farm, Mont 82.85 47 ⇓P P 12 14 60.0 +1.3
baz=83
PDAR Pinedale Array 82.86 42 P P 12 14 58.4 -0.3
PDAR Pinedale Array 82.86 42 P P 12 14 58.4 -0.3
comp=Z,5.2nm,0.9s,baz=217,slow=3.6,SNR=39
PDAR LR LR 12 46 09.8
comp=Z,1µm,19.0s,baz=239,slow=32
W25A X Bar L Ranch, 82.87 50 ⇑P P 12 14 59.2 +0.5
baz=83
DOT Dot Lake 82.91 13 eP P 12 14 58.3 +0.2
comp=Z,50nm,1.8s
429A Davenport Ranc 82.92 55 ⇑P P 12 14 59.6 +0.6
baz=83
O21A Pagoda 82.99 45 ⇓P P 12 14 59.8 +0.4
baz=83
Z27A Tatum 83.00 52 ⇓P P 12 14 59.7 +0.3
baz=83
T24B San Luis 83.00 48 ⇓P P 12 15 00.9 +1.3
baz=83
V25A Rancho No Teng 83.02 50 ⇓P P 12 14 59.8 +0.2
baz=83,SNR=8.7
H17A Grant Village 83.04 40 ⇑P P 12 15 01.6 +2.0
baz=83
X26A CR and CF Fran 83.06 51 ⇓P P 12 15 00.1 +0.3
baz=83
M20A Sweetwater, Wa 83.12 43 ⇑P P 12 15 00.3 +0.3
baz=83,SNR=6.1
530A J-C Ranch, Com 83.17 56 ⇑P P 12 15 00.8 +0.5
baz=83
P22A Eagle 83.19 46 ⇑P P 12 15 00.7 +0.3
baz=83
R23A Moffat 83.19 47 ⇑P P 12 15 01.0 +0.5
baz=83,SNR=5.3
329A Wagon Wheel Ra 83.20 55 ⇑P P 12 15 01.1 +0.7
baz=83
SDCO Great Sand Dun 83.22 48 eP P 12 15 00.3 -0.4
comp=Z,11nm,1.3s
128A Castleberry Fa 83.27 53 ⇓P P 12 15 01.3 +0.5
baz=84
Y27A Causey 83.27 52 ⇑P P 12 15 01.8 +0.9
baz=84
COLA College 83.28 11 ⇓iP P 12 15 00.0 +0.1
COLA pmax pmax
comp=Z,70nm,1.1s
COLA College 83.28 11 eP P 12 14 59.0 -0.9
comp=Z,26nm,0.9s
W26A Owens Ranch, T 83.33 51 ⇓P P 12 15 01.2 +0.1
baz=84
ILAR Eielson Array 83.36 11 P P 12 14 59.6 -0.7
ILAR Eielson Array 83.36 11 P P 12 14 59.6 -0.7
comp=Z,3.7nm,0.9s,baz=222,slow=4.6,SNR=39
ILAR LR LR 12 44 48.6
comp=Z,262nm,21.7s,baz=15,slow=30
S24A Houchin Ranch, 83.38 48 ⇑P P 12 15 02.4 +0.9
baz=84,SNR=6.3
U25A Circle Dot Ran 83.42 49 ⇓P P 12 15 01.5 -0.1
baz=84,SNR=5.9
J19A Crowheart 83.43 41 ⇑P P 12 15 01.5 +0.1
baz=84,SNR=9.5
QIZ Qiongzhong 83.44 292 P P 12 15 01.8 0.0
QIZ S S 12 25 23.3 0.0
QIZ AMB AMB
comp=Z,28nm,2.4s
QIZ LR LR
comp=Z,490nm,24.1s
IMA2 Indian Mountai 83.49 8 eP P 12 15 01.4 +0.2
631A Perdido Creek 83.50 57 ⇑P P 12 15 02.0 +0.1
baz=84
SEY Seymchan 83.50 345 ⇓iP P 12 15 01.3 +0.2
430A Baggett Ranch, 83.51 55 ⇑P P 12 15 01.9 -0.2
baz=84
O22A Kremmling 83.59 45 ⇓P P 12 15 02.9 +0.3
baz=84,SNR=11
WALA Waterton Lakes 83.60 35 eP P 12 15 02.2 0.0
comp=Z,0.8nm,1.5s
MSTX Muleshoe 83.60 52 eP P 12 15 02.2 -0.3
MSTX Muleshoe 83.60 52 ⇑P P 12 15 02.8 +0.3
baz=84
V26A Tequesquite Ra 83.61 50 ⇑P P 12 15 02.9 +0.3
baz=84
Z28A Tucker Farm, M 83.61 53 ⇑P P 12 15 02.8 +0.3
baz=84
X27A F and S Farms, 83.64 51 ⇑P P 12 15 03.0 +0.3
baz=84
R24A Sanders Place, 83.72 47 ⇓P P 12 15 04.0 +0.9
baz=84,SNR=5.1
T25A Trinidad 83.73 49 ⇓P P 12 15 03.5 +0.3
baz=84
MYKOM Kota Tinggi 83.74 274 P P 12 15 04.3 +0.8
H18A Shoshone NF, C 83.75 40 ⇑P P 12 15 04.5 +1.3
baz=84
531A Rocksprings 83.81 56 ⇑P P 12 15 04.1 +0.5
baz=84
W27A Bowe Ranch, En 83.84 51 ⇑P P 12 15 03.5 -0.2
baz=84
I19A Meeteetse 83.84 41 ⇓P P 12 15 04.4 +0.7
baz=84,SNR=8.8
U26A Atchley Ranch, 83.90 49 ⇑P P 12 15 04.2 +0.2
baz=84
S25A Robets Cordova 83.94 48 ⇑P P 12 15 04.7 +0.4
baz=84
N22A Wattenberg Ran 83.95 45 ⇓P P 12 15 05.3 +0.9
baz=84
431A Sonora 83.96 56 ⇓P P 12 15 04.2 -0.2
baz=84
Y28A McKinney Farm, 83.97 52 ⇑P P 12 15 04.8 +0.4
baz=84
Q24A Divide 84.01 47 ⇑P P 12 15 05.2 +0.5
baz=84
O23A Lake Granby, G 84.05 45 ⇑P P 12 15 05.3 +0.5
baz=84
ISCO Idaho Springs 84.07 46 eP P 12 15 05.0 0.0
ISCO pmax pmax
comp=Z,10.0nm,1.3s
ISCO Idaho Springs 84.07 46 eP P 12 15 05.0 0.0
comp=Z,10nm,1.3s
ISCO Idaho Springs 84.07 46 ⇓P P 12 15 05.5 +0.5
baz=84
J20A Shoshoni 84.09 42 ⇓P P 12 15 04.9 +0.1
baz=84,SNR=10
Z29A Hungry Hill Ra 84.12 53 ⇓P P 12 15 05.4 +0.3
baz=84
M22A Cedar Creek Ra 84.14 44 ⇑P P 12 15 05.8 +0.5
baz=84
H19A Powell 84.16 40 ⇑P P 12 15 06.1 +0.9
baz=84,SNR=8.9
X28A Dimmitt 84.26 52 ⇓P P 12 15 06.5 +0.7
baz=84
R25A Fountain Ranch 84.26 48 ⇓P P 12 15 06.0 +0.1
baz=84,SNR=5.3
K21A Alcova 84.28 43 ⇓P P 12 15 06.1 +0.2
baz=84,SNR=8.7
V27A Dan Oppiter Fa 84.30 50 ⇓P P 12 15 06.8 +0.8
baz=84
532A Rocksprings 84.31 57 ⇑P P 12 15 06.4 +0.3
baz=84
KGM Kluang 84.31 274 P P 12 15 06.6 +0.2
N23A Red Feather La 84.34 45 ⇓P P 12 15 07.2 +0.9
baz=85
T26A Comanche Natio 84.34 49 ⇓P P 12 15 05.9 -0.4
baz=85
I20A Worland 84.35 41 ⇑P P 12 15 06.4 +0.4
baz=85,SNR=9.4
331A San Angelo 84.35 55 ⇓P P 12 15 06.1 -0.1
baz=84
Y29A Porterfield Fa 84.39 52 ⇑P P 12 15 06.9 +0.4
baz=85
P24A Kohler Place, 84.43 46 ⇓P P 12 15 07.7 +1.0
baz=85
J21A Lysite 84.49 42 ⇑P P 12 15 07.3 +0.4
baz=85,SNR=12
EGAK Eagle 84.52 13 eP P 12 15 06.4 +0.1
comp=Z,32nm,1.6s
L22A Ellis Ranch, M 84.53 43 ⇓P P 12 15 08.2 +1.0
baz=85
Z30A Sanderson Ranc 84.58 53 ⇑P P 12 15 07.4 0.0
baz=85
O24A Longmont 84.58 46 ⇑P P 12 15 08.7 +1.3
baz=85
RGRI Rengat 84.59 271 P P 12 15 09.2 +1.4
H03N2 Juan Fernandez 84.61 123 T T 13 48 54.3
baz=242,slow=0.7,SNR=7.8
H03N3 Juan Fernandez 84.61 123 T T 13 48 42.2
baz=242,slow=0.7,SNR=6.9
S26A Kim 84.62 48 ⇓P P 12 15 08.3 +0.6
baz=85
H03N1 Juan Fernandez 84.63 123 T T 13 48 56.2
baz=242,slow=0.7,SNR=5.9
231A Bronte 84.68 55 ⇑P P 12 15 08.2 +0.3
baz=85
432A Menard 84.68 56 ⇓P P 12 15 07.8 -0.2
baz=85
H20A Greybull 84.69 41 ⇓P P 12 15 07.5 -0.3
baz=85
V28A Channing 84.75 51 ⇑P P 12 15 09.0 +0.7
baz=85
K22A Casper 84.76 43 ⇑P P 12 15 09.3 +1.1
baz=85
F19A Roth Farm, Mol 84.78 39 ⇑P P 12 15 08.1 -0.1
baz=85,SNR=11
I21A Big Trails, Te 84.81 42 ⇑P P 12 15 08.0 -0.5
baz=85,SNR=9.6
332A Millersview 84.92 55 ⇑P P 12 15 10.2 +1.1
baz=85
W29A Amraillo 84.92 51 ⇑P P 12 15 10.0 +0.8
baz=85
T27A Campo 84.92 49 ⇑P P 12 15 09.9 +0.7
baz=85
R26A Arlington 84.92 48 ⇑P P 12 15 09.0 -0.1
baz=85
P25A Willow Gulch B 84.94 46 ⇓P P 12 15 10.0 +0.8
baz=85
N24A Carr 85.03 45 ⇑P P 12 15 10.6 +1.0
baz=85
L23A Garrett 85.06 44 ⇑P P 12 15 09.8 -0.1
baz=85
Q26A Hugo 85.14 47 ⇑P P 12 15 10.6 +0.4
baz=85
J22A Midwest 85.15 42 ⇑P P 12 15 10.0 -0.2
baz=85,SNR=6.8
E19A Rath Farm, Rou 85.17 39 ⇓P P 12 15 10.4 +0.3
baz=85
232A Coleman 85.19 55 ⇑P P 12 15 10.8 +0.3
baz=85
X30A Coker Ranch, T 85.23 52 ⇓P P 12 15 11.6 +0.9
baz=85
Z31A Sharp Cattle R 85.35 53 ⇑P P 12 15 11.1 -0.2
baz=86
M24A Cheyenne 85.35 45 ⇓P P 12 15 12.4 +1.1
baz=86
H21A Big Horn, Sher 85.36 41 ⇑P P 12 15 11.6 +0.4
baz=86
I22A 9 Mile Ranch, 85.37 42 ⇓P P 12 15 11.9 +0.6
baz=86
EGMT Eagleton 85.39 37 ⇑P P 12 15 11.7 +0.5
baz=86
T28A Walsh 85.39 49 ⇓P P 12 15 12.0 +0.5
baz=86
D19A Cripps Ranch, 85.47 38 ⇑P P 12 15 12.3 +0.7
baz=86,SNR=6.4
ABTX Abilene, Hawle 85.47 54 ⇑P P 12 15 12.5 +0.6
baz=86
Y31A Rekieta Farm, 85.51 53 ⇓P P 12 15 12.1 +0.1
baz=86
P26A Davis Ranch, A 85.53 47 ⇑P P 12 15 13.5 +1.3
baz=86
L24A Wheatland 85.53 44 ⇓P P 12 15 13.6 +1.5
baz=86
E20A Meyer Farm, Mu 85.59 39 ⇑P P 12 15 13.2 +1.0
baz=86
C19A Slack Wire Ran 85.65 38 ⇑P P 12 15 13.3 +0.8
baz=86,SNR=9.4
S28A Manter 85.74 49 ⇑P P 12 15 14.2 +1.0
baz=86
Z32A Haskell 85.86 54 ⇓P P 12 15 14.7 +0.9
baz=86
D20A Manuel Ranch, 85.87 38 ⇓P P 12 15 13.9 +0.3
baz=86,SNR=6.1
V30A Spur Ranch, Mi 85.89 51 ⇑P P 12 15 14.7 +0.7
baz=86
B19A Brinkman Farms 86.07 37 ⇑P P 12 15 15.3 +0.8
baz=86,SNR=9.9
R28A Tribune 86.11 48 ⇑P P 12 15 15.8 +0.8
baz=86
Y32A R-V Farms, Ver 86.15 53 ⇓P P 12 15 15.7 +0.5
baz=86
C20A Veseth Ranch, 86.25 38 ⇓P P 12 15 15.8 +0.3
baz=86,SNR=5.4
FRIM Kepong 86.28 274 P P 12 15 29.4 +13
A19A Klindworth Far 86.42 37 ⇑P P 12 15 16.8 +0.5
baz=87
D21A La Casta Ranch 86.54 39 ⇑P P 12 15 17.6 +0.7
baz=87
C21A Desert Coulee 86.84 38 ⇓P P 12 15 18.4 +0.1
baz=87
A20A Cobblestone Ra 86.87 37 ⇓P P 12 15 18.2 -0.2
baz=87,SNR=6.1
F23A Volborg 86.89 41 ⇑P P 12 15 18.8 +0.1
baz=87
MAW Mawson 86.94 199 P P 12 15 18.5 +0.1
MAW Mawson 86.94 199 P P 12 15 18.5 +0.1
baz=87,SNR=12
MAW Mawson 86.94 199 P P 12 15 18.5 +0.1
comp=Z,4.4nm,0.6s,baz=127,slow=7.0,SNR=28
MAW LR LR 12 54 30.5
comp=Z,619nm,18.4s,baz=116,slow=36
WHTX Lake Whitney 86.95 56 ⇓P P 12 15 20.7 +1.6
baz=87
H24A Dirks Ranch, A 86.99 42 ⇑P P 12 15 18.8 -0.4
baz=87
RSSD Black Hills 87.05 42 eP P 12 15 18.8 -0.8
RSSD Black Hills 87.05 42 eP P 12 15 18.8 -0.8
D22A Cohagen 87.07 39 ⇓P P 12 15 20.0 +0.5
baz=87
B21A Ellsworth Farm 87.18 38 ⇓P P 12 15 20.6 +0.6
baz=87,SNR=6.5
I25A Rochford 87.20 43 ⇓P P 12 15 20.3 0.0
baz=87
IPM Ipoh 87.20 275 P P 12 15 21.7 +0.9

IPM	Ipoh	87.20	275	P	P	12 15 22.6	+1.8
A21A	Bergtoll Ranch	87.50	37	⇓P	P	12 15 21.9	+0.5
	baz=88						
B22A	Reddig Ranch S	87.72	38	⇑P	P	12 15 23.1	+0.5
	baz=88						
C23A	Lambert	87.97	39	⇑P	P	12 15 24.3	+0.5
	baz=88						
J27A	Elkhorn Farm,	88.00	44	⇓P	P	12 15 24.4	+0.3
	baz=88						
J28A	Allard Ranch,	88.59	44	⇓P	P	12 15 28.0	+1.2
	baz=89						
GYA	Guiyang	88.67	298	P	P	12 15 28.8	+1.2
GYA				PP	PP	12 19 01.3	+4.7
GYA				SKS	SKSac	12 25 55.0	-2.0
GYA				S	S	12 26 14.3	-0.1
GYA				SS	SS	12 32 08.8	+2.6
GYA				AMB	AMB		
	comp=Z,20nm,1.0s						
GYA				AMB	AMB		
	comp=Z,120nm,5.0s						
GYA				LR	LR		
	comp=Z,580nm,21.5s						
GYA				LR	LR		
	comp=Z,490nm,22.0s						
GYA				LR	LR		
	comp=Z,520nm,20.4s						
PSI	Prapat	88.74	273	P	P	12 15 27.7	-0.6
	baz=89,SNR=14						
XAN	Xi'an	89.35	306	P	P	12 15 30.9	+0.3
XAN				AMB	AMB		
	comp=Z,3.0nm,1.3s						
XAN				AMB	AMB		
	comp=Z,16nm,4.8s						
GSI	Gunungsitoli	89.62	271	P	P	12 15 32.2	-0.1
HHC	Hu-ho-hao-te	89.82	313	eP	P	12 15 33.4	+0.7
HHC				pP	pP	12 15 37.5	-0.1
HHC				sP	sP	12 15 41.1	+1.8
HHC				PP	PP	12 19 08.0	+2.5
HHC				S	S	12 26 23.3	-1.3
HHC				sS	sS	12 26 31.8	-0.9
HHC				SS	SS	12 32 25.5	+3.1
HHC				AMB	AMB		
	comp=Z,35nm,0.9s						
HHC				AMB	AMB		
	comp=Z,160nm,5.7s						
HHC				LR	LR		
	comp=Z,420nm,15.5s						
HHC				LR	LR		
	comp=Z,420nm,17.8s						
HHC				LR	LR		
	comp=Z,390nm,15.9s						
PBKT	Sadao Pong	90.71	287	P	P	12 15 39.1	+1.9
	comp=Z,12nm,0.9s						
YKA	Yellowknife Ar	90.91	23	P	P	12 15 36.4	-0.7
YKA	Yellowknife Ar	90.91	23	P	P	12 15 36.3	-0.7
	comp=Z,1.5nm,0.9s,baz=236,slow=4.4,SNR=4.2						
KMI	Kunming	91.62	296	P	P	12 15 42.9	+1.3
KMI				pP	pP	12 15 46.3	-0.2
KMI				PP	PP	12 19 24.5	+4.3
KMI				SKS	SKSac	12 26 14.3	-0.1
KMI				S	S	12 26 40.3	-1.7
KMI				SS	SS	12 32 52.0	+2.8
KMI				AMB	AMB		
	comp=Z,8.0nm,0.7s						
KMI				AMB	AMB		
	comp=Z,93nm,3.3s						
KMI				LR	LR		
	comp=Z,260nm,14.6s						
KMI				LR	LR		
	comp=Z,200nm,13.6s						
KMI				LR	LR		
	comp=Z,380nm,16.0s						
SYO	Syowa Base	91.69	191⇑	eP	P	12 15 38.8	-2.0
UTHA	Uthaitani	91.83	286	P	P	12 15 44.4	+2.0
	comp=Z,3.7nm,1.2s						
SNAA	Sanae	91.93	177	eP	P	12 15 41.6	-0.4
SNAA	Sanae	91.93	177	eP	P	12 15 41.4	-0.6
VNA2	Neumayer--Watz	92.37	175	eP	P	12 15 44.3	+0.3
	baz=200,slow=4.1						
CD2	Chengdu	92.48	301	P	P	12 15 46.1	+0.9
CD2				pP	pP	12 15 50.9	+0.8
CD2				sP	sP	12 15 53.1	+1.3
CD2				PP	PP	12 19 30.3	+3.6
CD2				SKS	SKSac	12 26 18.1	-0.6
CD2				S	S	12 26 47.9	-1.2
CD2				sS	sS	12 26 55.4	-1.8
CD2				SS	SS	12 33 03.8	+2.8
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CD2				AMB	AMB		
	comp=Z,110nm,5.4s						
CD2				LR	LR		
	comp=Z,210nm,7.8s						
CD2				LR	LR		
	comp=Z,340nm,8.4s						
VNA1	Neumayer--Stat	92.57	175	eP	P	12 15 45.2	+0.4
CMAR	Chiang Mai Arr	93.10	288	P	P	12 15 49.5	+1.3
CMAR	Chiang Mai Arr	93.10	288	P	P	12 15 49.5	+1.3
	comp=Z,4.6nm,1.0s,baz=97,slow=2.6,SNR=24						
CMAR				LR	LR	12 52 26.7	
	comp=Z,288nm,21.3s,baz=272,slow=32						
CHTO	Chiang Mai	93.20	289	eP	P	12 15 49.3	+0.5
CHTO				pmax	pmax		
	comp=Z,30nm,1.1s						
CHTO	Chiang Mai	93.20	289	eP	P	12 15 49.2	+0.5
	comp=Z,30nm,1.1s						
CHTO	Chiang Mai	93.20	289	P	P	12 15 49.9	+1.2
LZH	Lanzhou	93.95	306	eP	P	12 15 54.0	+2.0
LZH				pP	pP	12 15 58.3	+1.4
LZH				sP	sP	12 16 01.8	+3.1
LZH				AMB	AMB		
	comp=Z,28nm,1.2s						
LZH				AMB	AMB		
	comp=Z,180nm,5.0s						
LZH				LR	LR		
	comp=Z,190nm,15.7s						
LZH				LR	LR		
	comp=Z,140nm,11.8s						
LZH				LR	LR		
	comp=Z,260nm,15.3s						
ULM	Lac du Bonnet	94.56	39	LR	LR	12 51 19.0	
	comp=Z,1µm,21.7s,baz=243,slow=31						
SONM	Songino Array	95.69	318	P	P	12 15 58.3	-1.4
SONM				PP	PP	12 19 50.1	-1.4
SONM	Songino Array	95.69	318	P	P	12 15 58.3	-1.4
	comp=Z,0.3nm,0.6s,baz=120,slow=2.0,SNR=3.2						
SONM				PP	PP	12 19 50.1	-1.4
	comp=Z,0.5nm,0.9s,baz=156,slow=4.7,SNR=3.8						
SONM				LR	LR	12 52 23.0	
	comp=Z,200nm,21.1s,baz=12,slow=31						
TIXI	Tiksi	95.98	344⇑	eP	P	12 16 01.5	+1.2
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.7s						
GTA	Gaotai	97.93	309	P	Pdif	12 16 11.3	+1.2
GTA				pP	pP	12 16 15.8	+0.8
GTA				sP	sP	12 16 18.0	+1.3
GTA				S	ScS	12 27 37.5	+0.9
GTA				sS	sS	12 27 45.8	+1.3
GTA				AMB	AMB		
	comp=Z,3.0nm,1.1s						
GTA				AMB	AMB		
	comp=Z,58nm,4.5s						
GTA				LR	LR		
	comp=Z,120nm,20.4s						
GTA				LR	LR		
	comp=Z,190nm,22.3s						
GTA				LR	LR		
	comp=Z,320nm,22.3s						
LPAZ	La Paz	99.30	110	LR	LR	12 51 35.5	
	comp=Z,429nm,20.2s,baz=254,slow=30						
ROSC	El Rosal	99.85	88	LR	LR	12 51 47.1	
	comp=Z,292nm,20.3s,baz=195,slow=30						
MKAR	Makanchi Array	111.64	314	PKiKP	PKiKP	12 21 08.4	-0.1
MKAR	Makanchi Array	111.64	314	PKiKP	PKiKP	12 21 08.4	-0.1
	comp=Z,0.7nm,0.7s,baz=304,slow=0.4,SNR=6.8						
ARCES	ARCESS Array B	125.59	352	PKP	PKPdf	12 21 34.5	0.0
ARCES	ARCESS Array B	125.59	352	PKP	PKPdf	12 21 34.5	0.0
	comp=Z,7.2nm,1.1s,baz=29,slow=2.8,SNR=5.7						
KLMR	Klimovskoe	129.76	340	ePKiKP	PKPdf	12 21 50.0	+7.3
KLMR				pmax	pmax		
	comp=Z,13nm,1.1s						
BOSA	Boshof	131.85	202	PKP	PKPdf	12 21 48.9	+1.0
BOSA	Boshof	131.85	202	PKP	PKPdf	12 21 48.9	+1.0
	comp=Z,4.7nm,1.0s,baz=66,slow=5.3,SNR=4.0						
FINES	FINESS Array B	132.93	347	PKP	PKPdf	12 21 49.2	+0.6
	comp=Z,2.0nm,0.9s,baz=26,slow=3.5,SNR=2.2						
AKASG	Malin Array Be	141.31	337	PKiKP	PKPdf	12 22 05.1	+0.7
AKASG	Malin Array Be	141.31	337	PKP	PKPdf	12 22 05.1	+0.7
AKASG	Malin Array Be	141.31	337	PKP	PKPdf	12 22 05.1	+0.7
	comp=Z,0.9nm,0.5s,baz=38,slow=4.3,SNR=3.8						
LVV	L'vov	143.83	341	ePKiKP	PKPdf	12 22 18.6	+10
KWP	Kalwaria Pacla	144.40	342	⇑PKiKP	PKPbc	12 22 08.3	-0.1
KWP	Kalwaria Pacla	144.40	342	⇑P	PKPbc	12 22 08.3	-0.1
KWP	Kalwaria Pacla	144.40	342	ePKPdf	PKPdf	12 22 10.8	+0.7
KWP	Kalwaria Pacla	144.40	342	ePKP	PKPdf	12 22 10.9	+0.9
KWP				e		12 22 21.1	
MALT	Malatya	144.68	314	⇓PKiKP	PKPdf	12 22 10.7	-0.3
MALT	Malatya	144.68	314	⇓P	PKPdf	12 22 10.7	-0.3
KSP	Ksiaz	144.78	350	ePKiKP	PKPbc	12 22 09.8	+0.2
KSP				e		12 22 21.4	
KSP	Ksiaz	144.78	350	ePKP	PKPdf	12 22 10.3	-0.3
KSP				e		12 22 17.7	
KSP				e		12 22 23.3	
CLL	Collm	144.80	353	i PKiKP	PKPab	12 22 07.9	-1.6
CLL				pmax	pmax		
	comp=Z,8.0nm,1.2s						
CLL	Collm	144.80	353	ePKPbc	PKPab	12 22 08.5	-1.0
CLL	Collm	144.80	353	i PKPdf	PKPab	12 22 07.9	-1.6
	comp=Z,6.0nm,1.2s						
CLL				i PKiKP	PKiKP	12 22 14.4	0.0
CLL				epPKiKP	pPKiKP	12 22 18.0	-1.4
CLL				i		12 22 26.2	
CLL				LmV		13 36 00.0	
	comp=Z,300nm,20.0s						
STHS	Stebnicka Huta	145.01	343	ePKHKP	PKPbc	12 22 06.3	-4.1
STHS				e		12 22 11.2	
STHS	Stebnicka Huta	145.01	343	e	PKPbc	12 22 06.3	-4.1
STHS	Stebnicka Huta	145.01	343	ePKP	PKPdf	12 22 11.2	+0.1
BRG	Berggiesshubel	145.11	352	ePKP	PKPdf	12 22 11.4	+0.3
	comp=Z,3.8nm,0.8s						
BRG				e		12 22 20.4	
	comp=Z,8.3nm,1.1s						
BRG	Berggiesshubel	145.11	352	ePKiKP	PKPdf	12 22 11.4	+0.3
BRG				e		12 22 20.4	
BRG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRG				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BRG	Berggiesshubel	145.11	352	ePKPbc	PKPbc	12 22 09.4	-1.2
UPC	Upice	145.15	350	ePKiKP	PKPdf	12 22 12.1	+0.8
UPC				e		12 22 23.6	
UPC	Upice	145.15	350	ePKP	PKPdf	12 22 12.1	+0.8
UPC				ex	x	12 22 23.6	
KOLS	Kolonicke sedl	145.15	342	ePKiKP	PKPdf	12 22 12.9	+1.6
KOLS	Kolonicke sedl	145.15	342	ePKP	PKPdf	12 22 12.9	+1.6
DPC	Dobruska-Polom	145.25	349	ePKiKP	PKPbc	12 22 11.0	-0.1
DPC				e		12 22 24.1	
DPC	Dobruska-Polom	145.25	349	ePKP	PKPbc	12 22 11.0	-0.1
DPC				ex	x	12 22 24.1	
NIE	Niedzica	145.25	344	ePKiKP	PKPdf	12 22 11.9	+0.4
NIE	Niedzica	145.25	344	ePKP	PKPdf	12 22 11.9	+0.4
KMBO	Kilima Mbogo	145.28	243	PKPbc	PKPab	12 22 12.8	+0.1
KMBO				ePKPdf	PKPdf	12 22 13.0	0.0
KMBO	Kilima Mbogo	145.28	243	PKPbc	PKPab	12 22 12.8	+0.1
	comp=Z,11nm,0.8s,baz=68,slow=3.6,SNR=29						
BUR08	Bucovina Ar. S	145.32	338	ePKPdf	PKPdf	12 22 12.2	+0.4
BURAR	Bucovina Array	145.34	338	⇓PKiKP	PKPbc	12 22 11.0	-0.6
BURAR	Bucovina Array	145.34	338	⇓iP	PKPbc	12 22 11.0	-0.6
PVCC	Panska Ves	145.36	351	ePKiKP	PKPdf	12 22 12.7	+1.1
PVCC				e		12 22 25.1	
PVCC	Panska Ves	145.36	351	ePKP	PKPdf	12 22 12.7	+1.1
PVCC				ex	x	12 22 25.1	
UZH	Uzhgorod	145.42	342	ePKiKP	PKPbc	12 22 10.8	-0.9
UZH				i		12 22 21.8	
UBBA	Unterbreizbach	145.54	356	ePKPbc	PKPdf	12 22 11.3	-0.5
HGN	Heimansgroeve	145.69	1	ePKPdf	PKPab	12 22 12.6	-0.1
	comp=Z,53nm,1.8s						
HGN				ePKPbc	PKiKP	12 22 25.1	+8.9
	comp=Z,82nm,1.3s						
MENF	Mencas	145.69	5	PKP	PKPab	12 22 13.2	+0.4
TESR	Tescani	145.71	335⇑	iP	PKPdf	12 22 12.4	0.0
WERD	Werda	145.72	354	ePKPbc	PKPdf	12 22 12.1	-0.2
TANN	Tannenbergstha	145.74	354	ePKPbc	PKPdf	12 22 12.4	0.0
TRPA	Tarpa	145.79	341	⇑PKP	PKPab	12 22 14.7	+1.5
TRPA	Tarpa	145.79	341	e	PKPab	12 22 25.2	+12
PRA	Prague	145.82	351	PKP	PKPab	12 22 14.0	+0.7
MEM	Memmbach	145.84	1	PKP	PKPbc	12 22 13.1	+0.2
WERN	Wernitzgruen	145.87	354	ePKPbc	PKPbc	12 22 13.2	+0.1
PRU	Pruhonice	145.89	351	ePKP2	PKPbc	12 22 13.2	+0.1
PRU	Pruhonice	145.89	351	ePKP	PKPbc	12 22 13.2	+0.1
PRU				ex	x	12 22 26.3	
SNF	Seneffe	145.89	3	PKP	PKPdf	12 22 11.2	-1.3
BCLA	Clavier	146.02	2	PKP	PKPab	12 22 13.8	-0.2
CFR	Carcaliu	146.15	332	⇑PKP2	PKPdf	12 22 13.2	+0.1
CFR	Carcaliu	146.15	332	⇑iP	PKPdf	12 22 13.2	+0.1
VRAC	Vranov	146.19	348	⇑iP	PKPab	12 22 16.4	+1.6
VRI	Vrincioaia	146.20	335	⇓PKP2	PKPdf	12 22 13.5	+0.3
VRI	Vrincioaia	146.20	335	⇓iP	PKPdf	12 22 13.5	+0.3
TNS	Taunus Mts	146.21	358	ePKP2	PKPab	12 22 15.1	+0.3
TNS	Taunus Mts	146.21	358	ePKPbc	PKPab	12 22 15.1	+0.3
PLOR	Plostina	146.25	335	⇓PKP2	PKPab	12 22 13.7	+0.4
PLOR	Plostina	146.25	335	⇓iP	PKPab	12 22 13.7	+0.3
DOU	Dourbes	146.31	3	PKP	PKPdf	12 22 11.2	-2.1
ROTZ	Rotzenmuhle	146.40	354	ePKPbc	PKPab	12 22 15.3	-0.2
TREC	Trest	146.41	350	ePKP2	PKPab	12 22 15.9	+0.3
TREC				MLR	MLR		
	comp=Z,300nm,14.0s						
TREC	Trest	146.41	350	ePKP	PKPab	12 22 15.9	+0.3
TREC				ex	x	12 22 27.5	
TREC				AMS	AMS	13 33 40.0	
	comp=Z,300nm,14.0s						
GRF	Grafenberg Arr	146.57	355	ePKP2	PKPab	12 22 16.6	+0.4
GRF	Grafenberg Arr	146.57	355	ePKPbc	PKPab	12 22 16.6	+0.4
GRF				eL	L	13 31 14.7	
	comp=Z,355nm,20.6s						
GRFO	Grafenberg	146.57	355	ePKP2	PKPab	12 22 16.3	+0.1
GRFO	Grafenberg	146.57	355	ePKPbc	PKPab	12 22 16.2	+0.1
TLB	Topalu	146.65	332	⇓PKP2	PKPbc	12 22 14.9	-0.6
TLB	Topalu	146.65	332	⇓iP	PKPbc	12 22 14.9	-0.6
PSZ	Piszkesteto	146.74	344	⇑PKP2	PKPab	12 22 16.9	-0.1
PSZ	Piszkesteto	146.74	344	⇑iP	PKPab	12 22 16.9	-0.1
PSZ	Piszkesteto	146.74	344	ePKPbc	PKPab	12 22 17.1	+0.1
PSZ	Piszkesteto	146.74	344	e	PKPab	12 22 24.7	+7.7
SMOL	Smolenice	146.78	347	ePKP2	PKPab	12 22 17.9	+0.9
SMOL	Smolenice	146.78	347	ePKP	PKPab	12 22 17.9	+0.9
WLF	Walferdange	146.79	1	PKP	PKPdf	12 22 11.7	-2.4
WLF	Walferdange	146.79	1	ePKP2	PKPbc	12 22 15.4	-0.4
WLF	Walferdange	146.79	1	ePKPbc	PKPbc	12 22 15.4	-0.4
KHC	Kasperske Hory	146.86	352⇑	iPKP2	PKPab	12 22 17.2	-0.2
KHC				pmax	pmax		
	comp=Z,36nm,1.0s						
KHC	Kasperske Hory	146.86	352	ePKP	PKPbc	12 22 15.4	-0.7
KHC				ex	x	12 22 29.1	
KHC				AMS	AMS	13 31 30.0	
	comp=Z,500nm,18.5s						
KHC	Kasperske Hory	146.86	352	ePKPbc	PKPbc	12 22 16.2	+0.1
WET	Wettzell	146.94	353	ePKP2	PKPab	12 22 17.6	-0.1
WET	Wettzell	146.94	353	ePKPbc	PKPab	12 22 17.6	-0.1
BR131	Keskin Array S	147.03	320	ePKPbc	PKPbc	12 22 16.7	-0.3
BRTR	Keskin Array B	147.03	320	PKPbc	PKPbc	12 22 16.9	-0.1
BRTR	Keskin Array B	147.03	320	PKPbc	PKPbc	12 22 16.9	-0.1
	comp=Z,9.2nm,0.9s,baz=112,slow=1.9,SNR=20						
GEC2	GERESS Array S	147.12	352	ePKP2	PKPab	12 22 17.9	-0.6
GEC2	GERESS Array S	147.12	352	ePKPbc	PKPab	12 22 17.9	-0.6
GERES	GERESS Array B	147.12	352	PKPbc	PKPbc	12 22 16.8	-0.1
GERES	GERESS Array B	147.12	352	PKPbc	PKPbc	12 22 16.8	-0.1
	comp=Z,2.0nm,0.7s,baz=14,slow=2.8,SNR=20						
BUD	Budapest	147.37	345	e	PKPab	12 22 30.9	+12
ARR	Arges	147.45	336⇑	iP	PKPbc	12 22 17.3	-0.6
ANTO	Ankara	147.45	321	ePKP2	PKPbc	12 22 18.9	+0.8
ANTO	Ankara	147.45	321	ePKPbc	PKPbc	12 22 18.9	+0.8
LANF	Langenberg	147.47	359	PKP	PKPab	12 22 19.5	-0.2
PKSG		147.62	345	e	PKPab	12 22 30.1	+10
STU	Stuttgart	147.63	357	ePKP2	PKPab	12 22 20.0	-0.3
STU	Stuttgart	147.63	357	ePKPbc	PKPab	12 22 19.0	+0.8
STU	Stuttgart	147.63	357	ePKPbc	PKPab	12 22 20.0	-0.3
CONA	Conrad Observa	147.66	349⇑	sPKPdf	PKPbc	12 22 18.7	+0.2
	comp=Z,76nm,1.4s						
PKSN	Nyarlorinc	147.69	343	e	PKPab	12 22 31.5	+11
LOT	Lotru	147.70	337⇑	iP	PKPdf	12 22 12.8	-3.1
PKS7	Kunszentmiklos	147.74	344	e	PKPab	12 22 31.0	+10
SOP	Sopron	147.75	348	e	PKPab	12 22 32.7	+12
PKST	T"s	147.83	346	e	PKPab	12 22 31.8	+11
MOA	Molln	148.01	350⇑	sPKPdf	PKPbc	12 22 19.2	-0.1
	comp=Z,35nm,1.8s						
FUR	Furstenfeldbru	148.08	354	ePKP2	PKPbc	12 22 20.4	+0.9
FUR	Furstenfeldbru	148.08	354	ePKPbc	PKPbc	12 22 20.4	+0.9
BFO	Black Forest	148.10	358	c iPKP2	PKPbc	12 22 20.0	+0.5
BFO	Black Forest	148.10	358	ePKPbc	PKPbc	12 22 20.5	+1.0
BFO	Black Forest	148.10	358	ePKPbc	PKPbc	12 22 19.4	-0.2
GZR	Gura Zlata	148.11	338⇑	iP	PKPdf	12 22 11.6	-4.9
THEF	They Montfort	148.22	1	PKP	PKPab	12 22 23.0	+0.2
PKS2	Kecel	148.24	344	e	PKPab	12 22 31.7	+8.9
ECH	Echery	148.24	360	ePKP2	PKPbc	12 22 20.2	+0.3
ECH	Echery	148.24	360	PKP	PKPab	12 22 22.6	-0.2
ECH	Echery	148.24	360	ePKPbc	PKPbc	12 22 20.2	+0.3
BZS	Buzias	148.31	340	⇑PKP2	PKPbc	12 22 19.6	-0.5
BZS	Buzias	148.31	340	⇑iP	PKPbc	12 22 19.6	-0.5
RJOB	Jochberg	148.33	352	ePKPbc	PKPbc	12 22 20.3	+0.1
PKS9	Tamasi	148.39	345	e	PKPab	12 22 33.2	+10
FELD	Feldberg im Sc	148.57	358	PKP	PKPab	12 22 24.1	-0.2
MOF	Molkenrain	148.61	360	PKP	PKPbc	12 22 22.6	+1.7
BEHE	Becsehely	148.86	347	e	PKPab	12 22 34.1	+8.8
OBER	Oberstdorf	148.92	355	ePKPbc	PKPbc	12 22 21.3	-0.4
SOKA	Soboth	149.01	349⇑	iPKiKP	PKiKP	12 22 23.2	-0.2
	comp=Z,31nm,1.4s						
PERS	Pernice	149.04	349	i PKPdf	PKPab	12 22 25.8	-0.3
PERS				i PKPbc	PKiKP	12 22 30.4	+7.1
DAVA	Damuels	149.07	356⇑	iPKiKP	PKPbc	12 22 22.8	+0.6
	comp=Z,45nm,1.1s						
LOMF	Lomont	149.11	360	PKP	PKPbc	12 22 23.7	+1.5
FETA	Feichten	149.26	355⇑	iPKiKP	PKPbc	12 22 23.1	+0.3
	comp=Z,34nm,1.2s						
ABTA	Abfaltersbach	149.34	352⇑	sPKPdf	PKPbc	12 22 22.0	-0.8
	comp=Z,44nm,1.7s						
VISS	Visnje	149.89	349	i PKPbc	PKPab	12 22 32.2	+2.6
CSS	Prodhromos	149.91	313	ePKPab	PKPab	12 22 29.0	-1.1
TUE	Stuetta	149.91	356	ePKPbc	PKPbc	12 22 24.8	+0.4
JAVS	Javornik	149.94	350	i PKPbc	PKPab	12 22 33.3	+3.4
BOJS	Bojanci	150.10	348	i PKPdf	PKPab	12 22 27.5	-2.9
BOJS				i PKPbc	PKiKP	12 22 33.8	+8.3
AGO	Saint Agoulin	150.25	5	PKP	PKPab	12 22 30.6	-0.4
VTS	Vitosha	150.33	335	⇑PKiKP	PKPdf	12 22 22.4	+2.1
VTS	Vitosha	150.33	335⇑	iP	PKPdf	12 22 22.4	+2.1
PLDF	La Plantade	150.37	4	PKP	PKPab	12 22 30.7	-0.9
PYM	Petit Puy Mans	150.54	5	PKP	PKPab	12 22 30.2	-2.1
LBL	Lubilhac	151.07	5	PKP	PKPbc	12 22 30.4	+3.4
SSB	Saint Sauveur	151.12	3	ePKiKP	PKPbc	12 22 27.9	+0.8
SSB				e		12 22 34.5	
SSB	Saint Sauveur	151.12	3	ePKPbc	PKPbc	12 22 27.9	+0.8
SSB				ePKPab	PKPab	12 22 34.5	-0.2
PGAV	Gavieira, Arco	151.39	24	eLR	LR	13 21 20.4	
	comp=Z,593nm,22.0s						
BNI	Bardonecchia	151.41	0	ePKPab	PKPab	12 22 34.8	-1.2
MVO	Moncorvo	152.56	23	ePKPab	PKPab	12 22 38.9	-2.0
MVO	Moncorvo	152.56	23	eLR	LR	13 19 44.0	
	comp=Z,467nm,22.0s						
TIR	Tirane	152.68	338	ePKP2	PKPab	12 22 43.4	+2.1
TIR	Tirane	152.68	338	ePKPab	PKPab	12 22 43.4	+2.1
PMOZ	Porto Moniz, M	152.82	49	eLR	LR	13 17 03.3	
	comp=Z,402nm,20.0s						
MTE	Manteigas	153.01	25	eLR	LR	13 18 58.7	
	comp=Z,285nm,22.0s						
PTOM	Tomar	153.31	27	ePKPab	PKPab	12 22 40.8	-3.2
PMRV	Marv??o	153.90	26	ePKPab	PKPab	12 22 46.3	-0.2
PMRV	Marv??o	153.90	26	eLR	LR	13 20 42.2	
	comp=Z,368nm,20.0s						
PESTR	Estremoz	154.28	27	ePKPab	PKPab	12 22 43.6	-4.6
EVO	Evora	154.38	28	ePKPab	PKPab	12 22 48.3	-0.3
PTEO	Sao Teotonio	154.85	30	ePKPab	PKPab	12 22 50.2	-0.4
ESDC	Sonseca Array	154.96	20	PKPbc	PKPab	12 22 35.0	-0.8
ESDC				PKPab	PKPab	12 22 49.0	-2.0
ESDC	Sonseca Array	154.96	20	PKPbc	PKPbc	12 22 35.0	-0.8
	comp=Z,0.3nm,0.6s,baz=312,slow=3.0,SNR=2.8						
ESDC				PKPab	PKPab	12 22 49.0	-2.0
	comp=Z,0.5nm,0.6s,baz=317,slow=2.0,SNR=5.4						
PBAR	Barrancos	155.10	27	ePKPab	PKPab	12 22 49.6	-2.0
PCVE	Castro Verde	155.10	29	ePKPab	PKPab	12 22 47.6	-4.1
PVAQ	Vaqueiros	155.44	29	eLR	LR	13 18 04.4	
	comp=Z,368nm,22.0s						
TORD	Torodi Ar. Bea	174.11	122	PKP	PKPdf	12 22 41.9	-2.5
TORD				PKPab	PKPab	12 24 15.4	-0.4
TORD	Torodi Ar. Bea	174.11	122	PKP	PKPdf	12 22 41.9	-2.5
	comp=Z,0.8nm,0.9s,baz=311,slow=3.8,SNR=4.8						
TORD				PKPab	PKPab	12 24 15.4	-0.4
	comp=Z,3.0nm,1.0s,baz=240,slow=3.4,SNR=7.0						

*IDC **18** 12:15:19.8s±3.7,59°.21N×23°.50E,h0km,mb1 3.3/3, mb1mx3.0/26,mbtmp3.1/3,ML2.4/3,Error ellipse: s-maj=45.0km s-min=12.7km az=161.0*
*UPP **18** 12:15:22.7,59°.68N×23°.37E,h0km,ML2.0,Suspected Mining explosion.*
*ISCJB **18** 12:15:23.8±0.4,59°.73N±0°.03×23°.01E±0°.05,h0km,Error

comp=Z,0.1nm,0.3s,baz=182,slow=12,SNR=6.7

TAP 18 12:15:51.0,23.02N×120.58E,h20km,ML4.0,10C-11D,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGST	**Jiashian**	**0.06**	**1**	⇑	*i*P		Pb	12 15 55.4	+0.6
	baz=8.0								
SGST					*e*S		Sb	12 15 58.5	+1.2
	baz=8.0								
CHN1	**Nanshi**	**0.17**	**343**	⇓	*i*P		Pb	12 15 56.4	+0.2
	baz=350								
CHN1					*i* S		Sb	12 16 00.3	+0.4
	baz=350								
CHN3	**Shinhua**	**0.21**	**285**	⇓	*i*P		Pb	12 15 57.8	+1.3
	baz=285								
CHN3					*e*S		Sb	12 16 03.3	+3.1
	baz=285								
WTP	**Ta-pu**	**0.22**	**8**	⇓	*i*P		Pb	12 15 57.3	+0.5
	baz=10.0								
TWM1	**Shoushan**	**0.25**	**216**	⇑	*i*P		Pb	12 15 58.2	+1.1
	baz=215								
TWK	**Hsinying**	**0.26**	**340**	⇓	*i*P		Pb	12 15 57.7	+0.5
	baz=353								
TWK					*i* S		Sb	12 16 02.7	+1.3
	baz=353								
SGLT	**Jiouru**	**0.31**	**196**		*e*P		Pn	12 15 59.3	-1.1
	baz=190								
CHN4	**Tsaushan**	**0.33**	**2**	⇓	*i*P		Pb	12 15 58.7	+0.6
	baz=2.0								
CHN4					S		Sb	12 16 04.5	+1.5
	baz=2.0								
TAI1	**Yung-k'ang**	**0.33**	**273**	⇑	*i*P		Pb	12 15 59.2	+1.2
	baz=273								
TAI1					*e*S		Sb	12 16 04.6	+1.7
	baz=273								
SCLT	**Jiali**	**0.39**	**293**		*i* P		Pb	12 16 00.0	+0.9
	baz=293								
SCLT					*i* S		Sn	12 16 07.6	-0.7
	baz=293								
CHY	**Chiayi**	**0.49**	**343**		P		Pb	12 16 01.8	+0.8
	baz=344								
CHY					S		Sn	12 16 09.9	-1.0
	baz=344								
TWG	**Pinlang**	**0.49**	**114**	⇑	*i*P		Pb	12 16 02.0	+0.9
	baz=106								
TWG					S		Sn	12 16 09.5	-1.5
	baz=106								
CHN2	**Minshiung**	**0.52**	**349**		*e*P		Pn	12 16 02.4	-0.9
	baz=349								
CHN2					*e*S		Sn	12 16 11.2	-0.3
	baz=349								
KAU	**Kaohsiung**	**0.52**	**209**		P		Pn	12 16 02.8	-0.5
	baz=209								
KAU					*e*S		Sn	12 16 11.5	0.0
	baz=209								
ALS	**Alishan**	**0.53**	**23**		*e*P		Pb	12 16 02.3	+0.3
	baz=23								
ALS					*e*S		Sb	12 16 10.9	+1.4
	baz=23								
ECL	**Taimali**	**0.55**	**141**	⇓	*i*P		Pb	12 16 02.6	+0.7
	baz=141								
ECL					S		Sb	12 16 10.3	+0.9
	baz=141								
CHN5	**Tsauling**	**0.58**	**9**	⇑	*i*P		Pb	12 16 03.1	+0.4
	baz=9.0								
CHN5					S		Sn	12 16 12.8	-0.4
	baz=9.0								
TTN	**Taitung**	**0.59**	**117**		*e*P		Pn	12 16 04.1	-0.1
	baz=117								
SCZT	**Fangliau**	**0.65**	**177**	⇓	*i*P		Pb	12 16 04.0	+0.3
	baz=170								
SCZT					*e*S		Sn	12 16 15.5	+0.7
	baz=170								
WGK	**Gukeng**	**0.66**	**358**		*e*P		Pn	12 16 04.8	-0.4
	baz=359								
WGK					*e*S		Sn	12 16 15.6	+0.6
	baz=359								
EAST	**Anshuo**	**0.68**	**159**	⇓	*i*P		Pb	12 16 04.9	+0.5
	baz=154								
EAST					*e*S		Sn	12 16 15.3	-0.4
	baz=154								
WSF	**Szhu**	**0.69**	**332**		P		Pb	12 16 05.1	+0.6
	baz=332								
WSF					*e*S		Sn	12 16 15.8	-0.1
	baz=332								
TWP	**Hsiaoliuchiu**	**0.70**	**197**		*e*P		Pn	12 16 06.8	+0.9
	baz=218								
TWP					*e*S		Sn	12 16 18.4	+2.3
	baz=218								
TAW	**Tawu**	**0.72**	**156**		P		Pn	12 16 05.6	-0.5
	baz=156								
TAW					S		Sn	12 16 16.1	-0.5
	baz=156								
CHKT	**Chengkung**	**0.72**	**84**		*e*P		Pn	12 16 06.3	+0.2
	baz=84								
CHKT					*e*S		Sn	12 16 17.1	+0.5
	baz=84								
TWF1	**Yuli**	**0.73**	**63**	⇑	*i*P		Pn	12 16 06.0	-0.3
	baz=64								
TWF1					S		Sb	12 16 15.8	+1.0
	baz=64								
EHY	**Hungye**	**0.83**	**55**		*i* P		Pn	12 16 07.5	-0.1
	baz=58								
EHY					*e*S		Sn	12 16 20.5	+1.2
	baz=58								
WNT	**Mingjian**	**0.85**	**6**	⇑	*e*P		Pn	12 16 07.9	-0.1
	baz=355								
WNT					*e*S		Sn	12 16 20.7	+0.9
	baz=355								
WDGT	**Dungji**	**0.88**	**286**	⇑	*i*P		Pb	12 16 07.1	-0.5
	baz=286								
WDGT					S		Sb	12 16 19.2	+0.2
	baz=286								
WTCT	**Ta-ch'eng**	**0.88**	**342**		*e*P		Pb	12 16 07.9	+0.3
	baz=342								
WTCT					*e*S		Sn	12 16 20.6	+0.1
	baz=342								
SMLT	**Sun Moon Lake**	**0.90**	**19**	⇓	P		Pn	12 16 08.8	0.0
	baz=19								
SMLT					S		Sn	12 16 22.7	+1.4
	baz=19								
TYC	**Yuchr**	**0.91**	**16**		*e*P		Pn	12 16 08.7	0.0
	baz=28								
TYC					*e*S		Sn	12 16 23.4	+2.1
	baz=28								
HEN	**Hengchun**	**1.02**	**172**	⇓	*e*P		Pn	12 16 10.8	+0.6
	baz=163								
HEN					*e*S		Sn	12 16 24.4	+0.4
	baz=163								
PNG	**Penghu**	**1.09**	**300**		*i* P		Pn	12 16 09.8	-1.3
	baz=300								
PNG					*e*S		Sb	12 16 23.9	-1.0
	baz=300								
TWK1	**Hengchun**	**1.09**	**169**	⇓	P		Pb	12 16 11.5	+0.2
	baz=169								
ESL	**Shilin**	**1.11**	**45**	⇑	*i*P		Pb	12 16 12.4	+0.9
	baz=44								
ESL					S		Sn	12 16 28.2	+2.0
	baz=44								
TCU	**Taichung**	**1.12**	**4**		*e*P		Pb	12 16 12.3	+0.6
	baz=354								
WHF	**Hehuan Shan**	**1.28**	**29**	⇑	*i*P		Pb	12 16 15.3	+0.3
	baz=19								
WHF					*e*S		Sb	12 16 35.3	+3.9
	baz=19								
LAY	**Lan-yu**	**1.33**	**137**		*e*P		Pn	12 16 14.3	-0.2
	baz=126								
TWQ1	**Liyutan**	**1.33**	**8**		*e*P		Pb	12 16 15.7	+0.4
	baz=7.0								
TWQ1					*e*S		Sb	12 16 34.8	+2.8
	baz=7.0								
HWA	**Hwalien**	**1.33**	**45**		*e*P		Pb	12 16 15.9	+0.6
	baz=44								
TWT	**Tachien**	**1.34**	**24**		P		Pb	12 16 15.7	0.0
	baz=23								
TWT					*e*S		Sb	12 16 33.1	+0.5
	baz=23								
NSY	**Sanyi**	**1.40**	**7**		*e*P		Pb	12 16 16.7	+0.2
	baz=7.0								
NSY					*e*S		Sb	12 16 35.5	+1.6
	baz=7.0								
TWD	**Chiawan**	**1.40**	**41**		*e*P		Pn	12 16 14.6	-0.8
	baz=41								
TWD					*e*S		Sb	12 16 36.3	+2.3
	baz=41								
NNS	**Nan Shan**	**1.58**	**27**		*e*P		Pb	12 16 20.2	+0.4
	baz=13								
NSTT	**Nanjuang**	**1.65**	**13**		*e*P		Pn	12 16 19.7	+0.9
	baz=14								
NSTT					*e*S		Sb	12 16 42.8	+1.8
	baz=14								
ENA	**Nanau**	**1.75**	**37**		*e*P		Pb	12 16 22.4	-0.2
	baz=49								
NSK	**Sanguang**	**1.79**	**23**		*e*P		Pn	12 16 21.6	+0.7
	baz=8.0								
ENTT	**Nioudou**	**1.84**	**29**		P		Pb	12 16 23.8	-0.3
	baz=29								
ENTT					*e*S		Sb	12 16 50.1	+3.3
	baz=29								
TWC	**Suao**	**1.96**	**36**		*e*P		Pb	12 16 25.4	-0.6
	baz=48								
TWC					*e*S		Sb	12 16 51.5	+1.5
	baz=48								
TAP1	**Taipei**	**2.18**	**23**		*e*P		Pb	12 16 30.2	+0.4
	baz=24								
EGS		**2.19**	**34**		*e*P		Pb	12 16 31.2	+1.2
	baz=47								
NWF	**Wu-fen Shan**	**2.31**	**28**		*e*P		Pb	12 16 31.7	-0.5
	baz=14								
TWB1	**Santiao Chiao**	**2.36**	**33**		*e*P		Pb	12 16 31.5	-1.3
	baz=18								
KNM	**Kinmen**	**2.41**	**306**		*e*P		Pn	12 16 29.6	+0.3
	baz=304								
YOJ	**Yonaguni jima**	**2.65**	**57**		*e*P		Pn	12 16 34.6	+2.1
	baz=56								

GUC 18 12:19:32.5±0.8,32.76S×71.93W,h9km±2km,MD4.0, ML3.3,8C-5D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.36**	**138**	⇑	*i*P		Pg	12 19 40.0	+0.3
IHA					*i* S		Sg	12 19 45.4	+0.9
ROCH	**El Roble**	**0.80**	**106**	⇑	*i*P		Pg	12 19 48.0	-0.3
ROCH					*i* S		Sb	12 19 59.8	-0.4
ROCH					AML		AML	12 20 01.0	
	comp=N,2μm,0.4s								
CHNG	**Los Chungos**	**0.94**	**23**	⇑	*i*P		Pg	12 19 50.1	-0.6
CHNG					*i* S		Sg	12 20 03.0	0.0
CHNG					AML		AML	12 20 14.7	
	comp=E,415nm,0.5s								
PEL	**Peldehue**	**1.12**	**111**	⇓	*i*P		Pb	12 19 53.2	-0.9
PEL					*i* S		Sg	12 20 08.5	-0.2
PEL					AML		AML	12 20 22.0	
	comp=E,3μm,0.6s								
JACH	**Jahuel**	**1.13**	**87**	⇑	*i*P		Pb	12 19 53.4	-1.0
JACH					*i* S		Sg	12 20 08.7	-0.5
TACH	**Talagante**	**1.22**	**137**	⇓	*i*P		Pn	12 19 54.2	-1.5
TACH					*i* S		Sb	12 20 10.3	-1.5
SAN	**Santiago**	**1.27**	**123**		*e*P		Pn	12 19 55.7	-0.8
SAN					*i* S		Sb	12 20 12.5	-0.7
SAN					AML		AML	12 20 17.6	
	comp=N,1μm,0.5s								
LNV	**Longovilo**	**1.27**	**160**		*e*P		Pn	12 19 54.7	-1.8
LNV					*i* S		Sb	12 20 12.1	-1.1
STL	**Santa Lucia**	**1.28**	**122**	⇑	*i*P		Pn	12 19 55.5	-1.0
STL					*e*S		Sb	12 20 12.6	-0.8
CLCH	**Cerro Calan**	**1.33**	**119**	⇑	*i*P		Pn	12 19 56.6	-0.8
CLCH					*i* S		Sb	12 20 14.4	-0.6
CLCH					AML		AML	12 20 27.6	
	comp=N,1μm,0.5s								
ANTU	**Antumapu**	**1.36**	**127**		*i* S		Sb	12 20 14.9	-0.8
ANTU					AML		AML	12 20 20.6	
	comp=N,1μm,0.6s								
FSR	**Penalolen**	**1.38**	**122**	⇑	*i*P		Pb	12 19 58.7	+0.1
PCH	**Pirque**	**1.47**	**126**	⇓	*i*P		Pn	12 19 58.8	-0.4
PCH					*i* S		Sn	12 20 18.2	-0.5
CHCH	**Chadas Angostu**	**1.59**	**138**	⇑	*i*P		Pn	12 20 00.4	-0.5
SJCH	**San Jose de Ma**	**1.59**	**124**	⇓	*i*P		Pn	12 19 59.3	-1.6
SJCH					*i* S		Sn	12 20 20.9	-0.8
SJCH					AML		AML	12 20 26.6	
	comp=N,550nm,0.4s								
CACH	**El Canelo**	**1.75**	**141**		*e*P		Pn	12 20 03.8	+0.5
CACH					*e*S		Sb	12 20 27.2	-0.1
CMCH	**Combarbala**	**1.77**	**27**	⇓	*i*P		Pn	12 20 03.1	-0.2
CMCH					*e*S		Sn	12 20 26.1	+0.2
CMCH					AML		AML	12 20 40.7	
	comp=N,2μm,0.6s								

*IDC **18** 12:33:54.0±1.0, 12.24S×165.59E, h0km, mb4.1/12, mb1 4.2/14, mb1mx4.1/22, mbtmp4.1/14, ML3.9/2, MS3.6/7, Ms1 3.6/7, ms1mx3.4/27, Error ellipse: s-maj=31.3km s-min=18.5km az=128.0*

*ISCJB **18** 12:33:57.8±0.6, 12.26S±0.08×165.44E±0.08, h33km, mb4.1/14, MS3.8/5, Error ellipse: s-maj=12.8km s-min=9.9km az=41.4*

*NEIC **18** 12:33:59.5±0.6, 12.23S×165.57E, h35km, mb4.6/3, Error ellipse: s-maj=13.8km s-min=11.2km az=110.0*

ISC 18 12:33:59.6±0.6,12.22S±0.09×165.53E±0.09,h35km,n38, σ1s11/36,mb4.2/14,MS3.7/5,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.14**	**296**			Pn	**Pn**	**12 35 27.8**	**-0.2**
HNR						Sn	**Sn**	**12 36 35.9**	**-1.2**
HNR	**Honiara**	**6.14**	**296**			Pn	**Pn**	**12 35 27.8**	**-0.2**
	14nm,0.3s,baz=67,slow=9.7,SNR=5.2								
HNR						Sn	**Sn**	**12 36 35.8**	**-1.2**
	14nm,0.3s,baz=49,slow=19,SNR=5.8								
HNR						LR	LR	12 37 20.7	
	comp=Z,219nm,21.8s,baz=189,slow=33								
DZM	**Mont Dzumac**	**9.83**	**175**			Pn	**Pn**	**12 36 17.7**	**-1.0**
DZM	**Mont Dzumac**	**9.83**	**175**			Pn	**Pn**	**12 36 17.7**	**-1.0**
	0.3nm,0.3s,baz=135,slow=22,SNR=8.0								
PMG	**Port Moresby**	**18.26**	**277**			LR	LR	12 44 07.2	
	comp=Z,112nm,20.4s,baz=257,slow=34								
CTA	**Charters Tower**	**20.09**	**245**			P	**P**	**12 38 31.1**	**+0.8**
CTA	**Charters Tower**	**20.09**	**245**			P	**P**	**12 38 31.1**	**+0.8**
	7.9nm,0.9s,baz=75,slow=9.7,SNR=4.4								
CTAO	**Charters Tower**	**20.09**	**245**		*e*P		Pn	12 38 31.8	-0.5
	18nm,1.1s								
STKA	**Stephens Creek**	**29.45**	**225**		*e*P		**P**	**12 40 01.0**	**+0.7**
	0.8nm,1.0s								
STKA	**Stephens Creek**	**29.45**	**225**		P		**P**	**12 40 01.0**	**+0.7**
	1.7nm,0.8s,baz=22,slow=8.8,SNR=4.5								
STKA						LR	LR	12 49 49.3	
	comp=Z,238nm,21.6s,baz=20,slow=32								
WRA	**Warramunga Arr**	**30.90**	**252**		P		**P**	**12 40 11.3**	**-1.9**
WRA	**Warramunga Arr**	**30.90**	**252**		P		**P**	**12 40 11.3**	**-1.9**
	1.4nm,0.8s,baz=86,slow=8.7,SNR=9.0								
ASAR	**Alice Springs**	**32.09**	**245**		P		**P**	**12 40 22.4**	**-1.4**
ASAR	**Alice Springs**	**32.09**	**245**		P		**P**	**12 40 22.4**	**-1.4**
	2.5nm,0.8s,baz=71,slow=9.6,SNR=34								
ASAR						LR	LR	12 53 08.4	
	comp=Z,101nm,21.3s,baz=86,slow=36								
FITZ	**Fitzroy Crossi**	**38.89**	**256**		*e*P		**P**	**12 41 22.9**	**+0.8**
	21nm,1.6s								
FITZ	**Fitzroy Crossi**	**38.89**	**256**		LR		LR	12 56 25.1	
	comp=Z,121nm,20.2s,baz=201,slow=35								
TGY	**Tagaytay City**	**51.35**	**299**		LR		LR	13 00 15.1	
	comp=Z,45nm,21.9s,baz=348,slow=31								
USRK	**Ussuriysk Arra**	**63.90**	**334**		P		**P**	**12 44 29.2**	**+0.3**
	1.2nm,0.6s,baz=141,slow=6.8,SNR=3.7								
FX1	**Attu Island--F**	**65.17**	**5**		P		**P**	**12 44 37.1**	**+0.1**
FX1	**Attu Island--F**	**65.17**	**5**		P		**P**	**12 44 37.1**	**+0.1**
	6.2nm,0.6s,baz=207,slow=6.8,SNR=5.1								
CMAR	**Chiang Mai Arr**	**72.39**	**294**		P		**P**	**12 45 24.1**	**+1.4**
CMAR	**Chiang Mai Arr**	**72.39**	**294**		P		**P**	**12 45 24.1**	**+1.4**
	0.7nm,0.6s,baz=121,slow=4.2,SNR=6.9								
QSPA	**South Pole Qui**	**77.79**	**180**		*e*P		**P**	**12 45 53.3**	**+0.1**
	20nm,1.9s								
SONM	**Songino Array**	**79.49**	**324**		P		**P**	**12 46 03.4**	**+0.6**
SONM	**Songino Array**	**79.49**	**324**		P		**P**	**12 46 03.4**	**+0.6**
	0.6nm,0.8s,baz=132,slow=4.9,SNR=4.4								
GTA	**Gaotai**	**79.72**	**314**		*e*P		**P**	**12 46 05.8**	**+1.6**
GTA					pP		**PcP**	**12 46 09.4**	**-2.5**
GTA					sP		sP	12 46 11.9	-7.4
GTA					AMB		AMB		
	comp=Z,3.0nm,1.2s								
ILAR	**Eielson Array**	**84.69**	**19**		P		**P**	**12 46 28.1**	**-1.4**
ILAR	**Eielson Array**	**84.69**	**19**		P		**P**	**12 46 28.1**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=232,slow=5.6,SNR=18								
NVAR	**Mina Array Bea**	**86.94**	**50**		P		**P**	**12 46 41.2**	**-0.4**
NVAR	**Mina Array Bea**	**86.94**	**50**		P		**P**	**12 46 41.2**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=243,slow=6.5,SNR=3.7								
MK31	**Makanchi Array**	**94.23**	**317**		*e*P		**P**	**12 47 14.5**	**-0.7**
MKAR	**Makanchi Array**	**94.23**	**317**		P		**P**	**12 47 15.4**	**+0.2**
MKAR	**Makanchi Array**	**94.23**	**317**		P		**P**	**12 47 15.4**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=95,slow=6.4,SNR=9.9								
ZALV	**Zalesovo Beam**	**94.38**	**324**		P		**P**	**12 47 15.2**	**-0.5**
ZALV	**Zalesovo Beam**	**94.38**	**324**		P		**P**	**12 47 15.2**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=123,slow=5.3,SNR=3.0								
PDAR	**Pinedale Array**	**94.50**	**47**		LR		LR	13 23 04.2	
	comp=Z,123nm,19.3s,baz=158,slow=31								
ARCES	**ARCESS Array B**	**117.41**	**345**		PKP		**PKPdf**	**12 52 42.2**	**+1.2**
ARCES	**ARCESS Array B**	**117.41**	**345**		PKP		**PKPdf**	**12 52 42.2**	**+1.2**
	comp=Z,1.0nm,0.5s,baz=54,slow=1.7,SNR=5.6								

MEX 18 12:48:18.4±0.6,18.55N×101.30W,h72km±10km,MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.94**	**107**		*e*P		Pn	12 48 34.5	-1.8
ARIG					*i* S		Sn	12 48 47.8	-1.9
ZIIG	**Zihuatanejo**	**0.95**	**190**		*e*P		Pn	12 48 34.6	-1.8
ZIIG					*i* S		Sn	12 48 48.5	-1.3
MOIG	**Morelia**	**1.12**	**5**		*i* P		Pn	12 48 37.5	-1.4
MOIG					*i* S		Sn	12 48 52.0	-2.1
PLIG	**Platanillo**	**1.71**	**95**		*i* P		Pn	12 48 45.7	-0.7
PLIG					*i* S		Sn	12 49 06.3	-1.3
MEIG	**Mezcala**	**1.71**	**111**		*e*P		Pn	12 48 45.4	-1.0
MEIG					*i* S		Sn	12 49 05.4	-2.2
CAIG	**El Cayaco**	**1.79**	**147**		*e*P		Pn	12 48 46.0	-1.3
CAIG					*i* S		Sn	12 49 07.1	-2.1
MMIG	**Aquila**	**1.96**	**263**		*e*P		Pn	12 48 48.6	-1.0
MMIG					*i* S		Sn	12 49 11.0	-2.3
YAIG	**Yautepec**	**2.14**	**81**		*e*P		Pn	12 48 51.3	-0.9
YAIG					*i* S		Sn	12 49 16.5	-1.5
ACX	**Acapulco**	**2.17**	**140**		*i* P		Pn	12 48 52.8	+0.5
ACX					*i* S		Sn	12 49 21.8	+3.5
PPM	**Popocatepetl**	**2.58**	**78**		*i* P		Pn	12 48 56.7	-1.9
PPM					*i* S		Sn	12 49 26.7	-2.8
TLIG	**Tlapa**	**2.78**	**110**		*i* P		Pn	12 49 00.0	-0.8
TLIG					*i* S		Sn	12 49 31.1	-2.4
UTMO	**Huajuapan**	**3.40**	**102**		*i* P		Pn	12 49 07.6	-1.8
UTMO					*i* S		Sn	12 49 46.8	-2.0
PNIG	**Pinotepa**	**3.71**	**125**		*i* P		Pn	12 49 12.3	-1.1
PNIG					*i* S		Sn	12 49 54.4	-1.6

*MOS **18** 12:48:58.4±1.0, 28.29S×178.19W, h166km, mb5.0/6, Error ellipse: s-maj=16.2km s-min=12.3km az=172.5*

*AUST **18** 12:48:59.4±0.0, 28.22S×177.64W, h190km, Error ellipse: s-maj=1.3km s-min=0.8km az=291.0*

*BJI **18** 12:49:00.6, 28.41S×177.66W, h203km, mB5.2/14, mb4.8/26*

*ISCJB **18** 12:49:03.0±0.6, 28.35S±0.06×178.26W±0.06, h207km±5km, mb4.7/65, Error ellipse: s-maj=9.4km s-min=8.1km az=164.6*

*IDC **18** 12:49:03.1±0.3, 28.28S×178.19W, h200km±3km, mb4.3/19, mb1 4.5/20, mb1mx4.5/22, mbtmp4.9/20, Error ellipse: s-maj=10.9km s-min=9.5km az=85.0*

*NEIC **18** 12:49:04.0±0.8, 28.24S×178.16W, h211km±7km, mb4.9/37, Error ellipse: s-maj=9.1km s-min=7.5km az=156.0*

*DJA **18** 12:49:23.4±3.5, 29°S±14'×17°9W±1°8, h365km±30km, M4.9/15, mB6.3/1, mb4.9/15, Mw(mB)6.0/1*

ISC 18 12:49:03.6±0.4,28.33S±0.05×178.02W±0.06, h210km±3km,h210km:pP-P,n300,σ1s29/319,mb4.9/65, 1C-9D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.92**	**174**		*e*Pn		**Pn**	**12 49 33.9**	**0.0**
RAO						S	**S**	**12 49 56.0**	**-1.5**
RAO					*e*Sn		**S**	**12 49 57.4**	**-0.2**
RAO	**Raoul Island**	**0.92**	**174**		P		**Pn**	**12 49 33.9**	**0.0**
	906nm,0.3s,baz=98,slow=6.9,SNR=92								
RAO						S	**S**	**12 49 56.0**	**-1.5**
	4μm,0.3s,baz=244,slow=23,SNR=43								
OUZ	**Omahuta**	**9.90**	**224**		*e*Pn		**Pn**	**12 51 23.6**	**+2.3**
URZ	**Urewera**	**10.70**	**201**		*e*Pn		Pn	12 51 22.7	-8.9
URZ						S	S	12 53 19.8	-12
URZ	**Urewera**	**10.70**	**201**		P		Pn	12 51 23.0	-8.6
	4.2nm,0.3s,baz=298,slow=3.5,SNR=41								
URZ						S	S	12 53 19.8	-12
	67nm,0.3s,baz=211,slow=19,SNR=15								
MSVF	**Nonsavu**	**11.15**	**340**		*e*Pn		**Pn**	**12 51 37.4**	**-0.2**
NIUE	**Niue**	**11.82**	**41**		P		**Pn**	**12 51 43.5**	**-2.6**
	baz=12,SNR=8.5								
SNZO	**South Karori**	**14.25**	**203**		*e*Pn		Pn	12 52 07.6	-8.4
SNZO					*e*S		S	12 54 38.1	-16
DZM	**Mont Dzumac**	**15.37**	**290**		*e*P		**P**	**12 52 31.9**	**+1.7**
	138nm,1.1s								
DZM	**Mont Dzumac**	**15.37**	**290**		P		**P**	**12 52 32.7**	**+2.5**
DZM	**Mont Dzumac**	**15.37**	**290**		P		**P**	**12 52 32.7**	**+2.5**
	2.6nm,0.3s,baz=93,slow=15,SNR=20								
AFI	**Afiamalu**	**15.48**	**23**		*e*Pn		P	12 52 25.5	-5.9
	113nm,1.0s								
AFI						S	S	12 55 06.1	-17
AFI	**Afiamalu**	**15.48**	**23**		P		P	12 52 25.3	-6.1
	18nm,0.3s,baz=50,slow=18,SNR=18								
AFI						S	S	12 55 06.1	-17
	6.2nm,0.3s,baz=221,slow=18,SNR=5.4								
KHZ	**Kahutara**	**15.63**	**204**		*e*P		P	12 52 24.1	-8.6
	48nm,0.8s								
RPZ	**Rata Peaks**	**17.68**	**207**		*e*P		**P**	**12 52 51.6**	**-3.6**
	12nm,0.7s								
RPZ						S	S	12 55 53.2	-15
RPZ	**Rata Peaks**	**17.68**	**207**		P		P	12 52 50.0	-5.2
	1.9nm,0.3s,baz=318,slow=1.5,SNR=8.3								
RPZ						S	S	12 55 53.2	-15
	5.3nm,0.3s,baz=108,slow=22,SNR=21								
RAR	**Rarotonga**	**18.01**	**71**		*e*Pn		**Pn**	**12 53 00.5**	**-0.8**
	100nm,0.9s								
RAR	**Rarotonga

STKA PcP **PcP** 12 58 03.2 -0.2
comp=Z,6.7nm,0.8s,baz=103,slow=3.6,SNR=4.9
MTSU Mount Surprise 35.94 278 P **P** 12 55 44.4 +0.1
baz=36,SNR=14
COEN Coen 38.73 283 *e*P **P** 12 56 07.8 +0.1
comp=Z,139nm,1.0s
COEN Coen 38.73 283 P **P** 12 56 07.9 +0.2
baz=39,SNR=11
BBOO Buckleboo 39.55 252 *e*P **P** 12 56 12.5 -1.9
comp=Z,187nm,0.6s
BBOO Buckleboo 39.55 252 P **P** 12 56 12.6 -1.9
baz=40,SNR=26
AS31 Alice Springs 43.24 265 *e*P **P** 12 56 42.9 -1.6
ASAR Alice Springs 43.24 265 P **P** 12 56 43.0 -1.5
ASAR PcP **PP** 12 58 29.4 -0.1
ASAR Alice Springs 43.24 265 P **P** 12 56 43.0 -1.5
comp=Z,12nm,0.6s,baz=96,slow=7.3,SNR=251
ASAR PcP **PP** 12 58 29.4 -0.1
comp=Z,7.4nm,0.7s,baz=114,slow=3.6,SNR=12
WRAB Tennant Creek 44.03 270 ⇓ *i*P **P** 12 56 49.4 -1.4
WRAB pmax pmax
comp=Z,106nm,1.3s
WRAB Tennant Creek 44.03 270 *e*P **P** 12 56 48.8 -2.0
comp=Z,16nm,0.4s
WRA Warramunga Arr 44.04 270 P **P** 12 56 49.3 -1.6
WRA PcP **PcP** 12 58 32.7 +0.2
WRA Warramunga Arr 44.04 270 P **P** 12 56 49.3 -1.6
comp=Z,18nm,0.4s,baz=109,slow=6.2,SNR=265
WRA PcP **PcP** 12 58 32.7 +0.2
comp=Z,22nm,0.9s,baz=111,slow=3.4,SNR=18
JAY Jayapura 46.96 296 P **P** 12 57 13.4 -0.5
baz=47,SNR=4.0
KDU Kakadu 48.57 278 P **P** 12 57 24.4 -1.7
baz=49,SNR=24
MTN Manton Dam 49.67 277 P **P** 12 57 33.1 -1.4
baz=50,SNR=18
SBA Scott Base 50.09 184 *e*P P 12 57 40.1 +3.4
comp=Z,70nm,1.0s
VNDA Vanda 50.14 186 *e*P **P** 12 57 39.4 +2.3
comp=Z,17nm,0.8s
VNDA Vanda 50.14 186 P **P** 12 57 39.4 +2.3
comp=Z,18nm,0.7s,baz=5.6,slow=8.3,SNR=169
KNRA Kununurra 50.56 273 P **P** 12 57 40.1 -1.0
baz=51,SNR=51
FITZ Fitzroy Crossi 52.37 268 *e*P **P** 12 57 53.7 -0.8
comp=Z,28nm,0.9s
FITZ PcP **PcP** 12 59 02.8 +0.2
FITZ Fitzroy Crossi 52.37 268 P **P** 12 57 53.6 -0.9
baz=53,SNR=34
FITZ Fitzroy Crossi 52.37 268 P **P** 12 57 53.3 -1.2
comp=Z,19nm,0.8s,baz=133,slow=6.2,SNR=37
FITZ PcP **PcP** 12 59 02.8 +0.2
comp=Z,6.5nm,0.9s,baz=120,slow=5.2,SNR=3.0
FAKI Fak Fak 53.63 289 P **P** 12 58 02.6 -1.2
baz=54,SNR=5.7
RKGY Rocky Gully 54.95 246 P **P** 12 58 12.0 -1.1
baz=55,SNR=5.0
SWI Sorong 55.59 290 P **P** 12 58 17.1 -0.8
baz=56,SNR=4.1
MEEK Meekatharra 55.65 256 P **P** 12 58 15.6 -2.6
baz=56,SNR=6.4
BLDU Ballidu 56.14 251 P **P** 12 58 19.2 -2.4
baz=56,SNR=14
MBWA Marble Bar 56.45 262 *e*P **P** 12 58 21.5 -2.4
comp=Z,39nm,1.1s
CASY Casey 56.96 207 *e*P **P** 12 58 24.8 -1.9
comp=Z,63nm,0.6s
SOEI Soe 57.07 277 P **P** 12 58 29.1 +0.6
baz=57,SNR=5.1
MORW Morawa 57.12 252 P **P** 12 58 26.2 -2.3
baz=57,SNR=10
GIRL Giralia 60.71 259 P **P** 12 58 52.9 -0.3
baz=61,SNR=4.9
QSPA South Pole Qui 61.77 180 P **P** 12 59 01.4 +1.6
QSPA South Pole Qui 61.77 180 P **P** 12 59 01.4 +1.6
comp=Z,24nm,0.7s
KAPI Kappang 63.24 279 P **P** 12 59 08.9 -1.3
KAPI Kappang 63.24 279 P **P** 12 59 08.9 -1.3
comp=Z,13nm,0.9s,baz=190,slow=9.3,SNR=4.2
TSM Tawau 69.59 287 P **P** 12 59 51.0 +0.6
UGM Wanagama 69.98 272 P **P** 12 59 52.0 -0.9
baz=70,SNR=4.2
SDKM Sandakan 70.87 288 P **P** 12 59 57.9 -0.3
KKM Kota Kinabalu 71.91 287 *e*P **P** 13 00 04.4 -0.1
comp=Z,12nm,0.5s
KKM Kota Kinabalu 71.91 287 P **P** 13 00 04.8 +0.3
baz=72,SNR=5.8
STKI Sintang 72.92 280 P **P** 13 00 11.5 +1.1
SBUM Sibu 73.46 282 P **P** 13 00 14.3 +0.7
SBUM Sibu 73.46 282 P **P** 13 00 13.7 +0.2
comp=Z,26nm,1.2s
SBUM Sibu 73.46 282 *e*P **P** 13 00 14.2 +0.7
comp=Z,18nm,0.9s
PMSA Palmer Station 74.15 156 *e*P **P** 13 00 17.8 +1.1
comp=Z,22nm,0.9s
PMSA Palmer Station 74.15 156 P **P** 13 00 18.0 +1.4
comp=Z,15nm,0.6s,baz=239,slow=4.5,SNR=8.5
MAW Mawson 74.23 200 P **P** 13 00 17.7 +0.7
MAW Mawson 74.23 200 P **P** 13 00 17.8 +0.7
baz=74,SNR=29
MAW Mawson 74.23 200 P **P** 13 00 17.7 +0.7
comp=Z,39nm,0.6s,baz=128,slow=7.4,SNR=60
KSM Kuching 74.63 280 P **P** 13 00 20.6 +0.2
KSM Kuching 74.63 280 P **P** 13 00 20.1 -0.2
comp=Z,46nm,1.1s
KSM Kuching 74.63 280 *e*P **P** 13 00 20.4 +0.1
comp=Z,25nm,0.7s
KSM Kuching 74.63 280 P **P** 13 00 20.5 +0.2
baz=75,SNR=11
JOW Kunigami 75.27 312 *e*P **P** 13 00 23.6 0.0
comp=Z,9.3nm,0.8s
PPBI Pangkal Pinang 76.52 275 P **P** 13 00 31.3 +0.3
MAJO Matsushiro 76.54 325 ⇑ *i*P **P** 13 00 30.0 -0.6
MAJO pmax pmax
comp=Z,5.0nm,0.9s
MAJO Matsushiro 76.54 325 *e*P **P** 13 00 30.3 -0.4
comp=Z,4.4nm,0.5s
MAT Matsushiro 76.54 325 P **P** 13 00 29.4 -1.2
MDSI Maura Dua 77.15 272 P **P** 13 00 32.1 -2.4
YULB Yu-li 77.87 305 *e*P **P** 13 00 36.1 -2.2
comp=Z,5.0nm,0.5s
JNU Nakatsue 78.01 318 *e*P **P** 13 00 40.1 +1.2
JNU Nakatsue 78.01 318 P **P** 13 00 38.2 -0.6
comp=Z,30nm,1.1s,baz=23,slow=4.7,SNR=6.7
LHSI Lahat 78.03 272 P **P** 13 00 40.5 +1.1
TPUB Ta-pu 78.29 305 *e*P **P** 13 00 38.8 -1.8
comp=Z,114nm,1.7s
SSLB Suanglung 78.36 305 *e*P **P** 13 00 38.4 -2.6
comp=Z,21nm,0.9s
SYO Syowa Base 79.12 193 ⇓ *i*P **P** 13 00 43.0 -1.3
SYO Syowa Base 79.12 193 ⇓ *i*PcP **PcP** 13 00 50.4 -1.6
SNAA Sanae 80.21 178 *e*P **P** 13 00 50.7 +0.4
SNAA Sanae 80.21 178 *e*P **P** 13 00 50.8 +0.4
comp=Z,12nm,0.9s
MYKOM Kota Tinggi 80.41 277 P **P** 13 00 52.7 +0.4
MYKOM Kota Tinggi 80.41 277 P **P** 13 00 51.9 -0.4
MYKOM Kota Tinggi 80.41 277 *e*P **P** 13 00 51.9 -0.4
comp=Z,52nm,0.8s
RGRI Rengat 80.72 275 P **P** 13 00 55.7 +1.8
VNA2 Neumayer--Watz 80.80 177 *e*P **P** 13 00 54.3 +0.9
KGM Kluang 80.98 277 P **P** 13 00 55.6 +0.3
VNA1 Neumayer--Stat 81.03 177 *e*P **P** 13 00 55.6 +1.1
H03N2 Juan Fernandez 81.82 123 T T 14 31 01.8
baz=294,slow=0.7,SNR=4.5
H03N1 Juan Fernandez 81.82 123 T T 14 31 27.1
baz=255,slow=0.7,SNR=6.0
KTGM Kuala Trenggan 82.75 280 P **P** 13 01 05.1 +0.6
KSRS Korea Array 82.77 320 P **P** 13 01 04.5 +0.4
comp=Z,5.5nm,1.0s,baz=140,slow=5.7,SNR=11
KSAR Wonju Array Be 82.78 319 P **P** 13 01 04.5 +0.4
YSS Yuzh-Sakhalins 82.89 334 ⇓ *e*P **P** 13 01 05.2 +0.8
YSS pmax pmax
comp=Z,50nm,2.3s
PETK Petropavlovsk- 83.81 346 P **P** 13 01 09.8 +0.8
PETK Petropavlovsk- 83.81 346 P **P** 13 01 09.8 +0.8
PETK pP **pP** 13 01 58.1 -1.9
PETK Petropavlovsk- 83.81 346 P **P** 13 01 09.8 +0.8
comp=Z,4.6nm,0.7s,baz=126,slow=8.6,SNR=16
PETK pP **pP** 13 01 58.1 -1.9
comp=Z,5.0nm,0.9s,baz=126,slow=7.7,SNR=2.4
IPM Ipoh 84.17 278 P **P** 13 01 11.9 +0.1
IPM Ipoh 84.17 278 P **P** 13 01 12.5 +0.7
IPM Ipoh 84.17 278 *e*P **P** 13 01 11.3 -0.5
comp=Z,56nm,0.6s
EFI East Falkland 84.53 147 ⇓ *e*P **P** 13 01 14.3 +1.4
EFI pmax pmax
comp=Z,116nm,1.3s
ISA Isabella 84.85 45 *e*P **P** 13 01 16.5 +1.8
ISA pmax pmax
comp=Z,5.0nm,1.4s
ISA Isabella 84.85 45 *e*P **P** 13 01 16.5 +1.8
comp=Z,4.7nm,1.4s
KULM Kulim 84.89 279 P **P** 13 01 15.5 +0.2
KULM Kulim 84.89 279 P **P** 13 01 15.3 0.0
comp=Z,60nm,1.2s
KULM Kulim 84.89 279 *e*P **P** 13 01 15.1 -0.3
comp=Z,73nm,1.1s
NJ2 Nanjing 84.89 310 *e*P **P** 13 01 15.0 +0.1
NJ2 AMB AMB
comp=Z,30nm,0.9s
PSI Prapat 85.21 276 P **P** 13 01 15.7 -1.4
baz=86,SNR=28
CMB Columbia Colle 85.24 42 *e*P **P** 13 01 17.2 +0.6
CMB pmax pmax
comp=Z,3.0nm,0.9s
CMB Columbia Colle 85.24 42 *e*P **P** 13 01 17.2 +0.6
comp=Z,2.5nm,0.9s
USRK Ussuriysk Arra 85.43 326 P **P** 13 01 18.1 +0.8
comp=Z,1.9nm,0.5s,baz=146,slow=3.9,SNR=7.2
GSI Gunungsitoli 85.68 274 P **P** 13 01 19.3 0.0
KCSI Kotacane, Aceh 86.56 276 P **P** 13 01 21.6 -2.0
LDFC Landfair 86.61 47 *e*P **P** 13 01 25.8 +2.3
comp=Z,4.1nm,0.5s
NVAR Mina Array Bea 86.74 43 P **P** 13 01 25.5 +1.3
NVAR pP **pP** 13 02 14.9 -0.6
NVAR Mina Array Bea 86.74 43 P **P** 13 01 25.5 +1.3
comp=Z,1.2nm,0.7s,baz=223,slow=8.3,SNR=12
NVAR pP **pP** 13 02 14.9 -0.6
comp=Z,2.5nm,0.8s,baz=225,slow=9.2,SNR=7.2
MDJ Mudanjiang 86.92 325 P **P** 13 01 27.0 +2.5
MDJ AMB AMB
comp=Z,12nm,1.2s
MDJ AMB AMB
comp=Z,55nm,4.6s
CHBT CHBT 87.08 286 P **P** 13 01 26.9 +0.9
CHBT CHBT 87.08 286 P **P** 13 01 26.9 +0.9
comp=Z,53nm,0.9s,comp=Z,5µm
WHN Wuhan 87.09 307 P **P** 13 01 26.3 +0.6
SKNT Sakolnakorn 87.80 290 P **P** 13 01 30.4 +1.0
comp=Z,84nm,1.0s
TUC Tucson 87.84 51 *e*P **P** 13 01 31.9 +2.5
TUC pmax pmax
comp=Z,3.0nm,1.0s
TUC Tucson 87.84 51 *e*P **P** 13 01 31.9 +2.5
comp=Z,2.8nm,1.0s
SURT Suratani 88.26 281 P **P** 13 01 32.5 +0.9
comp=Z,60nm,1.1s
CN2 Changchun 88.49 323 *e*P **P** 13 01 32.4 +0.4
CN2 *e*S **S** 13 11 58.8 -0.8
CN2 AMB AMB
comp=Z,10.0nm,0.7s
CN2 AMB AMB
comp=Z,200nm,3.0s
PBKT Sadao Pong 90.10 289 P **P** 13 01 42.2 +2.1
PBKT Sadao Pong 90.10 289 P **P** 13 01 41.4 +1.3
comp=Z,23nm,1.3s
CFAA Coronel Fontan 90.48 127 P **P** 13 01 43.2 +1.3
CFAA Coronel Fontan 90.48 127 P **P** 13 01 43.2 +1.3
comp=Z,1.3nm,0.8s,baz=233,slow=4.1,SNR=7.0
GYA Guiyang 90.51 300 *e*P **P** 13 01 42.8 +0.8
GYA pP **pP** 13 02 34.6 +0.9
GYA sP **sP** 13 02 56.0 +0.4
GYA PP **PP** 13 05 22.8 +2.6
GYA SKS **SKSac** 13 11 52.9 -0.7
GYA S **S** 13 12 17.5 -1.8
GYA SS **SS** 13 18 27.6 +1.5
GYA AMB AMB
comp=Z,10.0nm,1.0s
GYA AMB AMB
comp=Z,90nm,5.9s
GYA LR LR
comp=Z,480nm,23.8s
GYA LR LR
comp=Z,390nm,24.2s
GYA LR LR
comp=Z,420nm,22.0s
UTHA Uthaitani 90.88 287 P **P** 13 01 45.2 +1.4
comp=Z,8.6nm,1.0s,comp=Z,76nm
TXAR Lajitas Array 91.29 57 P **P** 13 01 47.3 +1.7
TXAR pP **pP** 13 02 36.9 -0.3
TXAR Lajitas Array 91.29 57 P **P** 13 01 47.3 +1.7
comp=Z,0.4nm,0.9s,baz=208,slow=9.7,SNR=3.8
TXAR pP **pP** 13 02 36.9 -0.3
comp=Z,1.5nm,0.9s,baz=207,slow=5.2,SNR=7.8
CRAI Chiangrai 92.37 292 P **P** 13 01 51.6 +0.9
comp=Z,14nm,0.9s
CM31 Chiang Mai Arr 92.70 289 *e*P **P** 13 01 53.4 +1.2
comp=Z,5.8nm,0.8s
CMAR Chiang Mai Arr 92.70 289 P **P** 13 01 53.4 +1.2
CMAR Chiang Mai Arr 92.70 289 P **P** 13 01 53.4 +1.2
comp=Z,8.1nm,0.9s,baz=139,slow=3.6,SNR=32
XAN Xi'an 92.85 307 P **P** 13 01 53.5 +0.9
XAN AMB AMB
comp=Z,3.0nm,1.1s
XAN AMB AMB
comp=Z,26nm,8.4s
CHTO Chiang Mai 92.87 290 *e*P **P** 13 01 53.7 +0.8
CHTO pmax pmax
comp=Z,42nm,0.8s
CHTO Chiang Mai 92.87 290 P **P** 13 01 54.4 +1.4
CHTO Chiang Mai 92.87 290 *e*P **P** 13 01 53.7 +0.8
comp=Z,42nm,0.8s
CHTO Chiang Mai 92.87 290 P **P** 13 01 53.8 +0.8
comp=Z,74nm,0.9s
KMI Kunming 92.87 297 ⇓ P **P** 13 01 54.8 +1.7
KMI sP **sP** 13 03 08.1 +1.4
KMI S **S** 13 12 41.3 +0.6
KMI AMB AMB
comp=Z,14nm,1.1s
KMI LR LR
comp=Z,41nm,19.8s
CMAI Chiengmai2 93.32 291 P **P** 13 01 56.2 +1.0
SEY Seymchan 93.97 347 ⇓ *e*P **P** 13 01 57.5 +0.6
PDAR Pinedale Array 94.65 43 P **P** 13 02 01.5 +0.6
PDAR pP **pP** 13 02 50.4 -2.3
PDAR Pinedale Array 94.65 43 P **P** 13 02 01.5 +0.6
comp=Z,0.3nm,0.5s,baz=207,slow=7.1,SNR=2.8
PDAR pP **pP** 13 02 50.4 -2.3
comp=Z,1.0nm,0.9s,baz=207,slow=3.0,SNR=3.3
HHC Hu-ho-hao-te 94.79 314 *e*P **P** 13 02 00.4 -1.0
HHC pP **pP** 13 02 55.4 +2.3
HHC sP **sP** 13 03 16.8 +1.8
HHC PP **PP** 13 05 57.3 +3.9
HHC SKS **SKSac** 13 12 19.1 +2.5
HHC S **S** 13 12 52.8 -3.7
HHC SS **SS** 13 19 31.4 +4.7
HHC AMB AMB
comp=Z,30nm,1.0s
HHC AMB AMB
comp=Z,220nm,6.0s
HHC LR LR
comp=Z,160nm,17.8s
HHC LR LR
comp=Z,400nm,16.9s
HHC LR LR
comp=Z,280nm,15.7s
CD2 Chengdu 94.97 302 P **P** 13 02 03.6 +1.2
CD2 AMB AMB
comp=Z,30nm,0.5s
COLA College 95.83 12 ⇓ *e*P **P** 13 02 05.6 +0.3
COLA pmax pmax
comp=Z,5.0nm,0.9s
ILAR Eielson Array 95.92 13 P **P** 13 02 07.5 +1.7
ILAR Eielson Array 95.92 13 P **P** 13 02 07.5 +1.7
comp=Z,0.3nm,0.8s,baz=186,slow=7.3,SNR=4.8
SONM Songino Array 101.60 318 P **Pdif** 13 02 32.3 +0.5
SONM Songino Array 101.60 318 P **Pdif** 13 02 32.3 +0.5
comp=Z,0.4nm,0.6s,baz=130,slow=7.3,SNR=2.8
GTA Gaotai 101.86 308 *e*P **Pdif** 13 02 35.3 +2.1
GTA pP pP 13 03 26.0 +0.8
GTA sP 13 03 47.9
GTA AMB AMB
comp=Z,2.0nm,0.9s
WMQ Urumqi 111.93 309 *e*PKP **PKiKP** 13 07 10.9 -2.7
WMQ PPMZ
comp=Z,140nm,4.6s
MK31 Makanchi Array 116.42 311 *e*PKIKP **PKPdf** 13 07 21.3 -0.8
MK31 Makanchi Array 116.42 311 *e*PKPdf **PKPdf** 13 07 21.3 -0.8
MKAR Makanchi Array 116.42 311 PKIKP **PKPdf** 13 07 20.9 -1.2
MKAR Makanchi Array 116.42 311 PKP **PKPdf** 13 07 20.9 -1.2
MKAR Makanchi Array 116.42 311 PKP **PKPdf** 13 07 20.9 -1.2
comp=Z,1.9nm,0.7s,baz=96,slow=1.7,SNR=13
ZALV Zalesovo Beam 116.47 319 PKIKP **PKPdf** 13 07 20.8 -1.1
ZALV Zalesovo Beam 116.47 319 PKP **PKPdf** 13 07 20.8 -1.1
ZALV Zalesovo Beam 116.47 319 PKP **PKPdf** 13 07 20.8 -1.1
comp=Z,0.6nm,0.5s,baz=112,slow=1.6,SNR=5.8
BOSA Boshof 119.14 203 PKP **PKPdf** 13 07 28.2 0.0
BOSA Boshof 119.14 203 PKP **PKPdf** 13 07 28.2 0.0
comp=Z,2.6nm,0.9s,baz=208,slow=2.5,SNR=5.2
KSH Kashi 119.16 302 PKP **PKPdf** 13 07 29.5 +1.8
KURK Kurchatov 119.60 315 ⇓ *i*PKIKP **PKPdf** 13 07 27.2 -0.7
KURK Kurchatov 119.60 315 *e*PKPdf **PKPdf** 13 07 26.6 -1.3
KURK PKP **PKPdf** 13 07 27.3 -0.7
KURBB Kurchatov Arra 119.64 315 PKP **PKPdf** 13 07 27.3 -0.8
comp=Z,3.5nm,0.7s,baz=107,slow=2.0,SNR=38
TKM2 Tokmak 2 120.20 305 *e*PKIKP **PKPdf** 13 07 28.4 -1.3
TKM2 Tokmak 2 120.20 305 *e*PKPdf **PKPdf** 13 07 28.4 -1.3
AAK Ala-Archa 120.94 305 *e*PKIKP **PKPdf** 13 07 30.4 -0.7
AAK Ala-Archa 120.94 305 *e*PKPdf **PKPdf** 13 07 30.4 -0.7
AAK PKP **PKPdf** 13 07 30.6 -0.5
AAK Ala-Archa 120.94 305 PKP **PKPdf** 13 07 30.6 -0.5
comp=Z,1.6nm,0.5s,baz=129,slow=6.8,SNR=8.6
EKS2 Erkin-Say 121.46 305 *e*PKIKP **PKPdf** 13 07 32.1 0.0
EKS2 Erkin-Say 121.46 305 *e*PKPdf **PKPdf** 13 07 32.0 0.0
KBL Kabul 123.37 294 *e*PKIKP **PKPdf** 13 07 36.4 +0.3
KBL Kabul 123.37 294 *e*PKPdf **PKPdf** 13 07 36.4 +0.3
KKAR Karatay Array 123.90 305 *e*PKIKP **PKPdf** 13 07 36.1 -0.5
KKAR Karatay Array 123.90 305 *e*PKPdf **PKPdf** 13 07 36.0 -0.5
BVAR Borovoye Array 124.90 317 PKIKP **PKPdf** 13 07 37.8 -0.3
BVAR Borovoye Array 124.90 317 PKP **PKPdf** 13 07 37.8 -0.3
BVAR Borovoye Array 124.90 317 PKP **PKPdf** 13 07 37.8 -0.3
comp=Z,3.7nm,0.6s,baz=113,slow=2.3,SNR=17
BRVK Borovoye 124.97 317 *e*PKIKP **PKPdf** 13 07 37.4 -0.8
BRVK Borovoye 124.97 317 *e*PKPdf **PKPdf** 13 07 37.4 -0.8
LSZ Lusaka 129.77 214 *e*PKPdf **PKPdf** 13 07 50.0 +1.2
ARU Arti 131.47 322 *i* PKIKP **PKPdf** 13 07 52.1 +1.6
ARU 13 10 11.5
ARU SS SS 13 27 24.6 -4.3
AKTO Aktyubinsk 132.68 314 PKIKP **PKPdf** 13 07 51.2 -1.8
AKTO Aktyubinsk 132.68 314 PKP **PKPdf** 13 07 51.1 -1.8
AKTO SKPbc **SKPbc** 13 10 59.3 -1.1
AKTO Aktyubinsk 132.68 314 PKP **PKPdf** 13 07 51.1 -1.8
comp=Z,3.2nm,0.7s,baz=354,slow=2.3,SNR=12
AKTO SKPbc **SKPbc** 13 10 59.3 -1.1
comp=Z,2.4nm,0.9s,baz=116,slow=2.7,SNR=6.8
KMBO Kilima Mbogo 135.26 235 PKP **PKPdf** 13 07 59.5 +0.2
KMBO Kilima Mbogo 135.26 235 PKP **PKPdf** 13 07 59.5 +0.2
comp=Z,4.3nm,0.9s,baz=118,slow=1.6,SNR=9.1
ARCES ARCESS Array B 136.57 348 PKP **PKPdf** 13 07 58.7 -1.0
ARCES ARCESS Array B 136.57 348 PKP **PKPdf** 13 07 58.7 -1.0
comp=Z,3.8nm,0.7s,baz=53,slow=2.4,SNR=13
H10N3 ASCENSION HYDR 140.67 154 T T 15 44 47.7
baz=203,slow=0.7,SNR=7.3
H10N1 ASCENSION HYDR 140.68 154 T T 15 44 35.9
baz=203,slow=0.7,SNR=6.3
H10N2 ASCENSION HYDR 140.69 154 T T 15 44 34.9
baz=203,slow=0.7,SNR=6.1
DGRG David-gareji 142.46 302 P **PKPdf** 13 08 08.2 -3.2
GUDG Gudauri 142.99 304 P **PKPdf** 13 08 10.0 -2.5
FINES FINESS Array B 143.20 341 PKPpre PKPpre 13 08 07.8
FINES FINESS Array B 143.20 341 PKhKP PKPpre 13 08 07.8
comp=Z,3.4nm,0.7s,baz=67,slow=3.2,SNR=22
ZEI Tsey 143.36 304 *e*PKHKP PKPpre 13 08 09.6
ZEI pmax pmax
comp=Z,14nm,1.3s
ONI Oni 143.72 304 P PKPbc 13 08 12.1 +0.4
AKH Akhalkalaki 143.86 302 P PKPbc 13 08 12.5 +0.1
KBZ Khabaz 143.91 306 PKIKP PKPab 13 08 11.7 +0.2
KBZ Khabaz 143.91 306 PKP PKPab 13 08 11.7 +0.2
KBZ Khabaz 143.91 306 PKP PKPab 13 08 11.7 +0.2
comp=Z,6.5nm,0.8s,baz=202,slow=2.6,SNR=7.2
KIV Kislovodsk 144.01 307 *e*PKIKP PKPbc 13 08 12.7 +0.1
KIV pmax pmax
comp=Z,16nm,1.2s
SOC Sochi 146.19 307 *e*PKIKP **PKPdf** 13 08 18.1 +0.4
SOC *e* 13 11 45.0
SOC pmax pmax
comp=Z,20nm,0.6s
MZRK Al-Mazaregh 146.56 293 *e*P **PKPab** 13 08 22.8 +0.8
KBSD Kabsdagh 146.59 295 *e*P **PKPdf** 13 08 13.6 -5.0
NB2 NORSAR Subarra 146.71 352 PKP **PKPbc** 13 08 19.3 -0.8
comp=Z,6.3nm,0.6s,baz=11,slow=2.9
NB2 NORSAR Subarra 146.71 352 PKPdf pPKPbc 13 09 11.1 -2.6
comp=Z,2.8nm,0.9s,baz=31,slow=1.9
NOA NORSAR Array B 146.71 352 PKPbc **PKPbc** 13 08 19.8 -0.3
NOA pPKPbc pPKPbc 13 09 12.8 -0.9
NOA NORSAR Array B 146.71 352 PKPbc **PKPbc** 13 08 19.8 -0.3
comp=Z,10nm,0.9s,baz=15,slow=4.5,SNR=19
NOA pPKPbc pPKPbc 13 09 12.8 -0.9
comp=Z,2.8nm,0.9s,baz=14,slow=4.5,SNR=3.7
SFNV Sufian 146.97 294 *e*P **PKPbc** 13 08 21.6 0.0
HFS Hagfors 147.22 349 PKPbc **PKPbc** 13 08 20.6 -0.9
HFS Hagfors 147.22 349 PKPbc **PKPbc** 13 08 20.6 -0.9
comp=Z,14nm,0.7s,baz=46,slow=6.4,SNR=30
ANN Anapa 147.43 310 *i* PKP2 **PKPbc** 13 08 22.1 -0.4
ANN pmax pmax
comp=Z,41nm,0.6s
JHLN Al Jahlan 148.36 293 *e*P **PKPdf** 13 08 18.4 -3.2
SIM Simferopol' 149.60 312 *e*PKP2 **PKPab** 13 08 33.0 -0.9
SIM pmax pmax
comp=Z,22nm,0.8s
AKASG Malin Array Be 149.63 325 PKPbc **PKPbc** 13 08 27.6 -0.4
AKASG Malin Array Be 149.63 325 PKPbc **PKPbc** 13 08 27.6 -0.4
comp=Z,12nm,0.6s,baz=46,slow=3.2,SNR=32
KIEV Kiev 149.64 325 *e*PKPbc **PKPbc** 13 08 27.4 -0.5
ASF Jabal al Asfar 149.68 286 PKPbc **PKPbc** 13 08 29.7 +0.9
ASF Jabal al Asfar 149.68 286 PKPbc **PKPbc** 13 08 29.7 +0.9
comp=Z,10.0nm,0.6s,baz=66,slow=1.8,SNR=22
SUW Suwalki 150.02 335 *e*PKP **PKPbc** 13 08 28.6 -0.1
WRDH Warideh 150.02 293 *e*P PKPdf 13 08 15.9 -8.4
MARH Ras Al Marh 150.03 290 *e*P **PKPbc** 13 08 29.2 -0.7
HAWK Haweek 150.08 291 *e*P **PKPbc** 13 08 27.9 -1.8
BIDA Albida 150.12 292 *e*P **PKPdf** 13 08 23.4 -1.1
BRBR Barbar 150.49 288 *e*P **PKPbc** 13 08 32.2 +1.4
MMAI Mount Meron Ar 150.95 288 PKPbc **PKPbc** 13 08 32.7 +0.9
MMAI Mount Meron Ar 150.95 288 PKPbc **PKPbc** 13 08 32.7 +0.9
comp=Z,28nm,0.6s,baz=74,slow=4.4,SNR=42
EIL Elat 151.18 281 PKPbc **PKPbc** 13 08 33.0 +0.7
EIL Elat 151.18 281 PKPbc **PKPbc** 13 08 33.0 +0.7
comp=Z,36nm,0.7s,baz=23,slow=1.5,SNR=23
BR131 Keskin Array S 151.55 302 *e*PKPbc **PKPbc** 13 08 32.6 -0.4
BRTR Keskin Array B 151.55 302 PKPbc **PKPbc** 13 08 32.6 -0.4
BRTR PKPab **PKPab** 13 08 42.1 -0.3
BRTR Keskin Array B 151.55 302 PKPbc **PKPbc** 13 08 32.6 -0.4
comp=Z,8.9nm,0.6s,baz=143,slow=5.4,SNR=34
BRTR PKPab **PKPab** 13 08 42.1 -0.3
comp=Z,5.5nm,0.8s,baz=94,slow=4.0,SNR=8.9
ANTO Ankara 152.14 302 *e*PKIKP **PKPbc** 13 08 34.4 +0.1
ANTO Ankara 152.14 302 *e*PKPbc **PKPbc** 13 08 34.4 +0.1
CSS Prodhromos 152.58 292 *e*PKPbc **PKPbc** 13 08 35.2 -0.1
BEL Belsk 152.62 334 *e*PKIKP **PKPbc** 13 08 35.4 +0.6
BEL Belsk 152.62 334 *e*PKP **PKPbc** 13 08 35.4 +0.6
EKA Eskdalemuir Ar 152.77 6 PKPbc **PKPbc** 13 08 34.5 -0.5
EKA PKPab **PKPab** 13 08 46.5 -0.2
EKA Eskdalemuir Ar 152.77 6 PKPbc **PKPbc** 13 08 34.5 -0.5
comp=Z,0.9nm,0.5s,baz=347,slow=2.4,SNR=6.6
EKA PKPab **PKPab** 13 08 46.5 -0.2
comp=Z,1.2nm,0.6s,baz=349,slow=3.4,SNR=4.4
BUR08 Bucovina Ar. S 153.59 323 *e*PKPbc **PKPbc** 13 08 37.8 +0.6
BUR08 *e*PKPab **PKPab** 13 08 51.3 +0.7
KOLS Kolonicke sedl 154.18 328 *e*PKP2 **PKPab** 13 08 53.2 +0.2
KOLS Kolonicke sedl 154.18 328 *e*PKP **PKPab** 13 08 53.2 +0.2
STHS Stebnicka Huta 154.29 330 *e*PKP2 **PKPab** 13 08 54.6 +1.2
STHS Stebnicka Huta 154.29 330 *e*PKP **PKPab** 13 08 54.6 +1.2
MLR Muntele Rosu 154.45 319 PKPbc **PKPbc** 13 08 38.8 -0.4
MLR Muntele Rosu 154.45 319 PKPbc **PKPbc** 13 08 38.8 -0.4
comp=Z,0.9nm,0.9s,baz=99,slow=12,SNR=3.2
KSP Ksiaz 155.05 338 PKP **PKPab** 13 08 57.1 +0.5
LIC Lamto 157.03 162 *e*PKP1 **PKPab** 13 09 06.6 +0.6
comp=Z,28nm,0.7s
KIC Kosan Boka 157.24 163 *e*PKP1 **PKPab** 13 09 07.1 +0.2
comp=Z,30nm,0.8s
TIC Toumodi 157.43 162 *e*PKP1 **PKPab** 13 09 08.1 +0.4
comp=Z,8.8nm,0.2s
DBIC Dimbokro 157.50 162 PKPab **PKPab** 13 09 08.4 +0.4
DBIC Dimbokro 157.50 162 PKPab **PKPab** 13 09 08.4 +0.4
comp=Z,3.2nm,0.5s,baz=223,slow=3.6,SNR=6.7
GERES GERESS Array B 157.61 339 PKPbc PKPdf 13 08 46.2 +12
GERES PKPab **PKPab** 13 09 08.0 +0.2
GERES GERESS Array B 157.61 339 PKPbc PKPdf 13 08 46.2 +12
comp=Z,0.4nm,0.7s,baz=0.0,slow=4.0,SNR=3.6
GERES PKPab **PKPab** 13 09 08.0 +0.2
comp=Z,1.3nm,1.0s,baz=40,slow=4.4,SNR=5.3
IDI Anoyia 159.36 295 PKPab **PKPab** 13 09 15.3 -0.6
IDI Anoyia 159.36 295 PKPab **PKPab** 13 09 15.3 -0.6

comp=Z,13nm,0.6s,baz=49,slow=3.6,SNR=11
DAVOX **Davos/Dischmat 160.57 344** PKPab **PKPab 13 09 21.7 +0.9**
DAVOX **Davos/Dischmat 160.57 344** PKPab **PKPab 13 09 21.7 +0.9**
comp=Z,2.2nm,0.6s,baz=236,slow=3.6,SNR=5.6
TORD **Torodi Ar. Bea 164.89 179** PKP **PKPdf 13 08 43.1 0.0**
TORD PKPab **PKPab 13 09 40.4 +0.2**
TORD **Torodi Ar. Bea 164.89 179** PKP **PKPdf 13 08 43.1 0.0**
comp=Z,1.8nm,0.9s,baz=253,slow=0.6,SNR=8.0
TORD PKPab **PKPab 13 09 40.4 +0.2**
comp=Z,4.0nm,0.6s,baz=173,slow=3.5,SNR=20

IDC 18 12:50:35.7±1.7, 6°64.5′S×146°62.6′E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.4/17, mbtmp3.4/4, ML2.8/2, Error ellipse: s-maj=53.1km s-min=25.8km az=103.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby 2.79 169**			Pn	Pn	12 51 21.6	-0.1
	3.7nm,0.3s,baz=348,slow=9.3,SNR=14						
PMG				Sn	Sn	12 51 55.4	-0.8
	4.7nm,0.3s,baz=157,slow=16,SNR=6.6						
WRA	**Warramunga Arr 17.80 221**			P	Pn	12 54 44.0	-1.2
	0.1nm,0.3s,baz=38,slow=11,SNR=7.0						
ASAR	**Alice Springs 20.88 215**			P	P	12 55 20.1	+0.4
	1.0nm,0.8s,baz=33,slow=11,SNR=14						
ILAR	**Eielson Array 86.22 23**			P	P	13 03 19.1	+0.3
	0.3nm,0.6s,baz=246,slow=5.1,SNR=6.2						

GUC 18 12:55:51.8±0.5, 31°60.5′N×69°02.0′W, h150km, ML3.5, 1C-4D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JACH	**Jahuel 1.72 231**			⇓*i*P	Pn	12 56 24.7	+0.8
CMCH	**Combarbala 1.75 283**			⇓*i*P	Pn	12 56 24.4	+0.2
CMCH				*i* S	Sn	12 56 49.6	+0.6
CMCH				AML	AML	12 56 50.9	
	comp=E,1μm,0.8s						
PEL	**Peldehue 2.09 222**			⇓*i*P	Pn	12 56 28.3	+0.3
PEL				*i* S	Sn	12 56 56.3	+0.3
PEL				AML	AML	12 56 59.5	
	comp=E,374nm,0.4s						
CHNG	**Los Chungos 2.14 262**			*e*P	Pn	12 56 29.0	+0.5
CHNG				*i* S	Sn	12 56 56.8	+0.1
CHNG				AML	AML	12 57 05.5	
	comp=N,114nm,0.5s						
ROCH	**El Roble 2.18 230**			*e*P	Pn	12 56 29.1	-0.2
ROCH				*i* S	Sn	12 56 58.2	+0.1
CLCH	**Cerro Calan 2.21 215**			⇑*i*P	Pn	12 56 30.0	+0.5
CLCH				*i* S	Sn	12 56 59.0	+0.5
CLCH				AML	AML	12 57 02.1	
	comp=E,156nm,0.5s						
PCH	**Pirque 2.38 212**			*e*P	Pn	12 56 32.1	+0.5
CHCH	**Chadas Angostu 2.71 210**			⇓*i*P	Pn	12 56 35.9	+0.4
CHCH				*i* S	Sn	12 57 10.1	+0.7
CACH	**El Canelo 2.85 208**			*e*P	Pn	12 56 38.2	+0.8

IDC 18 13:03:40.5±1.9, 37°59N×96°06E, h0km, mb3.7/1, mb1 3.5/5, mb1mx3.3/29, mbtmp3.4/5, ML3.6/4, Error ellipse: s-maj=39.0km s-min=28.9km az=56.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array 12.74 33**			Pn	Pn	13 06 44.6	+1.6
	0.2nm,0.3s,baz=218,slow=16,SNR=7.8						
MKAR	**Makanchi Array 13.72 316**			Pn	Pn	13 06 52.0	-4.3
	0.2nm,0.3s,baz=128,slow=14,SNR=18						
KURBB	**Kurchatov Arra 18.06 322**			P	Pn	13 07 52.2	-0.4
	0.1nm,0.3s,baz=134,slow=11,SNR=4.1						
CMAR	**Chiang Mai Arr 19.23 172**			P	P	13 08 06.7	+0.4
	0.1nm,0.3s,baz=345,slow=10,SNR=5.5						
KSRS	**Korea Array 25.21 80**			P	P	13 09 07.0	-0.8
	1.2nm,0.8s,baz=284,slow=9.8,SNR=4.3						

*ISCJB **18** 13:26:20.8±0.7, 20°.3S±0°.1×177°.6W±0°.1, h450km, mb3.9/9, Error ellipse: s-maj=17.8km s-min=12.5km az=166.8*
*AUST **18** 13:26:21.5, 20°.43S×177°.21W, h450km*
*IDC **18** 13:26:28.8±2.3, 20°.16S×177°.75W, h522km±26km, mb3.5/9, mb1 3.6/9, mb1mx3.4/18, mbtmp3.5/9, Error ellipse: s-maj=22.8km s-min=14.4km az=156.0*
ISC 18 13:26:22.2±0.7, 20°.3S±0°.2×177°.5W±0°.1, h450km, n29, σ1§23/28, mb4.0/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue 7.26 82**			P	**P**	**13 28 09.2**	**-0.6**
	baz=7.0,SNR=20						
URZ	**Urewera 18.52 193**			P	**P**	**13 30 08.5**	**-1.3**
	5.2nm,0.3s,baz=300,slow=2.0,SNR=33						
CTA	**Charters Tower 33.95 264**			P	**P**	**13 32 27.1**	**+0.3**
	9.2nm,0.4s,baz=91,slow=10,SNR=18						
CMSA	**Cobar Meteorol 34.78 244**			P	**P**	**13 32 34.0**	**+0.3**
	baz=35,SNR=5.6						
QLP	**Quilpie 35.55 252**			P	**P**	**13 32 40.2**	**0.0**
	baz=36,SNR=5.0						
MTSU	**Mount Surprise 36.05 267**			P	**P**	**13 32 44.5**	**+0.1**
	baz=36,SNR=12						
STKA	**Stephens Creek 38.29 244**			P	**P**	**13 33 03.1**	**+0.4**
	baz=38,SNR=4.9						
STKA	**Stephens Creek 38.29 244**			P	**P**	**13 33 02.6**	**-0.1**
	2.4nm,0.7s,baz=86,slow=9.7,SNR=8.1						
BBOO	**Buckleboo 43.05 243**			P	**P**	**13 33 40.7**	**-0.3**
	baz=43,SNR=8.8						
JAY	**Jayapura 44.40 288**			P	**P**	**13 33 52.3**	**+0.5**
	baz=45,SNR=3.9						
ASAR	**Alice Springs 45.00 256**			P	**P**	**13 33 55.9**	**-0.5**
	9.1nm,0.8s,baz=98,slow=7.6,SNR=119						
ASAR				S	S	13 39 57.0	-4.3
	1.8nm,1.0s,baz=93,slow=16,SNR=7.6						
WRA	**Warramunga Arr 45.07 262**			P	**P**	**13 33 55.9**	**-1.1**
	2.0nm,0.3s,baz=97,slow=8.7,SNR=9.5						
WRA				S	S	13 39 56.1	-6.2
	0.4nm,0.9s,baz=98,slow=12,SNR=2.6						
KDU	**Kakadu 48.39 271**			P	**P**	**13 34 21.5**	**-0.7**
	baz=49,SNR=7.1						
MTN	**Manton Dam 49.61 270**			P	**P**	**13 34 30.3**	**-1.0**
	baz=50,SNR=4.6						
KNRA	**Kununurra 51.12 266**			P	**P**	**13 34 41.7**	**-0.7**
	baz=51,SNR=7.4						
FITZ	**Fitzroy Crossi 53.50 262**			P	**P**	**13 34 59.1**	**-0.5**
	baz=54,SNR=7.7						
FITZ	**Fitzroy Crossi 53.50 262**			P	**P**	**13 34 59.3**	**-0.3**
	1.6nm,0.5s,baz=106,slow=5.1,SNR=16						
SOEI	**Soe 56.94 271**			P	**P**	**13 35 25.2**	**+1.2**
	baz=57,SNR=3.1						
VNDA	**Vanda 58.17 185**			P	**P**	**13 35 33.0**	**+1.8**
	0.8nm,0.6s,baz=16,slow=8.7,SNR=12						
MEEK	**Meekatharra 58.41 251**			P	**P**	**13 35 32.5**	**-1.2**
	baz=59,SNR=4.0						
BLDU	**Ballidu 59.55 246**			P	**P**	**13 35 40.5**	**-0.8**
	baz=60,SNR=8.9						
MORW	**Morawa 60.33 247**			P	**P**	**13 35 45.8**	**-0.8**
	baz=60,SNR=5.3						
USRK	**Ussuriysk Arra 79.03 326**			P	**P**	**13 37 39.0**	**+0.6**
	4.1nm,0.9s,baz=131,slow=1.6,SNR=5.0						
ILAR	**Eielson Array 88.00 13**			P	**P**	**13 38 21.4**	**-1.4**
	0.6nm,0.5s,baz=219,slow=5.5,SNR=16						
CMAR	**Chiang Mai Arr 90.46 289**			P	**P**	**13 38 35.5**	**+0.2**
	2.0nm,0.8s,baz=116,slow=2.8,SNR=12						
MKAR	**Makanchi Array 111.36 313**			PKiKP	**PKiKP**	**13 44 01.8**	**-2.4**
	0.1nm,0.6s,baz=299,slow=1.5,SNR=2.1						
AKASG	**Malin Array Be 143.03 332**			PKP	PKPab	13 44 59.5	-1.4
	3.3nm,0.6s,baz=41,slow=4.4,SNR=16						
BRTR	**Keskin Array B 147.01 313**			PKPbc	**PKPdf**	**13 45 11.9**	**+0.8**
	1.0nm,0.6s,baz=135,slow=3.9,SNR=5.5						
GERES	**GERESS Array B 150.10 345**			PKPbc	**PKPdf**	**13 45 19.6**	**+3.9**
	0.6nm,0.8s,baz=11,slow=1.4,SNR=6.0						

IDC 18 13:33:01.4±1.7, 9°48S×152°79E, h0km, mb3.7/6, mb1 4.1/7, mb1mx3.7/18, mbtmp3.9/7, ML4.1/1, MS3.0/3, Ms1 3.0/3, ms1mx2.8/26, Error ellipse: s-maj=51.1km s-min=24.8km az=120.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby 5.56 270**			LR	LR	13 36 13.1	
	comp=Z,95nm,21.4s,baz=273,slow=34						
HNR	**Honiara 7.06 90**			LR	LR	13 37 05.7	
	comp=Z,95nm,20.4s,baz=192,slow=35						
CTA	**Charters Tower 12.29 210**			Pn	Pn	13 35 56.3	-1.6
	0.7nm,0.3s,baz=27,slow=14,SNR=5.1						
WRA	**Warramunga Arr 20.64 238**			P	P	13 37 42.3	-0.4
	5.0nm,0.9s,baz=62,slow=10,SNR=14						
ASAR	**Alice Springs 22.91 230**			P	P	13 38 07.0	-0.2
	1.6nm,0.9s,baz=56,slow=9.9,SNR=6.3						
STKA	**Stephens Creek 24.59 203**			P	P	13 38 23.9	+0.6
	1.3nm,0.7s,baz=35,slow=11,SNR=3.9						
STKA				LR	LR	13 47 16.5	
	comp=Z,86nm,19.9s,baz=22,slow=35						
FITZ	**Fitzroy Crossi 27.70 249**			P	P	13 38 51.6	+0.1
	2.8nm,0.8s,baz=112,slow=6.5,SNR=4.5						
CMAR	**Chiang Mai Arr 59.94 298**			P	P	13 43 10.4	+0.5
	0.6nm,0.6s,baz=128,slow=6.2,SNR=6.4						
ILAR	**Eielson Array 86.47 22**			P	P	13 45 45.3	-0.4
	0.2nm,0.5s,baz=251,slow=5.6,SNR=4.1						

*IDC **18** 13:33:33.4±1.8, 19°.18N×104°.82W, h0km, mb3.7/7, mb1 4.1/8, mb1mx3.9/23, mbtmp3.8/8, ML3.7/1, MS3.2/2, Ms1 3.2/2, ms1mx2.8/36, Error ellipse: s-maj=72.6km s-min=23.9km az=92.0*
*MEX **18** 13:33:40.8±0.8, 19°.18N×104°.75W, h10km±6km, MD4.1*
ISC 18 13:33:37.8±1.8, 19°14N±0°.06×104°81W±0°.06, h29km±12km, n27, σ1§05/34, mb3.7/7, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CJM	**Chamela 0.42 328**			*e*P	**Pn**	**13 33 49.1**	**+1.2**
CJM				*i* S	**Sn**	**13 33 55.6**	**+1.0**
R15V		**0.78 88**		*e*P	**Pb**	**13 33 52.9**	**-0.1**
R15V				*i* S	**Sb**	**13 34 02.7**	**-0.7**
EZ5V		**1.19 73**		*i* P	**Pn**	**13 33 58.8**	**0.0**
EZ5V				*i* S	**Sn**	**13 34 13.8**	**-0.4**
PUVA	**Puert Vallarta 1.52 345**			*i* P	**Pn**	**13 34 03.6**	**+0.4**
PUVA				*i* S	**Sn**	**13 34 21.9**	**-0.1**
MMIG	**Aquila 1.63 121**			*i* P	**Pn**	**13 34 05.5**	**+1.0**
MMIG				*i* S	**Sn**	**13 34 24.8**	**+0.2**
ANIG	**Ahuacatlan 1.92 8**			*i* P	**Pn**	**13 34 09.9**	**+1.2**
ANIG				*i* S	**Sn**	**13 34 32.7**	**+0.7**
SFJM	**Santa Fe 2.14 51**			*e*P	**Pb**	**13 34 16.3**	**+0.3**
SFJM				*i* S	**Sb**	**13 34 41.1**	**-1.1**
MOIG	**Morelia 3.46 81**			*i* P	**Pn**	**13 34 30.9**	**+0.9**
MOIG				*i* S	**Sn**	**13 35 11.0**	**+0.9**
IGIG	**Irapuato, Guan 3.65 63**			*e*P	**Pn**	**13 34 33.9**	**+1.3**
IGIG				*i* S	**Sn**	**13 35 14.4**	**-0.3**
ZAIG	**Zacatecas 4.17 30**			*i* P	**Pn**	**13 34 41.3**	**+1.4**
ZAIG				*i* S	**Sn**	**13 35 29.4**	**+1.6**
ARIG	**Puente Sto Nin 4.32 101**			*e*P	**Pn**	**13 34 43.5**	**+1.9**
ARIG				*i* S	**Sn**	**13 35 32.0**	**+1.0**
TXAR	**Lajitas Array 10.20 6**			Pn	**Pn**	**13 36 04.2**	**+1.8**
	0.2nm,0.3s,baz=189,slow=14,SNR=27						
TXAR				Lg	Lg	13 38 56.9	
	0.2nm,0.3s,baz=168,slow=30,SNR=4.5						
ANMO	**Albuquerque 15.81 355**			Pn	**P**	**13 37 22.4**	**+0.3**
	0.1nm,0.3s,baz=156,slow=12,SNR=11						
NVAR	**Mina Array Bea 22.52 331**			P	**P**	**13 38 34.8**	**-0.7**
	3.1nm,0.9s,baz=151,slow=12,SNR=19						
ELK	**Elko 23.31 340**			P	**P**	**13 38 43.7**	**0.0**
	0.3nm,0.3s,baz=142,slow=6.8,SNR=5.4						
PDAR	**Pinedale Array 23.89 351**			P	**P**	**13 38 47.5**	**-1.8**
	0.5nm,0.5s,baz=152,slow=10,SNR=4.6						
TKL	**Tuckaleechee C 24.80 44**			LR	LR	13 51 28.7	
	comp=Z,47nm,20.9s,baz=329,slow=43						
YBH	**Yreka Blue Hor 27.19 330**			P	**P**	**13 39 18.4**	**-0.6**
	1.1nm,0.7s,baz=147,slow=6.7,SNR=7.0						
ULM	**Lac du Bonnet 31.84 11**			LR	LR	13 52 43.7	
	comp=Z,66nm,21.4s,baz=318,slow=36						
YKA	**Yellowknife Ar 43.84 353**			P	**P**	**13 41 38.9**	**-2.3**
	0.9nm,0.6s,baz=168,slow=6.6,SNR=5.2						
ILAR	**Eielson Array 53.47 339**			P	**P**	**13 42 54.8**	**-0.3**
	1.2nm,1.0s,baz=166,slow=6.5,SNR=38						
ILAR				PcP	**PcP**	**13 44 01.9**	**0.0**
	0.3nm,0.5s,baz=147,slow=2.2,SNR=6.4						
H03N2	**Juan Fernandez 57.83 154**			T	T	14 45 42.3	
	baz=332,slow=0.7,SNR=6.4						
H03N1	**Juan Fernandez 57.84 154**			T	T	14 45 45.4	
	baz=332,slow=0.7,SNR=15						
H03N3	**Juan Fernandez 57.85 154**			T	T	14 45 46.2	
	baz=332,slow=0.7,SNR=11						
PETK	**Petropavlovsk- 79.29 323**			P	**P**	**13 45 41.0**	**+0.4**
	2.3nm,0.7s,baz=90,slow=8.9,SNR=4.0						
WRA	**Warramunga Arr 124.51 259**			PKP	**PKPdf**	**13 52 35.7**	**+0.6**
	0.4nm,0.5s,baz=352,slow=1.1,SNR=8.8						
ASAR	**Alice Springs 125.47 254**			PKP	**PKPdf**	**13 52 37.4**	**+0.4**
	0.3nm,0.5s,baz=80,slow=2.3,SNR=6.8						

*ISCJB **18** 13:42:30.2±0.4, 6°.84N±0°.05×72°.94W±0°.05, h175km±5km, mb3.8/16, Error ellipse: s-maj=9.9km s-min=6.8km az=137.3*
*IDC **18** 13:42:31.2±1.6, 6°.78N×72°.97W, h171km±15km, mb3.6/16, mb1 3.8/18, mb1mx3.7/26, mbtmp3.6/18, Error ellipse: s-maj=21.5km s-min=10.7km az=55.0*
*FUNV **18** 13:42:35.4, 7°.03N×72°.87W, h144km, MW3.7*
ISC 18 13:42:30.6±0.8, 6°93N±0°.06×72°92W±0°.06, h161km±7km, n42, σ1§48/48, mb3.7/16, 7C-6D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho 1.11 33**			⇑*e*P	**Pn**	**13 42 59.7**	**+2.2**
CAPV				*e*S	**Sn**	**13 43 16.1**	**-2.1**
VIGV	**El Vigia 2.44 39**			*e*P	**Pn**	**13 43 13.9**	**+2.3**
VIGV				*e*S	**Sn**	**13 43 41.8**	**-1.6**
SOCV	**Socops 2.45 57**			⇑*i*P	**Pn**	**13 43 13.7**	**+2.0**
SOCV				*e*S	**Sn**	**13 43 41.5**	**-1.9**
ROSC	**El Rosal 2.49 214**			P	**Pn**	**13 43 11.5**	**-1.0**
	313nm,0.3s,baz=292,slow=19,SNR=177						
ROSC				S	**Sn**	**13 43 44.1**	**-0.9**
	462nm,0.3s,baz=105,slow=20,SNR=6.4						
ELOV	**Elorza 3.41 89**			⇑*i*P	**Pn**	**13 43 25.8**	**+2.2**
VIRV	**Villa del Rosa 3.59 8**			⇓*i*P	**Pn**	**13 43 26.6**	**+0.7**
VIRV				*e*S	**Sn**	**13 44 05.6**	**-3.3**
QARV	**Quebrada Arrib 4.03 36**			⇓*e*P	**Pn**	**13 43 33.7**	**+2.2**
SANV	**Sanarito 4.21 52**			⇓*i*P	**Pn**	**13 43 35.9**	**+1.9**
CURV	**Curarigua 4.24 43**			⇓*e*P	**Pn**	**13 43 36.3**	**+2.1**
DABV	**Dabajuro 4.56 29**			⇓*e*P	**Pn**	**13 43 40.2**	**+1.7**
TEPV	**Terepaima 4.76 50**			*e*P	**Pn**	**13 43 43.1**	**+2.0**
SIQV	**Siquisique 4.81 40**			⇓*i*P	**Pn**	**13 43 43.2**	**+1.5**
BAUV	**El Baul 5.23 67**			⇑*i*P	**Pn**	**13 43 47.8**	**+0.6**
MAPV	**Macapo 5.27 57**			⇑*i*P	**Pn**	**13 43 49.3**	**+1.5**
IMOV	**Isla Los Monje 5.75 20**			*e*P	**Pn**	**13 43 55.2**	**+1.1**
MONV	**Montecano 5.78 30**			⇑*e*P	**Pn**	**13 43 55.5**	**+1.0**
TURV	**Turiamo 6.12 55**			*e*P	**Pn**	**13 44 00.1**	**+1.1**
MERV	**Las Mercedes 6.95 70**			*e*P	**Pn**	**13 44 10.5**	**+0.4**
BIRV	**Birongo 7.46 61**			*e*P	**Pn**	**13 44 17.4**	**+0.6**
CUPV	**Cospira 7.71 66**			⇑*e*P	**Pn**	**13 44 20.7**	**+0.5**
PCRV	**Puerto La Cruz 8.80 68**			*e*P	**Pn**	**13 44 36.3**	**+1.6**
JTS	**JuntasAbangare 12.36 287**			P	**Pn**	**13 45 21.8**	**+0.5**
	0.6nm,0.3s,baz=55,slow=15,SNR=6.1						
LPAZ	**La Paz 23.55 168**			P	**P**	**13 47 25.5**	**-1.7**
	0.6nm,0.3s,baz=356,slow=7.6,SNR=7.4						
SIV	**San Ignacio 25.62 153**			P	**P**	**13 47 43.1**	**-2.2**
	0.6nm,0.4s,baz=332,slow=11,SNR=4.1						
BDFB	**Brasilia 33.34 132**			P	**P**	**13 48 54.1**	**+0.4**
	3.3nm,0.5s,baz=295,slow=11,SNR=8.6						
TXAR	**Lajitas Array 36.54 311**			P	**P**	**13 49 21.4**	**+0.3**
	1.3nm,0.6s,baz=126,slow=9.2,SNR=18						
TXAR				PcP	**PcP**	**13 51 42.3**	**+1.1**
	0.3nm,0.6s,baz=123,slow=4.6,SNR=3.8						
ANMO	**Albuquerque 41.57 317**			P	**P**	**13 50 04.0**	**+1.1**
	0.4nm,0.4s,baz=12,slow=17,SNR=3.8						
ULM	**Lac du Bonnet 47.25 340**			P	**P**	**13 50 47.4**	**0.0**
	5.2nm,0.4s,baz=143,slow=6.4,SNR=15						
SCHQ	**Schefferville 48.02 5**			P	**P**	**13 50 54.5**	**+1.3**
	0.3nm,0.5s,baz=214,slow=15,SNR=8.7						
PDAR	**Pinedale Array 48.11 324**			P	**P**	**13 50 54.9**	**+0.4**
	1.3nm,0.6s,baz=128,slow=9.0,SNR=11						
ELK	**Elko 50.53 318**			P	**P**	**13 51 12.9**	**0.0**
	0.6nm,0.5s,baz=81,slow=22,SNR=5.1						
NVAR	**Mina Array Bea 51.55 314**			P	**P**	**13 51 21.4**	**+0.8**
	0.8nm,0.6s,baz=113,slow=7.0,SNR=8.9						
YBH	**Yreka Blue Hor 56.00 316**			P	**P**	**13 51 51.3**	**-1.3**
	1.4nm,0.6s,baz=183,slow=2.9,SNR=14						
YKA	**Yellowknife Ar 63.23 340**			P	**P**	**13 52 41.8**	**+0.3**
	4.2nm,0.6s,baz=133,slow=6.5,SNR=28						
TORD	**Torodi Ar. Bea 73.52 78**			P	**P**	**13 53 45.8**	**-0.7**
	0.2nm,0.5s,baz=283,slow=7.0,SNR=5.3						
ILAR	**Eielson Array 76.95 335**			P	**P**	**13 54 05.1**	**0.0**
	0.4nm,0.5s,baz=111,slow=4.3,SNR=8.9						
NOA	**NORSAR Array B 81.14 29**			P	**P**	**13 54 27.5**	**-0.5**
	0.5nm,0.8s,baz=271,slow=3.6,SNR=2.6						
ARCES	**ARCESS Array B 86.50 20**			P	**P**	**13 54 55.8**	**+0.8**
	6.1nm,1.1s,baz=274,slow=4.2,SNR=5.0						
SONM	**Songino Array 125.47 1**			PKP	**PKPdf**	**14 01 13.2**	**+0.3**
	0.3nm,0.4s,baz=302,slow=2.5,SNR=3.1						
ASAR	**Alice Springs 149.34 234**			PKPbc	**PKPbc**	**14 01 59.7**	**-1.7**
	0.4nm,0.5s,baz=118,slow=3.4,SNR=13						
WRA	**Warramunga Arr 150.56 241**			PKPbc	**PKPbc**	**14 02 02.7**	**-1.7**
	0.6nm,0.3s,baz=269,slow=0.3,SNR=19						
CMAR	**Chiang Mai Arr 153.53 18**			PKPbc	**PKPbc**	**14 02 11.4**	**+0.3**
	0.3nm,0.5s,baz=325,slow=3.6,SNR=3.4						

*ISCJB **18** 13:50:01.2±0.4, 39°.53N±0°.07×95°.33E±0°.04, h10km, mb3.6/11, Error ellipse: s-maj=11.0km s-min=4.2km az=14.9*
*BJI **18** 13:50:01.7, 39°.49N×95°.43E, h2km, mB4.7/3, mb4.6/6, ML4.4/8, Ms4.0/4*
*IDC **18** 13:50:05.9±6.8, 39°.52N×95°.41E, h24km±47km, mb3.5/8, mb1 3.8/13, mb1mx3.6/31, mbtmp3.7/13, ML4.0/5, MS3.1/2, Ms1 3.1/2, ms1mx2.7/32, Error ellipse: s-maj=30.1km s-min=16.0km az=41.0*
*NNC **18** 13:50:13.3±2.9, 40°.13N×94°.30E, h0km, mb4.1, Error ellipse: s-maj=73.5km s-min=26.5km az=37.0*
ISC 18 13:50:04.4±0.6, 39°54N±0°.10×95°42E±0°.04, h10km, n31, σ2§62/38, mb3.8/11, 6C-3D, Gansu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai 3.40 91**			Pn	**Pn**	**13 50 57.5**	**-0.2**
GTA				Pg	**Pb**	**13 51 03.6**	**-1.3**
GTA				Sn	**Sn**	**13 51 38.1**	**-0.1**
GTA				Sg	**Sb**	**13 51 47.0**	**+0.6**
GTA				SMN			
	550nm,0.9s						
GTA				SME			
	310nm,0.7s						
WMQ	**Urumqi 7.19 309**			Pn	**Pn**	**13 51 49.6**	**0.0**
WMQ				SMN			
	comp=Z,290nm,0.6s						
WMQ				SME			
	comp=Z,440nm,0.9s						
LZH	**Lanzhou 7.51 115**			*e*Pn	**Pn**	**13 51 53.8**	**-0.3**
LZH				*e*Sn	**Sn**	**13 53 18.4**	**-0.9**
SONM	**Songino Array 11.47 40**			Pn	**Pn**	**13 52 48.0**	**-0.3**
	0.3nm,0.3s,baz=224,slow=15,SNR=14						
SONM				Lg	Lg	13 56 01.3	
	0.7nm,0.3s,baz=234,slow=28,SNR=6.6						
MK31	**Makanchi Array 12.01 311**			⇑Pn	**Pn**	**13 52 52.9**	**-2.7**
	2.6nm,0.4s,baz=117,slow=12,SNR=124						
MK31				Sn	Sn	13 55 01.6	-7.9
	10nm,0.7s,baz=120,slow=20,SNR=9.1						
MKAR	**Makanchi Array 12.01 311**			Pn	**Pn**	**13 52 52.8**	**-2.8**
	2.7nm,0.3s,baz=120,slow=14,SNR=120						
MKAR				Sn	Sn	13 55 02.2	-7.3
	1.0nm,0.3s,baz=115,slow=24,SNR=9.1						
MKAR				Lg	Lg	13 56 32.6	
	0.6nm,0.3s,baz=121,slow=26,SNR=5.0						
HHC	**Hu-ho-hao-te 12.42 79**			*e*P	**Pn**	**13 53 01.8**	**+0.5**
HHC				sP		13 53 08.4	
HHC				PP	**PnPn**	**13 53 12.3**	**+3.4**
HHC				S	**Sn**	**13 55 22.0**	**+2.3**
HHC				sS		13 55 28.1	
HHC				SS	**SnSn**	**13 55 38.6**	**+7.1**
HHC				AMB	AMB		
	comp=Z,34nm,1.0s						
HHC				AMB	AMB		
	comp=Z,190nm,5.2s						
HHC				LR	LR		
	comp=N,320nm,9.7s						
HHC				LR	LR		
	comp=E,300nm,11.7s						
ULHL	**Ulahol 14.76 287**			P	Pn	13 53 30.1	-3.2
	SNR=8.5						
KSH	**Kashi 15.01 276**			P	**Pn**	**13 53 38.8**	**+2.1**
KSH				PP	PnPn	13 53 52.0	+7.4
KSH				S	**Sn**	**13 56 28.1**	**+5.1**
KSH				SS	**S**	**13 56 45.3**	**+4.5**
KSH				AMB	AMB		
	comp=Z,21nm,0.6s						
KSH				AMB	AMB		
	comp=Z,110nm,4.0s						
TKM2	**Tokmak 2 15.29 289**			⇑P	**Pn**	**13 53 36.8**	**-3.6**
	27nm,1.1s						
TKM2				⇓S	Sn	13 56 16.9	-13
	4.4nm,0.8s						
TKM2	**Tokmak 2 15.29 289**			P	**Pn**	**13 53 37.5**	**-2.9**
	SNR=26						
KZA	**Kyzart 15.48 286**			P	**Pn**	**13 53 40.8**	**-2.3**
	SNR=12						
KBK	**Karagaybulak 15.74 288**			P	**Pn**	**13 53 43.4**	**-2.9**
	SNR=26						
AAK	**Ala-Archa 16.07 288**			Pn	**Pn**	**13 53 46.6**	**-4.0**
	0.5nm,0.3s,baz=120,slow=8.8,SNR=13						
AAK				LR	LR

ASAR Alice Springs 25.05 223 P P 13 58 04.5 +0.8
5.9nm,0.7s,baz=56,slow=9.1,SNR=67
SOEI Soe 27.93 260 P P 13 58 32.8 +3.0
baz=27,SNR=4.4
FITZ Fitzroy Crossi 28.67 242 P P 13 58 34.9 -1.4
baz=28,SNR=12
FITZ Fitzroy Crossi 28.67 242 P P 13 58 34.8 -1.4
3.2nm,0.6s,baz=78,slow=7.8,SNR=15
LUWI Luwuk 29.70 278 P P 13 58 51.6 +6.1
baz=29,SNR=3.6
MEEK Meekatharra 38.15 233 P P 14 00 03.0 +4.4
baz=38,SNR=5.9
PETK Petropavlovsk- 58.80 4 LR LR 14 22 29.5
comp=Z,53nm,21.5s,baz=135,slow=30
ILAR Eielson Array 83.25 22 P P 14 05 04.3 -0.6
0.2nm,0.7s,baz=240,slow=5.2,SNR=5.3
TORD Torodi Ar. Bea 149.98 286 PKPbc PKPbc 14 12 29.6 -0.4
0.4nm,0.6s,baz=98,slow=2.4,SNR=4.8

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*BJI **18** 14:12:59.8,40˚.15N×141˚.49E,h99km,mB4.8/20,mb4.8/39*
*NIED **18** 14:13:00,40˚.20N×141˚.40E,h86km,Mw4.3 Best double couple: M₀3.09000×10¹⁵ NP1:φ₅204.00000°,δ70.00000°, λ76.00000°. NP2:φ₅61.00000°,δ24.00000°,λ125.00000°.*
*ISCJB **18** 14:13:01.7±0.2,40˚.20N±0˚.02×141˚.24E±0˚.04,h96km±1km, mb4.5/64,Error ellipse: s-maj=4.8km s-min=3.7km az=29.0*
*MOS **18** 14:13:01.0±0.8,40˚.39N×141˚.13E,h80km,mb5.0/29,Error ellipse: s-maj=8.4km s-min=5.6km az=97.5*
*JMA **18** 14:13:02.5,40˚.21N×141˚.38E,h88km±1km,M4.2 Broadband fault plane solution: P waves. NP1: φ₅217.00000°,δ60.00000°,λ71.00000°. NP2:φ₅71.00000°, δ35.00000°,λ119.00000°. Principal axes: T Plg69.0000°, Azm88.0000°; N Plg16.0000°, Azm226.0000°; P Plg13.0000°, Azm320.0000°;*
JMA Felt II J1.
*IDC **18** 14:13:02.1±1.5,40˚.18N×141˚.17E,h89km±13km,mb4.2/26, mb1 4.2/30,mb1mx4.2/35,mbtmp4.1/30,MS3.0/3, Ms1 3.0/3,ms1mx2.7/28 Error ellipse: s-maj=11.3km s-min=9.3km az=112.0*
*NEIC **18** 14:13:03.3±0.6,40˚.19N×141˚.17E,h97km±6km,mb4.6/20, MW4.3(NIED),Error ellipse: s-maj=6.0km s-min=4.4km az=148.0*
NEIC Recorded [2 JMA] in Aomori and Iwate and [1 JMA] in Akita.

ISC 18 14:13:02.9±0.4,40˚.21N±0˚.03×141˚.30E±0˚.04,h96km±2km, n213,σ1$32/257,mb4.6/65,12C-10D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JKZ	**Kuzumaki**	**0.23**	**175**	⇑	P		**Pn**	**14 13 15.6**	**-1.2**
JKZ					S		**Sn**	**14 13 25.2**	**-1.9**
JANG	**Nango**	**0.23**	**45**	⇑	P		**Pn**	**14 13 15.3**	**-1.4**
JANG					S		**Sn**	**14 13 24.7**	**-2.3**
JAH	**Hinai**	**0.51**	**268**	⇑	P		**Pn**	**14 13 17.5**	**-0.8**
JAH					S		**Sn**	**14 13 28.7**	**-1.1**
JTM	**Tenmabayashi**	**0.60**	**343**	⇑	P		**Pn**	**14 13 18.2**	**-0.9**
JTM					S		**Sn**	**14 13 30.0**	**-1.2**
JOM	**Ohasama**	**0.74**	**181**	⇑	P		**Pn**	**14 13 19.3**	**-1.0**
JOM					S		**Sn**	**14 13 31.6**	**-1.7**
JRG	**Rokugo**	**0.96**	**213**	⇑	P		**Pn**	**14 13 22.3**	**-0.3**
JRG					S		**Sn**	**14 13 37.4**	**0.0**
JIW	**Iwasaki**	**1.06**	**292**	⇑	P		**Pn**	**14 13 23.7**	**0.0**
JIW					S		**Sn**	**14 13 39.8**	**+0.5**
JOT	**Ohata**	**1.19**	**351**	⇓	P		**Pn**	**14 13 24.7**	**-0.4**
JOT					S		**Sn**	**14 13 41.6**	**-0.3**
JMK	**Ichinoseki**	**1.26**	**183**	⇓	P		**Pn**	**14 13 25.2**	**-0.8**
JMK					S		**Sn**	**14 13 41.6**	**-1.8**
JYK	**Kaneyama**	**1.48**	**210**	⇑	P		**Pn**	**14 13 28.4**	**-0.3**
JYK					S		**Sn**	**14 13 48.0**	**-0.3**
JKB	**Kayabe**	**1.69**	**353**	⇓	P		**Pn**	**14 13 31.3**	**0.0**
JKB					S		**Sn**	**14 13 52.3**	**0.5**
ASAJ	**Asahikawa**	**4.02**	**13**	*e*	Pn		**Pn**	**14 14 01.3**	**-0.9**
ASAJ				*e*	S		**Sn**	**14 14 49.1**	**+0.9**
ASAJ	**Asahikawa**	**4.02**	**13**		P		**Pn**	**14 14 01.7**	**-0.6**
	10.0nm,0.3s,baz=302,slow=33,SNR=101								
ASAJ					S		**Sn**	**14 14 49.1**	**+0.9**
	3.9nm,0.3s,baz=218,slow=18,SNR=3.6								
MAJO	**Matsushiro**	**4.40**	**215**	*e*	P		**Pn**	**14 14 08.8**	**+1.4**
MAJO	**Matsushiro**	**4.40**	**215**	*e*	Pn		**Pn**	**14 14 08.8**	**+1.4**
MAT	**Matsushiro**	**4.40**	**215**		P		**Pn**	**14 14 08.6**	**+1.2**
MAT				*e*	S		**Sn**	**14 14 55.4**	**-2.1**
YUK	**Yuzh-Kuril'sk**	**5.11**	**40**	*i*	P		**Pn**	**14 15 15.4**	**-1.5**
YUK				*i*	S		**Sn**	**14 15 10.4**	**-4.2**
YUK					pmax	pmax			
	comp=N,67nm,0.3s								
YUK					pmax	pmax			
	comp=E,45nm,0.3s								
YUK					pmax	pmax			
	comp=Z,176nm,0.3s								
YUK					smax	smax			
	comp=N,826nm,0.5s								
YUK					smax	smax			
	comp=E,263nm,0.6s								
YSS	**Yuzh-Sakhalins**	**6.82**	**8**	⇑	*e*P		**Pn**	**14 14 39.0**	**-1.2**
YSS					*e*S		Sn	14 15 48.5	-7.8
YSS					pmax	pmax			
	comp=Z,40nm,1.0s								
KUR	**Kuril'sk**	**6.97**	**42**	⇓	*i*P		**Pn**	**14 14 41.0**	**-1.2**
KUR				*i*	S		**Sn**	**14 15 56.1**	**-3.7**
KUR					pmax	pmax			
	comp=Z,54nm,0.5s								
KUR					pmax	pmax			
	comp=E,9.0nm,0.3s								
KUR					pmax	pmax			
	comp=N,14nm,0.5s								
KUR					smax	smax			
	comp=N,40nm,0.4s								
KUR					smax	smax			
	comp=E,61nm,0.4s								
USRK	**Ussuriysk Arra**	**7.98**	**303**		P		**Pn**	**14 14 57.1**	**+1.1**
	comp=E,6.9nm,0.3s,baz=113,slow=14,SNR=110								
HABR	**Khabarovsk**	**9.39**	**334**	*e*	P		Pn	14 15 10.6	-4.6
HABR					pmax	pmax			
	comp=Z,36nm,2.1s								
MDJ	**Mudanjiang**	**9.71**	**301**		P		**Pn**	**14 15 21.9**	**+2.3**
MDJ					PcP		**PcP**	**14 21 26.3**	**+0.7**
MDJ					PcS		**PcS**	**14 25 01.3**	**+2.5**
MDJ					AMB	AMB			
	comp=Z,95nm,0.9s								
MDJ					AMB	AMB			
	comp=Z,71nm,5.1s								
MDJ					LR	LR			
	comp=Z,110nm,6.4s								
MDJ					LR	LR			
	comp=Z,23nm,4.2s								
MDJ					LR	LR			
	comp=Z,140nm,5.2s								
MDJ	**Mudanjiang**	**9.71**	**301**	*e*	P		**Pn**	**14 15 21.4**	**+1.9**
	comp=Z,87nm,0.9s								
KSRS	**Korea Array**	**10.79**	**260**		P		**Pn**	**14 15 33.1**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=80,slow=12,SNR=3.4								
KSRS					S		Sn	14 17 39.5	+6.4
	comp=Z,0.1nm,0.3s,baz=69,slow=23,SNR=7.3								
KSRS					LR		LR	14 20 05.8	
	comp=Z,28nm,18.6s,baz=50,slow=40								
KSAR	**Wonju Array Be**	**10.83**	**259**		P		**Pn**	**14 15 33.1**	**-1.6**
KSAR					S		**Sn**	**14 17 39.5**	**+5.6**
JNU	**Nakatsue**	**10.95**	**233**		P		**Pn**	**14 15 34.7**	**-1.9**
JNU	**Nakatsue**	**10.95**	**233**		P		**Pn**	**14 15 34.7**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=58,slow=13,SNR=2.1								
JNU					LR		LR	14 19 17.3	
	comp=Z,76nm,21.2s,baz=165,slow=35								
CN2	**Changchun**	**12.33**	**292**	*e*	P		**Pn**	**14 15 52.8**	**-2.1**
CN2				*e*	pP		**P**	**14 16 04.8**	**+1.7**
CN2				*e*	S		**Sn**	**14 18 07.3**	**-3.0**
CN2					AMB	AMB			
	comp=Z,10.0nm,0.6s								
CN2					AMB	AMB			
	comp=Z,200nm,3.0s								
PETK	**Petropavlovsk-**	**17.07**	**35**		P		**Pn**	**14 16 54.2**	**-1.1**
PETK	**Petropavlovsk-**	**17.07**	**35**		P		**Pn**	**14 16 54.2**	**-1.1**
PETK	**Petropavlovsk-**	**17.07**	**35**		P		**Pn**	**14 16 54.2**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=209,slow=14,SNR=4.1								
HHC	**Hu-ho-hao-te**	**22.57**	**281**	*e*	P		**P**	**14 17 52.3**	**-2.9**
HHC					pP		**pP**	**14 18 14.8**	**+0.7**
HHC					sP		**sP**	**14 18 27.8**	**+1.7**
HHC					S		**S**	**14 21 49.6**	**-6.1**
HHC					AMB	AMB			
	comp=Z,34nm,1.0s								
HHC					AMB	AMB			
	comp=Z,170nm,4.8s								
HHC					LR	LR			
	comp=Z,290nm,8.1s								
HHC					LR	LR			
	comp=Z,400nm,9.8s								
HHC					LR	LR			
	comp=Z,340nm,11.0s								
YAK	**Yakutsk**	**22.96**	**346**	*d*	*i*P		**P**	**14 17 56.4**	**-2.4**
YAK					pmax	pmax			
	comp=Z,17nm,0.6s								
SEY	**Seymchan**	**23.70**	**13**	⇓	*i*P		**P**	**14 18 05.7**	**+0.1**
FX1	**Attu Island--F**	**25.08**	**49**		P		**P**	**14 18 19.9**	**+1.6**
FX1	**Attu Island--F**	**25.08**	**49**		P		**P**	**14 18 19.9**	**+1.6**
	comp=Z,11nm,0.9s,baz=259,slow=19,SNR=2.5								
SONM	**Songino Array**	**26.06**	**299**		P		**P**	**14 18 26.7**	**-0.6**
SONM	**Songino Array**	**26.06**	**299**		P		**P**	**14 18 26.7**	**-0.6**
	comp=Z,4.2nm,0.7s,baz=86,slow=8.8,SNR=31								
SONM					LR		LR	14 28 17.7	
	comp=Z,79nm,19.2s,baz=26,slow=35								
TLY	**Talaya**	**28.27**	**307**	⇑	*i*P		**P**	**14 18 47.1**	**+0.1**
TLY					pmax	pmax			
	comp=Z,6.0nm,0.8s								
ZAK	**Zakamensk**	**28.33**	**304**	*e*	P		**P**	**14 18 46.2**	**-1.4**
ZAK					pmax	pmax			
	comp=Z,27nm,0.9s								
LZH	**Lanzhou**	**29.60**	**274**	*e*	P		**P**	**14 19 01.0**	**+2.0**
LZH					pP		**pP**	**14 19 22.9**	**+2.3**
LZH					sP		**sP**	**14 19 35.4**	**+3.6**
LZH					AMB	AMB			
	comp=Z,17nm,1.0s								
H11N2	**WAKE ISLAND Hy**	**29.95**	**125**		T		T	14 49 52.4	
	baz=320,slow=0.7,SNR=324								
H11N1	**WAKE ISLAND Hy**	**29.96**	**125**		T		T	14 49 53.5	
	baz=320,slow=0.7,SNR=276								
H11N3	**WAKE ISLAND Hy**	**29.97**	**125**		T		T	14 49 54.2	
	baz=320,slow=0.7,SNR=266								
H11S1	**WAKE ISLAND Hy**	**30.75**	**127**		T		T	14 50 56.6	
	baz=323,slow=0.7,SNR=27								
H11S3	**WAKE ISLAND Hy**	**30.76**	**127**		T		T	14 50 57.1	
	baz=323,slow=0.7,SNR=30								
H11S2	**WAKE ISLAND Hy**	**30.77**	**127**		T		T	14 50 57.1	
	baz=323,slow=0.7,SNR=25								
GTA	**Gaotai**	**31.67**	**282**	*e*	P		**P**	**14 19 17.5**	**+0.3**
GTA					pP		**pP**	**14 19 39.6**	**+0.7**
GTA					sP		**sP**	**14 19 51.3**	**+1.2**
GTA					S		**S**	**14 24 19.8**	**+0.1**
GTA					sS		**sS**	**14 24 58.1**	**+0.8**
GTA					ScP		**ScP**	**14 25 42.3**	**+1.0**
GTA					SS		**SnSn**	**14 26 16.5**	**+0.6**
GTA					AMB	AMB			
	comp=Z,4.0nm,0.8s								
GTA					AMB	AMB			
	comp=Z,25nm,5.2s								
GTA					LR	LR			
	comp=Z,170nm,15.7s								
GTA					LR	LR			
	comp=Z,110nm,14.3s								
GTA					LR	LR			
	comp=Z,140nm,14.7s								
CD2	**Chengdu**	**31.73**	**265**		P		**P**	**14 19 17.8**	**+0.1**
CD2					pP		**pP**	**14 19 39.6**	**+0.2**
CD2					sP		**sP**	**14 19 51.1**	**+0.6**
CD2					PP		**PnPn**	**14 20 25.8**	**+0.4**
CD2					S		**S**	**14 24 18.3**	**-2.1**
CD2					sS		**sS**	**14 24 56.0**	**-2.0**
CD2					SS		**SnSn**	**14 26 12.9**	**-4.3**
CD2					AMB	AMB			
	comp=Z,20nm,0.5s								
CD2					AMB	AMB			
	comp=Z,90nm,7.2s								
CD2					LR	LR			
	comp=Z,360nm,8.4s								
CD2					LR	LR			
	comp=Z,200nm,7.8s								
GYA	**Guiyang**	**31.81**	**255**	*e*	P		**P**	**14 19 20.0**	**+1.5**
GYA					pP		**pP**	**14 19 40.5**	**+0.3**
GYA					sP		**sP**	**14 19 51.6**	**+0.3**
GYA					PP		**PnPn**	**14 20 27.3**	**+0.7**
GYA					S		**S**	**14 24 21.0**	**-1.0**
GYA					ScP		**ScP**	**14 25 42.8**	**+0.8**
GYA					PcS		**PcS**	**14 25 52.4**	**0.0**
GYA					ScS		**ScS**	**14 29 40.5**	**-0.2**
GYA					AMB	AMB			
	comp=Z,10.0nm,0.8s								
HVS	**Khovu-Aksy**	**34.44**	**305**	⇓	*i*P		**P**	**14 19 41.1**	**0.0**
HVS					pmax	pmax			
	comp=Z,36nm,0.9s								
KMI	**Kunming**	**35.48**	**257**		P		**P**	**14 19 51.5**	**+1.0**
KMI					AMB	AMB			
	comp=Z,6.0nm,1.0s								
WMQ	**Urumqi**	**39.41**	**293**		P		**P**	**14 20 24.6**	**+1.3**
WMQ					pP		**pP**	**14 20 47.3**	**+1.8**
WMQ					sP		**sP**	**14 20 58.9**	**+2.4**
WMQ					S		**S**	**14 26 18.8**	**+1.0**
WMQ					SS		**SS**	**14 29 08.8**	**-6.5**
WMQ					ScS		**ScS**	**14 30 21.4**	**-0.2**
WMQ					AMB	AMB			
	comp=Z,14nm,0.6s								
WMQ					AMB	AMB			
	comp=Z,190nm,4.8s								
WMQ					LR	LR			
	comp=Z,260nm,6.6s								
WMQ					LR	LR			
	comp=Z,230nm,9.2s								
WMQ					LR	LR			
	comp=Z,69nm,16.2s								
ZAA0	**Zalesovo Array**	**39.77**	**310**	*e*	P		**P**	**14 20 25.5**	**-0.5**
ZALV	**Zalesovo Beam**	**39.77**	**310**		P		**P**	**14 20 26.0**	**0.0**
ZALV								14 22 29.8	
ZALV					pmax	pmax			
	comp=Z,13nm,0.5s								
ZALV					pmax	pmax			
	comp=Z,2.0nm,0.4s								
ZALV	**Zalesovo Beam**	**39.77**	**310**		P		**P**	**14 20 26.0**	**0.0**
ZALV					PcP		**PcP**	**14 22 29.8**	**-0.6**
ZALV	**Zalesovo Beam**	**39.77**	**310**		P		**P**	**14 20 26.0**	**0.0**
	comp=Z,13nm,0.5s,baz=90,slow=8.0,SNR=77								
ZALV					PcP		**PcP**	**14 22 29.8**	**-0.6**
	comp=Z,1.7nm,0.4s,baz=99,slow=2.9,SNR=5.0								
NVS	**Novosibirsk**	**40.64**	**311**	*i*	P		**P**	**14 20 30.8**	**-2.3**
LSA	**Lhasa**	**41.93**	**272**	*e*	P		**P**	**14 20 45.5**	**+0.9**
LSA					pmax	pmax			
	comp=Z,6.0nm,0.6s								
LSA	**Lhasa**	**41.93**	**272**	*e*	P		**P**	**14 20 45.5**	**+0.9**
	comp=Z,5.8nm,0.6s								
CMAR	**Chiang Mai Arr**	**42.31**	**252**		P		**P**	**14 20 46.6**	**-0.7**
CMAR					ScP		**ScP**	**14 26 21.7**	**+0.6**
CMAR	**Chiang Mai Arr**	**42.31**	**252**		P		**P**	**14 20 46.6**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=44,slow=7.1,SNR=13								
CMAR					ScP		**ScP**	**14 26 21.7**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=7.6,slow=2.7,SNR=4.5								
MK31	**Makanchi Array**	**42.43**	**299**	*e*	P		**P**	**14 20 47.8**	**-0.2**
MK31	**Makanchi Array**	**42.43**	**299**	*e*	P		**P**	**14 20 47.8**	**-0.2**
MKAR	**Makanchi Array**	**42.43**	**299**	*e*	P		**P**	**14 20 47.9**	**-0.1**
MKAR	**Makanchi Array**	**42.43**	**299**	*e*	P		**P**	**14 20 47.9**	**-0.1**
MKAR					ScP		**ScP**	**14 26 20.6**	**-0.6**
MKAR	**Makanchi Array**	**42.43**	**299**		P		**P**	**14 20 47.5**	**-0.5**
	comp=Z,14nm,0.8s,baz=84,slow=9.5,SNR=85								
MKAR					ScP		**ScP**	**14 26 20.5**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=80,slow=3.9,SNR=3.1								
KURK	**Kurchatov**	**43.96**	**306**	⇓	*i*P		**P**	**14 21 00.1**	**-0.1**
KURK					pmax	pmax			
	comp=Z,19nm,0.6s								
KURK	**Kurchatov**	**43.96**	**306**	*e*	P		**P**	**14 20 59.9**	**-0.3**
	comp=Z,26nm,0.5s								
IMA2	**Indian Mountai**	**44.02**	**32**	*e*	P		**P**	**14 21 01.5**	**+0.9**
KURBB	**Kurchatov Arra**	**44.03**	**305**		P		**P**	**14 21 00.5**	**-0.2**
	comp=Z,45nm,0.6s,baz=79,slow=8.6,SNR=174								
RSO	**Redoubt South**	**44.50**	**40**	*e*	P		**P**	**14 21 05.8**	**+1.2**
	comp=Z,11nm,0.6s								
OHAK	**Old Harbor**	**44.52**	**45**	*e*	P		**P**	**14 21 04.8**	**+0.2**
	comp=Z,7.4nm,0.7s								
KDAK	**Kodiak Island**	**44.84**	**44**	*e*	P		**P**	**14 21 07.7**	**+0.7**
	comp=Z,10nm,0.8s								
COLD	**Coldfoot**	**45.44**	**31**	*e*	P		**P**	**14 21 13.1**	**+1.3**
ILAR	**Eielson Array**	**46.88**	**34**		P		**P**	**14 21 23.2**	**+0.2**
ILAR	**Eielson Array**	**46.88**	**34**		P		**P**	**14 21 23.2**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=270,slow=6.2,SNR=41								
TKM2	**Tokmak 2**	**48.10**	**296**	*i*	P		**P**	**14 21 33.7**	**+0.6**
TKM2	**Tokmak 2**	**48.10**	**296**		P		**P**	**14 21 33.8**	**+0.6**
	SNR=33								
TKM2	**Tokmak 2**	**48.10**	**296**	*e*	P		**P**	**14 21 33.7**	**+0.6**
	comp=Z,76nm,1.0s								
VOSK	**Vostochnaya**	**48.14**	**310**	*e*	P		**P**	**14 21 32.8**	**-0.2**
VOSK	**Vostochnaya**	**48.14**	**310**	*e*	P		**P**	**14 21 32.8**	**-0.2**
DOT	**Dot Lake**	**48.24**	**35**	*e*	P		**P**	**14 21 33.9**	**+0.3**
BVAR	**Borovoye Array**	**48.41**	**310**		P		**P**	**14 21 35.2**	**+0.1**
BVAR	**Borovoye Array**	**48.41**	**310**		P		**P**	**14 21 35.2**	**+0.1**
	comp=Z,9.4nm,0.4s,baz=78,slow=7.8,SNR=38								
BMRM	**Bremner River**	**48.41**	**39**	*e*	P		**P**	**14 21 36.0**	**+1.0**
BRVK	**Borovoye**	**48.47**	**310**	*d*	*i*P		**P**	**14 21 35.6**	**+0.1**
BRVK					pmax	pmax			
	comp=Z,7.0nm,0.6s								
BRVK	**Borovoye**	**48.47**	**310**	*e*	P		**P**	**14 21 35.6**	**+0.1**
	comp=Z,8.1nm,0.6s								
KZA	**Kyzart**	**48.64**	**295**		P		P	14 21 34.0	-3.4
	SNR=10								
KBK	**Karagaybulak**	**48.64**	**296**	*i*	P		**P**	**14 21 37.7**	**+0.5**
KBK	**Karagaybulak**	**48.64**	**296**		P		**P**	**14 21 37.8**	**+0.5**
	SNR=28								
USP	**Ospenovka**	**48.74**	**297**	*i*	P		**P**	**14 21 38.0**	**+0.3**
USP	**Ospenovka**	**48.74**	**297**		P		**P**	**14 21 38.0**	**+0.3**
	SNR=5.7								
AAK	**Ala-Archa**	**48.96**	**296**	⇑	*i*P		**P**	**14 21 39.8**	**+0.2**
AAK					pmax	pmax			
	comp=Z,12nm,0.6s								
AAK	**Ala-Archa**	**48.96**	**296**		P		**P**	**14 21 39.7**	**0.0**
	SNR=7.7								
AAK	**Ala-Archa**	**48.96**	**296**	*e*	P		**P**	**14 21 39.6**	**0.0**
	comp=Z,189nm,1.9s								
AAK	**Ala-Archa**	**48.96**	**296**		P		**P**	**14 21 39.6**	**0.0**
	comp=Z,3.6nm,0.3s,baz=124,slow=4.9,SNR=17								
KSH	**Kashi**	**49.09**	**292**	*e*	P		P	14 21 45.8	+5.2
KSH					sP		sP	14 22 18.3	+3.9
KSH					AMB	AMB			
	comp=Z,33nm,0.9s								
EKS2	**Erkin-Say**	**49.45**	**296**	*i*	P		**P**	**14 21 43.6**	**+0.4**
EKS2	**Erkin-Say**	**49.45**	**296**		P		**P**	**14 21 43.7**	**+0.4**
	SNR=10								
KKAR	**Karatay Array**	**51.51**	**298**	*e*	P		**P**	**14 21 58.4**	**-0.3**
KKAR	**Karatay Array**	**51.51**	**298**	*e*	P		**P**	**14 21 58.4**	**-0.3**
HYT	**Haines Junctio**	**51.83**	**38**	*e*	P		**P**	**14 22 03.1**	**+2.2**
SVE	**Sverdlovsk**	**52.74**	**317**	*e*	P		**P**	**14 22 08.3**	**+0.8**
SVE					pmax	pmax			
	comp=Z,19nm,0.6s								
ARU	**Arti**	**53.95**	**317**	*d*	*i*P		**P**	**14 22 16.3**	**-0.1**
ARU								14 24 19.2	
ARU					PPP	PPP		14 25 31.1	
ARU					S		**S**	**14 29 46.1**	**+1.7**
ARU					pmax	pmax			
	comp=Z,13nm,0.6s								
ABKAR	**Akbulak array**	**55.86**	**308**	*e*	P		**P**	**14 22 30.1**	**-0.1**
AKTO	**Aktyubinsk**	**56.52**	**310**		P		**P**	**14 22 32.8**	**-2.1**
AKTO					pmax	pmax			
	comp=Z,5.0nm,0.7s								
AKTO	**Aktyubinsk**	**56.52**	**310**		P		**P**	**14 22 32.8**	**-2.1**
AKTO	**Aktyubinsk**	**56.52**	**310**		P		**P**	**14 22 32.8**	**-2.1**
	comp=Z,4.7nm,0.7s,baz=65,slow=8.5,SNR=15								
FITZ	**Fitzroy Crossi**	**59.82**	**197**		P		**P**	**14 22 57.3**	**-0.8**
FITZ	**Fitzroy Crossi**	**59.82**	**197**		P		**P**	**14 22 57.3**	**-0.8**
	comp=Z,2.4nm,0.9s,baz=38,slow=9.3,SNR=7.5								
WRAB	**Tennant Creek**	**60.18**	**188**	*e*	P		**P**	**14 22 59.6**	**-1.0**
WRAB					pmax	pmax			
	comp=Z,6.0nm,0.9s								
WRAB	**Tennant Creek**	**60.18**	**188**	*e*	P		**P**	**14 22 59.6**	**-1.0**
	comp=Z,6.0nm,0.9s								
WRA	**Warramunga Arr**	**60.19**	**188**		P		**P**	**14 22 59.6**	**-1.1**
WRA	**Warramunga Arr**	**60.19**	**188**		P		**P**	**14 22 59.6**	**-1.1**
	comp=Z,7.2nm,0.6s,baz=5.9,slow=6.9,SNR=82								
ARCES	**ARCESS Array B**	**61.00**	**339**		P		**P**	**14 23 05.2**	**-0.5**
ARCES	**ARCESS Array B**	**61.00**	**339**		P		**P**	**14 23 05.2**	**-0.5**
	comp=Z,3.4nm,0.8s,baz=54,slow=7.5,SNR=7.4								
YKA	**Yellowknife Ar**	**61.12**	**31**		P		**P**	**14 23 06.5**	**-0.1**
YKA	**Yellowknife Ar**	**61.12**	**31**		P		**P**	**14 23 06.5**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=305,slow=6.7,SNR=3.8								
AS31	**Alice Springs**	**63.92**	**188**	*e*	P		**P**	**14 23 24.9**	**-0.7**
ASAR	**Alice Springs**	**63.92**	**188**		P		**P**	**14 23 25.1**	**-0.5**
ASAR	**Alice Springs**	**63.92**	**188**		P		**P**	**14 23 25.1**	**-0.5**
	comp=Z,4.1nm,0.4s,baz=2.1,slow=7.2,SNR=188								
DZM	**Mont Dzumac**	**66.25**	**154**		P		**P**	**14 23 41.8**	**+1.1**
DZM	**Mont Dzumac**	**66.25**	**154**		P		**P**	**14 23 41.8**	**+1.1**
	comp=Z,6.5nm,0.9s,baz=307,slow=20,SNR=2.6								
C09A	**Chrisman Ranch**	**67.57**	**46**	*e*	P		**P**	**14 23 50.4**	**+1.5**
	comp=Z,6.0nm,0.8s								
NEW	**Newport**	**67.93**	**45**	*e*	P		**P**	**14 23 52.4**	**+1.2**
	comp=Z,95nm,3.0s								
E09A	**Wood Farm, Sta**	**68.39**	**47**	*e*	P		**P**	**14 23 55.5**	**+1.5**
	comp=Z,6.8nm,0.9s								
KBZ	**Khabaz**	**68.79**	**310**		P		**P**	**14 23 56.4**	**-0.1**
KBZ					pmax	pmax			
	comp=Z,4.0nm,0.7s								
KBZ	**Khabaz**	**68.79**	**310**		P		**P**	**14 23 56.4**	**-0.1**
KBZ	**Khabaz**	**68.79**	**310**		P		**P**	**14 23 56.4**	**-0.1**
	comp=Z,4.0nm,0.7s,baz=79,slow=19,SNR=2.4								
K05A	**Summer Lake**	**69.02**	**51**	*e*	P		**P**	**14 24 00.2**	**+1.9**
	comp=Z,12nm,0.9s								
JTMT	**Jette**	**69.77**	**44**	*e*	P		**P**	**14 24 03.6**	**+1.0**
**BMO

	comp=Z,6.1nm,0.8s									
LOR	**Lormes**	**85.03**	**332**	*e*P		**P**		**14 25 27.8**	**+0.2**
	comp=Z,6.1nm,0.8s									
FLN	**La Foliniere**	**85.18**	**336**	*e*P		**P**		**14 25 28.7**	**+0.4**
FLN	**La Foliniere**	**85.18**	**336**	*e*P		**P**		**14 25 28.7**	**+0.4**
FLN	**La Foliniere**	**85.18**	**336**	*e*P		**P**		**14 25 28.7**	**+0.4**
LDF	**La Druitiere**	**85.21**	**335**	*e*P		**P**		**14 25 28.5**	**0.0**
LDF	**La Druitiere**	**85.21**	**335**	*e*P		**P**		**14 25 28.5**	**0.0**
LDF	**La Druitiere**	**85.21**	**335**	*e*P		**P**		**14 25 28.5**	**0.0**
SSF	**Saint Saulge**	**85.33**	**333**	*e*P		**P**		**14 25 29.5**	**+0.4**
SSF	**Saint Saulge**	**85.33**	**333**	*e*P		**P**		**14 25 29.5**	**+0.4**
SSF	**Saint Saulge**	**85.33**	**333**	*e*P		**P**		**14 25 29.5**	**+0.4**
SMF	**Signal de Mont**	**85.56**	**332**	*e*P		**P**		**14 25 30.0**	**-0.3**
SMF	**Signal de Mont**	**85.56**	**332**	*e*P		**P**		**14 25 30.0**	**-0.3**
SMF	**Signal de Mont**	**85.56**	**332**	*e*P		**P**		**14 25 30.0**	**-0.3**
AVF	**Avril sur Loir**	**85.61**	**333**	*e*P		**P**		**14 25 30.3**	**-0.2**
	comp=Z,6.4nm,0.7s									
AVF	**Avril sur Loir**	**85.61**	**333**	*e*P		**P**		**14 25 30.3**	**-0.2**
AVF				pmax		pmax				
	comp=Z,6.0nm,0.7s									
AVF	**Avril sur Loir**	**85.61**	**333**	*e*P		**P**		**14 25 30.3**	**-0.2**
	comp=Z,6.4nm,0.7s									
GRR	**Gorron**	**85.63**	**336**	*e*P		**P**		**14 25 30.4**	**-0.1**
	comp=Z,5.2nm,0.8s									
GRR	**Gorron**	**85.63**	**336**	*e*P		**P**		**14 25 30.4**	**-0.1**
GRR				pmax		pmax				
	comp=Z,5.0nm,0.8s									
GRR	**Gorron**	**85.63**	**336**	*e*P		**P**		**14 25 30.4**	**-0.1**
	comp=Z,5.2nm,0.8s									
ROSF	**Rostrenen**	**86.41**	**337**	*e*P		**P**		**14 25 34.7**	**+0.3**
ROSF	**Rostrenen**	**86.41**	**337**	*e*P		**P**		**14 25 34.7**	**+0.3**
ROSF	**Rostrenen**	**86.41**	**337**	*e*P		**P**		**14 25 34.7**	**+0.3**
MFF	**Saint Martin d**	**86.97**	**335**	*e*P		**P**		**14 25 37.3**	**+0.1**
MFF	**Saint Martin d**	**86.97**	**335**	*e*P		**P**		**14 25 37.3**	**+0.1**
MFF	**Saint Martin d**	**86.97**	**335**	*e*P		**P**		**14 25 37.3**	**+0.1**
TXAR	**Lajitas Array**	**88.25**	**52**	P		**P**		**14 25 44.4**	**+0.7**
TXAR	**Lajitas Array**	**88.25**	**52**	P		**P**		**14 25 44.4**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=298,slow=2.9,SNR=24									
TORD	**Torodi Ar. Bea**	**115.01**	**316**	PKP		**PKPdf**		**14 31 33.4**	**+0.3**
TORD	**Torodi Ar. Bea**	**115.01**	**316**	PKP		**PKPdf**		**14 31 33.4**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=29,slow=2.1,SNR=3.3									
SNAA	**Sanae**	**143.75**	**198**	*e*PKPdf	PKPbc			14 32 23.8	+0.4	
SNAA	**Sanae**	**143.75**	**198**	*e*PKPpre	PKPpre			14 32 22.6		
LPAZ	**La Paz**	**145.06**	**55**	*e*PKP		**PKPbc**		**14 32 29.7**	**0.0**	
LPAZ	**La Paz**	**145.06**	**55**	PKP		**PKPbc**		**14 32 29.3**	**-0.4**	
	comp=Z,5.1nm,0.5s,baz=11,slow=3.9,SNR=36									
VNA2	**Neumayer--Watz**	**145.33**	**197**	*e*PKPdf		**PKPbc**		**14 32 28.2**	**0.0**	
	baz=104,slow=2.4									
VNA2	**Neumayer--Watz**	**145.33**	**197**	*e*pPKiKP	pPKPdf			14 32 53.4	-1.3	
	baz=104,slow=2.4									
VNA2	**Neumayer--Watz**	**145.33**	**197**	*e*PKP		pPKPdf		14 32 59.1	+4.4	
	baz=104,slow=2.4									
VNA1	**Neumayer--Stat**	**145.73**	**197**	*e*PKPdf		**PKPbc**		**14 32 29.4**	**0.0**	

BJI ***18*** *14:13:55.7, 3.°80S×67.°56E, h10km, mB5.4/41, mb5.4/55, Ms4.9/41, Ms7 4.8/25*

IDC ***18*** *14:14:02.8±0.4, 3.°00S×68.°12E, h0km, mb4.9/31, mb1 4.9/31, mb1mx4.9/33, mbtmp4.9/31, MS4.3/25, Ms1 4.3/25, ms1mx4.2/28, Error ellipse: s-maj=12.4km s-min=11.5km az=32.0*

MOS ***18*** *14:14:02.8±1.0, 2.°91S×68.°02E, h10km, mb5.6/80, MS4.2/5, Error ellipse: s-maj=6.8km s-min=4.1km az=107.1*

NEIC ***18*** *14:14:04.5±0.2, 2.°96S×68.°06E, h10km, mb5.4/71, Error ellipse: s-maj=5.3km s-min=4.4km az=188.0*

DJA ***18*** *14:14:04.9±0.2, 3.°S±5.°×6.°8E±.°, h10km, M5.2/11, mB5.5/7, mb5.3/11, MLv5.5/2, Mw(mB)5.0/7*

ISCJB ***18*** *14:14:05.4±1.3, 3.°02S±0.°03×68.°07E±0.°02, h29km±9km, mb5.2/216, MS4.4/36, Error ellipse: s-maj=5.6km s-min=4.1km az=177.7*

GCMT ***18*** *14:14:07.7±0.2, 3.°06S×68.°13E, h18km, MW5.2, Moment Tensor Solution. s44,c62; s99,c178; Moment tensor: Scale 10^16 Nm; Mrr-3.94±.22; Mθθ-3.20±.14; Mϕϕ7.14±.18; Mrθ-2.81±.42; Mrϕ-1.67±.13; Mθϕ3.04±.39; Best double couple: M07.50000×10^16 NP1:ϕs142.00000°, δ69.00000°, λ-127.00000°. NP2:ϕs26.00000°, δ41.00000°, λ-33.00000°. Principal axes: T 8.4000, Plg16.0000°, Azm258.0000°; N -1.8800, Plg34.0000°, Azm157.0000°; P -6.5200, Plg52.0000°, Azm9.0000°; Data Used: IU II G IC CN. Surface waves from 102 sta.*

SZGRF ***18*** *14:14:13.2, 2.°14S×66.°45E, h10km, mb5.3, MS4.1, South Indian Ocean*

ISC 18 14:14:05.2±0.3, 3.°03S±0.°04×68.°15E±0.°04, h14±1km, h14km:pP-P, n775, σ1s16/809, mb5.3/216, MS4.5/38, 151C-111D, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**4.33**	**139**	T	T	14 19 28.4	
	baz=319,slow=0.7,SNR=720						
H08N3	**Diego Garcia H**	**4.34**	**139**	T	T	14 19 27.2	
	baz=319,slow=0.7,SNR=751						
H08N1	**Diego Garcia H**	**4.36**	**139**	T	T	14 19 30.1	
	baz=319,slow=0.7,SNR=939						
KAAM	**Kaadhehdhoo**	**5.98**	**54**	P	**Pn**	**14 15 31.9**	**-1.4**
	468nm,0.7s,7μm2.5nm						
DGAR	**Diego Garcia**	**6.11**	**136**	*e*P	**Pn**	**14 15 34.5**	**-0.6**
DGAR				*e*		14 16 41.5	
DGAR				pmax	pmax		
	comp=Z,541nm,0.9s						
DGAR	**Diego Garcia**	**6.11**	**136**	*e*Pn	**Pn**	**14 15 34.5**	**-0.6**
	comp=Z,541nm,0.9s						
DGAR				*e*Sn	**Sn**	**14 16 41.5**	**-3.3**
H08S3	**Diego Garcia H**	**6.28**	**137**	T	T	14 21 51.6	
	baz=300,slow=0.6,SNR=35						
H08S1	**Diego Carcia H**	**6.29**	**137**	T	T	14 21 53.3	
	baz=300,slow=0.6,SNR=57						
H08S2	**Diego Garcia H**	**6.30**	**137**	T	T	14 21 52.7	
	baz=300,slow=0.6,SNR=29						
MSEY	**Mahe Island**	**12.75**	**262**	*e*P	**Pn**	**14 17 07.3**	**+1.1**
MSEY	**Mahe Island**	**12.75**	**262**	Pn	**Pn**	**14 17 07.5**	**+1.3**
	comp=Z,1μm,0.9s,SNR=13						
PALK	**Pallekele**	**16.18**	**51**	P	**Pn**	**14 17 52.8**	**+0.4**
	comp=Z,27nm,0.8s,comp=Z,771nm						
PALK	**Pallekele**	**16.18**	**51**	*e*P	**Pn**	**14 17 52.2**	**-0.2**
	comp=Z,48nm,1.0s						
PALK	**Pallekele**	**16.18**	**51**	Pn	**Pn**	**14 17 51.1**	**-1.3**
	comp=Z,283nm,0.9s,SNR=11						
MRIV	**Mauritius Mete**	**20.06**	**210**	*e*P	Pn	14 18 39.7	-0.4
POO	**Poona**	**22.15**	**14**	*j*P	**P**	**14 19 00.0**	**-0.8**
	comp=Z,100nm,1.0s						
POO				*i* x	x	14 19 35.0	
HYB	**Hyderabad**	**22.77**	**26**	*i* P	**P**	**14 19 07.0**	**-0.4**
RBK	**Rabkut**	**24.61**	**326**	P	**P**	**14 19 27.9**	**+2.5**
	SNR=8.9						
ABTO	**Aybut**	**25.00**	**325**	P	**P**	**14 19 31.3**	**+2.4**
	SNR=25						
AKL	**Akola**	**25.14**	**20**	*e*P	**P**	**14 19 30.3**	**+0.2**
AKL				AMP		14 19 37.9	
	comp=Z,146nm,2.1s						
AKL				*i* x	x	14 26 42.3	
OPO	**Ambohidratompo**	**25.68**	**232**	P	**P**	**14 19 35.1**	**-0.1**
OPO	**Ambohidratompo**	**25.68**	**232**	P	**P**	**14 19 35.1**	**-0.1**
	comp=Z,12nm,0.9s,baz=61,slow=9.2,SNR=8.9						
OPO				LR	LR	14 27 47.6	
	comp=Z,2μm,18.3s,baz=60,slow=32						
ABPO	**Ambohimpanom**	**25.91**	**231**	*e*P	**P**	**14 19 37.4**	**+0.2**
ABPO				pmax	pmax		
	comp=Z,95nm,1.9s						
ABPO	**Ambohimpanom**	**25.91**	**231**	*e*P	**P**	**14 19 37.4**	**+0.2**
	comp=Z,95nm,1.9s						
NGP	**Nagpur**	**26.30**	**23**	*e*P	**P**	**14 19 38.8**	**-1.8**
NGP				*ex*	x	14 19 44.5	
	comp=Z,95nm,1.4s						
NGP				*ex*	x	14 23 21.4	
BSY	**Bisya**	**27.76**	**338**	P	**P**	**14 19 55.2**	**+1.4**
	SNR=6.6						
HOQ	**Hoqain**	**28.48**	**339**	P	**P**	**14 20 02.0**	**+1.9**
	SNR=8.9						
ARQ	**Araqi**	**28.56**	**337**	P	**P**	**14 20 02.4**	**+1.5**
	SNR=5.6						
ATD	**Arta Tunnel**	**29.03**	**300**	LR	LR	14 29 11.8	
	comp=Z,342nm,20.8s,baz=125,slow=31						
GSI	**Gunungsitoli**	**29.73**	**82**	P	**P**	**14 20 10.9**	**-0.5**
ASHO	**Ashiyiah**	**29.95**	**338**	P	**P**	**14 20 14.5**	**+1.3**
	SNR=15						
UOSS	**Wadi Hilu**	**30.13**	**338**	P	**P**	**14 20 15.3**	**+0.5**
	comp=Z,187nm,1.4s,SNR=8.7						
KCSI	**Kotacane, Aceh**	**30.31**	**78**	P	**P**	**14 20 19.2**	**+2.6**
KMBO	**Kilima Mbogo**	**30.93**	**273**	P	**P**	**14 20 24.7**	**+2.4**
	SNR=6.0						
KMBO	**Kilima Mbogo**	**30.93**	**273**	*e*P	**P**	**14 20 23.0**	**+0.7**
	comp=Z,12nm,1.1s						
KMBO	**Kilima Mbogo**	**30.93**	**273**	P	**P**	**14 20 22.7**	**+0.4**
	comp=Z,6.7nm,0.9s,baz=62,slow=9.4,SNR=16						
KMBO				LR	LR	14 30 12.7	
	comp=Z,416nm,21.9s,baz=269,slow=31						
BANOM	**Banah**	**30.99**	**339**	P	**P**	**14 20 23.9**	**+1.5**
	SNR=6.1						
PSI	**Prapat**	**31.30**	**80**	P	**P**	**14 20 26.5**	**+1.1**
PSI	**Prapat**	**31.30**	**80**	P	**P**	**14 20 26.5**	**+1.1**
	comp=Z,1.7nm,0.4s,baz=277,slow=9.8,SNR=8.0						
PSI				LR	LR	14 30 54.2	
	comp=Z,1μm,20.4s,baz=266,slow=32						
KHET	**Khetri**	**31.79**	**13**	*e*P	**P**	**14 20 29.9**	**+0.5**
KHET				AMB	AMB	14 20 30.5	
	comp=Z,31nm,1.2s						
PKDT	**Phuket**	**32.01**	**70**	P	P	14 20 35.9	+4.4
	comp=Z,40nm,1.3s						
KUDL	**Kundal**	**32.02**	**14**	*e*P	**P**	**14 20 31.9**	**+0.5**
KUDL				AMB	AMB	14 20 33.3	
	comp=Z,46nm,1.6s						
SONA	**Sohna**	**32.27**	**15**	*e*P	**P**	**14 20 33.6**	**0.0**
SONA				AMB	AMB	14 20 34.9	
	comp=Z,54nm,0.4s						
AYAN	**Aya Nagar**	**32.50**	**15**	*e*P	**P**	**14 20 36.1**	**+0.5**
AYAN				AMB	AMB	14 20 37.0	
	comp=Z,44nm,0.6s						
BHGR	**Bahadurgarh**	**32.65**	**14**	*e*P	**P**	**14 20 37.1**	**+0.2**
BHGR				AMB	AMB	14 20 38.8	
	comp=Z,122nm,0.8s						
NDI	**New Delhi**	**32.72**	**15**	*e*P	**P**	**14 20 35.0**	**-2.5**
SURT	**Suratani**	**32.79**	**68**	P	P	14 20 42.3	+4.0
	comp=Z,44nm,0.9s						
RTK	**Rohtak**	**32.85**	**13**	*e*P	**P**	**14 20 38.9**	**+0.3**
RTK				AMB	AMB	14 20 40.4	
	comp=Z,56nm,0.5s						
KULM	**Kulim**	**33.50**	**76**	P	**P**	**14 20 45.8**	**+1.2**
KULM	**Kulim**	**33.50**	**76**	P	**P**	**14 20 44.6**	**0.0**
KULM	**Kulim**	**33.50**	**76**	*e*P	**P**	**14 20 45.4**	**+0.8**
	comp=Z,94nm,1.2s						
IPM	**Ipoh**	**33.69**	**77**	P	**P**	**14 20 47.4**	**+1.2**
IPM	**Ipoh**	**33.69**	**77**	P	**P**	**14 20 46.6**	**+0.4**
IPM	**Ipoh**	**33.69**	**77**	*e*P	**P**	**14 20 47.3**	**+1.0**
	comp=Z,27nm,0.9s						
KKR	**Kurukshetra**	**33.84**	**14**	*e*P	**P**	**14 20 48.4**	**+1.1**
KKR				AMB	AMB	14 20 49.2	
	comp=Z,93nm,0.2s						
FRIM	**Kepong**	**34.03**	**80**	P	**P**	**14 20 51.2**	**+2.0**
KOLN	**Koldanda**	**34.05**	**25**	*e*P	**P**	**14 20 50.2**	**+0.8**
	comp=Z,81nm,1.1s						
LGTI	**Lohaghat**	**34.32**	**19**	*e*P	**P**	**14 20 50.2**	**-1.2**
RAYN	**Ar Rayn**	**34.40**	**321**	P	**P**	**14 20 52.4**	**+0.1**
	comp=Z,154nm,0.9s,SNR=13						
DMN	**Daman**	**34.57**	**27**	*e*P	**P**	**14 20 54.9**	**+0.9**
	comp=Z,228nm,0.9s						
DANN	**Dangsing**	**34.63**	**25**	*e*P	**P**	**14 20 55.1**	**+0.6**
	comp=Z,117nm,0.9s						
PKIN	**Phulchoki**	**34.68**	**28**	*e*P	**P**	**14 20 55.6**	**+0.7**
	comp=Z,44nm,0.8s						
PKI	**Pulchoki**	**34.68**	**28**	*e*P	**P**	**14 20 55.6**	**+0.6**
	comp=Z,97nm,0.9s						
GKN	**Gorkha**	**34.70**	**26**	*e*P	**P**	**14 20 56.0**	**+1.0**
	comp=Z,339nm,1.0s						
RAMN	**Ramite**	**34.73**	**30**	*e*P	**P**	**14 20 56.8**	**+1.5**
	comp=Z,95nm,0.7s						
KKN	**Kakani**	**34.80**	**27**	*e*P	**P**	**14 20 56.9**	**+0.9**
	comp=Z,153nm,0.7s						
ODAN	**Odare**	**35.05**	**31**	*e*P	**P**	**14 20 59.6**	**+1.5**
JIRN	**Jiri**	**35.12**	**29**	*e*P	**P**	**14 20 59.8**	**+0.9**
	comp=Z,122nm,0.9s						
GUN	**Gumba**	**35.18**	**28**	*e*P	**P**	**14 21 00.5**	**+1.1**
	comp=Z,393nm,0.9s						
KGM	**Kluang**	**35.51**	**82**	P	**P**	**14 21 00.9**	**-1.1**
TAPN	**Taplejung**	**35.61**	**31**	*e*P	**P**	**14 21 04.3**	**+1.3**
	comp=Z,244nm,1.0s						
KTGM	**Kuala Trenggan**	**35.92**	**77**	P	**P**	**14 21 05.0**	**-0.5**
THN	**Thein Dam**	**35.99**	**11**	*e*P	**P**	**14 21 05.0**	**-0.8**
MYKOM	**Kota Tinggi**	**36.01**	**83**	P	**P**	**14 21 07.2**	**+0.9**
MYKOM	**Kota Tinggi**	**36.01**	**83**	P	**P**	**14 21 07.9**	**+1.6**
MYKOM	**Kota Tinggi**	**36.01**	**83**	*e*P	**P**	**14 21 07.7**	**+1.4**
	comp=Z,88nm,1.0s						
UTHA	**Uthaitani**	**36.06**	**58**	P	**P**	**14 21 09.3**	**+2.7**
	comp=Z,6.7nm,1.2s,comp=Z,217nm						
IKOO	**Kooshah**	**36.31**	**347**	*e*P	**P**	**14 21 10.4**	**+1.5**
IDAH	**Dahanechah**	**36.43**	**348**	*e*P	**P**	**14 21 11.8**	**+1.9**
SHL	**Shillong**	**36.57**	**38**	*j*P	**P**	**14 21 12.0**	**+0.9**
CM31	**Chiang Mai Arr**	**37.09**	**54**	*e*P	**P**	**14 21 16.7**	**+1.3**
	comp=Z,27nm,1.0s						
CMAR	**Chiang Mai Arr**	**37.09**	**54**	P	**P**	**14 21 16.6**	**+1.2**
CMAR				PcP	**PcP**	**14 23 36.2**	**+0.2**
CMAR	**Chiang Mai Arr**	**37.09**	**54**	P	**P**	**14 21 16.6**	**+1.2**
	comp=Z,15nm,1.0s,baz=245,slow=10,SNR=72						
CMAR				PcP	**PcP**	**14 23 36.2**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=231,slow=4.5,SNR=5.9						
CMAR				LR	LR	14 34 48.8	
	comp=Z,452nm,19.7s,baz=235,slow=34						
QRN	**Al-Qurain**	**37.09**	**330**	*e*P	**P**	**14 21 14.9**	**-0.4**
QRN				AMb	AMB	14 21 17.1	
	comp=Z,181nm,1.2s						
CHTO	**Chiang Mai**	**37.28**	**53**	*e*P	**P**	**14 21 17.7**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,195nm,1.1s						
CHTO	**Chiang Mai**	**37.28**	**53**	P	**P**	**14 21 18.6**	**+1.6**
	SNR=17						
CHTO	**Chiang Mai**	**37.28**	**53**	P	**P**	**14 21 18.4**	**+1.4**
CHTO	**Chiang Mai**	**37.28**	**53**	*e*P	**P**	**14 21 17.7**	**+0.7**
	comp=Z,195nm,1.1s						
CHTO	**Chiang Mai**	**37.28**	**53**	P	**P**	**14 21 18.1**	**+1.1**
	comp=Z,195nm,1.2s,comp=Z,3μm						
KBL	**Kabul**	**37.38**	**1**	*e*P	**P**	**14 21 19.1**	**+1.2**
KBL				pmax	pmax		
	comp=Z,99nm,1.1s						
KBL	**Kabul**	**37.38**	**1**	*e*P	**P**	**14 21 19.1**	**+1.2**
	comp=Z,99nm,1.1s						
CHBT	**CHBT**	**37.39**	**64**	P	**P**	**14 21 18.6**	**+0.6**
CHBT	**CHBT**	**37.39**	**64**	P	**P**	**14 21 19.9**	**+1.9**
	comp=Z,54nm,1.4s,comp=Z,900nm						
KBD	**Kabd**	**37.56**	**330**	*e*P	**P**	**14 21 18.9**	**-0.4**
KBD				AMb	AMB	14 21 21.1	
	comp=Z,60nm,1.4s						
PBKT	**Sadao Pong**	**37.82**	**58**	P	**P**	**14 21 21.7**	**+0.1**
PBKT	**Sadao Pong**	**37.82**	**58**	P	**P**	**14 21 23.0**	**+1.4**
	comp=Z,47nm,1.1s,comp=Z,1μm						
NAY	**Al-Naaiem**	**37.84**	**329**	*e*P	**P**	**14 21 20.9**	**-0.8**
NAY				AMb	AMB	14 21 23.4	
	comp=Z,49nm,1.3s						
CMAI	**Chiengmai2**	**37.96**	**52**	P	**P**	**14 21 24.7**	**+1.7**
	comp=Z,61nm,0.9s						
RST	**Umm Al-Ruwaisa**	**38.17**	**329**	*e*P	**P**	**14 21 23.9**	**-0.5**
RST				AMb	AMB	14 21 25.5	
	comp=Z,1μm,0.9s						
IZEF	**Zefreh**	**38.75**	**339**	*e*P	**P**	**14 21 29.6**	**+0.1**
CRAI	**Chiangrai**	**39.17**	**52**	P	**P**	**14 21 34.6**	**+1.6**
	comp=Z,28nm,1.0s						
LSA	**Lhasa**	**39.30**	**32**	P	**P**	**14 21 36.4**	**+2.0**
LSA				AMB	AMB		
	comp=Z,140nm,0.8s						
LSA	**Lhasa**	**39.30**	**32**	*e*P	**P**	**14 21 35.9**	**+1.5**
LSA				pmax	pmax		
	comp=Z,117nm,0.8s						
LSA	**Lhasa**	**39.30**	**32**	*e*P	**P**	**14 21 35.9**	**+1.5**
	comp=Z,117nm,0.8s						
IKLH	**Kolahrood**	**39.40**	**338**	*e*P	**P**	**14 21 35.6**	**+0.6**
ISFB	**Sefidab**	**40.09**	**339**	*e*P	**P**	**14 21 40.4**	**-0.1**
IAKL	**Akhelmad**	**40.39**	**348**	*e*P	**P**	**14 21 44.0**	**+0.8**
SKNT	**Sakolnakorn**	**40.58**	**59**	P	**P**	**14 21 46.3**	**+1.6**
	comp=Z,75nm,1.6s,comp=Z,2μm						
IVRN	**Varamin**	**40.85**	**339**	*e*P	**P**	**14 21 47.6**	**+0.8**
TGJI	**Tegal**	**40.98**	**97**	P	P	14 21 56.7	+8.6
ISFR	**Sfrayin**	**40.99**	**348**	*e*P	**P**	**14 21 49.2**	**+1.1**
LSZ	**Lusaka**	**41.19**	**250**	P	**P**	**14 21 50.8**	**+0.8**
	SNR=9.7						
LSZ	**Lusaka**	**41.19**	**250**	*e*P	**P**	**14 21 50.0**	**+0.1**
IEMG	**Emamgholi**	**41.20**	**348**	*e*P	**P**	**14 21 50.1**	**+0.2**
IDMV	**Damavand**	**41.27**	**340**	*e*P	**P**	**14 21 51.3**	**+0.8**
IKOM	**Komasi**	**41.80**	**334**	*e*P	**P**	**14 21 55.2**	**+0.4**
IRAZ	**Razeghan**	**41.88**	**338**	*e*P	**P**	**14 21 55.7**	**+0.3**
KSM	**Kuching**	**42.38**	**85**	P	**P**	**14 22 00.2**	**+0.6**
KSM	**Kuching**	**42.38**	**85**	P	**P**	**14 22 01.3**	**+1.7**
	comp=Z,22nm,1.5s						
KSM	**Kuching**	**42.38**	**85**	*e*P	**P**	**14 22 00.3**	**+0.6**
	comp=Z,52nm,1.5s						
KSH	**Kashi**	**42.95**	**9**	P	**P**	**14 22 01.5**	**-2.4**
KSH				pP	**pP**	**14 22 04.6**	**-3.7**
KSH				sP	**sP**	**14 22 08.1**	**-2.0**
KSH				PP	**PP**	**14 23 47.8**	**+4.0**
KSH				S	**S**	**14 28 24.4**	**-4.4**
KSH				sS	**sS**	**14 28 33.9**	**-2.1**
KSH				SS	SS	14 31 29.5	-11
KSH				AMB	AMB		
	comp=Z,36nm,1.0s						
KSH				LR	LR		
	comp=Z,840nm,15.9s						
KSH				LR	LR		
	comp=Z,380nm,12.2s						
KMI	**Kunming**	**43.70**	**48**	*j*P	**P**	**14 22 11.4**	**+1.1**
KMI				pP	**pP**	**14 22 14.0**	**-0.7**
KMI				sP	**sP**	**14 22 16.0**	**-0.5**
KMI				PP	**PcP**	**14 23 56.8**	**-0.7**
KMI				S	**S**	**14 28 42.3**	**+1.9**
KMI				ScS	**ScS**	**14 32 09.8**	**-0.4**
KMI				AMB	AMB		
	comp=Z,21nm,0.9s						
KMI				AMB	AMB		
	comp=Z,240nm,3.4s						
KMI				LR	LR		
	comp=Z,380nm,16.0s						
KMI				LR	LR		
	comp=Z,300nm,14.0s						
SBUM	**Sibu**	**44.39**	**83**	P	**P**	**14 22 15.5**	**-0.3**
SBUM	**Sibu**	**44.39**	**83**	P	**P**	**14 22 16.7**	**+0.8**
	comp=Z,24nm,1.2s,comp=Z,380nm						
SBUM	**Sibu**	**44.39**	**83**	*e*P	**P**	**14 22 16.6**	**+0.8**
	comp=Z,18nm,0.8s						
AML	**Almayashu**	**45.23**	**6**	*i* P	**P**	**14 22 23.4**	**+0.9**
AML	**Almayashu**	**45.23**	**6**	P	**P**	**14 22 23.5**	**+0.9**
	SNR=5.9						
BTM	**Bintulu**	**45.34**	**83**	P	**P**	**14 22 21.8**	**-1.6**
KZA	**Kyzart**	**45.36**	**7**	*i* P	**P**	**14 22 24.6**	**+1.0**
KZA	**Kyzart**	**45.36**	**7**	P	**P**	**14 22 24.6**	**+1.0**
	SNR=40						
ULHL	**Ulahol**	**45.66**	**8**	*i* P	**P**	**14 22 26.3**	**+0.6**
ULHL	**Ulahol**	**45.66**	**8**	P	**P**	**14 22 26.4**	**+0.6**
	SNR=33						
EKS2	**Erkin-Say**	**45.77**	**6**	*e*P	**P**	**14 22 27.1**	**+0.6**
EKS2				pmax	pmax		
	comp=Z,102nm,1.0s						
EKS2	**Erkin-Say**	**45.77**	**6**	P	**P**	**14 22 27.4**	**+0.9**
	SNR=48						
EKS2	**Erkin-Say**	**45.77**	**6**	*e*P	**P**	**14 22 27.1**	**+0.6**
	comp=Z,102nm,1.0s						
AAK	**Ala-Archa**	**45.82**	**7**	*d* iP	**P**	**14 22 28.1**	**+1.2**
AAK				pmax	pmax		
	comp=Z,198nm,1.7s						
AAK	**Ala-Archa**	**45.82**	**7**	P	**P**	**14 22 28.3**	**+1.4**
	SNR=23						
AAK	**Ala-Archa**	**45.82**	**7**	P	**P**	**14 22 28.0**	**+1.2**
	SNR=18						
AAK	**Ala-Archa**	**45.82**	**7**	*e*P	**P**	**14 22 27.9**	**+1.0**
	comp=Z,189nm,1.9s						
AAK	**Ala-Archa**	**45.82**	**7**	P	**P**	**14 22 27.9**	**+1.0**
	comp=Z,219nm,1.0s,SNR=15						
AAK	**Ala-Archa**	**45.82**	**7**	P	**P**	**14 22 28.0**	**+1.1**
	comp=Z,25nm,0.9s,baz=175,slow=6.7,SNR=43						
KBK	**Karagaybulak**	**45.89**	**7**	*i* P	**P**	**14 22 28.7**	**+1.2**
KBK	**Karagaybulak**	**45.89**	**7**	P	**P**	**14 22 28.8**	**+1.2**
	SNR=22						
KKAR	**Karatay Array**	**45.97**	**2**	*e*P	**P**	**14 22 28.4**	**+0.4**
KKAR	**Karatay Array**	**45.97**	**2**	*e*P	**P**	**14 22 28.4**	**+0.4**
ZALF	**Zalf**	**46.14**	**323**	*e*P	P	14 22 23.8	-5.7
CHMS	**Chumysh**	**46.21**	**7**	*i* P	**P**	**14 22 30.1**	**+0.3**
CHMS	**Chumysh**	**46.21**	**7**	P	**P**	**14 22 30.2**	**+0.3**
	SNR=7.3						
TKM2	**Tokmak 2**	**46.23**	**8**	*e*P	**P**	**14 22 30.4**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,76nm,1.0s						
TKM2	**Tokmak 2**	**46.23**	**8**	P	**P**	**14 22 30.9**	**+0.7**
	SNR=28						
TKM2	**Tokmak 2**	**46.23**	**8**	*e*P	**P**	**14 22 30.4**	**+0.2**
	comp=Z,76nm,1.0s						
SALA	**Sala**	**46.35**	**323**	*e*P	P	14 22 26.3	-5.0
LBTB	**Lobatse**	**46.41**	**238**	*e*P	**P**	**14 22 31.2**	**-0.6**
	comp=Z,50nm,1.6s						
**MZ

LZH					sP	**sP**	**14 23 17.8**	**+2.8**		
LZH					PcP	**PcP**	**14 24 24.5**	**+0.5**		
LZH					PP	**PP**	**14 25 10.4**	**+4.6**		
LZH					*e*S	**S**	**14 30 24.0**	**-3.3**		
LZH					SS	**SS**	**14 34 07.3**	**+4.3**		
LZH					AMB	AMB				
	comp=Z,49nm,1.1s									
LZH					AMB	AMB				
	comp=Z,220nm,4.0s									
LZH					LR	LR				
	comp=Z,1µm,15.4s									
LZH					LR	LR				
	comp=Z,1µm,15.3s									
LZH					LR	LR				
	comp=Z,2µm,15.9s									
GTA	**Gaotai**	**51.30**	**31**	⇓P	**P**	**14 23 09.4**	**+0.2**			
GTA				pP	**pP**	**14 23 13.8**	**+0.1**			
GTA				sP	**sP**	**14 23 16.3**	**+0.9**			
GTA				PcP	**PcP**	**14 24 25.1**	**+1.0**			
GTA				S	**S**	**14 30 00.0**	**+2.0**			
GTA				SS	**SS**	**14 34 04.3**	**+0.4**			
GTA				AMB	AMB					
	comp=Z,37nm,1.2s									
GTA				AMB	AMB					
	comp=Z,260nm,5.7s									
GTA				LR	LR					
	comp=Z,620nm,20.0s									
GTA				LR	LR					
	comp=Z,650nm,19.5s									
GTA				LR	LR					
	comp=Z,910nm,20.4s									
ENH	**Enshi**	**51.52**	**47**	*e*P	**P**	**14 23 10.3**	**-0.5**			
	comp=Z,46nm,1.0s									
KBZ	**Khabaz**	**51.79**	**337**	P	**P**	**14 23 12.8**	**+0.3**			
KBZ	**Khabaz**	**51.79**	**337**	P	**P**	**14 23 12.8**	**+0.3**			
KBZ	**Khabaz**	**51.79**	**337**	P	**P**	**14 23 12.8**	**+0.3**			
	comp=Z,31nm,1.0s,baz=158,slow=6.2,SNR=45									
KBZ				LR	LR	14 44 40.4				
	comp=Z,218nm,20.0s,baz=250,slow=36									
TSUM	**Tsumeb**	**51.93**	**248**	P	**P**	**14 23 12.2**	**-2.0**			
	comp=Z,27nm,1.3s									
KIV	**Kislovodsk**	**52.06**	**337**	⇑*i*P	**P**	**14 23 15.6**	**+0.9**			
KIV				*e*		14 24 24.9				
KIV				*e*		14 25 12.2				
KIV				*i* S	**S**	**14 30 39.0**	**+0.8**			
KIV				pmax	pmax					
	comp=Z,42nm,1.6s									
AB31	**Akbulak array**	**52.56**	**353**	*ce*P	**P**	**14 23 17.4**	**-0.8**			
AB31				pmax	pmax					
	comp=Z,79nm,0.9s									
SOC	**Sochi**	**52.98**	**334**	*c i*P	**P**	**14 23 19.2**	**-2.2**			
SOC				*e*		14 24 29.4				
SOC				*e*		14 25 17.8				
SOC				*e*PPP	PPP	14 26 21.0				
SOC				*e*S	**S**	**14 30 46.0**	**-4.6**			
SOC				*e*SS	**SS**	**14 34 31.1**	**+1.0**			
SOC				pmax	pmax					
	comp=Z,24nm,1.1s									
BR131	**Keskin Array S**	**53.05**	**327**	*e*P	**P**	**14 23 22.2**	**0.0**			
	comp=Z,19nm,1.1s									
BRTR	**Keskin Array B**	**53.05**	**327**	P	**P**	**14 23 21.9**	**-0.3**			
BRTR				PP	**PP**	**14 25 22.1**	**0.0**			
BRTR	**Keskin Array B**	**53.05**	**327**	P	**P**	**14 23 21.9**	**-0.3**			
	comp=Z,19nm,1.1s,baz=146,slow=9.0,SNR=49									
BRTR				PP	**PP**	**14 25 22.1**	**0.0**			
	comp=Z,2.0nm,0.8s,baz=145,slow=12,SNR=3.5									
BRTR				LR	LR	14 45 27.1				
	comp=Z,176nm,19.1s,baz=304,slow=36									
XAN	**Xi'an**	**53.22**	**43**	P	**P**	**14 23 23.0**	**-0.5**			
XAN				AMB	AMB					
	comp=Z,37nm,1.0s									
XAN				AMB	AMB					
	comp=Z,26nm,3.0s									
MBWA	**Marble Bar**	**53.27**	**114**	P	**P**	**14 23 24.6**	**+0.6**			
	comp=Z,27nm,1.2s									
ISP	**Isparta**	**53.54**	**323**	⇑P	**P**	**14 23 25.5**	**-0.3**			
ISP	**Isparta**	**53.54**	**323**	⇑*i*P	**P**	**14 23 25.5**	**-0.3**			
ISP	**Isparta**	**53.54**	**323**	*e*P	**P**	**14 23 25.5**	**-0.3**			
AKTO	**Aktyubinsk**	**53.97**	**352**	*i* P	**P**	**14 23 26.7**	**-1.8**			
AKTO				pmax	pmax					
	comp=Z,98nm,0.9s									
AKTO	**Aktyubinsk**	**53.97**	**352**	P	**P**	**14 23 26.6**	**-2.0**			
AKTO	**Aktyubinsk**	**53.97**	**352**	P	**P**	**14 23 26.6**	**-2.0**			
	comp=Z,59nm,0.8s,baz=174,slow=7.4,SNR=67									
AKTO				LR	LR	14 45 07.7				
	comp=Z,71nm,20.7s,baz=356,slow=35									
KURBB	**Kurchatov Arra**	**54.19**	**8**	P	**P**	**14 23 29.4**	**-0.7**			
	comp=Z,38nm,1.0s,baz=201,slow=7.7,SNR=91									
KURK	**Kurchatov**	**54.29**	**8**	*d i*P	**P**	**14 23 30.6**	**-0.2**			
KURK				pmax	pmax					
	comp=Z,46nm,1.0s									
KURK	**Kurchatov**	**54.29**	**8**	P	**P**	**14 23 30.7**	**-0.2**			
	SNR=26									
KURK	**Kurchatov**	**54.29**	**8**	*e*P	**P**	**14 23 30.6**	**-0.2**			
KURK	**Kurchatov**	**54.29**	**8**	P	**P**	**14 23 30.1**	**-0.8**			
	comp=Z,447nm,0.9s,SNR=30									
ANN	**Anapa**	**54.95**	**334**	*e*P	**P**	**14 23 34.9**	**-0.9**			
ANN				pmax	pmax					
	comp=Z,37nm,1.2s									
WHN	**Wuhan**	**55.27**	**49**	P	**P**	**14 23 38.8**	**+0.4**			
VOSK	**Vostochnaya**	**55.60**	**2**	*e*P	**P**	**14 23 40.1**	**-0.3**			
VOSK				pmax	pmax					
	comp=Z,33nm,0.9s									
VOSK	**Vostochnaya**	**55.60**	**2**	*e*P	**P**	**14 23 40.1**	**-0.3**			
	comp=Z,32nm,0.9s									
BVA0	**Borovoye Array**	**55.88**	**2**	*i* P	P	14 23 39.0	-3.4			
BVA0				pmax	pmax					
	comp=Z,1µm,0.1s									
BVAR	**Borovoye Array**	**55.88**	**2**	P	**P**	**14 23 42.0**	**-0.4**			
BVAR	**Borovoye Array**	**55.88**	**2**	P	**P**	**14 23 42.0**	**-0.4**			
BVAR	**Borovoye Array**	**55.88**	**2**	P	**P**	**14 23 42.0**	**-0.4**			
	comp=Z,8.9nm,0.8s,baz=176,slow=8.9,SNR=23									
BRVK	**Borovoye**	**55.91**	**2**	*d i*P	**P**	**14 23 42.5**	**-0.1**			
BRVK				pmax	pmax					
	comp=Z,102nm,2.5s									
BRVK	**Borovoye**	**55.91**	**2**	P	**P**	**14 23 42.8**	**+0.2**			
	SNR=15									
BRVK	**Borovoye**	**55.91**	**2**	*e*P	**P**	**14 23 42.4**	**-0.2**			
	comp=Z,68nm,1.4s									
BRVK	**Borovoye**	**55.91**	**2**	P	**P**	**14 23 42.3**	**-0.2**			
	comp=Z,158nm,1.0s,SNR=5.9									
YULB	**Yu-li**	**58.03**	**60**	*e*P	**P**	**14 23 59.8**	**+1.7**			
	comp=Z,94nm,1.6s									
HVS	**Khovu-Aksy**	**58.21**	**19**	*d i*P	**P**	**14 23 58.9**	**-0.1**			
HVS				pmax	pmax					
	comp=Z,250nm,0.9s									
FITZ	**Fitzroy Crossi**	**58.22**	**109**	*e*P	**P**	**14 23 59.4**	**-0.2**			
	comp=Z,12nm,1.0s									
FITZ				PcP	**PcP**	**14 24 51.1**	**+0.2**			
FITZ	**Fitzroy Crossi**	**58.22**	**109**	P	**P**	**14 23 59.7**	**+0.1**			
	comp=Z,10.0nm,0.9s,baz=258,slow=6.5,SNR=6.8									
FITZ				PcP	**PcP**	**14 24 51.1**	**+0.2**			
	comp=Z,7.0nm,1.0s,baz=236,slow=3.6,SNR=3.6									
ZAA0	**Zalesovo Array**	**58.46**	**11**	*e*P	**P**	**14 23 59.7**	**-0.9**			
ZALV	**Zalesovo Beam**	**58.46**	**11**	P	**P**	**14 23 59.6**	**-1.0**			
ZALV	**Zalesovo Beam**	**58.46**	**11**	P	**P**	**14 23 59.6**	**-1.0**			
ZALV	**Zalesovo Beam**	**58.46**	**11**	P	**P**	**14 23 59.6**	**-1.0**			
	comp=Z,40nm,0.8s,baz=214,slow=7.0,SNR=130									
ZALV				LR	LR	14 49 28.9				
	comp=Z,252nm,18.0s,baz=71,slow=36									
VRHR	**Novokhopersk**	**58.49**	**341**	*e*P	**P**	**14 24 00.2**	**-0.6**			
VRHR				pmax	pmax					
	comp=Z,50nm,1.0s									
VRHR				pmax	pmax					
	comp=N,10.0nm,0.5s									
VRHR				pmax	pmax					
	comp=E,30nm,1.0s									
HHC	**Hu-ho-hao-te**	**58.93**	**37**	*e*P	**P**	**14 24 04.8**	**+0.5**			
HHC				pP	**pP**	**14 24 09.4**	**+0.6**			
HHC				sP	**sP**	**14 24 12.3**	**+1.8**			
HHC				PP	**PP**	**14 26 15.0**	**+0.3**			
HHC				S	**S**	**14 32 08.3**	**-1.9**			
HHC				AMB	AMB					
	comp=E,100nm,1.1s									
HHC				AMB	AMB					
	comp=E,420nm,5.4s									
HHC				LR	LR					
	comp=E,640nm,14.3s									
HHC				LR	LR					
	comp=E,490nm,15.1s									
HHC				LR	LR					
	comp=E,560nm,16.7s									
NVS	**Novosibirsk**	**59.01**	**10**	⇓*i*P	**P**	**14 24 02.3**	**-2.1**			
NVS				*i*		14 24 52.9				
NVS				pmax	pmax					
	comp=N,58nm,1.0s									
NVS				pmax	pmax					
	comp=Z,86nm,1.0s									
NVS				pmax	pmax					
	comp=E,15nm,0.9s									
VORD	**Divnogorie**	**59.18**	**339**	*e*P	**P**	**14 24 04.6**	**-1.0**			
VORD				pmax	pmax					
	comp=E,60nm,1.1s									
VORD				pmax	pmax					
	comp=Z,100nm,1.1s									
NJ2	**Nanjing**	**59.38**	**50**	*e*P	**P**	**14 24 06.8**	**-0.6**			
NJ2				pP	**pP**	**14 24 11.8**	**-0.1**			
NJ2				sP	**sP**	**14 24 13.6**	**-0.1**			
NJ2				PP	**PP**	**14 26 21.1**	**+2.4**			
NJ2				S	**S**	**14 32 19.0**	**+2.9**			
NJ2				sS	**sS**	**14 32 26.0**	**+2.4**			
NJ2				ScS	**ScS**	**14 33 59.0**	**+1.4**			
NJ2				AMB	AMB					
	comp=Z,80nm,0.8s									
NJ2				AMB	AMB					
	comp=Z,190nm,7.5s									
NJ2				LR	LR					
	comp=Z,440nm,11.1s									
NJ2				LR	LR					
	comp=Z,630nm,18.5s									
NJ2				LR	LR					
	comp=Z,5µm,18.0s									
TLB	**Topalu**	**59.40**	**328**	⇑P	**P**	**14 24 07.1**	**-0.2**			
TLB	**Topalu**	**59.40**	**328**	⇑*i*P	**P**	**14 24 07.1**	**-0.2**			
VSR	**Storozhevoye**	**59.43**	**339**	*e*P	**P**	**14 24 06.1**	**-1.3**			
VSR				pmax	pmax					
	comp=N,80nm,1.1s									
VSR				pmax	pmax					
	comp=E,70nm,1.1s									
VSR				pmax	pmax					
	comp=Z,100nm,1.1s									
CFR	**Carcaliu**	**59.75**	**328**	⇑P	**P**	**14 24 08.9**	**-0.7**			
CFR	**Carcaliu**	**59.75**	**328**	⇑*i*P	**P**	**14 24 08.9**	**-0.7**			
ARU	**Arti**	**59.78**	**354**	*d i*P	**P**	**14 24 09.1**	**-0.6**			
ARU				pmax	pmax					
	comp=Z,188nm,1.7s									
ARU	**Arti**	**59.78**	**354**	P	**P**	**14 24 09.5**	**-0.2**			
	comp=Z,536nm,1.0s,SNR=27									
SVE	**Sverdlovsk**	**59.98**	**355**	⇑*i*P	**P**	**14 24 10.3**	**-0.7**			
SVE				pmax	pmax					
	comp=Z,97nm,1.2s									
SVE				MLR	MLR					
	comp=Z,398nm,17.0s									
SONM	**Songino Array**	**60.69**	**29**	P	**P**	**14 24 17.0**	**+0.8**			
SONM	**Songino Array**	**60.69**	**29**	P	**P**	**14 24 17.0**	**+0.8**			
	comp=Z,72nm,0.9s,baz=222,slow=6.4,SNR=373									
SONM				LR	LR	14 50 20.5				
	comp=Z,1µm,19.1s,baz=217,slow=36									
SSE	**Sheshan**	**60.78**	**52**	⇓P	**P**	**14 24 17.3**	**+0.2**			
SSE				pP	**pP**	**14 24 20.6**	**-1.0**			
SSE				S	**S**	**14 32 31.3**	**-2.9**			
SSE				AMB	AMB					
	comp=E,84nm,0.8s									
SSE				AMB	AMB					
	comp=Z,130nm,7.8s									
SSE				LR	LR					
	comp=Z,89nm,17.8s									
SSE				LR	LR					
	comp=Z,270nm,17.6s									
SSE				LR	LR					
	comp=Z,340nm,20.6s									
VTS	**Vitosha**	**60.89**	**323**	⇑P	**P**	**14 24 17.4**	**-0.3**			
VTS	**Vitosha**	**60.89**	**323**	⇑*i*P	**P**	**14 24 17.4**	**-0.3**			
VRI	**Vrincioaia**	**60.95**	**328**	⇑P	**P**	**14 24 18.5**	**+0.6**			
VRI	**Vrincioaia**	**60.95**	**328**	⇑*i*P	**P**	**14 24 18.5**	**+0.6**			
PLOR	**Plostina**	**60.98**	**328**	⇓P	**P**	**14 24 18.6**	**+0.5**			
PLOR	**Plostina**	**60.98**	**328**	⇓*i*P	**P**	**14 24 18.6**	**+0.5**			
ZAK	**Zakamensk**	**61.15**	**25**	⇑*i*P	**P**	**14 24 18.8**	**-0.5**			
ZAK				pmax	pmax					
	comp=Z,22nm,1.0s									
MOY	**Mondy**	**61.22**	**23**	*e*P	**P**	**14 24 19.7**	**-0.1**			
MOY				pmax	pmax					
	comp=Z,48nm,2.8s									
BJT	**Baijiatuan**	**61.36**	**41**	*e*P	**P**	**14 24 21.7**	**+0.9**			
	comp=Z,40nm,1.0s									
TESR	**Tescani**	**61.41**	**329**	⇑*i*P	**P**	**14 24 19.1**	**-1.9**			
VOIR		**61.57**	**327**	⇑P	**P**	**14 24 19.8**	**-2.4**			
VOIR		**61.57**	**327**	⇑*i*P	**P**	**14 24 19.8**	**-2.4**			
ARR	**Arges**	**61.76**	**327**	⇑*i*P	**P**	**14 24 21.9**	**-1.6**			
PRAR	**RASCA**	**62.19**	**329**	⇓*i*P	**P**	**14 24 26.0**	**-0.2**			
LOT	**Lotru**	**62.28**	**326**	⇑*i*P	**P**	**14 24 26.0**	**-1.1**			
TLY	**Talaya**	**62.28**	**24**	*d i*P	**P**	**14 24 27.8**	**+1.0**			
TLY				pmax	pmax					
	comp=Z,122nm,2.5s									
TLY	**Talaya**	**62.28**	**24**	P	**P**	**14 24 28.9**	**+2.1**			
	comp=Z,262nm,0.9s,SNR=12									
GZR	**Gura Zlata**	**62.80**	**326**	⇑P	**P**	**14 24 30.3**	**-0.2**			
GZR	**Gura Zlata**	**62.80**	**326**	⇑*i*P	**P**	**14 24 30.3**	**-0.2**			
IRK	**Irkutsk**	**62.96**	**24**	*e*P	**P**	**14 24 30.2**	**-1.1**			
IRK				pmax	pmax					
	comp=Z,73nm,1.4s									
AKASG	**Malin Array Be**	**63.03**	**333**	*ce*P	**P**	**14 24 30.5**	**-1.3**			
AKASG				pmax	pmax					
	comp=Z,4.0nm,0.6s									
AKASG	**Malin Array Be**	**63.03**	**333**	P	**P**	**14 24 30.5**	**-1.3**			
AKASG				PcP	**PcP**	**14 25 09.2**	**-0.3**			
AKASG	**Malin Array Be**	**63.03**	**333**	P	**P**	**14 24 30.5**	**-1.3**			
	comp=Z,3.6nm,0.7s,baz=134,slow=5.5,SNR=28									
AKASG				PcP	**PcP**	**14 25 09.2**	**-0.3**			
	comp=Z,4.0nm,0.9s,baz=137,slow=3.5,SNR=4.1									
KIEV	**Kiev**	**63.03**	**333**	*e*P	**P**	**14 24 30.4**	**-1.4**			
KIEV	**Kiev**	**63.03**	**333**	*e*P	**P**	**14 24 30.4**	**-1.4**			
SOKR	**Solikamsk**	**63.08**	**354**	*d i*P	**P**	**14 24 31.7**	**-0.2**			
SOKR				pmax	pmax					
	comp=Z,90nm,1.2s									
OBN	**Obninsk**	**63.53**	**340**	⇓*i*P	**P**	**14 24 34.7**	**-0.2**			
OBN				*e*		14 26 57.7				
OBN				pmax	pmax					
	comp=Z,108nm,2.5s									
BZS	**Buzias**	**63.59**	**325**	⇑P	**P**	**14 24 35.1**	**-0.5**			
BZS	**Buzias**	**63.59**	**325**	⇑*i*P	**P**	**14 24 35.1**	**-0.5**			
MOS	**Moscow**	**63.69**	**341**	*e*P	**P**	**14 24 34.8**	**-1.2**			
MOS				pmax	pmax					
	comp=Z,137nm,1.3s									
MOS				pmax	pmax					
	comp=Z,300nm,1.6s									
SIRR	**Siria**	**63.95**	**326**	⇓*i*P	**P**	**14 24 38.2**	**+0.2**			
MAW	**Mawson**	**64.56**	**182**	*e*P	**P**	**14 24 41.9**	**+0.4**			
	comp=Z,18nm,2.0s									
MAW	**Mawson**	**64.56**	**182**	P	**P**	**14 24 42.1**	**+0.6**			
	comp=Z,7.2nm,1.0s,baz=37,slow=9.4,SNR=13									
MAW				LR	LR	14 45 42.4				
	comp=Z,446nm,22.0s,baz=360,slow=29									
TRPA	**Tarpa**	**64.60**	**328**	⇑*i*P	**P**	**14 24 42.5**	**+0.4**			
LVV	**L'vov**	**64.89**	**330**	*i* P	**P**	**14 24 42.6**	**-1.5**			
UZH	**Uzhgorod**	**65.03**	**328**	⇓*e*P	**P**	**14 24 43.8**	**-1.2**			
UZH				*i*		14 24 47.8				
KOLS	**Kolonicke sedl**	**65.23**	**329**	*e*P	**P**	**14 24 46.2**	**-0.1**			
PSZ	**Piszkesteto**	**65.90**	**327**	⇑*i*P	**P**	**14 24 50.7**	**0.0**			
PSZ	**Piszkesteto**	**65.90**	**327**	*e*P	**P**	**14 24 48.9**	**-1.8**			
	comp=Z,20nm,1.4s									
PSZ	**Piszkesteto**	**65.90**	**327**	⇑*e*P	**P**	**14 24 48.6**	**-2.1**			
STHS	**Stebnicka Huta**	**66.06**	**329**	*e*P	P	14 24 48.2	-3.5			
PKSG		**66.44**	**326**	⇑*e*P	**P**	**14 24 53.3**	**-0.8**			
NIE	**Niedzica**	**66.55**	**328**	*e*P	**P**	**14 24 54.6**	**-0.2**			
WRA	**Warramunga Arr**	**66.60**	**110**	P	**P**	**14 24 55.5**	**-0.3**			
WRA	**Warramunga Arr**	**66.60**	**110**	P	**P**	**14 24 55.5**	**-0.3**			
	comp=Z,22nm,0.9s,baz=282,slow=5.9,SNR=45									
ASAR	**Alice Springs**	**66.61**	**114**	P	**P**	**14 24 55.4**	**-0.4**			
ASAR	**Alice Springs**	**66.61**	**114**	P	**P**	**14 24 55.4**	**-0.4**			
	comp=Z,7.8nm,0.8s,baz=282,slow=6.3,SNR=33									
AS31	**Alice Springs**	**66.61**	**114**	*e*P	**P**	**14 24 55.3**	**-0.5**			
WRAB	**Tennant Creek**	**66.61**	**110**	⇑*i*P	**P**	**14 24 56.0**	**+0.1**			
WRAB				pmax	pmax					
	comp=Z,138nm,1.7s									
WRAB	**Tennant Creek**	**66.61**	**110**	*e*P	**P**	**14 24 55.9**	**0.0**			
	comp=Z,26nm,0.8s									
WRAB	**Tennant Creek**	**66.61**	**110**	P	**P**	**14 24 55.9**	**+0.1**			
	comp=Z,203nm,0.8s,SNR=10.0									
CIT	**Chita**	**66.92**	**29**	*e*P	**P**	**14 24 57.5**	**+0.3**			
CIT				*e*		14 25 01.6				
CIT				*e*		14 25 05.1				
CIT				pmax	pmax					
	comp=Z,145nm,1.6s									
KEST	**Kesra**	**67.03**	**311**	LR	LR	14 51 03.9				
	comp=Z,52nm,19.1s,baz=287,slow=33									
NACGM	**Naroch**	**67.05**	**336**	*e*	**P**	**14 24 55.0**	**-2.8**			
KLMR	**Klimovskoe**	**67.46**	**345**	*e*P	**P**	**14 24 58.5**	**-1.8**			
KLMR				pmax	pmax					
	comp=Z,104nm,1.2s									
IIGN	**Ignalina**	**67.59**	**336**	*e*P	**P**	**14 25 01.0**	**-0.3**			
IIGN				AMB	AMB	14 25 01.9				
	comp=Z,20nm,1.2s									
SMOL	**Smolenice**	**67.60**	**326**	*e*P	P	14 24 57.9	-3.6			
BEL	**Belsk**	**67.76**	**330**	*e*P	**P**	**14 25 01.3**	**-1.1**			
BEL	**Belsk**	**67.76**	**330**	*e*P	**P**	**14 25 01.2**	**-1.1**			
ISAL	**Salakas**	**67.78**	**336**	*e*P	**P**	**14 25 02.7**	**+0.3**			
ISAL				AMB	AMB	14 25 03.6				
	comp=Z,16nm,1.2s									
TORD	**Torodi Ar. Bea**	**67.87**	**285**	P	**P**	**14 25 04.3**	**+0.5**			
TORD	**Torodi Ar. Bea**	**67.87**	**285**	P	**P**	**14 25 04.3**	**+0.5**			
	comp=Z,5.1nm,1.1s,baz=85,slow=6.9,SNR=12									
TORD				LR	LR	14 51 09.2				
	comp=Z,211nm,21.5s,baz=75,slow=33									
OKC	**Ostrava-Krasne**	**67.94**	**328**	*e*P	**P**	**14 25 03.5**	**-0.1**			
SOKA	**Soboth**	**68.00**	**324**	⇑*i*P	**P**	**14 25 03.4**	**-0.8**			
	comp=Z,16nm,1.3s									
SUW	**Suwalki**	**68.00**	**333**	*e*P	**P**	**14 25 03.5**	**-0.4**			
SUW	**Suwalki**	**68.00**	**333**	*e*P	**P**	**14 25 03.0**	**-0.9**			
SUW	**Suwalki**	**68.00**	**333**	*e*P	**P**	**14 25 03.4**	**-0.4**			
ARSA	**Arzberg**	**68.01**	**324**	⇑*i*P	**P**	**14 25 03.7**	**-0.4**			
	comp=Z,17nm,1.4s									
CONA	**Conrad Observa**	**68.17**	**325**	⇓*i*P	**P**	**14 25 03.3**	**-1.8**			
	comp=Z,37nm,1.5s,SNR=9.5									
KSAR	**Wonju Array Be**	**68.36**	**48**	P	**P**	**14 25 06.3**	**-0.2**			
KSRS	**Korea Array**	**68.39**	**48**	P	**P**	**14 25 06.3**	**-0.4**			
	comp=Z,12nm,0.8s,baz=250,slow=7.4,SNR=38									
KSRS				LR	LR	14 55 57.0				
	comp=Z,297nm,19.5s,baz=242,slow=37									
HIA	**Hailar**	**68.49**	**33**	*e*P	**P**	**14 25 07.3**	**+0.2**			
	comp=Z,90nm,1.5s									
SYO	**Syowa Base**	**68.59**	**191**	⇑*e*P	**P**	**14 25 06.2**	**-1.1**			
SYO	**Syowa Base**	**68.59**	**191**	⇑*e*PcP	**PcP**	**14 25 32.3**	**+0.1**			
KRLC	**Kraliky**	**68.81**	**327**	*e*P	**P**	**14 25 07.8**	**-1.3**			
KRLC	**Kraliky**	**68.81**	**327**	*e*P	**P**	**14 25 07.8**	**-1.3**			
KRLC				*ex*	x	14 25 18.4				
MOA	**Molln**	**69.05**	**324**	⇓*i*P	**P**	**14 25 09.2**	**-1.4**			
	comp=Z,26nm,1.4s,SNR=7.7									
TREC	**Trest**	**69.10**	**326**	*e*P	**P**	**14 25 09.3**	**-1.6**			
JNU	**Nakatsue**	**69.18**	**53**	*e*P	**P**	**14 25 12.7**	**+1.0**			
JNU	**Nakatsue**	**69.18**	**53**	P	**P**	**14 25 12.6**	**+0.8**			
	comp=Z,27nm,0.9s,baz=130,slow=4.4,SNR=11									
DPC	**Dobruska-Polom**	**69.20**	**327**	*e*P	**P**	**14 25 10.8**	**-0.7**			
DPC				pmax	pmax					
	comp=Z,110nm,1.5s									
DPC	**Dobruska-Polom**	**69.20**	**327**	*e*P	**P**	**14 25 10.1**	**-1.4**			
DPC				*e*pP	**pP**	**14 25 17.7**	**+1.6**			
DPC	**Dobruska-Polom**	**69.20**	**327**	*e*P	**P**	**14 25 10.8**	**-0.7**			
	comp=Z,110nm,1.5s									
CN2	**Changchun**	**69.24**	**41**	*e*P	**P**	**14 25 10.8**	**-1.1**			
CN2				*e*pP	**pP**	**14 25 15.5**	**-1.0**			
CN2				*e*sP	**sP**	**14 25 17.8**	**-0.4**			
CN2				*e*S	**S**	**14 34 15.3**	**-2.5**			
CN2				AMB	AMB					
	comp=Z,50nm,1.1s									
CN2				AMB	AMB					
	comp=Z,200nm,4.0s									
CN2				LR	LR					
	comp=Z,300nm,11.0s									
CN2				LR	LR					
	comp=Z,300nm,11.0s									
CN2				LR	LR					
	comp=Z,300nm,12.0s									
UPC	**Upice**	**69.46**	**327**	*e*P	P	14 25 09.7	-3.3			
UPC				*e*		14 25 13.1				
UPC	**Upice**	**69.46**	**327**	*e*P	P	14 25 09.7	-3.3			
UPC				*e*pP	pP	14 25 13.1	-4.5			
KSP	**Ksiaz**	**69.49**	**328**	*e*P	**P**	**14 25 12.5**	**-0.7**			
KSP	**Ksiaz**	**69.49**	**328**	*e*P	**P**	**14 25 13.0**	**-0.2**			
ABTA	**Abfaltersbach**	**69.55**	**323**	⇑*i*P	**P**	**14 25 12.2**	**-1.6**			
	comp=Z,23nm,1.2s,SNR=5.4									
GERES	**GERESS Array B**	**69.87**	**325**	PP	PP	14 27 48.9	-1.6			
GERES	**GERESS Array B**	**69.87**	**325**	PP	PP	14 27 48.9	-

MDJ PP **PP** 14 28 10.8 -0.5
MDJ S **S** 14 34 54.5 +1.2
MDJ ScS **ScS** 14 35 38.8 +2.1
MDJ AMB AMB
comp=Z,68nm,1.0s
MDJ AMB AMB
comp=Z,130nm,5.0s
MDJ Mudanjiang 72.29 41 *e*P **P** 14 25 31.3 +0.9
comp=Z,60nm,1.0s
STU Stuttgart 72.46 324 *e*P **P** 14 25 30.4 -1.0
comp=Z,42nm,1.5s
SENIN Lac Senin/Sane 72.61 321 *e*P **P** 14 25 31.9 -0.6
comp=Z,14nm,0.9s
LPG La Plagne 72.61 320 *e*P **P** 14 25 30.7 -2.0
comp=Z,34nm,1.3s
LPG La Plagne 72.61 320 *e*P **P** 14 25 29.8 -2.9
LPG La Plagne 72.61 320 *e*P **P** 14 25 30.7 -2.0
LPL La Plagne 72.63 320 *e*P **P** 14 25 30.6 -2.1
comp=Z,69nm,1.6s
LPL La Plagne 72.63 320 *e*P **P** 14 25 29.7 -3.0
LPL La Plagne 72.63 320 *e*P **P** 14 25 30.6 -2.1
BFO Black Forest 72.79 323 *i*P **P** 14 25 33.4 +0.1
BFO Black Forest 72.79 323 *e*P **P** 14 25 32.3 -1.0
comp=Z,38nm,1.6s
BFO Black Forest 72.79 323 *e*P **P** 14 25 33.0 -0.4
FELD Feldberg im Sc 72.79 322 *e*P **P** 14 25 32.7 -0.8
SMRF Simiane la Rot 72.80 318 *e*P **P** 14 25 31.8 -1.7
comp=Z,130nm,1.7s
SMRF Simiane la Rot 72.80 318 *e*P **P** 14 25 31.8 -1.7
comp=Z,130nm,1.7s
UBBA Unterbreizbach 72.92 326 *e*P **P** 14 25 33.4 -0.5
comp=Z,38nm,1.7s
ORIF Oris-en-Rattie 72.95 319 *e*P **P** 14 25 33.1 -1.4
ORIF *e*R
comp=Z,157nm,21.5s
ORIF Oris-en-Rattie 72.95 319 *e*P **P** 14 25 33.1 -1.4
CLZ Clausthal 73.19 327 *e*P **P** 14 25 35.5 -0.2
CLZ pmax pmax
comp=Z,62nm,1.9s
CLZ Clausthal 73.19 327 *e*P **P** 14 25 35.5 -0.2
comp=Z,62nm,1.9s
LOMF Lomont 73.30 321 *e*P **P** 14 25 36.0 -0.5
MOF Molkenrain 73.32 322 *e*P **P** 14 25 35.8 -0.8
KIC Kosan Boka 73.37 278 *e*P **P** 14 25 37.5 +0.1
comp=Z,45nm,1.2s
ECH Echery 73.45 322 *e*P **P** 14 25 36.5 -0.8
ECH pmax pmax
comp=Z,12nm,1.3s
ECH Echery 73.45 322 *e*P **P** 14 25 36.9 -0.4
ECH Echery 73.45 322 *e*P **P** 14 25 36.5 -0.8
comp=Z,12nm,1.3s
CDF Champ du Feu 73.46 323 *e*P **P** 14 25 35.7 -1.7
comp=Z,57nm,1.4s
CDF Champ du Feu 73.46 323 *e*P **P** 14 25 35.7 -1.7
CDF pmax pmax
comp=Z,57nm,1.4s
CDF Champ du Feu 73.46 323 *e*P **P** 14 25 35.7 -1.7
comp=Z,57nm,1.4s
CABF La Chapelle 73.47 321 *e*P **P** 14 25 36.5 -1.0
comp=Z,66nm,1.5s
CABF La Chapelle 73.47 321 *e*P **P** 14 25 36.5 -1.0
comp=Z,66nm,1.5s
HINF Hinteralfeld 73.47 322 *e*P **P** 14 25 35.4 -2.0
comp=Z,53nm,1.7s
HINF Hinteralfeld 73.47 322 *e*P **P** 14 25 35.4 -2.0
HINF pmax pmax
comp=Z,53nm,1.7s
HINF Hinteralfeld 73.47 322 *e*P **P** 14 25 35.4 -2.0
comp=Z,53nm,1.7s
DBIC Dimbokro 73.51 278 P **P** 14 25 39.6 +1.4
comp=Z,15nm,1.0s
DBIC Dimbokro 73.51 278 P **P** 14 25 38.1 -0.1
comp=Z,4.1nm,0.7s,baz=94,slow=8.1,SNR=4.6
DBIC LR LR 14 54 08.4
comp=Z,123nm,20.7s,baz=71,slow=33
TNS Taunus Mts 73.54 325 *e*P **P** 14 25 37.5 -0.3
TNS pmax pmax
comp=Z,42nm,1.7s
TNS Taunus Mts 73.54 325 *e*P **P** 14 25 37.5 -0.3
comp=Z,42nm,1.7s
LIC Lamto 73.64 277 *e*P **P** 14 25 41.0 +2.0
comp=Z,15nm,0.9s
LIC *e*R
comp=Z,220nm,20.0s
LIC Lamto 73.64 277 *e*P **P** 14 25 41.6 +2.6
comp=Z,21nm,0.9s
LIC Lamto 73.64 277 *e*P **P** 14 25 41.0 +2.0
comp=Z,15nm,0.9s
NRDL Niedersach Rie 73.64 327 *e*P **P** 14 25 38.1 0.0
comp=Z,32nm,1.6s
TIC Toumodi 73.67 278 *e*P **P** 14 25 38.3 -0.9
comp=Z,56nm,1.3s
VIVF Saint-Julien-l 73.72 318 *e*P **P** 14 25 37.6 -1.4
comp=Z,119nm,1.9s
VIVF Saint-Julien-l 73.72 318 *e*P **P** 14 25 37.6 -1.4
comp=Z,119nm,1.9s
USRK Ussuriysk Arra 73.73 42 P **P** 14 25 38.2 -0.8
comp=Z,13nm,0.8s,baz=255,slow=5.9,SNR=22
USRK LR LR 15 00 04.3
comp=Z,166nm,19.3s,baz=226,slow=38
LASF Ste Croix 73.99 317 *e*P **P** 14 25 39.9 -0.6
comp=Z,188nm,1.8s
LASF Ste Croix 73.99 317 *e*P **P** 14 25 39.9 -0.6
comp=Z,188nm,1.8s
THEF They Montfort 74.17 322 *e*P **P** 14 25 41.0 -0.5
STKA Stephens Creek 74.36 122 *e*P **P** 14 25 42.1 -0.8
comp=Z,2.5nm,1.3s
STKA Stephens Creek 74.36 122 P **P** 14 25 42.4 -0.6
comp=Z,5.8nm,0.8s,baz=286,slow=7.4,SNR=6.3
PAGF Fort de Pagny 74.46 322 *e*P **P** 14 25 41.7 -1.4
comp=Z,28nm,1.6s
PAGF Fort de Pagny 74.46 322 *e*P **P** 14 25 41.7 -1.4
comp=Z,28nm,1.6s
LVZ Lovozero 74.54 347 *ce*P **P** 14 25 43.1 -0.2
LVZ pmax pmax
comp=Z,49nm,1.7s
WLF Walferdange 74.65 323 P **P** 14 25 44.5 +0.4
comp=Z,12nm,1.9s
SFTF Sexfontaines 74.75 322 *e*P **P** 14 25 43.3 -1.5
comp=Z,112nm,1.5s
SFTF Sexfontaines 74.75 322 *e*P **P** 14 25 43.3 -1.5
comp=Z,112nm,1.5s
LBL Lubilhac 74.80 318 *e*P **P** 14 25 45.1 -0.2
PLDF La Plantade 74.82 319 *e*P **P** 14 25 44.7 -0.7
MEZF Maizieres J'vi 74.85 322 *e*P **P** 14 25 44.1 -1.3
comp=Z,85nm,1.5s
MEZF Maizieres J'vi 74.85 322 *e*P **P** 14 25 44.1 -1.3
comp=Z,85nm,1.5s
MTLF Montolieu 74.86 316 *e*P **P** 14 25 44.5 -1.1
comp=Z,66nm,1.6s
MTLF Montolieu 74.86 316 *e*P **P** 14 25 44.5 -1.1
comp=Z,66nm,1.6s
SMF Signal de Mont 74.92 320 *e*P **P** 14 25 44.2 -1.6
comp=Z,31nm,1.3s
SMF Signal de Mont 74.92 320 *e*P **P** 14 25 44.2 -1.6
SMF pmax pmax
comp=Z,31nm,1.3s
SMF Signal de Mont 74.92 320 *e*P **P** 14 25 44.2 -1.6
comp=Z,31nm,1.3s
CLNS Chul'man 75.10 28 *e*P **P** 14 25 47.0 +0.3
CLNS pmax pmax
comp=Z,46nm,0.9s
CLNS pmax pmax
comp=E,17nm,1.0s
CLNS pmax pmax
comp=N,11nm,0.8s
MEM Membach 75.12 324 P **P** 14 25 47.1 +0.2
comp=Z,13nm,2.2s
LOR Lormes 75.14 321 *e*P **P** 14 25 45.6 -1.5
comp=Z,65nm,1.6s
LOR *e*R
comp=Z,122nm,17.5s
LOR Lormes 75.14 321 *e*P **P** 14 25 45.6 -1.5
comp=Z,65nm,1.6s
AGO Saint Agoulin 75.17 319 *e*P **P** 14 25 46.4 -0.9
SSF Saint Saulge 75.28 320 *e*P **P** 14 25 46.4 -1.5
comp=Z,16nm,1.0s
SSF Saint Saulge 75.28 320 *e*P **P** 14 25 46.4 -1.5
SSF pmax pmax
comp=Z,16nm,1.0s
SSF Saint Saulge 75.28 320 *e*P **P** 14 25 46.4 -1.5
comp=Z,16nm,1.0s
AVF Avril sur Loir 75.28 320 *e*P **P** 14 25 46.3 -1.6
AVF Avril sur Loir 75.28 320 *e*P **P** 14 25 46.3 -1.6
AVF Avril sur Loir 75.28 320 *e*P **P** 14 25 46.3 -1.6
KLR Kul'dur 75.44 37 *e*P P 14 25 44.2 -4.6
KLR pmax pmax
comp=E,25nm,1.2s
KLR pmax pmax
comp=Z,64nm,1.2s
BCLA Clavier 75.45 324 P **P** 14 25 48.9 +0.1
comp=Z,13nm,1.7s
CAF Calviac 75.49 318 *e*P **P** 14 25 48.0 -1.2
CAF Calviac 75.49 318 *e*P **P** 14 25 48.0 -1.2
BGF Bois d'Agland 75.53 320 *e*P **P** 14 25 48.5 -0.8
comp=Z,69nm,1.4s
BGF Bois d'Agland 75.53 320 *e*P **P** 14 25 48.5 -0.8
BGF pmax pmax
comp=Z,69nm,1.4s
BGF Bois d'Agland 75.53 320 *e*P **P** 14 25 48.5 -0.8
comp=Z,69nm,1.4s
GIVF Givet 75.61 324 *e*P **P** 14 25 48.7 -1.0
GIVF Givet 75.61 324 *e*P **P** 14 25 48.7 -1.0
GIVF Givet 75.61 324 *e*P **P** 14 25 48.7 -1.0
DOU Dourbes 75.75 323 P **P** 14 25 50.4 -0.1
comp=Z,9.8nm,2.0s
TCF Toulx Ste Croi 75.85 319 *e*P **P** 14 25 50.2 -1.0
comp=Z,30nm,1.5s
TCF Toulx Ste Croi 75.85 319 *e*P **P** 14 25 50.2 -1.0
TCF pmax pmax
comp=Z,31nm,1.5s
TCF Toulx Ste Croi 75.85 319 *e*P **P** 14 25 50.2 -1.0
comp=Z,30nm,1.5s
MAJO Matsushiro 75.93 51 ⇓*i*P **P** 14 25 51.9 0.0
MAJO pmax pmax
comp=Z,18nm,1.0s
MAJO Matsushiro 75.93 51 *e*P **P** 14 25 51.4 -0.4
MAT Matsushiro 75.93 51 P **P** 14 25 51.4 -0.5
MAT S **S** 14 35 34.0 -0.5
BAIF Baives 75.96 323 *e*P **P** 14 25 50.8 -0.9
comp=Z,74nm,1.6s
BAIF Baives 75.96 323 *e*P **P** 14 25 50.8 -0.9
BAIF pmax pmax
comp=Z,74nm,1.6s
BAIF Baives 75.96 323 *e*P **P** 14 25 50.8 -0.9
comp=Z,74nm,1.6s
RJF Les Rejaudoux 75.98 318 *e*P **P** 14 25 51.4 -0.6
comp=Z,56nm,1.4s
RJF *e*R
comp=Z,122nm,17.8s
RJF Les Rejaudoux 75.98 318 *e*P **P** 14 25 51.4 -0.6
comp=Z,56nm,1.4s
EPF Esparros 76.06 316 *e*P **P** 14 25 51.5 -1.1
comp=Z,33nm,1.3s
EPF Esparros 76.06 316 *e*P **P** 14 25 51.5 -1.1
comp=Z,33nm,1.3s
SNF Seneffe 76.09 324 P **P** 14 25 52.4 0.0
LFF La Frestiale 76.38 318 *e*P **P** 14 25 52.7 -1.5
LFF La Frestiale 76.38 318 *e*P **P** 14 25 52.7 -1.5
ETSF Etsaut 76.66 315 *e*P **P** 14 25 53.2 -2.7
comp=Z,24nm,1.1s
ETSF Etsaut 76.66 315 *e*P **P** 14 25 53.2 -2.7
comp=Z,24nm,1.1s
SJPF Ste Jean 77.18 315 *e*P **P** 14 25 56.8 -2.0
comp=Z,76nm,1.5s
SJPF Ste Jean 77.18 315 *e*P **P** 14 25 56.8 -2.0
comp=Z,76nm,1.5s
HABR Khabarovsk 77.20 39 *de*P **P** 14 25 56.8 -2.0
HABR *e**PP **pP** 14 26 00.0 -3.4
HABR *e**SP **sP** 14 26 01.3 -3.8
HABR *e* 14 26 07.3
HABR *e* 14 28 50.5
HABR PPP PPP 14 30 37.8
HABR *e*S **S** 14 35 46.5 -1.4
HABR *e* 14 36 13.2
HABR *e*SS **SS** 14 40 44.6 -1.3
HABR *e*SSS SSS 14 44 09.0
HABR pmax pmax
comp=N,51nm,2.2s
HABR pmax pmax
comp=E,69nm,2.2s
HABR pmax pmax
comp=Z,46nm,2.2s
HABR MLR MLR
comp=Z,229nm,18.0s
KONO Kongsberg 77.33 334 ⇓*i*P **P** 14 25 59.1 -0.1
KONO pmax pmax
comp=Z,115nm,1.2s
NB2 NORSAR Subarra 77.33 335 P **P** 14 25 58.1 -1.2
comp=Z,30nm,1.1s,baz=111,slow=6.2
NB2 NORSAR Subarra 77.33 335 P **P** 14 25 58.1 -1.2
baz=111,slow=6.2
NOA NORSAR Array B 77.33 335 P **P** 14 25 58.5 -0.8
NOA NORSAR Array B 77.33 335 P **P** 14 25 58.5 -0.8
comp=Z,9.7nm,0.9s,baz=114,slow=6.1,SNR=15
NOA LR LR 15 02 59.5
comp=Z,106nm,20.1s,baz=115,slow=38
MFF Saint Martin d 77.49 319 *e*P **P** 14 25 59.6 -0.9
comp=Z,44nm,1.4s
MFF Saint Martin d 77.49 319 *e*P **P** 14 25 59.6 -0.9
MFF pmax pmax
comp=Z,44nm,1.4s
MFF Saint Martin d 77.49 319 *e*P **P** 14 25 59.6 -0.9
comp=Z,44nm,1.4s
ARCES ARCESS Array B 77.93 346 P **P** 14 26 01.3 -1.1
ARCES ARCESS Array B 77.93 346 P **P** 14 26 01.3 -1.1
comp=Z,6.1nm,0.8s,baz=128,slow=7.0,SNR=6.8
ARCES LR LR 15 01 00.1
comp=Z,259nm,21.7s,baz=146,slow=36
LDF La Druitiere 78.10 321 *e*P **P** 14 26 02.7 -1.1
comp=Z,20nm,1.1s
LDF La Druitiere 78.10 321 *e*P **P** 14 26 02.7 -1.1
LDF pmax pmax
comp=Z,20nm,1.1s
LDF La Druitiere 78.10 321 *e*P **P** 14 26 02.7 -1.1
comp=Z,20nm,1.1s
ESDC Sonseca Array 78.27 311 P **P** 14 26 05.0 -0.1
ESDC Sonseca Array 78.27 311 P **P** 14 26 05.0 -0.1
comp=Z,4.3nm,0.9s,baz=92,slow=5.1,SNR=18
ESDC LR LR 15 02 35.0
comp=Z,82nm,19.5s,baz=70,slow=37
ESLA Sonseca Array 78.27 311 *e*P **P** 14 26 05.3 +0.3
comp=Z,5.0nm,1.3s
FLN La Foliniere 78.38 321 *e*P **P** 14 26 04.3 -1.1
FLN *e*R
comp=Z,128nm,17.8s
FLN La Foliniere 78.38 321 *e*P **P** 14 26 04.3 -1.1
FLN La Foliniere 78.38 321 *e*P **P** 14 26 04.3 -1.1
GRR Gorron 78.50 321 *e*P **P** 14 26 04.6 -1.4
comp=Z,18nm,1.1s
GRR Gorron 78.50 321 *e*P **P** 14 26 04.6 -1.4
GRR pmax pmax
comp=Z,18nm,1.1s
GRR Gorron 78.50 321 *e*P **P** 14 26 04.6 -1.4
comp=Z,18nm,1.1s
PAB San Pablo 78.53 311 *e*P **P** 14 26 06.3 -0.2
comp=Z,170nm,1.4s
PMG Port Moresby 78.67 99 P **P** 14 26 06.9 -0.7
PMG Port Moresby 78.67 99 P **P** 14 26 06.9 -0.7
comp=Z,27nm,0.8s,baz=275,slow=3.0,SNR=7.2
SGMF Saint Gilles 79.55 320 *e*P **P** 14 26 10.4 -1.4
SGMF Saint Gilles 79.55 320 *e*P **P** 14 26 10.4 -1.4
SGMF Saint Gilles 79.55 320 *e*P **P** 14 26 10.4 -1.4
YAK Yakutsk 79.74 25 *di*P **P** 14 26 11.6 -0.9
YAK pmax pmax
comp=Z,33nm,0.7s
PVAQ Vaqueiros 80.65 308 *e*P **P** 14 26 19.4 +1.4
comp=Z,21nm,1.7s
PBDV Barranco-do-Ve 80.79 308 *e*P **P** 14 26 17.1 -1.7
comp=Z,31nm,1.6s
PBRG Braganca 80.81 313 *e*P **P** 14 26 20.0 +1.2
comp=Z,22nm,1.5s
PESTR Estremoz 80.84 310 *e*P **P** 14 26 19.6 +0.6
comp=Z,28nm,1.5s
MVO Moncorvo 80.89 312 *e*P **P** 14 26 20.4 +1.2
comp=Z,17nm,1.5s
PBEJ Beja 80.89 309 *e*P **P** 14 26 20.1 +0.9
comp=Z,21nm,1.9s
PCBR Castelo Branco 80.95 311 *e*P **P** 14 26 20.3 +0.8
comp=Z,22nm,1.5s
PCVE Castro Verde 80.95 309 *e*P **P** 14 26 20.3 +0.7
comp=Z,16nm,1.2s
ASAJ Asahikawa 81.00 45 P **P** 14 26 19.0 -0.7
ASAJ Asahikawa 81.00 45 P **P** 14 26 19.0 -0.7
comp=Z,6.9nm,0.8s,baz=273,slow=11,SNR=4.2
EVO Evora 81.10 310 *e*P **P** 14 26 20.1 -0.2
comp=Z,27nm,1.2s
EVO *e*R
comp=Z,121nm,19.8s
EVO Evora 81.10 310 *e*P **P** 14 26 21.4 +1.1
comp=Z,14nm,1.7s
EVOP Sao Brissos 81.18 310 *e*P **P** 14 26 20.1 -0.7
comp=Z,27nm,1.2s
SNAA Sanae 81.21 198 *e*P **P** 14 26 20.8 +0.4
SNAA Sanae 81.21 198 *e*P **P** 14 26 21.1 +0.8
comp=Z,62nm,2.1s
PMTG Montargil 81.36 310 *e*P **P** 14 26 22.7 +1.0
comp=Z,26nm,1.5s
PVRL Vila Real 81.42 312 *e*P **P** 14 26 23.4 +1.4
comp=Z,27nm,1.8s
PFVI Vila Bisbo 81.47 308 *e*P **P** 14 26 23.0 +0.6
comp=Z,36nm,1.2s
POLO Lamas de Olo 81.49 312 *e*P **P** 14 26 23.6 +1.1
comp=Z,20nm,1.5s
PTOM Tomar 81.61 311 *e*P **P** 14 26 23.8 +0.8
comp=Z,30nm,1.7s
PCAS Casmilo, Conde 81.76 311 *e*P **P** 14 26 25.1 +1.3
comp=Z,27nm,1.7s
YSS Yuzh-Sakhalins 81.76 42 ⇑*i*P **P** 14 26 23.1 -0.5
YSS pmax pmax
comp=Z,103nm,1.0s
ESK Eskdalemuir 81.99 327 *i*P **P** 14 26 26.2 +1.5
VNA2 Neumayer--Watz 82.44 199 *e*P **P** 14 26 27.6 +0.8
baz=48,slow=4.9
VNA1 Neumayer--Stat 82.66 199 *e*P P 14 26 31.3 +3.4
TIXI Tiksi 83.98 16 ⇓*i*P **P** 14 26 34.5 -0.1
TIXI pmax pmax
comp=Z,88nm,1.7s
QSPA South Pole Qui 86.97 180 *e*P **P** 14 26 50.5 +0.6
comp=Z,110nm,2.0s
VNDA Vanda 87.86 167 P **P** 14 26 54.4 +0.5
VNDA Vanda 87.86 167 P **P** 14 26 54.4 +0.5
comp=Z,1.4nm,0.8s,baz=271,slow=6.5,SNR=10
VNDA LR LR 15 02 16.0
comp=Z,270nm,18.8s,baz=255,slow=33
SBA Scott Base 88.87 168 P **P** 14 27 00.7 +2.1
SBA pmax pmax
comp=Z,58nm,2.0s
SBA Scott Base 88.87 168 P **P** 14 27 00.7 +2.1
comp=Z,58nm,2.0s
SEY Seymchan 90.05 27 ⇑*i*P **P** 14 27 04.5 +0.2
PETK Petropavlovsk- 92.13 37 LR LR 15 11 04.4
comp=Z,106nm,19.3s,baz=158,slow=37
ILAR Eielson Array 113.45 16 PKiKP **PKiKP** 14 32 41.0 -1.6
ILAR Eielson Array 113.45 16 PKiKP **PKiKP** 14 32 41.0 -1.6
comp=Z,0.4nm,0.7s,baz=309,slow=2.7,SNR=5.4
YKA Yellowknife Ar 120.64 1 PP PP 14 34 20.1 -3.1
YKA Yellowknife Ar 120.64 1 PP PP 14 34 20.1 -3.1
comp=Z,6.0nm,1.0s,baz=356,slow=6.9,SNR=9.1
SAML Samuel 130.05 256 PKPdf **PKPdf** 14 33 15.1 -0.8
C21A Desert Coulee 135.19 355 ⇑P **PKPdf** 14 33 23.3 -1.4
baz=135
D27A Center 135.19 350 ⇓P **PKPdf** 14 33 23.6 -1.1
baz=135
C19A Slack Wire Ran 135.40 357 ⇑P **PKPdf** 14 33 23.9 -1.2
baz=135
D26A Manning 135.42 351 ⇑P **PKPdf** 14 33 23.7 -1.4
baz=135
D25A Fairfield 135.43 352 ⇓P **PKPdf** 14 33 23.7 -1.4
baz=135
E28A Huff 135.55 349 ⇑P **PKPdf** 14 33 24.1 -1.2
baz=135
D24A Glendive 135.61 353 ⇓P **PKPdf** 14 33 24.3 -1.1
baz=135
D23A Lindsay 135.66 354 ⇓P **PKPdf** 14 33 24.6 -1.0
baz=135
D22A Cohagen 135.78 354 ⇓P **PKPdf** 14 33 24.5 -1.3
baz=136
E27A Carson 135.85 350 ⇑P **PKPdf** 14 33 24.5 -1.4
baz=136
F30A Leola 135.91 347 ⇑P **PKPdf** 14 33 24.8 -1.3
baz=136
D21A La Casta Ranch 135.94 355 ⇓P **PKPdf** 14 33 25.0 -1.1
baz=136
D19A Cripps Ranch, 135.96 357 ⇓P **PKPdf** 14 33 24.7 -1.4
baz=136
F28A McLaughlin 136.27 349 ⇓P **PKPdf** 14 33 24.7 -2.0
baz=136
MSO Missoula 136.34 2 ⇓P **PKPdf** 14 33 26.3 -0.6
baz=136
PDAR Pinedale Array 140.38 357 PKP **PKPdf** 14 33 31.8 -2.9
PDAR PP **PP** 14 36 27.3 -4.2
PDAR Pinedale Array 140.38 357 PKP **PKPdf** 14 33 31.8 -2.9
comp=Z,2.2nm,0.7s,baz=82,slow=2.3,SNR=15
PDAR PP **PP** 14 36 27.3 -4.2
comp=Z,0.5nm,0.8s,baz=40,slow=4.7,SNR=2.8
R27A Eads 143.95 348 ⇑P PKPbc 14 33 39.5 +0.8
baz=144
Q22A Crested Butte, 144.05 353 ⇓P PKPbc 14 33 40.0 +0.7
baz=144
R26A Arlington 144.07 349 ⇑P PKPbc 14 33 40.1 +1.1
baz=144
Q20A Ridgley Place, 144.10 355 ⇑P PKPbc 14 33 39.7 +0.5
baz=144
Q21A Lamborn Mesa, 144.15 354 ⇑P PKPbc 14 33 39.7 +0.3
baz=144
Q16A Castle Valley 144.28 359 ⇑P PKPbc 14 33 40.3 +0.5
baz=144
NVAR Mina Array Bea 144.28 9 PKP PKPbc 14 33 40.6 +0.7
NVAR PP **PP** 14 36 53.2 -1.9
NVAR Mina Array Bea 144.28 9 PKP PKPbc 14 33 40.6 +0.7
comp=Z,2.3nm,0.7s,baz=350,slow=2.5,SNR=26
NVAR PP **PP** 14 36 53.2 -1.9
comp=Z,0.7nm,0.8s,baz=310,slow=3.8,SNR=4.6
T31A Randall Ranch, 144.30 343 ⇑P PKPbc 14 33 40.1 +0.4
baz=144
MIAR Mount Ida 144.33 334 *e*PKIKP PKPbc 14 33 40.0 +0.2
MIAR Mount Ida 144.33 334 *e*PKPdf PKPbc 14 33 40.0 +0.2
R25A Fountain Ranch 144.37 350 ⇑P PKPbc 14 33 40.3 +0.3
baz=144
S28A Manter 144.41 346 ⇓P PKPbc 14 33 40.6 +0.5
baz=144
R24A Sanders Place, 144.43 351 ⇓P PKPbc 14 33 40.5 +0.2
baz=144
R23A Moffat 144.58 352 ⇑P PKPbc 14 33 41.4 +0.5
baz=144,SNR=5.4
T30A Plains 144.58 344 ⇑P PKPbc 14 33 41.3 +0.7
baz=144
R21A Cimarron 144.61 354 ⇓P PKPbc 14 33 41.3 +0.3
baz=144,SNR=11
R22A Saguache, Gunn 144.66 353 ⇑P **PKPdf** 14 33 41.8 -0.6
baz=144,SNR=17
T29A Hugoton 144.68 345 ⇓P **PKPdf** 14 33 41.7 -0.5
baz=144
R11A Troy Canyon, C 144.69 5 ⇓P PKPbc 14 33 41.5 +0.5
baz=144
S26A Kim 144.73 348 ⇓P **PKPdf** 14 33 42.2 -0.2
baz=144
R20A Redvale 144.87 355 ⇑P PKPbc 14 33 42.1 +0.4
baz=145,SNR=11
S25A Robets Cordova 144.87 350 ⇓P **PKPab** 14 33 41.4 -0.3
baz=145
PV01 Paradox Valley 144.94 355 *e*PKP PKPbc 14 33 42.3 +0.3
SDCO Great Sand Dun 144.97 351 *e*PKP **PKPab** 14 33 41.1 -1.0
S24A Houchin Ranch, 145.02 351 ⇑P **PKPab** 14 33 42.4 +0.1
baz=145,SNR=9.4
S23A Nye Farm, Mont 145.08 352 ⇓P **PKPdf** 14 33 43.1 0.0
baz=145
U30A WK&E Inc. Balk 145.10 344 ⇑P **PKPab** 14 33 42.5 +0.1
baz=145
T27A Campo 145.11 347 ⇓P **PKPab** 14 33 42.7 +0.3
baz=145
S22A 4UR Ranch, Cre 145.15 353 ⇓P **PKPab** 14 33 43.0 +0.2
baz=145,SNR=20
T26A Comanche Natio 145.18 348 ⇑P **PKPdf** 14 33 43.1 -0.1
baz=145
SAO San Andreas Ge 145.29 14 PKIKP **PKPdf** 14 33 43.2 0.0
SAO San Andreas Ge 145.29 14 PKPbc **PKPdf** 14 33 43.2 0.0
S21A Coal Bank Pass 145.34 354 ⇑P **PKPdf** 14 33 43.9 +0.2
baz=145,SNR=33
T25A Trinidad 145.38 350 ⇑P **PKPbc** 14 33 43.5 +0.1
baz=145,SNR=15
ARUT Antelope Range 145.38 2 *e*PKIKP **PKPab** 14 33 43.5 0.0
ARUT Antelope Range 145.38 2 *e*PKP **PKPab** 14 33 43.5 0.0
T24B San Luis 145.62 351 ⇑P **PKPab** 14 33 44.8 +0.3
baz=145,SNR=14
TIN Tinemaha 145.64 9 ⇓P **PKPab** 14 33 45.5 +1.1
baz=145
U28A Mallet 145.65 346 ⇓P **PKPab** 14 33 44.5 +0.1
baz=145
T23A Casias Ranch, 145.74 352 ⇑P **PKPab** 14 33 45.3 +0.4
baz=146
U27A Thompson Grove 145.75 347 ⇓P **PKPbc** 14 33 44.5 0.0
baz=146
V30A Spur Ranch, Mi 145.83 344 ⇓P **PKPab** 14 33 45.6 +0.5
baz=146
MVCO Mesa Verde 145.85 355 ⇓P **PKPab** 14 33 45.4 +0.1
baz=146
T22A Edith 145.88 353 ⇑P **PKPab** 14 33 45.4 0.0
baz=146,SNR=14

U26A	Atchley Ranch, baz=146,SNR=8.9	145.97	348	⇓P		PKPbc	14 33 45.2	-0.1
T21A	Navajo Lake baz=146,SNR=5.4	145.97	354	⇓P		PKPab	14 33 45.7	0.0
U25A	Circle Dot Ran baz=146,SNR=23	146.09	349	⇓P		PKPab	14 33 45.9	-0.3
W31A	Holland Ranch, baz=146	146.15	342	⇑P		PKPbc	14 33 45.9	+0.3
WMOK	Wichita Mounta	146.19	340	*e*PKP2		PKPbc	14 33 45.4	-0.4
WMOK	Wichita Mounta	146.19	340	*e*PKPbc		PKPbc	14 33 45.4	-0.4
U24A	Moreno Valley baz=146	146.24	350	⇑P		PKPbc	14 33 46.3	+0.1
V28A	Channing baz=146	146.25	346	⇑P		PKPbc	14 33 45.8	-0.3
CWC	Cottonwood Cre baz=146,SNR=7.7	146.26	9	⇑P		PKPab	14 33 46.5	-0.3
V27A	Dan Oppiter Fa baz=146	146.38	347	⇓P		PKPbc	14 33 46.3	-0.1
FURC	Furnace Creek, baz=146,SNR=6.6	146.41	7	⇑P		PKPab	14 33 47.4	+0.3
U23A	El Rito baz=146,SNR=15	146.46	352	⇓P		PKPab	14 33 47.5	-0.2
U22A	Llaves baz=146,SNR=15	146.50	353	⇑P		PKPab	14 33 47.9	+0.1
OTAV	Otavalo	146.50	266	PKP		PKPdf	14 33 46.9	+0.5
U21A	Nageezi baz=146,SNR=26	146.54	354	⇓P		PKPbc	14 33 47.1	0.0
SHPR	Sheep Range	146.55	5	*e*PKPbc		PKPbc	14 33 47.3	+0.3
V26A	Tequesquite Ra baz=146,SNR=11	146.55	348	⇑P		PKPbc	14 33 46.3	-0.6
V25A	Rancho No Teng baz=146,SNR=21	146.68	349	⇓P		PKPbc	14 33 47.3	-0.1
X31A	McDonald Ranch baz=146	146.68	342	⇑P		PKPbc	14 33 47.2	-0.1
U20A	Newcomb baz=146	146.68	355	⇑P		PKPbc	14 33 47.4	0.0
W29A	Amraillo baz=146	146.70	345	⇑P		PKPbc	14 33 47.2	-0.2
MPMC	Manual Prospec baz=146,SNR=24	146.72	8	⇓P		PKPab	14 33 48.4	-0.2
U15A	North Rim baz=146	146.77	1	⇑P		PKPbc	14 33 48.2	+0.5
V24A	Rampart Ranch, baz=147,SNR=17	146.90	350	⇓P		PKPbc	14 33 48.3	+0.2
ISA	Isabella baz=147,SNR=5.6	146.96	10	⇑P		PKPbc	14 33 48.1	+0.1
V22A	San Miguel Ran baz=147,SNR=15	146.96	353	⇑P		PKPbc	14 33 48.8	+0.5
SMMC	Simmler baz=147	147.01	12	⇓P		PKPbc	14 33 48.6	+0.4
V23A	Ortiz Mt. (NFS baz=147,SNR=9.2	147.03	352	⇑P		PKPbc	14 33 49.1	+0.7
SHOC	Shoshone baz=147,SNR=12	147.04	7	⇑P		PKPab	14 33 49.0	-0.6
Y32A	R-V Farms, Ver baz=147	147.08	341	⇑P		PKPbc	14 33 48.7	+0.3
W27A	Bowe Ranch, En baz=147	147.10	347	⇑P		PKPbc	14 33 48.4	-0.1
X30A	Coker Ranch, T baz=147	147.12	343	⇓P		PKPbc	14 33 48.4	-0.1
V21A	Milan baz=147	147.16	354	⇓P		PKPbc	14 33 49.3	+0.5
W26A	Owens Ranch, T baz=147	147.23	348	⇓P		PKPbc	14 33 48.8	-0.1
V20A	Brimhall baz=147	147.25	355	⇑P		PKPbc	14 33 49.1	+0.1
W25A	X Bar L Ranch, baz=147,SNR=10	147.25	349	⇑P		PKPbc	14 33 49.0	+0.1
LRMC	Laurel Mountai baz=147	147.27	9	⇓P		PKPbc	14 33 49.3	+0.3
X29A	Tulia baz=147,SNR=5.5	147.35	344	⇑P		PKPbc	14 33 48.9	-0.3
Y31A	Rekieta Farm, baz=147	147.38	342	⇓P		PKPbc	14 33 49.3	0.0
X28A	Dimmitt baz=147	147.41	345	⇑P		PKPbc	14 33 49.0	-0.4
W24A	Lazy 6 Ranch, baz=147,SNR=9.7	147.43	350	⇓P		PKPbc	14 33 49.9	+0.3
PKM	Peak Mountain baz=147	147.44	12	⇑P		PKPbc	14 33 49.7	+0.2
X27A	F and S Farms, baz=147	147.51	346	⇑P		PKPbc	14 33 49.3	-0.4
TUQ	Turquoise Moun baz=147,SNR=5.1	147.54	6	⇑P		PKPbc	14 33 50.5	+0.8
GSC	Goldstone	147.56	8	*e*PKP2		PKPbc	14 33 50.2	+0.5
GSC	Goldstone	147.56	8	*e*PKPbc		PKPbc	14 33 50.2	+0.5
GSC	Goldstone baz=147,SNR=12	147.56	8	⇑P		PKPbc	14 33 50.2	+0.5
W23A	Werner Place, baz=147	147.60	351	⇓P		PKPbc	14 33 50.3	+0.3
WUAZ	Wupatki	147.67	359	*e*PKPdf		PKPdf	14 33 47.9	+0.4
Z32A	Haskell baz=148,SNR=10.0	147.73	340	⇓P		PKPbc	14 33 49.9	-0.3
X26A	CR and CF Fran baz=148,SNR=6.8	147.76	348	⇑P		PKPbc	14 33 50.1	-0.3
EDW2	Edwards Air Fo baz=148,SNR=5.5	147.80	9	⇑P		PKPbc	14 33 51.0	+0.6
Y29A	Porterfield Fa baz=148	147.89	344	⇓P		PKPbc	14 33 50.7	0.0
W20A	Ramah baz=148	147.92	355	⇓P		PKPbc	14 33 50.5	-0.4
Z31A	Sharp Cattle R baz=148,SNR=16	147.94	341	⇓P		PKPbc	14 33 50.3	-0.5
X25A	Clemmons Ranch baz=148	147.96	349	⇑P		PKPbc	14 33 51.0	+0.1
LDFC	Landfair	147.97	5	*e*PKPbc		PKPbc	14 33 51.2	+0.3
Y28A	McKinney Farm, baz=148,SNR=7.9	148.00	345	⇑P		PKPbc	14 33 50.4	-0.6
W13A	Hualapai Mount baz=148,SNR=10	148.04	3	⇑P		PKPbc	14 33 51.8	+0.5
MSTX	Muleshoe baz=148,SNR=8.0	148.08	346	⇑P		PKPbc	14 33 50.5	-0.8
WHTX	Lake Whitney baz=148	148.17	336	⇓P		PKPbc	14 33 50.9	-0.4
GMRC	Granite Mounta baz=148,SNR=5.7	148.22	6	⇑P		PKPbc	14 33 52.2	+0.6
Y27A	Causey baz=148,SNR=9.6	148.25	346	⇑P		PKPbc	14 33 51.3	-0.4
Z30A	Sanderson Ranc baz=148	148.27	343	⇑P		PKPbc	14 33 50.7	-1.0
Y26A	Elida baz=148	148.37	347	⇑P		PKPbc	14 33 51.8	-0.2
ABTX	Abilene, Hawle baz=148	148.41	340	⇓P		PKPbc	14 33 51.4	-0.6
Z29A	Hungry Hill Ra baz=148,SNR=10.0	148.47	344	⇑P		PKPbc	14 33 51.8	-0.4
LAZ	Ladron	148.48	353	*e*PKPdf		PKPdf	14 33 49.7	+0.9
BFSC	Mount Baldy Ra baz=148	148.48	9	⇑P		PKPbc	14 33 51.7	-0.6
X20A	Quemado baz=148	148.50	355	⇑P		PKPbc	14 33 52.2	-0.2
Y25A	Mesa, Roswell baz=148	148.55	349	⇓P		PKPbc	14 33 51.7	-0.8
BBRC	Big Bear Solar baz=148	148.57	8	⇑P		PKPbc	14 33 53.1	+0.4
131A	Roby baz=148	148.61	341	⇓P		PKPbc	14 33 52.3	-0.3
X18A	Snowflake baz=148	148.61	357	⇑P		PKPbc	14 33 52.9	+0.2
BNM	Barren Site	148.66	352	*e*PKPdf		PKPdf	14 33 49.7	+0.5
BNM				*e*PKPbc		PKPbc	14 33 52.7	-0.2
BNM				*e*PKPab		PKPab	14 33 57.2	+0.8
Y24A	Capitan baz=148	148.69	350	⇑P		PKPdf	14 33 50.5	+1.3
X16A	Lo Mia Camp, P baz=148	148.77	359	⇑P		PKPbc	14 33 53.2	+0.1
Z27A	Tatum baz=149,SNR=13	148.81	346	⇑P		PKPbc	14 33 52.5	-0.7
PDMCI	Parker Dam,Lak baz=149,SNR=5.5	148.82	4	⇓P		PKPbc	14 33 53.9	+0.9
130A	Snyder baz=149	148.87	342	⇓P		PKPbc	14 33 53.1	-0.1
IRM	Iron Mountain baz=149,SNR=11	148.88	5	⇑P		PKPbc	14 33 53.8	+0.6
Y22A	Socorro baz=149	148.92	352	⇑P		PKPbc	14 33 52.9	-0.6
Y21A	Point of Rocks baz=149	148.94	353	⇓P		PKPbc	14 33 53.2	-0.4
BELC	Belle Mtn. Jos baz=149,SNR=7.9	148.95	7	⇑P		PKPbc	14 33 54.6	+1.1
Z26A	Caprock baz=149,SNR=7.8	149.03	347	⇑P		PKPbc	14 33 53.0	-0.7
232A	Coleman baz=149,SNR=9.3	149.08	340	⇑P		PKPbc	14 33 53.3	-0.5
129A	Stewart Farms, baz=149	149.10	343	⇑P		PKPbc	14 33 53.6	-0.3
Y20A	Horse Springs, baz=149	149.11	354	⇑P		PKPbc	14 33 54.4	+0.4
MURC	Murrieta baz=149	149.18	9	⇓P		PKPbc	14 33 54.3	+0.3
HKT	Hockley	149.22	332	*e*PKP2		PKPbc	14 33 54.6	+0.5
HKT	Hockley	149.22	332	*e*PKPbc		PKPbc	14 33 54.6	+0.5
Y14A	Wickenburg baz=149,SNR=6.1	149.23	2	⇓P		PKPbc	14 33 54.7	+0.6
Z24A	Sheeppen Canyo baz=149	149.25	349	⇑P		PKPbc	14 33 54.5	0.0
231A	Bronte baz=149	149.27	341	⇑P		PKPbc	14 33 54.7	+0.4
PFO	Pinyon Flat Ob	149.28	8	*e*PKPbc		PKPbc	14 33 54.4	+0.1
PFO	Pinyon Flat Ob baz=149,SNR=7.1	149.28	8	⇑P		PKPbc	14 33 54.7	+0.3
128A	Castleberry Fa baz=149,SNR=6.9	149.28	344	⇑P		PKPbc	14 33 54.1	-0.3
Y12C	Blythe baz=149	149.34	4	⇑P		PKPbc	14 33 54.8	+0.5
BC3	Big Chuckawall baz=149,SNR=8.0	149.35	6	⇓P		PKPbc	14 33 55.0	+0.5
Z23A	Rita Site, Whi baz=149	149.47	351	⇓P		PKPbc	14 33 54.9	+0.1
332A	Millersview baz=149,SNR=5.5	149.58	339	⇓P		PKPbc	14 33 54.4	-0.6
Z22A	Elephant Butte baz=149	149.59	352	⇑P		PKPbc	14 33 54.9	-0.3
Z21A	St. Cloud Mine baz=149	149.63	353	⇓P		PKPbc	14 33 54.9	-0.4
229A	Bryant Ranch, baz=150	149.71	343	⇓P		PKPbc	14 33 55.8	+0.4
125A	Gardner Draw, baz=150	149.76	348	⇑P		PKPbc	14 33 55.5	-0.1
228A	UT Block 9, Go baz=150	149.79	344	⇑P		PKPbc	14 33 55.2	-0.4
Z14A	Wintersburg baz=150,SNR=6.0	149.81	2	⇓P		PKPbc	14 33 56.7	+1.2
331A	San Angelo baz=150,SNR=9.1	149.88	340	⇑P		PKPbc	14 33 55.5	-0.3
124A	Stringfield Ra baz=150	149.88	349	⇑P		PKPbc	14 33 56.2	+0.1
109C	Camp Elliot, M baz=150	149.89	9	⇓P		PKPbc	14 33 56.8	+1.1
Z20A	Nine Sixteen R baz=150	149.92	355	⇓P		PKPbc	14 33 56.2	+0.2
MONP	Monument Peak baz=150	149.99	8	⇓P		PKPbc	14 33 57.3	+1.1
GLA	Glamis baz=150	150.01	5	⇓P		PKPbc	14 33 56.8	+0.7
SWSC	Sam W. Stewart baz=150	150.02	7	⇓P		PKPbc	14 33 57.0	+1.0
330A	Mertzon baz=150,SNR=6.1	150.03	342	⇑P		PKPbc	14 33 55.5	-0.7
432A	Menard baz=150	150.06	339	⇓P		PKPbc	14 33 55.5	-0.8
122A	Conniff Cattle baz=150	150.14	352	⇑P		PKPbc	14 33 56.5	0.0
226B	Tecolote Peak, baz=150	150.22	347	⇑P		PKPbc	14 33 55.9	-0.7
DVTC	Desert V Tower baz=150	150.26	7	⇑P		PKPbc	14 33 57.6	+0.8
225A	Deer Hill, Car baz=150	150.33	348	⇓P		PKPbc	14 33 56.7	-0.4
113A	Mohawk Valley, baz=150,SNR=5.9	150.37	3	⇑P		PKPbc	14 33 57.4	+0.6
121A	Cookes Peak, D baz=150,SNR=9.9	150.41	353	⇓P		PKPbc	14 33 57.3	0.0
JCT	Junction City	150.42	339	*e*PKIKP		PKPdf	14 33 51.7	-0.2
JCT				*e*			14 33 56.1	
JCT	Junction City	150.42	339	*e*PKPdf		PKPdf	14 33 51.7	-0.2
JCT				*e*PKPbc		PKPbc	14 33 56.1	-1.0
JCT				*e*PKPab		PKPab	14 34 03.5	+0.1
JCT	Junction City baz=150,SNR=5.8	150.42	339	⇓P		PKPbc	14 33 56.5	-0.6
120A	U Bar Ranch, L baz=150,SNR=10	150.49	354	⇑P		PKPbc	14 33 58.0	+0.6
224A	Cornudas Mount baz=150	150.50	349	⇑P		PKPbc	14 33 56.5	-0.9
431A	Sonora baz=150,SNR=9.6	150.52	340	⇓P		PKPbc	14 33 56.8	-0.6
430A	Baggett Ranch, baz=150	150.63	341	⇓P		PKPbc	14 33 57.3	-0.3
327A	Balmorhea Ranc baz=150	150.73	345	⇓P		PKPbc	14 33 57.9	0.0
532A	Rocksprings baz=150,SNR=7.2	150.77	338	⇑P		PKPbc	14 33 57.5	-0.5
MNTX	Cornudas Mount	150.84	349	*e*PKPdf		PKPdf	14 33 53.6	+1.1
MNTX				*e*PKPbc		PKPbc	14 33 58.3	+0.2
TUC	Tucson	150.86	358	*e*PKIKP		PKPbc	14 33 58.6	+0.4
TUC	Tucson	150.86	358	*e*PKPbc		PKPbc	14 33 58.6	+0.4
326A	Caldwell Ranch baz=151	150.90	346	⇑P		PKPbc	14 33 58.1	-0.2
221A	Mesquite Ranch baz=151	150.92	353	⇑P		PKPbc	14 33 58.7	+0.3
429A	Davenport Ranc baz=151	150.99	342	⇓P		PKPbc	14 33 58.0	-0.5
325A	Bean Ranch, Si baz=151,SNR=17	151.07	348	⇓P		PKPbc	14 33 58.6	-0.2
324A	Moseley Ranch, baz=151,SNR=20	151.11	349	⇓P		PKPbc	14 33 58.6	-0.3
428A	Kincaid Ranch, baz=151,SNR=8.8	151.12	343	⇑P		PKPbc	14 33 58.7	-0.2
427A	Hayter Ranch, baz=151	151.20	345	⇓P		PKPbc	14 33 58.7	-0.3
214A	Organ Pipe Nat baz=151,SNR=11	151.22	2	⇑P		PKPbc	14 33 59.4	+0.5
530A	J-C Ranch, Com baz=151	151.25	341	⇑P		PKPbc	14 33 58.7	-0.4
632A	Uvalde baz=151,SNR=7.9	151.29	338	⇑P		PKPbc	14 33 58.9	-0.3
426A	McDonald Obser baz=151,SNR=27	151.53	346	⇑P		PKPbc	14 33 60.0	0.0
529A	Stev Forest Ra baz=151,SNR=10	151.55	342	⇓P		PKPbc	14 33 59.5	-0.4
425A	Indio Mountain baz=151,SNR=7.2	151.64	347	⇓P		PKPbc	14 33 59.5	-0.6
631A	Perdido Creek baz=151	151.66	339	⇓P		PKPbc	14 33 59.4	-0.7
320A	Kipp Ranch, An baz=151,SNR=12	151.67	354	⇓P		PKPbc	14 34 00.8	+0.7
528A	Cox Ranch, San baz=151,SNR=10	151.69	343	⇑P		PKPbc	14 33 59.9	-0.3
319A	Douglas baz=152,SNR=6.7	151.70	355	⇑P		PKPbc	14 34 00.4	+0.2
732A	Laxson Ranch, baz=152	152.05	337	⇑P		PKPbc	14 34 00.7	-0.2
526A	Mary Lane Ranc baz=152,SNR=6.1	152.13	345	⇑P		PKPbc	14 34 01.5	+0.2
628A	Black Gap, Mar baz=152,SNR=7.8	152.35	343	⇓P		PKPbc	14 34 01.5	-0.1
627A	Terlingua Ranc baz=152,SNR=7.1	152.52	344	⇑P		PKPbc	14 34 01.8	-0.3
626A	Big Bend Ranch baz=152,SNR=6.0	152.62	345	⇑P		PKPdf	14 34 01.7	-0.6
TXAR	Lajitas Array	152.71	344	PKP		PKPdf	14 33 55.5	+0.1
TXAR				PKPbc		PKPbc	14 34 02.1	-0.4
TXAR				PP		PP	14 37 35.8	-8.6
TXAR	Lajitas Array comp=Z,1.1nm,1.0s,baz=87,slow=3.1,SNR=7.4	152.71	344	PKP		PKPbc	14 34 02.1	-0.4
TXAR	comp=Z,3.0nm,0.7s,baz=111,slow=2.0,SNR=22			PP		PP	14 37 35.7	-8.6
TXAR	comp=Z,0.9nm,1.1s,baz=56,slow=0.3,SNR=2.5							

IDC 18 14:43:40.8±19.0, 36°26'S×78°90'E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.6/19, mbtmp3.9/4, MS3.8/6, Ms1 3.8/6, ms1mx3.5/25, Error ellipse: s-maj=624.4km s-min=40.5km az=35.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	Cape Leeuwin H baz=254,slow=0.7,SNR=162	28.59	98	T	T	15 20 05.4	
H01W3	Cape Leeuwin H baz=254,slow=0.7,SNR=193	28.60	98	T	T	15 20 05.9	
H01W1	Cape Leeuwin H baz=254,slow=0.7,SNR=160	28.61	98	T	T	15 20 06.7	
H08S2	Diego Garcia H baz=172,slow=0.7,SNR=652	29.07	347	T	T	15 21 22.2	
H08S1	Diego Garcia H baz=172,slow=0.7,SNR=508	29.08	347	T	T	15 21 22.9	
H08S3	Diego Garcia H baz=172,slow=0.7,SNR=802	29.09	347	T	T	15 21 23.6	
H08N1	Diego Garcia H baz=182	30.64	344	T	T	15 23 19.0	
H08N3	Diego Garcia H baz=182	30.64	344	T	T	15 23 18.9	
H08N2	Diego Garcia H	30.66	344	T	T	15 23 19.8	

BOSA	Boshof comp=Z,54nm,19.4s,baz=256,slow=29	45.43	264	LR		LR	15 05 57.6	
ASAR	Alice Springs 1.4nm,1.0s,baz=241,slow=6.9,SNR=6.8	48.69	91	P		P	14 52 26.8	-0.3
WRA	Warramunga Arr 2.5nm,1.0s,baz=238,slow=7.5,SNR=4.7	50.88	87	P		P	14 52 43.9	+0.2
STKA	Stephens Creek comp=Z,108nm,19.4s,baz=206,slow=31	51.33	104	LR		LR	15 10 16.7	
VNDA	Vanda comp=Z,122nm,18.7s,baz=261,slow=34	53.40	164	LR		LR	15 13 27.2	
CMAR	Chiang Mai Arr comp=Z,68nm,19.8s,baz=205,slow=33	57.62	23	LR		LR	15 15 06.3	
PMG	Port Moresby comp=Z,69nm,21.7s,baz=72,slow=34	66.98	85	LR		LR	15 21 07.8	
MKAR	Makanchi Array 0.8nm,0.8s,baz=174,slow=5.1,SNR=9.6	82.73	2	P		P	14 56 06.0	0.0
SONM	Songino Array 0.1nm,0.4s,baz=182,slow=5.2,SNR=3.9	87.25	18	P		P	14 56 28.9	0.0
DBIC	Dimbokro comp=Z,56nm,18.2s,baz=0.5,slow=35	88.89	279	LR		LR	15 35 37.2	

IDC 18 14:46:29.6±6.1, 23°40S×65°88W, h193km±28km, mb3.3/1, mb1 3.2/3, mb1mx3.0/17, mbtmp3.1/3, Error ellipse: s-maj=123.2km s-min=23.0km az=50.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	La Paz 0.5nm,0.3s,baz=166,slow=7.4,SNR=13	7.38	343	P	Pn	14 48 15.5	-0.2
LPAZ	0.1nm,0.3s,baz=165,slow=19,SNR=4.4			S	Sn	14 49 39.9	+0.1
CPUP	Villa Florida 0.3nm,0.3s,baz=288,slow=20,SNR=2.9	8.29	112	P	Pn	14 48 26.7	0.0
TORD	Torodi Ar. Bea 0.5nm,0.5s,baz=255,slow=5.6,SNR=9.8	75.39	69	P	P	14 57 52.6	0.0
MKAR	Makanchi Array 0.6nm,0.5s,baz=294,slow=2.9,SNR=9.0	145.41	40	PKPbc	PKPdf	15 05 44.0	-0.5

IDC 18 15:15:36.7±1.6, 11°15S×165°67E, h0km, mb3.5/6, mb1 3.8/7, mb1mx3.6/19, mbtmp3.6/7, ML3.8/1, Error ellipse: s-maj=46.7km s-min=27.9km az=118.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac 0.7nm,0.3s,baz=140,slow=23,SNR=11	10.89	176	Pn	Pn	15 18 13.9	-0.1
WRA	Warramunga Arr 1.3nm,0.9s,baz=79,slow=8.8,SNR=5.0	31.38	250	P	P	15 21 59.0	-0.6
ASAR	Alice Springs 0.3nm,0.9s,baz=65,slow=9.7,SNR=3.0	32.68	243	P	P	15 22 11.4	+0.4
CMAR	Chiang Mai Arr 0.5nm,0.8s,baz=119,slow=5.2,SNR=3.3	72.09	294	P	P	15 27 03.6	+0.1
SONM	Songino Array 0.2nm,0.5s,baz=125,slow=4.2,SNR=2.9	78.71	324	P	P	15 27 41.1	0.0
ILAR	Eielson Array 0.4nm,0.9s,baz=234,slow=4.9,SNR=8.1	83.63	19	P	P	15 28 06.8	0.0
MKAR	Makanchi Array 0.1nm,0.6s,baz=86,slow=4.6,SNR=2.4	93.55	317	P	P	15 28 54.7	0.0

IDC 18 15:48:26.5±54.0, 15°46S×173°15W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/19, mbtmp3.8/3, Error ellipse: s-maj=1045.0km s-min=177.2km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek 2.0nm,1.0s,baz=86,slow=15,SNR=2.9	44.21	240	P	P	15 56 37.4	-0.2
WRA	Warramunga Arr 0.3nm,0.3s,baz=93,slow=7.0,SNR=11	50.06	257	P	P	15 57 23.3	-0.2
ASAR	Alice Springs 0.7nm,0.3s,baz=86,slow=8.3,SNR=42	50.32	252	P	P	15 57 25.5	0.0

DJA 18 16:19:23.1±1.0, 3°S±4°×122°3E±°, h77km±36km, M3.5/6, MLv3.5/6, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKSI	Kolaka, Sulawe	1.69	243	P	Pn	16 19 51.9	+1.0
LUWI	Luwuk	2.39	350	P	Pn	16 19 59.8	-0.3
LUWI				S	Sn	16 20 29.5	+1.0
APSI	Ampana	2.91	328	P	Pn	16 20 07.4	+0.2
BNSI	Bone	3.21	252	P	Pn	16 20 12.2	+0.9
SPSI	Sidrap Palu	3.44	261	P	Pn	16 20 15.0	+0.6
SPSI				S	Sn	16 20 55.2	+1.2
BKSI	Bulukumba	3.58	238	P	Pn	16 20 14.6	-1.8
MRSI	Marisa	4.05	342	P	Pn	16 20 22.6	-0.2
MRSI				S	Sn	16 21 11.3	+2.3

*CASC **18** 16:19:44.4±2.2, 16°25N×88°12W, h40km, MD4.5, ML4.4*
*IDC **18** 16:19:46.1±0.9, 16°21N×87°81W, h0km, mb4.0/15, mb1 4.2/18, mb1mx4.1/26, mbtmp4.1/18, ML3.4/3, MS3.9/14, Ms1 3.9/14, ms1mx3.7/29, Error ellipse: s-maj=29.2km s-min=15.1km az=49.0*
*NEIC **18** 16:19:47.1±0.5, 15°92N×88°12W, h10km, mb4.6/24, Error ellipse: s-maj=12.3km s-min=6.9km az=56.0*
NEIC Felt [IV] at Puerto Cortez and [III] at San Pedro Sula. Also felt at Choloma, El Progreso, Omoa and Tela. Felt at Belize City and Dangriga, Belize.

ISC 18 16:19:47.4±1.8, 15°99N±0°04×88°20W±0°04, h16km±11km, n247, σ1°52/248, mb4.4/26, MS3.9/12, 70C-62D, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRL	Marmol	1.70	238	*e*P	Pn	16 20 13.0	-3.6
MRL	Marmol	1.70	238	*e*P	Pn	16 20 13.0	-3.6
TGUH	Tegucigalpa,Un	2.12	155	*i* P	**Pn**	**16 20 21.3**	**-0.9**
TGUH				*e*S	**Sn**	**16 20 48.1**	**-0.2**
TGUH	Tegucigalpa,Un	2.12	155	*i* P	**Pn**	**16 20 21.3**	**-0.9**
TGUH				*e*S	**Sn**	**16 20 48.1**	**-0.2**
TGUH	Tegucigalpa,Un	2.12	155	*e*Pn	**Pn**	**16 20 19.4**	**-2.8**
TGUH				*e*Sn	**Sn**	**16 20 48.7**	**+0.4**
CAHU	Cacacuatique	2.21	180	*i* P	**Pn**	**16 20 22.2**	**-1.4**
CAHU				*e*S	**Sn**	**16 20 51.2**	**+0.5**
CAHU	Cacacuatique	2.21	180	*i* P	**Pn**	**16 20 22.2**	**-1.4**
CAHU				*e*S	**Sn**	**16 20 51.2**	**+0.5**
RBDL	Robledal	2.35	218	⇑*i*P	**Pn**	**16 20 24.2**	**-1.3**
RBDL	Robledal	2.35	218	⇑*i*P	**Pn**	**16 20 24.2**	**-1.3**
LBRS	Las Brisas	2.38	200	⇑*i*P	**Pn**	**16 20 24.6**	**-1.2**
LBRS	Las Brisas	2.38	200	⇑*i*P	**Pn**	**16 20 24.6**	**-1.2**
APG	El Apazote	2.39	246	Pn	Pn	16 20 21.8	-4.3
APG				Sn	**Sn**	**16 20 53.4**	**-1.8**
APG	El Apazote 19nm,0.3s,baz=84,slow=6.5,SNR=112	2.39	246	Pn	Pn	16 20 21.8	-4.3
APG				Sn	**Sn**	**16 20 53.4**	**-1.8**
LFU	La Fuente 141nm,0.3s,baz=32,slow=15,SNR=11	2.40	202	⇑*i*P	**Pn**	**16 20 24.8**	**-1.3**
LFU	La Fuente	2.40	202	⇑*i*P	**Pn**	**16 20 24.8**	**-1.3**
SNVI	San Vicente	2.44	195	*i* P	**Pn**	**16 20 25.6**	**-1.2**
SNVI				*e*S	**Sn**	**16 20 57.3**	**+0.9**
SNVI	San Vicente	2.44	195	*i* P	**Pn**	**16 20 25.6**	**-1.2**
SNVI				*e*S	**Sn**	**16 20 57.3**	**+0.9**
BOQS	Boqueron	2.47	205	*i* P	**Pn**	**16 20 26.0**	**-1.2**
BOQS	Boqueron	2.47	205	*i* P	**Pn**	**16 20 26.0**	**-1.2**
NBG	Las Nubes	2.50	236	*e*P	**Pn**	**16 20 25.0**	**-2.5**
NBG				*e*S	**Sb**	**16 21 02.8**	**+0.2**
NBG	Las Nubes	2.50	236	*e*P	**Pn**	**16 20 25.0**	**-2.5**
NBG				*e*S	**Sb**	**16 21 02.8**	**+0.2**
LFRS	El Faro	2

BLLM					*e*S		**Sn**	16 20 59.1	**+0.5**
SBLS	**San Blas**	**2.54**	**213**	⇑	*i*P		**Pn**	16 20 27.4	**-0.8**
SBLS					*e*S		**Sn**	16 21 00.6	**+1.7**
SBLS	**San Blas**	**2.54**	**213**	⇑	*i*P		**Pn**	16 20 27.4	**-0.8**
SBLS					*e*S		**Sn**	16 21 00.6	**+1.7**
VSM	**San Miguel**	**2.55**	**182**		*i* P		**Pn**	16 20 27.4	**-1.0**
VSM	**San Miguel**	**2.55**	**182**		*i* P		**Pn**	16 20 27.4	**-1.0**
CNCH	**Conchagua**	**2.72**	**172**		*e*P		**Pn**	16 20 32.0	**+1.4**
CNCH					*e*S		**Sb**	16 21 06.0	**-3.0**
CNCH	**Conchagua**	**2.72**	**172**		*e*P		**Pn**	16 20 32.0	**+1.4**
CNCH					*e*S		**Sb**	16 21 06.0	**-3.0**
IXG	**Ixpaco**	**2.83**	**231**		*e*P		**Pn**	16 20 29.9	**-2.1**
IXG					*e*S		**Sb**	16 21 11.6	**-0.5**
IXG	**Ixpaco**	**2.83**	**231**		*e*P		**Pn**	16 20 29.9	**-2.1**
IXG					*e*S		**Sb**	16 21 11.6	**-0.5**
FUG	**Fuego 3**	**2.97**	**239**		*e*P		**Pn**	16 20 31.2	**-2.9**
FUG	**Fuego 3**	**2.97**	**239**		*e*P		**Pn**	16 20 31.2	**-2.9**
JAT	**Jato**	**3.71**	**244**		*e*P		**Pn**	16 20 42.9	**-1.2**
JAT	**Jato**	**3.71**	**244**		*e*P		**Pn**	16 20 42.9	**-1.2**
TEIG	**Tepich**	**4.21**	**359**		*e*Pn		**Pn**	16 20 49.8	**-1.2**
TEIG					*e*Pg		**Pg**	16 21 07.0	**-1.1**
JTS	**JuntasAbangare**	**6.49**	**150**		*e*Pn		**Pn**	16 21 23.8	**+1.5**
JTS					Pg		Pb	16 21 35.7	-4.2
JTS					Lg		Lg	16 23 05.1	
JTS	**JuntasAbangare**	**6.49**	**150**		Pn		**Pn**	16 21 23.5	**+1.2**
	comp=Z,0.5nm,0.3s,baz=342,slow=20,SNR=3.0								
JTS					Pg		Pb	16 21 35.7	-4.2
	comp=Z,3.6nm,0.3s,baz=300,slow=16,SNR=7.2								
JTS					Lg		Lg	16 23 05.1	
	comp=Z,16nm,0.3s,baz=330,slow=20,SNR=6.4								
TIGA	**Tifton**	**15.94**	**14**		*e*Pn		**Pn**	16 23 33.3	**+2.2**
TIGA	**Tifton**	**15.94**	**14**	⇑	P		**P**	16 23 35.1	**+0.4**
	baz=16,SNR=5.3								
SDDR	**Presa de Saban**	**16.41**	**77**		*e*Pn		**Pn**	16 23 37.2	**+0.1**
	comp=Z,22nm,0.9s								
732A	**Laxson Ranch,**	**16.69**	**321**	⇓	P		**Pn**	16 23 41.8	**+1.1**
	baz=17								
LRAL	**Lakeview Retre**	**17.00**	**3**		*e*Pn		**P**	16 23 47.8	**+1.4**
	comp=Z,15nm,1.0s								
632A	**Uvalde**	**17.16**	**324**	⇑	P		**P**	16 23 48.2	**0.0**
	baz=17,SNR=5.1								
ROSC	**El Rosal**	**17.55**	**128**		*e*Pn		**P**	16 23 53.0	**0.0**
ROSC	**El Rosal**	**17.55**	**128**		P		**Pn**	16 23 52.3	**+0.4**
	baz=22,SNR=7.7								
ROSC					LR		LR	16 31 42.8	
	comp=Z,356nm,18.5s,baz=204,slow=41								
631A	**Perdido Creek**	**17.55**	**322**	⇓	P		**P**	16 23 52.9	**+0.4**
	baz=18								
532A	**Rocksprings**	**17.70**	**325**	⇑	P		**P**	16 23 55.6	**+1.4**
	baz=18,SNR=7.0								
JCT	**Junction City**	**17.91**	**326**		*e*Pn		**Pn**	16 23 55.0	**-1.0**
	comp=Z,13nm,0.6s								
JCT	**Junction City**	**17.91**	**326**	⇓	P		**P**	16 23 57.4	**+0.9**
	baz=18								
WHTX	**Lake Whitney**	**18.02**	**334**		*e*Pn		**Pn**	16 23 58.0	**+0.8**
WHTX					*e*Sn		Sn	16 27 04.9	-13
WHTX	**Lake Whitney**	**18.02**	**334**	⇑	P		**P**	16 23 59.0	**+1.4**
	baz=18								
531A	**Rocksprings**	**18.09**	**323**	⇓	P		**P**	16 24 02.4	**+4.0**
	baz=18								
432A	**Menard**	**18.22**	**326**	⇓	P		**P**	16 24 02.3	**+2.5**
	baz=18								
OXF	**Oxford**	**18.48**	**357**		*e*P		**P**	16 24 02.7	**+0.1**
	comp=Z,54nm,1.1s								
431A	**Sonora**	**18.51**	**324**	⇓	P		**Pn**	16 24 06.7	**+3.4**
	baz=19								
530A	**J-C Ranch, Com**	**18.54**	**322**	⇑	P		**Pn**	16 24 07.2	**+3.5**
	baz=19,SNR=7.9								
SDV	**Santo Domingo**	**18.54**	**110**		*e*P		**Pn**	16 24 04.1	**+0.1**
	comp=Z,14nm,0.8s								
332A	**Millersview**	**18.59**	**328**	⇓	P		**Pn**	16 24 06.8	**+2.5**
	baz=19,SNR=5.7								
331A	**San Angelo**	**18.89**	**326**	⇓	P		**Pn**	16 24 09.6	**+1.7**
	baz=19								
331A				⇑	S		**Sn**	16 27 39.7	**+0.5**
	baz=19								
232A	**Coleman**	**18.95**	**329**	⇓	P		**Pn**	16 24 10.5	**+1.9**
	baz=19								
430A	**Baggett Ranch,**	**18.95**	**323**	⇓	P		**Pn**	16 24 12.2	**+3.6**
	baz=19,SNR=6.1								
628A	**Black Gap, Mar**	**19.05**	**317**	⇓	P		**Pn**	16 24 12.3	**+2.5**
	baz=19								
529A	**Stev Forest Ra**	**19.06**	**320**	⇑	P		**Pn**	16 24 10.1	**+0.2**
	baz=19								
UALR	**University of**	**19.07**	**350**		*e*P		**Pn**	16 24 10.4	**+0.4**
	comp=Z,18nm,0.9s								
MIAR	**Mount Ida**	**19.10**	**346**		*e*P		**P**	16 24 10.3	**+0.9**
	comp=Z,12nm,0.7s								
429A	**Davenport Ranc**	**19.21**	**322**	⇑	P		**Pn**	16 24 12.4	**+0.6**
	baz=19								
SWET	**Sewanee**	**19.25**	**6**		*e*P		**P**	16 24 11.9	**+0.7**
	comp=Z,97nm,1.9s								
231A	**Bronte**	**19.32**	**327**	⇓	P		**Pn**	16 24 14.2	**+1.1**
	baz=20								
627A	**Terlingua Ranc**	**19.35**	**316**	⇑	P		**Pn**	16 24 15.0	**+1.4**
	baz=20								
330A	**Mertzon**	**19.38**	**325**	⇓	P		**Pn**	16 24 16.4	**+2.6**
	baz=20								
528A	**Cox Ranch, San**	**19.44**	**319**	⇓	P		**Pn**	16 24 14.9	**+0.4**
	baz=20								
TX31	**Lajitas Ar. Si**	**19.46**	**316**		*e*P		**Pn**	16 24 15.6	**+0.7**
TXAR	**Lajitas Array**	**19.46**	**316**		P		**Pn**	16 24 15.6	**+0.7**
TXAR	**Lajitas Array**	**19.46**	**316**		P		**Pn**	16 24 15.6	**+0.7**
	comp=Z,0.1nm,0.3s,baz=140,slow=8.2,SNR=23								
ABTX	**Abilene, Hawle**	**19.54**	**330**		*e*P		**Pn**	16 24 17.6	**+1.9**
ABTX	**Abilene, Hawle**	**19.54**	**330**	⇓	P		**Pn**	16 24 16.4	**+0.7**
	baz=20								
CPCT	**Cooper Cave**	**19.66**	**9**		*e*P		**Pn**	16 24 18.5	**+1.5**
CPCT					*e*S		Sn	16 28 11.0	+14
230A	**Sterling City**	**19.71**	**326**	⇑	P		**Pn**	16 24 17.8	**0.0**
	baz=20								
428A	**Kincaid Ranch,**	**19.76**	**320**	⇓	P		**P**	16 24 17.4	**+0.5**
	baz=20								
329A	**Wagon Wheel Ra**	**19.89**	**323**	⇑	P		**P**	16 24 19.4	**+1.1**
	baz=20								
626A	**Big Bend Ranch**	**19.92**	**315**	⇓	P		**P**	16 24 19.8	**+1.2**
	baz=20,SNR=11								
527A	**Woodward Ranch**	**19.95**	**318**	⇓	P		**P**	16 24 20.2	**+1.2**
	baz=20								
TKL	**Tuckaleechee C**	**19.98**	**11**		*e*P		Pn	16 24 22.2	+1.3
TKL					S		**S**	**16 28 01.9**	**-1.6**
TKL					*e*S		Sn	16 28 16.7	+11
TKL	**Tuckaleechee C**	**19.98**	**11**		P		Pn	16 24 21.9	+1.1
	comp=Z,0.6nm,0.3s,baz=154,slow=12,SNR=7.3								
TKL					S		**S**	**16 28 01.9**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=106,slow=7.4,SNR=2.9								
TKL					LR		LR	16 32 20.7	
	comp=Z,339nm,20.8s,baz=332,slow=38								
Z32A	**Haskell**	**20.03**	**331**	⇑	P		Pn	16 24 21.3	-0.2
	baz=20,SNR=8.6								
KMSC	**Kings Mountain**	**20.04**	**17**		*e*P		Pn	16 24 22.2	+0.7
KMSC	**Kings Mountain**	**20.04**	**17**	⇑	P		**P**	**16 24 20.6**	**+0.8**
	baz=20,SNR=5.5								
WVT	**Waverly**	**20.06**	**1**		*e*P		**P**	**16 24 19.8**	**-0.1**
	comp=Z,40nm,1.8s								
526A	**Mary Lane Ranc**	**20.21**	**317**	⇓	P		Pn	16 24 23.9	+0.1
	baz=20,SNR=6.5								
427A	**Hayter Ranch,**	**20.29**	**319**	⇑	P		Pn	16 24 24.6	-0.1
	baz=20								
328A	**Wristen Ranch,**	**20.30**	**322**	⇓	P		Pn	16 24 24.6	-0.2
	baz=20,SNR=7.8								
Z31A	**Sharp Cattle R**	**20.35**	**330**	⇓	P		Pn	16 24 25.7	+0.4
	baz=20								
129A	**Stewart Farms,**	**20.69**	**326**	⇑	P		**P**	**16 24 28.4**	**+1.5**
	baz=21,SNR=5.3								
228A	**UT Block 9, Go**	**20.71**	**323**	⇓	P		**P**	**16 24 28.3**	**+1.2**
	baz=21								
PBMO	**Poplar Bluff**	**20.80**	**355**		*e*P		**P**	**16 24 29.6**	**+1.6**
	comp=Z,28nm,1.0s								
Z30A	**Sanderson Ranc**	**20.81**	**328**	⇓	P		Pn	16 24 30.7	0.0
	baz=21								
TZTN	**Tazewell**	**20.89**	**11**		*e*P		Pn	16 24 31.6	+0.2
	comp=Z,55nm,1.1s								
Y31A	**Rekieta Farm,**	**20.94**	**331**	⇓	P		**P**	**16 24 31.3**	**+1.8**
	baz=21,SNR=8.3								
WMOK	**Wichita Mounta**	**20.95**	**335**		*e*P		**P**	**16 24 31.2**	**+1.5**
	comp=Z,20nm,1.0s								
TUL1	**Tulsa**	**20.96**	**343**		*e*P		Pn	16 24 33.8	+1.4
TUL1	**Tulsa**	**20.96**	**343**	⇓	P		Pn	16 24 31.7	-0.6
	baz=21								
326A	**Caldwell Ranch**	**20.97**	**319**	⇓	P		Pn	16 24 33.0	+0.3
	baz=21								
128A	**Castleberry Fa**	**21.02**	**325**	⇓	P		**P**	**16 24 30.9**	**+0.4**
	baz=21,SNR=7.6								
227A	**Bennet, Jal**	**21.04**	**322**	⇑	P		**P**	**16 24 32.3**	**+1.6**
	baz=21								
Z29A	**Hungry Hill Ra**	**21.09**	**327**	⇑	P		**P**	**16 24 32.4**	**+1.2**
	baz=21								
X31A	**McDonald Ranch**	**21.36**	**332**	⇑	P		**P**	**16 24 35.2**	**+1.1**
	baz=22								
Z28A	**Tucker Farm, M**	**21.47**	**326**	⇓	P		**P**	**16 24 38.7**	**+3.4**
	baz=22								
127A	**Arkansas Junct**	**21.56**	**323**	⇓	P		**P**	**16 24 40.1**	**+3.8**
	baz=22								
226B	**Tecolote Peak,**	**21.61**	**321**	⇓	P		**P**	**16 24 39.6**	**+2.7**
	baz=22								
X30A	**Coker Ranch, T**	**21.62**	**331**	⇓	P		P	16 24 42.0	+5.0
	baz=22,SNR=6.6								
325A	**Bean Ranch, Si**	**21.64**	**318**	⇓	P		**P**	**16 24 40.2**	**+3.0**
	baz=22,SNR=6.8								
SIUC	**Southern Illin**	**21.66**	**358**		*e*P		**P**	**16 24 39.1**	**+1.9**
	comp=Z,47nm,1.2s								
Y28A	**McKinney Farm,**	**21.88**	**327**	⇑	P		**P**	**16 24 41.7**	**+2.0**
	baz=22								
USIN	**University of**	**21.89**	**1**		*e*P		**P**	**16 24 41.3**	**+1.6**
	comp=Z,55nm,0.9s								
Z27A	**Tatum**	**21.95**	**325**	⇓	P		**P**	**16 24 42.3**	**+1.8**
	baz=22								
324A	**Moseley Ranch,**	**22.02**	**317**	⇓	P		**P**	**16 24 42.9**	**+1.6**
	baz=22								
X29A	**Tulia**	**22.02**	**329**	⇓	P		**P**	**16 24 43.3**	**+2.0**
	baz=22								
225A	**Deer Hill, Car**	**22.04**	**320**	⇑	P		**P**	**16 24 43.3**	**+1.7**
	baz=22								
MNTX	**Cornudas Mount**	**22.12**	**318**		*e*P		**P**	**16 24 44.8**	**+2.5**
	comp=Z,110nm,3.0s								
MSTX	**Muleshoe**	**22.20**	**326**		*e*P		**P**	**16 24 43.6**	**+0.4**
MSTX	**Muleshoe**	**22.20**	**326**	⇑	P		**P**	**16 24 44.6**	**+1.4**
	baz=22,SNR=10								
WCI	**Wyandotte Cave**	**22.22**	**4**		*e*P		**P**	**16 24 44.1**	**+0.8**
	comp=Z,25nm,0.9s								
BLA	**Blacksburg**	**22.23**	**17**		*e*P		**P**	**16 24 45.5**	**+2.0**
	comp=Z,40nm,1.1s								
LPIG	**La Paz**	**22.26**	**295**		LR		LR	16 34 17.5	
	comp=Z,553nm,20.8s,baz=290,slow=39								
125A	**Gardner Draw,**	**22.31**	**321**	⇑	P		**P**	**16 24 46.8**	**+2.3**
	baz=22,SNR=10.0								
Y27A	**Causey**	**22.34**	**326**	⇓	P		**P**	**16 24 46.6**	**+1.8**
	baz=22,SNR=19								
Z26A	**Caprock**	**22.35**	**323**	⇑	P		**P**	**16 24 46.4**	**+1.6**
	baz=22								
224A	**Cornudas Mount**	**22.46**	**319**	⇓	P		**P**	**16 24 46.9**	**+0.9**
	baz=23								
OLIL	**Olney**	**22.66**	**0**		*e*P		**P**	**16 24 48.5**	**+0.5**
	comp=Z,28nm,0.9s								
Y26A	**Elida**	**22.74**	**325**	⇑	P		**P**	**16 24 50.1**	**+1.1**
	baz=23								
Z25A	**Roswell**	**22.78**	**322**	⇑	P		**P**	**16 24 51.2**	**+1.8**
	baz=23,SNR=6.6								
W27A	**Bowe Ranch, En**	**23.20**	**328**	⇑	P		**P**	**16 24 55.1**	**+1.4**
	baz=23								
X26A	**CR and CF Fran**	**23.20**	**326**	⇑	P		**P**	**16 24 54.8**	**+1.0**
	baz=23								
Z24A	**Sheeppen Canyo**	**23.21**	**321**	⇑	P		**P**	**16 24 55.3**	**+1.4**
	baz=23								
Y25A	**Mesa, Roswell**	**23.23**	**323**	⇓	P		**P**	**16 24 55.8**	**+1.7**
	baz=23,SNR=5.8								
Y24A	**Capitan**	**23.66**	**322**	⇑	P		**P**	**16 24 59.8**	**+1.4**
	baz=24								
Z23A	**Rita Site, Whi**	**23.69**	**320**	⇑	P		**P**	**16 24 59.7**	**+1.0**
	baz=24								
122A	**Conniff Cattle**	**23.81**	**318**	⇓	P		**P**	**16 25 00.6**	**+0.8**
	baz=24								
320A	**Kipp Ranch, An**	**24.02**	**313**	⇑	P		**P**	**16 25 03.4**	**+1.6**
	baz=24								
W25A	**X Bar L Ranch,**	**24.05**	**326**	⇓	P		**P**	**16 25 03.4**	**+1.3**
	baz=24,SNR=6.3								
V26A	**Tequesquite Ra**	**24.14**	**328**	⇓	P		**P**	**16 25 04.0**	**+1.2**
	baz=24								
Z22A	**Elephant Butte**	**24.15**	**319**	⇓	P		**P**	**16 25 03.8**	**+0.8**
	baz=24								
U27A	**Thompson Grove**	**24.15**	**330**	⇑	P		**P**	**16 25 03.8**	**+0.8**
	baz=24								
121A	**Cookes Peak, D**	**24.22**	**316**	⇓	P		**P**	**16 25 04.3**	**+0.6**
	baz=24								
220A	**Playas Peak, P**	**24.34**	**314**	⇓	P		**P**	**16 25 05.0**	**+0.2**
	baz=24								
R31A	**Burdett**	**24.35**	**338**	⇓	P		**P**	**16 25 05.9**	**+1.2**
	baz=24								
S29A	**Ulysses**	**24.38**	**335**	⇑	P		**P**	**16 25 06.0**	**+0.9**
	baz=24								
T28A	**Walsh**	**24.39**	**332**	⇓	P		**P**	**16 25 06.5**	**+0.4**
	baz=25								
BNM	**Barren Site**	**24.53**	**321**		*e*P		**P**	**16 25 07.5**	**+0.9**
W24A	**Lazy 6 Ranch,**	**24.57**	**324**	⇑	P		**P**	**16 25 09.1**	**+2.2**
	baz=25,SNR=14								
319A	**Douglas**	**24.57**	**312**	⇑	P		**P**	**16 25 07.4**	**+0.5**
	baz=25								
ACSO	**Alum Creek Sta**	**24.58**	**10**		*e*P		**P**	**16 25 10.0**	**+3.4**
	comp=Z,22nm,0.8s								
U26A	**Atchley Ranch,**	**24.58**	**329**	⇓	P		**P**	**16 25 07.9**	**+0.9**
	baz=25								
Y22A	**Socorro**	**24.60**	**320**	⇑	P		**P**	**16 25 08.5**	**+1.4**
	baz=25,SNR=10								
V25A	**Rancho No Teng**	**24.60**	**327**	⇑	P		**P**	**16 25 08.6**	**+1.5**
	baz=25,SNR=8.9								
Z21A	**St. Cloud Mine**	**24.63**	**318**	⇓	P		**P**	**16 25 08.0**	**+0.5**
	baz=25								
LENM	**Lemitar**	**24.75**	**320**		*e*P		**P**	**16 25 10.7**	**+2.1**
120A	**U Bar Ranch, L**	**24.80**	**315**	⇓	P		**P**	**16 25 09.6**	**+0.6**
	baz=25								
V24A	**Rampart Ranch,**	**24.87**	**325**	⇓	P		**P**	**16 25 10.8**	**+1.2**
	baz=25								
U25A	**Circle Dot Ran**	**24.92**	**328**	⇑	P		**P**	**16 25 11.2**	**+1.2**
	baz=25								
ATAH	**Atahualpa**	**24.95**	**156**		LR		LR	16 34 04.5	
	comp=Z,422nm,19.8s,baz=144,slow=34								
ANMO	**Albuquerque**	**24.98**	**322**		*e*P		**P**	**16 25 13.0**	**+2.5**
	comp=Z,37nm,2.3s								
ANMO	**Albuquerque**	**24.98**	**322**		P		**P**	**16 25 13.1**	**+2.5**
	comp=Z,3.0nm,0.9s,baz=140,slow=12,SNR=8.2								
X22A	**Bernardo**	**25.01**	**321**	⇓	P		**P**	**16 25 11.1**	**+0.3**
	baz=25								
Y21A	**Point of Rocks**	**25.09**	**319**	⇑	P		**P**	**16 25 11.8**	**+0.2**
	baz=25								
Z20A	**Nine Sixteen R**	**25.11**	**316**	⇑	P		**P**	**16 25 12.1**	**+0.4**
	baz=25								
T26A	**Comanche Natio**	**25.12**	**330**	⇑	P		**P**	**16 25 13.4**	**+1.5**
	baz=25								
R28A	**Tribune**	**25.28**	**334**	⇑	P		**P**	**16 25 14.1**	**+0.9**
	baz=25								
V23A	**Ortiz Mt. (NFS**	**25.39**	**324**	⇑	P		**P**	**16 25 15.7**	**+1.4**
	baz=26								
S26A	**Kim**	**25.42**	**331**	⇓	P		**P**	**16 25 15.6**	**+1.1**
	baz=26								
X21A	**Alamocita Cree**	**25.44**	**320**	⇓	P		**P**	**16 25 16.4**	**+1.6**
	baz=26								
Y20A	**Horse Springs,**	**25.47**	**318**	⇓	P		**P**	**16 25 16.3**	**+1.3**
	baz=26								
T25A	**Trinidad**	**25.49**	**329**	⇓	P		**P**	**16 25 16.5**	**+1.2**
	baz=26								
R27A	**Eads**	**25.66**	**333**	⇑	P		**P**	**16 25 18.6**	**+2.0**
	baz=26								
U23A	**El Rito**	**25.82**	**325**	⇑	P		**P**	**16 25 19.7**	**+1.4**
	baz=26,SNR=6.3								
V22A	**San Miguel Ran**	**25.92**	**323**	⇑	P		**P**	**16 25 20.9**	**+1.7**
	baz=26								
T24B	**San Luis**	**25.93**	**327**	⇑	P		**P**	**16 25 19.8**	**+0.5**
	baz=26,SNR=5.9								
X20A	**Quemado**	**25.95**	**319**	⇓	P		**P**	**16 25 19.3**	**-0.1**
	baz=26								
R26A	**Arlington**	**25.96**	**332**	⇓	P		**P**	**16 25 20.6**	**+1.2**
	baz=26								
TUC	**Tucson**	**26.15**	**312**		*e*P		**P**	**16 25 23.6**	**+2.5**
	comp=Z,4.7nm,1.0s								
U22A	**Llaves**	**26.22**	**324**	⇑	P		**P**	**16 25 23.5**	**+1.6**
	baz=26,SNR=10								
V21A	**Milan**	**26.27**	**322**	⇑	P		**P**	**16 25 23.9**	**+1.6**
	baz=26								
S24A	**Houchin Ranch,**	**26.29**	**328**	⇑	P		**P**	**16 25 23.5**	**+0.9**
	baz=26								
P28A	**Saint Francis**	**26.31**	**336**	⇓	P		**P**	**16 25 23.3**	**+0.8**
	baz=26								
O29A	**4D Ranch, Culb**	**26.43**	**338**	⇓	P		**P**	**16 25 25.6**	**+2.1**
	baz=27								
Q26A	**Hugo**	**26.50**	**333**	⇑	P		**P**	**16 25 25.6**	**+1.3**
	baz=27								
U21A	**Nageezi**	**26.71**	**323**	⇓	P		**P**	**16 25 27.3**	**+1.0**
	baz=27								
S22A	**4UR Ranch, Cre**	**27.20**	**326**	⇑	P		**P**	**16 25 32.5**	**+1.7**
	baz=27								
MVCO	**Mesa Verde**	**27.74**	**323**	⇑	P		**P**	**16 25 36.1**	**+0.5**
	baz=28								
X16A	**Lo Mia Camp, P**	**27.79**	**316**	⇓	P		**P**	**16 25 37.2**	**+1.2**
	baz=28								
Q22A	**Crested Butte,**	**28.08**	**328**	⇓	P		**P**	**16 25 40.2**	**+1.6**
	baz=28								
R20A	**Redvale**	**28.36**	**325**	⇑	P		**P**	**16 25 42.1**	**+1.0**
	baz=28								
WUAZ	**Wupatki**	**28.40**	**318**		*e*P		**P**	**16 25 44.0**	**+2.7**
	comp=Z,68nm,2.7s								
WUAZ	**Wupatki**	**28.40**	**318**	⇑	P		**P**	**16 25 41.7**	**+0.4**
	baz=28								
Q22A	**Kremmling**	**28.90**	**330**	⇑	P		**P**	**16 25 46.1**	**+0.2**
	baz=29								
SADO	**Sadowa**	**29.69**	**13**		P		**P**	**16 25 51.9**	**-0.6**
SADO	**Sadowa**	**29.69**	**13**		P		**P**	**16 25 51.9**	**-0.6**
	comp=Z,4.3nm,0.6s,baz=222,slow=9.4,SNR=6.1								
SADO					LR		LR	16 38 13.0	
	comp=Z,259nm,18.7s,baz=120,slow=38								
LEVU	**Levan**	**31.21**	**323**		*e*P		**P**	**16 26 05.8**	**-0.5**
PDAR	**Pinedale Array**	**32.34**	**330**		P		**P**	**16 26 19.2**	**+2.9**
PDAR	**Pinedale Array**	**32.34**	**330**		P		**P**	**16 26 19.2**	**+2.9**
	comp=Z,0.5nm,0.8s,baz=148,slow=8.6,SNR=3.0								
REDW	**Red Top Meadow**	**33.42**	**329**		*e*P		P	16 26 30.1	+4.5
	comp=Z,125nm,2.8s								
SNOW	**Snow King Moun**	**33.45**	**330**		*e*P		P	16 26 31.6	+5.7
	comp=Z,9.2nm,0.9s								
NVAR	**Mina Array Bea**	**34.62**	**316**		P		**P**	**16 26 38.4**	**+2.4**
NVAR	**Mina Array Bea**	**34.62**	**316**		P		**P**	**16 26 38.4**	**+2.4**
	comp=Z,0.9nm,0.8s,baz=130,slow=8.0,SNR=6.3								
ULM	**Lac du Bonnet**	**34.73**	**351**		LR		LR	16 41 00.3	
	comp=Z,175nm,21.5s,baz=184,slow=37								
LPAZ	**La Paz**	**37.70**	**147**		P		**P**	**16 27 04.8**	**+1.8**
LPAZ	**La Paz**	**37.70**	**147**		P		**P**	**16 27 04.8**	**+1.8**
	comp=Z,1.2nm,0.6s,baz=335,slow=8.6,SNR=8.1								
LPAZ					LR		LR	16 43 46.4	
	comp=Z,181nm,18.4s,baz=293,slow=38								
SCHQ	**Schefferville**	**42.14**	**18**		P		**P**	**16 27 37.6**	**-1.3**
SCHQ	**Schefferville**	**42.14**	**18**		P		**P**	**16 27 37.6**	**-1.3**
	comp=Z,4.1nm,0.6s,baz=236,slow=16,SNR=7.8								
SCHQ					LR		LR	16 47 37.6	
	comp=Z,142nm,18.8s,baz=36,slow=40								
YKA	**Yellowknife Ar**	**50.02**	**344**		P		**P**	**16 28 40.7**	**-0.1**
YKA	**Yellowknife Ar**	**50.02**	**344**		P		**P**	**16 28 40.7**	**-0.1**
	comp=Z,3.1nm,0.7s,baz=144,slow=7.5,SNR=9.7								
BDFB	**Brasilia**	**50.62**	**126**		LR		LR	16 51 13.4	
	comp=Z,203nm,19.9s,baz=224,slow=37								
CPUP	**Villa Florida**	**51.68**	**144**		LR		LR	16 52 04.3	
	comp=Z,88nm,21.6s,baz=114,slow=38								
ILAR	**Eielson Array**	**62.51**	**336**		P		**P**	**16 30 09.8**	**-0.2**
ILAR	**Eielson Array**	**62.51**	**336**		P		**P**	**16 30 09.8**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=148,slow=5.0,SNR=6.0								
EKA	**Eskdalemuir Ar**	**74.21**	**36**		P		**P**	**16 31 21.9**	**-1.4**
EKA	**Eskdalemuir Ar**	**74.21**	**36**		P		**P**	**16 31 21.9**	**-1.4**
	comp=Z,2.6nm,0.7s,baz=268,slow=6.6,SNR=9.4								
ESDC	**Sonseca Array**	**75.61**	**52**		P		**

NVR			eSN	Sg	16 21 22.2	-0.3
NVR	**Nevrokopi**	**0.86 84**	P	Pg	16 21 10.4	-0.9
NVR			eSn	Sg	16 21 22.2	-0.3
PLG	**Polygyros**	**1.05 148**	P	Pb	16 21 13.9	-0.8
PLG	**Polygyros**	**1.05 148**	ePn	Pb	16 21 14.2	-0.5
PLG			eSN	Sb	16 21 28.5	+0.1
PLG	**Polygyros**	**1.05 148**	P	Pb	16 21 13.9	-0.8
PLG	**Polygyros**	**1.05 148**	ePn	Pb	16 21 14.2	-0.5
PLG			eSn	Sb	16 21 28.5	+0.1
BIA	**Bitola**	**1.09 257**	P	Pb	16 21 14.1	-1.3
BIA	**Bitola**	**1.09 257**	*i* Pg	Pb	16 21 14.5	-0.9
BIA			eSg	Sg	16 21 29.9	+0.1
BIA	**Bitola**	**1.09 257**	P	Pb	16 21 14.1	-1.3
FNA	**Florina**	**1.13 245**	P	Pb	16 21 15.1	-1.1
FNA	**Florina**	**1.13 245**	ePN	Pb	16 21 15.1	-1.1
FNA			eSN	Sn	16 21 31.5	-0.3
FNA	**Florina**	**1.13 245**	P	Pb	16 21 15.0	-1.1
FNA			eSn	Sn	16 21 31.5	-0.3
LIT	**Litokhoron**	**1.18 189**	P	Pn	16 21 15.7	-1.3
LIT	**Litokhoron**	**1.18 189**	ePN	Pn	16 21 15.7	-1.3
LIT	**Litokhoron**	**1.18 189**	P	Pn	16 21 15.7	-1.3
SKO	**Skopje**	**1.19 307**	P	Pn	16 21 16.4	-0.7
SKO	**Skopje**	**1.19 307**	*i* Pg	Pg	16 21 17.5	0.0
SKO			eSg	Sn	16 21 33.2	0.0
SKO			*i* Lg	Lg	16 21 34.4	
	comp=N,1μm,1.2s					
SKO			*i* Lg	Lg	16 21 36.3	
	comp=E,412nm,0.6s					
SKO	**Skopje**	**1.19 307**	P	Pn	16 21 16.4	-0.7
KZN	**Kozani**	**1.20 217**	P	Pn	16 21 16.1	-1.2
KZN			S	Sg	16 21 34.3	+0.8
KZN	**Kozani**	**1.20 217**	ePN	Pn	16 21 17.1	-0.2
KZN			eSN	Sg	16 21 34.6	+1.1
KZN	**Kozani**	**1.20 217**	P	Pn	16 21 16.1	-1.2
KZN	**Kozani**	**1.20 217**	ePn	Pn	16 21 17.1	-0.2
KZN			S	Sg	16 21 34.3	+0.8
OUR	**Ouranopolis**	**1.34 134**	P	Pn	16 21 19.0	0.0
OUR	**Ouranopolis**	**1.34 134**	ePN	Pn	16 21 19.0	0.0
OUR			eSN	Sg	16 21 37.5	-0.1
OUR	**Ouranopolis**	**1.34 134**	P	Pn	16 21 19.0	0.0
OUR			eSn	Sg	16 21 37.5	-0.1
VTS	**Vitosha**	**1.37 15**	P	Pn	16 21 19.0	-0.7
VTS			S	Sn	16 21 37.7	-0.1
VTS	**Vitosha**	**1.37 15**	⇑*i* P	Pn	16 21 19.1	-0.7
VTS			S	Sb	16 21 38.1	+0.3
VTS	**Vitosha**	**1.37 15**	*i* P	Pn	16 21 19.2	-0.5
VTS	**Vitosha**	**1.37 15**	*i* P	Pn	16 21 19.2	-0.5
VTS			S	Sn	16 21 37.7	-0.1
KAVA	**Kavala**	**1.38 101**	P	Pn	16 21 19.5	-0.2
KAVA			S	Sn	16 21 37.7	-0.1
KAVA	**Kavala**	**1.38 101**	ePN	Pn	16 21 19.4	-0.2
KAVA			eSN	Sn	16 21 37.9	+0.1
KAVA	**Kavala**	**1.38 101**	P	Pn	16 21 19.5	-0.2
KAVA			eSn	Sn	16 21 37.9	+0.1
PAIG	**Paliouri**	**1.52 151**	P	Pn	16 21 21.4	-0.3
PAIG	**Paliouri**	**1.52 151**	ePN	Pn	16 21 21.4	-0.3
PAIG			eSN	Sb	16 21 43.0	+0.9
PAIG	**Paliouri**	**1.52 151**	P	Pn	16 21 21.4	-0.3
PAIG			eSn	Sb	16 21 43.0	+0.9
NEST	**Nestorio**	**1.53 237**	P	Pn	16 21 21.8	-0.1
NEST	**Nestorio**	**1.53 237**	ePN	Pn	16 21 21.4	-0.5
NEST	**Nestorio**	**1.53 237**	ePn	Pn	16 21 21.4	-0.5
NEST	**Nestorio**	**1.53 237**	P	Pn	16 21 21.8	-0.1
RZN	**Rozhen**	**1.55 74**	*i* P	Pb	16 21 23.6	+0.2
RZN	**Rozhen**	**1.55 74**	*i* P	Pb	16 21 23.6	+0.2
PLD	**Plovdiv**	**1.70 60**	P	Pb	16 21 25.2	-0.6
PLD			S	Sg	16 21 50.0	+0.7
PLD	**Plovdiv**	**1.70 60**	P	Pb	16 21 25.2	-0.6
PHP	**Peshkopia**	**1.77 284**	P	Pn	16 21 24.6	-0.4
PHP	**Peshkopia**	**1.77 284**	P	Pn	16 21 24.6	-0.4
THL	**Klokotos Trika**	**1.79 198**	P	Pn	16 21 25.4	+0.1
THL	**Klokotos Trika**	**1.79 198**	ePN	Pn	16 21 25.3	0.0
THL	**Klokotos Trika**	**1.79 198**	ePn	Pn	16 21 25.3	0.0
XOR	**Xorichti**	**1.94 169**	P	Pn	16 21 26.8	-0.5
XOR	**Xorichti**	**1.94 169**	ePB	Pn	16 21 26.8	-0.5
XOR	**Xorichti**	**1.94 169**	P	Pn	16 21 26.8	-0.5
NEO	**Neokhori**	**2.00 169**	P	Pn	16 21 27.7	-0.5
NEO	**Neokhori**	**2.00 169**	ePB	Pn	16 21 27.8	-0.5
NEO	**Neokhori**	**2.00 169**	P	Pn	16 21 27.7	-0.5
JAN	**Janina**	**2.15 222**	ePB	Pn	16 21 30.6	+0.2
JAN	**Janina**	**2.15 222**	ePn	Pn	16 21 30.6	+0.2
SKIA	**Skiathos**	**2.18 165**	ePN	Pn	16 21 30.2	+0.4
SKIA	**Skiathos**	**2.18 165**	ePn	Pn	16 21 30.2	-0.4
AGG	**Agios Georgios**	**2.27 188**	P	Pn	16 21 31.8	-0.1
AGG	**Agios Georgios**	**2.27 188**	ePN	Pn	16 21 31.8	-0.1
AGG	**Agios Georgios**	**2.27 188**	P	Pn	16 21 31.8	-0.1
SMTH	**Samothraki Isl**	**2.27 110**	ePB	Pn	16 21 32.5	+0.5
SMTH	**Samothraki Isl**	**2.27 110**	ePb	Pn	16 21 32.5	+0.5
AOS	**Alonnisos**	**2.28 157**	P	Pn	16 21 31.1	-0.9
AOS	**Alonnisos**	**2.28 157**	ePN	Pn	16 21 31.5	-0.5
AOS	**Alonnisos**	**2.28 157**	P	Pn	16 21 31.1	-0.9
AOS	**Alonnisos**	**2.28 157**	ePn	Pn	16 21 31.5	-0.5
MAKR	**Makrakomi, Fth**	**2.30 192**	P	Pn	16 21 32.6	+0.2
MAKR	**Makrakomi, Fth**	**2.30 192**	ePN	Pn	16 21 32.8	+0.4
MAKR	**Makrakomi, Fth**	**2.30 192**	P	Pn	16 21 32.6	+0.2
LIA	**Limnos Island**	**2.32 125**	P	Pn	16 21 32.2	-0.3
LIA	**Limnos Island**	**2.32 125**	ePN	Pn	16 21 32.3	-0.3
LIA	**Limnos Island**	**2.32 125**	ePn	Pn	16 21 32.3	-0.3
SMIA	**Simia**	**2.42 171**	ePN	Pn	16 21 34.1	+0.1
SMIA	**Simia**	**2.42 171**	ePn	Pn	16 21 34.1	+0.1
PVY	**Plav**	**2.45 304**	⇑*i* PN	Pn	16 21 34.1	-0.4
PVY			eSn	Sn	16 22 06.4	+1.9
EVR	**Evrytania**	**2.45 197**	P	Pn	16 21 35.7	+1.2
EVR	**Evrytania**	**2.45 197**	ePB	Pn	16 21 35.4	+0.9
EVR	**Evrytania**	**2.45 197**	ePb	Pn	16 21 35.4	+0.9
EVR	**Evrytania**	**2.45 197**	P	Pn	16 21 35.7	+1.2
IGT	**Igoumenitsa**	**2.52 227**	ePB	Pn	16 21 36.8	+1.4
IGT	**Igoumenitsa**	**2.52 227**	ePb	Pn	16 21 36.8	+1.4
ALN	**Alexandroupoli**	**2.54 97**	P	Pn	16 21 35.6	0.0
ALN	**Alexandroupoli**	**2.54 97**	ePN	Pn	16 21 35.9	+0.3
ALN	**Alexandroupoli**	**2.54 97**	P	Pn	16 21 35.6	0.0
ALN	**Alexandroupoli**	**2.54 97**	ePn	Pn	16 21 35.9	+0.3
BOLS	**Boljevac**	**2.62 348**	ePn	Pn	16 21 35.0	-1.7
MRKA	**Markates**	**2.65 165**	ePN	Pn	16 21 36.9	-0.2
MRKA	**Markates**	**2.65 165**	ePn	Pn	16 21 36.9	-0.2
BEY	**Berane**	**2.65 308**	ePn	Pn	16 21 36.9	-0.3
BEY			eSn	Sn	16 22 10.9	+1.6
IVA	**Berane**	**2.65 308**	ePn	Pn	16 21 36.9	-0.3
IVA			eSn	Sn	16 22 10.9	+1.6
ULC	**Ulcinj**	**2.70 286**	⇑*i* PN	Pn	16 21 38.2	+0.3
ULC			eSn	Sn	16 22 12.5	+2.0
ULC	**Ulcinj**	**2.70 286**	⇑*i* PN	Pn	16 21 38.2	+0.3
ULC			eSn	Sn	16 22 12.5	+2.0
KEK	**Kerkira**	**2.72 236**	ePN	Pn	16 21 39.0	+0.9
KEK	**Kerkira**	**2.72 236**	ePn	Pn	16 21 39.0	+0.9
DRME	**Dracevica, Mon**	**2.80 290**	⇑*i* PN	Pn	16 21 39.8	+0.5
DRME			eSn	Sn	16 22 14.8	+1.8
DRME	**Dracevica, Mon**	**2.80 290**	⇑*i* PN	Pn	16 21 39.8	+0.5
DRME			eSn	Sn	16 22 14.8	+1.8
PDG	**Podgorica**	**2.84 295**	⇓*i* PN	Pn	16 21 40.0	+0.3
PDG			eSn	Sn	16 22 15.5	+1.7
TTG	**Podgorica**	**2.84 295**	⇓*i* PN	Pn	16 21 40.0	+0.3
TTG			eSn	Sn	16 22 15.5	+1.7
DESF	**Desfina**	**2.86 183**	ePN	Pn	16 21 40.2	+0.1
DESF	**Desfina**	**2.86 183**	ePn	Pn	16 21 40.2	+0.1
KALE	**Kalithea**	**2.91 189**	P	Pn	16 21 41.5	+0.6
KALE	**Kalithea**	**2.91 189**	ePN	Pn	16 21 41.4	+0.6
KALE	**Kalithea**	**2.91 189**	ePn	Pn	16 21 41.4	+0.6
TRIZ	**Trizonia**	**2.94 190**	P	Pn	16 21 41.6	+0.4
TRIZ	**Trizonia**	**2.94 190**	ePN	Pn	16 21 41.7	+0.5
TRIZ	**Trizonia**	**2.94 190**	P	Pn	16 21 41.6	+0.4
IVAS	**Ivanjica**	**2.99 321**	⇑*i* PN	Pn	16 21 41.2	-0.7
GRUS	**Gruza**	**3.01 331**	⇓*i* PN	Pn	16 21 41.0	-1.1
BUM	**Brajici-Budva**	**3.04 291**	⇓*i* PN	Pn	16 21 43.1	+0.5
BUM			eSn	Sn	16 22 21.0	+2.0
BUM	**Brajici-Budva**	**3.04 291**	⇓*i* PN	Pn	16 21 43.1	+0.5
BUM			eSn	Sn	16 22 21.0	+2.0
EDRB	**Edirne**	**3.07 78**	P	Pn	16 21 42.9	0.0
EDRB	**Edirne**	**3.07 78**	P	Pn	16 21 42.9	0.0
LAKA	**Lakka**	**3.08 191**	ePN	Pn	16 21 44.5	+1.4
LAKA	**Lakka**	**3.08 191**	ePn	Pn	16 21 44.5	+1.4
ZIMR		**3.08 38**	⇑*i* P	Pg	16 21 53.9	+0.2
ZIMR		**3.08 38**	S	Sg	16 22 33.3	-0.4
NKME	**Niksic**	**3.18 299**	ePn	Pn	16 21 44.5	0.0
NKME			eSn	Sn	16 22 23.9	+1.5
NKME	**Niksic**	**3.18 299**	ePn	Pn	16 21 44.5	0.0
NKME			eSn	Sn	16 22 23.9	+1.5
PLE	**Pljevlja**	**3.22 311**	ePn	Pn	16 21 44.9	-0.2
PLE			eSn	Sn	16 22 24.4	+1.0
PLE	**Pljevlja**	**3.22 311**	ePn	Pn	16 21 44.9	-0.2
PLE			eSn	Sn	16 22 24.4	+1.0
KLV	**Kalavryta, Ach**	**3.25 188**	ePN	Pn	16 21 45.9	+0.4
KLV	**Kalavryta, Ach**	**3.25 188**	ePn	Pn	16 21 45.9	+0.4
HCY	**Herceg Novi**	**3.37 292**	⇑*i* PN	Pn	16 21 48.0	+0.9
HCY			eSn	Sn	16 22 28.5	+1.5
HCY	**Herceg Novi**	**3.37 292**	⇑*i* PN	Pn	16 21 48.0	+0.9
HCY			eSn	Sn	16 22 28.5	+1.5
ATH	**Athens Observa**	**3.38 167**	ePN	Pn	16 21 47.3	+0.1
ATH	**Athens Observa**	**3.38 167**	ePn	Pn	16 21 47.3	+0.1
SRE	**Strehaia**	**3.41 6**	⇓*i* P	Pn	16 21 48.9	+1.3
SRE	**Strehaia**	**3.41 6**	⇓*i* P	Pn	16 21 48.9	+1.3
TRUS	**Trudelj**	**3.41 331**	ePn	Pn	16 21 45.2	-2.4
UPM	**Unac-Piva**	**3.43 306**	⇓*i* PN	Pn	16 21 47.6	-0.5
UPM			eSn	Sn	16 22 29.6	+0.9
UPM	**Unac-Piva**	**3.43 306**	⇓*i* PN	Pn	16 21 47.6	-0.5
UPM			eSn	Sn	16 22 29.6	+0.9
DIDY	**Didyma**	**3.81 174**	ePN	Pn	16 21 55.1	+2.0
DIDY	**Didyma**	**3.81 174**	ePn	Pn	16 21 55.1	+2.0
CHOS	**Chios island**	**3.85 137**	ePN	Pn	16 21 54.5	+0.7
CHOS	**Chios island**	**3.85 137**	ePn	Pn	16 21 54.5	+0.7
GZR	**Gura Zlata**	**4.12 1**	⇑*i* P	Pn	16 21 57.0	-0.4
GZR	**Gura Zlata**	**4.12 1**	⇑*i* P	Pn	16 21 57.0	-0.4
LOT	**Lotru**	**4.25 10**	⇑*i* P	Pn	16 21 59.3	+0.1
LOT	**Lotru**	**4.25 10**	⇑*i* P	Pn	16 21 59.3	+0.1
SULR		**4.28 36**	⇑*i* P	Pn	16 22 02.0	+2.5
SULR		**4.28 36**	⇑*i* P	Pn	16 22 02.0	+2.5
ARR	**Arges**	**4.33 18**	⇑*i* P	Pn	16 22 00.5	+0.2
ARR	**Arges**	**4.33 18**	⇑*i* P	Pn	16 22 00.5	+0.2
BZS	**Buzias**	**4.42 350**	⇑*i* P	Pn	16 22 00.4	-1.1
BZS	**Buzias**	**4.42 350**	S	Sn	16 22 54.8	+2.0
BZS	**Buzias**	**4.42 350**	⇑*i* P	Pn	16 22 00.4	-1.1
BZS			S	Sn	16 22 54.8	+2.0
VOIR		**4.50 21**	⇓*i* P	Pn	16 22 02.4	-0.2
VOIR		**4.50 21**	⇓*i* P	Pn	16 22 02.4	-0.2
DEV	**Deva**	**4.61 2**	⇑*i* P	Pn	16 22 04.5	+0.4
DEV	**Deva**	**4.61 2**	⇑*i* P	Pn	16 22 04.5	+0.4
MSAB	**Monastry St. A**	**4.70 51**	⇓*i* P	Pg	16 22 23.8	-0.8
MSAB	**Monastry St. A**	**4.70 51**	S	Sb	16 23 19.0	+5.6
APE	**Apeiranthos**	**4.73 152**	⇑*i* P	Pn	16 22 06.3	+0.5
APE	**Apeiranthos**	**4.73 152**	⇑*i* P	Pn	16 22 06.3	+0.5
MLR	**Muntele Rosu**	**4.83 28**	Pn	Pn	16 22 07.9	+0.7
	comp=E,0.6nm,0.3s,baz=222,slow=5.9,SNR=26					
MLR			Lg	Lg	16 23 19.0	
	comp=E,0.2nm,0.3s,baz=180,slow=20,SNR=2.6					
MDB	**Medias**	**5.02 13**	⇑*i* P	Pn	16 22 11.3	+1.6
MDB	**Medias**	**5.02 13**	⇑*i* P	Pn	16 22 11.3	+1.6
TLB	**Topalu**	**5.12 48**	⇑*i* P	Pn	16 22 11.1	0.0
TLB	**Topalu**	**5.12 48**	⇑*i* P	Pn	16 22 11.1	0.0
GRER		**5.15 36**	⇑*i* P	Pn	16 22 13.9	+2.5
GRER		**5.15 36**	⇑*i* P	Pn	16 22 13.9	+2.5
PLOR	**Plostina**	**5.39 31**	⇓*i* P	Pn	16 22 15.7	+0.8
PLOR	**Plostina**	**5.39 31**	⇓*i* P	Pn	16 22 15.7	+0.8
VRI	**Vrincioaia**	**5.44 31**	⇑*i* P	Pn	16 22 16.4	+0.9
VRI	**Vrincioaia**	**5.44 31**	⇑*i* P	Pn	16 22 16.4	+0.9
CFR	**Carcaliu**	**5.56 44**	⇑*i* P	Pn	16 22 17.4	+0.3
CFR	**Carcaliu**	**5.56 44**	S	Sg	16 23 48.9	-4.0
CFR	**Carcaliu**	**5.56 44**	⇑*i* P	Pn	16 22 17.4	+0.3
TLCR		**5.92 47**	⇑*i* P	Pn	16 22 22.8	+0.7
TLCR		**5.92 47**	⇑*i* P	Pn	16 22 22.8	+0.7
IDI	**Anoyia**	**6.21 163**	Pn	Pn	16 22 26.7	+0.6
	comp=E,0.4nm,0.3s,baz=351,slow=15,SNR=4.9					
BOJS	**Bojanci**	**6.89 310**	*i* Pn	Pn	16 22 40.6	+5.2
PSZ	**Piszkesteto**	**6.95 344**	⇑*i* P	Pn	16 22 33.6	-2.6
CRES	**Cresnjev**	**6.97 313**	*i* Pn	Pn	16 22 39.2	+2.6
VISS	**Visnje**	**7.30 311**	*i* Pn	Pn	16 22 42.4	+1.4
KOLS	**Kolonicke sedl**	**7.67 358**	ePN	Pn	16 22 48.2	+2.1
KOLS	**Kolonicke sedl**	**7.67 358**	eSG	Sg	16 25 03.2	+2.6
JAVS	**Javornik**	**7.80 309**	*i* Pn	Pn	16 22 48.4	+0.4
BRTR	**Keskin Array B**	**8.46 97**	Pn	Pn	16 22 54.6	-2.5
	comp=E,0.1nm,0.3s,baz=294,slow=11,SNR=3.0					
GERES	**GERESS Array B**	**9.90 323**	Pn	Pn	16 23 19.8	+3.0
	comp=E,0.2nm,0.3s,baz=148,slow=13,SNR=10					
AKASG	**Malin Array Be**	**10.46 23**	Pn	Pn	16 23 22.1	-2.1
	comp=E,0.2nm,0.3s,baz=209,slow=13,SNR=2.4					
DAVOX	**Davos/Dischmat**	**10.76 305**	Pn	Pn	16 23 30.1	+1.5
	comp=E,0.3nm,0.3s,baz=90,slow=12,SNR=3.4					
DAVOX			LR	LR	16 28 09.1	
	comp=E,56nm,20.7s,baz=268,slow=40					
HFS	**Hagfors**	**19.70 347**	P	P	16 25 23.1	-0.5
	comp=E,0.1nm,0.3s,baz=168,slow=17,SNR=2.5					
ESDC	**Sonseca Array**	**20.34 274**	P	P	16 25 30.3	-0.4
	comp=E,0.3nm,0.6s,baz=77,slow=16,SNR=3.0					
NOA	**NORSAR Array B**	**21.01 344**	P	P	16 25 36.3	-1.5
	comp=E,0.9nm,0.9s,baz=153,slow=9.7,SNR=2.8					
EKA	**Eskdalemuir Ar**	**22.06 318**	P	P	16 25 47.8	-1.3
	comp=E,1.7nm,0.8s,baz=114,slow=9.4,SNR=3.9					
TORD	**Torodi Ar. Bea**	**33.50 219**	P	P	16 27 33.8	-0.1
	comp=E,0.8nm,0.6s,baz=28,slow=8.4,SNR=7.5					
MKAR	**Makanchi Array**	**42.29 62**	P	P	16 28 46.5	-1.4
	comp=E,0.3nm,0.4s,baz=291,slow=7.1,SNR=6.0					
ZALV	**Zalesovo Beam**	**42.39 51**	P	P	16 28 48.2	-0.4
	comp=E,0.7nm,0.6s,baz=292,slow=7.6,SNR=2.8					

IDC ***18*** *16:28:13.4±1.6, 6.°86S×128.°78E, h0km, mb3.7/2, mb1 4.0/4, mb1mx3.5/18, mbtmp3.8/4, ML3.8/2, Error ellipse: s-maj=137.7km s-min=25.0km az=64.0*

AUST ***18*** *16:28:30.1, 7.°99S×128.°04E, h60km*

ISC 18 16:28:14.7±0.9, 6.°87S±0.°09×128.°6E±0.°1, h10km, n15, σ1°55/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**4.26**	**74**	P		Pg	16 29 46.2	+10
	baz=5.2,SNR=18							
SOEI	**Soe**	**5.18**	**236**	P		**Pn**	**16 29 31.3**	**-1.2**
	baz=4.1,SNR=92							
FAKI	**Fak Fak**	**5.33**	**43**	P		Pg	16 30 00.7	+3.8
	baz=6.6,SNR=8.0							
MTN	**Manton Dam**	**6.43**	**158**	P		Pb	16 29 57.5	-9.2
	baz=5.7,SNR=9.7							
SWI	**Sorong**	**6.52**	**24**	P		**Pg**	**16 30 19.3**	**-0.3**
	baz=7.8,SNR=3.3							
KNRA	**Kununurra**	**8.75**	**179**	P		**Pn**	**16 30 21.6**	**+0.2**
	baz=7.7,SNR=26							
FITZ	**Fitzroy Crossi**	**11.54**	**194**	P		Pn	16 30 55.3	-4.2
	baz=10,SNR=5.1							
WRA	**Warramunga Arr**	**14.13**	**157**	Pn		**Pn**	**16 31 35.1**	**+0.1**
	0.3nm,0.3s,baz=337,slow=12,SNR=22							
WRA						Sn	16 33 56.4	-16
	0.5nm,0.3s,baz=341,slow=20,SNR=5.9							
ASAR	**Alice Springs**	**17.45**	**164**	P		**P**	**16 32 17.8**	**-1.8**
	0.5nm,0.3s,baz=338,slow=11,SNR=42							
ASAR						Sn	16 35 16.4	-16
	0.2nm,0.3s,baz=327,slow=23,SNR=6.2							
MTSU	**Mount Surprise**	**18.95**	**128**	P		Pn	16 32 44.1	+7.3
	baz=19,SNR=4.5							
MEEK	**Meekatharra**	**21.85**	**205**	P		**P**	**16 33 10.1**	**+2.5**
	baz=21,SNR=4.5							
QLP	**Quilpie**	**24.60**	**145**	P		P	16 33 39.2	+4.0
	baz=24,SNR=7.6							
STKA	**Stephens Creek**	**27.67**	**156**	P		**P**	**16 34 02.7**	**-0.2**
	2.3nm,0.6s,baz=349,slow=7.7,SNR=6.7							
CMSA	**Cobar Meteorol**	**29.27**	**149**	P		P	16 34 18.7	+1.6
	baz=29,SNR=13							
MKAR	**Makanchi Array**	**67.38**	**327**	P		**P**	**16 39 11.1**	**+0.9**
	0.2nm,0.8s,baz=115,slow=6.8,SNR=2.2							

IDC 18 16:32:23.7±1.8, 2.°72N×127.°54E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/19, mbtmp3.5/4, Error ellipse: s-maj=187.5km s-min=22.6km az=70.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.49**	**164**	P		P	16 37 34.5	-0.9
	1.5nm,0.5s,baz=342,slow=11,SNR=5.6							
ASAR	**Alice Springs**	**26.95**	**167**	P		P	16 38 07.8	+0.6
	0.3nm,0.3s,baz=348,slow=11,SNR=5.7							
SONM	**Songino Array**	**48.50**	**341**	P		P	16 41 08.1	-0.4
	0.2nm,0.4s,baz=148,slow=8.5,SNR=3.5							
MKAR	**Makanchi Array**	**58.84**	**325**	P		P	16 42 24.4	+0.2
	0.3nm,0.5s,baz=118,slow=7.8,SNR=5.1							

IDC 18 16:38:43.0±1.7, 13.°66S×63.°74W, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.5/19, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=60.3km s-min=27.9km az=156.0, Northern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.99**	**238**	Pn		Pn	16 39 59.4	-0.6
	1.1nm,0.3s,baz=26,slow=14,SNR=19							
LPAZ						Sn	16 41 00.5	+1.5
	0.3nm,0.3s,baz=132,slow=14,SNR=14							
TXAR	**Lajitas Array**	**57.55**	**318**	P		P	16 48 34.7	-0.1
	0.2nm,0.6s,baz=135,slow=9.0,SNR=2.9							
TORD	**Torodi Ar. Bea**	**70.08**	**70**	P		P	16 49 57.7	0.0
	0.9nm,0.9s,baz=255,slow=5.2,SNR=6.4							

DJA ***18*** *16:46:53.9±1.2, 12.°S±13.°×11.°8E±.°, h10km, M4.8/8, mb4.7/8, mB5.4/4, MLv5.0/8, Mw(mB)4.8/4*

ISCJB ***18*** *16:46:56.1±0.3, 11.°61S±0.°04×117.°97E±0.°04, h36km, mb4.0/9, MS3.7/2, Error ellipse: s-maj=6.8km s-min=4.2km az=43.6*

NEIC ***18*** *16:46:56.3±4.4, 11.°56S×117.°90E, h21km±33km, mb4.5/1, Error ellipse: s-maj=23.9km s-min=10.2km az=68.0*

AUST ***18*** *16:46:57.9, 11.°48S×117.°93E, h35km*

IDC ***18*** *16:47:00.9±3.5, 11.°32S×118.°22E, h51km±34km, mb3.8/8, mb1 3.9/12, mb1mx3.7/21, mbtmp3.8/12, ML4.0/4, MS3.5/3, Ms1 3.4/3, ms1mx3.0/37, Error ellipse: s-maj=37.6km s-min=16.0km az=68.0*

ISC 18 16:46:58.4±0.6, 11.°60S±0.°07×117.°95E±0.°07, h36km, n70, σ0°97/65, mb4.1/9, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**3.00**	**51**	P		Pn	16 47 47.8	+4.4
	baz=3.0,SNR=5.3							
MTNI	**Mataram**	**3.42**	**329**	P		Pn	16 47 53.0	+3.7
MTNI				S		Sn	16 48 16.7	-12
DNP	**Denpasar**	**3.96**	**317**	P		**Pn**	**16 47 57.7**	**+1.1**
SRBI	**Singaraja**	**4.41**	**322**	P		**Pn**	**16 48 04.6**	**+1.8**
BYJI	**Banyuwangi**	**4.88**	**313**	P		**Pn**	**16 48 11.1**	**+1.8**
	218nm,0.6s,9μm1.8nm							
MMRI	**Maumere**	**5.14**	**56**	P		**Pn**	**16 48 12.7**	**-0.2**
	48nm,1.1s,2μm0.4nm							
ABJI	**Asem Bagus**	**5.26**	**316**	P		**Pn**	**16 48 15.7**	**+1.2**
	97nm,1.0s,7μm1.7nm							
GMJI	**Gumukmas**	**5.53**	**306**	P		**Pn**	**16 48 17.8**	**-0.5**
GMJI				S		Sn	16 49 03.5	-17
BLJI	**Banyuglugur**	**5.75**	**311**	P		**Pn**	**16 48 21.7**	**+0.4**
KMMI	**Kalianget**	**5.99**	**319**	P		**Pn**	**16 48 26.3**	**+1.8**
	81nm,1.4s,0.5nm							
SOEI	**Soe**	**6.47**	**74**	P		**Pn**	**16 48 31.4**	**+0.1**
	44nm,0.8s,0.3nm							
SOEI	**Soe**	**6.47**	**74**	P		**Pn**	**16 48 31.9**	**+0.7**
	baz=6.5,SNR=8.8							
BKSI	**Bulukumba**	**6.59**	**19**	P		**Pn**	**16 48 34.2**	**+1.4**
	34nm,0.6s,956nm0.3nm							
KAPI	**Kappang**	**6.78**	**15**	P		**Pn**	**16 48 35.2**	**-0.2**
KAPI	**Kappang**	**6.78**	**15**	P		**Pn**	**16 48 35.2**	**-0.2**
	1.2nm,0.3s,baz=190,slow=6.1,SNR=3.6							
PWJI	**Pagerwojo**	**7.02**	**300**	P

IDC 18 16:58:59.8±1.3, 27°23S×178°34W, h365km±15km, mb3.1/4, mb1 3.3/6, mb1mx3.1/18, mbtmp4.0/6, Error ellipse: s-maj=34.8km s-min=23.4km az=163.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.05**	**170**	P	Pn	16 59 53.2	+0.4
	146nm,0.3s,baz=56,slow=18,SNR=14						
RAO				S	S	17 00 35.6	+0.1
	68nm,0.3s,baz=24,slow=19,SNR=3.3						
URZ	**Urewera**	**11.64**	**198**	P	P	17 01 36.3	-0.4
	1.7nm,0.3s,baz=108,slow=4.5,SNR=11						
URZ				S	S	17 03 44.6	-1.6
	1.7nm,0.3s,baz=94,slow=23,SNR=9.9						
DZM	**Mont Dzumac**	**14.75**	**287**	P	Pn	17 02 12.9	-0.7
	0.7nm,0.3s,baz=99,slow=19,SNR=8.0						
CTA	**Charters Tower**	**33.12**	**275**	P	P	17 05 03.9	+0.5
	2.8nm,0.7s,baz=119,slow=13,SNR=2.6						
ASAR	**Alice Springs**	**43.06**	**264**	P	P	17 06 25.4	0.0
	0.5nm,0.4s,baz=97,slow=7.9,SNR=8.0						
WRA	**Warramunga Arr**	**43.76**	**269**	P	P	17 06 30.3	-0.7
	0.4nm,0.3s,baz=104,slow=7.7,SNR=13						
NVAR	**Mina Array Bea**	**86.13**	**43**	P	P	17 11 01.2	+0.5
	0.3nm,0.6s,baz=258,slow=7.9,SNR=3.4						
FINES	**FINESS Array B**	**142.07**	**341**	PKhKP	PKPpre	17 17 44.0	
	3.2nm,1.1s,baz=46,slow=4.0,SNR=2.5						
AKASG	**Malin Array Be**	**148.56**	**326**	PKPbc	PKPbc	17 18 03.0	-0.7
	0.4nm,0.4s,baz=47,slow=4.3,SNR=6.5						
BRTR	**Keskin Array B**	**150.72**	**303**	PKPbc	PKPbc	17 18 09.8	+0.2
	0.4nm,0.6s,baz=50,slow=3.4,SNR=2.8						
BRTR				PKPab	PKPab	17 18 16.6	-1.5
	0.4nm,0.6s,baz=66,slow=2.0,SNR=3.0						

IDC 18 17:03:02.3±10.0, 12°29S×166°44E, h279km±130km, mb3.1/3, mb1 3.3/4, mb1mx3.0/19, mbtmp3.2/4, Error ellipse: s-maj=98.9km s-min=54.5km az=151.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.73**	**180**	P	Pn	17 05 17.6	+0.3
	1.4nm,0.3s,baz=340,slow=22,SNR=43						
DZM				S	S	17 07 06.5	-0.6
	0.2nm,0.3s,baz=328,slow=18,SNR=1.8						
WRA	**Warramunga Arr**	**31.72**	**252**	P	P	17 09 00.6	-0.2
	0.9nm,0.8s,baz=80,slow=9.4,SNR=5.0						
ASAR	**Alice Springs**	**32.87**	**245**	P	P	17 09 10.8	+0.1
	0.4nm,0.7s,baz=66,slow=10,SNR=5.6						
MKAR	**Makanchi Array**	**94.89**	**317**	P	P	17 15 52.6	-0.3
	0.3nm,0.5s,baz=102,slow=5.1,SNR=4.5						

BJI ***18*** *17:21:50.1,8.°19S×126.°34E, h20km, mB5.2/36, mb5.0/51, Ms4.7/34, Ms7 4.8/10*

ISCJB ***18*** *17:21:56.9±0.8, 7.°49S±0.°02×126.°06E±0.°02, h26km±5km, mb5.1/102, MS4.2/26, Error ellipse: s-maj=4.4km s-min=3.7km az=141.4*

BKK ***18*** *17:21:57.6±0.3, 8°S±3°×12°6E±°, h10km, M5.1/35, mB5.6/20, mb5.2/35, MLv5.3/4, Mw(mB)5.1/20*

AUST ***18*** *17:21:58.4±18.0, 7.°61S×125.°90E, h18km, Error ellipse: s-maj=2.2km s-min=2.0km az=245.0*

MOS ***18*** *17:21:58.0±1.0, 7.°58S×125.°87E, h33km, mb5.3/39, MS4.0/7, Error ellipse: s-maj=12.6km s-min=6.1km az=117.7*

NEIC ***18*** *17:21:58.6±0.2, 7.°54S×126.°04E, mb5.2/35, Error ellipse: s-maj=7.0km s-min=4.3km az=55.0*

GCMT ***18*** *17:21:59.6±0.2, 7.°38S×126.°05E, h20km±1km, MW5.0, Moment Tensor Solution. s29,c35; s73,c112; Moment tensor: Scale 10¹⁶Nm; Mrr0.68±.13; Mθθ-3.40±.10; Mφφ2.72±.10; Mrθ0.57±.17; Mθφ0.56±.08; Mφr0.97±.20; Best double couple: M₀3.40000×10¹⁶ NP1:φ₀52.00000°, δ79.00000°, λ21.00000°. NP2:φ₀318.00000°, δ69.00000°, λ169.00000°. Principal axes: T 3.1900, Plg22.0000°, Azm277.0000°; N 0.3200, Plg67.0000°, Azm78.0000°; P -3.5100, Plg7.0000°, Azm184.0000°; Data Used: IU IC G CN II.*

IDC ***18*** *17:21:59.8±0.5, 7.°46S×125.°91E, h31km±3km, mb4.6/28, mb1 4.6/29, mb1mx4.6/30, mbtmp4.6/29, ML5.0/1, MS4.1/21, Ms1 4.1/21, ms1mx4.0/31 Error ellipse: s-maj=15.9km s-min=9.2km az=60.0*

DJA ***18*** *17:22:02.7±0.2, 7°S±2°×12°6E±°, h50km, M5.0/37, mB5.5/11, mb5.2/37, Mw(mB)5.0/11*

ISC 18 17:21:58.6±0.3, 7.°59S±0.°03×125.°93E±0.°04, h24km±1km, h24km:pP-P, n383, σ1s57/445, mb5.2/103, MS4.2/26, 31C-17D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**2.71**	**217**	P	**Pb**	**17 22 46.3**	**-0.2**
BATI	**Baumata**	**3.43**	**221**	P	**Pb**	**17 22 55.8**	**-2.9**
BATI				S	**Sb**	**17 23 39.7**	**-0.4**
BATI	**Baumata**	**3.43**	**221**	Pn	**Pb**	**17 22 55.8**	**-2.9**
BATI	**Baumata**	**3.43**	**221**	Pn	**Pb**	**17 22 55.8**	**-2.9**
	80nm,0.3s,baz=104,slow=1.6,SNR=193						
BATI				Sn	**Sb**	**17 23 38.9**	**-1.2**
	45nm,0.3s,baz=70,slow=22,SNR=7.5						
BATI				LR	LR	17 24 26.3	
	comp=Z,4μm,19.9s,baz=214,slow=42						
MMRI	**Maumere**	**3.80**	**254**	P	**Pn**	**17 22 57.8**	**+2.1**
MMRI	**Maumere**	**3.80**	**254**	*e*Pn	**Pn**	**17 22 58.1**	**+2.5**
BBSI	**Bau Bau**	**3.94**	**302**	P	**Pn**	**17 22 57.9**	**+0.4**
NLAI	**Namlea**	**4.47**	**15**	P	**Pn**	**17 23 03.2**	**-1.7**
AAI	**Ambon**	**4.48**	**30**	P	**Pn**	**17 23 02.2**	**-2.8**
KKSI	**Kolaka, Sulawe**	**5.45**	**308**	P	**Pn**	**17 23 17.4**	**-0.8**
WSI	**Waingapu**	**5.94**	**249**	P	Pn	17 23 30.1	+5.0
BKSI	**Bulukumba**	**6.20**	**291**	P	**Pn**	**17 23 29.2**	**+0.6**
BNSI	**Bone**	**6.60**	**298**	P	**Pn**	**17 23 35.3**	**+1.1**
KAPI	**Kappang**	**6.65**	**292**	P	**Pn**	**17 23 35.0**	**+0.1**
KAPI	**Kappang**	**6.65**	**292**	*e*Pn	**Pn**	**17 23 34.2**	**-0.7**
KAPI				Sn	**Sn**	**17 24 48.9**	**-1.1**
KAPI	**Kappang**	**6.65**	**292**	Pn	**Pn**	**17 23 34.4**	**-0.5**
	2μm,0.5s,SNR=23						
KAPI	**Kappang**	**6.65**	**292**	Pn	**Pn**	**17 23 34.8**	**-0.1**
	29nm,0.3s,baz=152,slow=9.1,SNR=34						
KAPI				Sn	**Sn**	**17 24 48.9**	**-1.1**
	baz=144,slow=19,SNR=2.6						
KAPI				LR	LR	17 26 12.8	
	comp=Z,3μm,18.1s,baz=122,slow=38						
WBSI	**Waikabubak, Su**	**6.78**	**252**	P	Pn	17 23 41.9	+5.2
TLE	**Tual**	**7.03**	**74**	P	**Pn**	**17 23 40.9**	**+0.8**
LBMI	**Labuha**	**7.08**	**13**	P	**Pn**	**17 23 41.0**	**+0.3**
SPSI	**Sidrap Palu**	**7.11**	**300**	P	**Pn**	**17 23 42.6**	**+1.5**
LUWI	**Luwuk**	**7.23**	**334**	P	**Pn**	**17 23 42.5**	**-0.2**
MTN	**Manton Dam**	**7.31**	**136**	⇑P	**Pn**	**17 23 44.5**	**+0.6**
	baz=7.3,SNR=200						
TTSI	**Tana Toraja**	**7.58**	**306**	P	**Pn**	**17 23 49.3**	**+1.8**
FAKI	**Fak Fak**	**7.81**	**54**	P	**Pn**	**17 23 50.9**	**+0.1**
APSI	**Ampana**	**7.89**	**327**	P	**Pn**	**17 23 51.2**	**-0.6**
MJSI	**Majene**	**8.00**	**300**	P	**Pn**	**17 23 55.3**	**+2.0**
KMSI	**Cibinong**	**8.34**	**346**	P	**Pn**	**17 23 57.8**	**-0.2**
TNTI	**Ternate**	**8.43**	**10**	P	**Pn**	**17 23 59.2**	**0.0**
TNTI	**Ternate**	**8.43**	**10**	*e*Pn	**Pn**	**17 23 56.4**	**-2.9**
KNRA	**Kununurra**	**8.50**	**161**	⇑P	**Pn**	**17 24 01.1**	**+0.9**
	baz=8.5,SNR=112						
MMSI	**Mamuju**	**8.52**	**304**	P	**Pn**	**17 24 01.8**	**+1.3**
SWI	**Sorong**	**8.54**	**39**	P	**Pn**	**17 23 59.3**	**-1.4**
MRSI	**Marisa**	**8.95**	**333**	P	**Pn**	**17 24 05.8**	**-0.6**
MTNI	**Mataram**	**9.72**	**263**	P	**Pn**	**17 24 23.3**	**+6.3**
TOLI	**Toli-Toli**	**10.06**	**329**	P	**Pn**	**17 24 22.9**	**+1.3**
FITZ	**Fitzroy Crossi**	**10.45**	**182**	*e*Pn	**Pn**	**17 24 26.7**	**-0.4**
FITZ				Sn	**Sn**	**17 26 19.4**	**-4.0**
FITZ	**Fitzroy Crossi**	**10.45**	**182**	⇑P	**Pn**	**17 24 26.9**	**-0.1**
	baz=10,SNR=134						
FITZ	**Fitzroy Crossi**	**10.45**	**182**	Pn	**Pn**	**17 24 26.6**	**-0.4**
	5.0nm,0.3s,baz=11,slow=9.5,SNR=107						
FITZ				Sn	**Sn**	**17 26 19.4**	**-4.0**
	6.3nm,0.3s,baz=302,slow=12,SNR=9.0						
FITZ				LR	LR	17 28 54.7	
	comp=Z,1μm,21.9s,baz=355,slow=39						
SRBI	**Singaraja**	**10.63**	**267**	P	Pn	17 24 33.5	+4.0
BKB	**Balikpapan**	**10.98**	**304**	P	Pn	17 24 39.0	+4.7
	316nm,1.0s,3μm						
SGSI	**Sangihe**	**11.21**	**358**	P	**Pn**	**17 24 37.7**	**+0.3**
BYJI	**Banyuwangi**	**11.48**	**266**	P	Pn	17 24 46.9	+5.8
ABJI	**Asem Bagus**	**11.60**	**268**	P	**Pn**	**17 24 44.9**	**+2.2**
KMMI	**Kalianget**	**11.88**	**272**	P	Pn	17 24 51.3	+4.7
BAKI	**Biak**	**11.97**	**58**	P	**Pn**	**17 24 49.3**	**+1.5**
BLJI	**Banyuglugur**	**12.23**	**268**	P	Pn	17 24 56.0	+4.7
GMJI	**Gumukmas**	**12.39**	**266**	P	Pn	17 24 58.9	+5.4
MTKI	**Muara Teweh, K**	**12.83**	**300**	P	P	17 25 14.0	+3.8
GRJI	**Gresik**	**13.36**	**272**	P	**P**	**17 25 13.2**	**-2.9**
PWJI	**Pagerwojo**	**14.00**	**267**	P	**P**	**17 25 24.5**	**+1.2**
SJI	**Sawahan**	**14.04**	**268**	P	P	17 25 20.4	-3.4
TSM	**Tawau**	**14.28**	**325**	P	**Pn**	**17 25 19.3**	**-0.1**
NGJI	**Ngawi**	**14.35**	**270**	P	**P**	**17 25 27.0**	**-0.1**
PCJI	**Pacitan**	**14.63**	**267**	P	**Pn**	**17 25 24.7**	**+0.6**
MYLDM	**Lahad Datu**	**14.69**	**329**	P	**Pn**	**17 25 27.6**	**+2.6**
MYLDM	**Lahad Datu**	**14.69**	**329**	P	**P**	**17 25 33.0**	**+2.1**
MYLDM	**Lahad Datu**	**14.69**	**329**	*e*Pn	**Pn**	**17 25 24.0**	**-1.0**
WRAB	**Tennant Creek**	**14.74**	**147**	⇑P	**Pn**	**17 25 23.3**	**-2.3**
WRAB				pmax	pmax		
	comp=Z,82nm,0.8s						
WRAB	**Tennant Creek**	**14.74**	**147**	*e*Pn	**Pn**	**17 25 22.5**	**-3.1**
WRAB	**Tennant Creek**	**14.74**	**147**	Pn	Pn	17 25 21.3	-4.3
	comp=Z,530nm,0.8s,SNR=13						
WRA	**Warramunga Arr**	**14.74**	**147**	Pn	Pn	17 25 21.2	-4.5
WRA	**Warramunga Arr**	**14.74**	**147**	Pn	Pn	17 25 21.2	-4.5
	comp=Z,1.4nm,0.3s,baz=238,slow=7.4,SNR=89						
WRA				Sn	Sn	17 27 53.8	-15
	comp=Z,0.9nm,0.3s,baz=339,slow=19,SNR=4.8						
MBWA	**Marble Bar**	**14.76**	**203**	*e*Pn	**Pn**	**17 25 25.8**	**-0.1**
WOJI	**Wonogiri, Jawa**	**14.88**	**268**	P	**P**	**17 25 30.9**	**-2.1**
	comp=Z,185nm,1.0s						
PBKI	**Pangkalan Bun**	**15.01**	**288**	P	**P**	**17 25 32.0**	**-2.5**
UGM	**Wanagama**	**15.27**	**268**	*e*Pn	**Pn**	**17 25 33.3**	**+0.5**
	comp=Z,1μm,2.0s						
UGM	**Wanagama**	**15.27**	**268**	⇓P	**Pn**	**17 25 33.7**	**+0.9**
	baz=15,SNR=3.9						
JAY	**Jayapura**	**15.55**	**72**	P	**P**	**17 25 40.5**	**-0.1**
SDKM	**Sandakan**	**15.77**	**326**	P	**P**	**17 25 41.7**	**-1.3**
BJII	**Banjamegara**	**16.09**	**270**	P	**Pn**	**17 25 44.9**	**+1.5**
	comp=Z,97nm,1.7s						
STKI	**Sintang**	**16.30**	**297**	P	**P**	**17 25 48.3**	**-0.5**
	comp=Z,51nm,1.3s,comp=Z,1μm						
KKM	**Kota Kinabalu**	**16.65**	**324**	P	**P**	**17 25 54.0**	**+1.2**
KKM	**Kota Kinabalu**	**16.65**	**324**	P	**P**	**17 25 54.2**	**+1.3**
KKM	**Kota Kinabalu**	**16.65**	**324**	*e*Pn	**Pn**	**17 25 49.6**	**-1.0**
	comp=Z,91nm,1.5s						
KKM	**Kota Kinabalu**	**16.65**	**324**	⇑P	**P**	**17 25 52.8**	**0.0**
	baz=17,SNR=8.2						
TGJI	**Tegal**	**16.69**	**271**	P	**Pn**	**17 25 51.7**	**+0.7**
	comp=Z,259nm,1.1s						
BTM	**Bintulu**	**16.71**	**309**	P	**P**	**17 25 58.2**	**+4.8**
KPJI	**Karang Pucung**	**16.86**	**270**	P	**P**	**17 25 55.6**	**+0.6**
	comp=Z,100nm,0.7s						
SBUM	**Sibu**	**16.93**	**306**	P	**P**	**17 25 56.9**	**+1.0**
SBUM	**Sibu**	**16.93**	**306**	P	**P**	**17 25 55.9**	**+0.1**
	comp=Z,50nm,2.0s,comp=Z,1μm						
SBUM	**Sibu**	**16.93**	**306**	*e*Pn	**Pn**	**17 25 54.6**	**+0.6**
	comp=Z,405nm,2.4s						
AS31	**Alice Springs**	**17.72**	**155**	*e*Pn	**Pn**	**17 26 02.3**	**-1.6**
ASAR	**Alice Springs**	**17.72**	**155**	P	**Pn**	**17 26 02.5**	**-1.3**
ASAR				S	Sn	17 29 10.6	-10
ASAR	**Alice Springs**	**17.72**	**155**	P	**Pn**	**17 26 02.5**	**-1.3**
	comp=Z,1.2nm,0.3s,baz=324,slow=9.8,SNR=95						
ASAR				S	Sn	17 29 10.6	-10
	comp=Z,0.7nm,0.3s,baz=327,slow=24,SNR=3.5						
ASAR				LR	LR	17 34 11.0	
	comp=Z,968nm,19.2s,baz=328,slow=41						
CISI	**Cisompet, Garu**	**17.96**	**269**	⇓P	**P**	**17 26 07.7**	**+0.4**
	baz=18,SNR=6.6						
KSM	**Kuching**	**18.00**	**299**	P	**P**	**17 26 09.5**	**+1.8**
KSM	**Kuching**	**18.00**	**299**	P	**P**	**17 26 08.8**	**+1.2**
	comp=Z,78nm,1.3s,comp=Z,1μm						
KSM	**Kuching**	**18.00**	**299**	*e*Pn	**Pn**	**17 26 07.5**	**+0.2**
	comp=Z,77nm,1.0s						
KSM	**Kuching**	**18.00**	**299**	⇑P	**P**	**17 26 08.2**	**+0.6**
	baz=18,SNR=24						
COEN	**Coen**	**18.08**	**112**	*e*Pn	**Pn**	**17 26 05.7**	**-2.6**
	comp=Z,484nm,1.0s						
LEM	**Lembang**	**18.19**	**271**	P	**P**	**17 26 11.1**	**+1.2**
	comp=Z,166nm,0.9s						
LEM	**Lembang**	**18.19**	**271**	⇓P	**Pn**	**17 26 09.9**	**+0.1**
	baz=18,SNR=5.0						
CBJI	**Citeko**	**18.98**	**272**	P	**Pn**	**17 26 20.6**	**+1.4**
	comp=Z,334nm,0.8s						
MEEK	**Meekatharra**	**20.18**	**199**	⇑P	**P**	**17 26 32.6**	**+1.1**
	baz=20,SNR=43						
XMIS	**Christmas Isla**	**20.23**	**260**	*e*P	**P**	**17 26 32.1**	**-0.1**
	comp=Z,510nm,0.8s						
XMIS	**Christmas Isla**	**20.23**	**260**	⇑P	**P**	**17 26 32.5**	**+0.3**
	baz=20,SNR=4.6						
PPBI	**Pangkal Pinang**	**20.44**	**284**	P	Pn	17 26 37.0	+0.4
	comp=Z,166nm,1.1s						
PMG	**Port Moresby**	**21.07**	**96**	P	P	17 26 46.5	+5.3
PMG	**Port Moresby**	**21.07**	**96**	*e*P	**P**	**17 26 38.5**	**-2.8**
	comp=Z,152nm,0.8s						
PMG				*e*P	**P**	**17 26 40.9**	**-0.3**
PMG	**Port Moresby**	**21.07**	**96**	P	**P**	**17 26 43.0**	**+1.8**
	comp=Z,41nm,0.8s,baz=298,slow=11,SNR=11						
PMG				LR	LR	17 36 02.4	
	comp=Z,644nm,19.3s,baz=240,slow=40						
PMBI	**Palembang**	**21.57**	**281**	P	P	17 26 53.1	+6.5
MDSI	**Maura Dua**	**21.85**	**277**	P	P	17 26 56.7	+7.1
LHSI	**Lahat**	**22.60**	**278**	P	**P**	**17 27 01.3**	**+3.6**
	comp=Z,55nm,1.1s						
CTA	**Charters Tower**	**23.28**	**124**	P	**P**	**17 27 05.8**	**+1.1**
CTA	**Charters Tower**	**23.28**	**124**	⇓P	**P**	**17 27 05.6**	**+0.9**
	baz=23						
CTA	**Charters Tower**	**23.28**	**124**	P	**P**	**17 27 05.8**	**+1.1**
	comp=Z,8.6nm,0.6s,baz=308,slow=13,SNR=13						
CTAO	**Charters Tower**	**23.28**	**124**	*e*P	**P**	**17 27 03.7**	**-1.0**
CTAO				pmax	pmax		
	comp=Z,108nm,0.9s						
CTAO	**Charters Tower**	**23.28**	**124**	*e*P	**P**	**17 27 03.7**	**-1.0**
	comp=Z,108nm,0.9s						
MORW	**Morawa**	**23.31**	**202**	P	**P**	**17 27 05.5**	**+0.7**
	baz=23,SNR=20						
BTDF	**Bukit Timah Da**	**23.82**	**291**	⇓P	**P**	**17 27 11.4**	**+1.5**
	baz=24,SNR=13						
BTDF				⇓P	**P**	**17 27 11.4**	**+1.5**
	baz=24,SNR=13						
MYKOM	**Kota Tinggi**	**23.92**	**292**	P	**P**	**17 27 14.8**	**+3.9**
MYKOM	**Kota Tinggi**	**23.92**	**292**	P	**P**	**17 27 13.1**	**+2.2**
	comp=Z,1101nm,1.0s,comp=Z,1μm						
MYKOM	**Kota Tinggi**	**23.92**	**292**	*e*P	**P**	**17 27 11.3**	**+0.5**
	comp=Z,91nm,1.0s						
BLDU	**Ballidu**	**24.48**	**199**	⇑P	**P**	**17 27 17.3**	**+1.4**
	baz=25,SNR=13						
KGM	**Kluang**	**24.49**	**292**	P	**P**	**17 27 19.2**	**+3.0**
RGRI	**Rengat**	**24.60**	**286**	P	**P**	**17 27 21.4**	**+4.2**
QLP	**Quilpie**	**25.68**	**140**	P	**P**	**17 27 28.0**	**+1.2**
	baz=26,SNR=27						
KTGM	**Kuala Trenggan**	**26.11**	**299**	P	P	17 27 35.8	+4.9
PPI	**Padang Panjang**	**26.42**	**284**	P	**P**	**17 27 34.4**	**+0.7**
	comp=Z,62nm,1.0s						
PPI	**Padang Panjang**	**26.42**	**284**	P	**P**	**17 27 34.0**	**+0.4**
	baz=26						
NWAO	**Narrogin (SRO)**	**26.47**	**197**	*e*P	**P**	**17 27 33.9**	**0.0**
	comp=Z,61nm,1.5s						
NWAO	**Narrogin (SRO)**	**26.47**	**197**	P	**P**	**17 27 35.2**	**+1.3**
	comp=Z,26nm,0.8s,baz=25,slow=9.6,SNR=11						
NWAO				LR	LR	17 39 40.7	
	comp=Z,392nm,19.3s,baz=219,slow=40						
FRIM	**Kepong**	**26.53**	**293**	P	P	17 27 40.7	+6.0
BBOO	**Buckleboo**	**26.80**	**161**	*e*P	**P**	**17 27 36.4**	**-0.5**
	comp=Z,934nm,1.3s						
BBOO	**Buckleboo**	**26.80**	**161**	P	**P**	**17 27 38.4**	**+1.5**
	baz=27,SNR=11						
IPM	**Ipoh**	**27.59**	**295**	P	**P**	**17 27 45.6**	**+1.4**
IPM	**Ipoh**	**27.59**	**295**	P	**P**	**17 27 46.7**	**+2.5**
	comp=Z,20nm,1.1s						
IPM	**Ipoh**	**27.59**	**295**	*e*P	**P**	**17 27 44.1**	**-0.1**
	comp=Z,20nm,1.0s						
RKGY	**Rocky Gully**	**28.13**	**196**	⇑P	**P**	**17 27 50.7**	**+2.0**
	baz=28,SNR=7.7						
STKA	**Stephens Creek**	**28.23**	**151**	*e*P	**P**	**17 27 49.8**	**+0.1**
	comp=Z,5.7nm,1.0s						
STKA	**Stephens Creek**	**28.23**	**151**	P	**P**	**17 27 51.0**	**+1.3**
	baz=28,SNR=17						
STKA	**Stephens Creek**	**28.23**	**151**	P	**P**	**17 27 50.8**	**+1.1**
	comp=Z,17nm,1.0s,baz=322,slow=8.2,SNR=25						
STKA				LR	LR	17 40 33.9	
	comp=Z,764nm,19.4s,baz=326,slow=39						
KULM	**Kulim**	**28.28**	**296**	P	**P**	**17 27 50.8**	**+0.5**
KULM	**Kulim**	**28.28**	**296**	P	P	17 27 53.9	+3.5
	comp=Z,25nm,1.3s,comp=Z,626nm						
KULM	**Kulim**	**28.28**	**296**	*e*P	**P**	**17 27 50.0**	**-0.4**
	comp=Z,19nm,0.8s						
HTT	**Hallett**	**28.39**	**157**	⇑P	**P**	**17 27 52.9**	**+1.8**
	baz=28						
RMQ	**Roma**	**28.71**	**134**	⇓P	**P**	**17 27 55.1**	**+1.1**
	baz=29,SNR=15						
PSI	**Prapat**	**28.86**	**290**	P	**P**	**17 27 55.8**	**+0.1**
	comp=Z,69nm,0.9s,baz=111,slow=5.8,SNR=54						
PSI				LR	LR	17 42 53.9	
	comp=Z,420nm,18.3s,baz=124,slow=44						
GSI	**Gunungsitoli**	**29.63**	**286**	P	**P**	**17 28 02.3**	**-0.1**
	comp=Z,54nm,1.6s						
CMSA	**Cobar Meteorol**	**30.13**	**145**	⇓P	**P**	**17 28 07.7**	**+1.2**
	baz=30,SNR=22						
KCSI	**Kotacane, Aceh**	**30.19**	**290**	P	P	**17 28 07.2**	**-0.1**
	comp=Z,73nm,1.0s,comp=Z,691nm						
QIZ	**Qiongzhong**	**30.84**	**329**	P	**P**	**17 28 13.8**	**+0.8**
QIZ				S	**S**	**17 33 19.4**	**+3.9**
QIZ				AMB	AMB		
	comp=Z,30nm,2.0s						
QIZ				LR	LR		
	comp=Z,400nm,13.3s						
CHBT	**CHBT**	**30.96**	**311**	P	**P**	**17 28 15.1**	**+1.1**
	comp=Z,32nm,1.4s,comp=Z,1μm						
CHBT	**CHBT**	**30.96**	**311**	P	**P**	**17 28 15.1**	**+1.1**
	comp=Z,32nm,1.4s,comp=Z,1μm						
SNSI	**Sinabang, Aceh**	**31.16**	**287**	P	**P**	**17 28 17.5**	**+1.6**
	comp=Z,229nm,1.1s						
SURT	**Suratani**	**31.64**	**301**	P	**P**	**17 28 21.8**	**+1.7**
	comp=Z,23nm,1.1s						
ARPS	**Mount Arapiles**	**32.46**	**156**	⇓P	**P**	**17 28 28.8**	**+1.7**
	baz=33,SNR=14						
SKNT	**Sakolnakorn**	**32.66**	**318**	P	**P**	**17 28 30.1**	**+1.1**
	comp=Z,54nm,0.9s,comp=Z,2μm						
ARMA	**Armidale**	**33.10**	**137**	*e*P	**P**	**17 28 31.4**	**-1.4**
	comp=Z,16nm,0.9s						
ARMA	**Armidale**	**33.10**	**137**	⇑P	**P**	**17 28 34.5**	**+1.7**
	baz=33,SNR=4.4						
HNR	**Honiara**	**33.68**	**96**	LR	LR	17 42 32.1	
	comp=Z,126nm,18.3s,baz=62,slow=36						
PBKT	**Sadao Pong**	**34.44**	**314**	P	**P**	**17 28 45.4**	**+0.9**
	comp=Z,20nm,1.6s,comp=Z,2μm						
PBKT	**Sadao Pong**	**34.44**	**314**	P	**P**	**17 28 45.4**	**+0.9**
	comp=Z,20nm,1.6s,comp=Z,2μm						
TOO	**Toolangi**	**34.72**	**152**	⇓P	**P**	**17 28 48.9**	**+2.1**
	baz=35,SNR=8.8						
CAN	**Canberra**	**34.78**	**146**	*e*P	**P**	**17 28 45.6**	**-1.7**
CAN				pmax	pmax		
	comp=Z,16nm,1.1s						
CAN	**Canberra**	**34.78**	**146**	*e*P	**P**	**17 28 45.6**	**-1.7**
	comp=Z,16nm,1.1s						
CAN	**Canberra**	**34.78**	**146**	⇑P	**P**	**17 28 48.7**	**+1.4**
	baz=35						
UTHA	**Uthaitani**	**34.89**	**311**	P	**P**	**17 28 49.4**	**+1.0**
	comp=Z,20nm,0.9s,comp=Z,167nm						
CNB	**Canberra Magne**	**34.98**	**145**	⇑P	**P**	**17 28 50.1**	**+1.0**
	baz=35,SNR=4.6						
CM31	**Chiang Mai Arr**	**37.13**	**314**	*e*P	**P**	**17 29 06.5**	**-1.1**
	comp=Z,30nm,0.8s						
CMAR	**Chiang Mai Arr**	**37.13**	**314**	P	**P**	**17 29 08.4**	**+0.8**
CMAR				pP	**pP**	**17 29 17.4**	**+2.4**
CMAR	**Chiang Mai Arr**	**37.13**	**314**	P	**P**	**17 29 08.4**	**+0.8**
	comp=Z,29nm,0.8s,baz=143,slow=6.8,SNR=215						
CMAR				pP	**pP**	**17 29 17.4**	**+2.4**
	comp=Z,22nm,0.8s,baz=146,slow=6.5,SNR=18						
CRAI	**Chiangrai**	**37.37**	**318**	P	**P**	**17 29 10.2**	**+0.6**
	comp=Z,96nm,1.0s,comp=Z,4μm						
CHTO	**Chiang Mai**	**37.37**	**315**	*e*P	**P**	**17 29 08.9**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,177nm,1.0s						
CHTO	**Chiang Mai**	**37.37**	**315**	P	**P**	**17 29 10.3**	**+0.7**
	comp=Z,229nm,1.0s,comp=Z,2μm						
CHTO	**Chiang Mai**	**37.37**	**315**	*e*P	**P**	**17 29 08.9**	**-0.7**
	comp=Z,177nm,1.0s						
CHTO	**Chiang Mai**	**37.37**	**315**	P	**P**	**17 29 10.3**	**+0.7**
	comp=Z,229nm,1.0s,comp=Z,2μm						
CMAI	**Chiengmai2**	**38.05**	**316**	P	**P**	**17 29 16.1**	**+0.5**
	comp=Z,70nm,1.2s,comp=Z,4μm						
**

LZH LR LR
comp=Z,2µm,16.9s
BJI Beijing 48.24 350 P **P** **17 30 35.8 -1.6**
BJI AMB AMB
comp=Z,24nm,0.9s
BJI AMB AMB
comp=Z,150nm,3.5s
LSA Lhasa 49.93 320 P **P** **17 30 51.6 +0.5**
LSA AMB AMB
comp=Z,20nm,0.6s
LSA Lhasa 49.93 320 *e*P **P** **17 30 50.8 -0.3**
LSA *e**PP **pP** **17 31 00.4 +1.7**
LSA pmax pmax
comp=Z,26nm,0.8s
LSA Lhasa 49.93 320 *e*P **P** **17 30 50.8 -0.3**
comp=Z,26nm,0.8s
LSA *e*pP **pP** **17 31 00.4 +1.7**
HHC Hu-ho-hao-te 49.98 346 *e*P **P** **17 30 50.0 -0.9**
HHC pP **pP** **17 30 54.4 -4.1**
HHC sP **sP** **17 30 59.4 -2.0**
HHC PP **PP** **17 32 47.3 +1.2**
HHC S **S** **17 37 58.6 -1.7**
HHC AMB AMB
comp=Z,44nm,1.1s
HHC AMB AMB
comp=Z,200nm,4.9s
HHC LR LR
comp=Z,440nm,13.4s
HHC LR LR
comp=Z,360nm,14.8s
ODAN Odare 50.67 314 *e*P **P** **17 30 56.4 -0.2**
comp=Z,84nm,0.8s
TAPN Taplejung 50.74 315 *e*P **P** **17 30 56.8 -0.4**
comp=Z,102nm,1.0s
CN2 Changchun 51.15 360 *e*P **P** **17 30 59.1 -0.4**
CN2 *e*pP **pP** **17 31 03.6 -3.5**
CN2 PcP **PcP** **17 32 14.8 -0.1**
CN2 *e*S **S** **17 38 16.1 -0.1**
CN2 AMB AMB
comp=Z,10.0nm,0.6s
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,200nm,10.0s
CN2 LR LR
comp=Z,200nm,10.0s
RAMN Ramite 51.29 314 *e*P **P** **17 31 01.3 +0.1**
comp=Z,207nm,0.8s
USRK Ussuriysk Arra 51.84 6 P **P** **17 31 03.8 -0.9**
comp=Z,4.8nm,0.6s,baz=189,slow=6.6,SNR=14
USRK pP **pP** **17 31 13.0 +0.8**
comp=Z,11nm,0.7s,baz=193,slow=7.2,SNR=12
USRK LR LR 17 53 06.8
comp=Z,75nm,18.3s,baz=1.5,slow=36
JIRN Jiri 52.01 314 *e*P **P** **17 31 06.4 -0.3**
comp=Z,76nm,0.8s
MDJ Mudanjiang 52.07 3 P **P** **17 31 07.1 +0.7**
MDJ pP **pP** **17 31 10.3 -3.7**
MDJ PcP **PcP** **17 32 18.1 -0.2**
MDJ S **S** **17 38 30.0 +1.2**
MDJ SS **SS** **17 42 03.8 -2.6**
MDJ AMB AMB
comp=Z,34nm,0.9s
MDJ AMB AMB
comp=Z,75nm,5.3s
MDJ LR LR
comp=Z,70nm,19.0s
MDJ LR LR
comp=Z,55nm,22.8s
MDJ Mudanjiang 52.07 3 *e*P **P** **17 31 04.8 -1.5**
comp=Z,70nm,1.4s
MDJ *e*pP **pP** **17 31 14.2 +0.2**
GUN Gumba 52.38 314 *e*P **P** **17 31 09.2 -0.2**
comp=Z,107nm,0.7s
PKI Pulchoki 52.52 313 *e*P **P** **17 31 10.0 -0.4**
comp=Z,72nm,0.7s
PKIN Phulchoki 52.53 313 *e*P **P** **17 31 10.1 -0.4**
comp=Z,21nm,0.6s
GTA Gaotai 52.65 335 ⇑P **P** **17 31 11.0 0.0**
GTA pP **pP** **17 31 20.3 +1.7**
GTA sP **sP** **17 31 24.5 +3.0**
GTA S **S** **17 38 39.8 +2.5**
GTA sS sS 17 38 56.6 +6.8
GTA SS **SS** **17 42 18.8 +2.6**
GTA AMB AMB
comp=Z,24nm,1.3s
GTA AMB AMB
comp=Z,130nm,4.3s
GTA LR LR
comp=Z,140nm,15.2s
GTA LR LR
comp=Z,140nm,16.6s
KKN Kakani 52.73 314 *e*P **P** **17 31 11.5 -0.4**
comp=Z,92nm,1.0s
DMN Daman 52.76 313 *e*P **P** **17 31 11.9 -0.2**
comp=Z,164nm,1.1s
HYB Hyderabad 53.00 298 *i* P **P** **17 31 12.0 -1.8**
RPZ Rata Peaks 53.31 140 *e*P **P** **17 31 13.2 -2.5**
comp=Z,74nm,0.9s
RPZ pP **pP** **17 31 26.3 +3.0**
RPZ Rata Peaks 53.31 140 P **P** **17 31 17.1 +1.4**
comp=Z,12nm,0.8s,baz=270,slow=5.5,SNR=4.3
RPZ pP **pP** **17 31 26.3 +3.0**
comp=Z,67nm,0.9s,baz=20,slow=1.5,SNR=13
RPZ LR LR 17 54 20.0
comp=Z,434nm,19.3s,baz=306,slow=36
GKN Gorkha 53.32 313 *e*P **P** **17 31 15.7 -0.5**
comp=Z,196nm,1.1s
ASAJ Asahikawa 53.63 15 P **P** **17 31 17.6 -0.3**
ASAJ Asahikawa 53.63 15 P **P** **17 31 17.6 -0.3**
comp=Z,19nm,1.0s,baz=244,slow=21,SNR=3.9
KOLN Koldanda 53.94 312 *e*P **P** **17 31 20.7 -0.1**
comp=Z,113nm,0.9s
DANN Dangsing 54.15 313 *e*P **P** **17 31 22.0 -0.5**
comp=Z,134nm,0.8s
URZ Urewera 55.24 132 P **P** **17 31 31.9 +2.0**
URZ Urewera 55.24 132 P **P** **17 31 31.9 +2.0**
comp=Z,7.0nm,0.6s,baz=277,slow=8.1,SNR=3.7
URZ LR LR 17 54 47.3
comp=Z,242nm,21.5s,baz=107,slow=36
YSS Yuzh-Sakhalins 56.33 14⇑*e*P **P** **17 31 39.6 +2.2**
YSS pmax pmax
comp=Z,16nm,1.0s
HABR Khabarovsk 56.40 7 *e*P **P** **17 31 37.2 -0.6**
HABR *e* 17 32 33.2
HABR *e* 17 33 43.1
HABR *e*PPP PPP 17 34 58.2
HABR *e*S **S** **17 39 30.1 +3.1**
HABR *e**SS **sS** **17 39 35.5 -4.1**
HABR *e* 17 41 26.4
HABR pmax pmax
comp=E,61nm,2.1s
HABR pmax pmax
comp=N,48nm,2.1s
HABR pmax pmax
comp=Z,62nm,2.1s
HIA Hailar 56.87 355 *e*P **P** **17 31 40.8 -0.5**
comp=Z,68nm,1.5s
HIA *e*pP **pP** **17 31 49.3 +0.4**
POO Poona 57.55 298 *e*P **P** **17 31 44.0 -2.7**
SONM Songino Array 57.82 345 P **P** **17 31 47.8 -0.4**
SONM pP **pP** **17 31 56.8 +1.0**
SONM Songino Array 57.82 345 P **P** **17 31 47.8 -0.4**
comp=Z,10nm,0.9s,baz=162,slow=7.8,SNR=59
SONM pP **pP** **17 31 56.8 +1.0**
comp=Z,19nm,1.1s,baz=164,slow=8.3,SNR=21
SONA Sohna 59.09 309 *e*P **P** **17 31 55.6 -1.6**
SONA AMB AMB 17 31 56.3
comp=Z,35nm,0.5s
AYAN Aya Nagar 59.17 310 *e*P **P** **17 31 55.7 -2.0**
NDI New Delhi 59.20 310 *ex* P 17 31 53.0 -5.0
BHGR Bahadurgarh 59.41 310 *e*P **P** **17 31 57.1 -2.3**
KUDL Kundal 59.49 309 *e*P **P** **17 31 57.8 -2.2**
KUDL AMB AMB 17 31 59.8
comp=Z,37nm,1.2s
CASY Casey 59.56 187 *e*P **P** **17 32 00.6 +0.8**
comp=Z,65nm,1.8s
RTK Rohtak 59.98 310 *e*P **P** **17 32 02.0 -1.3**
KHET Khetri 59.99 308 *e*P **P** **17 32 01.4 -2.0**
KKR Kurukshetra 60.13 311 *e*P **P** **17 32 03.6 -0.8**
SMLA Simla 60.47 312 *i* P **P** **17 32 06.6 -0.1**
ZAK Zakamensk 60.99 344 *e*P **P** **17 32 08.8 -1.2**
ZAK pmax pmax
comp=Z,8.0nm,1.3s
WMQ Urumqi 61.76 329 P **P** **17 32 15.1 -0.2**

WMQ pP **pP** **17 32 19.8 -3.2**
WMQ sP **sP** **17 32 22.1 -3.8**
WMQ PcP **PcP** **17 32 55.9 -0.4**
WMQ S **S** **17 40 36.3 -0.7**
WMQ ScS **SKKSac** **17 42 02.6 -3.0**
WMQ SS **SS** **17 44 39.6 +0.3**
WMQ AMB AMB
comp=Z,38nm,1.2s
WMQ AMB AMB
comp=Z,170nm,3.6s
WMQ LR LR
comp=Z,150nm,25.2s
WMQ LR LR
comp=Z,160nm,24.2s
TLY Talaya 62.07 344⇓*i*P **P** **17 32 18.0 +0.9**
TLY pmax pmax
comp=Z,6.0nm,1.2s
THN Thein Dam 62.20 313 *e*P P 17 32 15.1 -3.2
IRK Irkutsk 62.41 345 *e*P P 17 32 16.0 -3.4
IRK pmax pmax
comp=Z,33nm,1.6s
MOY Mondy 62.79 343 *e*P **P** **17 32 22.5 +0.4**
HVS Khovu-Aksy 64.76 338⇓*i*P **P** **17 32 34.8 -0.2**
HVS pmax pmax
comp=Z,60nm,1.2s
KSH Kashi 65.78 320 P **P** **17 32 42.9 +1.0**
KSH pP **pP** **17 32 48.5 -1.2**
KSH sP **sP** **17 32 50.8 -1.8**
KSH PcP **PcP** **17 33 10.0 -3.0**
KSH S **S** **17 41 30.1 +2.8**
KSH SS **SS** **17 45 46.3 +3.9**
KSH AMB AMB
comp=Z,12nm,0.9s
KSH AMB AMB
comp=Z,89nm,3.4s
KSH LR LR
comp=Z,100nm,4.9s
KSH LR LR
comp=Z,93nm,4.3s
KSH LR LR
comp=Z,78nm,4.1s
PETK Petropavlovsk- 66.20 20 P **P** **17 32 44.8 +0.6**
PETK *PP **pP** **17 32 54.2 +2.2**
PETK pmax pmax
comp=Z,11nm,0.7s
PETK pmax pmax
comp=Z,18nm,0.8s
PETK Petropavlovsk- 66.20 20 P **P** **17 32 44.8 +0.6**
PETK pP **pP** **17 32 54.2 +2.2**
PETK Petropavlovsk- 66.20 20 P **P** **17 32 44.8 +0.6**
comp=Z,11nm,0.7s,baz=194,slow=5.6,SNR=7.9
PETK pP **pP** **17 32 54.2 +2.2**
comp=Z,18nm,0.8s,baz=198,slow=8.9,SNR=5.2
PETK LR LR 17 56 49.3
comp=Z,37nm,20.0s,baz=41,slow=32
MK31 Makanchi Array 66.57 329*ce*P **P** **17 32 46.1 -0.6**
MK31 pmax pmax
comp=Z,15nm,0.6s
MK31 Makanchi Array 66.57 329 *e*P **P** **17 32 46.0 -0.7**
MK31 *e*pP **pP** **17 32 55.1 +0.6**
MKAR Makanchi Array 66.57 329*ce*P **P** **17 32 46.2 -0.5**
MKAR pmax pmax
comp=Z,8.0nm,0.6s
MKAR Makanchi Array 66.57 329 *e*P **P** **17 32 46.3 -0.5**
MKAR Makanchi Array 66.57 329 P **P** **17 32 46.2 -0.5**
comp=Z,8.0nm,0.6s,baz=125,slow=7.1,SNR=79
MKAR LR LR 18 01 15.0
comp=Z,89nm,20.2s,baz=129,slow=35
KZA Kyzart 67.66 321 *i* P **P** **17 32 54.7 +0.5**
KZA Kyzart 67.66 321 P **P** **17 32 54.7 +0.5**
SNR=12
TKM2 Tokmak 2 67.93 322 *i* P **P** **17 32 55.2 -0.4**
TKM2 Tokmak 2 67.93 322 P **P** **17 32 55.2 -0.4**
SNR=15
TKM2 Tokmak 2 67.93 322 *e*P **P** **17 32 55.6 0.0**
comp=Z,14nm,0.9s
TKM2 *e*pP **pP** **17 33 04.1 +0.6**
KBL Kabul 68.10 312 *e*P **P** **17 32 57.0 +0.1**
KBL *e**PP **pP** **17 33 06.1 +1.4**
KBL pmax pmax
comp=Z,49nm,0.9s
KBL Kabul 68.10 312 *e*P **P** **17 32 57.0 +0.1**
comp=Z,49nm,0.9s
KBL *e*pP **pP** **17 33 06.1 +1.4**
AAK Ala-Archa 68.44 322*c i*P **P** **17 32 59.2 +0.4**
AAK pmax pmax
comp=Z,26nm,0.8s
AAK Ala-Archa 68.44 322 P **P** **17 32 59.1 +0.4**
SNR=19
AAK Ala-Archa 68.44 322 *e*P **P** **17 32 58.9 +0.1**
comp=Z,18nm,0.9s
AAK *e*pP **pP** **17 33 08.1 +1.5**
AAK Ala-Archa 68.44 322 P **P** **17 32 59.3 +0.4**
comp=Z,112nm,0.8s,SNR=14
AAK Ala-Archa 68.44 322 P **P** **17 32 59.1 +0.4**
comp=Z,13nm,0.8s,baz=126,slow=5.5,SNR=51
FRU Bishkek 68.47 322 *e*P P 17 33 08.0 +9.1
FRU pmax pmax
comp=Z,70nm,2.6s
CHMS Chumysh 68.48 322 *i* P **P** **17 32 58.9 0.0**
CHMS Chumysh 68.48 322 P **P** **17 32 58.9 0.0**
SNR=5.1
AML Almayashu 68.66 321 *i* P **P** **17 33 00.6 +0.2**
AML Almayashu 68.66 321 P **P** **17 33 00.7 +0.2**
SNR=22
USP Ospenovka 68.78 322 *i* P **P** **17 33 00.8 0.0**
USP Ospenovka 68.78 322 P **P** **17 33 00.8 0.0**
SNR=18
EKS2 Erkin-Say 68.89 321 *e*P **P** **17 33 01.3 -0.3**
EKS2 *e**PP **pP** **17 33 10.3 +0.9**
EKS2 pmax pmax
comp=Z,16nm,0.9s
EKS2 Erkin-Say 68.89 321 P **P** **17 33 02.0 +0.4**
SNR=17
EKS2 Erkin-Say 68.89 321 *e*P **P** **17 33 01.3 -0.3**
comp=Z,16nm,0.9s
EKS2 *e*pP **pP** **17 33 10.3 +0.9**
YAK Yakutsk 69.47 2⇑*i*P **P** **17 33 04.7 +0.2**
YAK pmax pmax
comp=Z,21nm,0.9s
ZAA0 Zalesovo Array 70.39 336 *e*P P 17 33 06.8 -3.6
ZAA0 *e*pP pP 17 33 18.1 -0.1
ZALV Zalesovo Beam 70.39 336 P **P** **17 33 09.0 -1.4**
ZALV *PP **pP** **17 33 18.3 +0.1**
ZALV pmax pmax
comp=Z,17nm,1.0s
ZALV pmax pmax
comp=Z,25nm,0.9s
ZALV Zalesovo Beam 70.39 336 P **P** **17 33 09.0 -1.4**
ZALV pP **pP** **17 33 18.2 +0.1**
ZALV Zalesovo Beam 70.39 336 P **P** **17 33 09.0 -1.4**
comp=Z,17nm,1.0s,baz=124,slow=4.5,SNR=51
ZALV pP **pP** **17 33 18.2 +0.1**
comp=Z,25nm,0.9s,baz=127,slow=4.9,SNR=22
KURK Kurchatov 70.97 330⇑*i*P **P** **17 33 13.6 -0.4**
KURK pmax pmax
comp=Z,10.0nm,0.8s
KURK Kurchatov 70.97 330 *e*P **P** **17 33 13.3 -0.7**
comp=Z,32nm,1.0s
KURK *e*pP **pP** **17 33 22.4 +0.5**
KURK Kurchatov 70.97 330 P **P** **17 33 13.6 -0.4**
comp=Z,362nm,1.1s,SNR=15
KK31 Karatay Array 71.17 320*ce*P **P** **17 33 15.0 -0.4**
KK31 pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 71.17 320 *e*P **P** **17 33 15.1 -0.3**
KKAR *e**PP **pP** **17 33 23.8 +0.6**
KKAR Karatay Array 71.17 320 *e*P **P** **17 33 15.1 -0.3**
KKAR *e*pP **pP** **17 33 23.8 +0.6**
NVS Novosibirsk 71.67 336⇑*i*P P 17 33 14.8 -3.3
NVS *i* 17 42 30.9
NVS pmax pmax
comp=Z,39nm,1.4s
NVS pmax pmax
comp=N,18nm,1.1s
NVS pmax pmax
comp=E,19nm,1.1s
FX1 Attu Island--F 72.33 28 *e*P **P** **17 33 23.5 +1.4**
VNDA Vanda 72.38 172 P **P** **17 33 23.3 +1.2**
VNDA Vanda 72.38 172 P **P** **17 33 23.3 +1.2**
comp=E,1.0nm,0.4s,baz=316,slow=6.8,SNR=18
VNDA LR LR 18 04 33.1
comp=E,269nm,19.3s,baz=331,slow=35
MAW Mawson 72.94 201 *e*P **P** **17 33 25.8 +0.2**
comp=E,2.6nm,0.9s

MAW Mawson 72.94 201 ⇓P **P** **17 33 27.3 +1.7**
baz=73,SNR=6.1
MAW Mawson 72.94 201 P **P** **17 33 27.3 +1.7**
comp=E,2.1nm,0.6s,baz=26,slow=4.0,SNR=6.9
MAW LR LR 18 01 45.3
comp=E,85nm,19.4s,baz=322,slow=33
SEY Seymchan 73.18 12⇓*i*P **P** **17 33 28.1 +1.1**
IDAH Dahanechah 74.43 307 *e*P **P** **17 33 35.1 -0.2**
IKOO Kooshah 75.02 306 *e*P **P** **17 33 39.1 +0.4**
ITEG Tejag 75.37 307 *e*P **P** **17 33 41.1 +0.4**
IMYA Miami 75.50 310 *e*P **P** **17 33 40.2 -1.1**
ISRO Mashad 75.97 310 *e*P **P** **17 33 43.6 -0.3**
VOSK Vostochnaya 75.99 329 *e*P **P** **17 33 42.6 -0.9**
VOSK pmax pmax
comp=Z,84nm,1.9s
VOSK Vostochnaya 75.99 329 *e*P **P** **17 33 42.6 -0.9**
comp=Z,84nm,1.9s
IMOG Moghan 76.00 310 *e*P **P** **17 33 44.3 0.0**
BVA0 Borovoye Array 76.45 329 *i* P **P** **17 33 44.4 -1.8**
BVA0 pmax pmax
comp=Z,38nm,1.3s
BVAR Borovoye Array 76.45 329 P **P** **17 33 45.0 -1.1**
BVAR pmax pmax
comp=Z,10.0nm,1.0s
BVAR Borovoye Array 76.45 329 P **P** **17 33 45.0 -1.1**
BVAR Borovoye Array 76.45 329 P **P** **17 33 45.0 -1.1**
comp=Z,9.8nm,1.0s,baz=132,slow=6.0,SNR=5.5
BRVK Borovoye 76.52 329⇑*i*P **P** **17 33 46.5 0.0**
BRVK pmax pmax
comp=Z,24nm,1.2s
BRVK Borovoye 76.52 329 *e*pP pP 17 33 55.0 +0.6
BRVK Borovoye 76.52 329 P **P** **17 33 46.2 -0.3**
comp=Z,125nm,1.3s,SNR=11
IKRD Kardeh 76.85 310 *e*P P 17 33 45.7 -3.4
ISRV Sarvestan 78.96 302 *e*Pn **P** **17 34 01.4 +0.3**
TIXI Tiksi 79.10 1⇓*i*P **P** **17 34 00.5 0.0**
TIXI pmax pmax
comp=Z,15nm,0.9s
IPAR Pars 79.13 302 *e*P **P** **17 34 01.8 -0.2**
AB31 Akbulak array 80.49 323*ce*P **P** **17 34 07.9 -0.6**
AB31 pmax pmax
comp=Z,13nm,0.6s
ABKAR Akbulak array 80.49 323 *e*P **P** **17 34 08.2 -0.3**
ABKAR *e*pP **pP** **17 34 16.9 +0.5**
IZEF Zefreh 80.53 305 *e*P **P** **17 34 07.5 -2.0**
IFIR Firoozkooh 80.93 308 *e*P **P** **17 34 11.9 +0.3**
IKLH Kolahrood 81.25 305 *e*P **P** **17 34 13.1 -0.2**
IVRN Varamin 81.57 307 *e*P **P** **17 34 15.0 +0.3**
SYO Syowa Base 81.65 201⇑*e*P **P** **17 34 14.3 0.0**
AKTO Aktyubinsk 82.10 323 P **P** **17 34 15.2 -1.8**
AKTO pmax pmax
comp=Z,45nm,1.0s
AKTO Aktyubinsk 82.10 323 P **P** **17 34 15.7 -1.3**
AKTO Aktyubinsk 82.10 323 P **P** **17 34 15.7 -1.3**
comp=Z,28nm,0.8s,baz=107,slow=6.7,SNR=79
TBI Tubuai 82.11 113 *e*LR LR 17 59 57.9
comp=Z,296nm,27.2s
QSPA South Pole Qui 82.39 180 *e*P **P** **17 34 20.0 +1.5**
comp=Z,12nm,0.7s
QSPA *e*PcP **PcP** **17 34 23.1 -0.5**
PPT2 Papeete2 82.52 107 *e*LR LR 18 00 09.5
comp=Z,286nm,31.0s
PPT Papeete 82.52 107 LR LR 18 04 46.3
comp=Z,105nm,21.2s,baz=121,slow=31
IRAZ Razeghan 83.09 307 *e*P **P** **17 34 23.2 +0.3**
SVE Sverdlovsk 83.21 330⇑*i*P **P** **17 34 22.9 +0.2**
SVE pmax pmax
comp=Z,58nm,1.1s
KBD Kabd 83.51 300 *e*P **P** **17 34 24.2 -0.6**
RDF Al-Radifah 83.58 300 *e*P **P** **17 34 25.1 0.0**
RDF AMb AMB 17 34 27.4
comp=Z,43nm,1.5s
NAY Al-Naaiem 83.91 300 *e*P **P** **17 34 26.0 -0.9**
NAY AMb AMB 17 34 27.6
comp=Z,21nm,0.8s
ARU Arti 84.10 329*c i*P **P** **17 34 26.5 -0.8**
ARU 17 37 40.7
ARU PPP PPP 17 39 31.5
ARU S **S** **17 44 49.4 -0.9**
ARU SS **SS** **17 50 14.3 -5.2**
ARU SSS SSS 17 53 40.6
ARU pmax pmax
comp=Z,25nm,1.0s
ARU Arti 84.10 329 P **P** **17 34 26.4 -0.8**
comp=Z,115nm,1.2s,SNR=8.8
RST Umm Al-Ruwaisa 84.17 301 *e*P **P** **17 34 27.8 -0.4**
RST AMb AMB 17 34 29.2
comp=Z,428nm,0.8s
RAYN Ar Rayn 84.30 295 P **P** **17 34 29.2 +0.1**
comp=Z,103nm,0.8s,SNR=10
IKOM Komasi 84.74 305 *e*P **P** **17 34 30.0 -1.2**
IVIS Veis 85.35 306 *e*P **P** **17 34 32.5 -1.7**
SOKR Solikamsk 86.18 332*c i*P **P** **17 34 37.7 +0.2**
SOKR pmax pmax
comp=Z,40nm,1.2s
GNI Garni 88.16 311 *e*P **P** **17 34 46.1 -1.8**
comp=Z,16nm,0.9s
GNI Garni 88.16 311 P **P** **17 34 48.8 +0.9**
comp=Z,2.9nm,0.4s,baz=176,slow=13,SNR=3.3
KMBO Kilima Mbogo 88.54 269 *e*P **P** **17 34 50.7 +0.3**
KMBO Kilima Mbogo 88.54 269 ⇓P **P** **17 34 50.3 -0.1**
baz=88
KMBO Kilima Mbogo 88.54 269 P **P** **17 34 50.2 -0.1**
comp=Z,2.7nm,0.9s,baz=71,slow=5.5,SNR=8.4
ZEI Tsey 89.29 313 *e*P **P** **17 34 53.6 +0.4**
ZEI pmax pmax
comp=Z,28nm,2.1s
KBZ Khabaz 90.18 314 P **P** **17 34 57.4 +0.4**
KBZ pmax pmax
comp=Z,2.0nm,0.8s
KBZ Khabaz 90.18 314 P **P** **17 34 57.4 +0.4**
KBZ Khabaz 90.18 314 P **P** **17 34 57.4 +0.4**
comp=Z,1.8nm,0.8s,baz=107,slow=5.5,SNR=5.1
VRHR Novokhopersk 92.28 321 *e*P P 17 35 14.8 +8.2
VRHR pmax pmax
comp=N,20nm,0.9s
VRHR pmax pmax
comp=E,40nm,0.9s
VRHR pmax pmax
comp=Z,20nm,0.9s
IMA2 Indian Mountai 92.99 24 *e*P **P** **17 35 07.8 -2.0**
IMA2 *e*pP **pP** **17 35 18.0 +0.3**
VORD Divnogorie 93.72 321 *e*P **P** **17 35 13.6 +0.4**
VORD pmax pmax
comp=E,10.0nm,0.6s
VORD pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 93.83 321 *e*P **P** **17 35 13.0 -0.8**
VSR pmax pmax
comp=Z,10.0nm,1.2s
VSR pmax pmax
comp=N,1.0nm,0.4s
VSR pmax pmax
comp=E,20nm,1.2s
SNAA Sanae 94.13 194 *e*P **P** **17 35 17.8 +2.9**
MMAI Mount Meron Ar 94.52 303 P **P** **17 35 17.3 -0.2**
MMAI Mount Meron Ar 94.52 303 P **P** **17 35 17.3 -0.2**
comp=E,0.4nm,0.5s,baz=126,slow=4.4,SNR=3.2
KLMR Klimovskoe 94.82 331 *e*P P 17 35 25.3 +7.2
KLMR pmax pmax
comp=Z,46nm,1.5s
ILAR Eielson Array 95.60 25 P **P** **17 35 20.0 -1.6**
ILAR Eielson Array 95.60 25 P **P** **17 35 20.0 -1.6**
comp=Z,0.5nm,0.8s,baz=242,slow=5.2,SNR=6.8
BOSA Boshof 95.68 240 P **P** **17 35 22.2 -0.8**
BOSA Boshof 95.68 240 P **P** **17 35 22.2 -0.8**
comp=Z,3.6nm,0.9s,baz=151,slow=19,SNR=3.2
BOSA LR LR 18 11 42.0
comp=Z,121nm,19.0s,baz=264,slow=31
BR131 Keskin Array S 96.55 309 *e*P **P** **17 35 24.9 -1.7**
comp=Z,1.3nm,0.7s
BR131 *e*pP **pP** **17 35 35.1 +0.4**
BRTR Keskin Array B 96.55 309 P **P** **17 35 25.4 -1.3**
BRTR pP **pP** **17 35 35.4 +0.6**
BRTR PP **PP** **17 39 18.6 -2.5**
BRTR Keskin Array B 96.55 309 P **P** **17 35 25.4 -1.3**
comp=Z,1.7nm,0.7s,baz=124,slow=5.5,SNR=12
BRTR pP **pP** **17 35 35.4 +0.6**
comp=Z,1.6nm,0.7s,baz=138,slow=5.9,SNR=7.4
BRTR PP **PP** **17 39 18.6 -2.5**
comp=Z,1.2nm,0.9s,baz=113,slow=9.5,SNR=4.8
BRTR LR LR 18 25 31.9
comp=Z,56nm,18.4s,baz=225,slow=40
LVZ Lovozero 97.46 338⇑*e*P **P** **17 35 29.8 -0.2**
LVZ pmax pmax

	comp=Z,25nm,1.2s							
AKASG	**Malin Array Be**	**100.07**	**320**	P	**Pdif**	**17 35 40.1**	**-1.9**
AKASG						17 39 49.3	
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**100.07**	**320**	P	**Pdif**	**17 35 40.1**	**-1.9**
AKASG				PP	**PP**	**17 39 49.2**	**+1.7**
AKASG	**Malin Array Be**	**100.07**	**320**	P	**Pdif**	**17 35 40.1**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=79,slow=4.7,SNR=2.6						
AKASG				PP	**PP**	**17 39 49.2**	**+1.7**
	comp=Z,1.4nm,0.8s,baz=80,slow=6.6,SNR=5.1						
ARCES	**ARCESS Array B**	**100.71**	**339**	P	**Pdif**	**17 35 42.8**	**-1.7**
ARCES	**ARCESS Array B**	**100.71**	**339**	P	**Pdif**	**17 35 42.8**	**-1.7**
	comp=Z,1.2nm,0.6s,baz=90,slow=7.3,SNR=6.3						
GERES	**GERESS Array B**	**110.26**	**319**	PP	PP	17 41 04.3	+1.2
GERES	**GERESS Array B**	**110.26**	**319**	PP	PP	17 41 04.3	+1.2
	comp=Z,0.3nm,0.7s,baz=57,slow=7.2,SNR=2.8						
PDAR	**Pinedale Array**	**120.16**	**45**	PKP	**PKPdf**	**17 40 47.5**	**-0.5**
PDAR	**Pinedale Array**	**120.16**	**45**	PKP	**PKPdf**	**17 40 47.5**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=188,slow=4.2,SNR=3.6						
TORD	**Torodi Ar. Bea**	**124.96**	**281**	PKP	**PKPdf**	**17 40 56.4**	**-1.3**
TORD	**Torodi Ar. Bea**	**124.96**	**281**	PKP	**PKPdf**	**17 40 56.4**	**-1.3**
	comp=Z,2.2nm,0.8s,baz=62,slow=2.2,SNR=13						
TXAR	**Lajitas Array**	**128.68**	**58**	PKP	**PKPdf**	**17 41 04.8**	**+0.2**
TXAR				pPKP	**pPKPdf**	**17 41 14.5**	**+1.7**
TXAR	**Lajitas Array**	**128.68**	**58**	PKP	**PKPdf**	**17 41 04.8**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=211,slow=1.5,SNR=6.0						
TXAR				pPKP	**pPKPdf**	**17 41 14.5**	**+1.7**
	comp=Z,0.8nm,0.8s,baz=252,slow=1.2,SNR=7.7						
CFAA	**Coronel Fontan**	**138.74**	**162**	PKPbre	PKPbre	17 41 20.0	
CFAA	**Coronel Fontan**	**138.74**	**162**	PKHKP	PKPbre	17 41 20.0	
	comp=Z,0.2nm,0.6s,baz=132,slow=2.5,SNR=3.0						
CPUP	**Villa Florida**	**146.13**	**175**	PKPbc	**PKPab**	**17 41 37.8**	**-0.2**
CPUP	**Villa Florida**	**146.13**	**175**	PKPbc	**PKPab**	**17 41 37.8**	**-0.2**
	comp=Z,3.3nm,0.8s,baz=119,slow=1.0,SNR=5.2						
LPAZ	**La Paz**	**152.50**	**150**	PKPbc	**PKPbc**	**17 41 53.4**	**-1.2**
LPAZ				PKPab	**PKPab**	**17 42 04.4**	**-0.4**
LPAZ	**La Paz**	**152.50**	**150**	PKPbc	**PKPbc**	**17 41 53.4**	**-1.2**
	comp=Z,2.2nm,0.8s,baz=145,slow=1.1,SNR=11						
LPAZ				PKPab	**PKPab**	**17 42 04.4**	**-0.4**
	comp=Z,2.8nm,0.7s,baz=175,slow=1.4,SNR=9.6						
SIV	**San Ignacio**	**155.57**	**164**	PKPab	**PKPab**	**17 42 18.5**	**+1.5**
SIV	**San Ignacio**	**155.57**	**164**	PKPab	**PKPab**	**17 42 18.5**	**+1.5**
	comp=Z,1.1nm,0.6s,baz=276,slow=3.5,SNR=3.6						

*IDC **18** 17:45:02.4±0.9,3.°18S×126.°65E, h0km, mb3.5/6, mb1 3.9/10, mb1mx3.7/24, mbtmp3.7/10, ML3.5/4, Error ellipse: s-maj=38.1km s-min=15.7km az=70.0*
*DJA **18** 17:45:04.8±0.7,3.°5S×12.°6E±.°, h9km±6km, M4.0/4, mb4.7/3, mB4.8/1, MLv3.8/4, Mw(mB)4.0/1*
*ISCJB **18** 17:45:05.5±0.4,3.°33S±0.°04×126.°49E±0.°03, h33km, mb3.5/7, Error ellipse: s-maj=5.2km s-min=4.6km az=177.8*
*AUST **18** 17:45:08.8,3.°50S×126.°51E, h20km*

ISC 18 17:45:07.8±0.7,3.°31S±0.°06×126.°52E±0.°04, h35km, n27, σ1°30/31, mb3.7/7, Buru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**0.59**	**83**	P	Pn	17 45 16.4	-3.3
NLAI				S	**Sn**	**17 45 24.6**	**-3.5**
AAI	**Ambon**	**1.72**	**103**	P	**Pn**	**17 45 36.0**	**+0.8**
AAI	**Ambon**	**1.72**	**103**	P	**Pn**	**17 45 36.3**	**+1.1**
	baz=1.7,SNR=33						
LBMI	**Labuha**	**2.83**	**20**	P	**Pn**	**17 45 51.7**	**+1.1**
TNTI	**Ternate**	**4.14**	**12**	P	**Pn**	**17 46 09.5**	**+0.8**
TNTI				S	**Sn**	**17 46 56.9**	**+1.0**
LUWI	**Luwuk**	**4.37**	**301**	P	**Pn**	**17 46 11.3**	**-0.4**
LUWI	**Luwuk**	**4.37**	**301**	P	**Pn**	**17 46 11.4**	**-0.3**
	baz=4.5,SNR=15						
KMSI	**Cibinong**	**4.62**	**327**	P	**Pn**	**17 46 13.5**	**-1.7**
KMSI				S	**Sn**	**17 47 09.0**	**+1.4**
SWI	**Sorong**	**5.33**	**63**	P	**Pn**	**17 46 26.4**	**+1.5**
	42nm,0.8s						
SWI	**Sorong**	**5.33**	**63**	P	**Pn**	**17 46 27.3**	**+2.4**
	baz=5.4,SNR=8.9						
FAKI	**Fak Fak**	**5.74**	**86**	P	Pn	17 46 36.2	+5.6
	baz=5.8,SNR=8.1						
MRSI	**Marisa**	**5.92**	**309**	P	**Pn**	**17 46 31.6**	**-1.5**
	56nm,0.8s,702nm						
MRSI				S	**Sn**	**17 47 40.2**	**+0.4**
	56nm,0.8s,702nm						
BNSI	**Bone**	**6.49**	**260**	S	**Sn**	**17 47 54.3**	**+0.6**
BKSI	**Bulukumba**	**6.68**	**252**	P	**Pn**	**17 46 44.7**	**+1.2**
BKSI				S	**Sn**	**17 47 59.8**	**+1.3**
KAPI	**Kappang**	**6.96**	**256**	Pn	**Pn**	**17 46 46.9**	**-0.5**
	3.0nm,0.3s,baz=161,slow=6.5,SNR=9.6						
KAPI				Sn	**Sn**	**17 48 03.0**	**-2.3**
	1.7nm,0.3s,baz=72,slow=20,SNR=13						
BATI	**Baumata**	**7.41**	**202**	Pn	**Pn**	**17 46 55.0**	**+1.4**
	0.7nm,0.3s,baz=37,slow=5.1,SNR=2.8						
KNRA	**Kununurra**	**12.49**	**170**	P	**Pn**	**17 48 02.1**	**-1.1**
	baz=12,SNR=5.1						
FITZ	**Fitzroy Crossi**	**14.73**	**183**	P	**P**	**17 48 39.9**	**+0.6**
	baz=15,SNR=8.7						
FITZ	**Fitzroy Crossi**	**14.73**	**183**	Pn	**Pn**	**17 48 34.7**	**+1.0**
	0.0nm,0.3s,baz=356,slow=15,SNR=3.4						
WRA	**Warramunga Arr**	**18.21**	**156**	P	**P**	**17 49 17.9**	**-0.1**
	0.2nm,0.3s,baz=337,slow=11,SNR=24						
ASAR	**Alice Springs**	**21.46**	**161**	P	**P**	**17 49 53.3**	**-0.1**
	3.0nm,0.9s,baz=342,slow=9.3,SNR=25						
STKA	**Stephens Creek**	**31.76**	**155**	P	**P**	**17 51 28.7**	**-0.1**
	0.9nm,0.7s,baz=330,slow=20,SNR=1.9						
CMAR	**Chiang Mai Arr**	**34.72**	**310**	P	**P**	**17 51 55.0**	**+0.2**
	0.1nm,0.4s,baz=131,slow=9.7,SNR=2.9						
SONM	**Songino Array**	**53.90**	**343**	P	**P**	**17 54 27.7**	**-0.2**
	0.2nm,0.4s,baz=165,slow=6.0,SNR=3.3						
MKAR	**Makanchi Array**	**63.27**	**328**	P	**P**	**17 55 32.6**	**-0.4**
	0.1nm,0.5s,baz=131,slow=6.1,SNR=3.2						
ZALV	**Zalesovo Beam**	**66.77**	**335**	P	**P**	**17 55 54.4**	**-1.2**
	0.2nm,0.3s,baz=90,slow=2.9,SNR=2.8						
KURBB	**Kurchatov Arra**	**67.58**	**329**	P	**P**	**17 56 00.2**	**-0.6**
	0.7nm,0.8s,baz=129,slow=4.7,SNR=4.0						

CSEM 18 17:54:31.0±0.5, 40.°36N×52.°17E, h10km, mb3.2, Error ellipse: s-maj=12.5km s-min=7.6km az=151.0, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATGJ	**Altiaghaj**	**2.51**	**282**	Pn	Pn	17 55 12.1	+0.1
ATGJ				S	Sn	17 55 43.9	+1.2
SIZA	**Siyzn**	**2.58**	**287**	Pn	Pn	17 55 13.1	+0.1
SIZA				S	Sn	17 55 46.0	+1.4
PQL	**Pirkuli**	**2.75**	**280**	Pn	Pn	17 55 16.5	+1.0
PQL				S	Sn	17 55 47.0	-1.9
QUBA	**Quba, Azerbaij**	**2.96**	**291**	Pn	Pn	17 55 18.6	+0.5
QUBA				S	Sn	17 55 52.2	-1.5
LKRN	**Lenkeran, Azer**	**3.10**	**239**	Pn	Pn	17 55 19.9	0.0
LKRN				S	Sn	17 55 56.5	-0.5
GLBA	**Clilabad**	**3.12**	**250**	Pn	Pn	17 55 20.0	-0.2
GLBA				S	Sn	17 55 57.4	0.0
SEKA	**Sheki**	**3.87**	**284**	Pn	Pn	17 55 29.6	-1.0
SEKA				S	Sn	17 56 15.0	-1.2
GANJ	**Ganja**	**4.46**	**276**	S	Sn	17 56 26.8	-4.1

*IDC **18** 18:43:19.4±0.9,30.°11S×177.°56W, h0km, mb4.3/4, mb1 4.4/6, mb1mx4.1/18, mbtmp4.2/6, ML3.6/2, MS3.2/3, Ms1 3.2/3, ms1mx3.0/25, Error ellipse: s-maj=28.3km s-min=18.7km az=108.0*
*ISCJB **18** 18:43:23.5±1.3,30.°05S±0.°06×177.°7W±0.°2, h35km, mb4.2/4, MS3.2/2, Error ellipse: s-maj=28.1km s-min=7.3km az=9.4*

ISC 18 18:43:24.6±0.9,30.°01S±0.°08×177.°7W±0.°2, h35km, n22, σ1°17/18, mb4.3/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.79**	**343**	Pn	**Pn**	**18 43 39.6**	**+0.4**
	3µm,0.3s,baz=98,slow=8.4,SNR=248						
RAO				Sn	**Sn**	**18 43 48.6**	**-1.1**
	6µm,0.3s,baz=90,slow=20,SNR=41						
URZ	**Urewera**	**9.30**	**206**	Pn	**Pn**	**18 45 33.7**	**-2.5**
	0.4nm,0.3s,baz=70,slow=12,SNR=2.8						
URZ				Sn	**Sn**	**18 47 20.7**	**+1.1**
	2.4nm,0.3s,baz=105,slow=20,SNR=8.3						
DZM	**Mont Dzumac**	**16.32**	**295**	eLR	LR	18 51 04.1	
	139nm,24.4s						
DZM	**Mont Dzumac**	**16.32**	**295**	LR	LR	18 52 10.0	
	comp=Z,93nm,19.9s,baz=166,slow=32						
RPZ	**Rata Peaks**	**16.38**	**210**	Pn	**Pn**	**18 47 11.9**	**+0.2**
	0.3nm,0.3s,baz=56,slow=7.3,SNR=2.6						
PPT2	**Papeete2**	**28.42**	**71**	eLR	LR	18 56 30.8	
	122nm,26.8s						
PPT	**Papeete**	**28.43**	**71**	LR	LR	18 58 02.5	
	comp=Z,24nm,20.8s,baz=206,slow=31						
STKA	**Stephens Creek**	**34.86**	**256**	P	**P**	**18 50 13.5**	**+0.9**
	3.3nm,0.6s,baz=95,slow=9.9,SNR=10						
RKT	**Rikitea**	**38.61**	**90**	eLR	LR	19 01 33.2	
	163nm,30.0s						
ASAR	**Alice Springs**	**43.43**	**266**	P	**P**	**18 51 24.1**	**-0.2**
	3.2nm,0.5s,baz=104,slow=6.9,SNR=119						
WRA	**Warramunga Arr**	**44.39**	**272**	P	**P**	**18 51 31.9**	**-0.1**
	1.7nm,0.3s,baz=110,slow=8.1,SNR=45						
ASAJ	**Asahikawa**	**82.23**	**332**	LR	LR	19 27 24.6	
	comp=Z,30nm,20.3s,baz=353,slow=32						
NVAR	**Mina Array Bea**	**87.75**	**43**	P	**P**	**18 56 09.9**	**-0.1**
	0.7nm,0.7s,baz=203,slow=7.8,SNR=4.9						
ARCES	**ARCESS Array B**	**138.27**	**348**	PKP	**PKPdf**	**19 02 43.9**	**-1.3**
	4.8nm,1.0s,baz=22,slow=3.4,SNR=3.1						
FINES	**FINESS Array B**	**144.88**	**340**	PKPbc	**PKPdf**	**19 02 55.9**	**-1.3**
	4.2nm,0.5s,baz=51,slow=4.4,SNR=28						
KBZ	**Khabaz**	**145.14**	**304**	PKPbc	**PKPdf**	**19 02 60.0**	**+1.8**
	1.7nm,0.8s,baz=117,slow=4.5,SNR=3.9						
NB2	**NORSAR Subarra**	**148.41**	**352**	PKP	**PKPbc**	**19 03 06.3**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=10,slow=2.7						
NOA	**NORSAR Array B**	**148.41**	**352**	PKPbc	**PKPbc**	**19 03 06.7**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=14,slow=4.3,SNR=6.3						
AKASG	**Malin Array Be**	**151.17**	**323**	PKPbc	**PKPbc**	**19 03 13.3**	**-0.4**
	comp=Z,4.0nm,0.6s,baz=47,slow=2.9,SNR=25						
BRTR	**Keskin Array B**	**152.68**	**299**	PKPbc	**PKPbc**	**19 03 17.6**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=69,slow=4.6,SNR=3.9						
GERES	**GERESS Array B**	**159.29**	**338**	PKPab	**PKPab**	**19 03 58.0**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=40,slow=4.4,SNR=4.6						
TORD	**Torodi Ar. Bea**	**163.21**	**178**	PKPab	**PKPab**	**19 04 15.2**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=195,slow=3.0,SNR=8.2						

*KRSC **18** 18:51:43.8±6.2,52.°42N×155.°72E, h309km±50km, ML3.8*
*ISCJB **18** 18:51:44.5±0.5,52.°60N±0.°07×155.°4E±0.°1, h291km±4km, mb3.3/6, Error ellipse: s-maj=15.0km s-min=7.7km az=42.5*
*IDC **18** 18:51:45.9±1.3,52.°70N×155.°47E, h292km±13km, mb3.0/6, mb1 3.2/8, mb1mx3.0/27, mbtmp3.1/8, Error ellipse: s-maj=26.3km s-min=15.0km az=166.0*

ISC 18 18:51:45.4±0.8,52.°51N±0.°08×155.°71E±0.°09, h295km±6km, n29, σ1°49/44, mb3.3/6, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APC	**Apacha**	**0.97**	**64**	*i* P	**Pn**	**18 52 25.3**	**+0.3**
APC				*e*S	**S**	**18 52 56.7**	**+0.2**
PAU	**Pauzhetka**	**1.25**	**147**	*i* P	**Pn**	**18 52 26.3**	**-0.2**
ASAK	**Asacha**	**1.34**	**95**	*e*P	**Pn**	**18 52 27.5**	**+0.3**
ASAK				*e*S	**S**	**18 52 59.4**	**-0.9**
PETK	**Petropavlovsk-**	**1.35**	**63**	P	**Pn**	**18 52 27.4**	**+0.4**
	6.8nm,0.3s,baz=214,slow=3.4,SNR=141						
MTVR	**Mutnovka**	**1.51**	**90**	*e*P	**Pn**	**18 52 28.8**	**+0.5**
MTVR				*e*S	**S**	**18 53 03.0**	**+0.7**
RUS	**Russkaya**	**1.71**	**91**	*e*P	**Pn**	**18 52 29.2**	**-0.3**
RUS				*e*S	**S**	**18 53 03.8**	**-0.7**
GNL	**Ganaly**	**1.79**	**48**	*e*P	**Pn**	**18 52 30.3**	**+0.1**
GNL				*e*S	**S**	**18 53 04.2**	**-1.6**
SKR	**Severo-Kuril's**	**1.85**	**172**	*e*P	**Pn**	**18 52 29.6**	**-0.9**
SKR				*e*S	**S**	**18 53 05.0**	**-1.4**
PET	**Petropavlovsk**	**1.86**	**73**	*e*P	**Pn**	**18 52 31.1**	**+0.6**
PET				*e*S	**S**	**18 53 07.4**	**+1.0**
KOK	**Koryaka**	**1.94**	**65**	*e*P	**Pn**	**18 52 32.2**	**+0.9**
KRX	**Arik**	**1.97**	**63**	*e*P	**Pn**	**18 52 32.4**	**+0.8**
AVH	**Avacha**	**1.98**	**66**	*e*P	**Pn**	**18 52 30.8**	**-0.8**
AVH				*e*S	**S**	**18 53 08.2**	**-0.1**
KRER	**Koryakskii**	**2.00**	**65**	*e*P	**Pn**	**18 52 32.8**	**+0.9**
UGLR	**Uglovaya**	**2.01**	**68**	*e*P	**Pn**	**18 52 32.8**	**+0.9**
UGLR				*e*S	**S**	**18 53 10.5**	**+1.7**
SMAR	**Somma**	**2.02**	**67**	*e*P	**Pn**	**18 52 32.5**	**+0.5**
SMAR				*e*S	**S**	**18 53 09.1**	**0.0**
SDLR	**Sedlovina**	**2.07**	**67**	*e*P	**Pn**	**18 52 32.7**	**+0.4**
SDLR				*e*S	**S**	**18 53 10.8**	**+1.1**
TUMR	**Tumrok**	**3.82**	**42**	*e*P	**Pn**	**18 52 47.0**	**-2.4**
TUMR				*e*S	**S**	**18 53 40.0**	**-0.5**
MKZ	**Mys Kozlova**	**4.13**	**58**	*i* P	**Pn**	**18 52 52.4**	**-0.3**
MKZ				*e*S	**S**	**18 53 41.4**	**-5.2**
SRDR	**Sredinnyy**	**4.47**	**30**	*e*P	**Pn**	**18 52 58.6**	**+2.0**
KBTR	**Krutoberegovo**	**5.57**	**45**	*e*P	**Pn**	**18 53 09.6**	**+0.4**
KBTR				*e*S	**S**	**18 54 15.7**	**-0.9**
BKI	**Bering**	**6.64**	**62**	*e*S	**S**	**18 54 35.9**	**-4.3**
FX1	**Attu Island--F**	**10.60**	**81**	P	**P**	**18 54 13.2**	**-0.7**
	2.8nm,0.3s,baz=191,slow=13,SNR=7.9						
FX1				S	**S**	**18 56 12.0**	**+2.4**
	0.2nm,0.3s,baz=342,slow=20,SNR=3.4						
ASAJ	**Asahikawa**	**12.10**	**231**	P	**P**	**18 54 30.5**	**-0.2**
	0.4nm,0.3s,baz=77,slow=30,SNR=5.9						
ILAR	**Eielson Array**	**31.10**	**44**	P	**P**	**18 57 36.9**	**+0.4**
	0.5nm,0.5s,baz=263,slow=7.2,SNR=13						
MKAR	**Makanchi Array**	**45.98**	**294**	P	**P**	**18 59 38.9**	**-0.6**
	0.6nm,0.4s,baz=58,slow=7.5,SNR=23						
FINES	**FINESS Array B**	**59.55**	**335**	P	**P**	**19 01 16.1**	**-1.7**
	3.2nm,1.0s,baz=38,slow=9.6,SNR=5.9						
PDAR	**Pinedale Array**	**60.11**	**58**	P	**P**	**19 01 23.6**	**+1.3**
	0.4nm,0.7s,baz=29,slow=3.4,SNR=4.0						
TXAR	**Lajitas Array**	**73.30**	**64**	P	**P**	**19 02 46.5**	**+1.4**
	0.2nm,0.5s,baz=296,slow=5.3,SNR=6.9						
ASAR	**Alice Springs**	**78.21**	**200**	P	**P**	**19 03 13.5**	**+1.0**
	2.5nm,1.4s,baz=18,slow=4.9,SNR=4.5						

IDC 18 19:02:22.8±7.7, 16.°12S×172.°94W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/19, mbtmp3.8/2, Error ellipse: s-maj=360.3km s-min=59.7km az=141.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S2	**WAKE ISLAND Hy**	**39.81**	**329**	T	T	19 51 31.8	
	baz=153,slow=0.7,SNR=12						
H11S3	**WAKE ISLAND Hy**	**39.82**	**329**	T	T	19 51 32.9	
	baz=153,slow=0.7,SNR=10.0						
H11S1	**WAKE ISLAND Hy**	**39.83**	**329**	T	T	19 51 33.3	
	baz=153,slow=0.7,SNR=6.4						
H11N3	**WAKE ISLAND Hy**	**40.76**	**330**	T	T	19 52 44.0	
	baz=158,slow=0.7,SNR=16						
H11N1	**WAKE ISLAND Hy**	**40.76**	**330**	T	T	19 52 44.1	
	baz=158,slow=0.7,SNR=12						
H11N2	**WAKE ISLAND Hy**	**40.77**	**330**	T	T	19 52 45.2	
	baz=158,slow=0.7,SNR=19						
WRA	**Warramunga Arr**	**50.12**	**257**	P	P	19 11 19.9	-0.3
	0.3nm,0.8s,baz=96,slow=8.6,SNR=6.1						
ASAR	**Alice Springs**	**50.31**	**252**	P	P	19 11 21.8	+0.1
	2.7nm,0.7s,baz=84,slow=8.2,SNR=52						
BRTR	**Keskin Array B**	**147.00**	**321**	PKPbc	PKPbc	19 22 07.0	-0.9
	0.7nm,0.9s,baz=69,slow=4.8,SNR=2.5						

IDC 18 19:15:36.5±1.2, 11.°33S×166.°40E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.9/18, mbtmp3.9/9, MS3.4/4, Ms1 3.5/4, ms1mx3.1/26, Error ellipse: s-maj=40.1km s-min=24.5km az=115.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.62**	**286**	Pn	Pn	19 17 18.5	+3.3
	18nm,0.3s,baz=150,slow=4.7,SNR=8.7						
HNR				Sn	Sn	19 18 31.1	-0.4
	4.8nm,0.3s,baz=180,slow=20,SNR=2.6						
HNR				LR	LR	19 19 23.3	
	comp=Z,89nm,18.0s,baz=270,slow=34						
DZM	**Mont Dzumac**	**10.69**	**180**	Pn	Pn	19 18 16.0	+4.9
	0.3nm,0.3s,baz=308,slow=19,SNR=5.4						
AFI	**Afiamalu**	**21.45**	**99**	LR	LR	19 27 29.2	
	comp=Z,58nm,18.5s,baz=166,slow=33						
STKA	**Stephens Creek**	**30.69**	**224**	P	P	19 21 53.7	+0.5
	0.9nm,0.7s,baz=336,slow=21,SNR=3.4						
STKA				LR	LR	19 33 32.1	
	comp=Z,99nm,18.2s,baz=196,slow=35						
WRA	**Warramunga Arr**	**31.99**	**250**	P	P	19 22 04.8	-0.1
	0.7nm,0.8s,baz=79,slow=9.2,SNR=8.8						
ASAR	**Alice Springs**	**33.24**	**244**	P	P	19 22 15.4	-0.4
	2.1nm,0.7s,baz=68,slow=9.6,SNR=31						
ASAR				PcP	PcP	19 24 58.4	-0.2
	0.6nm,0.8s,baz=74,slow=2.1,SNR=6.3						
VNDA	**Vanda**	**66.23**	**181**	P	P	19 26 25.7	-0.1
	0.7nm,0.8s,baz=352,slow=4.0,SNR=4.2						
CMAR	**Chiang Mai Arr**	**72.81**	**293**	P	P	19 27 08.0	+0.4
	0.5nm,0.9s,baz=126,slow=4.6,SNR=3.8						
SONM	**Songino Array**	**79.27**	**324**	P	P	19 27 44.5	+0.4
	0.5nm,0.6s,baz=134,slow=4.2,SNR=3.6						
H02S1	**DAWSON INLET T**	**82.58**	**32**	T	T	20 59 27.8	
	SNR=33						
ILAR	**Eielson Array**	**83.57**	**18**	P	P	19 28 06.5	+0.3
	0.3nm,0.6s,baz=213,slow=6.5,SNR=8.0						
ZALV	**Zalesovo Beam**	**94.16**	**324**	P	P	19 28 55.7	-1.5
	0.3nm,0.4s,baz=90,slow=4.3,SNR=2.6						
MKAR	**Makanchi Array**	**94.17**	**317**	P	P	19 28 57.4	0.0
	1.1nm,0.6s,baz=89,slow=5.5,SNR=14						
TXAR	**Lajitas Array**	**95.40**	**61**	LR	LR	20 10 04.2	
	comp=Z,76nm,18.3s,baz=0.0,slow=34						
H03N2	**Juan Fernandez**	**103.61**	**129**	T	T	21 26 26.3	
	baz=255,SNR=59						
H03N3	**Juan Fernandez**	**103.61**	**129**	T	T	21 26 26.5	
	baz=255,SNR=64						
H03N1	**Juan Fernandez**	**103.62**	**129**	T	T	21 26 28.8	
	baz=255,SNR=53						

*IDC **18** 19:33:53.5±0.7,9.°16N×125.°60E, h0km, mb3.8/11, mb1 4.0/11, mb1mx3.8/25, mbtmp3.8/11, MS3.5/5, Ms1 3.5/5, ms1mx3.2/35, Error ellipse: s-maj=36.9km s-min=14.2km az=72.0*
*NEIC **18** 19:33:55.2±0.6,9.°21N×125.°62E, h15km, mb4.2/1, Error ellipse: s-maj=33.8km s-min=9.9km az=70.0*
NEIC Felt [III PIVS] at Butuan.
*ISCJB **18** 19:33:56.4±0.6,9.°22N±0.°03×125.°69E±0.°05, h32km±4km, mb3.9/13, MS3.5/5, Error ellipse: s-maj=8.3km s-min=4.6km az=157.9*
*MAN **18** 19:33:56,9.°22N×125.°48E, h3km, mb5.1, ML4.1, MS4.2*
MAN INTENSITY III - BUTUAN CITY.

ISC 18 19:33:56.8±1.1,9.°19N±0.°03×125.°70E±0.°06, h23km±7km, n55, σ0°91/53, mb3.8/13, MS3.5/5, 3C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.24**	**199**	*e*P	**Pb**	**19 34 02.1**	**-0.7**
BUTP				*e*S	**Sb**	**19 34 07.7**	**+1.0**
SCPH	**Surigao**	**0.62**	**341**	*e*P	**Pb**	**19 34 08.2**	**-0.8**
SCPH				*i* S	**Sb**	**19 34 18.2**	**+0.9**
BIPH	**Bislig**	**1.20**	**147**	*e*P	**Pn**	**19 34 17.7**	**-0.5**
BIPH				*e*S	**Sb**	**19 34 34.3**	**+0.4**
CGP	**Cagayan de Oro**	**1.23**	**234**	*e*P	**Pn**	**19 34 17.3**	**-1.4**
CGP				*i* S	**Sn**	**19 34 34.1**	**-0.5**
MSLP	**Maasin**	**1.25**	**319**	*e*P	**Pn**	**19 34 17.4**	**-1.5**
BUKP	**Musuan**	**1.45**	**206**	*e*P	**Pb**	**19 34 22.7**	**-0.4**
LLP	**Lapu-Lapu**	**2.04**	**303**	*e*P	**Pn**	**19 34 28.9**	**-0.9**
LLP				*e*S	**Sn**	**19 34 53.5**	**-1.1**
DMPH	**Davao City--Mi**	**2.10**	**185**	*e*P	**Pb**	**19 34 34.6**	**+0.3**
DMPH				*e*S	**Sb**	**19 35 00.3**	**+0.3**
DAV	**Davao City (W)**	**2.11**	**183**	*e*Pn	**Pn**	**19 34 30.0**	**-0.8**
OCLP	**Ormoc**	**2.13**	**330**	*e*P	**Pn**	**19 34 32.3**	**+1.2**
KCP	**Kidapawan**	**2.25**	**196**	*e*P	**Pn**	**19 34 33.1**	**+0.3**
KCP				*i* S	**Sb**	**19 35 05.4**	**+1.0**
MATI	**Mati**	**2.30**	**166**	*e*P	**Pb**	**19 34 36.4**	**-1.3**
DCPH	**Dipolog City**	**2.40**	**256**	*e*P	**Pn**	**19 34 35.0**	**+0.3**
CTBH	**Cotabato--PC H**	**2.43**	**216**	*e*P	**Pn**	**19 34 35.5**	**+0.3**
PAGZ	**Pagadian**	**2.65**	**240**	*e*P	**Pn**	**19 34 39.3**	**+1.1**
GUIM	**Jordan**	**3.38**	**295**	*e*P	**Pn**	**19 34 47.8**	**-0.4**
IPIL	**Ipil**	**3.39**	**246**	*e*P	**Pn**	**19 34 49.2**	**+0.8**
RCP	**Roxas**	**3.74**	**309**	*e*P	**Pn**	**19 34 54.7**	**+1.6**
CUYO	**Cuyo Island**	**4.89**	**290**	*e*P	**Pn**	**19 35 08.7**	**-0.4**
SJMP	**San Jose**	**5.55**	**306**	*e*P	**Pn**	**19 35 18.9**	**+0.9**
BUSP	**Coron**	**6.08**	**298**	*e*P	**Pn**	**19 35 24.0**	**-1.4**
ENPP	**El Nido**	**6.

8C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.64**	**218**	*i*P	Pn	19 52 49.7	+0.2
PB09				*i* S	Sn	19 53 04.3	+1.1
PB09				AML	AML	19 53 05.7	
	comp=N,2μm,0.4s						
PB01	**Plate Boundary**	**0.67**	**292**	⇑*i*P	Pn	19 52 49.7	+0.1
PB01				*i* S	Sn	19 53 04.0	+0.6
PB01				AML	AML	19 53 06.6	
	comp=E,3μm,0.3s						
PB07	**Plate Boundary**	**1.08**	**246**	⇑*i*P	Pn	19 52 54.1	+0.5
PB07				*i* S	Sn	19 53 11.4	+0.9
PB07				AML	AML	19 53 12.5	
	comp=N,1μm,0.5s						
PB04	**Plate Boundary**	**1.15**	**213**	⇓*i*P	Pn	19 53 00.3	+6.2
PB04				*i* S	Sn	19 53 22.9	+11
PB04				AML	AML	19 53 29.5	
	comp=E,999nm,0.3s						
MACH	**Maria Elena**	**1.25**	**224**	⇑*i*P	Pn	19 52 56.1	+0.6
MACH				*i* S	Sn	19 53 14.8	+0.8
HMBC	**Humberstone**	**1.42**	**315**	⇑*i*P	Pn	19 52 58.0	+0.6
HMBC				*i* S	Sn	19 53 18.4	+1.2
HMBC				AML	AML	19 53 20.4	
	comp=N,3μm,0.5s						
PSGC	**Pisagua**	**2.08**	**324**	⇑*i*P	Pn	19 53 06.1	+0.6
PSGC				*i* S	Sn	19 53 32.8	+1.1
PSGC				AML	AML	19 53 35.0	
	comp=N,461nm,0.7s						
MNMC	**Minimini**	**2.27**	**341**	⇑*i*P	Pn	19 53 09.5	+1.4
MNMC				*i* S	Sn	19 53 38.0	+1.6
MNMC				AML	AML	19 53 42.5	
	comp=N,1μm,0.2s						
CEN1	**Los Morros**	**2.44**	**211**	*e*P	Pn	19 53 14.3	+4.2
CEN1				AML	AML	19 53 56.2	
	comp=N,425nm,0.5s						
ANCH	**Antofagasta**	**2.79**	**211**	⇑*i*P	Pn	19 53 18.8	+4.3
ANCH				*i* S	Sn	19 53 53.1	+5.2

IDC ***18*** *19:59:05.7±1.7,5°.92S×130°.65E, h0km, mb4.0/4, mb1 4.1/7, mb1mx3.8/18, mbtmp4.0/7, ML4.0/3, Error ellipse: s-maj=74.8km s-min=23.7km az=77.0*

ISCJB ***18*** *19:59:15.5±0.6, 6°.26S±0°.05×130°.14E±0°.10, h90km, mb4.0/4, Error ellipse: s-maj=13.5km s-min=7.6km az=179.6*

AUST ***18*** *19:59:17.3, 5°.98S×130°.53E, h200km*

ISC 18 19:59:17.0±0.8, 6°.26S±0°.08×130°.3E±0°.1, h90km, n17, σ1℘34/13, mb3.9/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**2.52**	**76**	P	Pn	19 59 59.0	+2.9
	baz=2.2,SNR=53						
FAKI	**Fak Fak**	**3.85**	**31**	P	**Pn**	**20 00 14.8**	**+0.6**
	baz=3.5,SNR=60						
SWI	**Sorong**	**5.45**	**10**	P	**Pn**	**20 00 36.9**	**+1.1**
	baz=5.2,SNR=11						
MTN	**Manton Dam**	**6.59**	**173**	P	**Pn**	**20 00 53.8**	**+2.3**
	baz=6.9,SNR=15						
KDU	**Kakadu**	**6.74**	**161**	P	**Pn**	**20 00 54.3**	**+0.9**
	baz=7.0,SNR=87						
SOEI	**Soe**	**6.90**	**239**	P	Pn	20 01 02.6	+6.9
	baz=7.3,SNR=8.6						
KNRA	**Kununurra**	**9.48**	**189**	P	**Pn**	**20 01 31.8**	**+1.1**
	baz=9.9,SNR=29						
FITZ	**Fitzroy Crossi**	**12.61**	**201**	P	**Pn**	**20 02 13.6**	**+0.4**
	baz=13,SNR=12						
FITZ	**Fitzroy Crossi**	**12.61**	**201**	Pn	**Pn**	**20 02 12.0**	**-1.2**
	1.4nm,0.3s,baz=38,slow=11,SNR=62						
FITZ				Sn	Sn	20 04 23.9	-8.0
	2.3nm,0.3s,baz=305,slow=12,SNR=10						
WRA	**Warramunga Arr**	**14.16**	**164**	Pn	**Pn**	**20 02 31.0**	**-2.5**
	0.5nm,0.3s,baz=43,slow=9.2,SNR=23						
WRA				Sn	Sn	20 04 57.5	-12
	1.5nm,0.3s,baz=349,slow=23,SNR=10						
COEN	**Coen**	**14.81**	**122**	P	**Pn**	**20 02 41.7**	**-0.3**
	baz=15,SNR=8.3						
ASAR	**Alice Springs**	**17.65**	**169**	P	**P**	**20 03 17.1**	**+0.2**
	0.2nm,0.3s,baz=347,slow=9.6,SNR=23						
ASAR				S	Sn	20 06 21.4	-12
	0.2nm,0.3s,baz=348,slow=26,SNR=6.1						
PPI	**Padang Panjang**	**30.38**	**280**	P	P	20 05 10.2	-11
	baz=31,SNR=3.4						
CMAR	**Chiang Mai Arr**	**39.48**	**309**	P	**P**	**20 06 39.2**	**+0.2**
	1.0nm,0.8s,baz=135,slow=7.5,SNR=10						
SONM	**Songino Array**	**57.84**	**341**	P	**P**	**20 08 58.6**	**-0.8**
	0.7nm,0.6s,baz=163,slow=6.3,SNR=8.0						
MKAR	**Makanchi Array**	**67.77**	**327**	P	**P**	**20 10 04.7**	**-0.6**
	2.9nm,0.5s,baz=113,slow=8.6,SNR=56						
ZALV	**Zalesovo Beam**	**71.05**	**334**	P	P	20 10 23.2	-2.0
	0.9nm,0.6s,baz=138,slow=4.5,SNR=3.8						

IDC 18 20:21:37.6±3.6, 15°.75N×122°.80E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/24, mbtmp3.4/3, Error ellipse: s-maj=313.4km s-min=26.4km az=62.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.23**	**162**	P	P	20 28 51.0	-0.1
	0.4nm,0.4s,baz=343,slow=9.3,SNR=7.9						
ASAR	**Alice Springs**	**40.65**	**164**	P	P	20 29 19.6	-0.1
	0.1nm,0.3s,baz=342,slow=7.7,SNR=4.1						
MKAR	**Makanchi Array**	**45.65**	**321**	P	P	20 29 59.9	-0.2
	0.7nm,0.7s,baz=113,slow=6.6,SNR=7.3						

PRE ***18*** *20:32:26.5±2.1, 0°.54N×31°.14E, h10km, ML3.9*

ISC 18 20:32:25.5±3.0, 0°.6N±0°.2×31°.13E±0°.10, h10km, n5, σ1℘11/9, 1D, Lake Victoria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**1.28**	**198**	⇓*i*P	**Pg**	**20 32 51.2**	**+1.1**
MBAR				*e*S	**Sb**	**20 33 06.3**	**0.0**
KIG	**Kigali**	**2.78**	**203**	*e*P	**Pn**	**20 33 10.2**	**-0.1**
KIG				*e*S	**Sn**	**20 33 43.0**	**-1.1**
KIG				AML	AML	20 33 54.9	
	comp=Z,471nm,0.4s						
KMBO	**Kilima Mbogo**	**6.36**	**106**	*e*P	**Pn**	**20 34 00.2**	**+0.6**
KMBO				*e*S	**Sn**	**20 35 10.6**	**-1.9**
MAUS	**Longido**	**6.49**	**121**	*i* P	**Pb**	**20 34 18.4**	**-0.2**
MAUS				*i* S	**Sb**	**20 35 37.2**	**+0.8**
LSZ	**Lusaka**	**16.06**	**190**	*e*P	**P**	**20 36 14.8**	**-0.4**
LSZ				*e*S	Sn	20 38 59.9	-10

NIED ***18*** *20:38:00, 38°.70N×141°.40E, h95km, Mw3.7 Best double couple: M₀4.66000×10¹⁴ NP1:φ₁s30.00000°, δ69.00000°, λ69.00000°. NP2:φ₂s258.00000°, δ29.00000°, λ134.00000°.*

IDC ***18*** *20:38:15.0±3.5, 38°.80N×141°.89E, h106km±37km, mb3.4/6, mb1 3.4/8, mb1mx3.2/27, mbtmp3.4/8, Error ellipse: s-maj=39.2km s-min=24.7km az=76.0*

ISCJB ***18*** *20:38:15.7±0.6, 38°.75N±0°.04×141°.51E±0°.07, h113km±3km, mb3.6/7, Error ellipse: s-maj=10.2km s-min=4.9km az=28.9*

JMA ***18*** *20:38:17.2±0.1, 38°.75N×141°.45E, h105km±1km, M3.5*

JMA Felt II J1.

ISC 18 20:38:16.5±0.9, 38°.76N±0°.05×141°.54E±0°.07, h112km±6km, n27, σ0℘88/44, mb3.8/7, 2C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMK	**Ichinoseki**	**0.32**	**308**	P	**Pn**	**20 38 32.2**	**-0.2**
JMK				*e*S	**Sn**	**20 38 43.6**	**-0.9**
JIO	**Ouri**	**0.34**	**206**	P	**Pn**	**20 38 32.5**	**0.0**
JIO				S	**Sn**	**20 38 43.7**	**-0.9**
OFUJ	**Ofunato**	**0.34**	**17**	P	**Pn**	**20 38 33.0**	**+0.4**
OFUJ				*e*S	**Sn**	**20 38 44.5**	**-0.2**
JOM	**Ohasama**	**0.74**	**345**	P	**Pn**	**20 38 35.4**	**+0.1**
JOM				S	**Sn**	**20 38 49.3**	**-0.2**
JOU	**Okura**	**0.79**	**241**	P	**Pn**	**20 38 35.6**	**-0.2**
JOU				S	**Sn**	**20 38 49.5**	**-0.8**
MIYJ	**Miyakonagasawa**	**0.85**	**15**	P	**Pn**	**20 38 36.7**	**+0.4**
MIYJ				S	**Sn**	**20 38 51.2**	**0.0**
JYK	**Kaneyama**	**0.94**	**280**	P	**Pn**	**20 38 36.8**	**-0.3**
JYK				*e*S	**Sn**	**20 38 51.7**	**-1.0**
JRG	**Rokugo**	**0.95**	**312**	P	**Pn**	**20 38 37.3**	**0.0**
JRG				*e*S	**Sn**	**20 38 52.9**	**-0.1**
JMM	**Marumori**	**1.07**	**214**	P	**Pn**	**20 38 38.0**	**-0.4**
JMM				*e*S	**Sn**	**20 38 53.7**	**-1.3**
JTH	**Tanohata**	**1.21**	**12**	P	**Pn**	**20 38 40.4**	**+0.4**
JTH				S	**Sn**	**20 38 57.7**	**-0.1**
JKZ	**Kuzumaki**	**1.24**	**352**	P	**Pn**	**20 38 40.5**	**+0.2**
JKZ				*e*S	**Sn**	**20 38 57.9**	**-0.6**
JYS	**Shirataka**	**1.27**	**246**	P	**Pn**	**20 38 40.6**	**-0.1**
JYS				*e*S	**Sn**	**20 38 58.0**	**-1.1**
JYW	**Yuwa**	**1.30**	**307**	P	**Pn**	**20 38 41.1**	**+0.2**
JYA	**Atsumi**	**1.44**	**264**	P	**Pn**	**20 38 42.4**	**-0.2**
JYA				*e*S	**Sn**	**20 39 01.3**	**-1.2**
JFT	**Otama**	**1.56**	**218**	P	**Pn**	**20 38 44.3**	**+0.2**
JFT				S	**Sn**	**20 39 04.7**	**-0.4**
JANG	**Nango**	**1.61**	**359**	P	**Pn**	**20 38 44.6**	**-0.1**
JANG				S	**Sn**	**20 39 05.5**	**-0.7**
JAW	**Awa shima**	**1.82**	**261**	P	**Pn**	**20 38 47.3**	**+0.1**
JAW				*e*S	**Sn**	**20 39 09.9**	**-0.8**
ASAJ	**Asahikawa**	**5.41**	**8**	P	**Pn**	**20 39 33.7**	**-1.1**
	3.0nm,0.3s,baz=212,slow=15,SNR=31						
ASAJ				S	**Sn**	**20 40 32.3**	**-3.5**
	3.5nm,0.3s,baz=148,slow=30,SNR=7.5						
USRK	**Ussuriysk Arra**	**8.99**	**310**	P	**Pn**	**20 40 23.8**	**+0.5**
	0.4nm,0.3s,baz=122,slow=14,SNR=4.5						
SONM	**Songino Array**	**26.94**	**301**	P	**P**	**20 43 49.4**	**+2.0**
	0.4nm,0.8s,baz=106,slow=7.7,SNR=3.1						
ZALV	**Zalesovo Beam**	**40.85**	**311**	P	**P**	**20 45 46.7**	**-0.2**
	1.0nm,0.5s,baz=79,slow=7.5,SNR=4.1						
CMAR	**Chiang Mai Arr**	**42.05**	**254**	P	**P**	**20 45 57.8**	**+0.5**
	0.2nm,0.5s,baz=46,slow=5.4,SNR=2.9						
MKAR	**Makanchi Array**	**43.31**	**301**	P	**P**	**20 46 08.4**	**+1.3**
	0.8nm,0.6s,baz=79,slow=9.0,SNR=5.2						
KURK	**Kurchatov**	**44.97**	**307**	⇓Pn	**P**	**20 46 20.0**	**-0.2**
	2.1nm,0.8s						
KURK				⇑Lg	Lg	20 48 04.9	
	3.6nm,1.1s						
KURBB	**Kurchatov Arra**	**45.04**	**307**	⇓Pn	**P**	**20 46 20.0**	**-0.8**
	2.8nm,0.6s,baz=80,slow=7.9						
KURBB				⇑Lg	Lg	20 48 07.1	
	5.8nm,0.7s,baz=197,slow=29						
KURBB	**Kurchatov Arra**	**45.04**	**307**	P	**P**	**20 46 20.8**	**0.0**
	2.8nm,0.5s,baz=82,slow=8.0,SNR=23						
WRA	**Warramunga Arr**	**58.78**	**188**	P	**P**	**20 48 02.5**	**-0.5**
	0.4nm,0.4s,baz=5.9,slow=7.0,SNR=5.1						

IDC ***18*** *20:41:26.6±4.5, 38°.02N×75°.05E, h104km±38km, mb3.4/8, mb1 3.6/13, mb1mx3.4/31, mbtmp3.5/13, MS2.9/1, Ms1 2.9/1, ms1mx2.4/28, Error ellipse: s-maj=34.4km s-min=16.8km az=23.0*

ISCJB ***18*** *20:41:28.2±0.3, 38°.15N±0°.02×75°.13E±0°.06, h135km, mb3.7/9, Error ellipse: s-maj=7.0km s-min=3.1km az=166.4*

BJI ***18*** *20:41:31.5, 38°.41N×75°.31E, h135km, mB4.8/3, mb4.6/4*

NNC ***18*** *20:41:37.5±5.7, 38°.71N×74°.75E, h147km±52km, mb3.4, mpv3.9, Error ellipse: s-maj=49.9km s-min=27.7km az=179.0*

ISC 18 20:41:29.1±0.5, 38°.15N±0°.04×75°.17E±0°.07, h135km, n61, σ1℘37/60, mb3.4/9, 6C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.50**	**24**	P	**Pn**	**20 41 55.3**	**-2.4**
KSH				S	Sn	20 42 08.8	-11
KSH				SMN			
	comp=Z,2μm,0.5s						
KSH				SME			
	comp=Z,3μm,0.2s						
KZA	**Iyzart**	**3.92**	**1**	P	**Pn**	**20 42 28.6**	**+0.3**
	SNR=62						
AML	**Almayashu**	**4.14**	**345**	P	**Pn**	**20 42 31.1**	**-0.1**
	SNR=64						
ULHL	**Ulahol**	**4.17**	**11**	P	**Pn**	**20 42 32.2**	**+0.8**
	SNR=15						
KBK	**Karagaybulak**	**4.51**	**358**	P	**Pn**	**20 42 36.4**	**+0.6**
	SNR=20						
AAK	**Ala-Archa**	**4.51**	**354**	P	**Pn**	**20 42 36.7**	**+0.8**
	SNR=18						
AAK	**Ala-Archa**	**4.51**	**354**	P	**Pn**	**20 42 36.3**	**+0.4**
	3.7nm,0.3s,baz=145,slow=6.9,SNR=34						
AAK				S	**Sn**	**20 43 27.2**	**-0.5**
	15nm,0.3s,baz=29,slow=19,SNR=12						
EKS2	**Erkin-Say**	**4.63**	**347**	P	**Pn**	**20 42 38.0**	**+0.6**
	SNR=38						
CHCP	**Chirah Chowk**	**4.74**	**200**	P	Pn	20 42 44.1	+5.2
TKM2	**Tokmak 2**	**4.78**	**4**	⇓P	**Pn**	**20 42 40.0**	**+0.5**
	9.0nm,0.6s						
TKM2				⇑S	**Sn**	**20 43 31.7**	**-2.5**
	90nm,1.0s						
TKM2	**Tokmak 2**	**4.78**	**4**	P	**Pn**	**20 42 40.4**	**+0.9**
	SNR=29						
CHMS	**Chumysh**	**4.86**	**356**	P	**Pn**	**20 42 41.0**	**+0.6**
	SNR=7.5						
CEP	**Cherat**	**5.06**	**212**	P	Pn	20 42 47.4	+4.1
CEP				S	**Sn**	**20 43 40.0**	**-1.0**
USP	**Ospenovka**	**5.14**	**355**	P	**Pn**	**20 42 44.3**	**+0.2**
	SNR=8.6						
JMU	**Jammu**	**5.42**	**182**	*e*S	**Sn**	**20 43 50.0**	**+0.6**
DHRM	**DHARAMSHALA**	**5.96**	**171**	*ex*	Pn	20 42 58.9	+3.5
DHRM				*e*S	**Sn**	**20 44 02.9**	**+0.3**
DHRM				AML	AML	20 44 09.8	
	comp=E,629nm,0.4s						
DHRM				AML	AML	20 44 09.9	
	comp=N,596nm,0.2s						
THW	**Thamme Wali**	**6.03**	**209**	P	Pn	20 42 59.5	+3.4
KK31	**Karatay Array**	**6.09**	**326**	⇓P	**Pn**	**20 42 56.0**	**-0.8**
	comp=N,7.1nm,0.3s,baz=139,slow=13,SNR=403						
KK31				⇑S	**Sn**	**20 43 59.9**	**-5.4**
	comp=N,39nm,0.4s,baz=140,slow=22,SNR=8.8						
SARP	**Sargodha**	**6.54**	**199**	P	Pn	20 43 07.0	+4.0
SDNR	**Sundarnagar**	**6.79**	**167**	*e*P	Pn	20 43 10.0	+3.6
SDNR				*e*4	**Sn**	**20 44 22.0**	**-0.5**
SMLA	**Simla**	**7.19**	**166**	*e*P	Pn	20 43 08.1	-3.6
SMLA				*e*S	**Sn**	**20 44 29.4**	**-2.6**
SMLA				AML	AML	20 44 37.2	
	comp=N,235nm,0.6s						
SMLA				AML	AML	20 44 38.9	
	comp=E,285nm,0.1s						
DDI	**Dehra Dun**	**8.16**	**162**	*e*P	Pn	20 43 21.4	-3.4
DDI				*e*S	**Sn**	**20 44 52.7**	**-2.8**
DDI				AML	AML	20 45 00.1	
	comp=E,700nm,0.4s						
DDI				AML	AML	20 45 00.5	
	comp=N,750nm,0.6s						
MK31	**Makanchi Array**	**10.11**	**29**	⇓P	**Pn**	**20 43 50.9**	**+0.1**
	comp=N,1.7nm,0.6s,baz=203,slow=13,SNR=3.3						
MKAR	**Makanchi Array**	**10.11**	**29**	P	**Pn**	**20 43 50.2**	**-0.5**
	comp=N,0.4nm,0.3s,baz=204,slow=12,SNR=19						
DANN	**Dangsing**	**12.12**	**141**	*e*P	**Pn**	**20 44 17.5**	**-0.3**
	comp=N,35nm,0.3s						
KOLN	**Koldanda**	**12.53**	**143**	*e*P	**Pn**	**20 44 23.0**	**0.0**
	comp=N,49nm,0.4s						
KURBB	**Kurchatov Arra**	**12.70**	**10**	⇑P	**P**	**20 44 31.3**	**+0.7**
	comp=N,7.1nm,0.6s						
KURBB	**Kurchatov Arra**	**12.70**	**10**	P	**Pn**	**20 44 22.7**	**-2.0**
	comp=N,0.1nm,0.3s,baz=196,slow=12,SNR=13						
KURK	**Kurchatov**	**12.80**	**10**	⇑P	**P**	**20 44 31.9**	**+0.1**
	comp=N,4.6nm,0.9s						
GKN	**Gorkha**	**12.85**	**139**	*e*P	**Pn**	**20 44 27.0**	**-0.1**
	comp=N,30nm,0.3s						
KKN	**Kakani**	**13.36**	**138**	*e*P	**Pn**	**20 44 33.3**	**-0.4**
	comp=N,44nm,0.5s						
DMN	**Daman**	**13.41**	**139**	*e*P	**Pn**	**20 44 33.8**	**-0.6**
	comp=N,13nm,0.4s						
GUN	**Gumba**	**13.59**	**136**	*e*P	**Pn**	**20 44 36.2**	**-0.5**
	comp=N,16nm,0.4s						
PKIN	**Phulchoki**	**13.59**	**138**	*e*P	**Pn**	**20 44 37.0**	**+0.3**
	comp=N,33nm,0.6s						
PKI	**Pulchoki**	**13.60**	**138**	*e*P	**Pn**	**20 44 36.9**	**0.0**
	comp=N,35nm,0.5s						
JIRN	**Jiri**	**13.95**	**135**	*e*P	**Pn**	**20 44 41.8**	**+0.4**
	comp=N,53nm,0.4s						
RAMN	**Ramite**	**14.73**	**136**	*e*P	**Pn**	**20 44 50.5**	**-0.7**
	comp=N,16nm,0.4s						
VOSK	**Vostochnaya**	**14.87**	**350**	⇓P	**Pn**	**20 44 50.9**	**-1.4**
	comp=N,2.3nm,0.8s						
BHPL	**Bhopal**	**14.98**	**172**	*e*P	**Pn**	**20 44 54.2**	**+0.1**
BHPL				*e*4		20 47 31.7	
TAPN	**Taplejung**	**15.06**	**132**	*e*P	**Pn**	**20 44 55.2**	**-0.1**
	comp=N,11nm,0.4s						
BVA0	**Borovoye Array**	**15.24**	**349**	⇓P	**P**	**20 44 59.7**	**+0.9**
	comp=N,3.3nm,0.6s,baz=145,slow=8.7,SNR=17						
BVAR	**Borovoye Array**	**15.24**	**349**	P	**Pn**	**20 44 56.2**	**-0.8**
	comp=N,0.8nm,0.3s,baz=153,slow=10,SNR=16						
ODAN	**Odare**	**15.24**	**134**	*e*P	**Pn**	**20 44 57.2**	**-0.3**
	comp=N,16nm,0.5s						
BRVK	**Borovoye**	**15.29**	**349**	⇑P	**P**	**20 45 00.5**	**+1.1**
	comp=N,12nm,0.8s						
AB31	**Akbulak array**	**15.61**	**320**	P	**Pn**	**20 45 00.8**	**-0.7**
	comp=N,0.4nm,0.3s,baz=128,slow=13,SNR=17						
AB31				⇓S	Sn	20 47 43.5	-11
	comp=N,1.3nm,0.5s,baz=131,slow=25,SNR=6.7						
ZALV	**Zalesovo Beam**	**17.14**	**20**	P	**Pn**	**20 45 19.3**	**-0.9**
	comp=N,1.2nm,0.3s,baz=209,slow=11,SNR=27						
ZALV				LR	LR	20 51 46.6	
	comp=N,45nm,20.2s,baz=69,slow=36						
AKTO	**Aktyubinsk**	**17.32**	**321**	⇑S	S	20 48 23.7	-11
	comp=N,2.0nm,0.8s						
AKTO	**Aktyubinsk**	**17.32**	**321**	P	**P**	**20 45 21.1**	**-0.7**
	comp=N,0.5nm,0.3s,baz=117,slow=9.0,SNR=4.2						
AKL	**Akola**	**17.46**	**174**	*e*P	**Pn**	**20 45 28.1**	**+3.8**
GTA	**Gaotai**	**19.24**	**79**	*e*P	**Pn**	**20 45 46.9**	**+1.5**
GTA				AMB	AMB		
	comp=N,6.0nm,1.1s						
SONM	**Songino Array**	**24.66**	**57**	P	**P**	**20 46 39.8**	**+2.5**
	comp=N,1.6nm,0.4s,baz=258,slow=8.7,SNR=19						
HHC	**Hu-ho-hao-te**	**28.09**	**73**	*e*P	**P**	**20 47 09.4**	**+1.3**
HHC				AMB	AMB		
	comp=N,51nm,1.1s						
HHC				AMB	AMB		
	comp=N,230nm,5.6s						
AKASG	**Malin Array Be**	**34.58**	**306**	P	**P**	**20 48 05.2**	**+0.5**
	comp=N,0.2nm,0.3s,baz=78,slow=8.6,SNR=5.7						
JOF	**Joensuu**	**36.19**	**328**	*ep*	**P**	**20 48 19.5**	**+1.2**
FINES	**FINESS Array B**	**38.04**	**324**	P	**P**	**20 48 34.9**	**+0.9**
	comp=N,6.6nm,1.1s,baz=113,slow=9.3,SNR=15						
KAF	**Kangasniemi**	**38.12**	**325**	*ep*	**P**	**20 48 35.3**	**+0.7**
ARCES	**ARCESS Array B**	**40.95**	**336**	P	**P**	**20 48 59.0**	**+1.0**
	comp=N,1.5nm,0.7s,baz=107,slow=8.6,SNR=7.3						
NOA	**NORSAR Array B**	**45.10**	**322**	P	**P**	**20 49 32.5**	**+1.0**
	comp=N,0.6nm,0.7s,baz=84,slow=7.9,SNR=3.4						
TORD	**Torodi Ar. Bea**	**69.06**	**270**	P	**P**	**20 52 21.0**	**+0.4**
	comp=N,0.2nm,0.4s,baz=47,slow=6.3,SNR=7.3						
WRA	**Warramunga Arr**	**80.12**	**125**	P	**P**	**20 53 25.6**	**+1.4**
	comp=N,0.3nm,0.6s,baz=318,slow=3.7,SNR=5.8						
ASAR	**Alice Springs**	**82.55**	**128**	P	**P**	**20 53 37.1**	**+0.1**
	comp=N,0.3nm,0.6s,baz=310,slow=4.3,SNR=5.9						

KRSC ***18*** *20:47:22.4±4.3, 52°.52N×160°.05E, h73km±76km, ML5.1, FELT [III-IV] at Petropavlovsk; [II-III] at Institute.*

BJI ***18*** *20:47:22.4, 52°.77N×160°.07E, h86km, mB4.9/20, mb4.5/28, Ms4.1/12, Ms7 4.2/14*

MOS ***18*** *20:47:25.6±1.0, 52°.68N×159°.70E, h87km, mb5.0/57, Error ellipse: s-maj=8.3km s-min=4.2km az=97.0*

MOS Felt (III-IV) at Petropavlovsk-Kamchatskiy.

ISCJB ***18*** *20:47:26.3±0.3, 52°.63N±0°.02×159°.78E±0°.04, h97km±1km, mb4.7/131, Error ellipse: s-maj=5.2km s-min=2.8km az=44.2*

NEIC ***18*** *20:47:29.8±0.4, 52°.64N×159°.69E, mb4.9/49, Error ellipse: s-maj=12.0km s-min=6.2km az=174.0*

NEIC Felt [IV] at Petropavlovsk-Kamchatskiy.

IDC ***18*** *20:47:29.6±0.9, 52°.76N×159°.53E, h106km±7km, mb4.1/29, mb1 4.3/30, mb1mx4.3/34, mbtmp4.1/30, MS3.5/13, Ms1 3.5/13, ms1mx3.4/36, Error ellipse: s-maj=13.4km s-min=9.6km az=162.0*

ISC 18 20:47:27.6±0.4, 52°.63N±0°.04×159°.74E±0°.04, h97km±2km, h97km:pP-P, n450, σ1℘36/518, mb4.8/132, 35C-24D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLC	**Nalytchevo**	**0.60**	**336**	PN	**Pn**	**20 47 41.7**	**-2.1**
NLC	**Nalytchevo**	**0.60**	**336**	*i* P	**Pn**	**20 47 41.7**	**-2.1**
PET	**Petropavlovsk**	**0.77**	**302**	*d* PN	**Pn**	**20 47 44.1**	**-1.3**
PET				*e*S	**Sn**	**20 47 57.0**	**-1.8**
PET				pmax	pmax		
	comp=Z,920nm,0.4s						
PET				pmax	pmax		
	comp=Z,8μm,0.4s						
PET				smax	smax		
	comp=E,3μm,0.5s						
PET				smax	smax		
	comp=N,2μm,0.4s						
PET	**Petropavlovsk**	**0.77**	**302**	P	**Pn**	**20 47 44.1**	**-1.3**
PET				*i* S	**Sn**	**20 47 57.2**	**-1.6**
RUS	**Russkaya**	**0.78**	**256**	PN	**Pn**	**20 47 43.9**	**-1.6**
RUS	**Russkaya**	**0.78**	**256**	P	**Pn**	**20 47 43.9**	**-1.6**
UGLR	**Uglovaya**	**0.81**	**317**	P	**Pn**	**20 47 45.0**	**-0.9**
SDLR	**Sedlovina**	**0.83**	**322**	P	**Pn**	**20 47 45.0**	**-1.2**
SMAR	**Somma**	**0.85**	**319**	P	**Pn**	**20 47 45.3**	**-1.2**
SMAR				*i* S	**Sn**	**20 47 58.9**	**-1.8**
AVH	**Avacha**	**0.88**	**317**	P	**Pn**	**20 47 46.0**	**-0.7**
KRER	**Koryakskii**	**0.91**	**319**	P	**Pn**	**20 47 46.3**	**-0.7**
KOK	**Koryaka**	**0.94**	**315**	P	**Pn**	**20 47 46.6**	**-0.7**
KOK				*i* S	**Sn**	**20 48 01.9**	**-0.2**
MTVR	**Mutnovka**	**0.96**	**262**	*i* P	**Pn**	**20 47 46.3**	**-1.3**
KRX	**Arik**	**0.99**	**318**	P	**Pn**	**20 47 46.9**	**-0.9**
GRL	**Gorelyy**	**1.02**	**266**	P	**Pn**	**20 47 47.9**	**-0.3**
GRL				*i* S	**Sn**	**20 48 05.2**	**+1.6**
ASAK	**Asacha**	**1.15**	**259**	P	**Pn**	**20 47 49.3**	**-0.3**
PEA0B	**Petropavlovsk-**	**1.33**	**292**	*e*Pn	**Pn**	**20 47 51.2**	**-0.4**
PEA0B				*e*Sn	**Sn**	**20 48 10.4**	**+0.6**
PETK	**Petropavlovsk-**	**1.33**	**292**	PN	**Pn**	**20 47 51.2**	**-0.5**
PETK				S

ZLN *i* S **Sn** **20 48 59.2 -0.2**
LGNR Loginova 3.51 9 *i* P **Pn** **20 48 21.0 +0.7**
LGNR *i* S **Sn** **20 49 01.4 +0.4**
CIRR Tsirk 3.55 9 *i* P **Pn** **20 48 20.6 -0.1**
CIRR *i* S **Sn** **20 49 01.7 0.0**
KRSR Krestovskiy 3.63 7 *i* P **Pn** **20 48 21.3 -0.5**
KRSR *i* S **Sn** **20 49 02.7 -1.0**
SRDR Sredinnyy 3.70 360 *i* P **Pn** **20 48 22.1 -0.6**
KLY Klyuchi 3.73 8 PN **Pn** **20 48 22.4 -0.6**
KLY S **Sn** **20 49 05.5 -0.5**
KLY Klyuchi 3.73 8 *i* P **Pn** **20 48 22.4 -0.6**
KLY *i* S **Sn** **20 49 05.5 -0.5**
KBTR Krutoberegovo 4.01 25 PN **Pn** **20 48 25.4 -1.5**
KBTR S **Sn** **20 49 08.7 -4.1**
KBTR Krutoberegovo 4.01 25 P **Pn** **20 48 25.4 -1.5**
KBTR *i* S **Sn** **20 49 08.7 -4.1**
BDR Baidarnaya 4.04 12 *i* P **Pn** **20 48 26.9 -0.4**
SMKR Semkarok 4.09 14 *i* P **Pn** **20 48 27.4 -0.6**
SMKR *i* S **Sn** **20 49 12.3 -2.4**
BKI Bering 4.50 52 PN **Pn** **20 48 30.5 -2.9**
BKI Bering 4.50 52 *i* P **Pn** **20 48 30.5 -2.9**
BKI *i* S Sn 20 49 16.4 -8.1
FX1 Attu Island--F 8.15 83 P **Pn** **20 49 21.4 -1.7**
FX1 S Sn 20 50 44.1 -9.2
FX1 Attu Island--F 8.15 83 P **Pn** **20 49 21.4 -1.7**
comp=E,49nm,0.3s,baz=310,slow=4.6,SNR=388
FX1 S Sn 20 50 44.1 -9.2
comp=E,174nm,0.3s,baz=143,slow=20,SNR=19
FX1 LR LR 20 51 49.0
comp=E,163nm,18.7s,baz=265,slow=31
SMY Shemya 8.73 84 *e*PN **Pn** **20 49 29.6 -1.3**
SMY Shemya 8.73 84 *e*Pn **Pn** **20 49 29.6 -1.3**
SEY Seymchan 11.05 342 ⇓*i*PN **Pn** **20 50 02.3 0.0**
AMKA Amchitka 12.12 88 *e*Pn **Pn** **20 50 16.7 0.0**
YSS Yuzh-Sakhalins 12.35 249 ⇓*i*PN **Pn** **20 50 20.8 +1.0**
YSS pmax pmax
comp=Z,41nm,1.7s
ASAJ Asahikawa 14.20 240 *e*Pn **Pn** **20 50 44.0 0.0**
ASAJ Asahikawa 14.20 240 P **Pn** **20 50 43.7 -0.3**
comp=Z,6.3nm,0.3s,baz=76,slow=14,SNR=61
ASAJ LR LR 20 56 11.1
comp=Z,54nm,21.9s,baz=170,slow=37
HABR Khabarovsk 16.20 265 P **Pn** **20 51 07.3 -2.0**
KLR Kul'dur 17.92 270 *e*P **P** **20 51 27.6 -2.0**
YAK Yakutsk 18.59 312 *d i*P **P** **20 51 35.8 -1.0**
YAK pmax pmax
comp=Z,120nm,1.0s
UNV Unalaska Valle 20.14 73 *e*P **P** **20 51 53.0 -0.6**
comp=Z,35nm,0.9s
USRK Ussuriysk Arra 20.16 256 P **P** **20 51 53.8 -0.2**
comp=Z,5.4nm,0.6s,baz=60,slow=11,SNR=19
USRK LR LR 21 00 30.1
comp=Z,46nm,21.3s,baz=186,slow=39
AKUT Akutan 20.51 72 *e*P **P** **20 51 56.8 -0.9**
comp=Z,56nm,1.0s
TNA Tin City 20.75 39 *e*P **P** **20 52 00.1 0.0**
comp=Z,47nm,0.3s
MAJO Matsushiro 22.09 232 *d i*P **P** **20 52 17.3 +2.6**
MAJO pmax pmax
comp=Z,37nm,0.8s
MAJO Matsushiro 22.09 232 *e*P **P** **20 52 15.7 +1.0**
comp=Z,37nm,0.7s
MAT Matsushiro 22.09 232 P **P** **20 52 15.9 +1.2**
MAT S **S** **20 56 12.4 +0.3**
TIXI Tiksi 23.42 336 ⇓*i*P **P** **20 52 26.2 -1.3**
TIXI pmax pmax
comp=Z,67nm,1.4s
CN2 Changchun 24.30 262 *e*P **P** **20 52 34.0 -1.7**
CN2 *e*S **S** **20 56 43.3 -4.3**
CN2 AMB AMB
comp=Z,10.0nm,0.6s
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,200nm,14.0s
CN2 LR LR
comp=Z,200nm,14.0s
CN2 LR LR
comp=Z,200nm,15.0s
HIA Hailar 25.20 278 *e*P **P** **20 52 42.8 -1.1**
comp=Z,4.1nm,0.5s
IMA2 Indian Mountai 26.53 42 *e*P **P** **20 52 55.7 -0.1**
KSRS Korea Array 26.84 248 P **P** **20 52 59.8 +1.1**
comp=Z,3.8nm,0.9s,baz=43,slow=9.6,SNR=6.7
KSAR Wonju Array Be 26.87 248 P **P** **20 52 59.8 +0.8**
COLA College 28.88 44 *ce*P **P** **20 53 17.5 +0.8**
COLA pmax pmax
comp=Z,7.0nm,0.7s
ILAR Eielson Array 29.30 45 P **P** **20 53 20.1 -0.3**
ILAR Eielson Array 29.30 45 P **P** **20 53 20.1 -0.3**
comp=Z,2.1nm,0.7s,baz=262,slow=7.5,SNR=34
ILAR LR LR 21 04 06.7
comp=Z,60nm,19.0s,baz=294,slow=34
EGAK Eagle 31.75 44 *e*P **P** **20 53 41.2 -0.8**
comp=Z,6.3nm,0.8s
H11N2 WAKE ISLAND Hy 33.30 168 T T 21 30 03.1
baz=354,slow=0.7,SNR=216
H11N3 WAKE ISLAND Hy 33.32 168 T T 21 29 51.6
baz=354,slow=0.7,SNR=182
H11N1 WAKE ISLAND Hy 33.32 168 T T 21 29 52.9
baz=354,slow=0.7,SNR=243
SONM Songino Array 33.80 284 P **P** **20 54 00.0 -0.2**
SONM PcP **PcP** **20 56 38.6 +1.6**
SONM Songino Array 33.80 284 P **P** **20 54 00.0 -0.2**
comp=Z,1.3nm,0.4s,baz=65,slow=8.0,SNR=20
SONM PcP **PcP** **20 56 38.6 +1.6**
comp=Z,2.8nm,0.9s,baz=53,slow=2.9,SNR=13
SONM LR LR 21 08 21.0
comp=Z,98nm,18.4s,baz=202,slow=37
HHC Hu-ho-hao-te 34.42 270 *e*P **P** **20 54 04.8 -0.8**
HHC pP **pP** **20 54 23.1 -4.6**
HHC sP sP 20 54 31.9 -7.0
HHC PP **PnPn** **20 55 21.3 -2.3**
HHC S **S** **20 59 25.3 -1.2**
HHC AMB AMB
comp=Z,23nm,1.0s
HHC AMB AMB
comp=Z,150nm,6.3s
HHC LR LR
comp=Z,280nm,11.0s
HHC LR LR
comp=Z,310nm,10.0s
HHC LR LR
comp=Z,300nm,13.9s
ZAK Zakamensk 34.45 289 *e*P P 20 54 02.3 -3.5
ZAK pmax pmax
comp=Z,4.0nm,1.4s
H11S1 WAKE ISLAND Hy 34.48 168 T T 21 31 22.2
baz=353
H11S3 WAKE ISLAND Hy 34.49 168 T T 21 31 22.3
baz=353
H11S2 WAKE ISLAND Hy 34.50 168 T T 21 31 20.0
baz=353
NJ2 Nanjing 35.91 251 *e*P **P** **20 54 17.5 -0.8**
NJ2 AMB AMB
comp=Z,10.0nm,0.8s
HVS Khovu-Aksy 39.51 295 ⇓*i*P **P** **20 54 49.0 +0.5**
HVS pmax pmax
comp=Z,27nm,1.2s
GTA Gaotai 42.45 277 *e*P **P** **20 55 13.1 +0.3**
GTA pP **pP** **20 55 35.3 -0.2**
GTA sP **sP** **20 55 47.3 +0.8**
GTA S **S** **21 01 29.5 +2.2**
GTA sS **sS** **21 02 09.4 +3.0**
GTA SS **SS** **21 04 36.3 -3.4**
GTA AMB AMB
comp=Z,3.0nm,1.5s
GTA AMB AMB
comp=Z,110nm,4.8s
GTA LR LR
comp=Z,89nm,18.0s
GTA LR LR
comp=Z,110nm,17.1s
GTA LR LR
comp=Z,96nm,16.6s
ZAA0 Zalesovo Array 42.85 303 *e*P **P** **20 55 13.4 -2.3**
ZALV Zalesovo Beam 42.85 303 P **P** **20 55 13.8 -1.9**
ZALV 20 57 05.8
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 42.85 303 P **P** **20 55 13.8 -1.9**
ZALV PcP **PcP** **20 57 05.8 +0.9**
ZALV Zalesovo Beam 42.85 303 P **P** **20 55 13.8 -1.9**
comp=Z,1.2nm,0.3s,baz=60,slow=7.3,SNR=15
ZALV PcP **PcP** **20 57 05.8 +0.9**
comp=Z,1.8nm,0.5s,baz=50,slow=7.9,SNR=8.1
ZALV LR LR 21 12 52.2
comp=Z,46nm,20.5s,baz=71,slow=36
NVS Novosibirsk 43.20 305 ⇑*i*P **P** **20 55 15.8 -2.7**
NVS pmax pmax
comp=Z,53nm,1.2s
NVS pmax pmax
comp=N,12nm,1.0s
NVS pmax pmax
comp=E,41nm,1.3s
YKA Yellowknife Ar 43.65 42 P **P** **20 55 22.2 +0.2**
YKA Yellowknife Ar 43.65 42 P **P** **20 55 22.2 +0.2**
comp=E,2.0nm,0.7s,baz=303,slow=8.3,SNR=4.4
RES Resolute Bay 43.84 22 P **P** **20 55 24.9 +1.5**
RES Resolute Bay 43.84 22 P **P** **20 55 24.9 +1.5**
comp=E,3.8nm,0.8s,baz=325,slow=6.2,SNR=11
CD2 Chengdu 45.71 264 P **P** **20 55 39.0 +0.2**
CD2 pP **pP** **20 55 59.8 -2.0**
CD2 sP **sP** **20 56 09.9 -2.9**
CD2 PP **PP** **20 57 27.5 0.0**
CD2 S **S** **21 02 14.0 -0.7**
CD2 sS **sS** **21 02 50.1 -4.0**
CD2 SS **ScS** **21 05 30.8 +5.8**
CD2 AMB AMB
comp=E,10.0nm,0.6s
CD2 AMB AMB
comp=E,170nm,4.1s
CD2 LR LR
comp=E,300nm,4.8s
CD2 LR LR
comp=E,170nm,8.4s
WMQ Urumqi 46.92 289 P **P** **20 55 48.8 +0.6**
WMQ pP **pP** **20 56 11.8 +0.5**
WMQ sP **sP** **20 56 23.3 +1.1**
WMQ AMB AMB
comp=E,8.0nm,0.6s
WMQ AMB AMB
comp=E,160nm,4.0s
WMQ LR LR
comp=E,190nm,5.8s
WMQ LR LR
comp=E,170nm,6.6s
WMQ LR LR
comp=E,45nm,24.2s
GYA Guiyang 47.19 258 P **P** **20 55 50.3 -0.2**
GYA pP **pP** **20 56 11.5 -2.1**
GYA sP **sP** **20 56 22.8 -1.7**
GYA PP **PP** **20 57 41.9 -0.2**
GYA ScP **ScP** **21 01 05.3 +0.1**
GYA S **S** **21 02 34.0 -2.0**
GYA sS **sS** **21 03 11.5 -4.1**
GYA ScS **ScS** **21 05 33.3 -1.6**
GYA SS SS 21 05 55.8 -8.3
GYA AMB AMB
comp=E,20nm,1.0s
GYA AMB AMB
comp=E,110nm,5.0s
GYA LR LR
comp=E,520nm,18.2s
GYA LR LR
comp=E,430nm,19.0s
GYA LR LR
comp=E,490nm,17.9s
KBS Kingsbay 47.31 352 *ce*P **P** **20 55 52.4 +1.7**
KBS pmax pmax
comp=Z,53nm,1.4s
KURK Kurchatov 47.80 302 ⇑*i*P **P** **20 55 54.0 -0.8**
KURK pmax pmax
comp=Z,25nm,1.1s
KURK Kurchatov 47.80 302 P **P** **20 55 54.4 -0.4**
comp=Z,1.9nm,0.9s
KURK PcP **PcP** **20 57 23.2 +1.1**
KURBB Kurchatov Arra 47.90 302 P **P** **20 55 54.4 -1.2**
comp=Z,14nm,0.9s,baz=59,slow=7.8,SNR=47
KURBB PcP **PcP** **20 57 23.2 +0.7**
comp=Z,1.5nm,0.8s,baz=54,slow=2.9,SNR=4.6
MK31 Makanchi Array 48.16 296 *ce*P **P** **20 55 56.3 -1.4**
MK31 pmax pmax
comp=Z,2.0nm,0.3s
MK31 Makanchi Array 48.16 296 *e*P **P** **20 55 55.9 -1.9**
MKAR Makanchi Array 48.16 296 P **P** **20 55 56.3 -1.4**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 48.16 296 P **P** **20 55 56.3 -1.4**
MKAR Makanchi Array 48.16 296 P **P** **20 55 56.3 -1.4**
comp=Z,1.4nm,0.4s,baz=54,slow=6.5,SNR=58
MKAR LR LR 21 15 57.1
comp=Z,38nm,18.3s,baz=138,slow=36
EDM Edmonton 49.22 52 *e*P **P** **20 56 04.7 -1.0**
EDM Edmonton 49.22 52 *e*P **P** **20 56 04.7 -1.0**
VOSK Vostochnaya 50.41 308 *e*P **P** **20 56 12.1 -2.6**
VOSK pmax pmax
comp=Z,13nm,1.1s
VOSK Vostochnaya 50.41 308 *e*P **P** **20 56 12.1 -2.6**
comp=Z,13nm,1.1s
BVAR Borovoye Array 50.51 308 P **P** **20 56 14.4 -1.1**
BVAR 20 57 32.4
BVAR pmax pmax
comp=Z,9.0nm,0.7s
BVAR Borovoye Array 50.51 308 P **P** **20 56 14.4 -1.1**
BVAR PcP **PcP** **20 57 32.4 +0.4**
BVAR Borovoye Array 50.51 308 P **P** **20 56 14.4 -1.1**
comp=Z,8.8nm,0.7s,baz=55,slow=7.4,SNR=47
BVAR PcP **PcP** **20 57 32.4 +0.4**
comp=Z,1.4nm,0.5s,baz=48,slow=2.1,SNR=4.5
KMI Kunming 50.53 260 P **P** **20 56 17.3 +1.1**
KMI AMB AMB
comp=Z,4.0nm,2.0s
BRVK Borovoye 50.54 309 *ce*P **P** **20 56 15.2 -0.5**
BRVK pmax pmax
comp=Z,13nm,0.9s
BRVK Borovoye 50.54 309 *e*P **P** **20 56 14.4 -1.2**
comp=Z,14nm,0.9s
DAG Danmarks Havn 50.87 360 *e*P **P** **20 56 19.3 +1.5**
DAG pmax pmax
comp=Z,19nm,1.1s
DAG Danmarks Havn 50.87 360 *i* P **P** **20 56 19.3 +1.5**
comp=Z,15nm,1.1s
E09A Wood Farm, Sta 50.87 62 *e*P **P** **20 56 19.1 +0.9**
comp=Z,4.8nm,0.7s
YBH Yreka Blue Hor 51.39 69 P **P** **20 56 23.6 +1.4**
YBH Yreka Blue Hor 51.39 69 P **P** **20 56 23.6 +1.4**
comp=Z,1.3nm,0.8s,baz=282,slow=6.5,SNR=4.3
BSMT Bassoo Peak 51.80 59 *e*P **P** **20 56 26.1 +0.6**
SVE Sverdlovsk 52.47 317 *e*P **P** **20 56 30.3 +0.3**
SVE pmax pmax
comp=Z,11nm,1.1s
SLMT Seeley Lake 52.87 59 *e*P **P** **20 56 31.4 -1.9**
comp=Z,3.6nm,0.8s
LVZ Lovozero 53.05 337 ⇑P **P** **20 56 34.8 +0.7**
LVZ pmax pmax
comp=Z,39nm,1.2s
KEV Kevo 53.19 341 *e*P **P** **20 56 34.5 -0.5**
KEV Kevo 53.19 341 *ep* **P** **20 56 34.5 -0.5**
ARU Arti 53.60 317 *d i*P **P** **20 56 37.5 -0.7**
ARU PPP PPP 20 59 47.4
ARU S **S** **21 04 03.7 -0.1**
ARU SS **SKiKP** **21 07 38.9 -3.5**
ARU pmax pmax
comp=Z,11nm,0.8s
ARCES ARCESS Array B 53.66 342 P **P** **20 56 38.6 0.0**
ARCES ARCESS Array B 53.66 342 P **P** **20 56 38.6 0.0**
comp=Z,22nm,0.9s,baz=42,slow=7.8,SNR=61
TKM2 Tokmak 2 54.30 296 *e*P **P** **20 56 43.2 -0.6**
TKM2 pmax pmax
comp=Z,7.0nm,1.3s
TKM2 Tokmak 2 54.30 296 *e*P **P** **20 56 43.2 -0.6**
comp=Z,6.8nm,1.3s
SUMG Summit 54.45 7 *i* P **P** **20 56 45.6 +0.9**
SUMG *i* 20 57 04.0
SUMG *e* 20 57 14.5
SUMG pmax pmax
comp=Z,14nm,0.9s
SUMG Summit 54.45 7 *i* P **P** **20 56 45.6 +0.9**
comp=Z,14nm,0.9s
SUMG *i* 20 57 04.0
SUMG *e* 20 57 14.5
SUMG Summit 54.45 7 *e*P **P** **20 56 44.2 -0.5**
comp=Z,28nm,1.2s
SUMG *ep*P **pP** **20 57 12.3 +4.0**
AAK Ala-Archa 55.09 296 ⇑*i*P **P** **20 56 49.0 -0.5**
AAK pmax pmax
comp=Z,31nm,1.3s
AAK Ala-Archa 55.09 296 *e*P **P** **20 56 47.4 -2.1**
comp=Z,8.6nm,1.0s
AAK *ep*P **pP** **20 57 16.0 +2.8**
TMCR Tamitsa 55.10 333 *e*P **P** **20 56 50.2 +1.3**
TMCR pmax pmax
comp=Z,53nm,1.1s
EKS2 Erkin-Say 55.47 297 *e*P **P** **20 56 49.0 -3.2**
EKS2 *e**PP **pP** **20 57 18.5 +2.7**
EKS2 pmax pmax
comp=Z,7.0nm,0.8s
EKS2 Erkin-Say 55.47 297 *e*P **P** **20 56 49.0 -3.2**
comp=Z,7.1nm,0.8s
EKS2 *ep*P **pP** **20 57 18.4 +2.7**
NVAR Mina Array Bea 56.10 70 P **P** **20 56 58.9 +2.0**
NVAR Mina Array Bea 56.10 70 P **P** **20 56 58.9 +2.0**
comp=Z,1.9nm,0.7s,baz=307,slow=7.5,SNR=11
KSH Kashi 56.39 293 *e*P P 20 57 03.9 +5.2
KSH pP pP 20 57 22.4 -0.1
KSH sP sP 20 57 30.8 -2.5
IMW Indian Meadow 56.43 60 *e*P **P** **20 57 01.6 +2.4**
comp=Z,2.7nm,0.8s
KK31 Karatay Array 56.92 299 *ce*P **P** **20 57 01.5 -0.9**
KK31 pmax pmax
comp=Z,11nm,0.9s
KKAR Karatay Array 56.92 299 *e*P P 20 56 58.1 -4.3
KKAR Karatay Array 56.92 299 *e*P P 20 56 58.1 -4.3
KLMR Klimovskoe 57.25 330 *e*P **P** **20 57 03.4 -0.9**
KLMR pmax pmax
comp=Z,42nm,1.3s
CHTO Chiang Mai 57.60 258 *e*P **P** **20 57 05.1 -2.3**
CHTO pmax pmax
comp=Z,14nm,0.6s
CHTO Chiang Mai 57.60 258 *e*P **P** **20 57 05.1 -2.3**
comp=Z,14nm,0.6s
R11A Troy Canyon, C 57.70 68 *e*P **P** **20 57 05.6 -2.5**
comp=Z,54nm,3.0s
CMAR Chiang Mai Arr 57.88 258 P **P** **20 57 11.0 +1.7**
CMAR Chiang Mai Arr 57.88 258 P **P** **20 57 11.0 +1.7**
comp=Z,2.0nm,0.6s,baz=30,slow=7.0,SNR=20
CMAR LR LR 21 27 17.5
comp=Z,39nm,18.4s,baz=215,slow=41
JOF Joensuu 57.90 335 *e*P **P** **20 57 09.2 +0.4**
JOF pmax pmax
comp=Z,11nm,0.3s
JOF Joensuu 57.90 335 *ep* **P** **20 57 09.2 +0.4**
comp=Z,11nm,0.3s
AB31 Akbulak array 57.93 310 *ce*P **P** **20 57 08.7 -0.6**
AB31 pmax pmax
comp=Z,2.0nm,0.3s
ABKAR Akbulak array 57.93 310 *e*P **P** **20 57 08.8 -0.5**
PDAR Pinedale Array 57.94 60 P **P** **20 57 11.2 +1.4**
PDAR Pinedale Array 57.94 60 P **P** **20 57 11.2 +1.4**
comp=Z,3.6nm,0.6s,baz=310,slow=2.9,SNR=36
AKTO Aktyubinsk 57.98 312 P **P** **20 57 07.7 -1.9**
AKTO pmax pmax
comp=Z,3.0nm,0.5s
AKTO Aktyubinsk 57.98 312 P **P** **20 57 07.7 -1.9**
AKTO Aktyubinsk 57.98 312 P **P** **20 57 07.7 -1.9**
comp=Z,3.1nm,0.5s,baz=75,slow=9.8,SNR=10
AKTO LR LR 21 23 38.8
comp=Z,53nm,21.3s,baz=232,slow=38
TAPN Taplejung 58.03 274 *e*P **P** **20 57 11.4 +0.8**
comp=Z,13nm,0.6s
ODAN Odare 58.58 274 *e*P **P** **20 57 15.3 +0.9**
comp=Z,4.1nm,0.5s
JIRN Jiri 58.72 276 *e*P **P** **20 57 16.4 +0.8**
comp=Z,3.4nm,0.4s
GUN Gumba 58.73 276 *e*P **P** **20 57 16.5 +0.9**
comp=Z,7.0nm,0.4s
RAMN Ramite 58.99 275 *e*P **P** **20 57 17.2 -0.1**
comp=Z,19nm,0.5s
KKN Kakani 59.18 276 *e*P **P** **20 57 19.4 +0.9**
comp=Z,12nm,0.5s
PKI Pulchoki 59.26 276 *e*P **P** **20 57 20.0 +0.8**
comp=Z,6.9nm,0.4s
PKIN Phulchoki 59.27 276 *e*P **P** **20 57 20.3 +1.1**
comp=Z,3.5nm,0.3s
GKN Gorkha 59.42 277 *e*P **P** **20 57 20.8 +0.7**
comp=Z,14nm,0.7s
DMN Daman 59.42 276 *e*P **P** **20 57 20.7 +0.5**
comp=Z,8.7nm,0.4s
DANN Dangsing 59.69 278 *e*P **P** **20 57 23.1 +0.9**
comp=Z,12nm,0.6s
KAF Kangasniemi 59.83 337 *e*P **P** **20 57 22.5 +0.3**
KAF pmax pmax
comp=Z,20nm,0.3s
KAF Kangasniemi 59.83 337 *ep* **P** **20 57 22.5 +0.3**
comp=Z,20nm,0.3s
RSSD Black Hills 59.84 56 *e*P **P** **20 57 20.2 -2.7**
RSSD Black Hills 59.84 56 *e*P **P** **20 57 20.2 -2.7**
SRU San Rafael 59.98 64 *e*P **P** **20 57 24.0 +0.1**
SRU pmax pmax
comp=Z,5.0nm,0.7s
SRU San Rafael 59.98 64 *e*P **P** **20 57 24.0 +0.1**
comp=Z,4.5nm,0.7s
KOLN Koldanda 60.21 278 *e*P **P** **20 57 25.6 0.0**
comp=Z,7.4nm,0.4s
FINES FINESS Array B 60.46 336 P **P** **20 57 26.9 +0.4**
FINES FINESS Array B 60.46 336 P **P** **20 57 26.9 +0.4**
comp=Z,13nm,0.3s,baz=47,slow=6.7,SNR=273
FINES LR LR 21 25 12.9
comp=Z,170nm,19.6s,baz=211,slow=38
PV05 Paradox Valley 61.50 64 *e*P **P** **20 57 33.5 -0.7**
MOS Moscow 61.94 327 *e*P P 20 57 33.0 -3.5
MOS pmax pmax
comp=Z,55nm,0.9s
ISCO Idaho Springs 62.14 60 *e*P **P** **20 57 38.3 -0.3**
ISCO pmax pmax
comp=Z,95nm,2.8s
ISCO Idaho Springs 62.14 60 *e*P **P** **20 57 38.3 -0.3**
comp=Z,95nm,2.8s
OBN Obninsk 62.79 327 *ce*P **P** **20 57 42.5 +0.3**
OBN pmax pmax
comp=Z,50nm,1.6s
VSU Vasula 62.88 334 ⇑*i*P **P** **20 57 43.4 +0.6**
VSU pmax pmax
comp=Z,125nm,1.1s
NB2 NORSAR Subarra 63.93 344 P **P** **20 57 50.1 +0.3**
comp=Z,26nm,1.2s,baz=25,slow=6.5
NB2 NORSAR Subarra 63.93 344 P **P** **20 57 50.1 +0.3**
baz=25,slow=6.5
NOA NORSAR Array B 63.93 344 P **P** **20 57 49.9 +0.2**
NOA NORSAR Array B 63.93 344 P **P** **20 57 49.9 +0.2**
comp=Z,6.5nm,0.9s,baz=25,slow=6.9,SNR=18
VRHR Novokhopersk 64.27 322 *e*P **P** **20 57 50.6 -1.5**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,4.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 65.08 323 *e*P **P** **20 57 57.0 -0.3**
VSR pmax pmax
comp=N,20nm,1.1s
VSR pmax pmax
comp=E,10.0nm,1.1s
VSR pmax pmax
comp=Z,20nm,1.1s
ANMO Albuquerque 65.24 65 P **P** **20 58 00.0 +1.1**
ANMO Albuquerque 65.24 65 P **P** **20 58 00.0 +1.1**
comp=Z,1.3nm,0.7s,baz=346,slow=8.5,SNR=4.7
VORD Divnogorie 65.24 323 *e*P **P** **20 57 58.0 -0.3**
VORD pmax pmax
comp=E,60nm,1.2s
VORD pmax pmax
comp=Z,20nm,1.2s
SUW Suwalki 67.75 334 *e*P **P** **20 58 14.7 +0.5**
SUW Suwalki 67.75 334 *e*P **P** **20 58 11.6 -2.7**
comp=Z,44nm,1.0s
SUW Suwalki 67.75 334 *e*P **P** **20 58 14.7 +0.5**
BSD Bornholm Skovb 68.74 339 *i* P **P** **20 58 21.7 +1.3**
BSD Bornholm Skovb 68.74 339 *i* P **P** **20 58 21.7 +1.3**
AKASG Malin Array Be 68.90 329 *ce*P **P** **20 58 21.2 -0.3**
AKASG pmax pmax
comp=Z,8.0nm,0.3s
AKASG Malin Array Be 68.90 329 P **P** **20 58 21.3 -0.3**
AKASG Malin Array Be 68.90 329 P **P** **20 58 21.3 -0.3**
comp=Z,6.7nm,0.3s,baz=28,slow=6.7,SNR=84
KIEV Kiev 68.91 329 ⇓*i*P **P** **20 58 21.7 +0.1**
KIEV Kiev 68.91 329 *e*P **P** **20 58 19.5 -2.1**
comp=Z,28nm,0.9s
KIV Kislovodsk 69.63 317 ⇑*i*P **P** **20 58 27.8 +1.5**
KIV pmax pmax
comp=Z,5.0nm,1.2s
KBZ Khabaz 69.73 316 P **P** **20 58 27.6 +0.9**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KBZ Khabaz 69.73 316 P **P** **20 58 27.6 +0.9**

KBZ	**Khabaz**	**69.73 316**	P		**P**		**20 58 27.6**	**+0.9**
	comp=Z,5.8nm,0.9s,baz=39,slow=7.6,SNR=12							
KBZ			LR		LR	21 32 05.2		
	comp=Z,58nm,19.8s,baz=22,slow=38							
GKP	**Gorka Klasztor**	**69.92 337**	*eP*		**P**		**20 58 29.0**	**+1.3**
GKP	**Gorka Klasztor**	**69.92 337**	*eP*		**P**		**20 58 29.0**	**+1.3**
ZEI	**Tsey**	**70.06 315**	*eP*		**P**		**20 58 27.2**	**-1.9**
ZEI			pmax		pmax			
	comp=Z,9.0nm,1.4s							
BEL	**Belsk**	**70.34 334**	*eP*		**P**		**20 58 32.0**	**+1.7**
BEL	**Belsk**	**70.34 334**	*eP*		**P**		**20 58 32.0**	**+1.7**
ITEG	**Tejag**	**70.69 299**	*eP*		**P**		**20 58 33.3**	**+0.3**
BSEG	**Bad Segeberg**	**70.79 341**	*eP*		**P**		**20 58 33.4**	**+0.4**
BSEG			pmax		pmax			
	comp=Z,11nm,1.0s							
BSEG	**Bad Segeberg**	**70.79 341**	*eP*		**P**		**20 58 33.4**	**+0.4**
	comp=Z,11nm,1.0s							
TXAR	**Lajitas Array**	**71.02 67**	P		**P**		**20 58 36.4**	**+1.4**
TXAR	**Lajitas Array**	**71.02 67**	P		**P**		**20 58 36.4**	**+1.4**
	comp=Z,3.1nm,0.6s,baz=300,slow=4.4,SNR=43							
LVV	**L'vov**	**71.26 331**	*eP*		**P**		**20 58 35.8**	**-0.1**
KWP	**Kalwaria Pacla**	**71.81 332**	⇑P		**P**		**20 58 40.4**	**+1.2**
KWP	**Kalwaria Pacla**	**71.81 332**	⇑*iP*		**P**		**20 58 40.4**	**+1.2**
KWP	**Kalwaria Pacla**	**71.81 332**	*eP*		**P**		**20 58 40.5**	**+1.2**
NRDL	**Niedersach Rie**	**72.20 341**	*eP*		**P**		**20 58 42.4**	**+1.0**
	comp=Z,60nm,2.0s							
KSP	**Ksiaz**	**72.39 337**	*eP*		**P**		**20 58 43.5**	**+0.8**
STHS	**Stebnicka Huta**	**72.41 333**	*eP*		**P**		**20 58 44.3**	**+1.4**
STHS			pmax		pmax			
	comp=Z,10.0nm,1.0s							
STHS	**Stebnicka Huta**	**72.41 333**	*eP*		**P**		**20 58 44.2**	**+1.4**
KOLS	**Kolonicke sedl**	**72.56 332**	*eP*		**P**		**20 58 44.6**	**+0.8**
KOLS			pmax		pmax			
	comp=Z,14nm,1.1s							
KOLS	**Kolonicke sedl**	**72.56 332**	*eP*		**P**		**20 58 44.6**	**+0.8**
CLL	**Collm**	**72.71 339**	⇑*iP*		**P**		**20 58 44.8**	**+0.2**
CLL			*eS*		**S**		**21 08 01.0**	**-0.8**
CLL			pmax		pmax			
	comp=Z,60nm,1.0s							
CLL	**Collm**	**72.71 339**	*eP*		**P**		**20 58 45.2**	**+0.6**
	comp=Z,16nm,1.0s							
CLL	**Collm**	**72.71 339**	⇑ *iP*		**P**		**20 58 44.8**	**+0.2**
	comp=Z,16nm,1.0s							
CLL			LmV				20 28 00.0	
	comp=Z,100nm,20.3s							
CLZ	**Clausthal**	**72.77 341**	*eP*		**P**		**20 58 46.2**	**+1.2**
CLZ			pmax		pmax			
	comp=Z,57nm,2.0s							
CLZ	**Clausthal**	**72.77 341**	*eP*		**P**		**20 58 46.2**	**+1.2**
	comp=Z,57nm,2.0s							
UPC	**Upice**	**72.77 337**	*i* P		**P**		**20 58 46.6**	**+1.7**
UPC	**Upice**	**72.77 337**	*i* P		**P**		**20 58 46.6**	**+1.7**
UZH	**Uzhgorod**	**72.83 332**	*eP*		**P**		**20 58 43.8**	**-1.5**
UZH			*i*				20 59 14.2	
DPC	**Dobruska-Polom**	**72.84 336**	*eP*		**P**		**20 58 46.2**	**+0.8**
DPC			pmax		pmax			
	comp=Z,80nm,1.2s							
DPC	**Dobruska-Polom**	**72.84 336**	*i* P		**P**		**20 58 46.6**	**+1.2**
DPC	**Dobruska-Polom**	**72.84 336**	*eP*		**P**		**20 58 46.2**	**+0.8**
	comp=Z,80nm,1.2s							
OKC	**Ostrava-Krasne**	**72.85 335**	*i* P		**P**		**20 58 46.5**	**+1.1**
OKC	**Ostrava-Krasne**	**72.85 335**	*i* P		**P**		**20 58 46.5**	**+1.1**
BRG	**Berggiesshubel**	**72.91 338**	*eP*		**P**		**20 58 48.1**	**+2.3**
	comp=Z,2.3nm,1.0s							
BRG	**Berggiesshubel**	**72.91 338**	*eP*		**P**		**20 58 48.1**	**+2.3**
BRG			pmax		pmax			
	comp=Z,2.0nm,1.0s							
BRG	**Berggiesshubel**	**72.91 338**	*eP*		**P**		**20 58 46.2**	**+0.4**
	comp=Z,10.0nm,1.3s							
KRLC	**Kraliky**	**72.98 336**	*i* P		**P**		**20 58 46.4**	**+0.1**
KRLC	**Kraliky**	**72.98 336**	*i* P		**P**		**20 58 46.4**	**+0.1**
TRPA	**Tarpa**	**73.21 332**	⇓*iP*		**P**		**20 58 48.7**	**+1.2**
TESR	**Tescani**	**73.40 328**	⇑*iP*		**P**		**20 58 49.0**	**+0.3**
PRA	**Prague**	**73.55 338**	P		**P**		**20 58 51.0**	**+1.5**
PRU	**Pruhonice**	**73.60 337**	*i* P		**P**		**20 58 50.3**	**+0.5**
PRU			*e*				20 58 59.2	
PRU	**Pruhonice**	**73.60 337**	*i* P		**P**		**20 58 50.3**	**+0.5**
PRU			*ex*		x		20 58 59.2	
TANN	**Tannenbergstha**	**73.67 339**	*eP*		**P**		**20 58 51.3**	**+1.0**
	comp=Z,11nm,1.4s							
VRAC	**Vranov**	**73.73 336**	⇓*iP*		**P**		**20 58 51.7**	**+1.0**
BUG	**Bochum--Univer**	**73.75 342**	*eP*		**P**		**20 58 51.4**	**+0.8**
	comp=Z,13nm,1.1s							
UBBA	**Unterbreizbach**	**73.81 341**	*eP*		**P**		**20 58 51.9**	**+1.0**
	comp=Z,24nm,1.7s							
TREC	**Trest**	**74.02 337**	*i* P		**P**		**20 58 52.9**	**+0.6**
TREC	**Trest**	**74.02 337**	*i* P		**P**		**20 58 52.9**	**+0.6**
CFR	**Carcaliu**	**74.09 327**	⇓P		**P**		**20 58 52.8**	**0.0**
CFR	**Carcaliu**	**74.09 327**	⇓*iP*		**P**		**20 58 52.8**	**0.0**
PSZ	**Piszkesteto**	**74.15 333**	⇓P		**P**		**20 58 54.5**	**+1.3**
PSZ	**Piszkesteto**	**74.15 333**	⇓*iP*		**P**		**20 58 54.5**	**+1.3**
PSZ	**Piszkesteto**	**74.15 333**	*eP*		**P**		**20 58 53.3**	**+0.1**
	comp=Z,14nm,1.2s							
ROTZ	**Rotzenmuhle**	**74.34 339**	*eP*		**P**		**20 58 55.8**	**+1.6**
	comp=Z,17nm,1.9s							
MLR	**Muntele Rosu**	**74.53 328**	⇓*iP*		**P**		**20 58 56.4**	**+0.9**
GRF	**Grafenberg Arr**	**74.62 339**	*eP*		**P**		**20 58 57.0**	**+1.2**
GRF			pmax		pmax			
	comp=Z,67nm,1.9s							
GRF	**Grafenberg Arr**	**74.62 339**	*eP*		**P**		**20 58 57.0**	**+1.2**
	comp=Z,67nm,1.9s							
GRFO	**Grafenberg**	**74.62 339**	*eP*		**P**		**20 58 53.9**	**-1.9**
GRFO			pmax		pmax			
	comp=Z,68nm,1.9s							
GRFO	**Grafenberg**	**74.62 339**	*eP*		**P**		**20 58 53.9**	**-1.9**
	comp=Z,68nm,1.9s							
KHC	**Kasperske Hory**	**74.62 338**	⇑*iP*		**P**		**20 58 57.6**	**+1.7**
KHC			pmax		pmax			
	comp=Z,72nm,1.4s							
KHC	**Kasperske Hory**	**74.62 338**	*i* P		**P**		**20 58 57.0**	**+1.1**
KHC			*e*PCP		**PcP**		**20 59 09.4**	**-0.4**
KHC	**Kasperske Hory**	**74.62 338**	*eP*		**P**		**20 58 52.9**	**-3.0**
MEM	**Membach**	**74.77 343**	P		**P**		**20 58 56.9**	**+0.3**
	comp=Z,9.6nm,1.0s							
WET	**Wettzell**	**74.77 338**	*eP*		**P**		**20 58 58.0**	**+1.3**
WET			pmax		pmax			
	comp=Z,34nm,1.9s							
WET	**Wettzell**	**74.77 338**	*eP*		**P**		**20 58 58.0**	**+1.3**
	comp=Z,34nm,1.9s							
HKT	**Hockley**	**74.81 61**	⇓*iP*		**P**		**20 58 58.5**	**+1.4**
HKT			pmax		pmax			
	comp=Z,3.0nm,1.2s							
GEC2	**GERESS Array S**	**74.86 338**	*eP*		**P**		**20 58 58.2**	**+0.9**
GEC2			pmax		pmax			
	comp=Z,20nm,1.9s							
GEC2	**GERESS Array S**	**74.86 338**	*eP*		**P**		**20 58 58.2**	**+0.9**
	comp=Z,20nm,1.9s							
GEC2	**GERESS Array S**	**74.86 338**	*eP*		**P**		**20 58 55.7**	**-1.7**
GERES	**GERESS Array B**	**74.86 338**	P		**P**		**20 58 58.0**	**+0.6**
GERES	**GERESS Array B**	**74.86 338**	P		**P**		**20 58 58.0**	**+0.6**
	comp=Z,2.0nm,0.8s,baz=32,slow=5.8,SNR=14							
GERES			LR		LR		21 34 38.3	
	comp=Z,72nm,20.5s,baz=193,slow=38							
VOIR		**74.87 329**	⇑P		**P**		**20 58 58.5**	**+1.1**
VOIR		**74.87 329**	⇑*iP*		**P**		**20 58 58.5**	**+1.1**
ARR	**Arges**	**75.06 329**	⇓*iP*		**P**		**20 58 59.8**	**+1.3**
BCLA	**Clavier**	**75.08 343**	P		**P**		**20 58 59.5**	**+1.1**
	comp=Z,14nm,2.0s							
PKSN	**Nyarlorinc**	**75.09 333**	⇑*e*		**P**		**20 59 00.3**	**+1.8**
PKS7	**Kunszentmiklos**	**75.15 333**	⇑*e*		**P**		**20 59 00.3**	**+1.5**
MSAB	**Monastry St. A**	**75.15 326**	⇓*iP*		**P**		**20 58 59.9**	**+1.0**
CONA	**Conrad Observa**	**75.20 336**	⇑*iP*		**P**		**20 59 00.7**	**+1.5**
	comp=Z,15nm,1.4s,SNR=5.4							
PKST	**T''s**	**75.25 334**	⇑*e*		**P**		**20 59 00.7**	**+1.2**
IKOM	**Komasi**	**75.40 308**	*eP*		**P**		**20 59 00.7**	**-0.1**
GIVF	**Givet**	**75.47 344**	*eP*		**P**		**20 59 00.6**	**0.0**
GIVF	**Givet**	**75.47 344**	*eP*		**P**		**20 59 00.6**	**0.0**
GIVF	**Givet**	**75.47 344**	*eP*		**P**		**20 59 00.6**	**0.0**
IDHR	**Dehrash**	**75.52 309**	*eP*		**P**		**20 59 01.3**	**-0.1**
WRAB	**Tennant Creek**	**75.56 205**	⇓*iP*		**P**		**20 59 03.1**	**+1.7**
WRAB			pmax		pmax			
	comp=Z,32nm,1.8s							
WRA	**Warramunga Arr**	**75.57 205**	P		**P**		**20 59 02.4**	**+0.9**
WRA	**Warramunga Arr**	**75.57 205**	P		**P**		**20 59 02.4**	**+0.9**
	comp=Z,2.1nm,0.6s,baz=21,slow=6.1,SNR=14							
GZR	**Gura Zlata**	**75.61 330**	⇑P		**P**		**20 59 02.2**	**+0.6**
GZR	**Gura Zlata**	**75.61 330**	⇑*iP*		**P**		**20 59 02.2**	**+0.6**
BAIF	**Baives**	**75.61 344**	*eP*		**P**		**20 59 01.5**	**+0.1**
BAIF	**Baives**	**75.61 344**	*eP*		**P**		**20 59 01.5**	**+0.1**
BAIF	**Baives**	**75.61 344**	*eP*		**P**		**20 59 01.5**	**+0.1**
BZS	**Buzias**	**75.75 331**	⇑P		**P**		**20 59 02.5**	**+0.2**
BZS	**Buzias**	**75.75 331**	⇑*iP*		**P**		**20 59 02.5**	**+0.2**
PKS9	**Tamasi**	**75.81 334**	⇑*e*		P		20 58 59.3	-3.3
IPAR	**Pars**	**76.09 301**	*eP*		**P**		**20 59 04.9**	**0.0**
MALT	**Malatya**	**76.10 316**	⇓P		**P**		**20 59 06.0**	**+1.4**
MALT	**Malatya**	**76.10 316**	⇓*iP*		**P**		**20 59 06.0**	**+1.4**
KBSD	**Kabsdagh**	**76.29 314**	*eP*		P		20 58 57.2	-8.4
ISRV	**Sarvestan**	**76.43 301**	*eP*		**P**		**20 59 06.9**	**+0.1**
BFO	**Black Forest**	**76.52 341**	*ceP*		**P**		**20 59 08.3**	**+1.6**
KBA	**Koelnbreinsper**	**76.60 337**	⇑*iP*		**P**		**20 59 09.0**	**+1.7**
	comp=Z,19nm,0.9s							
CDF	**Champ du Feu**	**76.64 342**	*eP*		**P**		**20 59 07.6**	**+0.1**
	comp=Z,15nm,1.0s							
CDF	**Champ du Feu**	**76.64 342**	*eP*		**P**		**20 59 07.6**	**+0.1**
CDF			pmax		pmax			
	comp=Z,15nm,1.0s							
CDF	**Champ du Feu**	**76.64 342**	*eP*		**P**		**20 59 07.6**	**+0.1**
	comp=Z,15nm,1.0s							
PAGF	**Fort de Pagny**	**76.80 343**	*eP*		**P**		**20 59 08.8**	**+0.6**
	comp=Z,4.6nm,0.9s							
PAGF	**Fort de Pagny**	**76.80 343**	*eP*		**P**		**20 59 08.8**	**+0.6**
	comp=Z,4.6nm,0.9s							
BR131	**Keskin Array S**	**76.84 320**	*eP*		**P**		**20 59 07.8**	**-1.0**
	comp=Z,1.6nm,0.4s							
BRTR	**Keskin Array B**	**76.84 320**	P		**P**		**20 59 08.9**	**+0.1**
BRTR	**Keskin Array B**	**76.84 320**	P		**P**		**20 59 08.9**	**+0.1**
	comp=Z,2.4nm,0.5s,baz=34,slow=3.2,SNR=23							
BRTR			LR		LR		21 34 04.8	
	comp=Z,32nm,19.2s,baz=197,slow=36							
ECH	**Echery**	**76.85 342**	*eP*		**P**		**20 59 07.3**	**-1.3**
ECH			pmax		pmax			
	comp=Z,5.0nm,1.0s							
ECH	**Echery**	**76.85 342**	*eP*		**P**		**20 59 09.4**	**+0.8**
ECH	**Echery**	**76.85 342**	*eP*		**P**		**20 59 07.3**	**-1.3**
	comp=Z,5.4nm,1.0s							
SFNV	**Sufian**	**76.97 314**	*eP*		P		20 59 06.0	-3.5
MEZF	**Maizieres J'vi**	**76.97 343**	*eP*		**P**		**20 59 09.8**	**+0.6**
	comp=Z,28nm,1.2s							
MEZF	**Maizieres J'vi**	**76.97 343**	*eP*		**P**		**20 59 09.8**	**+0.6**
	comp=Z,28nm,1.2s							
FELD	**Feldberg im Sc**	**77.01 341**	*eP*		**P**		**20 59 09.7**	**+0.1**
THEF	**They Montfort**	**77.06 342**	*eP*		**P**		**20 59 10.1**	**+0.4**
MOF	**Molkenrain**	**77.21 341**	*eP*		**P**		**20 59 12.2**	**+1.6**
HAU	**Haudompre**	**77.21 342**	*eP*		**P**		**20 59 10.7**	**+0.1**
HAU			*eR*					
	comp=Z,71nm,17.2s							
HAU	**Haudompre**	**77.21 342**	*eP*		**P**		**20 59 10.7**	**+0.1**
HAU	**Haudompre**	**77.21 342**	*eP*		**P**		**20 59 10.7**	**+0.1**
MZRK	**Al-Mazaregh**	**77.22 313**	*eP*		**P**		**20 59 09.5**	**-1.3**
FETA	**Feichten**	**77.26 339**	⇓*iP*		**P**		**20 59 12.1**	**+1.1**
	comp=Z,5.5nm,0.9s,SNR=4.4							
SFTF	**Sexfontaines**	**77.26 343**	*eP*		**P**		**20 59 11.0**	**+0.2**
	comp=Z,24nm,0.9s							
SFTF	**Sexfontaines**	**77.26 343**	*eP*		**P**		**20 59 11.0**	**+0.2**
	comp=Z,24nm,0.9s							
HINF	**Hinteralfeld**	**77.30 342**	*eP*		**P**		**20 59 10.8**	**-0.3**
HINF	**Hinteralfeld**	**77.30 342**	*eP*		**P**		**20 59 10.8**	**-0.3**
HINF	**Hinteralfeld**	**77.30 342**	*eP*		**P**		**20 59 10.8**	**-0.3**
FLN	**La Foliniere**	**77.60 347**	*eP*		**P**		**20 59 12.3**	**-0.3**
	comp=Z,16nm,0.9s							
FLN			*eR*					
	comp=Z,90nm,17.0s							
FLN	**La Foliniere**	**77.60 347**	*eP*		**P**		**20 59 12.3**	**-0.3**
FLN			pmax		pmax			
	comp=Z,17nm,0.9s							
FLN	**La Foliniere**	**77.60 347**	*eP*		**P**		**20 59 12.3**	**-0.3**
	comp=Z,16nm,0.9s							
LDF	**La Druitiere**	**77.71 346**	*eP*		**P**		**20 59 13.1**	**-0.2**
LDF	**La Druitiere**	**77.71 346**	*eP*		**P**		**20 59 13.1**	**-0.2**
LDF	**La Druitiere**	**77.71 346**	*eP*		**P**		**20 59 13.1**	**-0.2**
FUORN	**Ofenpass-Fuorn**	**77.74 339**	*eP*		**P**		**20 59 12.9**	**-1.0**
	comp=Z,67nm,2.2s							
LOMF	**Lomont**	**77.75 342**	*eP*		**P**		**20 59 13.9**	**+0.3**
VTS	**Vitosha**	**78.00 329**	⇑P		**P**		**20 59 15.2**	**0.0**
VTS	**Vitosha**	**78.00 329**	⇑*iP*		**P**		**20 59 15.2**	**0.0**
GRR	**Gorron**	**78.01 347**	*eP*		**P**		**20 59 15.0**	**0.0**
	comp=Z,34nm,1.2s							
GRR	**Gorron**	**78.01 347**	*eP*		**P**		**20 59 15.0**	**0.0**
GRR			pmax		pmax			
	comp=Z,34nm,1.2s							
GRR	**Gorron**	**78.01 347**	*eP*		**P**		**20 59 15.0**	**0.0**
	comp=Z,34nm,1.2s							
TUE	**Stuetta**	**78.08 340**	*eP*		**P**		**20 59 13.4**	**-2.2**
TUE			*epP*		**pP**		**20 59 45.3**	**+4.6**
SGMF	**Saint Gilles**	**78.37 348**	*eP*		**P**		**20 59 17.1**	**+0.2**
	comp=Z,21nm,1.1s							
SGMF	**Saint Gilles**	**78.37 348**	*eP*		**P**		**20 59 17.1**	**+0.2**
SGMF			pmax		pmax			
	comp=Z,21nm,1.1s							
SGMF	**Saint Gilles**	**78.37 348**	*eP*		**P**		**20 59 17.1**	**+0.2**
	comp=Z,21nm,1.1s							
LOR	**Lormes**	**78.37 343**	*eP*		**P**		**20 59 17.1**	**+0.1**
	comp=Z,25nm,1.3s							
LOR			*epP*		**pP**		**20 59 46.0**	**+3.9**
LOR			*eR*					
	comp=Z,85nm,19.0s							
LOR	**Lormes**	**78.37 343**	*eP*		**P**		**20 59 17.1**	**+0.1**
	comp=Z,25nm,1.3s							
LOR			*epP*		**pP**		**20 59 46.0**	**+3.9**
ROSF	**Rostrenen**	**78.38 349**	*eP*		**P**		**20 59 17.1**	**+0.1**
	comp=Z,24nm,1.0s							
ROSF	**Rostrenen**	**78.38 349**	*eP*		**P**		**20 59 17.1**	**+0.1**
ROSF			pmax		pmax			
	comp=Z,24nm,1.0s							
ROSF	**Rostrenen**	**78.38 349**	*eP*		**P**		**20 59 17.1**	**+0.1**
	comp=Z,24nm,1.0s							
CABF	**La Chapelle**	**78.60 342**	*eP*		**P**		**20 59 18.7**	**+0.3**
	comp=Z,35nm,1.3s							
CABF	**La Chapelle**	**78.60 342**	*eP*		**P**		**20 59 18.7**	**+0.3**
CABF			pmax		pmax			
	comp=Z,35nm,1.3s							
CABF	**La Chapelle**	**78.60 342**	*eP*		**P**		**20 59 18.7**	**+0.3**
	comp=Z,35nm,1.3s							
SSF	**Saint Saulge**	**78.63 344**	*eP*		**P**		**20 59 18.5**	**+0.1**
	comp=Z,6.7nm,0.8s							
SSF			*epP*		pP		20 59 49.1	+5.6
SSF	**Saint Saulge**	**78.63 344**	*eP*		**P**		**20 59 18.5**	**+0.1**
SSF			*e*PP		pP		20 59 49.1	+5.6
SSF			pmax		pmax			
	comp=Z,7.0nm,0.8s							
SSF	**Saint Saulge**	**78.63 344**	*eP*		**P**		**20 59 18.5**	**+0.1**
	comp=Z,6.7nm,0.8s							
SSF			*epP*		pP		20 59 49.1	+5.6
QUIF	**Quistinic**	**78.78 348**	*eP*		**P**		**20 59 19.2**	**0.0**
QUIF	**Quistinic**	**78.78 348**	*eP*		**P**		**20 59 19.2**	**0.0**
QUIF	**Quistinic**	**78.78 348**	*eP*		**P**		**20 59 19.2**	**0.0**
AVF	**Avril sur Loir**	**78.92 344**	*eP*		**P**		**20 59 20.2**	**+0.2**
	comp=Z,26nm,1.2s							
AVF			*epP*		**pP**		**20 59 50.1**	**+5.0**
AVF	**Avril sur Loir**	**78.92 344**	*eP*		**P**		**20 59 20.2**	**+0.2**
AVF			*e*PP		**pP**		**20 59 50.1**	**+5.0**
AVF			pmax		pmax			
	comp=Z,26nm,1.2s							
AVF	**Avril sur Loir**	**78.92 344**	*eP*		**P**		**20 59 20.2**	**+0.2**
	comp=Z,26nm,1.2s							
AVF			*epP*		**pP**		**20 59 50.1**	**+5.0**
SMF	**Signal de Mont**	**78.98 343**	*eP*		**P**		**20 59 20.5**	**+0.2**
	comp=Z,21nm,1.2s							
SMF	**Signal de Mont**	**78.98 343**	*eP*		**P**		**20 59 20.5**	**+0.2**
SMF			pmax		pmax			
	comp=Z,21nm,1.2s							
SMF	**Signal de Mont**	**78.98 343**	*eP*		**P**		**20 59 20.5**	**+0.2**
	comp=Z,21nm,1.2s							
MIB	**Mutribah**	**79.04 305**	*eP*		**P**		**20 59 20.7**	**-0.2**
MIB			AMb		AMB		20 59 21.7	
	comp=Z,0.8nm,0.9s							
ASAR	**Alice Springs**	**79.24 204**	P		**P**		**20 59 23.4**	**+1.5**
ASAR	**Alice Springs**	**79.24 204**	P		**P**		**20 59 23.4**	**+1.5**
	comp=Z,1.9nm,0.5s,baz=16,slow=5.1,SNR=45							
KBD	**Kabd**	**79.38 304**	*eP*		**P**		**20 59 22.1**	**-0.7**
KBD			AMb		AMB		20 59 23.9	
	comp=Z,23nm,1.0s							
RSL	**Roselend**	**79.38 341**	*eP*		**P**		**20 59 24.0**	**+1.3**
RST	**Umm Al-Ruwaisa**	**79.46 305**	*eP*		**P**		**20 59 22.6**	**-0.6**
RST			AMb		AMB		20 59 24.4	
	comp=Z,436nm,0.9s							
LPL	**La Plagne**	**79.53 341**	*eP*		**P**		**20 59 23.5**	**-0.1**
	comp=Z,31nm,1.0s							
LPL			*epP*		pP		20 59 54.3	+5.6
LPL	**La Plagne**	**79.53 341**	*eP*		**P**		**20 59 23.5**	**-0.1**
LPL			*e*PP		pP		20 59 54.3	+5.6
LPL			pmax		pmax			
	comp=Z,31nm,1.0s							
LPL	**La Plagne**	**79.53 341**	*eP*		**P**		**20 59 23.5**	**-0.1**
	comp=Z,31nm,1.0s							
LPL			*epP*		pP		20 59 54.3	+5.6
LPG	**La Plagne**	**79.54 341**	*eP*		**P**		**20 59 24.0**	**+0.2**
	comp=Z,35nm,1.0s							
LPG			*epP*		pP		20 59 54.5	+5.6
LPG			*e*PP		pP		20 59 54.5	+5.6
LPG			pmax		pmax			
	comp=Z,35nm,1.0s							
LPG	**La Plagne**	**79.54 341**	*eP*		**P**		**20 59 24.0**	**+0.2**
	comp=Z,35nm,1.0s							
LPG			*epP*		pP		20 59 54.5	+5.6
NAY	**Al-Naaiem**	**79.54 305**	*eP*		**P**		**20 59 23.2**	**-0.5**
NAY			AMb		AMB		20 59 24.6	
	comp=Z,30nm,1.0s							
TCF	**Toulx Ste Croi**	**79.60 344**	*eP*		**P**		**20 59 23.2**	**-0.6**
TCF	**Toulx Ste Croi**	**79.60 344**	*eP*		**P**		**20 59 23.2**	**-0.6**
TCF	**Toulx Ste Croi**	**79.60 344**	*eP*		**P**		**20 59 23.2**	**-0.6**
RDF	**Al-Radifah**	**79.65 304**	*eP*		**P**		**20 59 24.6**	**+0.3**
RDF			AMb		AMB		20 59 25.8	
	comp=Z,77nm,1.1s							
MFF	**Saint Martin d**	**79.66 346**	*eP*		**P**		**20 59 24.4**	**+0.4**
MFF	**Saint Martin d**	**79.66 346**	*eP*		**P**		**20 59 24.4**	**+0.4**
MFF	**Saint Martin d**	**79.66 346**	*eP*		**P**		**20 59 24.4**	**+0.4**
PLDF	**La Plantade**	**79.67 343**	*eP*		**P**		**20 59 25.2**	**+1.0**
AGO	**Saint Agoulin**	**79.67 344**	*eP*		**P**		**20 59 25.5**	**+1.4**
PYM	**Petit Puy Mans**	**79.99 344**	*eP*		**P**		**20 59 27.2**	**+1.3**
HAWK	**Haweek**	**80.18 316**	*eP*		P		20 59 22.2	-4.9
ORIF	**Oris-en-Rattie**	**80.27 341**	*eP*		**P**		**20 59 27.5**	**0.0**
	comp=Z,55nm,1.4s							
ORIF			*eR*					
	comp=Z,94nm,17.8s							
ORIF	**Oris-en-Rattie**	**80.27 341**	*eP*		**P**		**20 59 27.5**	**0.0**
ORIF			pmax		pmax			
	comp=Z,55nm,1.4s							
ORIF	**Oris-en-Rattie**	**80.27 341**	*eP*		**P**		**20 59 27.5**	**0.0**
	comp=Z,55nm,1.4s							
MBDF	**Montbardon**	**80.28 341**	*eP*		**P**		**20 59 28.0**	**+0.4**
MBDF	**Montbardon**	**80.28 341**	*eP*		**P**		**20 59 28.0**	**+0.4**
MBDF	**Montbardon**	**80.28 341**	*eP*		**P**		**20 59 28.0**	**+0.4**
VIVF	**Saint-Julien-l**	**80.56 342**	*eP*		**P**		**20 59 29.8**	**+0.9**
	comp=Z,23nm,1.0s							
VIVF	**Saint-Julien-l**	**80.56 342**	*eP*		**P**		**20 59 29.8**	**+0.9**
VIVF			pmax		pmax			
	comp=Z,23nm,1.0s							
VIVF	**Saint-Julien-l**	**80.56 342**	*eP*		**P**		**20 59 29.8**	**+0.9**
	comp=Z,23nm,1.0s							
MARH	**Ras Al Marh**	**80.57 315**	*eP*		**P**		**20 59 26.9**	**-2.6**
RJF	**Les Rejaudoux**	**80.67 345**	*eP*		**P**		**20 59 30.2**	**+0.7**
RJF			*eR*					
	comp=Z,100nm,18.5s							
RJF	**Les Rejaudoux**	**80.67 345**	*eP*		**P**		**20 59 30.2**	**+0.7**
RJF	**Les Rejaudoux**	**80.67 345**	*eP*		**P**		**20 59 30.2**	**+0.7**
CAF	**Calviac**	**80.95 344**	*eP*		**P**		**20 59 31.2**	**+0.2**
CAF	**Calviac**	**80.95 344**	*eP*		**P**		**20 59 31.2**	**+0.2**
CAF	**Calviac**	**80.95 344**	*eP*		**P**		**20 59 31.2**	**+0.2**
ZALF	**Zalf**	**81.14 314**	*eP*		**P**		**20 59 33.3**	**+1.1**
LFF	**La Frestale**	**81.15 345**	*eP*		**P**		**20 59 32.7**	**+0.7**
	comp=Z,95nm,1.7s							
LFF	**La Frestale**	**81.15 345**	*eP*		**P**		**20 59 32.7**	**+0.7**
LFF		

ESF	**Shoufeng Towns** baz=199	**0.64**	**203**	*e*P	**Pn**	**21 05 27.5 -0.7**
ESL	**Shilin** baz=202	**0.72**	**206**	⇑*i*P	**Pn**	**21 05 28.1 -1.2**
NSTT	**Nanjuang** baz=284	**0.73**	**283**	⇑*i*P	**Pn**	**21 05 29.7 +0.3**
NSTT	baz=284			*i* S	**Sn**	**21 05 40.1 +0.6**
NCU	**National Centr** baz=315	**0.74**	**313**	⇑*i*P	**Pn**	**21 05 29.6 0.0**
NCU	baz=315			S	**Sn**	**21 05 41.0 +1.2**
TEGC	**Jichi Village** baz=204	**0.78**	**197**	*e*P	**Pn**	**21 05 30.2 0.0**
HSN	**Hsinchu** baz=311	**0.81**	**295**	⇑*i*P	**Pn**	**21 05 30.5 0.0**
HSN	baz=311			S	**Sn**	**21 05 41.6 +0.1**
TWY	**Chenhua** baz=340	**0.83**	**348**	P	**Pn**	**21 05 30.9 +0.2**
TWQ1	**Liyutan** baz=263	**0.93**	**263**	⇑*i*P	**Pn**	**21 05 32.8 +0.7**
TWQ1	baz=263			*e*S	**Sn**	**21 05 45.8 +1.5**
NSY	**Sanyi** baz=267	**0.93**	**267**	P	**Pn**	**21 05 33.0 +0.9**
NSY	baz=267			S	**Sn**	**21 05 46.2 +1.7**
SMLT	**Sun Moon Lake** baz=232	**0.99**	**235**	⇑*i*P	**Pn**	**21 05 33.7 +0.7**
SMLT	baz=232			*e*S	**Sn**	**21 05 46.6 +0.6**
TYC	**Yuchr** baz=236	**1.01**	**237**	⇑*i*P	**Pn**	**21 05 34.1 +0.9**
TYC	baz=236			S	**Sn**	**21 05 46.8 +0.5**
EHY	**Hungye** baz=203	**1.04**	**204**	P	**Pn**	**21 05 31.9 -1.7**
TCU	**Taichung** baz=253	**1.06**	**253**	*e*P	**Pn**	**21 05 34.8 +0.9**
YOJ	**Yonaguni jima** baz=78	**1.12**	**90**	⇓*i*P	**Pn**	**21 05 35.5 +0.8**
YOJ	baz=78			*e*S	**Sn**	**21 05 49.8 +0.9**
WNT	**Mingjian** baz=240	**1.16**	**240**	⇑P	**Pn**	**21 05 36.4 +1.1**
WNT	baz=240			S	**Sn**	**21 05 52.0 +2.1**
TWF1	**Yuli** baz=201	**1.19**	**202**	*e*P	**Pn**	**21 05 34.1 -1.7**
CHN5	**Tsauling** baz=230	**1.33**	**230**	⇑*i*P	**Pn**	**21 05 39.0 +1.4**
CHN5	baz=230			S	**Sn**	**21 05 57.0 +2.8**
WGK	**Gukeng** baz=236	**1.36**	**236**	*e*P	**Pn**	**21 05 39.2 +1.2**
WGK	baz=236			*e*S	**Sn**	**21 05 57.5 +2.7**
CHKT	**Chengkung** baz=204	**1.41**	**196**	*e*P	**Pn**	**21 05 39.3 +0.6**
WTCT	**Ta-ch'eng** baz=258	**1.50**	**247**	*e*P	**Pn**	**21 05 40.1 +0.3**
WTCT	baz=258			*e*S	**Sn**	**21 05 58.5 +0.3**
CHN2	**Minshiung** baz=246	**1.51**	**233**	*e*P	**Pn**	**21 05 41.1 +1.0**
CHN2	baz=246			*e*S	**Sn**	**21 06 02.5 +3.9**
CHN4	**Tsaushan** baz=226	**1.55**	**225**	*e*P	**Pn**	**21 05 42.1 +1.5**
CHN4	baz=226			*e*S	**Sn**	**21 06 03.3 +3.6**
CHY	**Chiayi** baz=245	**1.57**	**233**	⇑P	**Pn**	**21 05 42.2 +1.3**
CHY	baz=245			*e*S	**Sn**	**21 06 01.8 +1.7**
WTP	**Ta-pu** baz=235	**1.62**	**222**	⇑*i*P	**Pn**	**21 05 43.0 +1.4**
WTP	baz=235			*e*S	**Sn**	**21 06 04.2 +2.9**
WSF	**Szhu** baz=241	**1.65**	**240**	⇑P	**Pn**	**21 05 42.6 +0.7**
WSF	baz=241			*e*S	**Sn**	**21 06 03.4 +1.5**
TWK	**Hsinying** baz=226	**1.68**	**225**	*e*P	**Pn**	**21 05 43.8 +1.3**
TWK	baz=226			S	**Sn**	**21 06 05.5 +2.7**
CHN1	**Nanshi** baz=223	**1.71**	**222**	*e*P	**Pn**	**21 05 44.1 +1.2**
CHN1	baz=223			*e*S	**Sn**	**21 06 06.2 +2.6**
SGST	**Jiashian** baz=211	**1.76**	**219**	⇓*i*P	**Pn**	**21 05 45.4 +1.9**
SGST	baz=211			*e*S	**Sn**	**21 06 08.4 +3.7**
TWG	**Pinlang** baz=192	**1.76**	**202**	*e*P	**Pn**	**21 05 42.3 -1.2**
CHN3	**Shinhua** baz=225	**1.90**	**224**	*e*P	**Pn**	**21 05 45.8 +0.5**
SCLT	**Jiali** baz=231	**1.94**	**229**	*e*P	**Pn**	**21 05 47.6 +1.7**
SCLT	baz=231			*e*S	**Sn**	**21 06 11.6 +2.5**
ECL	**Taimali** baz=195	**2.01**	**202**	*e*P	**Pn**	**21 05 45.9 -1.0**
TAI1	**Yung-k'ang** baz=227	**2.01**	**226**	*e*P	Pn	21 05 49.7 +2.8
TWM1	**Shoushan** baz=217	**2.05**	**218**	*e*P	**Pn**	**21 05 49.0 +1.4**
SGLT	**Jiouru** baz=217	**2.10**	**215**	*e*P	**Pn**	**21 05 47.9 -0.2**
PNG	**Penghu** baz=248	**2.22**	**247**	*e*P	**Pn**	**21 05 49.0 -0.8**
EAST	**Anshuo** baz=196	**2.24**	**203**	*e*P	**Pn**	**21 05 50.7 +0.6**
TAW	**Tawu** baz=194	**2.25**	**201**	*e*P	Pn	21 05 52.8 +2.6
WDGT	**Dungji** baz=240	**2.28**	**239**	⇓P	**Pn**	**21 05 50.4 -0.3**
WDGT	baz=240			*e*S	**Sn**	**21 06 16.6 -1.0**
LAY	**Lan-yu** baz=187	**2.42**	**185**	*e*P	**Pn**	**21 05 52.5 -0.1**
TWP	**Hsiaoliuchiu** baz=229	**2.48**	**212**	*e*P	Pn	21 05 56.9 +3.5
HEN	**Hengchun** baz=196	**2.63**	**202**	*e*P	**Pn**	**21 05 56.4 +0.9**
QZH	**Quanzhou**	**2.94**	**280**	Pn	Pn	21 05 55.4 -4.3
QZH				Sn	Sn	21 06 26.5 -7.3
QZH	380nm,0.8s			SMN		
QZH	180nm,0.9s			SME		
KNM	**Kinmen** baz=269	**3.05**	**270**	*e*P	**Pn**	**21 06 01.9 +0.7**
KSRS	**Korea Array** 0.4nm,0.3s,baz=203,slow=12,SNR=13	**13.97**	**21**	P	**P**	**21 08 39.5 +1.6**
KSRS	comp=Z,43nm,18.3s,baz=315,slow=41			LR	LR	21 14 59.9
SONM	**Songino Array** 0.4nm,0.5s,baz=142,slow=8.9,SNR=5.1	**26.33**	**336**	P	**P**	**21 10 46.7 -0.6**
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=120,slow=8.5,SNR=8.0	**38.52**	**315**	P	**P**	**21 12 33.3 -0.4**
ZALV	**Zalesovo Beam** 0.5nm,0.5s,baz=122,slow=8.1,SNR=3.1	**40.31**	**327**	P	**P**	**21 12 47.5 -1.0**
WRA	**Warramunga Arr** 0.5nm,0.8s,baz=345,slow=8.7,SNR=4.1	**45.80**	**163**	P	**P**	**21 13 31.4 -1.8**
ILAR	**Eielson Array** 0.3nm,0.8s,baz=266,slow=5.4,SNR=4.1	**68.72**	**27**	P	**P**	**21 16 12.8 -1.6**
FINES	**FINESS Array B** 4.5nm,1.0s,baz=72,slow=4.5,SNR=3.9	**71.48**	**330**	P	**P**	**21 16 30.6 -0.7**

IDC ***18*** *21:26:27.6±4.1,39°.82N×66°.76E,h0km,mb3.3/1, mb1 3.3/3,mb1mx3.0/27,mbtmp3.3/3,ML3.5/1,Error ellipse: s-maj=202.4km s-min=22.6km az=152.0*

ISC 18 21:26:23.2±5.4,37°.8N±0°.2×68°.9E±0°.6,h10km,n4,σ4°31/4, 1C,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array** 1.8nm,0.6s,baz=183,slow=12,SNR=31	**5.41**	**13**	Pn	**Pg**	**21 28 08.8**	**+2.2**
KK31	0.9nm,0.4s,baz=187,slow=27,SNR=8.2			⇑Sn	**Sg**	**21 29 14.9**	**-1.7**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=221,slow=13,SNR=8.4	**13.35**	**44**	Pn	**Pn**	**21 29 33.6**	**+1.0**
ZALV	**Zalesovo Beam** 0.1nm,0.3s,baz=219,slow=10,SNR=3.0	**19.49**	**29**	P	**P**	**21 30 46.9**	**-3.2**
TORD	**Torodi Ar. Bea** 0.3nm,0.6s,baz=45,slow=5.5,SNR=6.4	**64.08**	**267**	P	P	21 36 53.7	-3.9

TAP 18 21:28:02.5,24°.45N×121°.73E,h45km,ML3.7,8C-6D,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau** baz=148	**0.02**	**155**	⇓*i*P	Pn	21 28 09.8	+0.4
ENA	baz=148			*e*S	Sn	21 28 15.2	+0.8
EHP	**Heping Village** baz=181	**0.14**	**176**	*e*P	Pn	21 28 09.8	-0.1
TWC	**Suao** baz=30	**0.19**	**34**	⇓*i*P	Pn	21 28 10.5	+0.3
TWC	baz=30			*i* S	Sn	21 28 16.4	+0.7
ENTT	**Nioudou** baz=320	**0.24**	**322**	⇑*i*P	Pn	21 28 10.9	+0.2
ENTT	baz=320			*e*S	Sn	21 28 16.7	+0.3
ILA	**Ilan** baz=2.0	**0.32**	**3**	*i* P	Pn	21 28 12.0	+0.7
ILA	baz=2.0			S	Sn	21 28 19.0	+1.5
NNS	**Nan Shan** baz=264	**0.33**	**268**	⇑*i*P	Pn	21 28 11.9	+0.3
NNS	baz=264			*i* S	Sn	21 28 18.2	+0.2
TWD	**Chiawan** baz=205	**0.39**	**198**	P	Pn	21 28 12.2	+0.2
TWD	baz=205			S	Sn	21 28 19.2	+0.4
NSK	**Sanguang** baz=297	**0.41**	**304**	⇑*i*P	Pn	21 28 12.6	+0.2
NSK	baz=297			*i* S	Sn	21 28 19.7	+0.2
EGS	baz=26	**0.43**	**25**	⇓*e*P	Pn	21 28 13.4	+0.8
HWA	**Hwalien** baz=201	**0.48**	**194**	*e*P	Pn	21 28 13.8	+0.6
WHF	**Hehuan Shan** baz=232	**0.52**	**235**	⇑*i*P	Pn	21 28 14.5	+0.2
WHF	baz=232			S	Sn	21 28 23.4	+0.8
TWT	**Tachien** baz=249	**0.54**	**249**	⇑*i*P	Pn	21 28 15.2	+1.0
TWT	baz=249			S	Sn	21 28 23.7	+1.2
TWB1	**Santiao Chiao** baz=29	**0.60**	**23**	*e*P	Pn	21 28 15.6	+0.8
TWB1	baz=29			S	Sn	21 28 25.0	+1.4
TAP1	**Taipei** baz=340	**0.62**	**342**	*e*P	Pn	21 28 14.9	0.0
TAP1	baz=340			*e*S	Sn	21 28 24.3	+0.5
NWF	**Wu-fen Shan** baz=354	**0.62**	**4**	P	Pn	21 28 15.8	+0.7
NWF	baz=354			*i* S	Sn	21 28 25.2	+1.0
TAP	**Taipei** baz=340	**0.62**	**341**	*e*P	Pn	21 28 14.8	-0.1
TAP	baz=340			*e*S	Sn	21 28 24.9	+1.0
NSTT	**Nanjuang** baz=285	**0.69**	**285**	⇑*i*P	Pn	21 28 17.0	+1.2
NSTT	baz=285			S	Sn	21 28 27.1	+1.6
ESL	**Shilin** baz=203	**0.69**	**203**	*e*P	Pn	21 28 15.2	-0.7
NCU	**National Centr** baz=315	**0.71**	**316**	P	Pn	21 28 17.1	+0.9
NCU	baz=315			*e*S	Sn	21 28 27.5	+1.3
HSN	**Hsinchu** baz=310	**0.78**	**297**	P	Pn	21 28 17.7	+0.7
HSN	baz=310			*e*S	Sn	21 28 28.1	+0.5
TWY	**Chenhua** baz=339	**0.83**	**352**	⇓*i*P	Pn	21 28 18.5	+0.7
TWY	baz=339			*e*S	Sn	21 28 29.8	+0.8
TWQ1	**Liyutan** baz=264	**0.88**	**264**	⇓P	Pn	21 28 19.9	+1.5
TWQ1	baz=264			S	Sn	21 28 32.3	+2.2
NSY	**Sanyi** baz=268	**0.88**	**268**	*e*P	Pn	21 28 20.2	+1.7
NSY	baz=268			*e*S	Sn	21 28 32.9	+2.6
SMLT	**Sun Moon Lake** baz=232	**0.94**	**234**	⇑P	Pn	21 28 21.0	+1.5
SMLT	baz=232			*e*S	Sn	21 28 33.3	+1.3
TYC	**Yuchr** baz=236	**0.96**	**236**	⇑*i*P	Pn	21 28 21.2	+1.6
TYC	baz=236			S	Sn	21 28 33.7	+1.5
EHY	**Hungye** baz=203	**1.01**	**202**	*e*P	Pn	21 28 20.0	-0.3
WNT	**Mingjian** baz=240	**1.11**	**239**	P	Pn	21 28 23.6	+2.0
WNT	baz=240			*e*S	Sn	21 28 39.4	+3.6
TWF1	**Yuli** baz=201	**1.16**	**200**	*e*P	Pn	21 28 22.9	+0.6
YOJ	**Yonaguni jima** baz=89	**1.17**	**89**	*i* P	Pn	21 28 22.4	+0.1
CHN5	**Tsauling** baz=230	**1.28**	**229**	*e*P	Pn	21 28 26.1	+2.1
CHN5	baz=230			*e*S	Sn	21 28 43.7	+3.6
WGK	**Gukeng** baz=248	**1.31**	**235**	*e*P	Pn	21 28 26.5	+2.2
WGK	baz=248			*e*S	Sn	21 28 44.7	+4.0
CHN2	**Minshiung** baz=246	**1.47**	**232**	*e*P	Pn	21 28 29.3	+2.8
CHN2	baz=246			*e*S	Sn	21 28 50.0	+5.6
CHN4	**Tsaushan** baz=226	**1.51**	**224**	*e*P	Pn	21 28 29.6	+2.5
CHN4	baz=226			*e*S	Sn	21 28 50.6	+5.0
CHY	**Chiayi** baz=245	**1.52**	**232**	*e*P	Pn	21 28 28.9	+1.7
CHY	baz=245			*e*S	Sn	21 28 49.7	+3.8
WTP	**Ta-pu** baz=234	**1.57**	**221**	*e*P	Pn	21 28 30.2	+2.2
WTP	baz=234			*e*S	Sn	21 28 51.6	+4.4
TWK	**Hsinying** baz=226	**1.64**	**224**	⇓P	Pn	21 28 31.5	+2.7
TWK	baz=226			*e*S	Sn	21 28 53.4	+4.6
CHN1	**Nanshi** baz=224	**1.67**	**221**	*e*P	Pn	21 28 31.5	+2.2
CHN1	baz=224			*e*S	Sn	21 28 53.4	+3.7
SGST	**Jiashian** baz=211	**1.72**	**218**	*e*P	Pn	21 28 32.4	+2.5
SGST	baz=211			*e*S	Sn	21 28 55.3	+4.5
TWG	**Pinlang** baz=192	**1.73**	**201**	*e*P	Pn	21 28 29.9	-0.2
ECL	**Taimali** baz=194	**1.98**	**201**	*e*P	Pn	21 28 35.0	+1.5
PNG	**Penghu** baz=248	**2.17**	**247**	*e*P	Pn	21 28 35.7	-0.4
EAST	**Anshuo** baz=195	**2.21**	**202**	*e*P	Pn	21 28 39.4	+2.7
WDGT	**Dungji** baz=241	**2.23**	**238**	*e*P	Pn	21 28 37.1	+0.1
LAY	**Lan-yu** baz=186	**2.41**	**184**	*e*P	Pn	21 28 40.9	+1.5
KNM	**Kinmen** baz=269	**3.00**	**270**	*e*P	Pn	21 28 48.0	+0.4

GUC 18 21:29:36.2±0.5,24°.02S×67°.49W,h200km,ML4.1,4C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB04	**Plate Boundary**	**2.53**	**313**	⇑*i*P	Pn	21 30 27.4	+6.9
PB04				*i* S	Sn	21 31 06.3	+11
PB04				AML	AML	21 31 08.7	
CEN1	comp=N,165nm,0.5s **Los Morros**	**2.56**	**284**	⇓*i*P	Pn	21 30 24.6	+3.6
CEN1				*i* S	Sn	21 31 00.4	+4.6
CEN1				AML	AML	21 31 02.0	
ANCH	comp=N,261nm,0.5s **Antofagasta**	**2.69**	**276**	*e*P	Pn	21 30 23.7	+1.4
ANCH				*i* S	Sn	21 31 00.0	+1.8
ANCH				AML	AML	21 31 03.2	
PB09	comp=E,470nm,0.5s **Plate Boundary**	**2.74**	**323**	⇑*i*P	Pn	21 30 25.2	+2.1
PB09				*i* S	Sn	21 31 03.3	+3.7
PB09				AML	AML	21 31 03.9	
PB10	comp=E,319nm,0.4s **Plate Boundary**	**2.85**	**279**	⇑*i*P	Pn	21 30 25.8	+1.6
PB10				*i* S	Sn	21 31 03.4	+1.8
PB10				AML	AML	21 31 09.1	
PB07	comp=E,771nm,0.4s **Plate Boundary**	**3.17**	**315**	⇑*i*P	Pn	21 30 29.7	+1.5
PB07				*i* S	Sn	21 31 11.0	+2.2
PB07				AML	AML	21 31 12.5	
HMBC	comp=E,131nm,0.3s **Humberstone**	**4.33**	**329**	⇓*i*P	Pn	21 30 42.4	0.0
HMBC				*i* S	Sn	21 31 34.9	+0.5
MNMC	**Minimini**	**5.24**	**338**	*e*P	Pn	21 30 54.6	+0.5
MNMC				*e*S	Sn	21 31 56.3	+0.7

IDC 18 21:31:41.3±5.0,4°.24N×125°.59E,h188km±50km,mb3.4/13, mb1 3.6/13,mb1mx3.4/23,mbtmp3.4/13,Error ellipse: s-maj=32.9km s-min=10.7km az=74.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi** 2.1nm,0.3s,baz=4.7,slow=11	**22.20**	**180**	P	P	21 36 22.1	-0.5
WRA	**Warramunga Arr** 0.5nm,0.4s,baz=340,slow=9.7,SNR=4.3	**25.53**	**161**	P	P	21 36 51.8	-0.9
ASAR	**Alice Springs** 0.5nm,0.5s,baz=346,slow=7.6,SNR=14	**28.90**	**164**	P	P	21 37 22.6	-0.2
CMAR	**Chiang Mai Arr** 0.7nm,0.8s,baz=110,slow=7.8,SNR=6.2	**29.63**	**301**	P	P	21 37 31.1	+1.8
KSRS	**Korea Array** 2.0nm,0.9s,baz=188,slow=9.8,SNR=4.6	**33.12**	**3**	P	P	21 38 00.3	+0.7
STKA	**Stephens Creek** 0.8nm,0.4s,baz=350,slow=9.8,SNR=4.7	**39.02**	**158**	P	P	21 38 50.3	+0.5
USRK	**Ussuriysk Arra** 2.1nm,0.7s,baz=190,slow=7.3,SNR=7.0	**40.19**	**7**	P	P	21 38 60.0	+0.7
SONM	**Songino Array** 0.4nm,0.9s,baz=151,slow=6.6,SNR=2.8	**46.46**	**342**	P	P	21 39 48.5	-1.0
SONM	0.6nm,0.7s,baz=159,slow=4.3,SNR=4.9			PcP	PcP	21 41 21.4	+0.5
MKAR	**Makanchi Array** 1.0nm,0.6s,baz=123,slow=8.5,SNR=15	**56.49**	**326**	P	P	21 41 03.5	-0.4
MKAR	0.7nm,0.5s,baz=117,slow=4.5,SNR=7.0			PcP	PcP	21 41 58.2	-0.2
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=111,slow=7.9,SNR=3.1	**59.62**	**333**	P	P	21 41 23.8	-1.5
VNDA	**Vanda** 0.8nm,0.7s,baz=324,slow=5.6,SNR=8.1	**84.08**	**173**	P	P	21 43 51.5	+1.1
ARCES	**ARCESS Array B** 1.1nm,0.6s,baz=81,slow=6.5,SNR=7.1	**89.58**	**340**	P	P	21 44 16.9	-0.3
FINES	**FINESS Array B** 3.5nm,1.0s,baz=99,slow=4.5,SNR=4.6	**90.84**	**332**	P	P	21 44 22.2	-1.0

ISCJB ***18*** *21:43:22.0±0.4,30°.88N±0°.04×103°.49E±0°.08,h10km, mb3.8/13,Error ellipse: s-maj=9.5km s-min=5.6km az=15.7*

IDC ***18*** *21:43:22.2±0.7,30°.89N×103°.38E,h0km,mb3.8/13, mb1 4.0/15,mb1mx3.8/27,mbtmp3.8/15,ML2.6/2,Error ellipse: s-maj=27.7km s-min=14.9km az=58.0*

BJI ***18*** *21:43:25.3,30°.90N×103°.28E,h21km,ML3.8/14,Ms3.6/3*

ISC 18 21:43:24.0±0.6,30°.91N±0°.06×103°.52E±0°.08,h10km,n21, σ1°41/26,mb3.8/13,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**0.20**	**90**	Pg	Pg	21 43 23.5	-4.8
CD2				Sg	Sg	21 43 38.8	+7.6
CD2	16μm,0.7s			SMN			
CD2	11μm,0.6s			SME			
LZH	**Lanzhou**	**5.17**	**3**	*e*Pn	Pn	21 44 45.4	+3.8
LZH				*e*Sn	**Sn**	**21 45 45.1**	**+3.7**
LZH	comp=N,290nm,5.2s			LR	LR		
LZH	comp=E,460nm,8.4s			LR	LR		
XAN	**Xi'an**	**5.53**	**54**	Pn	**Pn**	**21 44 47.6**	**+1.2**
XAN				Pg	Pb	21 45 04.6	+3.9
XAN				Sn	**Sn**	**21 45 51.8**	**+1.7**
XAN				Sg	**Sg**	**21 46 18.4**	**-3.1**
XAN	comp=E,160nm,1.0s			SMN			
XAN	comp=E,73nm,0.9s			SME			
KMI	**Kunming**	**5.81**	**187**	Pn	**Pn**	**21 44 51.9**	**+1.4**
KMI				Sn	**Sn**	**21 45 56.8**	**-0.5**
KMI	23nm,1.0s			SMN			
KMI	28nm,0.8s			SME			
KMI	comp=N,170nm,4.0s			LR	LR		
KMI	comp=E,360nm,6.0s			LR	LR		
HHC	**Hu-ho-hao-te**	**11.86**	**31**	*e*P	**Pn**	**21 46 12.9**	**-0.4**
HHC				sP		21 46 19.3	
HHC				PP	**PnPn**	**21 46 22.9**	**+1.7**
HHC				S	**Sn**	**21 48 24.4**	**-1.4**
HHC				sS		21 48 29.6	
HHC				SS	**SnSn**	**21 48 38.0**	**0.0**
HHC	comp=Z,16nm,1.0s			AMB	AMB		
HHC	comp=Z,180nm,5.0s			AMB	AMB		
HHC	comp=N,190nm,8.7s			LR	LR		
HHC	comp=E,300nm,9.4s			LR	LR		
CMAR	comp=Z,190nm,10.0s **Chiang Mai Arr** comp=Z,0.0nm,0.3s,baz=13,slow=12,SNR=4.9	**13.08**	**200**	Pn	**Pn**	**21 46 29.8**	**-0.1**
SONM	**Songino Array** comp=Z,0.1nm,0.3s,baz=183,slow=10.0,SNR=3.9	**17.04**	**7**	P	**Pn**	**21 47 23.0**	**+0.5**
KSRS	**Korea Array** comp=Z,1.8nm,0.7s,baz=241,slow=9.5,SNR=5.1	**21.18**	**65**	P	**P**	**21 48 11.5**	**+1.9**
MKAR	**Makanchi Array** comp=Z,0.6nm,0.6s,baz=126,slow=11,SNR=7.0	**22.80**	**320**	P	**P**	**21 48 27.5**	**+0.6**
ZALV	**Zalesovo Beam** comp=Z,1.3nm,0.6s,baz=132,slow=8.4,SNR=5.8	**26.68**	**335**	P	**P**	**21 49 02.8**	**-0.3**
KURBB	**Kurchatov Arra** comp=Z,1.4nm,0.6s,baz=130,slow=9.6,SNR=17	**27.09**	**324**	P	**P**	**21 49 06.5**	**-0.3**
BVAR	**Borovoye Array** comp=Z,0.6nm,0.6s,baz=113,slow=3.7,SNR=3.8	**32.63**	**322**	PcP	**PcP**	**21 52 40.6**	**-1.2**
BRTR	**Keskin Array B** comp=Z,0.3nm,0.5s,baz=83,slow=5.9,SNR=3.2	**56.40**	**300**	P	**P**	**21 53 04.6**	**-1.3**
ARCES	**ARCESS Array B** comp=Z,6.0nm,1.1s,baz=89,slow=7.1,SNR=5.4	**57.23**	**336**	P	**P**	**21 53 11.0**	**-0.2**
FINES	**FINESS Array B** comp=Z,3.1nm,0.9s,baz=92,slow=9.7,SNR=7.1	**57.45**	**326**	P	**P**	**21 53 11.8**	**-1.0**
WRA	**Warramunga Arr** comp=Z,1.1nm,0.4s,baz=326,slow=9.0,SNR=7.0	**58.59**	**146**	P	**P**	**21 53 21.5**	**+0.2**
ASAR	**Alice Springs** comp=Z,0.3nm,0.3s,baz=335,slow=6.9,SNR=8.7	**61.59**	**148**	P	**P**	**21 53 41.9**	**+0.1**
NOA	**NORSAR Array B** comp=Z,1.0nm,0.9s,baz=68,slow=5.9,SNR=3.0	**64.55**	**327**	P	**P**	**21 53 59.8**	**-1.3**
ILAR	**Eielson Array** comp=Z,0.2nm,0.6s,baz=322,slow=5.7,SNR=4.0	**70.22**	**25**	P	**P**	**21 54 36.4**	**-0.5**
STKA	**Stephens Creek** comp=Z,1.4nm,0.7s,baz=97,slow=5.8,SNR=3.3	**72.12**	**147**	P	**P**	**21 54 48.6**	**-0.1**
YKA	**Yellowknife Ar** comp=Z,0.5nm,0.5s,baz=327,slow=4.9,SNR=3.7	**82.02**	**17**	P	**P**	**21 55 44.3**	**+0.3**

IDC 18 21:51:30.9±2.4,12°.58S×166°.77E,h0km,mb4.0/8, mb1 4.1/8,mb1mx3.9/18,mbtmp4.0/8,MS3.6/2,Ms1 3.5/2, ms1mx3.1/22,Error ellipse: s-maj=79.0km

s-min=25.7km az=129.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.07**	**226**	P	P	21 57 42.1	0.0
	1.5nm,0.7s,baz=67,slow=11,SNR=3.6						
STKA				LR	LR	22 08 29.3	
	comp=Z,113nm,20.2s,baz=27,slow=34						
WRA	**Warramunga Arr**	**31.94**	**252**	P	P	21 57 58.1	-0.7
	0.3nm,0.3s,baz=84,slow=9.1,SNR=3.2						
ASAR	**Alice Springs**	**33.04**	**246**	P	P	21 58 08.3	-0.1
	0.6nm,0.6s,baz=67,slow=9.3,SNR=12						
ASAJ	**Asahikawa**	**60.56**	**340**	LR	LR	22 26 49.9	
	comp=Z,40nm,18.2s,baz=247,slow=35						
CMAR	**Chiang Mai Arr**	**73.64**	**294**	P	P	22 03 07.2	+0.3
	1.2nm,0.8s,baz=121,slow=4.4,SNR=8.5						
SONM	**Songino Array**	**80.49**	**324**	P	P	22 03 45.0	0.0
	0.3nm,0.4s,baz=137,slow=5.9,SNR=7.6						
ILAR	**Eielson Array**	**84.64**	**18**	P	P	22 04 06.0	-0.2
	0.5nm,0.6s,baz=240,slow=5.2,SNR=10						
MKAR	**Makanchi Array**	**95.32**	**317**	P	P	22 04 57.1	0.0
	1.9nm,0.7s,baz=88,slow=6.1,SNR=17						
ZALV	**Zalesovo Beam**	**95.38**	**324**	P	P	22 04 56.4	-0.7
	0.3nm,0.3s,baz=90,slow=3.2,SNR=2.4						
TORD	**Torodi Ar. Bea**	**165.44**	**274**	PKPab	PKPab	22 12 37.2	+0.6
	1.4nm,0.9s,baz=71,slow=5.1,SNR=6.9						

*NEIC **18** 22:10:53.6±0.3, 11°.26S×166°.30E, h35km, mb4.8/17, Error ellipse: s-maj=7.6km s-min=6.7km az=160.0*

*ISCJB **18** 22:10:54.9±0.3, 11°.38S±0°.05×166°.31E±0°.05, h59km, mb4.7/39, MS4.1/15, Error ellipse: s-maj=7.3km s-min=6.5km az=39.3*

*IDC **18** 22:10:57.4±3.2, 11°.31S×166°.27E, h70km±26km, mb4.2/14, mb1 4.4/16, mb1mx4.2/24, mbtmp4.3/16, MS4.0/13, Ms1 4.0/13, ms1mx3.9/20, Error ellipse: s-maj=20.0km s-min=16.0km az=67.0*

*GCMT **18** 22:10:58.1±0.3, 11°.47S×165°.97E, h52km±1km, MW5.0, Moment Tensor Solution. s52,c64; s47,c66; Moment tensor: Scale 10^16 Nm; Mrr=3.27±.16; Mθθ=0.29±.13; Mφφ=-3.56±.12; Mrθ=-0.50±.11; Mθφ=0.33±.12; Mφr=0.89±.11; Best double couple: M0=3.60000×10^16 NP1:φ=348.00000°, δ=53.00000°, λ=81.00000°. NP2:φ=183.00000°, δ=38.00000°, λ=102.00000°. Principal axes: T 3.4500, Plg=79.0000°, Azm=219.0000°; N 0.2700, Plg=7.0000°, Azm=353.0000°; P -3.7100, Plg=8.0000°, Azm=84.0000°; Data Used: II G IU CN IC. Surface wave period=40 sec.*

*BJI **18** 22:11:10.9, 10°.66S×166°.12E, h170km, mB4.8/10, mb4.4/25*

*AUST **18** 22:11:10.4, 10°.95S×165°.98E, h200km*

ISC 18 22:10:56.2±0.4, 11°.40S±0°.06×166°.36E±0°.07, h59km, n101, σ1=1°.25/102, mb4.7/39, MS4.1/15, Starting Solution

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.60**	**287**	P	**Pn**	**22 12 30.6**	**-0.1**
HNR				S	**Sn**	**22 13 43.7**	**-0.9**
HNR	**Honiara**	**6.60**	**287**	P	**Pn**	**22 12 30.6**	**-0.1**
	113nm,0.3s,baz=144,slow=7.5,SNR=32						
HNR				S	**Sn**	**22 13 43.7**	**-0.9**
	baz=195,slow=20,SNR=1.8						
DZM	**Mont Dzumac**	**10.61**	**180**	*e*Pn	**Pn**	**22 13 27.7**	**+2.0**
	56nm,0.6s						
DZM				*e*LR	LR	22 16 00.1	
	2μm,25.9s						
DZM	**Mont Dzumac**	**10.61**	**180**	P	**Pn**	**22 13 27.7**	**+2.0**
	2.2nm,0.6s						
DZM				S	**Sn**	**22 15 20.2**	**-2.9**
DZM	**Mont Dzumac**	**10.61**	**180**	P	**Pn**	**22 13 27.7**	**+2.0**
	1.5nm,0.3s,baz=0.0,slow=20,SNR=8.9						
DZM				S	**Sn**	**22 15 20.2**	**-2.9**
	0.5nm,0.3s,baz=294,slow=20,SNR=2.8						
DZM				LR	LR	22 17 18.9	
	comp=Z,1μm,19.4s,baz=20,slow=36						
MSVF	**Nonsavu**	**12.95**	**120**	Pn	**Pn**	**22 13 56.8**	**-0.8**
PATS	**Pohnpei**	**19.81**	**336**	P	**Pn**	**22 15 24.0**	**0.0**
	baz=19,SNR=5.4						
EIDS	**Eidsvold**	**20.05**	**224**	*e*P	Pn	22 15 28.5	+1.7
	21nm,1.0s						
CTA	**Charters Tower**	**21.17**	**243**	P	**P**	**22 15 37.8**	**+1.0**
CTA	**Charters Tower**	**21.17**	**243**	P	**P**	**22 15 37.8**	**+1.0**
	14nm,0.7s,baz=56,slow=11,SNR=8.3						
CTAO	**Charters Tower**	**21.17**	**243**	*e*P	**P**	**22 15 37.1**	**+0.3**
	16nm,0.7s						
AFI	**Afiamalu**	**21.48**	**99**	P	**P**	**22 15 40.8**	**+0.6**
AFI	**Afiamalu**	**21.48**	**99**	LR	LR	22 22 22.5	
	comp=Z,297nm,18.9s,baz=256,slow=32						
MTSU	**Mount Surprise**	**22.33**	**250**	P	**P**	**22 15 51.0**	**+1.8**
	baz=22,SNR=10						
RMQ	**Roma**	**22.37**	**225**	P	**P**	**22 15 52.0**	**+2.4**
	baz=22,SNR=8.9						
COEN	**Coen**	**22.76**	**261**	*e*Pn	**P**	**22 15 54.2**	**+0.4**
	108nm,0.7s						
COEN	**Coen**	**22.76**	**261**	P	P	22 16 12.0	+18
	baz=22,SNR=5.2						
ARMA	**Armidale**	**23.35**	**214**	*e*P	**P**	**22 16 00.4**	**+0.7**
	22nm,0.9s						
ARMA	**Armidale**	**23.35**	**214**	P	**P**	**22 16 01.7**	**+2.0**
	baz=24,SNR=10						
QLP	**Quilpie**	**25.73**	**231**	P	**P**	**22 16 22.5**	**+1.2**
	baz=26,SNR=4.4						
CMSA	**Cobar Meteorol**	**27.68**	**220**	P	**P**	**22 16 39.0**	**+0.2**
	baz=28,SNR=8.3						
URZ	**Urewera**	**28.43**	**162**	P	**P**	**22 16 46.1**	**+0.8**
URZ	**Urewera**	**28.43**	**162**	LR	LR	22 26 01.9	
	comp=Z,392nm,21.6s,baz=176,slow=32						
BKZ	**Black Stump Fm**	**29.09**	**164**	*e*P	**P**	**22 16 52.9**	**+1.6**
	167nm,1.9s						
STKA	**Stephens Creek**	**30.60**	**224**	*e*P	**P**	**22 17 06.3**	**+1.5**
STKA				PcP	**PcP**	**22 20 02.1**	**0.0**
STKA	**Stephens Creek**	**30.60**	**224**	P	**P**	**22 17 06.3**	**+1.5**
	baz=31,SNR=11						
STKA	**Stephens Creek**	**30.60**	**224**	P	**P**	**22 17 05.9**	**+1.1**
	6.5nm,0.8s,baz=56,slow=10.0,SNR=14						
STKA				PcP	**PcP**	**22 20 02.1**	**0.0**
	2.0nm,0.9s,baz=51,slow=6.5,SNR=3.0						
STKA				LR	LR	22 28 18.0	
	comp=Z,548nm,18.2s,baz=34,slow=34						
WRAB	**Tennant Creek**	**31.92**	**251**	*e*P	**P**	**22 17 15.7**	**-0.8**
	7.0nm,0.9s						
WRA	**Warramunga Arr**	**31.93**	**251**	P	**P**	**22 17 15.6**	**-0.9**
WRA	**Warramunga Arr**	**31.93**	**251**	P	**P**	**22 17 15.6**	**-0.9**
	7.7nm,0.7s,baz=81,slow=9.1,SNR=29						
WRA				LR	LR	22 28 40.0	
	comp=Z,263nm,21.9s,baz=30,slow=33						
RPZ	**Rata Peaks**	**32.45**	**174**	P	**P**	**22 17 22.2**	**+1.3**
RPZ	**Rata Peaks**	**32.45**	**174**	P	**P**	**22 17 22.2**	**+1.3**
	7.5nm,0.5s,baz=16,slow=9.2,SNR=3.1						
AS01	**Alice Springs**	**33.13**	**244**	*e*P	**P**	**22 17 26.6**	**-0.5**
AS01				*e*PcP	**PcP**	**22 20 08.5**	**-0.7**
AS31	**Alice Springs**	**33.17**	**244**	*e*P	**P**	**22 17 25.2**	**-2.2**
ASAR	**Alice Springs**	**33.17**	**244**	P	**P**	**22 17 26.1**	**-1.4**
ASAR				PcP	**PcP**	**22 20 08.8**	**-0.5**
ASAR	**Alice Springs**	**33.17**	**244**	P	**P**	**22 17 26.1**	**-1.4**
	8.8nm,0.8s,baz=74,slow=9.4,SNR=65						
ASAR				PcP	**PcP**	**22 20 08.8**	**-0.5**
	2.5nm,0.8s,baz=64,slow=2.4,SNR=11						
ASAR				LR	LR	22 29 43.4	
	comp=Z,338nm,21.4s,baz=68,slow=34						
KNRA	**Kununurra**	**36.76**	**259**	P	**P**	**22 17 58.3**	**-0.1**
	baz=36,SNR=4.0						
PALU	**Palau**	**36.78**	**299**	P	P	22 17 50.1	-8.5
	baz=36,SNR=5.5						
FITZ	**Fitzroy Crossi**	**39.87**	**255**	P	**P**	**22 18 24.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**39.87**	**255**	P	**P**	**22 18 24.0**	**-0.5**
	6.6nm,0.7s,baz=102,slow=9.3,SNR=14						
PPT	**Papeete**	**43.03**	**104**	LR	LR	22 32 30.6	
	comp=Z,169nm,18.6s,baz=178,slow=30						
PPT2	**Papeete2**	**43.03**	**104**	*e*LR	LR	22 31 12.2	
	505nm,28.5s						
TBI	**Tubuai**	**43.64**	**112**	*e*LR	LR	22 31 36.1	
	600nm,28.2s,baz=281						
MBWA	**Marble Bar**	**45.65**	**252**	*e*P	**P**	**22 19 11.7**	**+0.3**
	12nm,0.9s						
MEEK	**Meekatharra**	**47.33**	**244**	P	**P**	**22 19 24.5**	**0.0**
	baz=47,SNR=11						
NWAO	**Narrogin (SRO)**	**49.77**	**236**	*e*P	**P**	**22 19 42.6**	**-0.4**
	8.0nm,0.6s						
KKM	**Kota Kinabalu**	**52.81**	**287**	*e*P	**P**	**22 20 06.9**	**+0.6**
	26nm,1.4s						
RKT	**Rikitea**	**56.90**	**110**	*e*LR	LR	22 37 41.0	
	520nm,29.5s,baz=278						
NJ2	**Nanjing**	**62.69**	**315**	*e*P	**P**	**22 21 14.5**	**-0.6**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s						
PETK	**Petropavlovsk-**	**64.68**	**354**	LR	LR	22 45 59.7	
	comp=Z,62nm,20.3s,baz=343,slow=33						
VNDA	**Vanda**	**66.15**	**181**	*e*P	**P**	**22 21 38.2**	**+1.1**
VNDA	**Vanda**	**66.15**	**181**	P	**P**	**22 21 37.3**	**+0.2**
	2.0nm,0.7s,baz=340,slow=7.2,SNR=12						
VNDA				LR	LR	22 47 56.6	
	comp=Z,62nm,19.9s,baz=345,slow=34						
CN2	**Changchun**	**66.35**	**329**	*e*P	**P**	**22 21 39.0**	**+0.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
SBA	**Scott Base**	**66.45**	**180**	*e*P	**P**	**22 21 40.3**	**+1.4**
	6.9nm,0.9s						
IPM	**Ipoh**	**66.87**	**280**	*e*P	**P**	**22 21 41.9**	**-0.9**
	20nm,1.1s						
PSI	**Prapat**	**68.51**	**278**	P	**P**	**22 21 51.7**	**-1.5**
PSI	**Prapat**	**68.51**	**278**	P	**P**	**22 21 52.9**	**-0.3**
	baz=68,SNR=5.1						
PSI	**Prapat**	**68.51**	**278**	P	**P**	**22 21 51.7**	**-1.5**
	7.1nm,0.7s,baz=102,slow=3.5,SNR=9.5						
GYA	**Guiyang**	**69.11**	**304**	*e*P	**P**	**22 21 58.8**	**+2.1**
GYA				pP	PcP	22 22 38.4	+18
GYA				sP	sP	22 22 57.8	+38
GYA				ScP		22 26 06.0	
GYA				PcS		22 26 24.5	
GYA				S	S	22 30 47.3	-11
GYA				SKS	**SKiKP**	**22 31 38.0**	**-4.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
XAN	**Xi'an**	**70.80**	**312**	P	**P**	**22 22 06.3**	**-0.5**
XAN				AMB	AMB		
	comp=Z,2.0nm,0.9s						
XAN				AMB	AMB		
	comp=Z,21nm,5.5s						
KMI	**Kunming**	**71.82**	**301**	P	**P**	**22 22 15.5**	**+2.2**
KMI				AMB	AMB		
	comp=Z,4.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**72.49**	**319**	*e*P	**P**	**22 22 18.4**	**+1.5**
HHC				pP	PcP	22 23 01.3	+27
HHC				sP	sP	22 23 20.3	+41
HHC				PP	**PP**	**22 25 02.6**	**+3.7**
HHC				S	S	22 31 26.8	-10
HHC				AMB	AMB		
	comp=Z,32nm,1.0s						
HHC				AMB	AMB		
	comp=Z,210nm,6.3s						
HHC				LR	LR		
	comp=N,260nm,15.5s						
HHC				LR	LR		
	comp=E,350nm,16.7s						
HHC				LR	LR		
	comp=Z,350nm,16.3s						
CM01	**Chiang Mai Arr**	**72.78**	**293**	*e*P	**P**	**22 22 18.9**	**0.0**
CMAR	**Chiang Mai Arr**	**72.80**	**293**	P	**P**	**22 22 19.2**	**+0.2**
CMAR	**Chiang Mai Arr**	**72.80**	**293**	P	**P**	**22 22 19.2**	**+0.2**
	1.7nm,0.8s,baz=111,slow=4.3,SNR=9.6						
CMAR				LR	LR	22 53 02.1	
	comp=Z,100nm,18.1s,baz=340,slow=35						
CD2	**Chengdu**	**73.29**	**307**	P	**P**	**22 22 23.5**	**+1.7**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
LZH	**Lanzhou**	**75.44**	**312**	*e*P	**P**	**22 22 36.0**	**+1.7**
LZH				pP	pP	22 23 20.3	+30
LZH				sP	sP	22 23 37.4	+40
LZH				AMB	AMB		
	comp=Z,13nm,0.8s						
QSPA	**South Pole Qui**	**78.61**	**180**	*e*P	**P**	**22 22 51.1**	**-0.4**
	76nm,2.2s						
SONM	**Songino Array**	**79.31**	**324**	P	**P**	**22 22 55.2**	**-0.5**
SONM	**Songino Array**	**79.31**	**324**	P	**P**	**22 22 55.2**	**-0.5**
	1.9nm,0.8s,baz=129,slow=4.8,SNR=10						
SONA1	**Songino Array**	**79.31**	**324**	*e*P	**P**	**22 22 56.3**	**+0.6**
GTA	**Gaotai**	**79.73**	**314**	P	**P**	**22 22 58.8**	**+0.6**
GTA				S	S	22 32 46.3	-10
GTA				SS	SS	22 37 51.5	-15
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s						
GTA				AMB	AMB		
	comp=Z,49nm,5.2s						
GTA				LR	LR		
	comp=N,68nm,16.6s						
GTA				LR	LR		
	comp=E,100nm,16.1s						
GTA				LR	LR		
	comp=Z,100nm,15.2s						
CAST	**Castle Rocks**	**81.10**	**18**	*e*P	**P**	**22 23 05.5**	**+0.7**
	5.8nm,0.8s						
TRF	**Thorofare Moun**	**81.67**	**18**	*e*P	**P**	**22 23 08.5**	**+0.5**
	49nm,2.3s						
COLA	**College**	**83.44**	**18**	*e*P	**P**	**22 23 16.4**	**-0.5**
	5.7nm,0.8s						
ILAR	**Eielson Array**	**83.66**	**18**	P	**P**	**22 23 17.4**	**-0.7**
ILAR	**Eielson Array**	**83.66**	**18**	P	**P**	**22 23 17.4**	**-0.7**
	1.0nm,0.6s,baz=231,slow=5.7,SNR=14						
DOT	**Dot Lake**	**83.80**	**20**	*e*P	**P**	**22 23 19.6**	**+0.7**
	7.2nm,1.0s						
MAW	**Mawson**	**84.62**	**202**	LR	LR	22 54 35.1	
	comp=Z,91nm,21.5s,baz=286,slow=31						
EGAK	**Eagle**	**85.50**	**20**	*e*P	**P**	**22 23 27.7**	**+0.4**
	5.7nm,0.8s						
NVAR	**Mina Array Bea**	**85.79**	**50**	P	**P**	**22 23 29.6**	**-0.1**
NVAR	**Mina Array Bea**	**85.79**	**50**	P	**P**	**22 23 29.6**	**-0.1**
	0.5nm,0.5s,baz=238,slow=5.2,SNR=3.1						
NVAR				LR	LR	22 53 16.0	
	comp=Z,204nm,21.7s,baz=123,slow=30						
WMQ	**Urumqi**	**89.77**	**315**	*e*P	**P**	**22 23 48.3**	**-0.1**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.5s						
WMQ				AMB	AMB		
	comp=Z,100nm,4.0s						
WMQ				LR	LR		
	comp=N,90nm,21.0s						
WMQ				LR	LR		
	comp=E,83nm,18.4s						
WMQ				LR	LR		
	comp=Z,79nm,24.2s						
PDAR	**Pinedale Array**	**93.35**	**47**	LR	LR	23 00 11.0	
	comp=Z,64nm,20.3s,baz=49,slow=32						
MK01	**Makanchi Array**	**94.18**	**317**	*e*P	**P**	**22 24 08.0**	**-0.7**
MK31	**Makanchi Array**	**94.19**	**317**	*e*P	**P**	**22 24 07.5**	**-1.3**
MKAR	**Makanchi Array**	**94.19**	**317**	*e*P	**P**	**22 24 08.4**	**-0.4**
MKAR	**Makanchi Array**	**94.19**	**317**	P	**P**	**22 24 08.1**	**-0.7**
	2.9nm,0.6s,baz=89,slow=5.8,SNR=32						
ZAA0	**Zalesovo Array**	**94.19**	**324**	*e*P	**P**	**22 24 06.9**	**-1.6**
ZALV	**Zalesovo Beam**	**94.19**	**324**	P	**P**	**22 24 07.4**	**-1.2**
ZALV	**Zalesovo Beam**	**94.19**	**324**	P	**P**	**22 24 07.4**	**-1.2**
	1.6nm,0.8s,baz=128,slow=5.9,SNR=8.3						
ARCES	**ARCESS Array B**	**116.83**	**346**	PKP	**PKPdf**	**22 29 32.2**	**-1.3**
ARCES	**ARCESS Array B**	**116.83**	**346**	PKP	**PKPdf**	**22 29 32.2**	**-1.3**
	3.0nm,0.9s,baz=59,slow=2.1,SNR=12						
FINES	**FINESS Array B**	**122.32**	**339**	PKP	**PKPdf**	**22 29 43.2**	**-1.0**
FINES	**FINESS Array B**	**122.32**	**339**	PKP	**PKPdf**	**22 29 43.2**	**-1.0**
	3.9nm,1.0s,baz=79,slow=3.0,SNR=8.7						
GERES	**GERESS Array B**	**136.28**	**334**	PKP	**PKPdf**	**22 30 10.4**	**-1.0**
GERES	**GERESS Array B**	**136.28**	**334**	PKP	**PKPdf**	**22 30 10.4**	**-1.0**
	0.5nm,0.7s,baz=5.7,slow=2.0,SNR=4.6						
ESDC	**Sonseca Array**	**150.56**	**345**	PKPbc	**PKPbc**	**22 30 41.8**	**0.0**
ESDC	**Sonseca Array**	**150.56**	**345**	PKPbc	**PKPbc**	**22 30 41.8**	**0.0**
	0.9nm,0.7s,baz=46,slow=3.7,SNR=7.8						
TORD	**Torodi Ar. Bea**	**164.91**	**278**	PKP	**PKPdf**	**22 30 54.5**	**-0.1**
TORD				PKPab	**PKPab**	**22 31 50.6**	**-0.6**
TORD	**Torodi Ar. Bea**	**164.91**	**278**	PKP	**PKPdf**	**22 30 54.5**	**-0.1**
	0.2nm,0.7s,baz=16,slow=0.5,SNR=5.4						
TORD				PKPab	**PKPab**	**22 31 50.6**	**-0.6**
	1.3nm,1.0s,baz=73,slow=5.0,SNR=5.2						

MAN 18 22:13:45, 18°.30N×120°.82E, h46km, mb4.1, ML2.9, MS2.7, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.20**	**278**	↑*i*P	Pn	22 13 54.8	+1.9
PIP				*e*S	Sn	22 14 01.9	+3.4
SIPP	**Brgy, Tapao**	**0.51**	**223**	↑*i*P	Pn	22 13 59.0	+2.8
SIPP				*e*S	Sn	22 14 08.1	+4.0
APYP	**Conner**	**0.59**	**137**	*e*P	Pn	22 13 59.6	+2.4
APYP				*e*S	Sn	22 14 09.6	+3.7
ABRA	**Dolores**	**0.65**	**189**	*e*P	Pn	22 13 59.7	+1.7
ABRA				*e*S	Sn	22 14 10.4	+3.1

MEX 18 22:19:10.6±0.6, 17°.79N×101°.53W, h32km±5km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.19**	**161**	*e*P	Pb	22 19 15.5	-1.5
ZIIG				*i*S	Sb	22 19 19.9	-1.5
ARIG	**Puente Sto Nin**	**1.23**	**66**	*e*P	Pn	22 19 28.8	-2.8
ARIG				*e*S	Sn	22 19 44.6	-2.5
CAIG	**El Cayaco**	**1.42**	**121**	*i*P	Pn	22 19 32.3	-1.8
CAIG				*i*S	Sn	22 19 48.7	-3.0
MMIG	**Aquila**	**1.80**	**286**	*e*P	Pn	22 19 37.6	-1.8
MMIG				*i*S	Sn	22 19 58.6	-2.5
ACX	**Acapulco**	**1.84**	**120**	*i*P	Pb	22 19 47.6	+3.9
ACX				*i*S	Sb	22 20 08.4	+2.0
MOIG	**Morelia**	**1.91**	**10**	*i*P	Pn	22 19 39.0	-2.2
MOIG				*i*S	Sn	22 20 01.8	-2.6
PLIG	**Platanillo**	**2.02**	**72**	*e*P	Pn	22 19 41.6	-0.9
PLIG				*i*S	Sn	22 20 04.2	-2.7
YAIG	**Yautepec**	**2.57**	**65**	*i*P	Pn	22 19 48.4	-1.9
YAIG				*i*S	Sn	22 20 18.2	-2.4
TLIG	**Tlapa**	**2.83**	**94**	*i*P	Pn	22 19 52.1	-1.7
TLIG				*i*S	Sn	22 20 25.1	-1.9
PPM	**Popocatepetl**	**3.04**	**65**	*i*P	Pn	22 19 55.5	-1.6
PPM				*i*S	Sn	22 20 29.9	-2.9
PNIG	**Pinotepa**	**3.54**	**113**	*i*P	Pn	22 20 02.3	-1.1
PNIG				*i*S	Sn	22 20 42.3	-1.9
UTMO	**Huajuapan**	**3.55**	**89**	*i*P	Pn	22 20 02.8	-1.0
UTMO				*i*S	Sn	22 20 42.0	-2.9

*IDC **18** 22:42:05.7±2.8, 6°.41S×149°.37E, h32km±19km, mb4.2/16, mb1 4.4/19, mb1mx4.4/21, mbtmp4.2/19, ML4.4/2, MS3.8/4, Ms1 3.8/4, ms1mx3.4/35, Error ellipse: s-maj=20.3km s-min=12.1km az=95.0*

*ISCJB **18** 22:42:06.4±0.4, 6°.45S±0°.04×149°.24E±0°.06, h53km, mb4.3/22, MS3.8/3, Error ellipse: s-maj=9.6km s-min=5.2km az=24.9*

*NEIC **18** 22:42:07.6±1.7, 6°.43S×149°.31E, h52km±15km, mb4.5/10, Error ellipse: s-maj=16.5km s-min=10.1km az=88.0*

*AUST **18** 22:42:07.3±3.1, 6°.58S×149°.46E, h34km, Error ellipse: s-maj=1.6km s-min=1.0km az=319.0*

ISC 18 22:42:08.1±0.4, 6°.46S±0°.06×149°.22E±0°.08, h53km, n68, σ1=1°.56/87, mb4.3/22, MS3.8/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.57**	**215**	Pn	**Pn**	**22 43 01.9**	**+0.9**
PMG				Sn	**Sn**	**22 43 43.4**	**+1.5**
PMG	**Port Moresby**	**3.57**	**215**	Pn	**Pn**	**22 43 01.9**	**+0.9**
	92nm,0.3s,baz=24,slow=5.9,SNR=203						
PMG				Sn	**Sn**	**22 43 43.4**	**+1.5**
	65nm,0.3s,baz=287,slow=23,SNR=13						
PMG				LR	LR	22 44 42.1	
	comp=Z,1μm,20.2s,baz=9.3,slow=42						
RABL	**Rabaul**	**3.70**	**53**	P	**Pn**	**22 43 01.8**	**-1.0**
	baz=3.6,SNR=18						
COEN	**Coen**	**9.53**	**218**	*e*Pn	**Pn**	**22 44 22.0**	**-0.8**
COEN				*e*Sn	**Sn**	**22 46 06.7**	**-1.9**
COEN	**Coen**	**9.53**	**218**	P	**Pn**	**22 44 23.0**	**+0.2**
	baz=9.6,SNR=6.3						
MTSU	**Mount Surprise**	**12.55**	**202**	P	**Pn**	**22 45 04.7**	**+0.7**
	baz=13,SNR=9.9						
CTA	**Charters Tower**	**13.85**	**192**	Pn	**Pn**	**22 45 22.8**	**+1.0**
CTA	**Charters Tower**	**13.85**	**192**	Pn	**Pn**	**22 45 22.8**	**+1.0**
	baz=82,slow=18,SNR=2.4						
KDU	**Kakadu**	**17.63**	**248**	P	**P**	**22 46 10.3**	**-0.2**
	baz=18,SNR=8.5						
EIDS	**Eidsvold**	**18.89**	**175**	P	**P**	**22 46 24.5**	**+0.2**
	baz=19,SNR=6.1						
MTN	**Manton Dam**	**18.92**	**249**	P	Pn	22 46 33.2	+7.4
	baz=19,SNR=3.2						
WRAB	**Tennant Creek**	**19.70**	**226**	*e*P	**P**	**22 46 33.5**	**+0.3**
	44nm,0.8s						
WRAB				*e*S	**S**	**22 50 05.9**	**-6.7**
WRA	**Warramunga Arr**	**19.71**	**226**	P	**P**	**22 46 33.5**	**+0.1**
WRA				S	**S**	**22 50 08.4**	**-4.5**
WRA				PcP	**PcP**	**22 50 51.4**	**+0.7**
WRA				ScP	**ScP**	**22 54 25.4**	**+2.8**
WRA	**Warramunga Arr**	**19.71**	**226**	P	**P**	**22 46 33.5**	**+0.1**
	2.0nm,0.3s,baz=50,slow=11,SNR=28						
WRA				S	**S**	**22 50 08.4**	**-4.5**
	0.5nm,0.3s,baz=49,slow=23,SNR=4.0						
WRA				PcP	**PcP**	**22 50 51.4**	**+0.7**
	baz=39,slow=2.0,SNR=2.8						
WRA				ScP	**ScP**	**22 54 25.4**	**+2.8**
	baz=43,slow=2.4,SNR=5.7						
RMQ	**Roma**	**19.92**	**181**	P	**Pn**	**22 46 36.8**	**-0.8**
	baz=20,SNR=24						
QLP	**Quilpie**	**20.57**	**193**	P	Pn	22 46 43.7	-1.5
	baz=21,SNR=24						
KNRA	**Kununurra**	**22.05**	**244**	P	**P**	**22 46 58.8**	**+0.2**
	baz=22,SNR=6.0						
AS31	**Alice Springs**	**22.57**	**219**	*e*P	**P**	**22 47 04.3**	**+0.1**
AS31				*e*PcP	**PcP**	**22 50 56.9**	**+0.7**
ASAR	**Alice Springs**	**22.57**	**219**	P	**P**	**22 47 04.4**	**+0.2**
ASAR				PcP	**PcP**	**22 50 56.4**	**+0.2**
ASAR				S	**S**	**22 51 08.8**	**+0.6**
ASAR				ScP	**ScP**	**22 54 33.0**	**+3.4**
ASAR	**Alice Springs**	**22.57**	**219**	P	**P**	**22 47 04.4**	**+0.2**
	5.9nm,0.6s,baz=52,slow=9.4,SNR=87						
ASAR				PcP	**PcP**	**22 50 56.4**	**+0.2**
	1.1nm,0.8s,baz=45,slow=1.6,SNR=4.1						
ASAR				S	**S**	**22 51 08.8**	**+0.6**
	10.0nm,1.3s,baz=36,slow=24,SNR=9.4						
ASAR				ScP	**ScP**	**22 54 33.0**	**+3.4**
	0.8nm,0.8s,baz=57,

6.3nm,0.9s
MCK McKinley 83.77 23 *e*P **P 22 54 29.2 -2.2**
5.4nm,0.9s
ILAR Eielson Array 85.04 23 P **P 22 54 35.5 -2.3**
ILAR Eielson Array 85.04 23 P **P 22 54 35.5 -2.3**
2.0nm,0.8s,baz=252,slow=5.3,SNR=16
NVAR Mina Array Bea 95.91 52 P **P 22 55 30.0 +0.2**
NVAR Mina Array Bea 95.91 52 P **P 22 55 30.0 +0.2**
0.6nm,0.6s,baz=258,slow=4.5,SNR=3.1
TXAR Lajitas Array 108.05 61 PKiKP **PKiKP 23 00 29.0 -1.9**
TXAR Lajitas Array 108.05 61 PKiKP **PKiKP 23 00 29.0 -1.9**
0.2nm,0.8s,baz=204,slow=1.8,SNR=3.8
GERES GERESS Array B 123.53 326 PKP **PKPdf 23 00 58.5 -1.4**
GERES GERESS Array B 123.53 326 PKP **PKPdf 23 00 58.5 -1.4**
0.9nm,0.8s,baz=48,slow=2.9,SNR=9.7
LPAZ La Paz 136.67 122 PKP **PKPdf 23 01 26.5 +0.2**
LPAZ La Paz 136.67 122 PKP **PKPdf 23 01 26.5 +0.2**
1.3nm,0.7s,baz=264,slow=7.3,SNR=4.1
TORD Torodi Ar. Bea 147.34 284 PKP **PKPdf 23 01 43.4 -1.1**
TORD PKPbc **PKPbc 23 01 46.6 -0.4**
TORD Torodi Ar. Bea 147.34 284 PKP **PKPdf 23 01 43.4 -1.1**
3.6nm,0.9s,baz=62,slow=2.6,SNR=21
TORD PKPbc **PKPbc 23 01 46.6 -0.4**
5.9nm,0.9s,baz=55,slow=2.6,SNR=25
BDFB Brasilia 152.18 142 PKP **PKPdf 23 01 53.2 +0.9**
BDFB PKPbc **PKiKP 23 01 59.0 -0.4**
BDFB Brasilia 152.18 142 PKP **PKPdf 23 01 53.2 +0.9**
1.5nm,0.7s,baz=135,slow=10,SNR=3.1
BDFB PKPbc **PKiKP 23 01 59.0 -0.4**
6.4nm,0.6s,baz=214,slow=2.0,SNR=13
DBIC Dimbokro 154.25 272 PKPbc **PKPbc 23 02 02.6 -0.8**
DBIC Dimbokro 154.25 272 PKPbc **PKPbc 23 02 02.6 -0.8**
2.1nm,0.7s,baz=82,slow=8.7,SNR=3.7

IDC ***18*** *23:00:11.4±0.4,15.°40S×171.°83W,h0km,mb4.5/18, mb1 4.7/18,mb1mx4.7/21,mbtmp4.5/18,MS4.2/15, Ms1 4.2/15,ms1mx3.9/34,Error ellipse: s-maj=19.3km s-min=11.7km az=124.0*

SZGRF ***18*** *23:00:12.1,17.°51S×172.°08W,h33km, Tonga Islands region*

ISCJB ***18*** *23:00:14.0±0.2,15.°30S±0.°05×172.°01W±0.°05,h23km, mb4.8/102,MS4.3/16,Error ellipse: s-maj=8.9km s-min=4.6km az=139.8*

NEIC ***18*** *23:00:13.4±1.8,15.°21S×171.°96W,h12km±3km,mb4.9/89, Error ellipse: s-maj=15.5km s-min=11.8km az=117.0*

AUST ***18*** *23:00:14.5±3.4,15.°75S×171.°42W,h25km,Error ellipse: s-maj=2.2km s-min=1.3km az=41.0*

GCMT ***18*** *23:00:17.0±0.3,15.°49S×171.°56W,h12km,MW4.9, Moment Tensor Solution. s22,c27; s67,c100; Moment tensor: Scale 10^16Nm; Mrr-2.60±.08; Mθθ1.53±.08; Mϕϕ1.07±.08; Mrθ0.48±.30; Mθϕ-1.08±.07; Mϕr-0.39±.33; Best double couple: M0 2.60000×10^16 NP1:ϕs309.00000°, δ52.00000°,λ-90.00000°. NP2:ϕs129.00000°,δ38.00000°, λ-90.00000°. Principal axes: T 2.4800, Plg7.0000°, Azm39.0000°; N 0.2000, Plg0.0000°, Azm129.0000°; P -2.6800, Plg83.0000°, Azm220.0000°; Data Used: II G IU CN IC.*

BJI ***18*** *23:00:23.0,15.°40S×172.°10W,h88km,mB5.2/5,mb5.0/19, Ms5.1/4,Ms7 4.7/5*

ISC 18 23:00:15.2±0.3,15.°25S±0.°06×171.°95W±0.°08,h23km, n492,σ1ı18/478,mb4.8/104,**MS4.2**/16,**105C-96D,Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
AFI	**Afiamalu**	**1.34**	**7**	*e*Pn	Pn	23 00 35.1	-3.4
AFI				*e*Sn	Sn	23 00 49.3	-6.4
AFI	**Afiamalu**	**1.34**	**7**	Pn	Pn	23 00 35.1	-3.4
	579nm,0.3s,baz=251,slow=18,SNR=349						
AFI				Sn	**Sn**	**23 00 51.9**	**-3.8**
	1μm,0.3s,baz=17,slow=20,SNR=27						
NIUE	**Niue**	**4.27**	**153**	P	Pn	23 01 08.6	-10
	baz=3.6,SNR=113						
MSVF	**Nonsavu**	**9.91**	**254**	*e*Pn	Pn	23 02 39.0	+2.7
KNTN	**Kanton**	**12.39**	**1**	*e*Pn	Pn	23 03 05.1	-5.2
RAR	**Rarotonga**	**13.00**	**119**	*e*Pn	Pn	23 03 09.1	-9.4
RAR	**Rarotonga**	**13.00**	**119**	Pn	Pn	23 03 09.1	-9.4
	baz=228,slow=0.0,SNR=4.3						
DZM	**Mont Dzumac**	**21.55**	**248**	*e*LR	LR	23 10 35.6	
	2μm,27.4s						
DZM	**Mont Dzumac**	**21.55**	**248**	P	**P**	**23 05 04.4**	**+1.2**
	15nm,0.9s,baz=79,slow=18,SNR=4.2						
PPT	**Papeete**	**21.58**	**99**	*e*P	**P**	**23 05 01.7**	**-1.8**
PPT	**Papeete**	**21.58**	**99**	P	**P**	**23 05 01.7**	**-1.8**
	34nm,0.9s,baz=351,slow=12,SNR=3.7						
PPT				LR	LR	23 10 33.6	
	comp=Z,333nm,20.9s,baz=341,slow=29						
PPT2	**Papeete2**	**21.58**	**99**	*e*LQ	LQ	23 08 54.9	
	1μm,27.2s						
PPT2				*e*LR	LR	23 09 40.0	
	594nm,27.8s						
TBI	**Tubuai**	**22.68**	**114**	*e*LQ	LQ	23 09 19.4	
	655nm,28.5s						
TBI				*e*LR	LR	23 10 11.8	
	552nm,31.2s						
OUZ	**Omahuta**	**23.75**	**210**	*e*P	**P**	**23 05 25.8**	**0.0**
	43nm,1.1s						
URZ	**Urewera**	**24.88**	**201**	*e*P	**P**	**23 05 36.5**	**+0.4**
	31nm,0.6s						
URZ				*e*S	**S**	**23 10 00.6**	**+2.6**
URZ	**Urewera**	**24.88**	**201**	P	**P**	**23 05 36.4**	**+0.2**
	17nm,0.4s,baz=359,slow=3.8,SNR=22						
URZ				S	**S**	**23 10 00.6**	**+2.6**
	4.6nm,0.7s,baz=308,slow=19,SNR=3.7						
BKZ	**Black Stump Fm**	**25.91**	**201**	*e*P	**P**	**23 05 45.6**	**0.0**
	224nm,2.2s						
BFZ	**Birch Farm**	**27.35**	**200**	*e*P	**P**	**23 05 58.0**	**-0.5**
	112nm,1.5s						
HNR	**Honiara**	**28.04**	**279**	LR	LR	23 15 53.8	
	comp=Z,161nm,19.1s,baz=320,slow=33						
KHZ	**Kahutara**	**29.82**	**202**	*e*P	**P**	**23 06 20.7**	**+0.3**
	140nm,1.6s						
DCZ	**Deep Cove**	**34.90**	**206**	*e*P	**P**	**23 07 05.4**	**+0.5**
	58nm,1.4s						
RKT	**Rikitea**	**35.71**	**108**	*e*LR	LR	23 16 10.0	
	190nm,32.0s						
H11S2	**WAKE ISLAND Hy**	**39.57**	**327**	T	T	23 49 53.1	
	baz=148,slow=0.7,SNR=29						
H11S3	**WAKE ISLAND Hy**	**39.59**	**327**	T	T	23 49 54.1	
	baz=148,slow=0.7,SNR=25						
H11S1	**WAKE ISLAND Hy**	**39.59**	**327**	T	T	23 50 11.2	
	baz=148,slow=0.7,SNR=23						
H11N3	**WAKE ISLAND Hy**	**40.49**	**328**	T	T	23 50 59.7	
	baz=148,slow=0.7,SNR=17						
H11N1	**WAKE ISLAND Hy**	**40.50**	**328**	T	T	23 51 00.2	
	baz=148,slow=0.7,SNR=6.7						
H11N2	**WAKE ISLAND Hy**	**40.51**	**328**	T	T	23 51 01.1	
	baz=148,slow=0.7,SNR=12						
CMSA	**Cobar Meteorol**	**41.84**	**240**	P	**P**	**23 08 01.6**	**-1.9**
	baz=42,SNR=8.6						
COEN	**Coen**	**43.39**	**266**	*e*P	**P**	**23 08 16.1**	**-0.3**
	908nm,2.2s						
STKA	**Stephens Creek**	**45.33**	**240**	*e*P	**P**	**23 08 30.3**	**-1.3**
	6.5nm,1.5s						
STKA	**Stephens Creek**	**45.33**	**240**	P	**P**	**23 08 30.4**	**-1.3**
	baz=46,SNR=9.1						
STKA	**Stephens Creek**	**45.33**	**240**	P	**P**	**23 08 30.3**	**-1.3**
	11nm,0.9s,baz=70,slow=9.2,SNR=13						
STKA				LR	LR	23 24 30.9	
	comp=Z,280nm,20.7s,baz=287,slow=32						
WRA	**Warramunga Arr**	**51.24**	**257**	*e*P	**P**	**23 09 16.0**	**-1.5**
WRA				*e*PcP	**PcP**	**23 10 32.5**	**-0.1**
WRA	**Warramunga Arr**	**51.24**	**257**	P	**P**	**23 09 16.0**	**-1.5**
	3.7nm,0.8s,baz=90,slow=6.6,SNR=12						
WRA				PcP	**PcP**	**23 10 32.5**	**-0.1**
	3.7nm,1.0s,baz=84,slow=3.8,SNR=4.9						
AS01	**Alice Springs**	**51.45**	**252**	*e*P	**P**	**23 09 17.1**	**-1.9**
AS01				*e*PcP	**PcP**	**23 10 32.4**	**-0.9**
AS12	**Alice Springs**	**51.49**	**252**	*e*P	**P**	**23 09 17.9**	**-1.4**
AS12				*e*PcP	**PcP**	**23 10 33.8**	**+0.2**
ASAR	**Alice Springs**	**51.49**	**252**	P	**P**	**23 09 17.9**	**-1.4**
	13nm,0.8s,baz=86,slow=8.0,SNR=96						
ASAR				PcP	**PcP**	**23 10 33.8**	**+0.2**
	4.0nm,0.9s,baz=93,slow=4.5,SNR=6.8						
ASAR				LR	LR	23 30 07.1	
	comp=Z,250nm,21.1s,baz=89,slow=35						
SBA	**Scott Base**	**63.52**	**185**	*e*P	**P**	**23 10 43.4**	**+0.2**
	6.0nm,0.8s						
VNDA	**Vanda**	**63.67**	**186**	*e*P	**P**	**23 10 43.7**	**-0.5**
	3.0nm,0.9s						
VNDA	**Vanda**	**63.67**	**186**	P	**P**	**23 10 43.2**	**-1.0**
	2.0nm,0.9s,baz=349,slow=5.6,SNR=14						
VNDA				LR	LR	23 32 03.8	
	comp=Z,74nm,19.5s,baz=345,slow=30						
NWAO	**Narrogin (SRO)**	**65.91**	**240**	LR	LR	23 39 09.6	
	comp=Z,156nm,21.0s,baz=269,slow=36						
VES	**Vestal, Richgr**	**71.27**	**43**	⇑P	**P**	**23 11 34.2**	**+1.4**
	baz=71						
MONP	**Monument Peak**	**71.43**	**47**	⇓P	**P**	**23 11 35.2**	**+1.1**
	baz=72						
EDW2	**Edwards Air Fo**	**71.45**	**45**	⇓P	**P**	**23 11 35.1**	**+1.1**
	baz=72						
DVTC	**Desert V Tower**	**71.53**	**47**	⇑P	**P**	**23 11 35.9**	**+1.3**
	baz=72						
ISA	**Isabella**	**71.57**	**44**	*e*P	**P**	**23 11 34.4**	**-0.3**
	36nm,1.9s						
ISA	**Isabella**	**71.57**	**44**	⇓P	**P**	**23 11 36.2**	**+1.4**
	baz=72						
CMB	**Columbia Colle**	**71.73**	**41**	*e*P	**P**	**23 11 35.0**	**-0.6**
	6.9nm,0.9s						
PFO	**Pinyon Flat Ob**	**71.80**	**46**	⇑P	**P**	**23 11 37.4**	**+1.1**
	baz=72						
LRMC	**Laurel Mountai**	**71.99**	**44**	⇓P	**P**	**23 11 39.0**	**+1.6**
	baz=72						
WDC	**Whiskeytown Da**	**72.00**	**37**	*e*P	**P**	**23 11 36.8**	**-0.3**
	20nm,1.5s						
CHGN	**Chignik**	**72.17**	**8**	*e*P	**P**	**23 11 37.6**	**-0.1**
CWC	**Cottonwood Cre**	**72.28**	**43**	⇑P	**P**	**23 11 40.6**	**+1.5**
	baz=72						
BELC	**Belle Mtn. Jos**	**72.33**	**46**	⇑P	**P**	**23 11 40.4**	**+0.9**
	baz=72						
MPMC	**Manual Prospec**	**72.45**	**44**	⇓P	**P**	**23 11 41.7**	**+1.5**
	baz=73						
GSC	**Goldstone**	**72.49**	**45**	⇑P	**P**	**23 11 41.4**	**+1.1**
	baz=73						
BC3	**Big Chuckawall**	**72.52**	**47**	⇑P	**P**	**23 11 41.8**	**+1.2**
	baz=73						
HEC	**Hector,Ludlow**	**72.55**	**45**	⇓P	**P**	**23 11 42.0**	**+1.4**
	baz=73						
WAKR	**Walker**	**72.61**	**41**	*e*P	**P**	**23 11 40.1**	**-1.0**
YBH	**Yreka Blue Hor**	**72.64**	**36**	*e*P	**P**	**23 11 40.8**	**-0.3**
	8.8nm,0.8s						
GLA	**Glamis**	**72.65**	**48**	⇑P	**P**	**23 11 42.6**	**+1.4**
	baz=73						
BEKR	**Beckworth**	**72.86**	**39**	*e*P	**P**	**23 11 42.0**	**-0.6**
	3.2nm,0.8s						
PETK	**Petropavlovsk-**	**72.92**	**341**	P	**P**	**23 11 44.0**	**+1.7**
	3.0nm,0.7s,baz=131,slow=6.8,SNR=5.7						
GMRC	**Granite Mounta**	**72.99**	**46**	⇓P	**P**	**23 11 44.5**	**+1.2**
	baz=73						
IRM	**Iron Mountain**	**73.01**	**47**	⇓P	**P**	**23 11 44.7**	**+1.4**
	baz=73						
HUMO	**Hull Mountain**	**73.06**	**36**	*e*P	**P**	**23 11 43.7**	**+0.2**
	20nm,1.5s						
FURC	**Furnace Creek,**	**73.10**	**44**	⇓P	**P**	**23 11 45.1**	**+1.4**
	baz=73						
TUQ	**Turquoise Moun**	**73.16**	**45**	⇓P	**P**	**23 11 45.7**	**+1.3**
	baz=73						
SHOC	**Shoshone**	**73.17**	**44**	⇑P	**P**	**23 11 45.8**	**+1.6**
	baz=73						
Y12C	**Blythe**	**73.23**	**47**	⇓P	**P**	**23 11 45.7**	**+1.1**
	baz=73						
113A	**Mohawk Valley,**	**73.26**	**48**	⇓P	**P**	**23 11 46.0**	**+1.2**
	baz=73						
NV01	**Mina Array Sit**	**73.28**	**41**	*e*P	**P**	**23 11 44.3**	**-0.8**
NVAR	**Mina Array Bea**	**73.28**	**41**	P	**P**	**23 11 45.9**	**+0.8**
	5.9nm,0.7s,baz=232,slow=8.7,SNR=22						
PAHR	**Pah Rah Range**	**73.36**	**40**	*e*P	**P**	**23 11 46.1**	**+0.7**
	9.3nm,1.0s						
214A	**Organ Pipe Nat**	**73.54**	**50**	⇑P	**P**	**23 11 47.6**	**+1.0**
	baz=74						
PDMCI	**Parker Dam,Lak**	**73.79**	**47**	⇓P	**P**	**23 11 49.0**	**+1.1**
	baz=74						
OHAK	**Old Harbor**	**73.85**	**10**	*e*P	**P**	**23 11 48.3**	**+0.6**
	17nm,1.1s						
MOD	**Modoc**	**74.14**	**37**	*e*P	**P**	**23 11 50.4**	**+0.4**
	46nm,0.8s						
Z14A	**Wintersburg**	**74.16**	**48**	⇓P	**P**	**23 11 52.1**	**+2.0**
	baz=74						
SHPR	**Sheep Range**	**74.26**	**44**	*e*P	**P**	**23 11 50.2**	**-0.6**
K05A	**Summer Lake**	**74.31**	**37**	*e*P	**P**	**23 11 51.3**	**+0.3**
	14nm,0.8s						
W13A	**Hualapai Mount**	**74.39**	**46**	⇑P	**P**	**23 11 52.9**	**+1.2**
	baz=74						
Y14A	**Wickenburg**	**74.41**	**48**	⇓P	**P**	**23 11 52.6**	**+1.0**
	baz=74						
KDAK	**Kodiak Island**	**74.50**	**11**	*e*P	**P**	**23 11 51.9**	**+0.4**
	43nm,1.4s						
QSPA	**South Pole Qui**	**74.80**	**180**	*e*P	**P**	**23 11 52.0**	**-1.5**
	6.9nm,0.9s						
H04A	**Detroit Lake**	**74.83**	**34**	*e*P	**P**	**23 11 53.7**	**-0.1**
	60nm,1.9s						
R11A	**Troy Canyon, C**	**74.99**	**43**	*e*P	**P**	**23 11 55.0**	**-0.1**
	4.7nm,1.0s						
R11A	**Troy Canyon, C**	**74.99**	**43**	⇓P	**P**	**23 11 56.5**	**+1.4**
	baz=75						
PINOR	**Pine Mountain**	**75.00**	**36**	*e*P	**P**	**23 11 55.7**	**+1.0**
	17nm,0.7s						
BMN	**Battle Mountai**	**75.13**	**40**	*e*P	**P**	**23 11 55.4**	**-0.4**
	7.2nm,0.8s						
TUC	**Tucson**	**75.21**	**50**	*e*P	**P**	**23 11 55.9**	**-0.5**
	34nm,2.4s						
WVOR	**Wild Horse Val**	**75.45**	**38**	*e*P	**P**	**23 11 57.6**	**+0.1**
	9.1nm,0.9s						
X16A	**Lo Mia Camp, P**	**75.77**	**48**	⇓P	**P**	**23 12 00.8**	**+1.2**
	baz=76						
319A	**Douglas**	**75.89**	**52**	⇑P	**P**	**23 12 01.5**	**+1.2**
	baz=76						
I07A	**Izee**	**75.94**	**36**	*e*P	**P**	**23 12 00.1**	**-0.2**
	150nm,2.8s						
CCUT	**Cedar City**	**76.04**	**44**	*e*P	**P**	**23 12 00.6**	**-0.5**
	41nm,2.5s						
J08A	**Circle Bar Ran**	**76.10**	**37**	*e*P	**P**	**23 12 01.1**	**-0.1**
	12nm,1.0s						
U15A	**North Rim**	**76.19**	**46**	⇓P	**P**	**23 12 03.6**	**+1.5**
	baz=76						
TPUB	**Ta-pu**	**76.23**	**299**	*e*P	**P**	**23 12 00.9**	**-1.4**
	340nm,2.7s						
WUAZ	**Wupatki**	**76.36**	**47**	⇓P	**P**	**23 12 04.5**	**+1.5**
	baz=76						
LON	**Longmire**	**76.37**	**33**	*e*P	**P**	**23 12 02.1**	**-0.5**
	52nm,2.3s						
320A	**Kipp Ranch, An**	**76.45**	**52**	⇓P	**P**	**23 12 05.1**	**+1.6**
	baz=77						
ELK	**Elko**	**76.55**	**41**	*e*P	**P**	**23 12 03.7**	**-0.3**
	6.7nm,1.1s						
ELK	**Elko**	**76.55**	**41**	LR	LR	23 38 46.2	
	comp=Z,238nm,18.7s,baz=360,slow=30						
D05A	**Enumclaw**	**76.56**	**32**	*e*P	**P**	**23 12 04.9**	**+1.4**
	41nm,1.3s						
220A	**Playas Peak, P**	**76.71**	**51**	⇓P	**P**	**23 12 06.4**	**+1.4**
	baz=77						
PGC	**Sidney**	**76.79**	**31**	*e*P	**P**	**23 12 05.2**	**+0.4**
G08A	**Pilot Rock**	**76.99**	**35**	*e*P	**P**	**23 12 06.3**	**+0.1**
	7.3nm,1.0s						
KSRS	**Korea Array**	**77.04**	**315**	P	**P**	**23 12 09.2**	**+2.8**
	3.8nm,1.0s,baz=129,slow=8.1,SNR=5.6						
KS15	**Wonju Array Si**	**77.06**	**315**	*e*P	**P**	**23 12 09.2**	**+2.6**
BBB	**Bella Bella**	**77.13**	**26**	LR	LR	23 41 47.4	
	comp=Z,95nm,18.3s,baz=102,slow=32						
Z20A	**Nine Sixteen R**	**77.22**	**50**	⇑P	**P**	**23 12 09.3**	**+1.5**
	baz=77						
MVU	**Marysvale**	**77.31**	**44**	*e*P	**P**	**23 12 08.5**	**+0.2**
	6.0nm,0.9s						
HAWA	**Hanford**	**77.36**	**34**	*e*P	**P**	**23 12 08.6**	**+0.5**
	33nm,1.8s						
121A	**Cookes Peak, D**	**77.56**	**51**	⇑P	**P**	**23 12 11.0**	**+1.3**
	baz=78						
BMO	**Blue Mountains**	**77.67**	**36**	*e*P	**P**	**23 12 09.6**	**-0.4**
	5.5nm,1.0s						
Y20A	**Horse Springs,**	**77.75**	**50**	⇓P	**P**	**23 12 12.5**	**+1.7**
	baz=78						
DUG	**Dugway**	**77.80**	**42**	*e*P	**P**	**23 12 10.3**	**-0.6**
	5.6nm,0.9s						
DUG	**Dugway**	**77.80**	**42**	⇑P	**P**	**23 12 12.2**	**+1.3**
	baz=78						
SPU	**Mount Spurr**	**77.81**	**10**	*e*P	**P**	**23 12 09.5**	**-0.8**
X20A	**Quemado**	**77.96**	**49**	⇑P	**P**	**23 12 13.8**	**+1.8**
	baz=78						
Z21A	**St. Cloud Mine**	**78.00**	**50**	⇑P	**P**	**23 12 14.1**	**+1.9**
	baz=78						
BGU	**Big Grassy Mou**	**78.05**	**42**	*e*P	**P**	**23 12 11.9**	**-0.4**
	5.3nm,1.1s						
D08A	**Wollman Farm,**	**78.10**	**34**	*e*P	**P**	**23 12 12.3**	**+0.1**
	9.3nm,0.9s						
USRK	**Ussuriysk Arra**	**78.11**	**322**	P	**P**	**23 12 14.2**	**+1.9**
	0.8nm,0.6s,baz=194,slow=5.1,SNR=4.3						
E09A	**Wood Farm, Sta**	**78.19**	**35**	*e*P	**P**	**23 12 12.1**	**-0.6**
	7.7nm,0.9s						
Q16A	**Castle Valley**	**78.22**	**44**	*e*P	**P**	**23 12 14.4**	**+1.1**
	35nm,1.9s						
Q16A	**Castle Valley**	**78.22**	**44**	⇓P	**P**	**23 12 15.1**	**+1.8**
	baz=78						
W20A	**Ramah**	**78.23**	**49**	⇓P	**P**	**23 12 15.4**	**+1.9**
	baz=78						
F10A	**Beach Ranch, E**	**78.37**	**36**	*e*P	**P**	**23 12 13.7**	**-0.2**
	11nm,1.0s						
TMUT	**Trail Mountain**	**78.39**	**44**	*e*P	**P**	**23 12 14.8**	**+0.4**
	14nm,1.0s						
X21A	**Alamocita Cree**	**78.43**	**49**	⇓P	**P**	**23 12 16.2**	**+1.6**
	baz=79						
Z22A	**Elephant Butte**	**78.50**	**51**	⇑P	**P**	**23 12 16.5**	**+1.6**
	baz=79						
KSM	**Kuching**	**78.57**	**275**	*e*P	**P**	**23 12 14.3**	**-1.3**
	24nm,1.1s						
KSM	**Kuching**	**78.57**	**275**	P	**P**	**23 12 17.6**	**+2.1**
	baz=79,SNR=3.5						
HLID	**Hailey**	**78.63**	**39**	*e*P	**P**	**23 12 15.8**	**+0.3**
	10.0nm,0.9s						
HLID	**Hailey**	**78.63**	**39**	⇑P	**P**	**23 12 17.1**	**+1.7**
	baz=79						
HVU	**Hansel Valley**	**78.67**	**41**	*e*P	**P**	**23 12 15.6**	**-0.1**
	6.6nm,0.9s						
B08A	**Colville Reser**	**78.69**	**33**	*e*P	**P**	**23 12 14.7**	**-0.8**
	7.4nm,0.8s						
PMR	**Palmer**	**78.70**	**11**	*e*P	**P**	**23 12 15.4**	**+0.3**
	14nm,1.0s						
SRU	**San Rafael**	**78.75**	**44**	*e*P	**P**	**23 12 15.2**	**-1.0**
	8.0nm,1.1s						
Y22A	**Socorro**	**78.80**	**50**	⇑P	**P**	**23 12 18.0**	**+1.4**
	baz=79						
324A	**Moseley Ranch,**	**78.83**	**53**	⇓P	**P**	**23 12 17.8**	**+1.0**
	baz=79						
JLU	**Jordanelle**	**78.90**	**42**	*e*P	**P**	**23 12 16.7**	**-0.4**
	7.2nm,0.9s						
C09A	**Chrisman Ranch**	**78.90**	**34**	*e*P	**P**	**23 12 16.4**	**-0.3**
	7.8nm,0.8s						
425A	**Indio Mountain**	**78.93**	**54**	⇑P	**P**	**23 12 18.9**	**+1.5**
	baz=79						
DIV	**Divide**	**78.93**	**13**	*e*P	**P**	**23 12 15.8**	**-0.8**
	20nm,0.8s						
MNTX	**Cornudas Mount**	**79.01**	**53**	*e*P	**P**	**23 12 17.0**	**-0.6**
	76nm,3.0s						
BMRM	**Bremner River**	**79.04**	**13**	*e*P	**P**	**23 12 17.1**	**0.0**
	21nm,1.0s						
224A	**Cornudas Mount**	**79.07**	**52**	⇑P	**P**	**23 12 19.6**	**+1.5**
	baz=79						
626A	**Big Bend Ranch**	**79.08**	**55**	⇓P	**P**	**23 12 19.4**	**+1.2**
	baz=79						
BNM	**Barren Site**	**79.15**	**50**	*e*P	**P**	**23 12 17.4**	**-1.2**
325A	**Bean Ranch, Si**	**79.19**	**53**	⇑P	**P**	**23 12 19.7**	**+0.9**
	baz=79						
PV05	**Paradox Valley**	**79.22**	**46**	*e*P	**P**	**23 12 18.6**	**-0.2**
526A	**Mary Lane Ranc**	**79.33**	**55**	⇓P	**P**	**23 12 20.2**	**+0.7**
	baz=79,SNR=6.3						
LTX	**Lajitas**	**79.37**	**56**	*e*P	**P**	**23 12 19.9**	**+0.2**
LTX	**Lajitas Array**	**79.37**	**56**	P	**P**	**23 12 19.9**	**+0.2**
	1.6nm,0.9s,baz=218,slow=5.7,SNR=15						
TXAR				LR	LR	23 40 10.2	
	comp=Z,187nm,20.0s,baz=0.0,slow=30						
124A	**Stringfield Ra**	**79.39**	**52**	⇑P	**P**	**23 12 21.2**	**+1.3**
	baz=80						
PV09	**Paradox Valley**	**79.39**	**45**	*e*P	**P**	**23 12 18.9**	**-1.0**
PV10	**Paradox Valley**	**79.40**	**45**	*e*P	**P**	**23 12 19.5**	**-0.4**
U21A	**Nageezi**	**79.44**	**48**	⇑P	**P**	**23 12 21.7**	**+1.5**
	baz=80						
Y23A	**Lovelace Mesa,**	**79.48**	**51**	⇑P	**P**	**23 12 21.5**	**+1.1**
	baz=80						
225A	**Deer Hill, Car**	**79.62**	**53**	⇑P	**P**	**23 12 22.5**	**+1.3**
	baz=80						
426A	**McDonald Obser**	**79.63**	**54**	⇓P	**P**	**23 12 22.6**	**+1.3**
	baz=80						
ANMO	**Albuquerque**	**79.63**	**49**	*e*P	**P**	**23 12 20.9**	**-0.3**
	3.3nm,0.9s						
627A	**Terlingua Ranc**	**79.64**	**56**	⇑P	**P**	**23 12 22.3**	**+1.1**
	baz=80,SNR=5.7						
527A	**Woodward Ranch**	**79.74**	**55**	⇑P	**P**	**23 12 22.7**	**+0.9**
	baz=80						
V22A	**San Miguel Ran**	**79.74**	**48**	⇑P	**P**	**23 12 23.0**	**+1.2**
	baz=80						
R20A	**Redvale**	**79.77**	**46**	⇓P	**P**	**23 12 23.0**	**+1.1**
	baz=80						
T21A	**Navajo Lake**	**79.79**	**47**	⇓P	**P**	**23 12 23.5**	**+1.5**
	baz=80						
NEW	**Newport**	**79.80**	**34**	*e*P	**P**	**23 12 21.8**	**+0.2**
	11nm,1.5s						
CAST	**Castle Rocks**	**79.92**	**9**	*e*P	**P**	**23 12 20.6**	**-1.3**
	3.8nm,0.9s						
S21A	**Coal Bank Pass**	**79.92**	**47**	⇑P	**P**	**23 12 24.1**	**+1.3**
	baz=80						
326A	**Caldwell Ranch**	**79.94**	**54**	⇓P	**P**	**23 12 23.9**	**+1.1**
	baz=80						
Y24A	**Capitan**	**79.94**	**51**	⇑P	**P**	**23 12 24.2**	**+1.4**
	baz=80						
W23A	**Werner Place,**	**79.95**	**49**	⇓P	**P**	**23 12 24.2**	**+1.3**
	baz=80						
125A	**Gardner Draw,**	**79.98**	**52**	⇑P	**P**	**23 12 24.3**	**+1.3**
	baz=80						
628A	**Black Gap, Mar**	**80.05**	**56**	⇑P	**P**	**23 12 24.6**	**+1.2**
	baz=80,SNR=5.2						
P19A	**Cripple Cowboy**	**80.05**	**44**	⇓P	**P**	**23 12 24.7**	**+1.4**
	baz=80						
226B	**Tecolote Peak,**	**80.11**	**53**	⇑P	**P**

Q22A	Crested Butte, baz=81	81.10	46	⇑P		P	23 12 30.3	+1.2	
N20A	Spence Gulch, baz=81	81.11	44	⇓P		P	23 12 30.4	+1.3	
QLMT	Earthquake Lak	81.12	39	*e*P		P	23 12 29.6	+0.6	
CHMT	Chamberlain Mo	81.17	36	*e*P		P	23 12 28.4	-0.7	
FLWY	Flagg Ranch 19nm,0.3s	81.17	40	*e*P		P	23 12 29.7	+0.4	
NJ2	Nanjing	81.19	307	*e*P		P	23 12 30.8	+1.5	
NJ2	comp=Z,10.0nm,0.8s				AMB	AMB			
SMCO	Snowmass 88nm,3.0s	81.20	45	*e*P		P	23 12 30.6	+0.8	
PD31	Pinedale Array	81.22	41	*e*P		P	23 12 29.8	+0.2	
PDAR	Pinedale Array 2.8nm,0.8s,baz=211,slow=3.2,SNR=22	81.22	41	P		P	23 12 29.7	+0.2	
PDAR	comp=Z,213nm,18.4s,baz=259,slow=31				LR	LR	23 41 45.7		
429A	Davenport Ranc baz=81,SNR=12	81.29	55	⇓P		P	23 12 30.6	+0.5	
YMR	Madison River 40nm,1.8s	81.31	39	*e*P		P	23 12 30.8	+0.8	
Z27A	Tatum baz=82	81.36	52	⇓P		P	23 12 31.6	+1.3	
T24B	San Luis baz=82	81.36	48	⇓P		P	23 12 31.9	+1.3	
V25A	Rancho No Teng baz=82	81.38	49	⇓P		P	23 12 31.4	+0.9	
X26A	CR and CF Fran baz=82	81.42	51	⇑P		P	23 12 31.4	+0.7	
P22A	Eagle baz=82	81.54	45	⇓P		P	23 12 32.5	+1.1	
530A	J-C Ranch, Com baz=82	81.55	56	⇑P		P	23 12 32.2	+0.8	
DOT	Dot Lake 16nm,1.1s	81.55	12	*e*P		P	23 12 30.6	0.0	
329A	Wagon Wheel Ra baz=82,SNR=5.5	81.57	54	⇓P		P	23 12 31.9	+0.4	
128A	Castleberry Fa baz=82	81.63	53	⇑P		P	23 12 32.7	+0.9	
Y27A	Causey baz=82	81.63	52	⇑P		P	23 12 32.6	+0.8	
S24A	Houchin Ranch, baz=82	81.74	47	⇑P		P	23 12 34.2	+1.7	
631A	Perdido Creek baz=82,SNR=9.0	81.87	57	⇓P		P	23 12 33.3	+0.2	
CN2	Changchun	81.87	320	*e*P		P	23 12 34.5	+1.8	
CN2				*es*P		sP	23 13 10.6	+28	
CN2				*e*S		S	23 22 39.5	-5.5	
CN2	comp=Z,20nm,0.9s				AMB	AMB			
CN2	comp=Z,200nm,3.0s				AMB	AMB			
O22A	Kremmling baz=82,SNR=6.1	81.95	45	⇓P		P	23 12 34.7	+1.1	
COLA	College 25nm,0.9s	81.96	10	*e*P		P	23 12 32.6	0.0	
MSTX	Muleshoe	81.96	52	*e*P		P	23 12 33.4	-0.2	
MSTX	Muleshoe baz=82,SNR=5.3	81.96	52	⇑P		P	23 12 34.3	+0.8	
IL1	Eielson Array	82.03	11	*e*P		P	23 12 32.6	-0.4	
ILAR	Eielson Array 3.9nm,0.8s,baz=215,slow=5.7,SNR=39	82.03	11	P		P	23 12 33.1	+0.1	
ILAR	comp=Z,109nm,19.4s,baz=231,slow=32				LR	LR	23 43 21.5		
ILB	Eielson Array	82.03	11	*e*P		P	23 12 33.1	+0.1	
129A	Stewart Farms, baz=82	82.11	53	⇑P		P	23 12 35.1	+0.8	
H18A	Shoshone NF, C baz=82	82.11	40	⇑P		P	23 12 35.5	+1.3	
531A	Rocksprings baz=82,SNR=11	82.19	56	⇓P		P	23 12 35.2	+0.5	
U26A	Atchley Ranch, baz=82	82.25	49	⇓P		P	23 12 36.7	+1.6	
N22A	Wattenberg Ran baz=82	82.31	44	⇓P		P	23 12 36.7	+1.3	
Q24A	Divide baz=82	82.37	46	⇓P		P	23 12 37.2	+1.4	
J20A	Shoshoni baz=83	82.45	41	⇑P		P	23 12 37.0	+1.1	
M22A	Cedar Creek Ra baz=83	82.49	44	⇑P		P	23 12 37.3	+1.0	
H19A	Powell baz=83,SNR=5.9	82.53	40	⇑P		P	23 12 37.8	+1.5	
632A	Uvalde baz=83,SNR=6.0	82.55	57	⇓P		P	23 12 37.3	+0.7	
R25A	Fountain Ranch baz=83	82.62	47	⇑P		P	23 12 37.7	+0.8	
532A	Rocksprings baz=83,SNR=5.4	82.69	56	⇓P		P	23 12 38.1	+0.8	
N23A	Red Feather La baz=83	82.69	44	⇑P		P	23 12 38.8	+1.4	
I20A	Worland baz=83,SNR=5.4	82.71	41	⇑P		P	23 12 38.1	+0.9	
J21A	Lysite baz=83,SNR=12	82.85	42	⇓P		P	23 12 39.3	+1.2	
L22A	Ellis Ranch, M baz=83	82.89	43	⇑P		P	23 12 39.8	+1.4	
DAWY	Dawson	82.93	14	*e*P		P	23 12 38.0	+0.2	
Z30A	Sanderson Ranc baz=83,SNR=5.8	82.94	53	⇓P		P	23 12 38.8	+0.2	
H20A	Greybull baz=83	83.05	40	⇑P		P	23 12 40.5	+1.5	
K22A	Casper baz=83	83.12	43	⇑P		P	23 12 40.8	+1.3	
F19A	Roth Farm, Mol baz=83	83.15	39	⇓P		P	23 12 40.6	+1.1	
EGAK	Eagle 5.5nm,0.9s	83.16	13	*e*P		P	23 12 39.2	+0.3	
I21A	Big Trails, Te baz=83,SNR=6.4	83.17	41	⇑P		P	23 12 40.1	+0.4	
G20A	Bridger baz=83	83.28	40	⇑P		P	23 12 41.5	+1.3	
R26A	Arlington baz=83	83.28	47	⇑P		P	23 12 41.3	+0.9	
332A	Millersview baz=83,SNR=10	83.29	55	⇑P		P	23 12 40.9	+0.5	
P25A	Willow Gulch B baz=83	83.29	46	⇑P		P	23 12 41.6	+1.1	
N24A	Carr baz=84	83.38	45	⇓P		P	23 12 42.4	+1.5	
L23A	Garrett baz=84,SNR=6.9	83.41	43	⇑P		P	23 12 42.0	+0.9	
J22A	Midwest baz=84,SNR=6.4	83.51	42	⇓P		P	23 12 42.3	+0.9	
E19A	Rath Farm, Rou baz=84,SNR=5.2	83.55	38	⇑P		P	23 12 43.0	+1.5	
232A	Coleman baz=84,SNR=5.8	83.55	55	⇑P		P	23 12 42.1	+0.3	
O25A	Wiggins baz=84	83.59	46	⇑P		P	23 12 42.9	+1.0	
M24A	Cheyenne baz=84	83.71	44	⇓P		P	23 12 43.8	+1.3	
Z31A	Sharp Cattle R baz=84	83.71	53	⇓P		P	23 12 43.1	+0.5	
H21A	Big Horn, Sher baz=84	83.72	41	⇑P		P	23 12 43.6	+1.2	
I22A	9 Mile Ranch, baz=84	83.73	41	⇓P		P	23 12 43.7	+1.2	
R27A	Eads baz=84	83.73	48	⇑P		P	23 12 43.1	+0.4	
K23A	Bowen Ranch, D baz=84	83.76	43	⇓P		P	23 12 43.8	+1.0	
EGMT	Eagleton baz=84	83.77	37	⇑P		P	23 12 43.8	+1.3	
COLD	Coldfoot 9.1nm,1.1s	83.78	8	*e*P		P	23 12 42.0	0.0	
ABTX	Abilene, Hawle 19nm,0.9s	83.84	54	*e*P		P	23 12 42.2	-1.0	
ABTX	Abilene, Hawle baz=84,SNR=6.6	83.84	54	⇓P		P	23 12 43.8	+0.6	
D19A	Cripps Ranch, baz=84,SNR=5.0	83.84	38	⇓P		P	23 12 44.4	+1.4	
Y31A	Rekieta Farm, baz=84	83.87	53	⇑P		P	23 12 44.0	+0.6	
E20A	Meyer Farm, Mu baz=84,SNR=5.8	83.96	39	⇓P		P	23 12 44.8	+1.2	
C19A	Slack Wire Ran baz=84,SNR=11	84.03	37	⇑P		P	23 12 45.3	+1.4	
H22A	Clearmont baz=84	84.14	41	⇓P		P	23 12 45.7	+1.1	
O26A	Horse Wrangler baz=84	84.20	46	⇓P		P	23 12 46.3	+1.3	
D20A	Manuel Ranch, baz=84,SNR=7.2	84.25	38	⇑P		P	23 12 46.1	+1.2	
V30A	Spur Ranch, Mi baz=84	84.25	51	⇓P		P	23 12 46.3	+1.0	
K24A	Anderson Ranch baz=84	84.27	43	⇑P		P	23 12 46.2	+0.9	
X31A	McDonald Ranch baz=84	84.34	52	⇑P		P	23 12 46.9	+1.2	
B19A	Brinkman Farms baz=85	84.45	37	⇑P		P	23 12 47.3	+1.3	
R28A	Tribune baz=85,SNR=6.5	84.47	48	⇑P		P	23 12 47.2	+0.8	
G22A	Birney baz=85	84.47	40	⇑P		P	23 12 47.2	+1.0	
W31A	Holland Ranch, baz=85	84.58	51	⇓P		P	23 12 47.9	+0.9	
E21A	Keefer Ranch, baz=85	84.61	39	⇓P		P	23 12 48.5	+1.7	
EDM	Edmonton	84.63	31	*e*P		P	23 12 46.4	-0.4	
C20A	Veseth Ranch, baz=85	84.63	38	⇓P		P	23 12 48.5	+1.6	
J24A	Dixon Ranch, L baz=85	84.65	43	⇑P		P	23 12 48.3	+1.1	
S29A	Ulysses baz=85	84.67	49	⇓P		P	23 12 48.1	+0.7	
F22A	Rosebud baz=85	84.75	40	⇑P		P	23 12 49.0	+1.4	
M26A	McRoberts Ranc baz=85	84.84	45	⇓P		P	23 12 49.2	+1.0	
I24A	Kuemmerle Ranc baz=85	84.91	42	⇑P		P	23 12 49.8	+1.3	
D21A	La Casta Ranch baz=85	84.92	38	⇓P		P	23 12 49.5	+1.2	
B20A	Solberg Farm, baz=85	84.98	37	⇓P		P	23 12 49.9	+1.3	
G23A	Biddle baz=85	85.03	41	⇓P		P	23 12 49.8	+0.8	
F23A	Volborg baz=85	85.26	40	⇓P		P	23 12 51.3	+1.2	
H24A	Dirks Ranch, A baz=86,SNR=6.9	85.35	41	⇑P		P	23 12 51.2	+0.5	
RSSD	Black Hills 43nm,1.1s	85.41	42	*e*P		P	23 12 50.3	-0.8	
R30A	Dighton baz=86	85.55	49	⇓P		P	23 12 52.5	+0.8	
I25A	Rochford baz=86	85.56	42	⇓P		P	23 12 52.5	+0.6	
D23A	Lindsay baz=86	86.04	39	⇑P		P	23 12 56.3	+2.3	
F25A	Bowman baz=87	86.56	41	⇓P		P	23 12 58.5	+1.9	
MAW	Mawson 2.4nm,0.9s	88.38	198	*e*P		P	23 13 03.8	-1.1	
MAW	Mawson baz=88,SNR=10.0	88.38	198	P		P	23 13 04.5	-0.4	
MAW	Mawson 8.6nm,0.8s,baz=121,slow=5.7,SNR=24	88.38	198	P		P	23 13 04.2	-0.7	
MAW	comp=Z,130nm,18.2s,baz=324,slow=36				LR	LR	23 52 49.8		
GYA	Guiyang	89.21	298	*e*P		P	23 13 10.0	+0.2	
GYA				pP		pP	23 13 33.5	+16	
GYA				sP		sP	23 13 42.6	+23	
GYA				PP		PP	23 16 44.0	+3.4	
GYA				SKS		SKSac	23 23 28.9	-10	
GYA				S		SKKSac	23 23 49.4	-1.4	
GYA	comp=Z,10.0nm,1.0s			AMB		AMB			
YKA	Yellowknife Ar 2.7nm,0.8s,baz=240,slow=4.7,SNR=7.3	89.40	23	P		P	23 13 10.1	+0.4	
YKB5	Yellowknife Ar	89.40	23	*e*P		P	23 13 10.1	+0.4	
JTS	JuntasAbangare 46nm,0.8s	89.80	79	*e*P		P	23 13 13.0	+0.4	
PSI	Prapat baz=90,SNR=3.9	89.89	273	P		P	23 13 14.6	+1.3	
HHC	Hu-ho-hao-te	89.95	312	*e*P		P	23 13 11.3	-1.6	
HHC				pP		pP	23 13 37.0	+17	
HHC				sP		sP	23 13 47.8	+25	
HHC				PP		PP	23 16 48.1	+1.9	
HHC				SKS		SKSac	23 23 31.8	-11	
HHC				S		SKKSac	23 23 54.3	-1.5	
HHC				sS		sS	23 24 40.0	+23	
HHC				SS		SS	23 29 59.8	-3.3	
HHC	comp=Z,38nm,1.1s			AMB		AMB			
HHC	comp=N,330nm,16.3s				LR	LR			
HHC	comp=E,380nm,17.5s				LR	LR			
HHC	comp=Z,210nm,16.6s				LR	LR			
KMI	Kunming	92.22	295	P		P	23 13 25.8	+1.8	
KMI	comp=Z,4.0nm,1.2s			AMB		AMB			
CD2	Chengdu	92.93	301	P		P	23 13 27.6	+0.7	
ULM	Lac du Bonnet comp=Z,304nm,21.6s,baz=31,slow=31	92.94	39	LR		LR	23 47 42.8		
SNAA	Sanae	92.98	177	*e*P		P	23 13 25.1	-1.3	
SNAA	Sanae 5.0nm,1.1s	92.98	177	*e*P		P	23 13 24.5	-1.9	
SYO	Syowa Base	93.02	191	⇓*e*P		P	23 13 22.6	-3.9	
VNA2	Neumayer--Watz baz=175,slow=3.2	93.39	175	*e*P		P	23 13 27.6	-0.6	
VNA1	Neumayer--Stat	93.58	175	*e*P		P	23 13 28.4	-0.6	
CM31	Chiang Mai Arr	93.90	288	*e*P		P	23 13 34.0	+2.5	
CMAR	Chiang Mai Arr 0.0nm,0.3s,baz=100,slow=3.0,SNR=6.6	93.90	288	P		P	23 13 34.0	+2.5	
SONA0	Songino Array	95.67	318	*e*P		P	23 13 40.7	+1.6	
SONM	Songino Array 0.4nm,0.6s,baz=100,slow=3.5,SNR=4.3	95.67	318	P		P	23 13 40.7	+1.6	
TKL	Tuckaleechee C comp=Z,154nm,18.3s,baz=326,slow=31	97.27	55	LR		LR	23 51 06.1		
ZALV	Zalesovo Beam 1.1nm,0.8s,baz=90,slow=2.9,SNR=3.3	109.96	322	PKiKP		PKiKP	23 18 43.5	-1.0	
MK32	Makanchi Array	111.72	315	*e*PKiKP		PKiKP	23 18 47.4	-0.8	
MKAR	Makanchi Array 0.6nm,0.6s,baz=72,slow=0.9,SNR=6.1	111.72	315	PKiKP		PKiKP	23 18 47.4	-0.8	
KBL	Kabul	122.27	301	*e*PKPdf		PKPdf	23 19 07.0	-2.0	
ARA0	ARCESS Array S	124.64	353	*e*PKPdf		PKPdf	23 19 12.2	0.0	
ARCES	ARCESS Array B 3.1nm,0.8s,baz=20,slow=3.0,SNR=8.5	124.64	353	PKP		PKPdf	23 19 12.2	0.0	
FIA0	FINESS Array S	132.08	348	*e*PKPdf		PKPdf	23 19 26.5	-0.1	
FINES	FINESS Array B 6.0nm,1.0s,baz=46,slow=4.0,SNR=4.7	132.08	348	PKP		PKPdf	23 19 26.5	-0.1	
NB2	NORSAR Subarra comp=Z,6.3nm,1.2s,baz=14,slow=1.8	134.21	358	PKPdf		PKPdf	23 19 28.5	-2.2	
NB200	NORSAR Array S	134.21	358	*e*PKPdf		PKPdf	23 19 29.6	-1.1	
NOA	NORSAR Array B comp=Z,0.5nm,0.6s,baz=9.7,slow=3.2,SNR=4.5	134.21	358	PKP		PKPdf	23 19 29.5	-1.1	
HFS	Hagfors comp=Z,4.6nm,0.9s,baz=22,slow=0.8,SNR=3.9	134.99	356	PKP		PKPdf	23 19 31.8	-0.3	
AKASG	Malin Array Be comp=Z,0.5nm,0.5s,baz=41,slow=3.1,SNR=2.8	140.72	339	PKhKP		PKPpre	23 19 37.5		
AKASG	comp=Z,1.9nm,0.8s,baz=45,slow=2.6,SNR=5.9			PKP		PKPdf	23 19 42.2	-0.7	
AKBB	Malin Array Si	140.72	339	*e*PKPpre		PKPpre	23 19 37.5		
AKBB				*e*PKPdf		PKPdf	23 19 42.2	-0.7	
BSEG	Bad Segeberg	141.35	358	*e*PKPbc		PKPdf	23 19 40.6	-3.3	
KWP	Kalwaria Pacla	143.68	344	⇑P		PKPbc	23 19 46.7	+1.0	
LSZ	Lusaka	143.73	214	*e*PKPpre		PKPpre	23 19 46.4		
CLL	Collm	143.81	355	*i* PKPdf		PKPbc	23 19 46.8	+0.8	
RAYN	Ar Rayn	143.81	289	*e*PKPdf		PKPbc	23 19 47.9	+0.9	
BRG	Berggiesshubel comp=Z,4.5nm,1.0s	144.15	354	*e*P		PKPdf	23 19 53.5	+4.5	
UPC	Upice	144.24	351	*i* PKP		PKPdf	23 19 48.5	-0.7	
STHS	Stebnicka Huta	144.26	345	*e*PKP		PKPdf	23 19 48.9	-0.4	
RSDY	Resadiye-TOKAT	144.26	320	*e*P		PKPdf	23 19 49.2	-0.4	
DPC	Dobruska-Polom	144.35	351	*i* PKP		PKPdf	23 19 49.1	-0.4	
DPC				*ep*PKP		pPKPdf	23 19 57.4	+0.1	
DPC	Dobruska-Polom	144.35	351	*e*PKPdf		PKPbc	23 19 48.3	+0.5	
MZRK	Al-Mazaregh	144.40	311	*e*P		PKPdf	23 19 50.8	+0.9	
PVCC	Panska Ves	144.41	353	*i* PKP		PKPbc	23 19 48.5	+0.6	
KOLS	Kolonicke sedl	144.44	344	*e*PKP		PKPdf	23 19 49.3	-0.3	
NIE	Niedzica	144.48	346	*e*PX		PKPdf	23 19 49.6	-0.1	
BEBN	Eben Emael	144.49	3	PKP		PKPdf	23 19 49.0	-0.6	
TSUM	Tsumeb	144.51	196	*e*PKPdf		PKPab	23 19 48.8	-0.3	
SFNV	Sufian	144.52	312	*e*P		PKPdf	23 19 50.1	-0.1	
OKC	Ostrava-Krasne	144.53	349	*i* PKP		PKPdf	23 19 49.3	-0.4	
OKC				*ep*PKP		pPKPdf	23 19 57.4	-0.1	
KRLC	Kraliky	144.54	350	*i* PKP		PKPdf	23 19 49.2	-0.6	
LEOM	Leova	144.58	336	⇑*i*P		PKPdf	23 19 49.5	-0.4	
MEM	Membach	144.69	2	PKP		PKPdf	23 19 49.7	-0.2	
PLN	Plauen	144.69	355	*e*PKPbc		PKPdf	23 19 49.8	-0.2	
SNF	Seneffe	144.70	4	PKP		PKPab	23 19 48.5	-0.2	
MALT	Malatya	144.73	316	*e*P		PKPdf	23 19 51.3	+0.7	
MALT	Malatya	144.73	316	⇓*i*P		PKPdf	23 19 52.0	+1.4	
TANN	Tannenbergstha	144.74	355	*e*PKPbc		PKPdf	23 19 50.0	-0.2	
SVSK	Karacayir	144.75	320	*e*P		PKPab	23 19 49.1	-0.2	
GUNZ	Gunzen	144.80	355	*e*PKPbc		PKPdf	23 19 50.2	-0.1	
BCLA	Clavier	144.85	3	PKP		PKPdf	23 19 50.2	0.0	
WERN	Wernitzgruen	144.87	355	*e*PKPbc		PKPdf	23 19 50.8	+0.4	
URFA	Urfa	144.92	315	*e*P		PKPdf	23 19 51.0	+0.1	
PRU	Pruhonice	144.95	353	*i* PKP		PKPdf	23 19 50.5	0.0	
PRU				*ex*		x	23 19 58.8		
TRPA	Tarpa	145.09	343	⇑*i*P		PKPdf	23 19 51.3	+0.6	
TNS	Taunus Mts	145.11	360	*e*PKPbc		PKPdf	23 19 51.1	+0.3	
TESR	Tescani	145.17	337	⇑*i*P		PKPdf	23 19 51.4	+0.4	
MANZ	Manzenberg	145.19	355	*e*PKPbc		PKPdf	23 19 51.3	+0.4	
VRAC	Vranov	145.32	350	⇑*i*P		PKPdf	23 19 52.4	+1.3	
TLCR		145.39	334	⇓*i*P		PKPdf	23 19 52.2	+0.9	
ROTZ	Rotzenmuhle	145.41	355	*e*PKPbc		PKPdf	23 19 52.3	+1.0	
TREC	Trest	145.50	351	*i* PKP		PKPab	23 19 52.0	+0.3	
TREC				*ex*		x	23 20 00.5		
GRF	Grafenberg Arr	145.55	356	*e*PKPbc		PKPab	23 19 53.0	+1.1	
WLF	Walferdange	145.64	2	PKP		PKPab	23 19 53.0	+0.8	
WLF	Walferdange	145.64	2	*e*PKPbc		PKPab	23 19 53.4	+1.2	
WLF	Walferdange	145.64	2	*e*PKPdf		PKPab	23 19 52.7	+0.5	
VRI	Vrincioaia	145.68	337	⇑*i*P		PKPab	23 19 52.8	+0.3	
CFR	Carcaliu	145.68	334	⇓*i*P		PKPab	23 19 53.2	+0.7	
KHC	Kasperske Hory	145.91	354	*i* PKP		PKPbc	23 19 52.9	+0.1	
KHC				*ep*PKP		pPKPdf	23 19 59.5	-0.5	
SMOL	Smolenice	145.94	349	*e*PKP		PKPab	23 19 54.7	+1.3	
WET	Wettzell	145.96	354	*e*PKPbc		PKPab	23 19 54.0	+0.5	
PSZ	Piszkesteto	145.98	346	⇑*i*P		PKPab	23 19 54.1	+0.5	
PSZ	Piszkesteto	145.98	346	*e*PKPdf		PKPab	23 19 53.4	-0.2	
JHLN	Al Jahlan	146.06	312	*e*P		PKPab	23 19 54.6	+0.3	
DOPR	Dopca	146.09	338	⇑*i*P		PKPab	23 19 55.4	+1.4	
SLMH	Al Salmeh	146.16	314	*e*P		PKPab	23 19 55.0	+0.3	
HARR	Harsova	146.16	334	⇑*i*P		PKPdf	23 19 44.5	-8.2	
GEC2	GERESS Array S	146.17	353	*e*PKPbc		PKPab	23 19 54.3	0.0	
GEC2	GERESS Array S	146.17	353	*e*PKPdf		PKPbc	23 19 53.6	-0.1	
GERES	GERESS Array B comp=Z,4.6nm,1.0s,baz=25,slow=2.6,SNR=25	146.17	353	PKPbc		PKPab	23 19 54.4	0.0	
MLR	Muntele Rosu	146.29	337	⇓*i*P		PKPab	23 19 55.6	+0.6	
ISR	Istrita	146.37	336	⇑*i*P		PKPab	23 19 55.8	+0.6	
STU	Stuttgart	146.55	359	*e*PKPbc		PKPab	23 19 55.7	0.0	
VOIR		146.67	338	⇑*i*P		PKPab	23 19 57.0	+0.6	
CONA	Conrad Observa comp=Z,17nm,0.9s,SNR=6.5	146.78	350	⇓*i*pPKPdf		PKPab	23 19 56.7	0.0	
KMBO	Kilima Mbogo	146.86	243	*e*PKPdf		PKPbc	23 19 56.5	-0.4	
KMBO	Kilima Mbogo comp=Z,5.3nm,0.8s,baz=65,slow=6.8,SNR=17	146.86	243	PKPbc		PKPbc	23 19 57.4	+0.4	
ARR	Arges	146.88	338	⇑*i*P		PKPab	23 19 57.7	+0.5	
BR101	Keskin Array S	146.91	322	*e*PKPdf		PKPab	23 19 56.8	-0.8	
BRTR	Keskin Array B comp=Z,8.1nm,0.9s,baz=119,slow=1.8,SNR=46	146.91	322	PKPbc		PKPab	23 19 56.8	-0.8	
DEV	Deva	147.01	341	⇑*i*P		PKPbc	23 19 57.1	-0.4	
BFO	Black Forest	147.01	360	*e*PKPbc		PKPbc	23 19 56.7	+0.6	
BFO	Black Forest	147.01	360	*e*PKPdf		PKPbc	23 19 56.2	+0.2	
SIRR	Siria	147.04	343	⇑*i*P		PKPbc	23 19 56.6	+0.4	
THEF	They Montfort	147.07	3	PKP		PKPab	23 19 57.3	-0.4	
MOA	Molln comp=Z,13nm,1.2s	147.09	352	⇑*i*pPKPdf		PKPab	23 19 57.2	-0.6	
LOT	Lotru	147.11	339	⇓*i*P		PKPbc	23 19 56.9	+0.3	
ANTO	Ankara	147.30	323	*e*P		PKPbc	23 19 57.6	+0.3	
ANTO	Ankara	147.30	323	⇑*i*P		PKPab	23 19 59.0	0.0	
ANTO	Ankara	147.30	323	*e*PKPdf		PKPbc	23 19 57.5	+0.3	
BR231	Keskin MP Arra	147.33	323	*e*PKPdf		PKPbc	23 19 56.6	-0.8	
RJOB	Jochberg	147.37	354	*e*PKPbc		PKPbc	23 19 58.0	+0.9	
FELD	Feldberg im Sc	147.46	0	PKP		PKPbc	23 19 57.0	-0.5	
MOF	Molkenrain	147.48	1	PKP		PKPab	23 19 59.4	-0.1	
GZR	Gura Zlata	147.48	341	⇓*i*P		PKPbc	23 19 58.0	+0.5	
ARSA	Arzberg comp=Z,9.7nm,1.1s	147.49	351	⇑*i*PKPab		PKPbc	23 19 58.3	+0.9	
KARA	Karaisali	147.53	318	*e*P		PKPbc	23 19 58.6	+0.7	
BZS	Buzias	147.64	342	⇑*i*P		PKPbc	23 19 58.8	+0.9	
WATA	Walderalm comp=Z,18nm,1.2s	147.87	355	⇓*i*PKPab		PKPbc	23 19 59.1	+0.5	
WTTA	Wattenberg comp=Z,14nm,0.7s,SNR=5.2	147.94	355	*i* PKPab		PKPbc	23 19 59.6	+0.8	
LOMF	Lomont	147.97	2	PKP		PKPbc	23 20 00.1	+1.3	
DAVA	Damuels comp=Z,20nm,1.1s	148.02	358	⇓*i*PKiKP		PKPbc	23 19 59.9	+0.8	
SOKA	Soboth comp=Z,18nm,1.4s	148.12	351	⇓*i*pPKPdf		PKPbc	23 19 59.3	0.0	
ZALF	Zalf	148.15	309	*e*P		PKPbc	23 19 58.8	-0.9	
MARH	Ras Al Marh	148.27	311	*e*P		PKPbc	23 20 00.4	0.0	
ABTA	Abfaltersbach comp=Z,10nm,0.7s	148.37	354	⇓*i*pPKPdf		PKPbc	23 19 59.8	-0.1	
FUORN	Ofenpass-Fuorn	148.66	357	*e*PKPbc		PKPbc	23 20 01.1	+0.2	
TUE	Stuetta	148.85	358	*e*PKPdf		PKPdf	23 19 57.3	-0.1	
SENIN	Lac Senin/Sane	148.97	1	*e*PKPbc		PKPbc	23 20 03.2	+1.6	
AGO	Saint Agoulin	149.01	7	PKP		PKPdf	23 19 52.7	-4.7	
PLDF	La Plantade	149.15	6	PKP		PKPdf	23 19 53.4	-4.3	
PYM	Petit Puy Mans	149.29	7	PKP		PKPdf	23 19 53.1	-4.9	
LBL	Lubilhac	149.83	7	PKP		PKPdf	23 19 53.2	-5.6	
ISP	Isparta	149.99	323	⇑*i*P		PKPbc	23 20 04.7	+0.4	
ISP	Isparta	149.99	323	*e*PKPbc		PKPbc	23 20 03.7	-0.6	
CSS	Prodhromos	149.99	315	*e*PKPbc		PKPbc	23 20 04.6	+0.3	
PCAB	Cabril	150.19	25	*e*PKPbc		PKPbc	23 20 05.2	+0.7	
BNI	Bardonecchia	150.27	2	*e*PKPbc		PKPbc	23 20 05.9	+1.1	
POLO	Lamas de Olo	150.57	25	*e*PKPbc		PKPbc	23 20 06.1	+0.6	
POLO	Lamas de Olo	150.57	25	*e*PKPab		PKPab	23 20 14.2	+2.0	
PBRG	Braganca	150.61	23	*e*PKPbc		PKPbc	23 20 06.1	+0.5	
PVRL	Vila Real	150.68	25	*e*PK

HSP	**Hornsund**	**3.02**	**129**	*e*P		**Pn**	**23 12 55.4**	**+0.9**		
HSP				*e*S		**Sn**	**23 13 32.9**	**+2.3**		
HOPEN	**Hopen**	**4.93**	**112**	*e*Pg		**Pn**	**23 13 20.9**	**+0.4**		
HOPEN				*e*Sg		**Sn**	**23 14 17.4**	**-0.1**		
HOPEN				AML		AML	23 14 23.0			
	comp=Z,48nm,0.2s									
HOPEN	**Hopen**	**4.93**	**112**	*e*Pg		**Pn**	**23 13 21.0**	**+0.4**		
	SNR=90									
HOPEN				*e*Sg		**Sn**	**23 14 17.4**	**-0.1**		
	comp=Z,48nm,0.2s,SNR=90									
DAG	**Danmarks Havn**	**5.49**	**257**	*i* P		Pn	23 13 17.6	-11		
DAG				*i* S		Sn	23 14 13.6	-18		
ARA0	**ARCESS Array S**	**10.98**	**140**	Pn		**Pn**	**23 14 44.8**	**+1.3**		
	baz=350,slow=14									
ARA0				Sn		**Sn**	**23 16 44.8**	**-1.3**		
	baz=5.2,slow=22									
ARA0	**ARCESS Array S**	**10.98**	**140**	Pn		**Pn**	**23 14 44.8**	**+1.3**		
	baz=350,slow=14									
ARA0				Sn		**Sn**	**23 16 44.8**	**-1.3**		
	baz=5.2,slow=22									
ARA0	**ARCESS Array S**	**10.98**	**140**	Pn		**Pn**	**23 14 44.8**	**+1.3**		
	SNR=55									
ARA0				Sn		**Sn**	**23 16 44.8**	**-1.3**		
	SNR=55									
ARCES	**ARCESS Array B**	**10.98**	**140**	Pn		**Pn**	**23 14 44.9**	**+1.4**		
	comp=Z,0.6nm,0.3s,baz=353,slow=12,SNR=17									
ARCES				Sn		**Sn**	**23 16 44.5**	**-1.6**		
	comp=Z,0.3nm,0.3s,baz=358,slow=20,SNR=3.4									
SUMG	**Summit**	**12.15**	**261**	*i* P		Pn	23 14 48.3	-12		
SUMG				*i*			23 14 50.7			
SUMG				*e*S		Sn	23 16 52.8	-23		
FIA0	**FINESS Array S**	**18.87**	**148**	P		**Pn**	**23 16 29.1**	**+2.1**		
	baz=358,slow=11									
FIA0	**FINESS Array S**	**18.87**	**148**	P		**Pn**	**23 16 29.1**	**+2.1**		
	baz=358,slow=11									
FIA0	**FINESS Array S**	**18.87**	**148**	P		**Pn**	**23 16 29.1**	**+2.1**		
	SNR=51									
FINES	**FINESS Array B**	**18.87**	**148**	P		**Pn**	**23 16 29.1**	**+2.1**		
	comp=Z,0.1nm,0.3s,baz=346,slow=11,SNR=8.0									
HFS	**Hagfors**	**19.27**	**167**	P		**Pn**	**23 16 33.9**	**+2.0**		
	baz=18,slow=6.2									
HFS	**Hagfors**	**19.27**	**167**	P		**Pn**	**23 16 33.9**	**+2.0**		
	baz=18,slow=6.2									
HFS	**Hagfors**	**19.27**	**167**	P		**Pn**	**23 16 33.9**	**+2.0**		
	SNR=51									
HFS	**Hagfors**	**19.27**	**167**	P		**Pn**	**23 16 32.3**	**+0.4**		
	comp=Z,0.3nm,0.3s,baz=10,slow=8.8,SNR=12									
RES	**Resolute Bay**	**20.34**	**311**	P		P	23 16 32.0	-10		
	comp=Z,0.6nm,0.3s,baz=22,slow=16,SNR=14									
RES				LR		LR	23 24 25.4			
	comp=Z,53nm,19.2s,baz=49,slow=38									
EKA	**Eskdalemuir Ar**	**24.06**	**192**	P		**P**	**23 17 20.1**	**-1.5**		
	comp=Z,1.1nm,0.8s,baz=360,slow=7.8,SNR=2.9									
AKASG	**Malin Array Be**	**29.77**	**149**	P		**P**	**23 18 13.7**	**+0.8**		
	comp=Z,0.8nm,0.7s,baz=353,slow=10.0,SNR=4.4									
BVAR	**Borovoye Array**	**33.84**	**100**	LR		LR	23 35 42.8			
	comp=Z,59nm,18.5s,baz=66,slow=41									
ESDC	**Sonseca Array**	**39.73**	**191**	P		**P**	**23 19 36.8**	**-2.1**		
	comp=Z,0.2nm,0.5s,baz=358,slow=8.1,SNR=3.8									
BRTR	**Keskin Array B**	**41.09**	**146**	P		**P**	**23 19 51.5**	**+1.2**		
	comp=Z,1.6nm,1.1s,baz=347,slow=6.0,SNR=3.2									
MKAR	**Makanchi Array**	**42.06**	**91**	P		**P**	**23 19 58.7**	**+0.7**		
	comp=Z,1.1nm,0.6s,baz=339,slow=7.2,SNR=10									
TXAR	**Lajitas Array**	**64.85**	**294**	P		P	23 22 39.2	-6.3		
	comp=Z,0.3nm,0.6s,baz=29,slow=6.2,SNR=4.7									
TORD	**Torodi Ar. Bea**	**66.01**	**184**	P		**P**	**23 22 51.7**	**-1.3**		
	comp=Z,0.9nm,0.7s,baz=358,slow=6.4,SNR=8.9									

*ISCJB **18** 23:29:07.4± 1.2, 1˚.05S± 0˚.04 × 97˚.81E± 0˚.04, h11km± 7km, mb4.5/54, MS4.2/7, Error ellipse: s-maj=6.7km s-min=5.3km az=39.0*

*BJI **18** 23:29:07.7, 1˚.45S × 97˚.87E, h31km, mB5.1/18, mb4.7/26, Ms4.7/16, Ms7 4.4/17*

*MOS **18** 23:29:10.8± 1.2, 0˚.87S × 97˚.87E, h33km, mb4.7/24, Error ellipse: s-maj=17.0km s-min=8.3km az=103.9*

*BKK **18** 23:29:10.9± 1.0, 1˚S ± 8˚ × 9˚8E ± ˚, h10km, M4.5/13, mB4.9/7, mb4.7/13, MLv4.6/4, Mw(mB)4.2/7*

*IDC **18** 23:29:11.8± 0.6, 0˚.99S × 97˚.92E, h24km ± 2km, mb4.0/21, mb1 4.1/23, mb1mx4.1/27, mbtmp4.0/23, ML4.3/2, MS3.3/1, Ms1 3.3/1, ms1mx3.1/47, Error ellipse: s-maj=17.7km s-min=10.3km az=55.0*

*DJA **18** 23:29:11.7± 1.7, 1˚S ± 5˚ × 9˚8E ± ˚, h11km ± 16km, M4.7/13, mb4.9/13, mB5.0/6, MLv4.9/13, Mw(mB)4.4/6, Mwp6.2/1*

*NEIC **18** 23:29:11.8± 1.9, 0˚.94S × 97˚.88E, h28km ± 4km, mb4.7/14, Error ellipse: s-maj=14.4km s-min=9.0km az=224.0*

ISC 18 23:29:12.2-0.5, **1˚07S**-0˚.05 × **97˚86E**-0˚.05, **h31**km ± 2km, **h31**km:**pP-P,n159**, σ1s**58**/193, **mb4.6**/56, **MS4.3**/7, **6C-2D, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**2.38**	**353**	*e*Pn		**Pn**	**23 29 46.1**	**-2.9**
GSI				*e*Sn		Sn	23 30 09.5	-7.6
MNSI	**Mandailing Nat**	**2.53**	**43**	P		**Pn**	**23 29 50.4**	**-0.7**
MNSI				S		**Sn**	**23 30 19.9**	**-1.0**
PDSI	**Padang**	**2.61**	**87**	P		**Pn**	**23 29 51.7**	**-0.5**
PDSI				S		**Sn**	**23 30 23.8**	**+1.0**
PPI	**Padang Panjang**	**2.61**	**76**	P		**Pn**	**23 29 51.7**	**-0.5**
SNSI	**Sinabang, Aceh**	**3.78**	**336**	P		**Pn**	**23 30 10.2**	**+1.9**
PSI	**Prapat**	**3.99**	**15**	*e*Pn		**Pn**	**23 30 08.6**	**-2.8**
PSI				*e*Sn		Sn	23 30 47.4	-10
PSI	**Prapat**	**3.99**	**15**	Pn		**Pn**	**23 30 08.6**	**-2.8**
	12nm,0.3s,baz=191,slow=3.6,SNR=33							
PSI				Sn		Sn	23 30 47.4	-10
	2.9nm,0.3s,baz=254,slow=18,SNR=4.8							
PSI				LR		LR	23 31 46.5	
	comp=Z,428nm,19.9s,baz=185,slow=41							
KCSI	**Kotacane, Aceh**	**4.56**	**359**	P		**Pn**	**23 30 19.7**	**+0.6**
FRIM	**Kepong**	**5.70**	**41**	P		**Pn**	**23 30 35.6**	**+0.9**
MNAI	**Manna**	**6.05**	**123**	P		**Pn**	**23 30 40.2**	**+0.7**
	743nm,0.7s,2.4nm							
MNAI	**Manna**	**6.05**	**123**	*e*Pn		**Pn**	**23 30 39.2**	**-0.3**
MNAI				*e*Sn		**Sn**	**23 31 45.6**	**-2.1**
KGM	**Kluang**	**6.26**	**61**	P		**Pn**	**23 30 42.6**	**+0.1**
LHSI	**Lahat**	**6.29**	**116**	P		**Pn**	**23 30 43.4**	**+0.6**
	354nm,0.7s,3μm1.2nm							
IPM	**Ipoh**	**6.36**	**30**	P		**Pn**	**23 30 44.8**	**+1.1**
IPM	**Ipoh**	**6.36**	**30**	P		**Pn**	**23 30 44.7**	**+0.9**
	117nm,0.9s,683nm0.3nm							
IPM	**Ipoh**	**6.36**	**30**	*e*Pn		**Pn**	**23 30 44.9**	**+1.1**
MYKOM	**Kota Tinggi**	**6.63**	**65**	P		**Pn**	**23 30 47.6**	**+0.1**
MYKOM	**Kota Tinggi**	**6.63**	**65**	P		**Pn**	**23 30 47.3**	**-0.2**
	31nm,1.2s,662nm0.2nm							
MYKOM	**Kota Tinggi**	**6.63**	**65**	*e*Pn		**Pn**	**23 30 47.1**	**-0.4**
KULM	**Kulim**	**6.91**	**24**	P		**Pn**	**23 30 51.4**	**+0.1**
KULM	**Kulim**	**6.91**	**24**	P		**Pn**	**23 30 51.2**	**-0.1**
	71nm,0.9s,566nm0.2nm							
KULM	**Kulim**	**6.91**	**24**	*e*Pn		**Pn**	**23 30 50.6**	**-0.7**
MDSI	**Maura Dua**	**7.16**	**118**	P		**Pn**	**23 30 55.3**	**+0.5**
	86nm,1.3s,0.3nm							
LWLI	**Liwa**	**7.33**	**122**	P		**Pn**	**23 30 57.7**	**+0.5**
	322nm,0.8s,5μm156μm1.0nm							
KASI	**Kota Agung**	**7.96**	**124**	P		**Pn**	**23 31 05.0**	**-0.9**
	87nm,0.7s,0.4nm							
KTGM	**Kuala Trenggan**	**8.26**	**40**	P		**Pn**	**23 31 10.3**	**+0.5**
CHBT	**CHBT**	**14.43**	**18**	P		**P**	**23 32 40.6**	**-0.2**
SBUM	**Sibu**	**14.78**	**76**	P		**Pn**	**23 32 38.3**	**-0.8**
SBUM	**Sibu**	**14.78**	**76**	P		**Pn**	**23 32 39.8**	**+0.7**
	31nm,1.7s							
SBUM	**Sibu**	**14.78**	**76**	*e*Pn		**Pn**	**23 32 38.9**	**-0.2**
UTHA	**Uthaitani**	**16.60**	**5**	P		**P**	**23 33 04.7**	**-0.2**
	20nm,0.9s,152nm							
PBKT	**Sadao Pong**	**17.80**	**10**	P		**P**	**23 33 17.7**	**-0.4**
	33nm,0.9s,938nm							
PBKT	**Sadao Pong**	**17.80**	**10**	P		**P**	**23 33 17.9**	**-0.2**
	33nm,0.9s,938nm							
CM01	**Chiang Mai Arr**	**19.40**	**3**	*e*P		**P**	**23 33 35.5**	**-0.3**
CM31	**Chiang Mai Arr**	**19.43**	**3**	*e*P		**P**	**23 33 36.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**19.43**	**3**	P		**P**	**23 33 36.1**	**-0.1**
	0.6nm,0.3s,baz=198,slow=12,SNR=19							
KKM	**Kota Kinabalu**	**19.64**	**69**	P		**P**	**23 33 39.0**	**+0.4**
KKM	**Kota Kinabalu**	**19.64**	**69**	P		**P**	**23 33 38.5**	**-0.1**
	52nm,1.0s							
KKM	**Kota Kinabalu**	**19.64**	**69**	*e*P		**P**	**23 33 36.6**	**-2.0**
	35nm,0.8s							
CHTO	**Chiang Mai**	**19.79**	**3**	*e*P		**P**	**23 33 37.1**	**-3.0**
CHTO				pmax		pmax		
	comp=Z,33nm,0.9s							
CHTO	**Chiang Mai**	**19.79**	**3**	P		**P**	**23 33 39.8**	**-0.3**
	comp=Z,53nm,1.1s							
CHTO	**Chiang Mai**	**19.79**	**3**	*e*P		**P**	**23 33 37.1**	**-3.0**
	comp=Z,33nm,0.9s							
CHTO	**Chiang Mai**	**19.79**	**3**	P		**P**	**23 33 40.2**	**+0.1**
	comp=Z,53nm,1.1s							
KDM	**Kudat**	**20.53**	**67**	P		**P**	**23 33 48.4**	**+0.2**
CMAI	**Chiengmai2**	**20.91**	**3**	P		**P**	**23 33 52.7**	**+0.4**
	comp=Z,131nm,1.2s,comp=Z,6μm							
CRAI	**Chiangrai**	**21.31**	**7**	P		**P**	**23 33 56.3**	**-0.2**
	comp=Z,91nm,0.7s							
MYLDM	**Lahad Datu**	**21.53**	**73**	*e*P		**P**	**23 33 57.3**	**-1.6**
	comp=Z,36nm,1.1s							
KAPI	**Kappang**	**22.20**	**101**	*e*P		**P**	**23 34 06.7**	**+0.4**
KAPI	**Kappang**	**22.20**	**101**	P		**P**	**23 34 06.3**	**+0.1**
	comp=Z,76nm,1.4s,baz=256,slow=14,SNR=3.3							
BNSI	**Bone**	**22.46**	**99**	P		**P**	**23 34 10.2**	**+1.2**
QIZ	**Qiongzhong**	**23.19**	**30**	P		**P**	**23 34 16.4**	**0.0**
QIZ				S		**S**	**23 38 26.9**	**+0.6**
QIZ				AMB		AMB		
	comp=Z,22nm,2.5s							
QIZ				LR		LR		
	comp=Z,630nm,10.3s							
H08S2	**Diego Garcia H**	**26.11**	**255**	T		T	00 01 58.3	
	baz=76,slow=0.7							
H08S3	**Diego Garcia H**	**26.11**	**255**	T		T	00 02 02.0	
	baz=76,slow=0.7							
H08S1	**Diego Garcia H**	**26.13**	**255**	T		T	00 02 05.5	
	baz=76,slow=0.7							
KMI	**Kunming**	**26.46**	**10**	P		**P**	**23 34 48.0**	**+1.1**
KMI				pP		**pP**	**23 34 58.3**	**+2.4**
KMI				sP		**sP**	**23 35 01.5**	**+1.8**
KMI				PP		**PnPn**	**23 35 31.9**	**+4.3**
KMI				S		**S**	**23 39 19.5**	**+0.5**
KMI				sS		**sS**	**23 39 32.8**	**-1.2**
KMI				SS		SnSn	23 40 31.8	+10
KMI				AMB		AMB		
	comp=Z,9.0nm,1.2s							
KMI				AMB		AMB		
	comp=Z,70nm,3.5s							
KMI				LR		LR		
	comp=N,280nm,11.2s							
KMI				LR		LR		
	comp=E,320nm,12.1s							
KMI				LR		LR		
	comp=Z,330nm,12.1s							
GYA	**Guiyang**	**28.66**	**17**	*e*P		**P**	**23 35 06.9**	**+0.5**
GYA				pP		**pP**	**23 35 17.0**	**+1.5**
GYA				PP		**PnPn**	**23 36 02.4**	**+5.0**
GYA				PcP		**PcP**	**23 38 17.8**	**+0.9**
GYA				S		**S**	**23 39 54.3**	**+0.9**
GYA				sS		**sS**	**23 40 09.6**	**+1.2**
GYA				ScP		**SS**	**23 41 55.0**	**-0.5**
GYA	**Guiyang**	**28.66**	**17**	ScS		ScS	23 45 47.3	-2.4
GYA				AMB		AMB		
	comp=Z,10.0nm,0.8s							
GYA				AMB		AMB		
	comp=Z,90nm,4.8s							
FITZ	**Fitzroy Crossi**	**32.10**	**123**	*e*P		**P**	**23 35 37.0**	**+0.2**
	comp=Z,160nm,3.0s							
CD2	**Chengdu**	**32.30**	**10**	P		**P**	**23 35 40.9**	**+2.5**
CD2				pP		**pP**	**23 35 50.0**	**+2.5**
CD2				sP		**sP**	**23 35 53.8**	**+2.5**
CD2				PP		**PP**	**23 36 49.6**	**-2.2**
CD2				S		**S**	**23 40 52.6**	**+2.4**
CD2				sS		**sS**	**23 41 07.8**	**+2.5**
CD2				SS		**SnSn**	**23 42 49.5**	**+5.9**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.5s							
CD2				AMB		AMB		
	comp=Z,170nm,7.2s							
CD2				LR		LR		
	comp=Z,340nm,12.6s							
CD2				LR		LR		
	comp=Z,370nm,12.0s							
ENH	**Enshi**	**33.08**	**19**	*e*P		**P**	**23 35 43.5**	**-1.8**
	comp=Z,18nm,0.6s							
SSLB	**Suanglung**	**33.38**	**41**	*e*P		**P**	**23 35 46.9**	**-1.1**
	comp=Z,24nm,1.0s							
XAN	**Xi'an**	**36.44**	**16**	P		**P**	**23 36 13.8**	**-0.5**
XAN				AMB		AMB		
	comp=Z,7.0nm,0.9s							
H01W3	**Cape Leeuwin H**	**36.91**	**157**	T		T	00 15 33.2	
	baz=334,slow=0.7,SNR=157							
H01W2	**Cape Leeuwin H**	**36.92**	**157**	T		T	00 15 36.9	
	baz=334,slow=0.7,SNR=160							
H01W1	**Cape Leeuwin H**	**36.92**	**157**	T		T	00 15 32.5	
	baz=334,slow=0.7,SNR=95							
LZH	**Lanzhou**	**37.39**	**8**	*e*P		**P**	**23 36 23.6**	**+1.2**
LZH				pP		**pP**	**23 36 33.0**	**+1.4**
LZH				sP		**sP**	**23 36 37.4**	**+2.0**
LZH				AMB		AMB		
	comp=Z,18nm,1.0s							
WRA	**Warramunga Arr**	**40.30**	**120**	*e*P		**P**	**23 36 47.1**	**+0.2**
WRA				*e*pP		**pP**	**23 36 55.0**	**-1.3**
WRA	**Warramunga Arr**	**40.30**	**120**	P		**P**	**23 36 47.1**	**+0.2**
	comp=Z,7.2nm,0.8s,baz=300,slow=9.1,SNR=25							
WRA				pP		**pP**	**23 36 55.0**	**-1.3**
	comp=Z,9.4nm,0.7s,baz=299,slow=9.0,SNR=9.9							
WRAB	**Tennant Creek**	**40.31**	**120**	*e*P		**P**	**23 36 47.2**	**+0.2**
WRAB				pmax		pmax		
	comp=Z,13nm,0.8s							
WRAB	**Tennant Creek**	**40.31**	**120**	*e*P		**P**	**23 36 47.2**	**+0.2**
	comp=Z,12nm,0.8s							
GTA	**Gaotai**	**40.33**	**2**	*e*P		P	23 36 51.5	+4.5
GTA				pP		pP	23 37 00.8	+4.6
GTA				sP		sP	23 37 04.8	+4.8
GTA				AMB		AMB		
	comp=Z,4.0nm,1.9s							
AS12	**Alice Springs**	**41.53**	**126**	*e*P		**P**	**23 36 57.9**	**+0.8**
AS12				*e*pP		**pP**	**23 37 05.4**	**-0.9**
ASAR	**Alice Springs**	**41.53**	**126**	P		**P**	**23 36 57.9**	**+0.8**
	comp=Z,3.2nm,0.7s,baz=298,slow=7.8,SNR=34							
ASAR				pP		**pP**	**23 37 05.4**	**-0.9**
	comp=Z,3.4nm,0.7s,baz=296,slow=7.9,SNR=12							
AS01	**Alice Springs**	**41.56**	**126**	*e*P		**P**	**23 36 57.8**	**+0.5**
HHC	**Hu-ho-hao-te**	**43.55**	**15**	*e*P		**P**	**23 37 14.6**	**+1.3**
HHC				pP		**pP**	**23 37 22.9**	**+0.3**
HHC				sP		**sP**	**23 37 27.8**	**+1.4**
HHC				PP		**PcP**	**23 38 58.4**	**-2.3**
HHC				S		**S**	**23 43 42.8**	**+2.4**
HHC				sS		sS	23 43 59.8	+4.0
HHC				SS		**SS**	**23 46 51.0**	**-4.9**
HHC				AMB		AMB		
	comp=Z,20nm,1.0s							
HHC				AMB		AMB		
	comp=Z,180nm,5.1s							
HHC				LR		LR		
	comp=Z,230nm,14.3s							
HHC				LR		LR		
	comp=Z,310nm,15.5s							
HHC				LR		LR		
	comp=Z,220nm,13.8s							
BJI	**Beijing**	**44.21**	**20**	P		**P**	**23 37 19.6**	**+1.2**
BJI				AMB		AMB		
	comp=Z,17nm,1.0s							
BJI				AMB		AMB		
	comp=Z,110nm,5.2s							
WMQ	**Urumqi**	**45.61**	**350**	*e*P		**P**	**23 37 29.8**	**+0.2**
WMQ				AMB		AMB		
	comp=Z,17nm,0.6s							
WMQ				AMB		AMB		
	comp=Z,260nm,5.2s							
WMQ				LR		LR		
	comp=Z,230nm,6.4s							
WMQ				LR		LR		
	comp=Z,170nm,6.0s							
WMQ				LR		LR		
	comp=Z,35nm,16.0s							
JNU	**Nakatsue**	**46.10**	**39**	*e*P		**P**	**23 37 32.8**	**-0.8**
	comp=Z,245nm,2.4s							
JNU	**Nakatsue**	**46.10**	**39**	P		**P**	**23 37 32.8**	**-0.8**
	comp=Z,20nm,1.0s,baz=135,slow=4.3,SNR=5.2							
KS15	**Wonju Array Si**	**47.33**	**33**	*e*P		**P**	**23 37 42.0**	**-1.2**
KS15				*e*pP		**pP**	**23 37 50.6**	**-1.9**
KSRS	**Korea Array**	**47.36**	**33**	P		**P**	**23 37 42.0**	**-1.4**
	comp=Z,3.2nm,0.8s,baz=218,slow=8.7,SNR=5.6							
KSRS				pP		**pP**	**23 37 50.6**	**-2.1**
	comp=Z,2.3nm,0.7s,baz=219,slow=8.8,SNR=3.8							
KS01	**Wonju Array Si**	**47.36**	**33**	*e*P		**P**	**23 37 41.0**	**-2.4**
TKM2	**Tokmak 2**	**48.16**	**338**	*e*P		**P**	**23 37 49.0**	**-0.7**
TKM2				pmax		pmax		
	comp=Z,8.0nm,1.0s							
TKM2	**Tokmak 2**	**48.16**	**338**	*e*P		**P**	**23 37 49.0**	**-0.7**
	comp=Z,8.0nm,1.0s							
AAK	**Ala-Archa**	**48.33**	**337**	↓*e*P		**P**	**23 37 48.4**	**-2.6**
AAK				pmax		pmax		
	comp=Z,9.0nm,2.3s							
AAK	**Ala-Archa**	**48.33**	**337**	*e*P		**P**	**23 37 50.6**	**-0.5**
	comp=Z,5.2nm,1.3s							
AAK				*e*pP		**pP**	**23 37 58.4**	**-2.0**
AAK	**Ala-Archa**	**48.33**	**337**	pP		pP	23 37 58.4	-2.0
	comp=Z,0.6nm,0.3s,baz=168,slow=9.3,SNR=2.5							
EKS2	**Erkin-Say**	**48.64**	**336**	*e*P		**P**	**23 37 51.0**	**-2.4**
EKS2				pmax		pmax		
	comp=Z,6.0nm,0.9s							
EKS2	**Erkin-Say**	**48.64**	**336**	*e*P		**P**	**23 37 51.0**	**-2.4**
	comp=Z,5.7nm,0.9s							
SONA0	**Songino Array**	**49.27**	**8**	*e*P		**P**	**23 37 58.6**	**+0.5**
SONA0				*e*pP		**pP**	**23 38 05.2**	**-2.4**
SONM	**Songino Array**	**49.27**	**8**	P		**P**	**23 37 58.6**	**+0.5**
	comp=Z,3.1nm,0.8s,baz=190,slow=7.6,SNR=19							
SONM				pP		**pP**	**23 38 05.1**	**-2.4**
	comp=Z,24nm,0.9s,baz=189,slow=9.8,SNR=54							
SONA1	**Songino Array**	**49.29**	**8**	*e*P		**P**	**23 37 56.4**	**-1.8**
MK01	**Makanchi Array**	**49.56**	**346**	*e*P		**P**	**23 37 59.4**	**-0.9**
MK32	**Makanchi Array**	**49.59**	**346**	*e*P		**P**	**23 38 00.6**	**+0.1**
MK32				*e*pP		**pP**	**23 38 08.1**	**-1.8**
MKAR	**Makanchi Array**	**49.59**	**346**	*e*P		**P**	**23 38 00.1**	**-0.4**
MKAR				*e*			23 39 21.2	
MKAR	**Makanchi Array**	**49.59**	**346**	*e*P		**P**	**23 38 00.1**	**-0.4**
MKAR				*e*PcP		**PcP**	**23 39 21.1**	**-0.6**
MKAR	**Makanchi Array**	**49.59**	**346**	P		**P**	**23 38 00.6**	**+0.1**
	comp=Z,2.9nm,0.6s,baz=156,slow=8.5,SNR=21							
MKAR				pP		**pP**	**23 38 08.1**	**-1.8**
	comp=Z,9.8nm,0.9s,baz=150,slow=8.3,SNR=18							
KKAR	**Karatay Array**	**50.37**	**334**	*e*P		**P**	**23 38 04.9**	**-1.5**
KKAR	**Karatay Array**	**50.37**	**334**	*e*P		**P**	**23 38 04.9**	**-1.5**
CN2	**Changchun**	**51.04**	**26**	*e*P		**P**	**23 38 11.8**	**+0.4**
CN2				*e*pP		**pP**	**23 38 21.6**	**+0.7**
CN2				*e*sP		**sP**	**23 38 25.5**	**+0.9**
CN2				*e*S		**S**	**23 45 26.0**	**-0.7**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.6s							
CN2				AMB		AMB		
	comp=Z,200nm,4.0s							
CN2				LR		LR		
	comp=Z,300nm,16.0s							
CN2				LR		LR		
	comp=Z,400nm,16.0s							
CN2				LR		LR		
	comp=Z,400nm,17.0s							
STKA	**Stephens Creek**	**51.36**	**131**	*e*P		**P**	**23 38 14.6**	**+0.5**
STKA	**Stephens Creek**	**51.36**	**131**	P		**P**	**23 38 14.6**	**+0.5**
	comp=Z,3.2nm,0.8s,baz=317,slow=7.2,SNR=5.9							
ZAK	**Zakamensk**	**51.47**	**4**	*e*P		P	23 38 18.9	+4.3
ZAK				pmax		pmax		
	comp=Z,5.0nm,1.0s							
TLY	**Talaya**	**52.79**	**5**	*c*e*i*P		**P**	**23 38 21.9**	**-2.4**
TLY				*i* *PP		**pP**	**23 38 32.5**	**-1.3**
TLY				pmax		pmax		
	comp=Z,8.0nm,1.4s							
MDJ	**Mudanjiang**	**53.54**	**28**	P		**P**	**23 38 30.1**	**+0.2**
MDJ				AMB		AMB		
	comp=Z,13nm,1.5s							
MDJ				AMB		AMB		
	comp=Z,96nm,5.3s							
KURBB	**Kurchatov Arra**	**54.08**	**345**	P		**P**	**23 38 33.7**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=165,slow=6.2,SNR=12							
KURBB				pP		**pP**	**23 38 41.5**	**-1.8**
	comp=Z,2.5nm,0.8s,baz=164,slow=7.4,SNR=12							
KURK	**Kurchatov**	**54.14**	**345**	⇑*i*P		**P**	**23 38 34.0**	**-0.2**
KURK				pmax		pmax		
	comp=Z,2.0nm,1.0s							
KURK	**Kurchatov**	**54.14**	**345**	*e*P		**P**	**23 38 32.9**	**-1.3**
	comp=Z,3.8nm,0.9s							
KURK				*e*pP		**pP**	**23 38 41.5**	**-2.2**
USRK	**Ussuriysk Arra**	**54.38**	**30**	P		**P**	**23 38 36.2**	**+0.1**
	comp=Z,4.7nm,0.8s,baz=236,slow=6.4,SNR=9.3							
USRK				pP		**pP**	**23 38 43.8**	**-1.9**
	comp=Z,4.5nm,0.7s,baz=244,slow=5.5,SNR=5.5							
ZAA0	**Zalesovo Array**	**55.89**	**351**	*e*P		**P**	**23 38 46.0**	**-0.8**
ZAA0				*e*PcP		**PcP**	**23 39 48.0**	**+2.7**
ZALV	**Zalesovo Beam**	**55.89**	**351**	*e*P		**P**	**23 38 46.9**	**+0.1**
ZALV				pmax		pmax		
	comp=Z,7.0nm,0.7s							
ZALV	**Zalesovo Beam**	**55.89**	**351**	P		**P**	**23 38 46.6**	**-0.2**
	comp=Z,6.5nm,0.8s,baz=177,slow=5.8,SNR=26							
ZALV				pP		**pP**	**23 38 54.9**	**-1.5**
	comp=Z,9.4nm,0.7s,baz=174,slow=5.8,SNR=14							
NVS	**Novosibirsk**	**57.01

GERES	**GERESS Array B**	**86.94**	**319**	pP		P		23 42 02.0	+7.6	
	comp=Z,2.1nm,1.1s,baz=103,slow=4.2,SNR=4.8									
NB200	**NORSAR Array S**	**89.30**	**331**	*e*P		**P**		**23 42 04.7**	**-0.5**	
NOA	**NORSAR Array B**	**89.30**	**331**	P		**P**		**23 42 04.7**	**-0.5**	
	comp=Z,0.5nm,0.7s,baz=98,slow=5.2,SNR=2.5									
TOA0	**Torodi Ar. Sit**	**96.25**	**283**	*e*P		**P**		**23 42 38.5**	**+0.3**	
TORD	**Torodi Ar. Bea**	**96.25**	**283**	P		**P**		**23 42 38.5**	**+0.3**	
	comp=Z,0.6nm,1.1s,baz=82,slow=5.1,SNR=3.3									
TXAR	**Lajitas Array**	**145.20**	**34**	PKPbc		**PKPdf**		**23 48 48.1**	**+0.6**	
	comp=Z,3.4nm,0.8s,baz=263,slow=1.5,SNR=42									
TKL	**Tuckaleechee C**	**145.55**	**2**	PKPbc		**PKPbc**		**23 48 47.0**	**-0.9**	
	comp=Z,4.8nm,0.9s,baz=255,slow=2.2,SNR=5.2									

BJI ***18*** *23:31:38.3,35.˚19N×92.˚34E, h3km, mB4.6/3, mb4.4/9, ML3.9/1, Ms4.0/11, Ms7 3.7/10*

IDC ***18*** *23:31:39.8±1.1, 35.˚12N×92.˚15E, h0km, mb3.5/5, mb1 3.7/10, mb1mx3.5/30, mbtmp3.6/10, ML3.6/5, MS3.4/6, Ms1 3.4/6, ms1mx3.2/46, Error ellipse: s-maj=33.1km s-min=23.2km az=50.0*

ISCJB ***18*** *23:31:43.5±0.7, 35.˚44N±0.˚08×92.˚35E±0.˚08, h33km, mb3.6/6, MS3.5/2, Error ellipse: s-maj=11.2km s-min=8.8km az=170.8*

ISC 18 23:31:44.5±0.8, 35.˚42N±0.˚10×92.˚50E±0.˚08, h35km, n17, σ1§66/15, mb3.6/6, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LSA	**Lhasa**	**5.82**	**192**	P		**Pn**	**23 33 09.9**	**+1.1**
LSA				AMB		AMB		
	comp=Z,10.0nm,0.6s							
GTA	**Gaotai**	**7.05**	**53**	*e*Pn		Pn	23 33 30.8	+5.5
GTA				Sn		Sn	23 34 57.8	+13
GTA				LR		LR		
	comp=Z,620nm,15.2s							
GTA				LR		LR		
	comp=Z,340nm,15.2s							
GTA				LR		LR		
	comp=Z,610nm,11.4s							
LZH	**Lanzhou**	**9.24**	**83**	*e*P		Pn	23 33 50.3	-5.2
LZH				pP			23 33 55.4	
LZH				sP			23 33 58.5	
LZH				*e*S		**Sn**	**23 35 37.8**	**-0.5**
LZH				sS			23 35 45.3	
LZH				AMB		AMB		
	comp=Z,37nm,1.6s							
LZH				AMB		AMB		
	comp=Z,120nm,5.3s							
LZH				LR		LR		
	comp=N,1μm,10.2s							
LZH				LR		LR		
	comp=E,810nm,9.0s							
LZH				LR		LR		
	comp=Z,2μm,12.6s							
MKAR	**Makanchi Array**	**13.71**	**329**	Pn		**Pn**	**23 34 54.7**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=138,slow=14,SNR=30							
MKAR				LR		LR	23 40 48.3	
	comp=Z,234nm,18.8s,baz=151,slow=40							
AAK	**Ala-Archa**	**15.72**	**303**	Pn		**Pn**	**23 35 22.3**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=126,slow=13,SNR=7.0							
HHC	**Hu-ho-hao-te**	**15.94**	**64**	*e*P		**P**	**23 35 28.3**	**-1.1**
HHC				sP		sP	23 35 35.1	-7.9
HHC				PP		**pP**	**23 35 40.3**	**+1.8**
HHC				S		**Sn**	**23 38 23.0**	**+1.3**
HHC				AMB		AMB		
	comp=Z,28nm,0.9s							
HHC				AMB		AMB		
	comp=Z,290nm,5.2s							
HHC				LR		LR		
	comp=Z,480nm,11.2s							
HHC				LR		LR		
	comp=Z,490nm,11.0s							
HHC				LR		LR		
	comp=Z,390nm,11.6s							
SONM	**Songino Array**	**16.14**	**36**	Pn		**P**	**23 35 34.1**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=228,slow=14,SNR=7.8							
SONM				LR		LR	23 42 27.8	
	comp=Z,257nm,21.4s,baz=30,slow=39							
CMAR	**Chiang Mai Arr**	**17.84**	**160**	LR		LR	23 42 27.1	
	comp=Z,19nm,20.0s,baz=175,slow=37							
KURBB	**Kurchatov Arra**	**18.26**	**331**	P		**Pn**	**23 35 54.1**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=141,slow=11,SNR=9.4							
ZALV	**Zalesovo Beam**	**19.29**	**346**	P		**Pn**	**23 36 08.0**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=170,slow=10.0,SNR=4.6							
ZALV				LR		LR	23 44 28.8	
	comp=Z,60nm,18.8s,baz=64,slow=39							
NJ2	**Nanjing**	**22.15**	**91**	*e*P		**P**	**23 36 33.8**	**-3.4**
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.8s							
BVAR	**Borovoye Array**	**23.52**	**325**	P		**P**	**23 36 52.7**	**+1.5**
	comp=Z,1.0nm,0.6s,baz=134,slow=10,SNR=4.0							
BVAR				LR		LR	23 46 40.3	
	comp=Z,100nm,21.0s,baz=140,slow=38							
AKTO	**Aktyubinsk**	**29.06**	**312**	LR		LR	23 50 25.5	
	comp=Z,167nm,18.3s,baz=274,slow=39							
BRTR	**Keskin Array B**	**46.13**	**294**	P		**P**	**23 40 05.5**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=90,slow=4.3,SNR=3.6							
ILAR	**Eielson Array**	**69.93**	**23**	P		P	23 42 54.9	+3.2
	comp=Z,0.3nm,0.9s,baz=291,slow=5.7,SNR=3.2							
ASAR	**Alice Springs**	**70.65**	**140**	P		**P**	**23 42 57.1**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=326,slow=6.5,SNR=5.6							
TORD	**Torodi Ar. Bea**	**83.16**	**281**	P		**P**	**23 44 06.5**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=50,slow=4.4,SNR=17							

IDC 18 23:39:53.1±14.0, 49.˚85S×113.˚62E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/12, mbtmp3.7/3, Error ellipse: s-maj=532.6km s-min=29.3km az=100.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**14.95**	**2**	T		T	23 58 49.1	
	baz=185,slow=0.7,SNR=18							
H01W1	**Cape Leeuwin H**	**14.96**	**2**	T		T	23 58 52.2	
	baz=185,slow=0.7,SNR=19							
H01W3	**Cape Leeuwin H**	**14.96**	**2**	T		T	23 58 50.9	
	baz=185,slow=0.7,SNR=19							
ASAR	**Alice Springs**	**30.58**	**39**	P		P	23 46 08.9	+0.4
	0.5nm,0.6s,baz=206,slow=8.8,SNR=7.5							
VNDA	**Vanda**	**33.09**	**163**	P		P	23 46 30.0	0.0
	0.5nm,0.6s,baz=299,slow=8.9,SNR=5.5							
WRA	**Warramunga Arr**	**34.11**	**36**	P		P	23 46 39.0	-0.4
	0.8nm,0.4s,baz=203,slow=10,SNR=3.5							

NIED ***18*** *23:41:00, 44.˚90N×141.˚70E, h270km, Mw4.4 Best double couple: M0 4.00000×10^15 NP1:φs 321.00000°, δ89.00000°, λ 7.00000°. NP2:φs 231.00000°, δ83.00000°, λ 179.00000°.*

IDC ***18*** *23:41:19.6±0.5, 44.˚96N×141.˚64E, h262km±6km, mb3.5/26, mb1 3.7/30, mb1mx3.7/34, mbtmp4.2/30, Error ellipse: s-maj=12.5km s-min=9.1km az=171.0*

MOS ***18*** *23:41:19.3±1.1, 44.˚98N×141.˚57E, h271km, mb4.0/19, Error ellipse: s-maj=13.5km s-min=8.5km az=100.4*

BJI ***18*** *23:41:19.9, 44.˚94N×141.˚59E, h277km, mB4.5/9, mb4.5/19*

JMA ***18*** *23:41:19.1±0.2, 44.˚93N×141.˚74E, h277km±2km, M3.7*

ISCJB ***18*** *23:41:19.1±0.2, 44.˚90N±0.˚03×141.˚77E±0.˚05, h273km±2km, mb3.9/43, Error ellipse: s-maj=5.6km s-min=4.7km az=7.0*

SKHL ***18*** *23:41:20.6±0.6, 45.˚04N×142.˚21E, h301km±25km, mb5.6/1, msh4.3/1*

ISC 18 23:41:20.0±0.5, 44.˚87N±0.˚04×141.˚76E±0.˚05, h272km±5km, n121, σ1§22/141, mb3.9/43, 23C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JRR	**Rishiri**	**0.42**	**311**	P		**Pn**	**23 41 55.3**	**+0.2**
JWK2	**Keihoku**	**0.46**	**12**	⇑P		**Pn**	**23 41 55.1**	**-0.1**
JWK2				*e*S		**S**	**23 42 22.3**	**-0.7**
JSS	**Shosan**	**0.47**	**172**	⇑P		**Pn**	**23 41 55.7**	**+0.4**
JSS				*e*S		**S**	**23 42 23.7**	**+0.5**
JYG	**Yagishiri**	**0.50**	**209**	⇑P		**Pn**	**23 41 55.4**	**0.0**
JYG				*e*S		**S**	**23 42 23.1**	**-0.2**
JSE	**Soyaes**	**0.59**	**81**	⇑P		**Pn**	**23 41 55.5**	**-0.1**
JSE				*e*S		**S**	**23 42 23.0**	**-0.7**
ASAJ	**Asahikawa**	**0.96**	**141**	⇑P		**Pn**	**23 41 57.2**	**+0.1**
ASAJ				*e*S		**S**	**23 42 26.6**	**+0.1**
ASAJ	**Asahikawa**	**0.96**	**141**	P		**Pn**	**23 41 57.3**	**+0.1**
	56nm,0.3s,baz=314,slow=4.7,SNR=147							
ASAJ				S		**S**	**23 42 25.3**	**-1.2**
	5.2nm,0.3s,baz=200,slow=14,SNR=3.9							
JHR	**Hokuryu**	**1.12**	**181**	⇑P		**Pn**	**23 41 58.5**	**+0.5**
JHR				*e*S		**S**	**23 42 28.8**	**+0.7**
JKK2	**Kamakawa 2**	**1.22**	**144**	⇑P		**Pn**	**23 41 58.9**	**+0.3**
JKK2				*e*S		**S**	**23 42 30.0**	**+0.9**
JMP	**Maruseppu**	**1.43**	**126**	⇓P		**Pn**	**23 42 00.4**	**+0.4**
JMP				*e*S		**S**	**23 42 31.9**	**+0.3**
JSK	**Shakotan**	**1.77**	**212**	P		**Pn**	**23 42 02.4**	**0.0**
JTKR	**Abashiri--Toko**	**1.78**	**119**	⇓P		**Pn**	**23 42 03.0**	**+0.6**
JTKR				*e*S		**S**	**23 42 36.4**	**+0.3**
JFR	**Furan**	**1.80**	**160**	P		**Pn**	**23 42 02.6**	**-0.1**
JEW	**Eniwo**	**2.04**	**186**	⇑P		**Pn**	**23 42 05.0**	**+0.4**
JEW				*e*S		**S**	**23 42 40.0**	**-0.1**
JAR	**Ashorobuto**	**2.13**	**137**	⇑P		**Pn**	**23 42 06.0**	**+0.5**
JAR				*e*S		**S**	**23 42 42.3**	**+0.8**
YSS	**Yuzh-Sakhalins**	**2.20**	**18**	α *i*PN		**Pn**	**23 42 05.8**	**-0.1**
YSS				*i* S		**S**	**23 42 40.6**	**-1.8**
YSS				pmax		pmax		
	comp=N,320nm,0.6s							
YSS				pmax		pmax		
	comp=Z,520nm,0.6s							
YSS				smax		smax		
	comp=N,480nm,0.7s							
YSS				smax		smax		
	comp=N,600nm,4.0s							
YSS	**Yuzh-Sakhalins**	**2.20**	**18**	⇑*i*P		**Pn**	**23 42 05.8**	**-0.1**
YSS				⇑*i*P		**Pn**	**23 42 05.8**	**-0.1**
YSS				AMB		AMB	23 42 06.1	
	comp=N,320nm,0.6s							
YSS				AMB		AMB	23 42 06.1	
	comp=N,520nm,0.6s							
YSS				*i* S		**S**	**23 42 40.6**	**-1.8**
YSS				A		A	23 42 43.0	
	comp=N,480nm,0.7s							
YSS				A		A	23 42 43.6	
	comp=N,600nm,4.0s							
JCH	**Churui**	**2.53**	**152**	⇑P		**Pn**	**23 42 07.5**	**-1.7**
JCH				*e*S		**S**	**23 42 44.3**	**-3.9**
JRA	**Rausu**	**2.58**	**110**	⇓P		**Pn**	**23 42 10.5**	**+0.9**
JNBK	**Urakawa-nobuka**	**2.68**	**164**	⇑P		**Pn**	**23 42 10.2**	**-0.4**
JNBK				*e*S		**S**	**23 42 47.6**	**-3.3**
JAK	**Akkeshi**	**2.83**	**130**	P		**Pn**	**23 42 10.8**	**-1.2**
JAK				*e*S		**S**	**23 42 50.7**	**-2.7**
JKB	**Kayabe**	**3.02**	**190**	⇑P		**Pn**	**23 42 13.0**	**-1.1**
JKB				*e*S		**S**	**23 42 53.4**	**-3.7**
NEM2	**Nemuro 2**	**3.24**	**116**	P		**Pn**	**23 42 14.8**	**-1.5**
NEM2				*e*S		**S**	**23 42 57.7**	**-3.4**
JOSM	**Okushiri--Mats**	**3.24**	**212**	P		**Pn**	**23 42 15.7**	**-0.7**
UGL	**Uglegorsk**	**4.22**	**3**	⇑*i*P		**Pn**	**23 42 27.5**	**+0.4**
UGL				⇑*i*P		**Pn**	**23 42 27.5**	**+0.4**
UGL				AMB		AMB	23 42 28.0	
	comp=N,850nm,1.0s							
UGL				AMB		AMB	23 42 28.0	
	comp=N,610nm,0.9s							
UGL				*e*S		**S**	**23 43 20.0**	**-0.8**
KUR	**Kuril'sk**	**4.34**	**83**	*e*P		**Pn**	**23 42 26.0**	**-2.6**
KUR				*e*S		**S**	**23 43 20.0**	**-3.5**
HABR	**Khabarovsk**	**5.86**	**310**	*e*PN		**Pn**	**23 42 44.0**	**-2.7**
HABR				*e*S		**S**	**23 43 52.3**	**-4.0**
HABR				pmax		pmax		
	comp=N,46nm,1.6s							
HABR				pmax		pmax		
	comp=E,66nm,1.2s							
HABR				pmax		pmax		
	comp=Z,127nm,1.2s							
HABR				pmax		pmax		
	comp=Z,71nm,2.0s							
TYV	**Tymovskoe**	**6.03**	**5**	*e*P		**Pn**	**23 42 49.0**	**+0.2**
TYV				AMB		AMB	23 42 50.0	
	comp=Z,22nm,0.8s							
TYV				AMB		AMB	23 42 50.0	
	comp=Z,33nm,0.8s							
TYV				AMB		AMB	23 42 50.0	
	comp=Z,99nm,0.8s							
TYV				*e*S		**S**	**23 43 57.0**	**-3.1**
USRK	**Ussuriysk Arra**	**7.02**	**268**	P		**Pn**	**23 43 00.6**	**-0.4**
	comp=Z,9.7nm,0.3s,baz=77,slow=13,SNR=144							
KLR	**Kul'dur**	**8.11**	**306**	*e*PN		Pn	23 43 09.3	-5.3
KLR				pmax		pmax		
KLR				pmax		pmax		
	comp=E,52nm,1.4s							
	comp=Z,52nm,1.4s							
NKL	**Nikolayevsk**	**8.32**	**356**	*e*P		**Pn**	**23 43 16.0**	**-1.1**
MAT	**Matsushiro**	**8.74**	**199**	P		**Pn**	**23 43 20.5**	**-2.1**
SKR	**Severo-Kuril's**	**11.27**	**54**	*e*PN		Pn	23 43 50.2	-3.7
SKR				pmax		pmax		
	comp=N,220nm,1.0s							
SKR				pmax		pmax		
	comp=Z,220nm,1.0s							
SKR	**Severo-Kuril's**	**11.27**	**54**	*e*P		Pn	23 43 50.2	-3.7
SKR				AMB		AMB	23 43 51.5	
	comp=Z,220nm,1.0s							
SKR				*e*S		S	23 45 50.5	-9.2
KSRS	**Korea Array**	**12.78**	**239**	P		**Pn**	**23 44 12.7**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=51,slow=11,SNR=3.1							
ZEA	**Zeya**	**12.96**	**318**	*e*P		**P**	**23 44 16.0**	**+0.3**
ZEA				AMB		AMB	23 44 16.8	
	comp=Z,35nm,0.7s							
ZEA				AMB		AMB	23 44 16.8	
	comp=Z,20nm,0.7s							
ZEA				AMB		AMB	23 44 16.8	
	comp=Z,38nm,0.7s							
PETK	**Petropavlovsk-**	**13.30**	**46**	*e*PN		**P**	**23 44 21.0**	**+1.4**
PETK	**Petropavlovsk-**	**13.30**	**46**	P		**P**	**23 44 19.3**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=268,slow=8.5,SNR=3.7							
JNU	**Nakatsue**	**14.44**	**219**	P		**Pn**	**23 44 32.8**	**0.0**
	comp=Z,1.0nm,0.3s,baz=13,slow=10,SNR=7.5							
YAK	**Yakutsk**	**18.58**	**342**	⇓*e*P		**P**	**23 45 15.4**	**-1.7**
YAK				pmax		pmax		
	comp=Z,35nm,1.0s							
SEY	**Seymchan**	**19.11**	**15**	⇑*i*P		**P**	**23 45 22.2**	**-0.5**
SONM	**Songino Array**	**24.46**	**290**	P		**P**	**23 46 14.5**	**0.0**
	comp=Z,12nm,0.5s,baz=83,slow=8.9,SNR=135							
ZAK	**Zakamensk**	**26.30**	**296**	*e*P		P	23 46 22.0	-8.9
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.2s							
GTA	**Gaotai**	**31.32**	**275**	P		P	23 47 18.5	+3.2
GTA				AMB		AMB		
	comp=Z,16nm,0.5s							
ZALV	**Zalesovo Beam**	**37.21**	**305**	*e*P		**P**	**23 48 08.1**	**+2.8**
ZALV	**Zalesovo Beam**	**37.21**	**305**	P		**P**	**23 48 04.1**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=81,slow=8.9,SNR=4.3							
MKAR	**Makanchi Array**	**40.62**	**295**	*e*P		**P**	**23 48 33.8**	**+0.2**
MKAR				pmax		pmax		
	comp=Z,5.0nm,0.7s							
MKAR	**Makanchi Array**	**40.62**	**295**	P		**P**	**23 48 33.7**	**+0.1**
	comp=Z,4.7nm,0.7s,baz=80,slow=8.9,SNR=39							
KURK	**Kurchatov**	**41.67**	**301**	⇑*i*P		**P**	**23 48 42.1**	**-0.1**
KURBB	**Kurchatov Arra**	**41.76**	**301**	P		**P**	**23 48 42.5**	**-0.2**
	comp=Z,1.8nm,0.4s,baz=71,slow=9.0,SNR=16							
COLA	**College**	**42.47**	**37**	⇓*i*P		**P**	**23 48 48.4**	**+0.2**
COLA				pmax		pmax		
	comp=Z,23nm,0.7s							
ILAR	**Eielson Array**	**42.89**	**37**	P		**P**	**23 48 50.9**	**-0.7**
	comp=Z,2.8nm,0.6s,baz=271,slow=8.2,SNR=47							
BVAR	**Borovoye Array**	**45.77**	**307**	P		**P**	**23 49 13.9**	**-0.6**
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.4s							
BVAR	**Borovoye Array**	**45.77**	**307**	P		**P**	**23 49 13.9**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=76,slow=9.9,SNR=5.7							
TAPN	**Taplejung**	**46.16**	**267**	*e*P		**P**	**23 49 19.1**	**+0.9**
ODAN	**Odare**	**46.68**	**266**	*e*P		**P**	**23 49 22.6**	**+0.5**
JIRN	**Jiri**	**47.05**	**268**	*e*P		**P**	**23 49 25.6**	**+0.4**
	comp=Z,7.1nm,0.4s							
GUN	**Gumba**	**47.13**	**269**	*e*P		**P**	**23 49 26.2**	**+0.5**
	comp=Z,9.2nm,0.3s							
RAMN	**Ramite**	**47.19**	**267**	*e*P		**P**	**23 49 26.2**	**+0.1**
	comp=Z,5.9nm,0.3s							
AAK	**Ala-Archa**	**47.37**	**292**	⇑*i*P		**P**	**23 49 28.0**	**+0.8**
AAK				pmax		pmax		
	comp=Z,16nm,2.1s							
AAK	**Ala-Archa**	**47.37**	**292**	P		**P**	**23 49 27.1**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=124,slow=5.3,SNR=6.8							
KKN	**Kakani**	**47.62**	**269**	*e*P		**P**	**23 49 29.8**	**+0.5**
	comp=Z,8.0nm,0.6s							
PKI	**Pulchoki**	**47.66**	**269**	*e*P		**P**	**23 49 29.9**	**+0.1**
	comp=Z,2.7nm,0.3s							
PKIN	**Phulchoki**	**47.67**	**269**	*e*P		**P**	**23 49 30.1**	**+0.4**
	comp=Z,4.2nm,0.5s							
DMN	**Daman**	**47.86**	**269**	*e*P		**P**	**23 49 31.5**	**+0.3**
	comp=Z,2.8nm,0.3s							
GKN	**Gorkha**	**47.95**	**270**	*e*P		**P**	**23 49 32.0**	**+0.2**
	comp=Z,3.3nm,0.2s							
DANN	**Dangsing**	**48.37**	**271**	*e*P		**P**	**23 49 36.0**	**+0.9**
	comp=Z,32nm,0.7s							
KOLN	**Koldanda**	**48.83**	**270**	*e*P		**P**	**23 49 39.1**	**+0.6**
	comp=Z,4.8nm,0.3s							
DLBC	**Dease Lake**	**52.44**	**42**	P		**P**	**23 50 05.8**	**+1.1**
	comp=Z,4.4nm,0.8s,baz=289,slow=5.3,SNR=9.5							
AKTO	**Aktyubinsk**	**53.84**	**308**	P		**P**	**23 50 13.5**	**-1.4**
AKTO				pmax		pmax		
	comp=Z,1.0nm,0.6s							
AKTO	**Aktyubinsk**	**53.84**	**308**	P		**P**	**23 50 13.5**	**-1.4**
	comp=Z,1.2nm,0.6s,baz=39,slow=6.5,SNR=5.4							
ARCES	**ARCESS Array B**	**56.80**	**338**	P		**P**	**23 50 34.7**	**-1.0**
	comp=Z,3.3nm,0.9s,baz=53,slow=8.0,SNR=6.3							
YKA	**Yellowknife Ar**	**56.99**	**33**	P		**P**	**23 50 37.3**	**+0.3**
	comp=Z,3.3nm,0.6s,baz=307,slow=6.9,SNR=18							
JOF	**Joensuu**	**59.24**	**330**	*e*P		**P**	**23 50 51.2**	**-1.4**
JOF				pmax		pmax		
	comp=Z,1.0nm,0.3s							
JOF	**Joensuu**	**59.24**	**330**	*e*p		**P**	**23 50 51.2**	**-1.4**
	comp=Z,0.9nm,0.3s							
KAF	**Kangasniemi**	**61.52**	**331**	*e*P		**P**	**23 51 06.7**	**-1.2**
KAF				pmax		pmax		
	comp=Z,1.0nm,0.3s							
KAF	**Kangasniemi**	**61.52**	**331**	*e*p		**P**	**23 51 06.7**	**-1.2**
	comp=Z,0.6nm,0.3s							
FINES	**FINESS Array B**	**62.06**	**331**	P		**P**	**23 51 10.4**	**-1.1**
	comp=Z,2.8nm,0.6s,baz=42,slow=8.2,SNR=16							
WRA	**Warramunga Arr**	**64.85**	**188**	P		**P**	**23 51 30.3**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=3.6,slow=6.6,SNR=3.5							
KBZ	**Khabaz**	**66.12**	**308**	P		**P**	**23 51 38.9**	**+0.9**
KBZ				pmax		pmax		
	comp=Z,1.0nm,0.5s							
KBZ	**Khabaz**	**66.12**	**308**	P		**P**	**23 51 38.9**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=51,slow=6.5,SNR=4.1							
NB2	**NORSAR Subarra**	**67.10**	**336**	P		**P**	**23 51 43.1**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=35,slow=6.5							
NOA	**NORSAR Array B**	**67.10**	**336**	P		**P**	**23 51 43.2**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=36,slow=6.4,SNR=8.0							
AKASG	**Malin Array Be**	**68.33**	**321**	*e*P		**P**	**23 51 51.3**	**-0.5**
AKASG				pmax		pmax		
	comp=Z,2.0nm,0.5s							
AKASG	**Malin Array Be**	**68.33**	**321**	P		**P**	**23 51 50.9**	**-0.8**
	comp=Z,1.8nm,0.5s,baz=40,slow=5.7,SNR=10							
KIEV	**Kiev**	**68.34**	**321**	*e*P		**P**	**23 51 51.7**	**-0.1**
ASAR	**Alice Springs**	**68.58**	**188**	P		**P**	**23 51 54.7**	**+1.2**
	comp=Z,1.4nm,0.7s,baz=5.1,slow=6.6,SNR=14							
FRB	**Frobisher Bay**	**69.11**	**14**	P		**P**	**23 51 56.1**	**-0.2**
	comp=Z,22nm,0.7s,baz=341,slow=7.0,SNR=12							
NVAR	**Mina Array Bea**	**70.20**	**55**	P		**P**	**23 52 05.8**	**+2.1**
	comp=Z,0.8nm,0.6s,baz=311,slow=5.9							
PDAR	**Pinedale Array**	**72.07**	**47**	P		**P**	**23 52 15.8**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=286,slow=1.7,SNR=11							
ULM	**Lac du Bonnet**	**72.86**	**35**	P		**P**	**23 52 19.4**	**+0.3**
	comp=Z,2.1nm,0.5s,baz=330,slow=7.9,SNR=3.2							
NIE	**Niedzica**	**73.13**	**324**	*e*P		**P**	**23 52 21.5**	**+0.8**
NIE	**Niedzica**	**73.13**	**324**	*e*P		**P**	**23 52 21.5**	**+0.8**
BRTR	**Keskin Array B**	**73.92**	**310**	P		**P**	**23 52 26.0**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=84,slow=2.6,SNR=3.3							
CLL	**Collm**	**74.46**	**329**	⇑*i*P		**P**	**23 52 27.9**	**-0.4**
CLL				pmax		pmax		
	comp=Z,16nm,0.8s							
CLL	**Collm**	**74.46**	**329**	⇑*i*P		**P**	**23 52 27.9**	**-0.4**
	comp=Z,5.0nm,0.8s							
VRAC	**Vranov**	**74.72**	**326**	P		**P**	**23 52 30.7**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=34,slow=11,SNR=3.1							
KHC	**Kasperske Hory**	**76.03**	**328**	⇓*e*P		**P**	**23 52 38.3**	**+1.0**
KHC				pmax		pmax		
	comp=Z,24nm,1.4s							
GERES	**GERESS Array B**	**76.22**	**328**	P		**P**	**23 52 38.7**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=38,slow=6.8,SNR=6.0							
SCHQ	**Schefferville**	**77.75**	**16**	P		**P**	**23 52 46.5**	**-0.3**
	comp=Z,1.8nm,0.5s,baz=71,slow=7.4,SNR=8.6							
CDF	**Champ du Feu**	**78.91**	**331**	*e*P		**P**	**23 52 53.7**	**+0.4**
	comp=Z,1.4nm,0.5s							
HINF	**Hinteralfeld**	**79.57**	**331**	*e*P		**P**	**23 52 56.7**	**-0.1**
HAU	**Haudompre**	**79.58**	**331**	*e*P		**P**	**23 52 56.9**	**+0.1**
SFTF	**Sexfontaines**	**79.85**	**332**	*e*P		**P**	**23 52 57.7**	**-0.5**
	comp=Z,4.2nm,0.5s							
LOR	**Lormes**	**81.06**	**332**	*e*P		**P**	**23 53 04.0**	**-0.6**
	comp=Z,4.1nm,0.7s							
FLN	**La Foliniere**	**81.08**	**336**	*e*P		**P**	**23 53 03.9**	**-0.8**
	comp=Z,1.7nm,0.3s							
LDF	**La Druitiere**	**81.12**	**335**	*e*P		**P**	**23 53 04.8**	**-0.1**
	comp=Z,4.1nm,0.7s							
SSF	**Saint Saulge**	**81.35**	**333**	*e*P		**P**	**23 53 07.1**	**+0.9**
GRR	**Gorron**	**81.52**	**336**	*e*P		**P**	**

λ49.00000°. Principal axes: T 2.8600, Plg61.0000°, Azm122.0000°; N 0.5300, Plg19.0000°, Azm353.0000°; P -3.3800, Plg20.0000°, Azm255.0000°;
*AUST **18** 23:50:21.4±99.0, 13.12N×120.52E, h244km±2km Error ellipse: s-maj=5.5km s-min=3.2km az=11.0*
ISC 18 23:50:10.0±0.2, **13.74N**±0.02×**120.69E**±0.03, **h148**km±1km, **h148**km:**pP-P, n807**, σ1.955/957, **mb5.3**/248, **48C-57D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.34**	**133**	⇑*eP*		**Pn**	**Pn**	**23 50 28.2**	**-2.3**
PGP				*eS*		**Sn**	**Sn**	**23 50 42.6**	**-3.5**
TGY	**Tagaytay City**	**0.43**	**33**	⇓*eP*		**Pn**	**Pn**	**23 50 29.8**	**-1.1**
TGY				*i* S		**Sn**	**Sn**	**23 50 46.1**	**-0.8**
LUBP	**Lubang**	**0.43**	**270**	*eP*		**Pn**	**Pn**	**23 50 28.4**	**-2.4**
BOAC	**Boac**	**1.15**	**104**	*eP*		**Pn**	**Pn**	**23 50 35.2**	**-0.7**
BOAC				*eS*		**Sn**	**Sn**	**23 50 58.8**	**+3.1**
SJMP	**San Jose**	**1.33**	**162**	*eP*		**Pn**	**Pn**	**23 50 36.2**	**-1.5**
BUSP	**Coron**	**1.79**	**196**	*eP*		**Pn**	**Pn**	**23 50 40.7**	**-1.9**
PCPH	**Palayan**	**1.86**	**12**	⇑*iP*		**Pn**	**Pn**	**23 50 41.7**	**-1.7**
PCPH				*i* S		**Sn**	**Sn**	**23 51 09.4**	**+0.4**
OTRP	**Odiongan**	**1.88**	**136**	*eP*		**Pn**	**Pn**	**23 50 42.7**	**-1.0**
AUQP	**San Andres**	**1.97**	**102**	*eP*		**Pn**	**Pn**	**23 50 46.7**	**+2.0**
BCPH	**Baguio City Da**	**2.63**	**358**	⇓*iP*		**Pn**	**Pn**	**23 50 51.4**	**-1.5**
BCPH				*i* S		Sn	Sn	23 51 20.1	-5.9
ENPP	**El Nido**	**2.80**	**206**	*eP*		**Pn**	**Pn**	**23 50 53.8**	**-1.1**
RCP	**Roxas**	**2.95**	**137**	⇓*eP*		**Pn**	**Pn**	**23 50 56.0**	**-0.7**
PVCP	**Virac**	**3.37**	**92**	⇓*eP*		**Pn**	**Pn**	**23 51 03.3**	**+1.3**
PALP	**Palanan**	**3.71**	**27**	⇑*eP*		**Pn**	**Pn**	**23 51 06.5**	**+0.1**
CNP	**Catarman**	**4.05**	**107**	*eP*		Pn	Pn	23 51 14.3	+3.4
PPR	**Puerto Princes**	**4.38**	**206**	⇑*iP*		**Pn**	**Pn**	**23 51 15.5**	**+0.2**
PPR				*i* S		**Sn**	**Sn**	**23 52 10.5**	**+4.4**
LLP	**Lapu-Lapu**	**4.67**	**136**	*eP*		**Pn**	**Pn**	**23 51 20.8**	**+1.8**
LLP				*eS*		Sn	Sn	23 52 23.5	+11
SNPH	**Sibulan**	**5.03**	**150**	*eP*		Pn	Pn	23 51 29.8	+5.9
KDM	**Kudat**	**7.77**	**210**	P		**Pn**	**Pn**	**23 52 02.4**	**+2.0**
DAV	**Davao City (W)** SNR=15	**8.18**	**144**	P		Pn	Pn	23 52 10.7	+4.7
DAV	**Davao City (W)**	**8.18**	**144**	⇑*iP*		Pn	Pn	23 52 10.3	+4.4
DAV	**Davao City (W)**	**8.18**	**144**	*eP*		Pn	Pn	23 52 11.3	+5.3
DAV	**Davao City (W)**	**8.18**	**144**	*ePn*		**Pn**	**Pn**	**23 52 09.0**	**+3.0**
SDKM	**Sandakan**	**8.75**	**204**	P		**Pn**	**Pn**	**23 52 13.9**	**+0.3**
MYLDM	**Lahad Datu**	**8.77**	**194**	P		**Pn**	**Pn**	**23 52 16.5**	**+2.7**
MYLDM	**Lahad Datu** 186nm,1.1s,4μm1.2nm	**8.77**	**194**	P		Pn	Pn	23 52 17.8	+4.0
MYLDM	**Lahad Datu**	**8.77**	**194**	*ePn*		**Pn**	**Pn**	**23 52 15.9**	**+2.0**
KKM	**Kota Kinabalu**	**8.82**	**210**	P		**Pn**	**Pn**	**23 52 15.8**	**+1.2**
KKM	**Kota Kinabalu** 95nm,1.6s,2μm0.6nm	**8.82**	**210**	P		**Pn**	**Pn**	**23 52 15.9**	**+1.3**
KKM	**Kota Kinabalu**	**8.82**	**210**	*ePn*		**Pn**	**Pn**	**23 52 14.9**	**+0.3**
TWG	**Pinlang**	**9.04**	**2**	*ePn*		**Pn**	**Pn**	**23 52 18.9**	**+1.6**
TPUB	**Ta-pu**	**9.51**	**360**	*ePn*		**Pn**	**Pn**	**23 52 24.2**	**+0.5**
YULB	**Yu-li**	**9.62**	**3**	*ePn*		**Pn**	**Pn**	**23 52 25.1**	**+0.1**
TSM	**Tawau**	**9.79**	**197**	P		**Pn**	**Pn**	**23 52 29.5**	**+2.1**
SSLB	**Suanglung**	**10.00**	**1**	*ePn*		**Pn**	**Pn**	**23 52 28.6**	**-1.6**
NACB	**Ninganchiao**	**10.42**	**5**	*ePn*		**Pn**	**Pn**	**23 52 34.6**	**-1.0**
YHNB	**Yeheng**	**10.90**	**3**	*ePn*		**Pn**	**Pn**	**23 52 43.2**	**+1.2**
SGSI	**Sangihe** 472nm,1.0s,27μm	**11.07**	**154**	P		**Pn**	**Pn**	**23 52 46.5**	**+2.2**
QZH	**Quanzhou**	**11.32**	**350**	P		**Pn**	**Pn**	**23 52 49.3**	**+1.8**
QZH				S		**Sn**	**Sn**	**23 54 53.0**	**+0.3**
QZH	comp=N,5μm,16.7s			LR		LR			
QZH	comp=E,4μm,19.6s			LR		LR			
QZH	comp=Z,5μm,15.2s			LR		LR			
QIZ	**Qiongzhong**	**11.66**	**298**	P		**Pn**	**Pn**	**23 52 52.5**	**+0.5**
QIZ				S		**Sn**	**Sn**	**23 55 02.3**	**+1.3**
QIZ	comp=Z,54nm,1.7s			AMB		AMB			
QIZ	comp=Z,1μm,9.1s			AMB		AMB			
QIZ	comp=N,5μm,16.4s			LR		LR			
QIZ	comp=Z,3μm,12.0s			LR		LR			
QIZ	**Qiongzhong**	**11.66**	**298**	*ePn*		**Pn**	**Pn**	**23 52 52.5**	**+0.5**
BTM	**Bintulu**	**12.89**	**216**	P		**Pn**	**Pn**	**23 53 09.2**	**+1.2**
MRSI	**Marisa** 251nm,1.0s,3μm	**13.23**	**175**	P		**P**	**P**	**23 53 15.0**	**-1.8**
KMSI	**Cibinong**	**13.47**	**166**	P		**P**	**P**	**23 53 20.7**	**+1.2**
SBUM	**Sibu**	**14.00**	**217**	P		**P**	**P**	**23 53 23.8**	**-1.5**
SBUM	**Sibu**	**14.00**	**217**	P		**P**	**P**	**23 53 24.4**	**-0.9**
SBUM	**Sibu**	**14.00**	**217**	*ePn*		**Pn**	**Pn**	**23 53 20.4**	**-1.7**
TNTI	**Ternate** 256nm,1.0s	**14.48**	**152**	P		**P**	**P**	**23 53 31.0**	**+0.3**
TNTI	**Ternate**	**14.48**	**152**	*ePn*		**Pn**	**Pn**	**23 53 26.4**	**-1.7**
SGKI	**Sangatta, Kali** 213nm,0.8s,6μm	**14.50**	**192**	P		P	P	23 53 35.8	+4.8
APSI	**Ampana**	**14.58**	**176**	P		**P**	**P**	**23 53 32.6**	**+0.8**
UBPT	**Khong Chiam**	**14.82**	**278**	P		**P**	**P**	**23 53 34.6**	**+0.1**
UBPT	**Khong Chiam** 268nm,2.0s,6μm	**14.82**	**278**	P		**P**	**P**	**23 53 34.8**	**+0.3**
LUWI	**Luwuk**	**14.83**	**172**	P		**P**	**P**	**23 53 37.4**	**+2.9**
JOW	**Kunigami**	**14.84**	**27**	*ePn*		**Pn**	**Pn**	**23 53 33.4**	**+0.9**
BKB	**Balikpapan**	**15.37**	**194**	P		**P**	**P**	**23 53 42.8**	**+2.2**
MTKI	**Muara Teweh, K** 130nm,1.0s,12μm	**15.67**	**202**	P		P	P	23 53 52.1	+8.1
LBMI	**Labuha**	**15.79**	**154**	P		**Pn**	**Pn**	**23 53 43.6**	**-0.9**
KSM	**Kuching**	**15.94**	**221**	P		**P**	**P**	**23 53 49.0**	**+2.1**
KSM	**Kuching** 493nm,1.4s,5μm	**15.94**	**221**	P		**P**	**P**	**23 53 48.9**	**+2.1**
KSM	**Kuching** 381nm,1.0s	**15.94**	**221**	*ePn*		**P**	**P**	**23 53 46.9**	**0.0**
STKI	**Sintang** 136nm,1.3s	**16.36**	**215**	P		**P**	**P**	**23 53 54.4**	**+2.8**
MMSI	**Mamuju** 540nm,0.9s,5μm	**16.41**	**186**	P		**P**	**P**	**23 53 55.2**	**+3.0**
SKNT	**Sakolnakorn** 191nm,1.8s,7μm	**16.43**	**283**	P		**P**	**P**	**23 53 54.6**	**+2.2**
TTSI	**Tana Toraja** 189nm,1.0s	**16.70**	**183**	P		**Pn**	**Pn**	**23 53 58.5**	**+3.1**
MJSI	**Majene** 566nm,1.1s,9μm	**17.26**	**186**	P		**Pn**	**Pn**	**23 54 05.3**	**+3.1**
SSE	**Sheshan**	**17.28**	**1**	P		**Pn**	**Pn**	**23 54 03.4**	**+1.0**
SSE				sP		**sP**	**sP**	**23 54 43.4**	**-2.5**
SSE				S		**S**	**S**	**23 57 14.9**	**+0.8**
SSE	comp=Z,56nm,0.8s			AMB		AMB	AMB		
SSE	comp=Z,340nm,4.5s			AMB		AMB	AMB		
SSE	comp=N,500nm,16.9s			LR		LR	LR		
SSE	comp=E,1μm,16.9s			LR		LR	LR		
SSE	comp=Z,1μm,16.5s			LR		LR	LR		
SPSI	**Sidrap Palu** 222nm,1.1s,4μm	**17.61**	**183**	P		**Pn**	**Pn**	**23 54 07.8**	**+1.4**
WHN	**Wuhan**	**17.72**	**342**	⇓P		**Pn**	**Pn**	**23 54 08.9**	**+1.3**
WHN				S		**Sn**	**Sn**	**23 57 24.9**	**-1.4**
WHN	comp=Z,130nm,1.2s			AMB		AMB	AMB		
WHN	comp=N,4μm,13.0s			LR		LR	LR		
WHN	comp=E,4μm,15.2s			LR		LR	LR		
WHN	comp=Z,5μm,13.8s			LR		LR	LR		
KKSI	**Kolaka, Sulawe** 245nm,1.1s	**17.82**	**177**	P		**Pn**	**Pn**	**23 54 13.7**	**+4.8**
SWI	**Sorong** 66nm,0.8s,3μm	**17.89**	**143**	P		**Pn**	**Pn**	**23 54 12.1**	**+2.3**
SWI	**Sorong** baz=18	**17.89**	**143**	⇑P		**Pn**	**Pn**	**23 54 11.1**	**+1.4**
CHBT	**CHBT** 461nm,1.0s,4μm	**17.90**	**269**	P		**Pn**	**Pn**	**23 54 10.0**	**+0.1**
CHBT	**CHBT** 461nm,1.0s,4μm	**17.90**	**269**	P		**Pn**	**Pn**	**23 54 10.0**	**+0.1**
NLAI	**Namlea** 88nm,1.1s,5μm	**18.02**	**159**	P		**Pn**	**Pn**	**23 54 12.6**	**+1.3**
BNSI	**Bone** 307nm,1.1s,3μm	**18.03**	**182**	P		**Pn**	**Pn**	**23 54 13.6**	**+2.2**
GYA	**Guiyang**	**18.25**	**316**	⇑*iP*		**Pn**	**Pn**	**23 54 14.3**	**+0.2**
GYA				PP		**pP**	**pP**	**23 54 38.4**	**+0.4**
GYA				sP		**sP**	**sP**	**23 54 57.8**	**+1.0**
GYA				S		**S**	**S**	**23 57 31.0**	**-2.5**
GYA				PcP		**PcP**	**PcP**	**23 58 40.5**	**+2.1**
GYA	comp=Z,40nm,0.8s			AMB		AMB	AMB		
NJ2	**Nanjing**	**18.31**	**355**	*eP*		**Pn**	**Pn**	**23 54 14.3**	**-0.3**
NJ2				sP		**sP**	**sP**	**23 55 00.5**	**+3.3**
NJ2				S		**Sn**	**Sn**	**23 57 41.0**	**+0.7**
NJ2				PcP		**PcP**	**PcP**	**23 58 39.5**	**+1.3**
NJ2				AMB		AMB	AMB		
NJ2	comp=Z,10.0nm,0.5s			AMB		AMB	AMB		
NJ2	comp=Z,470nm,5.2s			LR		LR	LR		
NJ2	comp=N,2μm,13.8s			LR		LR	LR		
NJ2	comp=E,1μm,11.7s			LR		LR	LR		
NJ2	comp=Z,980nm,11.0s								
PBKI	**Pangkalan Bun** 185nm,1.2s,5μm	**18.63**	**209**	P		Pn	Pn	23 54 24.9	+6.5
KAPI	**Kappang** SNR=21	**18.65**	**183**	P		**Pn**	**Pn**	**23 54 18.2**	**-0.5**
KAPI	**Kappang** 381nm,1.0s,5μm	**18.65**	**183**	P		**Pn**	**Pn**	**23 54 18.2**	**-0.5**
KAPI	**Kappang**	**18.65**	**183**	*eP*		**P**	**P**	**23 54 15.8**	**-0.8**
KAPI				*eS*		**S**	**S**	**23 57 41.2**	**-0.3**
KAPI	**Kappang** 2μm,1.1s,SNR=22	**18.65**	**183**	P		**P**	**P**	**23 54 17.6**	**+0.9**
KAPI	**Kappang** 22nm,0.3s,baz=359,slow=10,SNR=56	**18.65**	**183**	P		**P**	**P**	**23 54 17.4**	**+0.7**
KAPI	0.3nm,0.3s,baz=218,slow=19,SNR=1.5			S		**S**	**S**	**23 57 41.2**	**-0.3**
AAI	**Ambon** 151nm,0.8s,3μm	**18.84**	**156**	P		Pn	Pn	23 54 25.8	+4.8
AAI	**Ambon** baz=18	**18.84**	**156**	⇓P		**Pn**	**Pn**	**23 54 20.9**	**-0.1**
BKSI	**Bulukumba** 261nm,1.1s,2μm	**18.94**	**182**	P		**Pn**	**Pn**	**23 54 21.3**	**-0.8**
BBSI	**Bau Bau** 489nm,1.1s,5μm	**19.19**	**174**	P		**Pn**	**Pn**	**23 54 25.0**	**0.0**
KTGM	**Kuala Trenggan**	**19.21**	**246**	P		**Pn**	**Pn**	**23 54 25.2**	**-0.1**
PBKT	**Sadao Pong** 133nm,1.4s,3μm	**19.25**	**281**	P		**Pn**	**Pn**	**23 54 24.6**	**-1.1**
PBKT	**Sadao Pong** 133nm,1.4s,3μm	**19.25**	**281**	P		**Pn**	**Pn**	**23 54 24.6**	**-1.1**
ENH	**Enshi** 45nm,0.7s	**19.44**	**330**	*eP*		**P**	**P**	**23 54 25.3**	**+0.1**
FAKI	**Fak Fak** 83nm,0.9s,3μm	**20.13**	**144**	P		Pn	Pn	23 54 35.8	-0.3
BNDI	**Bandanaira**	**20.31**	**153**	P		Pn	Pn	23 54 45.4	+7.2
KMI	**Kunming**	**20.34**	**307**	P		Pn	Pn	23 54 37.3	-1.6
KMI				PP		**PnPn**	**PnPn**	**23 55 04.5**	**+2.8**
KMI				sP		Sn	Sn	23 55 22.4	+2.5
KMI				S		**S**	**S**	**23 58 13.8**	**-1.5**
KMI				PcP		**PcP**	**PcP**	**23 58 44.4**	**+2.1**
KMI				SS		sS	sS	23 58 54.9	-4.1
KMI	comp=Z,26nm,1.4s			AMB		AMB	AMB		
KMI	comp=Z,460nm,5.1s			AMB		AMB	AMB		
KMI	comp=N,4μm,17.0s			LR		LR	LR		
KMI	comp=E,3μm,14.9s			LR		LR	LR		
KMI	comp=Z,2μm,19.1s			LR		LR	LR		
MYKOM	**Kota Tinggi**	**20.45**	**236**	P		**P**	**P**	**23 54 36.5**	**+0.3**
MYKOM	**Kota Tinggi** 116nm,1.1s,2μm	**20.45**	**236**	P		**P**	**P**	**23 54 37.3**	**+1.1**
MYKOM	**Kota Tinggi** 102nm,1.0s	**20.45**	**236**	*eP*		**P**	**P**	**23 54 35.0**	**-1.1**
CRAI	**Chiangrai** 104nm,0.9s,6μm	**20.47**	**291**	P		**P**	**P**	**23 54 37.6**	**+1.3**
UTHA	**Uthaitani** 40nm,0.9s,278nm	**20.64**	**278**	P		**P**	**P**	**23 54 39.4**	**+1.3**
KGM	**Kluang**	**20.75**	**237**	P		**P**	**P**	**23 54 40.7**	**+1.3**
BAKI	**Biak** 264nm,1.3s,4μm	**21.29**	**133**	P		**P**	**P**	**23 54 47.6**	**+2.5**
CM01	**Chiang Mai Arr**	**21.39**	**285**	*eP*		**P**	**P**	**23 54 46.6**	**+0.4**
PPBI	**Pangkal Pinang** 46nm,1.1s,12μm	**21.40**	**224**	P		**P**	**P**	**23 54 48.0**	**+1.7**
CM31	**Chiang Mai Arr**	**21.41**	**286**	*eP*		**P**	**P**	**23 54 47.5**	**+1.0**
CM31				*eS*		**S**	**S**	**23 58 36.2**	**+1.0**
CM31				*ePcP*		**PcP**	**PcP**	**23 58 45.1**	**+1.0**
CM31				*eScP*		**ScP**	**ScP**	**00 02 08.7**	**+1.2**
CMAR	**Chiang Mai Arr** 91nm,0.6s,baz=96,slow=8.1,SNR=232	**21.41**	**286**	P		**P**	**P**	**23 54 47.5**	**+1.0**
CMAR	1.4nm,0.3s,baz=90,slow=14,SNR=4.3			S		**S**	**S**	**23 58 36.3**	**+1.0**
CMAR	5.8nm,0.6s,baz=104,slow=0.7,SNR=8.4			PcP		**PcP**	**PcP**	**23 58 45.1**	**+1.0**
CMAR	2.5nm,0.4s,baz=95,slow=1.2,SNR=10			ScP		**ScP**	**ScP**	**00 02 08.7**	**+1.2**
JNU	**Nakatsue** 49nm,1.0s	**21.41**	**24**	*eP*		**P**	**P**	**23 54 46.1**	**-0.3**
JNU				*eS*		**S**	**S**	**23 58 30.7**	**-4.4**
JNU				*eScP*		**ScP**	**ScP**	**00 02 06.7**	**-0.5**
JNU	**Nakatsue** 37nm,0.9s,baz=190,slow=6.3,SNR=9.7	**21.41**	**24**	P		**P**	**P**	**23 54 46.9**	**+0.5**
JNU	6.9nm,0.9s,baz=315,slow=19,SNR=2.5			S		**S**	**S**	**23 58 30.7**	**-4.4**
JNU	comp=Z,982nm,20.6s,baz=205,slow=34			LR		LR	LR	00 02 06.7	
KULM	**Kulim**	**21.46**	**249**	P		**P**	**P**	**23 54 47.8**	**+0.8**
KULM	**Kulim** 78nm,1.5s,2μm	**21.46**	**249**	P		**P**	**P**	**23 54 47.9**	**+1.0**
KULM	**Kulim** 78nm,1.2s	**21.46**	**249**	*eP*		**P**	**P**	**23 54 46.1**	**-0.8**
IPM	**Ipoh**	**21.47**	**246**	P		**P**	**P**	**23 54 47.1**	**+0.1**
IPM	**Ipoh** 90nm,0.7s,2μm	**21.47**	**246**	P		**P**	**P**	**23 54 47.6**	**+0.5**
IPM	**Ipoh** 58nm,0.7s	**21.47**	**246**	*eP*		**P**	**P**	**23 54 46.2**	**-0.9**
CHTO	**Chiang Mai**	**21.47**	**286**	*eP*		**P**	**P**	**23 54 46.4**	**-0.7**
CHTO	comp=Z,230nm,0.8s			pmax		pmax	pmax		
CHTO	**Chiang Mai** SNR=17	**21.47**	**286**	P		**P**	**P**	**23 54 48.5**	**+1.4**
CHTO	**Chiang Mai** comp=Z,408nm,0.9s,comp=Z,6μm	**21.47**	**286**	P		**P**	**P**	**23 54 47.6**	**+0.5**
CHTO	**Chiang Mai** comp=Z,230nm,0.8s	**21.47**	**286**	*eP*		**P**	**P**	**23 54 46.4**	**-0.7**
CHTO	**Chiang Mai** comp=Z,408nm,0.9s,comp=Z,6μm	**21.47**	**286**	P		**P**	**P**	**23 54 47.6**	**+0.5**
FRIM	**Kepong**	**21.53**	**243**	P		**P**	**P**	**23 54 48.8**	**+1.1**
KMPI	**Kaimana, Papua** comp=Z,185nm,0.8s	**21.57**	**142**	P		**P**	**P**	**23 54 51.6**	**+3.5**
CMAI	**Chiengmai2** comp=Z,358nm,0.8s,comp=Z,13μm	**21.61**	**290**	P		**P**	**P**	**23 54 49.4**	**+0.7**
KMMI	**Kalianget** comp=Z,342nm,1.1s,comp=Z,4μm	**21.70**	**198**	P		**P**	**P**	**23 54 53.6**	**+4.1**
SURT	**Suratani** comp=Z,186nm,1.4s,comp=Z,2μm	**21.98**	**260**	P		**P**	**P**	**23 54 53.3**	**+0.9**
GRJI	**Gresik** comp=Z,298nm,1.0s,comp=Z,2μm	**22.08**	**202**	P		**P**	**P**	**23 54 57.2**	**+3.9**
MMRI	**Maumere** comp=Z,639nm,1.1s,comp=Z,5μm	**22.28**	**176**	P		**P**	**P**	**23 54 55.6**	**+0.3**
MMRI	**Maumere** comp=Z,690nm,1.1s	**22.28**	**176**	*eP*		**P**	**P**	**23 54 55.1**	**-0.2**
ABJI	**Asem Bagus** comp=Z,401nm,1.2s,comp=Z,6μm	**22.33**	**197**	P		**P**	**P**	**23 54 58.2**	**+2.4**
SRBI	**Singaraja** comp=Z,686nm,1.1s,comp=Z,6μm	**22.35**	**194**	P		**P**	**P**	**23 54 57.5**	**+1.5**
BLJI	**Banyuglugur** comp=Z,324nm,1.0s,comp=Z,4μm	**22.48**	**199**	P		**P**	**P**	**23 54 59.7**	**+2.5**
TIA	**Tai'an**	**22.61**	**352**	⇑P		**P**	**P**	**23 54 58.5**	**+0.2**
TIA				pP		**pP**	**pP**	**23 55 28.3**	**+2.6**
TIA				sP		**sP**	**sP**	**23 55 40.0**	**-4.1**
TIA				S		**S**	**S**	**23 58 57.8**	**+2.9**
TIA	comp=Z,770nm,4.9s			AMB		AMB	AMB		
TIA	comp=Z,1μm,9.3s			LR		LR	LR		
TIA	comp=Z,1μm,15.2s			LR		LR	LR		
TIA	comp=Z,1μm,11.3s			LR		LR	LR		
TLE	**Tual** comp=Z,172nm,1.4s,comp=Z,4μm	**22.66**	**147**	P		**P**	**P**	**23 55 00.6**	**+1.6**
TLE	**Tual** baz=22,SNR=3.3	**22.66**	**147**	⇓P		**P**	**P**	**23 55 00.3**	**+1.4**
MTNI	**Mataram** comp=Z,135nm,1.1s,comp=Z,2μm	**22.68**	**192**	P		**P**	**P**	**23 54 58.3**	**-0.8**
PKDT	**Phuket** comp=Z,184nm,1.1s,comp=Z,10μm	**22.71**	**257**	P		**P**	**P**	**23 55 00.2**	**+0.8**
NBBI	**Negara** comp=Z,737nm,1.1s,comp=Z,7μm	**22.77**	**196**	P		**P**	**P**	**23 55 02.6**	**+2.6**
XAN	**Xi'an**	**22.86**	**334**	P		**P**	**P**	**23 55 00.4**	**-0.4**
XAN				pP		**pP**	**pP**	**23 55 28.8**	**+0.3**
XAN				sP		**sP**	**sP**	**23 55 45.8**	**-1.1**
XAN				S		**S**	**S**	**23 58 57.8**	**-1.3**
XAN				SS		**SnSn**	**SnSn**	**23 59 57.3**	**+8.2**
XAN	comp=Z,29nm,1.2s			AMB		AMB	AMB		
XAN	comp=Z,110nm,6.5s			AMB		AMB	AMB		
XAN	comp=Z,1μm,14.8s			LR		LR	LR		
XAN	comp=Z,640nm,14.7s			LR		LR	LR		
XAN	comp=Z,380nm,14.4s			LR		LR	LR		
PMBI	**Palembang** comp=Z,400nm,1.2s	**22.88**	**225**	*eP*		**P**	**P**	**23 55 02.9**	**+1.9**
NGJI	**Ngawi** comp=Z,316nm,1.0s	**22.88**	**204**	P		**P**	**P**	**23 55 04.4**	**+3.4**
DNP	**Denpasar** comp=Z,726nm,0.9s	**22.92**	**194**	P		**P**	**P**	**23 55 05.1**	**+3.7**
GMJI	**Gumukmas** comp=Z,501nm,1.1s,comp=Z,6μm	**23.02**	**199**	P		**P**	**P**	**23 55 04.1**	**+1.8**
CD2	**Chengdu**	**23.13**	**320**	P		**P**	**P**	**23 55 04.0**	**+0.7**
CD2				pP		**pP**	**pP**	**23 55 32.8**	**+1.4**
CD2				PP		**PnPn**	**PnPn**	**23 55 42.3**	**+3.5**
CD2				sP		**sP**	**sP**	**23 55 50.3**	**+0.5**
CD2				S		**S**	**S**	**23 59 01.8**	**-1.7**
CD2				SS		**SnSn**	**SnSn**	**00 00 01.4**	**+5.8**
CD2	comp=Z,130nm,1.0s			AMB		AMB	AMB		
CD2	comp=Z,250nm,7.3s			AMB		AMB	AMB		
KRKI	**Karangkates** comp=Z,617nm,1.0s	**23.24**	**201**	P		**P**	**P**	**23 55 07.1**	**+2.8**
WSI	**Waingapu** comp=Z,2μm,1.2s,comp=Z,24μm	**23.26**	**181**	P		**P**	**P**	**23 55 04.3**	**-0.1**
WBSI	**Waikabubak, Su** comp=Z,406nm,1.3s,comp=Z,6μm	**23.26**	**183**	P		**P**	**P**	**23 55 06.3**	**+1.8**
PWJI	**Pagerwojo** comp=Z,315nm,1.1s,comp=Z,4μm	**23.35**	**203**	P		**P**	**P**	**23 55 07.1**	**+1.8**
TGJI	**Tegal** comp=Z,180nm,1.0s	**23.47**	**210**	P		**P**	**P**	**23 55 10.3**	**+3.8**
GUMO	**Guam** comp=Z,694nm,1.1s	**23.49**	**87**	*eP*		**P**	**P**	**23 55 07.7**	**+1.0**
WOJI	**Wonogiri, Jawa** comp=Z,483nm,1.2s,comp=Z,5μm	**23.52**	**205**	P		**P**	**P**	**23 55 08.9**	**+2.0**
BJII	**Banjamegara** comp=Z,193nm,1.4s,comp=Z,3μm	**23.60**	**208**	P		**P**	**P**	**23 55 10.8**	**+3.1**
SOEI	**Soe** comp=Z,308nm,1.1s,comp=Z,4μm	**23.61**	**171**	P		**P**	**P**	**23 55 07.4**	**-0.4**
PCJI	**Pacitan** comp=Z,185nm,1.2s	**23.75**	**204**	P		**P**	**P**	**23 55 12.1**	**+3.2**
UGM	**Wanagama** comp=Z,304nm,1.3s	**23.76**	**206**	P		**P**	**P**	**23 55 12.4**	**+3.3**
UGM	**Wanagama** comp=Z,411nm,1.2s	**23.76**	**206**	*eP*		**P**	**P**	**23 55 10.7**	**+1.6**
YOGI	**Yogyakarta** comp=Z,914nm,1.1s	**23.77**	**206**	P		**P**	**P**	**23 55 12.9**	**+3.7**
KPJI	**Karang Pucung** comp=Z,111nm,1.5s,comp=Z,2μm	**23.97**	**210**	P		**P**	**P**	**23 55 15.3**	**+4.4**
CBI	**Chichi jima**	**24.08**	**53**	*eP*		**P**	**P**	**23 55 11.8**	**-0.1**
JCJ	**Chichijima** comp=Z,243nm,0.4s,baz=258,slow=9.3,SNR=11	**24.08**	**53**	P		**P**	**P**	**23 55 11.8**	**-0.1**
JCJ	comp=Z,958nm,20.6s,baz=242,slow=36			LR		LR	LR	00 04 25.7	
PSI	**Prapat**	**24.10**	**245**	*eP*		**P**	**P**	**23 55 12.6**	**+0.3**
PSI				*eScP*		**ScP**	**ScP**	**00 02 14.3**	**-0.4**
PSI	**Prapat** comp=Z,72nm,0.7s,baz=55,slow=7.3,SNR=66	**24.10**	**245**	P		**P**	**P**	**23 55 12.6**	**+0.3**
PSI	comp=Z,5.5nm,0.7s,baz=55,slow=1.8,SNR=5.8			ScP		**ScP**	**ScP**	**00 02 14.3**	**-0.4**
LEM	**Lembang** comp=Z,128nm,1.0s	**24.20**	**213**	P		**P**	**P**	**23 55 17.0**	**+3.7**
KLI	**Kotabumi** comp=Z,126nm,0.7s,comp=Z,3μm	**24.26**	**221**	P		**P**	**P**	**23 55 17.8**	**+4.2**
LHSI	**Lahat** comp=Z,281nm,1.3s,comp=Z,5μm	**24.39**	**226**	P		**P**	**P**	**23 55 17.3**	**+2.5**
MDSI	**Maura Dua** comp=Z,66nm,1.1s,comp=Z,991nm	**24.42**	**223**	P		**P**	**P**	**23 55 17.2**	**+2.1**
DBJI	**Dramaga** comp=Z,120nm,1.4s,comp=Z,2μm	**24.45**	**215**	P		**P**	**P**	**23 55 18.8**	**+3.4**
SBJI	**Serang**	**24.46**	**217**	P		P	P	23 55 24.8	+9.4
KS15	**Wonju Array Si**	**24.46**	**14**	*eP*		**P**	**P**	**23 55 15.5**	**+0.3**
KSRS	**Korea Array** comp=Z,12nm,0.8s,baz=195,slow=9.0,SNR=23	**24.48**	**14**	P		**P**	**P**	**23 55 15.5**	**+0.1**
KSRS	comp=Z,812nm,20.0s,baz=195,slow=37			LR		LR	LR	00 05 11.8	
KS01	**Wonju Array Si**	**24.50**	**14**	*eP*		**P**	**P**	**23 55 15.5**	**0.0**
PPI	**Padang Panjang** comp=Z,226nm,1.2s,comp=Z,2μm	**24.56**	**237**	P		**P**	**P**	**23 55 17.5**	**+1.2**
PPI	**Padang Panjang** baz=24,SNR=13	**24.56**	**237**	⇓P		**P**	**P**	**23 55 17.0**	**+0.7**
CISI	**Cisompet, Garu** comp=Z,183nm,1.3s,comp=Z,2μm	**24.72**	**212**	P		**P**	**P**	**23 55 19.1**	**+1.3**
CISI	**Cisompet, Garu** comp=Z,517nm,1.6s	**24.72**	**212**	*eP*		**P**	**P**	**23 55 18.0**	**+0.2**
KCSI	**Kotacane, Aceh** comp=Z,110nm,0.9s,comp=Z,1μm	**24.80**	**248**	P		**P**	**P**	**23 55 18.2**	**-0.4**
MASI	**Maura Aman, Be** comp=Z,442nm,1.3s,comp=Z,4μm	**24.83**	**229**	P		**P**	**P**	**23 55 23.0

HHC AMB AMB
comp=Z,480nm,6.1s
HHC LR LR
comp=Z,2µm,14.9s
HHC LR LR
comp=Z,2µm,15.3s
HHC LR LR
comp=Z,2µm,13.3s
XMIS Christmas Isla 28.31 213 *e*P **P 23 55 48.8 -1.2**
comp=Z,815nm,1.4s
BTO Baotou 28.35 343 *e*P **P 23 55 50.1 -0.1**
KDU Kakadu 28.73 156 ⇓P **P 23 55 52.1 -1.5**
baz=28
SHL Shillong 29.50 298 *e*P **P 23 56 01.0 +0.3**
SHL *i* S **S 00 00 45.0 +0.3**
SHL *e*SCS **ScS 00 06 25.0 -1.0**
CN2 Changchun 30.24 7 *e*P P 23 55 58.5 -8.2
CN2 Changchun 30.24 7 *e*pP pP 23 56 32.1 -6.1
CN2 Changchun 30.24 7 *e*sP **sP 23 56 50.8 -4.4**
CN2 AMB AMB
comp=Z,10.0nm,0.8s
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,900nm,17.0s
CN2 LR LR
comp=E,1µm,17.0s
CN2 LR LR
comp=Z,800nm,16.0s
GTA Gaotai 31.51 328 ⇑P **P 23 56 19.3 +1.2**
GTA pP **pP 23 56 50.3 +0.7**
GTA sP **sP 23 57 05.9 -0.8**
GTA S **S 00 01 16.9 +1.3**
GTA sS **sS 00 02 09.8 -1.1**
GTA ScP **ScP 00 02 38.0 +0.9**
GTA SS **SnSn 00 03 16.8 -1.9**
GTA AMB AMB
comp=Z,130nm,2.0s
GTA AMB AMB
comp=Z,480nm,4.5s
GTA LR LR
comp=Z,880nm,19.5s
GTA LR LR
comp=Z,960nm,16.6s
GTA LR LR
comp=Z,2µm,14.3s
LSA Lhasa 31.58 305 P **P 23 56 20.3 +1.0**
LSA AMB AMB
comp=Z,50nm,0.6s
LSA Lhasa 31.58 305 *e*P **P 23 56 19.6 +0.2**
LSA pmax pmax
comp=Z,136nm,1.5s
LSA Lhasa 31.58 305 *e*P **P 23 56 19.6 +0.2**
comp=Z,136nm,1.5s
MDJ Mudanjiang 31.70 12 P **P 23 56 20.8 +1.2**
MDJ pP **pP 23 56 49.0 -2.1**
MDJ sP **sP 23 57 03.3 -4.8**
MDJ PP **PP 23 57 35.3 +1.1**
MDJ S **S 00 01 20.6 +2.4**
MDJ sS **sS 00 02 18.6 +5.1**
MDJ ScS ScS 00 06 27.8 -7.8
MDJ AMB AMB
comp=Z,20nm,0.7s
MDJ AMB AMB
comp=Z,180nm,6.8s
MDJ LR LR
comp=Z,830nm,19.2s
MDJ LR LR
comp=Z,190nm,18.4s
MDJ LR LR
comp=Z,820nm,16.9s
MDJ Mudanjiang 31.70 12 *e*P **P 23 56 18.1 -1.4**
comp=Z,25nm,1.0s
USRK Ussuriysk Arra 31.86 15 P **P 23 56 21.7 +0.7**
comp=Z,13nm,0.7s,baz=202,slow=7.6,SNR=21
USRK LR LR 00 08 42.8
comp=Z,681nm,21.8s,baz=341,slow=35
FITZ Fitzroy Crossi 32.01 171 *e*P **P 23 56 21.8 -0.8**
FITZ Fitzroy Crossi 32.01 171 ⇓P **P 23 56 22.1 -0.4**
baz=32
FITZ Fitzroy Crossi 32.01 171 P **P 23 56 21.8 -0.8**
comp=Z,58nm,1.0s,baz=17,slow=8.0,SNR=40
TAPN Taplejung 33.60 299 *e*P **P 23 56 37.1 +0.3**
comp=Z,97nm,0.8s
ODAN Odare 33.74 298 *e*P **P 23 56 38.4 +0.5**
comp=Z,215nm,0.7s
BOK Bokaro 34.36 292 *e*P **P 23 56 43.9 +0.9**
RAMN Ramite 34.44 298 *e*P **P 23 56 44.4 +0.4**
comp=Z,152nm,0.7s
MBWA Marble Bar 34.69 182 P **P 23 56 44.7 -1.0**
SNR=19
MBWA Marble Bar 34.69 182 *e*P **P 23 56 43.8 -2.0**
comp=Z,273nm,1.1s
PMG Port Moresby 34.91 130 P P 23 56 55.0 +7.3
comp=Z,53nm,1.4s
PMG Port Moresby 34.91 130 *e*P **P 23 56 48.0 +0.2**
comp=Z,42nm,0.9s
PMG Port Moresby 34.91 130 P **P 23 56 47.7 0.0**
comp=Z,9.0nm,0.4s,baz=297,slow=6.8,SNR=3.7
JIRN Jiri 34.99 299 *e*P **P 23 56 49.0 +0.2**
comp=Z,207nm,0.7s
GUN Gumba 35.32 299 *e*P **P 23 56 51.8 +0.2**
comp=Z,163nm,0.4s
HIA Hailar 35.44 359 *e*P **P 23 56 51.2 -0.7**
comp=Z,21nm,1.1s
ASAJ Asahikawa 35.60 27 *e*P **P 23 56 53.4 0.0**
comp=Z,50nm,1.2s
ASAJ Asahikawa 35.60 27 P **P 23 56 53.5 +0.2**
comp=Z,8.8nm,0.7s,baz=228,slow=14,SNR=5.0
ASAJ LR LR 00 10 34.4
comp=Z,560nm,21.7s,baz=117,slow=34
PKI Pulchoki 35.63 298 *e*P **P 23 56 53.9 -0.3**
comp=Z,86nm,0.7s
PKIN Phulchoki 35.64 298 *e*P **P 23 56 54.2 -0.1**
comp=Z,68nm,0.6s
KKN Kakani 35.80 299 *e*P **P 23 56 55.4 -0.1**
comp=Z,107nm,0.9s
DMN Daman 35.90 298 *e*P **P 23 56 56.2 -0.2**
comp=Z,145nm,0.8s
SONA0 Songino Array 36.02 344 *e*P **P 23 56 56.9 -0.2**
SONA0 *e*PcP **PcP 23 59 21.2 +1.0**
SONA0 *e*S **S 00 02 23.2 -1.8**
SONA0 *e*ScP **ScP 00 02 52.6 -0.2**
SONM Songino Array 36.02 344 P **P 23 56 56.9 -0.2**
comp=Z,37nm,0.7s,baz=161,slow=9.6,SNR=226
SONM PcP **PcP 23 59 21.2 +1.0**
comp=Z,1.7nm,0.5s,baz=155,slow=3.8,SNR=6.1
SONM S **S 00 02 23.2 -1.8**
comp=Z,0.1nm,0.3s,baz=124,slow=21,SNR=2.4
SONM ScP **ScP 00 02 52.6 -0.2**
comp=Z,3.1nm,0.8s,baz=169,slow=4.9,SNR=7.4
SONM LR LR 00 13 49.9
comp=Z,475nm,19.0s,baz=162,slow=39
SONA1 Songino Array 36.03 344 *e*P **P 23 56 56.4 -0.7**
WRAB Tennant Creek 36.05 158 ⇓*i*P **P 23 56 57.4 -0.1**
WRAB pmax pmax
comp=Z,117nm,0.9s
WRAB Tennant Creek 36.05 158 *e*P **P 23 56 55.8 -1.7**
comp=Z,44nm,0.7s
WRAB Tennant Creek 36.05 158 P **P 23 56 55.3 -2.2**
comp=Z,354nm,0.7s,SNR=15
WRA Warramunga Arr 36.06 158 *e*P **P 23 56 55.4 -2.1**
WRA *e*S **S 00 02 19.9 -5.9**
WRA *e*ScP **ScP 00 02 52.6 -0.6**
WRA Warramunga Arr 36.06 158 P **P 23 56 55.4 -2.1**
comp=Z,46nm,1.0s,baz=336,slow=9.4,SNR=61
WRA S **S 00 02 19.9 -5.9**
comp=Z,10nm,0.9s,baz=335,slow=16,SNR=8.9
WRA ScP **ScP 00 02 52.6 -0.6**
comp=Z,7.0nm,0.7s,baz=343,slow=4.1,SNR=7.8
VIS Vishakhapatnam 36.14 281 *e*P **P 23 56 57.9 -0.4**
GKN Gorkha 36.40 299 *e*P **P 23 57 00.1 -0.5**
comp=Z,157nm,1.0s
KLR Kul'dur 36.55 12 *e*P P 23 56 57.0 -4.3
KLR *e* 23 57 29.0
KLR *e*S S 00 02 26.5 -6.1
KLR *e* 00 05 45.5
KLR pmax pmax
comp=E,42nm,1.8s
KLR pmax pmax
comp=Z,170nm,1.8s
YUK Yuzh-Kuril'sk 37.08 31*d i*P **P 23 57 05.9 0.0**
YUK *i* *PP **pP 23 57 38.9 +0.9**
YUK *i* 23 58 31.3
YUK *i* S **S 00 02 41.4 +0.5**

KOLN Koldanda 37.23 298 *e*P **P 23 57 07.5 -0.2**
comp=Z,55nm,0.7s
DANN Dangsing 37.24 299 *e*P **P 23 57 07.5 -0.4**
comp=Z,160nm,0.9s
YSS Yuzh-Sakhalins 37.92 25⇓*e*P **P 23 57 14.8 +1.9**
YSS pmax pmax
comp=Z,65nm,1.4s
ZAK Zakamensk 39.21 342⇑*i*P **P 23 57 24.0 +0.3**
ZAK pmax pmax
comp=Z,16nm,1.0s
MTSU Mount Surprise 39.32 143 ⇓P **P 23 57 25.3 +0.4**
baz=39,SNR=16
AS15 Alice Springs 39.33 161 ⇑P **P 23 57 24.0 -1.0**
baz=39
AS13 Alice Springs 39.34 161 ⇑P **P 23 57 24.1 -1.0**
baz=39
AS12 Alice Springs 39.35 161 *e*P **P 23 57 23.9 -1.3**
AS12 *e*PcP **PcP 23 59 30.8 0.0**
AS12 *e*ScP **ScP 00 03 05.8 +0.1**
AS12 *e*S **S 00 03 12.1 -3.5**
ASAR Alice Springs 39.35 161 P **P 23 57 23.9 -1.3**
comp=Z,23nm,0.4s,baz=337,slow=7.1,SNR=196
ASAR PcP **PcP 23 59 30.8 0.0**
comp=Z,9.5nm,0.7s,baz=344,slow=3.0,SNR=5.8
ASAR ScP **ScP 00 03 05.8 +0.1**
comp=Z,3.2nm,0.8s,baz=342,slow=3.9,SNR=7.2
ASAR S **S 00 03 12.1 -3.5**
comp=Z,5.2nm,1.1s,baz=351,slow=17,SNR=9.4
AS11 Alice Springs 39.36 161 ⇓P **P 23 57 24.0 -1.3**
baz=39
AS01 Alice Springs 39.37 161 *e*P **P 23 57 23.6 -1.7**
AS19 Alice Springs 39.41 161 ⇓P **P 23 57 25.3 -0.3**
baz=39
PALK Pallekele 39.80 265 *e*P **P 23 57 27.6 -1.5**
comp=Z,15nm,1.0s
TLY Talaya 40.26 344⇑*i*P **P 23 57 33.7 +1.3**
TLY pmax pmax
comp=Z,73nm,1.7s
TLY Talaya 40.26 344 P **P 23 57 32.6 +0.2**
comp=Z,286nm,0.5s,SNR=7.3
IRK Irkutsk 40.60 345 *e*P **P 23 57 33.8 -1.3**
IRK pmax pmax
comp=Z,74nm,1.4s
HYB Hyderabad 40.70 281 *i* P **P 23 57 37.0 +0.5**
HYB *e*pP **pP 23 58 10.0 +1.0**
HYB *e*PP **PP 23 59 14.0 +0.7**
HYB *e*S **S 00 03 34.0 -1.9**
HYB Hyderabad 40.70 281 *e*P **P 23 57 37.3 +0.9**
MOY Mondy 41.03 341 *e*P **P 23 57 39.9 +1.2**
MOY pmax pmax
comp=Z,62nm,2.5s
WMQ Urumqi 41.17 323 P **P 23 57 41.3 +1.3**
WMQ pP **pP 23 58 12.6 -0.1**
WMQ sP **sP 23 58 28.8 -0.6**
WMQ PP **PP 23 59 19.8 +1.7**
WMQ S **S 00 03 43.9 +1.5**
WMQ ScS **ScS 00 07 30.5 +1.9**
WMQ AMB AMB
comp=Z,60nm,0.7s
WMQ AMB AMB
comp=Z,460nm,3.6s
WMQ LR LR
comp=Z,2µm,14.8s
WMQ LR LR
comp=Z,2µm,14.8s
WMQ LR LR
comp=Z,810nm,22.4s
BHPL Bhopal 41.98 290 *e*P **P 23 57 47.1 +0.2**
CTA Charters Tower 41.98 143 *e*P **P 23 57 46.5 -0.3**
CTA Charters Tower 41.98 143 ⇓P **P 23 57 46.9 +0.2**
baz=42
CTA Charters Tower 41.98 143 P **P 23 57 46.5 -0.3**
comp=Z,72nm,0.7s,baz=311,slow=11,SNR=34
CTAO Charters Tower 41.98 143 *e*P **P 23 57 46.7 0.0**
CTAO pmax pmax
comp=Z,174nm,1.1s
CTAO Charters Tower 41.98 143 *e*P **P 23 57 46.7 0.0**
comp=Z,174nm,1.1s
DDI Dehra Dun 42.55 300 *e*P **P 23 57 49.9 -1.6**
DDI AMB AMB 23 57 53.2
comp=Z,128nm,1.6s
HVS Khovu-Aksy 43.22 335⇓*i*P **P 23 57 57.6 +1.2**
HVS pmax pmax
comp=Z,176nm,1.5s
SMLA Simla 43.48 301 *e*P **P 23 57 57.9 -0.9**
DHRM DHARAMSHALA 44.47 302 *e*P **P 23 58 06.0 -0.9**
POO Poona 45.16 283 *e*P **P 23 58 11.5 -0.8**
GOA Goa 45.32 278 *e*P **P 23 58 10.6 -2.9**
MK01 Makanchi Array 45.98 324 *e*P **P 23 58 18.5 +0.1**
MK31 Makanchi Array 46.00 324 *i* P **P 23 58 19.1 +0.6**
MK31 pmax pmax
comp=Z,19nm,0.4s
MK32 Makanchi Array 46.00 324 *e*P **P 23 58 19.0 +0.5**
MK32 *e*ScP **ScP 00 03 32.0 -0.1**
MK32 *e*S **S 00 04 53.5 +1.1**
MKAR Makanchi Array 46.00 324*ce*P **P 23 58 19.2 +0.7**
MKAR pmax pmax
comp=Z,63nm,0.8s
MKAR Makanchi Array 46.00 324 *e*P **P 23 58 18.8 +0.3**
MKAR Makanchi Array 46.00 324 P **P 23 58 19.0 +0.5**
comp=Z,63nm,0.8s,baz=129,slow=8.3,SNR=257
MKAR ScP **ScP 00 03 32.0 -0.1**
comp=Z,5.5nm,0.7s,baz=115,slow=4.7,SNR=8.3
MKAR S **S 00 04 53.5 +1.1**
comp=Z,2.3nm,0.9s,baz=123,slow=16,SNR=3.9
NWAO Narrogin (SRO) 46.52 184 P **P 23 58 22.9 +0.3**
SNR=9.4
NWAO Narrogin (SRO) 46.52 184 *e*P **P 23 58 21.5 -1.1**
comp=Z,251nm,1.2s
KSH Kashi 46.87 312 P **P 23 58 28.4 +2.8**
KSH pP **pP 23 59 01.5 +2.6**
KSH sP **sP 23 59 15.3 -0.2**
KSH PcP **PcP 23 59 58.6 +2.5**
KSH S **S 00 05 09.0 +3.8**
KSH sS **sS 00 06 03.3 +0.2**
KSH SS **SS 00 08 29.4 -4.3**
KSH AMB AMB
comp=Z,54nm,1.2s
KSH LR LR
comp=Z,590nm,12.7s
KSH LR LR
comp=Z,160nm,10.5s
KSH LR LR
comp=Z,200nm,13.6s
ULHL Ulahol 47.69 315 *i* P **P 23 58 33.3 +1.3**
ULHL Ulahol 47.69 315 P **P 23 58 33.3 +1.3**
SNR=40
RKGY Rocky Gully 48.21 184 ⇓P **P 23 58 35.9 +0.2**
baz=48,SNR=32
KZA Kyzart 48.31 315 *i* P **P 23 58 38.3 +1.4**
KZA Kyzart 48.31 315 P **P 23 58 38.4 +1.4**
SNR=91
TKM2 Tokmak 2 48.40 316 *e*P **P 23 58 37.8 +0.4**
TKM2 pmax pmax
comp=Z,32nm,0.8s
TKM2 Tokmak 2 48.40 316 P **P 23 58 38.4 +1.0**
SNR=37
TKM2 Tokmak 2 48.40 316 *e*P **P 23 58 37.8 +0.4**
comp=Z,32nm,0.8s
RMQ Roma 48.41 146 ⇑P **P 23 58 37.2 -0.1**
baz=48,SNR=11
BBOO Buckleboo 48.56 163 *e*P **P 23 58 36.3 -2.1**
comp=Z,366nm,0.6s
YAK Yakutsk 48.66 6 *e*P **P 23 58 38.0 -0.7**
YAK *e* 23 59 58.7
YAK *e* 00 00 33.5
YAK *e*PPP PPP 00 01 27.8
YAK *e*S **S 00 05 24.8 -4.5**
YAK *e* 00 08 10.2
YAK pmax pmax
comp=Z,73nm,0.9s
YAK pmax pmax
comp=N,22nm,1.0s
YAK pmax pmax
comp=Z,122nm,3.5s
YAK pmax pmax
comp=N,96nm,2.8s
YAK pmax pmax
comp=E,64nm,2.4s
YAK smax smax
comp=N,18nm,1.4s
YAK smax smax
comp=E,62nm,1.6s
KBK Karagaybulak 48.73 315 *i* P **P 23 58 41.3 +1.4**
KBK Karagaybulak 48.73 315 P **P 23 58 41.3 +1.4**

SNR=67
EIDS Eidsvold 48.87 143 *e*P **P 23 58 39.9 -1.0**
comp=E,51nm,1.1s
CHMS Chumysh 49.00 316 *i* P **P 23 58 42.4 +0.7**
CHMS Chumysh 49.00 316 P **P 23 58 42.4 +0.7**
SNR=27
PEA0 Petropavlovsk- 49.00 29 *e*P **P 23 58 42.1 +0.6**
PETK Petropavlovsk- 49.00 29 P **P 23 58 41.6 +0.1**
comp=E,5.0nm,0.5s,baz=214,slow=7.5,SNR=12
ZAA0 Zalesovo Array 49.02 333 *e*P **P 23 58 40.5 -1.2**
ZALV Zalesovo Beam 49.02 333 *i* P **P 23 58 41.4 -0.3**
ZALV pmax pmax
comp=Z,41nm,0.4s
ZALV Zalesovo Beam 49.02 333 P **P 23 58 41.3 -0.4**
comp=Z,41nm,0.4s,baz=123,slow=6.5,SNR=183
ZALV S **S 00 05 33.1 -1.7**
comp=Z,4.4nm,1.1s,baz=120,slow=14,SNR=6.4
ZALV LR LR 00 18 52.9
comp=Z,482nm,19.2s,baz=250,slow=35
FRU Bishkek 49.03 315 *e*P **P 23 58 42.0 0.0**
FRU *e* 00 00 08.0
FRU *e* 00 05 36.0
FRU pmax pmax
comp=Z,110nm,2.0s
AAK Ala-Archa 49.04 315⇑*i*P **P 23 58 43.9 +1.7**
AAK pmax pmax
comp=Z,170nm,1.9s
AAK Ala-Archa 49.04 315 P **P 23 58 43.7 +1.5**
SNR=32
AAK Ala-Archa 49.04 315 P **P 23 58 44.4 +2.2**
SNR=33
AAK Ala-Archa 49.04 315 *e*P **P 23 58 42.9 +0.6**
comp=Z,68nm,1.4s
AAK *e*ScP **ScP 00 03 45.6 +0.4**
AAK Ala-Archa 49.04 315 P **P 23 58 43.8 +1.6**
comp=Z,215nm,1.2s,SNR=22
AAK Ala-Archa 49.04 315 P **P 23 58 43.3 +1.1**
comp=Z,15nm,0.8s,baz=110,slow=8.5,SNR=48
AAK ScP **ScP 00 03 45.6 +0.4**
comp=Z,2.2nm,0.6s,baz=110,slow=4.8,SNR=4.1
AAK LR LR 00 22 23.7
comp=Z,683nm,19.8s,baz=98,slow=39
BHJ Bhuj 49.11 289 *e*P **P 23 58 42.5 -0.4**
USP Ospenovka 49.27 316 *i* P **P 23 58 44.5 +0.7**
USP Ospenovka 49.27 316 P **P 23 58 44.6 +0.7**
SNR=84
PET Petropavlovsk 49.39 29⇑*e*P **P 23 58 45.5 +1.0**
PET *e* 00 00 35.5
PET *e*S **S 00 05 39.1 -0.8**
PET *e*SS **SS 00 09 09.0 -4.5**
PET pmax pmax
comp=Z,500nm,6.5s
PET pmax pmax
comp=Z,28nm,1.2s
PET pmax pmax
comp=Z,300nm,13.0s
AML Almayashu 49.41 314 *i* P **P 23 58 46.6 +1.3**
AML Almayashu 49.41 314 P **P 23 58 46.6 +1.3**
SNR=74
EKS2 Erkin-Say 49.54 315 *e*P **P 23 58 46.7 +0.7**
EKS2 pmax pmax
comp=Z,60nm,1.0s
EKS2 Erkin-Say 49.54 315 P **P 23 58 47.1 +1.2**
SNR=57
EKS2 Erkin-Say 49.54 315 *e*P **P 23 58 46.6 +0.7**
comp=Z,60nm,1.0s
STKA Stephens Creek 49.58 157 *e*P **P 23 58 45.0 -1.2**
comp=Z,4.7nm,0.8s
STKA *e*PcP **PcP 00 00 05.3 -0.4**
STKA Stephens Creek 49.58 157 ⇓P **P 23 58 44.8 -1.4**
baz=49,SNR=54
STKA Stephens Creek 49.58 157 P **P 23 58 44.5 -1.6**
comp=Z,19nm,0.5s,baz=333,slow=8.9,SNR=65
STKA PcP **PcP 00 00 05.8 +0.1**
comp=Z,5.2nm,0.6s,baz=337,slow=6.8,SNR=3.6
KURBB Kurchatov Arra 50.16 326 P **P 23 58 50.6 +0.3**
comp=Z,130nm,0.9s,baz=126,slow=7.7,SNR=447
KURBB S **S 00 05 50.2 -0.4**
comp=Z,1.7nm,0.9s,baz=128,slow=12,SNR=7.3
KURK Kurchatov 50.16 326⇑*i*P **P 23 58 50.9 +0.6**
KURK pmax pmax
comp=Z,45nm,0.7s
KURK Kurchatov 50.16 326 P **P 23 58 51.2 +0.9**
SNR=134
KURK Kurchatov 50.16 326 *e*P **P 23 58 50.5 +0.2**
comp=Z,180nm,0.7s
KURK *e*S **S 00 05 50.2 -0.4**
KURK Kurchatov 50.16 326 P **P 23 58 51.7 +1.4**
comp=Z,3µm,0.6s
NVS Novosibirsk 50.31 333⇑*i*P **P 23 58 49.9 -1.5**
NVS *i* S **S 00 05 47.9 -4.7**
NVS *i* *SS sS 00 06 45.4 -5.8
NVS *i* 00 08 22.0
NVS pmax pmax
comp=Z,90nm,1.0s
NVS pmax pmax
comp=N,15nm,0.3s
NVS pmax pmax
comp=E,36nm,0.5s
NVS smax smax
comp=N,34nm,1.6s
NVS smax smax
comp=E,34nm,1.4s
KBL Kabul 50.88 303 *e*P **P 23 58 56.5 +0.2**
KBL pmax pmax
comp=Z,55nm,1.0s
KBL Kabul 50.88 303 *e*P **P 23 58 56.5 +0.2**
comp=Z,55nm,1.0s
KK31 Karatay Array 51.95 314 *i* P **P 23 59 04.0 +0.1**
KK31 pmax pmax
comp=Z,21nm,0.5s
KKAR Karatay Array 51.95 314 *e*P **P 23 59 03.6 -0.3**
KKAR Karatay Array 51.95 314 *e*P **P 23 59 03.6 -0.3**
ARMA Armidale 53.05 146 *e*P **P 23 59 12.2 +0.1**
comp=Z,17nm,1.1s
TARA Tarawa 53.09 99 *e*P **P 23 59 13.2 +0.6**
comp=Z,566nm,2.1s
SEY Seymchan 53.98 17⇓*i*P **P 23 59 20.5 +2.1**
ARPS Mount Arapiles 54.05 159 ⇓P **P 23 59 18.6 -0.6**
baz=54,SNR=27
MGCD Mangrove Creek 54.97 149 ⇓P **P 23 59 26.6 +0.6**
baz=55
VOSK Vostochnaya 55.29 326 *e*P **P 23 59 27.3 -0.7**
VOSK pmax pmax
comp=Z,53nm,0.8s
VOSK Vostochnaya 55.29 326 *e*P **P 23 59 27.3 -0.7**
comp=Z,53nm,0.8s
BVAR Borovoye Array 55.74 326 P **P 23 59 29.6 -1.7**
comp=Z,14nm,0.6s,baz=118,slow=9.0,SNR=31
BVAR S **S 00 07 06.7 +0.4**
comp=Z,1.4nm,0.6s,baz=131,slow=15,SNR=5.6
BVAR LR LR 00 22 32.4
comp=Z,372nm,18.3s,baz=119,slow=35
BRVK Borovoye 55.81 326⇓*i*P **P 23 59 32.4 +0.7**
BRVK pmax pmax
comp=Z,236nm,1.7s
BRVK Borovoye 55.81 326 P **P 23 59 32.4 +0.7**
SNR=52
BRVK Borovoye 55.81 326 *e*P **P 23 59 31.6 -0.2**
comp=Z,115nm,1.0s
BRVK Borovoye 55.81 326 P **P 23 59 32.4 +0.7**
comp=Z,572nm,1.0s,SNR=20
FX1 Attu Island--F 56.88 35 *e*P **P 23 59 40.1 +0.9**
IMYA Miami 58.37 304 *e*P **P 23 59 51.5 +1.3**
ISRO Mashad 58.87 304 *e*P **P 23 59 54.6 +1.0**
IMOG Moghan 58.96 304 *e*P **P 23 59 54.9 +0.4**
IKOO Kooshah 58.96 300 *e*P **P 23 59 55.5 +1.0**
ITEG Tejag 59.20 300 *e*P **P 23 59 57.3 +1.2**
IAKL Akhelmad 59.47 304 *e*P **P 23 59 58.3 +0.3**
IEMG Emamgholi 59.63 305 *e*P **P 23 59 59.7 +0.6**
IKRD Kardeh 59.68 305 *e*P P 23 59 54.7 -4.7
JMDO Jabal Madar 59.78 288 P **P 23 59 60.0 0.0**
SNR=5.7
ISFR Sfrayin 60.12 305 *e*P **P 00 00 03.1 +0.7**
HOQ Hoqain 60.44 289 P **P 00 00 05.3 +0.8**
SNR=7.4
BSY Bisya 60.59 288 P **P 00 00 06.2 +0.7**
SNR=5.4

ABKAR **Akbulak array** 60.70 319 *e*P P 00 00 05.8 0.0
IBND **Bandar-abas** 61.01 294 *e*P P 00 00 08.6 +0.4
ARQ **Araqi** 61.18 289 P P 00 00 09.7 +0.2
SNR=8.5
ASHO **Ashiyiah** 61.53 291 P P 00 00 12.5 +0.6
SNR=9.4
AKTO **Aktyubinsk** 62.18 320 P P 00 00 14.2 -1.5
comp=Z,38nm,0.8s,baz=89,slow=4.8,SNR=92
SVE **Sverdlovsk** 62.37 327 *de*P P 00 00 17.1 +0.3
SVE *e*S S 00 08 31.7 +0.1
SVE pmax pmax
comp=Z,124nm,1.1s
IANJ **Anjilo** 63.32 303 *e*P P 00 00 23.8 0.0
ARU **Arti** 63.35 327 *c i*P P 00 00 22.6 -0.7
ARU 00 00 58.3
ARU S S 00 08 46.6 +2.8
ARU pmax pmax
comp=Z,63nm,0.9s
ARU **Arti** 63.35 327 P P 00 00 22.9 -0.4
comp=Z,408nm,0.7s,SNR=16
ISHM **Shahmirzad** 63.83 303 *e*P P 00 00 27.7 +0.5
ISHM *e*P P 00 00 27.8 +0.5
RBK **Rabkut** 63.87 283 P P 00 00 28.4 +1.0
SNR=7.2
ISRV **Sarvestan** 63.98 296 *e*P P 00 00 28.7 +0.3
IPAR **Pars** 64.03 297 *e*P P 00 00 28.5 -0.1
ILAS **Lasjerd** 64.09 303 *e*P P 00 00 28.8 -0.1
IFIR **Firoozkooh** 64.27 303 *e*P P 00 00 29.9 -0.2
IZEF **Zefreh** 64.60 300 *e*P P 00 00 33.1 +0.9
MSVF **Nonsavu** 64.65 117 *e*P P 00 00 33.3 +0.8
MSVF pmax pmax
comp=Z,186nm,1.3s
MSVF **Nonsavu** 64.65 117 *e*P P 00 00 33.3 +0.8
comp=Z,186nm,1.3s
MSVF **Nonsavu** 64.65 117 P P 00 00 34.1 +1.6
comp=Z,666nm,1.2s,SNR=14
ABTO **Aybut** 64.75 283 P P 00 00 33.5 +0.4
SNR=11
IDMV **Damavand** 64.86 303 *e*P P 00 00 33.0 -0.9
IVRN **Varamin** 65.10 302 *e*P P 00 00 35.1 -0.1
SOKR **Solikamsk** 65.13 330 *c i*P P 00 00 33.0 -1.7
SOKR pmax pmax
comp=Z,60nm,1.5s
SOKR MLR MLR
comp=Z,450nm,18.0s
IKLH **Kolahrood** 65.22 301 *e*P P 00 00 37.2 +0.9
IR3 **Iran Long-Peri** 65.68 303 *e*P P 00 00 38.8 -0.1
IGZV **Ghazvin** 66.33 304 *e*P P 00 00 43.3 0.0
IRAZ **Razeghan** 66.57 303 *e*P P 00 00 44.4 -0.4
MAK **Makhachkala** 68.50 311 *e*P P 00 00 54.4 -2.0
MAK *e* 00 01 26.4
MAK *e* 00 03 29.4
MAK *e*S S 00 09 43.5 -3.1
MAK *e* 00 10 46.1
MAK *e*SS SS 00 14 10.9 -2.4
MAK pmax pmax
comp=Z,233nm,1.5s
MAK MLR MLR
comp=Z,441nm,14.0s
UMR **Umm Al-Rimmam** 68.67 297 *e*P P 00 00 56.7 -1.1
UMR AMb AMB 00 00 59.6
comp=Z,139nm,1.2s
KBD **Kabd** 68.72 296 *e*P P 00 00 57.4 -0.7
KBD AMb AMB 00 00 59.2
comp=Z,66nm,0.6s
RDF **Al-Radifah** 68.87 296 *e*P P 00 00 58.2 -0.8
RDF AMb AMB 00 01 00.6
comp=Z,195nm,0.8s
UNV **Unalaska Valle** 68.88 37 *e*P P 00 00 59.3 +0.7
comp=Z,71nm,1.5s
KNTN **Kanton** 68.98 98 *e*P P 00 01 01.8 +1.9
comp=Z,144nm,1.1s
NAY **Al-Naaiem** 69.11 296 *e*P P 00 00 59.2 -1.4
NAY AMb AMB 00 01 01.6
comp=Z,103nm,0.8s
RST **Umm Al-Ruwaisa** 69.30 297 *e*P P 00 01 00.5 -1.3
RST AMb AMB 00 01 03.1
comp=Z,1µm,0.9s
AKUT **Akutan** 69.34 37 *e*P P 00 01 01.9 +0.5
comp=Z,57nm,1.0s
DGRG **David-gareji** 70.08 309 P P 00 01 07.7 +1.4
DGRG S S 00 10 06.1 +0.7
TBLG **Delisi** 70.55 310 P P 00 01 09.6 +0.5
TBLG S S 00 10 08.1 -2.7
GNI **Garni** 70.59 308 P P 00 01 11.7 +2.2
SNR=22
GNI **Garni** 70.59 308 *e*P P 00 01 10.7 +1.1
comp=Z,236nm,1.9s
GNI **Garni** 70.59 308 P P 00 01 10.6 +1.1
comp=Z,9.6nm,0.6s,baz=314,slow=1.5,SNR=23
GUDG **Gudauri** 70.73 310 P P 00 01 12.7 +2.2
MRIV **Mauritius Mete** 70.73 243 *e*P P 00 01 11.2 +0.7
FALS **False Pass** 70.76 36 *e*P P 00 01 10.6 +0.5
comp=Z,85nm,0.4s
ZEI **Tsey** 71.15 311 *e*P P 00 01 12.6 -0.3
ZEI pmax pmax
comp=Z,45nm,0.9s
RAYN **Ar Rayn** 71.24 290 *e*P P 00 01 13.3 -0.4
comp=Z,89nm,0.9s
RAYN **Ar Rayn** 71.24 290 P P 00 01 13.5 -0.2
comp=Z,563nm,0.9s
CLDR **Caldiran** 71.26 307 *e*P P 00 01 14.6 +0.9
ONI **Oni** 71.48 311 P P 00 01 16.4 +1.6
ONI S S 00 10 16.1 -5.6
AKH **Akhalkalaki** 71.49 309 P P 00 01 17.0 +1.9
AKH S S 00 10 22.4 +0.3
CUKT **Cukurca** 71.61 305 *e*P P 00 01 15.6 -0.1
GOF **Gofitskoye** 71.72 313 *e*P P 00 01 17.0 +1.0
GOF pmax pmax
comp=Z,20nm,1.0s
KARS **Kars** 71.84 309 *e*P P 00 01 17.6 +0.5
KBZ **Khabaz** 71.85 312 *e*P P 00 01 16.8 -0.1
KBZ **Khabaz** 71.85 312 *e*P P 00 01 16.8 -0.1
KBZ **Khabaz** 71.85 312 P P 00 01 16.8 -0.1
comp=Z,26nm,0.9s,baz=98,slow=6.1,SNR=43
KBZ LR LR 00 33 50.0
comp=Z,286nm,21.6s,baz=332,slow=36
AGRB **Hanur-Agry** 71.96 307 *e*P P 00 01 18.3 +0.4
KIV **Kislovodsk** 72.00 312 *e*P P 00 01 18.6 +0.7
KIV *e*S S 00 10 28.7 +1.1
KIV *e*SS SS 00 15 03.5 -3.7
KIV pmax pmax
comp=Z,69nm,0.8s
KIV pmax pmax
comp=Z,67nm,3.7s
KIV **Kislovodsk** 72.00 312 P P 00 01 18.9 +1.0
comp=Z,542nm,0.8s,SNR=17
DCZ **Deep Cove** 72.34 148 *e*P P 00 01 20.3 +0.7
comp=Z,44nm,1.1s
SDPT **Sand Point** 72.47 36 *e*P P 00 01 20.6 +0.3
comp=Z,51nm,0.7s
SIRT **Sirnak** 72.52 305 *e*P P 00 01 21.6 +0.4
VRHR **Novokhopersk** 72.58 320 *e*P P 00 01 20.0 -1.0
VRHR *e*S S 00 10 30.1 -3.6
VRHR pmax pmax
comp=Z,100nm,0.9s
VRHR pmax pmax
comp=N,5.0nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR smax smax
comp=N,260nm,2.7s
VRHR smax smax
comp=E,270nm,2.7s
VRHR smax smax
comp=Z,40nm,2.7s
VRTB **Varto-Mus** 73.17 307 *e*P P 00 01 26.4 +1.4
EZM **Erzurum** 73.19 308 *e*P P 00 01 25.6 +0.3
RPZ **Rata Peaks** 73.32 144 *e*P P 00 01 24.1 -1.3
comp=Z,105nm,1.4s
RPZ **Rata Peaks** 73.32 144 P P 00 01 25.5 +0.1
comp=Z,19nm,0.6s,baz=286,slow=4.7,SNR=13
CHGN **Chignik** 73.64 35 *e*P P 00 01 26.3 -0.8
BNGB **Bing ¶ll** 73.79 307 *e*P P 00 01 28.1 -0.5
KLMR **Klimovskoe** 73.82 330 *e*P P 00 01 26.6 -1.5
KLMR pmax pmax
comp=Z,102nm,1.4s
KLMR MLR MLR
comp=Z,807nm,22.0s
URZ **Urewera** 73.88 137 *e*P P 00 01 28.7 -0.1
comp=Z,41nm,1.3s
URZ **Urewera** 73.88 137 LR LR 00 30 49.8
comp=Z,398nm,19.9s,baz=318,slow=33
BKZ **Black Stump Fm** 73.97 138 *e*P P 00 01 29.6 +0.2
comp=Z,114nm,1.3s

KHZ **Kahutara** 73.98 142 *e*P P 00 01 28.2 -1.1
comp=Z,853nm,2.8s
SNZO **South Karori** 74.04 141 *e*P P 00 01 29.2 -0.4
comp=Z,207nm,1.4s
VORD **Divnogorie** 74.06 319 *e*P P 00 01 28.9 -0.8
VORD pmax pmax
comp=E,20nm,0.9s
VORD pmax pmax
comp=Z,30nm,0.9s
KBSD **Kabsdagh** 74.07 305 *e*P P 00 01 30.2 +0.1
MZRK **Al-Mazaregh** 74.09 304 *e*P P 00 01 28.6 -1.7
MAZI **Mazidag** 74.10 305 *e*P P 00 01 30.3 -0.1
VSR **Storozhevoye** 74.13 320 *e*P P 00 01 29.0 -1.1
VSR *e*S S 00 10 48.0 -3.1
VSR pmax pmax
comp=N,6.0nm,0.6s
VSR pmax pmax
comp=E,10.0nm,0.6s
VSR pmax pmax
comp=Z,40nm,0.6s
VSR smax smax
comp=N,200nm,2.5s
VSR smax smax
comp=E,110nm,2.5s
VSR smax smax
comp=Z,120nm,2.5s
SOC **Sochi** 74.17 312 *e*P P 00 01 29.2 -1.3
SOC *e**SP pP 00 02 04.0 -2.8
SOC *e*S S 00 10 51.1 -0.7
SOC *e**SS ScS 00 11 40.4 +13
SOC pmax pmax
comp=Z,49nm,0.9s
SOC MLR MLR
comp=Z,258nm,15.0s
SFNV **Sufian** 74.47 304 *e*P P 00 01 29.8 -2.7
TMCR **Tamitsa** 74.54 333 *e*P P 00 01 32.6 +0.4
TMCR *e* 00 04 20.9
TMCR pmax pmax
comp=Z,27nm,0.6s
BFZ **Birch Farm** 74.64 139 *e*P P 00 01 33.4 +0.2
comp=Z,402nm,2.3s
EZC **Erzincan** 74.75 308 *e*P P 00 01 35.1 +1.0
PTK **Pertek** 74.80 307 *e*P P 00 01 35.3 +0.8
MOS **Moscow** 74.88 324 *e*P P 00 01 32.1 -2.2
MOS *e**PP pP 00 02 05.2 -5.5
MOS *e* 00 04 22.1
MOS *e*S S 00 10 54.7 -4.5
MOS pmax pmax
comp=Z,89nm,1.2s
SVW2 **Sparrevohn** 75.06 30 *e*P P 00 01 36.5 +1.2
comp=Z,145nm,2.2s
URFA **Urfa** 75.39 305 *e*P P 00 01 37.5 -0.3
OBN **Obninsk** 75.51 324 *e*P P 00 01 38.1 +0.2
OBN pmax pmax
comp=Z,87nm,1.3s
OBN **Obninsk** 75.51 324 P P 00 01 37.2 -0.7
comp=Z,300nm,0.5s,SNR=6.5
MALT **Malatya** 75.61 306 *e*P P 00 01 37.9 -1.2
MALT **Malatya** 75.61 306 *i*P P 00 01 40.2 +1.2
NIUE **Niue** 75.70 114 P P 00 01 41.0 +1.4
baz=76,SNR=3.3
ANN **Anapa** 75.71 313 *c i*P P 00 01 38.6 -0.7
ANN *e*S S 00 11 07.5 -1.3
ANN *e*SS SS 00 16 12.5 +9.3
ANN *e*SSS SSS 00 19 26.7
ANN pmax pmax
comp=Z,82nm,1.5s
ANN MLR MLR
comp=Z,419nm,20.0s
IMA2 **Indian Mountai** 75.78 25 *e*P P 00 01 39.5 0.0
JHLN **Al Jahlan** 75.90 304 *e*P P 00 01 41.5 +0.9
RSDY **Resadiye-TOKAT** 76.23 309 *e*P P 00 01 42.8 +0.4
SLMH **Al Salmeh** 76.25 304 *e*P P 00 01 43.4 +0.8
DARE **Darende-Malaty** 76.32 307 *e*P P 00 01 44.1 +1.0
OHAK **Old Harbor** 76.43 34 *e*P P 00 01 43.3 +0.2
comp=Z,26nm,0.9s
RSO **Redoubt South** 76.47 31 *e*P P 00 01 44.5 +0.9
SVSK **Karacayir** 76.53 308 *e*P P 00 01 43.9 -0.2
PPLA **Purkeypile** 76.58 28 *e*P P 00 01 44.7 +0.6
comp=Z,168nm,1.8s
CAST **Castle Rocks** 76.59 28 *e*P P 00 01 43.9 -0.1
comp=Z,71nm,0.8s
KDAK **Kodiak Island** 76.76 33 P P 00 01 46.2 +1.2
comp=Z,178nm,1.0s,SNR=7.7
SPU **Mount Spurr** 76.76 30 *e*P P 00 01 45.0 0.0
BPAW **Bear Paw Mtn.** 77.03 27 *e*P P 00 01 47.3 +0.9
comp=Z,80nm,0.9s
ROOS **tl_alroos** 77.03 302 *e*P P 00 01 47.6 +0.5
RABH **Abou Rabah** 77.06 303 *e*P P 00 01 47.0 -0.3
OPA **Opana** 77.09 71 *e*P P 00 01 49.5 +2.0
OPA **Opana** 77.09 71 *e*P P 00 01 49.5 +2.0
COLD **Coldfoot** 77.10 24 *e*P P 00 01 47.6 +0.9
comp=Z,17nm,0.9s
KVT **Kavak** 77.12 309 *e*P P 00 01 47.9 +0.5
KIP **Kipapa** 77.13 71 *d i*P P 00 01 50.8 +3.0
KIP pmax pmax
comp=Z,256nm,1.8s
KIP **Kipapa** 77.13 71 *e*P P 00 01 49.3 +1.6
comp=Z,100nm,0.7s
ZALF **Zalf** 77.17 301 *e*P P 00 01 50.1 +2.3
TRF **Thorofare Moun** 77.39 27 *e*P P 00 01 48.5 -0.1
comp=Z,54nm,1.1s
BNN **Bunyan** 77.55 307 *e*P P 00 01 49.5 -0.5
WRDH **Warideh** 77.56 304 *e*P P 00 01 48.2 -1.8
JOF **Joensuu** 77.61 332 *e*P P 00 01 48.0 -1.6
JOF pmax pmax
comp=Z,19nm,0.5s
JOF **Joensuu** 77.61 332 *e*p P 00 01 48.0 -1.6
comp=Z,19nm,0.5s
ASF **Jabal al Asfar** 77.64 300 *e*P P 00 01 51.7 +1.1
ASF **Jabal al Asfar** 77.64 300 P P 00 01 51.7 +1.1
comp=Z,24nm,0.8s,baz=52,slow=4.1,SNR=61
SALA **Sala** 77.70 301 *e*P P 00 01 52.9 +1.9
BIDA **Albida** 77.70 303 *e*P P 00 01 50.7 -0.1
MARH **Ras Al Marh** 77.71 302 *e*P P 00 01 50.3 -0.9
CEYT **Ceyhan** 77.88 305 *e*P P 00 01 52.0 +0.4
MCK **McKinley** 77.97 27 *e*P P 00 01 51.4 -0.3
MCK pmax pmax
comp=Z,52nm,0.9s
MCK **McKinley** 77.97 27 *e*P P 00 01 51.4 -0.3
comp=Z,52nm,0.9s
SIM **Simferopol'** 78.03 314 *e*P P 00 01 57.0 +4.6
SIM *e*S S 00 11 39.0 +4.9
SIM pmax pmax
comp=Z,56nm,0.8s
PMR **Palmer** 78.12 29 *e*P P 00 01 51.9 -0.6
PMR pmax pmax
comp=Z,43nm,1.0s
PMR **Palmer** 78.12 29 *e*P P 00 01 51.9 -0.6
comp=Z,43nm,1.0s
SEW **Seward** 78.15 31 *e*P P 00 01 52.4 -0.3
comp=Z,38nm,0.9s
BRBR **Barbar** 78.24 302 *e*P P 00 01 53.1 -0.9
COLA **College** 78.30 26 *i*P P 00 01 54.8 +1.4
COLA pmax pmax
comp=Z,133nm,1.4s
CORM **Corum** 78.30 309 *e*P P 00 01 52.6 -1.6
TCHB **Talchebab** 78.34 301 *e*P P 00 01 55.0 +0.6
KARA **Karaisali** 78.39 306 *e*P P 00 01 53.1 -1.4
KEV **Kevo** 78.50 339 *e*P P 00 01 53.6 -0.8
KEV pmax pmax
comp=Z,457nm,2.5s
KEV **Kevo** 78.50 339 *e*p P 00 01 53.0 -1.4
comp=Z,12nm,0.6s
KEV **Kevo** 78.50 339 *e*P P 00 01 53.6 -0.8
comp=Z,457nm,2.5s
NIG **Nigde** 78.62 307 *e*P P 00 01 57.0 +1.0
IL1 **Eielson Array** 78.72 26 *e*P P 00 01 54.8 -1.0
ILAR **Eielson Array** 78.72 26 P P 00 01 54.4 -1.3
comp=Z,3.4nm,0.6s,baz=266,slow=3.7,SNR=29
ILB **Eielson Array** 78.72 26 *e*P P 00 01 54.4 -1.3
MMAI **Mount Meron Ar** 78.76 301 P P 00 01 57.6 +1.0
comp=Z,20nm,0.8s,baz=78,slow=7.8,SNR=42
MERS **Mersin** 78.87 305 *e*P P 00 01 49.0 -8.2
ARA0 **ARCESS Array S** 79.05 339 *e*P P 00 01 57.0 -0.4
ARCES **ARCESS Array B** 79.05 339 P P 00 01 56.9 -0.5
comp=Z,16nm,0.6s,baz=84,slow=6.6,SNR=84
ARCES LR LR 00 39 14.5
comp=Z,276nm,18.6s,baz=252,slow=37
BR101 **Keskin Array S** 79.12 308 *e*P P 00 01 58.4 -0.2
BRTR **Keskin Array B** 79.12 308 P P 00 01 58.4 -0.3
comp=Z,11nm,0.9s,baz=119,slow=5.0,SNR=75
ABPO **Ambohimpanom** 79.33 247 *e*P P 00 01 59.3 -0.7
ABPO pmax pmax
comp=Z,28nm,1.0s

ABPO **Ambohimpanom** 79.33 247 *e*P P 00 01 59.3 -0.7
comp=Z,28nm,1.0s
EREN **Erenkoy** 79.36 304 *e*P P 00 01 59.3 -0.5
SULT **Sultanhani-AKS** 79.46 307 *e*P P 00 02 00.5 +0.1
SPA0 **Spitsbergen Ar** 79.55 348 *e*P P 00 01 59.7 -0.4
SPITS **Spitsbergen Ar** 79.55 348 P P 00 01 59.7 -0.4
comp=Z,28nm,0.8s,baz=91,slow=8.9,SNR=24
PAX **Paxson** 79.62 28 *e*P P 00 02 00.6 -0.2
PAX pmax pmax
comp=Z,62nm,1.6s
PAX **Paxson** 79.62 28 *e*P P 00 02 00.6 -0.2
comp=Z,62nm,1.6s
IKL **Isikli** 79.64 305 *e*P P 00 02 00.1 -1.1
EIL **Elat** 79.69 298 *e*P P 00 02 02.5 +0.7
EIL **Elat** 79.69 298 *i*P P 00 02 01.6 -0.1
baz=80,SNR=63
EIL **Elat** 79.69 298 P P 00 02 02.5 +0.7
comp=Z,50nm,1.0s,baz=62,slow=2.9,SNR=70
ANTO **Ankara** 79.74 309 *e*P P 00 02 00.3 -1.6
ANTO pmax pmax
comp=Z,24nm,1.0s
ANTO **Ankara** 79.74 309 P P 00 02 03.0 +1.1
SNR=7.9
ANTO **Ankara** 79.74 309 *e*P P 00 02 01.7 -0.2
ANTO **Ankara** 79.74 309 *i*P P 00 02 02.5 +0.6
ANTO **Ankara** 79.74 309 *e*P P 00 02 00.3 -1.6
comp=Z,24nm,1.0s
BR231 **Keskin MP Arra** 79.76 309 *e*P P 00 01 58.9 -3.2
LOD **Lodumlu** 79.76 309 *e*P P 00 02 01.4 -0.6
DIV **Divide** 79.79 29 *e*P P 00 02 01.5 -0.2
comp=Z,60nm,1.5s
LFK **Lefkose** 79.92 304 *e*P P 00 02 02.7 -0.2
KAF **Kangasniemi** 80.02 332 *e*P P 00 02 00.7 -2.1
KAF pmax pmax
comp=Z,11nm,0.6s
KAF **Kangasniemi** 80.02 332 *e*p P 00 02 00.7 -2.1
comp=Z,10nm,0.6s
DOT **Dot Lake** 80.12 27 *e*P P 00 02 02.4 -1.0
comp=Z,25nm,1.2s
CSS **Prodhromos** 80.14 304 P P 00 02 04.0 0.0
CSS **Prodhromos** 80.14 304 *e*P P 00 02 03.6 -0.4
comp=Z,85nm,0.9s
CASY **Casey** 80.14 184 *e*P P 00 02 01.4 -1.8
comp=Z,60nm,1.1s
FIA0 **FINESS Array S** 80.25 331 *e*P P 00 02 02.9 -1.1
FIA0 **FINESS Array S** 80.25 331 *e*P P 00 02 02.9 -1.1
FINES **FINESS Array B** 80.25 331 P P 00 02 02.9 -1.1
comp=Z,6.9nm,0.6s,baz=57,slow=5.1,SNR=33
FINES LR LR 00 41 01.2
comp=Z,341nm,19.8s,baz=220,slow=38
LADK **Ladik-KONYA** 80.35 307 *e*P P 00 02 02.0 -3.2
BMRM **Bremner River** 80.38 30 *e*P P 00 02 05.0 +0.2
comp=Z,32nm,1.2s
AKASG **Malin Array Be** 80.43 320 P P 00 02 04.6 -0.7
comp=Z,2.7nm,0.5s,baz=69,slow=4.7,SNR=37
AKASG LR LR 00 40 36.4
comp=Z,307nm,20.5s,baz=85,slow=38
AKBB **Malin Array Si** 80.43 320 *e*P P 00 02 04.6 -0.6
AKBB **Malin Array Si** 80.43 320 *e*P P 00 02 04.5 -0.6
DRV **Dumont d'Urvil** 80.44 320 *e*P P 00 02 05.1 -0.2
KIEV **Kiev** 80.44 320 *e*P P 00 02 04.5 -0.8
comp=Z,42nm,1.4s
LEF **Lefka** 80.47 304 *e*P P 00 02 05.8 +0.1
VSU **Vasula** 80.48 326 *i*P P 00 02 06.0 +0.7
VSU pmax pmax
comp=Z,301nm,1.7s
SVRH **Sivrihisar-ESK** 80.78 308 *e*P P 00 02 05.8 -1.7
NACGM **Naroch** 81.12 324 *e* P 00 02 07.0 -1.8
EGAK **Eagle** 81.13 25 *e*P P 00 02 08.6 0.0
comp=Z,26nm,0.8s
TRO **Tromso** 81.28 340 *e*P P 00 02 09.3 0.0
DRV **Dumont d'Urvil** 81.44 172 P P 00 02 04.0 -6.0
DRV **Dumont d'Urvil** 81.44 172 SS SS 00 17 24.0 -4.8
DRV L L 00 24 00.0
DRV R 00 29 00.0
SHUT **Suhut-Afyon** 81.69 308 *e*P P 00 02 11.8 -0.5
TLCR 81.70 314 *i*P P 00 02 12.6 +0.5
LEOM **Leova** 81.84 316 *i*P P 00 02 13.4 +0.6
CAVI **Cavuskoy** 81.92 309 *e*P P 00 02 12.1 -1.3
DAWY **Dawson** 82.05 26 *e*P P 00 02 14.0 +0.4
TIRR **Tirgusor** 82.13 314 *i*P P 00 02 15.1 +0.8
CFR **Carcaliu** 82.18 315 *i*P P 00 02 14.5 0.0
TVSB **Tavsanli** 82.35 309 *e*P P 00 02 14.3 -1.4
ELL **Elmali** 82.54 306 *e*P P 00 02 15.7 -1.1
ARMT **Armutlu** 82.58 310 *e*P P 00 02 14.7 -2.1
MSAB **Monastry St. A** 82.61 313 *i*P P 00 02 17.1 +0.3
MIR **Mirnyy** 82.64 191 *i*P P 00 02 18.0 +1.7
MIR pmax pmax
comp=Z,84nm,1.0s
PETR **Petresti** 82.69 315 *i*P P 00 02 18.7 +1.5
TESR **Tescani** 82.92 316 *i*P P 00 02 18.4 0.0
GRER 82.94 315 *i*P P 00 02 19.1 +0.6
VRI **Vrincioaia** 83.00 315 *i*P P 00 02 19.6 +0.7
PGOR **Pogoanele** 83.03 314 *i*P P 00 02 21.1 +2.1
PLOR **Plostina** 83.06 315 *i*P P 00 02 19.6 +0.4
INK **Inuvik** 83.06 21 *e*P P 00 02 19.0 +0.4
INK **Inuvik** 83.06 21 P P 00 02 19.0 +0.4
comp=Z,18nm,0.9s,baz=299,slow=5.9
SUW **Suwalki** 83.37 324 *e*P P 00 02 19.7 -0.8
SUW pmax pmax
comp=Z,70nm,1.1s
SUW **Suwalki** 83.37 324 *e*P P 00 02 19.7 -0.8
comp=Z,70nm,1.1s
BALB **Balikesir** 83.51 309 *e*P P 00 02 19.6 -2.0
GONE **Gonen-Balikesi** 83.56 310 *e*P P 00 02 19.5 -2.3
MLR **Muntele Rosu** 83.62 315 *i*P P 00 02 22.6 +0.4
MLR **Muntele Rosu** 83.62 315 *e*P P 00 02 22.4 +0.2
MLR **Muntele Rosu** 83.62 315 P P 00 02 22.4 +0.2
comp=Z,8.7nm,1.1s,baz=296,slow=0.9,SNR=32
HYT **Haines Junctio** 83.78 29 *e*P P 00 02 23.1 +0.4
AYDB **Zeytinkoy-Aydi** 83.86 307 *e*P P 00 02 23.2 -0.3
DOPR **Dopca** 83.89 316 *i*P P 00 02 24.5 +1.1
KMBO **Kilima Mbogo** 83.89 267 P P 00 02 26.8 +2.5
SNR=13
KMBO **Kilima Mbogo** 83.89 267 *e*P P 00 02 24.9 +0.6
comp=Z,28nm,1.0s
KMBO **Kilima Mbogo** 83.89 267 P P 00 02 25.5 +1.2
comp=Z,16nm,0.9s,baz=54,slow=6.8,SNR=44
KMBO LR LR 00 35 11.9
comp=Z,250nm,20.5s,baz=277,slow=32
MOR8 **Moi Rana** 83.97 337 *e*P P 00 02 21.9 -1.5
MOR8 AMB AMB 00 02 24.7
comp=Z,30nm,1.4s
ARG **Arkhangelos** 84.05 306 *e*P P 00 02 24.2 -0.2
VOIR 84.25 315 *i*P P 00 02 25.4 +0.1
FLOS **Flostrand** 84.32 337 *e*P P 00 02 24.6 -0.4
BODT **Bodrum** 84.51 307 *e*P P 00 02 25.7 -1.0
ARR **Arges** 84.55 315 *i*P P 00 02 27.4 +0.6
NIS1 **Nisyros Isl.** 84.71 306 P P 00 02 27.3 -0.4
NIS1 **Nisyros Isl.** 84.71 306 *e*P P 00 02 26.9 -0.8
SMG **Samos** 84.73 307 P P 00 02 26.2 -1.5
SMG **Samos** 84.73 307 *e*P P 00 02 26.3 -1.5
KWP **Kalwaria Pacla** 84.75 320 *i*P P 00 02 28.1 +0.4
PRK **Paraskevi** 84.81 309 P P 00 02 27.5 -0.6
PRK **Paraskevi** 84.81 309 *e*P P 00 02 26.7 -1.4
KARP **Karpathos** 84.97 305 P P 00 02 29.0 -0.1
KARP **Karpathos** 84.97 305 *e*P P 00 02 29.0 -0.1
LOT **Lotru** 85.12 315 *i*P P 00 02 30.7 +1.0
KOLS **Kolonicke sedl** 85.21 319 *e*P P 00 02 30.4 +0.5
KOLS pmax pmax
comp=Z,43nm,1.7s
SKAG **Skagway** 85.24 30 *e*P P 00 02 31.1 +1.3
comp=Z,13nm,0.8s
TRPA **Tarpa** 85.25 318 *i*P P 00 02 30.3 +0.2
UZH **Uzhgorod** 85.28 319 *e*P P 00 02 30.4 +0.2
NSS **Namsos** 85.53 336 *e*P P 00 02 29.9 -1.3
DEV **Deva** 85.59 316 *i*P P 00 02 31.7 -0.2
STHS **Stebnicka Huta** 85.73 320 *e*P P 00 02 33.5 +1.0
STHS pmax pmax
comp=Z,20nm,1.3s
GZR **Gura Zlata** 85.81 316 *i*P P 00 02 33.9 +0.8
ZKR **Zakros** 85.82 305 P P 00 02 32.5 -0.7
APE **Apeiranthos** 85.89 307 *i*P P 00 02 32.7 -0.9
APE pmax pmax
comp=Z,34nm,1.4s
APE **Apeiranthos** 85.89 307 *i*P P 00 02 33.1 -0.5
SIT **Sitka** 86.02 32 *e*P P 00 02 34.3 +0.6
SIT pmax pmax
comp=Z,30nm,1.0s
SIT **Sitka** 86.02 32 *e*P P 00 02 34.3 +0.6
comp=Z,30nm,1.0s
NVR **Nevrokopi** 86.09 311 P P 00 02 31.1 -3.4
NVR **Nevrokopi** 86.09 311 *e*P P 00 02 32.4 -2.1

SANT Santorini 86.11 306 P P 00 02 32.9 -1.8
SANT Santorini 86.11 306 eP P 00 02 33.0 -1.8
comp=Z,93nm,1.2s
THR3 Thira Island, 86.15 306 P P 00 02 34.0 -0.8
VTS Vitosha 86.24 313 P P 00 02 34.8 -0.5
VTS Vitosha 86.24 313 eP P 00 02 34.1 -1.2
VTS Vitosha 86.24 313 ⇑iP P 00 02 34.6 -0.7
NPS Neapolis 86.26 305 eP P 00 02 35.2 -0.2
NIE Niedzica 86.31 320 eP P 00 02 35.3 -0.1
NIE Niedzica 86.31 320 eP P 00 02 35.3 -0.1
SIRR Siria 86.33 317 ⇓iP P 00 02 35.7 +0.2
LAST Lasithi 86.39 305 P P 00 02 39.0 +2.8
HFS Hagfors 86.44 331 P P 00 02 35.3 -0.4
comp=Z,6.7nm,0.4s,baz=108,slow=4.7,SNR=21
BZS Buzias 86.53 316 ⇓iP P 00 02 36.9 +0.4
PAIG Paliouri 86.58 310 eP P 00 02 36.7 -0.2
TBLU Trondheim 86.74 335 eP P 00 02 36.7 -0.4
IDI Anoyia 86.83 305 eP P 00 02 37.6 -0.7
comp=Z,45nm,1.5s
IDI Anoyia 86.83 305 P P 00 02 37.6 -0.7
comp=Z,4.9nm,0.4s,baz=37,slow=5.1,SNR=21
KNT Kendrikon 86.84 311 P P 00 02 36.5 -1.6
KNT Kendrikon 86.84 311 eP P 00 02 36.7 -1.4
PSZ Piszkesteto 87.01 319 eP P 00 02 38.1 -0.8
PSZ pmax pmax
comp=Z,55nm,1.7s
PSZ Piszkesteto 87.01 319 ⇑iP P 00 02 39.6 +0.7
PSZ Piszkesteto 87.01 319 eP P 00 02 38.1 -0.8
comp=Z,55nm,1.7s
PSZ Piszkesteto 87.01 319 ⇓e P 00 02 39.0 +0.1
NB2 NORSAR Subarra 87.23 333 P P 00 02 38.1 -1.5
comp=Z,13nm,0.8s,baz=67,slow=4.6
NB2 NORSAR Subarra 87.23 333 P P 00 02 38.1 -1.5
baz=67,slow=4.6
NB200 NORSAR Array S 87.23 333 eP P 00 02 37.9 -1.7
NB200 ePP PP 00 05 59.1 -6.0
NOA NORSAR Array B 87.23 333 P P 00 02 37.9 -1.7
comp=Z,9.6nm,0.8s,baz=68,slow=4.6,SNR=31
NOA PP PP 00 05 59.1 -6.0
comp=Z,3.3nm,1.0s,baz=67,slow=8.2,SNR=4.6
VAM Vamos 87.35 306 eP P 00 02 40.3 -0.4
NBO02 NORSAR Array S 87.38 333 eP P 00 02 38.9 -1.4
OKC Ostrava-Krasne 87.53 321 ⇓iP P 00 02 41.8 +0.6
OKC Ostrava-Krasne 87.53 321 ⇓iP P 00 02 41.8 +0.6
KYTH Kithira 88.03 307 eP P 00 02 43.5 -0.4
PKSG 88.14 318 ⇓e P 00 02 44.7 +0.5
DLBC Dease Lake 88.17 30 eP P 00 02 44.9 +0.7
KRLC Kraliky 88.29 321 eP P 00 02 44.9 0.0
KRLC e*PP **pP 00 03 22.3 0.0**
KRLC Kraliky 88.29 321 eP P 00 02 44.9 0.0
KRLC epP **pP 00 03 22.3 0.0**
KSP Ksiaz 88.32 322 eP P 00 02 45.0 0.0
KSP e 00 12 54.5
PKST T"s 88.41 318 ⇓e P 00 02 45.5 0.0
PKS9 Tamasi 88.47 318 ⇓e P 00 02 45.9 +0.2
DPC Dobruska-Polom 88.47 322 eP P 00 02 46.0 +0.3
DPC e 00 06 14.2
DPC eS **S 00 13 15.8 -3.3**
DPC Dobruska-Polom 88.47 322 eP P 00 02 46.0 +0.3
DPC epP pP 00 03 29.1 +5.9
DPC ePP **PP 00 06 14.2 -1.2**
DPC eS **S 00 13 15.8 -3.3**
DPC Dobruska-Polom 88.47 322 eP P 00 02 44.3 -1.5
comp=Z,52nm,1.0s
UPC Upice 88.61 322 ⇓iP P 00 02 46.6 +0.3
UPC e 00 06 15.9
UPC Upice 88.61 322 ⇓iP P 00 02 46.6 +0.3
UPC epP pP 00 03 29.3 +5.5
UPC ePP **PP 00 06 15.9 -0.5**
VRAC Vranov 88.66 321 ⇑iP P 00 02 47.1 +0.5
VRAC Vranov 88.66 321 eP P 00 02 46.9 +0.3
VRAC Vranov 88.66 321 P P 00 02 46.9 +0.3
comp=Z,6.8nm,0.9s,baz=68,slow=5.3,SNR=10
RES Resolute Bay 89.00 9 eP P 00 02 48.0 +0.3
comp=Z,27nm,1.1s
RES Resolute Bay 89.00 9 P P 00 02 48.0 +0.3
comp=Z,13nm,0.9s,baz=328,slow=5.8,SNR=8.4
TREC Trest 89.34 321 ⇓iP P 00 02 50.5 +0.7
TREC eS **S 00 13 27.0 -0.2**
TREC Trest 89.34 321 ⇓iP P 00 02 50.5 +0.7
TREC eSKS SKSac 00 12 55.4 -11
TREC eS **S 00 13 27.0 -0.2**
PVCC Panska Ves 89.46 322 eP P 00 02 50.9 +0.6
PVCC e*PP pP 00 03 36.5 +8.7
PVCC e 00 06 24.6
PVCC eS **S 00 13 25.6 -2.6**
PVCC Panska Ves 89.46 322 ⇓eP P 00 02 50.9 +0.6
PVCC ex x 00 03 36.5
PVCC ePP **PP 00 06 24.6 +1.4**
PVCC eS **S 00 13 25.6 -2.6**
PRU Pruhonice 89.67 322 ⇓iP P 00 02 51.7 +0.4
PRU e*PP pP 00 03 37.0 +8.2
PRU e 00 13 08.6
PRU eS **S 00 13 28.4 -1.8**
PRU MLR MLR
comp=Z,400nm,17.5s
PRU Pruhonice 89.67 322 ⇓iP P 00 02 51.7 +0.4
PRU ex x 00 03 37.0
PRU eSKS **SKSac 00 13 08.6 +0.6**
PRU eS **S 00 13 28.4 -1.8**
PRU AMS AMS 00 46 00.0
comp=Z,400nm,17.5s
BRG Berggiesshubel 89.71 323 eP P 00 02 51.6 +0.2
comp=Z,33nm,1.6s
BRG epP **pP 00 03 26.9 -2.1**
comp=Z,4.9nm,0.5s
BRG ePP **PP 00 06 24.6 -0.6**
comp=Z,20nm,1.7s
BRG
comp=N,226nm,15.7s
BRG
comp=E,277nm,21.4s
BRG
comp=Z,386nm,16.6s
BRG Berggiesshubel 89.71 323 eP P 00 02 51.6 +0.2
BRG e*PP **pP 00 03 26.9 -2.1**
BRG e 00 06 24.5
BRG pmax pmax
comp=Z,33nm,1.6s
BRG pmax pmax
comp=Z,5.0nm,0.5s
BRG pmax pmax
comp=Z,20nm,1.7s
BRG MLR MLR
comp=N,226nm,15.7s
BRG MLR MLR
comp=E,277nm,21.4s
BRG MLR MLR
comp=Z,386nm,16.6s
BRG Berggiesshubel 89.71 323 eP P 00 02 51.6 +0.2
comp=Z,33nm,1.6s
PRA Prague 89.71 322 ⇓P P 00 02 52.0 +0.6
FBE Freiberg 90.04 323 eP P 00 02 53.5 +0.5
comp=Z,46nm,1.5s
CLL Collm 90.10 323 ⇓iP P 00 02 53.3 +0.1
CLL e 00 13 10.0
CLL eS S 00 13 42.0 +8.0
CLL pmax pmax
comp=Z,7.0nm,1.8s
CLL Collm 90.10 323 ⇓iP P 00 02 53.3 +0.1
comp=Z,35nm,1.8s
CLL i 00 03 28.1
CLL i (pP) pP 00 03 38.8 +8.0
CLL ePP **PP 00 06 29.0 +0.8**
CLL eSKSac **SKSac 00 13 10.0 -0.4**
CLL eS **SKKSac 00 13 27.0 +2.7**
CLL eSP **SPn 00 14 48.0 +7.5**
CLL ePS **PS 00 14 54.0 -5.5**
CLL eSS **SS 00 19 42.0 +6.6**
CLL LmV 00 45 00.0
comp=Z,300nm,21.6s
KHC Kasperske Hory 90.57 321 ceP P 00 02 56.2 +0.6
KHC pmax pmax
comp=Z,39nm,1.3s
KHC Kasperske Hory 90.57 321 eP P 00 02 54.7 -0.9
KHC epP **pP 00 03 37.6 +4.5**
KHC ePP PP 00 06 24.6 -7.5
KHC eS **S 00 13 35.3 -3.3**
KHC Kasperske Hory 90.57 321 eP P 00 02 54.4 -1.2
comp=Z,31nm,1.7s
GEC2 GERESS Array S 90.60 321 eP P 00 02 55.7 -0.1
GEC2 e 00 06 34.7
GEC2 GERESS Array S 90.60 321 eP P 00 02 55.3 -0.5
comp=Z,34nm,1.7s
GEC2 GERESS Array S 90.60 321 eP P 00 02 55.7 -0.1
GEC2 ePP **PP 00 06 34.7 +2.3**
GEC2 ePKKPdf **PKKPdf 00 20 19.9 +1.1**
GERES GERESS Array B 90.60 321 P P 00 02 55.7 -0.1
comp=Z,3.9nm,0.8s,baz=65,slow=4.7,SNR=10
GERES PP PP **00 06 34.7 +2.3**
comp=Z,0.7nm,0.8s,baz=45,slow=2.9,SNR=4.1
GERES PKKP **PKKPdf 00 20 19.9 +1.1**
comp=Z,0.4nm,0.8s,baz=212,slow=4.7,SNR=3.4
MOA Molln 90.61 320 ⇑iPcP P 00 02 55.6 -0.2
comp=Z,33nm,1.2s,SNR=8.4
TANN Tannenbergstha 90.75 323 eP P 00 02 56.0 -0.4
comp=Z,40nm,1.8s
WERD Werda 90.83 323 eP P 00 02 56.0 -0.7
comp=Z,24nm,1.6s
NEUB Neuenburg 90.85 323 eP P 00 02 56.3 -0.4
comp=Z,30nm,1.5s
GUNZ Gunzen 90.85 323 eP P 00 02 56.6 -0.2
comp=Z,32nm,1.6s
WERN Wernitzgruen 90.85 322 eP P 00 02 56.9 0.0
comp=Z,15nm,1.5s
PLN Plauen 90.91 323 eP P 00 02 56.6 -0.5
comp=Z,126nm,1.8s
WET Wettzell 90.99 321 eP P 00 02 57.2 -0.3
WET pmax pmax
comp=Z,22nm,1.5s
WET Wettzell 90.99 321 eP P 00 02 57.2 -0.3
comp=Z,22nm,1.5s
MAW Mawson 91.12 199 eP P 00 02 56.8 -0.7
comp=Z,8.4nm,1.2s
MAW Mawson 91.12 199 P P 00 02 57.2 -0.2
baz=91,SNR=27
MAW Mawson 91.12 199 P P 00 02 57.2 -0.2
comp=Z,26nm,1.1s,baz=42,slow=7.6,SNR=32
MANZ Manzenberg 91.13 322 eP P 00 02 57.8 -0.3
comp=Z,24nm,1.6s
ROTZ Rotzenmuehle 91.16 322 eP P 00 02 58.1 -0.1
comp=Z,33nm,1.6s
CLZ Clausthal 91.39 324 eP P 00 02 59.1 -0.2
CLZ pmax pmax
comp=Z,39nm,1.6s
CLZ Clausthal 91.39 324 eP P 00 02 59.1 -0.2
comp=Z,39nm,1.6s
RJOB Jochberg 91.58 320 eP P 00 02 59.4 -0.9
comp=Z,23nm,1.5s
GRF Grafenberg Arr 91.77 322 eP P 00 03 00.4 -0.7
GRF e 00 03 47.1
GRF e 00 06 39.7
GRF pmax pmax
comp=Z,65nm,2.0s
GRF Grafenberg Arr 91.77 322 eP P 00 03 00.4 -0.7
comp=Z,65nm,2.0s
GRF e 00 03 47.1
GRF ePP **PP 00 06 39.7 -1.8**
UBBA Unterbreizbach 92.03 324 eP P 00 03 02.3 +0.2
comp=Z,24nm,1.7s
FUR Furstenfeldbru 92.35 321 eP P 00 03 04.1 +0.3
FUR pmax pmax
comp=Z,98nm,1.9s
FUR Furstenfeldbru 92.35 321 eP P 00 03 04.1 +0.3
comp=Z,98nm,1.9s
WTTA Wettenberg 92.48 320 ⇑iPcP P 00 03 04.0 -0.6
comp=Z,36nm,1.4s,SNR=7.5
WATA Walderalm 92.49 320 *i* PcP **P 00 03 04.4 -0.2**
comp=Z,19nm,1.3s,SNR=6.9
YKA Yellowknife Ar 92.75 22 P P 00 03 04.9 -0.3
comp=Z,4.1nm,0.5s,baz=306,slow=4.5,SNR=21
YKA PKKP **PKKPdf 00 20 13.7 -1.3**
comp=Z,1.9nm,0.7s,baz=125,slow=2.7,SNR=7.9
YKB5 Yellowknife Ar 92.75 22 eP P 00 03 04.8 -0.5
YKB5 ePKKPdf **PKKPdf 00 20 13.7 -1.3**
TNS Taunus Mts 93.18 323 eP P 00 03 08.2 +0.6
TNS pmax pmax
comp=Z,35nm,1.8s
TNS Taunus Mts 93.18 323 eP P 00 03 08.2 +0.6
comp=Z,35nm,1.8s
BUG Bochum–Univer 93.31 325 eP P 00 03 08.5 +0.4
comp=Z,49nm,1.9s
FUORN Ofenpass-Fuorn 93.60 320 eP P 00 03 09.8 -0.2
comp=Z,28nm,1.3s
DAVOX Davos/Dischmat 93.78 320 eP P 00 03 10.6 0.0
DAVOX Davos/Dischmat 93.78 320 P P 00 03 10.6 0.0
comp=Z,7.4nm,0.6s,baz=102,slow=3.3,SNR=9.2
PPT Papeete 93.81 107 LR LR 00 37 07.6
comp=Z,178nm,21.8s,baz=351,slow=30
PPT2 Papeete2 93.81 107 eLR LR 00 33 25.1
comp=Z,1µm,35.8s
BFO Black Forest 94.07 322 *ceP* **P 00 03 12.3 +0.6**
VNDA Vanda 94.08 172 eP P 00 03 09.6 -1.4
comp=Z,16nm,1.0s
VNDA ePP **PP 00 06 54.8 -4.6**
VNDA Vanda 94.08 172 P P 00 03 10.0 -0.9
comp=Z,13nm,1.0s,baz=310,slow=5.1,SNR=43
VNDA PP **PP 00 06 54.8 -4.6**
comp=Z,2.8nm,0.9s,baz=311,slow=7.6,SNR=3.8
VNDA LR LR 00 41 50.1
comp=Z,305nm,21.9s,baz=328,slow=33
CDF Champ du Feu 94.67 322 eP P 00 03 14.2 -0.3
comp=Z,50nm,1.6s
SBA Scott Base 95.03 171 eP P 00 03 15.4 +0.1
SBA pmax pmax
comp=Z,41nm,1.9s
SBA Scott Base 95.03 171 eP P 00 03 15.3 +0.1
comp=Z,41nm,1.9s
HINF Hinteralfeld 95.19 322 eP P 00 03 16.2 -0.7
comp=Z,64nm,1.8s
TBI Tubuai 95.20 113 eLR LR 00 34 14.5
comp=Z,540nm,37.0s
GIVF Givet 95.31 324 eP P 00 03 17.2 -0.1
HAU Haudompre 95.41 322 eP P 00 03 17.2 -0.6
PAGF Fort de Pagny 95.52 323 eP P 00 03 18.1 -0.2
BAIF Baives 95.68 325 eP P 00 03 17.7 -1.3
comp=Z,20nm,1.2s
LSZ Lusaka 95.90 256 eP P 00 03 17.9 -2.9
comp=Z,11nm,0.9s
LPG La Plagne 96.30 320 eP P 00 03 22.1 -0.2
LPL La Plagne 96.30 320 eP P 00 03 22.1 -0.1
comp=Z,27nm,1.2s
MBDF Montbardon 96.63 319 eP P 00 03 24.0 +0.4
comp=Z,31nm,1.4s
EKA Eskdalemuir Ar 96.64 331 eP P 00 03 22.7 -0.5
EKA ePP **PP 00 07 16.2 -2.8**
EKA Eskdalemuir Ar 96.64 331 P P 00 03 22.7 -0.5
comp=Z,2.2nm,1.0s,baz=61,slow=5.8,SNR=4.5
EKA PP **PP 00 07 16.2 -2.8**
comp=Z,2.3nm,0.9s,baz=51,slow=8.3,SNR=3.1
ORIF Oris-en-Rattie 97.11 319 eP P 00 03 25.3 -0.4
comp=Z,24nm,1.2s
VIVF Saint-Julien-l 97.89 320 eP Pdif 00 03 30.2 +1.0
comp=Z,36nm,1.4s
B08A Colville Reser 98.51 36 eP P 00 03 31.0 -0.8
comp=Z,5.0nm,0.8s
KEST Kesra 98.66 310 LR LR 00 54 30.3
comp=Z,67nm,18.5s,baz=329,slow=39
NEW Newport 99.81 35 *ePdif* **Pdif 00 03 38.8 +1.2**
comp=Z,84nm,2.8s
NEW Newport 99.81 35 P Pdif 00 03 38.8 +1.2
comp=Z,26nm,0.7s,baz=282,slow=5.6,SNR=8.8
BOSA Boshof 101.15 243 *ePdif* **Pdif 00 03 45.2 +1.2**
BOSA Boshof 101.15 243 P Pdif 00 03 45.2 +1.2
comp=Z,2.4nm,0.7s,baz=39,slow=4.1,SNR=4.3
NV01 Mina Array Sit 104.30 44 *ePdif* **Pdif 00 04 00.6 +2.5**
NV01 ePP **PP 00 08 17.0 -0.7**
NVAR Mina Array Bea 104.30 44 Pdiff **Pdif 00 04 00.6 +2.5**
comp=Z,1.0nm,0.6s,baz=274,slow=4.4,SNR=4.8
NVAR PP PP **00 08 17.0 -0.7**
comp=Z,1.6nm,0.8s,baz=291,slow=5.7,SNR=5.0
FXWY Fox Creek 105.95 36 *ePdif* **Pdif 00 04 07.2 +1.9**
ESDC Sonseca Array 106.05 319 ePP PP 00 08 30.5 +0.2
ESDC ePKKPbc PKKPbc 00 19 34.9 -5.5
ESDC Sonseca Array 106.05 319 PP PP 00 08 30.5 +0.2
comp=Z,0.4nm,0.6s,baz=47,slow=6.9,SNR=5.4
ESDC PKKPbc PKKPbc 00 19 34.9 -5.5
comp=Z,0.2nm,0.6s,baz=306,slow=3.0,SNR=2.6
PD31 Pinedale Array 107.33 36 *ePKKPdf* PKKPdf 00 19 49.1 +0.4
PDAR Pinedale Array 107.33 36 PKKP **PKKPdf 00 19 49.1 +0.4**
comp=Z,2.3nm,0.8s,baz=133,slow=5.2,SNR=11
RKT Rikitea 108.28 110 eLQ LQ 00 35 44.5
comp=Z,668nm,37.5s
RKT eLR LR 00 40 01.3
comp=Z,530nm,35.5s
SNAA Sanae 113.18 197 eP PKiKP 00 08 30.7 +1.3
SNAA Sanae 113.18 197 ePP PP 00 09 18.1 -3.4
SNAA Sanae 113.18 197 PP PP 00 09 18.1 -3.3
comp=Z,1.4nm,1.1s,baz=113,slow=10,SNR=3.5
TOA0 Torodi Ar. Sit 113.93 291 *ePKiKP* **PKiKP 00 08 31.6 -0.8**
TOA0 *e* 00 09 17.5
TOA0 *e*PKKPbc **PKKPbc 00 19 13.3 -0.9**
TORD Torodi Ar. Bea 113.93 291 PKiKP **PKiKP 00 08 31.2 -1.1**
comp=Z,0.9nm,0.4s,baz=68,slow=2.7,SNR=33
TORD PP PP 00 09 17.5 -11
comp=Z,2.0nm,0.8s,baz=62,slow=5.6,SNR=7.6
TORD PKKPbc **PKKPbc 00 19 13.3 -0.9**
comp=Z,2.0nm,0.5s,baz=225,slow=2.1,SNR=23
ANMO Albuquerque 114.10 41 *ePKiKP* PKPdf 00 08 32.5 0.0
ANMO Albuquerque 114.10 41 PKiKP PKPdf 00 08 32.5 0.0
comp=Z,2.4nm,0.9s,baz=252,slow=3.6,SNR=6.5
VNA2 Neumayer--Watz 114.83 197 *eP* PKPdf 00 08 33.2 +0.7
baz=58,slow=1.1
VNA1 Neumayer--Stat 115.22 197 *eP* **PKPdf 00 08 33.3 +0.1**
LPIG La Paz 117.58 53 *ePKPdf* **PKPdf 00 08 37.6 -1.5**
LPIG La Paz 117.58 53 PKP **PKPdf 00 08 37.6 -1.5**
comp=Z,8.9nm,0.3s,baz=162,slow=3.2,SNR=3.1
SADO Sadowa 119.05 16 *ePKPdf* **PKPdf 00 08 41.1 -0.4**
SADO Sadowa 119.05 16 PKP **PKPdf 00 08 41.1 -0.4**
comp=Z,2.4nm,0.5s,baz=271,slow=4.3,SNR=5.2
LTX Lajitas 119.45 45 *ePKIKP* **PKPdf 00 08 42.4 -0.4**
LTX Lajitas 119.45 45 *ePKPdf* **PKPdf 00 08 42.4 -0.4**
LTX *e*PKKPbc **PKKPbc 00 18 54.4 -1.1**
TX31 Lajitas Ar. Si 119.45 45 *ePKPdf* **PKPdf 00 08 42.4 -0.4**
TXAR Lajitas Array 119.45 45 PKP **PKPdf 00 08 42.4 -0.4**
comp=Z,4.3nm,0.7s,baz=239,slow=0.5,SNR=27
TXAR PKKPbc **PKKPbc 00 18 54.4 -1.1**
comp=Z,0.9nm,0.8s,baz=138,slow=6.0,SNR=6.1
JCT Junction City 121.26 41 *ePKIKP* **PKPdf 00 08 45.3 -0.9**
JCT Junction City 121.26 41 *ePKPdf* **PKPdf 00 08 45.3 -0.9**
DBIC Dimbokro 122.28 287 *ePKPdf* **PKPdf 00 08 47.8 -0.6**
DBIC Dimbokro 122.28 287 PKP **PKPdf 00 08 47.9 -0.6**
comp=Z,5.2nm,0.6s,baz=38,slow=2.5,SNR=12
KIC Kosan Boka 122.28 287 *ePKIKP* **PKPdf 00 08 48.1 -0.4**
comp=Z,35nm,1.0s
TIC Toumodi 122.44 287 *ePKIKP* **PKPdf 00 08 48.7 -0.1**
comp=Z,14nm,0.6s
LIC Lamto 122.59 287 *ePKIKP* **PKPdf 00 08 48.5 -0.6**
comp=Z,14nm,0.5s
LIC Lamto 122.59 287 *ePKIKP* **PKPdf 00 08 48.5 -0.6**
comp=Z,24nm,0.5s
WVT Waverly 123.55 28 *ePKIKP* **PKPdf 00 08 49.7 -0.7**
WVT Waverly 123.55 28 *ePKPdf* **PKPdf 00 08 49.6 -0.7**
HKT Hockley 124.09 39 *⇓iPKIKP* **PKPdf 00 08 54.0 +2.5**
HKT Hockley 124.09 39 *ePKPdf* **PKPdf 00 08 51.8 +0.3**
TKL Tuckaleechee C 125.69 25 *ePKPdf* **PKPdf 00 08 54.2 -0.3**
TKL Tuckaleechee C 125.69 25 PKP **PKPdf 00 08 54.2 -0.3**
comp=Z,5.2nm,0.6s,baz=116,slow=2.8,SNR=14
JTS JuntasAbangare 145.11 48 *ePKPbc* **PKPbc 00 09 28.1 -2.6**
SDDR Presa de Saban 145.41 20 *ePKPdf* **PKPdf 00 09 30.8 -0.7**
CBYP Canovanas 147.55 12 *ePKPdf* **PKPdf 00 09 35.9 +0.9**
CELP Cerrillos 147.59 13 *ePKPdf* **PKPdf 00 09 34.8 -0.3**
OBIP Obispado Ponce 147.61 13 *ePKPdf* **PKPdf 00 09 35.8 +0.7**
STVI Saint Thomas 147.63 10 *ePKPdf* **PKPdf 00 09 35.9 +0.8**
HUMP Col San Antoni 147.67 12 *ePKPdf* **PKPbc 00 09 37.4 -0.6**
MTP Monte Pirata 147.77 11 *ePKPdf* **PKPbc 00 09 38.4 +0.1**
BCIP Isla Barro Col 149.46 43 *ePKPbc* **PKPbc 00 09 42.3 -0.4**
SDV Santo Domingo 154.87 27 *ePKPdf* **PKPdf 00 09 46.2 -0.3**
TRQA Tornquist 155.66 175 *ePKPdf* **PKPdf 00 09 45.0 -1.6**
TRQA *e*PKPab **PKPab 00 10 11.4 -2.0**
OTAV Otavalo 156.50 55 *ePKPdf* **PKPdf 00 09 46.8 -2.2**
ATAH Atahualpa 160.12 73 PKP **PKPdf 00 09 53.7 +0.4**
comp=Z,5.1nm,0.8s,baz=270,slow=1.0,SNR=3.2
ATAH PKPab **PKPab 00 10 36.5 +2.4**
comp=Z,26nm,0.9s,baz=204,slow=2.0,SNR=13
CPUP Villa Florida 167.33 188 *ePKPdf* **PKPdf 00 09 59.1 +0.1**
CPUP *e*PKPab **PKPab 00 11 04.0 -0.5**
CPUP Villa Florida 167.33 188 PKP **PKPdf 00 09 59.1 +0.1**
comp=Z,3.7nm,0.9s,baz=128,slow=8.6,SNR=3.3
CPUP PKPab **PKPab 00 11 04.4 -0.1**
comp=Z,4.1nm,0.6s,baz=184,slow=3.8,SNR=7.0
BDFB Brasilia 168.91 259 *ePKPdf* **PKPdf 00 09 59.5 -1.0**
BDFB *e*PKPab **PKPab 00 11 11.8 -0.6**
BDFB Brasilia 168.91 259 PKP **PKPdf 00 09 59.5 -1.0**
comp=Z,4.3nm,0.9s,baz=225,slow=5.7,SNR=4.7
BDFB PKPab **PKPab 00 11 11.8 -0.6**
comp=Z,7.9nm,0.9s,baz=138,slow=4.1,SNR=7.2
LPAZ La Paz 171.10 108 *ePKPdf* **PKPdf 00 10 02.8 +0.4**
LPAZ *e*PKPab **PKPab 00 11 23.7 +1.1**
LPAZ *e*PP **PP 00 15 13.0 -0.8**
LPAZ La Paz 171.10 108 PKP **PKPdf 00 10 02.1 -0.3**
comp=Z,4.0nm,0.9s,baz=22,slow=5.4,SNR=7.1
LPAZ PKPab **PKPab 00 11 24.4 +1.7**
comp=Z,24nm,1.0s,baz=251,slow=4.5,SNR=29
LPAZ PP **PP 00 15 13.0 -0.8**
comp=Z,3.5nm,1.1s,baz=270,slow=4.0,SNR=2.8
SAML Samuel 173.91 39 *ePKPdf* **PKPdf 00 10 01.8 -1.1**
SAML *e*PKPab **PKPab 00 11 31.8 -2.4**

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*ISCJB **18** 23:55:21.4±0.5, 39°.10N±0°.06×15°.4E±0°.1, h262km±4km, mb3.4/6, Error ellipse: s-maj=13.7km s-min=9.2km az=20.3*
*IDC **18** 23:55:21.5±4.0, 39°.68N×15°.51E, h192km±50km, mb3.1/6, mb1 3.1/9, mb1mx3.0/32, mbtmp3.0/9, Error ellipse: s-maj=27.5km s-min=15.7km az=89.0*
*CSEM **18** 23:55:21.6, 38°.98N×15°.42E, h263km, After ROM*
*ROM **18** 23:55:21.6±0.3, 38°.98N×15°.42E, h263km±3km, Ml3.3/13, Error ellipse: s-maj=7.4km s-min=2.8km az=112.0*

ISC 18 23:55:21.4±0.9, 39°.02N±0°.06×15°.37E±0°.09, h262km±7km, n46, σ1811/62, mb3.5/6, 2D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOPP	**Joppolo**	**0.57**	**136**	***⇓iPg***	**Pn**	**23 55 56.3**	**+0.4**
JOPP				Sg	**S**	**23 56 21.9**	**-1.3**
	121nm,0.3s						
JOPP	**Joppolo**	**0.57**	**136**	***⇓iPg***	**Pn**	**23 55 56.3**	**+0.4**
JOPP				Sg	**S**	**23 56 21.9**	**-1.3**
	121nm,0.3s						
VPL	**Vulcano Piano**	**0.71**	**206**	Pg	**Pn**	**23 55 57.5**	**+1.1**
VPL	**Vulcano Piano**	**0.71**	**206**	Pg	**Pn**	**23 55 57.5**	**+1.1**
MSRU	**Castanea**	**0.76**	**172**	Pg	**Pn**	**23 55 56.9**	**+0.3**
MSRU				Sg	**S**	**23 56 23.7**	**-0.7**
	403nm,1.4s						
MSRU	**Castanea**	**0.76**	**172**	Pg	**Pn**	**23 55 56.9**	**+0.3**
MSRU				Sg	**S**	**23 56 23.7**	**-0.7**
	403nm,1.4s						
GRI	**Girifalco**	**0.84**	**103**	Pg	**Pn**	**23 55 58.0**	**+1.1**
GRI				Sg	**S**	**23 56 24.6**	**-0.3**
	137nm,1.0s						
GRI	**Girifalco**	**0.84**	**103**	Pg	**Pn**	**23 55 58.0**	**+1.1**
GRI				Sg	**S**	**23 56 24.6**	**-0.3**
	137nm,1.0s						
TDS	**Terranova Siba**	**0.98**	**49**	Pg	**Pn**	**23 55 58.7**	**+1.2**
	20nm,0.3s						
TDS	**Terranova Siba**	**0.98**	**49**	Pg	**Pn**	**23 55 58.7**	**+1.2**
	20nm,0.3s						
PLAC	**Placanica**	**1.01**	**124**	Pg	**Pn**	**23 55 58.7**	**+0.9**
PLAC				Sg	**S**	**23 56 25.7**	**-0.8**
	205nm,0.5s						
PLAC	**Placanica**	**1.01**	**124**	Pg	**Pn**	**23 55 58.7**	**+0.9**
PLAC				Sg	**S**	**23 56 25.7**	**-0.8**
	205nm,0.5s						
SERS	**Sersale**	**1.02**	**89**	Pg	**Pn**	**23 55 58.9**	**+1.0**
SERS				Sg	**S**	**23 56 25.7**	**-1.1**
	92nm,0.3s						
SERS	**Sersale**	**1.02**	**89**	Pg	**Pn**	**23 55 58.9**	**+1.0**
SERS				Sg	**S**	**23 56 25.7**	**-1.1**
	92nm,0.3s						
MTTG	**Motta San Giov**	**1.04**	**166**	Pg	**Pn**	**23 55 58.9**	**+0.9**
MTTG				Sg	**S**	**23 56 26.7**	**-0.2**
	88nm,0.5s						
MTTG	**Motta San Giov**	**1.04**	**166**	Pg	**Pn**	**23 55 58.9**	**+0.9**
MTTG				Sg	**S**	**23 56 26.7**	**-0.2**
	88nm,0.5s						
MMME	**Mongiuffi-Meli**	**1.09**	**185**	Pg	**Pn**	**23 55 59.4**	**+1.1**
	60nm,0.3s						
MMME	**Mongiuffi-Meli**	**1.09**	**185**	Pg	**Pn**	**23 55 59.4**	**+1.1**
	60nm,0.3s						
SALB	**San Lorenzo Be**	**1.14**	**41**	Pg	**Pn**	**23 55 59.8**	**+1.3**
SALB				Sg	**S**	**23 56 27.8**	**-0.2**
	56nm,0.5s						
SALB	**San Lorenzo Be**	**1.14**	**41**	Pg	**Pn**	**23 55 59.8**	**+1.3**
SALB				Sg	**S**	**23 56 27.8**	**-0.2**
	56nm,0.5s						
MPAZ	**Palizzi**	**1.17**	**155**	Pg	**Pn**	**23 55 59.6**	**+0.8**
MPAZ				Sg	**S**	**23 56 27.2**	**-1.1**
MPAZ	**Palizzi**	**1.17**	**155**	Pg	**Pn**	**23 55 59.6**	**+0.8**
MPAZ				Sg	**S**	**23 56 27.2**	**-1.1**
ORI	**Oriolo Calabro**	**1.33**	**38**	Pg	**Pn**	**23 56 01.0**	**+1.4**
ORI				Sg	**S**	**23 56 30.3**	**+0.4**
	116nm,0.4s						

ORI	**Oriolo Calabro**	**1.33**	**38**	Pg	**Pn**	**23 56 01.0 +1.4**
ORI				Sg	**S**	**23 56 30.3 +0.4**
	116nm,0.4s					
MCEL	**Monticello**	**1.35**	**14**	Pg	**Pn**	**23 56 01.2 +1.4**
MCEL	**Monticello**	**1.35**	**14**	Pg	**Pn**	**23 56 01.2 +1.4**
GALF	**Gagliano Caste**	**1.45**	**206**	Pg	**Pn**	**23 56 02.7 +2.1**
	57nm,0.5s					
GALF	**Gagliano Caste**	**1.45**	**206**	Pg	**Pn**	**23 56 02.7 +2.1**
	57nm,0.5s					
GIB	**Gibilmanna**	**1.47**	**226**	Pg	**Pn**	**23 56 01.6 +0.8**
	64nm,0.3s					
GIB	**Gibilmanna**	**1.47**	**226**	Pg	**Pn**	**23 56 01.6 +0.8**
	64nm,0.3s					
SSY	**Sortino**	**1.88**	**187**	Pg	**Pn**	**23 56 04.9 +1.0**
	76nm,0.3s					
SSY	**Sortino**	**1.88**	**187**	Pg	**Pn**	**23 56 04.9 +1.0**
	76nm,0.3s					
HVZN	**Vizzini**	**1.91**	**196**	Pg	**Pn**	**23 56 05.6 +1.4**
	124nm,0.4s					
HVZN	**Vizzini**	**1.91**	**196**	Pg	**Pn**	**23 56 05.6 +1.4**
	124nm,0.4s					
HAVL	**Avola**	**2.06**	**186**	Pg	**Pn**	**23 56 06.7 +1.2**
	233nm,1.1s					
HAVL	**Avola**	**2.06**	**186**	Pg	**Pn**	**23 56 06.7 +1.2**
	233nm,1.1s					
IDI	**Anoyia**	**8.46**	**113**	P	Pn	23 57 23.8 +3.3
	0.2nm,0.3s,baz=326,slow=15,SNR=3.5					
BRTR	**Keskin Array B**	**14.15**	**81**	P	**Pn**	**23 58 30.2 -0.8**
	0.0nm,0.3s,baz=277,slow=10.0,SNR=3.2					
MMAI	**Mount Meron Ar**	**17.26**	**104**	P	**Pn**	**23 59 10.6 +2.8**
	0.4nm,0.3s,baz=313,slow=9.3,SNR=4.8					
EKA	**Eskdalemuir Ar**	**20.51**	**329**	P	**P**	**23 59 38.5 -1.2**
	1.1nm,0.3s,baz=136,slow=9.9,SNR=19					
HFS	**Hagfors**	**21.16**	**358**	P	**P**	**23 59 45.2 -1.1**
	1.4nm,0.5s,baz=172,slow=12,SNR=13					
NOA	**NORSAR Array B**	**22.20**	**355**	P	**P**	**23 59 55.3 -0.5**
	0.8nm,0.7s,baz=159,slow=10.0,SNR=4.3					
FINES	**FINESS Array B**	**23.41**	**13**	P	**P**	**00 00 07.6 +0.8**
	2.8nm,0.4s,baz=185,slow=8.4,SNR=33					
KAF	**Kangasniemi**	**24.07**	**13**	*ep*	**P**	**00 00 11.2 -1.6**
	0.4nm,0.4s					
TORD	**Torodi Ar. Bea**	**28.47**	**209**	P	P	00 01 04.3 +12
	0.4nm,1.1s,baz=41,slow=10.0,SNR=3.4					
ARCES	**ARCESS Array B**	**31.06**	**7**	P	**P**	**00 01 14.7 -0.1**
	1.9nm,0.8s,baz=197,slow=8.6,SNR=10					

IDC ***18*** *23:56:44.0±1.0, 11°.76N×86°.27W, h0km, mb4.2/8, mb1 4.4/9, mb1mx4.1/24, mbtmp4.1/9, ML3.4/1, MS3.1/1, Ms1 3.1/1, ms1mx2.9/26, Error ellipse: s-maj=50.9km s-min=16.5km az=49.0*

ISCJB ***18*** *23:56:45.9±0.3, 11°.20N±0°.06×86°.88W±0°.05, h30km, mb4.5/30, MS4.7/1, Error ellipse: s-maj=10.5km s-min=3.6km az=38.2*

CASC ***18*** *23:56:46.2±1.5, 11°.07N×87°.00W, h29km±999km, MD4.3, mb4.6(NEIC)*

BJI ***18*** *23:56:47.9, 11°.20N×86°.80W, h36km, Ms7 4.7/1*

NEIC ***18*** *23:56:53.0±1.6, 11°.22N×86°.79W, h94km±12km, mb4.6/28, Error ellipse: s-maj=34.5km s-min=16.0km az=223.0*

ISC 18 23:56:46.4±0.6, 11°.12N±0°.07×86°.92W±0°.07, h30km, n249, σ1§18/249, mb4.5/30, 78C-77D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**1.10**	**17**	⇓*iP*	**Pb**	**23 57 07.0**	**0.0**
COPN	**Copaltepe**	**1.10**	**17**	⇓*iP*	**Pb**	**23 57 07.0**	**0.0**
HUEN		**1.42**	**31**	*eP*	**Pb**	**23 57 11.2**	**-1.1**
HUEN		**1.42**	**31**	*eP*	**Pb**	**23 57 11.2**	**-1.1**
BUEV	**Buena Vista**	**1.52**	**102**	*i* P	**Pn**	**23 57 12.0**	**+0.3**
BUEV	**Buena Vista**	**1.52**	**102**	*i* P	**Pn**	**23 57 12.0**	**+0.3**
GB1A	**Borinquen Arri**	**1.52**	**101**	*i* P	**Pn**	**23 57 12.5**	**+0.7**
GB1A				*i* S	Sb	23 57 45.6	+12
GB1A	**Borinquen Arri**	**1.52**	**101**	*i* P	**Pn**	**23 57 12.5**	**+0.7**
GB1A				*i* S	Sb	23 57 45.6	+12
VCR	**Vista de Mar**	**1.61**	**128**	*eP*	**Pn**	**23 57 11.8**	**-1.1**
VCR	**Vista de Mar**	**1.61**	**128**	*eP*	**Pn**	**23 57 11.8**	**-1.1**
LIM1	**Limonal**	**1.69**	**104**	*i* P	**Pn**	**23 57 14.1**	**+0.1**
LIM1	**Limonal**	**1.69**	**104**	*i* P	**Pn**	**23 57 14.1**	**+0.1**
JTS	**JuntasAbangare**	**2.10**	**113**	*e*Pn	**Pb**	**23 57 23.2**	**-0.8**
JTS				*e*Sn	**Sb**	**23 57 51.7**	**+2.0**
JTS	**JuntasAbangare**	**2.10**	**113**	Pn	**Pn**	**23 57 19.6**	**0.0**
	4.2nm,0.3s,baz=109,slow=22,SNR=20						
JTS				LR	LR	23 57 51.7	
	comp=Z,434nm,18.4s,baz=279,slow=35						
JCR	**Jicaral**	**2.18**	**125**	*eP*	**Pn**	**23 57 21.5**	**+0.7**
JCR	**Jicaral**	**2.18**	**125**	*eP*	**Pn**	**23 57 21.5**	**+0.7**
CNCH	**Conchagua**	**2.32**	**337**	*eP*	**Pn**	**23 57 23.0**	**+0.2**
CNCH	**Conchagua**	**2.32**	**337**	*eP*	**Pn**	**23 57 23.0**	**+0.2**
BLLM	**Bellamira**	**2.64**	**331**	*eP*	**Pn**	**23 57 27.9**	**+0.7**
BLLM	**Bellamira**	**2.64**	**331**	*eP*	**Pn**	**23 57 27.9**	**+0.7**
CGA2	**Cerro Gallo 2**	**2.65**	**114**	*eP*	**Pn**	**23 57 28.6**	**+1.2**
CGA2	**Cerro Gallo 2**	**2.65**	**114**	*eP*	**Pn**	**23 57 28.6**	**+1.2**
TGUH	**Tegucigalpa,Un**	**2.94**	**353**	*e*Pn	**Pn**	**23 57 31.5**	**+0.4**
QCR	**Quepos**	**3.19**	**122**	*eP*	**Pn**	**23 57 35.7**	**+1.1**
QCR	**Quepos**	**3.19**	**122**	*eP*	**Pn**	**23 57 35.7**	**+1.1**
LFRS	**El Faro**	**3.25**	**320**	*eP*	**Pn**	**23 57 35.8**	**+0.2**
LFRS	**El Faro**	**3.25**	**320**	*eP*	**Pn**	**23 57 35.8**	**+0.2**
BUS	**Buena Vista**	**3.48**	**116**	*eP*	**Pn**	**23 57 40.6**	**+1.7**
BUS	**Buena Vista**	**3.48**	**116**	*eP*	**Pn**	**23 57 40.6**	**+1.7**
ACR	**Cerro Adams**	**4.44**	**123**	*eP*	**Pn**	**23 57 53.5**	**+1.7**
ACR	**Cerro Adams**	**4.44**	**123**	*eP*	**Pn**	**23 57 53.5**	**+1.7**
APG	**El Apazote**	**5.18**	**319**	Pn	**Pn**	**23 58 03.0**	**+0.9**
	1.2nm,0.3s,baz=117,slow=14,SNR=6.1						
ROSC	**El Rosal**	**13.93**	**116**	*e*PcP	PcP	00 05 11.0	-13
ROSC	**El Rosal**	**13.93**	**116**	LR	LR	00 05 11.0	
	comp=Z,88nm,20.2s,baz=176,slow=37						
SDV	**Santo Domingo**	**16.19**	**96**	*e*Pn	**P**	**00 00 34.2**	**-0.9**
	10nm,0.9s						
TIGA	**Tifton**	**20.45**	**8**	*e*P	Pn	00 01 23.7	-0.2
TIGA	**Tifton**	**20.45**	**8**	⇓P	**P**	**00 01 22.2**	**+0.6**
	baz=20						
HKT	**Hockley**	**20.49**	**337**	*e*P	**P**	**00 01 22.8**	**+0.8**
	50nm,1.7s						
732A	**Laxson Ranch,**	**21.35**	**327**	⇑P	**P**	**00 01 33.4**	**+2.0**
	baz=21						
LRAL	**Lakeview Retre**	**21.81**	**360**	*e*P	**P**	**00 01 37.5**	**+1.3**
	14nm,0.8s						
632A	**Uvalde**	**21.88**	**329**	⇓P	**P**	**00 01 38.6**	**+1.6**
	baz=22						
631A	**Perdido Creek**	**22.22**	**327**	⇑P	**P**	**00 01 41.9**	**+1.2**
	baz=22,SNR=11						
532A	**Rocksprings**	**22.44**	**329**	⇓P	**P**	**00 01 44.1**	**+1.0**
	baz=22,SNR=6.2						
JCT	**Junction City**	**22.68**	**330**	⇓P	**P**	**00 01 46.9**	**+1.3**
	baz=23						
531A	**Rocksprings**	**22.80**	**328**	⇓P	**P**	**00 01 48.2**	**+1.3**
	baz=23						
WHTX	**Lake Whitney**	**22.93**	**337**	⇓P	**P**	**00 01 49.2**	**+1.0**
	baz=23						
432A	**Menard**	**23.00**	**331**	⇑P	**P**	**00 01 50.2**	**+1.2**
	baz=23						
530A	**J-C Ranch, Com**	**23.20**	**327**	⇑P	**P**	**00 01 51.6**	**+0.5**
	baz=23,SNR=7.0						
431A	**Sonora**	**23.25**	**329**	⇓P	**P**	**00 01 52.1**	**+0.7**
	baz=23,SNR=7.4						
332A	**Millersview**	**23.40**	**331**	⇑P	**P**	**00 01 53.3**	**+0.4**
	baz=24,SNR=7.5						
628A	**Black Gap, Mar**	**23.57**	**323**	⇓P	**P**	**00 01 55.1**	**+0.4**
	baz=24,SNR=11						
430A	**Baggett Ranch,**	**23.65**	**328**	⇑P	**P**	**00 01 55.9**	**+0.5**
	baz=24						
331A	**San Angelo**	**23.66**	**330**	⇓P	**P**	**00 01 56.1**	**+0.6**
	baz=24						
529A	**Stev Forest Ra**	**23.67**	**325**	⇓P	**P**	**00 01 56.2**	**+0.6**
	baz=24						
232A	**Coleman**	**23.78**	**332**	⇑P	**P**	**00 01 56.8**	**+0.2**
	baz=24,SNR=5.7						
627A	**Terlingua Ranc**	**23.85**	**322**	⇓P	**P**	**00 01 57.9**	**+0.6**
	baz=24,SNR=7.4						
429A	**Davenport Ranc**	**23.87**	**327**	⇑P	**P**	**00 01 58.3**	**+0.8**
	baz=24						
LTX	**Lajitas**	**23.93**	**322**	*e*P	**P**	**00 01 58.9**	**+0.7**
LTX				*e*PcP	**PcP**	**00 05 44.0**	**+3.7**
TX31	**Lajitas Ar. Si**	**23.93**	**322**	*e*P	**P**	**00 01 59.0**	**+0.8**
TXAR	**Lajitas Array**	**23.93**	**322**	P	**P**	**00 01 58.9**	**+0.7**
	6.0nm,0.8s,baz=138,slow=9.6,SNR=65						
TXAR				PcP	**PcP**	**00 05 44.0**	**+3.7**
	2.1nm,0.9s,baz=116,slow=4.1,SNR=12						
SWET	**Sewanee**	**24.00**	**2**	*e*P	**P**	**00 01 58.3**	**-0.3**
	16nm,0.8s						
528A	**Cox Ranch, San**	**24.02**	**324**	⇓P	**P**	**00 01 59.6**	**+0.7**
	baz=24						
MIAR	**Mount Ida**	**24.10**	**346**	*e*P	**P**	**00 01 58.6**	**-0.9**
	11nm,0.8s						
330A	**Mertzon**	**24.11**	**329**	⇓P	**P**	**00 02 00.1**	**+0.4**
	baz=24						
231A	**Bronte**	**24.13**	**331**	⇑P	**P**	**00 02 00.1**	**+0.3**
	baz=24						
CPCT	**Cooper Cave**	**24.32**	**5**	*e*P	**P**	**00 02 01.2**	**-0.3**
626A	**Big Bend Ranch**	**24.37**	**321**	⇓P	**P**	**00 02 02.9**	**+0.7**
	baz=24						
428A	**Kincaid Ranch,**	**24.38**	**325**	⇑P	**P**	**00 02 03.5**	**+1.2**
	baz=24						
ABTX	**Abilene, Hawle**	**24.40**	**333**	*e*P	**P**	**00 02 01.4**	**-0.8**
	59nm,2.0s						
ABTX	**Abilene, Hawle**	**24.40**	**333**	⇑P	**P**	**00 02 03.4**	**+1.1**
	baz=24						
KMSC	**Kings Mountain**	**24.45**	**11**	⇓P	**P**	**00 02 03.2**	**+0.5**
	baz=24						
527A	**Woodward Ranch**	**24.48**	**323**	⇓P	**P**	**00 02 03.8**	**+0.5**
	baz=24						
329A	**Wagon Wheel Ra**	**24.59**	**328**	⇑P	**P**	**00 02 04.6**	**+0.5**
	baz=25,SNR=8.1						
TKL	**Tuckaleechee C**	**24.59**	**6**	*e*P	**P**	**00 02 04.4**	**+0.4**
TKL	**Tuckaleechee C**	**24.59**	**6**	P	**P**	**00 02 03.2**	**-0.8**
	12nm,0.9s,baz=180,slow=12,SNR=9.7						
526A	**Mary Lane Ranc**	**24.70**	**322**	⇑P	**P**	**00 02 06.3**	**+1.0**
	baz=25,SNR=7.8						
427A	**Hayter Ranch,**	**24.88**	**325**	⇓P	**P**	**00 02 07.6**	**+0.8**
	baz=25						
229A	**Bryant Ranch,**	**24.89**	**329**	⇓P	**P**	**00 02 07.0**	**+0.2**
	baz=25						
Z32A	**Haskell**	**24.91**	**334**	⇑P	**P**	**00 02 07.6**	**+0.7**
	baz=25						
328A	**Wristen Ranch,**	**24.95**	**326**	⇓P	**P**	**00 02 07.7**	**+0.3**
	baz=25,SNR=10						
130A	**Snyder**	**24.98**	**331**	⇓P	**P**	**00 02 08.5**	**+0.9**
	baz=25						
426A	**McDonald Obser**	**25.11**	**323**	⇓P	**P**	**00 02 09.7**	**+0.7**
	baz=25						
Z31A	**Shan's Cattle R**	**25.21**	**333**	⇓P	**P**	**00 02 10.6**	**+0.9**
	baz=25						
228A	**UT Block 9, Go**	**25.41**	**328**	⇓P	**P**	**00 02 12.6**	**+1.0**
	baz=26						
129A	**Stewart Farms,**	**25.45**	**330**	⇓P	**P**	**00 02 12.4**	**+0.5**
	baz=26						
TZTN	**Tazewell**	**25.50**	**6**	*e*P	**P**	**00 02 12.1**	**-0.1**
	200nm,2.8s						
Y32A	**R-V Farms, Ver**	**25.50**	**335**	⇓P	**P**	**00 02 12.8**	**+0.6**
	baz=26						
Z30A	**Sanderson Ranc**	**25.63**	**332**	⇑P	**P**	**00 02 13.5**	**0.0**
	baz=26						
227A	**Bennet, Jal**	**25.70**	**326**	⇑P	**P**	**00 02 14.8**	**+0.6**
	baz=26						
PBMO	**Poplar Bluff**	**25.74**	**354**	*e*P	**P**	**00 02 12.7**	**-1.7**
	141nm,2.8s						
128A	**Castleberry Fa**	**25.75**	**329**	⇑P	**P**	**00 02 15.3**	**+0.6**
	baz=26						
425A	**Indio Mountain**	**25.76**	**322**	⇑P	**P**	**00 02 15.5**	**+0.7**
	baz=26						
Y31A	**Rekieta Farm,**	**25.80**	**334**	⇓P	**P**	**00 02 15.9**	**+0.8**
	baz=26						
WMOK	**Wichita Mounta**	**25.88**	**337**	*e*P	**P**	**00 02 14.4**	**-1.3**
	13nm,0.9s						
Z29A	**Hungry Hill Ra**	**25.88**	**331**	⇑P	**P**	**00 02 15.9**	**+0.1**
	baz=26,SNR=9.8						
TUL1	**Tulsa**	**25.96**	**343**	*e*P	**P**	**00 02 15.7**	**-0.6**
TUL1	**Tulsa**	**25.96**	**343**	⇓P	**P**	**00 02 16.7**	**+0.3**
	baz=26						
325A	**Bean Ranch, Si**	**26.17**	**323**	⇓P	**P**	**00 02 19.6**	**+1.0**
	baz=26						
226B	**Tecolote Peak,**	**26.23**	**325**	⇑P	**P**	**00 02 20.1**	**+1.1**
	baz=26						
Z28A	**Tucker Farm, M**	**26.23**	**330**	⇓P	**P**	**00 02 19.4**	**+0.4**
	baz=26						
127A	**Arkansas Junct**	**26.25**	**327**	⇑P	**P**	**00 02 19.5**	**+0.3**
	baz=26						
X31A	**Mcdonald Ranch**	**26.26**	**335**	⇓P	**P**	**00 02 19.7**	**+0.6**
	baz=26						
Y29A	**Porterfield Fa**	**26.36**	**331**	⇑P	**P**	**00 02 21.0**	**+0.9**
	baz=26						
GDL2	**Guadalupe Moun**	**26.43**	**325**	*e*P	**P**	**00 02 19.5**	**-1.4**
X30A	**Coker Ranch, T**	**26.48**	**333**	⇓P	**P**	**00 02 21.9**	**+0.7**
	baz=26						
324A	**Moseley Ranch,**	**26.53**	**322**	⇑P	**P**	**00 02 22.7**	**+0.9**
	baz=27						
SIUC	**Southern Illin**	**26.56**	**356**	*e*P	**P**	**00 02 19.9**	**-1.9**
	15nm,0.8s						
126A	**Clayton Basin,**	**26.58**	**326**	⇓P	**P**	**00 02 23.3**	**+1.1**
	baz=27						
225A	**Deer Hill, Car**	**26.63**	**324**	⇑P	**P**	**00 02 23.8**	**+1.1**
	baz=27						
MNTX	**Cornudas Mount**	**26.65**	**323**	*e*P	**P**	**00 02 22.6**	**-0.2**
	4.6nm,1.1s						
Z27A	**Tatum**	**26.67**	**328**	⇑P	**P**	**00 02 23.4**	**+0.3**
	baz=27						
125A	**Gainer Draw,**	**26.94**	**325**	⇑P	**P**	**00 02 26.3**	**+0.8**
	baz=27						
MSTX	**Muleshoe**	**26.97**	**330**	*e*P	**P**	**00 02 24.5**	**-1.2**
MSTX	**Muleshoe**	**26.97**	**330**	⇓P	**P**	**00 02 25.3**	**-0.4**
	baz=27,SNR=7.1						
Z26A	**Caprock**	**27.04**	**327**	⇓P	**P**	**00 02 27.2**	**+0.8**
	baz=27						
Y27A	**Causey**	**27.10**	**329**	⇓P	**P**	**00 02 27.8**	**+0.9**
	baz=27						
124A	**Stringfield Ra**	**27.42**	**324**	⇓P	**P**	**00 02 31.2**	**+1.3**
	baz=28						
Z25A	**Roswell**	**27.44**	**326**	⇓P	**P**	**00 02 31.3**	**+1.3**
	baz=28,SNR=8.5						
Y26A	**Elida**	**27.46**	**328**	⇓P	**P**	**00 02 32.1**	**+1.9**
	baz=28						
X27A	**F and S Farms,**	**27.68**	**330**	⇑P	**P**	**00 02 34.3**	**+2.3**
	baz=28						
Z24A	**Sheeppen Canyo**	**27.84**	**325**	⇓P	**P**	**00 02 35.2**	**+1.6**
	baz=28,SNR=6.3						
Y25A	**Mesa, Roswell**	**27.92**	**327**	⇓P	**P**	**00 02 36.4**	**+2.2**
	baz=28						
X26A	**CR and CF Fran**	**27.95**	**329**	⇓P	**P**	**00 02 36.7**	**+2.2**
	baz=28						
222A	**Williams Famil**	**27.97**	**321**	⇑P	**P**	**00 02 37.0**	**+2.3**
	baz=28						
W27A	**Bowe Ranch, En**	**28.00**	**331**	⇑P	**P**	**00 02 36.7**	**+1.8**
	baz=28						
Z23A	**Rita Site, Whi**	**28.28**	**324**	⇑P	**P**	**00 02 39.0**	**+1.6**
	baz=28						
Y24A	**Capitan**	**28.32**	**326**	⇑P	P	00 02 41.6	+3.7
	baz=28,SNR=6.7						
W26A	**Owens Ranch, T**	**28.36**	**330**	⇑P	**P**	**00 02 40.1**	**+1.9**
	baz=28						
X25A	**Clemmons Ranch**	**28.37**	**328**	⇑P	**P**	**00 02 39.3**	**+1.0**
	baz=28						
Y23A	**Lovelace Mesa,**	**28.67**	**325**	⇓P	**P**	**00 02 42.1**	**+1.1**
	baz=29						
W25A	**X Bar L Ranch,**	**28.80**	**329**	⇓P	**P**	**00 02 42.9**	**+0.8**
	baz=29						
V26A	**Tequesquite Ra**	**28.94**	**331**	⇓P	**P**	**00 02 44.1**	**+0.8**
	baz=29						
BNM	**Barren Site**	**29.15**	**325**	*e*P	**P**	**00 02 45.5**	**+0.2**
Y22A	**Socorro**	**29.19**	**324**	⇓P	**P**	**00 02 46.6**	**+1.0**
	baz=29						
ACSO	**Alum Creek Sta**	**29.20**	**6**	*e*P	**P**	**00 02 44.5**	**-1.0**
	17nm,0.8s						
W24A	**Lazy 6 Ranch,**	**29.29**	**328**	⇑P	**P**	**00 02 47.4**	**+1.0**
	baz=29						
V25A	**Rancho No Teng**	**29.37**	**330**	⇓P	**P**	**00 02 47.8**	**+0.6**
	baz=29						
U26A	**Atchley Ranch,**	**29.40**	**332**	⇑P	**P**	**00 02 48.2**	**+0.7**
	baz=30						
Z20A	**Nine Sixteen R**	**29.58**	**321**	⇑P	**P**	**00 02 50.7**	**+1.6**
	baz=30						
V24A	**Rampart Ranch,**	**29.61**	**329**	⇓P	**P**	**00 02 49.8**	**+0.4**
	baz=30						
W23A	**Wear Place,**	**29.64**	**327**	⇓P	**P**	**00 02 50.9**	**+1.3**
	baz=30						
ANMO	**Albuquerque**	**29.64**	**326**	*e*P	**P**	**00 02 50.2**	**+0.6**
	6.0nm,1.4s						
ANMO	**Albuquerque**	**29.64**	**326**	P	**P**	**00 02 50.5**	**+0.9**
	1.7nm,0.7s,baz=130,slow=12,SNR=6.5						
T26A	**Comanche Natio**	**29.97**	**333**	⇓P	**P**	**00 02 53.4**	**+0.9**
	baz=30						
X21A	**Alamocita Cree**	**30.02**	**324**	⇑P	**P**	**00 02 54.2**	**+1.2**
	baz=30						
V23A	**Ortiz Mt. (NFS**	**30.10**	**328**	⇓P	**P**	**00 02 54.5**	**+0.8**
	baz=30						
R28A	**Tribune**	**30.20**	**336**	⇑P	**P**	**00 02 56.4**	**+2.0**
	baz=30						
SSPA	**Standing Stone**	**30.46**	**14**	*e*P	**P**	**00 02 56.6**	**+0.1**
	334nm,2.6s						
U23A	**El Rito**	**30.55**	**328**	⇑P	**P**	**00 02 58.7**	**+1.1**
	baz=31,SNR=5.8						
V22A	**San Miguel Ran**	**30.61**	**327**	⇓P	**P**	**00 02 58.8**	**+0.6**
	baz=31						
O32A	**Brockman Farm,**	**30.71**	**343**	⇑P	**P**	**00 02 59.7**	**+0.9**
	baz=31						
S25A	**Robets Cordova**	**30.75**	**332**	⇑P	**P**	**00 02 59.9**	**+0.5**
	baz=31						
SAML	**Samuel**	**30.90**	**129**	*e*P	**P**	**00 03 01.5**	**+0.8**
	4.1nm,0.8s						
S24A	**Houchin Ranch,**	**31.10**	**331**	⇓P	**P**	**00 03 03.6**	**+1.0**
	baz=31						
SDCO	**Great Sand Dun**	**31.32**	**331**	*e*P	**P**	**00 03 05.8**	**+1.3**
	15nm,1.8s						
N31A	**Bailey Ranch,**	**31.43**	**342**	⇑P	**P**	**00 03 06.3**	**+1.1**
	baz=32						
T22A	**Edith**	**31.44**	**328**	⇑P	**P**	**00 03 06.7**	**+1.2**
	baz=32						
Q25A	**Bedland, Calha**	**31.70**	**334**	⇑P	**P**	**00 03 09.0**	**+1.2**
	baz=32						
T21A	**Navajo Lake**	**31.75**	**328**	⇑P	**P**	**00 03 09.8**	**+1.6**
	baz=32						
R23A	**Moffat**	**31.83**	**331**	⇑P	**P**	**00 03 10.3**	**+1.4**
	baz=32						
S22A	**4UR Ranch, Cre**	**31.97**	**329**	⇑P	**P**	**00 03 11.6**	**+1.3**
	baz=32						
X16A	**Lo Mia Camp, P**	**32.22**	**320**	⇓P	**P**	**00 03 13.6**	**+1.3**
	baz=32						
R22A	**Saguache, Gunn**	**32.31**	**330**	⇑P	**P**	**00 03 14.4**	**+1.2**
	baz=32						
S21A	**Coal Bank Pass**	**32.39**	**328**	⇓P	**P**	**00 03 15.2**	**+1.2**
	baz=32						
P23A	**Jefferson**	**32.78**	**332**	⇑P	**P**	**00 03 18.8**	**+1.4**
	baz=33						
Q22A	**Crested Butte,**	**32.88**	**331**	⇑P	**P**	**00 03 19.5**	**+1.3**
	baz=33						
R20A	**Redvale**	**33.10**	**328**	⇓P	**P**	**00 03 21.4**	**+1.4**
	baz=33						
PV01	**Paradox Valley**	**33.15**	**328**	*e*P	**P**	**00 03 20.0**	**-0.5**
K30A	**Basset**	**33.33**	**343**	⇓P	**P**	**00 03 22.5**	**+0.7**
	baz=33						
PV05	**Paradox Valley**	**33.39**	**327**	*e*P	**P**	**00 03 21.9**	**-0.7**
PV10	**Paradox Valley**	**33.58**	**328**	*e*P	**P**	**00 03 23.6**	**-0.6**
K29A	**Lazy Trails An**	**33.62**	**342**	⇑P	**P**	**00 03 25.4**	**+1.1**
	baz=34						
P21A	**Newcastle**	**33.66**	**331**	⇑P	**P**	**00 03 25.8**	**+0.9**
	baz=34						
PV09	**Paradox Valley**	**33.72**	**328**	*e*P	**P**	**00 03 24.7**	**-0.9**
O22A	**Kremmling**	**33.74**	**332**	⇓P	**P**	**00 03 26.6**	**+0.9**
	baz=34						
J30A	**Dallas**	**33.89**	**343**	⇑P	**P**	**00 03 27.3**	**+0.6**
	baz=34						
PDMCI	**Parker Dam,Lak**	**33.90**	**317**	⇓P	**P**	**00 03 28.5**	**+1.7**
	baz=34						
P20A	**De Beque**	**34.10**	**330**	⇓P	**P**	**00 03 29.9**	**+1.2**
	baz=34						
SADO	**Sadowa**	**34.19**	**10**	*e*P	P	00 03 26.0	-3.2
SADO	**Sadowa**	**34.19**	**10**	P	P	00 03 26.0	-3.2
	12nm,0.9s,baz=210,slow=9.6,SNR=7.6						
J29A	**Okreek**	**34.21**	**343**	⇑P	**P**	**00 03 29.7**	**+0.4**
	baz=34						
W13A	**Hualapai Mount**	**34.21**	**319**	⇑P	**P**	**00 03 31.5**	**+1.7**
	baz=34						
SPMN	**St. Paul**	**34.36**	**353**	*e*P	**P**	**00 03 28.4**	**-2.2**
SPMN	**St. Paul**	**34.36**	**353**	⇑P	**P**	**00 03 29.7**	**-0.9**
	baz=34						
I30A	**Oacoma**	**34.42**	**344**	⇓P	**P**	**00 03 31.1**	**-0.1**
	baz=34						
BC3	**Big Chuckawall**	**34.42**	**315**	⇑P	**P**	**00 03 32.9**	**+1.4**
	baz=34						
O20A	**White River Ci**	**34.51**	**331**	*e*P	**P**	**00 03 33.0**	**+0.7**
	11nm,0.9s						
O20A	**White River Ci**	**34.51**	**331**	⇑P	**P**	**00 03 33.6**	**+1.3**
	baz=35						
PTN	**Potsdam (NY)**	**34.88**	**15**	*e*P	**P**	**00 03 33.3**	**-1.8**
	337nm,2.1s						
SRU	**San Rafael**	**34.91**	**327**	*e*P	**P**	**00 03 35.9**	**+0.2**
	15nm,1.3s						
BELC	**Belle Mtn. Jos**	**34.99**	**315**	⇑P	**P**	**00 03 38.4**	**+2.0**
	baz=35						
I28A	**Midland**	**35.00**	**342**	⇑P	**P**	**00 03 37.2**	**+1.0**
	baz=35						
N20A	**Spence Gulch,**	**35.07**	**331**	⇓P	**P**	**00 03 38.0**	**+0.9**
	baz=35						
O19A	**Miners Draw (B**	**35.07**	**330**	⇑P	**P**	**00 03 38.0**	**+0.9**
	baz=35						
H29A	**Onida**

	baz=42						
BDFB	**Brasilia**	**46.80**	**124**	*e*P	**P**	**00 05 13.0**	**-0.9**
BDFB	**Brasilia**	**46.80**	**124**	P	**P**	**00 05 13.0**	**-0.9**
	4.2nm,0.8s,baz=273,slow=8.9,SNR=7.3						
ILAR	**Eielson Array**	**67.44**	**336**	P	**P**	**00 07 38.1**	**-0.9**
	0.7nm,1.0s,baz=106,slow=6.7,SNR=6.1						
ILB	**Eielson Array**	**67.44**	**336**	*e*P	**P**	**00 07 38.1**	**-0.9**
SONM	**Songino Array**	**120.12**	**350**	PKP	**PKPdf**	**00 15 35.4**	**+0.6**
	0.5nm,0.8s,baz=8.5,slow=2.9,SNR=3.9						
WMQ	**Urumqi**	**125.10**	**5**	*e*PKP	**PKPdf**	**00 15 44.0**	**-0.3**
HHC	**Hu-ho-hao-te**	**125.54**	**343**	*e*PKP	**PKPdf**	**00 15 42.6**	**-2.7**
HHC				sPKP		00 15 57.0	
HHC				PKS	**PKSdf**	**00 19 17.8**	**-4.2**
HHC				SKS	**SKSdf**	**00 22 49.3**	**-6.1**
HHC				SKKS	SKKSac	00 24 25.9	-7.0
HHC				SS	**SS**	**00 34 31.3**	**-0.5**
HHC				LR	LR		
	comp=Z,150nm,20.4s						
GTA	**Gaotai**	**129.34**	**353**	PKP	**PKPdf**	**00 15 53.0**	**+0.3**
GTA				sPKP		00 16 07.4	
CD2	**Chengdu**	**136.97**	**347**	PKP	**PKPdf**	**00 16 05.8**	**-1.3**
CMAR	**Chiang Mai Arr**	**150.05**	**349**	PKPbc	**PKPbc**	**00 16 36.2**	**+1.0**
	1.9nm,0.4s,baz=353,slow=4.0,SNR=16						

*ISCJB **18** 23:58:05.4±0.4,51.60N±0.02×16.02E±0.03, h0km, Error ellipse: s-maj=3.1km s-min=2.8km az=140.6*
*CSEM **18** 23:58:07.3±0.2,51.59N×15.94E, h2km, ML3.5/7, Error ellipse: s-maj=4.3km s-min=2.7km az=84.0*
*IPEC **18** 23:58:07.6±0.3,51.61N×16.04E, h0km, ML2.3/2, Error ellipse: s-maj=5.5km s-min=1.9km az=70.0*
*WAR **18** 23:58:08.4,51.59N×15.99E*
*PRU **18** 23:58:09.7,51.51N×15.95E, h0km*
*UPP **18** 23:58:13.3,52.00N×16.08E, h0km, ML2.1, Suspected Mining explosion.*

ISC 18 23:58:07.3±0.8, 51.62N±0.03×15.96E±0.02, h0km, n37, σ0.86/67, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.80**	**165**	*e*Pg	**Pg**	**23 58 22.8**	**+0.1**
KSP				*e*Sg	**Sg**	**23 58 33.3**	**+0.3**
KSP	**Ksiaz**	**0.80**	**165**	*e*Pg	**Pg**	**23 58 22.8**	**+0.1**
KSP				*e*Sg	**Sg**	**23 58 33.0**	**0.0**
UPC	**Upice**	**1.11**	**178**	*e*PG	**Pg**	**23 58 28.5**	**-0.1**
UPC	**Upice**	**1.11**	**178**	Pg	**Pg**	**23 58 28.5**	**-0.1**
DPC	**Dobruska-Polom**	**1.29**	**170**	*e*PG	**Pg**	**23 58 31.5**	**-0.5**
DPC				*e*SG	**Sg**	**23 58 47.6**	**-1.0**
DPC	**Dobruska-Polom**	**1.29**	**170**	Pg	**Pg**	**23 58 31.5**	**-0.5**
DPC				Sg	**Sg**	**23 58 47.6**	**-1.0**
PVCC	**Panska Ves**	**1.40**	**219**	*e*PG	**Pg**	**23 58 34.3**	**+0.2**
PVCC				*e*SG	**Sb**	**23 58 53.1**	**+0.5**
	comp=Z,199nm,0.4s						
PVCC	**Panska Ves**	**1.40**	**219**	Pg	**Pg**	**23 58 34.3**	**+0.2**
PVCC				Sg	**Sb**	**23 58 53.1**	**+0.5**
	199nm,0.4s						
BRG	**Berggiesshubel**	**1.47**	**240**	PN	**Pn**	**23 58 35.0**	**0.0**
BRG				PG	**Pb**	**23 58 35.7**	**+0.2**
BRG				SG	**Sn**	**23 58 55.5**	**+0.6**
	138nm,0.5s						
KRLC	**Kraliky**	**1.63**	**161**	*e*PG	**Pn**	**23 58 36.6**	**-0.7**
KRLC				*e*SG	**Sn**	**23 58 58.4**	**-0.6**
KRLC	**Kraliky**	**1.63**	**161**	Pg	**Pn**	**23 58 36.6**	**-0.7**
KRLC				Sg	**Sn**	**23 58 58.4**	**-0.6**
PRA	**Prague**	**1.83**	**213**	PG	**Pb**	**23 58 41.0**	**-0.5**
PRA				SG	**Sb**	**23 59 05.0**	**+0.1**
PRU	**Pruhonice**	**1.86**	**209**	*e*PN	**Pn**	**23 58 40.1**	**-0.3**
PRU				*e*PG	**Pb**	**23 58 42.1**	**-0.1**
PRU				*e*SG	**Sb**	**23 59 06.5**	**+0.5**
	comp=Z,62nm,0.4s						
PRU	**Pruhonice**	**1.86**	**209**	Pn	**Pn**	**23 58 40.1**	**-0.3**
CLL	**Collm**	**1.88**	**262**	*i* Pn	**Pn**	**23 58 40.3**	**-0.3**
	comp=Z,7.0nm,0.6s						
CLL				*e*Pg	**Pg**	**23 58 44.0**	**+0.8**
CLL				*i*		23 58 48.0	
CLL				*e*Sg	**Sg**	**23 59 09.0**	**+1.5**
	comp=Z,23nm,0.5s						
RAC	**Raciborz**	**2.09**	**136**	*e*PG	**Pg**	**23 58 47.0**	**-0.3**
RAC				*e*SG	**Sg**	**23 59 14.3**	**-0.1**
OKC	**Ostrava-Krasne**	**2.26**	**141**	*e*PG	**Pb**	**23 58 49.4**	**+0.5**
OKC				*e*SG	**Sb**	**23 59 17.5**	**+0.1**
	comp=Z,56nm,0.6s						
OKC	**Ostrava-Krasne**	**2.26**	**141**	Pg	**Pb**	**23 58 49.4**	**+0.5**
OKC				Sg	**Sb**	**23 59 17.5**	**+0.1**
	comp=Z,56nm,0.6s						
TREC	**Trest**	**2.34**	**188**	*e*PN	**Pn**	**23 58 47.2**	**+0.1**
TREC				*e*PG	**Pb**	**23 58 51.1**	**+0.7**
TREC				*e*SG	**Sg**	**23 59 21.7**	**-0.8**
	comp=Z,20nm,0.3s						
TREC	**Trest**	**2.34**	**188**	Pn	**Pn**	**23 58 47.2**	**+0.1**
VRAC	**Vranov**	**2.35**	**170**	*e*Pn	**Pn**	**23 58 47.1**	**0.0**
	baz=351						
VRAC				*e*Sg	**Sb**	**23 59 20.4**	**+0.5**
	comp=Z,27nm,0.5s,baz=351						
KRUC	**Moravsky**	**2.57**	**174**	*e*Pn	**Pn**	**23 58 50.3**	**+0.1**
	baz=355						
KRUC				*e*Sg	**Sb**	**23 59 27.5**	**+1.1**
	comp=Z,8.7nm,0.2s,baz=355						
KHC	**Kasperske Hory**	**2.92**	**212**	*e*PN	**Pn**	**23 58 55.3**	**+0.3**
KHC				*e*PG	**Pg**	**23 59 02.0**	**-1.2**
KHC				*e*SN	**Sn**	**23 59 30.4**	**-0.3**
KHC				*e*SG	**Sg**	**23 59 40.2**	**-0.8**
	comp=Z,14nm,0.3s						
KHC	**Kasperske Hory**	**2.92**	**212**	Pn	**Pn**	**23 58 55.3**	**+0.3**
NIE	**Niedzica**	**3.54**	**127**	*e*P	**Pg**	**23 59 13.6**	**-1.6**
NIE				*e*S	**Sg**	**23 59 58.2**	**-2.9**
BSD	**Bornholm Skovb**	**3.56**	**350**	*i* P	**Pn**	**23 59 03.1**	**-0.6**
BSD				*i* S	**Sn**	**23 59 44.4**	**-2.0**
BSD	**Bornholm Skovb**	**3.56**	**350**	*e*P	**Pn**	**23 59 03.1**	**-0.6**
BSD				*i* S	**Sn**	**23 59 44.5**	**-2.0**
	comp=Z,1.6nm,0.2s,SNR=92						
STHS	**Stebnicka Huta**	**4.03**	**121**	*e*PN	**Pn**	**23 59 10.7**	**+0.5**
STHS				*e*PG	**Pg**	**23 59 25.3**	**+0.9**
STHS				*e*SG	**Sg**	**00 00 18.1**	**+1.5**
STHS	**Stebnicka Huta**	**4.03**	**121**	*e*Pn	**Pn**	**23 59 10.7**	**+0.5**
KOLS	**Kolonicke sedl**	**4.86**	**121**	*e*PG	**Pg**	**23 59 42.2**	**+1.8**
KOLS				*e*		00 00 15.5	
KOLS	**Kolonicke sedl**	**4.86**	**121**	*e*SG	**Sg**	**00 00 44.9**	**+1.6**
KOLS	**Kolonicke sedl**	**4.86**	**121**	*e*Pg	**Pg**	**23 59 42.2**	**+1.8**
VXJU	**Vaexsjoe**	**5.35**	**354**	P	**Pn**	**23 59 28.0**	**-0.3**
ASPU	**Aespoe**	**5.83**	**3**	P	**Pn**	**23 59 35.0**	**+0.2**
GNOU	**Gnosjoe**	**5.83**	**348**	P	**Pn**	**23 59 34.9**	**0.0**
VSTU	**Vaestervik**	**6.07**	**3**	P	**Pn**	**23 59 38.2**	**+0.1**
BORU	**Boraas**	**6.31**	**344**	P	**Pn**	**23 59 41.7**	**+0.3**

GUC 19 00:12:21.6±0.6, 38.63S×74.94W, h22km±3km, ML4.2, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLCH	**Valdivia**	**1.77**	**132**	*e*P	Pn	00 12 51.3	+0.5
VLCH				*e*S	Sb	00 13 14.0	-1.0
VLCH				AML	AML	00 13 17.1	
	comp=E,2μm,0.1s						
OSCH	**Osorno**	**2.40**	**145**	*e*P	Pn	00 13 01.0	+1.4
OSCH				*e*S	Sn	00 13 30.1	+1.9
OSCH				AML	AML	00 13 32.3	
	comp=E,1μm,0.7s						
PUYE	**Entre Lagos**	**2.74**	**139**	*e*P	Pn	00 13 05.1	+0.9
PUYE				*i* S	Sn	00 13 38.6	+2.0
PUYE				AML	AML	00 13 41.2	
	comp=N,2μm,0.2s						
COCH	**Cobquecura**	**3.02**	**35**	*e*P	Pn	00 13 09.0	+0.9
COCH				*e*S	Sn	00 13 45.4	+1.8

*IDC **19** 00:15:46.4±0.7, 15.03S×173.33W, h0km, mb4.0/8, mb1 4.3/8, mb1mx4.1/20, mbtmp4.0/8, MS3.8/2, Ms1 3.8/2, ms1mx3.3/29, Error ellipse: s-maj=38.9km s-min=18.3km az=138.0*
*NEIC **19** 00:15:47.2±0.6, 15.10S×173.20W, h10km, mb4.6/4, Error ellipse: s-maj=30.1km s-min=13.0km az=134.0*

ISC 19 00:15:49.8±0.6, 15.1S±0.2×173.0W±0.2, h29km, n40, σ2.9/09/33, mb4.3/12, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.64**	**46**	*e*Pn	**Pn**	**00 16 15.3**	**-1.5**
AFI				Sn	**Sn**	**00 16 33.3**	**-3.6**
AFI	**Afiamalu**	**1.64**	**46**	Pn	**Pn**	**00 16 15.4**	**-1.3**
	136nm,0.3s,baz=1.8,slow=4.1,SNR=49						
AFI				Sn	**Sn**	**00 16 33.3**	**-3.6**
	507nm,0.3s,baz=72,slow=19,SNR=18						
URZ	**Urewera**	**24.72**	**199**	*e*P	**P**	**00 21 05.7**	**-2.9**
URZ	**Urewera**	**24.72**	**199**	P	**P**	**00 21 05.0**	**-3.6**
	6.6nm,0.4s,baz=52,slow=5.7,SNR=4.3						
H11S2	**WAKE ISLAND Hy**	**38.87**	**328**	T	T	01 03 49.7	
	baz=150,slow=0.7,SNR=13						
H11S3	**WAKE ISLAND Hy**	**38.88**	**328**	T	T	01 03 55.4	
	baz=61,slow=0.7,SNR=10						
H11S1	**WAKE ISLAND Hy**	**38.89**	**328**	T	T	01 03 51.7	
	baz=303,slow=0.7,SNR=9.4						
PMG	**Port Moresby**	**39.30**	**273**	LR	LR	00 36 16.3	
	comp=Z,128nm,18.0s,baz=205,slow=32						
H11N3	**WAKE ISLAND Hy**	**39.81**	**330**	T	T	01 05 47.7	
	baz=152,slow=0.7,SNR=8.7						
H11N1	**WAKE ISLAND Hy**	**39.81**	**330**	T	T	01 06 04.8	
	baz=152,slow=0.7,SNR=6.6						
H11N2	**WAKE ISLAND Hy**	**39.82**	**330**	T	T	01 06 05.1	
	baz=152,slow=0.7,SNR=9.8						
STKA	**Stephens Creek**	**44.55**	**240**	*e*P	**P**	**00 23 57.5**	**-1.9**
	1.7nm,0.9s						
STKA	**Stephens Creek**	**44.55**	**240**	P	**P**	**00 23 57.8**	**-1.5**
	7.4nm,0.9s,baz=83,slow=11,SNR=12						
WRAB	**Tennant Creek**	**50.30**	**256**	*e*P	P	00 24 40.8	-3.4
WRA	**Warramunga Arr**	**50.31**	**256**	P	**P**	**00 24 41.9**	**-2.4**
WRA	**Warramunga Arr**	**50.31**	**256**	P	**P**	**00 24 41.9**	**-2.4**
	0.9nm,0.6s,baz=94,slow=7.3,SNR=4.7						
AS31	**Alice Springs**	**50.59**	**252**	*e*P	**P**	**00 24 44.4**	**-2.1**
ASAR	**Alice Springs**	**50.59**	**252**	P	**P**	**00 24 44.5**	**-1.9**
ASAR	**Alice Springs**	**50.59**	**252**	P	**P**	**00 24 44.5**	**-1.9**
	3.2nm,0.6s,baz=85,slow=8.1,SNR=24						
VNDA	**Vanda**	**63.76**	**186**	P	**P**	**00 26 19.8**	**+1.2**
VNDA	**Vanda**	**63.76**	**186**	P	**P**	**00 26 19.8**	**+1.2**
	3.4nm,1.0s,baz=12,slow=6.1,SNR=16						
NVAR	**Mina Array Bea**	**73.81**	**42**	P	**P**	**00 27 24.5**	**+2.4**
NVAR	**Mina Array Bea**	**73.81**	**42**	P	**P**	**00 27 24.5**	**+2.4**
	0.6nm,0.6s,baz=223,slow=7.4,SNR=3.7						
QSPA	**South Pole Qui**	**74.99**	**180**	*e*P	**P**	**00 27 29.8**	**+1.4**
	9.3nm,1.1s						
TXAR	**Lajitas Array**	**80.09**	**56**	P	**P**	**00 27 59.7**	**+2.3**
TXAR	**Lajitas Array**	**80.09**	**56**	P	**P**	**00 27 59.7**	**+2.3**
	0.3nm,0.8s,baz=170,slow=3.8,SNR=4.1						
MCK	**McKinley**	**80.71**	**11**	*e*P	**P**	**00 28 02.2**	**+2.3**
	4.9nm,0.9s						
PDAR	**Pinedale Array**	**81.75**	**42**	P	**P**	**00 28 07.5**	**+1.3**
PDAR	**Pinedale Array**	**81.75**	**42**	P	**P**	**00 28 07.5**	**+1.3**
	0.2nm,0.4s,baz=265,slow=7.2,SNR=3.6						
COLA	**College**	**81.95**	**11**	*e*P	**P**	**00 28 08.2**	**+1.9**
	19nm,0.8s						
ILAR	**Eielson Array**	**82.03**	**11**	P	**P**	**00 28 07.2**	**+0.4**
ILAR	**Eielson Array**	**82.03**	**11**	P	**P**	**00 28 07.2**	**+0.4**
	0.5nm,0.7s,baz=236,slow=6.8,SNR=9.6						
ATAH	**Atahualpa**	**92.58**	**98**	LR	LR	01 01 07.4	
	comp=Z,42nm,21.1s,baz=128,slow=29						
GERES	**GERESS Array B**	**145.85**	**352**	PKPbc	**PKPab**	**00 35 28.1**	**+1.2**
GERES	**GERESS Array B**	**145.85**	**352**	PKPbc	**PKPab**	**00 35 28.1**	**+1.2**
	0.8nm,0.8s,baz=10,slow=3.0,SNR=8.1						
KMBO	**Kilima Mbogo**	**146.04**	**244**	PKPbc	**PKPab**	**00 35 28.8**	**-0.1**
KMBO	**Kilima Mbogo**	**146.04**	**244**	PKPbc	**PKPab**	**00 35 28.8**	**-0.1**
	1.6nm,0.9s,baz=78,slow=6.5,SNR=4.5						
BR131	**Keskin Array S**	**146.13**	**322**	*e*PKPdf	**PKPab**	**00 35 30.2**	**+1.9**
BRTR	**Keskin Array B**	**146.13**	**322**	PKPbc	**PKPab**	**00 35 29.9**	**+1.5**
BRTR	**Keskin Array B**	**146.13**	**322**	PKPbc	**PKPab**	**00 35 29.9**	**+1.5**
	6.6nm,0.8s,baz=104,slow=2.2,SNR=43						

*AUST **19** 00:26:02.5,4.30S×148.06E, h0km*
*ISCJB **19** 00:26:29.0±1.3,5.8S±0.1×146.5E±0.1, h52km, mb3.8/3, MS4.2/1, Error ellipse: s-maj=20.3km s-min=16.4km az=166.0*
*IDC **19** 00:26:35.3±6.8,6.26S×146.78E, h101km±68km, mb3.5/3, mb1 3.8/6, mb1mx3.4/20, mbtmp3.6/6, ML3.9/3, MS4.3/1, Ms1 4.3/1, ms1mx3.0/20, Error ellipse: s-maj=68.0km s-min=28.5km az=143.0*

ISC 19 00:26:30.5±1.5, 5.9S±0.1×146.6E±0.2, h52km, n14, σ1.74/13, mb3.8/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.50**	**171**	P	**Pn**	**00 27 24.4**	**+2.0**
	18nm,0.3s,baz=32,slow=4.7,SNR=20						
PMG				S	**Sn**	**00 27 59.8**	**-2.8**
	19nm,0.3s,baz=40,slow=8.1,SNR=4.6						
COEN	**Coen**	**8.67**	**203**	P	**Pn**	**00 28 36.0**	**+2.7**
	baz=11,SNR=14						
MTSU	**Mount Surprise**	**12.34**	**190**	P	**Pn**	**00 29 25.8**	**+2.2**
	baz=14,SNR=6.8						
CTA	**Charters Tower**	**14.08**	**181**	P	**Pn**	**00 29 47.8**	**+0.5**
	1.3nm,0.3s,baz=6.0,slow=15,SNR=7.5						
KDU	**Kakadu**	**15.49**	**243**	P	**P**	**00 30 07.2**	**-2.0**
	baz=18,SNR=4.8						
WRA	**Warramunga Arr**	**18.35**	**219**	P	**P**	**00 30 40.1**	**-0.7**
	0.5nm,0.3s,baz=41,slow=12,SNR=5.1						
KNRA	**Kununurra**	**20.02**	**240**	P	**P**	**00 30 58.8**	**-0.4**
	baz=22,SNR=3.5						
ASAR	**Alice Springs**	**21.47**	**213**	P	**P**	**00 31 14.2**	**-0.6**
	1.2nm,0.3s,baz=51,slow=9.2,SNR=9.2						
FITZ	**Fitzroy Crossi**	**23.79**	**238**	P	**P**	**00 31 37.9**	**-0.7**
	baz=26,SNR=11						
FITZ	**Fitzroy Crossi**	**23.79**	**238**	P	**P**	**00 31 37.9**	**-0.7**
	3.3nm,0.6s,baz=69,slow=9.6,SNR=17						
MEEK	**Meekatharra**	**33.72**	**229**	P	**P**	**00 33 06.8**	**-0.3**
	baz=36,SNR=6.8						
RPZ	**Rata Peaks**	**43.34**	**154**	LR	LR	00 48 12.2	
	comp=Z,361nm,21.5s,baz=264,slow=30						
ILAR	**Eielson Array**	**85.56**	**23**	P	**P**	**00 39 02.7**	**-0.1**
	0.4nm,0.5s,baz=252,slow=5.1,SNR=9.0						
TORD	**Tondi Ar. Bea**	**144.71**	**284**	PKP	PKPbc	00 46 01.9	+0.4
	2.6nm,0.7s,baz=84,slow=3.7,SNR=15						

*AUST **19** 00:55:23.7±3.3,4.63S×121.82E, h128km, Error ellipse: s-maj=2.9km s-min=1.2km az=15.0*
*IDC **19** 00:56:13.1±1.7,8.42S×124.41E, h0km, mb3.5/1, mb1 3.9/4, mb1mx3.6/21, mbtmp3.7/4, ML3.8/3, Error ellipse: s-maj=124.0km s-min=26.2km az=65.0*

ISC 19 00:56:14.4±1.6, 8.4S±0.2×124.5E±0.3, h10km, n9, σ0.43/5, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**1.37**	**191**	P	Pg	00 56 47.2	+6.4
	baz=5.7,SNR=36						
MTN	**Manton Dam**	**7.85**	**125**	P	Pn	00 58 16.3	+7.6
	baz=12,SNR=10						
KNRA	**Kununurra**	**8.33**	**151**	P	Pn	00 58 19.4	+4.0
	baz=13,SNR=24						
KDU	**Kakadu**	**8.89**	**119**	P	Pn	00 58 30.4	+7.3
	baz=13,SNR=12						
FITZ	**Fitzroy Crossi**	**9.70**	**174**	P	**Pn**	**00 58 34.4**	**+0.2**
	baz=14,SNR=29						
FITZ	**Fitzroy Crossi**	**9.70**	**174**	Pn	**Pn**	**00 58 34.4**	**+0.2**
	1.3nm,0.3s,baz=1.7,slow=11,SNR=81						
FITZ				Sn	Sn	01 00 11.1	-12
	4.2nm,0.3s,baz=99,slow=20,SNR=18						
WRA	**Warramunga Arr**	**14.89**	**141**	Pn	**Pn**	**00 59 45.5**	**+0.3**
	0.3nm,0.3s,baz=315,slow=12,SNR=2.9						
WRA				Sn	Sn	01 02 17.8	-13
	0.8nm,0.3s,baz=338,slow=15,SNR=8.9						
ASAR	**Alice Springs**	**17.64**	**150**	P	**P**	**01 00 20.9**	**-0.5**
	0.2nm,0.3s,baz=325,slow=12,SNR=16						
ASAR				S	Sn	01 03 22.9	-14
	0.3nm,0.3s,baz=314,slow=20,SNR=8.3						
MKAR	**Makanchi Array**	**66.56**	**330**	P	**P**	**01 07 04.8**	**0.0**
	0.4nm,0.7s,baz=135,slow=5.9,SNR=4.0						

IDC 19 01:24:22.7±2.1, 14.93S×173.81W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.9/18, mbtmp3.9/4, MS3.7/1, Ms1 3.7/1, ms1mx2.9/28, Error ellipse: s-maj=119.3km s-min=28.1km az=149.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.21**	**63**	Pn	Pn	01 24 55.7	-5.1
	12nm,0.3s,baz=248,slow=20,SNR=7.3						
AFI				Sn	Sn	01 25 15.4	-14
	39nm,0.3s,baz=13,slow=16,SNR=11						
PPT	**Papeete**	**23.41**	**100**	LR	LR	01 36 12.2	
	comp=Z,167nm,18.8s,baz=188,slow=30						
WRA	**Warramunga Arr**	**49.57**	**256**	P	P	01 33 15.6	-0.4
	1.9nm,1.0s,baz=91,slow=8.4,SNR=3.6						
ASAR	**Alice Springs**	**49.88**	**252**	P	P	01 33 17.9	-0.5
	4.3nm,0.7s,baz=85,slow=8.4,SNR=42						
TXAR	**Lajitas Array**	**80.68**	**56**	P	P	01 36 38.1	-0.1
	0.5nm,1.0s,baz=228,slow=4.9,SNR=3.7						
ILAR	**Eielson Array**	**82.06**	**11**	P	P	01 36 43.4	-1.2
	0.3nm,0.8s,baz=220,slow=6.8,SNR=5.2						
BRTR	**Keskin Array B**	**145.54**	**321**	PKPbc	PKPab	01 44 04.9	+1.1
	0.4nm,0.8s,baz=72,slow=4.7,SNR=3.6						

IDC 19 01:36:57.2±3.2, 33.93S×179.01W, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.8/17, mbtmp3.9/3, ML4.0/1, Error ellipse: s-maj=72.3km s-min=36.4km az=116.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**5.35**	**215**	Pn	Pn	01 38 18.4	0.0
	5.5nm,0.3s,baz=24,slow=3.6,SNR=21						
URZ				Sn	Sn	01 39 20.3	-0.3
	3.7nm,0.3s,baz=174,slow=22,SNR=10						
ASAR	**Alice Springs**	**42.20**	**271**	P	P	01 44 52.4	+0.3
	1.0nm,0.6s,baz=111,slow=7.3,SNR=11						
WRA	**Warramunga Arr**	**43.51**	**276**	P	P	01 45 02.2	-0.5
	1.1nm,0.6s,baz=117,slow=7.5,SNR=4.2						
FINES	**FINESS Array B**	**148.11**	**337**	PKPbc	PKPbc	01 56 43.4	-0.7
	3.7nm,0.8s,baz=54,slow=3.3,SNR=4.5						

*IDC **19** 01:36:55.0±1.0, 15.17S×173.54W, h0km, mb4.0/8, mb1 4.2/8, mb1mx4.0/19, mbtmp4.0/8, MS3.8/7, Ms1 3.8/7, ms1mx3.5/26, Error ellipse: s-maj=60.2km s-min=19.6km az=143.0*
*ISCJB **19** 01:36:58.1±0.8, 15.0S±0.3×173.7W±0.2, h30km, mb4.0/8, MS3.8/6, Error ellipse: s-maj=52.1km s-min=16.5km az=143.6*

ISC 19 01:36:59.6±0.9, 15.2S±0.3×173.6W±0.3, h30km, n30, σ1.92/13, mb3.9/8, MS3.8/6, 3D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.16**	**54**	Pn	Pn	01 37 25.1	-8.5
	196nm,0.3s,baz=132,slow=0.5,SNR=48						
AFI				Sn	Sn	01 37 43.7	-16
	725nm,0.3s,baz=287,slow=19,SNR=18						
RAR	**Rarotonga**	**14.43**	**117**	LR	LR	01 44 13.3	
	comp=Z,315nm,21.3s,baz=315,slow=30						
DZM	**Mont Dzumac**	**20.12**	**247**	*e*LR	LR	01 46 39.2	
	329nm,24.4s						
PPT2	**Papeete2**	**23.15**	**99**	*e*LR	LR	01 47 32.0	
	323nm,24.5s,baz=272						
TBI	**Tubuai**	**24.15**	**113**	*e*LR	LR	01 47 38.1	
	416nm,30.5s,baz=288						
HNR	**Honiara**	**26.47**	**279**	LR	LR	01 51 09.7	
	comp=Z,135nm,19.5s,baz=115,slow=32						
RKT	**Rikitea**	**37.23**	**108**	*e*LR	LR	01 53 35.5	
	282nm,32.8s,baz=293						
H11S2	**WAKE ISLAND Hy**	**38.68**	**329**	T	T	02 26 00.1	
	baz=151,slow=0.7,SNR=11						
H11S3	**WAKE ISLAND Hy**	**38.69**	**329**	T	T	02 26 13.1	
	baz=151,slow=0.7,SNR=10						
H11S1	**WAKE ISLAND Hy**	**38.70**	**329**	T	T	02 26 08.2	
	baz=151,slow=0.7,SNR=11						
PMG	**Port Moresby**	**38.74**	**274**	LR	LR	01 58 05.3	
	comp=Z,70nm,19.6s,baz=116,slow=33						
H11N3	**WAKE ISLAND Hy**	**39.63**	**330**	T	T	02 27 13.6	
	baz=152,slow=0.7,SNR=12						
H11N1	**WAKE ISLAND Hy**	**39.63**	**330**	T	T	02 27 08.0	
	baz=152,slow=0.7,SNR=21						
H11N2	**WAKE ISLAND Hy**	**39.65**	**330**	T	T	02 27 11.6	
	baz=152,slow=0.7,SNR=20						
STKA	**Stephens Creek**	**43.99**	**240**	P	**P**	**01 45 03.9**	**-0.6**
	0.9nm,0.7s,baz=95,slow=6.9,SNR=2.4						
WRA	**Warramunga Arr**	**49.72**	**257**	P	**P**	**01 45 49.8**	**+0.3**
	1.6nm,0.8s,baz=92,slow=6.6,SNR=5.7						
ASAR	**Alice Springs**	**50.01**	**252**	P	**P**	**01 45 51.7**	**0.0**
	6.6nm,0.7s,baz=85,slow=8.5,SNR=31						
MJAR	**Matsushiro Arr**	**68.65**	**320**	LR	LR	02 11 31.3	
	comp=Z,74nm,21.3s,baz=115,slow=30						
YBH	**Yreka Blue Hor**	**73.53**	**37**	P	**P**	**01 48 30.8**	**+1.0**
	1.1nm,0.7s,baz=205,slow=4.4,SNR=4.1						
KSRS	**Korea Array**	**75.88**	**316**	LR	LR	02 18 46.5	
	comp=Z,40nm,18.8s,baz=141,slow=33						
TXAR	**Lajitas Array**	**80.64**	**56**	P	**P**	**01 49 10.1**	**+0.1**
	0.7nm,0.9s,baz=224,slow=3.5,SNR=5.8						
PDAR	**Pinedale Array**	**82.22**	**42**	P	**P**	**01 49 17.6**	**-0.7**
	0.8nm,0.8s,baz=205,slow=2.8,SNR=5.9						
ILAR	**Eielson Array**	**82.26**	**11**	P	**P**	**01 49 16.4**	**-1.3**
	0.6nm,0.6s,baz=229,slow=6.4,SNR=15						
MAW	**Mawson**	**87.95**	**199**	P	**P**	**01 49 46.5**	**+0.3**

MLR				*i* S	Sn	02 16 05.5	-0.1
MLR	**Muntele Rosu**	**0.97**	**329**	⇓*i*P	Pb	02 15 51.3	-0.4
MLR				*i* S	Sn	02 16 05.5	-0.1
MSAB	**Monastry St. A**	**1.01**	**124**	⇓*i*P	Pb	02 15 52.0	-0.1
MSAB	**Monastry St. A**	**1.01**	**124**	⇓*i*P	Pb	02 15 52.0	-0.1
MSAB				*i* S	Sg	02 16 06.0	0.0
MSAB	**Monastry St. A**	**1.01**	**124**	⇓*i*P	Pb	02 15 52.0	-0.1
MSAB				*i* S	Sg	02 16 06.0	0.0
CVD	**Cernavoda**	**1.04**	**109**	⇓*i*P	Pb	02 15 52.4	-0.2
CVD	**Cernavoda**	**1.04**	**109**	⇓*i*P	Pb	02 15 52.4	-0.2
CVD				*i* S	Sn	02 16 06.7	-0.3
CVD	**Cernavoda**	**1.04**	**109**	⇓*i*P	Pb	02 15 52.4	-0.2
CVD				*i* S	Sn	02 16 06.7	-0.3
PETR	**Petresti**	**1.14**	**21**	⇑*i*P	Pg	02 15 54.8	-0.4
PETR	**Petresti**	**1.14**	**21**	⇑*i*P	Pg	02 15 54.8	-0.4
PETR	**Petresti**	**1.14**	**21**	⇑*i*P	Pg	02 15 54.8	-0.4
ODBI	**Odobesti**	**1.14**	**14**	⇑*i*P	Pg	02 15 55.8	+0.6
ODBI	**Odobesti**	**1.14**	**14**	⇑*i*P	Pg	02 15 55.8	+0.6
ODBI				*i* S	Sn	02 16 09.3	-0.1
ODBI	**Odobesti**	**1.14**	**14**	⇑*i*P	Pg	02 15 55.8	+0.6
ODBI				*i* S	Sn	02 16 09.3	-0.1
CFR	**Carcaliu**	**1.17**	**63**	⇑*i*P	Pn	02 15 53.7	-0.9
CFR	**Carcaliu**	**1.17**	**63**	⇑*i*P	Pn	02 15 53.7	-0.9
CFR				*i* S	Sb	02 16 09.8	+0.1
CFR	**Carcaliu**	**1.17**	**63**	⇑*i*P	Pn	02 15 53.7	-0.9
CFR				*i* S	Sb	02 16 09.8	+0.1
PLOR	**Plostina**	**1.19**	**360**	⇑*i*P	Pb	02 15 55.3	0.0
PLOR	**Plostina**	**1.19**	**360**	⇑*i*P	Pb	02 15 55.3	0.0
PLOR				*i* S	Sg	02 16 11.8	-0.2
PLOR	**Plostina**	**1.19**	**360**	⇑*i*P	Pb	02 15 55.3	0.0
PLOR				*i* S	Sg	02 16 11.8	-0.2
VRI	**Vrincioaia**	**1.21**	**2**	⇓*i*P	Pb	02 15 55.9	+0.3
VRI	**Vrincioaia**	**1.21**	**2**	⇓*i*P	Pb	02 15 55.9	+0.3
VRI				*i* S	Sg	02 16 13.1	+0.7
VRI	**Vrincioaia**	**1.21**	**2**	⇓*i*P	Pb	02 15 55.9	+0.3
VRI				*i* S	Sg	02 16 13.1	+0.7
GOLR		**1.22**	**279**	S	Sg	02 16 13.1	+0.4
GOLR		**1.22**	**279**	*i* S	Sg	02 16 13.1	+0.4
GOLR		**1.22**	**279**	*i* S	Sg	02 16 13.1	+0.4
MTUR	**Matau**	**1.27**	**297**	⇑*i*P	Pb	02 15 56.4	-0.2
MTUR	**Matau**	**1.27**	**297**	⇑*i*P	Pb	02 15 56.4	-0.2
MTUR	**Matau**	**1.27**	**297**	⇑*i*P	Pb	02 15 56.4	-0.2
TIRR	**Tirgusor**	**1.27**	**98**	⇓*i*P	Pn	02 15 56.0	0.0
TIRR	**Tirgusor**	**1.27**	**98**	⇓*i*P	Pn	02 15 56.0	0.0
TIRR				*i* S	Sn	02 16 13.1	+0.5
TIRR	**Tirgusor**	**1.27**	**98**	⇓*i*P	Pn	02 15 56.0	0.0
TIRR				*i* S	Sn	02 16 13.1	+0.5
ZIMR		**1.36**	**223**	⇑*i*P	Pb	02 15 57.8	-0.3
ZIMR		**1.36**	**223**	⇑*i*P	Pb	02 15 57.8	-0.3
ZIMR				*i* S	Sg	02 16 17.1	-0.1
VOIR		**1.38**	**305**	⇑*i*P	Pb	02 15 57.5	-0.1
VOIR		**1.38**	**305**	⇑*i*P	Pn	02 15 57.5	-0.1
VOIR				*i* S	Sb	02 16 16.8	+0.9
VOIR		**1.38**	**305**	⇑*i*P	Pn	02 15 57.5	-0.1
VOIR				*i* S	Sb	02 16 16.8	+0.9
GHRR		**1.50**	**20**	⇓*i*P	Pn	02 15 59.5	+0.3
GHRR		**1.50**	**20**	⇓*i*P	Pn	02 15 59.5	+0.3
GHRR		**1.50**	**20**	⇓*i*P	Pn	02 15 59.5	+0.3
EFOR	**EFORIE**	**1.53**	**112**	⇑*i*P	Pb	02 16 00.9	0.0
EFOR	**EFORIE**	**1.53**	**112**	⇑*i*P	Pb	02 16 00.9	0.0
EFOR				*i* S	Sb	02 16 21.1	+1.1
EFOR	**EFORIE**	**1.53**	**112**	⇑*i*P	Pb	02 16 00.9	0.0
EFOR				*i* S	Sb	02 16 21.1	+1.1
DOPR	**Dopca**	**1.59**	**326**	⇑*i*P	Pn	02 16 00.3	-0.1
DOPR	**Dopca**	**1.59**	**326**	⇑*i*P	Pn	02 16 00.3	-0.1
DOPR				*i* S	Sb	02 16 21.4	-0.3
DOPR	**Dopca**	**1.59**	**326**	⇑*i*P	Pn	02 16 00.3	-0.1
DOPR				*i* S	Sb	02 16 21.4	-0.3
ARR	**Arges**	**1.60**	**297**	⇑*i*P	Pn	02 16 01.0	+0.3
ARR	**Arges**	**1.60**	**297**	⇑*i*P	Pn	02 16 01.0	+0.3
ARR				*i* S	Sb	02 16 22.5	+0.2
ARR	**Arges**	**1.60**	**297**	⇑*i*P	Pn	02 16 01.0	+0.3
ARR				*i* S	Sb	02 16 22.5	+0.2
TLCR		**1.62**	**70**	⇑*i*P	Pn	02 16 00.8	0.0
TLCR		**1.62**	**70**	⇑*i*P	Pn	02 16 00.8	0.0
TLCR				*i* S	Sb	02 16 22.8	+0.1
TLCR		**1.62**	**70**	⇑*i*P	Pn	02 16 00.8	0.0
TLCR				*i* S	Sb	02 16 22.8	+0.1
MANR	**Mangalia**	**1.62**	**121**	⇑*i*P	Pb	02 16 02.4	-0.1
MANR	**Mangalia**	**1.62**	**121**	⇑*i*P	Pb	02 16 02.4	-0.1
MANR	**Mangalia**	**1.62**	**121**	⇑*i*P	Pb	02 16 02.4	-0.1
TESR	**Tescani**	**1.85**	**360**	⇓*i*P	Pn	02 16 03.8	-0.3
TESR	**Tescani**	**1.85**	**360**	⇓*i*P	Pn	02 16 03.8	-0.3
TESR				*i* S	Sn	02 16 27.1	0.0
TESR	**Tescani**	**1.85**	**360**	⇓*i*P	Pn	02 16 03.8	-0.3
TESR				*i* S	Sn	02 16 27.1	0.0
LOT	**Lotru**	**2.19**	**292**	⇑*i*P	Pn	02 16 10.2	+1.3
LOT	**Lotru**	**2.19**	**292**	⇑*i*P	Pn	02 16 10.2	+1.3
LOT	**Lotru**	**2.19**	**292**	⇑*i*P	Pn	02 16 10.2	+1.3
SRE	**Strehaia**	**2.46**	**271**	⇑*i*P	Pn	02 16 12.1	-0.3
SRE	**Strehaia**	**2.46**	**271**	⇑*i*P	Pn	02 16 12.1	-0.3
SRE	**Strehaia**	**2.46**	**271**	⇑*i*P	Pn	02 16 12.1	-0.3
GZR	**Gura Zlata**	**2.85**	**286**	⇑*i*P	Pn	02 16 18.0	+0.2
GZR	**Gura Zlata**	**2.85**	**286**	⇑*i*P	Pn	02 16 18.0	+0.2
GZR	**Gura Zlata**	**2.85**	**286**	⇑*i*P	Pn	02 16 18.0	+0.2
DJES	**Djerdap**	**2.95**	**272**	*e*Pn	Pn	02 16 19.0	-0.1
VTS	**Vitosha**	**3.25**	**232**	⇑*i*P	Pn	02 16 22.9	-0.5
VTS	**Vitosha**	**3.25**	**232**	⇑*i*P	Pn	02 16 22.9	-0.5
VTS	**Vitosha**	**3.25**	**232**	⇑*i*P	Pn	02 16 22.9	-0.5
BZS	**Buzias**	**3.69**	**287**	⇑*i*P	Pn	02 16 28.2	-1.1
BZS	**Buzias**	**3.69**	**287**	⇑*i*P	Pn	02 16 28.2	-1.1
BZS	**Buzias**	**3.69**	**287**	⇑*i*P	Pn	02 16 28.2	-1.1
GRUS	**Gruza**	**4.33**	**262**	*e*Pn	Pn	02 16 37.4	-0.7
DIVS	**Divibare**	**4.81**	**266**	*e*Pn	Pn	02 16 42.0	-2.8

IDC 19 02:31:18.0±2.4, 11°18S×166°94E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/19, mbtmp4.0/5, MS3.0/2, Ms1 3.0/2, ms1mx2.8/29, Error ellipse: s-maj=104.9km s-min=27.0km az=132.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.10**	**283**	LR	LR	02 34 33.3	
	comp=Z,45nm,19.9s,baz=95,slow=28						
AFI	**Afiamalu**	**20.95**	**100**	LR	LR	02 42 12.8	
	comp=Z,109nm,19.3s,baz=269,slow=31						
STKA	**Stephens Creek**	**31.16**	**225**	P	P	02 37 38.6	-0.2
	1.0nm,0.3s,baz=72,slow=6.4,SNR=4.5						
WRA	**Warramunga Arr**	**32.54**	**250**	P	P	02 37 51.1	0.0
	1.5nm,0.8s,baz=79,slow=8.9,SNR=6.6						
ASAR	**Alice Springs**	**33.79**	**244**	P	P	02 38 01.9	-0.1
	1.6nm,0.8s,baz=76,slow=9.3,SNR=17						
ILAR	**Eielson Array**	**83.27**	**18**	P	P	02 43 46.1	0.0
	1.0nm,0.9s,baz=232,slow=5.5,SNR=12						
MKAR	**Makanchi Array**	**94.42**	**317**	P	P	02 44 40.0	+0.1
	0.6nm,0.8s,baz=89,slow=6.3,SNR=4.9						

IDC ***19*** *02:39:25.1±1.2, 34°.02S×178°.84W, h0km, mb4.1/2, mb1 4.4/3, mb1mx3.9/17, mbtmp4.3/3, ML4.5/1, MS3.7/1, Ms1 3.6/1, ms1mx2.8/23, Error ellipse: s-maj=43.0km s-min=29.8km az=135.0*

ISC 19 02:39:32.2±1.3, 34°.1S×179°.0W±0°.3, h50km, n12, σ1§30/12, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.24**	**216**	Pn	**Pn**	**02 40 47.1**	**-0.9**
	16nm,0.3s,baz=56,slow=2.1,SNR=48						
URZ				Sn	**Sn**	**02 41 47.7**	**+0.7**
	15nm,0.3s,baz=135,slow=20,SNR=7.7						
STKA	**Stephens Creek**	**33.02**	**263**	LR	LR	02 58 45.8	
	comp=Z,126nm,18.7s,baz=24,slow=35						
ASAR	**Alice Springs**	**42.24**	**271**	P	**P**	**02 47 21.4**	**+0.8**
	1.4nm,0.6s,baz=110,slow=7.3,SNR=16						
WRA	**Warramunga Arr**	**43.56**	**277**	P	**P**	**02 47 31.1**	**-0.3**
	2.6nm,0.6s,baz=118,slow=7.3,SNR=10						
MKAR	**Makanchi Array**	**119.47**	**309**	PKP	**PKPdf**	**02 58 16.1**	**+0.2**
	0.2nm,0.5s,baz=63,slow=2.5,SNR=3.9						
ARCES	**ARCESS Array B**	**141.98**	**346**	PKP	**PKPdf**	**02 58 59.8**	**+2.2**
	5.2nm,1.0s,baz=35,slow=4.4,SNR=3.9						
JOF	**Joensuu**	**145.49**	**336**	*e*pkp	**PKPab**	**02 59 03.2**	**-1.0**
	1.7nm,0.5s						
KAF	**Kangasniemi**	**147.69**	**338**	*e*pkp	**PKPbc**	**02 59 07.9**	**-2.5**
	2.1nm,0.7s						
FINES	**FINESS Array B**	**148.27**	**337**	PKPbc	**PKPbc**	**02 59 11.3**	**-0.6**
	3.7nm,0.5s,baz=51,slow=3.8,SNR=19						
NOA	**NORSAR Array B**	**152.24**	**349**	PKPbc	**PKPbc**	**02 59 21.8**	**+0.2**
	0.7nm,0.6s,baz=13,slow=4.0,SNR=4.4						
AKASG	**Malin Array Be**	**153.59**	**318**	PKPbc	**PKPbc**	**02 59 25.5**	**+0.7**
	0.7nm,0.5s,baz=44,slow=2.5,SNR=5.7						
TORD	**Torodi Ar. Bea**	**159.15**	**182**	PKPab	**PKPab**	**03 00 02.1**	**-0.1**
	0.4nm,0.6s,baz=165,slow=4.0,SNR=5.0						

IDC 19 02:44:27.7±2.3, 15°.18S×171°.56W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/20, mbtmp3.6/3, Error ellipse: s-maj=58.0km s-min=21.6km az=108.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.28**	**351**	Pn	Pn	02 44 53.9	+0.9
	38nm,0.3s,baz=130,slow=1.6,SNR=33						
AFI				Sn	Sb	02 45 10.2	+0.1
	144nm,0.3s,baz=180,slow=20,SNR=37						
WRA	**Warramunga Arr**	**51.62**	**256**	P	P	02 53 36.3	-0.2
	0.6nm,1.0s,baz=88,slow=6.8,SNR=3.9						
ASAR	**Alice Springs**	**51.86**	**252**	P	P	02 53 38.2	-0.1
	0.9nm,0.5s,baz=88,slow=7.9,SNR=14						
ILAR	**Eielson Array**	**81.90**	**10**	P	P	02 56 48.5	-0.2
	0.5nm,1.0s,baz=203,slow=8.8,SNR=3.9						

ISCJB ***19*** *02:46:59.9±0.4, 40°.07N±0°.02×38°.76E±0°.02, h3km±4km, Error ellipse: s-maj=3.3km s-min=3.1km az=13.1*
DDA ***19*** *02:46:59.6, 40°.02N×38°.78E, h6km, MD3.1*
ISK ***19*** *02:46:59.4, 40°.07N×38°.75E, h5km, MD3.5*
CSEM ***19*** *02:47:00.1±0.1, 40°.05N×38°.75E, h2km, MD3.1, Error ellipse: s-maj=3.1km s-min=2.6km az=14.0*

ISC 19 02:47:00.2±1.0, 40°.06N±0°.02×38°.75E±0°.02, h8km±9km, n58, σ0§65/83, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KELT	**Kelkit**	**0.40**	**76**	*i* Pg	**Pg**	**02 47 08.4**	**+0.3**
KELT				*i* Sg	**Sg**	**02 47 13.5**	**+0.2**
SUSE	**Susehri**	**0.45**	**290**	*i* P	**Pb**	**02 47 09.9**	**-0.5**
SUSE				*i* S	**Sb**	**02 47 16.7**	**-0.6**
SUSE	**Susehri**	**0.45**	**290**	*i* P	**Pb**	**02 47 09.9**	**-0.5**
SUSE				*i* S	**Sb**	**02 47 16.7**	**-0.6**
EZC	**Erzincan**	**0.56**	**123**	PG	**Pg**	**02 47 10.8**	**-0.1**
EZC				*e*SG	**Sb**	**02 47 19.2**	**-1.2**
EZC	**Erzincan**	**0.56**	**123**	*i* Pg	**Pg**	**02 47 10.8**	**-0.1**
EZC				*e*Sg	**Sb**	**02 47 19.2**	**-1.2**
ILIC	**ilic-Erzincan**	**0.62**	**193**	*e*PG	**Pg**	**02 47 11.7**	**-0.4**
ILIC				*e*SG	**Sg**	**02 47 21.1**	**+0.9**
ILIC	**ilic-Erzincan**	**0.62**	**193**	*e*Pg	**Pg**	**02 47 11.7**	**-0.4**
ILIC				*e*Sg	**Sg**	**02 47 21.1**	**+0.9**
GUMT	**Gumushane**	**0.69**	**54**	*e*PG	**Pg**	**02 47 13.5**	**0.0**
GUMT				*e*SG	**Sg**	**02 47 22.4**	**-0.1**
GUMT	**Gumushane**	**0.69**	**54**	*e*Pg	**Pg**	**02 47 13.5**	**0.0**
GUMT				*e*Sg	**Sg**	**02 47 22.4**	**-0.1**
EUZM	**Uzumlu**	**0.81**	**115**	*i* P	**Pg**	**02 47 15.3**	**-0.5**
EUZM				*i* S	**Sb**	**02 47 27.2**	**-0.5**
EUZM	**Uzumlu**	**0.81**	**115**	*i* P	**Pg**	**02 47 15.3**	**-0.5**
EUZM				*i* S	**Sb**	**02 47 27.2**	**-0.5**
KEMA	**Kemaliye**	**0.81**	**194**	*i* Pg	**Pg**	**02 47 15.3**	**-0.4**
KEMA				*i* Sg	**Sg**	**02 47 26.8**	**+0.5**
ESPY	**Espiye-Giresun**	**0.86**	**359**	*e*PG	**Pg**	**02 47 16.9**	**+0.2**
ESPY				*e*SG	**Sg**	**02 47 27.9**	**0.0**
ESPY	**Espiye-Giresun**	**0.86**	**359**	*e*Pg	**Pg**	**02 47 16.9**	**+0.2**
ESPY				*e*Sg	**Sg**	**02 47 27.9**	**0.0**
ERZN	**Erzincan**	**0.89**	**122**	*e*PG	**Pg**	**02 47 17.2**	**0.0**
GRSN	**GIRESUNGRSN**	**0.94**	**337**	*i* P	**Pg**	**02 47 18.3**	**0.0**
GRSN				*e*S	**Sg**	**02 47 30.5**	**0.0**
GRSN	**GIRESUNGRSN**	**0.94**	**337**	*i* P	**Pg**	**02 47 18.3**	**0.0**
GRSN				*e*S	**Sg**	**02 47 30.5**	**0.0**
RSDY	**Resadiye-TOKAT**	**1.14**	**288**	*e*PN	**Pg**	**02 47 21.5**	**-0.5**
RSDY	**Resadiye-TOKAT**	**1.14**	**288**	*e*Pn	**Pg**	**02 47 21.5**	**-0.5**
MACK	**Trabzon**	**1.18**	**41**	*i* P	**Pg**	**02 47 22.3**	**-0.5**
MACK				*i* S	**Sg**	**02 47 37.7**	**-0.5**
MACK	**Trabzon**	**1.18**	**41**	*i* P	**Pg**	**02 47 22.3**	**-0.5**
MACK				*i* S	**Sg**	**02 47 37.7**	**-0.5**
SCER	**sogukcermik**	**1.26**	**262**	*i* P	**Pn**	**02 47 23.6**	**-0.6**
SCER				*i* S	**Sn**	**02 47 41.5**	**+0.1**
SCER	**sogukcermik**	**1.26**	**262**	*i* P	**Pn**	**02 47 23.6**	**-0.6**
SCER				*i* S	**Sn**	**02 47 41.5**	**+0.1**
PTK	**Pertek**	**1.27**	**157**	*e*PN	**Pn**	**02 47 23.7**	**-0.6**
PTK	**Pertek**	**1.27**	**157**	*e*Pn	**Pn**	**02 47 23.7**	**-0.6**
KOPT	**Kop Dagi**	**1.34**	**91**	*e*P	**Pn**	**02 47 25.4**	**-0.1**
KOPT				*e*S	**Sb**	**02 47 42.5**	**-0.7**
KOPT	**Kop Dagi**	**1.34**	**91**	*e*P	**Pn**	**02 47 25.4**	**-0.1**
KOPT				*e*S	**Sb**	**02 47 42.5**	**-0.7**
SVSK	**Karacayir**	**1.35**	**265**	*e*PN	**Pn**	**02 47 24.9**	**-0.4**
SVSK	**Karacayir**	**1.35**	**265**	*e*Pn	**Pn**	**02 47 24.9**	**-0.4**
ELZG	**Elazig**	**1.57**	**173**	*e*P	**Pn**	**02 47 28.7**	**+0.3**
ELZG				*e*S	**Sn**	**02 47 49.3**	**+0.3**
ELZG	**Elazig**	**1.57**	**173**	*e*P	**Pn**	**02 47 28.7**	**+0.3**
ELZG				*e*S	**Sn**	**02 47 49.3**	**+0.3**
TOKT	**Tokat**	**1.71**	**280**	*e*PN	**Pn**	**02 47 30.6**	**+0.3**
TOKT	**Tokat**	**1.71**	**280**	*e*Pn	**Pn**	**02 47 30.6**	**+0.3**
MALT	**Malatya**	**1.76**	**188**	*e*PN	**Pn**	**02 47 31.7**	**+0.7**
MALT	**Malatya**	**1.76**	**188**	*e*Pn	**Pn**	**02 47 31.7**	**+0.7**
BINT	**Bingol**	**1.79**	**131**	*e*Pn	**Pb**	**02 47 32.9**	**-0.4**
BNGB	**Bing¶ll**	**1.83**	**125**	*e*PN	**Pn**	**02 47 32.9**	**+0.8**
AKCD	**Akcadag**	**1.87**	**200**	*e*P	**Pb**	**02 47 34.7**	**+0.1**
AKCD				*e*S	**Sg**	**02 48 00.8**	**+0.5**
AKCD	**Akcadag**	**1.87**	**200**	*e*P	**Pb**	**02 47 34.7**	**+0.1**
EZM	**Erzurum**	**2.02**	**93**	*e*PN	**Pn**	**02 47 35.5**	**+0.8**
VRTB	**Varto-Mus**	**2.27**	**112**	*e*PN	**Pn**	**02 47 39.1**	**+0.9**
VRTB	**Varto-Mus**	**2.27**	**112**	*e*Pn	**Pn**	**02 47 39.1**	**+0.9**
KVT	**Kavak**	**2.30**	**297**	*e*PN	**Pn**	**02 47 39.6**	**+1.2**
KVT	**Kavak**	**2.30**	**297**	*e*Pn	**Pn**	**02 47 39.6**	**+1.2**
BNN	**Bunyan**	**2.55**	**243**	*e*PN	**Pn**	**02 47 42.5**	**+0.6**
BNN	**Bunyan**	**2.55**	**243**	*e*Pn	**Pn**	**02 47 42.5**	**+0.6**
BCA	**Borcka**	**2.59**	**57**	*e*PN	**Pn**	**02 47 43.3**	**+0.9**
BCA	**Borcka**	**2.59**	**57**	*e*Pn	**Pn**	**02 47 43.3**	**+0.9**
URFA	**Urfa**	**2.61**	**179**	*e*PN	**Pn**	**02 47 43.6**	**+0.8**
URFA	**Urfa**	**2.61**	**179**	*e*Pn	**Pn**	**02 47 43.6**	**+0.8**
YOZ	**Yozgat**	**2.67**	**262**	*e*PN	**Pn**	**02 47 44.1**	**+0.5**
YOZ	**Yozgat**	**2.67**	**262**	*e*Pn	**Pn**	**02 47 44.1**	**+0.5**
DIKM	**Dikmen**	**3.09**	**302**	*e*PN	**Pn**	**02 47 50.3**	**+1.1**
DIKM	**Dikmen**	**3.09**	**302**	*e*Pn	**Pn**	**02 47 50.3**	**+1.1**
CORM	**Corum**	**3.16**	**274**	*e*PN	**Pn**	**02 47 51.4**	**+1.1**
CORM	**Corum**	**3.16**	**274**	*e*Pn	**Pn**	**02 47 51.4**	**+1.1**
AGRB	**Hanur-Agry**	**3.30**	**97**	*e*PN	**Pn**	**02 47 53.8**	**+1.4**
AGRB	**Hanur-Agry**	**3.30**	**97**	*e*Pn	**Pn**	**02 47 53.8**	**+1.4**

IDC 19 02:59:50.1±2.1, 1.76N×127°.77E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/21, mbtmp3.6/3, Error ellipse: s-maj=152.4km s-min=25.8km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.51**	**164**	P	P	03 04 52.1	+0.5
	1.1nm,0.4s,baz=343,slow=10,SNR=5.2						
ASAR	**Alice Springs**	**25.97**	**167**	P	P	03 05 24.1	-0.6
	0.4nm,0.5s,baz=350,slow=7.0,SNR=8.2						
MKAR	**Makanchi Array**	**59.76**	**325**	P	P	03 09 57.1	+0.2
	0.3nm,0.4s,baz=116,slow=6.7,SNR=6.3						

DJA 19 03:08:58.6±0.4, 1°S±2°×12°2E±°, h10km, M3.7/3, MLv3.7/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**0.10**	**181**	P	Pg	03 09 00.8	-0.4
LUWI	**Luwuk**	**1.15**	**102**	P	Pb	03 09 18.5	-2.0
LUWI				S	Sg	03 09 35.5	0.0
MRSI	**Marisa**	**1.31**	**13**	P	Pg	03 09 23.8	0.0
MRSI				S	Sb	03 09 40.0	-0.2
TOLI	**Toli-Toli**	**2.10**	**336**	P	Pn	03 09 35.0	+1.1
TOLI				S	Sn	03 10 00.4	+0.3
KMSI	**Cibinong**	**2.71**	**59**	P	Pn	03 09 43.3	+1.1
KMSI				S	Sb	03 10 22.9	+2.5
TTSI	**Tana Toraja**	**2.88**	**219**	P	Pn	03 09 45.8	+1.3
TTSI				S	Sn	03 10 22.1	+2.9
MMSI	**Mamuju**	**3.31**	**236**	P	Pn	03 09 52.4	+1.8
SPSI	**Sidrap Palu**	**3.65**	**211**	P	Pn	03 09 53.8	-1.4
BNSI	**Bone**	**3.89**	**203**	P	Pn	03 09 59.2	+0.8

ISCJB ***19*** *03:09:07.7±0.6, 33°.55N±0°.06×131°.79E±0°.06, h91km±4km, mb3.4/4, Error ellipse: s-maj=11.0km s-min=7.6km az=154.5*
IDC ***19*** *03:09:08.6±1.9, 33°.40N×131°.68E, h95km±14km, mb3.2/4, mb1 3.3/6, mb1mx3.1/29, mbtmp3.2/6, Error ellipse: s-maj=50.2km s-min=25.0km az=163.0*

JMA ***19*** *03:09:09.1, 33°.56N×131°.80E, h81km±1km, M3.3 Broadband fault plane solution: P waves. NP1: ϕ±69.00000°, δ63.00000°, λ88.00000°. NP2: ϕ±253.00000°, δ27.00000°, λ94.00000°. Principal axes: T Plg72.0000°, Azm334.0000°; N Plg2.0000°, Azm69.0000°; P Plg18.0000°, Azm160.0000°;*
JMA Felt I J1.

ISC 19 03:09:08.3±0.9, 33°.53N±0°.06×131°.79E±0°.05, h86km±7km, n14, σ0§90/22, mb3.3/4, 4C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKI	**Kunimi**	**0.21**	**298**	⇑P	**Pn**	**03 09 21.1**	**+0.3**
JKI				S	**Sn**	**03 09 30.2**	**+0.1**
OIT2	**Oita 2**	**0.38**	**228**	P	**Pn**	**03 09 22.6**	**+0.8**
OIT2				S	**Sn**	**03 09 32.4**	**+0.6**
JUS	**Usuki**	**0.47**	**184**	⇑P	**Pn**	**03 09 23.1**	**+0.7**
JUS				S	**Sn**	**03 09 33.0**	**+0.2**
JKD	**Kudamatsu**	**0.52**	**7**	⇓P	**Pn**	**03 09 23.1**	**+0.2**
JKD				S	**Sn**	**03 09 33.1**	**-0.6**
JNA	**Nagahama**	**0.57**	**87**	⇑P	**Pn**	**03 09 23.7**	**+0.4**
JNA				S	**Sn**	**03 09 34.7**	**+0.3**
UWA2	**Uwa jima 2**	**0.77**	**114**	⇑P	**Pn**	**03 09 25.3**	**+0.1**
UWA2				S	**Sn**	**03 09 37.3**	**-0.4**
JHM	**Kurahashi**	**0.86**	**45**	P	**Pn**	**03 09 26.5**	**+0.4**
JHM				S	**Sn**	**03 09 39.3**	**-0.2**
JNU	**Nakatsue**	**0.87**	**242**	P	**Pn**	**03 09 27.1**	**+0.8**
	44nm,0.3s,baz=58,slow=2.0,SNR=300						
JNU				S	**Sn**	**03 09 40.0**	**+0.2**
	34nm,0.3s,baz=167,slow=17,SNR=8.1						
KSRS	**Korea Array**	**5.03**	**322**	P	**Pn**	**03 10 22.6**	**+1.4**
	1.7nm,0.3s,baz=142,slow=14,SNR=14						
MJAR	**Matsushiro Arr**	**6.06**	**58**	P	**Pn**	**03 10 37.7**	**+2.4**
	1.0nm,0.3s,baz=245,slow=15,SNR=7.8						
SONM	**Songino Array**	**23.84**	**314**	P	**P**	**03 14 14.2**	**+0.6**
	0.8nm,0.4s,baz=132,slow=9.5,SNR=9.3						
MKAR	**Makanchi Array**	**39.45**	**305**	P	**P**	**03 16 29.6**	**-0.4**
	0.2nm,0.7s,baz=83,slow=12,SNR=2.9						
KURBB	**Kurchatov Arra**	**42.09**	**310**	P	**P**	**03 16 50.2**	**-1.4**
	0.2nm,0.5s,baz=91,slow=8.8,SNR=5.3						
ARCES	**ARCESS Array B**	**64.39**	**338**	P	**P**	**03 19 33.8**	**-1.0**
	1.8nm,0.8s,baz=49,slow=11,SNR=3.5						

ISCJB ***19*** *03:14:44.4±0.4, 32°.30N±0°.03×104°.91E±0°.05, h15km, mb4.0/15, Error ellipse: s-maj=6.3km s-min=4.2km az=25.7*
IDC ***19*** *03:14:44.3±0.6, 32°.35N×105°.04E, h0km, mb4.0/15, mb1 4.1/18, mb1mx4.0/30, mbtmp3.9/18, ML3.6/2, Error ellipse: s-maj=23.3km s-min=13.7km az=52.0*
BJI ***19*** *03:14:45.6, 32°.30N×104°.88E, h19km, mb3.8/1, ML3.9/16, Ms3.6/6, Ms7 3.5/5*

**ISC 19 03:14:46.3±0.5, 32°.28N±0°.04×

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.76**	**176**	P	**Pb**	**03 18 13.6**	**-0.5**
JIH				S	**Sb**	**03 18 24.0**	**-0.1**
JTK	**Tokunoshima**	**0.92**	**91**	P	**Pb**	**03 18 16.3**	**-0.5**
JTK				S	**Sb**	**03 18 29.2**	**+0.6**
JOW	**Kunigami**	**1.02**	**161**	P	**Pb**	**03 18 18.0**	**-0.5**
JOW				S	**Sn**	**03 18 32.3**	**+0.1**
JAMN	**Amaminishikomi**	**1.20**	**68**	P	**Pb**	**03 18 20.5**	**-1.1**
JAMN				*e*S	**Sb**	**03 18 36.4**	**-0.3**
JAGN	**Aguni-jima**	**1.34**	**207**	P	**Pb**	**03 18 22.4**	**-1.7**
JAM	**Amami Oshima**	**1.61**	**67**	P	**Pb**	**03 18 26.9**	**-1.8**
JKE	**Kume jima 2**	**1.78**	**215**	P	**Pn**	**03 18 28.5**	**-0.6**
JNU	**Nakatsue** 0.7nm,0.3s,baz=235,slow=12,SNR=5.7	**5.89**	**25**	Pn	Pb	03 19 33.5	-8.1
SONM	**Songino Array** 1.0nm,0.7s,baz=142,slow=12,SNR=5.5	**26.09**	**326**	P	**P**	**03 23 34.0**	**+2.1**
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=101,slow=9.4,SNR=2.7	**40.29**	**311**	P	**P**	**03 25 35.3**	**+0.1**
ZALV	**Zalesovo Beam** 0.6nm,0.6s,baz=132,slow=9.3,SNR=2.3	**40.84**	**322**	P	**P**	**03 25 39.7**	**+0.1**
KURBB	**Kurchatov Arra** 0.4nm,0.5s,baz=103,slow=8.8,SNR=5.3	**43.53**	**315**	P	**P**	**03 26 01.6**	**0.0**
WRA	**Warramunga Arr** 1.2nm,1.1s,baz=349,slow=8.2,SNR=2.7	**47.87**	**172**	P	**P**	**03 26 36.6**	**+0.5**

IDC ***19*** *03:27:31.9±10.0, 59.82°S×27.76°W, h151km±100km, mb3.3/4, mb1 3.5/4, mb1mx3.3/14, mbtmp3.3/4, MS3.6/1, Ms1 3.6/1, ms1mx3.0/7, Error ellipse: s-maj=39.7km s-min=21.3km az=72.0*

ISC 19 03:27:19.1±1.3, 60.1°S±0.3°×29.1°W±0.4, h10km, n9, σ1♀00/8, mb3.7/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.61**	**150**	*e*Pn	**Pn**	**03 30 32.7**	**+0.8**
VNA2	**Neumayer--Watz**	**14.01**	**150**	*e*Pn	**Pn**	**03 30 36.8**	**-0.5**
SNAA	**Sanae**	**15.63**	**149**	*e*Pn	**Pn**	**03 30 59.0**	**-0.2**
CPUP	**Villa Florida** 0.6nm,0.4s,baz=196,slow=19,SNR=3.2	**38.91**	**317**	P	**P**	**03 34 44.1**	**-0.5**
CPUP	comp=Z,72nm,19.4s,baz=210,slow=34			LR	LR	03 49 34.3	
VNDA	**Vanda** 0.7nm,0.7s,baz=187,slow=4.8,SNR=9.3	**42.51**	**183**	P	**P**	**03 35 13.6**	**-0.3**
LPAZ	**La Paz** 0.3nm,0.3s,baz=162,slow=3.2,SNR=3.4	**52.04**	**310**	P	**P**	**03 36 29.6**	**+0.2**
TORD	**Torodi Ar. Bea** 0.8nm,0.5s,baz=200,slow=6.2,SNR=29	**77.02**	**31**	P	P	03 39 05.0	-6.9
TORD	0.5nm,0.5s,baz=200,slow=6.2,SNR=7.3			pP	PcP	03 39 30.3	+7.5
SONM	**Songino Array** 0.5nm,0.3s,baz=217,slow=3.9,SNR=3.6	**151.65**	**95**	PKPbc	**PKPdf**	**03 47 05.4**	**-1.0**
ILAR	**Eielson Array** 0.2nm,0.3s,baz=144,slow=2.0,SNR=6.8	**151.88**	**306**	PKPbc	**PKPdf**	**03 47 07.6**	**+1.6**

ISCJB ***19*** *03:42:59.0±0.3, 71.74°N±0.03°×3.5°W±0.1, h10km, mb4.5/71, MS4.1/37, Error ellipse: s-maj=5.5km s-min=4.2km az=139.8*

MOS ***19*** *03:42:59.6±1.6, 71.71°N×2.68°W, h10km, mb4.6/20, MS4.0/16, Error ellipse: s-maj=20.8km s-min=5.8km az=100.7*

CSEM ***19*** *03:42:59.6±0.2, 71.63°N×2.95°W, h2km, mb4.5/25, Mw4.8, Error ellipse: s-maj=6.5km s-min=5.4km az=149.0*

IDC ***19*** *03:43:00.7±1.1, 71.53°N×2.39°W, h0km, mb3.9/9, mb1 4.1/15, mb1mx3.9/34, mbtmp4.0/15, ML4.0/6, MS4.0/29, Ms1 4.0/29, ms1mx3.9/34, Error ellipse: s-maj=23.0km s-min=17.0km az=82.0*

NAO ***19*** *03:43:01.9±4.8, 71.52°N×1.82°W, ML4.0*

GCMT ***19*** *03:43:01.0±0.2, 71.59°N×2.88°W, h12km, MW4.8, Moment Tensor Solution. s20,c23; s74,c113; Moment tensor: Scale 10^16 Nm; Mrr-1.85±.05; Mθθ 0.63±.05; Mϕϕ 1.22±.05; Mrθ-0.54±.25; Mθϕ 0.92±.04; Mϕr-0.33±.20; Best double couple: Mo2.00000×10^16 NP1:ϕs43.00000°, δ54.00000°, λ-82.00000°. NP2:ϕs209.00000°, δ37.00000°, λ-101.00000°. Principal axes: T 1.9800, Plg9.0000°, Azm127.0000°; N -0.0100, Plg7.0000°, Azm218.0000°; P -1.9700, Plg79.0000°, Azm346.0000°; Data Used: II IU CN G IC.*

BJI ***19*** *03:43:02.4, 71.50°N×1.00°W, h9km, mB5.1/8, mb4.7/18, Ms4.7/7, Ms7 4.4/6*

NEIC ***19*** *03:43:03.8±2.0, 71.56°N×1.88°W, h10km±4km, mb4.7/11, Error ellipse: s-maj=18.4km s-min=14.3km az=54.0*

REY ***19*** *03:43:08.3, 71.50°N×5.82°W, h10km, ML3.8, ML3.2*

SZGRF ***19*** *03:43:11.2, 71.09°N×0.39°W, h10km, mb4.5, MS3.5, Jan Mayen Island region*

ISC 19 03:43:02.3±0.9, 71.63°N±0.04°×2.83°W±0.04, h17km±5km, n270, σ1♀73/245, mb4.5/70, MS4.0/37, 5C-4D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCO	**Scoresbysund**	**6.32**	**269**	*i* P	Pn	03 44 32.4	-2.0
SCO	**Scoresbysund**	**6.32**	**269**	*i* P	Pn	03 44 32.4	-2.0
SCO	**Scoresbysund**	**6.32**	**269**	*i* P	Pn	03 44 32.4	-2.0
DAG	**Danmarks Havn**	**6.71**	**327**	*i* P	Pn	03 44 36.9	-2.8
DAG	comp=Z,11nm,0.7s			pmax	pmax		
DAG	**Danmarks Havn** comp=Z,16nm,0.7s	**6.71**	**327**	*i* P	Pn	03 44 36.9	-2.8
ILEI	**Leirhofn**	**7.16**	**230**	P	Pn	03 44 43.5	-2.5
IGIL	**Gilhagi**	**7.40**	**228**	P	**Pn**	**03 44 47.4**	**-1.8**
IDIM	**Dimmadalsˆjs**	**7.63**	**229**	P	**Pn**	**03 44 51.1**	**-1.3**
IGRS	**Grimsstaoir**	**7.71**	**225**	P	**Pn**	**03 44 52.4**	**-1.1**
ISKI	**Skildingahˆ‡ls**	**7.72**	**229**	P	**Pn**	**03 44 52.5**	**-1.2**
IREN	**Reynihlio**	**7.88**	**227**	P	**Pn**	**03 44 54.8**	**-1.1**
IMEL	**Melhnausar**	**7.89**	**226**	P	**Pn**	**03 44 54.8**	**-1.2**
IGLU	**Glumsstadir**	**8.05**	**220**	P	**Pn**	**03 44 56.3**	**-1.9**
IADA	**Aoalbol**	**8.12**	**222**	P	**Pn**	**03 44 58.1**	**-1.1**
KBS	**Kingsbay**	**8.20**	**20**	Pn	**Pn**	**03 45 00.1**	**-0.1**
KBS	**Kingsbay**	**8.20**	**20**	⇑*i*P	**Pn**	**03 45 00.1**	**-0.1**
KBS	**Kingsbay**	**8.20**	**20**	*e*Pn	**Pn**	**03 45 00.5**	**+0.3**
KBS	**Kingsbay**	**8.20**	**20**	*i* P	**Pn**	**03 45 00.1**	**-0.1**
KBS	**Kingsbay**	**8.20**	**20**	*e*Pn	**Pn**	**03 45 00.5**	**+0.3**
SPA0	**Spitsbergen Ar** baz=216,slow=12	**8.21**	**28**	Pn	**Pn**	**03 45 00.4**	**+0.1**
SPA0	**Spitsbergen Ar**	**8.21**	**28**	*e*Pn	**Pn**	**03 45 00.4**	**+0.1**
SPA0	**Spitsbergen Ar** SNR=138	**8.21**	**28**	Pn	**Pn**	**03 45 00.4**	**+0.1**
SPITS	**Spitsbergen Ar**	**8.21**	**28**	P	**Pn**	**03 45 00.4**	**+0.1**
SPITS	**Spitsbergen Ar** baz=205,slow=16,SNR=49	**8.21**	**28**	Pn	**Pn**	**03 45 00.4**	**+0.1**
IMKO	**Mokollar**	**8.32**	**223**	P	**Pn**	**03 45 00.4**	**-1.5**
IASK	**Askja**	**8.32**	**224**	P	**Pn**	**03 45 00.3**	**-1.7**
IBRU	**Bruarjokull**	**8.39**	**222**	P	**Pn**	**03 45 01.6**	**-1.3**
ARA0	**ARCESS Array S** baz=290,slow=12	**9.61**	**89**	Pn	**Pn**	**03 45 17.2**	**-2.3**
ARA0	**ARCESS Array S**	**9.61**	**89**	*e*Pn	**Pn**	**03 45 17.4**	**-2.1**
ARA0	**ARCESS Array S**	**9.61**	**89**	*e*Pn	**Pn**	**03 45 17.4**	**-2.1**
ARCES	**ARCESS Array B** comp=Z,1.0nm,0.3s	**9.61**	**89**	P	**Pn**	**03 45 17.1**	**-2.4**
ARCES	**ARCESS Array B** comp=Z,1.3nm,0.3s,baz=289,slow=12,SNR=59	**9.61**	**89**	Pn	**Pn**	**03 45 17.1**	**-2.4**
ARCES	comp=Z,668nm,20.6s,baz=284,slow=36			LR	LR	03 48 38.4	
BORG	**Borgarnes** comp=Z,218nm,19.3s,baz=94,slow=29	**9.70**	**234**	LR	LR	03 47 45.9	
KEV	**Kevo**	**9.99**	**86**	*e*P	**Pn**	**03 45 22.1**	**-2.6**
KEV	**Kevo** comp=Z,5.1nm,0.5s	**9.99**	**86**	*e*p	Pn	03 45 21.3	-3.4
KEV	**Kevo**	**9.99**	**86**	*e*Pn	**Pn**	**03 45 22.1**	**-2.6**
KEV	**Kevo**	**9.99**	**86**	*e*Pn	**Pn**	**03 45 22.1**	**-2.6**
SUMG	**Summit**	**10.89**	**292**	*i* P	**Pn**	**03 45 36.3**	**-1.1**
SUMG	comp=Z,9.0nm,0.7s			pmax	pmax		
SUMG	**Summit** comp=Z,9.0nm,0.7s	**10.89**	**292**	*i* P	**Pn**	**03 45 36.3**	**-1.1**
SUMG	**Summit**	**10.89**	**292**	*e*Pn	**Pn**	**03 45 35.5**	**-1.9**
SUMG	**Summit** comp=Z,9.0nm,0.7s	**10.89**	**292**	*i* P	**Pn**	**03 45 36.3**	**-1.1**
NB2	**NORSAR Subarra** baz=333,slow=14	**11.98**	**145**	Pn	**Pn**	**03 45 50.9**	**-1.1**
NB2	**NORSAR Subarra** SNR=6.9	**11.98**	**145**	Pn	**Pn**	**03 45 50.9**	**-1.1**
NB200	**NORSAR Array S**	**11.98**	**145**	*e*Pn	**Pn**	**03 45 50.5**	**-1.5**
NB200	**NORSAR Array S**	**11.98**	**145**	*e*Pn	**Pn**	**03 45 50.5**	**-1.5**
NOA	**NORSAR Array B** comp=Z,1.0nm,0.3s	**11.98**	**145**	P	**Pn**	**03 45 50.6**	**-1.5**
NOA	**NORSAR Array B**	**11.98**	**145**	Pn	**Pn**	**03 45 50.5**	**-1.5**
NOA	comp=Z,1.0nm,0.3s,baz=338,slow=12,SNR=14			LR	LR	03 48 54.5	
APA0	**Apatity Array** comp=Z,150nm,20.1s,baz=335,slow=30	**12.96**	**90**	Pn	**Pn**	**03 46 02.4**	**-2.9**
HFS	**Hagfors** baz=301,slow=12	**13.29**	**142**	Pn	**Pn**	**03 46 08.0**	**-1.8**
HFS	**Hagfors** baz=331,slow=14	**13.29**	**142**	Pn	**Pn**	**03 46 08.0**	**-1.8**
HFS	**Hagfors** SNR=132	**13.29**	**142**	Pn	**Pn**	**03 46 08.0**	**-1.8**
HFS	**Hagfors** comp=Z,2.9nm,0.3s,baz=340,slow=11,SNR=90	**13.29**	**142**	Pn	**Pn**	**03 46 08.1**	**-1.7**
HFS	comp=Z,1μm,21.6s,baz=14,slow=36			LR	LR	03 50 56.8	
KAF	**Kangasniemi**	**14.70**	**116**	*e*P	Pn	03 46 25.4	-3.7
KAF	comp=Z,6.0nm,0.5s			pmax	pmax		
KAF	**Kangasniemi** comp=Z,5.8nm,0.5s	**14.70**	**116**	*e*p	Pn	03 46 25.4	-3.7
FIA0	**FINESS Array S** baz=332,slow=14	**15.18**	**117**	Pn	**Pn**	**03 46 33.1**	**-2.3**
FIA0	**FINESS Array S**	**15.18**	**117**	*e*P	**Pn**	**03 46 32.5**	**-2.9**
FIA0	**FINESS Array S**	**15.18**	**117**	*e*Pn	**Pn**	**03 46 32.5**	**-2.9**
FIA0				*e*PcP	PcP	03 51 52.0	+11
FIA0	**FINESS Array S**	**15.18**	**117**	Pn	**Pn**	**03 46 33.1**	**-2.3**
FINES	**FINESS Array B** comp=Z,0.7nm,0.3s,baz=330,slow=12,SNR=21	**15.18**	**117**	Pn	**Pn**	**03 46 32.5**	**-2.9**
FINES	comp=Z,1μm,19.3s,baz=316,slow=35			LR	LR	03 51 52.0	
JOF	**Joensuu**	**15.56**	**107**	*e*P	**Pn**	**03 46 35.9**	**-4.5**
JOF	comp=Z,6.0nm,0.5s			pmax	pmax		
JOF	**Joensuu** comp=Z,6.4nm,0.5s	**15.56**	**107**	*e*p	**Pn**	**03 46 35.9**	**-4.5**
EKA	**Eskdalemuir Ar**	**16.36**	**181**	*e*Pn	**Pn**	**03 46 50.0**	**-0.7**
EKA	**Eskdalemuir Ar**	**16.36**	**181**	*e*Pn	**Pn**	**03 46 50.0**	**-0.7**
EKA	**Eskdalemuir Ar** baz=5.7,slow=12,SNR=9.4	**16.36**	**181**	Pn	**Pn**	**03 46 50.0**	**-0.7**
SFJD	**Kangerlussuaq** comp=Z,1μm,18.1s,baz=45,slow=34	**17.10**	**278**	LR	LR	03 52 47.0	
VSU	**Vasula**	**17.86**	**122**	⇓*i*P	**Pn**	**03 47 08.5**	**-1.0**
VSU	comp=Z,157nm,2.0s			pmax	pmax		
VSU	**Vasula** comp=Z,157nm,2.0s	**17.86**	**122**	*i* P	**Pn**	**03 47 08.5**	**-1.0**
KLMR	**Klimovskoe**	**19.66**	**101**	*e*P	Pn	03 47 36.2	+5.0
KLMR	comp=Z,30nm,1.3s			pmax	pmax		
KLMR	comp=Z,676nm,12.0s			MLR	MLR		
NRDL	**Niedersach Rie** comp=Z,69nm,2.1s	**20.04**	**156**	*e*P	**P**	**03 47 34.8**	**+0.9**
WTSB	**Winterswijk** comp=Z,48nm,1.6s	**20.20**	**163**	*e*P	**P**	**03 47 37.2**	**+1.6**
SUW	**Suwalki**	**20.96**	**134**	*e*P	Pn	03 47 46.4	-0.2
SUW	**Suwalki** comp=Z,29nm,1.0s	**20.96**	**134**	*e*P	**P**	**03 47 43.5**	**-0.5**
SUW	**Suwalki**	**20.96**	**134**	*e*P	Pn	03 47 46.4	-0.2
SUW	**Suwalki** comp=Z,29nm,1.0s	**20.96**	**134**	*e*P	**P**	**03 47 43.5**	**-0.5**
HGN	**Heimansgroeve** comp=Z,25nm,1.0s	**21.31**	**165**	*e*P	**P**	**03 47 47.0**	**-0.7**
HGN	comp=Z,246nm,20.9s			*e*L	L	03 55 47.2	
MEM	**Membach** comp=Z,10nm,1.2s	**21.47**	**164**	P	**P**	**03 47 50.6**	**+1.2**
MEM	**Membach** comp=Z,15nm,1.0s	**21.47**	**164**	P	P	03 48 14.5	+25
MEM	**Membach**	**21.47**	**164**	*e*P	**P**	**03 47 50.5**	**+1.0**
MEM	comp=Z,15nm,1.0s			pmax	pmax		
MEM	**Membach** comp=Z,15nm,1.0s	**21.47**	**164**	*e*P	**P**	**03 47 50.5**	**+1.0**
MEM	**Membach** comp=Z,15nm,1.0s	**21.47**	**164**	*e*P	**P**	**03 47 50.5**	**+1.0**
NEUB	**Neuenburg** comp=Z,42nm,0.8s	**21.52**	**154**	*e*P	**P**	**03 47 51.5**	**+1.5**
CLL	**Collm**	**21.60**	**152**	*i* P	**P**	**03 47 52.1**	**+1.3**
CLL				*e*S	**S**	**03 51 54.0**	**+4.9**
CLL	comp=Z,35nm,1.0s			pmax	pmax		
CLL	comp=Z,500nm,21.0s			MLR	MLR		
CLL	**Collm** comp=Z,24nm,1.6s	**21.60**	**152**	*e*P	**P**	**03 47 52.2**	**+1.4**
CLL	**Collm** comp=Z,10.0nm,1.0s	**21.60**	**152**	*i* P	**P**	**03 47 52.1**	**+1.3**
CLL				*e*S	**S**	**03 51 54.0**	**+4.9**
CLL				*e*S	**S**	**03 51 54.0**	**+4.9**
CLL	comp=E,400nm,11.4s			L	L	03 55 00.0	
CLL	comp=Z,500nm,21.0s **Collm** comp=Z,35nm,1.0s	**21.60**	**152**	*i* P	**P**	**03 47 52.1**	**+1.3**
DOU	**Dourbes**	**21.87**	**167**	P	**P**	**03 47 55.3**	**+1.6**
BAIF	**Baives** comp=Z,26nm,0.9s	**21.88**	**168**	*e*P	**P**	**03 47 57.8**	**+4.0**
GIVF	**Givet** comp=Z,37nm,0.9s	**21.88**	**167**	*e*P	**P**	**03 47 57.3**	**+3.5**
FBE	**Freiberg** comp=Z,23nm,1.1s	**22.03**	**152**	*e*P	**P**	**03 47 55.0**	**-0.4**
TNS	**Taunus Mts**	**22.09**	**160**	*e*P	**P**	**03 47 57.2**	**+1.1**
TNS	comp=Z,27nm,1.4s			pmax	pmax		
TNS	**Taunus Mts** comp=Z,27nm,1.4s	**22.09**	**160**	*e*P	**P**	**03 47 57.2**	**+1.1**
TNS	**Taunus Mts** comp=Z,27nm,1.4s	**22.09**	**160**	*e*P	**P**	**03 47 57.2**	**+1.1**
BRG	**Berggiesshubel** comp=Z,14nm,1.4s	**22.16**	**151**	*e*P	**P**	**03 47 58.4**	**+1.5**
BRG				S	**S**	**03 52 03.0**	**+3.0**
BRG	comp=N,375nm,20.2s			pmax	pmax		
BRG	comp=E,272nm,21.0s			MLR	MLR		
BRG	comp=Z,548nm,21.0s			MLR	MLR		
BRG	**Berggiesshubel** comp=Z,14nm,1.4s	**22.16**	**151**	*e*P	**P**	**03 47 58.4**	**+1.5**
BRG				S	**S**	**03 52 03.0**	**+3.0**
BRG	comp=Z,375nm,20.2s			pmax	pmax		
PLN	**Plauen** comp=Z,131nm,1.1s	**22.28**	**154**	*e*P	**P**	**03 47 59.2**	**+1.0**
WERD	**Werda** comp=Z,36nm,1.5s	**22.34**	**154**	*e*P	**P**	**03 48 00.5**	**+1.7**
TANN	**Tannenbergstha** comp=Z,22nm,1.1s	**22.39**	**154**	*e*P	**P**	**03 48 01.1**	**+1.7**
WLF	**Walferdange** comp=Z,17nm,1.6s	**22.42**	**165**	P	**P**	**03 48 02.5**	**+2.9**
GUNZ	**Gunzen** comp=Z,43nm,1.7s	**22.42**	**154**	*e*P	**P**	**03 48 01.7**	**+2.0**
WERN	**Wernitzgruen** comp=Z,25nm,1.3s	**22.50**	**154**	*e*P	**P**	**03 48 01.9**	**+1.3**
KSP	**Ksiaz**	**22.57**	**147**	*e*P	**P**	**03 48 01.9**	**+0.6**
KSP	**Ksiaz**	**22.57**	**147**	*e*P	**P**	**03 48 02.1**	**+0.8**
KSP	**Ksiaz**	**22.57**	**147**	*e*P	**P**	**03 48 01.9**	**+0.6**
PVCC	**Panska Ves**	**22.60**	**150**	*e*P	**P**	**03 48 03.3**	**+1.8**
PVCC	**Panska Ves**	**22.60**	**150**	*e*P	**P**	**03 48 03.3**	**+1.8**
PVCC				*ex*	x	03 48 13.5	
PVCC	**Panska Ves**	**22.60**	**150**	*e*P	**P**	**03 48 03.3**	**+1.8**
MANZ	**Manzenberg** comp=Z,49nm,2.2s	**22.76**	**155**	*e*P	**P**	**03 48 04.3**	**+1.0**
UPC	**Upice**	**22.85**	**148**	*e*P	**P**	**03 48 05.1**	**+0.9**
UPC	**Upice**	**22.85**	**148**	*e*P	**P**	**03 48 05.1**	**+0.9**
UPC	**Upice**	**22.85**	**148**	*e*P	**P**	**03 48 05.1**	**+0.9**
GRA1	**Grafenberg Arr** comp=Z,31nm,1.5s	**22.93**	**156**	*e*P	**P**	**03 48 06.4**	**+1.3**
GRF	**Grafenberg Arr** comp=Z,31nm,1.5s	**22.93**	**156**	*e*P	**P**	**03 48 06.4**	**+1.3**
GRF				pmax	pmax		
GRF	**Grafenberg Arr** comp=Z,31nm,1.5s	**22.93**	**156**	*e*P	**P**	**03 48 06.4**	**+1.3**
GRF				*e*L	L	03 56 39.8	
FLN	**La Foliniere** comp=Z,28nm,1.1s	**22.97**	**176**	*e*P	**P**	**03 48 05.4**	**0.0**
ROTZ	**Rotzenmuhle** comp=Z,15nm,1.3s	**22.99**	**154**	*e*P	**P**	**03 48 05.9**	**+0.2**
DPC	**Dobruska-Polom**	**23.05**	**148**	*e*P	**P**	**03 48 07.2**	**+0.8**
DPC	comp=Z,116nm,1.3s			pmax	pmax		
DPC	**Dobruska-Polom**	**23.05**	**148**	*e*P	**P**	**03 48 07.2**	**+0.8**
DPC				*e*pP	**pP**	**03 48 11.8**	**+0.4**
DPC				*e*S	**S**	**03 52 19.3**	**+3.1**
DPC				AMS	AMS	03 57 50.0	
DPC	**Dobruska-Polom** comp=Z,116nm,1.3s	**23.05**	**148**	*e*P	**P**	**03 48 07.2**	**+0.8**
DPC	**Dobruska-Polom** comp=Z,116nm,1.3s	**23.05**	**148**	*e*P	**P**	**03 48 07.2**	**+0.8**
PRU	**Pruhonice**	**23.12**	**151**	*e*P	**P**	**03 48 08.7**	**+1.8**
PRU	comp=Z,400nm,21.7s			MLR	MLR		
PRU	**Pruhonice** comp=Z,400nm,21.7s	**23.12**	**151**	*e*P	**P**	**03 48 08.7**	**+1.8**
PRU				AMS	AMS	03 55 50.0	
PRU	**Pruhonice** comp=Z,400nm,21.7s	**23.12**	**151**	*e*P	**P**	**03 48 08.7**	**+1.8**
LDF	**La Druitiere** comp=Z,43nm,1.3s	**23.14**	**175**	*e*P	**P**	**03 48 07.6**	**+0.4**
GRR	**Gorron** comp=Z,79nm,1.5s	**23.33**	**177**	*e*P	**P**	**03 48 08.7**	**-0.4**
PAGF	**Fort de Pagny**	**23.49**	**166**	*e*P	**P**	**03 48 11.6**	**+0.9**
MEZF	**Maizieres J'vi** comp=Z,87nm,1.6s	**23.49**	**167**	*e*P	**P**	**03 48 13.0**	**+2.3**
OBN	**Obninsk**	**23.50**	**114**	*e*P	**P**	**03 48 10.4**	**-0.3**
OBN				*i* S	**S**	**03 52 21.0**	**-2.3**
OBN	comp=Z,9.0nm,1.3s			pmax	pmax		
OBN	**Obninsk** comp=Z,9.0nm,1.3s	**23.50**	**114**	*e*P	**P**	**03 48 10.4**	**-0.3**
STU	**Stuttgart**	**23.60**	**160**	*e*P	**P**	**03 48 13.2**	**+1.4**
CDF	**Champ du Feu** comp=Z,53nm,1.5s	**23.76**	**163**	*e*P	**P**	**03 48 14.2**	**+0.8**
SFTF	**Sexfontaines** comp=Z,71nm,1.5s	**23.78**	**167**	*e*P	**P**	**03 48 15.6**	**+2.1**
KHC	**Kasperske Hory**	**23.81**	**153**	*e*P	P	03 48 09.7	-4.1
KHC				*e*		03 48 15.7	
KHC	comp=Z,500nm,20.8s			MLR	MLR		
KHC	**Kasperske Hory**	**23.81**	**153**	*e*P	P	03 48 09.7	-4.1
KHC				*e*pP	pP	03 48 15.7	-3.3
KHC	comp=Z,500nm,20.8s			AMS	AMS	03 56 30.0	
OKC	**Ostrava-Krasne** comp=Z,800nm,17.3s	**23.87**	**145**	AMS	AMS	03 58 20.0	
TREC	**Trest**	**23.94**	**150**	*e*P	**P**	**03 48 17.1**	**+2.1**
TREC	comp=Z,500nm,11.6s			MLR	MLR		
TREC	**Trest**	**23.94**	**150**	*e*P	**P**	**03 48 17.1**	**+2.1**
TREC	comp=Z,500nm,11.6s			AMS	AMS	03 58 00.0	
TREC	**Trest** comp=Z,500nm,11.6s	**23.94**	**150**	*e*P	**P**	**03 48 17.1**	**+2.1**
BFO	**Black Forest**	**23.94**	**161**	*e*P	**P**	**03 48 16.2**	**+1.1**
BFO	comp=Z,29nm,1.5s			pmax	pmax		
BFO	**Black Forest** comp=Z,32nm,1.6s	**23.94**	**161**	*e*P	**P**	**03 48 16.5**	**+1.4**
BFO	**Black Forest** comp=Z,29nm,1.5s	**23.94**	**161**	*e*P	**P**	**03 48 16.2**	**+1.1**
BFO	**Black Forest** comp=Z,29nm,1.5s	**23.94**	**161**	*e*P	**P**	**03 48 16.2**	**+1.1**
HAU	**Haudompre**	**24.08**	**165**	*e*P	**P**	**03 48 18.7**	**+2.3**
GEC2	**GERESS Array S**	**24.10**	**153**	*e*P	**P**	**03 48 17.7**	**+1.0**
GEC2	comp=Z,52nm,2.2s			pmax	pmax		
GEC2	**GERESS Array S** comp=Z,52nm,2.2s	**24.10**	**153**	*e*P	**P**	**03 48 17.7**	**+1.0**
GEC2	**GERESS Array S**	**24.10**	**153**	*e*P	**P**	**03 48 18.0**	**+1.3**
GEC2	**GERESS Array S**	**24.10**	**153**	*e*P	**P**	**03 48 18.0**	**+1.3**
GERES	**GERESS Array B** comp=Z,1.0nm,0.5s	**24.10**	**153**	P	**P**	**03 48 16.9**	**+0.2**
GERES	**GERESS Array B** comp=Z,1.0nm,0.5s,baz=353,slow=9.4,SNR=12	**24.10**	**153**	P	**P**	**03 48 16.9**	**+0.2**
VRAC	**Vranov**	**24.11**	**148**	*e*P	**P**	**03 48 16.8**	**+0.2**
VRAC	**Vranov**	**24.11**	**148**	*e*P	**P**	**03 48 16.8**	**+0.2**
VRAC	**Vranov** comp=Z,4.2nm,0.8s,baz=336,slow=12,SNR=5.8	**24.11**	**148**	P	**P**	**03 48 16.8**	**+0.2**
VRAC	comp=Z,431nm,19.3s,baz=347,slow=38			LR	LR	03 57 59.3	
RES	**Resolute Bay** comp=Z,801nm,19.8s,baz=226,slow=35	**24.32**	**320**	LR	LR	03 57 25.4	
LOR	**Lormes** comp=Z,31nm,1.3s	**24.64**	**169**	*e*P	**P**	**03 48 22.4**	**+0.9**
SSF	**Saint Saulge** comp=Z,28nm,1.0s	**24.82**	**170**	*e*P	**P**	**03 48 23.9**	**+0.8**
FRB	**Frobisher Bay** comp=Z,494nm,20.5s,baz=257,slow=34	**24.85**	**285**	LR	LR	03 57 22.5	
STHS	**Stebnicka Huta**	**24.87**	**141**	*e*P	**P**	**03 48 25.1**	**+1.6**
STHS	**Stebnicka Huta**	**24.87**	**141**	*e*P	**P**	**03 48 25.1**	**+1.6**
STHS	**Stebnicka Huta**	**24.87**	**141**	*e*P	**P**	**03 48 25.1**	**+1.6**
KWP	**Kalwaria Pacla**	**24.96**	**138**	*e*P	**P**	**03 48 24.1**	**-0.3**
KWP	**Kalwaria Pacla**	**24.96**	**138**	*e*P	**P**	**03 48 24.1**	**-0.3**
KWP	**Kalwaria Pacla**	**24.96**	**138**	*e*P	**P**	**03 48 24.1**	**-0.3**
AVF	**Avril sur Loir** comp=Z,14nm,1.1s	**25.09**	**170**	*e*P	**P**	**03 48 27.4**	**+2.0**
MFF	**Saint Martin d** comp=Z,9.0nm,0.8s	**25.13**	**176**	*e*P	**P**	**03 48 25.8**	**-0.1**
DAVA	**Damuels** comp=Z,18nm,1.2s	**25.14**	**159**	⇑*i*pP	pP	03 48 29.8	-1.6
SMF	**Signal de Mont** comp=Z,50nm,1.3s	**25.26**	**169**	*e*P	**P**	**03 48 30.0**	**+3.0**
BGF	**Bois d'Agland** comp=Z,64nm,1.5s	**25.29**	**171**	*e*P	**P**	**03 48 28.4**	**+1.1**
CONA	**Conrad Observa** comp=Z,17nm,1.1s	**25.33**	**150**	⇑*i*P	**P**	**03 48 30.1**	**+2.4**
WTTA	**Wattenberg** comp=Z,23nm,1.5s	**25.37**	**157**	⇑*i*sP	sP	03 48 32.7	-3.0
CABF	**La Chapelle** comp=Z,66nm,1.4s	**25.45**	**166**	*e*P	**P**	**03 48 31.3**	**+2.4**
AKASG	**Malin Array Be**	**25.47**	**128**	P	**P**	**03 48 28.2**	**-0.6**
AKASG	comp=Z,8.0nm,0.7s			pmax	pmax		
AKASG	comp=Z,771nm,18.9s			MLR	MLR		
AKASG	**Malin Array Be** comp=Z,771nm,18.9s	**25.47**	**128**	P	**P**	**03 48 28.2**	**-0.6**
AKASG	**Malin Array Be** comp=Z,8.3nm,0.7s,baz=337,slow=9.3,SNR=32	**25.47**	**128**	P	**P**	**03 48 28.2**	**-0.6**
AKASG	comp=Z,771nm,18.9s,baz=335,slow=36			LR	LR	03 58 13.6	
AKBB	**Malin Array Si**	**25.47**	**128**	*e*P	**P**	**03 48 28.2**	**-0.6**
AKBB	**Malin Array Si**	**25.47**	**128**	*e*P	**P**

VORD pmax pmax
comp=Z,10.0nm,0.6s
VORD MLR MLR
comp=Z,810nm,18.0s
VORD MLR MLR
comp=E,110nm,16.0s
VORD Divnogorie 27.94 115 *e*P **P 03 48 54.3 +3.2**
comp=E,810nm,18.0s
VRHR Novokhopersk 28.50 112 *e*P **P 03 48 55.0 -1.1**
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,2.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR MLR MLR
comp=N,130nm,19.0s
VRHR MLR MLR
comp=E,530nm,19.0s
VRHR MLR MLR
comp=Z,1µm,19.0s
VRHR Novokhopersk 28.50 112 *e*P **P 03 48 55.0 -1.1**
EPF Esparros 28.71 175 *e*P **P 03 48 58.9 +0.7**
comp=Z,17nm,1.1s
ARU Arti 29.20 89*d i*P **P 03 49 02.3 0.0**
ARU S **S 03 53 51.3 -2.2**
ARU pmax pmax
comp=Z,14nm,2.5s
ARU Arti 29.20 89 *i* P **P 03 49 02.3 0.0**
comp=Z,14nm,2.5s
MLR Muntele Rosu 29.59 137 LR LR 04 01 27.1
comp=Z,148nm,18.1s,baz=322,slow=38
SCHQ Schefferville 31.36 272 LR LR 04 00 48.8
comp=Z,534nm,20.3s,baz=32,slow=34
ESDC Sonseca Array 32.03 182 *e*P **P 03 49 27.4 0.0**
ESDC Sonseca Array 32.03 182 *e*P **P 03 49 27.5 0.0**
ESDC Sonseca Array 32.03 182 P **P 03 49 27.4 0.0**
comp=Z,0.4nm,0.6s,baz=357,slow=9.1,SNR=4.9
ANN Anapa 33.04 122 *e*P **P 03 49 36.0 -0.2**
ANN *e*S **S 03 54 52.0 -1.7**
ANN pmax pmax
comp=Z,18nm,1.1s
ANN MLR MLR
comp=Z,863nm,17.0s
ANN Anapa 33.04 122 *e*P **P 03 49 36.0 -0.2**
comp=Z,18nm,1.1s
TIXI Tiksi 33.62 25*c e*P P 03 49 44.4 +3.4
TIXI pmax pmax
comp=Z,5.0nm,1.2s
KIV Kislovodsk 35.27 117 *e*P **P 03 49 56.9 +1.2**
KIV *e*S **S 03 55 26.4 -2.0**
KIV *e*SS **SnSn 03 57 42.5 -3.6**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,207nm,15.0s
KIV Kislovodsk 35.27 117 *e*P **P 03 49 56.9 +1.2**
comp=Z,7.0nm,1.1s
KBZ Khabaz 35.54 117 *e*P **P 03 49 58.1 +0.3**
KBZ Khabaz 35.54 117 *e*P **P 03 49 58.1 +0.3**
KBZ Khabaz 35.54 117 *e*P **P 03 49 58.1 +0.3**
KBZ Khabaz 35.54 117 P **P 03 49 58.1 +0.3**
comp=Z,2.7nm,0.8s,baz=13,slow=5.0,SNR=6.8
KBZ LR LR 04 05 08.9
comp=Z,158nm,18.6s,baz=192,slow=38
ABKAR Akbulak array 35.76 94 *e*P **P 03 50 00.4 +0.8**
ABKAR Akbulak array 35.76 94 *e*P **P 03 50 00.4 +0.8**
VOSK Vostochnaya 36.24 81 *e*P **P 03 50 04.7 +0.9**
VOSK pmax pmax
comp=Z,5.0nm,1.1s
VOSK Vostochnaya 36.24 81 *e*P **P 03 50 04.7 +0.9**
comp=Z,5.0nm,1.1s
VOSK Vostochnaya 36.24 81 *e*P **P 03 50 04.7 +0.9**
comp=Z,5.0nm,1.1s
BR231 Keskin MP Arra 36.52 131 *e*P P 03 50 09.7 +3.3
BR231 Keskin MP Arra 36.52 131 *e*P P 03 50 09.7 +3.3
BR101 Keskin Array S 36.83 130 *e*P **P 03 50 10.1 +0.9**
BR101 Keskin Array S 36.83 130 *e*P **P 03 50 10.1 +0.9**
BRTR Keskin Array B 36.83 130 P **P 03 50 10.1 +0.9**
comp=Z,129nm,20.0s
BRTR Keskin Array B 36.83 130 P **P 03 50 10.1 +0.9**
comp=Z,3.0nm,0.7s,baz=347,slow=5.7,SNR=21
BRTR LR LR 04 05 49.0
comp=Z,129nm,20.0s,baz=162,slow=37
ZALV Zalesovo Beam 39.41 68 LR LR 04 10 33.2
comp=Z,147nm,18.4s,baz=249,slow=42
ILAR Eielson Array 41.68 338 P **P 03 50 50.8 +1.6**
comp=Z,169nm,21.0s
ILAR Eielson Array 41.68 338 P **P 03 50 50.8 +1.6**
comp=Z,0.4nm,0.7s,baz=16,slow=6.5,SNR=7.4
ILAR LR LR 04 08 00.8
comp=Z,169nm,21.0s,baz=317,slow=36
ILB Eielson Array 41.68 338 *e*P **P 03 50 50.8 +1.6**
ILB Eielson Array 41.68 338 *e*P **P 03 50 50.8 +1.6**
ULM Lac du Bonnet 44.25 293 LR LR 04 09 21.5
comp=Z,263nm,18.6s,baz=287,slow=36
HVS Khovu-Aksy 44.46 63⇓*e*P **P 03 51 12.8 +0.9**
HVS pmax pmax
comp=Z,10.0nm,1.1s
HVS Khovu-Aksy 44.46 63 *e*P **P 03 51 12.8 +0.9**
comp=Z,10.0nm,1.1s
KKAR Karatay Array 44.58 89 *e*P **P 03 51 13.4 +0.6**
KKAR Karatay Array 44.58 89 *e*P **P 03 51 13.4 +0.6**
KKAR Karatay Array 44.58 89 *e*P **P 03 51 13.4 +0.6**
MK32 Makanchi Array 44.96 76 *e*P **P 03 51 16.2 +0.4**
MK32 Makanchi Array 44.96 76 *e*P **P 03 51 16.2 +0.4**
MKAR Makanchi Array 44.96 76 *e*P **P 03 51 16.5 +0.7**
MKAR Makanchi Array 44.96 76 *e*P **P 03 51 16.6 +0.7**
MKAR Makanchi Array 44.96 76 *e*P **P 03 51 16.6 +0.7**
MKAR Makanchi Array 44.96 76 P **P 03 51 16.2 +0.4**
comp=Z,1.5nm,1.0s,baz=350,slow=6.2,SNR=6.0
MKAR LR LR 04 14 09.0
comp=Z,128nm,18.8s,baz=332,slow=42
MK01 Makanchi Array 44.98 76 *e*P **P 03 51 17.1 +1.1**
MK01 Makanchi Array 44.98 76 *e*P **P 03 51 17.1 +1.1**
AAK Ala-Archa 46.26 85⇓*e*P **P 03 51 28.5 +2.1**
AAK pmax pmax
comp=Z,3.0nm,1.0s
AAK Ala-Archa 46.26 85 *e*P **P 03 51 28.5 +2.1**
comp=Z,3.0nm,1.0s
MCWV Mont Chateau 48.86 273 *e*P P 03 51 58.1 +12
comp=Z,368nm,2.8s
WMQ Urumqi 49.29 73 *e*P P 03 51 53.3 +3.6
WMQ pP pP 03 51 57.8 +2.7
WMQ sP sP 03 52 00.3 +3.0
WMQ S **S 03 58 54.9 +0.2**
WMQ ScS **ScS 04 01 42.4 +2.1**
WMQ SS **SS 04 02 20.8 -4.8**
WMQ AMB AMB
comp=Z,8.0nm,0.5s
WMQ AMB AMB
comp=Z,120nm,4.0s
WMQ LR LR
comp=Z,260nm,8.4s
WMQ LR LR
comp=Z,230nm,7.4s
WMQ LR LR
comp=Z,120nm,17.4s
KSH Kashi 49.56 86 *e*P P 03 51 46.3 -5.6
KSH pP pP 03 51 52.9 -4.4
SONM Songino Array 50.91 55 LR LR 04 16 12.4
comp=Z,95nm,18.7s,baz=103,slow=39
BZMT Bozeman Pass 52.60 303 *e*P P 03 52 21.9 +7.1
KSCO Kaye Shedlock' 56.46 293 *e*P P 03 52 50.4 +7.7
comp=Z,25nm,0.3s
GTA Gaotai 56.91 64 *e*P P 03 52 50.8 +4.8
GTA pP pP 03 52 55.4 +3.9
GTA sP sP 03 52 57.8 +4.2
GTA AMB AMB
comp=Z,3.0nm,1.3s
TOA0 Torodi Ar. Sit 58.51 175 *e*P **P 03 52 58.0 +0.7**
TOA0 Torodi Ar. Sit 58.51 175 *e*P **P 03 52 58.0 +0.7**
TORD Torodi Ar. Bea 58.51 175 P **P 03 52 57.1 -0.2**
comp=Z,1.0nm,0.8s,baz=353,slow=6.3,SNR=14
TORD LR LR 04 18 44.0
comp=Z,131nm,19.0s,baz=345,slow=37
HHC Hu-ho-hao-te 58.76 54 *e*P **P 03 52 58.8 -0.1**
HHC PcP **PcP 03 53 50.0 +1.6**
HHC PP **PP 03 55 08.8 +0.4**
HHC ScP **ScP 03 57 48.8 +1.2**
HHC PcS **PcS 03 57 50.1 -0.1**
HHC S **S 04 00 58.4 -4.5**
HHC ScS **ScS 04 02 44.4 -3.1**
HHC SS **SS 04 04 51.3 -3.9**
HHC AMB AMB
comp=Z,36nm,0.9s
HHC AMB AMB
comp=Z,160nm,5.7s
HHC LR LR
comp=Z,350nm,17.3s
HHC LR LR
comp=Z,580nm,16.9s
HHC LR LR
comp=Z,340nm,16.9s
CN2 Changchun 59.21 41 *e*P **P 03 53 04.8 +3.0**
USRK Ussuriysk Arra 60.12 36 LR LR 04 21 54.3
comp=Z,93nm,18.8s,baz=131,slow=39
TXAR Lajitas Array 65.78 290 LR LR 04 21 48.0
comp=Z,209nm,21.0s,baz=185,slow=35
KSRS Korea Array 65.82 41 LR LR 04 24 41.9
comp=Z,62nm,18.4s,baz=164,slow=38
CD2 Chengdu 65.99 64 P P 03 53 50.5 +3.2
CD2 AMB AMB
comp=Z,10.0nm,0.5s
CD2 AMB AMB
comp=Z,90nm,3.5s
MJAR Matsushiro Arr 68.67 33 LR LR 04 25 59.4
comp=Z,39nm,20.8s,baz=30,slow=38
NJ2 Nanjing 68.93 51 *e*P **P 03 54 05.6 -0.2**
NJ2 AMB AMB
comp=Z,10.0nm,1.0s
GYA Guiyang 71.01 63 *e*P P 03 54 22.0 +3.2
GYA AMB AMB
comp=Z,10.0nm,1.0s
KMI Kunming 71.14 67 P P 03 54 23.3 +3.6
KMI pP pP 03 54 26.0 +0.6
KMI sP sP 03 54 27.8 +0.3
KMI AMB AMB
comp=Z,6.0nm,1.0s
KMI LR LR
comp=Z,120nm,19.6s
KMI LR LR
comp=Z,160nm,16.4s
KMI LR LR
comp=Z,110nm,23.7s
CMAR Chiang Mai Arr 76.29 73 *e*P **P 03 54 50.0 +0.3**
CMAR Chiang Mai Arr 76.29 73 LR LR 04 31 48.7
comp=Z,73nm,19.9s,baz=4.0,slow=38
JTS JuntasAbangare 77.81 266 LR LR 04 29 23.6
comp=Z,106nm,19.2s,baz=194,slow=36
ROSC El Rosal 79.63 254 LR LR 04 26 27.2
comp=Z,74nm,20.3s,baz=182,slow=33
BDFB Brasilia 92.22 223 LR LR 04 30 10.7
comp=Z,117nm,19.0s,baz=275,slow=31
LPAZ La Paz 97.88 242 LR LR 04 34 47.0
comp=Z,57nm,18.5s,baz=154,slow=32
MAW Mawson 145.69 142 PKPbc **PKPbc 04 02 38.5 +0.6**
comp=Z,0.9nm,0.6s,baz=307,slow=5.1,SNR=2.9

IDC 19 03:45:38.9±3.3, 71.45N×1.08W, h0km, mb3.5/2, mb1 3.8/6, mb1mx3.4/31, mbtmpg3.7/6, ML3.6/3, Error ellipse: s-maj=55.4km s-min=25.6km az=104.0, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPITS	**Spitsbergen Ar**	**8.11**	**26**	Pn	Pn	03 47 36.1	-1.6
	baz=208,slow=16,SNR=13						
ARCES	**ARCESS Array B**	**9.05**	**89**	Pn	Pn	03 47 51.2	+0.6
	baz=288,slow=12,SNR=5.3						
HFS	**Hagfors**	**12.81**	**145**	Pn	Pn	03 48 43.7	+1.7
	0.7nm,0.3s,baz=338,slow=14,SNR=5.3						
EKA	**Eskdalemuir Ar**	**16.20**	**184**	Pn	Pn	03 49 28.8	+1.3
	baz=357,slow=12,SNR=2.9						
GERES	**GERESS Array B**	**23.69**	**155**	P	P	03 50 51.8	-0.2
	0.5nm,0.7s,baz=359,slow=8.1,SNR=3.7						
AKASG	**Malin Array Be**	**24.92**	**130**	P	P	03 51 02.5	-0.6
	1.4nm,0.6s,baz=336,slow=9.3,SNR=3.9						

IDC 19 04:13:06.0±2.6, 14.98S×69.82W, h126km±37km, mb3.4/3, mb1 3.7/5, mb1mx3.3/21, mbtmpg3.5/5, Error ellipse: s-maj=94.0km s-min=28.6km az=23.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.09**	**129**	P	Pn	04 13 40.3	-1.3
	16nm,0.3s,baz=271,slow=7.4,SNR=630						
LPAZ				S	Sn	04 14 09.3	+0.5
	3.9nm,0.3s,baz=108,slow=21,SNR=6.3						
SIV	**San Ignacio**	**8.49**	**98**	P	Pn	04 15 06.5	+0.2
	1.2nm,0.3s,baz=273,slow=12,SNR=37						
TXAR	**Lajitas Array**	**54.85**	**324**	P	P	04 22 22.6	-0.9
	0.2nm,0.5s,baz=152,slow=10,SNR=4.8						
TORD	**Torodi Ar. Bea**	**76.09**	**72**	P	P	04 24 40.0	-0.4
	1.3nm,0.6s,baz=265,slow=5.2,SNR=18						
YKA	**Yellowknife Ar**	**84.78**	**341**	P	P	04 25 27.1	+1.4
	0.4nm,0.4s,baz=137,slow=5.0,SNR=11						
SONM	**Songino Array**	**147.09**	**5**	PKPbc	PKPbc	04 32 33.3	-1.0
	0.8nm,0.5s,baz=330,slow=3.0,SNR=5.5						

IDC 19 04:13:59.8±1.8, 2.32N×128.75E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/23, mbtmpg3.6/5, Error ellipse: s-maj=93.8km s-min=22.7km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.52**	**188**	P	Pn	04 18 41.3	-0.7
	0.8nm,0.5s,baz=11,slow=12,SNR=5.3						
WRA	**Warramunga Arr**	**22.80**	**166**	P	P	04 19 03.7	-0.5
	2.1nm,0.4s,baz=344,slow=10,SNR=7.9						
ASAR	**Alice Springs**	**26.31**	**169**	P	P	04 19 36.8	-0.6
	0.2nm,0.5s,baz=355,slow=7.9,SNR=3.4						
STKA	**Stephens Creek**	**36.13**	**161**	P	P	04 21 03.4	-0.4
	1.2nm,0.4s,baz=346,slow=11,SNR=6.4						
MKAR	**Makanchi Array**	**59.86**	**325**	P	P	04 24 07.6	+0.3
	0.3nm,0.9s,baz=123,slow=8.5,SNR=2.3						

MDD ***19*** *04:34:47.9±0.9, 38.41N×9.85W, h40km±15km, mb4.2/5, Error ellipse: s-maj=9.4km s-min=4.3km az=87.0, PRXIMO*
LDG ***19*** *04:34:47.2±0.4, 38.51N×9.68W, h53km±5km, Ml2.7/2, Error ellipse: s-maj=9.4km s-min=5.0km az=71.0*
CSEM ***19*** *04:34:48.1±0.2, 38.42N×9.75W, h40km, ML2.1, Error ellipse: s-maj=5.0km s-min=2.6km az=77.0*
INMG ***19*** *04:34:48.6±1.2, 38.41N×9.81W, h30km±4km, MD3.0, ML2.1, Error ellipse: s-maj=4.3km s-min=2.5km az=86.0*
IGIL ***19*** *04:34:48.8, 38.40N×9.79W, h29km, ML2.3*
ISC 19 04:34:45.0±1.6, 38.40N±0.02×9.91W±0.06, h31km±15km, **n100, σ1§32**/174, **1C-1D, Portugal**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMST	**Lisbon--Monsan**	**0.66**	**59**	*e*Pg	**Pn**	**04 34 59.7**	**+1.5**
PMST				*e*Sg	**Sn**	**04 35 08.1**	**+0.6**
PMST				A	A	04 35 09.2	
	96nm,0.3s						
LIS	**Lisbon**	**0.67**	**62**	*e*S	**Sn**	**04 35 08.3**	**+0.5**
LIS				AML	AML	04 35 09.1	
	comp=E,137nm,0.2s						
LIS	**Lisbon**	**0.67**	**62**	*e*S	**Sn**	**04 35 08.3**	**+0.5**
LIS	**Lisbon**	**0.67**	**62**	S	**Sn**	**04 35 08.3**	**+0.5**
LIS	**Lisbon**	**0.67**	**62**	*e*S	**Sn**	**04 35 08.3**	**+0.5**
PMAFR	**Mafra**	**0.73**	**41**	*i* P	**Pn**	**04 35 00.9**	**+1.6**
PMAFR				*e*S	**Sn**	**04 35 10.3**	**+0.8**
PMAFR				A	A	04 35 11.0	
	comp=E,193nm,0.2s						
PMAFR	**Mafra**	**0.73**	**41**	⇑P	**Pn**	**04 35 00.9**	**+1.6**
	comp=E,33nm,0.1s,SNR=18						
PMAFR				S	**Sn**	**04 35 10.1**	**+0.6**
	comp=E,407nm,0.2s,SNR=5.9						
PMAFR	**Mafra**	**0.73**	**41**	P	**Pn**	**04 35 00.9**	**+1.6**
	comp=E,33nm,0.1s,SNR=18						
PMAFR				*e*S	**Sn**	**04 35 10.3**	**+0.8**
	comp=E,193nm,0.2s						
PACT	**Alcochete**	**0.92**	**66**	*i* P	**Pn**	**04 35 03.8**	**+2.1**
PACT				*e*S	**Sn**	**04 35 15.9**	**+2.1**
PACT				A	A	04 35 17.7	
	comp=E,40nm,0.1s						
PNCL	**Nicolau / Gran**	**1.12**	**105**	*e*P	**Pb**	**04 35 05.8**	**0.0**
PNCL				*e*S	**Sn**	**04 35 18.5**	**-0.5**
PNCL				A	A	04 35 22.3	
	comp=E,20nm,0.2s						
PTEO	**Sao Teotonio**	**1.27**	**132**	*e*P	**Pb**	**04 35 07.9**	**-0.4**
PTEO				*e*S	**Sn**	**04 35 22.6**	**+0.1**
PTEO				A	A	04 35 24.1	
	comp=E,19nm,0.2s						
PTEO	**Sao Teotonio**	**1.27**	**132**	P	**Pb**	**04 35 07.9**	**-0.4**
PTEO				S	**Sn**	**04 35 22.6**	**+0.1**
	comp=E,9.6nm,0.2s						
PTEO	**Sao Teotonio**	**1.27**	**132**	*e*P	**Pb**	**04 35 07.9**	**-0.4**
PTEO				S	**Sn**	**04 35 22.6**	**+0.1**
	comp=E,9.6nm,0.2s						
ALMR	**Almeirim**	**1.28**	**54**	*e*P	**Pb**	**04 35 08.3**	**-0.2**
ALMR				*e*S	**Sn**	**04 35 23.1**	**+0.2**
ALMR				AML	AML	04 35 23.9	
	comp=E,44nm,0.2s						
ALMR	**Almeirim**	**1.28**	**54**	*e*P	**Pb**	**04 35 08.3**	**-0.2**
ALMR				*e*S	**Sn**	**04 35 23.1**	**+0.2**
ALMR	**Almeirim**	**1.28**	**54**	P	**Pb**	**04 35 08.3**	**-0.2**
ALMR				S	**Sn**	**04 35 23.1**	**+0.2**
ALMR	**Almeirim**	**1.28**	**54**	*e*P	**Pb**	**04 35 08.3**	**-0.2**
ALMR				*e*S	**Sn**	**04 35 23.1**	**+0.2**
EVOP	**Sao Brissos**	**1.40**	**84**	*e*Pn	**Pn**	**04 35 09.4**	**+0.9**
EVOP				*e*Sn	**Sn**	**04 35 24.4**	**-1.5**
	comp=E,10nm,0.2s						
PMTG	**Montargil**	**1.47**	**63**	*e*P	**Pn**	**04 35 10.7**	**+1.3**
PMTG				*e*S	**Sn**	**04 35 27.3**	**-0.3**
PMTG				A	A	04 35 31.5	
	comp=E,18nm,0.2s						
MORF	**Marmelete**	**1.48**	**137**	*e*P	**Pb**	**04 35 11.0**	**-0.9**
MORF				*e*S	**Sn**	**04 35 27.4**	**-0.5**
MORF				A	A	04 35 31.0	
	comp=E,32nm,0.1s						
MORF	**Marmelete**	**1.48**	**137**	P	**Pb**	**04 35 11.0**	**-0.9**
MORF				S	**Sn**	**04 35 27.4**	**-0.5**
	comp=E,32nm,0.1s						
MORF	**Marmelete**	**1.48**	**137**	*e*P	**Pb**	**04 35 11.0**	**-0.9**
MORF				S	**Sn**	**04 35 27.4**	**-0.5**
	comp=E,32nm,0.1s						
EVO	**Evora**	**1.49**	**85**	*e*Pn	**Pn**	**04 35 09.4**	**-0.3**
EVO				*e*Sn	Sn	04 35 24.4	-3.7
	comp=E,20nm,0.2s						
EVO	**Evora**	**1.49**	**85**	*e*P	**Pn**	**04 35 10.9**	**+1.2**
EVO				*e*S	**Sn**	**04 35 28.0**	**-0.1**
EVO				A	A	04 35 34.2	
	comp=E,15nm,0.2s						
EVO	**Evora**	**1.49**	**85**	P	**Pn**	**04 35 10.9**	**+1.2**
EVO				S	**Sn**	**04 35 28.0**	**-0.1**
	comp=E,15nm,0.2s						
EVO	**Evora**	**1.49**	**85**	*e*P	**Pn**	**04 35 10.9**	**+1.2**
EVO				S	**Sn**	**04 35 28.0**	**-0.1**
	comp=E,15nm,0.2s						
PFVI	**Vila Bisbo**	**1.53**	**146**	*e*P	**Pn**	**04 35 11.7**	**+1.5**
PFVI				*e*S	**Sn**	**04 35 28.8**	**-0.2**
PFVI				A	A	04 35 32.8	
	comp=E,17nm,0.1s						
PFVI	**Vila Bisbo**	**1.53**	**146**	⇓P	**Pn**	**04 35 11.7**	**+1.5**
	comp=E,3.8nm,0.1s,SNR=18						
PFVI				S	**Sn**	**04 35 28.8**	**-0.2**
	comp=E,15nm,0.1s,SNR=14						
PFVI	**Vila Bisbo**	**1.53**	**146**	P	**Pn**	**04 35 11.7**	**+1.5**
	comp=E,3.8nm,0.1s,SNR=18						
PFVI				S	**Sn**	**04 35 28.8**	**-0.2**
	comp=E,15nm,0.1s,SNR=14						
PBEJ	**Beja**	**1.65**	**103**	*e*P	**Pn**	**04 35 13.3**	**+1.4**
PBEJ				*e*S	**Sn**	**04 35 31.2**	**-0.8**
PBEJ				A	A	04 35 37.6	
	comp=E,5.9nm,0.1s						
PBEJ	**Beja**	**1.65**	**103**	P	**Pn**	**04 35 13.3**	**+1.4**
PBEJ				S	**Sn**	**04 35 31.2**	**-0.8**
	comp=E,3.0nm,0.1s						
PBEJ	**Beja**	**1.65**	**103**	*e*P	**Pn**	**04 35 13.3**	**+1.4**
PBEJ				S	**Sn**	**04 35 31.2**	**-0.8**
	comp=E,3.0nm,0.1s						
PCVE	**Castro Verde**	**1.66**	**117**	*e*P	**Pn**	**04 35 13.5**	**+1.5**
PCVE				*e*S	**Sn**	**04 35 32.2**	**-0.1**
PCVE				A	A	04 35 35.5	
	comp=E,11nm,0.2s						
PCVE	**Castro Verde**	**1.66**	**117**	P	**Pn**	**04 35 13.5**	**+1.5**
PCVE				S	**Sn**	**04 35 32.2**	**-0.1**
	comp=E,11nm,0.2s						
PCVE	**Castro Verde**	**1.66**	**117**	*e*P	**Pn**	**04 35 13.5**	**+1.5**
PCVE				S	**Sn**	**04 35 32.2**	**-0.1**
	comp=E,11nm,0.2s						
PTOM	**Tomar**	**1.68**	**43**	*e*P	**Pb**	**04 35 14.4**	**-0.9**
PTOM				*e*S	**Sn**	**04 35 34.0**	**+1.2**
PTOM				A	A	04 35 36.0	
	comp=E,12nm,0.1s						
PTOM	**Tomar**	**1.68**	**43**	P	**Pb**	**04 35 14.4**	**-0.9**
PTOM				S	**Sn**	**04 35 34.0**	**+1.2**
	comp=E,6.2nm,0.1s						
PTOM	**Tomar**	**1.68**	**43**	*e*P	**Pb**	**04 35 14.4**	**-0.9**
PTOM				S	**Sn**	**04 35 34.0**	**+1.2**
	comp=E,6.2nm,0.1s						
PESTR	**Estremoz**	**1.87**	**75**	*e*Pn	**Pn**	**04 35 16.0**	**+1.1**
PESTR				*e*Sn	**Sn**	**04 35 37.0**	**-0.5**
PESTR				A	A	04 35 42.8	
	comp=E,7.6nm,0.4s						
PESTR	**Estremoz**	**1.87**	**75**	P	**Pn**	**04 35 16.0**	**+1.1**
PESTR				S	**Sn**	**04 35 37.0**	**-0.5**
	comp=E,3.8nm,0.4s						
PESTR	**Estremoz**	**1.87**	**75**	P	**Pn**	**04 35 16.0**	**+1.1**
PESTR				S	**Sn**	**04 35 37.0**	**-0.5**
	comp=E,3.8nm,0.4s						
PBDV	**Barranco-do-Ve**	**1.95**	**126**	*e*Pn	**Pb**	**04 35 18.1**	**-1.7**
PBDV				*e*Sn	**Sn**	**04 35 39.7**	**+0.3**
PBDV				A	A	04 35 44.4	
	comp=E,6.3nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.95**	**126**	P	**Pb**	**04 35 18.1**	**-1.7**
PBDV				S	**Sn**	**04 35 39.7**	**+0.3**
	comp=E,6.3nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.95**	**126**	P	**Pb**	**04 35 18.1**	**-1.7**
PBDV				S	**Sn**	**04 35 39.7**	**+0.3**
	comp=E,6.3nm,0.2s						
PCAS	**Casmilo, Conde**	**1.98**	**33**	*e*Pn	**Pn**	**04 35 18.4**	**+2.0**
PCAS				*e*Sn	**Sn**	**04 35 40.9**	**+0.8**
PCAS				A	A	04 35 49.5	
	comp=E,6.2nm,0.3s						
PCAS	**Casmilo, Conde**	**1.98**	**33**	*e*Pn	**Pn**	**04 35 18.4**	**+2.0**
PCAS				*e*Sn	**Sn**	**04 35 40.9**	**+0.8**
	comp=E,6.2nm,0.3s						
PVAQ	**Vaqueiros**	**2.00**	**119**	*e*Pn	**Pn**	**04 35 18.3**	**+1.7**
PVAQ				*e*Sn	**Sn**	**04 35 40.1**	**-0.5**
PVAQ				A	A	04 35 44.6	
	comp=E,7.0nm,0.3s						
PVAQ	**Vaqueiros**	**2.00**	**119**	P	**Pn**	**04 35 18.3**	**+1.7**
PVAQ				S	**Sn**	**04 35 40.1**	**-0.5**
	comp=E,7.0nm,0.3s						
PVAQ	**Vaqueiros**	**2.00**	**119**	P	**Pn**	**04 35 18.3**	**+1.7**
PVAQ				S	**Sn**	**04 35 40.1**	**-0.5**
	comp=E,7.0nm,0.3s						
EGRO	**El Granado**	**2.10**	**114**	P	**Pn**	**04 35 19.4**	**+1.4**
	comp=E,0.8nm,0.1s,SNR=44						
EGRO				S	Sn	04 35 42.8	-0.3
	comp=E,2.3nm,0.0s,SNR=6.4						
EGRO	**El Granado**	**2.10**	**114**	P	**Pn**	**04 35 19.4**	**+1.4**
	comp=E,0.8nm,0.1s,SNR=44						
EGRO				S	Sn	04 35 42.8	-0.3
	comp=E,2.3nm,0.0s,SNR=6.4						
PMRV	**Marv??o**	**2.21**	**62**	*e*Pn	**Pn**	**04 35 20.9**	**+1.3**
PMRV				*e*Sn	**Sn**	**04 35 44.9**	**-1.0**
PMRV				A	A	04 35 45.9	
	comp=E,5.2nm,0.3s						
PMRV	**Marv??o**	**2.21**	**62**	P	**Pn**	**04 35 20.9**	**+1.3**
PMRV				S	**Sn**	**04 35 44.9**	**-1.0**
	comp=E,5.2nm,0.3s						
PMRV	**Marv??o**	**2.21**	**62**	P	**Pn**	**04 35 20.9**	**+1.3**
PMRV				S	**Sn**	**04 35 44.9**	**-1.0**
	comp=E,5.2nm,0.3s						
PBAR	**Barrancos**	**2.27**	**95**	*e*Pn	**Pn**	**04 35 22.1**	**+1.8**
PBAR				*e*Sn	**Sn**	**04 35 46.4**	**-0.8**
PBAR				A	A	04 35 58.6	
	comp=E,6.8nm,0.2s						
PBAR	**Barrancos**	**2.27**	**95**	P	**Pn**	**04 35 22.1**	**+1.8**
PBAR				S	**Sn**	**04 35 46.4**	**-0.8**
	comp=E,6.8nm,0.2s						
PBAR	**Barrancos**	**2.27**	**95**	P	**Pn**	**04 35 22.1**	**+1.8**
PBAR				S	**Sn**	**04 35 46.4**	**-0.8**
	comp=E,6.8nm,0.2s						
EBAD	**Badajoz**	**2.29**	**80**	P	**Pn**	**04 35 21.7**	**+1.0**
	comp=E,0.4nm,0.0s,SNR=10						
EBAD				S	Sn	04 35 47.0	-0.9
	comp=E,2.9nm,0.0s,SNR=14						
EBAD	**Badajoz**	**2.29**	**80**	P	**Pn**	**04 35 21.7**	**+1.0**
	comp=E,0.4nm,0.0s,SNR=10						
EBAD				S	Sn	04 35 47.0	-0.9
	comp=E,2.9nm,0.0s,SNR=14						
PCBR	**Castelo Branco**	**2.37**	**52**	*e*Sn	**Sn**	**04 35 48.3**	**-1.5**
PCBR				A	A	04 35 50.8	
	comp=E,2.4nm,0.1s						
PCBR	**Castelo Branco**	**2.37**	**52**	S	**Sn**	**04 35 48.3**	**-1.5**

	comp=E,1.2nm,0.1s							
PCBR	**Castelo Branco**	**2.37**	**52**	S	**Sn**	04 35 48.3	**-1.5**	
	comp=E,1.2nm,0.1s							
EMIN	**Mina Concepcio**	**2.63**	**103**	P	**Pn**	04 35 26.8	**+1.5**	
	comp=E,0.1nm,0.1s,SNR=7.3							
EMIN				S	**Sn**	04 35 55.3	**-0.9**	
	comp=E,0.4nm,0.0s,SNR=9.4							
EMIN	**Mina Concepcio**	**2.63**	**103**	P	**Pn**	04 35 26.8	**+1.5**	
	comp=E,0.1nm,0.1s,SNR=7.3							
EMIN				S	**Sn**	04 35 55.3	**-0.9**	
	comp=E,0.4nm,0.0s,SNR=9.4							
MTE	**Manteigas**	**2.71**	**42**	*e*Pn	**Pn**	04 35 28.0	**+1.6**	
MTE				*e*Sn	**Sn**	04 35 58.1	**0.0**	
MTE				A	A	04 36 00.7		
	comp=E,6.3nm,0.4s							
MTE	**Manteigas**	**2.71**	**42**	P	**Pn**	04 35 28.0	**+1.6**	
MTE				S	**Sn**	04 35 58.1	**0.0**	
	comp=E,3.2nm,0.4s							
MTE	**Manteigas**	**2.71**	**42**	P	**Pn**	04 35 28.0	**+1.6**	
MTE				S	**Sn**	04 35 58.1	**0.0**	
	comp=E,3.2nm,0.4s							
PVRL	**Vila Real**	**3.33**	**30**	*e*Sn	**Sn**	04 36 11.4	**-2.0**	
PVRL				A	A	04 36 14.4		
	comp=E,7.5nm,0.1s							
PVRL	**Vila Real**	**3.33**	**30**	S	**Sn**	04 36 11.4	**-2.0**	
	comp=E,3.8nm,0.1s							
PVRL	**Vila Real**	**3.33**	**30**	S	**Sn**	04 36 11.4	**-2.0**	
	comp=E,3.8nm,0.1s							
POLO	**Lamas de Olo**	**3.38**	**28**	*e*Pn	**Pn**	04 35 37.4	**+1.6**	
POLO				*e*Sn	**Sn**	04 36 12.9	**-2.0**	
POLO				A	A	04 36 15.5		
	comp=E,1.1nm,0.1s							
POLO	**Lamas de Olo**	**3.38**	**28**	*e*Pn	**Pn**	04 35 37.4	**+1.6**	
EPLA	**Plasencia**	**3.40**	**60**	P	**Pn**	04 35 37.3	**+1.3**	
	comp=E,0.4nm,0.1s,SNR=7.9							
EPLA				S	**Sn**	04 36 13.5	**-1.8**	
	comp=E,1.4nm,0.1s,SNR=7.4							
EPLA	**Plasencia**	**3.40**	**60**	P	**Pn**	04 35 37.3	**+1.3**	
	comp=E,0.4nm,0.1s,SNR=7.9							
EPLA				S	**Sn**	04 36 13.5	**-1.8**	
	comp=E,1.4nm,0.1s,SNR=7.4							
MVO	**Moncorvo**	**3.54**	**38**	*e*Pn	**Pn**	04 35 39.5	**+1.6**	
MVO				*e*Sn	**Sn**	04 36 16.9	**-1.8**	
MVO				A	A	04 36 19.4		
	comp=E,6.7nm,0.2s							
MVO	**Moncorvo**	**3.54**	**38**	P	**Pn**	04 35 39.4	**+1.6**	
	comp=E,1.3nm,0.1s,SNR=5.7							
MVO				S	**Sn**	04 36 17.1	**-1.6**	
	comp=E,2.0nm,0.1s,SNR=13							
MVO	**Moncorvo**	**3.54**	**38**	*e*Pn	**Pn**	04 35 39.5	**+1.6**	
MVO				S	**Sn**	04 36 17.1	**-1.6**	
	comp=E,2.0nm,0.1s,SNR=13							
ECAB	**El Cabril**	**3.55**	**94**	P	**Pn**	04 35 39.9	**+1.9**	
	comp=E,1.9nm,0.1s,SNR=28							
ECAB				S	**Sn**	04 36 17.9	**-1.0**	
	comp=E,1.7nm,0.2s,SNR=12							
ECAB	**El Cabril**	**3.55**	**94**	P	**Pn**	04 35 39.9	**+1.9**	
	comp=E,1.9nm,0.1s,SNR=28							
ECAB				S	**Sn**	04 36 17.9	**-1.0**	
	comp=E,1.7nm,0.2s,SNR=12							
ESPR	**Espera**	**3.56**	**114**	P	Pn	04 35 41.5	+3.4	
	comp=E,0.6nm,0.1s,SNR=4.0							
ESPR				S	**Sn**	04 36 18.0	**-1.1**	
	comp=E,0.7nm,0.2s,SNR=4.0							
ESPR	**Espera**	**3.56**	**114**	P	Pn	04 35 41.5	+3.4	
	comp=E,0.6nm,0.1s,SNR=4.0							
ESPR				S	**Sn**	04 36 18.0	**-1.1**	
	comp=E,0.7nm,0.2s,SNR=4.0							
PCAB	**Cabril**	**3.60**	**23**	*e*Sn	**Sn**	04 36 18.3	**-1.9**	
PCAB				A	A	04 36 23.0		
	comp=E,4.2nm,0.1s							
PCAB	**Cabril**	**3.60**	**23**	S	**Sn**	04 36 18.3	**-1.9**	
	comp=E,2.1nm,0.1s							
PCAB	**Cabril**	**3.60**	**23**	S	**Sn**	04 36 18.3	**-1.9**	
	comp=E,2.1nm,0.1s							
ELOB	**Lobios**	**3.74**	**22**	P	**Pn**	04 35 41.8	**+1.2**	
	comp=E,0.3nm,0.1s,SNR=4.0							
ELOB				S	**Sn**	04 36 21.3	**-2.3**	
	comp=E,1.7nm,0.1s,SNR=9.0							
ELOB	**Lobios**	**3.74**	**22**	P	**Pn**	04 35 41.8	**+1.2**	
	comp=E,0.3nm,0.1s,SNR=4.0							
ELOB				S	**Sn**	04 36 21.3	**-2.3**	
	comp=E,1.7nm,0.1s,SNR=9.0							
PGAV	**Gavieira, Arco**	**3.77**	**19**	*e*Pn	**Pn**	04 35 42.9	**+1.8**	
PGAV				*e*Sn	**Sn**	04 36 22.8	**-1.7**	
PGAV				A	A	04 36 26.0		
	comp=E,4.0nm,0.2s							
PGAV	**Gavieira, Arco**	**3.77**	**19**	*e*Pn	**Pn**	04 35 42.9	**+1.8**	
PBRG	**Braganca**	**4.17**	**35**	*e*Pn	**Pn**	04 35 48.4	**+1.8**	
PBRG				*e*Sn	**Sn**	04 36 31.9	**-2.4**	
PBRG				A	A	04 36 34.6		
	comp=E,5.6nm,0.2s							
PBRG	**Braganca**	**4.17**	**35**	P	**Pn**	04 35 48.4	**+1.8**	
PBRG				S	**Sn**	04 36 31.9	**-2.4**	
	comp=E,2.8nm,0.2s							
PBRG	**Braganca**	**4.17**	**35**	P	**Pn**	04 35 48.4	**+1.8**	
PBRG				S	**Sn**	04 36 31.9	**-2.4**	
	comp=E,2.8nm,0.2s							
EADA	**Adamuz**	**4.20**	**92**	P	**Pn**	04 35 48.6	**+1.7**	
	comp=E,0.7nm,0.1s,SNR=7.9							
EADA				S	**Sn**	04 36 32.4	**-2.6**	
	comp=E,1.6nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**4.20**	**92**	P	**Pn**	04 35 48.6	**+1.7**	
	comp=E,0.7nm,0.1s,SNR=7.9							
EADA				S	**Sn**	04 36 32.4	**-2.6**	
	comp=E,1.6nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**4.29**	**33**	P	**Pn**	04 35 50.0	**+1.8**	
	comp=E,0.1nm,0.1s,SNR=7.9							
ECAL				S	**Sn**	04 36 35.4	**-1.7**	
	comp=E,1.8nm,0.1s,SNR=7.9							
ECAL	**Calabor**	**4.29**	**33**	P	**Pn**	04 35 50.0	**+1.8**	
	comp=E,0.1nm,0.1s,SNR=7.9							
ECAL				S	**Sn**	04 36 35.4	**-1.7**	
	comp=E,1.8nm,0.1s,SNR=7.9							
EMAZ	**Mazaricos**	**4.59**	**9**	P	**Pn**	04 35 53.4	**+1.1**	
	comp=E,0.2nm,0.1s,SNR=7.9							
EMAZ				S	Sn	04 36 41.0	-3.6	
	comp=E,2.4nm,0.1s,SNR=7.9							
EMAZ	**Mazaricos**	**4.59**	**9**	P	**Pn**	04 35 53.4	**+1.1**	
	comp=E,0.2nm,0.1s,SNR=7.9							
SJPF	**Ste Jean**	**8.09**	**52**	*e*Pn	Pn	04 36 37.9	-2.5	
SJPF				*e*Sn	Sn	04 38 01.2	-10	
	comp=E,0.4nm,0.3s							
ETSF	**Etsaut**	**8.40**	**55**	*e*Pn	Pn	04 36 42.5	-2.2	
EPF	**Esparros**	**9.05**	**56**	*e*Pn	Pn	04 36 51.0	-2.5	

IDC 19 04:58:33.0±0.8,3°.23N×126°.94E,h0km,mb3.9/11, mb1 4.1/11,mb1mx3.9/24,mbtmp4.0/11,MS3.4/1, Ms1 3.4/1,ms1mx2.7/34,Error ellipse: s-maj=40.4km s-min=14.6km az=70.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.23**	**183**	P	P	05 03 20.8	0.0
	1.7nm,0.5s,baz=33,slow=7.1,SNR=14						
WRA	**Warramunga Arr**	**24.15**	**163**	P	P	05 03 50.9	-0.2
	2.4nm,0.4s,baz=339,slow=10,SNR=20						
ASAR	**Alice Springs**	**27.58**	**166**	P	P	05 04 22.4	+0.3
	0.4nm,0.5s,baz=348,slow=7.0,SNR=6.5						
CMAR	**Chiang Mai Arr**	**31.31**	**301**	P	P	05 04 56.3	+1.0
	0.8nm,0.3s,baz=105,slow=6.6,SNR=3.3						
HNR	**Honiara**	**35.21**	**111**	LR	LR	05 19 11.1	
	comp=Z,53nm,18.7s,baz=353,slow=35						
STKA	**Stephens Creek**	**37.59**	**159**	P	P	05 05 49.4	-0.1
	2.4nm,0.7s,baz=335,slow=6.3,SNR=8.3						
SONM	**Songino Array**	**47.84**	**341**	P	P	05 07 13.1	+0.4
	0.4nm,0.4s,baz=147,slow=8.2,SNR=3.3						
PETK	**Petropavlovsk-**	**55.81**	**22**	P	P	05 08 12.1	+0.1
	1.4nm,0.6s,baz=202,slow=6.9,SNR=3.7						
MKAR	**Makanchi Array**	**58.09**	**325**	P	P	05 08 28.2	-0.1
	1.1nm,0.6s,baz=116,slow=8.4,SNR=12						
ZALV	**Zalesovo Beam**	**61.13**	**333**	P	P	05 08 48.8	-0.3
	0.7nm,0.3s,baz=126,slow=9.3,SNR=4.3						
KBZ	**Khabaz**	**83.47**	**313**	P	P	05 11 01.9	-1.0
	1.3nm,0.4s,baz=166,slow=4.2,SNR=3.8						
BRTR	**Keskin Array B**	**90.50**	**310**	P	P	05 11 36.5	-1.0
	0.6nm,0.8s,baz=99,slow=4.5,SNR=3.5						
TORD	**Torodi Ar. Bea**	**123.28**	**288**	PKP	PKPdf	05 17 33.7	+0.6
	0.4nm,0.8s,baz=110,slow=1.7,SNR=4.7						

IDC 19 05:12:51.3±1.7,12°.82S×166°.56E,h0km,mb3.6/4, mb1 3.8/5,mb1mx3.6/20,mbtmp3.7/5,ML3.3/1,Error ellipse: s-maj=52.8km s-min=30.2km az=124.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.20**	**181**	Pn	Pn	05 15 06.2	+0.7
	0.3nm,0.3s,baz=52,slow=14,SNR=3.0						
WRA	**Warramunga Arr**	**31.67**	**253**	P	P	05 19 16.7	-0.1
	0.5nm,1.0s,baz=84,slow=8.4,SNR=3.1						
ASAR	**Alice Springs**	**32.76**	**246**	P	P	05 19 25.4	-0.9
	0.5nm,0.9s,baz=79,slow=9.6,SNR=4.2						
ILAR	**Eielson Array**	**84.94**	**18**	P	P	05 25 27.3	-0.7
	0.2nm,0.8s,baz=231,slow=5.7,SNR=3.3						
MKAR	**Makanchi Array**	**95.36**	**317**	P	P	05 26 19.0	+1.3
	0.2nm,0.5s,baz=112,slow=6.9,SNR=3.5						

*ISCJB **19** 05:32:41.0±0.6,54°.1S±0°.1×132°.3W±0°.2,h10km,mb4.3/14, MS3.8/7,Error ellipse: s-maj=21.2km s-min=15.1km az=150.3*

*IDC **19** 05:32:41.3±0.9,54°.13S×132°.54W,h0km,mb4.1/7, mb1 4.3/7,mb1mx4.1/15,mbtmp4.1/7,MS3.8/7,Ms1 3.8/7, ms1mx3.6/18,Error ellipse: s-maj=33.7km s-min=24.5km az=146.0*

*NEIC **19** 05:32:42.5±0.6,54°.06S×132°.32W,h10km,mb4.5/6,Error ellipse: s-maj=22.4km s-min=16.6km az=146.0*

ISC 19 05:32:42.7±0.7,54°.1S±0°.2×132°.4W±0°.1,h10km,n47, σ1$23/26,mb4.4/14,MS3.8/7,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**31.03**	**355**	*e*LQ	LQ	05 46 11.3	
	319nm,35.5s						
RKT				*e*LR	LR	05 47 10.3	
	138nm,28.2s						
RKT	**Rikitea**	**31.03**	**355**	*e*T	T	06 11 37.2	
	2.3nm,0.3s						
SBA	**Scott Base**	**31.70**	**201**	*e*P	**P**	**05 39 07.7**	**+1.8**
	2.4nm,1.2s						
VNDA	**Vanda**	**32.69**	**202**	*e*P	**P**	**05 39 16.6**	**+2.1**
VNDA	**Vanda**	**32.69**	**202**	P	**P**	**05 39 15.4**	**+0.9**
	0.7nm,0.8s,baz=94,slow=8.2,SNR=4.0						
VNDA				LR	LR	05 51 11.7	
	comp=Z,71nm,18.2s,baz=61,slow=34						
TBI	**Tubuai**	**33.33**	**331**	*e*LR	LR	05 48 06.5	
	184nm,28.8s,baz=161						
TBI	**Tubuai**	**33.33**	**331**	*e*T	T	06 14 33.7	
	23nm,0.3s						
QSPA	**South Pole Qui**	**36.04**	**180**	*e*P	**P**	**05 39 44.3**	**+0.4**
QSPA	**South Pole Qui**	**36.04**	**180**	P	**P**	**05 39 44.2**	**+0.4**
	2.1nm,1.0s						
PPT2	**Papeete2**	**38.83**	**333**	*e*LR	LR	05 50 52.7	
	160nm,25.5s						
PPT	**Papeete**	**38.85**	**333**	LR	LR	05 51 44.0	
	comp=Z,119nm,21.6s,baz=185,slow=30						
VAH	**Vaihoa**	**40.61**	**337**	*e*T	T	06 23 38.6	
	7.7nm,0.3s						
H03N3	**Juan Fernandez**	**42.54**	**83**	T	T	06 25 48.4	
	baz=224,slow=0.7,SNR=15						
H03N2	**Juan Fernandez**	**42.55**	**83**	T	T	06 25 50.4	
	baz=224,slow=0.7,SNR=16						
H03N1	**Juan Fernandez**	**42.56**	**83**	T	T	06 25 50.2	
	baz=224,slow=0.7,SNR=14						
SNAA	**Sanae**	**49.57**	**161**	*e*P	**P**	**05 41 31.6**	**-1.7**
CPUP	**Villa Florida**	**60.45**	**95**	LR	LR	06 03 50.3	
	comp=Z,71nm,21.9s,baz=22,slow=31						
LPAZ	**La Paz**	**61.89**	**79**	*e*P	**P**	**05 43 03.6**	**+0.6**
LPAZ	**La Paz**	**61.89**	**79**	P	**P**	**05 43 03.1**	**+0.1**
	1.1nm,0.9s,baz=275,slow=8.0,SNR=4.1						
LPAZ				LR	LR	06 03 37.8	
	comp=Z,43nm,21.4s,baz=67,slow=30						
STKA	**Stephens Creek**	**62.65**	**253**	*e*P	**P**	**05 43 08.0**	**+0.7**
STKA	**Stephens Creek**	**62.65**	**253**	P	**P**	**05 43 06.2**	**-1.1**
	4.0nm,0.9s,baz=149,slow=6.5,SNR=6.4						
STKA				LR	LR	06 04 58.5	
	comp=Z,134nm,19.9s,baz=206,slow=31						
CTAO	**Charters Tower**	**68.97**	**265**	*e*P	**P**	**05 43 47.0**	**-1.1**
	5.7nm,0.8s						
SAML	**Samuel**	**70.63**	**78**	*e*P	**P**	**05 43 57.0**	**-1.3**
	2.5nm,1.0s						
ASAR	**Alice Springs**	**73.29**	**253**	P	**P**	**05 44 14.2**	**-0.2**
ASAR	**Alice Springs**	**73.29**	**253**	P	**P**	**05 44 14.2**	**-0.2**
	3.3nm,0.8s,baz=141,slow=6.2,SNR=32						
H01W1	**Cape Leeuwin H**	**74.48**	**231**	T	T	07 06 51.6	
	baz=145,slow=0.7,SNR=12						
H01W2	**Cape Leeuwin H**	**74.49**	**231**	T	T	07 06 55.5	
	baz=145,slow=0.7,SNR=12						
H01W3	**Cape Leeuwin H**	**74.50**	**231**	T	T	07 06 51.9	
	baz=145,slow=0.7,SNR=11						
NWAO	**Narrogin (SRO)**	**74.65**	**235**	*e*P	**P**	**05 44 22.7**	**+0.7**
	16nm,1.0s						
WRA	**Warramunga Arr**	**75.98**	**255**	P	**P**	**05 44 29.7**	**-0.3**
WRA	**Warramunga Arr**	**75.98**	**255**	P	**P**	**05 44 29.7**	**-0.3**
	4.3nm,0.9s,baz=144,slow=5.2,SNR=18						
WRAB	**Tennant Creek**	**75.99**	**255**	*e*P	**P**	**05 44 30.0**	**+0.1**
	2.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**82.34**	**250**	*e*P	**P**	**05 45 05.1**	**+0.4**
	3.0nm,0.9s						
FITZ	**Fitzroy Crossi**	**82.34**	**250**	LR	LR	06 16 59.0	
	comp=Z,114nm,18.6s,baz=314,slow=32						
TXAR	**Lajitas Array**	**86.75**	**25**	P	**P**	**05 45 28.8**	**+2.1**
TXAR	**Lajitas Array**	**86.75**	**25**	P	**P**	**05 45 28.8**	**+2.1**
	0.8nm,0.8s,baz=198,slow=8.9,SNR=8.3						
H11S2	**WAKE ISLAND Hy**	**89.06**	**304**	T	T	07 24 27.2	
	baz=151,slow=0.7,SNR=5.9						
H11S3	**WAKE ISLAND Hy**	**89.07**	**304**	T	T	07 24 38.2	
	baz=151,slow=0.7,SNR=5.4						
H11S1	**WAKE ISLAND Hy**	**89.08**	**304**	T	T	07 24 41.0	
	baz=151,slow=0.7,SNR=5.8						
GRTK	**Grand Turk**	**91.77**	**55**	*e*P	**P**	**05 45 49.9**	**-0.5**
	25nm,0.6s						
BOSA	**Boshof**	**95.35**	**160**	LR	LR	06 22 40.6	
	comp=Z,47nm,20.2s,baz=167,slow=31						
CMAR	**Chiang Mai Arr**	**127.14**	**248**	PKP	**PKPdf**	**05 51 45.0**	**-2.0**
CMAR	**Chiang Mai Arr**	**127.14**	**248**	PKP	**PKPdf**	**05 51 45.0**	**-2.0**
	0.7nm,0.4s,baz=170,slow=1.6,SNR=4.5						
SONM	**Songino Array**	**143.43**	**285**	PKP	PKPbc	05 52 14.2	+0.3
SONM	**Songino Array**	**143.43**	**285**	PKP	PKPbc	05 52 14.2	+0.3
	2.3nm,0.9s,baz=131,slow=3.1,SNR=9.5						
MKAR	**Makanchi Array**	**156.94**	**266**	PKPab	**PKPab**	**05 53 07.5**	**-0.2**
MKAR	**Makanchi Array**	**156.94**	**266**	PKPab	**PKPab**	**05 53 07.5**	**-0.2**
	2.2nm,0.8s,baz=115,slow=5.5,SNR=18						

*NEIC **19** 06:24:08.4,16°.88N×94°.47W,h119km,MD4.1(MEX),After MEX.*

MEX 19 06:24:08.4±0.9,16°.88N×94°.47W,h119km±13km,MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**1.30**	**94**	*e*P	Pn	06 24 32.4	-1.1
TGIG				*i* S	Sn	06 24 50.3	-2.3
TGIG		**1.30**	**94**	*e*P	Pn	06 24 32.4	-1.1
TGIG				*i* S	Sn	06 24 50.3	-2.3
PCIG		**1.68**	**134**	*e*P	Pn	06 24 36.9	-1.0
PCIG				*i* S	Sn	06 24 58.6	-1.6
PCIG		**1.68**	**134**	*e*P	Pn	06 24 36.9	-1.0
PCIG				*i* S	Sn	06 24 58.6	-1.6
HUIG	**Huatulco**	**1.92**	**235**	*i* P	Pn	06 24 38.8	-2.0
HUIG				*e*S	Sn	06 25 04.5	-1.1
HUIG	**Huatulco**	**1.92**	**235**	*i* P	Pn	06 24 38.8	-2.0
HUIG				*e*S	Sn	06 25 04.5	-1.1
VHO	**Vista Hermosa**	**2.17**	**275**	*e*P	Pn	06 24 43.6	-0.7
VHO				*i* S	Sn	06 25 09.8	-1.8
VHO	**Vista Hermosa**	**2.17**	**275**	*e*P	Pn	06 24 43.6	-0.7
VHO				*i* S	Sn	06 25 09.8	-1.8
CCIG	**Comitan**	**2.32**	**104**	*e*P	Pn	06 24 45.0	-1.0
CCIG				*i* S	Sn	06 25 12.4	-2.5
CCIG	**Comitan**	**2.32**	**104**	*e*P	Pn	06 24 45.0	-1.0
CCIG				*i* S	Sn	06 25 12.4	-2.5
TPIG	**Tehuac#an**	**3.15**	**300**	*e*P	Pn	06 24 55.8	-1.2
TPIG				*e*S	Sn	06 25 33.3	-1.1
TPIG	**Tehuac#an**	**3.15**	**300**	*e*P	Pn	06 24 55.8	-1.2
TPIG				*e*S	Sn	06 25 33.3	-1.1
UTMO	**Huajuapan**	**3.32**	**287**	*e*P	Pn	06 24 58.5	-0.6
UTMO				*e*S	Sn	06 25 36.1	-2.3
UTMO	**Huajuapan**	**3.32**	**287**	*e*P	Pn	06 24 58.5	-0.6
UTMO				*e*S	Sn	06 25 36.1	-2.3
PNIG	**Pinotepa**	**3.54**	**263**	*e*P	Pn	06 24 60.0	-1.9
PNIG				*e*S	Sn	06 25 41.0	-2.1
PNIG	**Pinotepa**	**3.54**	**263**	*e*P	Pn	06 24 60.0	-1.9
PNIG				*e*S	Sn	06 25 41.0	-2.1
TLIG	**Tlapa**	**3.97**	**280**	*e*P	Pn	06 25 07.1	-0.6
TLIG				*e*S	Sn	06 25 51.3	-2.5

WEL 19 06:28:52.7±0.4,38°.48S×175°.86E,h159km±3km,ML3.6/11, 1C-1D,Error ellipse: s-maj=2.6km s-min=2.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVZ	**Karewarewa**	**0.64**	**196**	PN	Pn	06 29 15.7	-0.2
WTVZ	**West Tongariro**	**0.68**	**198**	PN	Pn	06 29 16.1	0.0
TWVZ	**Taurewa**	**0.68**	**209**	PN	Pn	06 29 16.1	-0.1
NGZ	**Ngauruhoe**	**0.73**	**196**	PN	Pn	06 29 16.5	0.0
WPVZ	**Whakapapa**	**0.77**	**199**	PN	Pn	06 29 16.8	0.0
TUVZ	**Tukino**	**0.81**	**192**	⇑PN	Pn	06 29 17.1	+0.1
FWVZ	**Far West T-bar**	**0.82**	**197**	PN	Pn	06 29 17.0	-0.2
WHVZ	**Whangaehu Hut**	**0.83**	**195**	PN	Pn	06 29 17.1	-0.2
BKZ	**Black Stump Fm**	**0.85**	**145**	PN	Pn	06 29 17.3	+0.1
BKZ				SN	Sn	06 29 35.3	-0.8
BKZ				AML	AML	06 29 36.7	
TRVZ	**Turoa**	**0.86**	**197**	PN	Pn	06 29 17.3	-0.2
WNVZ	**Wahianoa**	**0.88**	**194**	PN	Pn	06 29 17.5	0.0
MTVZ	**Mangateitei**	**0.96**	**199**	PN	Pn	06 29 18.0	-0.1
URZ	**Urewera**	**1.00**	**78**	PN	Pn	06 29 18.0	-0.3
URZ				AML	AML	06 29 37.2	
URZ				AML	AML	06 29 38.2	
BHHZ	**Black Hill Sta**	**1.02**	**171**	PN	Pn	06 29 18.3	-0.2
BHHZ				SN	Sn	06 29 37.7	-0.8
RAHZ	**Arahi**	**1.05**	**115**	PN	Pn	06 29 19.4	+0.6
RAHZ				SN	Sn	06 29 39.2	+0.5
MWZ	**Matawai**	**1.31**	**84**	PN	Pn	06 29 21.0	-0.1
MWZ				SN	Sn	06 29 42.1	-0.9
MWZ				AML	AML	06 29 43.6	
WAZ	**Wanganui**	**1.45**	**208**	PN	Pn	06 29 22.0	-0.4
WAZ				SN	Sn	06 29 45.1	-0.3
KNZ	**Kokohu**	**1.52**	**112**	PN	Pn	06 29 23.4	+0.4
KAHZ	**Kahuranaki**	**1.54**	**149**	PN	Pn	06 29 23.7	+0.4
TSZ	**Takapari Road**	**1.58**	**177**	PN	Pn	06 29 23.4	-0.4
TSZ				AML	AML	06 29 48.3	
WPHZ	**Waipukurau**	**1.65**	**164**	PN	Pn	06 29 24.1	-0.4
MHGZ	**Mahia Peninsul**	**1.73**	**114**	PN	Pn	06 29 25.9	+0.5
PXZ	**Pawanui**	**1.74**	**154**	PN	Pn	06 29 25.1	-0.2
DVHZ	**Dannevirke**	**1.84**	**173**	PN	Pn	06 29 25.7	-0.8
PRHZ	**Porangahau**	**1.89**	**162**	PN	Pn	06 29 26.7	-0.4
POWZ	**Post Office Ro**	**1.92**	**182**	PN	Pn	06 29 26.4	-1.0
PUZ	**Puketiti**	**1.93**	**79**	PN	Pn	06 29 27.1	-0.4
PUZ				SN	Sn	06 29 52.7	-1.7
PUZ				AML	AML	06 29 53.6	
PRWZ	**Pori Road**	**2.08**	**178**	PN	Pn	06 29 28.5	-0.8
MXZ	**Matakaoa Point**	**2.13**	**65**	PN	Pn	06 29 29.8	-0.1
MRZ	**Mangatainoka R**	**2.19**	**186**	PN	Pn	06 29 29.1	-1.5
MRZ				AML	AML	06 29 59.0	
MRZ				AML	AML	06 29 59.2	
BFZ	**Birch Farm**	**2.22**	**172**	PN	Pn	06 29 29.8	-1.1
TIWZ	**Tintock**	**2.30**	**180**	PN	Pn	06 29 30.5	-1.3
OGWZ	**Otaki Gorge**	**2.40**	**193**	PN	Pn	06 29 31.4	-1.6
HOWZ	**Holdsworth Sta**	**2.44**	**186**	PN	Pn	06 29 31.6	-1.9
KIWZ	**Kapiti Island**	**2.50**	**197**	⇓PN	Pn	06 29 32.1	-2.1
TMWZ	**Te Maipa**	**2.63**	**180**	PN	Pn	06 29 33.9	-1.9
MTWZ	**Mount Morrison**	**2.69**	**186**	PN	Pn	06 29 34.3	-2.3
CAW	**Cannon Point**	**2.70**	**193**	PN	Pn	06 29 34.5	-2.2
CAW				AML	AML	06 30 08.6	
CAW				AML	AML	06 30 08.6	
DUWZ	**D'Urville Isla**	**2.77**	**212**	PN	Pn	06 29 35.1	-2.4
TRWZ	**Traveller**	**2.92**	**183**	PN	Pn	06 29 37.0	-2.5
TRWZ				AML	AML	06 30 14.2	
MSWZ	**Moikau Station**	**2.97**	**189**	PN	Pn	06 29 37.4	-2.7
MSWZ				AML	AML	06 30 14.4	
MSWZ				AML	AML	06 30 14.4	
TCW	**Tory Channel**	**3.00**	**204**	PN	Pn	06 29 37.9	-2.4
TCW				AML	AML	06 30 14.3	
TCW				AML	AML	06 30 15.2	
PLWZ	**Palliser**	**3.13**	**188**	PN	Pn	06 29 39.1	-2.9
TUWZ	**Tuamarina**	**3.30**	**206**	PN	Pn	06 29 41.2	-3.0
TUWZ				AML	AML	06 30 21.3	
NNZ	**Nelson**	**3.34**	**214**	PN	Pn	06 29 41.5	-3.1
THZ	**Tophouse**	**3.99**	**214**	PN	Pn	06 29 50.0	-2.3
LTZ	**Lake Taylor**	**5.10**	**211**	PN	Pn	06 30 03.5	-4.1
**OXZ

Ms1 3.5/4,ms1mx3.1/35,Error ellipse: s-maj=34.0km s-min=15.9km az=100.0

NEIC ***19*** *06:43:33.9±0.4, 12°.26N×143°.64E, h10km,mb4.1/3,Error ellipse: s-maj=15.7km s-min=8.3km az=107.0*

ISCJB ***19*** *06:43:34.5±0.5,12°.23N±0°.08×143°.6E±0°.1,h25km, mb4.1/14,MS3.3/4,Error ellipse: s-maj=17.3km s-min=7.8km az=33.3*

ISC 19 06:43:36.1±0.6, 12°.3N±0°.1×143°.7E±0°.1, h25km, n39, σ0s85/30, mb4.2/14, MS3.3/4, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.75**	**40**	*e*Pn	**Pn**	**06 44 05.1**	**+0.3**
GUMO				*e*Sn	**Sb**	**06 44 28.2**	**-0.9**
H11S3	**WAKE ISLAND Hy**	**23.00**	**71**	T	T	07 12 43.6	
	SNR=9.1						
H11S1	**WAKE ISLAND Hy**	**23.01**	**71**	T	T	07 12 34.5	
	SNR=7.0						
H11S2	**WAKE ISLAND Hy**	**23.01**	**72**	T	T	07 12 44.1	
	SNR=8.5						
H11N1	**WAKE ISLAND Hy**	**23.47**	**69**	T	T	07 13 15.4	
	baz=258,slow=0.7,SNR=21						
H11N2	**WAKE ISLAND Hy**	**23.48**	**69**	T	T	07 13 14.7	
	baz=258,slow=0.7,SNR=15						
H11N3	**WAKE ISLAND Hy**	**23.49**	**69**	T	T	07 13 17.2	
	baz=258,slow=0.7,SNR=15						
MJAR	**Matsushiro Arr**	**24.69**	**349**	LR	LR	06 56 18.6	
	comp=Z,63nm,18.7s,baz=165,slow=31						
ASAJ	**Asahikawa**	**31.77**	**358**	LR	LR	07 02 03.8	
	comp=Z,53nm,19.4s,baz=167,slow=35						
WRAB	**Tennant Creek**	**33.28**	**196**	*e*P	**P**	**06 50 12.5**	**+0.7**
	3.9nm,0.6s						
WRA	**Warramunga Arr**	**33.29**	**196**	P	**P**	**06 50 12.4**	**+0.5**
WRA	**Warramunga Arr**	**33.29**	**196**	P	**P**	**06 50 12.4**	**+0.5**
	3.1nm,0.6s,baz=20,slow=9.7,SNR=42						
FITZ	**Fitzroy Crossi**	**35.03**	**211**	*e*P	**P**	**06 50 25.5**	**-1.5**
FITZ	**Fitzroy Crossi**	**35.03**	**211**	P	**P**	**06 50 24.6**	**-2.5**
	1.7nm,0.3s,baz=28,slow=12,SNR=21						
ASAR	**Alice Springs**	**36.96**	**195**	P	**P**	**06 50 43.8**	**+0.3**
ASAR	**Alice Springs**	**36.96**	**195**	P	**P**	**06 50 43.8**	**+0.3**
	0.6nm,0.5s,baz=24,slow=12,SNR=8.8						
PETK	**Petropavlovsk-**	**42.27**	**13**	LR	LR	07 06 33.9	
	comp=Z,50nm,19.1s,baz=5.2,slow=33						
CMAR	**Chiang Mai Arr**	**43.52**	**284**	LR	LR	07 09 24.1	
	comp=Z,56nm,19.2s,baz=200,slow=36						
STKA	**Stephens Creek**	**43.92**	**183**	*e*P	**P**	**06 51 41.4**	**+0.5**
STKA	**Stephens Creek**	**43.92**	**183**	P	**P**	**06 51 40.2**	**-0.7**
	1.7nm,0.6s,baz=8.7,slow=6.0,SNR=5.3						
SONM	**Songino Array**	**47.19**	**326**	P	**P**	**06 52 07.7**	**+0.8**
SONM	**Songino Array**	**47.19**	**326**	P	**P**	**06 52 07.7**	**+0.8**
	0.5nm,0.6s,baz=154,slow=7.1,SNR=3.2						
MK31	**Makanchi Array**	**61.67**	**317**	*e*P	**P**	**06 53 51.7**	**-0.4**
MKAR	**Makanchi Array**	**61.67**	**317**	P	**P**	**06 53 52.5**	**+0.4**
MKAR	**Makanchi Array**	**61.67**	**317**	P	**P**	**06 53 52.5**	**+0.4**
	0.5nm,0.6s,baz=89,slow=9.4,SNR=4.6						
ILAR	**Eielson Array**	**70.26**	**25**	P	**P**	**06 54 46.2**	**-0.7**
ILAR	**Eielson Array**	**70.26**	**25**	P	**P**	**06 54 46.2**	**-0.7**
	0.4nm,0.4s,baz=251,slow=5.7,SNR=22						
PAX	**Paxson**	**70.48**	**27**	*e*P	**P**	**06 54 49.2**	**+0.8**
	1.0nm,0.6s						
ABKAR	**Akbulak array**	**76.77**	**318**	*e*P	**P**	**06 55 25.2**	**-0.4**
	0.3nm,0.3s						
YKA	**Yellowknife Ar**	**84.56**	**27**	P	**P**	**06 56 07.0**	**+0.1**
YKA	**Yellowknife Ar**	**84.56**	**27**	P	**P**	**06 56 07.0**	**+0.1**
	1.0nm,0.5s,baz=286,slow=6.3						
ARCES	**ARCESS Array B**	**88.00**	**342**	P	**P**	**06 56 23.8**	**0.0**
ARCES	**ARCESS Array B**	**88.00**	**342**	P	**P**	**06 56 23.8**	**0.0**
	1.4nm,0.8s,baz=74,slow=6.7,SNR=3.1						
NVAR	**Mina Array Bea**	**88.64**	**51**	P	**P**	**06 56 28.7**	**+1.0**
NVAR	**Mina Array Bea**	**88.64**	**51**	P	**P**	**06 56 28.7**	**+1.0**
	1.0nm,0.7s,baz=268,slow=6.5,SNR=8.0						
FINES	**FINESS Array B**	**91.89**	**335**	P	**P**	**06 56 40.9**	**-1.1**
FINES	**FINESS Array B**	**91.89**	**335**	P	**P**	**06 56 40.9**	**-1.1**
	1.5nm,0.6s,baz=66,slow=3.5,SNR=8.2						
LPAZ	**La Paz**	**148.90**	**101**	PKPbc	**PKPbc**	**07 03 23.1**	**-0.4**
LPAZ	**La Paz**	**148.90**	**101**	PKPbc	**PKPbc**	**07 03 23.1**	**-0.4**
	1.7nm,0.9s,baz=310,slow=2.6,SNR=5.9						

IDC 19 06:47:00.8±3.4, 4°.42S×137°.68E, h0km, mb3.5/1, mb1 3.9/3, mb1mx3.6/16, mbtmp3.7/3, ML3.8/1, MS2.9/1, Ms1 2.9/1, ms1mx2.6/22, Error ellipse: s-maj=126.7km s-min=28.5km az=87.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.77**	**192**	Pn	Pn	06 50 46.0	+1.6
	0.4nm,0.3s,baz=14,slow=12,SNR=11						
WRA				Sn	Sn	06 53 27.9	-12
	0.1nm,0.3s,baz=19,slow=23,SNR=3.0						
WRA				Lg	Lg	06 55 18.8	
	baz=12,slow=29,SNR=4.7						
WRA				LR	LR	06 56 01.1	
	comp=Z,43nm,21.6s,baz=145,slow=34						
ASAR	**Alice Springs**	**19.48**	**190**	P	P	06 51 29.4	-0.1
	0.2nm,0.3s,baz=19,slow=9.6,SNR=8.0						
ASAR				S	Sn	06 54 55.4	-15
	0.1nm,0.3s,baz=17,slow=23,SNR=3.6						
ASAR				Lg	Lg	06 57 11.1	
	baz=5.7,slow=26,SNR=4.6						
MKAR	**Makanchi Array**	**70.52**	**323**	P	P	06 58 17.5	-0.1
	0.4nm,0.7s,baz=115,slow=6.8,SNR=4.2						

ISCJB ***19*** *07:28:06.6±0.3,21°.60N±0°.04×142°.88E±0°.09,h311km, mb4.0/34, Error ellipse: s-maj=11.6km s-min=5.5km az=172.5*

NEIC ***19*** *07:28:06.5±0.9,21°.58N×142°.94E,h292km±9km,mb4.3/14, Error ellipse: s-maj=8.6km s-min=5.6km az=81.0*

IDC ***19*** *07:28:06.3±1.6,21°.66N×142°.93E,h295km±15km, mb3.6/20,mb1 3.9/22,mb1mx3.8/30,mbtmp3.7/22,Error ellipse: s-maj=15.6km s-min=9.1km az=88.0*

ISC 19 07:28:07.8±0.4, 21°.65N±0°.06×142°.9E±0°.1, h311km, n53, σ0s90/64, mb4.1/34, 1C, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.46**	**353**	P	**Pn**	**07 29 29.6**	**-1.5**
	246nm,0.3s,baz=99,slow=13,SNR=67						
JCJ				S	**S**	**07 30 35.3**	**-2.9**
	62nm,0.3s,baz=322,slow=23,SNR=7.3						
GUMO	**Guam**	**8.23**	**167**	*e*Pn	**Pn**	**07 30 01.9**	**-2.5**
MJAR	**Matsushiro Arr**	**15.39**	**346**	P	**P**	**07 31 27.4**	**-1.1**
	2.8nm,0.3s,baz=165,slow=8.0,SNR=11						
MJAR				S	**S**	**07 34 15.4**	**+0.2**
	0.7nm,0.3s,baz=116,slow=25,SNR=4.5						
MAJO	**Matsushiro**	**15.40**	**346**	*e*P	**P**	**07 31 29.1**	**+0.5**
	18nm,0.3s						
MAT	**Matsushiro**	**15.40**	**346**	P	**P**	**07 31 29.1**	**+0.5**
MAT				S	**S**	**07 34 15.1**	**-0.1**
KSRS	**Korea Array**	**20.41**	**324**	P	**P**	**07 32 21.9**	**-0.2**
	2.1nm,0.5s,baz=145,slow=8.6,SNR=8.3						
ASAJ	**Asahikawa**	**22.41**	**359**	P	**P**	**07 32 40.5**	**0.0**
	4.1nm,0.4s,baz=220,slow=21,SNR=5.6						
USRK	**Ussuriysk Arra**	**24.24**	**341**	P	**P**	**07 32 57.6**	**+0.5**
	2.2nm,0.6s,baz=163,slow=8.3,SNR=5.4						
COEN	**Coen**	**35.39**	**180**	*e*P	**P**	**07 34 35.3**	**+0.3**
SONM	**Songino Array**	**39.22**	**321**	P	**P**	**07 35 07.0**	**+0.1**
	0.6nm,0.3s,baz=126,slow=6.0,SNR=6.3						
CMAR	**Chiang Mai Arr**	**41.34**	**274**	P	**P**	**07 35 25.0**	**+0.6**
	2.9nm,0.5s,baz=83,slow=6.6,SNR=7.4						
WRAB	**Tennant Creek**	**42.17**	**192**	*e*P	**P**	**07 35 30.8**	**-0.1**
	22nm,0.6s						
WRA	**Warramunga Arr**	**42.19**	**192**	P	**P**	**07 35 30.9**	**-0.2**
	11nm,0.4s,baz=17,slow=9.1,SNR=252						
WRA				PcP	**PcP**	**07 37 19.4**	**+0.5**
	1.7nm,0.7s,baz=360,slow=3.3,SNR=6.0						
FITZ	**Fitzroy Crossi**	**42.98**	**204**	*e*P	**P**	**07 35 37.5**	**+0.1**
	8.2nm,0.7s						
AS31	**Alice Springs**	**45.89**	**192**	*e*P	**P**	**07 35 59.8**	**-0.5**
ASAR	**Alice Springs**	**45.90**	**192**	P	**P**	**07 35 59.7**	**-0.5**
	4.1nm,0.6s,baz=17,slow=10,SNR=87						
ASAR				PcP	**PcP**	**07 37 32.1**	**+0.5**
	0.8nm,0.7s,baz=26,slow=4.1,SNR=4.8						
STKA	**Stephens Creek**	**53.24**	**181**	*e*P	**P**	**07 36 54.8**	**-0.3**
STKA	**Stephens Creek**	**53.24**	**181**	P	**P**	**07 36 54.8**	**-0.3**
	3.0nm,0.4s,baz=3.6,slow=9.3,SNR=18						
ZALV	**Zalesovo Beam**	**54.10**	**322**	P	**P**	**07 37 01.6**	**+0.5**
	1.6nm,0.5s,baz=85,slow=7.3,SNR=4.1						
ZALV				PcP	**PcP**	**07 38 01.2**	**-0.2**
	3.5nm,0.4s,baz=133,slow=4.7,SNR=7.4						
MK31	**Makanchi Array**	**54.55**	**313**	*e*P	**P**	**07 37 05.4**	**+0.9**
MKAR	**Makanchi Array**	**54.55**	**313**	*e*P	**P**	**07 37 05.7**	**+1.1**
MKAR	**Makanchi Array**	**54.55**	**313**	P	**P**	**07 37 04.3**	**-0.2**
	0.5nm,0.3s,baz=92,slow=9.1,SNR=12						
MKAR				PcP	**PcP**	**07 38 03.9**	**+0.4**
	1.0nm,0.4s,baz=79,slow=5.3,SNR=6.8						
KURK	**Kurchatov**	**57.35**	**317**	*e*P	**P**	**07 37 24.5**	**+0.5**
	1.6nm,0.8s						
TKM2	**Tokmak 2**	**59.19**	**308**	*e*P	**P**	**07 37 38.7**	**+1.6**
CAST	**Castle Rocks**	**59.70**	**28**	*e*P	**P**	**07 37 41.2**	**+1.2**
	23nm,1.9s						
BPAW	**Bear Paw Mtn.**	**60.32**	**28**	*e*P	**P**	**07 37 45.0**	**+0.8**
	2.7nm,0.6s						
ILAR	**Eielson Array**	**62.19**	**27**	P	**P**	**07 37 55.9**	**-0.7**
	1.3nm,0.7s,baz=262,slow=4.9,SNR=20						
BRVK	**Borovoye**	**62.62**	**320**	*e*P	**P**	**07 38 00.5**	**+0.9**
	6.5nm,1.0s						
KKAR	**Karatay Array**	**62.90**	**308**	*e*P	**P**	**07 38 02.5**	**+0.8**
	1.4nm,0.6s						
ABKAR	**Akbulak array**	**69.42**	**316**	*e*P	**P**	**07 38 43.1**	**+0.4**
	4.3nm,0.4s						
AKTO	**Aktyubinsk**	**70.44**	**317**	P	**P**	**07 38 47.3**	**-1.6**
	0.8nm,0.3s,baz=130,slow=0.4,SNR=5.4						
YKA	**Yellowknife Ar**	**76.60**	**28**	P	**P**	**07 39 24.5**	**+0.3**
	1.3nm,0.5s,baz=292,slow=5.8,SNR=9.4						
KEV	**Kevo**	**78.33**	**341**	*e*p	**P**	**07 39 33.4**	**-0.2**
	0.5nm,0.3s						
ARCES	**ARCESS Array B**	**78.89**	**341**	P	**P**	**07 39 37.2**	**+0.5**
	3.1nm,0.7s,baz=70,slow=8.1,SNR=23						
B08A	**Colville Reser**	**79.06**	**42**	*e*P	**P**	**07 39 38.9**	**+0.8**
	48nm,2.8s						
JOF	**Joensuu**	**80.25**	**334**	*e*p	**P**	**07 39 43.1**	**-0.9**
	5.7nm,0.4s						
NEW	**Newport**	**80.47**	**42**	*e*P	**P**	**07 39 46.6**	**+1.0**
	4.4nm,1.0s						
J08A	**Circle Bar Ran**	**81.40**	**47**	*e*P	**P**	**07 39 52.1**	**+1.4**
	4.1nm,0.9s						
CMB	**Columbia Colle**	**81.98**	**52**	*e*P	**P**	**07 39 54.6**	**+0.9**
	3.4nm,0.8s						
KBZ	**Khabaz**	**82.23**	**314**	P	**P**	**07 39 55.9**	**+1.2**
	4.7nm,0.7s,baz=83,slow=5.6,SNR=8.2						
FINES	**FINESS Array B**	**83.12**	**334**	P	**P**	**07 39 58.0**	**-0.9**
	5.4nm,0.5s,baz=66,slow=4.6,SNR=22						
NVAR	**Mina Array Bea**	**83.36**	**51**	P	**P**	**07 40 01.6**	**+0.6**
	2.5nm,0.7s,baz=267,slow=5.5,SNR=19						
ELK	**Elko**	**84.63**	**48**	*e*P	**P**	**07 40 08.4**	**+1.1**
AKASG	**Malin Array Be**	**87.40**	**324**	P	**P**	**07 40 19.2**	**-1.1**
	0.8nm,0.5s,baz=53,slow=4.7,SNR=6.1						
PDAR	**Pinedale Array**	**87.59**	**45**	P	**P**	**07 40 21.9**	**+0.2**
	0.4nm,0.5s,baz=136,slow=1.0,SNR=6.4						
SRU	**San Rafael**	**88.61**	**48**	*e*P	**P**	**07 40 26.9**	**+0.5**
	4.7nm,1.1s						
BRTR	**Keskin Array B**	**90.20**	**313**	P	**P**	**07 40 32.8**	**-1.0**
	0.6nm,0.5s,baz=67,slow=3.7,SNR=3.5						
SYO	**Syowa Base**	**114.81**	**203**	*e*P	PKPdf	07 46 07.0	-3.8
TORD	**Torodi Ar. Bea**	**128.59**	**309**	PKP	**PKPdf**	**07 46 39.5**	**+0.6**
	0.3nm,0.5s,baz=63,slow=0.3,SNR=7.3						
LCO	**Las Campanas**	**148.81**	**110**	*e*PKPbc	**PKPbc**	**07 47 20.3**	**+0.6**
LPAZ	**La Paz**	**150.18**	**85**	*e*PKPdf	**PKPdf**	**07 47 19.2**	**+0.9**
LPAZ				*e*PKPbc	**PKiKP**	**07 47 24.5**	**+0.1**
LPAZ				*e*PKPab	**PKPab**	**07 47 32.1**	**+1.2**
LPAZ	**La Paz**	**150.18**	**85**	PKP	**PKPdf**	**07 47 18.6**	**+0.4**
	8.7nm,0.5s,baz=13,slow=2.3,SNR=5.3						
LPAZ				PKPbc	**PKiKP**	**07 47 24.5**	**+0.1**
	8.7nm,0.5s,baz=310,slow=1.9,SNR=74						
SAML	**Samuel**	**151.88**	**67**	*e*PKPdf	**PKPdf**	**07 47 20.8**	**+0.6**
SAML				*e*PKPbc	**PKPbc**	**07 47 26.9**	**0.0**
SAML				*e*PKPab	**PKPab**	**07 47 36.2**	**-1.1**

KRSC 19 07:35:41.6±2.4, 56°.23N×162°.80E, h43km±42km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.02**	**154**	P	Pn	07 35 48.7	+0.3
KBTR				*i* S	Sn	07 35 53.4	+0.3
SMKR	**Semkarok**	**0.82**	**296**	P	Pn	07 35 57.1	+0.3
SMKR				*i* S	Sn	07 36 09.2	+1.3
BDR	**Baidarnaya**	**0.95**	**292**	P	Pn	07 35 59.4	+0.8
BDR				*i* S	Sn	07 36 12.9	+1.9
ZLN	**Zelenaya**	**1.14**	**260**	P	Pn	07 36 02.1	+0.9
ZLN				*i* S	Sn	07 36 16.8	+1.1
LGNR	**Loginova**	**1.19**	**264**	P	Pn	07 36 02.9	+0.8
LGNR				*i* S	Sn	07 36 18.3	+0.9
KLY	**Klyuchi**	**1.20**	**275**	P	Pn	07 36 01.0	-0.9
KLY				*i* S	Sn	07 36 15.2	-1.8
BZGR	**Bezymyannyi-Gr**	**1.22**	**257**	P	Pn	07 36 02.7	+0.4
BZGR				*i* S	Sn	07 36 18.6	+1.0
KRSR	**Krestovskiy**	**1.25**	**270**	P	Pn	07 36 03.1	+0.4
KRSR				*i* S	Sn	07 36 19.5	+1.1
BZWR	**Bezymyannyi-We**	**1.32**	**259**	P	Pn	07 36 04.9	+1.1
BZWR				*i* S	Sn	07 36 22.1	+1.8
BZMR	**Bezymyannaya**	**1.33**	**258**	P	Pn	07 36 04.9	+1.0
BZMR				*i* S	Sn	07 36 22.6	+2.1
KIRR	**Kirishev**	**1.41**	**260**	P	Pn	07 36 06.2	+1.3
KIRR				*i* S	Sn	07 36 24.3	+1.9
KPT	**Kopyto**	**1.47**	**261**	P	Pn	07 36 07.1	+1.4
KPT				*i* S	Sn	07 36 26.3	+2.5
KMNR	**Kamenistaya**	**1.52**	**253**	P	Pn	07 36 08.4	+2.0
KMNR				*i* S	Sn	07 36 27.5	+2.5
KOZ	**Kozyrevsk**	**1.65**	**265**	P	Pn	07 36 10.2	+2.1
KOZ				*i* S	Sn	07 36 31.0	+3.0
SRDR	**Sredinnyy**	**1.72**	**274**	P	Pn	07 36 11.1	+2.0
SRDR				*i* S	Sn	07 36 32.6	+2.6
TUMR	**Tumrok**	**1.77**	**239**	P	Pn	07 36 11.5	+1.6
TUMR				*i* S	Sn	07 36 33.4	+2.0
MKZ	**Mys Kozlova**	**1.79**	**200**	P	Pn	07 36 10.6	+0.7
MKZ				*i* S	Sn	07 36 32.2	+0.9
BKI	**Bering**	**2.07**	**118**	P	Pn	07 36 15.8	+2.0
BKI				*i* S	Sn	07 36 41.6	+3.3
ESO	**Esso**	**2.32**	**264**	P	Pn	07 36 19.3	+2.0
ESO				*i* S	Sn	07 36 46.8	+2.2
NLC	**Nalytchevo**	**3.66**	**215**	P	Pn	07 36 37.3	+1.7
NLC				*i* S	Sn	07 37 18.8	+1.3
SDLR	**Sedlovina**	**3.73**	**219**	P	Pn	07 36 38.5	+1.8
SDLR				*i* S	Sn	07 37 21.1	+1.6
KRX	**Arik**	**3.75**	**222**	P	Pn	07 36 39.7	+2.6
KRER	**Koryakskii**	**3.75**	**220**	P	Pn	07 36 39.6	+2.4
KRER				*i* S	Sn	07 37 21.8	+1.5
SMAR	**Somma**	**3.77**	**220**	P	Pn	07 36 39.4	+2.0
GNL	**Ganaly**	**3.78**	**230**	P	Pn	07 36 39.4	+1.9
AVH	**Avacha**	**3.79**	**220**	P	Pn	07 36 40.4	+2.9
AVH				*i* S	Sn	07 37 23.1	+2.2
KOK	**Koryaka**	**3.81**	**221**	P	Pn	07 36 38.7	+0.9
RUS	**Russkaya**	**4.56**	**215**	P	Pn	07 36 49.1	+1.2

IDC ***19*** *07:35:48.3±0.4, 13°.05S×166°.16E, h0km, mb4.8/22, mb1 4.9/25,mb1mx4.9/27,mbtmp4.8/25,ML4.3/3,MS4.4/5, Ms1 4.4/5,ms1mx4.1/24,Error ellipse: s-maj=14.9km s-min=13.0km az=99.0*

BJI ***19*** *07:35:51.3, 12°.80S×166°.78E, h34km, mB5.4/34, mb5.2/46, Ms5.2/30,Ms7 4.7/32*

BKK ***19*** *07:35:52.6±0.4, 13°.7×16°.6E±°, h10km, M5.2/26, mB5.7/14, mb5.2/26, Mw(mB)5.2/14*

MOS ***19*** *07:35:52.3±1.0, 13°.02S×166°.07E, h33km, mb5.4/16, Error ellipse: s-maj=10.5km s-min=8.6km az=18.3*

ISCJB ***19*** *07:35:52.8±0.2, 13°.11S±0°.04×166°.02E±0°.03, h33km, mb5.1/77, MS4.8/14, Error ellipse: s-maj=6.2km s-min=4.2km az=171.8*

NEIC ***19*** *07:35:54.2±0.2, 13°.06S×166°.11E, h35km, mb5.3/33, Error ellipse: s-maj=6.7km s-min=5.4km az=142.0*

DJA ***19*** *07:35:58.8±1.8, 13°.7×16°.6E±°, h74km±25km, M4.9/13, mB5.4/6, mb5.0/13, Mw(mB)4.8/6*

ISC 19 07:35:53.8±0.4, 13°.09S±0°.05×166°.20E±0°.05, h33km±1km, h33km:pP-P, n255, σ1s52/307, mb5.1/77, MS4.7/14, 4C-3D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.13**	**300**	Pn	**Pn**	**07 37 34.1**	**-1.8**
HNR				Sn	**Sn**	**07 38 57.0**	**+1.2**
HNR	**Honiara**	**7.13**	**300**	Pn	**Pn**	**07 37 34.1**	**-1.8**
	43nm,0.3s,baz=138,slow=2.8,SNR=11						
HNR				Sn	**Sn**	**07 38 56.9**	**+1.2**
	21nm,0.3s,baz=210,slow=20,SNR=3.1						
HNR				LR	LR	07 39 54.5	
	comp=Z,3µm,20.8s,baz=125,slow=35						
DZM	**Mont Dzumac**	**8.94**	**179**	Pn	**Pn**	**07 38 01.2**	**+0.4**
DZM	**Mont Dzumac**	**8.94**	**179**	Pn	**Pn**	**07 38 01.2**	**+0.4**
	3.9nm,0.3s,baz=7.3,slow=20,SNR=27						
DZM				LR	LR	07 40 21.0	
	comp=Z,861nm,19.1s,baz=20,slow=30						
MSVF	**Nonsavu**	**12.32**	**113**	*e*P	**Pn**	**07 38 48.5**	**+1.4**
MSVF	**Nonsavu**	**12.32**	**113**	*e*Pn	**Pn**	**07 38 48.5**	**+1.4**
MSVF	**Nonsavu**	**12.32**	**113**	Pn	**Pn**	**07 38 49.0**	**+1.9**
	432nm,1.2s,SNR=7.1						
TARA	**Tarawa**	**15.82**	**25**	*e*Pn	**P**	**07 39 36.8**	**-1.0**
	353nm,1.4s						
EIDS	**Eidsvold**	**18.77**	**227**	*e*Pn	**Pn**	**07 40 12.2**	**+1.3**
	156nm,1.4s						
PMG	**Port Moresby**	**19.03**	**279**	P	**P**	**07 40 12.8**	**-0.4**
	83nm,1.2s,2um						
PMG	**Port Moresby**	**19.03**	**279**	*e*P	**Pn**	**07 40 13.8**	**-0.4**
PMG	**Port Moresby**	**19.03**	**279**	P	**P**	**07 40 12.6**	**-0.6**
	0.6nm,0.3s,baz=104,slow=9.5,SNR=6.4						
PMG				LR	LR	07 46 11.2	
	comp=Z,702nm,21.2s,baz=121,slow=33						
CTA	**Charters Tower**	**20.33**	**247**	P	**P**	**07 40 27.3**	**-0.1**
CTA	**Charters Tower**	**20.33**	**247**	P	**P**	**07 40 27.3**	**-0.1**
	27nm,1.0s,baz=80,slow=14,SNR=10						
CTAO	**Charters Tower**	**20.33**	**247**	*e*P	Pn	07 40 28.8	-0.8
CTAO				pmax	pmax		
	comp=Z,234nm,1.7s						
CTAO	**Charters Tower**	**20.33**	**247**	*e*P	Pn	07 40 28.8	-0.8
	comp=Z,234nm,1.7s						
AFI	**Afiamalu**	**21.43**	**95**	*e*P	**P**	**07 40 42.4**	**+3.0**
AFI	**Afiamalu**	**21.43**	**95**	P	**P**	**07 40 40.6**	**+1.2**
	comp=Z,41nm,0.7s,baz=331,slow=16,SNR=9.3						
ARMA	**Armidale**	**21.88**	**216**	*e*P	**P**	**07 40 45.1**	**+1.0**
	comp=Z,210nm,1.4s						
COEN	**Coen**	**22.40**	**265**	*e*P	**P**	**07 40 49.8**	**0.0**
	comp=Z,913nm,1.1s						
KNTN	**Kanton**	**24.12**	**67**	*e*P	**P**	**07 41 07.8**	**+0.9**
	comp=Z,323nm,1.7s						
CAN	**Canberra**	**27.04**	**212**	*e*P	**P**	**07 41 33.9**	**+0.6**
CAN				pmax	pmax		
	comp=Z,110nm,2.0s						
CAN	**Canberra**	**27.04**	**212**	*e*P	**P**	**07 41 33.9**	**+0.6**
	comp=Z,110nm,2.0s						
STKA	**Stephens Creek**	**29.32**	**226**	*e*P	**P**	**07 41 54.0**	**+0.6**
STKA				PcP	**PcP**	**07 44 58.8**	**-0.8**
STKA	**Stephens Creek**	**29.32**	**226**	P	**P**	**07 41 52.9**	**-0.6**
	comp=Z,21nm,0.8s,baz=48,slow=8.4,SNR=40						
STKA				PcP	**PcP**	**07 44 58.8**	**-0.8**
	comp=Z,3.3nm,0.8s,baz=13,slow=9.9,SNR=3.1						
RPZ	**Rata Peaks**	**30.80**	**173**	*e*P	**P**	**07 42 07.1**	**+0.6**
RPZ	**Rata Peaks**	**30.80**	**173**	P	**P**	**07 42 06.0**	**-0.6**
	comp=Z,29nm,0.8s,baz=216,slow=3.8,SNR=11						
WRAB	**Tennant Creek**	**31.25**	**253**	*e*P	**P**	**07 42 09.2**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,111nm,1.8s						
WRAB	**Tennant Creek**	**31.25**	**253**	*e*P	**P**	**07 42 09.2**	**-1.6**
	comp=Z,111nm,1.8s						
WRAB	**Tennant Creek**	**31.25**	**253**	P	**P**	**07 42 09.6**	**-1.1**
	comp=Z,96nm,1.1s,SNR=5.8						
WRA	**Warramunga Arr**	**31.26**	**253**	P	**P**	**07 42 09.4**	**-1.5**
WRA				PcP	**PcP**	**07 45 03.8**	**-1.2**
WRA	**Warramunga Arr**	**31.26**	**253**	P	**P**	**07 42 09.4**	**-1.5**
	comp=Z,7.2nm,0.8s,baz=85,slow=9.1,SNR=28						
WRA				PcP	**PcP**	**07 45 03.8**	**-1.2**
	comp=Z,6.4nm,1.1s,baz=78,slow=2.5,SNR=6.9						
WRA				LR	LR	07 54 20.6	
	comp=Z,1µm,18.8s,baz=75,slow=36						
AS31	**Alice Springs**	**32.33**	**246**	*e*P	**P**	**07 42 18.9**	**-1.4**
ASAR	**Alice Springs**	**32.33**	**246**	P	**P**	**07 42 18.9**	**-1.3**
ASAR				PcP	**PcP**	**07 45 07.1**	**-0.7**
ASAR				ScP	**ScP**	**07 48 53.1**	**+3.8**
ASAR	**Alice Springs**	**32.33**	**246**	P	**P**	**07 42 18.9**	**-1.3**
	comp=Z,42nm,0.8s,baz=75,slow=9.6,SNR=296						
ASAR				PcP	**PcP**	**07 45 07.1**	**-0.7**
	comp=Z,5.7nm,1.1s,baz=90,slow=3.6,SNR=6.1						
ASAR				ScP	**ScP**	**07 48 53.1**	**+3

IPM	Ipoh	67.02 281	eP	P	07 46 44.5	+0.2			
	comp=Z,90nm,1.4s								
KULM	Kulim	67.61 281	P	P	07 46 48.3	+0.4			
KULM	Kulim	67.61 281	eP	P	07 46 47.9	0.0			
	comp=Z,67nm,1.5s								
CN2	Changchun	67.71 329	eP	P	07 46 48.0	+0.1			
CN2			epP	pP	07 46 58.3	+0.1			
CN2			esP	sP	07 47 02.3	+0.2			
CN2			eS	S	07 55 48.3	+5.0			
CN2			AMB	AMB					
	comp=Z,40nm,0.9s								
CN2			AMB	AMB					
	comp=Z,200nm,4.0s								
CN2			LR	LR					
	comp=Z,600nm,25.0s								
SKLT	Songkhla	68.17 283	P	P	07 46 52.9	+1.5			
	comp=Z,35nm,1.0s,comp=Z,733nm								
ENH	Enshi	69.53 309	eP	P	07 46 59.6	0.0			
	comp=Z,12nm,0.8s								
GYA	Guiyang	69.93 305⇑	iP	P	07 47 06.8	+4.5			
GYA			pP	pP	07 47 17.4	+4.8			
GYA			sP	sP	07 47 22.8	+6.3			
GYA			PP	PP	07 49 43.0	+5.5			
GYA			S	S	07 56 11.3	+0.8			
GYA			sS	sS	07 56 30.5	+3.0			
GYA			SKS	SKKSac	07 57 01.3	-0.1			
GYA			SS	SS	08 00 44.4	+4.0			
GYA			AMB	AMB					
	comp=Z,20nm,0.8s								
GYA			AMB	AMB					
	comp=Z,120nm,5.0s								
GYA			LR	LR					
	comp=Z,580nm,19.2s								
GYA			LR	LR					
	comp=Z,530nm,18.0s								
GYA			LR	LR					
	comp=Z,620nm,19.9s								
BJI	Beijing	70.34 321	P	P	07 47 04.9	+0.6			
BJI			AMB	AMB					
	comp=Z,32nm,0.9s								
BJI			AMB	AMB					
	comp=Z,270nm,4.8s								
SURT	Suratani	70.42 285	P	P	07 47 07.0	+1.6			
	comp=Z,24nm,1.5s,comp=Z,1μm								
PBKT	Sadao Pong	70.87 293	P	P	07 47 08.8	+0.8			
	comp=Z,20nm,1.6s,comp=Z,1μm								
XAN	Xi'an	71.82 313	P	P	07 47 13.0	-0.5			
XAN			pP	pP	07 47 24.0	+0.1			
XAN			sP	sP	07 47 28.0	+0.3			
XAN			PP	PP	07 49 53.0	-0.5			
XAN			S	S	07 56 25.9	-6.2			
XAN			AMB	AMB					
	comp=Z,6.0nm,1.2s								
XAN			AMB	AMB					
	comp=Z,37nm,4.7s								
XAN			LR	LR					
	comp=Z,230nm,18.7s								
XAN			LR	LR					
	comp=Z,150nm,21.8s								
XAN			LR	LR					
	comp=Z,140nm,21.8s								
UTHA	Uthaitani	71.90 291	P	P	07 47 15.3	+1.0			
	comp=Z,6.4nm,1.2s,comp=Z,76nm								
KMI	Kunming	72.56 302	P	P	07 47 19.4	+1.0			
KMI			pP	pP	07 47 28.0	-0.7			
KMI			sP	sP	07 47 33.0	+0.4			
KMI			PcP	PcP	07 47 37.4	+1.5			
KMI			PP	PP	07 50 05.1	+4.9			
KMI			S	S	07 56 42.8	+1.5			
KMI			sS	sS	07 56 59.6	+1.3			
KMI			SS	SS	08 01 26.8	+5.8			
KMI			AMB	AMB					
	comp=Z,41nm,1.5s								
KMI			LR	LR					
	comp=Z,170nm,25.8s								
KMI			LR	LR					
	comp=Z,280nm,23.8s								
KMI			LR	LR					
	comp=Z,400nm,20.7s								
CRAI	Chiangrai	72.70 296	P	P	07 47 20.0	+1.0			
	comp=Z,21nm,1.7s								
PAYA	Payao	72.83 295	P	P	07 47 21.0	+1.2			
	comp=Z,7.0nm,1.1s,comp=Z,869nm								
CMAR	Chiang Mai Arr	73.34 294	P	P	07 47 22.8	-0.1			
CMAR	Chiang Mai Arr	73.34 294	P	P	07 47 22.8	-0.1			
	comp=Z,20nm,1.0s,baz=120,slow=4.6,SNR=47								
CHTO	Chiang Mai	73.46 294	eP	P	07 47 23.8	+0.3			
CHTO			pmax	pmax					
	comp=Z,132nm,1.3s								
CHTO	Chiang Mai	73.46 294	eP	P	07 47 23.8	+0.3			
	comp=Z,132nm,1.3s								
CHTO	Chiang Mai	73.46 294	P	P	07 47 24.0	+0.5			
	comp=Z,121nm,1.4s,comp=Z,2μm								
HHC	Hu-ho-hao-te	73.67 320	eP	P	07 47 24.3	-0.1			
HHC			PcP	PcP	07 47 39.4	-0.7			
HHC			PP	PP	07 50 10.8	+1.6			
HHC			S	SKiKP	07 56 51.1	-1.0			
HHC			sS	sS	07 57 08.8	-1.3			
HHC			SKS	SKSac	07 57 24.0	-4.9			
HHC			ScS	SKKSac	07 57 28.1	-1.0			
HHC			SS	SS	08 01 38.8	+1.6			
HHC			AMB	AMB					
	comp=Z,48nm,1.2s								
HHC			AMB	AMB					
	comp=Z,410nm,6.3s								
HHC			LR	LR					
	comp=Z,840nm,17.9s								
HHC			LR	LR					
	comp=Z,700nm,17.8s								
HHC			LR	LR					
	comp=Z,840nm,17.4s								
CMAI	Chiengmai2	73.76 295	P	P	07 47 26.1	+0.6			
	comp=Z,22nm,1.3s,comp=Z,499nm								
CD2	Chengdu	74.19 308	P	P	07 47 29.3	+1.7			
CD2			AMB	AMB					
	comp=Z,20nm,0.5s								
HIA	Hailar	74.36 330	eP	P	07 47 28.3	+0.2			
	comp=Z,8.6nm,0.3s								
LZH	Lanzhou	76.45 312	eP	P	07 47 41.8	+1.1			
LZH			pP	PcP	07 47 52.5	+0.2			
LZH			sP	sP	07 47 56.6	+1.7			
LZH			PP	PP	07 50 35.8	+2.8			
LZH			eS	S	07 57 25.3	+1.0			
LZH			sS	sS	07 57 42.0	+0.5			
LZH			eSS	SS	08 02 24.0	+4.2			
LZH			AMB	AMB					
	comp=Z,47nm,1.4s								
LZH			AMB	AMB					
	comp=Z,190nm,8.0s								
LZH			LR	LR					
	comp=Z,380nm,13.0s								
LZH			LR	LR					
	comp=Z,660nm,14.8s								
LZH			LR	LR					
	comp=Z,900nm,17.5s								
SEY	Seymchan	76.54 354⇑	iP	P	07 47 39.6	-0.7			
QSPA	South Pole Qui	76.93 180	eP	P	07 47 42.1	-0.8			
	comp=Z,30nm,1.1s								
YAK	Yakutsk	80.17 343	eP	P	07 47 59.7	-0.7			
YAK			pmax	pmax					
	comp=Z,27nm,0.9s								
SONM	Songino Array	80.57 324	P	P	07 48 03.0	-0.1			
SONM	Songino Array	80.57 324	P	P	07 48 03.0	-0.1			
	comp=Z,7.3nm,1.2s,baz=136,slow=4.3,SNR=29								
GTA	Gaotai	80.79 314	⇓P	P	07 48 05.3	+0.8			
GTA			pP	pP	07 48 15.5	+0.6			
GTA			sP	sP	07 48 19.8	+1.1			
GTA			S	S	07 58 10.8	+0.3			
GTA			SKS	SKSac	07 58 17.0	-3.8			
GTA			sS	ScS	07 58 27.9	-1.5			
GTA			SS	SS	08 03 29.1	+4.3			
GTA			AMB	AMB					
	comp=Z,25nm,1.3s								
GTA			AMB	AMB					
	comp=Z,330nm,6.2s								
GTA			LR	LR					
	comp=Z,420nm,23.3s								
GTA			LR	LR					
	comp=Z,610nm,23.3s								
GTA			LR	LR					
	comp=Z,250nm,23.3s								
SHL	Shillong	81.88 299⇓	iP	P	07 48 11.5	+0.9			
MAW	Mawson	83.01 202	eP	P	07 48 15.1	-0.4			
MAW	Mawson	83.01 202	P	P	07 48 14.9	-0.6			
	comp=Z,2.2nm,0.9s,baz=133,slow=10,SNR=4.7								
TRF	Thorofare Moun	83.31 18	eP	P	07 48 18.9	+1.7			
	comp=Z,5.9nm,0.9s								
MCK	McKinley	83.93 18	eP	P	07 48 21.1	+1.0			
	comp=Z,20nm,1.5s								
TLY	Talaya	84.06 326	eP	P	07 48 21.2	+0.1			
TLY			eS	S	07 58 35.3	-7.9			
TLY			pmax	pmax					
	comp=Z,25nm,1.1s								
SCI	San Clemente I	85.03 55	P	P	07 48 27.9	+1.4			
	baz=85								
MENT	Mentasta	85.07 21	eP	P	07 48 27.6	+1.6			
COLA	College	85.08 18	eP	P	07 48 24.6	-1.3			
COLA			pmax	pmax					
	comp=Z,36nm,1.0s								
COLA	College	85.08 18	eP	P	07 48 24.6	-1.3			
	comp=Z,36nm,1.0s								
ILAR	Eielson Array	85.30 18	P	P	07 48 25.5	-1.5			
ILAR	Eielson Array	85.30 18	P	P	07 48 25.5	-1.5			
	comp=Z,4.8nm,0.8s,baz=233,slow=5.8,SNR=32								
DOT	Dot Lake	85.43 20	eP	P	07 48 27.8	0.0			
	comp=Z,6.4nm,0.9s								
ISA	Isabella	85.96 52	P	P	07 48 31.7	+0.5			
	baz=86								
EDW2	Edwards Air Fo	86.08 53	P	P	07 48 32.3	+0.6			
	baz=86								
COLD	Coldfoot	86.13 16	eP	P	07 48 31.6	+0.4			
	comp=Z,4.0nm,0.9s								
BFSC	Mount Baldy Ra	86.14 54	P	P	07 48 32.7	+0.6			
	baz=86								
MONP	Monument Peak	86.70 55	P	P	07 48 36.0	+1.0			
	baz=87								
MPMC	Manual Prospec	86.85 52	P	P	07 48 36.5	+0.9			
	baz=87								
DVTC	Desert V Tower	86.89 56	P	P	07 48 36.8	+1.0			
	baz=87								
PFO	Pinyon Flat Ob	86.89 55	P	P	07 48 36.0	+0.2			
PFO	Pinyon Flat Ob	86.89 55	P	P	07 48 36.4	+0.6			
	baz=87								
PFO	Pinyon Flat Ob	86.89 55	P	P	07 48 36.0	+0.2			
	comp=Z,1.9nm,0.7s,baz=294,slow=3.5,SNR=5.6								
NVAR	Mina Array Bea	87.00 50	P	P	07 48 36.3	0.0			
NVAR	Mina Array Bea	87.00 50	P	P	07 48 36.3	0.0			
	comp=Z,1.5nm,0.7s,baz=230,slow=8.1,SNR=8.3								
EGAK	Eagle	87.13 20	eP	P	07 48 36.4	+0.4			
	comp=Z,6.7nm,0.9s								
GSC	Goldstone	87.14 53	P	P	07 48 37.5	+0.6			
	baz=87								
SWSC	Sam W. Stewart	87.22 55	P	P	07 48 38.0	+0.8			
	baz=87								
PALK	Pallekele	87.27 278	eP	P	07 48 39.3	+1.4			
	comp=Z,14nm,1.2s								
HEC	Hector,Ludlow	87.37 54	P	P	07 48 38.5	+0.5			
	baz=88								
BELC	Belle Mtn. Jos	87.38 54	P	P	07 48 39.1	+1.0			
	baz=88								
BC3	Big Chuckawall	87.70 55	P	P	07 48 40.4	+0.7			
	baz=88								
SHOC	Shoshone	87.73 52	P	P	07 48 40.6	+1.0			
	baz=88								
GMRC	Granite Mounta	87.88 54	P	P	07 48 41.3	+0.8			
	baz=88								
GLA	Glamis	88.03 56	P	P	07 48 42.6	+1.4			
	baz=88								
IRM	Iron Mountain	88.09 54	P	P	07 48 42.7	+1.3			
	baz=88								
TIXI	Tiksi	88.17 349⇑	eP	P	07 48 39.3	-1.5			
TIXI			pmax	pmax					
	comp=Z,16nm,2.5s								
Y12C	Blythe	88.47 55	P	P	07 48 44.6	+1.4			
	baz=89								
SHPR	Sheep Range	88.78 52	eP	P	07 48 46.0	+1.2			
	comp=Z,12nm,1.4s								
113A	Mohawk Valley,	88.80 56	P	P	07 48 45.9	+1.2			
	baz=89								
PDMCI	Parker Dam,Lak	88.94 55	P	P	07 48 46.6	+1.2			
	baz=89								
R11A	Troy Canyon, C	89.00 50	P	P	07 48 46.7	+0.9			
	baz=89								
214A	Organ Pipe Nat	89.36 57	P	P	07 48 48.5	+1.1			
	baz=90								
W13A	Hualapai Mount	89.36 54	P	P	07 48 48.6	+0.9			
	baz=90								
HVS	Khovu-Aksy	89.44 323	cP	P	07 48 47.1	-0.3			
HVS			pmax	pmax					
	comp=Z,71nm,1.2s								
Z14A	Wintersburg	89.63 56	P	P	07 48 50.0	+1.4			
	baz=90								
Y14A	Wickenburg	89.74 55	P	P	07 48 50.1	+0.9			
	baz=90								
WMQ	Urumqi	90.84 315	P	P	07 48 52.3	-1.8			
WMQ			pP	pP	07 49 02.8	-1.9			
WMQ			sP	sP	07 49 06.8	-1.7			
WMQ			PP	PP	07 52 30.4	0.0			
WMQ			SKS	SKSac	07 59 19.5	-4.2			
WMQ			S	S	07 59 43.9	-4.9			
WMQ			SS	SS	08 05 50.3	-1.9			
WMQ			AMB	AMB					
	comp=Z,13nm,0.8s								
WMQ			AMB	AMB					
	comp=Z,280nm,4.6s								
WMQ			LR	LR					
	comp=Z,440nm,14.6s								
WMQ			LR	LR					
	comp=Z,300nm,12.4s								
WMQ			LR	LR					
	comp=Z,280nm,24.8s								
U15A	North Rim	90.97 53	P	P	07 48 56.0	+0.8			
	baz=91								
NEW	Newport	91.00 41	P	P	07 48 55.5	+0.8			
	baz=91								
X16A	Lo Mia Camp, P	91.12 55	P	P	07 48 56.6	+0.8			
	baz=91								
HLID	Hailey	91.38 46	P	P	07 48 57.6	+0.8			
	baz=92								
WUAZ	Wupatki	91.45 54	P	P	07 48 58.2	+0.9			
	baz=92								
DUG	Dugway	91.59 49	P	P	07 48 59.0	+1.2			
	baz=92								
319A	Douglas	92.12 58	P	P	07 49 02.1	+1.7			
	baz=92								
X18A	Snowflake	92.34 55	P	P	07 49 03.1	+1.7			
	baz=92								
BSMT	Bassoo Peak	92.36 41	eP	P	07 49 02.4	+1.1			
	comp=Z,11nm,1.6s								
W18A	Petrified Fore	92.65 55	P	P	07 49 04.4	+1.5			
	baz=93								
320A	Kipp Ranch, An	92.73 59	P	P	07 49 05.5	+2.2			
	baz=93								
220A	Playas Peak, P	92.87 58	P	P	07 49 05.6	+1.7			
	baz=93								
LRM	Limekiln Ridge	93.35 44	eP	P	07 49 06.8	+0.8			
	comp=Z,40nm,1.4s								
Y20A	Horse Springs,	93.46 56	P	P	07 49 07.8	+1.1			
	baz=94								
X20A	Quemado	93.50 56	P	P	07 49 08.0	+1.1			
	baz=94								
121A	Cookes Peak, D	93.62 58	P	P	07 49 08.5	+1.1			
	baz=94								
Z21A	St. Cloud Mine	93.89 57	P	P	07 49 10.2	+1.5			
	baz=94								
Y21A	Point of Rocks	94.05 56	P	P	07 49 11.2	+1.8			
	baz=94								
X21A	Alamocita Cree	94.06 56	P	P	07 49 11.1	+1.7			
	baz=94								
O19A	Miners Draw (B	94.35 50	P	P	07 49 11.1	+0.6			
	baz=94								
R20A	Redvale	94.43 52	P	P	07 49 11.9	+0.9			
	baz=95								
Z22A	Elephant Butte	94.46 57	P	P	07 49 12.2	+1.0			
	baz=95								
U21A	Nageezi	94.60 54	P	P	07 49 13.0	+1.1			
	baz=95								
PDAR	Pinedale Array	94.60 47	P	P	07 49 12.0	+0.3			
PDAR	Pinedale Array	94.60 47	P	P	07 49 12.0	+0.3			
	comp=Z,0.4nm,0.7s,baz=216,slow=9.0,SNR=3.1								
Q20A	Ridgley Place,	94.67 51	P	P	07 49 13.7	+1.6			
	baz=95								
P20A	De Beque	94.72 51	P	P	07 49 12.4	+0.1			
	baz=95								
S21A	Coal Bank Pass	94.77 53	P	P	07 49 13.5	+0.8			
	baz=95								
R21A	Cimarron	95.11 52	P	P	07 49 15.8	+1.6			
	baz=95								
SNAA	Sanae	95.12 183	eP	P	07 49 11.9	-1.5			
	comp=Z,5.9nm,1.0s								
MK31	Makanchi Array	95.31 317	eP	P	07 49 14.0	-0.6			
MK31	Makanchi Array	95.31 317	eP	P	07 49 14.0	-0.6			
MKAR	Makanchi Array	95.31 317	iP	P	07 49 14.1	-0.5			
MKAR			pmax	pmax					
	comp=Z,9.0nm,0.9s								
MKAR	Makanchi Array	95.31 317	P	P	07 49 14.2	-0.4			
MKAR			PP	PP	07 53 01.9	-3.4			
MKAR	Makanchi Array	95.31 317	P	P	07 49 14.2	-0.4			
	comp=Z,8.6nm,0.9s,baz=98,slow=6.5,SNR=45								
MKAR			PP	PP	07 53 01.9	-3.4			
	comp=Z,3.0nm,1.2s,baz=99,slow=7.5,SNR=5.0								
224A	Cornudas Mount	95.40 58	P	P	07 49 16.4	+0.8			
	baz=96								
H19A	Powell	95.44 46	P	P	07 49 16.9	+1.5			
	baz=96								
ZAA0	Zalesovo Array	95.46 324	eP	P	07 49 13.9	-1.2			
ZALV	Zalesovo Beam	95.46 324	iP	P	07 49 13.6	-1.5			
ZALV			pmax	pmax					
	comp=Z,7.0nm,0.9s								
ZALV	Zalesovo Beam	95.46 324	P	P	07 49 13.7	-1.4			
ZALV	Zalesovo Beam	95.46 324	P	P	07 49 13.7	-1.4			
	comp=Z,7.2nm,0.8s,baz=108,slow=4.8,SNR=19								
S22A	4UR Ranch, Cre	95.53 53	P	P	07 49 17.5	+1.3			
	baz=96								
Q22A	Crested Butte,	95.70 52	P	P	07 49 17.3	+0.3			
	baz=96								
U23A	El Rito	95.73 54	P	P	07 49 19.4	+2.4			
	baz=96								
Y24A	Capitan	95.85 57	P	P	07 49 17.7	+0.1			
	baz=96								
P22A	Eagle	95.97 51	P	P	07 49 19.0	+0.9			
	baz=96								
D19A	Cripps Ranch,	96.06 43	P	P	07 49 20.7	+2.6			
	baz=96								
O22A	Kremmling	96.24 50	P	P	07 49 20.0	+0.6			
	baz=96								
TXAR	Lajitas Array	96.41 61	P	P	07 49 20.6	+0.4			
TXAR	Lajitas Array	96.41 61	P	P	07 49 20.6	+0.4			
	comp=Z,0.7nm,0.8s,baz=224,slow=5.6,SNR=12								
527A	Woodward Ranch	96.62 61	P	P	07 49 21.5	+0.4			
	baz=97								
KSH	Kashi	98.37 309	eP	Pdif	07 49 34.0	+5.2			
KSH			pP	pP	07 49 43.3	+3.9			
KSH			sP	sP	07 49 46.8	+3.6			
KURK	Kurchatov	98.48 320⇓	eP	P	07 49 27.3	-1.5			
KURK			pmax	pmax					
	comp=Z,5.0nm,2.5s								
H03N2	Juan Fernandez	102.66 129	T	T	09 43 12.1				
	baz=244,SNR=9.4								
H03N3	Juan Fernandez	102.66 129	T	T	09 43 11.8				
	baz=244,SNR=12								
H03N1	Juan Fernandez	102.68 129	T	T	09 43 30.0				
	baz=244,SNR=14								
ARCES	ARCESS Array B	118.41 345	PKP	PKPdf	07 54 36.4	-1.0			
ARCES	ARCESS Array B	118.41 345	PKP	PKPdf	07 54 36.4	-1.0			
	comp=Z,2.8nm,0.8s,baz=58,slow=3.4,SNR=4.4								
OBN	Obninsk	122.77 328	iPKIKP	PKPdf	07 54 46.3	+0.2			
OBN			pmax	pmax					
	comp=Z,10.0nm,1.5s								
KIV	Kislovodsk	122.97 314	iPKIKP	PKPdf	07 54 47.1	0.0			
KIV			pmax	pmax					
	comp=Z,8.0nm,0.9s								
BOSA	Boshof	123.92 222	PKP	PKPdf	07 54 49.3	-0.2			
BOSA	Boshof	123.92 222	PKP	PKPdf	07 54 49.3	-0.2			
	comp=Z,8.7nm,0.9s,baz=137,slow=2.9,SNR=9.1								
KMBO	Kilima Mbogo	127.44 258	PKP	PKPdf	07 54 55.3	-1.4			
KMBO	Kilima Mbogo	127.44 258	PKP	PKPdf	07 54 55.3	-1.4			
	comp=Z,0.4nm,0.4s,baz=49,slow=23,SNR=3.2								
AKASG	Malin Array Be	128.80 326	iPKIKP	PKPdf	07 54 57.2	-0.6			
AKASG	Malin Array Be	128.80 326	PKP	PKPdf	07 54 57.2	-0.6			
AKASG	Malin Array Be	128.80 326	PKP	PKPdf	07 54 57.2	-0.6			
	comp=Z,0.8nm,0.6s,baz=64,slow=2.4,SNR=8.1								
BRTR	Keskin Array B	130.66 312	PKP	PKPdf	07 55 02.0	0.0			
BRTR			PP	PP	07 57 19.0	+1.8			
BRTR	Keskin Array B	130.66 312	PKP	PKPdf	07 55 02.0	0.0			
	comp=Z,0.7nm,0.7s,baz=351,slow=3.9,SNR=3.8								
BRTR			PP	PP	07 57 19.0	+1.8			
	comp=Z,1.1nm,1.0s,baz=79,slow=6.4,SNR=5.0								
KOLS	Kolonicke sedl	133.51 328	ePKP	PKPdf	07 55 09.1	+2.2			
GERES	GERESS Array B	137.72 333	PKPpre	PKPpre	07 55 02.5				
GERES			PKP	PKPdf	07 55 12.2	-2.6			
GERES	GERESS Array B	137.72 333	PKhKP	PKPpre	07 55 02.5				
	comp=Z,0.2nm,0.2s,baz=0.0,slow=2.8,SNR=4.2								
GERES			PKP	PKPdf	07 55 12.2	-2.6			
	comp=Z,0.3nm,0.3s,baz=207,slow=2.0,SNR=3.0								
BNI	Bardonecchia	143.68 335	ePKIKP	PKPbc	07 55 23.1	-0.1			
BNI	Bardonecchia	143.68 335	ePKPdf	PKPbc	07 55 23.1	-0.1			
PLDF	La Plantade	144.06 339	PKP	PKPbc	07 55 24.3	0.0			
SAOF	Saorge	144.17 333	PKP	PKPab	07 55 23.7	-0.5			
AUTN	L'Aution	144.22 333	PKP	PKPab	07 55 23.7	-0.9			
TOUF	Mont Tournerai	144.28 334	PKP	PKPab	07 55 24.5	-0.3			
SSB	Saint Sauveur	144.32 338	ePKIKP	PKPbc	07 55 25.5	+0.4			
SSB	Saint Sauveur	144.32 338	ePKPdf	PKPbc	07 55 25.5	+0.4			
LUCF	Luceram	144.34 333	PKP	PKPab	07 55 24.0	-0.9			
MVIF	Mont Vial	144.42 334	PKP	PKPab	07 55 24.0	-1.3			
REVF	Revere	144.45 333	PKP	PKPab	07 55 24.8	-0.5			
PYM	Petit Puy Mans	144.46 340	PKP	PKPab	07 55 24.7	-0.6			
CALN	Calern	144.65 334	PKP	PKPab	07 55 25.6	-0.5			
LBL	Lubilhac	144.83 339	PKP	PKPbc	07 55 26.9	+0.1			
VSL	Villasalto	146.68 326	ePKPbc	PKPbc	07 55 32.4	-0.2			
KEST	Kesra	149.29 321	ePKPbc	PKPbc	07 55 40.1	+0.4			
KEST	Kesra	149.29 321	PKPbc	PKPbc	07 55 39.3	-0.5			
	comp=Z,10nm,0.8s,baz=211,slow=0.7,SNR=16								
PBRG	Braganca	150.74 349	ePKPbc	PKPbc	07 55 43.4	+0.4			
POLO	Lamas de Olo	151.34 351	ePKPbc	PKPbc	07 55 44.7	+0.2			
MVO	Moncorvo	151.41 349	ePKPbc	PKPbc	07 55 48.0	+3.3			
ESDC	Sonseca Array	152.13 344	PKPbc	PKPbc	07 55 45.2	-1.1			
ESDC	Sonseca Array	152.13 344	PKPbc	PKPbc	07 55 45.2	-1.1			
	comp=Z,1.8nm,0.8s,baz=3.0,slow=3.4,SNR=7.7								
MTE	Manteigas	152.24 350	ePKPbc	PKPbc	07 55 50.9	+4.3			
MTE	Manteigas	152.24 350	ePKPbc	PKPbc	07 55 47.0	+0.4			
PMRV	Marv??o	153.16 349	ePKPbc	PKPbc	07 55 48.9	+0.3			
TORD	Torodi Ar. Bea	164.91 272	PKP	PKPdf	07 55 52.6	-2.9			
TORD			PKPab	PKPab	07 56 52.0	+0.2			
TORD			PP	PP	08 00 44.0	+5.3			
TORD	Torodi Ar. Bea	164.91 272	PKP	PKPdf	07 55 52.6	-2.9			
	comp=Z,1.6nm,1.0s,baz=1.3,slow=2.4,SNR=7.1								
TORD			PKPab	PKPab	07 56 52.0	+0.2			
	comp=Z,2.8nm,0.9s,baz=89,slow=4.6,SNR=9.5								
TORD			PP	PP	08 00 44.0	+5.3			
	comp=Z,1.7nm,1.1s,baz=52,slow=4.5,SNR=4.2								
DBIC	Dimbokro	169.13 235	PKPab	PKPab	07 57 10.8	+0.3			
DBIC	Dimbokro	169.13 235	PKPab	PKPab	07 57 10.8	+0.3			
	comp=Z,9.7nm,1.0s,baz=107,slow=6.1,SNR=6.3								

*DJA **19** 07:41:35.0±0.6, 16°S±9°×17°3W±1°0, h10km, M5.4/13, mb5.4/13*

*IDC **19** 07

λ-77.00000°. Principal axes: T 4.6900, Plg14.0000°, Azm14.0000°; N -0.5400, Plg7.0000°, Azm282.0000°; P -4.1600, Plg74.0000°, Azm167.0000°; Data Used: II IU CN IC G. Surface waves: sta=124, comp=276, per= 50.

NEIC **19** 07:42:02.2±0.0, 15°.31S×173°.09W, h10km, Moment Tensor Solution. s120 Moment tensor: Scale 10^17Nm; Mrr-2.97; Mθθ3.34; Mφφ-0.37; Mrθ5.09; Mθφ-0.92; Mφr-0.26; Best double couple: M06.00000×10^17 NP1:φ274.00000°, δ74.00000°, λ-95.00000°. NP2:φ115.00000°, δ17.00000°, λ-69.00000°. Principal axes: T 6.3000, Plg28.0000°, Azm9.0000°; N -0.4900, Plg5.0000°, Azm275.0000°; P -5.8100, Plg60.0000°, Azm175.0000°;

ISC 19 07:41:41.9±0.4, 15°.61S±0°.06×172°.90W±0°.05, h35km±1km, n1110, σ1°08/1058, mb5.3/172, MS5.4/189, 199C-196D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.01**	**33**	*e*Pn	Pn	07 42 04.2	-9.2
AFI				*e*Sn	Sn	07 42 27.6	-10
AFI	**Afiamalu**	**2.01**	**33**	Pn	Pn	07 42 04.2	-9.2
	140nm,0.3s,baz=26,slow=0.9,SNR=121						
AFI				Sn	Sn	07 42 26.7	-11
	1μm,0.3s,baz=221,slow=20,SNR=15						
AFI				LR	LR	07 42 42.9	
	comp=Z,89μm,18.8s,baz=202,slow=33						
MSVF	**Nonsavu**	**8.93**	**255**	*e*P	Pn	07 43 54.6	+6.1
MSVF	**Nonsavu**	**8.93**	**255**	*e*Pn	Pn	07 43 54.6	+6.1
MSVF	**Nonsavu**	**8.93**	**255**	Pn	Pn	07 43 55.3	+6.8
	1μm,1.0s,SNR=34						
KNTN	**Kanton**	**12.81**	**5**	*e*Pn	Pn	07 44 36.5	-5.1
RAR	**Rarotonga**	**13.64**	**116**	Pn	Pn	07 44 46.3	-6.6
RAR	**Rarotonga**	**13.64**	**116**	Pn	Pn	07 44 46.3	-6.6
	30nm,0.3s,baz=226,slow=0.0,SNR=3.7						
RAR				LR	LR	07 49 27.8	
	comp=Z,4μm,18.4s,baz=315,slow=34						
DZM	**Mont Dzumac**	**20.57**	**249**	*e*P	P	**07 46 17.0**	**-0.9**
	212nm,0.9s						
DZM				*e*LR	LR	07 51 09.6	
	20μm,26.8s						
DZM	**Mont Dzumac**	**20.57**	**249**	P	P	**07 46 16.8**	**-1.1**
DZM	**Mont Dzumac**	**20.57**	**249**	P	P	**07 46 16.8**	**-1.1**
	52nm,1.0s,baz=73,slow=19,SNR=11						
TARA	**Tarawa**	**21.93**	**319**	*e*P	P	**07 46 32.9**	**+0.5**
	667nm,1.4s						
TARA				LR	LR		
	comp=Z,8μm,19.0s						
PAE	**Paea**	**22.43**	**98**	*e*P	P	**07 46 36.0**	**-1.8**
PPT	**Papeete**	**22.43**	**98**	P	P	**07 46 36.7**	**-1.2**
PPT	**Papeete**	**22.43**	**98**	P	P	**07 46 36.7**	**-1.2**
	comp=Z,111nm,0.9s,baz=285,slow=1.3,SNR=10						
PPT				LR	LR	07 53 47.3	
	comp=Z,3μm,20.1s,baz=267,slow=32						
PPT2	**Papeete2**	**22.43**	**98**	*e*P	P	**07 46 36.5**	**-1.5**
	comp=Z,143nm,1.1s						
PPT2				*e*LR	LR	07 51 27.0	
	comp=Z,2μm,23.2s						
TIAR	**Tiarei**	**22.65**	**98**	*e*P	P	**07 46 38.3**	**-1.9**
	comp=Z,24nm,1.0s						
OUZ	**Omahuta**	**22.98**	**209**	*e*P	P	**07 46 46.8**	**+3.3**
	comp=Z,353nm,1.9s						
XMAS	**Kiritimati**	**23.27**	**42**	*e*P	P	**07 46 45.9**	**-0.6**
	comp=Z,150nm,0.8s						
XMAS				LR	LR		
	comp=Z,9μm,20.0s						
TBI	**Tubuai**	**23.37**	**113**	*e*P	P	**07 46 46.0**	**-1.5**
	comp=Z,251nm,1.0s						
TBI				*e*LR	LR	07 52 00.4	
	comp=Z,4μm,24.5s						
MEH	**Mehetia**	**23.88**	**99**	*e*P	P	**07 46 50.2**	**-2.2**
	comp=Z,31nm,0.9s						
PMOR	**Pomariorio Ree**	**24.12**	**92**	*e*P	P	**07 46 52.5**	**-2.1**
	comp=Z,178nm,1.1s						
URZ	**Urewera**	**24.22**	**199**	*e*P	P	**07 46 58.1**	**+2.7**
	comp=Z,59nm,0.7s						
URZ	**Urewera**	**24.22**	**199**	P	P	**07 46 54.9**	**-0.5**
	comp=Z,7.7nm,0.3s,baz=260,slow=5.0,SNR=17						
URZ				LR	LR	07 53 42.4	
	comp=Z,3μm,20.6s,baz=39,slow=30						
VAH	**Vaihoa**	**24.36**	**93**	*e*P	P	**07 46 54.7**	**-2.1**
	comp=Z,151nm,1.0s						
BKZ	**Black Stump Fm**	**25.25**	**200**	*e*P	P	**07 47 07.1**	**+2.4**
	comp=Z,38nm,1.1s						
HNR	**Honiara**	**27.20**	**280**	LR	LR	07 56 35.6	
	comp=Z,2μm,19.6s,baz=299,slow=33						
SNZO	**South Karori**	**27.77**	**200**	PFAKE		07 47 40.0	+13
SNZO				LR	LR		
	comp=Z,9μm,20.0s						
KHZ	**Kahutara**	**29.15**	**201**	*e*P	P	**07 47 41.5**	**+1.9**
	comp=Z,43nm,0.8s						
RPZ	**Rata Peaks**	**31.17**	**203**	*e*P	P	**07 47 57.2**	**-0.3**
	comp=Z,99nm,1.5s						
RPZ	**Rata Peaks**	**31.17**	**203**	P	P	**07 47 55.2**	**-2.4**
	comp=Z,9.0nm,0.7s,baz=49,slow=19,SNR=3.7						
EIDS	**Eidsvold**	**35.02**	**248**	*e*P	P	**07 48 29.9**	**-1.5**
	comp=Z,14nm,0.9s						
EIDS	**Eidsvold**	**35.02**	**248**	⇑P	P	**07 48 29.8**	**-1.5**
	baz=35,SNR=4.0						
ARMA	**Armidale**	**35.65**	**239**	*e*P	P	**07 48 35.0**	**-1.9**
	comp=Z,16nm,0.8s						
ARMA	**Armidale**	**35.65**	**239**	⇑P	P	**07 48 36.2**	**-0.7**
	baz=36,SNR=6.9						
RKT	**Rikitea**	**36.47**	**108**	*e*P	P	**07 48 43.3**	**-0.5**
	comp=Z,56nm,0.9s						
RKT				*e*LR	LR	07 58 00.0	
	comp=Z,1μm,24.8s						
CNB	**Canberra Magne**	**39.01**	**233**	⇑P	P	**07 49 04.8**	**-0.5**
	baz=39,SNR=4.2						
CTA	**Charters Tower**	**39.07**	**257**	P	P	**07 49 04.1**	**-1.8**
CTA	**Charters Tower**	**39.07**	**257**	P	P	**07 49 04.1**	**-1.8**
	comp=Z,16nm,1.1s,baz=97,slow=9.9,SNR=3.5						
CTAO	**Charters Tower**	**39.07**	**257**	PFAKE		07 49 20.0	+14
CTAO				LR	LR		
	comp=Z,2μm,19.0s						
CAN	**Canberra**	**39.29**	**233**	*e*P	P	**07 49 07.5**	**-0.1**
CAN				pmax	pmax		
	comp=Z,63nm,1.5s						
CAN				MLR	MLR		
	comp=Z,4μm,21.0s						
CAN	**Canberra**	**39.29**	**233**	*e*P	P	**07 49 07.5**	**-0.1**
	comp=Z,63nm,1.5s						
CAN				LR	LR		
	comp=Z,4μm,21.0s						
H11S2	**WAKE ISLAND Hy**	**39.40**	**329**	T	T	08 31 05.7	
	baz=152,slow=0.7,SNR=61						
H11S3	**WAKE ISLAND Hy**	**39.41**	**329**	T	T	08 31 10.8	
	baz=152,slow=0.7,SNR=52						
H11S1	**WAKE ISLAND Hy**	**39.41**	**329**	T	T	08 30 57.4	
	baz=152,slow=0.7,SNR=68						
PMG	**Port Moresby**	**39.43**	**274**	*e*P	P	**07 49 09.8**	**+0.9**
PMG				LR	LR		
	comp=Z,2μm,20.0s						
PMG	**Port Moresby**	**39.43**	**274**	P	P	**07 49 08.1**	**-0.9**
	comp=Z,18nm,0.8s,baz=56,slow=7.3,SNR=4.9						
KIP	**Kipapa**	**39.60**	**22**	*c i*P	P	**07 49 08.4**	**-1.7**
KIP				pmax	pmax		
	comp=Z,96nm,1.2s						
KIP	**Kipapa**	**39.60**	**22**	*e*P	P	**07 49 10.2**	**+0.1**
	comp=Z,958nm,2.3s						
KIP				LR	LR		
	comp=Z,6μm,21.0s						
WAKE	**Wake Island**	**40.09**	**329**	PFAKE		07 49 20.0	+5.8
WAKE				LR	LR		
	comp=Z,2μm,19.0s						
H11N3	**WAKE ISLAND Hy**	**40.34**	**330**	T	T	08 32 21.3	
	baz=151,slow=0.7,SNR=75						
H11N1	**WAKE ISLAND Hy**	**40.34**	**330**	T	T	08 32 18.0	
	baz=151,slow=0.7,SNR=90						
H11N2	**WAKE ISLAND Hy**	**40.35**	**330**	T	T	08 32 25.3	
	baz=151,slow=0.7,SNR=70						
CMSA	**Cobar Meteorol**	**40.87**	**240**	⇑P	P	07 49 17.2	-3.4
	baz=41,SNR=32						
MTSU	**Mount Surprise**	**40.96**	**260**	⇑P	P	**07 49 19.5**	**-2.1**
	baz=41,SNR=8.2						
COEN	**Coen**	**42.45**	**266**	*e*P	P	**07 49 32.9**	**-0.9**
	comp=Z,366nm,0.9s						
COEN	**Coen**	**42.45**	**266**	P	P	**07 49 32.6**	**-1.2**
	baz=42,SNR=16						
TOO	**Toolangi**	**42.71**	**231**	⇓P	P	**07 49 34.9**	**-0.8**
	baz=43,SNR=5.8						
TAU	**Tasmania Unive**	**43.49**	**223**	PFAKE		07 49 50.0	+8.1
TAU				LR	LR		
	comp=Z,5μm,21.0s						
MIDW	**Midway**	**43.78**	**354**	PFAKE		07 49 50.0	+5.7
MIDW				LR	LR		
	comp=Z,5μm,21.0s						
STKA	**Stephens Creek**	**44.35**	**240**	*e*P	P	**07 49 46.1**	**-2.8**
	comp=Z,9.0nm,0.8s						
STKA	**Stephens Creek**	**44.35**	**240**	⇑P	P	**07 49 46.2**	**-2.8**
	baz=44,SNR=26						
STKA	**Stephens Creek**	**44.35**	**240**	P	P	**07 49 46.1**	**-2.8**
	comp=Z,21nm,0.6s,baz=90,slow=10.0,SNR=25						
STKA				LR	LR	08 05 44.0	
	comp=Z,3μm,21.9s,baz=73,slow=33						
ARPS	**Mount Arapiles**	**45.25**	**233**	⇑P	P	**07 49 54.7**	**-1.4**
	baz=45						
BBOO	**Buckleboo**	**49.13**	**240**	*e*P	P	07 50 23.0	-3.3
	comp=Z,689nm,0.8s						
BBOO	**Buckleboo**	**49.13**	**240**	⇓P	P	07 50 23.0	-3.3
	baz=49,SNR=34						
WRAB	**Tennant Creek**	**50.26**	**257**	*e*P	P	07 50 31.9	-3.2
WRAB				pmax	pmax		
	comp=Z,45nm,1.1s						
WRAB				MLR	MLR		
	comp=Z,3μm,20.0s						
WRAB	**Tennant Creek**	**50.26**	**257**	*e*P	P	07 50 31.9	-3.2
	comp=Z,45nm,1.1s						
WRAB				LR	LR		
	comp=Z,3μm,20.0s						
WRAB	**Tennant Creek**	**50.26**	**257**	P	P	**07 50 32.9**	**-2.3**
	comp=Z,194nm,1.3s,SNR=12						
WRA	**Warramunga Arr**	**50.27**	**257**	P	P	**07 50 32.2**	**-3.0**
WRA	**Warramunga Arr**	**50.27**	**257**	P	P	**07 50 32.2**	**-3.0**
	comp=Z,9.9nm,0.8s,baz=94,slow=6.7,SNR=41						
WRA				LR	LR	08 09 40.5	
	comp=Z,3μm,19.9s,baz=100,slow=34						
AS31	**Alice Springs**	**50.51**	**252**	*e*P	P	07 50 33.4	-3.7
ASAR	**Alice Springs**	**50.51**	**252**	P	P	**07 50 34.2**	**-2.8**
ASAR	**Alice Springs**	**50.51**	**252**	P	P	**07 50 34.2**	**-2.8**
	comp=Z,29nm,0.7s,baz=88,slow=7.7,SNR=100						
ASAR				LR	LR	08 10 23.0	
	comp=Z,3μm,21.0s,baz=93,slow=34						
KDU	**Kakadu**	**52.94**	**266**	P	P	**07 50 54.7**	**-0.5**
	baz=53,SNR=4.5						
MTN	**Manton Dam**	**54.20**	**265**	P	P	**07 51 02.9**	**-1.6**
	baz=54,SNR=9.3						
FITZ	**Fitzroy Crossi**	**58.64**	**258**	*e*P	P	**07 51 38.0**	**+1.9**
	comp=Z,113nm,2.2s						
FITZ	**Fitzroy Crossi**	**58.64**	**258**	P	P	**07 51 35.0**	**-1.1**
	baz=58,SNR=9.5						
DRV	**Dumont d'Urvil**	**59.56**	**200**	P	P	07 51 32.0	-10
DRV				S	S	07 59 37.0	-12
DRV				L	L	08 06 00.0	
DRV				R		08 10 00.0	
SOEI	**Soe**	**61.40**	**267**	P	P	**07 51 54.1**	**-1.2**
	comp=Z,185nm,0.9s						
SOEI	**Soe**	**61.40**	**267**	⇑P	P	**07 51 54.9**	**-0.4**
	baz=61,SNR=6.3						
SBA	**Scott Base**	**63.08**	**185**	*e*P	P	07 52 09.1	+3.8
SBA				pmax	pmax		
	comp=Z,66nm,1.0s						
SBA				MLR	MLR		
	comp=Z,2μm,21.0s						
SBA	**Scott Base**	**63.08**	**185**	*e*P	P	07 52 09.1	+3.8
	comp=Z,66nm,1.0s						
SBA				LR	LR		
	comp=Z,2μm,21.0s						
VNDA	**Vanda**	**63.22**	**186**	*e*P	P	**07 52 08.3**	**+2.1**
VNDA	**Vanda**	**63.22**	**186**	P	P	**07 52 07.8**	**+1.6**
	comp=Z,19nm,0.9s,baz=7.2,slow=6.2,SNR=58						
VNDA				LR	LR	08 13 13.7	
	comp=Z,1μm,21.0s,baz=2.1,slow=30						
MBWA	**Marble Bar**	**63.77**	**254**	*e*P	P	**07 52 11.4**	**+0.6**
	comp=Z,18nm,0.8s						
MBWA				LR	LR		
	comp=Z,2μm,19.0s						
NWAO	**Narrogin (SRO)**	**64.94**	**241**	PFAKE		07 52 30.0	+12
NWAO				LR	LR		
	comp=Z,2μm,20.0s						
BLDU	**Ballidu**	**65.53**	**243**	P	P	**07 52 22.4**	**+0.2**
	baz=65,SNR=5.6						
MORW	**Morawa**	**66.23**	**245**	P	P	**07 52 26.8**	**+0.1**
	baz=66,SNR=7.5						
KAPI	**Kappang**	**66.87**	**271**	PFAKE		07 52 40.0	+9.0
KAPI				LR	LR		
	comp=Z,456nm,20.0s						
ADK	**Adak**	**67.29**	**357**	*e*P	P	**07 52 32.9**	**+0.1**
ADK				pmax	pmax		
	comp=Z,223nm,2.0s						
ADK				MLR	MLR		
	comp=Z,2μm,21.0s						
ADK	**Adak**	**67.29**	**357**	*e*P	P	**07 52 32.9**	**+0.1**
	comp=Z,223nm,2.0s						
ADK				LR	LR		
	comp=Z,2μm,21.0s						
UNV	**Unalaska Valle**	**69.39**	**4**	*e*P	P	**07 52 45.6**	**-0.3**
	comp=Z,28nm,0.8s						
MJAR	**Matsushiro Arr**	**69.41**	**320**	P	P	**07 52 44.8**	**-1.7**
MJAR	**Matsushiro Arr**	**69.41**	**320**	P	P	**07 52 44.8**	**-1.7**
	comp=Z,3.2nm,1.0s,baz=143,slow=3.0,SNR=3.7						
MJAR				LR	LR	08 17 13.0	
	comp=Z,2μm,21.2s,baz=135,slow=31						
MAJO	**Matsushiro**	**69.42**	**320**	*e*P	P	**07 52 49.1**	**+2.6**
MAJO				pmax	pmax		
	comp=Z,233nm,2.3s						
MAJO				MLR	MLR		
	comp=Z,2μm,21.0s						
MAJO	**Matsushiro**	**69.42**	**320**	*e*P	P	**07 52 49.1**	**+2.6**
	comp=Z,233nm,2.3s						
MAJO				LR	LR		
	comp=Z,2μm,21.0s						
MAT	**Matsushiro**	**69.42**	**320**	P	P	**07 52 45.8**	**-0.7**
MAT				S	S	**08 01 52.4**	**+1.0**
AKUT	**Akutan**	**69.73**	**4**	*e*P	P	**07 52 47.5**	**-0.5**
	comp=Z,447nm,2.2s						
CASY	**Casey**	**70.42**	**205**	*e*P	P	**07 52 53.8**	**+1.6**
	comp=Z,51nm,1.2s						
CASY				LR	LR		
	comp=Z,1μm,20.0s						
SCI	**San Clemente I**	**70.90**	**46**	⇓P	P	**07 52 55.5**	**-0.2**
	baz=71						
SBC	**Santa Barbara**	**70.93**	**44**	⇓P	P	**07 52 55.7**	**-0.1**
	baz=71						
PKM	**Peak Mountain**	**71.12**	**44**	⇓P	P	**07 52 57.2**	**0.0**
	baz=71						
SAO	**San Andreas Ge**	**71.17**	**42**	*e*P	P	**07 52 58.5**	**+1.3**
SAO				pmax	pmax		
	comp=Z,23nm,1.0s						
SAO	**San Andreas Ge**	**71.17**	**42**	*e*P	P	**07 52 58.5**	**+1.3**
	comp=Z,23nm,1.0s						
BLG	**Laguna Peak**	**71.18**	**45**	⇓P	P	**07 52 56.9**	**-0.5**
	baz=71						
CIS	**Catalina Islan**	**71.24**	**46**	⇓P	P	**07 52 57.5**	**-0.3**
	baz=71						
SMMC	**Simmler**	**71.25**	**44**	⇑P	P	**07 52 58.0**	**+0.2**
	baz=71						
PTRM	**Twissleman Ran**	**71.31**	**43**	*e*P	P	**07 53 00.1**	**+1.9**
SDPT	**Sand Point**	**71.46**	**7**	*e*P	P	**07 52 57.0**	**-1.5**
	comp=Z,55nm,0.6s						
PASC	**Pasadena Art C**	**71.82**	**45**	*e*P	P	**07 53 00.8**	**-0.5**
	comp=Z,22nm,1.2s						
109C	**Camp Elliot, M**	**71.86**	**47**	⇓P	P	**07 53 01.4**	**-0.1**
	baz=72						
ARVC	**Arvin**	**71.92**	**44**	⇑P	P	**07 53 01.5**	**-0.3**
	baz=72						
MWC	**Mount Wilson**	**71.94**	**45**	*e*P	P	**07 53 01.9**	**-0.2**
MWC				pmax	pmax		
	comp=Z,22nm,1.0s						
MWC	**Mount Wilson**	**71.94**	**45**	*e*P	P	**07 53 01.9**	**-0.2**
	comp=Z,22nm,1.0s						
ASAJ	**Asahikawa**	**71.98**	**328**	*e*P	P	**07 53 03.7**	**+1.8**
	comp=Z,25nm,1.3s						
ASAJ	**Asahikawa**	**71.98**	**328**	P	P	**07 53 01.5**	**-0.4**
	comp=Z,17nm,0.8s,baz=220,slow=5.6,SNR=9.9						
BAR	**Barrett**	**72.06**	**47**	*e*P	P	**07 53 03.2**	**+0.5**
	comp=Z,7.5nm,0.8s						
VES	**Vestal, Richgr**	**72.16**	**44**	⇑P	P	**07 53 02.6**	**-0.6**
	baz=72,SNR=16						
MURC	**Murrieta**	**72.19**	**46**	⇓P	P	**07 53 03.2**	**-0.2**
	baz=72						
BFSC	**Mount Baldy Ra**	**72.22**	**46**	⇓P	P	**07 53 03.0**	**-0.7**
	baz=72,SNR=8.2						
KHMM	**Horse Mountain**	**72.34**	**37**	*e*P	P	**07 53 05.5**	**+1.2**
	comp=Z,338nm,3.0s						
EDW2	**Edwards Air Fo**	**72.35**	**45**	⇑P	P	**07 53 04.2**	**-0.3**
	baz=72,SNR=20						
MONP	**Monument Peak**	**72.35**	**47**	⇓P	P	**07 53 04.6**	**-0.1**
	baz=72						
DVTC	**Desert V Tower**	**72.45**	**48**	⇓P	P	**07 53 04.8**	**-0.3**
	baz=73						
ISA	**Isabella**	**72.47**	**44**	*e*P	P	**07 53 05.3**	**+0.2**
ISA				pmax	pmax		
	comp=Z,62nm,1.4s						
ISA	**Isabella**	**72.47**	**44**	⇓P	P	**07 53 04.6**	**-0.5**
	baz=73,SNR=25						
CMB	**Columbia Colle**	**72.60**	**41**	*e*P	P	**07 53 05.7**	**-0.2**
CMB				pmax	pmax		
	comp=Z,73nm,1.9s						
CMB	**Columbia Colle**	**72.60**	**41**	*e*P	P	**07 53 05.7**	**-0.2**
	comp=Z,72nm,1.9s						
PET	**Petropavlovsk**	**72.63**	**342**	*e*P	P	**07 53 02.9**	**-2.6**
PET				*e*PPP	PPP	07 57 23.8	
PET				*e*S	S	**08 02 24.9**	**-3.0**
PET				*e*PS	PnS	**08 02 59.2**	**-3.1**
PET				*e*PPS	PPS	08 03 17.2	
PET				pmax	pmax		
	comp=Z,500nm,16.3s						
PET				pmax	pmax		
	comp=Z,25nm,1.4s						
PET				pmax	pmax		
	comp=Z,500nm,14.7s						
KRMB	**Red Mountain**	**72.65**	**36**	*e*P	P	**07 53 05.9**	**-0.3**
	comp=Z,311nm,2.9s						
CHGN	**Chignik**	**72.66**	**8**	*e*P	P	**07 53 04.1**	**-1.6**
PFO	**Pinyon Flat Ob**	**72.71**	**47**	*e*P	P	**07 53 05.7**	**-1.0**
	comp=Z,20nm,1.3s						
PFO				LR	LR		
	comp=Z,2μm,22.0s						
PFO	**Pinyon Flat Ob**	**72.71**	**47**	P	P	**07 53 05.4**	**-1.3**
	comp=Z,64nm,1.1s,SNR=7.4						
PFO	**Pinyon Flat Ob**	**72.71**	**47**	⇓P	P	**07 53 06.6**	**-0.1**
	baz=73						
PFO	**Pinyon Flat Ob**	**72.71**	**47**	P	P	**07 53 05.2**	**-1.6**
	comp=Z,13nm,1.2s,baz=249,slow=5.3,SNR=9.3						
LPIG	**La Paz**	**72.73**	**58**	P	P	**07 53 06.2**	**-0.7**
LPIG	**La Paz**	**72.73**	**58**	P	P	**07 53 06.2**	**-0.7**
	comp=Z,10nm,0.7s,baz=61,slow=3.1,SNR=4.9						
BBRC	**Big Bear Solar**	**72.74**	**46**	⇓P	P	**07 53 06.8**	**-0.2**
	baz=73						
SWSC	**Sam W. Stewart**	**72.82**	**48**	⇑P	P	**07 53 07.4**	**+0.2**
	baz=73						
WDC	**Whiskeytown Da**	**72.84**	**38**	*e*P	P	**07 53 06.7**	**-0.5**
WDC				pmax	pmax		
	comp=Z,46nm,1.5s						
WDC	**Whiskeytown Da**	**72.84**	**38**	*e*P	P	**07 53 06.7**	**-0.5**
	comp=Z,46nm,1.5s						
LRMC	**Laurel Mountai**	**72.89**	**45**	⇑P	P	**07 53 07.8**	**+0.1**
	baz=73						
PEA0B	**Petropavlovsk-**	**72.98**	**342**	*e*P	P	**07 53 07.5**	**-0.2**
PETK	**Petropavlovsk-**	**72.98**	**342**	P	P	**07 53 07.4**	**-0.3**
PETK	**Petropavlovsk-**	**72.98**	**342**	P	P	**07 53 07.4**	**-0.3**
PETK	**Petropavlovsk-**	**72.98**	**342**	P	P	**07 53 07.4**	**-0.3**
	comp=Z,20nm,0.7s,baz=137,slow=9.0,SNR=23						
PETK				LR	LR	08 17 19.4	
	comp=Z,613nm,21.5s,baz=145,slow=29						
BELC	**Belle Mtn. Jos**	**73.24**	**47**	⇑P	P	**07 53 09.1**	**-0.8**
	baz=73,SNR=14						
MPMC	**Manual Prospec**	**73.35**	**44**	⇓P	P	**07 53 10.2**	**-0.3**
	baz=74,SNR=43						
MLAC	**Mammoth Lakes**	**73.36**	**42**	⇓P	P	**07 53 10.5**	**0.0**
	baz=74						
MTUM	**Tungsten Hills**	**73.37**	**43**	*e*P	P	**07 53 10.7**	**0.0**
GSC	**Goldstone**	**73.39**	**45**	*e*P	P	**07 53 10.5**	**-0.2**
GSC				pmax	pmax		
	comp=Z,47nm,1.4s						
GSC	**Goldstone**	**73.39**	**45**	*e*P	P	**07 53 10.5**	**-0.2**
	comp=Z,47nm,1.4s						
GSC	**Goldstone**	**73.39**	**45**	⇓P	P	**07 53 10.2**	**-0.4**
	baz=74,SNR=14						
KKM	**Kota Kinabalu**	**73.40**	**281**	PFAKE		07 53 20.0	+8.8
KKM				LR	LR		
	comp=Z,244nm,21.0s						
TIN	**Tinemaha**	**73.42**	**43**	⇑P	P	**07 53 10.7**	**-0.2**
	baz=74						
BC3	**Big Chuckawall**	**73.44**	**47**	⇑P	P	**07 53 10.7**	**-0.4**
	baz=74,SNR=12						
HEC	**Hector,Ludlow**	**73.46**	**46**	⇑P	P	**07 53 10.4**	**-0.7**
	baz=74						
YBH	**Yreka Blue Hor**	**73.47**	**37**	*e*P	P	**07 53 11.4**	**+0.4**
	comp=Z,44nm,1.4s						
WAKR	**Walker**	**73.48**	**41**	*e*P	P	**07 53 11.0**	**-0.3**
GLA	**Glamis**	**73.57**	**48**	*e*P	P	**07 53 12.1**	**+0.4**
GLA				pmax	pmax		
	comp=Z,40nm,1.4s						
GLA	**Glamis**	**73.57**	**48**	*e*P	P	**07 53 12.1**	**+0.4**
	comp=Z,40nm,1.4s						
GLA	**Glamis**	**73.57**	**48**	⇑P	P	**07 53 11.7**	**0.0**
	baz=74						
BEKR	**Beckworth**	**73.72**	**40**	*e*P	P	**07 53 12.0**	**-0.6**
	comp=Z,8.3nm,1.1s						
HUMO	**Hull Mountain**	**73.89**	**36**	*e*P	P	**07 53 13.9**	**+0.6**
	comp=Z,51nm,1.6s						
GMRC	**Granite Mounta**	**73.90**	**46**	⇑P	P	**07 53 13.0**	**-0.7**
	baz=74,SNR=16						
YSS	**Yuzh-Sakhalins**	**73.91**	**330**	*e*P	P	**07 53 13.0**	**-0.3**
YSS				*e*		07 53 19.0	
YSS				*e*		07 53 26.0	
YSS				*e*S	S	**08 02 47.0**	**+4.3**
YSS				*e*PPS	PPS	08 03 30.0	
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS				pmax	pmax		
	comp=Z,500nm,6.0s						
YSS				MLR	MLR		
	comp=Z,400nm,15.0s						
IRM	**Iron Mountain**	**73.92**	**47**	⇑P	P	**07 53 13.5**	**-0.2**
	baz=74,SNR=13						
FURC	**Furnace Creek,**	**74.00**	**44**	⇑P	P	**07 53 14.0**	**0.0**
	baz=74						
TUQ	**Turquoise Moun**	**74.07**	**45**	⇑P	P	**07 53 14.5**	**-0.2**
	baz=74						
SHOC	**Shoshone**	**74.08**	**45**	⇓P	P	**07 53 14.8**	**+0.2**
	baz=74						
Y12C	**Blythe**	**74.15**	**48**	⇑P	P	**07 53 14.7**	**-0.3**
	baz=74,SNR=13						
NVAR	**Mina Array Bea**	**74.16**	**42**	P	P	**07 53 14.7**	**-0.5**
NVAR	**Mina Array Bea**	**74.16**	**42**	P	P	**07 53 14.7**	**-0.5**
	comp=Z,8.0nm,0.7s,baz=228,slow=9.5,SNR=22						
113A	**Mohawk Valley,**	**74.19**	**49**	⇑P	P	**07 53 14.9**	**-0.3**
	baz=74,SNR=16						
PAHR	**Pah Rah Range**	**74.23**	**40**	*e*P	P	**07 53 14.9**	**-0.6**
	comp=Z,29nm,2.8s						
NV11	**Mina Array Sit**	**74.26**	**42**	*e*P	P	**07 53 14

BMN MLR MLR
comp=Z,3µm,22.0s
BMN Battle Mountai 76.00 41 *eP* **P 07 53 24.9 -0.8**
comp=Z,20nm,1.1s
BMN LR LR
comp=Z,3µm,22.0s
E03A Lebam 76.12 33 *eP* P 07 53 30.5 +4.5
TUC Tucson 76.15 50 *eP* **P 07 53 25.4 -1.3**
TUC pmax pmax
comp=Z,260nm,2.7s
TUC MLR MLR
comp=Z,2µm,19.0s
TUC Tucson 76.15 50 *eP* **P 07 53 25.4 -1.3**
comp=Z,260nm,2.7s
TUC LR LR
comp=Z,2µm,19.0s
WVOR Wild Horse Val 76.30 38 *eP* **P 07 53 26.7 -0.7**
WVOR pmax pmax
comp=Z,15nm,0.9s
WVOR MLR MLR
comp=Z,4µm,22.0s
WVOR Wild Horse Val 76.30 38 *eP* **P 07 53 26.7 -0.7**
comp=Z,15nm,0.9s
WVOR LR LR
comp=Z,4µm,22.0s
VFP Flag Point 76.45 35 P **P 07 53 27.7 -0.5**
NLWA Neilton Lookou 76.52 32 *eP* **P 07 53 29.5 +1.1**
comp=Z,60nm,1.4s
NLWA LR LR
comp=Z,2µm,20.0s
ERK Elk Rock 76.61 33 P **P 07 53 29.2 +0.2**
KSRS Korea Array 76.65 315 P **P 07 53 30.1 +0.9**
comp=Z,5.9nm,0.9s,baz=130,slow=5.2,SNR=9.0
KSRS LR LR 08 22 05.1
comp=Z,499nm,20.4s,baz=113,slow=32
KSAR Wonju Array Be 76.67 315 P **P 07 53 30.1 +0.8**
X16A Lo Mia Camp, P 76.69 48 ⇑P **P 07 53 29.8 -0.1**
baz=77,SNR=33
TDL Tradedollar La 76.70 33 P **P 07 53 29.3 -0.3**
I07A Izee 76.78 36 *eP* **P 07 53 29.8 -0.2**
comp=Z,118nm,1.9s
319A Douglas 76.84 52 ⇑P **P 07 53 30.8 +0.2**
baz=77,SNR=12
G06A Carlson Farm, 76.85 35 *eP* **P 07 53 30.3 0.0**
comp=Z,76nm,1.4s
ASR Mount Adams--S 76.91 34 P **P 07 53 30.2 -0.5**
CCUT Cedar City 76.94 45 *eP* **P 07 53 31.0 -0.3**
comp=Z,168nm,2.5s
J08A Circle Bar Ran 76.94 38 *eP* **P 07 53 30.5 -0.4**
ARUT Antelope Range 77.01 44 *eP* **P 07 53 31.2 -0.4**
ARUT pmax pmax
comp=Z,735nm,1.3s
ARUT Antelope Range 77.01 44 *eP* **P 07 53 31.2 -0.4**
comp=Z,734nm,1.3s
U15A North Rim 77.10 46 ⇑P **P 07 53 32.0 -0.2**
baz=77,SNR=25
LON Longmire 77.17 33 *eP* **P 07 53 31.8 -0.3**
LON pmax pmax
comp=Z,17nm,1.2s
LON Longmire 77.17 33 *eP* **P 07 53 31.8 -0.3**
comp=Z,16nm,1.2s
WPW White Pass 77.28 33 P **P 07 53 32.1 -0.7**
WUAZ Wupatki 77.28 47 *eP* **P 07 53 33.6 +0.5**
comp=Z,41nm,1.3s
WUAZ LR LR
comp=Z,2µm,21.0s
WUAZ Wupatki 77.28 47 ⇑P **P 07 53 33.3 +0.2**
baz=77,SNR=9.1
D05A Enumclaw 77.36 33 *eP* **P 07 53 33.8 +0.7**
comp=Z,225nm,1.4s
320A Kipp Ranch, An 77.39 52 ⇑P **P 07 53 34.3 +0.5**
baz=78,SNR=12
ELK Elko 77.42 41 *eP* **P 07 53 33.9 0.0**
comp=Z,87nm,2.2s
RSO Redoubt South 77.53 10 *eP* **P 07 53 32.6 -1.4**
INCN Inchon 77.54 315 PFAKE 07 53 50.0 +16
INCN LR LR
comp=Z,912nm,21.0s
RMW Rattlesnake Mo 77.63 33 P **P 07 53 34.5 -0.2**
RMW Rattlesnake Mo 77.63 33 P **P 07 53 34.5 -0.2**
220A Playas Peak, P 77.65 52 ⇓P **P 07 53 35.4 +0.1**
baz=78,SNR=22
KSM Kuching 77.69 275 PFAKE 07 53 50.0 +14
KSM LR LR
comp=Z,404nm,19.0s
SVW2 Sparrevohn 77.69 9 *eP* **P 07 53 32.9 -1.7**
comp=Z,14nm,0.9s
SEW Seward 77.80 12 *eP* **P 07 53 34.0 -1.2**
G08A Pilot Rock 77.82 36 *eP* **P 07 53 35.1 -0.7**
comp=Z,81nm,1.5s
X18A Snowflake 77.82 49 ⇓P **P 07 53 36.2 0.0**
baz=78,SNR=8.8
USRK Ussuriysk Arra 77.84 323 P **P 07 53 36.2 +0.4**
comp=Z,4.7nm,0.8s,baz=101,slow=4.7,SNR=10.0
USRK LR LR 08 21 26.9
comp=Z,1µm,21.0s,baz=115,slow=31
120A U Bar Ranch, L 77.87 51 ⇓P **P 07 53 36.7 +0.2**
baz=78,SNR=8.8
QZH Quanzhou 77.98 300 P **P 07 53 36.8 -0.2**
QZH S **S 08 03 26.8 -1.7**
QZH AMB AMB
comp=Z,830nm,3.5s
QZH LR LR
comp=Z,1µm,18.5s
LTY Liberty 78.10 33 *eP* **P 07 53 37.0 -0.3**
comp=Z,153nm,2.4s
Z20A Nine Sixteen R 78.16 51 ⇑P **P 07 53 38.6 +0.5**
baz=78,SNR=15
HAWA Hanford 78.17 35 *eP* **P 07 53 37.1 -0.5**
comp=Z,181nm,2.1s
HAWA LR LR
comp=Z,3µm,20.0s
MVU Marysvale 78.21 44 *eP* **P 07 53 38.2 -0.1**
comp=Z,45nm,1.3s
MVU LR LR
comp=Z,2µm,20.0s
W18A Petrified Fore 78.26 48 ⇑P **P 07 53 38.6 0.0**
baz=78
SPU Mount Spurr 78.33 10 *eP* **P 07 53 36.5 -1.7**
MBW Mount Baker 78.43 32 P **P 07 53 39.2 0.0**
SSE Sheshan 78.47 307 *eP* **P 07 53 39.9 +0.3**
SSE PcP **PcP 07 53 48.5 -0.2**
SSE pP **pP 07 53 51.5 +1.0**
SSE sP **sP 07 53 55.9 +1.4**
SSE S **S 08 03 35.1 +1.6**
SSE AMB AMB
comp=Z,24nm,0.7s
SSE AMB AMB
comp=Z,200nm,7.0s
SSE LR LR
comp=Z,360nm,20.1s
SSE LR LR
comp=Z,130nm,20.1s
SSE LR LR
comp=Z,500nm,23.5s
A05A Maple Falls 78.48 31 *eP* **P 07 53 39.0 -0.2**
comp=Z,144nm,2.3s
ETW Entiat 78.50 33 P **P 07 53 38.5 -1.0**
121A Cookes Peak, D 78.50 51 ⇑P **P 07 53 40.3 +0.3**
baz=79,SNR=15
BMO Blue Mountains 78.50 37 *eP* **P 07 53 38.4 -1.2**
BMO pmax pmax
comp=Z,60nm,1.6s
BMO MLR MLR
comp=Z,3µm,20.0s
BMO Blue Mountains 78.50 37 *eP* **P 07 53 38.4 -1.2**
comp=Z,60nm,1.6s
BMO LR LR
comp=Z,3µm,20.0s
Y20A Horse Springs, 78.68 50 ⇑P **P 07 53 41.6 +0.5**
baz=79,SNR=18
DUG Dugway 78.69 43 *eP* **P 07 53 40.1 -0.7**
DUG pmax pmax
comp=Z,23nm,1.1s
DUG MLR MLR
comp=Z,2µm,20.0s
DUG Dugway 78.69 43 *eP* **P 07 53 40.1 -0.7**
comp=Z,23nm,1.1s
DUG LR LR
comp=Z,2µm,20.0s
DUG Dugway 78.69 43 ⇓P **P 07 53 40.6 -0.2**
baz=79,SNR=25
222A Williams Famil 78.82 52 ⇓P **P 07 53 41.6 -0.1**
baz=79,SNR=9.2
X20A Quemado 78.89 49 ⇑P **P 07 53 42.6 +0.4**
baz=79,SNR=13
BGU Big Grassy Mou 78.93 42 *eP* **P 07 53 41.7 -0.5**
comp=Z,68nm,1.9s
Z21A St. Cloud Mine 78.93 51 ⇓P **P 07 53 43.1 +0.7**
baz=79,SNR=22
E09A Wood Farm, Sta 79.01 35 *eP* **P 07 53 41.2 -1.0**
comp=Z,213nm,2.3s
NLU North Lily Min 79.05 43 *eP* **P 07 53 43.7 +0.8**
comp=Z,15nm,1.0s
RAGM Ragged Mountai 79.07 14 *eP* **P 07 53 43.2 +0.9**
comp=Z,30nm,1.0s
Q16A Castle Valley 79.12 44 *eP* **P 07 53 43.0 -0.3**
Q16A Castle Valley 79.12 44 ⇓P **P 07 53 43.6 +0.3**
baz=79,SNR=14
W20A Ramah 79.16 49 ⇓P **P 07 53 43.9 +0.3**
baz=79,SNR=38
122A Conniff Cattle 79.16 52 ⇑P **P 07 53 44.1 +0.5**
baz=79,SNR=7.6
F10A Beach Ranch, E 79.20 36 *eP* **P 07 53 42.1 -1.3**
comp=Z,36nm,0.9s
Y21A Point of Rocks 79.25 50 ⇓P **P 07 53 45.0 +0.9**
baz=79,SNR=11
TMUT Trail Mountain 79.29 44 *eP* **P 07 53 45.1 +0.8**
comp=Z,64nm,1.1s
223A Chaparral, Ant 79.29 52 ⇓P **P 07 53 44.4 +0.1**
baz=79
X21A Alamocita Cree 79.36 50 ⇓P **P 07 53 45.2 +0.4**
baz=80,SNR=12
MPU Maple Canyon 79.37 43 *eP* **P 07 53 44.8 +0.1**
comp=Z,25nm,1.1s
WRAK Wrangell Islan 79.37 22 *eP* **P 07 53 44.1 +0.2**
comp=Z,38nm,1.3s
WRAK LR LR
comp=Z,2µm,20.0s
Z22A Elephant Butte 79.44 51 ⇑P **P 07 53 45.2 +0.1**
baz=80,SNR=19
HLID Hailey 79.48 39 *eP* **P 07 53 44.7 -0.5**
comp=Z,38nm,1.3s
HLID LR LR
comp=Z,2µm,21.0s
HLID Hailey 79.48 39 ⇓P **P 07 53 44.9 -0.2**
baz=80,SNR=30
B08A Colville Reser 79.49 33 *eP* **P 07 53 43.5 -1.3**
MDJ Mudanjiang 79.49 322 P **P 07 53 46.1 +1.2**
MDJ pP **pP 07 53 55.6 -0.2**
MDJ sP **sP 07 53 59.3 -0.5**
MDJ PP **PP 07 56 45.0 -0.8**
MDJ S **S 08 03 44.4 +0.6**
MDJ ScS **ScS 08 04 06.8 +1.1**
MDJ AMB AMB
comp=Z,410nm,5.8s
MDJ LR LR
comp=Z,500nm,18.2s
MDJ LR LR
comp=Z,750nm,24.5s
MDJ LR LR
comp=Z,1µm,23.2s
MDJ Mudanjiang 79.49 322 PFAKE 07 54 00.0 +15
MDJ LR LR
comp=Z,1µm,21.0s
DIV Divide 79.49 13 *eP* **P 07 53 43.2 -1.4**
comp=Z,51nm,0.6s
V20A Brimhall 79.49 48 ⇑P **P 07 53 45.3 -0.1**
baz=80
SPUT South Promonto 79.50 42 *eP* **P 07 53 45.1 -0.2**
comp=Z,41nm,1.4s
HVU Hansel Valley 79.54 41 *eP* **P 07 53 45.5 0.0**
HVU pmax pmax
comp=Z,189nm,2.2s
HVU Hansel Valley 79.54 41 *eP* **P 07 53 45.5 0.0**
comp=Z,189nm,2.2s
SML Sawmill 79.58 12 *eP* P 07 53 38.1 -7.0
SML Sawmill 79.58 12 *eP* P 07 53 38.1 -7.0
SML *epP* pP 07 54 01.8 +5.8
SRU San Rafael 79.65 44 *eP* **P 07 53 45.8 -0.4**
SRU pmax pmax
comp=Z,25nm,1.0s
SRU San Rafael 79.65 44 *eP* **P 07 53 45.8 -0.4**
comp=Z,25nm,1.0s
123A Bell Site, Whi 79.69 52 ⇓P **P 07 53 46.3 -0.1**
baz=80
C09A Chrisman Ranch 79.71 34 *eP* **P 07 53 45.2 -0.9**
comp=Z,160nm,2.0s
U20A Newcomb 79.72 48 ⇓P **P 07 53 46.3 -0.3**
baz=80
Y22A Socorro 79.74 50 ⇓P **P 07 53 46.7 0.0**
baz=80
W21A San Fidel 79.77 49 ⇑P **P 07 53 46.8 -0.2**
baz=80
324A Mcvey Ranch, 79.78 53 ⇓P **P 07 53 46.8 -0.2**
baz=80,SNR=13
JLU Jordanelle 79.79 43 *eP* **P 07 53 47.0 +0.1**
comp=Z,24nm,1.1s
DAU Daniels Canyon 79.82 43 *eP* **P 07 53 47.7 +0.5**
DAU Daniels Canyon 79.82 43 *eP* **P 07 53 47.7 +0.5**
LAZ Ladron 79.82 50 *eP* **P 07 53 47.9 +0.7**
comp=Z,40nm,1.8s
LENM Lemitar 79.84 50 *eP* **P 07 53 47.7 +0.4**
425A Indio Mountain 79.89 54 ⇓P **P 07 53 47.6 +0.1**
baz=80,SNR=14
PPLA Pueyepile 79.92 9 *eP* **P 07 53 44.4 -2.6**
X22A Bernardo 79.96 50 ⇓P **P 07 53 47.7 -0.3**
baz=80
MNTX Cornudas Mount 79.96 53 PFAKE 07 54 00.0 +12
MNTX LR LR
comp=Z,1µm,20.0s
Z23A Rita Site, Whi 79.99 51 ⇑P **P 07 53 47.9 -0.1**
baz=80
626A Big Bend Ranch 80.05 56 ⇓P **P 07 53 48.4 0.0**
baz=80,SNR=14
BNM Barren Site 80.09 50 *eP* **P 07 53 49.2 +0.5**
comp=Z,74nm,1.8s
V21A Milan 80.09 49 ⇑P **P 07 53 48.6 -0.1**
baz=80
PV05 Paradox Valley 80.12 46 *eP* **P 07 53 49.3 +0.5**
MVCO Mesa Verde 80.13 47 *eP* **P 07 53 49.0 +0.1**
comp=Z,301nm,3.0s
MVCO LR LR
comp=Z,2µm,20.0s
MVCO Mesa Verde 80.13 47 ⇓P **P 07 53 48.6 -0.3**
baz=80
325A Bean Ranch, Si 80.14 54 ⇑P **P 07 53 48.6 -0.3**
baz=80,SNR=14
LPM Los Pinos Moun 80.16 50 *eP* **P 07 53 49.5 +0.6**
526A Mary Lane Ranc 80.29 55 ⇑P **P 07 53 49.7 -0.1**
baz=80,SNR=10
PV09 Paradox Valley 80.30 46 *eP* **P 07 53 51.1 +1.2**
W22A Albuquerque 80.32 49 ⇓P **P 07 53 50.0 +0.1**
baz=80
TXAR Lajitas Array 80.33 56 P **P 07 53 49.9 0.0**
TXAR PKKPbc PKKPbc 08 12 39.4 +6.2
TXAR Lajitas Array 80.33 56 P **P 07 53 49.9 0.0**
comp=Z,10nm,1.0s,baz=214,slow=4.2,SNR=35
TXAR PKKPbc PKKPbc 08 12 39.4 +6.2
comp=Z,0.3nm,0.7s,baz=57,slow=4.6,SNR=4.0
TXAR LR LR 08 21 21.6
comp=Z,1µm,20.5s,baz=285,slow=30
124A Stringfield Ra 80.34 52 ⇓P **P 07 53 49.9 -0.1**
baz=80,SNR=12
U21A Nageezi 80.36 48 ⇑P **P 07 53 50.4 +0.3**
baz=80,SNR=34
Y23A Lovelace Mesa, 80.42 51 ⇓P **P 07 53 50.1 -0.3**
baz=80,SNR=12
PV01 Paradox Valley 80.52 46 *eP* **P 07 53 50.6 -0.3**
comp=Z,4µm,1.2s
ANMO Albuquerque 80.57 50 *eP* **P 07 53 51.1 -0.1**
comp=Z,68nm,1.8s
ANMO LR LR
comp=Z,1µm,21.0s
225A Deer Hill, Car 80.57 53 ⇓P **P 07 53 51.3 0.0**
baz=81,SNR=18
426A McDonald Obser 80.58 55 ⇑P **P 07 53 51.4 0.0**
baz=81,SNR=24
627A Terlingua Ranc 80.60 56 ⇑P **P 07 53 51.6 +0.2**
baz=81,SNR=32
X23A Hourglass Bar 80.60 50 ⇑P **P 07 53 51.2 -0.2**
baz=81
NEW Newport 80.61 34 *eP* **P 07 53 49.6 -1.3**
comp=Z,32nm,1.6s
NEW LR LR
comp=Z,3µm,22.0s
NEW Newport 80.61 34 ⇓P **P 07 53 50.0 -0.9**
baz=81,SNR=10
V22A San Miguel Ran 80.67 49 ⇑P **P 07 53 51.5 -0.3**
baz=81
Z24A Sheeppen Canyo 80.67 52 ⇑P **P 07 53 51.4 -0.5**
baz=81,SNR=7.2
R20A Redvale 80.68 46 ⇓P **P 07 53 51.6 -0.1**
baz=81,SNR=14
NJ2 Nanjing 80.68 307 *eP* **P 07 53 53.4 +1.8**
NJ2 S **S 08 03 58.0 +1.1**
NJ2 LR LR
comp=Z,750nm,19.6s
NJ2 LR LR
comp=Z,430nm,21.1s
NJ2 LR LR
comp=Z,710nm,30.2s
527A Woodward Ranch 80.70 55 ⇓P **P 07 53 51.6 -0.3**
baz=81,SNR=18
T21A Navajo Lake 80.71 48 ⇑P **P 07 53 51.7 -0.3**
baz=81,SNR=8.9
TRF Thorofare Moun 80.75 10 *eP* **P 07 53 49.9 -1.6**
comp=Z,34nm,0.7s
SKAG Skagway 80.79 18 *eP* **P 07 53 51.9 +0.4**
comp=Z,28nm,1.0s
S21A Coal Bank Pass 80.84 47 ⇑P **P 07 53 52.9 +0.1**
baz=81,SNR=31
Y24A Capitan 80.88 51 ⇑P **P 07 53 52.8 -0.1**
baz=81,SNR=20
W23A Werner Place, 80.89 50 ⇓P **P 07 53 53.0 0.0**
baz=81,SNR=11
326A Caldwell Ranch 80.89 54 ⇑P **P 07 53 52.5 -0.4**
baz=81,SNR=10
U22A Llaves 80.92 48 ⇑P **P 07 53 52.7 -0.4**
baz=81
125A Gardner Draw, 80.93 52 ⇑P **P 07 53 52.7 -0.4**
baz=81,SNR=10
GDL2 Guadalupe Moun 80.96 53 *eP* **P 07 53 53.5 +0.3**
628A Black Gap, Mar 81.01 56 ⇑P **P 07 53 52.9 -0.6**
baz=81,SNR=15
TNA Tin City 81.02 2 *eP* **P 07 53 52.6 0.0**
comp=Z,22nm,0.5s
226B Tecolote Peak, 81.06 53 ⇓P **P 07 53 53.4 -0.3**
baz=81,SNR=15
Q20A Ridgley Place, 81.09 45 ⇓P **P 07 53 53.7 -0.2**
baz=81,SNR=31
MCMT McKenzie Canyo 81.12 39 *eP* **P 07 53 53.6 -0.4**
comp=Z,18nm,1.2s
AHID Auburn Hatcher 81.12 41 PFAKE 07 54 10.0 +16
AHID LR LR
comp=Z,2µm,22.0s
V23A Ortiz Mt. (NFS 81.12 49 ⇓P **P 07 53 54.7 +0.6**
baz=81,SNR=15
Z25A Roswell 81.14 52 ⇓P **P 07 53 54.5 +0.3**
baz=81,SNR=16
427A Hayter Ranch, 81.15 55 ⇑P **P 07 53 54.4 +0.1**
baz=81,SNR=23
T22A Edith 81.17 48 ⇓P **P 07 53 54.5 0.0**
baz=81,SNR=8.8
O19A Miners Draw (B 81.18 44 ⇓P **P 07 53 54.0 -0.3**
baz=81
MCK McKinley 81.24 11 *eP* **P 07 53 53.3 -0.6**
MCK pmax pmax
comp=Z,75nm,1.0s
MCK McKinley 81.24 11 *eP* **P 07 53 53.3 -0.6**
comp=Z,75nm,1.0s
HYT Haines Junctio 81.27 17 *eP* **P 07 53 53.8 -0.4**
RRI2 Red Ridge 81.28 40 *eP* **P 07 53 54.3 -0.6**
comp=Z,309nm,2.5s
P20A De Beque 81.29 45 ⇓P **P 07 53 54.7 -0.2**
baz=81
R21A Cimarron 81.34 46 ⇑P **P 07 53 55.2 -0.1**
baz=81,SNR=26
528A Cox Ranch, San 81.36 55 ⇓P **P 07 53 55.6 +0.2**
baz=81,SNR=23
CLNB Carlsbad 81.36 53 *eP* **P 07 53 56.3 +0.9**
comp=Z,1.1nm,0.5s
U23A El Rito 81.38 49 ⇓P **P 07 53 55.6 +0.1**
baz=82,SNR=20
126A Clayton Basin, 81.41 53 ⇓P **P 07 53 55.6 0.0**
baz=82,SNR=9.6
Y25A Mesa, Roswell 81.43 51 ⇓P **P 07 53 55.5 -0.3**
baz=82,SNR=12
W24A Lazy 6 Ranch, 81.46 50 ⇓P **P 07 53 55.4 -0.6**
baz=82,SNR=12
Q21A Lamborn Mesa, 81.54 46 ⇑P **P 07 53 56.5 +0.3**
baz=82,SNR=10.0
DLMT Dillon 81.55 38 *eP* **P 07 53 55.5 -0.6**
comp=Z,71nm,1.5s
S22A 4UR Ranch, Cre 81.56 47 ⇑P **P 07 53 56.7 +0.1**
baz=82,SNR=23
CN2 Changchun 81.56 320 *eP* **P 07 53 56.1 +0.1**
CN2 *epP* **pP 07 54 06.5 -0.5**
CN2 *esP* **sP 07 54 10.3 -0.7**
CN2 *eS* **S 08 04 05.3 -0.3**
CN2 AMB AMB
comp=Z,20nm,1.4s
CN2 LR LR
comp=Z,500nm,15.0s
CN2 LR LR
comp=Z,500nm,15.0s
CN2 LR LR
comp=Z,500nm,16.0s
MSO Missoula 81.56 36 *eP* **P 07 53 55.0 -1.2**
comp=Z,196nm,2.2s
MSO Missoula 81.56 36 ⇑P **P 07 53 54.9 -1.2**
baz=82,SNR=22
TPAW Teton Pass 81.58 40 *eP* **P 07 53 56.4 -0.1**
BSMT Bassoo Peak 81.65 35 *eP* **P 07 53 55.2 -1.4**
428A Kincaid Ranch, 81.67 55 ⇑P **P 07 53 57.0 0.0**
baz=82,SNR=18
DL2 Dalian 81.68 314 P P 07 54 00.3 +3.6
DL2 S **S 08 04 10.5 +3.6**
DL2 AMB AMB
comp=Z,100nm,2.0s
DL2 LR LR
comp=Z,480nm,22.1s
SNOW Snow King Moun 81.69 41 *eP* P 07 53 53.7 -3.3
O20A White River Ci 81.69 44 *eP* **P 07 53 57.1 +0.1**
O20A White River Ci 81.69 44 ⇓P **P 07 53 56.9 -0.2**
baz=82,SNR=6.7
Z26A Caprock 81.70 52 ⇓P **P 07 53 56.7 -0.5**
baz=82,SNR=22
227A Bennet, Jal 81.71 54 ⇓P **P 07 53 56.7 -0.5**
baz=82
X25A Clemmons Ranch 81.71 51 ⇑P **P 07 53 56.9 -0.4**
baz=82,SNR=10
DLBC Dease Lake 81.72 21 *eP* **P 07 53 56.5 -0.2**
SNY Shenyang 81.76 317 ⇓P **P 07 53 57.6 +0.5**
SNY AMB AMB
comp=Z,210nm,1.2s
SNY AMB AMB
comp=Z,670nm,3.5s
SNY LR LR
comp=Z,620nm,16.9s
SNY LR LR
comp=Z,500nm,23.7s
SNY LR LR
comp=Z,500nm,34.8s
V24A Rampart Ranch, 81.78 49 ⇑P **P 07 53 57.7 0.0**
baz=82,SNR=13
529A Stev Forest Ra 81.80 56 ⇓P **P 07 53 57.6 -0.1**
baz=82,SNR=17
IMW Indian Meadow 81.80 40 *eP* **P 07 53 57.5 -0.2**
comp=Z,76nm,1.5s
T23A Casias Ranch, 81.80 48 ⇓P **P 07 53 57.9 +0.1**
baz=82,SNR=6.8
R22A Saguache, Gunn 81.83 47 ⇑P **P 07 53 58.2 +0.2**
baz=82,SNR=17
328A Wristen Ranch, 81.83 54 ⇓P **P 07 53 57.4 -0.5**
baz=82,SNR=12
MOOW Moose Ponds 81.84 40 *eP* **P 07 53 56.9 -0.9**
comp=Z,72nm,1.7s
LOHW Long Hollow 81.86 41 *eP* **P 07 53 57.3 -0.6**
comp=Z,26nm,1.2s
JTMT Jette 81.88 36 *eP* **P 07 53 56.1 -1.6**
LRM Limekiln Ridge 81.88 38 *eP* **P 07 53 57.0 -1.0**
SWMT Swartz Lake 81.90 36 *eP* **P 07 53 56.8 -1.1**
127A Arkansas Junct 81.93 53 ⇑P **P 07 53 57.5 -0.9**
baz=82
P21A Newcastle 81.94 45 ⇑P **P 07 53 58.4 0.0**
baz=82,SNR=7.9
QLMT Earthquake Lak 81.98 39 *eP* **P 07 53 59.4 +0.9**
BLMT Blacktail Moun 81.98 35 *eP* **P 07 53 57.6 -0.8**
CHMT Chamberlain Mo 82.00 37 *eP* **P 07 53 57.2 -1.4**
N20A Spence Gulch, 82.01 44 ⇓P **P 07 53 58.6 -0.1**
baz=82,SNR=14
Q22A Crested Butte, 82.01 46 ⇑P **P 07 53 59.0 +0.1**
baz=82,SNR=42
I17A Pilgrim Ck. 82.03 40 ⇑P **P 07 53 58.9 +0.1**
baz=82,SNR=18
SLMT Seeley Lake 82.04 36 *eP* **P 07 53 57.7 -1.0**
U24A Moreno Valley 82.07 49 ⇑P **P 07 53 58.9 -0.4**
baz=82,SNR=10
Y26A Elida 82.09 52 ⇓P **P 07 53 58.6 -0.6**
baz=82

YBMT **Yellow Bay** 82.09 36 *e*P P 07 53 57.6 -1.3
comp=Z,12nm,1.2s
BW06 **Boulder Array** 82.10 42 *e*P P 07 53 58.3 -0.9
comp=Z,34nm,1.3s
BW06 LR LR
comp=Z,3µm,21.0s
PDAR **Pinedale Array** 82.10 42 P P 07 53 58.3 -0.9
PDAR **Pinedale Array** 82.10 42 P P 07 53 58.3 -0.9
comp=Z,9.8nm,0.9s,baz=204,slow=2.9,SNR=29
SMCO **Snowmass** 82.11 46 *e*P P 07 54 00.1 +0.5
S23A **Nye Farm, Mont** 82.12 47 ⇓P P 07 53 59.1 -0.3
baz=82,SNR=7.1
YFT **Old Faithful** 82.14 40 *e*P P 07 54 00.8 +1.4
comp=Z,72nm,1.5s
W25A **X Bar L Ranch,** 82.16 50 ⇓P P 07 53 58.9 -0.6
baz=82,SNR=18
YMR **Madison River** 82.18 39 *e*P P 07 53 59.5 -0.1
comp=Z,164nm,1.7s
O21A **Pagoda** 82.25 45 ⇓P P 07 53 59.5 -0.5
baz=82
429A **Davenport Ranc** 82.25 55 ⇓P P 07 53 59.4 -0.6
baz=82,SNR=32
H17A **Grant Village** 82.28 40 *e*P P 07 54 01.2 +1.1
H17A **Grant Village** 82.28 40 ⇓P P 07 54 00.8 +0.7
baz=82,SNR=12
T24B **San Luis** 82.28 48 ⇑P P 07 54 00.1 -0.3
baz=82,SNR=9.3
228A **UT Block 9, Go** 82.30 54 ⇑P P 07 53 59.5 -0.7
baz=82
Z27A **Tatum** 82.30 52 ⇑P P 07 53 59.7 -0.6
baz=82,SNR=7.0
V25A **Rancho No Teng** 82.31 50 ⇑P P 07 53 59.9 -0.6
baz=82
X26A **CR and CF Fran** 82.36 51 ⇑P P 07 53 59.9 -0.8
baz=82,SNR=5.9
YNR **Norris Junctio** 82.38 40 *e*P P 07 54 02.1 +1.5
comp=Z,62nm,1.5s
P22A **Eagle** 82.45 45 ⇑P P 07 54 00.8 -0.3
baz=82,SNR=16
R23A **Moffat** 82.46 47 ⇓P P 07 54 01.4 +0.1
baz=83,SNR=13
LKWY **Lake** 82.47 40 *e*P P 07 54 02.7 +1.6
LKWY pmax pmax
comp=Z,61nm,1.3s
LKWY MLR MLR
comp=Z,2µm,21.0s
LKWY **Lake** 82.47 40 *e*P P 07 54 02.7 +1.6
comp=Z,62nm,1.3s
LKWY LR LR
comp=Z,2µm,21.0s
COLA **College** 82.48 11 *i* P P 07 53 59.0 -1.3
COLA **College** 82.48 11 PFAKE 07 54 10.0 +10
COLA LR LR
comp=Z,4µm,20.0s
SDCO **Great Sand Dun** 82.50 48 *e*P P 07 54 00.7 -0.8
comp=Z,25nm,1.3s
SDCO LR LR
comp=Z,1µm,21.0s
530A **J-C Ranch, Com** 82.51 56 ⇑P P 07 54 01.4 0.0
baz=83,SNR=10
329A **Wagon Wheel Ra** 82.52 55 ⇑P P 07 54 01.1 -0.4
baz=83,SNR=15
ILAR **Eielson Array** 82.56 11 P P 07 53 58.8 -2.0
ILAR **Eielson Array** 82.56 11 P P 07 53 58.8 -2.0
comp=Z,11nm,0.7s,baz=214,slow=6.0,SNR=28
ILAR LR LR 08 23 31.6
comp=Z,1µm,21.8s,baz=26,slow=30
Y27A **Causey** 82.57 52 ⇓P P 07 54 01.2 -0.5
baz=83,SNR=16
128A **Castleberry Fa** 82.58 53 ⇓P P 07 54 01.5 -0.2
baz=83,SNR=13
IM04 **Indian Mountai** 82.60 8 *e*P P 07 54 00.5 -0.6
W26A **Owens Ranch, T** 82.62 51 ⇑P P 07 54 02.0 0.0
baz=83
S24A **Houchin Ranch,** 82.66 48 ⇓P P 07 54 02.4 +0.1
baz=83,SNR=20
J19A **Crowheart** 82.67 41 ⇓P P 07 54 01.7 -0.4
baz=83,SNR=22
U25A **Circle Dot Ran** 82.70 49 ⇓P P 07 54 02.0 -0.4
baz=83,SNR=18
IMA2 **Indian Mountai** 82.70 8 *e*P P 07 54 00.8 -0.9
Q23A **Hartsel** 82.78 46 ⇑P P 07 54 02.5 -0.4
baz=83
WALA **Waterton Lakes** 82.81 35 *e*P P 07 54 02.2 -0.4
comp=Z,2.5nm,1.6s
430A **Baggett Ranch,** 82.84 55 ⇑P P 07 54 02.6 -0.5
baz=83,SNR=10
631A **Perdido Creek** 82.84 57 ⇓P P 07 54 02.5 -0.6
baz=83,SNR=9.7
229A **Bryant Ranch,** 82.84 54 ⇑P P 07 54 03.0 -0.1
baz=83
SEY **Seymchan** 82.85 345⇑ *e*P P 07 54 01.1 -1.2
O22A **Kremmling** 82.85 45 ⇑P P 07 54 02.9 -0.4
baz=83,SNR=38
V26A **Tequesquite Ra** 82.90 50 ⇓P P 07 54 02.6 -0.9
baz=83,SNR=10
MSTX **Muleshoe** 82.91 52 *e*P P 07 54 02.2 -1.2
MSTX **Muleshoe** 82.91 52 ⇓P P 07 54 03.0 -0.5
baz=83,SNR=15
Z28A **Tucker Farm, M** 82.92 53 ⇓P P 07 54 03.2 -0.4
baz=83,SNR=7.4
X27A **F and S Farms,** 82.94 51 ⇑P P 07 54 03.5 -0.1
baz=83,SNR=7.9
H18A **Shoshone NF, C** 82.98 40 ⇓P P 07 54 03.7 -0.1
baz=83,SNR=12
P23A **Jefferson** 82.98 46 ⇓P P 07 54 04.2 +0.2
baz=83,SNR=18
R24A **Sanders Place,** 82.99 47 ⇓P P 07 54 03.8 -0.2
baz=83,SNR=23
T25A **Trinidad** 83.02 49 ⇑P P 07 54 03.5 -0.6
baz=83,SNR=10
129A **Stewart Farms,** 83.06 54 ⇑P P 07 54 04.1 -0.1
baz=83,SNR=7.3
732A **Laxson Ranch,** 83.07 58 ⇑P P 07 54 03.7 -0.6
baz=83
I19A **Meeteetse** 83.08 41 ⇓P P 07 54 04.1 -0.2
baz=83,SNR=18
RWWY **Rawlins** 83.11 43 *e*P P 07 54 09.5 +5.0
330A **Mertzon** 83.12 55 ⇑P P 07 54 04.1 -0.5
baz=83
W27A **Bowe Ranch, En** 83.13 51 ⇑P P 07 54 04.1 -0.5
baz=83,SNR=14
531A **Rocksprings** 83.15 56 ⇓P P 07 54 04.3 -0.4
baz=83,SNR=24
U26A **Atchley Ranch,** 83.18 49 ⇑P P 07 54 04.3 -0.7
baz=83,SNR=23
N22A **Wattenberg Ran** 83.21 44 ⇑P P 07 54 05.0 -0.1
baz=83,SNR=24
S25A **Robets Cordova** 83.22 48 ⇓P P 07 54 04.8 -0.3
baz=83,SNR=23
Y28A **McKinney Farm,** 83.28 52 ⇓P P 07 54 05.1 -0.2
baz=83,SNR=6.7
Q24A **Divide** 83.28 47 ⇓P P 07 54 05.5 0.0
baz=83,SNR=24
431A **Sonora** 83.30 56 ⇓P P 07 54 04.8 -0.6
baz=83
O23A **Lake Granby, G** 83.31 45 ⇑P P 07 54 05.5 -0.1
baz=83,SNR=14
J20A **Shoshoni** 83.33 42 ⇑P P 07 54 05.2 -0.2
baz=83,SNR=17
ISCO **Idaho Springs** 83.33 46 *e*P P 07 54 05.4 -0.3
ISCO pmax pmax
comp=Z,34nm,1.4s
ISCO MLR MLR
comp=Z,2µm,19.0s
ISCO **Idaho Springs** 83.33 46 *e*P P 07 54 05.4 -0.3
comp=Z,34nm,1.4s
ISCO LR LR
comp=Z,2µm,19.0s
ISCO **Idaho Springs** 83.33 46 ⇓P P 07 54 05.5 -0.3
baz=83,SNR=15
230A **Sterling City** 83.36 54 ⇑P P 07 54 05.3 -0.5
baz=83
M22A **Cedar Creek Ra** 83.39 44 ⇑P P 07 54 05.4 -0.5
baz=84,SNR=12
H19A **Powell** 83.40 40 ⇑P P 07 54 05.6 -0.2
baz=84,SNR=31
QIZ **Qiongzhong** 83.44 292 P P 07 54 07.0 +0.7
QIZ pP pP 07 54 15.9 -1.4
QIZ S S 08 04 27.1 +1.4
QIZ AMB AMB
comp=Z,200nm,3.5s
QIZ LR LR
comp=Z,430nm,31.4s
QIZ LR LR
comp=Z,450nm,22.4s
QIZ **Qiongzhong** 83.44 292 PFAKE 07 54 20.0 +14
QIZ LR LR
comp=Z,521nm,21.0s
Z29A **Hungry Hill Ra** 83.44 53 ⇑P P 07 54 05.4 -0.7
baz=84,SNR=5.9
RLMT **Red Lodge** 83.45 40 *e*P P 07 54 05.5 -0.6
comp=Z,45nm,1.2s
RLMT LR LR
comp=Z,2µm,22.0s
DAWY **Dawson** 83.51 14 *e*P P 07 54 04.7 -1.1
632A **Uvalde** 83.51 57 ⇑P P 07 54 06.0 -0.6
baz=84,SNR=9.9
K21A **Alcova** 83.53 43 ⇓P P 07 54 05.7 -0.8
baz=84,SNR=20
GCMT **Greycliff** 83.53 39 *e*P P 07 54 06.0 -0.5
comp=Z,42nm,1.5s
R25A **Fountain Ranch** 83.54 48 ⇓P P 07 54 05.9 -0.7
baz=84,SNR=20
X28A **Dimmitt** 83.56 52 ⇑P P 07 54 06.3 -0.5
baz=84,SNR=13
I20A **Worland** 83.59 41 ⇓P P 07 54 06.0 -0.7
baz=84,SNR=21
V27A **Dan Oppiter Fa** 83.59 50 ⇓P P 07 54 06.6 -0.4
baz=84,SNR=18
N23A **Red Feather La** 83.59 45 ⇑P P 07 54 06.8 -0.2
baz=84,SNR=12
T26A **Comanche Natio** 83.62 49 ⇑P P 07 54 06.2 -0.9
baz=84,SNR=8.7
532A **Rocksprings** 83.65 56 ⇓P P 07 54 06.8 -0.5
baz=84,SNR=14
331A **San Angelo** 83.68 55 ⇓P P 07 54 06.6 -0.9
baz=84,SNR=5.1
P24A **Kohler Place,** 83.69 46 ⇓P P 07 54 07.0 -0.5
baz=84
Y29A **Porterfield Fa** 83.70 52 ⇑P P 07 54 07.2 -0.4
baz=84,SNR=11
EGAK **Eagle** 83.72 13 PFAKE 07 54 20.0 +13
EGAK LR LR
comp=Z,4µm,22.0s
J21A **Lysite** 83.73 42 ⇑P P 07 54 07.2 -0.4
baz=84,SNR=42
130A **Snyder** 83.75 54 ⇑P P 07 54 07.0 -0.7
baz=84
L22A **Ellis Ranch, M** 83.78 43 ⇑P P 07 54 07.8 -0.1
baz=84,SNR=21
O24A **Longmont** 83.84 46 ⇑P P 07 54 07.6 -0.6
baz=84
JCT **Junction City** 83.86 56 *e*P P 07 54 09.8 +1.4
JCT pmax pmax
comp=Z,212nm,2.6s
JCT MLR MLR
comp=Z,1µm,21.0s
JCT **Junction City** 83.86 56 *e*P P 07 54 09.8 +1.4
comp=Z,212nm,2.6s
JCT LR LR
comp=Z,1µm,21.0s
JCT **Junction City** 83.86 56 ⇑P P 07 54 07.7 -0.6
baz=84
U27A **Thompson Grove** 83.87 50 ⇑P P 07 54 07.4 -1.0
baz=84,SNR=11
Z30A **Sanderson Ranc** 83.89 53 ⇑P P 07 54 07.4 -1.1
baz=84,SNR=13
Q25A **Bedland, Calha** 83.89 47 ⇓P P 07 54 07.5 -1.1
baz=84,SNR=9.6
S26A **Kim** 83.90 48 ⇓P P 07 54 07.4 -1.1
baz=84,SNR=15
X29A **Tulia** 83.91 52 ⇓P P 07 54 07.8 -0.7
baz=84,SNR=12
H20A **Greybull** 83.92 41 ⇓P P 07 54 07.4 -1.0
baz=84,SNR=15
M23A **Laramie** 84.00 44 ⇑P P 07 54 08.6 -0.5
baz=84
231A **Bronte** 84.00 55 ⇓P P 07 54 07.8 -1.2
baz=84,SNR=11
F19A **Roth Farm, Mol** 84.01 39 ⇑P P 07 54 08.4 -0.4
baz=84,SNR=22
K22A **Casper** 84.01 43 ⇓P P 07 54 08.5 -0.5
baz=84,SNR=9.3
432A **Menard** 84.02 56 ⇑P P 07 54 08.0 -1.1
baz=84,SNR=7.2
V28A **Channing** 84.04 51 ⇓P P 07 54 08.3 -1.0
baz=84
I21A **Big Trails, Te** 84.05 42 ⇑P P 07 54 08.3 -0.9
baz=84,SNR=30
AMTX **Amarillo** 84.10 51 *e*P P 07 54 09.6 0.0
comp=Z,184nm,1.9s
PHWY **Pilot Hill** 84.11 44 *e*P P 07 54 09.4 -0.2
comp=Z,17nm,0.9s
G20A **Bridger** 84.14 40 ⇓P P 07 54 08.9 -0.7
baz=84,SNR=7.6
R26A **Arlington** 84.20 48 ⇑P P 07 54 09.2 -0.8
baz=84,SNR=22
P25A **Willow Gulch B** 84.21 46 ⇓P P 07 54 09.3 -0.8
baz=84,SNR=25
T27A **Campo** 84.21 49 ⇑P P 07 54 09.1 -1.0
baz=84,SNR=14
W29A **Amraillo** 84.22 51 ⇑P P 07 54 09.3 -0.9
baz=84,SNR=9.4
131A **Roby** 84.23 54 ⇑P P 07 54 09.1 -1.1
baz=84,SNR=6.0
332A **Millersview** 84.25 55 ⇓P P 07 54 09.4 -0.8
baz=84,SNR=18
COLD **Coldfoot** 84.28 9 *e*P P 07 54 09.4 -0.2
comp=Z,27nm,1.0s
N24A **Carr** 84.28 45 ⇓P P 07 54 10.2 -0.2
baz=84,SNR=11
U28A **Mallet** 84.29 50 ⇑P P 07 54 09.7 -0.9
baz=84
Y30A **Stafford Cattl** 84.30 53 ⇓P P 07 54 09.8 -0.7
baz=84
L23A **Garrett** 84.31 44 ⇑P P 07 54 10.0 -0.6
baz=84,SNR=30
KVTX **Kingsville** 84.36 60 PFAKE 07 54 20.0 +9.2
KVTX LR LR
comp=Z,875nm,19.0s
J22A **Midwest** 84.39 42 ⇓P P 07 54 10.0 -0.9
baz=84
E19A **Rath Farm, Rou** 84.40 39 ⇓P P 07 54 10.3 -0.5
baz=84,SNR=24
Q26A **Hugo** 84.41 47 ⇑P P 07 54 10.6 -0.5
baz=84,SNR=6.3
F20A **Bilings** 84.47 39 ⇓P P 07 54 10.9 -0.3
baz=84,SNR=16
232A **Coleman** 84.51 55 ⇓P P 07 54 10.9 -0.7
baz=85,SNR=14
X30A **Coker Ranch, T** 84.54 52 ⇑P P 07 54 10.8 -0.9
baz=85
H21A **Big Horn, Sher** 84.59 41 ⇑P P 07 54 11.0 -0.8
baz=85,SNR=14
EGMT **Eagleton** 84.61 37 PFAKE 07 54 20.0 +8.2
EGMT LR LR
comp=Z,3µm,20.0s
EGMT **Eagleton** 84.61 37 ⇑P P 07 54 11.1 -0.7
baz=85,SNR=14
M24A **Cheyenne** 84.61 44 ⇓P P 07 54 11.5 -0.6
baz=85,SNR=11
I22A **9 Mile Ranch,** 84.61 42 ⇓P P 07 54 11.3 -0.6
baz=85,SNR=19
V29A **Stinnett** 84.61 51 ⇓P P 07 54 11.4 -0.7
baz=85
K23A **Bowen Ranch, D** 84.65 43 ⇓P P 07 54 11.5 -0.7
baz=85,SNR=20
R27A **Eads** 84.66 48 ⇓P P 07 54 11.4 -0.9
baz=85,SNR=12
Z31A **Sharp Cattle R** 84.66 53 ⇑P P 07 54 11.0 -1.3
baz=85,SNR=12
T28A **Walsh** 84.67 49 ⇓P P 07 54 11.3 -1.1
baz=85
D19A **Cripps Ranch,** 84.69 38 ⇑P P 07 54 11.5 -0.7
baz=85,SNR=24
G21A **Lodge Grass** 84.77 40 ⇓P P 07 54 12.2 -0.6
baz=85
L24A **Wheatland** 84.79 44 ⇑P P 07 54 12.4 -0.5
baz=85,SNR=15
ABTX **Abilene, Hawle** 84.79 54 *e*P P 07 54 12.3 -0.7
ABTX **Abilene, Hawle** 84.79 54 ⇑P P 07 54 12.3 -0.7
baz=85,SNR=8.5
P26A **Davis Ranch, A** 84.80 47 ⇑P P 07 54 12.5 -0.6
baz=85
E20A **Meyer Farm, Mu** 84.82 39 ⇑P P 07 54 12.8 -0.1
baz=85,SNR=14
Y31A **Rekieta Farm,** 84.82 53 ⇓P P 07 54 12.3 -0.8
baz=85,SNR=10
C19A **Slack Wire Ran** 84.87 37 ⇓P P 07 54 12.7 -0.5
baz=85,SNR=32
H22A **Clearmont** 85.02 41 ⇓P P 07 54 13.4 -0.6
baz=85,SNR=12
S28A **Manter** 85.02 49 ⇓P P 07 54 13.3 -0.8
baz=85,SNR=11
KSCO **Kaye Shedlock'** 85.08 47 *e*P P 07 54 14.1 -0.4
KSCO **Kaye Shedlock'** 85.08 47 ⇑P P 07 54 13.6 -0.8
baz=85,SNR=12
D20A **Manuel Ranch,** 85.10 38 ⇓P P 07 54 13.8 -0.5
baz=85,SNR=22
O26A **Horse Wrangler** 85.11 46 ⇓P P 07 54 14.3 -0.3
baz=85
Z32A **Haskell** 85.17 54 ⇑P P 07 54 14.5 -0.4
baz=85,SNR=45
V30A **Spur Ranch, Mi** 85.19 51 ⇑P P 07 54 14.3 -0.7
baz=85
X31A **McDonald Ranch** 85.29 52 ⇑P P 07 54 14.7 -0.8
baz=85,SNR=7.8
B19A **Brinkman Farms** 85.29 37 ⇓P P 07 54 14.6 -0.6
baz=85
P27A **Ficken Ranch,** 85.34 47 ⇑P P 07 54 15.1 -0.6
baz=85
G22A **Birney** 85.34 41 ⇑P P 07 54 15.0 -0.6
baz=85
R28A **Tribune** 85.39 48 ⇑P P 07 54 15.4 -0.6
baz=86,SNR=26
EDM **Edmonton** 85.41 31 *e*P P 07 54 14.8 -0.9
EDM **Edmonton** 85.41 31 *e*P P 07 54 14.8 -0.9
Y32A **R-V Farms, Ver** 85.46 53 ⇓P P 07 54 15.4 -0.9
baz=86,SNR=26
E21A **Keefer Ranch,** 85.47 39 ⇓P P 07 54 16.2 0.0
baz=86,SNR=13
C20A **Veseth Ranch,** 85.48 38 ⇓P P 07 54 15.8 -0.3
baz=86,SNR=20
U30A **WK&E Inc. Balk** 85.52 50 ⇑P P 07 54 15.8 -0.8
baz=86
W31A **Holland Ranch,** 85.53 52 ⇓P P 07 54 15.9 -0.8
baz=86,SNR=15
S29A **Ulysses** 85.60 49 ⇑P P 07 54 16.2 -0.8
baz=86
F22A **Rosebud** 85.62 40 ⇓P P 07 54 16.3 -0.6
baz=86
A19A **Klindworth Far** 85.64 37 ⇓P P 07 54 16.5 -0.5
baz=86,SNR=10
Q28A **Sharon Springs** 85.67 48 ⇑P P 07 54 16.5 -0.8
baz=86
D21A **La Casta Ranch** 85.77 39 ⇓P P 07 54 17.4 -0.2
baz=86,SNR=14
T30A **Plains** 85.81 50 ⇓P P 07 54 17.9 -0.2
baz=86
B20A **Solberg Farm,** 85.82 37 ⇓P P 07 54 17.5 -0.3
baz=86,SNR=14
N27A **Anderson Farm,** 85.89 46 ⇓P P 07 54 18.1 -0.3
baz=86
G23A **Biddle** 85.90 41 ⇑P P 07 54 18.0 -0.3
baz=86
P28A **Saint Francis** 85.93 47 ⇓P P 07 54 18.3 -0.3
baz=86
BJT **Baijiatuau** 85.96 313 PFAKE 07 54 30.0 +11
BJT LR LR
comp=Z,466nm,21.0s
BJI **Beijing** 85.97 313 P P 07 54 18.8 +0.2
BJI S S 08 04 48.3 -1.8
BJI AMB AMB
comp=Z,34nm,2.2s
BJI AMB AMB
comp=Z,610nm,4.0s
BJI LR LR
comp=Z,350nm,12.5s
BJI LR LR
comp=Z,500nm,16.3s
BJI LR LR
comp=Z,570nm,25.9s
LAO **LASA Array** 86.06 39 *e*P P 07 54 19.4 +0.4
comp=Z,102nm,1.5s
LAO LR LR
comp=Z,2µm,22.0s
C21A **Desert Coulee** 86.07 38 ⇑P P 07 54 18.3 -0.7
baz=86,SNR=7.1
S30A **Montezuma** 86.09 49 ⇑P P 07 54 18.6 -0.8
baz=86
A20A **Cobblestone Ra** 86.09 37 ⇓P P 07 54 18.6 -0.6
baz=86,SNR=24
E22A **Miles City** 86.11 40 ⇑P P 07 54 18.7 -0.6
baz=86
F23A **Volborg** 86.12 40 ⇓P P 07 54 18.4 -1.0
baz=86,SNR=9.1
O28A **Krutsinger Ran** 86.14 47 ⇓P P 07 54 19.0 -0.7
baz=86
Q29A **Oakley** 86.21 48 ⇑P P 07 54 19.3 -0.7
baz=86
H24A **Dirks Ranch, A** 86.23 42 ⇓P P 07 54 18.8 -1.2
baz=86,SNR=12
K26A **Motz Farm, Whi** 86.24 44 ⇑P P 07 54 19.6 -0.5
baz=86
WMOK **Wichita Mounta** 86.25 53 PFAKE 07 54 30.0 +10
WMOK LR LR
comp=Z,1µm,19.0s
WHTX **Lake Whitney** 86.28 56 *e*P P 07 54 20.2 -0.2
WHTX **Lake Whitney** 86.28 56 ⇑P P 07 54 19.7 -0.7
baz=86
RSSD **Black Hills** 86.29 42 *e*P P 07 54 19.3 -1.2
RSSD pmax pmax
comp=Z,147nm,1.3s
RSSD **Black Hills** 86.29 42 *e*P P 07 54 19.2 -1.2
comp=Z,147nm,1.3s
OGNE **Ogallala** 86.29 46 PFAKE 07 54 30.0 +10
OGNE LR LR
comp=Z,2µm,20.0s
OGNE **Ogallala** 86.29 46 ⇓P P 07 54 19.7 -0.7
baz=86
D22A **Cohagen** 86.30 39 ⇑P P 07 54 19.4 -0.8
baz=86,SNR=12
B21A **Ellsworth Farm** 86.40 38 ⇓P P 07 54 20.3 -0.3
baz=86
I25A **Rochford** 86.44 42 ⇓P P 07 54 20.3 -0.8
baz=86,SNR=7.7
T31A **Randall Ranch,** 86.46 50 ⇑P P 07 54 20.9 -0.3
baz=86
R30A **Dighton** 86.47 49 ⇓P P 07 54 21.0 -0.3
baz=87
P29A **Atwood** 86.52 47 ⇓P P 07 54 21.1 -0.4
baz=87
N28A **Pribbeno Ranch** 86.53 46 ⇓P P 07 54 21.0 -0.5
baz=87
E23A **Ismay** 86.54 40 ⇓P P 07 54 21.1 -0.2
baz=87
G24A **Alzada** 86.57 41 ⇑P P 07 54 21.4 -0.2
baz=87
A21A **Bergtoll Ranch** 86.72 37 ⇑P P 07 54 21.8 -0.4
baz=87,SNR=16
C22A **Vida** 86.75 38 ⇑P P 07 54 22.3 -0.1
baz=87
F24A **Ekalaka** 86.78 41 ⇓P P 07 54 22.2 -0.4
baz=87,SNR=6.1
H25A **Fruitdale** 86.79 42 ⇑P P 07 54 22.3 -0.4
baz=87
S31A **Mullinville** 86.80 50 ⇓P P 07 54 22.6 -0.3
baz=87
O29A **4D Ranch, Culb** 86.82 47 ⇓P P 07 54 22.6 -0.4
baz=87
K27A **Flueckinger Fa** 86.88 44 ⇓P P 07 54 23.2 0.0
baz=87
HKT **Hockley** 86.88 58 *e*P P 07 54 23.6 +0.3
HKT pmax pmax
comp=Z,32nm,1.6s
HKT **Hockley** 86.88 58 *e*P P 07 54 23.6 +0.3
comp=Z,32nm,1.6s
D23A **Lindsay** 86.90 39 ⇑P P 07 54 22.9 -0.3
baz=87
APG **El Apazote** 86.91 74 P P 07 54 24.8 +0.7
APG **El Apazote** 86.91 74 P P 07 54 24.8 +0.7
comp=Z,19nm,0.8s,baz=198,slow=1.9,SNR=4.6
B22A **Reddig Ranch S** 86.94 38 ⇓P P 07 54 23.0 -0.4
baz=87,SNR=10
P30A **Selden** 86.98 48 ⇓P P 07 54 23.2 -0.5
baz=87
COCO **West Island** 87.04 258 PFAKE 07 54 40.0 +16
COCO LR LR
comp=Z,623nm,19.0s
G25A **Newell** 87.15 42 ⇓P P 07 54 23.8 -0.7
baz=87
C23A **Lambert** 87.20 39 ⇑P P 07 54 24.0 -0.6
baz=87,SNR=8.0
J27A **Elkhorn Farm,** 87.25 44 ⇑P P 07 54 24.5 -0.5
baz=87,SNR=16
A22A **Carney Farms,** 87.31 37 ⇓P P 07 54 24.9 -0.2
baz=87
H26A **Fairpoint** 87.32 42 ⇑P P 07 54 24.9 -0.3
baz=87
Q31A **Ellis** 87.39 48 ⇓P P 07 54 25.9 +0.2
baz=88
D24A **Glendive** 87.42 40 ⇑P P 07 54 25.9 +0.2

	baz=88									
IPM	**Ipoh**	**87.42**	**275**		*e*P		**P**	**07 54 26.3**	**-0.1**	
	comp=Z,32nm,1.0s									
F25A	**Bowman**	**87.44**	**41**	⇑	P		**P**	**07 54 26.1**	**+0.3**	
	baz=88									
ENH	**Enshi**	**87.44**	**302**		*e*P		**P**	**07 54 26.6**	**+0.4**	
	comp=Z,8.7nm,0.7s									
C24A	**Savage**	**87.54**	**39**	⇓	P		**P**	**07 54 26.6**	**+0.4**	
	baz=88									
I27A	**Quinn**	**87.56**	**43**	⇓	P		**P**	**07 54 26.6**	**+0.2**	
	baz=88									
P31A	**Stockton**	**87.60**	**48**	⇓	P		**P**	**07 54 26.4**	**-0.3**	
	baz=88									
B23A	**Brockton**	**87.61**	**38**	⇑	P		**P**	**07 54 26.3**	**-0.2**	
	baz=88,SNR=8.6									
HIA	**Hailar**	**87.66**	**323**		PFAKE			07 54 40.0	+13	
HIA					LR		LR			
	comp=Z,1μm,21.0s									
G26A	**Maurine**	**87.72**	**42**	⇓	P		**P**	**07 54 26.8**	**-0.3**	
	baz=88									
E25A	**Miller Ranch,**	**87.72**	**40**	⇓	P		**P**	**07 54 27.0**	**-0.2**	
	baz=88									
MAW	**Mawson**	**87.75**	**198**		*e*P		**P**	**07 54 26.5**	**-0.4**	
	comp=Z,14nm,1.2s									
MAW	**Mawson**	**87.75**	**198**		P		**P**	**07 54 27.0**	**+0.1**	
	baz=88,SNR=15									
MAW	**Mawson**	**87.75**	**198**		P		**P**	**07 54 27.5**	**+0.6**	
	comp=Z,27nm,1.0s,baz=140,slow=6.6,SNR=35									
MAW					LR		LR	08 30 00.1		
	comp=Z,3μm,20.8s,baz=117,slow=33									
H27A	**Howes**	**87.78**	**42**	⇑	P		**P**	**07 54 27.0**	**-0.4**	
	baz=88									
J28A	**Allard Ranch,**	**87.84**	**44**	⇓	P		**P**	**07 54 27.5**	**-0.2**	
	baz=88									
A23A	**Redstone**	**87.90**	**38**	⇑	P		**P**	**07 54 27.8**	**-0.1**	
	baz=88									
F26A	**Lodgepole**	**87.91**	**41**	⇑	P		**P**	**07 54 27.5**	**-0.6**	
	baz=88									
KULM	**Kulim**	**88.00**	**276**		PFAKE			07 54 40.0	+11	
KULM					LR		LR			
	comp=Z,572nm,19.0s									
DGMT	**Dagmar**	**88.09**	**38**		PFAKE			07 54 40.0	+11	
DGMT					LR		LR			
	comp=Z,4μm,21.0s									
DGMT	**Dagmar**	**88.09**	**38**	⇓	P		**P**	**07 54 28.3**	**-0.5**	
	baz=88,SNR=11									
I28A	**Midland**	**88.11**	**43**	⇑	P		**P**	**07 54 28.6**	**-0.5**	
	baz=88									
G27A	**Dupree**	**88.18**	**42**	⇑	P		**P**	**07 54 28.9**	**-0.4**	
	baz=88									
K29A	**Lazy Trails An**	**88.19**	**45**	⇑	P		**P**	**07 54 29.3**	**-0.1**	
	baz=88									
C25A	**Freed Ranch, W**	**88.33**	**39**	⇓	P		**P**	**07 54 29.7**	**-0.3**	
	baz=88									
A24A	**Westby**	**88.41**	**38**	⇓	P		**P**	**07 54 30.1**	**-0.2**	
	baz=88									
J29A	**Okreek**	**88.44**	**44**	⇓	P		**P**	**07 54 30.1**	**-0.5**	
	baz=88									
D26A	**Manning**	**88.55**	**40**	⇓	P		**P**	**07 54 30.9**	**-0.2**	
	baz=89									
GYA	**Guiyang**	**88.57**	**298**	⇑	*i*P		**P**	**07 54 33.0**	**+1.3**	
GYA					pP		**pP**	**07 54 44.3**	**+1.5**	
GYA					sP		**sP**	**07 54 49.0**	**+2.2**	
GYA					PP		**PP**	**07 58 03.6**	**+3.0**	
GYA					SKS		**SKSac**	**08 04 57.5**	**-1.3**	
GYA					S		**S**	**08 05 14.9**	**-1.1**	
GYA					SS		**SS**	**08 11 08.8**	**+1.1**	
GYA					AMB		AMB			
	comp=Z,40nm,0.8s									
GYA					AMB		AMB			
	comp=Z,160nm,5.5s									
GYA					LR		LR			
	comp=Z,4μm,19.6s									
GYA					LR		LR			
	comp=Z,4μm,18.8s									
GYA					LR		LR			
	comp=Z,4μm,19.4s									
B25A	**Knox Farm, Ray**	**88.63**	**39**	⇑	P		**P**	**07 54 31.2**	**-0.1**	
	baz=89									
K30A	**Basset**	**88.64**	**45**	⇓	P		**P**	**07 54 30.7**	**-0.9**	
	baz=89									
I29A	**Vivian Onida**	**88.70**	**44**	⇑	P		**P**	**07 54 30.8**	**-1.0**	
	baz=89									
E27A	**Carson**	**88.84**	**41**	⇑	P		**P**	**07 54 32.0**	**-0.4**	
	baz=89									
A25A	**Svangstu Ranch**	**88.94**	**38**	⇓	P		**P**	**07 54 32.7**	**-0.1**	
	baz=89									
TUL1	**Tulsa**	**88.94**	**52**		*e*P		**P**	**07 54 34.3**	**+1.2**	
TUL1	**Tulsa**	**88.94**	**52**	⇑	P		**P**	**07 54 32.9**	**-0.2**	
	baz=89									
J30A	**Dallas**	**88.97**	**44**	⇓	P		**P**	**07 54 33.0**	**-0.1**	
	baz=89									
L31A	**Butterfield Fa**	**88.98**	**46**	⇓	P		**P**	**07 54 33.4**	**+0.2**	
	baz=89									
H29A	**Onida**	**88.99**	**43**	⇑	P		**P**	**07 54 33.5**	**+0.3**	
	baz=89									
XAN	**Xi'an**	**89.15**	**306**		P		**P**	**07 54 35.3**	**+1.1**	
XAN					pP		**pP**	**07 54 46.5**	**+1.3**	
XAN					PP		**PP**	**07 58 07.3**	**+2.4**	
XAN					SKS		**SKSac**	**08 05 00.5**	**-1.2**	
XAN					S		**S**	**08 05 18.8**	**-2.2**	
XAN					SS		**SS**	**08 11 14.3**	**-1.4**	
XAN					AMB		AMB			
	comp=Z,57nm,5.1s									
XAN					LR		LR			
	comp=Z,190nm,22.3s									
XAN					LR		LR			
	comp=Z,150nm,22.3s									
XAN					LR		LR			
	comp=Z,140nm,20.4s									
BGNE	**Belgrade**	**89.17**	**47**	⇑	P		**P**	**07 54 34.1**	**0.0**	
	baz=89									
B26A	**Jensen Ranch,**	**89.23**	**39**	⇑	P		**P**	**07 54 33.9**	**-0.3**	
	baz=89									
I30A	**Oacoma**	**89.24**	**44**	⇓	P		**P**	**07 54 33.7**	**-0.6**	
	baz=89									
KSU1	**Kansas State U**	**89.44**	**49**		*e*P		**P**	**07 54 34.8**	**-0.6**	
KSU1					LR		LR			
	comp=Z,2μm,22.0s									
YAK	**Yakutsk**	**89.50**	**337**		*e*P		**P**	**07 54 35.1**	**+0.1**	
YAK					pmax		pmax			
	comp=Z,17nm,1.1s									
HHC	**Hu-ho-hao-te**	**89.53**	**313**		*e*P		**P**	**07 54 36.8**	**+0.9**	
HHC					sP		**sP**	**07 54 51.0**	**+0.1**	
HHC					PP		**PP**	**07 58 10.3**	**+2.4**	
HHC					SKS		**SKSac**	**08 05 02.0**	**-1.8**	
HHC					S		**S**	**08 05 22.6**	**-1.8**	
HHC					sS		**sS**	**08 05 41.6**	**-1.1**	
HHC					SS		**SS**	**08 11 21.4**	**+0.4**	
HHC					AMB		AMB			
	comp=Z,88nm,1.3s									
HHC					AMB		AMB			
	comp=Z,970nm,6.7s									
HHC					LR		LR			
	comp=Z,410nm,17.9s									
HHC					LR		LR			
	comp=Z,690nm,18.2s									
HHC					LR		LR			
	comp=Z,760nm,18.5s									
A26A	**Wade Farm, Ken**	**89.57**	**39**	⇑	P		**P**	**07 54 36.2**	**+0.5**	
	baz=90									
TGUH	**Tegucigalpa,Un**	**89.61**	**75**		PFAKE			07 54 50.0	+13	
TGUH					LR		LR			
	comp=Z,782nm,20.0s									
A27A	**Ledoux Ranch,**	**90.07**	**39**	⇓	P		**P**	**07 54 38.3**	**+0.3**	
	baz=90									
YKA	**Yellowknife Ar**	**90.10**	**23**		P		**P**	**07 54 37.4**	**-0.5**	
YKA	**Yellowknife Ar**	**90.10**	**23**		P		**P**	**07 54 37.3**	**-0.5**	
	comp=Z,10.0nm,0.7s,baz=241,slow=4.9,SNR=30									
YKW3	**Yellowknife Ar**	**90.13**	**23**		*e*P		**P**	**07 54 37.5**	**-0.5**	
	comp=Z,0.2nm,0.8s									
MIAR	**Mount Ida**	**90.21**	**54**		PFAKE			07 54 50.0	+11	
MIAR					LR		LR			
	comp=Z,2μm,22.0s									
TEIG	**Tepich**	**90.41**	**69**		PFAKE			07 54 50.0	+10	
TEIG					LR		LR			
	comp=Z,553nm,21.0s									
MDND	**Maddock**	**90.64**	**40**	⇓	P		**P**	**07 54 40.8**	**+0.1**	
	baz=91									
A28A	**Rude Farm, Bot**	**90.64**	**39**	⇑	P		**P**	**07 54 40.7**	**0.0**	
	baz=91									
JTS	**JuntasAbangare**	**90.77**	**80**		*e*P		**P**	**07 54 43.1**	**+1.0**	
	comp=Z,273nm,1.1s									
JTS					LR		LR			
	comp=Z,780nm,20.0s									
JTS	**JuntasAbangare**	**90.77**	**80**		P		**P**	**07 54 43.9**	**+1.8**	
	comp=Z,164nm,1.2s,SNR=5.4									
D30A	**Buchanan**	**90.89**	**41**	⇑	P		**P**	**07 54 41.5**	**-0.4**	
	baz=91									
ECSD	**EROS Data Cent**	**91.07**	**45**		*e*P		**P**	**07 54 42.1**	**-0.7**	
	comp=Z,58nm,1.8s									
ECSD					LR		LR			
	comp=Z,2μm,22.0s									
UALR	**University of**	**91.24**	**54**		*e*P		**P**	**07 54 44.0**	**+0.1**	
	comp=Z,13nm,0.8s									
A29A	**Manning Farm,**	**91.28**	**39**	⇓	P		**P**	**07 54 43.5**	**-0.1**	
	baz=91									
C30A	**Mose, Pekin**	**91.28**	**41**	⇑	P		**P**	**07 54 42.5**	**-1.3**	
	baz=91									
KMI	**Kunming**	**91.56**	**296**		P		**P**	**07 54 48.0**	**+2.2**	
KMI					pP		**pP**	**07 54 57.8**	**+0.9**	
KMI					sP		**sP**	**07 55 02.6**	**+1.7**	
KMI					S		**S**	**08 05 41.8**	**-2.1**	
KMI					sS		**sS**	**08 05 59.6**	**-2.7**	
KMI					AMB		AMB			
	comp=Z,14nm,0.6s									
KMI					AMB		AMB			
	comp=Z,190nm,4.3s									
KMI					LR		LR			
	comp=Z,210nm,17.0s									
KMI					LR		LR			
	comp=Z,370nm,19.2s									
KMI					LR		LR			
	comp=Z,380nm,20.7s									
A30A	**Hoffart Farm,**	**91.85**	**39**	⇑	P		**P**	**07 54 45.5**	**-0.9**	
	baz=92									
VBMS	**Vicksburg**	**91.92**	**57**		PFAKE			07 55 00.0	+13	
VBMS					LR		LR			
	comp=Z,1μm,20.0s									
FFC	**Flin Flon**	**92.01**	**33**		PFAKE			07 55 00.0	+13	
FFC					LR		LR			
	comp=Z,1μm,20.0s									
CD2	**Chengdu**	**92.33**	**301**		P		**P**	**07 54 48.5**	**-0.6**	
CD2					pP		**pP**	**07 54 59.6**	**-0.6**	
CD2					sP		**sP**	**07 55 03.8**	**-0.3**	
CD2					PP		**PP**	**07 58 31.6**	**+1.3**	
CD2					S		**S**	**08 05 45.9**	**-4.4**	
CD2					sS		**sS**	**08 06 04.5**	**-4.2**	
CD2					SS		**SS**	**08 12 00.0**	**-1.9**	
CD2					AMB		AMB			
	comp=Z,50nm,0.5s									
CD2					AMB		AMB			
	comp=Z,280nm,9.6s									
CD2					LR		LR			
	comp=Z,500nm,12.0s									
CD2					LR		LR			
	comp=Z,420nm,20.4s									
EFI	**East Falkland**	**92.45**	**146**		PFAKE			07 55 00.0	+11	
EFI					LR		LR			
	comp=Z,1μm,20.0s									
SYO	**Syowa Base**	**92.49**	**191**	⇑	*e*P		**P**	**07 54 47.4**	**-1.6**	
SNAA	**Sanae**	**92.67**	**177**		*e*P		**P**	**07 54 50.4**	**+0.5**	
SNAA	**Sanae**	**92.67**	**177**		*e*pP		pP	07 55 04.9	+3.9	
SNAA	**Sanae**	**92.67**	**177**		*e*P		**P**	**07 54 50.6**	**+0.7**	
	comp=Z,24nm,1.1s									
SCIA	**State Center**	**92.82**	**47**		PFAKE			07 55 00.0	+9.0	
SCIA					LR		LR			
	comp=Z,1μm,20.0s									
LCO	**Las Campanas**	**92.82**	**121**		*e*P		**P**	**07 54 53.8**	**+2.1**	
	comp=Z,30nm,0.9s									
LCO					LR		LR			
	comp=Z,1μm,19.0s									
VNA2	**Neumayer--Watz**	**93.10**	**175**		*e*P		**P**	**07 54 51.9**	**+0.1**	
VNA2	**Neumayer--Watz**	**93.10**	**175**		*e*pP		pP	07 55 00.5	-2.4	
AGMN	**Agassiz Nation**	**93.14**	**41**		*e*P		**P**	**07 54 50.8**	**-1.5**	
AGMN					LR		LR			
	comp=Z,2μm,20.0s									
CMAR	**Chiang Mai Arr**	**93.14**	**288**		P		**P**	**07 54 53.2**	**+0.2**	
CMAR					PKKPbc		**PKKPbc**	**08 12 04.0**	**+2.5**	
CMAR	**Chiang Mai Arr**	**93.14**	**288**		P		**P**	**07 54 53.2**	**+0.2**	
	comp=Z,1.9nm,0.7s,baz=94,slow=2.7,SNR=6.9									
CMAR					PKKPbc		**PKKPbc**	**08 12 04.0**	**+2.5**	
	comp=Z,1.3nm,0.3s,baz=289,slow=4.4,SNR=5.5									
CMAR					LR		LR	08 39 00.7		
	comp=Z,278nm,18.2s,baz=297,slow=37									
CHTO	**Chiang Mai**	**93.23**	**289**		PFAKE			07 55 00.0	+6.6	
CHTO					LR		LR			
	comp=Z,285nm,20.0s									
VNA1	**Neumayer--Stat**	**93.30**	**175**		*e*P		**P**	**07 54 54.1**	**+1.4**	
VNA1	**Neumayer--Stat**	**93.30**	**175**		*e*pP		pP	07 55 05.3	+1.5	
OXF	**Oxford**	**93.47**	**55**		PFAKE			07 55 10.0	+16	
OXF					LR		LR			
	comp=Z,1μm,22.0s									
LZH	**Lanzhou**	**93.74**	**306**		*e*P		**P**	**07 54 57.0**	**+1.4**	
LZH					pP		**pP**	**07 55 08.3**	**+1.6**	
LZH					sP		**sP**	**07 55 12.0**	**+1.4**	
LZH					PP		**PP**	**07 58 42.1**	**+0.7**	
LZH					SKS		**SKSac**	**08 05 27.5**	**-0.5**	
LZH					S		**S**	**08 06 01.0**	**-1.8**	
LZH					sS		**sS**	**08 06 18.3**	**-2.9**	
LZH					SS		**SS**	**08 12 23.3**	**+1.3**	
LZH					AMB		AMB			
	comp=Z,59nm,1.5s									
LZH					AMB		AMB			
	comp=Z,320nm,7.3s									
LZH					LR		LR			
	comp=Z,380nm,16.5s									
LZH					LR		LR			
	comp=Z,810nm,17.6s									
LZH					LR		LR			
	comp=Z,980nm,20.0s									
MAIT	**Maitri**	**93.77**	**182**		*e*P		**P**	**07 54 54.8**	**-0.1**	
ULM	**Lac du Bonnet**	**93.79**	**39**		*e*P		**P**	**07 54 53.8**	**-1.5**	
	comp=Z,18nm,1.3s									
ULM	**Lac du Bonnet**	**93.79**	**39**		P		**P**	**07 54 55.3**	**0.0**	
	comp=Z,8.7nm,0.9s,baz=248,slow=5.9,SNR=7.3									
ULM					LR		LR	08 30 12.1		
	comp=Z,3μm,21.4s,baz=246,slow=31									
PARMO	**Parma**	**93.81**	**53**		*e*P		**P**	**07 54 55.6**	**-0.1**	
SPMN	**St. Paul**	**94.13**	**44**		*e*P		**P**	**07 54 56.3**	**-0.7**	
OTAV	**Otavalo**	**94.35**	**91**		PFAKE			07 55 10.0	+11	
OTAV					LR		LR			
	comp=Z,379nm,20.0s									
BRAL	**Brewton**	**94.42**	**59**		PFAKE			07 55 10.0	+11	
BRAL					LR		LR			
	comp=Z,926nm,20.0s									
SIUC	**Southern Illin**	**94.52**	**52**		*e*P		**P**	**07 54 58.6**	**-0.3**	
	comp=Z,13nm,0.8s									
PAF	**Port-aux-Franc**	**94.74**	**216**		PFAKE			07 55 10.0	+10	
PAF					LR		LR			
	comp=Z,3μm,19.0s									
LRAL	**Lakeview Retre**	**95.00**	**57**		PFAKE			07 55 10.0	+8.8	
LRAL					LR		LR			
	comp=Z,729nm,20.0s									
JFWS	**Jewell Farm**	**95.21**	**47**		*e*P		**P**	**07 55 00.8**	**-1.2**	
JFWS					pmax		pmax			
	comp=Z,28nm,0.8s									
JFWS					MLR		MLR			
	comp=Z,2μm,21.0s									
JFWS	**Jewell Farm**	**95.21**	**47**		*e*P		**P**	**07 55 00.8**	**-1.2**	
	comp=Z,28nm,0.8s									
JFWS					LR		LR			
	comp=Z,2μm,21.0s									
SONM	**Songino Array**	**95.33**	**318**		P		**P**	**07 55 02.6**	**+0.1**	
SONM					PP		**PP**	**07 58 56.9**	**+3.5**	
SONM	**Songino Array**	**95.33**	**318**		P		**P**	**07 55 02.6**	**+0.1**	
	comp=Z,0.9nm,0.8s,baz=112,slow=3.0,SNR=6.1									
SONM					PP		**PP**	**07 58 56.9**	**+3.5**	
	comp=Z,1.1nm,0.9s,baz=121,slow=5.7,SNR=5.3									
SONM					LR		LR	08 32 17.6		
	comp=Z,910nm,21.6s,baz=103,slow=32									
TIXI	**Tiksi**	**95.34**	**344**		*de*P		**P**	**07 55 03.6**	**+1.8**	
TIXI					pmax		pmax			
	comp=Z,9.0nm,1.2s									
BCIP	**Isla Barro Col**	**95.34**	**82**		PFAKE			07 55 10.0	+6.8	
BCIP					LR		LR			
	comp=Z,280nm,19.0s									
EYMN	**Ely**	**95.80**	**42**		PFAKE			07 55 20.0	+15	
EYMN					LR		LR			
	comp=Z,2μm,20.0s									
TRQA	**Tornquist**	**96.16**	**132**		PFAKE			07 55 20.0	+13	
TRQA					LR		LR			
	comp=Z,1μm,19.0s									
LVC	**Limon Verde**	**96.48**	**116**		PFAKE			07 55 20.0	+11	
LVC					LR		LR			
	comp=Z,752nm,20.0s									
GTA	**Gaotai**	**97.69**	**309**		*e*P		Pdif	07 55 18.0	+4.5	
GTA					pP		pP	07 55 28.5	+3.9	
GTA					sP		sP	07 55 32.6	+4.1	
GTA					AMB		AMB			
	comp=Z,4.0nm,1.1s									
GTA					AMB		AMB			
	comp=Z,85nm,6.4s									
GTA					LR		LR			
	comp=Z,490nm,25.2s									
GTA					LR		LR			
	comp=Z,1μm,23.3s									
GTA					LR		LR			
	comp=Z,580nm,22.3s									
LPAZ	**La Paz**	**99.28**	**110**		P		**Pdif**	**07 55 22.4**	**+0.6**	
LPAZ	**La Paz**	**99.28**	**110**		P		**Pdif**	**07 55 22.4**	**+0.6**	
	comp=Z,2.4nm,1.0s,baz=325,slow=1.7,SNR=6.4									
LPAZ					LR		LR	08 31 55.5		
	comp=Z,213nm,19.6s,baz=238,slow=30									
ACSO	**Alum Creek Sta**	**99.84**	**51**		PFAKE			07 55 30.0	+7.1	
ACSO					LR		LR			
	comp=Z,1μm,19.0s									
BLA	**Blacksburg**	**101.20**	**54**		PFAKE			07 55 40.0	+11	
BLA					LR		LR			
	comp=Z,1μm,20.0s									
MCWV	**Mont Chateau**	**102.10**	**52**		PFAKE			07 55 40.0	+7.0	
MCWV					LR		LR			
	comp=Z,1μm,21.0s									
GTBY	**Guantanamo Bay**	**102.32**	**73**		PFAKE			07 55 50.0	+16	
GTBY					LR		LR			
	comp=Z,326nm,20.0s									
LSA	**Lhasa**	**102.64**	**298**		PFAKE			07 55 50.0	+14	
LSA					LR		LR			
	comp=Z,303nm,21.0s									
CNNC	**Cliffs of the**	**102.85**	**57**		PFAKE			07 55 50.0	+14	
CNNC					LR		LR			
	comp=Z,928nm,19.0s									
CBN	**Corbin**	**103.76**	**54**		PFAKE			07 55 50.0	+10	
CBN					LR		LR			
	comp=Z,1μm,22.0s									
BINY	**Binghamton**	**105.37**	**50**		PFAKE			08 00 10.0		
BINY					LR		LR			
	comp=Z,2μm,19.0s									
SDDR	**Presa de Saban**	**105.66**	**74**		PFAKE			08 00 10.0		
SDDR					LR		LR			
	comp=Z,443nm,19.0s									
SAML	**Samuel**	**106.25**	**104**		PFAKE			08 00 20.0		
SAML					LR		LR			
	comp=Z,420nm,20.0s									
GRTK	**Grand Turk**	**106.29**	**72**		PFAKE			08 00 20.0		
GRTK					LR		LR			
	comp=Z,425nm,20.0s									
LONY	**Lake Ozonia**	**106.66**	**48**		PFAKE			08 00 20.0		
LONY					LR		LR			
	comp=Z,2μm,21.0s									
NCB	**Newcomb**	**106.86**	**48**		PFAKE			08 00 20.0		
NCB					LR		LR			
	comp=Z,2μm,22.0s									
WMQ	**Urumqi**	**107.37**	**312**		*e*Pdif		**Pdif**	**07 55 56.6**	**+0.2**	
WMQ					PP		**PP**	**08 00 26.8**	**+2.5**	
WMQ					S		**Sdif**	**08 07 52.8**	**-4.6**	
WMQ					SS		**SS**	**08 15 28.4**	**-2.8**	
WMQ					PPMZ					
	comp=Z,140nm,5.2s									
WMQ					LR		LR			
	comp=Z,440nm,14.6s									
WMQ					LR		LR			
	comp=Z,310nm,12.6s									
WMQ					LR		LR			
	comp=Z,280nm,24.8s									
LBNH	**Lisbon**	**108.53**	**48**		PFAKE			08 00 20.0		
LBNH					LR		LR			
	comp=Z,3μm,22.0s									
ZALV	**Zalesovo Beam**	**109.69**	**322**		PKiKP		**PKiKP**	**08 00 07.0**	**-1.9**	
ZALV	**Zalesovo Beam**	**109.69**	**322**		PKiKP		**PKiKP**	**08 00 07.0**	**-1.9**	
	comp=Z,1.0nm,0.4s,baz=52,slow=1.9,SNR=5.0									
PKME	**Peaks-Kenny Pk**	**110.45**	**47**		PFAKE			08 00 20.0		
PKME					LR		LR			
	comp=Z,2μm,21.0s									
MK31	**Makanchi Array**	**111.32**	**315**		*e*PKiKP		**PKiKP**	**08 00 11.8**	**-0.5**	
MK31	**Makanchi Array**	**111.32**	**315**		*e*PKPdf		**PKiKP**	**08 00 11.8**	**-0.5**	
MKAR	**Makanchi Array**	**111.32**	**315**		PKiKP		**PKiKP**	**08 00 10.8**	**-1.4**	
MKAR	**Makanchi Array**	**111.32**	**315**		PKiKP		**PKiKP**	**08 00 10.8**	**-1.4**	
MKAR					PKKPbc		**PKKPab**	**08 11 14.8**	**-1.9**	
MKAR	**Makanchi Array**	**111.32**	**315**		PKiKP		**PKiKP**	**08 00 10.8**	**-1.4**	
	comp=Z,1.6nm,0.7s,baz=69,slow=1.0,SNR=16									
MKAR					PKKPbc		**PKKPab**	**08 11 14.8**	**-1.9**	
	comp=Z,0.8nm,0.8s,baz=251,slow=3.7,SNR=6.6									
DGAR	**Diego Garcia**	**111.36**	**255**		PFAKE			08 00 30.0		
DGAR					LR		LR			
	comp=Z,2μm,21.0s									
BBSR	**BB Station**	**113.40**	**61**		PFAKE			08 00 30.0		
BBSR					LR		LR			
	comp=Z,621nm,20.0s									
KURK	**Kurchatov**	**113.62**	**319**	⇓	*i*PKiKP		**PKiKP**	**08 00 16.3**	**-0.1**	
KURK	**Kurchatov**	**113.62**	**319**		PFAKE			08 00 30.0		
KURK					LR		LR			
	comp=Z,257nm,21.0s									
SPB	**Sao Paulo**	**113.98**	**125**		PFAKE			08 00 30.0		
SPB					LR		LR			
	comp=Z,1μm,19.0s									
ANWB	**Willy Bob**	**114.30**	**77**		PFAKE			08 00 30.0	+11	
ANWB					LR		LR			
	comp=Z,422nm,21.0s									
KSH	**Kashi**	**115.99**	**307**		PKP		**PKPdf**	**08 00 23.0**	**+1.4**	
KSH					sPKP			08 00 38.3		
KSH					PP		**PP**	**08 01 31.1**	**+4.8**	
KSH					PKS		**PKSdf**	**08 03 57.4**	**-0.9**	
KSH					SKS		**SKSdf**	**08 07 31.6**	**+0.3**	
KSH					SKKS		**SKKSac**	**08 08 19.6**	**-5.3**	
KSH					SS		**SS**	**08 17 32.3**	**+5.9**	
KSH					PPMZ					
	comp=Z,66nm,4.2s									
KSH					LR		LR			
	comp=Z,310nm,14.8s									
KSH					LR		LR			
	comp=Z,320nm,14.3s									
KSH					LR		LR			
	comp=Z,190nm,8.7s									
TKM2	**Tokmak 2**	**116.17**	**310**		PFAKE			08 00 30.0	+8.1	
T

FINES	**FINESS Array B**	132.25	348	PKP		**PKPdf**	**08 00 52.3**	**+0.5**	
	comp=Z,1.7nm,0.5s,baz=39,slow=2.2,SNR=8.4								
RCBR	**Riachuelo**	132.38	113	PFAKE			08 01 10.0	+16	
RCBR				LR	LR				
	comp=Z,550nm,19.0s								
BOSA	**Boshof**	132.66	202	PKP		**PKPdf**	**08 00 55.1**	**+1.2**	
BOSA	**Boshof**	132.66	202	PKP		**PKPdf**	**08 00 55.1**	**+1.2**	
	comp=Z,4.4nm,0.9s,baz=352,slow=7.5,SNR=4.2								
OBN	**Obninsk**	134.50	337	*i* PKIKP		**PKPdf**	**08 00 54.6**	**-1.6**	
OBN				*e*			08 03 30.3		
OBN				*e*PS		**PS**	**08 13 50.5**	**+0.6**	
OBN				*e*SS		SS	08 21 11.1	-5.4	
OBN				pmax	pmax				
	comp=Z,22nm,1.4s								
OBN				MLR	MLR				
	comp=Z,800nm,20.0s								
NOA	**NORSAR Array B**	134.54	357	PKP		**PKPdf**	**08 00 56.5**	**+0.3**	
NOA	**NORSAR Array B**	134.54	357	PKP		**PKPdf**	**08 00 56.5**	**+0.3**	
	comp=Z,0.7nm,0.6s,baz=33,slow=1.6,SNR=3.2								
KONO	**Kongsberg**	135.99	358	PFAKE			08 01 10.0	+11	
KONO				LR	LR				
	comp=Z,2μm,22.0s								
MICGM	**Minsk**	137.97	342	*e*		**PKPdf**	**08 01 03.0**	**+0.3**	
KIV	**Kislovodsk**	138.67	320	*i* PKIKP		**PKPdf**	**08 01 04.6**	**+0.1**	
KIV				*e*			08 03 52.5		
KIV				*e*SS		SS	08 22 03.9	-3.7	
KIV				pmax	pmax				
	comp=Z,9.0nm,1.1s								
GNI	**Garni**	139.17	314	PFAKE			08 01 20.0	+14	
GNI				LR	LR				
	comp=Z,572nm,22.0s								
ESK	**Eskdalemuir**	139.58	9	PFAKE			08 01 20.0	+14	
ESK				LR	LR				
	comp=Z,2μm,22.0s								
AKASG	**Malin Array Be**	140.72	338	PKHKP		PKPpre	08 01 01.6		
AKASG							08 01 08.3		
AKASG	**Malin Array Be**	140.72	338	PKPpre		PKPpre	08 01 01.6		
AKASG				PKP		**PKPdf**	**08 01 08.3**	**+0.5**	
AKASG	**Malin Array Be**	140.72	338	PKhKP		PKPpre	08 01 01.6		
	comp=Z,1.3nm,0.5s,baz=37,slow=4.1,SNR=9.0								
AKASG				PKP		**PKPdf**	**08 01 08.3**	**+0.5**	
	comp=Z,3.1nm,0.7s,baz=31,slow=1.9,SNR=8.9								
KIEV	**Kiev**	140.73	338	*e*PKIKP		**PKPdf**	**08 01 06.4**	**-1.4**	
KIEV				MLR	MLR				
	comp=Z,1μm,21.0s								
KIEV	**Kiev**	140.73	338	*e*PKPdf		**PKPdf**	**08 01 06.4**	**-1.4**	
KIEV				LR	LR				
	comp=Z,1μm,21.0s								
BTMT	**Batman**	142.30	313	*e*P		PKPdf	08 01 20.5	+9.3	
BNGB	**Bing¶ll**	142.49	315	*e*P		**PKPdf**	**08 01 08.0**	**-3.6**	
LSZ	**Lusaka**	142.91	215	*e*PKPdf		**PKPdf**	**08 01 13.3**	**+0.3**	
LSZ				LR	LR				
	comp=Z,1μm,19.0s								
MAZI	**Mazidag**	143.37	313	*e*P		PKPbc	08 01 11.3	+1.0	
PTK	**Pertek**	143.41	316	*e*P		PKPbc	08 01 11.7	+1.2	
CMLA	**Cha da Macela**	143.73	46	PFAKE			08 01 30.0	+16	
CMLA				LR	LR				
	comp=Z,2μm,22.0s								
KWP	**Kalwaria Pacla**	143.77	343	PFAKE			08 01 20.0	+6.7	
KWP				LR	LR				
	comp=Z,1μm,20.0s								
KEMA	**Kemaliye**	143.82	317	*i* P		PKPbc	08 01 12.4	+0.8	
KIS	**Kishinev**	143.87	335	*e*PKP		PKPbc	08 01 12.0	+0.7	
KIS	**Kishinev**	143.87	335	*e*PP		PP	08 04 32.0	+5.6	
KIS				LRM	MLR		09 03 25.0		
	comp=Z,800nm,20.0s								
TSUM	**Tsumeb**	143.90	197	*e*PKPdf		**PKPdf**	**08 01 15.1**	**+0.4**	
TSUM				LR	LR				
	comp=Z,1μm,20.0s								
RSDY	**Resadiye-TOKAT**	143.95	319	*e*P		PKPbc	08 01 12.9	+1.1	
CLL	**Collm**	144.08	354	*i* PKPdf		**PKPdf**	**08 01 12.9**	**-0.9**	
	comp=Z,6.0nm,0.6s								
CLL				*i* PKiKP		**PKiKP**	**08 01 17.7**	**+0.4**	
	comp=Z,14nm,1.0s								
CLL				*ep*PKiKP		pPKiKP	08 01 21.0	-7.7	
	comp=Z,32nm,1.2s								
CLL				*e*PP		PP	08 04 42.0	+15	
CLL				*e*SS		SS	08 23 15.0	+6.4	
CLL				*e*SSS		SSS	08 28 42.0		
CLL				L		L	08 59 00.0		
	comp=Z,400nm,21.4s								
KVT	**Kavak**	144.34	321	*e*P		**PKPdf**	**08 01 14.1**	**-0.5**	
MALT	**Malatya**	144.35	315	*e*P		**PKPdf**	**08 01 14.2**	**-0.6**	
MALT	**Malatya**	144.35	315	⇑*i*P		**PKPdf**	**08 01 14.8**	**0.0**	
STHS	**Stebnicka Huta**	144.37	344	*e*PKP		**PKPab**	**08 01 12.2**	**-0.3**	
BRG	**Berggiesshubel**	144.40	353	*e*PKP		PKPab	08 01 06.2	-6.3	
	comp=Z,5.2nm,1.1s								
BRG				*e*			08 01 19.7		
	comp=Z,16nm,1.0s								
BRG				*e*PP		**PP**	**08 04 32.5**	**+3.4**	
	comp=Z,3.7nm,1.2s								
BRG				SS	SS		08 23 40.0	+28	
BRG									
	comp=N,677nm,20.9s								
BRG									
	comp=E,699nm,21.5s								
BRG									
	comp=Z,797nm,22.8s								
SVSK	**Karacayir**	144.43	319	*e*P		**PKPdf**	**08 01 14.1**	**-0.7**	
UPC	**Upice**	144.46	350	*e*PKP		PKPbc	08 01 13.4	+0.4	
UPC				*ep*PKP		**PKiKP**	**08 01 17.1**	**-1.1**	
KOLS	**Kolonicke sedl**	144.52	343	*e*PKP		**PKPdf**	**08 01 14.2**	**-0.5**	
DPC	**Dobruska-Polom**	144.56	350	*e*PKP		**PKPab**	**08 01 12.8**	**-0.4**	
DPC				*ep*PKP		**PKiKP**	**08 01 17.2**	**-1.2**	
DPC				*ex*	x		08 01 21.5		
DPC				*e*SKSSKS			08 24 32.9		
DPC				*ex*	x		08 28 52.3		
DPC				AMS	AMS		09 01 00.0		
NIE	**Niedzica**	144.60	345	*e*PKPdf		**PKPab**	**08 01 13.4**	**0.0**	
PVCC	**Panska Ves**	144.65	352	*e*PKP		**PKPdf**	**08 01 14.4**	**-0.4**	
PVCC				*ep*PKP		**PKiKP**	**08 01 19.3**	**+0.8**	
PVCC				AMS	AMS		09 03 10.0		
	comp=Z,900nm,20.1s								
OKC	**Ostrava-Krasne**	144.70	348	*e*PKP		**PKPab**	**08 01 12.9**	**-0.8**	
OKC				*ep*PKP		**PKiKP**	**08 01 17.3**	**-1.4**	
OKC				*ex*	x		08 01 22.9		
OKC				AMS	AMS		08 59 30.0		
	comp=Z,900nm,21.8s								
AKCD	**Akcadag**	144.70	316	*i* P		**PKPdf**	**08 01 15.2**	**-0.3**	
KRLC	**Kraliky**	144.74	349	*e*PKP		PKPbc	08 01 14.5	+0.5	
UBBA	**Unterbreizbach**	144.81	357	*e*PKPbc		**PKPab**	**08 01 13.6**	**-0.3**	
BYBT	**Boyabat**	144.87	323	*e*P		**PKPdf**	**08 01 15.7**	**+0.3**	
BEBN	**Eben Emael**	144.89	2	PKP		**PKPdf**	**08 01 14.9**	**-0.3**	
PLN	**Plauen**	144.98	354	*e*PKPbc		**PKPab**	**08 01 14.0**	**-0.7**	
BZK	**Bozkurt**	144.99	324	*e*P		**PKPdf**	**08 01 17.2**	**+1.5**	
WERD	**Werda**	145.00	354	*e*PKPbc		**PKPab**	**08 01 14.4**	**-0.4**	
TANN	**Tannenbergstha**	145.02	354	*e*PKPbc		**PKPbc**	**08 01 13.7**	**-1.2**	
GUNZ	**Gunzen**	145.08	354	*e*PKPbc		**PKPbc**	**08 01 14.1**	**-1.0**	
MEM	**Membach**	145.08	1	PKP		**PKPdf**	**08 01 15.4**	**-0.2**	
SNF	**Seneffe**	145.12	3	PKP		**PKPdf**	**08 01 15.6**	**0.0**	
PRA	**Prague**	145.12	352	PKP		**PKPbc**	**08 01 14.0**	**-1.1**	
TESR	**Tescani**	145.14	336	⇑*i*P		**PKPbc**	**08 01 15.1**	**-0.2**	
WERN	**Wernitzgruen**	145.15	354	*e*PKPbc		**PKPbc**	**08 01 14.8**	**-0.5**	
TRPA	**Tarpa**	145.16	342	‖*i*P		**PKPdf**	**08 01 17.9**	**+2.1**	
TRPA	**Tarpa**	145.16	342	*e*PKPbc		**PKPbc**	**08 01 14.7**	**-0.6**	
PRU	**Pruhonice**	145.19	352	*e*PKP		**PKPbc**	**08 01 14.4**	**-1.0**	
PRU				*ep*PKP		**PKiKP**	**08 01 18.6**	**-1.0**	
PRU				*ex*	x		08 01 23.7		
PRU				*e*SKSSKS			08 24 44.9		
PRU				*ex*	x		08 29 06.7		
PRU				AMS	AMS		09 03 30.0		
	comp=Z,1μm,22.6s								
GHRR		145.21	335	‖*i*P		**PKPdf**	**08 01 17.3**	**+1.4**	
BCLA	**Clavier**	145.25	2	PKP		**PKPdf**	**08 01 17.8**	**+1.9**	
TLCR		145.30	333	‖*i*P		**PKPdf**	**08 01 16.4**	**+0.3**	
GZT	**Gaziantep**	145.43	315	*i* P		**PKPbc**	**08 01 16.8**	**0.0**	
TNS	**Taunus Mts**	145.46	358	*e*PKPbc		**PKPbc**	**08 01 15.5**	**-0.8**	
MANZ	**Manzenberg**	145.48	354	*e*PKPbc		**PKPdf**	**08 01 15.7**	**-0.6**	
VRAC	**Vranov**	145.51	349	⇑*i*P		**PKPab**	**08 01 19.5**	**+2.8**	
DOU	**Dourbes**	145.55	3	PKP		**PKPdf**	**08 01 18.2**	**-0.6**	
CFR	**Carcaliu**	145.61	333	‖*i*P		**PKPab**	**08 01 17.6**	**+0.5**	
VRI	**Vrincioaia**	145.64	335	⇑*i*P		**PKPab**	**08 01 17.3**	**0.0**	
ROTZ	**Rotzenmuhle**	145.68	354	*e*PKPbc		**PKPdf**	**08 01 16.5**	**-0.1**	
PLOR	**Plostina**	145.68	335	‖*i*P		**PKPab**	**08 01 17.7**	**+0.2**	
TREC	**Trest**	145.72	350	*e*PKP		**PKPdf**	**08 01 16.0**	**-0.7**	
TREC				*ep*PKP		**PKiKP**	**08 01 21.4**	**+0.6**	
TREC				*ex*	x		08 01 25.6		
ILGA	**Ilgaz**	145.74	323	*i* P		**PKPab**	**08 01 18.7**	**+0.6**	
CORM	**Corum**	145.75	321	*e*P		**PKPdf**	**08 01 16.5**	**-0.7**	
BNN	**Bunyan**	145.77	318	*e*P		**PKPbc**	**08 01 17.8**	**0.0**	
KMRS	**Kahramanmaras**	145.81	315	*e*P		**PKPbc**	**08 01 17.8**	**0.0**	
GRF	**Grafenberg Arr**	145.85	355	*e*PKPbc		**PKPdf**	**08 01 16.9**	**0.0**	
GRF				*e*L		L	09 01 54.7		
	comp=Z,810nm,21.7s								
GRFO	**Grafenberg**	145.85	355	*e*PKIKP		**PKPbc**	**08 01 17.7**	**+0.2**	
GRFO	**Grafenberg**	145.85	355	*e*PKPbc		**PKPbc**	**08 01 17.7**	**+0.2**	
KMBO	**Kilima Mbogo**	145.88	244	*e*PKPbc		**PKPab**	**08 01 19.4**	**-0.1**	
KMBO				LR	LR				
	comp=Z,543nm,19.0s								
KMBO	**Kilima Mbogo**	145.88	244	PKPbc		**PKPab**	**08 01 19.8**	**+0.3**	
	comp=Z,9.1nm,0.8s,baz=95,slow=3.9,SNR=13								
AYKD	**Aykdinkavak**	146.02	315	*i* P		**PKPab**	**08 01 18.8**	**+0.1**	
WLF	**Walferdange**	146.03	1	PKP		**PKPab**	**08 01 18.5**	**-0.1**	
WLF	**Walferdange**	146.03	1	*e*PKP2		**PKPab**	**08 01 18.4**	**-0.2**	
WLF				MLR	MLR				
	comp=Z,1μm,20.0s								
WLF	**Walferdange**	146.03	1	*e*PKPbc		**PKPbc**	**08 01 17.8**	**-0.2**	
WLF	**Walferdange**	146.03	1	*e*PKPbc		**PKPab**	**08 01 18.4**	**-0.2**	
WLF				LR	LR				
	comp=Z,1μm,20.0s								
TIRR	**Tirgusor**	146.05	332	*e*PKIKP		**PKPdf**	**08 01 17.0**	**-0.4**	
TIRR	**Tirgusor**	146.05	332	⇑*i*P		**PKPab**	**08 01 18.6**	**-0.2**	
TIRR	**Tirgusor**	146.05	332	*e*PKPdf		**PKPdf**	**08 01 17.0**	**-0.4**	
DOPR	**Dopca**	146.08	337	⇑*i*P		**PKPab**	**08 01 19.4**	**+0.5**	
CANT	**Cankiri**	146.08	322	*e*P		**PKPdf**	**08 01 17.7**	**0.0**	
PSZ	**Piszkesteto**	146.10	345	*e*PKP2		**PKPbc**	**08 01 18.3**	**-0.1**	
PSZ				MLR	MLR				
	comp=Z,811nm,20.0s								
PSZ	**Piszkesteto**	146.10	345	‖*i*P		**PKPab**	**08 01 20.0**	**+1.0**	
PSZ	**Piszkesteto**	146.10	345	*e*PKPbc		**PKPbc**	**08 01 18.3**	**-0.1**	
PSZ				LR	LR				
	comp=Z,811nm,20.0s								
PSZ	**Piszkesteto**	146.10	345	*e*PKPdf		**PKPbc**	**08 01 18.1**	**-0.3**	
SMOL	**Smolenice**	146.11	348	*e*PKP		**PKPab**	**08 01 19.6**	**+0.7**	
ANDN	**Andirin**	146.14	316	*i* P		**PKPab**	**08 01 19.4**	**-0.2**	
KHC	**Kasperske Hory**	146.16	352	*e*PKP2		**PKPdf**	**08 01 17.5**	**0.0**	
KHC	**Kasperske Hory**	146.16	352	*e*PKP		**PKPdf**	**08 01 17.7**	**+0.2**	
KHC				*ep*PKP		**PKiKP**	**08 01 23.2**	**+1.5**	
KHC				*ex*	x		08 01 27.3		
KHC				*e*SKSSKS			08 24 55.7		
KHC				*ex*	x		08 29 23.5		
KHC				AMS	AMS		08 59 40.0		
	comp=Z,1μm,23.0s								
KHC	**Kasperske Hory**	146.16	352	*e*PKPdf		**PKPdf**	**08 01 17.5**	**0.0**	
SHEL	**Horse Pasture**	146.16	157	PFAKE			08 01 30.0	+10	
SHEL				LR	LR				
	comp=Z,786nm,21.0s								
SAFT	**Safranbolu**	146.21	324	*e*P		**PKPbc**	**08 01 18.9**	**0.0**	
WET	**Wettzell**	146.23	353	*e*PKPbc		**PKPbc**	**08 01 18.2**	**-0.5**	
ELDT	**Eldivan**	146.27	322	*i* P		**PKPbc**	**08 01 18.8**	**-0.5**	
GEC2	**GERESS Array S**	146.42	352	*e*PKPbc		**PKPdf**	**08 01 18.5**	**+0.5**	
GERES	**GERESS Array B**	146.42	352	PKPbc		**PKPbc**	**08 01 19.1**	**-0.2**	
GERES	**GERESS Array B**	146.42	352	PKPbc		**PKPbc**	**08 01 19.1**	**-0.2**	
	comp=Z,3.2nm,0.7s,baz=52,slow=2.2,SNR=23								
AVNT	**Avonos**	146.44	319	*i* P		**PKPbc**	**08 01 19.4**	**-0.5**	
KOZT	**Kozan**	146.54	316	*e*P		**PKPab**	**08 01 23.4**	**+2.4**	
BRTR	**Keskin Array B**	146.63	321	PKPbc		**PKPdf**	**08 01 19.6**	**+0.8**	
BRTR	**Keskin Array B**	146.63	321	PKPbc		**PKPdf**	**08 01 19.6**	**+0.8**	
	comp=Z,26nm,0.8s,baz=115,slow=2.3,SNR=47								
VOIR		146.65	337	‖*i*P		**PKPbc**	**08 01 20.5**	**+0.4**	
BUD	**Budapest**	146.72	345	*e*PKPdf		**PKPbc**	**08 01 19.4**	**-0.7**	
CEYT	**Ceyhan**	146.85	315	*e*P		**PKPbc**	**08 01 21.3**	**+0.5**	
PKSG		146.96	346	*e*		**PKPab**	**08 01 23.1**	**+0.9**	
CONA	**Conrad Observa**	146.97	349	⇑*ip*PKPdf		**PKPbc**	**08 01 21.2**	**+0.2**	
	comp=Z,52nm,1.0s,SNR=13								
NIG	**Nigde**	146.99	318	*e*P		**PKPbc**	**08 01 21.7**	**+0.2**	
ANTO	**Ankara**	147.04	322	*e*PKP2		**PKPbc**	**08 01 21.3**	**-0.1**	
ANTO				MLR	MLR				
	comp=Z,482nm,22.0s								
ANTO	**Ankara**	147.04	322	*e*P		**PKPbc**	**08 01 20.5**	**-0.9**	
ANTO	**Ankara**	147.04	322	⇑*i*P		**PKPbc**	**08 01 21.6**	**+0.2**	
ANTO	**Ankara**	147.04	322	*e*PKPbc		**PKPbc**	**08 01 21.3**	**-0.1**	
ANTO				LR	LR				
	comp=Z,482nm,22.0s								
LOD	**Lodumlu**	147.04	322	*e*P		**PKPbc**	**08 01 21.9**	**+0.4**	
SOP	**Sopron**	147.08	348	*e*		**PKPab**	**08 01 22.2**	**-0.5**	
PKS7	**Kunszentmiklos**	147.09	345	*e*		**PKPbc**	**08 01 21.4**	**+0.2**	
SIRR	**Siria**	147.10	341	⇑*i*P		**PKPbc**	**08 01 21.6**	**+0.3**	
AFSR	**Af˙ar-Bala (A**	147.14	321	*e*P		**PKPdf**	**08 01 20.5**	**+0.9**	
WRDH	**Warideh**	147.16	313	*e*P		**PKPdf**	**08 01 19.2**	**-0.5**	
PKST	**T˜˙s**	147.16	346	*e*		**PKPdf**	**08 01 19.0**	**-0.2**	
KARA	**Karaisali**	147.18	316	*e*P		**PKPbc**	**08 01 22.2**	**+0.4**	
MOA	**Molln**	147.31	351	⇑*i*PKPbc		**PKPdf**	**08 01 20.1**	**+0.6**	
	comp=Z,60nm,1.2s								
FUR	**Furstenfeldbru**	147.36	355	*e*PKPbc		**PKPbc**	**08 01 21.9**	**-0.1**	
BFO	**Black Forest**	147.36	358	*e*PKP2		**PKPbc**	**08 01 21.5**	**-0.4**	
BFO				MLR	MLR				
	comp=Z,712nm,21.0s								
BFO	**Black Forest**	147.36	358	*e*PKPbc		**PKPbc**	**08 01 21.6**	**-0.4**	
BFO	**Black Forest**	147.36	358	*e*PKPbc		**PKPbc**	**08 01 21.5**	**-0.4**	
BFO				LR	LR				
	comp=Z,712nm,21.0s								
THEF	**They Montfort**	147.46	1	PKP		**PKPdf**	**08 01 21.0**	**+1.3**	
BIDA	**Albida**	147.47	312	*e*P		**PKPdf**	**08 01 17.8**	**-2.4**	
ECH	**Echery**	147.49	360	*e*PKP2		**PKPbc**	**08 01 22.5**	**+0.2**	
ECH				MLR	MLR				
	comp=Z,979nm,22.0s								
ECH	**Echery**	147.49	360	*e*PKPbc		**PKPbc**	**08 01 22.5**	**+0.2**	
ECH				LR	LR				
	comp=Z,979nm,22.0s								
PRD	**Provadia**	147.49	332	P		**PKPab**	**08 01 25.4**	**+1.0**	
GZR	**Gura Zlata**	147.51	339	⇑*i*P		**PKPbc**	**08 01 22.5**	**0.0**	
MDUB	**Mudurnu**	147.56	325	*e*P		**PKPbc**	**08 01 22.2**	**-0.7**	
PKS2	**Kecel**	147.59	344	*e*		**PKPab**	**08 01 23.9**	**-0.8**	
RJOB	**Jochberg**	147.62	353	*e*PKPbc		**PKPbc**	**08 01 22.2**	**-0.6**	
SULT	**Sultanhani-AKS**	147.63	319	*e*P		**PKPbc**	**08 01 23.4**	**+0.2**	
HAWK	**Hawsek**	147.64	311	*e*P		**PKPdf**	**08 01 20.7**	**+0.1**	
BZS	**Buzias**	147.69	341	‖*i*P		**PKPbc**	**08 01 22.7**	**-0.2**	
PKS9	**Tamasi**	147.74	345	*e*		**PKPbc**	**08 01 23.4**	**+0.4**	
MERS	**Mersin**	147.75	316	*e*P		PKPdf	08 01 10.0	-11	
MARH	**Ras Al Marh**	147.81	310	*e*P		**PKPdf**	**08 01 20.8**	**-0.3**	
FELD	**Feldberg im Sc**	147.82	359	PKP		**PKPdf**	**08 01 19.9**	**-0.6**	
MOF	**Molkenrain**	147.85	360	PKP		**PKPbc**	**08 01 22.3**	**-1.1**	
GULT	**Gulveren**	147.97	325	*e*P		**PKPbc**	**08 01 22.5**	**-1.4**	
SVRH	**Sivrihisar-ESK**	148.06	323	*e*P		**PKPbc**	**08 01 23.2**	**-1.0**	
SZH	**Strazhica**	148.09	334	P		**PKPbc**	**08 01 24.3**	**+0.2**	
BEHE	**Becsehely**	148.19	347	*e*		**PKPbc**	**08 01 24.4**	**+0.2**	
KBA	**Koelnbreinsper**	148.20	352	‖*isPKPdf*		**PKPbc**	**08 01 25.0**	**+0.5**	
	comp=Z,36nm,1.2s								
KIZK	**Mersin**	148.22	316	*i* P		**PKPdf**	**08 01 22.1**	**+0.8**	
KIZT	**Kirical**	148.22	322	*e*P		**PKPbc**	**08 01 23.8**	**-1.0**	
WTTA	**Wattenberg**	148.22	354	⇑*ip*PKPdf		**PKPbc**	**08 01 23.5**	**-1.0**	
	comp=Z,86nm,1.8s								
ISK	**Istanbul-Kandi**	148.30	327	P		**PKPbc**	**08 01 25.1**	**+0.4**	
ISK	**Istanbul-Kandi**	148.30	327	PKP2		**PKPbc**	**08 01 25.1**	**+0.4**	
ISK	**Istanbul-Kandi**	148.30	327	*e*P		**PKPbc**	**08 01 24.9**	**+0.3**	
ISK	**Istanbul-Kandi**	148.30	327	P		**PKPbc**	**08 01 25.1**	**+0.4**	
SOKA	**Soboth**	148.33	350	⇑*ip*PKPdf		**PKPbc**	**08 01 23.7**	**-1.0**	
	comp=Z,40nm,1.2s								
DAVA	**Damuels**	148.33	356	⇑*is*PKPdf		**PKPbc**	**08 01 24.5**	**-0.3**	
	comp=Z,69nm,1.2s								
LADK	**Ladik-KONYA**	148.35	320	*e*P		**PKPbc**	**08 01 24.9**	**-0.2**	
LOMF	**Lomont**	148.35	0	PKP		**PKPbc**	**08 01 23.8**	**-0.9**	
PERS	**Pernice**	148.36	349	*i* PKPbc		**PKPab**	**08 01 26.4**	**+1.5**	
BGKT	**Bogazkoy**	148.36	328	*e*P		**PKPdf**	**08 01 22.9**	**+1.6**	
ADVT	**Abdulvahap**	148.39	326	*e*P		**PKPbc**	**08 01 24.9**	**0.0**	
BRBR	**Barbar**	148.49	309	*e*P		**PKPdf**	**08 01 23.1**	**+0.9**	
CAVI	**Cavuskoy**	148.50	325	*e*P		**PKPbc**	**08 01 25.4**	**+0.1**	
KONT	**Konya--Tatoy**	148.51	320	*e*P		**PKPbc**	**08 01 24.6**	**-0.8**	
PHSR	**Pinarhisar**	148.65	330	*e*P		**PKPbc**	**08 01 25.8**	**+0.2**	
IKL	**Isikli**	148.66	316	*e*P		**PKPdf**	**08 01 23.4**	**+1.3**	
GEMT	**Gemlik**	148.68	326	*e*P		**PKPbc**	**08 01 26.3**	**+0.6**	
EREN	**Erenkoy**	148.72	314	*e*P		**PKPbc**	**08 01 24.2**	**-1.8**	
ARMT	**Armutlu**	148.76	327	*e*P		**PKPdf**	**08 01 22.9**	**+0.9**	
EDRB	**Edirne**	148.85	331	P		**PKPdf**	**08 01 21.4**	**-0.7**	
EDRB	**Edirne**	148.85	331	P		**PKPdf**	**08 01 21.4**	**-0.7**	
MDNY	**Mudanya-Bursa**	148.89	327	*e*P		**PKPbc**	**08 01 24.6**	**-1.7**	
MPEP	**Malo Peshtene**	148.91	336	P		**PKPbc**	**08 01 26.4**	**+0.2**	
ERMK	**Ermenek**	148.94	317	*i* P		**PKPbc**	**08 01 26.8**	**+0.1**	
HDMB	**Hadim**	149.03	318	*e*P		**PKPbc**	**08 01 23.6**	**+0.7**	
LJU	**Ljubljana**	149.03	350	*e*PKPbc		**PKPbc**	**08 01 27.3**	**+0.9**	
TUE	**Stuetta**	149.18	357	*e*PKPbc		**PKPbc**	**08 01 26.8**	**+1.3**	
TUE				*e*PKPab		**PKPab**	**08 01 31.3**	**-0.1**	
TUE				LR	LR				
	comp=Z,1μm,21.0s								
SHUT	**Suhut-Afyon**	149.22	322	*e*P		**PKPdf**	**08 01 24.6**	**+1.5**	
TVSB	**Tavsanli**	149.23	325	*e*P		**PKPdf**	**08 01 24.9**	**+1.9**	
KCTX	**Karacabey (Bur**	149.25	327	*e*P		**PKPdf**	**08 01 22.9**	**+0.1**	
LFK	**Lefkose**	149.29	315	*e*P		**PKPbc**	**08 01 26.1**	**-1.3**	
PGB	**Panagyurishte**	149.42	335	P		**PKPbc**	**08 01 28.6**	**+1.0**	
RKY	**Sarkoy-Tekirda**	149.53	329	*e*P		**PKPbc**	**08 01 26.6**	**-1.3**	
PLD	**Plovdiv**	149.56	334	P		**PKPbc**	**08 01 29.5**	**+1.7**	
PLD	**Plovdiv**	149.56	334	PKP2		**PKPbc**	**08 01 29.5**	**+1.7**	
PLD	**Plovdiv**	149.56	334	P		**PKPbc**	**08 01 29.5**	**+1.7**	
DIVS	**Divibare**	149.57	342	P		**PKPdf**	**08 01 21.4**	**-2.0**	
PLDF	**La Plantade**	149.59	5	PKP		**PKPbc**	**08 01 26.1**	**-1.8**	
SKDS	**Skadanscina**	149.60	350	*e*PKPbc		**PKPbc**	**08 01 29.5**	**+1.6**	
CSS	**Prodhromos**	149.60	314	P		**PKPdf**	**08 01 24.6**	**+1.0**	
CSS	**Prodhromos**	149.60	314	P		**PKPdf**	**08 01 24.6**	**+1.0**	
CSS				*e*PKPbc		**PKPbc**	**08 01 28.7**	**+0.5**	
CSS				LR	LR				
	comp=Z,560nm,21.0s								
SUTC	**Sutluce-Ispart**	149.65	320	*e*P		**PKPbc**	**08 01 27.4**	**-1.0**	
DURS	**Dursunbey**	149.66	326	*i* P		**PKPbc**	**08 01 26.7**	**-1.7**	
KRBG	**Karabiga-Canak**	149.69	329	*e*P		**PKPdf**	**08 01 23.8**	**+0.2**	
ISP	**Isparta**	149.71	321	P		**PKPbc**	**08 01 28.2**	**-0.3**	
ISP	**Isparta**	149.71	321	PKP2		**PKPbc**	**08 01 28.2**	**-0.3**	
ISP				MLR	MLR				
	comp=Z,589nm,20.0s								
ISP	**Isparta**	149.71	321	*e*P		**PKPdf**	**08 01 24.6**	**+0.8**	
ISP	**Isparta**	149.71	321	P		**PKPbc**	**08 01 28.2**	**-0.3**	
ISP				LR	LR				
	comp=Z,589nm,20.0s								
GONE	**Gonen-Balikesi

DBIC				PKPab	**PKPab**	**08 02 40.9**	**-0.3**	
	comp=Z,13nm,0.9s,baz=212,slow=3.1,SNR=10							
TAM	**Tamanrasset**	**172.70**	**12**	PFAKE		08 02 00.0	+12	
TAM				LR	LR			
	comp=Z,1μm,20.0s							
TORD	**Torodi Ar. Bea**	**174.21**	**114**	PKP	**PKPdf**	**08 01 48.5**	**-0.3**	
TORD				PKPab	**PKPab**	**08 03 19.6**	**-1.2**	
TORD				PP	PP	08 07 18.4	+5.4	
TORD	**Torodi Ar. Bea**	**174.21**	**114**	PKP	**PKPdf**	**08 01 48.5**	**-0.3**	
	comp=Z,4.1nm,1.1s,baz=16,slow=0.5,SNR=8.3							
TORD				PKPab	**PKPab**	**08 03 19.6**	**-1.2**	
	comp=Z,7.2nm,0.9s,baz=257,slow=3.3,SNR=15							
TORD				PP	PP	08 07 18.4	+5.4	
	comp=Z,2.5nm,1.1s,baz=217,slow=4.7,SNR=4.7							

IDC 19 08:09:53.4±1.2, 11°.89S×166°.84E, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.7/20, mbtmp3.7/6, ML3.7/1, Error ellipse: s-maj=51.5km s-min=25.0km az=128.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.13**	**182**	Pn	Pn	08 12 19.8	-0.4
	0.6nm,0.3s,baz=90,slow=18,SNR=5.1						
STKA	**Stephens Creek**	**30.59**	**225**	P	P	08 16 09.6	+0.4
	0.6nm,0.4s,baz=60,slow=8.1,SNR=2.9						
ASAR	**Alice Springs**	**33.39**	**245**	P	P	08 16 33.5	-0.4
	0.7nm,0.9s,baz=68,slow=9.9,SNR=5.6						
ILAR	**Eielson Array**	**83.97**	**18**	P	P	08 22 25.3	+0.2
	0.4nm,1.0s,baz=236,slow=6.3,SNR=3.1						
NVAR	**Mina Array Bea**	**85.75**	**49**	P	P	08 22 34.8	-0.2
	0.2nm,0.5s,baz=243,slow=9.5,SNR=3.0						
MKAR	**Makanchi Array**	**94.87**	**317**	P	P	08 23 17.5	0.0
	0.1nm,0.5s,baz=114,slow=3.5,SNR=2.8						

IDC 19 08:21:27.9±1.5, 15°.60S×173°.10W, h0km, mb3.8/7, mb1 4.1/7, mb1mx3.9/20, mbtmp3.8/7, Error ellipse: s-maj=101.2km s-min=20.1km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.11**	**37**	Pn	Pn	08 21 57.2	-7.4
	14nm,0.3s,baz=87,slow=3.2,SNR=20						
AFI				Sn	Sn	08 22 17.0	-15
	53nm,0.3s,baz=60,slow=23,SNR=16						
AFI				T	T	08 23 45.8	
	29nm,0.3s,baz=151,slow=21,SNR=4.1						
STKA	**Stephens Creek**	**44.19**	**240**	P	P	08 29 38.5	-0.4
	2.3nm,0.7s,baz=111,slow=10,SNR=6.5						
WRA	**Warramunga Arr**	**50.08**	**257**	P	P	08 30 24.8	-0.3
	0.9nm,0.9s,baz=90,slow=6.9,SNR=6.3						
ASAR	**Alice Springs**	**50.33**	**252**	P	P	08 30 26.9	-0.1
	2.6nm,0.8s,baz=88,slow=7.6,SNR=41						
NVAR	**Mina Array Bea**	**74.28**	**42**	P	P	08 33 07.7	+0.2
	0.2nm,0.4s,baz=234,slow=12,SNR=3.5						
TXAR	**Lajitas Array**	**80.48**	**56**	P	P	08 33 42.6	+0.4
	0.1nm,0.4s,baz=237,slow=8.3,SNR=5.1						
PDAR	**Pinedale Array**	**82.22**	**42**	P	P	08 33 50.5	-0.9
	0.4nm,0.9s,baz=231,slow=6.9,SNR=3.9						
ILAR	**Eielson Array**	**82.58**	**11**	P	P	08 33 52.1	-0.4
	0.5nm,0.9s,baz=232,slow=5.9,SNR=3.0						
BRTR	**Keskin Array B**	**146.49**	**321**	PKPbc	PKPbc	08 41 12.1	+0.4
	0.7nm,0.5s,baz=113,slow=2.8,SNR=4.7						

IGQ 19 08:34:14.6, 3°.33S×79°.60W, h130km±38km, Mb4.5, Ms4.3, 10C-2D, Error ellipse: s-maj=8.9km s-min=3.9km az=6.7, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARNL	**Arenillas**	**0.52**	**245**	⇑P	Pn	08 34 34.2	+0.4
ARNL	**Arenillas**	**0.52**	**245**	⇑S	Sn	08 34 46.4	-1.8
IGUA	**Igualata**	**2.06**	**28**	P	Pn	08 34 48.5	-1.6
BMAS	**Trigal station**	**2.13**	**32**	P	Pn	08 34 50.8	+0.1
ARRY	**Arrayan**	**2.14**	**32**	P	Pn	08 34 50.1	-0.7
PAT1	**Patacocha**	**2.15**	**33**	P	Pn	08 34 51.2	+0.1
BPAT	**Tungurahua Vol**	**2.15**	**33**	P	Pn	08 34 51.2	+0.1
RETU	**Refugio**	**2.19**	**32**	P	Pn	08 34 52.5	+0.8
JUI6	**Juive**	**2.20**	**31**	P	Pn	08 34 51.8	+0.3
ULBA	**Ulba**	**2.21**	**33**	P	Pn	08 34 52.7	+1.0
BULB	**Ulba Tungurahu**	**2.22**	**32**	P	Pn	08 34 52.1	+0.2
RUN5	**Runtun**	**2.23**	**32**	S	Sn	08 35 20.9	+0.4
RUN5	**Runtun**	**2.23**	**32**	P	Pn	08 34 52.6	+0.7
BRUN	**Tungurahua Vol**	**2.23**	**32**	P	Pn	08 34 52.4	+0.4
PISA	**Pisayambo**	**2.56**	**28**	P	Pn	08 34 57.3	+1.0
PECV	**Mancha de Ca P**	**2.57**	**350**	P	Pn	08 34 51.8	-4.0
PAST	**Pastocalle**	**2.78**	**20**	P	Pn	08 34 59.8	+0.7
BMOR	**Cotopaxi Volca**	**2.82**	**24**	⇑P	Pn	08 35 00.6	+0.9
CAMI	**Rancho Maria**	**2.85**	**23**	P	Pn	08 35 01.2	+1.2
CAMI	**Rancho Maria**	**2.85**	**23**	S	Sn	08 35 36.7	+1.8
BNAS	**Cotopaxi Volca**	**2.86**	**23**	⇑P	Pn	08 35 01.4	+1.2
BREF	**Cotopaxi Volca**	**2.88**	**24**	⇑P	Pn	08 35 01.9	+1.3
TAMB	**Tambo**	**2.89**	**25**	S	Sn	08 35 36.7	+0.8
TAMB	**Tambo**	**2.89**	**25**	P	Pn	08 35 01.3	+0.7
NAS2	**Nasa**	**2.89**	**23**	P	Pn	08 35 02.3	+1.8
BTAM	**Cotopaxi Volca**	**2.89**	**25**	⇑P	Pn	08 35 02.0	+1.4
BVC2	**Cotopaxi Volca**	**2.90**	**24**	⇑S	Sn	08 35 39.3	+2.9
BVC2	**Cotopaxi Volca**	**2.90**	**24**	⇑P	Pn	08 35 02.1	+1.3
VC1	**Cotopaxi 1**	**2.92**	**24**	⇓P	Pn	08 35 02.7	+1.7
COV1	**Cotopaxi Volc**	**2.93**	**25**	⇓P	Pn	08 35 02.1	+0.9
PITA	**Cotopaxi Volc**	**2.99**	**23**	P	Pn	08 35 03.6	+1.9
ANTI	**Antisana**	**3.20**	**27**	P	Pn	08 35 06.6	+2.0
MAG1	**Magdalena**	**3.24**	**357**	P	Pn	08 35 00.8	-3.6
JUA2	**San Juan 2**	**3.25**	**18**	S	Sn	08 35 42.0	-2.0
JUA2	**San Juan 2**	**3.25**	**18**	P	Pn	08 35 05.9	+0.8
TERV	**Terraza Guagua**	**3.29**	**18**	P	Pn	08 35 06.3	+0.6
GGP	**Refugio Guagua**	**3.29**	**18**	⇑P	Pn	08 35 06.3	+0.6
PINO	**Pino**	**3.30**	**17**	P	Pn	08 35 06.3	+0.4
CAYR	**Refugio Cayamb**	**3.69**	**26**	P	Pn	08 35 14.2	+3.1
OTAV	**Otavalo**	**3.72**	**18**	⇑P	Pn	08 35 11.8	+0.4
CAYA	**Cayambe**	**3.74**	**25**	P	Pn	08 35 14.3	+2.7

*AUST **19** 09:00:37.6±28.0, 6°.40S×120°.18E, h0km, Error ellipse: s-maj=1.6km s-min=1.0km az=227.0*
*IDC **19** 09:01:16.5±2.0, 8°.03S×123°.43E, h0km, mb3.6/1, mb1 3.8/3, mb1mx3.5/20, mbtmp3.6/3, ML3.7/2, Error ellipse: s-maj=283.8km s-min=30.7km az=57.0*

ISC 19 09:01:17.3±1.5, 8°.1S±0°.3×123°.5E±0°.5, h10km, n8, σ1s77/4, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**1.79**	**156**	P	Sn	09 02 02.0	-9.3
	baz=5,3,SNR=22						
MTN	**Manton Dam**	**8.82**	**123**	P	Pn	09 03 37.5	+12
	baz=13,SNR=4.7						
KNRA	**Kununurra**	**9.09**	**146**	P	Pn	09 03 33.8	+5.1
	baz=12,SNR=7.0						
KDU	**Kakadu**	**9.89**	**118**	P	Pn	09 03 52.1	+12
	baz=14,SNR=7.5						
FITZ	**Fitzroy Crossi**	**10.14**	**169**	P	**Pn**	**09 03 42.8**	**-0.3**
	baz=13,SNR=6.4						
WRA	**Warramunga Arr**	**15.74**	**139**	Pn	**P**	**09 05 02.2**	**-1.1**
	0.4nm,0.3s,baz=315,slow=12,SNR=27						
WRA				Sn	Sn	09 07 43.7	-10
	0.2nm,0.3s,baz=300,slow=23,SNR=5.4						
ASAR	**Alice Springs**	**18.39**	**148**	P	**Pn**	**09 05 34.0**	**+1.4**
	0.1nm,0.3s,baz=330,slow=15,SNR=11						
ASAR				S	Sn	09 08 45.4	-13
	0.2nm,0.3s,baz=322,slow=22,SNR=4.1						
MKAR	**Makanchi Array**	**65.82**	**330**	P	**P**	**09 12 02.9**	**0.0**
	0.3nm,0.5s,baz=140,slow=7.6,SNR=4.5						

MEX 19 09:11:20.5±0.3, 16°.42N×93°.82W, h72km±6km, MD3.5, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGIG		**0.76**	**62**	*e*P	Pn	09 11 34.9	-1.4
TGIG				*i* S	Sn	09 11 46.3	-1.7
PCIG		**0.92**	**141**	*e*P	Pn	09 11 36.8	-1.3
PCIG				*i* S	Sn	09 11 49.4	-1.8
CCIG	**Comitan**	**1.62**	**95**	*i* P	Pn	09 11 46.1	-1.3
CCIG				*i* S	Sn	09 12 05.8	-1.9

NNC 19 09:24:25.8±2.6, 54°.21N×85°.54E, h0km, mb3.7, mpv3.4, 7C-4D, Error ellipse: s-maj=20.4km s-min=16.1km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**5.49**	**233**	⇑Pn	Pn	09 25 49.3	+0.6
	1.5nm,0.8s						
KURK				⇑Pg	Pb	09 26 05.8	+3.3
	1.4nm,0.6s						
KURK				⇑Lg	Lg	09 27 21.7	
	3.0nm,0.9s						
KURBB	**Kurchatov Arra**	**5.59**	**233**	⇑Pn	Pn	09 25 50.4	+0.2
	4.4nm,0.8s						
KURBB				⇓Pg	Pb	09 26 07.5	+3.2
	3.1nm,0.8s						
KURBB				⇓Sn	Sn	09 26 56.9	+1.8
	2.1nm,0.4s						
KURBB				⇑Lg	Lg	09 27 24.7	
	7.9nm,0.8s						
MK31	**Makanchi Array**	**7.71**	**197**	Pn	Pn	09 26 19.6	+0.3
	2.2nm,0.8s,baz=25,slow=13,SNR=33						
MK31				⇓Sn	Sn	09 27 47.0	-0.4
	0.2nm,0.4s,baz=24,slow=27,SNR=5.4						
MK31				⇓Lg	Lg	09 28 31.7	
	2.3nm,0.8s,baz=22,slow=30,SNR=3.8						
VOSK	**Vostochnaya**	**8.81**	**266**	⇑Pn	Pn	09 26 34.8	+0.4
	3.0nm,0.8s						
VOSK				⇑Sn	Sn	09 28 13.3	-1.1
	2.8nm,0.8s						

DJA 19 09:40:09.9±0.7, 8°S±3°×107°E±°, h16km±9km, M3.9/10, MLv3.9/10, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.85**	**39**	P	Pb	09 40 24.6	-1.7
SKJI	**Sukabumi**	**1.40**	**329**	P	Pn	09 40 33.8	-1.1
SKJI				S	Sn	09 40 50.4	-2.7
LEM	**Lembang**	**1.42**	**14**	P	Pn	09 40 34.6	-0.8
LEM				S	Sn	09 40 53.4	-0.5
DBJI	**Dramaga**	**1.74**	**342**	P	Pn	09 40 39.2	-0.3
DBJI				S	Sn	09 41 00.5	-0.8
KPJI	**Karang Pucung**	**1.86**	**62**	P	Pn	09 40 40.0	-1.1
TGJI	**Tegal**	**2.27**	**54**	P	Pn	09 40 45.7	-1.0
BJII	**Banjamegara**	**2.56**	**70**	P	Pn	09 40 52.4	+1.5
BJII				S	Sn	09 41 19.6	-2.3
PCJI	**Pacitan**	**3.86**	**90**	P	Pn	09 41 08.9	+0.3

*IDC **19** 10:08:45.7±1.0, 44°.68N×9°.84E, h0km, mb3.6/5, mb1 3.8/11, mb1mx3.7/31, mbtmp3.6/11, ML4.0/7, MS3.1/3, Ms1 3.1/3, ms1mx2.6/45, Error ellipse: s-maj=23.2km s-min=14.5km az=128.0*
*VIE **19** 10:08:48.9±0.3, 44°.79N×9°.90E, h10km±2km, mb3.5/16, ML4.1/17, Error ellipse: s-maj=3.0km s-min=2.1km az=57.0 88 km ENE of Genova*
*ROM **19** 10:08:49.6±0.1, 44°.81N×9°.77E, h24km±1km, Ml4.0/39, Error ellipse: s-maj=1.4km s-min=1.4km az=170.0*
*ZUR **19** 10:08:49.0, 44°.81N×9°.82E, h15km±1km, ML4.2/7*
*CSEM **19** 10:08:49.0±0.1, 44°.84N×9°.85E, h10km, ML4.0, Error ellipse: s-maj=1.7km s-min=1.5km az=155.0*
*SZGRF **19** 10:08:50.2, 44°.81N×9°.63E, h10km, mb4.4, Northern Italy*
*LDG **19** 10:08:50.1±0.1, 44°.88N×9°.76E, h25km, Ml4.2/29, Error ellipse: s-maj=2.1km s-min=1.7km az=21.0*
*GEN **19** 10:08:50.0, 44°.79N×9°.80E, h16km, ML3.7*
*PRU **19** 10:08:50.2, 44°.86N×9°.81E, h23km*
*BGR **19** 10:08:50.2±0.9, 44°.81N×9°.63E, h10km, ML4.4/8, Error ellipse: s-maj=13.3km s-min=10.0km az=19.0*
*STR **19** 10:08:50.5±0.3, 44°.93N×9°.69E, h10km, Ml4.1, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 19 10:08:49.7±0.8, 44°.79N±0°.02×9°.76E±0°.01, h26km±6km, n446, σ1s52/522, mb3.8/5, 52C-65D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOB	**Bobbio (Coli)**	**0.22**	**265**	Pg	**Pb**	**10 08 56.1**	**+0.3**
BOB				Sg	**Sb**	**10 09 01.3**	**+1.3**
	21μm,0.7s						
BOB	**Bobbio (Coli)**	**0.22**	**265**	Pg	**Pb**	**10 08 56.1**	**+0.3**
GRAM	**Graiana**	**0.37**	**143**	P	**Pb**	**10 08 57.3**	**-0.6**
PRMA	**PARMA**	**0.40**	**93**	Pg	**Pb**	**10 08 57.8**	**-0.5**
PRMA				Sg	**Sb**	**10 09 04.3**	**+0.2**
	20μm,0.6s						
PRMA	**PARMA**	**0.40**	**93**	Pg	**Pb**	**10 08 57.8**	**-0.5**
CODM	**Codolo**	**0.40**	**170**	P	**Pb**	**10 08 58.2**	**-0.2**
SC2M	**Scurtabo**	**0.41**	**203**	Pg	**Pb**	**10 08 58.6**	**0.0**
SC2M				Sg	**Sb**	**10 09 05.2**	**+0.6**
	11μm,0.7s						
SC2M	**Scurtabo**	**0.41**	**203**	P	**Pb**	**10 08 58.6**	**0.0**
SC2M				Sg	**Sb**	**10 09 05.2**	**+0.6**
	11μm,0.7s						
MSSA	**Maissana**	**0.50**	**200**	Pg	**Pb**	**10 09 00.0**	**0.0**
MSSA				Sg	**Sb**	**10 09 08.1**	**+1.1**
	3μm,0.7s						
MSSA	**Maissana**	**0.50**	**200**	Pg	**Pb**	**10 09 00.0**	**0.0**
MSSA				Sg	**Sb**	**10 09 08.1**	**+1.1**
	3μm,0.7s						
BACM	**Baccana**	**0.56**	**156**	P	**Pb**	**10 09 00.4**	**-0.5**
BACM				S	**Sb**	**10 09 07.5**	**-1.0**
ERBM	**Eremo**	**0.59**	**128**	Pg	**Pb**	**10 09 01.3**	**-0.3**
	6μm,0.8s						
ERBM	**Eremo**	**0.59**	**128**	Pg	**Pb**	**10 09 01.3**	**-0.3**
	6μm,0.8s						
FIVI	**Fivizzano**	**0.61**	**154**	Pg	**Pb**	**10 09 01.2**	**-0.6**
FIVI				Sg	**Sb**	**10 09 11.0**	**+1.0**
FIVI	**Fivizzano**	**0.61**	**154**	Pg	**Pb**	**10 09 01.2**	**-0.6**
FIVI				Sg	**Sb**	**10 09 11.0**	**+1.0**
GENL	**Genova Univers**	**0.68**	**236**	P	**Pb**	**10 09 03.0**	**+0.1**
GENL				S	**Sb**	**10 09 12.1**	**+0.2**
NOVE	**Novellara**	**0.68**	**89**	Pg	**Pb**	**10 09 03.1**	**+0.1**
NOVE	**Novellara**	**0.68**	**89**	Pg	**Pb**	**10 09 03.1**	**+0.1**
VLC	**Villacollemand**	**0.77**	**144**	Pg	**Pn**	**10 09 03.7**	**-1.3**
VLC				Sg	**Sb**	**10 09 15.9**	**+1.2**
	4μm,1.1s						
VLC	**Villacollemand**	**0.77**	**144**	Pg	**Pn**	**10 09 03.7**	**-1.3**
VLC				Sg	**Sb**	**10 09 15.9**	**+1.2**
	4μm,1.1s						
SBPO	**S.Benedetto Po**	**0.87**	**72**	Pg	**Pn**	**10 09 06.2**	**0.0**
SBPO				Sg	**Sn**	**10 09 17.3**	**-0.8**
	9μm,0.4s						
SBPO	**S.Benedetto Po**	**0.87**	**72**	Pg	**Pn**	**10 09 06.2**	**0.0**
SBPO				*e*Sg	**Sn**	**10 09 17.3**	**-0.8**
PCP	**Piancastagn**	**0.90**	**255**	Pg	**Pn**	**10 09 07.2**	**+0.5**
	2μm,0.6s						
PCP	**Piancastagn**	**0.90**	**255**	P	**Pn**	**10 09 07.3**	**+0.5**
PCP				S	**Sn**	**10 09 18.5**	**-0.4**
BDI	**Bagni Di Lucca**	**0.94**	**140**	Pg	**Pn**	**10 09 06.5**	**-0.8**
BDI				Sg	**Sn**	**10 09 20.5**	**+0.6**
	4μm,0.7s						
BDI	**Bagni Di Lucca**	**0.94**	**140**	Pg	**Pn**	**10 09 06.5**	**-0.8**
BDI				Sg	**Sn**	**10 09 20.5**	**+0.6**
	4μm,0.7s						
RAVA	**Ravarino**	**0.97**	**91**	Pg	**Pb**	**10 09 09.6**	**+1.7**
	7μm,0.6s						
ZCCA	**Zocca**	**0.97**	**116**	Pg	**Pb**	**10 09 09.3**	**+1.3**
	3μm,0.5s						
ZCCA	**Zocca**	**0.97**	**116**	Pg	**Pb**	**10 09 09.3**	**+1.3**
	3μm,0.5s						
MDI	**Monti di Nese**	**0.99**	**358**	Pg	**Pn**	**10 09 07.5**	**-0.6**
MDI				Sg	**Sn**	**10 09 21.5**	**+0.2**
MDI	**Monti di Nese**	**0.99**	**358**	Pg	**Pn**	**10 09 07.5**	**-0.6**
MAIM	**Mastiano**	**1.02**	**148**	P	**Pn**	**10 09 08.8**	**+0.5**
MAIM				S	**Sn**	**10 09 21.2**	**-0.5**
PZZT	**Monte Pizzetto**	**1.03**	**129**	Pg	**Pn**	**10 09 08.8**	**+0.2**
	5μm,0.7s						
PZZT	**Monte Pizzetto**	**1.03**	**129**	Pg	**Pn**	**10 09 08.8**	**+0.2**
	5μm,0.7s						
QLNO	**Quiliano**	**1.11**	**246**	Pg	**Pn**	**10 09 10.4**	**+0.8**
QLNO				Sg	**Sb**	**10 09 26.2**	**+1.9**
	1μm,0.6s						
QLNO	**Quiliano**	**1.11**	**246**	Pg	**Pn**	**10 09 10.4**	**+0.8**
QLNO				Sg	**Sb**	**10 09 26.2**	**+1.9**
	1μm,0.6s						
FNVD	**Fontana Vidola**	**1.16**	**122**	Pg	**Pn**	**10 09 11.6**	**+1.3**
	4μm,0.9s						
FNVD	**Fontana Vidola**	**1.16**	**122**	Pg	**Pn**	**10 09 11.6**	**+1.3**
	4μm,0.9s						
MAGA	**Magasa**	**1.17**	**32**	Pg	**Pn**	**10 09 10.0**	**-0.5**
MAGA				Sg	**Sn**	**10 09 25.2**	**-0.4**
	20μm,0.4s						
MAGA	**Magasa**	**1.17**	**32**	Pg	**Pn**	**10 09 10.0**	**-0.5**
MAGA				Sg	**Sn**	**10 09 25.2**	**-0.4**
	20μm,0.4s						
FINB	**Finale Ligure**	**1.19**	**240**	Pg	**Pn**	**10 09 11.7**	**+1.0**
FINB				Sg	**Sb**	**10 09 28.3**	**+1.7**
	2μm,0.5s						
FINB	**Finale Ligure**	**1.19**	**240**	Pg	**Pn**	**10 09 11.7**	**+1.0**
FINB				Sg	**Sb**	**10 09 28.3**	**+1.7**
	2μm,0.5s						
PII	**Pisa**	**1.20**	**152**	Pg	**Pn**	**10 09 11.8**	**+1.0**
PII	**Pisa**	**1.20**	**152**	Pg	**Pn**	**10 09 11.8**	**+1.0**
MUGIO	**Muggio**	**1.24**	**336**	⇓*i*P1	**Pn**	**10 09 11.8**	**+0.3**
	9μm,0.4s						
MUGIO	**Muggio**	**1.24**	**336**	Pg	**Pn**	**10 09 11.8**	**+0.3**
MUGIO				Sg	**Sn**	**10 09 27.9**	**+0.4**
MUGIO	**Muggio**	**1.24**	**336**	⇓*i*P	**Pn**	**10 09 11.8**	**+0.3**
	9μm,0.4s						
MUGIO				Sg	**Sn**	**10 09 27.9**	**+0.4**
FIU	**Minerbio Fiu**	**1.25**	**96**	Pg	**Pb**	**10 09 13.8**	**+1.2**
	7μm,0.5s						
FIU	**Minerbio Fiu**	**1.25**	**96**	Pg	**Pb**	**10 09 13.8**	**+1.2**
	7μm,0.5s						
ROVR	**Rover¨¤ Verone**	**1.27**	**47**	Pg	**Pn**	**10 09 11.5**	**-0.4**
	9μm,0.4s						
ROVR	**Rover¨¤ Verone**	**1.27**	**47**	Pg	**Pn**	**10 09 11.5**	**-0.4**
	9μm,0.4s						
MTRZ	**Monterenzio**	**1.29**	**108**	Pg	**Pb**	**10 09 15.4**	**+2.1**
CRMI	**Carmignano**	**1.32**	**138**	Pg	**Pn**	**10 09 14.0**	**+1.5**
CRMI	**Carmignano**	**1.32**	**138**	Pg	**Pn**	**10 09 14.0**	**+1.5**
MONC	**Moncucco Torin**	**1.33**	**283**	Pg	**Pb**	**10 09 16.1**	**+2.1**
	2μm,0.4s						
MONC	**Moncucco Torin**	**1.33**	**283**	Pg	**Pb**	**10 09 16.1**	**+2.1**
	2μm,0.4s						
MABI	**Malga Bissina**	**1.38**	**23**	Pg	**Pn**	**10 09 13.3**	**-0.2**
	3μm,0.6s						
MABI	**Malga Bissina**	**1.38**	**23**	Pg	**Pn**	**10 09 13.3**	**-0.2**
	3μm,0.6s						
RORO	**Rocca Rossa**	**1.38**	**242**	Pg	**Pn**	**10 09 14.1**	**+0.8**
RORO				Sg	**Sn**	**10 09 32.3**	**+1.5**
	386nm,0.5s						
TEOL	**Teolo**	**1.47**	**66**	Pg	**Pn**	**10 09 14.2**	**-0.4**
	1μm,0.5s						
TEOL	**Teolo**	**1.47**	**66**	Pg	**Pn**	**10 09 14.2**	**-0.4**
	1μm,0.5s						
DDS	**Dosso del Somm**	**1.49**	**42**	⇑*e*Pg	**Pn**	**10 09 14.6**	**-0.4**
DDS				*e*Sg	**Sn**	**10 09 33.0**	**-0.7**
DDS	**Dosso del Somm**	**1.49**	**42**	⇑*e*Pg	**Pn**	**10 09 14.6**	**-0.4**
DDS				*e*Sg	**Sn**	**10 09 33.0**	**-0.7**
TRAV	**Traversella**	**1.60**	**298**	Pg	**Pn**	**10 09 16.4**	**0.0**
	2μm,0.4s						
ADRI	**Adria, Italy**	**1.63**	**80**	*e*Pg	**Pb**	**10 09 19.6**	**+0.6**
ADRI				*e*Sg	**Sb**	**10 09 41.0**	**+1.9**
ADRI	**Adria, Italy**	**1.63**	**80**	*e*Pg	**Pb**	**10 09 19.6**	**+0.6**
ADRI				*e*Sg	**Sb**	**10 09 41.0**	**+1.9**
BERNI	**Berninapass**	**1.64**	**6**	*i* Pn	**Pn**	**10 09 17.6**	**+0.5**
	5μm,0.7s						
BERNI	**Berninapass**	**1.64**	**6**	Pg	**Pn**	**10 09 17.7**	**+0.6**
BERNI	**Berninapass**	**1.64**	**6**	*i* Pn	**Pn**	**10 09 17.6**	**+0.5**
	5μm,0.7s						
PANI	**Panarotta**	**1.67**	**40**	⇑*e*Pg	**Pn**	**10 09 17.5**	**0.0**
PANI				*e*Sg	**Sn**	**10 09 37.3**	**-0.9**
PANI	**Panarotta**	**1.67**	**40**	⇑*e*Pg	**Pn**	**10 09 17.5**	**0.0**
PANI				*e*Sg	**Sn**	**10 09 37.3**	**-0.9**
TUE	**Stuetta**	**1.71**	**351**	Pg	**Pn**	**10 09 19.0**	**+0.9**
TUE				Sg	**Sn**	**10 09 40.0**	**+0.8**
	2μm,0.4s						
TUE	**Stuetta**	**1.71**	**351**	Pg	**Pn**	**10 09 19.0**	**+0.9**
VDL	**Val di Lei**	**1.71**	**353**	⇓*i*P1	**Pn**	**10 09 19.1**	**+1.0**
	6μm,0.4s						
VDL	**Val di Lei**	**1.71**	**353**	⇓*i*P	**Pn**	**10 09 19.1**	**+1.0**
	6μm,0.4s						
SFI	**Santa Sofia**	**1.74**	**120**	Pg	**Pn**	**10 09 20.8**	**+2.5**
	1μm,1.1s						
SFI	**Santa Sofia**	**1.74**	**120**	Pg	**Pn**	**10 09 20.8**	**+2.5**
	1μm,1.1s						
BRMO	**Bormio**	**1.75**	**14**	Pg	**Pn**	**10 09 19.1**	**+0.6**
	1μm,0.6s						
BRMO	**Bormio**	**1.75**	**14**	Pg	**Pn**	**10 09 19.1**	**+0.6**
	1μm,0.6s						
ASQU	**Asqua**	**1.76**	**123**	Pg	**Pn**	**10 09 20.1**	**+1.5**
	654nm,0.7s						
ASQU	**Asqua**	**1.76**	**123**	Pg	**Pn**	**10 09 20.1**	**+1.5**
	654nm,0.7s						
SAOF	**Saorge**	**1.77**	**244**	P	**Pb**	**10 09 21.4**	**-0.1**
SAOF				S	**Sb**	**10 09 45.2**	**+2.0**
SAOF	**Saorge**	**1.77**	**244**	P	**Pb**	**10 09 21.4**	**-0.1**
SAOF				S	**Sb**	**10 09 45.2**	**+2.0**
MMK	**Mattmark**	**1.79**	**316**	Pg	**Pn**	**10 09 18.8**	**-0.3**
RSP	**Reno Superiore**	**1.81**	**282**	Pg	**Pn**	**10 09 18.7**	**-0.6**
	674nm,0.7s						
CGRP	**Cima Grappa**	**1.81**	**52**	⇑*e*Pg	**Pn**	**10 09 18.9**	**-0.5**
CGRP

CASP Castiglione de 2.15 158 Pg Pn 10 09 25.0 +1.1
435nm,0.5s
AGOR Agordo 2.20 46⇑ePg Pn 10 09 25.0 +0.4
AGOR Agordo 2.20 46 Pg Pn 10 09 25.1 +0.4
1µm,0.5s
ABSI Aberstueckl 2.23 29⇑ePn Pn 10 09 25.5 +0.3
LPG La Plagne 2.24 290 eP Pn 10 09 25.9 +0.5
LPG eSn Sn 10 09 47.8 -4.6
440nm,0.5s,SNR=1.0
LPG La Plagne 2.24 290 eP Pn 10 09 25.9 +0.5
CAE Caneva 2.25 56 ePg Pn 10 09 24.9 -0.4
CAE Caneva 2.25 56 ePn Pn 10 09 24.9 -0.4
LPL La Plagne 2.26 290 eP Pn 10 09 26.7 +1.1
LPL eSn Sn 10 09 49.0 -3.8
516nm,0.5s,SNR=1.0
LPL La Plagne 2.26 290 eP Pn 10 09 26.7 +1.1
POLC Polcenigo 2.30 56⇓ePn Pn 10 09 25.8 -0.1
POLC eSn Sn 10 09 52.6 -0.7
CALN Calern 2.30 244 P Pn 10 09 29.1 +3.0
CALN S Sb 10 09 59.4 +0.7
CALN Calern 2.30 244 P Pn 10 09 29.1 +3.0
CALN S Sb 10 09 59.4 +0.7
FETA Feichten 2.34 17⇑ePn Pn 10 09 27.7 +1.1
SNR=79
FETA Feichten 2.34 17⇓ePn Pn 10 09 27.7 +1.1
WIMIS Wimmis 2.40 322⇓eP1 Pn 10 09 29.5 +2.1
WIMIS Wimmis 2.40 322⇑eP Pn 10 09 29.5 +2.1
CIMO Cimolais 2.43 50⇑ePg Pn 10 09 27.6 -0.1
CIMO Cimolais 2.43 50⇑ePn Pn 10 09 27.6 -0.1
MLNI Malnisio 2.43 55 ePg Pn 10 09 27.5 -0.3
MLNI Malnisio 2.43 55 ePn Pn 10 09 27.5 -0.3
ROSI Rosskopf 2.44 28 ePn Pn 10 09 28.9 +0.9
ROSI eSn Sn 10 09 58.2 +1.1
AFL Alpe Faloria 2.44 43⇑ePg Pn 10 09 29.0 +0.9
AFL Alpe Faloria 2.44 43⇑ePn Pn 10 09 29.0 +0.9
DAVA Damuels 2.50 2 ePn Pn 10 09 30.8 +1.9
DAVA ePg 10 09 37.9
DAVA eSn Sn 10 09 56.7 -2.0
DAVA Damuels 2.50 2⇓ePn Pn 10 09 30.8 +1.9
SNR=39
DAVA ⇓iSn Sn 10 10 01.7 +3.0
DAVA Damuels 2.50 2 ePn Pn 10 09 30.8 +1.9
DAVA ePg 10 09 37.9
DAVA eSn Sn 10 09 56.7 -2.0
DAVA Damuels 2.50 2⇓ePn Pn 10 09 30.8 +1.9
LIENZ Kamor/St.Gall 2.52 356⇓eP1 Pn 10 09 30.6 +1.5
LIENZ Kamor/St.Gall 2.52 356⇓eP Pn 10 09 30.6 +1.5
FRF La Foret Royal 2.55 242 eP Pn 10 09 30.8 +1.4
FRF eSn Sn 10 09 55.5 -4.1
355nm,0.7s,SNR=1.0
FRF La Foret Royal 2.55 242 eP Pn 10 09 30.8 +1.4
TLI Talmassons 2.62 63⇑ePg Pn 10 09 30.1 -0.2
TLI Talmassons 2.62 63⇑ePn Pn 10 09 30.1 -0.2
OBER Oberstdorf 2.65 8 ePn Pn 10 09 32.4 +1.6
OBER ePg 10 09 40.4
OBER Oberstdorf 2.65 8 ePn Pn 10 09 32.4 +1.6
OBER ePg 10 09 40.4
OBER Oberstdorf 2.65 8 Pn Pn 10 09 32.4 +1.6
CSMI Casera Mimoias 2.67 49⇓ePg Pn 10 09 31.6 +0.4
CSMI Casera Mimoias 2.67 49⇓ePn Pn 10 09 31.6 +0.4
WILA Wila 2.70 348⇓ePn Pn 10 09 32.5 +1.0
WILA Wila 2.70 348⇓ePn Pn 10 09 32.5 +1.0
MPRI Monte Prat 2.70 56⇓ePg Pn 10 09 31.4 -0.1
MPRI Monte Prat 2.70 56⇓ePn Pn 10 09 31.4 -0.1
ZUR Degenried 2.71 343⇓ePn Pn 10 09 32.7 +1.1
ZUR Degenried 2.71 343⇓ePn Pn 10 09 32.7 +1.1
ABTA Abfaltersbach 2.75 44⇓ePn Pn 10 09 33.5 +1.2
SNR=25
ABTA ⇑iSn Sn 10 10 06.4 +1.7
ABTA ⇓iSg 10 10 17.6
213nm,0.3s
ABTA Abfaltersbach 2.75 44⇓ePn Pn 10 09 33.5 +1.2
ABTA Sn Sn 10 10 06.4 +1.7
ABTA Sg 10 10 17.6
213nm,0.3s
LMR La Mourre 2.75 239 eP Pn 10 09 33.2 +1.0
LMR eSn Sn 10 10 00.7 -3.9
226nm,0.5s,SNR=1.0
LMR La Mourre 2.75 239 eP Pn 10 09 33.2 +1.0
ORIF Oris-en-Rattie 2.76 274 eP Pn 10 09 35.2 +2.8
ORIF eSn Sn 10 10 00.6 -4.3
391nm,0.4s,SNR=1.0
ORIF Oris-en-Rattie 2.76 274 eP Pn 10 09 35.2 +2.8
BUA Buia 2.77 58⇑ePg Pn 10 09 32.5 +0.1
BUA Buia 2.77 58⇑ePn Pn 10 09 32.5 +0.1
RETA Reutte 2.79 14⇑ePn Pn 10 09 34.3 +1.5
SNR=19
RETA ⇓iSn Sn 10 10 06.8 +1.2
RETA Reutte 2.79 14⇑ePn Pn 10 09 34.3 +1.5
RETA Sn Sn 10 10 06.8 +1.2
WEIN Weingarten 2.80 349⇓iPn Pn 10 09 33.7 +0.9
WEIN Weingarten 2.80 349⇓iPn Pn 10 09 33.7 +0.9
FUSE Fusea 2.80 53 ePg Pn 10 09 32.9 +0.1
FUSE Fusea 2.80 53 ePn Pn 10 09 32.9 +0.1
WTTA Wattenberg 2.81 27 ePn Pn 10 09 35.3 +2.2
WTTA ePg 10 09 42.6
WTTA Wattenberg 2.81 27⇑ePn Pn 10 09 34.4 +1.4
SNR=25
WTTA ⇑iSn Sn 10 10 07.5 +1.4
WTTA Wattenberg 2.81 27 ePn Pn 10 09 35.3 +2.2
WTTA ePg 10 09 42.6
WTTA Wattenberg 2.81 27⇑ePn Pn 10 09 34.4 +1.4
WTTA Wattenberg 2.81 27 Pg Pb 10 09 42.6 +3.4
WTTA Sn Sn 10 10 07.5 +1.4
BOO Bordano 2.81 56⇓ePg Pn 10 09 32.5 -0.4
BOO Bordano 2.81 56⇓ePn Pn 10 09 32.5 -0.4
WATA Walderalm 2.85 26⇑ePn Pn 10 09 35.6 +2.0
SNR=18
WATA Walderalm 2.85 26 Pn Pn 10 09 35.6 +2.0
SNR=18
BAD Bernadia 2.85 58 ePg Pn 10 09 33.0 -0.6
BAD Bernadia 2.85 58 ePn Pn 10 09 33.0 -0.6
ZOU Zoufplan 2.87 51⇑ePg Pn 10 09 34.2 +0.3
ZOU Zoufplan 2.87 51⇑ePg Pn 10 09 34.2 +0.3
ZOU Zoufplan 2.87 51⇑ePn Pn 10 09 34.2 +0.3
GRN Grenoble 2.88 281 P Pn 10 09 35.5 +1.5
GRN Grenoble 2.88 281 P Pn 10 09 35.5 +1.5
VINO Villanova 2.88 58⇑ePg Pn 10 09 33.3 -0.7
VINO Villanova 2.88 58⇑ePn Pn 10 09 33.3 -0.7
COLI Coloredo 2.88 61 ePg Pn 10 09 33.5 -0.4
COLI Coloredo 2.88 61 ePn Pn 10 09 33.5 -0.4
FLACH Flaach 2.91 344⇓iPn Pn 10 09 35.0 +0.7
FLACH Flaach 2.91 344⇓iPn Pn 10 09 35.0 +0.7
BALST Balsthal 2.93 331⇓ePn Pn 10 09 35.5 +0.9
BALST Balsthal 2.93 331⇓ePn Pn 10 09 35.5 +0.9
STEIN Stein am Rhein 2.95 348⇓iPn Pn 10 09 35.6 +0.7
STEIN Stein am Rhein 2.95 348⇓iPn Pn 10 09 35.6 +0.7
TRULL Truellikon 2.96 346⇓iPn Pn 10 09 35.6 +0.6
TRULL Truellikon 2.96 346⇓iPn Pn 10 09 35.6 +0.6
SABO M.te Sabotino 2.96 65⇑ePg Pn 10 09 34.8 -0.3
SABO M.te Sabotino 2.96 65⇑ePn Pn 10 09 34.8 -0.3
PLRO Paularo 2.96 52⇓ePg Pn 10 09 35.5 +0.3
PLRO Paularo 2.96 52⇓ePn Pn 10 09 35.5 +0.3
SULZ Cheisacher 2.97 338⇓iPn Pn 10 09 35.9 +0.7
SULZ Cheisacher 2.97 338⇓iPn Pn 10 09 35.9 +0.7
TRI Trieste 2.98 71⇓ePg Pn 10 09 34.4 -0.9
TRI Trieste 2.98 71⇓ePn Pn 10 09 34.4 -0.9
DRE Drenchia 3.07 62⇓ePg Pn 10 09 35.9 -0.6
DRE Drenchia 3.07 62⇓ePn Pn 10 09 35.9 -0.6
BBS Basel-Blauen 3.10 331 P Pn 10 09 37.8 +0.8
SMRF Simiane la Rot 3.10 256 eP Pn 10 09 40.1 +3.1
SMRF eSn Sn 10 10 09.3 -4.0
259nm,0.6s
SMRF Simiane la Rot 3.10 256 eP Pn 10 09 40.1 +3.1
SLE Schleitheim 3.11 344⇓iPn Pn 10 09 37.2 +0.1
SLE Schleitheim 3.11 344⇓iPn Pn 10 09 37.2 +0.1
LSR Lussari 3.14 56⇑ePg Pn 10 09 37.6 -0.1
LSR Lussari 3.14 56⇑ePn Pn 10 09 37.6 -0.1
BOURR Bourrignon 3.15 327⇓ePn Pn 10 09 38.6 +1.0
BOURR Bourrignon 3.15 327⇓ePn Pn 10 09 38.6 +1.0
BRANT Les Verrieres 3.15 314⇓ePn Pn 10 09 39.4 +1.7
BRANT Les Verrieres 3.15 314⇓ePn Pn 10 09 39.4 +1.7
CABF La Chapelle 3.15 307 eP Pn 10 09 39.6 +1.8
CABF eSn Sn 10 10 10.5 -4.1
183nm,0.4s,SNR=1.0
CABF La Chapelle 3.15 307 eP Pn 10 09 39.6 +1.8
ACOM Acomizza, Ital 3.17 55⇓ePg Pn 10 09 38.5 +0.4
ACOM Acomizza, Ital 3.17 55⇓ePn Pn 10 09 38.5 +0.4
VOY Vojsko 3.17 65 ePn Pn 10 09 37.2 -0.8
VOY eSn Sb 10 10 31.9 +8.3
VOY Vojsko 3.17 65 ePn Pn 10 09 37.2 -0.8

LOMF Lomont 3.28 323 P Pn 10 09 40.4 +0.9
LOMF Lomont 3.28 323 P Pn 10 09 40.4 +0.9
MYKA Terra Mystica 3.29 54⇑iPn Pn 10 09 40.1 +0.5
MYKA ⇑iSn Sn 10 10 19.6 +1.7
MYKA Terra Mystica 3.29 54⇑iPn Pn 10 09 40.1 +0.5
MYKA Sn Sn 10 10 19.6 +1.7
FELD Feldberg im Sc 3.32 339 P Pn 10 09 40.2 +0.1
FELD Feldberg im Sc 3.32 339 P Pn 10 09 40.2 +0.1
SPAK Spaichingen-Ko 3.39 349 P Pn 10 09 40.5 -0.4
KBA Koelnbreinsper 3.40 46 ePn Pn 10 09 42.8 +1.6
KBA Koelnbreinsper 3.40 46⇓iPn Pn 10 09 42.4 +1.2
SNR=13
KBA ⇑iSn Sn 10 10 20.9 +0.2
KBA Koelnbreinsper 3.40 46 ePn Pn 10 09 42.8 +1.6
KBA Koelnbreinsper 3.40 46⇓iPn Pn 10 09 42.4 +1.2
KBA Sn Sn 10 10 20.9 +0.2
FUR Furstenfeldbru 3.54 17 ePn Pn 10 09 44.1 +1.1
FUR Furstenfeldbru 3.54 17 ePn Pn 10 09 44.1 +1.1
FUR Furstenfeldbru 3.54 17 Pn Pn 10 09 44.1 +1.1
MOF Molkenrain 3.56 330 P Pn 10 09 43.8 +0.4
MOF Molkenrain 3.56 330 P Pn 10 09 43.8 +0.4
VIVF Saint-Julien-l 3.62 273 eP Pn 10 09 45.5 +1.4
VIVF eSn Sn 10 10 21.7 -4.2
113nm,0.5s
VIVF Saint-Julien-l 3.62 273 eP Pn 10 09 45.5 +1.4
RJOB Jochberg 3.63 34 ePn Pn 10 09 45.6 +1.3
RJOB eSn Sn 10 10 26.7 +0.4
RJOB Jochberg 3.63 34 ePn Pn 10 09 45.6 +1.3
RJOB eSn Sn 10 10 26.7 +0.4
RJOB Jochberg 3.63 34 Pn Pn 10 09 45.6 +1.3
RJOB Sn Sn 10 10 26.7 +0.4
HINF Hinteralfeld 3.64 327 eP Pn 10 09 44.9 +0.5
HINF eSn Sn 10 10 23.6 -2.9
331nm,0.3s,SNR=1.0
HINF Hinteralfeld 3.64 327 eP Pn 10 09 44.9 +0.5
HINF eSn Sn 10 10 23.6 -2.9
166nm,0.3s,SNR=1.0
NVLJ Novalja 3.66 92 i Pn Pn 10 09 44.0 -0.5
NVLJ Sn Sn 10 10 24.5 -2.3
NVLJ Novalja 3.66 92 i Pn Pn 10 09 44.0 -0.5
NVLJ Sn Sn 10 10 24.5 -2.3
BFO Black Forest 3.68 345 ePn Pn 10 09 44.9 0.0
BFO ePg 10 09 57.4
BFO Black Forest 3.68 345 ePn Pn 10 09 44.9 0.0
BFO ePg 10 09 57.4
BFO Black Forest 3.68 345 Pn Pn 10 09 44.9 0.0
LIBD Limburg 3.68 337 P Pn 10 09 44.9 0.0
OBKA Obir 3.78 61⇑iPn Pn 10 09 46.0 -0.3
OBKA Obir 3.78 61⇑iPn Pn 10 09 46.0 -0.3
ECH Echery 3.87 333 P Pn 10 09 47.5 -0.1
ECH Echery 3.87 333 P Pn 10 09 47.5 -0.1
HAU Haudompre 3.99 325 eP Pn 10 09 50.0 +0.8
HAU eSn Sn 10 10 32.1 -3.1
1µm,0.4s,SNR=1.0
HAU Haudompre 3.99 325 eP Pn 10 09 50.0 +0.8
HAU eSn Sn 10 10 32.1 -3.1
558nm,0.4s,SNR=1.0
STU Stuttgart 4.01 355 ePn Pn 10 09 49.4 0.0
STU Stuttgart 4.01 355 ePn Pn 10 09 49.4 0.0
STU Stuttgart 4.01 355 Pn Pn 10 09 49.4 0.0
CDF Champ du Feu 4.01 336 ePn Pn 10 09 49.7 +0.2
SNR=1.0
CDF eSn Sn 10 10 31.5 -4.2
286nm,0.3s
CDF Champ du Feu 4.01 336 ePn Pn 10 09 49.7 +0.2
SNR=1.0
SOKA Soboth 4.15 61⇑iPn Pn 10 09 51.9 +0.4
SOKA ⇑iSn Sn 10 10 38.3 -0.9
SOKA Soboth 4.15 61⇑iPn Pn 10 09 51.9 +0.4
SOKA Sn Sn 10 10 38.3 -0.9
LASF Ste Croix 4.28 263 eP Pn 10 09 54.7 +1.5
LASF eSn Sn 10 10 37.1 -5.3
86nm,0.6s,SNR=1.0
LASF Ste Croix 4.28 263 eP Pn 10 09 54.7 +1.5
UDBI Udbina 4.29 91 i Pn Pn 10 09 54.3 +0.9
UDBI Sn Sn 10 10 41.4 -1.3
UDBI Udbina 4.29 91 i Pn Pn 10 09 54.3 +0.9
UDBI Sn Sn 10 10 41.4 -1.3
THEF They Montfort 4.32 324 P Pn 10 09 54.4 +0.7
THEF They Montfort 4.32 324 P Pn 10 09 54.4 +0.7
MOA Molln 4.38 44⇓iPn Pn 10 09 54.5 0.0
MOA ⇓iSn Sn 10 10 44.4 -0.2
MOA Molln 4.38 44⇓iPn Pn 10 09 54.5 0.0
MOA Sn Sn 10 10 44.4 -0.2
LANF Langenberg 4.41 343 P Pn 10 09 54.7 -0.2
LANF Langenberg 4.41 343 P Pn 10 09 54.7 -0.2
PLDF La Plantade 4.48 287 P Pn 10 09 57.8 +1.8
PLDF La Plantade 4.48 287 P Pn 10 09 57.8 +1.8
SMF Signal de Mont 4.54 296 eP Pn 10 09 58.0 +1.2
SMF eSn Sn 10 10 43.2 -5.5
116nm,0.4s,SNR=1.0
SMF Signal de Mont 4.54 296 eP Pn 10 09 58.0 +1.2
LBL Lubilhac 4.64 278 P Pn 10 10 00.2 +2.1
LBL Lubilhac 4.64 278 P Pn 10 10 00.2 +2.1
KTD Kalmit 4.68 346 P Pn 10 09 58.6 -0.1
PAGF Fort de Pagny 4.68 325 eP Pn 10 10 00.2 +1.5
baz=143
PAGF eSn Sn 10 10 47.5 -4.6
39nm,0.3s
PAGF Fort de Pagny 4.68 325 eP Pn 10 10 00.2 +1.5
baz=143
ARSA Arzberg 4.71 56 ePn Pn 10 09 59.4 +0.3
ARSA Arzberg 4.71 56⇑iPn Pn 10 09 59.2 +0.1
SNR=6.7
ARSA Arzberg 4.71 56 ePn Pn 10 09 59.4 +0.3
ARSA Arzberg 4.71 56⇑iPn Pn 10 09 59.2 +0.1
SFTF Sexfontaines 4.72 318 eP Pn 10 10 00.5 +1.3
baz=131
SFTF Sexfontaines 4.72 318 eP Pn 10 10 00.5 +1.3
baz=131
LOR Lormes 4.80 303 eP Pn 10 10 01.7 +1.4
baz=122
LOR eSn Sn 10 10 50.1 -4.9
268nm,0.4s
LOR Lormes 4.80 303 eP Pn 10 10 01.7 +1.4
baz=122
AGO Saint Agoulin 4.83 288 P Pn 10 10 02.7 +1.9
AGO Saint Agoulin 4.83 288 P Pn 10 10 02.7 +1.9
WET Wettzell 4.86 25 ePn Pn 10 10 01.2 +0.1
WET Wettzell 4.86 25 ePn Pn 10 10 01.2 +0.1
WET Wettzell 4.86 25 Pn Pn 10 10 01.2 +0.1
PYM Petit Puy Mans 4.86 284 P Pn 10 10 02.9 +1.7
PYM Petit Puy Mans 4.86 284 P Pn 10 10 02.9 +1.7
TOD Tromm 4.87 353 P Pn 10 10 00.7 -0.5
GEC2 GERESS Array S 4.88 32 ePn Pn 10 10 01.1 -0.4
GEC2 eSn Sn 10 10 53.6 -3.6
GEC2 GERESS Array S 4.88 32 ePn Pn 10 10 01.1 -0.4
GEC2 eSn Sn 10 10 53.6 -3.6
GEC2 GERESS Array S 4.88 32 Pn Pn 10 10 01.1 -0.4
GEC2 Sn Sn 10 10 53.6 -3.6
GERES GERESS Array B 4.88 32 Pn Pn 10 10 00.8 -0.7
8.4nm,0.3s,baz=205,slow=14,SNR=86
GERES Sn Sn 10 10 54.0 -3.2
26nm,0.3s,baz=200,slow=23,SNR=4.5
GERES Lg Lg 10 11 23.7
17nm,0.3s,baz=206,slow=32,SNR=6.5
GERES LR LR 10 12 13.1
comp=Z,80nm,20.2s,baz=326,slow=42
AVF Avril sur Loir 4.91 296 eP Pn 10 10 03.3 +1.5
AVF Avril sur Loir 4.91 296 eP Pn 10 10 03.3 +1.5
SSF Saint Saulge 4.92 300 eP Pn 10 10 03.2 +1.3
SSF eSn Sn 10 10 53.0 -5.0
259nm,0.5s
SSF Saint Saulge 4.92 300 eP Pn 10 10 03.2 +1.3
MEZF Maizieres J'vi 4.93 321 eP Pn 10 10 04.1 +2.0
baz=137
MEZF eSn Sn 10 10 53.6 -4.6
132nm,0.4s,SNR=1.0
MEZF Maizieres J'vi 4.93 321 eP Pn 10 10 04.1 +2.0
baz=137
GRA1 Grafenberg Arr 5.01 11 Pg Pb 10 10 23.7 +7.0
GRF Grafenberg Arr 5.01 11 ePg Pb 10 10 23.7 +7.0
GRF Grafenberg Arr 5.01 11 ePg Pb 10 10 23.7 +7.0
KHC Kasperske Hory 5.07 30 ePN Pn 10 10 03.4 -0.7
KHC ex x 10 10 12.5
KHC ex x 10 10 23.9
KHC eSN Sn 10 10 58.2 -3.6
KHC ex x 10 11 27.2
KHC Kasperske Hory 5.07 30 Pn Pn 10 10 03.4 -0.7
KHC Sn Sn 10 10 58.2 -3.6
BGF Bois d'Agland 5.16 293 eP Pn 10 10 06.7 +1.5
BGF eSn Sn 10 10 57.7 -6.1
120nm,0.4s,SNR=1.0
BGF Bois d'Agland 5.16 293 eP Pn 10 10 06.7 +1.5
RUP Ruppelstein 5.25 341 P Pn 10 10 06.5 0.0
CONA Conrad Observa 5.27 51⇓iPn Pn 10 10 06.9 +0.1
SNR=5.6
CONA ⇓iSn Sn 10 11 06.0 -0.7
CONA Conrad Observa 5.27 51⇓iPn Pn 10 10 06.9 +0.1
CONA Sn Sn 10 11 06.0 -0.7
ABH Alteburg 5.32 344 P Pn 10 10 07.1 -0.3
WLF Walferdange 5.46 335 P Pn 10 10 11.2 +1.8
WLF Walferdange 5.46 335 P Pn 10 10 11.2 +1.8
CAF Calviac 5.47 274 eP Pn 10 10 11.4 +1.9
CAF Calviac 5.47 274 eP Pn 10 10 11.4 +1.9
EJON La Jonquera 5.50 247 P Pn 10 10 12.1 +2.1
34nm,1.2s,SNR=7.9
TCF Toulx Ste Croi 5.51 288 eP Pn 10 10 11.5 +1.4
TCF eSn Sn 10 11 07.1 -5.5
63nm,0.4s
TCF Toulx Ste Croi 5.51 288 eP Pn 10 10 11.5 +1.4
TNS Taunus Mts 5.51 351 ePn Pn 10 10 10.0 -0.1
TNS Taunus Mts 5.51 351 ePn Pn 10 10 10.0 -0.1
TNS Taunus Mts 5.51 351 Pn Pn 10 10 10.0 -0.1
SOP Sopron 5.54 56 e Pn 10 10 09.4 -1.0
SOP e 10 10 09.7
SOP Sopron 5.54 56 eP Pn 10 10 09.4 -1.0
HYF Humbligny 5.54 299 eP Pn 10 10 12.6 +2.1
HYF eSn Sn 10 11 07.1 -6.2
HYF Humbligny 5.54 299 eP Pn 10 10 12.6 +2.1
MTLF Montolieu 5.62 258 eP Pn 10 10 13.2 +1.6
MTLF eSn Sn 10 11 09.3 -6.0
22nm,0.5s
MTLF Montolieu 5.62 258 eP Pn 10 10 13.2 +1.6
RJF Les Rejaudoux 5.86 278 ePn Pn 10 10 13.3 -1.6
RJF eSn Sn 10 11 14.8 -6.4
44nm,0.7s
TREC Trest 5.97 39 ePN Pn 10 10 15.9 -0.5
TREC eSN Sn 10 11 20.1 -3.9
TREC Trest 5.97 39 Pn Pn 10 10 15.9 -0.5
STON Ston 6.06 106 ePn Pn 10 10 17.6 +0.1
STON Sn Sn 10 11 22.5 -3.4
STON Ston 6.06 106 ePn Pn 10 10 17.6 +0.1
CLLI Llivia 6.10 251 P Pn 10 10 21.3 +3.0
20nm,0.5s,SNR=16
PRU Pruhonice 6.14 30 ePN Pn 10 10 17.9 -0.7
PRU eSN Sn 10 11 23.2 -4.7
PRU Pruhonice 6.14 30 Pn Pn 10 10 17.9 -0.7
CFON Fontmartina 6.14 243 P Pn 10 10 21.2 +2.4
19nm,0.5s,SNR=6.5
PKST T''s 6.27 64 e Sn 10 11 17.0 -14
GIVF Givet 6.28 330 ePn Pn 10 10 18.9 -1.7
SNR=1.0
MEM Membach 6.35 338 P Pn 10 10 22.8 +1.2
MEM Membach 6.35 338 P Pn 10 10 22.8 +1.2
DOU Dourbes 6.36 328 P Pn 10 10 23.8 +2.0
DOU Dourbes 6.36 328 P Pn 10 10 23.7 +2.0
BCLA Clavier 6.39 333 P Pn 10 10 22.7 +0.5
BCLA Clavier 6.39 333 P Pn 10 10 22.6 +0.5
LFF La Frestale 6.41 275 eP Pn 10 10 24.7 +2.3
LFF La Frestale 6.41 275 eP Pn 10 10 24.7 +2.3
BAIF Baives 6.48 326 eP Pn 10 10 25.1 +1.8
BAIF eSn Sn 10 11 30.3 -6.1
45nm,0.7s
BAIF Baives 6.48 326 eP Pn 10 10 25.1 +1.8
VRAC Vranov 6.50 43 Pn Pn 10 10 22.5 -1.2
0.9nm,0.3s,baz=219,slow=14,SNR=2.3
VRAC Sn Sn 10 11 31.6 -5.3
3.3nm,0.3s,baz=352,slow=13,SNR=6.8
VRAC Lg Lg 10 12 11.3
2.5nm,0.3s,baz=167,slow=19,SNR=3.6
VRAC LR LR 10 13 20.3
comp=Z,142nm,18.2s,baz=340,slow=42
HGN Heimansgroeve 6.51 338 ePn Pn 10 10 25.0 +1.2
4.6nm,0.3s
HGN eSg Sn 10 11 32.8 -4.3
HGN Heimansgroeve 6.51 338 ePn Pn 10 10 25.0 +1.2
4.6nm,0.3s
PKSG 6.55 63 e Sn 10 11 33.9 -4.1
PVCC Panska Ves 6.60 28 ePN Pn 10 10 24.4 -0.6
PVCC eSN Sn 10 11 34.6 -4.7
PVCC Panska Ves 6.60 28 Pn Pn 10 10 24.4 -0.6
EMIR Miracle 6.65 247 P Pn 10 10 28.9 +3.1
7.3nm,0.3s,SNR=6.1
EMIR S Sn 10 11 44.3 +3.6
18nm,0.5s
CSOR Sort 6.71 252 P Pn 10 10 30.8 +4.2
22nm,0.5s,SNR=16
BRG Berggiesshubel 6.71 23 PN Pn 10 10 26.2 -0.3
BRG PG 10 10 54.9
BRG i 10 11 37.2
BRG Berggiesshubel 6.71 23 SG Sb 10 12 22.8 +18
39nm,0.7s
BRG Berggiesshubel 6.71 23 ePn Pn 10 10 26.6 +0.1
BRG Berggiesshubel 6.71 23 ePn Pn 10 10 26.6 +0.1
BRG Berggiesshubel 6.71 23 Pn Pn 10 10 26.6 +0.1
SNF Seneffe 6.81 329 P Pn 10 10 28.8 +0.9
SNF Seneffe 6.81 329 P Pn 10 10 28.8 +0.9
CLL Collm 6.88 17 ePn Pn 10 10 29.0 +0.2
comp=Z,4.0nm,0.6s
CLL i Pg 10 11 00.7
CLL eSg Sb 10 12 30.0 +20
comp=Z,61nm,0.9s
BBLS Lazići 6.98 94⇑iPn Pn 10 10 29.9 -0.4
EPF Esparros 7.02 259 ePn Pn 10 10 29.7 -1.2
SNR=1.0
CLZ Clausthal 7.07 3 ePg Pb 10 11 03.8 +12
CLZ Clausthal 7.07 3 ePg Pb 10 11 03.8 +12
CLZ Clausthal 7.07 3 Pg Pb 10 11 03.8 +12
UPC Upice 7.11 34 ePN Pn 10 10 30.9 -1.2
UPC eSN Sn 10 11 47.0 -5.0
UPC Upice 7.11 34 Pn Pn 10 10 30.9 -1.2
KRLC Kraliky 7.12 39 ePN Pn 10 10 30.9 -1.3
KRLC eSN Sn 10 11 47.2 -5.0
KRLC Kraliky 7.12 39 Pn Pn 10 10 30.9 -1.3
DPC Dobruska-Polom 7.12 36 ePN Pn 10 10 30.7 -1.5
DPC eSN Sn 10 11 46.7 -5.5
DPC Dobruska-Polom 7.12 36 Pn Pn 10 10 30.7 -1.5
MFF Saint Martin d 7.17 288 eP Pn 10 10 34.6 +1.8
MFF eSn Sn 10 11 46.9 -6.4
comp=Z,29nm,0.6s
MFF Saint Martin d 7.17 288 eP Pn 10 10 34.6 +1.8
ETOS Mallorca 7.18 228 P Pn 10 10 36.2 +3.1
comp=Z,11nm,0.7s,SNR=8.4
DIVS Divibare 7.36 92 i Pn Pn 10 10 35.7 +0.2
KSP Ksiaz 7.49 34 ePn Pn 10 10 36.3 -0.9
KSP Ksiaz 7.49 34 ePn Pn 10 10 36.1 -1.1
OKC Ostrava-Krasne 7.62 45 eSN Sn 10 11 59.6 -4.8
PSZ Piszkesteto 7.68 62 e Pn 10 10 39.2 -0.7
PSZ Piszkesteto 7.68 62 eP Pn 10 10 39.2 -0.7
ETSF Etsaut 7.69 259 eSn Sn 10 11 57.6 -8.8
comp=Z,17nm,0.6s
LDF La Druitiere 7.79 303 eP Pn 10 10 44.0 +2.7
LDF La Druitiere 7.79 303 eP Pn 10 10 44.0 +2.7
GRUS Gruza 7.91 93 i Pn Pn 10 10 42.1 -0.9
FLN La Foliniere 8.07 303 eP Pn 10 10 48.1 +2.9
baz=125
FLN eSn Sn 10 12 08.1 -7.5
comp=Z,49nm,0.5s
FLN La Foliniere 8.07 303 eP Pn 10 10 48.1 +2.9
baz=125
GRR Gorron 8.15 300 ePn Pn 10 10 43.5 -2.8
GRR Gorron 8.15 300 eP Pn 10 10 49.2 +2.9
GRR Gorron 8.15 300 eP Pn 10 10 49.2 +2.9
SELS Selova 8.34 97 i Pn Pn 10 10 47.7 -1.2
STHS Stebnicka Huta 9.10 55 ePN Pn 10 11 00.3 +1.0
STHS Stebnicka Huta 9.10 55 ePn Pn 10 11 00.3 +1.0
SGMF Saint Gilles 9.17 297 eSn Sn 10 12 34.0 -8.5
comp=Z,15nm,0.5s
QUIF Quistinic 9.47 294 ePn Pn 10 11 03.2 -1.1
SNR=1.0
KOLS Kolonicke sedl 9.53 60 ePN Pn 10 11 04.9 -0.2
KOLS Kolonicke sedl 9.53 60 ePn Pn 10 11 04.9 -0.2
ROSF Rostrenen 9.65 296 ePn Pn 10 11 06.5 -0.3
ROSF Rostrenen 9.65 296 ePn Pn 10 11 06.5 -0.3
ESDC Sonseca Array 11.38 248 P Pn 10 11 33.8 +3.3
comp=Z,0.1nm,0.6s,slow=14,SNR=4.6
ESDC Sonseca Array 11.38 248 Pn Pn 10 11 32.6 +2.1
comp=Z,0.4nm,0.3s,baz=58,slow=14,SNR=12
EKA Eskdalemuir Ar 13.40 327 Pn Pn 10 11 58.0 0.0
baz=136,slow=14,SNR=5.1
EKA Sn Sn 10 14 18.7 -7.3
baz=136,slow=30,SNR=5.5
AKASG Malin Array Be 14.36 59 Pn Pn 10 12 09.8 -1.3
comp=Z,0.7nm,0.3s,baz=251,slow=12,SNR=2.8

NOA	**NORSAR Array B**	**16.31**	**3**	Pn		**Pn**	**10 12 35.3**	**-1.4**	
	comp=Z,0.1nm,0.3s,baz=184,slow=11,SNR=2.3								
BRTR	**Keskin Array B**	**18.36**	**98**	P		**Pn**	**10 13 04.0**	**+1.5**	
	comp=Z,0.1nm,0.3s,baz=273,slow=10.0,SNR=3.5								
FINES	**FINESS Array B**	**19.25**	**24**	P		**P**	**10 13 11.1**	**-0.7**	
	comp=Z,0.2nm,0.3s,baz=215,slow=12,SNR=3.1								
TORD	**Torodi Ar. Bea**	**32.27**	**195**	P		**P**	**10 15 15.8**	**-0.5**	
	comp=Z,0.8nm,0.6s,baz=3.1,slow=8.7,SNR=7.3								
SCHQ	**Schefferville**	**48.07**	**311**	LR		LR	10 36 31.7		
	comp=Z,75nm,21.0s,baz=113,slow=35								
MKAR	**Makanchi Array**	**48.93**	**60**	P		**P**	**10 17 33.1**	**-0.4**	
	comp=Z,1.3nm,0.8s,baz=286,slow=6.1,SNR=12								
YKA	**Yellowknife Ar**	**64.20**	**335**	P		**P**	**10 19 22.1**	**+0.4**	
	comp=Z,0.7nm,0.6s,baz=45,slow=6.2,SNR=3.8								
ILAR	**Eielson Array**	**69.26**	**350**	P		**P**	**10 19 54.8**	**+0.8**	
	comp=Z,0.1nm,0.8s,baz=355,slow=6.1,SNR=3.1								
TXAR	**Lajitas Array**	**84.55**	**306**	P		**P**	**10 21 21.1**	**+0.3**	
	comp=Z,0.3nm,0.8s,baz=64,slow=4.1,SNR=3.8								
VNDA	**Vanda**	**145.30**	**170**	PKPbc		**PKPbc**	**10 28 22.6**	**-0.8**	
	comp=Z,0.3nm,0.6s,baz=226,slow=2.2,SNR=5.5								

*NNC **19** 10:19:29.0±4.1,41.67N×71.67E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=42.9km s-min=12.1km az=28.0*

ISC 19 10:19:29.1±2.5,41.6N±0.2×71.62E±0.09,h23km,n15, σ1§11/17,9C-6D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
AML	**Almayashu**	**1.66**	**69**	P		**Pb**	**10 19 58.1**	**-1.1**
	SNR=62							
KK31	**Karatay Array**	**1.76**	**333**	P		**Pb**	**10 19 59.6**	**-1.1**
	20nm,0.3s,baz=155,slow=21,SNR=423							
KK31				⇓S		**Sb**	**10 20 21.6**	**-0.7**
	150nm,0.5s,baz=166,slow=28,SNR=31							
EKS2	**Erkin-Say**	**1.95**	**55**	P		**Pb**	**10 20 03.4**	**-0.7**
	SNR=27							
AAK	**Ala-Archa**	**2.40**	**62**	P		**Pb**	**10 20 11.2**	**-0.5**
	SNR=42							
KBK	**Karagaybulak**	**2.71**	**65**	P		**Pb**	**10 20 15.8**	**-1.3**
	SNR=13							
USP	**Ospenovka**	**2.74**	**50**	P		**Pb**	**10 20 16.2**	**-1.2**
	SNR=12							
KZA	**Kyzart**	**2.77**	**78**	P		**Pb**	**10 20 16.8**	**-1.3**
	SNR=25							
TKM2	**Tokmak 2**	**3.26**	**64**	⇑Pn		Pn	10 20 21.6	+2.7
TKM2	2.0nm,0.6s			⇑Pg		**Pb**	**10 20 26.2**	**-0.1**
	4.9nm,0.3s							
TKM2				⇑Lg		Lg	10 21 07.9	
	36nm,0.5s							
TKM2	**Tokmak 2**	**3.26**	**64**	P		**Pb**	**10 20 26.2**	**-0.1**
	SNR=14							
ULHL	**Ulahol**	**3.52**	**77**	P		**Pb**	**10 20 29.1**	**-1.7**
	SNR=7.3							
MK31	**Makanchi Array**	**9.29**	**52**	⇓Pn		**Pn**	**10 21 43.6**	**+2.0**
	0.5nm,0.5s,baz=233,slow=13,SNR=8.1							
MK31				⇑Pg			10 22 17.1	
	0.7nm,0.6s,baz=233,slow=15,SNR=3.5							
MK31				⇑Lg		Lg	10 24 20.1	
	1.5nm,0.6s,baz=230,slow=29							
KURBB	**Kurchatov Arra**	**10.26**	**25**	⇓Pn		**Pn**	**10 21 54.9**	**0.0**
	1.9nm,0.8s							
KURBB				⇑Lg		Lg	10 24 50.2	
	14nm,0.8s							
KURK	**Kurchatov**	**10.37**	**25**	⇓Pn		**Pn**	**10 21 56.6**	**+0.2**
	0.9nm,1.0s							
KURK				⇑Lg		Lg	10 24 54.5	
	5.4nm,1.4s							
VOSK	**Vostochnaya**	**11.19**	**358**	⇑Pn		**Pn**	**10 22 08.9**	**+1.4**
	2.2nm,1.1s							
VOSK				⇓Lg		Lg	10 25 18.3	
	8.5nm,0.9s							
AB31	**Akbulak array**	**11.25**	**317**	⇑Pn		**Pn**	**10 22 08.6**	**+0.3**
	1.0nm,0.8s,baz=128,slow=13,SNR=8.7							
AB31				⇓Sn		**Sn**	**10 24 12.9**	**-0.4**
	1.6nm,1.0s,baz=124,slow=18,SNR=3.6							

IDC 19 10:24:51.1±2.5,3.57N×127.80E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.3/23,mbtmp3.3/3,Error ellipse: s-maj=198.1km s-min=24.6km az=67.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
WRA	**Warramunga Arr**	**24.23**	**165**	P		P	10 30 09.6	-0.3
	0.3nm,0.4s,baz=345,slow=9.8,SNR=11							
ASAR	**Alice Springs**	**27.71**	**168**	P		P	10 30 41.7	+0.3
	0.3nm,0.9s,baz=345,slow=8.3,SNR=3.9							
MKAR	**Makanchi Array**	**58.30**	**325**	P		P	10 34 47.8	-0.1
	0.3nm,0.6s,baz=124,slow=7.7,SNR=3.5							

IDC 19 10:25:42.5±0.9,53.54S×25.32E,h0km,mb3.8/7, mb1 3.9/7,mb1mx3.8/20,mbtmp3.9/7,MS3.7/8,Ms1 3.7/8, ms1mx3.5/24,Error ellipse: s-maj=40.4km s-min=17.9km az=78.0,South of Africa

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
SUR	**Sutherland**	**21.40**	**350**	P		P	10 30 30.9	-1.0
	7.6nm,0.8s,baz=141,slow=12,SNR=6.2							
SUR				LR		LR	10 36 49.1	
	comp=Z,238nm,19.5s,baz=214,slow=31							
SNAA	**Sanae**	**21.93**	**204**	P		P	10 30 38.0	+0.8
	2.2nm,0.9s,baz=42,slow=8.0,SNR=13							
MAW	**Mawson**	**22.71**	**143**	P		P	10 30 46.3	+0.8
	1.7nm,0.7s,baz=284,slow=18,SNR=5.2							
MAW				LR		LR	10 37 33.3	
	comp=Z,124nm,20.6s,baz=119,slow=31							
BOSA	**Boshof**	**24.91**	**360**	P		P	10 31 08.3	+1.2
	2.9nm,0.9s,baz=196,slow=15,SNR=2.3							
BOSA				LR		LR	10 38 34.2	
	comp=Z,169nm,20.4s,baz=160,slow=31							
LBTB	**Lobatse**	**28.49**	**1**	LR		LR	10 41 03.3	
	comp=Z,140nm,18.5s,baz=27,slow=32							
VNDA	**Vanda**	**46.45**	**168**	P		P	10 34 10.3	-0.1
	1.7nm,0.8s,baz=239,slow=8.4,SNR=15							
VNDA				LR		LR	10 53 15.0	
	comp=Z,140nm,20.3s,baz=186,slow=36							
H10S2	**ASCENSION HYDR**	**54.83**	**309**	T		T	11 34 16.7	
	baz=152,slow=0.7,SNR=74							
H10S3	**ASCENSION HYDR**	**54.84**	**309**	T		T	11 34 16.9	
	baz=152,slow=0.7,SNR=81							
H10S1	**ASCENSION HYDR**	**54.84**	**309**	T		T	11 34 17.2	
	baz=152,slow=0.7,SNR=86							
H01W2	**Cape Leeuwin H**	**62.15**	**112**	T		T	11 44 26.2	
	baz=222,slow=0.7,SNR=3.2							
H01W3	**Cape Leeuwin H**	**62.16**	**112**	T		T	11 44 28.2	
	baz=222,slow=0.7,SNR=3.5							
H01W1	**Cape Leeuwin H**	**62.17**	**112**	T		T	11 44 25.8	
	baz=222,slow=0.7,SNR=2.8							
CPUP	**Villa Florida**	**65.01**	**259**	LR		LR	10 58 57.9	
	comp=Z,51nm,19.0s,baz=274,slow=31							
DBIC	**Dimbokro**	**65.17**	**327**	LR		LR	10 57 29.3	
	comp=Z,58nm,20.3s,baz=355,slow=29							
TORD	**Torodi Ar. Bea**	**69.43**	**335**	P		P	10 36 52.6	+0.4
	0.4nm,0.6s,baz=175,slow=6.3,SNR=4.8							
TORD				LR		LR	11 03 15.1	
	comp=Z,71nm,18.6s,baz=165,slow=32							
ASAR	**Alice Springs**	**81.61**	**119**	P		P	10 38 01.8	-0.5
	0.6nm,0.7s,baz=208,slow=5.2,SNR=12							
NVAR	**Mina Array Bea**	**150.93**	**254**	PKPbc		PKPbc	10 45 35.4	-1.4
	0.1nm,0.3s,baz=304,slow=1.6,SNR=2.6							

*IDC **19** 10:31:16.9±0.5,53.34N×172.00E,h0km,mb3.8/17, mb1 4.0/18,mb1mx3.9/33,mbtmp3.8/18,ML4.7/1,MS3.6/6, Ms1 3.6/6,ms1mx3.3/40,Error ellipse: s-maj=16.0km s-min=7.9km az=31.0*

*NEIC **19** 10:31:17.0,53.32N×171.61E,h15km,mb4.3/4, ML4.0(AEIC),After AEIC.*

*ISCJB **19** 10:31:17.9±0.2,53.40N±0.05×171.88E±0.04,h23km, mb4.0/23,MS3.5/6,Error ellipse: s-maj=7.2km s-min=2.5km az=17.0*

*MOS **19** 10:31:19.6±0.9,53.42N×171.80E,h33km,mb4.2/14,Error ellipse: s-maj=13.4km s-min=9.4km az=31.9*

*KRSC **19** 10:31:20.5±8.6,53.31N×171.51E,h41km±40km,ML4.5*

ISC 19 10:31:20.0±0.4,53.31N±0.06×171.88E±0.04,h23km,n130, σ1§44/139,mb3.9/23,MS3.5/6,1D,Near Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
FX1	**Attu Island--F**	**0.89**	**119**	P		**Pb**	**10 31 34.9**	**-1.8**
FX1						Sn	**Sb**	**10 31 47.3**	**-0.7**
FX1						S	**Sn**	**10 31 47.5**	**-1.6**
	1µm,0.3s,baz=336,slow=8.2,SNR=4761								
FX1						Sn	**Sb**	**10 31 47.3**	**-0.7**
	3µm,0.3s,baz=150,slow=20,SNR=120								
SMY	**Shemya**	**1.46**	**113**	P		**Pn**	**10 31 42.3**	**-2.7**
SMY						S	**Sb**	**10 32 04.1**	**-0.5**
SMY	**Shemya**	**1.46**	**113**	P		**Pn**	**10 31 42.2**	**-2.7**
SMY						S	**Sb**	**10 32 04.1**	**-0.5**
BKI	**Bering**	**3.95**	**301**	P		**Pn**	**10 32 17.5**	**-1.6**
BKI						S	**Sn**	**10 33 01.6**	**-3.0**
BKI	**Bering**	**3.95**	**301**	P		**Pn**	**10 32 17.5**	**-1.6**
BKI					*i*	S	**Sn**	**10 33 01.6**	**-3.0**
LSNW	**Little Sitkin**	**4.26**	**106**	P		**Pn**	**10 32 22.1**	**-1.3**
LSSA	**Little Sitkin**	**4.27**	**106**	P		**Pn**	**10 32 22.7**	**-0.8**
LSPA	**Little Sitkin**	**4.30**	**106**	P		**Pn**	**10 32 22.6**	**-1.3**
LSPA						S	**Sn**	**10 33 13.2**	**-0.1**
CEAP	**Semis' Anvil P**	**4.87**	**103**	P		**Pn**	**10 32 30.9**	**-0.9**
CESW	**Semis' Southwe**	**4.89**	**104**	P		**Pn**	**10 32 30.2**	**-1.9**
AMKA	**Amchitka**	**4.95**	**110**	P		**Pn**	**10 32 32.1**	**-0.7**
GANE	**Gareloi Northe**	**5.89**	**101**	P		**Pn**	**10 32 45.0**	**-0.8**
KBTR	**Krutoberegovo**	**5.99**	**303**	P		**Pn**	**10 32 45.8**	**-1.4**
KBTR						S	**Sn**	**10 33 53.6**	**-1.4**
KBTR	**Krutoberegovo**	**5.99**	**303**	P		**Pn**	**10 32 45.8**	**-1.4**
KBTR					*i*	S	**Sn**	**10 33 53.6**	**-1.4**
MKZ	**Mys Kozlova**	**6.12**	**286**	P		**Pn**	**10 32 48.6**	**-0.3**
MKZ						S	**Sn**	**10 33 54.7**	**-3.5**
MKZ	**Mys Kozlova**	**6.12**	**286**	P		**Pn**	**10 32 48.6**	**-0.3**
MKZ					*i*	S	**Sn**	**10 33 54.7**	**-3.5**
SMKR	**Semkarok**	**6.83**	**303**	P		**Pn**	**10 32 59.7**	**+1.0**
BDR	**Baidarnaya**	**6.96**	**302**	P		**Pn**	**10 33 01.6**	**+1.1**
BZMR	**Bezymyannaya**	**7.12**	**296**	P		**Pn**	**10 33 03.0**	**+0.3**
BZWR	**Bezymyannyi-We**	**7.12**	**296**	P		**Pn**	**10 33 03.5**	**+0.7**
TUMR	**Tumrok**	**7.14**	**291**	P		**Pn**	**10 33 04.1**	**+1.0**
KLY	**Klyuchi**	**7.15**	**299**	P		**Pn**	**10 33 02.9**	**-0.1**
KLY						S	**Sn**	**10 34 20.2**	**-3.2**
KLY	**Klyuchi**	**7.15**	**299**	P		**Pn**	**10 33 02.9**	**-0.1**
KLY					*i*	S	**Sn**	**10 34 20.2**	**-3.2**
KIRR	**Kirishev**	**7.20**	**296**	P		**Pn**	**10 33 03.8**	**-0.1**
KMNR	**Kamenistaya**	**7.20**	**295**	P		**Pn**	**10 33 04.4**	**+0.5**
KMNR					*i*	S	**Sn**	**10 34 23.8**	**-1.1**
KPT	**Kopyto**	**7.27**	**296**	P		**Pn**	**10 33 05.6**	**+0.9**
KII	**Karymskiy**	**7.42**	**281**	P		**Pn**	**10 33 07.2**	**+0.4**
NLC	**Nalytchevo**	**7.53**	**274**	P		**Pn**	**10 33 08.0**	**-0.2**
NLC	**Nalytchevo**	**7.53**	**274**	P		**Pn**	**10 33 08.0**	**-0.2**
SRDR	**Sredinnyy**	**7.64**	**298**	P		**Pn**	**10 33 10.0**	**+0.1**
SDLR	**Sedlovina**	**7.79**	**275**	P		**Pn**	**10 33 12.4**	**+0.5**
TILK	**Tilichiki**	**7.81**	**339**	P		**Pn**	**10 33 11.2**	**-0.8**
UGLR	**Uglovaya**	**7.83**	**274**	P		**Pn**	**10 33 13.2**	**+0.7**
SMAR	**Somma**	**7.84**	**275**	P		**Pn**	**10 33 12.9**	**+0.2**
KRER	**Koryakskii**	**7.87**	**275**	P		**Pn**	**10 33 13.4**	**+0.3**
AVH	**Avacha**	**7.88**	**275**	P		**Pn**	**10 33 13.6**	**+0.5**
KRX	**Arik**	**7.92**	**276**	P		**Pn**	**10 33 14.2**	**+0.4**
KOK	**Koryaka**	**7.94**	**275**	P		**Pn**	**10 33 14.3**	**+0.4**
PET	**Petropavlovsk**	**7.96**	**273**	*i* P		**Pn**	**10 33 14.6**	**+0.5**
PET					*e*	S	**Sn**	**10 34 40.0**	**-3.3**
PET						pmax	pmax		
	comp=Z,28nm,0.4s								
PET						smax	smax		
	comp=E,52nm,0.7s								
PET	**Petropavlovsk**	**7.96**	**273**	P		**Pn**	**10 33 14.7**	**+0.6**
PET					*i*	S	**Sn**	**10 34 40.3**	**-3.0**
ESO	**Esso**	**8.09**	**294**	P		**Pn**	**10 33 15.7**	**-0.2**
ESO	**Esso**	**8.09**	**294**	P		**Pn**	**10 33 15.7**	**-0.2**
RUS	**Russkaya**	**8.14**	**269**	P		**Pn**	**10 33 16.8**	**+0.2**
RUS						S	**Sn**	**10 34 44.0**	**-3.7**
RUS	**Russkaya**	**8.14**	**269**	P		**Pn**	**10 33 16.8**	**+0.2**
RUS					*i*	S	**Sn**	**10 34 44.0**	**-3.7**
GNL	**Ganaly**	**8.32**	**278**	P		**Pn**	**10 33 20.0**	**+0.8**
MTVR	**Mutnovka**	**8.33**	**270**	P		**Pn**	**10 33 19.6**	**+0.3**
MTVR					*i*	S	**Sn**	**10 34 48.7**	**-3.9**
ASAK	**Asacha**	**8.52**	**269**	P		**Pn**	**10 33 22.3**	**+0.5**
ASAK					*i*	S	**Sn**	**10 34 52.7**	**-4.5**
PEA0B	**Petropavlovsk-**	**8.52**	**274**	*e* Pn		Pn	10 33 16.8	-5.0
PETK	**Petropavlovsk-**	**8.52**	**274**	P		**Pn**	**10 33 22.6**	**+0.8**
PETK							10 34 50.3	
PETK						pmax	pmax		
	comp=Z,8.0nm,0.3s								
PETK	**Petropavlovsk-**	**8.52**	**274**	Pn		**Pn**	**10 33 22.6**	**+0.8**
PETK						Sn	10 34 50.3	-6.8
PETK	**Petropavlovsk-**	**8.52**	**274**	Pn		**Pn**	**10 33 22.6**	**+0.8**
	comp=Z,8.2nm,0.3s,baz=101,slow=20,SNR=91								
PETK						Sn	Sn	10 34 50.3	-6.8
	baz=97,slow=20,SNR=1.5								
APC	**Apacha**	**8.87**	**273**	P		**Pn**	**10 33 27.7**	**+1.2**
OHAK	**Old Harbor**	**20.09**	**65**	*e*P		**P**	**10 35 50.1**	**-1.4**
	comp=Z,12nm,0.6s								
IM04	**Indian Mountai**	**21.14**	**40**	*e*P		**P**	**10 36 01.4**	**-1.5**
IMA2	**Indian Mountai**	**21.21**	**40**	*e*P		**P**	**10 36 03.4**	**-0.4**
ASAJ	**Asahikawa**	**21.27**	**256**	P		**P**	**10 36 05.3**	**+0.9**
ASAJ	**Asahikawa**	**21.27**	**256**	P		**P**	**10 36 05.3**	**+0.9**
	comp=Z,2.8nm,0.8s,baz=110,slow=15,SNR=2.3								
ASAJ						LR	LR	10 43 47.7	
	comp=Z,90nm,19.0s,baz=92,slow=35								
COLA	**College**	**23.24**	**44**	*e*P		**P**	**10 36 24.6**	**-0.5**
COLA						pmax	pmax		
	comp=Z,21nm,0.8s								
COLA	**College**	**23.24**	**44**	*e*P		**P**	**10 36 24.6**	**-0.5**
	comp=Z,21nm,0.8s								
ILAR	**Eielson Array**	**23.63**	**45**	P		**P**	**10 36 28.2**	**-0.7**
ILAR	**Eielson Array**	**23.63**	**45**	P		**P**	**10 36 28.2**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=249,slow=7.3,SNR=11								
YAK	**Yakutsk**	**23.79**	**308**	*e*P		**P**	**10 36 32.9**	**+2.4**
YAK						pmax	pmax		
	comp=Z,13nm,0.9s								
PAX	**Paxson**	**24.04**	**49**	*e*P		**P**	**10 36 31.6**	**-1.5**
PAX						pmax	pmax		
	comp=Z,10.0nm,1.3s								
PAX	**Paxson**	**24.04**	**49**	*e*P		**P**	**10 36 31.6**	**-1.5**
	comp=Z,10nm,1.3s								
KLR	**Kul'dur**	**25.20**	**277**	*e*P		**P**	**10 36 42.2**	**-1.3**
EGAK	**Eagle**	**26.07**	**45**	*e*P		**P**	**10 36 49.8**	**-1.5**
	comp=Z,4.7nm,0.8s								
USRK	**Ussuriysk Arra**	**27.51**	**267**	LR		LR	10 47 24.5		
	comp=Z,120nm,20.1s,baz=334,slow=35								
H11N2	**WAKE ISLAND Hy**	**33.74**	**188**	T		T	11 13 33.9		
	baz=7.4,slow=0.7,SNR=443								
H11N3	**WAKE ISLAND Hy**	**33.75**	**188**	T		T	11 13 33.9		
	baz=7.4,slow=0.7,SNR=589								
H11N1	**WAKE ISLAND Hy**	**33.76**	**188**	T		T	11 13 35.2		
	baz=7.4,slow=0.7,SNR=618								
KSRS	**Korea Array**	**34.09**	**260**	LR		LR	10 53 12.6		
	comp=Z,57nm,19.1s,baz=258,slow=38								
H11S1	**WAKE ISLAND Hy**	**34.97**	**189**	T		T	11 15 06.1		
	baz=7.0,slow=0.7,SNR=275								
H11S3	**WAKE ISLAND Hy**	**34.98**	**189**	T		T	11 15 07.1		
	baz=7.0,slow=0.7,SNR=265								
H11S2	**WAKE ISLAND Hy**	**34.99**	**189**	T		T	11 15 07.3		
	baz=7.0,slow=0.7,SNR=143								
YKA	**Yellowknife Ar**	**38.04**	**46**	P		**P**	**10 38 35.9**	**-0.2**
YKA	**Yellowknife Ar**	**38.04**	**46**	P		**P**	**10 38 35.9**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=296,slow=8.3,SNR=3.2								
SONM	**Songino Array**	**40.63**	**290**	P		**P**	**10 38 58.9**	**+0.9**
SONM	**Songino Array**	**40.63**	**290**	P		**P**	**10 38 58.9**	**+0.9**
	comp=Z,0.6nm,0.4s,baz=61,slow=8.1,SNR=6.3								
SONM						LR	LR	10 56 38.1	
	comp=Z,75nm,19.8s,baz=86,slow=37								
NEW	**Newport**	**43.47**	**67**	P		**P**	**10 39 20.9**	**-0.2**
NEW	**Newport**	**43.47**	**67**	P		**P**	**10 39 20.9**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=292,slow=4.5,SNR=5.5								
YBH	**Yreka Blue Hor**	**44.16**	**78**	P		**P**	**10 39 27.8**	**+1.1**
YBH	**Yreka Blue Hor**	**44.16**	**78**	P		**P**	**10 39 27.8**	**+1.1**
	comp=Z,1.7nm,0.6s,baz=338,slow=3.9,SNR=17								
NVAR	**Mina Array Bea**	**48.87**	**78**	P		**P**	**10 40 04.5**	**+0.6**
NVAR	**Mina Array Bea**	**48.87**	**78**	P		**P**	**10 40 04.5**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=302,slow=7.5,SNR=7.9								
ELK	**Elko**	**49.13**	**74**	P		**P**	**10 40 06.0**	**+0.1**
ELK	**Elko**	**49.13**	**74**	P		**P**	**10 40 06.0**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=270,slow=20,SNR=2.9								
PDAR	**Pinedale Array**	**51.03**	**68**	P		**P**	**10 40 20.7**	**+0.4**
PDAR	**Pinedale Array**	**51.03**	**68**	P		**P**	**10 40 20.7**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=300,slow=3.6,SNR=11								
MK31	**Makanchi Array**	**54.25**	**302**	*e*P		**P**	**10 40 41.9**	**-1.9**
MK31	**Makanchi Array**	**54.25**	**302**	*e*P		**P**	**10 40 41.9**	**-1.9**
MKAR	**Makanchi Array**	**54.25**	**302**	P		**P**	**10 40 42.7**	**-1.0**
MKAR						pmax	pmax		
	comp=Z,1.0nm,0.6s								
MKAR	**Makanchi Array**	**54.25**	**302**	P		**P**	**10 40 42.7**	**-1.0**
MKAR	**Makanchi Array**	**54.25**	**302**	P		**P**	**10 40 42.7**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=41,slow=5.7,SNR=6.1								
BVAR	**Borovoye Array**	**55.57**	**314**	LR		LR	11 06 20.5		
	comp=Z,45nm,21.8s,baz=71,slow=38								
FINES	**FINESS Array B**	**62.41**	**342**	P		**P**	**10 41 40.8**	**+0.4**
FINES	**FINESS Array B**	**62.41**	**342**	P		**P**	**10 41 40.8**	**+0.4**
	comp=Z,4.5nm,1.1s,baz=40,slow=11,SNR=3.0								
FINES						LR	LR	11 16 18.2	
	comp=Z,129nm,18.7s,baz=20,slow=43								
AKTO	**Aktyubinsk**	**62.63**	**319**	P		**P**	**10 41 42.6**	**+0.5**
AKTO						pmax	pmax		
	comp=Z,1.0nm,0.3s								
AKTO	**Aktyubinsk**	**62.63**	**319**	P		**P**	**10 41 42.6**	**+0.5**
AKTO	**Aktyubinsk**	**62.63**	**319**	P		**P**	**10 41 42.6**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=46,slow=9.8,SNR=4.3								
HNR	**Honiara**	**63.32**	**193**	P		**P**	**10 41 48.8**	**+1.9**
HNR	**Honiara**	**63.32**	**193**	P		**P**	**10 41 48.8**	**+1.9**
	comp=Z,46nm,0.4s,baz=59,slow=19,SNR=4.8								
TXAR	**Lajitas Array**	**63.86**	**75**	P		**P**	**10 41 51.2**	**+0.5**
TXAR	**Lajitas Array**	**63.86**	**75**	P		**P**	**10 41 51.2**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=305,slow=4.0,SNR=14								
TAPN	**Taplejung**	**65.18**	**283**	*e*P		**P**	**10 42 00.6**	**+1.0**
	comp=Z,9.4nm,0.6s								
ODAN	**Odare**	**65.73**	**283**	*e*P		**P**	**10 42 04.7**	**+1.6**
	comp=Z,3.5nm,0.4s								
GUN	**Gumba**	**65.82**	**285**	*e*P		**P**	**10 42 04.7**	**+0.9**
	comp=Z,9.0nm,0.5s								
JIRN	**Jiri**	**65.83**	**284**	*e*P		**P**	**10 42 05.0**	**+1.1**
RAMN	**Ramite**	**66.13**	**283**	*e*P		**P**	**10 42 06.4**	**+0.8**
	comp=Z,13nm,0.4s								
KKN	**Kakani**	**66.26**	**285**	*e*P		**P**	**10 42 07.3**	**+0.9**
PKI	**Pulchoki**	**66.35**	**285**	*e*P		**P**	**10 42 07.9**	**+0.7**
PKIN	**Phulchoki**	**66.36**	**285**	*e*P		**P**	**10 42 07.5**	**+0.4**
	comp=Z,4.9nm,0.5s								
GKN	**Gorkha**	**66.47**	**286**	*e*P		**P**	**10 42 08.4**	**+0.7**
	comp=Z,2.7nm,0.3s								
DMN	**Daman**	**66.50**	**285**	*e*P		**P**	**10 42 08.8**	**+0.8**
DANN	**Dangsing**	**66.72**	**286**	*e*P		**P**	**10 42 10.2**	**+0.8**
	comp=Z,13nm,0.8s								
KOLN	**Koldanda**	**67.25**	**286**	*e*P		**P**	**10 42 13.2**	**+0.5**
	comp=Z,2.9nm,0.4s								
AKASG	**Malin Array Be**	**71.70**	**336**	P		**P**	**10 42 39.1**	**-0.5**
AKASG	**Malin Array Be**	**71.70**	**336**	P		**P**	**10 42 39.1**	**-0.5**
AKASG	**Malin Array Be**	**71.70**	**336**	P		**P**	**10 42 39.1**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=16,slow=4.1,SNR=2.9								
KBZ	**Khabaz**	**73.89**	**324**	P		**P**	**10 42 51.9**	**-0.8**
KBZ						pmax	pmax		
	comp=Z,1.0nm,0.7s								
KBZ	**Khabaz**	**73.89**	**324**	P		**P**	**10 42 51.9**	**-0.8**
KBZ	**Khabaz**	**73.89**	**324**	P		**P**	**10 42 51.9**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=41,slow=9.3,SNR=2.6								
WRA	**Warramunga Arr**	**79.84**	**216**	P		P	10 43 32.3	+5.9
WRA	**Warramunga Arr**	**79.84**	**216**	P		P	10 43 32.3	+5.9
	comp=Z,0.4nm,0.9s,baz=27,slow=6.2,SNR=6.5								
BRTR	**Keskin Array B**	**80.56**	**329**	P		**P**	**10 43 32.0**	**+1.6**
BRTR	**Keskin Array B**	**80.56**	**329**	P		**P**	**10 43 32.0**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=331,slow=5.1,SNR=2.8								
ASAR	**Alice Springs**	**83.43**	**215**	P		**P**	**10 43 47.3**	**+2.0**
ASAR	**Alice Springs**	**83.43**	**215**	P		**P**	**10 43 47.3**	**+2.0**
	comp=Z,0.2nm,0.5s,baz=23,slow=5.0,SNR=7.9								
BOSA

STKA LR LR 11 06 34.5
comp=Z,2μm,18.1s,baz=129,slow=37
RPZ Rata Peaks 31.39 173 *eP* **P P 10 54 48.2 +1.1**
RPZ Rata Peaks 31.39 173 P **P 10 54 47.5 +0.3**
27nm,0.7s,baz=122,slow=7.5,SNR=7.4
WRAB Tennant Creek 31.42 252 *eP* **P 10 54 46.4 -1.4**
WRAB Tennant Creek 31.42 252 *eP* **P 10 54 46.4 -1.4**
WRA Warramunga Arr 31.43 252 P **P 10 54 45.9 -2.0**
WRA PcP **PcP 10 57 40.8 +0.1**
WRA Warramunga Arr 31.43 252 P **P 10 54 45.9 -2.0**
3.0nm,0.8s,baz=83,slow=9.1,SNR=13
WRA PcP **PcP 10 57 40.8 +0.1**
4.4nm,0.9s,baz=85,slow=2.7,SNR=13
WRA LR LR 11 06 56.8
comp=Z,492nm,18.9s,baz=70,slow=35
AS31 Alice Springs 32.57 246 *eP* **P 10 54 56.2 -1.7**
ASAR Alice Springs 32.57 246 P **P 10 54 56.0 -1.9**
ASAR PcP **PcP 10 57 43.2 -0.5**
ASAR Alice Springs 32.57 246 P **P 10 54 56.0 -1.9**
5.9nm,0.9s,baz=75,slow=9.4,SNR=40
ASAR PcP **PcP 10 57 43.2 -0.5**
3.6nm,0.9s,baz=85,slow=3.1,SNR=12
ASAR LR LR 11 07 29.7
comp=Z,615nm,19.3s,baz=81,slow=35
BBOO Buckleboo 34.19 229 P **P 10 55 12.2 +0.4**
baz=34,SNR=4.9
KNRA Kununurra 36.42 261 P **P 10 55 30.5 -0.7**
baz=36,SNR=3.5
FITZ Fitzroy Crossi 39.46 257 *eP* **P 10 55 57.2 +0.5**
73nm,1.9s
FITZ Fitzroy Crossi 39.46 257 P **P 10 55 58.0 +1.2**
baz=39,SNR=5.7
PPT2 Papeete2 42.94 102 *eS* **S 11 02 49.7 +1.9**
305nm,27.2s
PPT2 *eLQ* LQ 11 06 33.0
1μm,27.0s
PPT2 *eLR* LR 11 08 21.7
976nm,27.5s
TBI Tubuai 43.39 111 *eS* **S 11 02 55.4 +1.2**
220nm,27.0s
TBI *eLQ* LQ 11 06 41.0
504nm,28.8s
TBI *eLR* LR 11 08 35.1
250nm,29.2s
KKM Kota Kinabalu 52.98 287 P P 10 57 50.9 +7.6
baz=53,SNR=3.2
MJAR Matsushiro Arr 55.46 333 P **P 10 57 59.4 -1.3**
MJAR Matsushiro Arr 55.46 333 P **P 10 57 59.4 -1.3**
20nm,0.9s,baz=170,slow=8.7,SNR=39
MAJO Matsushiro 55.46 333 *eP* **P 10 58 00.4 -0.4**
MAJO pmax pmax
comp=Z,38nm,0.9s
MAJO Matsushiro 55.46 333 *eP* **P 10 58 00.4 -0.4**
comp=Z,38nm,0.9s
MAT Matsushiro 55.46 333 P **P 10 57 59.9 -0.9**
JNU Nakatsue 56.51 324 P **P 10 58 07.9 -0.5**
JNU Nakatsue 56.51 324 P **P 10 58 07.9 -0.5**
comp=Z,17nm,0.8s,baz=179,slow=1.9,SNR=6.0
RKT Rikitea 56.68 109 *eLR* LR 11 14 41.0
comp=Z,173nm,31.8s
DRV Dumont d'Urvil 56.89 192 S S 11 06 21.0 +20
ASAJ Asahikawa 60.30 341 P **P 10 58 34.1 -0.4**
ASAJ Asahikawa 60.30 341 P **P 10 58 34.1 -0.4**
comp=Z,12nm,0.8s,baz=246,slow=11,SNR=4.5
KSRS Korea Array 61.32 326 P **P 10 58 41.6 0.0**
comp=Z,5.2nm,0.8s,baz=140,slow=6.8,SNR=11
KSAR Wonju Array Be 61.33 326 P **P 10 58 41.6 -0.1**
YSS Yuzh-Sakhalins 62.80 342 *eP* **P 10 58 52.3 +1.0**
YSS pmax pmax
comp=Z,40nm,1.2s
NJ2 Nanjing 63.36 316 *eP* **P 10 58 56.5 +1.1**
NJ2 AMB AMB
comp=Z,20nm,0.8s
QIZ Qiongzhong 63.76 299 P **P 10 58 58.5 +0.2**
QIZ S **S 11 07 29.9 -0.4**
QIZ LR LR
comp=Z,100nm,24.6s
USRK Ussuriysk Arra 64.44 333 P **P 10 59 02.8 +0.6**
comp=Z,39nm,0.9s,baz=140,slow=5.9,SNR=42
VNDA Vanda 65.06 181 *eP* **P 10 59 06.9 +1.1**
VNDA Vanda 65.06 181 P **P 10 59 06.3 +0.4**
comp=Z,4.1nm,1.0s,baz=3.9,slow=5.1,SNR=11
VNDA LR LR 11 25 33.0
comp=Z,208nm,18.1s,baz=3.8,slow=34
PETK Petropavlovsk- 65.75 354 P **P 10 59 09.5 -1.1**
PETK Petropavlovsk- 65.75 354 P **P 10 59 09.5 -1.1**
PETK Petropavlovsk- 65.75 354 P **P 10 59 09.5 -1.1**
comp=Z,3.8nm,0.8s,baz=168,slow=8.5,SNR=3.5
PETK LR LR 11 22 57.1
comp=Z,135nm,19.7s,baz=157,slow=32
MDJ Mudanjiang 65.83 332 P **P 10 59 12.0 +0.7**
MDJ pP **pP 10 59 23.9 -0.2**
MDJ sP **sP 10 59 28.8 -0.3**
MDJ PcP **PcP 10 59 42.1 +0.1**
MDJ PP **PP 11 01 37.3 +0.5**
MDJ S **S 11 07 55.9 +1.0**
MDJ SS **SS 11 12 13.3 +2.7**
MDJ AMB AMB
comp=Z,47nm,1.1s
MDJ AMB AMB
comp=Z,130nm,4.0s
MDJ LR LR
comp=Z,49nm,22.5s
MDJ LR LR
comp=Z,51nm,13.9s
MDJ LR LR
comp=Z,89nm,21.1s
MDJ Mudanjiang 65.83 332 *eP* **P 10 59 12.0 +0.7**
comp=Z,29nm,1.0s
HABR Khabarovsk 66.69 338 *eP* **P 10 59 15.5 -1.2**
HABR *e**PP **pP 10 59 25.4 -4.1**
HABR *e**SP **sP 10 59 29.6 -4.9**
HABR *e* 10 59 43.9
HABR *e* 11 01 41.9
HABR *e*PPP PPP 11 03 17.8
HABR *eS* **S 11 08 04.8 -0.3**
HABR *e**SS **sS 11 08 22.0 -4.5**
HABR *e* 11 09 09.3
HABR pmax pmax
comp=N,34nm,2.3s
HABR pmax pmax
comp=Z,85nm,2.3s
HABR pmax pmax
comp=E,49nm,2.3s
CN2 Changchun 67.21 329 *eP* **P 10 59 21.0 +0.9**
CN2 *ep*P **pP 10 59 34.1 +1.2**
CN2 *es*P **sP 10 59 39.5 +1.5**
CN2 *eS* S **11 08 13.1 +1.5**
CN2 AMB AMB
comp=E,40nm,0.9s
CN2 AMB AMB
comp=E,200nm,4.0s
CN2 LR LR
comp=E,1μm,17.0s
CN2 LR LR
comp=E,600nm,17.0s
CN2 LR LR
comp=E,300nm,21.0s
PSI Prapat 68.51 278 LR LR 11 31 47.5
comp=E,247nm,18.0s,baz=278,slow=38
KLR Kul'dur 68.56 337 *eP* **P 10 59 25.6 -2.9**
KLR pmax pmax
comp=E,34nm,1.6s
KLR pmax pmax
comp=E,110nm,1.6s
GYA Guiyang 69.60 304 P **P 10 59 36.0 +0.4**
GYA pP **pP 10 59 48.8 +0.3**
GYA sP **sP 10 59 53.3 -0.2**
GYA PP **PP 11 02 13.0 +2.9**
GYA S **S 11 08 39.0 -2.0**
GYA sS **sS 11 09 02.1 -0.4**
GYA SKS **SKSac 11 09 29.8 -3.3**
GYA SS **SS 11 13 11.0 +1.1**
GYA AMB AMB
comp=Z,20nm,0.8s
GYA AMB AMB
comp=Z,120nm,5.2s
GYA LR LR
comp=Z,520nm,19.4s
GYA LR LR
comp=Z,480nm,18.8s
GYA LR LR
comp=Z,540nm,19.2s
BJI Beijing 69.88 321 P **P 10 59 37.3 +0.4**
BJI pP **pP 10 59 48.9 -0.9**
BJI S **S 11 08 45.0 +1.5**
BJI LR LR
comp=Z,260nm,13.5s
BJI LR LR
comp=Z,140nm,20.8s
BJI LR LR
comp=Z,170nm,23.1s
XAN Xi'an 71.42 313 P **P 10 59 47.0 +0.5**
XAN AMB AMB
comp=Z,3.0nm,1.1s
XAN AMB AMB
comp=Z,28nm,6.3s
KMI Kunming 72.25 302 P **P 10 59 53.8 +1.9**
KMI pP **pP 11 00 04.9 +0.1**
KMI sP **sP 11 00 10.0 +0.2**
KMI S **SKiKP 11 09 18.9 -5.8**
KMI AMB AMB
comp=Z,13nm,1.2s
KMI AMB AMB
comp=Z,100nm,5.1s
KMI LR LR
comp=Z,96nm,17.4s
KMI LR LR
comp=Z,130nm,19.4s
KMI LR LR
comp=Z,130nm,16.3s
CMAR Chiang Mai Arr 73.10 294 P **P 10 59 58.4 +1.7**
CMAR Chiang Mai Arr 73.10 294 P **P 10 59 58.4 +1.7**
comp=Z,4.7nm,0.9s,baz=119,slow=4.4,SNR=18
CMAR LR LR 11 32 05.3
comp=Z,74nm,18.6s,baz=115,slow=36
CHTO Chiang Mai 73.22 294 *eP* **P 10 59 58.6 +1.2**
CHTO pmax pmax
comp=Z,40nm,1.2s
CHTO Chiang Mai 73.22 294 *eP* **P 10 59 58.6 +1.2**
comp=Z,40nm,1.2s
HHC Hu-ho-hao-te 73.22 320 *eP* **P 10 59 57.0 -0.1**
HHC PcP **PcP 11 00 13.0 -0.5**
HHC sP **sP 11 00 15.6 +0.5**
HHC PP **PP 11 02 42.3 +1.4**
HHC S **S 11 09 21.3 -1.0**
HHC sS **sS 11 09 43.3 -0.6**
HHC SKS **SKSac 11 09 54.8 -5.0**
HHC ScS **SKKSac 11 09 58.9 -1.1**
HHC SS **SS 11 14 05.5 +0.6**
HHC AMB AMB
comp=Z,39nm,1.0s
HHC AMB AMB
comp=Z,280nm,6.5s
HHC LR LR
comp=Z,230nm,18.3s
HHC LR LR
comp=Z,450nm,17.7s
HHC LR LR
comp=Z,400nm,17.7s
CD2 Chengdu 73.83 308 P **P 11 00 02.1 +1.2**
CD2 pP **pP 11 00 14.9 +1.0**
CD2 sP **sP 11 00 20.1 +1.2**
CD2 PP **PP 11 02 49.1 +2.9**
CD2 S **S 11 09 29.3 -0.2**
CD2 sS **sS 11 09 51.0 -0.1**
CD2 SS **SS 11 14 16.4 +1.9**
CD2 AMB AMB
comp=Z,20nm,0.5s
CD2 AMB AMB
comp=Z,460nm,6.5s
CD2 LR LR
comp=Z,280nm,9.0s
CD2 LR LR
comp=Z,260nm,9.9s
HIA Hailar 73.84 330 *eP* **P 11 00 00.7 +0.2**
comp=Z,50nm,1.3s
SEY Seymchan 75.96 354⇑ *iP* **P 11 00 12.3 0.0**
LZH Lanzhou 76.06 312 *eP* **P 11 00 15.5 +1.7**
LZH pP **pP 11 00 28.6 +1.8**
LZH sP **sP 11 00 34.1 +2.3**
LZH *e*PP **PP 11 03 08.8 +3.7**
LZH *eS* **S 11 09 54.3 0.0**
LZH sS **sS 11 10 16.3 +0.3**
LZH *e*SS **SS 11 14 50.4 +2.0**
LZH AMB AMB
comp=Z,45nm,1.6s
LZH AMB AMB
comp=Z,150nm,7.5s
LZH LR LR
comp=Z,270nm,15.2s
LZH LR LR
comp=Z,290nm,14.5s
LZH LR LR
comp=Z,400nm,18.0s
QSPA South Pole Qui 77.52 180 *eP* **P 11 00 21.7 +0.3**
comp=Z,67nm,1.0s
YAK Yakutsk 79.61 343 *eP* **P 11 00 32.5 -0.1**
YAK pmax pmax
comp=Z,10.0nm,0.9s
SONM Songino Array 80.09 324 P **P 11 00 36.4 +0.6**
SONM Songino Array 80.09 324 P **P 11 00 36.4 +0.6**
comp=Z,7.4nm,1.0s,baz=138,slow=5.6,SNR=38
SONM LR LR 11 36 31.1
comp=Z,158nm,19.5s,baz=9.4,slow=36
GTA Gaotai 80.38 314 *eP* **P 11 00 39.3 +1.7**
GTA pP **pP 11 00 50.3 -0.4**
GTA sP **sP 11 00 54.0 -1.7**
GTA S **S 11 10 43.3 +2.8**
GTA sS **ScS 11 11 00.1 -0.2**
GTA AMB AMB
comp=Z,16nm,1.1s
GTA AMB AMB
comp=Z,170nm,5.9s
GTA LR LR
comp=Z,200nm,19.0s
GTA LR LR
comp=Z,240nm,20.0s
GTA LR LR
comp=Z,170nm,20.9s
SHL Shillong 81.59 298 *ex* **P 11 00 45.0 +0.6**
CAST Castle Rocks 82.19 18 *eP* **P 11 00 45.9 -0.6**
comp=Z,5.0nm,1.0s
ZAK Zakamensk 83.14 325 *eP* **P 11 00 51.7 -0.1**
ZAK pmax pmax
comp=Z,15nm,1.3s
MAW Mawson 83.55 202 *eP* **P 11 00 54.2 +0.7**
comp=Z,2.8nm,1.0s
MAW Mawson 83.55 202 P **P 11 00 54.8 +1.3**
baz=84,SNR=10.0
MAW Mawson 83.55 202 P **P 11 00 54.3 +0.7**
comp=Z,9.3nm,0.9s,baz=87,slow=8.7,SNR=18
MAW LR LR 11 36 03.8
comp=Z,96nm,19.2s,baz=84,slow=34
TLY Talaya 83.57 326*c iP* **P 11 00 53.4 -0.5**
TLY pmax pmax
comp=Z,43nm,1.3s
COLA College 84.52 18 *eP* **P 11 00 57.9 -0.5**
ILAR Eielson Array 84.74 18 P **P 11 00 56.9 -2.7**
ILAR Eielson Array 84.74 18 P **P 11 00 56.9 -2.7**
comp=Z,1.8nm,0.9s,baz=241,slow=4.6,SNR=16
ILAR LR LR 11 31 34.9
comp=Z,106nm,20.5s,baz=176,slow=31
DOT Dot Lake 84.88 20 *eP* **P 11 00 59.8 -0.5**
comp=Z,47nm,2.3s
TAPN Taplejung 85.69 299 *eP* **P 11 01 06.3 +0.8**
comp=Z,24nm,1.0s
ODAN Odare 85.83 299 *eP* **P 11 01 06.4 +0.3**
comp=Z,51nm,1.0s
RAMN Ramite 86.53 298 *eP* **P 11 01 10.0 +0.4**
comp=Z,36nm,1.2s
PFO Pinyon Flat Ob 86.56 55 LR LR 11 29 17.0
comp=Z,206nm,21.7s,baz=156,slow=28
EGAK Eagle 86.58 20 *eP* **P 11 01 07.0 -1.6**
comp=Z,4.1nm,0.8s
NVAR Mina Array Bea 86.62 50 P **P 11 01 09.7 -0.1**
NVAR Mina Array Bea 86.62 50 P **P 11 01 09.7 -0.1**
comp=Z,1.1nm,0.8s,baz=236,slow=8.1,SNR=7.8
JIRN Jiri 87.08 299 *eP* **P 11 01 12.8 +0.4**
comp=Z,35nm,1.1s
GUN Gumba 87.41 299 *eP* **P 11 01 13.8 -0.2**
comp=Z,53nm,1.2s
TIXI Tiksi 87.59 349⇓ *eP* **P 11 01 12.3 -1.1**
TIXI pmax pmax
comp=Z,8.0nm,1.7s
PKI Pulchoki 87.72 299 *eP* **P 11 01 15.5 0.0**
comp=Z,42nm,0.9s
PKIN Phulchoki 87.73 299 *eP* **P 11 01 15.3 -0.2**
comp=Z,34nm,1.1s
KKN Kakani 87.89 299 *eP* **P 11 01 16.2 +0.1**
comp=Z,24nm,0.8s
DMN Daman 87.99 299 *eP* **P 11 01 16.6 -0.1**
comp=Z,74nm,1.0s
GKN Gorkha 88.49 299 *eP* **P 11 01 18.1 -0.8**
comp=Z,37nm,0.9s
HVS Khovu-Aksy 88.96 323*d iP* **P 11 01 20.9 +0.4**
HVS pmax pmax
comp=Z,169nm,1.7s
KOLN Koldanda 89.32 299 *eP* **P 11 01 22.4 -0.5**
comp=Z,16nm,0.8s
DANN Dangsing 89.33 299 *eP* **P 11 01 22.3 -0.7**
comp=Z,33nm,0.9s
WMQ Urumqi 90.43 315 P **P 11 01 27.4 -0.1**
WMQ pP **pP 11 01 40.9 +0.1**
WMQ sP **sP 11 01 46.0 +0.3**
WMQ AMB AMB
comp=Z,15nm,1.2s
WMQ AMB AMB
comp=Z,140nm,3.8s
WMQ LR LR
comp=Z,120nm,22.4s
WMQ LR LR
comp=Z,97nm,20.8s
WMQ LR LR
comp=Z,85nm,18.6s
SYO Syowa Base 90.53 197⇑ *iP* **P 11 01 25.3 -2.1**
DGAR Diego Garcia 92.05 262⇑ *eP* **P 11 01 35.8 +0.2**
PDAR Pinedale Array 94.20 47 LR LR 11 40 37.0
comp=Z,225nm,19.8s,baz=257,slow=33
MK31 Makanchi Array 94.88 317 *eP* **P 11 01 47.8 -0.1**
MK31 Makanchi Array 94.88 317 *eP* **P 11 01 47.8 -0.1**
MKAR Makanchi Array 94.88 317 P **P 11 01 47.8 -0.1**
MKAR Makanchi Array 94.88 317 P **P 11 01 47.8 -0.1**
MKAR PKiKP **PKiKP 11 06 28.2 -1.6**
MKAR PKKP **PKKPbc 11 18 41.8 -3.9**
MKAR Makanchi Array 94.88 317 P **P 11 01 47.8 -0.1**
comp=Z,6.3nm,0.9s,baz=100,slow=6.4,SNR=34
MKAR PKiKP **PKiKP 11 06 28.2 -1.6**
comp=Z,0.9nm,0.8s,baz=64,slow=2.8,SNR=5.5
MKAR PKKP **PKKPbc 11 18 41.8 -3.9**
comp=Z,0.4nm,0.6s,baz=311,slow=0.3,SNR=3.8
ZAA0 Zalesovo Array 94.98 324 *eP* **P 11 01 47.2 -1.0**
ZALV Zalesovo Beam 94.98 324 P **P 11 01 47.2 -1.0**
ZALV Zalesovo Beam 94.98 324 P **P 11 01 47.2 -1.0**
ZALV Zalesovo Beam 94.98 324 P **P 11 01 47.2 -1.0**
comp=Z,11nm,0.8s,baz=108,slow=4.8,SNR=37
ZALV LR LR 11 43 08.3
comp=Z,100nm,20.3s,baz=249,slow=35
MAIT Maitri 95.11 188 *eP* **P 11 01 46.2 -2.3**
SNAA Sanae 95.70 183 *eP* **P 11 01 50.3 -1.1**
comp=Z,9.6nm,1.0s
GDL2 Guadalupe Moun 96.08 58 *eP* **P 11 01 52.5 -1.4**
NVS Novosibirsk 96.09 325 *eP* **P 11 01 50.3 -2.9**
TXAR Lajitas Array 96.13 61 P **P 11 01 56.5 +2.4**
TXAR Lajitas Array 96.13 61 P **P 11 01 56.5 +2.4**
comp=Z,0.5nm,0.7s,baz=217,slow=5.5,SNR=8.7
TXAR LR LR 11 35 22.9
comp=Z,251nm,20.5s,baz=40,slow=29
KSH Kashi 98.00 309 *eP* **P 11 02 02.1 -0.3**
KSH pP **pP 11 02 16.3 +0.5**
KSH sP **sP 11 02 24.9 +4.2**
KURK Kurchatov 98.03 320⇓ *eP* **P 11 02 01.5 -0.6**
KURK pmax pmax
comp=Z,3.0nm,1.2s
KURK Kurchatov 98.03 320 *eP* **P 11 02 01.7 -0.4**
KURBB Kurchatov Arra 98.07 320 P **P 11 02 00.5 -1.7**
comp=Z,1.2nm,0.8s,baz=104,slow=3.2,SNR=8.5
ARCES ARCESS Array B 117.84 345 PKP **PKPdf 11 07 10.3 -1.3**
ARCES ARCESS Array B 117.84 345 PKP **PKPdf 11 07 10.3 -1.3**
comp=Z,2.3nm,0.8s,baz=60,slow=1.8,SNR=6.1
QRN Al-Qurain 120.61 296 *eP* **PKPdf 11 07 18.3 +0.3**
QRN AMb AMB 11 07 19.7
comp=Z,62nm,0.9s
RDF Al-Radifah 120.92 296 *eP* **PKPdf 11 07 18.9 +0.2**
RDF AMb AMB 11 07 20.2
comp=Z,48nm,0.9s
VRHR Novokhopersk 121.09 323 *e*PKIKP **PKPdf 11 07 17.9 -0.4**
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=E,2.0nm,0.2s
NAY Al-Naaiem 121.18 297 *eP* **PKPdf 11 07 19.1 0.0**
NAY AMb AMB 11 07 20.1
comp=Z,18nm,1.0s
RST Umm Al-Ruwaisa 121.38 297 *eP* **PKPdf 11 07 19.2 -0.3**
RST AMb AMB 11 07 20.9
comp=Z,408nm,0.9s
GNI Garni 121.92 310 *e*PKPdf **PKPdf 11 07 21.5 +1.0**
ZEI Tsey 121.98 313 *i* PKIKP **PKPdf 11 07 20.7 +0.1**
ZEI pmax pmax
comp=Z,13nm,1.3s
KBZ Khabaz 122.47 314 PKIKP **PKPdf 11 07 21.3 +0.1**
KBZ Khabaz 122.47 314 PKP **PKPdf 11 07 21.2 +0.1**
KBZ Khabaz 122.47 314 PKP **PKPdf 11 07 21.2 +0.1**
comp=Z,4.0nm,0.8s,baz=146,slow=3.9,SNR=7.2
VSR Storozhevoye 122.48 323 *e*PKIKP **PKPdf 11 07 18.7 -2.3**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=N,3.0nm,0.4s
VSR pmax pmax
comp=E,10.0nm,0.9s
KIV Kislovodsk 122.56 314 *i* PKIKP **PKPdf 11 07 23.1 +1.6**
KIV pmax pmax
comp=Z,99nm,20.6s
RAYN Ar Rayn 122.88 290 *e*PKPdf **PKPdf 11 07 22.5 -0.1**
MALT Malatya 127.11 309⇓ *i*PKIKP **PKPdf 11 07 31.7 +1.3**
MALT Malatya 127.11 309⇓ *i*P **PKPdf 11 07 31.7 +1.3**
NOA NORSAR Array B 128.21 345 PKP **PKPdf 11 07 32.2 +0.5**
NOA NORSAR Array B 128.21 345 PKP **PKPdf 11 07 32.2 +0.5**
comp=Z,1.7nm,0.9s,baz=32,slow=2.1,SNR=3.3
AKASG Malin Array Be 128.31 326 PKIKP **PKPdf 11 07 32.1 0.0**
AKASG Malin Array Be 128.31 326 PKP **PKPdf 11 07 32.1 0.0**
AKASG Malin Array Be 128.31 326 PKP **PKPdf 11 07 32.1 0.0**
comp=Z,2.9nm,0.8s,baz=55,slow=2.1,SNR=12
KIEV Kiev 128.32 326 PKIKP **PKPdf 11 07 31.7 -0.5**
BRTR Keskin Array B 130.26 312 PKP **PKPdf 11 07 36.1 -0.3**
BRTR Keskin Array B 130.26 312 PKP **PKPdf 11 07 36.1 -0.3**
comp=Z,1.5nm,0.8s,baz=129,slow=3.3,SNR=9.3
CFR Carcaliu 131.75 321⇑ PKIKP **PKPdf 11 07 39.5 +0.7**
CFR Carcaliu 131.75 321⇑ *i*P **PKPdf 11 07 39.5 +0.7**
BURAR Bucovina Array 132.20 325⇓ PKIKP **PKPdf 11 07 41.4 +1.6**
BURAR Bucovina Array 132.20 325⇓ *i*P **PKPdf 11 07 41.4 +1.6**
KOLS Kolonicke sedl 133.01 328 *e*PKIKP **PKPdf 11 07 42.6 +1.4**
KOLS Kolonicke sedl 133.01 328 *e*PKP **PKPdf 11 07 42.6 +1.4**
ARR Arges 133.77 323⇓ *i*P **PKPdf 11 07 43.4 +0.6**
PSZ Piszkesteto 134.88 328⇓ PKIKP **PKPdf 11 07 45.0 +0.2**
PSZ Piszkesteto 134.88 328⇓ *i*P **PKPdf 11 07 45.0 +0.2**
SIRR Siria 134.97 325⇓ *i*P **PKPdf 11 07 45.0 +0.1**
BZS Buzias 135.38 325⇓ PKIKP **PKPdf 11 07 44.5 -1.2**
BZS Buzias 135.38 325⇓ *i*P **PKPdf 11 07 44.5 -1.2**
BRG Berggiesshubel 135.56 335 *e*PKP **PKPdf 11 07 49.0 +3.1**
comp=Z,7.3nm,1.2s
BRG Berggiesshubel 135.56 335 *e*PKIKP **PKPdf 11 07 49.0 +3.1**
BRG pmax pmax
comp=Z,7.0nm,1.2s
CONA Conrad Observa 136.87 331⇑ *i*PKIKP **PKiKP 11 07 50.7 +0.3**
comp=Z,11nm,1.8s
GERES GERESS Array B 137.19 333 PKP **PKPdf 11 07 49.0 0.0**
GERES SKPbc **SKiKP 11 11 23.8 +0.1**
GERES GERESS Array B 137.19 333 PKP **PKPdf 11 07 49.0 0.0**
comp=Z,0.5nm,0.3s,baz=11,slow=1.4,SNR=7.6
GERES SKPbc **SKiKP 11 11 23.8 +0.1**
comp=Z,0.3nm,0.2s,baz=72,slow=4.3,SNR=6.7
VSL Villasalto 146.19 327 *e*PKPdf **PKPdf 11 08 05.6 +0.2**
KEST Kesra 148.83 322 *e*PKPbc **PKPbc 11 08 14.0 +0.1**
KEST Kesra 148.83 322 PKPbc **PKPbc 11 08 14.4 +0.6**
comp=Z,11nm,0.8s,baz=218,slow=0.6,SNR=20
ESDC Sonseca Array 151.57 344 PKPbc **PKPbc 11 08 19.9 -0.4**
ESDC Sonseca Array 151.57 344 PKPbc **PKPbc 11 08 19.9 -0.4**
comp=Z,1.8nm,0.7s,baz=36,slow=1.9,SNR=11
PAB San Pablo 151.79 344 *e*PKIKP **PKPbc 11 08 20.9 +0.1**
PAB San Pablo 151.79 344 *e*PKPdf **PKPbc 11 08 20.9 +0.1**
TORD Torodi Ar. Bea 164.87 274 PKP **PKPdf 11 08 30.3 -0.4**
TORD PKPab **PKPab 11 09 27.1 0.0**
TORD Torodi Ar. Bea 164.87 274 PKP **PKPdf 11 08 30.3 -0.4**
comp=Z,1.1nm,0.9s,baz=24,slow=1.1,SNR=5.8
TORD PKPab **PKPab 11 09 27.1 0.0**
comp=Z,3.2nm,1.0s,baz=70,slow=4.0,SNR=8.2

*AUST **19** 10:58:57.2≈6.0, 15˚.49S×178˚.25W,h56km≈1km, Error ellipse: s-maj=3.0km s-min=1.8km az=321.0*

*ISCJB **19** 10:59:20.9±0.5, 15°.5S±0°.2×177°.48W±0°.09, h400km, mb3.9/11, Error ellipse: s-maj=25.1km s-min=7.9km az=159.1*

*IDC **19** 10:59:22.3±1.9, 15°.58S×177°.40W, h404km±22km, mb3.5/10, mb1 3.8/12, mb1mx3.6/21, mbtmp3.6/12, Error ellipse: s-maj=25.2km s-min=11.5km az=147.0*

ISC 19 10:59:21.9±0.7, 15°.5S±0°.2×177°.4W±0°.1, h400km, n22, σ1°02/20, mb3.9/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.66**	**74**	P	**Pn**	**11 00 51.2**	**+0.2**
	8.9nm,0.3s,baz=74,slow=2.8,SNR=14						
AFI				S	**S**	**11 02 03.4**	**-0.1**
	2.0nm,0.3s,baz=262,slow=19,SNR=2.8						
DZM	**Mont Dzumac**	**16.63**	**245**	P	**P**	**11 02 53.8**	**+1.7**
	0.2nm,0.3s,baz=235,slow=3.4,SNR=3.2						
URZ	**Urewera**	**23.15**	**191**	P	P	11 03 49.8	-5.1
	3.9nm,0.4s,baz=20,slow=5.7,SNR=8.1						
CTA	**Charters Tower**	**34.87**	**257**	P	**P**	**11 05 39.3**	**+1.5**
	4.7nm,0.6s,baz=84,slow=10,SNR=4.6						
MTSU	**Mount Surprise**	**36.71**	**260**	P	**P**	**11 05 53.6**	**+0.4**
	baz=36,SNR=5.7						
QLP	**Quilpie**	**37.34**	**246**	P	**P**	**11 06 00.6**	**+2.3**
	baz=37,SNR=3.1						
STKA	**Stephens Creek**	**40.66**	**239**	P	**P**	**11 06 24.6**	**-0.8**
	baz=40,SNR=8.4						
STKA	**Stephens Creek**	**40.66**	**239**	P	**P**	**11 06 24.5**	**-0.9**
	1.6nm,0.4s,baz=85,slow=11,SNR=12						
BBOO	**Buckleboo**	**45.43**	**239**	P	**P**	**11 07 01.9**	**-1.2**
	baz=45,SNR=12						
WRA	**Warramunga Arr**	**46.07**	**257**	P	**P**	**11 07 07.0**	**-1.3**
	1.7nm,0.4s,baz=90,slow=6.6,SNR=91						
ASAR	**Alice Springs**	**46.42**	**252**	P	**P**	**11 07 10.2**	**-0.7**
	23nm,0.6s,baz=84,slow=7.7,SNR=440						
KDU	**Kakadu**	**48.63**	**267**	P	**P**	**11 07 27.4**	**-0.3**
	baz=48,SNR=4.7						
MTN	**Manton Dam**	**49.89**	**266**	P	P	11 07 41.5	+4.3
	baz=49,SNR=3.3						
KNRA	**Kununurra**	**51.75**	**262**	P	**P**	**11 07 50.2**	**-0.6**
	baz=51,SNR=4.0						
VNDA	**Vanda**	**62.87**	**185**	P	**P**	**11 09 06.2**	**-0.3**
	0.7nm,0.5s,baz=7.6,slow=7.4,SNR=11						
PETK	**Petropavlovsk-**	**71.67**	**344**	P	**P**	**11 10 01.2**	**-0.1**
	3.0nm,0.8s,baz=156,slow=7.3,SNR=3.6						
NVAR	**Mina Array Bea**	**77.04**	**44**	P	**P**	**11 10 32.9**	**+0.3**
	1.5nm,0.6s,baz=227,slow=8.9,SNR=16						
ILAR	**Eielson Array**	**83.38**	**13**	P	**P**	**11 11 04.5**	**-0.6**
	1.3nm,0.6s,baz=232,slow=5.4,SNR=23						
TXAR	**Lajitas Array**	**83.90**	**57**	P	**P**	**11 11 09.4**	**+0.8**
	1.2nm,0.7s,baz=222,slow=6.9,SNR=20						
PDAR	**Pinedale Array**	**84.96**	**43**	P	**P**	**11 11 13.8**	**0.0**
	0.3nm,0.5s,baz=215,slow=5.3,SNR=3.7						
BRTR	**Keskin Array B**	**143.76**	**318**	PKP	PKPab	11 18 09.0	0.0
	1.4nm,0.8s,baz=35,slow=4.5,SNR=5.7						
GERES	**GERESS Array B**	**145.57**	**347**	PKPbc	**PKPbc**	**11 18 14.2**	**-0.3**
	0.3nm,0.3s,baz=46,slow=4.2,SNR=2.9						

*CSEM **19** 11:01:27.6±0.6, 59°.38N×27°.73E, h2km, ML2.0, Error ellipse: s-maj=11.1km s-min=5.4km az=109.0, Mining explosion.*

HEL 19 11:01:26.0±0.1, 59°.24N×27°.83E, h0km, ML1.7, Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**1.31**	**354**	*e*P	Pg	11 01 49.4	-1.8
VJF				*e*SB	Sg	11 02 07.0	-1.2
VJF	**Virojoki**	**1.31**	**354**	P	Pg	11 01 49.4	-1.8
VJF				Sb	Sg	11 02 07.0	-1.2
PVF	**Pernaja**	**1.65**	**324**	*e*P	Pn	11 01 55.4	-0.8
PVF				*e*SG	Sn	11 02 16.5	-1.5
PVF	**Pernaja**	**1.65**	**324**	P	Pn	11 01 55.3	-0.8
PVF				Sg	Sn	11 02 16.5	-1.5
SRPE	**Suurupi**	**1.78**	**279**	*e*P	Pn	11 01 57.5	-0.5
	SNR=50						
SRPE				*e*S	Sn	11 02 20.0	-1.3
	SNR=50						
MEF	**Metsahovi**	**2.00**	**301**	*e*PG	Pn	11 02 01.5	+0.5
MEF				*e*SB	Sn	11 02 26.7	0.0
MEF				MSG		11 02 26.7	
	comp=Z,2.9nm,0.1s						
MEF	**Metsahovi**	**2.00**	**301**	*e*P	Pn	11 02 01.6	+0.6
	SNR=50						
MEF				Sb	Sn	11 02 26.7	0.0
MEF				*e*S	Sb	11 02 27.0	-1.6
	comp=Z,9.4nm,0.6s,SNR=50						
MTSE	**Matsula**	**2.15**	**258**	*e*P	Pn	11 02 02.9	-0.1
MTSE				*e*S	Sn	11 02 30.1	-0.2
MTSE	**Matsula**	**2.15**	**258**	*e*P	Pb	11 02 04.5	-1.2
	SNR=50						
MTSE				S	Sn	11 02 30.0	-0.3
FIA0	**FINESS Array S**	**2.38**	**339**	*e*P	Pn	11 02 06.2	0.0
FIA0	**FINESS Array S**	**2.38**	**339**	P	Pn	11 02 06.2	0.0
KAF	**Kangasniemi**	**2.98**	**346**	*e*SG	Sb	11 02 57.3	+0.4
KAF	**Kangasniemi**	**2.98**	**346**	SG	Sb	11 02 57.3	+0.4
KAF				MSG		11 02 57.3	
	comp=Z,4.5nm,0.4s						
KAF	**Kangasniemi**	**2.98**	**346**	Sg	Sb	11 02 57.3	+0.4
KAF	**Kangasniemi**	**2.98**	**346**	Sg	Sb	11 02 57.3	+0.4
KEF	**Keuruu**	**3.28**	**335**	MSG	Sg	11 03 07.6	-3.7
	comp=Z,1.3nm,0.2s						
KEF				*e*SG	Sg	11 03 07.6	-3.7
KEF	**Keuruu**	**3.28**	**335**	SG	Sb	11 03 07.6	+2.1
KEF				MSG		11 03 07.6	
	comp=Z,1.3nm,0.2s						
KEF	**Keuruu**	**3.28**	**335**	Sg	Sb	11 03 07.6	+2.1
KEF	**Keuruu**	**3.28**	**335**	Sg	Sb	11 03 07.6	+2.1
SUF	**Sumiainen**	**3.59**	**348**	*e*SG	Sg	11 03 18.0	-3.3
SUF				MSG		11 03 18.8	
	comp=Z,2.8nm,0.4s						
SUF	**Sumiainen**	**3.59**	**348**	Sg	Sg	11 03 17.9	-3.3

*CSEM **19** 11:01:55.6, 63°.99N×27°.99E, h0km, ML1.1, Mining explosion. After HEL*

HEL 19 11:01:55.6±0.5, 63°.99N×27°.99E, h0km, ML1.1, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUL	**Oulu**	**1.42**	**321**	SG	Sg	11 02 41.2	0.0
OUL				MSG		11 02 41.2	
	comp=Z,0.2nm,0.1s						
OUL				RG	Rg	11 02 45.3	
OUL	**Oulu**	**1.42**	**321**	Sg	Sg	11 02 41.2	0.0
SUF	**Sumiainen**	**1.52**	**214**	PG	Pn	11 02 23.7	-0.4
SUF	**Sumiainen**	**1.52**	**214**	Pg	Pn	11 02 23.6	-0.5
JOF	**Joensuu**	**1.84**	**124**	PN	Pn	11 02 28.4	0.0
	baz=299						
JOF				SG	Sn	11 02 51.9	-0.5
JOF				MSG		11 02 51.9	
	comp=Z,0.6nm,0.1s						
JOF	**Joensuu**	**1.84**	**124**	Pn	Pn	11 02 28.3	-0.1
JOF				Sg	Sn	11 02 51.9	-0.5
MSF	**Maaselka**	**1.98**	**13**	PN	Pb	11 02 31.9	-0.6
MSF	**Maaselka**	**1.98**	**13**	Pn	Pb	11 02 31.8	-0.6
FIA0	**FINESS Array S**	**2.71**	**200**	PN	Pn	11 02 39.1	-1.2
FIA0	**FINESS Array S**	**2.71**	**200**	Pn	Pn	11 02 39.1	-1.2
RNF	**Rovaniemi**	**2.75**	**343**	SG	Sb	11 03 20.5	+0.6
RNF				MSG		11 03 20.5	
	comp=Z,0.5nm,0.2s						
RNF	**Rovaniemi**	**2.75**	**343**	Sg	Sb	11 03 20.5	+0.6

IDC 19 11:20:39.7±2.3, 1°.02S×133°.77E, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.5/23, mbtmp3.5/5, ML3.5/2, Error ellipse: s-maj=98.1km s-min=22.8km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.76**	**205**	P	Pn	11 25 01.0	+0.1
	0.1nm,0.3s,baz=19,slow=12,SNR=3.3						
WRA	**Warramunga Arr**	**18.82**	**178**	P	P	11 25 00.7	-0.4
	0.2nm,0.3s,baz=357,slow=12,SNR=10						
ASAR	**Alice Springs**	**22.51**	**180**	P	P	11 25 41.4	+0.1
	0.5nm,0.5s,baz=5.1,slow=12,SNR=11						
MKAR	**Makanchi Array**	**65.48**	**324**	P	P	11 31 24.7	-0.1
	0.4nm,0.5s,baz=118,slow=7.4,SNR=4.9						
KURBB	**Kurchatov Arra**	**69.54**	**326**	P	P	11 31 50.3	-0.1
	0.4nm,0.6s,baz=116,slow=5.8,SNR=4.0						

IDC 19 11:23:43.4±15.0, 3°.69N×122°.92E, h447km±205km, mb3.2/7, mb1 3.3/7, mb1mx3.0/27, mbtmp3.2/7, Error ellipse: s-maj=56.8km s-min=33.4km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.81**	**173**	P	P	11 28 01.7	+0.2
	0.7nm,0.4s,baz=5.7,slow=10,SNR=6.4						
WRA	**Warramunga Arr**	**26.02**	**155**	P	P	11 28 38.7	-0.5
	2.1nm,0.3s,baz=336,slow=9.5,SNR=36						
ASAR	**Alice Springs**	**29.22**	**159**	P	P	11 29 07.3	0.0
	1.0nm,0.3s,baz=335,slow=7.6,SNR=36						
NWAO	**Narrogin (SRO)**	**36.81**	**188**	P	P	11 30 11.3	-0.5
	6.5nm,0.8s,baz=9.5,slow=12,SNR=3.1						
STKA	**Stephens Creek**	**39.58**	**155**	P	P	11 30 34.8	+0.2
	1.4nm,0.4s,baz=330,slow=11,SNR=7.7						
MKAR	**Makanchi Array**	**55.48**	**327**	P	P	11 32 34.9	+0.3
	0.8nm,0.4s,baz=121,slow=7.7,SNR=14						
KURBB	**Kurchatov Arra**	**59.77**	**329**	P	P	11 33 03.0	-0.8
	0.5nm,0.5s,baz=131,slow=5.9,SNR=5.4						

*ISCJB **19** 11:35:50.7±0.5, 27°.95S±0°.09×63°.6E±0°.1, h17km, mb4.0/18, MS3.8/4, Error ellipse: s-maj=14.4km s-min=13.2km az=9.3*

*IDC **19** 11:35:50.1±0.5, 27°.91S×63°.57E, h0km, mb4.1/17, mb1 4.2/17, mb1mx4.1/29, mbtmp4.1/17, MS3.8/4, Ms1 3.8/4, ms1mx3.3/44, Error ellipse: s-maj=16.6km s-min=15.6km az=73.0*

*NEIC **19** 11:35:51.6±0.3, 27°.92S×63°.50E, h10km, mb4.3/3, Error ellipse: s-maj=10.4km s-min=9.4km az=100.0*

ISC 19 11:35:52.9±0.5, 27°.95S±0°.1×63°.6E±0°.1, h17km, n53, σ0°.97/49, mb4.1/18, MS3.8/4, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**17.72**	**298**	P	**P**	**11 40 03.0**	**+3.1**
OPO				S	Sn	11 43 05.4	-11
OPO	**Ambohidratompo**	**17.72**	**298**	P	**P**	**11 40 03.0**	**+3.1**
	0.2nm,0.3s,baz=108,slow=13,SNR=2.2						
OPO				S	Sn	11 43 05.4	-11
	0.6nm,0.3s,baz=86,slow=16,SNR=4.6						
H08S1	**Diego Garcia H**	**21.87**	**24**	T	T	12 03 33.8	
	baz=199						
H08S2	**Diego Garcia H**	**21.88**	**24**	T	T	12 03 41.8	
	baz=199						
H08S3	**Diego Garcia H**	**21.89**	**24**	T	T	12 03 44.8	
	baz=199						
BOSA	**Boshof**	**33.68**	**260**	P	**P**	**11 42 32.5**	**-0.7**
BOSA	**Boshof**	**33.68**	**260**	P	**P**	**11 42 32.5**	**-0.7**
	3.9nm,1.0s,baz=84,slow=10,SNR=5.1						
LSZ	**Lusaka**	**35.12**	**284**	*e*P	**P**	**11 42 45.0**	**-0.8**
	4.9nm,0.8s						
LSZ	**Lusaka**	**35.12**	**284**	P	**P**	**11 42 45.8**	**0.0**
	5.4nm,0.6s,baz=75,slow=10,SNR=14						
MAW	**Mawson**	**39.68**	**180**	P	**P**	**11 43 23.9**	**+0.3**
MAW	**Mawson**	**39.68**	**180**	P	**P**	**11 43 23.9**	**+0.3**
	1.2nm,0.8s,baz=5.7,slow=12,SNR=5.6						
MAW				LR	LR	11 55 07.9	
	comp=Z,98nm,19.6s,baz=141,slow=29						
TSUM	**Tsumeb**	**42.86**	**271**	*e*P	**P**	**11 43 49.0**	**-1.6**
TSUM	**Tsumeb**	**42.86**	**271**	P	**P**	**11 43 50.2**	**-0.4**
	3.1nm,0.8s,baz=95,slow=8.9,SNR=6.1						
H01W2	**Cape Leeuwin H**	**43.30**	**112**	T	T	12 30 10.1	
	baz=265,slow=0.7,SNR=22						
H01W3	**Cape Leeuwin H**	**43.31**	**112**	T	T	12 30 12.0	
	baz=265,slow=0.7,SNR=36						
H01W1	**Cape Leeuwin H**	**43.32**	**112**	T	T	12 30 12.2	
	baz=265,slow=0.7,SNR=16						
NWAO	**Narrogin (SRO)**	**46.10**	**110**	LR	LR	11 59 26.6	
	comp=Z,52nm,20.1s,baz=29,slow=31						
SNAA	**Sanae**	**56.34**	**200**	P	**P**	**11 45 32.7**	**+0.1**
SNAA	**Sanae**	**56.34**	**200**	P	**P**	**11 45 32.7**	**+0.1**
	0.3nm,0.6s,baz=136,slow=4.7,SNR=3.8						
CMAR	**Chiang Mai Arr**	**57.44**	**41**	P	**P**	**11 45 41.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**57.44**	**41**	P	**P**	**11 45 41.4**	**+0.4**
	2.6nm,0.3s,baz=229,slow=7.6,SNR=10						
QSPA	**South Pole Qui**	**62.20**	**180**	*e*P	**P**	**11 46 12.7**	**-0.6**
	2.4nm,1.0s						
QSPA	**South Pole Qui**	**62.20**	**180**	P	**P**	**11 46 13.4**	**+0.1**
	2.9nm,0.9s						
ASAR	**Alice Springs**	**62.65**	**104**	P	**P**	**11 46 17.0**	**+0.1**
ASAR	**Alice Springs**	**62.65**	**104**	P	**P**	**11 46 17.0**	**+0.1**
	1.6nm,0.8s,baz=245,slow=6.2,SNR=14						
WRA	**Warramunga Arr**	**64.37**	**100**	P	**P**	**11 46 28.4**	**+0.2**
WRA	**Warramunga Arr**	**64.37**	**100**	P	**P**	**11 46 28.4**	**+0.2**
	1.9nm,0.8s,baz=248,slow=5.6,SNR=8.2						
VNDA	**Vanda**	**64.69**	**166**	P	**P**	**11 46 29.1**	**-0.3**
VNDA	**Vanda**	**64.69**	**166**	P	**P**	**11 46 29.1**	**-0.3**
	0.6nm,1.0s,baz=289,slow=6.7,SNR=2.9						
VNDA				LR	LR	12 10 40.6	
	comp=Z,158nm,20.1s,baz=280,slow=32						
GNI	**Garni**	**69.99**	**345**	LR	LR	12 15 43.6	
	comp=Z,90nm,19.2s,baz=90,slow=34						
AAK	**Ala-Archa**	**70.95**	**8**	P	**P**	**11 47 07.8**	**-1.6**
AAK	**Ala-Archa**	**70.95**	**8**	P	**P**	**11 47 07.8**	**-1.6**
	1.2nm,0.4s,baz=201,slow=8.6,SNR=2.6						
TORD	**Torodi Ar. Bea**	**72.51**	**296**	P	**P**	**11 47 18.7**	**-0.5**
TORD	**Torodi Ar. Bea**	**72.51**	**296**	P	**P**	**11 47 18.7**	**-0.5**
	2.0nm,0.9s,baz=124,slow=5.4,SNR=9.8						
BRTR	**Keskin Array B**	**72.88**	**336**	P	**P**	**11 47 19.9**	**-1.1**
BRTR	**Keskin Array B**	**72.88**	**336**	P	**P**	**11 47 19.9**	**-1.1**
	1.0nm,0.8s,baz=180,slow=6.2,SNR=5.7						
MKAR	**Makanchi Array**	**76.29**	**13**	P	**P**	**11 47 40.3**	**-0.1**
MKAR	**Makanchi Array**	**76.29**	**13**	P	**P**	**11 47 40.3**	**-0.1**
	0.9nm,0.9s,baz=192,slow=4.5,SNR=6.9						
ABKAR	**Akbulak array**	**76.93**	**358**	*e*P	**P**	**11 47 43.5**	**-0.4**
	0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**83.61**	**12**	P	**P**	**11 48 19.9**	**+0.1**
ZALV	**Zalesovo Beam**	**83.61**	**12**	P	**P**	**11 48 19.9**	**+0.1**
	1.7nm,0.7s,baz=209,slow=3.9,SNR=7.1						
AKASG	**Malin Array Be**	**84.00**	**339**	P	**P**	**11 48 21.6**	**-0.3**
AKASG	**Malin Array Be**	**84.00**	**339**	P	**P**	**11 48 21.6**	**-0.3**
	0.2nm,0.3s,baz=157,slow=4.5,SNR=5.7						
SONM	**Songino Array**	**84.67**	**27**	P	**P**	**11 48 26.3**	**+0.7**
SONM	**Songino Array**	**84.67**	**27**	P	**P**	**11 48 26.3**	**+0.7**
	1.0nm,0.9s,baz=248,slow=5.7,SNR=4.7						
ILAR	**Eielson Array**	**138.42**	**19**	PKP	**PKPdf**	**11 55 17.9**	**+1.2**
ILAR	**Eielson Array**	**138.42**	**19**	PKP	**PKPdf**	**11 55 17.9**	**+1.2**
	0.5nm,1.0s,baz=290,slow=2.6,SNR=4.0						
YKA	**Yellowknife Ar**	**145.44**	**359**	PKPbc	**PKPbc**	**11 55 28.9**	**-0.3**
YKA	**Yellowknife Ar**	**145.44**	**359**	PKPbc	**PKPbc**	**11 55 28.9**	**-0.3**
	2.9nm,0.9s,baz=4.9,slow=3.9,SNR=6.1						
PDAR	**Pinedale Array**	**164.21**	**341**	PKP	**PKPdf**	**11 55 55.4**	**-0.3**
PDAR				PKPab	**PKPab**	**11 56 49.7**	**+0.4**
PDAR	**Pinedale Array**	**164.21**	**341**	PKP	**PKPdf**	**11 55 55.4**	**-0.3**
	0.3nm,0.6s,baz=18,slow=3.1,SNR=2.8						
PDAR				PKPab	**PKPab**	**11 56 49.7**	**+0.4**
	0.3nm,0.7s,baz=70,slow=3.5,SNR=3.0						
TXAR	**Lajitas Array**	**168.73**	**280**	PKP	**PKPdf**	**11 56 00.9**	**+1.5**
TXAR				PKPab	**PKPab**	**11 57 10.3**	**+0.6**
TXAR	**Lajitas Array**	**168.73**	**280**	PKP	**PKPdf**	**11 56 00.9**	**+1.5**
	0.3nm,0.8s,baz=157,slow=4.9,SNR=3.3						
TXAR				PKPab	**PKPab**	**11 57 10.3**	**+0.6**
	0.2nm,0.7s,baz=121,slow=0.5,SNR=2.8						

*IDC **19** 11:36:09.2±1.0, 6°.78N×125°.98E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/25, mbtmp3.7/6, Error ellipse: s-maj=62.6km s-min=19.7km az=76.0*

*ISCJB **19** 11:36:17.6±0.6, 6°.49N±0°.06×125°.96E±0°.06, h68km±7km, mb3.6/6, Error ellipse: s-maj=10.4km s-min=8.5km az=44.5*

*MAN **19** 11:36:20.6, 7°.71N×125°.95E, h28km, mb4.8, ML3.7, MS3.7*

ISC 19 11:36:18.1±1.0, 6°.48N±0°.07×125°.96E±0°.06, h63km±9km, n15, σ1°32/20, mb3.6/6, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.55**	**33**	*e*P	**Pn**	**11 36 30.4**	**-0.4**
MATI				*e*S	**Sn**	**11 36 39.2**	**-0.8**
DMPH	**Davao City--Mi**	**0.75**	**323**	*e*P	**Pn**	**11 36 34.0**	**+0.9**
DMPH				*e*S	**Sn**	**11 36 44.2**	**+0.1**
KCP	**Kidapawan**	**1.01**	**301**	*i*P	**Pn**	**11 36 36.4**	**0.0**
KCP				*i*S	**Sn**	**11 36 51.5**	**+1.4**
GSPH	**General Santos**	**1.08**	**249**	*i*P	**Pn**	**11 36 36.8**	**-0.6**
GSPH				*e*S	**Sn**	**11 36 50.7**	**-1.1**
BUKP	**Musuan**	**1.65**	**327**	*e*P	**Pn**	**11 36 45.6**	**+0.7**
BIPH	**Bislig**	**1.74**	**13**	*e*P	Pn	11 37 00.4	+14
BIPH				*e*S	**Sn**	**11 37 08.8**	**+1.6**
CGP	**Cagayan de Oro**	**2.33**	**327**	*e*P	**Pn**	**11 36 54.5**	**+0.4**
CGP				*e*S	**Sn**	**11 37 20.1**	**-1.4**
PAGZ	**Pagadian**	**2.90**	**298**	*e*P	**Pn**	**11 37 03.0**	**+1.2**
FITZ	**Fitzroy Crossi**	**24.43**	**181**	P	**P**	**11 41 32.8**	**+1.8**
	0.5nm,0.4s,baz=358,slow=9.8,SNR=8.5						
WRA	**Warramunga Arr**	**27.52**	**163**	P	**P**	**11 42 00.7**	**+1.8**
	0.8nm,0.7s,baz=344,slow=9.9,SNR=12						
ASAR	**Alice Springs**	**30.95**	**166**	P	**P**	**11 42 29.9**	**+0.5**
	0.6nm,0.5s,baz=337,slow=7.0,SNR=20						
STKA	**Stephens Creek**	**40.96**	**160**	P	**P**	**11 43 56.4**	**+1.6**
	1.8nm,0.7s,baz=1.0,slow=10.0,SNR=5.3						
MKAR	**Makanchi Array**	**54.88**	**325**	P	**P**	**11 45 40.7**	**-1.5**
	0.4nm,0.6s,baz=124,slow=8.5,SNR=6.0						
ILAR	**Eielson Array**	**82.96**	**26**	P	**P**	**11 48 34.5**	**-1.5**
	0.5nm,0.7s,baz=246,slow=4.5,SNR=11						
TORD	**Torodi Ar. Bea**	**121.31**	**290**	PKP	**PKPdf**	**11 55 03.6**	**-1.5**
	0.5nm,0.9s,baz=131,slow=4.0,SNR=3.8						

*ISCJB **19** 11:54:42.9±0.4, 59°.80N±0°.02×23°.25E±0°.05, h0km, Error ellipse: s-maj=3.8km s-min=3.3km az=137.0*

*IDC **19** 11:54:44.8±1.9, 59°.78N×23°.34E, h0km, mb1 3.0/4, mb1mx2.9/28, mbtmp2.9/4, ML2.6/4, Error ellipse: s-maj=25.1km s-min=9.2km az=154.0*

*HEL **19** 11:54:44.4±0.1, 59°.76N×23°.26E, h0km, ML2.0, ML1.8(UPP), Explosion*

*UPP **19** 11:54:45.8, 59°.75N×23°.12E, h0km, ML1.8, Suspected Mining explosion.*

*CSEM **19** 11:54:45.0±0.3, 59°.86N×23°.29E, h2km, ML2.2, Error ellipse: s-maj=6.9km s-min=5.0km az=153.0, Mining explosion.*

ISC 19 11:54:43.1±0.8, 59°.78N±0°.03×23°.22E±0°.02, h0km, n50, σ1°26/76, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.73**	**53**	*e*P	**Pg**	**11 54 57.4**	**+0.3**
MEF				*e*S	**Sg**	**11 55 06.7**	**0.0**
MEF	**Metsahovi**	**0.73**	**53**	P	**Pg**	**11 54 57.4**	**+0.3**
MEF				S	**Sg**	**11 55 06.6**	**0.0**
MTSE	**Matsula**	**1.11**	**164**	*e*P	**Pg**	**11 55 03.4**	**-1.0**
MTSE				*e*S	**Sg**	**11 55 17.7**	**-1.0**
RAF	**Rauma**	**1.44**	**330**	*e*P	**Pn**	**11 55 10.1**	**-0.3**
RAF				*e*S	**Sg**	**11 55 28.7**	**-0.7**
RAF	**Rauma**	**1.44**	**330**	*e*P	**Pg**	**11 55 10.6**	**-0.1**
	SNR=50						
RAF				*e*S	**Sn**	**11 55 29.7**	**-0.3**
	28nm,0.2s,SNR=50						
PVF	**Pernaja**	**1.53**	**59**	*e*P	**Pn**	**11 55 11.7**	**+0.1**
PVF				*e*S	**Sg**	**11 55 30.8**	**-1.3**
PVF	**Pernaja**	**1.53**	**59**	P	**Pn**	**11 55 11.6**	**+0.1**
PVF				S	**Sg**	**11 55 30.7**	**-1.3**
FIA0	**FINESS Array S**	**2.18**	**39**	*e*P	**Pb**	**11 55 22.8**	**-0.7**
FIA0				*e*S	**Sb**	**11 55 50.6**	**-0.3**
FIA0	**FINESS Array S**	**2.18**	**39**	P	**Pb**	**11 55 22.7**	**-0.7**
FINES	**FINESS Array B**	**2.18**	**39**	Pn	**Pb**	**11 55 22.7**	**-0.7**
	2.2nm,0.3s,baz=220,slow=16,SNR=65						
FINES				Sn	**Sb**	**11 55 50.5**	**-0.4**
	3.9nm,0.3s,baz=221,slow=27,SNR=37						
SLIT	**Slitere, Latvi**	**2.21**	**193**	*e*P	**Pb**	**11 55 23.6**	**-0.3**
	SNR=50						
VSU	**Vasula**	**2.24**	**125**	*e*P	**Pn**	**11 55 22.7**	**+1.3**
VSU				*e*S	**Sn**	**11 55 49.8**	**+0.1**
VSU	**Vasula**	**2.24**	**125**	*e*P	**Pb**	**11 55 23.9**	**-0.5**
	SNR=50						
VSU				S	**Sn**	**11 55 49.8**	**+0.1**
VJF	**Virojoki**	**2.30**	**69**	*e*P	**Pn**	**11 55 22.5**	**+0.4**
VJF				*e*S	**Sn**	**11 55 52.6**	**+1.6**
VJF	**Virojoki**	**2.30**	**69**	P	**Pn**	**11 55 22.5**	**+0.4**
VJF				S	**Sn**	**11 55 52.6**	**+1.6**
KEF	**Keuruu**	**2.53**	**18**	*e*PG	**Pb**	**11 55 29.2**	**-0.1**
KEF				*e*SB	**Sb**	**11 56 00.8**	**0.0**
KEF				MSG		11 56 03.4	
	comp=Z,8.3nm,0.3s						
KEF	**Keuruu**	**2.53**	**18**	Pg	**Pb**	**11 55 29.1**	**-0.1**
KEF				Sb	**Sb**	**11 56 00.8**	**0.0**
FORU	**Forsmark**	**2.60**	**286**	*e*P	**Pb**	**11 55 29.7**	**-0.8**
FORU	**Forsmark**	**2.60**	**286**	P	**Pb**	**11 55 29.6**	**-0.8**
FLYU	**Flymyra**	**2.71**	**280**	*e*P	**Pn**	**11 55 29.4**	**+1.6**
FLYU	**Flymyra**	**2.71**	**280**	P	**Pn**	**11 55 29.4**	**+1.6**
NYNU	**Nynaeshamn**	**2.78**	**256**	*e*P	**Pn**	**11 55 30.9**	**+2.1**
NYNU	**Nynaeshamn**	**2.78**	**256**	P	**Pn**	**11 55 30.8**	**+2.1**
KAF	**Kangasniemi**	**2.78**	**31**	*e*PB	**Pb**	**11 55 32.1**	**-1.5**
KAF				*e*SB	**Sb**	**11 56 08.2**	**0.0**
KAF				MSG		11 56 10.0	
	comp=Z,2.9nm

SPSI	**Sidrap Palu**	**10.63**	**204**	P		**P**	**12 07 50.3**	**-0.5**
	137nm,0.7s,1µm							
BNSI	**Bone**	**10.90**	**201**	P		**P**	**12 07 55.1**	**+1.5**
	209nm,0.8s,2µm							
KAPI	**Kappang**	**11.60**	**202**	P		**P**	**12 08 01.0**	**+0.2**
KAPI	**Kappang**	**11.60**	**202**	P		**P**	**12 07 59.9**	**-0.9**
	1.6nm,0.3s,baz=341,slow=8.5,SNR=5.0							
BKSI	**Bulukumba**	**11.76**	**200**	P		**P**	**12 08 04.0**	**+1.6**
SOEI	**Soe**	**15.49**	**179**	P		**P**	**12 08 39.9**	**-1.1**
	baz=15,SNR=3.2							
BATI	**Baumata**	**15.94**	**181**	P		**P**	**12 08 44.0**	**-1.4**
	5.3nm,0.3s,baz=27,slow=0.9,SNR=5.9							
KDU	**Kakadu**	**20.22**	**156**	P		**P**	**12 09 23.9**	**-0.5**
	baz=20,SNR=7.2							
LEM	**Lembang**	**20.67**	**233**	P		P	12 09 19.2	-10
	baz=20,SNR=3.4							
KNRA	**Kununurra**	**21.88**	**168**	P		**P**	**12 09 42.4**	**+2.9**
	baz=22,SNR=8.5							
FITZ	**Fitzroy Crossi**	**23.84**	**176**	P		**P**	**12 09 56.4**	**-0.5**
	baz=24,SNR=6.9							
FITZ	**Fitzroy Crossi**	**23.84**	**176**	P		**P**	**12 09 56.1**	**-0.8**
	1.8nm,0.6s,baz=353,slow=10,SNR=12							
XMIS	**Christmas Isla**	**24.46**	**229**	P		**P**	**12 10 04.6**	**+2.1**
	baz=24,SNR=4.7							
CMAR	**Chiang Mai Arr**	**27.51**	**299**	P		**P**	**12 10 29.9**	**+0.5**
	2.0nm,0.8s,baz=114,slow=7.3,SNR=8.4							
WRA	**Warramunga Arr**	**27.54**	**159**	P		**P**	**12 10 28.9**	**-0.7**
	2.5nm,0.5s,baz=342,slow=9.2,SNR=51							
WRA				PcP		**PcP**	**12 13 30.1**	**+0.5**
	0.8nm,0.9s,baz=333,slow=2.8,SNR=3.8							
WRA				ScP		**ScP**	**12 16 20.1**	**+1.7**
	0.9nm,0.5s,baz=340,slow=3.0,SNR=12							
ASAR	**Alice Springs**	**30.86**	**162**	P		**P**	**12 10 58.5**	**+0.2**
	3.0nm,0.5s,baz=342,slow=7.0,SNR=138							
ASAR				PcP		**PcP**	**12 13 38.8**	**+0.7**
	0.6nm,0.4s,baz=344,slow=2.6,SNR=11							
ASAR				S		**S**	**12 15 22.3**	**-1.6**
	0.5nm,0.9s,baz=345,slow=16,SNR=5.4							
ASAR				ScP		**ScP**	**12 16 31.1**	**+2.0**
	0.6nm,0.6s,baz=340,slow=3.3,SNR=6.9							
MEEK	**Meekatharra**	**32.71**	**189**	P		**P**	**12 11 13.5**	**-0.5**
	baz=33,SNR=5.4							
MORW	**Morawa**	**35.55**	**192**	P		**P**	**12 11 37.4**	**-0.3**
	baz=35,SNR=5.9							
STKA	**Stephens Creek**	**41.06**	**157**	P		**P**	**12 12 23.1**	**+0.7**
	1.2nm,0.5s,baz=333,slow=14,SNR=4.2							
STKA				PcP		**PcP**	**12 14 08.0**	**-0.9**
	0.9nm,0.7s,baz=16,slow=7.4,SNR=3.2							
SONM	**Songino Array**	**44.49**	**343**	P		**P**	**12 12 49.8**	**+0.7**
	1.5nm,0.7s,baz=159,slow=7.9,SNR=9.1							
SONM				PcP		**PcP**	**12 14 20.1**	**-0.4**
	0.7nm,0.7s,baz=143,slow=4.1,SNR=4.3							
MKAR	**Makanchi Array**	**54.32**	**326**	P		**P**	**12 14 02.1**	**+0.8**
	4.2nm,0.4s,baz=119,slow=7.8,SNR=60							
MKAR				PcP		**PcP**	**12 14 57.0**	**+0.2**
	1.2nm,0.5s,baz=118,slow=4.6,SNR=8.2							
ZALV	**Zalesovo Beam**	**57.52**	**334**	P		**P**	**12 14 22.2**	**-1.1**
	1.2nm,0.4s,baz=137,slow=6.1,SNR=5.7							
ZALV				PcP		**PcP**	**12 15 08.1**	**-1.1**
	0.4nm,0.4s,baz=72,slow=1.8,SNR=2.1							
BVAR	**Borovoye Array**	**64.11**	**327**	P		**P**	**12 15 07.0**	**+0.3**
	0.9nm,0.4s,baz=145,slow=10,SNR=5.3							
AKTO	**Aktyubinsk**	**70.36**	**322**	P		**P**	**12 15 44.1**	**-1.0**
	4.1nm,0.4s,baz=100,slow=8.8,SNR=20							
QRN	**Al-Qurain**	**75.06**	**298**	*eP*		**P**	**12 16 12.1**	**-0.5**
QRN				AMb		AMB	12 16 12.7	
	comp=Z,34nm,0.4s							
RDF	**Al-Radifah**	**75.39**	**298**	*eP*		**P**	**12 16 13.7**	**-0.7**
RDF				AMb		AMB	12 16 15.6	
	comp=Z,23nm,1.3s							
NAY	**Al-Naaiem**	**75.67**	**299**	*eP*		**P**	**12 16 15.2**	**-0.7**
NAY				AMb		AMB	12 16 15.9	
	comp=Z,9.7nm,0.9s							
RST	**Umm Al-Ruwaisa**	**75.89**	**299**	*eP*		**P**	**12 16 16.3**	**-0.8**
RST				AMb		AMB	12 16 17.3	
	comp=Z,98nm,0.8s							
ILAR	**Eielson Array**	**84.36**	**26**	P		**P**	**12 17 00.5**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=239,slow=5.3,SNR=7.7							
ASF	**Jabal al Asfar**	**84.52**	**302**	P		**P**	**12 17 03.2**	**+1.0**
	comp=Z,2.3nm,0.6s,baz=33,slow=4.2,SNR=3.8							
VNDA	**Vanda**	**85.85**	**172**	P		**P**	**12 17 08.0**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=321,slow=7.1,SNR=5.0							
BRTR	**Keskin Array B**	**86.63**	**309**	P		**P**	**12 17 11.2**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=101,slow=6.4,SNR=5.3							
ARCES	**ARCESS Array B**	**87.56**	**340**	P		**P**	**12 17 15.6**	**-0.2**
	comp=Z,6.0nm,1.0s,baz=60,slow=5.8,SNR=4.0							
FINES	**FINESS Array B**	**88.72**	**332**	P		**P**	**12 17 20.6**	**-0.7**
	comp=Z,4.0nm,1.0s,baz=57,slow=5.1,SNR=6.5							
TORD	**Torodi Ar. Bea**	**119.72**	**289**	PKP		**PKPdf**	**12 23 15.1**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=75,slow=1.5,SNR=6.4							
TXAR	**Lajitas Array**	**122.36**	**50**	PKP		**PKPdf**	**12 23 21.0**	**+0.9**
	comp=Z,0.1nm,0.7s,baz=123,slow=3.3,SNR=2.6							

*PRE **19** 12:06:12.9±4.1,21°.28S×33°.43E,h10km,ML5.4*
*ISCJB **19** 12:06:16.5±0.5,21°.34S±0°.04×32°.93E±0°.04,h15km, mb3.9/6,Error ellipse: s-maj=7.0km s-min=5.2km az=144.6*
*IDC **19** 12:06:16.7±0.9,21°.40S×33°.10E,h0km,mb3.8/5, mb1 4.2/11,mb1mx3.9/29,mbtmp4.1/11,ML4.1/4,MS3.4/2, Ms1 3.3/2,ms1mx2.9/31,Error ellipse: s-maj=26.2km s-min=20.3km az=55.0*
*NEIC **19** 12:06:18.0±0.5,21°.33S×33°.09E,h10km,mb4.3/1,Error ellipse: s-maj=9.8km s-min=7.1km az=138.0*
ISC 19 12:06:18.0±0.5,**21°.37S**±0°.05×**32°.97E**±0°.04,**h15**km,**n58,**
σ2§51/93,mb4.0/6,Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**2.91**	**250**	*eP*	**Pb**	**12 07 08.8**	**-0.8**
MSNA				*eS*	**Sb**	**12 07 47.2**	**+2.1**
MSNA				AML	AML	12 07 59.3	
	comp=Z,589nm,0.6s						
MSNA	**Messina**	**2.91**	**250**	P	**Pb**	**12 07 08.8**	**-0.8**
MSNA				S	**Sb**	**12 07 47.2**	**+2.1**
SLR	**Silverton**	**6.12**	**224**	*eP*	Pn	12 07 51.7	+3.7
SLR				*eS*	**Sn**	**12 09 02.2**	**+4.3**
SLR				AML	AML	12 09 46.3	
	comp=Z,213nm,0.7s						
SLR	**Silverton**	**6.12**	**224**	P	Pn	12 07 51.7	+3.7
SLR				S	**Sn**	**12 09 02.2**	**+4.3**
LSZ	**Lusaka**	**7.57**	**322**	*eP*	**Pn**	**12 08 08.1**	**+0.1**
LSZ				*eS*	**Sn**	**12 09 30.1**	**-3.6**
LSZ	**Lusaka**	**7.57**	**322**	Pn	**Pn**	**12 08 08.2**	**+0.2**
LSZ				S	**Sn**	**12 09 30.1**	**-3.6**
LSZ				Sn	**Sn**	**12 09 31.1**	**-2.6**
LSZ				Lg	Lg	12 10 14.6	
LSZ	**Lusaka**	**7.57**	**322**	Pn	**Pn**	**12 08 08.2**	**+0.2**
	comp=Z,3.4nm,0.3s,baz=139,slow=13,SNR=31						
LSZ				Sn	**Sn**	**12 09 31.1**	**-2.6**
	comp=Z,9.3nm,0.3s,baz=74,slow=12,SNR=8.2						
LSZ				Lg	Lg	12 10 14.6	
	comp=Z,12nm,0.3s,baz=47,slow=19,SNR=22						
LBTB	**Lobatse**	**7.70**	**240**	*eP*	**Pn**	**12 08 12.0**	**+2.4**
LBTB				*eS*	**Sn**	**12 09 39.1**	**+2.5**
LBTB				AML	AML	12 10 39.4	
	comp=Z,110nm,0.6s						
LBTB	**Lobatse**	**7.70**	**240**	P	**Pn**	**12 08 12.0**	**+2.4**
LBTB				Sn	**Sn**	**12 09 38.8**	**+2.2**
LBTB				S	**Sn**	**12 09 39.1**	**+2.5**
LBTB				Lg	Lg	12 10 17.0	
LBTB	**Lobatse**	**7.70**	**240**	Pn	**Pn**	**12 08 12.5**	**+2.9**
	comp=Z,1.8nm,0.3s,baz=65,slow=14,SNR=18						
LBTB				Sn	**Sn**	**12 09 38.8**	**+2.2**
	comp=Z,5.0nm,0.3s,baz=342,slow=3.9,SNR=6.5						
LBTB				Lg	Lg	12 10 17.0	
	comp=Z,7.7nm,0.3s,baz=143,slow=22,SNR=8.0						
SEK	**Senekal**	**8.46**	**214**	*eP*	**Pn**	**12 08 20.8**	**+0.7**
SEK				*eS*	**Sn**	**12 09 54.8**	**-0.7**
SEK				AML	AML	12 10 58.8	
	comp=Z,89nm,0.6s						
SEK	**Senekal**	**8.46**	**214**	P	**Pn**	**12 08 20.8**	**+0.7**
SEK				S	**Sn**	**12 09 54.8**	**-0.7**
SWZ	**Schweizer**	**9.06**	**229**	*eP*	**Pn**	**12 08 30.3**	**+1.9**
SWZ				*eS*	**Sn**	**12 10 11.6**	**+1.3**
SWZ				AML	AML	12 11 15.5	
	comp=Z,85nm,0.7s						
SWZ	**Schweizer**	**9.06**	**229**	P	**Pn**	**12 08 30.3**	**+1.9**
SWZ				S	**Sn**	**12 10 11.6**	**+1.3**
KSD	**Kokstad**	**9.68**	**199**	*eP*	**Pn**	**12 08 38.6**	**+1.7**
KSD				*eS*	**Sn**	**12 10 23.8**	**-1.7**
KSD				AML	AML	12 11 34.0	
	comp=Z,52nm,0.7s						
KSD	**Kokstad**	**9.68**	**199**	P	**Pn**	**12 08 38.6**	**+1.7**
KSD				S	**Sn**	**12 10 23.8**	**-1.7**

BOSA	**Boshof**	**10.05**	**223**	*eP*		**Pn**	**12 08 43.1**	**+1.1**
BOSA				*eS*		**Sn**	**12 10 31.3**	**-3.2**
BOSA				AML	AML		12 11 46.3	
	comp=Z,41nm,0.7s							
BOSA	**Boshof**	**10.05**	**223**	P		**Pn**	**12 08 43.1**	**+1.1**
BOSA				S		**Sn**	**12 10 31.3**	**-3.2**
BOSA				Sn		Sn	12 10 32.0	-2.7
BOSA				Lg		Lg	12 11 31.7	
BOSA	**Boshof**	**10.05**	**223**	Pn		**Pn**	**12 08 42.8**	**+0.8**
	comp=Z,1.8nm,0.3s,baz=49,slow=14,SNR=16							
BOSA				Sn		**Sn**	**12 10 32.0**	**-2.6**
	comp=Z,1.5nm,0.3s,baz=337,slow=14,SNR=6.8							
BOSA				Lg		Lg	12 11 31.7	
	comp=Z,2.3nm,0.3s,baz=325,slow=18,SNR=4.5							
BOSA				LR		LR	12 12 54.5	
	comp=Z,144nm,18.5s,baz=180,slow=39							
HVD	**Gariep Dam**	**11.39**	**215**	*eP*		**Pn**	**12 09 01.0**	**+0.7**
HVD				*eS*		**Sn**	**12 11 02.2**	**-5.3**
HVD				AML	AML		12 12 26.0	
	comp=Z,29nm,0.8s							
HVD	**Gariep Dam**	**11.39**	**215**	P		**Pn**	**12 09 01.0**	**+0.7**
HVD				S		**Sn**	**12 11 02.2**	**-5.3**
PKA	**Prieska**	**12.38**	**226**	*eP*		**Pn**	**12 09 13.2**	**-0.6**
PKA				*eS*		**Sn**	**12 11 26.7**	**-5.0**
PKA				AML	AML		12 13 08.9	
	comp=Z,9.8nm,0.7s							
PKA	**Prieska**	**12.38**	**226**	P		**Pn**	**12 09 13.2**	**-0.6**
PKA				S		**Sn**	**12 11 26.7**	**-5.0**
RUDU	**RUNDU**	**12.95**	**283**	*eS*		**Sn**	**12 11 43.9**	**-1.8**
RUDU				AML	AML		12 13 46.0	
	comp=Z,29nm,0.7s							
GRM	**Grahamstown**	**13.21**	**204**	*eP*		**Pn**	**12 09 27.7**	**+2.6**
GRM				*eS*		Sn	12 11 45.5	-6.3
GRM				AML	AML		12 13 34.1	
	comp=Z,13nm,0.7s							
GRM	**Grahamstown**	**13.21**	**204**	P		**Pn**	**12 09 27.7**	**+2.6**
GRM				S		Sn	12 11 45.5	-6.3
ABPO	**Ambohimpanom**	**13.59**	**83**	*e*Pn		**Pn**	**12 09 29.0**	**-1.4**
OPO	**Ambohidratompo**	**13.65**	**81**	Pn		**Pn**	**12 09 30.3**	**-1.0**
OPO				Sn		Sn	12 11 46.2	-17
OPO	**Ambohidratompo**	**13.65**	**81**	Pn		**Pn**	**12 09 30.3**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=266,slow=16,SNR=3.7							
OPO				Sn		Sn	12 11 46.2	-17
	comp=Z,0.6nm,0.3s,baz=144,slow=19,SNR=3.3							
TSUM	**Tsumeb**	**14.60**	**276**	*eP*		**Pn**	**12 09 44.6**	**+0.3**
TSUM				*eS*		**Sn**	**12 12 24.4**	**-1.6**
TSUM	**Tsumeb**	**14.60**	**276**	P		**Pn**	**12 09 44.6**	**+0.3**
TSUM				Sn		**Sn**	**12 12 24.8**	**-2.2**
TSUM				S		**Sn**	**12 12 24.4**	**-1.6**
TSUM				Lg		Lg	12 13 59.3	
TSUM	**Tsumeb**	**14.60**	**276**	Pn		**Pn**	**12 09 44.7**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=95,slow=12,SNR=15							
TSUM				Sn		**Sn**	**12 12 23.8**	**-2.2**
	comp=Z,0.7nm,0.3s,baz=84,slow=23,SNR=6.3							
TSUM				Lg		Lg	12 13 59.3	
	comp=Z,1.5nm,0.3s,baz=297,slow=7.2,SNR=6.2							
WIN	**Windhoek**	**14.78**	**262**	*eP*		**Pn**	**12 09 48.1**	**+1.4**
WIN				*eS*		**Sn**	**12 12 29.0**	**-1.4**
WIN				AML	AML		12 14 20.0	
	comp=Z,7.2nm,0.7s							
WIN	**Windhoek**	**14.78**	**262**	P		**Pn**	**12 09 48.1**	**+1.4**
WIN				S		**Sn**	**12 12 29.0**	**-1.4**
SUR	**Sutherland**	**15.41**	**222**	*eP*		**P**	**12 09 57.5**	**-2.2**
SUR				*eS*		**Sn**	**12 12 41.2**	**-4.6**
SUR				AML	AML		12 14 54.4	
	comp=Z,11nm,0.7s							
SUR	**Sutherland**	**15.41**	**222**	P		**P**	**12 09 57.5**	**-2.2**
SUR				Sn		**Sn**	**12 12 39.8**	**-6.0**
SUR				S		**Sn**	**12 12 41.2**	**-4.6**
SUR				Lg		Lg	12 14 18.8	
SUR	**Sutherland**	**15.41**	**222**	Pn		**Pn**	**12 09 54.7**	**-0.5**
	comp=Z,1.2nm,0.3s,baz=64,slow=14,SNR=9.3							
SUR				Sn		**Sn**	**12 12 39.8**	**-6.0**
	comp=Z,0.8nm,0.3s,baz=338,slow=16,SNR=4.0							
SUR				Lg		Lg	12 14 18.8	
	comp=Z,0.5nm,0.3s,baz=330,slow=20,SNR=4.0							
SUR				LR		LR	12 16 01.4	
	comp=Z,172nm,18.8s,baz=350,slow=38							
CVNA	**Calvinia**	**15.53**	**227**	*eP*		**Pn**	**12 09 58.5**	**+1.9**
CVNA				*eS*		**Sn**	**12 12 43.4**	**-5.1**
CVNA				AML	AML		12 14 35.7	
	comp=Z,36nm,0.7s							
CVNA	**Calvinia**	**15.53**	**227**	P		**Pn**	**12 09 58.5**	**+1.9**
CVNA				S		**Sn**	**12 12 43.4**	**-5.1**
KOMG	**Komaggas**	**16.29**	**236**	*eS*		**Sn**	**12 13 05.4**	**-1.4**
KOMG				AML	AML		12 15 06.3	
	comp=Z,19nm,0.7s							
CER	**Ceres**	**17.02**	**223**	*eP*		**P**	**12 10 19.5**	**+2.1**
CER				*eS*		**Sn**	**12 13 22.8**	**-1.7**
CER				AML	AML		12 15 31.6	
	comp=Z,20nm,0.7s							
CER	**Ceres**	**17.02**	**223**	P		**P**	**12 10 19.5**	**+2.1**
CER				S		**Sn**	**12 13 22.8**	**-1.7**
KMBO	**Kilima Mbogo**	**20.55**	**12**	Lg		Lg	12 16 57.1	
	comp=Z,2.1nm,0.8s,baz=79,slow=21,SNR=3.6							
MBAR	**Mbarara**	**20.75**	**354**	*eP*		**P**	**12 10 58.9**	**+0.4**
MBAR	**Mbarara**	**20.75**	**354**	Lg		Lg	12 17 02.9	
	comp=Z,4.1nm,0.7s,baz=230,slow=22,SNR=3.8							
TORD	**Torodi Ar. Bea**	**46.04**	**315**	P		**P**	**12 14 43.2**	**+1.9**
TORD	**Torodi Ar. Bea**	**46.04**	**315**	P		**P**	**12 14 43.2**	**+1.9**
	comp=Z,1.7nm,0.8s,baz=127,slow=6.9,SNR=13							
MAW	**Mawson**	**49.89**	**166**	P		**P**	**12 15 11.2**	**+0.7**
MAW	**Mawson**	**49.89**	**166**	P		**P**	**12 15 11.2**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=314,slow=9.6,SNR=4.2							
ESDC	**Sonseca Array**	**69.84**	**330**	P		**P**	**12 17 30.3**	**+2.2**
ESDC	**Sonseca Array**	**69.84**	**330**	P		**P**	**12 17 30.3**	**+2.2**
	comp=Z,0.2nm,0.4s,baz=132,slow=6.2,SNR=4.0							
VNDA	**Vanda**	**76.92**	**170**	P		**P**	**12 18 10.7**	**+1.4**
VNDA	**Vanda**	**76.92**	**170**	P		**P**	**12 18 10.7**	**+1.4**
	comp=Z,1.0nm,1.0s,baz=227,slow=5.3,SNR=3.4							
SBA	**Scott Base**	**77.44**	**171**	*eP*		**P**	**12 18 13.9**	**+1.7**
	comp=Z,1.7nm,0.6s							
ASAR	**Alice Springs**	**91.00**	**116**	P		**P**	**12 19 21.9**	**-0.4**
ASAR	**Alice Springs**	**91.00**	**116**	P		**P**	**12 19 21.9**	**-0.4**
	comp=Z,0.9nm,0.9s,baz=243,slow=3.7,SNR=7.4							
NVAR	**Mina Array Bea**	**150.02**	**311**	PKPbc		**PKPbc**	**12 26 10.3**	**+1.8**
NVAR	**Mina Array Bea**	**150.02**	**311**	PKPbc		**PKPbc**	**12 26 10.3**	**+1.8**
	comp=Z,0.8nm,0.7s,baz=51,slow=3.6,SNR=5.4							

*IDC **19** 12:14:32.6±0.7,8°.77N×126°.27E,h0km,mb3.9/12, mb1 4.0/12,mb1mx3.9/25,mbtmp3.9/12,Error ellipse: s-maj=30.8km s-min=14.4km az=83.0*
*ISCJB **19** 12:14:38.3±0.5,8°.77N±0°.05×126°.41E±0°.05,h53km, mb3.8/12,Error ellipse: s-maj=7.5km s-min=5.9km az=37.3*
*MAN **19** 12:14:41,8°.76N×126°.20E,h22km,mb4.6,ML3.4,MS3.4*
ISC 19 12:14:39.8±0.6,**8.75N**±0°.05×**126°.36E**±0°.07,**h53**km,**n29,**
σ1§13/27,mb3.8/12,1C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.57**	**180**	*eP*	**Pn**	**12 14 51.0**	**-1.0**
BIPH				*eS*	**Sn**	**12 14 59.2**	**-1.7**
BUTP	**Butuan**	**0.76**	**286**	*eP*	**Pn**	**12 14 53.4**	**-1.0**
BUTP				*eS*	**Sn**	**12 15 04.2**	**-0.9**
SCPH	**Surigao**	**1.33**	**320**	*eP*	**Pn**	**12 15 02.0**	**-0.1**
BUKP	**Musuan**	**1.55**	**236**	*eP*	**Pn**	**12 15 06.1**	**+1.0**
CGP	**Cagayan de Oro**	**1.67**	**260**	*i*P	**Pn**	**12 15 06.5**	**-0.2**
CGP				*i* S	**Sn**	**12 15 26.7**	**-0.4**
MATI	**Mati**	**1.80**	**183**	*eP*	**Pn**	**12 15 10.5**	**+2.0**
TBP	**Tagbilaran**	**2.63**	**291**	*eP*	**Pn**	**12 15 20.9**	**+1.0**
PAGZ	**Pagadian**	**3.08**	**253**	*eP*	**Pn**	**12 15 27.3**	**+1.3**
SNPH	**Sibulan**	**3.14**	**281**	*i* P	Pn	12 15 30.9	+4.1
SNPH				*i* S	**Sn**	**12 16 03.2**	**0.0**
RCP	**Roxas**	**4.52**	**308**	*eP*	**Pn**	**12 15 48.2**	**+2.5**
FITZ	**Fitzroy Crossi**	**26.69**	**182**	P	**P**	**12 20 14.2**	**0.0**
	1.8nm,1.0s,baz=0.4,slow=12,SNR=2.9						
CMAR	**Chiang Mai Arr**	**28.30**	**293**	P	**P**	**12 20 28.4**	**-0.3**
	0.4nm,0.4s,baz=117,slow=7.2,SNR=3.3						
WRA	**Warramunga Arr**	**29.58**	**165**	P	**P**	**12 20 39.3**	**-0.6**
	0.5nm,0.6s,baz=348,slow=9.5,SNR=6.2						
MJAR	**Matsushiro Arr**	**29.69**	**20**	P	**P**	**12 20 39.6**	**-1.1**
	0.9nm,0.7s,baz=191,slow=9.9,SNR=2.9						
ASAR	**Alice Springs**	**33.05**	**167**	P	**P**	**12 21 10.6**	**0.0**
	0.3nm,0.5s,baz=353,slow=7.6,SNR=8.8						
ASAR				PcP	**PcP**	**12 23 53.5**	**+0.3**
	0.4nm,0.6s,baz=354,slow=2.1,SNR=7.2						
USRK	**Ussuriysk Arra**	**35.65**	**7**	P	**P**	**12 21 33.2**	**+0.5**
	3.5nm,0.9s,baz=203,slow=6.3,SNR=6.2						
H11S3	**WAKE ISLAND Hy 40.29**	**72**		T	T	13 05 13.7	
	baz=263,slow=0.6,SNR=107						
H11S1	**WAKE ISLAND Hy 40.30**	**72**		T	T	13 05 09.8	
	baz=263,slow=0.6,SNR=126						
H11S2	**WAKE ISLAND Hy 40.30**	**72**		T	T	13 05 11.4	
	baz=263,slow=0.6,SNR=124						
H11N1	**WAKE ISLAND Hy 40.67**	**70**		T	T	13 05 54.2	
	baz=270,slow=0.7,SNR=29						
H11N2	**WAKE ISLAND Hy 40.67**	**70**		T	T	13 05 54.7	
	baz=270,slow=0.7,SNR=22						
H11N3	**WAKE ISLAND Hy 40.69**	**70**		T	T	13 05 54.0	
	baz=270,slow=0.7,SNR=32						
STKA	**Stephens Creek**	**42.95**	**161**	P	**P**	**12 22 34.5**	**+0.8**
	1.4nm,0.5s,baz=326,slow=7.9,SNR=5.6						
PETK	**Petropavlovsk-**	**50.98**	**24**	P	**P**	**12 23 37.9**	**+1.8**
	1.2nm,0.6s,baz=190,slow=7.2,SNR=2.6						
MKAR	**Makanchi Array**	**53.28**	**323**	P	**P**	**12 23 52.5**	**-0.9**
	0.8nm,0.6s,baz=117,slow=8.5,SNR=3.5						
ILAR	**Eielson Array**	**80.76**	**26**	P	**P**	**12 26 47.7**	**+0.3**
	0.2nm,0.6s,baz=257,slow=4.6,SNR=6.9						
FINES	**FINESS Array B**	**87.26**	**332**	P	**P**	**12 27 18.9**	**-1.5**
	2.8nm,0.9s,baz=108,slow=2.4,SNR=4.0						
VNDA	**Vanda**	**88.42**	**173**	P	**P**	**12 27 26.4**	**+0.7**
	0.6nm,0.6s,baz=295,slow=5.6,SNR=7.0						
TXAR	**Lajitas Array**	**118.74**	**50**	PKP	**PKPdf**	**12 33 21.9**	**-1.0**
	0.1nm,0.5s,baz=64,slow=2.1,SNR=4.3						

*ISCJB **19** 12:30:47.9±0.3,59°.60N±0°.03×153°.81W±0°.06, h142km±3km,mb3.4/1,Error ellipse: s-maj=5.4km s-min=3.7km az=31.0*
*NEIC **19** 12:30:49.8,59°.63N×153°.85W,h137km,MG3.1(AEIC), After AEIC.*
*IDC **19** 12:30:55.2±6.4,60°.29N×153°.84W,h166km±61km,mb3.1/1, mb1 3.3/5,mb1mx3.0/29,mbtmp3.1/5,Error ellipse: s-maj=57.7km s-min=27.4km az=31.0*
ISC 19 12:30:48.6±0.8,**59°.60N**±0°.04×**153°.81W**±0°.04,
h142km±6km,**n92,σ0§91/109,Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.30**	**79**	P	**Pn**	**12 31 08.7**	**+0.4**
OPT				S	**Sn**	**12 31 22.2**	**-1.0**
AUI	**Augustine Isla**	**0.33**	**144**	P	**Pn**	**12 31 08.6**	**+0.3**
AUI				S	**Sn**	**12 31 23.5**	**+0.3**
MCNL	**McNeil River**	**0.50**	**213**	P	**Pn**	**12 31 08.9**	**-0.2**
MCNL				S	**Sn**	**12 31 23.8**	**-0.8**
IVE	**Iliamna Volcan**	**0.58**	**43**	P	**Pn**	**12 31 09.8**	**+0.2**
RSO	**Redoubt South**	**1.01**	**31**	*e*Pn	**Pn**	**12 31 13.2**	**+0.3**
RSO				*e*Sn	**Sn**	**12 31 31.1**	**-0.5**
KAPH	**Katmai Pasha**	**1.04**	**196**	P	**Pn**	**12 31 13.4**	**+0.2**
KAPH				S	**Sn**	**12 31 31.3**	**-0.5**
NCT	**North Crescent**	**1.06**	**24**	P	**Pn**	**12 31 13.3**	**+0.1**
HOM	**Homer**	**1.10**	**86**	P	**Pn**	**12 31 14.2**	**+0.7**
HOM				S	**Sn**	**12 31 33.3**	**+0.8**
DFR	**Drift River**	**1.14**	**29**	P	**Pn**	**12 31 14.1**	**+0.1**
CNPM	**China Poot**	**1.31**	**92**	P	**Pn**	**12 31 15.9**	**+0.3**
CNPM				S	**Sn**	**12 31 36.0**	**-0.2**
KAKN	**Katmai Knife C**	**1.46**	**207**	P	**Pn**	**12 31 17.4**	**+0.1**
KAKN				S	**Sn**	**12 31 38.4**	**-0.6**
BRLK	**Bradley Lake**	**1.49**	**82**	P	**Pn**	**12 31 17.4**	**-0.1**
BRLK				S	**Sn**	**12 31 38.5**	**-1.1**
KELA	**Mount Kelaz**	**1.54**	**222**	P	**Pn**	**12 31 17.9**	**-0.2**
KABR	**Katmai Barrier**	**1.59**	**203**	P	**Pn**	**12 31 18.6**	**0.0**
CAHL	**Cahill**	**

s-maj=427.4km s-min=136.1km az=128.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.51**	**168**	P	P	12 36 39.4	-0.1
	0.9nm,0.8s,baz=360,slow=12,SNR=3.2						
WRA	**Warramunga Arr**	**26.34**	**151**	P	P	12 37 26.4	-0.3
	0.4nm,0.5s,baz=332,slow=9.5,SNR=14						
ASAR	**Alice Springs**	**29.38**	**155**	P	P	12 37 54.1	+0.2
	0.3nm,0.5s,baz=342,slow=15,SNR=8.0						
STKA	**Stephens Creek**	**39.87**	**152**	P	P	12 39 24.5	+0.1
	0.7nm,0.7s,baz=354,slow=10,SNR=4.8						

IDC 19 12:33:39.8±4.2, 0.37S×16.16W, h0km, mb4.0/2, mb1 3.9/3, mb1mx3.5/26, mbtmp4.0/3, ML3.1/1, MS3.8/16, Ms1 3.9/16, ms1mx3.7/26, Error ellipse: s-maj=102.8km s-min=42.2km az=115.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**7.59**	**167**	T	T	12 43 06.0	
	baz=348,slow=0.7,SNR=22						
H10N3	**ASCENSION HYDR**	**7.61**	**167**	T	T	12 43 01.6	
	baz=348,slow=0.7,SNR=28						
H10N1	**ASCENSION HYDR**	**7.61**	**167**	T	T	12 43 07.7	
	baz=348,slow=0.7,SNR=29						
H10S1	**ASCENSION HYDR**	**8.65**	**170**	T	T	12 44 24.0	
	baz=350,slow=0.7,SNR=24						
H10S3	**ASCENSION HYDR**	**8.66**	**170**	T	T	12 44 23.2	
	baz=350,slow=0.7,SNR=22						
H10S2	**ASCENSION HYDR**	**8.67**	**170**	T	T	12 44 25.2	
	baz=350,slow=0.7,SNR=20						
DBIC	**Dimbokro**	**13.27**	**58**	Pn	Pn	12 36 48.9	-0.8
	0.1nm,0.3s,baz=222,slow=14,SNR=2.6						
DBIC				LR	LR	12 40 47.0	
	comp=Z,483nm,21.7s,baz=235,slow=32						
TORD	**Torodi Ar. Bea**	**22.22**	**52**	P	P	12 38 38.5	+0.3
	4.0nm,0.9s,baz=237,slow=10,SNR=14						
TORD				LR	LR	12 46 30.6	
	comp=Z,248nm,18.3s,baz=210,slow=35						
BDFB	**Brasilia**	**34.91**	**243**	LR	LR	12 53 03.8	
	comp=Z,168nm,18.5s,baz=24,slow=33						
ESDC	**Sonseca Array**	**41.38**	**14**	LR	LR	12 59 30.0	
	comp=Z,72nm,19.3s,baz=125,slow=38						
KEST	**Kesra**	**43.06**	**31**	LR	LR	13 01 02.9	
	comp=Z,85nm,18.0s,baz=270,slow=38						
CPUP	**Villa Florida**	**47.28**	**234**	LR	LR	12 59 10.7	
	comp=Z,134nm,19.5s,baz=48,slow=32						
BOSA	**Boshof**	**48.52**	**129**	P	P	12 42 25.0	-0.1
	1.9nm,0.6s,baz=270,slow=5.1,SNR=3.1						
BOSA				LR	LR	12 59 08.1	
	comp=Z,102nm,18.5s,baz=337,slow=32						
KMBO	**Kilima Mbogo**	**53.41**	**91**	LR	LR	13 04 18.3	
	comp=Z,229nm,19.4s,baz=85,slow=34						
LPAZ	**La Paz**	**53.60**	**250**	LR	LR	13 04 58.8	
	comp=Z,138nm,18.9s,baz=248,slow=35						
GERES	**GERESS Array B**	**55.38**	**24**	LR	LR	13 09 06.0	
	comp=Z,70nm,18.1s,baz=279,slow=38						
ROSC	**El Rosal**	**58.33**	**276**	LR	LR	13 05 39.8	
	comp=Z,101nm,21.1s,baz=164,slow=33						
BRTR	**Keskin Array B**	**60.41**	**43**	LR	LR	13 13 14.5	
	comp=Z,28nm,18.7s,baz=19,slow=39						
NOA	**NORSAR Array B**	**64.75**	**14**	LR	LR	13 15 35.6	
	comp=Z,46nm,19.1s,baz=180,slow=39						
FINES	**FINESS Array B**	**69.50**	**20**	LR	LR	13 18 01.8	
	comp=Z,134nm,18.7s,baz=213,slow=38						
TXAR	**Lajitas Array**	**88.00**	**299**	LR	LR	13 27 14.6	
	comp=Z,54nm,18.8s,baz=0.0,slow=36						
PDAR	**Pinedale Array**	**92.75**	**313**	LR	LR	13 22 06.8	
	comp=Z,76nm,18.3s,baz=326,slow=31						
ASAR	**Alice Springs**	**142.37**	**131**	PKhKP	PKPpre	12 53 10.9	
	0.3nm,0.7s,baz=217,slow=2.9,SNR=3.4						
WRA	**Warramunga Arr**	**144.75**	**127**	PKP	PKPbc	12 53 19.0	+0.4
	0.9nm,1.0s,baz=239,slow=2.7,SNR=4.4						

IDC 19 12:51:19.6±6.8, 19.77S×169.31E, h305km±22km, mb3.3/3, mb1 3.6/5, mb1mx3.2/18, mbtmp3.6/5, Error ellipse: s-maj=97.6km s-min=42.1km az=99.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.53**	**229**	P	Pn	12 52 21.3	+0.2
	9.8nm,0.3s,baz=158,slow=23,SNR=1191						
DZM				S	S	12 53 10.5	+0.2
	3.0nm,0.3s,baz=342,slow=20,SNR=3.3						
HNR	**Honiara**	**13.69**	**317**	P	P	12 54 22.0	-0.1
	8.8nm,0.3s,baz=104,slow=8.3,SNR=4.0						
STKA	**Stephens Creek**	**27.62**	**239**	P	P	12 56 40.1	+0.3
	2.2nm,0.8s,baz=94,slow=13,SNR=6.4						
WRA	**Warramunga Arr**	**32.86**	**264**	P	P	12 57 25.2	-0.5
	0.4nm,0.7s,baz=97,slow=8.1,SNR=15						
ASAR	**Alice Springs**	**33.07**	**257**	P	P	12 57 27.6	+0.1
	2.8nm,0.4s,baz=90,slow=7.5,SNR=139						

CSEM 19 12:58:46.4, 39.91N×33.11E, h16km, MD2.5, After DDA

DDA 19 12:58:46.4, 39.91N×33.11E, h16km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBAL	**Bala**	**0.36**	**178**	*i* P	Pg	12 58 54.2	+0.1
BBAL				*i* S	Sb	12 58 59.9	-0.4
BBAL	**Bala**	**0.36**	**178**	*i* P	Pg	12 58 54.2	+0.1
BBAL				*i* S	Sb	12 58 59.9	-0.4
ELDT	**Eldivan**	**0.63**	**23**	*i* P	Pg	12 58 58.7	-0.4
ELDT				*i* S	Sb	12 59 09.1	+0.9
ELDT	**Eldivan**	**0.63**	**23**	*i* P	Pg	12 58 58.7	-0.4
ELDT				*i* S	Sb	12 59 09.1	+0.9
CDAG	**Cicekdag**	**1.01**	**106**	*i* P	Pb	12 59 05.1	-0.8
CDAG	**Cicekdag**	**1.01**	**106**	*i* P	Pb	12 59 05.1	-0.7
CTKT	**Corum**	**1.47**	**60**	*i* P	Pb	12 59 14.1	+0.4
CTKT				*i* S	Sg	12 59 35.4	+0.9
CTKT	**Corum**	**1.47**	**60**	*i* P	Pb	12 59 14.1	+0.4
CTKT				*i* S	Sg	12 59 35.4	+1.0

IDC 19 12:59:45.2±1.1, 52.61N×167.03W, h0km, mb3.9/12, mb1 4.0/14, mb1mx3.9/30, mbtmp3.9/14, ML3.1/2, MS3.6/1, Ms1 3.6/1, ms1mx2.7/32, Error ellipse: s-maj=33.0km s-min=13.4km az=3.0

NEIC 19 12:59:46.6, 52.32N×166.73W, h15km, ML3.3(AEIC), After AEIC.

ISC 19 12:59:46.1±2.0, 52.50N±0.07×166.84W±0.05, h6km±11km, n56, σ1s02/56, mb4.0/14, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**1.12**	**325**	P	Pg	13 00 07.5	0.0
OKFG				S	Sn	13 00 24.7	+0.7
OKTU	**Okmok Mt. Tuli**	**1.15**	**321**	P	Pn	13 00 08.7	0.0
OKSP	**Okmok Steeple**	**1.16**	**311**	P	Pn	13 00 08.8	0.0
OKSP				S	Sn	13 00 25.6	+0.5
OKSO	**Okmok South**	**1.17**	**318**	P	Pg	13 00 08.6	+0.1
OKSO				S	Sb	13 00 24.4	+0.1
OKCE	**Okmok Cone E**	**1.23**	**320**	P	Pn	13 00 09.8	0.0
OKCE				S	Sn	13 00 29.4	+2.7
MGOD	**Makushin Gods**	**1.30**	**359**	P	Pn	13 00 10.7	-0.1
MGOD				S	Sn	13 00 29.1	+0.6
NIKH	**Nikolski High**	**1.31**	**292**	P	Pn	13 00 10.2	-0.8
MREP	**Makushin Rep't**	**1.31**	**2**	P	Pg	13 00 11.3	+0.1
MSOM	**Makushin Julie**	**1.32**	**357**	P	Pn	13 00 11.0	0.0
MSOM				S	Sn	13 00 29.6	+0.7
UNV	**Unalaska Valle**	**1.36**	**8**	P	Pn	13 00 11.4	-0.2
MCIR	**Makushin Cirqu**	**1.45**	**359**	P	Pb	13 00 13.6	0.0
MTBL	**Makushin Table**	**1.48**	**4**	P	Pn	13 00 13.3	0.0
AKRB	**Akutan Reef Bi**	**1.70**	**15**	P	Pn	13 00 16.6	+0.3
LVA	**Lava Point**	**1.73**	**16**	P	Pn	13 00 17.4	+0.6
AKUT	**Akutan**	**1.76**	**21**	*e*Pn	Pn	13 00 16.6	-0.4
AKGG	**Akutan Green G**	**1.78**	**16**	P	Pn	13 00 17.3	-0.1
KOFP	**Korovin Flat P**	**4.45**	**270**	P	Pn	13 00 56.1	+2.0
GSCK	**Great Sitkin C**	**5.75**	**269**	P	Pn	13 01 12.6	+0.7
ADK	**Adak**	**6.09**	**268**	P	Pn	13 01 17.3	+0.8
FX1	**Attu Island--F**	**12.14**	**280**	Pn	Pn	13 02 40.6	+1.2
FX1	**Attu Island--F**	**12.14**	**280**	Pn	Pn	13 02 40.6	+1.2
	0.5nm,0.3s,baz=188,slow=14,SNR=2.7						
ILAR	**Eielson Array**	**15.99**	**32**	Pn	Pn	13 03 28.9	-2.5
ILAR	**Eielson Array**	**15.99**	**32**	Pn	Pn	13 03 28.9	-2.5
	0.0nm,0.3s,baz=232,slow=9.5,SNR=2.6						
HYT	**Haines Junctio**	**18.01**	**51**	*e*Pn	P	13 03 58.6	+1.2
PETK	**Petropavlovsk-**	**21.32**	**286**	P	P	13 04 32.6	-0.8
PETK	**Petropavlovsk-**	**21.32**	**286**	P	P	13 04 32.6	-0.8
	2.7nm,0.4s,baz=86,slow=12,SNR=30						
YKA	**Yellowknife Ar**	**28.98**	**49**	P	P	13 05 47.5	+1.4
YKA	**Yellowknife Ar**	**28.98**	**49**	P	P	13 05 47.5	+1.4
	0.6nm,0.8s,baz=276,slow=8.4,SNR=2.7						
NVAR	**Mina Array Bea**	**36.12**	**93**	P	P	13 06 49.8	+0.9
NVAR	**Mina Array Bea**	**36.12**	**93**	P	P	13 06 49.8	+0.9
	0.6nm,0.8s,baz=297,slow=12,SNR=3.3						
NVAR				LR	LR	13 17 51.0	
	comp=Z,97nm,21.6s,baz=266,slow=30						
H11N2	**WAKE ISLAND Hy**	**38.55**	**222**	T	T	13 49 06.2	
	baz=25,slow=0.7						
H11N3	**WAKE ISLAND Hy**	**38.56**	**222**	T	T	13 49 10.1	
	baz=25,slow=0.7						
H11N1	**WAKE ISLAND Hy**	**38.57**	**222**	T	T	13 49 07.8	
	baz=25						
PDAR	**Pinedale Array**	**38.85**	**81**	P	P	13 07 13.2	+1.1
PDAR	**Pinedale Array**	**38.85**	**81**	P	P	13 07 13.2	+1.1
	0.7nm,0.8s,baz=269,slow=4.1,SNR=3.4						
H11S1	**WAKE ISLAND Hy**	**39.73**	**221**	T	T	13 50 33.8	
	baz=24,slow=0.7,SNR=2.9						
H11S2	**WAKE ISLAND Hy**	**39.75**	**221**	T	T	13 50 34.8	
	baz=24,slow=0.7,SNR=4.6						
H11S3	**WAKE ISLAND Hy**	**39.75**	**221**	T	T	13 50 37.5	
	baz=24,slow=0.7,SNR=3.0						
TXAR	**Lajitas Array**	**51.20**	**91**	P	P	13 08 50.3	+0.1
TXAR	**Lajitas Array**	**51.20**	**91**	P	P	13 08 50.3	+0.1
	0.5nm,0.6s,baz=302,slow=5.2,SNR=5.9						
SONM	**Songino Array**	**52.55**	**302**	P	P	13 08 59.9	-0.3
SONM	**Songino Array**	**52.55**	**302**	P	P	13 08 59.9	-0.3
	0.2nm,0.3s,baz=61,slow=4.7,SNR=3.4						
ARCES	**ARCESS Array B**	**57.94**	**355**	P	P	13 09 37.3	-1.2
ARCES	**ARCESS Array B**	**57.94**	**355**	P	P	13 09 37.3	-1.2
	2.2nm,0.8s,baz=22,slow=7.8,SNR=4.9						
ZALV	**Zalesovo Beam**	**58.36**	**319**	P	P	13 09 40.8	-0.9
ZALV	**Zalesovo Beam**	**58.36**	**319**	P	P	13 09 40.8	-0.9
	0.5nm,0.3s,baz=97,slow=6.0,SNR=2.7						
JOF	**Joensuu**	**64.04**	**351**	*ep*	P	13 10 19.3	-0.7
	1.8nm,0.5s						
MKAR	**Makanchi Array**	**64.83**	**315**	P	P	13 10 23.9	-1.5
MKAR	**Makanchi Array**	**64.83**	**315**	P	P	13 10 23.9	-1.5
	1.1nm,0.7s,baz=47,slow=6.4,SNR=15						
KAF	**Kangasniemi**	**65.26**	**353**	*ep*	P	13 10 26.7	-1.3
	2.6nm,0.5s						
FINES	**FINESS Array B**	**65.94**	**353**	P	P	13 10 31.4	-0.9
FINES	**FINESS Array B**	**65.94**	**353**	P	P	13 10 31.4	-0.9
	3.7nm,0.8s,baz=18,slow=7.7,SNR=16						
AKASG	**Malin Array Be**	**76.28**	**350**	P	P	13 11 34.8	-0.4
AKASG	**Malin Array Be**	**76.28**	**350**	P	P	13 11 34.8	-0.4
	1.4nm,0.4s,baz=13,slow=5.8,SNR=4.7						
BRTR	**Keskin Array B**	**86.44**	**344**	P	P	13 12 29.9	+0.4
BRTR	**Keskin Array B**	**86.44**	**344**	P	P	13 12 29.9	+0.4
	0.6nm,0.6s,baz=7.6,slow=3.9,SNR=2.9						

TAP 19 13:16:10.8, 24.55N×121.86E, h37km, ML3.8, 12C-8D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.07**	**351**	⇓*i* P	Pn	13 16 17.2	+0.2
	baz=360						
TWC				*i* S	Sn	13 16 21.6	+0.4
	baz=360						
ENA	**Nanau**	**0.16**	**223**	⇓*i* P	Pn	13 16 17.9	-3.5
	baz=220						
ENA				*e*S	Sn	13 16 22.8	-9.0
	baz=220						
ILA	**Ilan**	**0.24**	**335**	⇓*i* P	Pn	13 16 18.8	-0.5
	baz=337						
ILA				*i* S	Sn	13 16 24.7	-2.5
	baz=337						
EHP	**Heping Village**	**0.26**	**205**	P	Pn	13 16 18.9	-0.3
	baz=203						
EHP				*e*S	Sn	13 16 25.1	-1.7
	baz=203						
ENTT	**Nioudou**	**0.28**	**290**	⇓*i* P	Pn	13 16 19.2	+0.2
	baz=290						
ENTT				*i* S	Sn	13 16 24.5	-1.8
	baz=290						
EGS		**0.31**	**12**	⇓*i* P	Pn	13 16 19.4	+0.4
	baz=19						
EGS				S	Sn	13 16 25.2	-0.8
	baz=19						
NNS	**Nan Shan**	**0.46**	**257**	⇑*i* P	Pn	13 16 21.4	+0.6
	baz=256						
NNS				*e*S	Sn	13 16 28.2	+0.2
	baz=256						
NSK	**Sanguang**	**0.47**	**286**	⇓*i* P	Pn	13 16 21.7	+0.6
	baz=286						
NSK				*i* S	Sn	13 16 29.0	+0.6
	baz=286						
TWB1	**Santiao Chiao**	**0.48**	**14**	⇑*i* P	Pn	13 16 21.5	+0.5
	baz=18						
TWB1				*e*S	Sn	13 16 28.8	+0.6
	baz=18						
TWA	**Mucha**	**0.50**	**330**	⇓P	Pn	13 16 22.2	+0.8
	baz=330						
TWA				S	Sn	13 16 29.8	+0.9
	baz=330						
TWD	**Chiawan**	**0.52**	**208**	⇑*i* P	Pn	13 16 21.9	+0.2
	baz=215						
TWD				S	Sn	13 16 30.8	+1.4
	baz=215						
NWF	**Wu-fen Shan**	**0.53**	**352**	⇓*i* P	Pn	13 16 22.7	+0.7
	baz=352						
NWF				*i* S	Sn	13 16 30.9	+1.1
	baz=352						
TAP1	**Taipei**	**0.58**	**328**	P	Pn	13 16 23.5	+0.9
	baz=327						
TAP1				*i* S	Sn	13 16 32.6	+1.8
	baz=327						
TAP	**Taipei**	**0.59**	**327**	*e*P	Pn	13 16 23.3	+0.5
	baz=327						
TAP				S	Sn	13 16 32.8	+1.7
	baz=327						
HWA	**Hwalien**	**0.61**	**202**	P	Pn	13 16 23.7	+0.6
	baz=193						
HWA				*e*S	Sn	13 16 34.9	+3.3
	baz=193						
WHF	**Hehuan Shan**	**0.67**	**234**	⇑*i* P	Pn	13 16 24.7	+0.2
	baz=233						
WHF				*e*S	Sn	13 16 35.5	+1.5
	baz=233						
TWS1	**Kuangyinshan**	**0.68**	**324**	P	Pn	13 16 24.7	+0.7
	baz=331						
TWS1				*e*S	Sn	13 16 35.0	+1.6
	baz=331						
ESF	**Shoufeng Towns**	**0.74**	**206**	*e*P	Pn	13 16 25.1	+0.4
	baz=217						
NCU	**National Centr**	**0.74**	**305**	*e*P	Pn	13 16 25.6	+0.8
	baz=305						
NCU				*e*S	Sn	13 16 36.6	+1.9
	baz=305						
TWY	**Chenhua**	**0.77**	**342**	*e*P	Pn	13 16 25.8	+0.8
	baz=342						
TWY				*e*S	Sn	13 16 37.5	+2.2
	baz=342						
NSTT	**Nanjuang**	**0.79**	**276**	⇑*i* P	Pn	13 16 26.7	+1.4
	baz=276						
NSTT				S	Sn	13 16 37.8	+1.9
	baz=276						
ESL	**Shilin**	**0.83**	**208**	⇑*i* P	Pn	13 16 25.7	-0.2
	baz=207						
HSN	**Hsinchu**	**0.85**	**288**	*e*P	Pn	13 16 27.4	+1.3
	baz=290						
HSN				*e*S	Sn	13 16 39.6	+2.1
	baz=290						
NSY	**Sanyi**	**1.01**	**263**	*e*P	Pn	13 16 30.4	+2.0
	baz=263						
NSY				*e*S	Sn	13 16 44.6	+3.2
	baz=263						
TWQ1	**Liyutan**	**1.01**	**259**	P	Pn	13 16 30.5	+2.1
	baz=259						
TWQ1				S	Sn	13 16 44.8	+3.5
	baz=259						
YOJ	**Yonaguni jima**	**1.05**	**94**	⇑P	Pn	13 16 28.9	0.0
	baz=83						
YOJ				*e*S	Sn	13 16 42.3	-0.1
	baz=83						
SMLT	**Sun Moon Lake**	**1.10**	**233**	⇑*i* P	Pn	13 16 31.4	+1.7
	baz=233						
SMLT				*e*S	Sn	13 16 46.8	+3.1
	baz=233						
TYC	**Yuchr**	**1.12**	**235**	⇑*i* P	Pn	13 16 31.7	+1.9
	baz=235						
TYC				*e*S	Sn	13 16 47.1	+3.2
	baz=235						
EHY	**Hungye**	**1.15**	**206**	*e*P	Pn	13 16 29.4	-0.9
	baz=213						
TCU	**Taichung**	**1.15**	**250**	*e*P	Pn	13 16 32.9	+2.6
	baz=250						
WNT	**Mingjian**	**1.26**	**239**	P	Pn	13 16 34.1	+2.3
	baz=239						
WNT				*e*S	Sn	13 16 52.1	+4.5
	baz=239						
TWF1	**Yuli**	**1.29**	**204**	*e*P	Pn	13 16 31.6	-0.7
	baz=211						
YUS	**Yu-Shan**	**1.34**	**218**	⇑*i* P	Pn	13 16 34.7	+1.2
	baz=208						
YUS				*e*S	Sn	13 16 52.5	+2.0
	baz=208						
ALS	**Alishan**	**1.41**	**223**	*e*P	Pn	13 16 36.1	+1.8
	baz=211						
CHN5	**Tsauling**	**1.44**	**229**	⇑*i* P	Pn	13 16 36.9	+2.5
	baz=229						
CHN5				*i* S	Sn	13 16 56.6	+4.6
	baz=229						
WGK	**Gukeng**	**1.46**	**234**	*e*P	Pn	13 16 37.2	+2.6
	baz=235						
WGK				*e*S	Sn	13 16 57.1	+4.6
	baz=235						
CHKT	**Chengkung**	**1.51**	**198**	*e*P	Pn	13 16 36.6	+1.4
	baz=184						
CHN2	**Minshiung**	**1.62**	**232**	*e*P	Pn	13 16 39.3	+2.6
	baz=245						
CHN4	**Tsaushan**	**1.66**	**225**	P	Pn	13 16 39.5	+2.2
	baz=215						
CHN4				S	Sn	13 17 03.1	+5.7
	baz=215						
CHY	**Chiayi**	**1.68**	**232**	*e*P	Pn	13 16 39.6	+2.1
	baz=246						
CHY				*e*S	Sn	13 17 01.4	+3.6
	baz=246						
WTP	**Ta-pu**	**1.72**	**222**	⇑P	Pn	13 16 40.7	+2.4
	baz=209						
WTP				*e*S	Sn	13 17 03.8	+4.7
	baz=209						
WSF	**Szhu**	**1.75**	**239**	P	Pn	13 16 40.4	+1.9
	baz=239						
WSF				*e*S	Sn	13 17 02.6	+3.0
	baz=239						
TWK	**Hsinying**	**1.79**	**225**	P	Pn	13 16 41.5	+2.3
	baz=225						
TWK				*e*S	Sn	13 17 05.3	+4.6
	baz=225						
CHN1	**Nanshi**	**1.82**	**222**	*e*P	Pn	13 16 41.9	+2.3
	baz=211						
CHN1				*e*S	Sn	13 17 06.1	+4.6
	baz=211						
TWG	**Pinlang**	**1.86**	**203**	*e*P	Pn	13 16 39.8	-0.3
	baz=189						
SGST	**Jiashian**	**1.87**	**219**	*e*P	Pn	13 16 42.3	+2.1
	baz=219						
SGST				*e*S	Sn	13 17 06.8	+4.2
	baz=219						
CHN3	**Shinhua**	**2.00**	**223**	*e*P	Pn	13 16 44.1	+2.0
	baz=223						
ECL	**Taimali**	**2.11**	**203**	*e*P	Pn	13 16 44.0	+0.5
	baz=191						
TWM1	**Shoushan**	**2.16**	**218**	*e*P	Pn	13 16 45.7	+1.4
	baz=217						
PNG	**Penghu**	**2.32**	**246**	*e*P	Pn	13 16 46.1	-0.2
	baz=246						
EAST	**Anshuo**	**2.34**	**204**	*e*P	Pn	13 16 47.6	+0.9
	baz=191						
WDGT	**Dungji**	**2.38**	**238**	*e*P	Pn	13 16 47.5	+0.2
	baz=237						
LAY	**Lan-yu**	**2.51**	**187**	*e*P	Pn	13 16 48.5	-0.6
	baz=175						
KNM	**Kinmen**	**3.12**	**268**	*e*P	Pn	13 16 59.2	+1.7
	baz=267						

UPP 19 13:35:36.5, 59.76N×23.81E, h0km, ML2.2, Suspected Mining explosion.

IDC 19 13:35:38.7±2.1, 59.71N×23.41E, h0km, mb1 3.3/3, mb1mx3.0/27, mbtmp3.1/3, ML3.0/2, Error ellipse: s-maj=23.3km s-min=11.3km az=160.0

HEL 19 13:35:39.0±0.2, 59.64N×23.36E, h0km, ML1.9, ML2.2(UPP), Explosion

CSEM 19 13:35:39.9±0.2, 59.79N×23.30E, h2km, ML2.0, Error ellipse: s-maj=4.3km s-min=3.3km az=152.0, Mining explosion.

NAO 19 13:35:39.0±1.1, 59.80N×23.38E, ML2.1

ISCJB 19 13:35:39.1±0.4, 59.78N±0.02×23.26E±0.05, h0km, Error ellipse: s-maj=3.9km s-min=2.9km az=143.3

BER 19 13:35:40.9±3.5, 59.79N×23.36E, h0km, ML2.1(NAO), Suspected explosion

ISC 19 13:35:38.8±0.7, 59.74N±0.03×23.27E±0.02, h0km, n58, σ1s22/98, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.74**	**49**	*e*P	Pg	13 35 52.2	-0.8
MEF				*e*S	Sg	13 36 03.5	+0.8
MEF	**Metsahovi**	**0.74**	**49**	*e*P	Pg	13 35 52.2	-0.8
	SNR=90						
MEF				S	Sg	13 36 03.4	+0.8
MTSE	**Matsula**	**1.06**	**165**	*e*P	Pg	13 35 59.5	+0.4
	SNR=90						
RAF	**Rauma**	**1.49**	**331**	*e*P	Pn	13 36 05.4	-1.4
RAF				*e*PG	Pg	13 36 07.4	+0.1
RAF				*e*S	Sn	13 36 26.9	0.0
RAF				*e*SN	Sn	13 36 28.9	+1.9
RAF	**Rauma**	**1.49**	**331**	*e*P	Pn	13 36 05.6	-1.2
	SNR=50						
RAF	**Rauma**	**1.49**	**331**	Pg	Pg	13 36 07.4	+0.1
RAF				*e*S	Sg	13 36 24.7	-2.0
	20nm,0.4s,SNR=50						
RAF				Sn	Sn	13 36 28.8	+1.9
PVF	**Pernaja**	**1.53**	**57**	*e*P	Pn	13 36 06.3	-1.0
PVF				*e*S	Sg	13 36 26.8	-1.0
PVF				*e*SN	Sn	13 36 29.5	+1.6
PVF	**Pernaja**	**1.53**	**57**	P	Pn	13 36 06.3	-1.0
PVF				S	Sg	13 36 26.8	-1.0
PVF				Sn	Sn	13 36 29.4	+1.6
SLIT	**Slitere, Latvi**	**2.17**	**194**	*e*P	Pb	13 36 18.9	0.0
	SNR=50						
SLIT				*e*S	Sb	13 36 48.2	+1.8
	SNR=50						
VSU	**Vasula**	**2.20**	**124**	Pn	Pb	13 36 18.3	-1.0
VSU				Lg	Lg	13 36 47.1	
VSU	**Vasula**	**2.20**	**124**	Pn	Pb	13 36 18.3	-1.0
VSU				Lg	Lg	13 36 47.1	
VSU	**Vasula**	**2.20**	**124**	*e*P	Pb	13 36 18.4	-0.9
	SNR=50						
VSU				Lg	Lg	13 36 47.1	
VSU				*e*S	Sb	13 36 47.2	+0.2
	28nm,0.2s,SNR=50						
FIA0	**FINESS Array S**	**2.20**	**38**	Pn	Pn	13 36 17.5	+1.0
	baz=224,slow=16						
FIA0				Lg	Lg	13 36 46.4	

NYNU	**Nynaeshamn**	**2.79**	**257**	P		**Pn**	**13 36 26.2**	**+1.6**
KAF	**Kangasniemi**	**2.81**	**31**	*e*P		**Pn**	**13 36 25.2**	**+0.3**
KAF				*e*S		**Sn**	**13 37 00.8**	**+1.5**
KAF				*e*SB		**Sb**	**13 37 05.3**	**+0.6**
KAF				MSG			13 37 09.0	
	comp=Z,2.8nm,0.3s							
KAF	**Kangasniemi**	**2.81**	**31**	P		**Pn**	**13 36 25.1**	**+0.3**
KAF				S		**Sn**	**13 37 00.8**	**+1.5**
KAF				Sb		**Sb**	**13 37 05.2**	**+0.6**
BACU	**Backbrunna**	**3.12**	**275**	*e*P		**Pn**	**13 36 30.1**	**+1.0**
BACU	**Backbrunna**	**3.12**	**275**	P		**Pn**	**13 36 30.1**	**+1.0**
OSTU	**Oestervaala**	**3.12**	**282**	*e*P		**Pn**	**13 36 30.2**	**+1.0**
OSTU	**Oestervaala**	**3.12**	**282**	P		**Pn**	**13 36 30.2**	**+1.0**
IGGU	**Iggoen**	**3.18**	**294**	*e*P		**Pn**	**13 36 30.7**	**+0.8**
IGGU	**Iggoen**	**3.18**	**294**	P		**Pn**	**13 36 30.7**	**+0.8**
SUF	**Sumiainen**	**3.30**	**24**	*e*P		**Pn**	**13 36 32.2**	**+0.5**
SUF				*e*S		**Sn**	**13 37 12.9**	**+1.4**
SUF				*e*SB		**Sb**	**13 37 20.7**	**+1.9**
SUF				MSG			13 37 22.5	
	comp=Z,1.7nm,0.3s							
SUF	**Sumiainen**	**3.30**	**24**	P		**Pn**	**13 36 32.1**	**+0.5**
SUF				S		**Sn**	**13 37 12.9**	**+1.4**
SUF				Sb		**Sb**	**13 37 20.7**	**+1.9**
VAF	**Ylistaro**	**3.33**	**355**	*e*P		**Pn**	**13 36 32.8**	**+0.8**
VAF				*e*S		**Sn**	**13 37 13.8**	**+1.5**
VAF				*e*SG		**Sg**	**13 37 25.3**	**-0.3**
VAF				MSG			13 37 26.3	
	comp=Z,1.4nm,0.3s							
VAF	**Ylistaro**	**3.33**	**355**	P		**Pn**	**13 36 32.8**	**+0.8**
VAF				S		**Sn**	**13 37 13.7**	**+1.5**
VAF				Sg		**Sg**	**13 37 25.3**	**-0.3**
ESKU	**Eskilstuna**	**3.55**	**265**	*e*P		**Pn**	**13 36 36.7**	**+1.7**
ESKU	**Eskilstuna**	**3.55**	**265**	P		**Pn**	**13 36 36.7**	**+1.7**
FALU	**Falun**	**3.80**	**285**	*e*P		**Pn**	**13 36 39.4**	**+0.8**
FALU	**Falun**	**3.80**	**285**	P		**Pn**	**13 36 39.3**	**+0.8**
HFS	**Hagfors**	**4.83**	**279**	Pn		**Pn**	**13 36 54.0**	**+1.3**
	baz=105,slow=14							
HFS				Sn		**Sn**	**13 37 49.0**	**-0.3**
	baz=101,slow=37							
HFS				Lg		Lg	13 38 10.3	
	baz=85,slow=37							
HFS	**Hagfors**	**4.83**	**279**	Pn		**Pn**	**13 36 54.0**	**+1.3**
	baz=105,slow=14							
HFS				Sn		**Sn**	**13 37 49.0**	**-0.3**
	baz=101,slow=37							
HFS				Lg		Lg	13 38 10.3	
	baz=85,slow=37							
HFS	**Hagfors**	**4.83**	**279**	Pn		**Pn**	**13 36 54.0**	**+1.3**
	baz=105,slow=14,SNR=50							
HFS				Sn		**Sn**	**13 37 49.0**	**-0.3**
	baz=101,slow=30,SNR=50							
HFS				Lg		Lg	13 38 10.3	
	baz=85,slow=28							
KJN	**Kajaani**	**4.84**	**24**	*e*S		**Sn**	**13 37 49.7**	**+0.2**
KJN				*e*SB		**Sb**	**13 38 04.9**	**+1.8**
KJN	**Kajaani**	**4.84**	**24**	S		**Sn**	**13 37 49.7**	**+0.2**
JOF	**Joensuu**	**5.02**	**47**	*e*P		**Pn**	**13 36 55.1**	**-0.1**
JOF				*e*S		**Sn**	**13 37 52.9**	**-0.9**
JOF	**Joensuu**	**5.02**	**47**	P		**Pn**	**13 36 55.0**	**-0.1**
JOF				S		**Sn**	**13 37 52.9**	**-0.9**
NB2	**NORSAR Subarra**	**6.12**	**288**	Pn		**Pn**	**13 37 09.4**	**-1.0**
	baz=95,slow=14							
NB2	**NORSAR Subarra**	**6.12**	**288**	Pn		**Pn**	**13 37 09.4**	**-1.0**
	baz=95,slow=14							
NB2	**NORSAR Subarra**	**6.12**	**288**	Pn		**Pn**	**13 37 09.4**	**-1.0**
	baz=95,slow=13,SNR=50							
NOA	**NORSAR Array B**	**6.12**	**288**	Pn		**Pn**	**13 37 09.1**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=100,slow=13,SNR=3.9							
NOA				Sn		**Sn**	**13 38 17.1**	**-4.0**
	comp=Z,0.1nm,0.3s,baz=35,slow=17,SNR=2.4							
NOA				Lg		Lg	13 38 44.9	
	comp=Z,0.3nm,0.3s,baz=130,slow=25,SNR=2.6							
ARA0	**ARCESS Array S**	**9.88**	**5**	Pn		**Pn**	**13 38 00.6**	**-1.3**
	baz=179,slow=16							
ARA0	**ARCESS Array S**	**9.88**	**5**	Pn		**Pn**	**13 38 00.6**	**-1.3**
	baz=179,slow=16							
ARA0	**ARCESS Array S**	**9.88**	**5**	Pn		**Pn**	**13 38 00.6**	**-1.3**
	baz=179,slow=15,SNR=50							
ARCES	**ARCESS Array B**	**9.88**	**5**	Pn		**Pn**	**13 38 00.1**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=181,slow=14,SNR=14							
ARCES				Sn		Sn	13 39 46.7	-6.7
	comp=Z,0.1nm,0.3s,baz=189,slow=23,SNR=3.0							
ARCES				Lg		Lg	13 40 46.9	
	comp=Z,0.1nm,0.3s,baz=185,slow=34,SNR=2.6							

MAN 19 14:01:21.1 31.N×124.50E, h1km, mb4.1, ML2.9, MS2.6, 2C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.28**	**157**	*e*P	Pg	14 01 27.1	+0.6
OCLP				*e*S	Sg	14 01 29.8	-0.3
LLP	**Lapu-Lapu**	**1.12**	**208**⇑	*e*P	Pn	14 01 45.6	+1.8
LLP				*e*S	Sn	14 01 59.4	-0.5
MSLP	**Maasin**	**1.23**	**163**	*e*P	Pg	14 01 44.0	-0.6
SCPH	**Surigao**	**1.81**	**147**⇑	*e*P	Pb	14 01 54.5	-0.4
GUIM	**Jordan**	**1.99**	**250**	*e*P	Pn	14 01 56.8	+0.9

MAN 19 14:03:08, 11.05N×124.69E, h6km, mb4.5, ML3.4, MS3.3, 2C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.08**	**268**	*e*P	Pg	14 03 11.1	+1.2
OCLP				*e*S	Sg	14 03 13.3	+2.1
MSLP	**Maasin**	**0.93**	**170**	*e*P	Pn	14 03 27.5	-0.2
MSLP				*e*S	Sb	14 03 39.3	+0.2
LLP	**Lapu-Lapu**	**1.02**	**224**⇑	*e*P	Pb	14 03 28.5	+0.3
LLP				*e*S	Sb	14 03 42.6	+0.8
SCPH	**Surigao**	**1.49**	**148**⇑	*e*P	Pg	14 03 38.4	+1.8
GUIM	**Jordan**	**2.11**	**259**	*e*P	Pb	14 03 45.3	-1.3

*CSEM **19** 14:03:55.1, 42.38N×13.45E, h10km, MD1.8/9, After ROM*
ROM 19 14:03:55.1±0.1, 42.38N×13.45E, h10km, Md1.8/9, Ml1.7/6, Error ellipse: s-maj=1.3km s-min=0.8km az=30.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	**L'Aquila**	**0.04**	**236**	Pg	Pg	14 03 57.0	-0.1
AQU				Sg	Sg	14 03 58.6	+0.1
AQU	**L'Aquila**	**0.04**	**236**	Pg	Pg	14 03 57.0	-0.1
AQU				Sg	Sg	14 03 58.6	+0.1
FAGN	**Fagnano**	**0.15**	**139**	Pg	Pg	14 03 59.0	+0.5
FAGN				Sg	Sg	14 04 02.1	+1.2
	429nm,0.6s						
FAGN	**Fagnano**	**0.15**	**139**	Pg	Pg	14 03 59.0	+0.5
FAGN				Sg	Sg	14 04 02.1	+1.2
	429nm,0.6s						
TERO	**Teramo**	**0.27**	**25**	Pg	Pg	14 04 01.1	+0.4
TERO				Sg	Sg	14 04 05.6	+1.2
	65nm,0.3s						
TERO	**Teramo**	**0.27**	**25**	Pg	Pg	14 04 01.1	+0.4
TERO				Sg	Sg	14 04 05.6	+1.2
	65nm,0.3s						
FIAM	**Fiamignano**	**0.27**	**246**	Pg	Pg	14 04 01.4	+0.7
FIAM				Sg	Sg	14 04 05.6	+1.1
	68nm,0.7s						
FIAM	**Fiamignano**	**0.27**	**246**	Pg	Pg	14 04 01.4	+0.7
FIAM				Sg	Sg	14 04 05.6	+1.1
	68nm,0.7s						
VCEL	**Villa Celiera**	**0.29**	**87**	Pg	Pg	14 04 01.6	+0.5
VCEL				Sg	Sb	14 04 06.4	-1.2
	110nm,0.6s						
VCEL	**Villa Celiera**	**0.29**	**87**	Pg	Pg	14 04 01.6	+0.5
VCEL				Sg	Sb	14 04 06.4	-1.2
	110nm,0.6s						
NRCA	**Norcia**	**0.52**	**331**	Pg	Pg	14 04 05.6	+0.2
NRCA				Sg	Sb	14 04 13.9	-0.3
	104nm,1.5s						
NRCA	**Norcia**	**0.52**	**331**	Pg	Pg	14 04 05.6	+0.2
NRCA				Sg	Sb	14 04 13.9	-0.3
	104nm,1.5s						

*IDC **19** 14:15:57.2±0.5, 15.39S×173.35W, h0km, mb4.5/15, mb1 4.7/15, mb1mx4.5/23, mbtmp4.5/15, MS4.2/24, Ms1 4.2/24, ms1mx4.2/30, Error ellipse: s-maj=23.8km s-min=14.4km az=127.0*
*NEIC **19** 14:15:58.7±7.2, 15.29S×173.41W, h10km±43km, mb4.7/16, Error ellipse: s-maj=12.9km s-min=8.1km az=122.0*
*ISCJB **19** 14:15:59.8±0.3, 15.42S±0.07×173.31W±0.06, h29km, mb4.5/28, MS4.2/23, Error ellipse: s-maj=11.1km s-min=6.8km az=147.0*
*AUST **19** 14:16:00.3±0.7, 15.38S×172.76W, h37km, Error ellipse: s-maj=1.4km s-min=1.0km az=305.0*
*GCMT **19** 14:16:06.8±0.2, 15.29S×172.88W, h35km, MW5.1, Moment Tensor Solution. s41,c59; s67,c96; Moment tensor: Scale 10^16 Nm; Mrr3.94±.18; Mθθ0.57±.13; Mφφ-4.51±.12; Mrθ1.28±.17; Mrφ-0.07±.09; Mθφ1.94±.13; Best double couple: M0 4.80000×10^16 NP1:φs17.00000°, δ60.00000°, λ108.00000°. NP2:φs164.00000°, δ35.00000°, λ62.00000°. Principal axes: T 4.7300, Plg70.0000°, Azm326.0000°; N 0.2200, Plg15.0000°, Azm187.0000°; P -4.9600, Plg13.0000°, Azm94.0000°; Data Used: II IU IC G CN.*

ISC 19 14:16:01.2±0.4, 15.51S±0.09×173.13W±0.07, h29km, n138, σ1s12/114, mb4.6/28, MS4.3/23, 5C-9D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.06**	**40**	*e*P	Pn	14 16 28.5	-5.4
AFI				Sn	Sn	14 16 48.2	-10
AFI	**Afiamalu**	**2.06**	**40**	Pn	Pn	14 16 28.6	-5.4
	215nm,0.3s,baz=176,slow=1.2,SNR=242						
AFI				Sn	Sn	14 16 48.2	-10
	1μm,0.3s,baz=93,slow=18,SNR=12						
AFI				LR	LR	14 17 19.9	
	comp=Z,2μm,21.1s,baz=207,slow=39						
NIUE	**Niue**	**4.69**	**140**	P	**Pn**	**14 17 08.2**	**-1.8**
	baz=4.6,SNR=132						
MSVF	**Nonsavu**	**8.74**	**254**	*e*P	Pn	14 18 13.4	+7.6
DZM	**Mont Dzumac**	**20.40**	**248**	*e*P	Pn	14 20 38.2	-0.2
	124nm,1.4s						
DZM				*e*S	Sn	14 24 28.1	+0.4
	379nm,26.2s						
DZM				*e*LQ	LQ	14 24 40.8	
	1μm,26.7s						
DZM				*e*LR	LR	14 25 36.9	
	2μm,25.1s						
DZM	**Mont Dzumac**	**20.40**	**248**	*e*P	**P**	**14 20 35.4**	**-0.7**
	38nm,1.0s						
DZM	**Mont Dzumac**	**20.40**	**248**	P	**P**	**14 20 35.6**	**-0.5**
	16nm,0.9s,baz=81,slow=21,SNR=7.8						
DZM				LR	LR	14 25 55.6	
	comp=Z,238nm,19.2s,baz=289,slow=30						
PPT	**Papeete**	**22.67**	**98**	LR	LR	14 27 22.2	
	comp=Z,525nm,19.9s,baz=87,slow=30						
PPT2	**Papeete2**	**22.67**	**99**	*e*S	**S**	**14 25 03.2**	**-3.9**
	403nm,24.5s						
PPT2				*e*LR	LR	14 26 28.9	
	1μm,24.5s,baz=266						
TBI	**Tubuai**	**23.62**	**113**	*e*LQ	LQ	14 25 52.1	
	815nm,30.8s						
TBI				*e*LR	LR	14 26 51.6	
	1μm,24.8s,baz=283						
URZ	**Urewera**	**24.25**	**199**	*e*P	**P**	**14 21 16.5**	**+0.8**
URZ	**Urewera**	**24.25**	**199**	P	**P**	**14 21 15.9**	**+0.2**
	12nm,0.7s,baz=265,slow=3.8,SNR=7.1						
URZ				LR	LR	14 30 05.5	
	comp=Z,645nm,19.2s,baz=28,slow=35						
HNR	**Honiara**	**26.96**	**280**	LR	LR	14 30 54.9	
	comp=Z,789nm,19.1s,baz=119,slow=34						
RPZ	**Rata Peaks**	**31.18**	**202**	P	**P**	**14 22 17.9**	**+0.2**
RPZ	**Rata Peaks**	**31.18**	**202**	P	**P**	**14 22 18.0**	**+0.2**
	0.0nm,0.8s,baz=79,slow=4.3,SNR=3.8						
ARMA	**Armidale**	**35.51**	**239**	*e*P	**P**	**14 22 54.5**	**-1.3**
	6.6nm,0.7s						
ARMA	**Armidale**	**35.51**	**239**	P	**P**	**14 22 54.8**	**-1.1**
	baz=36,SNR=7.8						
RKT	**Rikitea**	**36.71**	**108**	*e*S	**S**	**14 28 48.6**	**+0.6**
	113nm,31.2s						
RKT				*e*LR	LR	14 33 04.5	
	790nm,25.2s,baz=280						
RMQ	**Roma**	**37.09**	**247**	P	**P**	**14 23 09.1**	**-0.2**
	baz=38,SNR=7.6						
CTAO	**Charters Tower**	**38.88**	**257**	*e*P	**P**	**14 23 23.8**	**-0.6**
CNB	**Canberra Magne**	**38.89**	**232**	P	**P**	**14 23 23.7**	**-0.7**
	baz=39,SNR=9.1						
H11S2	**WAKE ISLAND Hy**	**39.19**	**329**	T	T	15 04 51.8	
	baz=152,slow=0.7,SNR=24						
H11S3	**WAKE ISLAND Hy**	**39.20**	**329**	T	T	15 04 50.9	
	baz=152,slow=0.7,SNR=32						
PMG	**Port Moresby**	**39.20**	**274**	LR	LR	14 37 33.4	
	comp=Z,76nm,18.8s,baz=173,slow=33						
H11S1	**WAKE ISLAND Hy**	**39.21**	**329**	T	T	15 04 50.9	
	baz=152,slow=0.7,SNR=30						
H11N3	**WAKE ISLAND Hy**	**40.13**	**330**	T	T	15 06 12.5	
	baz=152,slow=0.7,SNR=22						
H11N1	**WAKE ISLAND Hy**	**40.14**	**330**	T	T	15 06 06.5	
	baz=152,slow=0.7,SNR=50						
H11N2	**WAKE ISLAND Hy**	**40.15**	**330**	T	T	15 06 14.3	
	baz=152,slow=0.7,SNR=25						
CMSA	**Cobar Meteorol**	**40.73**	**240**	P	**P**	**14 23 38.0**	**-1.6**
	baz=41,SNR=25						
MTSU	**Mount Surprise**	**40.76**	**260**	P	**P**	**14 23 39.1**	**-0.9**
	baz=41,SNR=5.8						
QLP	**Quilpie**	**41.12**	**247**	P	**P**	**14 23 42.1**	**-0.8**
	baz=42,SNR=5.7						
COEN	**Coen**	**42.24**	**266**	P	**P**	**14 23 52.4**	**+0.2**
	baz=43,SNR=6.9						
STKA	**Stephens Creek**	**44.21**	**240**	*e*P	**P**	**14 24 06.8**	**-1.1**
STKA	**Stephens Creek**	**44.21**	**240**	P	**P**	**14 24 07.0**	**-1.0**
	baz=45,SNR=22						
STKA	**Stephens Creek**	**44.21**	**240**	P	**P**	**14 24 06.4**	**-1.6**
	16nm,0.9s,baz=80,slow=7.9,SNR=27						
STKA				LR	LR	14 40 36.1	
	comp=Z,170nm,18.5s,baz=53,slow=34						
BBOO	**Buckleboo**	**48.99**	**240**	P	**P**	**14 24 44.2**	**-1.2**
	baz=49,SNR=19						
WRAB	**Tennant Creek**	**50.06**	**257**	*e*P	**P**	**14 24 51.5**	**-2.3**
	12nm,0.9s						
WRA	**Warramunga Arr**	**50.08**	**257**	P	**P**	**14 24 51.3**	**-2.6**
WRA				PcP	**PcP**	**14 26 13.7**	**+0.3**
WRA	**Warramunga Arr**	**50.08**	**257**	P	**P**	**14 24 51.3**	**-2.6**
	7.8nm,0.6s,baz=91,slow=6.7,SNR=35						
WRA				PcP	**PcP**	**14 26 13.7**	**+0.3**
	1.7nm,0.6s,baz=90,slow=3.5,SNR=4.1						
WRA				LR	LR	14 44 24.5	
	comp=Z,524nm,20.9s,baz=85,slow=34						
AS31	**Alice Springs**	**50.33**	**252**	*e*P	**P**	**14 24 53.8**	**-2.0**
ASAR	**Alice Springs**	**50.33**	**252**	P	**P**	**14 24 53.8**	**-2.0**
ASAR	**Alice Springs**	**50.33**	**252**	P	**P**	**14 24 53.8**	**-2.0**
	22nm,0.7s,baz=88,slow=8.5,SNR=157						
ASAR				LR	LR	14 44 42.8	
	comp=Z,890nm,20.9s,baz=91,slow=34						
KDU	**Kakadu**	**52.72**	**266**	P	**P**	**14 25 12.4**	**-1.3**
	baz=53,SNR=4.4						
MTN	**Manton Dam**	**53.98**	**265**	P	**P**	**14 25 23.3**	**+0.2**
	baz=54,SNR=5.9						
KNRA	**Kununurra**	**55.81**	**261**	P	**P**	**14 25 36.2**	**0.0**
	baz=56,SNR=6.0						
FITZ	**Fitzroy Crossi**	**58.45**	**258**	P	P	14 25 58.6	+3.7
	baz=59,SNR=4.1						
JCJ	**Chichijima**	**60.62**	**314**	LR	LR	14 47 09.6	
	comp=Z,236nm,21.3s,baz=357,slow=31						
SBA	**Scott Base**	**63.17**	**185**	*e*P	P	14 26 29.6	+3.5
	0.4nm,0.6s						
VNDA	**Vanda**	**63.30**	**186**	*e*P	**P**	**14 26 29.1**	**+2.1**
VNDA	**Vanda**	**63.30**	**186**	P	**P**	**14 26 28.9**	**+2.0**
	2.9nm,0.9s,baz=359,slow=6.4,SNR=9.1						
VNDA				LR	LR	14 50 50.1	
	comp=Z,79nm,19.8s,baz=351,slow=33						
MEEK	**Meekatharra**	**64.02**	**248**	P	**P**	**14 26 31.7**	**-0.9**
	baz=64,SNR=4.7						
LUWI	**Luwuk**	**64.80**	**276**	P	**P**	**14 26 39.9**	**+2.1**
	baz=65,SNR=3.3						
MJAR	**Matsushiro Arr**	**69.19**	**320**	LR	LR	14 51 17.0	
	comp=Z,296nm,21.1s,baz=130,slow=31						
ASAJ	**Asahikawa**	**71.77**	**328**	LR	LR	14 51 55.2	
	comp=Z,192nm,22.0s,baz=346,slow=30						
JNU	**Nakatsue**	**72.06**	**313**	LR	LR	14 52 27.9	
	comp=Z,137nm,20.8s,baz=83,slow=30						
PETK	**Petropavlovsk-**	**72.81**	**342**	P	**P**	**14 27 26.8**	**-0.1**
PETK	**Petropavlovsk-**	**72.81**	**342**	P	**P**	**14 27 26.8**	**-0.1**
	9.9nm,0.9s,baz=130,slow=8.0,SNR=7.7						
PETK				LR	LR	14 57 10.8	
	comp=Z,55nm,18.9s,baz=220,slow=34						
NVAR	**Mina Array Bea**	**74.23**	**42**	P	**P**	**14 27 37.6**	**+1.7**
NVAR	**Mina Array Bea**	**74.23**	**42**	P	**P**	**14 27 37.6**	**+1.7**
	1.5nm,0.9s,baz=228,slow=9.5,SNR=5.7						
QSPA	**South Pole Qui**	**74.54**	**180**	*e*P	**P**	**14 27 38.8**	**+1.6**
	12nm,0.8s						
MOD	**Modoc**	**75.04**	**38**	*e*P	**P**	**14 27 40.7**	**+0.3**
	19nm,1.0s						
KSRS	**Korea Array**	**76.42**	**315**	LR	LR	14 55 13.3	
	comp=Z,135nm,20.2s,baz=102,slow=31						
KSM	**Kuching**	**77.46**	**275**	P	**P**	**14 27 55.0**	**+0.4**
	baz=78,SNR=3.6						
USRK	**Ussuriysk Arra**	**77.63**	**323**	P	**P**	**14 27 55.0**	**+0.2**
	3.4nm,0.9s,baz=134,slow=5.5,SNR=5.2						
USRK				LR	LR	14 55 20.1	
	comp=Z,342nm,22.0s,baz=89,slow=30						
HLID	**Hailey**	**79.54**	**39**	*e*P	**P**	**14 28 06.4**	**+0.8**
	3.9nm,0.9s						
TXAR	**Lajitas Array**	**80.45**	**56**	P	**P**	**14 28 11.4**	**+0.7**
TXAR	**Lajitas Array**	**80.45**	**56**	P	**P**	**14 28 11.4**	**+0.7**
	1.2nm,1.0s,baz=232,slow=5.7,SNR=6.7						
TXAR				LR	LR	14 55 57.9	
	comp=Z,177nm,19.1s,baz=70,slow=30						
TRF	**Thorofare Moun**	**80.68**	**10**	*e*P	**P**	**14 28 10.8**	**-0.5**
	7.3nm,1.1s						
PAX	**Paxson**	**81.15**	**12**	*e*P	**P**	**14 28 12.4**	**-1.3**
	6.7nm,1.5s						
MCMT	**McKenzie Canyo**	**81.17**	**39**	*e*P	**P**	**14 28 15.0**	**+0.6**
	3.5nm,1.3s						
MCK	**McKinley**	**81.18**	**11**	*e*P	**P**	**14 28 13.3**	**-0.5**
	9.7nm,1.0s						
HYT	**Haines Junctio**	**81.24**	**17**	*e*P	**P**	**14 28 14.4**	**+0.1**
MENT	**Mentasta**	**81.50**	**13**	*e*P	**P**	**14 28 15.3**	**-0.2**
BSMT	**Bassoo Peak**	**81.70**	**35**	*e*P	**P**	**14 28 17.6**	**+0.5**
	10.0nm,1.3s						
CHMT	**Chamberlain Mo**	**82.05**	**37**	*e*P	**P**	**14 28 18.8**	**-0.2**
	2.3nm,1.0s						
PDAR	**Pinedale Array**	**82.17**	**42**	P	**P**	**14 28 19.8**	**0.0**
PDAR	**Pinedale Array**	**82.17**	**42**	P	**P**	**14 28 19.8**	**0.0**
	3.5nm,1.2s,baz=197,slow=2.5,SNR=10.0						
PDAR				LR	LR	15 00 41.0	
	comp=Z,148nm,18.4s,baz=253,slow=33						
COLA	**College**	**82.42**	**11**	*e*P	**P**	**14 28 18.4**	**-1.8**
	48nm,1.0s						
ILAR	**Eielson Array**	**82.50**	**11**	P	**P**	**14 28 20.0**	**-0.7**
ILAR	**Eielson Array**	**82.50**	**11**	P	**P**	**14 28 20.0**	**-0.7**
	1.0nm,0.8s,baz=224,slow=6.2,SNR=8.7						
ILAR				LR	LR	14 57 52.8	
	comp=Z,85nm,20.9s,baz=206,slow=30						
MAW	**Mawson**	**87.78**	**199**	*e*P	**P**	**14 28 48.0**	**+0.9**
	2.4nm,1.0s						
MAW	**Mawson**	**87.78**	**199**	P	**P**	**14 28 48.7**	**+1.5**
	baz=88,SNR=5.2						
MAW	**Mawson**	**87.78**	**199**	P	**P**	**14 28 48.5**	**+1.3**
	5.9nm,0.8s,baz=115,slow=5.7,SNR=22						
MAW				LR	LR	15 06 48.5	
	comp=Z,141nm,18.6s,baz=112,slow=35						
SNAA	**Sanae**	**92.79**	**177**	*e*P	**P**	**14 29 12.6**	**+1.9**
SNAA	**Sanae**	**92.79**	**177**	*e*P	**P**	**14 29 12.3**	**+1.6**
	5.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**92.90**	**288**	P	**P**	**14 29 12.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**92.90**	**288**	P	**P**	**14 29 12.4**	**+0.3**
	0.5nm,0.3s,baz=82,slow=2.4,SNR=5.9						
CMAR				LR	LR	15 04 54.4	
	comp=Z,157nm,19.4s,baz=152,slow=32						
LCO	**Las Campanas**	**93.07**	**121**	P	P	14 29 08.4	-4.7
	baz=93,SNR=3.8						
VNA2	**Neumayer--Watz**	**93.23**	**175**	*e*P	**P**	**14 29 15.2**	**+2.6**
VNA1	**Neumayer--Stat**	**93.42**	**175**	*e*P	**P**	**14 29 10.5**	**-3.0**
LPAZ	**La Paz**	**99.53**	**110**	LR	LR	15 04 07.7	
	comp=Z,91nm,18.8s,baz=356,slow=29						
ROSC	**El Rosal**	**99.75**	**88**	LR	LR	15 07 01.4	
	comp=Z,58nm,19.9s,baz=205,slow=31						
ZALV	**Zalesovo Beam**	**109.47**	**322**	PKiKP	**PKiKP**	**14 34 28.2**	**-0.4**
ZALV	**Zalesovo Beam**	**109.47**	**322**	PKiKP	**PKiKP**	**14 34 28.3**	**-0.4**
	0.4nm,0.3s,baz=134,slow=4.2,SNR=2.4						
MKAR	**Makanchi Array**	**111.09**	**315**	PKiKP	**PKiKP**	**14 34 31.5**	**-0.5**
MKAR	**Makanchi Array**	**111.09**	**315**	PKiKP	**PKiKP**	**14 34 31.5**	**-0.5**
	0.4nm,0.7s,baz=348,slow=0.6,SNR=4.1						
ARCES	**ARCESS Array B**	**124.75**	**352**	PKP	**PKPdf**	**14 34 58.6**	**+1.1**
ARCES	**ARCESS Array B**	**124.75**	**352**	PKP	**PKPdf**	**14 34 58.6**	**+1.1**
	3.4nm,0.8s,baz=20,slow=3.9,SNR=5.1						
AKASG	**Malin Array Be**	**140.54**	**338**	PKP	**PKPdf**	**14 35 27.6**	**-0.1**
AKASG	**Malin Array Be**	**140.54**	**338**	PKP	**PKPdf**	**14 35 27.6**	**-0.1**
	0.5nm,0.5s,baz=28,slow=2.1,SNR=6.4						
KWP	**Kalwaria Pacla**	**143.60**	**343**	⇓*i*P	PKPbc	14 35 30.7	0.0
TSUM	**Tsumeb**	**143.94**	**197**	*e*PKP	**PKPdf**	**14 35 34.2**	**-0.8**
CLL	**Collm**	**143.95**	**353**	*i* PKPdf	**PKPdf**	**14 35 34.2**	**+0.4**
STHS	**Stebnicka Huta**	**144.20**	**344**	*e*PKP	**PKPdf**	**14 35 33.7**	**-0.7**
UPC	**Upice**	**144.31**	**350**	*e*PKP	PKPbc	14 35 32.6	-0.2
KOLS	**Kolonicke sedl**	**144.35**	**343**	*e*PKP	**PKPdf**	**14 35 34.0**	**-0.6**
DPC	**Dobruska-Polom**	**144.41**	**350**	*e*PKP	PKPbc	14 35 33.7	+0.5
DPC				*ex*	x	14 35 50.8	
OKC	**Ostrava-Krasne**	**144.55**	**347**	*e*PKP	**PKPdf**	**14 35 34.3**	**-0.6**
BURAR	**Bucovina Array**	**144.56**	**338**⇑	*i*P	PKPbc	14 35 34.1	+0.3
TRPA	**Tarpa**	**145.00**	**342**

DYR				S		Sn	14 17 43.6	+0.1
KFL	**Anninata**	**1.49**	**0**	P		**Pn**	14 17 32.7	+1.9
KFL				S		**Sn**	14 17 50.6	+1.5
KFL	**Anninata**	**1.49**	**0**	P		**Pn**	14 17 32.7	+1.9
KFL				S		**Sn**	14 17 50.6	+1.5
VLX	**Vlachokerasia**	**1.49**	**59**	P		**Pn**	14 17 31.7	+0.8
VLX				S		**Sn**	14 17 48.2	-1.0
VLX	**Vlachokerasia**	**1.49**	**59**	P		**Pn**	14 17 31.7	+0.8
VLX				S		**Sn**	14 17 48.2	-1.0
DRO	**Drossia**	**1.53**	**29**	P		**Pn**	14 17 32.2	+0.9
DRO	**Drossia**	**1.53**	**29**	P		**Pn**	14 17 32.2	+0.9
RLS	**Riolos of Patr**	**1.54**	**21**	P		**Pn**	14 17 32.3	+0.8
RLS	**Riolos of Patr**	**1.54**	**21**	P		**Pn**	14 17 32.3	+0.8
VLS	**Valsamata**	**1.56**	**355**	P		**Pn**	14 17 33.2	+1.4
VLS				S		**Sn**	14 17 53.1	+2.2
VLS	**Valsamata**	**1.56**	**355**	P		**Pn**	14 17 33.2	+1.4
VLS				S		**Sn**	14 17 53.1	+2.2
VLI	**Veliai**	**1.74**	**86**	P		**Pn**	14 17 35.3	+1.1
VLI				S		**Sn**	14 17 55.5	+0.2
VLI	**Veliai**	**1.74**	**86**	P		**Pn**	14 17 35.3	+1.1
VLI				S		**Sn**	14 17 55.5	+0.2
KLV	**Kalavryta, Ach**	**1.80**	**37**	P		**Pn**	14 17 35.6	+0.5
KLV	**Kalavryta, Ach**	**1.80**	**37**	P		**Pn**	14 17 35.6	+0.5
GUR	**Goura**	**1.81**	**43**	P		**Pn**	14 17 36.2	+0.9
GUR				S		**Sn**	14 17 57.0	-0.2
GUR	**Goura**	**1.81**	**43**	P		**Pn**	14 17 36.2	+0.9
GUR				S		**Sn**	14 17 57.0	-0.2
KYTH	**Kithira**	**1.85**	**100**	P		**Pn**	14 17 37.4	+1.6
KYTH	**Kithira**	**1.85**	**100**	P		**Pn**	14 17 37.4	+1.6
LAKA	**Lakka**	**1.88**	**30**	P		**Pn**	14 17 37.5	+1.3
LAKA				S		**Sn**	14 17 58.7	0.0
LAKA	**Lakka**	**1.88**	**30**	P		**Pn**	14 17 37.5	+1.3
LAKA				S		**Sn**	14 17 58.7	0.0
PDO	**Prodromos**	**2.00**	**9**	P		**Pn**	14 17 38.5	+0.7
PDO	**Prodromos**	**2.00**	**9**	P		**Pn**	14 17 38.5	+0.7
EFP	**Efpalio**	**2.02**	**26**	P		**Pn**	14 17 39.5	+1.5
EFP	**Efpalio**	**2.02**	**26**	P		**Pn**	14 17 39.5	+1.5
TRIZ	**Trizonia**	**2.03**	**30**	P		**Pn**	14 17 39.8	+1.7
TRIZ				S		**Sn**	14 18 02.7	+0.5
TRIZ	**Trizonia**	**2.03**	**30**	P		**Pn**	14 17 39.8	+1.7
TRIZ				S		**Sn**	14 18 02.7	+0.5
KALE	**Kalithea**	**2.08**	**31**	P		**Pn**	14 17 40.4	+1.5
KALE				S		**Sn**	14 18 03.5	-0.1
KALE	**Kalithea**	**2.08**	**31**	P		**Pn**	14 17 40.4	+1.5
KALE				S		**Sn**	14 18 03.5	-0.1
PVO	**Paravola**	**2.08**	**16**	P		**Pn**	14 17 40.3	+1.4
PVO	**Paravola**	**2.08**	**16**	P		**Pn**	14 17 40.3	+1.4
DIDY	**Didyma**	**2.13**	**66**	P		**Pn**	14 17 40.2	+0.6
DIDY	**Didyma**	**2.13**	**66**	P		**Pn**	14 17 40.2	+0.6
DID	**Didima**	**2.16**	**65**	P		**Pn**	14 17 40.7	+0.7
DID	**Didima**	**2.16**	**65**	P		**Pn**	14 17 40.7	+0.7
LKD2	**Lefkada island**	**2.17**	**358**	*e*PB		**Pn**	14 17 40.9	+0.8
LKD2	**Lefkada island**	**2.17**	**358**	*e*Pb		**Pn**	14 17 40.9	+0.8
ANKY	**Antikythira Is**	**2.18**	**109**	P		**Pn**	14 17 41.6	+1.4
ANKY	**Antikythira Is**	**2.18**	**109**	P		**Pn**	14 17 41.6	+1.4
LTK	**Loutraki**	**2.24**	**51**	P		**Pn**	14 17 41.8	+0.7
LTK	**Loutraki**	**2.24**	**51**	P		**Pn**	14 17 41.8	+0.7
DSF	**Desfina**	**2.27**	**37**	P		**Pn**	14 17 42.6	+1.1
DSF				S		**Sn**	14 18 08.2	-0.1
DSF	**Desfina**	**2.27**	**37**	P		**Pn**	14 17 42.6	+1.1
DSF				S		**Sn**	14 18 08.2	-0.1
EVR	**Evrytania**	**2.44**	**19**	P		**Pn**	14 17 45.6	+1.7
EVR	**Evrytania**	**2.44**	**19**	*e*PB		**Pn**	14 17 45.0	+1.1
EVR				*e*SN		**Sn**	14 18 13.4	+0.9
EVR	**Evrytania**	**2.44**	**19**	*e*Pb		**Pn**	14 17 45.0	+1.1
EVR	**Evrytania**	**2.44**	**19**	P		**Pn**	14 17 45.6	+1.7
EVR				*e*Sn		**Sn**	14 18 13.4	+0.9
AXAR	**Agios Charalam**	**2.61**	**34**	P		**Pn**	14 17 47.5	+1.3
AXAR	**Agios Charalam**	**2.61**	**34**	P		**Pn**	14 17 47.5	+1.3
MAKR	**Makrakomi, Fth**	**2.62**	**24**	P		**Pn**	14 17 48.0	+1.7
MAKR	**Makrakomi, Fth**	**2.62**	**24**	P		**Pn**	14 17 48.0	+1.7
LKR	**Lokris**	**2.69**	**40**	P		**Pn**	14 17 48.1	+0.9
LKR	**Lokris**	**2.69**	**40**	*e*PN		**Pn**	14 17 48.1	+0.9
LKR				*e*SN		**Sn**	14 18 19.4	+0.8
LKR	**Lokris**	**2.69**	**40**	P		**Pn**	14 17 48.1	+0.9
LKR				*e*Sn		**Sn**	14 18 19.4	+0.8
THL	**Klokotos Trika**	**3.10**	**18**	*e*PN		**Pn**	14 17 52.7	-0.1
THL				*e*SN		**Sn**	14 18 28.7	+0.1
THL	**Klokotos Trika**	**3.10**	**18**	*e*Pn		**Pn**	14 17 52.7	-0.1
THL				*e*Sn		**Sn**	14 18 28.7	+0.1
KEK	**Kerkira**	**3.18**	**346**	*e*PN		**Pn**	14 17 53.2	-0.8
KEK				*e*SN		**Sn**	14 18 29.4	-1.3
KEK	**Kerkira**	**3.18**	**346**	*e*Pn		**Pn**	14 17 53.2	-0.8
KEK				*e*Sn		**Sn**	14 18 29.4	-1.3
NEO	**Neokhori**	**3.31**	**35**	*e*PN		**Pn**	14 17 52.8	+0.4
NEO				*e*SN		**Sn**	14 18 33.4	-0.4
NEO	**Neokhori**	**3.31**	**35**	*e*Pn		**Pn**	14 17 56.2	+0.4
NEO				*e*Sn		**Sn**	14 18 33.4	-0.4
LIT	**Litokhoron**	**3.73**	**21**	*e*PN		**Pn**	14 18 02.9	+1.4
LIT	**Litokhoron**	**3.73**	**21**	*e*Pn		**Pn**	14 18 02.9	+1.4
FNA	**Florina**	**4.19**	**6**	*e*PN		**Pn**	14 18 07.6	-0.2
FNA				*e*SN		**Sn**	14 18 54.0	-1.5
FNA	**Florina**	**4.19**	**6**	*e*Pn		**Pn**	14 18 07.6	-0.2
FNA				*e*Sn		**Sn**	14 18 54.0	-1.5
STON	**Ston**	**6.68**	**340**	*i* Pn		Pn	14 18 38.8	-3.1
STON				Sn		Sn	14 19 48.3	-8.3
UDBI	**Udbina**	**8.77**	**336**	*e*Pn		**Pn**	14 19 09.5	-1.1
UDBI				Sn		Sn	14 20 39.6	-8.5
NVLJ	**Novalja**	**9.12**	**332**	*e*Pn		Pn	14 19 12.0	-3.3
NVLJ				Sn		Sn	14 20 48.6	-7.8
GERES	**GERESS Array B**	**13.27**	**339**	Pn		**Pn**	**14 20 10.5**	**-1.7**
	0.2nm,0.3s,baz=163,slow=14,SNR=3.7							
AKASG	**Malin Array Be**	**15.33**	**21**	Pn		**P**	**14 20 42.9**	**-0.5**
	0.9nm,0.3s,baz=208,slow=8.9,SNR=4.8							
NOA	**NORSAR Array B**	**25.18**	**349**	P		**P**	**14 22 26.1**	**-1.0**
	0.6nm,0.8s,baz=173,slow=12,SNR=3.0							
TORD	**Torodi Ar. Bea**	**28.97**	**221**	P		**P**	**14 23 01.8**	**+0.3**
	1.2nm,0.7s,baz=32,slow=8.9,SNR=7.7							
KURBB	**Kurchatov Array**	**43.01**	**52**	P		**P**	**14 25 01.0**	**+0.1**
	0.6nm,0.4s,baz=285,slow=9.8,SNR=5.0							
MKAR	**Makanchi Array**	**45.96**	**57**	P		**P**	**14 25 24.6**	**0.0**
	0.3nm,0.3s,baz=273,slow=7.6,SNR=11							

***IDC 19** 14:17:56.1±7.1,0°39S×19°78W,**h0**km,**mb3.8**/1,*
***mb1 3.8**/2,**mb1mx3.4**/26,**mbtmp3.9**/2,**ML3.3**/1,**MS3.7**/5,*
Ms1 3.7**/5,**ms1mx3.2**/35,**Error ellipse: s-maj=315.8km
s-min=50.2km az=131.0,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**16.45**	**65**	Pn	Pn	14 21 48.4	-0.2
	0.1nm,0.3s,baz=228,slow=14,SNR=3.9						
TORD	**Torodi Ar. Bea**	**25.18**	**57**	P	P	14 23 23.6	+0.1
	1.9nm,0.9s,baz=238,slow=10,SNR=9.0						
TORD				LR	LR	14 32 04.2	
	comp=Z,57nm,18.4s,baz=115,slow=34						
BDFB	**Brasilia**	**31.73**	**240**	LR	LR	14 35 06.6	
	comp=Z,94nm,20.1s,baz=220,slow=32						
KEST	**Kesra**	**45.02**	**34**	LR	LR	14 46 44.9	
	comp=Z,36nm,18.1s,baz=1.8,slow=38						
MKAR	**Makanchi Array**	**98.54**	**43**	LR	LR	15 16 06.1	
	comp=Z,62nm,21.6s,baz=46,slow=35						
ZALV	**Zalesovo Beam**	**98.88**	**35**	LR	LR	15 17 45.9	
	comp=Z,139nm,20.0s,baz=250,slow=36						
ASAR	**Alice Springs**	**145.00**	**135**	PKPbc	PKPab	14 37 34.8	-0.8
	0.9nm,0.8s,baz=221,slow=2.9,SNR=8.4						

***IDC 19** 14:28:43.5±10.0,16°27S×176°88W,**h0**km,**mb3.9**/5,*
mb1 4.1**/5,**mb1mx3.8**/19,**mbtmp3.9**/5,**Error ellipse:
s-maj=244.5km s-min=40.8km az=33.0,Fiji Islands
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.19**	**258**	P	P	14 35 38.4	-1.2
	1.3nm,0.4s,baz=87,slow=13,SNR=2.7						
STKA	**Stephens Creek**	**40.70**	**240**	P	P	14 36 26.7	+0.6
	2.5nm,1.2s,baz=84,slow=9.2,SNR=4.1						
WRA	**Warramunga Arr**	**46.39**	**258**	P	P	14 37 12.2	+0.1
	0.2nm,0.4s,baz=96,slow=6.9,SNR=7.2						
ASAR	**Alice Springs**	**46.66**	**253**	P	P	14 37 14.3	+0.1
	1.9nm,0.4s,baz=90,slow=7.8,SNR=94						
VNDA	**Vanda**	**62.19**	**185**	P	P	14 39 06.3	-0.1
	0.2nm,0.4s,baz=22,slow=9.3,SNR=3.2						

PRE 19** 14:31:11.6±2.8,7°99S×35°35E,**h10**km,**ML4.6**,**Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAUS	**Longido**	**5.39**	**15**	*i* P	Pg	14 33 06.7	+12
MAUS				*i* S	Sb	14 33 43.3	-7.8
KMBO	**Kilima Mbogo**	**7.08**	**16**	*e*P	Pn	14 32 54.5	-1.2
KMBO				*e*S	Sn	14 34 14.7	-1.8
KIG	**Kigali**	**7.97**	**318**	*e*S	Sn	14 34 33.9	-4.5
KIG				AML	AML	14 35 15.4	
	comp=Z,55nm,0.6s						
MBAR	**Mbarara**	**8.66**	**328**	*e*P	Pn	14 33 17.1	-0.3
MBAR				*e*S	Sn	14 34 52.0	-3.3
LSZ	**Lusaka**	**10.08**	**223**	*e*P	Pn	14 33 38.9	+2.2

***IDC 19** 14:33:30.9±2.9,7°65S×112°34E,h0km,mb3.2/3,*
mb1 3.4/3,mb1mx3.3/21,mbtmp3.2/3,Error ellipse:
s-maj=173.8km s-min=25.9km az=50.0
*ISCJB **19** 14:33:40.7±0.6,8°4S±0°1×111°91E±0°04,h110km,*
mb3.0/3,Error ellipse: s-maj=16.9km s-min=5.9km az=6.8
*DJA **19** 14:33:42.5±0.6,9°S±9°×11°2E±°,h59km±7km,M3.6/13,*
MLv3.6/13
ISC 19 14:33:41.3±1.1,8°4S±0°1×111°93E±0°05,h110km,n17,
σ1§69/19,mb2.9/3,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWJI	**Pagerwojo**	**0.43**	**343**	P	Pn	14 33 55.5	-2.2
KRKI	**Karangkates**	**0.59**	**62**	P	**Pn**	**14 33 57.9**	**-0.8**
KRKI				S	**Sn**	**14 34 09.2**	**-2.6**
SJI	**Sawahan**	**0.71**	**347**	P	**Pn**	**14 33 58.8**	**-1.1**
PCJI	**Pacitan**	**0.78**	**288**	P	**Pn**	**14 33 58.7**	**-1.6**
PCJI				S	**Sn**	**14 34 11.7**	**-3.0**
NGJI	**Ngawi**	**1.16**	**336**	P	**Pn**	**14 34 05.9**	**+1.8**
UGM	**Wanagama**	**1.48**	**290**	P	**Pn**	**14 34 07.2**	**-0.7**
UGM				S	**Sn**	**14 34 27.0**	**-1.2**
GMJI	**Gumukmas**	**1.51**	**84**	P	**Pn**	**14 34 07.4**	**-0.7**
GRJI	**Gresik**	**1.61**	**20**	P	**Pn**	**14 34 09.8**	**+0.4**
BLJI	**Banyuglugur**	**1.79**	**68**	P	**Pn**	**14 34 11.7**	**+0.1**
ABJI	**Asem Bagus**	**2.37**	**75**	P	**Pn**	**14 34 19.4**	**+0.4**
KMMI	**Kalianget**	**2.44**	**56**	P	**Pn**	**14 34 19.7**	**-0.3**
BJII	**Banjamegara**	**2.46**	**296**	P	**Pn**	**14 34 21.4**	**+1.2**
KPJI	**Karang Pucung**	**3.17**	**290**	P	**Pn**	**14 34 30.9**	**+1.4**
SRBI	**Singaraja**	**3.27**	**84**	P	**Pn**	**14 34 31.0**	**+0.2**
WRA	**Warramunga Arr**	**24.52**	**120**	P	**P**	**14 38 52.9**	**+2.2**
	0.4nm,0.9s,baz=297,slow=11,SNR=8.2						
ASAR	**Alice Springs**	**25.93**	**128**	P	**P**	**14 39 06.8**	**+3.3**
	0.1nm,0.3s,baz=305,slow=9.3,SNR=9.0						
MKAR	**Makanchi Array**	**60.99**	**337**	P	**P**	**14 43 42.2**	**-0.8**
	0.2nm,0.5s,baz=147,slow=5.4,SNR=3.9						

***IDC 19** 14:35:50.0±2.5,6°00S×130°65E,h0km,mb3.5/1,*
mb1 4.0/3,mb1mx3.6/18,mbtmp3.8/3,ML4.0/1,Error
ellipse: s-maj=152.3km s-min=33.1km az=71.0
*ISCJB **19** 14:36:03.7±0.8,6°81S±0°06×130°3E±0°1,h78km,mb3.4/1,*
Error ellipse: s-maj=17.2km s-min=8.2km az=5.4
*AUST **19** 14:36:03.4±0.0,6°48S×130°17E,h241km,Error ellipse:*
s-maj=1.4km s-min=1.0km az=294.0
ISC 19 14:36:05.3±1.3,6°87S±0°08×130°4E±0°2,h78km,n13,
σ1§57/8,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**2.61**	**62**	P	Pn	14 36 55.1	+10
	baz=2.7,SNR=18						
FAKI	**Fak Fak**	**4.33**	**25**	P	**Pn**	**14 37 09.8**	**+1.0**
	baz=4.1,SNR=20						
MTN	**Manton Dam**	**5.97**	**173**	P	Pn	14 37 36.4	+5.2
	baz=6.4,SNR=104						
SWI	**Sorong**	**6.03**	**8**	P	**Pn**	**14 37 30.5**	**-1.5**
	baz=5.7,SNR=11						
KDU	**Kakadu**	**6.12**	**161**	P	Pn	14 37 39.3	+6.1
	baz=6.6,SNR=144						
SOEI	**Soe**	**6.73**	**244**	P	Pn	14 37 40.5	-1.1
	baz=6.7,SNR=4.2						
KNRA	**Kununurra**	**8.90**	**190**	P	**Pn**	**14 38 12.6**	**+1.5**
	baz=9.3,SNR=11						
MMPI	**Merauke**	**10.00**	**100**	P	Pn	14 38 24.6	-1.6
	baz=10,SNR=3.7						
FITZ	**Fitzroy Crossi**	**12.10**	**202**	P	**Pn**	**14 38 54.1**	**-0.6**
	baz=12,SNR=11						
WRA	**Warramunga Arr**	**13.54**	**164**	Pn	**Pn**	**14 39 14.0**	**-0.1**
	0.8nm,0.3s,baz=349,slow=13,SNR=30						
WRA				Sn	**Sn**	**14 41 41.6**	**-1.3**
	0.7nm,0.3s,baz=329,slow=22,SNR=5.1						
ASAR	**Alice Springs**	**17.03**	**169**	Pn	**Pn**	**14 39 60.0**	**+1.4**
	0.4nm,0.3s,baz=342,slow=9.0,SNR=42						
ASAR				Sn	**Sn**	**14 43 05.8**	**-1.7**
	0.3nm,0.3s,baz=350,slow=26,SNR=6.0						
RMQ	**Roma**	**26.18**	**140**	P	P	14 41 42.3	+10
	baz=27,SNR=5.2						
MKAR	**Makanchi Array**	**68.35**	**327**	P	P	14 46 49.5	-8.9
	0.3nm,0.5s,baz=110,slow=6.5,SNR=5.3						

*UPP **19** 14:39:25.8,59°76N×23°52E,h0km,ML2.0,Suspected*
Mining explosion.
*ISCJB **19** 14:39:26.3±0.6,59°78N±0°04×23°29E±0°05,h0km,Error*
ellipse: s-maj=6.4km s-min=3.1km az=156.0
*CSEM **19** 14:39:27.3±0.3,59°76N×23°29E,h2km,ML1.9,Error*
ellipse: s-maj=9.2km s-min=3.5km az=161.0,Mining
explosion.
*NAO **19** 14:39:27.0±1.2,59°79N×23°27E,ML2.2*
*HEL **19** 14:39:27.4±0.2,59°76N×23°28E,h0km,ML1.9,*
ML2.0(UPP),Explosion
*BER **19** 14:39:27.5±4.7,59°76N×23°22E,h0km,ML2.2(NAO),*
Suspected explosion
*IDC **19** 14:39:27.6±1.9,59°82N×23°39E,h0km,mb1 3.0/4,*
mb1mx2.9/29,mbtmp2.9/4,ML2.6/4,Error ellipse:
s-maj=25.6km s-min=9.8km az=152.0
ISC 19 14:39:25.6±0.9,59°75N±0°05×23°24E±0°03,h0km,n55,
σ1§45/81,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.75**	**51**	*e*P	**Pg**	**14 39 40.0**	**0.0**
MEF				*e*S	**Sg**	**14 39 49.2**	**-0.4**
MEF	**Metsahovi**	**0.75**	**51**	P	**Pg**	**14 39 39.9**	**0.0**
MEF				S	**Sg**	**14 39 49.2**	**-0.4**
RAF	**Rauma**	**1.47**	**331**	*e*P	**Pn**	**14 39 52.9**	**-0.4**
RAF				*e*PN	**Pb**	**14 39 55.4**	**+1.6**
RAF				*e*S	**Sg**	**14 40 12.6**	**-0.3**
RAF				*e*SN	**Sn**	**14 40 15.6**	**+2.3**
RAF				MSG		14 40 17.0	
	comp=Z,6.7nm,0.4s						
RAF	**Rauma**	**1.47**	**331**	P	**Pn**	**14 39 52.9**	**-0.4**
PVF	**Pernaja**	**1.54**	**58**	*e*P	**Pn**	**14 39 54.1**	**-0.1**
PVF				*e*PN	**Pg**	**14 39 56.6**	**+1.6**
PVF				*e*S	**Sn**	**14 40 13.3**	**-1.5**
PVF				*e*SN	**Sg**	**14 40 15.5**	**+0.5**
PVF				MSG		14 40 16.4	
	comp=Z,6.4nm,0.2s						
PVF				*e*RG	Rg	14 40 17.5	
PVF	**Pernaja**	**1.54**	**58**	P	**Pn**	**14 39 54.1**	**-0.1**
FIA0	**FINESS Array S**	**2.21**	**38**	Pn	**Pn**	**14 40 04.8**	**+1.4**
	baz=223,slow=16						
FIA0				Lg	Lg	14 40 34.2	
	baz=229,slow=28						
FIA0	**FINESS Array S**	**2.21**	**38**	Pn	**Pn**	**14 40 04.8**	**+1.4**
	baz=223,slow=16						
FIA0				Lg	Lg	14 40 34.2	
	baz=229,slow=28						
FIA0	**FINESS Array S**	**2.21**	**38**	*e*P	**Pb**	**14 40 05.4**	**-0.9**
FIA0				*e*S	**Sn**	**14 40 32.2**	**+0.9**
FIA0				*e*SB	**Sb**	**14 40 33.8**	**-0.3**
FIA0				MSG		14 40 35.3	
	comp=Z,7.6nm,0.3s						
FIA0	**FINESS Array S**	**2.21**	**38**	Pn	**Pn**	**14 40 04.8**	**+1.4**
	baz=223,slow=15,SNR=50						
FIA0	**FINESS Array S**	**2.21**	**38**	P	**Pb**	**14 40 05.3**	**-0.9**
FIA0				S	**Sn**	**14 40 32.2**	**+0.9**
FIA0				Lg	Lg	14 40 34.2	
	baz=229,slow=26,SNR=2.9						
FINES	**FINESS Array B**	**2.21**	**38**	Pn	**Pn**	**14 40 05.1**	**+1.7**
	comp=Z,2.1nm,0.3s,baz=219,slow=15,SNR=76						
FINES				Sn	**Sn**	**14 40 32.7**	**+1.4**
	comp=Z,4.4nm,0.3s,baz=225,slow=27,SNR=49						
VSU	**Vasula**	**2.22**	**124**	Lg	Lg	14 40 35.5	
VSU	**Vasula**	**2.22**	**124**	Lg	Lg	14 40 35.5	
VSU	**Vasula**	**2.22**	**124**	Lg	Lg	14 40 35.5	
SNR=50							
VJF	**Virojoki**	**2.30**	**68**	*e*P	**Pn**	**14 40 05.4**	**+0.6**
VJF				*e*SG	**Sb**	**14 40 38.1**	**+1.2**
VJF				MSG		14 40 39.8	
	comp=Z,4.1nm,0.3s						
VJF	**Virojoki**	**2.30**	**68**	P	**Pn**	**14 40 05.3**	**+0.6**
VJF				Sg	**Sb**	**14 40 38.1**	**+1.2**
KEF	**Keuruu**	**2.56**	**17**	*e*P	**Pb**	**14 40 10.9**	**-1.4**
KEF				*e*SB	**Sb**	**14 40 43.6**	**-0.6**
KEF				MSG		14 40 45.9	
	comp=Z,9.2nm,0.4s						
KEF	**Keuruu**	**2.56**	**17**	P	**Pb**	**14 40 10.8**	**-1.4**
FORU	**Forsmark**	**2.62**	**286**	*e*P	**Pb**	**14 40 12.2**	**-1.1**
FORU	**Forsmark**	**2.62**	**286**	P	**Pb**	**14 40 12.1**	**-1.1**
FLYU	**Flymyra**	**2.72**	**280**	*e*P	**Pn**	**14 40 12.2**	**+1.8**
FLYU				*e*S	**Sb**	**14 40 47.3**	**-1.6**
FLYU	**Flymyra**	**2.72**	**280**	P	**Pn**	**14 40 12.2**	**+1.8**
FLYU				S	**Sb**	**14 40 47.3**	**-1.6**
NYNU	**Nynaeshamn**	**2.78**	**257**	*e*P	**Pn**	**14 40 13.4**	**+2.2**
NYNU	**Nynaeshamn**	**2.78**	**257**	P	**Pn**	**14 40 13.4**	**+2.2**
KAF	**Kangasniemi**	**2.81**	**31**	*e*P	**Pb**	**14 40 14.5**	**-2.1**
KAF				MSG	**Sb**	**14 40 50.1**	**-1.3**
	comp=Z,4.1nm,0.4s						
KAF				*e*SB	**Sb**	**14 40 50.1**	**-1.3**
KAF	**Kangasniemi**	**2.81**	**31**	P	**Pb**	**14 40 14.4**	**-2.1**
BACU	**Backbrunna**	**3.10**	**275**	*e*P	**Pn**	**14 40 17.6**	**+1.9**
BACU	**Backbrunna**	**3.10**	**275**	P	**Pn**	**14 40 17.6**	**+1.9**
OSTU	**Oestervaala**	**3.10**	**282**	*e*P	**Pn**	**14 40 17.4**	**+1.7**
OSTU	**Oestervaala**	**3.10**	**282**	P	**Pn**	**14 40 17.4**	**+1.7**
IGGU	**Iggoen**	**3.15**	**294**	*e*P	**Pn**	**14 40 18.3**	**+1.8**
IGGU	**Iggoen**	**3.15**	**294**	P	**Pn**	**14 40 18.2**	**+1.8**
SUF	**Sumiainen**	**3.30**	**24**	*e*P	**Pn**	**14 40 20.8**	**+2.3**
SUF				*e*S	**Sn**	**14 40 58.6**	**+0.3**
SUF				MSG		14 41 04.4	
	comp=Z,2.4nm,0.3s						
SUF	**Sumiainen**	**3.30**	**24**	P	**Pn**	**14 40 20.7**	**+2.3**
SUF				S	**Sn**	**14 40 58.6**	**+0.3**
VAF	**Ylistaro**	**3.32**	**356**	*e*P	**Pn**	**14 40 21.6**	**+2.9**
VAF				*e*S	**Sn**	**14 41 00.2**	**+1.5**
VAF				*e*SB	**Sb**	**14 41 05.3**	**-0.8**
VAF				MSG		14 41 06.8	
	comp=Z,2.4nm,0.4s						
VAF	**Ylistaro**	**3.32**	**356**	P	**Pn**	**14 40 21.6**	**+2.9**
VAF				S	**Sn**	**14 41 00.2**	**+1.5**
ESKU	**Eskilstuna**	**3.53**	**265**	*e*P	**Pn**	**14 40 23.7**	**+2.1**
ESKU	**Eskilstuna**	**3.53**	**265**	P	**Pn**	**14 40 23.6**	**+2.1**
HUDU	**Hudiksvall**	**3.60**	**306**	*e*P	**Pn**	**14 40 23.9**	**+1.3**
HUDU	**Hudiksvall**	**3.60**	**306**	P	**Pn**	**14 40 23.9**	**+1.3**
FALU	**Falun**	**3.78**	**285**	*e*P	**Pn**	**14 40 26.5**	**+1.5**
FALU	**Falun**	**3.78**	**285**	P	**Pn**	**14 40 26.5**	**+1.5**
HFS	**Hagfors**	**4.81**	**279**	Pn	**Pn**	**14 40 40.9**	**+1.7**
	baz=112,slow=16						
HFS				Sn	**Sn**	**14 41 35.1**	**-0.5**
	baz=104,slow=28						
HFS				Lg	Lg	14 41 51.9	
	baz=105,slow=37						
HFS	**Hagfors**	**4.81**	**279**	Pn	**Pn**	**14 40 40.9**	**+1.7**
	baz=112,slow=16						
HFS				Sn	**Sn**	**14 41 35.1**	**-0.5**
	baz=104,slow=28						
HFS				Lg	Lg	14 41 51.9	
	baz=105,slow=37						
HFS	**Hagfors**	**4.81**	**279**	Pn	**Pn**	**14 40 40.9**	**+1.7**
	baz=112,slow=14,SNR=50						
HFS				Sn	**Sn**	**14 41 35.1**	**-0.5**
	baz=104,slow=24,SNR=50						
HFS				Lg	Lg	14 41 51.9	
	baz=105,slow=30,SNR=90						
HFS	**Hagfors**	**4.81**	**279**	Pn	**Pn**	**14 40 41.0**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=89,slow=13,SNR=7.0						
HFS				Pg	**Pb**	**14 40 51.5**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=87,slow=19,SNR=5.5						
HFS				Sn	**Sn**	**14 41 32.9**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=112,slow=27,SNR=2.6						
HFS				Lg	Lg	14 41 53.5	
	comp=Z,0.7nm,0.3s,baz=87,slow=32,SNR=7.9						
NB2	**NORSAR Subarra**	**6.10**	**287**	Pn	**Pn**	**14 40 57.5**	**+0.6**
	baz=94,slow=14						
NB2	**NORSAR Subarra**	**6.10**	**287**	Pn

h15km±10km, mb4.3/28, MS3.5/3, Error ellipse: s-maj=10.2km s-min=7.6km az=6.5

*IDC **19** 15:33:36.7±3.8, 18°.26N×122°.56E, h49km±37km, mb3.9/21, mb1 4.1/22, mb1mx4.0/28, mbtmp4.0/22, ML4.0/1, MS3.4/5, Ms1 3.5/5, ms1mx3.0/44, Error ellipse: s-maj=18.4km s-min=13.7km az=83.0*

*BKK **19** 15:33:53.9±3.9, 18°.16N×122°.2E±2°.0, h185km±32km, M4.2/10, mb4.2/10*

ISC 19 15:33:33.6±0.5, 18°.31N±0°.06×122°.59E±0°.08, h21km±5km, n53, σ1°35/51, mb4.3/28, MS3.3/4, 3C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.52**	**263**	*eP*		**Pb**	**15 33 42.5**	**-1.5**
SGCP				*eS*		**Sb**	**15 33 49.6**	**-1.4**
CVP	**Callao Caves**	**0.94**	**230**	⇓*iP*		**Pn**	**15 33 50.0**	**-1.6**
CVP				*i* S		Sn	**15 34 04.9**	**+0.4**
PALP	**Palanan**	**1.25**	**187**	*eP*		**Pn**	**15 33 55.8**	**0.0**
APYP	**Conner**	**1.35**	**251**	*eP*		**Pn**	**15 33 56.6**	**-0.6**
CAUP	**Cauayan**	**1.54**	**208**	*eP*		**Pb**	**15 34 02.1**	**+0.7**
PIP	**Pasuquin**	**1.87**	**271**	⇓*iP*		**Pn**	**15 34 04.9**	**+0.6**
PIP				*eS*		**Sb**	**15 34 32.4**	**+2.4**
ABRA	**Dolores**	**1.90**	**250**	*eP*		**Pn**	**15 34 05.2**	**+0.5**
SIPP	**Brgy, Tapao**	**2.06**	**260**	⇓*iP*		**Pn**	**15 34 08.5**	**+1.6**
SIPP				*i* S		Sn	15 34 16.7	-15
BCPH	**Baguio City Da**	**2.71**	**225**	⇑*iP*		**Pn**	**15 34 18.0**	**+1.9**
BCPH				*i* S		**Sb**	**15 34 55.3**	**+1.0**
BALP	**Baler**	**2.73**	**201**	*eP*		**Pn**	**15 34 18.4**	**+2.1**
PCPH	**Palayan**	**3.08**	**208**	⇑*eP*		**Pn**	**15 34 23.2**	**+2.2**
PCPH				*eS*		**Sb**	**15 35 02.3**	**-2.5**
GQP	**Guinayangan**	**4.38**	**182**	⇑*eP*		**Pn**	**15 34 40.3**	**+1.4**
GQP				*eS*		**Sn**	**15 35 28.6**	**-0.8**
KSRS	**Korea Array**	**19.64**	**13**	P		**P**	**15 38 01.8**	**+1.0**
	0.5nm,0.3s,baz=190,slow=11,SNR=21							
KSRS				LR		LR	15 46 46.8	
	comp=Z,49nm,18.0s,baz=210,slow=40							
JCJ	**Chichijima**	**20.06**	**61**	LR		LR	15 43 37.7	
	comp=Z,95nm,20.9s,baz=227,slow=30							
CHBT	**CHBT**	**20.28**	**257**	P		Pn	15 38 13.2	+3.2
	10nm,1.7s							
PBKT	**Sadao Pong**	**20.69**	**269**	P		Pn	15 38 15.1	+0.2
	11nm,1.4s							
CRAI	**Chiangrai**	**21.05**	**279**	P		**P**	**15 38 19.5**	**+3.1**
	49nm,0.9s							
CMAI	**Chiengmai2**	**22.30**	**278**	P		**P**	**15 38 33.2**	**+3.2**
	23nm,0.9s							
CHTO	**Chiang Mai**	**22.42**	**275**	P		**P**	**15 38 32.8**	**+1.7**
	34nm,1.1s							
CMAR	**Chiang Mai Arr**	**22.43**	**274**	P		**P**	**15 38 31.4**	**+0.2**
	3.6nm,1.0s,baz=72,slow=9.5,SNR=21							
CMAR				PcP		**PcP**	**15 42 25.9**	**+0.2**
	0.9nm,0.8s,baz=114,slow=1.2,SNR=6.8							
CMAR				LR		LR	15 47 21.4	
	comp=Z,56nm,18.5s,baz=156,slow=37							
MJAR	**Matsushiro Arr**	**22.79**	**34**	P		**P**	**15 38 36.4**	**+1.5**
	1.7nm,0.7s,baz=238,slow=5.4,SNR=5.9							
USRK	**Ussuriysk Arra**	**27.00**	**15**	P		**P**	**15 39 15.4**	**+1.5**
	5.5nm,0.8s,baz=192,slow=8.5,SNR=7.7							
PSI	**Prapat**	**27.84**	**239**	LR		LR	15 50 13.8	
	comp=Z,108nm,18.9s,baz=88,slow=36							
ASAJ	**Asahikawa**	**30.73**	**29**	P		**P**	**15 39 48.4**	**+1.2**
	4.0nm,0.9s,baz=104,slow=20,SNR=4.6							
SONM	**Songino Array**	**32.28**	**339**	P		**P**	**15 40 01.1**	**+0.2**
	2.2nm,0.6s,baz=170,slow=9.0,SNR=3.7							
WRA	**Warramunga Arr**	**39.73**	**163**	P		**P**	**15 41 03.2**	**-1.6**
	1.7nm,0.8s,baz=342,slow=9.2,SNR=8.9							
H11S3	**WAKE ISLAND Hy**	**41.77**	**83**	T		T	16 26 02.5	
	baz=279,slow=0.7,SNR=153							
H11S1	**WAKE ISLAND Hy**	**41.78**	**82**	T		T	16 26 02.5	
	baz=279,slow=0.7,SNR=151							
H11S2	**WAKE ISLAND Hy**	**41.78**	**83**	T		T	16 26 03.9	
	baz=279,slow=0.7,SNR=138							
H11N1	**WAKE ISLAND Hy**	**41.83**	**81**	T		T	16 26 06.2	
	baz=279,slow=0.7,SNR=256							
H11N2	**WAKE ISLAND Hy**	**41.83**	**81**	T		T	16 26 06.7	
	baz=279,slow=0.7,SNR=305							
H11N3	**WAKE ISLAND Hy**	**41.84**	**81**	T		T	16 26 08.8	
	baz=279,slow=0.7,SNR=172							
ASAR	**Alice Springs**	**43.16**	**165**	P		**P**	**15 41 32.1**	**-0.8**
	0.4nm,0.6s,baz=345,slow=6.6,SNR=13							
MKAR	**Makanchi Array**	**43.55**	**320**	P		**P**	**15 41 36.5**	**+0.5**
	3.9nm,0.7s,baz=111,slow=9.6,SNR=52							
MKAR				PcP		**PcP**	**15 43 23.8**	**+0.4**
	3.5nm,0.8s,baz=98,slow=5.0,SNR=12							
PETK	**Petropavlovsk-**	**44.14**	**30**	P		**P**	**15 41 40.6**	**+0.1**
	12nm,1.0s,baz=210,slow=5.1,SNR=4.1							
ZALV	**Zalesovo Beam**	**45.91**	**330**	P		**P**	**15 41 54.0**	**-0.6**
	2.7nm,0.8s,baz=116,slow=7.9,SNR=13							
ZALV				PcP		**PcP**	**15 43 30.6**	**-0.8**
	1.1nm,0.5s,baz=116,slow=4.8,SNR=4.5							
STKA	**Stephens Creek**	**53.13**	**160**	P		**P**	**15 42 50.2**	**+0.4**
	2.6nm,0.9s,baz=56,slow=9.5,SNR=3.3							
RDF	**Al-Radifah**	**68.57**	**295**	*eP*		**P**	**15 44 34.9**	**-0.3**
RDF				AMb		AMB	15 44 35.4	
	comp=Z,21nm,0.6s							
MIB	**Mutribah**	**68.61**	**295**	*eP*		**P**	**15 44 34.5**	**-0.9**
MIB				AMb		AMB	15 44 35.2	
	comp=Z,3.4nm,0.4s							
NAY	**Al-Naaiem**	**68.78**	**295**	*eP*		**P**	**15 44 35.6**	**-1.0**
NAY				AMb		AMB	15 44 36.4	
	comp=Z,10nm,0.6s							
RST	**Umm Al-Ruwaisa**	**68.95**	**295**	*eP*		**P**	**15 44 36.4**	**-1.2**
RST				AMb		AMB	15 44 39.8	
	comp=Z,35nm,0.9s							
KBZ	**Khabaz**	**70.22**	**311**	P		**P**	**15 44 45.4**	**+0.3**
	comp=Z,2.1nm,1.0s,baz=95,slow=5.2,SNR=5.2							
ILAR	**Eielson Array**	**73.84**	**26**	P		**P**	**15 45 05.7**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=292,slow=5.7,SNR=12							
ARCES	**ARCESS Array B**	**75.45**	**339**	P		**P**	**15 45 14.7**	**-1.0**
	comp=Z,2.2nm,0.8s,baz=71,slow=5.3,SNR=5.4							
FINES	**FINESS Array B**	**77.17**	**331**	P		**P**	**15 45 24.8**	**-0.8**
	comp=Z,2.1nm,0.7s,baz=46,slow=5.5,SNR=8.0							
AKASG	**Malin Array Be**	**78.14**	**320**	P		**P**	**15 45 31.0**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=63,slow=5.6,SNR=4.6							
NB2	**NORSAR Subarra**	**84.01**	**333**	P		**P**	**15 46 01.0**	**-1.3**
	comp=Z,3.8nm,0.9s,baz=64,slow=4.8							
NOA	**NORSAR Array B**	**84.01**	**333**	P		**P**	**15 46 00.3**	**-2.0**
	comp=Z,2.6nm,0.8s,baz=63,slow=5.0,SNR=7.5							
RES	**Resolute Bay**	**84.22**	**9**	P		**P**	**15 46 02.6**	**-0.4**
	comp=Z,3.9nm,1.2s,baz=205,slow=22,SNR=6.4							
KMBO	**Kilima Mbogo**	**85.92**	**267**	P		**P**	**15 46 12.9**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=55,slow=23,SNR=8.3							
YKA	**Yellowknife Ar**	**87.85**	**23**	P		**P**	**15 46 21.6**	**+0.4**
	comp=Z,4.2nm,0.7s,baz=308,slow=4.5,SNR=19							
GERES	**GERESS Array B**	**88.20**	**321**	P		**P**	**15 46 22.8**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=64,slow=6.1,SNR=5.6							
PPT	**Papeete**	**93.41**	**107**	LR		LR	16 27 14.9	
	comp=Z,72nm,18.4s,baz=26,slow=34							

IDC 19 15:46:17.0±9.7, 15°.26S×172°.93W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.6/20, mbtmp3.8/2, MS3.2/1, Ms1 3.2/1, ms1mx2.9/30, Error ellipse: s-maj=478.9km s-min=25.0km az=142.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.74**	**40**	Pn		Pn	15 46 47.1	-1.5
	13nm,0.3s,baz=160,slow=19,SNR=12							
AFI				Sn		Sn	15 47 05.1	-6.5
	68nm,0.3s,baz=66,slow=20,SNR=24							
HNR	**Honiara**	**27.11**	**279**	LR		LR	16 01 01.4	
	comp=Z,52nm,19.3s,baz=134,slow=33							
WRA	**Warramunga Arr**	**50.32**	**257**	P		P	15 55 15.2	-0.8
	0.6nm,1.0s,baz=87,slow=6.9,SNR=3.4							
ASAR	**Alice Springs**	**50.59**	**252**	P		P	15 55 17.2	-0.8
	1.8nm,0.8s,baz=85,slow=8.3,SNR=23							
BRTR	**Keskin Array B**	**146.33**	**322**	PKPbc		PKPab	16 06 01.9	+0.8
	2.3nm,0.9s,baz=67,slow=3.2,SNR=8.7							

*IDC **19** 16:11:56.7±2.1, 25°.97N×142°.37E, h239km±48km, mb2.9/3, mb1 3.2/3, mb1mx2.9/24, mbtmp2.9/3, Error ellipse: s-maj=317.2km s-min=20.6km az=108.0*

*JMA **19** 16:11:57.5±0.3, 25°.52N×140°.49E, h48km, M4.1*

ISC 19 16:11:56.7±1.1, 25°.94N±0°.10×142°.3E±0°.4, h250km, n12, σ1°62/14, mb3.0/3, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**0.69**	**352**	P		**Pn**	**16 12 27.8**	**-2.4**
JHHJ				S		S	16 12 50.3	-6.4
CBIJ	**Chichi jima**	**1.15**	**356**	P		**Pn**	**16 12 32.1**	**-0.5**
CBIJ				S		**S**	**16 12 58.6**	**-2.3**
JCJ	**Chichijima**	**1.15**	**356**	P		**Pn**	**16 12 32.0**	**-0.5**
	40nm,0.3s,baz=289,slow=20,SNR=5.1							
JCJ				S		**S**	**16 12 58.8**	**-2.1**
	66nm,0.3s,baz=270,slow=23,SNR=14							
BSO1	**Boso 1**	**8.75**	**353**	P		Pn	16 14 04.8	+5.9
BSO3	**Boso 3**	**8.96**	**351**	P		Pn	16 14 06.5	+4.7
JOD2	**Odawara 2**	**9.69**	**344**	P		**P**	**16 14 16.5**	**-1.0**
JRY	**Ryogami san**	**10.45**	**345**	P		**P**	**16 14 25.4**	**-0.6**
JAG	**Ashikaga**	**10.72**	**348**	P		**P**	**16 14 28.6**	**-0.4**
JAG				*e*S		**S**	**16 16 26.3**	**+1.9**
JHO	**Hitachi**	**10.73**	**353**	P		**P**	**16 14 29.5**	**+0.4**
JHO				*e*S		**S**	**16 16 26.6**	**+2.0**
WRA	**Warramunga Arr**	**46.26**	**190**	P		**P**	**16 19 58.8**	**+1.3**
	2.4nm,0.5s,baz=11,slow=8.8,SNR=44							
ASAR	**Alice Springs**	**49.98**	**190**	P		**P**	**16 20 27.0**	**+1.2**
	0.1nm,0.3s,baz=10,slow=5.6,SNR=9.5							
ILAR	**Eielson Array**	**58.68**	**28**	P		**P**	**16 21 28.4**	**+0.7**
	0.2nm,0.6s,baz=256,slow=6.8,SNR=4.9							

*ISCJB **19** 16:18:29.4±0.2, 40°.10N±0°.02×77°.35E±0°.05, h10km, mb4.0/16, MS3.6/5, Error ellipse: s-maj=5.2km s-min=3.1km az=166.0*

*IDC **19** 16:18:31.6±0.8, 40°.31N×77°.07E, h0km, mb4.0/11, mb1 4.2/17, mb1mx4.0/33, mbtmp4.1/17, ML4.1/6, MS3.5/8, Ms1 3.5/8, ms1mx3.2/39, Error ellipse: s-maj=15.9km s-min=11.8km az=62.0*

*BJI **19** 16:18:32.7, 40°.23N×77°.22E, h3km, mB4.5/6, mb4.3/11, ML4.1/9, Ms3.8/2, Ms7 3.5/2*

*NNC **19** 16:18:32.5±1.2, 40°.41N×77°.05E, h0km, mb4.5, mpv4.0, Error ellipse: s-maj=9.7km s-min=8.1km az=151.0*

*MOS **19** 16:18:40.3±1.5, 40°.63N×77°.06E, h83km, mb4.0/7, Error ellipse: s-maj=10.8km s-min=4.9km az=108.5*

ISC 19 16:18:32.4±0.4, 40°.18N±0°.05×77°.17E±0°.04, h10km, n93, σ2°20/100, mb4.2/16, MS3.6/5, 14C-13D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.13**	**235**	Pg		Pn	16 19 03.8	+9.4
KSH				Sg		Sn	16 19 26.3	+16
KSH				SMN				
	comp=Z,2μm,0.3s							
KSH				SME				
	comp=Z,3μm,0.4s							
ULHL	**Ulahol**	**2.18**	**342**	*i* PN		**Pn**	**16 19 09.8**	**+0.8**
ULHL	**Ulahol**	**2.18**	**342**	P		**Pn**	**16 19 09.8**	**+0.8**
	SNR=38							
KZA	**Kyzart**	**2.39**	**323**	*i* PN		**Pn**	**16 19 13.3**	**+1.3**
KZA	**Kyzart**	**2.39**	**323**	P		**Pn**	**16 19 13.3**	**+1.3**
	SNR=795							
TKM2	**Tokmak 2**	**2.98**	**337**	⇓Pg		**Pn**	**16 19 22.5**	**+2.5**
TKM2	97nm,0.4s				⇑Lg	Lg	16 20 00.5	
	373nm,0.5s							
TKM2	**Tokmak 2**	**2.98**	**337**	*i* PN		**Pn**	**16 19 21.9**	**+1.9**
TKM2	**Tokmak 2**	**2.98**	**337**	P		**Pn**	**16 19 21.9**	**+1.9**
	SNR=339							
KBK	**Karagaybulak**	**2.99**	**327**	*i* PN		**Pn**	**16 19 22.4**	**+2.4**
KBK	**Karagaybulak**	**2.99**	**327**	P		**Pn**	**16 19 22.4**	**+2.4**
	SNR=402							
KNDC	**Almaty**	**3.04**	**357**	⇓Pg		**Pn**	**16 19 23.3**	**+2.7**
KNDC					⇑Lg	Lg	16 20 02.7	
AAK	**Ala-Archa**	**3.17**	**321**	PN		**Pn**	**16 19 25.1**	**+2.6**
AAK				pmax	pmax			
	comp=Z,27nm,0.3s							
AAK	**Ala-Archa**	**3.17**	**321**	P		**Pn**	**16 19 24.7**	**+2.2**
	SNR=209							
AAK	**Ala-Archa**	**3.17**	**321**	Pn		**Pn**	**16 19 25.1**	**+2.6**
	comp=Z,26nm,0.3s,baz=125,slow=12,SNR=289							
AAK				Lg		Lg	16 20 08.7	
	comp=Z,51nm,0.3s,baz=23,slow=23,SNR=21							
AML	**Almayashu**	**3.27**	**308**	*i* PN		**Pn**	**16 19 26.6**	**+2.5**
AML	**Almayashu**	**3.27**	**308**	P		**Pn**	**16 19 26.6**	**+2.5**
	SNR=194							
FRU	**Bishkek**	**3.27**	**325**	⇑*i* PN		**Pn**	**16 19 26.0**	**+2.2**
FRU				*i* S		**Sn**	**16 20 07.0**	**+4.2**
FRU				pmax	pmax			
	comp=Z,580nm,1.6s							
FRU				smax	smax			
	comp=E,1μm,1.6s							
CHMS	**Chumysh**	**3.35**	**328**	*i* PN		**Pn**	**16 19 27.3**	**+2.4**
CHMS	**Chumysh**	**3.35**	**328**	P		**Pn**	**16 19 27.3**	**+2.4**
	SNR=205							
EKS2	**Erkin-Say**	**3.56**	**315**	P		**Pn**	**16 19 30.2**	**+2.4**
	SNR=180							
USP	**Ospenovka**	**3.68**	**328**	*i* PN		**Pn**	**16 19 31.3**	**+2.0**
USP	**Ospenovka**	**3.68**	**328**	P		**Pn**	**16 19 31.3**	**+2.0**
	SNR=80							
KK31	**Karatay Array**	**5.78**	**303**	⇑Pn		**Pn**	**16 19 58.0**	**-0.2**
	comp=E,2.0nm,0.4s,baz=136,slow=15,SNR=31							
KK31				Pg		**Pb**	**16 20 14.3**	**+1.0**
	comp=E,27nm,0.6s,baz=128,slow=16,SNR=27							
KK31				⇓Lg		Lg	16 21 31.3	
	comp=E,42nm,0.8s,baz=127,slow=28,SNR=4.5							
KK31	**Karatay Array**	**5.78**	**303**	*i* PN		**Pn**	**16 19 58.7**	**+0.5**
KK31				pmax	pmax			
	comp=Z,3.0nm,0.3s							
CHCP	**Chirah Chowk**	**7.22**	**207**	P		Pn	16 20 21.7	+3.7
MK31	**Makanchi Array**	**7.59**	**28**	⇓Pn		**Pn**	**16 20 22.6**	**-0.4**
	comp=Z,1.9nm,0.4s							
MK31					⇑Lg	Lg	16 22 26.9	
	comp=Z,63nm,1.1s							
MK31	**Makanchi Array**	**7.59**	**28**	*i* PN		**Pn**	**16 20 23.3**	**+0.3**
MK31				pmax	pmax			
	comp=Z,2.0nm,0.3s							
MKAR	**Makanchi Array**	**7.59**	**28**	PN		**Pn**	**16 20 23.3**	**+0.3**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.3s							
MKAR	**Makanchi Array**	**7.59**	**28**	Pn		**Pn**	**16 20 23.3**	**+0.3**
	comp=Z,1.7nm,0.3s,baz=211,slow=14,SNR=95							
MKAR				Lg		Lg	16 22 28.6	
	comp=Z,1.8nm,0.3s,baz=213,slow=29,SNR=6.6							
MKAR				LR		LR	16 23 39.0	
	comp=Z,178nm,22.0s,baz=216,slow=41							
CEP	**Cherat**	**7.61**	**215**	P		**Pn**	**16 20 26.0**	**+2.5**
CEP				S		**Sn**	**16 21 51.0**	**+1.2**
WMQ	**Urumqi**	**8.64**	**62**	P		**Pn**	**16 20 36.9**	**-0.6**
WMQ				S		**Sn**	**16 22 12.9**	**-2.1**
WMQ				SMN				
	comp=Z,54nm,1.2s							
WMQ				SME				
	comp=Z,32nm,0.8s							
SARP	**Sargodha**	**9.01**	**205**	P		**Pn**	**16 20 45.1**	**+2.6**
SMLA	**Simla**	**9.03**	**180**	*i* P		**Pn**	**16 20 42.8**	**+0.1**
SMLA				*i* S		**Sn**	**16 22 29.9**	**-1.6**
SMLA				*i* S		**Sn**	**16 22 23.1**	**-1.4**
KURBB	**Kurchatov Arra**	**10.49**	**5**	⇑Pn		**Pn**	**16 21 01.6**	**-1.1**
	comp=Z,17nm,0.8s							
KURBB				⇓Lg		Lg	16 23 59.1	
	comp=Z,68nm,0.8s							
KURBB	**Kurchatov Arra**	**10.49**	**5**	Pn		**Pn**	**16 21 01.8**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=193,slow=12,SNR=121							
KURBB				Lg		Lg	16 23 57.3	
	comp=Z,0.8nm,0.3s,baz=192,slow=23,SNR=11							
KURK	**Kurchatov**	**10.59**	**5**	⇑Pn		**Pn**	**16 21 02.6**	**-1.4**
	comp=Z,9.1nm,0.8s							
KURK				⇓Lg		Lg	16 24 01.8	
	comp=Z,21nm,1.0s							
KURK	**Kurchatov**	**10.59**	**5**	*d* iP		**Pn**	**16 21 03.2**	**-0.8**
AYAN	**Aya Nagar**	**11.67**	**180**	*e*P		**Pn**	**16 21 17.1**	**-1.8**
AYAN				*e*S		**Sn**	**16 23 25.2**	**-4.0**
SONA	**Sohna**	**11.90**	**180**	*e*P		**Pn**	**16 21 21.0**	**-1.1**
SONA				*e*S		Sn	16 23 28.1	-6.8
SONA				AML		AML	16 23 38.0	
	comp=N,16nm,0.1s							
SONA				AML		AML	16 23 39.1	
	comp=E,31nm,0.1s							
KUDL	**Kundal**	**12.02**	**183**	*e*P		**Pn**	**16 21 22.0**	**-1.7**
KUDL				*e*S		Sn	16 23 29.6	-8.2
KUDL				AML		AML	16 23 42.9	
	comp=E,9.7nm,0.4s							
KUDL				AML		AML	16 23 43.5	
	comp=N,8.7nm,0.1s							
KHET	**Khetri**	**12.13**	**186**	*e*P		**Pn**	**16 21 23.4**	**-1.9**
KHET				*e*S		Sn	16 23 32.8	-7.7
KHET				AML		AML	16 23 58.7	
	comp=E,123nm,0.1s							
KHET				AML		AML	16 23 59.5	
	comp=N,67nm,0.1s							
DANN	**Dangsing**	**12.99**	**153**	*e*P		**Pn**	**16 21 34.5**	**-2.8**
	comp=N,25nm,0.3s							
DANN				*e*S		Sn	16 23 50.5	-12
VOSK	**Vostochnaya**	**13.25**	**343**	⇑Pn		**Pn**	**16 21 38.1**	**-2.3**
	comp=N,5.9nm,0.9s							
VOSK	**Vostochnaya**	**13.25**	**343**	P		**Pn**	**16 21 38.1**	**-2.3**
VOSK				pmax	pmax			
	comp=Z,6.0nm,0.9s							
KOLN	**Koldanda**	**13.47**	**155**	*e*P		**Pn**	**16 21 41.1**	**-2.7**
	comp=Z,23nm,0.3s							
KOLN				*e*S		Sn	16 24 01.9	-12
GKN	**Gorkha**	**13.62**	**151**	*e*P		**Pn**	**16 21 43.0**	**-2.8**
	comp=Z,26nm,0.3s							
BVA0	**Borovoye Array**	**13.66**	**342**	⇑Pn		**Pn**	**16 21 44.1**	**-2.0**
	comp=Z,9.2nm,0.8s,baz=150,slow=11,SNR=42							
BVA0				⇑Lg		Lg	16 25 38.7	
	comp=Z,84nm,1.6s,baz=156,slow=28,SNR=18							
BVA0	**Borovoye Array**	**13.66**	**342**	*i* P		**Pn**	**16 21 44.1**	**-2.0**
BVA0				pmax	pmax			
	comp=Z,30nm,1.4s							
BVAR	**Borovoye Array**	**13.66**	**342**	P		Pn	16 21 42.6	-3.5
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
BVAR	**Borovoye Array**	**13.66**	**342**	Pn		Pn	16 21 42.6	-3.5
	comp=Z,0.7nm,0.3s,baz=149,slow=12,SNR=45							
BVAR				Lg		Lg	16 25 36.8	
	comp=Z,0.4nm,0.3s,baz=157,slow=27,SNR=14							
BVAR				LR		LR	16 27 05.8	
	comp=Z,180nm,18.6s,baz=174,slow=38							
BRVK	**Borovoye**	**13.72**	**342**	⇑Pn		**Pn**	**16 21 44.3**	**-2.5**
	comp=Z,19nm,0.8s							
BRVK				⇓Lg		Lg	16 25 37.1	
	comp=Z,106nm,1.3s							
BRVK	**Borovoye**	**13.72**	**342**	*d* iP		**Pn**	**16 21 45.5**	**-1.3**
BRVK				pmax	pmax			
	comp=Z,12nm,0.8s							
KKN	**Kakani**	**14.06**	**149**	*e*P		**Pn**	**16 21 49.0**	**-2.8**
	comp=Z,23nm,0.5s							
DMN	**Daman**	**14.15**	**150**	*e*P		**Pn**	**16 21 50.5**	**-2.7**
	comp=Z,15nm,0.3s							
GUN	**Gumba**	**14.20**	**147**	*e*P		**Pn**	**16 21 51.6**	**-2.2**
	comp=Z,32nm,0.3s							
PKIN	**Phulchoki**	**14.29**	**149**	*e*P		Pn	16 21 52.0	-3.1
	comp=Z,17nm,0.4s							
PKI	**Pulchoki**	**14.30**	**149**	*e*P		Pn	16 21 52.4	-2.9
	comp=Z,20nm,0.4s							
JIRN	**Jiri**	**14.55**	**146**	*e*P		**Pn**	**16 21 56.1**	**-2.5**
	comp=Z,59nm,0.4s							
ZALV	**Zalesovo Beam**	**14.71**	**18**	P		**Pn**	**16 21 59.5**	**-1.0**
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ZALV	**Zalesovo Beam**	**14.71**	**18**	Pn		**Pn**	**16 21 59.5**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=197,slow=13,SNR=16							
ZALV				Lg		Lg	16 26 13.5	
	comp=Z,0.1nm,0.3s,baz=205,slow=24,SNR=5.7							
ZALV				LR		LR	16 27 54.4	
	comp=Z,106nm,20.8s,baz=251,slow=38							
AB31	**Akbulak array**	**15.21**	**312**	Pn		**Pn**	**16 22 05.2**	**-2.0**
	comp=Z,2.4nm,0.7s,baz=115,slow=13,SNR=26							
AB31				⇓Lg		Lg	16 26 31.3	
	comp=Z,14nm,1.2s							
AB31	**Akbulak array**	**15.21**	**312**	*i* P		**Pn**	**16 22 05.1**	**-2.0**
AB31				pmax	pmax			
	comp=Z,2.0nm,0.6s							
NVS	**Novosibirsk**	**15.22**	**13**	*e*P		**Pn**	**16 22 06.6**	**-0.6**
NVS				*e*			16 24 53.6	
RAMN	**Ramite**	**15.34**	**146**	*e*P		**Pn**	**16 22 05.7**	**-3.5**
	comp=Z,42nm,0.4s							
TAPN	**Taplejung**	**15.49**	**142**	*e*P		**Pn**	**16 22 08.8**	**-2.4**
	comp=Z,8.2nm,0.4s							
ODAN	**Odare**	**15.76**	**144**	*e*P		**Pn**	**16 22 12.3**	**-2.4**
	comp=Z,24nm,0.5s							
HVS	**Khovu-Aksy**	**15.89**	**41**	⇑*e*P		**Pn**	**16 22 18.2**	**+2.2**
HVS				pmax	pmax			
	comp=Z,31nm,1.7s							
AKTO	**Aktyubinsk**	**16.89**	**314**	⇓Pn		**Pn**	**16 22 26.6**	**-2.0**
	comp=Z,10nm,1.1s							
AKTO				⇓Sn		**Sn**	**16 25 31.1**	**-5.1**
	comp=Z,4.2nm,1.0s							
AKTO				⇑Lg		Lg	16 27 21.5	
	comp=Z,14nm,1.3s							
AKTO	**Aktyubinsk**	**16.89**	**314**	P		**Pn**	**16 22 25.1**	**-3.6**
AKTO	**Aktyubinsk**	**16.89**	**314**	Pn		**Pn**	**16 22 25.1**	**-3.6**
	comp=Z,0.4nm,0.3s,baz=104,slow=10,SNR=14							
AKTO				Lg

comp=Z,0.5nm,0.8s,baz=332,slow=6.5,SNR=4.9

PRU 19 16:30:56.8, 49°.81N × 18°.65E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.33**	**275**	*e*PG	Pg	16 31 03.5	+0.4
OKC				*e*SG	Sg	16 31 07.1	-0.3
	comp=Z,4.9nm,0.4s						
KRLC	**Kraliky**	**1.24**	**283**	*e*PG	Pg	16 31 19.7	-0.9
KRLC				*e*SG	Sg	16 31 36.1	-0.6
DPC	**Dobruska-Polom**	**1.59**	**291**	*e*PG	Pn	16 31 26.4	+0.1
DPC				*e*SG	Sn	16 31 47.7	0.0

*BJI **19** 16:35:03.5, 2°.02S × 100°.36E, h47km, mB5.0/25, mb5.0/43, Ms4.9/17, Ms7 4.6/18*
*MOS **19** 16:35:04.1±1.0, 1°.62S × 100°.66E, h33km, mb5.4/37, Error ellipse: s-maj=11.5km s-min=5.1km az=115.8*
*ISCJB **19** 16:35:07.7±0.4, 1°.81S±0°.03 × 100°.42E±0°.03, h69km±3km, mb5.0/109, Error ellipse: s-maj=6.2km s-min=3.1km az=141.5*
*AUST **19** 16:35:07.7±0.4, 1°.91S × 100°.35E, h54km±5km, Error ellipse: s-maj=6.7km s-min=4.7km az=98.0*
*DJA **19** 16:35:07.6±1.0, 2°.3S × 10°.0E±°, h33km±11km, M5.0/15, mb5.1/15, mB5.4/8, MLv5.2/15, Mw(mB)4.8/8*
*TEH **19** 16:35:07.0, 1°.73S × 100°.39E, h35km, ML4.9*
*IDC **19** 16:35:08.4±3.0, 1°.75S × 100°.54E, h56km±27km, mb4.5/30, mb1 4.6/32, mb1mx4.6/32, mbtmp4.5/32, ML4.7/2, MS3.8/10, Ms1 3.8/10, ms1mx3.4/36, Error ellipse: s-maj=15.3km s-min=9.3km az=58.0*
*BKK **19** 16:35:09.5±0.6, 2°.5S × 10°.0E±°, h59km±5km, M5.0/17, mB5.2/5, mb4.9/17, MLv5.1/5, Mw(mB)4.6/5*
*NEIC **19** 16:35:10.2±0.9, 1°.74S × 100°.54E, h74km±7km, mb5.0/30, Error ellipse: s-maj=7.6km s-min=4.3km az=50.0*
NEIC Felt [III] at Padang and Painan. Also felt at Padangsidempuan.

ISC 19 16:35:06.5±0.4, 1°.81S±0°.03 × 100°.39E±0°.04, h41km±2km, n462, σ1§32/464, mb5.1/108, MS4.1/20, 71C-55D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.89**	**4**	P	**Pn**	**16 35 24.1**	**+1.4**
PDSI				S	**Sn**	**16 35 36.5**	**+2.0**
KRJI	**Kerinci**	**1.10**	**105**	P	Pn	16 35 37.6	+12
KRJI				S	**Sn**	**16 35 44.0**	**+4.2**
PPI	**Padang Panjang**	**1.34**	**0**	P	**Pn**	**16 35 31.0**	**+2.2**
PPI	**Padang Panjang**	**1.34**	**0**	⇓P	**Pn**	**16 35 31.6**	**+2.8**
	baz=1.5,SNR=722						
MASI	**Maura Aman, Be**	**2.27**	**126**	P	**Pn**	**16 35 43.3**	**+1.7**
MASI				S	**Sn**	**16 36 12.2**	**+3.8**
RGRI	**Rengat**	**2.42**	**53**	P	**Pn**	**16 35 46.4**	**+2.7**
RGRI				S	**Sn**	**16 36 16.4**	**+4.3**
MNAI	**Manna**	**3.60**	**135**	P	**Pn**	**16 36 01.6**	**+1.7**
MNAI				S	**Sn**	**16 36 44.1**	**+2.9**
LHSI	**Lahat**	**3.71**	**123**	P	Pn	16 36 05.3	+3.9
BTDF	**Bukit Timah Da**	**4.62**	**47**	⇓P	**Pn**	**16 36 16.5**	**+2.7**
	baz=4.7,SNR=64						
BTDF				⇓P	**Pn**	**16 36 16.5**	**+2.7**
	baz=4.7,SNR=64						
MDSI	**Maura Dua**	**4.62**	**125**	P	Pn	16 36 17.0	+3.1
KGM	**Kluang**	**4.80**	**38**	P	Pn	16 36 19.7	+3.4
PSI	**Prapat**	**4.81**	**342**	P	**Pn**	**16 36 17.6**	**+1.0**
PSI				S	**Sn**	**16 37 13.3**	**+2.2**
PSI	**Prapat**	**4.81**	**342**	⇓P	**Pn**	**16 36 17.5**	**+1.0**
	baz=4.8,SNR=34						
PSI	**Prapat**	**4.81**	**342**	P	**Pn**	**16 36 17.6**	**+1.0**
	16nm,0.3s,baz=179,slow=6.3,SNR=50						
PSI				S	**Sn**	**16 37 13.3**	**+2.2**
	22nm,0.3s,baz=166,slow=6.1,SNR=4.1						
PSI				LR	LR	16 38 30.7	
	comp=Z,1μm,21.5s,baz=155,slow=43						
LWLI	**Liwa**	**4.85**	**131**	P	Pn	16 36 20.9	+3.7
MYKOM	**Kota Tinggi**	**4.97**	**44**	P	Pn	16 36 22.1	+3.4
MYKOM	**Kota Tinggi**	**4.97**	**44**	P	**Pn**	**16 36 21.4**	**+2.7**
	260nm,0.9s,5μm1.2nm						
FRIM	**Kepong**	**5.16**	**14**	P	Pn	16 36 25.2	+3.9
KLI	**Kotabumi**	**5.39**	**124**	P	Pn	16 36 32.4	+7.9
KASI	**Kota Agung**	**5.51**	**132**	P	**Pn**	**16 36 28.2**	**+2.1**
	256nm,0.7s,5μm1.5nm						
PPBI	**Pangkal Pinang**	**5.75**	**94**	P	Pn	16 36 36.8	+7.4
SNSI	**Sinabang, Aceh**	**5.84**	**316**	P	**Pn**	**16 36 31.9**	**+1.3**
	210nm,0.6s,3μm1.0nm						
KCSI	**Kotacane, Aceh**	**5.91**	**334**	P	**Pn**	**16 36 32.5**	**+0.9**
	208nm,0.7s,3μm1.3nm						
IPM	**Ipoh**	**6.28**	**6**	P	Pn	16 36 42.0	+5.3
IPM	**Ipoh**	**6.28**	**6**	P	Pn	16 36 41.4	+4.7
	212nm,0.7s,2μm0.8nm						
IPM	**Ipoh**	**6.28**	**6**	*e*P	Pn	16 36 41.3	+4.7
	154nm,0.6s						
KULM	**Kulim**	**7.06**	**2**	P	Pn	16 36 51.4	+4.1
KULM	**Kulim**	**7.06**	**2**	P	Pn	16 36 50.8	+3.4
	134nm,1.1s,2μm0.6nm						
KULM	**Kulim**	**7.06**	**2**	*e*P	Pn	16 36 50.6	+3.2
	82nm,0.6s						
KTGM	**Kuala Trenggan**	**7.60**	**21**	P	Pn	16 37 00.0	+5.2
LHMI	**Lhok Sumawe**	**7.79**	**334**	P	**Pn**	**16 36 58.3**	**+0.8**
	127nm,0.8s,4μm0.8nm						
DBJI	**Dramaga**	**7.90**	**127**	P	Pn	16 37 11.9	+13
CISI	**Cisompet, Garu**	**9.34**	**128**	P	**Pn**	**16 37 17.7**	**-1.1**
	95nm,0.7s						
KPJI	**Karang Pucung**	**10.12**	**123**	P	**Pn**	**16 37 31.7**	**+2.3**
	53nm,0.7s						
KSM	**Kuching**	**10.44**	**72**	P	**Pn**	**16 37 36.7**	**+3.0**
KSM	**Kuching**	**10.44**	**72**	P	**Pn**	**16 37 36.1**	**+2.3**
	29nm,0.8s						
KSM	**Kuching**	**10.44**	**72**	*e*P	**Pn**	**16 37 34.3**	**+0.6**
	18nm,0.6s						
KSM	**Kuching**	**10.44**	**72**	P	**Pn**	**16 37 36.1**	**+2.3**
	baz=10,SNR=8.5						
SURT	**Suratani**	**10.81**	**352**	P	Pn	16 37 52.8	+14
UGM	**Wanagama**	**11.77**	**121**	P	**Pn**	**16 37 52.8**	**+0.8**
	192nm,1.7s						
UGM	**Wanagama**	**11.77**	**121**	P	**Pn**	**16 37 52.8**	**+0.8**
	baz=12,SNR=8.9						
PCJI	**Pacitan**	**12.47**	**121**	P	**Pn**	**16 38 01.0**	**-0.6**
	77nm,2.0s						
SBUM	**Sibu**	**12.56**	**70**	P	Pn	16 38 07.8	+5.1
SBUM	**Sibu**	**12.56**	**70**	P	Pn	16 38 05.9	+3.1
	55nm,0.9s,536nm						
PWJI	**Pagerwojo**	**12.93**	**119**	P	**Pn**	**16 38 07.3**	**-0.6**
	36nm,1.1s						
BTM	**Bintulu**	**13.63**	**69**	P	**P**	**16 38 22.8**	**-2.5**
GMJI	**Gumukmas**	**14.49**	**117**	P	**Pn**	**16 38 28.8**	**-0.3**
CHBT	**CHBT**	**14.60**	**8**	P	**P**	**16 38 36.9**	**+0.8**
DGPR	**DIGLIPUR**	**16.63**	**334**	*e*P	**P**	**16 39 00.8**	**+2.1**
KKM	**Kota Kinabalu**	**17.62**	**64**	P	**P**	**16 39 12.2**	**+2.4**
KKM	**Kota Kinabalu**	**17.62**	**64**	*e*P	**P**	**16 39 11.0**	**+1.2**
	56nm,1.1s						
KKM	**Kota Kinabalu**	**17.62**	**64**	⇓P	**P**	**16 39 11.4**	**+1.5**
	baz=18,SNR=11						
PBKT	**Sadao Pong**	**18.27**	**2**	P	Pn	16 39 25.5	+8.5
SDKM	**Sandakan**	**18.34**	**66**	P	**Pn**	**16 39 20.1**	**+2.1**
TSM	**Tawau**	**18.49**	**71**	P	**Pn**	**16 39 22.6**	**+2.8**
KDM	**Kudat**	**18.56**	**62**	P	**Pn**	**16 39 22.4**	**+1.8**
MYLDM	**Lahad Datu**	**19.38**	**69**	P	**Pn**	**16 39 32.8**	**+2.3**
KAPI	**Kappang**	**19.58**	**100**	*e*P	**Pn**	**16 39 32.5**	**-0.4**
	41nm,0.6s						
KAPI	**Kappang**	**19.58**	**100**	P	**P**	**16 39 31.3**	**0.0**
	4.8nm,0.3s,baz=292,slow=11,SNR=8.6						
CM31	**Chiang Mai Arr**	**20.19**	**356**	*e*P	**P**	**16 39 37.6**	**-0.2**
	24nm,0.8s						
CMAR	**Chiang Mai Arr**	**20.19**	**356**	P	**P**	**16 39 36.5**	**-1.3**
CMAR				PcP	**PcP**	**16 43 51.0**	**-0.4**
CMAR	**Chiang Mai Arr**	**20.19**	**356**	P	**P**	**16 39 36.5**	**-1.3**
	20nm,0.7s,baz=186,slow=9.7,SNR=119						
CMAR				PcP	**PcP**	**16 43 51.0**	**-0.4**
	1.2nm,0.6s,baz=219,slow=2.6,SNR=6.7						
CHTO	**Chiang Mai**	**20.54**	**356**	*e*P	**P**	**16 39 40.6**	**-1.1**
CHTO				pmax	pmax		
	comp=Z,30nm,0.8s						
CHTO	**Chiang Mai**	**20.54**	**356**	*e*P	**P**	**16 39 40.6**	**-1.1**
	comp=Z,30nm,0.8s						
CHTO	**Chiang Mai**	**20.54**	**356**	P	**P**	**16 39 42.5**	**+0.8**
	comp=Z,43nm,0.9s						
PAYA	**Payao**	**21.04**	**359**	P	**P**	**16 39 49.9**	**+2.8**
	comp=Z,6.4nm,0.8s						
PALK	**Palleke**	**21.62**	**295**	*e*P	**P**	**16 39 56.0**	**+2.6**
	comp=Z,14nm,1.0s						
CMAI	**Chiengmai2**	**21.65**	**357**	P	**P**	**16 39 55.5**	**+1.8**
	comp=Z,40nm,0.9s						
CRAI	**Chiangrai**	**21.90**	**360**	P	**P**	**16 39 56.5**	**+0.2**
	comp=Z,53nm,1.2s						
QIZ	**Qiongzhong**	**22.70**	**24**	P	**P**	**16 40 06.0**	**+1.2**
QIZ				S	**S**	**16 44 12.3**	**+1.8**
QIZ				AMB	AMB		
	comp=Z,37nm,1.1s						
QIZ				AMB	AMB		
	comp=Z,200nm,3.5s						
QIZ				LR	LR		
	comp=Z,2μm,11.9s						
QIZ				LR	LR		
	comp=Z,2μm,10.8s						
QIZ	**Qiongzhong**	**22.70**	**24**	*e*P	**P**	**16 40 05.1**	**+0.3**
BATI	**Baumata**	**24.58**	**111**	P	**P**	**16 40 19.8**	**-3.2**
BATI				PcP	**PcP**	**16 44 01.3**	**+0.9**
BATI				S	S	16 44 33.5	-7.9
BATI	**Baumata**	**24.58**	**111**	P	**P**	**16 40 19.8**	**-3.2**
	comp=Z,18nm,0.4s,baz=270,slow=8.9,SNR=12						
BATI				PcP	**PcP**	**16 44 01.3**	**+0.9**
	comp=Z,12nm,0.7s,baz=18,slow=3.2,SNR=2.8						
BATI				S	S	16 44 33.5	-7.9
	comp=Z,9.0nm,0.6s,baz=293,slow=15,SNR=2.8						
VIS	**Vishakhapatnam**	**25.68**	**320**	*e*P	**P**	**16 40 34.1**	**+1.3**
VIS				AMB	AMB	16 40 35.9	
	comp=Z,19nm,0.7s						
KMI	**Kunming**	**26.87**	**5**	P	**P**	**16 40 43.8**	**0.0**
KMI				pP	**pP**	**16 40 54.3**	**-0.8**
KMI				sP	**sP**	**16 40 58.3**	**-1.7**
KMI				AMB	AMB		
	comp=Z,11nm,0.8s						
KMI				AMB	AMB		
	comp=Z,120nm,6.7s						
KMI				LR	LR		
	comp=Z,160nm,18.3s						
KMI				LR	LR		
	comp=Z,230nm,13.5s						
KMI				LR	LR		
	comp=Z,270nm,17.5s						
MBWA	**Marble Bar**	**26.93**	**137**	*e*P	**P**	**16 40 44.5**	**+0.3**
H08S2	**Diego Garcia H**	**28.39**	**257**	T	T	17 09 57.1	
	baz=81,slow=0.7,SNR=205						
H08S3	**Diego Garcia H**	**28.39**	**257**	T	T	17 10 26.8	
	baz=81,slow=0.7,SNR=385						
H08S1	**Diego Carcia H**	**28.41**	**257**	T	T	17 09 58.5	
	baz=81,slow=0.7,SNR=377						
SHL	**Shillong**	**28.43**	**344**	*e*P	**P**	**16 40 57.5**	**-0.2**
SHL				AMB	AMB	16 40 58.0	
	comp=Z,18nm,0.7s						
GYA	**Guiyang**	**28.75**	**12**	P	**P**	**16 41 03.3**	**+2.8**
GYA				pP	**pP**	**16 41 13.6**	**+1.8**
GYA				sP	**sP**	**16 41 19.0**	**+2.3**
GYA				PP	**PnPn**	**16 41 57.5**	**+4.9**
GYA				PcP	**PcP**	**16 44 13.3**	**+3.2**
GYA				S	**S**	**16 45 50.9**	**+3.6**
GYA				sS	**sS**	**16 46 07.1**	**+1.0**
GYA				ScP	**SS**	**16 47 50.0**	**-0.3**
GYA				ScS	**ScS**	**16 51 41.6**	**-0.5**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s						
GYA				AMB	AMB		
	comp=Z,110nm,4.8s						
GYA				LR	LR		
	comp=Z,480nm,16.4s						
GYA				LR	LR		
	comp=Z,450nm,17.8s						
GYA				LR	LR		
	comp=Z,490nm,16.2s						
BOK	**Bokaro**	**29.10**	**332**	*e*P	**P**	**16 41 04.3**	**+0.8**
BOK				AMB	AMB	16 41 05.8	
	comp=Z,27nm,0.6s						
FITZ	**Fitzroy Crossi**	**29.60**	**125**	*e*P	**P**	**16 41 06.5**	**-1.5**
	comp=Z,10.0nm,0.6s						
FITZ				PcP	**PcP**	**16 44 12.3**	**+0.1**
FITZ	**Fitzroy Crossi**	**29.60**	**125**	P	**P**	**16 41 06.7**	**-1.3**
	baz=30,SNR=42						
FITZ	**Fitzroy Crossi**	**29.60**	**125**	P	**P**	**16 41 06.8**	**-1.1**
	comp=Z,9.3nm,0.5s,baz=306,slow=6.0,SNR=67						
FITZ				PcP	**PcP**	**16 44 12.3**	**+0.1**
	comp=Z,2.3nm,0.6s,baz=344,slow=4.8,SNR=3.7						
FITZ				LR	LR	16 52 13.8	
	comp=Z,95nm,21.2s,baz=306,slow=35						
MEEK	**Meekatharra**	**30.26**	**146**	⇓P	**P**	**16 41 13.2**	**-0.6**
	baz=30						
SWI	**Sorong**	**30.87**	**89**	⇑P	**P**	**16 41 18.5**	**-0.8**
	baz=31,SNR=4.4						
NGP	**Nagpur**	**30.93**	**319**	*e*P	**P**	**16 41 18.3**	**-1.4**
ODAN	**Odare**	**31.14**	**337**	*e*P	**P**	**16 41 22.7**	**+0.9**
	comp=Z,62nm,0.5s						
TAPN	**Taplejung**	**31.46**	**338**	*e*P	**P**	**16 41 26.0**	**+1.3**
	comp=Z,91nm,0.8s						
RAMN	**Ramite**	**31.54**	**336**	*e*P	**P**	**16 41 26.6**	**+1.3**
	comp=Z,30nm,0.4s						
TPUB	**Ta-pu**	**31.80**	**37**	*e*P	**P**	**16 41 28.0**	**+0.6**
	comp=Z,21nm,0.8s						
JIRN	**Jiri**	**32.33**	**336**	*e*P	**P**	**16 41 33.5**	**+1.1**
	comp=Z,55nm,0.4s						
SSLB	**Suanglung**	**32.36**	**37**	*e*P	**P**	**16 41 32.8**	**+0.5**
	comp=Z,24nm,1.0s						
LSA	**Lhasa**	**32.55**	**345**	P	**P**	**16 41 35.1**	**+0.7**
LSA				AMB	AMB		
	comp=Z,40nm,0.5s						
LSA	**Lhasa**	**32.55**	**345**	*e*P	**P**	**16 41 34.9**	**+0.4**
LSA				pmax	pmax		
	comp=Z,40nm,0.7s						
LSA	**Lhasa**	**32.55**	**345**	*e*P	**P**	**16 41 34.9**	**+0.4**
	comp=Z,40nm,0.7s						
PKI	**Pulchoki**	**32.58**	**335**	*e*P	**P**	**16 41 35.2**	**+0.7**
	comp=Z,16nm,0.4s						
PKIN	**Phulchoki**	**32.59**	**335**	*e*P	**P**	**16 41 35.2**	**+0.7**
	comp=Z,20nm,0.5s						
GUN	**Gumba**	**32.68**	**336**	*e*P	**P**	**16 41 36.5**	**+1.1**
	comp=Z,133nm,0.4s						
CD2	**Chengdu**	**32.70**	**5**	P	**P**	**16 41 33.8**	**-1.4**
CD2				pP	**pP**	**16 41 43.8**	**-2.7**
CD2				sP	**sP**	**16 41 47.8**	**-3.7**
CD2				S	**S**	**16 46 47.3**	**-1.6**
CD2				SS	**SnSn**	**16 48 47.1**	**+0.2**
CD2				AMB	AMB		
	comp=Z,30nm,0.5s						
CD2				AMB	AMB		
	comp=Z,150nm,4.9s						
CD2				LR	LR		
	comp=Z,350nm,7.2s						
CD2				LR	LR		
	comp=Z,380nm,9.6s						
DMN	**Daman**	**32.74**	**334**	*e*P	**P**	**16 41 36.7**	**+0.8**
	comp=Z,12nm,0.3s						
KKN	**Kakani**	**32.82**	**335**	*e*P	**P**	**16 41 37.4**	**+0.9**
	comp=Z,51nm,0.5s						
POO	**Poona**	**33.02**	**309**	*ex*	**S**	**16 46 49.4**	**-4.8**
ENH	**Enshi**	**33.06**	**15**	*e*P	**P**	**16 41 37.3**	**-1.0**
	comp=Z,35nm,0.4s						
GKN	**Gorkha**	**33.29**	**334**	*e*P	**P**	**16 41 41.5**	**+1.0**
	comp=Z,48nm,0.3s						
BHPL	**Bhopal**	**33.47**	**319**	*e*P	**P**	**16 41 42.0**	**-0.1**
BHPL				AMB	AMB	16 41 43.9	
	comp=Z,8.8nm,0.2s						
KOLN	**Koldanda**	**33.55**	**332**	*e*P	**P**	**16 41 44.0**	**+1.1**
	comp=Z,76nm,0.6s						
DANN	**Dangsing**	**33.98**	**333**	*e*P	**P**	**16 41 47.5**	**+0.8**
	comp=Z,76nm,0.4s						
NWAO	**Narrogin (SRO)**	**34.76**	**155**	*e*P	**P**	**16 41 54.9**	**+1.9**
NWAO	**Narrogin (SRO)**	**34.76**	**155**	P	**P**	**16 41 53.0**	**-0.1**
	comp=Z,2.5nm,0.3s,baz=297,slow=8.4,SNR=3.7						
H01W3	**Cape Leeuwin H**	**35.31**	**160**	T	T	17 19 10.3	
	baz=333,slow=0.7						
H01W2	**Cape Leeuwin H**	**35.32**	**160**	T	T	17 19 11.4	
	baz=333,slow=0.7						
H01W1	**Cape Leeuwin H**	**35.33**	**160**	T	T	17 19 11.4	
	baz=333						
XAN	**Xi'an**	**36.55**	**12**	P	**P**	**16 42 07.1**	**-1.3**
XAN				AMB	AMB		
	comp=Z,23nm,0.4s						
XAN				AMB	AMB		
	comp=Z,17nm,4.6s						
LGTI	**Lohaghat**	**36.57**	**330**	*ex*	P	16 42 14.9	+6.3
NDI	**New Delhi**	**37.59**	**325**	*e*P	**P**	**16 42 17.0**	**-0.3**
WRA	**Warramunga Arr**	**37.75**	**121**	P	**P**	**16 42 17.2**	**-1.6**
WRA				PcP	**PcP**	**16 44 34.7**	**-0.6**
WRA				S	S	16 47 59.2	-7.6
WRA	**Warramunga Arr**	**37.75**	**121**	P	**P**	**16 42 17.2**	**-1.6**
	comp=Z,5.6nm,0.4s,baz=301,slow=9.1,SNR=248						
WRA				PcP	**PcP**	**16 44 34.7**	**-0.6**
	comp=Z,2.8nm,0.5s,baz=316,slow=2.5,SNR=5.5						
WRA				S	S	16 47 59.2	-7.6
	comp=Z,2.6nm,1.1s,baz=296,slow=16,SNR=4.6						
WRAB	**Tennant Creek**	**37.76**	**121**	*e*P	**P**	**16 42 17.0**	**-1.9**
WRAB				pmax	pmax		
	comp=Z,17nm,0.5s						
WRAB	**Tennant Creek**	**37.76**	**121**	*e*P	**P**	**16 42 17.0**	**-1.9**
	comp=Z,17nm,0.5s						
WRAB	**Tennant Creek**	**37.76**	**121**	P	**P**	**16 42 17.0**	**-1.9**
	comp=Z,206nm,0.4s,SNR=51						
NJ2	**Nanjing**	**37.95**	**26**	*e*P	**P**	**16 42 21.8**	**+1.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s						
DDI	**Dehra Dun**	**38.41**	**328**	*e*P	**P**	**16 42 24.9**	**+0.7**
DDI				AMB	AMB	16 42 25.3	
	comp=Z,77nm,0.2s						
BHJ	**Bhuj**	**38.94**	**312**	*e*P	**P**	**16 42 29.5**	**+0.8**
BHJ				AMB	AMB	16 42 31.1	
	comp=Z,25nm,0.6s						
ASAR	**Alice Springs**	**39.05**	**127**	P	**P**	**16 42 29.2**	**-0.6**
ASAR				PcP	**PcP**	**16 44 39.3**	**0.0**
ASAR				S	**S**	**16 48 21.4**	**-5.0**
ASAR	**Alice Springs**	**39.05**	**127**	P	**P**	**16 42 29.2**	**-0.6**
	comp=Z,24nm,0.6s,baz=302,slow=7.8,SNR=14						
ASAR				PcP	**PcP**	**16 44 39.3**	**0.0**
	comp=Z,5.2nm,0.5s,baz=304,slow=2.9,SNR=7.2						
ASAR				S	**S**	**16 48 21.4**	**-5.0**
	comp=Z,0.9nm,0.7s,baz=294,slow=16,SNR=5.8						
AS31	**Alice Springs**	**39.05**	**127**	*e*P	**P**	**16 42 29.0**	**-0.8**
SMLA	**Simla**	**39.51**	**328**	*i* P	**P**	**16 42 33.4**	**+0.1**
SMLA				AMB	AMB	16 42 35.4	
	comp=Z,16nm,1.6s						
JAY	**Jayapura**	**40.29**	**92**	⇑P	**P**	**16 42 37.6**	**-2.6**
	baz=40,SNR=3.7						
DHRM	**DHARAMSHALA**	**40.84**	**328**	*e*P	**P**	**16 42 45.0**	**+0.2**
GTA	**Gaotai**	**41.02**	**359**	*e*P	**P**	**16 42 45.4**	**-0.5**
GTA				pP	**pP**	**16 42 55.8**	**-1.7**
GTA				sP	**sP**	**16 42 59.9**	**-2.5**
GTA				S	**S**	**16 48 53.8**	**-1.8**
GTA				AMB	AMB		
	comp=Z,11nm,0.9s						
GTA				AMB	AMB		
	comp=Z,46nm,5.5s						
GTA				LR	LR		
	comp=Z,170nm,14.7s						
GTA				LR	LR		
	comp=Z,98nm,14.2s						
GTA				LR	LR		
	comp=Z,130nm,15.0s						
HHC	**Hu-ho-hao-te**	**43.66**	**12**	*e*P	**P**	**16 43 08.1**	**+0.7**
HHC				PP	**PcP**	**16 44 52.4**	**-1.7**
HHC				PcP	**PP**	**16 44 54.4**	**+4.8**
HHC				ScP	**ScP**	**16 48 42.4**	**-0.2**
HHC				PcS	**PcS**	**16 48 46.5**	**-0.5**
HHC				S	**S**	**16 49 36.5**	**+2.0**
HHC				SS	**SS**	**16 52 44.8**	**-6.1**
HHC				ScS	**ScS**	**16 53 02.8**	**-0.8**
HHC				AMB	AMB		
	comp=Z,34nm,0.9s						
HHC				AMB	AMB		
	comp=Z,200nm,5.7s						
HHC				LR	LR		
	comp=Z,250nm,15.8s						
HHC				LR	LR		
	comp=Z,310nm,16.2s						
HHC				LR	LR		
	comp=Z,180nm,16.0s						
JNU	**Nakatsue**	**45.11**	**37**	P	**P**	**16 43 18.8**	**-0.3**
JNU	**Nakatsue**	**45.11**	**37**	P	**P**	**16 43 18.8**	**-0.3**
	comp=Z,17nm,0.9s,baz=352,slow=2.0,SNR=7.1						
BBOO	**Buckleboo**	**45.51**	**137**	*e*P	**P**	**16 43 22.0**	**-0.2**
BBOO	**Buckleboo**	**45.51**	**137**	⇑P	**P**	**16 43 21.8**	**-0.4**
	baz=46,SNR=27						
MTSU	**Mount Surprise**	**46.03**	**114**	⇑P	**P**	**16 43 24.9**	**-1.6**
	baz=46,SNR=17						
KSAR	**Wonju Array Be**	**46.63**	**30**	P	**P**	**16 43 31.0**	**+0.2**
KSRS	**Korea Array**	**46.66**	**30**	P	**P**	**16 43 31.0**	**-0.1**
	comp=Z,7.0nm,0.8s,baz=225,slow=8.1,SNR=20						
WMQ	**Urumqi**	**46.83**	**347**	P	**P**	**16 43 33.3**	**+0.9**
WMQ				pP	**pP**	**16 43 43.1**	**-1.1**
WMQ				sP	**sP**	**16 43 47.0**	**-2.1**
WMQ				PcP	**PcP**	**16 45 06.5**	**+1.5**
WMQ				S	**S**	**16 50 20.3**	**+0.2**
WMQ				sS	**sS**	**16 50 36.8**	**-2.8**
WMQ				ScS	**ScS**	**16 53 22.6**	**-1.1**
WMQ				AMB	AMB		
	comp=Z,87nm,0.6s						
WMQ				AMB	AMB		
	comp=Z,160nm,5.0s						
WMQ				LR	LR		
	comp=Z,84nm,18.4s						
WMQ				LR	LR		
	comp=Z,57nm,15.4s						
KSH	**Kashi**	**46.83**	**334**	P	**P**	**16 43 32.5**	**-0.1**
KSH				pP	**pP**	**16 43 45.0**	**+0.7**
KSH				sP	**sP**	**16 43 49.1**	**-0.1**
KSH				PP	**PP**	**16 45 25.1**	**+1.8**
KSH				S	**S**	**16 50 23.6**	**+3.2**
KSH				AMB	AMB		
	comp=Z,11nm,0.5s						
KSH				AMB	AMB		
	comp=Z,120nm,7.1s						
KSH				LR	LR		
	comp=Z,400nm,9.1s						
KSH				LR	LR		
	comp=Z,330nm,11.0s						
KSH				LR	LR		
	comp=Z,310nm,9.3s						
CTAO	**Charters Tower**	**48.32**	**115**	*e*P	**P**	**16 43 43.1**	**-1.3**
CTAO				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CTAO	**Charters Tower**	**48.32**	**115**	*e*P	**P**	**16 43 43.1**	**-1.3**
	comp=Z,9.2nm,0.7s						
QLP	**Quilpie**	**48.74**	**124**	⇓P	**P**	**16 43 46.9**	**-0.6**
	baz=49,SNR=15						
STKA	**Stephens Creek**	**48.98**	**132**	*e*P	**P**	**16 43 48.8**	**-0.4**
	comp=Z,1.7nm,0.6s						
STKA	**Stephens Creek**	**48.98**	**132**	⇓P	**P**	**16 43 49.0**	**-0.2**
	baz=49,SNR=20						
STKA	**Stephens Creek**	**48.98**	**132**	P	**P**	**16 43 49.3**	**0.0**
	comp=Z,9.0nm,0.6s,baz=305,slow=7.0

USP	Ospenovka	50.55	336	P		P		16 44 01.9	+0.9	
	SNR=81									
CN2	Changchun	50.66	23	*e*P		P		16 44 06.8	+5.1	
MK31	Makanchi Array	50.95	344	*i* P		P		16 44 04.0	+0.1	
MK31				pmax	pmax					
	comp=Z,28nm,0.4s									
MK31	Makanchi Array	50.95	344	*e*P		P		16 44 04.1	+0.1	
MKAR	Makanchi Array	50.95	344	P		P		16 44 04.3	+0.4	
MKAR	Makanchi Array	50.95	344	P		P		16 44 04.3	+0.4	
MKAR	Makanchi Array	50.95	344	P		P		16 44 04.3	+0.4	
	comp=Z,55nm,0.6s,baz=148,slow=8.0,SNR=781									
ARPS	Mount Arapiles	51.66	137	⇑P		P		16 44 09.4	0.0	
	baz=52,SNR=6.4									
MJAR	Matsushiro Arr	51.88	39	P		P		16 44 10.0	-1.1	
MJAR	Matsushiro Arr	51.88	39	P		P		16 44 10.0	-1.1	
	comp=Z,3.5nm,0.7s,baz=212,slow=8.3,SNR=9.1									
CMSA	Cobar Meteorol	51.93	130	⇑P		P		16 44 10.9	-0.7	
	baz=52,SNR=13									
ZAK	Zakamensk	52.05	2	*e*P		P		16 44 10.9	-1.3	
ZAK				pmax	pmax					
	comp=Z,3.0nm,1.3s									
ZAK				pmax	pmax					
	comp=Z,19nm,1.1s									
KK31	Karatay Array	52.17	332	*i* P		P		16 44 12.6	-0.5	
KK31				pmax	pmax					
	comp=Z,3.0nm,0.3s									
KKAR	Karatay Array	52.17	332	*e*P		P		16 44 12.9	-0.2	
KKAR				pmax	pmax					
	comp=Z,4.0nm,0.4s									
KKAR	Karatay Array	52.17	332	*e*P		P		16 44 12.8	-0.2	
	comp=Z,4.2nm,0.4s									
HVS	Khovu-Aksy	53.05	355	*d* i P		P		16 44 18.8	-0.8	
HVS				pmax	pmax					
	comp=Z,50nm,1.7s									
IMOG	Moghan	53.70	319	*e*P		P		16 44 24.3	-0.6	
USRK	Ussuriysk Arra	53.80	28	P		P		16 44 24.9	-0.2	
	comp=Z,36nm,0.6s,baz=225,slow=5.5,SNR=75									
IBAF	Bafgh	53.94	312	*e*P		P		16 44 26.0	-0.5	
EIDS	Eidsvold	54.11	120	⇑P		P		16 44 26.6	-1.1	
	baz=54,SNR=4.7									
IAKL	Akhelmad	54.37	319	*e*P		P		16 44 28.8	-0.9	
IKRD	Kardeh	54.63	319	*e*P		P		16 44 26.3	-5.3	
ISRV	Sarvestan	54.79	308	*e*P		P		16 44 32.5	-0.5	
IEMG	Emamgholi	54.91	320	*e*P		P		16 44 33.6	0.0	
KURBB	Kurchatov Arra	55.48	343	P		P		16 44 37.1	+0.1	
	comp=Z,27nm,0.7s,baz=166,slow=7.1,SNR=304									
KURK	Kurchatov	55.54	343	*c* i P		P		16 44 37.2	-0.3	
KURK				pmax	pmax					
	comp=Z,29nm,0.8s									
KURK	Kurchatov	55.54	343	*e*P		P		16 44 37.5	-0.1	
	comp=Z,25nm,0.8s									
KURK	Kurchatov	55.54	343	P		P		16 44 37.8	+0.3	
	comp=Z,464nm,0.4s,SNR=54									
CAN	Canberra	56.05	132	⇑P		P		16 44 41.7	+0.1	
	baz=56									
ARMA	Armidale	56.19	126	⇓P		P		16 44 43.4	+0.6	
	baz=56,SNR=16									
IZEF	Zefreh	56.97	312	*e*P		P		16 44 44.5	-4.0	
ZAA0	Zalesovo Array	57.06	349	*e*P		P		16 44 47.6	-0.6	
ZALV	Zalesovo Beam	57.06	349	P		P		16 44 48.0	-0.3	
ZALV	Zalesovo Beam	57.06	349	P		P		16 44 48.0	-0.3	
ZALV	Zalesovo Beam	57.06	349	P		P		16 44 48.0	-0.3	
	comp=Z,85nm,0.7s,baz=174,slow=5.7,SNR=374									
KLR	Kul'dur	57.60	24	*e*P		P		16 44 48.0	-4.2	
ISHM	Shahmirzad	57.67	315	*e*P		P		16 44 52.1	-1.3	
IFIR	Firoozkooh	57.97	315	*e*P		P		16 44 55.4	0.0	
NVS	Novosibirsk	58.21	348	⇑*i* P		P		16 44 54.5	-1.8	
NVS				*e*				16 53 05.8		
NVS				pmax	pmax					
	comp=Z,23nm,0.9s									
NVS				pmax	pmax					
	comp=N,11nm,0.6s									
NVS				pmax	pmax					
	comp=E,8.0nm,0.5s									
IVRN	Varamin	58.39	314	*e*P		P		16 44 58.1	-0.1	
HABR	Khabarovsk	58.42	26	*e*P		P		16 44 54.6	-3.3	
HABR				*e**PP		pP		16 45 04.3	-5.7	
HABR				*e**SP		sP		16 45 08.7	-6.1	
HABR				*e*				16 45 45.6		
HABR				S		S		16 52 54.4	-3.6	
HABR				*e**SS		sS		16 53 11.4	-6.6	
HABR				*e*				16 54 41.4		
HABR				pmax	pmax					
	comp=Z,28nm,1.4s									
HABR				MLR	MLR					
	comp=Z,134nm,19.0s									
IDMV	Damavand	58.45	314	*e*P		P		16 44 58.2	-0.6	
QRN	Al-Qurain	58.69	305	*e*P		P		16 45 00.5	+0.2	
QRN				AMb		AMB		16 45 01.1		
	comp=Z,59nm,0.6s									
RDF	Al-Radifah	59.06	305	*e*P		P		16 45 03.2	+0.3	
RDF				AMb		AMB		16 45 04.0		
	comp=Z,42nm,0.7s									
ASAJ	Asahikawa	59.23	34	*e*P		P		16 45 03.5	-0.3	
	comp=Z,3.6nm,0.4s									
NAY	Al-Naaiem	59.43	306	*e*P		P		16 45 05.4	0.0	
NAY				AMb		AMB		16 45 06.1		
	comp=Z,28nm,0.5s									
MIB	Mutribah	59.56	306	*e*P		P		16 45 06.6	+0.3	
MIB				AMb		AMB		16 45 08.1		
	comp=Z,44nm,0.6s									
VOSK	Vostochnaya	59.69	340	P		P		16 45 05.9	-0.8	
VOSK				pmax	pmax					
	comp=Z,11nm,0.3s									
RST	Umm Al-Ruwaisa	59.72	306	*e*P		P		16 45 07.2	-0.2	
RST				AMb		AMB		16 45 08.4		
	comp=Z,290nm,0.8s									
IRAZ	Razeghan	59.89	313	*e*P		P		16 45 07.5	-1.2	
BVA0	Borovoye Array	60.14	340	*i* P		P		16 45 08.9	-0.9	
BVA0				pmax	pmax					
	comp=Z,8.0nm,0.4s									
BRVK	Borovoye	60.21	340	*c* i P		P		16 45 09.3	-0.9	
BRVK				pmax	pmax					
	comp=Z,13nm,0.8s									
BRVK	Borovoye	60.21	340	*e*P		P		16 45 09.2	-1.1	
	comp=Z,13nm,0.4s									
BRVK	Borovoye	60.21	340	P		P		16 45 09.1	-1.1	
	comp=Z,184nm,0.3s,SNR=17									
YSS	Yuzh-Sakhalins	61.11	32	*e*P		P		16 45 15.3	-1.2	
YSS				*e*				16 45 32.0		
AB31	Akbulak array	61.66	331	*i* P		P		16 45 19.7	-0.5	
AB31				pmax	pmax					
	comp=Z,18nm,0.3s									
ABKAR	Akbulak array	61.66	331	*e*P		P		16 45 19.7	-0.5	
	comp=Z,30nm,0.5s									
IDHR	Dehrash	62.21	311	*e*P		P		16 45 22.9	-1.6	
ISRB	Sarab	62.60	315	*e*P		P		16 45 26.2	-0.8	
IBST	Bostanabad	63.10	314	*e*P		P		16 45 29.4	-0.9	
KMBO	Kilima Mbogo	63.12	270	P		P		16 45 32.2	+1.3	
KMBO	Kilima Mbogo	63.12	270	P		P		16 45 32.2	+1.3	
	comp=Z,1.1nm,0.6s,baz=54,slow=14,SNR=3.6									
IMRD	Marand	64.38	315	*e*P		P		16 45 39.2	+0.5	
GNI	Garni	65.66	316	*e*P		P		16 45 47.8	+0.8	
	comp=Z,13nm,1.0s									
GNI	Garni	65.66	316	P		P		16 45 48.1	+1.1	
	comp=Z,5.8nm,0.7s,baz=165,slow=21,SNR=6.3									
DGRG	David-gareji	65.79	318	P		P		16 45 49.1	+1.4	
TBLG	Delisi	66.34	318	P		P		16 45 52.3	+1.1	
SVE	Sverdlovsk	66.66	337	⇑*i* P		P		16 45 53.0	+0.2	
SVE				pmax	pmax					
	comp=Z,50nm,0.9s									
GUDG	Gudauri	66.83	318	P		P		16 45 55.9	+1.4	
ARU	Arti	67.19	336	*c* i P		P		16 45 55.4	-0.8	
ARU				S		S		16 54 50.0	+2.3	
ARU				pmax	pmax					
	comp=Z,20nm,1.0s									
ZEI	Tsey	67.36	318	*e*P		P		16 45 58.9	+1.1	
ZEI				pmax	pmax					
	comp=Z,25nm,0.6s									
YAK	Yakutsk	67.46	14	*c* i P		P		16 45 56.2	-1.6	
YAK				pmax	pmax					
	comp=Z,35nm,0.9s									
YAK				pmax	pmax					
	comp=N,12nm,1.0s									
YAK				pmax	pmax					
	comp=E,9.0nm,1.2s									
ONI	Oni	67.57	318	P		P		16 46 00.3	+1.3	
KBZ	Khabaz	68.42	319	P		P		16 46 04.8	+0.6	
KBZ	Khabaz	68.42	319	P		P		16 46 04.8	+0.6	
KBZ	Khabaz	68.42	319	P		P		16 46 04.8	+0.6	
	comp=E,17nm,0.7s,baz=121,slow=5.9,SNR=48									
KIV	Kislovodsk	68.66	319	*e*P		P		16 46 05.7	-0.1	
KIV				pmax	pmax					
	comp=Z,18nm,1.0s									
EIL	Elat	69.75	302	⇑P		P		16 46 13.8	+1.0	
	baz=70,SNR=11									
SOC	Sochi	70.48	318	*e*P		P		16 46 16.0	-0.9	
SOC				*e*				16 48 53.3		
SOC				*e*PPP		PPP		16 50 36.7		
SOC				*e*S		S		16 55 24.3	-2.9	
SOC				pmax	pmax					
	comp=Z,19nm,0.5s									
SOC				MLR	MLR					
	comp=Z,211nm,14.0s									
MAW	Mawson	70.56	194	*e*P		P		16 46 18.6	+1.7	
MAW	Mawson	70.56	194	⇑P		P		16 46 18.4	+1.5	
	baz=70,SNR=5.7									
MAW	Mawson	70.56	194	P		P		16 46 19.2	+2.2	
	comp=Z,3.6nm,0.8s,baz=25,slow=7.4,SNR=7.1									
MAW				LR		LR		17 08 55.2		
	comp=Z,111nm,21.4s,baz=203,slow=29									
VRHR	Novokhopersk	72.39	326	*e*P		P		16 46 27.6	-0.7	
VRHR				pmax	pmax					
	comp=N,10.0nm,0.7s									
VRHR				pmax	pmax					
	comp=E,20nm,0.7s									
VRHR				pmax	pmax					
	comp=Z,80nm,0.7s									
PETK	Petropavlovsk-	72.52	32	P		P		16 46 28.3	-0.8	
PETK	Petropavlovsk-	72.52	32	P		P		16 46 28.3	-0.8	
PETK	Petropavlovsk-	72.52	32	P		P		16 46 28.3	-0.8	
	comp=Z,2.1nm,0.5s,baz=219,slow=4.5,SNR=5.5									
BR131	Keskin Array S	73.48	312	*e*P		P		16 46 34.4	-0.9	
	comp=Z,6.1nm,0.7s									
BRTR	Keskin Array B	73.48	312	P		P		16 46 34.5	-0.7	
BRTR	Keskin Array B	73.48	312	P		P		16 46 34.5	-0.7	
	comp=Z,6.0nm,0.6s,baz=134,slow=7.1,SNR=39									
BRTR				LR		LR		17 20 50.2		
	comp=Z,44nm,18.6s,baz=248,slow=37									
VORD	Divnogorie	73.67	325	*e*P		P		16 46 34.5	-1.4	
VORD				pmax	pmax					
	comp=E,8.0nm,0.7s									
VORD				pmax	pmax					
	comp=Z,10.0nm,0.7s									
VSR	Storozhevoye	73.85	325	*e*P		P		16 46 35.9	-1.0	
VSR				pmax	pmax					
	comp=Z,30nm,0.5s									
VSR				pmax	pmax					
	comp=N,5.0nm,0.5s									
VSR				pmax	pmax					
	comp=E,10.0nm,0.5s									
SEY	Seymchan	75.31	22	⇑*e*P		P		16 46 44.9	-0.2	
TIXI	Tiksi	75.61	9	⇑*i* P		P		16 46 45.3	-1.4	
TIXI				pmax	pmax					
	comp=Z,24nm,0.5s									
BOSA	Boshof	76.09	241	P		P		16 46 51.8	+1.2	
BOSA	Boshof	76.09	241	P		P		16 46 51.8	+1.2	
	comp=Z,4.4nm,0.5s,baz=89,slow=3.8,SNR=19									
BOSA				LR		LR		17 14 10.2		
	comp=Z,50nm,21.1s,baz=330,slow=31									
OBN	Obninsk	76.84	328	*c* i P		P		16 46 53.7	-0.3	
OBN				*i*				16 47 06.8		
OBN				pmax	pmax					
	comp=Z,57nm,1.6s									
KLMR	Klimovskoe	77.83	334	*e*P		P		16 46 58.4	-1.0	
KLMR				pmax	pmax					
	comp=Z,23nm,1.2s									
AKASG	Malin Array Be	79.57	322	P		P		16 47 08.4	-0.8	
AKASG	Malin Array Be	79.57	322	P		P		16 47 08.4	-0.8	
AKASG	Malin Array Be	79.57	322	P		P		16 47 08.4	-0.8	
	comp=Z,1.2nm,0.4s,baz=88,slow=5.3,SNR=14									
TMCR	Tamitsa	79.92	337	*e*P		P		16 47 24.5	+14	
TMCR				*e*				16 47 30.7		
TMCR				pmax	pmax					
	comp=Z,28nm,1.0s									
VRI	Vrincioaia	79.98	317	⇑P		P		16 47 12.7	+1.1	
VRI	Vrincioaia	79.98	317	⇑*i* P		P		16 47 12.6	+1.0	
PLOR	Plostina	80.03	317	⇑P		P		16 47 13.2	+1.3	
PLOR	Plostina	80.03	317	⇑*i* P		P		16 47 13.2	+1.3	
TESR	Tescani	80.18	318	⇑*i* P		P		16 47 13.3	+0.6	
SUR	Sutherland	80.23	238	LR		LR		17 16 32.9		
	comp=Z,88nm,18.2s,baz=66,slow=31									
BURAR	Bucovina Array	81.38	319	⇓P		P		16 47 20.2	+1.0	
BURAR	Bucovina Array	81.38	319	⇓*i* P		P		16 47 20.2	+1.0	
BUR08	Bucovina Ar. S	81.39	319	*e*P		P		16 47 20.3	+1.0	
VTS	Vitosha	81.80	313	⇑P		P		16 47 21.4	-0.2	
VTS	Vitosha	81.80	313	⇑*i* P		P		16 47 21.4	-0.2	
LOT	Lotru	81.92	316	⇑*i* P		P		16 47 41.7	+20	
NACGM	Naroch	82.11	326	*e*		P		16 47 14.0	-8.7	
JOF	Joensuu	82.22	334	*e*P		P		16 47 23.0	-0.1	
JOF				pmax	pmax					
	comp=Z,6.0nm,0.6s									
JOF	Joensuu	82.22	334	*e*p		P		16 47 23.0	-0.1	
	comp=Z,6.3nm,0.6s									
VNDA	Vanda	82.27	169	*e*P		P		16 47 23.8	+0.6	
	comp=Z,1.3nm,0.7s									
VNDA	Vanda	82.27	169	P		P		16 47 23.7	+0.6	
	comp=Z,1.5nm,0.8s,baz=297,slow=6.1,SNR=14									
VNDA				LR		LR		17 20 17.4		
	comp=Z,65nm,18.1s,baz=315,slow=33									
IIGN	Ignalina	82.53	326	*e*P		P		16 47 25.1	+0.2	
IIGN				AMB		AMB		16 47 26.4		
	comp=Z,16nm,1.2s									
TSUM	Tsumeb	82.62	251	LR		LR		17 18 38.5		
	comp=Z,48nm,21.1s,baz=153,slow=32									
ISAL	Salakas	82.64	327	*e*P		P		16 47 25.6	+0.2	
ISAL				AMB		AMB		16 47 27.4		
	comp=Z,9.9nm,1.1s									
APA	Apatity	83.05	339	⇓*i* P		P		16 47 25.4	-1.9	
APA				MLR		MLR				
	comp=Z,1μm,20.0s									
TRPA	Tarpa	83.25	319	⇑*i* P		P		16 47 29.3	+0.5	
SBA	Scott Base	83.37	169	*e*P		P		16 47 30.2	+1.4	
SBA				pmax	pmax					
	comp=Z,8.0nm,1.2s									
SBA	Scott Base	83.37	169	*e*P		P		16 47 30.2	+1.4	
	comp=Z,7.5nm,1.2s									
KWP	Kalwaria Pacla	83.41	320	⇑P		P		16 47 30.3	+0.7	
KWP	Kalwaria Pacla	83.41	320	⇑*i* P		P		16 47 30.3	+0.7	
BZS	Buzias	83.44	316	⇓P		P		16 47 30.4	+0.6	
BZS	Buzias	83.44	316	⇓*i* P		P		16 47 30.4	+0.6	
KOLS	Kolonicke sedl	83.56	320	*e*P		P		16 47 31.4	+1.0	
KOLS				pmax	pmax					
	comp=Z,11nm,0.9s									
KOLS	Kolonicke sedl	83.56	320	*e*P		P		16 47 31.4	+1.0	
SUW	Suwalki	83.96	325	*e*P		P		16 47 32.0	-0.3	
SUW				pmax	pmax					
	comp=Z,60nm,0.9s									
SUW	Suwalki	83.96	325	*e*P		P		16 47 32.0	-0.3	
	comp=Z,60nm,0.9s									
FINES	FINESS Array B	84.13	332	P		P		16 47 33.1	+0.2	
FINES	FINESS Array B	84.13	332	P		P		16 47 33.1	+0.2	
	comp=Z,7.8nm,0.5s,baz=108,slow=5.8,SNR=66									
KAF	Kangasniemi	84.19	333	*e*P		P		16 47 33.0	-0.3	
KAF				pmax	pmax					
	comp=Z,18nm,0.5s									
KAF	Kangasniemi	84.19	333	*e*p		P		16 47 33.0	-0.3	
	comp=Z,18nm,0.5s									
STHS	Stebnicka Huta	84.31	320	*e*P		P		16 47 34.9	+0.7	
STHS				pmax	pmax					
	comp=Z,6.0nm,0.7s									
STHS	Stebnicka Huta	84.31	320	*e*P		P		16 47 34.9	+0.7	
PSZ	Piszkesteto	84.96	318	⇑P		P		16 47 38.0	+0.4	
PSZ	Piszkesteto	84.96	318	⇑*i* P		P		16 47 38.0	+0.4	
KEV	Kevo	85.98	340	*e*P		P		16 47 41.2	-0.9	
KEV				pmax	pmax					
	comp=Z,7.0nm,0.8s									
KEV	Kevo	85.98	340	*e*p		P		16 47 41.2	-0.9	
	comp=Z,7.3nm,0.8s									
ARCES	ARCESS Array B	86.43	340	P		P		16 47 44.4	+0.1	
ARCES	ARCESS Array B	86.43	340	P		P		16 47 44.4	+0.1	
	comp=Z,3.5nm,0.4s,baz=100,slow=4.7,SNR=66									
DPC	Dobruska-Polom	87.59	320	*e*P		P		16 47 51.7	+1.2	
DPC	Dobruska-Polom	87.59	320	*e*P		P		16 47 51.7	+1.2	
QSPA	South Pole Qui	88.15	180	*e*P		P		16 47 53.8	+0.9	
	comp=Z,1.8nm,0.6s									
BRG	Berggiesshubel	89.14	321	*e*P		P		16 47 58.6	+0.9	
	comp=Z,6.6nm,1.0s									
BRG				*e*				16 48 14.1		
	comp=Z,5.7nm,0.9s									
BRG	Berggiesshubel	89.14	321	*e*P		P		16 47 58.6	+0.9	
BRG				*e*				16 48 14.1		
BRG				pmax	pmax					
	comp=Z,7.0nm,1.0s									
BRG				pmax	pmax					
	comp=Z,6.0nm,0.9s									
GERES	GERESS Array B	89.17	319	P		P		16 47 58.3	+0.3	
GERES	GERESS Array B	89.17	319	P		P		16 47 58.3	+0.3	
	comp=Z,1.2nm,0.6s,baz=90,slow=4.2,SNR=14									
KHC	Kasperske Hory	89.26	319	*e*P		P		16 47 56.6	-1.8	
	baz=70,SNR=11									
KHC	Kasperske Hory	89.26	319	*e*P		P		16 47 56.6	-1.8	
CLL	Collm	89.76	321	*i* P		P		16 48 00.8	+0.2	
CLL				pmax	pmax					
	comp=Z,4.0nm,1.3s									
CLL	Collm	89.76	321	*i* P		P		16 48 00.8	+0.2	
	comp=Z,9.0nm,1.3s									
GRF	Grafenberg Arr	90.83	320	*e*P		P		16 48 06.8	+1.1	
GRF				pmax	pmax					
	comp=Z,11nm,1.1s									
GRF				MLR	MLR					
	comp=Z,200nm,20.5s									
GRF	Grafenberg Arr	90.83	320	*e*P		P		16 48 06.8	+1.1	
	comp=Z,11nm,1.1s									
GRF				*e*L		L		17 25 18.2		
	comp=Z,204nm,20.5s									
RETA	Reutte	91.07	317	⇑*i* P		P		16 48 07.0	+0.1	
	comp=Z,6.0nm,0.8s									
NB2	NORSAR Subarra	91.17	331	P		P		16 48 06.8	-0.2	
	comp=Z,3.1nm,0.7s,baz=93,slow=4.8									
NOA	NORSAR Array B	91.17	331	P		P		16 48 06.6	-0.4	
NOA	NORSAR Array B	91.17	331	P		P		16 48 06.6	-0.4	
	comp=Z,1.5nm,0.5s,baz=116,slow=3.9,SNR=9.8									
DAVA	Damuels	91.67	317	⇑*i* PcP		PcP		16 48 10.2	-0.4	
	comp=Z,8.7nm,0.8s									
KEST	Kesra	91.90	306	P		P		16 48 12.8	+1.8	
KEST	Kesra	91.90	306	P		P		16 48 12.8	+1.8	
	comp=Z,5.4nm,0.9s,baz=247,slow=1.5,SNR=12									
SNAA	Sanae	92.44	198	LR		LR		17 23 38.0		
	comp=Z,18nm,19.7s,baz=27,slow=31									
SBF	Sospel	93.38	314	*e*P		P		16 48 17.8	+0.1	
SBF	Sospel	93.38	314	*e*P		P		16 48 17.8	+0.1	
SBF	Sospel	93.38	314	*e*P		P		16 48 17.8	+0.1	
CDF	Champ du Feu	93.42	318	*e*P		P		16 48 17.7	-0.1	
CDF	Champ du Feu	93.42	318	*e*P		P		16 48 17.7	-0.1	
CDF	Champ du Feu	93.42	318	*e*P		P		16 48 17.7	-0.1	
LPG	La Plagne	93.84	315	*e*P		P		16 48 20.2	+0.2	
	comp=Z,4.6nm,0.6s									
LPG	La Plagne	93.84	315	*e*P		P		16 48 20.2	+0.2	
LPG				pmax	pmax					
	comp=Z,5.0nm,0.6s									
LPG	La Plagne	93.84	315	*e*P		P		16 48 20.2	+0.2	
	comp=Z,4.6nm,0.6s									
LPL	La Plagne	93.85	315	*e*P		P		16 48 20.2	+0.2	
	comp=Z,7.4nm,0.6s									
LPL	La Plagne	93.85	315	*e*P		P		16 48 20.2	+0.2	
LPL				pmax	pmax					
	comp=Z,7.0nm,0.6s									
LPL	La Plagne	93.85	315	*e*P		P		16 48 20.2	+0.2	
	comp=Z,7.4nm,0.6s									
HAU	Haudompre	94.05	318	*e*P		P		16 48 20.6	0.0	
HAU	Haudompre	94.05	318	*e*P		P		16 48 20.6	0.0	
HAU	Haudompre	94.05	318	*e*P		P		16 48 20.6	0.0	
CABF	La Chapelle	94.27	316	*e*P		P		16 48 22.0	+0.3	
CABF	La Chapelle	94.27	316	*e*P		P		16 48 22.0	+0.3	
CABF	La Chapelle	94.27	316	*e*P		P		16 48 22.0	+0.3	
PAGF	Fort de Pagny	94.44	318	*e*P		P		16 48 22.5	+0.1	
PAGF	Fort de Pagny	94.44	318	*e*P		P		16 48 22.5	+0.1	
ORIF	Oris-en-Rattie	94.47	315	*e*P		P		16 48 22.1	-0.6	
ORIF	Oris-en-Rattie	94.47	315	*e*P		P		16 48 22.1	-0.6	
ORIF	Oris-en-Rattie	94.47	315	*e*P		P		16 48 22.1	-0.6	
LOR	Lormes	95.76	317	*e*P		P		16 48 28.4	0.0	
	comp=Z,10nm,0.9s									
LOR	Lormes	95.76	317	*e*P		P		16 48 28.4	0.0	
	comp=Z,10nm,0.9s									
IMA2	Indian Mountai	98.08	23	*e*P		P		16 48 38.1	-0.6	
TORD	Torodi Ar. Bea	98.88	283	P		Pdif		16 48 43.2	+0.1	
TORD	Torodi Ar. Bea	98.88	283	P		Pdif		16 48 43.2	+0.1	
	comp=Z,0.4nm,0.6s,baz=86,slow=7.1,SNR=3.7									
ILAR	Eielson Array	101.17	24	P		Pdif		16 48 50.5	-1.8	
ILAR				PKKPbc		PKKPbc		17 05 02.9	-2.4	
ILAR	Eielson Array	101.17	24	P		Pdif		16 48 50.5	-1.8	
	comp=Z,0.2nm,0.6s,baz=282,slow=4.0,SNR=4.6									
ILAR				PKKPbc		PKKPbc		17 05 02.9	-2.4	
	comp=Z,0.6nm,0.7s,baz=129,slow=1.9,SNR=7.9									
A21A	Bergtoll Ranch	127.48	22	⇓PKiKP		PKiKP		16 54 07.6	-0.2	
	baz=127									
D21A	La

	baz=143							
Z31A	**Sharp Cattle R**	**143.21**	**29**	⇓PKPdf	PKPbc	16 54 33.3	-0.6	
	baz=143							
328A	**Wristen Ranch,**	**143.32**	**34**	⇑PKPdf	PKPbc	16 54 34.6	+0.4	
	baz=143							
427A	**Hayter Ranch,**	**143.37**	**36**	⇑PKPdf	PKPbc	16 54 35.0	+0.6	
	baz=143							
526A	**Mary Lane Ranc**	**143.54**	**37**	⇓PKPdf	PKPbc	16 54 35.8	+0.7	
	baz=143							
Z32A	**Haskell**	**143.54**	**29**	⇑PKPdf	PKPab	16 54 34.2	+0.3	
	baz=143							
329A	**Wagon Wheel Ra**	**143.70**	**33**	⇑PKPdf	PKPbc	16 54 35.3	0.0	
	baz=143							
527A	**Woodward Ranch**	**143.76**	**37**	⇑PKPdf	PKPbc	16 54 36.3	+0.6	
	baz=144							
230A	**Sterling City**	**143.86**	**32**	⇑PKPdf	PKPbc	16 54 36.0	+0.1	
	baz=144							
626A	**Big Bend Ranch**	**143.87**	**38**	⇓PKPdf	PKPbc	16 54 36.8	+0.8	
	baz=144							
428A	**Kincaid Ranch,**	**143.88**	**35**	⇑PKPdf	PKPbc	16 54 36.5	+0.5	
	baz=144							
330A	**Mertzon**	**144.20**	**32**	⇑PKPdf	**PKPab**	**16 54 36.5**	**0.0**	
	baz=144							
231A	**Bronte**	**144.24**	**31**	⇓PKPdf	PKPbc	16 54 36.9	0.0	
	baz=144							
528A	**Cox Ranch, San**	**144.24**	**36**	⇓PKPdf	PKPbc	16 54 37.4	+0.3	
	baz=144							
BDFB	**Brasilia**	**144.28 240**		PKP	**PKPdf**	**16 54 38.5**	**-0.8**	
BDFB	**Brasilia**	**144.28 240**		PKP	**PKPdf**	**16 54 38.5**	**-0.8**	
	comp=Z,5.7nm,0.5s,baz=109,slow=4.9,SNR=7.0							
TXAR	**Lajitas Array**	**144.31**	**38**	PKP	PKPbc	16 54 37.8	+0.4	
TXAR	**Lajitas Array**	**144.31**	**38**	PKP	PKPbc	16 54 37.8	+0.4	
	comp=Z,16nm,0.5s,baz=205,slow=1.0,SNR=58							
627A	**Terlingua Ranc**	**144.40**	**37**	⇑PKPdf	PKPbc	16 54 38.1	+0.4	
	baz=144							
429A	**Davenport Ranc**	**144.40**	**34**	⇓PKPdf	PKPbc	16 54 37.8	+0.3	
	baz=144							
529A	**Stev Forest Ra**	**144.59**	**35**	⇑PKPdf	PKPbc	16 54 38.2	0.0	
	baz=144							
232A	**Coleman**	**144.61**	**30**	⇑PKPdf	**PKPab**	**16 54 38.0**	**0.0**	
	baz=144							
430A	**Baggett Ranch,**	**144.64**	**33**	⇓PKPdf	**PKPab**	**16 54 38.0**	**-0.1**	
	baz=144							
331A	**San Angelo**	**144.67**	**32**	⇓PKPdf	**PKPab**	**16 54 38.2**	**0.0**	
	baz=144							
628A	**Black Gap, Mar**	**144.67**	**37**	⇓PKPdf	PKPbc	16 54 38.8	+0.4	
	baz=144							
CPUP	**Villa Florida**	**144.71 216**		*e*PKP	**PKPdf**	**16 54 39.2**	**-0.5**	
CPUP	**Villa Florida**	**144.71 216**		PKP	**PKPdf**	**16 54 39.2**	**-0.5**	
	comp=Z,14nm,0.6s,baz=135,slow=2.1,SNR=27							
332A	**Millersview**	**144.97**	**31**	⇓PKPdf	**PKPab**	**16 54 38.9**	**-0.4**	
	baz=145							
431A	**Sonora**	**145.07**	**33**	⇓PKPdf	**PKPbc**	**16 54 39.4**	**-0.3**	
	baz=145							
530A	**J-C Ranch, Com**	**145.07**	**34**	⇑PKPdf	**PKPbc**	**16 54 39.6**	**-0.1**	
	baz=145							
UALR	**University of**	**145.12**	**19**	*e*PKPdf	**PKPbc**	**16 54 38.6**	**-1.0**	
TZTN	**Tazewell**	**145.25**	**6**	*e*PKP	**PKPbc**	**16 54 39.0**	**-1.0**	
432A	**Menard**	**145.35**	**31**	⇑PKPdf	**PKPbc**	**16 54 40.0**	**-0.5**	
	baz=145							
531A	**Rocksprings**	**145.50**	**33**	⇑PKPdf	**PKPdf**	**16 54 40.9**	**-0.1**	
	baz=145							
WHTX	**Lake Whitney**	**145.59**	**27**	⇑PKPdf	**PKPdf**	**16 54 40.8**	**-0.2**	
	baz=145							
JCT	**Junction City**	**145.66**	**32**	*e*PKIKP	**PKPdf**	**16 54 41.2**	**0.0**	
JCT	**Junction City**	**145.66**	**32**	*e*PKPdf	**PKPdf**	**16 54 41.2**	**0.0**	
JCT	**Junction City**	**145.66**	**32**	⇑PKPdf	**PKPdf**	**16 54 41.3**	**+0.1**	
	baz=145							
532A	**Rocksprings**	**145.88**	**32**	⇑PKPdf	**PKPdf**	**16 54 41.8**	**+0.1**	
	baz=146							
631A	**Perdido Creek**	**146.06**	**34**	⇓PKPdf	**PKPbc**	**16 54 42.4**	**-0.4**	
	baz=146							
CPCT	**Cooper Cave**	**146.22**	**7**	*e*PKPdf	**PKPdf**	**16 54 41.8**	**-0.2**	
SWET	**Sewanee**	**146.25**	**9**	*e*PKPdf	**PKPdf**	**16 54 41.8**	**-0.3**	
632A	**Uvalde**	**146.43**	**33**	⇓PKPdf	**PKPbc**	**16 54 43.4**	**-0.5**	
	baz=146							
KMSC	**Kings Mountain**	**146.80**	**3**	*e*PKPdf	**PKPdf**	**16 54 43.4**	**+0.4**	
KMSC	**Kings Mountain**	**146.80**	**3**	⇑PKPdf	**PKPdf**	**16 54 43.8**	**+0.8**	
	baz=147							
732A	**Laxson Ranch,**	**146.93**	**34**	⇑PKPdf	**PKPbc**	**16 54 45.6**	**+0.3**	
	baz=147							
LPAZ	**La Paz**	**158.74 212**		PKP	**PKPdf**	**16 55 02.1**	**+0.5**	
LPAZ	**La Paz**	**158.74 212**		PKP	**PKPdf**	**16 55 02.1**	**+0.5**	
	comp=Z,1.3nm,0.7s,baz=179,slow=2.2,SNR=7.2							

BJI ***19*** *16:42:42.8, 32˚.05N× 104˚.54E, h11km, mB4.8/24, mb4.8/35, ML4.8/18, Ms4.6/48, Ms7 4.5/45*

IDC ***19*** *16:42:42.1±0.4, 31˚.99N× 104˚.64E, h0km, mb4.7/28, mb1 4.8/31, mb1mx4.8/36, mbtmp4.7/31, ML4.2/3, MS3.9/14, Ms1 3.9/14, ms1mx3.6/37, Error ellipse: s-maj=14.4km s-min=9.7km az=52.0*

ISCJB ***19*** *16:42:42.7±0.9, 32˚.01N±0˚.02× 104˚.62E±0˚.02, h15km±5km, mb5.0/157, MS4.1/22, Error ellipse: s-maj=3.3km s-min=2.7km az=150.8*

TEH ***19*** *16:42:44.0, 31˚.99N× 104˚.65E, h10km, ML5.0*

BKK ***19*** *16:42:45.1±0.4, 32˚N±4˚× 10˚5E±˚, h10km, M4.7/28, mB5.1/7, mb5.0/28, Mw(mB)4.5/7, Mwp6.7/1*

MOS ***19*** *16:42:45.1±0.8, 31˚.98N× 104˚.65E, h33km, mb5.3/71, MS4.1/13, Error ellipse: s-maj=7.6km s-min=4.1km az=122.3*

NEIC ***19*** *16:42:47.7±0.5, 31˚.97N× 104˚.61E, h38km±5km, mb5.1/70, Error ellipse: s-maj=3.6km s-min=3.1km az=216.0*

NEIC Felt [V] at Nanchong, [IV] at Mianyang and [III] at Chengdu. Also felt at Beibei, Chongqing, Guangyuan and Ziyang.

AUST ***19*** *16:42:48.9±3.3, 31˚.79N× 104˚.62E, h50km±30km, Error ellipse: s-maj=15.5km s-min=4.1km az=52.0*

DJA ***19*** *16:43:01.2±2.0, 32˚N±9˚× 10˚4E±˚, h129km±18km, M5.0/29, mB5.5/3, mb5.0/29, Mw(mB)4.9/3*

ISC 19 16:42:45.1±0.5, 32˚.01N±0˚.03× 104˚.63E±0˚.03, h18km±2km, h17km:pP-P, n516, σ1§15/544, mb5.1/157, MS4.1/22, 97C-32D, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.32**	**214**	Pg	**Pn**	**16 43 08.8**	**0.0**
CD2				Sg	**Sg**	**16 43 28.0**	**0.0**
CD2				SMN			
	comp=Z,89μm,1.1s						
CD2				SME			
	comp=Z,43μm,0.6s						
LZH	**Lanzhou**	**4.12**	**351**	⇑Pn	**Pn**	**16 43 49.8**	**+2.4**
LZH				Pg	**Pg**	**16 44 01.1**	**-2.9**
LZH				Sn	**Sn**	**16 44 37.0**	**+1.8**
LZH				Sg	**Sg**	**16 44 53.8**	**-3.6**
LZH				SMN			
	5μm,1.1s						
LZH				SME			
	5μm,1.0s						
LZH				LR	LR		
	comp=N,9μm,6.0s						
LZH				LR	LR		
	comp=E,10μm,5.0s						
LZH				LR	LR		
	comp=Z,10μm,8.8s						
XAN	**Xi'an**	**4.13**	**60**	Pn	**Pn**	**16 43 47.5**	**0.0**
XAN				Pg	**Pb**	**16 43 58.3**	**+0.9**
XAN				Sn	**Sn**	**16 44 33.9**	**-1.5**
XAN				Sg	**Sb**	**16 44 49.8**	**+2.7**
XAN				SMN			
	comp=Z,3μm,0.7s						
XAN				SME			
	comp=Z,2μm,0.8s						
XAN				LR	LR		
	comp=Z,8μm,8.5s						
XAN				LR	LR		
	comp=Z,2μm,7.8s						
ENH	**Enshi**	**4.51**	**111**	*e*Pn	**Pn**	**16 43 54.9**	**+2.2**
GYA	**Guiyang**	**5.81**	**162**	⇑*i*Pn	**Pn**	**16 44 10.8**	**+0.2**
GYA				Sn	**Sn**	**16 45 17.0**	**+0.1**
GYA				SMN			
	comp=Z,3μm,0.9s						
GYA				SME			
	comp=Z,3μm,0.8s						
GYA				LR	LR		
	comp=Z,3μm,9.7s						
GYA				LR	LR		
	comp=Z,3μm,9.3s						
GYA				LR	LR		
	comp=Z,2μm,11.8s						
KMI	**Kunming**	**7.06**	**194**	Pn	**Pn**	**16 44 28.1**	**+0.2**
KMI				Sn	**Sn**	**16 45 48.3**	**+0.5**
KMI				SMN			
	comp=Z,220nm,1.1s						
KMI				SME			
	comp=Z,230nm,1.0s						
KMI				LR	LR		
	comp=Z,3μm,6.4s						
KMI				LR	LR		
	comp=Z,2μm,6.4s						
KMI				LR	LR		
	comp=Z,3μm,8.3s						
GTA	**Gaotai**	**8.36**	**333**	P	**Pn**	**16 44 46.3**	**+0.8**
GTA				pP	pP	16 44 49.8	
GTA				sP		16 44 52.3	
GTA				S	**Sn**	**16 46 20.8**	**+1.3**
GTA				sS	sS	16 46 25.9	
GTA				AMB	AMB		
	comp=Z,12nm,0.9s						
GTA				AMB	AMB		
	comp=Z,140nm,5.2s						
GTA				LR	LR		
	comp=Z,3μm,10.7s						
GTA				LR	LR		
	comp=Z,2μm,10.9s						
GTA				LR	LR		
	comp=Z,3μm,10.9s						
WHN	**Wuhan**	**8.45**	**97**	⇓P	**Pn**	**16 44 46.5**	**-0.1**
BTO	**Baotou**	**9.62**	**25**	*e*P	Pn	16 45 06.3	+3.5
HHC	**Hu-ho-hao-te**	**10.44**	**30**	*e*P	**Pn**	**16 45 15.3**	**+1.3**
HHC				PP	**PnPn**	**16 45 23.8**	**+2.0**
HHC				S	**Sn**	**16 47 12.0**	**+1.4**
HHC				sS		16 47 18.9	
HHC				PcS	**PcS**	**16 54 51.6**	**-1.2**
HHC				ScS	**ScS**	**16 58 23.4**	**-2.3**
HHC				AMB	AMB		
	comp=Z,38nm,1.3s						
HHC				AMB	AMB		
	comp=Z,370nm,5.7s						
HHC				LR	LR		
	comp=Z,5μm,8.2s						
HHC				LR	LR		
	comp=Z,5μm,7.2s						
HHC				LR	LR		
	comp=Z,2μm,6.6s						
GZH	**Guangzhou**	**11.77**	**137**	P	Pn	16 45 28.8	-3.5
GZH				S	Sn	16 47 30.1	-13
GZH				LR	LR		
	comp=N,3μm,9.9s						
GZH				LR	LR		
	comp=E,2μm,6.9s						
LSA	**Lhasa**	**11.81**	**262**	*e*P	**Pn**	**16 45 32.2**	**-1.0**
LSA	**Lhasa**	**11.81**	**262**	*e*P	**Pn**	**16 45 32.2**	**-1.0**
NJ2	**Nanjing**	**12.07**	**86**	*e*P	**Pn**	**16 45 34.5**	**-1.8**
NJ2				S	**Sn**	**16 47 50.3**	**-0.2**
NJ2				AMB	AMB		
	comp=E,10.0nm,0.5s						
NJ2				LR	LR		
	comp=E,2μm,6.5s						
NJ2				LR	LR		
	comp=E,1μm,9.1s						
NJ2				LR	LR		
	comp=E,2μm,10.4s						
BJI	**Beijing**	**12.30**	**46**	P	**Pn**	**16 45 39.5**	**+0.1**
BJI				AMB	AMB		
	comp=E,10.0nm,0.5s						
BJI				AMB	AMB		
	comp=E,140nm,5.6s						
BJI				LR	LR		
	comp=E,3μm,7.0s						
BJI				LR	LR		
	comp=E,2μm,6.0s						
BJI				LR	LR		
	comp=E,430nm,16.5s						
CRAI	**Chiangrai**	**12.34**	**199**	P	**Pn**	**16 45 41.7**	**+1.7**
	comp=E,16nm,0.8s						
SHL	**Shillong**	**12.88**	**243**	*e*P	**Pn**	**16 45 46.5**	**-1.1**
SHL				AMB	AMB	16 45 51.1	
	comp=Z,48nm,1.8s						
SHL				*i* x	x	16 49 27.0	
CMAI	**Chiengmai2**	**13.03**	**204**	P	**Pn**	**16 45 51.2**	**+1.6**
	comp=Z,37nm,0.8s						
PAYA	**Payao**	**13.30**	**200**	P	**Pn**	**16 45 54.7**	**+1.5**
	comp=Z,14nm,0.6s,comp=Z,132nm						
QIZ	**Qiongzhong**	**13.75**	**159**	P	**Pn**	**16 45 58.5**	**-0.8**
QIZ				S	**Sn**	**16 48 32.3**	**+0.6**
QIZ				AMB	AMB		
	comp=Z,51nm,1.9s						
QIZ				LR	LR		
	comp=Z,2μm,12.2s						
QIZ				LR	LR		
	comp=Z,2μm,11.9s						
CHTO	**Chiang Mai**	**14.10**	**203**	*e*P	**Pn**	**16 46 04.2**	**0.0**
CHTO				pmax	pmax		
	comp=Z,78nm,0.7s						
CHTO	**Chiang Mai**	**14.10**	**203**	P	**Pn**	**16 46 06.1**	**+2.0**
	comp=Z,161nm,0.9s						
CHTO	**Chiang Mai**	**14.10**	**203**	*e*Pn	**Pn**	**16 46 04.2**	**0.0**
	comp=Z,78nm,0.7s						
CHTO	**Chiang Mai**	**14.10**	**203**	P	**Pn**	**16 46 06.1**	**+2.0**
	comp=Z,161nm,0.9s						
SSE	**Sheshan**	**14.15**	**89**	*e*P	**Pn**	**16 46 03.9**	**-0.8**
SSE				S	**Sn**	**16 48 38.3**	**-3.0**
SSE				AMB	AMB		
	comp=Z,12nm,0.6s						
SSE				AMB	AMB		
	comp=Z,120nm,3.7s						
SSE				LR	LR		
	comp=Z,2μm,12.2s						
SSE				LR	LR		
	comp=Z,520nm,12.2s						
SSE				LR	LR		
	comp=Z,2μm,10.2s						
CM31	**Chiang Mai Arr**	**14.44**	**202**	*e*Pn	**Pn**	**16 46 08.8**	**+0.1**
	comp=Z,33nm,0.6s						
CM31				*e*P	**P**	**16 46 15.9**	**+0.5**
CMAR	**Chiang Mai Arr**	**14.44**	**202**	Pn	**Pn**	**16 46 07.3**	**-1.4**
CMAR				Lg	Lg	16 50 22.9	
CMAR	**Chiang Mai Arr**	**14.44**	**202**	Pn	**Pn**	**16 46 07.3**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=9.8,slow=11,SNR=43						
CMAR				Lg	Lg	16 50 22.9	
	baz=360,slow=28,SNR=2.1						
SKNT	**Sakolnakorn**	**14.98**	**182**	P	**Pn**	**16 46 18.5**	**+2.4**
	comp=Z,79nm,1.0s						
TAPN	**Taplejung**	**15.42**	**257**	*e*P	**Pn**	**16 46 20.2**	**-1.9**
	comp=Z,49nm,0.7s						
PBKT	**Sadao Pong**	**15.73**	**193**	P	**Pn**	**16 46 27.0**	**+1.1**
PBKT	**Sadao Pong**	**15.73**	**193**	P	**Pn**	**16 46 27.5**	**+1.6**
	comp=Z,128nm,0.7s,comp=Z,1μm						
SONM	**Songino Array**	**15.86**	**4**	Pn	**Pn**	**16 46 27.8**	**+0.2**
SONM				Lg	Lg	16 51 04.3	
SONM	**Songino Array**	**15.86**	**4**	Pn	**Pn**	**16 46 27.8**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=201,slow=7.7,SNR=3.5						
SONM				Lg	Lg	16 51 04.3	
	comp=Z,0.4nm,0.3s,baz=174,slow=29,SNR=2.7						
ODAN	**Odare**	**15.87**	**256**	*e*P	**Pn**	**16 46 25.2**	**-2.7**
	comp=Z,82nm,0.7s						
YHNB	**Yeheng**	**16.45**	**112**	P	**P**	**16 46 36.5**	**-1.3**
	comp=Z,37nm,0.9s						
RAMN	**Ramite**	**16.48**	**257**	*e*P	**Pn**	**16 46 33.3**	**-2.5**
	comp=Z,59nm,0.6s						
JIRN	**Jiri**	**16.57**	**260**	*e*P	**Pn**	**16 46 35.0**	**-2.1**
	comp=Z,56nm,0.6s						
SSLB	**Suanglung**	**16.58**	**116**	*e*P	**P**	**16 46 39.0**	**-0.2**
	comp=Z,73nm,1.0s						
UBPT	**Khong Chiam**	**16.67**	**177**	P	**P**	**16 46 41.0**	**+0.7**
	comp=Z,95nm,1.1s						
UBPT	**Khong Chiam**	**16.67**	**177**	P	**P**	**16 46 41.0**	**+0.7**
	comp=Z,95nm,1.1s						
GUN	**Gumba**	**16.75**	**261**	*e*P	**Pn**	**16 46 37.2**	**-2.1**
	comp=Z,70nm,0.5s						
NACB	**Ninganchiao**	**16.87**	**113**	*e*P	**P**	**16 46 45.2**	**+2.8**
	comp=Z,28nm,0.8s						
UTHA	**Uthaitani**	**17.05**	**197**	P	**P**	**16 46 45.3**	**+0.9**
	comp=Z,15nm,1.1s,comp=Z,121nm						
PKI	**Pulchoki**	**17.26**	**260**	*e*P	**Pn**	**16 46 43.1**	**-2.5**
	comp=Z,62nm,0.6s						
PKIN	**Phulchoki**	**17.27**	**260**	*e*P	**Pn**	**16 46 42.8**	**-2.9**
	comp=Z,86nm,0.8s						
KKN	**Kakani**	**17.29**	**261**	*e*P	**Pn**	**16 46 43.2**	**-2.8**
	comp=Z,70nm,0.8s						
DMN	**Daman**	**17.50**	**261**	*e*P	**Pn**	**16 46 45.8**	**-2.8**
	comp=Z,104nm,0.9s						
GKN	**Gorkha**	**17.77**	**262**	*e*P	**Pn**	**16 46 49.0**	**-2.8**
	comp=Z,110nm,0.8s						
WMQ	**Urumqi**	**17.78**	**316**	P	**P**	**16 46 52.6**	**+0.1**
WMQ				pP	**pP**	**16 46 56.3**	**-1.1**
WMQ				sP	**sP**	**16 46 59.6**	**-0.1**
WMQ				PP	**PnPn**	**16 47 06.8**	**+4.3**
WMQ				S	**Sn**	**16 50 08.6**	**-0.9**
WMQ				SS	**SnSn**	**16 50 31.1**	**+8.0**
WMQ				PcP	**PcP**	**16 51 30.4**	**+1.7**
WMQ				ScS	**ScS**	**16 58 42.9**	**-0.5**
WMQ				AMB	AMB		
	comp=Z,24nm,1.0s						
WMQ				AMB	AMB		
	comp=Z,190nm,4.0s						
WMQ				LR	LR		
	comp=Z,2μm,11.4s						
WMQ				LR	LR		
	comp=Z,2μm,10.2s						
WMQ				LR	LR		
	comp=Z,2μm,10.0s						
SNY	**Shenyang**	**18.01**	**52**	⇑P	**P**	**16 46 59.1**	**+4.2**
SNY				AMB	AMB		
	comp=Z,18nm,1.3s						
SNY				LR	LR		
	comp=Z,320nm,12.5s						
SNY				LR	LR		
	comp=Z,560nm,15.7s						
SNY				LR	LR		
	comp=Z,490nm,15.7s						
DANN	**Dangsing**	**18.41**	**264**	*e*P	**P**	**16 46 57.3**	**-2.4**
	comp=Z,124nm,0.7s						
BOK	**Bokaro**	**18.46**	**248**	*e*P	**P**	**16 46 58.7**	**-1.3**
KOLN	**Koldanda**	**18.71**	**262**	*e*P	**P**	**16 47 00.4**	**-2.6**
	comp=Z,116nm,0.8s						
CHBT	**CHBT**	**19.28**	**187**	P	**P**	**16 47 07.6**	**-1.4**
CHBT	**CHBT**	**19.28**	**187**	P	**Pn**	**16 47 10.2**	**+0.1**
	comp=Z,38nm,1.5s,comp=Z,793nm						
TLY	**Talaya**	**19.67**	**358**	*e*P	**Pn**	**16 47 18.6**	**+4.0**
TLY				pmax	pmax		
	comp=Z,14nm,1.1s						
TLY				MLR	MLR		
	comp=Z,856nm,11.0s						
MOY	**Mondy**	**19.82**	**353**	*e*P	**Pn**	**16 47 19.5**	**+3.0**
MOY				pmax	pmax		
	comp=Z,41nm,1.9s						
KSAR	**Wonju Array Be**	**19.85**	**68**	P	**Pn**	**16 47 16.5**	**-0.2**
KSRS	**Korea Array**	**19.88**	**68**	P	**Pn**	**16 47 16.5**	**-0.6**
	comp=Z,1.1nm,0.3s,baz=254,slow=10,SNR=18						
KSRS				LR	LR	16 53 59.8	
	comp=Z,63nm,21.4s,baz=91,slow=34						
CN2	**Changchun**	**20.15**	**48**	*e*P	Pn	16 47 19.8	-0.5
CN2				*ep*P	pP	16 47 23.8	+0.5
CN2				*es*P	sP	16 47 26.8	+1.2
CN2				*e*S	**S**	**16 51 02.1**	**-1.8**
CN2				AMB	AMB		
	comp=Z,30nm,0.7s						
CN2				LR	LR		
	comp=Z,300nm,10.0s						
CN2				LR	LR		
	comp=Z,500nm,10.0s						
CN2				LR	LR		
	comp=Z,400nm,11.0s						
IRK	**Irkutsk**	**20.22**	**359**	*e*P	**P**	**16 47 19.8**	**+0.7**
IRK				pmax	pmax		
	comp=Z,340nm,0.7s						
HIA	**Hailar**	**20.64**	**29**	*e*P	**P**	**16 47 24.7**	**+1.0**
	comp=Z,33nm,0.9s						
HVS	**Khovu-Aksy**	**20.74**	**340**	*c i*P	**P**	**16 47 25.7**	**+0.9**
LGTI	**Lohaghat**	**21.11**	**269**	*ex*	P	16 47 37.2	+8.4
DGPR	**DIGLIPUR**	**21.60**	**212**	*e*P	**P**	**16 47 34.2**	**0.0**
JNU	**Nakatsue**	**22.14**	**80**	P	**P**	**16 47 40.0**	**+0.1**
JNU	**Nakatsue**	**22.14**	**80**	P	**P**	**16 47 40.0**	**+0.1**
	comp=Z,11nm,0.9s,baz=24,slow=10,SNR=5.3						
JNU				LR	LR	16 57 14.6	
	comp=Z,201nm,20.2s,baz=95,slow=39						
MKAR	**Makanchi Array**	**22.61**	**317**	P	**P**	**16 47 45.5**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,12nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,610nm,18.7s						
MKAR	**Makanchi Array**	**22.61**	**317**	P	**P**	**16 47 45.5**	**+0.7**
MKAR	**Makanchi Array**	**22.61**	**317**	P	**P**	**16 47 45.5**	**+0.7**
	comp=Z,12nm,0.8s,baz=123,slow=8.8,SNR=21						
MKAR				LR	LR	16 57 25.1	
	comp=Z,610nm,18.7s,baz=303,slow=39						
DDI	**Dehra Dun**	**22.79**	**273**	*e*P	**P**	**16 47 47.7**	**+0.8**
DDI				AMB	AMB	16 47 58.1	
	comp=Z,302nm,2.3s						
PBA	**Port Blair**	**23.03**	**211**	*e*P	P	16 47 49.5	0.0
PBA				AMB	AMB	16 47 57.0	
	comp=Z,53nm,1.1s						
MDJ	**Mudanjiang**	**23.18**	**50**	P	**P**	**16 47 49.9**	**-0.9**
MDJ				pP	**pP**	**16 47 52.9**	**-2.9**
MDJ				S	**S**	**16 52 01.6**	**0.0**
MDJ				AMB	AMB		
	comp=Z,11nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,73nm,3.8s						
MDJ				LR	LR		
	comp=Z,280nm,23.5s						
MDJ				LR	LR		
	comp=Z,120nm,26.2s						
MDJ				LR	LR		
	comp=Z,150nm,16.6s						
MDJ	**Mudanjiang**	**23.18**	**50**	*e*P	**P**	**16 47 52.5**	**+1.7**
	comp=Z,78nm,1.5s						
SMLA	**Simla**	**23.40**	**275**	*e*P	**P**	**16 47 52.4**	**-0.6**
SURT	**Suratani**	**23.57**	**195**	P	**P**	**16 47 54.7**	**-0.1**
	comp=Z,109nm,1.1s,comp=Z,1μm						
NDI	**New Delhi**	**23.86**	**269**	*e*P	**P**	**16 47 56.0**	**-1.6**
VIS	**Vishakhapatnam**	**23.93**	**239**	*e*P	**P**	**16 47 56.8**	**-1.6**
DHRM	**DHARAMSHALA**	**23.97**	**278**	*e*P	**P**	**16 47 58.6**	**-0.2**
KSH	**Kashi**	**24.36**	**296**	P	**P**	**16 48 06.8**	**+4.5**
KSH				pP	**pP**	**16 48 10.0**	**+2.3**
KSH				sP	**sP**	**16 48 13.8**	**+3.9**
KSH				PP	PnPn	16 48 43.0	+10
KSH				S	**S**	**16 52 23.9**	**+2.9**
KSH				sS	**sS**	**16 52 31.3**	**+1.5**
KSH				SS	SnSn	16 53 18.5	+14
KSH				LR	LR		
	comp=Z,170nm,8.6s						
KSH				LR	LR		
	comp=Z,150nm,4.7s						
KSH				LR	LR		
	comp=Z,140nm,6.1s						
USRK	**Ussuriysk Arra**	**24.61**	**53**	P	**P**	**16 48 05.0**	**+0.7**
	comp=Z,7.1nm,0.8s,baz=254,slow=11,SNR=7.6						
USRK				LR	LR	16 58 52.5	
	comp=Z,203nm,18.2s,baz=54,slow=39						
PKDT	**Phuket**	**24.70**	**195**	P	P	16 48 15.7	+10
NGP	**Nagpur**	**25.24**	**251**	*e*P	**P**	**16 48 09.4**	**-0.9**
TKM2	**Tokmak 2**	**25.37**	**304**	*e*P	**P**	**16 48 12.8**	**+1.3**
TKM2	**Tokmak 2**	**25.37**	**304**	*e*P	**P**	**16 48 12.8**	**+1.3**
BHPL	**Bhopal**	**25.58**	**257**	*e*P	**P**	**16 48 12.8**	**-0.6**
FRU	**Bishkek**	**26.04**	**303**	*e*P	**P**	**16 48 20.0**	**+2.6**
AAK	**Ala-Archa**	**26.08**	**303**	⇓*e*P	**P**	**16 48 18.7**	**+0.8**
AAK				pmax	pmax		
	comp=Z,17nm,1.2s						
AAK	**Ala-Archa**	**26.08**	**303**	*e*P	**P**	**16 48 18.8**	**+0.9**
AAK	**Ala-Archa**	**26.08**	**303**	P	**P**	**16 48 19.2**	**+1.3**
	comp=Z,6.1nm,0.9s,baz=89,slow=7.7,SNR=5.6						
AAK				LR	LR	16 59 09.5	
	comp=Z,517nm,18.0s,baz=312,slow

KURK Kurchatov 26.80 322 *e*P **P 16 48 24.6 +0.5**
KURK PcP **PcP 16 51 45.8 -0.8**
KULM Kulim 26.84 189 P **P 16 48 25.9 +1.1**
comp=Z,25nm,0.8s,comp=Z,742nm
KULM Kulim 26.84 189 *e*P **P 16 48 23.8 -1.0**
comp=Z,11nm,0.9s
AKL Akola 27.11 252 *e*P **P 16 48 27.9 +0.7**
NVS Novosibirsk 27.40 333 *e*P **P 16 48 28.0 -1.4**
IPM Ipoh 27.59 188 P **P 16 48 31.6 +0.1**
comp=Z,17nm,1.3s
IPM Ipoh 27.59 188 *e*P **P 16 48 29.2 -2.3**
comp=Z,18nm,0.9s
HYB Hyderabad 27.69 245 *i*P **P 16 48 36.0 +3.5**
HYB Hyderabad 27.69 245 *e*P **P 16 48 32.1 -0.4**
HYB AMB AMB 16 48 37.3
comp=Z,8.3nm,0.3s
KKM Kota Kinabalu 28.01 155 P **P 16 48 36.8 +1.4**
comp=Z,21nm,1.2s
KKM Kota Kinabalu 28.01 155 ⇑P **P 16 48 35.0 -0.4**
baz=28,SNR=3.4
MJAR Matsushiro Arr 28.03 71 P **P 16 48 34.5 -0.8**
MJAR PcP **PcP 16 51 50.1 +0.2**
MJAR Matsushiro Arr 28.03 71 P **P 16 48 34.5 -0.8**
comp=Z,0.9nm,0.4s,baz=272,slow=11,SNR=5.1
MJAR PcP **PcP 16 51 50.1 +0.2**
comp=Z,2.1nm,0.7s,baz=246,slow=3.8,SNR=4.0
MJAR LR LR 17 00 57.3
comp=Z,80nm,19.2s,baz=185,slow=39
KKAR Karatay Array 29.04 302 *e*P **P 16 48 45.2 +0.9**
KKAR Karatay Array 29.04 302 *e*P **P 16 48 45.2 +0.9**
PSI Prapat 29.55 192 P **P 16 48 49.3 +0.3**
PSI Prapat 29.55 192 P **P 16 48 49.3 +0.3**
baz=30,SNR=10.0
PSI Prapat 29.55 192 P **P 16 48 49.3 +0.3**
comp=Z,25nm,0.7s,baz=350,slow=9.3,SNR=24
PSI LR LR 17 01 54.9
comp=Z,308nm,19.8s,baz=232,slow=39
MYLDM Lahad Datu 29.68 151 P **P 16 48 50.9 +0.8**
KBL Kabul 29.77 285 *e*P **P 16 48 52.2 +1.2**
KBL pmax pmax
comp=Z,45nm,1.2s
KBL Kabul 29.77 285 *e*P **P 16 48 52.2 +1.2**
comp=Z,45nm,1.2s
KBL Kabul 29.77 285 ⇓P **P 16 48 52.4 +1.4**
baz=30,SNR=3.5
SBUM Sibu 30.26 165 P **P 16 48 56.0 +0.8**
comp=Z,27nm,1.1s
KSM Kuching 30.84 169 P **P 16 49 01.5 +1.1**
comp=Z,18nm,1.0s
KSM Kuching 30.84 169 *e*P **P 16 49 00.5 +0.2**
comp=Z,16nm,1.0s
KSM Kuching 30.84 169 ⇓P **P 16 49 00.1 -0.2**
baz=31,SNR=5.7
BHJ Bhuj 32.08 263 *e*P **P 16 49 11.2 0.0**
BHJ AMB AMB 16 49 17.3
comp=Z,34nm,0.6s
STKI Sintang 32.42 167 P **P 16 49 15.6 +1.3**
comp=Z,40nm,1.2s,comp=Z,2µm
BRVK Borovoye 32.44 321 P **P 16 49 14.3 +0.2**
BRVK Borovoye 32.44 321 P **P 16 49 14.3 +0.2**
YSS Yuzh-Sakhalins 32.64 52 *e*P **P 16 49 16.0 +0.1**
PPBI Pangkal Pinang 34.01 177 P **P 16 49 29.3 +1.2**
comp=Z,21nm,1.3s
YAK Yakutsk 34.10 21 *e*P **P 16 49 28.0 -0.5**
YAK pmax pmax
comp=Z,35nm,0.9s
YAK pmax pmax
comp=N,12nm,1.2s
YAK pmax pmax
comp=E,12nm,1.3s
YAK MLR MLR
comp=Z,211nm,12.0s
YAK MLR MLR
comp=N,114nm,13.0s
YAK MLR MLR
comp=E,161nm,10.0s
MRSI Marisa 35.37 149 P **P 16 49 41.3 +1.4**
comp=E,40nm,0.8s
LHSI Lahat 35.65 182 P **P 16 49 43.7 +1.4**
comp=E,40nm,0.9s
KMSI Cibinong 36.22 146 P **P 16 49 48.7 +1.5**
comp=E,154nm,0.9s
MDSI Maura Dua 36.30 181 P **P 16 49 47.5 -0.3**
comp=E,35nm,0.7s
APSI Ampana 36.49 151 P P 16 49 53.3 +3.8
comp=E,63nm,0.9s
IMYA Miami 36.85 289 *e*P **P 16 49 52.8 +0.1**
ISRO Mashad 37.36 289 *e*P **P 16 49 56.7 -0.2**
ABKAR Akbulak array 37.42 311 *e*P **P 16 49 57.3 +0.2**
comp=E,25nm,1.0s
IMOG Moghan 37.49 289 *e*P **P 16 49 59.1 +0.9**
IKRD Kardeh 38.07 290 *e*P P 16 49 57.5 -5.6
ISFR Sfrayin 38.44 291 *e*P **P 16 50 07.2 +0.9**
SPSI Sidrap Palu 38.56 155 P **P 16 50 07.8 +0.8**
comp=E,39nm,1.4s,comp=E,479nm
LEM Lembang 38.72 175 ⇑P **P 16 50 09.8 +1.2**
baz=39,SNR=3.6
LBMI Labuha 39.02 142 P P 16 50 19.8 +8.9
SVE Sverdlovsk 39.05 323⇑*i*P **P 16 50 11.8 +1.1**
SVE pmax pmax
comp=Z,26nm,1.2s
KPJI Karang Pucung 39.34 173 P **P 16 50 15.0 +1.5**
comp=Z,166nm,1.0s
BJII Banjamegara 39.42 172 P **P 16 50 17.2 +2.9**
KAPI Kappang 39.53 156 P **P 16 50 14.1 -1.1**
KAPI Kappang 39.53 156 P **P 16 50 14.1 -1.1**
comp=Z,23nm,1.0s,baz=350,slow=10,SNR=3.9
ARU Arti 40.00 322*c i*P **P 16 50 18.7 +0.1**
ARU 16 52 22.9
ARU S **S 16 56 25.3 +2.1**
ARU SS **SS 16 59 15.9 -4.3**
ARU pmax pmax
comp=Z,45nm,1.2s
ARU Arti 40.00 322 P **P 16 50 19.6 +1.0**
comp=Z,192nm,0.9s,SNR=13
SJI Sawahan 40.10 169 P **P 16 50 21.3 +1.3**
comp=Z,135nm,1.1s
PWJI Pagerwojo 40.39 169 P **P 16 50 23.3 +1.0**
comp=Z,64nm,1.1s
SWI Sorong 41.28 137 P P 16 50 34.7 +5.0
comp=Z,16nm,1.0s
TIXI Tiksi 41.78 11⇑*i*P **P 16 50 31.3 -1.8**
TIXI pmax pmax
comp=Z,33nm,1.2s
IMEH Mehriz 42.25 283 *e*P **P 16 50 37.1 -0.7**
IFIR Firoozkooh 42.84 290 *e*P **P 16 50 42.9 +0.3**
SEY Seymchan 43.08 30⇑*e*P **P 16 50 43.9 +0.1**
PETK Petropavlovsk- 43.23 45 P **P 16 50 45.1 -0.1**
PETK pmax pmax
comp=Z,7.0nm,0.8s
PETK Petropavlovsk- 43.23 45 P **P 16 50 45.1 -0.1**
PETK Petropavlovsk- 43.23 45 P **P 16 50 45.1 -0.1**
comp=Z,6.4nm,0.9s,baz=213,slow=7.1,SNR=4.3
IDMV Damavand 43.43 290 *e*P **P 16 50 48.1 +0.7**
ISFB Sefidab 43.51 288 *e*P **P 16 50 48.3 +0.5**
IZEF Zefreh 43.76 286 *e*P **P 16 50 49.8 -0.3**
MMRI Maumere 43.78 154 P **P 16 50 49.9 0.0**
comp=Z,110nm,1.2s
IVRN Varamin 43.79 289 *e*P **P 16 50 48.5 -1.6**
ISRV Sarvestan 44.04 281 *e*P **P 16 50 50.8 -1.6**
IKLH Kolahrood 44.28 287 *e*P **P 16 50 54.0 -0.2**
BAKI Biak 44.48 132 P P 16 51 01.5 +5.9
comp=Z,46nm,0.9s
IRAZ Razeghan 45.15 290 *e*P **P 16 51 00.7 -0.4**
SOEI Soe 45.58 152 P P 16 51 11.3 +6.9
SOEI Soe 45.58 152 ⇑P **P 16 51 04.4 -0.1**
baz=46,SNR=4.9
BATI Baumata 45.76 153 P **P 16 51 05.2 -0.5**
BATI Baumata 45.76 153 P **P 16 51 04.3 -1.4**
BATI Baumata 45.76 153 P **P 16 51 04.3 -1.4**
comp=Z,37nm,0.6s,baz=285,slow=2.0,SNR=13
ISRB Sarab 46.46 294 *e*P **P 16 51 10.1 -1.3**
IMRD Marand 47.81 295 *e*P **P 16 51 21.4 -0.5**
IDHR Dehrash 48.14 290 *e*P **P 16 51 24.3 -0.2**
ZEI Tsey 48.49 301 *e*P **P 16 51 26.5 -0.6**
ZEI pmax pmax
comp=Z,11nm,1.0s
MIB Mutribah 48.71 283 *e*P **P 16 51 28.3 -0.4**
MIB AMb AMB 16 51 29.9
comp=Z,25nm,0.5s
RDF Al-Radifah 48.81 282 *e*P **P 16 51 29.1 -0.4**
RDF AMb AMB 16 51 30.6
comp=Z,37nm,0.9s
NAY Al-Naaiem 48.96 283 *e*P **P 16 51 30.1 -0.6**
NAY AMb AMB 16 51 31.5
comp=Z,38nm,0.7s
KBZ Khabaz 49.08 302 P **P 16 51 31.4 +0.1**
KBZ pmax pmax
comp=Z,3.0nm,0.5s
KBZ MLR MLR
comp=Z,135nm,19.1s
KBZ Khabaz 49.08 302 P **P 16 51 31.4 +0.1**
KBZ Khabaz 49.08 302 P **P 16 51 31.4 +0.1**
comp=Z,2.7nm,0.5s,baz=110,slow=7.2,SNR=13
KBZ LR LR 17 14 01.7
comp=Z,135nm,19.1s,baz=59,slow=38
RST Umm Al-Ruwaisa 49.09 283 *e*P **P 16 51 30.6 -1.0**
RST AMb AMB 16 51 32.4
comp=Z,219nm,0.9s
KIV Kislovodsk 49.20 303 *e*P **P 16 51 33.2 +0.8**
KIV pmax pmax
comp=Z,18nm,0.9s
KIV MLR MLR
comp=Z,130nm,16.0s
VRHR Novokhopersk 49.27 312 *e*P **P 16 51 31.7 -0.9**
VRHR pmax pmax
comp=N,8.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,20nm,0.6s
KLMR Klimovskoe 50.58 325 *e*P **P 16 51 41.0 -1.5**
KLMR pmax pmax
comp=Z,31nm,0.6s
VORD Divnogorie 50.74 312 *e*P **P 16 51 42.8 -1.0**
VORD pmax pmax
comp=E,5.0nm,0.6s
VORD pmax pmax
comp=Z,9.0nm,0.6s
VSR Storozhevoye 50.80 312 *e*P **P 16 51 44.1 -0.2**
VSR pmax pmax
comp=Z,20nm,0.9s
VSR pmax pmax
comp=N,3.0nm,0.4s
VSR pmax pmax
comp=E,20nm,0.9s
MTN Manton Dam 51.32 146 ⇓P **P 16 51 47.6 -0.9**
baz=51,SNR=13
MOS Moscow 51.48 318 *e*P **P 16 51 48.1 -1.2**
MOS pmax pmax
comp=Z,67nm,0.8s
TMCR Tamitsa 51.53 329 *e*P **P 16 51 49.4 -0.2**
TMCR *e* 16 53 47.9
TMCR pmax pmax
comp=Z,38nm,1.0s
KDU Kakadu 51.83 145 ⇓P **P 16 51 51.5 -0.8**
baz=52,SNR=5.8
OBN Obninsk 52.11 318*c i*P **P 16 51 53.3 -0.7**
OBN *e* 16 53 06.0
OBN pmax pmax
comp=Z,27nm,1.2s
OBN MLR MLR
comp=Z,200nm,17.0s
RAYN Ar Rayn 52.45 276 P **P 16 51 56.4 -0.7**
comp=Z,47nm,0.7s,SNR=5.9
KNRA Kununurra 52.76 150 ⇓P **P 16 51 59.0 -0.2**
baz=53,SNR=62
ANN Anapa 52.78 304 *e*P **P 16 51 58.8 -0.4**
ANN pmax pmax
comp=Z,61nm,1.5s
MALT Malatya 53.46 296 ⇓P **P 16 52 05.7 +1.2**
MALT Malatya 53.46 296⇓*i*P **P 16 52 05.7 +1.2**
APA Apatity 53.70 333⇑*i*P P 16 52 09.2 +3.6
APA *i* 16 53 08.0
APA *i* S S 16 59 46.0 +7.5
APA *i* 17 01 50.0
APA MLR MLR
comp=Z,1µm,19.0s
FITZ Fitzroy Crossi 53.74 155 *e*P **P 16 52 06.0 -0.5**
comp=Z,23nm,1.0s
FITZ Fitzroy Crossi 53.74 155 ⇓P **P 16 52 06.2 -0.2**
baz=54,SNR=33
FITZ Fitzroy Crossi 53.74 155 P **P 16 52 06.1 -0.3**
comp=Z,19nm,0.9s,baz=351,slow=6.5,SNR=45
FITZ LR LR 17 14 51.7
comp=Z,72nm,19.7s,baz=350,slow=36
JOF Joensuu 54.51 327 *e*P **P 16 52 10.9 -0.6**
JOF pmax pmax
comp=Z,11nm,0.6s
JOF Joensuu 54.51 327 *ep* **P 16 52 10.9 -0.6**
comp=Z,11nm,0.6s
MBWA Marble Bar 54.81 163 *e*P **P 16 52 13.8 -0.4**
comp=Z,26nm,0.9s
GIRL Giralia 55.12 169 ⇓P **P 16 52 17.3 +1.0**
baz=55,SNR=3.4
WRDH Warideh 55.79 294 *i*P **P 16 52 21.1 -0.2**
ZALF Zalf 55.87 290 *i*P **P 16 52 22.5 +0.6**
BIDA Albida 56.01 293 *i*P **P 16 52 22.1 -0.9**
KEV Kevo 56.09 336 *e*P **P 16 52 21.6 -1.2**
KEV pmax pmax
comp=Z,11nm,0.5s
KEV Kevo 56.09 336 *ep* **P 16 52 21.6 -1.2**
comp=Z,11nm,0.5s
HAWK Haweek 56.10 293 *i*P **P 16 52 23.5 -0.1**
SALA Sala 56.41 290 *i*P **P 16 52 26.2 +0.3**
ARCES ARCESS Array B 56.62 336 P **P 16 52 26.3 -0.4**
ARCES ARCESS Array B 56.62 336 P **P 16 52 26.3 -0.4**
comp=Z,12nm,0.5s,baz=82,slow=8.1,SNR=40
ARCES LR LR 17 18 53.5
comp=Z,140nm,18.6s,baz=75,slow=38
BR131 Keskin Array S 56.69 299 *e*P **P 16 52 26.7 -1.1**
comp=Z,2.8nm,0.6s
BRTR Keskin Array B 56.69 299 P **P 16 52 27.4 -0.4**
BRTR Keskin Array B 56.69 299 P **P 16 52 27.4 -0.4**
comp=Z,2.3nm,0.6s,baz=116,slow=5.4,SNR=10
KAF Kangasniemi 56.88 327 *e*P **P 16 52 26.8 -1.8**
KAF pmax pmax
comp=Z,5.0nm,0.7s
KAF Kangasniemi 56.88 327 *ep* **P 16 52 26.8 -1.8**
comp=Z,4.6nm,0.7s
FIA1 FINESS Array S 57.07 326 *e*P **P 16 52 29.4 -0.5**
FINES FINESS Array B 57.07 326 P **P 16 52 29.7 -0.2**
FINES FINESS Array B 57.07 326 P **P 16 52 29.7 -0.2**
comp=Z,18nm,0.8s,baz=74,slow=6.0,SNR=15
FINES LR LR 17 20 43.1
comp=Z,163nm,18.4s,baz=95,slow=40
AKASG Malin Array Be 57.10 313 P **P 16 52 29.7 -0.6**
AKASG pmax pmax
comp=Z,12nm,0.6s
AKASG Malin Array Be 57.10 313 P **P 16 52 29.6 -0.6**
AKASG Malin Array Be 57.10 313 P **P 16 52 29.6 -0.6**
comp=Z,12nm,0.6s,baz=69,slow=6.7,SNR=27
KIEV Kiev 57.11 313 *e*P **P 16 52 29.4 -1.0**
KIEV pmax pmax
comp=Z,10.0nm,0.8s
KIEV Kiev 57.11 313 *e*P **P 16 52 29.4 -1.0**
comp=Z,9.6nm,0.8s
NACGM Naroch 57.73 318 *e* P 16 52 31.0 -3.7
IIGN Ignalina 57.96 319 *e*P **P 16 52 36.0 -0.3**
IIGN AMB AMB 16 52 40.3
comp=Z,11nm,0.8s
ISAL Salakas 57.97 319 *e*P **P 16 52 36.1 -0.3**
ISAL AMB AMB 16 52 40.9
comp=Z,12nm,1.1s
COEN Coen 58.76 135 ⇑P **P 16 52 42.3 -0.1**
baz=59,SNR=7.6
EIL Elat 58.90 288 ⇑P **P 16 52 43.0 -0.3**
baz=59,SNR=9.5
WRAB Tennant Creek 58.98 147 *e*P **P 16 52 43.6 -0.2**
WRAB pmax pmax
comp=Z,33nm,0.7s
WRAB Tennant Creek 58.98 147 *e*P **P 16 52 43.6 -0.2**
comp=Z,33nm,0.7s
WRAB Tennant Creek 58.98 147 P **P 16 52 43.2 -0.6**
comp=Z,311nm,0.6s,SNR=30
WRA Warramunga Arr 58.98 147 P **P 16 52 43.7 -0.1**
WRA ⇑*e* 17 22 32.2
WRA Warramunga Arr 58.98 147 P **P 16 52 43.7 -0.1**
comp=Z,21nm,0.7s,baz=328,slow=9.1,SNR=267
WRA PKP2bc 17 22 32.2
comp=Z,1.1nm,0.9s,baz=175,slow=1.8,SNR=4.6
CFR Carcaliu 59.12 307 ⇑P **P 16 52 43.8 -0.8**
CFR Carcaliu 59.12 307⇑*i*P **P 16 52 43.8 -0.8**
TESR Tescani 59.76 309⇓*i*P **P 16 52 48.5 -0.5**
MEEK Meekatharra 59.83 166 ⇓P **P 16 52 49.4 -0.1**
baz=60,SNR=6.2
VRI Vrincioaia 59.88 308 ⇓P **P 16 52 49.5 -0.4**
VRI Vrincioaia 59.88 308⇓*i*P **P 16 52 49.5 -0.4**
PLOR Plostina 59.94 308 ⇑P **P 16 52 50.8 +0.5**
PLOR Plostina 59.94 308⇑*i*P **P 16 52 50.8 +0.5**
SUW Suwalki 59.98 318 *e*P **P 16 52 49.6 -0.8**
SUW Suwalki 59.98 318 *e*P **P 16 52 49.5 -0.8**
BURAR Bucovina Array 60.39 310 ⇑P **P 16 52 53.4 -0.1**
BURAR Bucovina Array 60.39 310⇑*i*P **P 16 52 53.4 -0.1**
BUR08 Bucovina Ar. S 60.40 310 *e*P **P 16 52 53.1 -0.3**
LVV L'vov 60.54 313 *e*P **P 16 52 53.9 -0.4**
DOPR Dopca 60.75 308⇓*i*P **P 16 52 56.4 +0.6**
VOIR 61.13 308 ⇓P **P 16 52 59.2 +0.7**
VOIR 61.13 308⇓*i*P **P 16 52 59.2 +0.7**
KWP Kalwaria Pacla 61.42 313 ⇑P **P 16 53 00.7 +0.4**
KWP Kalwaria Pacla 61.42 313⇑*i*P **P 16 53 00.7 +0.4**
KWP Kalwaria Pacla 61.42 313 *e*P **P 16 53 00.3 0.0**
comp=Z,26nm,0.3s
KWP Kalwaria Pacla 61.42 313 *e*P **P 16 53 00.7 +0.4**
ARR Arges 61.43 308⇓*i*P **P 16 53 00.4 -0.1**
MORW Morawa 61.70 169 ⇑P **P 16 53 02.8 +0.6**
baz=62,SNR=7.5
KOLS Kolonicke sedl 61.90 312 *e*P **P 16 53 03.3 -0.2**
KOLS pmax pmax
comp=Z,22nm,1.8s
KOLS Kolonicke sedl 61.90 312 *e*P **P 16 53 03.3 -0.2**
TRPA Tarpa 61.97 311⇑*i*P **P 16 53 04.2 +0.2**
UZH Uzhgorod 61.98 312 *e*P **P 16 53 03.0 -1.0**
UZH *e* 16 53 18.2
LOT Lotru 61.99 308⇑*i*P **P 16 53 03.7 -0.6**
AS31 Alice Springs 62.04 149 *e*P **P 16 53 04.3 -0.3**
ASAR Alice Springs 62.04 149 P **P 16 53 04.7 0.0**
ASAR ⇑*e* 17 22 23.5
ASAR Alice Springs 62.04 149 P **P 16 53 04.7 0.0**
comp=Z,12nm,0.8s,baz=338,slow=7.0,SNR=117
ASAR PKP2bc 17 22 23.5
comp=Z,0.3nm,0.7s,baz=139,slow=2.6,SNR=4.9
STHS Stebnicka Huta 62.40 313 *e*P **P 16 53 07.3 +0.4**
STHS pmax pmax
comp=Z,7.0nm,1.1s
STHS Stebnicka Huta 62.40 313 *e*P **P 16 53 07.3 +0.4**
MTSU Mount Surprise 62.71 137 ⇓P **P 16 53 09.2 0.0**
baz=63,SNR=11
NIE Niedzica 62.97 313 *e*P **P 16 53 11.5 +0.8**
NIE Niedzica 62.97 313 *e*P **P 16 53 11.5 +0.8**
SIRR Siria 63.12 309⇓*i*P **P 16 53 12.4 +0.6**
VTS Vitosha 63.30 305 ⇓P **P 16 53 13.6 +0.4**
VTS Vitosha 63.30 305⇓*i*P **P 16 53 13.6 +0.4**
BLDU Ballidu 63.33 168 ⇑P **P 16 53 13.4 +0.4**
baz=64,SNR=8.5
BZS Buzias 63.37 309 ⇑P **P 16 53 12.8 -0.5**
BZS Buzias 63.37 309⇑*i*P **P 16 53 12.8 -0.5**
NB2 NORSAR Subarra 64.14 327 P **P 16 53 17.0 -1.2**
comp=Z,10nm,0.6s,baz=72,slow=6.9
NOA NORSAR Array B 64.14 327 P **P 16 53 17.2 -1.0**
NOA NORSAR Array B 64.14 327 P **P 16 53 17.2 -1.0**
comp=Z,9.9nm,0.6s,baz=72,slow=6.8,SNR=20
OKC Ostrava-Krasne 64.17 314 *e*P **P 16 53 18.9 +0.3**
OKC Ostrava-Krasne 64.17 314 *e*P **P 16 53 18.9 +0.3**
OKC *ex* x 16 53 22.3
NAO01 NORSAR Array S 64.36 327 *e*P **P 16 53 21.1 +1.5**
KRLC Kraliky 64.92 315 *e*P **P 16 53 23.7 +0.2**
KRLC Kraliky 64.92 315 *e*P **P 16 53 23.7 +0.2**
KRLC *ex* x 16 53 26.5
KSP Ksiaz 64.94 316 *e*P **P 16 53 24.2 +0.6**
DPC Dobruska-Polom 65.09 315 *e*P **P 16 53 25.1 +0.4**
DPC Dobruska-Polom 65.09 315 *e*P **P 16 53 25.1 +0.4**
DPC *ex* x 16 53 28.7
UPC Upice 65.22 315 *e*P **P 16 53 24.2 -1.3**
UPC *e* 16 53 29.4
UPC Upice 65.22 315 *e*P **P 16 53 24.2 -1.3**
UPC *ex* x 16 53 26.4
UPC *ex* x 16 53 29.4
VRAC Vranov 65.30 314⇓*i*P **P 16 53 26.3 +0.3**
CTAO Charters Tower 65.37 137 *e*P **P 16 53 26.3 -0.4**
CTAO pmax pmax
comp=Z,8.0nm,0.6s
CTAO Charters Tower 65.37 137 *e*P **P 16 53 26.3 -0.4**
comp=Z,8.2nm,0.6s
NWAO Narrogin (SRO) 65.68 168 *e*P **P 16 53 28.7 +0.3**
comp=Z,24nm,0.6s
IMA2 Indian Mountai 65.70 26 *e*P **P 16 53 27.6 -0.8**
IM04 Indian Mountai 65.71 26 *e*P **P 16 53 27.6 -0.8**
TREC Trest 65.98 314 *e*P **P 16 53 30.5 +0.1**
TREC Trest 65.98 314 *e*P **P 16 53 30.5 +0.1**
TREC *ex* x 16 53 34.4
CONA Conrad Observa 66.25 313⇑*i*P **P 16 53 32.6 +0.4**
comp=Z,8.5nm,0.7s,SNR=4.7
PRU Pruhonice 66.29 315 *e*P **P 16 53 32.5 +0.2**
PRU Pruhonice 66.29 315 *e*P **P 16 53 32.5 +0.2**
PRU *ex* x 16 53 36.2
BRG Berggiesshubel 66.32 316 *e*P **P 16 53 32.4 -0.1**
comp=Z,11nm,1.1s
BRG Berggiesshubel 66.32 316 *e*P **P 16 53 32.4 -0.1**
BRG pmax pmax
comp=Z,11nm,1.2s
COLD Coldfoot 66.46 24 *e*P **P 16 53 32.9 -0.3**
comp=Z,13nm,1.0s
CLL Collm 66.70 317⇑*i*P **P 16 53 34.4 -0.5**
CLL pmax pmax
comp=Z,9.0nm,1.4s
CLL Collm 66.70 317⇑*i*P **P 16 53 34.4 -0.5**
comp=Z,20nm,1.4s
ARSA Arzberg 66.72 312⇑*i*P **P 16 53 35.1 -0.1**
comp=Z,4.1nm,0.6s
GROS Grobnik 67.04 311 *i*P **P 16 53 36.9 -0.4**
GROS *i*pP **pP 16 53 40.4 -2.6**
GOLS Golise 67.14 311 *i*P **P 16 53 37.9 +0.1**
BSEG Bad Segeberg 67.19 320 *e*P **P 16 53 38.0 0.0**
BSEG pmax pmax
comp=Z,15nm,1.0s
KHC Kasperske Hory 67.20 315 *e*P **P 16 53 38.1 -0.1**
KHC MLR MLR
comp=Z,300nm,15.9s
KHC Kasperske Hory 67.20 315 *e*P **P 16 53 38.1 -0.1**
KHC *ex* x 16 53 41.7
KHC AMS AMS 17 24 20.0
comp=Z,300nm,15.9s
PERS Pernice 67.22 312 *i*P **P 16 53 38.1 -0.3**
PERS *ep*P **pP 16 53 41.6 -2.5**
GEC2 GERESS Array S 67.24 314 *e*P **P 16 53 38.2 -0.3**
GEC2 pmax pmax
comp=Z,13nm,1.2s
GERES GERESS Array B 67.24 314 P **P 16 53 38.7 +0.2**
GERES GERESS Array B 67.24 314 P **P 16 53 38.7 +0.2**
comp=Z,4.7nm,0.7s,baz=63,slow=5.1,SNR=38
GERES LR LR 17 24 42.3
comp=Z,211nm,19.6s,baz=66,slow=38
SOKA Soboth 67.25 312 *i*P **P 16 53 38.5 -0.1**
comp=Z,15nm,0.8s,SNR=4.0
MOA Molln 67.28 313⇑*i*P **P 16 53 38.9 +0.2**
comp=Z,9.7nm,0.8s,SNR=5.1
BPAW Bear Paw Mtn. 67.59 27 *e*P **P 16 53 39.8 -0.6**
comp=Z,16nm,1.0s
PPLA Purkeypile 67.66 29 *e*P **P 16 53 40.7 -0.3**
comp=Z,13nm,0.7s
LJU Ljubljana 67.83 311 *i*P **P 16 53 42.0 -0.2**
CLZ Clausthal 68.00 318 *e*P **P 16 53 43.0 -0.2**
CLZ pmax pmax
comp=Z,28nm,1.0s
KBA Koelnbreinsper 68.16 313⇑*i*P **P 16 53 44.3 -0.2**
comp=Z,8.1nm,0.6s
TRF Thorofare Moun 68.17 28 *e*P **P 16 53 44.6 +0.4**
comp=Z,8.5nm,1.1s
GRF Grafenberg Arr 68.39 316 *e*P **P 16 53 45.8 +0.2**
GRF pmax pmax
comp=Z,20nm,0.8s
GRF MLR MLR
comp=Z,200nm,20.5s
GRFO Grafenberg 68.39 316 *e*P **P 16 53 45.9 +0.2**
GRFO pmax pmax
comp=Z,16nm,0.8s
GRFO Grafenberg 68.39 316 *e*P **P 16 53 45.9 +0.2**
comp=Z,16nm,0.8s
COLA College 68.42 26 *e*P **P 16 53 45.3 -0.2**
COLA pmax pmax
comp=Z,116nm,1.2s
COLA College 68.42 26 *e*P **P 16 53 45.3 -0.2**
comp=Z,116nm,1.2s
RSO Redoubt South 68.52 31 *e*P **P 16 53 45.7 -0.8**
comp=Z,40nm,0.8s
MCK McKinley 68.56 27 *e*P **P 16 53 45.1 -1.4**
MCK pmax pmax
comp=Z,8.0nm,0.9s
MCK McKinley 68.56 27 *e*P **P 16 53 45.1 -1.4**
comp=Z,7.7nm,0.9s
ABTA Abfaltersbach 68.81 313⇑*i*P **P 16 53 47.4 -1.1**
comp=Z,5.3nm,0.5s,SNR=5.3
ILAR Eielson Array 68.83 26 P **P 16 53 46.9 -1.2**
ILAR Eielson Array 68.83 26 P **P 16 53 46.9 -1.2**

comp=Z,20nm,1.4s,baz=292,slow=4.5,SNR=21
FUR Furstenfeldbru 68.99 314 *e*P **P 16 53 49.8 +0.4**
FUR pmax pmax
comp=Z,42nm,0.9s
WTTA Wattenberg 69.14 313 *i* P **P 16 53 50.3 -0.3**
comp=Z,15nm,0.7s,SNR=7.8
WATA Walderalm 69.15 313⇑*i*P **P 16 53 50.0 -0.6**
comp=Z,8.2nm,0.5s
QLP Quilpie 69.43 142⇓P **P 16 53 52.6 +0.4**
baz=70,SNR=18
PMR Palmer 69.53 29 *e*P **P 16 53 51.5 -1.0**
PMR pmax pmax
comp=Z,12nm,0.7s
PMR Palmer 69.53 29 *e*P **P 16 53 51.5 -1.0**
comp=Z,12nm,0.7s
OHAK Old Harbor 69.76 35 *e*P **P 16 53 53.7 -0.3**
comp=Z,13nm,0.7s
FETA Feichten 69.81 313 *i* P **P 16 53 54.2 -0.5**
comp=Z,12nm,0.7s,SNR=9.1
KDAK Kodiak Island 69.84 34 *e*P **P 16 53 53.7 -0.7**
comp=Z,9.8nm,0.8s
KDAK Kodiak Island 69.84 34 P **P 16 53 53.1 -1.3**
comp=Z,76nm,0.6s,SNR=5.9
PAX Paxson 70.30 27 *e*P **P**
PAX pmax pmax
comp=Z,6.0nm,0.9s
PAX Paxson 70.30 27 *e*P **P 16 53 56.4 -0.9**
comp=Z,6.1nm,0.9s
DOT Dot Lake 70.47 26 *e*P **P 16 53 56.8 -1.5**
comp=Z,5.3nm,0.8s
BFO Black Forest 70.69 315 *e*P **P 16 53 59.4 -0.5**
BFO pmax pmax
comp=Z,16nm,1.1s
BFO Black Forest 70.69 315 *e*P **P 16 53 59.4 -0.5**
comp=Z,16nm,1.1s
EGAK Eagle 70.89 24 *e*P **P 16 53 58.9 -1.9**
comp=Z,6.1nm,0.9s
TUE Stuetta 70.90 313 *e*P **P 16 54 00.9 -0.6**
comp=Z,17nm,0.6s
BBOO Buckleboo 70.97 152⇑P **P 16 54 01.0 -0.6**
baz=71,SNR=17
INK Inuvik 71.16 19 *e*P **P 16 54 01.7 -0.6**
comp=Z,22nm,0.9s
CDF Champ du Feu 71.28 316⇑*i*P **P 16 54 03.2 -0.4**
comp=Z,24nm,0.8s
CDF Champ du Feu 71.28 316⇑*i*P **P 16 54 03.2 -0.4**
CDF pmax pmax
comp=Z,24nm,0.8s
CDF Champ du Feu 71.28 316⇑*i*P **P 16 54 03.2 -0.4**
comp=Z,24nm,0.8s
WLF Walferdange 71.36 317 P **P 16 54 04.8 +0.9**
comp=Z,23nm,1.2s
WLF Walferdange 71.36 317 *e*P **P 16 54 04.5 +0.6**
WLF pmax pmax
comp=Z,29nm,0.9s
WLF Walferdange 71.36 317 *e*P **P 16 54 04.5 +0.6**
comp=Z,29nm,0.9s
KMBO Kilima Mbogo 71.55 257 *e*P **P 16 54 05.8 -0.1**
comp=Z,14nm,1.2s
KMBO Kilima Mbogo 71.55 257 P **P 16 54 06.2 +0.4**
comp=Z,4.3nm,0.7s,baz=42,slow=12,SNR=17
RMQ Roma 71.79 139⇑P **P 16 54 07.3 +0.6**
baz=72,SNR=5.8
HINF Hinteralfeld 71.81 315⇑*i*P **P 16 54 06.1 -0.6**
comp=Z,16nm,0.8s
HINF Hinteralfeld 71.81 315⇑*i*P **P 16 54 06.1 -0.6**
HINF pmax pmax
comp=Z,16nm,0.8s
HINF Hinteralfeld 71.81 315⇑*i*P **P 16 54 06.1 -0.6**
comp=Z,16nm,0.8s
GIVF Givet 71.92 318 *e*P **P 16 54 07.2 0.0**
GIVF Givet 71.92 318 *e*P **P 16 54 07.2 0.0**
GIVF Givet 71.92 318 *e*P **P 16 54 07.2 0.0**
HAU Haudompre 72.02 316 *e*P **P 16 54 08.1 +0.2**
comp=Z,6.0nm,0.5s
HAU *e*R
comp=Z,194nm,20.0s
HAU Haudompre 72.02 316 *e*P **P 16 54 08.1 +0.2**
HAU pmax pmax
comp=Z,6.0nm,0.5s
HAU Haudompre 72.02 316 *e*P **P 16 54 08.1 +0.2**
comp=Z,6.0nm,0.5s
PAGF Fort de Pagny 72.13 316 *e*P **P 16 54 08.6 0.0**
comp=Z,5.8nm,0.8s
PAGF Fort de Pagny 72.13 316 *e*P **P 16 54 08.6 0.0**
comp=Z,5.8nm,0.8s
EIDS Eidsvold 72.26 136⇓P **P 16 54 09.5 0.0**
baz=72,SNR=3.4
BAIF Baives 72.29 318 *e*P **P 16 54 09.5 +0.1**
comp=Z,16nm,0.7s
BAIF Baives 72.29 318 *e*P **P 16 54 09.5 +0.1**
BAIF pmax pmax
comp=Z,16nm,0.7s
BAIF Baives 72.29 318 *e*P **P 16 54 09.5 +0.1**
comp=Z,16nm,0.7s
STKA Stephens Creek 72.53 148 *e*P **P 16 54 10.2 -0.7**
comp=Z,1.5nm,0.8s
STKA Stephens Creek 72.53 148⇑P **P 16 54 10.5 -0.5**
baz=73,SNR=5.1
STKA Stephens Creek 72.53 148 P **P 16 54 10.7 -0.3**
comp=Z,7.7nm,0.7s,baz=323,slow=4.1,SNR=19
MEZF Maizieres J'vi 72.55 317 *e*P **P 16 54 10.9 -0.1**
MEZF Maizieres J'vi 72.55 317 *e*P **P 16 54 10.9 -0.1**
SUMG Summit 72.64 349 *i* P **P 16 54 13.8 +2.1**
SUMG pmax pmax
comp=Z,9.0nm,0.8s
SUMG Summit 72.64 349 *i* P **P 16 54 13.8 +2.1**
comp=Z,8.5nm,0.8s
HTT Hallett 72.68 150⇓P **P 16 54 12.4 +0.5**
baz=73
SFTF Sexfontaines 72.70 316 *e*P **P 16 54 11.5 -0.5**
SFTF Sexfontaines 72.70 316 *e*P **P 16 54 11.5 -0.5**
CABF La Chapelle 72.83 314⇑*i*P **P 16 54 12.8 -0.1**
comp=Z,7.8nm,0.5s
CABF La Chapelle 72.83 314⇑*i*P **P 16 54 12.8 -0.1**
CABF pmax pmax
comp=Z,8.0nm,0.5s
CABF La Chapelle 72.83 314⇑*i*P **P 16 54 12.8 -0.1**
comp=Z,7.8nm,0.5s
LPG La Plagne 72.96 313⇑*i*P **P 16 54 14.2 +0.3**
comp=Z,58nm,0.5s
LPG La Plagne 72.96 313⇑*i*P **P 16 54 14.2 +0.3**
LPG pmax pmax
comp=Z,58nm,0.5s
LPG La Plagne 72.96 313⇑*i*P **P 16 54 14.2 +0.3**
comp=Z,58nm,0.5s
LPL La Plagne 72.96 313⇑*i*P **P 16 54 14.1 +0.3**
comp=Z,82nm,0.6s
LPL La Plagne 72.96 313⇑*i*P **P 16 54 14.1 +0.3**
LPL pmax pmax
comp=Z,82nm,0.6s
LPL La Plagne 72.96 313⇑*i*P **P 16 54 14.1 +0.3**
comp=Z,82nm,0.6s
BNI Bardonecchia 73.22 313 *e*P **P 16 54 14.7 -0.5**
BNI pmax pmax
comp=Z,12nm,0.7s
BNI Bardonecchia 73.22 313 *e*P **P 16 54 14.7 -0.5**
comp=Z,12nm,0.7s
SBF Sospel 73.31 311 *e*P **P 16 54 15.4 -0.3**
comp=Z,63nm,0.7s
SBF Sospel 73.31 311 *e*P **P 16 54 15.4 -0.3**
SBF pmax pmax
comp=Z,63nm,0.7s
SBF Sospel 73.31 311 *e*P **P 16 54 15.4 -0.3**
comp=Z,63nm,0.7s
MBDF Montbardon 73.31 313⇑*i*P **P 16 54 14.9 -1.0**
comp=Z,26nm,0.7s
MBDF Montbardon 73.31 313⇑*i*P **P 16 54 14.9 -1.0**
MBDF pmax pmax
comp=Z,26nm,0.7s
MBDF Montbardon 73.31 313⇑*i*P **P 16 54 14.9 -1.0**
comp=Z,26nm,0.7s
ORIF Oris-en-Rattie 73.78 313⇑*i*P **P 16 54 18.4 -0.1**
comp=Z,34nm,0.8s
ORIF *e*R
comp=Z,249nm,20.2s
ORIF Oris-en-Rattie 73.78 313⇑*i*P **P 16 54 18.4 -0.1**
ORIF pmax pmax
comp=Z,34nm,0.8s
ORIF Oris-en-Rattie 73.78 313⇑*i*P **P 16 54 18.4 -0.1**
comp=Z,34nm,0.8s
LOR Lormes 73.85 316 *e*P **P 16 54 17.8 -1.0**
LOR *e*R
comp=Z,135nm,17.0s
LOR Lormes 73.85 316 *e*P **P 16 54 17.8 -1.0**
FRF La Foret Royal 73.95 311 *e*P **P 16 54 18.4 -1.0**
FRF La Foret Royal 73.95 311 *e*P **P 16 54 18.4 -1.0**
FRF La Foret Royal 73.95 311 *e*P **P 16 54 18.4 -1.0**
LMR La Mourre 74.15 311⇑*i*P **P 16 54 20.3 -0.3**
comp=Z,20nm,0.6s
LMR La Mourre 74.15 311⇑*i*P **P 16 54 20.3 -0.3**
LMR pmax pmax
comp=Z,20nm,0.6s
LMR La Mourre 74.15 311⇑*i*P **P 16 54 20.3 -0.3**
comp=Z,20nm,0.6s
SSF Saint Saulge 74.16 316⇑*i*P **P 16 54 19.9 -0.7**
SSF Saint Saulge 74.16 316⇑*i*P **P 16 54 19.9 -0.7**
SSF Saint Saulge 74.16 316⇑*i*P **P 16 54 19.9 -0.7**
SMF Signal de Mont 74.17 315⇑*i*P **P 16 54 20.2 -0.5**
comp=Z,32nm,0.8s
SMF Signal de Mont 74.17 315⇑*i*P **P 16 54 20.2 -0.5**
SMF pmax pmax
comp=Z,32nm,0.8s
SMF Signal de Mont 74.17 315⇑*i*P **P 16 54 20.2 -0.5**
comp=Z,32nm,0.8s
CMSA Cobar Meteorol 74.19 144⇓P **P 16 54 21.2 +0.4**
baz=74,SNR=28
AVF Avril sur Loir 74.39 316⇑*i*P **P 16 54 21.4 -0.5**
comp=Z,32nm,0.9s
AVF Avril sur Loir 74.39 316⇑*i*P **P 16 54 21.4 -0.5**
AVF pmax pmax
comp=Z,32nm,0.9s
AVF Avril sur Loir 74.39 316⇑*i*P **P 16 54 21.4 -0.5**
comp=Z,32nm,0.9s
SMRF Simiane la Rot 74.43 312 *e*P **P 16 54 22.1 -0.2**
SMRF Simiane la Rot 74.43 312 *e*P **P 16 54 22.1 -0.2**
VIVF Saint-Julien-l 74.56 313 *e*P **P 16 54 22.8 -0.2**
comp=Z,30nm,0.9s
VIVF Saint-Julien-l 74.56 313 *e*P **P 16 54 22.8 -0.2**
VIVF pmax pmax
comp=Z,31nm,0.9s
VIVF Saint-Julien-l 74.56 313 *e*P **P 16 54 22.8 -0.2**
comp=Z,30nm,0.9s
HYT Haines Junctio 74.62 27 *e*P **P 16 54 23.0 -0.2**
TCF Toulx Ste Croi 75.32 316⇑*i*P **P 16 54 27.2 -0.2**
comp=Z,20nm,0.9s
TCF Toulx Ste Croi 75.32 316⇑*i*P **P 16 54 27.2 -0.2**
TCF pmax pmax
comp=Z,20nm,0.9s
TCF Toulx Ste Croi 75.32 316⇑*i*P **P 16 54 27.2 -0.2**
comp=Z,20nm,0.9s
LASF Ste Croix 75.45 313⇑*i*P **P 16 54 28.2 +0.1**
comp=Z,39nm,1.0s
LASF Ste Croix 75.45 313⇑*i*P **P 16 54 28.2 +0.1**
comp=Z,39nm,1.0s
LDF La Druitiere 75.47 318 *e*P **P 16 54 27.7 -0.4**
comp=Z,41nm,1.1s
LDF La Druitiere 75.47 318 *e*P **P 16 54 27.7 -0.4**
LDF pmax pmax
comp=Z,41nm,1.0s
LDF La Druitiere 75.47 318 *e*P **P 16 54 27.7 -0.4**
comp=Z,41nm,1.0s
FLN La Foliniere 75.58 319 *e*P **P 16 54 28.5 -0.3**
FLN *e*R
comp=Z,156nm,22.5s
FLN La Foliniere 75.58 319 *e*P **P 16 54 28.5 -0.3**
FLN La Foliniere 75.58 319 *e*P **P 16 54 28.5 -0.3**
KEST Kesra 75.93 303 P **P 16 54 31.2 +0.1**
KEST Kesra 75.93 303 P **P 16 54 31.2 +0.1**
comp=Z,2.3nm,1.0s,baz=147,slow=4.1,SNR=4.3
GRR Gorron 76.00 319⇑*i*P **P 16 54 30.9 -0.2**
comp=Z,38nm,0.7s
GRR Gorron 76.00 319⇑*i*P **P 16 54 30.9 -0.2**
GRR pmax pmax
comp=Z,38nm,0.7s
GRR Gorron 76.00 319⇑*i*P **P 16 54 30.9 -0.2**
comp=Z,38nm,0.7s
CAF Calviac 76.12 314⇑*i*P **P 16 54 32.1 +0.1**
comp=Z,24nm,0.8s
CAF Calviac 76.12 314⇑*i*P **P 16 54 32.1 +0.1**
CAF pmax pmax
comp=Z,24nm,0.8s
CAF Calviac 76.12 314⇑*i*P **P 16 54 32.1 +0.1**
comp=Z,24nm,0.8s
RJF Les Rejaudoux 76.25 315⇑*i*P **P 16 54 32.9 +0.2**
comp=Z,33nm,1.0s
RJF *e*R
comp=Z,131nm,21.8s
RJF Les Rejaudoux 76.25 315⇑*i*P **P 16 54 32.9 +0.2**
RJF pmax pmax
comp=Z,33nm,1.0s
RJF Les Rejaudoux 76.25 315⇑*i*P **P 16 54 32.9 +0.2**
comp=Z,33nm,1.0s
SKAG Skagway 76.33 27 *e*P **P 16 54 33.2 +0.4**
comp=Z,13nm,0.8s
ARMA Armidale 76.42 139⇑P **P 16 54 34.0 +0.2**
baz=76,SNR=5.7
MFF Saint Martin d 76.55 317⇑*i*P **P 16 54 34.2 -0.1**
MFF Saint Martin d 76.55 317⇑*i*P **P 16 54 34.2 -0.1**
MFF Saint Martin d 76.55 317⇑*i*P **P 16 54 34.2 -0.1**
MTLF Montolieu 76.85 313 *e*P **P 16 54 36.0 -0.1**
MTLF Montolieu 76.85 313 *e*P **P 16 54 36.0 -0.1**
MTLF Montolieu 76.85 313 *e*P **P 16 54 36.0 -0.1**
LFF La Frestale 76.91 315 *e*P **P 16 54 36.8 +0.4**
comp=Z,27nm,0.7s
LFF La Frestale 76.91 315 *e*P **P 16 54 36.8 +0.4**
LFF pmax pmax
comp=Z,27nm,0.7s
LFF La Frestale 76.91 315 *e*P **P 16 54 36.8 +0.4**
comp=Z,27nm,0.7s
SGMF Saint Gilles 77.02 319 *e*P **P 16 54 37.1 +0.2**
comp=Z,63nm,0.9s
SGMF Saint Gilles 77.02 319 *e*P **P 16 54 37.1 +0.2**
SGMF pmax pmax
comp=Z,63nm,0.9s
SGMF Saint Gilles 77.02 319 *e*P **P 16 54 37.1 +0.2**
comp=Z,63nm,0.9s
ROSF Rostrenen 77.37 319 *e*P **P 16 54 39.0 +0.1**
ROSF Rostrenen 77.37 319 *e*P **P 16 54 39.0 +0.1**
ROSF Rostrenen 77.37 319 *e*P **P 16 54 39.0 +0.1**
EPF Esparros 78.18 313 *e*P **P 16 54 42.9 -0.7**
comp=Z,11nm,0.8s
EPF Esparros 78.18 313 *e*P **P 16 54 42.9 -0.7**
EPF pmax pmax
comp=Z,11nm,0.8s
EPF Esparros 78.18 313 *e*P **P 16 54 42.9 -0.7**
comp=Z,11nm,0.8s
MGCD Mangrove Creek 78.29 142⇑P **P 16 54 45.3 +1.2**
baz=78,SNR=6.4
ETSF Etsaut 78.80 314⇑*i*P **P 16 54 47.5 +0.4**
comp=Z,12nm,0.7s
ETSF Etsaut 78.80 314⇑*i*P **P 16 54 47.5 +0.4**
ETSF pmax pmax
comp=Z,12nm,0.7s
ETSF Etsaut 78.80 314⇑*i*P **P 16 54 47.5 +0.4**
comp=Z,12nm,0.7s
CAN Canberra 78.87 144⇓P **P 16 54 48.2 +0.9**
baz=79
TOO Toolangi 79.03 148⇓P **P 16 54 48.6 +0.5**
baz=79
CNB Canberra Magne 79.05 144⇓P **P 16 54 48.4 +0.2**
baz=79
SJPF Ste Jean 79.09 314 *e*P **P 16 54 49.4 +0.8**
comp=Z,19nm,0.7s
SJPF Ste Jean 79.09 314 *e*P **P 16 54 49.4 +0.8**
SJPF pmax pmax
comp=Z,19nm,0.7s
SJPF Ste Jean 79.09 314 *e*P **P 16 54 49.4 +0.8**
comp=Z,19nm,0.7s
SFJD Kangerlussuaq 79.52 350 *i* P **P 16 54 53.3 +2.9**
comp=Z,13nm,0.7s
SFJD *i* 16 55 00.4
YKA Yellowknife Ar 80.70 17 P **P 16 54 56.5 -0.3**
YKA PKKPbc **PKKPbc 17 13 33.7 -3.0**
YKA Yellowknife Ar 80.70 17 P **P 16 54 56.5 -0.3**
comp=Z,7.9nm,0.7s,baz=329,slow=5.1,SNR=24
YKA PKKPbc **PKKPbc 17 13 33.7 -3.0**
comp=Z,1.0nm,0.4s,baz=159,slow=2.0,SNR=12
ESDC Sonseca Array 82.74 312 P **P 16 55 07.7 -0.5**
ESDC Sonseca Array 82.74 312 P **P 16 55 07.7 -0.5**
comp=Z,2.5nm,0.6s,baz=46,slow=4.8,SNR=8.0
TAM Tamanrasset 85.46 294 *e*P **P 16 55 22.6 +0.1**
TAM pmax pmax
comp=Z,3.0nm,0.8s
TAM Tamanrasset 85.46 294 *e*P **P 16 55 22.6 +0.1**
comp=Z,3.1nm,0.8s
EVO Evora 85.94 313 *e*P **P 16 55 23.7 -0.7**
comp=Z,9.5nm,0.8s
EVO *e*R
comp=Z,108nm,23.0s
EVOP Sao Brissos 86.01 314 *e*P **P 16 55 23.7 -1.0**
EVOP pmax pmax
comp=Z,10.0nm,0.8s
EVOP Sao Brissos 86.01 314 *e*P **P 16 55 23.7 -1.0**
comp=Z,9.5nm,0.8s
LSZ Lusaka 86.90 250 *e*P **P 16 55 28.9 -0.5**
comp=Z,13nm,1.0s
EDM Edmonton 88.92 22 *e*P **P 16 55 38.6 +0.1**
EDM Edmonton 88.92 22 *e*P **P 16 55 38.6 +0.1**
BSMT Bassoo Peak 92.99 25 *e*P **P 16 55 58.4 +0.7**
comp=Z,5.7nm,1.0s
TORD Torodi Ar. Bea 93.79 288 P **P 16 56 01.4 -0.3**
TORD Torodi Ar. Bea 93.79 288 P **P 16 56 01.4 -0.3**
comp=Z,1.2nm,1.0s,baz=63,slow=3.0,SNR=4.4
SLMT Seeley Lake 93.97 25 *e*P **P 16 56 02.1 -0.1**
comp=Z,6.4nm,1.0s
PDAR Pinedale Array 99.24 25 LR LR 17 44 29.0
comp=Z,66nm,19.8s,baz=130,slow=37
QSPA South Pole Qui 121.78 180 *e*PKPdf **PKPdf 17 01 35.8 -1.5**
OTAV Otavalo 147.79 6 *e*PKP **PKPdf 17 02 28.5 +1.1**
SAML Samuel 154.42 331 *e*PKPbc **PKPbc 17 02 44.1 -1.1**
LPAZ La Paz 163.02 336 *e*PKPdf **PKPdf 17 02 47.3 -0.5**
LPAZ PKP **PKPdf 17 02 47.5 -0.3**
LPAZ La Paz 163.02 336 PKP **PKPdf 17 02 47.5 -0.3**
comp=Z,1.2nm,0.8s,baz=86,slow=0.6,SNR=6.5

IDC 19 16:51:23.3±1.9, 23.87S×179.95E, h508km±18km, mb3.4/10, mb1 3.7/11, mb1mx3.5/18, mbtmp3.4/11, Error ellipse: s-maj=26.3km s-min=17.6km az=155.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.57**	**276**	P		P	16 54 12.4	+4.3
	0.5nm,0.3s,baz=109,slow=18,SNR=5.3							
URZ	**Urewera**	**14.55**	**189**	P		P	16 54 26.8	-1.7
	0.7nm,0.3s,baz=354,slow=3.3,SNR=5.9							
URZ				S		S	16 56 56.0	-5.2
	0.4nm,0.3s,baz=240,slow=22,SNR=6.5							
STKA	**Stephens Creek**	**34.69**	**248**	P		P	16 57 30.1	-0.1
	2.5nm,0.6s,baz=46,slow=13,SNR=4.2							
ASAR	**Alice Springs**	**41.99**	**261**	P		P	16 58 29.6	-0.2
	7.0nm,0.8s,baz=98,slow=7.1,SNR=51							
ASAR				ScP		ScP	17 03 15.1	-0.2
	1.9nm,0.9s,baz=104,slow=4.7,SNR=12							
WRA	**Warramunga Arr**	**42.36**	**266**	P		P	16 58 32.0	-0.7
	13nm,0.6s,baz=97,slow=8.4,SNR=124							
WRA				ScP		ScP	17 03 17.2	+0.3
	1.7nm,1.0s,baz=102,slow=4.0,SNR=5.8							
FITZ	**Fitzroy Crossi**	**50.78**	**266**	P		P	16 59 36.5	-0.1
	8.4nm,0.8s,baz=113,slow=7.5,SNR=20							
MJAR	**Matsushiro Arr**	**71.84**	**326**	P		P	17 01 54.5	+0.1
	1.0nm,0.7s,baz=186,slow=9.7,SNR=3.3							
MAW	**Mawson**	**77.76**	**200**	P		P	17 02 27.8	+0.7
	0.6nm,0.7s,baz=141,slow=4.8,SNR=7.2							
NVAR	**Mina Array Bea**	**84.77**	**44**	P		P	17 03 04.0	0.0
	0.8nm,0.7s,baz=205,slow=9.4,SNR=4.3							
CMAR	**Chiang Mai Arr**	**89.47**	**290**	P		P	17 03 28.0	+1.6
	1.5nm,0.9s,baz=135,slow=3.5,SNR=9.2							
TXAR	**Lajitas Array**	**90.46**	**58**	P		P	17 03 31.1	+0.3
	1.0nm,0.7s,baz=213,slow=6.8,SNR=5.8							
PDAR	**Pinedale Array**	**92.70**	**44**	P		P	17 03 40.5	-0.6
	0.2nm,0.4s,baz=194,slow=1.9,SNR=3.6							
FINES	**FINESS Array B**	**138.40**	**341**	SKPbc		SKPbc	17 12 33.3	-3.3
	4.3nm,0.9s,baz=1.9,slow=4.2,SNR=3.7							
AKASG	**Malin Array Be**	**144.92**	**327**	PKP		PKPdf	17 10 00.6	-1.5
	0.7nm,0.5s,baz=44,slow=3.9,SNR=7.5							
AKASG				SKPbc		SKPbc	17 12 51.6	-1.8
	0.6nm,0.5s,baz=43,slow=2.9,SNR=5.0							
BRTR	**Keskin Array B**	**147.52**	**307**	PKPbc		PKPdf	17 10 08.7	+1.7
	0.6nm,0.6s,baz=106,slow=4.0,SNR=3.6							

IDC 19 17:02:37.0±6.3, 2.20S×141.80E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.5/18, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=236.1km s-min=28.9km az=90.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.09**	**202**	P		P	17 07 01.2	-0.2
	0.3nm,0.3s,baz=24,slow=12,SNR=9.2							
ASAR	**Alice Springs**	**22.67**	**199**	P		P	17 07 40.5	+0.2
	0.9nm,0.6s,baz=28,slow=11,SNR=19							
MKAR	**Makanchi Array**	**71.29**	**321**	P		P	17 13 58.5	0.0
	0.3nm,0.7s,baz=122,slow=7.5,SNR=2.9							

IDC 19 17:04:08.5±8.6, 30.95S×179.48W, h305km±95km, mb3.0/3, mb1 3.3/4, mb1mx3.1/17, mbtmp3.1/4, Error ellipse: s-maj=93.4km s-min=45.0km az=174.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**7.82**	**200**	P		Pn	17 06 00.7	+0.9
	2.3nm,0.3s,baz=277,slow=2.6,SNR=28							
URZ				S		S	17 07 27.5	-2.6
	6.4nm,0.3s,baz=63,slow=22,SNR=20							
STKA	**Stephens Creek**	**33.12**	**258**	P		P	17 10 18.2	+1.5
	1.7nm,0.4s,baz=103,slow=13,SNR=12							
ASAR	**Alice Springs**	**41.81**	**268**	P		P	17 11 28.4	-0.8
	0.3nm,0.7s,baz=107,slow=7.3,SNR=7.3							
WRA	**Warramunga Arr**	**42.85**	**274**	P		P	17 11 36.4	-1.2
	0.4nm,0.5s,baz=111,slow=8.2,SNR=18							
FINES	**FINESS Array B**	**145.21**	**339**	PKPbc		PKPdf	17 23 08.3	-0.8
	6.9nm,1.3s,baz=62,slow=5.2,SNR=3.3							

MEX 19 17:35:38.8±0.8, 18.45N×96.80W, h29km±11km, MD3.7, Veracruz

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TPIG	**Tehuac#an**	**0.53**	**266**	*e*P		Pb	17 35 47.2	-2.8
TPIG				*i* S		Sb	17 35 56.0	-1.6
UTMO	**Huajuapan**	**1.14**	**237**	*e*P		Pn	17 35 56.3	-2.7
UTMO				*i* S		Sn	17 36 10.7	-3.2
LVIG	**Laguna Verde**	**1.31**	**16**	*i* P		Pn	17 35 59.6	-1.6
LVIG				*i* S		Sn	17 36 15.4	-2.3
VHO	**Vista Hermosa**	**1.38**	**177**	*e*P		Pn	17 36 00.6	-1.8
VHO				*i* S		Sn	17 36 16.4	-3.3
PPM	**Popocatepetl**	**1.83**	**290**	*i* P		Pn	17 36 06.7	-2.4
PPM				*i* S		Sn	17 36 28.5	-3.3
TLIG	**Tlapa**	**1.90**	**242**	*i* P		Pn	17 36 06.8	-2.6
TLIG				*i* S		Sn	17 36 30.2	-2.3
PNIG	**Pinotepa**	**2.41**	**212**	*i* P		Pn	17 36 13.9	-2.4
PNIG				*e*S		Sn	17 36 42.2	-2.7
HUIG	**Huatulco**	**2.75**	**166**	*i* P		Pn	17 36 19.1	-1.9
HUIG				*i* S		Sn	17 36 51.6	-1.7

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*ISCJB **19** 17:51:23.6±0.4, 38.06N±0.03×74.28E±0.08, h158km, mb3.7/9, Error ellipse: s-maj=9.8km s-min=3.0km az=161.3*

*IDC **19** 17:51:24.9±3.1, 38.10N×74.14E, h159km±28km, mb3.5/7, mb1 3.7/12, mb1mx3.3/31, mbtmp3.6/12, Error ellipse: s-maj=29.3km s-min=15.2km az=44.0*

*NNC **19** 17:51:24.4±4.3, 38.50N×73.51E, h0km, mb4.6, mpv4.5, Error ellipse: s-maj=35.4km s-min=24.8km az=174.0*

*BJI **19** 17:51:28.8, 38.25N×74.51E, h170km, mb4.4/5*

ISC 19 17:51:24.0±0.6, 38.00N±0.04×74.27E±0.08, h158km, n55, σ1.977/59, mb3.6/9, 4C-10D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSH	**Kashi**	**2.02**	**41**	P		**Pn**	**17 51 58.0**	**-1.9**
KSH				S		Sn	17 52 20.3	-7.4
KSH				SMN				
	comp=Z,3μm,0.3s							
KSH				SME				
	comp=Z,3μm,0.2s							
KZA	**Kyzart**	**4.15**	**10**	P		**Pn**	**17 52 26.5**	**-0.2**
	SNR=156							
AML	**Almayashu**	**4.15**	**354**	P		**Pn**	**17 52 26.5**	**-0.3**
	SNR=94							
ULHL	**Ulahol**	**4.51**	**19**	P		**Pn**	**17 52 31.6**	**+0.4**
	SNR=78							
AAK	**Ala-Archa**	**4.64**	**2**	P		**Pn**	**17 52 33.2**	**+0.4**
	SNR=20							
AAK	**Ala-Archa**	**4.64**	**2**	P		**Pn**	**17 52 33.2**	**+0.4**
	8.3nm,0.3s,baz=141,slow=6.6,SNR=97							
AAK				S		Sn	17 53 14.5	-12
	9.0nm,0.3s,baz=179,slow=10,SNR=7.3							
EKS2	**Erkin-Say**	**4.68**	**356**	P		**Pn**	**17 52 33.4**	**+0.1**
	SNR=47							

KBK	Karagaybulak	4.68	6	P	Pn	17 52 34.1	+0.6
	SNR=83						
CHMS	Chumysh	5.01	4	P	Pn	17 52 38.1	+0.4
	SNR=34						
TKM2	Tokmak 2	5.02	11	⇑Pn	Pn	17 52 37.9	-0.1
	90nm,0.6s						
TKM2				⇓Sn	Sn	17 53 33.1	-2.6
	38nm,0.5s						
TKM2				⇓Lg	Lg	17 53 53.8	
	34nm,0.6s						
TKM2	Tokmak 2	5.02	11	P	Pn	17 52 38.3	+0.4
	SNR=75						
USP	Ospenovka	5.27	2	P	Pn	17 52 41.0	0.0
	SNR=44						
KNDC	Almaty	5.61	21	⇓Pn	Pn	17 52 46.2	+0.7
KNDC				⇓Lg	Lg	17 54 12.6	
KK31	Karatay Array	5.85	332	Pn	Pn	17 52 46.8	-1.9
	21nm,0.6s,baz=153,slow=15,SNR=250						
KK31				⇓Sn	Sn	17 53 45.1	-10
	46nm,0.5s,baz=164,slow=24,SNR=9.5						
DHRM	DHARAMSHALA	5.97	163	eP	Pn	17 52 54.3	+3.7
DHRM				eS	Sn	17 54 01.1	+2.7
DHRM				AML	AML	17 54 08.0	
	comp=N,308nm,0.3s						
DHRM				AML	AML	17 54 08.7	
	comp=E,562nm,0.4s						
SDNR	Sundarnagar	6.85	160	eP	Pn	17 53 05.0	+2.9
SDNR				e4		17 54 19.0	
SMLA	Simla	7.25	160	iP	Pn	17 53 10.6	+3.1
SMLA				eS	Sn	17 54 28.4	-0.3
SMLA				AML	AML	17 54 32.0	
	comp=N,256nm,0.4s						
SMLA				AML	AML	17 54 32.2	
	comp=E,174nm,0.9s						
DDI	Dehra Dun	8.27	157	eP	Pn	17 53 24.6	+3.5
DDI				eS	Sn	17 54 53.4	+0.1
DDI				AML	AML	17 54 58.7	
	comp=N,788nm,0.7s						
DDI				AML	AML	17 55 02.1	
	comp=E,482nm,0.4s						
MK31	Makanchi Array	10.60	31	Pn	Pn	17 53 52.2	+0.5
	comp=E,16nm,0.9s,baz=214,slow=14,SNR=73						
MKAR	Makanchi Array	10.60	31	P	Pn	17 53 51.2	-0.4
	comp=E,0.7nm,0.3s,baz=214,slow=14,SNR=79						
DANN	Dangsing	12.47	138	eP	Pn	17 54 18.1	+1.7
	comp=E,14nm,0.2s						
DANN				eS	Sn	17 56 29.6	-5.0
KOLN	Koldanda	12.85	140	eP	Pn	17 54 23.2	+2.0
	comp=E,19nm,0.4s						
KOLN				eS	Sn	17 56 40.3	-3.4
KURBB	Kurchatov Arra	12.98	12	⇓Pn	P	17 54 26.7	-0.3
	comp=E,17nm,0.9s						
KURBB				⇓Lg	Lg	17 58 06.2	
	comp=E,9.4nm,0.8s						
KURBB	Kurchatov Arra	12.98	12	P	Pn	17 54 19.8	-2.7
	comp=E,0.4nm,0.3s,baz=201,slow=12,SNR=19						
KURK	Kurchatov	13.09	12	⇑Pn	P	17 54 27.7	-0.5
	comp=E,6.0nm,0.7s						
KURK				⇑Lg	Lg	17 58 08.4	
	comp=E,7.2nm,1.4s						
GKN	Gorkha	13.22	136	eP	P	17 54 27.9	-2.1
	comp=E,114nm,0.4s						
GKN				eS	Sn	17 56 46.7	-5.7
KKN	Kakani	13.74	135	eP	P	17 54 34.3	-1.6
	comp=E,53nm,0.5s						
KKN				eS	Sn	17 56 57.6	-7.4
DMN	Daman	13.78	136	eP	P	17 54 34.5	-1.9
	comp=E,27nm,0.6s						
DMN				eS	Sn	17 57 00.3	-5.8
PKIN	Phulchoki	13.97	135	eP	P	17 54 37.2	-1.3
	comp=E,24nm,0.5s						
PKI	Pulchoki	13.98	135	eP	P	17 54 37.9	-0.8
	comp=E,17nm,0.3s						
PKI				eS	Sn	17 57 03.4	-7.6
GUN	Gumba	13.99	133	eP	P	17 54 37.4	-1.4
	comp=E,14nm,0.4s						
GUN				eS	Sn	17 57 03.5	-7.8
JIRN	Jiri	14.36	132	eP	P	17 54 42.2	-0.8
	comp=E,26nm,0.3s						
JIRN				eS	Sn	17 57 12.8	-7.4
VOSK	Vostochnaya	14.91	352	⇓Pn	Pn	17 54 43.7	-3.0
	comp=E,5.4nm,0.8s						
BHPL	Bhopal	14.95	169	ex	Sn	17 57 30.2	-3.7
RAMN	Ramite	15.14	133	eP	P	17 54 51.9	+0.5
	comp=E,39nm,0.5s						
RAMN				eS	Sn	17 57 30.0	-8.5
BVA0	Borovoye Array	15.27	351	Pn	P	17 54 52.3	-0.1
	comp=E,11nm,1.1s,baz=163,slow=11,SNR=39						
BVAR	Borovoye Array	15.27	351	P	Pn	17 54 49.0	-2.1
	comp=E,1.3nm,0.3s,baz=162,slow=10,SNR=15						
AB31	Akbulak array	15.28	322	Pn	Pn	17 54 49.5	-1.8
	comp=E,2.3nm,0.8s,baz=128,slow=13,SNR=30						
AB31				Sn	Sn	17 57 26.3	-15
	comp=E,1.7nm,0.5s,baz=133,slow=26,SNR=7.6						
BRVK	Borovoye	15.32	351	⇑Pn	P	17 54 51.8	-1.1
	comp=E,17nm,0.8s						
TAPN	Taplejung	15.50	129	eP	P	17 54 56.3	+0.8
	comp=E,13nm,0.4s						
TAPN				eS	Sn	17 57 37.2	-10
ODAN	Odare	15.67	131	eP	P	17 54 58.6	+1.3
	comp=E,14nm,0.4s						
ODAN				eS	Sn	17 57 42.0	-9.2
AKTO	Aktyubinsk	16.99	322	⇓Pn	P	17 55 09.3	-2.1
	comp=E,1.9nm,0.8s						
AKTO				⇓Sn	S	17 58 07.7	-13
	comp=E,3.9nm,0.8s						
AKTO	Aktyubinsk	16.99	322	P	P	17 55 09.3	-2.1
	comp=E,0.4nm,0.3s,baz=118,slow=13,SNR=7.8						
ZALV	Zalesovo Beam	17.53	21	P	Pn	17 55 17.8	-0.6
	comp=E,2.7nm,0.3s,baz=213,slow=10,SNR=110						
GTA	Gaotai	19.97	78	eP	Pn	17 55 50.8	+3.3
GTA				AMB	AMB		
	comp=E,9.0nm,0.6s						
XAN	Xi'an	28.21	87	P	P	17 57 02.1	+0.2
XAN				P	P	17 57 10.8	+8.9
HHC	Hu-ho-hao-te	28.81	73	eP	P	17 57 07.8	+0.5
HHC				AMB	AMB		
	comp=E,20nm,1.0s						
CMAR	Chiang Mai Arr	29.03	125	P	P	17 57 11.9	+2.6
	comp=E,0.2nm,0.4s,baz=304,slow=8.1,SNR=3.5						
FINES	FINESS Array B	37.75	324	P	P	17 58 24.3	+0.1
	comp=E,2.7nm,1.1s,baz=119,slow=11,SNR=3.0						
ARCES	ARCESS Array B	40.80	336	P	P	17 58 49.4	0.0
	comp=E,2.8nm,0.9s,baz=95,slow=7.3,SNR=4.5						
TORD	Torodi Ar. Bea	68.34	270	P	P	18 02 08.4	-0.1
	comp=E,0.5nm,0.4s,baz=46,slow=5.4,SNR=6.6						
ILAR	Eielson Array	72.61	17	P	P	18 02 33.6	0.0
	comp=E,0.6nm,0.9s,baz=317,slow=4.3,SNR=5.9						
YKA	Yellowknife Ar	79.60	4	P	P	18 03 13.8	+0.7
	comp=E,0.7nm,0.5s,baz=344,slow=5.9,SNR=4.2						
WRA	Warramunga Arr	80.62	124	P	P	18 03 20.6	+1.4
	comp=E,1.4nm,0.6s,baz=324,slow=4.8,SNR=15						
ASAR	Alice Springs	83.02	127	P	P	18 03 32.9	+1.2
	comp=E,0.7nm,0.8s,baz=332,slow=4.6,SNR=11						

*IDC **19** 18:06:06.3±0.8,51.˚14N×172.˚74W,h0km,mb4.0/15, mb1 4.2/16,mb1mx4.0/30,mbtmp4.0/16,ML4.1/1, Error ellipse: s-maj=24.1km s-min=16.6km az=161.0*

*ISCJB **19** 18:06:10.1±0.7,51.˚27N±0.˚07×172.˚57W±0.˚04,h35km±6km, mb4.0/16, Error ellipse: s-maj=11.8km s-min=3.0km az=168.4*

*NEIC **19** 18:06:11.2,51.˚38N×172.˚60W,h26km,mb3.9/7, After AEIC.*

ISC 19 18:06:10.5±4.1,51.˚3N±0.˚1×172.˚63W±0.˚04,h25km±29km, n86,σ1°09/94,mb4.0/16, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	Atka Island	1.34	314	P	Pn	18 06 33.4	-0.3
ATKA				S	Sn	18 06 51.4	+0.6
GSMY	Great Sitkin M	2.27	291	P	Pn	18 06 46.8	+0.3
GSMY				S	Sn	18 07 14.0	+0.4
GSTR	Great Sitkin T	2.29	292	ePn	Pn	18 06 47.1	+0.4
GSCK	Great Sitkin C	2.32	290	P	Pn	18 06 47.4	+0.3
GSCK				S	Sn	18 07 15.0	+0.1
GSTD	Great Sitkin T	2.32	291	P	Pn	18 06 47.7	+0.4
GSTD				S	Sn	18 07 15.1	0.0
ETKA	Kagalaska Isla	2.43	285	P	Pn	18 06 48.9	+0.2
ETKA				S	Sn	18 07 17.4	-0.1
ADAG	Mount Adagdak	2.57	287	P	Pn	18 06 51.9	+1.2
ADAG				S	Sn	18 07 21.3	+0.2
ADK	Adak	2.60	285	P	Pn	18 06 51.0	0.0
ADK				S	Sn	18 07 22.0	+0.3
KIRH	Kanaga Island	2.85	284	P	Pn	18 06 55.2	+0.8
KINC	Kanaga Island	2.88	285	P	Pn	18 06 55.8	+1.0
NIKH	Nikolski High	2.88	52	P	Pn	18 06 53.6	-1.2
NIKH				S	Sn	18 07 26.2	-2.6
KIKV	Kanaga Island	2.90	284	P	Pn	18 06 55.5	+0.5
KICM	Kanaga Island	2.92	285	P	Pn	18 06 56.1	+0.7
KICM				S	Sn	18 07 31.6	+2.0
OKSP	Okmok Steeple	3.32	52	P	Pn	18 07 01.0	+0.1
TAFP	Tanaga Falls P	3.40	283	P	Pn	18 07 02.9	+1.0
TAFP				S	Sn	18 07 42.3	+0.8
TASE	Tanaga Southea	3.42	282	P	Pn	18 07 03.3	+1.0
TASE				S	Sn	18 07 43.9	+1.8
OKSO	Okmok South	3.44	51	P	Pn	18 07 02.9	+0.3
OKSO				S	Sn	18 07 41.8	-0.9
TANO	Tanaga North	3.48	283	P	Pn	18 07 04.4	+1.3
OKCE	Okmok Cone E	3.48	50	P	Pn	18 07 04.1	+0.9
OKTU	Okmok Mt. Tuli	3.52	51	P	Pn	18 07 04.8	+1.1
OKFG	Magazine Ridge	3.60	52	P	Pn	18 07 05.2	+0.5
OKFG				S	Sn	18 07 46.5	+0.1
GAEA	Gareloi East	3.85	280	P	Pn	18 07 09.2	+0.9
GALAA	Gareloi Lava P	3.87	280	P	Pn	18 07 09.1	+0.7
GANE	Gareloi Northe	3.88	280	P	Pn	18 07 09.1	+0.6
MTBL	Makushin Table	4.52	51	P	Pn	18 07 17.9	+0.5
UNV	Unalaska Valle	4.54	53	P	Pn	18 07 16.7	-0.9
UNV				S	Sn	18 08 08.6	-0.9
CERAA	Semis' Rag'd T	4.83	281	P	Pn	18 07 22.3	+0.6
AKRB	Akutan Reef Bi	4.91	52	P	Pn	18 07 23.2	+0.5
AKRB				S	Sn	18 08 19.4	+0.7
CESW	Semis' Southwe	4.91	280	P	Pn	18 07 23.1	+0.5
AMKA	Amchitka	5.06	274	P	Pn	18 07 24.4	-0.4
LSSE	Little Sitkin	5.53	280	P	Pn	18 07 31.8	+0.6
FX1	Attu Island--F	8.90	286	Pn	Pn	18 08 20.3	+2.9
FX1				S	Sn	18 09 53.9	-2.9
FX1	Attu Island--F	8.90	286	Pn	Pn	18 08 20.3	+2.9
	3.5nm,0.3s,baz=202,slow=3.4,SNR=9.4						
FX1				S	Sn	18 09 53.9	-2.9
	0.8nm,0.3s,baz=66,slow=20,SNR=1.8						
OHAK	Old Harbor	12.76	55	eP	Pn	18 09 06.1	-4.0
	5.3nm,0.6s						
PPLA	Purkeypile	16.00	35	eP	P	18 09 55.7	-1.4
	6.1nm,0.6s						
TRF	Thorofare Moun	17.02	36	eP	Pn	18 10 06.9	+0.1
	4.2nm,0.7s						
BPAW	Bear Paw Mtn.	17.16	33	eP	P	18 10 09.4	-0.5
	5.2nm,0.5s						
IMA2	Indian Mountai	17.68	26	eP	Pn	18 10 14.8	0.0
PETK	Petropavlovsk-	18.23	287	P	P	18 10 21.6	-0.1
PETK	Petropavlovsk-	18.23	287	P	P	18 10 21.6	-0.1
	0.6nm,0.3s,baz=102,slow=15,SNR=8.3						
PAX	Paxson	18.65	41	eP	P	18 10 24.1	-2.3
	2.7nm,0.6s						
ILAR	Eielson Array	19.00	35	P	P	18 10 27.6	-2.5
ILAR				S	S	18 14 11.5	+7.5
ILAR	Eielson Array	19.00	35	P	P	18 10 27.6	-2.5
	1.1nm,0.3s,baz=233,slow=9.6,SNR=48						
ILAR				S	S	18 14 11.5	+7.5
	0.0nm,0.3s,baz=238,slow=20,SNR=4.1						
COLD	Coldfoot	19.48	26	eP	P	18 10 35.3	0.0
	6.7nm,0.8s						
DOT	Dot Lake	19.52	40	eP	P	18 10 34.1	-1.7
	5.0nm,0.8s						
EGAK	Eagle	21.15	38	eP	P	18 10 52.8	-0.7
	8.0nm,0.4s						
HYT	Haines Junctio	21.56	50	eP	P	18 10 59.1	+1.1
DAWY	Dawson	21.59	41	eP	P	18 10 57.4	-0.8
DLBC	Dease Lake	25.18	57	P	P	18 11 35.5	+1.7
DLBC	Dease Lake	25.18	57	P	P	18 11 35.5	+1.7
	3.9nm,0.5s,baz=280,slow=8.7,SNR=16						
INK	Inuvik	25.37	33	P	P	18 11 36.4	+1.1
INK	Inuvik	25.37	33	P	P	18 11 36.4	+1.1
	9.5nm,0.4s,baz=250,slow=7.4,SNR=47						
YKA	Yellowknife Ar	32.48	47	P	P	18 12 39.7	+1.1
YKA	Yellowknife Ar	32.48	47	P	P	18 12 39.7	+1.1
	0.4nm,0.3s,baz=272,slow=7.5,SNR=6.1						
H11N2	WAKE ISLAND Hy	35.37	215	T	T	18 51 24.0	
	baz=23,slow=0.7,SNR=3.9						
H11N3	WAKE ISLAND Hy	35.38	215	T	T	18 51 24.7	
	baz=23,slow=0.7,SNR=3.8						
H11N1	WAKE ISLAND Hy	35.38	215	T	T	18 51 26.3	
	baz=23,slow=0.7,SNR=4.0						
H11S1	WAKE ISLAND Hy	36.56	214	T	T	18 52 44.3	
	baz=20,slow=0.7,SNR=5.9						
H11S2	WAKE ISLAND Hy	36.58	214	T	T	18 52 36.1	
	baz=20,slow=0.7,SNR=5.5						
H11S3	WAKE ISLAND Hy	36.58	214	T	T	18 52 35.9	
	baz=20,slow=0.7,SNR=2.6						
PDAR	Pinedale Array	42.62	76	P	P	18 14 04.6	-0.2
PDAR	Pinedale Array	42.62	76	P	P	18 14 04.6	-0.2
	0.8nm,0.6s,baz=301,slow=3.6,SNR=6.9						
TXAR	Lajitas Array	54.82	86	P	P	18 15 38.0	-0.6
TXAR	Lajitas Array	54.82	86	P	P	18 15 38.0	-0.6
	1.5nm,0.8s,baz=297,slow=5.1,SNR=14						
ARCES	ARCESS Array B	58.77	353	P	P	18 16 05.3	-0.6
ARCES	ARCESS Array B	58.77	353	P	P	18 16 05.3	-0.6
	5.1nm,1.0s,baz=24,slow=6.9,SNR=5.3						
MKAR	Makanchi Array	63.06	312	P	P	18 16 35.0	-0.4
MKAR	Makanchi Array	63.06	312	P	P	18 16 35.0	-0.4
	0.5nm,0.5s,baz=47,slow=6.5,SNR=11						
FINES	FINESS Array B	66.64	350	P	P	18 16 58.5	+0.1
FINES	FINESS Array B	66.64	350	P	P	18 16 58.5	+0.1
	1.7nm,0.8s,baz=4.6,slow=9.6,SNR=4.6						
NOA	NORSAR Array B	67.99	358	P	P	18 17 08.5	+1.5
NOA	NORSAR Array B	67.99	358	P	P	18 17 08.5	+1.5
	0.7nm,0.7s,baz=4.1,slow=6.2,SNR=2.6						
CMAR	Chiang Mai Arr	74.86	281	P	P	18 17 49.5	+0.4
CMAR	Chiang Mai Arr	74.86	281	P	P	18 17 49.5	+0.4
	0.8nm,0.3s,baz=30,slow=6.9,SNR=5.1						
AKASG	Malin Array Be	76.72	346	P	P	18 17 57.8	-1.4
AKASG	Malin Array Be	76.72	346	P	P	18 17 57.8	-1.4
	0.2nm,0.3s,baz=18,slow=5.2,SNR=3.7						
GERES	GERESS Array B	80.11	356	P	P	18 18 19.3	+1.2
GERES	GERESS Array B	80.11	356	P	P	18 18 19.3	+1.2
	0.2nm,0.4s,baz=7.7,slow=7.2,SNR=2.8						
WRA	Warramunga Arr	84.75	229	P	P	18 18 40.6	-1.8
WRA	Warramunga Arr	84.75	229	P	P	18 18 40.6	-1.8
	0.8nm,1.1s,baz=37,slow=6.1,SNR=3.1						
ASAR	Alice Springs	88.15	227	P	P	18 18 58.3	-0.8
ASAR	Alice Springs	88.15	227	P	P	18 18 58.3	-0.8
	0.5nm,0.7s,baz=31,slow=5.2,SNR=5.8						
ESDC	Sonseca Array	88.89	9	P	P	18 19 03.3	+0.7
ESDC	Sonseca Array	88.89	9	P	P	18 19 03.3	+0.7
	0.1nm,0.2s,baz=354,slow=3.9,SNR=3.6						
MAW	Mawson	148.76	218	PKPbc	PKPbc	18 25 53.7	-0.5
MAW	Mawson	148.76	218	PKPbc	PKPbc	18 25 53.7	-0.5
	2.5nm,0.7s,baz=263,slow=10,SNR=14						

IDC 19 18:18:46.0±1.3,13.˚56N×92.˚64E,h0km,mb3.4/4, mb1 3.5/5,mb1mx3.3/27,mbtmp3.4/5,ML3.7/1,Error ellipse: s-maj=41.3km s-min=28.4km az=39.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	7.77	50	Pn	Pn	18 20 42.6	+2.1
	0.3nm,0.3s,baz=239,slow=15,SNR=4.7						
MKAR	Makanchi Array	34.25	347	P	P	18 25 32.0	-1.7
	0.3nm,0.6s,baz=173,slow=9.9,SNR=4.0						
ASAR	Alice Springs	54.74	132	P	P	18 28 17.2	-0.5
	0.1nm,0.3s,baz=309,slow=6.4,SNR=5.0						
BRTR	Keskin Array B	57.69	309	P	P	18 28 38.9	+0.2
	0.6nm,0.8s,baz=69,slow=7.9,SNR=3.2						
TORD	Torodi Ar. Bea	87.88	283	P	P	18 31 38.9	+0.6
	0.3nm,0.6s,baz=68,slow=4.6,SNR=2.5						

*IDC **19** 18:23:47.1±1.9,44.˚86S×167.˚55E,h0km,mb3.2/2, mb1 3.4/2,mb1mx3.3/13,mbtmp3.2/2, Error ellipse: s-maj=125.4km s-min=41.6km az=41.0*

*ISCJB **19** 18:23:48.7±0.7,44.˚96S±0.˚04×166.˚97E±0.˚08,h14km, mb3.3/2, Error ellipse: s-maj=8.2km s-min=5.1km az=24.7*

*WEL **19** 18:23:52.7±0.6,45.˚15S×167.˚09E,h33km,ML4.3/16, Error ellipse: s-maj=5.0km s-min=4.8km az=0.0*

ISC 19 18:23:50.1±0.8,45.˚00S±0.˚04×167.˚00E±0.˚06,h14km,n34, σ0°95/31,1C-2D,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	Deep Cove	0.49	167	P*	Pg	18 24 00.1	+0.2
DCZ				S*	Sg	18 24 06.5	0.0
DCZ				AML	AML	18 24 08.2	
DCZ				AML	AML	18 24 08.7	
DCZ				AML	AML	18 24 08.7	
MSZ	Milford Sound	0.73	64	PN	Pg	18 24 03.6	-0.8
MSZ				SN	Sg	18 24 16.0	+1.9
MSZ				AML	AML	18 24 16.0	
MSZ				AML	AML	18 24 16.0	
MSZ				AML	AML	18 24 16.1	
MLZ	Mavora Lakes	0.90	113	PN	Pb	18 24 06.2	-1.4
MLZ				AML	AML	18 24 17.7	
MLZ				AML	AML	18 24 20.6	
WHZ	Wether Hill Ro	1.12	144	PN	Pb	18 24 10.2	-1.0
WHZ				AML	AML	18 24 28.3	
WHZ				AML	AML	18 24 29.1	
PYZ	Puysegur Point	1.19	191	PN	Pb	18 24 11.3	-1.3
WKZ	Wanaka	1.44	84	PN	Pn	18 24 15.9	0.0
WKZ				SN	Sn	18 24 35.9	+1.3
WKZ				AML	AML	18 24 37.2	
WKZ				AML	AML	18 24 37.2	
JCZ	Jackson Bay	1.56	54	PN	Pn	18 24 17.2	-0.3
JCZ				SN	Sn	18 24 38.9	+1.3
JCZ				AML	AML	18 24 43.5	
EAZ	Earnscleugh	1.65	99	PN	Pn	18 24 18.7	0.0
EAZ				AML	AML	18 24 40.0	
EAZ				AML	AML	18 24 40.1	
EAZ				AML	AML	18 24 41.0	
EAZ				AML	AML	18 24 41.0	
APZ	The Paps	1.96	160	PN	Pn	18 24 22.9	-0.1
TUZ	Tuapeka	2.08	118	⇓PN	Pn	18 24 24.3	-0.3
TUZ				AML	AML	18 24 51.9	
TUZ				AML	AML	18 25 00.1	
SYZ	Scrubby Hill	2.15	137	PN	Pn	18 24 25.2	-0.4
LBZ	Lake Benmore	2.35	76	PN	Pn	18 24 28.8	+0.4
LBZ				AML	AML	18 25 05.0	
LBZ				AML	AML	18 25 07.3	
LBZ				AML	AML	18 25 07.3	
FOZ	Fox Glacier	2.40	54	PN	Pn	18 24 30.2	+0.2
FOZ				AML	AML	18 25 10.1	
FOZ				AML	AML	18 25 10.1	
FOZ				AML	AML	18 25 13.9	
FOZ				AML	AML	18 25 14.0	
ODZ	Otahua Downs	2.58	92	⇑PN	Pn	18 24 31.0	-0.6
HHSZ	Highcliff Hill	2.68	111	⇓PN	Pn	18 24 33.3	+0.4
RPZ	Rata Peaks	3.18	68	PN	Pn	18 24 39.2	-0.5
RPZ				AML	AML	18 25 34.1	
RPZ				AML	AML	18 25 34.6	
WVZ	Waitaha Valley	3.31	56	PN	Pn	18 24 40.2	-1.3
WVZ				AML	AML	18 25 17.6	
WVZ				AML	AML	18 25 18.0	
OXZ	Oxford	3.99	67	PN	Pn	18 24 48.8	-2.1
MQZ	McQueen's Vall	4.25	74	PN	Pn	18 24 53.4	-1.1
LTZ	Lake Taylor	4.40	62	PN	Pn	18 24 55.0	-1.5
LTZ				AML	AML	18 25 48.8	
LTZ				AML	AML	18 25 49.0	
DSZ	Denniston Nort	4.78	49	PN	Pn	18 25 00.6	-1.0
THZ	Tophouse	5.38	55	PN	Pn	18 25 08.9	-1.1
THZ				AML	AML	18 26 15.4	
THZ				AML	AML	18 26 15.7	
ASAR	Alice Springs	34.28	297	P	P	18 30 37.9	+2.0
	0.3nm,0.7s,baz=133,slow=6.8,SNR=2.7						
WRA	Warramunga Arr	36.79	302	P	P	18 30 58.0	+0.6
	0.2nm,0.5s,baz=136,slow=8.0,SNR=5.0						
H01W1	Cape Leeuwin H	41.10	265	T	T	19 15 14.2	
	baz=120,slow=0.7,SNR=101						
H01W2	Cape Leeuwin H	41.11	265	T	T	19 15 14.2	
	baz=120,slow=0.7,SNR=136						
H01W3	Cape Leeuwin H	41.12	265	T	T	19 15 15.5	
	baz=120,slow=0.7,SNR=115						
H08S2	Diego Garcia H	87.83	261	T	T	20 13 35.8	
	baz=135,slow=0.7,SNR=1078						
H08S1	Diego Carcia H	87.84	261	T	T	20 13 36.8	
	baz=135,slow=0.7,SNR=229						
H08S3	Diego Garcia H	87.85	261	T	T	20 13 37.2	
	baz=135,slow=0.7,SNR=921						
BRTR	Keskin Array B	145.52	278	PKPbc	PKPdf	18 43 27.8	+0.2
	1.1nm,0.8s,baz=138,slow=5.8,SNR=5.8						
TORD	Torodi Ar. Bea	145.88	206	PKPbc	PKPdf	18 43 28.5	-0.2
	1.5nm,0.6s,baz=141,slow=2.5,SNR=24						
AKASG	Malin Array Be	151.40	297	PKPbc	PKPbc	18 43 42.3	-0.3
	0.5nm,0.4s,baz=72,slow=2.6,SNR=7.3						
FINES	FINESS Array B	151.97	320	PKPbc	PKPbc	18 43 43.2	-0.4
	1.8nm,0.8s,baz=72,slow=4.5,SNR=6.6						

MEX 19 18:34:35.6±0.9,18.˚22N×99.˚72W,h56km±6km,MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLIG	Platanillo	0.27	51	eP	Pn	18 34 43.1	-2.1
PLIG				iS	Sn	18 34 50.2	-1.9
MEIG	Mezcala	0.31	162	iP	Pn	18 34 44.5	-1.0
MEIG				eS	Sn	18 34 51.0	-1.7
ARIG	Puente Sto Nin	0.60	276	eP	Pn	18 34 47.1	-1.4
ARIG				eS	Sn	18 34 56.3	-1.5
YAIG	Yautepec	0.89	44	iP	Pn	18 34 50.5	-1.8
YAIG				iS	Sn	18 35 03.0	-1.5
CAIG	El Cayaco	1.28	204	iP	Pn	18 34 55.2	-2.1
CAIG				iS	Sn	18 35 12.0	-1.4
TLIG	Tlapa	1.28	121	eP	Pn	18 34 56.2	-1.2
TLIG				iS	Sn	18 35 11.5	-2.2
PPM	Popocatepetl	1.33	51	iP	Pn	18 34 57.8	-0.8
PPM				iS	Sn	18 35 14.3	-1.5
UTMO	Huajuapan	1.87	102	iP	Pn	18 35 04.9	-0.6
UTMO				iS	Sn	18 35 26.1	-2.0
PNIG	Pinotepa

TSUM	**Tsumeb**	**14.96**	**275**	*eP*	Pn	18 55 19.8	-1.6
TSUM				*eS*	Sn	18 57 58.0	-9.4
WIN	**Windhoek**	**15.15**	**262**	*eP*	Pn	18 55 25.0	+1.0
WIN				*eS*	Sn	18 58 02.8	-9.4
WIN				AML	AML	18 59 59.1	
	comp=Z,4.2nm,0.6s						
SUR	**Sutherland**	**15.72**	**223**	*eP*	Pn	18 55 32.4	+1.0
SUR				*eS*	Sn	18 58 15.0	-11
SUR				AML	AML	19 00 14.3	
	comp=Z,8.6nm,0.7s						
CVNA	**Calvinia**	**15.85**	**227**	*eP*	Pn	18 55 34.6	+1.7
CVNA				*eS*	Sn	18 58 16.6	-12
CVNA				AML	AML	19 00 20.5	
	comp=Z,17nm,0.7s						
CER	**Ceres**	**17.32**	**223**	*eP*	P	18 55 55.4	+2.4
CER				*eS*	Sn	18 58 57.7	-6.8
CER				AML	AML	19 00 58.3	
	comp=Z,17nm,0.8s						

BJI **19** *19:00:51.3, 30.77N×86.06E, h11km, mB4.4/7, mb4.4/14, Ms4.1/7, Ms7 3.8/7*

IDC **19** *19:00:53.5±0.6, 31.07N×85.92E, h0km, mb3.9/18, mb1 4.0/20, mb1mx4.0/33, mbtmp3.9/20, ML4.0/2, MS3.2/7, Ms1 3.2/7, ms1mx3.1/36, Error ellipse: s-maj=20.0km s-min=13.0km az=45.0*

NDI **19** *19:00:55.8±3.2, 31.37N×86.21E, h10km, ML3.8*

ISCJB **19** *19:00:56.2±0.3, 31.09N±0.04×85.92E±0.04, h33km, mb4.1/21, MS3.3/7, Error ellipse: s-maj=6.6km s-min=4.6km az=19.8*

ISC 19 19:00:58.4±0.4,**31.13N**±0.06×**85.97E**±0.04,**h35**km,**n47,** σ1**s70**/55,**mb4.0**/21,**MS3.4**/7,**1C, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.70**	**106**	Pg	Pn	19 02 10.8	+3.6
DDI	**Dehra Dun**	**6.86**	**265**	*eP*	**Pn**	**19 02 38.0**	**+1.5**
DDI				*eS*	**Sn**	**19 03 54.5**	**+1.1**
DDI				AML	AML	19 04 03.3	
	comp=N,526nm,0.7s						
DDI				AML	AML	19 04 05.7	
	comp=E,287nm,0.7s						
BOK	**Bokaro**	**7.31**	**181**	*eP*	**Pn**	**19 02 43.6**	**+0.9**
BOK				*eS*	**Sn**	**19 04 05.8**	**+1.3**
BOK				AML	AML	19 04 08.3	
	comp=N,20nm,0.5s						
BOK				AML	AML	19 04 11.5	
	comp=E,30nm,0.7s						
SMLA	**Simla**	**7.54**	**272**	*eP*	**Pn**	**19 02 46.3**	**+0.5**
SMLA				*eS*	**Sn**	**19 04 09.8**	**-0.4**
SMLA				AML	AML	19 04 16.6	
	comp=N,58nm,0.5s						
SMLA				AML	AML	19 04 17.2	
	comp=E,97nm,0.4s						
SHL	**Shillong**	**7.61**	**135**	*eP*	**Pn**	**19 02 46.5**	**-0.4**
SHL				*eS*	**Sn**	**19 04 08.4**	**-3.7**
NDI	**New Delhi**	**7.98**	**254**	*e4*	**Sn**	**19 04 17.0**	**-3.8**
DHRM	**DHARAMSHALA**	**8.31**	**280**	*eP*	**Pn**	**19 02 59.0**	**+2.4**
DHRM				*eS*	**Sn**	**19 04 29.7**	**+0.3**
DHRM				AML	AML	19 04 42.2	
	comp=E,40nm,0.7s						
DHRM				AML	AML	19 04 45.6	
	comp=N,33nm,0.7s						
BHPL	**Bhopal**	**10.93**	**226**	*e4*	**Pn**	**19 03 31.3**	**-1.0**
BHPL				*ex*	x	19 05 21.4	
CHCP	**Chirah Chowk**	**11.03**	**287**	↑P	**Pn**	**19 03 32.4**	**-1.3**
CEP	**Cherat**	**12.17**	**286**	P	**Pn**	**19 03 46.8**	**-2.6**
CEP				S	**Sn**	**19 06 01.0**	**-2.9**
THW	**Thamme Wali**	**12.19**	**282**	P	**Pn**	**19 03 47.6**	**-2.0**
GTA	**Gaotai**	**13.99**	**50**	*eP*	**P**	**19 04 21.9**	**+0.2**
GTA				pP	pP	19 04 26.8	
GTA				sP		19 04 28.9	
GTA				S	**S**	**19 07 10.9**	**+1.8**
GTA				sS	sS	19 07 16.1	
GTA				SS	SnSn	19 07 28.4	+27
GTA				AMB	AMB		
	comp=Z,5.0nm,1.4s						
GTA				AMB	AMB		
	comp=Z,81nm,5.2s						
GTA				LR	LR		
	comp=N,350nm,15.7s						
GTA				LR	LR		
	comp=E,360nm,11.4s						
GTA				LR	LR		
	comp=Z,500nm,11.4s						
AAK	**Ala-Archa**	**14.68**	**325**	Pn	**P**	**19 04 26.7**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=140,slow=3.4,SNR=5.9						
AAK				LR	LR	19 10 32.8	
	comp=Z,57nm,18.9s,baz=124,slow=39						
MKAR	**Makanchi Array**	**15.89**	**351**	Pn	**Pn**	**19 04 39.1**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=180,slow=13,SNR=15						
KMI	**Kunming**	**15.96**	**108**	P	**Pn**	**19 04 38.8**	**-1.7**
KMI				pP	**P**	**19 04 44.6**	**+0.9**
KMI				AMB	AMB		
	comp=Z,12nm,0.7s						
KMI				LR	LR		
	comp=Z,140nm,9.9s						
KMI				LR	LR		
	comp=Z,140nm,10.9s						
KMI				LR	LR		
	comp=Z,150nm,12.7s						
POO	**Poona**	**16.67**	**224**	*eP*	**P**	**19 04 54.0**	**+2.6**
CMAR	**Chiang Mai Arr**	**17.24**	**134**	P	**Pn**	**19 04 55.1**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=325,slow=13,SNR=14						
XAN	**Xi'an**	**19.55**	**75**	P	**P**	**19 05 22.8**	**-0.3**
XAN				AMB	AMB		
	comp=Z,2.0nm,1.0s						
XAN				AMB	AMB		
	comp=Z,19nm,5.1s						
KURBB	**Kurchatov Arra**	**20.25**	**346**	P	**P**	**19 05 29.4**	**-1.0**
	comp=Z,1.2nm,0.5s,baz=165,slow=10,SNR=11						
KURBB				PcP	**PcP**	**19 09 45.9**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=190,slow=2.4,SNR=5.0						
HHC	**Hu-ho-hao-te**	**22.80**	**58**	*eP*	**P**	**19 06 01.0**	**+2.9**
HHC				sP	**sP**	**19 06 08.1**	**-3.7**
HHC				PP	PnPn	19 06 30.3	+7.5
HHC				S	**S**	**19 10 05.4**	**+0.5**
HHC				sS	Sn	19 10 11.9	-9.2
HHC				SS	SnSn	19 10 48.4	+11
HHC				AMB	AMB		
	comp=Z,27nm,1.0s						
HHC				AMB	AMB		
	comp=Z,200nm,5.5s						
HHC				LR	LR		
	comp=Z,390nm,12.1s						
HHC				LR	LR		
	comp=Z,360nm,12.5s						
HHC				LR	LR		
	comp=Z,230nm,12.8s						
ZALV	**Zalesovo Beam**	**22.82**	**358**	P	**P**	**19 05 58.5**	**+0.5**
	comp=Z,1.1nm,0.5s,baz=189,slow=10,SNR=9.3						
ZALV				LR	LR	19 16 34.8	
	comp=Z,17nm,21.0s,baz=65,slow=41						
SONM	**Songino Array**	**22.84**	**37**	P	**P**	**19 06 00.7**	**+2.2**
	comp=Z,3.7nm,0.8s,baz=243,slow=9.8,SNR=4.1						
BVAR	**Borovoye Array**	**24.64**	**337**	P	**P**	**19 06 17.3**	**+1.8**
	comp=Z,0.5nm,0.5s,baz=130,slow=10,SNR=3.9						
BVAR				PcP	**PcP**	**19 09 55.6**	**+3.4**
	comp=Z,0.5nm,0.5s,baz=180,slow=4.0,SNR=3.4						
AKTO	**Aktyubinsk**	**28.36**	**321**	LR	LR	19 18 46.5	
	comp=Z,67nm,19.4s,baz=295,slow=38						
KSRS	**Korea Array**	**35.01**	**68**	P	**P**	**19 07 47.4**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=274,slow=9.8,SNR=3.1						
KSRS				LR	LR	19 23 12.0	
	comp=Z,65nm,18.1s,baz=260,slow=38						
KBZ	**Khabaz**	**36.05**	**303**	LR	LR	19 24 35.4	
	comp=Z,39nm,19.3s,baz=242,slow=39						
MMAI	**Mount Meron Ar**	**42.55**	**286**	P	**P**	**19 08 51.5**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=56,slow=10,SNR=4.0						
BRTR	**Keskin Array B**	**42.97**	**296**	P	**P**	**19 08 55.6**	**+1.3**
	comp=Z,0.9nm,0.9s,baz=90,slow=8.6,SNR=4.8						
AKASG	**Malin Array Be**	**45.88**	**312**	P	**P**	**19 09 16.3**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=80,slow=7.5,SNR=7.5						
FINES	**FINESS Array B**	**48.86**	**326**	P	**P**	**19 09 41.6**	**+1.4**
	comp=Z,3.5nm,1.0s,baz=101,slow=9.9,SNR=5.5						
ARCES	**ARCESS Array B**	**50.93**	**337**	P	**P**	**19 09 55.9**	**+0.1**
	comp=Z,5.0nm,1.0s,baz=103,slow=5.4,SNR=5.2						
PETK	**Petropavlovsk-**	**55.07**	**44**	LR	LR	19 36 09.1	
	comp=Z,32nm,20.4s,baz=245,slow=38						
NB2	**NORSAR Subarra**	**56.00**	**326**	P	**P**	**19 10 32.5**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=86,slow=7.4						
NOA	**NORSAR Array B**	**56.00**	**326**	P	**P**	**19 10 32.8**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=87,slow=7.1,SNR=5.6						
NOA				LR	LR	19 38 17.3	
	comp=Z,48nm,18.2s,baz=290,slow=40						
GERES	**GERESS Array B**	**56.03**	**311**	P	**P**	**19 10 33.8**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=60,slow=5.3,SNR=8.0						
KMBO	**Kilima Mbogo**	**56.25**	**245**	P	**P**	**19 10 35.5**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=61,slow=9.7,SNR=4.8						
LPG	**La Plagne**	**61.41**	**308**	*eP*	**P**	**19 11 10.6**	**-0.7**
	comp=Z,12nm,0.9s						
SBF	**Sospel**	**61.41**	**306**	*eP*	**P**	**19 11 12.1**	**+1.0**
	comp=Z,25nm,0.9s						
LPL	**La Plagne**	**61.41**	**308**	*eP*	**P**	**19 11 10.6**	**-0.7**
	comp=Z,7.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**62.04**	**137**	P	**P**	**19 11 16.8**	**+1.4**
	comp=Z,1.4nm,0.9s,baz=266,slow=9.5,SNR=3.0						
LOR	**Lormes**	**62.81**	**311**	*eP*	**P**	**19 11 21.0**	**+0.6**
SMF	**Signal de Mont**	**63.01**	**310**	*eP*	**P**	**19 11 19.7**	**-2.0**
BGF	**Bois d'Agland**	**63.69**	**310**	*eP*	**P**	**19 11 27.1**	**+0.9**
WRA	**Warramunga Arr**	**68.81**	**131**	P	**P**	**19 11 59.4**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=326,slow=6.6,SNR=22						
ASAR	**Alice Springs**	**71.25**	**134**	P	**P**	**19 12 14.4**	**+0.1**
	comp=Z,2.1nm,0.5s,baz=318,slow=5.8,SNR=52						
ILAR	**Eielson Array**	**75.94**	**21**	P	**P**	**19 12 40.6**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=294,slow=4.7,SNR=6.7						
TORD	**Torodi Ar. Bea**	**78.48**	**278**	P	**P**	**19 12 55.6**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=55,slow=4.6,SNR=5.7						

MEX 19 19:10:32.9±0.4,**15.61N**×**96.15W**,**h8**km±3km,**MD4.1, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.17**	**13**	*eP*	Pg	19 10 36.1	-0.3
HUIG				*i* S	Sg	19 10 38.5	-0.4
VHO	**Vista Hermosa**	**1.56**	**339**	*eP*	Pn	19 10 57.6	-3.6
VHO				*i* S	Sn	19 11 16.7	-5.1
OXX	**Oaxaca**	**1.57**	**339**	*i* P	Pn	19 10 56.5	-4.8
OXX				*i* S	Sn	19 11 18.3	-3.7
PNIG	**Pinotepa**	**2.06**	**293**	*eP*	Pn	19 11 04.4	-3.4
PNIG				*i* S	Sn	19 11 28.3	-5.3
PCIG		**2.82**	**88**	*eP*	Pn	19 11 15.1	-3.2
TPIG	**Tehuac#an**	**3.03**	**338**	*i* P	Pb	19 11 28.3	+1.0
TPIG				*i* S	Sb	19 12 03.4	-1.2
TGIG		**3.13**	**68**	*i* P	Pn	19 11 19.2	-3.4
TGIG				*i* S	Sn	19 11 56.2	-4.1
CCIG	**Comitan**	**3.92**	**80**	*eP*	Pn	19 11 31.4	-2.2
CCIG				*i* S	Sn	19 12 16.5	-3.5

KRSC 19 19:17:52.4±3.7,**60.70N**×**167.09E**,**h5**km±5km,**ML3.5, Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILK	**Tilichiki**	**0.53**	**242**	*i* P	Pb	19 18 03.6	-0.6
TILK				*i* S	Sb	19 18 11.1	-1.0
OSSR	**Ossora**	**2.49**	**236**	*eP*	Pb	19 18 36.3	-1.3
OSSR				*i* S	Sb	19 19 06.8	-1.8
KBTR	**Krutoberegovo**	**5.03**	**208**	P	Pn	19 19 11.1	+2.7
KMNR	**Kamenistaya**	**6.14**	**219**	P	Pn	19 19 27.1	+3.3

IDC 19 19:33:08.0±3.3,**34.23S**×**178.87W**,**h0**km,**mb3.9**/2, **mb1 4.2**/3,**mb1mx3.8**/16,**mbtmp4.0**/3,**ML4.0**/1,**Error ellipse: s-maj=74.6km s-min=37.1km az=120.0,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.17**	**218**	Pn	Pn	19 34 27.0	+0.4
	5.1nm,0.3s,baz=323,slow=2.8,SNR=25						
URZ				Sn	Sn	19 35 26.7	-0.2
	3.1nm,0.3s,baz=183,slow=20,SNR=6.4						
ASAR	**Alice Springs**	**42.32**	**272**	P	P	19 41 03.8	0.0
	1.0nm,0.7s,baz=113,slow=7.0,SNR=18						
WRA	**Warramunga Arr**	**43.66**	**277**	P	P	19 41 14.3	-0.3
	1.3nm,0.5s,baz=120,slow=8.1,SNR=26						
FINES	**FINESS Array B**	**148.44**	**337**	PKPbc	PKPbc	19 52 54.9	-0.7
	1.8nm,0.8s,baz=72,slow=4.5,SNR=4.0						

IDC **19** *19:39:35.3±0.7, 14.32S×167.48E, h0km, mb4.5/13, mb1 4.6/14, mb1mx4.4/23, mbtmp4.4/14, ML4.1/1, MS3.9/14, Ms1 3.9/14, ms1mx3.7/30, Error ellipse: s-maj=24.9km s-min=16.4km az=129.0*

ISCJB **19** *19:39:36.1±0.4, 14.25S±0.08×167.42E±0.08, h10km, mb4.6/21, MS3.8/13, Error ellipse: s-maj=14.5km s-min=8.3km az=137.8*

NEIC **19** *19:39:40.9±0.3, 14.34S×167.42E, h35km, mb4.8/9, Error ellipse: s-maj=12.3km s-min=8.0km az=139.0*

AUST **19** *19:39:56.9, 14.46S×166.41E, h100km*

ISC 19 19:39:36.9±0.6,**14.32S**±0.07×**167.6E**±0.1,**h10**km,**n71,** σ1**s25**/66,**mb4.6**/21,**MS3.9**/13,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.78**	**188**	*ePn*	**Pn**	**19 41 31.4**	**+1.1**
	5.3nm,0.2s						
DZM				*eSn*	**Sn**	**19 42 56.5**	**-2.1**
	2.1nm,0.2s						
DZM				*eLR*	LR	19 43 22.6	
	1μm,24.8s						
DZM	**Mont Dzumac**	**7.78**	**188**	Pn	**Pn**	**19 41 30.7**	**+0.4**
DZM				Sn	**Sn**	**19 42 57.3**	**-1.3**
DZM	**Mont Dzumac**	**7.78**	**188**	Pn	**Pn**	**19 41 30.7**	**+0.4**
	2.6nm,0.3s,baz=354,slow=21,SNR=15						
DZM				Sn	**Sn**	**19 42 57.3**	**-1.3**
	baz=272,slow=23,SNR=7.4						
DZM				LR	LR	19 44 13.5	
	comp=Z,879nm,20.7s,baz=1.9,slow=36						
EIDS	**Eidsvold**	**18.99**	**232**	P	**Pn**	**19 44 01.5**	**+2.1**
	baz=18,SNR=3.2						
RAO	**Raoul Island**	**20.02**	**140**	LR	LR	19 49 34.8	
	comp=Z,156nm,20.3s,baz=130,slow=30						
PMG	**Port Moresby**	**20.57**	**281**	P	**P**	**19 44 15.2**	**-0.8**
PMG	**Port Moresby**	**20.57**	**281**	P	**P**	**19 44 15.2**	**-0.8**
	34nm,1.0s,baz=192,slow=2.1,SNR=4.7						
PMG				LR	LR	19 51 06.4	
	comp=Z,245nm,19.6s,baz=56,slow=34						
CTA	**Charters Tower**	**21.15**	**251**	P	**P**	**19 44 22.2**	**-0.2**
CTA	**Charters Tower**	**21.15**	**251**	P	**P**	**19 44 22.2**	**-0.2**
	8.0nm,0.9s,baz=77,slow=15,SNR=4.4						
RMQ	**Roma**	**21.36**	**233**	P	**P**	**19 44 27.9**	**+3.4**
	baz=20,SNR=4.7						
ARMA	**Armidale**	**21.73**	**220**	P	P	19 44 33.5	+4.9
	baz=21,SNR=4.9						
MTSU	**Mount Surprise**	**22.65**	**257**	P	**P**	**19 44 40.1**	**+1.7**
	baz=22,SNR=11						
QLP	**Quilpie**	**24.99**	**237**	P	**P**	**19 45 02.7**	**+1.7**
	baz=24,SNR=6.5						
URZ	**Urewera**	**25.29**	**162**	LR	LR	19 53 09.8	
	comp=Z,368nm,19.6s,baz=346,slow=32						
CMSA	**Cobar Meteorol**	**26.37**	**226**	P	**P**	**19 45 16.8**	**+3.3**
	baz=26,SNR=9.4						
RPZ	**Rata Peaks**	**29.44**	**175**	LR	LR	19 55 48.0	
	comp=Z,288nm,20.0s,baz=33,slow=33						
STKA	**Stephens Creek**	**29.48**	**229**	*eP*	**P**	**19 45 41.8**	**+0.5**
	4.6nm,0.7s						
STKA	**Stephens Creek**	**29.48**	**229**	P	**P**	**19 45 42.8**	**+1.5**
	baz=29,SNR=4.0						
STKA	**Stephens Creek**	**29.48**	**229**	P	**P**	**19 45 41.9**	**+0.5**
	21nm,0.6s,baz=46,slow=7.6,SNR=64						
STKA				LR	LR	19 56 41.0	
	comp=Z,212nm,19.9s,baz=31,slow=35						
WRA	**Warramunga Arr**	**32.22**	**255**	P	**P**	**19 46 03.6**	**-1.9**
WRA	**Warramunga Arr**	**32.22**	**255**	P	**P**	**19 46 03.6**	**-1.9**
	4.4nm,0.8s,baz=84,slow=8.8,SNR=18						
AS31	**Alice Springs**	**33.10**	**249**	*eP*	**P**	**19 46 11.5**	**-1.8**
ASAR	**Alice Springs**	**33.10**	**249**	P	**P**	**19 46 11.4**	**-1.9**
ASAR	**Alice Springs**	**33.10**	**249**	P	**P**	**19 46 11.4**	**-1.9**
	3.9nm,0.8s,baz=73,slow=9.4,SNR=48						
BBOO	**Buckleboo**	**34.06**	**232**	*eP*	**P**	**19 46 22.7**	**+1.1**
	443nm,1.1s						
BBOO	**Buckleboo**	**34.06**	**232**	P	**P**	**19 46 23.2**	**+1.6**
	baz=33,SNR=9.7						
KNRA	**Kununurra**	**37.48**	**263**	P	**P**	**19 46 50.6**	**-0.5**
	baz=36,SNR=4.4						
PPT2	**Papeete2**	**41.26**	**100**	*eLR*	LR	19 59 16.2	
	93nm,27.8s						
TBI	**Tubuai**	**41.51**	**109**	*eLR*	LR	19 59 16.8	
	139nm,40.8s						
MEEK	**Meekatharra**	**47.22**	**247**	P	**P**	**19 48 09.7**	**-0.6**
	baz=46,SNR=14						
NWAO	**Narrogin (SRO)**	**49.22**	**239**	LR	LR	20 07 54.8	
	comp=Z,72nm,18.4s,baz=336,slow=35						
MORW	**Morawa**	**49.71**	**244**	P	**P**	**19 48 29.9**	**+0.3**
	baz=49,SNR=4.5						
KSM	**Kuching**	**58.83**	**281**	P	**P**	**19 49 37.1**	**+1.0**
	baz=58,SNR=4.2						
VNDA	**Vanda**	**63.27**	**181**	LR	LR	20 16 38.7	
	comp=Z,69nm,18.1s,baz=285,slow=35						
KSRS	**Korea Array**	**63.58**	**325**	LR	LR	20 16 34.5	
	comp=Z,40nm,18.9s,baz=78,slow=35						
PETK	**Petropavlovsk-**	**67.69**	**354**	P	**P**	**19 50 34.4**	**+0.2**
PETK	**Petropavlovsk-**	**67.69**	**354**	P	**P**	**19 50 34.4**	**+0.2**
	9.0nm,1.0s,baz=104,slow=6.3,SNR=5.1						
PETK				LR	LR	20 16 27.0	
	comp=Z,72nm,19.3s,baz=346,slow=33						
ENH	**Enshi**	**71.34**	**309**	*eP*	**P**	**19 50 56.9**	**-0.4**
	3.6nm,0.7s						
CM31	**Chiang Mai Arr**	**75.06**	**294**	*eP*	**P**	**19 51 20.6**	**+1.1**
	5.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**75.06**	**294**	P	**P**	**19 51 19.7**	**+0.3**
CMAR	**Chiang Mai Arr**	**75.06**	**294**	P	**P**	**19 51 19.7**	**+0.3**
	4.8nm,0.8s,baz=130,slow=4.6,SNR=31						
CHTO	**Chiang Mai**	**75.19**	**294**	*eP*	**P**	**19 51 19.8**	**-0.4**
	49nm,1.4s						
QSPA	**South Pole Qui**	**75.70**	**180**	P	**P**	**19 51 22.6**	**+0.2**
QSPA	**South Pole Qui**	**75.70**	**180**	P	**P**	**19 51 22.6**	**+0.2**
	1.0nm,0.8s						
MAW	**Mawson**	**82.37**	**202**	LR	LR	20 22 47.3	
	comp=Z,86nm,19.0s,baz=204,slow=32						
MCK	**McKinley**	**84.68**	**18**	*eP*	**P**	**19 52 10.2**	**-0.4**
	7.7nm,1.1s						
YBH	**Yreka Blue Hor**	**84.92**	**45**	P	**P**	**19 52 14.1**	**+1.7**
YBH	**Yreka Blue Hor**	**84.92**	**45**	P	**P**	**19 52 14.1**	**+1.7**
	3.7nm,0.9s,baz=168,slow=2.4,SNR=7.2						
LSA	**Lhasa**	**85.60**	**302**	*eP*	**P**	**19 52 16.3**	**-0.3**
	1.5nm,0.6s						
WAKR	**Walker**	**85.98**	**49**	*eP*	**P**	**19 52 19.2**	**+1.4**
	14nm,1.5s						
ILAR	**Eielson Array**	**86.05**	**18**	P	**P**	**19 52 17.3**	**-0.1**
ILAR	**Eielson Array**	**86.05**	**18**	P	**P**	**19 52 17.3**	**-0.1**
	1.0nm,0.8s,baz=231,slow=6.7,SNR=8.6						
ILAR				LR	LR	20 24 38.1	
	comp=Z,100nm,19.9s,baz=292,slow=31						
NVAR	**Mina Array Bea**	**86.78**	**49**	P	**P**	**19 52 21.8**	**-0.1**
NVAR	**Mina Array Bea**	**86.78**	**49**	P	**P**	**19 52 21.8**	**-0.1**
	1.0nm,0.5s,baz=252,slow=12,SNR=5.5						
DLBC	**Dease Lake**	**88.44**	**28**	LR	LR	20 27 28.2	
	comp=Z,57nm,18.5s,baz=246,slow=32						
SHPR	**Sheep Range**	**88.47**	**52**	*eP*	**P**	**19 52 31.3**	**+1.3**
	21nm,1.4s						
BMO	**Blue Mountains**	**89.75**	**43**	*eP*	**P**	**19 52 36.7**	**+1.0**
ELK	**Elko**	**89.80**	**48**	*eP*	**P**	**19 52 38.0**	**+1.8**
	11nm,1.5s						
HLID	**Hailey**	**91.28**	**45**	*eP*	**P**	**19 52 43.6**	**+0.7**
PDAR	**Pinedale Array**	**94.45**	**47**	LR	LR	20 28 28.5	
	comp=Z,43nm,18.9s,baz=67,slow=31						
MK31	**Makanchi Array**	**97.12**	**316**	*eP*	**P**	**19 53 09.0**	**-0.5**
MKAR	**Makanchi Array**	**97.12**	**316**	P	**P**	**19 53 08.6**	**-0.9**
MKAR	**Makanchi Array**	**97.12**	**316**	P	**P**	**19 53 08.6**	**-0.9**
	1.2nm,0.8s,baz=96,slow=6.0,SNR=15						
ZALV	**Zalesovo Beam**	**97.25**	**324**	P	**P**	**19 53 09.1**	**-0.8**
ZALV	**Zalesovo Beam**	**97.25**	**324**	P	**P**	**19 53 09.1**	**-0.8**
	0.8nm,0.7s,baz=122,slow=5.4,SNR=6.6						
AKASG	**Malin Array Be**	**130.57**	**326**	PKP	**PKPdf**	**19 58 48.0**	**+0.1**
AKASG	**Malin Array Be**	**130.57**	**326**	PKP	**PKPdf**	**19 58 48.0**	**+0.1**
	0.2nm,0.3s,baz=54,slow=2.1,SNR=5.5						
ESDC	**Sonseca Array**	**153.68**	**345**	PKPbc	**PKPbc**	**19 59 35.0**	**-1.5**
ESDC				PKPab	**PKPab**	**19 59 49.3**	**+0.3**
ESDC	**Sonseca Array**	**153.68**	**345**	PKPbc	**PKPbc**	**19 59 35.0**	**-1.5**
	0.1nm,0.4s,baz=11,slow=3.7,SNR=3.5						
ESDC				PKPab	**PKPab**	**19 59 49.3**	**+0.3**
	0.7nm,0.7s,baz=25,slow=3.8,SNR=5.5						
TORD	**Torodi Ar. Bea**	**166.24**	**267**	PKP	**PKPdf**	**19 59 41.9**	**-1.5**
TORD				PKPab	**PKPab**	**20 00 44.8**	**+0.4**
TORD	**Torodi Ar. Bea**	**166.24**	**267**	PKP	**PKPdf**	**19 59 41.9**	**-1.5**
	0.5nm,1.0s,baz=20,slow=2.1,SNR=3.3						
TORD				PKPab	**PKPab**	**20 00 44.8**	**+0.4**
	1.9nm,1.3s,baz=120,slow=2.7,SNR=6.5						

IDC 19 19:48:35.0±2.5,**12.33S**×**167.12E**,**h0**km,**mb3.9**/5, **mb1 4.0**/5,**mb1mx3.8**/18,**mbtmp3.8**/5,**Error ellipse: s-maj=103.2km s-min=27.9km az=133.0,Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.49**	**226**	P	P	19 54 50.1	+0.2
	1.6nm,0.7s,baz=43,slow=16,SNR=4.2						
WRA	**Warramunga Arr**	**32.34**	**252**	P	P	19 55 06.4	0.0
	0.7nm,0.7s,baz=85,slow=9.5,SNR=8.6						
ASAR	**Alice Springs**	**33.46**	**246**	P	P	19 55 15.8	-0.4
	0.5nm,0.5s,baz=69,slow=9.7,SNR=6.6						
ILAR	**Eielson Array**	**84.30**	**18**	P	P	20 01 08.2	-0.3
	0.7nm,0.7s,baz=240,slow=5.3,SNR=11						
MKAR	**Makanchi Array**	**95.38**	**317**	P	P	20 02 01.8	+0.3
	0.5nm,0.5s,baz=84,slow=5.6,SNR=7.5						

IDC **19** *20:06:01.3±1.5, 13.90N×93.10E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/27, mbtmp3.3/5, ML2.7/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/27, Error ellipse: s-maj=58.0km s-min=21.7km az=63.0*

ISC 19 20:06:05.3±1.1,**14.1N**±0.1×**92

IDC 19 20:19:01.0±4.6, 15°46S×173°01W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/19, mbtmp3.7/4, Error ellipse: s-maj=219.9km s-min=22.8km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.95**	**38**	Pn	Pn	20 19 33.3	-2.1
	7.2nm,0.3s,baz=47,slow=7.9,SNR=5.3						
AFI				Sn	Sn	20 19 52.4	-8.3
	35nm,0.3s,baz=213,slow=23,SNR=15						
STKA	**Stephens Creek**	**44.33**	**240**	P	P	20 27 12.9	-0.2
	0.9nm,0.5s,baz=96,slow=9.2,SNR=3.2						
WRA	**Warramunga Arr**	**50.20**	**257**	P	P	20 27 58.5	-0.5
	0.3nm,0.5s,baz=91,slow=7.1,SNR=9.1						
ASAR	**Alice Springs**	**50.45**	**252**	P	P	20 28 00.1	-0.8
	1.1nm,0.4s,baz=86,slow=8.1,SNR=29						
ILAR	**Eielson Array**	**82.44**	**11**	P	P	20 31 25.4	+0.7
	0.2nm,0.6s,baz=228,slow=6.7,SNR=5.6						
BRTR	**Keskin Array B**	**146.44**	**321**	PKPbc	PKPab	20 38 45.8	+0.3
	0.8nm,0.8s,baz=28,slow=5.6,SNR=4.1						

*AUST **19** 20:25:15.4±0.1, 0°81S×98°38E, h72km±1km, Error ellipse: s-maj=3.7km s-min=1.1km az=249.0*
*ISCJB **19** 20:25:20.3±0.7, 0°52S±0°05×98°89E±0°06, h53km, mb3.9/8, Error ellipse: s-maj=9.3km s-min=5.6km az=144.6*
*IDC **19** 20:25:21.6±1.5, 0°50S×99°08E, h47km±8km, mb3.6/8, mb1 3.6/10, mb1mx3.4/25, mbtmp3.5/10, ML3.6/2, Error ellipse: s-maj=55.2km s-min=17.5km az=57.0*
*DJA **19** 20:25:23.1±1.2, 0°S±3°×9°9E±°, h23km±13km, M4.5/3, MLv4.5/3*

ISC 19 20:25:22.4±0.8, 0°46S±0°06×98°98E±0°08, h53km, n39, σ1§06/38, mb4.0/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**1.39**	**26**	P	**Pn**	**20 25 45.8**	**+0.4**
MNSI				S	**Sn**	**20 26 04.3**	**+1.6**
PPI	**Padang Panjang**	**1.42**	**90**	P	**Pn**	**20 25 46.3**	**+0.4**
PPI				S	**Sn**	**20 26 03.6**	**+0.1**
PPI	**Padang Panjang**	**1.42**	**90**	P	**Pn**	**20 25 46.2**	**+0.4**
	baz=2.0,SNR=132						
PDSI	**Padang**	**1.55**	**107**	P	**Pn**	**20 25 47.8**	**+0.1**
PDSI				S	**Sn**	**20 26 06.8**	**+0.1**
PSI	**Prapat**	**3.24**	**359**	P	**Pn**	**20 26 10.8**	**-0.2**
	baz=3.5,SNR=8.0						
PSI	**Prapat**	**3.24**	**359**	P	**Pn**	**20 26 10.2**	**-0.8**
	3.2nm,0.3s,baz=148,slow=8.6,SNR=11						
KCSI	**Kotacane, Aceh**	**4.14**	**343**	P	**Pn**	**20 26 25.3**	**+2.2**
MASI	**Maura Aman, Be**	**4.21**	**129**	P	**Pn**	**20 26 24.8**	**+0.7**
FRIM	**Kepong**	**4.53**	**36**	P	**Pn**	**20 26 29.2**	**+0.7**
KGM	**Kluang**	**4.99**	**60**	P	**Pn**	**20 26 35.4**	**+0.5**
BTDF	**Bukit Timah Da**	**5.13**	**69**	P	**Pn**	**20 26 37.3**	**+0.6**
	baz=5.8,SNR=5.1						
BTDF				P	**Pn**	**20 26 37.3**	**+0.6**
	baz=5.8,SNR=5.1						
IPM	**Ipoh**	**5.32**	**23**	P	**Pn**	**20 26 41.6**	**+2.3**
IPM	**Ipoh**	**5.32**	**23**	P	**Pn**	**20 26 41.0**	**+1.7**
MYKOM	**Kota Tinggi**	**5.36**	**65**	P	**Pn**	**20 26 40.9**	**+1.0**
MYKOM	**Kota Tinggi**	**5.36**	**65**	P	**Pn**	**20 26 40.6**	**+0.7**
MNAI	**Manna**	**5.55**	**134**	P	**Pn**	**20 26 43.5**	**+1.0**
MNAI	**Manna**	**5.55**	**134**	P	**Pn**	**20 26 42.7**	**+0.2**
	baz=5.8,SNR=5.7						
LHSI	**Lahat**	**5.64**	**126**	P	**Pn**	**20 26 44.9**	**+1.2**
KULM	**Kulim**	**5.95**	**16**	P	**Pn**	**20 26 48.9**	**+0.9**
KULM	**Kulim**	**5.95**	**16**	P	**Pn**	**20 26 49.6**	**+1.6**
MDSI	**Maura Dua**	**6.56**	**128**	P	**Pn**	**20 26 57.3**	**+1.0**
KTGM	**Kuala Trenggan**	**7.09**	**36**	P	**Pn**	**20 27 05.3**	**+1.6**
CISI	**Cisompet, Garu**	**11.28**	**129**	P	Pn	20 27 57.0	-4.1
	baz=12,SNR=10						
XMIS	**Christmas Isla**	**11.96**	**147**	P	Pn	20 28 04.3	-6.0
	baz=12,SNR=4.2						
CMAR	**Chiang Mai Arr**	**18.80**	**360**	P	**P**	**20 29 36.5**	**-1.2**
	0.1nm,0.3s,baz=188,slow=12,SNR=4.8						
H08S2	**Diego Garcia H**	**27.35**	**254**	T	T	20 59 07.3	
	baz=76,slow=0.7,SNR=81						
H08S3	**Diego Garcia H**	**27.35**	**254**	T	T	20 59 07.8	
	baz=76,slow=0.7,SNR=82						
H08S1	**Diego Garcia H**	**27.36**	**254**	T	T	20 59 08.2	
	baz=76,slow=0.7,SNR=59						
H08N1	**Diego Garcia H**	**28.50**	**258**	T	T	21 01 15.4	
	baz=193,SNR=5.5						
H08N2	**Diego Garcia H**	**28.52**	**258**	T	T	21 01 13.7	
	baz=193,SNR=5.1						
H08N3	**Diego Garcia H**	**28.53**	**258**	T	T	21 01 10.8	
	baz=193,SNR=5.3						
WRA	**Warramunga Arr**	**39.66**	**121**	P	**P**	**20 32 48.1**	**-1.5**
	0.5nm,0.5s,baz=303,slow=8.8,SNR=2.2						
ASAR	**Alice Springs**	**40.98**	**127**	P	**P**	**20 32 59.6**	**-1.0**
	0.3nm,0.6s,baz=297,slow=7.0,SNR=3.9						
SONM	**Songino Array**	**48.53**	**7**	P	**P**	**20 34 01.0**	**+0.7**
	1.7nm,0.5s,baz=193,slow=9.7,SNR=6.5						
MKAR	**Makanchi Array**	**49.28**	**345**	P	**P**	**20 34 06.0**	**+0.1**
	0.7nm,0.6s,baz=163,slow=8.5,SNR=10.0						
MKAR				pP	**pP**	**20 34 19.6**	**-0.6**
	0.9nm,0.5s,baz=158,slow=8.8,SNR=10						
USRK	**Ussuriysk Arra**	**53.30**	**29**	P	**P**	**20 34 35.2**	**-0.9**
	2.5nm,0.8s,baz=224,slow=4.0,SNR=3.9						
ZALV	**Zalesovo Beam**	**55.48**	**350**	P	**P**	**20 34 51.5**	**-0.2**
	1.1nm,0.4s,baz=163,slow=6.0,SNR=8.5						
ZALV				pP	**pP**	**20 35 04.5**	**-1.6**
	1.0nm,0.4s,baz=163,slow=7.2,SNR=4.7						
BVAR	**Borovoye Array**	**58.40**	**340**	P	**P**	**20 35 13.1**	**+0.7**
	0.1nm,0.3s,baz=165,slow=6.0,SNR=2.5						
BVAR				pP	**pP**	**20 35 25.7**	**-1.2**
	0.4nm,0.4s,baz=137,slow=11,SNR=3.7						
ARCES	**ARCESS Array B**	**84.69**	**340**	P	**P**	**20 37 50.0**	**-0.2**
	3.2nm,0.9s,baz=95,slow=6.4,SNR=2.7						

IDC 19 20:38:21.8±12.0, 13°91N×120°82E, h250km±123km, mb3.0/4, mb1 3.3/4, mb1mx2.9/24, mbtmp3.0/4, Error ellipse: s-maj=89.8km s-min=15.2km az=52.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**21.48**	**285**	P	P	20 42 51.1	-0.1
	2.1nm,1.0s,baz=93,slow=7.6,SNR=10						
WRA	**Warramunga Arr**	**36.17**	**158**	P	P	20 45 00.4	-0.4
	0.9nm,0.5s,baz=338,slow=9.2,SNR=7.6						
ASAR	**Alice Springs**	**39.48**	**161**	P	P	20 45 28.5	+0.1
	0.7nm,0.5s,baz=337,slow=6.8,SNR=17						
MKAR	**Makanchi Array**	**45.93**	**323**	P	P	20 46 19.8	-0.1
	0.1nm,0.3s,baz=116,slow=8.1,SNR=4.5						
MKAR				PcP	PcP	20 47 52.1	-0.3
	0.3nm,0.7s,baz=127,slow=3.8,SNR=3.1						

*CSEM **19** 21:02:08.2±1.3, 50°39N×18°79E, h2km, Error ellipse: s-maj=23.0km s-min=16.1km az=65.0*

PRU 19 21:02:08.8, 50°32N×18°83E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.65**	**223**	*e*Pg	Pg	21 02 21.4	+0.1
OKC				*e*Sg	Sg	21 02 30.2	+0.4
OKC	**Ostrava-Krasne**	**0.65**	**223**	Pg	Pg	21 02 21.4	+0.1
OKC				Sg	Sg	21 02 30.2	+0.4
DPC	**Dobruska-Polom**	**1.61**	**272**	*e*PG	Pn	21 02 37.9	-0.6
DPC				*e*SG	Sg	21 03 00.7	+0.1
DPC	**Dobruska-Polom**	**1.61**	**272**	Pg	Pn	21 02 37.9	-0.6
DPC				Sg	Sg	21 03 00.7	+0.1
VRAC	**Vranov**	**1.77**	**236**	*e*Pn	Pn	21 02 40.7	0.0
VRAC				*e*Sg	Sb	21 03 05.2	+0.3

*IDC **19** 21:11:43.7±1.5, 21°50S×33°02E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/24, mbtmp3.8/4, ML4.2/1, Error ellipse: s-maj=38.3km s-min=30.1km az=111.0*
*NEIC **19** 21:11:43.1±0.8, 21°53S×33°21E, h10km, mb4.3/2, Error ellipse: s-maj=15.5km s-min=11.7km az=144.0*
*ISCJB **19** 21:11:44.3±0.8, 21°43S±0°07×32°87E±0°08, h15km, mb3.7/4, Error ellipse: s-maj=12.4km s-min=7.8km az=39.5*

ISC 19 21:11:45.3±0.9, 21°51S±0°09×32°97E±0°09, h15km, n18, σ1§42/20, mb3.8/4, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBTB	**Lobatse**	**7.62**	**241**	*e*P	**Pn**	**21 13 38.0**	**+2.0**
	28nm,0.6s						
LBTB				*e*Sn	**Sn**	**21 15 04.4**	**+2.2**
LSZ	**Lusaka**	**7.68**	**323**	*e*Pn	**Pn**	**21 13 36.1**	**-0.8**
	12nm,0.6s						
LSZ				*e*Sn	Sn	21 14 56.0	-7.7
BOSA	**Boshof**	**9.94**	**223**	*e*Pn	**Pn**	**21 14 07.9**	**+0.1**
	4.6nm,0.6s						
BOSA				*e*Sn	**Sn**	**21 15 58.2**	**-1.0**
BOSA				Lg	Lg	21 16 59.1	
BOSA	**Boshof**	**9.94**	**223**	Pn	**Pn**	**21 14 09.7**	**+1.9**
	1.2nm,0.3s,baz=47,slow=13,SNR=21						
BOSA				Sn	**Sn**	**21 15 58.6**	**-0.7**
	0.9nm,0.3s,baz=330,slow=16,SNR=6.7						
BOSA				Lg	Lg	21 16 59.1	
	2.5nm,0.3s,baz=124,slow=9.9,SNR=5.0						
ABPO	**Ambohimpanom**	**13.61**	**82**	*e*Pn	Pn	21 14 52.6	-5.4
TSUM	**Tsumeb**	**14.61**	**276**	*e*Pn	**Pn**	**21 15 11.7**	**0.0**
	3.7nm,0.6s						
TSUM				*e*Sn	**Sn**	**21 17 51.1**	**-2.4**
SUR	**Sutherland**	**15.31**	**222**	*e*Pn	**Pn**	**21 15 22.0**	**+0.9**
	28nm,1.1s						
SUR				*e*Sn	**Sn**	**21 18 11.0**	**+0.5**
KMBO	**Kilima Mbogo**	**20.68**	**12**	Lg	Lg	21 22 34.3	
KMBO	**Kilima Mbogo**	**20.68**	**12**	Lg	Lg	21 22 34.3	
	0.8nm,0.7s,baz=276,slow=22,SNR=3.5						
TOA0	**Torodi Ar. Sit**	**46.14**	**315**	*e*P	**P**	**21 20 10.1**	**+0.6**
TORD	**Torodi Ar. Bea**	**46.14**	**315**	P	**P**	**21 20 09.9**	**+0.5**
TORD	**Torodi Ar. Bea**	**46.14**	**315**	P	**P**	**21 20 09.9**	**+0.5**
	0.4nm,0.5s,baz=130,slow=6.8,SNR=7.8						
ESDC	**Sonseca Array**	**69.96**	**330**	P	**P**	**21 22 57.4**	**+1.3**
ESDC	**Sonseca Array**	**69.96**	**330**	P	**P**	**21 22 57.4**	**+1.3**
	0.3nm,0.5s,baz=159,slow=6.4,SNR=3.7						
PMSA	**Palmer Station**	**73.70**	**206**	*e*P	**P**	**21 23 15.6**	**-2.7**
KURK	**Kurchatov**	**82.39**	**27**	*e*P	**P**	**21 24 05.9**	**-0.6**
	1.0nm,0.6s						
ASAR	**Alice Springs**	**90.94**	**116**	P	**P**	**21 24 49.8**	**+0.5**
ASAR	**Alice Springs**	**90.94**	**116**	P	**P**	**21 24 49.8**	**+0.5**
	0.6nm,0.8s,baz=252,slow=4.3,SNR=4.8						

*ATH **19** 21:17:28.8, 39°63N×27°95E, h5km±4km, MD3.4/6*
*CSEM **19** 21:17:32.6±0.1, 39°60N×27°81E, h8km, MD3.4, Error ellipse: s-maj=1.9km s-min=1.8km az=49.0*
*ISCJB **19** 21:17:32.4±0.4, 39°61N±0°02×27°82E±0°02, h8km±3km, Error ellipse: s-maj=3.1km s-min=2.7km az=31.7*
*ISK **19** 21:17:32.0, 39°60N×27°81E, h10km, MD3.4*
*DDA **19** 21:17:32.6, 39°61N×27°83E, h7km, MD3.4*
*THE **19** 21:17:33.4, 39°57N×27°82E, h8km±1km, ML3.2/5, Error ellipse: s-maj=1.8km s-min=0.5km az=124.0*

ISC 19 21:17:32.9±0.8, 39°60N±0°02×27°80E±0°02, h10km±5km, n131, σ0§60/171, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BALB	**Balikesir**	**0.07**	**56**	PG	**Pg**	**21 17 04.9**	**-0.2**
BALB				*e*SG	**Sg**	**21 17 36.6**	**-0.1**
BALB	**Balikesir**	**0.07**	**56**	*i* Pg	**Pg**	**21 17 34.9**	**-0.2**
BALB				*e*Sg	**Sg**	**21 17 36.6**	**-0.1**
BALY	**Balya**	**0.20**	**314**	*i* P	**Pg**	**21 17 37.3**	**+0.2**
BALY	**Balya**	**0.20**	**314**	*i* P	**Pg**	**21 17 37.3**	**+0.2**
GONE	**Gonen-Balikesi**	**0.46**	**349**	PG	**Pg**	**21 17 41.8**	**0.0**
GONE				*e*SG	**Sg**	**21 17 48.1**	**+0.3**
GONE	**Gonen-Balikesi**	**0.46**	**349**	*i* Pg	**Pg**	**21 17 41.8**	**0.0**
GONE				*e*Sg	**Sg**	**21 17 48.1**	**+0.3**
DURS	**Dursunbey**	**0.52**	**90**	*i* P	**Pg**	**21 17 42.1**	**-0.9**
DURS				*i* S	**Sg**	**21 17 49.8**	**-0.1**
DURS	**Dursunbey**	**0.52**	**90**	*i* P	**Pg**	**21 17 42.1**	**-0.9**
DURS				*i* S	**Sg**	**21 17 49.8**	**-0.1**
DST	**Dursunbey**	**0.63**	**89**	*e*PG	**Pg**	**21 17 44.2**	**-0.9**
DST				*e*SG	**Sg**	**21 17 53.5**	**+0.1**
DST	**Dursunbey**	**0.63**	**89**	*e*Pg	**Pg**	**21 17 44.3**	**-0.9**
DST				*e*Sg	**Sg**	**21 17 53.5**	**+0.1**
AKHS	**Akhisar**	**0.72**	**179**	*i* P	**Pg**	**21 17 46.8**	**-0.1**
AKHS				*i* S	**Sb**	**21 17 57.7**	**+0.1**
AKHS	**Akhisar**	**0.72**	**179**	*i* P	**Pg**	**21 17 46.8**	**-0.1**
AKHS				*i* S	**Sb**	**21 17 57.7**	**+0.1**
AKS	**Akhisar**	**0.72**	**179**	*e*PG	**Pg**	**21 17 46.5**	**-0.3**
AKS	**Akhisar**	**0.72**	**179**	*e*Pg	**Pg**	**21 17 46.5**	**-0.3**
BNT	**Bandirma**	**0.76**	**7**	*e*PG	**Pg**	**21 17 47.2**	**-0.4**
BNT	**Bandirma**	**0.76**	**7**	*e*Pg	**Pg**	**21 17 47.2**	**-0.4**
KCTX	**Karacabey (Bur**	**0.79**	**32**	*e*PG	**Pg**	**21 17 47.4**	**-0.7**
KCTX	**Karacabey (Bur**	**0.79**	**32**	*e*Pg	**Pg**	**21 17 47.4**	**-0.7**
KRBG	**Karabiga-Canak**	**0.88**	**334**	*e*PG	**Pg**	**21 17 49.3**	**-0.6**
KRBG				*e*SG	**Sb**	**21 18 02.4**	**+0.2**
KRBG	**Karabiga-Canak**	**0.88**	**334**	*e*Pg	**Pg**	**21 17 49.3**	**-0.6**
KRBG				*e*Sg	**Sb**	**21 18 02.4**	**+0.2**
DEMI	**Demirci**	**0.90**	**128**	*i* P	**Pg**	**21 17 49.6**	**-0.7**
DEMI				*i* S	**Sg**	**21 18 02.0**	**0.0**
DEMI	**Demirci**	**0.90**	**128**	*i* P	**Pg**	**21 17 49.6**	**-0.7**
DEMI				*i* S	**Sg**	**21 18 02.0**	**0.0**
AYVA	**Ayvalik**	**0.91**	**252**	*i* P	**Pg**	**21 17 50.2**	**-0.2**
AYVA				*i* S	**Sb**	**21 18 03.7**	**+0.7**
AYVA	**Ayvalik**	**0.91**	**252**	*i* P	**Pg**	**21 17 50.2**	**-0.2**
AYVA				*i* S	**Sb**	**21 18 03.7**	**+0.7**
LPK	**Lapseki**	**1.11**	**314**	*e*PN	**Pg**	**21 17 53.5**	**-0.8**
LPK	**Lapseki**	**1.11**	**314**	*e*Pn	**Pg**	**21 17 53.5**	**-0.8**
MDNY	**Mudanya-Bursa**	**1.13**	**47**	*e*PN	**Pg**	**21 17 53.9**	**-0.8**
MDNY	**Mudanya-Bursa**	**1.13**	**47**	*e*Pn	**Pg**	**21 17 53.9**	**-0.8**
RKY	**Sarkoy-Tekirda**	**1.19**	**336**	*e*PN	**Pb**	**21 17 55.0**	**-0.6**
RKY	**Sarkoy-Tekirda**	**1.19**	**336**	*e*Pn	**Pb**	**21 17 55.0**	**-0.6**
PRK	**Paraskevi**	**1.24**	**254**	P	**Pn**	**21 17 55.8**	**-0.5**
PRK				S	**Sn**	**21 18 13.5**	**+0.4**
PRK	**Paraskevi**	**1.24**	**254**	*e*PB	**Pn**	**21 17 55.3**	**-1.0**
PRK				*e*SB	**Sn**	**21 18 13.2**	**+0.1**
PRK	**Paraskevi**	**1.24**	**254**	*e*Pb	**Pn**	**21 17 55.3**	**-1.0**
PRK				*e*Sb	**Sn**	**21 18 13.2**	**+0.1**
ARMT	**Armutlu**	**1.26**	**40**	*e*PN	**Pn**	**21 17 55.8**	**-0.9**
ARMT	**Armutlu**	**1.26**	**40**	*e*Pn	**Pn**	**21 17 55.8**	**-0.9**
IZM	**Izmir**	**1.27**	**200**	*e*PN	**Pn**	**21 17 56.1**	**-0.8**
IZM	**Izmir**	**1.27**	**200**	*e*Pn	**Pn**	**21 17 56.1**	**-0.8**
KULA	**Kula-Manisa**	**1.27**	**148**	P	**Pn**	**21 17 55.9**	**-1.0**
KULA	**Kula-Manisa**	**1.27**	**148**	*e*PN	**Pn**	**21 17 56.5**	**-0.4**
KULA	**Kula-Manisa**	**1.27**	**148**	P	**Pn**	**21 17 55.9**	**-1.0**
KULA	**Kula-Manisa**	**1.27**	**148**	*e*Pn	**Pn**	**21 17 56.5**	**-0.4**
TVSB	**Tavsanli**	**1.29**	**96**	*e*PN	**Pn**	**21 17 56.6**	**-0.6**
TVSB	**Tavsanli**	**1.29**	**96**	*e*Pn	**Pn**	**21 17 56.6**	**-0.6**
GELI	**Tayfur-Gelibol**	**1.29**	**308**	*e*PN	**Pn**	**21 17 56.9**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.29**	**308**	*e*Pn	**Pn**	**21 17 56.9**	**-0.2**
BLCB	**Balcova**	**1.35**	**206**	*e*PN	**Pn**	**21 17 57.5**	**-0.4**
BLCB	**Balcova**	**1.35**	**206**	*e*Pn	**Pn**	**21 17 57.5**	**-0.4**
GEMT	**Gemlik**	**1.35**	**51**	*e*PN	**Pn**	**21 17 57.4**	**-0.5**
GEMT	**Gemlik**	**1.35**	**51**	*e*Pn	**Pn**	**21 17 57.4**	**-0.5**
GDZ	**Gediz**	**1.40**	**111**	*i* P	**Pb**	**21 17 59.0**	**-0.3**
GDZ				*i* S	**Sg**	**21 18 18.8**	**+0.9**
GDZ	**Gediz**	**1.40**	**111**	*i* P	**Pb**	**21 17 59.0**	**-0.3**
GDZ				*i* S	**Sg**	**21 18 18.8**	**+0.9**
TKR	**Tekirdag**	**1.40**	**352**	*e*PN	**Pb**	**21 17 59.0**	**-0.2**
TKR	**Tekirdag**	**1.40**	**352**	*e*Pn	**Pb**	**21 17 59.0**	**-0.2**
ERIK	**Erikli-Kesan**	**1.46**	**318**	*e*PN	**Pn**	**21 17 59.2**	**-0.1**
ERIK	**Erikli-Kesan**	**1.46**	**318**	*e*Pn	**Pn**	**21 17 59.2**	**-0.1**
CRLT	**Corlu**	**1.53**	**358**	*e*PN	**Pn**	**21 18 00.3**	**0.0**
CRLT	**Corlu**	**1.53**	**358**	*e*Pn	**Pn**	**21 18 00.4**	**0.0**
SIGR	**SIGRI**	**1.56**	**256**	P	**Pn**	**21 18 00.3**	**-0.4**
SIGR				S	**Sn**	**21 18 21.1**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.65**	**178**	*e*PN	**Pn**	**21 18 01.5**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**1.65**	**178**	*e*Pn	**Pn**	**21 18 01.5**	**-0.7**
SLVT	**Silivri**	**1.66**	**11**	*e*PN	**Pn**	**21 18 01.8**	**-0.3**
SLVT	**Silivri**	**1.66**	**11**	*e*Pn	**Pn**	**21 18 01.8**	**-0.3**
CAVI	**Cavuskoy**	**1.68**	**68**	*e*PN	**Pn**	**21 18 02.6**	**+0.2**
CAVI	**Cavuskoy**	**1.68**	**68**	*e*Pn	**Pn**	**21 18 02.6**	**+0.2**
ENEZ	**Enez**	**1.70**	**312**	*e*PN	**Pn**	**21 18 02.9**	**+0.2**
ENEZ	**Enez**	**1.70**	**312**	*e*Pn	**Pn**	**21 18 02.9**	**+0.2**
ADVT	**Abdulvahap**	**1.70**	**60**	*e*PN	**Pn**	**21 18 02.3**	**-0.4**
ADVT	**Abdulvahap**	**1.70**	**60**	*e*Pn	**Pn**	**21 18 02.3**	**-0.4**
CTKS	**Kestanelik-??a**	**1.72**	**18**	*e*PN	**Pn**	**21 18 02.6**	**-0.3**
CTKS	**Kestanelik-??a**	**1.72**	**18**	*e*Pn	**Pn**	**21 18 02.6**	**-0.3**
BGKT	**Bogazkoy**	**1.74**	**25**	*e*PN	**Pn**	**21 18 03.2**	**-0.1**
BGKT	**Bogazkoy**	**1.74**	**25**	*e*Pn	**Pn**	**21 18 03.2**	**-0.1**
ISK	**Istanbul-Kandi**	**1.75**	**33**	P	**Pn**	**21 18 02.6**	**-0.8**
ISK				S	**Sn**	**21 18 26.1**	**+0.4**
ISK	**Istanbul-Kandi**	**1.75**	**33**	*e*PN	**Pn**	**21 18 02.8**	**-0.6**
ISK	**Istanbul-Kandi**	**1.75**	**33**	*e*Pn	**Pn**	**21 18 02.8**	**-0.6**
ISK				S	**Sn**	**21 18 26.1**	**+0.4**
CHOS	**Chios island**	**1.82**	**229**	P	**Pn**	**21 18 03.6**	**-0.9**
CHOS				S	**Sn**	**21 18 27.0**	**-0.7**
CHOS	**Chios island**	**1.82**	**229**	*e*PG	**Pn**	**21 18 03.8**	**-0.7**
CHOS	**Chios island**	**1.82**	**229**	*e*Pg	**Pn**	**21 18 03.8**	**-0.7**
CHOS				S	**Sn**	**21 18 27.0**	**-0.7**
KHL	**Karahalli**	**1.85**	**133**	*e*PN	**Pn**	**21 18 04.9**	**+0.1**
KHL	**Karahalli**	**1.85**	**133**	*e*Pn	**Pn**	**21 18 04.9**	**+0.1**
ALN	**Alexandroupoli**	**1.87**	**314**	P	**Pn**	**21 18 04.8**	**-0.2**
ALN				S	**Sn**	**21 18 29.1**	**+0.5**
ALN	**Alexandroupoli**	**1.87**	**314**	*e*PN	**Pn**	**21 18 04.8**	**-0.2**
ALN				*e*SN	**Sg**	**21 18 32.1**	**-0.9**
ALN	**Alexandroupoli**	**1.87**	**314**	*e*Pn	**Pn**	**21 18 04.8**	**-0.2**
ALN				S	**Sn**	**21 18 29.1**	**+0.5**
ALN				*e*Sn	**Sg**	**21 18 32.1**	**-0.9**
HRT	**Hereke**	**1.88**	**49**	*e*PN	**Pn**	**21 18 04.2**	**-1.0**
HRT	**Hereke**	**1.88**	**49**	*e*Pn	**Pn**	**21 18 04.2**	**-1.0**
KLYT	**Kilyos**	**1.90**	**29**	*e*PN	**Pn**	**21 18 04.8**	**-0.6**
KLYT	**Kilyos**	**1.90**	**29**	*e*Pn	**Pn**	**21 18 04.8**	**-0.6**
CTYL	**Yal??k??y-??at**	**1.91**	**11**	*e*PN	**Pn**	**21 18 05.0**	**-0.5**
CTYL	**Yal??k??y-??at**	**1.91**	**11**	*e*Pn	**Pn**	**21 18 05.0**	**-0.5**
SMTH	**Samothraki Isl**	**1.95**	**297**	P	**Pn**	**21 18 06.0**	**-0.2**
SMTH				S	**Sn**	**21 18 31.0**	**+0.3**
SMTH	**Samothraki Isl**	**1.95**	**297**	*e*PN	**Pn**	**21 18 06.2**	**0.0**
SMTH				*e*SN	**Sg**	**21 18 34.8**	**-0.8**
SMTH	**Samothraki Isl**	**1.95**	**297**	*e*Pn	**Pn**	**21 18 06.2**	**0.0**
SMTH				S	**Sn**	**21 18 31.0**	**+0.3**
SMTH				*e*Sn	**Sg**	**21 18 34.8**	**-0.8**
SMG	**Samos**	**2.04**	**202**	P	**Pn**	**21 18 06.7**	**-0.6**
SMG	**Samos**	**2.04**	**202**	*e*PG	**Pn**	**21 18 07.7**	**+0.4**
SMG				*e*SN	**Sb**	**21 18 36.4**	**+1.0**
SMG	**Samos**	**2.04**	**202**	P	**Pn**	**21 18 06.7**	**-0.6**
SMG	**Samos**	**2.04**	**202**	*e*Pg	**Pn**	**21 18 07.7**	**+0.4**
SMG				*e*Sn	**Sb**	**21 18 36.4**	**+1.0**
PHSR	**Pinarhisar**	**2.04**	**354**	*e*PN	**Pn**	**21 18 07.7**	**+0.3**
PHSR	**Pinarhisar**	**2.04**	**354**	*e*Pn	**Pn**	**21 18 07.7**	**+0.3**
LIA	**Limnos Island**	**2.04**	**279**	*e*PN	**Pn**	**21 18 07.5**	**+0.1**
LIA				*e*SN	**Sb**	**21 18 35.9**	**+0.3**
LIA	**Limnos Island**	**2.04**	**279**	*e*Pn	**Pn**	**21 18 07.5**	**+0.1**
LIA				*e*Sn	**Sb**	**21 18 35.9**	**+0.3**
GPA	**Golpazari**	**2.04**	**70**	*e*PN	**Pn**	**21 18 08.1**	**+0.6**
GPA	**Golpazari**	**2.04**	**70**	*e*Pn	**Pn**	**21 18 08.1**	**+0.6**
SILT	**Sile**	**2.09**	**42**	*e*PN	**Pn**	**21 18 07.5**	**-0.6**
SILT	**Sile**	**2.09**	**42**	*e*Pn	**Pn**	**21 18 07.5**	**-0.6**
GULT	**Gulveren**	**2.24**	**67**	*e*PN	**Pn**	**21 18 10.8**	**+0.6**
GULT	**Gulveren**	**2.24**	**67**	*e*Pn	**Pn**	**21 18 10.8**	**+0.6**
ESKT	**Eskisehir**	**2.36**	**91**	*e*PN	**Pn**	**21 18 11.6**	**-0.2**
ESKT	**Eskisehir**	**2.36**	**91**	*e*Pn	**Pn**	**21 18 11.6**	**-0.2**
SHUT	**Suhut-Afyon**	**2.38**	**115**	*e*PN	**Pn**	**21 18 12.2**	**0.0**
SHUT	**Suhut-Afyon**	**2.38**	**115**	*e*Pn	**Pn**	**21 18 12.2**	**0.0**
EDRB	**Edirne**	**2.38**	**341**	P	**Pn**	**21 18 11.8**	**-0.3**
EDRB				S	**Sn**	**21 18 42.3**	**+0.9**
EDRB	**Edirne**	**2.38**	**341**

NEIC ***19*** *22:18:16.5±0.1,6˚.86S×123˚.98E, mb5.2/55, Error ellipse: s-maj=5.0km s-min=3.3km az=57.0*

ISCJB ***19*** *22:18:17.4±0.2,6˚.93S±0˚.02×124˚.02E±0˚.02, h635km±2km, mb5.0/145, Error ellipse: s-maj=3.9km s-min=2.6km az=148.3*

IDC ***19*** *22:18:17.8±0.4,6˚.94S×124˚.04E, h618km±4km, mb4.5/38, mb1 4.5/41, mb1mx4.5/41, mbtmp4.5/41, Error ellipse: s-maj=7.0km s-min=4.3km az=59.0*

BKK ***19*** *22:18:18.1±0.2,7˚S±4˚×12˚4E±˚, h619km±4km, M5.5/30, mb5.8/16, mb5.2/30, MLv6.0/6, Mw(mB)5.3/16*

DJA ***19*** *22:18:18.6±0.1,7˚S±2˚×12˚4E±˚, h622km±2km, M5.3/68, mb5.3/68, mB5.7/44, MLv6.2/13, Mw(mB)5.2/44*

GCMT ***19*** *22:18:20.1±0.2,6˚.82S×124˚.25E, h636km±2km, MW5.4, Moment Tensor Solution. s83,c134; Moment tensor: Scale 10¹⁷Nm; Mrr-1.38±.04; Mθθ 1.55±.06; Mϕϕ-0.17±.07; Mrθ-0.61±.06; Mθϕ0.22±.06; Mϕr0.56±.07; Best double couple: Mo1.70000×10¹⁷ NP1:ϕs104.00000˚, δ59.00000˚, λ-65.00000˚. NP2:ϕs242.00000˚, δ39.00000˚, λ-125.00000˚. Principal axes: T 1.6800, Plg11.0000˚, Azm177.0000˚; N 0.0500, Plg21.0000˚, Azm271.0000˚; P -1.7300, Plg66.0000˚, Azm61.0000˚; Data Used: II IU IC G CN.*

ISC 19 22:18:17.0±0.2,6˚90S±0˚02×124˚00E±0˚03, h613km±2km, h615km:pP-P,n1131,σ1s21/1420, mb5.1/142, 223C-256D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSI	**Bau Bau**	**2.00**	**315**	P	**P**	**22 19 34.9**	**+2.3**
MMRI	**Maumere**	**2.45**	**225**	P	**P**	**22 19 34.5**	**0.0**
MMRI	**Maumere**	**2.45**	**225**	*eP*	**P**	**22 19 34.8**	**+0.3**
MMRI				*eS*	**S**	**22 20 36.5**	**-1.0**
SOEI	**Soe**	**2.85**	**175**	P	**P**	**22 19 37.5**	**+0.9**
SOEI				S	**S**	**22 20 42.5**	**+1.1**
BATI	**Baumata**	**3.30**	**186**	P	**P**	**22 19 40.6**	**+1.6**
BATI				S	**S**	**22 20 45.6**	**-0.3**
BATI	**Baumata**	**3.30**	**186**	P	**P**	**22 19 40.4**	**+1.4**
BATI				S	**S**	**22 20 46.3**	**+0.4**
BATI	**Baumata** 2µm,0.3s,baz=42,slow=0.8,SNR=1339	**3.30**	**186**	P	**P**	**22 19 40.4**	**+1.4**
BATI	201nm,0.3s,baz=92,slow=0.9,SNR=5.9			S	**S**	**22 20 46.3**	**+0.4**
KKSI	**Kolaka, Sulawe**	**3.58**	**319**	P	P	22 19 44.2	+3.5
BKSI	**Bulukumba**	**4.16**	**292**	P	**P**	**22 19 46.1**	**+1.6**
WSI	**Waingapu**	**4.58**	**233**	P	**P**	**22 19 47.5**	**0.0**
WSI	**Waingapu** baz=4.5,SNR=5.4	**4.58**	**233**	P	**P**	**22 19 46.7**	**-0.8**
BNSI	**Bone**	**4.60**	**302**	P	**P**	**22 19 50.7**	**+3.0**
KAPI	**Kappang** SNR=78	**4.62**	**294**	P	**P**	**22 19 50.1**	**+2.3**
KAPI	**Kappang**	**4.62**	**294**	P	**P**	**22 19 49.8**	**+1.9**
KAPI	**Kappang**	**4.62**	**294**	*iP*	**P**	**22 19 49.7**	**+1.9**
KAPI				*eS*	**S**	**22 21 01.4**	**-0.6**
KAPI				S	S	22 21 03.6	+1.6
KAPI	**Kappang** 4µm,0.7s,SNR=54	**4.62**	**294**	P	**P**	**22 19 49.1**	**+1.2**
KAPI	**Kappang** 59nm,0.3s,baz=126,slow=4.3,SNR=129	**4.62**	**294**	P	**P**	**22 19 49.7**	**+1.8**
KAPI	2.6nm,0.3s,baz=244,slow=21,SNR=5.7			S	**S**	**22 21 03.6**	**+1.6**
NLAI	**Namlea**	**4.77**	**41**	P	**P**	**22 19 50.2**	**+1.2**
SPSI	**Sidrap Palu** 580nm,0.6s	**5.12**	**305**	P	**P**	**22 19 53.6**	**+1.9**
SPSI	580nm,0.6s			S	**S**	**22 21 12.3**	**+3.4**
AAI	**Ambon** 2µm,0.9s,26µm	**5.26**	**53**	P	**P**	**22 19 53.0**	**+0.2**
AAI	2µm,0.9s,26µm			S	**S**	**22 21 13.3**	**+2.3**
AAI	**Ambon** baz=5.3,SNR=21	**5.26**	**53**	*iP*	**P**	**22 19 52.6**	**-0.2**
LUWI	**Luwuk** 3µm,1.4s,35µm12nm	**5.95**	**348**	P	**P**	**22 20 00.1**	**+1.6**
MJSI	**Majene** 886nm,0.9s,8µm3.0nm	**6.00**	**303**	P	P	22 20 02.4	+3.5
MSAI	**Masohi** 316nm,0.8s,3µm2.6nm	**6.05**	**55**	P	**P**	**22 20 00.2**	**+0.9**
BNDI	**Bandanaira** 3µm,0.8s	**6.34**	**68**	P	**P**	**22 20 03.4**	**+1.6**
BNDI	3µm,0.8s			S	**S**	**22 21 30.2**	**+2.8**
BNDI	**Bandanaira** baz=6.4,SNR=18	**6.34**	**68**	*iP*	**P**	**22 20 02.3**	**+0.5**
APSI	**Ampana** 2µm,1.3s,23µm	**6.39**	**338**	P	**P**	**22 20 04.0**	**+1.7**
MMSI	**Mamuju** 2µm,0.8s,19µm5.9nm	**6.57**	**309**	P	**P**	**22 20 05.9**	**+2.0**
LBMI	**Labuha** 5µm,0.8s,43µm20nm	**7.14**	**29**	P	**P**	**22 20 10.2**	**+1.3**
LBMI	5µm,0.8s,43µm20nm			S	**S**	**22 21 43.4**	**+3.0**
KMSI	**Cibinong** 9µm,1.2s,84µm32nm	**7.43**	**360**	P	**P**	**22 20 13.2**	**+1.7**
MRSI	**Marisa** 3µm,0.8s,31µm8.8nm	**7.61**	**344**	P	**P**	**22 20 13.9**	**+0.7**
MTNI	**Mataram** 648nm,1.5s,10µm3.2nm	**7.94**	**257**	P	**P**	**22 20 16.4**	**+0.1**
TNTI	**Ternate** 2µm,1.1s,19µm6.5nm	**8.33**	**24**	P	**P**	**22 20 19.9**	**-0.1**
TNTI	2µm,1.1s,19µm6.5nm			S	S	22 22 07.5	+6.8
TNTI	**Ternate**	**8.33**	**24**	*eP*	**P**	**22 20 20.3**	**+0.3**
TNTI				*eS*	**S**	**22 22 01.3**	**+0.6**
TOLI	**Toli-Toli** 1µm,0.9s,23µm6.2nm	**8.59**	**338**	P	**P**	**22 20 22.9**	**+0.5**
TLE	**Tual** 201nm,0.7s,4.7nm	**8.78**	**82**	P	**P**	**22 20 27.2**	**+2.9**
SRBI	**Singaraja** 234nm,1.3s,3µm0.9nm	**8.79**	**262**	P	**P**	**22 20 25.0**	**+0.7**
DNP	**Denpasar** 446nm,0.6s,3.8nm	**8.88**	**258**	P	**P**	**22 20 28.0**	**+2.8**
SGKI	**Sangatta, Kali**	**8.98**	**315**	P	P	22 20 36.2	+10
BKB	**Balikpapan** 280nm,1.5s,4µm	**9.03**	**308**	P	P	22 20 31.0	+4.4
FAKI	**Fak Fak** 818nm,1.1s,8µm	**9.12**	**65**	P	**P**	**22 20 27.2**	**-0.4**
FAKI	**Fak Fak** baz=9.2	**9.12**	**65**	*iP*	**P**	**22 20 28.2**	**+0.7**
MTN	**Manton Dam** baz=9.3,SNR=256	**9.18**	**131**	*iP*	**P**	**22 20 28.6**	**+0.6**
SWI	**Sorong** 1µm,1.1s,8µm	**9.40**	**51**	P	**P**	**22 20 30.7**	**+0.4**
SWI	**Sorong** baz=9.5,SNR=33	**9.40**	**51**	*jP*	**P**	**22 20 30.6**	**+0.3**
BYJI	**Banyuwangi** 874nm,1.4s,13µm	**9.65**	**262**	P	**P**	**22 20 34.8**	**+2.2**
ABJI	**Asem Bagus** 102nm,1.2s	**9.72**	**264**	P	**P**	**22 20 36.2**	**+2.8**
KNRA	**Kununurra** baz=10.0,SNR=980	**9.89**	**152**	*jP*	**P**	**22 20 35.7**	**+0.7**
KDU	**Kakadu** baz=10,SNR=22	**10.14**	**125**	*iP*	**P**	**22 20 37.3**	**-0.1**
KMPI	**Kaimana, Papua** 886nm,0.9s,7µm	**10.19**	**72**	P	P	22 20 42.1	+4.1
BLJI	**Banyuglugur** 85nm,0.9s	**10.35**	**265**	P	**P**	**22 20 40.0**	**+0.4**
SGSI	**Sangihe** 3µm,0.8s,39µm	**10.63**	**8**	P	**P**	**22 20 42.4**	**+0.1**
MTKI	**Muara Teweh, K** 153nm,1.5s	**10.84**	**303**	P	**P**	**22 20 45.7**	**+1.3**
SJI	**Sawahan**	**12.16**	**265**	P	P	22 21 03.5	+6.0
TSM	**Tawau**	**12.69**	**331**	P	**P**	**22 21 03.9**	**+1.3**
PBKI	**Pangkalan Bun** 140nm,1.1s	**12.97**	**288**	P	**P**	**22 21 07.9**	**+2.5**
SRPI	**Serui, Papua** 457nm,0.7s,9µm	**13.19**	**68**	P	**P**	**22 21 09.3**	**+1.7**
MYLDM	**Lahad Datu**	**13.20**	**335**	P	P	22 21 10.9	+3.3
MYLDM	**Lahad Datu** 461nm,1.5s,6µm	**13.20**	**335**	P	**P**	**22 21 09.5**	**+1.9**
MYLDM	**Lahad Datu**	**13.20**	**335**	*eP*	**P**	**22 21 09.9**	**+2.2**
BAKI	**Biak** 289nm,1.0s,2µm	**13.34**	**65**	P	**P**	**22 21 10.5**	**+1.4**
UGM	**Wanagama**	**13.40**	**265**	*eP*	**P**	**22 21 09.5**	**-0.2**
MATI	**Mati**	**13.94**	**9**	*eP*	**P**	**22 21 15.3**	**+0.4**
DAV	**Davao City (W)** SNR=45	**13.97**	**7**	P	**P**	**22 21 15.7**	**+0.5**
DAV	**Davao City (W)** 1µm,1.2s,16µm	**13.97**	**7**	P	**P**	**22 21 16.3**	**+1.0**
DAV	**Davao City (W)**	**13.97**	**7**	*eP*	**P**	**22 21 16.3**	**+1.0**
DAV				*eS*	**S**	**22 23 38.6**	**-2.3**
BJII	**Banjamegara** 81nm,1.1s	**14.18**	**267**	P	**P**	**22 21 18.7**	**+1.3**
SDKM	**Sandakan**	**14.19**	**331**	P	**P**	**22 21 19.1**	**+1.7**
STKI	**Sintang** 132nm,0.9s,29µm	**14.28**	**298**	P	**P**	**22 21 19.6**	**+1.4**
IPIL	**Ipil**	**14.66**	**354**	*eP*	**P**	**22 21 23.7**	**+2.0**
PAGZ	**Pagadian**	**14.66**	**358**	*eP*	**P**	**22 21 23.9**	**+2.2**
BUKP	**Musuan**	**14.72**	**4**	*eP*	**P**	**22 21 23.5**	**+1.2**
MBWA	**Marble Bar** SNR=98	**14.76**	**196**	P	**P**	**22 21 23.3**	**+0.8**
MBWA	**Marble Bar**	**14.76**	**196**	*eP*	**P**	**22 21 23.0**	**+0.5**
MBWA				*eS*	**S**	**22 23 51.7**	**-2.1**
BTM	**Bintulu**	**14.81**	**312**	P	**P**	**22 21 25.7**	**+2.6**
WAMI	**Wamena** 524nm,1.1s,7µm	**14.95**	**79**	P	P	22 21 27.9	+3.6
SBUM	**Sibu**	**14.98**	**308**	P	**P**	**22 21 27.4**	**+2.8**
SBUM	**Sibu** 268nm,1.5s,4µm	**14.98**	**308**	P	**P**	**22 21 26.4**	**+1.8**
SBUM	**Sibu**	**14.98**	**308**	*eP*	**P**	**22 21 26.5**	**+1.8**
SBUM				*eS*	**S**	**22 24 01.6**	**+4.0**
KKM	**Kota Kinabalu**	**15.02**	**329**	P	**P**	**22 21 26.9**	**+1.9**
KKM	**Kota Kinabalu** 362nm,1.1s,4µm	**15.02**	**329**	P	**P**	**22 21 26.1**	**+1.0**
KKM	**Kota Kinabalu** 350nm,1.0s	**15.02**	**329**	*eP*	**P**	**22 21 25.6**	**+0.5**
KKM				*eS*	**S**	**22 23 58.2**	**-0.1**
KKM	**Kota Kinabalu** baz=15,SNR=38	**15.02**	**329**	*iP*	**P**	**22 21 25.5**	**+0.5**
DCPH	**Dipolog City**	**15.39**	**358**	*iP*	**P**	**22 21 31.7**	**+3.4**
KDM	**Kudat**	**15.47**	**332**	P	**P**	**22 21 31.7**	**+2.7**
KSM	**Kuching**	**15.99**	**301**	P	**P**	**22 21 36.7**	**+2.9**
KSM	**Kuching** 113nm,1.3s,1µm	**15.99**	**301**	P	**P**	**22 21 35.8**	**+2.0**
KSM	**Kuching** 218nm,1.4s	**15.99**	**301**	*eP*	**P**	**22 21 35.2**	**+1.4**
KSM				*eS*	**S**	**22 24 13.9**	**-0.3**
WRA	**Warramunga Arr**	**16.40**	**143**	P	**P**	**22 21 38.1**	**+0.6**
WRA				S	**S**	**22 24 18.9**	**-1.7**
WRA	**Warramunga Arr** 72nm,0.3s,baz=322,slow=11,SNR=563	**16.40**	**143**	P	**P**	**22 21 38.1**	**+0.6**
WRA	7.0nm,0.3s,baz=325,slow=16,SNR=8.8			S	**S**	**22 24 18.9**	**-1.7**
WRAB	**Tennant Creek**	**16.40**	**143**	*iP*	**P**	**22 21 37.7**	**+0.3**
WRAB				*eS*	**S**	**22 24 16.9**	**-3.7**
WRAB	comp=Z,415nm,0.6s			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,415nm,0.6s	**16.40**	**143**	*iP*	**P**	**22 21 37.7**	**+0.3**
WRAB				*eS*	**S**	**22 24 16.9**	**-3.7**
WRAB	**Tennant Creek** comp=Z,4µm,0.5s	**16.40**	**143**	P	**P**	**22 21 38.4**	**+1.0**
SCPH	**Surigao**	**16.64**	**5**	*eP*	**P**	**22 21 41.1**	**+1.4**
BATP	**Bataraza**	**16.77**	**338**	*eP*	**P**	**22 21 43.1**	**+2.2**
MSLP	**Maasin**	**16.95**	**3**	*eP*	**P**	**22 21 43.7**	**+1.2**
JAY	**Jayapura** comp=Z,210nm,0.8s,comp=Z,4µm	**17.21**	**76**	P	**P**	**22 21 45.8**	**+0.8**
JAY	**Jayapura** baz=17,SNR=6.1	**17.21**	**76**	*iP*	**P**	**22 21 44.6**	**-0.4**
GUIM	**Jordan**	**17.47**	**355**	*eP*	**P**	**22 21 47.4**	**+0.1**
CUYO	**Cuyo Island**	**17.88**	**350**	*eP*	**P**	**22 21 53.2**	**+2.1**
GIRL	**Giralia** baz=18,SNR=39	**18.26**	**210**	*jP*	**P**	**22 21 55.2**	**+0.8**
ENPP	**El Nido**	**18.55**	**346**	*eP*	**P**	**22 21 59.3**	**+2.1**
AS31	**Alice Springs**	**19.20**	**151**	*iP*	**P**	**22 22 03.6**	**+0.6**
AS31				*eS*	**S**	**22 25 04.4**	**-1.3**
ASAR	**Alice Springs**	**19.20**	**151**	P	**P**	**22 22 03.5**	**+0.6**
ASAR				S	**S**	**22 25 04.4**	**-1.4**
ASAR				ScP	**ScP**	**22 28 33.1**	**-1.7**
ASAR	**Alice Springs** comp=Z,25nm,0.3s,baz=318,slow=7.9,SNR=1105	**19.20**	**151**	P	**P**	**22 22 03.5**	**+0.6**
ASAR	comp=Z,1.3nm,0.3s,baz=336,slow=20,SNR=5.5			S	**S**	**22 25 04.4**	**-1.4**
ASAR				ScP	**ScP**	**22 28 33.1**	**-1.7**
OTRP	**Odiongan**	**19.24**	**354**	*eP*	**P**	**22 22 05.1**	**+1.8**
COEN	**Coen** comp=Z,358nm,0.8s	**20.11**	**112**	*eP*	**P**	**22 22 11.0**	**-0.2**
COEN	**Coen** baz=20,SNR=22	**20.11**	**112**	*jP*	**P**	**22 22 11.8**	**+0.5**
MEEK	**Meekatharra** baz=20,SNR=385	**20.29**	**194**	*jP*	**P**	**22 22 12.7**	**0.0**
BALP	**Balut**	**22.62**	**354**	*eP*	**P**	**22 22 34.5**	**+0.9**
MTSU	**Mount Surprise** baz=23,SNR=7.3	**22.73**	**121**	*iP*	**P**	**22 22 35.1**	**+0.4**
PMG	**Port Moresby** comp=Z,180nm,0.8s	**23.06**	**98**	P	**P**	**22 22 38.5**	**+0.9**
PMG	**Port Moresby**	**23.06**	**98**	*eP*	**P**	**22 22 37.9**	**+0.3**
PMG				S	**S**	**22 26 06.7**	**-0.2**
PMG	**Port Moresby** comp=Z,99nm,0.6s,baz=277,slow=4.3,SNR=29	**23.06**	**98**	P	**P**	**22 22 37.4**	**-0.2**
PMG	comp=Z,17nm,0.6s,baz=311,slow=20,SNR=3.2			S	**S**	**22 26 06.7**	**-0.2**
MORW	**Morawa** baz=23,SNR=77	**23.29**	**198**	*iP*	**P**	**22 22 39.3**	**-0.1**
KTGM	**Kuala Trenggan**	**24.11**	**300**	P	**P**	**22 22 49.3**	**+2.4**
BLDU	**Ballidu** baz=25,SNR=352	**24.56**	**195**	*jP*	**P**	**22 22 50.1**	**-0.5**
CTA	**Charters Tower**	**25.26**	**123**	P	**P**	**22 22 57.0**	**+0.1**
CTA				PcP	**PcP**	**22 26 09.2**	**+0.7**
CTA				S	**S**	**22 26 39.1**	**-2.2**
CTA	**Charters Tower** comp=Z,20nm,0.8s,baz=310,slow=9.4,SNR=8.9	**25.26**	**123**	P	**P**	**22 22 57.0**	**+0.1**
CTA	comp=Z,10nm,0.5s,baz=283,slow=4.4,SNR=5.7			PcP	**PcP**	**22 26 09.2**	**+0.7**
CTA				S	**S**	**22 26 39.1**	**-2.2**
CTAO	**Charters Tower** comp=Z,7.7nm,0.8s,baz=105,slow=20,SNR=4.3	**25.26**	**123**	*eP*	**P**	**22 22 57.8**	**+0.9**
CTAO	comp=Z,25nm,0.8s			pmax	pmax		
CTAO	**Charters Tower** comp=Z,25nm,0.8s	**25.26**	**123**	*eP*	**P**	**22 22 57.8**	**+0.9**
KULM	**Kulim**	**26.26**	**297**	P	**P**	**22 23 06.7**	**+0.9**
KULM	**Kulim** comp=Z,12nm,0.6s	**26.26**	**297**	*eP*	**P**	**22 23 06.1**	**+0.3**
KULM				*ePcP*	**PcP**	**22 26 12.4**	**+1.4**
NWAO	**Narrogin (SRO)** SNR=12	**26.65**	**193**	P	**P**	**22 23 09.9**	**+1.0**
NWAO	**Narrogin (SRO)** comp=Z,221nm,0.9s	**26.65**	**193**	*eP*	**P**	**22 23 09.6**	**+0.6**
NWAO				S	**S**	**22 27 01.7**	**-0.9**
NWAO				*eS*	S	22 27 03.5	+0.9
NWAO	**Narrogin (SRO)** comp=Z,232nm,0.7s,baz=18,slow=8.8,SNR=248	**26.65**	**193**	P	**P**	**22 23 09.6**	**+0.6**
NWAO	comp=Z,29nm,0.8s,baz=29,slow=11,SNR=3.4			S	**S**	**22 27 01.7**	**-0.9**
PSI	**Prapat**	**26.82**	**290**	P	**P**	**22 23 11.6**	**+0.7**
PSI				S	**S**	**22 27 01.8**	**-4.2**
PSI				ScP	**ScP**	**22 28 53.7**	**-1.9**
PSI	**Prapat** comp=Z,15nm,0.8s,baz=97,slow=2.9,SNR=9.6	**26.82**	**290**	P	**P**	**22 23 11.6**	**+0.7**
PSI	comp=Z,2.0nm,0.3s,baz=298,slow=20,SNR=6.9			S	**S**	**22 27 01.8**	**-4.2**
PSI				ScP	**ScP**	**22 28 53.7**	**-1.9**
QLP	**Quilpie** baz=28,SNR=271	**27.46**	**138**	*iP*	**P**	**22 23 16.9**	**+0.8**
BBOO	**Buckleboo** comp=Z,10µm,0.8s	**28.11**	**158**	*eP*	**P**	**22 23 22.2**	**+0.4**
BBOO				*eS*	**S**	**22 27 25.6**	**+0.2**
BBOO	**Buckleboo** baz=28,SNR=556	**28.11**	**158**	*iP*	**P**	**22 23 22.0**	**+0.3**
RKGY	**Rocky Gully** baz=28,SNR=99	**28.32**	**192**	*iP*	**P**	**22 23 24.7**	**+1.2**
GUMO	**Guam** comp=Z,204nm,1.0s	**29.05**	**46**	*eP*	**P**	**22 23 29.8**	**-0.2**
CHBT	**CHBT** comp=Z,28nm,0.9s	**29.07**	**312**	P	**P**	**22 23 31.7**	**+1.5**
CHBT	**CHBT** comp=Z,28nm,0.9s	**29.07**	**312**	P	**P**	**22 23 31.7**	**+1.5**
QIZ	**Qiongzhong**	**29.30**	**332**	P	**P**	**22 23 33.8**	**+1.7**
QIZ				sP	**sP**	**22 26 19.1**	**-1.0**
QIZ				S	**S**	**22 27 45.3**	**+1.3**
QIZ				AMB	AMB		
QIZ	comp=Z,33nm,1.1s			AMB	AMB		
	comp=Z,69nm,3.5s						
TWG	**Pinlang**	**29.68**	**355**	*eP*	**P**	**22 23 34.2**	**-1.1**
TWG				*eS*	**S**	**22 27 48.3**	**-1.3**
STKA	**Stephens Creek** comp=Z,133nm,0.7s	**29.79**	**149**	*eP*	**P**	**22 23 37.1**	**+0.9**
STKA				*eS*	**S**	**22 27 51.2**	**0.0**
STKA	**Stephens Creek** baz=30,SNR=804	**29.79**	**149**	*jP*	**P**	**22 23 36.8**	**+0.7**
STKA	**Stephens Creek** comp=Z,665nm,0.7s,baz=320,slow=8.7,SNR=1303	**29.79**	**149**	P	**P**	**22 23 37.2**	**+1.0**
STKA	comp=Z,114nm,0.8s,baz=143,slow=22,SNR=15			S	**S**	**22 27 51.2**	**0.0**
TPUB	**Ta-pu**	**30.20**	**354**	*eP*	**P**	**22 23 39.5**	**-0.3**
TPUB	comp=Z,133nm,0.8s			*epP*	**pP**	**22 25 13.7**	**-3.0**
YULB	**Yu-li** comp=Z,48nm,0.7s	**30.22**	**355**	*eP*	**P**	**22 23 38.1**	**-1.9**
YULB				*epP*	**pP**	**22 25 16.5**	**-0.5**
RMQ	**Roma** baz=31,SNR=19	**30.58**	**132**	*jP*	**P**	**22 23 43.8**	**+0.8**
SSLB	**Suanglung** comp=Z,58nm,0.9s	**30.64**	**355**	*eP*	**P**	**22 23 42.7**	**-0.9**
SSLB				*epP*	**pP**	**22 25 20.6**	**-0.3**
SSLB				*ePcP*	**PcP**	**22 26 21.5**	**-0.6**
SKNT	**Sakolnakorn** comp=Z,40nm,1.1s	**30.89**	**320**	P	**P**	**22 23 47.1**	**+1.3**
NACB	**Ninganchiao** comp=Z,37nm,1.0s	**30.97**	**356**	*eP*	**P**	**22 23 46.5**	**+0.1**
YHNB	**Yeheng** comp=Z,68nm,1.0s	**31.48**	**355**	*eP*	**P**	**22 23 50.5**	**-0.3**
YHNB				*epP*	**pP**	**22 25 28.7**	**+0.1**
EIDS	**Eidsvold** comp=Z,44nm,1.8s	**31.73**	**128**	*eP*	**P**	**22 23 52.6**	**-0.2**
EIDS				*epP*	**pP**	**22 25 29.5**	**-1.2**
EIDS				*eScP*	**ScP**	**22 29 10.1**	**-1.1**
TATO	**Taipei** comp=Z,248nm,0.9s	**31.78**	**356**	*eP*	**P**	**22 23 52.8**	**-0.3**
CMSA	**Cobar Meteorol** baz=32,SNR=596	**31.81**	**143**	*iP*	**P**	**22 23 54.8**	**+1.4**
QZH	**Quanzhou**	**32.09**	**351**	*jP*	**P**	**22 23 53.4**	**-2.4**
PBKT	**Sadao Pong** comp=Z,17nm,0.9s	**32.60**	**316**	P	**P**	**22 24 01.3**	**+1.1**
PBKT	**Sadao Pong** comp=Z,17nm,0.9s	**32.60**	**316**	P	**P**	**22 24 01.3**	**+1.1**
JOW	**Kunigami** comp=Z,29nm,1.0s	**33.79**	**7**	*eP*	**P**	**22 24 10.9**	**+0.8**
ARPS	**Mount Arapiles** baz=34,SNR=134	**33.90**	**154**	*jP*	**P**	**22 24 12.0**	**+1.1**
ARMA	**Armidale** comp=Z,30nm,0.7s	**34.92**	**136**	*eP*	**P**	**22 24 22.3**	**+2.7**
ARMA				*epP*	**pP**	**22 25 57.7**	**-2.0**
ARMA				*eScP*	**ScP**	**22 29 22.6**	**0.0**
ARMA	**Armidale** baz=35,SNR=6.8	**34.92**	**136**	*jP*	**P**	**22 24 22.2**	**+2.6**
CM31	**Chiang Mai Arr** comp=Z,21nm,0.9s	**35.30**	**316**	*eP*	**P**	**22 24 23.3**	**+0.6**
CM31				*ePP*	**PP**	**22 26 07.9**	**+0.6**
CM31				*eS*	**S**	**22 29 14.7**	**-0.2**
CM31				*eScP*	**ScP**	**22 29 22.8**	**-1.2**
CMAR	**Chiang Mai Arr**	**35.30**	**316**	P	**P**	**22 24 24.3**	**+1.6**
CMAR				PcP	**PcP**	**22 26 37.1**	**+1.7**
CMAR				ScP	**ScP**	**22 29 24.1**	**0.0**
CMAR				PKiKP	**PKiKP**	**22 33 54.9**	**-0.3**
CMAR	**Chiang Mai Arr** comp=Z,15nm,0.7s,baz=145,slow=6.5,SNR=110	**35.30**	**316**	P	**P**	**22 24 24.3**	**+1.6**
CMAR	comp=Z,17nm,0.8s,baz=176,slow=2.7,SNR=26			PcP	**PcP**	**22 26 37.1**	**+1.7**
CMAR				ScP	**ScP**	**22 29 24.1**	**0.0**
CMAR	comp=Z,4.6nm,0.8s,baz=157,slow=3.7,SNR=9.0			PKiKP	**PKiKP**	**22 33 54.9**	**-0.3**
PAYA	**Payao** comp=Z,8.2nm,0.8s	**35.30**	**318**	P	**P**	**22 24 24.2**	**+1.5**
CHTO	**Chiang Mai**	**35.54**	**316**	*eP*	**P**	**22 24 25.1**	**+0.4**
CHTO				*e*		22 26 37.8	
CHTO				pmax	pmax		
CHTO	**Chiang Mai** SNR=5.6	**35.54**	**316**	P	**P**	**22 24 25.8**	**+1.1**
CHTO	**Chiang Mai** comp=Z,129nm,0.9s	**35.54**	**316**	P	**P**	**22 24 25.7**	**+1.0**
CHTO	**Chiang Mai** comp=Z,78nm,0.8s	**35.54**	**316**	*eP*	**P**	**22 24 25.1**	**+0.4**
CHTO				*ePcP*	**PcP**	**22 26 37.8**	**+1.6**
CHTO	**Chiang Mai** comp=Z,129nm,0.9s	**35.54**	**316**	P	**P**	**22 24 25.7**	**+1.0**
CRAI	**Chiangrai** comp=Z,33nm,0.7s,comp=Z,14µm	**35.59**	**320**	P	**P**	**22 24 26.1**	**+1.0**
HNR	**Honiara**	**35.66**	**97**	P	**P**	**22 24 26.2**	**+0.4**
HNR				S	**S**	**22 29 17.6**	**-2.9**
HNR	**Honiara** comp=Z,498nm,0.7s,baz=216,slow=4.4,SNR=23	**35.66**	**97**	P	**P**	**22 24 26.2**	**+0.4**
HNR	comp=Z,69nm,0.8s,baz=82,slow=18,SNR=9.7			S	**S**	**22 29 17.6**	**-2.9**
TOO	**Toolangi** baz=36,SNR=46	**36.24**	**150**	*jP*	**P**	**22 24 32.0**	**+1.7**
MGCD	**Mangrove Creek** baz=36,SNR=43	**36.30**	**140**	*jP*	**P**	**22 24 32.7**	**+2.0**
CAN	**Canberra**	**36.44**	**144**	*iP*	**P**	**22 24 33.7**	**+1.8**
CAN				*e*		22 26 39.4	
CAN				*eS*	**S**	**22 29 34.2**	**+2.6**
CAN				pmax	pmax		
CAN	comp=Z,252nm,0.7s **Canberra** comp=Z,252nm,0.7s	**36.44**	**144**	*iP*	**P**	**22 24 33.7**	**+1.8**
CAN				*ePP*	**PP**	**22 26 16.6**	**-1.1**
CAN				*ePcP*	**PcP**	**22 26 39.4**	**+0.7**
CAN				*eScP*	**ScP**	**22 29 26.4**	**-1.7**
CAN				*eS*	**S**	**22 29 34.2**	**+2.6**
CNB	**Canberra Magne** baz=37,SNR=42	**36.64**	**144**	*iP*	**P**	**22 24 34.9**	**+1.3**
GYA	**Guiyang**	**37.18**	**334**	*jP*	**P**	**22 24 41.3**	**+3.1**
GYA				pP	**PP**	**22 26 23.0**	**-1.9**
GYA				PcP	**PcP**	**22 26 42.9**	**+1.7**
GYA				sP	**sP**	**22 27 31.4**	**+1.6**
GYA				ScP	**ScP**	**22 29 33.6**	**+2.5**
GYA				S	**S**	**22 29 47.3**	**+4.4**
GYA				ScS	**ScS**	**22 33 42.8**	**+1.4**
GYA	comp=Z,70nm,0.8s			AMB	AMB		
GYA	comp=Z,130nm,5.0s			AMB	AMB		
MILA	**Mila** baz=38,SNR=14	**37.76**	**146**	*jP*	**P**	**22 24 44.1**	**+1.4**
SSE	**Sheshan**	**37.88**	**356**	*eP*	**P**	**22 24 42.8**	**-0.8**
SSE				S	**S**	**22 29 52.3**	**-0.4**
SSE	comp=Z,27nm,0.6s			AMB	AMB		
SSE	comp=Z,200nm,3.7s			AMB	AMB		
KMI	**Kunming**	**37.97**	**328**	P	**P**	**22 24 46.6**	**+1.9**
KMI				pP	**PP**	**22 26 33.6**	**+1.4**
KMI				PcP	**PcP**	**22 26 45.4**	**+1.5**
KMI				S	**S**	**22 29 55.4**	**+0.7**
KMI				sS	**sS**	**22 33 07.3**	**+4.2**
KMI	comp=Z,21nm,0.9s			AMB	AMB		
KMI	comp=Z,87nm,5.2s			AMB	AMB		
CBIJ	**Chichi jima**	**38.11**	**27**	P	**P**	**22 24 46.0**	**+0.4**
CBIJ				S	**S**	**22 29 52.8**	**-3.5**
JCJ	**Chichijima** comp=Z,199nm,0.6s,baz=270,slow=20,SNR=5.7	**38.11**	**27**	P	**P**	**22 24 46.0**	**+0.4**
JCJ	comp=Z

comp=Z,70nm,0.7s
CD2 AMB AMB
comp=Z,80nm,4.5s
XAN Xi'an 43.15 342 P **P** **22 25 25.3 0.0**
XAN pP **pP** **22 27 10.5 -1.1**
XAN sP **sP** **22 28 16.4 -3.8**
XAN AMB AMB
comp=Z,21nm,0.7s
XAN AMB AMB
comp=Z,23nm,8.1s
DZM Mont Dzumac 43.60 115 *e*P **P** **22 25 29.9 +0.8**
comp=Z,74nm,0.9s
DZM Mont Dzumac 43.60 115 *e*P **P** **22 25 28.9 -0.2**
comp=Z,24nm,0.9s
DZM Mont Dzumac 43.60 115 P **P** **22 25 30.3 +1.2**
comp=Z,27nm,0.8s,baz=288,slow=7.4,SNR=11
KSAR Wonju Array Be 44.26 4 P **P** **22 25 35.0 +1.3**
KSAR PcP **PcP** **22 27 05.2 +0.9**
KSRS Korea Array 44.28 4 P **P** **22 25 35.0 +1.2**
comp=Z,29nm,0.7s,baz=180,slow=9.3,SNR=68
KSRS PcP **PcP** **22 27 05.2 +0.8**
comp=Z,20nm,0.8s,baz=190,slow=3.4,SNR=20
SHL Shillong 44.90 317 ⇓*i*P **P** **22 25 40.0 +0.9**
comp=Z,4.5nm,0.5s
SHL *e*SCS 22 34 27.0
MAJO Matsushiro 45.22 16 *e*P **P** **22 25 41.2 0.0**
MAJO pmax pmax
comp=Z,74nm,0.8s
MAJO Matsushiro 45.22 16 *e*P **P** **22 25 41.2 0.0**
comp=Z,74nm,0.8s
PALK Pallekele 45.42 287 *e*P **P** **22 25 42.6 -0.5**
comp=Z,24nm,1.4s
PALK *e*PcP **PcP** **22 27 10.2 +1.2**
LZH Lanzhou 46.77 337 ⇓P **P** **22 25 54.4 +1.4**
LZH PcP **PcP** **22 27 15.0 +1.5**
LZH pP **pP** **22 27 42.5 +0.5**
LZH PP **PP** **22 27 57.0 +5.0**
LZH sP **sP** **22 28 48.0 -1.7**
LZH ScP **ScP** **22 30 10.5 +0.9**
LZH S **S** **22 31 59.5 -0.1**
LZH ScS **ScS** **22 34 41.6 +0.4**
LZH sS **sS** **22 35 17.3 +0.2**
LZH AMB AMB
comp=Z,140nm,1.3s
LZH AMB AMB
comp=Z,290nm,5.0s
BJT Baijiatuan 47.24 352 *e*P **P** **22 25 56.1 -0.2**
comp=Z,34nm,0.6s
BJT *e*PcP **PcP** **22 27 15.4 +0.5**
BJI Beijing 47.26 352 P **P** **22 25 56.5 +0.1**
BJI PcP **PcP** **22 27 15.9 +1.0**
BJI PP **PP** **22 27 54.1 -2.1**
BJI S **S** **22 32 03.3 -2.6**
BJI AMB AMB
comp=Z,60nm,0.7s
LSA Lhasa 48.17 321 P **P** **22 26 05.5 +1.5**
LSA AMB AMB
comp=Z,50nm,0.7s
LSA Lhasa 48.17 321 ⇓*i*P **P** **22 26 05.0 +1.1**
LSA *e* 22 27 19.5
LSA *e**PP **pP** **22 27 53.6 -0.4**
LSA *e*S **S** **22 32 19.0 -0.7**
LSA pmax pmax
comp=Z,42nm,0.7s
LSA Lhasa 48.17 321 ⇓*i*P **P** **22 26 05.0 +1.1**
comp=Z,42nm,0.7s
LSA *e*PcP **PcP** **22 27 19.5 +0.3**
LSA *e*pP **pP** **22 27 53.5 -0.4**
LSA *e*S **S** **22 32 19.0 -0.7**
ODAN Odare 48.83 315 *e*P **P** **22 26 09.2 +0.6**
comp=Z,117nm,0.5s
HHC Hu-ho-hao-te 48.87 347 *e*P **P** **22 26 08.3 -0.2**
HHC pP **pP** **22 27 58.8 -0.2**
HHC PP **PP** **22 28 12.4 +1.6**
HHC sP **sP** **22 29 02.6 -3.6**
HHC ScP **ScP** **22 30 19.0 +0.7**
HHC S **S** **22 32 30.1 +2.0**
HHC ScS **ScS** **22 34 53.4 -1.7**
HHC sS **sS** **22 35 45.4 -2.6**
HHC SS **SS** **22 36 12.4 +2.0**
HHC AMB AMB
comp=Z,58nm,1.0s
HHC AMB AMB
comp=Z,160nm,5.2s
TAPN Taplejung 48.91 316 *e*P **P** **22 26 10.0 +0.8**
comp=Z,66nm,0.4s
RAMN Ramite 49.44 314 *e*P **P** **22 26 14.1 +1.0**
comp=Z,389nm,0.7s
TARA Tarawa 49.51 82 *e*P **P** **22 26 14.7 +1.2**
comp=Z,110nm,0.9s
JIRN Jiri 50.16 315 *e*P **P** **22 26 19.2 +0.7**
comp=Z,48nm,0.4s
CN2 Changchun 50.48 1 *e*P **P** **22 26 19.8 -0.2**
CN2 AMB AMB
comp=Z,10.0nm,0.7s
GUN Gumba 50.53 315 *e*P **P** **22 26 21.8 +0.7**
comp=Z,166nm,0.5s
PKI Pulchoki 50.66 314 *e*P **P** **22 26 22.3 +0.3**
comp=Z,112nm,0.4s
PKIN Phulchoki 50.67 314 *e*P **P** **22 26 22.2 +0.2**
comp=Z,97nm,0.4s
KKN Kakani 50.88 314 *e*P **P** **22 26 24.1 +0.6**
comp=Z,57nm,0.5s
DMN Daman 50.89 314 *e*P **P** **22 26 24.3 +0.6**
comp=Z,207nm,1.0s
HYB Hyderabad 50.98 299 *i*P **P** **22 26 23.0 -1.2**
HYB *e*PcP **PcP** **22 27 29.0 -0.3**
HYB *e*S **S** **22 32 52.0 -5.2**
GTA Gaotai 51.23 336 ⇓P **P** **22 26 26.8 +1.1**
GTA PcP **PcP** **22 27 31.3 +1.4**
GTA pP **pP** **22 28 18.1 +0.2**
GTA sP **sP** **22 29 22.0 -2.6**
GTA ScP **ScP** **22 30 29.3 +0.7**
GTA PcS **PcS** **22 31 27.3 -1.6**
GTA S **S** **22 33 00.6 +0.6**
GTA ScS **ScS** **22 35 10.8 -0.8**
GTA sS **sS** **22 36 19.3 -3.0**
GTA SS **SS** **22 36 48.8 +1.2**
GTA AMB AMB
comp=Z,28nm,1.1s
GTA AMB AMB
comp=Z,80nm,5.5s
USRK Ussuriysk Arra 51.37 7 P **P** **22 26 27.2 +0.7**
comp=Z,47nm,0.6s,baz=188,slow=6.7,SNR=119
USRK PcP **PcP** **22 27 30.3 +0.2**
comp=Z,9.2nm,1.0s,baz=222,slow=2.6,SNR=4.3
GKN Gorkha 51.46 314 *e*P **P** **22 26 28.3 +0.7**
comp=Z,106nm,0.3s
MDJ Mudanjiang 51.53 5 P **P** **22 26 28.8 +1.3**
MDJ PcP **PcP** **22 27 33.0 +2.3**
MDJ pP **pP** **22 28 19.6 -0.4**
MDJ PP **PP** **22 28 34.9 +0.7**
MDJ sP **sP** **22 29 24.6 -2.0**
MDJ ScP **ScP** **22 30 31.8 +2.2**
MDJ S **S** **22 33 05.3 +1.8**
MDJ ScS **ScS** **22 35 14.8 +1.6**
MDJ SS **SS** **22 36 55.8 +4.0**
MDJ AMB AMB
comp=Z,110nm,1.0s
MDJ AMB AMB
comp=Z,150nm,4.3s
MDJ Mudanjiang 51.53 5 *e*P **P** **22 26 27.9 +0.3**
comp=Z,112nm,1.0s
MDJ *e*PcP **PcP** **22 27 29.5 -1.2**
MDJ *e*pP **pP** **22 28 19.6 -0.4**
MDJ *e*sP **sP** **22 29 25.7 -0.9**
KOLN Koldanda 52.07 313 *e*P **P** **22 26 32.7 +0.7**
DANN Dangsing 52.29 314 *e*P **P** **22 26 34.2 +0.5**
comp=Z,291nm,0.8s
ASAJ Asahikawa 53.49 17 *e*P **P** **22 26 42.5 +1.0**
ASAJ PcP **PcP** **22 27 39.3 +1.0**
ASAJ Asahikawa 53.49 17 P **P** **22 26 42.4 +0.9**
comp=Z,74nm,0.8s,baz=234,slow=10.0,SNR=28
ASAJ PcP **PcP** **22 27 39.3 +1.0**
comp=Z,17nm,0.8s,baz=248,slow=11,SNR=2.3
MSVF Nonsavu 53.73 107 *e*P **P** **22 26 45.3 +1.5**
MSVF pmax pmax
comp=Z,136nm,0.9s
MSVF Nonsavu 53.73 107 *e*P **P** **22 26 45.3 +1.5**
comp=Z,136nm,0.9s
MSVF Nonsavu 53.73 107 P **P** **22 26 45.7 +1.9**
comp=Z,960nm,0.8s,SNR=14
RPZ Rata Peaks 55.07 140 *e*P **P** **22 26 54.0 +1.4**
RPZ Rata Peaks 55.07 140 P **P** **22 26 53.6 +1.0**
comp=Z,52nm,0.6s,baz=281,slow=3.5,SNR=31
HABR Khabarovsk 55.99 9 *e*P **P** **22 26 57.2 -1.6**
HABR *e* 22 27 46.6
HABR *e**SP **sP** **22 29 54.8 -5.0**
HABR S **S** **22 34 00.7 -1.0**
HABR *e* 22 35 44.8
HABR *e*SS **SS** **22 38 00.7 -1.0**
HABR pmax pmax
comp=Z,187nm,1.4s
YSS Yuzh-Sakhalins 56.15 15 *e*P **P** **22 27 00.5 +0.6**
KLR Kul'dur 56.31 6 *e*P P 22 26 56.8 -4.1
KLR pmax pmax
comp=Z,78nm,1.8s
SONM Songino Array 56.67 346 P **P** **22 27 04.3 +0.6**
SONM PcP **PcP** **22 27 50.4 -0.4**
SONM pP **pP** **22 28 59.6 +0.1**
SONM PP **PP** **22 29 17.0 -2.9**
SONM S **S** **22 34 12.1 +1.3**
SONM Songino Array 56.67 346 P **P** **22 27 04.3 +0.6**
comp=Z,22nm,0.7s,baz=167,slow=8.7,SNR=183
SONM PcP **PcP** **22 27 50.4 -0.4**
comp=Z,11nm,0.9s,baz=163,slow=5.5,SNR=7.9
SONM pP **pP** **22 28 59.6 +0.1**
comp=Z,2.2nm,0.9s,baz=150,slow=6.3,SNR=2.2
SONM PP **PP** **22 29 17.0 -2.9**
comp=Z,7.1nm,1.1s,baz=169,slow=7.6,SNR=4.5
SONM S **S** **22 34 12.1 +1.3**
comp=Z,2.5nm,1.2s,baz=168,slow=9.7,SNR=4.5
BKZ Black Stump Fm 56.98 133 *e*P **P** **22 27 07.7 +1.8**
comp=Z,49nm,1.4s
URZ Urewera 57.13 131 *e*P **P** **22 27 07.2 +0.3**
URZ PcP **PcP** **22 27 52.2 -0.6**
URZ S **S** **22 34 15.4 -1.3**
URZ Urewera 57.13 131 P **P** **22 27 07.1 +0.2**
comp=Z,20nm,0.8s,baz=267,slow=4.0,SNR=8.2
URZ PcP **PcP** **22 27 52.2 -0.6**
comp=Z,12nm,0.8s,baz=265,slow=5.8,SNR=3.6
URZ S **S** **22 34 15.4 -1.3**
comp=Z,7.6nm,0.7s,baz=185,slow=23,SNR=6.9
NDI New Delhi 57.29 310 *e*P P 22 27 04.0 -4.1
NDI *e*S S 22 34 08.0 -11
ZAK Zakamensk 59.81 345 *e*P **P** **22 27 24.7 0.0**
ZAK *e* 22 28 01.9
ZAK *e* 22 34 45.3
ZAK pmax pmax
comp=Z,19nm,1.1s
WMQ Urumqi 60.21 330 P **P** **22 27 28.3 +0.9**
WMQ PcP **PcP** **22 28 06.1 +1.1**
WMQ pP **pP** **22 29 25.6 +0.2**
WMQ PP **PP** **22 29 53.3 +2.4**
WMQ sP **sP** **22 30 28.1 -2.2**
WMQ S **S** **22 34 56.8 +1.4**
WMQ ScS SKKSac 22 36 16.3 -0.7
WMQ sS **sS** **22 38 22.8 -3.8**
WMQ SS **SS** **22 39 09.8 +1.8**
WMQ AMB AMB
comp=Z,72nm,0.8s
WMQ AMB AMB
comp=Z,220nm,4.4s
TLY Talaya 60.91 346 *e*P **P** **22 27 33.3 +1.6**
TLY pmax pmax
comp=Z,35nm,1.4s
IRK Irkutsk 61.28 346 *e*P **P** **22 27 33.6 -0.5**
IRK pmax pmax
comp=Z,69nm,1.7s
MOY Mondy 61.59 344 *e*P **P** **22 27 37.4 +1.1**
MOY pmax pmax
comp=Z,54nm,2.5s
AFI Afiamalu 63.40 102 P **P** **22 27 49.3 +0.7**
AFI Afiamalu 63.40 102 P **P** **22 27 49.3 +0.7**
comp=Z,60nm,0.7s,baz=25,slow=22,SNR=5.1
HVS Khovu-Aksy 63.42 339*d* *i*P **P** **22 27 48.1 +0.1**
HVS pmax pmax
comp=Z,230nm,1.0s
CLNS Chul'man 63.52 1 *e*P **P** **22 27 49.4 +0.9**
CLNS pmax pmax
comp=Z,40nm,0.9s
CLNS pmax pmax
comp=E,14nm,0.9s
CLNS pmax pmax
comp=N,35nm,1.2s
KSH Kashi 64.02 320 P **P** **22 27 54.0 +1.9**
KSH PcP **PcP** **22 28 25.3 +4.4**
KSH *e*pP **pP** **22 29 55.5 +3.1**
KSH PP **PP** **22 30 28.3 +4.2**
KSH sP **sP** **22 30 57.5 +0.9**
KSH S S 22 35 49.0 +6.9
KSH sS **sS** **22 39 17.4 +0.5**
KSH AMB AMB
comp=N,45nm,1.0s
KSH AMB AMB
comp=N,160nm,5.0s
KNTN Kanton 64.15 90 *e*P **P** **22 27 54.9 +1.6**
comp=N,123nm,0.7s
MK31 Makanchi Array 65.00 330 ⇓*i*P **P** **22 27 58.4 +0.4**
MK31 *e* 22 28 23.7
MK31 *e**PP **pP** **22 29 58.2 -0.6**
MK31 *e*S **S** **22 35 52.5 -0.8**
MK31 Makanchi Array 65.00 330 ⇓*i*P **P** **22 27 58.4 +0.4**
MK31 *e*PcP **PcP** **22 28 23.7 -0.9**
MK31 *e*pP **pP** **22 29 58.2 -0.6**
MK31 *e*S **S** **22 35 52.5 -0.8**
MKAR Makanchi Array 65.00 330 P **P** **22 27 58.6 +0.6**
MKAR 22 28 25.2
MKAR *PP **pP** **22 30 02.0 +3.2**
MKAR 22 30 30.5
MKAR S **S** **22 35 52.6 -0.7**
MKAR Makanchi Array 65.00 330 P **P** **22 27 58.6 +0.6**
MKAR PcP **PcP** **22 28 25.2 +0.5**
MKAR pP **pP** **22 30 02.0 +3.2**
MKAR PP **PP** **22 30 30.5 -1.8**
MKAR S **S** **22 35 52.6 -0.7**
MKAR P'P' 22 56 25.8
MKAR Makanchi Array 65.00 330 P **P** **22 27 58.6 +0.6**
comp=N,40nm,0.7s,baz=130,slow=7.9,SNR=447
MKAR PcP **PcP** **22 28 25.2 +0.5**
comp=N,15nm,0.7s,baz=127,slow=5.7,SNR=9.1
MKAR pP **pP** **22 30 02.0 +3.2**
comp=N,2.9nm,1.0s,baz=114,slow=9.3,SNR=1.7
MKAR PP **PP** **22 30 30.5 -1.8**
comp=N,4.0nm,0.8s,baz=136,slow=7.1,SNR=4.1
MKAR S **S** **22 35 52.6 -0.7**
comp=N,9.5nm,1.3s,baz=119,slow=12,SNR=13
MKAR PKPPKP P'P'df 22 56 25.8 -6.4
comp=N,0.4nm,0.8s,baz=253,slow=4.4,SNR=4.1
KZA Kyzart 65.94 322 *i*P **P** **22 28 05.9 +1.5**
KZA Kyzart 65.94 322 P **P** **22 28 05.9 +1.5**
SNR=12
KBL Kabul 66.22 312 *e*P **P** **22 28 06.3 +0.2**
KBL pmax pmax
comp=Z,57nm,0.8s
KBL Kabul 66.22 312 *e*P **P** **22 28 06.3 +0.2**
comp=Z,57nm,0.8s
KBL Kabul 66.22 312 ⇓P **P** **22 28 06.5 +0.5**
baz=66,SNR=28
TKM2 Tokmak 2 66.22 323 *i*P **P** **22 28 06.5 +0.6**
TKM2 Tokmak 2 66.22 323 P **P** **22 28 06.6 +0.6**
SNR=25
TKM2 Tokmak 2 66.22 323 *e*P **P** **22 28 06.6 +0.6**
comp=Z,22nm,0.9s
PEA0B Petropavlovsk- 66.25 21 *e*P **P** **22 28 06.2 +0.6**
PEA0B *e*PcP **PcP** **22 28 29.2 -0.5**
PETK Petropavlovsk- 66.25 21 P **P** **22 28 06.8 +1.2**
PETK Petropavlovsk- 66.25 21 P **P** **22 28 06.8 +1.2**
PETK Petropavlovsk- 66.25 21 P **P** **22 28 06.8 +1.2**
comp=Z,98nm,0.8s,baz=195,slow=7.3,SNR=70
KBK Karagaybulak 66.45 323 *i*P **P** **22 28 08.4 +1.1**
KBK Karagaybulak 66.45 323 P **P** **22 28 08.4 +1.1**
SNR=21
PET Petropavlovsk 66.53 22k *i*P **P** **22 28 08.4 +1.1**
PET *e**SP **sP** **22 31 14.7 +2.0**
PET *e*S **S** **22 36 14.3 +3.3**
PET *e*SS **SS** **22 40 45.5 +0.5**
PET pmax pmax
comp=Z,68nm,0.7s
PET pmax pmax
comp=Z,100nm,7.8s
AAK Ala-Archa 66.72 322 *i*P **P** **22 28 09.8 +0.9**
AAK Ala-Archa 66.72 322 P **P** **22 28 09.8 +0.9**
SNR=36
AAK Ala-Archa 66.72 322 *e*P **P** **22 28 09.8 +0.9**
comp=Z,37nm,0.9s
AAK PcP **PcP** **22 28 33.3 +1.2**
AAK S **S** **22 36 15.4 +1.4**
AAK Ala-Archa 66.72 322 P **P** **22 28 09.3 +0.4**
comp=Z,255nm,1.0s,SNR=25
AAK Ala-Archa 66.72 322 P **P** **22 28 10.0 +1.1**
comp=Z,29nm,0.8s,baz=130,slow=5.3,SNR=129
AAK PcP **PcP** **22 28 33.3 +1.2**
comp=Z,13nm,0.8s,baz=121,slow=3.8,SNR=7.0
AAK S **S** **22 36 15.4 +1.4**
comp=Z,0.6nm,0.3s,baz=278,slow=14,SNR=13
FRU Bishkek 66.76 323 *i*P **P** **22 28 10.0 +1.0**
FRU *e* 22 28 37.0
FRU *i* 22 36 14.0
FRU pmax pmax
comp=Z,50nm,1.8s
CHMS Chumysh 66.77 323 *i*P **P** **22 28 09.4 +0.3**
CHMS Chumysh 66.77 323 P **P** **22 28 09.4 +0.3**
SNR=7.8
AML Almayashu 66.92 322 *i*P **P** **22 28 11.4 +0.9**
AML Almayashu 66.92 322 P **P** **22 28 11.4 +0.9**
SNR=43
USP Ospenovka 67.08 323 *i*P **P** **22 28 11.3 +0.4**
USP Ospenovka 67.08 323 P **P** **22 28 11.3 +0.4**
SNR=42
EKS2 Erkin-Say 67.17 322 *e*P **P** **22 28 12.6 +1.0**
EKS2 Erkin-Say 67.17 322 P **P** **22 28 12.6 +1.0**
SNR=40
EKS2 Erkin-Say 67.17 322 *e*P **P** **22 28 12.6 +1.0**
YAK Yakutsk 68.87 3*d* *i*P **P** **22 28 21.6 +0.3**
YAK *e* 22 28 40.4
YAK *e* 22 31 00.1
YAK *e*PPP PPP 22 32 46.0
YAK *e*S **S** **22 36 36.0 -1.7**
YAK *e* 22 37 27.0
YAK pmax pmax
comp=Z,230nm,0.9s
YAK pmax pmax
comp=E,13nm,1.1s
YAK pmax pmax
comp=N,79nm,1.0s
YAK pmax pmax
comp=Z,304nm,4.2s
YAK pmax pmax
comp=E,65nm,1.4s
YAK pmax pmax
comp=N,336nm,4.3s
YAK smax smax
comp=N,291nm,2.0s
YAK smax smax
comp=E,205nm,1.8s
ZAA0 Zalesovo Array 68.98 336 ⇓*i*P **P** **22 28 21.6 -0.5**
ZAA0 *e*pP **pP** **22 30 27.8 +2.8**
ZAA0 *e*PP **PP** **22 31 07.7 +1.6**
ZAA0 *e*sP **sP** **22 31 28.7 +0.1**
ZALV Zalesovo Beam 68.98 336 P **P** **22 28 21.8 -0.3**
ZALV *PP **pP** **22 30 29.0 +4.0**
ZALV S **S** **22 35 36.6 -3.8**
ZALV Zalesovo Beam 68.98 336 P **P** **22 28 21.8 -0.3**
ZALV pP **pP** **22 30 29.0 +4.0**
ZALV S **S** **22 36 35.5 -3.8**
ZALV ⇑*e* 22 56 15.8
ZALV Zalesovo Beam 68.98 336 P **P** **22 28 21.8 -0.3**
comp=E,26nm,0.4s,baz=126,slow=4.2,SNR=295
ZALV pP **pP** **22 30 29.0 +4.0**
comp=E,3.2nm,0.8s,baz=141,slow=6.1,SNR=3.0
ZALV S **S** **22 36 35.5 -3.8**
comp=E,3.5nm,1.0s,baz=122,slow=12,SNR=8.0
ZALV PKP2bc 22 56 15.8
comp=E,0.7nm,0.6s,baz=316,slow=4.0,SNR=4.4
KURBB Kurchatov Arra 69.42 331 P **P** **22 28 25.2 +0.4**
comp=E,37nm,0.9s,baz=138,slow=5.0,SNR=207
KURBB PcP **PcP** **22 28 43.3 +0.2**
comp=E,6.9nm,0.8s,baz=130,slow=2.9,SNR=6.1
KURBB S S 22 36 35.5 -9.0
comp=E,1.1nm,0.2s,baz=140,slow=12,SNR=5.4
KK31 Karatay Array 69.42 321 *i*P **P** **22 28 24.5 -0.6**
KK31 pmax pmax
comp=Z,7.0nm,0.7s
KKAR Karatay Array 69.42 321 *e*P **P** **22 28 25.0 -0.1**
KKAR Karatay Array 69.42 321 *e*P **P** **22 28 25.0 -0.1**
KURK Kurchatov 69.44 331*d* *i*P **P** **22 28 24.8 -0.1**
KURK pmax pmax
comp=Z,76nm,1.2s
KURK Kurchatov 69.44 331 *e*P **P** **22 28 25.2 +0.3**
comp=Z,57nm,1.0s
KURK PcP **PcP** **22 28 43.3 +0.1**
KURK S S 22 36 35.5 -9.2
KURK Kurchatov 69.44 331 P **P** **22 28 25.8 +0.9**
comp=Z,650nm,1.0s,SNR=64
NVS Novosibirsk 70.27 336 ⇓*i*P **P** **22 28 28.3 -1.4**
NVS *e**PP **pP** **22 30 33.7 +0.4**
NVS *e* 22 31 11.7
NVS *e*S S 22 36 47.2 -6.7
NVS *e* 22 37 24.0
NVS pmax pmax
comp=Z,100nm,1.2s
NVS pmax pmax
comp=N,42nm,1.3s
NVS pmax pmax
comp=E,45nm,1.3s
NVS pmax pmax
comp=Z,12nm,1.3s
NVS smax smax
comp=N,67nm,2.2s
NVS smax smax
comp=E,51nm,1.8s
SMDO Samad 70.96 297 P **P** **22 28 35.2 +0.6**
SNR=6.1
BSY Bisya 71.62 297 P **P** **22 28 38.9 +0.4**
SNR=9.0
HOQ Hoqain 71.76 297 P **P** **22 28 39.9 +0.7**
SNR=9.9
ARQ Araqi 72.39 297 P **P** **22 28 43.6 +0.8**
SNR=6.0
FX1 Attu Island--F 72.63 29 *e*P **P** **22 28 45.0 +1.5**
FX1 Attu Island--F 72.63 29 P **P** **22 28 44.5 +1.0**
comp=E,178nm,0.9s,baz=297,slow=2.0,SNR=28
MAW Mawson 72.90 201 P **P** **22 28 45.7 +0.8**
MAW pP **pP** **22 30 50.0 +0.4**
MAW S **S** **22 37 21.5 -1.4**
MAW P'P' 22 56 12.1
MAW Mawson 72.90 201 ⇓P **P** **22 28 45.5 +0.7**
baz=73,SNR=17
MAW Mawson 72.90 201 P **P** **22 28 45.7 +0.8**
comp=E,19nm,1.0s,baz=63,slow=7.1,SNR=24
MAW pP **pP** **22 30 50.0 +0.4**
comp=E,15nm,1.1s,baz=44,slow=8.5,SNR=7.1
MAW S **S** **22 37 21.5 -1.4**
comp=E,0.5nm,0.9s,baz=290,slow=15,SNR=1.8
MAW PKPPKP P'P'df 22 56 12.1 -6.8
comp=E,4.1nm,1.0s,baz=247,slow=4.7,SNR=6.4
SEY Seymchan 72.94 13*d* *i*P **P** **22 28 46.0 +1.0**
SMY Shemya 72.99 29 *e*P **P** **22 28 46.6 +1.1**
SMY pmax pmax
comp=Z,280nm,0.9s
SMY Shemya 72.99 29 *e*P **P** **22 28 46.6 +1.1**
comp=Z,280nm,0.9s
RBK Rabkut 73.05 291 P **P** **22 28 47.5 +0.8**
SNR=12
UOSS Wadi Hilu 73.11 299 P **P** **22 28 46.5 -0.4**
comp=Z,134nm,0.9s,SNR=6.2
ASHO Ashiyiah 73.16 298 P **P** **22 28 47.9 +0.7**
SNR=11
BANOM Banah 73.30 300 P **P** **22 28 49.2 +1.2**
SNR=15
VNDA Vanda 73.32 172 *e*P **P** **22 28 47.5 +0.4**
VNDA pP **pP** **22 30 52.8 +0.7**
VNDA PP **PP** **22 31 40.0 -1.9**
VNDA S **S** **22 37 27.0 -0.2**
VNDA Vanda 73.32 172 P **P** **22 28 47.4 +0.4**
comp=Z,7.9nm,0.7s,baz=318,slow=6.2,SNR=84
VNDA pP **pP** **22 30 52.8 +0.7**
comp=Z,1.3nm,0.9s,baz=297,slow=4.5,SNR=1.4
VNDA PP **PP** **22 31 40.0 -1.9**
comp=Z,14nm,1.1s,baz=337,slow=10,SNR=7.4
VNDA S **S** **22 37 27.0 -0.2**
comp=Z,3.4nm,1.1s,baz=171,slow=15,SNR=6.7
ABTO Aybut 73.86 290 P **P** **22 28 51.7 +0.4**
SNR=18
SBA Scott Base 74.27 171 *e*P **P** **22 28 52.4 0.0**
SBA Scott Base 74.27 171 *e*P **P** **22 28 52.4 0.0**
VOSK Vostochnaya 74.42 330 *e*P **P** **22 28 53.4 -0.3**
VOSK Vostochnaya 74.42 330 *e*P **P** **22 28 53.4 -0.3**
AMKA Amchitka 74.86 32 *e*P **P** **22 28 56.3 +0.2**
comp=Z,94nm,0.8s
AMKA *e*PcP **PcP** **22 29 06.9 +0.4**
AMKA *e*pP **pP** **22 31 01.3 -0.6**

BVAR Borovoye Array 74.89 330 P **P** 22 28 56.7 +0.4
BVAR S **S** 22 37 39.5 -5.5
BVAR Borovoye Array 74.89 330 P **P** 22 28 56.7 +0.4
BVAR S **S** 22 37 39.5 -5.5
BVAR Borovoye Array 74.89 330 P **P** 22 28 56.7 +0.4
comp=Z,24nm,0.7s,baz=134,slow=6.4,SNR=98
BVAR S **S** 22 37 39.5 -5.5
comp=Z,0.3nm,0.5s,baz=119,slow=15,SNR=3.0
BRVK Borovoye 74.96 330*d* iP **P** 22 28 57.0 +0.3
BRVK pmax pmax
comp=Z,128nm,1.2s
BRVK Borovoye 74.96 330 *e*P **P** 22 28 57.3 +0.6
comp=Z,150nm,1.3s
BRVK Borovoye 74.96 330 P **P** 22 28 57.0 +0.3
comp=Z,533nm,1.3s,SNR=20
OPO Ambohidratompo 75.36 253 P **P** 22 29 00.8 +0.9
OPO Ambohidratompo 75.36 253 P **P** 22 29 00.8 +0.9
comp=Z,12nm,0.8s,baz=82,slow=7.3,SNR=13
ADK Adak 77.27 33 *e*P **P** 22 29 09.9 +0.6
ADK Adak 77.27 33 *e*P **P** 22 29 09.9 +0.6
TIXI Tiksi 78.45 2*d* iP **P** 22 29 14.4 -0.9
TIXI pmax pmax
comp=Z,123nm,1.2s
AB31 Akbulak array 78.79 323 *i* P **P** 22 29 17.1 -0.4
AB31 pmax pmax
comp=Z,39nm,0.8s
ABKAR Akbulak array 78.79 323 *e*P **P** 22 29 17.2 -0.3
comp=Z,61nm,1.1s
ABKAR *e*pP **pP** 22 31 24.4 -0.7
AKTO Aktyubinsk 80.41 324 P **P** 22 29 24.8 -1.2
AKTO S **S** 22 38 39.3 -3.4
AKTO Aktyubinsk 80.41 324 P **P** 22 29 24.8 -1.2
AKTO S **S** 22 38 39.3 -3.4
AKTO PKKPbc **PKKPbc** 22 48 01.3 -3.2
AKTO Aktyubinsk 80.41 324 P **P** 22 29 24.8 -1.2
comp=Z,39nm,0.8s,baz=108,slow=7.1,SNR=158
AKTO S **S** 22 38 39.3 -3.4
comp=Z,0.4nm,0.4s,baz=336,slow=22,SNR=10
AKTO PKKPbc **PKKPbc** 22 48 01.3 -3.2
comp=Z,1.7nm,0.7s,baz=325,slow=2.1,SNR=10.0
QRN Al-Qurain 81.22 300 *e*P **P** 22 29 30.9 +0.3
QRN AMb AMB 22 29 32.3
comp=Z,121nm,0.5s
KIP Kipapa 81.42 67⇓ *e*P **P** 22 29 33.0 +1.2
KIP pmax pmax
comp=Z,61nm,0.8s
KBD Kabd 81.51 301 *e*P **P** 22 29 32.1 0.0
UMR Umm Al-Rimmam 81.57 301 *e*P **P** 22 29 32.8 +0.4
UMR AMb AMB 22 29 34.0
comp=Z,100nm,1.2s
RDF Al-Radifah 81.57 301 *e*P **P** 22 29 32.6 +0.2
RDF AMb AMB 22 29 34.2
comp=Z,122nm,1.3s
SYO Syowa Base 81.59 201⇑ *e*pP pP 22 31 42.5 +2.0
SVE Sverdlovsk 81.66 330⇑ *i*P **P** 22 29 32.5 +0.3
SVE pmax pmax
comp=Z,102nm,1.4s
NAY Al-Naaiem 81.91 301 *e*P **P** 22 29 34.2 +0.1
NAY AMb AMB 22 29 35.5
comp=Z,82nm,0.9s
MIB Mutribah 81.94 301 *e*P **P** 22 29 34.4 +0.1
RST Umm Al-Ruwaisa 82.17 301 *e*P **P** 22 29 35.4 0.0
RST AMb AMB 22 29 37.0
comp=Z,1μm,0.9s
RAYN Ar Rayn 82.27 295 *e*P **P** 22 29 36.7 +0.5
RAYN Ar Rayn 82.27 295 P **P** 22 29 36.0 -0.2
comp=Z,438nm,1.1s,SNR=72
ARU Arti 82.53 329*c i*P **P** 22 29 36.1 -0.5
ARU 22 32 52.3
ARU S **S** 22 38 59.6 -4.1
ARU SS **SS** 22 44 41.5 -2.7
ARU pmax pmax
comp=Z,132nm,1.7s
ARU Arti 82.53 329 P **P** 22 29 36.9 +0.3
comp=Z,249nm,0.6s,SNR=24
ATD Arta Tunnel 82.76 283 P **P** 22 29 39.8 +1.0
ATD Arta Tunnel 82.76 283 P **P** 22 29 39.8 +1.0
comp=Z,14nm,0.9s,baz=108,slow=23,SNR=8.5
QSPA South Pole Qui 83.08 180 *e*P **P** 22 29 39.7 +0.3
comp=Z,7.4nm,0.8s
QSPA *e*pP **pP** 22 31 48.1 -0.7
QSPA South Pole Qui 83.08 180 P **P** 22 29 39.9 +0.5
comp=Z,10.0nm,0.8s
UNV Unalaska Valle 83.69 34 *e*P **P** 22 29 42.3 -0.1
comp=Z,57nm,0.7s
TBI Tubuai 84.14 113 *e*P **P** 22 29 46.9 +1.5
comp=Z,122nm,0.9s
AKUT Akutan 84.20 34 *e*P **P** 22 29 45.4 +0.4
comp=Z,388nm,1.3s
PAE Paea 84.55 107 *e*P **P** 22 29 49.7 +2.2
comp=Z,11nm,1.0s
PPT2 Papeete2 84.56 107 *e*P **P** 22 29 50.0 +2.4
comp=Z,58nm,1.1s
PPT Papeete 84.56 107 P **P** 22 29 50.6 +3.0
PPT Papeete 84.56 107 P **P** 22 29 50.6 +3.0
comp=Z,34nm,0.6s,baz=210,slow=23,SNR=3.7
SOKR Solikamsk 84.67 332*c i*P **P** 22 29 46.0 -1.1
SOKR pmax pmax
comp=Z,100nm,1.3s
GNI Garni 86.26 311 *e*P P 22 29 49.8 -5.6
comp=Z,19nm,1.2s
GNI Garni 86.26 311 P **P** 22 29 56.6 +1.2
comp=Z,4.8nm,0.8s,baz=131,slow=0.4,SNR=9.3
PMOR Pomariorio Ree 86.43 105 *e*P **P** 22 29 58.9 +2.5
comp=Z,174nm,1.2s
KMBO Kilima Mbogo 86.63 269 *e*P **P** 22 29 57.5 -0.3
comp=Z,77nm,1.8s
KMBO Kilima Mbogo 86.63 269⇓ P **P** 22 29 58.4 +0.6
baz=86,SNR=6.6
KMBO Kilima Mbogo 86.63 269 P **P** 22 29 59.0 +1.1
comp=Z,11nm,1.0s,baz=62,slow=7.1,SNR=22
VAH Vaihoa 86.66 105 *e*P **P** 22 29 59.7 +2.2
comp=Z,106nm,1.2s
ZEI Tsey 87.42 313 *e*P **P** 22 29 59.0 -1.9
ZEI pmax pmax
comp=Z,47nm,1.4s
ONI Oni 87.71 313 P **P** 22 30 02.6 +0.6
ONI Oni 87.71 313 P P 22 29 57.5 -4.5
KBZ Khabaz 88.33 314 P **P** 22 30 04.9 +0.2
KBZ Khabaz 88.33 314 P **P** 22 30 04.9 +0.2
KBZ PKKPbc **PKKPbc** 22 47 44.5 -1.2
KBZ Khabaz 88.33 314 P **P** 22 30 04.9 +0.2
comp=Z,19nm,0.8s,baz=118,slow=4.1,SNR=46
KBZ PKKPbc **PKKPbc** 22 47 44.5 -1.2
comp=Z,1.7nm,0.8s,baz=47,slow=7.4,SNR=4.4
KIV Kislovodsk 88.52 314 *e*P **P** 22 30 05.2 -0.6
KIV pmax pmax
comp=Z,23nm,1.1s
KIV MLR MLR
comp=Z,202nm,19.0s
KIV Kislovodsk 88.52 314 P **P** 22 30 05.0 -0.8
comp=Z,109nm,1.0s,SNR=8.9
VRHR Novokhopersk 90.55 321 *e*P **P** 22 30 13.8 -1.0
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,50nm,0.9s
OHAK Old Harbor 91.82 33 *e*P **P** 22 30 19.8 -0.7
comp=Z,31nm,1.0s
VORD Divnogorie 91.98 321 *e*P **P** 22 30 20.0 -1.4
VORD pmax pmax
comp=E,30nm,1.1s
VORD pmax pmax
comp=Z,40nm,1.1s
VSR Storozhevoye 92.09 321 *e*P **P** 22 30 20.8 -1.2
VSR pmax pmax
comp=N,10.0nm,1.1s
VSR pmax pmax
comp=E,20nm,1.1s
VSR pmax pmax
comp=Z,40nm,1.1s
KDAK Kodiak Island 92.28 32 *e*P **P** 22 30 21.4 -1.3
comp=Z,27nm,1.0s
KDAK *e*pP **pP** 22 32 34.3 -0.7
ANN Anapa 92.38 315 *e*P **P** 22 30 20.3 -3.1
ANN *e**PP pP 22 32 28.3 -7.4
ANN *e*S **SKSac** 22 39 56.6 -2.1
ANN pmax pmax
comp=Z,62nm,1.6s
EIL Elat 92.54 299⇑ P **P** 22 30 24.8 +0.3
baz=92
RSO Redoubt South 92.63 30 *e*P **P** 22 30 22.4 -2.1
comp=Z,33nm,0.9s
IM04 Indian Mountai 93.09 24 *e*P **P** 22 30 26.3 0.0
IM04 *e*pP **pP** 22 32 37.6 -1.1
PPLA Purkeypile 93.28 27 *e*P **P** 22 30 26.0 -1.3
comp=Z,54nm,1.5s
KLMR Klimovskoe 93.28 331 *e*P P 22 30 23.9 -3.3
KLMR pmax pmax
comp=Z,47nm,1.2s
OBN Obninsk 94.13 325*d i*P **P** 22 30 30.4 -0.8
OBN *i* *PP **pP** 22 32 42.8 -0.9
OBN pmax pmax
comp=Z,68nm,1.6s
BOSA Boshof 94.35 241 P **P** 22 30 32.4 -0.6
BOSA PKKPbc **PKKPbc** 22 47 30.7 +0.5
BOSA P'P' 22 55 34.9
BOSA Boshof 94.35 241 P **P** 22 30 32.4 -0.6
comp=Z,5.9nm,0.8s,baz=84,slow=6.7,SNR=7.2
BOSA PKKPbc **PKKPbc** 22 47 30.7 +0.5
comp=Z,3.1nm,0.7s,baz=324,slow=7.9,SNR=4.9
BOSA PKPPKP P'P'df 22 55 34.9 -7.2
comp=Z,3.1nm,0.9s,baz=135,slow=1.4,SNR=3.1
TMCR Tamitsa 94.40 334 *e*P **P** 22 30 30.3 -1.8
TMCR pmax pmax
comp=Z,19nm,1.0s
CSS Prodhromos 94.45 305 *e*P **P** 22 30 32.5 -0.7
comp=Z,11nm,1.1s
BR131 Keskin Array S 94.63 309 *e*P **P** 22 30 33.2 -0.8
comp=Z,5.5nm,0.8s
BRTR Keskin Array B 94.63 309 P **P** 22 30 33.3 -0.8
BRTR pP pP 22 32 52.0 +5.4
BRTR PKKPbc **PKKPbc** 22 47 29.5 -0.4
BRTR Keskin Array B 94.63 309 P **P** 22 30 33.3 -0.8
comp=Z,5.4nm,0.8s,baz=131,slow=5.7,SNR=36
BRTR pP pP 22 32 52.0 +5.4
comp=Z,0.8nm,1.0s,baz=106,slow=9.2,SNR=3.1
BRTR PKKPbc **PKKPbc** 22 47 29.5 -0.4
comp=Z,0.7nm,0.9s,baz=225,slow=5.1,SNR=3.8
COLD Coldfoot 94.68 23 *e*P **P** 22 30 33.4 0.0
MCK McKinley 94.84 26 *e*P **P** 22 30 32.6 -1.6
MCK pmax pmax
comp=Z,76nm,1.4s
MCK McKinley 94.84 26 *e*P **P** 22 30 32.6 -1.6
comp=Z,76nm,1.4s
COLA College 95.41 25 *i*P **P** 22 30 35.6 -1.1
ILAR Eielson Array 95.81 26 P **P** 22 30 36.7 -1.9
ILAR PP **PP** 22 34 37.5 -3.8
ILAR PKiKP **PKiKP** 22 35 12.6 -1.0
ILAR PKKP **PKKPdf** 22 47 24.9 -2.1
ILAR Eielson Array 95.81 26 P **P** 22 30 36.7 -1.9
comp=Z,7.5nm,0.9s,baz=272,slow=4.2,SNR=24
ILAR PP **PP** 22 34 37.5 -3.8
comp=Z,2.0nm,1.0s,baz=262,slow=6.7,SNR=4.9
ILAR PKiKP **PKiKP** 22 35 12.6 -1.0
comp=Z,1.0nm,0.8s,baz=293,slow=2.9,SNR=4.1
ILAR PKKP **PKKPdf** 22 47 24.9 -2.1
comp=Z,1.4nm,0.9s,baz=81,slow=1.1,SNR=11
PAX Paxson 96.34 27 *e*P **P** 22 30 40.5 -0.6
PAX pmax pmax
comp=Z,40nm,1.4s
PAX Paxson 96.34 27 *e*P **P** 22 30 40.5 -0.6
comp=Z,40nm,1.4s
APA Apatity 96.56 337⇑ *i*P **P** 22 30 42.0 +0.2
APA *i* *PP **pP** 22 32 56.0 +1.4
APA MLR MLR
comp=Z,1μm,13.0s
DOT Dot Lake 97.00 27 *e*P **P** 22 30 43.0 -1.0
comp=Z,32nm,1.4s
PUL Pulkovo 97.77 329*de*P **P** 22 30 47.7 +0.3
PUL pmax pmax
comp=Z,74nm,0.3s
EGAK Eagle 98.27 26 *e*Pdif Pdif 22 30 48.6 -0.9
AKASG Malin Array Be 98.32 320 P Pdif 22 30 48.7 -1.3
AKASG 22 35 01.4
AKASG Malin Array Be 98.32 320 P Pdif 22 30 48.6 -1.4
AKASG PP **PP** 22 35 01.4 +0.9
AKASG PKKPbc **PKKPbc** 22 47 17.8 -2.4
AKASG Malin Array Be 98.32 320 P Pdif 22 30 48.6 -1.4
comp=Z,8.1nm,0.8s,baz=78,slow=4.6,SNR=34
AKASG PP **PP** 22 35 01.4 +0.9
comp=Z,0.3nm,0.4s,baz=90,slow=6.0,SNR=6.6
AKASG PKKPbc **PKKPbc** 22 47 17.8 -2.4
comp=Z,1.5nm,0.6s,baz=277,slow=3.2,SNR=13
ARCES ARCESS Array B 99.40 339 P **Pdif** 22 30 53.6 -0.9
ARCES PKiKP **PKiKP** 22 35 19.8 -0.1
ARCES PKKPbc **PKKPbc** 22 47 13.8 -4.0
ARCES ARCESS Array B 99.40 339 P **Pdif** 22 30 53.6 -0.9
comp=Z,8.9nm,0.9s,baz=76,slow=5.6,SNR=12
ARCES PKiKP **PKiKP** 22 35 19.8 -0.1
comp=Z,0.9nm,0.6s,baz=139,slow=2.2,SNR=7.8
ARCES PKKPbc **PKKPbc** 22 47 13.8 -4.0
comp=Z,4.9nm,1.0s,baz=250,slow=3.6,SNR=3.7
FINES FINESS Array B 99.81 331 P **Pdif** 22 30 56.2 -0.2
FINES PKiKP **PKiKP** 22 35 20.8 +0.1
FINES FINESS Array B 99.81 331 P **Pdif** 22 30 56.2 -0.2
comp=Z,5.4nm,1.0s,baz=72,slow=6.2,SNR=5.6
FINES PKiKP **PKiKP** 22 35 20.8 +0.1
comp=Z,2.1nm,0.7s,baz=91,slow=2.5,SNR=9.6
SPITS Spitsbergen Ar 100.30 348 P **Pdif** 22 30 57.9 -0.5
SPITS Spitsbergen Ar 100.30 348 P **Pdif** 22 30 57.9 -0.5
comp=Z,24nm,0.9s,baz=94,slow=7.6,SNR=10
INK Inuvik 100.99 22 P **Pdif** 22 31 01.3 -0.2
INK PKiKP **PKiKP** 22 35 22.8 +0.2
INK Inuvik 100.99 22 P **Pdif** 22 31 01.3 -0.2
comp=Z,3.1nm,0.7s,baz=282,slow=7.0,SNR=4.5
INK PKiKP **PKiKP** 22 35 22.8 +0.2
comp=Z,5.5nm,0.9s,baz=347,slow=6.1,SNR=4.3
KOLS Kolonicke sedl 102.87 319 *i* P **Pdif** 22 31 11.8 +1.4
KOLS Kolonicke sedl 102.87 319 PDIF **Pdif** 22 31 11.8 +1.4
STHS Stebnicka Huta 103.50 319 *i* P **Pdif** 22 31 14.6 +1.4
STHS Stebnicka Huta 103.50 319 PDIF **Pdif** 22 31 14.6 +1.4
DLBC Dease Lake 104.20 31 PKiKP **PKiKP** 22 35 29.5 +0.6
DLBC Dease Lake 104.20 31 PKiKP **PKiKP** 22 35 29.5 +0.6
comp=Z,0.7nm,0.4s,baz=266,slow=6.8,SNR=3.2
NB2 NORSAR Subarra1 106.94 332 PKPdf **PKiKP** 22 35 33.5 -0.4
comp=Z,0.9nm,0.8s,baz=68,slow=1.9
NOA NORSAR Array B 106.94 332 Pdif **Pdif** 22 31 26.6 -1.7
NOA PKiKP **PKiKP** 22 35 33.2 -0.7
NOA NORSAR Array B 106.94 332 Pdiff **Pdif** 22 31 26.6 -1.7
comp=Z,1.7nm,0.9s,baz=73,slow=4.7,SNR=3.3
NOA PKiKP **PKiKP** 22 35 33.2 -0.7
comp=Z,1.4nm,0.7s,baz=268,slow=4.0,SNR=6.0
CLL Collm 108.43 322 *e*PKiKP **PKiKP** 22 35 36.9 0.0
GEC2 GERESS Array S 108.49 319 *e*PKiKP **PKiKP** 22 35 36.3 -0.9
GERES GERESS Array B 108.49 319 PKiKP **PKiKP** 22 35 36.8 -0.5
GERES PKKPbc **PKKPbc** 22 46 48.0 -2.5
GERES GERESS Array B 108.49 319 PKiKP **PKiKP** 22 35 36.8 -0.5
comp=Z,0.9nm,0.5s,baz=52,slow=1.5,SNR=11
GERES PKKPbc **PKKPbc** 22 46 48.0 -2.5
comp=Z,0.2nm,0.5s,baz=270,slow=2.4,SNR=4.6
KHC Kasperske Hory 108.51 320 *e*PKP **PKiKP** 22 35 37.1 -0.1
RES Resolute Bay 108.69 10 PKiKP **PKiKP** 22 35 36.2 -0.5
RES Resolute Bay 108.69 10 PKiKP **PKiKP** 22 35 36.2 -0.5
comp=Z,3.5nm,0.8s,baz=297,slow=2.5,SNR=4.1
TANN Tannenbergstha 108.96 321 *e*PKiKP **PKiKP** 22 35 38.5 +0.5
RJOB Boistfort Moun 109.29 318 *e*PKiKP **PKiKP** 22 35 38.7 -0.1
BSEG Bad Segeberg 109.39 325 *e*PKiKP **PKiKP** 22 35 39.1 +0.5
ABTA Abfaltersbach 109.68 317⇑ *i*PKiKP **PKiKP** 22 35 39.2 -0.3
comp=Z,8.8nm,0.9s,SNR=7.9
NRDL Niedersach Rie 109.89 324 *e*PKiKP **PKiKP** 22 35 40.0 +0.5
CLZ Clausthal 109.90 323 *e*PKiKP **PKiKP** 22 35 40.3 +0.6
WTTA Wattenberg 110.16 318⇑ *i*PKiKP **PKiKP** 22 35 40.0 -0.5
comp=Z,13nm,0.7s,SNR=8.1
FUR Furstenfeldbru 110.20 319 *i* PKiKP **PKiKP** 22 35 40.6 +0.2
FUR Furstenfeldbru 110.20 319 *e*PKiKP **PKiKP** 22 35 40.6 +0.2
YKA Yellowknife Ar 110.24 25 PKiKP **PKiKP** 22 35 39.8 -0.2
YKA Yellowknife Ar 110.24 25 PKiKP **PKiKP** 22 35 39.8 -0.2
comp=Z,5.0nm,0.7s,baz=306,slow=2.0,SNR=19
BMW Boistfort Moun 110.60 43 PKiKP **PKiKP** 22 35 42.3 +1.0
BMW Boistfort Moun 110.60 43 P **PKiKP** 22 35 42.3 +1.0
MBW Mount Baker 110.96 40 P **PKiKP** 22 35 42.4 +0.3
RPW Rockport 111.29 41 P **PKiKP** 22 35 42.8 +0.2
DAVA Damuels 111.32 318 *i* PKiKP **PKiKP** 22 35 42.8 +0.1
comp=Z,12nm,0.9s,SNR=7.1
LON Longmire 111.50 42 *e*PKiKP **PKiKP** 22 35 42.8 -0.2
LON Longmire 111.50 42 *e*PKiKP **PKiKP** 22 35 42.8 -0.2
TNS Taunus Mts 111.50 321 *i* PKiKP **PKiKP** 22 35 43.8 +0.9
TNS Taunus Mts 111.50 321 *e*PKiKP **PKiKP** 22 35 43.8 +0.9
HUMO Hull Mountain 111.56 47 *e*PKiKP **PKiKP** 22 35 43.7 +0.5
HUMO *e*PP **PP** 22 36 35.5 -1.4
WPW White Pass 111.69 42 P **PKiKP** 22 35 43.8 +0.4
YBH Yreka Blue Hor 111.90 48 PKiKP **PKiKP** 22 35 44.4 +0.4
YBH PP **PP** 22 36 39.1 -0.3
YBH Yreka Blue Hor 111.90 48 PKiKP **PKiKP** 22 35 44.4 +0.4
comp=Z,2.9nm,0.8s,baz=39,slow=2.3,SNR=7.8
YBH PP **PP** 22 36 39.1 -0.3
comp=Z,3.7nm,0.9s,baz=237,slow=5.2,SNR=5.2
VFP Flag Point 112.06 44 P **PKiKP** 22 35 44.8 +0.6
ETW Entiat 112.27 41 P **PKiKP** 22 35 44.7 +0.2
TRW Toppenish Ridg 112.46 43 P **PKiKP** 22 35 45.5 +0.8
CDF Champ du Feu 112.73 320 *e*PKiKP **PKiKP** 22 35 44.1 -1.2
CDF Champ du Feu 112.73 320 *e*PKiKP **PKiKP** 22 35 44.1 -1.2
CDF Champ du Feu 112.73 320 *e*PKPdf **PKiKP** 22 35 44.1 -1.2
LTIM Timbered Crate 112.91 48 P **PKiKP** 22 35 46.7 +0.8
HINF Hinteralfeld 113.17 319 *e*PKiKP **PKiKP** 22 35 45.2 -0.9
comp=Z,15nm,0.7s
HINF Hinteralfeld 113.17 319 *e*PKiKP **PKiKP** 22 35 45.2 -0.9
HINF Hinteralfeld 113.17 319 *e*PKPdf **PKiKP** 22 35 45.2 -0.9
HAU Haudompre 113.44 320 *e*PKiKP **PKiKP** 22 35 45.9 -0.7
comp=Z,37nm,1.1s
HAU Haudompre 113.44 320 *e*PKiKP **PKiKP** 22 35 45.9 -0.7
HAU Haudompre 113.44 320 *e*PKPdf **PKiKP** 22 35 45.9 -0.7
MOD Modoc 113.63 47 *e*PKiKP **PKiKP** 22 35 47.3 -0.1
MOD *e*PP **PP** 22 36 49.0 -2.5
PAGF Fort de Pagny 113.68 320 *e*PKiKP **PKiKP** 22 35 46.5 -0.5
comp=Z,8.5nm,1.2s
PAGF Fort de Pagny 113.68 320 *e*PKPdf **PKiKP** 22 35 46.5 -0.5
GIVF Givet 113.76 322 *e*PKiKP **PKiKP** 22 35 46.9 -0.2
GIVF Givet 113.76 322 *e*PKiKP **PKiKP** 22 35 46.9 -0.2
GIVF Givet 113.76 322 *e*PKPdf **PKiKP** 22 35 46.9 -0.2
SBF Sospel 113.80 315 *e*PKiKP **PKiKP** 22 35 46.7 -0.8
SBF Sospel 113.80 315 *e*PKiKP **PKiKP** 22 35 46.7 -0.8
SBF Sospel 113.80 315 *e*PKPdf **PKiKP** 22 35 46.7 -0.8
LPG La Plagne 113.86 317 *e*PKiKP **PKiKP** 22 35 47.4 -0.4
comp=Z,23nm,0.9s
LPG La Plagne 113.86 317 *e*PKiKP **PKiKP** 22 35 47.4 -0.4
LPG La Plagne 113.86 317 *e*PKPdf **PKiKP** 22 35 47.4 -0.4
LPL La Plagne 113.87 317 *e*PKiKP **PKiKP** 22 35 47.2 -0.5
comp=Z,42nm,1.2s
LPL La Plagne 113.87 317 *e*PKiKP **PKiKP** 22 35 47.2 -0.5
LPL La Plagne 113.87 317 *e*PKPdf **PKiKP** 22 35 47.2 -0.5
KEST Kesra 113.97 306 PKP **PKiKP** 22 35 48.9 +0.8
KEST PP **PP** 22 36 51.5 -2.6
KEST PKKPbc **PKKPbc** 22 46 33.0 +0.7
KEST Kesra 113.97 306 PKP **PKiKP** 22 35 48.9 +0.8
comp=Z,1.5nm,0.8s,baz=236,slow=2.2,SNR=6.4
KEST PP **PP** 22 36 51.5 -2.6
comp=Z,1.8nm,1.0s,baz=349,slow=5.8,SNR=3.7
KEST PKKPbc **PKKPbc** 22 46 33.0 +0.7
comp=Z,1.0nm,0.9s,baz=254,slow=13,SNR=4.3
CABF La Chapelle 114.01 318 *e*PKiKP PKPdf 22 35 47.5 -0.3
comp=Z,22nm,0.7s
CABF La Chapelle 114.01 318 *e*PKiKP PKPdf 22 35 47.5 -0.3
CABF La Chapelle 114.01 318 *e*PKPdf PKPdf 22 35 47.5 -0.3
BEKR Beckworth 114.01 49 *e*PKiKP PKPdf 22 35 47.7 -0.5
BEKR *e*PP **PP** 22 36 52.3 -2.0
BAIF Baives 114.15 322 *e*PKiKP PKPdf 22 35 47.7 -0.1
comp=Z,18nm,0.9s
BAIF Baives 114.15 322 *e*PKiKP PKPdf 22 35 47.7 -0.1
BAIF Baives 114.15 322 *e*PKPdf PKPdf 22 35 47.7 -0.1
NEW Newport 114.16 40 *e*PKiKP **PKiKP** 22 35 48.1 +0.1
NEW *e*PP **PP** 22 36 52.7 -2.1
NEW Newport 114.16 40⇓ *e*PKiKP **PKiKP** 22 35 48.9 +0.9
baz=114
SFTF Sexfontaines 114.22 320 *e*PKiKP PKPdf 22 35 47.7 -0.4
SFTF Sexfontaines 114.22 320 *e*PKPdf PKPdf 22 35 47.7 -0.4
FRF La Foret Royal 114.43 315 *e*PKiKP PKPdf 22 35 48.1 -0.5
FRF La Foret Royal 114.43 315 *e*PKiKP PKPdf 22 35 48.1 -0.5
FRF La Foret Royal 114.43 315 *e*PKPdf PKPdf 22 35 48.1 -0.5
LMR La Mourre 114.58 315 *e*PKiKP PKPdf 22 35 48.4 -0.5
comp=Z,25nm,1.1s
LMR La Mourre 114.58 315 *e*PKiKP PKPdf 22 35 48.4 -0.5
LMR La Mourre 114.58 315 *e*PKPdf PKPdf 22 35 48.4 -0.5
ORIF Oris-en-Rattie 114.61 316 *e*PKiKP PKPdf 22 35 48.4 -0.6
comp=Z,26nm,1.1s
ORIF Oris-en-Rattie 114.61 316 *e*PKiKP PKPdf 22 35 48.4 -0.6
ORIF Oris-en-Rattie 114.61 316 *e*PKPdf PKPdf 22 35 48.4 -0.6
WVOR Wild Horse Val 114.72 46 *e*PKiKP PKPdf 22 35 49.7 +0.3
WVOR *e* 22 36 57.0
WVOR Wild Horse Val 114.72 46 *e*PKPdf PKPdf 22 35 49.7 +0.3
WVOR *e*PP **PP** 22 36 57.0 -2.0
PAHR Pah Rah Range 114.78 49 *e*PKPdf PKPdf 22 35 50.1 +0.5
PAHR *e*PP **PP** 22 36 57.9 -1.7
BMO Blue Mountains 115.03 44 *e*PKiKP **PKPdf** 22 35 49.3 -0.5
BMO Blue Mountains 115.03 44 *e*PKPdf **PKPdf** 22 35 49.3 -0.5
BMO *e*PP **PP** 22 36 58.9 -2.0
SMRF Simiane la Rot 115.07 315 *e*PKiKP **PKPdf** 22 35 49.8 -0.1
SMRF Simiane la Rot 115.07 315 *e*PKPdf **PKPdf** 22 35 49.8 -0.1
SMMC Simmler 115.13 54⇓ PKiKP **PKiKP** 22 35 51.4 +1.2
baz=115
LOR Lormes 115.27 319 *e*PKiKP **PKPdf** 22 35 49.5 -0.6
comp=Z,40nm,1.3s
LOR Lormes 115.27 319 *e*PKPdf **PKPdf** 22 35 49.5 -0.6
PKM Peak Mountain 115.35 55⇓ PKiKP **PKiKP** 22 35 52.0 +1.1
baz=115
VIVF Saint-Julien-l 115.45 317 *e*PKiKP **PKPdf** 22 35 50.1 -0.5
comp=Z,20nm,1.1s
VIVF Saint-Julien-l 115.45 317 *e*PKiKP **PKPdf** 22 35 50.1 -0.5
VIVF Saint-Julien-l 115.45 317 *e*PKPdf **PKPdf** 22 35 50.1 -0.5
SMF Signal de Mont 115.47 319 *e*PKiKP **PKPdf** 22 35 49.8 -0.7
SMF Signal de Mont 115.47 319 *e*PKiKP **PKPdf** 22 35 49.8 -0.7
SMF Signal de Mont 115.47 319 *e*PKPdf **PKPdf** 22 35 49.8 -0.7
SSF Saint Saulge 115.56 319 *e*PKiKP **PKPdf** 22 35 50.3 -0.4
comp=Z,49nm,0.9s
SSF Saint Saulge 115.56 319 *e*PKiKP **PKPdf** 22 35 50.3 -0.4
SSF Saint Saulge 115.56 319 *e*PKPdf **PKPdf** 22 35 50.3 -0.4
AVF Avril sur Loir 115.75 319 *e*PKiKP **PKPdf** 22 35 50.3 -0.7
comp=Z,32nm,1.0s
AVF Avril sur Loir 115.75 319 *e*PKiKP **PKPdf** 22 35 50.3 -0.7
AVF Avril sur Loir 115.75 319 *e*PKPdf **PKPdf** 22 35 50.3 -0.7
BSMT Bassoco Peak 115.77 40 P **PKPdf** 22 35 51.2 -0.1
VES Vestal, Richgr 115.77 54⇓ PKiKP **PKiKP** 22 35 51.8 +0.4
baz=116
NVAR Mina Array Bea 115.87 51 PKP **PKPdf** 22 35 52.8 +0.9
NVAR PP **PP** 22 37 05.2 -2.1
NVAR Mina Array Bea 115.87 51 PKP **PKPdf** 22 35 52.8 +0.9
comp=Z,6.8nm,0.7s,baz=260,slow=2.1,SNR=26
NVAR PP **PP** 22 37 05.2 -2.1
comp=Z,1.5nm,0.8s,baz=272,slow=7.1,SNR=4.0
WALA Waterton Lakes 115.91 38 *e*PKPdf **PKPdf** 22 35 51.3 -0.1
WALA *e*PP **PP** 22 37 05.6 -1.3
NV11 Mina Array Sit 115.99 51 *e*PKPdf **PKPdf** 22 35 52.5 -0.5
NV11 *e*PP **PP** 22 37 07.3 -0.6
HYF Humbligny 116.06 320 *e*PKiKP **PKPdf** 22 35 51.6 0.0
HYF Humbligny 116.06 320 *e*PKPdf **PKPdf** 22 35 51.6 0.0
ARVC Arvin 116.11 54⇓ PKiKP **PKiKP** 22 35 52.7 +0.7
baz=116
BGF Bois d'Agland 116.15 319 *e*PKiKP **PKPdf** 22 35 51.7 -0.1
comp=Z,46nm,0.7s
BGF Bois d'Agland 116.15 319 *e*PKiKP **PKPdf** 22 35 51.7 -0.1
BGF Bois d'Agland 116.15 319 *e*PKPdf **PKPdf** 22 35 51.7 -0.1
LASF Ste Croix 116.23 316 *e*PKiKP **PKPdf** 22 35 51.7 -0.4
LASF Ste Croix 116.23 316 *e*PKPdf **PKPdf** 22 35 51.7 -0.4
ISA Isabella 116.29 54⇓ PKiKP **PKiKP** 22 35 52.6 0.0
baz=116
SWMT Swartz Lake 116.39 40 *e*PKPdf **PKPdf** 22 35 52.2 -0.2
SWMT *e*PP **PP** 22 37 10.2 -0.1
CWC Cottonwood Cre 116.46 53⇑ PKiKP **PKiKP** 22 35 53.4 +0.5
baz=116
MSO Missoula 116.66 41⇑ PKiKP **PKPdf** 22 35 52.9 -0.1
baz=117
TCF Toulx Ste Croi 116.66 319 *e*PKiKP **PKPdf** 22 35 52.5 -0.3
comp=Z,18nm,0.9s
TCF Toulx Ste Croi 116.66 319 *e*PKiKP **PKPdf** 22 35 52.5 -0.3
TCF Toulx Ste Croi 116.66 319 *e*PKPdf **PKPdf** 22 35 52.5 -0.3
SCI San Clemente I 116.71 57⇓ PKiKP **PKiKP** 22 35 53.4 +0.1
baz=117
CIS Catalina Islan 116.76 56⇑ PKiKP **PKiKP** 22 35 53.8 +0.4
baz=117
SLMT Seeley Lake 116.81 40 *e*PKPdf **PKPdf** 22 35 52.3 -1.0
EDW2 Edwards Air Fo 116.83 54⇓ PKiKP **PKiKP** 22 35 54.3 +0.7
baz=117
MWC Mount Wilson 116.90 55 *e*PKiKP **PKPdf** 22 35 54.3 +0.4
MWC Mount Wilson 116.90 55 *e*PKPdf **PKPdf** 22 35 54.3 +0.4
LRMC Laurel Mountai 116.96 54⇑ PKiKP **PKiKP** 22 35 54.6 +0.7
baz=117
MPMC Manual Prospec 117.00 53⇓ PKiKP **PKiKP** 22 35 55.0 +0.9
baz=117
CHMT Chamberlain Mo 117.07 40 *e*PKPdf **PKPdf** 22 35 53.5 -0.4
CHMT *e*PP **PP** 22 37 13.7 -1.4
CAF Calviac 117.20 317 *e*PKiKP **PKPdf** 22 35 54.0 +0.1
comp=Z,43nm,1.0s
CAF Calviac 117.20 317 *e*PKiKP **PKPdf** 22 35 54.0 +0.1
CAF Calviac 117.20 317 *e*PKPdf **PKPdf** 22 35 54.0 +0.1
BFSC Mount Baldy Ra 117.22 55⇑ PKiKP **PKiKP** 22 35 54.7 +0.2
baz=117
LDF La Druitiere 117.32 322 *e*PKiKP **PKPdf** 22 35 53.4 -0.6
LDF La Druitiere 117.32 322 *e*PKiKP **PKPdf** 22 35 53.4 -0.6
LDF La Druitiere 117.32 322 *e*PKPdf **PKPdf** 22 35 53.4 -0.6
HLID Hailey 117.39 44 *e*PKPdf **PKPdf** 22 35 55.2 +0.7

HLID	Hailey baz=117	117.39	44	⇑PKiKP	PKiKP	22 35 55.4	+0.8
FURC	Furnace Creek, baz=117	117.41	52	⇓PKiKP	PKiKP	22 35 55.6	+1.0
RJF	Les Rejaudoux	117.44	318	ePKIKP	PKPdf	22 35 54.4	+0.1
RJF	Les Rejaudoux	117.44	318	ePKIKP	PKPdf	22 35 54.4	+0.1
RJF	Les Rejaudoux	117.44	318	ePKPdf	PKPdf	22 35 54.4	+0.1
FLN	La Foliniere	117.48	322	ePKIKP	PKPdf	22 35 53.8	-0.5
FLN	La Foliniere	117.48	322	ePKIKP	PKPdf	22 35 53.8	-0.5
FLN	La Foliniere	117.48	322	ePKPdf	PKPdf	22 35 53.8	-0.5
MTLF	Montolieu comp=Z,23nm,1.1s	117.59	316	ePKIKP	PKPdf	22 35 54.1	-0.6
MTLF	Montolieu	117.59	316	ePKIKP	PKPdf	22 35 54.1	-0.6
MTLF	Montolieu	117.59	316	ePKPdf	PKPdf	22 35 54.1	-0.6
ELK	Elko	117.61	47	ePKPdf	PKPdf	22 35 55.5	+0.3
ELK				ePP	PP	22 37 19.2	+0.1
GSC	Goldstone	117.70	54	ePKIKP	PKPdf	22 35 55.2	-0.1
GSC	Goldstone	117.70	54	ePKPdf	PKPdf	22 35 55.2	-0.1
GSC	Goldstone baz=118	117.70	54	⇓PKiKP	PKiKP	22 35 55.9	+0.6
MURC	Murrieta baz=118	117.71	56	⇓PKiKP	PKiKP	22 35 55.7	+0.4
GRR	Gorron	117.85	322	ePKIKP	PKPdf	22 35 54.4	-0.6
GRR	Gorron	117.85	322	ePKIKP	PKPdf	22 35 54.4	-0.6
GRR	Gorron	117.85	322	ePKPdf	PKPdf	22 35 54.4	-0.6
109C	Camp Elliot, M baz=118	117.92	56	⇓PKiKP	PKiKP	22 35 56.2	+0.5
R11A	Troy Canyon, C	117.97	50	ePKPdf	PKPdf	22 35 56.5	+0.7
R11A				ePP	PP	22 37 19.6	-1.9
R11A	Troy Canyon, C baz=118	117.97	50	⇓PKiKP	PKiKP	22 35 56.3	+0.5
SHOC	Shoshone baz=118	117.99	53	⇑PKiKP	PKiKP	22 35 56.4	+0.6
DLMT	Dillon	118.04	42	ePKPdf	PKPdf	22 35 55.0	-0.7
MCMT	McKenzie Canyo	118.05	42	ePKPdf	PKPdf	22 35 56.7	+0.8
MCMT				ePP	PP	22 37 16.7	-5.1
MFF	Saint Martin d comp=Z,49nm,1.0s	118.08	320	ePKIKP	PKPdf	22 35 55.0	-0.5
MFF	Saint Martin d	118.08	320	ePKIKP	PKPdf	22 35 55.0	-0.5
MFF	Saint Martin d	118.08	320	ePKPdf	PKPdf	22 35 55.0	-0.5
LFF	La Frestale comp=Z,48nm,1.0s	118.08	318	ePKIKP	PKPdf	22 35 55.6	0.0
LFF	La Frestale	118.08	318	ePKIKP	PKPdf	22 35 55.6	0.0
LFF	La Frestale	118.08	318	ePKPdf	PKPdf	22 35 55.6	0.0
HEC	Hector,Ludlow baz=118	118.18	54	⇑PKiKP	PKiKP	22 35 56.4	+0.2
PFO	Pinyon Flat Ob	118.32	56	ePKPdf	PKPdf	22 35 57.2	+0.6
PFO				PKP	PKPdf	22 35 57.9	+1.3
PFO	Pinyon Flat Ob baz=118	118.32	56	⇓PKiKP	PKPdf	22 35 57.1	+0.6
PFO	Pinyon Flat Ob comp=Z,29nm,1.0s,baz=230,slow=0.7	118.32	56	PKP	PKPdf	22 35 57.9	+1.3
LCCM	Lewis and Clar	118.34	41	P	PKPdf	22 35 56.5	+0.2
TUQ	Turquoise Moun baz=118	118.38	53	⇓PKiKP	PKiKP	22 35 57.3	+0.7
MONP	Monument Peak baz=118	118.48	56	⇑PKiKP	PKiKP	22 35 57.9	+0.8
BELC	Belle Mtn. Jos baz=119	118.61	55	⇑PKiKP	PKiKP	22 35 58.0	+0.8
GMRC	Granite Mounta baz=119	118.73	54	⇑PKiKP	PKiKP	22 35 58.5	+1.1
SHPR	Sheep Range	118.74	52	ePKPdf	PKPdf	22 35 57.8	+0.4
EGMT	Eagleton	118.85	38	ePKPdf	PKPdf	22 35 56.6	-0.5
EGMT	Eagleton baz=119	118.85	38	⇓PKiKP	PKiKP	22 35 57.3	+0.2
TAM	Tamanrasset	118.87	292	ePKIKP	PKPdf	22 35 58.3	+0.4
TAM	Tamanrasset	118.87	292	ePKPdf	PKPdf	22 35 58.3	+0.4
SGMF	Saint Gilles	118.94	322	ePKIKP	PKPdf	22 35 57.2	+0.1
SGMF	Saint Gilles	118.94	322	ePKIKP	PKPdf	22 35 57.2	+0.1
SGMF	Saint Gilles	118.94	322	ePKPdf	PKPdf	22 35 57.2	+0.1
EPF	Esparros comp=Z,11nm,0.8s	118.99	316	ePKIKP	PKPdf	22 35 57.1	-0.4
EPF	Esparros	118.99	316	ePKIKP	PKPdf	22 35 57.1	-0.4
EPF	Esparros	118.99	316	ePKPdf	PKPdf	22 35 57.1	-0.4
SWSC	Sam W. Stewart baz=119	118.99	56	⇑PKiKP	PKiKP	22 35 58.5	+0.7
HVU	Hansel Valley	119.09	46	ePKIKP	PKPdf	22 35 58.1	+0.3
HVU	Hansel Valley	119.09	46	ePKPdf	PKPdf	22 35 58.1	+0.3
A19A	Klindworth Far baz=119	119.09	37	⇑PKiKP	PKPdf	22 35 57.5	0.0
BC3	Big Chuckawall baz=119	119.13	55	⇓PKiKP	PKiKP	22 35 58.4	+0.2
BGU	Big Grassy Mou	119.17	47	ePKPdf	PKPdf	22 35 58.3	+0.3
B19A	Brinkman Farms baz=119	119.17	37	⇑PKiKP	PKiKP	22 35 57.7	0.0
IRM	Iron Mountain baz=119	119.27	55	⇑PKiKP	PKiKP	22 35 58.9	+0.6
ROSF	Rostrenen	119.35	322	ePKIKP	PKPdf	22 35 57.8	-0.1
ROSF	Rostrenen	119.35	322	ePKIKP	PKPdf	22 35 57.8	-0.1
ROSF	Rostrenen	119.35	322	ePKPdf	PKPdf	22 35 57.8	-0.1
YMR	Madison River	119.36	42	ePKPdf	PKPdf	22 35 59.3	+0.9
C19A	Slack Wire Ran baz=119	119.41	38	⇓PKiKP	PKiKP	22 35 58.5	+0.3
YFT	Old Faithful	119.53	42	ePKPdf	PKPdf	22 35 59.7	+0.9
DUG	Dugway baz=120	119.54	47	⇑PKiKP	PKiKP	22 35 59.3	+0.5
RRI2	Red Ridge	119.59	44	ePKPdf	PKPdf	22 35 59.1	+0.2
A20A	Cobblestone Ra baz=120	119.60	37	⇑PKiKP	PKPdf	22 35 58.4	-0.1
ETSF	Etsaut comp=Z,18nm,0.9s	119.66	316	ePKIKP	PKPdf	22 35 59.2	+0.4
ETSF	Etsaut	119.66	316	ePKIKP	PKPdf	22 35 59.2	+0.4
ETSF	Etsaut	119.66	316	ePKPdf	PKPdf	22 35 59.2	+0.4
IMW	Indian Meadow	119.66	43	ePKPdf	PKPdf	22 35 59.2	+0.2
H17A	Grant Village baz=120	119.72	42	⇓PKiKP	PKiKP	22 35 60.0	+0.8
B20A	Solberg Farm, baz=120	119.73	37	⇑PKiKP	PKiKP	22 35 59.1	+0.2
D19A	Cripps Ranch, baz=120	119.75	39	⇑PKiKP	PKiKP	22 35 58.9	0.0
GLA	Glamis baz=120	119.77	56	⇑PKiKP	PKiKP	22 35 59.7	+0.4
TPAW	Teton Pass	119.79	43	ePKPdf	PKPdf	22 35 59.3	0.0
TPAW				ePP	PP	22 37 33.3	-0.3
FFC	Flin Flon	119.83	29	/ PKiKP	PKPdf	22 35 59.0	+0.4
MOOW	Moose Ponds	119.84	43	ePKPdf	PKPdf	22 35 59.3	0.0
MOOW				ePP	PP	22 37 33.4	-0.6
Y12C	Blythe baz=120	119.87	55	⇑PKiKP	PKiKP	22 35 59.9	+0.4
I17A	Pilgrim Ck. baz=120	119.89	43	⇑PKiKP	PKiKP	22 36 00.2	+0.7
REDW	Red Top Meadow	119.91	43	ePKPdf	PKPdf	22 35 59.6	+0.2
REDW				ePP	PP	22 37 33.7	-0.7
SNOW	Snow King Moun	119.94	43	ePKPdf	PKPdf	22 36 00.0	+0.5
LOHW	Long Hollow	119.99	43	ePKPdf	PKPdf	22 36 00.0	+0.4
LOHW				ePP	PP	22 37 35.3	+0.4
SJPF	Ste Jean comp=Z,22nm,0.8s	120.04	316	ePKIKP	PKPdf	22 35 59.7	+0.3
SJPF	Ste Jean	120.04	316	ePKIKP	PKPdf	22 35 59.7	+0.3
SJPF	Ste Jean	120.04	316	ePKPdf	PKPdf	22 35 59.7	+0.3
C20A	Veseth Ranch, baz=120	120.06	38	⇓PKiKP	PKiKP	22 35 59.5	0.0
PDMCI	Parker Dam,Lak baz=120	120.06	54	⇑PKiKP	PKiKP	22 36 00.1	+0.3
W13A	Hualapai Mount baz=120	120.08	53	⇑PKiKP	PKiKP	22 36 00.7	+0.6
E19A	Rath Farm, Rou baz=120	120.09	40	⇓PKiKP	PKiKP	22 35 59.8	+0.1
A21A	Bergtoll Ranch baz=120	120.14	36	⇓PKiKP	PKPdf	22 35 59.4	0.0
NLU	North Lily Min	120.15	48	ePKPdf	PKPdf	22 35 59.9	-0.1
H18A	Shoshone NF, C baz=120	120.22	42	⇑PKiKP	PKPdf	22 36 00.1	0.0
F19A	Roth Farm, Mol baz=120	120.24	40	⇑PKiKP	PKiKP	22 35 60.0	0.0
D20A	Manuel Ranch, baz=120	120.24	39	⇑PKiKP	PKPdf	22 35 59.8	0.0
RLMT	Red Lodge	120.31	41	ePKPdf	PKPdf	22 35 59.7	-0.5
RLMT				ePP	PP	22 37 36.5	-0.6
B21A	Ellsworth Farm baz=120	120.34	37	⇓PKiKP	PKiKP	22 36 00.2	+0.2
JLU	Jordanelle	120.41	47	ePKPdf	PKPdf	22 36 00.5	-0.1
E20A	Meyer Farm, Mu baz=120	120.49	39	⇑PKiKP	PKPdf	22 36 00.2	-0.1
C21A	Desert Coulee baz=120	120.56	38	⇑PKiKP	PKiKP	22 36 00.5	+0.1
H19A	Powell baz=121	120.67	41	⇑PKiKP	PKiKP	22 36 01.4	+0.5
113A	Mohawk Valley, baz=121	120.70	56	⇑PKiKP	PKiKP	22 36 01.1	0.0
A22A	Carney Farms, baz=121	120.73	36	⇑PKiKP	PKiKP	22 36 00.8	0.0
F20A	Billings baz=121	120.77	40	⇑PKiKP	PKPdf	22 36 00.7	-0.2
I19A	Meeteetse baz=121	120.91	42	⇓PKiKP	PKiKP	22 36 01.4	-0.1
D21A	La Casta Ranch baz=121	120.95	38	⇑PKiKP	PKiKP	22 36 01.4	+0.1
G20A	Bridger baz=121	120.96	41	⇓PKiKP	PKiKP	22 36 01.6	+0.1
U15A	North Rim baz=121	121.00	52	⇓PKiKP	PKiKP	22 36 02.8	+0.9
B22A	Reddig Ranch S baz=121	121.00	37	⇑PKiKP	PKiKP	22 36 01.6	+0.2
BW06	Boulder Array	121.00	44	ePKPdf	PKPdf	22 36 01.5	-0.1
PDAR	Pinedale Array	121.00	44	PKP	PKPdf	22 36 01.4	-0.1
PDAR				PKKPbc	PKKPbc	22 46 06.0	-2.3
PDAR	Pinedale Array comp=Z,9.2nm,0.9s,baz=192,slow=2.0,SNR=41	121.00	44	PKP	PKPdf	22 36 01.4	-0.1
PDAR	comp=Z,1.8nm,0.9s,baz=119,slow=4.5,SNR=8.6			PKKPbc	PKKPbc	22 46 06.0	-2.3
Y14A	Wickenburg baz=121	121.06	54	⇓PKiKP	PKiKP	22 36 02.4	+0.5
E21A	Keefer Ranch, baz=121	121.13	39	⇓PKiKP	PKiKP	22 36 02.2	+0.5
Q16A	Castle Valley	121.14	48	ePKPdf	PKPdf	22 36 02.1	+0.2
Q16A	Castle Valley baz=121	121.14	48	⇑PKiKP	PKiKP	22 36 02.3	+0.2
J19A	Crowheart baz=121	121.16	43	⇓PKiKP	PKiKP	22 36 02.3	+0.3
Z14A	Wintersburg baz=121	121.24	55	⇑PKiKP	PKiKP	22 36 02.5	+0.4
C22A	Vida baz=121	121.32	37	⇓PKiKP	PKiKP	22 36 02.3	+0.3
A23A	Redstone baz=121	121.34	36	⇑PKiKP	PKiKP	22 36 02.0	+0.1
H20A	Greybull baz=121	121.39	41	⇑PKiKP	PKPdf	22 36 02.2	+0.1
D22A	Cohagen baz=121	121.42	38	⇓PKiKP	PKiKP	22 36 02.8	+0.6
B23A	Brockton baz=121	121.52	36	⇓PKiKP	PKiKP	22 36 02.7	+0.4
I20A	Worland baz=122	121.52	42	⇓PKiKP	PKiKP	22 36 03.0	+0.4
SRU	San Rafael	121.56	48	ePKIKP	PKPdf	22 36 03.2	+0.5
SRU	San Rafael	121.56	48	ePKPdf	PKPdf	22 36 03.2	+0.5
LAO	LASA Array	121.59	38	ePKPdf	PKPdf	22 36 03.2	+0.8
G21A	Lodge Grass baz=122	121.61	40	⇑PKiKP	PKiKP	22 36 02.9	+0.2
214A	Organ Pipe Nat baz=122	121.66	57	⇑PKiKP	PKiKP	22 36 03.2	+0.1
C23A	Lambert baz=122	121.72	37	⇑PKiKP	PKiKP	22 36 03.2	+0.4
J20A	Shoshoni baz=122	121.78	43	⇓PKiKP	PKiKP	22 36 03.3	+0.2
A24A	Westby baz=122	121.86	35	⇓PKiKP	PKiKP	22 36 03.2	+0.2
E22A	Miles City baz=122	121.88	39	⇓PKiKP	PKiKP	22 36 03.4	+0.3
WUAZ	Wupatki	121.96	52	ePKPdf	PKPdf	22 36 04.1	+0.6
WUAZ	Wupatki baz=122	121.96	52	⇑PKiKP	PKiKP	22 36 04.4	+0.6
H21A	Big Horn, Sher baz=122	121.96	41	⇓PKiKP	PKPdf	22 36 03.3	0.0
F22A	Rosebud baz=122	121.97	39	⇑PKiKP	PKiKP	22 36 03.4	0.0
DGMT	Dagmar baz=122	121.98	36	⇑PKiKP	PKPdf	22 36 03.0	0.0
D23A	Lindsay baz=122	122.00	38	⇑PKiKP	PKiKP	22 36 04.1	+0.7
I21A	Big Trails, Te baz=122	122.13	42	⇓PKiKP	PKPdf	22 36 03.5	-0.1
O19A	Miners Draw (B baz=122	122.18	46	⇓PKiKP	PKPdf	22 36 03.8	0.0
G22A	Birney baz=122	122.19	40	⇑PKiKP	PKPdf	22 36 03.5	-0.1
X16A	Lo Mia Camp, P baz=122	122.19	54	⇑PKiKP	PKiKP	22 36 05.2	+0.9
J21A	Lysite baz=122	122.22	42	⇑PKiKP	PKPdf	22 36 03.9	+0.1
E23A	Ismay baz=122	122.25	38	⇑PKiKP	PKiKP	22 36 04.3	+0.4
C24A	Savage baz=122	122.30	37	⇑PKiKP	PKiKP	22 36 04.2	+0.3
A25A	Svangstu Ranch baz=122	122.36	35	⇓PKiKP	PKiKP	22 36 04.2	+0.3
H22A	Clearmont baz=122	122.42	41	⇑PKiKP	PKPdf	22 36 03.9	-0.2
P19A	Cripple Cowboy baz=122	122.51	47	⇓PKiKP	PKiKP	22 36 05.3	+0.5
F23A	Volborg baz=122	122.53	39	⇓PKiKP	PKiKP	22 36 04.5	0.0
D24A	Glendive baz=122	122.55	37	⇑PKiKP	PKiKP	22 36 04.9	+0.5
N20A	Spence Gulch, baz=123	122.61	45	⇑PKiKP	PKiKP	22 36 05.5	+0.5
K21A	Alcova baz=123	122.63	43	⇓PKiKP	PKiKP	22 36 04.9	0.0
I22A	9 Mile Ranch, baz=123	122.63	41	⇑PKiKP	PKPdf	22 36 04.4	-0.1
B25A	Knox Farm, Ray baz=123	122.67	36	⇑PKiKP	PKiKP	22 36 05.0	+0.4
G23A	Biddle baz=123	122.78	40	⇓PKiKP	PKPdf	22 36 04.7	0.0
E24A	Baker baz=123	122.83	38	⇓PKiKP	PKiKP	22 36 05.3	+0.3
J22A	Midwest baz=123	122.83	42	⇓PKiKP	PKiKP	22 36 05.1	-0.1
O20A	White River Ci	122.87	46	ePKPdf	PKPdf	22 36 05.3	+0.1
O20A	White River Ci baz=123	122.87	46	⇓PKiKP	PKiKP	22 36 05.8	+0.3
C25A	Freed Ranch, W baz=123	122.90	36	⇓PKiKP	PKiKP	22 36 05.5	+0.4
TOA0	Torodi Ar. Sit	122.94	281	ePKPdf	PKPdf	22 36 05.3	-0.4
TORD	Torodi Ar. Bea	122.94	281	PKP	PKPdf	22 36 05.3	-0.4
TORD				pPKP	pPKPdf	22 38 26.6	-0.4
TORD				SKP		22 38 43.3	
TORD				PKKPbc	PKKPbc	22 45 59.8	-0.3
TORD	Torodi Ar. Bea comp=Z,21nm,0.8s,baz=65,slow=1.9,SNR=116	122.94	281	PKP	PKPdf	22 36 05.3	-0.4
TORD	comp=Z,3.2nm,1.1s,baz=30,slow=2.7,SNR=4.3			pPKP	pPKPdf	22 38 26.6	-0.4
TORD	comp=Z,3.2nm,1.0s,baz=81,slow=1.7,SNR=3.9			SKP		22 38 43.3	
TORD	comp=Z,1.1nm,0.7s,baz=286,slow=5.1,SNR=8.2			PKKPbc	PKKPbc	22 45 59.8	-0.3
P20A	De Beque baz=123	122.99	47	⇑PKiKP	PKiKP	22 36 05.9	+0.2
H23A	Clabaugh Cattl baz=123	123.05	40	⇑PKiKP	PKiKP	22 36 06.0	+0.4
F24A	Ekalaka baz=123	123.08	39	⇓PKiKP	PKiKP	22 36 05.5	-0.1
K22A	Casper	123.11	43	ePKPdf	PKPdf	22 36 05.3	-0.2
K22A	Casper baz=123	123.11	43	⇓PKiKP	PKPdf	22 36 05.5	-0.1
D25A	Fairfield baz=123	123.14	37	⇓PKiKP	PKiKP	22 36 06.1	+0.5
B26A	Jensen Ranch, baz=123	123.15	35	⇑PKiKP	PKiKP	22 36 05.5	-0.1
ESDC	Sonseca Array	123.18	313	PKP	PKPdf	22 36 06.2	+0.5
ESDC	Sonseca Array comp=Z,5.2nm,0.8s,baz=15,slow=2.9,SNR=23	123.18	313	PKP	PKPdf	22 36 06.2	+0.5
Q20A	Ridgley Place, baz=123	123.25	48	⇑PKiKP	PKiKP	22 36 06.8	+0.6
TUC	Tucson	123.25	56	ePKIKP	PKPdf	22 36 06.8	+0.8
TUC	Tucson	123.25	56	ePKPdf	PKPdf	22 36 06.8	+0.8
I23A	Meade Ranch, G baz=123	123.27	41	⇑PKiKP	PKPdf	22 36 05.6	-0.2
PV01	Paradox Valley	123.32	49	ePKPdf	PKPdf	22 36 06.8	+0.6
G24A	Jazada baz=123	123.33	39	⇓PKiKP	PKPdf	22 36 05.6	-0.2
X18A	Snowflake baz=123	123.35	53	⇓PKiKP	PKiKP	22 36 07.2	+0.6
W18A	Petrified Fore	123.36	52	ePKPdf	PKPdf	22 36 07.1	+0.9
W18A	Petrified Fore baz=123	123.36	52	⇑PKiKP	PKPdf	22 36 07.2	+0.9
O21A	Pagoda baz=123	123.39	46	⇑PKiKP	PKiKP	22 36 06.7	+0.1
E25A	Miller Ranch, baz=123	123.41	38	⇑PKiKP	PKiKP	22 36 06.4	+0.2
A27A	Ledoux Ranch, baz=123	123.41	34	⇑PKiKP	PKiKP	22 36 06.3	+0.3
L22A	Ellis Ranch, M baz=123	123.42	43	⇓PKiKP	PKiKP	22 36 06.6	+0.1
R20A	Redvale baz=123	123.44	48	⇓PKiKP	PKiKP	22 36 07.4	+0.7
J23A	Dilts Ranch, B baz=123	123.45	42	⇓PKiKP	PKPdf	22 36 05.8	-0.4
H24A	Dirks Ranch, A baz=123	123.51	40	⇑PKiKP	PKPdf	22 36 05.9	-0.2
C26A	Wahner Farm, P baz=123	123.52	36	⇓PKiKP	PKiKP	22 36 06.4	+0.1
M22A	Cedar Creek Ra baz=124	123.56	44	⇑PKiKP	PKPdf	22 36 06.6	0.0
S20A	Disappointment baz=124	123.58	49	⇓PKiKP	PKiKP	22 36 07.6	+0.6
F25A	Bowman baz=124	123.65	38	⇑PKiKP	PKiKP	22 36 06.8	+0.1
P21A	Newcastle baz=124	123.66	47	⇓PKiKP	PKiKP	22 36 07.1	0.0
K23A	Bowen Ranch, D baz=124	123.67	42	⇑PKiKP	PKPdf	22 36 06.4	-0.3
MVCO	Mesa Verde	123.67	50	ePKPdf	PKPdf	22 36 07.3	+0.4
MVCO	Mesa Verde baz=124	123.67	50	⇑PKiKP	PKiKP	22 36 07.9	+0.7
B27A	Peters Farms, baz=124	123.69	35	⇑PKiKP	PKiKP	22 36 06.5	-0.1
D26A	Manning baz=124	123.72	37	⇓PKiKP	PKiKP	22 36 06.7	0.0
Q21A	Lamborn Mesa, baz=124	123.82	47	⇓PKiKP	PKiKP	22 36 08.0	+0.6
I24A	Kuemmerle Ranc baz=124	123.86	41	⇑PKiKP	PKPdf	22 36 06.4	-0.5
L23A	Garrett baz=124	123.89	43	⇑PKiKP	PKPdf	22 36 06.9	-0.2
N22A	Wattenberg Ran baz=124	123.89	45	⇑PKiKP	PKiKP	22 36 07.9	+0.4
C27A	Sayler Ranch, baz=124	123.92	35	⇓PKiKP	PKiKP	22 36 07.3	+0.2
U20A	Newcomb baz=124	123.92	51	⇓PKiKP	PKiKP	22 36 08.2	+0.5
A28A	Rude Farm, Bot baz=124	123.97	34	⇓PKiKP	PKiKP	22 36 07.1	-0.1
E26A	Carlson Angus baz=124	123.99	37	⇓PKiKP	PKiKP	22 36 07.3	0.0
R21A	Cimarron baz=124	124.00	48	⇓PKiKP	PKiKP	22 36 08.3	+0.5
G25A	Newell baz=124	124.02	39	⇑PKiKP	PKPdf	22 36 07.1	0.0
S21A	Coal Bank Pass baz=124	124.06	49	⇑PKiKP	PKiKP	22 36 08.9	+0.9
J24A	Dixon Ranch, L baz=124	124.07	41	⇓PKiKP	PKPdf	22 36 07.1	-0.2
O22A	Kremmling baz=124	124.07	46	⇓PKiKP	PKPdf	22 36 07.5	-0.2
RSSD	Black Hills	124.12	40	ePKIKP	PKPdf	22 36 07.2	-0.3
RSSD	Black Hills	124.12	40	ePKPdf	PKPdf	22 36 07.2	-0.3
P22A	Eagle baz=124	124.13	46	⇑PKiKP	PKiKP	22 36 08.7	+0.6
M23A	Laramie baz=124	124.14	44	⇓PKiKP	PKiKP	22 36 07.8	-0.1
V20A	Brimhall baz=124	124.14	51	⇓PKiKP	PKiKP	22 36 08.4	+0.3
F26A	Lodgepole baz=124	124.17	38	⇑PKiKP	PKPdf	22 36 07.3	0.0
B28A	Dugan Ranch, T baz=124	124.17	34	⇑PKiKP	PKiKP	22 36 07.5	0.0
H25A	Fruitdale baz=124	124.17	40	⇓PKiKP	PKPdf	22 36 07.1	-0.3
N23A	Red Feather La baz=124	124.21	45	⇓PKiKP	PKiKP	22 36 08.3	+0.1
D27A	Center baz=124	124.22	36	⇑PKiKP	PKiKP	22 36 07.7	0.0
K24A	Anderson Ranch baz=124	124.23	42	⇑PKiKP	PKPdf	22 36 07.6	-0.1
Q22A	Crested Butte, baz=124	124.29	47	⇑PKiKP	PKiKP	22 36 08.8	+0.3
W20A	Ramah baz=124	124.32	52	⇓PKiKP	PKiKP	22 36 08.9	+0.4
I25A	Rochford baz=124	124.36	40	⇓PKiKP	PKPdf	22 36 07.7	-0.3
T21A	Navajo Lake baz=124	124.47	50	⇑PKiKP	PKiKP	22 36 09.2	+0.4
G26A	Maurine baz=124	124.48	38	⇓PKiKP	PKPdf	22 36 07.9	-0.1
O23A	Lake Granby, G baz=124	124.50	45	⇑PKiKP	PKiKP	22 36 09.0	+0.1
X20A	Quemado baz=124	124.50	53	⇓PKiKP	PKiKP	22 36 09.3	+0.4
A29A	Manning Farm, baz=124	124.53	33	⇑PKiKP	PKPdf	22 36 07.8	0.0
E27A	Carson baz=124	124.54	37	⇑PKiKP	PKiKP	22 36 08.5	+0.1
F27A	Lemmon baz=124	124.55	38	⇑PKiKP	PKPdf	22 36 08.2	+0.1
C28A	Hausauer Farms baz=124	124.56	35	⇓PKiKP	PKiKP	22 36 08.3	0.0
U21A	Nageezi baz=124	124.57	50	⇓PKiKP	PKiKP	22 36 10.0	+1.0
J25A	Sunshine Ranch baz=124	124.60	41	⇓PKiKP	PKiKP	22 36 08.5	-0.2
R22A	Saguache, Gunn baz=125	124.63	48	⇓PKiKP	PKiKP	22 36 09.9	+0.8
H26A	Fairpoint baz=125	124.69	39	⇑PKiKP	PKPdf	22 36 08.4	+0.1
B29A	Wagenman Farm, baz=125	124.72	34	⇓PKiKP	PKiKP	22 36 08.5	-0.2
319A	Douglas baz=125	124.72	57	⇓PKiKP	PKiKP	22 36 10.0	+0.7
D28A	Regan baz=125	124.73	36	⇓PKiKP	PKiKP	22 36 08.6	-0.2
S22A	4UR Ranch, Cre baz=125	124.75	48	⇓PKiKP	PKiKP	22 36 10.1	+0.7
M24A	Cheyenne baz=125	124.75	44	⇑PKiKP	PKiKP	22 36 09.0	-0.2
MVO	Moncorvo	124.77	316	ePKPdf	PKPdf	22 36 09.7	+1.1
Y20A	Horse Springs, baz=125	124.78	53	⇓PKiKP	PKiKP	22 36 09.9	+0.4
V21A	Milan baz=125	124.78	51	⇓PKiKP	PKiKP	22 36 09.8	+0.4
Z20A	Nine Sixteen R baz=125	124.83	54	⇓PKiKP	PKiKP	22 36 10.2	+0.7
G27A	Dupree baz=125	124.85	38	⇓PKiKP	PKPdf	22 36 08.4	-0.3
ISCO	Idaho Springs	124.87	46	ePKIKP	PKPdf

	baz=125									
D29A	Pettibone, Tap	125.36	35	⇓PKiK	PKPdf	22 36	09.3	-0.3		
	baz=125									
I27A	Quinn	125.41	40	⇑PKiK	PKPdf	22 36	09.8	0.0		
	baz=125									
MTE	Manteigas	125.44	315	*e*PKPdf	PKPdf	22 36	11.1	+1.2		
ULM	Lac du Bonnet	125.50	30	PKP	PKPdf	22 36	09.3	-0.3		
ULM	Lac du Bonnet	125.50	30	PKP	PKPdf	22 36	09.3	-0.3		
	comp=Z,20nm,0.8s,baz=302,slow=1.7,SNR=20									
Z21A	St. Cloud Mine	125.52	54	⇑PKiK	PKiKP	22 36	11.6	+0.7		
	baz=126									
Q24A	Divide	125.53	46	⇓PKiK	PKiKP	22 36	10.9	-0.1		
	baz=126									
N25A	Grover	125.53	44	⇓PKiK	PKiKP	22 36	10.7	0.0		
	baz=126									
T23A	Casias Ranch,	125.58	49	⇓PKiK	PKiKP	22 36	11.8	+0.7		
	baz=126									
G28A	Parade	125.62	38	⇑PKiK	PKPdf	22 36	10.0	-0.1		
	baz=126									
PCBR	Castelo Branco	125.62	315	*e*PKPdf	PKPdf	22 36	11.4	+1.2		
C30A	Mose, Pekin	125.64	34	⇑PKiK	PKPdf	22 36	09.8	-0.2		
	baz=126									
121A	Cookes Peak, D	125.64	55	⇑PKiK	PKiKP	22 36	11.5	+0.3		
	baz=126									
X22A	Bernardo	125.68	52	⇑PKiK	PKiKP	22 36	12.0	+0.8		
	baz=126									
U23A	El Rito	125.71	50	⇓PKiK	PKiKP	22 36	12.1	+0.8		
	baz=126									
PMRV	Marv??o	125.73	314	*e*PKPdf	PKPdf	22 36	11.4	+0.9		
H28A	Mission Ridge	125.76	38	⇓PKiK	PKPdf	22 36	10.0	-0.4		
	baz=126									
O25A	Wiggins	125.80	45	⇑PKiK	PKiKP	22 36	11.3	+0.1		
	baz=126									
LENM	Lemitar	125.81	53	*e*PKPdf	PKPdf	22 36	11.3	+0.3		
LENM				*e*PP	PP	22 38	12.8	-1.0		
D30A	Buchanan	125.81	35	⇑PKiK	PKPdf	22 36	10.1	-0.3		
	baz=126									
J27A	Elkhorn Farm,	125.83	40	⇑PKiK	PKPdf	22 36	10.7	+0.1		
	baz=126									
R24A	Sanders Place,	125.84	47	⇑PKiK	PKiKP	22 36	11.6	+0.2		
	baz=126									
F29A	Eureka	125.89	37	⇓PKiK	PKPdf	22 36	10.3	-0.3		
	baz=126									
Y22A	Socorro	125.89	53	⇑PKiK	PKiKP	22 36	12.2	+0.6		
	baz=126									
V23A	Ortiz Mt. (NFS	125.92	50	⇓PKiK	PKiKP	22 36	12.9	+1.2		
	baz=126									
K27A	Flueckinger Fa	125.94	41	⇑PKiK	PKPdf	22 36	10.6	-0.3		
	baz=126									
PBAR	Barrancos	125.96	313	*e*PKPdf	PKPdf	22 36	12.1	+1.2		
ANMO	Albuquerque	125.97	52	*e*PKPdf	PKPdf	22 36	11.8	+0.5		
ANMO				*e*PP	PP	22 38	13.3	-1.5		
S24A	Houchin Ranch,	125.98	48	⇓PKiK	PKiKP	22 36	12.4	+0.5		
	baz=126									
I28A	Midland	126.00	39	⇓PKiK	PKPdf	22 36	10.9	+0.1		
	baz=126									
P25A	Willow Gulch B	126.01	45	⇓PKiK	PKiKP	22 36	11.9	+0.2		
	baz=126									
LPM	Los Pinos Moun	126.04	52	*e*PKPdf	PKPdf	22 36	11.4	0.0		
E30A	Jud	126.06	36	⇓PKiK	PKPdf	22 36	10.9	0.0		
	baz=126									
T24B	San Luis	126.07	49	⇓PKiK	PKiKP	22 36	12.1	0.0		
	baz=126									
PESTR	Estremoz	126.09	314	*e*PKPdf	PKPdf	22 36	12.1	+0.9		
BNM	Barren Site	126.09	52	*e*PKPdf	PKPdf	22 36	12.1	+0.5		
BNM				*e*PP	PP	22 38	12.9	-2.8		
Z22A	Elephant Butte	126.10	54	⇓PKiK	PKiKP	22 36	12.3	+0.3		
	baz=126									
N26A	Koester Ranch,	126.12	44	⇑PKiK	PKPdf	22 36	11.3	0.0		
	baz=126									
W23A	Werner Place,	126.14	51	⇓PKiK	PKiKP	22 36	12.4	+0.3		
	baz=126									
Q25A	Bedland, Calha	126.19	46	⇓PKiK	PKPdf	22 36	11.8	+0.1		
	baz=126									
122A	Conniff Cattle	126.23	54	⇑PKiK	PKiKP	22 36	12.3	0.0		
	baz=126									
J28A	Allard Ranch,	126.24	40	⇑PKiK	PKPdf	22 36	11.3	-0.1		
	baz=126									
PCAS	Casmilo, Conde	126.25	315	*e*PKPdf	PKPdf	22 36	12.3	+0.9		
H29A	Onida	126.28	38	⇑PKiK	PKPdf	22 36	11.1	-0.2		
	baz=126									
X23A	Hourglass Bar	126.30	52	⇓PKiK	PKPdf	22 36	11.8	-0.2		
	baz=126									
O26A	Horse Wrangler	126.31	44	⇓PKiK	PKPdf	22 36	11.4	-0.3		
	baz=126									
222A	Williams Famil	126.32	55	⇓PKiK	PKiKP	22 36	12.5	0.0		
	baz=126									
F30A	Leola	126.36	36	⇓PKiK	PKPdf	22 36	11.1	-0.4		
	baz=126									
PTOM	Tomar	126.37	315	*e*PKPdf	PKPdf	22 36	13.0	+1.4		
PMTG	Montargil	126.46	314	*e*PKPdf	PKPdf	22 36	12.6	+0.8		
R25A	Fountain Ranch	126.47	47	⇓PKiK	PKPdf	22 36	12.2	+0.1		
	baz=126									
EVO	Evora	126.53	314	⇑*i*PKiKP	PKPdf	22 36	13.0	+1.0		
	comp=Z,43nm,1.2s									
EVO	Evora	126.53	314	*e*PKPdf	PKPdf	22 36	13.2	+1.2		
I29A	Vivian Onida	126.53	39	⇓PKiK	PKPdf	22 36	11.7	-0.2		
	baz=126									
S25A	Robets Cordova	126.54	48	⇑PKiK	PKiKP	22 36	12.7	-0.2		
	baz=126									
P26A	Davis Ranch, A	126.57	45	⇑PKiK	PKPdf	22 36	12.2	0.0		
	baz=126									
N27A	Anderson Farm,	126.60	43	⇓PKiK	PKPdf	22 36	12.1	-0.1		
	baz=126									
EVOP	Sao Brissos	126.61	314	⇑*i*PKiKP	PKPdf	22 36	13.0	+0.9		
EVOP	Sao Brissos	126.61	314	⇑*i*PKPdf	PKPdf	22 36	13.0	+0.9		
Y23A	Lovelace Mesa,	126.61	53	⇓PKiK	PKiKP	22 36	13.2	+0.1		
	baz=127									
PBEJ	Beja	126.62	313	*e*PKPdf	PKPdf	22 36	13.4	+1.2		
V24A	Rampart Ranch,	126.62	50	⇓PKiK	PKiKP	22 36	13.9	+0.8		
	baz=127									
G30A	Faulkton	126.67	37	⇓PKiK	PKPdf	22 36	11.8	-0.3		
	baz=127									
Z23A	Rita Site, Whi	126.68	53	⇑PKiK	PKiKP	22 36	13.6	+0.5		
	baz=127									
W24A	Lazy 6 Ranch,	126.69	51	⇑PKiK	PKiKP	22 36	13.5	+0.2		
	baz=127									
Q26A	Hugo	126.71	46	⇓PKiK	PKiKP	22 36	12.9	-0.1		
	baz=127									
AGMN	Agassiz Nation	126.71	32	*e*PKPdf	PKPdf	22 36	10.6	-1.4		
L28A	Connealy Angus	126.73	42	⇓PKiK	PKiKP	22 36	13.0	0.0		
	baz=127									
PVAQ	Vaqueiros	126.75	312	*e*PKPdf	PKPdf	22 36	13.6	+1.2		
T25A	Trinidad	126.76	48	⇑PKiK	PKiKP	22 36	13.3	0.0		
	baz=127									
J29A	Okreek	126.83	40	⇑PKiK	PKPdf	22 36	12.4	-0.1		
	baz=127									
123A	Bell Site, Whi	126.84	54	⇓PKiK	PKPdf	22 36	12.6	-0.4		
	baz=127									
OGNE	Ogallala	126.88	43	⇑PKiK	PKPdf	22 36	12.6	-0.1		
	baz=127									
X24A	Lazy VL Ranch,	126.89	52	⇓PKiK	PKPdf	22 36	13.2	+0.1		
	baz=127									
PCVE	Castro Verde	126.90	312	*e*PKPdf	PKPdf	22 36	13.8	+1.1		
O27A	Beecher Island	126.91	44	⇓PKiK	PKPdf	22 36	13.0	+0.2		
	baz=127									
PBDV	Barranco-do-Ve	126.97	312	*e*PKPdf	PKPdf	22 36	14.8	+1.9		
R26A	Arlington	127.01	47	⇑PKiK	PKiKP	22 36	13.4	-0.3		
	baz=127									
U25A	Circle Dot Ran	127.03	49	⇑PKiK	PKiKP	22 36	14.0	+0.1		
	baz=127									
PNCL	Nicolau / Gran	127.06	313	*e*PKPdf	PKPdf	22 36	14.4	+1.4		
V25A	Rancho No Teng	127.08	50	⇓PKiK	PKiKP	22 36	13.7	-0.3		
	baz=127									
Y24A	Capitan	127.10	52	⇑PKiK	PKiKP	22 36	14.0	-0.1		
	baz=127									
P27A	Ficken Ranch,	127.11	45	⇓PKiK	PKPdf	22 36	13.0	-0.3		
	baz=127									
I30A	Oacoma	127.13	39	⇓PKiK	PKPdf	22 36	13.0	0.0		
	baz=127									
BRSD	Miller	127.14	38	*e*PKPdf	PKPdf	22 36	13.3	+0.3		
BRSD	Miller	127.14	38	⇓PKiK	PKPdf	22 36	12.9	-0.2		
	baz=127									
S26A	Kim	127.27	47	⇑PKiK	PKiKP	22 36	14.0	-0.2		
	baz=127									
KSCO	Kaye Shedlock'	127.31	45	⇑PKiK	PKiKP	22 36	14.0	-0.2		
	baz=127									
N28A	Pribbeno Ranch	127.33	43	⇑PKiK	PKPdf	22 36	13.6	0.0		
	baz=127									
Z24A	Sheeppen Canyo	127.35	53	⇓PKiK	PKiKP	22 36	14.9	+0.3		
	baz=127									
T26A	Comanche Natio	127.35	48	⇑PKiK	PKPdf	22 36	14.1	+0.2		
	baz=127									
L29A	Maesberg Ranch	127.39	41	⇓PKiK	PKPdf	22 36	13.1	-0.5		
	baz=127									
J30A	Dallas	127.39	39	⇓PKiK	PKPdf	22 36	13.1	-0.4		
	baz=127									
O28A	Krutsinger Ran	127.42	44	⇑PKiK	PKPdf	22 36	13.6	-0.1		
	baz=127									
W25A	X Bar L Ranch,	127.42	50	⇓PKiK	PKiKP	22 36	14.4	-0.2		
	baz=127									
MORF	Marmelete	127.47	312	*e*PKPdf	PKPdf	22 36	15.4	+1.5		
124A	Stringfield Ra	127.47	54	⇓PKiK	PKiKP	22 36	14.6	-0.3		
	baz=127									
R27A	Eads	127.49	46	⇑PKiK	PKiKP	22 36	14.5	-0.1		
	baz=127									
X25A	Clemmons Ranch	127.50	51	⇑PKiK	PKPdf	22 36	14.3	+0.1		
	baz=128									
U26A	Atchley Ranch,	127.53	49	⇑PKiK	PKiKP	22 36	14.6	-0.3		
	baz=128									
224A	Cornudas Mount	127.61	55	⇑PKiK	PKiKP	22 36	14.8	-0.3		
	baz=128									
K30A	Basset	127.65	40	⇓PKiK	PKPdf	22 36	13.8	-0.2		
	baz=128									
S27A	Las Animas	127.66	47	⇑PKiK	PKPdf	22 36	14.6	+0.2		
	baz=128									
PFVI	Vila Bisbo	127.67	312	*e*PKPdf	PKPdf	22 36	15.8	+1.6		
P28A	Saint Francis	127.68	44	⇓PKiK	PKiKP	22 36	14.9	0.0		
	baz=128									
Y25A	Mesa, Roswell	127.68	52	⇓PKiK	PKiKP	22 36	14.9	-0.3		
	baz=128									
V26A	Tequesquite Ra	127.72	50	⇓PKiK	PKPdf	22 36	14.8	+0.3		
	baz=128									
324A	Moseley Ranch,	127.83	55	⇓PKiK	PKiKP	22 36	15.3	-0.3		
	baz=128									
MNTX	Cornudas Mount	127.84	55	*e*PKPdf	PKPdf	22 36	14.6	-0.2		
MNTX				*e*PP	PP	22 38	24.3	-2.6		
MNTX				*e*pPKPdf	pPKPdf	22 38	37.1	+1.2		
Q28A	Sharon Springs	127.85	45	⇓PKiK	PKiKP	22 36	15.1	-0.2		
	baz=128									
Z25A	Roswell	127.88	53	⇑PKiK	PKiKP	22 36	15.7	+0.1		
	baz=128									
N29A	Votaw Ranch, W	127.88	42	⇑PKiK	PKPdf	22 36	14.4	-0.2		
	baz=128									
L30A	Spencer Herefo	127.94	41	⇑PKiK	PKPdf	22 36	14.7	0.0		
	baz=128									
W26A	Owens Ranch, T	128.00	50	⇑PKiK	PKPdf	22 36	15.2	+0.2		
	baz=128									
T27A	Campo	128.03	48	⇓PKiK	PKPdf	22 36	15.3	+0.3		
	baz=128									
O29A	4D Ranch, Culb	128.09	43	⇑PKiK	PKPdf	22 36	15.0	0.0		
	baz=128									
125A	Gardner Draw,	128.12	54	⇑PKiK	PKiKP	22 36	16.0	0.0		
	baz=128									
X26A	CR and CF Fran	128.16	51	⇓PKiK	PKPdf	22 36	15.7	+0.3		
	baz=128									
225A	Deer Hill, Car	128.16	54	⇓PKiK	PKiKP	22 36	16.2	0.0		
	baz=128									
R28A	Tribune	128.17	46	⇑PKiK	PKiKP	22 36	15.6	-0.3		
	baz=128									
U27A	Thompson Grove	128.21	48	⇓PKiK	PKiKP	22 36	15.8	-0.4		
	baz=128									
P29A	Atwood	128.23	44	⇑PKiK	PKPdf	22 36	15.5	+0.2		
	baz=128									
N30A	Hueftle Ranch,	128.25	42	⇑PKiK	PKiKP	22 36	15.9	-0.1		
	baz=128									
325A	Bean Ranch, Si	128.27	55	⇓PKiK	PKPdf	22 36	15.8	+0.1		
	baz=128									
Y26A	Elida	128.36	52	⇓PKiK	PKPdf	22 36	16.0	+0.2		
	baz=128									
L31A	Butterfield Fa	128.39	40	⇑PKiK	PKiKP	22 36	16.1	-0.1		
	baz=128									
S28A	Manter	128.42	47	⇓PKiK	PKPdf	22 36	15.8	+0.1		
	baz=128									
425A	Indio Mountain	128.43	56	⇓PKiK	PKPdf	22 36	16.3	+0.3		
	baz=128									
T28A	Walsh	128.46	47	⇑PKiK	PKiKP	22 36	16.4	-0.2		
	baz=128									
V27A	Dan Oppiter Fa	128.46	49	⇑PKiK	PKPdf	22 36	16.1	+0.2		
	baz=128									
Z26A	Caprock	128.46	53	⇓PKiK	PKPdf	22 36	15.9	-0.1		
	baz=128									
Q29A	Oakley	128.52	45	⇑PKiK	PKPdf	22 36	15.9	0.0		
	baz=128									
W27A	Bowe Ranch, En	128.54	50	⇓PKiK	PKiKP	22 36	16.5	-0.4		
	baz=128									
O30A	MW Ranch, Wils	128.57	43	⇑PKiK	PKPdf	22 36	16.1	+0.2		
	baz=128									
R29A	Marienthal	128.61	45	⇑PKiK	PKPdf	22 36	16.4	+0.3		
	baz=128									
126A	Clayton Basin,	128.64	53	⇓PKiK	PKPdf	22 36	16.6	+0.3		
	baz=129									
X27A	F and S Farms,	128.67	51	⇑PKiK	PKPdf	22 36	16.6	+0.2		
	baz=129									
U28A	Mallet	128.67	48	⇓PKiK	PKPdf	22 36	16.3	0.0		
	baz=129									
226B	Tecolote Peak,	128.70	54	⇓PKiK	PKPdf	22 36	16.8	+0.3		
	baz=129									
M31A	Lambtecht Ranc	128.72	41	⇓PKiK	PKiKP	22 36	16.7	-0.2		
	baz=129									
P30A	Selden	128.73	44	⇑PKiK	PKPdf	22 36	16.5	+0.3		
	baz=129									
Y27A	Causey	128.89	52	⇑PKiK	PKPdf	22 36	17.1	+0.3		
	baz=129									
V28A	Channing	128.92	49	⇑PKiK	PKPdf	22 36	17.1	+0.3		
	baz=129									
ECSD	EROS Data Cent	128.95	37	*e*PKPdf	PKPdf	22 36	15.7	-0.8		
S29A	Ulysses	128.97	46	⇑PKiK	PKiKP	22 36	17.3	-0.2		
	baz=129									
Q30A	Gunter	129.01	44	⇑PKiK	PKPdf	22 36	17.0	+0.2		
	baz=129									
T29A	Hugoton	129.04	47	⇓PKiK	PKPdf	22 36	17.3	+0.4		
	baz=129									
Z27A	Tatum	129.05	52	⇑PKiK	PKiKP	22 36	17.8	-0.1		
	baz=129									
326A	Caldwell Ranch	129.09	55	⇑PKiK	PKiKP	22 36	17.8	-0.2		
	baz=129									
KIC	Kosan Boka	129.10	273	*e*PKIKP	PKPdf	22 36	17.3	-0.3		
	comp=Z,76nm,1.3s									
W28A	Vega	129.12	50	⇓PKiK	PKiKP	22 36	17.6	-0.4		
	baz=129									
127A	Arkansas Junct	129.16	53	⇓PKiK	PKPdf	22 36	17.4	+0.1		
	baz=129									
MSTX	Muleshoe	129.16	51	*e*PKPdf	PKPdf	22 36	17.5	+0.2		
MSTX				*e*PP	PP	22 38	34.1	-1.3		
MSTX	Muleshoe	129.16	51	⇓PKiK	PKiKP	22 36	18.0	-0.1		
	baz=129									
BGNE	Belgrade	129.23	41	⇓PKiK	PKiKP	22 36	17.9	0.0		
	baz=129									
DBIC	Dimbokro	129.23	273	PKP	PKPdf	22 36	18.6	+0.8		
DBIC				SKPbc	SKPab	22 38	43.0	0.0		
DBIC	Dimbokro	129.23	273	PKP	PKPdf	22 36	18.6	+0.8		
	comp=Z,12nm,0.6s,baz=65,slow=2.3,SNR=18									
DBIC				SKPbc	SKPab	22 38	43.0	0.0		
	comp=Z,18nm,0.7s,baz=70,slow=5.9,SNR=21									
426A	McDonald Obser	129.25	56	⇓PKiK	PKiKP	22 36	18.2	-0.3		
	baz=129									
R30A	Dighton	129.28	45	⇓PKiK	PKPdf	22 36	17.2	-0.1		
	baz=129									
P31A	Stockton	129.34	43	⇓PKiK	PKPdf	22 36	17.4	0.0		
	baz=129									
U29A	Oasis Ranch, S	129.35	48	⇑PKiK	PKiKP	22 36	18.1	-0.2		
	baz=129									
LIC	Lamto	129.37	272	*e*PKIKP	PKPdf	22 36	17.6	-0.5		
	comp=Z,18nm,0.4s									
LIC	Lamto	129.37	272	*e*PKIKP	PKPdf	22 36	17.7	-0.4		
	comp=Z,59nm,0.7s									
LIC	Lamto	129.37	272	*e*PKPdf	PKPdf	22 36	17.6	-0.5		
526A	Mary Lane Ranc	129.38	57	⇓PKiK	PKiKP	22 36	18.5	-0.2		
	baz=129									
TIC	Toumodi	129.39	273	*e*PKIKP	PKPdf	22 36	17.7	-0.4		
	comp=Z,16nm,0.3s									
V29A	Stinnett	129.40	49	⇑PKiK	PKiKP	22 36	18.4	-0.1		
	baz=129									
X28A	Dimmitt	129.41	50	⇑PKiK	PKiKP	22 36	18.3	-0.3		
	baz=129									
S30A	Montezuma	129.43	46	⇓PKiK	PKiKP	22 36	18.3	-0.1		
	baz=129									
N32A	Stulken Farm,	129.46	41	⇓PKiK	PKiKP	22 36	18.2	-0.2		
	baz=129									
327A	Balmorhea Ranc	129.47	55	⇑PKiK	PKPdf	22 36	18.2	+0.3		
	baz=129									
626A	Big Bend Ranch	129.49	57	⇓PKiK	PKPdf	22 36	18.2	+0.2		
	baz=130									
Q31A	Ellis	129.57	44	⇑PKiK	PKiKP	22 36	18.8	+0.1		
	baz=130									
Y28A	McKinney Farm,	129.59	51	⇑PKiK	PKiKP	22 36	18.7	-0.2		
	baz=130									
W29A	Amraillo	129.60	50	⇓PKiK	PKPdf	22 36	18.5	+0.4		
	baz=130									
T30A	Plains	129.64	47	⇓PKiK	PKiKP	22 36	19.0	+0.1		
	baz=130									
Z28A	Tucker Farm, M	129.71	52	⇓PKiK	PKiKP	22 36	18.9	-0.3		
	baz=130									
427A	Hayter Ranch,	129.71	55	⇑PKiK	PKPdf	22 36	18.8	+0.4		
	baz=130									
O32A	Brockman Farm,	129.72	42	⇓PKiK	PKiKP	22 36	18.6	-0.3		
	baz=130									
527A	Woodward Ranch	129.75	56	⇑PKiK	PKiKP	22 36	19.2	-0.3		
	baz=130									
U30A	WK&E Inc. Balk	129.77	47	⇓PKiK	PKiKP	22 36	18.8	-0.4		
	baz=130									
R31A	Burdett	129.80	45	⇓PKiK	PKPdf	22 36	18.7	+0.4		
	baz=130									
P32A	Huiting Farm,	129.81	43	⇓PKiK	PKPdf	22 36	18.2	0.0		
	baz=130									
X29A	Tulia	129.81	50	⇓PKiK	PKPdf	22 36	18.8	+0.3		
	baz=130									
128A	Castleberry Fa	129.87	53	⇓PKiK	PKPdf	22 36	18.8	+0.1		
	baz=130									
TXAR	Lajitas Array	129.94	57	PKPpre	PKPpre	22 36	02.2			
TXAR				PKP	PKiKP	22 36	20.1	+0.3		
TXAR				pPKP	pPKPdf	22 38	39.6	-0.6		
TXAR				SKPbc	SKPbc	22 38	43.6	-1.9		
TXAR	Lajitas Array	129.94	57	PKhKP	PKPpre	22 36	02.2			
	comp=Z,0.4nm,0.7s,baz=296,slow=1.7,SNR=4.8									
TXAR				PKP	PKiKP	22 36	20.1	+0.3		
	comp=Z,8.6nm,0.8s,baz=218,slow=1.2,SNR=40									
TXAR				pPKP	pPKPdf	22 38	39.6	-0.6		
	comp=Z,0.6nm,0.8s,baz=284,slow=3.6,SNR=2.8									
TXAR				SKPbc	SKPbc	22 38	43.6	-1.9		
	comp=Z,5.2nm,0.8s,baz=248,slow=3.4,SNR=16									
228A	UT Block 9, Go	129.95	54	⇓PKiK	PKiKP	22 36	19.3	-0.4		
	baz=130									
328A	Wristen Ranch,	130.02	55	⇓PKiK	PKiKP	22 36	19.4	-0.4		
	baz=130									
Y29A	Porterfield Fa	130.06	51	⇑PKiK	PKiKP	22 36	19.7	-0.2		
	baz=130									
V30A	Spur Ranch, Mi	130.06	48	⇑PKiK	PKiKP	22 36	19.7	-0.1		
	baz=130									
S31A	Mullinville	130.14	46	⇑PKiK	PKiKP	22 36	19.5	-0.4		
	baz=130									
627A	Terlingua Ranc	130.14	57	⇓PKiK	PKPdf	22 36	19.7	+0.4		
	baz=130									
T31A	Randall Ranch,	130.23	46	⇓PKiK	PKPdf	22 36	19.4	+0.3		
	baz=130									
Z29A	Hungry Hill Ra	130.25	52	⇓PKiK	PKiKP	22 36	20.0	-0.3		
	baz=130									
SPMN	St. Paul	130.26	34	⇓PKiK	PKPdf	22 36	19.0	+0.2		
	baz=130									
428A	Kincaid Ranch,	130.33	55	⇓PKiK	PKiKP	22 36	20.1	-0.4		
	baz=130									
129A	Stewart Farms,	130.35	53	⇓PKiK	PKiKP	22 36	20.3	-0.2		
	baz=130									
U31A	Nine Bar Ranch	130.42	47	⇑PKiK	PKiKP	22 36	20.2	-0.3		
	baz=130									
528A	Cox Ranch, San	130.43	56	⇓PKiK	PKiKP	22 36	20.5	-0.2		
	baz=130									
X30A	Coker Ranch, T	130.44	50	⇑PKiK	PKiKP	22 36	20.3	-0.2		
	baz=130									
S32A	Newby Ranch, P	130.49	45	⇑PKiK	PKiKP	22 36	20.4	-0.2		
	baz=130									
P33A	Williams Farm,	130.52

BLA	**Blacksburg**	**142.53**	**33**	*e*PKPdf	**PKPdf**	**22 36 38.9**	**-2.9**
KMSC	**Kings Mountain**	**143.50**	**36**	⇑PKPdf	PKPbc	22 36 42.4	0.0
	baz=143						
TIGA	**Tifton**	**144.50**	**43**	⇑PKPdf	PKPbc	22 36 45.8	+0.2
	baz=144						
TEIG	**Tepich**	**146.03**	**64**	*e*PKPdf	**PKPdf**	**22 36 48.9**	**+0.7**
CPUP	**Villa Florida**	**146.94**	**178**	*e*PKPdf	**PKPdf**	**22 36 50.0**	**+0.5**
CPUP				PKP	**PKPdf**	**22 36 50.5**	**+0.9**
CPUP				PKPbc	**PKPbc**	**22 36 53.3**	**+0.7**
CPUP	**Villa Florida**	**146.94**	**178**	PKP	**PKPdf**	**22 36 50.5**	**+0.9**
	comp=Z,46nm,1.0s,baz=119,slow=3.8,SNR=30						
CPUP				PKPbc	**PKPbc**	**22 36 53.3**	**+0.7**
	comp=Z,46nm,1.0s,baz=153,slow=1.9,SNR=29						
SACV	**Santiago Islan**	**147.23**	**287**	*e*PKPdf	**PKPdf**	**22 36 51.4**	**+1.0**
SACV				*e*PKPbc	**PKPbc**	**22 36 54.4**	**+0.7**
LVC	**Limon Verde**	**148.06**	**157**	*e*PKPdf	**PKPdf**	**22 36 53.5**	**+1.6**
LVC				*e*PKPbc	**PKiKP**	**22 36 56.6**	**-0.6**
TGUH	**Tegucigalpa,Un**	**148.47**	**74**	*e*PKPdf	**PKPdf**	**22 36 52.7**	**+0.4**
TGUH				*e*PKPbc	**PKPbc**	**22 36 56.8**	**0.0**
TGUH				*e*PKPab	**PKPab**	**22 37 03.2**	**+0.6**
JTS	**JuntasAbangare**	**151.19**	**81**	*e*PKPdf	**PKPdf**	**22 36 56.5**	**-0.1**
JTS				*e*PKPbc	**PKPbc**	**22 37 03.4**	**+0.1**
JTS				*e*PKPab	**PKPab**	**22 37 14.8**	**+0.7**
LPAZ	**La Paz**	**154.02**	**153**	*e*PKPdf	**PKPdf**	**22 37 01.9**	**+0.4**
LPAZ				PKP	**PKPdf**	**22 37 02.1**	**+0.7**
LPAZ				*e*PKPbc	**PKPbc**	**22 37 10.4**	**+0.3**
LPAZ				PKPbc	**PKiKP**	**22 37 11.1**	**+1.0**
LPAZ				PKPab	**PKPab**	**22 37 27.5**	**+0.9**
LPAZ				SKP	**SKPdf**	**22 39 39.9**	**+2.5**
LPAZ	**La Paz**	**154.02**	**153**	PKP	**PKPdf**	**22 37 02.1**	**+0.7**
	comp=Z,8.3nm,0.9s,baz=115,slow=0.8,SNR=22						
LPAZ				PKPbc	**PKiKP**	**22 37 11.1**	**+1.0**
	comp=Z,5.3nm,0.6s,baz=145,slow=3.8,SNR=16						
LPAZ				PKPab	**PKPab**	**22 37 27.5**	**+0.9**
	comp=Z,17nm,0.9s,baz=145,slow=2.2,SNR=9.4						
LPAZ				SKP		22 39 39.9	
	comp=Z,11nm,0.8s,baz=200,slow=2.6,SNR=10						
BDFB	**Brasilia**	**156.25**	**199**	PKP	**PKPdf**	**22 37 04.2**	**+0.4**
BDFB				PKPab	**PKPab**	**22 37 36.3**	**+0.8**
BDFB	**Brasilia**	**156.25**	**199**	PKP	**PKPdf**	**22 37 04.2**	**+0.4**
	comp=Z,8.8nm,1.0s,baz=199,slow=2.2,SNR=7.4						
BDFB				PKPab	**PKPab**	**22 37 36.3**	**+0.8**
	comp=Z,1.8nm,0.5s,baz=188,slow=7.1,SNR=3.9						
OTAV	**Otavalo**	**156.65**	**106**	*e*PKPdf	**PKPdf**	**22 37 05.1**	**+0.3**
ROSC	**El Rosal**	**161.66**	**95**	*e*PKPdf	**PKPdf**	**22 37 10.2**	**-0.3**
ROSC				PKP	PKPab	22 37 10.5	-49
ROSC				*e*PKPab	PKPab	22 38 00.2	+0.2
ROSC				PKPab	**PKPab**	22 38 02.1	+2.1
ROSC	**El Rosal**	**161.66**	**95**	PKP	**PKPdf**	**22 37 10.5**	**+0.1**
	comp=Z,9.5nm,0.4s,baz=89,slow=24,SNR=11						
ROSC				PKPab	**PKPab**	**22 38 02.1**	**+2.1**
	comp=Z,23nm,0.9s,baz=99,slow=22,SNR=6.9						
SAML	**Samuel**	**162.71**	**155**	*e*PKPdf	**PKPdf**	**22 37 10.5**	**-0.5**
SAML				*e*PKPab	**PKPab**	**22 38 03.7**	**0.0**
SDV	**Santo Domingo**	**165.38**	**81**	*e*PKPdf	**PKPdf**	**22 37 11.9**	**-1.7**
SDV				*e*PKPab	**PKPab**	**22 38 15.8**	**-0.4**

*IDC **19** 22:30:09.4±0.9,23°.25S×175°.30W, h0km, mb4.4/9, mb1 4.5/9, mb1mx4.3/20, mbtmp4.4/9, MS3.9/1, Ms1 3.9/1, ms1mx3.2/34, Error ellipse: s-maj=35.2km s-min=24.2km az=150.0*

*ISCJB **19** 22:30:12.7±0.7,23°.32S±0°.09×175°.5W±0°.1, h30km, mb4.5/13, MS3.8/1, Error ellipse: s-maj=16.3km s-min=13.2km az=163.6*

*NEIC **19** 22:30:14.4±3.5, 23°.28S×175°.39W, h34km±23km, mb4.5/6, Error ellipse: s-maj=14.0km s-min=9.4km az=76.0*

ISC 19 22:30:14.5±0.7,23°.3S±0°.1×175°.4W±0°.1, h30km, n39, σ1s01/36, mb4.6/13, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**8.27**	**311**	*e*Pn	**Pn**	**22 32 12.7**	**+0.1**
	35nm,0.9s						
URZ	**Urewera**	**16.20**	**202**	Pn	**Pn**	**22 33 59.7**	**-0.1**
	33nm,1.1s						
DZM	**Mont Dzumac**	**16.78**	**271**	Pn	**Pn**	**22 34 06.2**	**-1.3**
PPT	**Papeete**	**24.87**	**81**	LR	LR	22 43 17.7	
	comp=Z,270nm,19.4s,baz=192,slow=32						
CTA	**Charters Tower**	**35.69**	**268**	P	**P**	**22 37 11.3**	**+0.9**
CTA	**Charters Tower**	**35.69**	**268**	P	**P**	**22 37 11.3**	**+0.9**
	5.0nm,0.5s,baz=97,slow=12,SNR=7.1						
CTAO	**Charters Tower**	**35.69**	**268**	*e*P	**P**	**22 37 10.2**	**-0.2**
	4.1nm,0.4s						
STKA	**Stephens Creek**	**38.83**	**248**	*e*P	**P**	**22 37 37.2**	**+0.3**
ASAR	**Alice Springs**	**46.27**	**259**	P	**P**	**22 38 37.8**	**+0.2**
ASAR	**Alice Springs**	**46.27**	**259**	P	**P**	**22 38 37.8**	**+0.2**
	0.8nm,0.6s,baz=92,slow=6.8,SNR=6.9						
WRAB	**Tennant Creek**	**46.63**	**264**	*e*P	**P**	**22 38 39.4**	**-1.0**
	4.0nm,0.6s						
WRA	**Warramunga Arr**	**46.64**	**264**	P	**P**	**22 38 39.6**	**-0.9**
WRA	**Warramunga Arr**	**46.64**	**264**	P	**P**	**22 38 39.6**	**-0.9**
	1.6nm,0.3s,baz=91,slow=8.3,SNR=105						
VNDA	**Vanda**	**55.33**	**186**	*e*P	**P**	**22 39 45.1**	**+0.2**
MBWA	**Marble Bar**	**59.60**	**258**	*e*P	**P**	**22 40 15.3**	**-0.6**
QSPA	**South Pole Qui**	**66.75**	**180**	*e*P	**P**	**22 41 02.8**	**0.0**
	2.4nm,0.9s						
MAW	**Mawson**	**79.71**	**199**	*e*P	**P**	**22 42 18.6**	**-0.3**
	2.2nm,1.5s						
MAW	**Mawson**	**79.71**	**199**	P	**P**	**22 42 19.7**	**+0.7**
	4.0nm,1.1s,baz=337,slow=2.4,SNR=6.0						
YBH	**Yreka Blue Hor**	**81.05**	**37**	P	**P**	**22 42 26.0**	**-0.6**
YBH	**Yreka Blue Hor**	**81.05**	**37**	P	**P**	**22 42 26.0**	**-0.6**
	0.7nm,0.5s,baz=153,slow=9.0,SNR=3.0						
USRK	**Ussuriysk Arra**	**82.64**	**325**	P	**P**	**22 42 35.8**	**+1.0**
	4.6nm,0.9s,baz=129,slow=5.4,SNR=5.8						
PSI	**Prapat**	**87.11**	**274**	P	**P**	**22 42 57.6**	**-0.6**
PSI	**Prapat**	**87.11**	**274**	P	**P**	**22 42 57.6**	**-0.6**
	4.4nm,0.8s,baz=170,slow=11,SNR=3.9						
ENH	**Enshi**	**89.60**	**303**	*e*P	**P**	**22 43 09.5**	**0.0**
	13nm,1.1s						
ILAR	**Eielson Array**	**90.56**	**12**	P	**P**	**22 43 11.6**	**-1.6**
ILAR	**Eielson Array**	**90.56**	**12**	P	**P**	**22 43 11.6**	**-1.6**
	1.3nm,1.1s,baz=240,slow=1.8,SNR=3.7						
CMAR	**Chiang Mai Arr**	**93.30**	**289**	P	**P**	**22 43 28.9**	**+1.9**
CMAR	**Chiang Mai Arr**	**93.30**	**289**	P	**P**	**22 43 28.9**	**+1.9**
	2.2nm,0.4s,baz=128,slow=3.1,SNR=28						
CHTO	**Chiang Mai**	**93.44**	**289**	*e*P	**P**	**22 43 27.2**	**-0.3**
	27nm,1.0s						
MKAR	**Makanchi Array**	**114.87**	**312**	PKP	PKPdf	22 48 50.7	-1.5
MKAR	**Makanchi Array**	**114.87**	**312**	PKP	PKPdf	22 48 50.7	-1.5
	0.4nm,0.8s,baz=107,slow=1.5,SNR=2.7						
AKASG	**Malin Array Be**	**146.64**	**331**	PKPbc	**PKPdf**	**22 49 51.3**	**-0.1**
AKASG	**Malin Array Be**	**146.64**	**331**	PKPbc	**PKPdf**	**22 49 51.3**	**-0.1**
	1.4nm,0.5s,baz=35,slow=3.6,SNR=8.6						
BRTR	**Keskin Array B**	**150.50**	**310**	PKPbc	**PKPbc**	**22 50 03.0**	**-0.6**
BRTR	**Keskin Array B**	**150.50**	**310**	PKPbc	**PKPbc**	**22 50 03.0**	**-0.6**
	1.1nm,0.9s,baz=145,slow=5.2,SNR=5.2						
CLL	**Collm**	**151.32**	**349**	*i* PKPab	**PKPab**	**22 50 16.2**	**+3.2**
	comp=Z,12nm,1.0s						
BRG	**Berggiesshubel**	**151.56**	**347**	*e*P	**PKPbc**	**22 50 05.6**	**+0.1**
	comp=Z,6.3nm,1.2s						
BRG				*e*		22 50 17.0	
	comp=Z,5.8nm,0.9s						
TORD	**Torodi Ar. Bea**	**169.51**	**164**	PKPab	**PKPab**	**22 51 32.8**	**+0.1**
TORD	**Torodi Ar. Bea**	**169.51**	**164**	PKPab	**PKPab**	**22 51 32.8**	**+0.1**
	comp=Z,1.1nm,1.2s,baz=178,slow=3.5,SNR=3.1						

*IDC **19** 22:46:07.0±0.5, 13°.06S×166°.27E, h0km, mb4.5/21, mb1 4.6/23, mb1mx4.5/28, mbtmp4.5/23, ML4.8/2, Error ellipse: s-maj=17.5km s-min=13.4km az=105.0*

*NEIC **19** 22:46:10.3±2.3, 13°.10S×166°.26E, h22km±16km, mb4.9/14, Error ellipse: s-maj=7.6km s-min=7.0km az=198.0*

*ISCJB **19** 22:46:11.7±0.4, 13°.14S±0°.04×166°.10E±0°.06, h44km, mb4.6/29, Error ellipse: s-maj=9.0km s-min=6.2km az=165.0*

ISC 19 22:46:13.4±0.5, 13°.10S±0°.06×166°.18E±0°.08, h44km, n73, σ0s85/85, mb4.6/29, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.12**	**300**	Pn	**Pn**	**22 47 54.2**	**-0.8**
HNR				Sn	Sn	22 49 14.3	-0.4
HNR	**Honiara**	**7.12**	**300**	Pn	**Pn**	**22 47 54.2**	**-0.8**
	54nm,0.3s,baz=161,slow=4.8,SNR=11						
HNR				Sn	**Sn**	**22 49 14.3**	**-0.4**
	20nm,0.3s,baz=195,slow=20,SNR=3.1						
DZM	**Mont Dzumac**	**8.93**	**178**	*e*Pn	**Pn**	**22 48 18.5**	**-1.4**
	75nm,0.9s						
DZM				Sn	**Sn**	**22 49 59.8**	**+0.6**
DZM	**Mont Dzumac**	**8.93**	**178**	Pn	**Pn**	**22 48 18.5**	**-1.4**
	3.3nm,0.3s,baz=0.6,slow=16,SNR=17						
DZM				Sn	**Sn**	**22 49 59.8**	**+0.6**
	0.7nm,0.3s,baz=90,slow=20,SNR=1.5						
MSVF	**Nonsavu**	**12.34**	**113**	*e*Pn	Pn	22 49 02.6	-4.0
	174nm,1.5s						
EIDS	**Eidsvold**	**18.74**	**227**	*e*P	**P**	**22 50 28.4**	**-0.2**
	64nm,1.4s						
CTA	**Charters Tower**	**20.31**	**247**	P	Pn	22 50 47.0	-1.1
CTA	**Charters Tower**	**20.31**	**247**	P	Pn	22 50 47.0	-1.1
	37nm,1.3s,baz=77,slow=5.6,SNR=5.4						
CTAO	**Charters Tower**	**20.31**	**247**	*e*P	**P**	**22 50 46.1**	**+0.3**
	133nm,1.6s						
ARMA	**Armidale**	**21.86**	**216**	*e*P	**P**	**22 51 01.7**	**-0.9**
	99nm,1.6s						
ARMA				*e*S	**S**	**22 55 03.0**	**+1.2**
STKA	**Stephens Creek**	**29.29**	**226**	*e*P	**P**	**22 52 12.2**	**+0.5**
	17nm,1.8s						
STKA				PcP	**PcP**	**22 55 17.9**	**+0.1**
STKA				*e*PcP	PcP	22 55 18.2	+0.5
STKA	**Stephens Creek**	**29.29**	**226**	P	**P**	**22 52 12.7**	**+0.9**
	4.2nm,0.6s,baz=56,slow=9.4,SNR=14						
STKA				PcP	**PcP**	**22 55 17.9**	**+0.1**
	2.1nm,0.7s,baz=123,slow=4.0,SNR=4.0						
RPZ	**Rata Peaks**	**30.80**	**173**	P	**P**	**22 52 25.7**	**+0.7**
RPZ	**Rata Peaks**	**30.80**	**173**	P	**P**	**22 52 25.7**	**+0.7**
	11nm,0.7s,baz=14,slow=12,SNR=5.1						
WRAB	**Tennant Creek**	**31.23**	**253**	*e*P	**P**	**22 52 28.6**	**-0.4**
	10nm,1.2s						
WRA	**Warramunga Arr**	**31.24**	**253**	P	**P**	**22 52 28.2**	**-0.9**
WRA				PcP	**PcP**	**22 55 23.9**	**+0.8**
WRA	**Warramunga Arr**	**31.24**	**253**	P	**P**	**22 52 28.2**	**-0.9**
	1.5nm,0.7s,baz=86,slow=8.9,SNR=14						
WRA				PcP	**PcP**	**22 55 23.9**	**+0.8**
	2.3nm,1.0s,baz=89,slow=2.7,SNR=3.5						
AS31	**Alice Springs**	**32.31**	**246**	*e*P	**P**	**22 52 37.4**	**-1.1**
ASAR	**Alice Springs**	**32.31**	**246**	P	**P**	**22 52 37.5**	**-1.0**
ASAR				PcP	**PcP**	**22 55 26.5**	**+0.5**
ASAR	**Alice Springs**	**32.31**	**246**	P	**P**	**22 52 37.5**	**-1.0**
	8.7nm,0.6s,baz=73,slow=9.4,SNR=86						
ASAR				PcP	**PcP**	**22 55 26.5**	**+0.5**
	1.4nm,0.7s,baz=78,slow=3.1,SNR=5.3						
FITZ	**Fitzroy Crossi**	**39.31**	**257**	P	**P**	**22 53 38.8**	**+0.4**
	3.4nm,0.9s						
BATI	**Baumata**	**41.70**	**269**	P	**P**	**22 53 59.8**	**+1.4**
BATI	**Baumata**	**41.70**	**269**	P	**P**	**22 53 59.8**	**+1.4**
	18nm,0.5s,baz=213,slow=3.7,SNR=4.3						
MBWA	**Marble Bar**	**44.98**	**253**	*e*P	**P**	**22 54 24.9**	**+0.2**
NWAO	**Narrogin (SRO)**	**48.70**	**238**	*e*P	**P**	**22 54 52.9**	**-0.8**
	90nm,1.8s						
NWAO	**Narrogin (SRO)**	**48.70**	**238**	P	**P**	**22 54 53.9**	**+0.2**
	12nm,0.9s,baz=84,slow=9.4,SNR=5.6						
JNU	**Nakatsue**	**56.99**	**325**	P	**P**	**22 55 55.0**	**+0.2**
JNU	**Nakatsue**	**56.99**	**325**	P	**P**	**22 55 55.0**	**+0.2**
	5.9nm,0.7s,baz=109,slow=6.7,SNR=2.9						
KSM	**Kuching**	**57.27**	**280**	*e*P	**P**	**22 55 56.8**	**-0.2**
	8.5nm,0.8s						
ASAJ	**Asahikawa**	**60.86**	**341**	P	**P**	**22 56 21.9**	**+0.6**
ASAJ	**Asahikawa**	**60.86**	**341**	P	**P**	**22 56 21.9**	**+0.6**
	7.9nm,0.6s,baz=10.0,slow=14,SNR=8.1						
KSRS	**Korea Array**	**61.80**	**326**	P	**P**	**22 56 27.9**	**+0.1**
	1.1nm,0.6s,baz=129,slow=7.2,SNR=3.5						
KSAR	**Wonju Array Be**	**61.82**	**326**	P	**P**	**22 56 27.9**	**0.0**
VNDA	**Vanda**	**64.46**	**181**	*e*P	**P**	**22 56 44.2**	**-0.7**
	6.1nm,1.2s						
VNDA	**Vanda**	**64.46**	**181**	P	**P**	**22 56 44.7**	**-0.2**
	1.4nm,0.5s,baz=344,slow=6.6,SNR=15						
SBA	**Scott Base**	**64.76**	**180**	*e*P	**P**	**22 56 46.6**	**-0.2**
	49nm,1.8s						
USRK	**Ussuriysk Arra**	**64.96**	**334**	P	**P**	**22 56 49.0**	**+0.4**
	2.0nm,0.7s,baz=165,slow=6.2,SNR=4.4						
ENH	**Enshi**	**69.52**	**309**	*e*P	**P**	**22 57 16.9**	**-0.9**
CMAR	**Chiang Mai Arr**	**73.32**	**294**	P	**P**	**22 57 42.5**	**+1.5**
CMAR	**Chiang Mai Arr**	**73.32**	**294**	P	**P**	**22 57 42.5**	**+1.5**
	1.5nm,0.5s,baz=131,slow=4.5,SNR=10						
CHTO	**Chiang Mai**	**73.45**	**294**	*e*P	**P**	**22 57 41.8**	**+0.1**
	41nm,1.3s						
QSPA	**South Pole Qui**	**76.92**	**180**	*e*P	**P**	**22 58 01.1**	**0.0**
	21nm,1.0s						
SONM	**Songino Array**	**80.56**	**324**	P	**P**	**22 58 21.7**	**+0.4**
SONM	**Songino Array**	**80.56**	**324**	P	**P**	**22 58 21.7**	**+0.4**
	1.0nm,0.5s,baz=140,slow=3.9,SNR=8.6						
SHL	**Shillong**	**81.86**	**299**	*e*P	**P**	**22 58 31.0**	**+2.2**
SML	**Sawmill**	**82.75**	**20**	*e*P	**P**	**22 58 31.3**	**-1.1**
	2.7nm,0.7s						
SIT	**Sitka**	**84.86**	**28**	*e*P	**P**	**22 58 43.5**	**+0.4**
	24nm,1.4s						
YBH	**Yreka Blue Hor**	**85.02**	**45**	P	**P**	**22 58 45.1**	**+0.5**
YBH	**Yreka Blue Hor**	**85.02**	**45**	P	**P**	**22 58 45.1**	**+0.5**
	1.6nm,0.7s,baz=90,slow=4.0,SNR=5.3						
ILAR	**Eielson Array**	**85.31**	**18**	P	**P**	**22 58 43.2**	**-2.1**
ILAR	**Eielson Array**	**85.31**	**18**	P	**P**	**22 58 43.2**	**-2.1**
	1.9nm,0.7s,baz=249,slow=4.9,SNR=20						
NVAR	**Mina Array Bea**	**87.02**	**50**	P	**P**	**22 58 55.4**	**+0.7**
NVAR	**Mina Array Bea**	**87.02**	**50**	P	**P**	**22 58 55.4**	**+0.7**
	1.1nm,0.7s,baz=233,slow=9.1,SNR=4.0						
SNAA	**Sanae**	**95.11**	**183**	*e*P	**P**	**22 59 30.8**	**-0.7**
	6.2nm,1.0s						
MK31	**Makanchi Array**	**95.30**	**317**	*e*P	**P**	**22 59 32.8**	**0.0**
MKAR	**Makanchi Array**	**95.30**	**317**	P	**P**	**22 59 33.0**	**+0.2**
MKAR	**Makanchi Array**	**95.30**	**317**	P	**P**	**22 59 33.0**	**+0.2**
	1.4nm,0.6s,baz=92,slow=6.7,SNR=18						
ZALV	**Zalesovo Beam**	**95.46**	**324**	P	**P**	**22 59 32.6**	**-0.7**
ZALV	**Zalesovo Beam**	**95.46**	**324**	P	**P**	**22 59 32.6**	**-0.7**
	1.6nm,0.7s,baz=111,slow=5.2,SNR=5.5						
YKA	**Yellowknife Ar**	**96.59**	**27**	P	**P**	**22 59 38.9**	**+0.6**
YKA	**Yellowknife Ar**	**96.59**	**27**	P	**P**	**22 59 38.8**	**+0.6**
	0.4nm,0.5s,baz=255,slow=4.7,SNR=4.1						
ARCES	**ARCESS Array B**	**118.42**	**345**	PKP	**PKPdf**	**23 04 54.4**	**-1.3**
ARCES	**ARCESS Array B**	**118.42**	**345**	PKP	**PKPdf**	**23 04 54.4**	**-1.3**
	2.4nm,0.8s,baz=90,slow=2.8,SNR=5.5						
FINES	**FINESS Array B**	**123.83**	**338**	PKP	**PKPdf**	**23 05 06.8**	**+0.7**
FINES	**FINESS Array B**	**123.83**	**338**	PKP	**PKPdf**	**23 05 06.8**	**+0.7**
	3.9nm,1.1s,baz=316,slow=5.8,SNR=4.7						
BOSA	**Boshof**	**123.90**	**222**	PKP	**PKPdf**	**23 05 07.7**	**+0.1**
BOSA	**Boshof**	**123.90**	**222**	PKP	**PKPdf**	**23 05 07.7**	**+0.1**
	3.3nm,0.7s,baz=107,slow=3.1,SNR=7.9						
KEST	**Kesra**	**149.28**	**321**	PKPbc	**PKPbc**	**23 05 58.6**	**+0.7**
KEST	**Kesra**	**149.28**	**321**	PKPbc	**PKPbc**	**23 05 58.6**	**+0.7**
	4.1nm,1.0s,baz=74,slow=3.4,SNR=15						
ESDC	**Sonseca Array**	**152.13**	**344**	PKPbc	**PKPbc**	**23 06 04.0**	**-0.6**
ESDC				PKPab	**PKPab**	**23 06 13.4**	**-0.7**
ESDC	**Sonseca Array**	**152.13**	**344**	PKPbc	**PKPbc**	**23 06 04.0**	**-0.6**
	0.8nm,0.7s,baz=11,slow=3.1,SNR=3.9						
ESDC				PKPab	**PKPab**	**23 06 13.4**	**-0.7**
	1.3nm,0.5s,baz=16,slow=3.6,SNR=15						
TORD	**Torodi Ar. Bea**	**164.89**	**272**	PKP	**PKPdf**	**23 06 13.7**	**0.0**
TORD				PKPab	**PKPab**	**23 07 08.6**	**-1.4**
TORD	**Torodi Ar. Bea**	**164.89**	**272**	PKP	**PKPdf**	**23 06 13.7**	**0.0**
	0.6nm,0.7s,baz=227,slow=0.7,SNR=3.7						
TORD				PKPab	**PKPab**	**23 07 08.6**	**-1.4**
	1.5nm,1.1s,baz=114,slow=2.2,SNR=4.7						

*PDG **19** 22:49:20.1, 15°.40S×172°.20W, h60km, Ms6.1*

*IDC **19** 22:49:35.9±0.3, 15°.36S×172°.27W, h0km, mb5.5/34, mb1 5.5/34, mb1mx5.5/34, mbtmp5.5/34, MS5.6/31, Ms1 5.6/31, ms1mx5.5/38, Error ellipse: s-maj=11.7km s-min=7.8km az=139.0*

*SZGRF **19** 22:49:35.9, 15°.77S×171°.57W, h10km, mb5.7, Samoa Islands region*

*ISCJB **19** 22:49:36.0±0.1, 15°.36S±0°.03×172°.22W±0°.02, h10km, mb6.0/277, MS5.7/158, Error ellipse: s-maj=4.6km s-min=2.4km az=155.8*

*BJI **19** 22:49:36.4, 14°.93S×171°.85W, h10km, mB6.1/42, mb5.6/54, Ms5.7/56, Ms7 5.4/56*

*AUST **19** 22:49:37.2±0.3, 15°.34S×172°.37W, h0km, Error ellipse: s-maj=10.6km s-min=7.5km az=14.0*

*IGIL **19** 22:49:37.8, 15°.33S×172°.19W, h10km, MS6.2*

*NEIC **19** 22:49:38.4±0.1, 15°.36S×172°.26W, h18km, mb6.2/208, ME6.1, MS5.7/102, MW6.0, Error ellipse: s-maj=4.9km s-min=2.8km az=145.0 Broadband fault plane solution: P waves. NP1:ϕs262.00000°, δ52.00000°, λ-161.00000°, NP2:ϕs160.00000°, δ75.00000°, λ-40.00000°. Principal axes: T Plg15.0000°, Azm216.0000°; N Plg0.0000°, Azm0.0000°; P Plg38.0000°, Azm114.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [IV] at Apia, Samoa. Also felt at Faleolo. Felt [III] at Nu'uuli and [II] at Tafuna, American Samoa. Also felt at Afono, Faga'alu, Fagatogo, Mesepa and Pago Pago.

*BKK **19** 22:49:40.4±0.4, 16°.5±7°.7×17°.2W±°, h10km, M6.2/38, mb5.9/38, mB6.5/32, Mw(mB)6.2/32, Mwp5.7/1*

*MOS **19** 22:49:40.2±1.0, 15°.24S×172°.18W, h33km, mb6.3/49, MS5.7/40, Error ellipse: s-maj=9.4km s-min=6.4km az=53.0*

*GCMT **19** 22:49:43.7±0.1, 15°.37S×171°.96W, h32km, MW6.0 Best double couple: NP1:ϕs150.00000°, δ53.00000°, λ-62.00000°. NP2:ϕs289.00000°, δ45.00000°, λ-122.00000°. Principal axes: T 1.0500, Plg4.0000°, Azm221.0000°; N 0.0100, Plg22.0000°, Azm312.0000°; P -1.0600, Plg68.0000°, Azm120.0000°; Data Used: ll IU CN IC G. Surface waves: sta=127, comp=267, per= 50.*

*NEIC **19** 22:50:00.9±0.0, 15°.27S×172°.39W, h34km, Moment Tensor Solution. s81 Moment tensor: Scale 10¹⁸Nm; Mrr-1.05; Mθθ 0.57; Mϕϕ 0.49; Mrθ 0.14; Mθϕ -0.47; Mrϕ 0.23; Best double couple: Mo1.10000×10¹⁸ NP1:ϕs300.00000°, δ45.00000°, λ-107.00000°. NP2:ϕs145.00000°, δ48.00000°, λ-72.00000°. Principal axes: T 1.0000, Plg1.0000°, Azm223.0000°; N 0.1200, Plg12.0000°, Azm313.0000°; P -1.1100, Plg76.0000°, Azm126.0000°;*

ISC 19 22:49:37.9±0.3, 15°.33S±0°.04×172°.09W±0°.03, h14km±1km, h15km:pP-P, n1812, σ1s32/1874, mb6.1/273, MS5.7/158, 250C-351D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.44**	**12**	⇑*i*Pn	Pn	22 49 59.8	-3.9
AFI				*e*Sn	Sn	22 50 16.7	-5.8
AFI	**Afiamalu**	**1.44**	**12**	Pn	**Pn**	**22 50 00.6**	**-3.0**
	baz=14,slow=12						
AFI				Sn	Sn	22 50 16.6	-5.8
	15μm,0.3s,baz=202,slow=18,SNR=23						
AFI				LR	LR	22 50 44.8	
	comp=Z,151μm,21.1s,baz=192,slow=45						
MSVF	**Nonsavu**	**9.76**	**254**	⇑*i*P	Pn	22 52 02.2	+4.3
MSVF				*e*		22 53 47.3	
MSVF	**Nonsavu**	**9.76**	**254**	⇑*i*Pn	Pn	22 52 02.2	+4.3
MSVF				*e*Sn	**Sn**	**22 53 47.3**	**-0.1**
MSVF	**Nonsavu**	**9.76**	**254**	Pn	Pn	22 52 02.0	+4.1
	8μm,1.1s						
KNTN	**Kanton**	**12.48**	**2**	*e*Pn	Pn	22 52 29.5	-5.7
RAR	**Rarotonga**	**13.07**	**118**	*e*Pn	Pn	22 52 38.8	-4.4
RAR				*e*Sn	**Sn**	**22 55 07.8**	**-0.7**
RAO	**Raoul Island**	**14.86**	**200**	*e*Pn	Pn	22 53 02.2	-5.4
	631nm,0.7s						
RAO				Sn	Sn	22 55 38.5	-14
RAO				*e*Sn	Sn	22 55 40.7	-11
RAO	**Raoul Island**	**14.86**	**200**	Pn	Pn	22 53 02.3	-5.4
	74nm,0.3s,baz=251,slow=22,SNR=6.9						
RAO				Sn	Sn	22 55 38.5	-14
	54nm,0.3s,baz=75,slow=20,SNR=5.0						
DZM	**Mont Dzumac**	**21.40**	**249**	*e*P	**P**	**22 54 22.4**	**-3.1**
	1μm,1.1s						
DZM				*e*S	S	22 58 13.9	-8.9
	11μm,24.6s						
DZM				*e*LR	LR	22 59 20.9	
	22μm,25.5s						
DZM	**Mont Dzumac**	**21.40**	**249**	⇓*e*P	**P**	**22 54 23.3**	**-2.2**
DZM				S	**S**	**22 58 25.7**	**+2.9**
DZM	**Mont Dzumac**	**21.40**	**249**	P	**P**	**22 54 22.3**	**-3.2**
	221nm,1.0s,baz=86,slow=16,SNR=26						
DZM				S	**S**	**22 58 25.7**	**+2.9**
	13nm,0.9s,baz=135,slow=17,SNR=2.3						
DZM				LR	LR	23 01 06.8	
	comp=Z,8μm,21.9s,baz=76,slow=33					

CNB	**Canberra Magne**	**39.80**	**233**	⇑P		**P**		**22 57 09.0**	**-1.8**	
	baz=40,SNR=54									
CTA	**Charters Tower**	**39.89**	**257**	P		**P**		**22 57 08.9**	**-2.7**	
CTA				PcP		**PcP**		**22 59 18.3**	**+0.9**	
CTA	**Charters Tower**	**39.89**	**257**	P		**P**		**22 57 08.9**	**-2.7**	
	comp=Z,16nm,0.7s,baz=90,slow=14,SNR=5.4									
CTA				PcP		**PcP**		**22 59 18.3**	**+0.9**	
	comp=Z,22nm,1.0s,baz=63,slow=2.3,SNR=3.7									
CTA				LR		LR		23 11 25.2		
	comp=Z,7µm,20.3s,baz=86,slow=33									
CTAO	**Charters Tower**	**39.89**	**257**	*e*P		**P**		**22 57 09.9**	**-1.7**	
CTAO				pmax		pmax				
	comp=Z,50nm,1.2s									
CTAO				MLR		MLR				
	comp=Z,7µm,20.0s									
CTAO	**Charters Tower**	**39.89**	**257**	*e*P		**P**		**22 57 09.9**	**-1.7**	
	comp=Z,50nm,1.2s									
CTAO				LR		LR				
	comp=Z,7µm,20.0s									
CAN	**Canberra**	**40.08**	**233**	*e*P		**P**		**22 57 11.6**	**-1.5**	
CAN				pmax		pmax				
	comp=Z,380nm,1.4s									
CAN				MLR		MLR				
	comp=Z,7µm,19.0s									
CAN	**Canberra**	**40.08**	**233**	*e*P		**P**		**22 57 11.6**	**-1.5**	
	comp=Z,380nm,1.4s									
CAN				LR		LR				
	comp=Z,7µm,19.0s									
PMG	**Port Moresby**	**40.20**	**274**	*e*P		**P**		**22 57 13.0**	**-1.2**	
	comp=Z,109nm,1.1s									
PMG	**Port Moresby**	**40.20**	**274**	P		**P**		**22 57 13.4**	**-0.8**	
	comp=Z,75nm,1.0s,baz=249,slow=1.6,SNR=8.0									
PMG				LR		LR		23 12 14.0		
	comp=Z,6µm,18.4s,baz=302,slow=34									
WAKE	**Wake Island**	**40.26**	**328**	*e*P		**P**		**22 57 15.6**	**+1.1**	
	comp=Z,332nm,0.9s									
WAKE				LR		LR				
	comp=Z,5µm,21.0s									
H11N3	**WAKE ISLAND Hy**	**40.49**	**329**	T		T		23 40 28.4		
	baz=148,slow=0.7,SNR=3.8									
H11N1	**WAKE ISLAND Hy**	**40.50**	**329**	T		T		23 40 23.4		
	baz=148,slow=0.7,SNR=74									
H11N2	**WAKE ISLAND Hy**	**40.51**	**329**	T		T		23 40 29.7		
	baz=148,slow=0.7,SNR=3.5									
MILA	**Mila**	**40.58**	**230**	P		**P**		**22 57 16.0**	**-1.1**	
	baz=40,SNR=16									
CMSA	**Cobar Meteorol**	**41.68**	**240**	⇑P		**P**		**22 57 23.9**	**-2.4**	
	baz=41,SNR=141									
MTSU	**Mount Surprise**	**41.77**	**260**	⇓P		**P**		**22 57 25.0**	**-2.2**	
	baz=42,SNR=18									
QLP	**Quilpie**	**42.11**	**247**	⇓P		**P**		**22 57 27.0**	**-2.9**	
	baz=42,SNR=35									
COEN	**Coen**	**43.25**	**266**	*e*P		**P**		**22 57 38.7**	**-0.5**	
	comp=Z,716nm,0.8s									
COEN	**Coen**	**43.25**	**266**	⇓P		**P**		**22 57 37.8**	**-1.4**	
	baz=43,SNR=29									
TOO	**Toolangi**	**43.49**	**231**	⇑P		**P**		**22 57 39.3**	**-1.6**	
	baz=43,SNR=89									
MIDW	**Midway**	**43.59**	**353**	PFAKE				22 57 50.0	+8.4	
MIDW				LR		LR				
	comp=Z,7µm,19.0s									
TAU	**Tasmania Unive**	**44.23**	**223**	PFAKE				22 58 00.0	+13	
TAU				LR		LR				
	comp=Z,16µm,19.0s									
STKA	**Stephens Creek**	**45.17**	**240**	*e*P		**P**		**22 57 52.8**	**-1.6**	
	comp=Z,56nm,0.9s									
STKA	**Stephens Creek**	**45.17**	**240**	P		**P**		**22 57 52.9**	**-1.5**	
	baz=45,SNR=103									
STKA	**Stephens Creek**	**45.17**	**240**	P		**P**		**22 57 52.8**	**-1.6**	
	comp=Z,247nm,0.9s,baz=81,slow=8.4,SNR=236									
STKA				LR		LR		23 15 39.8		
	comp=Z,5µm,18.9s,baz=60,slow=35									
ARPS	**Mount Arapiles**	**46.05**	**233**	P		**P**		**22 57 60.0**	**-1.3**	
	baz=46,SNR=11									
JAY	**Jayapura**	**48.22**	**281**	P		**P**		**22 58 18.6**	**0.0**	
	baz=48,SNR=12									
BBOO	**Buckleboo**	**49.94**	**240**	*e*P		**P**		**22 58 29.9**	**-1.7**	
	comp=Z,3µm,0.8s									
BBOO	**Buckleboo**	**49.94**	**240**	P		**P**		**22 58 29.8**	**-1.7**	
	baz=50,SNR=126									
WRAB	**Tennant Creek**	**51.08**	**257**	⇑*e*P		**P**		**22 58 37.8**	**-2.6**	
WRAB				*e*				22 59 55.7		
WRAB				*e*S		**S**		**23 05 55.6**	**-2.3**	
WRAB				pmax		pmax				
	comp=Z,316nm,1.3s									
WRAB				MLR		MLR				
	comp=Z,7µm,20.0s									
WRAB	**Tennant Creek**	**51.08**	**257**	⇑*e*P		**P**		**22 58 37.8**	**-2.6**	
	comp=Z,316nm,1.3s									
WRAB				*e*PcP		**PcP**		**22 59 55.7**	**-0.5**	
WRAB				*e*S		**S**		**23 05 55.6**	**-2.3**	
WRAB				LR		LR				
	comp=Z,7µm,20.0s									
WRAB	**Tennant Creek**	**51.08**	**257**	P		P		22 58 37.1	-3.2	
	comp=Z,958nm,1.2s,SNR=40									
WRA	**Warramunga Arr**	**51.09**	**257**	P		**P**		**22 58 37.7**	**-2.7**	
WRA				S		**S**		**23 05 54.5**	**-3.6**	
WRA				P'P'				23 29 24.8		
WRA	**Warramunga Arr**	**51.09**	**257**	P		**P**		**22 58 37.7**	**-2.7**	
	comp=Z,142nm,1.1s,baz=94,slow=6.7,SNR=142									
WRA				S		**S**		**23 05 54.5**	**-3.6**	
	comp=Z,7.5nm,1.1s,baz=93,slow=14,SNR=5.9									
WRA				LR		LR		23 19 06.5		
	comp=Z,7µm,19.7s,baz=95,slow=35									
WRA				PKPPKP		**P'P'df**		**23 29 24.8**	**-1.7**	
	comp=Z,1.8nm,1.0s,baz=286,slow=3.3,SNR=4.7									
AS31	**Alice Springs**	**51.34**	**252**	⇑P		**P**		**22 58 40.2**	**-2.1**	
ASAR	**Alice Springs**	**51.34**	**252**	P		**P**		**22 58 40.2**	**-2.0**	
ASAR				S		**S**		**23 05 56.6**	**-4.7**	
ASAR				P'P'				23 29 06.2		
ASAR	**Alice Springs**	**51.34**	**252**	P		**P**		**22 58 40.2**	**-2.0**	
	comp=Z,582nm,1.0s,baz=84,slow=8.5,SNR=840									
ASAR				S		**S**		**23 05 56.6**	**-4.7**	
	comp=Z,7.3nm,1.0s,baz=87,slow=15,SNR=10									
ASAR				LR		LR		23 19 05.5		
	comp=Z,13µm,19.8s,baz=92,slow=35									
ASAR				PKPPKP		P'P'df		23 29 06.2	-20	
	comp=Z,0.6nm,0.8s,baz=238,slow=1.7,SNR=4.4									
GUMO	**Guam**	**51.37**	**302**	*e*P		**P**		**22 58 44.4**	**+1.9**	
	comp=Z,780nm,1.4s									
GUMO				LR		LR				
	comp=Z,3µm,21.0s									
KDU	**Kakadu**	**53.74**	**265**	P		**P**		**22 58 58.9**	**-1.2**	
	baz=53,SNR=17									
MTN	**Manton Dam**	**55.00**	**265**	P		**P**		**22 59 08.0**	**-1.2**	
	baz=55,SNR=6.1									
KNRA	**Kununurra**	**56.83**	**261**	⇓P		**P**		**22 59 20.8**	**-1.6**	
	baz=56,SNR=26									
SWI	**Sorong**	**57.71**	**279**	⇑P		**P**		**22 59 29.6**	**+1.0**	
	baz=57,SNR=4.9									
RPN	**Rapa Nui**	**59.14**	**113**	*e*P		**P**		**22 59 40.4**	**+1.9**	
	comp=Z,2µm,2.1s									
RPN				LR		LR				
	comp=Z,5µm,21.0s									
FITZ	**Fitzroy Crossi**	**59.46**	**258**	P		**P**		**22 59 39.7**	**-1.1**	
FITZ	**Fitzroy Crossi**	**59.46**	**258**	P		**P**		**22 59 39.7**	**-1.1**	
	comp=Z,24nm,0.7s									
FITZ				LR		LR		23 23 31.6		
	comp=Z,8µm,19.8s,slow=34									
DRV	**Dumont d'Urvil**	**60.09**	**200**	P		P		22 59 40.0	-4.3	
DRV	**Dumont d'Urvil**	**60.09**	**200**	PP		PP		23 01 57.0	+0.3	
DRV				S		S		23 07 46.0	-11	
DRV				SS		**SS**		**23 11 55.0**	**+1.7**	
DRV				L		L		23 14 00.0		
DRV				R				23 19 00.0		
TNTI	**Ternate**	**61.91**	**279**	*e*P		**P**		**22 59 58.7**	**+1.1**	
	comp=Z,1µm,2.1s									
SOEI	**Soe**	**62.20**	**267**	⇓P		**P**		**23 00 00.3**	**+0.7**	
	baz=62,SNR=21									
BATI	**Baumata**	**62.69**	**266**	P		**P**		**23 00 03.1**	**+0.4**	
BATI				S		**S**		**23 08 36.6**	**+5.3**	
BATI	**Baumata**	**62.69**	**266**	P		**P**		**23 00 03.1**	**+0.4**	
	comp=Z,49nm,0.7s,baz=188,slow=1.6,SNR=12									
BATI				S		**S**		**23 08 36.6**	**+5.3**	
	comp=Z,5.3nm,0.3s,baz=180,slow=2.0,SNR=2.2									
BATI				LR		LR		23 25 55.3		
	comp=Z,6µm,20.6s,baz=314,slow=35									
SBA	**Scott Base**	**63.42**	**185**	⇓*e*P		**P**		**23 00 08.6**	**+2.0**	
SBA				*e*				23 02 26.4		
SBA				pmax		pmax				
	comp=Z,93nm,1.1s									
SBA				MLR		MLR				
	comp=Z,1µm,20.0s									
SBA	**Scott Base**	**63.42**	**185**	⇓*e*P		**P**		**23 00 08.6**	**+2.0**	
	comp=Z,93nm,1.1s									
SBA				*e*PP		**PP**		**23 02 26.4**	**+0.5**	
SBA				LR		LR				
	comp=Z,1µm,20.0s									
VNDA	**Vanda**	**63.58**	**186**	⇓*e*P		**P**		**23 00 08.9**	**+1.3**	
	comp=Z,57nm,1.1s									
VNDA				*e*PcP		**PcP**		**23 00 43.1**	**-0.9**	
VNDA				S		**S**		**23 08 45.5**	**+5.0**	
VNDA				P'P'				23 28 58.6		
VNDA	**Vanda**	**63.58**	**186**	P		**P**		**23 00 09.1**	**+1.4**	
	comp=Z,27nm,1.1s,baz=10,slow=6.4,SNR=42									
VNDA				S		**S**		**23 08 45.5**	**+5.0**	
	comp=Z,0.6nm,0.8s,baz=65,slow=3.5,SNR=2.3									
VNDA				PKPPKP		P'P'df		23 28 58.6	-8.3	
	comp=Z,1.3nm,1.0s,baz=286,slow=6.6,SNR=5.5									
MMRI	**Maumere**	**64.39**	**268**	*e*P		**P**		**23 00 13.7**	**-0.4**	
	comp=Z,369nm,1.3s									
MBWA	**Marble Bar**	**64.60**	**254**	P		**P**		**23 00 14.9**	**-0.4**	
	SNR=21									
MBWA	**Marble Bar**	**64.60**	**254**	*e*P		**P**		**23 00 14.3**	**-1.0**	
	comp=Z,477nm,1.4s									
MEEK	**Meekatharra**	**65.01**	**247**	⇓P		**P**		**23 00 17.5**	**-0.5**	
	baz=65,SNR=39									
DAV	**Davao City (W)**	**65.64**	**285**	PFAKE				23 00 30.0	+7.9	
DAV				LR		LR				
	comp=Z,3µm,22.0s									
NWAO	**Narrogin (SRO)**	**65.76**	**241**	P		**P**		**23 00 22.9**	**+0.3**	
	SNR=17									
NWAO	**Narrogin (SRO)**	**65.76**	**241**	*e*P		**P**		**23 00 22.4**	**-0.3**	
	comp=Z,594nm,1.5s									
NWAO	**Narrogin (SRO)**	**65.76**	**241**	P		**P**		**23 00 22.5**	**-0.2**	
	comp=Z,276nm,1.2s,baz=97,slow=6.4,SNR=32									
RKGY	**Rocky Gully**	**65.89**	**239**	⇑P		**P**		**23 00 23.5**	**0.0**	
	baz=66,SNR=14									
BLDU	**Ballidu**	**66.35**	**243**	⇓P		**P**		**23 00 26.0**	**-0.5**	
	baz=66,SNR=45									
ADK	**Adak**	**67.05**	**357**	*e*P		**P**		**23 00 30.0**	**-0.3**	
ADK				pmax		pmax				
	comp=Z,620nm,2.0s									
ADK	**Adak**	**67.05**	**357**	*e*P		**P**		**23 00 30.0**	**-0.3**	
	comp=Z,620nm,2.0s									
MORW	**Morawa**	**67.06**	**245**	⇓P		**P**		**23 00 30.7**	**-0.4**	
	baz=67,SNR=39									
KAPI	**Kappang**	**67.64**	**271**	P		**P**		**23 00 35.1**	**+0.1**	
	SNR=9.4									
KAPI	**Kappang**	**67.64**	**271**	*e*P		**P**		**23 00 34.2**	**-0.7**	
	comp=Z,921nm,2.8s									
KAPI	**Kappang**	**67.64**	**271**	P		**P**		**23 00 34.5**	**-0.5**	
	comp=Z,273nm,1.1s,SNR=12									
KAPI	**Kappang**	**67.64**	**271**	LR		LR		23 28 28.1		
	comp=Z,2µm,21.2s,baz=5.4,slow=35									
UNV	**Unalaska Valle**	**69.06**	**4**	*e*P		**P**		**23 00 43.1**	**+0.1**	
	comp=Z,311nm,1.9s									
FX1	**Attu Island--F**	**69.12**	**350**	*e*P		**P**		**23 00 43.0**	**-0.4**	
FX1	**Attu Island--F**	**69.12**	**350**	P		**P**		**23 00 42.9**	**-0.4**	
	comp=Z,19nm,0.8s,baz=121,slow=4.8,SNR=4.3									
AKUT	**Akutan**	**69.40**	**4**	*e*P		**P**		**23 00 45.0**	**+0.1**	
	comp=Z,263nm,1.6s									
AKUT				*e*PP		**PP**		**23 03 16.0**	**-2.8**	
GIRL	**Giralia**	**69.45**	**251**	⇑P		**P**		**23 00 47.0**	**+0.9**	
	baz=69,SNR=9.7									
MAJO	**Matsushiro**	**69.71**	**319**	*e*P		**P**		**23 00 48.2**	**+0.8**	
MAJO				pmax		pmax				
	comp=Z,145nm,1.5s									
MAJO	**Matsushiro**	**69.71**	**319**	*e*P		**P**		**23 00 48.2**	**+0.8**	
	comp=Z,145nm,1.5s									
MAJO				LR		LR				
	comp=Z,658nm,22.0s									
MAT	**Matsushiro**	**69.71**	**319**	P		**P**		**23 00 47.5**	**+0.1**	
MAT				S		**S**		**23 09 56.0**	**0.0**	
SCI	**San Clemente I**	**70.15**	**46**	⇑P		**P**		**23 00 51.5**	**+1.3**	
	baz=70,SNR=7.7									
SBC	**Santa Barbara**	**70.19**	**44**	⇑P		**P**		**23 00 51.7**	**+1.3**	
	baz=70									
SAC	**San Andreas**	**70.33**	**40**	*e*P		**P**		**23 00 51.8**	**+0.6**	
SAC								23 01 11.1		
SAC				pmax		pmax				
	comp=Z,828nm,1.7s									
SAC	**San Andreas**	**70.33**	**40**	*e*P		**P**		**23 00 51.8**	**+0.6**	
	comp=Z,828nm,1.7s									
SAC				PcP		**PcP**		**23 01 11.1**	**-1.7**	
PKM	**Peak Mountain**	**70.38**	**44**	⇑P		**P**		**23 00 53.3**	**+1.5**	
	baz=71,SNR=35									
MCCM	**Marconi Confer**	**70.40**	**39**	*e*P		**P**		**23 00 52.6**	**+1.0**	
	comp=Z,402nm,1.6s									
BLG	**Laguna Peak**	**70.44**	**45**	⇓P		**P**		**23 00 52.9**	**+1.0**	
	baz=71,SNR=6.3									
SAO	**San Andreas Ge**	**70.44**	**41**	*e*P		**P**		**23 00 53.3**	**+1.4**	
SAO				pmax		pmax				
	comp=Z,792nm,1.7s									
SAO	**San Andreas Ge**	**70.44**	**41**	*e*P		**P**		**23 00 53.3**	**+1.4**	
	comp=Z,792nm,1.7s									
CIS	**Catalina Islan**	**70.49**	**46**	⇓P		**P**		**23 00 53.2**	**+0.9**	
	baz=71,SNR=11									
SMMC	**Simmler**	**70.50**	**43**	⇓P		**P**		**23 00 54.2**	**+1.8**	
	baz=71,SNR=31									
PTRM	**Twissleman Ran**	**70.57**	**43**	*e*P		**P**		**23 00 55.0**	**+2.3**	
FMP	**Fort Macarthur**	**70.73**	**45**	⇓P		**P**		**23 00 54.8**	**+1.1**	
	baz=71									
HOPS	**Hopland**	**70.82**	**39**	*e*P		**P**		**23 00 55.7**	**+1.5**	
	comp=Z,744nm,1.6s									
OSI	**Osito Adit**	**70.95**	**44**	⇓P		**P**		**23 00 56.3**	**+1.2**	
	baz=71									
KCPM	**Cahto Peak**	**70.96**	**38**	*e*P		**P**		**23 00 56.2**	**+1.0**	
	comp=Z,459nm,1.8s									
KCPM				*e*PP		**PP**		**23 03 34.6**	**+1.9**	
CASY	**Casey**	**71.00**	**205**	*e*P		**P**		**23 00 56.7**	**+1.9**	
	comp=Z,184nm,1.7s									
CASY				LR		LR				
	comp=Z,698nm,21.0s									
DECC	**Green Verdugo**	**71.01**	**45**	⇑P		**P**		**23 00 56.3**	**+0.9**	
	baz=71									
PASC	**Pasadena Art C**	**71.07**	**45**	*e*P		**P**		**23 00 56.5**	**+0.8**	
	comp=Z,426nm,1.8s									
PASC				*e*PcP		**PcP**		**23 01 15.9**	**0.0**	
SDPT	**Sand Point**	**71.09**	**7**	*e*P		**P**		**23 00 55.1**	**-0.2**	
	comp=Z,243nm,1.3s									
KIPM	**Iron Peak**	**71.10**	**38**	*e*P		**P**		**23 00 56.3**	**+0.3**	
	comp=Z,843nm,1.8s									
109C	**Camp Elliot, M**	**71.10**	**47**	⇑P		**P**		**23 00 56.9**	**+0.9**	
	baz=71,SNR=7.5									
ARVC	**Arvin**	**71.18**	**44**	⇑P		**P**		**23 00 57.5**	**+1.1**	
	baz=72,SNR=21									
MWC	**Mount Wilson**	**71.19**	**45**	*e*P		**P**		**23 00 57.6**	**+0.9**	
MWC				pmax		pmax				
	comp=Z,219nm,1.2s									
MWC	**Mount Wilson**	**71.19**	**45**	*e*P		**P**		**23 00 57.5**	**+0.9**	
	comp=Z,218nm,1.2s									
BAR	**Barrett**	**71.29**	**47**	*e*P		**P**		**23 00 58.5**	**+1.3**	
	comp=Z,449nm,2.0s									
VES	**Vestal, Richgr**	**71.42**	**43**	⇑P		**P**		**23 00 58.9**	**+1.1**	
	baz=72,SNR=52									
MURC	**Murrieta**	**71.43**	**46**	⇓P		**P**		**23 00 59.1**	**+1.1**	
	baz=72,SNR=20									
BFSC	**Mount Baldy Ra**	**71.47**	**45**	⇓P		**P**		**23 00 59.1**	**+0.7**	
	baz=72,SNR=28									
JOW	**Kunigami**	**71.47**	**306**	*e*P		**P**		**23 00 59.4**	**+1.1**	
	comp=Z,74nm,1.2s									
MONP	**Monument Peak**	**71.59**	**47**	⇑P		**P**		**23 01 00.2**	**+1.0**	
	baz=72,SNR=35									
EDW2	**Edwards Air Fo**	**71.60**	**45**	⇑P		**P**		**23 01 00.1**	**+1.0**	
	baz=72,SNR=51									
KHMM	**Horse Mountain**	**71.64**	**37**	*e*P		**P**		**23 01 01.1**	**+1.8**	
	comp=Z,250nm,1.3s									
MYLDM	**Lahad Datu**	**71.68**	**281**	P		**P**		**23 01 02.8**	**+2.9**	
MYLDM	**Lahad Datu**	**71.68**	**281**	*e*P		**P**		**23 01 02.3**	**+2.4**	
	comp=Z,429nm,1.3s									
DVTC	**Desert V Tower**	**71.69**	**47**	⇑P		**P**		**23 01 00.7**	**+1.0**	
	baz=72,SNR=9.0									
ISA	**Isabella**	**71.72**	**44**	*e*P		**P**		**23 01 00.9**	**+1.1**	
ISA				pmax		pmax				
	comp=Z,386nm,1.4s									
ISA	**Isabella**	**71.72**	**44**	*e*P		**P**		**23 01 00.9**	**+1.1**	
	comp=Z,386nm,1.4s									
ISA	**Isabella**	**71.72**	**44**	⇑P		**P**		**23 01 01.0**	**+1.3**	
	baz=72,SNR=102									
ISA				⇑S		**S**		**23 10 23.6**	**+4.0**	
	baz=72									
CMB	**Columbia Colle**	**71.88**	**41**	*e*P		**P**		**23 01 01.6**	**+1.0**	
CMB				pmax		pmax				
	comp=Z,669nm,1.8s									
CMB	**Columbia Colle**	**71.88**	**41**	*e*P		**P**		**23 01 01.6**	**+1.0**	
	comp=Z,670nm,1.8s									
LPIG	**La Paz**	**71.92**	**58**	P		**P**		**23 01 01.7**	**+0.6**	
LPIG	**La Paz**	**71.92**	**58**	LR		LR		23 24 24.1		
	comp=Z,5µm,20.7s,baz=299,slow=29									
PFO	**Pinyon Flat Ob**	**71.95**	**46**	*e*P		**P**		**23 01 01.9**	**+0.6**	
	comp=Z,227nm,1.5s									
PFO	**Pinyon Flat Ob**	**71.95**	**46**	P		**P**		**23 01 02.5**	**+1.2**	
	comp=Z,451nm,1.4s,SNR=21									
PFO	**Pinyon Flat Ob**	**71.95**	**46**	⇑P		**P**		**23 01 02.2**	**+0.9**	
	baz=72,SNR=24									
PFO	**Pinyon Flat Ob**	**71.95**	**46**	LR		LR		23 27 31.9		
	comp=Z,5µm,18.0s,baz=181,slow=32									
KRMB	**Red Mountain**	**71.97**	**36**	*e*P		**P**		**23 01 02.8**	**+1.7**	
	comp=Z,1µm,2.0s									
BBRC	**Big Bear Solar**	**71.99**	**46**	⇑P		**P**		**23 01 02.4**	**+0.9**	
	baz=72									
OHCM	**Honcut**	**72.00**	**39**	*e*P		**P**		**23 01 02.1**	**+0.9**	
TSM	**Tawau**	**72.01**	**280**	P		**P**		**23 00 59.8**	**-2.0**	
SWSC	**Sam W. Stewart**	**72.06**	**47**	⇓P		**P**		**23 01 02.6**	**+0.9**	
	baz=72,SNR=13									
LRMC	**Laurel Mountai**	**72.14**	**44**	⇓P		**P**		**23 01 03.6**	**+1.2**	
	baz=72,SNR=5.8									
WDC	**Whiskeytown Da**	**72.15**	**38**	⇓*i*P		**P**		**23 01 02.9**	**+0.8**	
WDC				*e*				23 03 42.4		
WDC				pmax		pmax				
	comp=Z,604nm,1.7s									
WDC	**Whiskeytown Da**	**72.15**	**38**	⇓*i*P		**P**		**23 01 02.9**	**+0.8**	
	comp=Z,604nm,1.7s									
WDC				*e*PP		**PP**		**23 03 42.4**	**-0.3**	
ASAJ	**Asahikawa**	**72.16**	**327**	*e*P		**P**		**23 01 04.0**	**+1.9**	
	comp=Z,338nm,2.2s									
ASAJ	**Asahikawa**	**72.16**	**327**	P		**P**		**23 01 03.0**	**+0.9**	
	comp=Z,58nm,0.8s,baz=210,slow=8.1,SNR=21									
ASAJ				LR		LR		23 28 53.2		
	comp=Z,2µm,21.2s,baz=267,slow=33									
KBO	**Bosley Butte**	**72.24**	**35**	*e*P		**P**		**23 01 03.8**	**+1.1**	
	comp=Z,677nm,1.8s									
KBO				*e*PP		**PP**		**23 03 42.8**	**-0.8**	
SPIA	**Saint Paul Isl**	**72.25**	**1**	*e*P		**P**		**23 01 03.0**	**+0.7**	
	comp=Z,376nm,1.5s									
CHGN	**Chignik**	**72.28**	**8**	*e*P		**P**		**23 01 02.4**	**0.0**	
CWC	**Cottonwood Cre**	**72.43**	**43**	⇓P		**P**		**23 01 05.3**	**+1.2**	
	baz=73,SNR=33									
BELC	**Belle Mtn. Jos**	**72.48**	**46**	⇑P		**P**		**23 01 05.6**	**+1.1**	
	baz=73,SNR=13									
PET	**Petropavlovsk**	**72.60**	**342**	*d i*P		**P**		**23 01 04.2**	**-0.3**	
PET				*e*				23 03 52.5		
PET				*e*S		**S**		**23 10 27.5**	**-1.1**	
PET				*e*PS		**PnS**		**23 10 58.6**	**-1.5**	
PET				*e*PPS		PPS		23 11 09.2		
PET				*e*SS		**SS**		**23 15 09.6**	**+1.2**	
PET				*e*SSS		SSS		23 18 19.4		
PET				pmax		pmax				
	comp=Z,1µm,11.5s									
PET				pmax		pmax				
	comp=Z,1µm,11.7s									
PET				pmax		pmax				
	comp=Z,23nm,0.7s									
PET				pmax		pmax				
	comp=Z,400nm,13.6s									
PET				MLR		MLR				
	comp=Z,4µm,18.0s									
MPMC	**Manual Prospec**	**72.61**	**44**	⇑P		**P**		**23 01 06.6**	**+1.4**	
	baz=73,SNR=82									
KEBM	**Edson Butte**	**72.61**	**35**	*e*P		**P**		**23 01 07.2**	**+2.3**	
	comp=Z,386nm,1.4s									
MLAC	**Mammoth Lakes**	**72.63**	**42**	⇑P		**P**		**23 01 06.8**	**+1.5**	
	baz=73,SNR=5.5									
MTUM	**Tungsten Hills**	**72.64**	**42**	*e*P		**P**		**23 01 06.8**	**+1.4**	
GSC	**Goldstone**	**72.64**	**45**	*e*P		**P**		**23 01 06.2**	**+0.9**	
GSC				pmax		pmax				
	comp=Z,398nm,1.6s									
GSC	**Goldstone**	**72.64**	**45**	*e*P		**P**		**23 01 06.2**	**+0.9**	
	comp=Z,398nm,1.6s									
GSC	**Goldstone**	**72.64**	**45**	⇑P		**P**		**23 01 06.4**	**+1.1**	
	baz=73,SNR=46									
BC3	**Big Chuckawall**	**72.68**	**47**	⇓P		**P**		**23 01 06.9**	**+1.3**	
	baz=73,SNR=31									
JNU	**Nakatsue**	**72.68**	**312**	*e*P		**P**		**23 01 06.5**	**+1.0**	
	comp=Z,34nm,1.0s									
JNU	**Nakatsue**	**72.68**	**312**	P		**P**		**23 01 06.6**	**+1.0**	
	comp=Z,43nm,0.8s,baz=78,slow=2.7,SNR=16									
JNU				LR		LR		23 28 04.0		
	comp=Z,2µm,21.7s,baz=73,slow=32									
TIN	**Tinemaha**	**72.69**	**43**	⇓P		**P**		**23 01 07.0**	**+1.5**	
	baz=73,SNR=15									
HEC	**Hector,Ludlow**	**72.71**	**45**

KKM					LR		LR		
	comp=Z,2µm,22.0s								
KKM	**Kota Kinabalu**	**74.11**	**281**	⇓	P		**P**	**23 01 15.3 +0.9**	
	baz=74,SNR=28								
MPOR	**Mary's Peak**	**74.12**	**34**		P		**P**	**23 01 15.5 +1.6**	
MOD	**Modoc**	**74.29**	**38**		*eP*		**P**	**23 01 16.0 +1.0**	
	comp=Z,2µm,1.4s								
COR	**Corvallis**	**74.31**	**34**		*eP*		**P**	**23 01 16.2 +1.5**	
	comp=Z,3µm,1.6s								
Z14A	**Wintersburg**	**74.31**	**48**	⇑	P		**P**	**23 01 16.3 +1.2**	
	baz=75,SNR=19								
HBO	**Huckleberry Mo**	**74.36**	**35**		P		**P**	**23 01 16.4 +1.1**	
SHPR	**Sheep Range**	**74.42**	**44**		*eP*		**P**	**23 01 17.0 +1.1**	
K05A	**Summer Lake**	**74.46**	**37**		*eP*		**P**	**23 01 17.4 +1.4**	
	comp=Z,668nm,1.3s								
W13A	**Hualapai Mount**	**74.54**	**46**	⇑	P		**P**	**23 01 17.9 +1.2**	
	baz=75,SNR=81								
Y14A	**Wickenburg**	**74.56**	**48**	⇑	P		**P**	**23 01 17.8 +1.1**	
	baz=75,SNR=35								
KDAK	**Kodiak Island**	**74.61**	**11**		*eP*		**P**	**23 01 16.9 +0.7**	
	comp=Z,651nm,1.8s								
KDAK					LR		LR		
	comp=Z,6µm,21.0s								
KDAK	**Kodiak Island**	**74.61**	**11**		P		**P**	**23 01 16.3 +0.1**	
	comp=Z,701nm,1.7s,SNR=27								
QSPA	**South Pole Qui**	**74.71**	**180**		*eP*		**P**	**23 01 17.5 +0.4**	
	comp=Z,170nm,1.0s								
H04A	**Detroit Lake**	**74.98**	**34**		*eP*		**P**	**23 01 19.5 +0.8**	
	comp=Z,744nm,1.7s								
F03A	**Seaside**	**75.06**	**33**		*eP*		**P**	**23 01 20.6 +1.5**	
	comp=Z,919nm,1.7s								
R11A	**Troy Canyon, C**	**75.14**	**43**		*eP*		**P**	**23 01 20.7 +0.7**	
R11A	**Troy Canyon, C**	**75.14**	**43**	⇑	P		**P**	**23 01 21.1 +1.1**	
	baz=76								
PINOR	**Pine Mountain**	**75.15**	**36**		*eP*		**P**	**23 01 21.4 +1.8**	
BMN	**Battle Mountai**	**75.28**	**40**		*eP*		**P**	**23 01 21.9 +1.2**	
BMN					pmax		pmax		
	comp=Z,379nm,1.4s								
BMN					MLR		MLR		
	comp=Z,7µm,20.0s								
BMN	**Battle Mountai**	**75.28**	**40**		*eP*		**P**	**23 01 21.9 +1.2**	
	comp=Z,379nm,1.4s								
BMN					LR		LR		
	comp=Z,7µm,20.0s								
TUC	**Tucson**	**75.37**	**50**		*eP*		**P**	**23 01 19.0 -2.3**	
TUC					pmax		pmax		
	comp=Z,781nm,2.2s								
TUC	**Tucson**	**75.37**	**50**		*eP*		**P**	**23 01 19.0 -2.3**	
	comp=Z,780nm,2.2s								
E03A	**Lebam**	**75.47**	**32**		*eP*		**P**	**23 01 22.8 +1.4**	
	comp=Z,422nm,1.3s								
MMIG	**Aquila**	**75.50**	**66**		P		**P**	**23 01 23.9 +1.7**	
ANIG	**Ahuacatlan**	**75.52**	**63**		P		**P**	**23 01 22.5 +0.1**	
TWG	**Pinlang**	**75.59**	**299**		*eP*		**P**	**23 01 22.6 -0.2**	
	comp=Z,289nm,1.1s								
WVOR	**Wild Horse Val**	**75.60**	**38**		P		**P**	**23 01 23.6 +1.1**	
WVOR	**Wild Horse Val**	**75.60**	**38**		P		**P**	**23 01 23.6 +1.1**	
YULB	**Yu-li**	**75.64**	**299**		*eP*		**P**	**23 01 21.7 -1.3**	
	comp=Z,61nm,1.1s								
NACB	**Ninganchiao**	**75.70**	**300**		*eP*		**P**	**23 01 22.4 -0.9**	
NACB					*eS*		**S**	**23 11 02.7 -2.1**	
VIPM	**Ingram Point**	**75.73**	**35**		P		**P**	**23 01 24.2 +1.0**	
VIPM	**Ingram Point**	**75.73**	**35**		P		**P**	**23 01 24.2 +1.0**	
VLL	**Laurance Lake**	**75.75**	**34**		P		**P**	**23 01 24.4 +1.2**	
LVP	**Lakeview Peak**	**75.75**	**33**		P		**P**	**23 01 24.1 +0.8**	
VFP	**Flag Point**	**75.78**	**34**		P		**P**	**23 01 24.4 +0.9**	
UGM	**Wanagama**	**75.84**	**266**		*eP*		**P**	**23 01 25.2 +0.8**	
	comp=Z,719nm,1.5s								
UGM	**Wanagama**	**75.84**	**266**	⇑	P		**P**	**23 01 24.4 0.0**	
	baz=76,SNR=11								
NLWA	**Neilton Lookou**	**75.88**	**31**		*eP*		**P**	**23 01 25.3 +1.5**	
	comp=Z,650nm,1.9s								
X16A	**Lo Mia Camp, P**	**75.92**	**48**	⇓	P		**P**	**23 01 26.1 +1.5**	
	baz=76,SNR=68								
ERK	**Elk Rock**	**75.94**	**33**		P		**P**	**23 01 25.5 +1.1**	
TDL	**Tradedollar La**	**76.04**	**33**		P		**P**	**23 01 26.2 +1.3**	
319A	**Douglas**	**76.05**	**52**	⇓	P		**P**	**23 01 26.7 +1.4**	
	baz=76,SNR=46								
SSLB	**Suanglung**	**76.08**	**300**		*eP*		**P**	**23 01 25.4 -0.1**	
	comp=Z,73nm,1.0s								
YHNB	**Yeheng**	**76.09**	**301**		*eP*		**P**	**23 01 24.2 -1.4**	
	comp=Z,372nm,1.4s								
YHNB					*eS*		**S**	**23 11 07.0 -2.2**	
YHNB					LR		LR		
	comp=Z,2µm,20.0s								
I07A	**Izee**	**76.09**	**36**		*eP*		**P**	**23 01 26.4 +1.2**	
	comp=Z,387nm,1.4s								
TATO	**Taipei**	**76.12**	**301**		*eP*		**P**	**23 01 26.5 +0.8**	
	comp=Z,797nm,1.1s								
TPUB	**Ta-pu**	**76.16**	**299**		*eP*		**P**	**23 01 25.5 -0.4**	
	comp=Z,177nm,1.0s								
G06A	**Carlson Farm,**	**76.18**	**35**		P		**P**	**23 01 26.5 +0.9**	
CCUT	**Cedar City**	**76.19**	**44**		*eP*		**P**	**23 01 27.6 +1.5**	
	comp=Z,450nm,1.7s								
BTM	**Bintulu**	**76.26**	**277**		P		**P**	**23 01 28.3 +1.6**	
ARUT	**Antelope Range**	**76.27**	**44**	⇓	*iP*		**P**	**23 01 27.3 +0.8**	
ARUT					*e*			23 04 16.4	
ARUT	**Antelope Range**	**76.27**	**44**	⇓	*iP*		**P**	**23 01 27.3 +0.8**	
	comp=Z,3µm,1.2s								
ARUT					*ePP*		**PP**	**23 04 16.4 -1.7**	
U15A	**North Rim**	**76.34**	**46**	⇓	P		**P**	**23 01 28.6 +1.6**	
	baz=77								
LON	**Longmire**	**76.51**	**33**		*eP*		**P**	**23 01 28.0 +0.5**	
LON					pmax		pmax		
	comp=Z,351nm,1.8s								
LON	**Longmire**	**76.51**	**33**		*eP*		**P**	**23 01 28.0 +0.5**	
	comp=Z,351nm,1.8s								
WUAZ	**Wupatki**	**76.52**	**47**	⇓	*iP*		**P**	**23 01 29.0 +1.1**	
	comp=Z,248nm,1.5s								
WUAZ					*ePP*		**PP**	**23 04 20.7 +0.5**	
WUAZ	**Wupatki**	**76.52**	**47**	⇑	P		**P**	**23 01 29.5 +1.5**	
	baz=77,SNR=29								
SFJM	**Santa Fe**	**76.58**	**64**		P		P	23 01 32.4 +3.8	
CGIG		**76.58**	**53**		P		**P**	**23 01 29.4 +1.0**	
320A	**Kipp Ranch, An**	**76.61**	**52**	⇑	P		**P**	**23 01 30.1 +1.7**	
	baz=77,SNR=35								
WPW	**White Pass**	**76.62**	**33**		P		**P**	**23 01 29.0 +0.8**	
ELK	**Elko**	**76.70**	**41**		*eP*		**P**	**23 01 29.7 +0.8**	
ELK	**Elko**	**76.70**	**41**		P		**P**	**23 01 29.9 +0.9**	
	comp=Z,75nm,1.1s,baz=180,slow=3.3,SNR=114								
ELK					LR		LR	23 29 48.0	
	comp=Z,8µm,19.2s,baz=176,slow=31								
FMW	**Mount Fremont**	**76.70**	**33**		P		**P**	**23 01 29.8 +1.1**	
D05A	**Enumclaw**	**76.70**	**33**		*eP*		**P**	**23 01 30.1 +1.7**	
	comp=Z,1µm,1.6s								
BLTW	**Bickleton**	**76.85**	**34**		P		**P**	**23 01 30.2 +0.8**	
220A	**Playas Peak, P**	**76.87**	**51**	⇑	P		**P**	**23 01 31.5 +1.6**	
	baz=77,SNR=111								
SBUM	**Sibu**	**76.88**	**276**		P		**P**	**23 01 31.6 +1.4**	
SBUM	**Sibu**	**76.88**	**276**		*eP*		**P**	**23 01 31.1 +0.9**	
	comp=Z,127nm,1.1s								
ZIIG	**Zihuatanejo**	**76.92**	**67**		P		**P**	**23 01 29.9 -0.4**	
HPIG		**76.93**	**57**		P		**P**	**23 01 31.0 +0.5**	
PGC	**Sidney**	**76.93**	**31**		*eP*		**P**	**23 01 30.8 +1.1**	
	comp=Z,61nm,2.0s								
KSRS	**Korea Array**	**77.00**	**315**		P		**P**	**23 01 31.6 +1.3**	
	comp=Z,41nm,0.9s,baz=126,slow=6.5,SNR=62								
KSRS					LR		LR	23 29 14.7	
	comp=Z,2µm,21.9s,baz=109,slow=31								
KSAR	**Wonju Array Be**	**77.02**	**315**		P		**P**	**23 01 31.6 +1.2**	
X18A	**Snowflake**	**77.05**	**48**	⇑	P		**P**	**23 01 32.4 +1.4**	
	baz=77,SNR=29								
120A	**U Bar Ranch, L**	**77.08**	**51**	⇑	P		**P**	**23 01 32.7 +1.5**	
	baz=77,SNR=45								
RSO	**Redoubt South**	**77.12**	**10**		*eP*		**P**	**23 01 30.9 +0.1**	
C05A	**Tolt Reservoir**	**77.19**	**32**		P		**P**	**23 01 32.2 +1.0**	
MCW	**Mount Constitu**	**77.25**	**31**		P		**P**	**23 01 32.7 +1.1**	
MCW	**Mount Constitu**	**77.25**	**31**		P		**P**	**23 01 32.7 +1.1**	
BBB	**Bella Bella**	**77.26**	**26**		P		**P**	**23 01 32.4 +0.9**	
BBB	**Bella Bella**	**77.26**	**26**		P		**P**	**23 01 32.4 +0.9**	
	comp=Z,20nm,1.1s,baz=228,slow=6.3,SNR=26								
SVW2	**Sparrevohn**	**77.30**	**8**		*eP*		**P**	**23 01 31.6 0.0**	
	comp=Z,155nm,1.8s								
SEW	**Seward**	**77.37**	**11**		*eP*		**P**	**23 01 32.6 +0.7**	
	comp=Z,449nm,2.0s								
Z20A	**Nine Sixteen R**	**77.38**	**50**	⇓	P		**P**	**23 01 34.5 +1.7**	
	baz=78,SNR=74								
JCW	**Jim Creek**	**77.39**	**32**		P		**P**	**23 01 33.3 +0.9**	
E07A	**Sunnyside**	**77.43**	**34**		P		**P**	**23 01 33.6 +1.0**	
LTY	**Liberty**	**77.44**	**33**		*eP*		**P**	**23 01 33.2 +0.5**	
	comp=Z,456nm,1.8s								
MVU	**Marysvale**	**77.46**	**44**	⇓	*eP*		**P**	**23 01 34.7 +1.4**	
	comp=Z,228nm,1.1s								
MVU					*ePP*		PP	23 04 21.7 -6.5	
MVU					LR		LR		
	comp=Z,7µm,19.0s								
W18A	**Petrified Fore**	**77.49**	**48**		*eP*		**P**	**23 01 34.5 +1.0**	
W18A	**Petrified Fore**	**77.49**	**48**	⇑	P		**P**	**23 01 34.7 +1.3**	
	baz=78,SNR=21								
HAWA	**Hanford**	**77.50**	**34**		*eP*		**P**	**23 01 34.1 +1.1**	
	comp=Z,648nm,1.8s								
121A	**Cookes Peak, D**	**77.71**	**51**	⇑	P		**P**	**23 01 36.3 +1.6**	
	baz=78,SNR=43								
CAIG	**El Cayaco**	**77.79**	**68**		P		**P**	**23 01 36.1 +0.9**	
CRAG	**Craig**	**77.81**	**21**	⇓	*iP*		**P**	**23 01 35.0 +0.6**	
	comp=Z,195nm,1.6s								
CRAG					*ePP*		**PP**	**23 04 26.6 -3.7**	
BMO	**Blue Mountains**	**77.81**	**36**	⇓	*iP*		**P**	**23 01 35.3 +0.4**	
BMO					pmax		pmax		
	comp=Z,257nm,1.4s								
BMO					MLR		MLR		
	comp=Z,6µm,19.0s								
BMO	**Blue Mountains**	**77.81**	**36**	⇓	*iP*		**P**	**23 01 35.3 +0.4**	
	comp=Z,257nm,1.4s								
BMO					*ePP*		**PP**	**23 04 31.1 +0.3**	
BMO					LR		LR		
	comp=Z,6µm,19.0s								
A05A	**Maple Falls**	**77.83**	**31**		*eP*		**P**	**23 01 35.5 +0.8**	
	comp=Z,367nm,1.8s								
ETW	**Entiat**	**77.83**	**33**		P		**P**	**23 01 35.8 +0.8**	
ZAIG	**Zacatecas**	**77.85**	**62**		P		**P**	**23 01 37.1 +1.3**	
INCN	**Inchon**	**77.90**	**314**		*eP*		**P**	**23 01 38.0 +2.6**	
	comp=Z,307nm,1.3s								
MOIG	**Morelia**	**77.90**	**66**		P		**P**	**23 01 36.5 +0.4**	
Y20A	**Horse Springs,**	**77.91**	**50**	⇓	P		**P**	**23 01 37.6 +1.7**	
	baz=78,SNR=108								
SPU	**Mount Spurr**	**77.92**	**10**		*eP*		**P**	**23 01 34.4 -0.6**	
DUG	**Dugway**	**77.95**	**42**		*eP*		**P**	**23 01 36.6 +0.8**	
DUG					pmax		pmax		
	comp=Z,359nm,1.5s								
DUG	**Dugway**	**77.95**	**42**		*eP*		**P**	**23 01 36.6 +0.8**	
	comp=Z,359nm,1.5s								
DUG	**Dugway**	**77.95**	**42**	⇑	P		**P**	**23 01 36.9 +1.0**	
	baz=78,SNR=97								
222A	**Williams Famil**	**78.04**	**52**	⇑	P		**P**	**23 01 37.9 +1.4**	
	baz=78,SNR=15								
WTV	**Waterville**	**78.09**	**33**		P		**P**	**23 01 37.0 +0.7**	
USRK	**Ussuriysk Arra**	**78.10**	**322**		P		**P**	**23 01 37.5 +1.2**	
	comp=Z,18nm,1.0s,baz=108,slow=6.2,SNR=14								
USRK					LR		LR	23 29 31.0	
	comp=Z,3µm,21.6s,baz=122,slow=31								
X20A	**Quemado**	**78.11**	**49**	⇑	P		**P**	**23 01 38.7 +1.7**	
	baz=78,SNR=46								
Z21A	**St. Cloud Mine**	**78.15**	**51**	⇓	P		**P**	**23 01 39.1 +1.9**	
	baz=78,SNR=160								
BGU	**Big Grassy Mou**	**78.20**	**42**		*eP*		**P**	**23 01 38.2 +1.0**	
	comp=Z,489nm,2.0s								
NLU	**North Lily Min**	**78.31**	**43**		*eP*		**P**	**23 01 39.1 +1.2**	
	comp=Z,811nm,2.5s								
SIT	**Sitka**	**78.33**	**20**		*eP*		**P**	**23 01 36.6 -0.7**	
SIT					pmax		pmax		
	comp=Z,220nm,1.8s								
SIT	**Sitka**	**78.33**	**20**		*eP*		**P**	**23 01 36.6 -0.7**	
	comp=Z,220nm,1.8s								
E09A	**Wood Farm, Sta**	**78.33**	**35**		*eP*		**P**	**23 01 38.1 +0.5**	
	comp=Z,451nm,1.6s								
Q16A	**Castle Valley**	**78.37**	**44**	⇓	*iP*		**P**	**23 01 39.7 +1.4**	
Q16A	**Castle Valley**	**78.37**	**44**	⇓	P		**P**	**23 01 40.0 +1.7**	
	baz=79,SNR=52								
122A	**Conniff Cattle**	**78.38**	**51**	⇑	P		**P**	**23 01 40.1 +1.7**	
	baz=79,SNR=18								
W20A	**Ramah**	**78.38**	**49**	⇑	P		**P**	**23 01 40.2 +1.7**	
	baz=79,SNR=72								
KSM	**Kuching**	**78.44**	**275**		P		**P**	**23 01 40.7 +1.7**	
KSM	**Kuching**	**78.44**	**275**		*eP*		**P**	**23 01 40.1 +1.1**	
	comp=Z,483nm,1.1s								
KSM					LR		LR		
	comp=Z,615nm,19.0s								
KSM	**Kuching**	**78.44**	**275**	⇓	P		**P**	**23 01 39.5 +0.6**	
	baz=78,SNR=96								
Y21A	**Point of Rocks**	**78.47**	**50**	⇑	P		**P**	**23 01 40.8 +1.8**	
	baz=79,SNR=51								
223A	**Chaparral, Ant**	**78.50**	**52**	⇑	P		**P**	**23 01 40.6 +1.5**	
	baz=79								
QZH	**Quanzhou**	**78.52**	**300**	⇓	*iP*		**P**	**23 01 37.8 -1.3**	
QZH					S		**S**	**23 11 37.0 +1.6**	
QZH					AMB		AMB		
	comp=Z,140nm,1.0s								
QZH					LR		LR		
	comp=Z,5µm,34.8s								
F10A	**Beach Ranch, E**	**78.52**	**36**		*eP*		**P**	**23 01 39.1 +0.3**	
	comp=Z,676nm,1.8s								
TMUT	**Trail Mountain**	**78.54**	**44**		*eP*		**P**	**23 01 41.2 +1.9**	
	comp=Z,298nm,1.0s								
X21A	**Alamocita Cree**	**78.59**	**49**	⇓	P		**P**	**23 01 41.1 +1.5**	
	baz=79,SNR=56								
RAGM	**Ragged Mountai**	**78.62**	**13**		*eP*		**P**	**23 01 39.5 +0.5**	
	comp=Z,143nm,1.4s								
MPU	**Maple Canyon**	**78.63**	**43**		*eP*		**P**	**23 01 41.0 +1.3**	
	comp=Z,168nm,1.2s								
Z22A	**Elephant Butte**	**78.66**	**51**	⇓	P		**P**	**23 01 41.4 +1.5**	
	baz=79,SNR=99								
V20A	**Brimhall**	**78.73**	**48**	⇑	P		**P**	**23 01 41.5 +1.2**	
	baz=79,SNR=21								
HLID	**Hailey**	**78.78**	**39**		*eP*		**P**	**23 01 41.4 +1.1**	
	comp=Z,416nm,1.5s								
HLID	**Hailey**	**78.78**	**39**	⇓	P		**P**	**23 01 41.8 +1.4**	
	baz=79,SNR=186								
SPUT	**South Promonto**	**78.78**	**42**	⇓	*eP*		**P**	**23 01 40.9 +0.5**	
	comp=Z,591nm,1.7s								
PMR	**Palmer**	**78.81**	**11**		*eP*		**P**	**23 01 39.9 +0.1**	
PMR					pmax		pmax		
	comp=Z,303nm,1.5s								
PMR	**Palmer**	**78.81**	**11**		*eP*		**P**	**23 01 39.9 +0.1**	
	comp=Z,303nm,1.5s								
HVU	**Hansel Valley**	**78.82**	**41**		*eP*		**P**	**23 01 41.7 +1.1**	
HVU					pmax		pmax		
	comp=Z,616nm,1.7s								
HVU	**Hansel Valley**	**78.82**	**41**		*eP*		**P**	**23 01 41.7 +1.1**	
	comp=Z,616nm,1.7s								
WRAK	**Wrangell Islan**	**78.82**	**21**		*eP*		**P**	**23 01 40.5 +0.5**	
	comp=Z,46nm,1.0s								
B08A	**Colville Reser**	**78.83**	**33**		*eP*		**P**	**23 01 40.5 +0.1**	
	comp=Z,455nm,1.8s								
LEM	**Lembang**	**78.90**	**266**	⇓	P		**P**	**23 01 42.8 +1.1**	
	baz=79,SNR=7.8								
CTU	**Camp Tracy**	**78.90**	**42**		*eP*		**P**	**23 01 42.5 +1.4**	
	comp=Z,199nm,1.3s								
123A	**Bell Site, Whi**	**78.91**	**52**	⇑	P		**P**	**23 01 42.8 +1.5**	
	baz=79,SNR=7.3								
SRU	**San Rafael**	**78.91**	**44**		*eP*		**P**	**23 01 42.4 +1.2**	
SRU					pmax		pmax		
	comp=Z,805nm,1.8s								
SRU	**San Rafael**	**78.91**	**44**		*eP*		**P**	**23 01 42.4 +1.2**	
	comp=Z,805nm,1.8s								
SSE	**Sheshan**	**78.93**	**307**		P		**P**	**23 01 42.3 +1.1**	
SSE					S		**S**	**23 11 39.4 -0.2**	
SSE					AMB		AMB		
	comp=Z,30nm,0.6s								
SSE					AMB		AMB		
	comp=Z,560nm,10.3s								
SSE					LR		LR		
	comp=Z,1µm,20.9s								
SSE					LR		LR		
	comp=Z,330nm,21.0s								
SSE					LR		LR		
	comp=Z,1µm,21.8s								
PLIG	**Platanillo**	**78.94**	**67**		P		**P**	**23 01 43.3 +1.6**	
U20A	**Newcomb**	**78.96**	**47**	⇑	P		**P**	**23 01 42.9 +1.4**	
	baz=79,SNR=28								
Y22A	**Socorro**	**78.96**	**50**	⇓	P		**P**	**23 01 43.0 +1.4**	
	baz=79,SNR=56								
324A	**Moseley Ranch,**	**78.98**	**53**	⇓	P		**P**	**23 01 42.7 +1.0**	
	baz=79,SNR=95								
W21A	**San Fidel**	**79.00**	**49**	⇑	P		**P**	**23 01 43.4 +1.6**	
	baz=79								
LAZ	**Ladron**	**79.04**	**50**	⇓	*eP*		**P**	**23 01 43.2 +1.2**	
	comp=Z,252nm,1.7s								
LAZ					*ePP*		**PP**	**23 04 39.0 -2.4**	
C09A	**Chrisman Ranch**	**79.05**	**34**		*eP*		**P**	**23 01 42.3 +0.7**	
	comp=Z,629nm,1.8s								
DIV	**Divide**	**79.05**	**13**		*eP*		**P**	**23 01 41.8 +0.5**	
	comp=Z,698nm,1.8s								
JLU	**Jordanelle**	**79.05**	**43**		*eP*		**P**	**23 01 43.0 +1.0**	
	comp=Z,444nm,1.6s								
Y22D	**IRIS PASSCAL I**	**79.06**	**50**	⇓	P		**P**	**23 01 43.8 +1.7**	
	baz=79								
LENM	**Lemitar**	**79.06**	**50**		*eP*		**P**	**23 01 43.5 +1.3**	
DAU	**Daniels Canyon**	**79.08**	**43**		*eP*		**P**	**23 01 43.5 +1.2**	
DAU	**Daniels Canyon**	**79.08**	**43**		*eP*		**P**	**23 01 43.5 +1.2**	
425A	**Indio Mountain**	**79.09**	**54**	⇑	P		**P**	**23 01 43.8 +1.4**	
	baz=79,SNR=125								
BMRM	**Bremner River**	**79.15**	**13**		*eP*		**P**	**23 01 42.3 +0.4**	
	comp=Z,741nm,1.7s								
MNTX	**Cornudas Mount**	**79.17**	**53**	⇓	*eP*		**P**	**23 01 43.3 +0.7**	
	comp=Z,379nm,1.8s								
MNTX					*ePP*		**PP**	**23 04 42.5 +0.1**	
MNTX					LR		LR		
	comp=Z,5µm,20.0s								
X22A	**Bernardo**	**79.19**	**50**	⇓	P		**P**	**23 01 44.9 +2.1**	
	baz=80,SNR=16								
Z23A	**Rita Site, Whi**	**79.21**	**51**	⇓	P		**P**	**23 01 44.5 +1.6**	
	baz=80,SNR=34								
224A	**Cornudas Mount**	**79.23**	**52**	⇓	P		**P**	**23 01 44.5 +1.5**	
	baz=80,SNR=102								
626A	**Big Bend Ranch**	**79.24**	**55**	⇓	P		**P**	**23 01 44.5 +1.4**	
	baz=80,SNR=100								
BNM	**Barren Site**	**79.31**	**50**	⇓	*eP*		**P**	**23 01 44.5 +0.9**	
	comp=Z,342nm,1.7s								
V21A	**Milan**	**79.32**	**48**	⇑	P		**P**	**23 01 45.1 +1.5**	
	baz=80,SNR=40								
325A	**Bean Ranch, Si**	**79.35**	**53**	⇑	P		**P**	**23 01 44.6 +0.9**	
	baz=80,SNR=127								
PV05	**Paradox Valley**	**79.37**	**46**		*eP*		**P**	**23 01 45.5 +1.7**	
MVCO	**Mesa Verde**	**79.37**	**47**		*eP*		**P**	**23 01 44.8 +1.0**	
	comp=Z,116nm,1.4s								
MVCO	**Mesa Verde**	**79.37**	**47**	⇑	P		**P**	**23 01 45.1 +1.2**	
	baz=80,SNR=22								
LPM	**Los Pinos Moun**	**79.38**	**50**		*eP*		**P**	**23 01 45.1 +1.2**	
526A	**Mary Lane Ranc**	**79.49**	**55**	⇑	P		**P**	**23 01 45.7 +1.2**	
	baz=80,SNR=114								
YAIG	**Yautepec**	**79.49**	**67**		P		**P**	**23 01 45.9 +1.1**	
PNIG	**Pinotepa**	**79.50**	**70**		P		**P**	**23 01 45.8 +1.2**	
PPLA	**Purkeypile**	**79.52**	**9**		*eP*		**P**	**23 01 42.9 -1.0**	
	comp=Z,371nm,2.6s								
TXAR	**Lajitas Array**	**79.52**	**56**		P		**P**	**23 01 45.8 +1.1**	
TXAR					PKKPbc		**PKKPbc**	**23 20 33.8 -0.4**	
TXAR	**Lajitas Array**	**79.52**	**56**		P		**P**	**23 01 45.8 +1.1**	
	comp=Z,88nm,1.2s,baz=217,slow=6.1,SNR=244								
TXAR					PKKPbc		**PKKPbc**	**23 20 33.8 -0.4**	
	comp=Z,0.6nm,0.9s,baz=111,slow=2.8,SNR=4.2								
TXAR					LR		LR	23 30 25.4	
	comp=Z,5µm,19.4s,baz=280,slow=31								
W22A	**Albuquerque**	**79.55**	**49**	⇓	P		**P**	**23 01 46.7 +1.9**	
	baz=80,SNR=14								
124A	**Stringfield Ra**	**79.55**	**52**	⇑	P		**P**	**23 01 46.2 +1.3**	
	baz=80,SNR=64								
PV09	**Paradox Valley**	**79.55**	**45**		*eP*		**P**	**23 01 46.5 +1.6**	
U21A	**Nageezi**	**79.60**	**48**	⇓	P		**P**	**23 01 46.6 +1.5**	
	baz=80,SNR=154								
Y23A	**Lovelace Mesa,**	**79.64**	**51**	⇓	P		**P**	**23 01 46.4 +1.1**	
	baz=80,SNR=42								
PTVM	**Pico Tres Padr**	**79.70**	**66**		P		**P**	**23 01 47.2 +1.2**	
MDJ	**Mudanjiang**	**79.75**	**322**		P		**P**	**23 01 46.8 +1.4**	
MDJ					pP		**pP**	**23 01 50.0 -0.2**	
MDJ					sP		**sP**	**23 01 51.5 -0.4**	
MDJ					PcP		**PcP**	**23 01 54.3 +1.2**	
MDJ					PP		**PP**	**23 04 45.6 -1.3**	
MDJ					S		**S**	**23 11 50.5 +2.8**	
MDJ					ScS		**ScS**	**23 12 11.1 +1.9**	
MDJ					SS		**SS**	**23 16 59.5 +2.4**	
MDJ					AMB		AMB		
	comp=Z,41nm,2.0s								
MDJ					AMB		AMB		
	comp=Z,740nm,4.7s								
MDJ					LR		LR		
	comp=Z,2µm,21.0s								
MDJ					LR		LR		
	comp=Z,2µm,25.5s								
MDJ					LR		LR		
	comp=Z,4µm,23.8s								
PV01	**Paradox Valley**	**79.76**	**46**	⇓	*eP*		**P**	**23 01 46.5 +

baz=81,SNR=32
126A Clayton Basin, 80.62 52 ⇑P P 23 01 51.5 +0.9
baz=81,SNR=49
Y25A Mesa, Roswell 80.65 51 ⇑P P 23 01 51.7 +1.0
baz=81,SNR=59
W24A Lazy 6 Ranch, 80.68 50 ⇑P P 23 01 51.8 +0.9
baz=81,SNR=34
TNA Tin City 80.71 2⇓eP P 23 01 50.0 -0.1
comp=Z,405nm,1.9s
PAX Paxson 80.77 12 eP P 23 01 50.0 -0.6
PAX pmax pmax
comp=Z,327nm,1.8s
PAX Paxson 80.77 12 eP P 23 01 50.0 -0.6
comp=Z,328nm,1.8s
Q21A Lamborn Mesa, 80.78 46 ⇑P P 23 01 52.9 +1.5
baz=81,SNR=39
S22A 4UR Ranch, Cre 80.80 47 ⇓P P 23 01 53.3 +1.7
baz=81,SNR=114
MCK McKinley 80.83 10 eP P 23 01 50.9 +0.1
MCK pmax pmax
comp=Z,201nm,1.1s
MCK McKinley 80.83 10 eP P 23 01 50.9 +0.1
comp=Z,201nm,1.1s
BPAW Bear Paw Mtn. 80.83 9 eP P 23 01 49.9 -1.0
comp=Z,216nm,1.8s
DLMT Dillon 80.85 38 eP P 23 01 52.5 +1.0
comp=Z,544nm,1.9s
REDW Red Top Meadow 80.86 40 eP P 23 01 52.6 +0.9
comp=Z,353nm,1.5s
TPIG Tehuac#an 80.86 68 P P 23 01 54.1 +1.9
TPAW Teton Pass 80.86 40 eP P 23 01 44.0 -7.8
comp=Z,137nm,1.0s
428A Kincaid Ranch, 80.87 55 ⇓P P 23 01 53.5 +1.6
baz=81,SNR=115
MSO Missoula 80.87 36 eP P 23 01 51.7 +0.1
comp=Z,281nm,1.4s
MSO Missoula 80.87 36 ⇑P P 23 01 51.8 +0.3
baz=81,SNR=65
Z26A Caprock 80.91 52 ⇑P P 23 01 53.1 +1.0
baz=81,SNR=81
227A Bennet, Jal 80.92 53 ⇑P P 23 01 53.0 +0.9
baz=81,SNR=7.8
X25A Clemmons Ranch 80.93 51 ⇑P P 23 01 53.1 +0.8
baz=81,SNR=36
O20A White River Ci 80.94 44⇓eP P 23 01 52.5 +0.3
O20A ePP PP 23 04 57.8 +0.7
O20A White River Ci 80.94 44 ⇓P P 23 01 53.3 +1.0
baz=81,SNR=30
SNOW Snow King Moun 80.97 40 eP P 23 01 53.6 +1.2
comp=Z,159nm,1.0s
BSMT Bassoo Peak 80.97 35 eP P 23 01 52.4 +0.2
VHO Vista Hermosa 80.98 70 P P 23 01 54.6 +1.7
529A Stev Forest Ra 80.99 55 ⇓P P 23 01 53.5 +1.0
baz=81,SNR=184
V24A Rampart Ranch, 81.00 49 ⇓P P 23 01 54.0 +1.3
baz=81,SNR=34
328A Wristen Ranch, 81.03 54 ⇓P P 23 01 53.5 +0.8
baz=81,SNR=71
T23A Casias Ranch, 81.03 48 ⇓P P 23 01 54.3 +1.4
baz=81,SNR=16
R22A Saguache, Gunn 81.07 46 ⇑P P 23 01 54.9 +1.8
baz=81,SNR=75
IMW Indian Meadow 81.08 40 eP P 23 01 54.0 +1.0
comp=Z,641nm,1.8s
MENT Mentasta 81.10 13 eP P 23 01 52.5 +0.2
MOOW Moose Ponds 81.12 40 eP P 23 01 53.9 +0.8
comp=Z,395nm,2.0s
HUIG Huatulco 81.13 71 P P 23 01 54.7 +1.3
NJ2 Nanjing 81.14 307 eP P 23 01 53.6 +0.4
NJ2 pP pP 23 01 56.8 -1.1
NJ2 sP sP 23 01 58.4 -1.3
NJ2 PP PP 23 04 58.3 -0.3
NJ2 S S 23 12 06.0 +3.2
NJ2 sS sS 23 12 09.0 -1.7
NJ2 AMB AMB
comp=Z,70nm,1.1s
NJ2 AMB AMB
comp=Z,1μm,6.8s
NJ2 LR LR
comp=Z,2μm,23.4s
NJ2 LR LR
comp=Z,3μm,21.2s
NJ2 LR LR
comp=Z,2μm,21.9s
127A Arkansas Junct 81.14 53 ⇓P P 23 01 54.0 +0.7
baz=81,SNR=28
LOHW Long Hollow 81.14 40 eP P 23 01 54.1 +0.9
comp=Z,577nm,2.0s
DLBC Dease Lake 81.18 21⇓eP P 23 01 52.9 0.0
DLBC ePP PP 23 04 59.6 +1.1
P21A Newcastle 81.19 45 ⇓P P 23 01 55.0 +1.4
baz=82,SNR=35
JTMT Jette 81.19 35 eP P 23 01 53.2 -0.1
SWMT Swartz Lake 81.22 36 eP P 23 01 53.1 -0.3
QLMT Earthquake Lak 81.27 39 eP P 23 01 55.3 +1.5
N20A Spence Gulch, 81.27 44 ⇑P P 23 01 55.0 +1.0
baz=82,SNR=47
LNIG Linares 81.27 61 P P 23 01 54.2 +0.1
BLMT Blacktail Moun 81.30 35 eP P 23 01 53.8 -0.1
U24A Moreno Valley 81.30 49 ⇑P P 23 01 55.9 +1.5
baz=82,SNR=7.5
Y26A Elida 81.30 51 ⇑P P 23 01 55.0 +0.8
baz=82,SNR=15
CHMT Chamberlain Mo 81.31 36 eP P 23 01 54.1 0.0
I17A Pilgrim Ck. 81.32 40 ⇓P P 23 01 55.7 +1.5
baz=82,SNR=6.6
FLWY Flagg Ranch 81.32 40 eP P 23 01 55.6 +1.4
comp=Z,1μm,2.0s
SMCO Snowmass 81.36 45 eP P 23 01 55.9 +1.2
comp=Z,376nm,1.5s
SLMT Seeley Lake 81.36 36 eP P 23 01 53.8 -0.4
S23A Nye Farm, Mont 81.36 47 ⇑P P 23 01 55.9 +1.3
baz=82
BW06 Boulder Array 81.37 41 ⇓iP P 23 01 54.4 -0.1
comp=Z,227nm,1.5s
BW06 ePP PP 23 04 59.6 -1.1
BW06 LR LR
comp=Z,8μm,20.0s
PDAR Pinedale Array 81.37 41 P P 23 01 54.8 +0.3
PDAR PKKPbc **PKKPbc** 23 20 29.8 -1.1
PDAR Pinedale Array 81.37 41 P P 23 01 54.8 +0.3
comp=Z,29nm,0.8s,baz=208,slow=2.9,SNR=88
PDAR PKKPbc **PKKPbc** 23 20 29.8 -1.1
comp=Z,1.6nm,0.9s,baz=116,slow=3.4,SNR=8.2
PDAR LR LR 23 32 37.9
comp=Z,7μm,19.2s,baz=211,slow=32
W25A X Bar L Ranch, 81.38 50 ⇓P P 23 01 55.2 +0.6
baz=82,SNR=43
YBMT Yellow Bay 81.41 35 eP P 23 01 54.6 +0.2
comp=Z,58nm,1.4s
YBMT ePP PP 23 05 01.7 +0.9
YFT Old Faithful 81.43 39 eP P 23 01 56.3 +1.5
comp=Z,180nm,1.4s
429A Davenport Ranc 81.45 55 ⇓P P 23 01 55.8 +0.8
baz=82,SNR=250
YMR Madison River 81.46 39 eP P 23 01 56.9 +2.0
comp=Z,368nm,1.4s
228A UT Block 9, Go 81.50 53 ⇓P P 23 01 56.1 +0.9
baz=82,SNR=32
O21A Pagoda 81.50 44 ⇑P P 23 01 56.0 +0.8
baz=82,SNR=12
Z27A Tatum 81.51 52 ⇓P P 23 01 55.7 +0.4
baz=82,SNR=42
T24B San Luis 81.51 48 ⇑P P 23 01 57.1 +1.6
baz=82,SNR=28
V25A Rancho No Teng 81.53 49 ⇑P P 23 01 56.5 +1.1
baz=82,SNR=70
H17A Grant Village 81.56 40 eP P 23 01 57.2 +1.8
H17A Grant Village 81.56 40 ⇓P P 23 01 57.6 +2.1
baz=82,SNR=15
X26A CR and CF Fran 81.58 51 ⇓P P 23 01 56.2 +0.6
baz=82,SNR=34
YNR Norris Junctio 81.66 39⇓eP P 23 01 57.6 +1.6
comp=Z,318nm,1.7s
YNR ePP PP 23 05 04.0 +1.0
DOT Dot Lake 81.66 12 eP P 23 01 55.6 +0.3
comp=Z,381nm,1.6s
P22A Eagle 81.70 45 ⇑P P 23 01 57.5 +1.2
baz=82,SNR=31
R23A Moffat 81.70 47 ⇑P P 23 01 57.7 +1.3
baz=82,SNR=35
530A J-C Ranch, Com 81.70 56 ⇓P P 23 01 57.1 +0.8
baz=82,SNR=99
329A Wagon Wheel Ra 81.72 54 ⇑P P 23 01 57.2 +0.8
baz=82,SNR=99
SDCO Great Sand Dun 81.73 47⇓eP P 23 01 57.1 +0.5
comp=Z,252nm,1.8s
SDCO LR LR
comp=Z,3μm,20.0s
LKWY Lake 81.76 39 eP P 23 01 58.2 +1.7
LKWY 23 05 00.6
LKWY pmax pmax
comp=Z,475nm,1.8s
LKWY MLR MLR
comp=Z,5μm,20.0s
LKWY Lake 81.76 39 eP P 23 01 58.2 +1.7
comp=Z,475nm,1.8s
LKWY PP PP 23 05 00.6 -3.2
LKWY LR LR
comp=Z,5μm,20.0s
128A Castleberry Fa 81.79 53 ⇓P P 23 01 57.6 +0.8
baz=82,SNR=76
Y27A Causey 81.79 52 ⇑P P 23 01 57.3 +0.6
baz=82,SNR=30
W26A Owens Ranch, T 81.84 50 ⇑P P 23 01 57.4 +0.4
baz=82,SNR=21
CN2 Changchun 81.85 320 eP P 23 01 57.1 +0.4
CN2 epP pP 23 02 01.8 +0.3
CN2 esP sP 23 02 04.0 +0.8
CN2 eS S 23 12 10.8 +1.1
CN2 AMB AMB
comp=Z,80nm,1.4s
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,800nm,20.0s
CN2 LR LR
comp=Z,2μm,20.0s
CN2 LR LR
comp=Z,2μm,20.0s
S24A Houchin Ranch, 81.89 48 ⇑P P 23 01 58.9 +1.5
baz=82,SNR=87
U25A Circle Dot Ran 81.93 49 ⇓P P 23 01 58.3 +0.8
baz=82,SNR=38
J19A Crowheart 81.94 41 ⇓P P 23 01 58.1 +0.7
baz=82,SNR=24
Q23A Hartsel 82.02 46 ⇑P P 23 01 59.3 +1.2
baz=82,SNR=7.5
631A Perdido Creek 82.03 57 ⇑P P 23 01 58.8 +0.8
baz=82,SNR=208
430A Baggett Ranch, 82.03 55 ⇑P P 23 01 58.7 +0.6
baz=82,SNR=65
DL2 Dalian 82.04 314⇓iP P 23 01 59.0 +1.2
DL2 S S 23 12 17.4 +5.5
DL2 AMB AMB
comp=Z,88nm,1.1s
DL2 AMB AMB
comp=Z,900nm,5.7s
DL2 LR LR
comp=Z,640nm,21.0s
DL2 LR LR
comp=Z,830nm,23.5s
229A Bryant Ranch, 82.05 54 ⇑P P 23 01 58.9 +0.8
baz=82,SNR=29
COLA College 82.06 10 eP P 23 01 57.7 +0.4
COLA pmax pmax
comp=Z,270nm,1.1s
COLA College 82.06 10 eP P 23 01 57.7 +0.4
comp=Z,270nm,1.1s
SNY Shenyang 82.08 317 ⇓P P 23 01 58.9 +1.0
SNY S S 23 12 15.8 +3.6
SNY AMB AMB
comp=Z,81nm,1.8s
SNY AMB AMB
comp=Z,1μm,2.3s
SNY LR LR
comp=Z,860nm,18.4s
SNY LR LR
comp=Z,1μm,18.8s
SNY LR LR
comp=Z,1μm,20.1s
O22A Kremmling 82.10 45 ⇓P P 23 01 59.7 +1.2
baz=82,SNR=66
MSTX Muleshoe 82.12 52 eP P 23 01 59.0 +0.5
MSTX Muleshoe 82.12 52 ⇑P P 23 01 59.3 +0.9
baz=82,SNR=40
V26A Tequesquite Ra 82.12 50 ⇑P P 23 01 59.0 +0.5
baz=82,SNR=38
Z28A Tucker Farm, M 82.13 52 ⇓P P 23 01 59.2 +0.6
baz=82,SNR=24
LVIG Laguna Verde 82.13 67 P P 23 01 57.9 -0.7
WALA Waterton Lakes 82.14 34⇓eP P 23 01 57.8 -0.5
comp=Z,7.8nm,1.5s
WALA ePP PP 23 05 04.1 -2.6
ILAR Eielson Array 82.14 11 P P 23 01 57.5 -0.2
ILAR P'P' 23 28 24.1
ILAR Eielson Array 82.14 11 P P 23 01 57.5 -0.2
comp=Z,20nm,0.8s,baz=210,slow=5.5,SNR=83
ILAR PKPPKP **P'P'df** 23 28 24.1 -3.4
comp=Z,0.9nm,1.1s,baz=281,slow=0.5,SNR=3.2
X27A F and S Farms, 82.15 51 ⇓P P 23 01 59.5 +0.8
baz=82
IM04 Indian Mountai 82.22 7 eP P 23 01 58.9 +0.7
R24A Sanders Place, 82.23 47 ⇓P P 23 02 00.5 +1.4
baz=82,SNR=82
P23A Jefferson 82.23 46 ⇑P P 23 02 01.1 +1.8
baz=82,SNR=66
T25A Trinidad 82.25 48 ⇓P P 23 02 00.0 +0.8
baz=82,SNR=38
732A Laxson Ranch, 82.26 58 ⇓P P 23 01 59.9 +0.7
baz=82,SNR=64
H18A Shoshone NF, C 82.27 40 ⇓P P 23 02 00.2 +1.0
baz=83,SNR=7.0
129A Stewart Farms, 82.27 53 ⇓P P 23 02 00.0 +0.8
baz=83,SNR=15
330A Mertzon 82.32 55 ⇑P P 23 01 59.9 +0.3
baz=83,SNR=29
IMA2 Indian Mountai 82.32 7 eP P 23 01 59.0 +0.2
531A Rocksprings 82.34 56 ⇓P P 23 02 00.6 +0.9
baz=83,SNR=193
W27A Bowe Ranch, En 82.35 51 ⇑P P 23 02 00.2 +0.5
baz=83,SNR=48
I19A Meeteetse 82.36 40 ⇑P P 23 02 00.6 +1.0
baz=83,SNR=21
RWWY Rawlins 82.37 43 eP P 23 02 06.5 +6.7
comp=Z,950nm,1.8s
U26A Atchley Ranch, 82.41 49 ⇓P P 23 02 00.8 +0.8
baz=83,SNR=98
S25A Robets Cordova 82.45 48 ⇑P P 23 02 01.8 +1.5
baz=83
N22A Wattenberg Ran 82.46 44 ⇑P P 23 02 01.6 +1.2
baz=83,SNR=24
Y28A McKinney Farm, 82.49 52 ⇓P P 23 02 01.0 +0.6
baz=83,SNR=15
431A Sonora 82.49 55 ⇑P P 23 02 00.8 +0.3
baz=83,SNR=28
Q24A Divide 82.52 46 ⇑P P 23 02 02.0 +1.3
baz=83,SNR=103
O23A Lake Granby, G 82.55 45 ⇑P P 23 02 02.1 +1.3
baz=83,SNR=12
230A Sterling City 82.56 54 ⇓P P 23 02 01.3 +0.6
baz=83,SNR=26
ISCO Idaho Springs 82.58 45 eP P 23 01 59.7 -1.3
ISCO pmax pmax
comp=Z,528nm,2.0s
ISCO Idaho Springs 82.58 45 eP P 23 01 59.7 -1.3
comp=Z,528nm,2.0s
ISCO Idaho Springs 82.58 45 ⇑P P 23 02 02.1 +1.1
baz=83,SNR=33
J20A Shoshoni 82.60 41 ⇑P P 23 02 01.9 +1.0
baz=83,SNR=44
Z29A Hungry Hill Ra 82.64 53 ⇓P P 23 02 01.6 +0.4
baz=83,SNR=27
M22A Cedar Creek Ra 82.65 44 ⇓P P 23 02 02.1 +0.8
baz=83,SNR=7.6
H19A Powell 82.68 40 ⇓P P 23 02 02.5 +1.3
baz=83,SNR=29
632A Uvalde 82.70 57 ⇓P P 23 02 02.6 +1.0
baz=83,SNR=82
RLMT Red Lodge 82.73 39 PFAKE 23 02 10.0 +8.4
RLMT LR LR
comp=Z,6μm,22.0s
R25A Fountain Ranch 82.77 47 ⇑P P 23 02 02.6 +0.8
baz=83,SNR=90
X28A Dimmitt 82.78 51 ⇓P P 23 02 02.6 +0.7
baz=83,SNR=8.6
SEY Seymchan 82.79 344⇓eP P 23 02 01.4 +0.3
K21A Alcova 82.79 42 ⇓P P 23 02 02.5 +0.5
baz=83,SNR=38
V27A Dan Oppiter Fa 82.81 50 ⇓P P 23 02 02.8 +0.8
baz=83,SNR=7.7
GCMT Greycliff 82.83 39 eP P 23 02 01.7 -0.3
comp=Z,264nm,1.6s
532A Rocksprings 82.84 56 ⇑P P 23 02 03.0 +0.7
baz=83,SNR=161
N23A Red Feather La 82.85 44 ⇓P P 23 02 03.5 +1.2
baz=83,SNR=23
T26A Comanche Natio 82.85 48 ⇓P P 23 02 02.6 +0.3
baz=83,SNR=24
I20A Worland 82.86 41 ⇓P P 23 02 03.0 +0.9
baz=83,SNR=38
331A San Angelo 82.88 55 ⇓P P 23 02 02.6 +0.2
baz=83,SNR=45
Y29A Porterfield Fa 82.91 52 ⇓P P 23 02 03.3 +0.7
baz=83,SNR=8.0
P24A Kohler Place, 82.94 46 ⇑P P 23 02 03.7 +1.0
baz=83
130A Snyder 82.95 54 ⇓P P 23 02 03.4 +0.6
baz=83,SNR=15
J21A Lysite 83.01 42 ⇓P P 23 02 04.0 +1.0
baz=83,SNR=71
L22A Ellis Ranch, M 83.04 43 ⇑P P 23 02 04.5 +1.3
baz=83,SNR=30
JCT Junction City 83.06 56 eP P 23 02 03.5 +0.2
JCT pmax pmax
comp=Z,192nm,1.4s
JCT Junction City 83.06 56 eP P 23 02 03.5 +0.2
comp=Z,192nm,1.4s
JCT Junction City 83.06 56 ⇓P P 23 02 03.6 +0.2
baz=83,SNR=31
W28A Vega 83.07 51 ⇓P P 23 02 03.9 +0.5
baz=83
O24A Longmont 83.09 45 ⇓P P 23 02 04.9 +1.4
baz=83,SNR=13
U27A Thompson Grove 83.09 49 ⇑P P 23 02 03.8 +0.3
baz=83,SNR=40
Z30A Sanderson Ranc 83.10 53 ⇑P P 23 02 03.8 +0.3
baz=83,SNR=100
X29A Tulia 83.12 52 ⇓P P 23 02 04.4 +0.8
baz=83,SNR=17
S26A Kim 83.13 48 ⇓P P 23 02 04.0 +0.3
baz=83,SNR=60
Q25A Bedland, Calha 83.13 47 ⇑P P 23 02 04.4 +0.7
baz=83,SNR=32
231A Bronte 83.20 54 ⇓P P 23 02 04.3 +0.2
baz=84,SNR=60
H20A Greybull 83.20 40 ⇑P P 23 02 04.4 +0.5
baz=84,SNR=28
432A Menard 83.21 56 ⇓P P 23 02 04.4 +0.3
baz=84,SNR=77
M23A Laramie 83.26 44 ⇓P P 23 02 05.3 +1.0
baz=84,SNR=48
V28A Channing 83.26 50 ⇑P P 23 02 05.1 +0.7
baz=84,SNR=11
EGAK Eagle 83.27 13 eP P 23 02 04.1 +0.5
comp=Z,757nm,2.3s
EGAK LR LR
comp=Z,3μm,19.0s
K22A Casper 83.27 43 ⇓P P 23 02 04.9 +0.6
baz=84,SNR=10.0
F19A Roth Farm, Mol 83.30 39 ⇓P P 23 02 05.1 +0.7
baz=84,SNR=54
AMTX Amarillo 83.31 51 eP P 23 02 05.1 +0.5
comp=Z,431nm,1.4s
I21A Big Trails, Te 83.33 41 ⇑P P 23 02 05.1 +0.5
baz=84,SNR=22
PHWY Pilot Hill 83.36 44 eP P 23 02 05.6 +0.6
comp=Z,323nm,2.1s
G20A Bridger 83.43 40 ⇓P P 23 02 05.7 +0.7
baz=84,SNR=11
131A Roby 83.43 54 ⇓P P 23 02 05.7 +0.5
baz=84,SNR=28
R26A Arlington 83.43 48 ⇑P P 23 02 05.9 +0.7
baz=84,SNR=133
T27A Campo 83.43 49 ⇑P P 23 02 05.7 +0.5
baz=84,SNR=46
W29A Amraillo 83.43 51 ⇑P P 23 02 05.9 +0.7
baz=84,SNR=51
332A Millersview 83.45 55 ⇓P P 23 02 05.7 +0.4
baz=84,SNR=92
P25A Willow Gulch B 83.45 46 ⇑P P 23 02 06.4 +1.1
baz=84,SNR=84
Y30A Stafford Cattl 83.51 52 ⇑P P 23 02 06.2 +0.5
baz=84,SNR=18
U28A Mallet 83.52 50 ⇑P P 23 02 05.9 +0.3
baz=84,SNR=18
N24A Carr 83.54 45 ⇑P P 23 02 06.9 +1.2
baz=84,SNR=36
S27A Las Animas 83.57 48 ⇑P P 23 02 06.4 +0.4
baz=84,SNR=11
L23A Garrett 83.57 43 ⇑P P 23 02 06.6 +0.6
baz=84,SNR=42
Q26A Hugo 83.65 47 ⇓P P 23 02 07.0 +0.6
baz=84,SNR=24
J22A Midwest 83.66 42 ⇑P P 23 02 07.5 +1.2
baz=84
E19A Rath Farm, Rou 83.69 38 ⇓P P 23 02 07.4 +1.1
baz=84,SNR=44
232A Coleman 83.71 55 ⇓P P 23 02 07.2 +0.5
baz=84,SNR=137
O25A Wiggins 83.74 46 ⇑P P 23 02 07.8 +1.0
baz=84
X30A Coker Ranch, T 83.75 52 ⇓P P 23 02 07.4 +0.6
baz=84,SNR=21
F20A Billings 83.75 39 ⇓P P 23 02 07.5 +0.8
baz=84,SNR=25
PCIG 83.76 72 P P 23 02 08.9 +1.8
V29A Stinnett 83.83 50 ⇑P P 23 02 08.0 +0.7
baz=84,SNR=18
M24A Cheyenne 83.86 44 ⇓P P 23 02 08.6 +1.1
baz=84,SNR=26
Z31A Sharp Cattle R 83.87 53 ⇑P P 23 02 07.9 +0.5
baz=84,SNR=57
H21A Big Horn, Sher 83.87 41 ⇑P P 23 02 08.2 +0.9
baz=84,SNR=11
I22A 9 Mile Ranch, 83.88 41 ⇑P P 23 02 08.3 +0.9
baz=84,SNR=7.4
COLD Coldfoot 83.89 8 eP P 23 02 08.0 +1.3
comp=Z,248nm,1.5s
COLD ePP PP 23 05 20.5 0.0
R27A Eads 83.89 48 ⇓P P 23 02 07.9 +0.4
baz=84,SNR=55
T28A Walsh 83.90 49 ⇓P P 23 02 07.9 +0.3
baz=84,SNR=30
K23A Bowen Ranch, D 83.91 43 ⇓P P 23 02 08.3 +0.7
baz=84,SNR=17
EGMT Eagleton 83.91 37 eP P 23 02 08.0 +0.5
comp=Z,1μm,2.3s
EGMT Eagleton 83.91 37 ⇓P P 23 02 08.2 +0.7
baz=84,SNR=44
D19A Cripps Ranch, 83.99 38 ⇓P P 23 02 09.0 +1.1
baz=84,SNR=16
ABTX Abilene, Hawle 83.99 54⇓eP P 23 02 08.5 +0.4
ABTX Abilene, Hawle 83.99 54 ⇓P P 23 02 08.8 +0.7
baz=84,SNR=75
Y31A Rekieta Farm, 84.03 53 ⇑P P 23 02 08.9 +0.6
baz=84,SNR=33
P26A Davis Ranch, A 84.04 46 ⇓P P 23 02 09.1 +0.7
baz=84,SNR=23
L24A Wheatland 84.05 44 ⇑P P 23 02 09.6 +1.3
baz=84,SNR=11
G21A Lodge Grass 84.05 40 ⇓P P 23 02 09.0 +0.8
baz=84,SNR=9.5
QIZ Qiongzhong 84.06 291 P P 23 02 08.9 +0.2
QIZ pP PcP 23 02 11.9 -0.7
QIZ sP sP 23 02 13.5 -1.7
QIZ S S 23 12 33.3 +0.1
QIZ AMB AMB
comp=Z,30nm,2.0s
QIZ LR LR
comp=Z,760nm,22.2s
QIZ LR LR
comp=Z,440nm,20.9s
QIZ LR LR
comp=Z,2μm,29.3s
N25A Grover 84.07 45 ⇑P P 23 02 09.3 +0.8
baz=84
WHN Wuhan 84.11 304 P P 23 02 08.5 -0.2
WHN PP PP 23 05 23.0 -0.1
WHN S S 23 12 34.1 +0.9
WHN LR LR
comp=Z,2μm,17.7s
WHN LR LR
comp=Z,3μm,21.8s
WHN LR LR
comp=Z,3μm,18.0s
E20A Meyer Farm, Mu 84.11 39 ⇑P P 23 02 09.5 +1.1
baz=84,SNR=37
TIA Tai'an 84.13 310 ⇓P P 23 02 10.0 +1.3
TIA S S 23 12 38.4 +5.1
TIA AMB AMB
comp=Z,90nm,1.1s

TIA LR LR
comp=Z,850nm,18.6s
TIA LR LR
comp=Z,1µm,19.6s
TIA LR LR
comp=Z,2µm,19.6s
TGIG 84.17 71 P P 23 02 09.6 +0.3
C19A Slack Wire Ran 84.18 37 ⇓P P 23 02 09.8 +1.1
baz=84,SNR=93
U29A Oasis Ranch, S 84.25 50 ⇑P P 23 02 10.1 +0.7
baz=84,SNR=7.5
S28A Manter 84.25 49 ⇓P P 23 02 10.0 +0.6
baz=84,SNR=20
J23A Dilts Ranch, B 84.25 42 ⇑P P 23 02 09.9 +0.6
baz=84
W30A Crocket Farms 84.26 51 ⇑P P 23 02 10.1 +0.6
baz=84
H22A Clearmont 84.29 41 ⇓P P 23 02 10.3 +0.9
baz=85,SNR=6.5
KSCO Kaye Shedlock' 84.32 47⇓eP P 23 02 10.3 +0.5
KSCO PP PP 23 05 25.4 +0.6
KSCO Kaye Shedlock' 84.32 47 ⇓P P 23 02 10.6 +0.8
baz=85,SNR=17
O26A Horse Wrangler 84.36 46 ⇑P P 23 02 10.9 +1.0
baz=85,SNR=12
M25A Palm-Egli Farm 84.36 44 ⇑P P 23 02 10.9 +1.0
baz=85,SNR=13
Z32A Haskell 84.38 53 ⇑P P 23 02 11.1 +1.0
baz=85,SNR=169
F21A Absaloka Mine, 84.39 40 ⇓P P 23 02 11.1 +1.2
baz=85,SNR=11
D20A Manuel Ranch, 84.39 38 ⇓P P 23 02 11.0 +1.1
baz=85,SNR=32
V30A Spur Ranch, Mi 84.41 51 ⇓P P 23 02 11.4 +1.2
baz=85,SNR=29
K24A Anderson Ranch 84.43 43 ⇑P P 23 02 11.1 +0.9
baz=85,SNR=7.3
X31A McDonald Ranch 84.50 52 ⇓P P 23 02 11.1 +0.4
baz=85,SNR=17
T29A Hugoton 84.51 49 ⇓P P 23 02 11.0 +0.3
baz=85,SNR=5.9
I23A Meade Ranch, G 84.56 42 ⇓P P 23 02 11.3 +0.4
baz=85
P27A Ficken Ranch, 84.58 47 ⇓P P 23 02 11.6 +0.6
baz=85,SNR=8.3
B19A Brinkman Farms 84.60 37 ⇓P P 23 02 11.8 +1.0
baz=85,SNR=28
G22A Birney 84.62 40 ⇑P P 23 02 11.7 +0.6
baz=85,SNR=7.8
R28A Tribune 84.62 48 ⇓P P 23 02 12.0 +0.8
baz=85,SNR=73
N26A Koester Ranch, 84.67 45 ⇓P P 23 02 11.9 +0.5
baz=85
Y32A R-V Farms, Ver 84.67 53 ⇑P P 23 02 12.4 +0.9
baz=85,SNR=58
U30A WK&E Inc. Balk 84.74 50 ⇓P P 23 02 12.2 +0.3
baz=85,SNR=14
L25A Engebretsen Ra 84.74 44 ⇓P P 23 02 12.9 +1.1
baz=85
W31A Holland Ranch, 84.74 52 ⇓P P 23 02 12.6 +0.7
baz=85,SNR=27
MYKOM Kota Tinggi 84.75 273 P P 23 02 14.0 +1.7
MYKOM Kota Tinggi 84.75 273 eP P 23 02 13.4 +1.1
comp=Z,176nm,1.2s
E21A Keefer Ranch, 84.76 39 ⇑P P 23 02 13.2 +1.4
baz=85,SNR=12
EDM Edmonton 84.77 31 eP P 23 02 11.6 0.0
EDM Edmonton 84.77 31 eP P 23 02 11.6 0.0
C20A Veseth Ranch, 84.78 38 ⇑P P 23 02 13.0 +1.2
baz=85,SNR=23
J24A Dixon Ranch, L 84.80 43 ⇓P P 23 02 12.8 +0.7
baz=85,SNR=10
S29A Ulysses 84.83 49 ⇓P P 23 02 12.8 +0.5
baz=85
H23A Clabaugh Cattl 84.88 41 ⇑P P 23 02 12.7 +0.3
baz=85
Q28A Sharon Springs 84.90 47 ⇑P P 23 02 13.3 +0.7
baz=85
F22A Rosebud 84.91 40 ⇓P P 23 02 13.3 +0.8
baz=85,SNR=5.5
O27A Beecher Island 84.91 46 ⇑P P 23 02 13.4 +0.7
baz=85,SNR=20
CCIG Comitan 84.92 72 P P 23 02 14.9 +1.6
A19A Klindworth Far 84.95 36 ⇑P P 23 02 13.4 +0.8
baz=85,SNR=12
M26A McRoberts Ranc 85.00 45 ⇑P P 23 02 13.7 +0.6
baz=85,SNR=8.6
K25A Mack Ranch, Ha 85.00 43 ⇑P P 23 02 14.4 +1.2
baz=85,SNR=10.0
T30A Plains 85.03 50 ⇑P P 23 02 13.7 +0.4
baz=85,SNR=11
I24A Kuemmerle Ranc 85.06 42 ⇑P P 23 02 13.4 +0.1
baz=85
D21A La Casta Ranch 85.06 38 ⇓P P 23 02 14.4 +1.1
baz=85,SNR=22
B20A Solberg Farm, 85.12 37 ⇓P P 23 02 14.5 +1.0
baz=85,SNR=7.6
N27A Anderson Farm, 85.13 46 ⇑P P 23 02 14.4 +0.6
baz=85,SNR=7.5
R29A Marienthal 85.14 48 ⇑P P 23 02 14.3 +0.5
baz=85,SNR=18
P28A Saint Francis 85.17 47 ⇓P P 23 02 14.8 +0.8
baz=86
G23A Biddle 85.18 41 ⇑P P 23 02 14.4 +0.5
baz=86,SNR=15
U31A Nine Bar Ranch 85.27 50 ⇑P P 23 02 15.3 +0.8
baz=86,SNR=7.8
L26A Underwood Farm 85.28 44 ⇓P P 23 02 15.4 +0.9
baz=86,SNR=8.5
S30A Montezuma 85.31 49 ⇓P P 23 02 15.1 +0.4
baz=86,SNR=5.9
KGM Kluang 85.32 273 P P 23 02 17.0 +1.8
LAO LASA Array 85.35 39⇓eP P 23 02 15.7 +1.0
comp=Z,759nm,1.8s
LAO ePP PP 23 05 32.5 -0.5
C21A Desert Coulee 85.37 38 ⇓P P 23 02 15.5 +0.8
baz=86,SNR=9.4
O28A Krutsinger Ran 85.38 46 ⇓P P 23 02 15.5 +0.5
baz=86,SNR=6.6
J25A Sunshine Ranch 85.39 43 ⇑P P 23 02 15.7 +0.7
baz=86
A20A Cobblestone Ra 85.40 37 ⇑P P 23 02 15.7 +0.9
baz=86,SNR=41
E22A Miles City 85.40 39 ⇑P P 23 02 15.8 +0.9
baz=86
F23A Volborg 85.41 40 ⇑P P 23 02 15.6 +0.6
baz=86,SNR=28
Q29A Oakley 85.44 48 ⇑P P 23 02 15.6 +0.3
baz=86,SNR=13
WMOK Wichita Mounta 85.45 52⇓eP P 23 02 15.1 -0.3
WMOK pmax pmax
comp=Z,235nm,1.6s
WMOK Wichita Mounta 85.45 52⇓eP P 23 02 15.1 -0.3
comp=Z,234nm,1.6s
WHTX Lake Whitney 85.48 55⇓eP P 23 02 15.8 +0.2
WHTX Lake Whitney 85.48 55 ⇓P P 23 02 16.3 +0.7
baz=86,SNR=32
K26A Motz Farm, Whi 85.50 44 ⇓P P 23 02 16.3 +0.7
baz=86,SNR=12
H24A Dirks Ranch, A 85.50 41 ⇓P P 23 02 15.6 0.0
baz=86,SNR=27
M27A Reverse DX Ran 85.54 45 ⇑P P 23 02 16.0 +0.3
baz=86
OGNE Ogallala 85.54 46⇓eP P 23 02 15.6 -0.2
comp=Z,346nm,2.0s
OGNE Ogallala 85.54 46 ⇓P P 23 02 15.8 0.0
baz=86,SNR=6.9
RSSD Black Hills 85.56 42 eP P 23 02 16.2 +0.2
RSSD pmax pmax
comp=Z,1µm,1.5s
RSSD Black Hills 85.56 42 eP P 23 02 16.1 +0.2
comp=Z,1µm,1.5s
D22A Cohagen 85.59 39 ⇓P P 23 02 17.0 +1.1
baz=86,SNR=23
T31A Randall Ranch, 85.68 50 ⇓P P 23 02 17.0 +0.5
baz=86,SNR=22
R30A Dighton 85.70 49 ⇑P P 23 02 17.0 +0.4
baz=86,SNR=24
B21A Ellsworth Farm 85.70 37 ⇓P P 23 02 17.2 +0.9
baz=86,SNR=27
I25A Rochford 85.71 42 ⇑P P 23 02 16.9 +0.2
baz=86,SNR=20
P29A Atwood 85.76 47 ⇓P P 23 02 17.2 +0.4
baz=86,SNR=7.4
N28A Pribbeno Ranch 85.77 46 ⇑P P 23 02 17.2 +0.3
baz=86
L27A T5 Ranch, Ells 85.82 44 ⇑P P 23 02 17.6 +0.4
baz=86
E23A Ismay 85.82 40 ⇑P P 23 02 18.0 +1.0
baz=86,SNR=9.1
G24A Alzada 85.85 41 ⇑P P 23 02 17.6 +0.4
baz=86
Q30A Quinter 86.02 48 ⇑P P 23 02 18.5 +0.4
baz=86,SNR=21
S31A Mullinville 86.02 49 ⇑P P 23 02 18.5 +0.3
baz=86,SNR=10
A21A Bergtoll Ranch 86.03 37 ⇑P P 23 02 18.7 +0.7
baz=86,SNR=34
C22A Vida 86.05 38 ⇓P P 23 02 18.6 +0.5
baz=86,SNR=8.8
H25A Fruitdale 86.06 42 ⇓P P 23 02 18.7 +0.4
baz=86
F24A Ekalaka 86.06 40 ⇓P P 23 02 18.7 +0.4
baz=86,SNR=11
O29A 4D Ranch, Culb 86.06 47 ⇓P P 23 02 18.6 +0.3
baz=86
HKT Hockley 86.07 58 eP P 23 02 18.9 +0.4
HKT pmax pmax
comp=Z,713nm,1.8s
HKT Hockley 86.07 58 eP P 23 02 18.9 +0.4
comp=Z,713nm,1.8s
K27A Flueckinger Fa 86.13 44 ⇑P P 23 02 19.2 +0.5
baz=86,SNR=6.9
D23A Lindsay 86.19 39 ⇓P P 23 02 20.1 +1.2
baz=86,SNR=18
P30A Selden 86.22 47 ⇑P P 23 02 19.6 +0.4
baz=86,SNR=12
B22A Reddig Ranch S 86.24 38 ⇓P P 23 02 19.9 +0.9
baz=86,SNR=24
R31A Burdett 86.25 49 ⇓P P 23 02 19.5 +0.2
baz=86
I26A New Underwood 86.28 43 ⇓P P 23 02 19.8 +0.5
baz=87
L28A Connealy Angus 86.33 45 ⇓P P 23 02 20.0 +0.4
baz=87
BJI Beijing 86.35 313 P P 23 02 20.8 +1.2
BJI S S 23 12 47.8 -7.2
BJI AMB AMB
comp=Z,74nm,1.4s
BJI AMB AMB
comp=Z,2µm,3.9s
BJI LR LR
comp=Z,790nm,19.2s
BJI LR LR
comp=Z,1µm,21.5s
BJI LR LR
comp=Z,1µm,27.5s
KTGM Kuala Trenggan 86.38 276 P P 23 02 22.4 +2.0
G25A Newell 86.42 41 ⇓P P 23 02 20.2 +0.2
baz=87
S32A Newby Ranch, P 86.45 50 ⇑P P 23 02 20.6 +0.3
baz=87
N29A Votaw Ranch, W 86.46 46 ⇑P P 23 02 20.3 0.0
baz=87
E24A Baker 86.47 40 ⇑P P 23 02 20.8 +0.5
baz=87
C23A Lambert 86.50 38 ⇑P P 23 02 21.4 +1.1
baz=87,SNR=23
J27A Elkhorn Farm, 86.51 43 ⇑P P 23 02 21.3 +0.8
baz=87,SNR=14
H26A Fairpoint 86.59 42 ⇑P P 23 02 21.2 +0.3
baz=87,SNR=7.5
O30A MW Ranch, Wils 86.60 47 ⇑P P 23 02 21.1 +0.1
baz=87
A22A Carney Farms, 86.61 37 ⇓P P 23 02 21.4 +0.6
baz=87,SNR=18
Q31A Ellis 86.62 48 ⇑P P 23 02 21.4 +0.3
baz=87
M29A Burnside Ranch 86.67 46 ⇓P P 23 02 21.2 -0.1
baz=87
D24A Glendive 86.70 39 ⇑P P 23 02 22.2 +0.9
baz=87,SNR=10
F25A Bowman 86.72 41 ⇑P P 23 02 22.1 +0.7
baz=87,SNR=7.3
I27A Quinn 86.83 43 ⇑P P 23 02 22.3 +0.3
baz=87,SNR=7.2
C24A Savage 86.83 39 ⇑P P 23 02 22.9 +0.9
baz=87
P31A Stockton 86.83 48 ⇑P P 23 02 22.5 +0.4
baz=87,SNR=6.3
B23A Brockton 86.91 38 ⇓P P 23 02 23.4 +1.0
baz=87,SNR=18
UBPT Khong Chiam 86.93 287 P P 23 02 25.8 +2.8
comp=Z,80nm,1.3s,comp=Z,2µm
G26A Maurine 86.99 41 ⇓P P 23 02 22.8 0.0
baz=87,SNR=17
E25A Miller Ranch, 87.00 40 ⇓P P 23 02 23.5 +0.6
baz=87
H27A Howes 87.05 42 ⇑P P 23 02 23.3 +0.3
baz=87
L29A Maesberg Ranch 87.06 45 ⇓P P 23 02 23.7 +0.5
baz=87
J28A Allard Ranch, 87.10 44 ⇑P P 23 02 23.6 +0.3
baz=87,SNR=7.4
O31A Woolen Ranch, 87.11 47 ⇑P P 23 02 23.6 +0.1
baz=87
F26A Lodgepole 87.18 41 ⇑P P 23 02 23.8 0.0
baz=88
A23A Redstone 87.20 37 ⇑P P 23 02 24.4 +0.7
baz=88,SNR=5.9
M30A Dale-Ortello V 87.27 46 ⇑P P 23 02 24.2 0.0
baz=88
FRIM Kepong 87.27 274 P P 23 02 27.3 +2.5
D25A Fairfield 87.34 40 ⇓P P 23 02 25.5 +1.1
baz=88
I28A Midland 87.38 43 ⇓P P 23 02 24.8 +0.1
baz=88,SNR=9.9
DGMT Dagmar 87.39 38 eP P 23 02 25.9 +1.3
comp=Z,994nm,2.2s
DGMT Dagmar 87.39 38 ⇓P P 23 02 25.4 +0.8
baz=88,SNR=11
P32A Huiting Farm, 87.42 48 ⇑P P 23 02 24.8 -0.1
baz=88
K29A Lazy Trails An 87.44 44 ⇓P P 23 02 25.5 +0.4
baz=88
G27A Dupree 87.45 42 ⇑P P 23 02 25.0 0.0
baz=88,SNR=7.3
L30A Spencer Herefo 87.53 45 ⇑P P 23 02 25.5 0.0
baz=88
E26A Carlson Angus 87.58 40 ⇓P P 23 02 26.0 +0.4
baz=88
F27A Lemmon 87.60 41 ⇑P P 23 02 26.0 +0.2
baz=88
C25A Freed Ranch, W 87.62 39 ⇑P P 23 02 26.6 +0.8
baz=88
N31A Bailey Ranch, 87.63 47 ⇓P P 23 02 26.1 +0.1
baz=88
NATX Nacogdoches 87.63 56⇓eP P 23 02 27.3 +1.2
comp=Z,1µm,1.8s
J29A Okreek 87.70 44 ⇓P P 23 02 26.2 0.0
baz=88,SNR=5.5
A24A Westby 87.70 38 ⇑P P 23 02 26.7 +0.6
baz=88,SNR=8.2
H28A Mission Ridge 87.75 42 ⇑P P 23 02 26.5 +0.1
baz=88
M31A Lambtecht Ranc 87.81 46 ⇓P P 23 02 27.2 +0.4
baz=88
D26A Manning 87.83 40 ⇑P P 23 02 27.3 +0.5
baz=88,SNR=8.8
COCO West Island 87.86 258 PFAKE 23 02 40.0 +12
COCO LR LR
comp=Z,2µm,20.0s
K30A Basset 87.89 45 ⇓P P 23 02 27.5 +0.3
baz=88,SNR=5.9
O32A Brockman Farm, 87.89 47 ⇓P P 23 02 26.9 -0.3
baz=88
INK Inuvik 87.90 13⇓eP P 23 02 26.5 0.0
comp=Z,474nm,1.9s
B25A Knox Farm, Ray 87.92 39 ⇑P P 23 02 28.1 +1.0
baz=88
ENH Enshi 87.96 302⇓eP P 23 02 27.0 -0.7
comp=Z,51nm,1.0s
I29A Vivian Onida 87.96 43 ⇓P P 23 02 27.1 -0.3
baz=88
G28A Parade 87.98 42 ⇑P P 23 02 27.7 +0.1
baz=88
P33A Williams Farm, 88.00 48 ⇓P P 23 02 27.9 +0.1
baz=88
N32A Stulken Farm, 88.07 47 ⇑P P 23 02 28.2 +0.1
baz=88
E27A Carson 88.12 41 ⇑P P 23 02 28.3 +0.1
baz=88
TUL1 Tulsa 88.16 52 eP P 23 02 29.4 +0.8
TUL1 Tulsa 88.16 52 ⇑P P 23 02 29.0 +0.4
baz=88,SNR=9.3
IPM Ipoh 88.18 275 P P 23 02 31.0 +1.8
IPM Ipoh 88.18 275 eP P 23 02 30.4 +1.2
J30A Dallas 88.22 44 ⇓P P 23 02 28.5 -0.3
baz=88
L31A Butterfield Fa 88.22 45 ⇑P P 23 02 28.6 -0.1
baz=88
A25A Svangstu Ranch 88.24 38 ⇓P P 23 02 29.3 +0.7
baz=88,SNR=8.6
H29A Onida 88.26 43 ⇓P P 23 02 28.5 -0.3
baz=88
MAW Mawson 88.26 198 P P 23 02 29.2 +0.8
MAW PKKP PKKPbc 23 20 11.8 -2.4
MAW Mawson 88.26 198 ⇓P P 23 02 28.1 -0.3
baz=88,SNR=66
MAW Mawson 88.26 198 P P 23 02 29.2 +0.8
comp=Z,34nm,0.9s,baz=123,slow=5.5,SNR=77
MAW PKKP PKKPbc 23 20 11.8 -2.4
comp=Z,1.6nm,0.6s,baz=346,slow=5.4,SNR=5.4
MAW LR LR 23 38 59.8
comp=Z,2µm,20.4s,baz=121,slow=34
F28A McLaughlin 88.37 41 ⇑P P 23 02 29.3 -0.1
baz=89
C26A Wahner Farm, P 88.38 39 ⇑P P 23 02 30.1 +0.8
baz=89
BGNE Belgrade 88.41 46 eP P 23 02 30.4 +0.8
BGNE Belgrade 88.41 46 ⇑P P 23 02 29.8 +0.1
baz=89
D27A Center 88.43 40 ⇑P P 23 02 30.1 +0.5
baz=89
I30A Oacoma 88.50 44 ⇑P P 23 02 29.6 -0.4
baz=89
B26A Jensen Ranch, 88.52 39 ⇓P P 23 02 30.6 +0.5
baz=89
KSU1 Kansas State U 88.67 49 eP P 23 02 31.1 +0.2
comp=Z,50nm,1.2s
KSU1 LR LR
comp=Z,4µm,21.0s
E28A Huff 88.73 41 ⇓P P 23 02 30.5 -0.5
baz=89
KULM Kulim 88.75 276 P P 23 02 34.3 +2.5
KULM Kulim 88.75 276 eP P 23 02 34.9 +3.1
comp=Z,125nm,1.2s
KULM LR LR
comp=Z,1µm,19.0s
SKNT Sakolnakorn 88.78 288 P P 23 02 33.6 +1.7
comp=Z,71nm,1.7s,comp=Z,2µm
TGUH Tegucigalpa,Un 88.78 75 eP P 23 02 34.0 +2.1
comp=Z,910nm,1.9s
F29A Eureka 88.98 42 ⇓P P 23 02 31.6 -0.7
baz=89
BRSD Miller 89.01 43 ⇑P P 23 02 32.0 -0.4
baz=89
D28A Regan 89.06 40 ⇓P P 23 02 32.4 -0.2
baz=89
B27A Peters Farms, 89.13 39 ⇓P P 23 02 33.2 +0.4
baz=89
GYA Guiyang 89.13 298⇓iP P 23 02 34.4 +0.9
GYA PP PP 23 06 07.4 +3.4
GYA SKS SKSac 23 13 02.8 -0.7
GYA S S 23 13 21.9 -0.6
GYA SS SS 23 19 18.3 +1.6
GYA AMB AMB
comp=Z,60nm,1.0s
GYA AMB AMB
comp=Z,610nm,5.3s
GYA LR LR
comp=Z,730nm,24.0s
GYA LR LR
comp=Z,940nm,23.7s
GYA LR LR
comp=Z,1µm,26.2s
CHBT CHBT 89.15 283 P P 23 02 35.8 +2.2
comp=Z,58nm,1.5s,comp=Z,1µm
G30A Faulkton 89.15 43 ⇑P P 23 02 32.3 -0.7
baz=89
SKLT Songkhla 89.28 278 P P 23 02 37.2 +2.9
comp=Z,161nm,1.6s,comp=Z,2µm
A27A Ledoux Ranch, 89.36 39 ⇑P P 23 02 34.2 +0.3
baz=90
C28A Hausauer Farms 89.38 40 ⇑P P 23 02 34.1 0.0
baz=90
E29A Napoleon 89.39 41 ⇑P P 23 02 33.6 -0.6
baz=90
MIAR Mount Ida 89.41 54 eP P 23 02 35.1 +0.6
MIAR pmax pmax
comp=Z,527nm,2.1s
MIAR Mount Ida 89.41 54 eP P 23 02 35.1 +0.6
comp=Z,527nm,2.1s
F30A Leola 89.50 42 ⇓P P 23 02 34.0 -0.7
baz=90
YKA Yellowknife Ar 89.53 23 P P 23 02 34.8 +0.4
YKA PP PP 23 06 04.0 -2.2
YKA Yellowknife Ar 89.53 23 P P 23 02 34.8 +0.4
comp=Z,21nm,0.8s,baz=236,slow=4.4,SNR=94
YKA PP PP 23 06 03.9 -2.2
comp=Z,1.4nm,1.0s,baz=247,slow=9.1,SNR=3.8
YAK Yakutsk 89.56 336 eP P 23 02 33.0 -1.4
YAK e*PP pP 23 02 43.1 +3.8
YAK e 23 06 01.7
YAK eS SKSac 23 12 59.0 -5.0
YAK e 23 13 25.5
YAK eSS SS 23 19 24.3 +3.4
YAK pmax pmax
comp=E,11nm,1.3s
YAK pmax pmax
comp=Z,56nm,1.0s
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=Z,212nm,2.8s
YAK pmax pmax
comp=N,187nm,2.8s
YAK pmax pmax
comp=E,148nm,2.9s
YAK smax smax
comp=E,334nm,4.3s
YAK smax smax
comp=N,126nm,3.2s
TEIG Tepich 89.58 69 eP P 23 02 36.8 +1.2
comp=N,452nm,1.4s
TEIG LR LR
comp=Z,948nm,21.0s
D29A Pettibone, Tap 89.61 41 ⇓P P 23 02 34.6 -0.6
baz=90
XAN Xi'an 89.62 305 P P 23 02 36.6 +1.0
XAN sP sP 23 02 42.0 -0.1
XAN PP PP 23 06 13.1 +5.5
XAN SKS SKSac 23 13 05.0 -0.9
XAN S ScS 23 13 30.3 -0.8
XAN sS sS 23 13 38.0 +3.4
XAN AMB AMB
comp=Z,18nm,1.5s
XAN AMB AMB
comp=Z,200nm,8.0s
XAN LR LR
comp=Z,800nm,19.8s
XAN LR LR
comp=Z,450nm,19.8s
XAN LR LR
comp=Z,480nm,20.9s
B28A Dugan Ranch, T 89.69 39 ⇓P P 23 02 35.5 0.0
baz=90
PSI Prapat 89.76 273 ⇓P P 23 02 36.4 -0.3
baz=90,SNR=54
E30A Jud 89.83 41 ⇓P P 23 02 35.6 -0.7
baz=90
HHC Hu-ho-hao-te 89.91 313 eP P 23 02 37.8 +1.0
HHC sP sP 23 02 44.3 +0.9
HHC PP PP 23 06 13.3 +3.4
HHC SKS SKSac 23 13 06.1 -1.3
HHC S S 23 13 27.4 -1.8
HHC sS ScS 23 13 34.1 +0.7
HHC AMB AMB
comp=Z,110nm,1.2s
HHC AMB AMB
comp=Z,2µm,6.5s
HHC LR LR
comp=Z,1µm,18.0s
HHC LR LR
comp=Z,3µm,18.9s
HHC LR LR
comp=Z,3µm,18.2s
MDND Maddock 89.92 40 ⇓P P 23 02 36.2 -0.3
baz=90
A28A Rude Farm, Bot 89.93 39 ⇑P P 23 02 36.8 +0.2
baz=90
JTS JuntasAbangare 89.95 79 eP P 23 02 39.4 +1.9
comp=Z,4µm,1.4s

JTS	**JuntasAbangare**	**89.95**	**79**	P		**P**	**23 02 39.9**	**+2.4**
	comp=Z,1µm,1.2s,SNR=16							
JTS	**JuntasAbangare**	**89.95**	**79**	LR		LR	23 33 37.9	
	comp=Z,4µm,19.9s,baz=210,slow=29							
D30A	**Buchanan**	**90.16**	**41**	⇑P		**P**	**23 02 36.9**	**-0.8**
	baz=90							
B29A	**Wagenman Farm,**	**90.31**	**39**	⇑P		**P**	**23 02 37.8**	**-0.6**
	baz=91							
ECSD	**EROS Data Cent**	**90.32**	**45**	*e*P		**P**	**23 02 37.8**	**-0.7**
	comp=Z,201nm,1.8s							
UALR	**University of**	**90.44**	**54**	*e*P		**P**	**23 02 40.4**	**+1.1**
	comp=Z,829nm,2.5s							
C30A	**Mose, Pekin**	**90.56**	**40**	⇓P		**P**	**23 02 38.8**	**-0.8**
	baz=91							
A29A	**Manning Farm,**	**90.56**	**39**	⇑P		**P**	**23 02 39.0**	**-0.5**
	baz=91							
BTO	**Baotou**	**90.93**	**312**	*e*P		**P**	**23 02 41.5**	**-0.1**
B30A	**Myrvik Farm, E**	**90.94**	**40**	⇑P		**P**	**23 02 40.6**	**-0.7**
	baz=91							
VBMS	**Vicksburg**	**91.12**	**57**	PFAKE			23 02 50.0	+7.5
VBMS				LR		LR		
	comp=Z,3µm,20.0s							
A30A	**Hoffart Farm,**	**91.14**	**39**	⇑P		**P**	**23 02 42.1**	**-0.1**
	baz=91							
FFC	**Flin Flon**	**91.35**	**33**	*i* P		**P**	**23 02 43.3**	**+0.3**
FFC	**Flin Flon**	**91.35**	**33**	*e*P		**P**	**23 02 42.2**	**-0.8**
	comp=Z,592nm,1.7s							
FFC				LR		LR		
	comp=Z,2µm,19.0s							
FFC	**Flin Flon**	**91.35**	**33**	P		**P**	**23 02 42.5**	**-0.5**
	comp=Z,329nm,1.8s,SNR=12							
PBKT	**Sadao Pong**	**91.44**	**287**	P		**P**	**23 02 46.2**	**+1.9**
	comp=Z,66nm,1.5s,comp=Z,1µm							
SURT	**Suratani**	**91.49**	**279**	P		P	23 02 48.6	+4.0
	comp=Z,69nm,1.4s,comp=Z,1µm							
PKDT	**Phuket**	**91.65**	**278**	P		P	23 02 49.9	+4.5
	comp=Z,54nm,1.8s,comp=Z,4µm							
HBAR	**Harrisburg**	**92.00**	**54**	*e*P		**P**	**23 02 46.9**	**+0.4**
SCIA	**State Center**	**92.05**	**47**	*e*P		**P**	**23 02 47.2**	**+0.6**
	comp=Z,218nm,1.5s							
KMI	**Kunming**	**92.14**	**295**	P		**P**	**23 02 49.6**	**+1.9**
KMI				pP		**pP**	**23 02 55.5**	**+3.0**
KMI				PP		**PP**	**23 06 30.0**	**+2.0**
KMI				SKS		**SKSac**	**23 13 20.1**	**-1.0**
KMI				S		**S**	**23 13 47.9**	**-2.5**
KMI				sS		**sS**	**23 13 58.0**	**-0.4**
KMI				SS		**SS**	**23 20 03.0**	**+2.6**
KMI				AMB		AMB		
	comp=Z,19nm,1.3s							
KMI				AMB		AMB		
	comp=Z,370nm,4.3s							
KMI				LR		LR		
	comp=Z,560nm,21.6s							
KMI				LR		LR		
	comp=Z,1µm,19.2s							
KMI				LR		LR		
	comp=Z,2µm,19.2s							
EFI	**East Falkland**	**92.23**	**145**	⇑*i*P		**P**	**23 02 48.3**	**+1.0**
EFI				pmax		pmax		
	comp=Z,896nm,2.5s							
EFI	**East Falkland**	**92.23**	**145**	PFAKE			23 03 00.0	+13
EFI				LR		LR		
	comp=Z,3µm,21.0s							
LCO	**Las Campanas**	**92.30**	**121**	*e*P		**P**	**23 02 49.1**	**+0.6**
	comp=Z,158nm,1.1s							
LCO	**Las Campanas**	**92.30**	**121**	⇓P		**P**	**23 02 49.5**	**+1.0**
	baz=92,SNR=7.2							
AGMN	**Agassiz Nation**	**92.42**	**40**	*e*P		**P**	**23 02 47.6**	**-0.5**
	comp=Z,382nm,2.5s							
UTHA	**Uthaitani**	**92.59**	**285**	P		**P**	**23 02 51.8**	**+2.2**
	comp=Z,18nm,1.0s,comp=Z,162nm							
GNAR	**Gosnell**	**92.61**	**54**	*e*P		**P**	**23 02 49.8**	**+0.5**
	comp=Z,1µm,1.0s							
OXF	**Oxford**	**92.67**	**55**	*e*P		**P**	**23 02 50.0**	**+0.4**
OXF				pmax		pmax		
	comp=Z,288nm,1.4s							
OXF				MLR		MLR		
	comp=Z,7µm,19.0s							
OXF	**Oxford**	**92.67**	**55**	*e*P		**P**	**23 02 50.0**	**+0.4**
	comp=Z,288nm,1.4s							
OXF				LR		LR		
	comp=Z,7µm,19.0s							
CD2	**Chengdu**	**92.86**	**301**	P		**P**	**23 02 52.0**	**+1.3**
CD2				pP		**pP**	**23 02 56.8**	**+1.3**
CD2				sP		**sP**	**23 02 59.0**	**+1.8**
CD2				PP		**PP**	**23 06 37.1**	**+3.8**
CD2				SKS		**SKSac**	**23 13 24.3**	**-0.2**
CD2				S		**S**	**23 13 54.8**	**-1.4**
CD2				sS		**sS**	**23 14 02.3**	**-1.9**
CD2				SS		**SS**	**23 20 12.1**	**+1.9**
CD2				AMB		AMB		
	comp=Z,30nm,0.9s							
CD2				AMB		AMB		
	comp=Z,560nm,9.6s							
CD2				LR		LR		
	comp=Z,2µm,19.8s							
CD2				LR		LR		
	comp=Z,1µm,24.0s							
SNAA	**Sanae**	**92.90**	**177**	*e*P		**P**	**23 02 49.6**	**-0.5**
	comp=Z,113nm,1.3s							
SYO	**Syowa Base**	**92.91**	**191**	⇑*i*P		**P**	**23 02 48.0**	**-2.1**
SYO	**Syowa Base**	**92.91**	**191**	⇑*e*P		**P**	**23 02 51.3**	**+1.2**
CRAI	**Chiangrai**	**92.95**	**290**	P		**P**	**23 02 53.0**	**+1.7**
	comp=Z,214nm,2.0s,comp=Z,11µm							
PARMO	**Parma**	**93.02**	**53**	*e*P		**P**	**23 02 52.4**	**+1.2**
ULM	**Lac du Bonnet**	**93.08**	**39**	*e*P		**P**	**23 02 50.1**	**-1.0**
ULM				PP		**PP**	**23 06 31.8**	**-2.8**
ULM	**Lac du Bonnet**	**93.08**	**39**	P		**P**	**23 02 50.3**	**-0.8**
	comp=Z,9.1nm,0.9s,baz=245,slow=4.4,SNR=14							
ULM				PP		**PP**	**23 06 31.8**	**-2.8**
	comp=Z,3.2nm,0.5s,baz=277,slow=8.1,SNR=6.4							
ULM				LR		LR	23 37 59.5	
	comp=Z,7µm,21.4s,baz=252,slow=31							
PAYA	**Payao**	**93.18**	**289**	P		**P**	**23 02 54.5**	**+2.1**
	comp=Z,8.9nm,1.2s							
SLM	**Saint Louis**	**93.22**	**51**	*e*P		**P**	**23 02 51.6**	**-0.5**
SLM				*e*			23 06 34.0	
SLM				pmax		pmax		
	comp=Z,12nm,0.5s							
SLM	**Saint Louis**	**93.22**	**51**	*e*P		**P**	**23 02 51.6**	**-0.5**
	comp=Z,12nm,0.5s							
SLM				*e*PP		**PP**	**23 06 34.0**	**-1.9**
GLAT	**Glass**	**93.27**	**53**	*e*P		**P**	**23 02 52.6**	**+0.2**
VNA2	**Neumayer--Watz**	**93.31**	**175**	*e*P		**P**	**23 02 52.4**	**+0.4**
	baz=172,slow=3.0							
SPMN	**St. Paul**	**93.39**	**44**	*e*P		**P**	**23 02 53.2**	**+0.5**
SPMN				*e*PP		**PP**	**23 06 35.0**	**-2.0**
SPMN	**St. Paul**	**93.39**	**44**	⇓P		**P**	**23 02 52.8**	**+0.1**
	baz=94							
VNA1	**Neumayer--Stat**	**93.51**	**175**	*e*P		**P**	**23 02 53.4**	**+0.6**
OTAV	**Otavalo**	**93.57**	**91**	*e*P		**P**	**23 02 56.8**	**+1.9**
	comp=Z,40nm,1.4s							
SIUC	**Southern Illin**	**93.73**	**52**	*e*P		**P**	**23 02 54.8**	**+0.4**
	comp=Z,420nm,2.0s							
CM31	**Chiang Mai Arr**	**93.80**	**288**	*e*P		**P**	**23 02 54.3**	**-0.9**
	comp=Z,10nm,0.8s							
CMAR	**Chiang Mai Arr**	**93.80**	**288**	P		**P**	**23 02 56.2**	**+1.1**
CMAR				PKKP		**PKKPbc**	**23 20 00.3**	**+1.2**
CMAR	**Chiang Mai Arr**	**93.80**	**288**	P		**P**	**23 02 56.2**	**+1.1**
	comp=Z,14nm,1.0s,baz=92,slow=2.8,SNR=49							
CMAR				PKKP		**PKKPbc**	**23 20 00.3**	**+1.2**
	comp=Z,2.8nm,0.8s,baz=283,slow=4.7,SNR=12							
CMAR				LR		LR	23 40 08.2	
	comp=Z,2µm,21.7s,baz=114,slow=32							
CHTO	**Chiang Mai**	**93.89**	**288**	*e*P		**P**	**23 02 55.9**	**+0.3**
CHTO				pmax		pmax		
	comp=Z,354nm,1.7s							
CHTO	**Chiang Mai**	**93.89**	**288**	P		**P**	**23 02 57.3**	**+1.7**
	SNR=15							
CHTO	**Chiang Mai**	**93.89**	**288**	*e*P		**P**	**23 02 55.9**	**+0.3**
	comp=Z,354nm,1.7s							
CHTO	**Chiang Mai**	**93.89**	**288**	P		**P**	**23 02 57.0**	**+1.4**
	comp=Z,189nm,1.9s,comp=Z,3µm							
MAIT	**Maitri**	**94.07**	**181**	*i* PG		**P**	**23 02 52.3**	**-3.1**
MAIT				*e*P		**PcP**	**23 02 53.8**	**-2.0**
CMAI	**Chiengmai2**	**94.08**	**289**	P		**P**	**23 02 58.3**	**+1.6**
LRAL	**Lakeview Retre**	**94.19**	**57**	PFAKE			23 03 10.0	+13
LRAL				LR		LR		
	comp=Z,2µm,22.0s							
LZH	**Lanzhou**	**94.21**	**306**	⇓P		**P**	**23 02 58.3**	**+1.4**
LZH				pP		**pP**	**23 03 01.5**	**-0.2**
LZH				sP		**sP**	**23 03 03.0**	**-0.5**
LZH				PP		**PP**	**23 06 47.6**	**+3.7**
LZH				SKS		**SKSac**	**23 13 31.3**	**-0.6**
LZH				S		**S**	**23 14 06.3**	**-1.8**
LZH				sS		**sS**	**23 14 13.5**	**-2.6**
LZH				SS		**SS**	**23 20 30.8**	**+1.3**
LZH				AMB		AMB		
	comp=Z,140nm,1.5s							
LZH				AMB		AMB		
	comp=Z,520nm,8.6s							
LZH				LR		LR		
	comp=Z,1µm,18.3s							
LZH				LR		LR		
	comp=Z,830nm,16.0s							
LZH				LR		LR		
	comp=Z,1µm,19.6s							
WVT	**Waverly**	**94.36**	**54**	*e*P		**P**	**23 02 57.2**	**-0.2**
WVT				*e*			23 06 44.1	
WVT				pmax		pmax		
	comp=Z,228nm,1.9s							
WVT	**Waverly**	**94.36**	**54**	*e*P		**P**	**23 02 57.2**	**-0.2**
	comp=Z,228nm,1.9s							
WVT				*e*PP		**PP**	**23 06 44.1**	**-0.9**
JFWS	**Jewell Farm**	**94.45**	**47**	*e*P		**P**	**23 02 57.8**	**+0.1**
JFWS				pmax		pmax		
	comp=Z,588nm,2.1s							
JFWS	**Jewell Farm**	**94.45**	**47**	*e*P		**P**	**23 02 57.8**	**+0.1**
	comp=Z,588nm,2.1s							
HDIL	**Hopedale**	**94.47**	**49**	*e*P		**P**	**23 02 57.9**	**+0.1**
	comp=Z,113nm,1.3s							
HDIL				LR		LR		
	comp=Z,6µm,21.0s							
OLIL	**Olney**	**94.86**	**51**	*e*P		**P**	**23 03 00.1**	**+0.5**
	comp=Z,271nm,2.2s							
USIN	**University of**	**94.98**	**52**	*e*P		**P**	**23 03 00.9**	**+0.7**
	comp=Z,301nm,1.9s							
TIXI	**Tiksi**	**95.28**	**344**	*d i*P		**P**	**23 03 00.6**	**-0.1**
TIXI				pmax		pmax		
	comp=Z,66nm,2.5s							
PAF	**Port-aux-Franc**	**95.42**	**216**	PFAKE			23 03 10.0	+8.0
PAF				LR		LR		
	comp=Z,2µm,20.0s							
SWET	**Sewanee**	**95.61**	**55**	*e*P		**P**	**23 03 03.3**	**+0.1**
	comp=Z,222nm,2.1s							
SONM	**Songino Array**	**95.64**	**318**	P		**P**	**23 03 03.2**	**0.0**
SONM				PP		**PP**	**23 06 53.4**	**-1.3**
SONM				P'P'			23 28 04.9	
SONM	**Songino Array**	**95.64**	**318**	P		**P**	**23 03 03.2**	**0.0**
	comp=Z,3.4nm,0.9s,baz=120,slow=4.9,SNR=16							
SONM				PP		**PP**	**23 06 53.4**	**-1.3**
	comp=Z,4.0nm,1.1s,baz=107,slow=5.8,SNR=5.0							
SONM				PKPPKP		**P'P'df**	**23 28 04.9**	**-0.1**
	comp=Z,0.4nm,0.9s,baz=174,slow=1.5,SNR=4.5							
SONM				LR		LR	23 41 08.1	
	comp=Z,2µm,21.7s,baz=112,slow=32							
TRQA	**Tornquist**	**95.77**	**132**	*e*P		**P**	**23 03 05.8**	**+1.9**
	comp=Z,227nm,2.3s							
LVC	**Limon Verde**	**95.90**	**115**	*e*P		**P**	**23 03 07.4**	**+2.3**
	comp=Z,202nm,1.8s							
LVC				LR		LR		
	comp=Z,690nm,19.0s							
SFIN	**Scholer Farm**	**96.04**	**50**	*e*P		**P**	**23 03 04.9**	**0.0**
SFIN	**Scholer Farm**	**96.04**	**50**	⇑P		**P**	**23 03 05.1**	**+0.2**
	baz=96							
COWI	**Conover**	**96.10**	**44**	*e*P		**P**	**23 03 04.8**	**-0.4**
	comp=Z,307nm,1.8s							
COWI				LR		LR		
	comp=Z,394nm,19.0s							
TIGA	**Tifton**	**96.59**	**59**	⇑P		**P**	**23 03 08.0**	**+0.3**
	baz=97							
CPCT	**Cooper Cave**	**96.79**	**55**	*e*P		**P**	**23 03 08.5**	**0.0**
GOGA	**Godfrey**	**97.16**	**57**	*e*P		Pdif	23 03 10.5	+0.3
	comp=Z,146nm,1.9s							
TKL	**Tuckaleechee C**	**97.43**	**55**	*e*P		**P**	**23 03 11.3**	**-0.1**
TZTN	**Tazewell**	**97.81**	**54**	*e*P		Pdif	23 03 13.4	+0.2
	comp=Z,50nm,1.5s							
GTA	**Gaotai**	**98.13**	**309**	⇓P		Pdif	23 03 15.4	+0.7
GTA				pP		pP	23 03 26.3	+6.8
GTA				sP		sP	23 03 29.8	+8.6
GTA				PP		PP	23 07 20.8	+6.7
GTA				SKS		**SKSac**	**23 13 49.6**	**-2.7**
GTA				S		**S**	**23 14 41.1**	**-0.7**
GTA				AMB		AMB		
	comp=Z,15nm,1.3s							
GTA				AMB		AMB		
	comp=Z,430nm,8.6s							
GTA				LR		LR		
	comp=Z,730nm,19.5s							
GTA				LR		LR		
	comp=Z,2µm,21.4s							
GTA				LR		LR		
	comp=Z,2µm,22.3s							
TLY	**Talaya**	**98.37**	**321**	*e*P		P	23 03 11.0	-4.3
TLY				*e*S		**SKKSac**	**23 14 27.4**	**+5.1**
TLY				*e*PS		**PS**	**23 16 10.3**	**+0.8**
TLY				*e*SS		**SS**	**23 21 27.8**	**+0.3**
TLY				pmax		pmax		
	comp=Z,23nm,1.7s							
TLY				MLR		MLR		
	comp=Z,1µm,18.0s							
LPAZ	**La Paz**	**98.64**	**109**	*e*P		Pdif	23 03 19.9	+1.8
	comp=Z,33nm,1.3s							
LPAZ				PKKP		**PKKPbc**	**23 19 46.7**	**+0.1**
LPAZ	**La Paz**	**98.64**	**109**	P		Pdif	23 03 19.4	+1.3
	comp=Z,12nm,1.1s,baz=288,slow=2.8,SNR=29							
LPAZ				PKKP		**PKKPbc**	**23 19 46.7**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=0.0,slow=4.0,SNR=4.2							
LPAZ				LR		LR	23 40 48.9	
	comp=Z,2µm,18.4s,baz=256,slow=31							
ROSC	**El Rosal**	**98.73**	**87**	P		Pdif	23 03 19.7	+1.4
ROSC	**El Rosal**	**98.73**	**87**	P		Pdif	23 03 19.7	+1.4
	comp=Z,2.8nm,0.3s,baz=80,slow=23,SNR=5.1							
ROSC				LR		LR	23 38 17.8	
	comp=Z,1µm,21.4s,baz=350,slow=30							
KMSC	**Kings Mountain**	**99.26**	**56**	⇓Pdiff		**Pdif**	**23 03 19.3**	**-0.3**
	baz=100							
BLA	**Blacksburg**	**100.41**	**54**	PFAKE			23 03 40.0	+15
BLA				LR		LR		
	comp=Z,2µm,19.0s							
RES	**Resolute Bay**	**101.33**	**15**	P		**Pdif**	**23 03 28.8**	**+0.9**
RES	**Resolute Bay**	**101.33**	**15**	P		**Pdif**	**23 03 28.8**	**+0.9**
	comp=Z,4.2nm,0.9s,baz=250,slow=8.1,SNR=4.2							
SHL	**Shillong**	**101.79**	**293**	*e*P		**Pdif**	**23 03 33.0**	**+1.7**
SHL				*e*SKS			23 14 12.0	
CBN	**Corbin**	**102.96**	**54**	PFAKE			23 03 50.0	+14
CBN				LR		LR		
	comp=Z,4µm,22.0s							
LSA	**Lhasa**	**103.20**	**297**	P		**Pdif**	**23 03 37.8**	**-0.1**
BINY	**Binghamton**	**104.60**	**50**	PFAKE			23 04 00.0	+17
BINY				LR		LR		
	comp=Z,7µm,21.0s							
SDDR	**Presa de Saban**	**104.83**	**74**	PFAKE			23 08 10.0	
SDDR				LR		LR		
	comp=Z,541nm,19.0s							
GRTK	**Grand Turk**	**105.46**	**72**	PFAKE			23 08 10.0	
GRTK				LR		LR		
	comp=Z,2µm,22.0s							
SAML	**Samuel**	**105.56**	**104**	PFAKE			23 08 10.0	
SAML				LR		LR		
	comp=Z,1µm,19.0s							
LONY	**Lake Ozonia**	**105.90**	**47**	PFAKE			23 08 10.0	
LONY				LR		LR		
	comp=Z,5µm,22.0s							
NCB	**Newcomb**	**106.09**	**48**	PFAKE			23 08 10.0	
NCB				LR		LR		
	comp=Z,4µm,22.0s							
LBNH	**Lisbon**	**107.76**	**48**	PFAKE			23 08 20.0	
LBNH				LR		LR		
	comp=Z,5µm,21.0s							
WMQ	**Urumqi**	**107.77**	**312**	Pdif		**Pdif**	**23 03 58.3**	**+1.0**
WMQ				PP		**PP**	**23 08 30.1**	**+3.9**
WMQ				S		**Sdif**	**23 15 57.1**	**-4.9**
WMQ				SS		**SS**	**23 23 35.0**	**-2.5**
WMQ				PPMZ				
	comp=Z,470nm,5.0s							
WMQ				LR		LR		
	comp=Z,630nm,21.8s							
WMQ				LR		LR		
	comp=Z,860nm,19.4s							
WMQ				LR		LR		
	comp=Z,950nm,21.6s							
PKME	**Peaks-Kenny Pk**	**109.69**	**47**	PFAKE			23 08 20.0	
PKME				LR		LR		
	comp=Z,523nm,22.0s							
ZAA0	**Zalesovo Array**	**109.95**	**322**	*e*PKiKP		**PKiKP**	**23 08 08.0**	**-0.6**
ZALV	**Zalesovo Beam**	**109.95**	**322**	P		**Pdif**	**23 04 06.4**	**-0.3**
ZALV				pmax		pmax		
	comp=Z,4.0nm,0.8s							
ZALV	**Zalesovo Beam**	**109.95**	**322**	Pdif		**Pdif**	**23 04 06.3**	**-0.3**
ZALV				PKiKP		**PKiKP**	**23 08 08.1**	**-0.6**
ZALV				PKKPab		**PKKPab**	**23 19 22.6**	**+0.9**
ZALV	**Zalesovo Beam**	**109.95**	**322**	Pdiff		**Pdif**	**23 04 06.3**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=64,slow=3.4,SNR=4.4							
ZALV				PKiKP		**PKiKP**	**23 08 08.1**	**-0.6**
	comp=Z,4.0nm,0.8s,baz=99,slow=0.5,SNR=18							
ZALV				PKKPab		**PKKPab**	**23 19 22.6**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=289,slow=4.5,SNR=3.5							
SCHQ	**Schefferville**	**111.17**	**37**	PP		PP	23 08 47.1	-3.3
SCHQ	**Schefferville**	**111.17**	**37**	PP		PP	23 08 47.1	-3.3
	comp=Z,9.5nm,1.1s,baz=282,slow=9.3,SNR=6.7							
MK31	**Makanchi Array**	**111.68**	**315**	*e*PKiKP		**PKiKP**	**23 08 11.6**	**-0.6**
MKAR	**Makanchi Array**	**111.68**	**315**	P		**Pdif**	**23 04 14.8**	**+0.2**
MKAR				*i*			23 08 11.7	
MKAR				pmax		pmax		
	comp=Z,7.0nm,0.9s							
MKAR				pmax		pmax		
	comp=Z,2.0nm,1.0s							
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.8s							
MKAR	**Makanchi Array**	**111.68**	**315**	Pdif		**Pdif**	**23 04 14.8**	**+0.2**
MKAR				PKiKP		**PKiKP**	**23 08 11.7**	**-0.6**
MKAR				PKKPbc		**PKKPbc**	**23 19 06.6**	**-0.6**
MKAR				PKKPab		**PKKPab**	**23 19 15.5**	**+1.2**
MKAR	**Makanchi Array**	**111.68**	**315**	Pdiff		**Pdif**	**23 04 14.8**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=64,slow=8.2,SNR=2.7							
MKAR				PKiKP		**PKiKP**	**23 08 11.7**	**-0.6**
	comp=Z,6.8nm,0.9s,baz=76,slow=2.0,SNR=27							
MKAR				PKKPbc		**PKKPbc**	**23 19 06.6**	**-0.6**
	comp=Z,2.3nm,1.0s,baz=284,slow=4.9,SNR=9.9							
MKAR				PKKPab		**PKKPab**	**23 19 15.5**	**+1.2**
	comp=Z,1.8nm,0.8s,baz=271,slow=2.6,SNR=10.0							
DGAR	**Diego Garcia**	**112.19**	**255**	PFAKE			23 08 30.0	
DGAR				LR		LR		
	comp=Z,2µm,21.0s							
HYB	**Hyderabad**	**112.55**	**283**	*i* PKP		**PKiKP**	**23 08 12.0**	**-2.7**
HYB				*e*PKKP		**PKKPbc**	**23 19 03.5**	**0.0**
BBSR	**BB Station**	**112.58**	**61**	PFAKE			23 08 30.0	
BBSR				LR		LR		
	comp=Z,666nm,19.0s							
GRGR	**Grenville**	**112.60**	**83**	PFAKE			23 08 30.0	
GRGR				LR		LR		
	comp=Z,522nm,20.0s							
ANWB	**Willy Bob**	**113.48**	**77**	PFAKE			23 08 30.0	
ANWB				LR		LR		
	comp=Z,564nm,19.0s							
SPB	**Sao Paulo**	**113.50**	**125**	PFAKE			23 08 30.0	
SPB				LR		LR		
	comp=Z,4µm,19.0s							
KURK	**Kurchatov**	**113.92**	**319**	P		**PKiKP**	**23 08 16.3**	**0.0**
	SNR=6.9							
KURK	**Kurchatov**	**113.92**	**319**	PFAKE			23 08 30.0	
KURK				LR		LR		
	comp=Z,833nm,21.0s							
BBGH	**Gun Hill**	**114.80**	**82**	PFAKE			23 08 30.0	+11
BBGH				LR		LR		
	comp=Z,1µm,21.0s							
SFJD	**Kangerlussuaq**	**116.07**	**22**	PFAKE			23 08 30.0	+10
SFJD				LR		LR		
	comp=Z,3µm,21.0s							
ULHL	**Ulahol**	**116.14**	**310**	P		**PKPdf**	**23 08 21.5**	**+0.3**
	SNR=7.3							
KBS	**Kingsbay**	**116.35**	**359**	PFAKE			23 08 30.0	+10
KBS				LR		LR		
	comp=Z,2µm,22.0s							
KSH	**Kashi**	**116.45**	**307**	PKP		**PKPdf**	**23 08 23.0**	**+1.3**
KSH				PP		PP	23 09 34.8	+6.3
KSH				PKS		**PKSdf**	**23 11 58.6**	**+0.1**
KSH				PPMZ				
	comp=Z,290nm,4.2s							
KSH				LR		LR		
	comp=Z,850nm,18.1s							
KSH				LR		LR		
	comp=Z,940nm,19.0s							
KSH				LR		LR		
	comp=Z,1µm,20.2s							
TKM2	**Tokmak 2**	**116.58**	**311**	*e*PKIKP		**PKPdf**	**23 08 21.3**	**-0.7**
TKM2				*e*			23 09 27.6	
TKM2				MLR		MLR		
	comp=Z,1µm,20.0s							
TKM2	**Tokmak 2**	**116.58**	**311**	P		**PKPdf**	**23 08 21.7**	**-0.3**
	SNR=7.5							
TKM2	**Tokmak 2**	**116.58**	**311**	*e*PKPdf		**PKPdf**	**23 08 21.3**	**-0.7**
TKM2				*e*PP		**PP**	**23 09 27.6**	**-1.8**
TKM2				LR		LR		
	comp=Z,1µm,20.0s							
BDFB	**Brasilia**	**116.77**	**117**	PKP		**PKPdf**	**23 08 22.0**	**-0.9**
BDFB	**Brasilia**	**116.77**	**117**	PKP		**PKPdf**	**23 08 22.0**	**-0.9**
	comp=Z,3.1nm,0.7s,baz=36,slow=6.8,SNR=5.1							
SUMG	**Summit**	**116.81**	**14**	*i* P		**PKPdf**	**23 08 22.1**	**+0.3**
	comp=Z,7.6nm,0.9s							
SUMG	**Summit**	**116.81**	**14**	*i* P		**PKKPbc**	**23 18 49.1**	**-1.5**
	comp=Z,7.8nm,1.1s							
KZA	**Kyzart**	**116.89**	**310**	P		**PKPdf**	**23 08 23.2**	**+0.4**
	SNR=7.7							
KBK	**Karagaybulak**	**117.07**	**310**	P		**PKPdf**	**23 08 22.5**	**-0.4**
	SNR=9.8							
POO	**Poona**	**117.15**	**283**	*e*P		**PKPdf**	**23 08 21.0**	**-2.5**
USP	**Ospenovka**	**117.36**	**311**	P		**PKPdf**	**23 08 23.0**	**-0.2**
	SNR=9.7							
AAK	**Ala-Archa**	**117.41**	**310**	⇑*i*PKIKP		**PKPdf**	**23 08 23.0**	**-0.5**
AAK	**Ala-Archa**	**117.41**	**310**	P		**PKPdf**	**23 08 23.4**	**-0.1**
	SNR=5.7							
AAK	**Ala-Archa**	**117.41**	**310**	*e*PKPdf		**PKPdf**	**23 08 22.4**	**-1.1**
AAK				*e*PP		**PP**	**23 09 34.0**	**-1.1**
AAK				LR		LR		
	comp=Z,1µm,22.0s							
EKS2	**Erkin-Say**	**117.93**	**310**	P		**PKPdf**	**23 08 23.8**	**-0.6**
	SNR=8.5							
EKS2	**Erkin-Say**	**117.93**	**310**	*e*PKPdf		**PKPdf**	**23 08 24.1**	**-0.4**
EKS2				LR		LR

FINES PKP **PKPdf** **23 08 50.8 -0.1**
FINES FINESS Array B 132.14 348 PKhKP PKPpre 23 08 39.0
comp=Z,3,3nm,1.0s,baz=336,slow=3.0,SNR=2.7
FINES PKP **PKPdf** **23 08 50.8 -0.1**
comp=Z,15nm,0.8s,baz=103,slow=3.0,SNR=24
BOSA Boshof 133.20 201 PKP **PKPdf** **23 08 54.2 +0.1**
BOSA Boshof 133.20 201 PKP **PKPdf** **23 08 54.2 +0.1**
comp=Z,10nm,1.0s,baz=175,slow=5.0,SNR=6.6
ASHO Ashiyiah 134.01 290 P **PKPdf** **23 08 57.2 +1.6**
SNR=9.1
NB2 NORSAR Subarra 134.29 358 PKPdf PKPpre 23 08 42.7
comp=Z,101nm,1.7s,baz=6.6,slow=1.8
NB2 NORSAR Subarra 134.29 358 PKPdf PKPpre 23 08 42.7
baz=6.6,slow=1.8
NOA NORSAR Array B 134.29 358 PKP **PKPdf** **23 08 55.4 +0.3**
NOA NORSAR Array B 134.29 358 PKP **PKPdf** **23 08 55.4 +0.3**
comp=Z,8.8nm,0.9s,baz=14,slow=3.9,SNR=17
OBN Obninsk 134.55 337 ⇑*i*PKIKP **PKPdf** **23 08 55.8 +0.3**
OBN *i* SS SS 23 29 22.1 +4.0
OBN pmax pmax
comp=Z,27nm,1.3s
OBN MLR MLR
comp=Z,1μm,20.0s
KONO Kongsberg 135.74 359 PFAKE 23 09 10.0 +12
KONO LR LR
comp=Z,2μm,21.0s
ABTO Aybut 136.48 279 P **PKPdf** **23 09 00.5 +0.2**
SNR=7.3
ISAL Salakas 137.46 345 *e*P **PKPdf** **23 08 57.0 -4.0**
ISAL AMB AMB 23 09 08.3
comp=Z,16nm,1.5s
IIGN Ignalina 137.63 345 *e*P **PKPdf** **23 08 56.9 -4.4**
IIGN AMB AMB 23 09 08.1
comp=Z,14nm,1.2s
NACGM Naroch 137.89 344 *e* **PKPdf** **23 09 00.0 -1.8**
DGRG David-gareji 138.51 316 P **PKPdf** **23 09 04.2 +0.8**
TBLG Delisi 138.79 317 P **PKPdf** **23 09 04.3 +0.4**
KBZ Khabaz 138.94 321 PKIKP **PKPdf** **23 09 04.8 +0.7**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
KBZ Khabaz 138.94 321 PKP **PKPdf** **23 09 04.8 +0.7**
KBZ Khabaz 138.94 321 PKP **PKPdf** **23 09 04.8 +0.7**
comp=Z,6.6nm,0.9s,baz=177,slow=1.4,SNR=9.9
KIV Kislovodsk 138.95 321 *e*PKIKP **PKPdf** **23 09 01.4 -2.8**
KIV *e* 23 11 52.7
KIV *e*SS SS 23 30 10.8 -1.0
KIV pmax pmax
comp=Z,22nm,1.1s
KIV MLR MLR
comp=Z,2μm,22.0s
ESK Eskdalemuir 139.18 10 PFAKE 23 09 20.0 +16
ESK LR LR
comp=Z,3μm,20.0s
ONI Oni 139.20 319 P **PKPdf** **23 09 04.6 -0.1**
GNI Garni 139.53 315 P **PKPdf** **23 09 07.0 +1.5**
SNR=16
GNI Garni 139.53 315 *e*PKPdf **PKPdf** **23 09 04.4 -1.1**
GNI *e*PP **PP** **23 11 59.5 -0.5**
SUW Suwalki 139.59 346 *e*PKPdf PKPdf 23 08 59.0 -5.9
SUW Suwalki 139.59 346 *e*PKPdf PKPdf 23 08 59.0 -5.9
SUW LMZ LR 00 05 07.4
AKH Akhalkalaki 139.77 317 P **PKPdf** **23 09 07.2 +1.3**
PCED Cedros 140.35 47 *e*PKP **PKPdf** **23 09 01.8 -5.0**
PCAN Candelaria 140.57 47 *e*PKP **PKPdf** **23 09 04.7 -2.6**
PGRA Graciosa 140.68 46 *e*PKP **PKPdf** **23 09 04.6 -2.8**
AKASG Malin Array Be 140.75 339 PKHKP PKPpre 23 09 00.2
AKASG 23 09 06.9
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKASG pmax pmax
comp=Z,12nm,0.9s
AKASG Malin Array Be 140.75 339 PKPpre PKPpre 23 09 00.2
AKASG PKP **PKPdf** **23 09 06.9 -0.3**
AKASG Malin Array Be 140.75 339 PKhKP PKPpre 23 09 00.2
comp=Z,5.8nm,0.7s,baz=38,slow=4.1,SNR=21
AKASG PKP **PKPdf** **23 09 06.9 -0.3**
comp=Z,9.6nm,0.9s,baz=37,slow=3.9,SNR=27
KIEV Kiev 140.76 339 *e*PKHKP PKPpre 23 08 59.7
KIEV *e* 23 09 06.0
KIEV Kiev 140.76 339 *e*PKPpre PKPpre 23 08 59.7
KIEV *e*PKPdf **PKPdf** **23 09 06.0 -1.2**
PMAN Manadas 140.78 47 *e*PKP **PKPdf** **23 09 12.4 +4.8**
QRN Al-Qurain 140.78 297 *e*P PKPdf 23 08 59.5 -8.4
QRN AMb AMB 23 09 11.3
comp=Z,189nm,1.1s
ARTV Artvin 140.90 318 *e*P **PKPdf** **23 09 04.5 -3.5**
RDF Al-Radifah 141.06 297 *e*P PKPdf 23 09 00.2 -8.2
RDF AMb AMB 23 09 12.6
comp=Z,132nm,1.5s
NAY Al-Naaiem 141.26 298 *e*P PKPdf 23 09 00.2 -8.6
BEL Belsk 142.15 347 *e*PKPdf **PKPdf** **23 09 05.0 -4.6**
BEL LMZ LR 00 07 36.9
BNGL BINGOL 142.54 315 *i* P **PKPdf** **23 09 07.4 -3.6**
RUE Ruedersdorf 142.65 354 *e*PKPdf **PKPdf** **23 09 05.4 -5.0**
PSET Sete Cidades 142.81 47 *e*PKP PKPdf 23 09 05.4 -5.9
NRDL Niedersach Rie 142.88 358 *e*PKPbc **PKPdf** **23 09 06.5 -4.3**
CMLA Cha da Macela 142.97 46 *e*PKP **PKPdf** **23 09 07.9 -3.7**
CMLA Cha da Macela 142.97 46 PFAKE 23 09 20.0 +8.4
CMLA LR LR
comp=Z,3μm,19.0s
IBBN Ibbenburen 143.11 0 *e*PKPbc PKPbc 23 09 08.4 +0.3
EUZM Uzumlu 143.12 317 *i* P PKPbc 23 09 08.4 -0.3
KELT Kelkit 143.17 318 *i* P PKPbc 23 09 08.8 -0.2
WTSB Winterswijk 143.44 1 *e*P PKPbc 23 09 09.1 +0.1
comp=Z,144nm,1.2s
CLZ Clausthal 143.53 357 *e*PKPbc PKPbc 23 09 09.4 0.0
LSZ Lusaka 143.58 214 P PKPbc 23 09 11.4 +0.7
SNR=9.3
LSZ Lusaka 143.58 214 *e*PKPdf PKPbc 23 09 10.8 +0.1
LSZ *e*PP **PP** **23 12 22.8 -1.4**
MARD Mardin 143.59 313 *i* P PKPab 23 09 08.8 -0.5
PSMA Santa Maria 143.61 47 *e*PKP PKPab 23 09 05.9 -3.3
PSMN Pico do Norte, 143.65 47 *e*PKP PKPbc 23 09 10.1 -0.1
KWP Kalwaria Pacla 143.73 344 *e*PKIKP PKPbc 23 09 09.8 -0.2
KWP *e* 23 12 24.0
KWP MLR MLR
comp=Z,3μm,21.0s
KWP Kalwaria Pacla 143.73 344 ⇓*i* P PKPab 23 09 06.7 -2.6
KWP Kalwaria Pacla 143.73 344 *e*PKPdf PKPbc 23 09 09.8 -0.2
KWP *e*PP **PP** **23 12 24.0 -0.4**
KWP LR LR
comp=Z,3μm,21.0s
KWP Kalwaria Pacla 143.73 344 *e*PKPdf PKPab 23 09 09.4 +0.1
KWP LMZ LR 00 04 05.0
DIYA Diyarbakir 143.75 315 *i* P PKPbc 23 09 11.0 +0.4
SUSE Susehri 143.81 319 *i* P PKPab 23 09 09.9 -0.2
CLL Collm 143.88 355 *e*PKPbc PKPbc 23 09 10.3 -0.1
CLL Collm 143.88 355 *i* PKPdf PKPab 23 09 10.1 +0.3
comp=Z,66nm,0.8s
CLL *i* PKiKP **PKiKP** **23 09 16.6 +0.4**
CLL *es*PKiKP sPKiKP 23 09 25.0 +2.2
CLL *i* PP **PP** **23 12 29.4 +4.3**
comp=Z,49nm,1.6s
CLL *e*SS SS 23 31 20.0 +13
CLL *e*SKSSKSac **S'ac** **23 32 31.0 -2.1**
CLL *e*SSS SSS 23 36 36.0
CLL LmV 00 17 00.0
comp=Z,2μm,19.1s
KBSD Kabsdagh 143.90 313 *i* P PKPab 23 09 00.4 -10
KSP Ksiaz 143.94 351 *e*PKPdf PKPab 23 09 10.0 0.0
KSP LMZ LR 00 15 57.3
KIS Kishinev 143.95 335 ⇑*i*PKP **PKPdf** **23 09 12.0 -1.0**
KIS Kishinev 143.95 335 *e*PP PP 23 12 28.0 +2.1
BUG Bochum--Univer 143.98 1 *e*PKPbc PKPbc 23 09 10.5 -0.1
NEUB Neuenburg 144.08 356 *e*PKPbc PKPbc 23 09 11.1 +0.1
KEMA Kemaliye 144.14 318 *i* P PKPbc 23 09 12.6 +0.9
BRG Berggiesshubel 144.22 353 *e*PKP PKPbc 23 09 11.4 0.0
comp=Z,54nm,1.1s
BRG Berggiesshubel 144.22 353 *e*PKPbc PKPbc 23 09 11.8 +0.4
ELZG Elazig 144.23 316 *i* P **PKPdf** **23 09 13.3 -0.6**
FBE Freiberg 144.23 354 *e*PKPbc PKPbc 23 09 12.0 +0.5
IAS Iasi 144.28 337 ⇓*i*P **PKPab** **23 09 11.0 -0.4**
STHS Stebnicka Huta 144.30 345 *e*PKP **PKPdf** **23 09 12.8 -0.8**
UPC Upice 144.31 351 ⇓*e*PKP PKPbc 23 09 12.0 +0.2
UPC *ep*PKP pPKPdf 23 09 19.6 +1.1
UPC *ex* x 23 09 28.1
TSUM Tsumeb 144.39 196 *e*PKPdf PKPbc 23 09 13.1 +0.1
TSUM *e*PP **PP** **23 12 27.3 -1.1**
TSUM LR LR
comp=Z,3μm,19.0s
DPC Dobruska-Polom 144.41 351 ⇓*i*PKP PKPbc 23 09 12.6 +0.5
DPC *ep*PKP pPKPdf 23 09 18.5 -0.2
DPC *ex* x 23 32 26.5
DPC *ex* x 23 36 59.8
ERBA Erbaa 144.43 321 *i* P PKPbc 23 09 13.1 +0.6
KOLS Kolonicke sedl 144.48 344 *e*PKP PKPbc 23 09 13.0 +0.6
PVCC Panska Ves 144.48 353 ⇓*e*PKP PKPbc 23 09 12.7 +0.4
PVCC *ep*PKP pPKPdf 23 09 20.4 +1.6
PVCC *ex* x 23 09 29.5
UCC Uccle 144.51 4 PKP PKPbc 23 09 12.6 +0.3
NIE Niedzica 144.53 346 *i* PKPdf PKPbc 23 09 13.1 +0.6
NIE *ep*PKPdf **PKiKP** **23 09 17.5 -0.1**
MENF Mencas 144.56 6 PKP **PKPab** **23 09 10.9 -1.4**
UBBA Unterbreizbach 144.56 358 *e*PKPbc PKPbc 23 09 12.6 +0.2
BEBN Eben Emael 144.58 2 PKP PKPbc 23 09 12.7 +0.2
OKC Ostrava-Krasne 144.59 349 ⇓*i*PKP PKPbc 23 09 13.0 +0.3
OKC *ep*PKP **PKiKP**
OKC *ex* x 23 09 28.4
LEOM Leova 144.61 336 ⇓*i*P **PKPab** **23 09 11.4 -1.2**
HGN Heimansgroeve 144.62 2 *e*P PKPbc 23 09 12.7 0.0
comp=Z,944nm,2.0s
PRAR RASCA 144.63 338 ⇓*i*P **PKPab** **23 09 12.4 -0.3**
SCER sogukcermik 144.68 319 *i* P **PKPdf** **23 09 14.5 -0.2**
MALT Malatya 144.70 316 ⇓*i*P **PKPdf** **23 09 14.6 -0.1**
BUR08 Bucovina Ar. S 144.74 340 *e*PKPdf PKPbc 23 09 13.4 0.0
BURAR Bucovina Array 144.76 340 ⇓*i*P **PKPab** **23 09 11.4 -1.9**
PLN Plauen 144.77 355 *e*PKPbc PKPbc 23 09 13.6 +0.4
MEM Membach 144.78 2 PKP PKPbc 23 09 13.4 +0.2
SNF Seneffe 144.79 4 PKP PKPbc 23 09 13.6 +0.3
WERD Werda 144.79 355 *e*PKPbc PKPbc 23 09 13.6 +0.3
HAVZ Havza 144.81 322 *i* P **PKPdf** **23 09 14.4 -0.3**
TOKA Tokat 144.81 321 *i* P PKPbc 23 09 14.3 +0.5
TANN Tannenbergstha 144.81 355 *e*PKPbc PKPbc 23 09 13.7 +0.3
GUNZ Gunzen 144.88 355 *e*PKPbc PKPbc 23 09 14.0 +0.4
TRBA At Turbah 144.88 271 ⇑*e*P **PKPdf** **23 09 16.7 +0.9**
BCLA Clavier 144.94 3 PKP **PKPab** **23 09 13.8 0.0**
WERN Wernitzgruen 144.95 355 *e*PKPbc **PKPdf** **23 09 14.3 -0.4**
PRA Prague 144.95 353 ⇓PKP **PKPdf** **23 09 15.0 +0.4**
PRU Pruhonice 145.02 353 ⇓*i*PKP **PKPab** **23 09 14.2 +0.2**
PRU *ep*PKP **pPKPdf** **23 09 21.0 +1.3**
PRU *ex* x 23 09 29.4
PRU *e*SKSSKS 23 32 47.4
PRU *ex* x 23 37 05.8
AKCD Akcadag 145.04 317 *i* P **PKPdf** **23 09 15.6 +0.3**
TRPA Tarpa 145.14 343 ⇓*i*P **PKPbc** **23 09 14.4 0.0**
TRPA Tarpa 145.14 343 ⇓*e* **PKPab** **23 09 14.7 +0.2**
TESR Tescani 145.19 337 ⇓*i*P **PKPbc** **23 09 14.8 +0.1**
TNS Taunus Mts 145.20 359 *e*PKPbc **PKPdf** **23 09 15.2 +0.1**
DOU Dourbes 145.22 4 PKP **PKPbc** **23 09 14.8 +0.1**
ATAB Bozova 145.23 315 *i* P **PKPdf** **23 09 16.2 +0.6**
MANZ Manzenberg 145.27 355 *e*PKPbc **PKPdf** **23 09 15.4 +0.2**
GHRR 145.28 336 ⇑*i*P **PKPdf** **23 09 15.8 +0.5**
VRAC Vranov 145.38 350 ⇓*i*P **PKPdf** **23 09 15.4 0.0**
TLCR 145.41 334 ⇓*i*P **PKPbc** **23 09 15.1 -0.3**
ROTZ Rotzenmuhle 145.48 355 *e*PKPbc **PKPab** **23 09 16.4 +0.7**
TREC Trest 145.57 351 ⇓*i*PKP **PKPbc** **23 09 15.9 0.0**
TREC *ep*PKP **pPKPdf** **23 09 22.7 +2.0**
TREC *ex* x 23 09 30.9
GRF Grafenberg Arr 145.62 356 *e*PKPbc **PKPab** **23 09 16.6 +0.3**
GRF Grafenberg Arr 145.62 356 *e*L L 00 13 14.0
comp=Z,1μm,20.0s
GRFO Grafenberg 145.63 356 *e*PKP2 **PKPdf** **23 09 15.8 0.0**
GRFO Grafenberg 145.63 356 *e*PKPdf **PKPdf** **23 09 15.8 0.0**
PETR Petresti 145.63 336 ⇓*i*P **PKPab** **23 09 17.2 +0.8**
CTKT Corum 145.64 322 *e*P **PKPab** **23 09 16.9 0.0**
BST Brest 145.67 14 PKP **PKPab** **23 09 17.1 +0.6**
CFR Carcaliu 145.70 334 ⇓*i*P **PKPdf** **23 09 14.9 -1.1**
VRI Vrincioaia 145.70 336 ⇓*i*P **PKPdf** **23 09 15.7 -0.4**
WLF Walferdange 145.73 2 P **PKPab** **23 09 17.0 +0.3**
WLF Walferdange 145.73 2 *e*PKP2 **PKPdf** **23 09 15.9 -0.1**
WLF MLR MLR
comp=Z,3μm,19.0s
WLF Walferdange 145.73 2 *e*PKPbc **PKPab** **23 09 17.3 +0.6**
WLF Walferdange 145.73 2 *e*PKPdf **PKPdf** **23 09 15.9 -0.1**
WLF LR LR
comp=Z,3μm,19.0s
PLOR Plostina 145.75 336 ⇓*i*P **PKPdf** **23 09 15.9 -0.3**
GZT Gaziantep 145.78 315 *e*P **PKPbc** **23 09 17.2 0.0**
ROSF Rostrenen 145.82 13 *e*PKIKP **PKPdf** **23 09 14.7 -1.5**
ROSF Rostrenen 145.82 13 *e*PKIKP **PKPdf** **23 09 14.7 -1.5**
ROSF Rostrenen 145.82 13 *e*PKPdf **PKPdf** **23 09 14.7 -1.5**
PINB Pinarbasi 145.82 318 *i* P **PKPbc** **23 09 17.1 -0.2**
FLN La Foliniere 145.96 10 *e*PKIKP **PKPdf** **23 09 14.3 -2.1**
FLN La Foliniere 145.96 10 *e*PKIKP **PKPdf** **23 09 14.3 -2.1**
FLN La Foliniere 145.96 10 *e*PKPdf **PKPdf** **23 09 14.3 -2.1**
KHC Kasperske Hory 145.97 353 *e*PKP2 **PKPdf** **23 09 16.3 -0.2**
KHC Kasperske Hory 145.97 353 ⇓*e*PKP **PKPdf** **23 09 16.8 +0.3**
KHC *ep*PKP **pPKPdf** **23 09 23.8 +2.4**
KHC *ex* x 23 09 29.0
KHC *ex* x 23 09 32.7
KHC *ex* x 23 33 01.4
KHC *ex* x 23 37 21.6
KHC Kasperske Hory 145.97 353 *e*PKPdf **PKPdf** **23 09 16.3 -0.2**
ILGA Ilgaz 145.98 324 *i* P **PKPbc** **23 09 17.6 -0.1**
GRER 146.01 336 ⇓*i*P **PKPab** **23 09 18.4 +0.5**
JHLN Al Jahlan 146.02 312 *i* P PKPdf 23 09 10.0 -6.9
PSZ Piszkesteto 146.03 346 *e*PKP2 **PKPdf** **23 09 16.5 -0.1**
PSZ MLR MLR
comp=Z,2μm,22.0s
PSZ Piszkesteto 146.03 346 ⇓*i*P **PKPab** **23 09 18.1 +0.2**
PSZ Piszkesteto 146.03 346 *e*PKPdf **PKPdf** **23 09 16.5 -0.1**
PSZ LR LR
comp=Z,2μm,22.0s
PSZ Piszkesteto 146.03 346 ⇓*e* **PKPab** **23 09 17.9 0.0**
WET Wettzell 146.03 354 *e*PKPbc **PKPab** **23 09 18.0 +0.1**
SGMF Saint Gilles 146.05 13 *e*PKIKP **PKPdf** **23 09 14.9 -1.6**
SGMF Saint Gilles 146.05 13 *e*PKIKP **PKPdf** **23 09 14.9 -1.6**
SGMF Saint Gilles 146.05 13 *e*PKPdf **PKPdf** **23 09 14.9 -1.6**
CJR Cluj-Napoca 146.08 341 ⇓*i*P **PKPab** **23 09 18.1 -0.1**
SHEL Horse Pasture 146.11 156 *e*PKP2 **PKPdf** **23 09 17.9 +0.2**
SHEL MLR MLR
comp=Z,1μm,21.0s
SHEL Horse Pasture 146.11 156 *e*PKPdf **PKPdf** **23 09 17.9 +0.2**
SHEL LR LR
comp=Z,1μm,21.0s
DOPR Dopca 146.12 338 ⇓*i*P **PKPbc** **23 09 18.0 +0.3**
TIRR Tirgusor 146.16 333 *e*PKIKP **PKPdf** **23 09 16.2 -0.6**
TIRR Tirgusor 146.16 333 ⇓*i*P **PKPbc** **23 09 18.1 +0.3**
TIRR Tirgusor 146.16 333 *e*PKPdf **PKPdf** **23 09 16.2 -0.6**
LDF La Druitiere 146.18 10 *e*PKIKP **PKPdf** **23 09 14.7 -2.1**
comp=Z,321nm,1.9s
LDF La Druitiere 146.18 10 *e*PKIKP **PKPdf** **23 09 14.7 -2.1**
LDF La Druitiere 146.18 10 *e*PKPdf **PKPdf** **23 09 14.7 -2.1**
HARR Harsova 146.18 336 ⇓*i*P **PKPdf** **23 09 18.4 -0.1**
QUIF Quistinic 146.24 13 *e*PKIKP **PKPdf** **23 09 15.4 -1.5**
QUIF Quistinic 146.24 13 *e*PKPdf **PKPdf** **23 09 15.4 -1.5**
GEC2 GERESS Array S 146.24 353 *e*PKPbc **PKPab** **23 09 18.6 -0.2**
GERES GERESS Array B 146.24 353 PKPbc **PKPdf** **23 09 17.4 +0.4**
GERES GERESS Array B 146.24 353 PKPbc **PKPdf** **23 09 17.4 +0.4**
comp=Z,23nm,0.8s,baz=29,slow=3.0,SNR=160
GRR Gorron 146.25 11 *e*PKIKP **PKPdf** **23 09 15.4 -1.5**
GRR Gorron 146.25 11 *e*PKIKP **PKPdf** **23 09 15.4 -1.5**
GRR Gorron 146.25 11 *e*PKPdf **PKPdf** **23 09 15.4 -1.5**
AYKD Aykdinkavak 146.26 316 *i* P **PKPdf** **23 09 17.5 +0.1**
MDB Medias 146.32 339 ⇓*i*P **PKPbc** **23 09 17.9 -0.4**
PGOR Pogoanele 146.40 335 ⇓*i*P **PKPab** **23 09 19.1 -0.2**
ISR Istrita 146.40 336 ⇓*i*P **PKPab** **23 09 19.2 -0.2**
KUZU Kuzuini 146.42 315 *i* P **PKPdf** **23 09 17.9 +0.3**
LANF Langenberg 146.44 0 PKP **PKPdf** **23 09 17.5 +0.3**
ANDN Andirin 146.48 317 *i* P **PKPdf** **23 09 18.2 +0.4**
AMRR Amara 146.50 335 ⇓*i*P **PKPdf** **23 09 15.5 -1.9**
ELDT Eldivan 146.52 323 *i* P **PKPdf** **23 09 17.8 0.0**
STU Stuttgart 146.63 358 *e*PKIKP **PKPdf** **23 09 17.4 -0.1**
STU *e* 23 09 19.9
STU Stuttgart 146.63 358 *e*PKPdf **PKPdf** **23 09 17.4 -0.1**
STU *e*PKPbc **PKPab** **23 09 19.9 -0.2**
BUD Budapest 146.64 346 ⇓*e* **PKPdf** **23 09 17.8 +0.2**
VOIR 146.70 338 ⇓*i*P **PKPab** **23 09 20.3 -0.3**
KMBO Kilima Mbogo 146.70 243 P **PKPbc** **23 09 20.0 -0.6**
SNR=36
KMBO Kilima Mbogo 146.70 243 *e*PKPdf **PKPdf** **23 09 19.0 0.0**
KMBO PKPbc **PKPdf** **23 09 19.6 +0.5**
KMBO LR LR
comp=Z,2μm,22.0s
KMBO Kilima Mbogo 146.70 243 PKPbc **PKPdf** **23 09 19.6 +0.5**
comp=Z,60nm,1.0s,baz=75,slow=2.6,SNR=66
MSAB Monastry St. A 146.71 333 ⇓*i*P **PKPdf** **23 09 17.9 +0.1**
AVNT Avonos 146.74 320 *e*P **PKPdf** **23 09 18.1 -0.2**
PAGF Fort de Pagny 146.82 3 *e*PKIKP **PKPdf** **23 09 17.8 -0.1**
PAGF Fort de Pagny 146.82 3 *e*PKPdf **PKPdf** **23 09 17.8 -0.1**
CONA Conrad Observa 146.84 350 *i* PKPbc **PKPdf** **23 09 18.3 +0.3**
comp=Z,2μm,3.0s,SNR=60
MEZF Maizieres J'vi 146.84 3 *e*PKIKP **PKPdf** **23 09 18.1 +0.2**
MEZF Maizieres J'vi 146.84 3 *e*PKPdf **PKPdf** **23 09 18.1 +0.2**
PKSG 146.87 347 ⇓*e* **PKPbc** **23 09 19.7 -0.1**
MTUR Matau 146.87 338 ⇓*i*P **PKPab** **23 09 23.2 +1.9**
PSN Preselentsi 146.88 333 P **PKPdf** **23 09 18.6 +0.5**
BR131 Keskin Array S 146.89 322 *e*PKPdf **PKPdf** **23 09 18.0 -0.4**
BR131 *e*PKPbc **PKPbc** **23 09 20.8 +0.5**
BRTR Keskin Array B 146.89 322 PKP **PKPdf** **23 09 18.1 -0.4**
BRTR PKPbc **PKPbc** **23 09 20.8 +0.5**
BRTR Keskin Array B 146.89 322 PKP **PKPdf** **23 09 18.1 -0.4**
comp=Z,45nm,0.8s,baz=178,slow=1.2,SNR=165
BRTR PKPbc **PKPbc** **23 09 20.8 +0.5**
comp=Z,46nm,0.8s,baz=113,slow=2.3,SNR=87
ARR Arges 146.91 338 ⇑*i*P **PKPdf** **23 09 18.8 +0.6**
SOP Sopron 146.96 349 ⇓*e* **PKPdf** **23 09 18.3 +0.2**
PKSN Nyarlorinc 146.99 345 ⇓*e* **PKPdf** **23 09 20.1 0.0**
CDF Champ du Feu 147.01 1 *e*PKIKP **PKPdf** **23 09 17.9 -0.4**
CDF Champ du Feu 147.01 1 *e*PKIKP **PKPdf** **23 09 17.9 -0.4**
CDF Champ du Feu 147.01 1 *e*PKPdf **PKPdf** **23 09 17.9 -0.4**
PKS7 Kunszentmiklos 147.02 346 ⇓*e* **PKPbc** **23 09 19.3 -0.9**
DEV Deva 147.04 341 ⇓*i*P **PKPbc** **23 09 19.6 -0.7**
PKST T''s 147.07 347 ⇓*e* **PKPdf** **23 09 17.9 -0.4**
SIRR Siria 147.08 342 ⇓*i*P **PKPdf** **23 09 18.6 +0.2**
BFO Black Forest 147.09 359 *e*PKIKP **PKPdf** **23 09 18.2 -0.1**
BFO *e* 23 09 20.6
BFO MLR MLR
comp=Z,2μm,20.0s
BFO Black Forest 147.09 359 *e*PKPbc **PKPbc** **23 09 21.1 +0.7**
BFO Black Forest 147.09 359 *e*PKPdf **PKPdf** **23 09 18.2 -0.1**
BFO *e*PKPdf **PKPbc** **23 09 20.6 +0.1**
BFO LR LR
comp=Z,2μm,20.0s
COBT Iskenderun 147.12 315 *e*P **PKPdf** **23 09 19.7 +0.7**
SFTF Sexfontaines 147.13 4 *e*PKIKP **PKPdf** **23 09 18.4 0.0**
SFTF Sexfontaines 147.13 4 *e*PKPdf **PKPdf** **23 09 18.4 0.0**
LOT Lotru 147.14 339 ⇓*i*P **PKPdf** **23 09 19.0 +0.4**
FUR Furstenfeldbru 147.14 356 *e*PKPbc **PKPbc** **23 09 21.3 +0.7**
MOA Molln 147.15 352 ⇓*i*PKPbc **PKPdf** **23 09 18.5 +0.1**
comp=Z,3μm,4.3s,SNR=46
THEF They Montfort 147.16 2 PKP **PKPbc** **23 09 19.6 -1.0**
ECH Echery 147.20 1 *e*PKP2 **PKPbc** **23 09 20.2 -0.5**
ECH MLR MLR
comp=Z,2μm,20.0s
ECH Echery 147.20 1 PKP **PKPbc** **23 09 20.6 -0.2**
ECH Echery 147.20 1 *e*PKPdf **PKPbc** **23 09 20.2 -0.5**
ECH LR LR
comp=Z,2μm,20.0s
ANTO Ankara 147.29 323 *e*PKIKP **PKPdf** **23 09 18.3 -0.7**
ANTO *e* 23 09 21.3
ANTO Ankara 147.29 323 P **PKPdf** **23 09 19.5 +0.5**
SNR=44
ANTO Ankara 147.29 323 ⇓*i*P **PKPdf** **23 09 19.0 0.0**
ANTO Ankara 147.29 323 *e*PKPdf **PKPdf** **23 09 18.3 -0.7**
ANTO *e*PKPbc **PKPbc** **23 09 21.3 -0.1**
BBAL Bala 147.31 322 *i* P **PKPdf** **23 09 20.2 +1.0**
HAU Haudompre 147.39 2 *e*PKIKP **PKPdf** **23 09 18.8 -0.1**
HAU Haudompre 147.39 2 *e*PKIKP **PKPdf** **23 09 18.8 -0.1**
HAU Haudompre 147.39 2 *e*PKPdf **PKPdf** **23 09 18.8 -0.1**
RJOB Jochberg 147.44 354 *e*PKPbc **PKPbc** **23 09 22.1 +0.6**
YAYL Yayladag 147.48 315 *i* P **PKPdf** **23 09 19.5 0.0**
GZR Gura Zlata 147.52 340 ⇓*i*P **PKPdf** **23 09 19.8 +0.6**
PKS2 Kecel 147.53 345 ⇓*e* **PKPbc** **23 09 22.0 +0.4**
WRDH Warideh 147.54 314 *i* P **PKPdf** **23 09 16.1 -3.5**
FELD Feldberg im Sc 147.55 360 PKP **PKPdf** **23 09 20.1 +0.8**
ARSA Arzberg 147.55 350 *i* PKPdf **PKPdf** **23 09 18.6 -0.5**
comp=Z,962nm,2.4s,SNR=48
MOF Molkenrain 147.57 1 PKP **PKPdf** **23 09 18.9 -0.4**
HINF Hinteralfeld 147.60 1 *e*PKIKP **PKPdf** **23 09 18.9 -0.3**
HINF Hinteralfeld 147.60 1 *e*PKIKP **PKPdf** **23 09 18.9 -0.3**
HINF Hinteralfeld 147.60 1 *e*PKPdf **PKPdf** **23 09 18.9 -0.3**
PRD Provadia 147.60 333 P **PKPdf** **23 09 19.4 +0.1**
PKS9 Tamasi 147.66 347 ⇓*e* **PKPbc** **23 09 22.1 +0.1**
GULE Gulek 147.67 318 *i* P **PKPdf** **23 09 20.0 +0.1**
BZS Buzias 147.68 342 ⇓*i*P **PKPdf** **23 09 19.3 -0.1**
RETA Reutte 147.85 356 ⇓*i*PKPdf **PKPdf** **23 09 19.6 -0.1**
comp=Z,1μm,2.5s,SNR=38
HYF Humbligny 147.86 7 *e*PKIKP **PKPdf** **23 09 20.0 +0.4**
HYF Humbligny 147.86 7 *e*PKPdf **PKPdf** **23 09 20.0 +0.4**
WATA Walderalm 147.94 355 ⇑*i*PKPdf **PKPdf** **23 09 19.7 -0.3**
comp=Z,508nm,2.0s,SNR=20
LOR Lormes 147.98 5 *e*PKIKP **PKPdf** **23 09 20.0 +0.1**
comp=Z,126nm,1.4s
LOR Lormes 147.98 5 *e*PKPdf **PKPdf** **23 09 20.0 +0.1**
WTTA Wattenberg 148.01 355 *i* PKPdf **PKPdf** **23 09 20.1 -0.1**
comp=Z,2μm,2.7s,SNR=45
KBA Koelnbreinsper 148.03 353 ⇑*i*PKPdf **PKPdf** **23 09 18.8 -1.3**
comp=Z,944nm,2.8s,SNR=22
ASCN Ascension 148.04 135 *e*PKPdf **PKPdf** **23 09 21.2 +0.2**
ASCN *e*PKPbc **PKPbc** **23 09 24.5 +0.4**
ASCN LR LR
comp=Z,791nm,19.0s
HAWK Haweek 148.04 312 *i* P **PKPdf** **23 09 21.0 +0.6**
LOMF Lomont 148.06 1 PKP **PKPdf** **23 09 21.0 +0.9**
BEHE Becsehely 148.08 348 ⇓*e* **PKPdf** **23 09 20.2 +0.2**
ZIMR 148.08 336 ⇓*i*P **PKPbc** **23 09 22.8 -0.4**
DAVA Damuels 148.10 357 ⇓*i*PKPdf **PKPdf** **23 09 20.4 +0.1**
comp=Z,1μm,2.6s,SNR=24
MFF Saint Martin d 148.10 11 *e*PKIKP **PKPdf** **23 09 19.9 -0.1**
MFF Saint Martin d 148.10 11 *e*PKPdf **PKPdf** **23 09 19.9 -0.1**
ZALF Zalf 148.10 309 *i* P **PKPdf** **23 09 21.2 +0.7**
SSF Saint Saulge 148.15 6 *e*PKIKP **PKPdf** **23 09 20.3 +0.2**
comp=Z,140nm,1.4s
SSF Saint Saulge 148.15 6 *e*PKIKP **PKPdf** **23 09 20.3 +0.2**
SSF Saint Saulge 148.15 6 *e*PKPdf **PKPdf** **23 09 20.3 +0.2**
SZH Strazhica 148.18 335 P **PKPdf** **23 09 20.1 -0.2**
SOKA Soboth 148.19 351 *i* PKPdf **PKPdf** **23 09 20.0 -0.3**
comp=Z,832nm,2.5s,SNR=39
KOGS Kog 148.20 349 *i* PKPdf **PKPdf** **23 09 19.9 -0.3**
KOGS *i* PKPbc **PKPbc** **23 09 23.3 -0.1**
FETA Feichten 148.32 356 ⇓*i*PKPdf **PKPdf** **23 09 20.7 +0.1**
comp=Z,1μm,2.8s,SNR=25
AVF Avril sur Loir 148.40 6 *e*PKIKP **PKPdf** **23 09 20.3 -0.2**
AVF Avril sur Loir 148.40 6 *e*PKPdf **PKPdf** **23 09 20.3 -0.2**
AVF Avril sur Loir 148.40 6 *e*PKPdf **PKPdf** **23 09 20.3 -0.2**
OBKA Obir 148.42 351 ⇓*i*PKPdf **PKPdf** **23 09 20.3 -0.4**
comp=Z,840nm,2.9s,SNR=14
MYKA Terra Mystica 148.43 352 ⇓*i*PKPdf **PKPdf** **23 09 19.8 -0.9**
comp=Z,669nm,2.6s,SNR=15
ABTA Abfaltersbach 148.44 354 *i* PKPdf **PKPdf** **23 09 20.2 -0.5**
comp=Z,1μm,2.5s,SNR=57
PVL Pavlikeni 148.46 335 P **PKPdf** **23 09 21.1 +0.4**
ISK Istanbul-Kandi 148.47 329 P **PKPdf** **23 09 16.8 -4.0**
ISK Istanbul-Kandi 148.47 329 P **PKPdf** **23 09 16.8 -4.0**
HWQ Hawqa 148.49 312 *e*P **PKPdf** **23 09 20.6 -0.6**
JMB Yambol 148.55 333 P **PKPdf** **23 09 17.1 -3.8**
JMB Yambol 148.55 333 P **PKPdf** **23 09 17.1 -3.8**
KIZK Mersin 148.55 317 *e*P **P

SISC	Sisak		149.12	348	P		PKPdf	23 09 22.4	+0.7
BOLV	Bolvadin		149.12	323	*i* P		PKPdf	23 09 22.0	-0.1
PLDF	La Plantade		149.24	6	PKP		PKPdf	23 09 21.1	-0.9
TCHB	Talchebab		149.24	309	*i* P		PKPbc	23 09 27.0	+0.3
ERMK	Ermenek		149.26	318	*i* P		PKPdf	23 09 22.2	-0.3
FURI	Furi		149.27	262	‖ *i* P		PKPdf	23 09 24.7	+1.4
BOJS	Bojanci		149.29	350	*e* PKPdf		PKPdf	23 09 22.2	+0.2
BOJS					*e* PKPbc		PKPbc	23 09 26.8	+0.5
BOJS					*e*			23 09 33.4	
BOJS					*e*			23 09 50.5	
TRI	Trieste		149.32	352	*e* PKPdf		PKPdf	23 09 22.5	+0.4
TRI					*e* PKPbc		PKPbc	23 09 26.0	-0.3
PYM	Petit Puy Mans		149.40	7	PKP		PKPdf	23 09 22.3	0.0
PHNC	Paralimni		149.46	315	P		PKPdf	23 09 23.0	+0.4
	comp=Z,2,7nm,1.1s								
PGB	Panagyurishte		149.49	336	P		PKPdf	23 09 22.3	-0.2
DIVS	Divibare		149.54	343	P		PKPdf	23 09 22.0	-0.6
SACV	Santiago Islan		149.58	86	*e* PKPbc		PKPbc	23 09 26.5	-1.4
SACV					LR		LR		
	comp=Z,1µm,19.0s								
RJF	Les Rejaudoux		149.64	9	*e* PKIKP		PKPdf	23 09 22.6	0.0
	comp=Z,100nm,1.4s								
RJF	Les Rejaudoux		149.64	9	*e* PKPdf		PKPdf	23 09 22.6	0.0
PLD	Plovdiv		149.65	335	P		PKPdf	23 09 23.9	+1.2
PLD	Plovdiv		149.65	335	P		PKPdf	23 09 23.9	+1.2
SART	Tekirdag		149.68	330	*e* P		PKPdf	23 09 22.1	-0.8
GDZ	Gediz		149.69	325	*e* P		PKPdf	23 09 22.9	-0.2
KDZ	Kurdzhali		149.72	333	P		PKPdf	23 09 21.3	-1.5
VTS	Vitosha		149.82	337	P		PKPdf	23 09 24.4	+1.2
VTS	Vitosha		149.82	337	‖ *i* P		PKPbc	23 09 28.1	+0.2
VTS	Vitosha		149.82	337	P		PKPdf	23 09 22.9	-0.3
VTS	Vitosha		149.82	337	P		PKPdf	23 09 24.4	+1.2
DURS	Dursunbey		149.86	327	*i* P		PKPdf	23 09 22.5	-0.7
LFF	La Frestale		149.87	10	*e* PKIKP		PKPdf	23 09 23.0	+0.1
LFF	La Frestale		149.87	10	*e* PKPdf		PKPdf	23 09 23.0	+0.1
GAZI	Gazipasa		149.89	318	*i* P		PKPdf	23 09 21.8	-1.5
LPL	La Plagne		149.89	2	*e* PKIKP		PKPdf	23 09 24.0	+0.7
	comp=Z,212nm,1.9s								
LPL	La Plagne		149.89	2	*e* PKPdf		PKPdf	23 09 24.0	+0.7
LPG	La Plagne		149.91	2	*e* PKIKP		PKPdf	23 09 24.1	+0.7
	comp=Z,219nm,1.9s								
LPG	La Plagne		149.91	2	*e* PKPdf		PKPdf	23 09 24.1	+0.7
MAMC	Mammari		149.92	316	P		PKPdf	23 09 23.3	0.0
LBL	Lubilhac		149.93	7	PKP		PKPdf	23 09 24.6	+1.4
CSS	Prodhromos		149.96	315	P		PKPdf	23 09 23.3	-0.1
	comp=Z,2,5nm,1.1s								
CSS	Prodhromos		149.96	315	P		PKPdf	23 09 19.0	-4.4
CSS	Prodhromos		149.96	315	*e* PKPdf		PKPdf	23 09 22.8	-0.6
CSS					*e* PKPbc		PKPbc	23 09 28.5	+0.1
CSS					LR		LR		
	comp=Z,1µm,22.0s								
ISP	Isparta		149.98	323	P		PKPdf	23 09 21.9	-1.6
ISP	Isparta		149.98	323	PKIKP		PKPdf	23 09 21.9	-1.6
ISP					*e*			23 09 27.6	
ISP					MLR		MLR		
	comp=Z,2µm,20.0s								
ISP	Isparta		149.98	323	‖ *i* P		PKPbc	23 09 28.1	-0.3
ISP	Isparta		149.98	323	P		PKPdf	23 09 21.9	-1.6
ISP					*e* PKPbc		PKPbc	23 09 27.6	-0.8
ISP					LR		LR		
	comp=Z,2µm,20.0s								
RZN	Rozhen		149.99	334	P		PKPdf	23 09 22.8	-0.7
PGAV	Gavieira, Arco		150.01	25	*e* PKPdf		PKPdf	23 09 24.1	+0.7
PGAV	Gavieira, Arco		150.01	25	*e* PKPbc		PKPbc	23 09 28.7	+0.4
PGAV	Gavieira, Arco		150.01	25	*e*LR		LR	00 06 57.0	
	comp=Z,3µm,20.0s								
SSB	Saint Sauveur		150.01	5	*e* PKPdf		PKPdf	23 09 23.9	+0.7
SSB					*e* PKPbc		PKiKP	23 09 28.9	-0.2
SSB					LR		LR		
	comp=Z,4µm,20.0s								
ALN	Alexandroupoli		150.05	332	P		PKPdf	23 09 21.4	-1.9
ALN	Alexandroupoli		150.05	332	PKIKP		PKPdf	23 09 21.4	-1.9
ALN	Alexandroupoli		150.05	332	P		PKPdf	23 09 21.4	-1.9
CAF	Calviac		150.09	8	*e* PKIKP		PKPdf	23 09 23.6	+0.2
	comp=Z,208nm,1.8s								
CAF	Calviac		150.09	8	*e* PKPdf		PKPdf	23 09 23.6	+0.2
GRN	Grenoble		150.13	3	PKP		PKPdf	23 09 25.2	+1.7
DEMI	Demirci		150.14	326	*e* P		PKPdf	23 09 22.4	-1.3
UDBI	Udbina		150.15	349	P		PKPdf	23 09 23.8	+0.3
GDM	Grand'Maison		150.18	3	PKP		PKPdf	23 09 25.0	+1.3
KHAL	Karahalli		150.19	324	*i* P		PKPdf	23 09 23.6	-0.2
BALY	Balya		150.19	328	*i* P		PKPdf	23 09 23.2	-0.5
NVLJ	Novalja		150.27	350	P		PKPdf	23 09 24.2	-1.1
PCAB	Cabril		150.32	25	*e* PKPbc		PKPbc	23 09 29.3	+0.3
ALFC	Alevga		150.34	316	P		PKPdf	23 09 23.5	-0.6
	comp=Z,2.0nm,0.9s								
BNI	Bardonecchia		150.35	2	*e* PKIKP		PKPdf	23 09 24.6	+0.7
BNI					*e*			23 09 28.9	
BNI					MLR		MLR		
	comp=Z,3µm,22.0s								
BNI	Bardonecchia		150.35	2	*e* PKPdf		PKPdf	23 09 24.6	+0.7
BNI					*e* PKPbc		PKPbc	23 09 28.9	-0.2
BNI					LR		LR		
	comp=Z,3µm,22.0s								
SZAC	Souni-Zanaja		150.38	315	P		PKPdf	23 09 23.4	-0.7
	comp=Z,3.0nm,1.0s								
PLE	Pljevlja		150.42	343	*e* PKP		PKPdf	23 09 23.9	-0.1
VIVF	Saint-Julien-l		150.44	5	*e* PKIKP		PKPdf	23 09 24.5	+0.6
	comp=Z,157nm,1.7s								
VIVF	Saint-Julien-l		150.44	5	*e* PKPdf		PKPdf	23 09 24.5	+0.6
ORIF	Oris-en-Rattie		150.46	3	*e* PKIKP		PKPdf	23 09 24.4	+0.4
	comp=Z,90nm,1.5s								
ORIF	Oris-en-Rattie		150.46	3	*e* PKIKP		PKPdf	23 09 24.4	+0.4
ORIF	Oris-en-Rattie		150.46	3	*e* PKPdf		PKPdf	23 09 24.4	+0.4
MMB	Musomiste		150.47	335	P		PKPdf	23 09 22.6	-1.5
KKB	Krupnik		150.49	337	P		PKPdf	23 09 23.6	-0.5
KULA	Kula-Manisa		150.55	326	P		PKPdf	23 09 23.3	-1.0
KULA	Kula-Manisa		150.55	326	P		PKPdf	23 09 23.3	-1.0
PTO	Porto		150.56	26	*e* PKPbc		PKPbc	23 09 30.4	+0.9
AKMC	Akamas		150.59	316	P		PKPdf	23 09 23.5	-0.9
NVR	Nevrokopi		150.62	335	P		PKPdf	23 09 23.3	-1.0
NVR	Nevrokopi		150.62	335	P		PKPdf	23 09 23.3	-1.0
KORT	Korkueli		150.62	321	*e* P		PKPdf	23 09 24.1	-0.5
SMTH	Samothraki Isl		150.63	332	P		PKPdf	23 09 22.7	-1.6
SMTH	Samothraki Isl		150.63	332	P		PKPdf	23 09 22.7	-1.6
KAVA	Kavala		150.65	334	P		PKPdf	23 09 23.2	-1.1
KAVA	Kavala		150.65	334	P		PKPdf	23 09 23.2	-1.1
PPCY	Paphos		150.67	316	P		PKPdf	23 09 23.6	-0.9
UPM	Unac-Piva		150.67	343	‖ *i* PKP		PKPdf	23 09 23.2	-1.3
MBDF	Montbardon		150.68	2	*e* PKIKP		PKPdf	23 09 24.8	+0.4
	comp=Z,167nm,1.7s								
MBDF	Montbardon		150.68	2	*e* PKIKP		PKPdf	23 09 24.8	+0.4
MBDF	Montbardon		150.68	2	*e* PKPdf		PKPdf	23 09 24.8	+0.4
IVA	Berane		150.69	342	*e* PKP		PKPdf	23 09 24.0	-0.4
POLO	Lamas de Olo		150.70	25	*e* PKPdf		PKPdf	23 09 25.4	+0.9
POLO	Lamas de Olo		150.70	25	*e* PKPbc		PKPbc	23 09 30.6	+0.6
AKHS	Akhisar		150.74	327	*i* P		PKPdf	23 09 24.3	-0.2
PBRG	Braganca		150.74	23	*e* PKPdf		PKPdf	23 09 26.3	+1.8
PVRL	Vila Real		150.81	25	*e* PKPdf		PKPdf	23 09 25.5	+0.9
PVRL	Vila Real		150.81	25	*e* PKPbc		PKPbc	23 09 31.2	+1.0
DNZL	Cakiroluk		150.92	324	*i* P		PKPdf	23 09 25.3	+0.2
PVY	Plav		150.92	342	‖ *i* PKP		PKPdf	23 09 24.0	-0.9
SRS	Serrai		150.93	335	P		PKPbc	23 09 28.1	-2.3
SRS	Serrai		150.93	335	PKIKP		PKPbc	23 09 28.1	-2.3
SRS	Serrai		150.93	335	P		PKPbc	23 09 28.1	-2.3
SURF	Saint Ours		150.93	2	PKP		PKPdf	23 09 26.6	+1.7
AYVA	Ayvalik		150.99	329	*i* P		PKPbc	23 09 30.6	0.0
SKO	Skopje		151.00	339	P		PKPdf	23 09 24.4	-0.4
SKO	Skopje		151.00	339	P		PKPdf	23 09 24.4	-0.4
SKO	Skopje		151.00	339	*e* PKP		PKPbc	23 09 32.0	+1.4
NKY	Niksic		151.01	343	‖ *i* PKP		PKPdf	23 09 23.2	-1.7
NKME	Niksic		151.06	343	*e* PKP		PKPdf	23 09 23.4	-1.6
OSSF	Osses		151.08	14	PKP		PKPdf	23 09 25.8	+0.9
BCI	Bajram Curri		151.10	341	*i* P		PKPdf	23 09 25.5	+0.5
LASF	Ste Croix		151.14	6	*e* PKIKP		PKPdf	23 09 25.5	+0.5
	comp=Z,215nm,1.7s								
LASF	Ste Croix		151.14	6	*e* PKPdf		PKPdf	23 09 25.5	+0.5
VAY	Valandovo		151.16	337	P		PKPdf	23 09 23.6	-1.5
VAY	Valandovo		151.16	337	PKIKP		PKPdf	23 09 23.6	-1.5
VAY	Valandovo		151.16	337	P		PKPdf	23 09 23.6	-1.5
VAY	Valandovo		151.16	337	*e* PKP		PKPbc	23 09 30.9	0.0
KNT	Kendrikon		151.17	336	P		PKPdf	23 09 19.7	-5.4
KNT	Kendrikon		151.17	336	PKIKP		PKPdf	23 09 19.7	-5.4
KNT	Kendrikon		151.17	336	P		PKPdf	23 09 19.7	-5.4
MVO	Moncorvo		151.18	24	*e* PKPdf		PKPdf	23 09 26.1	+0.9
MVO	Moncorvo		151.18	24	*e* PKPbc		PKPbc	23 09 31.9	+0.8
MVO	Moncorvo		151.18	24	*e* PKPab		PKPab	23 09 38.9	+0.1
MVO	Moncorvo		151.18	24	*e*SS		SS	23 32 44.9	+14
MVO	Moncorvo		151.18	24	*e*LR		LR	00 07 11.0	
	comp=Z,3µm,20.0s								
VLC	Villacollemand		151.19	356	*e* PKPdf		PKPdf	23 09 24.5	-0.6
VLC					LR		LR		
	comp=Z,2µm,21.0s								
ORDF	Ordiarp		151.20	14	PKP		PKPdf	23 09 26.1	+1.0
SJPF	Ste Jean		151.22	14	*e* PKIKP		PKPdf	23 09 25.9	+0.7
	comp=Z,250nm,1.9s								
SJPF	Ste Jean		151.22	14	*e* PKIKP		PKPdf	23 09 25.9	+0.7
SJPF	Ste Jean		151.22	14	*e* PKPdf		PKPdf	23 09 25.9	+0.7
PRK	Paraskevi		151.24	329	P		PKPdf	23 09 23.2	-2.0
PRK	Paraskevi		151.24	329	PKIKP		PKPdf	23 09 23.2	-2.0
PRK	Paraskevi		151.24	329	P		PKPdf	23 09 23.2	-2.0
LIA	Limnos Island		151.24	332	P		PKPdf	23 09 23.8	-1.4
LIA	Limnos Island		151.24	332	P		PKPdf	23 09 23.8	-1.4
PDG	Podgorica		151.28	342	P		PKPdf	23 09 23.8	-1.4
TTG	Podgorica		151.28	342	‖ *i* PKP		PKPdf	23 09 24.5	-0.7
TTG	Podgorica		151.28	342	PKIKP		PKPdf	23 09 23.8	-1.4
TTG	Podgorica		151.28	342	P		PKPdf	23 09 23.8	-1.4
STON	Ston		151.30	345	P		PKPdf	23 09 23.8	-1.4
PMOZ	Porto Moniz, M		151.33	48	*e* PKPdf		PKPdf	23 09 27.1	+1.4
PMOZ	Porto Moniz, M		151.33	48	*e* PKPbc		PKPbc	23 09 32.7	+1.0
PMOZ	Porto Moniz, M		151.33	48	*e* PKPab		PKPab	23 09 40.3	+0.5
PMOZ	Porto Moniz, M		151.33	48	*e*LR		LR	00 03 27.9	
	comp=Z,2µm,22.0s								
LARF	Larrau		151.35	14	PKP		PKPdf	23 09 27.4	+2.0
ATE	Arette		151.37	13	PKP		PKPdf	23 09 26.5	+1.1
SMRF	Simiane la Rot		151.38	4	*e* PKIKP		PKPdf	23 09 26.2	+0.8
	comp=Z,265nm,1.7s								
SMRF	Simiane la Rot		151.38	4	*e* PKPdf		PKPdf	23 09 26.2	+0.8
TOUF	Mont Tournerai		151.41	1	PKP		PKPdf	23 09 26.6	+1.0
OUR	Ouranopolis		151.42	334	P		PKPdf	23 09 22.4	-3.1
OUR	Ouranopolis		151.42	334	PKIKP		PKPdf	23 09 22.4	-3.1
OUR	Ouranopolis		151.42	334	P		PKPdf	23 09 22.4	-3.1
AUTN	L'Aution		151.43	1	PKP		PKPdf	23 09 25.8	+0.1
SAOF	Saorge		151.44	1	PKP		PKPdf	23 09 25.5	0.0
PUK	Puka		151.44	341	*i* P		PKPdf	23 09 25.5	-0.1
SIGR	SIGRI		151.47	330	P		PKPdf	23 09 23.1	-2.5
SIGR	SIGRI		151.47	330	P		PKPdf	23 09 23.1	-2.5
HCY	Herceg Novi		151.49	343	‖ *i* PKP		PKPdf	23 09 25.0	-0.5
PCAS	Casmilo, Conde		151.50	27	*e* PKPdf		PKPdf	23 09 26.5	+0.8
PCAS	Casmilo, Conde		151.50	27	*e* PKPbc		PKPbc	23 09 32.1	+0.3
PCAS	Casmilo, Conde		151.50	27	*e* PKPab		PKPab	23 09 39.6	-0.5
BUM	Brajici-Budva		151.51	343	*e* PKP		PKPdf	23 09 24.8	-0.9
MVIF	Mont Vial		151.52	1	PKP		PKPdf	23 09 26.6	+0.8
DRME	Dracevica, Mon		151.53	342	‖ *i* PKP		PKPdf	23 09 25.6	0.0
LUCF	Luceram		151.53	1	PKP		PKPdf	23 09 25.4	-0.3
SBF	Sospel		151.56	1	*e* PKIKP		PKPdf	23 09 25.3	-0.4
	comp=Z,256nm,1.8s								
SBF	Sospel		151.56	1	*e* PKIKP		PKPdf	23 09 25.3	-0.4
SBF	Sospel		151.56	1	*e* PKPdf		PKPdf	23 09 25.3	-0.4
HORT	Hortiatis		151.57	335	P		PKPdf	23 09 24.2	-1.6
HORT	Hortiatis		151.57	335	P		PKPdf	23 09 24.2	-1.6
LABF	Labassere		151.57	12	PKP		PKPdf	23 09 27.5	+1.8
ETSF	Etsaut		151.58	13	*e* PKIKP		PKPdf	23 09 26.6	+0.8
	comp=Z,46nm,1.1s								
ETSF	Etsaut		151.58	13	*e* PKIKP		PKPdf	23 09 26.6	+0.8
ETSF	Etsaut		151.58	13	*e* PKPdf		PKPdf	23 09 26.6	+0.8
AKAS	Kas		151.58	321	*e* P		PKPdf	23 09 25.8	-0.3
PMAR	Madeira		151.58	48	*e* PKPdf		PKPdf	23 09 27.8	+1.6
PMAR	Madeira		151.58	48	*e* PKPbc		PKPbc	23 09 33.1	+0.7
PMAR	Madeira		151.58	48	*e* PKPab		PKPab	23 09 41.3	+0.3
AYDN	Tasoluk		151.59	325	*i* P		PKPdf	23 09 26.2	+0.3
THE	Thessaloniki		151.59	335	P		PKPdf	23 09 23.4	-2.3
THE	Thessaloniki		151.59	335	PKIKP		PKPdf	23 09 23.4	-2.3
THE	Thessaloniki		151.59	335	P		PKPdf	23 09 23.4	-2.3
PHP	Peshkopia		151.59	340	*i* P		PKPdf	23 09 25.8	0.0
PHP	Peshkopia		151.59	340	P		PKPdf	23 09 25.4	-0.4
PHP	Peshkopia		151.59	340	PKIKP		PKPdf	23 09 25.4	-0.4
PHP	Peshkopia		151.59	340	P		PKPdf	23 09 25.4	-0.4
PLG	Polygyros		151.61	335	P		PKPdf	23 09 24.1	-1.8
PLG	Polygyros		151.61	335	PKIKP		PKPdf	23 09 24.1	-1.8
PLG	Polygyros		151.61	335	P		PKPdf	23 09 24.1	-1.8
MTE	Manteigas		151.62	25	*e* PKPdf		PKPdf	23 09 26.3	+0.4
MTE	Manteigas		151.62	25	*e* PKPbc		PKPbc	23 09 32.6	+0.5
MTE	Manteigas		151.62	25	*e* PKPab		PKPab	23 09 41.3	+0.6
MTE	Manteigas		151.62	25	*e*SS		SS	23 32 51.2	+16
MTE	Manteigas		151.62	25	*e*LR		LR	00 08 11.3	
	comp=Z,3µm,22.0s								
MTE	Manteigas		151.62	25	*e* PKPdf		PKPdf	23 09 25.5	-0.4
MTE					LR		LR		
	comp=Z,3µm,21.0s								
FUL	Funchal		151.64	48	*e* PKPdf		PKPdf	23 09 27.8	+1.8
FUL	Funchal		151.64	48	*e* PKPbc		PKPbc	23 09 33.5	+1.2
EPF	Esparros		151.64	12	*e* PKIKP		PKPdf	23 09 26.2	+0.4
	comp=Z,111nm,1.6s								
EPF	Esparros		151.64	12	*e* PKIKP		PKPdf	23 09 26.2	+0.4
EPF	Esparros		151.64	12	*e* PKPdf		PKPdf	23 09 26.2	+0.4
CALN	Calern		151.66	2	PKP		PKPdf	23 09 24.5	-1.5
MTLF	Montolieu		151.66	9	*e* PKIKP		PKPdf	23 09 26.1	+0.3
	comp=Z,139nm,1.6s								
MTLF	Montolieu		151.66	9	*e* PKIKP		PKPdf	23 09 26.1	+0.3
MTLF	Montolieu		151.66	9	*e* PKPdf		PKPdf	23 09 26.1	+0.3
REVF	Revere		151.68	1	PKP		PKPdf	23 09 24.1	-1.8
ULC	Ulcinj		151.72	342	‖ *i* PKP		PKPdf	23 09 25.0	-0.9
VIEF	Viey		151.72	12	PKP		PKPdf	23 09 27.9	+1.9
PMPST	Porto Santo, M		151.81	47	*e* PKPdf		PKPdf	23 09 27.6	+1.3
PMPST	Porto Santo, M		151.81	47	*e* PKPbc		PKPbc	23 09 33.5	+0.8
PMPST	Porto Santo, M		151.81	47	*e* PKPab		PKPab	23 09 42.3	+0.7
PMPS	Porto Santo		151.82	47	*e* PKPdf		PKPdf	23 09 27.8	+1.5
PMPS	Porto Santo		151.82	47	*e* PKPbc		PKPbc	23 09 33.5	+0.8
FRF	La Foret Royal		151.84	2	*e* PKIKP		PKPdf	23 09 25.9	-0.1
	comp=Z,175nm,1.9s								
FRF	La Foret Royal		151.84	2	*e* PKIKP		PKPdf	23 09 25.9	-0.1
FRF	La Foret Royal		151.84	2	*e* PKPdf		PKPdf	23 09 25.9	-0.1
MLS	Moulis		151.85	11	PKP		PKPdf	23 09 27.6	+1.5
MELF	Melles		151.87	11	PKP		PKPdf	23 09 28.3	+2.1
BIA	Bitola		151.88	338	*e* PKP		PKPbc	23 09 32.5	-0.2
PAIG	Paliouri		151.89	334	P		PKPdf	23 09 24.4	-1.8
PAIG	Paliouri		151.89	334	P		PKPdf	23 09 24.4	-1.8
PTOM	Tomar		151.90	27	*e* PKPdf		PKPdf	23 09 27.2	+1.0
PTOM	Tomar		151.90	27	*e* PKPbc		PKPbc	23 09 33.4	+0.7
GCAM	G?zelcaml?		151.91	326	*i* P		PKPdf	23 09 25.9	-0.4
CHOS	Chios island		152.01	329	P		PKPdf	23 09 24.4	-2.2
CHOS	Chios island		152.01	329	P		PKPdf	23 09 24.4	-2.2
PMAFR	Mafra		152.03	29	*e* PKPdf		PKPdf	23 09 27.3	+0.8
PMAFR	Mafra		152.03	29	*e* PKPbc		PKPbc	23 09 33.6	+0.6
LMR	La Mourre		152.06	2	*e* PKIKP		PKPdf	23 09 26.3	-0.1
	comp=Z,226nm,1.9s								
LMR	La Mourre		152.06	2	*e* PKIKP		PKPdf	23 09 26.3	-0.1
LMR	La Mourre		152.06	2	*e* PKPdf		PKPdf	23 09 26.3	-0.1
FNA	Florina		152.07	338	P		PKPdf	23 09 23.3	-3.3
FNA	Florina		152.07	338	PKIKP		PKPdf	23 09 23.3	-3.3
FNA	Florina		152.07	338	P		PKPdf	23 09 23.3	-3.3
TIR	Tirane		152.08	341	*i* P		PKPbc	23 09 32.9	-0.2
TIR	Tirane		152.08	341	P		PKPdf	23 09 28.7	+2.2
TIR	Tirane		152.08	341	*e* PKIKP		PKPdf	23 09 26.5	0.0
TIR					MLR		MLR		
	comp=Z,3µm,22.0s								
TIR	Tirane		152.08	341	*e* PKPdf		PKPdf	23 09 26.4	0.0
TIR					LR		LR		
	comp=Z,3µm,22.0s								
LRDF	Laroque-de-Fa		152.10	8	PKP		PKPdf	23 09 27.4	+0.9
PCBR	Castelo Branco		152.12	26	*e* PKPdf		PKPdf	23 09 27.8	+1.2
PCBR	Castelo Branco		152.12	26	*e* PKPbc		PKPbc	23 09 33.7	+0.5
SMG	Samos		152.12	327	P		PKPdf	23 09 25.8	-0.9
SMG	Samos		152.12	327	P		PKPdf	23 09 25.8	-0.9
ALMR	Almeirim		152.20	28	*e* P		PKPdf	23 09 26.3	-0.4
ALMR	Almeirim		152.20	28	*e* P		PKPdf	23 09 26.3	-0.4
LIT	Litokhoron		152.23	336	P		PKPdf	23 09 26.3	-0.5
LIT	Litokhoron		152.23	336	PKIKP		PKPdf	23 09 26.3	-0.5
LIT	Litokhoron		152.23	336	P		PKPdf	23 09 26.3	-0.5
PMST	Lisbon--Monsan		152.25	30	*e* PKPdf		PKPdf	23 09 27.7	+0.9
PMST	Lisbon--Monsan		152.25	30	*e* PKPbc		PKPbc	23 09 33.9	+0.4
PMST	Lisbon--Monsan		152.25	30	*e* PKPab		PKPab	23 09 44.1	+0.9
CARF	Carcanieres		152.26	9	PKP		PKPdf	23 09 27.5	+0.6
BDRM	Kayabasi		152.26	325	*i* P		PKPdf	23 09 26.2	-0.7
LIS	Lisbon		152.28	30	*e* P		PKPdf	23 09 26.1	-0.7
LIS					AMS		AMS	00 13 26.1	
	comp=Z,4µm,15.8s								
LIS	Lisbon		152.28	30	*e* P		PKPdf	23 09 26.1	-0.7
LIS	Lisbon		152.28	30	A		A	00 13 26.1	
	comp=Z,4µm,15.8s								
KZN	Kozani		152.34	337	P		PKPdf	23 09 24.4	-2.6
KZN	Kozani		152.34	337	PKIKP		PKPdf	23 09 24.4	-2.6
KZN	Kozani		152.34	337	P		PKPdf	23 09 24.4	-2.6
PACT	Alcochete		152.39	29	*e* PKPdf		PKPdf	23 09 28.7	+1.7
PACT	Alcochete		152.39	29	*e* PKPbc		PKPbc	23 09 34.6	+0.8
PMTG	Montargil		152.43	28	*e* PKPdf		PKPdf	23 09 27.3	+0.3
PMTG	Montargil		152.43	28	*e* PKPbc		PKPbc	23 09 34.2	+0.3
PMTG	Montargil		152.43	28	*e* PKPab		PKPab	23 09 44.5	+0.5
MBAR	Mbarara		152.44	237	PFAKE			23 09 40.0	-5.0
MBAR					LR		LR		
	comp=Z,844nm,21.0s								
ARG	Arkhangelos		152.47	323	P		PKPdf	23 09 25.5	-1.7
ARG	Arkhangelos		152.47	323	PKIKP		PKPdf	23 09 25.5	-1.7
ARG	Arkhangelos		152.47	323	P		PKPdf	23 09 25.5	-1.7
PMRV	Marv??o		152.50	26	*e* PKPdf		PKPdf	23 09 28.0	+0.8
PMRV	Marv??o		152.50	26	*e* PKPbc		PKPbc	23 09 34.7	+0.6
PMRV	Marv??o		152.50	26	*e*LR		LR	00 06 37.1	
	comp=Z,3µm,20.0s								
NEST	Nestorio		152.51	338	P		PKPdf	23 09 26.2	-1.1
VALF	Valcebollere		152.55	10	PKP		PKPdf	23 09 28.8	+1.4
XOR	Xorichti		152.56	334	P		PKPdf	23 09 25.4	-1.9
XOR	Xorichti		152.56	334	P		PKPdf	23 09 25.4	-1.9
SJAF	Saint Jean de		152.60	8	PKP		P

EBNR	**Beni Rached**	**158.36**	**14**	P		**PKPdf**	**23 09 40.0**	**+4.8**
ECHA	**Ech Chlef**	**158.46**	**15**	P		**PKPdf**	**23 09 39.5**	**+4.3**
EANR	**'Ain N'Sour**	**158.58**	**15**	P		**PKPdf**	**23 09 37.0**	**+1.5**
EMHD	**Djebel Mahouad**	**158.75**	**11**	P		PKPdf	23 09 42.0	+6.2
CMAH	**Djebel Manchou**	**158.79**	**1**	P		**PKPdf**	**23 09 34.2**	**-1.6**
DFRA	**Djebel Bou Aff**	**158.79**	**5**	P		**PKPdf**	**23 09 35.3**	**-0.5**
CKFL	**Kef-Lekhel**	**158.99**	**3**	P		**PKPdf**	**23 09 34.8**	**-1.3**
SET	**Setif**	**159.09**	**6**	P		**PKPdf**	**23 09 38.0**	**+1.8**
CASM	**Ain Smara**	**159.12**	**3**	P		**PKPdf**	**23 09 34.9**	**-1.2**
ABSA	**Djebel Ababsia**	**159.14**	**1**	P		**PKPdf**	**23 09 34.6**	**-1.6**
ETRT	**Tiaret**	**159.16**	**15**	P		**PKPdf**	**23 09 38.0**	**+1.7**
CKHR	**Kef el Ahmar**	**159.29**	**6**	P		**PKPdf**	**23 09 37.0**	**+0.6**
CTEI	**Djebel Teioual**	**159.31**	**3**	P		**PKPdf**	**23 09 35.0**	**-1.5**
KEST	**Kesra**	**159.64**	**357**	*e*PKPdf		**PKPdf**	**23 09 36.8**	**0.0**
KEST				PKPab		**PKPab**	**23 10 16.1**	**+1.1**
KEST	**Kesra**	**159.64**	**357**	PKP		**PKPdf**	**23 09 36.9**	**0.0**
	comp=Z,3.1nm,0.9s,baz=263,slow=1.2,SNR=8.4							
KEST				PKPab		**PKPab**	**23 10 16.1**	**+1.1**
	comp=Z,11nm,0.9s,baz=62,slow=1.5,SNR=10							
LIC	**Lamto**	**164.40**	**124**	*e*PKIKP		**PKPdf**	**23 09 41.0**	**-1.2**
	comp=Z,68nm,1.3s							
LIC	**Lamto**	**164.40**	**124**	*e*PKIKP		**PKPdf**	**23 09 40.1**	**-2.1**
	comp=Z,97nm,1.6s							
LIC	**Lamto**	**164.40**	**124**	*e*P		**PP**	**23 14 21.2**	**-1.0**
	comp=Z,112nm,2.0s							
LIC	**Lamto**	**164.40**	**124**	*e*PKPdf		**PKPdf**	**23 09 41.0**	**-1.2**
TIC	**Toumodi**	**164.66**	**123**	*e*PKIKP		**PKPdf**	**23 09 40.2**	**-2.2**
	comp=Z,46nm,0.8s							
TIC	**Toumodi**	**164.66**	**123**	*e*P		**PP**	**23 14 22.3**	**-1.3**
	comp=Z,460nm,2.0s							
KIC	**Kosan Boka**	**164.71**	**124**	*e*PKIKP		**PKPdf**	**23 09 40.3**	**-2.1**
	comp=Z,363nm,1.8s							
KIC	**Kosan Boka**	**164.71**	**124**	*e*P		**PP**	**23 14 22.8**	**-1.0**
	comp=Z,403nm,2.0s							
DBIC	**Dimbokro**	**164.80**	**123**	PKP		**PKPdf**	**23 09 41.6**	**-0.8**
DBIC				*e*PKPdf		**PKPdf**	**23 09 41.9**	**-0.6**
DBIC				PKPab		**PKPab**	**23 10 38.6**	**+0.3**
DBIC				*e*PP		**PP**	**23 14 22.2**	**-2.1**
DBIC				PP		PP	23 14 22.8	-1.5
DBIC	**Dimbokro**	**164.80**	**123**	PKP		**PKPdf**	**23 09 41.6**	**-0.8**
	comp=Z,18nm,1.0s,baz=215,slow=1.4,SNR=8.5							
DBIC				PKPab		**PKPab**	**23 10 38.6**	**+0.3**
	comp=Z,25nm,0.9s,baz=209,slow=4.8,SNR=9.5							
DBIC				PP		**PP**	**23 14 22.8**	**-1.5**
	comp=Z,15nm,1.3s,baz=208,slow=6.5,SNR=6.4							
TAM	**Tamanrasset**	**172.24**	**17**	*e*PKIKP		**PKPdf**	**23 09 47.3**	**0.0**
TAM				*e*			23 11 10.9	
TAM				*e*			23 15 01.1	
TAM				MLR		MLR		
	comp=Z,3µm,20.0s							
TAM	**Tamanrasset**	**172.24**	**17**	*e*PKPdf		**PKPdf**	**23 09 47.3**	**0.0**
TAM				*e*PKPab		**PKPab**	**23 11 10.9**	**+0.1**
TAM				*e*PP		**PP**	**23 15 01.1**	**+0.4**
TAM				LR		LR		
	comp=Z,3µm,20.0s							
TOA0	**Torodi Ar. Sit**	**173.59**	**109**	*e*PKPdf		**PKPdf**	**23 09 46.5**	**-1.4**
TOA0				*e*PP		**PP**	**23 15 05.4**	**-3.9**
TORD	**Torodi Ar. Bea**	**173.59**	**109**	PKP		**PKPdf**	**23 09 46.4**	**-1.5**
TORD				PKPab		**PKPab**	**23 11 16.9**	**-0.4**
TORD				PP		**PP**	**23 15 07.4**	**-1.8**
TORD	**Torodi Ar. Bea**	**173.59**	**109**	PKP		**PKPdf**	**23 09 46.4**	**-1.5**
	comp=Z,20nm,1.1s,baz=316,slow=1.5,SNR=54							
TORD				PKPab		**PKPab**	**23 11 16.9**	**-0.4**
	comp=Z,28nm,1.0s,baz=261,slow=4.6,SNR=24							
TORD				PP		**PP**	**23 15 07.4**	**-1.8**
	comp=Z,13nm,1.1s,baz=256,slow=2.3,SNR=12							

*IDC **19** 23:12:25.8±1.1, 34.12S×178.78W, h0km, mb4.3/5, mb1 4.4/7, mb1mx4.1/18, mbtmp4.3/7, ML4.2/2, MS4.6/1, Ms1 4.6/1, ms1mx3.7/33, Error ellipse: s-maj=31.8km s-min=24.6km az=126.0*

*NEIC **19** 23:12:30.2±0.6, 33.96S×178.72W, h35km, mb4.1/4, Error ellipse: s-maj=18.1km s-min=8.4km az=105.0*

ISC 19 23:12:31.9±0.8, 33.96S±0.09×178.9W±0.2, h50km, n37, σ1.9s84/33, mb4.4/8, 2C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
RAO	**Raoul Island**	**4.77**	**10**	Sn		**Sn**	**23 14 31.9**	**-3.4**
RAO	**Raoul Island**	**4.77**	**10**	Sn		**Sn**	**23 14 31.8**	**-3.4**
	37nm,0.3s,baz=107,slow=19,SNR=2.7							
URZ	**Urewera**	**5.37**	**216**	*e*Pn		**Pn**	**23 13 47.0**	**-2.5**
URZ				*e*Sn		**Sn**	**23 14 47.6**	**-2.4**
URZ	**Urewera**	**5.37**	**216**	Pn		**Pn**	**23 13 46.9**	**-2.5**
	15nm,0.3s,baz=336,slow=2.5,SNR=36							
URZ				Sn		**Sn**	**23 14 49.0**	**-1.0**
	24nm,0.3s,baz=156,slow=20,SNR=13							
RPZ	**Rata Peaks**	**12.49**	**216**	Pn		Pn	23 15 21.6	-5.2
RPZ				Sn		Sn	23 17 32.0	-12
RPZ	**Rata Peaks**	**12.49**	**216**	Pn		Pn	23 15 21.6	-5.2
	0.8nm,0.3s,baz=54,slow=19,SNR=4.6							
RPZ				Sn		Sn	23 17 32.0	-12
	1.8nm,0.3s,baz=304,slow=17,SNR=7.7							
STKA	**Stephens Creek**	**33.09**	**262**	*e*P		**P**	**23 19 03.7**	**+0.6**
	1.0nm,0.9s							
STKA	**Stephens Creek**	**33.09**	**262**	P		**P**	**23 19 04.3**	**+1.3**
	1.1nm,0.6s,baz=85,slow=12,SNR=3.3							
PMG	**Port Moresby**	**39.59**	**300**	LR		LR	23 33 12.4	
	comp=Z,738nm,18.6s,baz=225,slow=31							
AS31	**Alice Springs**	**42.29**	**271**	*e*P		**P**	**23 20 22.1**	**+1.2**
ASAR	**Alice Springs**	**42.29**	**271**	P		**P**	**23 20 22.4**	**+1.5**
ASAR	**Alice Springs**	**42.29**	**271**	P		**P**	**23 20 22.4**	**+1.5**
	6.0nm,0.8s,baz=111,slow=7.3,SNR=50							
WRAB	**Tennant Creek**	**43.60**	**276**	*e*P		**P**	**23 20 32.7**	**+1.3**
	8.0nm,0.9s							
WRA	**Warramunga Arr**	**43.60**	**276**	P		**P**	**23 20 32.9**	**+1.5**
WRA	**Warramunga Arr**	**43.60**	**276**	P		**P**	**23 20 32.9**	**+1.5**
	6.7nm,0.7s,baz=118,slow=7.7,SNR=72							
FITZ	**Fitzroy Crossi**	**51.70**	**273**	P		**P**	**23 21 35.2**	**+1.1**
	2.6nm,0.8s							
QSPA	**South Pole Qui**	**56.16**	**180**	*e*P		**P**	**23 22 06.6**	**+0.4**
	2.8nm,0.7s							
MAW	**Mawson**	**68.72**	**201**	P		**P**	**23 23 30.3**	**+0.5**
	0.5nm,0.2s,baz=119,slow=13,SNR=2.5							
SYO	**Syowa Base**	**73.48**	**194**	⇑*e*P		P	23 24 06.0	+7.3
SYO	**Syowa Base**	**73.48**	**194**	⇑*e*P		P	23 24 13.8	+15
SNAA	**Sanae**	**74.62**	**179**	*e*P		**P**	**23 24 04.0**	**-1.4**
	0.3nm,0.4s							
MKAR	**Makanchi Array**	**119.44**	**309**	PKP		**PKPdf**	**23 31 16.2**	**+0.7**
MKAR	**Makanchi Array**	**119.44**	**309**	PKP		**PKPdf**	**23 31 16.2**	**+0.7**
	0.3nm,0.6s,baz=197,slow=1.3,SNR=3.8							
KURK	**Kurchatov**	**122.92**	**312**	PKP		**PKPdf**	**23 31 22.9**	**+0.9**
KURBB	**Kurchatov Arra**	**122.95**	**312**	PKP		**PKPdf**	**23 31 22.9**	**+0.9**
	0.5nm,0.2s,baz=90,slow=1.9,SNR=3.2							
KEV	**Kevo**	**141.40**	**346**	*ep*		PKPdf	23 32 07.4	+11
	3.6nm,0.6s							
JOF	**Joensuu**	**145.40**	**336**	*ep*		**PKPab**	**23 32 03.8**	**+0.2**
	1.6nm,0.5s							
KAF	**Kangasniemi**	**147.60**	**338**	*ep*		**PKPab**	**23 32 10.8**	**-1.4**
	1.6nm,0.5s							
FINES	**FINESS Array B**	**148.18**	**337**	PKPbc		**PKPab**	**23 32 12.7**	**-1.8**
FINES	**FINESS Array B**	**148.18**	**337**	PKPbc		**PKPab**	**23 32 12.7**	**-1.8**
	4.9nm,0.8s,baz=45,slow=5.7,SNR=16							
NB2	**NORSAR Subarra**	**152.13**	**349**	PKP		**PKPbc**	**23 32 24.0**	**+3.0**
	comp=Z,0.7nm,0.5s,baz=16,slow=2.6							
NOA	**NORSAR Array B**	**152.13**	**349**	PKPbc		**PKPbc**	**23 32 24.2**	**+3.2**
NOA	**NORSAR Array B**	**152.13**	**349**	PKPbc		**PKPbc**	**23 32 24.2**	**+3.2**
	comp=Z,0.7nm,0.5s,baz=14,slow=4.1,SNR=5.5							
AKASG	**Malin Array Be**	**153.55**	**318**	PKPbc		**PKPbc**	**23 32 25.1**	**+0.7**
AKASG	**Malin Array Be**	**153.55**	**318**	PKPbc		**PKPbc**	**23 32 25.1**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=54,slow=2.0,SNR=2.9							
TORD	**Torodi Ar. Bea**	**159.27**	**182**	PKPab		**PKPab**	**23 33 03.1**	**+0.7**
TORD	**Torodi Ar. Bea**	**159.27**	**182**	PKPab		**PKPab**	**23 33 03.1**	**+0.7**
	comp=Z,0.9nm,1.0s,baz=179,slow=2.9,SNR=4.6							

IDC 19 23:30:54.0±0.6, 15.55S×173.03W, h0km, mb4.0/10, mb1 4.3/10, mb1mx4.2/19, mbtmp4.0/10, MS3.3/1, Ms1 3.3/1, ms1mx3.2/34, Error ellipse: s-maj=33.8km s-min=17.7km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
AFI	**Afiamalu**	**2.03**	**37**	Pn		Pn	23 31 24.8	-4.9
	16nm,0.3s,baz=316,slow=2.3,SNR=10							
AFI				Sn		Sn	23 31 45.5	-10
	61nm,0.3s,baz=66,slow=20,SNR=17							
AFI				LR		LR	23 31 60.0	
	comp=Z,709nm,20.9s,baz=191,slow=32							
H11S2	**WAKE ISLAND Hy**	**39.28**	**329**	T		T	00 20 36.7	
	baz=154							
H11S3	**WAKE ISLAND Hy**	**39.29**	**329**	T		T	00 20 29.0	
	baz=154							
H11S1	**WAKE ISLAND Hy**	**39.30**	**329**	T		T	00 20 30.8	
	baz=154							
STKA	**Stephens Creek**	**44.27**	**240**	P		P	23 39 05.8	+0.2
	2.4nm,0.8s,baz=51,slow=12,SNR=4.2							
WRA	**Warramunga Arr**	**50.16**	**257**	P		P	23 39 50.7	-1.2
	1.1nm,0.7s,baz=92,slow=7.3,SNR=15							
ASAR	**Alice Springs**	**50.41**	**252**	P		P	23 39 52.5	-1.2
	4.7nm,0.7s,baz=86,slow=8.0,SNR=55							
VNDA	**Vanda**	**63.26**	**186**	P		P	23 41 24.6	+0.6
	1.0nm,0.9s,baz=3.2,slow=8.4,SNR=2.8							
NVAR	**Mina Array Bea**	**74.20**	**42**	P		P	23 42 33.5	+0.4
	0.4nm,0.3s,baz=233,slow=8.9,SNR=3.4							
TXAR	**Lajitas Array**	**80.40**	**56**	P		P	23 43 08.0	0.0
	1.1nm,1.0s,baz=218,slow=5.7,SNR=5.8							
PDAR	**Pinedale Array**	**82.14**	**42**	P		P	23 43 16.1	-1.0
	0.6nm,0.6s,baz=235,slow=5.2,SNR=5.4							
ILAR	**Eielson Array**	**82.53**	**11**	P		P	23 43 18.2	0.0
	0.9nm,0.6s,baz=226,slow=6.2,SNR=19							
MAW	**Mawson**	**87.76**	**199**	P		P	23 43 45.0	+0.4
	0.9nm,0.7s,baz=150,slow=8.1,SNR=3.2							
YKA	**Yellowknife Ar**	**90.09**	**23**	P		P	23 43 55.8	+0.2
	1.0nm,0.7s,baz=248,slow=4.9,SNR=3.8							
KMBO	**Kilima Mbogo**	**145.79**	**244**	PKPbc		PKPab	23 50 38.0	+1.0
	1.5nm,0.9s,baz=165,slow=2.7,SNR=3.8							
BRTR	**Keskin Array B**	**146.50**	**321**	PKPbc		PKPab	23 50 38.4	-0.3
	3.6nm,0.9s,baz=107,slow=1.9,SNR=15							
TORD	**Torodi Ar. Bea**	**174.35**	**114**	PKPab		PKPab	23 52 36.9	-2.3
	0.5nm,0.8s,baz=254,slow=4.6,SNR=3.1							

IDC 19 23:51:52.8±3.4, 5.87N×82.04W, h0km, mb3.9/7, mb1 4.2/8, mb1mx3.9/23, mbtmp4.0/8, ML4.7/1, MS3.9/3, Ms1 4.0/3, ms1mx3.6/31, Error ellipse: s-maj=121.3km s-min=53.3km az=47.0, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JTS	**JuntasAbangare**	**5.25**	**327**	Pn		Pn	23 53 12.1	-0.5
	25nm,0.3s,baz=131,slow=10,SNR=100							
JTS				Sn		Sn	23 54 14.4	+0.4
	40nm,0.3s,baz=321,slow=22,SNR=29							
JTS				LR		LR	23 54 56.3	
	comp=Z,382nm,18.2s,baz=352,slow=35							
ATAH	**Atahualpa**	**13.43**	**164**	LR		LR	23 59 27.2	
	comp=Z,652nm,18.5s,baz=226,slow=34							
ANMO	**Albuquerque**	**36.67**	**325**	P		P	23 59 01.6	0.0
	1.5nm,1.0s,baz=180,slow=3.0,SNR=3.6							
PDAR	**Pinedale Array**	**44.07**	**331**	P		P	00 00 03.4	+0.4
	0.7nm,0.8s,baz=134,slow=11,SNR=4.1							
ELK	**Elko**	**45.69**	**324**	P		P	00 00 19.9	+4.0
	1.9nm,0.5s,baz=178,slow=16,SNR=4.8							
ULM	**Lac du Bonnet**	**45.73**	**348**	P		P	00 00 15.8	+0.1
	2.3nm,0.5s,baz=166,slow=4.2,SNR=4.5							
NVAR	**Mina Array Bea**	**46.14**	**320**	P		P	00 00 19.6	+0.2
	2.4nm,0.8s,baz=128,slow=6.5,SNR=5.7							
YKA	**Yellowknife Ar**	**61.36**	**343**	P		P	00 02 10.5	+0.2
	1.0nm,0.8s,baz=137,slow=6.4,SNR=6.1							
DLBC	**Dease Lake**	**64.11**	**334**	P		P	00 02 28.5	-0.3
	1.6nm,0.9s,baz=145,slow=12,SNR=4.6							
ILAR	**Eielson Array**	**74.15**	**336**	P		P	00 03 30.4	-0.6
	0.4nm,0.8s,baz=124,slow=4.3,SNR=5.2							
NOA	**NORSAR Array B**	**86.49**	**29**	LR		LR	00 37 11.7	
	comp=Z,150nm,18.8s,baz=175,slow=31							

*IDC **19** 23:58:50.5±3.6, 1.74S×100.60E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/23, mbtmp3.5/4, Error ellipse: s-maj=149.8km s-min=27.0km az=55.0*

*ISCJB **19** 23:58:56.0±1.1, 1.84S±0.07×100.18E±0.09, h56km, mb3.5/4, Error ellipse: s-maj=13.5km s-min=8.0km az=152.4*

*DJA **19** 23:58:57.4±0.8, 2°S±3'×10°E±', h10km, M3.8/3, MLv3.8/3*

ISC 19 23:58:57.8±1.2, 1.83S±0.08×100.3E±0.1, h56km, n12, σ1.9s73/13, mb3.7/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PDSI	**Padang**	**0.93**	**11**	P		**Pn**	**23 59 14.3**	**-0.5**
PDSI				S		**Sn**	**23 59 26.6**	**-0.7**
PPI	**Padang Panjang**	**1.37**	**5**	P		**Pn**	**23 59 21.5**	**+0.9**
PPI				S		**Sn**	**23 59 42.1**	**+4.3**
SDSI	**Sungai Dareh**	**1.45**	**52**	P		**Pn**	**23 59 22.3**	**+0.6**
SDSI				S		**Sn**	**23 59 39.2**	**-0.6**
MASI	**Maura Aman, Be**	**2.35**	**124**	P		**Pn**	**23 59 35.1**	**+1.1**
MASI				S		**Sn**	**00 00 03.6**	**+1.9**
H08S2	**Diego Garcia H**	**28.28**	**257**	T		T	00 34 09.8	
	baz=84							
H08S3	**Diego Garcia H**	**28.28**	**257**	T		T	00 34 05.9	
	baz=84							
H08S1	**Diego Carcia H**	**28.30**	**257**	T		T	00 34 07.0	
	baz=84							
WRA	**Warramunga Arr**	**37.84**	**121**	P		**P**	**00 06 07.4**	**-1.9**
	0.1nm,0.4s,baz=302,slow=9.0,SNR=3.2							
SONM	**Songino Array**	**49.75**	**5**	P		**P**	**00 07 44.3**	**-0.4**
	0.2nm,0.4s,baz=182,slow=10,SNR=2.8							
MKAR	**Makanchi Array**	**50.94**	**344**	P		**P**	**00 07 54.0**	**+0.4**
	0.6nm,0.6s,baz=144,slow=8.2,SNR=8.5							
ZALV	**Zalesovo Beam**	**57.06**	**349**	P		**P**	**00 08 37.5**	**-0.5**
	1.1nm,0.8s,baz=181,slow=5.8,SNR=5.4							
TXAR	**Lajitas Array**	**144.40**	**38**	PKP		**PKPab**	**00 18 26.9**	**+0.1**
	0.1nm,0.5s,baz=333,slow=1.0,SNR=3.9							

*ISCJB **20** 00:34:53.6±2.0, 56.1S±0.2×27.3W±1.0, h121km, mb3.5/2, Error ellipse: s-maj=76.8km s-min=23.2km az=176.4*

*IDC **20** 00:35:01.2±18.0, 56.10S×27.70W, h179km±165km, mb3.1/2, mb1 3.3/2, mb1mx3.0/15, mbtmp3.1/2, Error ellipse: s-maj=90.4km s-min=34.9km az=111.0*

ISC 20 00:34:54.5±1.4, 56.1S±0.2×27.7W±0.5, h121km, n6, σ0.9s71/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
VNA2	**Neumayer--Watz**	**17.26**	**157**	*e*Pn		**Pn**	**00 38 47.6**	**-0.1**
	baz=316,slow=14							
SNAA	**Sanae**	**18.82**	**156**	*e*Pn		**P**	**00 39 04.1**	**-0.3**
VNDA	**Vanda**	**46.53**	**183**	P		**P**	**00 43 09.6**	**+0.6**
	0.8nm,0.7s,baz=168,slow=6.5,SNR=3.5							
TORD	**Torodi Ar. Bea**	**73.22**	**30**	P		**P**	**00 46 12.6**	**+0.5**
	0.2nm,0.3s,baz=200,slow=6.2,SNR=6.1							
ILAR	**Eielson Array**	**149.31**	**312**	PKPbc		**PKPbc**	**00 54 28.2**	**-0.7**
	0.3nm,0.8s,baz=64,slow=2.1,SNR=2.9							
SONM	**Songino Array**	**151.00**	**87**	PKPbc		**PKPbc**	**00 54 31.6**	**-0.5**
	0.3nm,0.4s,baz=226,slow=3.3,SNR=3.2							

*CSEM **20** 00:46:23.8, 39.36N×24.19E, h30km, MD2.8, After ATH*

ATH 20 00:46:23.8, 39.36N×24.19E, h30km, MD2.8/16, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
AOS	**Alonnisos**	**0.31**	**232**	*e*PB		Pb	00 46 31.7	+0.3
AOS				*e*SB		Sn	00 46 37.5	-0.3
AOS	**Alonnisos**	**0.31**	**232**	*e*Pb		Pb	00 46 31.7	+0.3
AOS				*e*Sb		Sn	00 46 37.5	-0.3
SKIA	**Skiathos**	**0.59**	**251**	*e*PN		Pb	00 46 35.8	0.0
SKIA				*e*SN		Sn	00 46 45.0	+0.1
SKIA	**Skiathos**	**0.59**	**251**	*e*Pn		Pb	00 46 35.8	0.0
SKIA				*e*Sn		Sn	00 46 45.0	+0.1
PAIG	**Paliouri**	**0.69**	**325**	*e*PN		Pb	00 46 37.3	-0.1
PAIG				*e*SN		Sn	00 46 47.9	+0.7
PAIG	**Paliouri**	**0.69**	**325**	*e*Pn		Pb	00 46 37.3	-0.1
PAIG				*e*Sn		Sn	00 46 47.9	+0.7
NEO	**Neokhori**	**0.75**	**266**	*e*PN		Pb	00 46 39.0	+0.6
NEO				*e*SN		Sn	00 46 50.0	+1.2
NEO	**Neokhori**	**0.75**	**266**	*e*Pn		Pb	00 46 39.0	+0.6
NEO				*e*Sn		Sn	00 46 50.0	+1.2
XOR	**Xorichti**	**0.77**	**271**	*e*PN		Pb	00 46 39.0	+0.2
XOR				*e*SN		Sn	00 46 50.8	+1.4
XOR	**Xorichti**	**0.77**	**271**	*e*Pn		Pb	00 46 39.0	+0.2
XOR				*e*Sn		Sn	00 46 50.8	+1.4
MRKA	**Markates**	**0.80**	**216**	*e*PN		Pb	00 46 40.1	+0.8
MRKA				*e*SN		Sn	00 46 51.1	+1.0
MRKA	**Markates**	**0.80**	**216**	*e*Pn		Pb	00 46 40.1	+0.8
MRKA				*e*Sn		Sn	00 46 51.1	+1.0
SMIA	**Simia**	**0.90**	**238**	*e*PN		Pb	00 46 41.7	+0.7
SMIA				*e*SN		Sb	00 46 53.9	+1.2
SMIA	**Simia**	**0.90**	**238**	*e*Pn		Pb	00 46 41.7	+0.7
SMIA				*e*Sn		Sb	00 46 53.9	+1.2
LIA	**Limnos Island**	**0.94**	**55**	*e*PN		Pb	00 46 42.0	+0.5
LIA	**Limnos Island**	**0.94**	**55**	*e*Pn		Pb	00 46 42.0	+0.5
PLG	**Polygyros**	**1.16**	**331**	*e*PN		Pb	00 46 45.5	+0.1
PLG				*e*SN		Sb	00 47 00.2	0.0
PLG	**Polygyros**	**1.16**	**331**	*e*Pn		Pb	00 46 45.5	+0.1
PLG				*e*Sn		Sb	00 47 00.2	0.0
LKR	**Lokris**	**1.17**	**233**	*e*PN		Pb	00 46 46.1	+0.7
LKR				*e*SN		Sb	00 47 01.5	+1.4
LKR	**Lokris**	**1.17**	**233**	*e*Pn		Pb	00 46 46.1	+0.7
LKR				*e*Sn		Sb	00 47 01.5	+1.4
PTL	**Penteli**	**1.33**	**191**	*e*PN		Pb	00 46 47.5	-0.8
PTL				*e*SN		Sb	00 47 05.6	+0.6
PTL	**Penteli**	**1.33**	**191**	*e*Pn		Pb	00 46 47.5	-0.8
PTL				*e*Sn		Sb	00 47 05.6	+0.6
AGG	**Agios Georgios**	**1.48**	**257**	*e*PN		Pb	00 46 50.8	0.0
AGG	**Agios Georgios**	**1.48**	**257**	*e*Pn		Pb	00 46 50.8	0.0
HORT	**Hortiatis**	**1.49**	**326**	*e*PN		Pb	00 46 50.8	-0.2
HORT				*e*SN		Sb	00 47 10.5	+0.8
HORT	**Hortiatis**	**1.49**	**326**	*e*Pn		Pb	00 46 50.8	-0.2
HORT				*e*Sn		Sb	00 47 10.5	+0.8
SOH	**Sokhos**	**1.59**	**337**	*e*PN		Pb	00 46 52.2	-0.5
SOH				*e*SN		Sb	00 47 12.7	+0.2
SOH	**Sokhos**	**1.59**	**337**	*e*Pn		Pb	00 46 52.2	-0.5
SOH				*e*Sn		Sb	00 47 12.7	+0.2
MAKR	**Makrakomi, Fth**	**1.64**	**258**	*e*PN		Pb	00 46 52.4	-1.0
MAKR				*e*SN		Sb	00 47 13.2	-0.5
MAKR	**Makrakomi, Fth**	**1.64**	**258**	*e*Pn		Pb	00 46 52.4	-1.0
MAKR				*e*Sn		Sb	00 47 13.2	-0.5
LTK	**Loutraki**	**1.64**	**216**	*e*PN		Pb	00 46 52.5	-1.0
LTK				*e*SN		Sb	00 47 13.1	-0.7
LTK	**Loutraki**	**1.64**	**216**	*e*Pn		Pb	00 46 52.5	-1.0
LTK				*e*Sn		Sb	00 47 13.1	-0.7
KAVA	**Kavala**	**1.65**	**9**	*e*PN		Pb	00 46 52.8	-0.8
KAVA				*e*SN		Sb	00 47 13.8	-0.3
KAVA	**Kavala**	**1.65**	**9**	*e*Pn		Pb	00 46 52.8	-0.8
KAVA				*e*Sn		Sb	00 47 13.8	-0.3
DID	**Didima**	**2.00**	**202**	*e*PN		Pb	00 46 57.3	+1.4
DID				*e*SN		Sb	00 47 22.2	-1.8
DID	**Didima**	**2.00**	**202**	*e*Pn		Pn	00 46 57.0	+1.4
DID				*e*Sn		Sb	00 47 22.2	-1.8
NVR	**Nevrokopi**	**2.00**	**353**	*e*PN		Pn	00 46 57.2	+1.5
NVR				*e*SN		Sb	00 47 22.2	-2.0
NVR	**Nevrokopi**	**2.00**	**353**	*e*Pn		Pn	00 46 57.2	+1.5
NVR				*e*Sn		Sb	00 47 22.2	-2.0
KNT	**Kendrikon**	**2.05**	**332**	*e*PB		Pb	00 46 59.0	-1.5
KNT				*e*SN		Sb	00 47 23.5	-2.1
KNT	**Kendrikon**	**2.05**	**332**	*e*Pb		Pb	00 46 59.0	-1.5
KNT				*e*Sn		Sb	00 47 23.5	-2.1

*DDA **20** 00:47:07.0, 36.90N×27.73E, h7km, MD2.5*

*CSEM **20** 00:47:06.7±0.2, 36.88N×27.76E, h2km, MD2.4, Error ellipse: s-maj=3.5km s-min=2.9km az=168.0*

ISK 20 00:47:05.9, 36.89N×27.76E, h5km, MD2.4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
DAT	**Datca**	**0.22**	**222**	PG		Pg	00 47 11.1	+0.7
DAT				*e

CURV				*e*S		**Sn**	**00 59 09.4**	**-3.7**
DABV	**Dabajuro**	**4.55**	**30**	*e*P		**Pn**	**00 58 29.1**	**+1.4**
DABV				*e*S		**Sn**	**00 59 15.9**	**-4.5**
SIQV	**Siquisique**	**4.80**	**40**	*e*P		**Pn**	**00 58 31.6**	**+0.5**
SIQV				*e*S		**Sn**	**00 59 21.8**	**-4.6**
BAUV	**El Baul**	**5.25**	**68**	*e*P		**Pn**	**00 58 37.1**	**+0.1**
MAPV	**Macapo**	**5.28**	**57**	*e*P		**Pn**	**00 58 38.6**	**+1.1**
MAPV				*e*S		**Sn**	**00 59 32.6**	**-5.3**
TURV	**Turiamo**	**6.13**	**55**	*e*P		**Pn**	**00 58 49.1**	**+0.4**
TORD	**Torodi Ar. Bea**	**73.55**	**78**	P		P	01 08 35.5	-1.4
	0.3nm,0.8s,baz=286,slow=6.2,SNR=2.3							
ASAR	**Alice Springs**	**149.33**	**234**	PKPbc		**PKPdf**	**01 16 48.9**	**+1.7**
	0.6nm,0.5s,baz=119,slow=3.8,SNR=7.4							
WRA	**Warramunga Arr**	**150.55**	**241**	PKPbc		**PKPdf**	**01 16 52.3**	**+3.1**
	0.5nm,0.4s,baz=109,slow=2.2,SNR=17							

NNC 20 01:15:58.8±8.5, 37.17N×70.70E, h224km±114km, mb2.4, mpv3.6, 4C-1D, Error ellipse: s-maj=84.5km s-min=50.7km az=25.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KK31	**Karatay Array**	**5.93**	**359**	P		Pn	01 17 24.1	-1.3
	2.1nm,0.3s,baz=178,slow=12,SNR=87							
KK31				⇑S		S	01 18 35.6	+1.2
	2.8nm,0.5s,baz=189,slow=24,SNR=7.5							
TKM2	**Tokmak 2**	**6.86**	**32**	⇑P		Pn	01 17 37.5	-0.1
	2.9nm,0.5s							
TKM2				⇑S		S	01 18 56.7	+0.3
	2.7nm,0.9s							
AB31	**Akbulak array**	**14.38**	**330**	⇓P		P	01 19 16.0	+2.9
	0.2nm,0.4s,baz=142,slow=10,SNR=6.1							
AB31				⇑S		S	01 21 49.0	-2.3
	0.9nm,0.8s,baz=150,slow=20,SNR=4.5							

*TIR **20** 01:18:05.3±4.9, 43.13N×19.64E, h0km±19km*
*THE **20** 01:18:09.9, 42.86N×18.54E, h0km±10km, Error ellipse: s-maj=11.6km s-min=2.2km az=100.0*
*LDG **20** 01:18:10.4±0.1, 42.94N×18.72E, h10km, Ml3.5/5, Error ellipse: s-maj=3.7km s-min=2.4km az=17.0*
*PDG **20** 01:18:10.9±0.2, 42.89N×18.73E, h18km, MD3.6/8, ML3.5/11, Error ellipse: s-maj=0.3km s-min=0.3km az=0.0*
*BEO **20** 01:18:11.0±0.3, 42.82N×18.72E, h18km±3km, ML3.2/7*
*ISCJB **20** 01:18:11.3±0.3, 42.91N±0.02×18.71E±0.02, h23km±2km, Error ellipse: s-maj=3.0km s-min=2.2km az=137.1*
*CSEM **20** 01:18:11.3±0.1, 42.89N×18.76E, h10km, ML3.6, Error ellipse: s-maj=3.0km s-min=2.2km az=45.0*
*PRU **20** 01:18:11.5, 42.84N×18.78E, h0km*
*SKO **20** 01:18:12.1, 42.92N×18.86E, h0km, M2.7, ML3.2*
*VIE **20** 01:18:13.9±0.5, 43.04N×18.65E, h10km, mb3.0/9, ML2.8/4, Ms3.5/4, Error ellipse: s-maj=6.4km s-min=3.4km az=60.0*

ISC 20 01:18:11.0±0.8, 42.89N±0.02×18.72E±0.02, h16km±6km, n185, σ1s54/248, 29C-23D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NKME	**Niksic**	**0.21**	**125**	⇑*i*	Pg	**Pb**	**01 18 15.8**	**-0.7**
NKME				*e*	Sg	**Sg**	**01 18 19.9**	**+0.6**
NKME	**Niksic**	**0.21**	**125**	⇑*i*	Pg	**Pb**	**01 18 15.8**	**-0.7**
NKME				*e*	Sg	**Sg**	**01 18 19.9**	**+0.6**
NKY	**Niksic**	**0.21**	**111**	⇑*i*	Pg	**Pb**	**01 18 16.0**	**-0.6**
NKY				*e*	Sg	**Sg**	**01 18 20.1**	**+0.6**
NKY	**Niksic**	**0.21**	**111**	⇑*i*	Pg	**Pb**	**01 18 16.0**	**-0.6**
NKY				*e*	Sg	**Sg**	**01 18 20.1**	**+0.6**
TREB	**Trebinje**	**0.32**	**238**	⇑*i*	Pg	**Pg**	**01 18 17.8**	**0.0**
TREB				*e*	Sg	**Sb**	**01 18 23.8**	**+0.4**
TREB	**Trebinje**	**0.32**	**238**	⇑*i*	Pg	**Pg**	**01 18 17.8**	**0.0**
TREB				*e*	Sg	**Sb**	**01 18 23.8**	**+0.4**
UPM	**Unac-Piva**	**0.34**	**23**	⇓*i*	Pg	**Pg**	**01 18 18.1**	**-0.2**
UPM				*e*	Sg	**Sb**	**01 18 24.3**	**+0.2**
UPM	**Unac-Piva**	**0.34**	**23**	⇓*i*	Pg	**Pg**	**01 18 18.1**	**-0.2**
HCY	**Herceg Novi**	**0.47**	**201**	⇑*i*	Pg	**Pg**	**01 18 20.2**	**-0.3**
HCY				*e*	Sg	**Sb**	**01 18 28.4**	**+0.7**
HCY	**Herceg Novi**	**0.47**	**201**	⇑*i*	Pg	**Pg**	**01 18 20.2**	**-0.3**
HCY				*e*	Sg	**Sb**	**01 18 28.4**	**+0.7**
BUM	**Brajici-Budva**	**0.60**	**168**	⇑*i*	Pg	**Pb**	**01 18 22.2**	**-1.0**
BUM				*e*	Sg	**Sg**	**01 18 31.7**	**+0.8**
BUM	**Brajici-Budva**	**0.60**	**168**	⇑*i*	Pg	**Pb**	**01 18 22.2**	**-1.0**
BUM				*e*	Sg	**Sg**	**01 18 31.7**	**+0.8**
PDG	**Podgorica**	**0.60**	**139**	P		**Pb**	**01 18 22.3**	**-0.9**
PDG	**Podgorica**	**0.60**	**139**	⇑*i*	Pg	**Pb**	**01 18 21.6**	**-1.6**
PDG				*e*	Sg	**Sb**	**01 18 31.1**	**+0.3**
PDG	**Podgorica**	**0.60**	**139**	⇑*i*	Pg	**Pb**	**01 18 21.7**	**-1.5**
PDG	**Podgorica**	**0.60**	**139**	P		**Pb**	**01 18 22.3**	**-0.9**
PDG				*e*	Sg	**Sg**	**01 18 31.6**	**+0.6**
TTG	**Podgorica**	**0.60**	**139**	⇑*i*	Pg	**Pb**	**01 18 21.7**	**-1.5**
TTG				*e*	Sg	**Sg**	**01 18 31.6**	**+0.6**
PLE	**Pljevlja**	**0.66**	**48**	⇓*i*	Pg	**Pb**	**01 18 23.8**	**-0.4**
PLE				*e*	Sg	**Sg**	**01 18 34.5**	**+1.7**
PLE	**Pljevlja**	**0.66**	**48**	⇓*i*	Pg	**Pb**	**01 18 23.8**	**-0.4**
STON	**Ston**	**0.75**	**269**	*e*	Pg	**Pb**	**01 18 24.8**	**-0.9**
STON					Sg	**Sg**	**01 18 36.7**	**+1.1**
STON	**Ston**	**0.75**	**269**	*e*	Pg	**Pb**	**01 18 24.6**	**-1.1**
STON				*e*	Sg	**Sg**	**01 18 36.5**	**+0.9**
STON	**Ston**	**0.75**	**269**	*e*	Pg	**Pb**	**01 18 24.6**	**-1.1**
STON				*e*	Sg	**Sg**	**01 18 36.5**	**+0.9**
DRME	**Dracevica, Mon**	**0.78**	**154**	⇑*i*	Pg	**Pb**	**01 18 25.4**	**-0.8**
DRME				*e*	Sg	**Sg**	**01 18 37.8**	**+1.3**
DRME	**Dracevica, Mon**	**0.78**	**154**	⇑*i*	Pg	**Pb**	**01 18 25.4**	**-0.8**
DRME				*e*	Sg	**Sg**	**01 18 37.8**	**+1.3**
BEY	**Berane**	**0.86**	**91**	⇓*i*	Pg	**Pb**	**01 18 26.9**	**-0.7**
BEY				*e*	Sg	**Sn**	**01 18 40.5**	**-0.3**
IVA	**Berane**	**0.86**	**91**	⇓*i*	Pg	**Pb**	**01 18 26.9**	**-0.7**
IVA				*e*	Sg	**Sn**	**01 18 40.5**	**-0.3**
PVY	**Plav**	**0.96**	**107**	⇓*i*	Pg	**Pb**	**01 18 28.4**	**-0.9**
PVY				*e*	Sg	**Sn**	**01 18 43.8**	**+0.5**
PVY	**Plav**	**0.96**	**107**	⇓*i*	Pg	**Pb**	**01 18 28.4**	**-0.9**
PVY				*e*	Sg	**Sn**	**01 18 43.8**	**+0.5**
SJES	**Sjenica**	**0.99**	**67**	*e*	Pg	**Pb**	**01 18 28.6**	**-1.3**
SJES				*e*	Sg	**Sb**	**01 18 43.0**	**+0.3**
ULC	**Ulcinj**	**1.00**	**157**	⇑*i*	Pg	**Pb**	**01 18 29.3**	**-0.7**
ULC				*e*	Sg	**Sn**	**01 18 45.0**	**+0.8**
ULC	**Ulcinj**	**1.00**	**157**	⇑*i*	Pg	**Pb**	**01 18 29.3**	**-0.7**
ULC				*e*	Sg	**Sn**	**01 18 45.0**	**+0.8**
BBLS	**Lazići**	**1.10**	**27**	*e*	Pg	**Pn**	**01 18 32.0**	**+0.2**
BBLS	**Lazići**	**1.10**	**27**	*e*	Pn	**Pn**	**01 18 32.0**	**+0.2**
BCI	**Bajram Curri**	**1.12**	**117**	*i*	PG	**Pn**	**01 18 31.2**	**-0.9**
BCI				*i*	SG	**Sg**	**01 18 50.1**	**+2.7**
BCI	**Bajram Curri**	**1.12**	**117**	*i*	Pg	**Pn**	**01 18 31.2**	**-0.9**
	SNR=90							
BCI				*i*	Sg	**Sg**	**01 18 50.1**	**+2.7**
	SNR=90							
PUK	**Puka**	**1.21**	**134**	*i*	PN	**Pn**	**01 18 33.4**	**+0.1**
PUK				*i*	SN	**Sg**	**01 18 53.7**	**+3.5**
PUK	**Puka**	**1.21**	**134**	*i*	Pn	**Pn**	**01 18 33.4**	**+0.1**
	SNR=40							
PUK				*i*	Sn	**Sg**	**01 18 53.7**	**+3.5**
	SNR=40							
DIVS	**Divibare**	**1.52**	**37**	P		**Pb**	**01 18 38.9**	**0.0**
DIVS	**Divibare**	**1.52**	**37**	*e*	Pg	**Pn**	**01 18 37.8**	**+0.1**
DIVS				*e*	Sg	**Sg**	**01 19 02.3**	**+2.2**
DIVS	**Divibare**	**1.52**	**37**	*e*	Pg	**Pn**	**01 18 37.8**	**+0.1**
DIVS	**Divibare**	**1.52**	**37**	P		**Pb**	**01 18 38.9**	**0.0**
DIVS				*e*	Sg	**Sg**	**01 19 02.3**	**+2.2**
PHP	**Peshkopia**	**1.75**	**133**	*i*	PN	**Pb**	**01 18 42.3**	**-0.5**
PHP				*i*	SN	**Sg**	**01 19 07.9**	**+0.4**
PHP	**Peshkopia**	**1.75**	**133**	P		**Pb**	**01 18 42.5**	**-0.3**
PHP	**Peshkopia**	**1.75**	**133**	*i*	Pn	**Pb**	**01 18 42.3**	**-0.5**
	SNR=40							
PHP	**Peshkopia**	**1.75**	**133**	P		**Pb**	**01 18 42.5**	**-0.3**
PHP				*i*	Sn	**Sg**	**01 19 07.9**	**+0.4**
	SNR=40							
TIR	**Tirane**	**1.76**	**151**	*i*	PN	**Pb**	**01 18 43.1**	**+0.2**
TIR				*i*	SN	**Sg**	**01 19 10.0**	**+2.3**
TIR	**Tirane**	**1.76**	**151**	P		**Pn**	**01 18 41.9**	**+1.1**
TIR	**Tirane**	**1.76**	**151**	*e*	P	**Pb**	**01 18 42.7**	**-0.2**
TIR	**Tirane**	**1.76**	**151**	P		**Pn**	**01 18 41.9**	**+1.1**
TIR	**Tirane**	**1.76**	**151**	*i*	Pn	**Pb**	**01 18 43.1**	**+0.2**
	SNR=40							
GRUS	**Gruza**	**1.76**	**55**	*e*	Pg	**Pg**	**01 18 44.3**	**-0.6**
GRUS	**Gruza**	**1.76**	**55**	*e*	Pg	**Pg**	**01 18 44.3**	**-0.6**
SELS	**Selova**	**1.79**	**79**	*e*	Pn	**Pn**	**01 18 41.5**	**+0.3**
SELS	**Selova**	**1.79**	**79**	*e*	Pn	**Pn**	**01 18 41.5**	**+0.3**
TRUS	**Trudelj**	**1.81**	**42**	*e*	Pn	**Pn**	**01 18 40.6**	**-0.9**
TRUS	**Trudelj**	**1.81**	**42**	*e*	Pn	**Pn**	**01 18 40.6**	**-0.9**
SKO	**Skopje**	**2.21**	**114**	P		**Pb**	**01 18 49.5**	**-1.1**
SKO	**Skopje**	**2.21**	**114**	*i*	Pg	**Pb**	**01 18 50.9**	**+0.3**
SKO				*e*	Sg	**Sb**	**01 19 20.0**	**+2.2**
SKO				*i*	Lg	Lg	01 19 20.5	
	comp=E,106nm,0.4s							
SKO				*i*	Lg	Lg	01 19 20.8	
	comp=N,116nm,0.5s							
SKO	**Skopje**	**2.21**	**114**	P		**Pb**	**01 18 49.5**	**-1.1**
BAI	**Bari**	**2.25**	**218**	*e*	Pn	**Pb**	**01 18 51.7**	**+0.5**
BAI				*e*	Sn	**Sg**	**01 19 21.7**	**-1.6**
SVIS	**Svilajnac**	**2.27**	**52**	*e*	Pn	**Pn**	**01 18 49.8**	**+1.9**
PE1	**Pezze di Greco**	**2.30**	**205**	*e*	Pn	**Pn**	**01 18 48.1**	**-0.1**
FGSL	**Fruska Gora**	**2.40**	**19**	*e*	Pn	**Pn**	**01 18 49.2**	**-0.5**
FRGS	**Fruska Gora**	**2.40**	**19**	*e*	Pn	**Pn**	**01 18 49.2**	**-0.5**
BIA	**Bitola**	**2.69**	**133**	P		**Pn**	**01 18 55.5**	**+1.8**
BIA	**Bitola**	**2.69**	**133**	*i*	Pg	**Pn**	**01 18 60.0**	**+1.1**
BIA	**Bitola**	**2.69**	**133**	P		**Pn**	**01 18 55.5**	**+1.8**
UDBI	**Udbina**	**2.70**	**308**	*e*	Pn	**Pb**	**01 18 57.1**	**-1.8**
UDBI					Sn	**Sb**	**01 19 32.7**	**+0.8**
UDBI	**Udbina**	**2.70**	**308**	*e*	Pn	**Pb**	**01 18 57.1**	**-1.8**
UDBI					Sn	**Sb**	**01 19 32.6**	**+0.8**
FNA	**Florina**	**2.89**	**136**	P		**Pn**	**01 18 57.9**	**+1.5**
FNA	**Florina**	**2.89**	**136**	P		**Pn**	**01 18 57.9**	**+1.5**
ZAPS	**Zavoj**	**2.89**	**81**	*e*	Pn	**Pn**	**01 18 57.9**	**+1.5**
ZAPS				*e*	Sn	**Sn**	**01 19 30.7**	**-0.2**
NVLJ	**Novalja**	**3.25**	**302**	*e*	Pn	**Pn**	**01 19 03.1**	**+1.8**
NVLJ					Sn	**Sn**	**01 19 43.5**	**+3.7**
NVLJ	**Novalja**	**3.25**	**302**	*e*	Pn	**Pn**	**01 19 03.1**	**+1.8**
NVLJ					Sn	**Sn**	**01 19 43.4**	**+3.7**
VAY	**Valandovo**	**3.26**	**117**	*e*	Pn	**Pn**	**01 19 01.8**	**+0.3**
KEK	**Kerkira**	**3.27**	**165**	P		**Pn**	**01 19 01.8**	**+0.1**
KEK	**Kerkira**	**3.27**	**165**	*e*	P	**Pn**	**01 19 01.5**	**-0.2**
KEK	**Kerkira**	**3.27**	**165**	P		**Pn**	**01 19 01.8**	**+0.1**
VTS	**Vitosha**	**3.32**	**94**	⇓*i*	P	**Pn**	**01 19 03.5**	**+1.1**
VTS	**Vitosha**	**3.32**	**94**	S		**Sn**	**01 19 44.7**	**+3.1**
VTS	**Vitosha**	**3.32**	**94**	⇓*i*	P	**Pn**	**01 19 03.5**	**+1.1**
VTS				S		**Sn**	**01 19 44.7**	**+3.1**
BZS	**Buzias**	**3.43**	**36**	⇓*i*	P	**Pn**	**01 19 03.8**	**0.0**
BZS	**Buzias**	**3.43**	**36**	S		**Sn**	**01 19 43.4**	**-0.7**
BZS	**Buzias**	**3.43**	**36**	⇓*i*	P	**Pn**	**01 19 03.8**	**0.0**
BZS				S		**Sn**	**01 19 43.4**	**-0.7**
KZN	**Kozani**	**3.45**	**137**	*e*	P	**Pn**	**01 19 06.8**	**+2.7**
KNT	**Kendrikon**	**3.56**	**118**	*e*	P	**Pn**	**01 19 07.7**	**+2.1**
IGT	**Igoumenitsa**	**3.57**	**160**	*e*	P	**Pn**	**01 19 06.3**	**+0.6**
JAN	**Janina**	**3.61**	**153**	*e*	P	Pn	01 19 09.8	+3.6
BOJS	**Bojanci**	**3.61**	**318**	*i*	Pn	**Pn**	**01 19 08.4**	**+2.1**
BOJS								
	comp=Z,46nm,0.6s							
BOJS	**Bojanci**	**3.61**	**318**	*i*	Pn	**Pn**	**01 19 08.4**	**+2.1**
	comp=Z,46nm,0.6s							
CRES	**Cresnjev**	**3.76**	**323**	*i*	Pn	**Pn**	**01 19 10.5**	**+2.2**
CRES	**Cresnjev**	**3.76**	**323**	*i*	Pn	**Pn**	**01 19 10.5**	**+2.2**
GZR	**Gura Zlata**	**3.84**	**48**	⇓*i*	P	**Pn**	**01 19 09.8**	**+0.2**
GZR	**Gura Zlata**	**3.84**	**48**	S		**Sn**	**01 19 53.3**	**-1.1**
GZR	**Gura Zlata**	**3.84**	**48**	⇓*i*	P	**Pn**	**01 19 09.8**	**+0.2**
GZR				S		**Sn**	**01 19 53.3**	**-1.1**
LEGS	**Legarje**	**3.91**	**323**	*i*	Pn	**Pn**	**01 19 12.9**	**+2.5**
LEGS	**Legarje**	**3.91**	**323**	*i*	Pn	**Pn**	**01 19 12.9**	**+2.5**
LIT	**Litokhoron**	**3.97**	**133**	*e*	P	**Pn**	**01 19 12.6**	**+1.4**
SIRR	**Siria**	**3.98**	**31**	S		**Sn**	**01 19 57.0**	**-0.6**
SIRR	**Siria**	**3.98**	**31**	S		**Sn**	**01 19 57.0**	**-0.6**
HORT	**Hortiatis**	**4.00**	**123**	*e*	P	**Pn**	**01 19 13.5**	**+1.9**
SOH	**Sokhos**	**4.03**	**119**	P		**Pn**	**01 19 14.6**	**+2.5**
SOH	**Sokhos**	**4.03**	**119**	*e*	P	**Pn**	**01 19 14.3**	**+2.2**
SOH	**Sokhos**	**4.03**	**119**	P		**Pn**	**01 19 14.6**	**+2.5**
VISS	**Visnje**	**4.03**	**318**	*i*	Pn	**Pn**	**01 19 14.3**	**+2.3**
VISS	**Visnje**	**4.03**	**318**	*i*	Pn	**Pn**	**01 19 14.3**	**+2.3**
SRS	**Serrai**	**4.04**	**114**	*e*	P	**Pn**	**01 19 14.7**	**+2.5**
NVR	**Nevrokopi**	**4.12**	**110**	*e*	P	**Pn**	**01 19 16.0**	**+2.7**
THL	**Klokotos Trika**	**4.15**	**142**	*e*	P	**Pn**	**01 19 14.1**	**+0.5**
SKDS	**Skadanscina**	**4.30**	**310**	*i*	Pn	**Pn**	**01 19 17.2**	**+1.4**
SKDS	**Skadanscina**	**4.30**	**310**	*i*	Pn	**Pn**	**01 19 17.2**	**+1.4**
PLG	**Polygyros**	**4.34**	**124**	*e*	P	**Pn**	**01 19 18.7**	**+2.4**
LKD2	**Lefkada island**	**4.35**	**160**	*e*	P	**Pn**	**01 19 16.3**	**-0.2**
LJU	**Ljubljana**	**4.35**	**318**	*i*	Pn	**Pn**	**01 19 18.7**	**+2.2**
LJU	**Ljubljana**	**4.35**	**318**	*i*	Pn	**Pn**	**01 19 18.7**	**+2.2**
JAVS	**Javornik**	**4.49**	**314**	*i*	Pn	**Pn**	**01 19 20.2**	**+1.8**
JAVS	**Javornik**	**4.49**	**314**	*i*	Pn	**Pn**	**01 19 20.2**	**+1.8**
EVR	**Evrytania**	**4.61**	**148**	*e*	P	**Pn**	**01 19 20.4**	**+0.6**
SOKA	**Soboth**	**4.61**	**327**	⇑*i*	Pn	**Pn**	**01 19 21.3**	**+1.2**
	SNR=16							
SOKA				⇓*i*	Sn	**Sn**	**01 20 14.4**	**+1.1**
SOKA	**Soboth**	**4.61**	**327**	Pn		**Pn**	**01 19 21.3**	**+1.2**
	SNR=16							
SOKA				Sn		**Sn**	**01 20 14.4**	**+1.1**
MAKR	**Makrakomi, Fth**	**4.65**	**145**	*e*	P	**Pn**	**01 19 22.0**	**+1.4**
VOY	**Vojsko**	**4.67**	**314**	*e*	Pn	**Pn**	**01 19 22.9**	**+2.0**
VOY				*e*			01 19 40.7	
VOY				*e*	Sn	**Sn**	**01 20 17.8**	**+3.0**
VOY				*e*			01 20 40.2	
VOY	**Vojsko**	**4.67**	**314**	*e*	Pn	**Pn**	**01 19 22.9**	**+2.0**
VOY				*e*	Sn	**Sn**	**01 20 17.8**	**+3.0**
PDO	**Prodromos**	**4.67**	**156**	*e*	P	**Pn**	**01 19 21.4**	**+0.5**
OBKA	**Obir**	**4.69**	**322**	⇓*i*	Pn	**Pn**	**01 19 22.6**	**+1.5**
OBKA				⇓*i*	Sn	**Sn**	**01 20 16.8**	**+1.6**
OBKA	**Obir**	**4.69**	**322**	Pn		**Pn**	**01 19 22.6**	**+1.5**
OBKA				Sn		**Sn**	**01 20 16.8**	**+1.6**
OUR	**Ouranopolis**	**4.70**	**121**	*e*	P	**Pn**	**01 19 23.2**	**+2.0**
KAVA	**Kavala**	**4.71**	**112**	*e*	P	**Pn**	**01 19 24.0**	**+2.6**
AGG	**Agios Georgios**	**4.73**	**144**	*e*	P	**Pn**	**01 19 23.1**	**+1.4**
PAIG	**Paliouri**	**4.76**	**127**	*e*	P	**Pn**	**01 19 24.5**	**+2.5**
XOR	**Xorichti**	**4.88**	**135**	*e*	P	**Pn**	**01 19 24.8**	**+1.1**
ARSA	**Arzberg**	**4.92**	**334**	⇓*i*	Pn	**Pn**	**01 19 25.4**	**+1.2**
ARSA				⇓*i*	Sn	**Sn**	**01 20 22.2**	**+1.5**
ARSA	**Arzberg**	**4.92**	**334**	Pn		**Pn**	**01 19 25.4**	**+1.2**
ARSA				Sn		**Sn**	**01 20 22.2**	**+1.5**
VLS	**Valsamata**	**4.92**	**163**	*e*	P	**Pn**	**01 19 21.2**	**-3.0**
ARR	**Arges**	**4.92**	**58**	⇑*i*	P	**Pn**	**01 19 24.8**	**+0.4**
ARR	**Arges**	**4.92**	**58**	S		**Sn**	**01 20 21.2**	**+0.2**
ARR	**Arges**	**4.92**	**58**	⇑*i*	P	**Pn**	**01 19 24.8**	**+0.4**
ARR				S		**Sn**	**01 20 21.2**	**+0.2**
NEO	**Neokhori**	**4.94**	**135**	*e*	P	**Pn**	**01 19 22.6**	**-1.9**
EFP	**Efpalio**	**5.07**	**150**	*e*	P	Pn	01 19 21.7	-4.6
PSZ	**Piszkesteto**	**5.10**	**9**	⇓*i*	P	**Pn**	**01 19 27.0**	**+0.2**
PSZ	**Piszkesteto**	**5.10**	**9**	S		**Sn**	**01 20 23.1**	**-2.2**
PSZ	**Piszkesteto**	**5.10**	**9**	⇓*i*	P	**Pn**	**01 19 27.0**	**+0.2**
PSZ				S		**Sn**	**01 20 23.1**	**-2.2**
TRIZ	**Trizonia**	**5.19**	**149**	*e*	P	Pn	01 19 32.7	+4.8
KALE	**Kalithea**	**5.19**	**149**	*e*	P	**Pn**	**01 19 30.4**	**+2.4**
SMIA	**Simia**	**5.25**	**138**	*e*	P	Pn	01 19 33.3	+4.4
LAKA	**Lakka**	**5.26**	**151**	*e*	P	**Pn**	**01 19 28.7**	**-0.3**
DSF	**Desfina**	**5.33**	**146**	*e*	P	**Pn**	**01 19 32.9**	**+3.0**
LKR	**Lokris**	**5.33**	**141**	*e*	P	Pn	01 19 22.3	-7.7
CONA	**Conrad Observa**	**5.43**	**339**	⇓*i*	Pn	**Pn**	**01 19 32.4**	**+1.1**
CONA				⇓*i*	Sn	**Sn**	**01 20 34.6**	**+1.2**
CONA	**Conrad Observa**	**5.43**	**339**	Pn		**Pn**	**01 19 32.4**	**+1.1**
CONA				Sn		**Sn**	**01 20 34.6**	**+1.2**
DRO	**Drossia**	**5.43**	**154**	*e*	P	**Pn**	**01 19 32.2**	**+0.9**
MRKA	**Markates**	**5.58**	**137**	*e*	P	**Pn**	**01 19 32.9**	**-0.4**
KBA	**Koelnbreinsper**	**5.66**	**320**	⇑*i*	Pn	**Pn**	**01 19 35.9**	**+1.3**
	SNR=8.0							
KBA				⇑*i*	Sn	**Sn**	**01 20 40.4**	**+1.0**
KBA	**Koelnbreinsper**	**5.66**	**320**	Pn		**Pn**	**01 19 35.9**	**+1.3**
	SNR=8.0							
KBA				Sn		**Sn**	**01 20 40.4**	**+1.0**
GUR	**Goura**	**5.67**	**150**	*e*	P	**Pn**	**01 19 31.5**	**-3.1**
ALN	**Alexandroupoli**	**5.82**	**108**	*e*	P	**Pn**	**01 19 38.9**	**+2.3**
ABTA	**Abfaltersbach**	**5.86**	**313**	⇑*i*	Pn	**Pn**	**01 19 38.9**	**+1.6**
ABTA				⇑*i*	Sn	**Sn**	**01 20 45.8**	**+1.6**
ABTA	**Abfaltersbach**	**5.86**	**313**	Pn		**Pn**	**01 19 38.9**	**+1.6**
ABTA				Sn		**Sn**	**01 20 45.8**	**+1.6**
MOA	**Molln**	**5.87**	**329**	⇑*i*	Pn	**Pn**	**01 19 39.7**	**+2.4**
	SNR=6.2							
MOA				⇓*i*	Sn	**Sn**	**01 20 44.9**	**+0.6**
MOA	**Molln**	**5.87**	**329**	Pn		**Pn**	**01 19 39.7**	**+2.4**
	SNR=6.2							
MOA				Sn		**Sn**	**01 20 44.9**	**+0.6**
ITM	**Ithomi**	**6.21**	**156**	*e*	P	**Pn**	**01 19 42.7**	**+0.7**
DID	**Didima**	**6.39**	**146**	*e*	P	**Pn**	**01 19 43.3**	**-1.2**
WTTA	**Wattenberg**	**6.65**	**314**	⇑*i*	Pn	**Pn**	**01 19 49.7**	**+1.5**
	SNR=8.2							
WTTA				⇑*i*	Sn	**Sn**	**01 21 04.9**	**+1.1**
WTTA	**Wattenberg**	**6.65**	**314**	Pn		**Pn**	**01 19 49.7**	**+1.5**
	SNR=8.2							
WTTA				Sn		**Sn**	**01 21 04.9**	**+1.1**
WATA	**Walderalm**	**6.73**	**314**	⇑*i*	Pn	**Pn**	**01 19 50.9**	**+1.7**
	SNR=7.6							
WATA	**Walderalm**	**6.73**	**314**	Pn		**Pn**	**01 19 50.9**	**+1.7**
	SNR=7.6							
VLI	**Veliai**	**6.96**	**151**	*e*	P	**Pn**	**01 19 54.5**	**+2.2**
KHC	**Kasperske Hory**	**7.20**	**332**	*e*	PN	**Pn**	**01 19 58.0**	**+2.5**
KHC				*ex*		x	01 20 08.5	
KHC				*e*SN		**Sn**	**01 21 18.5**	**+1.6**
KHC				*ex*		x	01 21 30.4	
KHC				*ex*		x	01 21 55.0	
KHC	**Kasperske Hory**	**7.20**	**332**	Pn		**Pn**	**01 19 58.0**	**+2.5**
KHC				Sn		**Sn**	**01 21 18.5**	**+1.6**
KYTH	**Kithira**	**7.39**	**152**	*e*	P	**Pn**	**01 19 58.7**	**+0.5**
SBF	**Sospel**	**8.28**	**281**	*e*	Pn	**Pn**	**01 20 07.4**	**-3.1**
SBF				*e*	Sn	Sn	01 21 35.8	-7.8
	comp=Z,8.5nm,0.6s							
KARN	**Karanos**	**8.49**	**150**	*e*	P	**Pn**	**01 20 14.0**	**+0.6**
MBDF	**Montbardon**	**8.84**	**286**	*e*	Pn	**Pn**	**01 20 16.7**	**-1.4**
MBDF				*e*	Sn	Sn	01 21 49.5	-7.9
	comp=Z,4.0nm,0.6s							
FRF	**La Foret Royal**	**8.84**	**278**	*e*	Pn	**Pn**	**01 20 15.7**	**-2.4**
LMR	**La Mourre**	**8.95**	**277**	*e*	Pn	**Pn**	**01 20 17.3**	**-2.2**
LPG	**La Plagne**	**8.99**	**291**	*e*	Pn	**Pn**	**01 20 17.8**	**-2.5**
LPG				*e*	Sn	Sn	01 21 53.1	-8.2
	comp=Z,8.2nm,0.6s							
LPL	**La Plagne**	**9.00**	**291**	*e*	Pn	**Pn**	**01 20 18.0**	**-2.5**
ORIF	**Oris-en-Rattie**	**9.49**	**287**	*e*	Pn	**Pn**	**01 20 26.4**	**-0.7**
ORIF	**Oris-en-Rattie**	**9.49**	**287**	*e*	Pn	**Pn**	**01 20 26.4**	**-0.7**
HINF	**Hinteralfeld**	**9.70**	**305**	*e*	Pn	**Pn**	**01 20 27.0**	**-2.8**
HINF				*e

σ1$03/27, **mb3.2**/4, **Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**1.23**	**75**	P	**Pn**	**02 51 17.5**	**-0.8**
LSSA				S	**Sn**	**02 51 32.5**	**-1.3**
LSNW	**Little Sitkin**	**1.23**	**74**	P	**Pn**	**02 51 17.6**	**-0.7**
LSNW				S	**Sn**	**02 51 33.8**	**-0.1**
LSSE	**Little Sitkin**	**1.26**	**76**	P	**Pn**	**02 51 18.0**	**-0.7**
AMKA	**Amchitka**	**1.71**	**98**	*e*Pn	**Pn**	**02 51 24.8**	**-0.1**
AMKA				*e*S	**Sn**	**02 51 45.9**	**+0.3**
CETU	**Semis' Tuman**	**1.82**	**79**	P	**Pn**	**02 51 26.9**	**+0.4**
CETU				S	**Sn**	**02 51 49.9**	**+1.3**
CESW	**Semis' Southwe**	**1.86**	**81**	P	**Pn**	**02 51 26.9**	**-0.1**
CESW				S	**Sn**	**02 51 49.4**	**+0.1**
CEAP	**Semis' Anvil P**	**1.88**	**78**	P	**Pn**	**02 51 27.6**	**+0.4**
CEAP				S	**Sn**	**02 51 51.3**	**+1.4**
SMY	**Shemya**	**1.89**	**306**	*e*Pn	**Pn**	**02 51 25.9**	**-1.5**
SMY				*e*S	**Sn**	**02 51 51.5**	**+1.4**
CERAA	**Semis' Rag'd T**	**1.93**	**81**	P	**Pn**	**02 51 27.8**	**-0.1**
FX1	**Attu Island--F**	**2.45**	**302**	*e*Pn	**Pn**	**02 51 34.2**	**-0.9**
FX1				*e*S	**Sn**	**02 52 06.0**	**+2.0**
FX1	**Attu Island--F**	**2.45**	**302**	Pn	**Pn**	**02 51 34.1**	**-1.0**
FX1	24nm,0.3s,baz=229,slow=9.3,SNR=40			Sn	**Sn**	**02 52 06.2**	**+2.2**
GANE	**Gareloi Northe**	**2.88**	**85**	P	**Pn**	**02 51 41.2**	**+0.2**
ADK	**Adak**	**4.18**	**84**	*e*Pn	**Pn**	**02 51 58.3**	**-0.5**
ADK				*e*S	**Sn**	**02 52 47.6**	**+1.1**
ILAR	**Eielson Array**	**22.89**	**41**	P	**P**	**02 55 58.1**	**+0.2**
H11N2	0.3nm,0.7s,baz=248,slow=9.6,SNR=3.7 **WAKE ISLAND Hy**	**32.74**	**197**	T	T	03 32 29.3	
H11N3	baz=13,slow=0.7,SNR=44 **WAKE ISLAND Hy**	**32.76**	**197**	T	T	03 32 30.0	
H11N1	baz=13,slow=0.7,SNR=35 **WAKE ISLAND Hy**	**32.76**	**197**	T	T	03 32 30.7	
H11S1	baz=13,slow=0.7,SNR=38 **WAKE ISLAND Hy**	**33.98**	**197**	T	T	03 34 06.2	
H11S3	baz=10,slow=0.7 **WAKE ISLAND Hy**	**33.99**	**197**	T	T	03 34 09.6	
H11S2	baz=10,slow=0.7 **WAKE ISLAND Hy**	**33.99**	**197**	T	T	03 34 02.7	
SONM	baz=10 **Songino Array**	**43.94**	**294**	P	**P**	**02 59 00.9**	**-0.2**
MKAR	0.2nm,0.4s,baz=60,slow=8.5,SNR=2.2 **Makanchi Array**	**57.58**	**306**	P	**P**	**03 00 42.8**	**-1.0**
TXAR	0.1nm,0.4s,baz=46,slow=5.2,SNR=2.7 **Lajitas Array**	**61.43**	**78**	P	**P**	**03 01 11.3**	**+0.7**
	0.1nm,0.5s,baz=311,slow=5.8,SNR=4.7						

IDC 20 03:02:18.2±6.1, **19°.87S**×**176°.99W**, **h0**km, **mb4.1**/3, **mb1 4.3**/3, **mb1mx3.8**/18, **mbtmp4.1**/3, **Error ellipse: s-maj=185.0km s-min=98.6km az=143.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.91**	**244**	P	P	03 09 45.4	-0.5
ASAR	0.6nm,0.4s,baz=72,slow=6.9,SNR=3.9 **Alice Springs**	**45.59**	**256**	P	P	03 10 40.2	-0.2
WRA	1.9nm,0.5s,baz=93,slow=7.9,SNR=21 **Warramunga Arr**	**45.63**	**261**	P	P	03 10 40.9	+0.1
AKASG	1.0nm,0.3s,baz=96,slow=7.2,SNR=38 **Malin Array Be**	**142.91**	**332**	PKP	PKPdf	03 21 53.1	-0.5
	0.2nm,0.3s,baz=39,slow=4.4,SNR=4.8						

IDC 20 03:11:57.8±1.7, **12°.29S**×**167°.00E**, **h0**km, **mb3.9**/6, **mb1 4.1**/6, **mb1mx3.8**/19, **mbtmp3.9**/6, **Error ellipse: s-maj=90.7km s-min=24.3km az=140.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.43**	**226**	P	P	03 18 12.3	+0.2
WRA	0.9nm,0.5s,baz=53,slow=10,SNR=2.6 **Warramunga Arr**	**32.24**	**252**	P	P	03 18 28.4	+0.2
ASAR	0.4nm,0.5s,baz=83,slow=9.2,SNR=6.2 **Alice Springs**	**33.37**	**246**	P	P	03 18 37.9	-0.2
ILAR	1.1nm,0.7s,baz=74,slow=9.9,SNR=11 **Eielson Array**	**84.30**	**18**	P	P	03 24 31.8	+0.5
NVAR	0.8nm,0.5s,baz=231,slow=5.1,SNR=17 **Mina Array Bea**	**85.89**	**49**	P	P	03 24 39.6	-0.5
MKAR	0.4nm,0.6s,baz=247,slow=12,SNR=3.4 **Makanchi Array**	**95.27**	**317**	P	P	03 25 23.0	-0.7
	0.4nm,0.6s,baz=85,slow=6.3,SNR=3.8						

IDC 20 03:16:48.9±2.2, **1°.12N**×**127°.68E**, **h0**km, **mb3.4**/3, **mb1 3.7**/3, **mb1mx3.4**/21, **mbtmp3.5**/3, **Error ellipse: s-maj=150.7km s-min=27.5km az=67.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**6.97**	**331**	*e*P	Pn	03 18 37.2	+4.9
CTBH				*i* S	Pb	03 18 42.2	-8.7
WRA	**Warramunga Arr**	**21.92**	**163**	P	P	03 21 42.3	-1.7
ASAR	1.1nm,0.7s,baz=343,slow=11,SNR=6.7 **Alice Springs**	**35.37**	**196**	P	P	03 22 19.2	+1.3
MKAR	0.5nm,0.7s,baz=346,slow=10.0,SNR=4.3 **Makanchi Array**	**60.24**	**326**	P	P	03 26 58.8	-0.2
	0.4nm,0.6s,baz=119,slow=7.6,SNR=3.9						

IDC 20 03:21:05.1±1.0, **18°.63N**×**146°.03E**, **h0**km, **mb3.7**/6, **mb1 4.1**/6, **mb1mx3.7**/25, **mbtmp3.7**/6, **Error ellipse: s-maj=44.9km s-min=21.5km az=117.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.01**	**197**	P	P	03 28 42.8	+0.8
FITZ	0.2nm,0.3s,baz=14,slow=8.4,SNR=7.6 **Fitzroy Crossi**	**41.64**	**210**	P	P	03 28 55.0	-0.4
ASAR	0.5nm,0.3s,baz=42,slow=11,SNR=15 **Alice Springs**	**43.67**	**196**	P	P	03 29 11.2	-0.7
CMAR	0.2nm,0.4s,baz=11,slow=7.8,SNR=3.9 **Chiang Mai Arr**	**44.54**	**278**	P	P	03 29 18.9	-0.1
ILAR	2.0nm,0.3s,baz=71,slow=7.9,SNR=4.7 **Eielson Array**	**63.57**	**26**	P	P	03 31 37.9	+0.6
NVAR	0.2nm,0.5s,baz=258,slow=5.7,SNR=6.5 **Mina Array Bea**	**82.93**	**52**	P	P	03 33 31.6	-0.9
	0.5nm,0.4s,baz=264,slow=4.9,SNR=4.6						

IDC 20 03:28:15.2±3.4, **3°.28S**×**139°.87E**, **h0**km, **mb3.4**/3, **mb1 3.7**/4, **mb1mx3.5**/16, **mbtmp3.5**/4, **ML3.7**/1, **Error ellipse: s-maj=109.6km s-min=28.0km az=92.0, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.42**	**198**	P	Pn	03 32 19.1	-0.8
FITZ	0.3nm,0.3s,baz=16,slow=13,SNR=14 **Fitzroy Crossi**	**20.28**	**222**	P	P	03 32 53.0	+0.3
ASAR	1.5nm,0.7s,baz=37,slow=13,SNR=3.9 **Alice Springs**	**21.07**	**195**	P	P	03 33 01.3	0.0
MKAR	1.9nm,0.7s,baz=27,slow=9.8,SNR=20 **Makanchi Array**	**70.94**	**322**	P	P	03 39 34.6	+0.1
	0.1nm,0.4s,baz=116,slow=5.3,SNR=2.7						

IDC 20 03:34:06.1±2.0, **5°.62S**×**151°.13E**, **h0**km, **mb3.7**/4, **mb1 4.0**/4, **mb1mx3.6**/17, **mbtmp3.7**/4, **Error ellipse: s-maj=116.6km s-min=26.9km az=129.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.66**	**227**	P	P	03 38 58.2	-0.3
ASAR	0.9nm,0.8s,baz=53,slow=9.9,SNR=3.8 **Alice Springs**	**24.43**	**221**	P	P	03 39 26.8	0.0
FITZ	1.4nm,0.8s,baz=49,slow=9.9,SNR=9.3 **Fitzroy Crossi**	**27.81**	**241**	P	P	03 39 57.7	+0.4
ILAR	1.9nm,0.8s,baz=77,slow=8.0,SNR=4.5 **Eielson Array**	**83.55**	**22**	P	P	03 46 35.5	-0.2
TORD	0.7nm,0.7s,baz=246,slow=5.3,SNR=6.4 **Torodi Ar. Bea**	**148.96**	**286**	PKPbc	PKPbc	03 53 56.6	-0.5
	1.2nm,0.7s,baz=89,slow=2.4,SNR=8.8						

IDC 20 03:37:33.6±3.9, **15°.28S**×**173°.10W**, **h0**km, **mb3.9**/3, **mb1 4.1**/3, **mb1mx3.7**/19, **mbtmp3.9**/3, **MS3.4**/1, **Ms1 3.4**/1, **ms1mx2.7**/23, **Error ellipse: s-maj=217.2km s-min=24.5km az=142.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.87**	**43**	Pn	Pn	03 38 05.6	-1.3
AFI	22nm,0.3s,baz=43,slow=18,SNR=13			Sn	Sn	03 38 25.4	-6.0
URZ	109nm,0.3s,baz=91,slow=18,SNR=13 **Urewera**	**24.47**	**199**	LR	LR	03 51 47.9	
H11S2	comp=Z,80nm,19.1s,baz=18,slow=35 **WAKE ISLAND Hy**	**39.01**	**329**	T	T	04 26 54.6	
H11S3	baz=152,slow=0.7,SNR=11 **WAKE ISLAND Hy**	**39.02**	**329**	T	T	04 26 55.3	
H11S1	baz=152,slow=0.7,SNR=5.8 **WAKE ISLAND Hy**	**39.03**	**329**	T	T	04 26 53.7	
H11N3	baz=152,slow=0.7,SNR=5.6 **WAKE ISLAND Hy**	**39.95**	**330**	T	T	04 27 48.0	
H11N1	baz=153,slow=0.7,SNR=4.9 **WAKE ISLAND Hy**	**39.96**	**330**	T	T	04 27 51.9	
H11N2	baz=153,slow=0.7,SNR=5.2 **WAKE ISLAND Hy**	**39.97**	**330**	T	T	04 27 40.9	
STKA	baz=153,slow=0.7,SNR=4.8 **Stephens Creek**	**44.35**	**240**	P	P	03 45 46.1	+0.3
WRA	1.8nm,0.7s,baz=90,slow=8.1,SNR=3.2 **Warramunga Arr**	**50.15**	**257**	P	P	03 46 30.3	-1.0
ASAR	0.6nm,0.6s,baz=89,slow=6.6,SNR=7.5 **Alice Springs**	**50.42**	**252**	P	P	03 46 32.6	-0.7
BRTR	1.1nm,0.6s,baz=88,slow=8.3,SNR=12 **Keskin Array B**	**146.25**	**321**	PKPbc	PKPab	03 57 18.2	+0.9
	0.9nm,0.9s,baz=72,slow=4.7,SNR=4.0						

IDC 20 03:44:18.4±2.0, **5°.21N**×**125°.59E**, **h0**km, **mb3.5**/4, **mb1 3.7**/4, **mb1mx3.5**/23, **mbtmp3.5**/4, **1D**, **Error ellipse: s-maj=127.1km s-min=23.8km az=69.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.08**	**324**	*i*P	Sn	03 44 56.5	-0.3
GSPH				*i* S	Sb	03 45 14.4	+19
FITZ	**Fitzroy Crossi**	**23.16**	**180**	P	P	03 49 27.7	+1.0
WRA	1.3nm,0.3s,baz=4.6,slow=10,SNR=29 **Warramunga Arr**	**26.43**	**161**	P	P	03 49 56.5	-0.7
ASAR	0.3nm,0.5s,baz=337,slow=10,SNR=2.7 **Alice Springs**	**29.82**	**165**	P	P	03 50 27.1	-0.3
MKAR	0.4nm,0.5s,baz=344,slow=7.1,SNR=6.5 **Makanchi Array**	**55.70**	**325**	P	P	03 53 56.6	-0.1
	0.1nm,0.5s,baz=117,slow=8.3,SNR=2.3						

CSEM ***20*** *03:54:06.6*±*0.1, 38°.28N*×*22°.13E, h5*km, *MD1.9, Error ellipse: s-maj=2.2km s-min=1.9km az=31.0*
ATH ***20*** *03:54:06.9, 38°.27N*×*22°.13E, h5*km△*3*km, *MD1.9/6*
THE 20 03:54:06.9, 38°.27N×22°.15E, h5km△**3**km, **ML1.6**/6, **Error ellipse: s-maj=3.2km s-min=0.3km az=307.0, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIZ	**Trizonia**	**0.11**	**327**	P	Pg	03 54 09.0	-0.2
TRIZ				S	Sg	03 54 11.2	+0.4
TRIZ	**Trizonia**	**0.11**	**327**	*e*PG	Pg	03 54 09.1	-0.1
TRIZ				*e*SG	Sg	03 54 11.0	+0.2
TRIZ	**Trizonia**	**0.11**	**327**	*e*Pg	Pg	03 54 09.1	-0.1
TRIZ				S	Sg	03 54 11.2	+0.4
KALE	**Kalithea**	**0.12**	**356**	P	Pg	03 54 09.5	0.0
KALE				S	Sg	03 54 11.3	+0.1
KALE	**Kalithea**	**0.12**	**356**	*e*PG	Pg	03 54 09.4	-0.1
KALE				*e*SG	Sg	03 54 11.6	+0.4
KALE	**Kalithea**	**0.12**	**356**	P	Pg	03 54 09.5	0.0
KALE				S	Sg	03 54 11.3	+0.1
LAKA	**Lakka**	**0.14**	**256**	P	Pg	03 54 09.6	-0.2
LAKA				S	Sg	03 54 11.8	+0.1
LAKA	**Lakka**	**0.14**	**256**	*e*PG	Pg	03 54 09.7	-0.1
LAKA				*e*SG	Sg	03 54 11.7	0.0
LAKA	**Lakka**	**0.14**	**256**	*e*Pg	Pg	03 54 09.7	-0.1
LAKA				S	Sg	03 54 11.8	+0.1
KLV	**Kalavryta, Ach**	**0.23**	**180**	P	Pg	03 54 11.5	0.0
KLV				S	Sg	03 54 14.5	-0.1
KLV	**Kalavryta, Ach**	**0.23**	**180**	*e*PG	Pg	03 54 11.3	-0.2
KLV				*e*SG	Sg	03 54 14.7	+0.1
KLV	**Kalavryta, Ach**	**0.23**	**180**	P	Pg	03 54 11.5	0.0
KLV				S	Sg	03 54 14.5	-0.1
EFP	**Efpalio**	**0.25**	**309**	P	Pg	03 54 11.6	-0.1
EFP				S	Sg	03 54 15.4	+0.4
EFP	**Efpalio**	**0.25**	**309**	P	Pg	03 54 11.6	-0.1
EFP				S	Sg	03 54 15.4	+0.4
DSF	**Desfina**	**0.33**	**65**	P	Pg	03 54 13.3	-0.1
DSF				S	Sg	03 54 17.6	-0.1
DSF	**Desfina**	**0.33**	**65**	P	Pg	03 54 13.3	-0.1
DSF				S	Sg	03 54 17.6	-0.1
GUR	**Goura**	**0.37**	**156**	P	Pg	03 54 14.1	-0.1
GUR				S	Sg	03 54 19.6	+0.4
GUR	**Goura**	**0.37**	**156**	*e*PB	Pg	03 54 14.1	-0.1
GUR				*e*SB	Sg	03 54 19.6	+0.4
GUR	**Goura**	**0.37**	**156**	P	Pg	03 54 14.1	-0.1
GUR				S	Sg	03 54 19.6	+0.4
DRO	**Drossia**	**0.47**	**227**	*e*PB	Pg	03 54 15.8	-0.3
DRO	**Drossia**	**0.47**	**227**	*e*Pb	Pg	03 54 15.8	-0.3
PDO	**Prodromos**	**0.83**	**293**	*e*PB	Pg	03 54 22.5	-0.3
PDO	**Prodromos**	**0.83**	**293**	*e*Pb	Pg	03 54 22.5	-0.3

ISK ***20*** *03:55:01.8, 36°.96N*×*28°.23E, h14*km, *MD2.4*
CSEM ***20*** *03:55:02.2*±*0.3, 36°.97N*×*28°.25E, h1*km, *MD2.4, Error ellipse: s-maj=5.4km s-min=3.9km az=179.0*
DDA 20 03:55:02.9, 37.04N×28°.22E, h7km, **MD2.7, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.11**	**28**	*e*PG	Pg	03 55 06.2	+0.8
YER				*e*SG	Sg	03 55 09.8	+2.5
YER	**Yerkesik**	**0.11**	**28**	*e*Pg	Pg	03 55 06.2	+0.7
YER				*e*Sg	Sg	03 55 09.8	+2.6
DALY	**Dalyan (Mu¨la**	**0.41**	**122**	*e*PG	Pg	03 55 09.3	-1.6
DALY				*e*SG	Sg	03 55 16.0	-0.4
DALY	**Dalyan (Mu¨la**	**0.41**	**122**	*e*Pg	Pg	03 55 09.3	-1.6
DALY				*e*Sg	Sg	03 55 16.0	-0.3
DAT	**Datca**	**0.60**	**239**	*e*PG	Pg	03 55 12.6	-2.1
DAT				*e*SG	Sg	03 55 21.6	-1.0
DAT	**Datca**	**0.60**	**239**	*e*Pg	Pg	03 55 12.6	-2.1
DAT				*e*Sg	Sg	03 55 21.6	-1.0
BDRM	**Kayabasi**	**0.62**	**273**	*i* P	Pg	03 55 13.9	-1.1
BDRM				*i* S	Sb	03 55 24.6	-0.6
BDRM	**Kayabasi**	**0.62**	**273**	*i* P	Pg	03 55 13.9	-1.1
AYDN	**Tasoluk**	**0.68**	**337**	*i* P	Pb	03 55 16.8	-0.4
AYDN				*i* S	Sb	03 55 27.2	+0.3
AYDN	**Tasoluk**	**0.68**	**337**	*i* P	Pb	03 55 16.8	-0.4
BODT	**Bodrum**	**0.73**	**272**	*e*PG	Pg	03 55 16.8	-0.2
BODT				*e*SG	Sb	03 55 28.0	-0.2
BODT	**Bodrum**	**0.73**	**272**	*e*Pg	Pg	03 55 16.8	-0.2
BODT				*e*Sg	Sb	03 55 28.0	-0.2
DNZL	**Cakiroluk**	**0.93**	**45**	*i* P	Pg	03 55 19.9	-1.2
DNZL				*i* S	Sn	03 55 36.8	+0.4
DNZL	**Cakiroluk**	**0.93**	**45**	*i* P	Pg	03 55 19.9	-1.1
DNZL				*i* S	Sn	03 55 36.8	+0.4
AYDB	**Zeytinkoy-Aydi**	**0.94**	**344**	*e*PG	Pg	03 55 21.6	+0.3
AYDB	**Zeytinkoy-Aydi**	**0.94**	**344**	*e*Pg	Pb	03 55 21.6	-0.2
GCAM	**G?zelcaml?**	**1.03**	**310**	*i* P	Pb	03 55 23.2	+0.1
GCAM				*i* S	Sb	03 55 37.4	+0.6
GCAM	**G?zelcaml?**	**1.03**	**310**	*i* P	Pb	03 55 23.2	+0.2
GCAM				*i* S	Sb	03 55 37.4	+0.7
GOLH	**Golhisar**	**1.09**	**79**	*i* P	Pg	03 55 22.9	-1.1
GOLH				*i* S	Sn	03 55 40.1	-0.1
GOLH	**Golhisar**	**1.09**	**79**	*i* P	Pg	03 55 22.9	-1.1
GOLH				*i* S	Sn	03 55 40.1	-0.2
AKAS	**Kas**	**1.37**	**125**	*i* P	Pn	03 55 13.5	-1.5
AKAS				*i* S	Sg	03 55 49.0	+1.5
MANT	**Manisa**	**1.48**	**10**	*i* P	Pb	03 55 30.7	-0.3
MANT				*i* S	Sn	03 55 50.1	+0.1
MANT	**Manisa**	**1.48**	**10**	*i* P	Pb	03 55 30.7	-0.3
MANT				*i* S	Sn	03 55 50.1	+0.1

IDC 20 04:13:54.6±1.6, **1°.37N**×**128°.29E**, **h0**km, **mb3.5**/4, **mb1 3.7**/5, **mb1mx3.5**/21, **mbtmp3.5**/5, **ML3.4**/1, **MS3.5**/2, **Ms1 3.5**/2, **ms1mx2.9**/21, **Error ellipse: s-maj=99.3km s-min=21.2km az=74.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**14.60**	**330**	LR	LR	04 23 45.1	
FITZ	comp=Z,42nm,19.5s,baz=183,slow=40 **Fitzroy Crossi**	**19.52**	**188**	P	Pn	04 18 25.0	+0.1
WRA	0.1nm,0.3s,baz=16,slow=7.8,SNR=3.6 **Warramunga Arr**	**21.99**	**165**	P	P	04 18 49.7	-0.9
	2.8nm,0.8s,baz=344,slow=11,SNR=9.3						
ASAR	**Alice Springs**	**25.48**	**168**	P	P	04 19 24.8	+0.1
SONM	0.3nm,0.5s,baz=348,slow=8.5,SNR=2.9 **Songino Array**	**50.02**	**341**	P	P	04 22 51.4	+0.3
MKAR	0.4nm,0.5s,baz=155,slow=9.2,SNR=3.2 **Makanchi Array**	**60.37**	**325**	P	P	04 24 05.2	-0.5
AKASG	0.3nm,0.4s,baz=127,slow=8.3,SNR=4.3 **Malin Array Be**	**94.70**	**321**	LR	LR	05 12 55.0	
	comp=Z,117nm,20.9s,baz=345,slow=37						

IDC 20 04:14:28.6±1.5, **28°.51S**×**178°.22W**, **h206**km△**13**km, **mb2.8**/1, **mb1 3.2**/1, **mb1mx2.8**/15, **mbtmp2.8**/1, **Error ellipse: s-maj=63.3km s-min=42.0km az=18.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.79**	**161**	P	Pn	04 14 57.9	+0.2
RAO	111nm,0.3s,baz=274,slow=23,SNR=11			S	S	04 15 13.8	-6.6
URZ	154nm,0.3s,baz=94,slow=18,SNR=9.7 **Urewera**	**10.48**	**201**	S	S	04 18 34.4	-17
WRA	1.1nm,0.3s,baz=123,slow=22,SNR=7.1 **Warramunga Arr**	**43.87**	**270**	P	P	04 22 14.6	-0.2
FINES	0.5nm,0.7s,baz=108,slow=7.9,SNR=5.0 **FINESS Array B**	**143.31**	**341**	PKP	PKPbc	04 33 35.9	+0.7
AKASG	4.7nm,1.1s,baz=350,slow=5.6,SNR=3.8 **Malin Array Be**	**149.67**	**325**	PKPbc	PKPbc	04 33 53.7	+0.3
TORD	0.6nm,0.5s,baz=49,slow=2.9,SNR=5.7 **Torodi Ar. Bea**	**164.72**	**180**	PKPab	PKPab	04 35 04.1	-0.7
	0.4nm,1.0s,baz=175,slow=5.0,SNR=5.0						

GUC 20 04:15:50.1±0.7, **23°.85S**×**67°.20W**, **h200**km, **ML3.5, 3C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	**Plate Boundary**	**2.63**	**306**	*i*P	Pn	04 16 42.2	+6.7
PB04				*i* S	Sn	04 17 23.1	+12
PB04				AML	AML	04 17 26.5	
PB09	comp=E,50nm,0.1s **Plate Boundary**	**2.78**	**317**	*i*P	Pn	04 16 39.0	+1.5
PB09				*e*S	Sn	04 17 16.6	+2.3
PB09				AML	AML	04 17 18.8	
CEN1	comp=N,125nm,0.3s **Los Morros**	**2.79**	**279**	*i*P	Pn	04 16 40.3	+2.8
CEN1				*i* S	Sn	04 17 18.3	+3.9
CEN1				AML	AML	04 17 21.8	
ANCH	comp=N,31nm,0.4s **Antofagasta**	**2.95**	**273**	*i*P	Pn	04 16 40.3	+1.2
ANCH				*i* S	Sn	04 17 19.1	+1.6
PB10	**Plate Boundary**	**3.10**	**275**	*i*P	Pn	04 16 41.8	+0.9
PB10				*e*S	Sn	04 17 21.7	+1.1
PB10				AML	AML	04 17 28.2	
PB07	comp=N,87nm,0.5s **Plate Boundary**	**3.26**	**310**	*i*P	Pn	04 16 43.8	+0.7
PB07				*i* S	Sn	04 17 24.8	+0.3
PB07				AML	AML	04 17 26.7	
PB01	comp=E,74nm,0.4s **Plate Boundary**	**3.50**	**322**	*e*P	Pn	04 16 46.5	+0.5
PB01				*i* S	Sn	04 17 30.2	+0.5
PB01				AML	AML	04 17 32.5	
	comp=E,38nm,0.7s						

IDC 20 04:41:25.6±3.4, **7°.09S**×**155°.29E**, **h0**km, **mb3.5**/3, **mb1 3.6**/3, **mb1mx3.5**/18, **mbtmp3.5**/3, **MS3.4**/1, **Ms1 3.4**/1, **ms1mx2.6**/16, **Error ellipse: s-maj=122.7km s-min=37.4km az=119.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.00**	**236**	P	P	04 46 42.1	-0.2
ASAR	0.6nm,0.7s,baz=57,slow=9.3,SNR=9.4 **Alice Springs**	**26.33**	**229**	P	P	04 47 03.7	+0.2
JNU	0.3nm,0.7s,baz=54,slow=9.3,SNR=4.0 **Nakatsue**	**46.24**	**331**	LR	LR	05 06 46.7	
MKAR	comp=Z,46nm,20.9s,baz=304,slow=33 **Makanchi Array**	**83.67**	**319**	P	P	04 53 58.2	+1.8
TORD	0.4nm,0.6s,baz=101,slow=5.6,SNR=4.6 **Torodi Ar. Bea**	**153.33**	**285**	PKPbc	PKPbc	05 01 25.2	-1.7
	0.5nm,0.7s,baz=63,slow=1.9,SNR=4.1						

ISCJB ***20*** *04:47:20.9*±*0.5, 84°.02N*±*0°.07*×*111°.1E*±*0°.7, h10*km, *mb3.8/19, MS3.7/35, Error ellipse: s-maj=11.0km s-min=9.2km az=37.7*
MOS ***20*** *04:47:20.8*±*1.0, 84°.01N*×*111°.06E, h10*km, *mb4.0/11, Error ellipse: s-maj=99.9km s-min=12.2km az=88.4*
IDC ***20*** *04:47:21.2*±*0.7, 84°.03N*×*111°.07E, h0*km, *mb3.8/19, mb1 4.0/19, mb1mx3.9/31, mbtmp3.8/19, MS3.8/35, Ms1 3.8/35, ms1mx3.6/56, Error ellipse: s-maj=19.9km s-min=13.7km az=143.0*
GCMT ***20*** *04:47:22.1*±*0.3, 83°.99N*×*111°.63E, h12*km, *MW4.7, Moment Tensor Solution. s7,c7; s71,c96; Moment tensor: Scale 10¹⁶Nm; Mrr-1.52±.05; Mθθ 0.74±.05; Mφφ 0.77±.05; Mrθ-0.13±.23; Mrφ-0.73±.04; Mθφ 0.19±.23; Best double couple: M₀1.50000×10¹⁶ NP1:φs 137.00000°, δ 49.00000°, λ-88.00000°. NP2:φs 314.00000°, δ 41.00000°, λ-92.00000°. Principal axes: T 1.5000, Plg 4.0000°, Azm 226.0000°; N 0.0300, Plg 1.0000°, Azm 316.0000°; P -1.5400, Plg 85.0000°, Azm 64.0000°; Data Used: II IU CN G IC. Surface wave period 40 sec.*
NEIC ***20*** *04:47:22.8*±*0.4, 84°.02N*×*111°.02E, h10*km, *mb4.2/1 Error ellipse: s-maj=11.5km s-min=8.0km az=138.0*
ISC 20 04:47:22.7±0.6, **84°.02N**±**0°.08**×**110°.99E**±**0°.09**, **h10**km, **n72**, σ**0$90**/48, **mb3.7**/19, **MS3.7**/35, **4C**, **North of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIXI	**Tiksi**	**12.87**	**154**	*e*P	**Pn**	**04 50 25.8**	**+0.6**
TIXI				pmax	pmax		
ARCES	comp=Z,12nm,1.2s **ARCESS Array B**	**20.96**	**281**	P	**P**	**04 52 05.6**	**+0.4**
ARCES	**ARCESS Array B**	**20.96**	**281**	P	**P**	**04 52 05.6**	**+0.4**
ARCES	comp=Z,8.4nm,1.0s,baz=21,slow=10,SNR=4.6			LR	LR	05 00 46.3	
RES	comp=Z,101nm,18.0s,baz=5.0,slow=38

ZAK				pmax	pmax		
	comp=Z,2.0nm,1.5s						
KURK	**Kurchatov**	**34.52 217**	P	**P**	**04 54 11.5**	**+1.0**	
KURK					04 55 23.9		
KURK	**Kurchatov**	**34.52 217**	P	**P**	**04 54 11.4**	**+1.0**	
KURK			PP	**PnPn**	**04 55 23.9**	**-1.4**	
KURBB	**Kurchatov Arra**	**34.61 217**	P	**P**	**04 54 11.4**	**+0.2**	
	comp=Z,0.3nm,0.3s,baz=8.7,slow=9.1,SNR=4.0						
KURBB			PP	**PnPn**	**04 55 23.9**	**-2.6**	
	comp=Z,0.4nm,0.7s,baz=8.2,slow=11,SNR=4.7						
FX1	**Attu Island--F**	**34.84 110**	LR	LR	05 07 13.5		
	comp=Z,89nm,19.2s,baz=261,slow=34						
SONM	**Songino Array**	**36.36 185**	P	**P**	**04 54 26.9**	**+0.5**	
SONM	**Songino Array**	**36.36 185**	P	**P**	**04 54 26.9**	**+0.5**	
	comp=Z,1.6nm,1.0s,baz=352,slow=6.9,SNR=6.9						
SONM			LR	LR	05 10 02.9		
	comp=Z,114nm,18.6s,baz=85,slow=37						
MK31	**Makanchi Array**	**38.20 212**	*eP*	**P**	**04 54 41.9**	**-0.1**	
MK31	**Makanchi Array**	**38.20 212**	*eP*	**P**	**04 54 41.9**	**-0.1**	
MKAR	**Makanchi Array**	**38.20 212**	*ceP*	**P**	**04 54 41.9**	**-0.1**	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**38.20 212**	P	**P**	**04 54 41.5**	**-0.5**	
MKAR	**Makanchi Array**	**38.20 212**	P	**P**	**04 54 41.5**	**-0.5**	
	comp=Z,0.7nm,0.7s,baz=352,slow=4.9,SNR=5.3						
MKAR			LR	LR	05 11 44.4		
	comp=Z,186nm,19.9s,baz=357,slow=38						
AKASG	**Malin Array Be**	**39.01 269**	P	**P**	**04 54 48.9**	**+0.2**	
AKASG	**Malin Array Be**	**39.01 269**	P	**P**	**04 54 48.9**	**+0.2**	
AKASG	**Malin Array Be**	**39.01 269**	P	**P**	**04 54 48.9**	**+0.2**	
	comp=Z,0.4nm,0.4s,baz=9.5,slow=8.6,SNR=2.3						
USRK	**Ussuriysk Arra**	**40.42 157**	LR	LR	05 12 12.1		
	comp=Z,84nm,18.2s,baz=258,slow=37						
ASAJ	**Asahikawa**	**41.04 145**	LR	LR	05 13 37.5		
	comp=Z,72nm,18.2s,baz=17,slow=38						
SCHQ	**Schefferville**	**41.37 358**	LR	LR	05 12 21.9		
	comp=Z,109nm,21.0s,baz=246,slow=36						
VRAC	**Vranov**	**41.70 281**	LR	LR	05 15 41.1		
	comp=Z,100nm,18.9s,baz=13,slow=41						
GERES	**GERESS Array B**	**42.45 284**	P	**P**	**04 55 17.9**	**+0.6**	
GERES	**GERESS Array B**	**42.45 284**	P	**P**	**04 55 17.9**	**+0.6**	
	comp=Z,0.3nm,0.5s,baz=52,slow=8.6,SNR=4.3						
GERES			LR	LR	05 14 01.8		
	comp=Z,68nm,19.3s,baz=180,slow=38						
AAK	**Ala-Archa**	**42.83 220**⇑	*eP*	**P**	**04 55 21.6**	**+1.1**	
AAK				pmax	pmax		
	comp=Z,15nm,1.7s						
KBZ	**Khabaz**	**44.49 254**	LR	LR	05 15 16.7		
	comp=Z,124nm,21.4s,baz=10,slow=38						
MLR	**Muntele Rosu**	**44.50 271**	LR	LR	05 16 56.5		
	comp=Z,39nm,18.1s,baz=34,slow=40						
DAVOX	**Davos/Dischmat**	**44.88 287**	LR	LR	05 14 05.6		
	comp=Z,60nm,20.4s,baz=171,slow=36						
ULM	**Lac du Bonnet**	**45.38 24**	LR	LR	05 14 06.0		
	comp=Z,157nm,20.0s,baz=27,slow=35						
KSRS	**Korea Array**	**47.00 162**	LR	LR	05 18 08.5		
	comp=Z,57nm,20.0s,baz=349,slow=39						
GNI	**Garni**	**47.85 251**	LR	LR	05 19 18.0		
	comp=Z,67nm,21.5s,baz=3.2,slow=40						
MJAR	**Matsushiro Arr**	**48.34 150**	LR	LR	05 17 00.5		
	comp=Z,43nm,19.3s,baz=50,slow=37						
BRTR	**Keskin Array B**	**49.40 262**	P	**P**	**04 56 11.6**	**-0.6**	
BRTR	**Keskin Array B**	**49.40 262**	P	**P**	**04 56 11.6**	**-0.6**	
	comp=Z,0.7nm,0.8s,baz=59,slow=8.6,SNR=3.1						
BRTR			LR	LR	05 18 35.7		
	comp=Z,50nm,21.5s,baz=19,slow=38						
JNU	**Nakatsue**	**51.42 159**	LR	LR	05 17 13.2		
	comp=Z,65nm,18.1s,baz=260,slow=35						
PDAR	**Pinedale Array**	**52.11 37**	LR	LR	05 20 35.9		
	comp=Z,93nm,19.2s,baz=3.2,slow=38						
ESDC	**Sonseca Array**	**53.26 299**	P	**P**	**04 56 41.3**	**+0.4**	
ESDC	**Sonseca Array**	**53.26 299**	P	**P**	**04 56 41.3**	**+0.4**	
	comp=Z,0.3nm,0.5s,baz=354,slow=8.0,SNR=3.3						
MMAI	**Mount Meron Ar**	**55.86 259**	LR	LR	05 23 41.5		
	comp=Z,49nm,19.1s,baz=100,slow=39						
KEST	**Kesra**	**55.88 286**	P	**P**	**04 56 58.6**	**-1.4**	
KEST	**Kesra**	**55.88 286**	P	**P**	**04 56 58.6**	**-1.4**	
	comp=Z,0.4nm,0.6s,baz=148,slow=15,SNR=2.1						
EIL	**Elat**	**59.22 259**	LR	LR	05 27 40.0		
	comp=Z,61nm,21.0s,baz=192,slow=41						
ANMO	**Albuquerque**	**60.09 35**	LR	LR	05 23 03.8		
	comp=Z,166nm,18.3s,baz=0.5,slow=36						
TKL	**Tuckaleechee C**	**60.36 14**	LR	LR	05 23 54.5		
	comp=Z,242nm,19.0s,baz=359,slow=36						
PFO	**Pinyon Flat Ob**	**60.74 45**	LR	LR	05 24 02.6		
	comp=Z,233nm,18.1s,baz=316,slow=36						
CMAR	**Chiang Mai Arr**	**65.78 193**	P	**P**	**04 58 07.2**	**-0.2**	
CMAR	**Chiang Mai Arr**	**65.78 193**	P	**P**	**04 58 07.2**	**-0.2**	
	comp=Z,0.8nm,0.3s,baz=348,slow=8.3,SNR=2.4						
CMAR			LR	LR	05 28 47.4		
	comp=Z,120nm,18.9s,baz=194,slow=38						
TXAR	**Lajitas Array**	**65.83 33**	P	**P**	**04 58 06.8**	**-1.1**	
TXAR	**Lajitas Array**	**65.83 33**	P	**P**	**04 58 06.8**	**-1.1**	
	comp=Z,0.4nm,0.5s,baz=11,slow=4.8,SNR=9.2						
TXAR			LR	LR	05 26 04.3		
	comp=Z,86nm,21.5s,baz=255,slow=35						
TORD	**Torodi Ar. Bea**	**78.99 290**	P	**P**	**04 59 26.5**	**+0.2**	
TORD	**Torodi Ar. Bea**	**78.99 290**	P	**P**	**04 59 26.5**	**+0.2**	
	comp=Z,0.8nm,0.8s,baz=11,slow=5.3,SNR=6.3						
APG	**El Apazote**	**80.27 2**	LR	LR	05 39 20.6		
	comp=Z,122nm,18.8s,baz=90,slow=39						
ROSC	**El Rosal**	**91.17 5**	LR	LR	05 38 21.7		
	comp=Z,44nm,20.7s,baz=193,slow=34						

IDC ***20*** *05:04:55.9±1.1, 0.7°N×127.1°E, h0km, mb4.1/6, mb1 4.2/7, mb1mx3.9/22, mbtmp4.0/7, ML3.4/1, Error ellipse: s-maj=116.2km s-min=16.5km az=70.0*

DJA ***20*** *05:04:59.3±0.8, 1.1°N×12.7°E±, h10km, M4.2/4, MLv4.2/4*

ISC 20 05:04:57.6±1.5, **0.8°N**±0.0°8×**127.17°E**±0.08, **h11**km±10km, **n11**, σ**1**s**31**/13, **mb4.2**/6, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.23**	**118**	P	**Pg**	**05 05 01.9**	**-0.5**
TNTI				S	**Sg**	**05 05 05.8**	**+0.1**
LBMI	**Labuha**	**1.54**	**168**	P	**Pg**	**05 05 26.5**	**-0.8**
LBMI				S	**Sg**	**05 05 50.0**	**+2.6**
KMSI	**Cibinong**	**3.20**	**265**	P	**Pb**	**05 05 54.5**	**0.0**
SWI	**Sorong**	**4.44**	**113**	P	**Pn**	**05 06 05.7**	**+0.7**
FITZ	**Fitzroy Crossi**	**18.92**	**184**	P	**P**	**05 09 17.0**	**-1.6**
	0.1nm,0.3s,baz=18,slow=6.4,SNR=2.6						
WRA	**Warramunga Arr**	**21.86**	**162**	P	**P**	**05 09 49.7**	**-0.7**
	6.7nm,0.8s,baz=340,slow=11,SNR=38						
ASAR	**Alice Springs**	**25.26**	**165**	P	**P**	**05 10 23.2**	**-0.8**
	5.4nm,0.8s,baz=352,slow=7.4,SNR=20						
STKA	**Stephens Creek**	**35.33**	**158**	P	**P**	**05 11 52.4**	**-0.7**
	4.4nm,0.6s,baz=343,slow=10.0,SNR=12						
SONM	**Songino Array**	**50.12**	**342**	P	**P**	**05 13 53.0**	**0.0**
	0.4nm,0.4s,baz=179,slow=6.8,SNR=5.8						
MKAR	**Makanchi Array**	**60.14**	**326**	P	**P**	**05 15 05.5**	**+0.3**
	1.6nm,0.6s,baz=119,slow=8.6,SNR=16						
ZALV	**Zalesovo Beam**	**63.31**	**334**	P	**P**	**05 15 28.1**	**+1.7**
	0.4nm,0.2s,baz=143,slow=11,SNR=2.1						

SZGRF ***20*** *05:07:29.7, 42.01°N×13.73°E, h10km, mb3.8, Central Italy*
ISCJB ***20*** *05:07:30.4±0.2, 42.41°N±0.01°×13.17°E±0.02, h5km±2km, mb3.7/4, Error ellipse: s-maj=2.8km s-min=1.9km az=43.9*
LDG ***20*** *05:07:30.8±0.1, 42.37°N×13.13°E, h10km, Ml3.3/6, Error ellipse: s-maj=4.5km s-min=2.5km az=21.0*
ROM ***20*** *05:07:30.5±0.1, 42.39°N×13.25°E, h10km, Ml3.6/35, Error ellipse: s-maj=0.8km s-min=0.7km az=88.0*
CSEM ***20*** *05:07:31.3±0.1, 42.42°N×13.14°E, h2km, ML3.6, Error ellipse: s-maj=2.4km s-min=2.0km az=31.0*
PDG ***20*** *05:07:31.4±0.6, 42.43°N×13.20°E, h5km, ML3.8/11, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*
IDC ***20*** *05:07:31.1±1.4, 42.45°N×13.29°E, h0km, mb3.5/5, mb1 3.7/10, mb1mx3.5/31, mbtmp3.5/10, ML3.4/5, Error ellipse: s-maj=23.4km s-min=15.0km az=80.0*
VIE ***20*** *05:07:31.9±0.3, 42.42°N×13.29°E, h10km, mb3.4/11, ML3.4/11, Error ellipse: s-maj=4.5km s-min=2.1km az=60.0*

ISC 20 05:07:31.1±1.2, **42.42°N**±0.02°×**13.21°E**±0.02, **h0**km±9km, **n182**, σ**1**s**31**/250, **mb3.7**/4, **20C-13D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AQU	**L'Aquila**	**0.16**	**114**	Pg	**Pg**	**05 07 34.1**	**0.0**
AQU				Sg	**Sg**	**05 07 36.8**	**+0.7**
	82μm,0.6s						
AQU	**L'Aquila**	**0.16**	**114**	Pg	**Pg**	**05 07 34.1**	**0.0**
AQU				Sg	**Sg**	**05 07 36.8**	**+0.7**
	82μm,0.6s						

FIAM	**Fiamignano**	**0.16**	**204**	Pg	**Pg**	**05 07 34.6**	**+0.4**
FIAM				Sg	**Sg**	**05 07 37.4**	**+1.1**
	33μm,0.7s						
FIAM	**Fiamignano**	**0.16**	**204**	Pg	**Pg**	**05 07 34.6**	**+0.4**
FIAM				Sg	**Sg**	**05 07 37.4**	**+1.1**
	33μm,0.7s						
CAMP	**Campotosto**	**0.19**	**51**	Pg	**Pg**	**05 07 35.1**	**+0.3**
CAMP				Sg	**Sg**	**05 07 38.6**	**+1.4**
	30μm,0.5s						
CAMP	**Campotosto**	**0.19**	**51**	Pg	**Pg**	**05 07 35.1**	**+0.3**
CAMP				Sg	**Sg**	**05 07 38.6**	**+1.4**
	30μm,0.5s						
LNSS	**Leonessa**	**0.22**	**326**	Pg	**Pg**	**05 07 36.2**	**+0.8**
LNSS				Sg	**Sg**	**05 07 40.8**	**+2.5**
	34μm,0.9s						
LNSS	**Leonessa**	**0.22**	**326**	Pg	**Pg**	**05 07 36.2**	**+0.8**
FAGN	**Fagnano**	**0.32**	**118**	Pg	**Pg**	**05 07 36.9**	**-0.3**
FAGN				Sg	**Sg**	**05 07 42.1**	**+0.8**
	40μm,0.5s						
FAGN	**Fagnano**	**0.32**	**118**	Pg	**Pg**	**05 07 36.9**	**-0.3**
FAGN				Sg	**Sg**	**05 07 42.1**	**+0.8**
	40μm,0.5s						
TERO	**Teramo**	**0.36**	**55**	Pg	**Pg**	**05 07 37.8**	**-0.2**
TERO				Sg	**Sg**	**05 07 43.3**	**+0.7**
	7μm,0.4s						
TERO	**Teramo**	**0.36**	**55**	Pg	**Pg**	**05 07 37.8**	**-0.2**
TERO				Sg	**Sg**	**05 07 43.3**	**+0.7**
	7μm,0.4s						
PTQR	**Pietraquaria**	**0.42**	**160**	Pg	**Pg**	**05 07 38.6**	**-0.5**
PTQR				Sg	**Sg**	**05 07 45.5**	**+0.9**
PTQR	**Pietraquaria**	**0.42**	**160**	Pg	**Pg**	**05 07 38.6**	**-0.5**
PTQR				Sg	**Sg**	**05 07 45.5**	**+0.9**
NRCA	**Norcia**	**0.42**	**351**	Pg	**Pg**	**05 07 39.4**	**+0.2**
NRCA				Sg	**Sb**	**05 07 47.0**	**-1.5**
NRCA	**Norcia**	**0.42**	**351**	Pg	**Pg**	**05 07 39.4**	**+0.2**
NRCA				Sg	**Sb**	**05 07 47.0**	**-1.5**
VCEL	**Villa Celiera**	**0.47**	**93**	Pg	**Pg**	**05 07 39.6**	**-0.5**
	17μm,0.9s						
VCEL	**Villa Celiera**	**0.47**	**93**	Pg	**Pg**	**05 07 39.6**	**-0.5**
	17μm,0.9s						
CERT	**Cerreto**	**0.50**	**200**	Pg	**Pg**	**05 07 40.2**	**-0.4**
CERT				Sg	**Sg**	**05 07 47.1**	**+0.1**
	3μm,0.6s						
CERT	**Cerreto**	**0.50**	**200**	Pg	**Pg**	**05 07 40.2**	**-0.4**
CERT				Sg	**Sg**	**05 07 47.1**	**+0.1**
	3μm,0.6s						
CESX	**Cesi**	**0.50**	**293**	Pg	**Pg**	**05 07 40.9**	**+0.2**
CESX				Sg	**Sb**	**05 07 48.9**	**-1.8**
	5μm,0.7s						
CESX	**Cesi**	**0.50**	**293**	Pg	**Pg**	**05 07 40.9**	**+0.2**
MTCE	**Montecelio**	**0.52**	**221**	Pg	**Pg**	**05 07 40.9**	**-0.2**
	10μm,1.7s						
MTCE	**Montecelio**	**0.52**	**221**	Pg	**Pg**	**05 07 40.9**	**-0.2**
	10μm,1.7s						
FDMO	**Fiordimonte**	**0.62**	**352**	Pg	**Pg**	**05 07 43.0**	**-0.1**
FDMO				Sg	**Sb**	**05 07 53.1**	**-1.2**
	1μm,0.6s						
FDMO	**Fiordimonte**	**0.62**	**352**	Pg	**Pg**	**05 07 43.0**	**-0.1**
FDMO				Sg	**Sb**	**05 07 53.1**	**-1.2**
	1μm,0.6s						
OFFI	**Offida**	**0.63**	**34**	Pg	**Pg**	**05 07 43.8**	**+0.7**
	19μm,0.7s						
OFFI	**Offida**	**0.63**	**34**	Pg	**Pg**	**05 07 43.8**	**+0.7**
	19μm,0.7s						
GUAR	**Guarcino**	**0.63**	**173**	Pg	**Pg**	**05 07 42.2**	**-0.9**
	2μm,0.6s						
GUAR	**Guarcino**	**0.63**	**173**	Pg	**Pg**	**05 07 42.2**	**-0.9**
	2μm,0.6s						
VVLD	**Villa Vallelon**	**0.63**	**150**	Pg	**Pg**	**05 07 41.9**	**-1.2**
	1μm,0.6s						
CESI	**CESI - Serrava**	**0.63**	**339**	Pg	**Pg**	**05 07 43.3**	**+0.1**
CESI				Sg	**Sb**	**05 07 53.4**	**-1.0**
	2μm,0.5s						
CESI	**CESI - Serrava**	**0.63**	**339**	Pg	**Pg**	**05 07 43.3**	**+0.1**
CESI				Sg	**Sb**	**05 07 53.4**	**-1.0**
	2μm,0.5s						
TRTR	**Tortoreto Alta**	**0.65**	**53**	Pg	**Pg**	**05 07 44.1**	**+0.5**
	15μm,0.6s						
TRTR	**Tortoreto Alta**	**0.65**	**53**	Pg	**Pg**	**05 07 44.1**	**+0.5**
	15μm,0.6s						
INTR	**Introdacqua**	**0.66**	**128**	Pg	**Pg**	**05 07 42.5**	**-1.2**
INTR				Sg	**Sg**	**05 07 51.3**	**-0.9**
	5μm,0.6s						
RDP	**Rocca di Papa**	**0.75**	**209**	Pg	**Pg**	**05 07 45.7**	**+0.2**
RDP	**Rocca di Papa**	**0.75**	**209**	Pg	**Pg**	**05 07 45.7**	**+0.2**
POFI	**Posta Fibreno**	**0.79**	**152**	Pg	**Pg**	**05 07 45.0**	**-1.3**
	2μm,1.0s						
LPEL	**Lama dei Pelig**	**0.81**	**117**	Pg	**Pg**	**05 07 45.3**	**-1.4**
	2μm,0.7s						
SDI	**San Donato**	**0.84**	**147**	Pg	**Pg**	**05 07 45.4**	**-1.7**
	411nm,0.4s						
GUMA	**Gualdo di Mace**	**0.84**	**39**	Pg	**Pg**	05 07 43.8	-3.4
	6μm,0.3s						
GIUL	**Giuliano Di Ro**	**0.86**	**178**	Pg	**Pg**	**05 07 46.8**	**-0.7**
	914nm,0.6s						
GIUL	**Giuliano Di Ro**	**0.86**	**178**	Pg	**Pg**	**05 07 46.8**	**-0.7**
	914nm,0.6s						
SNTG	**Esanatoglia**	**0.86**	**347**	Pg	**Pg**	**05 07 47.1**	**-0.5**
SNTG	**Esanatoglia**	**0.86**	**347**	Pg	**Pg**	**05 07 47.1**	**-0.5**
MGAB	**Montegabbione**	**0.95**	**302**	Pg	**Pg**	**05 07 49.1**	**-0.2**
	2μm,0.4s						
MGAB	**Montegabbione**	**0.95**	**302**	Pg	**Pg**	**05 07 49.1**	**-0.2**
	2μm,0.4s						
CING	**Cingoli**	**0.96**	**359**	Pg	**Pg**	**05 07 48.8**	**-0.7**
	1μm,0.8s						
CING	**Cingoli**	**0.96**	**359**	Pg	**Pg**	**05 07 48.8**	**-0.7**
	1μm,0.8s						
TOLF	**Tolfa**	**0.96**	**249**	Pg	**Pg**	**05 07 49.1**	**-0.5**
	1μm,0.8s						
TOLF	**Tolfa**	**0.96**	**249**	Pg	**Pg**	**05 07 49.1**	**-0.5**
	1μm,0.8s						
MURB	**Monte Urbino**	**0.98**	**330**	Pg	**Pg**	**05 07 49.6**	**-0.4**
	4μm,0.4s						
MURB	**Monte Urbino**	**0.98**	**330**	Pg	**Pg**	**05 07 49.6**	**-0.4**
	4μm,0.4s						
CERA	**Filignano**	**1.02**	**143**	Pg	**Pg**	**05 07 48.7**	**-1.9**
	2μm,0.7s						
SACS	**San Casciano d**	**1.05**	**295**	Pg	**Pg**	**05 07 50.7**	**-0.5**
	2μm,1.0s						
MIDA	**Miranda**	**1.10**	**134**	Pg	**Pg**	**05 07 49.7**	**-2.5**
	892nm,0.7s						
PIEI	**Pieia**	**1.22**	**336**	Pg	**Pg**	**05 07 53.3**	**-1.2**
	438nm,0.4s						
PIEI	**Pieia**	**1.22**	**336**	Pg	**Pg**	**05 07 53.3**	**-1.2**
	438nm,0.4s						
CAFI	**Castiglion Fio**	**1.29**	**315**	Pg	**Pg**	**05 07 55.3**	**-0.5**
	908nm,0.8s						
CAFI	**Castiglion Fio**	**1.29**	**315**	Pg	**Pg**	**05 07 55.3**	**-0.5**
	908nm,0.8s						
BADI	**Badiali**	**1.30**	**327**	Pg	**Pg**	**05 07 55.4**	**-0.6**
	887nm,0.7s						
BADI	**Badiali**	**1.30**	**327**	Pg	**Pg**	**05 07 55.4**	**-0.6**
	887nm,0.7s						
FSSB	**Fossombrone**	**1.31**	**346**	Pg	**Pg**	**05 07 55.2**	**-1.1**
	2μm,0.4s						
FSSB	**Fossombrone**	**1.31**	**346**	Pg	**Pg**	**05 07 55.2**	**-1.1**
	2μm,0.4s						
ARCI	**Arcidosso**	**1.35**	**289**	Pg	**Pg**	**05 07 56.6**	**-0.4**
	356nm,1.1s						
ARCI	**Arcidosso**	**1.35**	**289**	Pg	**Pg**	**05 07 56.6**	**-0.4**
	356nm,1.1s						
NVLJ	**Novalja**	**2.46**	**29**	*e*Pn	**Pn**	**05 08 12.1**	**-0.4**
NVLJ				Sn	**Sn**	**05 08 43.2**	**-0.1**
NVLJ	**Novalja**	**2.46**	**29**	*e*Pn	**Pn**	**05 08 12.1**	**-0.4**
NVLJ				Sn	**Sn**	**05 08 43.1**	**-0.1**
MAIM	**Mastiano**	**2.49**	**308**	P	**Pn**	**05 08 13.1**	**+0.3**
UDBI	**Udbina**	**2.81**	**41**	*e*Pn	**Pn**	**05 08 18.4**	**+1.0**
UDBI				Sn	**Sn**	**05 08 52.8**	**+0.7**
UDBI	**Udbina**	**2.81**	**41**	*e*Pn	**Pn**	**05 08 18.4**	**+1.0**
UDBI				Sn	**Sn**	**05 08 52.7**	**+0.7**
BAI	**Bari**	**3.04**	**114**	*e*Pn	**Pn**	**05 08 20.9**	**+0.5**
BAI				*e*Sn	**Sn**	**05 08 59.2**	**+1.7**
SKDS	**Skadanscina**	**3.18**	**10**	*i* Pn	**Pn**	**05 08 21.6**	**-0.9**
SKDS				*i* Sn	**Sn**	**05 09 01.3**	**+0.2**
SKDS	**Skadanscina**	**3.18**	**10**	Pn	**Pn**	**05 08 21.5**	**-0.9**
SKDS				*i* Sn	**Sn**	**05 09 01.3**	**+0.2**
STON	**Ston**	**3.34**	**81**	*e*Pn	**Pn**	**05 08 26.1**	**+1.4**
STON				Sn	**Sn**	**05 09 04.2**	**-0.8**
STON	**Ston**	**3.34**	**81**	*e*Pn	**Pn**	**05 08 26.0**	**+1.4**
STON				Sn	**Sn**	**05 09 04.2**	**-0.8**
BOJS	**Bojanci**	**3.42**	**25**	*i* Pn	**Pn**	**05 08 26.0**	**+0.4**
BOJS				*i* Sn	**Sn**	**05 09 07.6**	**+0.7**
BOJS	**Bojanci**	**3.42**	**25**	*i* Pn	**Pn**	**05 08 26.0**	**+0.4**
BOJS				*i* Sn	**Sn**	**05 09 07.6**	**+0.7**
CEY	**Cerknica**	**3.44**	**14**	*i* Pn	**Pn**	**05 08 25.7**	**-0.2**
CEY				*i* Sn	**Sn**	**05 09 07.6**	**+0.3**
CEY	**Cerknica**	**3.44**	**14**	*i* Pn	**Pn**	**05 08 25.7**	**-0.2**
CEY				*i* Sn	**Sn**	**05 09 07.6**	**+0.3**
PE1	**Pezze di Greco**	**3.55**	**116**	*e*Pn	**Pn**	**05 08 27.8**	**+0.4**
VOY	**Vojsko**	**3.65**	**8**	*e*Pn	**Pn**	**05 08 27.8**	**-1.1**
VOY				*e*		05 08 43.2	
VOY				*e*		05 09 08.3	
VOY				*e*		05 09 15.3	
VOY	**Vojsko**	**3.65**	**8**	*e*Pn	**Pn**	**05 08 27.8**	**-1.1**
LJU	**Ljubljana**	**3.75**	**14**	*e*Pn	**Pn**	**05 08 31.5**	**+1.3**
LJU				*e*Sn	**Sn**	**05 09 15.5**	**+0.5**
HCY	**Herceg Novi**	**3.91**	**88**⇑	*i*Pn	**Pn**	**05 08 34.1**	**+1.7**
HCY				*e*Sn	**Sn**	**05 09 21.4**	**+2.4**
HCY	**Herceg Novi**	**3.91**	**88**⇑	*i*Pn	**Pn**	**05 08 34.1**	**+1.7**
HCY				*e*Sn	**Sn**	**05 09 21.4**	**+2.4**
PCP	**Piancastagn**	**4.00**	**304**	P	**Pn**	**05 08 32.2**	**-1.5**
OBKA	**Obir**	**4.20**	**13**⇑	*i*Pn	**Pn**	**05 08 35.1**	**-1.4**
OBKA	**Obir**	**4.20**	**13**	*e*Pn	**Pn**	**05 08 36.4**	**-0.1**
OBKA	**Obir**	**4.20**	**13**	Pn	**Pn**	**05 08 35.1**	**-1.4**
BUM	**Brajici-Budva**	**4.21**	**90**⇑	*i*Pn	**Pn**	**05 08 37.9**	**+1.3**
BUM				*e*Sn	**Sn**	**05 09 28.9**	**+2.3**
BUM	**Brajici-Budva**	**4.21**	**90**⇑	*i*Pn	**Pn**	**05 08 37.9**	**+1.3**
BUM				*e*Sn	**Sn**	**05 09 28.9**	**+2.3**
MYKA	**Terra Mystica**	**4.22**	**4**⇓	*i*Pn	**Pn**	**05 08 36.8**	**0.0**
MYKA				⇑*i*Sn	**Sn**	**05 09 26.6**	**-0.2**
MYKA	**Terra Mystica**	**4.22**	**4**	Pn	**Pn**	**05 08 36.8**	**0.0**
MYKA				Sn	**Sn**	**05 09 26.6**	**-0.2**
NKME	**Niksic**	**4.26**	**83**⇑	*i*Pn	**Pn**	**05 08 38.9**	**+1.7**
NKME				*e*Sn	**Sn**	**05 09 30.1**	**+2.5**
NKME	**Niksic**	**4.26**	**83**⇑	*i*Pn	**Pn**	**05 08 38.9**	**+1.7**
NKME				*e*Sn	**Sn**	**05 09 30.1**	**+2.5**
UPM	**Unac-Piva**	**4.26**	**77**⇑	*i*Pn	**Pn**	**05 08 38.7**	**+1.3**
UPM				*e*Sn	**Sn**	**05 09 29.4**	**+1.4**
UPM	**Unac-Piva**	**4.26**	**77**⇑	*i*Pn	**Pn**	**05 08 38.7**	**+1.3**
UPM				*e*Sn	**Sn**	**05 09 29.4**	**+1.4**
NKY	**Niksic**	**4.29**	**83**⇓	*i*Pn	**Pn**	**05 08 39.7**	**+2.0**
NKY				*e*Sn	**Sn**	**05 09 30.9**	**+2.5**
NKY	**Niksic**	**4.29**	**83**⇓	*i*Pn	**Pn**	**05 08 39.7**	**+2.0**
NKY				*e*Sn	**Sn**	**05 09 30.9**	**+2.5**
ABTA	**Abfaltersbach**	**4.36**	**354**⇓	*i*Pn	**Pn**	**05 08 39.0**	**+0.3**
	SNR=25						
ABTA	**Abfaltersbach**	**4.36**	**354**	Pn	**Pn**	**05 08 39.0**	**+0.3**
	SNR=25						
PERS	**Pernice**	**4.43**	**17**	*i* Pn	**Pn**	**05 08 39.2**	**-0.4**
PERS				*i* Sn	**Sn**	**05 09 31.5**	**-0.5**
PERS	**Pernice**	**4.43**	**17**	*i* Pn	**Pn**	**05 08 39.2**	**-0.4**
PERS				*i* Sn	**Sn**	**05 09 31.5**	**-0.5**
DRME	**Dracevica, Mon**	**4.44**	**91**⇑	*i*Pn	**Pn**	**05 08 40.6**	**+0.9**
DRME				*e*Sn	**Sn**	**05 09 34.1**	**+2.1**
DRME	**Dracevica, Mon**	**4.44**	**91**⇑	*i*Pn	**Pn**	**05 08 40.6**	**+0.9**
DRME				*e*Sn	**Sn**	**05 09 34.1**	**+2.1**
SBF	**Sospel**	**4.46**	**291**	*e*Pn	Pn	05 08 35.6	-4.5
SBF	**Sospel**	**4.46**	**291**	*eP*	**Pn**	**05 08 39.7**	**-0.4**
SBF				*e*Sn	Sn	05 09 24.5	-8.2
	11nm,0.5s						
SBF	**Sospel**	**4.46**	**291**	*e*Pn	Pn	05 08 35.6	-4.5
SBF	**Sospel**	**4.46**	**291**	*eP*	**Pn**	**05 08 39.7**	**-0.4**
PDG	**Podgorica**	**4.48**	**88**⇑	*i*Pn	**Pn**	**05 08 41.0**	**+0.8**
PDG				*e*Sn	**Sn**	**05 09 35.3**	**+2.4**
TTG

HAU				*e*Sn	Sn	05 10 35.3	-9.5	
	9.1nm,0.4s							
HAU	**Haudompre**	**7.39**	**321**	*e*Pn	**Pn**	**05 09 17.7**	**-2.5**	
PRU	**Pruhonice**	**7.63**	**6**	*ex*	**Sn**	**05 10 45.7**	**-4.8**	
CLL	**Collm**	**8.89**	**359**	*e*Sn	**Sn**	**05 11 16.0**	**-5.6**	
CLL				*e*Sg	Sg	05 12 09.0	-7.5	
MLR	**Muntele Rosu**	**9.69**	**67**	Pn	**Pn**	**05 09 51.3**	**-0.5**	
	0.0nm,0.3s,baz=251,slow=17,SNR=2.4							
HFS	**Hagfors**	**17.74**	**1**	P	**Pn**	**05 11 39.1**	**-0.2**	
	0.2nm,0.3s,baz=222,slow=1.9,SNR=3.7							
NOA	**NORSAR Array B**	**18.69**	**357**	P	**P**	**05 11 50.1**	**-0.5**	
	0.1nm,0.3s,baz=165,slow=4.3,SNR=2.6							
FINES	**FINESS Array B**	**20.57**	**18**	P	**P**	**05 12 10.4**	**-0.7**	
	1.3nm,0.8s,baz=194,slow=11,SNR=4.3							
KBZ	**Khabaz**	**21.68**	**76**	P	**P**	**05 12 23.1**	**-0.1**	
	3.0nm,1.0s,baz=284,slow=12,SNR=2.1							
TORD	**Torodi Ar. Bea**	**30.83**	**202**	P	**P**	**05 13 48.9**	**+0.1**	
	0.5nm,0.6s,baz=26,slow=7.5,SNR=5.7							
MKAR	**Makanchi Array**	**47.94**	**60**	P	**P**	**05 16 10.9**	**-0.2**	
	0.5nm,0.7s,baz=297,slow=5.3,SNR=4.2							
SONM	**Songino Array**	**62.04**	**50**	P	**P**	**05 17 53.7**	**+0.4**	
	0.3nm,0.5s,baz=316,slow=8.3,SNR=3.8							

IDC 20 05:20:42.0±2.2, 30.38N×114.04W, h0km, mb3.4/1, mb1 3.5/7, mb1mx3.4/28, mbtmp3.2/7, ML3.2/6, MS3.2/1, Ms1 3.2/1, ms1mx2.5/27, Error ellipse: s-maj=33.1km s-min=13.0km az=27.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PFO	**Pinyon Flat Ob**	**3.82**	**328**	Pn		Pn	05 21 40.9	-1.4
	0.3nm,0.3s,baz=164,slow=12,SNR=3.6							
PFO				Pg		Pg	05 21 53.9	-1.5
	0.5nm,0.3s,baz=141,slow=14,SNR=5.5							
PFO				Lg		Lg	05 22 48.1	
	2.2nm,0.3s,baz=96,slow=14,SNR=4.2							
ANMO	**Albuquerque**	**7.84**	**53**	Pn		Pn	05 22 38.2	+0.5
	0.1nm,0.3s,baz=238,slow=14,SNR=4.0							
ANMO				Sn		Sn	05 24 07.0	-0.4
	0.2nm,0.3s,baz=29,slow=19,SNR=3.5							
ANMO				Lg		Lg	05 24 52.6	
	0.1nm,0.3s,baz=355,slow=19,SNR=2.4							
NVAR	**Mina Array Bea**	**8.77**	**337**	Pn		Pn	05 22 56.5	+6.2
	0.1nm,0.3s,baz=151,slow=16,SNR=4.1							
TXAR	**Lajitas Array**	**9.07**	**94**	Pn		Pn	05 22 54.8	+0.4
	0.1nm,0.3s,baz=277,slow=14,SNR=7.3							
TXAR				Sn		Sn	05 24 40.4	+3.1
	0.0nm,0.3s,baz=314,slow=46,SNR=2.2							
TXAR				Lg		Lg	05 25 30.0	
	0.1nm,0.3s,baz=70,slow=29,SNR=3.7							
ELK	**Elko**	**10.39**	**355**	Pn		Pn	05 23 15.6	+3.1
	0.1nm,0.3s,baz=270,slow=20,SNR=2.4							
PDAR	**Pinedale Array**	**12.87**	**15**	Pn		Pn	05 23 48.1	+1.6
	0.1nm,0.3s,baz=195,slow=10,SNR=2.2							
YBH	**Yreka Blue Hor**	**13.31**	**331**	LR		LR	05 28 55.8	
	comp=Z,104nm,18.3s,baz=346,slow=37							
NEW	**Newport**	**18.01**	**353**	P		P	05 24 55.7	+1.3
	0.1nm,0.3s,baz=164,slow=7.4,SNR=3.4							
ILAR	**Eielson Array**	**40.02**	**339**	P		P	05 28 20.0	+1.6
	0.5nm,0.8s,baz=149,slow=7.2,SNR=6.0							

IDC 20 05:41:16.4±2.1, 84.14N×110.26E, h0km, mb3.9/9, mb1 4.1/9, mb1mx3.8/29, mbtmp3.9/9, MS3.4/18, Ms1 3.4/18, ms1mx3.2/39, Error ellipse: s-maj=92.0km s-min=16.2km az=162.0, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
ARCES	**ARCESS Array B**	**20.86**	**280**	P		P	05 45 59.4	0.0
	6.0nm,1.0s,baz=12,slow=22,SNR=3.0							
ARCES				LR		LR	05 54 27.2	
	comp=Z,64nm,18.1s,baz=244,slow=38							
RES	**Resolute Bay**	**20.90**	**18**	LR		LR	05 53 23.0	
	comp=Z,130nm,18.3s,baz=268,slow=35							
INK	**Inuvik**	**24.97**	**52**	P		P	05 46 41.4	+0.4
	3.7nm,1.0s,baz=347,slow=10,SNR=4.7							
ILAR	**Eielson Array**	**27.26**	**66**	P		P	05 47 01.7	-0.1
	1.7nm,1.0s,baz=347,slow=8.8,SNR=13							
ILAR				LR		LR	05 56 54.2	
	comp=Z,57nm,21.7s,baz=316,slow=34							
FINES	**FINESS Array B**	**28.68**	**275**	P		P	05 47 14.8	+0.4
	2.6nm,0.9s,baz=327,slow=14,SNR=4.1							
FINES				LR		LR	06 01 21.6	
	comp=Z,78nm,18.3s,baz=224,slow=42							
SFJD	**Kangerlussuaq**	**28.78**	**344**	LR		LR	05 57 07.9	
	comp=Z,84nm,19.5s,baz=81,slow=33							
NOA	**NORSAR Array B**	**30.56**	**289**	LR		LR	06 03 08.0	
	comp=Z,9.3nm,18.1s,baz=0.0,slow=43							
ZALV	**Zalesovo Beam**	**31.00**	**210**	LR		LR	06 00 48.1	
	comp=Z,81nm,18.5s,baz=237,slow=38							
HFS	**Hagfors**	**31.21**	**286**	LR		LR	06 01 02.4	
	comp=Z,62nm,19.5s,baz=251,slow=38							
FRB	**Frobisher Bay**	**32.31**	**359**	LR		LR	06 00 16.7	
	comp=Z,65nm,21.4s,baz=231,slow=35							
BVAR	**Borovoye Array**	**32.82**	**226**	LR		LR	06 03 58.0	
	comp=Z,210nm,18.4s,baz=184,slow=42							
PETK	**Petropavlovsk-**	**33.33**	**126**	LR		LR	06 02 19.1	
	comp=Z,27nm,18.9s,baz=86,slow=38							
AKTO	**Aktyubinsk**	**36.39**	**238**	LR		LR	06 04 31.5	
	comp=Z,120nm,18.8s,baz=9.8,slow=38							
MKAR	**Makanchi Array**	**38.27**	**211**	LR		LR	06 05 51.0	
	comp=Z,61nm,20.6s,baz=324,slow=38							
AKASG	**Malin Array Be**	**38.93**	**268**	P		P	05 48 42.3	-1.0
	0.2nm,0.4s,baz=7.3,slow=8.5,SNR=3.8							
KBZ	**Khabaz**	**44.45**	**253**	LR		LR	06 08 05.2	
	comp=Z,61nm,18.1s,baz=249,slow=36							
ULM	**Lac du Bonnet**	**45.30**	**23**	LR		LR	06 07 27.2	
	comp=Z,58nm,21.1s,baz=240,slow=35							
KSRS	**Korea Array**	**47.13**	**161**	LR		LR	06 10 11.1	
	comp=Z,36nm,19.7s,baz=47,slow=37							
BRTR	**Keskin Array B**	**49.34**	**262**	P		P	05 50 07.3	+0.2
	0.9nm,0.8s,baz=60,slow=8.8,SNR=3.8							
PDAR	**Pinedale Array**	**52.06**	**37**	P		P	05 50 28.1	+0.4
	1.5nm,1.2s,baz=29,slow=3.4,SNR=5.3							
PDAR				LR		LR	06 10 29.8	
	comp=Z,61nm,21.4s,baz=208,slow=34							
TXAR	**Lajitas Array**	**65.78**	**32**	P		P	05 52 02.1	-0.8
	0.8nm,0.8s,baz=0.7,slow=3.8,SNR=7.8							
TXAR				LR		LR	06 23 17.0	
	comp=Z,42nm,20.7s,baz=5.0,slow=38							
TORD	**Torodi Ar. Bea**	**78.88**	**290**	P		P	05 53 21.6	+0.5
	1.4nm,1.1s,baz=354,slow=5.3,SNR=4.2							

IDC 20 06:03:55.3±2.2, 0.55N×126.61E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/22, mbtmp3.5/4, Error ellipse: s-maj=262.9km s-min=21.6km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.73**	**160**	P		P	06 08 48.0	-0.4
	0.8nm,0.6s,baz=339,slow=10,SNR=5.2							
ASAR	**Alice Springs**	**25.09**	**164**	P		P	06 09 22.2	+0.3
	1.1nm,0.8s,baz=344,slow=8.7,SNR=9.3							
MKAR	**Makanchi Array**	**60.10**	**326**	P		P	06 14 04.0	-0.5
	0.2nm,0.5s,baz=123,slow=8.1,SNR=3.9							
KURBB	**Kurchatov Arra**	**64.35**	**328**	P		P	06 14 33.2	+0.4
	0.5nm,0.5s,baz=126,slow=5.9,SNR=2.2							

IDC 20 06:06:21.1±2.9, 33.54S×178.84W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/17, mbtmp3.7/3, ML3.7/1, Error ellipse: s-maj=70.3km s-min=35.9km az=118.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**5.75**	**214**	Pn		Pn	06 07 48.0	+0.4
	2.2nm,0.3s,baz=239,slow=3.8,SNR=9.0							
URZ				Sn		Sn	06 08 53.8	-0.4
	1.5nm,0.3s,baz=341,slow=18,SNR=4.5							
ASAR	**Alice Springs**	**42.33**	**271**	P		P	06 14 15.9	-1.1
	0.2nm,0.3s,baz=98,slow=9.0,SNR=4.3							
WRA	**Warramunga Arr**	**43.60**	**276**	P		P	06 14 27.7	+0.5
	0.9nm,0.7s,baz=116,slow=6.9,SNR=12							
FINES	**FINESS Array B**	**147.80**	**338**	PKPbc		PKPbc	06 26 06.5	-0.6
	1.1nm,0.7s,baz=344,slow=4.6,SNR=2.8							

*IDC **20** 06:15:00.1±0.7, 39.30N×72.98E, h0km, mb4.0/14, mb1 4.2/19, mb1mx4.1/31, mbtmp4.1/19, ML4.0/5, MS3.5/10, Ms1 3.5/10, ms1mx3.2/36, Error ellipse: s-maj=12.9km s-min=11.4km az=130.0*

*MOS **20** 06:15:04.6±1.6, 39.29N×73.11E, h33km, mb4.3/17, Error ellipse: s-maj=9.8km s-min=5.0km az=81.0*

*NNC **20** 06:15:05.2±2.3, 39.73N×72.77E, h0km, mb4.6, mpv4.4, Error ellipse: s-maj=22.3km s-min=10.3km az=17.0*

*BJI **20** 06:15:05.4, 40.20N×72.80E, h33km, mB4.7/6, mb4.5/14, ML4.3/4, Ms3.8/7, Ms7 3.6/5*

*NEIC **20** 06:15:06.1±0.6, 39.37N×73.06E, h35km, mb4.4/1, Error ellipse: s-maj=11.5km s-min=9.0km az=133.0*

ISC 20 06:15:03.6±1.2, 39.34N±0.04×72.86E±0.05, h23km±9km, n134, σ2ş32/141, mb4.2/21, MS3.5/10, 16C-8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KSH	**Kashi**	**2.42**	**85**	Pn		Pn	**06 15 39.5**	**-2.3**
KSH				Sn		Sn	**06 16 08.8**	**-1.9**
KSH				SMN				
	comp=Z,4μm,0.7s							
KSH				SME				
	comp=Z,1μm,0.3s							
AML	**Almayashu**	**2.86**	**12**	*i* PN		Pn	**06 15 50.3**	**+2.1**
AML	**Almayashu**	**2.86**	**12**	P		Pn	**06 15 50.3**	**+2.1**
	SNR=372							
KZA	**Kyzart**	**3.28**	**33**	*i* PN		Pn	**06 15 56.1**	**+2.1**
KZA	**Kyzart**	**3.28**	**33**	P		Pn	**06 15 56.1**	**+2.1**
	SNR=152							
EKS2	**Erkin-Say**	**3.39**	**11**	*e*PN		Pn	**06 15 57.6**	**+2.3**
EKS2	**Erkin-Say**	**3.39**	**11**	P		Pn	**06 15 58.0**	**+2.7**
	SNR=88							
EKS2	**Erkin-Say**	**3.39**	**11**	*e*Pn		Pn	**06 15 57.5**	**+2.3**
EKS2				*e*Sn		Sn	**06 16 35.2**	**+0.4**
AAK	**Ala-Archa**	**3.52**	**20**	PN		Pn	**06 15 59.8**	**+2.8**
AAK							06 16 44.2	
AAK							06 16 50.4	
AAK				pmax		pmax		
	comp=Z,26nm,0.3s							
AAK				smax		smax		
	comp=N,43nm,0.3s							
AAK	**Ala-Archa**	**3.52**	**20**	P		Pn	**06 15 59.5**	**+2.5**
	SNR=264							
AAK	**Ala-Archa**	**3.52**	**20**	*e*Pn		Pn	**06 15 59.4**	**+2.4**
AAK				Sn		**Sb**	**06 16 44.2**	**-3.3**
AAK				Lg		Lg	06 16 50.4	
AAK	**Ala-Archa**	**3.52**	**20**	Pn		Pn	**06 15 59.8**	**+2.8**
	comp=N,26nm,0.3s,baz=177,slow=10,SNR=605							
AAK				Sn		**Sb**	**06 16 44.2**	**-3.3**
	comp=N,43nm,0.3s,baz=319,slow=20,SNR=9.0							
AAK				Lg		Lg	06 16 50.4	
	comp=N,43nm,0.3s,baz=38,slow=24,SNR=5.1							
AAK				LR		LR	06 17 45.1	
	comp=N,167nm,20.7s,baz=197,slow=47							
KBK	**Karagaybulak**	**3.67**	**25**	*i* PN		Pn	**06 16 01.8**	**+2.6**
KBK	**Karagaybulak**	**3.67**	**25**	P		Pn	**06 16 01.8**	**+2.6**
	SNR=68							
FRU	**Bishkek**	**3.73**	**20**	*e*PN		Pn	**06 16 02.0**	**+2.1**
FRU				*e*S		**Sb**	**06 16 53.5**	**-0.2**
FRU				pmax		pmax		
	comp=Z,273nm,1.8s							
FRU				smax		smax		
	comp=E,2μm,1.8s							
ULHL	**Ulahol**	**3.88**	**40**	*i* PN		Pn	**06 16 04.4**	**+2.4**
ULHL	**Ulahol**	**3.88**	**40**	P		Pn	**06 16 04.4**	**+2.4**
	SNR=38							
CHMS	**Chumysh**	**3.92**	**21**	*i* PN		Pn	**06 16 05.1**	**+2.6**
CHMS	**Chumysh**	**3.92**	**21**	P		Pn	**06 16 05.1**	**+2.6**
	SNR=39							
USP	**Ospenovka**	**4.11**	**17**	*i* PN		Pn	**06 16 07.4**	**+2.3**
USP	**Ospenovka**	**4.11**	**17**	P		Pn	**06 16 07.5**	**+2.3**
	SNR=24							
TKM2	**Tokmak 2**	**4.13**	**29**	⇑Pn		Pn	**06 16 07.8**	**+2.3**
	comp=E,82nm,0.5s							
TKM2				⇓Lg		Lg	06 17 06.1	
	comp=E,143nm,0.7s							
TKM2	**Tokmak 2**	**4.13**	**29**	PN		Pn	**06 16 07.7**	**+2.3**
TKM2							06 17 06.0	
TKM2				pmax		pmax		
	comp=Z,82nm,0.5s							
TKM2				pmax		pmax		
	comp=N,143nm,0.7s							
TKM2	**Tokmak 2**	**4.13**	**29**	P		Pn	**06 16 07.8**	**+2.3**
	SNR=179							
TKM2	**Tokmak 2**	**4.13**	**29**	*e*Pn		Pn	**06 16 07.5**	**+2.0**
KK31	**Karatay Array**	**4.16**	**336**	⇓Pn		Pn	**06 16 07.7**	**+2.0**
	comp=N,31nm,0.5s,baz=138,slow=12,SNR=593							
KK31				⇓Sn		**Sn**	**06 16 56.6**	**+3.0**
	comp=N,85nm,0.3s,baz=169,slow=49,SNR=5.0							
KK31	**Karatay Array**	**4.16**	**336**	*i* PN		Pn	**06 16 07.6**	**+1.9**
KK31				pmax		pmax		
	comp=Z,32nm,0.3s							
KKAR	**Karatay Array**	**4.16**	**336**	*e*PN		Pn	**06 16 07.8**	**+2.1**
KKAR	**Karatay Array**	**4.16**	**336**	*e*Pn		Pn	**06 16 07.8**	**+2.1**
KKAR				*e*Sn		**Sn**	**06 16 55.0**	**+1.4**
KNDC	**Almaty**	**4.96**	**37**	⇑Pg		**Pb**	**06 16 30.0**	**+0.3**
KNDC				⇑Lg		Lg	06 17 35.3	
AAA	**Alma-Ata**	**4.99**	**37**	*e*PN		**Pb**	**06 16 30.8**	**+0.6**
AAA				*e*S		**Sb**	**06 17 34.9**	**+5.1**
AAA				pmax		pmax		
	comp=Z,221nm,0.7s							
AAA				smax		smax		
	comp=N,573nm,1.2s							
CEP	**Cherat**	**5.56**	**188**	P		Pb	06 16 35.6	-4.4
CEP				S		**Sb**	**06 17 43.0**	**-3.2**
KBL	**Kabul**	**5.68**	**214**	*e*PN		Pn	06 16 32.6	+5.8
KBL				pmax		pmax		
	comp=Z,63nm,0.9s							
KBL	**Kabul**	**5.68**	**214**	*e*Pn		Pn	06 16 32.6	+5.8
	comp=Z,63nm,0.9s							
THW	**Thamme Wali**	**6.59**	**188**	P		Pb	06 16 49.6	-8.0
THN	**Thein Dam**	**7.27**	**161**	*ex*		Pn	06 16 52.0	+3.6
THN				*e*S		**Sn**	**06 18 15.3**	**+5.1**
DHRM	**DHARAMSHALA**	**7.60**	**157**	*e*P		Pn	06 16 57.1	+3.9
DHRM				*e*S		**Sn**	**06 18 21.4**	**+2.6**
DHRM				AML		AML	06 18 28.0	
	comp=N,238nm,0.7s							
DHRM				AML		AML	06 18 28.0	
	comp=E,310nm,0.5s							
SMLA	**Simla**	**8.91**	**155**	*i* P		Pn	**06 17 11.4**	**+0.5**
SMLA				*i* S		**Sn**	**06 18 51.0**	**+0.4**
SMLA				AML		AML	06 18 57.3	
	comp=N,178nm,0.5s							
SMLA				AML		AML	06 18 59.7	
	comp=E,154nm,0.4s							
DDI	**Dehra Dun**	**9.95**	**153**	*e*S		**Sn**	**06 19 16.8**	**+0.5**
MK31	**Makanchi Array**	**10.15**	**40**	⇑Pn		Pn	**06 17 30.1**	**+2.2**
	comp=E,8.6nm,0.8s,baz=212,slow=13,SNR=52							
MK31				⇓Lg		Lg	06 20 16.2	
	comp=E,30nm,1.4s,baz=224,slow=28,SNR=5.6							
MK31	**Makanchi Array**	**10.15**	**40**	*e*P		Pn	**06 17 29.3**	**+1.4**
MK31	**Makanchi Array**	**10.15**	**40**	*e*Pn		Pn	**06 17 29.2**	**+1.4**
MKAR	**Makanchi Array**	**10.15**	**40**	P		Pn	**06 17 29.2**	**+1.3**
MKAR	**Makanchi Array**	**10.15**	**40**	Pn		Pn	**06 17 29.2**	**+1.3**
MKAR				Lg		Lg	06 20 17.6	
MKAR	**Makanchi Array**	**10.15**	**40**	Pn		Pn	**06 17 29.2**	**+1.3**
	comp=E,0.3nm,0.3s,baz=221,slow=14,SNR=49							
MKAR				Lg		Lg	06 20 17.6	
	comp=E,0.4nm,0.3s,baz=235,slow=28,SNR=3.7							
NDI	**New Delhi**	**11.22**	**160**	*e*P		Pn	**06 17 45.0**	**+2.4**
NDI				*e*4			06 19 43.0	
KURBB	**Kurchatov Arra**	**11.97**	**18**	⇓Pn		Pn	**06 17 52.0**	**-0.8**
	comp=E,4.4nm,0.6s							
KURBB				⇑Lg		Lg	06 21 16.0	
	comp=E,68nm,0.9s							
KURBB	**Kurchatov Arra**	**11.97**	**18**	Pn		Pn	**06 17 50.8**	**-1.9**
	comp=E,0.5nm,0.3s,baz=205,slow=13,SNR=8.7							
KURBB				Lg		Lg	06 21 10.7	
	comp=E,0.5nm,0.3s,baz=198,slow=29,SNR=5.8							
WMQ	**Urumqi**	**11.97**	**63**	P		Pn	**06 17 52.8**	**-0.1**
WMQ				AMB		AMB		
	comp=E,22nm,0.6s							
WMQ				AMB		AMB		
	comp=E,130nm,6.6s							
WMQ				LR		LR		
	comp=E,380nm,6.6s							
WMQ				LR		LR		
	comp=E,260nm,4.4s							
WMQ				LR		LR		
	comp=E,150nm,14.2s							
KURK	**Kurchatov**	**12.08**	**18**	⇑Pn		Pn	**06 17 52.0**	**-2.2**
	comp=E,3.7nm,1.2s							
KURK				⇓Lg		Lg	06 21 16.7	
	comp=E,42nm,1.7s							
KURK	**Kurchatov**	**12.08**	**18**	P		Pn	**06 17 52.0**	**-2.2**
KURK				pmax		pmax		
	comp=Z,4.0nm,1.2s							
KURK				pmax		pmax		
	comp=N,29nm,1.4s							
KURK	**Kurchatov**	**12.08**	**18**	*e*Pn		Pn	**06 17 53.1**	**-1.0**
KURK				Lg		Lg	06 21 10.7	
VOSK	**Vostochnaya**	**13.45**	**355**	⇑Pn		Pn	**06 18 13.2**	**+0.3**
	comp=N,4.7nm,0.7s							
VOSK				⇑Lg		Lg	06 22 01.9	
	comp=N,54nm,1.1s							
AB31	**Akbulak array**	**13.54**	**321**	Pn		Pn	**06 18 12.5**	**-1.7**
	comp=N,1.7nm,0.4s,baz=126,slow=14,SNR=78							
AB31				⇑Sn		Sn	06 20 36.1	-7.7
	comp=N,2.6nm,0.4s,baz=131,slow=25,SNR=9.8							
AB31	**Akbulak array**	**13.54**	**321**	*i* P		Pn	**06 18 12.5**	**-1.7**
AB31				pmax		pmax		
	comp=Z,3.0nm,0.3s							
ABKAR	**Akbulak array**	**13.54**	**321**	*e*Pn		Pn	**06 18 12.7**	**-1.5**
	comp=Z,4.6nm,0.5s							
BVA0	**Borovoye Array**	**13.80**	**354**	⇓Pn		Pn	**06 18 18.5**	**+0.9**
	comp=Z,9.9nm,0.6s,baz=161,slow=9.8,SNR=19							
BVA0				⇑Lg		Lg	06 22 06.4	
	comp=Z,37nm,1.4s							
BVA0	**Borovoye Array**	**13.80**	**354**	*i* P		P	**06 18 27.9**	**+2.0**
BVA0				pmax		pmax		
	comp=Z,10.0nm,0.6s							
BVA0				pmax		pmax		
	comp=N,37nm,1.4s							
BVAR	**Borovoye Array**	**13.80**	**354**	P		Pn	**06 18 17.7**	**0.0**
BVAR	**Borovoye Array**	**13.80**	**354**	Pn		Pn	**06 18 17.7**	**0.0**
BVAR				Lg		Lg	06 22 15.4	
BVAR	**Borovoye Array**	**13.80**	**354**	Pn		Pn	**06 18 17.7**	**0.0**
	comp=N,0.4nm,0.3s,baz=178,slow=14,SNR=5.4							
BVAR				Lg		Lg	06 22 15.4	
	comp=N,0.3nm,0.3s,baz=161,slow=28,SNR=3.4							
BRVK	**Borovoye**	**13.84**	**353**	⇑Pn		Pn	**06 18 18.8**	**+0.6**
	comp=N,22nm,0.6s							
BRVK				⇑Lg		Lg	06 22 09.6	
	comp=N,62nm,1.1s							
BRVK	**Borovoye**	**13.84**	**353**	*e*P		Pn	**06 18 20.8**	**+2.6**
BRVK				pmax		pmax		
	comp=Z,8.0nm,1.5s							
BRVK	**Borovoye**	**13.84**	**353**	*e*Pn		Pn	**06 18 19.9**	**+1.7**
	comp=Z,20nm,0.7s							
DANN	**Dangsing**	**14.20**	**137**	*e*P		Pn	**06 18 22.1**	**-1.5**
	comp=Z,33nm,0.5s							
KOLN	**Koldanda**	**14.59**	**139**	*e*P		Pn	**06 18 26.7**	**-2.1**
GKN	**Gorkha**	**14.95**	**136**	*e*P		Pn	**06 18 31.6**	**-2.0**
	comp=Z,18nm,0.4s							
AKTO	**Aktyubinsk**	**15.26**	**321**	⇑Pn		Pn	**06 18 36.9**	**-0.5**
	comp=Z,9.1nm,0.7s							
AKTO				⇑Sn		**Sn**	**06 21 19.2**	**-6.5**
	comp=Z,5.8nm,0.9s							
AKTO	**Aktyubinsk**	**15.26**	**321**	P		Pn	**06 18 34.9**	**-2.6**
AKTO				MLR		MLR		
	comp=Z,265nm,18.9s							
AKTO	**Aktyubinsk**	**15.26**	**321**	Pn		Pn	**06 18 34.9**	**-2.6**
AKTO				Sn		**Sn**	**06 21 19.9**	**-5.8**
AKTO	**Aktyubinsk**	**15.26**	**321**	Pn		Pn	**06 18 34.9**	**-2.6**
	comp=Z,0.4nm,0.3s,baz=138,slow=15,SNR=5.9							
AKTO				Sn		**Sn**	**06 21 19.9**	**-5.8**
	comp=Z,0.6nm,0.3s,baz=348,slow=22,SNR=3.6							
AKTO				LR		LR	06 24 58.3	
	comp=Z,265nm,18.9s,baz=134,slow=39							
KKN	**Kakani**	**15.46**	**134**	*e*P		Pn	**06 18 37.9**	**-2.6**
	comp=Z,22nm,0.6s							
DMN	**Daman**	**15.51**	**135**	*e*P		Pn	**06 18 38.6**	**-2.5**
	comp=Z,25nm,0.8s							
PKIN	**Phulchoki**	**15.70**	**135**	*e*P		Pn	**06 18 40.8**	**-2.7**
	comp=Z,21nm,0.6s							
PKI	**Pulchoki**	**15.71**	**135**	*e*P		Pn	**06 18 40.4**	**-3.3**
	comp=Z,27nm,0.7s							
GUN	**Gumba**	**15.71**	**133**	*e*P		Pn	**06 18 40.5**	**-3.3**
	comp=Z,21nm,0.6s							
JIRN	**Jiri**	**16.08**	**132**	*e*P		Pn	**06 18 46.4**	**-2.2**
	comp=Z,33nm,0.6s							
BHPL	**Bhopal**	**16.51**	**165**	*e*P		**P**	**06 18 55.2**	**-1.1**
ZAA0	**Zalesovo Array**	**16.73**	**25**	*e*Pn		**Pn**	**06 18 55.7**	**-0.5**
ZALV	**Zalesovo Beam**	**16.73**	**25**	P		**Pn**	**06 18 55.2**	**-1.1**
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ZALV	**Zalesovo Beam**	**16.73**	**25**	Pn		**Pn**	**06 18 55.2**	**-1.1**
ZALV				Lg		Lg	06 23 50.2	
ZALV	**Zalesovo Beam**	**16.73**	**25**	Pn		**Pn**	**06 18 55.2**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=209,slow=12,SNR=26							
ZALV				Lg		Lg	06 23 50.2	
	comp=Z,0.5nm,0.3s,baz=216,slow=31,SNR=3.4							
ZALV				LR		LR	06 25 46.1	
	comp=Z,72nm,19.5s,baz=67,slow=39							
RAMN	**Ramite**	**16.86**	**133**	*e*P		Pn	**06 18 54.7**	**-3.6**
	comp=Z,29nm,0.7s							
NVS	**Novosibirsk**	**17.01**	**21**	*e*P		Pn	**06 18 55.8**	**-4.0**
NVS				*e*			06 22 07.7	
TAPN	**

	comp=Z,1.2nm,0.4s,baz=108,slow=10.0,SNR=13							
FINES					LR	LR	06 37 40.6	
	comp=Z,117nm,18.9s,baz=39,slow=38							
ARCES	**ARCESS Array B**	**39.12**	**336**	P	**P**	**06 22 29.7**	**+0.8**	
ARCES	**ARCESS Array B**	**39.12**	**336**	P	**P**	**06 22 29.7**	**+0.8**	
	comp=Z,3.1nm,0.9s,baz=106,slow=8.9,SNR=7.8							
BRG	**Berggiesshubel**	**42.09**	**306**	*e*(P)	P	06 22 57.0	+3.4	
	comp=Z,9.3nm,1.4s							
BRG	**Berggiesshubel**	**42.09**	**306**	*e*P	P	06 22 57.0	+3.4	
BRG				pmax	pmax			
	comp=Z,9.0nm,1.4s							
GERES	**GERESS Array B**	**42.56**	**303**	P	**P**	**06 22 59.8**	**+2.2**	
GERES	**GERESS Array B**	**42.56**	**303**	P	**P**	**06 22 59.8**	**+2.2**	
	comp=Z,1.3nm,0.6s,baz=72,slow=8.6,SNR=7.7							
GERES				LR	LR	06 44 54.6		
	comp=Z,61nm,18.1s,baz=84,slow=42							
KSAR	**Wonju Array Be**	**42.60**	**74**	P	**P**	**06 22 55.3**	**-2.7**	
KSRS	**Korea Array**	**42.63**	**74**	P	**P**	**06 22 55.3**	**-2.8**	
	comp=Z,1.8nm,0.9s,baz=311,slow=9.2,SNR=3.1							
KSRS				LR	LR	06 42 21.7		
	comp=Z,50nm,19.6s,baz=295,slow=39							
NB2	**NORSAR Subarra**	**43.05**	**321**	P	**P**	**06 23 00.9**	**-0.4**	
	comp=Z,1.4nm,0.6s,baz=92,slow=8.6							
NOA	**NORSAR Array B**	**43.05**	**321**	P	**P**	**06 23 00.8**	**-0.4**	
NOA	**NORSAR Array B**	**43.05**	**321**	P	**P**	**06 23 00.8**	**-0.4**	
	comp=Z,1.6nm,0.8s,baz=92,slow=8.0,SNR=5.5							
NOA				LR	LR	06 41 37.4		
	comp=Z,120nm,18.0s,baz=90,slow=37							
TORD	**Torodi Ar. Bea**	**67.26**	**269**	P	**P**	**06 25 56.7**	**+0.2**	
TORD	**Torodi Ar. Bea**	**67.26**	**269**	P	**P**	**06 25 56.7**	**+0.2**	
	comp=Z,0.9nm,0.4s,baz=50,slow=5.5,SNR=14							
IMA2	**Indian Mountai**	**68.97**	**18**	*e*P	**P**	**06 26 06.0**	**-0.7**	
COLA	**College**	**71.34**	**17**	*e*P	**P**	**06 26 20.5**	**-0.5**	
ILAR	**Eielson Array**	**71.65**	**17**	P	**P**	**06 26 22.0**	**-0.9**	
ILAR	**Eielson Array**	**71.65**	**17**	P	**P**	**06 26 22.0**	**-0.9**	
	comp=Z,2.2nm,0.8s,baz=318,slow=4.8,SNR=31							
YKA	**Yellowknife Ar**	**78.34**	**4**	P	**P**	**06 27 02.0**	**+0.5**	
YKA	**Yelloknife Ar**	**78.34**	**4**	P	**P**	**06 27 02.0**	**+0.5**	
	comp=Z,1.4nm,0.6s,baz=348,slow=5.6,SNR=5.6							
WRA	**Warramunga Arr**	**82.28**	**123**	P	**P**	**06 27 22.5**	**-0.9**	
WRA	**Warramunga Arr**	**82.28**	**123**	P	**P**	**06 27 22.5**	**-0.9**	
	comp=Z,0.8nm,0.5s,baz=324,slow=4.7,SNR=16							
ASAR	**Alice Springs**	**84.70**	**126**	P	**P**	**06 27 35.5**	**-0.3**	
ASAR	**Alice Springs**	**84.70**	**126**	P	**P**	**06 27 35.5**	**-0.3**	
	comp=Z,0.7nm,0.8s,baz=309,slow=4.8,SNR=5.7							

IDC 20 06:20:46.5±2.4, 15°25S×172°11W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/20, mbtmp3.7/4, Error ellipse: s-maj=90.5km s-min=17.9km az=123.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**1.37**	**14**	Pn		Pg	06 21 12.7	-0.1
	27nm,0.3s,baz=8.4,slow=1.5,SNR=24							
AFI				Sn		Sn	06 21 33.0	+1.2
	103nm,0.3s,baz=23,slow=22,SNR=13							
STKA	**Stephens Creek**	**45.19**	**240**	P		P	06 29 05.4	-0.1
	1.5nm,0.9s,baz=78,slow=14,SNR=3.4							
WRA	**Warramunga Arr**	**51.09**	**257**	P		P	06 29 51.3	0.0
	0.5nm,0.8s,baz=95,slow=7.5,SNR=4.6							
ASAR	**Alice Springs**	**51.34**	**252**	P		P	06 29 53.1	-0.1
	2.2nm,0.8s,baz=85,slow=8.4,SNR=15							
ILAR	**Eielson Array**	**82.06**	**11**	P		P	06 33 08.7	+0.4
	0.3nm,0.8s,baz=211,slow=6.3,SNR=3.7							
GERES	**GERESS Array B**	**146.16**	**353**	PKPbc		PKPdf	06 40 28.0	0.0
	0.3nm,0.2s,baz=211,slow=1.1,SNR=2.8							
BRTR	**Keskin Array B**	**146.81**	**322**	PKPbc		PKPdf	06 40 29.6	+0.2
	0.9nm,0.8s,baz=135,slow=0.5,SNR=4.3							

IDC 20 06:38:45.8±9.9, 25°97N×104°00E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.5/27, mbtmp4.0/4, Error ellipse: s-maj=177.7km s-min=82.9km az=146.0, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SONM	**Songino Array**	**21.91**	**4**	P		P	06 43 40.6	-0.1
	0.6nm,0.5s,baz=193,slow=11,SNR=4.6							
MKAR	**Makanchi Array**	**26.99**	**326**	P		P	06 44 29.1	-0.3
	0.3nm,0.7s,baz=136,slow=11,SNR=3.6							
KURBB	**Kurchatov Arra**	**31.41**	**328**	P		P	06 45 08.9	+0.3
	2.0nm,0.2s,baz=131,slow=9.9,SNR=3.9							
ARCES	**ARCESS Array B**	**61.91**	**337**	P		P	06 49 06.8	-0.1
	6.4nm,1.1s,baz=94,slow=8.2,SNR=3.4							

*ISCJB **20** 06:49:41.3±0.2, 38°31N±0°01×22°12E±0°02, h11km±2km, mb3.7/3, Error ellipse: s-maj=2.1km s-min=1.9km az=175.0*
*CSEM **20** 06:49:41.4±0.1, 38°29N×22°14E, h2km, MD3.4, Error ellipse: s-maj=1.8km s-min=1.7km az=80.0*
*ATH **20** 06:49:41.0, 38°31N×22°11E, h16km, MD3.4/49, ML3.1*
*THE **20** 06:49:41.8, 38°31N×22°13E, h6km, ML3.3/21, Error ellipse: s-maj=0.6km s-min=0.3km az=286.0*
*IDC **20** 06:49:50.2±5.5, 38°10N×22°39E, h81km±53km, mb3.5/3, mb1 3.4/5, mb1mx3.1/28, mbtmp3.4/5, ML3.0/2, Error ellipse: s-maj=46.3km s-min=21.5km az=129.0*

ISC 20 06:49:41.6±0.7, 38°30N±0°01×22°12E±0°01, h9km±4km, n166, σ0673/247, mb3.8/3, Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TRIZ	**Trizonia**	**0.08**	**332**	P		**Pg**	**06 49 43.6**	**-0.2**
TRIZ	**Trizonia**	**0.08**	**332**	*e*PB		**Pg**	**06 49 43.5**	**-0.2**
TRIZ				*e*SB		**Sg**	**06 49 45.7**	**+0.4**
TRIZ	**Trizonia**	**0.08**	**332**	P		**Pg**	**06 49 43.6**	**-0.2**
TRIZ				S		**Sg**	**06 49 44.9**	**-0.4**
TRIZ				*e*Sb		**Sg**	**06 49 45.7**	**+0.4**
KALE	**Kalithea**	**0.10**	**9**	P		**Pg**	**06 49 43.8**	**-0.3**
KALE				S		**Sg**	**06 49 45.7**	**-0.2**
KALE	**Kalithea**	**0.10**	**9**	*e*PB		**Pg**	**06 49 43.9**	**-0.2**
KALE				*e*SB		**Sg**	**06 49 46.1**	**+0.2**
KALE	**Kalithea**	**0.10**	**9**	P		**Pg**	**06 49 43.9**	**-0.2**
KALE				S		**Sg**	**06 49 45.5**	**-0.4**
KALE				*e*Sb		**Sg**	**06 49 46.1**	**+0.2**
LAKA	**Lakka**	**0.12**	**244**	P		**Pg**	**06 49 44.5**	**+0.1**
LAKA				S		**Sg**	**06 49 46.7**	**+0.2**
LAKA	**Lakka**	**0.12**	**244**	*e*PB		**Pg**	**06 49 44.6**	**+0.1**
LAKA	**Lakka**	**0.12**	**244**	P		**Pg**	**06 49 44.5**	**+0.1**
LAKA				S		**Sg**	**06 49 46.7**	**+0.2**
PSA1	**Psathopyrgos**	**0.19**	**279**	*e*PB		**Pg**	**06 49 45.5**	**0.0**
EFP	**Efpalio**	**0.21**	**308**	P		**Pg**	**06 49 46.0**	**0.0**
EFP				S		**Sg**	**06 49 49.4**	**+0.5**
EFP	**Efpalio**	**0.21**	**308**	*e*PB		**Pg**	**06 49 45.8**	**-0.2**
EFP	**Efpalio**	**0.21**	**308**	P		**Pg**	**06 49 46.0**	**0.0**
EFP				S		**Sg**	**06 49 49.1**	**+0.2**
KLV	**Kalavryta, Ach**	**0.25**	**175**	P		**Pg**	**06 49 46.6**	**-0.2**
KLV	**Kalavryta, Ach**	**0.25**	**175**	*e*PB		**Pg**	**06 49 46.7**	**0.0**
KLV	**Kalavryta, Ach**	**0.25**	**175**	P		**Pg**	**06 49 46.5**	**-0.2**
KLV				S		**Sg**	**06 49 50.1**	**-0.1**
UPR	**University Cam**	**0.26**	**267**	P		**Pg**	**06 49 47.3**	**+0.4**
UPR	**University Cam**	**0.26**	**267**	P		**Pg**	**06 49 47.3**	**+0.4**
UPR				S		**Sg**	**06 49 51.2**	**+0.8**
DSF	**Desfina**	**0.34**	**70**	P		**Pg**	**06 49 48.1**	**-0.3**
DSF				S		**Sg**	**06 49 53.3**	**+0.4**
DSF	**Desfina**	**0.34**	**70**	*e*PB		**Pg**	**06 49 47.9**	**-0.5**
DSF				*e*SB		**Sg**	**06 49 53.2**	**+0.4**
DSF	**Desfina**	**0.34**	**70**	P		**Pg**	**06 49 48.0**	**-0.3**
DSF				S		**Sg**	**06 49 53.0**	**+0.1**
DESF	**Desfina**	**0.34**	**70**	*e*PB		**Pg**	**06 49 48.1**	**-0.4**
DESF				*e*SB		**Sg**	**06 49 53.8**	**+0.8**
DESF	**Desfina**	**0.34**	**70**	*e*Pb		**Pg**	**06 49 48.1**	**-0.4**
DESF				*e*Sb		**Sg**	**06 49 53.8**	**+0.8**
GUR	**Goura**	**0.40**	**154**	P		**Pg**	**06 49 49.2**	**-0.2**
GUR				S		**Sg**	**06 49 55.9**	**+1.1**
GUR	**Goura**	**0.40**	**154**	*e*PB		**Pg**	**06 49 49.3**	**-0.2**
GUR				*e*SB		**Sg**	**06 49 55.4**	**+0.6**
GUR	**Goura**	**0.40**	**154**	P		**Pg**	**06 49 49.1**	**-0.4**
GUR				S		**Sg**	**06 49 54.6**	**-0.2**
GUR				*e*Sb		**Sg**	**06 49 55.4**	**+0.6**
DRO	**Drossia**	**0.47**	**223**	P		**Pg**	**06 49 50.9**	**+0.1**
DRO				S		**Sg**	**06 49 58.0**	**-1.2**
DRO	**Drossia**	**0.47**	**223**	*e*PB		**Pg**	**06 49 50.8**	**-0.1**
DRO	**Drossia**	**0.47**	**223**	P		**Pg**	**06 49 50.7**	**-0.1**
DRO				S		**Sg**	**06 49 57.1**	**+0.1**
PVO	**Paravola**	**0.57**	**305**	P		**Pb**	**06 49 53.0**	**-0.8**
PVO	**Paravola**	**0.57**	**305**	P		**Pg**	**06 49 52.7**	**+0.1**
PVO				S		**Sb**	**06 50 00.8**	**-1.2**
RLS	**Riolos of Patr**	**0.57**	**245**	P		**Pg**	**06 49 52.5**	**-0.1**
RLS				S		**Sb**	**06 50 01.2**	**-0.8**
RLS	**Riolos of Patr**	**0.57**	**245**	*e*PN		**Pg**	**06 49 52.3**	**-0.3**
RLS	**Riolos of Patr**	**0.57**	**245**	P		**Pg**	**06 49 52.5**	**-0.1**
RLS				S		**Sb**	**06 50 01.2**	**-0.8**
AXS	**Araxos**	**0.59**	**261**	P		**Pg**	**06 49 53.1**	**0.0**
AXS	**Araxos**	**0.59**	**261**	P		**Pg**	**06 49 53.1**	**0.0**
AXS				S		**Sb**	**06 50 01.8**	**-1.0**
AXAR	**Agios Charalam**	**0.63**	**42**	P		**Pg**	**06 49 53.5**	**-0.4**
AXAR				S		**Sg**	**06 50 02.5**	**+0.4**
AXAR	**Agios Charalam**	**0.63**	**42**	P		**Pg**	**06 49 53.5**	**-0.4**
AXAR				S		**Sg**	**06 50 02.5**	**+0.4**
EVR	**Evrytania**	**0.67**	**339**	P		**Pg**	**06 49 54.0**	**-0.5**
EVR				S		**Sg**	**06 50 03.6**	**+0.3**
EVR	**Evrytania**	**0.67**	**339**	*e*PN		**Pg**	**06 49 54.0**	**-0.5**
EVR				*e*SN		**Sg**	**06 50 03.5**	**+0.3**
EVR	**Evrytania**	**0.67**	**339**	P		**Pg**	**06 49 54.0**	**-0.5**
EVR				*e*Sn		**Sg**	**06 50 03.5**	**+0.3**
MAKR	**Makrakomi, Fth**	**0.72**	**1**	P		**Pg**	**06 49 55.4**	**-0.1**
MAKR				S		**Sb**	**06 50 05.7**	**-0.7**
MAKR	**Makrakomi, Fth**	**0.72**	**1**	*e*PN		**Pg**	**06 49 54.9**	**-0.6**
MAKR				*e*SN		**Sg**	**06 50 04.6**	**-0.2**
MAKR	**Makrakomi, Fth**	**0.72**	**1**	*e*Pn		**Pg**	**06 49 54.9**	**-0.6**
MAKR	**Makrakomi, Fth**	**0.72**	**1**	P		**Pg**	**06 49 55.4**	**-0.1**
MAKR				*e*Sn		**Sg**	**06 50 04.6**	**-0.2**
MAKR				S		**Sb**	**06 50 05.7**	**-0.7**
LTK	**Loutraki**	**0.72**	**112**	P		**Pg**	**06 49 55.4**	**-0.1**
LTK				S		**Sb**	**06 50 05.8**	**-0.6**
LTK	**Loutraki**	**0.72**	**112**	*e*PN		**Pg**	**06 49 55.5**	**-0.1**
LTK	**Loutraki**	**0.72**	**112**	P		**Pg**	**06 49 55.2**	**-0.3**
LTK	**Loutraki**	**0.72**	**112**	*e*Pn		**Pg**	**06 49 55.5**	**-0.1**
LTK				S		**Sb**	**06 50 05.8**	**-0.6**
AGG	**Agios Georgios**	**0.74**	**13**	P		**Pg**	**06 49 55.0**	**-1.0**
AGG				S		**Sb**	**06 50 05.4**	**-0.7**
AGG	**Agios Georgios**	**0.74**	**13**	*e*PN		**Pg**	**06 49 55.1**	**-1.0**
AGG				*e*SN		**Sg**	**06 50 06.2**	**+0.5**
AGG	**Agios Georgios**	**0.74**	**13**	P		**Pg**	**06 49 55.0**	**-1.0**
AGG				S		**Sg**	**06 50 05.8**	**+0.1**
AGG				*e*Sn		**Sg**	**06 50 06.2**	**+0.5**
LKR	**Lokris**	**0.78**	**63**	P		**Pg**	**06 49 56.1**	**-0.5**
LKR	**Lokris**	**0.78**	**63**	*e*PN		**Pg**	**06 49 56.0**	**-0.5**
LKR				*e*SN		**Sg**	**06 50 07.2**	**+0.5**
LKR	**Lokris**	**0.78**	**63**	P		**Pg**	**06 49 56.1**	**-0.5**
LKR				S		**Sg**	**06 50 06.5**	**-0.2**
LKR				*e*Sn		**Sg**	**06 50 07.2**	**+0.5**
PDO	**Prodromos**	**0.80**	**293**	P		**Pb**	**06 49 57.1**	**-0.6**
PDO				S		**Sb**	**06 50 08.2**	**-0.4**
PDO	**Prodromos**	**0.80**	**293**	*e*PN		**Pb**	**06 49 57.1**	**-0.6**
PDO				*e*SN		**Sg**	**06 50 06.5**	**-0.8**
PDO	**Prodromos**	**0.80**	**293**	P		**Pb**	**06 49 57.1**	**-0.6**
PDO				*e*Sn		**Sg**	**06 50 06.5**	**-0.8**
PDO				S		**Sb**	**06 50 08.2**	**-0.4**
AMT	**Artemida-Makis**	**0.83**	**203**	P		**Pg**	**06 49 57.6**	**0.0**
AMT				S		**Sn**	**06 50 10.6**	**-1.4**
AMT	**Artemida-Makis**	**0.83**	**203**	*e*PN		**Pb**	**06 49 57.7**	**-0.6**
AMT				*e*SN		**Sg**	**06 50 08.3**	**-0.1**
AMT	**Artemida-Makis**	**0.83**	**203**	P		**Pg**	**06 49 57.6**	**0.0**
AMT				*e*Sn		**Sg**	**06 50 08.3**	**-0.1**
AMT				S		**Sn**	**06 50 10.6**	**-1.4**
VLX	**Vlachokerasia**	**0.95**	**167**	P		**Pg**	**06 49 59.1**	**-0.7**
VLX				S		**Sn**	**06 50 14.0**	**-1.0**
VLX	**Vlachokerasia**	**0.95**	**167**	*e*PB		**Pg**	**06 49 58.8**	**-1.0**
VLX				*e*SN		**Sb**	**06 50 13.3**	**+0.3**
VLX	**Vlachokerasia**	**0.95**	**167**	*e*Pb		**Pg**	**06 49 58.8**	**-1.0**
VLX	**Vlachokerasia**	**0.95**	**167**	P		**Pg**	**06 49 59.1**	**-0.7**
VLX				S		**Sg**	**06 50 10.1**	**-2.0**
VLX				*e*Sn		**Sb**	**06 50 13.3**	**+0.3**
SMIA	**Simia**	**1.03**	**55**	P		**Pg**	**06 50 01.2**	**-0.3**
SMIA				S		**Sg**	**06 50 15.1**	**+0.2**
SMIA	**Simia**	**1.03**	**55**	*e*PN		**Pg**	**06 50 01.2**	**-0.3**
SMIA				*e*SN		**Sg**	**06 50 14.8**	**-0.1**
SMIA	**Simia**	**1.03**	**55**	P		**Pg**	**06 50 01.2**	**-0.3**
SMIA				S		**Sg**	**06 50 15.1**	**+0.2**
KFL	**Anninata**	**1.07**	**260**	P		**Pg**	**06 50 01.7**	**-0.4**
KFL	**Anninata**	**1.07**	**260**	P		**Pg**	**06 50 01.7**	**-0.4**
ITM	**Ithomi**	**1.12**	**188**	P		**Pb**	**06 50 02.3**	**-1.0**
ITM				S		**Sn**	**06 50 19.5**	**+0.3**
ITM	**Ithomi**	**1.12**	**188**	*e*PN		**Pb**	**06 50 02.1**	**-1.2**
ITM	**Ithomi**	**1.12**	**188**	P		**Pb**	**06 50 02.3**	**-1.0**
ITM				S		**Sn**	**06 50 18.6**	**-0.6**
DID	**Didima**	**1.18**	**131**	P		**Pg**	**06 50 04.4**	**0.0**
DID				S		**Sn**	**06 50 20.9**	**+0.2**
DID	**Didima**	**1.18**	**131**	*e*PN		**Pg**	**06 50 05.0**	**+0.6**
DID	**Didima**	**1.18**	**131**	P		**Pg**	**06 50 04.4**	**0.0**
DID	**Didima**	**1.18**	**131**	*e*Pn		**Pg**	**06 50 05.0**	**+0.6**
DID				S		**Sb**	**06 50 18.9**	**-0.9**
DIDY	**Didyma**	**1.19**	**133**	P		**Pn**	**06 50 04.3**	**-0.3**
DIDY				S		**Sn**	**06 50 21.3**	**+0.3**
DIDY	**Didyma**	**1.19**	**133**	*e*PN		**Pg**	**06 50 04.6**	**+0.1**
DIDY	**Didyma**	**1.19**	**133**	P		**Pn**	**06 50 04.3**	**-0.3**
DIDY	**Didyma**	**1.19**	**133**	*e*Pn		**Pg**	**06 50 04.6**	**+0.1**
DIDY				S		**Sn**	**06 50 21.3**	**+0.3**
NAIG	**Nisos Aigina**	**1.21**	**116**	*e*PN		**Pg**	**06 50 04.9**	**+0.1**
NAIG	**Nisos Aigina**	**1.21**	**116**	*e*Pn		**Pg**	**06 50 04.9**	**+0.1**
VLS	**Valsamata**	**1.21**	**265**	P		**Pn**	**06 50 03.8**	**-1.0**
VLS	**Valsamata**	**1.21**	**265**	*e*PN		**Pn**	**06 50 03.5**	**-1.3**
VLS	**Valsamata**	**1.21**	**265**	*e*Pn		**Pn**	**06 50 03.5**	**-1.3**
VLS	**Valsamata**	**1.21**	**265**	P		**Pn**	**06 50 03.8**	**-1.0**
MRKA	**Markates**	**1.22**	**70**	P		**Pn**	**06 50 04.3**	**-0.7**
MRKA				S		**Sn**	**06 50 21.5**	**-0.2**
MRKA	**Markates**	**1.22**	**70**	*e*PN		**Pn**	**06 50 04.0**	**-1.0**
MRKA	**Markates**	**1.22**	**70**	*e*Pn		**Pn**	**06 50 04.0**	**-1.0**
MRKA	**Markates**	**1.22**	**70**	P		**Pn**	**06 50 04.3**	**-0.7**
MRKA				S		**Sb**	**06 50 19.7**	**-1.2**
THL	**Klokotos Trika**	**1.27**	**356**	P		**Pn**	**06 50 05.2**	**-0.4**
THL	**Klokotos Trika**	**1.27**	**356**	*e*PN		**Pn**	**06 50 05.3**	**-0.4**
THL				*e*SN		**Sg**	**06 50 23.0**	**+0.5**
THL	**Klokotos Trika**	**1.27**	**356**	P		**Pn**	**06 50 05.2**	**-0.4**
THL				*e*Sn		**Sg**	**06 50 23.0**	**+0.5**
ATH	**Athens Observa**	**1.30**	**104**	*e*PN		**Pb**	**06 50 05.9**	**-0.4**
ATH				*e*SN		**Sg**	**06 50 24.0**	**+0.6**
ATH	**Athens Observa**	**1.30**	**104**	*e*Pn		**Pb**	**06 50 05.9**	**-0.4**
ATH				*e*Sn		**Sg**	**06 50 24.0**	**+0.6**
NEO	**Neokhori**	**1.33**	**40**	*e*PN		**Pn**	**06 50 06.1**	**-0.3**
NEO	**Neokhori**	**1.33**	**40**	*e*Pn		**Pn**	**06 50 06.1**	**-0.3**
ERET	**Eretria**	**1.33**	**83**	P		**Pn**	**06 50 06.0**	**-0.6**
ERET				S		**Sn**	**06 50 24.3**	**-0.2**
ERET	**Eretria**	**1.33**	**83**	P		**Pn**	**06 50 06.0**	**-0.6**
ERET				S		**Sn**	**06 50 24.3**	**-0.2**
XOR	**Xorichti**	**1.36**	**38**	P		**Pn**	**06 50 06.3**	**-0.6**
XOR	**Xorichti**	**1.36**	**38**	*e*PN		**Pn**	**06 50 06.2**	**-0.6**
XOR	**Xorichti**	**1.36**	**38**	P		**Pn**	**06 50 06.3**	**-0.6**
SKIA	**Skiathos**	**1.36**	**50**	P		**Pn**	**06 50 06.7**	**-0.2**
SKIA	**Skiathos**	**1.36**	**50**	*e*PN		**Pn**	**06 50 06.6**	**-0.3**
SKIA	**Skiathos**	**1.36**	**50**	P		**Pn**	**06 50 06.7**	**-0.2**
PTL	**Penteli**	**1.40**	**100**	*e*PN		**Pn**	**06 50 07.2**	**-0.2**
PTL	**Penteli**	**1.40**	**100**	*e*Pn		**Pn**	**06 50 07.2**	**-0.2**
PYL	**PYLOS**	**1.43**	**192**	P		**Pb**	**06 50 07.9**	**-0.6**
PYL	**PYLOS**	**1.43**	**192**	*e*PN		**Pn**	**06 50 07.7**	**-0.1**
PYL	**PYLOS**	**1.43**	**192**	P		**Pb**	**06 50 07.9**	**-0.6**
DYR	**Agios Nikonas**	**1.54**	**174**	P		**Pn**	**06 50 09.3**	**-0.1**
DYR				S		**Sg**	**06 50 30.6**	**-0.6**
DYR	**Agios Nikonas**	**1.54**	**174**	*e*PN		**Pn**	**06 50 09.2**	**-0.1**
DYR	**Agios Nikonas**	**1.54**	**174**	P		**Pn**	**06 50 09.3**	**-0.1**
DYR				S		**Sg**	**06 50 30.6**	**-0.6**
AOS	**Alonnisos**	**1.63**	**57**	P		**Pn**	**06 50 09.8**	**-0.8**
AOS				S		**Sn**	**06 50 31.3**	**-0.4**
AOS	**Alonnisos**	**1.63**	**57**	*e*PB		**Pn**	**06 50 10.0**	**-0.6**
AOS	**Alonnisos**	**1.63**	**57**	P		**Pn**	**06 50 09.8**	**-0.8**
AOS				S		**Sn**	**06 50 31.3**	**-0.4**
VLI	**Veliai**	**1.70**	**157**	P		**Pn**	**06 50 12.0**	**+0.4**
VLI	**Veliai**	**1.70**	**157**	*e*PN		**Pn**	**06 50 11.9**	**+0.4**
VLI	**Veliai**	**1.70**	**157**	P		**Pn**	**06 50 12.0**	**+0.4**
MRMA	**Marmari**	**1.80**	**97**	P		**Pn**	**06 50 12.8**	**-0.1**
MRMA	**Marmari**	**1.80**	**97**	P		**Pn**	**06 50 12.8**	**-0.1**
LIT	**Litokhoron**	**1.82**	**9**	*e*PN		**Pb**	**06 50 14.3**	**-1.0**
LIT	**Litokhoron**	**1.82**	**9**	*e*Pn		**Pb**	**06 50 14.3**	**-1.0**
IGT	**Igoumenitsa**	**1.86**	**312**	*e*PB		**Pn**	**06 50 13.1**	**-0.7**
KZN	**Kozani**	**2.03**	**352**	*e*PN		**Pb**	**06 50 17.5**	**-1.2**
KZN	**Kozani**	**2.03**	**352**	*e*Pn		**Pb**	**06 50 17.5**	**-1.2**
PAIG	**Paliouri**	**2.03**	**36**	*e*PB		**Pn**	**06 50 15.6**	**-0.5**
KYTH	**Kithira**	**2.14**	**160**	*e*PN		**Pb**	**06 50 19.3**	**-1.3**
KYTH	**Kithira**	**2.14**	**160**	*e*Pn		**Pb**	**06 50 19.3**	**-1.3**
NEST	**Nestorio**	**2.27**	**339**	*e*PN		**Pn**	**06 50 20.0**	**+0.5**
NEST	**Nestorio**	**2.27**	**339**	*e*Pn		**Pn**	**06 50 20.0**	**+0.5**
SRN	**Sarande**	**2.29**	**314**	*i* PN		**Pb**	**06 50 22.0**	**-1.1**
SRN				*i* Pn		**Sg**	**06 50 56.8**	**+1.7**
SRN	**Sarande**	**2.29**	**314**	*i* Pn		**Pb**	**06 50 22.0**	**-1.1**
KEK	**Kerkira**	**2.30**	**309**	*e*PN		**Pb**	**06 50 21.9**	**-1.4**
KEK	**Kerkira**	**2.30**	**309**	*e*Pn		**Pb**	**06 50 21.9**	**-1.4**
HORT	**Hortiatis**	**2.42**	**18**	*e*PB		**Pn**	**06 50 20.7**	**-0.8**
OUR	**Ouranopolis**	**2.50**	**35**	*e*PN		**Pn**	**06 50 22.2**	**-0.3**
OUR	**Ouranopolis**	**2.50**	**35**	*e*Pn		**Pn**	**06 50 22.2**	**-0.3**
FNA	**Florina**	**2.55**	**347**	P		**Pn**	**06 50 22.6**	**-0.7**
FNA				S		**Sn**	**06 50 55.6**	**+1.1**
FNA	**Florina**	**2.55**	**347**	*e*PB		**Pn**	**06 50 24.5**	**+1.2**
FNA	**Florina**	**2.55**	**347**	P		**Pn**	**06 50 22.6**	**-0.7**
FNA				S		**Sn**	**06 50 55.6**	**+1.1**
ANKY	**Antikythira Is**	**2.60**	**158**	*e*PN		**Pn**	**06 50 24.3**	**+0.4**
ANKY	**Antikythira Is**	**2.60**	**158**	*e*Pn		**Pn**	**06 50 24.3**	**+0.4**
GRG	**Griva**	**2.67**	**5**	*e*PB		**Pn**	**06 50 26.6**	**+1.7**
SOH	**Sokhos**	**2.70**	**20**	*e*PN		**Pn**	**06 50 25.9**	**+0.6**
SOH	**Sokhos**	**2.70**	**20**	*e*Pn		**Pn**	**06 50 25.9**	**+0.6**
KNT	**Kendrikon**	**2.92**	**12**	*e*PN		**Pn**	**06 50 29.4**	**+1.0**
KNT	**Kendrikon**	**2.92**	**12**	*e*Pn		**Pn**	**06 50 29.4**	**+1.0**
APE	**Apeiranthos**	**2.97**	**113**	*e*PN		**Pn**	**06 50 29.5**	**+0.5**
APE	**Apeiranthos**	**2.97**	**113**	*e*Pn		**Pn**	**06 50 29.5**	**+0.5**
VAY	**Valandovo**	**3.04**	**6**	*e*Pn		**Pn**	**06 50 31.1**	**+1.1**
CHOS	**Chios island**	**3.10**	**87**	*e*PN		**Pn**	**06 50 31.3**	**+0.5**
KARN	**Karanos**	**3.23**	**153**	*e*PN		**Pn**	**06 50 34.2**	**+1.6**
KAVA	**Kavala**	**3.27**	**34**	*e*PN		**Pn**	**06 50 34.4**	**+1.3**
PHP	**Peshkopia**	**3.62**	**340**	*i* PN		Pn	06 50 41.5	+3.5
PHP				*i* SN		**Sb**	**06 51 29.2**	**-0.8**
PHP	**Peshkopia**	**3.62**	**340**	*i* Pn		Pn	06 50 41.5	+3.5
IDI	**Anoyia**	**3.73**	**143**	*e*PN		**Pn**	**06 50 42.0**	**+2.4**
IDI	**Anoyia**	**3.73**	**143**	P		**Pn**	**06 50 41.5**	**+1.9**
	0.9nm,0.3s,baz=315,slow=13,SNR=4.2							
IDI				S		**Sn**	**06 51 22.2**	**-1.5**
	2.3nm,0.3s,baz=61,slow=19,SN

PET smax smax
comp=N,4μm,1.1s
PET smax smax
comp=N,4μm,0.7s
PET Petropavlovsk 4.22 26 *e*P **Pn 07 03 01.2 +0.1**
PET *i* S **Sn 07 03 47.2 -1.9**
UGLR Uglovaya 4.44 26 *e*P **Pn 07 03 05.1 +0.9**
KOK Koryaka 4.46 24 *e*P **Pn 07 03 05.6 +1.2**
AVH Avacha 4.46 25 *e*P **Pn 07 03 05.5 +1.0**
AVH *i* S **Sn 07 03 54.6 -0.5**
SMAR Somma 4.48 25 *e*P **Pn 07 03 05.4 +0.6**
KRER Koryakskii 4.50 25 *i* P **Pn 07 03 05.9 +0.8**
KRER *i* S **Sn 07 03 55.5 -0.7**
SDLR Sedlovina 4.51 26 *i* P **Pn 07 03 05.0 -0.2**
SDLR *i* S **Sn 07 03 53.7 -2.7**
KRX Arik 4.52 24 *e*P **Pn 07 03 06.5 +1.1**
NLC Nalytchevo 4.56 29 PN **Pn 07 03 03.8 -1.9**
NLC Nalytchevo 4.56 29 *e*P **Pn 07 03 03.8 -1.9**
GNL Ganaly 4.67 17 *e*P **Pn 07 03 08.3 +0.9**
MKZ Mys Kozlova 6.51 33 PN **Pn 07 03 29.7 -2.6**
MKZ Mys Kozlova 6.51 33 *e*P **Pn 07 03 29.7 -2.6**
MKZ *i* S Sn 07 04 37.5 -7.6
KUR Kuril'sk 6.64 236 *e*PN **Pn 07 03 35.5 +1.4**
KUR *e*S **Sn 07 04 49.8 +1.5**
KUR pmax pmax
comp=N,150nm,0.5s
KUR pmax pmax
comp=Z,530nm,0.5s
KUR pmax pmax
comp=E,150nm,0.6s
KUR smax smax
comp=N,460nm,0.5s
KUR smax smax
comp=E,150nm,0.5s
KUR smax smax
comp=N,6μm,2.0s
KUR smax smax
comp=E,5μm,2.0s
TUMR Tumrok 6.64 23 *e*P **Pn 07 03 34.8 +0.6**
ESO Esso 6.93 15 PN **Pn 07 03 39.5 +1.3**
ESO Esso 6.93 15 *e*P **Pn 07 03 39.5 +1.3**
KMNR Kamenistaya 7.09 22 *e*P **Pn 07 03 41.2 +0.8**
KPT Kopyto 7.28 21 *e*P **Pn 07 03 43.0 +0.1**
KOZ Kozyrevsk 7.28 19 *e*P **Pn 07 03 42.9 0.0**
KIRR Kirishev 7.29 21 *e*P **Pn 07 03 43.6 +0.4**
KOZR Kozyr 7.29 19 PN **Pn 07 03 42.9 -0.2**
BZMR Bezymyannaya 7.31 22 *e*P **Pn 07 03 43.9 +0.4**
BZWR Bezymyannyi-We 7.34 22 *e*P **Pn 07 03 44.7 +0.8**
BZGR Bezymyannyi-Gr 7.37 23 *e*P **Pn 07 03 44.5 +0.3**
ZLN Zelenaya 7.46 23 *e*P **Pn 07 03 46.0 +0.5**
SRDR Sredinnyy 7.49 18 *e*P **Pn 07 03 46.1 +0.3**
KRSR Krestovskiy 7.58 21 *e*P **Pn 07 03 47.5 +0.4**
KLY Klyuchi 7.69 21 PN **Pn 07 03 48.7 +0.2**
KLY Klyuchi 7.69 21 *e*P **Pn 07 03 48.7 +0.2**
BDR Baidarnaya 8.06 23 *e*P **Pn 07 03 53.6 0.0**
SMKR Semkarok 8.14 23 *e*P **Pn 07 03 53.9 -0.8**
KBTR Krutoberegovo 8.21 29 PN **Pn 07 03 53.0 -2.6**
KBTR Krutoberegovo 8.21 29 *e*P **Pn 07 03 53.0 -2.6**
YUK Yuzh-Kuril'sk 8.50 236 *d i*PN **Pn 07 03 59.5 -0.1**
YUK pmax pmax
comp=E,169nm,0.5s
YUK pmax pmax
comp=Z,776nm,0.5s
YUK pmax pmax
comp=N,92nm,0.5s
BKI Bering 8.70 43 PN **Pn 07 03 59.9 -2.3**
BKI Bering 8.70 43 *i* P **Pn 07 03 59.9 -2.3**
BKI *i* S Sn 07 05 27.0 -12
UGL Uglegorsk 8.88 274 ⇓ *i*PN Pn 07 04 10.3 +5.5
UGL S Sn 07 05 50.0 +6.8
UGL pmax pmax
comp=Z,720nm,0.8s
UGL pmax pmax
comp=N,165nm,0.9s
UGL pmax pmax
comp=E,197nm,0.9s
UGL pmax pmax
comp=Z,2μm,4.0s
UGL smax smax
comp=N,224nm,1.0s
UGL smax smax
comp=E,247nm,1.0s
UGL smax smax
comp=Z,123nm,1.0s
YSS Yuzh-Sakhalins 8.91 260 ⇑ *i*PN Pn 07 04 09.0 +3.8
YSS *e*S **Sn 07 05 46.5 +2.6**
YSS pmax pmax
comp=N,280nm,1.0s
YSS pmax pmax
comp=E,530nm,1.0s
YSS pmax pmax
comp=Z,420nm,1.0s
YSS MLR MLR
comp=E,1μm,20.0s
JRA Rausu 8.97 238 P **Pn 07 04 03.8 -2.2**
NEM2 Nemuro 2 9.02 233 P **Pn 07 04 03.6 -3.1**
NEM2 *e*S Sn 07 05 37.4 -9.2
JNK Nakash 9.42 237 P **Pn 07 04 11.1 -1.1**
JTKR Abashiri--Toko 9.63 241 P **Pn 07 04 15.5 +0.4**
JAK Akkeshi 9.83 235 P **Pn 07 04 15.5 -2.2**
JAK *e*S Sn 07 05 56.9 -9.5
JSE Soyaes 9.87 249 P Pn 07 04 22.4 +4.1
JMP Maruseppu 9.93 243 P **Pn 07 04 20.1 +0.9**
JWK2 Keihoku 10.12 252 P Pn 07 04 26.7 +5.0
JAR Ashorobuto 10.14 238 P **Pn 07 04 21.7 -0.2**
JAR *e*S **Sn 07 06 10.0 -3.9**
ASAJ Asahikawa 10.32 245 P **Pn 07 04 26.4 +2.0**
ASAJ Asahikawa 10.32 245 *e*Pn **Pn 07 04 26.6 +2.3**
ASAJ Asahikawa 10.32 245 P **Pn 07 04 26.5 +2.1**
comp=E,21nm,0.3s,baz=74,slow=14,SNR=62
ASAJ LR LR 07 08 28.6
comp=E,523nm,20.3s,baz=356,slow=38
JOB Onbets 10.36 237 P **Pn 07 04 23.0 -2.0**
JOB *e*S Sn 07 06 11.2 -8.1
JKK2 Kamakawa 2 10.37 244 P **Pn 07 04 26.4 +1.3**
JCH Churui 10.81 237 P **Pn 07 04 28.3 -2.8**
JCH *e*S Sn 07 06 20.4 -10
JFR Furan 10.88 241 P **Pn 07 04 31.4 -0.8**
JAB Ashibetsu 10.89 243 P **Pn 07 04 34.2 +2.0**
JBT2 Biratori 2 11.26 240 P **Pn 07 04 35.5 -1.8**
JBT2 *e*S Sn 07 06 32.7 -8.6
JEM Erimo 11.33 235 *e*S Sn 07 06 31.7 -11
JNBK Urakawa-nobuka 11.37 237 P Pn 07 04 35.3 -3.4
JNBK *e*S Sn 07 06 34.0 -10
FX1 Attu Island--F 11.61 65 *e*Pn Pn 07 04 38.7 -3.3
FX1 *e*Sn Sn 07 06 39.8 -10
FX1 Attu Island--F 11.61 65 P **Pn 07 04 39.2 -2.8**
comp=E,31nm,0.3s,baz=306,slow=1.9,SNR=49
FX1 S Sn 07 06 37.2 -13
comp=E,31nm,0.3s,baz=94,slow=21,SNR=16
FX1 LR LR 07 08 43.7
comp=E,472nm,21.7s,baz=91,slow=35
JEW Eniwo 11.74 242 P Pn 07 04 37.7 -6.2
SMY Shemya 12.15 66 *e*PN **Pn 07 04 46.2 -3.0**
SMY Shemya 12.15 66 *e*Pn **Pn 07 04 46.2 -3.0**
SMY *e*Sn Sn 07 06 53.6 -9.1
JNB Noboribetsu 12.21 242 P **Pn 07 04 48.6 -1.6**
JKB Kayabe 12.59 240 P Pn 07 04 51.3 -4.0
JKB *e*S Sn 07 07 01.9 -12
JSH Shimam 12.69 244 P **Pn 07 04 55.7 -1.0**
JOT Ohata 12.91 238 P Pn 07 04 54.5 -5.3
JSR Shiriuchi 13.17 240 P Pn 07 04 59.8 -3.4
JTM Tenmabayashi 13.31 236 P Pn 07 04 58.4 -6.7
JTM *e*S Sn 07 07 16.0 -15
JANG Nango 13.37 234 P Pn 07 04 58.9 -7.0
JANG *e*S Sn 07 07 16.2 -16
JTH Tanohata 13.51 232 *e*S Sn 07 07 19.3 -17
HABR Khabarovsk 13.56 274 *de*P **P 07 05 12.2 -2.9**
HABR pmax pmax
comp=Z,311nm,0.9s
SEY Seymchan 13.82 354 *e*P **Pn 07 05 11.4 -0.3**
JOM Ohasama 14.14 232 P Pn 07 05 10.2 -6.0
OFUJ Ofunato 14.25 230 P Pn 07 05 11.1 -6.5
OFUJ *e*S Sn 07 07 38.6 -16
JRG Rokugo 14.54 233 P Pn 07 05 15.0 -6.4
JRG *e*S Sn 07 07 47.1 -14
JIO Ouri 14.89 229 P Pn 07 05 18.7 -7.2
JIO *e*S Sn 07 07 53.1 -17
AMKA Amchitka 15.26 73 *e*P **Pn 07 05 31.1 +0.5**
comp=Z,133nm,1.1s
AMKA *e*S Sn 07 08 06.4 -12
KLR Kul'dur 15.58 279 *e*P **Pn 07 05 33.5 -1.1**

KLR pmax pmax
comp=E,180nm,1.4s
KLR pmax pmax
comp=Z,240nm,1.4s
KLR MLR MLR
comp=N,600nm,17.0s
KLR MLR MLR
comp=E,800nm,17.0s
KLR MLR MLR
comp=Z,3μm,12.0s
JYA Atsumi 15.62 233 P **Pn 07 05 30.9 -4.3**
JMM Marumori 15.63 229 P **P 07 05 39.8 +1.7**
JFY Yanaizu 16.52 230 P **Pn 07 05 42.5 -4.1**
JSD Sado 16.80 235 P **P 07 05 52.8 +1.7**
USRK Ussuriysk Arra 16.94 262 P **Pn 07 05 52.0 +0.3**
comp=Z,4.8nm,0.3s,baz=67,slow=12,SNR=61
USRK LR LR 07 11 53.2
comp=Z,360nm,21.1s,baz=55,slow=35
ADK Adak 17.75 71 *e*P **P 07 05 59.7 -1.7**
ADK pmax pmax
comp=Z,194nm,1.1s
ADK Adak 17.75 71 *e*P **P 07 05 59.7 -1.7**
comp=Z,194nm,1.1s
MAJO Matsushiro 17.95 231 *e*P **P 07 06 02.7 -1.1**
MAJO pmax pmax
comp=Z,105nm,0.6s
MAJO Matsushiro 17.95 231 *e*P **P 07 06 02.7 -1.1**
comp=Z,105nm,0.6s
MAT Matsushiro 17.95 231 P **Pn 07 06 04.4 +0.3**
MAT S **Sn 07 09 18.0 -5.7**
MAT Matsushiro 17.95 231 P **P 07 06 02.3 -1.5**
MJAR Matsushiro Arr 17.95 231 P **P 07 06 02.2 -1.6**
MJAR Matsushiro Arr 17.95 231 P **P 07 06 02.2 -1.6**
comp=Z,6.1nm,0.3s,baz=30,slow=10,SNR=45
MJAR LR LR 07 13 39.8
comp=Z,378nm,20.2s,baz=45,slow=39
JRY Ryogami san 18.01 229 P **P 07 06 03.1 -1.4**
MDJ Mudanjiang 18.33 265 P **P 07 06 07.3 -0.6**
MDJ pP **pP 07 06 21.1 -1.0**
MDJ sP **sP 07 06 30.8 0.0**
MDJ S **Sn 07 09 31.0 -1.6**
MDJ PcP **PcP 07 10 33.0 -3.5**
MDJ ScP **ScP 07 14 02.3 -3.3**
MDJ ScS **ScS 07 17 43.0 -3.4**
MDJ AMB AMB
comp=Z,37nm,1.3s
MDJ AMB AMB
comp=Z,160nm,5.0s
MDJ LR LR
comp=Z,230nm,29.1s
MDJ LR LR
comp=Z,460nm,32.9s
MDJ LR LR
comp=Z,650nm,29.1s
JOD2 Odawara 2 18.52 227 P **P 07 06 09.6 -0.5**
YAK Yakutsk 19.26 321 *c i*P **P 07 06 17.4 -0.5**
YAK *e*S **S 07 09 51.1 -1.0**
YAK pmax pmax
comp=Z,74nm,0.8s
YAK pmax pmax
comp=N,18nm,1.1s
YAK pmax pmax
comp=E,33nm,1.1s
YAK pmax pmax
comp=Z,107nm,1.0s
YAK pmax pmax
comp=N,64nm,1.3s
YAK pmax pmax
comp=E,62nm,1.1s
YAK smax smax
comp=N,253nm,1.6s
YAK smax smax
comp=E,93nm,1.5s
YAK MLR MLR
comp=N,118nm,11.0s
YAK MLR MLR
comp=E,143nm,13.0s
CLNS Chul'man 19.83 304 *e*P **Pn 07 06 25.6 -0.8**
CLNS *e*S **Sn 07 10 09.2 +0.6**
CLNS pmax pmax
comp=Z,48nm,0.8s
CLNS pmax pmax
comp=E,23nm,0.9s
CLNS pmax pmax
comp=N,18nm,0.9s
CLNS smax smax
comp=E,282nm,15.3s
CLNS smax smax
comp=N,308nm,11.2s
CLNS MLR MLR
comp=N,266nm,15.0s
CLNS MLR MLR
comp=E,371nm,13.0s
JWT Wachi 20.38 234 P **P 07 06 29.9 -0.4**
JIE Ise 20.39 230 P **P 07 06 30.2 -0.2**
JAD Aida 21.30 236 P **P 07 06 40.0 -0.2**
JWZ Kozaga 21.58 231 P **P 07 06 43.6 +0.5**
SPIA Saint Paul Isl 21.73 56 *e*P **P 07 06 45.5 +1.0**
comp=E,217nm,1.2s
JHS Saijyo 21.83 238 P **P 07 06 46.2 +0.3**
JMN Monobe 22.38 234 P **P 07 06 52.7 +0.9**
KSRS Korea Array 23.20 250 P **P 07 07 01.0 +0.9**
comp=E,71nm,0.7s,baz=50,slow=9.4,SNR=108
KSRS LR LR 07 15 11.8
comp=E,312nm,20.0s,baz=48,slow=34
KSAR Wonju Array Be 23.23 250 P **P 07 07 01.0 +0.6**
INCN Inchon 23.98 252 *e*P **P 07 07 08.2 +0.9**
comp=E,68nm,1.0s
JNU Nakatsue 24.47 238 P **P 07 07 12.3 +0.6**
JNU Nakatsue 24.47 238 *e*P **P 07 07 12.2 +0.4**
comp=E,49nm,0.9s
JNU Nakatsue 24.47 238 P **P 07 07 12.3 +0.6**
comp=E,95nm,0.9s,baz=34,slow=8.8,SNR=28
JNU LR LR 07 17 38.4
comp=E,114nm,19.6s,baz=43,slow=38
TIXI Tiksi 25.59 341 *e*P **P 07 07 19.5 -2.0**
TIXI pmax pmax
comp=Z,13nm,0.8s
BJI Beijing 29.25 267 P **P 07 07 53.9 -0.6**
BJI sP **sP 07 08 16.6 -2.5**
BJI S **S 07 12 45.5 +3.3**
BJI AMB AMB
comp=Z,35nm,0.9s
BJI LR LR
comp=Z,200nm,21.9s
BJI LR LR
comp=Z,260nm,23.4s
BJI LR LR
comp=Z,300nm,32.4s
SVW2 Sparrevohn 29.54 48 *e*P **P 07 07 57.4 +0.4**
comp=Z,19nm,0.7s
IM04 Indian Mountai 30.73 38 *e*P **P 07 08 06.8 -0.7**
IMA2 Indian Mountai 30.79 38 *e*P **P 07 08 07.3 -0.8**
H11N2 WAKE ISLAND Hy 30.82 159 T T 07 40 47.5
baz=348,slow=0.7,SNR=499
H11N1 WAKE ISLAND Hy 30.84 159 T T 07 41 05.5
baz=348,slow=0.7,SNR=606
H11N3 WAKE ISLAND Hy 30.84 159 T T 07 41 12.6
baz=348,slow=0.7,SNR=638
OHAK Old Harbor 30.93 55 *e*P **P 07 08 07.9 -1.3**
comp=Z,40nm,0.8s
RSO Redoubt South 30.93 49 *e*P **P 07 08 10.4 +0.9**
PPLA Purkeypile 31.18 44 *e*P **P 07 08 12.5 +0.9**
comp=Z,135nm,1.6s
KDAK Kodiak Island 31.24 54 *e*P **P 07 08 11.8 -0.2**
comp=Z,38nm,0.8s
KDAK Kodiak Island 31.24 54 P **P 07 08 10.3 -1.6**
comp=Z,253nm,0.7s,SNR=7.2
SPU Mount Spurr 31.25 48 *e*P **P 07 08 12.5 +0.4**
SSE Sheshan 31.59 248 P **P 07 08 17.1 +1.8**
SSE S **S 07 13 22.8 +3.8**
SSE AMB AMB
comp=Z,42nm,0.9s
SSE AMB AMB
comp=Z,130nm,5.0s
SSE LR LR
comp=Z,100nm,28.1s
SSE LR LR
comp=Z,180nm,28.1s
SSE LR LR
comp=Z,250nm,31.8s
BPAW Bear Paw Mtn. 31.75 42 *e*P **P 07 08 16.7 +0.3**
comp=Z,31nm,0.9s
HHC Hu-ho-hao-te 31.85 272 *e*P **P 07 08 16.8 -0.8**
HHC pP **pP 07 08 34.6 +0.4**
HHC sP **sP 07 08 43.8 +1.5**

HHC PP **PnPn 07 09 24.8 +0.3**
HHC S **S 07 13 19.4 -3.8**
HHC sS **sS 07 13 51.0 -0.6**
HHC SS **SnSn 07 15 15.1 -2.0**
HHC AMB AMB
comp=Z,130nm,1.2s
HHC AMB AMB
comp=Z,220nm,5.1s
HHC LR LR
comp=Z,580nm,10.0s
HHC LR LR
comp=Z,750nm,10.8s
HHC LR LR
comp=Z,680nm,11.6s
H11S1 WAKE ISLAND Hy 31.96 160 T T 07 42 32.2
baz=357,slow=0.7
H11S3 WAKE ISLAND Hy 31.97 160 T T 07 42 37.5
baz=357
H11S2 WAKE ISLAND Hy 31.97 160 T T 07 42 20.2
baz=357,slow=0.7
TRF Thorofare Moun 32.05 43 *e*P **P 07 08 19.2 0.0**
comp=Z,28nm,0.8s
SONM Songino Array 32.16 287 P **P 07 08 19.5 -0.8**
SONM PcP **PcP 07 11 10.0 +2.4**
SONM Songino Array 32.16 287 P **P 07 08 19.5 -0.8**
comp=Z,2.2nm,0.4s,baz=79,slow=7.7,SNR=21
SONM PcP **PcP 07 11 10.0 +2.4**
comp=Z,2.2nm,0.9s,baz=29,slow=3.3,SNR=4.7
SONM LR LR 07 22 48.8
comp=Z,317nm,20.1s,baz=84,slow=39
COLD Coldfoot 32.31 36 *e*P **P 07 08 21.5 +0.3**
comp=Z,22nm,1.0s
NJ2 Nanjing 32.36 252 *e*P **P 07 08 21.3 -0.8**
NJ2 pP **pP 07 08 37.4 -1.2**
NJ2 sP **sP 07 08 46.8 +0.1**
NJ2 S **S 07 13 34.0 +2.9**
NJ2 sS **sS 07 13 59.5 0.0**
NJ2 AMB AMB
comp=Z,70nm,1.0s
NJ2 AMB AMB
comp=Z,110nm,5.4s
NJ2 LR LR
comp=Z,390nm,14.2s
NJ2 LR LR
comp=Z,350nm,15.3s
NJ2 LR LR
comp=Z,330nm,14.2s
TLY Talaya 32.60 294 ⇑ *e*P **P 07 08 23.8 -0.2**
TLY pmax pmax
comp=Z,50nm,0.6s
TLY Talaya 32.60 294 P **P 07 08 23.7 -0.2**
comp=Z,469nm,0.6s,SNR=13
SEW Seward 32.60 50 *e*P **P 07 08 23.0 -0.8**
comp=Z,29nm,0.9s
PMR Palmer 32.64 47 *e*P **P 07 08 23.0 -1.1**
PMR pmax pmax
comp=Z,17nm,0.8s
PMR Palmer 32.64 47 *e*P **P 07 08 23.0 -1.1**
comp=Z,17nm,0.8s
MCK McKinley 32.66 43 *e*P **P 07 08 24.2 -0.1**
MCK pmax pmax
comp=Z,60nm,0.9s
MCK McKinley 32.66 43 *e*P **P 07 08 24.2 -0.1**
comp=Z,60nm,0.9s
COLA College 33.13 41 *e*P **P 07 08 28.7 +0.3**
COLA pmax pmax
comp=Z,94nm,0.8s
COLA College 33.13 41 *e*P **P 07 08 28.7 +0.3**
comp=Z,94nm,0.8s
ZAK Zakamensk 33.21 292 ⇑ *i*P **P 07 08 28.9 -0.5**
ZAK *e* 07 08 47.9
ZAK pmax pmax
comp=Z,25nm,1.0s
ILAR Eielson Array 33.54 41 P **P 07 08 31.8 -0.2**
ILAR Eielson Array 33.54 41 P **P 07 08 31.8 -0.2**
comp=Z,13nm,0.7s,baz=249,slow=6.5,SNR=160
ILAR LR LR 07 23 24.3
comp=Z,128nm,19.8s,baz=35,slow=38
MOY Mondy 34.18 295 *e*P **P 07 08 37.7 -0.1**
PAX Paxson 34.25 44 *e*P **P 07 08 38.2 -0.1**
PAX pmax pmax
comp=Z,15nm,0.8s
PAX Paxson 34.25 44 *e*P **P 07 08 38.2 -0.1**
comp=Z,15nm,0.8s
DIV Divide 34.29 47 *e*P **P 07 08 38.6 0.0**
comp=Z,72nm,0.7s
DOT Dot Lake 34.83 43 *e*P **P 07 08 42.2 -1.0**
comp=Z,23nm,0.7s
BMRM Bremner River 34.88 47 *e*P **P 07 08 43.9 +0.2**
comp=Z,85nm,1.0s
RAGM Ragged Mountai 34.93 49 *e*P **P 07 08 44.5 +0.4**
comp=Z,38nm,0.8s
EGAK Eagle 35.99 41 *e*P **P 07 08 51.7 -1.4**
comp=Z,72nm,1.1s
WHN Wuhan 36.21 254 ⇑ *i*P **P 07 08 55.3 0.0**
WHN AMB AMB
comp=Z,360nm,0.6s
YHNB Yeheng 36.26 240 *e*P **P 07 08 58.0 +2.1**
comp=Z,42nm,1.0s
DAWY Dawson 36.84 42 *e*P **P 07 09 00.4 +0.1**
SSLB Suanglung 37.19 240 *e*P **P 07 09 06.3 +2.5**
comp=Z,12nm,0.6s
YULB Yu-li 37.31 239 *e*P **P 07 09 06.2 +1.5**
comp=Z,11nm,0.6s
XAN Xi'an 37.43 264 P **P 07 09 05.0 -0.8**
XAN AMB AMB
comp=Z,15nm,3.7s
TPUB Ta-pu 37.76 239 *e*P **P 07 09 08.8 +0.3**
comp=Z,57nm,0.7s
HYT Haines Junctio 38.31 47 *e*P **P 07 09 13.9 +0.9**
INK Inuvik 38.63 34 *e*P **P 07 09 15.9 +0.6**
comp=Z,28nm,0.9s
HVS Khovu-Aksy 38.65 297 *c i*P **P 07 09 15.7 -0.1**
ENH Enshi 39.49 259 *e*P **P 07 09 22.8 -0.2**
comp=Z,34nm,0.7s
LZH Lanzhou 39.52 270 ⇑ P **P 07 09 23.8 +0.4**
LZH pP **pP 07 09 41.5 +1.2**
LZH sP **sP 07 09 49.6 +1.3**
LZH PP **PnPn 07 11 00.0 +1.4**
LZH PcP **PcP 07 11 28.3 -1.4**
LZH *e*S **S 07 15 20.3 -0.5**
LZH sS **sS 07 15 49.5 -0.1**
LZH *e*SS **SS 07 18 08.6 -8.8**
LZH AMB AMB
comp=Z,77nm,1.3s
LZH AMB AMB
comp=Z,190nm,5.1s
LZH LR LR
comp=Z,380nm,12.3s
LZH LR LR
comp=Z,430nm,13.5s
LZH LR LR
comp=Z,550nm,17.0s
SKAG Skagway 39.72 48 *e*P **P 07 09 26.2 +1.7**
comp=Z,27nm,1.0s
GTA Gaotai 40.27 278 ⇑ P **P 07 09 29.5 0.0**
GTA pP **pP 07 09 42.3 -4.2**
GTA PcP **PcP 07 11 33.8 +1.8**
GTA S **S 07 15 31.6 -0.3**
GTA SS SS 07 18 23.6 -8.7
GTA AMB AMB
comp=Z,30nm,1.3s
GTA AMB AMB
comp=Z,160nm,4.8s
GTA LR LR
comp=Z,250nm,16.9s
GTA LR LR
comp=Z,410nm,18.3s
GTA LR LR
comp=Z,390nm,17.6s
SIT Sitka 40.47 52 *e*P **P 07 09 32.1 +1.4**
SIT pmax pmax
comp=Z,96nm,1.7s
SIT Sitka 40.47 52 *e*P **P 07 09 32.1 +1.4**
comp=Z,96nm,1.7s
CRAG Craig 42.19 53 *e*P **P 07 09 46.4 +1.6**
comp=Z,59nm,1.4s
WRAK Wrangell Islan 42.23 52 *e*P **P 07 09 46.5 +1.3**
comp=Z,39nm,0.9s
ZAA0 Zalesovo Array 42.54 304 *e*P **P 07 09 46.0 -1.8**
ZALV Zalesovo Beam 42.54 304 P **P 07 09 46.3 -1.5**
ZALV 07 11 41.4
ZALV pmax pmax
comp=Z,7.0nm,0.5s
ZALV Zalesovo Beam 42.54 304 P **P 07 09 46.2 -1.5**
ZALV PcP **PcP 07 11 41.4 +2.4**

ZALV ScP **ScP** **07 15 29.6 +6.1**
ZALV Zalesovo Beam 42.54 304 P **P** **07 09 46.2 -1.5**
comp=Z,7.1nm,0.5s,baz=62,slow=7.4,SNR=37
ZALV PcP **PcP** **07 11 41.4 +2.4**
comp=Z,9.3nm,0.8s,baz=60,slow=3.6,SNR=11
ZALV ScP **ScP** **07 15 29.6 +6.1**
comp=Z,0.7nm,0.5s,baz=56,slow=3.9,SNR=3.7
ZALV LR LR 07 28 06.9
comp=Z,132nm,19.1s,baz=69,slow=37
DLBC Dease Lake 42.65 48 *eP* **P** **07 09 50.3 +1.6**
CD2 Chengdu 42.78 264 P **P** **07 09 49.5 -0.6**
CD2 pP **pP** **07 10 07.0 -0.2**
CD2 sP **sP** **07 10 15.4 +0.3**
CD2 PP **PP** **07 11 32.1 +1.8**
CD2 S **S** **07 16 07.1 -1.9**
CD2 sS **sS** **07 16 37.3 -0.8**
CD2 SS SS 07 19 13.0 -8.9
CD2 AMB AMB
comp=Z,90nm,0.7s
CD2 AMB AMB
comp=Z,230nm,4.7s
CD2 LR LR
comp=Z,340nm,8.4s
CD2 LR LR
comp=Z,340nm,9.6s
NVS Novosibirsk 43.03 306⇑ *i*P **P** **07 09 49.1 -2.6**
NVS *e**PP **pP** **07 10 09.4 +0.6**
NVS *e* 07 11 40.3
NVS *e*S S 07 16 04.5 -7.4
NVS pmax pmax
comp=Z,30nm,1.3s
NVS pmax pmax
comp=N,5.0nm,0.8s
NVS pmax pmax
comp=E,27nm,1.5s
NVS smax smax
comp=N,8.0nm,1.6s
GYA Guiyang 43.91 257⇑ *i*P **P** **07 09 59.3 +0.1**
GYA pP **pP** **07 10 18.4 +2.0**
GYA sP **sP** **07 10 26.8 +2.5**
GYA PP **PcP** **07 11 46.3 +2.1**
GYA ScP **ScP** **07 15 30.6 +1.0**
GYA SS SS 07 19 34.5 -10
GYA AMB AMB
comp=N,70nm,0.9s
GYA AMB AMB
comp=N,140nm,5.0s
GYA LR LR
comp=N,830nm,17.6s
GYA LR LR
comp=N,740nm,18.0s
GYA LR LR
comp=N,630nm,17.2s
WMQ Urumqi 45.61 290 P **P** **07 10 12.1 -0.4**
WMQ pP **pP** **07 10 30.6 +0.8**
WMQ sP **sP** **07 10 39.6 +1.9**
WMQ PP **PP** **07 11 59.8 -0.4**
WMQ S **S** **07 16 47.5 -2.4**
WMQ sS **sS** **07 17 19.8 +0.6**
WMQ SS **ScS** **07 20 03.8 +1.9**
WMQ AMB AMB
comp=N,40nm,0.8s
WMQ AMB AMB
comp=N,170nm,4.8s
WMQ LR LR
comp=N,230nm,29.2s
WMQ LR LR
comp=N,190nm,29.0s
WMQ LR LR
comp=N,170nm,28.0s
ALE Alert 47.07 6 P **P** **07 10 23.3 -0.1**
comp=N,62nm,1.8s,SNR=5.4
MK31 Makanchi Array 47.30 296 *eP* **P** **07 10 24.5 -1.2**
MK31 Makanchi Array 47.30 296 *eP* **P** **07 10 24.5 -1.2**
MKAR Makanchi Array 47.30 296 P **P** **07 10 24.7 -1.0**
MKAR 07 11 58.6
MKAR pmax pmax
comp=Z,24nm,0.7s
MKAR Makanchi Array 47.30 296 *eP* **P** **07 10 24.6 -1.0**
MKAR PcP **PcP** **07 11 58.6 +3.0**
MKAR ScP **ScP** **07 15 44.8 +1.5**
MKAR Makanchi Array 47.30 296 P **P** **07 10 24.7 -1.0**
comp=Z,24nm,0.7s,baz=63,slow=6.1,SNR=191
MKAR PcP **PcP** **07 11 58.6 +3.0**
comp=Z,4.5nm,0.8s,baz=67,slow=4.9,SNR=5.3
MKAR ScP **ScP** **07 15 44.8 +1.5**
comp=Z,0.8nm,0.9s,baz=316,slow=4.0,SNR=2.9
MKAR LR LR 07 31 15.3
comp=Z,296nm,21.3s,baz=55,slow=37
KMI Kunming 47.36 259 P **P** **07 10 26.9 +0.3**
KMI pP **pP** **07 10 42.8 -1.2**
KMI sP **sP** **07 10 51.8 0.0**
KMI S **S** **07 17 13.8 -1.7**
KMI sS **sS** **07 17 43.5 -1.5**
KMI SS **SS** **07 20 38.6 -5.0**
KMI AMB AMB
comp=Z,56nm,0.9s
KMI AMB AMB
comp=Z,220nm,4.0s
KMI LR LR
comp=Z,190nm,16.6s
KMI LR LR
comp=Z,110nm,18.8s
KMI LR LR
comp=Z,220nm,31.2s
QIZ Qiongzhong 47.38 247 P **P** **07 10 27.3 +0.8**
QIZ pP pP 07 10 50.3 +6.4
QIZ S **S** **07 17 13.9 -1.5**
QIZ AMB AMB
comp=Z,46nm,1.1s
QIZ Qiongzhong 47.38 247 *eP* **P** **07 10 28.1 +1.6**
comp=Z,90nm,1.2s
KURK Kurchatov 47.40 303 *eP* **P** **07 10 25.3 -1.0**
KURK pmax pmax
comp=Z,32nm,1.0s
KURK Kurchatov 47.40 303 P **P** **07 10 25.6 -0.7**
SNR=24
KURK Kurchatov 47.40 303 *eP* **P** **07 10 25.3 -1.0**
comp=Z,32nm,1.0s
KURK ScP **ScP** **07 15 45.7 +2.1**
KURK Kurchatov 47.40 303 P **P** **07 10 25.8 -0.5**
comp=Z,376nm,1.1s,SNR=20
KURBB Kurchatov Arra 47.49 303 ScP **ScP** **07 15 45.7 +1.7**
comp=Z,0.7nm,0.8s,baz=62,slow=3.8,SNR=3.8
YKA Yellowknife Ar 47.91 39 P **P** **07 10 30.3 +0.2**
YKA Yellowknife Ar 47.91 39 P **P** **07 10 30.3 +0.2**
comp=Z,8.5nm,0.6s,baz=296,slow=7.2,SNR=7.9
VOSK Vostochnaya 50.44 308 *eP* **P** **07 10 48.5 -1.0**
VOSK pmax pmax
comp=Z,29nm,0.8s
VOSK Vostochnaya 50.44 308 *eP* **P** **07 10 48.5 -1.0**
comp=Z,29nm,0.8s
BVA0 Borovoye Array 50.58 309 *i* P **P** **07 10 49.4 -1.2**
BVA0 pmax pmax
comp=Z,18nm,0.7s
BVAR Borovoye Array 50.58 309 S **S** **07 17 57.1 -2.5**
comp=Z,1.1nm,0.6s,baz=61,slow=15,SNR=5.9
BRVK Borovoye 50.61 309 *eP* **P** **07 10 49.9 -0.9**
BRVK pmax pmax
comp=Z,32nm,0.9s
BRVK Borovoye 50.61 309 P **P** **07 10 50.3 -0.6**
SNR=10
BRVK Borovoye 50.61 309 *eP* **P** **07 10 49.9 -0.9**
comp=Z,32nm,0.9s
BRVK Borovoye 50.61 309 P **P** **07 10 49.1 -1.8**
comp=Z,238nm,0.9s,SNR=15
PGC Sidney 50.66 58 *eP* **P** **07 10 50.7 -0.5**
comp=Z,2.7nm,1.6s
NLWA Neilton Lookou 51.12 59 *eP* **P** **07 10 53.5 -1.3**
comp=Z,52nm,1.3s
A05A Maple Falls 51.22 57 *eP* **P** **07 10 55.4 0.0**
comp=Z,38nm,1.3s
E03A Lebam 51.77 60 *eP* **P** **07 11 00.1 +0.5**
comp=Z,47nm,1.3s
LSA Lhasa 51.82 273 P **P** **07 11 02.1 +1.3**
LSA AMB AMB
comp=Z,20nm,0.6s
LSA Lhasa 51.82 273 *eP* **P** **07 11 01.9 +1.1**
LSA pmax pmax
comp=Z,30nm,0.6s
LSA Lhasa 51.82 273 *eP* **P** **07 11 01.9 +1.1**
comp=Z,30nm,0.6s
F03A Seaside 52.12 61 *eP* **P** **07 11 02.7 +0.5**
comp=Z,56nm,1.3s
D05A Enumclaw 52.29 59 *eP* **P** **07 11 03.9 +0.5**
comp=Z,78nm,1.5s

CRAI Chiangrai 52.38 257 P **P** **07 11 05.3 +0.8**
comp=Z,45nm,1.1s
SKNT Sakolnakorn 52.53 251 P **P** **07 11 06.6 +1.0**
comp=Z,157nm,0.9s
LON Longmire 52.64 59 *eP* **P** **07 11 06.3 +0.1**
LON pmax pmax
comp=Z,8.0nm,1.1s
LON Longmire 52.64 59 *eP* **P** **07 11 06.3 +0.1**
comp=Z,7.7nm,1.1s
TDL Tradedollar La 52.64 60 P **P** **07 11 06.3 +0.1**
NLW Nelson Butte 52.70 57 P **P** **07 11 06.7 0.0**
WPW White Pass 52.82 59 P **P** **07 11 07.5 0.0**
UBPT Khong Chiam 52.91 248 P **P** **07 11 11.5 +3.1**
comp=Z,33nm,1.1s
UBPT Khong Chiam 52.91 248 P **P** **07 11 11.5 +3.1**
comp=Z,33nm,1.1s
ETW Entiat 52.97 57 P **P** **07 11 08.5 -0.2**
LTY Liberty 52.98 58 *eP* **P** **07 11 08.4 -0.3**
comp=Z,38nm,1.6s
COR Corvallis 53.05 62 *eP* **P** **07 11 09.9 +0.8**
COR Corvallis 53.05 62 *eP* **P** **07 11 09.8 +0.8**
comp=Z,533nm,1.6s
B08A Colville Reser 53.08 56 *eP* **P** **07 11 09.2 -0.2**
comp=Z,70nm,1.5s
WTV Waterville 53.13 57 P **P** **07 11 09.3 -0.4**
SVE Sverdlovsk 53.14 317⇑ *eP* **P** **07 11 09.3 -0.3**
SVE pmax pmax
comp=Z,76nm,1.2s
RNO Roman Nose 53.19 63 P **P** **07 11 11.2 +1.0**
IMP Imphal 53.31 266 *eP* **P** **07 11 10.0 -1.4**
PAYA Payao 53.34 257 P **P** **07 11 12.9 +1.4**
comp=Z,26nm,0.7s,comp=Z,218nm
EDM Edmonton 53.37 49 *eP* **P** **07 11 11.5 +0.1**
EDM Edmonton 53.37 49 *eP* **P** **07 11 11.5 +0.1**
TKM2 Tokmak 2 53.41 296 *eP* **P** **07 11 11.5 -0.6**
TKM2 pmax pmax
comp=Z,13nm,0.8s
TKM2 Tokmak 2 53.41 296 P **P** **07 11 11.4 -0.7**
SNR=21
TKM2 Tokmak 2 53.41 296 *eP* **P** **07 11 11.5 -0.6**
comp=Z,13nm,0.8s
ULHL Ulahol 53.43 295 *i* P **P** **07 11 12.0 -0.2**
ULHL Ulahol 53.43 295 P **P** **07 11 12.0 -0.2**
SNR=5.2
CMAI Chiengmai2 53.45 258 P **P** **07 11 13.7 +1.2**
comp=Z,60nm,1.6s,comp=Z,754nm
KEBM Edson Butte 53.46 64 *eP* **P** **07 11 12.8 +0.6**
comp=Z,76nm,1.4s
H04A Detroit Lake 53.63 61 *eP* **P** **07 11 13.6 +0.2**
comp=Z,29nm,1.1s
VFP Flag Point 53.67 60 P **P** **07 11 14.1 +0.3**
USP Ospenovka 53.85 297 *i* P **P** **07 11 14.9 -0.2**
USP Ospenovka 53.85 297 P **P** **07 11 14.9 -0.2**
SNR=26
CHMS Chumysh 53.87 296 *i* P **P** **07 11 15.1 -0.1**
CHMS Chumysh 53.87 296 P **P** **07 11 15.1 -0.1**
SNR=7.6
C09A Chrisman Ranch 53.99 56 *eP* **P** **07 11 15.8 -0.1**
comp=Z,84nm,1.8s
IRO Indian Ridge 54.00 62 P **P** **07 11 16.6 +0.3**
FRU Bishkek 54.04 296 *eP* **P** **07 11 16.0 -0.5**
FRU pmax pmax
comp=Z,50nm,1.6s
SHL Shillong 54.12 269⇑ *iP* **P** **07 11 17.5 +0.1**
KZA Kyzart 54.12 295 *i* P **P** **07 11 17.7 +0.2**
KZA Kyzart 54.12 295 P **P** **07 11 17.7 +0.2**
SNR=14
HAWA Hanford 54.12 58 *eP* **P** **07 11 17.0 +0.1**
comp=Z,32nm,1.3s
G06A Carlson Farm, 54.19 60 *eP* **P** **07 11 17.1 -0.4**
comp=Z,138nm,2.9s
AAK Ala-Archa 54.24 296 *i* P **P** **07 11 17.5 -0.5**
AAK pmax pmax
comp=Z,45nm,1.1s
AAK Ala-Archa 54.24 296 P **P** **07 11 18.0 0.0**
SNR=7.5
AAK Ala-Archa 54.24 296 P **P** **07 11 17.6 -0.5**
SNR=15
AAK Ala-Archa 54.24 296 *eP* **P** **07 11 16.6 -1.4**
comp=Z,16nm,0.9s
AAK Ala-Archa 54.24 296 P **P** **07 11 17.5 -0.5**
comp=Z,116nm,0.9s,SNR=10
ARU Arti 54.30 317 *c i*P **P** **07 11 17.0 -1.1**
ARU 07 12 20.8
ARU 07 13 16.8
ARU S **S** **07 18 48.0 -2.3**
ARU SS **SS** **07 22 30.9 -1.5**
ARU pmax pmax
comp=Z,128nm,1.2s
ARU Arti 54.30 317 P **P** **07 11 17.3 -0.8**
comp=Z,749nm,0.5s,SNR=7.0
CHTO Chiang Mai 54.33 257 *eP* **P** **07 11 19.2 +0.4**
CHTO *e* 07 11 37.0
CHTO Chiang Mai 54.33 257 P **P** **07 11 20.3 +1.6**
SNR=36
CHTO Chiang Mai 54.33 257 P **P** **07 11 19.8 +1.0**
comp=Z,397nm,1.4s,comp=Z,5µm
CHTO Chiang Mai 54.33 257 *eP* **P** **07 11 19.2 +0.4**
comp=Z,244nm,0.8s
CHTO *e* 07 11 37.0
CHTO Chiang Mai 54.33 257 P **P** **07 11 19.8 +1.0**
comp=Z,397nm,1.4s,comp=Z,5µm
NEW Newport 54.34 55 *eP* **P** **07 11 18.3 -0.2**
comp=Z,23nm,1.3s
NEW Newport 54.34 55⇑P **P** **07 11 18.2 -0.3**
baz=54,SNR=13
HUMO Hull Mountain 54.43 64 *eP* **P** **07 11 20.2 +1.0**
comp=Z,26nm,1.3s
CM31 Chiang Mai Arr 54.59 257 *eP* **P** **07 11 22.1 +1.4**
comp=Z,14nm,0.5s
CMAR Chiang Mai Arr 54.59 257 P **P** **07 11 22.1 +1.5**
CMAR pP **pP** **07 11 38.7 +0.3**
CMAR Chiang Mai Arr 54.59 257 P **P** **07 11 22.1 +1.5**
comp=Z,32nm,0.9s,baz=33,slow=7.0,SNR=64
CMAR pP **pP** **07 11 38.7 +0.3**
comp=Z,12nm,0.8s,baz=41,slow=7.6,SNR=4.9
CMAR LR LR 07 36 28.7
comp=Z,96nm,19.5s,baz=0.3,slow=38
VIPM Ingram Point 54.64 61 P **P** **07 11 21.2 +0.3**
VIPM Ingram Point 54.64 61 P **P** **07 11 21.2 +0.3**
EKS2 Erkin-Say 54.64 296 *eP* **P** **07 11 20.6 -0.3**
EKS2 pmax pmax
comp=Z,25nm,1.2s
EKS2 Erkin-Say 54.64 296 P **P** **07 11 20.7 -0.3**
SNR=13
EKS2 Erkin-Say 54.64 296 *eP* **P** **07 11 20.6 -0.3**
comp=Z,25nm,1.2s
PBKT Sadao Pong 54.72 253 P **P** **07 11 23.0 +1.5**
comp=Z,42nm,0.8s
PBKT Sadao Pong 54.72 253 P **P** **07 11 23.0 +1.5**
comp=Z,42nm,0.8s
E09A Wood Farm, Sta 54.82 57 *eP* **P** **07 11 22.1 +0.1**
comp=Z,26nm,0.9s
PINOR Pine Mountain 54.91 62 *eP* **P** **07 11 23.8 +1.2**
AML Almayashu 55.01 296 *i* P **P** **07 11 24.2 +0.3**
AML Almayashu 55.01 296 P **P** **07 11 24.2 +0.3**
SNR=9.4
KHMM Horse Mountain 55.02 66 *eP* **P** **07 11 25.0 +1.2**
comp=Z,34nm,1.1s
YBH Yreka Blue Hor 55.11 65 *eP* **P** **07 11 25.4 +1.1**
comp=Z,34nm,1.1s
KSH Kashi 55.26 292 P P 07 11 29.6 +4.2
KSH pP pP 07 11 48.8 +5.7
KSH sP sP 07 11 56.3 +5.4
KSH PcP **PcP** **07 12 28.3 +2.9**
KSH PP PP 07 13 34.6 +5.4
KSH S **S** **07 19 06.3 +2.5**
KSH sS sS 07 19 39.5 +5.5
KSH AMB AMB
comp=Z,20nm,1.0s
KSH AMB AMB
comp=Z,190nm,5.5s
KSH LR LR
comp=Z,130nm,5.6s
KSH LR LR
comp=Z,110nm,5.8s
KSH LR LR
comp=Z,72nm,4.3s
KEV Kevo 55.53 341 *eP* **P** **07 11 25.6 -1.1**
KEV Kevo 55.53 341 *ep* **P** **07 11 25.6 -1.1**
I07A Izee 55.53 61 *eP* **P** **07 11 27.8 +0.5**
comp=Z,26nm,1.2s
WALA Waterton Lakes 55.56 53 *eP* **P** **07 11 27.4 -0.1**
comp=Z,0.9nm,0.8s
K05A Summer Lake 55.56 63 *eP* **P** **07 11 28.9 +1.2**
comp=Z,62nm,1.1s

TAPN Taplejung 55.64 273 *eP* **P** **07 11 28.8 +0.3**
comp=Z,55nm,0.8s
F10A Beach Ranch, E 55.66 58 *eP* **P** **07 11 28.2 +0.1**
comp=Z,32nm,1.6s
APA Apatity 55.69 337⇑ *iP* **P** **07 11 28.8 +0.9**
APA *i* 07 12 30.0
APA *e*S **S** **07 19 06.0 -2.6**
APA *e* 07 21 10.0
BSMT Bassoo Peak 55.84 54 *eP* **P** **07 11 29.9 +0.4**
WDC Whiskeytown Da 55.92 66 *eP* **P** **07 11 30.3 +0.4**
WDC pmax pmax
comp=Z,25nm,1.1s
WDC Whiskeytown Da 55.92 66 *eP* **P** **07 11 30.3 +0.4**
comp=Z,25nm,1.1s
BLMT Blacktail Moun 55.96 54 *eP* **P** **07 11 30.9 +0.5**
ARCES ARCESS Array B 56.03 341 P **P** **07 11 28.2 -2.1**
ARCES ARCESS Array B 56.03 341 P **P** **07 11 28.2 -2.1**
comp=Z,2.8nm,0.6s,baz=48,slow=8.5,SNR=11
ARCES LR LR 07 36 58.5
comp=Z,158nm,21.1s,baz=31,slow=38
JTMT Jette 56.17 54 *eP* **P** **07 11 32.1 +0.3**
ODAN Odare 56.18 273 *eP* **P** **07 11 32.6 +0.3**
comp=Z,30nm,0.7s
YBMT Yellow Bay 56.24 54 *eP* **P** **07 11 32.4 +0.1**
comp=Z,34nm,1.3s
KK31 Karatay Array 56.27 299 *i* P **P** **07 11 31.3 -1.1**
KK31 pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 56.27 299 *eP* **P** **07 11 31.6 -0.8**
KKAR Karatay Array 56.27 299 *eP* **P** **07 11 31.6 -0.8**
BMO Blue Mountains 56.30 59 *eP* **P** **07 11 32.8 +0.1**
comp=Z,24nm,1.2s
MOD Modoc 56.42 63 *eP* **P** **07 11 34.4 +0.7**
comp=Z,175nm,1.1s
JIRN Jiri 56.42 275 *eP* **P** **07 11 34.5 +0.3**
comp=Z,53nm,0.6s
GUN Gumba 56.46 275 *eP* **P** **07 11 34.3 -0.1**
comp=Z,62nm,0.6s
SWMT Swartz Lake 56.47 54 *eP* **P** **07 11 34.0 +0.1**
J08A Circle Bar Ran 56.57 61 *eP* **P** **07 11 35.5 +0.8**
comp=Z,54nm,1.3s
RAMN Ramite 56.63 274 *eP* **P** **07 11 35.7 +0.2**
comp=Z,139nm,0.8s
CHBT CHBT 56.78 249 P **P** **07 11 37.8 +1.5**
comp=Z,74nm,1.0s
CHBT CHBT 56.78 249 P **P** **07 11 37.8 +1.5**
comp=Z,74nm,1.0s
TMCR Tamitsa 56.89 332 *eP* **P** **07 11 35.4 -1.1**
TMCR *e* 07 13 41.6
TMCR pmax pmax
comp=Z,47nm,1.4s
SLMT Seeley Lake 56.90 54 *eP* **P** **07 11 37.1 0.0**
MSO Missoula 56.92 55 *eP* **P** **07 11 37.2 +0.1**
comp=Z,32nm,1.1s
MSO Missoula 56.92 55⇑P **P** **07 11 37.0 -0.1**
baz=57,SNR=26
KKN Kakani 56.93 275 *eP* **P** **07 11 37.9 +0.3**
comp=Z,61nm,0.6s
PKI Pulchoki 56.99 275 *eP* **P** **07 11 38.2 +0.1**
comp=Z,34nm,0.6s
PKIN Phulchoki 57.00 275 *eP* **P** **07 11 38.7 +0.6**
WVOR Wild Horse Val 57.05 62 *eP* **P** **07 11 38.6 +0.5**
WVOR pmax pmax
comp=Z,31nm,1.0s
WVOR Wild Horse Val 57.05 62 *eP* **P** **07 11 38.6 +0.5**
comp=Z,31nm,1.0s
DMN Daman 57.16 275 *eP* **P** **07 11 39.7 +0.4**
GKN Gorkha 57.20 276 *eP* **P** **07 11 39.7 +0.3**
comp=Z,82nm,0.6s
CHMT Chamberlain Mo 57.23 55 *eP* **P** **07 11 39.3 -0.2**
OHCM Honcut 57.33 66 *eP* **P** **07 11 40.2 +0.3**
DANN Dangsing 57.54 277 *eP* **P** **07 11 42.5 +0.5**
comp=Z,94nm,0.6s
FFC Flin Flon 57.74 42 *eP* **P** **07 11 42.9 +0.3**
FFC pmax pmax
comp=Z,67nm,0.9s
FFC Flin Flon 57.74 42 *eP* **P** **07 11 42.9 +0.3**
comp=Z,67nm,0.9s
FFC Flin Flon 57.74 42 P **P** **07 11 43.5 +0.9**
comp=Z,198nm,0.8s,SNR=7.6
KOLN Koldanda 58.04 277 *eP* **P** **07 11 45.7 +0.4**
comp=Z,38nm,0.6s
SUMG Summit 58.06 5 *i* P **P** **07 11 45.6 +0.5**
SUMG pmax pmax
comp=Z,9.0nm,0.7s
SUMG Summit 58.06 5 *i* P **P** **07 11 45.6 +0.5**
comp=Z,8.9nm,0.7s
SUMG Summit 58.06 5 *eP* **P** **07 11 45.7 +0.6**
comp=Z,252nm,2.8s
AB31 Akbulak array 58.11 310 *i* P **P** **07 11 44.4 -0.9**
AB31 pmax pmax
comp=Z,16nm,0.4s
ABKAR Akbulak array 58.11 310 *eP* **P** **07 11 44.5 -0.8**
FCC Fort Churchill 58.24 35 *eP* **P** **07 11 46.0 0.0**
FCC *e* 07 12 02.8
FCC Fort Churchill 58.24 35 *eP* **P** **07 11 46.0 0.0**
comp=Z,0.9nm,1.1s
FCC *e* 07 12 02.8
A19A Klindworth Far 58.30 50⇓P **P** **07 11 46.7 0.0**
baz=58,SNR=5.3
AKTO Aktyubinsk 58.30 312 P **P** **07 11 44.2 -2.4**
AKTO 07 12 37.8
AKTO pmax pmax
comp=Z,10.0nm,0.5s
AKTO Aktyubinsk 58.30 312 P **P** **07 11 44.2 -2.4**
AKTO PcP **PcP** **07 12 37.8 +0.8**
AKTO Aktyubinsk 58.30 312 P **P** **07 11 44.2 -2.4**
comp=Z,9.9nm,0.5s,baz=60,slow=8.6,SNR=38
AKTO PcP **PcP** **07 12 37.8 +0.8**
comp=Z,5.3nm,0.6s,baz=64,slow=6.8,SNR=5.1
AKTO LR LR 07 38 30.0
comp=Z,81nm,18.5s,baz=228,slow=38
PAHR Pah Rah Range 58.34 65 *eP* **P** **07 11 47.8 +0.5**
comp=Z,33nm,1.1s
LRM Limekiln Ridge 58.36 55 *eP* **P** **07 11 47.6 +0.2**
EGMT Eagleton 58.37 52 *eP* **P** **07 11 47.4 +0.2**
comp=Z,49nm,1.2s
EGMT Eagleton 58.37 52⇑P **P** **07 11 47.2 0.0**
baz=58,SNR=16
B19A Brinkman Farms 58.50 51⇓P **P** **07 11 48.4 +0.3**
baz=58,SNR=31
DLMT Dillon 58.57 56 *eP* **P** **07 11 49.4 +0.6**
comp=Z,15nm,0.8s
HLID Hailey 58.73 58 *eP* **P** **07 11 50.3 +0.4**
comp=Z,18nm,0.9s
HLID Hailey 58.73 58⇑P **P** **07 11 50.4 +0.5**
baz=58,SNR=39
A20A Cobblestone Ra 58.74 50⇓P **P** **07 11 50.1 +0.3**
baz=58,SNR=29
MCMT McKenzie Canyo 58.78 56 *eP* **P** **07 11 50.3 -0.1**
comp=Z,8.8nm,1.0s
KLMR Klimovskoe 58.82 329 *eP* **P** **07 11 47.0 -3.0**
KLMR pmax pmax
comp=Z,33nm,1.1s
CMB Columbia Colle 58.82 67 *eP* **P** **07 11 50.7 +0.2**
CMB pmax pmax
comp=Z,14nm,0.9s
CMB Columbia Colle 58.82 67 *eP* **P** **07 11 50.7 +0.2**
comp=Z,14nm,0.9s
B20A Solberg Farm, 58.98 51⇑P **P** **07 11 51.6 +0.2**
baz=59,SNR=29
SAO San Andreas Ge 59.01 68 *eP* **P** **07 11 51.4 -0.3**
SAO pmax pmax
comp=Z,7.0nm,0.9s
SAO San Andreas Ge 59.01 68 *eP* **P** **07 11 51.4 -0.3**
comp=Z,6.6nm,0.9s
WAKR Walker 59.09 66 *eP* **P** **07 11 53.0 +0.5**
BMN Battle Mountai 59.15 63 *eP* **P** **07 11 53.5 +0.7**
BMN pmax pmax
comp=Z,49nm,1.3s
BMN Battle Mountai 59.15 63 *eP* **P** **07 11 53.5 +0.7**
comp=Z,49nm,1.3s
A21A Bergtoll Ranch 59.17 50⇓P **P** **07 11 53.1 +0.4**
baz=59,SNR=25
D19A Cripps Ranch, 59.37 52⇓P **P** **07 11 54.5 +0.3**
baz=59,SNR=26
C20A Veseth Ranch, 59.46 51⇑P **P** **07 11 55.4 +0.6**
baz=59,SNR=7.3
SBUM Sibu 59.49 233 P **P** **07 11 56.8 +1.6**
comp=Z,20nm,1.1s
SBUM Sibu 59.49 233 *eP* **P** **07 11 56.8 +1.6**
comp=Z,12nm,0.8s
B21A Ellsworth Farm 59.50 50⇑P **P** **07 11 55.4 +0.4**
baz=59
QLMT Earthquake Lak 59.55 56 *eP* **P** **07 11 56.4 +0.8**
A22A Carney Farms, 59.67 49⇑P **P** **07 11 56.4 +0.2**

baz=59,SNR=27
D20A **Manuel Ranch,** 59.80 52 ⇓P P 07 11 58.1 +0.9
baz=60,SNR=35
NVAR **Mina Array Bea** 59.81 65 P P 07 11 58.0 +0.5
NVAR **Mina Array Bea** 59.81 65 P P 07 11 58.0 +0.5
comp=Z,21nm,0.8s,baz=289,slow=7.5,SNR=86
JOF **Joensuu** 59.82 334 *eP* P 07 11 55.8 -1.1
JOF pmax pmax
comp=Z,7.0nm,0.6s
JOF **Joensuu** 59.82 334 *ep* P 07 11 55.8 -1.1
comp=Z,7.4nm,0.6s
C21A **Desert Coulee** 59.85 51 ⇓P P 07 11 57.9 +0.5
baz=60,SNR=6.6
GCMT **Greycliff** 59.86 54 *eP* P 07 11 58.7 +1.1
comp=Z,40nm,1.2s
E19A **Rath Farm, Rou** 59.88 53 ⇑P P 07 11 58.4 +0.7
baz=60,SNR=27
NV11 **Mina Array Sit** 59.90 65 *eP* P 07 11 58.0 -0.1
YMR **Madison River** 59.90 55 *eP* P 07 11 59.0 +0.9
comp=Z,95nm,1.5s
MLAC **Mammoth Lakes** 60.02 66 ⇓P P 07 11 59.7 +0.8
baz=60
YNR **Norris Junctio** 60.03 55 *eP* P 07 12 00.3 +1.4
comp=Z,48nm,1.3s
ELK **Elko** 60.09 61 *eP* P 07 12 00.0 +0.6
comp=Z,8.5nm,0.8s
B22A **Reddig Ranch S** 60.09 50 ⇑P P 07 11 59.6 +0.5
baz=60
YFT **Old Faithful** 60.12 56 *eP* P 07 12 01.7 +2.2
comp=Z,37nm,1.0s
E20A **Meyer Farm, Mu** 60.20 52 ⇓P P 07 12 00.6 +0.8
baz=60,SNR=21
F19A **Roth Farm, Mol** 60.20 53 ⇑P P 07 12 00.7 +0.8
baz=60,SNR=43
A23A **Redstone** 60.20 49 ⇓P P 07 12 00.2 +0.4
baz=60
LKWY **Lake** 60.27 55 *eP* P 07 12 02.6 +2.0
LKWY pmax pmax
comp=Z,31nm,0.9s
LKWY **Lake** 60.27 55 *eP* P 07 12 02.6 +2.0
comp=Z,31nm,0.9s
H17A **Grant Village** 60.29 55 *eP* P 07 12 03.1 +2.3
H17A **Grant Village** 60.29 55 ⇓P P 07 12 03.0 +2.2
baz=60,SNR=29
MTUM **Tungsten Hills** 60.36 66 *eP* P 07 12 02.0 +0.7
D21A **La Casta Ranch** 60.41 51 ⇓P P 07 12 02.0 +0.7
baz=60,SNR=44
IMW **Indian Meadow** 60.42 56 *eP* P 07 12 02.9 +1.1
comp=Z,40nm,1.3s
FLWY **Flagg Ranch** 60.43 56 *eP* P 07 12 03.2 +1.5
comp=Z,31nm,1.1s
B23A **Brockton** 60.48 49 ⇑P P 07 12 02.2 +0.5
baz=60,SNR=22
PTRM **Twissleman Ran** 60.49 69 *eP* P 07 12 02.4 +0.4
RLMT **Red Lodge** 60.51 54 *eP* P 07 12 03.1 +0.8
comp=Z,61nm,1.1s
C22A **Vida** 60.52 50 ⇑P P 07 12 02.2 +0.3
baz=60,SNR=25
RRI2 **Red Ridge** 60.58 57 *eP* P 07 12 03.8 +1.1
comp=Z,38nm,0.8s
H18A **Shoshone NF, C** 60.60 55 ⇓P P 07 12 03.4 +0.6
baz=60,SNR=20
I17A **Pilgrim Ck.** 60.61 56 ⇓P P 07 12 04.5 +1.6
baz=60,SNR=15
MOOW **Moose Ponds** 60.63 56 *eP* P 07 12 03.9 +0.9
comp=Z,52nm,1.6s
F20A **Billings** 60.65 53 ⇑P P 07 12 03.6 +0.6
baz=60,SNR=25
A24A **Westby** 60.66 48 ⇓P P 07 12 03.2 +0.3
baz=60,SNR=14
TPAW **Teton Pass** 60.69 56 *eP* P 07 12 04.7 +1.2
comp=Z,37nm,0.9s
E21A **Keefer Ranch,** 60.72 52 ⇑P P 07 12 04.4 +1.1
baz=60,SNR=16
D22A **Cohagen** 60.77 51 ⇓P P 07 12 04.4 +0.7
baz=60,SNR=23
LOHW **Long Hollow** 60.79 56 *eP* P 07 12 05.3 +1.2
comp=Z,45nm,1.3s
HVU **Hansel Valley** 60.81 59 *eP* P 07 12 05.3 +1.1
HVU pmax pmax
comp=Z,13nm,0.9s
HVU **Hansel Valley** 60.81 59 *eP* P 07 12 05.3 +1.1
comp=Z,13nm,0.9s
SNOW **Snow King Moun** 60.81 56 *eP* P 07 12 05.6 +1.3
comp=Z,67nm,1.4s
REDW **Red Top Meadow** 60.83 56 *eP* P 07 12 05.5 +1.1
comp=Z,58nm,1.3s
C23A **Lambert** 60.83 50 ⇓P P 07 12 04.7 +0.6
baz=61,SNR=17
SMMC **Simmler** 60.84 69 ⇑P P 07 12 04.7 +0.3
baz=61,SNR=5.9
DGMT **Dagmar** 60.87 49 *eP* P 07 12 05.2 +0.8
comp=Z,73nm,0.8s
DGMT **Dagmar** 60.87 49 ⇓P P 07 12 04.8 +0.4
baz=61,SNR=14
H19A **Powell** 60.96 54 ⇑P P 07 12 06.0 +0.9
baz=61,SNR=18
G20A **Bridger** 61.00 53 ⇓P P 07 12 05.7 +0.3
baz=61,SNR=22
VES **Vestal, Richgr** 61.05 68 ⇓P P 07 12 05.1 -0.5
baz=61
LAO **LASA Array** 61.05 51 *eP* P 07 12 06.4 +0.8
comp=Z,60nm,0.9s
A25A **Svangstu Ranch** 61.08 48 ⇓P P 07 12 06.3 +0.5
baz=61,SNR=31
BGU **Big Grassy Mou** 61.23 60 *eP* P 07 12 07.5 +0.5
comp=Z,48nm,2.1s
PKM **Peak Mountain** 61.23 69 ⇓P P 07 12 07.5 +0.3
baz=61
D23A **Lindsay** 61.24 50 ⇑P P 07 12 07.6 +0.7
baz=61,SNR=14
CWC **Cottonwood Cre** 61.26 67 ⇓P P 07 12 07.2 -0.1
baz=61
SPUT **South Promonto** 61.30 59 *eP* P 07 12 08.5 +0.9
comp=Z,14nm,0.9s
KSM **Kuching** 61.32 234 P P 07 12 10.0 +2.3
comp=Z,27nm,1.2s
KSM **Kuching** 61.32 234 *eP* P 07 12 09.5 +1.8
E22A **Miles City** 61.36 51 ⇑P P 07 12 08.2 +0.5
baz=61
I19A **Meeteetse** 61.38 55 ⇓P P 07 12 08.8 +0.7
baz=61,SNR=15
C24A **Savage** 61.39 49 ⇑P P 07 12 08.5 +0.6
baz=61,SNR=13
R11A **Troy Canyon, C** 61.47 63 *eP* P 07 12 08.5 -0.2
R11A **Troy Canyon, C** 61.47 63 ⇓P P 07 12 08.8 +0.1
baz=61,SNR=47
B25A **Knox Farm, Ray** 61.51 48 ⇑P P 07 12 09.4 +0.8
baz=61,SNR=12
G21A **Lodge Grass** 61.53 53 ⇓P P 07 12 09.1 +0.2
baz=61
ISA **Isabella** 61.54 68 *eP* P 07 12 08.3 -0.8
ISA pmax pmax
comp=Z,10.0nm,1.0s
ISA **Isabella** 61.54 68 *eP* P 07 12 08.3 -0.8
comp=Z,10.0nm,1.0s
ISA **Isabella** 61.54 68 ⇓P P 07 12 08.4 -0.8
baz=61,SNR=6.5
SBC **Santa Barbara** 61.60 69 ⇑P P 07 12 09.4 0.0
baz=61
H20A **Greybull** 61.61 54 ⇓P P 07 12 09.5 0.0
baz=61,SNR=6.8
A26A **Wade Farm, Ken** 61.63 47 ⇑P P 07 12 09.7 +0.3
baz=61,SNR=11
F22A **Rosebud** 61.65 52 ⇑P P 07 12 10.2 +0.5
baz=61,SNR=20
E23A **Ismay** 61.65 51 ⇓P P 07 12 10.5 +0.9
baz=61,SNR=31
ARVC **Arvin** 61.68 68 ⇓P P 07 12 09.6 -0.3
baz=62
D24A **Glendive** 61.72 50 ⇑P P 07 12 11.1 +1.0
baz=61,SNR=44
DUG **Dugway** 61.84 60 *eP* P 07 12 11.8 +0.6
DUG pmax pmax
comp=Z,39nm,1.1s
DUG **Dugway** 61.84 60 *eP* P 07 12 11.8 +0.6
comp=Z,39nm,1.1s
DUG **Dugway** 61.84 60 ⇑P P 07 12 11.9 +0.8
baz=62,SNR=34
C25A **Freed Ranch, W** 61.85 49 ⇑P P 07 12 11.5 +0.5
baz=62,SNR=9.5
KAF **Kangasniemi** 61.86 336 *eP* P 07 12 09.7 -1.0
KAF pmax pmax
comp=Z,6.0nm,0.5s
KAF **Kangasniemi** 61.86 336 *ep* P 07 12 09.7 -1.0
comp=Z,5.8nm,0.5s
MPMC **Manual Prospec** 61.87 67 ⇑P P 07 12 11.5 +0.1
baz=62,SNR=18
J19A **Crowheart** 61.87 56 ⇓P P 07 12 12.3 +1.0
baz=62,SNR=16
B26A **Jensen Ranch,** 61.89 48 ⇑P P 07 12 11.9 +0.6
baz=62,SNR=5.2
SURT **Suratani** 61.90 250 P P 07 12 18.9 +7.3
comp=Z,20nm,0.7s
I20A **Worland** 61.90 54 ⇑P P 07 12 12.3 +0.8
baz=62,SNR=17
BW06 **Boulder Array** 61.93 56 *eP* P 07 12 11.9 +0.1
comp=Z,47nm,1.1s
PDAR **Pinedale Array** 61.93 56 P P 07 12 12.1 +0.3
PDAR **Pinedale Array** 61.93 56 P P 07 12 12.1 +0.3
comp=Z,26nm,0.9s,baz=308,slow=2.4,SNR=142
PDAR LR LR 07 40 10.3
comp=Z,68nm,18.9s,baz=304,slow=37
A27A **Ledoux Ranch,** 61.97 47 ⇑P P 07 12 12.4 +0.6
baz=62,SNR=11
FURC **Furnace Creek,** 61.97 66 P P 07 12 12.1 +0.3
baz=62,SNR=16
G22A **Birney** 62.01 52 ⇑P P 07 12 12.5 +0.3
baz=62,SNR=13
H21A **Big Horn, Sher** 62.02 53 ⇑P P 07 12 12.8 +0.5
baz=62,SNR=20
OSI **Osito Adit** 62.09 69 *eP* P 07 12 13.1 +0.3
comp=Z,25nm,0.9s
OSI **Osito Adit** 62.09 69 ⇓P P 07 12 12.8 +0.1
baz=62
E24A **Baker** 62.11 50 ⇓P P 07 12 13.3 +0.6
baz=62,SNR=8.0
F23A **Volborg** 62.13 52 ⇓P P 07 12 13.2 +0.3
baz=62,SNR=28
LRMC **Laurel Mountai** 62.14 67 ⇑P P 07 12 12.5 -0.6
baz=62
SKLT **Songkhla** 62.19 247 P P 07 12 16.7 +3.1
comp=Z,38nm,0.8s
SKLT **Songkhla** 62.19 247 P P 07 12 16.7 +3.1
comp=Z,38nm,0.8s
D25A **Fairfield** 62.20 49 ⇓P P 07 12 13.9 +0.6
baz=62
BLG **Laguna Peak** 62.22 69 ⇑P P 07 12 13.3 -0.3
baz=62
J20A **Shoshoni** 62.33 55 ⇑P P 07 12 15.2 +0.8
baz=62,SNR=11
C26A **Wahner Farm, P** 62.34 48 ⇓P P 07 12 15.0 +0.8
baz=62,SNR=7.8
JLU **Jordanelle** 62.34 59 *eP* P 07 12 15.6 +0.9
comp=Z,28nm,1.3s
B27A **Peters Farms,** 62.34 47 ⇑P P 07 12 15.0 +0.8
baz=62,SNR=9.3
EDW2 **Edwards Air Fo** 62.35 68 ⇓P P 07 12 14.6 0.0
baz=62,SNR=14
SFJD **Kangerlussuaq** 62.37 11 *i* P P 07 12 13.0 -1.0
comp=Z,9.7nm,0.9s
H22A **Clearmont** 62.40 53 ⇑P P 07 12 15.4 +0.6
baz=62
NLU **North Lily Min** 62.42 60 *eP* P 07 12 15.7 +0.6
comp=Z,23nm,0.8s
I21A **Big Trails, Te** 62.44 54 ⇑P P 07 12 15.5 +0.4
baz=62,SNR=38
A28A **Rude Farm, Bot** 62.46 46 ⇑P P 07 12 15.6 +0.6
baz=62,SNR=12
FIA1 **FINESS Array S** 62.47 335 *eP* P 07 12 13.7 -1.1
FINES **FINESS Array B** 62.47 335 P P 07 12 13.7 -1.1
FINES PcP PcP 07 12 55.3 +1.8
FINES **FINESS Array B** 62.47 335 P P 07 12 13.7 -1.1
comp=Z,6.4nm,0.4s,baz=40,slow=7.5,SNR=79
FINES PcP PcP 07 12 55.3 +1.8
comp=Z,6.9nm,0.6s,baz=41,slow=3.5,SNR=7.3
FINES LR LR 07 41 44.8
comp=Z,128nm,18.1s,baz=195,slow=38
G23A **Biddle** 62.49 52 ⇓P P 07 12 15.7 +0.3
baz=62,SNR=22
F24A **Ekalaka** 62.53 51 ⇓P P 07 12 16.1 +0.4
baz=62,SNR=25
DECC **Green Verdugo** 62.57 69 ⇓P P 07 12 15.9 -0.1
baz=62
DAU **Daniels Canyon** 62.57 59 *eP* P 07 12 17.0 +0.7
DAU **Daniels Canyon** 62.57 59 *eP* P 07 12 17.0 +0.7
E25A **Miller Ranch,** 62.61 50 ⇓P P 07 12 16.6 +0.5
baz=62,SNR=7.4
MPU **Maple Canyon** 62.63 60 *eP* P 07 12 17.1 +0.6
comp=Z,26nm,0.8s
J21A **Lysite** 62.68 55 ⇓P P 07 12 17.2 +0.4
baz=62,SNR=14
KBL **Kabul** 62.70 292 *eP* P 07 12 15.9 -1.1
KBL pmax pmax
comp=Z,21nm,0.9s
KBL **Kabul** 62.70 292 *eP* P 07 12 15.9 -1.1
comp=Z,21nm,0.9s
SHOC **Shoshone** 62.70 66 P P 07 12 17.0 +0.2
baz=62
C27A **Sayler Ranch,** 62.70 48 ⇓P P 07 12 17.5 +0.8
baz=62,SNR=8.0
D26A **Manning** 62.72 49 ⇑P P 07 12 17.2 +0.4
baz=62,SNR=5.2
B28A **Dugan Ranch, T** 62.74 47 ⇓P P 07 12 17.3 +0.5
baz=62,SNR=13
MWC **Mount Wilson** 62.76 68 *eP* P 07 12 17.6 +0.2
MWC pmax pmax
comp=Z,38nm,1.2s
MWC **Mount Wilson** 62.76 68 *eP* P 07 12 17.6 +0.2
comp=Z,38nm,1.2s
GSC **Goldstone** 62.79 67 *eP* P 07 12 17.4 -0.1
GSC pmax pmax
comp=Z,20nm,0.9s
GSC **Goldstone** 62.79 67 *eP* P 07 12 17.4 -0.1
comp=Z,20nm,0.9s
GSC **Goldstone** 62.79 67 ⇑P P 07 12 17.3 -0.1
baz=63,SNR=12
I22A **9 Mile Ranch,** 62.81 54 ⇑P P 07 12 18.3 +0.7
baz=63,SNR=21
G24A **Alzada** 62.90 51 ⇓P P 07 12 18.0 -0.1
baz=63,SNR=14
A29A **Manning Farm,** 62.94 46 ⇑P P 07 12 18.6 +0.4
baz=63,SNR=13
SHPR **Sheep Range** 62.96 65 *eP* P 07 12 19.0 +0.3
F25A **Bowman** 62.98 50 ⇑P P 07 12 19.1 +0.5
baz=63,SNR=7.0
BFSC **Mount Baldy Ra** 62.99 68 ⇑P P 07 12 18.5 -0.4
baz=63,SNR=5.0
E26A **Carlson Angus** 63.10 49 ⇓P P 07 12 19.5 +0.2
baz=63,SNR=14
ARUT **Antelope Range** 63.10 63 *eP* P 07 12 20.0 +0.4
ARUT **Antelope Range** 63.10 63 *eP* P 07 12 20.0 +0.4
comp=Z,302nm,0.9s
D27A **Center** 63.11 48 ⇑P P 07 12 20.1 +0.7
baz=63,SNR=7.0
J22A **Midwest** 63.15 54 ⇓P P 07 12 20.0 +0.1
baz=63
B29A **Wagenman Farm,** 63.20 46 ⇓P P 07 12 20.3 +0.3
baz=63,SNR=14
TUQ **Turquoise Moun** 63.23 66 ⇑P P 07 12 20.5 0.0
baz=63,SNR=6.3
H24A **Dirks Ranch, A** 63.23 52 ⇑P P 07 12 20.2 -0.2
baz=63,SNR=20
C28A **Hausauer Farms** 63.24 47 ⇓P P 07 12 21.0 +0.8
baz=63,SNR=12
K21A **Alcova** 63.27 55 ⇓P P 07 12 20.8 0.0
baz=63,SNR=40
SCI **San Clemente I** 63.30 70 ⇑P P 07 12 19.0 -1.8
baz=63
CCUT **Cedar City** 63.30 63 *eP* P 07 12 21.6 +0.5
comp=Z,21nm,1.0s
MVU **Marysvale** 63.32 61 *eP* P 07 12 21.9 +0.7
comp=Z,11nm,0.8s
TMUT **Trail Mountain** 63.36 60 *eP* P 07 12 22.0 +0.5
comp=Z,27nm,0.8s
A30A **Hoffart Farm,** 63.36 45 ⇓P P 07 12 21.3 +0.4
baz=63,SNR=13
HEC **Hector,Ludlow** 63.39 67 ⇑P P 07 12 21.4 -0.1
baz=63
BBRC **Big Bear Solar** 63.42 68 ⇓P P 07 12 22.0 +0.1
baz=63
F26A **Lodgepole** 63.42 50 ⇓P P 07 12 21.8 +0.3
baz=63,SNR=24
G25A **Newell** 63.50 51 ⇓P P 07 12 22.2 +0.1
baz=63,SNR=10
D28A **Regan** 63.52 48 ⇓P P 07 12 22.6 +0.5
baz=63,SNR=8.8
MDND **Maddock** 63.52 47 *eP* P 07 12 22.8 +0.7
MDND **Maddock** 63.52 47 ⇑P P 07 12 22.6 +0.6
baz=63,SNR=15
ULM **Lac du Bonnet** 63.53 43 *eP* P 07 12 21.8 -0.2
comp=Z,12nm,0.8s
ULM **Lac du Bonnet** 63.53 43 P P 07 12 21.7 -0.3
comp=Z,12nm,0.8s,baz=307,slow=9.0,SNR=16
ULM LR LR 07 40 44.9
comp=Z,85nm,19.4s,baz=322,slow=37
E27A **Carson** 63.57 49 ⇑P P 07 12 22.8 +0.3
baz=63,SNR=17
Q16A **Castle Valley** 63.64 60 *eP* P 07 12 23.5 +0.3
Q16A **Castle Valley** 63.64 60 ⇓P P 07 12 23.8 +0.6
baz=63,SNR=9.5
J23A **Dilts Ranch, B** 63.64 53 ⇑P P 07 12 23.2 +0.1
baz=63
K22A **Casper** 63.64 55 ⇑P P 07 12 23.2 0.0
baz=63,SNR=12
KULM **Kulim** 63.66 245 P P 07 12 25.9 +2.6
comp=Z,23nm,1.1s
KULM **Kulim** 63.66 245 *eP* P 07 12 24.7 +1.4
comp=Z,23nm,0.9s
B30A **Myrvik Farm, E** 63.70 46 ⇑P P 07 12 23.6 +0.4
baz=63,SNR=40
MURC **Murrieta** 63.70 68 ⇑P P 07 12 23.3 -0.2
baz=64,SNR=5.7
F27A **Lemmon** 63.73 50 ⇓P P 07 12 23.5 0.0
baz=64,SNR=13
I24A **Kuemmerle Ranc** 63.81 53 ⇑P P 07 12 24.0 -0.2
baz=64,SNR=7.7
H25A **Fruitdale** 63.81 51 ⇓P P 07 12 24.2 +0.1
baz=64,SNR=16
GMRC **Granite Mounta** 63.83 66 ⇑P P 07 12 24.5 0.0
baz=64,SNR=8.3
O19A **Miners Draw (B** 63.84 58 ⇑P P 07 12 24.7 +0.2
baz=64,SNR=13
G26A **Maurine** 63.85 50 ⇑P P 07 12 24.4 +0.1
baz=64,SNR=39
SRU **San Rafael** 63.87 60 *eP* P 07 12 25.2 +0.4
SRU pmax pmax
comp=Z,50nm,0.8s
SRU **San Rafael** 63.87 60 *eP* P 07 12 25.1 +0.4
comp=Z,50nm,0.8s
E28A **Huff** 63.90 48 ⇓P P 07 12 24.8 +0.3
baz=64
RSSD **Black Hills** 63.93 52 *eP* P 07 12 25.3 +0.2
RSSD **Black Hills** 63.93 52 *eP* P 07 12 25.2 +0.2
comp=Z,200nm,0.8s
N20A **Spence Gulch,** 63.95 57 ⇓P P 07 12 26.1 +0.8
baz=64,SNR=28
K23A **Bowen Ranch, D** 64.05 54 ⇓P P 07 12 25.5 -0.3
baz=64,SNR=5.9
D29A **Pettibone, Tap** 64.08 47 ⇑P P 07 12 25.7 -0.1
baz=64
IPM **Ipoh** 64.08 245 P pP 07 12 44.6 +0.3
IPM **Ipoh** 64.08 245 *eP* P 07 12 25.3 -0.9
comp=Z,15nm,0.9s
L22A **Ellis Ranch, M** 64.12 55 ⇑P P 07 12 27.0 +0.7
baz=64,SNR=19
G27A **Dupree** 64.12 50 ⇑P P 07 12 26.0 -0.1
baz=64,SNR=25
BELC **Belle Mtn. Jos** 64.16 67 ⇓P P 07 12 25.9 -0.7
baz=64,SNR=6.1
C30A **Mose, Pekin** 64.16 46 ⇓P P 07 12 26.3 +0.1
baz=64,SNR=6.9
J24A **Dixon Ranch, L** 64.16 53 ⇑P P 07 12 26.2 -0.3
baz=64,SNR=7.6
I25A **Rochford** 64.16 52 ⇑P P 07 12 26.5 0.0
baz=64,SNR=22
OBN **Obninsk** 64.17 326 ⇑*eP* P 07 12 24.8 -1.3
OBN *e* 07 12 33.9
OBN 07 13 05.0
OBN pmax pmax
comp=Z,14nm,1.0s
OBN MLR MLR
comp=Z,100nm,17.0s
H26A **Fairpoint** 64.23 51 ⇑P P 07 12 26.8 -0.1
baz=64,SNR=11
109C **Camp Elliot, M** 64.25 69 ⇓P P 07 12 26.9 -0.1
baz=64
F28A **McLaughlin** 64.36 49 ⇓P P 07 12 27.7 +0.1
baz=64,SNR=9.8
P19A **Cripple Cowboy** 64.38 58 ⇓P P 07 12 28.2 +0.1
baz=64,SNR=24
E29A **Napoleon** 64.41 48 ⇓P P 07 12 27.5 -0.4
baz=64
O20A **White River Ci** 64.45 58 *eP* P 07 12 28.6 +0.1
O20A **White River Ci** 64.45 58 ⇓P P 07 12 28.6 +0.1
baz=64,SNR=9.4
D30A **Buchanan** 64.45 47 ⇓P P 07 12 27.8 -0.3
baz=64,SNR=13
L23A **Garrett** 64.45 55 ⇑P P 07 12 28.3 -0.2
baz=64,SNR=16
M22A **Cedar Creek Ra** 64.47 56 ⇑P P 07 12 28.8 +0.1
baz=64,SNR=26
K24A **Anderson Ranch** 64.50 54 ⇑P P 07 12 28.0 -0.8
baz=64,SNR=5.9
IRM **Iron Mountain** 64.56 67 ⇓P P 07 12 29.3 +0.1
baz=64,SNR=7.1
J25A **Sunshine Ranch** 64.56 53 ⇑P P 07 12 28.7 -0.4
baz=64,SNR=16
H27A **Howes** 64.58 51 ⇓P P 07 12 29.0 -0.1
baz=64,SNR=8.0
I26A **New Underwood** 64.60 51 ⇑P P 07 12 29.6 +0.3
baz=64,SNR=9.2
MONP **Monument Peak** 64.66 68 ⇑P P 07 12 29.5 -0.5
baz=64
W13A **Hualapai Mount** 64.67 65 ⇑P P 07 12 29.9 -0.2
baz=64,SNR=14
U15A **North Rim** 64.70 63 ⇑P P 07 12 30.7 +0.4
baz=64,SNR=16
BC3 **Big Chuckawall** 64.72 67 ⇑P P 07 12 29.9 -0.4
baz=64,SNR=6.0
P20A **De Beque** 64.80 58 ⇓P P 07 12 30.7 -0.1
baz=65,SNR=12
E30A **Jud** 64.81 47 ⇓P P 07 12 30.1 -0.4
baz=64,SNR=14
O21A **Pagoda** 64.82 57 ⇓P P 07 12 31.3 +0.3
baz=65,SNR=14
F29A **Eureka** 64.84 48 ⇓P P 07 12 30.6 -0.1
baz=65,SNR=6.7
G28A **Parade** 64.85 50 ⇓P P 07 12 30.8 0.0
baz=65,SNR=7.9
M23A **Laramie** 64.89 55 ⇓P P 07 12 31.4 0.0
baz=65
L24A **Wheatland** 64.91 54 ⇑P P 07 12 31.5 +0.1
baz=65,SNR=5.1
AGMN **Agassiz Nation** 64.95 44 *eP* P 07 12 31.0 -0.4
comp=Z,27nm,1.0s
N22A **Wattenberg Ran** 64.96 56 ⇓P P 07 12 32.4 +0.5
baz=65,SNR=19
I27A **Quinn** 64.99 51 ⇓P P 07 12 31.9 +0.1
baz=65,SNR=18
PDMCI **Parker Dam,Lak** 65.07 66 ⇑P P 07 12 32.5 +0.1
baz=65,SNR=8.1
H28A **Mission Ridge** 65.08 50 ⇓P P 07 12 32.3 0.0
baz=65,SNR=14
PV09 **Paradox Valley** 65.08 59 *eP* P 07 12 33.1 +0.4
PHWY **Pilot Hill** 65.15 55 *eP* P 07 12 33.0 -0.2
comp=Z,12nm,1.2s
N23A **Red Feather La** 65.18 56 ⇓P P 07 12 33.9 +0.6
baz=65,SNR=22
PV10 **Paradox Valley** 65.22 60 *eP* P 07 12 34.2 +0.6
comp=Z,865nm,0.8s
Y12C **Blythe** 65.22 67 ⇓P P 07 12 33.4 +0.1
baz=65,SNR=6.8
F30A **Leola** 65.23 48 ⇑P P 07 12 32.8 -0.5
baz=65
Q20A **Ridgley Place,** 65.23 59 ⇑P P 07 12 33.4 -0.2
baz=65,SNR=13
VRHR **Novokhopersk** 65.27 321 *eP* P 07 12 31.0 -2.3
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,40nm,0.6s
VRHR pmax pmax
comp=N,4.0nm,0.3s
P21A **Newcastle** 65.31 58 ⇓P P 07 12 34.5 +0.4
baz=65,SNR=18
L25A **Engebretsen Ra** 65.35 54 ⇑P P 07 12 34.1 -0.1
baz=65,SNR=5.7
O22A **Kremmling** 65.36 57 ⇑P P 07 12 34.7 +0.2
baz=65,SNR=9.9
K26A **Motz Farm, Whi** 65.38 53 ⇓P P 07 12 33.8 -0.5
baz=65,SNR=8.3
M24A **Cheyenne** 65.38 55 ⇓P P 07 12 35.1 +0.7
baz=65,SNR=12
PV05 **Paradox Valley** 65.39 60 *eP* P 07 12 35.2 +0.5
H29A **Onida** 65.52 50 ⇑P P 07 12 34.9 -0.2
baz=65
GLA **Glamis** 65.52 67 ⇓P P 07 12 35.5 +0.1
baz=65
J27A **Elkhorn Farm,** 65.59 52 ⇑P P 07 12 35.8 +0.1
baz=65
P22A **Eagle** 65.64 57 ⇓P P 07 12 36.7 +0.4
baz=65,SNR=19
PV01 **Paradox Valley** 65.65 59 *eP* P 07 12 36.4 0.0

comp=N,2µm,1.1s
O23A **Lake Granby, G** 65.67 56 ⇓P P 07 12 37.5 +1.0
baz=65,SNR=32
G30A **Faulkton** 65.69 49 ⇑P P 07 12 35.6 -0.6
baz=65,SNR=12
Q21A **Lamborn Mesa,** 65.72 58 ⇑P P 07 12 37.1 +0.3
baz=66,SNR=24
R20A **Redvale** 65.72 59 ⇑P P 07 12 37.1 +0.3
baz=66,SNR=12
N24A **Carr** 65.80 55 ⇓P P 07 12 37.9 +0.7
baz=66,SNR=8.6
M25A **Palm-Egli Farm** 65.81 54 ⇑P P 07 12 38.1 +0.9
baz=66,SNR=6.8
SMCO **Snowmass** 65.81 58 *eP* P 07 12 38.3 +0.7
comp=N,24nm,0.8s
J28A **Allard Ranch,** 65.86 51 ⇑P P 07 12 37.6 +0.2
baz=66,SNR=26
K27A **Flueckinger Fa** 65.86 52 ⇓P P 07 12 37.2 -0.3
baz=66,SNR=7.1
WUAZ **Wupatki** 65.86 63 *eP* P 07 12 38.1 +0.5
comp=N,38nm,1.4s
WUAZ **Wupatki** 65.86 63 ⇑P P 07 12 38.1 +0.5
baz=66,SNR=8.0
L26A **Underwood Farm** 65.90 53 ⇑P P 07 12 37.4 -0.3
baz=66
I29A **Vivian Onida** 65.91 50 ⇑P P 07 12 37.2 -0.4
baz=66,SNR=7.7
S20A **Disappointment** 65.98 60 ⇓P P 07 12 38.7 +0.2
baz=66,SNR=16
Y14A **Wickenburg** 66.00 65 ⇑P P 07 12 38.6 +0.1
baz=66,SNR=9.8
R21A **Cimarron** 66.06 59 ⇑P P 07 12 39.5 +0.5
baz=66,SNR=39
Q22A **Crested Butte,** 66.07 58 ⇑P P 07 12 39.7 +0.6
baz=66,SNR=30
ISCO **Idaho Springs** 66.12 56 *eP* P 07 12 40.1 +0.6
ISCO pmax pmax
comp=Z,38nm,0.9s
ISCO **Idaho Springs** 66.12 56 *eP* P 07 12 40.1 +0.6
comp=Z,38nm,0.9s
ISCO **Idaho Springs** 66.12 56 ⇑P P 07 12 40.2 +0.7
baz=66,SNR=58
VSR **Storozhevoye** 66.18 322 *eP* P 07 12 37.5 -1.7
VSR pmax pmax
comp=N,10.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,0.7s
VSR pmax pmax
comp=Z,20nm,0.7s
O24A **Longmont** 66.19 56 ⇑P P 07 12 40.6 +0.9
baz=66,SNR=7.0
N25A **Grover** 66.23 55 ⇑P P 07 12 40.8 +0.8
baz=66
M26A **McRoberts Ranc** 66.27 54 ⇓P P 07 12 40.7 +0.5
baz=66
BRSD **Miller** 66.27 49 *eP* P 07 12 39.9 -0.1
BRSD **Miller** 66.27 49 ⇑P P 07 12 39.6 -0.3
baz=66
P23A **Jefferson** 66.30 57 ⇑P P 07 12 41.5 +0.8
baz=66,SNR=11
J29A **Okreek** 66.34 51 ⇑P P 07 12 40.2 -0.3
baz=66,SNR=25
MVCO **Mesa Verde** 66.34 60 *eP* P 07 12 41.1 +0.3
comp=Z,23nm,0.8s
MVCO **Mesa Verde** 66.34 60 ⇑P P 07 12 40.9 +0.1
baz=66,SNR=20
113A **Mohawk Valley,** 66.36 67 ⇓P P 07 12 40.3 -0.3
baz=66,SNR=5.1
NB2 **NORSAR Subarra** 66.38 342 P P 07 12 39.3 -1.1
comp=Z,5.0nm,0.7s,baz=23,slow=6.9
NOA **NORSAR Array B** 66.38 342 P P 07 12 39.7 -0.7
NOA PcP PcP 07 13 11.3 +1.6
NOA **NORSAR Array B** 66.38 342 P P 07 12 39.7 -0.7
comp=Z,4.8nm,0.7s,baz=25,slow=6.5,SNR=25
NOA PcP PcP 07 13 11.3 +1.6
comp=Z,2.1nm,0.6s,baz=28,slow=3.4,SNR=6.0
NOA LR LR 07 45 17.0
comp=Z,58nm,18.7s,baz=25,slow=39
S21A **Coal Bank Pass** 66.42 59 ⇑P P 07 12 42.1 +0.7
baz=66,SNR=33
I30A **Oacoma** 66.42 50 ⇓P P 07 12 40.7 -0.3
baz=66,SNR=10
Z14A **Wintersburg** 66.43 66 ⇑P P 07 12 41.2 0.0
baz=66
X16A **Lo Mia Camp, P** 66.59 64 ⇓P P 07 12 43.0 +0.6
baz=66,SNR=26
R22A **Saguache, Gunn** 66.60 58 ⇓P P 07 12 43.5 +1.0
baz=66,SNR=27
M27A **Reverse DX Ran** 66.62 53 ⇑P P 07 12 42.5 +0.2
baz=66
Q23A **Hartsel** 66.64 57 ⇑P P 07 12 43.3 +0.6
baz=66
PSI **Prapat** 66.67 245 LR LR 07 45 29.8
comp=Z,138nm,18.3s,baz=28,slow=39
HFS **Hagfors** 66.67 340 P P 07 12 41.9 -0.3
HFS **Hagfors** 66.67 340 P P 07 12 41.9 -0.3
comp=Z,3.3nm,0.4s,baz=56,slow=3.7,SNR=24
N26A **Koester Ranch,** 66.68 54 ⇑P P 07 12 43.6 +0.8
baz=66,SNR=14
P24A **Kohler Place,** 66.71 56 ⇑P P 07 12 43.9 +0.8
baz=66,SNR=5.2
O25A **Wiggins** 66.71 55 ⇓P P 07 12 43.6 +0.6
baz=66
K29A **Lazy Trails An** 66.81 51 ⇑P P 07 12 43.8 +0.3
baz=66,SNR=15
J30A **Dallas** 66.82 50 ⇓P P 07 12 43.1 -0.3
baz=66,SNR=16
S22A **4UR Ranch, Cre** 66.90 59 ⇓P P 07 12 45.3 +0.8
baz=67,SNR=32
U20A **Newcomb** 66.91 61 ⇓P P 07 12 44.4 +0.1
baz=67
Q24A **Divide** 66.97 57 ⇑P P 07 12 45.1 +0.2
baz=67,SNR=5.9
T21A **Navajo Lake** 67.04 60 ⇑P P 07 12 45.7 +0.5
baz=67,SNR=6.2
O26A **Horse Wrangler** 67.05 55 ⇓P P 07 12 45.4 +0.3
baz=67
N27A **Anderson Farm,** 67.06 54 ⇑P P 07 12 45.5 +0.4
baz=67,SNR=9.9
W18A **Petrified Fore** 67.10 62 ⇓P P 07 12 46.3 +0.7
baz=67
P25A **Willow Gulch B** 67.11 56 ⇓P P 07 12 46.1 +0.5
baz=67,SNR=17
EYMN **Ely** 67.17 42 *eP* P 07 12 45.4 -0.2
comp=Z,29nm,0.9s
K30A **Basset** 67.23 51 ⇓P P 07 12 46.2 0.0
baz=67,SNR=15
OGNE **Ogallala** 67.23 53 *eP* P 07 12 46.1 -0.1
comp=Z,108nm,0.9s
OGNE **Ogallala** 67.23 53 ⇓P P 07 12 46.4 +0.2
baz=67,SNR=28
L29A **Maesberg Ranch** 67.23 52 ⇑P P 07 12 46.0 -0.2
baz=67,SNR=14
ISHV **Shirvan** 67.25 301 *eP* P 07 12 46.7 +0.1
IAKL **Akhelmad** 67.32 300 *eP* P 07 12 47.4 +0.3
V20A **Brimhall** 67.35 61 ⇓P P 07 12 47.2 0.0
baz=67,SNR=7.5
U21A **Nageezi** 67.37 60 ⇓P P 07 12 47.6 +0.3
baz=67,SNR=14
T22A **Edith** 67.38 59 ⇓P P 07 12 48.1 +0.6
baz=67,SNR=8.8
X18A **Snowflake** 67.39 63 ⇓P P 07 12 48.0 +0.6
baz=67,SNR=9.5
S23A **Nye Farm, Mont** 67.39 58 ⇑P P 07 12 48.6 +1.1
baz=67,SNR=12
ISFR **Sfrayin** 67.43 301 *eP* P 07 12 48.5 +0.7
Q25A **Bedland, Calha** 67.50 56 ⇑P P 07 12 48.3 +0.2
baz=67,SNR=13
214A **Organ Pipe Nat** 67.50 67 ⇓P P 07 12 48.0 0.0
baz=67
R24A **Sanders Place,** 67.51 57 ⇑P P 07 12 48.7 +0.5
baz=67,SNR=18
P26A **Davis Ranch, A** 67.52 55 ⇑P P 07 12 48.5 +0.3
baz=67,SNR=14
O27A **Beecher Island** 67.53 54 ⇓P P 07 12 48.2 0.0
baz=67,SNR=19
M29A **Burnside Ranch** 67.57 52 ⇑P P 07 12 48.0 -0.3
baz=67,SNR=5.5
SDCO **Great Sand Dun** 67.64 58 *eP* P 07 12 49.0 -0.1
comp=Z,30nm,1.4s
N28A **Pribbeno Ranch** 67.67 53 ⇓P P 07 12 48.7 -0.3
baz=67,SNR=9.1
L30A **Spencer Herefo** 67.70 51 ⇑P P 07 12 48.5 -0.7
baz=67,SNR=7.1
W20A **Ramah** 67.81 62 ⇑P P 07 12 50.3 +0.2
baz=68,SNR=21
V21A **Milan** 67.82 61 ⇓P P 07 12 50.5 +0.3
baz=68,SNR=13
T23A **Casias Ranch,** 67.85 59 ⇑P P 07 12 51.0 +0.5
baz=68,SNR=8.5
U22A **Llaves** 67.86 60 ⇓P P 07 12 50.9 +0.4
baz=68,SNR=12
S24A **Houchin Ranch,** 67.88 58 ⇓P P 07 12 51.2 +0.5
baz=68,SNR=12
Q26A **Hugo** 67.89 56 ⇑P P 07 12 50.6 +0.2
baz=68,SNR=12
P27A **Ficken Ranch,** 67.94 55 ⇓P P 07 12 50.5 -0.3
baz=68,SNR=7.3
ECSD **EROS Data Cent** 67.94 48 *eP* P 07 12 50.0 -0.6
comp=Z,42nm,0.8s
O28A **Krutsinger Ran** 67.95 54 ⇓P P 07 12 50.5 -0.3
baz=68,SNR=12
L31A **Butterfield Fa** 67.98 51 ⇓P P 07 12 50.7 -0.2
baz=68,SNR=21
R25A **Fountain Ranch** 68.03 57 ⇑P P 07 12 51.5 +0.1
baz=68
N29A **Votaw Ranch, W** 68.05 53 ⇓P P 07 12 51.1 -0.3
baz=68
V22A **San Miguel Ran** 68.16 60 ⇓P P 07 12 52.6 +0.2
baz=68,SNR=10
T24B **San Luis** 68.20 58 ⇑P P 07 12 53.6 +1.0
baz=68,SNR=16
X20A **Quemado** 68.22 62 ⇓P P 07 12 53.6 +0.8
baz=68,SNR=28
U23A **El Rito** 68.27 59 ⇑P P 07 12 53.7 +0.7
baz=68,SNR=45
S25A **Robets Cordova** 68.29 57 ⇓P P 07 12 52.8 -0.2
baz=68,SNR=8.7
W21A **San Fidel** 68.30 61 ⇓P P 07 12 53.2 0.0
baz=68,SNR=5.2
KSCO **Kaye Shedlock'** 68.31 55 *eP* P 07 12 52.8 -0.3
KSCO **Kaye Shedlock'** 68.31 55 ⇓P P 07 12 53.0 0.0
baz=68,SNR=5.8
N30A **Hueftle Ranch,** 68.34 52 ⇑P P 07 12 53.1 -0.1
baz=68
P28A **Saint Francis** 68.36 54 ⇑P P 07 12 53.1 -0.3
baz=68
R26A **Arlington** 68.37 56 ⇑P P 07 12 53.4 -0.1
baz=68,SNR=25
TUC **Tucson** 68.46 65 *eP* P 07 12 53.6 -0.5
TUC pmax pmax
comp=Z,14nm,1.1s
TUC **Tucson** 68.46 65 *eP* P 07 12 53.6 -0.5
comp=Z,14nm,1.1s
O29A **4D Ranch, Culb** 68.47 53 ⇑P P 07 12 53.7 -0.3
baz=68,SNR=5.5
HYB **Hyderabad** 68.61 272 ⇑*i*P P 07 12 54.5 -0.6
HYB *e* 07 13 22.0
SPMN **St. Paul** 68.64 45 *eP* P 07 12 54.5 -0.4
SPMN **St. Paul** 68.64 45 ⇓P P 07 12 54.4 -0.4
baz=68,SNR=8.9
T25A **Trinidad** 68.68 58 ⇑P P 07 12 55.5 0.0
baz=68,SNR=10
V23A **Ortiz Mt. (NFS** 68.69 60 ⇑P P 07 12 56.9 +1.2
baz=68,SNR=16
Q28A **Sharon Springs** 68.69 55 ⇓P P 07 12 55.1 -0.3
baz=68
X21A **Alamocita Cree** 68.70 62 ⇓P P 07 12 56.7 +0.9
baz=68,SNR=37
U24A **Moreno Valley** 68.72 59 ⇑P P 07 12 56.8 +0.8
baz=68,SNR=12
R27A **Eads** 68.74 56 ⇓P P 07 12 55.4 -0.3
baz=68,SNR=11
Y20A **Horse Springs,** 68.74 63 ⇓P P 07 12 56.8 +0.8
baz=68,SNR=21
P29A **Atwood** 68.78 54 ⇑P P 07 12 55.9 0.0
baz=68
W22A **Albuquerque** 68.78 61 ⇑P P 07 12 56.9 +0.7
baz=69
O30A **MW Ranch, Wils** 68.82 53 ⇓P P 07 12 55.5 -0.6
baz=68,SNR=7.6
S26A **Kim** 68.85 57 ⇓P P 07 12 55.9 -0.6
baz=69,SNR=9.6
BGNE **Belgrade** 68.89 51 *eP* P 07 12 55.9 -0.7
BGNE **Belgrade** 68.89 51 ⇑P P 07 12 55.9 -0.7
baz=69,SNR=6.4
N31A **Bailey Ranch,** 68.92 52 ⇑P P 07 12 56.0 -0.8
baz=69
Y21A **Point of Rocks** 69.08 62 ⇓P P 07 12 58.8 +0.7
baz=69,SNR=12
LAZ **Ladron** 69.11 61 *eP* P 07 12 58.9 +0.7
comp=Z,9.6nm,0.9s
T26A **Comanche Natio** 69.11 57 ⇑P P 07 12 57.6 -0.6
baz=69,SNR=27
X22A **Bernardo** 69.11 61 ⇑P P 07 12 59.4 +1.2
baz=69,SNR=19
ANMO **Albuquerque** 69.11 61 *eP* P 07 12 58.5 +0.3
comp=Z,12nm,0.9s
W23A **Werner Place,** 69.13 60 ⇓P P 07 12 58.8 +0.5
baz=69,SNR=10
P30A **Selden** 69.18 53 ⇓P P 07 12 57.7 -0.7
baz=69,SNR=13
Z20A **Nine Sixteen R** 69.19 63 ⇓P P 07 12 59.3 +0.6
baz=69,SNR=7.1
U25A **Circle Dot Ran** 69.22 58 ⇓P P 07 12 59.0 +0.1
baz=69,SNR=24
V24A **Rampart Ranch,** 69.22 59 ⇓P P 07 12 59.5 +0.5
baz=69,SNR=18
GOF **Gofitskoye** 69.22 316 *eP* P 07 12 59.1 +0.6
R28A **Tribune** 69.23 55 ⇓P P 07 12 58.2 -0.6
baz=69,SNR=9.7
Q29A **Oakley** 69.27 54 ⇑P P 07 12 58.4 -0.6
baz=69,SNR=12
LENM **Lemitar** 69.37 61 *eP* P 07 13 00.5 +0.7
comp=Z,3.1nm,0.6s
LPM **Los Pinos Moun** 69.46 61 *eP* P 07 13 01.3 +0.9
Y22D **IRIS PASSCAL I** 69.47 62 ⇓P P 07 13 01.1 +0.7
baz=69
V25A **Rancho No Teng** 69.51 59 ⇓P P 07 13 00.9 +0.3
baz=69,SNR=9.9
W24A **Lazy 6 Ranch,** 69.51 60 ⇑P P 07 13 01.5 +0.8
baz=69,SNR=20
X23A **Hourglass Bar** 69.52 61 ⇑P P 07 13 01.1 +0.4
baz=69
R29A **Marienthal** 69.53 55 ⇓P P 07 13 00.1 -0.5
baz=69,SNR=12
Y22A **Socorro** 69.54 62 ⇓P P 07 13 01.5 +0.6
baz=69,SNR=13
120A **U Bar Ranch, L** 69.57 64 ⇓P P 07 13 01.5 +0.5
baz=69,SNR=18
BNM **Barren Site** 69.58 61 *eP* P 07 13 01.9 +0.7
comp=Z,17nm,1.4s
Z21A **St. Cloud Mine** 69.58 63 ⇑P P 07 13 01.8 +0.6
baz=69,SNR=17
U26A **Atchley Ranch,** 69.59 58 ⇑P P 07 13 01.0 -0.2
baz=69
MSVF **Nonsavu** 69.61 157 *eP* P 07 13 01.9 +0.8
MSVF pmax pmax
comp=Z,49nm,1.3s
MSVF **Nonsavu** 69.61 157 *eP* P 07 13 01.9 +0.8
comp=Z,48nm,1.3s
Q30A **Quinter** 69.61 54 ⇑P P 07 13 00.4 -0.7
baz=69,SNR=20
P31A **Stockton** 69.66 53 ⇓P P 07 13 00.6 -0.7
baz=69,SNR=12
T27A **Campo** 69.67 57 ⇑P P 07 13 01.1 -0.4
baz=69,SNR=9.1
O32A **Brockman Farm,** 69.68 52 ⇓P P 07 12 59.9 -1.5
baz=69
S28A **Manter** 69.73 56 ⇓P P 07 13 01.6 -0.3
baz=70,SNR=9.4
T28A **Walsh** 69.96 56 ⇓P P 07 13 02.7 -0.6
baz=70
X24A **Lazy VL Ranch,** 69.97 60 ⇑P P 07 13 04.2 +0.7
baz=70,SNR=19
P32A **Huiting Farm,** 69.98 52 ⇓P P 07 13 02.1 -1.2
baz=70,SNR=16
V26A **Tequesquite Ra** 70.00 58 ⇑P P 07 13 03.3 -0.3
baz=70,SNR=12
319A **Douglas** 70.03 65 ⇓P P 07 13 04.1 +0.3
baz=70,SNR=26
Q31A **Ellis** 70.03 53 ⇑P P 07 13 02.7 -0.9
baz=70
Z22A **Elephant Butte** 70.03 62 ⇑P P 07 13 04.3 +0.4
baz=70,SNR=21
W25A **X Bar L Ranch,** 70.04 59 ⇑P P 07 13 04.1 +0.2
baz=70,SNR=23
Y23A **Lovelace Mesa,** 70.07 61 ⇓P P 07 13 04.5 +0.4
baz=70,SNR=25
121A **Cookes Peak, D** 70.08 63 ⇓P P 07 13 04.7 +0.5
baz=70,SNR=12
U27A **Thompson Grove** 70.08 57 ⇓P P 07 13 03.8 -0.3
baz=70,SNR=13
220A **Playas Peak, P** 70.09 64 ⇑P P 07 13 04.4 +0.2
baz=70,SNR=10
R30A **Dighton** 70.09 54 ⇑P P 07 13 03.3 -0.7
baz=70,SNR=16
S29A **Ulysses** 70.13 55 ⇑P P 07 13 03.9 -0.4
baz=70
KIV **Kislovodsk** 70.23 315 *eP* P 07 13 05.8 +1.0
KIV pmax pmax
comp=Z,29nm,0.9s
KBZ **Khabaz** 70.31 315 P P 07 13 05.4 +0.3
KBZ pmax pmax
comp=Z,32nm,0.8s
KBZ **Khabaz** 70.31 315 P P 07 13 05.4 +0.3
KBZ **Khabaz** 70.31 315 P P 07 13 05.4 +0.3
comp=Z,32nm,0.8s,baz=82,slow=3.3,SNR=50
KBZ LR LR 07 48 35.2
comp=Z,105nm,19.0s,baz=25,slow=40
SCHQ **Schefferville** 70.33 25 *eP* P 07 13 05.0 -0.2
comp=Z,5.9nm,0.5s
SCHQ **Schefferville** 70.33 25 P P 07 13 05.0 -0.2
comp=Z,5.1nm,0.7s,baz=354,slow=7.0,SNR=10.0
SCHQ LR LR 07 47 30.3
comp=Z,92nm,20.7s,baz=98,slow=39
AKASG **Malin Array Be** 70.37 327 P P 07 13 04.2 -1.2
AKASG pmax pmax
comp=Z,5.0nm,0.4s
AKASG **Malin Array Be** 70.37 327 P P 07 13 04.2 -1.2
AKASG **Malin Array Be** 70.37 327 P P 07 13 04.2 -1.2
comp=Z,5.0nm,0.4s,baz=32,slow=6.2,SNR=30
AKASG LR LR 07 44 45.5
comp=Z,110nm,20.4s,baz=50,slow=36
T29A **Hugoton** 70.38 56 ⇑P P 07 13 05.2 -0.6
baz=70,SNR=6.2
KIEV **Kiev** 70.38 327 *eP* P 07 13 04.1 -1.4
KIEV pmax pmax
comp=Z,9.0nm,0.7s
KIEV **Kiev** 70.38 327 *eP* P 07 13 04.1 -1.4
comp=Z,8.6nm,0.7s
122A **Conniff Cattle** 70.41 63 ⇑P P 07 13 07.1 +1.0
baz=70,SNR=14
Y24A **Capitan** 70.43 61 ⇑P P 07 13 06.5 +0.2
baz=70,SNR=27
X25A **Clemmons Ranch** 70.43 60 ⇑P P 07 13 06.9 +0.6
baz=70,SNR=6.7
U28A **Mallet** 70.44 57 ⇑P P 07 13 05.4 -0.8
baz=70
Z23A **Rita Site, Whi** 70.45 62 ⇑P P 07 13 06.8 +0.4
baz=70,SNR=11
S30A **Montezuma** 70.47 55 ⇑P P 07 13 05.4 -0.9
baz=70
R31A **Burdett** 70.49 54 ⇓P P 07 13 05.1 -1.3
baz=70,SNR=6.9
320A **Kipp Ranch, An** 70.50 65 ⇑P P 07 13 07.0 +0.2
baz=70,SNR=7.4
GUDG **Gudauri** 70.53 313 P P 07 13 07.5 +0.7
W26A **Owens Ranch, T** 70.53 59 ⇓P P 07 13 06.9 +0.1
baz=70,SNR=7.6
ZEI **Tsey** 70.55 314 *eP* P 07 13 05.2 -1.8
ZEI pmax pmax
comp=Z,16nm,0.9s
V27A **Dan Oppiter Fa** 70.56 58 ⇓P P 07 13 06.5 -0.4
baz=70,SNR=8.4
P33A **Williams Farm,** 70.59 52 ⇓P P 07 13 06.0 -1.0
baz=70
222A **Williams Famil** 70.78 63 ⇑P P 07 13 08.5 +0.1
baz=71
Y25A **Mesa, Roswell** 70.85 60 ⇓P P 07 13 09.0 +0.1
baz=71,SNR=40
DGRG **David-gareji** 70.86 312 P P 07 13 09.3 +0.7
T30A **Plains** 70.87 55 ⇑P P 07 13 07.8 -0.9
baz=71
123A **Bell Site, Whi** 70.89 62 ⇓P P 07 13 09.4 +0.3
baz=71
X26A **CR and CF Fran** 70.89 59 ⇓P P 07 13 09.2 +0.1
baz=71,SNR=21
V28A **Channing** 70.90 57 ⇑P P 07 13 08.4 -0.6
baz=71
Z24A **Sheeppen Canyo** 70.90 61 ⇓P P 07 13 09.5 +0.3
baz=71,SNR=33
ONI **Oni** 70.92 314 P P 07 13 10.2 +1.2
W27A **Bowe Ranch, En** 70.94 58 ⇓P P 07 13 09.1 -0.2
baz=71,SNR=5.9
SCIA **State Center** 70.96 47 *eP* P 07 13 09.1 -0.1
comp=Z,86nm,0.7s
S31A **Mullinville** 71.00 54 ⇑P P 07 13 08.0 -1.6
baz=71
U30A **WK&E Inc. Balk** 71.19 56 ⇑P P 07 13 10.0 -0.8
baz=71
V29A **Stinnett** 71.19 57 ⇑P P 07 13 10.0 -0.8
baz=71
X27A **F and S Farms,** 71.22 59 ⇑P P 07 13 11.1 +0.1
baz=71,SNR=7.1
S32A **Newby Ranch, P** 71.23 54 ⇓P P 07 13 09.8 -1.2
baz=71
223A **Chaparral, Ant** 71.25 63 ⇓P P 07 13 11.3 +0.1
baz=71
W28A **Vega** 71.27 58 ⇑P P 07 13 11.0 -0.3
baz=71
T31A **Randall Ranch,** 71.29 55 ⇑P P 07 13 10.4 -0.9
baz=71
124A **Stringfield Ra** 71.31 62 ⇑P P 07 13 11.8 +0.1
baz=71,SNR=15
Z25A **Roswell** 71.31 61 ⇓P P 07 13 11.7 +0.2
baz=71,SNR=11
Y26A **Elida** 71.34 60 ⇑P P 07 13 11.9 +0.1
baz=71,SNR=5.7
KSU1 **Kansas State U** 71.40 51 *eP* P 07 13 10.5 -1.4
comp=Z,23nm,0.7s
WRAB **Tennant Creek** 71.44 201 *eP* P 07 13 11.7 -0.4
WRAB pmax pmax
comp=Z,26nm,1.3s
WRAB **Tennant Creek** 71.44 201 *eP* P 07 13 11.7 -0.4
comp=Z,26nm,1.3s
WRA **Warramunga Arr** 71.45 201 P P 07 13 11.8 -0.4
WRA pP pP 07 13 29.3 -1.4
WRA **Warramunga Arr** 71.45 201 P P 07 13 11.8 -0.4
comp=Z,2.0nm,0.6s,baz=16,slow=6.3,SNR=19
WRA pP pP 07 13 29.3 -1.4
comp=Z,9.9nm,0.8s,baz=17,slow=6.3,SNR=13
DZM **Mont Dzumac** 71.66 169 *e*LR LR 07 34 58.0
comp=Z,151nm,28.1s
DZM **Mont Dzumac** 71.66 169 P P 07 13 14.9 +1.4
DZM **Mont Dzumac** 71.66 169 P P 07 13 14.9 +1.4
comp=Z,29nm,1.1s,baz=92,slow=9.9,SNR=4.1
W29A **Amraillo** 71.68 57 ⇓P P 07 13 13.3 -0.4
baz=71
224A **Cornudas Mount** 71.72 62 ⇓P P 07 13 14.3 +0.2
baz=72,SNR=17
Z26A **Caprock** 71.73 60 ⇓P P 07 13 14.2 +0.1
baz=72,SNR=43
U31A **Nine Bar Ranch** 71.74 55 ⇓P P 07 13 13.5 -0.5
baz=72
Y27A **Causey** 71.75 59 ⇓P P 07 13 14.3 +0.1
baz=72,SNR=40
125A **Gardner Draw,** 71.80 61 ⇑P P 07 13 14.6 +0.1
baz=72,SNR=29
X28A **Dimmitt** 71.82 58 ⇓P P 07 13 14.3 -0.3
baz=72,SNR=7.3
AMTX **Amarillo** 71.84 58 *eP* P 07 13 15.1 +0.4
comp=Z,52nm,1.4s
SOC **Sochi** 71.88 317 *eP* P 07 13 14.3 -0.3
SOC pmax pmax
comp=Z,17nm,0.5s
MSTX **Muleshoe** 71.90 59 *eP* P 07 13 15.0 -0.1
MSTX **Muleshoe** 71.90 59 ⇓P P 07 13 14.9 -0.3
baz=72,SNR=13
ANN **Anapa** 71.92 319 *eP* P 07 13 13.9 -1.0
ANN *e**PP pP 07 13 36.1 +2.7
ANN *eS* S 07 22 31.1 +0.8
ANN pmax pmax
comp=Z,38nm,1.6s
MNTX **Cornudas Mount** 72.08 62 *eP* P 07 13 16.1 0.0
comp=Z,15nm,1.0s
225A **Deer Hill, Car** 72.10 62 ⇓P P 07 13 16.4 0.0
baz=72,SNR=16
Z27A **Tatum** 72.14 60 ⇓P P 07 13 16.4 -0.2
baz=72,SNR=11
X29A **Tulia** 72.15 58 ⇑P P 07 13 16.6 +0.1
baz=72,SNR=18
FITZ **Fitzroy Crossi** 72.16 210 *eP* P 07 13 17.0 +0.5
comp=Z,3.5nm,0.6s
FITZ **Fitzroy Crossi** 72.16 210 P P 07 13 16.7 +0.3
comp=Z,3.5nm,0.9s,baz=12,slow=9.3,SNR=8.0
FITZ pP PcP 07 13 34.4 +0.1
comp=Z,9.3nm,0.8s,baz=40,slow=6.2,SNR=7.9
GNI **Garni** 72.16 311 P P 07 13 19.4 +2.8
SNR=7.9
GNI **Garni** 72.16 311 *eP* P 07 13 19.5 +2.8
comp=Z,21nm,0.8s
126A **Clayton Basin,** 72.17 61 ⇑P P 07 13 16.4 -0.3

baz=72,SNR=7.1
324A Moseley Ranch, 72.21 62 ⇑P P 07 13 16.7 -0.3
baz=72,SNR=6.1
W30A Crocket Farms 72.22 57 ⇓P P 07 13 17.0 +0.1
baz=72
Y28A McKinney Farm, 72.24 59 ⇑P P 07 13 16.7 -0.4
baz=72,SNR=5.8
226B Tecolote Peak, 72.50 61 ⇑P P 07 13 18.7 0.0
baz=72,SNR=23
127A Arkansas Junct 72.52 60 ⇑P P 07 13 18.4 -0.5
baz=72
325A Bean Ranch, Si 72.56 62 ⇑P P 07 13 18.9 -0.2
baz=72,SNR=14
W31A Holland Ranch, 72.57 56 ⇑P P 07 13 19.0 0.0
baz=72,SNR=8.4
Y29A Porterfield Fa 72.60 58 ⇓P P 07 13 19.1 -0.1
baz=72,SNR=6.2
X30A Coker Ranch, T 72.61 57 ⇑P P 07 13 18.7 -0.5
baz=72,SNR=5.9
Z28A Tucker Farm, M 72.62 59 ⇓P P 07 13 18.9 -0.5
baz=72,SNR=7.0
LVV L'vov 72.91 330 *e*P P 07 13 20.4 -0.3
X31A McDonald Ranch 72.96 57 ⇓P P 07 13 21.3 0.0
baz=73,SNR=9.3
425A Indio Mountain 72.98 63 ⇓P P 07 13 21.6 0.0
baz=73,SNR=28
Y30A Stafford Cattl 73.02 58 ⇑P P 07 13 21.5 -0.2
baz=73
Z29A Hungry Hill Ra 73.03 59 ⇑P P 07 13 21.9 +0.1
baz=73,SNR=21
227A Bennet, Jal 73.05 61 ⇓P P 07 13 21.7 -0.2
baz=73
128A Castleberry Fa 73.06 60 ⇑P P 07 13 22.0 0.0
baz=73,SNR=19
326A Caldwell Ranch 73.17 62 ⇓P P 07 13 22.6 -0.1
baz=73,SNR=19
Y31A Rekieta Farm, 73.31 57 ⇑P P 07 13 23.0 -0.3
baz=73,SNR=7.4
Z30A Sanderson Ranc 73.33 58 ⇓P P 07 13 23.3 -0.2
baz=73,SNR=34
228A UT Block 9, Go 73.37 60 ⇓P P 07 13 23.7 -0.1
baz=73,SNR=8.4
129A Stewart Farms, 73.40 59 ⇑P P 07 13 23.9 -0.1
baz=73
327A Balmorhea Ranc 73.41 61 ⇑P P 07 13 24.4 +0.3
baz=73
KWP Kalwaria Pacla 73.50 330 ⇓P P 07 13 24.7 +0.5
KWP Kalwaria Pacla 73.50 330 ⇓*i*P P 07 13 24.7 +0.5
KWP Kalwaria Pacla 73.50 330 *e*P P 07 13 24.1 -0.1
comp=Z,20nm,0.8s
KWP Kalwaria Pacla 73.50 330 *e*P P 07 13 24.4 +0.2
WMOK Wichita Mounta 73.53 56 *e*P P 07 13 24.3 -0.4
WMOK pmax pmax
comp=Z,26nm,1.0s
WMOK Wichita Mounta 73.53 56 *e*P P 07 13 24.3 -0.4
comp=Z,26nm,1.0s
426A McDonald Obser 73.62 62 ⇑P P 07 13 25.1 -0.4
baz=73,SNR=16
Y32A R-V Farms, Ver 73.72 57 ⇑P P 07 13 25.4 -0.4
baz=74,SNR=8.1
328A Wristen Ranch, 73.79 61 ⇓P P 07 13 26.3 0.0
baz=74,SNR=40
427A Hayter Ranch, 73.85 62 ⇑P P 07 13 26.7 +0.1
baz=74,SNR=17
Z31A Sharp Cattle R 73.85 58 ⇓P P 07 13 26.2 -0.4
baz=74,SNR=20
229A Bryant Ranch, 73.93 60 ⇑P P 07 13 27.2 +0.2
baz=74,SNR=10
130A Snyder 73.93 59 ⇓P P 07 13 26.9 -0.2
baz=74,SNR=6.1
526A Mary Lane Ranc 74.03 63 ⇓P P 07 13 28.0 +0.2
baz=74,SNR=25
STHS Stebnicka Huta 74.16 331 *e*P P 07 13 28.7 +0.6
STHS pmax pmax
comp=Z,11nm,0.8s
STHS Stebnicka Huta 74.16 331 *e*P P 07 13 28.7 +0.6
329A Wagon Wheel Ra 74.19 60 ⇑P P 07 13 28.7 +0.1
baz=74,SNR=22
131A Roby 74.20 58 ⇓P P 07 13 28.6 0.0
baz=74,SNR=6.3
Z32A Haskell 74.23 57 ⇓P P 07 13 28.5 -0.2
baz=74,SNR=14
TUL1 Tulsa 74.24 53 *e*P P 07 13 28.3 -0.4
TUL1 Tulsa 74.24 53 ⇓P P 07 13 28.4 -0.4
baz=74,SNR=16
527A Woodward Ranch 74.25 62 ⇑P P 07 13 28.9 -0.1
baz=74,SNR=20
KOLS Kolonicke sedl 74.25 330 *e*P P 07 13 28.3 -0.3
KOLS pmax pmax
comp=Z,25nm,1.7s
KOLS Kolonicke sedl 74.25 330 *e*P P 07 13 28.3 -0.3
EKA Eskdalemuir Ar 74.27 348 P P 07 13 28.3 -0.2
EKA Eskdalemuir Ar 74.27 348 P P 07 13 28.3 -0.2
comp=Z,3.1nm,0.5s,baz=19,slow=5.2,SNR=11
428A Kincaid Ranch, 74.35 61 ⇑P P 07 13 30.0 +0.4
baz=74,SNR=28
BUR08 Bucovina Ar. S 74.37 328 *e*P P 07 13 29.2 -0.2
230A Sterling City 74.38 59 ⇓P P 07 13 29.5 -0.1
baz=74
KSP Ksiaz 74.38 335 *e*P P 07 13 29.3 0.0
KSP Ksiaz 74.38 335 *e*P P 07 13 29.3 0.0
626A Big Bend Ranch 74.38 63 ⇓P P 07 13 29.8 0.0
baz=74,SNR=25
BURAR Bucovina Array 74.39 328 ⇑P P 07 13 29.1 -0.4
BURAR Bucovina Array 74.39 328 ⇑*i*P P 07 13 29.1 -0.4
NIE Niedzica 74.45 332 *e*P P 07 13 30.1 +0.3
NRDL Niedersach Rie 74.47 339 *e*P P 07 13 29.9 +0.2
comp=Z,9.0nm,1.0s
UZH Uzhgorod 74.51 330 *e*P P 07 13 29.2 -0.8
UZH *e* 07 13 47.2
ABTX Abilene, Hawle 74.65 58 *e*P P 07 13 31.1 -0.1
ABTX Abilene, Hawle 74.65 58 ⇑P P 07 13 31.1 -0.1
baz=74,SNR=7.0
PALK Pallekele 74.68 263 P P 07 13 33.1 +1.5
SNR=6.8
PALK Pallekele 74.68 263 P P 07 13 32.6 +1.0
comp=Z,62nm,0.9s,comp=Z,680nm
PALK Pallekele 74.68 263 *e*P P 07 13 32.4 +0.8
comp=Z,44nm,0.9s
PALK Pallekele 74.68 263 P P 07 13 32.1 +0.5
comp=Z,314nm,0.8s,SNR=12
330A Mertzon 74.70 60 ⇓P P 07 13 31.2 -0.4
baz=74,SNR=15
528A Cox Ranch, San 74.71 62 ⇑P P 07 13 31.9 +0.2
baz=74,SNR=21
OKC Ostrava-Krasne 74.74 333 *e*P P 07 13 30.9 -0.5
OKC Ostrava-Krasne 74.74 333⇓*e*P P 07 13 30.9 -0.5
UPC Upice 74.76 335 *e*P P 07 13 31.7 +0.2
UPC Upice 74.76 335⇓*e*P P 07 13 31.7 +0.2
231A Bronte 74.79 59 ⇑P P 07 13 31.7 -0.3
baz=75,SNR=6.0
DPC Dobruska-Polom 74.81 334⇑*i*P P 07 13 32.2 +0.3
DPC Dobruska-Polom 74.81 334⇑*i*P P 07 13 32.2 +0.3
DPC Dobruska-Polom 74.81 334 *e*P P 07 13 32.4 +0.5
comp=Z,130nm,1.4s
TXAR Lajitas Array 74.82 63 P P 07 13 32.4 0.0
TXAR pP **pP** 07 13 51.6 +0.7
TXAR Lajitas Array 74.82 63 P P 07 13 32.4 0.0
comp=Z,26nm,0.7s,baz=298,slow=3.9,SNR=380
TXAR pP **pP** 07 13 51.6 +0.7
comp=Z,12nm,0.7s,baz=293,slow=3.8,SNR=6.9
TESR Tescani 74.82 326⇑*i*P P 07 13 31.5 -0.4
CLL Collm 74.85 337⇑*i*P P 07 13 31.6 -0.4
CLL pmax pmax
comp=Z,12nm,0.7s
CLL Collm 74.85 337 *e*P P 07 13 31.6 -0.4
comp=Z,18nm,0.7s
CLL Collm 74.85 337⇑*i*P P 07 13 31.6 -0.4
comp=Z,18nm,0.7s
CLL *i* P(2) 07 13 34.4
CLL *i* sP sP 07 14 04.0 +5.8
CLL LmV 07 47 00.0
comp=Z,100nm,19.3s
TRPA Tarpa 74.86 330⇓*i*P P 07 13 32.3 +0.2
429A Davenport Ranc 74.88 61 ⇑P P 07 13 32.2 -0.4
baz=75,SNR=12
627A Terlingua Ranc 74.89 62 ⇓P P 07 13 32.8 +0.1
baz=75,SNR=23
KRLC Kraliky 74.93 334⇑*i*P P 07 13 32.7 +0.2
KRLC Kraliky 74.93 334⇑*i*P P 07 13 32.7 +0.2
KRLC *ex* x 07 13 35.5
SLM Saint Louis 74.94 48 *e*P P 07 13 32.1 -0.6
SLM pmax pmax
comp=Z,25nm,0.7s
SLM Saint Louis 74.94 48 *e*P P 07 13 32.1 -0.6
comp=Z,25nm,0.7s

BRG Berggiesshubel 75.00 336 *e*P P 07 13 32.6 -0.2
comp=Z,14nm,1.4s
BRG Berggiesshubel 75.00 336 *e*P P 07 13 32.6 -0.2
BRG pmax pmax
comp=Z,14nm,1.4s
BRG Berggiesshubel 75.00 336 *e*P P 07 13 32.7 -0.1
comp=Z,14nm,1.4s
CLZ Clausthal 75.01 339 *e*P P 07 13 33.3 +0.3
CLZ pmax pmax
comp=Z,19nm,1.0s
CLZ Clausthal 75.01 339 *e*P P 07 13 33.3 +0.3
comp=Z,19nm,1.0s
SFIN Scholer Farm 75.04 45 *e*P P 07 13 32.6 -0.7
SFIN Scholer Farm 75.04 45 ⇑P P 07 13 32.5 -0.7
baz=75,SNR=5.1
529A Stev Forest Ra 75.07 61 ⇓P P 07 13 33.7 0.0
baz=75,SNR=19
FBE Freiberg 75.11 336 *e*P P 07 13 33.6 +0.1
comp=Z,47nm,1.8s
430A Baggett Ranch, 75.13 60 ⇑P P 07 13 33.9 -0.2
baz=75,SNR=28
AS31 Alice Springs 75.14 201 *e*P P 07 13 34.3 +0.4
ASAR Alice Springs 75.14 201 P P 07 13 34.6 +0.7
ASAR pP **pP** 07 13 52.6 +0.1
ASAR Alice Springs 75.14 201 P P 07 13 34.6 +0.7
comp=Z,1.8nm,0.5s,baz=14,slow=5.5,SNR=35
ASAR pP **pP** 07 13 52.6 +0.1
comp=Z,4.7nm,0.5s,baz=13,slow=5.5,SNR=9.1
PVCC Panska Ves 75.14 335 *e*P P 07 13 35.0 +1.3
PVCC Panska Ves 75.14 335⇑*e*P P 07 13 35.0 +1.3
628A Black Gap, Mar 75.16 62 ⇓P P 07 13 34.1 -0.1
baz=75,SNR=14
331A San Angelo 75.20 59 ⇑P P 07 13 34.1 -0.3
baz=75,SNR=16
232A Coleman 75.20 58 ⇑P P 07 13 34.1 -0.3
baz=75,SNR=17
VRI Vrincioaia 75.34 326 ⇓P P 07 13 34.9 0.0
VRI Vrincioaia 75.34 326 ⇓*i*P P 07 13 34.9 0.0
PLOR Plostina 75.38 326 ⇓P P 07 13 37.3 +2.1
PLOR Plostina 75.38 326 ⇓*i*P P 07 13 37.3 +2.1
CFR Carcaliu 75.40 325 ⇓P P 07 13 35.3 +0.1
CFR Carcaliu 75.40 325 ⇓*i*P P 07 13 35.3 +0.1
332A Millersview 75.53 59 ⇓P P 07 13 36.1 -0.2
baz=75,SNR=12
530A J-C Ranch, Com 75.55 61 ⇑P P 07 13 36.3 -0.1
baz=75,SNR=15
431A Sonora 75.57 60 ⇓P P 07 13 36.2 -0.4
baz=75,SNR=22
PRU Pruhonice 75.64 335 *e*P P 07 13 36.6 +0.1
PRU Pruhonice 75.64 335⇑*e*P P 07 13 36.6 +0.1
PRU *ex* x 07 13 39.5
VRAC Vranov 75.67 334⇓*i*P P 07 13 37.7 +0.9
TANN Tannenbergstha 75.80 337 *e*P P 07 13 37.6 0.0
comp=Z,5.0nm,0.8s
WERD Werda 75.81 337 *e*P P 07 13 37.5 -0.1
comp=Z,19nm,1.4s
PLN Plauen 75.82 337 *e*P P 07 13 37.6 0.0
comp=Z,210nm,1.6s
432A Menard 75.88 59 ⇑P P 07 13 37.9 -0.4
baz=76,SNR=14
OLIL Olney 75.88 46 *e*P P 07 13 38.1 0.0
comp=Z,126nm,1.8s
GUNZ Gunsan 75.88 337 *e*P P 07 13 38.4 +0.4
comp=Z,10.0nm,0.7s
TIRR Tirgusor 75.90 324 ⇑P P 07 13 38.3 +0.2
TIRR Tirgusor 75.90 324⇑*i*P P 07 13 38.3 +0.2
PSZ Piszkesteto 75.91 331 ⇑P P 07 13 38.8 +0.6
PSZ Piszkesteto 75.91 331⇑*i*P P 07 13 38.8 +0.6
PSZ Piszkesteto 75.91 331 *e*P P 07 13 38.9 +0.7
comp=Z,8.3nm,1.0s
WERN Wernitzgruen 75.94 337 *e*P P 07 13 38.7 +0.4
comp=Z,13nm,0.7s
531A Rocksprings 75.99 60 ⇓P P 07 13 38.7 -0.3
baz=76,SNR=20
TREC Trest 76.00 334 *e*P P 07 13 38.9 +0.2
TREC Trest 76.00 334⇑*e*P P 07 13 38.9 +0.2
TREC *ex* x 07 13 41.6
ISR Istrita 76.04 326 ⇑P P 07 13 39.8 +0.8
ISR Istrita 76.04 326⇑*i*P P 07 13 39.8 +0.8
UBBA Unterbreizbach 76.05 338 *e*P P 07 13 38.8 +0.1
comp=Z,43nm,1.9s
BUG Bochum-Univer 76.10 340 *e*P P 07 13 39.2 +0.1
comp=Z,41nm,1.5s
SIUC Southern Illin 76.15 48 *e*P P 07 13 39.2 -0.4
comp=Z,31nm,0.8s
JCT Junction City 76.18 59 *e*P P 07 13 39.8 -0.2
JCT pmax pmax
comp=Z,44nm,1.1s
JCT Junction City 76.18 59 *e*P P 07 13 39.8 -0.2
comp=Z,44nm,1.1s
JCT Junction City 76.18 59 ⇓P P 07 13 39.7 -0.2
baz=76,SNR=17
BLO Bloomington 76.27 45 *e*P P 07 13 39.2 -1.1
BLO Bloomington 76.27 45 *e*P P 07 13 39.2 -1.1
MANZ Manzenberg 76.29 337 *e*P P 07 13 40.4 +0.1
comp=Z,12nm,1.1s
VOIR 76.32 327 ⇑P P 07 13 41.3 +0.7
VOIR 76.32 327⇑*i*P P 07 13 41.3 +0.7
WHTX Lake Whitney 76.33 57 *e*P P 07 13 40.7 -0.1
WHTX Lake Whitney 76.33 57 ⇑P P 07 13 40.6 -0.1
baz=76
532A Rocksprings 76.38 60 ⇑P P 07 13 40.7 -0.5
baz=76,SNR=25
MSAB Monastry St. A 76.43 324⇓*i*P P 07 13 41.8 +0.7
MIAR Mount Ida 76.45 53 *e*P P 07 13 41.1 -0.3
MIAR pmax pmax
comp=Z,27nm,0.8s
MIAR Mount Ida 76.45 53 *e*P P 07 13 41.1 -0.3
comp=Z,27nm,0.8s
ROTZ Rotzenmuhle 76.46 337 *e*P P 07 13 41.6 +0.4
comp=Z,11nm,0.9s
BANOM Banah 76.53 294 P P 07 13 42.8 +0.7
SNR=5.7
631A Perdido Creek 76.54 61 ⇓P P 07 13 41.7 -0.3
baz=76,SNR=36
MALT Malatya 76.65 314 ⇓P P 07 13 44.1 +1.5
MALT Malatya 76.65 314 ⇓*i*P P 07 13 44.1 +1.5
KBSD Kabsdagh 76.67 312 *e*P P 07 13 35.0 -7.7
KHC Kasperske Hory 76.68 335⇑*i*P P 07 13 42.9 +0.4
KHC *e* 07 14 03.8
KHC Kasperske Hory 76.68 335⇑*i*P P 07 13 42.9 +0.4
KHC *ex* x 07 13 45.5
KHC *e*pP **pP** 07 14 03.8 +2.6
KHC Kasperske Hory 76.68 335 *e*P P 07 13 42.8 +0.3
comp=Z,16nm,0.8s
USIN University of 76.70 47 *e*P P 07 13 42.9 +0.2
comp=Z,57nm,0.8s
PARMO Parma 76.72 49 *e*P P 07 13 43.0 +0.1
SIRR Siria 76.78 329⇑*i*P P 07 13 43.0 -0.1
GRF Grafenberg Arr 76.78 337 *e*P P 07 13 43.7 +0.6
GRF pmax pmax
comp=Z,28nm,0.7s
GRF Grafenberg Arr 76.78 337 *e*P P 07 13 43.7 +0.6
comp=Z,28nm,0.7s
GRFO Grafenberg 76.79 337 *e*P P 07 13 43.7 +0.6
GRFO pmax pmax
comp=Z,24nm,0.8s
GRFO Grafenberg 76.79 337 *e*P P 07 13 43.7 +0.6
comp=Z,24nm,0.8s
WET Wettzell 76.86 336 *e*P P 07 13 44.0 +0.5
WET pmax pmax
comp=Z,17nm,0.8s
WET Wettzell 76.86 336 *e*P P 07 13 44.0 +0.5
comp=Z,17nm,0.8s
GEC2 GERESS Array S 76.91 335 *e*P P 07 13 43.7 -0.2
GEC2 GERESS Array S 76.91 335 *e*P P 07 13 44.0 +0.1
comp=Z,38nm,1.8s
GEC2 GERESS Array S 76.91 335 *e*P P 07 13 43.7 -0.2
comp=Z,1µm,0.6s
GERES GERESS Array B 76.91 335 P P 07 13 44.0 +0.1
GERES GERESS Array B 76.91 335 P P 07 13 44.0 +0.1
comp=Z,5.7nm,0.6s,baz=33,slow=5.1,SNR=45
GERES LR LR 07 51 35.6
comp=Z,197nm,18.1s,baz=276,slow=39
632A Uvalde 76.92 60 ⇓P P 07 13 44.1 0.0
baz=77
TNS Taunus Mts 76.97 339 *e*P P 07 13 44.4 +0.2
TNS pmax pmax
comp=Z,17nm,0.7s
TNS Taunus Mts 76.97 339 *e*P P 07 13 44.4 +0.2
comp=Z,17nm,0.7s
ACSO Alum Creek Sta 77.01 42 *e*P P 07 13 44.4 -0.1
comp=Z,42nm,1.3s
CONA Conrad Observa 77.12 334⇑*i*P P 07 13 45.7 +0.6
comp=Z,16nm,0.7s,SNR=7.5

WCI Wyandotte Cave 77.14 45 *e*P P 07 13 44.5 -0.8
WCI pmax pmax
comp=Z,42nm,0.8s
WCI Wyandotte Cave 77.14 45 *e*P P 07 13 44.5 -0.8
comp=Z,42nm,0.8s
GNAR Gosnell 77.14 49 *e*P P 07 13 45.9 +0.6
comp=Z,338nm,0.8s
MEM Membach 77.16 341 P P 07 13 45.6 +0.5
comp=Z,11nm,1.1s
MEM Membach 77.16 341 *e*P P 07 13 45.8 +0.7
MEM pmax pmax
comp=Z,22nm,1.0s
MEM Membach 77.16 341 *e*P P 07 13 45.8 +0.7
comp=Z,22nm,1.0s
GZR Gura Zlata 77.16 328 ⇓P P 07 13 45.3 0.0
GZR Gura Zlata 77.16 328⇓*i*P P 07 13 45.3 0.0
UOSS Wadi Hilu 77.31 293 P P 07 13 45.5 -0.9
comp=Z,260nm,0.9s,SNR=9.1
SFNV Sufian 77.35 312 *e*P P 07 13 44.7 -1.8
BZS Buzias 77.36 329 ⇑P P 07 13 45.8 -0.6
BZS Buzias 77.36 329⇑*i*P P 07 13 45.8 -0.6
732A Laxson Ranch, 77.40 61 ⇑P P 07 13 47.3 +0.5
baz=77,SNR=15
BCLA Clavier 77.49 341 P P 07 13 47.6 +0.7
ASHO Ashiyiah 77.60 293 P P 07 13 48.4 +0.4
SNR=13
MOA Molln 77.65 334⇑*i*P P 07 13 48.3 +0.3
comp=Z,9.6nm,0.7s
HOQ Hoqain 77.66 292 P P 07 13 49.1 +0.7
SNR=8.0
BR131 Keskin Array S 77.68 318 *e*P P 07 13 48.9 +0.5
comp=Z,18nm,1.0s
BRTR Keskin Array B 77.68 318 P P 07 13 48.5 +0.1
BRTR Keskin Array B 77.68 318 P P 07 13 48.5 +0.1
comp=Z,11nm,0.9s,baz=46,slow=3.6,SNR=36
BRTR LR LR 07 50 54.7
comp=Z,42nm,18.7s,baz=208,slow=38
ARSA Arzberg 77.84 333⇑*i*P P 07 13 49.5 +0.5
comp=Z,10nm,0.9s
GIVF Givet 77.89 341 *e*P P 07 13 49.2 0.0
GIVF Givet 77.89 341 *e*P P 07 13 49.2 0.0
GIVF Givet 77.89 341 *e*P P 07 13 49.2 0.0
ANTO Ankara 77.93 319 *e*P P 07 13 50.2 +0.4
ANTO pmax pmax
comp=Z,10.0nm,0.7s
ANTO Ankara 77.93 319 *e*P P 07 13 50.2 +0.4
comp=Z,10nm,0.7s
NATX Nacogdoches 78.03 55 *e*P P 07 13 50.6 +0.3
comp=Z,65nm,1.1s
BAIF Baives 78.06 342 *e*P P 07 13 50.3 +0.2
BAIF Baives 78.06 342 *e*P P 07 13 50.3 +0.2
BAIF Baives 78.06 342 *e*P P 07 13 50.3 +0.2
JMDO Jabal Madar 78.08 290 P P 07 13 51.4 +0.7
SNR=8.4
WVT Waverly 78.09 48 *e*P P 07 13 49.7 -0.9
WVT pmax pmax
comp=Z,10.0nm,0.8s
WVT Waverly 78.09 48 *e*P P 07 13 49.7 -0.9
comp=Z,9.8nm,0.8s
STU Stuttgart 78.14 338 *e*P P 07 13 51.0 +0.4
comp=Z,26nm,1.2s
RJOB Jochberg 78.17 335 *e*P P 07 13 51.6 +0.7
comp=Z,10.0nm,0.9s
ARQ Araqi 78.32 292 P P 07 13 53.0 +0.9
SNR=9.4
BSY Bisya 78.35 291 P P 07 13 53.0 +0.7
SNR=18
SOKA Soboth 78.50 334⇑*i*P P 07 13 53.2 +0.4
comp=Z,25nm,1.2s,SNR=7.2
PERS Pernice 78.51 333 *i* P P 07 13 53.3 +0.5
OXF Oxford 78.60 50 *e*P P 07 13 53.0 -0.4
OXF pmax pmax
comp=Z,82nm,1.4s
OXF Oxford 78.60 50 *e*P P 07 13 53.0 -0.4
comp=Z,82nm,1.4s
KBA Koelnbreinsper 78.61 335⇑*i*P P 07 13 54.4 +0.9
comp=Z,51nm,0.8s,SNR=26
BFO Black Forest 78.77 338 *e*P P 07 13 54.1 0.0
BFO pmax pmax
comp=Z,14nm,1.0s
BFO Black Forest 78.77 338 *e*P P 07 13 54.2 +0.1
comp=Z,12nm,0.9s
BFO Black Forest 78.77 338 *e*P P 07 13 54.1 0.0
comp=Z,14nm,1.0s
HKT Hockley 78.79 57 *e*P P 07 13 55.5 +1.1
HKT pmax pmax
comp=Z,13nm,1.5s
HKT Hockley 78.79 57 *e*P P 07 13 55.5 +1.1
comp=Z,13nm,1.5s
OBKA Obir 78.79 334⇑*i*P P 07 13 54.7 +0.3
comp=Z,19nm,1.2s
SSPA Standing Stone 78.84 39 *e*P P 07 13 54.2 -0.4
comp=Z,37nm,1.5s
WATA Walderalm 78.86 336⇑*i*P P 07 13 55.6 +0.8
comp=Z,14nm,0.7s
WTTA Wattenberg 78.91 336⇓*i*P P 07 13 56.0 +0.9
comp=Z,37nm,1.2s,SNR=11
RETA Reutte 78.94 337⇓*i*P P 07 13 55.5 +0.4
comp=Z,10nm,0.9s
CDF Champ du Feu 78.94 339⇑*i*P P 07 13 55.3 +0.2
comp=Z,31nm,0.9s
CDF Champ du Feu 78.94 339⇑*i*P P 07 13 55.3 +0.2
CDF pmax pmax
comp=Z,31nm,0.9s
CDF Champ du Feu 78.94 339⇑*i*P P 07 13 55.3 +0.2
comp=Z,31nm,0.9s
MYKA Terra Mystica 78.94 334⇑*i*P P 07 13 55.2 0.0
comp=Z,16nm,0.9s
KBD Kabd 79.04 302 *e*P P 07 13 56.2 +0.3
ABTA Abfaltersbach 79.15 335 *i* P P 07 13 57.0 +0.7
comp=Z,14nm,0.9s,SNR=5.9
ECH Echery 79.15 339 *e*P P 07 13 56.3 +0.1
PAGF Fort de Pagny 79.16 340⇑*i*P P 07 13 56.9 +0.7
comp=Z,9.1nm,0.7s
PAGF Fort de Pagny 79.16 340⇑*i*P P 07 13 56.9 +0.7
comp=Z,9.1nm,0.7s
RST Umm Al-Ruwaisa 79.18 303 *e*P P 07 13 56.5 -0.2
RST AMb AMB 07 13 57.6
comp=Z,983nm,0.8s
NAY Al-Naaiem 79.23 302 *e*P P 07 13 56.9 -0.1
NAY AMb AMB 07 13 58.1
comp=Z,71nm,1.4s
QRN Al-Qurain 79.25 302 *e*P P 07 13 57.0 -0.1
QRN AMb AMB 07 13 58.0
comp=Z,122nm,0.9s
FELD Feldberg im Sc 79.27 338 *e*P P 07 13 56.7 -0.3
RDF Al-Radifah 79.31 302 *e*P P 07 13 57.6 +0.2
RDF AMb AMB 07 13 59.0
comp=Z,136nm,1.3s
VISS Visnje 79.35 333 *i* P P 07 13 57.1 -0.2
DAVA Damuels 79.35 337⇑*i*P P 07 13 58.0 +0.5
comp=Z,17nm,1.1s
FETA Feichten 79.38 336⇑*i*P P 07 13 58.3 +0.6
comp=Z,33nm,1.6s
ARMA Armidale 79.40 184 *e*P P 07 13 58.4 +0.7
comp=Z,7.3nm,0.8s
THEF They Montfort 79.41 340 *e*P P 07 13 58.8 +1.2
VTS Vitosha 79.44 326 ⇓P P 07 13 58.3 +0.2
VTS Vitosha 79.44 326⇓*i*P P 07 13 58.3 +0.2
JAVS Javornik 79.49 334 *i* P P 07 13 57.4 -0.8
BOJS Bojanci 79.50 333 *i* P P 07 13 58.0 -0.1
MOF Molkenrain 79.50 339 *e*P P 07 13 59.0 +0.8
HAU Haudompre 79.53 340 *e*P P 07 13 58.3 0.0
comp=Z,16nm,0.8s
HAU *e*R
comp=Z,110nm,18.0s
HAU Haudompre 79.53 340 *e*P P 07 13 58.3 0.0
HAU pmax pmax
comp=Z,16nm,0.8s
HAU Haudompre 79.53 340 *e*P P 07 13 58.3 0.0
comp=Z,16nm,0.8s
HINF Hinteralfeld 79.59 339 *e*P P 07 13 59.1 +0.4
comp=Z,6.3nm,0.5s
HINF Hinteralfeld 79.59 339 *e*P P 07 13 59.1 +0.4
HINF pmax pmax
comp=Z,6.0nm,0.5s
HINF Hinteralfeld 79.59 339 *e*P P 07 13 59.1 +0.4
comp=Z,6.3nm,0.5s
SFTF Sexfontaines 79.64 340⇑*i*P P 07 13 59.2 +0.3
comp=Z,34nm,0.6s
SFTF Sexfontaines 79.64 340⇑*i*P P 07 13 59.2 +0.3
comp=Z,34nm,0.6s
SWET Sewanee 79.74 47 *e*P P 07 13 59.0 -0.7
comp=Z,30nm,0.8s
SWET *e*pP **pP** 07 14 18.1 -0.3
TZTN Tazewell 79.78 45 *e*P P 07 13 59.3 -0.5

comp=Z,18nm,0.9s
VBMS Vicksburg 79.85 52 *e*P P 07 14 00.7 +0.5
comp=Z,21nm,0.8s
WRDH Warideh 79.86 314 *e*P P 07 13 57.8 -2.5
FUORN Ofenpass-Fuorn 79.87 337 *e*P P 07 14 01.4 +0.9
LOMF Lomont 80.04 339 *e*P P 07 14 02.4 +1.3
FLN La Foliniere 80.20 344 *e*P P 07 14 02.1 +0.2
comp=Z,40nm,0.8s
FLN *e*R
comp=Z,126nm,19.2s
FLN La Foliniere 80.20 344 *e*P P 07 14 02.1 +0.2
FLN pmax pmax
comp=Z,40nm,0.8s
FLN La Foliniere 80.20 344 *e*P P 07 14 02.1 +0.2
comp=Z,40nm,0.8s
CPCT Cooper Cave 80.22 46 *e*P P 07 14 01.6 -0.6
TUE Stuetta 80.24 337 *e*P P 07 14 03.0 +0.6
comp=Z,19nm,0.9s
LDF La Druitiere 80.30 344 *e*P P 07 14 03.0 +0.6
comp=Z,36nm,0.8s
LDF La Druitiere 80.30 344 *e*P P 07 14 03.0 +0.6
LDF pmax pmax
comp=Z,36nm,0.8s
LDF La Druitiere 80.30 344 *e*P P 07 14 03.0 +0.6
comp=Z,36nm,0.8s
TKL Tuckaleechee C 80.40 45 *e*P P 07 14 02.6 -0.6
SKO Skopje 80.62 327 *e*P P 07 14 01.0 -3.2
GRR Gorron 80.63 344 *e*P P 07 14 04.8 +0.6
GRR Gorron 80.63 344 *e*P P 07 14 04.8 +0.6
GRR Gorron 80.63 344 *e*P P 07 14 04.8 +0.6
LOR Lormes 80.78 341 *e*P P 07 14 05.3 +0.3
LOR *e*R
comp=Z,122nm,20.2s
LOR Lormes 80.78 341 *e*P P 07 14 05.3 +0.3
VAY Valandovo 80.79 326 *e*P P 07 14 01.8 -3.4
SENIN Lac Senin/Sane 80.85 338 *e*P P 07 14 06.9 +1.2
comp=Z,112nm,2.1s
CABF La Chapelle 80.91 339 *e*P P 07 14 06.4 +0.6
comp=Z,8.5nm,0.6s
CABF La Chapelle 80.91 339 *e*P P 07 14 06.4 +0.6
CABF pmax pmax
comp=Z,9.0nm,0.6s
CABF La Chapelle 80.91 339 *e*P P 07 14 06.4 +0.6
comp=Z,8.5nm,0.6s
LRAL Lakeview Retre 80.98 49 *e*P P 07 14 05.3 -1.0
comp=Z,6.5nm,0.6s
SGMF Saint Gilles 81.05 345 *e*P P 07 14 06.9 +0.5
SGMF Saint Gilles 81.05 345 *e*P P 07 14 06.9 +0.5
SGMF Saint Gilles 81.05 345 *e*P P 07 14 06.9 +0.5
SSF Saint Saulge 81.05 341 *e*P P 07 14 06.8 +0.3
SSF Saint Saulge 81.05 341 *e*P P 07 14 06.8 +0.3
SSF Saint Saulge 81.05 341 *e*P P 07 14 06.8 +0.3
PMOR Pomariorio Ree 81.07 125 *e*T T 08 43 40.0
comp=Z,4.3nm,0.2s
ROSF Rostrenen 81.09 346 *e*P P 07 14 07.0 +0.4
comp=Z,40nm,0.8s
ROSF Rostrenen 81.09 346 *e*P P 07 14 07.0 +0.4
ROSF pmax pmax
comp=Z,40nm,0.8s
ROSF Rostrenen 81.09 346 *e*P P 07 14 07.0 +0.4
comp=Z,40nm,0.8s
AVF Avril sur Loir 81.34 341 *e*P P 07 14 08.5 +0.5
comp=Z,31nm,0.6s
AVF Avril sur Loir 81.34 341 *e*P P 07 14 08.5 +0.5
AVF pmax pmax
comp=Z,31nm,0.6s
AVF Avril sur Loir 81.34 341 *e*P P 07 14 08.5 +0.5
comp=Z,31nm,0.6s
SMF Signal de Mont 81.38 341 *e*P P 07 14 08.7 +0.5
comp=Z,48nm,1.0s
SMF Signal de Mont 81.38 341 *e*P P 07 14 08.7 +0.5
SMF pmax pmax
comp=Z,48nm,1.0s
SMF Signal de Mont 81.38 341 *e*P P 07 14 08.7 +0.5
comp=Z,48nm,1.0s
ZALF Zalf 81.51 312 *e*P P 07 14 04.6 -4.5
BGF Bois d'Agland 81.67 341 *e*P P 07 14 10.7 +1.0
comp=Z,17nm,0.7s
BGF Bois d'Agland 81.67 341 *e*P P 07 14 10.7 +1.0
BGF pmax pmax
comp=Z,17nm,0.6s
BGF Bois d'Agland 81.67 341 *e*P P 07 14 10.7 +1.0
comp=Z,17nm,0.6s
STKA Stephens Creek 81.74 192 *e*P P 07 14 10.6 +0.6
comp=Z,4.8nm,1.8s
STKA Stephens Creek 81.74 192 P P 07 14 10.0 0.0
comp=Z,1.9nm,0.9s,baz=355,slow=19,SNR=3.7
CSS Prodhromos 81.75 315 *e*P P 07 14 10.0 -0.3
comp=Z,27nm,0.6s
LPL La Plagne 81.78 338 *e*P P 07 14 11.8 +1.2
comp=Z,20nm,0.6s
LPL La Plagne 81.78 338 *e*P P 07 14 11.8 +1.2
LPL pmax pmax
comp=Z,20nm,0.6s
LPL La Plagne 81.78 338 *e*P P 07 14 11.8 +1.2
comp=Z,20nm,0.6s
BRBR Barbar 81.79 313 *e*P P 07 14 05.1 -5.7
LPG La Plagne 81.80 338 *e*P P 07 14 12.0 +1.2
comp=Z,21nm,0.6s
LPG La Plagne 81.80 338 *e*P P 07 14 12.0 +1.2
LPG pmax pmax
comp=Z,21nm,0.6s
LPG La Plagne 81.80 338 *e*P P 07 14 12.0 +1.2
comp=Z,21nm,0.6s
KMSC Kings Mountain 81.94 44 *e*P P 07 14 11.2 -0.2
KMSC Kings Mountain 81.94 44 ⇓P P 07 14 10.7 -0.6
baz=82
TCF Toulx Ste Croi 82.06 342 *e*P P 07 14 12.5 +0.7
TCF Toulx Ste Croi 82.06 342 *e*P P 07 14 12.5 +0.7
TCF Toulx Ste Croi 82.06 342 *e*P P 07 14 12.5 +0.7
PLDF La Plantade 82.07 341 *e*P P 07 14 13.5 +1.6
AGO Saint Agoulin 82.09 341 *e*P P 07 14 14.0 +2.0
MFF Saint Martin d 82.22 343 *e*P P 07 14 13.1 +0.5
comp=Z,16nm,0.6s
MFF Saint Martin d 82.22 343 *e*P P 07 14 13.1 +0.5
MFF pmax pmax
comp=Z,16nm,0.6s
MFF Saint Martin d 82.22 343 *e*P P 07 14 13.1 +0.5
comp=Z,16nm,0.6s
BNI Bardonecchia 82.23 338 *e*P P 07 14 14.5 +1.6
BNI pmax pmax
comp=Z,18nm,1.1s
BNI Bardonecchia 82.23 338 *e*P P 07 14 14.5 +1.6
comp=Z,18nm,1.1s
PPT2 Papeete2 82.34 128 *e*LR LR 07 39 20.6
comp=Z,190nm,34.2s
PYM Petit Puy Mans 82.41 341 *e*P P 07 14 14.5 +0.8
MBDF Montbardon 82.52 338 *e*P P 07 14 15.4 +1.0
comp=Z,16nm,0.5s
MBDF Montbardon 82.52 338 *e*P P 07 14 15.4 +1.0
MBDF pmax pmax
comp=Z,16nm,0.5s
MBDF Montbardon 82.52 338 *e*P P 07 14 15.4 +1.0
comp=Z,16nm,0.5s
ORIF Oris-en-Rattie 82.55 339 *e*P P 07 14 15.7 +1.2
comp=Z,39nm,0.8s
ORIF *e*R
comp=Z,70nm,17.2s
ORIF Oris-en-Rattie 82.55 339 *e*P P 07 14 15.7 +1.2
ORIF pmax pmax
comp=Z,39nm,0.8s
ORIF Oris-en-Rattie 82.55 339 *e*P P 07 14 15.7 +1.2
comp=Z,39nm,0.8s
VIVF Saint-Julien-l 82.89 340 *e*P P 07 14 17.2 +1.0
comp=Z,17nm,0.6s
VIVF Saint-Julien-l 82.89 340 *e*P P 07 14 17.2 +1.0
VIVF pmax pmax
comp=Z,17nm,0.6s
VIVF Saint-Julien-l 82.89 340 *e*P P 07 14 17.2 +1.0
comp=Z,17nm,0.6s
SAOF Saorge 83.02 337 *e*P P 07 14 17.7 +0.9
AUTN L'Aution 83.04 337 *e*P P 07 14 18.5 +1.3
TOUF Mont Tournerai 83.07 338 *e*P P 07 14 17.7 +0.4
RJF Les Rejaudoux 83.14 342 *e*P P 07 14 18.2 +0.8
RJF *e*R
comp=Z,107nm,18.0s
RJF Les Rejaudoux 83.14 342 *e*P P 07 14 18.2 +0.8
RJF Les Rejaudoux 83.14 342 *e*P P 07 14 18.2 +0.8
LUCF Luceram 83.16 337 *e*P P 07 14 17.9 +0.2
SBF Sospel 83.16 337 *e*P P 07 14 19.0 +1.4
comp=Z,37nm,0.7s
SBF Sospel 83.16 337 *e*P P 07 14 19.0 +1.4
SBF pmax pmax
comp=Z,37nm,0.7s
SBF Sospel 83.16 337 *e*P P 07 14 19.0 +1.4
comp=Z,37nm,0.7s

MVIF Mont Vial 83.20 338 *e*P P 07 14 19.6 +1.6
REVF Revere 83.30 337 *e*P P 07 14 18.7 +0.4
CAF Calviac 83.39 341 *e*P P 07 14 19.7 +0.9
comp=Z,12nm,0.7s
CAF Calviac 83.39 341 *e*P P 07 14 19.7 +0.9
CAF pmax pmax
comp=Z,12nm,0.7s
CAF Calviac 83.39 341 *e*P P 07 14 19.7 +0.9
comp=Z,12nm,0.7s
CNNC Cliffs of the 83.39 41 *e*P P 07 14 19.3 +0.4
comp=Z,41nm,0.4s
SMRF Simiane la Rot 83.51 339 *e*P P 07 14 20.1 +0.7
SMRF Simiane la Rot 83.51 339 *e*P P 07 14 20.1 +0.7
LFF La Frestale 83.65 342 *e*P P 07 14 20.8 +0.8
comp=Z,28nm,0.6s
LFF La Frestale 83.65 342 *e*P P 07 14 20.8 +0.8
LFF pmax pmax
comp=Z,28nm,0.6s
LFF La Frestale 83.65 342 *e*P P 07 14 20.8 +0.8
comp=Z,28nm,0.6s
LASF Ste Croix 83.81 340 *e*P P 07 14 21.0 +0.1
LASF Ste Croix 83.81 340 *e*P P 07 14 21.0 +0.1
LMR La Mourre 83.89 338 *e*P P 07 14 22.1 +0.8
comp=Z,33nm,1.0s
LMR La Mourre 83.89 338 *e*P P 07 14 22.1 +0.8
LMR pmax pmax
comp=Z,33nm,1.0s
LMR La Mourre 83.89 338 *e*P P 07 14 22.1 +0.8
comp=Z,33nm,1.0s
TIGA Tifton 83.94 48 *e*P P 07 14 22.4 +0.6
TIGA Tifton 83.94 48 ⇑P P 07 14 22.0 +0.3
baz=84
RAYN Ar Rayn 84.66 300 *e*P P 07 14 25.7 +0.1
comp=Z,29nm,0.6s
RAYN Ar Rayn 84.66 300 P P 07 14 25.2 -0.4
comp=Z,249nm,0.6s,SNR=6.8
ABTO Aybut 84.81 290 P P 07 14 26.8 +0.4
SNR=8.7
MTLF Montolieu 84.88 341 *e*P P 07 14 26.9 +0.6
comp=Z,20nm,0.7s
MTLF Montolieu 84.88 341 *e*P P 07 14 26.9 +0.6
MTLF pmax pmax
comp=Z,20nm,0.7s
MTLF Montolieu 84.88 341 *e*P P 07 14 26.9 +0.6
comp=Z,20nm,0.7s
IDI Anoyia 85.14 322 *e*P P 07 14 26.4 -1.4
comp=Z,19nm,0.6s
EPF Esparros 85.56 342⇑*i*P P 07 14 30.6 +0.8
comp=Z,25nm,0.5s
EPF Esparros 85.56 342⇑*i*P P 07 14 30.6 +0.8
EPF pmax pmax
comp=Z,25nm,0.5s
EPF Esparros 85.56 342⇑*i*P P 07 14 30.6 +0.8
comp=Z,25nm,0.5s
SJPF Ste Jean 85.79 343 *e*P P 07 14 31.5 +0.7
SJPF Ste Jean 85.79 343 *e*P P 07 14 31.5 +0.7
SJPF Ste Jean 85.79 343 *e*P P 07 14 31.5 +0.7
ETSF Etsaut 85.87 343⇑*i*P P 07 14 32.3 +1.0
comp=Z,23nm,0.6s
ETSF Etsaut 85.87 343⇑*i*P P 07 14 32.3 +1.0
ETSF pmax pmax
comp=Z,23nm,0.6s
ETSF Etsaut 85.87 343⇑*i*P P 07 14 32.3 +1.0
comp=Z,23nm,0.6s
TBI Tubuai 87.23 131 *e*LR LR 07 41 57.4
comp=Z,255nm,33.8s
PBRG Braganca 88.00 347 *e*P P 07 14 42.7 +1.1
comp=Z,38nm,1.9s
PGAV Gavieira, Arco 88.06 348 *e*P P 07 14 43.1 +1.1
POLO Lamas de Olo 88.57 348 *e*P P 07 14 45.6 +1.2
MVO Moncorvo 88.67 347 *e*P P 07 14 45.8 +1.0
MTE Manteigas 89.49 347 *e*P P 07 14 49.9 +1.2
comp=Z,50nm,1.7s
ESDC Sonseca Array 89.62 344 P P 07 14 50.0 +0.7
ESDC pP **pP** 07 15 06.5 -1.9
ESDC Sonseca Array 89.62 344 P P 07 14 50.0 +0.7
comp=Z,3.4nm,0.5s,baz=359,slow=3.9,SNR=16
ESDC pP **pP** 07 15 06.5 -1.9
comp=Z,1.9nm,0.6s,baz=12,slow=4.4,SNR=3.1
KEST Kesra 90.23 333 *e*P P 07 14 52.9 +0.6
KEST Kesra 90.23 333 P P 07 14 52.9 +0.6
comp=Z,5.4nm,0.8s,baz=344,slow=3.4,SNR=15
KEST LR LR 07 59 00.5
comp=Z,49nm,21.6s,baz=240,slow=38
EVO Evora 91.39 347 *e*P P 07 14 58.1 +0.6
comp=Z,11nm,0.7s
EVO *e*R
comp=Z,100nm,17.8s
EVOP Sao Brissos 91.41 347 *e*P P 07 14 58.1 +0.5
EVOP pmax pmax
comp=Z,11nm,0.7s
EVOP Sao Brissos 91.41 347 *e*P P 07 14 58.1 +0.5
comp=Z,11nm,0.7s
RKT Rikitea 94.75 120 *e*LR LR 07 45 21.3
comp=Z,175nm,37.0s
ATD Arta Tunnel 95.65 295 LR LR 08 01 17.4
comp=Z,101nm,21.9s,baz=48,slow=37
MDT Midelt 96.41 343 P P 07 15 21.7 +0.9
MDT Midelt 96.41 343 P P 07 15 21.7 +0.9
comp=Z,0.7nm,0.5s,baz=289,slow=9.7,SNR=3.6
TORD Torodi Ar. Bea 113.73 332 PKKPbc PKKPbc 07 31 19.1 +8.2
TORD Torodi Ar. Bea 113.73 332 PKKPbc PKKPbc 07 31 19.1 +8.2
comp=Z,0.7nm,0.7s,baz=205,slow=3.5,SNR=6.2
VNDA Vanda 126.57 178 PKP **PKPdf 07 20 52.8 0.0**
VNDA Vanda 126.57 178 PKP **PKPdf 07 20 52.8 0.0**
comp=Z,1.7nm,0.9s,baz=318,slow=6.0,SNR=6.6
SBA Scott Base 127.03 177 *e*PKIKP **PKPdf 07 20 54.4 +0.7**
SBA Scott Base 127.03 177 *e*PKPdf **PKPdf 07 20 54.4 +0.7**
LPAZ La Paz 131.69 63 PKP **PKPdf 07 21 04.8 -0.4**
LPAZ *e*PKPdf **PKiKP 07 21 05.4 -0.8**
LPAZ La Paz 131.69 63 PKP **PKPdf 07 21 04.8 -0.4**
comp=Z,1.2nm,0.8s,baz=10,slow=9.5,SNR=6.5
H03N2 Juan Fernandez 137.06 89 T T 09 53 33.8
baz=310,slow=0.7,SNR=115
H03N1 Juan Fernandez 137.08 89 T T 09 53 34.8
baz=310,slow=0.7,SNR=119
H03N3 Juan Fernandez 137.08 89 T T 09 53 35.0
baz=310,slow=0.7,SNR=77
QSPA South Pole Qui 139.00 180 *e*PKPpre PKPpre 07 21 06.1
QSPA *e*PKPdf **PKiKP 07 21 17.9 -0.9**
QSPA South Pole Qui 139.00 180 PKhKP PKPpre 07 21 05.2
QSPA PKP **PKiKP 07 21 18.0 -0.8**
comp=Z,6.6nm,0.9s
SUR Sutherland 142.50 280 PKP **PKPdf 07 21 24.2 +0.1**
SUR Sutherland 142.50 280 PKP **PKPdf 07 21 24.2 +0.1**
comp=Z,2.2nm,0.9s,baz=117,slow=6.8,SNR=2.7
SYO Syowa Base 143.94 213‖*e*X PKPab 07 21 17.6 -5.0
CPUP Villa Florida 145.76 60 *e*PKPdf **PKPdf 07 21 29.7 0.0**
CPUP pPKPbc pPKPbc 07 21 49.2 -0.7
CPUP Villa Florida 145.76 60 PKPbc **PKPdf 07 21 29.8 0.0**
comp=Z,4.6nm,0.6s,baz=287,slow=2.4,SNR=12
CPUP pPKPbc pPKPbc 07 21 49.2 -0.7
comp=Z,4.1nm,0.6s,baz=307,slow=3.8,SNR=4.5
TRQA Tornquist 150.87 82 *e*PKPbc **PKPbc 07 21 42.4 -1.1**
MAIT Maitri 152.64 205 *e*P **PKPbc 07 21 43.7 -2.7**
PMSA Palmer Station 153.99 141 PKPbc **PKPbc 07 21 49.1 -0.3**
PMSA PKPab **PKPab 07 22 03.4 +0.1**
PMSA Palmer Station 153.99 141 PKPbc **PKPbc 07 21 49.1 -0.3**
comp=Z,8.4nm,0.8s,baz=357,slow=9.9,SNR=4.3
PMSA PKPab **PKPab 07 22 03.4 +0.1**
comp=Z,8.5nm,0.6s,baz=225,slow=4.3,SNR=2.8
SNAA Sanae 155.44 196 PKPbc PKPdf 07 21 51.3 +7.9
SNAA PKPab **PKPab 07 22 08.9 -0.4**
SNAA Sanae 155.44 196 PKPbc PKPdf 07 21 51.3 +7.9
comp=Z,0.3nm,0.7s,baz=172,slow=5.5,SNR=9.3
SNAA PKPab **PKPab 07 22 08.9 -0.4**
comp=Z,1.7nm,0.9s,baz=156,slow=2.7,SNR=13

IDC 20 07:24:25.7±3.3, **19°.94S**×**175°.89W**, **h135**km±30km, **mb3.7**/10, **mb1 3.9**/12, **mb1mx3.8**/22, **mbtmp3.8**/12, **Error ellipse: s-maj=21.6km s-min=16.3km az=112.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.17**	**34**	P	Pn	07 26 07.8	-0.3
	1.1nm,0.3s,baz=221,slow=20,SNR=3.4						
AFI				S	Sn	07 27 23.3	-5.0
	6.1nm,0.3s,baz=78,slow=21,SNR=6.8						
DZM	**Mont Dzumac**	**16.63**	**260**	P	P	07 28 17.2	+6.0
	2.2nm,0.3s,baz=71,slow=18,SNR=22						
URZ	**Urewera**	**19.24**	**197**	P	P	07 28 39.4	-0.1
	1.5nm,0.3s,baz=315,slow=8.0,SNR=8.0						
URZ				S	S	07 32 00.2	-10
	0.3nm,0.3s,baz=72,slow=20,SNR=5.5						

RPZ Rata Peaks 26.11 202 P P 07 29 49.7 +2.9
9.1nm,0.6s,baz=16,slow=12,SNR=4.5
STKA Stephens Creek 39.81 244 P P 07 31 45.6 -0.1
1.2nm,0.5s,baz=94,slow=11,SNR=3.9
ASAR Alice Springs 46.58 256 P P 07 32 40.5 +0.2
7.6nm,0.6s,baz=95,slow=8.3,SNR=125
WRA Warramunga Arr 46.64 261 P P 07 32 40.5 -0.3
2.0nm,0.3s,baz=91,slow=7.5,SNR=39
VNDA Vanda 58.65 186 P P 07 34 09.1 +0.9
1.1nm,0.8s,baz=32,slow=5.0,SNR=6.7
QSPA South Pole Qui 70.13 180 P P 07 35 23.0 -0.2
3.7nm,0.8s
MJAR Matsushiro Arr 70.96 322 P P 07 35 28.6 +0.1
2.3nm,0.7s,baz=158,slow=5.0,SNR=3.6
MAW Mawson 82.75 199 P P 07 36 33.6 -0.5
1.4nm,0.7s,baz=34,slow=3.6,SNR=6.2
H03N2 Juan Fernandez 84.80 124 T T 09 10 18.3
baz=257,slow=0.6,SNR=18
H03N3 Juan Fernandez 84.80 124 T T 09 10 32.1
baz=257,slow=0.6,SNR=27
H03N1 Juan Fernandez 84.81 124 T T 09 10 34.0
baz=257,slow=0.6,SNR=19
TXAR Lajitas Array 85.09 57 P P 07 36 47.9 +1.1
0.5nm,0.9s,baz=205,slow=5.5,SNR=5.0
ILAR Eielson Array 87.34 12 P P 07 36 56.0 -0.8
0.2nm,0.4s,baz=212,slow=5.2,SNR=9.8
SNAA Sanae 88.50 178 *e*P P 07 37 01.3 -1.2
SNAA Sanae 88.50 178 P P 07 37 01.6 -1.0
0.5nm,0.7s,baz=186,slow=3.5,SNR=9.0
VNA2 Neumayer--Watz 89.02 176 *e*P P 07 37 04.0 -0.9
baz=189,slow=2.6
BRTR Keskin Array B 147.90 314 PKPbc PKPbc 07 43 54.9 -0.5
0.5nm,0.4s,baz=115,slow=2.9,SNR=3.8

NIED ***20*** *07:28:00,29°.50N×130°.80E,h26km,Mw3.8 Best double couple: M₀5.76000×10¹⁴ NP1:φ₈216.00000°, δ73.00000°, λ-102.00000°. NP2:φ₈72.00000°, δ21.00000°, λ-56.00000°.*

JMA 20 07:28:50.0±0.1, **29°.50N**×**130°.76E, h57**km±3km, **M3.5, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.84**	**294**	P	Pn	07 29 05.9	0.0
JNN				*e*S	Sn	07 29 17.6	0.0
JKC	**Kuchinoerabu**	**1.08**	**333**	P	Pn	07 29 09.4	+0.5
JKC				*e*S	Sn	07 29 23.5	+0.5
JTN	**Tanegashima 3**	**1.17**	**9**	P	Pn	07 29 10.3	+0.1
JTN				*e*S	Sn	07 29 25.1	-0.1
JAM	**Amami Oshima**	**1.48**	**223**	P	Pn	07 29 14.6	+0.2
JAM				*e*S	Sn	07 29 32.7	0.0
JTSR	**Tashiro 2**	**1.67**	**5**	P	Pn	07 29 17.6	+0.7
JTSR				*e*S	Sn	07 29 37.4	+0.1
JAMN	**Amaminishikomi**	**1.87**	**228**	P	Pn	07 29 20.4	+0.8
JAMN				S	Sn	07 29 42.9	+0.7
JSU	**Suzuyama**	**2.02**	**353**	P	Pn	07 29 22.0	+0.3
JSU				*e*S	Sn	07 29 46.9	+1.1
JNAR	**Kushima--Naru**	**2.07**	**12**	P	Pn	07 29 23.4	+1.1
JNAR				*e*S	Sn	07 29 47.1	+0.1
JTK	**Tokunoshima**	**2.33**	**223**	P	Pn	07 29 26.9	+0.9
JTK				*e*S	Sn	07 29 54.2	+0.7

ISCJB ***20*** *07:40:50.5±0.9, 1°.5S±0°.1×99°.39E±0°.08, h33km, mb4.0/6, Error ellipse: s-maj=15.6km s-min=11.7km az=173.0*
DJA ***20*** *07:41:01.8±2.4, 1°S±7°×10°0E±1°2, h10km, M3.8/3, MLv3.8/3*
IDC ***20*** *07:41:02.7±5.0, 0°.44S×100°.59E, h101km±32km, mb3.7/6, mb1 3.8/6, mb1mx3.4/25, mbtmp3.7/6, Error ellipse: s-maj=187.3km s-min=18.2km az=51.0*

ISC 20 07:40:52.9±1.2, **1°.3S**±0°.1×**99°.52E**±0°.10, **h35**km, **n14, σ1°.83/11, mb4.2/6, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**1.02**	**68**	P	Pn	07 41 15.2	+4.5
PDSI				S	**Sn**	**07 41 25.8**	**+2.0**
PPI	**Padang Panjang**	**1.21**	**47**	P	**Pn**	**07 41 15.0**	**+1.6**
PPI				S	**Sn**	**07 41 25.3**	**-3.2**
GSI	**Gunungsitoli**	**3.23**	**323**	P	Pn	07 41 50.1	+8.9
PSI	**Prapat**	**4.11**	**352**	P	**Pn**	**07 41 55.5**	**+2.1**
	1.2nm,0.3s,baz=120,slow=16,SNR=4.4						
H08S2	**Diego Garcia H**	**27.66**	**256**	T	T	08 15 03.3	
	baz=73						
H08S3	**Diego Garcia H**	**27.66**	**256**	T	T	08 15 04.2	
	baz=73,SNR=3.6						
H08S1	**Diego Carcia H**	**27.68**	**256**	T	T	08 15 09.1	
	baz=73						
WRA	**Warramunga Arr**	**38.77**	**121**	P	**P**	**07 48 13.1**	**-1.3**
	0.5nm,0.6s,baz=304,slow=9.0,SNR=2.8						
ASAR	**Alice Springs**	**40.06**	**126**	P	**P**	**07 48 25.8**	**+0.6**
	0.2nm,0.5s,baz=303,slow=7.6,SNR=5.9						
MKAR	**Makanchi Array**	**50.22**	**345**	P	**P**	**07 49 44.5**	**-0.9**
	1.1nm,0.3s,baz=159,slow=8.9,SNR=28						
BVAR	**Borovoye Array**	**59.36**	**340**	P	**P**	**07 50 51.0**	**-0.5**
	2.0nm,0.5s,baz=134,slow=8.5,SNR=9.6						
FINES	**FINESS Array B**	**83.27**	**332**	P	**P**	**07 53 16.6**	**+0.9**
	1.6nm,0.9s,baz=124,slow=8.6,SNR=3.1						
ARCES	**ARCESS Array B**	**85.65**	**340**	P	**P**	**07 53 27.4**	**-0.3**
	5.6nm,1.2s,baz=98,slow=6.5,SNR=2.4						
TXAR	**Lajitas Array**	**144.43**	**36**	PKP	**PKPab**	**08 00 23.6**	**-1.0**
	0.2nm,0.6s,baz=7.4,slow=2.1,SNR=3.8						

IDC ***20*** *07:53:18.7±0.5, 11°.24S×165°.72E, h0km, mb4.6/19, mb1 4.8/22, mb1mx4.7/25, mbtmp4.7/22, ML4.4/3, MS4.4/24, Ms1 4.4/24, ms1mx4.3/33, Error ellipse: s-maj=15.5km s-min=14.2km az=106.0*
ISCJB ***20*** *07:53:22.3±2.3, 11°.51S±0°.05×165°.35E±0°.03, h12km±14km, mb4.9/114, MS4.5/33, Error ellipse: s-maj=8.6km s-min=5.0km az=167.2*
BKK ***20*** *07:53:22.8±0.6, 12°S±9°×16°6E±°, h10km, M5.1/13, mb5.1/13*
MOS ***20*** *07:53:24.6±1.5, 11°.46S×165°.32E, h33km, mb5.0/25, Error ellipse: s-maj=12.0km s-min=8.7km az=157.3*
BJI ***20*** *07:53:25.1, 11°.76S×164°.96E, h28km, mB5.1/21, mb4.9/33, Ms5.0/15, Ms7 4.6/21*
NEIC ***20*** *07:53:27.6±1.5, 11°.53S×165°.40E, h43km±14km, mb5.0/77, Error ellipse: s-maj=8.9km s-min=7.2km az=145.0*
DJA ***20*** *07:53:28.9±2.0, 11°S±11°×16°6E±1°3, h82km±28km, M4.8/9, mB5.1/1, mb4.8/9, Mw(mB)4.5/1*
AUST ***20*** *07:53:36.2±1.3, 11°.61S×165°.42E, h124km±11km, Error ellipse: s-maj=12.6km s-min=5.1km az=2.1*

ISC 20 07:53:26.0±0.4, **11°.53S**±0°.05×**165°.51E**±0°.05, **h35**km±1km, **n324, σ1°.71/342, mb4.9**/114, **MS4.5**/33, **5D, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.85**	**290**	Pn	**Pn**	**07 54 47.4**	**-3.0**
HNR				Sn	**Sn**	**07 55 54.0**	**-2.3**
HNR	**Honiara**	**5.85**	**290**	Pn	**Pn**	**07 54 47.4**	**-3.0**
	33nm,0.3s,baz=211,slow=13,SNR=4						
HNR				Sn	**Sn**	**07 55 54.0**	**-2.3**
	10nm,0.3s,baz=198,slow=20,SNR=1.9						
HNR				LR	LR	07 57 00.6	
	comp=Z,2μm,19.3s,baz=131,slow=37						
DZM	**Mont Dzumac**	**10.52**	**175**	*e*Pn	**Pn**	**07 55 54.8**	**+0.3**
	336nm,1.2s						
DZM				*e*LR	LR	07 58 22.0	
	2μm,23.6s						
DZM	**Mont Dzumac**	**10.52**	**175**	*e*Pn	**Pn**	**07 55 54.6**	**+0.1**
	48nm,0.6s						
DZM				Sn	**Sn**	**07 57 50.4**	**-0.9**
DZM	**Mont Dzumac**	**10.52**	**175**	Pn	**Pn**	**07 55 54.7**	**+0.1**
	10nm,0.3s,baz=359,slow=12,SNR=52						
DZM				Sn	**Sn**	**07 57 50.4**	**-0.9**
	0.1nm,0.3s,baz=165,slow=20,SNR=1.6						
DZM				LR	LR	07 59 27.5	
	comp=Z,1μm,21.6s,baz=134,slow=34						
MSVF	**Nonsavu**	**13.61**	**118**	*e*P	**P**	**07 56 44.4**	**-0.8**
MSVF	**Nonsavu**	**13.61**	**118**	*e*Pn	**P**	**07 56 44.4**	**-0.8**
TARA	**Tarawa**	**14.77**	**30**	*e*Pn	Pn	07 56 47.3	-5.3
	190nm,0.8s						
PMG	**Port Moresby**	**18.17**	**275**	*e*Pn	**P**	**07 57 36.4**	**+0.7**
PMG	**Port Moresby**	**18.17**	**275**	P	**Pn**	**07 57 35.7**	**0.0**
	0.6nm,0.3s,baz=95,slow=11,SNR=2.1						
PMG				LR	LR	08 03 33.5	
	comp=Z,979nm,20.8s,baz=259,slow=34						
EIDS	**Eidsvold**	**19.38**	**223**	*e*P	**Pn**	**07 57 51.8**	**+1.5**
	19nm,0.8s						

CTA	**Charters Tower**	**20.37**	**243**	P		Pn	07 58 02.3	+0.2	
CTA	**Charters Tower**	**20.37**	**243**	⇓P		Pn	07 58 02.1	0.0	
	baz=20								
CTA	**Charters Tower**	**20.37**	**243**	P		Pn	07 58 02.3	+0.2	
	46nm,1.0s,baz=56,slow=14,SNR=18								
CTAO	**Charters Tower**	**20.37**	**243**	*e*P		Pn	07 58 02.3	+0.2	
CTAO				pmax		pmax			
	comp=Z,52nm,1.0s								
CTAO	**Charters Tower**	**20.37**	**243**	*e*P		Pn	07 58 02.3	+0.2	
	comp=Z,52nm,1.0s								
MTSU	**Mount Surprise**	**21.50**	**250**	P		**P**	**07 58 14.0**	**+1.9**	
	baz=21,SNR=29								
RMQ	**Roma**	**21.69**	**224**	P		**P**	**07 58 16.1**	**+2.0**	
	baz=22,SNR=22								
COEN	**Coen**	**21.91**	**261**	*e*P		**P**	**07 58 18.4**	**+1.8**	
	comp=Z,328nm,1.3s								
COEN	**Coen**	**21.91**	**261**	P		**P**	**07 58 18.3**	**+1.8**	
	baz=22,SNR=4.6								
AFI	**Afiamalu**	**22.28**	**99**	P		**P**	**07 58 17.7**	**-2.9**	
AFI	**Afiamalu**	**22.28**	**99**	P		**P**	**07 58 17.7**	**-2.9**	
	comp=Z,26nm,0.8s,baz=198,slow=19,SNR=2.1								
AFI				LR		LR	08 05 20.7		
	comp=Z,944nm,19.4s,baz=275,slow=33								
ARMA	**Armidale**	**22.79**	**212**	*e*P		**P**	**07 58 27.5**	**+1.7**	
	comp=Z,43nm,1.1s								
ARMA	**Armidale**	**22.79**	**212**	P		**P**	**07 58 27.6**	**+1.7**	
	baz=23,SNR=7.1								
RAO	**Raul Island**	**23.45**	**141**	LR		LR	08 05 57.3		
	comp=Z,774nm,19.2s,baz=280,slow=32								
OUZ	**Omahuta**	**24.70**	**164**	*e*P		**P**	**07 58 45.6**	**+1.6**	
	comp=Z,118nm,1.5s								
QLP	**Quilpie**	**25.01**	**230**	P		**P**	**07 58 48.0**	**+1.2**	
	baz=25,SNR=8.0								
CMSA	**Cobar Meteorol**	**27.04**	**220**	P		**P**	**07 59 06.0**	**+0.8**	
	baz=27,SNR=13								
CMSA				P		pP	07 59 06.2	-8.9	
	baz=27,SNR=14								
URZ	**Urewera**	**28.57**	**161**	*e*P		**P**	**07 59 19.7**	**+1.0**	
	comp=Z,128nm,1.8s								
URZ	**Urewera**	**28.57**	**161**	P		**P**	**07 59 18.2**	**-0.5**	
	comp=Z,6.5nm,0.5s,baz=174,slow=5.7,SNR=7.9								
URZ				LR		LR	08 08 59.4		
	comp=Z,760nm,19.1s,baz=317,slow=33								
H11S2	**WAKE ISLAND Hy**	**29.85**	**2**	T		T	08 30 02.5		
	baz=183,slow=0.7,SNR=27								
H11S3	**WAKE ISLAND Hy**	**29.86**	**2**	T		T	08 30 02.9		
	baz=183,slow=0.7,SNR=24								
H11S1	**WAKE ISLAND Hy**	**29.87**	**2**	T		T	08 30 03.8		
	baz=183,slow=0.7,SNR=21								
STKA	**Stephens Creek**	**29.93**	**224**	*e*P		**P**	**07 59 30.7**	**-0.3**	
	comp=Z,4.4nm,1.0s								
STKA	**Stephens Creek**	**29.93**	**224**	⇓P		**P**	**07 59 32.0**	**+1.1**	
	baz=30,SNR=15								
STKA	**Stephens Creek**	**29.93**	**224**	P		**P**	**07 59 32.2**	**+1.2**	
	comp=Z,16nm,0.9s,baz=23,slow=9.0,SNR=23								
STKA				LR		LR	08 10 48.5		
	comp=Z,1μm,19.9s,baz=27,slow=35								
H11N1	**WAKE ISLAND Hy**	**31.08**	**3**	T		T	08 31 34.1		
	baz=184,slow=0.7,SNR=24								
H11N3	**WAKE ISLAND Hy**	**31.08**	**3**	T		T	08 31 27.0		
	baz=184,slow=0.7,SNR=15								
WRAB	**Tennant Creek**	**31.09**	**251**	*e*P		**P**	**07 59 40.8**	**-0.5**	
WRAB				pmax		pmax			
	comp=Z,26nm,1.0s								
WRAB	**Tennant Creek**	**31.09**	**251**	*e*P		**P**	**07 59 40.8**	**-0.5**	
	comp=Z,26nm,1.0s								
WRAB	**Tennant Creek**	**31.09**	**251**	P		**P**	**07 59 41.5**	**+0.2**	
	comp=Z,147nm,1.0s,SNR=9.4								
H11N2	**WAKE ISLAND Hy**	**31.09**	**3**	T		T	08 31 35.6		
	baz=184,slow=0.7,SNR=18								
WRA	**Warramunga Arr**	**31.10**	**250**	P		**P**	**07 59 41.0**	**-0.4**	
WRA	**Warramunga Arr**	**31.10**	**250**	P		**P**	**07 59 41.0**	**-0.4**	
	comp=Z,26nm,0.9s,baz=80,slow=9.2,SNR=52								
WRA				LR		LR	08 11 05.7		
	comp=Z,522nm,20.6s,baz=80,slow=34								
AS31	**Alice Springs**	**32.37**	**244**	*e*P		**P**	**07 59 51.3**	**-1.3**	
ASAR	**Alice Springs**	**32.37**	**244**	P		**P**	**07 59 52.0**	**-0.6**	
ASAR				PcP		**PcP**	**08 02 41.5**	**+1.5**	
ASAR				ScP		**ScP**	**08 06 24.8**	**+3.6**	
ASAR	**Alice Springs**	**32.37**	**244**	P		**P**	**07 59 52.0**	**-0.6**	
	comp=Z,4.6nm,0.9s,baz=73,slow=9.5,SNR=34								
ASAR				PcP		**PcP**	**08 02 41.5**	**+1.5**	
	comp=Z,0.9nm,0.7s,baz=72,slow=3.0,SNR=3.0								
ASAR				ScP		**ScP**	**08 06 24.8**	**+3.6**	
	comp=Z,1.2nm,1.0s,baz=57,slow=3.8,SNR=4.3								
ASAR				LR		LR	08 12 18.3		
	comp=Z,1μm,18.1s,baz=68,slow=35								
RPZ	**Rata Peaks**	**32.43**	**172**	*e*P		**P**	**07 59 52.5**	**-0.3**	
	comp=Z,27nm,0.8s								
RPZ	**Rata Peaks**	**32.43**	**172**	P		**P**	**07 59 52.4**	**-0.3**	
	comp=Z,31nm,0.9s,baz=52,slow=10.0,SNR=5.8								
RPZ				LR		LR	08 11 17.7		
	comp=Z,586nm,20.4s,baz=348,slow=33								
HTT	**Hallett**	**32.67**	**224**	⇓P		**P**	**07 59 55.7**	**+0.6**	
	baz=33								
ARPS	**Mount Arapiles**	**32.95**	**216**	⇓P		**P**	**08 00 00.1**	**+2.6**	
	baz=33,SNR=4.7								
BBOO	**Buckleboo**	**34.33**	**227**	P		**P**	**08 00 10.1**	**+0.6**	
	baz=34,SNR=6.0								
FITZ	**Fitzroy Crossi**	**39.03**	**255**	*e*P		**P**	**08 00 49.0**	**-0.8**	
	comp=Z,18nm,0.9s								
FITZ	**Fitzroy Crossi**	**39.03**	**255**	P		**P**	**08 00 49.5**	**-0.3**	
	baz=39,SNR=10								
FITZ	**Fitzroy Crossi**	**39.03**	**255**	LR		LR	08 16 34.4		
	comp=Z,754nm,18.3s,baz=76,slow=36								
PPT	**Papeete**	**43.81**	**103**	LR		LR	08 16 27.9		
	comp=Z,427nm,18.7s,baz=291,slow=32								
PPT2	**Papeete2**	**43.81**	**103**	*e*LQ		LQ	08 11 40.7		
	comp=Z,725nm,25.5s								
PPT2				*e*LR		LR	08 13 31.0		
	comp=Z,538nm,23.0s,baz=281								
TBI	**Tubuai**	**44.37**	**112**	*e*LQ		LQ	08 11 56.6		
	comp=Z,584nm,26.2s								
TBI				*e*LR		LR	08 13 43.5		
	comp=Z,437nm,23.8s,baz=286								
MBWA	**Marble Bar**	**44.82**	**252**	*e*P		**P**	**08 01 38.0**	**+1.0**	
	comp=Z,21nm,0.9s								
KAPI	**Kappang**	**45.70**	**274**	P		**P**	**08 01 44.4**	**+0.3**	
KAPI	**Kappang**	**45.70**	**274**	P		**P**	**08 01 44.4**	**+0.3**	
	comp=Z,3.9nm,0.5s,baz=118,slow=15,SNR=2.5								
KAPI				LR		LR	08 20 49.2		
	comp=Z,163nm,18.8s,baz=112,slow=36								
MEEK	**Meekatharra**	**46.53**	**244**	P		**P**	**08 01 51.0**	**+0.5**	
	baz=46,SNR=8.3								
NWAO	**Narrogin (SRO)**	**49.00**	**236**	P		**P**	**08 02 08.6**	**-1.0**	
NWAO	**Narrogin (SRO)**	**49.00**	**236**	P		**P**	**08 02 08.6**	**-1.0**	
	baz=85,slow=10								
NWAO				LR		LR	08 23 10.0		
	comp=Z,2μm,18.1s,baz=235,slow=36								
MYLDM	**Lahad Datu**	**49.62**	**287**	*e*P		**P**	**08 02 16.9**	**+2.4**	
	comp=Z,24nm,0.9s								
MJAR	**Matsushiro Arr**	**54.29**	**333**	P		P	08 02 45.0	-4.0	
MJAR	**Matsushiro Arr**	**54.29**	**333**	P		P	08 02 45.0	-4.0	
	comp=Z,4.6nm,1.0s,baz=148,slow=6.8,SNR=2.9								
SBUM	**Sibu**	**54.77**	**281**	*e*P		**P**	**08 02 52.9**	**+0.1**	
	comp=Z,190nm,2.9s								
RKT	**Rikitea**	**57.64**	**110**	*e*LQ		LQ	08 17 32.0		
	comp=Z,175nm,33.2s								
RKT				*e*LR		LR	08 19 51.4		
	comp=Z,390nm,22.5s,baz=283								
KSRS	**Korea Array**	**60.14**	**326**	LR		LR	08 26 25.7		
	comp=Z,140nm,18.3s,baz=160,slow=33								
NJ2	**Nanjing**	**62.20**	**316**	*e*P		**P**	**08 03 45.9**	**+1.6**	
NJ2				pP		**pP**	**08 03 52.1**	**-2.8**	
NJ2				sP		**sP**	**08 03 56.6**	**-2.4**	
NJ2				S		**S**	**08 12 13.5**	**+5.8**	
NJ2				sS		**sS**	**08 12 22.5**	**-2.8**	
NJ2				AMB		AMB			
	comp=Z,30nm,0.9s								
NJ2				AMB		AMB			
	comp=Z,150nm,8.8s								
NJ2				LR		LR			
	comp=Z,450nm,25.4s								
NJ2				LR		LR			
	comp=Z,320nm,24.4s								
NJ2				LR		LR			
	comp=Z,290nm,19.4s								
MYKOM	**Kota Tinggi**	**62.69**	**278**	*e*P		P	08 03 41.7	-6.2	
	comp=Z,34nm,0.3s								
QIZ	**Qiongzhong**	**62.70**	**298**	P		**P**	**08 03 47.8**	**-0.1**	
QIZ				S		**S**	**08 12 14.8**	**+0.2**	
QIZ				AMB		AMB			
	comp=Z,35nm,2.0s								
QIZ				AMB		AMB			
	comp=Z,130nm,3.6s								
QIZ				LR		LR			
	comp=Z,230nm,25.0s								
USRK	**Ussuriysk Arra**	**63.27**	**334**	P		P	08 03 46.3	-4.9	
	comp=Z,1.3nm,0.6s,baz=145,slow=5.3,SNR=3.0								
PET	**Petropavlovsk**	**64.56**	**355**	*e*P		P	08 04 04.2	+4.8	
PET				*e*S		**S**	**08 12 40.0**	**+3.6**	
PETK	**Petropavlovsk-**	**64.72**	**355**	LR		LR	08 28 10.6		
	comp=Z,185nm,19.2s,baz=149,slow=32								
VNDA	**Vanda**	**66.01**	**181**	*e*P		**P**	**08 04 08.4**	**-0.2**	
	comp=Z,14nm,1.4s								
VNDA	**Vanda**	**66.01**	**181**	P		**P**	**08 04 07.7**	**-0.9**	
	comp=Z,7.0nm,1.1s,baz=347,slow=6.5,SNR=15								
VNDA				LR		LR	08 29 24.2		
	comp=Z,276nm,18.4s,baz=346,slow=33								
CN2	**Changchun**	**66.04**	**329**	*e*P		P	08 04 13.9	+4.7	
CN2				*e*pP		pP	08 04 24.0	+4.1	
CN2				*e*S		**S**	**08 12 57.8**	**+2.9**	
CN2				AMB		AMB			
	comp=Z,10.0nm,0.8s								
CN2				LR		LR			
	comp=Z,300nm,16.0s								
CN2				LR		LR			
	comp=Z,400nm,16.0s								
CN2				LR		LR			
	comp=Z,400nm,16.0s								
IPM	**Ipoh**	**66.08**	**280**	*e*P		**P**	**08 04 10.2**	**0.0**	
	comp=Z,28nm,0.9s								
SBA	**Scott Base**	**66.32**	**180**	*e*P		**P**	**08 04 11.3**	**+0.7**	
SBA				pmax		pmax			
	comp=Z,14nm,1.0s								
SBA	**Scott Base**	**66.32**	**180**	*e*P		**P**	**08 04 11.3**	**+0.7**	
	comp=Z,14nm,1.0s								
SKNT	**Sakolnakorn**	**67.08**	**294**	P		**P**	**08 04 17.8**	**+1.4**	
	comp=Z,20nm,0.7s								
GYA	**Guiyang**	**68.50**	**304**	P		**P**	**08 04 26.8**	**+1.4**	
GYA				pP		**pP**	**08 04 38.6**	**+2.5**	
GYA				PcP		**PcP**	**08 04 51.8**	**+1.3**	
GYA				PP		**PP**	**08 07 01.5**	**+4.5**	
GYA				ScP			08 08 51.9		
GYA				S		**S**	**08 13 24.0**	**-1.4**	
GYA				sS		**sS**	**08 13 42.8**	**-0.3**	
GYA				SKS		**SKiKP**	**08 14 18.4**	**+1.7**	
GYA				SS		**SS**	**08 17 49.0**	**-1.1**	
GYA				AMB		AMB			
	comp=Z,20nm,1.0s								
GYA				AMB		AMB			
	comp=Z,120nm,5.1s								
GYA				LR		LR			
	comp=Z,580nm,19.6s								
GYA				LR		LR			
	comp=Z,540nm,20.0s								
GYA				LR		LR			
	comp=Z,570nm,18.2s								
BJI	**Beijing**	**68.71**	**321**	P		**P**	**08 04 27.9**	**+1.7**	
BJI				S		**S**	**08 13 28.5**	**+1.4**	
BJI				AMB		AMB			
	comp=Z,9.0nm,0.9s								
BJI				LR		LR			
	comp=Z,430nm,17.4s								
BJI				LR		LR			
	comp=Z,300nm,21.4s								
BJI				LR		LR			
	comp=Z,120nm,23.5s								
XAN	**Xi'an**	**70.27**	**313**	P		**P**	**08 04 37.6**	**+1.5**	
XAN				AMB		AMB			
	comp=Z,2.0nm,0.9s								
XAN				AMB		AMB			
	comp=Z,36nm,5.3s								
UTHA	**Uthaitani**	**70.71**	**291**	P		**P**	**08 04 41.7**	**+2.6**	
	comp=Z,2.5nm,1.0s								
KMI	**Kunming**	**71.17**	**302**	P		**P**	**08 04 44.0**	**+2.0**	
KMI				sP		**sP**	**08 05 00.5**	**+3.7**	
KMI				S		**S**	**08 13 56.3**	**-0.8**	
KMI				sS		**sS**	**08 14 15.0**	**+0.1**	
KMI				AMB		AMB			
	comp=Z,14nm,1.1s								
KMI				AMB		AMB			
	comp=Z,110nm,5.5s								
KMI				LR		LR			
	comp=Z,550nm,15.4s								
KMI				LR		LR			
	comp=Z,480nm,12.2s								
KMI				LR		LR			
	comp=Z,150nm,17.0s								
CRAI	**Chiangrai**	**71.41**	**296**	P		**P**	**08 04 43.6**	**+0.3**	
	comp=Z,11nm,0.8s								
HHC	**Hu-ho-hao-te**	**72.05**	**320**	*e*P		**P**	**08 04 46.6**	**-0.2**	
HHC				pP		**pP**	**08 04 56.9**	**-0.7**	
HHC				sP		**sP**	**08 05 00.9**	**-0.7**	
HHC				PP		**PP**	**08 07 28.3**	**+1.0**	
HHC				S		**S**	**08 14 04.3**	**-2.1**	
HHC				sS		**SKiKP**	**08 14 21.8**	**+0.3**	
HHC				SS		**SS**	**08 18 42.9**	**-1.3**	
HHC				AMB		AMB			
	comp=Z,35nm,1.0s								
HHC				AMB		AMB			
	comp=Z,380nm,5.1s								
HHC				LR		LR			
	comp=Z,550nm,16.2s								
HHC				LR		LR			
	comp=Z,490nm,17.2s								
HHC				LR		LR			
	comp=Z,340nm,17.9s								
CMAR	**Chiang Mai Arr**	**72.09**	**294**	P		**P**	**08 04 47.3**	**-0.1**	
CMAR	**Chiang Mai Arr**	**72.09**	**294**	P		**P**	**08 04 47.3**	**-0.1**	
	comp=Z,2.9nm,0.5s,baz=125,slow=4.4,SNR=13								
CHTO	**Chiang Mai**	**72.21**	**294**	*e*P		**P**	**08 04 47.9**	**-0.2**	
CHTO				pmax		pmax			
	comp=Z,75nm,1.6s								
CHTO	**Chiang Mai**	**72.21**	**294**	*e*P		**P**	**08 04 47.9**	**-0.2**	
	comp=Z,75nm,1.6s								
CHTO	**Chiang Mai**	**72.21**	**294**	P		**P**	**08 04 49.6**	**+1.5**	
CD2	**Chengdu**	**72.71**	**308**	P		**P**	**08 04 50.8**	**-0.1**	
CD2				pP		**pP**	**08 05 02.3**	**+0.6**	
CD2				sP		**sP**	**08 05 06.9**	**+1.2**	
CD2				PP		**PP**	**08 07 34.3**	**+1.2**	
CD2				S		**S**	**08 14 11.3**	**-2.9**	
CD2				sS		**sS**	**08 14 30.6**	**-1.5**	
CD2				SS		**SS**	**08 18 52.6**	**-2.0**	
CD2				AMB		AMB			
	comp=Z,20nm,0.5s								
CD2				AMB		AMB			
	comp=Z,200nm,3.5s								
CD2				LR		LR			
	comp=Z,390nm,9.0s								
CD2				LR		LR			
	comp=Z,260nm,9.6s								
LZH	**Lanzhou**	**74.91**	**312**	*e*P		**P**	**08 05 03.0**	**-0.8**	
LZH				pP		**pP**	**08 05 14.5**	**-0.2**	
LZH				sP		**sP**	**08 05 18.6**	**-0.1**	
LZH				*e*PP		**PP**	**08 07 53.3**	**+1.4**	
LZH				*e*S		**S**	**08 14 36.4**	**-2.7**	
LZH				sS		**sS**	**08 14 56.0**	**-1.0**	
LZH				*e*SS		**SS**	**08 19 29.5**	**+1.3**	
LZH				AMB		AMB			
	comp=Z,21nm,1.3s								
LZH				AMB		AMB			
	comp=Z,150nm,9.2s								
LZH				LR		LR			
	comp=Z,470nm,16.0s								
LZH				LR		LR			
	comp=Z,420nm,17.0s								
LZH				LR		LR			
	comp=Z,670nm,19.3s								
QSPA	**South Pole Qui**	**78.48**	**180**	*e*P		**P**	**08 05 22.4**	**-1.1**	
	comp=Z,13nm,0.9s								
YAK	**Yakutsk**	**78.49**	**344**	*e*P		**P**	**08 05 23.9**	**+0.7**	
YAK				pmax		pmax			
	comp=Z,11nm,0.9s								
YAK				pmax		pmax			
	comp=N,5.0nm,1.0s								
YAK				pmax		pmax			
	comp=E,7.0nm,1.2s								
YAK				MLR		MLR			
	comp=Z,431nm,19.0s								
YAK				MLR		MLR			
	comp=N,266nm,17.0s								
YAK				MLR		MLR			
	comp=E,201nm,17.0s								
SVW2	**Sparrevohn**	**78.64**	**18**	*e*P		**P**	**08 05 25.7**	**+1.5**	
	comp=E,20nm,1.1s								
SONM	**Songino Array**	**78.92**	**324**	P		**P**	**08 05 24.4**	**-1.7**	
SONM	**Songino Array**	**78.92**	**324**	P		**P**	**08 05 24.4**	**-1.7**	
	comp=E,1.5nm,1.0s,baz=141,slow=8.8,SNR=5.2								
SONM				LR		LR	08 35 49.9		
	comp=E,129nm,19.1s,baz=21,slow=32								
RSO	**Redoubt South**	**79.05**	**20**	*e*P		**P**	**08 05 28.3**	**+1.6**	
GTA	**Gaotai**	**79.22**	**314**	*e*P		**P**	**08 05 27.6**	**-0.4**	
GTA				pP		**pP**	**08 05 38.0**	**-0.9**	
GTA				sP		**sP**	**08 05 42.0**	**-0.9**	
GTA				S		**S**	**08 15 23.3**	**-2.6**	
GTA				sS		**SKSac**	**08 15 39.8**	**-1.9**	
GTA				SS		**SS**	**08 20 32.0**	**-1.2**	
GTA				AMB		AMB			
	comp=E,6.0nm,1.6s								
GTA				AMB		AMB			
	comp=E,150nm,6.2s								
GTA				LR		LR			
	comp=E,180nm,19.5s								
GTA				LR		LR			
	comp=E,220nm,19.0s								
GTA				LR		LR			
	comp=E,170nm,17.1s								
PMR	**Palmer**	**81.09**	**20**	*e*P		**P**	**08 05 36.5**	**-0.8**	
PMR				pmax		pmax			
	comp=Z,7.0nm,0.8s								
PMR	**Palmer**	**81.09**	**20**	*e*P		**P**	**08 05 36.5**	**-0.8**	
	comp=Z,7.1nm,0.8s								
DIV	**Divide**	**81.94**	**22**	*e*P		**P**	**08 05 43.1**	**+1.2**	
	comp=Z,18nm,0.9s								
ZAK	**Zakamensk**	**81.96**	**325**	*e*P		P	08 05 39.0	-3.4	
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.3s								
TRF	**Thorofare Moun**	**82.05**	**18**	*e*P		**P**	**08 05 42.1**	**-0.5**	
	comp=Z,9.7nm,0.8s								
BMRM	**Bremner River**	**82.26**	**22**	*e*P		**P**	**08 05 44.8**	**+1.1**	
	comp=Z,16nm,1.0s								
TLY	**Talaya**	**82.39**	**326**	*e*P		**P**	**08 05 44.3**	**-0.2**	
TLY				*e*S		**S**	**08 15 58.0**	**-0.2**	
TLY				pmax		pmax			
	comp=Z,5.0nm,0.9s								
TLY				MLR		MLR			
	comp=Z,114nm,17.0s								
MCK	**McKinley**	**82.67**	**19**	*e*P		**P**	**08 05 48.4**	**+2.7**	
MCK				pmax		pmax			
	comp=Z,14nm,1.0s								
MCK	**McKinley**	**82.67**	**19**	*e*P		**P**	**08 05 48.4**	**+2.7**	
	comp=Z,14nm,1.0s								
IM04	**Indian Mountai**	**82.93**	**16**	*e*P		P	08 05 43.1	-3.9	
IMA2	**Indian Mountai**	**83.03**	**16**	*e*P		**P**	**08 05 44.8**	**-2.8**	
PAX	**Paxson**	**83.28**	**20**	*e*P		**P**	**08 05 49.6**	**+0.7**	
PAX				pmax		pmax			
	comp=Z,8.0nm,1.1s								
PAX	**Paxson**	**83.28**	**20**	*e*P		**P**	**08 05 49.6**	**+0.7**	
	comp=Z,8.2nm,1.1s								
KHMM	**Horse Mountain**	**83.37**	**46**	*e*P		**P**	**08 05 51.2**	**+1.2**	
	comp=Z,10nm,0.8s								
COLA	**College**	**83.82**	**18**	*e*P		P	08 05 47.5	-3.9	
COLA				pmax		pmax			
	comp=Z,27nm,0.9s								
COLA	**College**	**83.82**	**18**	*e*P		P	08 05 47.5	-3.9	
	comp=Z,27nm,0.9s								
MENT	**Mentasta**	**83.86**	**21**	*e*P		**P**	**08 05 51.6**	**-0.2**	
ILAR	**Eielson Array**	**84.04**	**19**	P		P	08 05 48.0	-4.7	
ILAR	**Eielson Array**	**84.04**	**19**	P		P	08 05 48.0	-4.7	
	comp=Z,1.8nm,0.8s,baz=240,slow=4.8,SNR=19								
ILAR				LR		LR	08 44 20.2		
	comp=Z,232nm,18.1s,baz=309,slow=37								
MAW	**Mawson**	**84.19**	**202**	*e*P		**P**	**08 05 53.5**	**+0.1**	
	comp=Z,5.6nm,1.3s								
MAW	**Mawson**	**84.19**	**202**	P		**P**	**08 05 53.4**	**-0.1**	
	comp=Z,16nm,1.1s,baz=109,slow=5.4,SNR=22								
MAW				LR		LR	08 39 34.6		
	comp=Z,80nm,20.3s,baz=299,slow=33								
PTRM	**Twissleman Ran**	**84.20**	**52**	*e*P		**P**	**08 05 56.7**	**+2.4**	
DOT	**Dot Lake**	**84.21**	**20**	*e*P		**P**	**08 05 54.0**	**+0.4**	
	comp=Z,55nm,1.3s								
YBH	**Yreka Blue Hor**	**84.40**	**46**	*e*P		**P**	**08 05 55.6**	**+0.5**	
	comp=Z,12nm,1.0s								
OHCM	**Honcut**	**84.45**	**48**	*e*P		**P**	**08 05 56.8**	**+1.5**	
HUMO	**Hull Mountain**	**84.53**	**45**	*e*P		**P**	**08 05 56.6**	**+0.9**	
	comp=Z,11nm,0.9s								
COLD	**Coldfoot**	**84.83**	**16**	*e*P		**P**	**08 05 59.3**	**+2.7**	
	comp=Z,9.9nm,0.9s								
CMB	**Columbia Colle**	**84.83**	**50**	*e*P		**P**	**08 05 57.1**	**-0.3**	
CMB				pmax		pmax			
	comp=Z,9.0nm,0.9s								
CMB	**Columbia Colle**	**84.83**	**50**	*e*P		**P**	**08 05 57.1**	**-0.3**	
	comp=Z,8.6nm,0.9s								
WRAK	**Wrangell Islan**	**84.87**	**30**	*e*P		**P**	**08 05 57.8**	**+0.8**	
	comp=Z,17nm,1.0s								
HYT	**Haines Junctio**	**84.92**	**24**	*e*P		**P**	**08 05 58.2**	**+0.9**	
ARVC	**Arvin**	**85.11**	**53**	P		P	**08 06 00.5**	**+1.7**	
	baz=85								
VES	**Vestal, Richgr**	**85.13**	**52**	P		P	**08 06 00.2**	**+1.4**	
	baz=85								
ISA	**Isabella**	**85.55**	**52**	*e*P		**P**	**08 06 02.8**	**+1.8**	
ISA				pmax		pmax			
	comp=Z,7.0nm,0.8s								
ISA	**Isabella**	**85.55**	**52**	*e*P		**P**	**08 06 02.8**	**+1.8**	
	comp=Z,7.1nm,0.8s								
ISA	**Isabella**	**85.55**	**52**	P		P	**08 06 02.4**	**+1.4**	
	baz=86								
E03A	**Lebam**	**85.56**	**41**	*e*P		P	**08 06 02.2**	**+1.5**	
	comp=Z,40nm,1.0s								
NLWA	**Neilton Lookou**	**85.69**	**40**	*e*P		P	**08 06 03.5**	**+2.2**	
	comp=Z,8.0nm,1.1s								
WAKR	**Walker**	**85.69**	**49**	*e*P		P	**08 06 01.9**	**0.0**	
EDW2	**Edwards Air Fo**	**85.70**	**53**	P		P	**08 06 02.9**	**+1.1**	
	baz=86								
BFSC	**Mount Baldy Ra**	**85.77**	**54**	P		P	**08 06 03.0**	**+0.8**	
	baz=86								
H04A	**Detroit Lake**	**85.79**	**43**	*e*P		P	**08 06 03.7**	**+1.7**	
	comp=Z,12nm,1.3s								
EGAK	**Eagle**	**85.91**	**20**	*e*P		P	08 05 58.8	-3.2	
	comp=Z,33nm,0.9s								
**M

WVOR pmax pmax
comp=Z,8.0nm,1.0s
WVOR Wild Horse Val 87.49 46 *eP* **P 08 06 10.9 +0.5**
comp=Z,7.6nm,1.0s
GMRC Granite Mounta 87.51 54 P **P 08 06 11.7 +1.0**
baz=88
LTY Liberty 87.67 41 *eP* **P 08 06 11.8 +0.7**
comp=Z,8.7nm,1.2s
HVS Khovu-Aksy 87.79 323 *eP* **P 08 06 12.5 +0.9**
HVS pmax pmax
comp=Z,16nm,1.0s
J08A Circle Bar Ran 87.89 45 *eP* **P 08 06 12.5 +0.2**
comp=Z,9.1nm,0.9s
HAWA Hanford 88.12 42 *eP* **P 08 06 15.1 +1.8**
comp=Z,6.8nm,0.9s
Y12C Blythe 88.14 55 P **P 08 06 15.5 +1.9**
baz=88
SHPR Sheep Range 88.36 52 *eP* **P 08 06 17.2 +2.4**
113A Mohawk Valley, 88.50 56 P **P 08 06 17.1 +1.8**
baz=89
R11A Troy Canyon, C 88.53 51 *eP* **P 08 06 16.9 +1.2**
R11A Troy Canyon, C 88.53 51 P **P 08 06 16.8 +1.2**
baz=89
PDMCI Parker Dam,Lak 88.59 55 P **P 08 06 17.2 +1.5**
baz=89
B08A Colville Reser 88.88 40 *eP* **P 08 06 18.1 +1.3**
comp=Z,60nm,2.8s
W13A Hualapai Mount 89.00 54 P **P 08 06 19.3 +1.4**
baz=89
E09A Wood Farm, Sta 89.07 42 *eP* **P 08 06 18.9 +1.3**
comp=Z,4.6nm,1.0s
214A Organ Pipe Nat 89.09 57 P **P 08 06 19.9 +1.8**
baz=89
WMQ Urumqi 89.27 315 P **P 08 06 19.1 +0.3**
WMQ pP **pP 08 06 32.6 +2.8**
WMQ sP **sP 08 06 37.8 +4.0**
WMQ S **SKKSac 08 17 01.8 +3.3**
WMQ SS **SS 08 22 58.6 -2.6**
WMQ AMB AMB
comp=Z,13nm,0.4s
WMQ AMB AMB
comp=Z,160nm,4.4s
WMQ LR LR
comp=Z,120nm,20.8s
WMQ LR LR
comp=Z,120nm,22.2s
WMQ LR LR
comp=Z,89nm,22.2s
Z14A Wintersburg 89.32 56 P **P 08 06 21.3 +2.1**
baz=90
Y14A Wickenburg 89.41 55 P **P 08 06 22.1 +2.5**
baz=90
ELK Elko 89.44 48 *eP* **P 08 06 21.4 +1.5**
comp=Z,2.9nm,1.0s
F10A Beach Ranch, E 89.52 43 *eP* **P 08 06 21.3 +1.4**
comp=Z,7.6nm,1.2s
ARUT Antelope Range 90.02 52 *eP* **P 08 06 23.8 +1.2**
ARUT pmax pmax
comp=Z,142nm,1.0s
ARUT Antelope Range 90.02 52 *eP* **P 08 06 23.8 +1.2**
comp=Z,142nm,1.0s
CCUT Cedar City 90.02 52 *eP* **P 08 06 23.9 +1.2**
comp=Z,9.5nm,1.0s
NEW Newport 90.26 41 P **P 08 06 25.3 +2.0**
baz=90
INK Inuvik 90.43 19 *eP* P 08 06 29.1 +5.6
comp=Z,6.4nm,1.2s
U15A North Rim 90.58 53 P **P 08 06 26.5 +1.1**
baz=91
HLID Hailey 90.78 46 *eP* **P 08 06 26.3 +0.4**
comp=Z,4.1nm,0.8s
HLID Hailey 90.78 46 P **P 08 06 26.7 +0.7**
baz=91
X16A Lo Mia Camp, P 90.78 55 P **P 08 06 27.4 +1.1**
baz=91
TUC Tucson 90.84 57 *eP* **P 08 06 27.6 +1.2**
TUC pmax pmax
comp=Z,6.0nm,1.0s
TUC Tucson 90.84 57 *eP* **P 08 06 27.6 +1.2**
comp=Z,6.0nm,1.0s
DUG Dugway 91.09 49 *eP* **P 08 06 29.0 +1.5**
DUG pmax pmax
comp=Z,3.0nm,0.8s
DUG Dugway 91.09 49 *eP* **P 08 06 29.0 +1.5**
comp=Z,3.4nm,0.8s
DUG Dugway 91.09 49 P **P 08 06 29.3 +1.8**
baz=91
WUAZ Wupatki 91.09 54 P **P 08 06 29.3 +1.7**
baz=91
BGU Big Grassy Mou 91.11 49 *eP* **P 08 06 29.3 +1.8**
comp=Z,4.7nm,0.9s
MVU Marysvale 91.14 51 *eP* **P 08 06 30.1 +2.2**
comp=Z,9.5nm,1.0s
SYO Syowa Base 91.26 197⏚ *e*pP pP 08 06 37.2 -1.3
HVU Hansel Valley 91.50 48 *eP* **P 08 06 31.5 +2.1**
HVU pmax pmax
comp=Z,13nm,1.1s
HVU Hansel Valley 91.50 48 *eP* **P 08 06 31.4 +2.1**
comp=Z,13nm,1.1s
NLU North Lily Min 91.58 50 *eP* **P 08 06 30.2 +0.3**
comp=Z,26nm,1.5s
BSMT Bassoo Peak 91.65 42 *eP* **P 08 06 30.8 +0.8**
MPU Maple Canyon 91.93 50 *eP* **P 08 06 33.1 +1.7**
comp=Z,6.2nm,1.1s
X18A Snowflake 92.01 55 P **P 08 06 34.1 +2.2**
baz=92
Q16A Castle Valley 92.02 51 P **P 08 06 34.2 +2.3**
baz=92
MCMT McKenzie Canyo 92.19 45 *eP* **P 08 06 32.8 +0.2**
comp=Z,2.0nm,1.1s
JLU Jordanelle 92.20 49 *eP* **P 08 06 34.2 +1.5**
comp=Z,5.8nm,1.0s
W18A Petrified Fore 92.31 55 *eP* **P 08 06 36.1 +2.8**
W18A Petrified Fore 92.31 55 P **P 08 06 35.4 +2.1**
baz=92
CHMT Chamberlain Mo 92.42 43 *eP* **P 08 06 34.6 +1.0**
DLMT Dillon 92.49 44 *eP* **P 08 06 34.4 +0.6**
comp=Z,8.9nm,0.9s
320A Kipp Ranch, An 92.51 59 P **P 08 06 36.6 +2.4**
baz=93
WALA Waterton Lakes 92.53 41 *eP* **P 08 06 35.2 +1.3**
comp=Z,0.3nm,1.1s
220A Playas Peak, P 92.62 58 P **P 08 06 37.1 +2.3**
baz=93
120A U Bar Ranch, L 92.67 57 P **P 08 06 36.5 +1.5**
baz=93
LRM Limekiln Ridge 92.70 44 *eP* **P 08 06 35.9 +1.0**
Z20A Nine Sixteen R 92.82 57 P **P 08 06 38.1 +2.5**
baz=93
RRI2 Red Ridge 92.91 46 *eP* **P 08 06 37.5 +1.5**
comp=Z,5.3nm,1.1s
Y20A Horse Springs, 93.16 56 P **P 08 06 39.6 +2.3**
baz=93
X20A Quemado 93.19 56 P **P 08 06 39.7 +2.3**
baz=93
TPAW Teton Pass 93.21 46 *eP* **P 08 06 39.5 +2.2**
comp=Z,8.2nm,1.5s
REDW Red Top Meadow 93.25 47 *eP* **P 08 06 39.7 +2.2**
comp=Z,7.5nm,1.4s
W20A Ramah 93.30 55 P **P 08 06 40.1 +2.1**
baz=94
IMW Indian Meadow 93.31 46 *eP* **P 08 06 39.2 +1.4**
comp=Z,4.0nm,1.0s
SNOW Snow King Moun 93.34 46 *eP* **P 08 06 40.8 +2.9**
comp=Z,8.2nm,1.3s
121A Cookes Peak, D 93.37 58 P **P 08 06 40.8 +2.6**
baz=94
MOOW Moose Ponds 93.41 46 *eP* **P 08 06 39.2 +1.0**
comp=Z,1.8nm,0.8s
LOHW Long Hollow 93.48 46 *eP* **P 08 06 40.7 +2.2**
comp=Z,8.9nm,1.5s
I17A Pilgrim Ck. 93.57 46 P **P 08 06 40.0 +1.1**
baz=94
Z21A St. Cloud Mine 93.61 57 P **P 08 06 40.1 +0.7**
baz=94
H17A Grant Village 93.67 46 *eP* **P 08 06 41.3 +1.9**
H17A Grant Village 93.67 46 P **P 08 06 41.5 +2.1**
baz=94
MK31 Makanchi Array 93.71 317 *eP* **P 08 06 37.2 -2.1**
MK31 Makanchi Array 93.71 317 *eP* **P 08 06 37.2 -2.1**
MKAR Makanchi Array 93.71 317 *i* P **P 08 06 37.4 -1.9**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 93.71 317 P **P 08 06 37.4 -1.9**
MKAR Makanchi Array 93.71 317 P **P 08 06 37.4 -1.9**
comp=Z,2.5nm,0.8s,baz=98,slow=5.9,SNR=19
MKAR LR LR 08 47 03.2
comp=Z,79nm,18.0s,baz=80,slow=34
X21A Alamocita Cree 93.74 56 P **P 08 06 42.0 +2.0**
baz=94
Y21A Point of Rocks 93.75 56 P **P 08 06 42.0 +2.0**
baz=94
ZALV Zalesovo Beam 93.81 324 P P 08 06 36.1 -3.4
ZALV Zalesovo Beam 93.81 324 P P 08 06 36.1 -3.4
ZALV Zalesovo Beam 93.81 324 P P 08 06 36.1 -3.4
comp=Z,1.0nm,0.5s,baz=85,slow=3.3,SNR=3.7
P19A Cripple Cowboy 93.84 50 P **P 08 06 42.4 +2.1**
baz=94
222A Williams Famil 93.85 58 P **P 08 06 42.4 +2.0**
baz=94
S20A Disappointment 93.95 52 P **P 08 06 43.0 +2.1**
baz=94
PDAR Pinedale Array 94.05 47 P **P 08 06 38.7 -2.5**
PDAR PKKPbc **PKKPbc 08 23 45.0 +0.2**
PDAR Pinedale Array 94.05 47 P **P 08 06 38.7 -2.5**
comp=Z,2.2nm,1.0s,baz=234,slow=2.9,SNR=12
PDAR PKKPbc **PKKPbc 08 23 45.0 +0.2**
comp=Z,0.3nm,0.9s,baz=154,slow=2.7,SNR=3.5
PDAR LR LR 08 47 41.4
comp=Z,157nm,18.9s,baz=272,slow=35
Z22A Elephant Butte 94.18 57 P **P 08 06 43.3 +1.4**
baz=94
Q20A Ridgley Place, 94.22 51 P **P 08 06 43.9 +1.9**
baz=94
U21A Nageezi 94.23 54 P **P 08 06 43.0 +0.9**
baz=94
P20A De Beque 94.26 51 P **P 08 06 43.3 +1.2**
baz=94
S21A Coal Bank Pass 94.36 53 P **P 08 06 43.5 +0.7**
baz=94
H19A Powell 94.84 46 P **P 08 06 46.6 +1.9**
baz=95
U22A Llaves 94.86 54 P **P 08 06 46.7 +1.7**
baz=95
T22A Edith 94.94 53 P **P 08 06 47.4 +2.0**
baz=95
EGMT Eagleton 94.98 42 *eP* **P 08 06 47.1 +2.0**
comp=Z,6.0nm,0.8s
F19A Roth Farm, Mol 95.10 44 P **P 08 06 47.6 +1.8**
baz=95
S22A 4UR Ranch, Cre 95.13 53 P **P 08 06 47.8 +1.4**
baz=95
224A Cornudas Mount 95.16 58 P **P 08 06 47.9 +1.5**
baz=95
Q22A Crested Butte, 95.27 52 P **P 08 06 48.1 +1.1**
baz=95
C19A Slack Wire Ran 95.39 43 P **P 08 06 48.7 +1.7**
baz=96
D19A Cripps Ranch, 95.39 43 P **P 08 06 48.7 +1.6**
baz=96
325A Bean Ranch, Si 95.50 59 P **P 08 06 48.9 +0.9**
baz=96
YKA Yellowknife Ar 95.51 27 P **P 08 06 45.5 -1.5**
YKA Yellowknife Ar 95.51 27 P **P 08 06 45.5 -1.5**
comp=Z,2.3nm,0.9s,baz=258,slow=4.6,SNR=6.4
D20A Manuel Ranch, 95.88 43 P **P 08 06 50.4 +1.2**
baz=96
626A Big Bend Ranch 95.90 61 P **P 08 06 50.9 +1.1**
baz=96
TXAR Lajitas Array 96.26 61 P **P 08 06 51.9 +0.5**
TXAR PP **PP 08 10 42.9 -2.3**
TXAR Lajitas Array 96.26 61 P **P 08 06 51.9 +0.5**
comp=Z,0.8nm,0.9s,baz=250,slow=3.6,SNR=8.8
TXAR PP **PP 08 10 42.9 -2.3**
comp=Z,0.4nm,1.0s,baz=215,slow=5.9,SNR=4.3
TXAR LR LR 08 42 52.2
comp=Z,430nm,18.6s,baz=355,slow=31
KURK Kurchatov 96.86 320 *eP* **P 08 06 53.9 +0.4**
KURK pmax pmax
comp=Z,1.0nm,1.6s
KSH Kashi 96.88 309 *eP* **P 08 06 56.5 +2.5**
ARCES ARCESS Array B 116.74 345 PKP **PKPdf 08 12 03.3 -2.9**
ARCES ARCESS Array B 116.74 345 PKP **PKPdf 08 12 03.3 -2.9**
comp=Z,3.5nm,0.8s,baz=84,slow=1.0,SNR=7.7
LPAZ La Paz 120.18 117 PKP **PKPdf 08 12 13.1 -2.0**
LPAZ La Paz 120.18 117 PKP **PKPdf 08 12 13.1 -2.0**
comp=Z,0.4nm,0.3s,baz=344,slow=5.4,SNR=6.1
FINES FINESS Array B 122.13 338 PKP **PKPdf 08 12 15.3 -1.4**
FINES FINESS Array B 122.13 338 PKP **PKPdf 08 12 15.3 -1.4**
comp=Z,0.8nm,0.7s,baz=52,slow=1.9,SNR=2.4
BOSA Boshof 124.61 223 PKP **PKPdf 08 12 23.3 +0.6**
BOSA Boshof 124.61 223 PKP **PKPdf 08 12 23.3 +0.6**
comp=Z,2.8nm,0.8s,baz=180,slow=4.0,SNR=3.4
SIV San Ignacio 126.41 120 PKP **PKPdf 08 12 25.0 -1.3**
SIV San Ignacio 126.41 120 PKP **PKPdf 08 12 25.0 -1.3**
comp=Z,0.9nm,0.8s,baz=242,slow=5.3,SNR=3.6
NB2 NORSAR Subarra 127.10 345 PKPdf **PKPdf 08 12 25.0 -1.4**
comp=Z,2.8nm,1.0s,baz=37,slow=1.8
NOA NORSAR Array B 127.10 345 PKP **PKPdf 08 12 25.2 -1.1**
NOA NORSAR Array B 127.10 345 PKP **PKPdf 08 12 25.2 -1.1**
comp=Z,1.1nm,0.9s,baz=17,slow=1.7,SNR=3.3
AKASG Malin Array Be 127.14 327 PKIKP **PKPdf 08 12 22.7 -4.0**
AKASG Malin Array Be 127.14 327 PKP **PKPdf 08 12 22.7 -4.0**
AKASG Malin Array Be 127.14 327 PKP **PKPdf 08 12 22.7 -4.0**
comp=Z,0.3nm,0.4s,baz=52,slow=2.0,SNR=4.0
BRTR Keskin Array B 129.12 312 PKP **PKPdf 08 12 28.2 -2.8**
BRTR Keskin Array B 129.12 312 PKP **PKPdf 08 12 28.2 -2.8**
comp=Z,0.3nm,0.3s,baz=26,slow=3.7,SNR=2.6
KOLS Kolonicke sedl 131.84 328 *e*PKIKP **PKPdf 08 12 37.4 +1.7**
KOLS Kolonicke sedl 131.84 328 *e*PKP **PKPdf 08 12 37.4 +1.7**
CLL Collm 134.45 336 *e*PKSbc PKSbc 08 16 09.0 -2.4
CLL *e*SS SS 08 33 18.0 +18
CLL LmV 09 16 00.0
comp=Z,200nm,18.1s
GERES GERESS Array B 136.03 333 PKP **PKPdf 08 12 40.6 -3.1**
GERES GERESS Array B 136.03 333 PKP **PKPdf 08 12 40.6 -3.1**
comp=Z,0.3nm,0.2s,baz=93,slow=4.9,SNR=3.0
BDFB Brasilia 137.22 128 PKP **PKPdf 08 12 43.7 -3.1**
BDFB Brasilia 137.22 128 PKP **PKPdf 08 12 43.7 -3.1**
comp=Z,1.0nm,0.4s,baz=297,slow=6.8,SNR=3.0
KEST Kesra 147.66 322 *e*PKPdf **PKPdf 08 13 06.0 +1.3**
KEST PKPbc **PKPbc 08 13 06.7 -0.8**
KEST Kesra 147.66 322 PKPbc **PKPbc 08 13 06.7 -0.8**
comp=Z,5.2nm,0.9s,baz=302,slow=5.2,SNR=8.4
POLO Lamas de Olo 149.69 350 *e*PKPbc **PKPbc 08 13 12.2 -0.4**
MVO Moncorvo 149.76 349 *e*PKPbc **PKPbc 08 13 13.2 +0.5**
ESDC Sonseca Array 150.45 343 PKPbc **PKPdf 08 13 10.7 +1.6**
ESDC Sonseca Array 150.45 343 PKPbc **PKPdf 08 13 10.7 +1.6**
comp=Z,3.3nm,0.4s,baz=8.5,slow=2.8,SNR=3.9
MTE Manteigas 150.60 349 *e*PKPbc **PKPbc 08 13 16.4 +1.7**
PMRV Marv??o 151.51 348 *e*PKPbc **PKPbc 08 13 15.8 -1.0**
TORD Torodi Ar. Bea 164.10 277 PKP **PKPdf 08 13 25.4 -1.3**
TORD PKPab **PKPab 08 14 18.7 -1.6**
TORD Torodi Ar. Bea 164.10 277 PKP **PKPdf 08 13 25.4 -1.3**
comp=Z,1.8nm,1.0s,baz=323,slow=1.0,SNR=8.6
TORD PKPab **PKPab 08 14 18.7 -1.6**
comp=Z,1.3nm,1.0s,baz=36,slow=5.7,SNR=2.5

IDC 20 08:02:07.4±2.1, 0.88N×125.74E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/22, mbtmp3.4/3, Error ellipse: s-maj=191.0km s-min=27.5km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.34**	**158**	P		P	P	08 07 05.5	-1.6
	0.7nm,0.9s,baz=336,slow=11,SNR=2.6								
ASAR	**Alice Springs**	**25.66**	**163**	P		P	P	08 07 40.0	+0.9
	0.4nm,0.5s,baz=341,slow=11,SNR=6.5								
MKAR	**Makanchi Array**	**59.35**	**327**	P		P	P	08 12 11.3	-0.1
	0.2nm,0.3s,baz=127,slow=8.8,SNR=4.3								

IDC 20 08:14:57.0±1.7, 0.70N×97.25E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.5/26, mbtmp3.7/6, ML3.0/1, Error ellipse: s-maj=54.9km s-min=21.1km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.67**	**39**	Pn		Pn	Pn	08 15 40.8	-0.7
	2.7nm,0.3s,baz=277,slow=8.0,SNR=7.5								
H08S2	**Diego Garcia H**	**26.05**	**251**	T		T	T	08 47 44.8	
	baz=72,slow=0.7,SNR=403								
H08S3	**Diego Garcia H**	**26.05**	**251**	T		T	T	08 47 48.6	
	baz=72,slow=0.7,SNR=416								
H08S1	**Diego Garcia H**	**26.07**	**251**	T		T	T	08 47 40.6	
	baz=72,slow=0.7,SNR=445								
H08N1	**Diego Garcia H**	**27.11**	**255**	T		T	T	08 49 42.4	
	baz=301,slow=0.7,SNR=18								
H08N2	**Diego Garcia H**	**27.12**	**255**	T		T	T	08 49 52.3	
	baz=301,slow=0.7,SNR=17								
H08N3	**Diego Garcia H**	**27.13**	**255**	T		T	T	08 49 50.5	
	baz=301,slow=0.7,SNR=16								
H01W3	**Cape Leeuwin H**	**38.76**	**158**	T		T	T	09 03 40.7	
	baz=334,slow=0.7,SNR=24								
H01W2	**Cape Leeuwin H**	**38.77**	**158**	T		T	T	09 03 38.1	
	baz=334,slow=0.7,SNR=24								
H01W1	**Cape Leeuwin H**	**38.78**	**158**	T		T	T	09 03 39.7	
	baz=334,slow=0.7,SNR=28								
WRA	**Warramunga Arr**	**41.73**	**122**	P		P	P	08 22 47.5	-0.6
	0.9nm,0.9s,baz=303,slow=9.0,SNR=2.5								
ASAR	**Alice Springs**	**43.05**	**127**	P		P	P	08 22 59.2	+0.3
	0.4nm,0.6s,baz=294,slow=7.7,SNR=5.6								
MKAR	**Makanchi Array**	**47.74**	**346**	P		P	P	08 23 35.8	0.0
	1.0nm,0.5s,baz=159,slow=9.1,SNR=18								
KURBB	**Kurchatov Arra**	**52.23**	**345**	P		P	P	08 24 09.7	0.0
	0.5nm,0.7s,baz=167,slow=7.2,SNR=7.7								
ZALV	**Zalesovo Beam**	**54.06**	**351**	P		P	P	08 24 22.7	-0.5
	0.9nm,0.3s,baz=183,slow=6.2,SNR=6.6								

IDC 20 08:15:41.0±1.7, 39.16N±0.07×28.93W±0.06, h25km±11km, n46, σ0966/68, mb3.8/7, MS4.2/5, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.56**	**161**	*eP*		**Pb**	**Pb**	**08 15 51.7**	**-0.5**
PCED				*eS*		**Sb**	**Sb**	**08 16 00.4**	**+0.6**
PCED				A		A	A	08 16 06.3	
	1μm,0.5s								
PCED	**Cedros**	**0.56**	**161**	*eP*		**Pb**	**Pb**	**08 15 51.7**	**-0.5**
PCED				*eS*		**Sb**	**Sb**	**08 16 00.4**	**+0.6**
CALA	**Caldeira**	**0.60**	**163**	*eP*		**Pb**	**Pb**	**08 15 52.8**	**-0.2**
CALA				*eS*		**Sb**	**Sb**	**08 16 01.8**	**+0.7**
CALA	**Caldeira**	**0.60**	**163**	*eP*		**Pb**	**Pb**	**08 15 52.8**	**-0.2**
CALA				*eS*		**Sb**	**Sb**	**08 16 01.8**	**+0.7**
HOR	**Horta**	**0.67**	**159**	*eP*		**Pb**	**Pb**	**08 15 53.6**	**-0.5**
HOR				*eS*		**Sb**	**Sb**	**08 16 03.6**	**+0.6**
HOR	**Horta**	**0.67**	**159**	*eP*		**Pb**	**Pb**	**08 15 53.6**	**-0.5**
HOR				*eS*		**Sb**	**Sb**	**08 16 03.6**	**+0.6**
PGRA	**Graciosa**	**0.75**	**99**	*eP*		**Pb**	**Pb**	**08 15 54.9**	**-0.5**
PGRA				*eS*		**Sn**	**Sn**	**08 16 06.2**	**-0.3**
PGRA				A		A	A	08 16 11.8	
	840nm,0.4s								
PGRA	**Graciosa**	**0.75**	**99**	*eP*		**Pb**	**Pb**	**08 15 54.9**	**-0.5**
PGRA				*eS*		**Sn**	**Sn**	**08 16 06.2**	**-0.3**
PICO	**Pico**	**0.77**	**149**	*eP*		**Pb**	**Pb**	**08 15 55.3**	**-0.4**
PICO				*eS*		**Sn**	**Sn**	**08 16 06.5**	**-0.5**
PICO	**Pico**	**0.77**	**149**	*eP*		**Pb**	**Pb**	**08 15 55.3**	**-0.4**
PICO				*eS*		**Sn**	**Sn**	**08 16 06.5**	**-0.5**
PCAN	**Candelaria**	**0.78**	**153**	*eP*		**Pb**	**Pb**	**08 15 55.2**	**-0.6**
PCAN				*eS*		**Sb**	**Sb**	**08 16 06.5**	**+0.5**
PCAN				A		A	A	08 16 12.1	
	2μm,0.6s								
PCAN	**Candelaria**	**0.78**	**153**	*eP*		**Pb**	**Pb**	**08 15 55.2**	**-0.6**
PCAN				*eS*		**Sb**	**Sb**	**08 16 06.5**	**+0.5**
PMAN	**Manadas**	**0.84**	**128**	*eP*		**Pb**	**Pb**	**08 15 56.1**	**-0.8**
PMAN				*eS*		**Sn**	**Sn**	**08 16 08.4**	**-0.3**
PMAN				A		A	A	08 16 15.0	
	537nm,0.3s								
PMAN	**Manadas**	**0.84**	**128**	*eP*		**Pb**	**Pb**	**08 15 56.1**	**-0.8**
PMAN				*eS*		**Sn**	**Sn**	**08 16 08.4**	**-0.3**
PPNO	**Prainha do Nor**	**0.86**	**142**	*eP*		**Pb**	**Pb**	**08 15 56.5**	**-0.8**
PPNO				*eS*		**Sn**	**Sn**	**08 16 09.0**	**-0.3**
PPNO				A		A	A	08 16 19.4	
	2μm,0.5s								
PPNO	**Prainha do Nor**	**0.86**	**142**	*eP*		**Pb**	**Pb**	**08 15 56.5**	**-0.8**
PPNO				*eS*		**Sn**	**Sn**	**08 16 09.0**	**-0.3**
TOPO	**Topo**	**0.97**	**125**	*eP*		**Pn**	**Pn**	**08 15 58.6**	**-0.5**
TOPO				*eS*		**Sn**	**Sn**	**08 16 12.1**	**+0.1**
TOPO	**Topo**	**0.97**	**125**	*eP*		**Pn**	**Pn**	**08 15 58.6**	**-0.5**
TOPO				*eS*		**Sn**	**Sn**	**08 16 12.1**	**+0.1**
ADH	**Angra Heroismo**	**1.42**	**110**	*eP*		**Pn**	**Pn**	**08 16 05.0**	**-0.1**
ADH				*eS*		**Sn**	**Sn**	**08 16 22.8**	**-0.1**
ADH				A		A	A	08 16 28.5	
	138nm,0.3s								
ADH	**Angra Heroismo**	**1.42**	**110**	*eP*		**Pn**	**Pn**	**08 16 05.0**	**-0.1**
ADH				*eS*		**Sn**	**Sn**	**08 16 22.8**	**-0.1**
H07N1	**FLORES T-PHASE**	**1.78**	**288**	Pn		Pn	Pn	08 16 03.0	-7.1
H07N1				T		T	T	08 17 39.6	
	SNR=8.8								
H07S1	**FLORES T-PHASE**	**1.78**	**278**	Pn		Pn	Pn	08 16 04.5	-5.7
H07S1				T		T	T	08 17 27.8	
	SNR=20								
PSET	**Sete Cidades**	**2.85**	**117**	*eP*		**Pn**	**Pn**	**08 16 25.1**	**+0.2**
PSET				*eS*		**Sn**	**Sn**	**08 16 58.3**	**-0.1**
PSET				A		A	A	08 17 05.1	
	90nm,0.3s								
PSET	**Sete Cidades**	**2.85**	**117**	*eP*		**Pn**	**Pn**	**08 16 25.1**	**+0.2**
PSET				*eS*		**Sn**	**Sn**	**08 16 58.3**	**-0.1**
PDA	**Ponta Delgada**	**2.93**	**118**	*eP*		**Pn**	**Pn**	**08 16 26.0**	**+0.1**
PDA				*eS*		**Sn**	**Sn**	**08 16 59.5**	**-0.7**
PDA				A		A	A	08 17 04.2	
	118nm,0.2s								
PDA	**Ponta Delgada**	**2.93**	**118**	*eP*		**Pn**	**Pn**	**08 16 26.0**	**+0.1**
PDA				*eS*		**Sn**	**Sn**	**08 16 59.5**	**-0.7**
CMLA	**Cha da Macela**	**3.02**	**116**	*eP*		**Pn**	**Pn**	**08 16 27.7**	**+0.6**
CMLA				*eS*		**Sn**	**Sn**	**08 17 01.8**	**-0.6**
CMLA				A		A	A	08 17 07.9	
	128nm,0.2s								
CMLA	**Cha da Macela**	**3.02**	**116**	*eP*		**Pn**	**Pn**	**08 16 27.7**	**+0.6**
CMLA				*eS*		**Sn**	**Sn**	**08 17 01.8**	**-0.6**
BART	**Pico Bartolome**	**3.26**	**114**	*eP*		**Pn**	**Pn**	**08 16 30.7**	**+0.2**
BART				*eS*		**Sn**	**Sn**	**08 17 07.4**	**-1.1**
BART				A		A	A	08 17 13.2	
	22nm,0.3s								
BART	**Pico Bartolome**	**3.26**	**114**	*eP*		**Pn**	**Pn**	**08 16 30.7**	**+0.2**
BART				*eS*		**Sn**	**Sn**	**08 17 07.4**	**-1.1**
PSMA	**Santa Maria**	**3.70**	**125**	*eP*		**Pn**	**Pn**	**08 16 36.6**	**+0.1**
PSMA				*eS*		**Sn**	**Sn**	**08 17 18.1**	**-1.1**
PSMA				A		A	A	08 17 21.6	
	55nm,0.2s								
PSMN	**Pico do Norte,**	**3.73**	**124**	*eP*		**Pn**	**Pn**	**08 16 37.1**	**+0.1**
PSMN				*eS*		**Sn**	**Sn**	**08 17 19.4**	**-0.7**
PSMN				A		A	A	08 17 25.7	
	42nm,0.5s								
PSMN	**Pico do Norte,**	**3.73**	**124**	*eP*		**Pn**	**Pn**	**08 16 37.1**	**+0.1**
PSMN				*eS*		**Sn**	**Sn**	**08 17 19.4**	**-0.7**
ESDC	**Sonseca Array**	**19.29**	**81**	P		Pn	Pn	08 20 14.1	+9.1
	0.7nm,0.3s,baz=280,slow=9.0,SNR=4.9								
ESDC				LR		LR	LR	08 25 49.7	
	comp=Z,66nm,19.7s,baz=285,slow=31								
NOA	**NORSAR Array B**	**33.01**	**35**	LR		LR	LR	08 34 15.7	
	comp=Z,40nm,19.0s,baz=245,slow=34								
TORD	**Torodi Ar. Bea**	**37.45**	**125**	P		P	P	08 22 58.3	+5.9
	0.6nm,0.9s,baz=338,slow=8.0,SNR=2.8								
JTS	**JuntasAbangare**	**57.37**	**256**	LR		LR	LR	08 44 13.6	
	comp=Z,70nm,19.2s,baz=332,slow=30								
APG	**El Apazote**	**58.67**	**264**	LR		LR	LR	08 47 42.1	
	comp=Z,436nm,18.4s,baz=20,slow=33								
PDAR	**Pinedale Array**	**58.75**	**302**	P		**P**	**P**	**08 25 35.1**	**-1.9**
	0.9nm,1.1s,baz=53,slow=6.1,SNR=4.3								
AKTO	**Aktyubinsk**	**59.34**	**48**	P		**P**	**P**	**08 25 41.1**	**+0.4**
	0.8nm,0.6s,baz=288,slow=7.9,SNR=3.6								
ANMO	**Albuquerque**	**60.23**	**292**	LR		LR	LR	08 49 26.5	
	comp=Z,161nm,18.9s,baz=108,slow=34								
TXAR	**Lajitas Array**	**60.97**	**286**	P		**P**	**P**	**08 25 51.8**	**-0.5**
	0.5nm,0.8s,baz=72,slow=6.0,SNR=6.0								
BVAR	**Borovoye Array**	**64.84**	**41**	LR		LR	LR	08 52 22.6	
	comp=Z,171nm,19.2s,baz=297,slow=34								
LPAZ	**La Paz**	**66.21**	**222**	P		**P**	**P**	**08 26 27.8**	**+0.4**
	1.7nm,1.0s,baz=13,slow=5.5,SNR=4.7								
KURBB	**Kurchatov Arra**	**70.36**	**40**	P		**P**	**P**	**08 26 54.1**	**+1.8**
	0.5nm,0.7s,baz=311,slow=6.4,SNR=6.0								
MKAR	**Makanchi Array**	**74.72**	**42**	P		**P**	**P**	**08 27 20.1**	**+1.7**
	1.2nm,0.9s,baz=284,slow=8.5,SNR=5.2								

*NEIC **20** 08:20:04.7±0.6, 16.89N×95.82E, h10km, mb4.2/4, Error ellipse: s-maj=13.8km s-min=9.6km az=46.0*
NEIC Felt at Rangoon.
*IDC **20** 08:20:05.3±1.1, 16.94N×95.73E, h12km±5km, mb4.0/9, mb1 4.0/10, mb1mx3.7/30, mbtmp3.9/10, ML3.7/1, Error ellipse: s-maj=20.5km s-min=15.9km az=13.0*
ISC 20 08:20:04.4±1.0, 16.9N±0.1×95.80E±0.05, h10km±5km, h9km: pP-P, n43, σ1503/55, mb4.2/13, Near south coast of

Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**3.38**	**62**	*e*Pn	**Pb**	**08 21 01.8**	**-2.8**
CM31				*e*Pg	**Pg**	**08 21 08.7**	**-0.6**
CMAR	**Chiang Mai Arr**	**3.38**	**62**	Pn	**Pn**	**08 20 57.9**	**+0.5**
CMAR				Pg	**Pg**	**08 21 08.2**	**-1.1**
CMAR				Sn	**Sn**	**08 21 39.1**	**+1.4**
CMAR				Lg	Lg	08 21 55.4	
CMAR	**Chiang Mai Arr**	**3.38**	**62**	Pn	**Pn**	**08 20 57.9**	**+0.5**
	1.7nm,0.3s,baz=249,slow=15,SNR=15						
CMAR				Pg	**Pg**	**08 21 08.2**	**-1.1**
	6.2nm,0.3s,baz=246,slow=19,SNR=68						
CMAR				Sn	**Sn**	**08 21 39.1**	**+1.4**
	4.2nm,0.3s,baz=100,slow=11,SNR=5.3						
CMAR				Lg	Lg	08 21 55.4	
	4.6nm,0.3s,baz=245,slow=32,SNR=5.4						
CHTO	**Chiang Mai**	**3.56**	**57**	*e*Pn	**Pn**	**08 20 59.6**	**-0.2**
CHTO				*e*Pg	**Pg**	**08 21 13.5**	**+0.8**
IMP	**Imphal**	**8.06**	**348**	*e*P	**Pn**	**08 22 03.0**	**+1.2**
IMP				*e*4		08 23 32.0	
SHL	**Shillong**	**9.39**	**338**	AMB	AMB	08 22 19.4	
	comp=Z,12nm,1.3s						
SHL				*e*S	Sn	08 23 57.7	-8.2
BOK	**Bokaro**	**11.57**	**308**	*e*P	**Pn**	**08 22 50.8**	**+1.0**
BOK				AMB	AMB	08 22 55.5	
	comp=Z,7.0nm,1.2s						
BOK				*e*S	Sn	08 24 47.3	-12
VIS	**Vishakhapatnam**	**11.94**	**276**	*e*P	**Pn**	**08 22 52.9**	**-2.0**
ODAN	**Odare**	**12.63**	**323**	*e*P	**Pn**	**08 23 04.6**	**+0.1**
TAPN	**Taplejung**	**12.84**	**326**	*e*P	**Pn**	**08 23 07.2**	**-0.2**
RAMN	**Ramite**	**13.16**	**321**	*e*P	**Pn**	**08 23 13.3**	**+1.5**
LSA	**Lhasa**	**13.46**	**342**	*e*Pn	**Pn**	**08 23 18.2**	**+2.1**
	comp=Z,7.6nm,0.7s						
JIRN	**Jiri**	**13.94**	**322**	*e*P	**Pn**	**08 23 22.4**	**0.0**
GUN	**Gumba**	**14.30**	**322**	*e*P	**Pn**	**08 23 27.6**	**+0.1**
GKN	**Gorkha**	**15.13**	**319**	*e*P	**Pn**	**08 23 39.5**	**+1.0**
KOLN	**Koldanda**	**15.64**	**316**	*e*P	**P**	**08 23 47.4**	**-2.1**
DANN	**Dangsing**	**15.93**	**318**	*e*P	**Pn**	**08 23 50.0**	**+1.0**
AKL	**Akola**	**18.19**	**285**	*e*P	**Pn**	**08 24 17.0**	**-0.2**
POO	**Poona**	**20.98**	**278**	*e*P	**P**	**08 24 46.9**	**-1.2**
POO				AMB	AMB	08 24 57.4	
	comp=Z,11nm,1.2s						
POO				*ex*	x	08 28 06.6	
SMLA	**Simla**	**22.12**	**313**	*e*P	**P**	**08 25 00.6**	**+0.5**
SMLA				AMB	AMB	08 25 17.6	
	comp=Z,30nm,0.0s						
DHRM	**DHARAMSHALA**	**23.37**	**315**	*e*4		08 25 32.6	
DHRM				AMB	AMB	08 25 45.4	
	comp=Z,10nm,0.7s						
AAK	**Ala-Archa**	**31.47**	**329**	*e*P	**P**	**08 26 26.1**	**-0.4**
	comp=Z,3.5nm,1.1s						
AAK	**Ala-Archa**	**31.47**	**329**	P	**P**	**08 26 26.1**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=188,slow=7.1,SNR=2.7						
MK31	**Makanchi Array**	**31.87**	**342**	*e*P	**P**	**08 26 29.6**	**-0.2**
MKAR	**Makanchi Array**	**31.87**	**342**	P	**P**	**08 26 29.2**	**-0.6**
MKAR				pP	**pP**	**08 26 33.1**	**+0.4**
MKAR	**Makanchi Array**	**31.87**	**342**	P	**P**	**08 26 29.2**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=162,slow=9.2,SNR=10.0						
MKAR				pP	**pP**	**08 26 33.1**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=154,slow=9.0,SNR=21						
KURBB	**Kurchatov Array**	**36.41**	**341**	P	**P**	**08 27 08.3**	**-0.8**
	comp=Z,3.4nm,0.6s,baz=153,slow=8.3,SNR=11						
KURBB				pP	**pP**	**08 27 12.7**	**+0.6**
	comp=Z,3.4nm,0.6s,baz=154,slow=8.3,SNR=20						
KURK	**Kurchatov**	**36.47**	**342**	*e*P	**P**	**08 27 08.8**	**-0.7**
	comp=Z,3.0nm,0.8s						
KURK				pP	**pP**	**08 27 12.7**	**+0.1**
ZAA0	**Zalesovo Array**	**37.98**	**349**	*e*P	**P**	**08 27 21.6**	**-0.7**
ZALV	**Zalesovo Beam**	**37.98**	**349**	P	**P**	**08 27 21.5**	**-0.8**
ZALV				pP	**pP**	**08 27 26.1**	**+0.8**
ZALV	**Zalesovo Beam**	**37.98**	**349**	P	**P**	**08 27 21.5**	**-0.8**
	comp=Z,2.6nm,0.6s,baz=171,slow=8.1,SNR=4.2						
ZALV				pP	**pP**	**08 27 26.1**	**+0.8**
	comp=Z,2.5nm,0.6s,baz=161,slow=6.7,SNR=9.0						
ABKAR	**Akbulak array**	**43.42**	**326**	*e*P	**P**	**08 28 07.3**	**-0.1**
	comp=Z,0.8nm,0.6s						
AKTO	**Aktyubinsk**	**45.12**	**326**	P	**P**	**08 28 21.8**	**+0.8**
AKTO	**Aktyubinsk**	**45.12**	**326**	P	**P**	**08 28 21.8**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=136,slow=8.6,SNR=4.3						
WRA	**Warramunga Arr**	**52.64**	**132**	P	**P**	**08 29 19.4**	**+0.2**
WRA	**Warramunga Arr**	**52.64**	**132**	P	**P**	**08 29 19.4**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=317,slow=7.6,SNR=5.5						
WRAB	**Tennant Creek**	**52.64**	**132**	*e*P	**P**	**08 29 18.1**	**-1.1**
	comp=Z,5.4nm,1.1s						
ASAR	**Alice Springs**	**54.85**	**136**	P	**P**	**08 29 36.9**	**+1.6**
ASAR	**Alice Springs**	**54.85**	**136**	P	**P**	**08 29 36.9**	**+1.6**
	comp=Z,0.4nm,0.9s,baz=315,slow=7.1,SNR=3.4						
ARCES	**ARCESS Array B**	**67.45**	**339**	P	**P**	**08 31 00.1**	**0.0**
ARCES				pP	**pP**	**08 31 03.6**	**+0.4**
ARCES	**ARCESS Array B**	**67.45**	**339**	P	**P**	**08 31 00.1**	**0.0**
	comp=Z,1.6nm,0.8s,baz=78,slow=8.4,SNR=3.3						
ARCES				pP	**pP**	**08 31 03.6**	**+0.4**
	comp=Z,2.5nm,0.9s,baz=81,slow=7.9,SNR=1.6						
BOSA	**Boshof**	**81.78**	**237**	P	**P**	**08 32 25.2**	**+1.1**
BOSA	**Boshof**	**81.78**	**237**	P	**P**	**08 32 25.2**	**+1.1**
	comp=Z,2.8nm,0.8s,baz=333,slow=2.3,SNR=3.5						

FUNV 20 08:42:17.5, 7.51N×73.16W, h140km, MW3.6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.91**	**67**	*e*P	Pn	08 42 40.3	-0.6
CAPV				*e*S	Sn	08 42 56.8	-1.8
VIGV	**El Vigia**	**2.22**	**53**	*e*P	Pn	08 42 53.9	-0.8
VIGV				*e*S	Sn	08 43 21.0	-2.3
SOCV	**Socops**	**2.41**	**71**	*e*P	Pn	08 42 56.2	-0.9
SOCV				*e*S	Sn	08 43 25.4	-2.1
VIRV	**Villa del Rosa**	**3.07**	**14**	*e*P	Pn	08 43 04.0	-1.4
VIRV				*e*S	Sn	08 43 38.6	-3.8
ELOV	**Elorza**	**3.68**	**98**	*e*P	Pn	08 43 11.7	-1.7
QARV	**Quebrada Arrib**	**3.74**	**44**	*e*P	Pn	08 43 12.2	-2.0
QARV				*e*S	Sn	08 43 53.3	-4.9
CURV	**Curarigua**	**4.03**	**52**	*e*P	Pn	08 43 17.0	-1.0
SANV	**Sanarito**	**4.10**	**61**	*e*P	Pn	08 43 17.2	-1.8
SIQV	**Siquisique**	**4.55**	**46**	*e*P	Pn	08 43 23.4	-1.5
MAPV	**Macapo**	**5.19**	**63**	*e*P	Pn	08 43 31.7	-1.7
BAUV	**El Baul**	**5.26**	**74**	*e*P	Pn	08 43 31.7	-2.6
BAUV				*e*S	Sn	08 44 27.4	-6.8
MONV	**Montecano**	**5.42**	**35**	*e*P	Pn	08 43 35.1	-1.4
CUPV	**Cœpira**	**7.72**	**70**	*e*P	Pn	08 44 05.0	-2.3

*IDC **20** 08:44:12.7±0.5, 16.03S×173.11W, h0km, mb4.3/14, mb1 4.5/14, mb1mx4.3/24, mbtmp4.3/14, MS4.0/16, Ms1 4.0/16, ms1mx3.9/27, Error ellipse: s-maj=27.0km s-min=14.9km az=137.0*

*BJI **20** 08:44:13.0, 16.00S×173.10W, h10km, mB5.5/8, mb5.1/8, Ms5.1/4, Ms7 4.7/4*

*NEIC **20** 08:44:14.5±0.2, 16.00S×173.17W, h10km, mb4.7/52, Error ellipse: s-maj=11.2km s-min=4.7km az=137.0*

*ISCJB **20** 08:44:15.4±0.3, 16.11S±0.08×173.11W±0.07, h26km, mb4.6/67, MS4.1/17, Error ellipse: s-maj=13.7km s-min=6.8km az=148.0*

*MOS **20** 08:44:16.8±1.0, 16.03S×173.13W, h33km, mb4.8/14, Error ellipse: s-maj=20.9km s-min=12.5km az=45.9*

ISC 20 08:44:16.9±0.4, 16.02S±0.09×173.02W±0.10, h26km, n362, s095/353, mb4.6/67, MS4.1/17, 106C-106D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.42**	**30**	*e*Pn	Pn	08 44 50.2	-4.8
AFI				*e*Sn	**Sn**	**08 45 19.7**	**-4.0**
AFI	**Afiamalu**	**2.42**	**30**	Pn	Pn	08 44 50.1	-4.8
	66nm,0.3s,baz=211,slow=5.0,SNR=151						
AFI				Sn	Sn	08 45 16.6	-7.1
	214nm,0.3s,baz=32,slow=19,SNR=21						
AFI				LR	LR	08 45 48.7	
	comp=Z,1μm,18.9s,baz=214,slow=39						
MSVF	**Nonsavu**	**8.71**	**257**	*e*P	Pn	08 46 28.3	+6.9
MSVF				pmax	pmax		
	comp=Z,87nm,1.1s						
MSVF	**Nonsavu**	**8.71**	**257**	*e*Pn	Pn	08 46 28.3	+6.9
	comp=Z,87nm,1.1s						
DZM	**Mont Dzumac**	**20.31**	**250**	*e*LR	LR	08 53 31.6	
	comp=Z,518nm,24.1s						
DZM	**Mont Dzumac**	**20.31**	**250**	P	P	08 48 43.1	-8.0
DZM	**Mont Dzumac**	**20.31**	**250**	P	P	08 48 43.1	-8.0
	comp=Z,8.0nm,1.1s,baz=53,slow=5.1,SNR=1.9						
DZM				LR	LR	08 54 58.4	
	comp=Z,246nm,20.5s,baz=40,slow=32						
PPT	**Papeete**	**22.50**	**97**	*e*LR	LR	08 54 57.0	
	comp=Z,264nm,21.1s,baz=217,slow=28						
PPT2	**Papeete2**	**22.50**	**97**	*e*LR	LR	08 54 27.7	
	comp=Z,492nm,25.2s,baz=256						
TBI	**Tubuai**	**23.33**	**112**	*e*LQ	LQ	08 53 53.3	
	comp=Z,430nm,28.5s						
TBI				*e*LR	LR	08 54 44.5	
	comp=Z,629nm,26.5s,baz=282						
URZ	**Urewera**	**23.80**	**200**	P	**P**	**08 49 26.7**	**-0.9**
URZ	**Urewera**	**23.80**	**200**	P	**P**	**08 49 26.7**	**-0.9**
	comp=Z,4.5nm,0.3s,baz=67,slow=2.4,SNR=8.8						
URZ				LR	LR	08 58 08.9	
	comp=Z,183nm,18.9s,baz=13,slow=35						
HNR	**Honiara**	**27.15**	**281**	LR	LR	08 59 22.4	
	comp=Z,615nm,19.4s,baz=1,slow=34						
RPZ	**Rata Peaks**	**30.75**	**203**	LR	LR	09 01 28.9	
	comp=Z,244nm,18.2s,baz=253,slow=34						
RKT	**Rikitea**	**36.46**	**107**	*e*LR	LR	09 00 45.6	
	comp=Z,369nm,28.2s,baz=271						
H11S2	**WAKE ISLAND Hy**	**39.68**	**329**	T	T	09 33 58.4	
	baz=155						
H11S3	**WAKE ISLAND Hy**	**39.69**	**329**	T	T	09 34 00.7	
	baz=155						
H11S1	**WAKE ISLAND Hy**	**39.70**	**329**	T	T	09 34 04.9	
	baz=155						
H11N3	**WAKE ISLAND Hy**	**40.63**	**330**	T	T	09 34 45.2	
	baz=152,slow=0.7,SNR=2.0						
H11N1	**WAKE ISLAND Hy**	**40.63**	**330**	T	T	09 35 07.2	
	baz=152,slow=0.7,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**40.65**	**330**	T	T	09 34 48.2	
	baz=152,slow=0.7,SNR=2.8						
STKA	**Stephens Creek**	**44.05**	**241**	*e*P	**P**	**08 52 23.0**	**+0.2**
	comp=Z,20nm,2.5s						
STKA	**Stephens Creek**	**44.05**	**241**	P	**P**	**08 52 21.5**	**-1.3**
	comp=Z,1.5nm,0.5s,baz=48,slow=7.3,SNR=7.0						
WRAB	**Tennant Creek**	**50.05**	**257**	*e*P	**P**	**08 53 08.6**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,43nm,2.0s						
WRAB	**Tennant Creek**	**50.05**	**257**	*e*P	**P**	**08 53 08.6**	**-1.2**
	comp=Z,43nm,2.0s						
WRA	**Warramunga Arr**	**50.06**	**257**	P	**P**	**08 53 08.2**	**-1.7**
WRA	**Warramunga Arr**	**50.06**	**257**	P	**P**	**08 53 08.2**	**-1.7**
	comp=Z,1.8nm,0.7s,baz=94,slow=6.7,SNR=15						
WRA				LR	LR	09 13 08.8	
	comp=Z,191nm,18.6s,baz=50,slow=35						
AS31	**Alice Springs**	**50.27**	**252**	*e*P	**P**	**08 53 09.3**	**-2.1**
ASAR	**Alice Springs**	**50.27**	**252**	P	**P**	**08 53 09.7**	**-1.7**
ASAR	**Alice Springs**	**50.27**	**252**	P	**P**	**08 53 09.7**	**-1.7**
	comp=Z,2.6nm,0.6s,baz=90,slow=7.4,SNR=30						
ASAR				LR	LR	09 13 32.8	
	comp=Z,265nm,19.0s,baz=94,slow=35						
FITZ	**Fitzroy Crossi**	**58.44**	**258**	P	**P**	**08 54 10.9**	**0.0**
FITZ	**Fitzroy Crossi**	**58.44**	**258**	P	**P**	**08 54 10.9**	**0.0**
	comp=Z,1.1nm,0.6s,baz=105,slow=12,SNR=2.8						
SBA	**Scott Base**	**62.66**	**185**	*e*P	**P**	**08 54 39.8**	**+1.0**
SBA				pmax	pmax		
	comp=Z,33nm,1.9s						
SBA	**Scott Base**	**62.66**	**185**	*e*P	**P**	**08 54 39.8**	**+1.0**
	comp=Z,33nm,1.9s						
VNDA	**Vanda**	**62.80**	**186**	*e*P	**P**	**08 54 40.3**	**+0.6**
	comp=Z,12nm,1.7s						
VNDA	**Vanda**	**62.80**	**186**	P	**P**	**08 54 39.9**	**+0.2**
	comp=Z,1.7nm,0.9s,baz=17,slow=6.7,SNR=6.7						
VNDA				LR	LR	09 16 08.5	
	comp=Z,55nm,19.9s,baz=4.9,slow=30						
MJAR	**Matsushiro Arr**	**69.64**	**320**	LR	LR	09 19 24.5	
	comp=Z,121nm,21.0s,baz=125,slow=30						
EDW2	**Edwards Air Fo**	**72.72**	**45**	⇑P	**P**	**08 55 43.7**	**+0.7**
	baz=73						
CMB	**Columbia Colle**	**72.99**	**41**	*e*P	**P**	**08 55 44.1**	**-0.4**
CMB				pmax	pmax		
	comp=Z,7.0nm,1.3s						
CMB	**Columbia Colle**	**72.99**	**41**	*e*P	**P**	**08 55 44.0**	**-0.4**
	comp=Z,6.8nm,1.3s						
PETK	**Petropavlovsk-**	**73.33**	**342**	P	**P**	**08 55 46.6**	**+0.6**
PETK	**Petropavlovsk-**	**73.33**	**342**	P	**P**	**08 55 46.6**	**+0.6**
PETK	**Petropavlovsk-**	**73.33**	**342**	P	**P**	**08 55 46.6**	**+0.6**
	comp=Z,5.2nm,0.9s,baz=125,slow=9.8,SNR=4.4						
PETK				LR	LR	09 29 16.6	
	comp=Z,27nm,18.3s,baz=268,slow=37						
BELC	**Belle Mtn. Jos**	**73.61**	**47**	⇑P	**P**	**08 55 48.8**	**+0.5**
	baz=74						
MPMC	**Manual Prospec**	**73.73**	**44**	⇑P	**P**	**08 55 49.9**	**+0.8**
	baz=74						
GSC	**Goldstone**	**73.77**	**45**	⇑P	**P**	**08 55 50.0**	**+0.8**
	baz=74						
WAKR	**Walker**	**73.87**	**41**	*e*P	**P**	**08 55 50.7**	**+0.9**
HUMO	**Hull Mountain**	**74.29**	**36**	*e*P	**P**	**08 55 52.5**	**+0.5**
	comp=Z,33nm,1.8s						
Y12C	**Blythe**	**74.52**	**47**	⇓P	**P**	**08 55 53.9**	**+0.5**
	baz=75						
NVAR	**Mina Array Bea**	**74.55**	**42**	P	**P**	**08 55 54.1**	**+0.3**
NVAR	**Mina Array Bea**	**74.55**	**42**	P	**P**	**08 55 54.1**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=227,slow=9.2,SNR=7.4						
PDMCI	**Paer Dam,Lak**	**75.08**	**47**	⇑P	**P**	**08 55 57.5**	**+0.9**
	baz=75						
MOD	**Modoc**	**75.39**	**38**	*e*P	**P**	**08 55 59.2**	**+0.8**
	comp=Z,37nm,1.1s						
K05A	**Summer Lake**	**75.55**	**37**	*e*P	**P**	**08 56 00.7**	**+1.3**
	comp=Z,13nm,1.0s						
W13A	**Hualapai Mount**	**75.67**	**47**	⇑P	**P**	**08 56 01.1**	**+0.7**
	baz=76						
Y14A	**Wickenburg**	**75.69**	**48**	⇑P	**P**	**08 56 01.2**	**+0.9**
	baz=76						
H04A	**Detroit Lake**	**76.05**	**35**	*e*P	**P**	**08 56 02.7**	**+0.6**
	comp=Z,12nm,1.1s						
PINOR	**Pine Mountain**	**76.23**	**36**	*e*P	**P**	**08 56 03.8**	**+0.8**
	comp=Z,12nm,1.0s						
R11A	**Troy Canyon, C**	**76.26**	**43**	*e*P	**P**	**08 56 03.7**	**+0.1**
R11A	**Troy Canyon, C**	**76.26**	**43**	⇓P	**P**	**08 56 04.5**	**+0.8**
	baz=76						
E03A	**Lebam**	**76.53**	**33**	*e*P	**P**	**08 56 06.0**	**+1.3**
	comp=Z,15nm,0.9s						
NLWA	**Neilton Lookou**	**76.93**	**32**	*e*P	**P**	**08 56 08.4**	**+1.4**
	comp=Z,10nm,1.1s						
X16A	**Lo Mia Camp, P**	**77.06**	**48**	⇓P	**P**	**08 56 08.8**	**+0.6**
	baz=77						
I07A	**Izee**	**77.18**	**36**	*e*P	**P**	**08 56 09.6**	**+1.0**
	comp=Z,6.0nm,1.0s						
319A	**Douglas**	**77.19**	**52**	⇓P	**P**	**08 56 09.1**	**+0.2**
	baz=77,SNR=5.6						
CCUT	**Cedar City**	**77.31**	**45**	*e*P	**P**	**08 56 10.6**	**+1.0**
	comp=Z,9.1nm,1.4s						
J08A	**Circle Bar Ran**	**77.34**	**38**	*e*P	**P**	**08 56 10.3**	**+0.8**
	comp=Z,6.6nm,1.0s						
ARUT	**Antelope Range**	**77.39**	**44**	*e*P	**P**	**08 56 10.9**	**+0.9**
ARUT	**Antelope Range**	**77.39**	**44**	*e*P	**P**	**08 56 10.9**	**+0.9**
	comp=Z,83nm,0.7s						
U15A	**North Rim**	**77.47**	**46**	⇑P	**P**	**08 56 11.7**	**+1.1**
	baz=78						
LON	**Longmire**	**77.58**	**33**	*e*P	**P**	**08 56 11.2**	**+0.5**
LON				pmax	pmax		
	comp=Z,5.0nm,1.1s						
LON	**Longmire**	**77.58**	**33**	*e*P	**P**	**08 56 11.2**	**+0.5**
	comp=Z,4.8nm,1.1s						
WUAZ	**Wupatki**	**77.65**	**47**	⇑P	**P**	**08 56 12.4**	**+1.0**
	baz=78						
320A	**Kipp Ranch, An**	**77.74**	**52**	⇓P	**P**	**08 56 13.0**	**+1.0**
	baz=78						
D05A	**Enumclaw**	**77.77**	**33**	*e*P	**P**	**08 56 13.1**	**+1.4**
	comp=Z,35nm,1.3s						
ELK	**Elko**	**77.81**	**41**	*e*P	**P**	**08 56 12.8**	**+0.5**
	comp=Z,2.8nm,1.0s						
PGC	**Sidney**	**77.98**	**31**	*e*P	**P**	**08 56 13.8**	**+1.0**
	comp=Z,0.5nm,0.9s						
220A	**Playas Peak, P**	**78.00**	**52**	⇑P	**P**	**08 56 14.0**	**+0.5**
	baz=78,SNR=6.3						
X18A	**Snowflake**	**78.18**	**49**	⇓P	**P**	**08 56 15.1**	**+0.7**
	baz=78						
120A	**U Bar Ranch, L**	**78.22**	**51**	⇓P	**P**	**08 56 15.7**	**+1.0**
	baz=78						
LTY	**Liberty**	**78.50**	**33**	*e*P	**P**	**08 56 16.2**	**+0.4**
	comp=Z,51nm,2.5s						
Z20A	**Nine Sixteen R**	**78.51**	**51**	⇑P	**P**	**08 56 17.3**	**+1.0**
	baz=79						
HAWA	**Hanford**	**78.58**	**35**	*e*P	**P**	**08 56 16.8**	**+0.6**
	comp=Z,13nm,1.4s						
121A	**Cookes Peak, D**	**78.85**	**51**	⇑P	**P**	**08 56 19.1**	**+0.9**
	baz=79						
Y20A	**Horse Springs,**	**79.04**	**50**	⇓P	**P**	**08 56 20.1**	**+0.8**
	baz=79,SNR=5.6						
DUG	**Dugway**	**79.07**	**43**	*e*P	**P**	**08 56 19.4**	**+0.2**
DUG				pmax	pmax		
	comp=Z,3.0nm,1.2s						
DUG	**Dugway**	**79.07**	**43**	*e*P	**P**	**08 56 19.4**	**+0.2**
	comp=Z,3.3nm,1.2s						
DUG	**Dugway**	**79.07**	**43**	⇑P	**P**	**08 56 20.2**	**+1.0**
	baz=79						
X20A	**Quemado**	**79.24**	**49**	⇑P	**P**	**08 56 21.6**	**+1.2**
	baz=80						
Z21A	**St. Cloud Mine**	**79.28**	**51**	⇓P	**P**	**08 56 21.5**	**+0.9**
	baz=80,SNR=6.5						
E09A	**Wood Farm, Sta**	**79.41**	**35**	*e*P	**P**	**08 56 20.8**	**0.0**
	comp=Z,7.1nm,1.1s						
Q16A	**Castle Valley**	**79.50**	**44**	⇓P	**P**	**08 56 22.7**	**+1.1**
	baz=80						
W20A	**Ramah**	**79.52**	**49**	⇓P	**P**	**08 56 22.6**	**+0.7**
	baz=80,SNR=8.5						
Y21A	**Point of Rocks**	**79.60**	**50**	⇓P	**P**	**08 56 23.6**	**+1.3**
	baz=80						
F10A	**Beach Ranch, E**	**79.61**	**36**	*e*P	**P**	**08 56 21.4**	**-0.5**
	comp=Z,6.7nm,0.9s						
TMUT	**Trail Mountain**	**79.66**	**44**	*e*P	**P**	**08 56 24.0**	**+1.4**
	comp=Z,12nm,1.0s						
X21A	**Alamocita Cree**	**79.72**	**50**	⇓P	**P**	**08 56 23.8**	**+0.8**
	baz=80						
Z22A	**Elephant Butte**	**79.79**	**51**	⇓P	**P**	**08 56 23.9**	**+0.6**
	baz=80,SNR=6.1						
V20A	**Brimhall**	**79.86**	**48**	⇑P	**P**	**08 56 23.8**	**+0.1**
	baz=80						
HLID	**Hailey**	**79.88**	**39**	*e*P	**P**	**08 56 24.5**	**+0.9**
	comp=Z,6.1nm,1.0s						
HLID	**Hailey**	**79.88**	**39**	⇓P	**P**	**08 56 24.2**	**+0.7**
	baz=80,SNR=11						
B08A	**Colville Reser**	**79.90**	**33**	*e*P	**P**	**08 56 23.5**	**+0.1**
	comp=Z,6.1nm,1.0s						
SRU	**San Rafael**	**80.03**	**44**	*e*P	**P**	**08 56 24.9**	**+0.4**
SRU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SRU	**San Rafael**	**80.03**	**44**	*e*P	**P**	**08 56 24.9**	**+0.4**
	comp=Z,4.4nm,1.0s						
Y22A	**Socorro**	**80.09**	**50**	⇓P	**P**	**08 56 25.8**	**+0.8**
	baz=80						
324A	**Moseley Ranch,**	**80.12**	**53**	⇓P	**P**	**08 56 25.4**	**+0.3**
	baz=80						
C09A	**Chrisman Ranch**	**80.12**	**34**	*e*P	**P**	**08 56 25.2**	**+0.7**
	comp=Z,6.5nm,0.9s						
JLU	**Jordanelle**	**80.17**	**43**	*e*P	**P**	**08 56 25.3**	**0.0**
	comp=Z,3.1nm,0.8s						
425A	**Indio Mountain**	**80.22**	**54**	⇓P	**P**	**08 56 26.1**	**+0.4**
	baz=80,SNR=7.2						
Z23A	**Rita Site, Whi**	**80.34**	**51**	⇑P	**P**	**08 56 27.3**	**+1.1**
	baz=81						
224A	**Cornudas Mount**	**80.36**	**53**	⇑P	**P**	**08 56 27.3**	**+0.9**
	baz=81						
626A	**Big Bend Ranch**	**80.38**	**56**	⇑P	**P**	**08 56 27.1**	**+0.7**
	baz=81						
BNM	**Barren Site**	**80.44**	**50**	*e*P	**P**	**08 56 27.0**	**+0.1**
	comp=Z,3.0nm,1.0s						
V21A	**Milan**	**80.45**	**49**	⇓P	**P**	**08 56 27.9**	**+0.9**
	baz=81						
325A	**Bean Ranch, Si**	**80.48**	**54**	⇓P	**P**	**08 56 27.2**	**+0.1**
	baz=81,SNR=8.5						
526A	**Mary Lane Ranc**	**80.62**	**55**	⇑P	**P**	**08 56 28.4**	**+0.6**
	baz=81						
TXAR	**Lajitas Array**	**80.66**	**56**	P	**P**	**08 56 28.4**	**+0.4**
TXAR	**Lajitas Array**	**80.66**	**56**	P	**P**	**08 56 28.4**	**+0.4**
	comp=Z,2.0nm,1.0s,baz=219,slow=8.0,SNR=12						
PV09	**Paradox Valley**	**80.67**	**46**	*e*P	**P**	**08 56 29.0**	**+0.9**
124A	**Stringfield Ra**	**80.68**	**52**	⇓P	**P**	**08 56 28.8**	**+0.6**
	baz=81						
U21A	**Nageezi**	**80.73**	**48**	⇓P	**P**	**08 56 29.1**	**+0.7**
	baz=81,SNR=12						
Y23A	**Lovelace Mesa,**	**80.77**	**51**	⇑P	**P**	**08 56 28.9**	**+0.3**
	baz=81						
S20A	**Disappointment**	**80.89**	**46**	⇓P	**P**	**08 56 29.7**	**+0.4**
	baz=81						
225A	**Deer Hill, Car**	**80.91**	**53**	⇓P	**P**	**08 56 29.9**	**+0.5**
	baz=81						
426A	**McDonald Obser**	**80.92**	**55**	⇓P	**P**	**08 56 29.9**	**+0.4**
	baz=81						
ANMO	**Albuquerque**	**80.92**	**50**	*e*P	**P**	**08 56 29.5**	**+0.1**
	comp=Z,2.5nm,0.9s						
ANMO	**Albuquerque**	**80.92**	**50**	P	**P**	**08 56 29.2**	**-0.2**
	comp=Z,3.4nm,1.0s,baz=214,slow=7.3,SNR=6.4						
627A	**Terlingua Ranc**	**80.93**	**56**	⇓P	**P**

baz=82
SNOW Snow King Moun 82.08 41 *e*P **P 08 56 36.1 +0.7**
comp=Z,7.1nm,1.0s
529A Stev Forest Ra 82.13 56 ⇑P **P 08 56 36.0 +0.3**
baz=82
T23A Casias Ranch, 82.16 48 ⇓P **P 08 56 36.5 +0.5**
baz=82
328A Wristen Ranch, 82.17 54 ⇓P **P 08 56 36.1 +0.2**
baz=82
IMW Indian Meadow 82.19 40 *e*P **P 08 56 36.4 +0.4**
comp=Z,6.8nm,1.1s
R22A Saguache, Gunn 82.20 47 ⇑P **P 08 56 37.2 +1.0**
baz=82
LOHW Long Hollow 82.25 41 *e*P **P 08 56 36.7 +0.5**
comp=Z,5.8nm,1.2s
127A Arkansas Junct 82.27 53 ⇑P **P 08 56 36.9 +0.4**
baz=82
P21A Newcastle 82.32 45 ⇓P **P 08 56 37.8 +1.1**
baz=83
QLMT Earthquake Lak 82.37 39 *e*P **P 08 56 38.1 +1.2**
comp=Z,0.4nm,0.6s
Q22A Crested Butte, 82.38 46 ⇓P **P 08 56 37.5 +0.4**
baz=83,SNR=11
N20A Spence Gulch, 82.39 44 ⇓P **P 08 56 37.9 +0.9**
baz=83
CHMT Chamberlain Mo 82.40 37 *e*P **P 08 56 36.6 -0.3**
comp=Z,3.5nm,1.3s
I17A Pilgrim Ck. 82.42 40 ⇓P **P 08 56 38.2 +1.0**
baz=83
FLWY Flagg Ranch 82.43 40 *e*P **P 08 56 38.2 +1.1**
comp=Z,12nm,1.0s
U24A Moreno Valley 82.43 49 ⇑P **P 08 56 39.1 +1.7**
baz=83
SMCO Snowmass 82.48 46 *e*P **P 08 56 38.2 +0.5**
comp=Z,6.1nm,1.0s
PDAR Pinedale Array 82.48 42 P **P 08 56 37.5 0.0**
PDAR Pinedale Array 82.48 42 P **P 08 56 37.5 0.0**
comp=Z,3.8nm,0.8s,baz=216,slow=3.3,SNR=33
PDAR LR LR 09 27 45.2
comp=Z,122nm,18.3s,baz=53,slow=32
S23A Nye Farm, Mont 82.49 47 ⇓P **P 08 56 38.3 +0.6**
baz=83
W25A X Bar L Ranch, 82.51 50 ⇓P **P 08 56 37.8 +0.1**
baz=83
429A Davenport Ranc 82.58 55 ⇓P **P 08 56 38.0 -0.1**
baz=83,SNR=6.5
O21A Pagoda 82.62 45 ⇑P **P 08 56 39.0 +0.7**
baz=83
228A UT Block 9, Go 82.64 54 ⇑P **P 08 56 39.0 +0.7**
baz=83
T24B San Luis 82.64 48 ⇑P **P 08 56 39.7 +1.2**
baz=83
Z27A Tatum 82.65 52 ⇓P **P 08 56 38.8 +0.4**
baz=83
V25A Rancho No Teng 82.67 50 ⇑P **P 08 56 38.8 +0.3**
baz=83,SNR=6.9
H17A Grant Village 82.67 40 ⇓P **P 08 56 39.9 +1.5**
baz=83
X26A CR and CF Fran 82.71 51 ⇑P **P 08 56 39.3 +0.5**
baz=83
P22A Eagle 82.82 45 ⇑P **P 08 56 39.7 +0.3**
baz=83
530A J-C Ranch, Com 82.84 56 ⇓P **P 08 56 39.7 +0.3**
baz=83
329A Wagon Wheel Ra 82.86 55 ⇑P **P 08 56 39.7 +0.2**
baz=83
SDCO Great Sand Dun 82.86 48 *e*P **P 08 56 39.5 -0.1**
comp=Z,1.7nm,0.8s
COLA College 82.90 11 *e*P **P 08 56 39.3 +0.5**
COLA pmax pmax
comp=Z,15nm,0.9s
COLA College 82.90 11 *e*P **P 08 56 39.3 +0.5**
comp=Z,15nm,0.9s
Y27A Causey 82.92 52 ⇑P **P 08 56 40.0 +0.2**
baz=83
128A Castleberry Fa 82.92 53 ⇑P **P 08 56 40.5 +0.7**
baz=83
W26A Owens Ranch, T 82.97 51 ⇓P **P 08 56 41.3 +1.2**
baz=83
ILAR Eielson Array 82.98 11 P **P 08 56 38.9 -0.4**
ILAR Eielson Array 82.98 11 P **P 08 56 38.9 -0.4**
comp=Z,1.6nm,0.8s,baz=220,slow=5.7,SNR=14
ILAR LR LR 09 31 56.9
comp=Z,62nm,18.8s,baz=317,slow=34
S24A Houchin Ranch, 83.02 48 ⇑P **P 08 56 41.2 +0.7**
baz=83,SNR=5.5
J19A Crowheart 83.05 41 ⇓P **P 08 56 40.5 +0.1**
baz=83,SNR=8.5
U25A Circle Dot Ran 83.06 49 ⇓P **P 08 56 40.6 0.0**
baz=83,SNR=7.7
631A Perdido Creek 83.16 57 ⇓P **P 08 56 41.5 +0.4**
baz=83
SEY Seymchan 83.21 345 *e*P **P 08 56 40.8 +0.3**
O22A Kremmling 83.23 45 ⇓P **P 08 56 41.8 +0.2**
baz=84,SNR=6.4
MSTX Muleshoe 83.25 52 *e*P **P 08 56 41.1 -0.4**
MSTX Muleshoe 83.25 52 ⇑P **P 08 56 42.0 +0.4**
baz=84
V26A Tequesquite Ra 83.26 50 ⇑P **P 08 56 41.8 +0.2**
baz=84
Z28A Tucker Farm, M 83.27 53 ⇓P **P 08 56 41.8 +0.2**
baz=84
X27A F and S Farms, 83.29 51 ⇑P **P 08 56 41.9 +0.2**
baz=84
P23A Jefferson 83.35 46 ⇓P **P 08 56 42.9 +0.7**
baz=84
R24A Sanders Place, 83.36 47 ⇑P **P 08 56 42.7 +0.6**
baz=84,SNR=6.0
H18A Shoshone NF, C 83.37 40 ⇓P **P 08 56 42.7 +0.6**
baz=84
T25A Trinidad 83.38 49 ⇑P **P 08 56 42.8 +0.5**
baz=84
330A Mertzon 83.46 55 ⇑P **P 08 56 43.1 +0.5**
baz=84
I19A Meeteetse 83.47 41 ⇑P **P 08 56 43.0 +0.5**
baz=84,SNR=5.7
531A Rocksprings 83.47 56 ⇑P **P 08 56 43.0 +0.2**
baz=84
W27A Bowe Ranch, En 83.48 51 ⇑P **P 08 56 42.4 -0.3**
baz=84,SNR=5.1
U26A Atchley Ranch, 83.54 49 ⇑P **P 08 56 43.0 -0.1**
baz=84,SNR=5.5
N22A Wattenberg Ran 83.58 45 ⇓P **P 08 56 43.7 +0.4**
baz=84,SNR=8.5
S25A Robets Cordova 83.58 48 ⇓P **P 08 56 43.7 +0.4**
baz=84
431A Sonora 83.62 56 ⇑P **P 08 56 43.7 +0.3**
baz=84
Y28A McKinney Farm, 83.62 52 ⇑P **P 08 56 43.9 +0.4**
baz=84
Q24A Divide 83.65 47 ⇓P **P 08 56 44.3 +0.6**
baz=84
O23A Lake Granby, G 83.68 45 ⇓P **P 08 56 44.6 +0.7**
baz=84
ISCO Idaho Springs 83.70 46 *e*P **P 08 56 44.1 +0.1**
ISCO pmax pmax
comp=Z,3.0nm,1.0s
ISCO Idaho Springs 83.70 46 *e*P **P 08 56 44.1 +0.1**
comp=Z,2.7nm,1.0s
ISCO Idaho Springs 83.70 46 ⇑P **P 08 56 44.4 +0.5**
baz=84
J20A Shoshoni 83.71 42 ⇑P **P 08 56 44.4 +0.7**
baz=84
M22A Cedar Creek Ra 83.77 44 ⇓P **P 08 56 44.7 +0.5**
baz=84
Z29A Hungry Hill Ra 83.78 53 ⇓P **P 08 56 44.1 -0.1**
baz=84
H19A Powell 83.79 40 ⇑P **P 08 56 45.0 +0.9**
baz=84,SNR=10
RLMT Red Lodge 83.84 40 *e*P **P 08 56 45.1 +0.6**
comp=Z,4.9nm,1.0s
R25A Fountain Ranch 83.90 48 ⇑P **P 08 56 44.2 -0.6**
baz=84,SNR=5.2
K21A Alcova 83.91 43 ⇓P **P 08 56 44.6 -0.2**
baz=84,SNR=7.4
X28A Dimmitt 83.91 52 ⇑P **P 08 56 44.3 -0.6**
baz=84,SNR=5.6
GCMT Greycliff 83.93 39 *e*P **P 08 56 45.5 +0.7**
comp=Z,10.0nm,1.6s
DAWY Dawson 83.93 14 *e*P **P 08 56 45.2 +0.9**
N23A Red Feather La 83.97 45 ⇓P **P 08 56 45.6 +0.3**
baz=84,SNR=5.6
I20A Worland 83.97 41 ⇓P **P 08 56 45.0 -0.1**
baz=84,SNR=10
532A Rocksprings 83.97 56 ⇓P **P 08 56 45.4 +0.1**
baz=84
Y29A Porterfield Fa 84.04 52 ⇑P **P 08 56 45.6 0.0**
baz=84
J21A Lysite 84.12 42 ⇓P **P 08 56 46.0 +0.1**
baz=84,SNR=16
EGAK Eagle 84.14 13 *e*P **P 08 56 45.4 +0.2**
comp=Z,5.7nm,1.1s
L22A Ellis Ranch, M 84.16 43 ⇓P **P 08 56 46.4 +0.3**
baz=84,SNR=8.8
JCT Junction City 84.19 56 ⇑P **P 08 56 46.6 +0.2**
baz=84
O24A Longmont 84.22 46 ⇑P **P 08 56 47.2 +0.8**
baz=84
U27A Thompson Grove 84.22 50 ⇓P **P 08 56 46.6 +0.1**
baz=84
Z30A Sanderson Ranc 84.23 53 ⇓P **P 08 56 45.8 -0.7**
baz=84,SNR=5.2
X29A Tulia 84.26 52 ⇓P **P 08 56 46.7 0.0**
baz=84
S26A Kim 84.26 48 ⇓P **P 08 56 47.0 +0.3**
baz=84
Q25A Bedland, Calha 84.26 47 ⇓P **P 08 56 47.1 +0.4**
baz=84
H20A Greybull 84.31 41 ⇑P **P 08 56 47.2 +0.5**
baz=85
231A Bronte 84.34 55 ⇑P **P 08 56 46.5 -0.6**
baz=85
432A Menard 84.35 56 ⇓P **P 08 56 46.9 -0.3**
baz=85
M23A Laramie 84.38 44 ⇑P **P 08 56 47.6 +0.3**
baz=85
K22A Casper 84.39 43 ⇑P **P 08 56 47.8 +0.6**
baz=85
V28A Channing 84.39 51 ⇓P **P 08 56 47.8 +0.4**
baz=85
F19A Roth Farm, Mol 84.40 39 ⇓P **P 08 56 47.4 +0.2**
baz=85,SNR=7.6
I21A Big Trails, Te 84.44 42 ⇑P **P 08 56 47.2 -0.3**
baz=85,SNR=8.4
G20A Bridger 84.53 40 ⇑P **P 08 56 48.3 +0.4**
baz=85
R26A Arlington 84.56 48 ⇓P **P 08 56 48.0 -0.1**
baz=85,SNR=5.7
131A Roby 84.57 54 ⇓P **P 08 56 48.4 +0.2**
baz=85
T27A Campo 84.57 49 ⇑P **P 08 56 48.5 +0.3**
baz=85
W29A Amarillo 84.57 51 ⇓P **P 08 56 47.9 -0.3**
baz=85
P25A Willow Gulch B 84.58 46 ⇑P **P 08 56 48.6 +0.3**
baz=85
332A Millersview 84.58 55 ⇑P **P 08 56 48.6 +0.3**
baz=85
U28A Mallet 84.65 50 ⇑P **P 08 56 48.7 +0.1**
baz=85
L23A Garrett 84.69 44 ⇑P **P 08 56 48.6 -0.3**
baz=85,SNR=9.5
J22A Midwest 84.77 42 ⇓P **P 08 56 49.4 +0.2**
baz=85
Q26A Hugo 84.78 47 ⇓P **P 08 56 49.2 0.0**
baz=85
E19A Rath Farm, Rou 84.79 39 ⇓P **P 08 56 49.9 +0.8**
baz=85
232A Coleman 84.85 55 ⇑P **P 08 56 50.0 +0.4**
baz=85
X30A Coker Ranch, T 84.88 52 ⇓P **P 08 56 49.7 0.0**
baz=85
H21A Big Horn, Sher 84.98 41 ⇓P **P 08 56 50.7 +0.5**
baz=85
M24A Cheyenne 84.98 44 ⇓P **P 08 56 50.6 +0.4**
baz=85
I22A 9 Mile Ranch, 84.99 42 ⇑P **P 08 56 50.5 +0.3**
baz=85
EGMT Eagleton 85.00 37 ⇓P **P 08 56 50.3 +0.2**
baz=85
Z31A Sharp Cattle R 85.00 53 ⇑P **P 08 56 50.6 +0.2**
baz=85
K23A Bowen Ranch, D 85.03 43 ⇑P **P 08 56 50.9 +0.4**
baz=85
T28A Walsh 85.03 49 ⇑P **P 08 56 50.4 -0.2**
baz=85
D19A Cripps Ranch, 85.09 38 ⇑P **P 08 56 51.2 +0.7**
baz=85
ABTX Abilene, Hawle 85.13 54 ⇑P **P 08 56 51.2 +0.2**
baz=85
Y31A Rekieta Farm, 85.16 53 ⇑P **P 08 56 51.7 +0.6**
baz=85
E20A Meyer Farm, Mu 85.21 39 ⇓P **P 08 56 52.3 +1.2**
baz=86
D20A Manuel Ranch, 85.49 38 ⇓P **P 08 56 53.5 +0.9**
baz=86
Z32A Haskell 85.51 54 ⇓P **P 08 56 53.4 +0.4**
baz=86
V30A Spur Ranch, Mi 85.54 51 ⇑P **P 08 56 54.4 +1.3**
baz=86
X31A McDonald Ranch 85.64 52 ⇑P **P 08 56 53.6 +0.1**
baz=86
B19A Brinkman Farms 85.69 37 ⇑P **P 08 56 54.4 +1.0**
baz=86
R28A Tribune 85.75 48 ⇑P **P 08 56 53.9 -0.1**
baz=86,SNR=6.6
Y32A R-V Farms, Ver 85.81 53 ⇑P **P 08 56 54.2 -0.2**
baz=86
E21A Keefer Ranch, 85.87 39 ⇓P **P 08 56 55.5 +1.1**
baz=86
W31A Holland Ranch, 85.88 52 ⇓P **P 08 56 54.9 +0.2**
baz=86
D21A La Casta Ranch 86.17 39 ⇑P **P 08 56 56.8 +0.9**
baz=86
B20A Solberg Farm, 86.22 37 ⇓P **P 08 56 56.6 +0.6**
baz=86
R29A Marienthal 86.27 48 ⇓P **P 08 56 56.9 +0.2**
baz=86
G23A Biddle 86.29 41 ⇓P **P 08 56 56.9 +0.3**
baz=86
A20A Cobblestone Ra 86.49 37 ⇑P **P 08 56 58.1 +0.7**
baz=87
B21A Ellsworth Farm 86.80 38 ⇑P **P 08 56 59.5 +0.6**
baz=87
I25A Rochford 86.83 43 ⇑P **P 08 56 59.5 +0.1**
baz=87
R30A Dighton 86.83 49 ⇓P **P 08 56 59.9 +0.5**
baz=87
D23A Lindsay 87.30 39 ⇑P **P 08 57 02.4 +1.0**
baz=88
MAW Mawson 87.32 199 *e*P **P 08 57 01.1 0.0**
comp=Z,0.8nm,0.9s
MAW Mawson 87.32 199 P **P 08 57 01.4 +0.3**
comp=Z,1.1nm,0.6s,baz=135,slow=8.6,SNR=3.7
MAW LR LR 09 32 22.7
comp=Z,122nm,20.3s,baz=293,slow=33
P30A Selden 87.35 48 ⇓P **P 08 57 02.0 +0.1**
baz=88
R31A Burdett 87.38 49 ⇑P **P 08 57 02.0 0.0**
baz=88
E25A Miller Ranch, 88.11 40 ⇑P **P 08 57 05.6 +0.3**
baz=88
GYA Guiyang 88.65 298 *e*P **P 08 57 09.0 +0.6**
GYA AMB AMB
comp=Z,10.0nm,1.0s
HHC Hu-ho-hao-te 89.71 313 *e*P **P 08 57 12.4 -0.7**
HHC pP **PcP 08 57 17.3 +2.9**
HHC sP **sP 08 57 19.5 -5.1**
HHC PP **PP 09 00 46.6 +1.0**
HHC S **S 09 08 01.4 -1.9**
HHC sS **ScS 09 08 09.8 +2.2**
HHC SS **SS 09 14 03.3 +2.6**
HHC AMB AMB
comp=Z,290nm,5.4s
HHC LR LR
comp=Z,370nm,17.5s
HHC LR LR
comp=Z,310nm,16.7s
HHC LR LR
comp=Z,280nm,17.1s
JTS JuntasAbangare 90.96 80 P **P 08 57 20.4 +1.1**
JTS JuntasAbangare 90.96 80 P **P 08 57 20.4 +1.1**
comp=Z,6.2nm,0.8s,baz=284,slow=10,SNR=4.6
KMI Kunming 91.62 296 P **P 08 57 21.9 -0.5**
KMI AMB AMB
comp=Z,11nm,0.7s
CD2 Chengdu 92.44 301 P **P 08 57 27.6 +1.7**
LZH Lanzhou 93.88 306 *e*P **P 08 57 34.1 +1.5**
LZH pP **pP 08 57 37.5 -3.6**
LZH sP **sP 08 57 38.9 -5.2**
LZH PP **PP 09 01 23.3 +4.6**
LZH AMB AMB
comp=Z,17nm,1.5s
LZH AMB AMB
comp=Z,68nm,8.6s
LZH LR LR
comp=Z,150nm,17.0s
LZH LR LR
comp=Z,150nm,16.5s
LZH LR LR
comp=Z,190nm,19.7s
ULM Lac du Bonnet 94.19 39 LR LR 09 36 27.7
comp=Z,124nm,18.5s,baz=275,slow=33
LPAZ La Paz 99.26 110 LR LR 09 31 55.1
comp=Z,71nm,19.7s,baz=62,slow=29
ARU Arti 124.06 328 *i* PKIKP **PKPdf 09 03 12.5 -0.2**
ARU 09 04 53.6
ARU 09 10 13.4
AB31 Akbulak array 125.92 320 ⇑Pn PKPdf 09 03 25.2 +8.7
comp=Z,0.1nm,0.3s,baz=354,slow=16
AB31 ⇓Lg Lg 09 04 28.4
comp=Z,0.6nm,0.5s,baz=5.9,slow=26,SNR=3.5
AKTO Aktyubinsk 126.69 322 ⇓Pn **PKPdf 09 03 14.0 -4.0**
comp=Z,0.6nm,0.7s
CLL Collm 144.47 353 *e*PKIKP **PKPdf 09 03 53.0 +2.2**
CLL Collm 144.47 353 *e*PKPdf **PKPdf 09 03 53.0 +2.2**
KOLS Kolonicke sedl 144.87 342 *e*PKIKP **PKPdf 09 03 51.8 +0.2**
KOLS Kolonicke sedl 144.87 342 *e*PKP **PKPdf 09 03 51.8 +0.2**
DPC Dobruska-Polom 144.94 350 *e*PKIKP **PKPdf 09 03 51.8 0.0**
DPC *e* 09 03 58.2
DPC Dobruska-Polom 144.94 350 *e*PKP **PKPdf 09 03 51.8 0.0**
DPC *ep*PKP **pPKPdf 09 03 58.2 -2.3**
OKC Ostrava-Krasne 145.07 347 *e*PKIKP **PKPdf 09 03 52.2 +0.3**
OKC Ostrava-Krasne 145.07 347 *e*PKP **PKPdf 09 03 52.2 +0.3**
UZH Uzhgorod 145.14 342 ⇓*i*PKIKP **PKPdf 09 03 52.0 -0.1**
UZH *i* 09 04 06.6
HGN Heimansgroeve 145.33 1 *e*Pg **PKPbc 09 03 51.8 -0.3**
comp=Z,2.9nm,0.1s
PRU Pruhonice 145.57 351 *e*PKP2 **PKPab 09 03 53.2 0.0**
PRU Pruhonice 145.57 351 *e*PKP **PKPab 09 03 53.2 0.0**
PRU *ep*PKP **pPKPdf 09 04 00.7 -0.8**
KMBO Kilima Mbogo 145.59 243 PKPbc **PKPbc 09 03 54.4 0.0**
KMBO *e*PKPdf **PKPab 09 03 55.0 +0.4**
KMBO Kilima Mbogo 145.59 243 PKPbc **PKPbc 09 03 54.4 0.0**
comp=Z,0.6nm,0.2s,baz=20,slow=8.4,SNR=3.8
KHC Kasperske Hory 146.54 352 *e*PKP2 **PKPab 09 03 56.5 -0.5**
KHC Kasperske Hory 146.54 352 *e*PKP **PKPab 09 03 56.5 -0.5**
KHC *ex* x 09 04 03.4
GERES GERESS Array B 146.81 352 PKPbc **PKPdf 09 03 54.6 -0.5**
GERES GERESS Array B 146.81 352 PKPbc **PKPdf 09 03 54.6 -0.5**
comp=Z,1.4nm,0.7s,baz=24,slow=3.6,SNR=8.8
BR131 Keskin Array S 146.87 321 *e*PKPbc **PKPab 09 03 58.1 -0.6**
BRTR Keskin Array B 146.87 321 PKPbc **PKPab 09 03 58.2 -0.4**
BRTR Keskin Array B 146.87 321 PKPbc **PKPab 09 03 58.2 -0.4**
comp=Z,3.3nm,0.9s,baz=103,slow=2.7,SNR=17
CONA Conrad Observa 147.35 349 ⇑isPKPdf sPKPdf 09 03 59.5 -8.2
comp=Z,12nm,1.2s
FETA Feichten 148.93 355 ⇓*i*PKiKP **PKiKP 09 04 04.2 +0.1**
comp=Z,8.2nm,1.3s
ABTA Abfaltersbach 149.02 353 ⇑*i*PKPbc **PKPbc 09 04 02.0 -0.8**
comp=Z,6.5nm,0.9s
ESDC Sonseca Array 154.57 20 PKPab **PKPab 09 04 30.9 +0.6**
ESDC Sonseca Array 154.57 20 PKPab **PKPab 09 04 30.9 +0.6**
comp=Z,0.2nm,0.3s,baz=330,slow=5.8,SNR=3.6
TORD Torodi Ar. Bea 174.14 119 PKP **PKPdf 09 04 26.6 +1.4**
TORD PKPab **PKPab 09 05 55.3 -1.5**
TORD Torodi Ar. Bea 174.14 119 PKP **PKPdf 09 04 26.6 +1.4**
comp=Z,0.5nm,0.8s,baz=236,slow=4.7,SNR=2.5
TORD PKPab **PKPab 09 05 55.3 -1.5**
comp=Z,2.0nm,1.2s,baz=231,slow=4.7,SNR=4.0

IDC ***20*** *09:28:43.9±0.5, 12.°09N×94.°97E, h0km, mb4.4/36, mb1 4.5/38, mb1mx4.4/43, mbtmp4.4/38, ML4.2/2, MS4.0/27, Ms1 4.0/27, ms1mx3.9/48, Error ellipse: s-maj=16.8km s-min=10.7km az=54.0*
ISCJB ***20*** *09:28:44.9±0.9, 12.°02N±0.°03×94.°98E±0.°03, h17km±6km, mb4.7/84, MS4.2/38, Error ellipse: s-maj=5.3km s-min=3.7km az=136.8*
BJI ***20*** *09:28:44.4, 11.°73N×94.°86E, h35km, mB5.0/31, mb4.7/37, Ms4.6/33, Ms7 4.3/32*
NEIC ***20*** *09:28:45.8±2.2, 12.°05N×94.°94E, h12km±13km, mb4.9/19, Error ellipse: s-maj=7.4km s-min=3.9km az=63.0*
MOS ***20*** *09:28:46.9±0.9, 12.°05N×95.°05E, h33km, mb5.0/21, Error ellipse: s-maj=10.9km s-min=5.2km az=106.6*
TEH ***20*** *09:28:50.0, 12.°00N×94.°99E, h35km, ML4.8*
BKK ***20*** *09:28:55.3±0.4, 12.°N±3.°×9.°6E±.°, h10km, M4.5/12, mB4.9/7, mb4.4/12, MLv4.7/6, Mw(mB)4.2/7*
DJA ***20*** *09:29:29.2±1.0, 10.°N±5.°×9.°7E±1.°4, h116km±8km, M4.4/15, mB4.9/8, mb4.7/15, MLv4.5/2, Mw(mB)4.2/8*

ISC 20 09:28:48.6±0.4, 11.°99N±0.°04×94.°91E±0.°04, h29km±2km, h29km:pP-P, n270, σ1°70/312, mb4.6/84, MS4.1/39, 7C-6D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**2.15**	**261**	*e*P	Pn	09 29 21.2	-1.2
PBA				*e*4	Sn	09 29 41.6	-6.5
DGPR	**DIGLIPUR**	**2.27**	**302**	*e*P	**Pn**	**09 29 24.7**	**+0.6**
DGPR				*ex*	**Sn**	**09 29 46.7**	**-4.4**
PKDT	**Phuket**	**5.29**	**140**	P	**Pn**	**09 30 04.3**	**-1.4**
CMAR	**Chiang Mai Arr**	**7.52**	**31**	Pn	**Pn**	**09 30 34.3**	**-2.1**
CMAR	**Chiang Mai Arr**	**7.52**	**31**	Pn	**Pn**	**09 30 34.3**	**-2.1**
	1.3nm,0.3s,baz=220,slow=15,SNR=79						
CHTO	**Chiang Mai**	**7.83**	**29**	*e*P	**Pn**	**09 30 38.3**	**-2.3**
CHTO	**Chiang Mai**	**7.83**	**29**	*e*Pn	**Pn**	**09 30 38.3**	**-2.3**
CHTO	**Chiang Mai**	**7.83**	**29**	P	**Pn**	**09 30 38.4**	**-2.2**
	69nm,1.3s,0.3nm						
CHAI	**Chaiyaphum**	**7.90**	**60**	P	**Pn**	**09 30 38.9**	**-2.7**
	32nm,0.8s,502nm0.2nm						
KULM	**Kulim**	**8.74**	**139**	P	**Pn**	**09 30 51.8**	**-1.4**
KULM	**Kulim**	**8.74**	**139**	P	**Pn**	**09 30 51.7**	**-1.4**
	46nm,1.2s,531nm0.3nm						
KULM	**Kulim**	**8.74**	**139**	*e*Pn	**Pn**	**09 30 51.8**	**-1.4**
KULM				*e*Sn	Sn	09 32 24.0	-6.9
PAYA	**Payao**	**8.75**	**32**	P	**Pn**	**09 30 51.7**	**-1.6**
	8.5nm,0.9s,0.0nm						
CMAI	**Chiengmai2**	**8.85**	**26**	P	**Pn**	**09 30 55.1**	**+0.3**
	14nm,1.1s,1μm0.1nm						
IPM	**Ipoh**	**9.60**	**140**	P	**Pn**	**09 31 02.8**	**-2.2**
IPM	**Ipoh**	**9.60**	**140**	P	**Pn**	**09 31 01.9**	**-3.1**
	26nm,1.4s,514nm0.2nm						
IPM	**Ipoh**	**9.60**	**140**	*e*Pn	**Pn**	**09 31 02.1**	**-2.9**
IPM				*e*Sn	**Sn**	**09 32 52.2**	**+0.2**
CRAI	**Chiangrai**	**9.73**	**32**	P	**Pn**	**09 31 06.8**	**0.0**
	15nm,1.5s						
PSI	**Prapat**	**9.95**	**156**	Pn	**Pn**	**09 31 10.7**	**+0.8**
PSI	**Prapat**	**9.95**	**156**	Pn	**Pn**	**09 31 10.7**	**+0.8**
	1.4nm,0.3s,baz=335,slow=12,SNR=14						
PSI				LR	LR	09 35 39.6	
	comp=Z,655nm,18.2s,baz=331,slow=41						
KTGM	**Kuala Trenggan**	**10.48**	**128**	P	**Pn**	**09 31 16.2**	**-0.8**
VIS	**Vishakhapatnam**	**12.56**	**298**	*i* P	**Pn**	**09 31 45.9**	**+0.4**
VIS				AMB	AMB	09 31 46.9	
	comp=Z,17nm,1.7s						
VIS				*i* S	Sn	09 33 56.8	-7.7
VIS				*i* S	Sn	09 33 57.8	-6.7
IMP	**Imphal**	**12.76**	**356**	*ex*	Pn	09 31 43.0	-5.3
IMP				*e*S	Sn	09 34 03.0	-6.5
KGM	**Kluang**	**12.95**	**139**	P	**Pn**	**09 31 53.2**	**+2.4**
MYKOM	**Kota Tinggi**	**13.46**	**138**	P	**Pn**	**09 31 58.7**	**+0.9**
MYKOM	**Kota Tinggi**	**13.46**	**138**	P	**Pn**	**09 31 57.5**	**-0.3**
	comp=Z,68nm,1.4s,comp=Z,814nm						
MYKOM	**Kota Tinggi**	**13.46**	**138**	*e*Pn	**Pn**	**09 31 58.5**	**+0.7**
PPI	**Padang Panjang**	**13.51**	**156**	P	P	09 32 10.7	+3.4
SHL	**Shillong**	**13.81**	**348**	*ex*	Pn	09 31 55.0	-7.7
SHL				AMB	AMB	09 32 08.7	
	comp=Z,22nm,0.6s						
BOK	**Bokaro**	**14.54**	**325**	*e*P	**Pn**	**09 32 12.9**	**+0.4**
BOK				AMB	AMB	09 32 21.6	
	comp=Z,34nm,1.2s						
TPRI	**Tanjung Pinang**	**14.56**	**138**	P	Pn	09 32 08.5	-4.3
KMI	**Kunming**	**15.02**	**28**	P	**P**	**09 32 23.3**	**-1.0**
KMI				pP	**pP**	**09 32 29.3**	**-2.8**
KMI				sP	**sP**	**09 32 33.9**	**-1.9**
KMI				S	**Sn**	**09 35 07.8**	**+2.9**
KMI				sS	**S**	**09 35 20.1**	**-1.8**
KMI				SS	**SnSn**	**09 35 26.1**	**+8.1**
KMI				AMB	AMB		
	comp=Z,24nm,1.5s						
KMI				AMB	AMB		
	comp=Z,210nm,4.6s						
KMI				LR	LR		
	comp=Z,1μm,12.2s						
KMI				LR	LR		
	comp=Z,900nm,12.4s						
KMI				LR	LR		
	comp=Z,750nm,12.8s						

QIZ **Qiongzhong** **16.00 62** P **Pn** **09 32 32.9 +1.2**
QIZ S **Sn** **09 35 27.9 -0.5**
QIZ AMB AMB
comp=Z,48nm,1.4s
QIZ LR LR
comp=Z,1μm,17.9s
QIZ LR LR
comp=Z,790nm,11.9s
ODAN Odare **16.40 336** *e*P **Pn** **09 32 37.5 +0.5**
HYB Hyderabad **16.71 291** *i* P **P** **09 32 46.0 +3.1**
HYB *e*S **Sn** **09 35 48.0 +2.2**
TAPN Taplejung **16.71 337** *e*P **Pn** **09 32 40.3 -0.8**
RAMN Ramite **16.81 334** *e*P **Pn** **09 32 43.1 +0.8**
comp=Z,157nm,1.0s
JIRN Jiri **17.61 334** *e*P **Pn** **09 32 52.4 +0.1**
comp=Z,53nm,0.6s
PKI Pulchoki **17.88 332** *e*P **Pn** **09 32 55.7 0.0**
comp=Z,182nm,1.2s
LHSI Lahat **17.89 151** P P 09 33 03.3 +7.4
PKIN Phulchoki **17.89 331** *e*P **Pn** **09 32 56.1 +0.4**
comp=Z,120nm,1.3s
PPBI Pangkal Pinang **17.95 141** P **P** **09 32 57.4 +0.9**
comp=Z,106nm,1.0s,comp=Z,3μm
GUN Gumba **17.96 333** *e*P **Pn** **09 32 56.3 -0.3**
comp=Z,185nm,1.3s
LSA Lhasa **17.97 349** P **Pn** **09 32 55.8 -1.1**
LSA AMB AMB
comp=Z,30nm,1.1s
LSA Lhasa **17.97 349** *e*P **Pn** **09 32 55.9 -0.9**
LSA pmax pmax
comp=Z,23nm,0.8s
LSA Lhasa **17.97 349** *e*Pn **Pn** **09 32 55.9 -0.9**
comp=Z,23nm,0.8s
DMN Daman **18.06 331** *e*P **Pn** **09 32 57.8 +0.1**
GYA Guiyang **18.16 36**⇑ *i*P **Pn** **09 32 57.8 -1.1**
GYA pP **pP** **09 33 07.9 +1.1**
GYA PP **PnPn** **09 33 16.3 +5.9**
GYA S **Sn** **09 36 19.0 -1.9**
GYA sS sS 09 36 32.5 -5.5
GYA SS **SnSn** **09 36 43.8 +8.9**
GYA AMB AMB
comp=Z,50nm,1.0s
GYA AMB AMB
comp=Z,120nm,4.5s
GYA LR LR
comp=Z,480nm,20.6s
GYA LR LR
comp=Z,490nm,20.5s
GYA LR LR
comp=Z,510nm,19.2s
KSM Kuching **18.50 123** P **Pn** **09 33 03.7 +0.8**
KSM Kuching **18.50 123** P **Pn** **09 33 03.1 +0.1**
comp=Z,31nm,1.2s,comp=Z,626nm
KSM Kuching **18.50 123** *e*Pn **Pn** **09 33 03.4 +0.4**
comp=Z,34nm,1.1s
GKN Gorkha **18.61 330** *e*P **P** **09 33 04.1 +0.1**
comp=Z,38nm,0.5s
MDSI Maura Dua **18.78 150** P **P** **09 33 05.1 -0.6**
comp=Z,20nm,1.1s
KOLN Koldanda **18.94 328** *e*P **Pn** **09 33 08.7 +0.2**
comp=Z,46nm,0.6s
DANN Dangsing **19.33 329** *e*P **P** **09 33 12.6 +0.6**
SBUM Sibu **19.60 118** P **Pn** **09 33 16.2 0.0**
SBUM Sibu **19.60 118** P **Pn** **09 33 15.6 -0.6**
comp=Z,41nm,1.4s,comp=Z,568nm
SBUM Sibu **19.60 118** *e*Pn **Pn** **09 33 15.8 -0.3**
comp=Z,56nm,1.3s
BHPL Bhopal **20.05 306** *e*P **P** **09 33 20.8 +1.1**
BHPL AMB AMB 09 33 31.9
comp=Z,49nm,1.4s
CD2 Chengdu **20.54 22** P **P** **09 33 23.4 -1.5**
CD2 pP **pP** **09 33 32.5 -0.2**
CD2 sP **sP** **09 33 37.3 +0.9**
CD2 PP **PnPn** **09 33 45.1 +2.2**
CD2 S **S** **09 37 06.5 -6.8**
CD2 sS Sn 09 37 20.8 +2.7
CD2 SS **SnSn** **09 37 37.8 +4.6**
CD2 AMB AMB
comp=Z,80nm,1.0s
CD2 AMB AMB
comp=Z,210nm,5.7s
CD2 LR LR
comp=Z,890nm,10.2s
CD2 LR LR
comp=Z,860nm,15.6s
POO Poona **21.32 290** *e*P **P** **09 33 33.6 +0.1**
POO AMB AMB 09 33 40.5
comp=Z,30nm,0.6s
KKM Kota Kinabalu **21.85 104** P P 09 33 45.3 +6.2
KKM Kota Kinabalu **21.85 104** P P 09 33 44.4 +5.2
comp=Z,54nm,1.2s,comp=Z,734nm
KKM Kota Kinabalu **21.85 104** *e*P **P** **09 33 39.1 0.0**
comp=Z,73nm,1.2s
KDM Kudat **22.20 101** P **P** **09 33 43.8 +1.0**
ENH Enshi **22.67 34** *e*P **P** **09 33 45.5 -2.3**
comp=Z,20nm,0.9s
ENH *e*pP **pP** **09 33 53.4 -2.3**
SDKM Sandakan **22.90 104** P P 09 33 56.7 +6.3
NDI New Delhi **23.42 318** *e*P **P** **09 33 53.5 -2.0**
TGJI Tegal **23.46 142** P **P** **09 33 59.3 +3.4**
comp=Z,84nm,0.9s,comp=Z,2μm
KPJI Karang Pucung **23.72 143** P **P** **09 34 00.2 +1.8**
comp=Z,79nm,1.1s
TSM Tawau **23.97 107** P P 09 34 08.1 +7.4
MYLDM Lahad Datu **24.27 104** P **P** **09 34 05.7 +2.0**
MYLDM Lahad Datu **24.27 104** *e*P **P** **09 34 05.3 +1.7**
comp=Z,80nm,1.3s
SMLA Simla **25.13 322** *e*P **P** **09 34 11.0 -0.2**
SMLA AMB AMB 09 34 28.7
comp=Z,79nm,3.7s
NGJI Ngawi **25.31 139** P P 09 34 17.9 +4.9
comp=Z,112nm,1.0s
LZH Lanzhou **25.32 17** *e*P **P** **09 34 12.5 -0.6**
LZH pP **pP** **09 34 22.4 +0.9**
LZH sP **sP** **09 34 26.3 +1.2**
LZH PP **PnPn** **09 34 51.5 +3.1**
LZH *e*S **S** **09 38 34.0 -3.6**
LZH sS **sS** **09 38 50.3 -1.3**
LZH *e*SS **SnSn** **09 39 37.6 +7.3**
LZH AMB AMB
comp=Z,110nm,1.3s
LZH AMB AMB
comp=Z,280nm,4.5s
LZH LR LR
comp=Z,890nm,11.2s
LZH LR LR
comp=Z,610nm,11.5s
LZH LR LR
comp=Z,1μm,12.5s
XAN Xi'an **25.41 28** P **P** **09 34 11.1 -2.6**
XAN pP **pP** **09 34 21.1 -1.1**
XAN sP **sP** **09 34 25.1 -0.7**
XAN PP **PnPn** **09 34 49.6 +0.1**
XAN S **S** **09 38 37.1 -1.7**
XAN AMB AMB
comp=Z,8.0nm,0.8s
XAN AMB AMB
comp=Z,34nm,6.0s
XAN LR LR
comp=Z,520nm,12.1s
XAN LR LR
comp=Z,290nm,14.5s
XAN LR LR
comp=Z,220nm,15.7s
SJI Sawahan **25.78 139** P **P** **09 34 20.1 +2.7**
comp=Z,102nm,1.1s
WHN Wuhan **25.79 41**⇑ *i*P **P** **09 34 17.5 +0.3**
WHN pP **pP** **09 34 25.3 -0.4**
WHN S **S** **09 38 49.8 +4.9**
WHN AMB AMB
comp=Z,170nm,1.2s
WHN LR LR
comp=Z,920nm,5.5s
WHN LR LR
comp=Z,1μm,11.4s
WHN LR LR
comp=Z,2μm,11.4s
PWJI Pagerwojo **26.02 139** P **P** **09 34 23.1 +3.7**
comp=Z,38nm,1.3s
DHRM DHARAMSHALA **26.45 323** *e*P **P** **09 34 21.7 -1.8**
DHRM AMB AMB 09 34 23.3
comp=Z,17nm,0.2s
GTA Gaotai **27.66 8** P **P** **09 34 33.9 -0.2**
GTA pP **pP** **09 34 42.8 +0.2**
GTA sP **sP** **09 34 47.0 +0.8**

GTA S **S** **09 39 13.9 -0.5**
GTA sS **sS** **09 39 28.4 -0.1**
GTA SS **SnSn** **09 40 33.9 +6.5**
GTA AMB AMB
comp=Z,21nm,1.5s
GTA AMB AMB
comp=Z,210nm,4.8s
GTA LR LR
comp=Z,330nm,17.8s
GTA LR LR
comp=Z,470nm,17.1s
GTA LR LR
comp=Z,280nm,16.4s
MRSI Marisa **29.16 111** P P 09 34 55.6 +8.0
H08S3 Diego Garcia H **29.61 230** T T 10 05 31.1
baz=49,slow=0.7,SNR=11
H08S2 Diego Garcia H **29.62 230** T T 10 05 31.4
baz=49,slow=0.7,SNR=9.2
H08S1 Diego Garcia H **29.63 230** T T 10 05 32.5
baz=49,slow=0.7,SNR=12
KSH Kashi **32.15 332** P **P** **09 35 13.4 -0.5**
KSH pP **pP** **09 35 24.0 +1.6**
KSH sP **sP** **09 35 26.3 +0.3**
KSH *e*PP **PnPn** **09 36 18.3 -1.9**
KSH *e*PcP **PcP** **09 38 03.6 +1.1**
KSH S **S** **09 40 26.8 +2.0**
KSH SS **SnSn** **09 42 19.3 +2.7**
KSH AMB AMB
comp=Z,7.0nm,1.1s
KSH AMB AMB
comp=Z,71nm,4.6s
KSH LR LR
comp=Z,120nm,5.6s
KSH LR LR
comp=Z,150nm,5.9s
KSH LR LR
comp=Z,240nm,6.0s
HHC Hu-ho-hao-te **32.27 24** *e*P **P** **09 35 16.0 +1.1**
HHC pP **pP** **09 35 25.4 +2.0**
HHC sP **sP** **09 35 29.9 +2.9**
HHC PP **PnPn** **09 36 23.4 +1.7**
HHC S **S** **09 40 26.9 +0.3**
HHC sS **sS** **09 40 42.0 +1.2**
HHC SS **SnSn** **09 42 20.4 +1.0**
HHC AMB AMB
comp=Z,56nm,1.0s
HHC AMB AMB
comp=Z,240nm,6.3s
HHC LR LR
comp=Z,1μm,12.9s
HHC LR LR
comp=Z,950nm,12.0s
HHC LR LR
comp=Z,1μm,12.8s
WMQ Urumqi **32.33 350** P **P** **09 35 14.5 -0.8**
WMQ pP **pP** **09 35 24.0 +0.1**
WMQ sP **sP** **09 35 28.0 +0.6**
WMQ S **S** **09 40 24.8 -2.6**
WMQ SS **SnSn** **09 42 20.4 -0.4**
WMQ ScS **ScS** **09 45 39.8 -4.0**
WMQ AMB AMB
comp=Z,15nm,0.8s
WMQ AMB AMB
comp=Z,140nm,4.6s
WMQ LR LR
comp=Z,310nm,7.4s
WMQ LR LR
comp=Z,340nm,7.2s
WMQ LR LR
comp=Z,200nm,20.0s
BJI Beijing **33.67 30** P **P** **09 35 27.9 +0.9**
BJI S **S** **09 40 52.8 +4.6**
BJI AMB AMB
comp=Z,12nm,0.9s
BJI LR LR
comp=Z,440nm,14.1s
BJI LR LR
comp=Z,580nm,15.6s
BJI LR LR
comp=Z,200nm,22.6s
KZA Kyzart **34.54 334** *i* P **P** **09 35 35.5 +0.5**
KZA Kyzart **34.54 334** P **P** **09 35 35.5 +0.5**
SNR=5.9
TKM2 Tokmak 2 **35.08 335** *e*P **P** **09 35 40.0 +0.5**
TKM2 pmax pmax
comp=Z,7.0nm,0.8s
TKM2 Tokmak 2 **35.08 335** P **P** **09 35 39.9 +0.4**
SNR=6.6
TKM2 Tokmak 2 **35.08 335** *e*P **P** **09 35 40.0 +0.5**
comp=Z,6.8nm,0.8s
AML Almayashu **35.27 332** *i* P **P** **09 35 42.3 +0.9**
AML Almayashu **35.27 332** P **P** **09 35 42.3 +0.9**
SNR=7.5
AAK Ala-Archa **35.32 334** *d i* P **P** **09 35 42.0 +0.6**
AAK pmax pmax
comp=Z,18nm,1.2s
AAK Ala-Archa **35.32 334** *e*P **P** **09 35 42.8 +1.3**
EKS2 Erkin-Say **35.66 333** P **P** **09 35 45.1 +0.8**
SNR=5.2
USP Ospenovka **35.83 334** *i* P **P** **09 35 46.0 +0.3**
USP Ospenovka **35.83 334** P **P** **09 35 46.0 +0.3**
SNR=12
MK31 Makanchi Array **36.30 345** *ce*P **P** **09 35 49.2 -0.4**
MK31 pmax pmax
comp=Z,9.0nm,0.8s
MK31 Makanchi Array **36.30 345** *e*P **P** **09 35 49.3 -0.3**
MK31 *e*pP **pP** **09 35 57.4 -0.8**
MKAR Makanchi Array **36.30 345** P P **09 35 49.3 -0.3**
MKAR Makanchi Array **36.30 345** P **P** **09 35 49.3 -0.3**
MKAR Makanchi Array **36.30 345** P **P** **09 35 49.3 -0.3**
comp=Z,6.2nm,0.9s,baz=156,slow=9.3,SNR=37
MKAR LR LR 09 53 15.0
comp=Z,122nm,21.0s,baz=162,slow=41
SONM Songino Array **37.01 13** P **P** **09 35 54.5 -1.3**
SONM Songino Array **37.01 13** P **P** **09 35 54.5 -1.3**
comp=Z,5.5nm,0.9s,baz=196,slow=8.7,SNR=30
SONM LR LR 09 52 42.7
comp=Z,351nm,19.1s,baz=17,slow=39
KK31 Karatay Array **37.52 330** *i* P P 09 35 55.6 -4.5
KK31 pmax pmax
comp=Z,1.0nm,0.3s
KKAR Karatay Array **37.52 330** *e*P **P** **09 36 00.6 +0.5**
KKAR Karatay Array **37.52 330** *e*P **P** **09 36 00.6 +0.5**
ZAK Zakamensk **38.90 9** *e*P **P** **09 36 10.7 -1.0**
ZAK pmax pmax
comp=Z,9.0nm,1.4s
KSAR Wonju Array Be **38.90 44** P **P** **09 36 09.8 -1.9**
KSRS Korea Array **38.93 44** P **P** **09 36 09.8 -2.1**
comp=Z,5.7nm,0.9s,baz=243,slow=9.3,SNR=12
KSRS LR LR 09 52 60.0
comp=Z,189nm,18.2s,baz=235,slow=38
HVS Khovu-Aksy **39.05 359** *e*P **P** **09 36 11.5 -1.4**
HVS pmax pmax
comp=Z,27nm,1.8s
TLY Talaya **40.22 8** *e*P **P** **09 36 23.1 +0.6**
TLY pmax pmax
comp=Z,13nm,1.0s
TLY MLR MLR
comp=Z,148nm,14.0s
IAKL Akhelmad **40.69 313** *e*P **P** **09 36 24.3 -2.7**
KURBB Kurchatov Arra **40.80 344** P **P** **09 36 26.9 -0.5**
comp=Z,6.8nm,1.0s,baz=172,slow=6.3,SNR=20
KURK Kurchatov **40.86 344** P **P** **09 36 26.9 -0.9**
KURK Kurchatov **40.86 344** P **P** **09 36 26.9 -0.9**
IKRD Kardeh **40.94 313** *e*P **P** **09 36 26.2 -2.8**
CN2 Changchun **41.19 34** ⇓ P **P** **09 36 29.8 -0.9**
CN2 *e*pP **pP** **09 36 37.6 -1.8**
CN2 *e*S **S** **09 42 40.8 -1.6**
CN2 AMB AMB
comp=Z,30nm,0.9s
CN2 LR LR
comp=Z,500nm,18.0s
CN2 LR LR
comp=Z,300nm,18.0s
CN2 LR LR
comp=Z,400nm,16.0s
ISHV Shirvan **41.87 314** *e*P **P** **09 36 37.4 +0.8**
HIA Hailar **42.47 24** *e*P **P** **09 36 40.2 -0.9**
comp=Z,9.1nm,0.3s
HIA *e*pP **pP** **09 36 48.9 -0.9**
FITZ Fitzroy Crossi **42.59 134** P **P** **09 36 41.6 -0.8**
FITZ Fitzroy Crossi **42.59 134** P **P** **09 36 41.6 -0.8**
comp=Z,2.3nm,0.8s,baz=309,slow=8.2,SNR=3.6
ZAA0 Zalesovo Array **42.62 351** *e*P **P** **09 36 41.5 -0.7**
ZAA0 *e*pP **pP** **09 36 49.7 -1.2**

ZALV Zalesovo Beam **42.62 351** P **P** **09 36 41.5 -0.7**
ZALV Zalesovo Beam **42.62 351** P **P** **09 36 41.5 -0.7**
ZALV Zalesovo Beam **42.62 351** P **P** **09 36 41.5 -0.7**
comp=Z,6.2nm,0.8s,baz=172,slow=8.3,SNR=23
ZALV LR LR 09 56 54.1
comp=Z,107nm,22.0s,baz=242,slow=40
NVS Novosibirsk **43.73 350** *e*P P 09 36 56.6 +5.5
KRAR Krasnoyarsk **43.95 358** *e*P **P** **09 36 51.4 -1.5**
KRAR pmax pmax
comp=Z,11nm,0.8s
IZEF Zefreh **44.13 305** *e*P **P** **09 36 55.4 +0.3**
VOSK Vostochnaya **44.95 340** P **P** **09 37 00.1 -0.8**
VOSK pmax pmax
comp=Z,3.0nm,0.8s
USRK Ussuriysk Arra **45.19 38** P **P** **09 37 00.9 -2.0**
comp=Z,3.5nm,0.9s,baz=235,slow=8.3,SNR=6.4
BVA0 Borovoye Array **45.40 339** *i* P **P** **09 37 03.6 -0.9**
BVA0 pmax pmax
comp=Z,5.0nm,1.0s
BVAR Borovoye Array **45.40 339** P **P** **09 37 02.8 -1.7**
BVAR Borovoye Array **45.40 339** P **P** **09 37 02.8 -1.7**
BVAR Borovoye Array **45.40 339** P **P** **09 37 02.8 -1.7**
comp=Z,1.8nm,0.7s,baz=134,slow=10,SNR=8.5
BVAR LR LR 09 59 23.6
comp=Z,110nm,18.7s,baz=21,slow=41
BRVK Borovoye **45.46 339** *d i* P **P** **09 37 04.3 -0.7**
BRVK pmax pmax
comp=Z,6.0nm,1.2s
BRVK Borovoye **45.46 339** *e*P **P** **09 37 04.4 -0.7**
comp=Z,2.3nm,0.6s
MJAR Matsushiro Arr **45.91 50** P **P** **09 37 08.7 -0.2**
MJAR PcP **PcP** **09 38 45.3 -0.4**
MJAR Matsushiro Arr **45.91 50** P **P** **09 37 08.7 -0.2**
comp=Z,4.3nm,1.0s,baz=238,slow=7.0,SNR=5.8
MJAR PcP **PcP** **09 38 45.3 -0.4**
comp=Z,3.5nm,0.9s,baz=234,slow=4.9,SNR=4.1
MJAR LR LR 09 57 13.5
comp=Z,112nm,18.6s,baz=265,slow=37
AB31 Akbulak array **47.06 329** *ce*P **P** **09 37 16.6 -1.0**
AB31 pmax pmax
comp=Z,3.0nm,0.5s
ABKAR Akbulak array **47.06 329** *e*P **P** **09 37 17.3 -0.3**
comp=Z,2.6nm,0.6s
ABKAR *e*pP **pP** **09 37 25.8 -0.6**
AKTO Aktyubinsk **48.77 329** P **P** **09 37 28.9 -2.0**
AKTO Aktyubinsk **48.77 329** P **P** **09 37 28.9 -2.0**
AKTO Aktyubinsk **48.77 329** P **P** **09 37 28.9 -2.0**
comp=Z,1.2nm,0.4s,baz=138,slow=6.6,SNR=7.2
AKTO LR LR 10 03 00.9
comp=Z,200nm,19.3s,baz=7.4,slow=42
NWAO Narrogin (SRO) **49.49 155** P **P** **09 37 35.0 -1.5**
NWAO Narrogin (SRO) **49.49 155** P **P** **09 37 35.0 -1.5**
comp=Z,15nm,1.0s,baz=340,slow=9.2,SNR=3.9
WRA Warramunga Arr **50.13 129** P **P** **09 37 41.1 -0.6**
WRA Warramunga Arr **50.13 129** P **P** **09 37 41.1 -0.6**
comp=Z,5.8nm,0.9s,baz=308,slow=8.4,SNR=21
WRA LR LR 10 02 12.0
comp=Z,103nm,19.7s,baz=325,slow=40
WRAB Tennant Creek **50.13 129** *e*P **P** **09 37 41.2 -0.5**
WRAB pmax pmax
comp=Z,30nm,1.1s
WRAB Tennant Creek **50.13 129** *e*P **P** **09 37 41.2 -0.5**
comp=Z,30nm,1.1s
ATD Arta Tunnel **50.91 275** LR LR 09 57 17.5
comp=Z,75nm,19.1s,baz=67,slow=34
SVE Sverdlovsk **51.91 337** *e*P **P** **09 37 54.0 -0.5**
SVE pmax pmax
comp=Z,38nm,1.5s
AS31 Alice Springs **52.05 133** *e*P **P** **09 37 55.7 -0.4**
ASAR Alice Springs **52.05 133** P **P** **09 37 55.8 -0.4**
ASAR Alice Springs **52.05 133** P **P** **09 37 55.8 -0.4**
comp=Z,3.6nm,0.9s,baz=307,slow=7.1,SNR=29
GNI Garni **52.20 312** P **P** **09 37 57.3 +0.1**
GNI Garni **52.20 312** P **P** **09 37 57.3 +0.1**
comp=Z,3.9nm,0.3s,baz=29,slow=17,SNR=4.1
ARU Arti **52.45 335** *d i* P **P** **09 37 58.1 -0.4**
ARU 09 39 54.2
ARU S **S** **09 45 23.2 +0.3**
ARU SS SS 09 48 52.0 -9.0
ARU pmax pmax
comp=Z,24nm,1.7s
ZEI Tsey **53.64 315** *e*P **P** **09 38 07.4 -0.4**
ZEI pmax pmax
comp=Z,6.0nm,0.8s
KBZ Khabaz **54.64 316** P **P** **09 38 14.4 -0.4**
KBZ Khabaz **54.64 316** P **P** **09 38 14.3 -0.4**
KBZ Khabaz **54.64 316** P **P** **09 38 14.3 -0.4**
comp=Z,1.0nm,0.7s,baz=100,slow=12,SNR=2.4
KIV Kislovodsk **54.86 316** *e*P **P** **09 38 17.5 +1.0**
KIV pmax pmax
comp=Z,22nm,1.0s
KIV MLR MLR
comp=Z,107nm,17.0s
YAK Yakutsk **55.88 19** *e*P **P** **09 38 20.8 -2.6**
YAK pmax pmax
comp=Z,11nm,0.9s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,6.0nm,0.9s
ASF Jabal al Asfar **56.71 301** LR LR 10 07 25.2
comp=E,102nm,18.8s,baz=252,slow=41
EIL Elat **58.13 297** LR LR 10 05 08.4
comp=E,84nm,20.0s,baz=261,slow=38
BR131 Keskin Array S **60.39 309** *e*P **P** **09 38 54.4 -1.2**
comp=E,3.0nm,0.6s
BRTR Keskin Array B **60.39 309** P **P** **09 38 54.2 -1.4**
BRTR Keskin Array B **60.39 309** P **P** **09 38 54.2 -1.4**
comp=E,2.4nm,0.7s,baz=124,slow=7.2,SNR=16
BRTR LR LR 10 08 48.6
comp=E,86nm,20.7s,baz=242,slow=40
OBN Obninsk **62.36 326**⇑ *e*P **P** **09 39 08.2 -0.2**
OBN *e**PP **pP** **09 39 17.2 -0.2**
OBN pmax pmax
comp=Z,17nm,1.2s
OBN MLR MLR
comp=Z,100nm,16.0s
STKA Stephens Creek **62.44 136** P **P** **09 39 09.4 +0.1**
STKA Stephens Creek **62.44 136** P **P** **09 39 09.4 +0.1**
comp=Z,5.7nm,0.9s,baz=317,slow=7.1,SNR=7.8
STKA LR LR 10 06 16.1
comp=Z,151nm,21.4s,baz=24,slow=36
TIXI Tiksi **63.08 11** *d i* P **P** **09 39 11.0 -1.9**
TIXI pmax pmax
comp=Z,36nm,1.2s
KLMR Klimovskoe **63.13 333** *e*P **P** **09 39 11.8 -1.6**
KLMR pmax pmax
comp=Z,31nm,1.7s
PETK Petropavlovsk- **64.26 37** LR LR 10 07 00.4
comp=Z,104nm,18.5s,baz=118,slow=36
SEY Seymchan **64.90 25**⇑ *i*P **P** **09 39 23.3 -1.8**
AKASG Malin Array Be **65.45 320** P **P** **09 39 27.1 -1.7**
AKASG Malin Array Be **65.45 320** P **P** **09 39 27.1 -1.7**
AKASG Malin Array Be **65.45 320** P **P** **09 39 27.1 -1.7**
comp=Z,0.6nm,0.4s,baz=88,slow=4.7,SNR=11
AKASG LR LR 10 11 26.7
comp=Z,83nm,19.1s,baz=80,slow=39
MLR Muntele Rosu **66.81 314** P **P** **09 39 38.4 +0.5**
MLR Muntele Rosu **66.81 314** P **P** **09 39 38.4 +0.5**
comp=Z,1.3nm,1.0s,baz=234,slow=2.7,SNR=5.4
IDI Anoyia **66.91 303** P **P** **09 39 38.6 0.0**
IDI Anoyia **66.91 303** P **P** **09 39 38.6 0.0**
comp=Z,3.5nm,0.8s,baz=65,slow=17,SNR=2.8
APA Apatity **68.30 339** *e*P P 09 39 51.2 +4.5
APA MLR MLR
comp=Z,900nm,13.0s
KWP Kalwaria Pacla **69.44 319** *e*P **P** **09 39 54.4 +0.3**
KWP Kalwaria Pacla **69.44 319** *e*P **P** **09 39 54.4 +0.3**
FINES FINESS Array B **69.47 331** P P **09 39 53.0 -1.1**
FINES FINESS Array B **69.47 331** P **P** **09 39 53.0 -1.1**
comp=Z,3.3nm,0.8s,baz=90,slow=11,SNR=5.7
FINES LR LR 10 13 42.8
comp=Z,216nm,18.1s,baz=334,slow=39
UZH Uzhgorod **69.61 318** *e*P P 09 39 51.4 -3.8
UZH *i* 09 40 17.6
KOLS Kolonicke sedl **69.65 318** *e*P **P** **09 39 56.0 +0.5**
KOLS Kolonicke sedl **69.65 318** *e*P **P** **09 39 56.0 +0.5**
SUW Suwalki **69.66 323** *e*P **P** **09 39 55.0 -0.4**
SUW Suwalki **69.66 323** *e*P **P** **09 39 55.0 -0.4**
STHS Stebnicka Huta **70.37 318** *e*P **P** **09 40 00.1 +0.2**
STHS Stebnicka Huta **70.37 318** *e*P **P** **09 40 00.0 +0.2**
ARCES ARCESS Array B **71.69 340** P **P** **09 40 06.5 -1.0**
ARCES ARCESS Array B **71.69 340** P **P** **09 40 06.5 -1.0**
comp=Z,4.3nm,1.0s,baz=108,slow=6.4,SNR=2.7
ARCES LR LR 10 16 05.9

comp=Z,170nm,18.9s,baz=127,slow=40
FX1 Attu Island--F 73.45 38 P **P 09 40 17.5 -0.8**
FX1 Attu Island--F 73.45 38 P **P 09 40 17.5 -0.8**
comp=Z,5.9nm,0.6s,baz=252,slow=9.6,SNR=2.4
DPC Dobruska-Polom 73.59 319 *eP* **P 09 40 19.7 +0.5**
DPC Dobruska-Polom 73.59 319 *eP* **P 09 40 19.7 +0.5**
KSP Ksiaz 73.62 320 *eP* **P 09 40 19.2 -0.1**
GERES GERESS Array B 75.30 318 P **P 09 40 28.6 -0.7**
GERES GERESS Array B 75.30 318 P **P 09 40 28.6 -0.7**
comp=Z,3.6nm,0.6s,baz=93,slow=4.5,SNR=18
HFS Hagfors 75.32 329 P **P 09 40 28.2 -0.8**
HFS Hagfors 75.32 329 P **P 09 40 28.2 -0.8**
comp=Z,2.2nm,0.6s,baz=120,slow=5.8,SNR=5.8
HFS LR LR 10 18 27.2
comp=Z,119nm,21.3s,baz=261,slow=40
KHC Kasperske Hory 75.38 318 *eP* **P 09 40 29.4 -0.2**
KHC Kasperske Hory 75.38 318 *eP* **P 09 40 29.4 -0.2**
NB2 NORSAR Subarra 76.55 330 P P 09 40 43.8 +7.7
comp=Z,5.1nm,1.1s,baz=90,slow=5.9
NOA NORSAR Array B 76.55 330 P **P 09 40 35.9 -0.2**
NOA NORSAR Array B 76.55 330 P **P 09 40 35.9 -0.2**
comp=Z,3.0nm,1.1s,baz=90,slow=5.7,SNR=2.7
NOA LR LR 10 19 13.7
comp=Z,120nm,18.9s,baz=100,slow=40
DAVOX Davos/Dischmat 77.99 316 P **P 09 40 44.5 0.0**
DAVOX Davos/Dischmat 77.99 316 P **P 09 40 44.5 0.0**
comp=Z,1.9nm,0.4s,baz=177,slow=17,SNR=3.3
DAVOX LR LR 10 17 51.2
comp=Z,130nm,20.2s,baz=262,slow=38
BOSA Boshof 78.41 237 P **P 09 40 48.1 +0.9**
BOSA Boshof 78.41 237 P **P 09 40 48.1 +0.9**
comp=Z,1.7nm,0.9s,baz=153,slow=4.5,SNR=2.2
BOSA LR LR 10 11 20.1
comp=Z,144nm,18.1s,baz=349,slow=33
KEST Kesra 79.54 304 P **P 09 40 53.0 -0.2**
KEST Kesra 79.54 304 P **P 09 40 53.0 -0.2**
comp=Z,3.8nm,1.2s,baz=11,slow=5.2,SNR=3.0
LPG La Plagne 80.28 315 *eP* **P 09 40 57.5 +0.2**
comp=Z,15nm,0.8s
LPG La Plagne 80.28 315 *eP* **P 09 40 57.5 +0.2**
LPG pmax pmax
comp=Z,15nm,0.8s
LPG La Plagne 80.28 315 *eP* **P 09 40 57.5 +0.2**
comp=Z,15nm,0.8s
LPL La Plagne 80.29 315 *eP* **P 09 40 57.4 +0.1**
LPL La Plagne 80.29 315 *eP* **P 09 40 57.4 +0.1**
LPL La Plagne 80.29 315 *eP* **P 09 40 57.4 +0.1**
BAIF Baives 81.37 319 *eP* **P 09 41 02.9 +0.3**
comp=Z,27nm,0.9s
BAIF Baives 81.37 319 *eP* **P 09 41 02.9 +0.3**
BAIF pmax pmax
comp=Z,27nm,0.9s
BAIF Baives 81.37 319 *eP* **P 09 41 02.9 +0.3**
comp=Z,27nm,0.9s
MAW Mawson 82.69 192 *eP* **P 09 41 08.9 -0.1**
comp=Z,1.4nm,1.1s
MAW Mawson 82.69 192 P **P 09 41 11.1 +2.1**
comp=Z,1.8nm,0.9s,baz=0.0,slow=4.0,SNR=3.6
MAW LR LR 10 13 21.9
comp=Z,122nm,19.1s,baz=126,slow=32
JMIC Jan Mayen 83.08 341 LR LR 10 26 20.2
comp=Z,249nm,20.2s,baz=278,slow=42
EKA Eskdalemuir Ar 84.79 325 P **P 09 41 20.6 +0.4**
EKA Eskdalemuir Ar 84.79 325 P **P 09 41 20.6 +0.4**
comp=Z,3.9nm,1.0s,baz=77,slow=7.4,SNR=3.2
IMA2 Indian Mountai 87.55 22 *eP* **P 09 41 33.5 -0.3**
IMA2 *ePP* **pP 09 41 42.0 -1.2**
IM04 Indian Mountai 87.56 22 *eP* **P 09 41 33.8 +0.1**
RPZ Rata Peaks 88.41 135 LR LR 10 24 35.5
comp=Z,88nm,20.4s,baz=213,slow=38
BPAW Bear Paw Mtn. 89.44 24 *eP* **P 09 41 42.5 -0.1**
comp=Z,48nm,1.2s
BPAW *ePP* **pP 09 41 51.9 -0.1**
SYO Syowa Base 89.53 197 *eP* **P 09 41 44.1 +1.4**
SYO Syowa Base 89.53 197 *ePP* pP 09 41 52.6 +0.5
TORD Torodi Ar. Bea 90.39 283 P **P 09 41 48.9 +0.9**
TORD PP **PP 09 45 25.5 +3.0**
TORD Torodi Ar. Bea 90.39 283 P **P 09 41 48.9 +0.9**
comp=Z,1.6nm,1.0s,baz=68,slow=4.3,SNR=5.9
TORD PP **PP 09 45 25.5 +3.0**
comp=Z,0.3nm,0.8s,baz=80,slow=8.9,SNR=2.5
MCK McKinley 90.41 24 *eP* **P 09 41 46.5 -0.7**
MCK pmax pmax
comp=Z,37nm,1.2s
MCK McKinley 90.41 24 *eP* **P 09 41 46.5 -0.7**
comp=Z,37nm,1.2s
ILAR Eielson Array 90.68 22 P **P 09 41 46.5 -1.8**
ILAR PP **PP 09 45 23.4 +0.2**
ILAR Eielson Array 90.68 22 P **P 09 41 46.5 -1.8**
comp=Z,1.1nm,0.7s,baz=298,slow=4.4,SNR=16
ILAR PP **PP 09 45 23.4 +0.2**
comp=Z,0.5nm,0.9s,baz=297,slow=8.0,SNR=4.4
ILAR LR LR 10 24 10.9
comp=Z,113nm,18.2s,baz=316,slow=37
URZ Urewera 91.30 129 P **P 09 41 53.1 +1.5**
URZ Urewera 91.30 129 P **P 09 41 53.2 +1.5**
comp=Z,9.5nm,1.0s,baz=270,slow=2.0,SNR=3.5
PMR Palmer 91.36 25 *eP* **P 09 41 50.8 -0.7**
PMR pmax pmax
comp=Z,24nm,1.3s
PMR Palmer 91.36 25 *eP* **P 09 41 50.8 -0.7**
comp=Z,24nm,1.3s
MDT Midelt 91.43 304 LR LR 10 27 29.6
comp=Z,65nm,19.2s,baz=151,slow=39
MENT Mentasta 92.84 23 *eP* **P 09 41 59.1 +0.7**
INK Inuvik 92.86 16 *eP* **P 09 41 57.8 -0.5**
INK Inuvik 92.86 16 P **P 09 41 56.5 -1.8**
comp=Z,7.0nm,1.1s,baz=298,slow=6.3,SNR=19
RES Resolute Bay 93.29 3 P **P 09 42 00.8 +0.5**
RES Resolute Bay 93.29 3 P **P 09 42 00.8 +0.5**
comp=Z,2.9nm,0.9s,baz=245,slow=5.6,SNR=3.0
BMRM Bremner River 93.56 25 *eP* **P 09 42 01.6 -0.2**
comp=Z,11nm,0.9s
DAWY Dawson 93.77 21 *eP* **P 09 42 01.9 -0.9**
NVAR Mina Array Bea 121.02 30 PKP **PKPdf 09 47 39.4 +0.2**
NVAR Mina Array Bea 121.02 30 PKP **PKPdf 09 47 39.4 +0.2**
comp=Z,0.8nm,0.6s,baz=132,slow=2.2,SNR=4.3
PDAR Pinedale Array 121.08 21 PKP **PKPdf 09 47 38.8 -0.4**
PDAR Pinedale Array 121.08 21 PKP **PKPdf 09 47 38.8 -0.4**
comp=Z,0.7nm,0.8s,baz=11,slow=1.5,SNR=5.3
SRU San Rafael 123.91 24 *ePKIKP* **PKPdf 09 47 44.2 -0.5**
SRU San Rafael 123.91 24 *ePKPdf* **PKPdf 09 47 44.1 -0.5**
TXAR Lajitas Array 135.18 23 PKP **PKPdf 09 48 06.5 +0.3**
TXAR Lajitas Array 135.18 23 PKhKP PKPpre 09 47 52.2
comp=Z,0.4nm,0.8s,baz=270,slow=2.5,SNR=4.3
TXAR PKP **PKPdf 09 48 06.5 +0.3**
comp=Z,0.4nm,0.8s,baz=232,slow=1.0,SNR=4.1
CELP Cerrillos 144.99 328 *ePKPab* **PKPab 09 48 23.3 0.0**
TRQA Tornquist 146.83 214 *ePKPab* **PKPab 09 48 30.7 +0.9**

IDC 20 09:49:07.7±2.1, 33.74S×178.86W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/17, mbtmp3.9/3, ML4.1/1, MS3.6/1, Ms1 3.6/1, ms1mx2.8/23, Error ellipse: s-maj=63.3km s-min=37.8km az=140.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.57**	**215**	Pn	Pn	09 50 31.2	-0.7
	5.1nm,0.3s,baz=72,slow=6.4,SNR=30						
URZ				Sn	Sn	09 51 33.5	-3.1
	4.6nm,0.3s,baz=207,slow=18,SNR=8.4						
AFI	**Afiamalu**	**20.76**	**20**	LR	LR	10 00 07.0	
	comp=Z,149nm,19.2s,baz=79,slow=32						
ASAR	**Alice Springs**	**42.32**	**271**	P	P	09 57 03.5	0.0
	0.9nm,0.8s,baz=112,slow=7.4,SNR=14						
WRA	**Warramunga Arr**	**43.61**	**276**	P	P	09 57 13.9	-0.1
	0.6nm,0.4s,baz=116,slow=8.1,SNR=13						
FINES	**FINESS Array B**	**147.99**	**338**	PKPbc	PKPbc	10 08 54.0	-0.2
	0.7nm,0.5s,baz=43,slow=4.9,SNR=4.4						
HFS	**Hagfors**	**152.34**	**346**	PKPbc	PKPbc	10 09 04.4	-0.4
	3.9nm,1.1s,baz=38,slow=2.3,SNR=2.7						

DJA 20 09:51:27.8±1.5, 8°S±11°×107°E±°, h22km±10km, M3.8/7, MLv3.8/7, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.76**	**46**	P	Pb	09 51 41.9	-0.5
CISI				S	Sb	09 51 52.7	+0.4
SKJI	**Sukabumi**	**1.29**	**327**	P	Pn	09 51 48.8	-1.7
SKJI				S	Sn	09 52 05.9	-1.2
LEM	**Lembang**	**1.30**	**15**	P	Pb	09 51 51.7	-0.1
DBJI	**Dramaga**	**1.61**	**341**	P	Pn	09 51 55.3	+0.3
KPJI	**Karang Pucung**	**1.81**	**66**	P	Pn	09 51 56.9	-0.8
TGJI	**Tegal**	**2.20**	**57**	P	Pn	09 52 03.3	+0.2

*IDC **20** 09:53:41.6±1.0, 34.6°N×24.4°E, h0km, mb3.7/7, mb1 3.7/12, mb1mx3.6/33, mbtmp3.7/12, ML3.4/5, Error ellipse: s-maj=21.7km s-min=13.9km az=144.0*
*ISCJB **20** 09:53:42.4±0.8, 34.4°N±0.0°×24.4°E±0.0°, h22km±5km, mb3.6/7, Error ellipse: s-maj=7.0km s-min=5.2km az=17.7*
*CSEM **20** 09:53:42.3±0.6, 34.4°N×24.4°E, h15km, MD3.1, Error ellipse: s-maj=12.7km s-min=6.2km az=15.0*
*THE **20** 09:53:43.4, 34.5°N×24.4°E, h2km±1km, ML3.4/2, Error ellipse: s-maj=1.8km s-min=0.7km az=184.0*
*ATH **20** 09:53:44.2, 34.5°N×24.4°E, h26km±2km, MD3.1/8*
ISC 20 09:53:42.5±2.1, 34.55N±0.06°×24.44E±0.03°, h6km±14km, n53, σ0.94°/76, mb3.8/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.41**	**315**	P	**Pb**	**09 53 52.4**	**+0.3**
GVD				S	**Sb**	**09 53 59.0**	**+0.4**
GVD	**Gavdhos**	**0.41**	**315**	*e*PB	**Pb**	**09 53 52.9**	**+0.8**
GVD				*e*SB	**Sb**	**09 53 59.8**	**+1.2**
GVD	**Gavdhos**	**0.41**	**315**	P	**Pb**	**09 53 52.4**	**+0.3**
GVD	**Gavdhos**	**0.41**	**315**	*e*Pb	**Pb**	**09 53 52.9**	**+0.8**
GVD				S	**Sb**	**09 53 59.0**	**+0.4**
SIVA	**Sivas**	**0.56**	**33**	P	**Pb**	**09 53 55.3**	**+0.7**
SIVA				S	**Sb**	**09 54 04.0**	**+1.1**
SIVA	**Sivas**	**0.56**	**33**	*e*PN	**Pb**	**09 53 55.4**	**+0.8**
SIVA				*e*SN	**Sb**	**09 54 03.3**	**+0.4**
SIVA	**Sivas**	**0.56**	**33**	P	**Pb**	**09 53 55.3**	**+0.7**
SIVA				S	**Sb**	**09 54 04.0**	**+1.1**
IDI	**Anoyia**	**0.82**	**27**	P	**Pn**	**09 54 00.0**	**-0.7**
IDI				S	**Sn**	**09 54 13.1**	**-0.1**
IDI	**Anoyia**	**0.82**	**27**	*e*PN	**Pb**	**09 53 59.3**	**+0.1**
IDI	**Anoyia**	**0.82**	**27**	*e*Pn	**Pb**	**09 53 59.3**	**+0.1**
IDI				S	**Sn**	**09 54 13.1**	**-0.1**
IDI	**Anoyia**	**0.82**	**27**	Pn	**Pb**	**09 53 59.4**	**+0.2**
	29nm,0.3s,baz=196,slow=18,SNR=103						
IDI				Sn	**Sn**	**09 54 12.2**	**-1.0**
	121nm,0.3s,baz=94,slow=19,SNR=24						
VAM	**Vamos**	**0.88**	**347**	P	**Pb**	**09 54 00.5**	**+0.5**
VAM				S	**Sn**	**09 54 15.3**	**+0.9**
VAM	**Vamos**	**0.88**	**347**	*e*PN	**Pb**	**09 54 00.6**	**+0.5**
VAM	**Vamos**	**0.88**	**347**	*e*Pn	**Pb**	**09 54 00.6**	**+0.5**
VAM				S	**Sn**	**09 54 15.3**	**+0.9**
KARN	**Karanos**	**0.95**	**333**	P	**Pn**	**09 54 01.9**	**-0.5**
KARN				S	**Sn**	**09 54 16.2**	**-0.1**
KARN	**Karanos**	**0.95**	**333**	*e*PN	**Pb**	**09 54 01.8**	**+0.4**
KARN				*e*SN	**Sn**	**09 54 15.3**	**-1.0**
KARN	**Karanos**	**0.95**	**333**	*e*Pn	**Pb**	**09 54 01.8**	**+0.4**
KARN				*e*Sn	**Sn**	**09 54 15.3**	**-1.0**
KARN				S	**Sn**	**09 54 16.2**	**-0.1**
LAST	**Lasithi**	**1.05**	**54**	P	**Pn**	**09 54 03.5**	**-0.3**
LAST				S	**Sn**	**09 54 19.2**	**+0.4**
LAST	**Lasithi**	**1.05**	**54**	*e*PN	**Pb**	**09 54 03.3**	**+0.2**
LAST	**Lasithi**	**1.05**	**54**	*e*Pn	**Pb**	**09 54 03.3**	**+0.2**
LAST				S	**Sn**	**09 54 19.2**	**+0.4**
NPS	**Neapolis**	**1.20**	**53**	P	**Pn**	**09 54 06.0**	**+0.2**
NPS				S	**Sn**	**09 54 23.8**	**+1.4**
NPS	**Neapolis**	**1.20**	**53**	*e*PN	**Pn**	**09 54 05.9**	**+0.2**
NPS	**Neapolis**	**1.20**	**53**	*e*Pn	**Pn**	**09 54 05.9**	**+0.2**
NPS				S	**Sn**	**09 54 23.8**	**+1.4**
ZKR	**Zakros**	**1.57**	**68**	P	**Pb**	**09 54 11.4**	**-0.5**
ZKR	**Zakros**	**1.57**	**68**	*e*PN	**Pb**	**09 54 11.9**	**0.0**
ZKR	**Zakros**	**1.57**	**68**	*e*Pn	**Pb**	**09 54 11.9**	**0.0**
ANKY	**Antikythira Is**	**1.61**	**325**	P	**Pn**	**09 54 11.5**	**+0.1**
ANKY				S	**Sg**	**09 54 34.9**	**+0.7**
ANKY	**Antikythira Is**	**1.61**	**325**	P	**Pn**	**09 54 11.5**	**+0.1**
ANKY				S	**Sg**	**09 54 34.9**	**+0.7**
SANT	**Santorini**	**2.00**	**24**	P	**Pb**	**09 54 18.2**	**-1.0**
SANT				S	**Sb**	**09 54 43.5**	**-0.9**
SANT	**Santorini**	**2.00**	**24**	P	**Pb**	**09 54 18.2**	**-1.0**
SANT				S	**Sb**	**09 54 43.5**	**-0.9**
KARP	**Karpathos**	**2.44**	**65**	P	**Pn**	**09 54 23.5**	**+0.6**
KARP	**Karpathos**	**2.44**	**65**	*e*PB	**Pb**	**09 54 25.0**	**-1.8**
KARP	**Karpathos**	**2.44**	**65**	P	**Pn**	**09 54 23.5**	**+0.6**
KARP	**Karpathos**	**2.44**	**65**	*e*Pb	**Pb**	**09 54 25.0**	**-1.8**
VLI	**Veliai**	**2.48**	**331**	P	**Pn**	**09 54 23.8**	**+0.3**
VLI	**Veliai**	**2.48**	**331**	*e*PN	**Pb**	**09 54 25.5**	**-2.0**
VLI	**Veliai**	**2.48**	**331**	P	**Pn**	**09 54 23.8**	**+0.3**
VLI	**Veliai**	**2.48**	**331**	*e*Pn	**Pb**	**09 54 25.5**	**-2.0**
BRTR	**Keskin Array B**	**8.98**	**52**	Pn	**Pn**	**09 55 54.1**	**+1.4**
	0.1nm,0.3s,baz=240,slow=12,SNR=3.5						
MMAI	**Mount Meron Ar**	**9.25**	**96**	Pn	**Pn**	**09 55 56.7**	**+0.2**
	1.0nm,0.3s,baz=278,slow=13,SNR=2.5						
MMAI				Sn	Sn	09 57 33.9	-7.1
	1.6nm,0.3s,baz=269,slow=14,SNR=2.7						
EIL	**Elat**	**10.15**	**116**	Pn	**Pn**	**09 56 08.8**	**0.0**
	0.7nm,0.3s,baz=350,slow=13,SNR=4.2						
EIL				Sn	Sn	09 57 50.4	-13
	baz=8.4,slow=17						
ASF	**Jabal al Asfar**	**10.69**	**99**	Pn	**Pn**	**09 56 15.4**	**-0.7**
	0.3nm,0.3s,baz=240,slow=3.4,SNR=3.7						
ASF				Sn	Sn	09 58 07.0	-9.1
	0.3nm,0.3s,baz=114,slow=20,SNR=1.7						
MLR	**Muntele Rosu**	**10.99**	**6**	Pn	**Pn**	**09 56 18.0**	**-2.3**
	0.1nm,0.3s,baz=180,slow=14,SNR=2.2						
GERES	**GERESS Array B**	**16.35**	**334**	Pn	**P**	**09 57 35.8**	**+0.2**
	baz=140,slow=15,SNR=3.3						
AKASG	**Malin Array Be**	**16.52**	**11**	Pn	**P**	**09 57 35.9**	**-1.3**
	1.0nm,0.3s,baz=199,slow=11,SNR=9.2						
KBZ	**Khabaz**	**16.97**	**52**	Pn	**P**	**09 57 46.0**	**+3.6**
	0.2nm,0.3s,baz=250,slow=6.4,SNR=4.7						
ESDC	**Sonseca Array**	**23.17**	**291**	P	**P**	**09 58 49.4**	**-0.3**
	0.4nm,0.4s,baz=86,slow=10,SNR=5.8						
MDT	**Midelt**	**24.20**	**274**	P	**P**	**09 58 59.9**	**-0.1**
	1.0nm,0.7s,baz=60,slow=8.1,SNR=4.1						
HFS	**Hagfors**	**26.54**	**348**	P	**P**	**09 59 20.4**	**-0.3**
	1.2nm,0.6s,baz=158,slow=13,SNR=4.1						
TORD	**Torodi Ar. Bea**	**29.64**	**230**	P	**P**	**09 59 48.8**	**0.0**
	0.8nm,0.5s,baz=35,slow=8.7,SNR=14						
MKAR	**Makanchi Array**	**44.60**	**56**	P	**P**	**10 01 55.5**	**0.0**
	0.9nm,0.6s,baz=277,slow=6.2,SNR=8.5						
ZALV	**Zalesovo Beam**	**45.85**	**46**	P	**P**	**10 02 06.0**	**+0.8**
	1.2nm,0.3s,baz=283,slow=7.2,SNR=4.7						
SONM	**Songino Array**	**60.33**	**50**	P	**P**	**10 03 51.4**	**-0.8**
	0.3nm,0.5s,baz=292,slow=6.5,SNR=2.8						

IDC 20 09:56:10.2±1.7, 13.05S×166.08E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/20, mbtmp3.9/4, ML3.3/1, Error ellipse: s-maj=57.1km s-min=32.8km az=119.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.98**	**178**	Pn	Pn	09 58 21.3	0.0
	0.3nm,0.3s,baz=36,slow=19,SNR=2.9						
ASAR	**Alice Springs**	**32.24**	**246**	P	P	10 02 40.5	-0.1
	1.4nm,0.8s,baz=73,slow=9.1,SNR=19						
ILAR	**Eielson Array**	**85.30**	**18**	P	P	10 08 48.6	0.0
	0.3nm,0.7s,baz=231,slow=5.7,SNR=3.0						
MKAR	**Makanchi Array**	**95.20**	**317**	P	P	10 09 35.8	0.0
	0.4nm,0.7s,baz=117,slow=5.0,SNR=4.2						

IDC 20 09:58:55.6±1.3, 15.26S×172.03W, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.7/20, mbtmp3.6/5, MS3.1/1, Ms1 3.1/1, ms1mx2.7/24, Error ellipse: s-maj=46.2km s-min=19.4km az=127.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.36**	**11**	Pn	Pg	09 59 21.7	-0.1
	31nm,0.3s,baz=150,slow=1.6,SNR=37						
AFI				Sn	Sn	09 59 42.0	+1.1
	269nm,0.3s,baz=12,slow=20,SNR=28						
HNR	**Honiara**	**27.96**	**279**	LR	LR	10 12 58.2	
	comp=Z,45nm,21.9s,baz=170,slow=30						
H11S2	**WAKE ISLAND Hy**	**39.53**	**327**	T	T	10 48 00.7	
	baz=145						
H11S3	**WAKE ISLAND Hy**	**39.55**	**327**	T	T	10 48 01.3	
	baz=145						
H11S1	**WAKE ISLAND Hy**	**39.55**	**327**	T	T	10 47 58.3	
	baz=145						
WRA	**Warramunga Arr**	**51.16**	**257**	P	P	10 08 00.5	-0.5
	0.5nm,0.7s,baz=95,slow=8.7,SNR=5.8						
ASAR	**Alice Springs**	**51.41**	**252**	P	P	10 08 03.0	+0.2
	1.4nm,0.8s,baz=87,slow=8.1,SNR=14						
TXAR	**Lajitas Array**	**79.44**	**56**	P	P	10 11 04.4	+0.1
	0.2nm,0.7s,baz=230,slow=11,SNR=3.9						
PDAR	**Pinedale Array**	**81.28**	**41**	P	P	10 11 13.9	-0.2
	0.3nm,0.9s,baz=249,slow=5.4,SNR=2.5						
ILAR	**Eielson Array**	**82.06**	**11**	P	P	10 11 18.0	+0.6
	0.7nm,1.1s,baz=209,slow=4.6,SNR=4.3						
BRTR	**Keskin Array B**	**146.86**	**322**	PKPbc	PKPdf	10 18 39.4	+0.7
	0.7nm,0.7s,baz=90,slow=3.7,SNR=4.9						

IDC 20 10:08:57.1±7.4, 1.28N×99.37W, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.7/17, mbtmp3.5/3, MS3.6/6, Ms1 3.6/6, ms1mx3.4/16, Error ellipse: s-maj=576.9km s-min=64.4km az=91.0, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**16.23**	**32**	LR	LR	10 17 35.3	
	comp=Z,209nm,19.9s,baz=72,slow=32						
ATAH	**Atahualpa**	**22.53**	**112**	LR	LR	10 19 42.1	
	comp=Z,69nm,19.1s,baz=118,slow=29						
LPIG	**La Paz**	**25.04**	**336**	LR	LR	10 21 28.3	
	comp=Z,192nm,19.2s,baz=215,slow=30						
TXAR	**Lajitas Array**	**28.20**	**352**	P	P	10 14 51.8	+0.1
	0.4nm,0.8s,baz=180,slow=8.8,SNR=4.2						
TXAR				LR	LR	10 24 46.7	
	comp=Z,102nm,18.4s,baz=270,slow=34						
LPAZ	**La Paz**	**35.44**	**121**	LR	LR	10 29 00.0	
	comp=Z,70nm,21.7s,baz=163,slow=34						
NVAR	**Mina Array Bea**	**40.85**	**337**	LR	LR	10 29 52.0	
	comp=Z,126nm,20.9s,baz=330,slow=31						
PDAR	**Pinedale Array**	**42.30**	**349**	P	P	10 16 52.5	-0.4
	0.4nm,0.9s,baz=144,slow=7.8,SNR=3.4						
ILAR	**Eielson Array**	**71.98**	**341**	P	P	10 20 22.5	+0.2
	0.8nm,1.0s,baz=152,slow=5.1,SNR=6.1						
CMAR	**Chiang Mai Arr**	**153.37**	**318**	PKPbc	PKPbc	10 28 58.3	-0.1
	0.6nm,0.4s,baz=11,slow=0.9,SNR=3.9						

PRE 20 10:16:32.7±1.7, 1.37N×30.49E, h10km, ML3.8, Uganda

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**1.98**	**173**	*e*P	Pn	10 17 05.6	-0.9
MBAR				*e*S	Sn	10 17 31.1	-0.3
KIG	**Kigali**	**3.34**	**187**	*e*P	Pn	10 17 27.2	+1.9
KIG				*e*S	Sn	10 18 04.4	-0.8
KIG				AML	AML	10 18 25.3	
	comp=Z,196nm,0.7s						
KMBO	**Kilima Mbogo**	**7.20**	**110**	*e*P	Pn	10 18 18.5	+0.1
KMBO				*e*S	Sn	10 19 37.6	-2.9

DJA 20 10:28:06.7±1.5, 8°S±7°×107°E±°, h8km±9km, M3.5/3, MLv3.5/3, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.76**	**39**	P	Pg	10 28 21.4	-0.1
CISI				S	Sg	10 28 31.3	-0.2
LEM	**Lembang**	**1.34**	**12**	P	Pn	10 28 30.9	-1.1
LEM				S	Sb	10 28 49.2	-0.7
SKJI	**Sukabumi**	**1.37**	**326**	P	Sn	10 28 49.9	-0.6
DBJI	**Dramaga**	**1.69**	**340**	P	Pn	10 28 35.0	-1.5
KPJI	**Karang Pucung**	**1.78**	**63**	P	Pn	10 28 37.0	-0.8

*NEIC **20** 10:56:44.1, 14.89N×95.19W, h4km, MD4.0(MEX), After MEX.*
MEX 20 10:56:44.1±0.5, 14.89N×95.19W, h4km±11km, MD4.0, Off coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.25**	**315**	*e*P	Pg	10 57 04.4	-3.6
HUIG				*i* S	Sg	10 57 20.1	-4.1
HUIG	**Huatulco**	**1.25**	**315**	*e*P	Pg	10 57 04.4	-3.6
HUIG				*i* S	Sg	10 57 20.1	-4.1
PCIG		**2.07**	**67**	*e*P	Pn	10 57 12.8	-6.8
PCIG				*i* S	Sn	10 57 37.9	-8.0
PCIG		**2.07**	**67**	*e*P	Pn	10 57 12.8	-6.8
PCIG				*i* S	Sn	10 57 37.9	-8.0
VHO	**Vista Hermosa**	**2.63**	**326**	*i* P	Pn	10 57 24.5	-3.1
VHO				*i* S	Sn	10 57 55.7	-4.6
VHO	**Vista Hermosa**	**2.63**	**326**	*i* P	Pn	10 57 24.5	-3.1
VHO				*i* S	Sn	10 57 55.7	-4.6
TGIG		**2.74**	**46**	*e*P	Pn	10 57 25.9	-3.1
TGIG				*i* S	Sn	10 57 58.9	-3.7
TGIG		**2.74**	**46**	*e*P	Pn	10 57 25.9	-3.1
TGIG				*i* S	Sn	10 57 58.9	-3.7
PNIG	**Pinotepa**	**3.20**	**298**	*i* P	Pn	10 57 32.9	-2.4
PNIG				*i* S	Sn	10 58 09.6	-4.4
PNIG	**Pinotepa**	**3.20**	**298**	*i* P	Pn	10 57 32.9	-2.4
PNIG				*i* S	Sn	10 58 09.6	-4.4
CCIG	**Comitan**	**3.25**	**64**	*i* P	Pn	10 57 33.0	-3.2
CCIG				*i* S	Sn	10 58 11.8	-3.8
CCIG	**Comitan**	**3.25**	**64**	*i* P	Pn	10 57 33.0	-3.2
CCIG				*i* S	Sn	10 58 11.8	-3.8
UTMO	**Huajuapan**	**3.85**	**320**	*i* P	Pn	10 57 42.0	-2.5
UTMO				*i* S	Sn	10 58 27.4	-3.0
UTMO	**Huajuapan**	**3.85**	**320**	*i* P	Pn	10 57 42.0	-2.5
UTMO				*i* S	Sn	10 58 27.4	-3.0

*IDC **20** 11:04:18.7±3.2, 2.28S×102.19E, h159km±30km, mb3.2/6, mb1 3.3/7, mb1mx3.1/24, mbtmp3.2/7, Error ellipse: s-maj=51.6km s-min=15.8km az=56.0*
*DJA **20** 11:04:19.0±0.4, 2.3S±13°×10.2E±1.6°, h170km±6km, M4.4/9, mb5.0/2, mB5.0/2, MLv4.1/9, Mw(mB)4.3/2*
ISC 20 11:04:18.8±0.8, 2.13S±0.10×102.2E±0.1, h150km, n22, σ1.9°44/23, mb3.4/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**1.01**	**180**	P	**Pn**	**11 04 45.4**	**+1.7**
MASI				S	**Sn**	**11 05 05.6**	**+2.8**
LHSI	**Lahat**	**2.12**	**143**	P	**Pn**	**11 04 57.7**	**+2.3**
PDSI	**Padang**	**2.15**	**304**	P	**Pn**	**11 04 56.5**	**+0.7**
PDSI				S	**Sn**	**

baz=324,slow=0.7,SNR=231
OPO Ambohidratompo 27.40 216 LR LR 11 25 00.5
comp=Z,131nm,18.8s,baz=41,slow=33
CMAR Chiang Mai Arr 37.52 64 P P 11 17 07.4 +1.6
0.5nm,0.3s,baz=256,slow=8.8,SNR=6.5
CMAR LR LR 11 31 56.2
comp=Z,60nm,18.3s,baz=36,slow=35
AAK Ala-Archa 40.00 12 LR LR 11 32 40.4
comp=Z,68nm,19.3s,baz=150,slow=34
GNI Garni 40.16 337 P P 11 17 28.5 +0.7
3.0nm,0.3s,baz=131,slow=8.9,SNR=3.3
GNI LR LR 11 34 09.8
comp=Z,42nm,20.4s,baz=146,slow=36
BRTR Keskin Array B 45.03 327 P P 11 18 08.6 +1.1
2.0nm,0.9s,baz=146,slow=9.9,SNR=9.2
AKTO Aktyubinsk 46.86 355 P P 11 18 21.1 -0.5
4.8nm,0.6s,baz=154,slow=8.7,SNR=11
BOSA Boshof 48.89 226 LR LR 11 37 38.7
comp=Z,36nm,18.9s,baz=356,slow=34
BVAR Borovoye Array 49.52 5 LR LR 11 40 35.7
comp=Z,52nm,18.5s,baz=100,slow=37
ZALV Zalesovo Beam 53.04 15 P P 11 19 07.2 -1.3
0.6nm,0.4s,baz=217,slow=7.2,SNR=4.6
AKASG Malin Array Be 55.09 334 P P 11 19 23.1 -0.4
0.2nm,0.3s,baz=138,slow=6.0,SNR=7.2
SONM Songino Array 57.27 33 P P 11 19 39.5 +0.1
1.4nm,0.7s,baz=224,slow=7.7,SNR=12
SONM LR LR 11 44 07.6
comp=Z,79nm,19.4s,baz=91,slow=36
DAVOX Davos/Dischmat 63.17 322 P P 11 20 18.9 -1.1
2.8nm,0.6s,baz=153,slow=12,SNR=3.9
KSRS Korea Array 67.47 51 LR LR 11 50 28.1
comp=Z,34nm,18.8s,baz=245,slow=36
DBIC Dimbokro 68.26 276 P P 11 20 54.2 +1.0
6.8nm,1.1s,baz=90,slow=3.0,SNR=3.4
NOA NORSAR Array B 69.43 336 LR LR 11 55 12.1
comp=Z,35nm,18.8s,baz=250,slow=39
ARCES ARCESS Array B 70.41 347 P P 11 21 04.5 -0.9
2.4nm,1.0s,baz=114,slow=4.4,SNR=5.7
WRA Warramunga Arr 73.19 112 P P 11 21 23.0 -0.2
0.5nm,0.8s,baz=284,slow=6.2,SNR=3.5
ASAR Alice Springs 73.50 116 P P 11 21 24.1 -0.8
0.3nm,0.7s,baz=289,slow=6.0,SNR=3.2
PETK Petropavlovsk- 89.54 37 LR LR 12 04 35.7
comp=Z,38nm,18.3s,baz=224,slow=37
PDAR Pinedale Array 133.39 353 PKP PKPdf 11 29 08.0 -0.7
0.3nm,0.5s,baz=82,slow=3.1,SNR=3.7
TXAR Lajitas Array 145.02 340 PKPbc PKPab 11 29 28.5 -0.7
1.0nm,0.7s,baz=68,slow=2.6,SNR=15

*IDC **20** 11:17:10.6±2.8, 59.58N×23.37E, h0km, mb1 3.2/4, mb1mx3.0/28, mbtmp3.1/4, ML3.0/3, Error ellipse: s-maj=39.4km s-min=8.6km az=158.0*
*ISCJB **20** 11:17:10.2±0.3, 59.73N±0.03×23.06E±0.04, h0km, Error ellipse: s-maj=4.1km s-min=2.9km az=163.1*
*CSEM **20** 11:17:11.6±0.1, 59.76N×23.11E, h2km, ML2.0, Error ellipse: s-maj=3.9km s-min=3.0km az=179.0, Mining explosion.*
*HEL **20** 11:17:11.7±0.1, 59.74N×23.08E, h0km, ML2.2, ML2.2(UPP), Explosion*
*NAO **20** 11:17:11.5±1.1, 59.77N×23.10E, ML2.1*
*BER **20** 11:17:13.0±4.6, 59.73N×23.09E, h0km, ML2.1(NAO), Suspected explosion*
*UPP **20** 11:17:13.0, 59.75N×22.94E, h0km, ML2.2, Suspected Mining explosion.*

ISC 20 11:17:10.4±0.7, 59.75N±0.02×23.09E±0.02, h0km, n65, σ1s08/88, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRPE	**Suurupi**	**0.72**	**113**	*eP*	**Pg**	**11 17 24.6**	**+0.4**
SRPE				*eS*	**Sg**	**11 17 33.8**	**+0.4**
SRPE	**Suurupi**	**0.72**	**113**	P	**Pg**	**11 17 24.5**	**+0.4**
SRPE				*eS*	**Sg**	**11 17 33.0**	**-0.4**
	SNR=90						
MEF	**Metsahovi**	**0.81**	**54**	*eP*	**Pg**	**11 17 26.2**	**+0.4**
MEF				*eS*	**Sg**	**11 17 36.6**	**+0.3**
MEF	**Metsahovi**	**0.81**	**54**	P	**Pg**	**11 17 26.2**	**+0.4**
MEF				*eS*	**Sg**	**11 17 36.7**	**+0.4**
	23nm,0.5s,SNR=90						
MTSE	**Matsula**	**1.10**	**160**	*eP*	**Pg**	**11 17 31.6**	**0.0**
MTSE				*eS*	**Sg**	**11 17 44.4**	**-1.4**
MTSE	**Matsula**	**1.10**	**160**	*eP*	**Pb**	**11 17 32.5**	**+0.2**
	SNR=90						
MTSE				S	**Sg**	**11 17 44.4**	**-1.4**
RAF	**Rauma**	**1.44**	**333**	*eP*	**Pn**	**11 17 37.3**	**-0.4**
RAF				*eS*	**Sg**	**11 17 55.7**	**-0.9**
RAF	**Rauma**	**1.44**	**333**	*eP*	**Pn**	**11 17 37.6**	**-0.1**
	SNR=50						
RAF				*eS*	**Sg**	**11 17 56.8**	**+0.3**
	22nm,0.2s,SNR=50						
PVF	**Pernaja**	**1.60**	**59**	*eP*	**Pn**	**11 17 40.4**	**+0.4**
PVF				*eS*	**Sn**	**11 18 00.9**	**-0.4**
PVF	**Pernaja**	**1.60**	**59**	P	**Pn**	**11 17 40.3**	**+0.4**
PVF				S	**Sn**	**11 18 00.8**	**-0.4**
SLIT	**Slitere, Latvi**	**2.17**	**191**	*eP*	**Pn**	**11 17 49.0**	**+1.3**
	SNR=50						
FIA0	**FINESS Array S**	**2.25**	**40**	Pn	**Pb**	**11 17 51.1**	**-0.7**
	baz=219,slow=16						
FIA0				Lg	Lg	11 18 20.6	
	baz=222,slow=28						
FIA0	**FINESS Array S**	**2.25**	**40**	Pn	**Pb**	**11 17 51.1**	**-0.7**
	baz=219,slow=16						
FIA0				Lg	Lg	11 18 20.6	
	baz=222,slow=28						
FIA0	**FINESS Array S**	**2.25**	**40**	*eP*	**Pb**	**11 17 51.3**	**-0.5**
FIA0				*eSB*	**Sb**	**11 18 20.5**	**+0.2**
FIA0	**FINESS Array S**	**2.25**	**40**	Pn	**Pb**	**11 17 51.2**	**-0.7**
	baz=219,slow=15,SNR=50						
FIA0					Sb	**Sb**	**11 18 20.4**	**+0.2**
FINES	**FINESS Array B**	**2.25**	**40**	Pn	**Pb**	**11 17 51.1**	**-0.7**
	5.6nm,0.3s,baz=226,slow=15,SNR=174						
FINES					Sn	**Sb**	**11 18 20.4**	**+0.2**
	8.5nm,0.3s,baz=228,slow=23,SNR=44						
VSU	**Vasula**	**2.28**	**123**	Pn	**Pb**	**11 17 51.9**	**-0.5**
VSU				Lg	Lg	11 18 22.0	
VSU	**Vasula**	**2.28**	**123**	Pn	**Pb**	**11 17 51.9**	**-0.5**
VSU				Lg	Lg	11 18 22.0	
VSU	**Vasula**	**2.28**	**123**	*eP*	**Pn**	**11 17 51.3**	**+2.0**
	SNR=50						
VSU	**Vasula**	**2.28**	**123**	Pn	**Pb**	**11 17 51.9**	**-0.5**
	SNR=50						
VSU				Lg	Lg	11 18 22.0	
	SNR=50						
VJF	**Virojoki**	**2.37**	**69**	*eP*	**Pn**	**11 17 51.0**	**+0.6**
VJF				*eS*	**Sn**	**11 18 22.3**	**+2.1**
VJF				MSG		11 18 30.4	
	comp=Z,11nm,0.2s						
VJF	**Virojoki**	**2.37**	**69**	P	**Pn**	**11 17 51.0**	**+0.6**
VJF				S	**Sn**	**11 18 22.2**	**+2.1**
FORU	**Forsmark**	**2.54**	**287**	*eP*	**Pn**	**11 17 55.4**	**+2.6**
FORU	**Forsmark**	**2.54**	**287**	P	**Pn**	**11 17 55.4**	**+2.6**
KEF	**Keuruu**	**2.58**	**19**	MSG		11 18 33.5	
	comp=Z,9.3nm,0.2s						
NYNU	**Nynaeshamn**	**2.71**	**256**	*eP*	**Pn**	**11 17 56.7**	**+1.5**
NYNU	**Nynaeshamn**	**2.71**	**256**	P	**Pn**	**11 17 56.6**	**+1.5**
KAF	**Kangasniemi**	**2.84**	**32**	MSG		11 18 40.7	
	comp=Z,8.9nm,0.2s						
BACU	**Backbrunna**	**3.03**	**275**	*eP*	**Pn**	**11 18 00.6**	**+1.1**
BACU	**Backbrunna**	**3.03**	**275**	P	**Pn**	**11 18 00.6**	**+1.1**
OSTU	**Oestervaala**	**3.03**	**282**	*eP*	**Pn**	**11 18 00.6**	**+1.0**
OSTU	**Oestervaala**	**3.03**	**282**	P	**Pn**	**11 18 00.6**	**+1.0**
IGGU	**Iggoen**	**3.09**	**294**	*eP*	**Pn**	**11 18 02.1**	**+1.7**
IGGU	**Iggoen**	**3.09**	**294**	P	**Pn**	**11 18 02.0**	**+1.7**
VAF	**Ylistaro**	**3.31**	**357**	MSG		11 18 58.7	
	comp=Z,3.7nm,0.2s						
ESKU	**Eskilstuna**	**3.46**	**264**	*eP*	**Pn**	**11 18 06.6**	**+1.2**
ESKU	**Eskilstuna**	**3.46**	**264**	P	**Pn**	**11 18 06.5**	**+1.2**
HUDU	**Hudiksvall**	**3.54**	**307**	*eP*	**Pn**	**11 18 08.1**	**+1.5**
HUDU	**Hudiksvall**	**3.54**	**307**	P	**Pn**	**11 18 08.1**	**+1.5**
HASU	**Hassela**	**3.97**	**310**	*eP*	**Pn**	**11 18 13.9**	**+1.4**
HASU	**Hassela**	**3.97**	**310**	P	**Pn**	**11 18 13.9**	**+1.4**
VSTU	**Vaestervik**	**4.01**	**241**	*eP*	**Pn**	**11 18 15.0**	**+2.0**
VSTU				*eS*	**Sn**	**11 19 00.9**	**+0.3**
VSTU	**Vaestervik**	**4.01**	**241**	P	**Pn**	**11 18 15.0**	**+2.0**
VSTU				S	**Sn**	**11 19 00.9**	**+0.3**
ASPU	**Aespoe**	**4.12**	**238**	*eP*	**Pn**	**11 18 16.6**	**+1.9**
ASPU	**Aespoe**	**4.12**	**238**	P	**Pn**	**11 18 16.5**	**+1.9**
OSKU	**Oskarshamn**	**4.48**	**238**	*eP*	**Pn**	**11 18 20.3**	**+0.9**
OSKU	**Oskarshamn**	**4.48**	**238**	P	**Pn**	**11 18 20.3**	**+0.9**
HFS	**Hagfors**	**4.74**	**279**	Pn	**Pn**	**11 18 24.1**	**+1.0**
	baz=108,slow=11						
HFS				Sn	**Sn**	**11 19 18.4**	**-0.3**
	baz=101,slow=37						
HFS				Lg	Lg	11 19 34.9	
	baz=106,slow=37						
HFS	**Hagfors**	**4.74**	**279**	Pn	**Pn**	**11 18 24.1**	**+1.0**
	baz=108,slow=11,SNR=50						
HFS				Sn	**Sn**	**11 19 18.4**	**-0.3**
	baz=101,slow=32,SNR=50						
HFS				Lg	Lg	11 19 34.8	
	baz=106,slow=28,SNR=53						
HFS	**Hagfors**	**4.74**	**279**	Pn	**Pn**	**11 18 24.7**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=101,slow=14,SNR=22						
HFS				Pg	**Pb**	**11 18 35.3**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=104,slow=16,SNR=9.9						
HFS				Sn	**Sn**	**11 19 18.5**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=106,slow=22,SNR=7.3						
HFS				Lg	Lg	11 19 35.2	
	comp=Z,1.4nm,0.3s,baz=96,slow=26,SNR=11						
BURU	**Burvik**	**4.92**	**351**	*eP*	**Pn**	**11 18 26.9**	**+1.4**
BURU	**Burvik**	**4.92**	**351**	P	**Pn**	**11 18 26.9**	**+1.4**
VXJU	**Vaexsjoe**	**5.15**	**240**	*eP*	**Pn**	**11 18 29.2**	**+0.6**
VXJU	**Vaexsjoe**	**5.15**	**240**	P	**Pn**	**11 18 29.2**	**+0.6**
BLEU	**Blekinge**	**5.19**	**231**	*eP*	**Pn**	**11 18 29.8**	**+0.6**
BLEU	**Blekinge**	**5.19**	**231**	P	**Pn**	**11 18 29.8**	**+0.6**
NB2	**NORSAR Subarra**	**6.03**	**287**	Pn	**Pn**	**11 18 40.4**	**-0.4**
	baz=98,slow=12						
NB2				Sn	**Sn**	**11 19 49.8**	**-0.7**
	baz=104,slow=22						
NB2				Lg	Lg	11 20 19.4	
NB2	**NORSAR Subarra**	**6.03**	**287**	Pn	**Pn**	**11 18 40.4**	**-0.4**
	baz=98,slow=12						
NB2				Sn	**Sn**	**11 19 49.8**	**-0.7**
	baz=104,slow=22						
NB2				Lg	Lg	11 20 19.4	
NB2	**NORSAR Subarra**	**6.03**	**287**	Pn	**Pn**	**11 18 40.4**	**-0.4**
	baz=98,slow=12,SNR=50						
NB2				Sn	**Sn**	**11 19 49.8**	**-0.7**
	baz=104,slow=21,SNR=50						
NOA	**NORSAR Array B**	**6.03**	**287**	Pn	**Pn**	**11 18 40.6**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=99,slow=12,SNR=4.8						
NOA				Sn	**Sn**	**11 19 51.2**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=65,slow=12,SNR=2.7						
NOA				Lg	Lg	11 20 18.9	
	comp=Z,0.7nm,0.3s,baz=131,slow=12,SNR=4.2						
ARA0	**ARCESS Array S**	**9.88**	**5**	Pn	**Pn**	**11 19 32.5**	**-1.0**
	baz=183,slow=16						
ARA0	**ARCESS Array S**	**9.88**	**5**	P	**Pn**	**11 19 32.5**	**-1.0**
	baz=183,slow=16						
ARA0	**ARCESS Array S**	**9.88**	**5**	P	**Pn**	**11 19 32.5**	**-1.0**
	baz=183,slow=15,SNR=47						
ARCES	**ARCESS Array B**	**9.88**	**5**	Pn	**Pn**	**11 19 32.8**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=181,slow=14,SNR=34						

IDC 20 11:23:50.6±1.0, 1.06N×126.42E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.8/24, mbtmp3.9/9, ML3.8/2, MS3.4/1, Ms1 3.4/1, ms1mx2.7/38, Error ellipse: s-maj=52.7km s-min=15.9km az=71.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**8.98**	**228**	Pn	Pn	11 26 03.4	+1.7
	2.0nm,0.3s,baz=107,slow=8.8,SNR=4.2						
FITZ	**Fitzroy Crossi**	**19.05**	**182**	P	P	11 28 14.2	-0.4
	0.1nm,0.3s,baz=1.5,slow=14,SNR=3.8						
WRA	**Warramunga Arr**	**22.27**	**160**	P	P	11 28 49.2	-0.3
	5.1nm,0.7s,baz=338,slow=11,SNR=17						
ASAR	**Alice Springs**	**25.63**	**164**	P	P	11 29 22.0	-0.1
	0.8nm,0.5s,baz=345,slow=12,SNR=22						
STKA	**Stephens Creek**	**35.77**	**158**	P	P	11 30 52.3	+0.7
	2.9nm,0.7s,baz=340,slow=1.9,SNR=5.2						
SONM	**Songino Array**	**49.73**	**342**	P	P	11 32 46.4	+1.6
	0.2nm,0.3s,baz=145,slow=5.3,SNR=3.0						
MKAR	**Makanchi Array**	**59.58**	**326**	P	P	11 33 55.3	-0.9
	1.0nm,0.6s,baz=122,slow=7.5,SNR=11						
MKAR				LR	LR	12 03 24.1	
	comp=Z,28nm,18.6s,baz=214,slow=40						
BVAR	**Borovoye Array**	**69.39**	**328**	P	P	11 34 59.7	-0.6
	0.4nm,0.5s,baz=93,slow=8.7,SNR=3.1						
VNDA	**Vanda**	**80.83**	**173**	P	P	11 36 05.3	-0.5
	0.5nm,0.7s,baz=318,slow=3.0,SNR=3.9						

MEX 20 11:37:26.2±0.4, 18.15N×103.43W, h12km±4km, MD3.8, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.16**	**30**	*i* P	Pg	11 37 29.4	-0.6
MMIG				*i* S	Sg	11 37 32.2	-0.5
R15V		**1.14**	**333**	*e*P	Pb	11 37 44.3	-3.7
R15V				*i* S	Sb	11 37 58.0	-4.9
EZ5V		**1.34**	**353**	*e*P	Pn	11 37 47.4	-3.6
EZ5V				*i* S	Sb	11 38 03.2	-5.7
ZIIG	**Zihuatanejo**	**1.95**	**106**	*i* P	Pn	11 37 56.7	-2.4
ZIIG				*i* S	Sn	11 38 18.4	-5.2
SFJM	**Santa Fe**	**2.36**	**9**	*i* P	Pn	11 38 00.5	-4.5
SFJM				*i* S	Sn	11 38 29.5	-4.5
ARIG	**Puente Sto Nin**	**2.94**	**87**	*i* P	Pn	11 38 10.6	-2.2
ARIG				*i* S	Sn	11 38 43.6	-4.4

*AUST **20** 11:44:47.0±0.0, 18.65S×177.30W, h620km, Error ellipse: s-maj=1.9km s-min=1.5km az=283.0*
*IDC **20** 11:44:48.8±1.2, 18.67S×177.75W, h614km±14km, mb3.6/16, mb1 3.9/18, mb1mx3.7/24, mbtmp3.6/18, Error ellipse: s-maj=17.4km s-min=8.6km az=147.0*
*NEIC **20** 11:44:50.2±0.7, 18.75S×177.81W, h629km±8km, mb4.4/41, Error ellipse: s-maj=15.3km s-min=7.8km az=136.0*
*BJI **20** 11:44:51.0, 18.50S×177.90W, h630km, mB5.1/4, mb4.5/11*
*MOS **20** 11:44:52.1±1.3, 17.54S×177.80W, h612km, mb4.5/9, Error ellipse: s-maj=34.3km s-min=16.3km az=50.0*

ISC 20 11:44:48.8±0.6, 18.97S±0.09×177.51W±0.07, h618km±6km, n443, σ1s06/460, mb4.4/60, 115C-147D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.39**	**286**	*eP*	**P**	**11 46 18.4**	**-0.1**
MSVF	**Nonsavu**	**4.39**	**286**	*eP*	**P**	**11 46 18.4**	**-0.1**
AFI	**Afiamalu**	**7.46**	**48**	P	**P**	**11 46 42.8**	**-1.2**
	7.7nm,0.3s,baz=277,slow=8.1,SNR=16						
AFI				S	**S**	**11 48 15.2**	**-3.0**
	5.0nm,0.3s,baz=227,slow=19,SNR=4.7						
DZM	**Mont Dzumac**	**15.34**	**256**	P	**P**	**11 48 00.1**	**+0.6**
	0.5nm,0.3s,baz=82,slow=19,SNR=6.8						
OUZ	**Omahuta**	**18.00**	**204**	*eP*	**P**	**11 48 27.5**	**+4.1**
	65nm,1.1s						
URZ	**Urewera**	**19.78**	**193**	*eP*	**P**	**11 48 39.1**	**-0.5**
	28nm,0.8s						
URZ	**Urewera**	**19.78**	**193**	P	**P**	**11 48 38.7**	**-0.9**
	18nm,0.4s,baz=340,slow=1.2,SNR=26						
URZ				S	**S**	**11 51 41.4**	**-4.5**
	7.1nm,0.7s,baz=49,slow=19,SNR=5.2						
RPZ	**Rata Peaks**	**26.48**	**199**	P	**P**	**11 49 40.5**	**+1.6**
	10nm,0.7s,baz=12,slow=12,SNR=6.8						
ARMA	**Armidale**	**30.16**	**242**	P	**P**	**11 50 12.1**	**+1.0**
	baz=30,SNR=8.1						
MGCD	**Mangrove Creek**	**31.40**	**237**	P	**P**	**11 50 23.9**	**+2.4**
	baz=32,SNR=8.1						
RMQ	**Roma**	**31.93**	**250**	P	**P**	**11 50 26.6**	**+0.5**
	baz=32,SNR=8.2						
CNB	**Canberra Magne**	**33.47**	**234**	P	**P**	**11 50 40.2**	**+1.3**
	baz=34,SNR=44						
CTA	**Charters Tower**	**34.12**	**262**	P	**P**	**11 50 43.7**	**-0.9**
	9.1nm,0.5s,baz=97,slow=11,SNR=15						
CMSA	**Cobar Meteorol**	**35.38**	**242**	P	**P**	**11 50 55.2**	**+0.4**
	baz=36,SNR=42						
QLP	**Quilpie**	**35.97**	**251**	P	**P**	**11 50 59.6**	**-0.1**
	baz=36,SNR=12						
MTSU	**Mount Surprise**	**36.15**	**265**	P	**P**	**11 51 00.6**	**-0.7**
	baz=36,SNR=13						
TOO	**Toolangi**	**37.18**	**232**	P	**P**	**11 51 10.4**	**+1.0**
	baz=38,SNR=13						
COEN	**Coen**	**37.97**	**271**	P	**P**	**11 51 15.8**	**-0.3**
	baz=38,SNR=13						
STKA	**Stephens Creek**	**38.88**	**243**	*eP*	**P**	**11 51 23.8**	**+0.5**
	1.5nm,0.6s						
STKA	**Stephens Creek**	**38.88**	**243**	P	**P**	**11 51 23.7**	**+0.5**
	baz=39,SNR=11						
STKA	**Stephens Creek**	**38.88**	**243**	P	**P**	**11 51 23.4**	**+0.2**
	4.2nm,0.4s,baz=89,slow=8.8,SNR=23						
STKA				PcP	**PcP**	**11 53 18.7**	**+1.0**
	2.6nm,0.6s,baz=252,slow=3.2,SNR=4.2						
BBOO	**Buckleboo**	**43.65**	**242**	P	**P**	**11 52 00.7**	**0.0**
	baz=44,SNR=18						
WRAB	**Tennant Creek**	**45.27**	**260**	*eP*	**P**	**11 52 12.0**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.3s						
WRAB	**Tennant Creek**	**45.27**	**260**	*eP*	**P**	**11 52 12.0**	**-1.3**
	comp=Z,8.1nm,0.3s						
WRAB				*e*ScP	**ScP**	**11 56 28.3**	**-6.0**
WRA	**Warramunga Arr**	**45.28**	**260**	P	**P**	**11 52 12.1**	**-1.3**
	comp=Z,10nm,0.4s,baz=97,slow=7.5,SNR=310						
WRA				PcP	**PcP**	**11 53 39.3**	**-0.4**
	comp=Z,1.6nm,0.3s,baz=89,slow=3.7,SNR=7.0						
AS31	**Alice Springs**	**45.33**	**255**	*eP*	**P**	**11 52 12.9**	**-0.8**
AS31				*e*PcP	**PcP**	**11 53 39.2**	**-0.7**
ASAR	**Alice Springs**	**45.33**	**255**	P	**P**	**11 52 13.0**	**-0.8**
	comp=Z,12nm,0.5s,baz=87,slow=8.2,SNR=369						
ASAR				PcP	**PcP**	**11 53 39.3**	**-0.6**
	comp=Z,4.3nm,0.7s,baz=104,slow=3.9,SNR=14						
ASAR				PP	**PP**	**11 54 12.1**	**+1.6**
	comp=Z,2.1nm,0.9s,baz=87,slow=8.1,SNR=5.1						
ASAR				S	**S**	**11 58 08.3**	**-2.8**
	comp=Z,1.9nm,0.8s,baz=91,slow=15,SNR=8.1						
KDU	**Kakadu**	**48.40**	**270**	P	**P**	**11 52 35.2**	**-1.6**
	baz=49,SNR=16						
KNRA	**Kununurra**	**51.23**	**265**	P	**P**	**11 52 56.2**	**-1.2**
	baz=51,SNR=11						
FITZ	**Fitzroy Crossi**	**53.70**	**261**	P	**P**	**11 53 13.9**	**-1.0**
	baz=54,SNR=27						
FITZ	**Fitzroy Crossi**	**53.70**	**261**	P	**P**	**11 53 13.9**	**-1.0**
	comp=Z,2.7nm,0.3s,baz=124,slow=2.7,SNR=45						
MEEK	**Meekatharra**	**58.86**	**250**	P	**P**	**11 53 48.9**	**-1.3**
	baz=59,SNR=4.9						
VNDA	**Vanda**	**59.46**	**185**	P	**P**	**11 53 55.9**	**+2.6**
	comp=Z,1.2nm,0.8s,baz=355,slow=7.0,SNR=10						
BLDU	**Ballidu**	**60.10**	**245**	P	**P**	**11 53 57.7**	**-0.6**
	baz=60,SNR=17						
UNV	**Unalaska Valle**	**73.14**	**7**	*eP*	P	11 55 21.7	+4.1
	comp=Z,40nm,0.9s						
SMMC	**Simmler**	**76.72**	**45**	⇓P	**P**	**11 55 39.6**	**+1.5**
	baz=77						
ARVC	**Arvin**	**77.41**	**46**	⇑P	**P**	**11 55 42.6**	**+0.8**
	baz=78						
VES	**Vestal, Richgr**	**77.63**	**45**	⇓P	**P**	**11 55 43.8**	**+0.9**
	baz=78						
MURC	**Murrieta**	**77.69**	**48**	⇓P	**P**	**11 55 44.5**	**+1.1**
	baz=78						
BFSC	**Mount Baldy Ra**	**77.72**	**47**	⇑P	**P**	**11 55 44.4**	**+0.7**
	baz=78						
EDW2	**Edwards Air Fo**	**77.84**	**46**	⇓P	**P**	**11 55 45.6**	**+1.5**
	baz=78						
MONP	**Monument Peak**	**77.87**	**49**	⇓P	**P**	**11 55 45.6**	**+1.0**
	baz=78						
ISA	**Isabella**	**77.94**	**46**	*eP*	**P**	**11 55 45.8**	**+1.1**
ISA	**Isabella**	**77.94**	**46**	*eP*	**P**	**11 55 45.8**	**+1.1**
ISA	**Isabella**	**77.94**	**46**	⇓P	**P**	**11 55 45.9**	**+1.1**
	baz=78						
CMB	**Columbia Colle**	**78.04**	**43**	*eP*	**P**	**11 55 45.5**	**+0.4**
CMB				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CMB	**Columbia Colle**	**78.04**	**43**	*eP*	**P**	**11 55 45.5**	**+0.4**
	comp=Z,7.2nm,0.8s						
BBRC	**Big Bear Solar**	**78.25**	**47**	⇓P	**P**	**11 55 47.4**	**+0.8**
	baz=78						
SWSC	**Sam W. Stewart**	**78.34**	**49**	⇓P	**P**	**11 55 48.5**	**+1.7**
	baz=79						
BELC	**Belle Mtn. Jos**	**78.75**	**48**	⇑P	**P**	**11 55 50.2**	**+1.0**
	baz=79						
MLAC	**Mammoth Lakes**	**78.81**	**44**	⇑P	**P**	**11 55 50.7**	**+1.2**
	baz=79						
YBH	**Yreka Blue Hor**	**78.82**	**39**	P	**P**	**11 55 49.9**	**+0.6**
	comp=Z,5.1nm,0.7s,baz=227,slow=10,SNR=18						
MPMC	**Manual Prospec**	**78.83**	**46**	⇓P	**P**	**11 55 50.5**	**+0.9**
	baz=79						
MTUM	**Tungsten Hills**	**78.83**	**44**	*eP*	**P**	**11 55 50.7**	**+1.1**
GSC	**Goldstone**	**78.89**	**47**	⇓P	**P**	**11 55 50.3**	**+0.5**
	baz=79						
WAKR	**Walker**	**78.92**	**43**	*eP*	**P**	**11 55 50.8**	**+0.8**
BC3	**Big Chuckawall**	**78.96**	**49**	⇓P	**P**	**11 55 51.1**	**+0.9**
	baz=79						
HEC	**Hector,Ludlow**	**78.96**	**47**	⇓P	**P**	**11 55 51.0**	**+0.9**
	baz=79						
HUMO	**Hull Mountain**	**79.21**	**38**	*eP*	**P**	**11 55 52.4**	**+1.2**
	comp=Z,108nm,2.8s						
GMRC	**Granite Mounta**	**79.40**	**48**	⇓P	**P**	**11 55 53.6**	**+1.1**
	baz=80						
FURC	**Furnace Creek,**	**79.48**	**46**	⇓P	**P**	**11 55 53.9**	**+1.2**
	baz=80						
NVAR	**Mina Array Bea**	**79.61**	**43**	P	**P**	**11 55 54.1**	**+0.5**
	comp=Z,4.0nm,0.7s,baz=223,slow=8.6,SNR=27						
PAHR	**Pah Rah Range**	**79.64**	**42**	*eP*	**P**	**11 55 54.1**	**+0.4**
	comp=Z,11nm,1.1s						
Y12C	**Blythe**	**79.67**	**49**	⇓P	**P**	**11 55 54.8**	**+1.1**
	baz=80						
NV11	**Mina Array Sit**	**79.70**	**43**	*eP*	**P**	**11 55 54.5**	**+0.4**
113A	**Mohawk Valley,**	**79.71**	**50**	⇓P	**P**	**11 55 54.9**	**+0.9**
	baz=80						
PDMCI	**Parker Dam,Lak**	**80.22**	**49**	⇓P	**P**	**11 55 58.2**	**+1.6**
	baz=80						
MOD	**Modoc**	**80.36**	**40**	*eP*	**P**	**11 55 57.8**	**+0.4**
	comp=Z,35nm,0.8s						
K05A	**Summer Lake**	**80.49**	**39**	*eP*	**P**	**11 55 59.0**	**+0.9**
	comp=Z,12nm,0.9s						
**Z

120A	**U Bar Ranch, L** baz=84	83.40	52	⇑P		P	11 56 14.7	+1.7
HAWA	**Hanford** comp=Z,7.0nm,1.0s	83.45	36	*e*P		P	11 56 13.5	+0.8
Z20A	**Nine Sixteen R** baz=84	83.69	52	⇓P		P	11 56 16.1	+1.6
WTV	**Waterville**	84.00	35	P		P	11 56 15.2	-0.3
121A	**Cookes Peak, D** baz=84	84.03	53	⇓P		P	11 56 17.7	+1.6
Y20A	**Horse Springs,** baz=84	84.21	51	⇓P		P	11 56 18.5	+1.4
E09A	**Wood Farm, Sta** comp=Z,40nm,2.3s	84.30	37	*e*P		P	11 56 18.3	+1.4
222A	**Williams Famil** baz=85	84.36	53	⇑P		P	11 56 19.0	+1.3
X20A	**Quemado** baz=85	84.42	51	⇓P		P	11 56 19.6	+1.6
Z21A	**St. Cloud Mine** baz=85	84.47	52	⇓P		P	11 56 19.6	+1.3
F10A	**Beach Ranch, E** comp=Z,8.7nm,0.8s	84.52	37	*e*P		P	11 56 18.1	0.0
W20A	**Ramah** baz=85	84.68	50	⇓P		P	11 56 20.8	+1.5
B08A	**Colville Reser** comp=Z,8.3nm,0.9s	84.72	35	*e*P		P	11 56 18.5	-0.5
Y21A	**Point of Rocks** baz=85	84.78	52	⇓P		P	11 56 21.2	+1.4
TRF	**Thorofare Moun** comp=Z,8.9nm,0.7s	84.87	12	*e*P		P	11 56 17.8	-1.6
HLID	**Hailey** comp=Z,3.8nm,0.8s	84.88	41	*e*P		P	11 56 20.9	+0.9
HLID	**Hailey** baz=85	84.88	41	⇓P		P	11 56 21.1	+1.1
X21A	**Alamocita Cree** baz=85	84.89	51	⇓P		P	11 56 21.7	+1.3
Z22A	**Elephant Butte** baz=85	84.97	52	⇑P		P	11 56 22.0	+1.3
C09A	**Chrisman Ranch** comp=Z,6.0nm,0.8s	84.97	36	*e*P		P	11 56 20.2	0.0
V20A	**Brimhall** baz=85	85.02	50	⇓P		P	11 56 22.2	+1.3
BJI	**Beijing**	85.14	315	P		P	11 56 22.9	+1.9
BJI	comp=Z,9.0nm,0.7s			AMB		AMB		
SRU	**San Rafael**	85.14	46	*e*P		P	11 56 22.1	+0.7
SRU	comp=Z,4.0nm,0.7s			pmax		pmax		
SRU	**San Rafael** comp=Z,3.7nm,0.7s	85.14	46	*e*P		P	11 56 22.1	+0.7
Y22A	**Socorro** baz=86	85.27	52	⇑P		P	11 56 23.5	+1.3
W21A	**San Fidel** baz=86	85.30	51	⇑P		P	11 56 23.7	+1.5
324A	**Moseley Ranch,** baz=86,SNR=7.9	85.31	55	⇓P		P	11 56 23.6	+1.2
MCK	**McKinley**	85.39	12	*e*P		P	11 56 20.5	-1.3
MCK	comp=Z,8.0nm,0.8s			pmax		pmax		
MCK	**McKinley** comp=Z,8.1nm,0.8s	85.39	12	*e*P		P	11 56 20.4	-1.3
425A	**Indio Mountain** baz=86,SNR=11	85.42	55	⇓P		P	11 56 24.1	+1.2
X22A	**Bernardo** baz=86	85.49	51	⇓P		P	11 56 24.3	+1.1
Z23A	**Rita Site, Whi** baz=86	85.53	53	⇑P		P	11 56 24.5	+1.2
224A	**Cornudas Mount** baz=86	85.55	54	⇑P		P	11 56 24.8	+1.4
626A	**Big Bend Ranch** baz=86,SNR=12	85.57	57	⇑P		P	11 56 25.0	+1.5
325A	**Bean Ranch, Si** baz=86,SNR=7.9	85.67	55	⇓P		P	11 56 24.9	+0.8
526A	**Mary Lane Ranc** baz=86,SNR=12	85.81	56	⇑P		P	11 56 25.9	+1.2
TXAR	**Lajitas Array** comp=Z,7.2nm,0.8s,baz=216,slow=6.5,SNR=85	85.85	57	P		P	11 56 26.4	+1.6
124A	**Stringfield Ra** baz=86	85.87	54	⇓P		P	11 56 26.0	+0.9
NEW	**Newport** baz=86	85.87	36	⇑P		P	11 56 24.2	-0.2
U21A	**Nageezi** baz=86	85.89	49	⇓P		P	11 56 26.1	+1.1
Y23A	**Lovelace Mesa,** baz=86	85.95	52	⇓P		P	11 56 26.1	+0.8
PV01	**Paradox Valley**	86.02	48	*e*P		P	11 56 26.1	+0.4
S20A	**Disappointment** baz=86	86.03	48	⇑P		P	11 56 26.5	+0.7
ANMO	**Albuquerque**	86.10	51	*e*P		P	11 56 26.7	+0.7
225A	**Deer Hill, Car** baz=86	86.10	54	⇓P		P	11 56 27.7	+1.6
426A	**McDonald Obser** baz=86,SNR=11	86.11	56	⇓P		P	11 56 27.2	+1.0
627A	**Terlingua Ranc** baz=86,SNR=14	86.12	57	⇑P		P	11 56 27.6	+1.4
V22A	**San Miguel Ran** baz=86	86.19	50	⇓P		P	11 56 27.2	+0.7
Z24A	**Sheeppen Canyo** baz=86	86.21	53	⇓P		P	11 56 28.0	+1.4
527A	**Woodward Ranch** baz=86,SNR=13	86.23	57	⇓P		P	11 56 27.7	+1.0
T21A	**Navajo Lake** baz=86	86.23	49	⇓P		P	11 56 27.6	+1.0
GYA	**Guiyang**	86.30	299	*e*P		P	11 56 29.0	+1.9
GYA				pP		pP	11 58 40.3	+1.5
GYA				sP		sP	11 59 39.3	-1.2
GYA				PP		PP	12 00 03.6	+3.2
GYA				SKS		SKSac	12 05 55.0	-0.6
GYA				S		S	12 06 13.9	+1.5
GYA	comp=Z,10.0nm,0.8s			AMB		AMB		
S21A	**Coal Bank Pass** baz=87	86.35	48	⇓P		P	11 56 28.1	+0.8
Y24A	**Capitan** baz=87,SNR=9.0	86.41	52	⇓P		P	11 56 28.4	+0.9
W23A	**Werner Place,** baz=87	86.42	51	⇓P		P	11 56 29.0	+1.4
326A	**Caldwell Ranch** baz=87	86.42	55	⇑P		P	11 56 28.7	+1.2
P19A	**Cripple Cowboy** baz=87	86.44	46	⇓P		P	11 56 28.2	+0.6
125A	**Gardner Draw,** baz=87	86.46	54	⇓P		P	11 56 29.0	+1.3
GDL2	**Guadalupe Moun**	86.49	54	*e*P		P	11 56 29.4	+1.6
MCMT	**McKenzie Canyo** comp=Z,6.5nm,1.1s	86.50	40	*e*P		P	11 56 28.3	+0.6
628A	**Black Gap, Mar** baz=87,SNR=7.9	86.53	57	⇑P		P	11 56 29.5	+1.5
Q20A	**Ridgley Place,** baz=87	86.59	47	⇑P		P	11 56 29.3	+1.0
226B	**Tecolote Peak,** baz=87,SNR=5.9	86.59	55	⇓P		P	11 56 29.4	+1.1
COLA	**College**	86.63	12	*e*P		P	11 56 26.1	-1.4
COLA	comp=Z,11nm,0.6s			pmax		pmax		
COLA	**College** comp=Z,10nm,0.6s	86.63	12	*e*P		P	11 56 26.1	-1.4
V23A	**Ortiz Mt. (NFS** baz=87	86.65	51	⇑P		P	11 56 30.2	+1.6
Z25A	**Roswell** baz=87	86.68	53	⇑P		P	11 56 29.9	+1.2
427A	**Hayter Ranch,** baz=87,SNR=21	86.68	56	⇑P		P	11 56 30.1	+1.4
X24A	**Lazy VL Ranch,** baz=87	86.69	52	⇑P		P	11 56 29.4	+0.5
T22A	**Edith** baz=87	86.69	49	⇓P		P	11 56 29.4	+0.6
RRI2	**Red Ridge**	86.70	42	*e*P		P	11 56 29.4	+0.6
ILAR	**Eielson Array** comp=Z,4.3nm,1.1s,baz=225,slow=5.0,SNR=32	86.73	13	P		P	11 56 26.2	-1.9
P20A	**De Beque** baz=87	86.78	46	⇓P		P	11 56 29.9	+0.8
R21A	**Cimarron** baz=87	86.84	48	⇓P		P	11 56 30.7	+1.1
528A	**Cox Ranch, San** baz=87,SNR=7.8	86.89	57	⇑P		P	11 56 31.2	+1.4
MSO	**Missoula** baz=87	86.89	38	⇓P		P	11 56 30.1	+0.7
U23A	**El Rito** baz=87	86.90	50	⇑P		P	11 56 30.8	+0.9
DLMT	**Dillon** comp=Z,5.3nm,0.8s	86.93	40	*e*P		P	11 56 30.3	+0.7
126A	**Clayton Basin,** baz=87	86.94	54	⇑P		P	11 56 30.9	+0.9
BSMT	**Bassoo Peak**	86.95	37	*e*P		P	11 56 29.5	-0.2
Y25A	**Mesa, Roswell** baz=87	86.97	53	⇑P		P	11 56 30.8	+0.7
W24A	**Lazy 6 Ranch,** baz=87	86.99	51	⇑P		P	11 56 30.9	+0.7
REDW	**Red Top Meadow** comp=Z,11nm,1.2s	87.00	42	*e*P		P	11 56 30.9	+0.7
TPAW	**Teton Pass**	87.00	42	*e*P		P	11 56 31.1	+0.9
S22A	**4UR Ranch, Cre** baz=87	87.07	49	⇓P		P	11 56 31.8	+1.2
SNOW	**Snow King Moun**	87.11	42	*e*P		P	11 56 31.6	+0.9
O20A	**White River Ci** baz=87	87.18	46	⇑P		P	11 56 32.1	+1.1
428A	**Kincaid Ranch,** baz=87	87.19	56	⇑P		P	11 56 32.5	+1.4
IMW	**Indian Meadow** comp=Z,9.2nm,1.1s	87.21	42	*e*P		P	11 56 31.9	+0.8
Z26A	**Caprock** baz=88,SNR=8.6	87.23	54	⇓P		P	11 56 31.9	+0.6
X25A	**Clemmons Ranch** baz=88	87.25	52	⇑P		P	11 56 32.2	+0.8
LRM	**Limekiln Ridge** comp=Z,24nm,0.8s	87.25	39	*e*P		P	11 56 31.6	+0.4
MOOW	**Moose Ponds** comp=Z,5.8nm,1.6s	87.26	42	*e*P		P	11 56 32.0	+0.7
LOHW	**Long Hollow** comp=Z,2.7nm,0.7s	87.28	42	*e*P		P	11 56 32.3	+0.9
V24A	**Rampart Ranch,** baz=88	87.31	51	⇓P		P	11 56 32.5	+0.8
529A	**Stev Forest Ra** baz=88,SNR=6.0	87.32	57	⇑P		P	11 56 32.7	+1.0
R22A	**Saguache, Gunn** baz=88	87.34	48	⇓P		P	11 56 33.1	+1.1
CHMT	**Chamberlain Mo**	87.34	38	*e*P		P	11 56 31.5	-0.1
328A	**Wristen Ranch,** baz=88	87.36	56	⇑P		P	11 56 32.9	+1.0
QLMT	**Earthquake Lak**	87.37	41	*e*P		P	11 56 33.3	+1.5
P21A	**Newcastle** baz=88	87.44	47	⇑P		P	11 56 33.0	+0.7
I17A	**Pilgrim Ck.** baz=88	87.45	42	⇓P		P	11 56 33.5	+1.3
FLWY	**Flagg Ranch** comp=Z,11nm,1.1s	87.45	42	*e*P		P	11 56 33.4	+1.1
127A	**Arkansas Junct** baz=88	87.47	54	⇓P		P	11 56 33.6	+1.2
N20A	**Spence Gulch,** baz=88	87.48	45	⇑P		P	11 56 33.5	+1.0
Q22A	**Crested Butte,** baz=88	87.51	47	⇓P		P	11 56 33.5	+0.8
BW06	**Boulder Array** comp=Z,6.4nm,1.1s	87.54	43	*e*P		P	11 56 32.3	-0.4
PDAR	**Pinedale Array** comp=Z,3.4nm,0.8s,baz=208,slow=3.0,SNR=26	87.54	43	P		P	11 56 32.8	+0.1
Y26A	**Elida** baz=88	87.62	53	⇑P		P	11 56 34.0	+0.8
S23A	**Nye Farm, Mont** baz=88	87.64	49	⇓P		P	11 56 34.0	+0.7
H17A	**Grant Village** baz=88	87.68	41	⇑P		P	11 56 34.9	+1.6
W25A	**X Bar L Ranch,** baz=88	87.69	52	⇓P		P	11 56 34.3	+0.8
429A	**Davenport Ranc** baz=88,SNR=21	87.78	57	⇓P		P	11 56 34.7	+0.9
228A	**UT Block 9, Go** baz=88	87.83	55	⇑P		P	11 56 35.5	+1.4
Z27A	**Tatum** baz=88	87.84	54	⇑P		P	11 56 35.2	+1.0
V25A	**Rancho No Teng** baz=88	87.84	51	⇑P		P	11 56 35.0	+0.8
DAWY	**Dawson**	87.87	16	*e*P		P	11 56 32.7	-0.8
P22A	**Eagle** baz=88	87.95	47	⇓P		P	11 56 35.3	+0.7
530A	**J-C Ranch, Com** baz=88	88.03	57	⇓P		P	11 56 36.6	+1.6
329A	**Wagon Wheel Ra** baz=88	88.05	56	⇓P		P	11 56 36.5	+1.4
J19A	**Crowheart** baz=88,SNR=7.5	88.10	43	⇑P		P	11 56 35.6	+0.4
Y27A	**Causey** baz=88,SNR=6.9	88.11	53	⇑P		P	11 56 35.7	+0.3
128A	**Castleberry Fa** baz=88,SNR=6.0	88.11	55	⇑P		P	11 56 36.2	+0.8
S24A	**Houchin Ranch,** baz=88	88.17	49	⇑P		P	11 56 37.0	+1.1
U25A	**Circle Dot Ran** baz=88	88.23	51	⇓P		P	11 56 36.7	+0.7
SYO	**Syowa Base**	88.31	193	⇑*e*X		P	11 56 34.4	-1.1
O22A	**Kremmling** baz=88	88.34	46	⇑P		P	11 56 37.6	+1.0
631A	**Perdido Creek** baz=89,SNR=7.6	88.36	58	⇓P		P	11 56 37.5	+1.0
430A	**Baggett Ranch,** baz=89	88.36	57	⇓P		P	11 56 37.7	+1.1
229A	**Bryant Ranch,** baz=89	88.38	55	⇑P		P	11 56 37.6	+1.0
H18A	**Shoshone NF, C** baz=89	88.39	41	⇑P		P	11 56 37.5	+0.9
V26A	**Tequesquite Ra** baz=89	88.43	51	⇓P		P	11 56 38.0	+1.1
MSTX	**Muleshoe**	88.44	53	*e*P		P	11 56 37.3	+0.4
MSTX	**Muleshoe** baz=89,SNR=5.9	88.44	53	⇓P		P	11 56 37.4	+0.4
Z28A	**Tucker Farm, M** baz=89	88.46	54	⇓P		P	11 56 37.9	+0.9
X27A	**F and S Farms,** baz=89	88.47	53	⇓P		P	11 56 38.3	+1.2
R24A	**Sanders Place,** baz=89	88.50	49	⇓P		P	11 56 38.3	+1.0
I19A	**Meeteetse** baz=89	88.51	42	⇓P		P	11 56 38.1	+1.0
T25A	**Trinidad** baz=89	88.54	50	⇓P		P	11 56 38.5	+1.1
732A	**Laxson Ranch,** baz=89	88.58	59	⇑P		P	11 56 38.5	+1.0
129A	**Stewart Farms,** baz=89	88.60	55	⇓P		P	11 56 38.6	+0.9
HHC	**Hu-ho-hao-te**	88.62	314	*e*P		P	11 56 42.8	+5.2
HHC				pP		pP	11 58 53.4	+3.2
HHC				sP		sP	11 59 52.8	+1.1
HHC				S		ScS	12 06 37.8	+1.5
HHC				sS		sS	12 10 28.9	-0.7
HHC				AMB		AMB		
HHC	comp=Z,29nm,1.0s comp=Z,200nm,6.2s			AMB		AMB		
W27A	**Bowe Ranch, En** baz=89	88.67	52	⇓P		P	11 56 38.7	+0.7
531A	**Rocksprings** baz=89	88.67	58	⇑P		P	11 56 39.2	+1.2
N22A	**Wattenberg Ran** baz=89,SNR=5.1	88.69	46	⇓P		P	11 56 38.9	+0.8
U26A	**Atchley Ranch,** baz=89	88.71	51	⇑P		P	11 56 38.9	+0.7
S25A	**Robets Cordova** baz=89	88.74	49	⇑P		P	11 56 39.3	+1.0
J20A	**Shoshoni** baz=89	88.77	43	⇑P		P	11 56 39.5	+1.2
O23A	**Lake Granby, G** baz=89	88.80	47	⇓P		P	11 56 39.8	+1.1
H19A	**Powell** baz=89,SNR=5.9	88.81	42	⇑P		P	11 56 39.4	+1.0
Y28A	**McKinney Farm,** baz=89	88.81	54	⇑P		P	11 56 39.1	+0.4
431A	**Sonora** baz=89	88.82	57	⇑P		P	11 56 39.4	+0.7
M22A	**Cedar Creek Ra** baz=89	88.87	45	⇓P		P	11 56 40.0	+1.1
230A	**Sterling City** baz=89	88.89	56	⇑P		P	11 56 39.5	+0.5
GCMT	**Greycliff**	88.92	40	*e*P		P	11 56 39.5	+0.6
Z29A	**Hungry Hill Ra** baz=89	88.97	54	⇓P		P	11 56 39.9	+0.6
K21A	**Alcova** baz=89	88.98	44	⇓P		P	11 56 39.7	+0.3
I20A	**Worland** baz=89,SNR=6.0	89.02	43	⇓P		P	11 56 39.7	+0.4
632A	**Uvalde** baz=89,SNR=5.9	89.03	58	⇑P		P	11 56 41.2	+1.6
KMI	**Kunming**	89.07	297	P		P	11 56 40.8	+0.6
KMI	comp=Z,7.0nm,0.9s			AMB		AMB		
N23A	**Red Feather La** baz=89	89.08	46	⇓P		P	11 56 40.6	+0.6
X28A	**Dimmitt** baz=89	89.10	53	⇑P		P	11 56 40.3	+0.3
532A	**Rocksprings** baz=89	89.17	58	⇓P		P	11 56 41.3	+0.9
J21A	**Lysite** baz=89,SNR=8.0	89.18	43	⇓P		P	11 56 41.0	+0.7
Y29A	**Porterfield Fa** baz=90	89.23	54	⇑P		P	11 56 41.3	+0.7
L22A	**Ellis Ranch, M** baz=90	89.25	45	⇑P		P	11 56 41.4	+0.8
130A	**Snyder** baz=90	89.28	55	⇑P		P	11 56 41.2	+0.4
H20A	**Greybull** baz=90	89.35	42	⇓P		P	11 56 41.1	+0.3
JCT	**Junction City**	89.38	58	*e*P		P	11 56 41.4	+0.1
JCT	comp=Z,18nm,1.6s			pmax		pmax		
JCT	**Junction City** comp=Z,18nm,1.6s	89.38	58	*e*P		P	11 56 41.4	+0.1
JCT	**Junction City** baz=90	89.38	58	⇑P		P	11 56 41.5	+0.2
F19A	**Roth Farm, Mol** baz=90	89.40	41	⇓P		P	11 56 41.6	+0.6
S26A	**Kim** baz=90	89.42	50	⇓P		P	11 56 42.6	+1.2
Z30A	**Sanderson Ranc** baz=90	89.42	55	⇑P		P	11 56 42.1	+0.7
X29A	**Tulia** baz=90	89.44	53	⇑P		P	11 56 42.1	+0.6
K22A	**Casper** baz=90	89.47	44	⇓P		P	11 56 42.0	+0.5
M23A	**Laramie** baz=90	89.48	46	⇑P		P	11 56 42.4	+0.7
I21A	**Big Trails, Te** baz=90,SNR=11	89.49	43	⇓P		P	11 56 41.9	+0.3
231A	**Bronte** baz=90,SNR=9.3	89.53	56	⇑P		P	11 56 42.4	+0.4
G20A	**Bridger** baz=90	89.55	41	⇑P		P	11 56 42.3	+0.5
R26A	**Arlington** baz=90	89.72	49	⇓P		P	11 56 43.3	+0.6
T27A	**Campo** baz=90	89.73	51	⇑P		P	11 56 43.3	+0.4
131A	**Roby** baz=90	89.76	55	⇓P		P	11 56 43.5	+0.6
332A	**Millersview** baz=90,SNR=8.7	89.77	57	⇓P		P	11 56 43.3	+0.3
N24A	**Carr** baz=90	89.78	46	⇑P		P	11 56 44.3	+1.2
L23A	**Garrett** baz=90,SNR=5.1	89.78	45	⇑P		P	11 56 43.2	+0.1
E19A	**Rath Farm, Rou** baz=90	89.78	40	⇓P		P	11 56 43.5	+0.7
J22A	**Midwest** baz=90	89.84	44	⇑P		P	11 56 43.9	+0.6
EGMT	**Eagleton** baz=90	89.95	38	⇓P		P	11 56 43.8	+0.3
H21A	**Big Horn, Sher** baz=90	90.02	42	⇓P		P	11 56 45.0	+1.0
232A	**Coleman** baz=90	90.04	56	⇓P		P	11 56 44.8	+0.5
CMAR	**Chiang Mai Arr** comp=Z,2.8nm,1.0s,baz=115,slow=2.5,SNR=10	90.04	289	P		P	11 56 44.6	+0.1
I22A	**9 Mile Ranch,** baz=90	90.05	43	⇓P		P	11 56 44.8	+0.7
D19A	**Cripps Ranch,** baz=90	90.06	39	⇓P		P	11 56 45.1	+1.0
M24A	**Cheyenne** baz=90	90.09	46	⇑P		P	11 56 45.0	+0.5
K23A	**Bowen Ranch, D** baz=90	90.11	44	⇓P		P	11 56 45.4	+0.8
R27A	**Eads** baz=90	90.18	49	⇓P		P	11 56 45.6	+0.7
Z31A	**Sharp Cattle R** baz=90	90.20	55	⇓P		P	11 56 45.3	+0.3
E20A	**Meyer Farm, Mu** baz=90	90.20	40	⇓P		P	11 56 45.8	+1.1
L24A	**Wheatland** baz=90	90.27	45	⇑P		P	11 56 46.3	+1.1
ABTX	**Abilene, Hawle** baz=91	90.32	56	⇓P		P	11 56 46.2	+0.7
Y31A	**Rekieta Farm,** baz=91	90.35	54	⇓P		P	11 56 46.0	+0.4
CD2	**Chengdu**	90.36	303	P		P	11 56 47.9	+2.1
CD2	comp=Z,10.0nm,0.5s			AMB		AMB		
D20A	**Manuel Ranch,** baz=91,SNR=5.0	90.47	40	⇓P		P	11 56 46.6	+0.6
KSCO	**Kaye Shedlock'** baz=91	90.59	49	⇑P		P	11 56 48.2	+1.4
B19A	**Brinkman Farms** baz=91	90.63	38	⇑P		P	11 56 47.6	+1.0
Z32A	**Haskell** baz=91	90.71	55	⇑P		P	11 56 48.4	+1.1
X31A	**McDonald Ranch** baz=91	90.83	54	⇓P		P	11 56 48.5	+0.6
E21A	**Keefer Ranch,** baz=91	90.87	41	⇑P		P	11 56 49.3	+1.5
R28A	**Tribune** baz=91,SNR=5.8	90.91	50	⇑P		P	11 56 49.1	+0.8
J24A	**Dixon Ranch, L** baz=91	91.00	44	⇑P		P	11 56 49.5	+1.0
Y32A	**R-V Farms, Ver** baz=91	91.00	54	⇑P		P	11 56 49.4	+0.7
W31A	**Holland Ranch,** baz=91	91.06	53	⇓P		P	11 56 49.8	+0.9
D21A	**La Casta Ranch** baz=91,SNR=5.6	91.15	40	⇓P		P	11 56 49.8	+0.7
B20A	**Solberg Farm,** baz=91	91.17	39	⇓P		P	11 56 49.8	+0.7
M26A	**McRoberts Ranc** baz=91	91.24	46	⇓P		P	11 56 50.5	+0.8
G23A	**Biddle** baz=92	91.33	42	⇑P		P	11 56 50.3	+0.4
A20A	**Cobblestone Ra** baz=92,SNR=5.2	91.43	38	⇑P		P	11 56 50.5	+0.2
C21A	**Desert Coulee** baz=92	91.44	39	⇑P		P	11 56 51.0	+0.6
E22A	**Miles City** baz=92	91.52	41	⇑P		P	11 56 52.0	+1.2
F23A	**Volborg** baz=92	91.55	42	⇓P		P	11 56 51.6	+0.6
H24A	**Dirks Ranch, A** baz=92	91.67	43	⇓P		P	11 56 52.0	+0.4
D22A	**Cohagen** baz=92	91.69	40	⇑P		P	11 56 52.3	+0.7
K26A	**Motz Farm, Whi** baz=92	91.72	45	⇑P		P	11 56 53.0	+1.1
Q29A	**Oakley** baz=92	91.73	49	⇓P		P	11 56 52.9	+1.0
B21A	**Ellsworth Farm** baz=92	91.76	39	⇓P		P	11 56 52.7	+0.9
I25A	**Rochford** baz=92	91.90	44	⇓P		P	11 56 53.3	+0.5
R30A	**Dighton** baz=92	92.00	50	⇓P		P	11 56 54.1	+0.9
P29A	**Atwood** baz=92	92.04	49	⇓P		P	11 56 54.1	+0.7
F24A	**Ekalaka** baz=92	92.20	42	⇑P		P	11 56 54.7	+0.7
LZH	**Lanzhou**	92.21	307	P		P	11 56 57.3	+2.9
LZH				pP		pP	11 59 08.5	+0.9
LZH				sP		sP	12 00 07.6	-1.2
LZH				AMB		AMB		
LZH	comp=Z,16nm,1.3s comp=Z,89nm,4.9s			AMB		AMB		
H25A	**Fruitdale** baz=92	92.24	43	⇑P		P	11 56 55.1	+0.9
D23A	**Lindsay** baz=92	92.30	41	⇑P		P	11 56 55.3	+0.9
Q30A	**Quinter** baz=92,SNR=5.4	92.31	50	⇓P		P	11 56 55.0	+0.5
B22A	**Reddig Ranch S** baz=92,SNR=7.2	92.31	39	⇓P		P	11 56 55.0	+0.6
S31A	**Mullinville** baz=92	92.33	51	⇑P		P	11 56 55.5	+0.8
I26A	**New Underwood** baz=93	92.48	44	⇓P		P	11 56 56.3	+1.0
P30A	**Selden** baz=93	92.50	49	⇓P		P	11 56 56.1	+0.6
R31A	**Burdett** baz=93	92.55	50	⇓P		P	11 56 56.3	+0.6
C23A	**Lambert** baz=93	92.58	40	⇓P		P	11 56 56.7	+1.1
G25A	**Newell** baz=93	92.59	43	⇓P		P	11 56 56.2	+0.5
J27A	**Elkhorn Farm,** baz=93	92.73	45	⇑P		P	11 56 57.7	+1.2
D24A	**Glendive** baz=93	92.82	41	⇓P		P	11 56 57.7	+1.0
B23A	**Brockton** baz=93	92.98	39	⇑P		P	11 56 58.3	+0.8
P31A	**Stockton** baz=93	93.12	49	⇑P		P	11 56 59.1	+0.8
J28A	**Allard Ranch,** baz=94	93.31	45	⇓P		P	11 57 00.4	+1.3
DGMT	**Dagmar**	93.47	40	*e*P		P	11 56 60.0	+0.4

	comp=Z,13nm,1.1s								
DGMT	**Dagmar**	**93.47**	**40**	⇑P		**P**		**11 57 00.6**	**+1.0**
	baz=94								
P32A	**Huiting Farm,**	**93.71**	**49**	⇑P		**P**		**11 57 01.5**	**+0.6**
	baz=94								
E26A	**Carlson Angus**	**93.72**	**42**	⇓P		**P**		**11 57 01.4**	**+0.6**
	baz=94								
F27A	**Lemmon**	**93.76**	**43**	⇓P		**P**		**11 57 01.7**	**+0.7**
	baz=94								
A24A	**Westby**	**93.77**	**39**	⇑P		**P**		**11 57 02.2**	**+1.2**
	baz=94								
D26A	**Manning**	**93.96**	**41**	⇓P		**P**		**11 57 02.9**	**+1.0**
	baz=94								
SONM	**Songino Array**	**94.91**	**319**	P		**P**		**11 57 06.0**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=90,slow=4.3,SNR=2.3								
YKA	**Yellowknife Ar**	**94.94**	**25**	P		**P**		**11 57 04.6**	**-1.3**
	comp=Z,0.9nm,0.7s,baz=239,slow=4.8,SNR=3.9								
ZALV	**Zalesovo Beam**	**109.59**	**322**	PKiKP		**PKiKP**		**12 02 08.3**	**-1.8**
	comp=Z,1.1nm,0.6s,baz=182,slow=1.4,SNR=6.4								
MKAR	**Makanchi Array**	**110.48**	**314**	PKiKP		**PKiKP**		**12 02 10.3**	**-1.8**
	comp=Z,1.1nm,0.5s,baz=85,slow=1.7,SNR=14								
BVAR	**Borovoye Array**	**118.20**	**321**	PKP		**PKPdf**		**12 02 25.3**	**-1.4**
	comp=Z,1.7nm,0.4s,baz=112,slow=3.3,SNR=7.6								
ARU	**Arti**	**124.20**	**326**	*i* PKIKP		**PKPdf**		**12 02 37.0**	**-1.1**
ARU								12 04 28.1	
ARU								12 08 42.0	
ARU				SS		SS		12 20 23.4	-15
ARCES	**ARCESS Array B**	**127.51**	**350**	PKP		**PKPdf**		**12 02 43.1**	**-1.0**
	comp=Z,2.2nm,0.4s,baz=349,slow=0.6,SNR=32								
FINES	**FINESS Array B**	**134.44**	**344**	PKP		**PKPdf**		**12 02 57.3**	**-0.1**
	comp=Z,2.9nm,0.6s,baz=336,slow=4.2,SNR=7.5								
NB2	**NORSAR Subarra**	**137.53**	**354**	PKP		PKPdf		12 02 55.4	-7.8
	comp=Z,2.3nm,0.7s,baz=12,slow=4.1								
NOA	**NORSAR Array B**	**137.53**	**354**	PKP		**PKPdf**		**12 03 03.5**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=13,slow=4.0,SNR=6.2								
AKASG	**Malin Array Be**	**141.89**	**332**	PKhKP		PKPpre		12 03 05.4	
	comp=Z,1.9nm,0.4s,baz=43,slow=4.0,SNR=11								
BSEG	**Bad Segeberg**	**144.59**	**352**	*e*PKIKP		**PKPdf**		**12 03 15.4**	**-0.5**
BSEG	**Bad Segeberg**	**144.59**	**352**	*e*PKPbc		**PKPdf**		**12 03 15.4**	**-0.5**
KWP	**Kalwaria Pacla**	**145.38**	**337**	*e*PKIKP		**PKPbc**		**12 03 18.3**	**-0.5**
KWP	**Kalwaria Pacla**	**145.38**	**337**	*e*PKPbc		**PKPbc**		**12 03 18.3**	**-0.5**
KWP	**Kalwaria Pacla**	**145.38**	**337**	*e*PKP		**PKPbc**		**12 03 18.3**	**-0.5**
BUR08	**Bucovina Ar. S**	**145.93**	**332**	*e*PKPbc		**PKPbc**		**12 03 20.9**	**+0.3**
STHS	**Stebnicka Huta**	**146.09**	**338**	*e*PKIKP		**PKPbc**		**12 03 21.5**	**+0.6**
STHS	**Stebnicka Huta**	**146.09**	**338**	*e*PKP		**PKPbc**		**12 03 21.5**	**+0.6**
KOLS	**Kolonicke sedl**	**146.12**	**336**	*e*PKP		**PKPdf**		**12 03 18.8**	**+0.1**
BR131	**Keskin Array S**	**146.13**	**314**	*e*PKPbc		**PKPdf**		**12 03 20.2**	**+1.0**
BRTR	**Keskin Array B**	**146.13**	**314**	PKPbc		**PKPdf**		**12 03 20.1**	**+1.0**
	comp=Z,4.4nm,0.7s,baz=142,slow=3.6,SNR=26								
KSP	**Ksiaz**	**146.36**	**344**	*e*PKIKP		**PKPbc**		**12 03 21.1**	**-0.4**
KSP	**Ksiaz**	**146.36**	**344**	*e*PKP		**PKPbc**		**12 03 21.3**	**-0.2**
NIE	**Niedzica**	**146.42**	**339**	*e*PKIKP		**PKPbc**		**12 03 21.4**	**-0.4**
NIE	**Niedzica**	**146.42**	**339**	*e*PKP		**PKPbc**		**12 03 21.4**	**-0.4**
ASF	**Jabal al Asfar**	**146.45**	**300**	PKPbc		**PKPbc**		**12 03 21.9**	**-0.6**
	comp=Z,4.3nm,0.8s,baz=89,slow=4.1,SNR=8.0								
VRI	**Vrincioaia**	**146.53**	**329**	⇑*i*P		**PKPbc**		**12 03 21.4**	**-0.8**
CLZ	**Clausthal**	**146.62**	**351**	*e*PKIKP		**PKPbc**		**12 03 21.7**	**-0.5**
CLZ	**Clausthal**	**146.62**	**351**	*e*PKPbc		**PKPbc**		**12 03 21.7**	**-0.5**
TIRR	**Tirgusor**	**146.62**	**325**	⇓*i*P		**PKPbc**		**12 03 21.2**	**-1.2**
TRPA	**Tarpa**	**146.67**	**335**	⇑*i*P		**PKPbc**		**12 03 21.4**	**-1.0**
CLL	**Collm**	**146.68**	**348**	⇓*i*PKIKP		**PKPbc**		**12 03 21.6**	**-0.7**
CLL				*i*				12 03 23.5	
CLL				pmax		pmax			
	comp=Z,18nm,0.5s								
CLL				pmax		pmax			
	comp=Z,19nm,0.8s								
CLL	**Collm**	**146.68**	**348**	*e*PKPbc		**PKPbc**		**12 03 21.7**	**-0.6**
CLL	**Collm**	**146.68**	**348**	⇓*i*PKPbc		**PKPbc**		**12 03 21.6**	**-0.7**
	comp=Z,19nm,0.5s								
CLL				*i* PKPab		**PKiKP**		**12 03 23.5**	**-0.8**
	comp=Z,9.0nm,0.8s								
UPC	**Upice**	**146.74**	**344**	*e*PKIKP		**PKPbc**		**12 03 22.2**	**-0.4**
UPC				*e*				12 03 25.6	
UPC	**Upice**	**146.74**	**344**	⇑*e*PKP		**PKPbc**		**12 03 22.2**	**-0.4**
UPC				*e*PKPAB		**PKPab**		**12 03 25.6**	**-0.2**
DPC	**Dobruska-Polom**	**146.81**	**344**	*e*PKIKP		**PKPbc**		**12 03 22.5**	**-0.3**
DPC				*e*				12 03 25.8	
DPC	**Dobruska-Polom**	**146.81**	**344**	⇑*e*PKP		**PKPbc**		**12 03 22.5**	**-0.3**
DPC				*e*PKPAB		**PKPab**		**12 03 25.8**	**-0.3**
BRG	**Berggiesshubel**	**146.90**	**347**	*e*PKPbc		**PKPbc**		**12 03 22.1**	**-0.8**
KRLC	**Kraliky**	**146.93**	**343**	*i* PKIKP		**PKPbc**		**12 03 22.9**	**-0.2**
KRLC	**Kraliky**	**146.93**	**343**	⇑*i*PKP		**PKPbc**		**12 03 22.9**	**-0.2**
PVCC	**Panska Ves**	**147.08**	**346**	*e*PKIKP		**PKPbc**		**12 03 23.2**	**-0.2**
PVCC				*e*				12 03 26.1	
PVCC	**Panska Ves**	**147.08**	**346**	⇑*e*PKP		**PKPbc**		**12 03 23.2**	**-0.2**
PVCC				*e*PKPAB		**PKPab**		**12 03 26.1**	**-1.0**
PRU	**Pruhonice**	**147.59**	**345**	*e*PKIKP		**PKPbc**		**12 03 24.1**	**-0.7**
PRU				*e*				12 03 28.3	
PRU	**Pruhonice**	**147.59**	**345**	⇑*e*PKP		**PKPbc**		**12 03 24.1**	**-0.7**
PRU				*e*PKPAB		**PKPab**		**12 03 28.3**	**-0.9**
TANN	**Tannenbergstha**	**147.64**	**348**	*e*PKPbc		**PKPbc**		**12 03 24.3**	**-0.7**
ARR	**Arges**	**147.90**	**330**	⇑*i*P		**PKPbc**		**12 03 25.8**	**0.0**
TREC	**Trest**	**147.99**	**344**	*e*PKIKP		**PKPbc**		**12 03 25.5**	**-0.3**
TREC	**Trest**	**147.99**	**344**	⇑*e*PKP		**PKPbc**		**12 03 25.5**	**-0.3**
ROTZ	**Rotzenmuhle**	**148.31**	**348**	*e*PKPbc		**PKPbc**		**12 03 25.2**	**-0.4**
TNS	**Taunus Mts**	**148.46**	**353**	*e*PKIKP		**PKPbc**		**12 03 27.5**	**+0.5**
TNS	**Taunus Mts**	**148.46**	**353**	*e*PKPbc		**PKPbc**		**12 03 27.5**	**+0.5**
GRF	**Grafenberg Arr**	**148.56**	**349**	*e*PKIKP		**PKPbc**		**12 03 26.9**	**-0.3**
GRF	**Grafenberg Arr**	**148.56**	**349**	*e*PKPbc		**PKPbc**		**12 03 26.9**	**-0.3**
KHC	**Kasperske Hory**	**148.61**	**346**	*e*PKHKP		PKPpre		12 03 23.1	
KHC				*e*				12 03 27.0	
KHC				*e*				12 03 33.1	
KHC	**Kasperske Hory**	**148.61**	**346**	⇑*i*PKP		**PKPbc**		**12 03 26.9**	**-0.5**
KHC				*e*PKPAB		**PKPab**		**12 03 33.2**	**-0.3**
KHC	**Kasperske Hory**	**148.61**	**346**	*e*PKPdf		**PKPdf**		**12 03 23.1**	**+0.3**
KHC				*e*PKPbc		**PKPbc**		**12 03 27.0**	**-0.5**
KHC				*e*PKPab		**PKPab**		**12 03 33.1**	**-0.3**
GEC2	**GERESS Array S**	**148.85**	**346**	*e*PKIKP		**PKPbc**		**12 03 27.4**	**-0.7**
GEC2	**GERESS Array S**	**148.85**	**346**	*e*PKPbc		**PKPbc**		**12 03 27.4**	**-0.7**
GERES	**GERESS Array B**	**148.85**	**346**	PKPbc		**PKPbc**		**12 03 27.3**	**-0.8**
	comp=Z,4.2nm,0.7s,baz=38,slow=2.4,SNR=26								
BZS	**Buzias**	**149.06**	**333**	⇑*i*P		**PKPbc**		**12 03 27.6**	**-0.9**
CONA	**Conrad Observa**	**149.13**	**342**	⇓*i*PKPbc		**PKPbc**		**12 03 28.4**	**-0.4**
	comp=Z,13nm,1.0s								
WLF	**Walferdange**	**149.24**	**355**	*e*PKPbc		**PKPbc**		**12 03 29.2**	**+0.4**
MOA	**Molln**	**149.64**	**344**	⇓*i*PKPbc		**PKPbc**		**12 03 29.2**	**-0.7**
	comp=Z,4.7nm,0.6s								
ARSA	**Arzberg**	**149.84**	**342**	⇓*i*PKiKP		**PKPbc**		**12 03 30.2**	**-0.2**
	comp=Z,6.0nm,1.2s								
FUR	**Furstenfeldbru**	**150.02**	**348**	*e*PKPbc		**PKPbc**		**12 03 30.4**	**-0.4**
RJOB	**Jochberg**	**150.10**	**346**	*e*PKPbc		**PKPbc**		**12 03 30.1**	**-0.9**
BFO	**Black Forest**	**150.34**	**352**	*e*PKPbc		**PKPbc**		**12 03 30.8**	**-0.7**
SOKA	**Soboth**	**150.50**	**342**	⇑*i*PKPbc		**PKPbc**		**12 03 30.8**	**-1.2**
	comp=Z,8.4nm,0.7s								
PERS	**Pernice**	**150.52**	**342**	*i* PKPbc		**PKPbc**		**12 03 30.6**	**-1.5**
KBA	**Koelnbreinsper**	**150.59**	**345**	⇓*e*PKPbc		**PKPbc**		**12 03 30.7**	**-1.6**
	comp=Z,8.4nm,0.5s,SNR=9.8								
WATA	**Walderalm**	**150.75**	**347**	⇓*e*PKPbc		**PKPbc**		**12 03 31.5**	**-1.2**
	comp=Z,14nm,0.5s								
RETA	**Reutte**	**150.77**	**348**	⇓*i*PKPbc		**PKPbc**		**12 03 31.7**	**-0.9**
	comp=Z,5.1nm,0.5s								
OBKA	**Obir**	**150.80**	**343**	⇓*i*PKPbc		**PKPbc**		**12 03 31.7**	**-1.0**
	comp=Z,4.6nm,0.6s								
WTTA	**Wattenberg**	**150.81**	**347**	⇓*i*PKPbc		**PKPbc**		**12 03 32.0**	**-0.8**
	comp=Z,23nm,0.4s,SNR=11								
MYKA	**Terra Mystica**	**150.93**	**344**	⇓*i*PKPbc		**PKPbc**		**12 03 31.6**	**-1.4**
	comp=Z,10nm,0.5s								
ABTA	**Abfaltersbach**	**151.10**	**346**	⇑*i*PKPbc		**PKPbc**		**12 03 32.2**	**-1.2**
	comp=Z,20nm,0.5s								
DAVA	**Damuels**	**151.12**	**350**	⇓*i*PKiKP		**PKPbc**		**12 03 33.5**	**0.0**
	comp=Z,6.5nm,0.5s								
FETA	**Feichten**	**151.22**	**348**	⇓*i*PKPbc		**PKPbc**		**12 03 33.0**	**-0.7**
	comp=Z,8.2nm,0.6s,SNR=7.9								
LJU	**Ljubljana**	**151.23**	**342**	*i* PKPbc		**PKPbc**		**12 03 32.6**	**-1.0**
JAVS	**Javornik**	**151.50**	**343**	*i* PKPbc		**PKPbc**		**12 03 32.8**	**-1.5**
BOJS	**Bojanci**	**151.50**	**341**	*i* PKPbc		**PKPbc**		**12 03 33.6**	**-0.6**
DAVOX	**Davos/Dischmat**	**151.61**	**349**	PKPbc		**PKPbc**		**12 03 34.1**	**-0.5**
	comp=Z,18nm,0.3s,baz=34,slow=1.2,SNR=29								
MDT	**Midelt**	**164.81**	**23**	PKP		**PKPdf**		**12 03 43.8**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=90,slow=3.0,SNR=4.0								
DBIC	**Dimbokro**	**165.84**	**149**	PKP		**PKPdf**		**12 03 43.8**	**-1.0**
	comp=Z,4.4nm,0.8s,baz=158,slow=6.3,SNR=3.5								
TORD	**Torodi Ar. Bea**	**174.16**	**172**	PKP		**PKPdf**		**12 03 48.1**	**-1.3**
	comp=Z,1.7nm,1.0s,baz=22,slow=0.9,SNR=6.0								
TORD				PKPab		**PKPab**		**12 05 26.5**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=185,slow=3.8,SNR=3.8								

IDC 20 11:47:42.7±1.8, 18.85S×177.72W, h607km±28km, mb3.1/6, mb1 3.3/8, mb1mx3.1/21, mbtmp3.1/8, Error ellipse: s-maj=30.2km s-min=15.4km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.52**	**50**	P	P	11 49 38.1	0.0
	3.1nm,0.3s,baz=159,slow=8.6,SNR=2.4						
URZ	**Urewera**	**19.86**	**192**	P	P	11 51 34.5	-0.1
	0.4nm,0.3s,baz=117,slow=2.3,SNR=3.0						
CTA	**Charters Tower**	**33.95**	**262**	P	P	11 53 37.9	+0.2
	3.9nm,0.6s,baz=61,slow=9.6,SNR=3.6						
STKA	**Stephens Creek**	**38.77**	**242**	P	P	11 54 17.6	+0.7
	1.6nm,0.5s,baz=76,slow=6.9,SNR=2.4						
WRA	**Warramunga Arr**	**45.12**	**260**	P	P	11 55 06.2	-0.6
	1.8nm,0.3s,baz=97,slow=7.6,SNR=9.7						
ASAR	**Alice Springs**	**45.18**	**255**	P	P	11 55 07.0	-0.2
	2.5nm,0.5s,baz=88,slow=8.2,SNR=9.3						
NVAR	**Mina Array Bea**	**79.65**	**43**	P	P	11 58 48.5	-0.2
	0.4nm,0.7s,baz=244,slow=3.9,SNR=3.2						
TXAR	**Lajitas Array**	**85.94**	**57**	P	P	11 59 20.7	+0.5
	0.4nm,0.9s,baz=223,slow=5.1,SNR=3.6						

*IDC **20** 11:52:28.5±4.1, 8.80S×119.64E, h109km±36km, mb3.8/5, mb1 4.0/9, mb1mx3.7/25, mbtmp3.9/9, Error ellipse: s-maj=74.9km s-min=11.1km az=66.0*
*ISCJB **20** 11:52:29.0±0.5, 8.77S±0.04×119.90E±0.05, h131km±5km, mb4.0/4, Error ellipse: s-maj=8.8km s-min=5.9km az=147.0*
*AUST **20** 11:52:30.2, 9.00S×120.48E, h20km*
*DJA **20** 11:52:30.6±0.5, 9.52S±4.4×120.12E±1.1, h115km±6km, M4.2/6, MLv4.2/6*

ISC 20 11:52:29.8±0.8, 8.76S±0.05×119.89E±0.05, h117km±8km, n31, σ1°40/33, mb4.1/4, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**0.99**	**156**	P	**Pn**	**11 52 52.0**	**+0.5**
WSI				S	**Sn**	**11 53 08.5**	**+0.5**
MMRI	**Maumere**	**2.33**	**87**	P	**Pn**	**11 53 08.1**	**+0.8**
MMRI				S	**Sn**	**11 53 37.6**	**+1.6**
BKSI	**Bulukumba**	**3.42**	**4**	P	**Pn**	**11 53 23.2**	**+1.6**
BKSI				S	**Sn**	**11 54 03.4**	**+1.8**
MTNI	**Mataram**	**3.67**	**272**	P	**Pn**	**11 53 26.6**	**+1.6**
KAPI	**Kappang**	**3.72**	**358**	P	**Pn**	**11 53 27.2**	**+1.6**
KAPI	**Kappang**	**3.72**	**358**	P	**Pn**	**11 53 26.3**	**+0.7**
	baz=188,slow=12						
KAPI				S	**Sn**	**11 54 08.4**	**-0.3**
	5.8nm,0.3s,baz=189,slow=19,SNR=5.7						
BATI	**Baumata**	**4.00**	**111**	P	**Pn**	**11 53 30.7**	**+1.4**
	111nm,0.3s,baz=301,slow=2.8,SNR=162						
BATI				S	**Sn**	**11 54 14.8**	**-0.6**
	38nm,0.3s,baz=132,slow=23,SNR=4.5						
BNSI	**Bone**	**4.33**	**3**	P	Pn	11 53 46.3	+13
SOEI	**Soe**	**4.44**	**103**	P	**Pn**	**11 53 36.3**	**+1.0**
SOEI	**Soe**	**4.44**	**103**	P	**Pn**	**11 53 36.4**	**+1.1**
	baz=57,SNR=52						
SPSI	**Sidrap Palu**	**4.76**	**359**	P	Pn	11 53 50.1	+11
GMJI	**Gumukmas**	**6.39**	**274**	P	**Pn**	**11 54 01.3**	**-0.2**
PCI	**Palu**	**7.80**	**360**	P	Pn	11 54 25.6	+5.0
FITZ	**Fitzroy Crossi**	**10.84**	**150**	P	**Pn**	**11 55 00.2**	**-1.6**
	baz=10,SNR=10						
FITZ	**Fitzroy Crossi**	**10.84**	**150**	P	**Pn**	**11 55 00.2**	**-1.6**
	1.8nm,0.3s,baz=331,slow=10,SNR=33						
FITZ				S	Sn	11 56 53.4	-7.8
	3.2nm,0.3s,baz=207,slow=18,SNR=17						
KNRA	**Kununurra**	**11.07**	**129**	P	**Pn**	**11 55 02.6**	**-2.2**
	baz=10,SNR=35						
MTN	**Manton Dam**	**11.77**	**111**	P	**Pn**	**11 55 11.8**	**-2.3**
	baz=11,SNR=31						
KDU	**Kakadu**	**12.97**	**109**	P	**Pn**	**11 55 27.8**	**-2.1**
	baz=12,SNR=33						
FAKI	**Fak Fak**	**13.59**	**65**	P	**Pn**	**11 55 37.3**	**-0.7**
	baz=13,SNR=5.4						
GIRL	**Giralia**	**14.84**	**201**	P	**P**	**11 55 58.0**	**+1.5**
	baz=15,SNR=3.9						
MEEK	**Meekatharra**	**17.83**	**184**	P	**Pn**	**11 56 31.9**	**+1.3**
	baz=18,SNR=7.7						
WRA	**Warramunga Arr**	**17.86**	**130**	P	**Pn**	**11 56 30.7**	**-0.3**
	1.8nm,0.3s,baz=304,slow=13,SNR=35						
WRA				S	S	11 59 37.7	-12
	0.8nm,0.3s,baz=304,slow=25,SNR=5.5						
ASAR	**Alice Springs**	**20.00**	**140**	P	**P**	**11 56 54.2**	**+0.9**
	3.4nm,0.4s,baz=320,slow=11,SNR=70						
ASAR				S	**S**	**12 00 30.4**	**-1.6**
	1.3nm,0.8s,baz=322,slow=23,SNR=7.5						
MORW	**Morawa**	**20.53**	**190**	P	Pn	11 57 11.6	+9.3
	baz=20,SNR=3.7						
MTSU	**Mount Surprise**	**25.50**	**114**	P	**P**	**11 57 49.5**	**+2.0**
	baz=25,SNR=7.7						
STKA	**Stephens Creek**	**30.59**	**142**	P	**P**	**11 58 33.9**	**+1.1**
	baz=30,SNR=7.9						
STKA	**Stephens Creek**	**30.59**	**142**	P	**P**	**11 58 33.7**	**+1.0**
	2.4nm,0.5s,baz=303,slow=8.0,SNR=10.0						
SONM	**Songino Array**	**57.60**	**349**	P	**P**	**12 02 07.1**	**-0.4**
	1.0nm,0.5s,baz=169,slow=8.2,SNR=9.6						
MKAR	**Makanchi Array**	**64.64**	**332**	P	**P**	**12 02 54.4**	**-0.7**
	0.8nm,0.4s,baz=151,slow=7.3,SNR=13						
ZALV	**Zalesovo Beam**	**69.13**	**339**	P	**P**	**12 03 21.5**	**-1.8**
	0.9nm,0.3s,baz=143,slow=4.9,SNR=6.5						
TORD	**Torodi Ar. Bea**	**119.28**	**280**	PKP	**PKPdf**	**12 11 06.1**	**-0.2**
	0.6nm,0.5s,baz=89,slow=1.5,SNR=4.5						

*NEIC **20** 12:01:09.2±3.5, 7.84S×108.28E, h15km±22km, mb4.3/8, Error ellipse: s-maj=9.1km s-min=7.4km az=218.0*
NEIC Felt [III] at Pangandaran and [II] at Ciamis, Cisompet and Tasikmalaya.
*AUST **20** 12:01:10.5, 7.89S×107.89E, h30km*
*ISCJB **20** 12:01:14.9±0.3, 8.15S±0.04×108.21E±0.03, h78km, mb4.2/25, Error ellipse: s-maj=6.6km s-min=4.2km az=25.3*
*DJA **20** 12:01:14.8±0.7, 8.5S±5°×10.8E±°, h25km±7km, M4.8/9, mb4.9/1, mB5.2/1, MLv4.7/9, Mw(mB)4.6/1*
*IDC **20** 12:01:17.6±3.2, 7.79S×108.42E, h82km±28km, mb4.0/21, mb1 4.1/23, mb1mx4.1/28, mbtmp4.0/23, MS3.2/5, Ms1 3.3/5, ms1mx3.0/41, Error ellipse: s-maj=19.9km s-min=10.9km az=63.0*

ISC 20 12:01:16.5±0.4, 8.04S±0.07×108.27E±0.05, h78km, n116, σ1°25/111, mb4.3/25, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.66**	**317**	P	**Pn**	**12 01 30.2**	**-1.5**
CLJI	**Cilicap**	**0.81**	**67**	P	**Pn**	**12 01 33.8**	**+0.6**
KPJI	**Karang Pucung**	**0.97**	**43**	P	**Pn**	**12 01 35.4**	**+0.3**
LEM	**Lembang**	**1.37**	**332**	P	**Pn**	**12 01 41.3**	**+1.0**
TGJI	**Tegal**	**1.44**	**36**	P	**Pn**	**12 01 40.9**	**-0.2**
BJII	**Banjamegara**	**1.60**	**64**	P	**Pn**	**12 01 42.5**	**-0.6**
SKJI	**Sukabumi**	**1.98**	**301**	P	**Pn**	**12 01 47.3**	**-0.9**
YOGI	**Yogyakarta**	**2.02**	**84**	P	**Pn**	**12 01 47.9**	**-0.8**
DBJI	**Dramaga**	**2.11**	**314**	P	**Pn**	**12 01 51.1**	**+1.2**
UGM	**Wanagama**	**2.24**	**87**	P	**Pn**	**12 01 51.1**	**-0.5**
UGM	**Wanagama**	**2.24**	**87**	P	**Pn**	**12 01 50.8**	**-0.9**
	baz=2.6,SNR=35						
PCJI	**Pacitan**	**2.89**	**93**	P	**Pn**	**12 01 59.9**	**-0.4**
NGJI	**Ngawi**	**3.24**	**78**	P	**Pn**	**12 02 06.7**	**+1.6**
SJI	**Sawahan**	**3.48**	**85**	P	**Pn**	**12 02 09.4**	**+0.9**
XMI	**Christmas Isla**	**3.49**	**227**	P	Pn	12 02 04.9	-3.6
	baz=3.4,SNR=20						
PWJI	**Pagerwojo**	**3.50**	**90**	P	**Pn**	**12 02 07.7**	**-1.0**
XMIS	**Christmas Isla**	**3.54**	**227**	*e*Pn	Pn	12 02 04.9	-4.3
XMIS				*e*Sn	Sn	12 02 40.5	-9.5
XMIS	**Christmas Isla**	**3.54**	**227**	P	Pn	12 02 05.2	-4.0
	baz=3.4,SNR=61						
GRJI	**Gresik**	**4.33**	**75**	P	**Pn**	**12 02 20.6**	**+0.7**
KASI	**Kota Agung**	**4.50**	**304**	P	**Pn**	**12 02 23.8**	**+1.5**
GMJI	**Gumukmas**	**5.13**	**93**	P	**Pn**	**12 02 30.8**	**-0.1**
MDSI	**Maura Dua**	**5.38**	**311**	P	**Pn**	**12 02 35.6**	**+1.2**
PPBI	**Pangkal Pinang**	**6.22**	**340**	P	**Pn**	**12 02 48.5**	**+2.7**
MNAI	**Manna**	**6.42**	**304**	P	**Pn**	**12 02 50.5**	**+1.9**
	baz=6.0,SNR=7.3						
SBUM	**Sibu**	**11.15**	**21**	P	**Pn**	**12 03 55.6**	**+2.5**
KAPI	**Kappang**	**11.80**	**76**	Pn	Pn	12 03 55.4	-6.6
KAPI	**Kappang**	**11.80**	**76**	LR	LR	12 08 45.1	
	comp=Z,84nm,20.2s,baz=247,slow=39						
BATI	**Baumata**	**15.35**	**99**	P	**Pn**	**12 04 47.5**	**-1.4**
BATI	**Baumata**	**15.35**	**99**	P	**Pn**	**12 04 47.5**	**-1.4**
	3.3nm,0.3s,baz=320,slow=7.9,SNR=3.2						
BATI				LR	LR	12 13 03.5	
	comp=Z,135nm,18.9s,baz=141,slow=46						
GIRL	**Giralia**	**15.61**	**159**	P	**Pn**	**12 04 48.3**	**-3.7**
	baz=16,SNR=5.4						
SOEI	**Soe**	**15.90**	**97**	P	**P**	**12 04 58.2**	**0.0**
	baz=16,SNR=5.8						

MRSI	**Marisa**	**16.05**	**59**	P		**P**		**12 05 01.3**	**+1.7**
KKM	**Kota Kinabalu**	**16.09**	**30**	P		**P**		**12 05 02.0**	**+1.9**
MYLDM	**Lahad Datu**	**16.64**	**38**	P		P		12 05 11.2	+5.1
MBWA	**Marble Bar**	**17.10**	**141**	*e*Pn		**Pn**		**12 05 08.8**	**-2.0**
	2.8nm,0.5s								
FITZ	**Fitzroy Crossi**	**19.64**	**122**	P		**Pn**		**12 05 40.2**	**-1.0**
	3.8nm,0.7s								
FITZ				S		S		12 09 06.9	-10
FITZ	**Fitzroy Crossi**	**19.64**	**122**	P		**Pn**		**12 05 42.4**	**+1.3**
	baz=20,SNR=4.9								
FITZ	**Fitzroy Crossi**	**19.64**	**122**	P		**Pn**		**12 05 40.9**	**-0.3**
	0.1nm,0.3s,baz=300,slow=3.4,SNR=7.3								
FITZ				S		S		12 09 06.9	-10
	0.1nm,0.3s,baz=130,slow=17,SNR=3.3								
FITZ				LR		LR		12 13 08.0	
	comp=Z,46nm,18.9s,baz=319,slow=36								
MEEK	**Meekatharra**	**20.94**	**153**	P		Pn		12 06 00.3	+3.9
	baz=21,SNR=12								
KNRA	**Kununurra**	**21.43**	**113**	P		**P**		**12 05 59.5**	**+1.1**
	baz=22,SNR=11								
MTN	**Manton Dam**	**22.98**	**104**	P		**P**		**12 06 14.9**	**0.0**
	baz=23,SNR=10								
KDU	**Kakadu**	**24.25**	**103**	P		**P**		**12 06 26.6**	**+0.1**
	baz=25,SNR=4.7								
FAKI	**Fak Fak**	**24.40**	**79**	P		**P**		**12 06 29.0**	**+1.1**
	baz=25,SNR=7.5								
NWAO	**Narrogin (SRO)**	**26.12**	**163**	LR		LR		12 15 28.9	
	comp=Z,78nm,21.7s,baz=251,slow=32								
WRA	**Warramunga Arr**	**27.88**	**118**	P		**P**		**12 06 59.6**	**+0.4**
WRA				PcP		**PcP**		**12 10 14.0**	**+0.5**
WRA	**Warramunga Arr**	**27.88**	**118**	P		**P**		**12 06 59.6**	**+0.4**
	1.3nm,0.5s,baz=294,slow=10,SN

mb3.8/15, Error ellipse: s-maj=2.9km s-min=2.2km az=140.9
ATH ***20*** *12:16:04.8, 37°.83N×21°.14E, h17km, MD3.6/60, ML3.9*
THE ***20*** *12:16:05.2, 37°.83N×21°.16E, h0km, ML4.1/16, Error ellipse: s-maj=0.7km s-min=0.3km az=251.0*
HLW ***20*** *12:16:06.5, 37°.54N×21°.72E, h32km±27km, Md4.2, Ml4.0*
IDC ***20*** *12:16:09.3±1.9, 37°.80N×21°.15E, h53km±21km, mb3.6/14, mb1 3.7/20, mb1mx3.6/36, mbtmp3.6/20, ML4.0/6, MS3.2/2, Ms1 3.2/2, ms1mx2.5/43, Error ellipse: s-maj=16.9km s-min=12.5km az=36.0*

ISC 20 12:16:05.7±0.7, 37°.83N±0°.01×21°.16E±0°.02, h19km±1km, n207, σ1$20/284, mb3.9/15, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTN	**Vitineika**	**0.09**	**13**	P	**Pb**	**12 16 09.1**	**-0.3**
RLS	**Riolos of Patr**	**0.34**	**46**	P	**Pg**	**12 16 12.0**	**-0.8**
RLS	**Riolos of Patr**	**0.34**	**46**	*e*PB	**Pg**	**12 16 12.1**	**-0.8**
RLS				*e*SB	**Sb**	**12 16 17.8**	**-0.3**
RLS	**Riolos of Patr**	**0.34**	**46**	*e*Pb	**Pg**	**12 16 12.1**	**-0.8**
RLS				S	**Sg**	**12 16 17.3**	**-0.5**
AXS	**Araxos**	**0.41**	**25**	P	**Pg**	**12 16 13.2**	**-0.9**
AXS				S	**Sg**	**12 16 19.3**	**-0.6**
AXS	**Araxos**	**0.41**	**25**	P	**Pg**	**12 16 13.2**	**-0.9**
AXS				S	**Sg**	**12 16 19.3**	**-0.6**
KFL	**Anninata**	**0.41**	**314**	P	**Pg**	**12 16 13.1**	**-1.1**
KFL				S	**Sg**	**12 16 19.3**	**-0.6**
KFL	**Anninata**	**0.41**	**314**	P	**Pg**	**12 16 13.0**	**-1.1**
KFL				S	**Sg**	**12 16 19.3**	**-0.6**
DRO	**Drossia**	**0.45**	**74**	P	**Pg**	**12 16 14.2**	**-0.8**
DRO				S	**Sg**	**12 16 20.8**	**-0.4**
DRO	**Drossia**	**0.45**	**74**	*e*PB	**Pg**	**12 16 14.0**	**-1.0**
DRO				*e*SB	**Sb**	**12 16 21.5**	**0.0**
DRO	**Drossia**	**0.45**	**74**	P	**Pg**	**12 16 14.2**	**-0.8**
DRO				S	**Sg**	**12 16 20.8**	**-0.4**
DRO				*e*Sb	**Sb**	**12 16 21.5**	**0.0**
AMT	**Artemida-Makis**	**0.53**	**124**	P	**Pg**	**12 16 15.6**	**-0.7**
AMT				S	**Sb**	**12 16 23.2**	**-1.2**
AMT	**Artemida-Makis**	**0.53**	**124**	*e*PN	**Pg**	**12 16 15.1**	**-1.2**
AMT				*e*SN	**Sg**	**12 16 22.9**	**-0.5**
AMT	**Artemida-Makis**	**0.53**	**124**	P	**Pg**	**12 16 15.3**	**-1.0**
AMT				*e*Sn	**Sg**	**12 16 22.9**	**-0.5**
AMT				S	**Sb**	**12 16 23.2**	**-0.2**
VLS	**Valsamata**	**0.57**	**308**	P	**Pg**	**12 16 15.8**	**-1.4**
VLS				S	**Sg**	**12 16 24.4**	**-0.4**
VLS	**Valsamata**	**0.57**	**308**	*e*PN	**Pg**	**12 16 15.7**	**-1.4**
VLS				*e*SN	**Sg**	**12 16 24.3**	**-0.5**
VLS	**Valsamata**	**0.57**	**308**	P	**Pg**	**12 16 15.6**	**-1.5**
VLS				S	**Sg**	**12 16 24.4**	**-0.4**
SFD	**Strofades**	**0.59**	**191**	P	**Pg**	**12 16 16.5**	**-0.9**
SFD				S	**Sb**	**12 16 25.2**	**+0.2**
SFD	**Strofades**	**0.59**	**191**	P	**Pg**	**12 16 16.5**	**-0.9**
SFD				S	**Sb**	**12 16 25.2**	**+0.2**
UPR	**University Cam**	**0.67**	**47**	P	**Pg**	**12 16 18.4**	**-0.6**
UPR				S	**Sb**	**12 16 28.2**	**+0.6**
UPR	**University Cam**	**0.67**	**47**	P	**Pg**	**12 16 18.4**	**-0.6**
UPR				S	**Sb**	**12 16 28.2**	**+0.6**
PSA1	**Psathopyrgos**	**0.76**	**49**	*e*PN	**Pb**	**12 16 19.4**	**-0.8**
PSA1				*e*SN	**Sb**	**12 16 31.0**	**+0.9**
LAKA	**Lakka**	**0.77**	**57**	P	**Pb**	**12 16 19.5**	**-0.9**
LAKA	**Lakka**	**0.77**	**57**	*e*PN	**Pb**	**12 16 19.3**	**-1.1**
LAKA	**Lakka**	**0.77**	**57**	P	**Pb**	**12 16 19.5**	**-0.9**
LAKA				S	**Sb**	**12 16 30.9**	**+0.4**
PDO	**Prodromos**	**0.77**	**1**	P	**Pb**	**12 16 19.6**	**-0.9**
PDO	**Prodromos**	**0.77**	**1**	*e*PN	**Pb**	**12 16 19.5**	**-0.9**
PDO	**Prodromos**	**0.77**	**1**	P	**Pb**	**12 16 19.3**	**-1.2**
PDO				S	**Sn**	**12 16 31.9**	**-0.7**
KLV	**Kalavryta, Ach**	**0.81**	**74**	P	**Pb**	**12 16 20.2**	**-1.0**
KLV				S	**Sg**	**12 16 32.4**	**0.0**
KLV	**Kalavryta, Ach**	**0.81**	**74**	*e*PN	**Pb**	**12 16 19.9**	**-1.3**
KLV				*e*SN	**Sg**	**12 16 32.6**	**+0.2**
KLV	**Kalavryta, Ach**	**0.81**	**74**	*e*Pn	**Pb**	**12 16 19.9**	**-1.3**
KLV	**Kalavryta, Ach**	**0.81**	**74**	P	**Pb**	**12 16 20.1**	**-1.0**
KLV				S	**Sg**	**12 16 32.4**	**0.0**
EFP	**Efpalio**	**0.84**	**44**	P	**Pb**	**12 16 20.6**	**-1.0**
EFP				S	**Sg**	**12 16 33.4**	**+0.1**
EFP	**Efpalio**	**0.84**	**44**	*e*PB	**Pb**	**12 16 20.6**	**-1.0**
EFP				*e*SN	**Sn**	**12 16 33.7**	**-0.6**
EFP	**Efpalio**	**0.84**	**44**	*e*Pb	**Pb**	**12 16 20.6**	**-1.0**
EFP				S	**Sg**	**12 16 33.4**	**+0.1**
PVO	**Paravola**	**0.84**	**20**	P	**Pb**	**12 16 21.3**	**-0.3**
PVO	**Paravola**	**0.84**	**20**	P	**Pb**	**12 16 21.3**	**-0.3**
PVO				S	**Sg**	**12 16 33.7**	**+0.4**
ITM	**Ithomi**	**0.89**	**136**	P	**Pb**	**12 16 21.8**	**-0.7**
ITM				S	**Sn**	**12 16 35.6**	**+0.1**
ITM	**Ithomi**	**0.89**	**136**	*e*PB	**Pb**	**12 16 21.5**	**-1.0**
ITM				*e*SN	**Sg**	**12 16 34.2**	**-0.6**
ITM	**Ithomi**	**0.89**	**136**	*e*Pb	**Pb**	**12 16 21.5**	**-1.0**
ITM	**Ithomi**	**0.89**	**136**	P	**Pb**	**12 16 21.8**	**-0.7**
ITM				S	**Sg**	**12 16 34.0**	**-0.8**
TRIZ	**Trizonia**	**0.90**	**53**	*e*PB	**Pb**	**12 16 21.5**	**-1.1**
TRIZ				*e*SN	**Sb**	**12 16 34.0**	**-0.2**
TRIZ	**Trizonia**	**0.90**	**53**	*e*Pb	**Pb**	**12 16 21.5**	**-1.1**
TRIZ				*e*Sn	**Sb**	**12 16 34.0**	**-0.2**
GUR	**Goura**	**0.94**	**83**	P	**Pb**	**12 16 22.6**	**-0.8**
GUR				S	**Sn**	**12 16 36.9**	**-0.1**
GUR	**Goura**	**0.94**	**83**	*e*PB	**Pb**	**12 16 22.2**	**-1.2**
GUR				*e*SN	**Sn**	**12 16 36.9**	**-0.1**
GUR	**Goura**	**0.94**	**83**	*e*Pb	**Pb**	**12 16 22.2**	**-1.2**
GUR	**Goura**	**0.94**	**83**	P	**Pb**	**12 16 22.6**	**-0.8**
GUR				*e*Sn	**Sn**	**12 16 36.9**	**-0.1**
KALE	**Kalithea**	**0.96**	**54**	*e*PB	**Pb**	**12 16 22.5**	**-1.2**
KALE				*e*SN	**Sg**	**12 16 36.9**	**0.0**
KALE	**Kalithea**	**0.96**	**54**	*e*Pb	**Pb**	**12 16 22.5**	**-1.2**
KALE				S	**Sg**	**12 16 37.0**	**0.0**
LKD2	**Lefkada island**	**1.04**	**338**	P	**Pb**	**12 16 24.8**	**-0.2**
LKD2				S	**Sn**	**12 16 39.7**	**+0.5**
LKD2	**Lefkada island**	**1.04**	**338**	*e*PB	**Pb**	**12 16 23.8**	**-1.2**
LKD2				*e*SN	**Sn**	**12 16 39.5**	**+0.2**
LKD2	**Lefkada island**	**1.04**	**338**	*e*Pb	**Pb**	**12 16 23.8**	**-1.2**
LKD2	**Lefkada island**	**1.04**	**338**	P	**Pb**	**12 16 24.8**	**-0.2**
LKD2				S	**Sn**	**12 16 39.4**	**+0.2**
PYL	**PYLOS**	**1.04**	**153**	*e*PB	**Pb**	**12 16 23.8**	**-1.2**
PYL				*e*SN	**Sn**	**12 16 40.0**	**+0.8**
PYL	**PYLOS**	**1.04**	**153**	P	**Pb**	**12 16 23.5**	**-1.5**
PYL	**PYLOS**	**1.04**	**153**	*e*Pb	**Pb**	**12 16 23.8**	**-1.2**
PYL				*e*Sn	**Sn**	**12 16 40.0**	**+0.8**
VLX	**Vlachokerasia**	**1.07**	**115**	P	**Pb**	**12 16 25.3**	**-0.3**
VLX				S	**Sn**	**12 16 41.1**	**+1.0**
VLX	**Vlachokerasia**	**1.07**	**115**	*e*PN	**Pb**	**12 16 25.1**	**-0.5**
VLX				*e*SN	**Sn**	**12 16 41.1**	**+1.0**
VLX	**Vlachokerasia**	**1.07**	**115**	P	**Pb**	**12 16 25.3**	**-0.3**
VLX				S	**Sb**	**12 16 39.5**	**+0.2**
VLX				*e*Sn	**Sn**	**12 16 41.1**	**+1.0**
EVR	**Evrytania**	**1.20**	**25**	P	**Pn**	**12 16 27.4**	**-0.1**
EVR				S	**Sg**	**12 16 44.9**	**+0.2**
EVR	**Evrytania**	**1.20**	**25**	*e*PN	**Sg**	**12 16 27.4**	**-0.1**
EVR				*e*SN	**Sg**	**12 16 44.3**	**-0.4**
EVR	**Evrytania**	**1.20**	**25**	P	**Pn**	**12 16 27.4**	**-0.1**
EVR				*e*Sn	**Sg**	**12 16 44.3**	**-0.4**
DSF	**Desfina**	**1.23**	**61**	P	**Pb**	**12 16 28.5**	**+0.2**
DSF	**Desfina**	**1.23**	**61**	*e*PB	**Pn**	**12 16 27.2**	**-0.6**
DSF				*e*SN	**Sg**	**12 16 46.1**	**+0.6**
DSF	**Desfina**	**1.23**	**61**	P	**Pn**	**12 16 26.8**	**-1.0**
DSF	**Desfina**	**1.23**	**61**	*e*Pb	**Pn**	**12 16 27.2**	**-0.6**
DSF				S	**Sn**	**12 16 44.5**	**+0.6**
DSF				*e*Sn	**Sg**	**12 16 46.1**	**+0.6**
DESF	**Desfina**	**1.23**	**61**	*e*PB	**Pn**	**12 16 27.4**	**-0.5**
DESF				*e*SN	**Sn**	**12 16 44.7**	**+0.7**
DESF	**Desfina**	**1.23**	**61**	*e*Pb	**Pn**	**12 16 27.4**	**-0.5**
DESF				*e*Sn	**Sn**	**12 16 44.7**	**+0.7**
MAKR	**Makrakomi, Fth**	**1.41**	**33**	P	**Pb**	**12 16 31.2**	**-0.1**
MAKR				S	**Sg**	**12 16 51.4**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.41**	**33**	*e*PN	**Pb**	**12 16 31.3**	**-0.1**
MAKR				*e*SN	**Sg**	**12 16 50.7**	**-0.6**
MAKR	**Makrakomi, Fth**	**1.41**	**33**	P	**Pb**	**12 16 31.4**	**0.0**
MAKR				*e*Sn	**Sg**	**12 16 50.7**	**-0.6**
MAKR				S	**Sg**	**12 16 51.4**	**+0.1**
DYR	**Agios Nikonas**	**1.42**	**138**	P	**Pb**	**12 16 31.2**	**-0.3**
DYR				S	**Sg**	**12 16 52.0**	**+0.5**
DYR	**Agios Nikonas**	**1.42**	**138**	*e*PN	**Pb**	**12 16 31.0**	**-0.5**
DYR	**Agios Nikonas**	**1.42**	**138**	P	**Pb**	**12 16 31.2**	**-0.3**
DYR				S	**Sg**	**12 16 52.0**	**+0.5**
LTK	**Loutraki**	**1.44**	**82**	P	**Pb**	**12 16 31.8**	**-0.2**
LTK				S	**Sg**	**12 16 52.5**	**+0.2**
LTK	**Loutraki**	**1.44**	**82**	*e*PN	**Pb**	**12 16 31.7**	**-0.2**
LTK				*e*SN	**Sg**	**12 16 53.0**	**+0.7**
LTK	**Loutraki**	**1.44**	**82**	P	**Pn**	**12 16 31.1**	**+0.3**
LTK				S	**Sg**	**12 16 52.5**	**+0.2**
LTK				*e*Sn	**Sg**	**12 16 53.0**	**+0.7**
AGG	**Agios Georgios**	**1.51**	**37**	P	**Pb**	**12 16 32.5**	**-0.5**
AGG				S	**Sg**	**12 16 54.1**	**-0.3**
AGG	**Agios Georgios**	**1.51**	**37**	*e*PN	**Pb**	**12 16 32.9**	**-0.1**
AGG	**Agios Georgios**	**1.51**	**37**	P	**Pb**	**12 16 32.9**	**-0.1**
AGG				S	**Sg**	**12 16 54.1**	**-0.3**
AXAR	**Agios Charalam**	**1.51**	**51**	P	**Pn**	**12 16 32.2**	**+0.5**
AXAR				S	**Sg**	**12 16 54.1**	**-0.3**
AXAR	**Agios Charalam**	**1.51**	**51**	P	**Pb**	**12 16 33.1**	**+0.1**
AXAR				S	**Sg**	**12 16 54.1**	**-0.3**
DIDY	**Didyma**	**1.67**	**101**	P	**Pb**	**12 16 35.3**	**-0.5**
DIDY				S	**Sg**	**12 16 58.1**	**-1.4**
DIDY	**Didyma**	**1.67**	**101**	*e*PN	**Pb**	**12 16 35.8**	**0.0**
DIDY				*e*SN	**Sg**	**12 16 58.0**	**-1.4**
LKR	**Lokris**	**1.67**	**60**	P	**Pb**	**12 16 35.0**	**-0.7**
LKR	**Lokris**	**1.67**	**60**	*e*PN	**Pb**	**12 16 35.5**	**-0.2**
LKR				*e*SN	**Sg**	**12 16 58.7**	**-0.7**
LKR	**Lokris**	**1.67**	**60**	P	**Pb**	**12 16 35.3**	**-0.4**
LKR				*e*Sn	**Sg**	**12 16 58.7**	**-0.7**
DID	**Didima**	**1.68**	**100**	P	**Pb**	**12 16 35.6**	**-0.4**
DID				S	**Sg**	**12 16 58.4**	**-1.5**
DID	**Didima**	**1.68**	**100**	*e*PN	**Pb**	**12 16 35.8**	**-0.2**
DID				*e*SN	**Sb**	**12 16 58.0**	**+1.3**
DID	**Didima**	**1.68**	**100**	P	**Pb**	**12 16 35.8**	**-0.2**
DID				S	**Sg**	**12 16 58.3**	**-1.6**
VLI	**Veliai**	**1.80**	**127**	*e*PN	**Pb**	**12 16 38.3**	**+0.3**
VLI				*e*SN	**Sb**	**12 17 01.2**	**+1.1**
VLI	**Veliai**	**1.80**	**127**	P	**Pb**	**12 16 37.9**	**-0.1**
VLI				*e*Sn	**Sb**	**12 17 01.2**	**+1.1**
IGT	**Igoumenitsa**	**1.82**	**339**	*e*PN	**Pb**	**12 16 38.3**	**-0.1**
IGT	**Igoumenitsa**	**1.82**	**339**	*e*Pn	**Pb**	**12 16 38.3**	**-0.1**
JAN	**Janina**	**1.84**	**353**	*e*PN	**Pb**	**12 16 38.5**	**-0.3**
JAN	**Janina**	**1.84**	**353**	*e*Pn	**Pb**	**12 16 38.5**	**-0.3**
NAIG	**Nisos Aigina**	**1.85**	**91**	*e*PN	**Pb**	**12 16 38.5**	**-0.3**
THL	**Klokotos Trika**	**1.86**	**21**	P	**Pn**	**12 16 37.2**	**+0.7**
THL				S	**Sb**	**12 17 02.4**	**+0.5**
THL	**Klokotos Trika**	**1.86**	**21**	*e*PN	**Pb**	**12 16 37.7**	**-1.3**
THL				*e*SN	**Sb**	**12 17 03.0**	**+1.1**
THL	**Klokotos Trika**	**1.86**	**21**	P	**Pn**	**12 16 37.2**	**+0.7**
THL	**Klokotos Trika**	**1.86**	**21**	*e*Pn	**Pb**	**12 16 37.7**	**-1.3**
THL				S	**Sb**	**12 17 02.4**	**+0.5**
THL				*e*Sn	**Sb**	**12 17 03.0**	**+1.1**
SMIA	**Simia**	**1.92**	**56**	*e*PN	**Pb**	**12 16 39.5**	**-0.6**
SMIA				*e*SN	**Sb**	**12 17 03.8**	**+0.1**
SMIA	**Simia**	**1.92**	**56**	*e*Pn	**Pb**	**12 16 39.5**	**-0.6**
SMIA				*e*Sn	**Sb**	**12 17 03.8**	**+0.1**
ATH	**Athens Observa**	**2.03**	**85**	*e*PN	**Pb**	**12 16 41.2**	**-0.7**
ATH				*e*SN	**Sb**	**12 17 06.2**	**-0.5**
MRKA	**Markates**	**2.10**	**65**	*e*PN	**Pb**	**12 16 41.8**	**-1.4**
MRKA				*e*SN	**Sb**	**12 17 08.6**	**-0.3**
MRKA	**Markates**	**2.10**	**65**	P	**Pb**	**12 16 41.5**	**-1.7**
MRKA	**Markates**	**2.10**	**65**	*e*Pn	**Pb**	**12 16 41.8**	**-1.4**
MRKA				*e*Sn	**Sb**	**12 17 08.6**	**-0.3**
PTL	**Penteli**	**2.15**	**83**	*e*PN	**Pb**	**12 16 42.2**	**-1.8**
PTL				*e*SN	**Sb**	**12 17 09.3**	**-1.0**
KYTH	**Kithira**	**2.15**	**135**	*e*PN	**Pb**	**12 16 43.3**	**-0.7**
KEK	**Kerkira**	**2.16**	**331**	*e*PN	**Pb**	**12 16 42.8**	**-1.4**
KEK	**Kerkira**	**2.16**	**331**	*e*Pn	**Pb**	**12 16 42.8**	**-1.4**
NEO	**Neokhori**	**2.19**	**47**	*e*PN	**Pb**	**12 16 43.7**	**-1.0**
NEO	**Neokhori**	**2.19**	**47**	*e*Pn	**Pb**	**12 16 43.7**	**-1.0**
XOR	**Xorichti**	**2.21**	**45**	*e*PN	**Pb**	**12 16 43.6**	**-1.5**
XOR	**Xorichti**	**2.21**	**45**	*e*Pn	**Pb**	**12 16 43.6**	**-1.5**
SRN	**Sarande**	**2.24**	**337**	*i* PN	**Pn**	**12 16 43.0**	**+1.3**
SRN				*i* Pn	**Sg**	**12 17 22.6**	**+4.8**
SRN	**Sarande**	**2.24**	**337**	*i* Pn	**Pn**	**12 16 43.0**	**+1.3**
SKIA	**Skiathos**	**2.25**	**53**	*e*PN	**Pb**	**12 16 44.0**	**-1.7**
SKIA	**Skiathos**	**2.25**	**53**	*e*Pn	**Pb**	**12 16 44.0**	**-1.7**
LIT	**Litokhoron**	**2.50**	**24**	*e*PN	**Pn**	**12 16 47.1**	**+1.8**
LIT	**Litokhoron**	**2.50**	**24**	*e*Pn	**Pn**	**12 16 47.1**	**+1.8**
AOS	**Alonnisos**	**2.52**	**57**	*e*PN	**Pn**	**12 16 47.5**	**+1.9**
AOS	**Alonnisos**	**2.52**	**57**	*e*Pn	**Pn**	**12 16 47.5**	**+1.9**
KZN	**Kozani**	**2.52**	**11**	*e*PB	**Pn**	**12 16 48.0**	**+2.3**
KZN	**Kozani**	**2.52**	**11**	*e*Pb	**Pn**	**12 16 48.0**	**+2.3**
NEST	**Nestorio**	**2.59**	**358**	*e*PB	**Pb**	**12 16 49.5**	**-2.0**
NEST	**Nestorio**	**2.59**	**358**	*e*Pb	**Pb**	**12 16 49.5**	**-2.0**
ANKY	**Antikythira Is**	**2.60**	**138**	*e*PB	**Pb**	**12 16 49.1**	**-2.6**
ANKY	**Antikythira Is**	**2.60**	**138**	*e*Pb	**Pb**	**12 16 49.1**	**-2.6**
PAIG	**Paliouri**	**2.88**	**42**	*e*PN	**Pn**	**12 16 52.2**	**+1.8**
PAIG	**Paliouri**	**2.88**	**42**	*e*Pn	**Pn**	**12 16 52.2**	**+1.8**
FNA	**Florina**	**2.96**	**3**	*e*PB	**Pn**	**12 16 54.5**	**+2.9**
FNA	**Florina**	**2.96**	**3**	*e*PN	**Pn**	**12 16 53.8**	**+2.2**
FNA	**Florina**	**2.96**	**3**	*e*Pn	**Pn**	**12 16 53.8**	**+2.2**
FNA	**Florina**	**2.96**	**3**	*e*Pb	**Pn**	**12 16 54.5**	**+2.9**
PLG	**Polygyros**	**3.10**	**34**	*e*PN	**Pn**	**12 16 55.8**	**+2.2**
PLG	**Polygyros**	**3.10**	**34**	*e*Pn	**Pn**	**12 16 55.8**	**+2.2**
HORT	**Hortiatis**	**3.15**	**28**	*e*PN	**Pn**	**12 16 56.7**	**+2.4**
HORT	**Hortiatis**	**3.15**	**28**	*e*Pn	**Pn**	**12 16 56.7**	**+2.4**
BIA	**Bitola**	**3.19**	**2**	*e*Pn	**Pb**	**12 17 01.8**	**+0.1**
OUR	**Ouranopolis**	**3.33**	**40**	*e*PN	**Pn**	**12 16 58.4**	**+1.7**
OUR	**Ouranopolis**	**3.33**	**40**	*e*Pn	**Pn**	**12 16 58.4**	**+1.7**
VAM	**Vamos**	**3.44**	**134**	*e*PN	**Pn**	**12 16 59.8**	**+1.6**
SOH	**Sokhos**	**3.44**	**29**	*e*PN	**Pn**	**12 17 01.0**	**+2.7**
SOH				*e*SN	**Sn**	**12 17 40.8**	**+2.3**
APE	**Apeiranthos**	**3.56**	**101**	*e*PN	**Pn**	**12 17 02.0**	**+2.1**
KNT	**Kendrikon**	**3.59**	**21**	*e*PN	**Pn**	**12 17 02.3**	**+2.0**
VAY	**Valandovo**	**3.66**	**17**	*e*Pn	**Pn**	**12 17 01.9**	**+0.7**
VAY				*e*Sn	**Sn**	**12 17 41.0**	**-2.8**
SANT	**Santorini**	**3.73**	**112**	*e*PN	**Pn**	**12 17 04.4**	**+2.1**
LIA	**Limnos Island**	**3.76**	**55**	*e*PN	**Pn**	**12 17 03.6**	**+1.0**
SRS	**Serrai**	**3.79**	**29**	*e*PN	**Pn**	**12 17 05.0**	**+2.0**
PHP	**Peshkopia**	**3.89**	**352**	*i* PN	Pn	12 17 08.7	+4.1
PHP	**Peshkopia**	**3.89**	**352**	*i* Pn	Pn	12 17 08.6	+4.1
CHOS	**Chios island**	**3.90**	**80**	*e*PN	**Pn**	**12 17 07.0**	**+2.4**
IDI	**Anoyia**	**3.93**	**129**	*e*PN	**Pn**	**12 17 06.6**	**+1.6**
IDI	**Anoyia**	**3.93**	**129**	P	**Pn**	**12 17 05.5**	**+0.5**
	2.2nm,0.3s,baz=312,slow=20,SNR=9.2						
IDI				S	**Sn**	**12 17 52.4**	**+1.8**
	16nm,0.3s,baz=40,slow=21,SNR=6.0						
SIGR	**SIGRI**	**3.93**	**68**	*e*PN	**Pn**	**12 17 07.4**	**+2.4**
NVR	**Nevrokopi**	**4.09**	**30**	*e*PN	**Pn**	**12 17 09.3**	**+2.1**
KAVA	**Kavala**	**4.09**	**38**	*e*PN	**Pn**	**12 17 09.3**	**+2.1**
PRK	**Paraskevi**	**4.25**	**69**	*e*PN	Pn	12 17 13.1	+3.8
SMTH	**Samothraki Isl**	**4.30**	**51**	*e*PN	**Pn**	**12 17 11.7**	**+1.6**
NPS	**Neapolis**	**4.41**	**124**	*e*PN	**Pn**	**12 17 13.4**	**+1.9**
NPS				*e*SN	**Sn**	**12 18 04.2**	**+1.9**
SMG	**Samos**	**4.50**	**90**	*e*PN	**Pn**	**12 17 15.6**	**+2.8**
KARP	**Karpathos**	**5.33**	**113**	*e*PN	**Pn**	**12 17 27.2**	**+2.9**
IVAS	**Ivanjica**	**5.79**	**353**	*e*Pn	**Pn**	**12 17 30.9**	**+0.3**
GRUS	**Gruza**	**6.07**	**357**	*e*Pn	**Pn**	**12 17 34.1**	**-0.2**
BBLS	**Lazići**	**6.18**	**348**	*e*Pn	**Pn**	**12 17 37.3**	**+1.4**
DIVS	**Divibare**	**6.33**	**352**	*e*Pn	**Pn**	**12 17 37.2**	**-0.7**
TEKS	**Tekeris**	**6.83**	**350**	*e*Pn	**Pn**	**12 17 44.9**	**+0.1**
MLR	**Muntele Rosu**	**8.45**	**24**	P	Pn	12 18 15.3	+8.1
	0.1nm,0.3s,baz=83,slow=15,SNR=5.6						
BOJS	**Bojanci**	**8.85**	**332**	*i* Pn	**Pn**	**12 18 14.0**	**+1.5**
BOJS				*i* Sn	**Sn**	**12 19 47.8**	**-3.8**
SWA2		**9.28**	**156**	P	Pn	12 18 12.5	-5.9
	baz=158						
SWA2				S	Sn	12 19 48.2	-14
	baz=158						
SWA2				AMP		12 20 00.0	
	comp=E,50μm,0.4s,logA/T=5.1,baz=158						
SWA2		**9.28**	**156**	P	Pn	12 18 12.5	-5.9
SWA2				S	Sn	12 19 48.2	-14
CEY	**Cerknica**	**9.37**	**330**	*i* Pn	**Pn**	**12 18 21.2**	**+1.7**
CEY				*i* Sn	**Sn**	**12 20 02.3**	**-2.0**
PERS	**Pernice**	**9.87**	**335**	*i* Pn	**Pn**	**12 18 26.3**	**-0.3**
PERS				*i* Sn	Sn	12 20 09.5	-7.3
BRTR	**Keskin Array B**	**9.93**	**75**	P	Pn	12 18 31.1	+3.6
	comp=E,0.2nm,0.3s,baz=253,slow=13,SNR=3.8						
DAVOX	**Davos/Dischmat**	**12.23**	**321**	LR	LR	12 24 17.9	
	comp=E,121nm,20.8s,baz=84,slow=40						
HFRF	**Wahat Farafira**	**12.23**	**148**	P	Pn	12 18 54.1	-4.8
	baz=150						
HFRF	**Wahat Farafira**	**12.23**	**148**	P	Pn	12 18 54.1	-4.8
GERES	**GERESS Array B**	**12.27**	**336**	P	Pn	12 19 03.0	+3.6
	comp=E,0.2nm,0.3s,baz=149,slow=14,SNR=6.1						
GERES				LR	LR	12 24 36.3	
	comp=E,132nm,19.5s,baz=335,slow=41						
AMAG	**Maghara**	**12.27**	**122**	P	Pn	12 18 54.5	-4.9
	baz=122						
AMAG	**Maghara**	**12.27**	**122**	P	Pn	12 18 54.5	-4.9
RSH		**12.43**	**120**	P	Pn	12 18 56.5	-5.0
	baz=120						
RSH		**12.43**	**120**	P	Pn	12 18 56.5	-5.0
MMAI	**Mount Meron Ar**	**12.57**	**108**	P	Pn	12 19 07.0	+3.5
	comp=E,1.6nm,0.3s,baz=311,slow=13,SNR=2.3						
HNKL	**Nakhl**	**13.24**	**123**	P	Pn	12 19 07.6	-5.0
	baz=123						
HNKL				S	Sn	12 21 23.4	-16
	baz=123						
HNKL	**Nakhl**	**13.24**	**123**	P	Pn	12 19 07.6	-5.0
HNKL				S	Sn	12 21 23.4	-16
AKASG	**Malin Array Be**	**14.10**	**21**	P	Pn	12 19 27.7	+3.5
	comp=E,0.5nm,0.3s,baz=210,slow=8.8,SNR=3.5						
HDK1	**Dakhla**	**14.11**	**148**	P	Pn	12 19 19.8	-4.7
	baz=149						
HDK1	**Dakhla**	**14.11**	**148**	P	Pn	12 19 19.8	-4.7
ESDC	**Sonseca Array**	**19.67**	**283**	P	**Pn**	**12 20 34.4**	**-0.5**
	comp=E,0.7nm,0.3s,baz=80,slow=11,SNR=10						
MDT	**Midelt**	**21.59**	**264**	P	**P**	**12 20 57.6**	**+3.2**
	comp=E,2.0nm,0.8s,baz=120,slow=7.4,SNR=4.5						
HFS	**Hagfors**	**22.83**	**350**	P	**P**	**12 21 07.2**	**-0.1**
	comp=E,1.9nm,0.5s,baz=166,slow=7.6,SNR=7.8						
FINES	**FINESS Array B**	**23.84**	**6**	P	**P**	**12 21 16.0**	**-1.3**
	comp=E,1.4nm,0.4s,baz=171,slow=13,SNR=9.3						
EKA	**Eskdalemuir Ar**	**24.01**	**325**	P	**P**	**12 21 18.6**	**-0.4**
	comp=E,5.9nm,0.9s,baz=114,slow=10,SNR=5.3						
NB2	**NORSAR Subarra**	**24.06**	**348**	P	**P**	**12 21 19.6**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=158,slow=11						
NB2	**NORSAR Subarra**	**24.06**	**348**	P	**P**	**12 21 19.6**	**+0.1**
	comp=Z,2.2nm,0.8s,SNR=4.7						
NOA	**NORSAR Array B**	**24.06**	**348**	P	**P**	**12 21 18.8**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=148,slow=9.9,SNR=4.7						
AKTO	**Aktyubinsk**	**28.99**	**52**	P	**P**	**12 22 03.2**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=270,slow=6.1,SNR=2.6						
TORD	**Torodi Ar. Bea**	**30.08**	**220**	P	**P**	**12 22 13.2**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=33,slow=9.5,SNR=11						
ARCES	**ARCESS Array B**	**31.

CD2				sP	**sP**	12 33 45.6	-2.1
CD2				S	**S**	12 36 51.8	-4.4
CD2				SS	**SnSn**	12 37 47.8	+2.2
CD2				AMB	AMB		
	comp=Z,20nm,0.5s						
CD2				AMB	AMB		
	comp=Z,200nm,5.9s						
SONM	**Songino Array**	**24.84 320**		P	**P**	12 33 19.0	-0.2
SONM	**Songino Array**	**24.84 320**		P	**P**	12 33 19.0	-0.2
	comp=Z,4.0nm,0.7s,baz=136,slow=8.8,SNR=23						
KMI	**Kunming**	**24.90 263**		P	**P**	12 33 22.0	+1.9
KMI				AMB	AMB		
	comp=Z,5.0nm,1.2s						
GTA	**Gaotai**	**26.16 297**	*eP*	P	**P**	12 33 31.6	+0.3
GTA				pP	pP	12 33 57.9	-5.7
GTA				AMB	AMB		
	comp=Z,8.0nm,0.9s						
CHTO	**Chiang Mai**	**30.72 254**	*eP*	P	**P**	12 34 12.1	+0.4
CHTO				pmax	pmax		
	comp=Z,11nm,0.6s						
CHTO	**Chiang Mai**	**30.72 254**	*eP*	P	**P**	12 34 12.1	+0.4
	comp=Z,11nm,0.6s						
CMAR	**Chiang Mai Arr**	**30.89 254**		P	**P**	12 34 13.8	+0.6
CMAR	**Chiang Mai Arr**	**30.89 254**		P	**P**	12 34 13.8	+0.6
	comp=Z,1.1nm,0.5s,baz=53,slow=7.0,SNR=6.5						
YAK	**Yakutsk**	**31.13 360**	*eP*		**P**	12 34 17.1	+2.3
HVS	**Khovu-Aksy**	**33.67 317**	*eP*		**P**	12 34 37.9	+0.6
HVS				pmax	pmax		
	comp=Z,15nm,1.3s						
WMQ	**Urumqi**	**35.78 303**	*eP*		**P**	12 34 57.4	+1.9
WMQ				AMB	AMB		
	comp=Z,11nm,0.8s						
WMQ				AMB	AMB		
	comp=Z,150nm,5.2s						
WMQ				LR	LR		
	comp=Z,83nm,14.0s						
WMQ				LR	LR		
	comp=Z,40nm,14.8s						
WMQ				LR	LR		
	comp=Z,20nm,12.8s						
KULM	**Kulim**	**37.70 233**	*eP*		**P**	12 35 12.8	+0.9
	comp=Z,31nm,1.1s						
IPM	**Ipoh**	**38.03 232**	*eP*		**P**	12 35 15.1	+0.5
	comp=Z,20nm,0.7s						
ZALV	**Zalesovo Beam**	**39.73 319**		P	**P**	12 35 27.4	-0.9
ZALV	**Zalesovo Beam**	**39.73 319**		P	**P**	12 35 27.4	-0.9
ZALV				PcP	**PcP**	12 37 30.4	-1.2
ZALV	**Zalesovo Beam**	**39.73 319**		P	**P**	12 35 27.4	-0.9
	comp=Z,0.3nm,0.3s,baz=134,slow=11,SNR=3.7						
ZALV				PcP	**PcP**	12 37 30.4	-1.2
	comp=Z,0.3nm,0.4s,baz=141,slow=4.8,SNR=3.0						
ZALV				LR	LR	12 53 35.0	
	comp=Z,26nm,20.8s,baz=71,slow=38						
MKAR	**Makanchi Array**	**39.90 307**	*eP*		**P**	12 35 29.6	-0.3
MKAR						12 37 31.3	
MKAR	**Makanchi Array**	**39.90 307**	*eP*		**P**	12 35 29.6	-0.3
MKAR				PcP	**PcP**	12 37 31.3	-1.1
MKAR	**Makanchi Array**	**39.90 307**		P	**P**	12 35 29.2	-0.7
	comp=Z,1.5nm,0.8s,baz=94,slow=9.9,SNR=14						
MKAR				PcP	**PcP**	12 37 31.3	-1.1
	comp=Z,0.3nm,0.4s,baz=92,slow=4.3,SNR=5.1						
KSH	**Kashi**	**44.56 297**		P	P	12 36 13.5	+5.7
KSH				pP	pP	12 36 44.5	+2.1
KSH				PcP	**PP**	12 37 52.3	-2.5
KSH				PP	PcP	12 37 59.9	+12
KSH				S	S	12 42 38.9	+7.1
KSH				sS	sS	12 43 34.4	+2.5
KSH				AMB	AMB		
	comp=Z,120nm,5.0s						
KSH				LR	LR		
	comp=Z,120nm,4.6s						
KSH				LR	LR		
	comp=Z,160nm,5.0s						
TKM2	**Tokmak 2**	**44.57 301**	*eP*		**P**	12 36 08.4	+0.5
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TKM2	**Tokmak 2**	**44.57 301**	*eP*		**P**	12 36 08.4	+0.5
	comp=Z,2.6nm,0.6s						
BVAR	**Borovoye Array**	**48.06 315**		P	**P**	12 36 34.7	0.0
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**48.06 315**		P	**P**	12 36 34.7	0.0
BVAR	**Borovoye Array**	**48.06 315**		P	**P**	12 36 34.7	0.0
	comp=Z,1.0nm,0.5s,baz=105,slow=10,SNR=5.8						
KKAR	**Karatay Array**	**48.27 302**	*eP*		**P**	12 36 36.9	+0.4
KKAR	**Karatay Array**	**48.27 302**	*eP*		**P**	12 36 36.9	+0.4
WRAB	**Tennant Creek**	**50.71 175**	*eP*		**P**	12 36 54.6	-0.5
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRAB	**Tennant Creek**	**50.71 175**	*eP*		**P**	12 36 54.6	-0.5
	comp=Z,1.9nm,0.8s						
WRA	**Warramunga Arr**	**50.72 175**		P	**P**	12 36 54.7	-0.5
WRA	**Warramunga Arr**	**50.72 175**		P	**P**	12 36 54.7	-0.5
	comp=Z,0.4nm,0.4s,baz=353,slow=7.8,SNR=9.4						
ASAR	**Alice Springs**	**54.39 176**		P	**P**	12 37 22.1	-0.1
ASAR	**Alice Springs**	**54.39 176**		P	**P**	12 37 22.1	-0.1
	comp=Z,0.4nm,0.5s,baz=356,slow=5.4,SNR=23						
ABKAR	**Akbulak array**	**54.81 311**	*eP*		**P**	12 37 25.9	+1.0
PPLA	**Purkeypile**	**57.38 32**	*eP*		**P**	12 37 44.2	+1.1
	comp=Z,11nm,1.2s						
ILAR	**Eielson Array**	**59.51 30**		P	**P**	12 37 56.5	-1.2
ILAR	**Eielson Array**	**59.51 30**		P	**P**	12 37 56.5	-1.2
	comp=Z,0.3nm,0.8s,baz=261,slow=5.1,SNR=4.7						
STKA	**Stephens Creek**	**63.38 169**		P	**P**	12 38 24.1	+0.2
STKA	**Stephens Creek**	**63.38 169**		P	**P**	12 38 24.1	+0.2
	comp=Z,0.9nm,0.4s,baz=122,slow=20,SNR=4.3						
ARCES	**ARCESS Array B**	**66.31 338**		P	**P**	12 38 42.0	-0.5
ARCES	**ARCESS Array B**	**66.31 338**		P	**P**	12 38 42.1	-0.5
	comp=Z,2.3nm,0.8s,baz=55,slow=6.7,SNR=3.8						
JOF	**Joensuu**	**66.82 331**	*eP*		**P**	12 38 44.7	-1.1
JOF				pmax	pmax		
	comp=Z,11nm,0.5s						
JOF	**Joensuu**	**66.82 331**	*ep*		**P**	12 38 44.7	-1.1
	comp=Z,11nm,0.5s						
OBN	**Obninsk**	**67.23 322**⇓	*eP*		**P**	12 38 48.7	+0.2
OBN						12 39 14.0	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KBZ	**Khabaz**	**67.58 308**		P	**P**	12 38 51.8	+0.8
KBZ				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KBZ	**Khabaz**	**67.58 308**		P	**P**	12 38 51.8	+0.8
KBZ	**Khabaz**	**67.58 308**		P	**P**	12 38 51.8	+0.8
	comp=Z,5.9nm,0.7s,baz=145,slow=4.2,SNR=9.9						
KIV	**Kislovodsk**	**67.64 309**	*eP*		**P**	12 38 51.5	0.0
KIV				pmax	pmax		
	comp=Z,11nm,1.0s						
KAF	**Kangasniemi**	**69.26 331**	*eP*		**P**	12 38 59.9	-1.2
KAF				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KAF	**Kangasniemi**	**69.26 331**	*ep*		**P**	12 38 59.9	-1.2
	comp=Z,9.1nm,0.7s						
FINES	**FINESS Array B**	**69.67 330**		P	**P**	12 39 02.4	-1.1
FINES	**FINESS Array B**	**69.67 330**		P	**P**	12 39 02.4	-1.1
	comp=Z,7.9nm,0.5s,baz=71,slow=6.0,SNR=81						
ANN	**Anapa**	**70.77 311**	*eP*		P	12 39 05.6	-5.0
ANN				pmax	pmax		
	comp=Z,29nm,1.0s						
AKASG	**Malin Array Be**	**73.12 319**		P	**P**	12 39 23.4	-1.1
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.4s						
AKASG	**Malin Array Be**	**73.12 319**		P	**P**	12 39 23.4	-1.1
AKASG	**Malin Array Be**	**73.12 319**		P	**P**	12 39 23.4	-1.1
	comp=Z,4.3nm,0.4s,baz=58,slow=6.1,SNR=14						
KIEV	**Kiev**	**73.13 319**	*eP*		**P**	12 39 23.2	-1.4
KIEV				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KIEV	**Kiev**	**73.13 319**	*eP*		**P**	12 39 23.2	-1.4
	comp=Z,10nm,0.8s						
RAYN	**Ar Rayn**	**74.00 288**	*eP*		**P**	12 39 30.1	-0.2
	comp=Z,8.0nm,0.9s						
HFS	**Hagfors**	**75.49 332**		P	**P**	12 39 35.7	-2.3
HFS	**Hagfors**	**75.49 332**		P	**P**	12 39 35.7	-2.3
	comp=Z,1.9nm,0.4s,baz=84,slow=4.6,SNR=9.9						
BRTR	**Keskin Array B**	**75.55 308**		P	**P**	12 39 38.8	-0.2
BRTR	**Keskin Array B**	**75.55 308**		P	**P**	12 39 38.8	-0.2
	comp=Z,7.6nm,0.7s,baz=98,slow=5.2,SNR=43						
NB2	**NORSAR Subarra**	**75.89 334**		P	**P**	12 39 38.5	-1.8
	comp=Z,3.8nm,1.0s,baz=49,slow=5.6						
NOA	**NORSAR Array B**	**75.89 334**		P	**P**	12 39 38.8	-1.6
NOA	**NORSAR Array B**	**75.89 334**		P	**P**	12 39 38.8	-1.6
	comp=Z,2.9nm,0.7s,baz=50,slow=5.6,SNR=9.8						
ASF	**Jabal al Asfar**	**76.78 300**		P	**P**	12 39 46.5	+0.5
ASF	**Jabal al Asfar**	**76.78 300**		P	**P**	12 39 46.5	+0.5
	comp=Z,4.1nm,0.7s,baz=58,slow=3.3,SNR=6.5						
KWP	**Kalwaria Pacla**	**77.27 321**	*eP*		**P**	12 39 48.3	0.0
KWP	**Kalwaria Pacla**	**77.27 321**	*eP*		**P**	12 39 48.3	0.0
KOLS	**Kolonicke sedl**	**77.89 320**	*eP*		**P**	12 39 50.9	-0.8
KOLS	**Kolonicke sedl**	**77.89 320**	*eP*		**P**	12 39 50.9	-0.8
CLL	**Collm**	**81.30 326**⇑	*iP*		**P**	12 40 09.5	-0.5
CLL				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CLL	**Collm**	**81.30 326**⇑	*iP*		**P**	12 40 09.5	-0.5
	comp=Z,11nm,0.8s						
CSNA	**Conrad Observa**	**81.95 322**⇑	*iP*		**P**	12 40 14.0	+0.4
	comp=Z,3.8nm,0.7s						
GERES	**GERESS Array B**	**82.51 323**		P	**P**	12 40 16.1	-0.5
GERES	**GERESS Array B**	**82.51 323**		P	**P**	12 40 16.1	-0.5
	comp=Z,0.5nm,0.3s,baz=46,slow=5.8,SNR=7.4						
SOKA	**Soboth**	**83.17 321**⇑	*iP*		**P**	12 40 19.8	-0.2
	comp=Z,6.3nm,1.1s						
KBA	**Koelnbreinsper**	**83.82 322**⇑	*i*PcP		**P**	12 40 23.4	0.0
	comp=Z,4.4nm,0.8s						
EKA	**Eskdalemuir Ar**	**85.28 335**		P	**P**	12 40 28.8	-1.6
EKA	**Eskdalemuir Ar**	**85.28 335**		P	**P**	12 40 28.8	-1.6
	comp=Z,1.1nm,0.4s,baz=42,slow=4.5,SNR=7.9						
NVAR	**Mina Array Bea**	**86.03 47**		P	**P**	12 40 34.1	-0.6
NVAR	**Mina Array Bea**	**86.03 47**		P	**P**	12 40 34.1	-0.6
	comp=Z,0.2nm,0.5s,baz=276,slow=3.5,SNR=3.2						
ULM	**Lac du Bonnet**	**89.47 28**		P	**P**	12 40 49.8	-0.7
ULM	**Lac du Bonnet**	**89.47 28**		P	**P**	12 40 49.8	-0.7
	comp=Z,1.3nm,0.3s,baz=317,slow=3.3,SNR=3.6						

BUC 20 12:37:39.3±0.4, 45.59N×23.59E, h7km±4km, MD2.0/1, 10C-2D, Error ellipse: s-maj=4.5km s-min=2.5km az=356.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LOT	**Lotru**	**0.19**	**139**⇓	*i*P		12 37 43.6	+0.3
LOT				S		12 37 46.5	+0.5
LOT	**Lotru**	**0.19**	**139**⇓	*i*P		12 37 43.6	+0.3
LOT				*i* S		12 37 46.5	+0.5
GZR	**Gura Zlata**	**0.61**	**251**⇑	*i*P		12 37 51.8	-0.6
GZR	**Gura Zlata**	**0.61**	**251**⇑	*i*P		12 37 51.8	-0.6
GZR				*i* S		12 38 00.0	+0.8
SRE	**Strehaia**	**0.97**	**197**⇑	*i*P		12 37 58.8	+0.4
SRE	**Strehaia**	**0.97**	**197**⇑	*i*P		12 37 58.8	+0.4
CJR	**Cluj-Napoca**	**1.12**	**0**⇑	*i*P		12 38 02.0	+0.5
CJR	**Cluj-Napoca**	**1.12**	**0**⇑	*i*P		12 38 02.0	+0.5
CJR				*i* S		12 38 17.0	-0.3
BZS	**Buzias**	**1.39**	**272**⇑	*i*P		12 38 05.7	+0.1
BZS	**Buzias**	**1.39**	**272**⇑	*i*P		12 38 05.7	+0.1
BZS				*i* S		12 38 24.2	+0.2
BURAR	**Bucovina Array**	**2.31**	**28**⇑	*i*P		12 38 18.9	+0.9
BURAR	**Bucovina Array**	**2.31**	**28**⇑	*i*P		12 38 18.9	+0.9
BURAR				*i* S		12 38 48.1	+1.3

IDC 20 12:42:27.7±1.9, 3.44N×127.45E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/24, mbtmp3.4/4, MS3.1/1, Ms1 3.1/1, ms1mx2.6/21, Error ellipse: s-maj=164.2km s-min=21.0km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.48**	**185**	LR	LR	12 54 52.7	
	comp=Z,44nm,18.8s,baz=191,slow=35						
WRA	**Warramunga Arr**	**24.21**	**164**	P	P	12 47 45.9	-0.3
	0.8nm,0.5s,baz=344,slow=10.0,SNR=23						
ASAR	**Alice Springs**	**27.67**	**167**	P	P	12 48 17.8	+0.2
	0.1nm,0.4s,baz=338,slow=10,SNR=7.7						
MKAR	**Makanchi Array**	**58.20**	**325**	P	P	12 52 23.7	0.0
	0.2nm,0.5s,baz=119,slow=7.7,SNR=3.7						
KURBB	**Kurchatov Arra**	**62.37**	**327**	P	P	12 52 52.1	0.0
	0.2nm,0.6s,baz=127,slow=6.6,SNR=3.9						

*IDC **20** 12:44:54.4±1.3, 17.71S×167.18E, h0km, mb3.9/7, mb1 4.2/10, mb1mx4.0/22, mbtmp4.1/10, ML4.4/3, MS3.3/4, Ms1 3.3/4, ms1mx2.9/28, Error ellipse: s-maj=34.8km s-min=22.8km az=138.0*
*ISCJB **20** 12:44:56.0±0.9, 17.77S±0.07×167.1E±0.1, h20km, mb3.9/7, MS3.2/4, Error ellipse: s-maj=18.4km s-min=10.8km az=179.2*
*AUST **20** 12:45:01.2, 15.99S×168.45E, h200km*
ISC 20 12:44:57.5±1.1, 17.81S±0.08×167.2E±0.1, h20km, n20, σ1°45/18, mb3.8/7, MS3.2/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.30**	**190**	*e*Pn	**Pn**	**12 46 03.0**	**+1.1**
	47nm,0.2s						
DZM				*e*Sn	**Sn**	**12 46 50.5**	**-1.0**
	80nm,0.3s						
DZM				*e*LR	LR	12 47 06.7	
	180nm,23.6s						
DZM	**Mont Dzumac**	**4.30**	**190**	Pn	**Pn**	**12 46 02.9**	**+1.0**
	9.3nm,0.3s,baz=288,slow=14,SNR=214						
DZM				Sn	**Sn**	**12 46 49.2**	**-2.3**
	17nm,0.3s,baz=135,slow=23,SNR=11						
HNR	**Honiara**	**10.91**	**319**	Pn	**Pn**	**12 47 31.5**	**-1.2**
	17nm,0.3s,baz=184,slow=5.3,SNR=7.4						
CTA	**Charters Tower**	**19.95**	**260**	P	**Pn**	**12 49 30.2**	**-0.1**
	0.3nm,0.3s,baz=90,slow=10,SNR=4.1						
AFI	**Afiamalu**	**20.58**	**82**	LR	LR	12 55 27.4	
	comp=Z,31nm,21.8s,baz=242,slow=31						
PMG	**Port Moresby**	**21.19**	**291**	LR	LR	12 55 43.5	
	comp=Z,84nm,19.1s,baz=49,slow=31						
MTSU	**Mount Surprise**	**21.78**	**266**	P	**P**	**12 49 51.5**	**+3.2**
	baz=23,SNR=6.8						
QLP	**Quilpie**	**22.96**	**244**	P	**P**	**12 50 01.5**	**+0.6**
	baz=25,SNR=4.8						
STKA	**Stephens Creek**	**27.05**	**234**	P	**P**	**12 50 40.0**	**+1.3**
	baz=29,SNR=5.6						
STKA	**Stephens Creek**	**27.05**	**234**	P	**P**	**12 50 39.5**	**+0.8**
	4.8nm,0.8s,baz=57,slow=8.8,SNR=8.2						
STKA				LR	LR	13 01 20.5	
	comp=Z,76nm,20.2s,baz=206,slow=36						
WRA	**Warramunga Arr**	**31.15**	**261**	P	**P**	**12 51 13.9**	**-1.4**
	0.8nm,0.8s,baz=80,slow=6.0,SNR=43						
ASAR	**Alice Springs**	**31.64**	**254**	P	**P**	**12 51 18.6**	**-1.0**
	1.6nm,0.7s,baz=78,slow=9.0,SNR=29						
KNRA	**Kununurra**	**36.84**	**267**	P	**P**	**12 52 03.4**	**-1.2**
	baz=38,SNR=3.5						
FITZ	**Fitzroy Crossi**	**39.49**	**263**	P	**P**	**12 52 26.7**	**-0.3**
	3.3nm,0.9s,baz=86,slow=8.6,SNR=3.9						
FITZ				LR	LR	13 08 11.7	
	comp=Z,105nm,19.1s,baz=274,slow=35						
TBI	**Tubuai**	**40.82**	**105**	*e*LR	LR	13 04 15.2	
	49nm,27.2s						
PPT2	**Papeete2**	**41.10**	**97**	*e*LR	LR	13 04 35.1	
	92nm,30.0s						
MEEK	**Meekatharra**	**45.61**	**250**	P	**P**	**12 53 16.6**	**-0.2**
	baz=47,SNR=3.5						
CMAR	**Chiang Mai Arr**	**76.16**	**295**	P	**P**	**12 56 45.6**	**+0.9**
	0.9nm,0.9s,baz=137,slow=4.9,SNR=5.6						
NVAR	**Mina Array Bea**	**89.32**	**49**	P	**P**	**12 57 53.8**	**+0.9**
	0.4nm,0.7s,baz=238,slow=8.5,SNR=4.1						
ILAR	**Eielson Array**	**89.46**	**18**	P	**P**	**12 57 51.3**	**-1.4**
	0.3nm,0.6s,baz=231,slow=5.3,SNR=8.6						

IDC 20 12:51:51.4±4.6, 2.66S×139.46E, h0km, mb3.0/2, mb1 3.3/3, mb1mx3.2/17, mbtmp3.1/3, ML3.1/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/13, Error ellipse: s-maj=180.3km s-min=29.0km az=88.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.89**	**196**	P	Pn	12 56 01.1	-0.8
	0.1nm,0.3s,baz=17,slow=13,SNR=5.4						
WRA				LR	LR	13 03 15.5	
	comp=Z,49nm,19.1s,baz=200,slow=38						
ASAR	**Alice Springs**	**21.56**	**194**	P	P	12 56 43.2	+0.5
	0.2nm,0.7s,baz=27,slow=9.5,SNR=4.4						
MKAR	**Makanchi Array**	**70.21**	**322**	P	P	13 03 06.4	0.0
	0.2nm,0.4s,baz=103,slow=6.4,SNR=3.8						

*CSEM **20** 12:53:06.4±1.4, 33.82N×25.73E, h40km, MD3.5, Error ellipse: s-maj=35.7km s-min=10.2km az=2.0*
*ATH **20** 12:53:07.1, 33.96N×25.67E, h45km, MD3.5/5*
*IDC **20** 12:53:08.1±2.5, 34.02N×25.75E, h41km±22km, mb3.5/6, mb1 3.5/9, mb1mx3.3/28, mbtmp3.5/9, ML3.8/3, Error ellipse: s-maj=21.7km s-min=12.2km az=32.0*
ISC 20 12:53:05.9±2.0, 33.96N±0.09×25.82E±0.04, h27km±14km, n37, σ1°21/44, mb3.6/6, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**1.19**	**16**	*e*P	**Pb**	**12 53 28.4**	**+0.5**
ZKR	**Zakros**	**1.19**	**16**	*e*P	**Pb**	**12 53 28.4**	**+0.5**
LAST	**Lasithi**	**1.23**	**347**	*e*P	**Pb**	**12 53 28.2**	**-0.3**
LAST	**Lasithi**	**1.23**	**347**	*e*P	**Pb**	**12 53 28.2**	**-0.3**
NPS	**Neapolis**	**1.31**	**353**	*e*P	**Pb**	**12 53 30.1**	**+0.3**
NPS	**Neapolis**	**1.31**	**353**	*e*P	**Pb**	**12 53 30.1**	**+0.3**
SIVA	**Sivas**	**1.34**	**322**	*e*P	**Pb**	**12 53 30.0**	**-0.3**
SIVA	**Sivas**	**1.34**	**322**	*e*P	**Pb**	**12 53 30.0**	**-0.3**
IDI	**Anoyia**	**1.52**	**330**	*e*P	**Pb**	**12 53 33.0**	**-0.5**
IDI	**Anoyia**	**1.52**	**330**	*e*P	**Pb**	**12 53 33.0**	**-0.5**
IDI	**Anoyia**	**1.52**	**330**	P	**Pb**	**12 53 33.0**	**-0.5**
	2.7nm,0.3s,baz=155,slow=17,SNR=12						
IDI				S	**Sn**	**12 53 49.6**	**-0.8**
	6.7nm,0.3s,baz=313,slow=19,SNR=8.2						
GVD	**Gavdhos**	**1.67**	**302**	*e*P	**Pn**	**12 53 33.6**	**+0.2**
GVD	**Gavdhos**	**1.67**	**302**	*e*P	**Pn**	**12 53 33.6**	**+0.2**
KARP	**Karpathos**	**1.93**	**35**	*e*P	**Pb**	**12 53 39.8**	**-0.6**
KARP	**Karpathos**	**1.93**	**35**	*e*P	**Pb**	**12 53 39.8**	**-0.6**
VAM	**Vamos**	**1.96**	**318**	*e*P	**Pn**	**12 53 38.6**	**+1.2**
VAM				*e*S	**Sn**	**12 54 00.7**	**-0.4**
VAM	**Vamos**	**1.96**	**318**	*e*P	**Pn**	**12 53 38.6**	**+1.2**
VAM				*e*S	**Sn**	**12 54 00.7**	**-0.4**
KARN	**Karanos**	**2.12**	**313**	*e*P	**Pn**	**12 53 39.7**	**+0.1**
KARN	**Karanos**	**2.12**	**313**	*e*P	**Pn**	**12 53 39.7**	**+0.1**
APE	**Apeiranthos**	**3.11**	**356**	*e*P	**Pn**	**12 53 55.8**	**+2.6**
APE	**Apeiranthos**	**3.11**	**356**	*e*P	**Pn**	**12 53 55.8**	**+2.6**
AKAS	**Kas**	**3.84**	**53**	*i* P	**Pn**	**12 54 03.7**	**+0.3**
AKAS				*i* S	**Sn**	**12 54 46.0**	**-1.8**
AKAS	**Kas**	**3.84**	**53**	*i* P	**Pn**	**12 54 03.7**	**+0.3**
GOLH	**Golhisar**	**4.47**	**42**	*i* P	Pn	12 54 15.2	+3.3
GOLH				*i* S	**Sn**	**12 55 01.3**	**-1.8**
GOLH	**Golhisar**	**4.47**	**42**	*i* P	Pn	12 54 15.2	+3.3
DNZL	**Cakiroluk**	**4.55**	**34**	*i* P	**Pn**	**12 54 12.0**	**-1.1**
DNZL				*i* S	**Sn**	**12 55 04.5**	**-0.8**
DNZL	**Cakiroluk**	**4.55**	**34**	*i* P	**Pn**	**12 54 12.0**	**-1.1**
DNZL				*i* S	**Sn**	**12 55 04.4**	**-0.8**
GAZI	**Gazipasa**	**5.79**	**65**	*i* P	**Pn**	**12 54 29.2**	**-0.8**
GAZI				*i* S	**Sn**	**12 55 32.1**	**-3.5**
MMAI	**Mount Meron Ar**	**8.06**	**94**	P	**Pn**	**12 55 03.5**	**+2.2**
	3.5nm,0.3s,baz=325,slow=18,SNR=3.7						
MMAI				S	**Sn**	**12 56 32.2**	**+0.6**
	2.2nm,0.3s,baz=293,slow=26,SNR=2.4						
BRTR	**Keskin Array B**	**8.51**	**45**	P	**Pn**	**12 55 09.2**	**+1.9**
	0.2nm,0.3s,baz=219,slow=16,SNR=4.4						
AKASG	**Malin Array Be**	**16.91**	**7**	P	**P**	**12 57 01.7**	**-0.6**
	0.7nm,0.3s,baz=200,slow=12,SNR=3.9						
FINES	**FINESS Array B**	**27.50**	**0**	P	**P**	**12 58 48.0**	**-1.7**
	0.5nm,0.6s,baz=195,slow=12,SNR=3.3						
TORD	**Torodi Ar. Bea**	**30.16**	**232**	P	**P**	**12 59 14.1**	**+0.2**
	0.4nm,0.7s,baz=36,slow=7.9,SNR=4.0						
ARCES	**ARCESS Array B**	**35.62**	**360**	P	**P**	**13 00 01.1**	**+0.1**
	6.0nm,1.0s,baz=172,slow=7.3,SNR=4.2						
KURBB	**Kurchatov Arra**	**41.46**	**50**	P	**P**	**13 00 51.3**	**+1.1**
	0.6nm,0.6s,baz=276,slow=8.7,SNR=7.6						
MKAR	**Makanchi Array**	**43.99**	**56**	P	**P**	**13 01 12.2**	**+1.4**
	0.6nm,0.6s,baz=272,slow=6.4,SNR=7.1						
ZALV	**Zalesovo Beam**	**45.45**	**45**	P	**P**	**13 01 22.8**	**+0.5**
	1.1nm,0.5s,baz=270,slow=8.4,SNR=4.9						

*IDC **20** 12:56:10.1±3.0, 8.92S×108.77E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.7/22, mbtmp3.7/6, Error ellipse: s-maj=147.6km s-min=19.1km az=53.0*
*ISCJB **20** 12:56:15.6±0.9, 8.93S±0.09×108.81E±0.1, h55km, mb3.6/6, Error ellipse: s-maj=15.9km s-min=9.8km az=143.4*
*DJA **20** 12:56:21.7±1.6, 8°S±13°×10°9E±°, h20km±12km, M3.3/9, MLv3.3/9*
ISC 20 12:56:18.2±1.1, 8.8S±0.1×108.90E±0.08, h55km, n19, σ1°73/15, mb3.6/6, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLJI	**Cilicap**	**1.04**	**6**	P	**Pn**	**12 56 36.3**	**-0.4**
KPJI	**Karang Pucung**	**1.42**	**1**	P	**Pn**	**12 56 42.7**	**+1.0**
CISI	**Cisompet, Garu**	**1.61**	**318**	P	**Pn**	**12 56 44.5**	**+0.1**
BJII	**Banjamegara**	**1.63**	**29**	P	**Pn**	**12 56 44.4**	**-0.2**
UGM	**Wanagama**	**1.81**	**62**	P	**Pn**	**12 56 50.1**	**+3.0**
TGJI	**

ML2.0(UPP), Explosion
*BER **20** 13:46:52.3±4.7, 59°.78N×23°.03E, h0km, ML2.0(NAO), Suspected explosion*
*UPP **20** 13:46:52.3, 59°.78N×22°.91E, h0km, ML2.0, Suspected Mining explosion.*

ISC 20 13:46:50.1±0.7, 59°.79N±0°.03×23°.03E±0°.02, h0km, n58, σ1s35/75, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPE	**Suurupi**	**0.76**	**115**	*e*P	**Pg**	**13 47 04.3**	**-0.3**
SRPE				*e*S	**Sg**	**13 47 13.8**	**-0.6**
SRPE	**Suurupi**	**0.76**	**115**	*e*P	**Pg**	**13 47 04.4**	**-0.2**
	SNR=90						
SRPE				*e*S	**Sg**	**13 47 14.1**	**-0.3**
	182nm,0.4s,SNR=90						
MEF	**Metsahovi**	**0.81**	**57**	*e*P	**Pg**	**13 47 06.2**	**+0.5**
MEF				*e*S	**Sg**	**13 47 17.0**	**+0.8**
MEF	**Metsahovi**	**0.81**	**57**	P	**Pg**	**13 47 06.1**	**+0.5**
MEF				S	**Sg**	**13 47 16.9**	**+0.8**
MTSE	**Matsula**	**1.15**	**159**	*e*P	**Pg**	**13 47 11.1**	**-0.9**
	SNR=90						
RAF	**Rauma**	**1.39**	**334**	*e*P	**Pn**	**13 47 17.0**	**+0.3**
RAF				*e*S	**Sg**	**13 47 35.8**	**+1.1**
RAF	**Rauma**	**1.39**	**334**	P	**Pn**	**13 47 17.0**	**+0.3**
RAF				S	**Sg**	**13 47 35.8**	**+1.1**
PVF	**Pernaja**	**1.61**	**60**	*e*P	**Pn**	**13 47 20.2**	**+0.5**
PVF				*e*S	**Sn**	**13 47 41.0**	**-0.1**
PVF	**Pernaja**	**1.61**	**60**	P	**Pn**	**13 47 20.2**	**+0.5**
PVF				S	**Sn**	**13 47 41.0**	**-0.1**
SLIT	**Slitere, Latvi**	**2.20**	**190**	*e*P	**Pn**	**13 47 29.4**	**+1.6**
	SNR=50						
SLIT				*e*S	**Sb**	**13 47 58.0**	**-0.3**
	SNR=50						
FIA0	**FINESS Array S**	**2.24**	**41**	Pn	**Pn**	**13 47 30.7**	**+2.3**
	baz=222,slow=16						
FIA0				Lg	Lg	13 48 00.1	
	baz=230,slow=28						
FIA0	**FINESS Array S**	**2.24**	**41**	Pn	**Pn**	**13 47 30.7**	**+2.3**
	baz=222,slow=16						
FIA0				Lg	Lg	13 48 00.1	
	baz=230,slow=28						
FIA0	**FINESS Array S**	**2.24**	**41**	*e*PB	**Pb**	**13 47 31.1**	**-0.3**
FIA0				*e*SB	**Sb**	**13 48 00.2**	**+0.5**
FIA0	**FINESS Array S**	**2.24**	**41**	Pn	**Pn**	**13 47 30.7**	**+2.3**
	baz=222,slow=15,SNR=50						
FIA0	**FINESS Array S**	**2.24**	**41**	Pb	**Pb**	**13 47 31.1**	**-0.3**
FIA0				Lg	Lg	13 48 00.1	
	baz=230,slow=28,SNR=90						
FINES	**FINESS Array B**	**2.24**	**41**	Pn	**Pb**	**13 47 31.1**	**-0.3**
	2.1nm,0.3s,baz=220,slow=13,SNR=106						
FINES				Lg	Lg	13 48 00.4	
	3.8nm,0.3s,baz=220,slow=24,SNR=20						
VSU	**Vasula**	**2.33**	**123**	Pn	**Pn**	**13 47 31.6**	**+2.1**
VSU				Lg	Lg	13 48 02.1	
VSU	**Vasula**	**2.33**	**123**	Pn	**Pn**	**13 47 31.6**	**+2.1**
VSU				Lg	Lg	13 48 02.1	
VSU	**Vasula**	**2.33**	**123**	Pn	**Pn**	**13 47 31.6**	**+2.1**
VSU				*e*S	**Sb**	**13 48 01.7**	**-0.4**
	80nm,0.3s,SNR=50						
VSU				Lg	Lg	13 48 02.1	
	SNR=90						
FORU	**Forsmark**	**2.50**	**286**	*e*P	**Pn**	**13 47 34.8**	**+2.8**
FORU	**Forsmark**	**2.50**	**286**	P	**Pn**	**13 47 34.7**	**+2.8**
KEF	**Keuruu**	**2.55**	**20**	MSG		13 48 11.8	
	comp=Z,7.8nm,0.1s						
FLYU	**Flymyra**	**2.61**	**280**	*e*P	**Pn**	**13 47 34.5**	**+1.0**
FLYU				*e*S	**Sn**	**13 48 07.8**	**+2.0**
FLYU	**Flymyra**	**2.61**	**280**	P	**Pn**	**13 47 34.5**	**+1.0**
FLYU				S	**Sn**	**13 48 07.8**	**+2.0**
NYNU	**Nynaeshamn**	**2.69**	**255**	*e*P	**Pn**	**13 47 36.1**	**+1.5**
NYNU	**Nynaeshamn**	**2.69**	**255**	P	**Pn**	**13 47 36.0**	**+1.5**
KAF	**Kangasniemi**	**2.83**	**33**	MSG		13 48 18.1	
	comp=Z,7.6nm,0.2s						
BACU	**Backbrunna**	**2.99**	**274**	*e*P	**Pn**	**13 47 40.1**	**+1.4**
BACU	**Backbrunna**	**2.99**	**274**	P	**Pn**	**13 47 40.1**	**+1.4**
OSTU	**Oestervaala**	**2.99**	**281**	*e*P	**Pn**	**13 47 40.0**	**+1.3**
OSTU	**Oestervaala**	**2.99**	**281**	P	**Pn**	**13 47 40.0**	**+1.3**
IGGU	**Iggoen**	**3.04**	**293**	*e*P	**Pn**	**13 47 40.5**	**+1.1**
IGGU	**Iggoen**	**3.04**	**293**	P	**Pn**	**13 47 40.5**	**+1.1**
VAF	**Ylistaro**	**3.27**	**357**	MSG		13 48 30.7	
	comp=Z,3.8nm,0.2s						
SUF	**Sumiainen**	**3.31**	**26**	MSG		13 48 37.6	
	comp=Z,3.4nm,0.1s						
ESKU	**Eskilstuna**	**3.43**	**264**	*e*P	**Pn**	**13 47 46.0**	**+1.4**
ESKU	**Eskilstuna**	**3.43**	**264**	P	**Pn**	**13 47 46.0**	**+1.4**
HEMU	**Hemsoen**	**3.77**	**322**	*e*P	**Pn**	**13 47 51.1**	**+1.7**
HEMU	**Hemsoen**	**3.77**	**322**	P	**Pn**	**13 47 51.1**	**+1.7**
ROTU	**Roteberg**	**3.92**	**298**	*e*P	**Pn**	**13 47 52.0**	**+0.6**
ROTU	**Roteberg**	**3.92**	**298**	P	**Pn**	**13 47 52.0**	**+0.6**
HASU	**Hassela**	**3.93**	**310**	*e*P	**Pn**	**13 47 53.2**	**+1.6**
HASU	**Hassela**	**3.93**	**310**	P	**Pn**	**13 47 53.1**	**+1.6**
VSTU	**Vaestervik**	**4.00**	**241**	*e*P	**Pn**	**13 47 53.8**	**+1.3**
VSTU	**Vaestervik**	**4.00**	**241**	P	**Pn**	**13 47 53.8**	**+1.3**
ASPU	**Aespoe**	**4.12**	**238**	*e*P	**Pn**	**13 47 55.5**	**+1.3**
ASPU	**Aespoe**	**4.12**	**238**	P	**Pn**	**13 47 55.4**	**+1.3**
HFS	**Hagfors**	**4.71**	**278**	Pn	**Pn**	**13 48 03.6**	**+1.3**
	baz=87,slow=11						
HFS				Sn	**Sn**	**13 48 57.9**	**+0.4**
	baz=92,slow=28						
HFS				Lg	Lg	13 49 13.0	
	baz=105,slow=37						
HFS	**Hagfors**	**4.71**	**278**	Pn	**Pn**	**13 48 03.6**	**+1.3**
	baz=87,slow=11						
HFS				Sn	**Sn**	**13 48 57.9**	**+0.4**
	baz=92,slow=28						
HFS				Lg	Lg	13 49 13.0	
	baz=105,slow=37						
HFS	**Hagfors**	**4.71**	**278**	Pn	**Pn**	**13 48 03.6**	**+1.3**
	baz=87,slow=11,SNR=50						
HFS				Sn	**Sn**	**13 48 57.9**	**+0.4**
	baz=92,slow=26,SNR=50						
HFS				Lg	Lg	13 49 13.0	
	baz=105,slow=30						
NB2	**NORSAR Subarra**	**5.99**	**287**	Pn	**Pn**	**13 48 19.6**	**-0.2**
	baz=96,slow=14						
NB2				Sn	**Sn**	**13 49 28.6**	**-0.5**
	baz=110,slow=22						
NB2				Lg	Lg	13 49 55.7	
	baz=106,slow=37						
NB2	**NORSAR Subarra**	**5.99**	**287**	Pn	**Pn**	**13 48 19.6**	**-0.2**
	baz=96,slow=14						
NB2				Sn	**Sn**	**13 49 28.6**	**-0.5**
	baz=110,slow=22						
NB2				Lg	Lg	13 49 55.7	
	baz=106,slow=37						
NB2	**NORSAR Subarra**	**5.99**	**287**	Pn	**Pn**	**13 48 19.6**	**-0.2**
	baz=96,slow=12,SNR=50						
NB2				Sn	**Sn**	**13 49 28.6**	**-0.5**
	baz=110,slow=22,SNR=50						
NB2				Lg	Lg	13 49 55.7	
	baz=106,slow=31,SNR=2.7						
NOA	**NORSAR Array B**	**5.99**	**287**	Pn	**Pn**	**13 48 17.7**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=160,slow=6.1,SNR=4.7						
NOA				Sn	**Sn**	**13 49 27.6**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=106,slow=13,SNR=3.2						
ARA0	**ARCESS Array S**	**9.85**	**5**	Pn	**Pn**	**13 49 13.3**	**+0.7**
	baz=177,slow=16						
ARA0	**ARCESS Array S**	**9.85**	**5**	Pn	**Pn**	**13 49 13.3**	**+0.7**
	baz=177,slow=16						
ARA0	**ARCESS Array S**	**9.85**	**5**	Pn	**Pn**	**13 49 13.4**	**+0.7**
	baz=177,slow=14,SNR=3.2						
ARCES	**ARCESS Array B**	**9.85**	**5**	Pn	**Pn**	**13 49 12.4**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=180,slow=13,SNR=22						
ARCES				Sn	**Sn**	**13 50 59.8**	**-4.0**
	comp=Z,0.1nm,0.3s,baz=182,slow=22,SNR=2.4						

IDC 20 14:22:53.0±3.7, 15°.37S×173°.14W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/20, mbtmp3.8/4, Error ellipse: s-maj=182.6km s-min=21.7km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.96**	**43**	Pn	Pn	14 23 25.6	-2.1
	24nm,0.3s,baz=177,slow=18,SNR=46						
AFI				Sn	Sn	14 23 43.4	-10
	174nm,0.3s,baz=197,slow=17,SNR=29						
STKA	**Stephens Creek**	**44.27**	**240**	P	P	14 31 04.2	-0.5
	1.4nm,0.8s,baz=66,slow=10.0,SNR=3.2						
WRA	**Warramunga Arr**	**50.10**	**257**	P	P	14 31 49.6	-0.7
	0.9nm,0.9s,baz=91,slow=6.7,SNR=11						
ASAR	**Alice Springs**	**50.36**	**252**	P	P	14 31 51.5	-0.8
	2.3nm,0.9s,baz=88,slow=7.7,SNR=21						
ILAR	**Eielson Array**	**82.36**	**11**	P	P	14 35 16.7	+0.2
	0.1nm,0.5s,baz=191,slow=4.1,SNR=3.6						
BRTR	**Keskin Array B**	**146.29**	**321**	PKPbc	PKPab	14 42 37.7	+0.8
	2.7nm,0.9s,baz=111,slow=1.7,SNR=12						

GUC 20 14:34:53.4±0.6, 22°.45S×68°.55W, h111km±5km, ML3.6, 6C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPCH	**San Pedro de A**	**0.56**	**145**	⇑*i*P	Pn	14 35 17.1	+5.9
SPCH				*i* S	Sn	14 35 30.8	+6.3
SPCH				AML	AML	14 35 31.6	
	comp=N,4μm,0.4s						
PB04	**Plate Boundary**	**0.89**	**282**	⇑*i*P	Pn	14 35 20.8	+7.3
PB04				*i* S	Sn	14 35 41.8	+13
PB04				AML	AML	14 35 43.5	
	comp=N,962nm,0.2s						
PB09	**Plate Boundary**	**0.91**	**315**	⇑*i*P	Pn	14 35 15.1	+1.1
PB09				*i* S	Sn	14 35 31.1	+1.6
PB09				AML	AML	14 35 34.6	
	comp=E,2μm,0.5s						
MACH	**Maria Elena**	**1.15**	**282**	⇑*i*P	Pn	14 35 17.2	+0.7
MACH				*i* S	Sn	14 35 35.2	+1.2
PB01	**Plate Boundary**	**1.65**	**328**	⇑*i*P	Pn	14 35 22.8	+0.6
PB01				*i* S	Sn	14 35 45.0	+1.0
PB01				AML	AML	14 35 48.3	
	comp=E,513nm,0.2s						
CEN1	**Los Morros**	**1.79**	**238**	⇑*i*P	Pn	14 35 27.2	+3.2
CEN1				*i* S	Sn	14 35 52.9	+5.7
CEN1				AML	AML	14 35 55.4	
	comp=E,289nm,0.8s						
ANCH	**Antofagasta**	**2.11**	**234**	⇓*i*P	Pn	14 35 28.7	+0.9
ANCH				*i* S	Sn	14 35 54.8	+0.6
ANCH				AML	AML	14 35 56.6	
	comp=E,599nm,0.1s						
HMBC	**Humberstone**	**2.49**	**330**	*e*P	Pn	14 35 32.5	-0.5
HMBC				*i* S	Sn	14 36 03.6	+0.3
HMBC				AML	AML	14 36 07.5	
	comp=N,176nm,0.7s						

*DJA **20** 14:37:38.4±1.1, 1°.S±16°×13°.8E±°, h10km, M4.7/4, mb5.2/1, mB6.1/1, MLv4.4/4, Mw(mB)5.8/1*
*AUST **20** 14:37:40.9±33.0, 1°.85S×138°.35E, h3km±1km, Error ellipse: s-maj=3.0km s-min=1.2km az=352.0*
*ISCJB **20** 14:37:42.5±1.4, 1°.8S±0°.1×138°.27E±0°.09, h33km, Error ellipse: s-maj=21.6km s-min=12.1km az=13.5*

ISC 20 14:37:45.8±3.9, 1°.7S±0°.3×138°.1E±0°.3, h35km, n9, σ1s82/7, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**1.86**	**264**	P	**Pn**	**14 38 16.1**	**+0.9**
BAKI	**Biak**	**2.04**	**283**	P	**Pn**	**14 38 16.8**	**-0.8**
JAY	**Jayapura**	**2.75**	**108**	P	Pn	14 38 23.1	-4.4
JAY	**Jayapura**	**2.75**	**108**	P	Pn	14 38 21.8	-5.7
	baz=2.4,SNR=7.3						
FAKI	**Fak Fak**	**5.97**	**258**	P	**Pn**	**14 39 13.1**	**+1.4**
	baz=6.2,SNR=8.4						
MMPI	**Merauke**	**7.14**	**161**	P	**Pn**	**14 39 30.1**	**+2.3**
KDU	**Kakadu**	**12.29**	**207**	P	**Pn**	**14 40 36.4**	**-2.0**
	baz=12,SNR=4.8						
MTN	**Manton Dam**	**13.07**	**211**	P	**Pn**	**14 40 48.7**	**-0.5**
	baz=13,SNR=9.3						
KNRA	**Kununurra**	**16.69**	**213**	P	**Pn**	**14 41 36.7**	**-0.4**
	baz=17,SNR=6.5						

GUC 20 15:24:08.2±0.9, 21°.09S×70°.32W, h42km±4km, ML3.6, 4C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB07	**Plate Boundary**	**0.75**	**147**	⇑*i*P	Pn	15 24 23.1	+0.4
PB07				*i* S	Sn	15 24 33.5	+0.5
PB07				AML	AML	15 24 33.9	
	comp=E,3μm,0.7s						
PB01	**Plate Boundary**	**0.78**	**87**	⇓*i*P	Pn	15 24 23.6	+0.7
PB01				AML	AML	15 24 36.2	
	comp=E,2μm,0.6s						
HMBC	**Humberstone**	**0.91**	**27**	⇓*i*P	Pn	15 24 25.1	+0.4
HMBC				*i* S	Sn	15 24 37.6	+0.9
HMBC				AML	AML	15 24 41.8	
	comp=E,3μm,0.2s						
MACH	**Maria Elena**	**1.22**	**155**	⇓*i*P	Pn	15 24 30.3	+1.2
MACH				*i* S	Sn	15 24 46.7	+2.1
PB09	**Plate Boundary**	**1.23**	**125**	⇓*i*P	Pn	15 24 31.0	+1.9
PB09				*i* S	Sn	15 24 47.2	+2.6
PB09				AML	AML	15 24 55.1	
	comp=N,4μm,0.3s						
PB04	**Plate Boundary**	**1.40**	**147**	⇑*i*P	Pn	15 24 30.4	-0.9
PB04				*i* S	Sn	15 24 47.2	-1.3
PB04				AML	AML	15 24 49.6	
	comp=E,2μm,0.4s						
PSGC	**Pisagua**	**1.50**	**7**	⇑*i*P	Pn	15 24 33.9	+1.1
PSGC				*i* S	Sn	15 24 53.5	+2.3
PSGC				AML	AML	15 24 56.2	
	comp=E,1μm,0.3s						
MNMC	**Minimini**	**2.07**	**19**	⇑*i*P	Pn	15 24 42.3	+1.5
MNMC				*i* S	Sn	15 25 08.2	+2.6
MNMC				AML	AML	15 25 22.9	
	comp=N,1μm,0.7s						
CEN1	**Los Morros**	**2.29**	**177**	*e*P	Pn	15 24 47.7	+4.0
CEN1				AML	AML	15 25 28.1	
	comp=N,199nm,0.4s						

*ISCJB **20** 15:33:09.6±0.6, 23°.83S±0°.08×179°.78W±0°.09, h512km, mb3.9/10, Error ellipse: s-maj=12.6km s-min=9.0km az=35.5*
*IDC **20** 15:33:09.7±2.1, 23°.80S×179°.76W, h502km±23km, mb3.6/10, mb1 3.8/12, mb1mx3.6/19, mbtmp3.6/12, Error ellipse: s-maj=20.4km s-min=14.8km az=135.0*
*AUST **20** 15:33:11.2±0.0, 23°.99S×179°.75W, h504km, Error ellipse: s-maj=1.6km s-min=1.3km az=289.0*

ISC 20 15:33:10.1±0.7, 23°.9S±0°.1×179°.7W±0°.1, h512km, n37, σ1s115/36, mb3.8/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**10.26**	**64**	P	P	15 35 35.5	+5.2
	baz=10,SNR=6.2						
AFI	**Afiamalu**	**12.44**	**38**	P	**P**	**15 35 51.7**	**-1.7**
	5.1nm,0.3s,baz=356,slow=10,SNR=14						
AFI				S	S	15 37 55.8	-12
	1.9nm,0.3s,baz=156,slow=20,SNR=3.4						
URZ	**Urewera**	**14.56**	**190**	P	**P**	**15 36 16.7**	**+1.4**
	4.3nm,0.3s,baz=314,slow=3.8,SNR=24						
URZ				S	**S**	**15 38 44.9**	**-3.1**
	1.2nm,0.3s,baz=264,slow=24,SNR=16						
RPZ	**Rata Peaks**	**21.17**	**199**	P	**P**	**15 37 19.6**	**+1.1**
	14nm,0.6s,baz=30,slow=8.1,SNR=13						
ARMA	**Armidale**	**26.31**	**249**	P	**P**	**15 38 05.9**	**+1.3**
	baz=26,SNR=9.6						
EIDS	**Eidsvold**	**26.62**	**261**	P	**P**	**15 38 07.6**	**+0.3**
	baz=26,SNR=6.2						
MGCD	**Mangrove Creek**	**27.22**	**244**	P	**P**	**15 38 14.0**	**+1.6**
	baz=27,SNR=15						
RMQ	**Roma**	**28.66**	**258**	P	**P**	**15 38 26.7**	**+1.5**
	baz=28,SNR=5.5						
CNB	**Canberra Magne**	**29.11**	**240**	P	**P**	**15 38 30.1**	**+1.1**
	baz=29,SNR=7.8						
CMSA	**Cobar Meteorol**	**31.50**	**248**	P	**P**	**15 38 49.9**	**+0.3**
	baz=31,SNR=25						
TOO	**Toolangi**	**32.70**	**237**	P	**P**	**15 39 00.7**	**+0.8**
	baz=33,SNR=14						
QLP	**Quilpie**	**32.70**	**258**	P	**P**	**15 38 60.0**	**0.0**
	baz=33,SNR=5.9						
MTSU	**Mount Surprise**	**34.06**	**273**	P	**P**	**15 39 11.9**	**+0.4**
	baz=34,SNR=11						
STKA	**Stephens Creek**	**35.01**	**248**	P	**P**	**15 39 19.6**	**+0.2**
	baz=35,SNR=16						
STKA	**Stephens Creek**	**35.01**	**248**	P	**P**	**15 39 19.6**	**+0.2**
	3.2nm,0.4s,baz=91,slow=11,SNR=22						
ARPS	**Mount Arapiles**	**35.38**	**240**	P	**P**	**15 39 22.6**	**+0.3**
	baz=35,SNR=6.4						
BBOO	**Buckleboo**	**39.73**	**247**	P	**P**	**15 39 57.3**	**-0.7**
	baz=40,SNR=20						
ASAR	**Alice Springs**	**42.34**	**261**	P	**P**	**15 40 18.6**	**-0.4**
	9.7nm,0.8s,baz=97,slow=7.1,SNR=96						
ASAR				ScP	**ScP**	**15 45 03.9**	**+1.2**
	0.5nm,0.6s,baz=111,slow=4.2,SNR=4.5						
WRA	**Warramunga Arr**	**42.72**	**266**	P	**P**	**15 40 21.1**	**-0.9**
	9.1nm,0.3s,baz=96,slow=8.5,SNR=550						
KDU	**Kakadu**	**46.61**	**275**	P	**P**	**15 40 50.9**	**-1.0**
	baz=46,SNR=6.6						
MTN	**Manton Dam**	**47.77**	**274**	P	**P**	**15 40 59.6**	**-1.1**
	baz=48,SNR=5.6						
KNRA	**Kununurra**	**49.00**	**270**	P	**P**	**15 41 09.5**	**-0.4**
	baz=49,SNR=20						
TLE	**Tual**	**49.21**	**284**	P	P	15 41 22.1	+11
	baz=49,SNR=4.0						
FITZ	**Fitzroy Crossi**	**51.14**	**266**	P	**P**	**15 41 25.2**	**-0.4**
	baz=51,SNR=16						
SOEI	**Soe**	**55.16**	**275**	P	P	15 42 01.3	+6.8
	baz=55,SNR=3.5						
MEEK	**Meekatharra**	**55.41**	**253**	P	**P**	**15 41 54.8**	**-1.1**
	baz=55,SNR=7.9						
BLDU	**Ballidu**	**56.31**	**248**	P	**P**	**15 42 01.5**	**-0.6**
	baz=56,SNR=11						
MORW	**Morawa**	**57.16**	**250**	P	**P**	**15 42 07.4**	**-0.6**
	baz=57,SNR=9.0						
MAW	**Mawson**	**77.84**	**200**	P	**P**	**15 44 15.0**	**+1.1**
	1.9nm,0.6s,baz=112,slow=6.6,SNR=11						
PETK	**Petropavlovsk-**	**79.20**	**346**	P	**P**	**15 44 21.2**	**-0.1**
	2.8nm,0.9s,baz=126,slow=7.3,SNR=3.6						
NVAR	**Mina Array Bea**	**84.55**	**44**	P	**P**	**15 44 50.0**	**+0.7**
	0.5nm,0.6s,baz=230,slow=9.2,SNR=4.0						
CMAR	**Chiang Mai Arr**	**89.83**	**290**	P	**P**	**15 45 15.8**	**+1.5**
	1.1nm,0.9s,baz=142,slow=3.6,SNR=7.9						
TXAR	**Lajitas Array**	**90.17**	**58**	P	**P**	**15 45 17.8**	**+1.9**
	1.0nm,0.7s,baz=204,slow=5.2,SNR=11						
PDAR	**Pinedale Array**	**92.49**	**44**	P	**P**	**15 45 26.1**	**-0.3**
	0.2nm,0.5s,baz=213,slow=4.3,SNR=4.1						
AKASG	**Malin Array Be**	**145.16**	**327**	PKPbc	**PKPdf**	**15 51 47.0**	**-1.8**
	0.3nm,0.4s,baz=46,slow=4.3,SNR=6.6						
BRTR	**Keskin Array B**	**147.84**	**307**	PKPbc	**PKPbc**	**15 51 56.7**	**-0.9**
	0.2nm,0.4s,baz=35,slow=3.1,SNR=2.5						
TORD	**Torodi Ar. Bea**	**169.21**	**187**	PKPab	**PKPab**	**15 53 33.9**	**-0.6**
	0.4nm,0.9s,baz=181,slow=4.1,SNR=3.7						

*ISCJB **20** 16:08:02.2±0.5, 51°.50N±0°.02×16°.22E±0°.04, h0km, Error ellipse: s-maj=3.5km s-min=3.2km az=174.3*
*CSEM **20** 16:08:04.5±0.3, 51°.48N×16°.20E, h2km, ML3.3/8, Error ellipse: s-maj=5.5km s-min=5.1km az=119.0*
*IDC **20** 16:08:06.5±0.8, 51°.45N×16°.16E, h0km, mb1 3.3/5, mb1mx3.1/26, mbtmp3.2/5, ML2.7/5, Error ellipse: s-maj=17.2km s-min=7.0km az=106.0*
*PRU **20** 16:08:06.2, 51°.41N×16°.19E, h0km*
*WAR **20** 16:08:06.3, 51°.44N×16°.19E*
*VIE **20** 16:08:07.6±0.4, 51°.29N×16°.04E, h0km, mb2.2/2, ML2.8/3, Error ellipse: s-maj=2.6km s-min=2.4km az=143.0 71 km WNW of Wroclaw Suspected Mining induced.*

ISC 20 16:08:03.9±0.8, 51°.52N±0°.03×16°.22E±0°.03, h0km, n32, σ0s77/63, 2C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.68**	**176**	*e*Pg	**Pg**	**16 08 17.5**	**+0.6**
KSP				*e*Sg	**Sg**	**16 08 25.4**	**-0.3**
KSP	**Ksiaz**	**0.68**	**176**	⇓*i*Pg	**Pg**	**16 08 17.5**	**+0.6**
KSP				*e*Sg	**Sg**	**16 08 25.4**	**-0.3**
UPC	**Upice**	**1.02**	**187**	*e*PG	**Pg**	**16 08 23.5**	**0.0**
UPC				*e*SG	**Sg**	**16 08 35.6**	**-1.1**
	comp=Z,39nm,0.3s						
UPC	**Upice**	**1.02**	**187**	Pg	**Pg**	**16 08 23.5**	**0.0**
UPC				Sg	**Sg**	**16 08 35.6**	**-1.1**
	39nm,0.3s						
DPC	**Dobruska-Polom**	**1.17**	**177**	*e*PG	**Pg**	**16 08 26.3**	**0.0**
DPC				*e*SG	**Sg**	**16 08 40.4**	**-1.1**
DPC	**Dobruska-Polom**	**1.17**	**177**	Pg	**Pg**	**16 08 26.3**	**0.0**
DPC				Sg	**Sg**	**16 08 40.4**	**-1.1**
PVCC	**Panska Ves**	**1.44**	**227**	*e*PG	**Pg**	**16 08 31.6**	**+0.1**
PVCC				*e*SG	**Sb**	**16 08 50.4**	**0.0**
	comp=Z,134nm,0.3s						
PVCC	**Panska Ves**	**1.44**	**227**	Pg	**Pg**	**16 08 31.6**	**+0.1**
PVCC				Sg	**Sb**	**16 08 50.4**	**0.0**
	134nm,0.3s						
BRG	**Berggiesshubel**	**1.57**	**247**	PG	**Pg**	**16 08 34.4**	**+0.4**
BRG				SG	**Sb**	**16 08 54.2**	**0.0**
	32nm,0.4s						
PRU	**Pruhonice**	**1.87**	**215**	*e*PG	**Pb**	**16 08 39.1**	**+0.2**
PRU				*e*SG	**Sb**	**16 09 02.9**	**+0.2**
	comp=Z,15nm,0.2s						
PRU	**Pruhonice**	**1.87**	**215**	Pg	**Pb**	**16 08 39.1**	**+0.2**
PRU				Sg	**Sb**	**16 09 02.9**	**+0.2**
	15nm,0.2s						
CLL	**Collm**	**2.03**	**265**	*i* Pn	**Pn**	**16 08 40.0**	**+0.7**
	comp=Z,3.0nm,0.6s						
CLL				*i* Pg	**Pg**	**16 08 42.6**	**-0.1**
CLL				*i*		16 08 44.0	
CLL				*i*		16 08 46.2	
CLL				*e*Sg	**Sg**	**16 09 09.0**	**+0.1**
	comp=Z,13nm,0.6s						
OKC	**Ostrava-Krasne**	**2.08**	**143**	*e*PN	**Pn**	**16 08 40.2**	**+0.1**
OKC				*e*PG	**Pb**	**16 08 43.2**	**+0.7**
OKC				*e*SG	**Sb**	**16 09 09.1**	**+0.2**
	comp=Z,21nm,0.6s						
OKC	**Ostrava-Krasne**	**2.08**	**143**	Pn	**Pn**	**16 08 40.2**	**+0.1**
VRAC	**Vranov**	**2.23**	**174**	*e*Pn	**Pn**	**16 08 43.3**	**+1.2**
VRAC				*e*Sg	**Sb**	**16 09 12.8**	**-0.3**
VRAC	**Vranov**	**2.23**	**174**	Pn	**Pb**	**16 08 44.1**	**-0.9**
	comp=Z,1.5nm,0.3s,baz=340,slow=16,SNR=10						
VRAC				Lg	Lg	16 09 13.7	
	comp=Z,3.7nm,0.3s,baz=105,slow=20,SNR=7.3						
TREC	**

IDC 20 16:25:50.2±6.0, 30°.69S×179°.37W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/16, mbtmp3.6/2, Error ellipse: s-maj=241.0km s-min=55.4km az=156.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.09**	**200**	Pn	Pn	16 27 59.0	+10
	1.2nm,0.3s,baz=155,slow=21,SNR=12						
URZ				Sn	Sn	16 29 15.4	-5.8
	2.5nm,0.3s,baz=15,slow=19,SNR=14						
ASAR	**Alice Springs**	**41.92**	**268**	P	P	16 33 42.5	-0.2
	0.3nm,0.4s,baz=105,slow=7.2,SNR=10						
WRA	**Warramunga Arr**	**42.93**	**273**	P	P	16 33 51.2	+0.2
	0.5nm,0.4s,baz=112,slow=8.0,SNR=16						
FINES	**FINESS Array B**	**145.00**	**339**	PKPbc	PKPbc	16 45 27.2	-0.8
	0.6nm,0.4s,baz=56,slow=2.4,SNR=8.3						

IDC 20 16:27:54.4±1.4, 28°.55N×107°.33E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/25, mbtmp3.3/4, ML3.4/1, Error ellipse: s-maj=60.6km s-min=25.8km az=55.0, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.65**	**219**	Pn	Pn	16 30 55.4	-0.3
	0.1nm,0.3s,baz=16,slow=10,SNR=5.8						
MKAR	**Makanchi Array**	**26.74**	**320**	P	P	16 33 35.6	0.0
	0.2nm,0.4s,baz=138,slow=8.3,SNR=3.5						
WRA	**Warramunga Arr**	**54.82**	**148**	P	P	16 37 26.8	+0.4
	0.8nm,0.4s,baz=338,slow=7.6,SNR=35						
ASAR	**Alice Springs**	**57.88**	**151**	P	P	16 37 47.7	-0.5
	0.2nm,0.4s,baz=337,slow=6.9,SNR=11						

*BJI **20** 16:44:23.5, 40°.18N×71°.69E, h152km, mb3.9/1*
*IDC **20** 16:44:30.3±0.7, 40°.48N×73°.09E, h0km, mb3.8/15, mb1 3.9/21, mb1mx3.8/34, mbtmp3.7/21, ML3.7/6, MS3.2/2, Ms1 3.2/2, ms1mx2.8/30, Error ellipse: s-maj=13.3km s-min=10.1km az=141.0*
*MOS **20** 16:44:34.1±1.4, 40°.50N×73°.01E, h33km, mb4.2/17, Error ellipse: s-maj=9.3km s-min=6.1km az=92.7*
*ISCJB **20** 16:44:34.7±0.3, 40°.51N±0°.03×73°.03E±0°.05, h39km, mb3.8/21, MS3.1/2, Error ellipse: s-maj=5.1km s-min=3.8km az=168.1*
*NEIC **20** 16:44:36.5±1.0, 40°.62N×73°.02E, h42km±9km, mb4.5/1, Error ellipse: s-maj=10.5km s-min=8.1km az=170.0*
*NNC **20** 16:44:42.1±4.8, 40°.45N×73°.41E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=48.0km s-min=22.2km az=4.0*

ISC 20 16:44:36.1±0.4, 40°.59N±0°.04×73°.13E±0°.04, h39km, n124, σ1§77/114, mb3.8/21, 5C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.59**	**15**	P	Pn	16 45 01.9	-0.3
	SNR=277						
UCH	**Uchtor**	**1.94**	**32**	P	Pn	16 45 07.0	+0.1
	SNR=5.7						
EKS2	**Erkin-Say**	**2.12**	**13**	*e*PN	Pn	16 45 11.5	+2.4
EKS2	**Erkin-Say**	**2.12**	**13**	P	Pn	16 45 11.5	+2.4
	SNR=292						
EKS2	**Erkin-Say**	**2.12**	**13**	*e*P	Pn	16 45 11.5	+2.4
KZA	**Kyzart**	**2.18**	**46**	P	Pn	16 45 11.8	+1.6
	SNR=325						
AAK	**Ala-Archa**	**2.28**	**26**	PN	Pn	16 45 13.7	+2.4
AAK						16 45 46.4	
AAK				pmax	pmax		
	comp=Z,44nm,0.3s						
AAK	**Ala-Archa**	**2.28**	**26**	P	Pn	16 45 13.8	+2.4
	SNR=330						
AAK	**Ala-Archa**	**2.28**	**26**	*e*P	Pn	16 45 13.7	+2.4
AAK				Lg	Lg	16 45 46.4	
AAK	**Ala-Archa**	**2.28**	**26**	Pn	Pn	16 45 13.7	+2.4
	comp=Z,44nm,0.3s,baz=187,slow=8.3,SNR=214						
AAK				Lg	Lg	16 45 46.4	
	comp=Z,111nm,0.3s,baz=321,slow=22,SNR=7.5						
KSH	**Kashi**	**2.43**	**115**	P	Pn	16 45 15.1	+1.7
KSH				S	Sn	16 45 47.0	+5.0
KSH				SMN			
	comp=Z,2μm,0.6s						
KSH				SME			
	comp=Z,2μm,0.4s						
KBK	**Karagaybulak**	**2.47**	**33**	P	Pn	16 45 16.7	+2.7
	SNR=114						
FRU	**Bishkek**	**2.50**	**26**	*e*PN	Pn	16 45 17.0	+2.8
FRU				*e*S	Sn	16 45 52.0	+8.5
FRU				pmax	pmax		
	comp=Z,228nm,1.8s						
FRU				smax	smax		
	comp=E,2μm,1.8s						
CHMS	**Chumysh**	**2.69**	**26**	P	Pn	16 45 19.4	+2.6
	SNR=50						
USP	**Ospenovka**	**2.86**	**21**	P	Pn	16 45 22.1	+2.9
	SNR=24						
ULHL	**Ulahol**	**2.87**	**54**	P	Pn	16 45 20.8	+1.4
	SNR=35						
TKM2	**Tokmak 2**	**2.97**	**38**	⇑Pn	Pn	16 45 25.4	+4.5
	comp=E,49nm,0.8s						
TKM2				⇑Lg	Lg	16 46 20.3	
	comp=E,287nm,0.6s						
TKM2	**Tokmak 2**	**2.97**	**38**	PN	Pn	16 45 22.4	+1.6
TKM2						16 46 22.6	
TKM2				pmax	pmax		
	comp=Z,49nm,0.8s						
TKM2				pmax	pmax		
	comp=N,287nm,0.6s						
TKM2	**Tokmak 2**	**2.97**	**38**	P	Pn	16 45 23.1	+2.2
	SNR=59						
TKM2	**Tokmak 2**	**2.97**	**38**	*e*P	Pn	16 45 22.8	+2.0
KK31	**Karatay Array**	**3.18**	**323**	*i* PN	Pn	16 45 24.6	+1.1
KK31				pmax	pmax		
	comp=Z,29nm,0.4s						
KK31				pmax	pmax		
	comp=Z,120nm,0.4s						
KK31				pmax	pmax		
	comp=N,168nm,0.3s						
KKAR	**Karatay Array**	**3.18**	**323**	*e*PN	Pn	16 45 24.5	+0.9
KKAR	**Karatay Array**	**3.18**	**323**	*e*P	Pn	16 45 24.5	+0.9
CEP	**Cherat**	**6.83**	**189**	P	Pn	16 46 15.5	+1.7
CEP				S	Sn	16 47 35.0	+4.7
KBL	**Kabul**	**6.86**	**210**	*e*PN	Pn	16 46 15.3	+1.1
KBL				pmax	pmax		
	comp=Z,70nm,0.6s						
KBL	**Kabul**	**6.86**	**210**	*e*P	Pn	16 46 15.3	+1.1
	comp=Z,70nm,0.6s						
CHCP	**Chirah Chowk**	**6.92**	**179**	P	Pn	16 46 16.2	+1.2
THN	**Thein Dam**	**8.40**	**165**	*e*P	Pn	16 46 40.5	+5.2
THN				*e*S	Sn	16 48 13.0	+4.2
DHRM	**DHARAMSHALA**	**8.71**	**162**	*e*P	Pn	16 46 39.1	-0.5
DHRM				*e*S	Sn	16 48 16.9	+0.2
DHRM				AML	AML	16 48 39.6	
	comp=N,204nm,0.7s						
DHRM				AML	AML	16 48 40.4	
	comp=E,172nm,0.7s						
MK31	**Makanchi Array**	**9.08**	**44**	P	Pn	16 46 45.0	+0.5
MK31				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MK31	**Makanchi Array**	**9.08**	**44**	*e*P	Pn	16 46 45.3	+0.9
MKAR	**Makanchi Array**	**9.08**	**44**	P	Pn	16 46 45.3	+0.8
MKAR	**Makanchi Array**	**9.08**	**44**	Pn	Pn	16 46 45.2	+0.8
MKAR				Lg	Lg	16 49 23.1	
MKAR	**Makanchi Array**	**9.08**	**44**	Pn	Pn	16 46 45.2	+0.8
	comp=Z,0.2nm,0.3s,baz=226,slow=15,SNR=7.6						
MKAR				Lg	Lg	16 49 23.1	
	comp=Z,0.6nm,0.3s,baz=262,slow=22,SNR=3.0						
SMLA	**Simla**	**9.99**	**160**	*i* P	Pn	16 46 57.8	+0.8
SMLA				*ex*	x	16 48 38.1	
SMLA				AML	AML	16 49 05.5	
	comp=E,56nm,0.1s						
SMLA				AML	AML	16 49 06.2	
	comp=N,120nm,0.6s						
KURBB	**Kurchatov Arra**	**10.72**	**19**	Pn	Pn	16 47 06.4	-0.4
	comp=N,0.2nm,0.3s,baz=212,slow=13,SNR=9.5						
KURBB				Lg	Lg	16 50 11.4	
	comp=N,1.0nm,0.3s,baz=205,slow=29,SNR=8.1						
KURK	**Kurchatov**	**10.82**	**19**	P	Pn	16 47 06.4	-1.9
KURK	**Kurchatov**	**10.82**	**19**	Pn	Pn	16 47 06.4	-1.9
KURK				Lg	Lg	16 50 11.4	
DDI	**Dehra Dun**	**11.00**	**157**	*ex*	Sn	16 49 12.9	+0.1
DDI				AML	AML	16 49 31.6	
	comp=N,332nm,0.4s						
DDI				AML	AML	16 49 32.1	
	comp=E,308nm,0.5s						
VOSK	**Vostochnaya**	**12.22**	**354**	⇓Pn	P	16 47 37.6	-1.6
	comp=E,4.7nm,0.9s						
VOSK				⇓Lg	Lg	16 51 13.4	
	comp=E,41nm,1.2s						
BVA0	**Borovoye Array**	**12.58**	**352**	⇑Pn	P	16 47 44.8	+1.7
	comp=E,5.3nm,0.9s,baz=166,slow=13,SNR=8.8						
BVA0				⇓Lg	Lg	16 51 23.3	
	comp=E,58nm,1.1s						
BVAR	**Borovoye Array**	**12.58**	**352**	P	Pn	16 47 31.0	-1.3
BVAR	**Borovoye Array**	**12.58**	**352**	Pn	Pn	16 47 31.0	-1.3
BVAR	**Borovoye Array**	**12.58**	**352**	Pn	Pn	16 47 31.0	-1.3
	comp=E,0.3nm,0.3s,baz=164,slow=12,SNR=8.1						
BRVK	**Borovoye**	**12.62**	**352**	⇑Pn	P	16 47 43.2	-0.3
	comp=E,9.1nm,0.7s						
BRVK				⇓Lg	Lg	16 51 23.8	
	comp=E,102nm,1.1s						
BRVK	**Borovoye**	**12.62**	**352**	*e*P	Pn	16 47 32.5	-0.3
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BRVK	**Borovoye**	**12.62**	**352**	*e*Pn	Pn	16 47 32.5	-0.3
	comp=Z,6.3nm,0.6s						
AB31	**Akbulak array**	**12.72**	**317**	Pn	P	16 47 47.3	+2.5
	comp=Z,3.9nm,0.5s,baz=131,slow=12,SNR=44						
AB31				⇑Sn	S	16 50 16.6	-3.2
	comp=Z,5.9nm,0.7s						
AB31	**Akbulak array**	**12.72**	**317**	*i* P	Pn	16 47 31.7	-2.6
AB31				pmax	pmax		
	comp=Z,8.0nm,0.5s						
ABKAR	**Akbulak array**	**12.72**	**317**	*e*P	Pn	16 47 30.8	-3.5
	comp=Z,6.2nm,0.5s						
AKTO	**Aktyubinsk**	**14.43**	**318**	P	Pn	16 47 55.1	-2.5
AKTO	**Aktyubinsk**	**14.43**	**318**	Pn	Pn	16 47 55.1	-2.5
AKTO	**Aktyubinsk**	**14.43**	**318**	Pn	Pn	16 47 55.1	-2.5
	comp=Z,0.3nm,0.3s,baz=127,slow=16,SNR=8.7						
DANN	**Dangsing**	**15.02**	**141**	*e*P	Pn	16 48 00.4	-5.4
KOLN	**Koldanda**	**15.43**	**143**	*e*P	Pn	16 48 06.2	-4.9
	comp=Z,13nm,0.4s						
ZAA0	**Zalesovo Array**	**15.51**	**27**	P	Pn	16 48 12.0	+0.3
ZALV	**Zalesovo Beam**	**15.51**	**27**	*e*P	P	16 48 16.3	+0.7
ZALV	**Zalesovo Beam**	**15.51**	**27**	Pn	Pn	16 48 12.4	+0.7
ZALV	**Zalesovo Beam**	**15.51**	**27**	Pn	Pn	16 48 12.4	+0.7
	comp=Z,0.3nm,0.3s,baz=231,slow=9.4,SNR=13						
GKN	**Gorkha**	**15.73**	**139**	*e*P	Pn	16 48 09.6	-5.4
NVS	**Novosibirsk**	**15.77**	**22**	*e*P	Pn	16 48 16.9	+1.8
NVS				*e*S	Sn	16 51 06.7	-1.8
NVS				pmax	pmax		
	comp=N,7.0nm,1.2s						
NVS				pmax	pmax		
	comp=Z,13nm,1.2s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.3s						
NVS				smax	smax		
	comp=N,3.0nm,1.3s						
NVS				smax	smax		
	comp=E,11nm,1.8s						
KKN	**Kakani**	**16.23**	**138**	*e*P	Pn	16 48 17.5	-3.9
DMN	**Daman**	**16.29**	**139**	*e*P	Pn	16 48 18.1	-4.1
GUN	**Gumba**	**16.44**	**136**	*e*P	Pn	16 48 20.6	-3.6
PKIN	**Phulchoki**	**16.46**	**138**	*e*P	Pn	16 48 20.2	-4.2
PKI	**Pulchoki**	**16.48**	**138**	*e*P	Pn	16 48 20.2	-4.4
JIRN	**Jiri**	**16.81**	**136**	*e*P	Pn	16 48 24.4	-4.4
RAMN	**Ramite**	**17.59**	**137**	*e*P	Pn	16 48 34.3	-4.2
BHPL	**Bhopal**	**17.68**	**167**	*e*S	S	16 51 59.4	-2.0
TAPN	**Taplejung**	**17.88**	**133**	*e*P	Pn	16 48 39.5	-2.5
	comp=E,30nm,0.8s						
ODAN	**Odare**	**18.09**	**135**	*e*P	Pn	16 48 41.3	-3.2
SVE	**Sverdlovsk**	**18.17**	**338**	*e*P	Pn	16 48 54.4	+9.4
ARU	**Arti**	**18.49**	**334**	P	Pn	16 48 50.6	+1.7
ARU				S	Sn	16 52 10.3	-4.0
MAK	**Makhachkala**	**19.23**	**286**	*e*P	Pn	16 49 05.2	+7.2
MAK				MLR	MLR		
	comp=Z,491nm,17.0s						
BOK	**Bokaro**	**19.89**	**144**	*e*P	P	16 49 05.2	+1.1
BOK				AML	AML	16 49 06.1	
	comp=Z,3.8nm,0.8s						
GTA	**Gaotai**	**20.46**	**85**	*e*P	Pn	16 49 13.6	+0.9
GTA				pP	pP	16 49 28.3	+8.1
GTA				sP	sP	16 49 34.4	+9.3
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s						
GNI	**Garni**	**21.60**	**278**	*e*P	P	16 49 23.3	+0.7
	comp=Z,19nm,0.8s						
GNI	**Garni**	**21.60**	**278**	P	P	16 49 22.6	0.0
	comp=Z,2.0nm,0.4s,baz=356,slow=22,SNR=3.5						
SHL	**Shillong**	**21.65**	**128**	*e*P	P	16 49 25.0	+1.7
ZEI	**Tsey**	**21.89**	**285**	*e*P	P	16 49 27.4	+1.6
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KBZ	**Khabaz**	**22.57**	**288**	P	P	16 49 33.5	+0.7
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KBZ	**Khabaz**	**22.57**	**288**	P	P	16 49 33.5	+0.7
KBZ	**Khabaz**	**22.57**	**288**	P	P	16 49 33.5	+0.7
	comp=Z,1.1nm,0.7s,baz=153,slow=4.5,SNR=2.9						
KIV	**Kislovodsk**	**22.71**	**289**	*e*P	P	16 49 33.4	-1.0
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ZAK	**Zakamensk**	**23.15**	**55**	*e*P	P	16 49 38.6	-0.3
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
SONM	**Songino Array**	**24.78**	**62**	P	P	16 49 55.9	+1.7
SONM	**Songino Array**	**24.78**	**62**	P	P	16 49 55.9	+1.7
	comp=Z,0.4nm,0.7s,baz=263,slow=12,SNR=4.6						
SONM				LR	LR	17 01 22.5	
	comp=Z,48nm,18.2s,baz=36,slow=41						
VORD	**Divnogorie**	**25.56**	**305**	*e*P	P	16 50 02.6	+1.5
VORD				pmax	pmax		
	comp=E,30nm,0.6s						
VORD				pmax	pmax		
	comp=Z,9.0nm,0.6s						
VSR	**Storozhevoye**	**25.69**	**306**	*e*P	P	16 50 02.3	+0.1
VSR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
VSR				pmax	pmax		
	comp=N,1.0nm,0.2s						
VSR				pmax	pmax		
	comp=E,10.0nm,0.6s						
BRTR	**Keskin Array B**	**30.02**	**281**	P	P	16 50 40.6	-0.6
BRTR	**Keskin Array B**	**30.02**	**281**	P	P	16 50 40.6	-0.6
	comp=E,0.6nm,0.6s,baz=94,slow=9.6,SNR=4.6						
CMAR	**Chiang Mai Arr**	**31.28**	**127**	P	P	16 50 52.8	+0.4
CMAR	**Chiang Mai Arr**	**31.28**	**127**	P	P	16 50 52.8	+0.4
	comp=E,0.1nm,0.3s,baz=325,slow=9.1,SNR=3.0						
AKASG	**Malin Array Be**	**31.88**	**303**	P	P	16 50 57.4	0.0
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	**Malin Array Be**	**31.88**	**303**	P	P	16 50 57.4	0.0
AKASG	**Malin Array Be**	**31.88**	**303**	P	P	16 50 57.4	0.0
	comp=Z,2.3nm,0.7s,baz=80,slow=8.1,SNR=11						
KIEV	**Kiev**	**31.89**	**303**	*e*P	P	16 50 56.8	-0.6
FINES	**FINESS Array B**	**35.14**	**322**	P	P	16 51 24.9	-0.7
FINES	**FINESS Array B**	**35.14**	**322**	P	P	16 51 24.9	-0.7
	comp=Z,1.6nm,0.8s,baz=31,slow=12,SNR=4.3						
ARCES	**ARCESS Array B**	**38.07**	**335**	P	P	16 51 50.6	+0.2
ARCES	**ARCESS Array B**	**38.07**	**335**	P	P	16 51 50.6	+0.2
	comp=Z,2.9nm,0.8s,baz=99,slow=7.5,SNR=9.6						
TIXI	**Tiksi**	**41.36**	**23**	*e*P	P	16 52 25.8	+8.1
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.0s						
CLL	**Coilm**	**42.04**	**306**	*i* sP	sP	16 52 40.6	+1.3
GERES	**GERESS Array B**	**42.06**	**302**	P	P	16 52 24.4	+0.5
GERES	**GERESS Array B**	**42.06**	**302**	P	P	16 52 24.4	+0.5
	comp=Z,1.4nm,0.7s,baz=64,slow=6.8,SNR=10						
KHC	**Kasperske Hory**	**42.08**	**302**	*e*P	P	16 52 23.8	-0.2
KSRS	**Korea Array**	**42.11**	**76**	LR	LR	17 11 06.3	
	comp=Z,25nm,18.4s,baz=205,slow=38						
NB2	**NORSAR Subarra**	**42.21**	**320**	P	P	16 52 25.5	+0.7
	comp=Z,2.8nm,0.9s,baz=90,slow=7.9						
NOA	**NORSAR Array B**	**42.21**	**320**	P	P	16 52 24.7	-0.2
NOA	**NORSAR Array B**	**42.21**	**320**	P	P	16 52 24.7	-0.2
	comp=Z,1.1nm,0.8s,baz=88,slow=8.0,SNR=3.2						
SUMG	**Summit**	**57.75**	**341**	*i* P	P	16 54 13.8	-9.1
SUMG				pmax	pmax		
	comp=Z,9.0nm,0.8s						
TOA0	**Torodi Ar. Sit**	**67.50**	**268**	*e*P	P	16 55 27.1	-1.2
TORD	**Torodi Ar. Bea**	**67.50**	**268**	P	P	16 55 27.4	-0.9
TORD	**Torodi Ar. Bea**	**67.50**	**268**	P	P	16 55 27.4	-0.9
	comp=Z,1.1nm,0.5s,baz=46,slow=5.4,SNR=20						
ILAR	**Eielson Array**	**70.39**	**17**	P	P	16 55 46.0	+0.4
ILAR	**Eielson Array**	**70.39**	**17**	P	P	16 55 46.0	+0.4
	comp=Z,0.9nm,1.0s,baz=326,slow=5.7,SNR=5.8						
YKA	**Yellowknife Ar**	**77.07**	**4**	P	P	16 56 25.8	+1.1
YKA	**Yellowknife Ar**	**77.07**	**4**	P	P	16 56 25.8	+1.1
	comp=Z,1.0nm,0.6s,baz=349,slow=5.9,SNR=3.6						
WRA	**Warramunga Arr**	**82.81**	**124**	P	P	16 56 55.9	-0.4
	comp=Z,0.9nm,0.9s,baz=326,slow=4.7,SNR=4.0						
WRAB	**Tennant Creek**	**82.81**	**124**	*e*P	P	16 56 55.8	-0.5
WRAB	**Tennant Creek**	**82.81**	**124**	*e*P	P	16 56 55.8	-0.5
ASAR	**Alice Springs**	**85.29**	**127**	P	P	16 57 08.2	-0.7
ASAR	**Alice Springs**	**85.29**	**127**	P	P	16 57 08.2	-0.7
	comp=Z,0.4nm,0.7s,baz=316,slow=5.2,SNR=7.2						

*IDC **20** 16:44:44.6±0.7, 40°.46N×73°.21E, h0km, mb4.1/15, mb1 4.3/21, mb1mx4.1/34, mbtmp4.1/21, ML4.1/6, Error ellipse: s-maj=13.2km s-min=10.2km az=143.0*
*ISCJB **20** 16:44:47.9±0.5, 40°.73N±0°.07×73°.20E±0°.06, h27km, mb4.1/18, Error ellipse: s-maj=10.1km s-min=6.8km az=176.0*

ISC 20 16:44:48.7±0.6, 40°.53N±0°.06×73°.25E±0°.05, h27km, n36, σ1§47/39, mb4.2/18, 6C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**2.30**	**24**	Pn	Pb	16 45 28.9	-0.7
	143nm,0.3s,baz=192,slow=6.6,SNR=20						
AAK				Lg	Lg	16 46 00.4	
	372nm,0.3s,baz=349,slow=17,SNR=16						
KSH	**Kashi**	**2.33**	**115**	Pn	Pb	16 45 28.8	-1.2
KSH				Sn	Sb	16 45 59.8	+1.4
KSH				SMN			
	2μm,0.6s						
KSH				SME			
	2μm,0.4s						
TKM2	**Tokmak 2**	**2.97**	**36**	Pg	Pb	16 45 38.2	-2.8
KK31	**Karatay Array**	**3.29**	**322**	⇑Pg	Pb	16 45 45.8	-0.5
	63nm,0.4s,baz=131,slow=16,SNR=8.9						
KK31				⇑Lg	Lg	16 46 27.5	
	192nm,0.5s,baz=134,slow=29						
KNDC	**Almaty**	**3.86**	**45**	⇑Pn	Pn	16 45 43.6	-2.8
KNDC				⇑Lg	Lg	16 46 37.7	
AAA	**Alma-Ata**	**3.89**	**44**	*e*PN	Pn	16 45 44.9	-1.9
AAA				*e*S	Sn	16 46 35.7	+4.1
AAA				pmax	pmax		
	comp=N,76nm,0.7s						
AAA				smax	smax		
	comp=E,681nm,0.8s						
MK31	**Makanchi Array**	**9.06**	**43**	⇓Pn	Pn	16 46 58.6	+0.9
	comp=E,6.9nm,0.7s,baz=225,slow=14,SNR=7.9						
MK31				⇓Lg	Lg	16 49 24.0	
	comp=E,10nm,0.8s,baz=225,slow=24,SNR=4.1						
MKAR	**Makanchi Array**	**9.06**	**43**	Pn	Pn	16 46 57.2	-0.5
	comp=E,1.0nm,0.3s,baz=223,slow=14,SNR=17						
KURBB	**Kurchatov Arra**	**10.75**	**18**	⇑Pn	Pn	16 47 20.4	-0.4
	comp=E,5.0nm,0.6s						
KURBB				⇑Lg	Lg	16 50 26.6	
	comp=E,112nm,0.8s						
KURBB	**Kurchatov Arra**	**10.75**	**18**	Pn	Pn	16 47 20.6	-0.2
	comp=E,0.6nm,0.3s,baz=208,slow=13,SNR=13						
BVAR	**Borovoye Array**	**12.65**	**352**	Pn	Pn	16 47 45.9	-0.9
	comp=E,0.9nm,0.3s,baz=161,slow=14,SNR=12						
AKTO	**Aktyubinsk**	**14.54**	**318**	⇓Pn	Pn	16 48 10.6	-2.0
	comp=E,7.2nm,0.7s						
AKTO				⇓Sn	Sn	16 50 56.6	+3.8
	comp=E,5.0nm,0.8s						
AKTO	**Aktyubinsk**	**14.54**	**318**	Pn	Pn	16 48 10.9	-1.6
	comp=E,0.7nm,0.3s,baz=144,slow=22,SNR=8.0						
ZALV	**Zalesovo Beam**	**15.53**	**26**	Pn	Pn	16 48 25.1	-0.5
	comp=E,0.3nm,0.3s,baz=219,slow=12,SNR=5.0						
HVS	**Khovu-Aksy**	**17.71**	**46**	*e*P	P	16 48 55.6	+1.6
GNI	**Garni**	**21.70**	**278**	P	P	16 49 36.7	-0.9
	comp=E,9.3nm,0.8s,baz=6.7,slow=7.9,SNR=5.9						
KBZ	**Khabaz**	**22.67**	**288**	P	P	16 49 48.1	+0.3
	comp=E,3.1nm,0.7s,baz=202,slow=6.9,SNR=5.8						
SONM	**Songino Array**	**24.73**	**62**	P	P	16 50 08.7	+0.9
	comp=E,1.2nm,0.8s,baz=264,slow=10,SNR=7.1						
BRTR	**Keskin Array B**	**30.12**	**282**	P	P	16 50 56.2	0.0
	comp=E,1.1nm,0.7s,baz=100,slow=7.8,SNR=6.4						
CMAR	**Chiang Mai Arr**	**31.17**	**127**	P	P	16 51 06.9	+1.4
	comp=E,0.4nm,0.7s,baz=324,slow=8.3,SNR=4.9						
AKASG	**Malin Array Be**	**31.99**	**303**	P	P	16 51 12.1	-0.4
	comp=E,1.3nm,0.4s,baz=79,slow=8.4,SNR=12						
FINES	**FINESS Array B**	**35.25**	**322**	P	P	16 51 39.7	-0.9
	comp=E,2.4nm,0.6s,baz=115,slow=9.2,SNR=9.5						
ARCES	**ARCESS Array B**	**38.16**	**335**	P	P	16 52 05.0	-0.4
	comp=E,7.1nm,0.8s,baz=104,slow=8.1,SNR=12						
YAK	**Yakutsk**	**39.69**	**38**	*e*P	P	16 52 17.6	-0.6
GERES	**GERESS Array B**	**42.17**	**302**	P	P	16 52 39.7	+0.8
	comp=E,2.7nm,0.6s,baz=65,slow=7.8,SNR=15						
NOA	**NORSAR Array B**	**42.31**	**320**	P	P	16 52 38.9	-1.0
	comp=E,1.7nm,0.7s,baz=91,slow=8.1,SNR=6.1						
CDF	**Champ du Feu**	**46.41**	**303**	*e*P	P	16 53 13.1	+0.3
	comp=E,7.9nm,0.9s						
HAU	**Haudompre**	**47.12**	**303**	*e*P	P	16 53 19.6	+1.3
	comp=E,6.6nm,0.7s						
LPG	**La Plagne**	**47.63**	**299**	*e*P	P	16 53 23.4	+0.8
LPL	**La Plagne**	**47.63**	**299**	*e*P	P	16 53 23.6	+1.0
AVF	**Avril sur Loir**	**49.43**	**302**	*e*P	P	16 53 35.8	-0.3
	comp=E,14nm,1.0s						
TORD	**Torodi Ar. Bea**	**67.59**	**268**	P	P	16 55 42.3	-0.9
	comp=E,2.5nm,0.5s,baz=48,slow=5.5,SNR=24						
ILAR	**Eielson Array**	**70.42**	**17**	P	P	16 56 00.2	+0.2

PMRV	**Marv??o**	**5.45**	**65**	*e*Pn		Pn	17 00 39.7	+0.1
PMRV				*e*Sn		Sn	17 01 42.4	0.0
PMRV				A		A	17 01 47.0	
	2.0nm,0.3s							
PMRV	**Marv??o**	**5.45**	**65**	P		Pn	17 00 39.7	+0.1
PMRV				S		Sn	17 01 42.4	0.0
	2.0nm,0.3s							
PMRV	**Marv??o**	**5.45**	**65**	P		Pn	17 00 39.7	+0.1
PMRV				S		Sn	17 01 42.4	0.0
	2.0nm,0.3s							
EBAD	**Badajoz**	**5.54**	**73**	P		Pn	17 00 40.6	-0.1
	1.5nm,0.6s,SNR=7.9							
EBAD				S		Sn	17 01 43.7	-0.8
	4.0nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**5.54**	**73**	P		Pn	17 00 40.6	-0.2
	1.5nm,0.6s,SNR=7.9							
EBAD				S		Sn	17 01 43.7	-0.8
	4.0nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**5.67**	**83**	P		Pn	17 00 42.5	-0.1
	5.8nm,0.9s,SNR=7.9							
EMIN				S		Sn	17 01 47.0	-0.7
	2.0nm,0.4s,SNR=7.9							
EMIN	**Mina Concepcio**	**5.67**	**83**	P		Pn	17 00 42.5	-0.1
	5.8nm,0.9s,SNR=7.9							
EMIN				S		Sn	17 01 47.0	-0.7
	2.0nm,0.4s,SNR=7.9							
EADA	**Adamuz**	**7.34**	**80**	P		Pn	17 01 05.6	-0.1
	1.8nm,0.6s,SNR=7.9							
EADA				S		Sn	17 02 28.1	-1.0
	2.2nm,0.7s,SNR=7.9							
EADA	**Adamuz**	**7.34**	**80**	P		Pn	17 01 05.6	0.0
	1.8nm,0.6s,SNR=7.9							
EADA				S		Sn	17 02 28.1	-1.0
	2.2nm,0.7s,SNR=7.9							

*ISCJB **20** 17:01:23.7±0.6,51°.68N±0°.08×173°.71W±0°.04, h48km±4km, mb4.2/36, MS3.7/3, Error ellipse: s-maj=14.0km s-min=3.9km az=170.0*
*IDC **20** 17:01:25.5±0.6,51°.76N×173°.76W, h49km±5km, mb3.9/26, mb1 4.0/28, mb1mx4.0/32, mbtmp3.9/28, MS3.4/5, Ms1 3.4/5, ms1mx3.1/44, Error ellipse: s-maj=17.3km s-min=9.5km az=165.0*
*NEIC **20** 17:01:25.0±0.5,51°.71N×173°.76W, h47km±4km, mb4.3/10, ML4.2(AEIC), Error ellipse: s-maj=10.1km s-min=3.3km az=167.0*

ISC 20 17:01:25.4±0.7, 51°.67N±0°.09×173°.78W±0°.04, h51km±5km, n129, σ6°95/150, mb4.2/36, MS3.7/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOFP	**Korovin Flat P**	**0.63**	**342**	P	**Pn**	**17 01 38.0**	**-0.4**
KOSE	**Korovin Southe**	**0.69**	**346**	P	**Pn**	**17 01 39.2**	**0.0**
GSMY	**Great Sitkin M**	**1.46**	**286**	P	**Pn**	**17 01 48.0**	**-1.4**
GSMY				S	**Sn**	**17 02 08.2**	**+0.9**
GSTR	**Great Sitkin T**	**1.47**	**288**	*e*Pn	**Pn**	**17 01 49.4**	**-0.1**
GSTD	**Great Sitkin T**	**1.51**	**286**	P	**Pn**	**17 01 48.5**	**-1.7**
GSTD				S	**Sn**	**17 02 10.6**	**+1.9**
GSCK	**Great Sitkin C**	**1.52**	**284**	P	**Pn**	**17 01 48.6**	**-1.5**
ETKA	**Kagalaska Isla**	**1.64**	**278**	P	**Pn**	**17 01 50.3**	**-1.5**
ETKA				S	**Sn**	**17 02 11.5**	**-0.3**
ADAG	**Mount Adagdak**	**1.78**	**281**	P	**Pn**	**17 01 53.4**	**-0.3**
ADK	**Adak**	**1.81**	**278**	P	**Pn**	**17 01 52.6**	**-1.6**
ADK				S	**Sn**	**17 02 16.1**	**+0.2**
KIRH	**Kanaga Island**	**2.07**	**278**	P	**Pn**	**17 01 57.1**	**-0.5**
KINC	**Kanaga Island**	**2.09**	**278**	P	**Pn**	**17 01 57.6**	**-0.4**
KIKV	**Kanaga Island**	**2.12**	**277**	P	**Pn**	**17 01 57.7**	**-0.6**
KICM	**Kanaga Island**	**2.13**	**278**	P	**Pn**	**17 01 58.1**	**-0.4**
TAPA	**Tanaga Point A**	**2.51**	**275**	P	**Pn**	**17 02 03.1**	**-0.6**
TAFP	**Tanaga Falls P**	**2.62**	**277**	P	**Pn**	**17 02 05.3**	**+0.1**
TAFP				S	**Sn**	**17 02 36.1**	**+0.3**
TASE	**Tanaga Southea**	**2.65**	**275**	P	**Pn**	**17 02 05.4**	**-0.3**
TANO	**Tanaga North**	**2.71**	**277**	P	**Pn**	**17 02 06.3**	**-0.1**
GAEA	**Gareloi East**	**3.09**	**274**	P	**Pn**	**17 02 12.1**	**+0.5**
GALAA	**Gareloi Lava P**	**3.10**	**274**	P	**Pn**	**17 02 12.4**	**+0.6**
GANE	**Gareloi Northe**	**3.11**	**275**	P	**Pn**	**17 02 12.3**	**+0.4**
NIKH	**Nikolski High**	**3.29**	**65**	P	**Pn**	**17 02 14.0**	**-0.4**
NIKH				S	**Sn**	**17 02 56.1**	**+3.8**
OKSP	**Okmok Steeple**	**3.71**	**63**	P	**Pn**	**17 02 20.7**	**+0.5**
OKTU	**Okmok Mt. Tuli**	**3.90**	**62**	P	**Pn**	**17 02 24.3**	**+1.5**
AMKA	**Amchitka**	**4.33**	**269**	*e*Pn	**Pn**	**17 02 27.3**	**-1.4**
AMKA				*e*Sn	**Sn**	**17 03 20.6**	**+2.8**
LSSE	**Little Sitkin**	**4.75**	**276**	P	**Pn**	**17 02 35.0**	**+0.5**
LSSA	**Little Sitkin**	**4.79**	**276**	P	**Pn**	**17 02 33.5**	**-1.5**
UNV	**Unalaska Valle**	**4.93**	**61**	P	**Pn**	**17 02 36.2**	**-0.6**
AKUT	**Akutan**	**5.44**	**60**	*e*Pn	**Pn**	**17 02 43.5**	**-0.3**
FX1	**Attu Island--F**	**8.10**	**284**	*e*Pn	**Pn**	**17 03 21.9**	**+1.7**
FX1	**Attu Island--F**	**8.10**	**284**	P	**Pn**	**17 03 22.6**	**+2.4**
	5.6nm,0.3s,baz=247,slow=13,SNR=30						
FX1				LR	LR	17 06 16.9	
	comp=Z,135nm,21.0s,baz=308,slow=36						
SEW	**Seward**	**15.96**	**49**	*e*Pn	**Pn**	**17 05 04.6**	**-1.7**
PEA0B	**Petropavlovsk-**	**17.42**	**286**	*e*Pn	**P**	**17 05 26.6**	**+1.4**
PETK	**Petropavlovsk-**	**17.42**	**286**	P	**P**	**17 05 25.6**	**+0.3**
PETK	**Petropavlovsk-**	**17.42**	**286**	P	**P**	**17 05 25.6**	**+0.3**
	0.7nm,0.3s,baz=94,slow=14,SNR=9.2						
PETK				LR	LR	17 11 26.0	
	comp=Z,54nm,18.4s,baz=253,slow=34						
BMRM	**Bremner River**	**18.51**	**49**	*e*Pn	**P**	**17 05 35.9**	**-1.4**
ILAR	**Eielson Array**	**19.10**	**36**	P	**P**	**17 05 41.9**	**-1.7**
ILAR				PcP	**PcP**	**17 10 05.5**	**-0.2**
ILAR				pPcP		17 10 18.9	
ILAR	**Eielson Array**	**19.10**	**36**	P	**P**	**17 05 41.9**	**-1.7**
	1.2nm,0.3s,baz=232,slow=9.0,SNR=68						
ILAR				PcP	**PcP**	**17 10 05.5**	**-0.2**
	0.0nm,0.3s,baz=265,slow=3.0,SNR=2.8						
ILAR				pPcP		17 10 18.9	
	0.0nm,0.3s,baz=262,slow=3.0,SNR=3.0						
COLD	**Coldfoot**	**19.45**	**28**	P	**Pn**	**17 05 48.4**	**-0.6**
INK	**Inuvik**	**25.44**	**34**	P	**P**	**17 06 47.1**	**-0.9**
INK				pP	**pP**	**17 07 01.2**	**+0.4**
INK	**Inuvik**	**25.44**	**34**	P	**P**	**17 06 47.1**	**-0.9**
	4.8nm,0.9s,baz=250,slow=9.7,SNR=5.6						
INK				pP	**pP**	**17 07 01.2**	**+0.4**
	4.0nm,0.6s,baz=212,slow=8.6,SNR=4.8						
DLBC	**Dease Lake**	**25.57**	**57**	P	**P**	**17 06 49.7**	**+0.3**
DLBC	**Dease Lake**	**25.57**	**57**	P	**P**	**17 06 49.7**	**+0.3**
	5.2nm,0.7s,baz=254,slow=13,SNR=8.9						
ASAJ	**Asahikawa**	**29.83**	**273**	P	**P**	**17 07 28.2**	**+0.7**
ASAJ	**Asahikawa**	**29.83**	**273**	P	**P**	**17 07 28.2**	**+0.7**
	21nm,1.2s,baz=284,slow=19,SNR=4.0						
YKA	**Yellowknife Ar**	**32.74**	**47**	P	**P**	**17 07 52.6**	**-0.3**
YKA				PcP	**PcP**	**17 10 37.9**	**+0.9**
YKA				pPcP		17 10 50.5	
YKA	**Yellowknife Ar**	**32.74**	**47**	P	**P**	**17 07 52.6**	**-0.3**
	0.6nm,0.5s,baz=274,slow=9.2,SNR=3.4						
YKA				PcP	**PcP**	**17 10 37.9**	**+0.9**
	0.8nm,0.5s,baz=286,slow=3.1,SNR=4.1						
YKA				pPcP		17 10 50.5	
	1.0nm,0.6s,baz=284,slow=3.5,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**35.30**	**213**	T	T	17 46 05.6	
	baz=23,slow=0.7,SNR=23						
H11N3	**WAKE ISLAND Hy**	**35.31**	**213**	T	T	17 46 09.9	
	baz=23,slow=0.7,SNR=21						
H11N1	**WAKE ISLAND Hy**	**35.32**	**213**	T	T	17 46 08.2	
	baz=23,slow=0.7,SNR=20						
EDM	**Edmonton**	**35.91**	**63**	*e*P	**P**	**17 08 20.4**	**-0.1**
USRK	**Ussuriysk Arra**	**36.35**	**280**	P	**P**	**17 08 24.6**	**+0.3**
	4.0nm,0.6s,baz=63,slow=9.0,SNR=9.5						
H11S1	**WAKE ISLAND Hy**	**36.50**	**212**	T	T	17 47 32.2	
	baz=20,slow=0.7,SNR=25						
H11S2	**WAKE ISLAND Hy**	**36.52**	**212**	T	T	17 47 35.2	
	baz=20,slow=0.7,SNR=24						
H11S3	**WAKE ISLAND Hy**	**36.52**	**212**	T	T	17 47 33.8	
	baz=20,slow=0.7,SNR=12						
MJAR	**Matsushiro Arr**	**36.93**	**265**	P	**P**	**17 08 29.5**	**+0.2**
MJAR	**Matsushiro Arr**	**36.93**	**265**	P	**P**	**17 08 29.5**	**+0.2**
	1.0nm,0.6s,baz=71,slow=9.2,SNR=2.9						
BSMT	**Bassoo Peak**	**37.40**	**72**	*e*P	**P**	**17 08 33.4**	**0.0**
	4.1nm,0.8s						
BLMT	**Blacktail Moun**	**37.58**	**71**	*e*P	**P**	**17 08 34.6**	**-0.3**
	6.9nm,0.7s						
MCMT	**McKenzie Canyo**	**40.09**	**75**	*e*P	**P**	**17 08 55.9**	**-0.1**
	2.3nm,0.6s						
EGMT	**Eagleton**	**40.27**	**69**	*e*P	**P**	**17 08 57.8**	**+0.5**
	14nm,1.0s						
NVAR	**Mina Array Bea**	**40.40**	**87**	P	**P**	**17 08 57.8**	**-0.8**
NVAR	**Mina Array Bea**	**40.40**	**87**	P	**P**	**17 08 57.8**	**-0.8**
	0.7nm,0.6s,baz=312,slow=9.5,SNR=2.6						
RRI2	**Red Ridge**	**41.82**	**76**	*e*P	P	17 09 03.7	-6.6
	3.4nm,0.9s						
RLMT	**Red Lodge**	**42.07**	**73**	*e*P	**P**	**17 09 12.9**	**+0.7**
	3.8nm,0.8s						
KSRS	**Korea Array**	**42.76**	**274**	P	**P**	**17 09 17.9**	**+0.4**
	6.5nm,0.8s,baz=54,slow=7.8,SNR=17						
KSAR	**Wonju Array Be**	**42.79**	**274**	P	**P**	**17 09 17.9**	**+0.1**
BW06	**Boulder Array**	**43.22**	**76**	*e*P	**P**	**17 09 21.0**	**-0.6**
	2.8nm,0.6s						
PDAR	**Pinedale Array**	**43.22**	**76**	P	**P**	**17 09 21.4**	**-0.1**
PDAR				pP	**pP**	**17 09 35.2**	**+0.2**
PDAR	**Pinedale Array**	**43.22**	**76**	P	**P**	**17 09 21.4**	**-0.1**
	3.2nm,1.0s,baz=318,slow=3.1,SNR=19						
PDAR				pP	**pP**	**17 09 35.2**	**+0.2**
	2.7nm,0.5s,baz=316,slow=2.5,SNR=9.0						
ULM	**Lac du Bonnet**	**46.87**	**59**	P	**P**	**17 09 49.3**	**-0.8**
ULM	**Lac du Bonnet**	**46.87**	**59**	P	**P**	**17 09 49.3**	**-0.8**
	2.0nm,0.4s,baz=305,slow=7.3,SNR=4.2						
SONM	**Songino Array**	**49.28**	**299**	P	**P**	**17 10 09.5**	**+0.6**
SONM	**Songino Array**	**49.28**	**299**	P	**P**	**17 10 09.5**	**+0.6**
	1.8nm,0.6s,baz=50,slow=7.3,SNR=13						
SONM				LR	LR	17 31 48.6	
	comp=Z,48nm,21.4s,baz=62,slow=37						
SPITS	**Spitsbergen Ar**	**50.26**	**357**	LR	LR	17 31 41.2	
	comp=Z,77nm,20.6s,baz=125,slow=36						
TXAR	**Lajitas Array**	**55.51**	**85**	P	**P**	**17 10 57.0**	**+1.7**
TXAR	**Lajitas Array**	**55.51**	**85**	P	**P**	**17 10 57.0**	**+1.7**
	0.6nm,0.7s,baz=295,slow=6.8,SNR=2.8						
ZALV	**Zalesovo Beam**	**56.06**	**316**	P	**P**	**17 10 58.2**	**-0.5**
ZALV				PcP	**PcP**	**17 11 56.5**	**+0.2**
ZALV	**Zalesovo Beam**	**56.06**	**316**	P	**P**	**17 10 58.2**	**-0.5**
	0.2nm,0.3s,baz=53,slow=9.6,SNR=2.2						
ZALV				PcP	**PcP**	**17 11 56.5**	**+0.2**
	1.4nm,0.6s,baz=44,slow=3.5,SNR=7.8						
SCHQ	**Schefferville**	**57.78**	**41**	P	**P**	**17 11 09.3**	**-1.6**
SCHQ	**Schefferville**	**57.78**	**41**	P	**P**	**17 11 09.3**	**-1.6**
	1.8nm,0.7s,baz=297,slow=9.0,SNR=3.2						
ARCES	**ARCESS Array B**	**58.28**	**352**	P	**P**	**17 11 12.7**	**-1.5**
ARCES				PcP	**PcP**	**17 12 05.0**	**+0.1**
ARCES	**ARCESS Array B**	**58.28**	**352**	P	**P**	**17 11 12.7**	**-1.5**
	1.2nm,0.5s,baz=26,slow=7.1,SNR=14						
ARCES				PcP	**PcP**	**17 12 05.0**	**+0.1**
	4.2nm,0.8s,baz=20,slow=3.9,SNR=5.4						
MK31	**Makanchi Array**	**62.25**	**311**	*e*P	**P**	**17 11 41.1**	**-0.7**
MKAR	**Makanchi Array**	**62.25**	**311**	P	**P**	**17 11 41.4**	**-0.4**
MKAR				PcP	**PcP**	**17 12 21.8**	**+0.7**
MKAR	**Makanchi Array**	**62.25**	**311**	P	**P**	**17 11 41.4**	**-0.4**
	0.9nm,0.6s,baz=45,slow=6.9,SNR=13						
MKAR				PcP	**PcP**	**17 12 21.8**	**+0.7**
	0.6nm,0.7s,baz=57,slow=5.8,SNR=2.8						
BVAR	**Borovoye Array**	**62.63**	**322**	LR	LR	17 42 27.4	
	comp=Z,73nm,19.4s,baz=62,slow=39						
FINES	**FINESS Array B**	**66.12**	**350**	P	**P**	**17 12 05.7**	**-1.0**
FINES	**FINESS Array B**	**66.12**	**350**	P	**P**	**17 12 05.7**	**-1.0**
	1.2nm,0.6s,baz=359,slow=8.1,SNR=8.7						
NOA	**NORSAR Array B**	**67.57**	**357**	P	**P**	**17 12 15.9**	**-0.1**
NOA	**NORSAR Array B**	**67.57**	**357**	P	**P**	**17 12 15.9**	**-0.1**
	0.3nm,0.6s,baz=338,slow=4.4,SNR=3.1						
EKS2	**Erkin-Say**	**69.33**	**313**	*e*P	**P**	**17 12 28.2**	**+0.8**
	3.5nm,0.6s						
ABKAR	**Akbulak array**	**69.53**	**326**	*e*P	**P**	**17 12 28.5**	**+0.2**
	1.3nm,0.4s						
LSA	**Lhasa**	**70.25**	**293**	*e*P	**P**	**17 12 35.4**	**+1.7**
	11nm,0.6s						
TAPN	**Taplejung**	**74.00**	**294**	*e*P	**P**	**17 12 57.1**	**+1.2**
	29nm,0.7s						
CMAR	**Chiang Mai Arr**	**74.08**	**280**	P	**P**	**17 12 57.5**	**+1.3**
CMAR				pP	**PcP**	**17 13 10.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**74.08**	**280**	P	**P**	**17 12 57.5**	**+1.3**
	1.8nm,0.7s,baz=22,slow=7.0,SNR=20						
CMAR				pP	**PcP**	**17 13 10.6**	**-0.5**
	1.3nm,0.7s,baz=18,slow=5.9,SNR=5.2						
ODAN	**Odare**	**74.56**	**294**	*e*P	**P**	**17 12 59.9**	**+0.8**
	7.3nm,0.5s						
GUN	**Gumba**	**74.61**	**295**	*e*P	**P**	**17 13 00.7**	**+1.2**
	29nm,0.5s						
JIRN	**Jiri**	**74.62**	**295**	*e*P	**P**	**17 13 00.9**	**+1.3**
	43nm,0.7s						
RAMN	**Ramite**	**74.94**	**294**	*e*P	**P**	**17 13 02.2**	**+0.9**
	46nm,0.6s						
KKN	**Kakani**	**75.04**	**296**	*e*P	**P**	**17 13 02.8**	**+1.0**
PKI	**Pulchoki**	**75.13**	**296**	*e*P	**P**	**17 13 03.2**	**+0.7**
PKIN	**Phulchoki**	**75.14**	**296**	*e*P	**P**	**17 13 03.2**	**+0.7**
GKN	**Gorkha**	**75.23**	**296**	*e*P	**P**	**17 13 03.6**	**+0.7**
	22nm,0.5s						
DMN	**Daman**	**75.27**	**296**	*e*P	**P**	**17 13 04.2**	**+0.9**
	22nm,1.0s						
DANN	**Dangsing**	**75.45**	**297**	*e*P	**P**	**17 13 05.3**	**+1.0**
	44nm,0.7s						
KOLN	**Koldanda**	**75.99**	**297**	*e*P	**P**	**17 13 08.1**	**+0.8**
	12nm,0.6s						
AKASG	**Malin Array Be**	**76.15**	**345**	P	**P**	**17 13 06.7**	**-0.8**
AKASG	**Malin Array Be**	**76.15**	**345**	P	**P**	**17 13 06.7**	**-0.8**
	1.2nm,0.3s,baz=16,slow=6.0,SNR=7.1						
CLL	**Collm**	**77.23**	**356**	*i* P	**P**	**17 13 13.7**	**+0.1**
GERES	**GERESS Array B**	**79.66**	**355**	P	**P**	**17 13 27.4**	**+0.2**
GERES	**GERESS Array B**	**79.66**	**355**	P	**P**	**17 13 27.4**	**+0.2**
	1.0nm,0.7s,baz=28,slow=6.0,SNR=8.0						
KBZ	**Khabaz**	**79.81**	**334**	P	**P**	**17 13 27.1**	**-0.8**
KBZ	**Khabaz**	**79.81**	**334**	P	**P**	**17 13 27.1**	**-0.8**
	2.5nm,0.9s,baz=87,slow=6.8,SNR=5.1						
WRA	**Warramunga Arr**	**84.47**	**228**	P	**P**	**17 13 51.6**	**-1.0**
WRA				pP	**pP**	**17 14 06.2**	**-1.1**
WRA	**Warramunga Arr**	**84.47**	**228**	P	**P**	**17 13 51.6**	**-1.0**
	0.5nm,0.7s,baz=32,slow=5.7,SNR=6.0						
WRA				pP	**pP**	**17 14 06.2**	**-1.1**
	0.6nm,0.6s,baz=36,slow=6.2,SNR=3.3						
BRTR	**Keskin Array B**	**85.88**	**339**	P	**P**	**17 14 00.6**	**+0.9**
BRTR	**Keskin Array B**	**85.88**	**339**	P	**P**	**17 14 00.6**	**+0.9**
	1.3nm,0.8s,baz=57,slow=3.4,SNR=8.4						
ASAR	**Alice Springs**	**87.90**	**227**	P	**P**	**17 14 09.2**	**-0.1**
ASAR				pP	**pP**	**17 14 23.9**	**-0.2**
ASAR	**Alice Springs**	**87.90**	**227**	P	**P**	**17 14 09.2**	**-0.1**
	1.3nm,0.8s,baz=28,slow=4.5,SNR=17						
ASAR				pP	**pP**	**17 14 23.9**	**-0.2**
	0.8nm,0.6s,baz=27,slow=4.6,SNR=4.8						
STKA	**Stephens Creek**	**91.96**	**217**	P	**P**	**17 14 28.1**	**0.0**
STKA	**Stephens Creek**	**91.96**	**217**	P	**P**	**17 14 28.1**	**0.0**
	2.1nm,0.8s,baz=153,slow=10,SNR=3.5						
TORD	**Torodi Ar. Bea**	**115.33**	**5**	PKP	**PKPdf**	**17 20 00.1**	**-1.4**
TORD	**Torodi Ar. Bea**	**115.33**	**5**	PKP	**PKPdf**	**17 20 00.1**	**-1.4**
	0.4nm,0.8s,baz=311,slow=1.4,SNR=2.8						
TSUM	**Tsumeb**	**146.38**	**340**	*e*PKPdf	**PKPbc**	**17 21 00.9**	**+0.2**
MAW	**Mawson**	**148.64**	**218**	PKPbc	**PKPbc**	**17 21 05.7**	**+0.5**
MAW	**Mawson**	**148.64**	**218**	PKPbc	**PKPbc**	**17 21 05.7**	**+0.5**
	1.9nm,0.8s,baz=14,slow=0.5,SNR=7.2						
BOSA	**Boshof**	**152.91**	**321**	*e*PKPdf	**PKPdf**	**17 21 08.9**	**-0.6**
BOSA				PKPbc	**PKPbc**	**17 21 16.9**	**+0.2**
BOSA				PKPab	**PKPab**	**17 21 28.0**	**0.0**
BOSA	**Boshof**	**152.91**	**321**	PKPbc	**PKPbc**	**17 21 16.9**	**+0.2**
	1.8nm,0.5s,baz=275,slow=7.5,SNR=7.2						
BOSA				PKPab	**PKPab**	**17 21 28.0**	**0.0**
	4.0nm,0.9s,baz=43,slow=3.3,SNR=5.5						

IDC 20 17:42:11.4±0.7, 28°.88S×179°.35W, h374km±7km, mb3.3/5, mb1 3.6/6, mb1mx3.3/18, mbtmp3.4/6, Error ellipse: s-maj=23.1km s-min=17.7km az=165.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.30**	**107**	P	Pn	17 43 01.9	+1.0
	85nm,0.3s,baz=81,slow=19,SNR=5.8						
RAO				S	S	17 43 40.8	0.0
	148nm,0.3s,baz=74,slow=23,SNR=4.3						
URZ	**Urewera**	**9.81**	**197**	P	Pn	17 44 25.3	-1.6
	16nm,0.3s,baz=266,slow=2.4,SNR=29						
URZ				S	S	17 46 10.9	-7.2
	7.1nm,0.3s,baz=28,slow=22,SNR=12						
DZM	**Mont Dzumac**	**14.51**	**295**	P	Pn	17 45 23.2	+1.1
	0.4nm,0.3s,baz=134,slow=18,SNR=3.6						
STKA	**Stephens Creek**	**33.71**	**255**	P	P	17 48 19.6	+0.5
	0.6nm,0.3s,baz=337,slow=11,SNR=7.1						
ASAR	**Alice Springs**	**42.03**	**266**	P	P	17 49 27.9	-0.2
	1.0nm,0.6s,baz=98,slow=6.4,SNR=33						
WRA	**Warramunga Arr**	**42.88**	**271**	P	P	17 49 34.5	-0.3
	1.1nm,0.3s,baz=109,slow=8.0,SNR=68						
QSPA	**South Pole Qui**	**61.22**	**180**	P	P	17 51 48.3	+0.5
	0.8nm,0.8s,baz=230,slow=8.5,SNR=5.0						
NVAR	**Mina Array Bea**	**87.94**	**43**	P	P	17 54 20.5	+0.5
FINES	**FINESS Array B**	**143.32**	**340**	PKP	PKPab	18 00 58.2	-0.1
	0.8nm,0.3s,baz=42,slow=3.8,SNR=13						
NOA	**NORSAR Array B**	**147.07**	**351**	PKPbc	PKPbc	18 01 09.9	-0.4
	0.6nm,0.8s,baz=23,slow=7.6,SNR=7.9						
HFS	**Hagfors**	**147.53**	**348**	PKPbc	PKPbc	18 01 10.5	-0.9
	0.7nm,0.4s,baz=31,slow=6.9,SNR=5.8						
TORD	**Torodi Ar. Bea**	**164.31**	**184**	PKPab	PKPab	18 02 26.7	-0.9
	0.4nm,0.6s,baz=188,slow=6.0,SNR=4.0						

*ISCJB **20** 17:49:40.1±0.5, 14°.04N±0°.02×60°.18W±0°.04, h20km, Error ellipse: s-maj=5.3km s-min=3.0km az=3.8*
*TRN **20** 17:49:41.8, 14°.04N×60°.36W, h26km, MD3.7, M4.1(FDF)*
*FUNV **20** 17:49:44.4, 13°.88N×60°.01W, h35km, MW3.5*

ISC 20 17:49:40.5±1.1, 14°.02N±0°.03×60°.22W±0°.05, h20km, n36, σ1°45/54, 5C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLW	**Petit Monier**	**0.70**	**270**	*e*P	**Pb**	**17 49 54.7**	**+0.7**
SLW				*e*S	**Sn**	**17 50 05.0**	**-0.5**
SLPA	**Patience**	**0.70**	**256**	*e*S	**Sb**	**17 50 04.4**	**+1.2**
MCLT	**Moule a Chique**	**0.77**	**246**	*e*P	**Pb**	**17 49 55.7**	**+0.5**
MCLT				*e*S	**Sb**	**17 50 06.4**	**+1.2**
SLB	**Belfond**	**0.82**	**256**	*e*P	**Pn**	**17 49 57.7**	**+0.7**
SLB				*e*S	**Sb**	**17 50 07.8**	**+1.0**
SLDE	**Delcer**	**0.84**	**255**	*e*P	**Pn**	**17 49 58.2**	**+0.9**
SLDE				*e*S	**Sb**	**17 50 07.8**	**+0.3**
BBGH	**Gun Hill**	**1.08**	**144**	*e*P	**Pb**	**17 50 00.1**	**-0.5**
SVN	**Savane Anatole**	**1.23**	**312**	*e*P	**Pn**	**17 50 02.7**	**+0.1**
SVB	**Belmont**	**1.25**	**233**	*e*P	**Pn**	**17 50 02.6**	**-0.2**
SVB				*e*S	**Sn**	**17 50 19.4**	**+0.2**
DSHT	**Scott's Head**	**1.63**	**317**	*e*S	**Sn**	**17 50 28.7**	**+0.3**
DBCT	**Belle View Cho**	**1.65**	**319**	*e*P	**Pn**	**17 50 09.6**	**+1.1**
DBCT				*e*S	**Sn**	**17 50 29.8**	**+0.7**
MDN	**Morne-Daniel**	**1.72**	**319**	*e*P	**Pn**	**17 50 10.7**	**+1.4**
MDN				*e*S	**Sn**	**17 50 31.4**	**+0.7**
DWS	**Wesley**	**1.86**	**326**	*e*P	**Pn**	**17 50 13.4**	**-0.5**
DWS				*e*S	**Sn**	**17 50 34.6**	**+0.3**
DVCT	**Vielle Casse P**	**1.96**	**324**	*e*P	**Pn**	**17 50 14.2**	**+1.6**
DVCT				*e*S	**Sn**	**17 50 36.3**	**-0.2**
MGG	**Marie-Galante**	**2.16**	**331**	*e*P	**Pn**	**17 50 15.1**	**-0.3**
GRSS	**Sisters**	**2.19**	**219**	*e*P	**Pb**	**17 50 17.8**	**-1.6**
GRSS				*e*S	**Sn**	**17 50 41.7**	**-0.5**
GRHS	**Sauteurs**	**2.26**	**218**	*e*P	**Pn**	**17 50 18.9**	**+2.1**
GRHS				*e*S	**Sn**	**17 50 44.7**	**+0.6**
TBG	**Guadaloupe-3**	**2.28**	**323**	*e*P	**Pn**	**17 50 17.6**	**+0.5**
GRW	**Mount Saint Ca**	**2.33**	**217**	*e*P	**Pn**	**17 50 19.8**	**+2.0**
GRW				*e*S	**Sn**	**17 50 45.7**	**0.0**
GRGR	**Grenville**	**2.34**	**217**	*e*P	**Pn**	**17 50 19.0**	**+1.1**
DOG	**Dongo Capester**	**2.41**	**326**	*e*P	**Pn**	**17 50 19.3**	**+0.4**
PHG	**Guadaloupe-2**	**2.41**	**325**	*e*P	**Pn**	**17 50 19.7**	**+0.8**
DEG	**La Desirade**	**2.42**	**340**	*e*P	**Pn**	**17 50 18.1**	**-0.9**
DEG				*e*S	**Sn**	**17 50 45.4**	**-2.6**
ECG	**Echelle**	**2.44**	**326**	*i* P	**Pn**	**17 50 19.9**	**+0.5**
CRG	**Carmichael**	**2.45**	**326**	*e*P	**Pn**	**17 50 20.0**	**+0.5**
BCG	**Bois Riant

NEIC ***20*** *18:01:36.8, 56˚.32N×153˚.57W, h24km, ML3.2(AEIC), After AEIC.*

IDC ***20*** *18:01:41.5±6.9, 56˚.74N×153˚.56W, h45km±50km, mb3.5/10, mb1 3.7/11, mb1mx3.6/27, mbtmp3.5/11, ML3.7/1, MS3.6/1, Ms1 3.5/1, ms1mx2.6/39, Error ellipse: s-maj=58.1km s-min=30.6km az=170.0*

ISC 20 18:01:38.8±3.4, 56˚.5N±0˚.1×153˚.64W±0˚.06, h31km±20km, n37, σ0˚.93/43, mb3.8/9, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**0.72**	**15**	P	**Pn**	**18 01 53.1**	**+0.3**
OHAK				S	**Sn**	**18 02 03.8**	**+1.0**
KDAK	**Kodiak Island**	**1.38**	**24**	P	**Pn**	**18 02 02.6**	**+0.7**
KDAK				S	**Sn**	**18 02 19.8**	**+0.8**
KABR	**Katmai Barrier**	**1.76**	**336**	P	**Pn**	**18 02 07.0**	**-0.2**
KABR				S	**Sb**	**18 02 31.4**	**-0.7**
PLK3	**Peulik 3**	**1.84**	**310**	P	**Pn**	**18 02 07.7**	**-0.6**
PLK3				S	**Sn**	**18 02 32.7**	**+2.1**
KJL	**Kejulik**	**1.85**	**326**	P	**Pn**	**18 02 08.2**	**-0.3**
KBM	**Katmai Bkd Mtn**	**1.94**	**335**	P	**Pn**	**18 02 10.2**	**+0.5**
ANCK	**Angle Creek**	**1.95**	**330**	P	**Pn**	**18 02 09.6**	**-0.2**
KAWH	**Katmai**	**1.96**	**342**	P	**Pn**	**18 02 09.9**	**0.0**
KAWH				S	**Sb**	**18 02 37.9**	**0.0**
KVTA	**Katmai Vly 10**	**2.06**	**335**	P	**Pn**	**18 02 11.9**	**+0.7**
KAPH	**Katmai Pasha**	**2.11**	**350**	P	**Pn**	**18 02 12.6**	**+0.6**
KAPH				S	**Sb**	**18 02 42.2**	**+0.1**
ANPK	**Aniakchak Peak**	**2.50**	**279**	P	**Pn**	**18 02 16.1**	**-1.2**
CNPM	**China Poot**	**3.27**	**22**	P	**Pn**	**18 02 28.9**	**+1.1**
BRLK	**Bradley Lake**	**3.56**	**23**	P	**Pn**	**18 02 32.1**	**+0.3**
RSO	**Redoubt South**	**3.97**	**6**	P	**Pn**	**18 02 38.5**	**+0.9**
SEW	**Seward**	**4.21**	**30**	P	**Pn**	**18 02 40.5**	**-0.2**
SLKM	**Skilak Lake**	**4.37**	**23**	P	**Pn**	**18 02 43.5**	**+0.4**
SVW2	**Sparrevohn**	**4.69**	**348**	P	**Pn**	**18 02 47.6**	**+0.3**
CKL	**Chakachamna La**	**4.73**	**8**	P	**Pn**	**18 02 48.5**	**+0.6**
SPU	**Mount Spurr**	**4.74**	**9**	P	**Pn**	**18 02 48.6**	**+0.6**
STLK	**Strandline Lak**	**5.07**	**10**	P	**Pn**	**18 02 53.5**	**+0.9**
PWL	**Port Wells**	**5.15**	**30**	P	**Pn**	**18 02 53.5**	**-0.1**
GOAT	**Goat Mountain**	**6.18**	**45**	P	**Pn**	**18 03 08.1**	**+0.2**
SCM	**Sheep Creek Mo**	**6.23**	**29**	P	**Pn**	**18 03 09.1**	**+0.6**
KLU	**Klutina**	**6.37**	**35**	P	**Pn**	**18 03 10.9**	**+0.4**
BALM	**Baldy**	**7.40**	**48**	P	**Pn**	**18 03 24.8**	**+0.1**
ILAR	**Eielson Array**	**8.90**	**19**	P	**Pn**	**18 03 44.4**	**-0.7**
	0.4nm,0.3s,baz=211,slow=13,SNR=12						
ILAR				S	**Sn**	**18 05 20.3**	**-3.8**
	0.1nm,0.3s,baz=195,slow=20,SNR=2.9						
YKA	**Yellowknife Ar**	**20.43**	**57**	P	**P**	**18 06 13.7**	**+0.6**
	1.7nm,0.8s,baz=267,slow=11,SNR=2.7						
ULM	**Lac du Bonnet**	**34.11**	**76**	LR	LR	18 22 17.4	
	comp=Z,81nm,18.2s,baz=307,slow=36						
ARCES	**ARCESS Array B**	**54.24**	**0**	P	**P**	**18 11 01.2**	**+0.3**
	7.9nm,1.1s,baz=9.0,slow=10,SNR=3.5						
SONM	**Songino Array**	**56.59**	**307**	P	**P**	**18 11 18.7**	**+0.4**
	0.8nm,0.8s,baz=57,slow=8.1,SNR=5.5						
ZALV	**Zalesovo Beam**	**59.99**	**324**	P	**P**	**18 11 42.3**	**+0.5**
	0.7nm,0.5s,baz=42,slow=6.4,SNR=4.3						
NOA	**NORSAR Array B**	**62.17**	**8**	P	**P**	**18 11 55.5**	**-1.0**
	0.6nm,0.8s,baz=6.2,slow=9.4,SNR=3.0						
FINES	**FINESS Array B**	**62.37**	**0**	P	**P**	**18 11 58.2**	**+0.5**
	5.8nm,1.2s,baz=14,slow=6.3,SNR=3.1						
MKAR	**Makanchi Array**	**66.95**	**322**	P	**P**	**18 12 27.6**	**-0.3**
	0.3nm,0.5s,baz=37,slow=7.3,SNR=4.2						
ESDC	**Sonseca Array**	**80.78**	**23**	P	**P**	**18 13 47.7**	**-1.3**
	0.1nm,0.3s,baz=332,slow=6.0,SNR=3.1						
BRTR	**Keskin Array B**	**83.91**	**354**	P	**P**	**18 14 06.0**	**+0.5**
	0.5nm,0.8s,baz=359,slow=5.8,SNR=2.4						
CMAR	**Chiang Mai Arr**	**84.00**	**294**	P	**P**	**18 14 06.2**	**+0.2**
	0.2nm,0.8s,baz=0.7,slow=5.1,SNR=4.8						

IDC 20 18:07:53.8±3.5, 32˚.89N×106˚.12E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/26, mbtmp3.3/3, Error ellipse: s-maj=406.2km s-min=28.7km az=50.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**22.86**	**314**	P	P	18 12 58.6	-0.1
	0.4nm,0.6s,baz=119,slow=10,SNR=4.4						
WRA	**Warramunga Arr**	**59.05**	**149**	P	P	18 17 56.0	+0.2
	0.3nm,0.5s,baz=340,slow=7.5,SNR=11						
ASAR	**Alice Springs**	**62.17**	**151**	P	P	18 18 16.6	-0.4
	0.3nm,0.8s,baz=335,slow=6.9,SNR=5.6						

MOS ***20*** *18:15:18.6±0.9, 12˚.14N×125˚.60E, h33km, mb5.1/35, Error ellipse: s-maj=16.2km s-min=6.0km az=123.5*

MAN ***20*** *18:15:18, 12˚.27N×125˚.83E, h33km, mb5.4, ML4.4, MS4.7*

MAN INTENSITY II - SAN POLICARPO EASTERN SAMAR.

ISCJB ***20*** *18:15:19.9±0.6, 12˚.28N±0˚.03×125˚.71E±0˚.04, h41km±4km, mb4.8/85, MS3.9/25, Error ellipse: s-maj=7.4km s-min=4.1km az=169.4*

BKK ***20*** *18:15:20.2±0.8, 13˚N±5˚×12˚6E±1˚, h10km, M4.6/22, mB5.1/5, mb4.7/22, Mw(mB)4.5/5, Mwp5.4/1*

IDC ***20*** *18:15:21.8±3.2, 12˚.13N×125˚.56E, h43km±28km, mb4.3/19, mb1 4.4/19, mb1mx4.3/26, mbtmp4.3/19, MS3.8/16, Ms1 3.9/16, ms1mx3.6/41, Error ellipse: s-maj=24.9km s-min=10.1km az=75.0*

NEIC ***20*** *18:15:25.8±1.1, 12˚.10N×125˚.61E, h83km±10km, mb4.7/23, Error ellipse: s-maj=8.6km s-min=4.9km az=74.0*

NEIC Felt [II PIVS] at San Policarpio.

BJI ***20*** *18:15:28.1, 12˚.56N×125˚.37E, h84km, mB5.0/30, mb4.8/45, Ms4.5/28, Ms7 4.2/26*

DJA ***20*** *18:15:33.9±2.6, 13˚N±17˚×12˚6E±1˚3, h215km±17km, M4.3/5, mB4.5/2, mb4.3/5, Mw(mB)3.6/2*

ISC 20 18:15:20.2±0.7, 12˚.26N±0˚.03×125˚.67E±0˚.05, h32km±4km, n273, σ1˚.54/286, mb4.9/85, MS4.0/25, 12C-8D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNP	**Catarman**	**1.02**	**284**	*eP*	**Pn**	**18 15 38.0**	**-0.2**
CNP				*eS*	**Sb**	**18 15 53.2**	**+0.8**
PVCP	**Virac**	**1.99**	**312**	*iP*	**Pn**	**18 15 52.0**	**+0.4**
SCPH	**Surigao**	**2.47**	**184**	*eP*	**Pn**	**18 15 57.5**	**-0.7**
LLP	**Lapu-Lapu**	**2.56**	**221**	*eP*	**Pn**	**18 15 59.8**	**+0.4**
LLP				*eS*	**Sb**	**18 16 34.7**	**-1.8**
RCP	**Roxas**	**2.95**	**257**	*eP*	**Pn**	**18 16 05.8**	**+0.9**
RCP				*eS*	**Sb**	**18 16 45.1**	**-2.6**
AUQP	**San Andres**	**3.11**	**290**	*eP*	**Pn**	**18 16 09.9**	**+2.9**
TBP	**Tagbilaran**	**3.11**	**215**	*eP*	**Pn**	**18 16 08.1**	**+1.1**
KALP	**Kalibo**	**3.31**	**260**	*eP*	**Pn**	**18 16 11.7**	**+1.9**
GQP	**Guinayangan**	**3.54**	**298**	*eP*	**Pn**	**18 16 12.9**	**-0.1**
OTRP	**Odiongan**	**3.57**	**272**	*eP*	**Pn**	**18 16 15.0**	**+1.6**
SNPH	**Sibulan**	**3.76**	**220**	*eP*	Pn	18 16 20.8	+4.8
SNPH				*eS*	**Sb**	**18 17 07.5**	**-3.6**
CGP	**Cagayan de Oro**	**3.90**	**194**	*eP*	**Pn**	**18 16 18.0**	**0.0**
CGP				*iS*	**Sn**	**18 17 03.4**	**+0.7**
BOAC	**Boac**	**3.92**	**288**	*eP*	**Pn**	**18 16 19.6**	**+1.5**
DCPH	**Dipolog City**	**4.31**	**212**	*eP*	**Pn**	**18 16 24.3**	**+0.8**
SJMP	**San Jose**	**4.45**	**273**	*eP*	**Pn**	**18 16 27.6**	**+2.1**
CUYO	**Cuyo Island**	**4.77**	**253**	*eP*	**Pn**	**18 16 32.1**	**+2.2**
CTBH	**Cotabato--PC H**	**5.20**	**196**	*eP*	**Pn**	**18 16 37.1**	**+1.2**
BALP	**Baler**	**5.27**	**311**	*eP*	**Pn**	**18 16 38.7**	**+2.0**
BUSP	**Coron**	**5.36**	**268**	*eP*	**Pn**	**18 16 39.3**	**+1.4**
PCPH	**Palayan**	**5.52**	**307**	*eP*	**Pn**	**18 16 41.9**	**+1.6**
PALP	**Palanan**	**5.71**	**327**	*iP*	**Pn**	**18 16 43.4**	**+0.6**
ENPP	**El Nido**	**6.21**	**261**	*eP*	**Pn**	**18 16 51.5**	**+1.9**
BCPH	**Baguio City Da**	**6.41**	**310**	*iP*	**Pn**	**18 16 53.7**	**+1.1**
CVP	**Callao Caves**	**6.56**	**326**	*eP*	**Pn**	**18 16 55.2**	**+0.7**
SGCP	**Mt. Cagua**	**6.90**	**330**	*eP*	**Pn**	**18 16 59.7**	**+0.6**
MYLDM	**Lahad Datu**	**9.99**	**226**	P	Pn	18 17 46.2	+4.6
MYLDM	**Lahad Datu**	**9.99**	**226**	P	Pn	18 17 46.1	+4.6
KDM	**Kudat**	**10.21**	**239**	P	**Pn**	**18 17 44.3**	**-0.2**
SDKM	**Sandakan**	**10.65**	**233**	P	Pn	18 17 58.0	+7.4
TSM	**Tawau**	**11.05**	**225**	P	Pn	18 18 03.6	+7.4
KKM	**Kota Kinabalu**	**11.19**	**237**	P	Pn	18 18 03.3	+5.2
KKM	**Kota Kinabalu**	**11.19**	**237**	P	Pn	18 18 12.7	+15
	21nm,0.9s						
KKM	**Kota Kinabalu**	**11.19**	**237**	*ePn*	Pn	18 18 02.5	+4.3
	37nm,1.2s						
MRSI	**Marisa**	**12.28**	**198**	P	P	18 18 32.4	+7.6
YHNB	**Yeheng**	**12.99**	**342**	P	P	18 18 28.8	-4.0
LUWI	**Luwuk**	**13.53**	**192**	P	P	18 18 43.8	+5.1
	44nm,1.3s						
BTM	**Bintulu**	**15.37**	**235**	P	**Pn**	**18 18 57.2**	**+2.2**
NLAI	**Namlea**	**15.46**	**175**	P	**P**	**18 19 00.9**	**+0.7**
MSAI	**Masohi**	**15.84**	**168**	P	**P**	**18 19 07.8**	**+3.4**
	17nm,0.8s,259nm						
SBUM	**Sibu**	**16.51**	**235**	P	**P**	**18 19 13.0**	**+1.1**
SBUM	**Sibu**	**16.51**	**235**	P	**P**	**18 19 12.5**	**+0.6**
QIZ	**Qiongzhong**	**16.66**	**296**	P	**P**	**18 19 14.8**	**+1.3**
QIZ				sP	sP	18 19 41.5	+15
QIZ				AMB	AMB		
	comp=Z,40nm,2.0s						
QIZ				LR	LR		
	comp=Z,700nm,18.6s						
SPSI	**Sidrap Palu**	**17.16**	**200**	P	**P**	**18 19 20.2**	**+1.2**
BNSI	**Bone**	**17.45**	**199**	P	**P**	**18 19 24.7**	**+2.4**
KAPI	**Kappang**	**18.14**	**199**	P	P	18 19 35.0	+5.1
	43nm,1.1s,566nm						
KAPI	**Kappang**	**18.14**	**199**	*eP*	**P**	**18 19 30.2**	**+0.3**
	43nm,1.0s						
BKSI	**Bulukumba**	**18.32**	**198**	P	**Pn**	**18 19 33.5**	**+1.5**
STKI	**Sintang**	**18.58**	**230**	P	**Pn**	**18 19 36.7**	**+1.5**
KSM	**Kuching**	**18.62**	**236**	P	**Pn**	**18 19 36.9**	**+1.2**
KSM	**Kuching**	**18.62**	**236**	P	**Pn**	**18 19 36.6**	**+0.9**
KSM	**Kuching**	**18.62**	**236**	*eP*	**Pn**	**18 19 36.0**	**+0.3**
	29nm,0.9s						
SSE	**Sheshan**	**19.20**	**348**	P	**Pn**	**18 19 44.9**	**+2.5**
SSE				AMB	AMB		
	comp=Z,18nm,0.8s						
SSE				AMB	AMB		
	comp=Z,110nm,3.9s						
SSE				LR	LR		
	comp=N,54nm,16.8s						
SSE				LR	LR		
	comp=E,140nm,16.7s						
PBKI	**Pangkalan Bun**	**20.36**	**224**	P	Pn	18 19 56.8	+0.4
NJ2	**Nanjing**	**20.67**	**343**	*eP*	Pn	18 20 02.0	+2.1
NJ2				AMB	AMB		
	comp=Z,20nm,1.1s						
JNU	**Nakatsue**	**21.30**	**12**	LR	LR	18 27 39.6	
	comp=Z,127nm,18.9s,baz=28,slow=34						
JCJ	**Chichijima**	**21.40**	**44**	LR	LR	18 27 34.7	
	comp=Z,191nm,18.5s,baz=142,slow=34						
SKNT	**Sakolnakorn**	**21.50**	**285**	P	**P**	**18 20 09.9**	**+3.4**
	26nm,2.8s						
SOEI	**Soe**	**21.92**	**184**	P	**P**	**18 20 12.4**	**+1.3**
BATI	**Baumata**	**22.41**	**185**	P	**P**	**18 20 16.1**	**-0.2**
BATI	**Baumata**	**22.41**	**185**	P	**P**	**18 20 16.7**	**+0.4**
BATI	**Baumata**	**22.41**	**185**	P	**P**	**18 20 16.7**	**+0.4**
	74nm,0.5s,baz=300,slow=0.9,SNR=27						
NONG	**Nongkai**	**22.48**	**288**	P	**P**	**18 20 17.1**	**0.0**
	159nm,0.7s						
GYA	**Guiyang**	**22.78**	**311**	*eP*	**P**	**18 20 22.0**	**+1.7**
GYA				pP	pP	18 20 40.6	+12
GYA				sP	sP	18 20 52.0	+19
GYA				PP	PnPn	18 20 54.3	+9.3
GYA				S	**S**	**18 24 22.0**	**-5.4**
GYA				sS	Sn	18 24 52.9	+10
GYA				ScP	**ScP**	**18 27 40.8**	**-6.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
GYA				AMB	AMB		
	comp=Z,90nm,4.8s						
GYA				LR	LR		
	comp=N,450nm,17.6s						
GYA				LR	LR		
	comp=E,410nm,18.5s						
GYA				LR	LR		
	comp=Z,490nm,17.2s						
CHBT	**CHBT**	**22.79**	**274**	P	**P**	**18 20 18.0**	**-2.4**
CHBT	**CHBT**	**22.79**	**274**	P	**P**	**18 20 20.6**	**+0.2**
	29nm,1.0s						
CHAI	**Chaiyaphum**	**23.25**	**282**	P	**P**	**18 20 23.2**	**-1.8**
	21nm,0.8s						
ENH	**Enshi**	**23.37**	**323**	*eP*	**P**	**18 20 26.5**	**+0.4**
	14nm,0.8s						
MYKOM	**Kota Tinggi**	**24.00**	**246**	P	**P**	**18 20 31.1**	**-1.1**
NGJI	**Ngawi**	**24.08**	**217**	P	**P**	**18 20 35.2**	**+2.3**
LOEI	**Loei**	**24.15**	**285**	P	**P**	**18 20 29.8**	**-3.8**
	14nm,1.0s,4μm						
SJI	**Sawahan**	**24.20**	**216**	P	**P**	**18 20 35.2**	**+1.0**
KGM	**Kluang**	**24.38**	**247**	P	**P**	**18 20 35.4**	**-0.3**
NANT	**Nan**	**24.91**	**288**	P	**P**	**18 20 39.3**	**-1.2**
	73nm,1.1s						
BJII	**Banjamegara**	**25.12**	**220**	P	**P**	**18 20 44.2**	**+1.8**
KSAR	**Wonju Array Be**	**25.15**	**4**	P	**P**	**18 20 44.0**	**+1.5**
KMI	**Kunming**	**25.16**	**304**	P	**P**	**18 20 43.6**	**+0.6**
KMI				pP	pP	18 21 05.6	+13
KMI				sP	sP	18 21 13.8	+18
KMI				PP	PnPn	18 21 27.5	+10
KMI				S	**S**	**18 25 03.3**	**-2.9**
KMI				sS	sS	18 25 35.6	+14
KMI				AMB	AMB		
	comp=Z,10.0nm,1.3s						
KMI				AMB	AMB		
	comp=Z,150nm,5.1s						
KMI				LR	LR		
	comp=N,360nm,20.4s						
KMI				LR	LR		
	comp=E,230nm,22.0s						
KMI				LR	LR		
	comp=Z,390nm,17.3s						
KSRS	**Korea Array**	**25.17**	**4**	P	**P**	**18 20 44.0**	**+1.4**
	4.1nm,0.8s,baz=185,slow=11,SNR=10						
KSRS				LR	LR	18 31 56.3	
	comp=Z,100nm,18.2s,baz=180,slow=39						
CRAI	**Chiangrai**	**25.52**	**291**	P	**P**	**18 20 46.4**	**+0.3**
	38nm,0.9s						
UTHA	**Uthaitani**	**25.66**	**280**	P	**P**	**18 20 48.8**	**+1.5**
	2.8nm,1.1s						
KULM	**Kulim**	**25.66**	**257**	*eP*	**P**	**18 20 47.6**	**+0.2**
PAYA	**Payao**	**25.79**	**289**	P	**P**	**18 20 48.5**	**0.0**
	10.0nm,1.3s,107nm						
CM31	**Chiang Mai Arr**	**26.48**	**287**	*eP*	**P**	**18 20 54.3**	**-0.5**
	9.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**26.48**	**287**	P	**P**	**18 20 55.0**	**+0.2**
CMAR				PcP	**PcP**	**18 24 20.9**	**+1.4**
CMAR	**Chiang Mai Arr**	**26.48**	**287**	P	**P**	**18 20 55.0**	**+0.2**
	9.8nm,0.8s,baz=95,slow=7.6,SNR=79						
CMAR				PcP	**PcP**	**18 24 20.9**	**+1.4**
	1.3nm,0.4s,baz=42,slow=0.5,SNR=11						
CMAR				LR	LR	18 33 29.6	
	comp=Z,208nm,18.2s,baz=267,slow=41						
CHTO	**Chiang Mai**	**26.54**	**288**	*eP*	**P**	**18 20 54.3**	**-1.0**
CHTO				*e*		18 24 19.9	
CHTO				pmax	pmax		
	comp=Z,22nm,0.8s						
CHTO	**Chiang Mai**	**26.54**	**288**	*eP*	**P**	**18 20 54.3**	**-1.0**
	comp=Z,22nm,0.8s						
CHTO				*ePcP*	**PcP**	**18 24 19.9**	**+0.2**
CHTO	**Chiang Mai**	**26.54**	**288**	P	**P**	**18 20 55.0**	**-0.3**
	comp=Z,35nm,0.9s						
CMAI	**Chiengmai2**	**26.67**	**290**	P	**P**	**18 20 56.8**	**+0.2**
	comp=Z,34nm,0.8s,comp=Z,4μm						
MJAR	**Matsushiro Arr**	**26.68**	**23**	LR	LR	18 30 09.3	
	comp=Z,199nm,18.2s,baz=215,slow=33						
CD2	**Chengdu**	**27.46**	**316**	P	**P**	**18 21 04.3**	**+0.8**
CD2				pP	pP	18 21 23.4	+11
CD2				sP	sP	18 21 33.8	+17
CD2				PP	**PnPn**	**18 21 55.6**	**+6.7**
CD2				S	**S**	**18 25 37.8**	**-4.5**
CD2				sS	sS	18 26 11.4	+14
CD2				AMB	AMB		
	comp=Z,40nm,1.1s						
CD2				AMB	AMB		
	comp=Z,140nm,3.5s						
CD2				LR	LR		
	comp=Z,710nm,7.8s						
CD2				LR	LR		
	comp=Z,440nm,9.0s						
PSI	**Prapat**	**28.10**	**253**	LR	LR	18 32 57.2	
	comp=Z,333nm,18.3s,baz=16,slow=38						
BJI	**Beijing**	**28.91**	**345**	P	**P**	**18 21 17.4**	**+1.2**
BJI				AMB	AMB		
	comp=Z,17nm,0.4s						
BJI				LR	LR		
	comp=Z,250nm,15.2s						
BJI				LR	LR		
	comp=Z,240nm,16.6s						
BJI				LR	LR		
	comp=Z,78nm,19.2s						
LZH	**Lanzhou**	**30.82**	**324**	*eP*	**P**	**18 21 35.1**	**+1.6**
LZH				pP	pP	18 21 54.0	+11
LZH				sP	sP	18 22 05.3	+19
LZH				PP	**PP**	**18 22 40.3**	**-3.1**
LZH				*eS*	**S**	**18 26 31.8**	**-3.4**
LZH				sS	sS	18 27 07.0	+16
LZH				AMB	AMB		
	comp=Z,37nm,1.3s						
LZH				AMB	AMB		
	comp=Z,140nm,4.7s						
LZH				LR	LR		
	comp=Z,560nm,14.5s						
LZH				LR	LR		
	comp=Z,600nm,13.4s						
LZH				LR	LR		
	comp=Z,750nm,16.1s						
HHC	**Hu-ho-hao-te**	**31.06**	**339**	*eP*	**P**	**18 21 36.0**	**+0.6**
HHC				pP	pP	18 21 57.9	+13
HHC				sP	sP	18 22 09.8	+21
HHC				PP	**PP**	**18 22 43.8**	**-2.1**
HHC				S	**S**	**18 26 35.0**	**-3.6**
HHC				AMB	AMB		
	comp=Z,38nm,0.9s						
HHC				AMB	AMB		
	comp=Z,410nm,5.6s						
HHC				LR	LR		
	comp=Z,520nm,10.1s						
HHC				LR	LR		
	comp=Z,480nm,11.4s						
HHC				LR	LR		
	comp=Z,390nm,10.0s						
CN2	**Changchun**	**31.43**	**360**	*eP*	P	18 21 44.6	+6.1
MDJ	**Mudanjiang**	**32.42**	**5**	P	**P**	**18 21 48.6**	**+1.5**
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.0s						
WRAB	**Tennant Creek**	**33.11**	**165**	P	**P**	**18 21 50.6**	**-2.9**
WRAB				*e*		18 24 36.5	
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.6s						
WRAB	**Tennant Creek**	**33.11**	**165**	P	**P**	**18 21 50.5**	**-2.9**
	comp=Z,3.4nm,0.6s						
WRAB				*ePcP*	**PcP**	**18 24 36.5**	**+0.1**
WRA	**Warramunga Arr**	**33.12**	**165**	P	**P**	**18 21 51.7**	**-1.9**
WRA				PcP	**PcP**	**18 24 36.6**	**+0.2**
WRA	**Warramunga Arr**	**33.12**	**165**	P	**P**	**18 21 51.7**	**-1.9**
	comp=Z,1.1nm,0.8s,baz=345,slow=8.7,SNR=14						
WRA				PcP	**PcP**	**18 24 36.6**	**+0.2**
	comp=Z,4.9nm,0.8s,baz=343,slow=3.2,SNR=15						
GTA	**Gaotai**	**35.42**	**324**	*eP*	**P**	**18 22 15.0**	**+1.5**
GTA				S	**S**	**18 27 44.6**	**-1.9**
GTA				SS	**SnSn**	**18 29 59.8**	**-7.4**
GTA				AMB	AMB		
	comp=Z,8.0nm,1.3s						
GTA				AMB	AMB		
	comp=Z,110nm,5.0s						
GTA				LR	LR		
	comp=Z,240nm,17.3s						
GTA				LR	LR		
	comp=Z,160nm,15.4s						
GTA				LR	LR		
	comp=Z,220nm,16.9s						
LSA	**Lhasa**	**36.42**	**304**	P	**P**	**18 22 23.9**	**+1.4**
LSA				AMB	AMB		
	comp=Z,20nm,0.9s						
LSA	**Lhasa**	**36.42**	**304**	*eP*	**P**	**18 22 23.4**	**+0.8**
LSA				*e*		18 24 47.2	
LSA				pmax	pmax		
	comp=Z,22nm,1.2s						
LSA	**Lhasa**	**36.42**	**304**	*eP*	**P**	**18 22 23.4**	**+0.8**
	comp=Z,22nm,1.2s						
LSA				*ePcP*	**PcP**	**18 24 47.2**	**+0.6**
AS31	**Alice Springs**	**36.60**	**167**	*eP*	**P**	**18 22 22.6**	**-1.1**
AS31				*e*		18 22 31.9	
AS31				*ePcP*	**PcP**	**18 24 45.3**	**-1.2**
ASAR	**Alice Springs**	**36.60**	**167**	P	**P**	**18 22 22.4**	**-1.2**
ASAR				PcP	**PcP**	**18 24 46.4**	**-0.2**
ASAR				S	**S**	**18 28 03.5**	**-1.1**
ASAR	**Alice Springs**	**36.60**	**167**	P	**P**	**18 22 22.4**	**-1.2**
	comp=Z,4.1nm,0.5s,baz=344,slow=7.0,SNR=86						
ASAR				PcP	**PcP**	**18 24 46.4**	**-0.2**
	comp=Z,3.5nm,0.8s,baz=352,slow=2.2,SNR=9.2						
ASAR				S	**S**	**18 28 03.5**	**-1.1**
	comp=Z,0.8nm,0.9s,baz=349,slow=17,SNR=5.0						
HABR	**Khabarovsk**	**36.94**	**10**	*eP*	**P**	**18 22 24.1**	**-2.0**
HABR				*e*SP	**sP**	**18 22 37.7**	**-1.8**
HABR				*e*		18 23 48.0	
HABR				*e*		18 24 45.0	
HABR				*e*S	**S**	**18 28 06.4**	**-2.6**
HABR				*e*SS	**sS**	**18 28 22.7**	**-2.0**
HABR				*e*SS	**SnSn**	**18 30 40.6**	**-2.7**
HABR				pmax	pmax		
	comp=Z,102nm,2.7s						
TAPN	**Taplejung**	**38.56**	**299**	*eP*	**P**	**18 22 41.0**	**+0.4**
	comp=Z,50nm,1.1s						
ODAN	**Odare**	**38.71**	**298**	*eP*	**P**	**18 22 42.2**	**+0.4**
	comp=Z,83nm,0.7s						
SONM	**Songino Array**	**38.96**	**339**	P	**P**	**18 22 44.6**	**+1.2**
SONM				PcP	**PcP**	**18 24 53.7**	**+0.1**
SONM	**Songino Array**	**38.96**	**339**	P	**P**	**18 22 44.6**	**+1.2**
	comp=Z,5.8nm,0.9s,baz=156,slow=8.9,SNR=33						
SONM				PcP	**PcP**	**18 24 53.7**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=146,slow=4.6,SNR=3.6						
SONM				LR	LR	18 39 41.4	
	comp=Z,132nm,18.2s,baz=182,slow=37						
RAMN	**Ramite**	**39.42**	**298**	*eP*	**P**	**18 22 48.2**	**+0.5**
	comp=Z,54nm,0.7s						
JIRN	**Jiri**	**39.95**	**299**	*eP*	**P**	**18 22 52.8**	**+0.6**
H11S3	**WAKE ISLAND Hy**	**39.96**	**76**	T	T	19 05 43.5	
	baz=271,slow=0.6,SNR=83						
H11S1	**WAKE ISLAND Hy**	**39.98**	**76**	T	T	19 05 41.2	
	baz=271,slow=0.6,SNR=32						
H11S2	**WAKE ISLAND Hy**	**39.98**	**76**	T	T	19 05 44.0	
	baz=271,slow=0.6,SNR=36						
H11N1	**WAKE ISLAND Hy**	**40.23**	**74**	T	T	19 06 01.5	
	baz=269,slow=0.7,SNR=200						
H11N2	**WAKE ISLAND Hy**	**40.24**	**74**	T	T	19 06 03.0	
	baz=269,slow=0.7,SNR=173		

MK31	**Makanchi Array**	**50.10 322**	*e*P	**P**		**18 24 13.6 +1.3**
MKAR	**Makanchi Array**	**50.10 322**	P	**P**		**18 24 13.7 +1.4**
MKAR	**Makanchi Array**	**50.10 322**	P	**P**		**18 24 13.7 +1.4**
MKAR	**Makanchi Array**	**50.10 322**	P	**P**		**18 24 13.7 +1.4**
	comp=Z,23nm,0.9s,baz=116,slow=8.5,SNR=143					
MKAR			LR	LR		18 47 12.6
	comp=Z,77nm,18.0s,baz=232,slow=38					
KSH	**Kashi**	**51.48 311**	P	P		18 24 26.5 +3.6
KSH			pP	pP		18 24 47.1 +14
KSH			sP	sP		18 24 56.0 +19
KSH			PcP	**PcP**		**18 25 41.8 +4.9**
KSH			PP	PP		18 26 28.3 +8.0
KSH			S	**S**		**18 31 41.1 0.0**
KSH			sS	sS		18 32 16.3 +19
KSH			AMB	AMB		
	comp=Z,24nm,1.4s					
KSH			AMB	AMB		
	comp=Z,58nm,4.2s					
KSH			LR	LR		
	comp=Z,140nm,5.1s					
KSH			LR	LR		
	comp=Z,110nm,5.0s					
KSH			LR	LR		
	comp=Z,130nm,5.6s					
ULHL	**Ulahol**	**52.16 314**	*i* P	**P**		**18 24 29.8 +1.7**
ULHL	**Ulahol**	**52.16 314**	P	**P**		**18 24 29.8 +1.7**
	SNR=5.3					
ZAA0	**Zalesovo Array**	**52.61 331**	*e*P	**P**		**18 24 31.2 +0.4**
ZALV	**Zalesovo Beam**	**52.61 331**	*i* P	**P**		**18 24 31.7 +0.9**
ZALV			pmax	pmax		
	comp=Z,4.0nm,0.6s					
ZALV	**Zalesovo Beam**	**52.61 331**	P	**P**		**18 24 31.8 +0.9**
ZALV	**Zalesovo Beam**	**52.61 331**	P	**P**		**18 24 31.8 +0.9**
	comp=Z,3.9nm,0.7s,baz=114,slow=7.0,SNR=23					
ZALV			LR	LR		18 47 53.4
	comp=Z,104nm,18.0s,baz=66,slow=37					
KZA	**Kyzart**	**52.80 314**	*i* P	**P**		**18 24 35.0 +1.9**
KZA	**Kyzart**	**52.80 314**	P	**P**		**18 24 35.0 +1.9**
	SNR=18					
TKM2	**Tokmak 2**	**52.84 315**	*i* P	**P**		**18 24 34.0 +0.9**
TKM2			pmax	pmax		
	comp=Z,8.0nm,0.9s					
TKM2	**Tokmak 2**	**52.84 315**	P	**P**		**18 24 34.6 +1.5**
	SNR=6.2					
TKM2	**Tokmak 2**	**52.84 315**	*e*P	**P**		**18 24 34.2 +1.1**
	comp=Z,3.2nm,0.6s					
KBK	**Karagaybulak**	**53.20 315**	*i* P	**P**		**18 24 37.4 +1.7**
KBK	**Karagaybulak**	**53.20 315**	P	**P**		**18 24 37.4 +1.7**
	SNR=12					
CHMS	**Chumysh**	**53.45 315**	*i* P	**P**		**18 24 38.9 +1.5**
CHMS	**Chumysh**	**53.45 315**	P	**P**		**18 24 38.9 +1.5**
	SNR=7.2					
AAK	**Ala-Archa**	**53.51 314**↓	*i* P	**P**		**18 24 38.0 0.0**
AAK			pmax	pmax		
	comp=Z,7.0nm,1.3s					
AAK	**Ala-Archa**	**53.51 314**	*e*P	**P**		**18 24 38.2 +0.3**
	comp=Z,2.3nm,0.8s					
AAK	**Ala-Archa**	**53.51 314**	LR	LR		18 47 59.4
	comp=Z,136nm,19.7s,baz=90,slow=37					
USP	**Ospenovka**	**53.72 315**	*i* P	**P**		**18 24 40.7 +1.4**
USP	**Ospenovka**	**53.72 315**	P	**P**		**18 24 40.7 +1.4**
	SNR=7.3					
NVS	**Novosibirsk**	**53.88 331**	*e*P	**P**		**18 24 39.2 -1.0**
NVS			pmax	pmax		
	comp=N,4.0nm,1.0s					
NVS			pmax	pmax		
	comp=E,6.0nm,1.0s					
NVS			pmax	pmax		
	comp=Z,9.0nm,1.0s					
AML	**Almayashu**	**53.92 314**	*i* P	**P**		**18 24 43.0 +1.8**
AML	**Almayashu**	**53.92 314**	P	**P**		**18 24 43.0 +1.8**
	SNR=18					
EKS2	**Erkin-Say**	**54.02 314**	*e*P	**P**		**18 24 43.0 +1.3**
EKS2			pmax	pmax		
	comp=Z,13nm,0.9s					
EKS2	**Erkin-Say**	**54.02 314**	P	**P**		**18 24 43.3 +1.7**
	SNR=20					
EKS2	**Erkin-Say**	**54.02 314**	*e*P	**P**		**18 24 43.0 +1.3**
	comp=Z,13nm,0.9s					
KBL	**Kabul**	**55.74 303**	*e*P	**P**		**18 24 54.4 +0.1**
KBL			pmax	pmax		
	comp=Z,6.0nm,0.6s					
KBL	**Kabul**	**55.74 303**	*e*P	**P**		**18 24 54.4 +0.1**
	comp=Z,6.0nm,0.6s					
KK31	**Karatay Array**	**56.45 314**	*ce*P	**P**		**18 24 59.1 +0.1**
KK31			pmax	pmax		
	comp=Z,16nm,0.8s					
KKAR	**Karatay Array**	**56.45 314**	*e*P	**P**		**18 24 59.7 +0.7**
KKAR			pmax	pmax		
	comp=Z,15nm,0.8s					
KKAR	**Karatay Array**	**56.45 314**	*e*P	**P**		**18 24 59.7 +0.7**
	comp=Z,15nm,0.8s					
VOSK	**Vostochnaya**	**59.26 325**	P	**P**		**18 25 18.3 -0.2**
VOSK			pmax	pmax		
	comp=Z,17nm,1.0s					
TIXI	**Tiksi**	**59.38**	**1***d* *i* P	**P**		**18 25 19.7 +0.7**
TIXI			pmax	pmax		
	comp=Z,5.0nm,0.9s					
BVA0	**Borovoye Array**	**59.70 325**	*i* P	**P**		**18 25 22.3 +0.7**
BVA0			pmax	pmax		
	comp=Z,18nm,0.9s					
BVAR	**Borovoye Array**	**59.70 325**	LR	LR		18 52 19.5
	comp=Z,108nm,18.3s,baz=307,slow=37					
BRVK	**Borovoye**	**59.78 325**	*c* *i* P	**P**		**18 25 23.0 +0.9**
BRVK			pmax	pmax		
	comp=Z,39nm,1.0s					
BRVK	**Borovoye**	**59.78 325**	*e*P	**P**		**18 25 22.8 +0.7**
	comp=Z,33nm,0.9s					
IMYA	**Miami**	**63.20 305**	*e*P	**P**		**18 25 46.7 +1.0**
IMOG	**Moghan**	**63.80 304**	*e*P	**P**		**18 25 50.7 +0.9**
IKOO	**Kooshah**	**63.89 300**	*e*P	**P**		**18 25 51.0 +0.5**
ITEG	**Tejag**	**64.12 301**	*e*P	**P**		**18 25 52.5 +0.6**
IEMG	**Emamgholi**	**64.44 306**	*e*P	**P**		**18 25 55.0 +1.0**
IKRD	**Kardeh**	**64.50 305**	*e*P	P		18 25 50.8 -3.6
AB31	**Akbulak array**	**65.00 319**	*ce*P	**P**		**18 25 57.8 +0.7**
AB31			pmax	pmax		
	comp=Z,8.0nm,0.5s					
ABKAR	**Akbulak array**	**65.00 319**	*e*P	**P**		**18 25 57.4 +0.3**
	comp=Z,7.3nm,0.6s					
ISHV	**Shirvan**	**65.20 306**	*e*P	**P**		**18 26 00.2 +1.3**
SVE	**Sverdlovsk**	**66.23 327**↓	*e*P	**P**		**18 26 05.7 +0.8**
SVE			pmax	pmax		
	comp=Z,22nm,1.0s					
ARU	**Arti**	**67.25 326**	*c* *i* P	**P**		**18 26 11.7 +0.3**
ARU						18 28 38.0
ARU			S	**S**		**18 35 05.8 +1.7**
ARU			SS	**SS**		**18 39 24.7 +1.0**
ARU			pmax	pmax		
	comp=Z,27nm,1.2s					
ISHM	**Shahmirzad**	**68.69 304**	*e*P	**P**		**18 26 21.8 +0.6**
ISRV	**Sarvestan**	**68.98 297**	*e*P	**P**		**18 26 22.6 -0.6**
IPAR	**Pars**	**69.02 297**	*e*P	**P**		**18 26 23.8 +0.4**
ISFB	**Sefidab**	**69.56 302**	*e*P	**P**		**18 26 26.6 +0.2**
IKLH	**Kolahrood**	**70.14 301**	*e*P	**P**		**18 26 31.1 +0.9**
ISRB	**Sarab**	**73.16 306**	*e*P	**P**		**18 26 49.1 +0.9**
RDF	**Al-Radifah**	**73.86 297**	*e*P	**P**		**18 26 51.6 -0.7**
RDF			AMb	AMB		18 26 53.3
	comp=Z,28nm,0.8s					
NAY	**Al-Naaiem**	**74.10 297**	*e*P	**P**		**18 26 52.7 -0.9**
NAY			AMb	AMB		18 26 53.6
	comp=Z,17nm,0.7s					
IGHG	**Ghaleghazi**	**74.25 302**	*e*P	**P**		**18 26 54.0 -0.8**
RST	**Umm Al-Ruwaisa**	**74.29 297**	*e*P	**P**		**18 26 53.5 -1.3**
RST			AMb	AMB		18 26 54.9
	comp=Z,95nm,1.0s					
IDHR	**Dehrash**	**74.38 303**	*e*P	**P**		**18 26 54.3 -1.1**
IMRD	**Marand**	**74.65 307**	*e*P	**P**		**18 26 57.9 +1.0**
GNI	**Garni**	**75.31 309**	*e*P	**P**		**18 27 01.1 +0.5**
	comp=Z,10nm,0.9s					
ZEI	**Tsey**	**75.77 311**	*e*P	**P**		**18 27 03.1 -0.2**
ZEI			pmax	pmax		
	comp=Z,19nm,1.4s					
KBZ	**Khabaz**	**76.44 312**	P	**P**		**18 27 07.0 +0.2**
KBZ	**Khabaz**	**76.44 312**	P	**P**		**18 27 07.0 +0.2**
KBZ	**Khabaz**	**76.44 312**	P	**P**		**18 27 07.0 +0.2**
	comp=Z,5.5nm,1.0s,baz=76,slow=0.6,SNR=9.4					
KBZ			LR	LR		19 06 10.1
	comp=Z,80nm,18.4s,baz=214,slow=40					
KIV	**Kislovodsk**	**76.58 313**	*e*P	**P**		**18 27 08.5 +0.8**
KIV			pmax	pmax		
	comp=Z,14nm,0.9s					
KIV			MLR	MLR		
	comp=Z,63nm,18.0s					
VRHR	**Novokhopersk**	**76.84 320**	*e*P	**P**		**18 27 08.6 -0.3**
VRHR			pmax	pmax		
	comp=N,10.0nm,1.4s					
VRHR			pmax	pmax		
	comp=E,10.0nm,1.4s					
VRHR			pmax	pmax		
	comp=Z,20nm,1.4s					
TUTA	**Tutak**	**76.85 308**	*i* P	**P**		**18 27 11.0 +1.5**
MCK	**McKinley**	**77.06 27**	*e*P	**P**		**18 27 10.5 +0.5**
MCK			pmax	pmax		
	comp=Z,8.0nm,0.9s					
MCK	**McKinley**	**77.06 27**	*e*P	**P**		**18 27 10.5 +0.5**
	comp=Z,7.9nm,0.9s					
EKAR	**Karacoban**	**77.44 308**	*i* P	**P**		**18 27 15.0 +2.1**
KLMR	**Klimovskoe**	**77.52 330**	*e*P	**P**		**18 27 11.0 -1.5**
KLMR			pmax	pmax		
	comp=Z,26nm,1.1s					
DDEM	**Demirkent**	**77.52 309**	*i* P	**P**		**18 27 14.2 +1.1**
ILAR	**Eielson Array**	**77.92 26**	P	**P**		**18 27 15.7 +1.0**
ILAR	**Eielson Array**	**77.92 26**	P	**P**		**18 27 15.7 +1.0**
	comp=Z,0.9nm,1.0s,baz=240,slow=6.6,SNR=6.2					
VORD	**Divnogorie**	**78.32 320**	*e*P	**P**		**18 27 16.4 -0.8**
VORD			pmax	pmax		
	comp=E,20nm,1.3s					
VORD			pmax	pmax		
	comp=Z,10.0nm,1.3s					
VSR	**Storozhevoye**	**78.37 320**	*e*P	**P**		**18 27 16.5 -1.0**
VSR			pmax	pmax		
	comp=Z,20nm,1.3s					
VSR			pmax	pmax		
	comp=N,3.0nm,0.4s					
VSR			pmax	pmax		
	comp=E,8.0nm,0.6s					
OBN	**Obninsk**	**79.54 324**↑	*e*P	**P**		**18 27 23.9 +0.1**
OBN			*e*			18 27 35.4
OBN			pmax	pmax		
	comp=Z,8.0nm,1.0s					
OBN			MLR	MLR		
	comp=Z,100nm,17.0s					
KEMA	**Kemaliye**	**80.19 308**	*i* P	**P**		**18 27 29.0 +1.2**
AKCD	**Akcadag**	**80.77 307**	*i* P	**P**		**18 27 32.6 +1.6**
JOF	**Joensuu**	**81.16 332**	*e*P	**P**		**18 27 34.0 +1.6**
JOF			pmax	pmax		
	comp=Z,5.0nm,0.4s					
JOF	**Joensuu**	**81.16 332**	*ep*	**P**		**18 27 34.0 +1.6**
	comp=Z,5.4nm,0.4s					
GZT	**Gaziantep**	**81.19 306**	*i* P	**P**		**18 27 34.7 +1.4**
ARCES	**ARCESS Array B**	**82.13 340**	P	**P**		**18 27 38.6 +1.2**
ARCES	**ARCESS Array B**	**82.13 340**	P	**P**		**18 27 38.6 +1.2**
	comp=Z,16nm,0.8s,baz=78,slow=6.3,SNR=26					
ARE0	**ARCESS Array S**	**82.13 340**	*e*P	**P**		**18 27 37.9 +0.5**
INK	**Inuvik**	**82.66 22**	*e*P	**P**		**18 27 40.9 +0.8**
	comp=Z,8.3nm,1.3s					
KAF	**Kangasniemi**	**83.60 332**	*e*P	**P**		**18 27 45.9 +0.8**
KAF			pmax	pmax		
	comp=Z,17nm,0.7s					
KAF	**Kangasniemi**	**83.60 332**	*ep*	**P**		**18 27 45.9 +0.8**
	comp=Z,16nm,0.7s					
BR131	**Keskin Array S**	**83.82 309**	*e*P	**P**		**18 27 46.7 -0.3**
	comp=Z,1.3nm,0.7s					
BRTR	**Keskin Array B**	**83.82 309**	P	**P**		**18 27 46.6 -0.3**
BRTR	**Keskin Array B**	**83.82 309**	P	**P**		**18 27 46.6 -0.3**
	comp=Z,2.1nm,0.8s,baz=99,slow=4.8,SNR=13					
FINES	**FINESS Array B**	**83.87 332**	P	**P**		**18 27 47.3 +0.8**
FINES	**FINESS Array B**	**83.87 332**	P	**P**		**18 27 47.3 +0.8**
	comp=Z,70nm,1.2s,baz=72,slow=4.7,SNR=60					
FINES			LR	LR		19 09 32.0
	comp=Z,98nm,19.1s,baz=12,slow=39					
VSU	**Vasula**	**84.28 329**	*c* *i* P	**P**		**18 27 49.0 +0.4**
AKASG	**Malin Array Be**	**84.66 321**	P	**P**		**18 27 50.5 -0.3**
AKASG	**Malin Array Be**	**84.66 321**	P	**P**		**18 27 50.5 -0.3**
AKASG	**Malin Array Be**	**84.66 321**	P	**P**		**18 27 50.5 -0.3**
	comp=Z,7.7nm,0.8s,baz=64,slow=4.8,SNR=6.9					
KIEV	**Kiev**	**84.67 321**	*e*P	**P**		**18 27 50.4 -0.4**
KIEV			pmax	pmax		
	comp=Z,14nm,1.0s					
KIEV	**Kiev**	**84.67 321**	*e*P	**P**		**18 27 50.4 -0.4**
	comp=Z,14nm,1.0s					
CSS	**Prodhromos**	**84.97 305**	*e*P	**P**		**18 27 53.1 +0.3**
	comp=Z,46nm,0.8s					
SUW	**Suwalki**	**87.39 325**	*e*P	**P**		**18 28 04.3 +0.2**
SUW			pmax	pmax		
	comp=Z,14nm,0.3s					
SUW	**Suwalki**	**87.39 325**	*e*P	**P**		**18 28 04.3 +0.2**
	comp=Z,14nm,0.3s					
SUW	**Suwalki**	**87.39 325**	*e*P	**P**		**18 28 04.6 +0.5**
BUR08	**Bucovina Ar. S**	**87.97 318**	*e*P	**P**		**18 28 07.1 -0.2**
PPT	**Papeete**	**88.74 108**	LR	LR		19 00 23.2
	comp=Z,58nm,22.0s,baz=188,slow=30					
KWP	**Kalwaria Pacla**	**88.98 321**	*e*P	**P**		**18 28 12.4 +0.5**
KWP			pmax	pmax		
	comp=Z,12nm,1.1s					
KWP	**Kalwaria Pacla**	**88.98 321**	*e*P	**P**		**18 28 12.4 +0.5**
	comp=Z,12nm,1.1s					
KWP	**Kalwaria Pacla**	**88.98 321**	*e*P	**P**		**18 28 13.0 +1.1**
KOLS	**Kolonicke sedl**	**89.47 320**	*e*P	**P**		**18 28 13.8 -0.4**
KOLS	**Kolonicke sedl**	**89.47 320**	*e*P	**P**		**18 28 13.8 -0.4**
RES	**Resolute Bay**	**89.65 10**	P	**P**		**18 28 15.1 +0.7**
RES	**Resolute Bay**	**89.65 10**	P	**P**		**18 28 15.1 +0.7**
	comp=Z,1.1nm,0.7s,baz=251,slow=7.8,SNR=4.1					
STHS	**Stebnicka Huta**	**89.96 321**	*e*P	**P**		**18 28 17.6 +1.1**
STHS			pmax	pmax		
	comp=Z,2.0nm,1.0s					
STHS	**Stebnicka Huta**	**89.96 321**	*e*P	**P**		**18 28 17.5 +1.1**
HFS	**Hagfors**	**90.02 332**	P	**P**		**18 28 16.3 -0.1**
HFS	**Hagfors**	**90.02 332**	P	**P**		**18 28 16.3 -0.1**
	comp=Z,7.8nm,0.8s,baz=100,slow=6.2,SNR=22					
NB2	**NORSAR Subarra**	**90.72 334**	P	**P**		**18 28 18.9 -0.9**
	comp=Z,3.9nm,0.7s,baz=66,slow=4.6					
NB2	**NORSAR Subarra**	**90.72 334**	P	**P**		**18 28 18.9 -0.9**
	baz=66,slow=4.6					
NOA	**NORSAR Array B**	**90.72 334**	P	**P**		**18 28 19.2 -0.6**
NOA	**NORSAR Array B**	**90.72 334**	P	**P**		**18 28 19.2 -0.6**
	comp=Z,3.7nm,0.8s,baz=65,slow=4.6,SNR=14					
NOA			LR	LR		19 11 08.3
	comp=Z,76nm,19.8s,baz=255,slow=37					
VNDA	**Vanda**	**91.97 173**	P	**P**		**18 28 24.9 -0.1**
VNDA	**Vanda**	**91.97 173**	P	**P**		**18 28 24.9 -0.1**
	comp=Z,0.7nm,0.5s,baz=330,slow=7.1,SNR=9.9					
CLL	**Collm**	**94.14 324**	*i* P	**P**		**18 28 35.3 -0.4**
TXAR	**Lajitas Array**	**116.95 48**	PKP	**PKPdf**		**18 34 03.1 +0.6**
TXAR	**Lajitas Array**	**116.95 48**	PKP	**PKPdf**		**18 34 03.1 +0.6**
	comp=Z,0.4nm,0.7s,baz=49,slow=1.8,SNR=2.6					
TORD	**Torodi Ar. Bea**	**118.98 293**	PKP	**PKPdf**		**18 34 05.8 -0.7**
TORD	**Torodi Ar. Bea**	**118.98 293**	PKP	**PKPdf**		**18 34 05.8 -0.7**
	comp=Z,0.8nm,0.8s,baz=40,slow=2.9,SNR=6.7					
LRS	**Lares**	**147.22 22**	*e*PKPbc	**PKPbc**		**18 35 00.9 -0.3**
MTP	**Monte Pirata**	**147.86 20**	*e*PKPbc	**PKPab**		**18 35 03.7 -1.6**

*ISCJB **20** 18:18:07.2±1.3, 11°.45N±0°.05×59°.92W±0°.08, h78km±12km, Error ellipse: s-maj=13.9km s-min=7.3km az=12.9*
*TRN **20** 18:18:07.6, 11°.50N×59°.92W, h50km, MD3.6*
*FUNV **20** 18:18:10.0, 11°.14N×59°.94W, h15km, MW3.2*
ISC 20 18:18:06.6±2.2, 11°.44N±0°.05×59°.9W±0°.1, h88km±13km, n13, σ2s02/24, 2C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOSP	**Speyside**	**0.66 258**		↑*i*P	**Pn**	**18 18 21.4**	**-1.2**
TOSP	**Speyside**	**0.66 258**		*e*	**Pn**	**18 18 25.5**	**+2.9**
TOSP				*e*S	**Sn**	**18 18 32.2**	**-2.2**
GRW	**Mount Saint Ca**	**1.89 292**		*e*P	**Pn**	**18 18 38.2**	**+0.8**
GRW				*e*S	**Sn**	**18 19 01.2**	**+0.4**
GRSS	**Sisters**	**1.90 297**		*e*P	**Pn**	**18 18 38.2**	**+0.8**
GRSS				*e*S	**Sn**	**18 19 00.0**	**-0.9**
TCE	**Chacachacare**	**1.99 248**		*e*P	**Pn**	**18 18 40.9**	**+2.4**
TCE				*e*S	**Sn**	**18 19 02.8**	**-0.2**
SVB	**Belmont**	**2.26 324**		*e*P	**Pn**	**18 18 42.8**	**+0.5**
SVB				*e*S	**Sn**	**18 19 08.9**	**-0.6**
GUIV	**Guiria**	**2.44 251**		*e*P	**Pn**	**18 18 46.5**	**+2.0**
GUIV				*e*S	**Sn**	**18 19 13.5**	**-0.1**
MCLT	**Moule a Chique**	**2.48 335**↑		*e*P	**Pn**	**18 18 46.0**	**+0.8**
MCLT				*e*S	**Sn**	**18 19 14.0**	**-0.7**
GUNV	**Guanoco**	**3.27 247**		*e*P	**Pn**	**18 18 58.1**	**+2.4**
GUNV				*e*S	**Sn**	**18 19 33.9**	**+0.2**
CRUV	**Carupano**	**3.39 257**		*e*P	**Pn**	**18 18 58.4**	**+1.1**
CRUV				*e*S	**Sn**	**18 19 35.5**	**-1.0**
LUEV	**Luepa**	**5.78 196**		*e*P	**Pn**	**18 19 30.2**	**+0.2**
LUEV				*e*S	Sn	18 20 27.5	-7.5
BIRV	**Birongo**	**6.35 262**		*e*P	**Pn**	**18 19 40.0**	**+2.3**
BIRV				*e*S	**Sn**	**18 20 45.9**	**-2.9**
BAUV	**El Baul**	**8.41 254**		*e*P	**Pn**	**18 20 06.8**	**+1.0**
BAUV				*e*S	**Sn**	**18 21 33.6**	**-5.5**

*IDC **20** 18:37:50.2±1.9, 9°.01N×126°.94E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/24, mbtmp3.6/5, Error ellipse: s-maj=91.1km s-min=21.3km az=56.0*
*MAN **20** 18:37:58, 8°.70N×126°.20E, h14km, mb5.2, ML4.1, MS4.3*
ISC 20 18:37:54.8±3.0, 8°.71N±0°.05×126°.4E±0°.1, h9km±17km, n21, σ1s94/19, mb3.5/5, 4C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.36 322**↑		*e*P	**Pn**	**18 38 20.2**	**+0.2**
SCPH				*e*S	**Sb**	**18 38 38.0**	**-0.1**
DMPH	**Davao City--Mi**	**1.82 207**↑		*e*P	**Pn**	**18 38 27.4**	**+1.1**
DMPH				*e*S	**Sg**	**18 38 53.8**	**+0.5**
MSLP	**Maasin**	**2.04 314**		*e*P	**Pn**	**18 38 30.4**	**+1.0**
MSLP				*e*S	**Sn**	**18 38 56.0**	**+1.0**
CTBH	**Cotabato--PC H**	**2.56 235**↑		*e*P	**Pn**	**18 38 38.0**	**+1.6**
CTBH				*e*S	**Sn**	**18 39 08.2**	**+0.6**
TBP	**Tagbilaran**	**2.64 292**		*e*P	**Pn**	**18 38 38.4**	**+0.7**
TBP				*e*S	**Sn**	**18 39 06.1**	**-3.8**
LLP	**Lapu-Lapu**	**2.84 304**↑		*e*P	**Pn**	**18 38 42.8**	**+2.4**
LLP				*e*S	**Sn**	**18 39 16.2**	**+1.4**
OCLP	**Ormoc**	**2.89 324**		*e*P	**Pn**	**18 38 44.1**	**+3.0**
PAGZ	**Pagadian**	**3.06 254**		*e*P	**Pn**	**18 38 45.3**	**+1.9**
SNPH	**Sibulan**	**3.14 282**		*i* P	**Pb**	**18 38 48.8**	**-2.1**
SNPH				*i* S	**Sn**	**18 39 23.2**	**+1.0**
GUIM	**Jordan**	**4.17 298**		*e*P	**Pn**	**18 39 00.3**	**+1.7**
CMAR	**Chiang Mai Arr**	**28.31 293**		P	P	**18 43 49.9**	**+0.8**
	0.4nm,0.8s,baz=135,slow=9.0,SNR=3.9						
WRA	**Warramunga Arr**	**29.54 165**		P	P	18 43 56.8	-3.1
	0.3nm,0.5s,baz=346,slow=9.3,SNR=6.6						
ASAR	**Alice Springs**	**33.01 167**		P	P	18 44 28.8	-1.8
	0.3nm,0.5s,baz=359,slow=8.8,SNR=8.0						
ASAR				PcP	**PcP**	**18 47 11.9**	**-2.6**
	0.3nm,0.6s,baz=344,slow=2.5,SNR=5.0						
H11S3	**WAKE ISLAND Hy**	**40.31**	**72**	T	T	19 28 31.5	
	baz=263,slow=0.7,SNR=38						
H11S1	**WAKE ISLAND Hy**	**40.32**	**72**	T	T	19 28 27.3	
	baz=263,slow=0.7,SNR=61						
H11S2	**WAKE ISLAND Hy**	**40.33**	**72**	T	T	19 28 28.1	
	baz=263,slow=0.7,SNR=43						
H11N1	**WAKE ISLAND Hy**	**40.69**	**70**	T	T	19 29 03.4	
	baz=268,slow=0.7,SNR=16						
H11N2	**WAKE ISLAND Hy**	**40.70**	**70**	T	T	19 29 12.1	
	baz=268,slow=0.7,SNR=9.4						
H11N3	**WAKE ISLAND Hy**	**40.71**	**70**	T	T	19 29 05.2	
	baz=268,slow=0.7,SNR=16						
STKA	**Stephens Creek**	**42.91 161**		P	P	18 45 52.6	-1.3
	2.0nm,0.9s,baz=338,slow=8.2,SNR=3.9						
MKAR	**Makanchi Array**	**53.32 323**		P	P	18 47 11.4	-2.9
	0.4nm,0.7s,baz=133,slow=8.9,SNR=4.8						

*ISCJB **20** 19:07:37.3±0.5, 22°.86N±0°.07×93°.96E±0°.06, h58km, mb3.9/11, Error ellipse: s-maj=11.7km s-min=4.2km az=37.5*
*IDC **20** 19:07:42.6±2.8, 23°.25N×94°.61E, h97km±27km, mb3.5/12, mb1 3.6/13, mb1mx3.4/30, mbtmp3.5/13, Error ellipse: s-maj=32.1km s-min=11.4km az=55.0*
ISC 20 19:07:39.2±0.8, 22°.9N±0°.1×94°.0E±0°.1, h58km, n26, σ1s95/30, mb3.8/11, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.91 358**		*e*P	**Pn**	**19 08 10.0**	**+0.5**
IMP				*e*S	**Sn**	**19 08 30.0**	**-2.5**
CMAR	**Chiang Mai Arr**	**6.37 133**		P	**Pn**	**19 09 11.1**	**+0.5**
	0.8nm,0.3s,baz=312,slow=13,SNR=36						
CMAR				S	**Sn**	**19 10 23.6**	**+1.5**
	0.5nm,0.3s,baz=315,slow=22,SNR=4.6						
ODAN	**Odare**	**7.20 305**		*e*Pn	Pn	19 09 25.7	+3.6
ODAN				*e*Sn	**Sn**	**19 10 43.4**	**+0.7**
	382nm,0.4s						
TAPN	**Taplejung**	**7.24 309**		*e*Pn	Pn	19 09 26.2	+3.5
RAMN	**Ramite**	**7.86 303**		*e*Pn	Pn	19 09 34.9	+3.8
JIRN	**Jiri**	**8.53 306**		*e*Pn	**Pn**	**19 09 43.6**	**+3.1**
JIRN				*e*Sn	**Sn**	**19 11 14.5**	**-1.0**
	205nm,0.5s						
GUN	**Gumba**	**8.90 306**		*e*Pn	**Pn**	**19 09 48.3**	**+2.9**
GUN				*e*Sn	**Sn**	**19 11 23.3**	**-1.1**
	508nm,0.8s						
PKI	**Pulchoki**	**9.08 303**		*e*Pn	**Pn**	**19 09 50.9**	**+3.0**
PKI				*e*Sn	**Sn**	**19 11 28.3**	**-0.6**
	113nm,0.6s						
PKIN	**Phulchoki**	**9.10 303**		*e*Pn	**Pn**	**19 09 50.8**	**+2.7**
PKIN				*e*Sn	**Sn**	**19 11 28.1**	**-1.0**
	63nm,0.4s						
KKN	**Kakani**	**9.29 304**		*e*Pn	**Pn**	**19 09 53.5**	**+2.8**
KKN				*e*Sn	**Sn**	**19 11 33.2**	**-0.6**
	48nm,0.2s						
DMN	**Daman**	**9.34 302**		*e*Pn	**Pn**	**19 09 54.0**	**+2.6**
DMN				*e*Sn	**Sn**	**19 11 34.2**	**-0.8**
	146nm,0.7s						
GKN	**Gorkha**	**9.89 303**		*e*Pn	**Pn**	**19 10 01.1**	**+2.3**
GKN				*e*Sn	**Sn**	**19 11 46.2**	**-2.2**
	204nm,0.4s						
KOLN	**Koldanda**	**10.60 300**		*e*Pn	**Pn**	**19 10 10.4**	**+1.8**
KOLN				*e*Sn	**Sn**	**19 12 03.0**	**-2.9**
	111nm,0.4s						
DANN	**Dangsing**	**10.73 303**		*e*

SEG	**Port Louis**	**1.73**	**323**	*e*P	Pn	19 10 26.9 +1.4
SVB	**Belmont**	**1.92**	**205**	*e*P	Pb	19 10 30.2 -2.0
ANWB	**Willy Bob**	**2.94**	**334**	*e*P	Pn	19 10 42.5 +0.4
GRSS	**Sisters**	**2.95**	**203**	*e*P	Pn	19 10 45.2 +2.9
GRSS				*e*S	Sn	19 11 18.7 +2.2
GRHS	**Sauteurs**	**3.03**	**203**	*e*P	Pn	19 10 45.2 +1.9
GRHS				*e*S	Sn	19 11 19.9 +1.4
GRW	**Mount Saint Ca**	**3.10**	**203**	*e*P	Pn	19 10 46.9 +2.5
GRW				*e*S	Sn	19 11 21.5 +1.2
SKI	**Saint Kitts**	**3.20**	**316**	*e*P	Pn	19 10 48.7 +2.9
SKI				*e*S	Sn	19 11 25.3 +2.4
TOSP	**Speyside**	**3.71**	**182**	*e*P	Pn	19 10 56.0 +3.3
TOSP				*e*S	Sn	19 11 35.9 +0.7

DJA 20 19:32:01.3±2.0, 3°S±3°×12°1E±°, h10km, M3.6/4, MLv3.6/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.61**	**7**	P	Pn	19 32 29.1	-0.7
KKSI	**Kolaka, Sulawe**	**1.65**	**173**	P	Pn	19 32 30.0	-0.4
LUWI	**Luwuk**	**1.98**	**42**	P	Pn	19 32 34.1	-0.7
SPSI	**Sidrap Palu**	**2.21**	**229**	P	Pn	19 32 37.5	-0.5
SPSI				S	Sn	19 33 06.9	+1.5
BNSI	**Bone**	**2.30**	**216**	P	Pn	19 32 40.9	+1.6
MMSI	**Mamuju**	**2.54**	**266**	P	Pn	19 32 41.4	-1.3
MRSI	**Marisa**	**3.02**	**9**	P	Pn	19 32 49.0	-0.2
BKSI	**Bulukumba**	**3.08**	**205**	P	Pn	19 32 50.6	+0.5
TOLI	**Toli-Toli**	**3.68**	**350**	P	Pn	19 33 01.0	+2.7

DJA 20 19:34:22.1±1.4, 2°S±3°×12°1E±°, h20km±19km, M4.0/8, mb4.4/1, MLv3.8/8, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.53**	**7**	P	Pn	19 34 48.2	-0.1
KKSI	**Kolaka, Sulawe**	**1.73**	**174**	P	Pn	19 34 49.2	-1.9
LUWI	**Luwuk**	**1.90**	**43**	P	Pn	19 34 53.4	0.0
SPSI	**Sidrap Palu**	**2.27**	**228**	P	Pn	19 34 56.9	-1.7
SPSI				S	Sn	19 35 27.4	+1.4
BNSI	**Bone**	**2.38**	**215**	P	Pn	19 35 01.2	+1.2
MMSI	**Mamuju**	**2.57**	**264**	P	Pn	19 35 00.7	-1.9
MJSI	**Majene**	**2.72**	**246**	P	Pn	19 35 06.3	+1.6
MRSI	**Marisa**	**2.94**	**9**	P	Pn	19 35 07.5	-0.2
MRSI				S	Sn	19 35 42.9	+0.6
KAPI	**Kappang**	**3.08**	**214**	P	Pn	19 35 09.1	-0.5
BKSI	**Bulukumba**	**3.16**	**205**	P	Pn	19 35 13.9	+3.1
BBSI	**Bau Bau**	**3.22**	**160**	P	Pb	19 35 24.0	+5.3
TOLI	**Toli-Toli**	**3.60**	**349**	P	Pn	19 35 19.5	+2.7
LBMI	**Labuha**	**6.29**	**74**	P	Pn	19 35 53.7	-0.1

*IDC **20** 20:02:13.9±15.0, 14°.09N×120°.84E, h112km±150km, mb3.3/8, mb1 3.5/9, mb1mx3.3/27, mbtmp3.4/9, ML4.2/1, Error ellipse: s-maj=76.2km s-min=12.8km az=63.0*
*ISCJB **20** 20:02:15.1±0.7, 14°.01N±0°.10×120°.08E±0°.10, h120km, mb3.6/7, Error ellipse: s-maj=16.2km s-min=10.0km az=41.7*
*MAN **20** 20:02:20, 13°.96N×120°.24E, h70km, mb4.3, ML3.1, MS2.9*
ISC 20 20:02:16.0±0.9, 14°.01N±0°.09×120°.2E±0°.1, h120km, n15, σ1§55/12, mb3.7/7, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.73**	**83**	⇓*i*P	**Pn**	**20 02 36.5**	**+0.8**
PGP	**Puerto Galera**	**0.90**	**124**	⇓*i*P	**Pn**	**20 02 38.0**	**+0.9**
BOAC	**Boac**	**1.70**	**109**	*e*P	**Pn**	**20 02 47.9**	**+2.2**
BOAC				*e*S	**Sn**	**20 03 38.8**	**+0.4**
SJMP	**San Jose**	**1.78**	**149**	*e*P	**Pn**	**20 02 47.9**	**+1.1**
BUSP	**Coron**	**1.99**	**180**	*e*P	**Pn**	**20 02 51.9**	**+2.5**
ENPP	**El Nido**	**2.88**	**195**	*e*P	Pn	20 03 04.9	+4.1
KAPI	**Kappang**	**18.90**	**181**	P	**P**	**20 06 26.5**	**-0.9**
	0.7nm,0.3s,baz=62,slow=15,SNR=4.3						
CMAR	**Chiang Mai Arr**	**20.87**	**285**	P	Pn	20 06 53.5	+1.1
	1.3nm,0.9s,baz=99,slow=7.4,SNR=14						
FITZ	**Fitzroy Crossi**	**32.36**	**170**	P	**P**	**20 08 33.7**	**-0.4**
	1.2nm,0.9s,baz=355,slow=8.8,SNR=4.7						
SONM	**Songino Array**	**35.62**	**344**	P	**P**	**20 09 02.2**	**-0.1**
	0.1nm,0.3s,baz=164,slow=9.6,SNR=3.3						
WRA	**Warramunga Arr**	**36.50**	**157**	P	P	20 09 06.8	-3.1
	1.1nm,0.4s,baz=339,slow=9.2,SNR=31						
ASAR	**Alice Springs**	**39.77**	**160**	P	**P**	**20 09 35.0**	**-2.4**
	2.2nm,0.4s,baz=336,slow=6.7,SNR=61						
MKAR	**Makanchi Array**	**45.49**	**324**	P	**P**	**20 10 24.2**	**+0.9**
	0.1nm,0.3s,baz=123,slow=9.4,SNR=3.4						
KURBB	**Kurchatov Arra**	**49.66**	**326**	P	**P**	**20 10 55.8**	**+0.4**
	0.5nm,0.8s,baz=122,slow=8.1,SNR=4.6						
STKA	**Stephens Creek**	**50.03**	**156**	P	P	20 10 54.8	-3.6
	0.8nm,0.6s,baz=350,slow=11,SNR=2.8						

*ISCJB **20** 20:23:25.1±0.4, 4°.53S±0°.04×145°.09E±0°.07, h38km, mb4.2/15, Error ellipse: s-maj=10.7km s-min=6.1km az=5.4*
*AUST **20** 20:23:29.9, 4°.33S×145°.55E, h100km*
*IDC **20** 20:23:37.3±1.7, 4°.84S×145°.26E, h148km±18km, mb3.9/15, mb1 4.0/18, mb1mx4.0/20, mbtmp3.9/18, Error ellipse: s-maj=20.1km s-min=7.9km az=99.0*
ISC 20 20:23:28.0±0.7, 4°.56S±0°.06×144°.9E±0°.1, h38km, n37, σ1§47/31, mb4.3/15, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.48**	**44**	P	Pn	20 24 15.8	-3.9
	baz=2.9,SNR=8.7						
JAY	**Jayapura**	**4.69**	**296**	P	Pn	20 24 50.6	+14
	baz=5.2,SNR=12						
PMG	**Port Moresby**	**5.29**	**156**	P	Pn	20 24 49.5	+4.9
	10nm,0.3s,baz=294,slow=23,SNR=23						
PMG				S	**Sn**	**20 25 44.6**	**+0.2**
	13nm,0.3s,baz=142,slow=21,SNR=7.6						
COEN	**Coen**	**9.50**	**190**	P	Pn	20 25 51.0	+8.7
	baz=9.9,SNR=13						
MTSU	**Mount Surprise**	**13.50**	**183**	P	**P**	**20 26 46.2**	**+0.5**
	baz=14,SNR=7.7						
KDU	**Kakadu**	**14.72**	**236**	P	**P**	**20 27 00.4**	**+1.1**
	baz=15,SNR=34						
CTA	**Charters Tower**	**15.49**	**175**	P	**Pn**	**20 27 05.1**	**+1.3**
	0.2nm,0.3s,baz=356,slow=12,SNR=1.9						
MTN	**Manton Dam**	**15.93**	**238**	P	**P**	**20 27 15.3**	**+2.7**
	baz=17,SNR=15						
WRA	**Warramunga Arr**	**18.45**	**213**	P	**Pn**	**20 27 42.5**	**+1.6**
	3.3nm,0.3s,baz=40,slow=9.9,SNR=153						
WRA				S	**Sn**	**20 31 02.3**	**-3.8**
	baz=36,slow=22,SNR=3.3						
KNRA	**Kununurra**	**19.36**	**234**	P	**Pn**	**20 27 52.6**	**+0.8**
	baz=20,SNR=14						
EIDS	**Eidsvold**	**21.51**	**165**	P	**P**	**20 28 13.8**	**0.0**
	baz=22,SNR=5.3						
ASAR	**Alice Springs**	**21.77**	**208**	P	**P**	**20 28 17.4**	**+0.7**
	9.8nm,0.5s,baz=33,slow=7.8,SNR=93						
ASAR				S	S	20 32 07.7	-7.9
	2.6nm,1.0s,baz=28,slow=18,SNR=8.4						
QLP	**Quilpie**	**21.91**	**182**	P	**P**	**20 28 18.2**	**+0.2**
	baz=22,SNR=11						
RMQ	**Roma**	**22.11**	**171**	P	**P**	**20 28 20.6**	**+0.4**
	baz=22,SNR=18						
FITZ	**Fitzroy Crossi**	**23.18**	**233**	P	**P**	**20 28 31.9**	**+0.4**
	baz=24,SNR=57						
FITZ	**Fitzroy Crossi**	**23.18**	**233**	P	**P**	**20 28 31.6**	**+0.1**
	43nm,0.6s,baz=47,slow=10,SNR=165						
CMSA	**Cobar Meteorol**	**26.84**	**179**	P	**P**	**20 29 03.5**	**-1.5**
	baz=27,SNR=10						
STKA	**Stephens Creek**	**27.35**	**186**	P	**P**	**20 29 07.8**	**-1.8**
	baz=28,SNR=8.9						
STKA	**Stephens Creek**	**27.35**	**186**	P	**P**	**20 29 07.9**	**-1.7**
	4.5nm,0.7s,baz=4.7,slow=9.8,SNR=12						
BBOO	**Buckleboo**	**29.30**	**195**	P	**P**	**20 29 25.4**	**-1.6**
	baz=30,SNR=18						
MEEK	**Meekatharra**	**33.39**	**226**	P	**P**	**20 30 02.6**	**-0.5**
	baz=34,SNR=5.5						
MORW	**Morawa**	**36.66**	**225**	P	**P**	**20 30 30.7**	**-0.5**
	baz=37,SNR=7.4						
BLDU	**Ballidu**	**37.13**	**222**	P	**P**	**20 30 34.4**	**-0.8**
	baz=38,SNR=17						
MJAR	**Matsushiro Arr**	**41.37**	**352**	P	**P**	**20 31 09.7**	**-0.8**
	0.5nm,0.4s,baz=170,slow=9.5,SNR=4.0						
KSRS	**Korea Array**	**44.70**	**341**	P	**P**	**20 31 38.4**	**+1.1**
	1.3nm,0.7s,baz=161,slow=7.7,SNR=3.8						
USRK	**Ussuriysk Arra**	**49.92**	**348**	P	**P**	**20 32 18.9**	**+1.0**
	3.3nm,0.6s,baz=164,slow=5.8,SNR=9.1						
CMAR	**Chiang Mai Arr**	**50.76**	**298**	P	**P**	**20 32 26.1**	**+1.3**
	1.1nm,0.6s,baz=118,slow=5.9,SNR=13						
PETK	**Petropavlovsk-**	**58.46**	**9**	P	**P**	**20 33 19.6**	**-0.4**
	2.5nm,0.6s,baz=169,slow=9.1,SNR=4.6						
SONM	**Songino Array**	**62.16**	**332**	P	**P**	**20 33 45.7**	**+0.2**
	1.7nm,0.7s,baz=158,slow=5.6,SNR=14						
SONM				PcP	**PcP**	**20 34 22.7**	**-2.8**
	0.5nm,0.4s,baz=158,slow=4.7,SNR=6.0						
VNDA	**Vanda**	**73.47**	**176**	P	P	20 34 52.4	-3.6
	0.6nm,0.6s,baz=323,slow=6.0,SNR=11						
MKAR	**Makanchi Array**	**75.09**	**321**	P	**P**	**20 35 05.5**	**-0.6**
	2.4nm,0.8s,baz=96,slow=8.8,SNR=25						
ZALV	**Zalesovo Beam**	**76.71**	**328**	P	**P**	**20 35 13.2**	**-2.0**
	3.0nm,0.7s,baz=111,slow=6.1,SNR=14						
MAW	**Mawson**	**82.78**	**202**	P	P	20 35 43.4	-4.4
	1.0nm,0.4s,baz=84,slow=8.1,SNR=4.0						
ILAR	**Eielson Array**	**84.98**	**24**	P	P	20 35 55.1	-3.9
	4.6nm,0.7s,baz=251,slow=5.2,SNR=54						
NVAR	**Mina Array Bea**	**98.11**	**52**	P	P	20 36 56.8	-4.6
	0.3nm,0.6s,baz=273,slow=3.5,SNR=2.4						
TORD	**Torodi Ar. Bea**	**142.74**	**286**	PKhKP	PKPpre	20 42 50.6	
	0.5nm,0.4s,baz=66,slow=3.3,SNR=17						
DBIC	**Dimbokro**	**149.87**	**275**	PKPbc	**PKPdf**	**20 43 11.9**	**+1.5**
	5.2nm,1.0s,baz=104,slow=4.2,SNR=3.0						

*IDC **20** 20:59:19.0±7.9, 23°.26N×108°.59W, h0km, mb1 4.0/4, mb1mx3.7/24, mbtmp3.6/4, ML3.8/4, Error ellipse: s-maj=103.7km s-min=25.8km az=155.0*
*MEX **20** 20:59:29.4±0.5, 23°.17N×109°.27W, h20km, MD4.7*
ISC 20 20:59:22.0±2.1, 23°.1N±0°.2×109°.28W±0°.08, h10km, n14, σ2§23/12, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.40**	**318**	*e*P	**Pg**	**20 59 49.6**	**+0.8**
LPIG				*i* S	**Sn**	**21 00 06.0**	**-0.1**
LPIG	**La Paz**	**1.40**	**318**	Pn	**Pg**	**20 59 50.0**	**+1.2**
	188nm,0.3s,baz=109,slow=5.5,SNR=31						
LPIG				Sn	**Sn**	**21 00 06.1**	**+0.1**
	508nm,0.3s,baz=125,slow=21,SNR=23						
MAIG	**Mazatlaan**	**2.63**	**87**	*e*P	**Pb**	**21 00 08.7**	**-0.6**
MAIG				*e*S	**Sb**	**21 00 38.1**	**-3.6**
ZAIG	**Zacatecas**	**6.20**	**91**	*e*P	Pn	21 00 57.3	+3.5
ZAIG				*i* S	**Sn**	**21 02 07.8**	**+2.8**
CGIG		**7.37**	**9**	*i* P	Pn	21 01 14.8	+5.0
CGIG				*i* S	**Sn**	**21 02 33.7**	**+0.2**
TXAR	**Lajitas Array**	**8.03**	**38**	Pn	Pn	21 01 10.1	-8.7
	0.2nm,0.3s,baz=205,slow=14,SNR=10						
TXAR				Lg	Lg	21 03 13.4	
	0.6nm,0.3s,baz=226,slow=28,SNR=4.3						
LNIG	**Linares**	**9.16**	**77**	*i* P	Pn	21 01 40.4	+6.1
LNIG				*i* S	**Sn**	**21 03 21.7**	**+4.3**
NVAR	**Mina Array Bea**	**17.15**	**335**	Pn	**P**	**21 03 23.7**	**0.0**
	0.1nm,0.3s,baz=159,slow=12,SNR=12						
ELK	**Elko**	**18.33**	**345**	P	**Pn**	**21 03 36.0**	**-0.6**
	0.1nm,0.3s,baz=159,slow=17,SNR=6.2						
PDAR	**Pinedale Array**	**19.65**	**359**	P	**P**	**21 03 49.5**	**-1.7**
	0.1nm,0.3s,baz=170,slow=11,SNR=21						
ILAR	**Eielson Array**	**48.34**	**340**	P	P	21 08 09.1	+5.6
	0.7nm,0.7s,baz=152,slow=7.1,SNR=9.1						
H03N2	**Juan Fernandez**	**63.20**	**152**	T	T	22 19 35.9	
	baz=330,slow=0.7,SNR=3.9						
H03N1	**Juan Fernandez**	**63.21**	**152**	T	T	22 19 36.2	
	baz=330,slow=0.7,SNR=9.3						
H03N3	**Juan Fernandez**	**63.21**	**152**	T	T	22 19 34.9	
	baz=330,slow=0.7,SNR=12						

IDC 20 21:03:25.0±5.2, 15°.67S×173°.22W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/20, mbtmp4.0/3, MS3.7/1, Ms1 3.7/1, ms1mx3.0/34, Error ellipse: s-maj=212.4km s-min=54.3km az=135.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.05**	**240**	P	P	21 11 35.2	+0.3
	1.8nm,0.7s,baz=72,slow=6.4,SNR=4.3						
WRA	**Warramunga Arr**	**49.95**	**257**	P	P	21 12 20.9	-0.3
	1.0nm,0.6s,baz=94,slow=6.8,SNR=15						
ASAR	**Alice Springs**	**50.19**	**252**	P	P	21 12 22.8	-0.2
	1.7nm,0.5s,baz=88,slow=8.3,SNR=29						
FITZ	**Fitzroy Crossi**	**58.32**	**258**	LR	LR	21 37 41.9	
	comp=Z,61nm,18.9s,baz=287,slow=35						
BRTR	**Keskin Array B**	**146.47**	**321**	PKPbc	PKPdf	21 23 07.9	+0.5
	0.6nm,0.8s,baz=67,slow=3.7,SNR=3.5						

*MDD **20** 21:11:19.6±1.7, 36°.54N×9°.86W, h49km±40km, mb4.4/1, Error ellipse: s-maj=17.3km s-min=9.3km az=50.0, PRXIMO*
*CSEM **20** 21:11:20.7±0.3, 36°.69N×9°.62W, h20km, ML3.3/9, Error ellipse: s-maj=6.3km s-min=4.2km az=50.0*
*INMG **20** 21:11:20.6±1.2, 36°.59N×9°.74W, h18km±4km, ML2.4, Error ellipse: s-maj=4.7km s-min=2.5km az=54.0*
ISC 20 21:11:18.2±2.4, 36°.60N±0°.07×9°.77W±0°.08, h30km±13km, n104, σ1§48/185, 1C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.93**	**54**	*i* P	**Pn**	**21 11 37.0**	**+1.8**
PFVI				*e*S	**Sn**	**21 11 49.4**	**+1.9**
PFVI				A	A	21 11 50.0	
	66nm,0.2s						
PFVI	**Vila Bisbo**	**0.93**	**54**	⇑P	**Pn**	**21 11 37.0**	**+1.8**
	16nm,0.1s,SNR=18						
PFVI				S	**Sn**	**21 11 49.3**	**+1.9**
	112nm,0.2s,SNR=21						
PFVI	**Vila Bisbo**	**0.93**	**54**	P	**Pn**	**21 11 37.0**	**+1.8**
	16nm,0.1s,SNR=18						
PFVI				*e*S	**Sn**	**21 11 49.4**	**+1.9**
	66nm,0.2s						
MORF	**Marmelete**	**1.14**	**51**	*e*P	**Pb**	**21 11 40.0**	**+0.6**
MORF				*e*S	**Sn**	**21 11 54.7**	**+1.8**
MORF				A	A	21 11 56.5	
	49nm,0.2s						
MORF	**Marmelete**	**1.14**	**51**	P	**Pb**	**21 11 40.0**	**+0.6**
MORF				S	**Sn**	**21 11 54.7**	**+1.8**
	49nm,0.2s						
MORF	**Marmelete**	**1.14**	**51**	*e*P	**Pb**	**21 11 40.0**	**+0.6**
MORF				S	**Sn**	**21 11 54.7**	**+1.8**
	49nm,0.2s						
PTEO	**Sao Teotonio**	**1.27**	**41**	*e*Pn	**Pb**	**21 11 41.6**	**+0.2**
PTEO				*e*Sn	**Sb**	**21 11 57.8**	**+0.5**
PTEO				A	A	21 11 58.5	
	20nm,0.2s						
PTEO	**Sao Teotonio**	**1.27**	**41**	P	**Pb**	**21 11 41.6**	**+0.2**
PTEO				S	**Sb**	**21 11 57.8**	**+0.5**
	9.8nm,0.2s						
PTEO	**Sao Teotonio**	**1.27**	**41**	P	**Pb**	**21 11 41.6**	**+0.2**
PTEO				S	**Sb**	**21 11 57.8**	**+0.5**
	9.8nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.61**	**66**	*e*Pn	**Pb**	**21 11 46.5**	**-0.8**
PBDV				*e*Sn	**Sn**	**21 12 05.7**	**+1.3**
PBDV				A	A	21 12 09.7	
	16nm,0.3s						
PBDV				A	A	21 12 16.1	
	17nm,0.5s						
PBDV	**Barranco-do-Ve**	**1.61**	**66**	P	**Pb**	**21 11 46.5**	**-0.8**
PBDV				S	**Sn**	**21 12 05.7**	**+1.3**
	16nm,0.3s						
PBDV	**Barranco-do-Ve**	**1.61**	**66**	P	**Pb**	**21 11 46.5**	**-0.8**
PBDV				S	**Sn**	**21 12 05.7**	**+1.3**
	16nm,0.3s						
PCVE	**Castro Verde**	**1.73**	**53**	*e*Pn	**Pb**	**21 11 48.4**	**-0.9**
PCVE				*e*Sn	**Sb**	**21 12 09.0**	**-1.6**
PCVE				A	A	21 12 11.2	
	16nm,0.5s						
PCVE	**Castro Verde**	**1.73**	**53**	P	**Pb**	**21 11 48.4**	**-0.9**
PCVE				S	**Sb**	**21 12 09.0**	**-1.6**
	16nm,0.5s						
PCVE	**Castro Verde**	**1.73**	**53**	P	**Pb**	**21 11 48.4**	**-0.9**
PCVE				S	**Sb**	**21 12 09.0**	**-1.6**
	16nm,0.5s						
PNCL	**Nicolau / Gran**	**1.81**	**33**	*e*Pn	**Pb**	**21 11 49.0**	**-1.6**
PNCL				*e*Sn	**Sn**	**21 12 10.8**	**+1.5**
PNCL				A	A	21 12 13.2	
	12nm,0.1s						
PNCL	**Nicolau / Gran**	**1.81**	**33**	*e*Pn	**Pb**	**21 11 49.0**	**-1.6**
PNCL				*e*Sn	**Sn**	**21 12 10.8**	**+1.5**
	12nm,0.1s						
PVAQ	**Vaqueiros**	**1.83**	**63**	*e*Pn	**Pn**	**21 11 49.4**	**+1.8**
PVAQ				*e*Sn	**Sn**	**21 12 11.1**	**+1.3**
PVAQ				A	A	21 12 13.2	
	23nm,0.2s						
PVAQ	**Vaqueiros**	**1.83**	**63**	P	**Pn**	**21 11 49.4**	**+1.8**
PVAQ				S	**Sn**	**21 12 11.1**	**+1.3**
	23nm,0.2s						
PVAQ	**Vaqueiros**	**1.83**	**63**	P	**Pn**	**21 11 49.4**	**+1.8**
PVAQ				S	**Sn**	**21 12 11.1**	**+1.3**
	23nm,0.2s						
EGRO	**El Granado**	**2.06**	**62**	P	**Pn**	**21 11 52.7**	**+2.0**
	0.9nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**21 12 16.3**	**+0.9**
	11nm,0.1s,SNR=10						
EGRO	**El Granado**	**2.06**	**62**	P	**Pn**	**21 11 52.7**	**+2.0**
	0.9nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**21 12 16.3**	**+0.9**
	11nm,0.1s,SNR=10						
PBEJ	**Beja**	**2.08**	**46**	*e*Pn	**Pn**	**21 11 52.9**	**+1.8**
PBEJ				*e*Sn	**Sn**	**21 12 16.7**	**+0.6**
PBEJ				A	A	21 12 18.7	
	7.8nm,0.1s						
PBEJ	**Beja**	**2.08**	**46**	P	**Pn**	**21 11 52.9**	**+1.8**
PBEJ				S	**Sn**	**21 12 16.7**	**+0.6**
	3.9nm,0.1s						
PBEJ	**Beja**	**2.08**	**46**	P	**Pn**	**21 11 52.9**	**+1.8**
PBEJ				S	**Sn**	**21 12 16.7**	**+0.6**
	3.9nm,0.1s						
PMST	**Lisbon--Monsan**	**2.19**	**12**	*e*Sn	**Sn**	**21 12 19.8**	**+1.2**
PMST				A	A	21 12 21.8	
	24nm,0.2s						
PMST	**Lisbon--Monsan**	**2.19**	**12**	*e*Sn	**Sn**	**21 12 19.8**	**+1.2**
	24nm,0.2s						
PACT	**Alcochete**	**2.29**	**19**	*e*Pn	**Pn**	**21 11 56.1**	**+2.1**
PACT				*e*Sn	**Sn**	**21 12 21.9**	**+0.7**
PACT				A	A	21 12 23.8	
	22nm,0.7s						
PACT	**Alcochete**	**2.29**	**19**	*e*Pn	**Pn**	**21 11 56.1**	**+2.1**
PACT				*e*Sn	**Sn**	**21 12 21.9**	**+0.7**
	22nm,0.7s						
EVO	**Evora**	**2.38**	**35**	*e*Pn	**Pn**	**21 11 56.6**	**+1.3**
EVO				*e*Sn	**Sn**	**21 12 23.8**	**+0.3**
EVO				A	A	21 12 24.8	
	22nm,0.1s						
EVO	**Evora**	**2.38**	**35**	P	**Pn**	**21 11 56.6**	**+1.3**
EVO				S	**Sn**	**21 12 23.8**	**+0.3**
	22nm,0.1s						
EVO	**Evora**	**2.38**	**35**	P	**Pn**	**21 11 56.6**	**+1.3**
EVO				S	**Sn**	**21 12 23.8**	**+0.3**
	22nm,0.1s						
PMAFR	**Mafra**	**2.39**	**9**	*e*Pn	**Pn**	**21 11 56.9**	**+1.6**
PMAFR				*e*Sn	**Sn**	**21 12 24.5**	**+0.9**
PMAFR				A	A	21 12 27.1	
	47nm,0.2s						
PMAFR	**Mafra**	**2.39**	**9**	P	**Pn**	**21 11 56.5**	**+1.2**
	2.7nm,0.1s,SNR=5.7						
PMAFR				S	**Sn**	**21 12 24.1**	**+0.5**
	27nm,0.1s,SNR=17						
PMAFR	**Mafra**	**2.39**	**9**	P	**Pn**	**21 11 56.5**	**+1.2**
	2.7nm,0.1s,SNR=5.7						
PMAFR	**Mafra**	**2.39**	**9**	*e*Pn	**Pn**	**21 11 56.9**	**+1.6**
PMAFR				*e*Sn	**Sn**	**21 12 24.1**	**+0.5**
	27nm,0.1s,SNR=17						
PMAFR				*e*Sn	**Sn**	**21 12 24.5**	**+0.9**
	47nm,0.2s						
PBAR	**Barrancos**	**2.69**	**53**	*e*Pn	**Pn**	**21 12 01.2**	**+1.8**
PBAR				*e*Sn	**Sn**	**21 12 31.7**	**+0.8**
PBAR				A	A	21 12 34.0	
	4.9nm,0.1s						
PBAR	**Barrancos**	**2.69**	**53**	P	**Pn**	**21 12 01.2**	**+1.8**
PBAR				S	**Sn**	**21 12 31.7**	**+0.8**
	4.9nm,0.1s						
PBAR	**Barrancos**	**2.69**	**53**	P	**Pn**	**21 12 01.2**	**+1.8**
PBAR				S	**Sn**	**21 12 31.7**	**+0.8**
	4.9nm,0.1s						
EMIN	**Mina Concepcio**	**2.74**	**64**	P	**Pn**	**21 12 01.5**	**+1.4**
	0.4nm,0.1s,SNR=14						
EMIN				S	**Sn**	**21 12 32.1**	**-0.1**
	3.8nm,0.1s,SNR=13						
EMIN	**Mina Concepcio**	**2.74**	**64**	P	**Pn**	**21 12 01.5**	**+1.4**
	0.4nm,0.1s,SNR=14						
EMIN				S	**Sn**	**21 12 32.1**	**-0.1**
	3.8nm,0.1s,SNR=13						
PMTG	**Montargil**	**2.76**	**26**	*e*Pn	**Pn**	**21 12 01.9**	**+1.5**
PMTG				*e*Sn	**Sn**	**21 12 33.1**	**+0.5**
PMTG				A	A	21 12 35.5	
	7.9nm,0.4s						
PMTG	**Montargil**	**2.76**	**26**	*e*Pn	**Pn**	**21 12 01.9**	**+1.5**
PMTG				*e*Sn	**Sn**	**21 12 33.1**	**+0.5**
	7.9nm,0.4s						
PESTR	**Estremoz**	**2.85**	**37**	*e*Pn	**Pn**	**21 12 02.8**	**+1.1**
PESTR				*e*Sn	**Sn**	**21 12 35.1**	**+0.1**
PESTR				A	A	21 12 37.5	
	2.8nm,0.1s						
PESTR	**Estremoz**	**2.85**	**37**	P	**Pn**	**21 12 02.8**	**+1.1**
PESTR				S	**Sn**	**21 12 35.1**	**+0.1**
	2.8nm,0.1s						
PESTR	**Estremoz**	**2.85**	**37**	P	**Pn**	**21 12 02.8**	**+1.1**
PESTR				S	**Sn**	**21 12 35.1**	**+0.1**
	2.8nm,0.1s						
EBAD	**Badajoz**	**3.07**	**45**	P	**Pn**	**21 12 05.8**	**+1.1**
	0.7nm,0.1s,SNR=18						
EBAD				S	**Sn**	**21 12 40.8**	**+0.4**
	10nm,0.1s,SNR=10						

	0.7nm,0.1s,SNR=7.9							
EADA					S	Sn	21 13 12.1	-1.7
	5.0nm,0.1s,SNR=7.9							
ELUQ	**Luque**	**4.50**	**76**		S	**Sn**	**21 13 16.0**	**+0.1**
	2.3nm,0.2s,SNR=7.9							
ELUQ	**Luque**	**4.50**	**76**		S	**Sn**	**21 13 16.0**	**+0.1**
	2.3nm,0.2s,SNR=7.9							
EPLA	**Plasencia**	**4.52**	**39**		P	**Pn**	**21 12 25.8**	**+1.2**
	0.2nm,0.0s,SNR=7.9							
EPLA					S	**Sn**	**21 13 16.0**	**-0.2**
	2.5nm,0.1s,SNR=10							
EPLA	**Plasencia**	**4.52**	**39**		P	**Pn**	**21 12 25.8**	**+1.2**
	0.2nm,0.0s,SNR=7.9							
EPLA					S	**Sn**	**21 13 16.0**	**-0.2**
	2.5nm,0.1s,SNR=10							
EGUA	**Guajares**	**4.99**	**85**		P	**Pn**	**21 12 33.3**	**+2.2**
	1.5nm,0.2s,SNR=7.9							
EGUA					S	**Sn**	**21 13 26.3**	**-1.5**
	2.8nm,0.2s,SNR=4.0							
EGUA	**Guajares**	**4.99**	**85**		P	**Pn**	**21 12 33.3**	**+2.2**
	1.5nm,0.2s,SNR=7.9							
EGUA					S	**Sn**	**21 13 26.3**	**-1.5**
	2.8nm,0.2s,SNR=4.0							
POLO	**Lamas de Olo**	**5.01**	**17**	*e*	Pn	**Pn**	**21 12 33.0**	**+1.5**
POLO				*e*	Sn	**Sn**	**21 13 27.3**	**-1.2**
POLO					A	A	21 13 30.6	
	1.7nm,0.1s							
POLO	**Lamas de Olo**	**5.01**	**17**	*e*	Pn	**Pn**	**21 12 33.0**	**+1.5**
POLO				*e*	Sn	**Sn**	**21 13 27.3**	**-1.2**
	1.7nm,0.1s							
EBAN	**Banos Encina**	**5.02**	**70**		P	**Pn**	**21 12 32.5**	**+1.0**
	1.7nm,0.1s,SNR=4.0							
EBAN					S	**Sn**	**21 13 25.2**	**-3.2**
	2.3nm,0.1s,SNR=7.9							
EBAN	**Banos Encina**	**5.02**	**70**		P	**Pn**	**21 12 32.5**	**+1.0**
	1.7nm,0.1s,SNR=4.0							
EBAN					S	**Sn**	**21 13 25.2**	**-3.2**
	2.3nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**5.04**	**24**	*e*	Pn	**Pn**	**21 12 33.4**	**+1.6**
MVO				*e*	Sn	**Sn**	**21 13 27.7**	**-1.3**
MVO					A	A	21 13 30.7	
	2.9nm,0.3s							
MVO	**Moncorvo**	**5.04**	**24**		P	**Pn**	**21 12 33.1**	**+1.3**
	0.7nm,0.1s,SNR=7.9							
MVO					S	**Sn**	**21 13 27.5**	**-1.6**
	1.4nm,0.1s,SNR=6.7							
MVO	**Moncorvo**	**5.04**	**24**		P	**Pn**	**21 12 33.1**	**+1.3**
	0.7nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**5.04**	**24**	*e*	Pn	**Pn**	**21 12 33.4**	**+1.6**
MVO				*e*	Sn	**Sn**	**21 13 27.7**	**-1.3**
	2.9nm,0.3s							
ELOB	**Lobios**	**5.43**	**14**		S	**Sn**	**21 13 36.2**	**-2.5**
	2.2nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**5.43**	**14**		S	**Sn**	**21 13 36.2**	**-2.5**
	2.2nm,0.1s,SNR=7.9							
EQES	**Quesada**	**5.48**	**75**		P	**Pn**	**21 12 39.0**	**+1.1**
	0.1nm,0.1s,SNR=7.9							
EQES					S	**Sn**	**21 13 38.4**	**-1.6**
	2.7nm,0.2s,SNR=7.9							
EQES	**Quesada**	**5.48**	**75**		P	**Pn**	**21 12 39.0**	**+1.1**
	0.1nm,0.1s,SNR=7.9							
EQES					S	**Sn**	**21 13 38.4**	**-1.6**
	2.7nm,0.2s,SNR=7.9							
PGAV	**Gavieira, Arco**	**5.49**	**12**	*e*	Sn	**Sn**	**21 13 38.4**	**-1.7**
PGAV					A	A	21 13 41.6	
	3.4nm,0.6s							
PGAV	**Gavieira, Arco**	**5.49**	**12**	*e*	Sn	**Sn**	**21 13 38.4**	**-1.7**
	3.4nm,0.6s							
ESDC	**Sonseca Array**	**5.51**	**54**		P	**Pn**	**21 12 39.8**	**+1.5**
	1.0nm,0.2s,baz=238,slow=13,SNR=8.2							
ESDC					S	**Sn**	**21 13 40.2**	**-0.5**
	1.4nm,0.1s,baz=240,slow=23,SNR=24							
ESDC	**Sonseca Array**	**5.51**	**54**		P	**Pn**	**21 12 39.8**	**+1.5**
	1.0nm,0.2s,baz=238,slow=13,SNR=8.2							
ESDC					S	**Sn**	**21 13 40.2**	**-0.5**
	1.4nm,0.1s,slow=23,SNR=24							
EBER	**Berja**	**5.53**	**85**		S	**Sn**	**21 13 43.2**	**+1.8**
	1.8nm,0.3s,SNR=4.0							
EBER	**Berja**	**5.53**	**85**		S	**Sn**	**21 13 43.2**	**+1.8**
	1.8nm,0.3s,SNR=4.0							
PBRG	**Braganca**	**5.71**	**23**	*e*	Sn	**Sn**	**21 13 43.2**	**-2.3**
PBRG					A	A	21 13 46.3	
	2.6nm,0.2s							
PBRG	**Braganca**	**5.71**	**23**		S	**Sn**	**21 13 43.2**	**-2.3**
	1.3nm,0.2s							
PBRG	**Braganca**	**5.71**	**23**		S	**Sn**	**21 13 43.2**	**-2.3**
	1.3nm,0.2s							
ECAL	**Calabor**	**5.83**	**23**		S	**Sn**	**21 13 46.3**	**-2.4**
	2.4nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**5.83**	**23**		S	**Sn**	**21 13 46.3**	**-2.4**
	2.4nm,0.2s,SNR=7.9							
EHUE	**Huescar**	**5.86**	**76**		P	**Pn**	**21 12 44.4**	**+1.3**
	0.2nm,0.1s,SNR=7.9							
EHUE					S	**Sn**	**21 13 47.4**	**-1.8**
	1.5nm,0.1s,SNR=7.9							
GUD	**Guadarrama**	**5.97**	**46**		P	**Pn**	**21 12 45.9**	**+1.2**
	0.2nm,0.2s,SNR=7.9							
GUD					S	**Sn**	**21 13 50.5**	**-1.6**
	1.3nm,0.3s,SNR=7.9							
EVIA	**Vianos**	**6.12**	**68**		S	**Sn**	**21 13 51.6**	**-4.1**
	2.4nm,0.1s,SNR=7.9							
EMAZ	**Mazaricos**	**6.38**	**5**		P	Pn	21 12 47.4	-2.7
	2.9nm,0.3s,SNR=4.0							
EMAZ					S	**Sn**	**21 13 57.0**	**-4.9**
	1.9nm,0.2s,SNR=4.0							
ETOB	**Tobarra**	**6.84**	**70**		P	**Pn**	**21 12 57.4**	**+0.9**
	0.2nm,0.1s,SNR=7.9							
ETOB					S	**Sn**	**21 14 10.5**	**-2.9**
	0.5nm,0.1s,SNR=7.9							
ETOB	**Tobarra**	**6.84**	**70**		P	**Pn**	**21 12 57.4**	**+0.9**
	0.2nm,0.1s,SNR=7.9							
ETOB					S	**Sn**	**21 14 10.5**	**-2.9**
	0.5nm,0.1s,SNR=7.9							
EMOS	**Mosqueruela**	**8.20**	**60**		S	**Sn**	**21 14 45.9**	**-1.2**
	1.3nm,0.3s,SNR=7.9							
EMOS	**Mosqueruela**	**8.20**	**60**		S	**Sn**	**21 14 45.9**	**-1.2**
	1.3nm,0.3s,SNR=7.9							

IDC 20 21:12:25.0±4.2, 8°37'S×157°17'E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/18, mbtmp3.6/5, Error ellipse: s-maj=108.0km s-min=34.3km az=100.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.91**	**240**	P	P	21 17 48.2	-1.8
	0.8nm,0.7s,baz=67,slow=10,SNR=6.0						
ASAR	**Alice Springs**	**26.98**	**233**	P	P	21 18 09.3	+0.6
	0.2nm,0.7s,baz=61,slow=9.7,SNR=3.0						
STKA	**Stephens Creek**	**27.51**	**210**	P	P	21 18 14.0	+0.6
	1.0nm,0.6s,baz=42,slow=12,SNR=4.1						
CMAR	**Chiang Mai Arr**	**63.32**	**295**	P	P	21 22 57.9	+1.5
	0.4nm,0.7s,baz=129,slow=7.1,SNR=4.7						
MKAR	**Makanchi Array**	**85.86**	**318**	P	P	21 25 05.6	-1.2
	0.4nm,0.6s,baz=94,slow=4.7,SNR=5.2						

*IDC **20** 21:21:22.9±0.7, 11°.57N×141°.70E, h0km, mb4.0/14, mb1 4.2/14, mb1mx4.0/25, mbtmp4.0/14, MS3.7/11, Ms1 3.8/11, ms1mx3.4/38, Error ellipse: s-maj=26.0km s-min=16.8km az=85.0*

*ISCJB **20** 21:21:24.9±0.4, 11°.53N±0°.06×141°.66E±0°.06, h27km, mb4.0/17, MS3.7/11, Error ellipse: s-maj=9.2km s-min=8.1km az=149.0*

*NEIC **20** 21:21:27.1±3.3, 11°.53N×141°.61E, h29km±23km, mb4.4/2, Error ellipse: s-maj=9.9km s-min=7.8km az=58.0*

ISC 20 21:21:26.8±0.5, 11°.52N±0°.09×141°.64E±0°.08, h27km, n51, σ0s86/45, mb4.0/17, MS3.6/11, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.76**	**57**	*e*Pn	**Pn**	**21 22 23.9**	**+0.9**
GUMO				*e*Sn	**Sn**	**21 23 05.0**	**-1.4**
PMG	**Port Moresby**	**21.50**	**165**	LR	LR	21 34 23.6	
	comp=Z,119nm,18.9s,baz=41,slow=36						
YULB	**Yu-li**	**22.68**	**304**	*e*P	**P**	**21 26 25.5**	**-0.8**
NACB	**Ninganchiao**	**22.82**	**306**	*e*P	**P**	**21 26 27.6**	**-0.2**
TPUB	**Ta-pu**	**23.18**	**303**	*e*P	**P**	**21 26 31.4**	**-0.1**
YHNB	**Yeheng**	**23.24**	**307**	*e*P	**P**	**21 26 32.1**	**-0.1**
JNU	**Nakatsue**	**23.66**	**337**	LR	LR	21 35 01.5	
	comp=Z,160nm,19.0s,baz=70,slow=35						
MJAR	**Matsushiro Arr**	**25.10**	**353**	P	**P**	**21 26 49.9**	**+0.6**
MJAR	**Matsushiro Arr**	**25.10**	**353**	P	**P**	**21 26 49.9**	**+0.6**
	1.2nm,0.7s,baz=166,slow=10.0,SNR=3.1						
MJAR				LR	LR	21 35 26.9	
	comp=Z,92nm,19.6s,baz=175,slow=34						
MAJO	**Matsushiro**	**25.10**	**353**	*e*P	**P**	**21 26 48.6**	**-0.7**
KSRS	**Korea Array**	**28.61**	**337**	P	**P**	**21 27 19.1**	**-1.7**
	0.7nm,0.4s,baz=152,slow=10,SNR=3.3						
KSRS				LR	LR	21 36 41.7	
	comp=Z,116nm,18.3s,baz=171,slow=32						
KSAR	**Wonju Array Be**	**28.61**	**337**	P	**P**	**21 27 19.1**	**-1.8**
WRA	**Warramunga Arr**	**32.08**	**193**	P	**P**	**21 27 51.8**	**+0.1**
WRA	**Warramunga Arr**	**32.08**	**193**	P	**P**	**21 27 51.8**	**+0.1**
	2.3nm,0.9s,baz=15,slow=9.5,SNR=9.2						
USRK	**Ussuriysk Arra**	**33.61**	**347**	P	**P**	**21 28 05.3**	**+0.5**
	3.5nm,0.7s,baz=173,slow=8.1,SNR=12						
ENH	**Enshi**	**35.18**	**307**	*e*P	**P**	**21 28 17.5**	**-1.2**
ASAR	**Alice Springs**	**35.78**	**192**	P	**P**	**21 28 24.6**	**+0.7**
ASAR	**Alice Springs**	**35.78**	**192**	P	**P**	**21 28 24.6**	**+0.7**
	0.7nm,0.7s,baz=16,slow=13,SNR=10.0						
CMAR	**Chiang Mai Arr**	**41.74**	**285**	P	**P**	**21 29 15.1**	**+1.1**
CMAR	**Chiang Mai Arr**	**41.74**	**285**	P	**P**	**21 29 15.1**	**+1.1**
	0.5nm,0.7s,baz=87,slow=7.3,SNR=4.8						
ARMA	**Armidale**	**42.79**	**167**	*e*P	**P**	**21 29 20.8**	**-1.5**
	3.2nm,0.9s						
STKA	**Stephens Creek**	**43.15**	**180**	*e*P	**P**	**21 29 25.5**	**+0.3**
	0.2nm,0.7s						
STKA	**Stephens Creek**	**43.15**	**180**	LR	LR	21 48 46.5	
	comp=Z,104nm,20.7s,baz=25,slow=38						
SONM	**Songino Array**	**46.69**	**328**	P	**P**	**21 29 54.0**	**+0.6**
SONM	**Songino Array**	**46.69**	**328**	P	**P**	**21 29 54.0**	**+0.6**
	1.1nm,0.7s,baz=141,slow=7.5,SNR=7.7						
SONM				LR	LR	21 49 53.8	
	comp=Z,60nm,18.1s,baz=243,slow=37						
RAO	**Raoul Island**	**56.26**	**137**	LR	LR	21 52 00.1	
	comp=Z,60nm,21.9s,baz=193,slow=33						
URZ	**Urewera**	**59.60**	**148**	*e*P	**P**	**21 31 28.1**	**-0.2**
	4.4nm,0.7s						
MK31	**Makanchi Array**	**60.83**	**317**	*e*P	**P**	**21 31 36.7**	**0.0**
MKAR	**Makanchi Array**	**60.83**	**317**	P	**P**	**21 31 37.2**	**+0.5**
MKAR	**Makanchi Array**	**60.83**	**317**	P	**P**	**21 31 37.2**	**+0.5**
	1.3nm,0.9s,baz=102,slow=8.3,SNR=12						
ZALV	**Zalesovo Beam**	**61.50**	**326**	P	**P**	**21 31 41.5**	**+0.3**
ZALV	**Zalesovo Beam**	**61.50**	**326**	P	**P**	**21 31 41.5**	**+0.3**
	1.1nm,0.7s,baz=91,slow=6.6,SNR=4.8						
BVAR	**Borovoye Array**	**69.61**	**322**	LR	LR	22 04 11.2	
	comp=Z,86nm,18.4s,baz=296,slow=37						
ILAR	**Eielson Array**	**71.77**	**25**	P	**P**	**21 32 45.4**	**-1.1**
ILAR	**Eielson Array**	**71.77**	**25**	P	**P**	**21 32 45.4**	**-1.1**
	0.9nm,0.7s,baz=249,slow=6.3,SNR=14						
YKA	**Yellowknife Ar**	**86.12**	**27**	P	**P**	**21 34 05.1**	**0.0**
YKA	**Yellowknife Ar**	**86.12**	**27**	P	**P**	**21 34 05.1**	**0.0**
	0.8nm,0.7s,baz=294,slow=4.6,SNR=3.3						
YBH	**Yreka Blue Hor**	**86.59**	**48**	P	**P**	**21 34 08.9**	**+0.9**
YBH	**Yreka Blue Hor**	**86.59**	**48**	P	**P**	**21 34 08.9**	**+0.9**
	1.3nm,0.7s,baz=340,slow=1.5,SNR=4.2						
ARCES	**ARCESS Array B**	**88.06**	**342**	LR	LR	22 18 12.7	
	comp=Z,82nm,20.7s,baz=268,slow=39						
VNDA	**Vanda**	**89.64**	**176**	LR	LR	22 14 09.5	
	comp=Z,83nm,18.9s,baz=246,slow=35						
NVAR	**Mina Array Bea**	**90.66**	**51**	P	**P**	**21 34 29.0**	**+1.4**
NVAR	**Mina Array Bea**	**90.66**	**51**	P	**P**	**21 34 29.0**	**+1.4**
	1.1nm,0.6s,baz=259,slow=7.0,SNR=5.2						
FINES	**FINESS Array B**	**91.67**	**334**	P	**P**	**21 34 30.2**	**-1.2**
FINES	**FINESS Array B**	**91.67**	**334**	P	**P**	**21 34 30.2**	**-1.2**
	2.3nm,0.9s,baz=77,slow=3.3,SNR=3.4						
MAW	**Mawson**	**96.33**	**202**	*e*P	P	21 34 46.1	-6.4
NOA	**NORSAR Array B**	**97.81**	**338**	LR	LR	22 25 17.2	
	comp=Z,45nm,19.7s,baz=305,slow=39						
TORD	**Torodi Ar. Bea**	**133.31**	**301**	PKP	**PKPdf**	**21 40 41.7**	**+0.3**
TORD	**Torodi Ar. Bea**	**133.31**	**301**	PKP	**PKPdf**	**21 40 41.7**	**+0.3**
	0.2nm,0.6s,baz=13,slow=2.7,SNR=2.9						
LPAZ	**La Paz**	**150.73**	**103**	PKP	**PKPdf**	**21 41 12.5**	**-0.3**
LPAZ				PKPbc	**PKiKP**	**21 41 19.0**	**0.0**
LPAZ	**La Paz**	**150.73**	**103**	PKP	**PKPdf**	**21 41 12.5**	**-0.3**
	0.7nm,0.8s,baz=270,slow=4.0,SNR=2.4						
LPAZ				PKPbc	**PKiKP**	**21 41 19.0**	**0.0**
	1.1nm,0.7s,baz=240,slow=2.4,SNR=6.7						

IDC 20 21:34:13.8±2.4, 12°.59S×165°.99E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.7/19, mbtmp3.6/7, Error ellipse: s-maj=78.4km s-min=26.9km az=128.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.52**	**226**	P	P	21 40 20.1	+0.1
	1.6nm,0.8s,baz=40,slow=11,SNR=3.9						
WRA	**Warramunga Arr**	**31.22**	**252**	P	P	21 40 35.2	0.0
	0.6nm,0.9s,baz=82,slow=9.1,SNR=4.1						
ASAR	**Alice Springs**	**32.35**	**246**	P	P	21 40 45.1	0.0
	0.7nm,0.7s,baz=76,slow=9.2,SNR=6.9						
CMAR	**Chiang Mai Arr**	**72.95**	**294**	P	P	21 45 44.9	-0.8
	0.2nm,0.3s,baz=116,slow=6.2,SNR=3.3						
SONM	**Songino Array**	**80.05**	**324**	P	P	21 46 25.8	+0.3
	0.2nm,0.6s,baz=131,slow=7.8,SNR=2.3						
ILAR	**Eielson Array**	**84.89**	**18**	P	P	21 46 49.8	-0.4
	0.2nm,0.7s,baz=233,slow=6.1,SNR=3.0						
MKAR	**Makanchi Array**	**94.81**	**317**	P	P	21 47 38.7	+1.1
	0.3nm,0.8s,baz=116,slow=5.0,SNR=2.9						

*IDC **20** 21:35:47.8±1.7, 43°.50N×105°.21W, h0km, mb4.0/6, mb1 3.9/11, mb1mx3.7/30, mbtmp3.8/11, ML3.4/3, Error ellipse: s-maj=54.3km s-min=8.2km az=153.0*

*ISCJB **20** 21:35:48.9±0.2, 43°.71N±0°.01×105°.29W±0°.02, h0km, mb4.0/6, Error ellipse: s-maj=1.9km s-min=1.7km az=139.1*

*NEIC **20** 21:35:49.4±0.4, 43°.76N×105°.15W, h0km, ML3.2, Error ellipse: s-maj=5.8km s-min=5.0km az=133.0, Suspected Mining explosion.*

NEIC 65 km [40 miles] SSE of Gillette.

ISC 20 21:35:49.5±0.5, 43°.73N±0°.02×105°.26W±0°.02, h0km, n154, σ1s32/191, mb4.0/6, 48C-49D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.27**	**328**	P	**Pg**	**21 35 55.8**	**+1.1**
	baz=0.3,SNR=105						
I23A				⇓S	**Sg**	**21 35 58.9**	**+0.6**
	baz=0.3						
J23A	**Dilts Ranch, B**	**0.39**	**213**	P	**Pg**	**21 35 57.0**	**+0.1**
	baz=0.5,SNR=492						
J23A				⇑S	**Sg**	**21 36 00.9**	**-1.0**
	baz=0.5						
I24A	**Kuemmerle Ranc**	**0.48**	**74**	P	**Pb**	**21 36 00.1**	**-0.8**
	baz=0.4,SNR=69						
J24A	**Dixon Ranch, L**	**0.59**	**132**	⇑P	**Pg**	**21 36 01.5**	**+0.7**
	baz=0.6,SNR=21						
J24A				⇑S	**Sg**	**21 36 10.0**	**+1.6**
	baz=0.6						
H23A	**Clabaugh Cattl**	**0.84**	**353**	⇑P	**Pg**	**21 36 05.9**	**+0.3**
	baz=0.8,SNR=29						
I22A	**9 Mile Ranch,**	**0.90**	**281**	P	**Pg**	**21 36 06.2**	**-0.5**
	baz=1.0,SNR=133						
I22A				⇑S	**Sg**	**21 36 17.7**	**-0.7**
	baz=1.0						
J22A	**Midwest**	**0.94**	**251**	⇑P	**Pg**	**21 36 06.3**	**-1.2**
	baz=1.0						
J22A				⇑S	**Sg**	**21 36 18.5**	**-1.1**
	baz=1.0						
K23A	**Bowen Ranch, D**	**1.01**	**195**	⇓P	**Pg**	**21 36 08.4**	**-0.4**
	baz=1.1,SNR=12						
K23A				⇑S	**Sg**	**21 36 21.4**	**-0.5**
	baz=1.1						
K24A	**Anderson Ranch**	**1.06**	**162**	P	**Pg**	**21 36 09.4**	**-0.3**
	baz=1.1,SNR=118						
H24A	**Dirks Ranch, A**	**1.14**	**26**	P	**Pg**	**21 36 11.3**	**0.0**
	baz=1.1,SNR=59						
H24A				⇑S	**Sb**	**21 36 27.8**	**+0.4**
	baz=1.1						
I25A	**Rochford**	**1.14**	**75**	⇓P	**Pg**	**21 36 11.7**	**+0.3**
	baz=1.1						
H22A	**Clearmont**	**1.17**	**318**	⇓P	**Pg**	**21 36 11.3**	**-0.6**
	baz=1.2,SNR=53						
K22A	**Casper**	**1.42**	**221**	P	**Pn**	**21 36 15.1**	**-1.6**
	baz=1.5,SNR=65						
G23A	**Biddle**	**1.48**	**356**	⇓P	**Pn**	**21 36 17.1**	**-0.3**
	baz=1.5,SNR=110						
I21A	**Big Trails, Te**	**1.48**	**274**	⇓P	**Pn**	**21 36 15.3**	**-2.1**
	baz=1.6						
I21A				⇑S	**Sg**	**21 36 35.4**	**-1.4**
	baz=1.6						
H25A	**Fruitdale**	**1.49**	**53**	⇓P	**Pb**	**21 36 18.0**	**-0.1**
	baz=1.4,SNR=28						
H21A	**Big Horn, Sher**	**1.57**	**306**	⇑P	**Pn**	**21 36 18.4**	**-0.3**
	baz=1.6,SNR=72						
J21A	**Lysite**	**1.64**	**257**	⇑P	**Pn**	**21 36 18.3**	**-1.4**
	baz=1.7,SNR=37						
J21A				⇑S	**Sn**	**21 36 39.9**	**-1.6**
	baz=1.7						
L23A	**Garrett**	**1.65**	**192**	⇓P	**Pn**	**21 36 19.2**	**-0.7**
	baz=1.7						
G22A	**Birney**	**1.66**	**334**	⇓P	**Pn**	**21 36 20.4**	**+0.4**
	baz=1.7,SNR=69						
L24A	**Wheatland**	**1.70**	**172**	⇓P	**Pn**	**21 36 20.6**	**0.0**
	baz=1.7,SNR=22						
G24A	**Alzada**	**1.71**	**20**	⇓P	**Pb**	**21 36 21.5**	**-0.3**
	baz=1.7,SNR=21						
G24A				⇑S	**Sg**	**21 36 45.1**	**+0.7**
	baz=1.7						
I26A	**New Underwood**	**1.76**	**79**	P	**Pb**	**21 36 22.8**	**+0.1**
	baz=1.7,SNR=49						
K21A	**Alcova**	**1.82**	**234**	⇓P	**Pn**	**21 36 22.0**	**-0.2**
	baz=1.9,SNR=209						
K21A				⇓S	**Sn**	**21 36 45.8**	**-0.3**
	baz=1.9						
K26A	**Motz Farm, Whi**	**1.84**	**123**	⇑P	**Pb**	**21 36 23.4**	**-0.5**
	baz=1.8,SNR=17						
K26A				⇑Sb	**Sg**	**21 36 49.9**	**+1.5**
	baz=1.8						
L25A	**Engebretsen Ra**	**1.84**	**148**	⇑P	**Pb**	**21 36 23.8**	**-0.3**
	baz=1.8,SNR=55						
L25A				⇓Sb	**Sg**	**21 36 49.6**	**+1.1**
	baz=1.8						
L22A	**Ellis Ranch, M**	**1.90**	**207**	⇓P	**Pn**	**21 36 23.5**	**+0.1**
	baz=2.0,SNR=52						
G25A	**Newell**	**1.97**	**41**	⇓P	**Pb**	**21 36 25.9**	**-0.3**
	baz=1.9						
G25A				⇑Sb	**Sg**	**21 36 54.4**	**+1.6**
	baz=1.9						
F23A	**Volborg**	**2.00**	**357**	P	**Pn**	**21 36 25.1**	**+0.6**
	baz=2.0,SNR=59						
H26A	**Fairpoint**	**2.00**	**63**	⇓P	**Pb**	**21 36 26.7**	**0.0**
	baz=1.9,SNR=33						
G21A	**Lodge Grass**	**2.04**	**318**	⇓P	**Pn**	**21 36 25.6**	**+0.4**
	baz=2.1,SNR=44						
G21A				⇓Sb	**Sb**	**21 36 54.6**	**+1.0**
	baz=2.1						
I20A	**Worland**	**2.09**	**277**	P	**Pn**	**21 36 26.1**	**+0.3**
	baz=2.2,SNR=111						
J20A	**Shoshoni**	**2.09**	**261**	⇑P	**Pn**	**21 36 27.0**	**+1.2**
	baz=2.2						
H20A	**Greybull**	**2.11**	**292**	P	**Pn**	**21 36 26.1**	**-0.1**
	baz=2.2,SNR=29						
F22A	**Rosebud**	**2.17**	**341**	P	**Pn**	**21 36 26.9**	**0.0**
	baz=2.2,SNR=52						
F24A	**Ekalaka**	**2.19**	**15**	⇓P	**Pn**	**21 36 28.4**	**+1.1**
	baz=2.1						
M24A	**Cheyenne**	**2.28**	**172**	⇑P	**Pn**	**21 36 29.7**	**+1.1**
	baz=2.3,SNR=94						
M24A				⇑Sb	**Sg**	**21 37 02.1**	**-0.7**
	baz=2.3						
M23A	**Laramie**	**2.29**	**189**	⇓P	**Pn**	**21 36 29.0**	**+0.3**
	baz=2.3						
M23A				⇓Sb	**Sb**	**21 37 01.3**	**+0.7**
	baz=2.3						
G27A	**Dupree**	**2.34**	**44**	⇑P	Pg	21 36 38.1	+3.8
	baz=2.8						
J27A	**Elkhorn Farm,**	**2.42**	**100**	⇓S	**Sb**	**21 37 03.2**	**-1.0**
	baz=2.3						
F21A	**Absaloka Mine,**	**2.48**	**328**	⇑P	**Pn**	**21 36 30.5**	**-0.6**
	baz=2.5						
F21A				⇓Sb	**Sb**	**21 37 06.8**	**+0.8**
	baz=2.5						
RWWY	**Rawlins**	**2.50**	**216**	*e*Pn	**Pg**	**21 36 38.7**	**+1.5**
RWWY				*e*Sn	**Sg**	**21 37 11.5**	**+1.9**
G20A	**Bridger**	**2.59**	**306**	⇑P	**Pn**	**21 36 32.1**	**-0.6**
	baz=2.6						
E22A	**Miles City**	**2.75**	**350**	⇑P	**Pn**	**21 36 34.7**	**-0.2**
	baz=2.7						
E23A	**Ismay**	**2.77**	**359**	P	**Pn**	**21 36 35.7**	**+0.5**
	baz=2.7,SNR=10						
H19A	**Powell**	**2.84**	**291**	⇑P	**Pn**	**21 36 36.6**	**+0.4**
	baz=2.9,SNR=15						
N23A	**Red Feather La**	**2.88**	**190**	⇑P	**Pn**	**21 36 37.7**	**+0.9**
	baz=2.9,SNR=42						
E24A	**Baker**	**2.91**	**13**	⇑P	**Pn**	**21 36 38.1**	**+1.0**
	baz=2.9,SNR=16						
F20A	**Billings**	**2.92**	**316**	P	**Pn**	**21 36 36.9**	**-0.3**
	baz=3.0,SNR=20						
LAO	**LASA Array**	**3.04**	**347**	*e*Pn	**Pn**	**21 36 37.6**	**-1.2**
LAO				*e*Sn	Sn	21 37 07.3	-8.6
RLMT	**Red Lodge**	**3.19**	**297**	*e*Pn	**Pn**	**21 36 41.5**	**+0.4**
RLMT				*e*Sn	**Sn**	**21 37 21.0**	**+1.0**
PDAR	**Pinedale Array**	**3.28**	**254**	Pn	**Pn**	**21 36 42.7**	**+0.3**
PDAR				Lg	Lg	21 37 29.7	
PDAR	**Pinedale Array**

SMCO	**Snowmass**	**4.73**	**196**	*e*Pn		Pn	21 37 07.2	+4.8	
SMCO				*e*Sn		**Sb**	**21 38 08.0**	**-3.1**	
B23A	**Brockton** baz=4.7,SNR=12	**4.74**	**2**	⇑P		**Pn**	**21 37 03.3**	**+1.1**	
DGMT	**Dagmar**	**4.80**	**8**	*e*Pn		**Pn**	**21 37 02.4**	**-0.6**	
DGMT				*e*Pg		**Pg**	**21 37 19.2**	**-2.2**	
DGMT				*e*Sg		**Sb**	**21 38 16.4**	**+3.6**	
DGMT	**Dagmar** baz=4.8,SNR=6.3	**4.80**	**8**	⇓P		**Pn**	**21 37 04.3**	**+1.3**	
C19A	**Slack Wire Ran** baz=4.8,SNR=5.2	**4.80**	**328**	⇓P		**Pn**	**21 37 03.2**	**+0.1**	
Q25A	**Bedland, Calha** baz=4.9	**4.87**	**171**	⇑P		**Pn**	**21 37 04.4**	**+0.2**	
O29A	**4D Ranch, Culb** baz=4.9	**4.90**	**136**	⇑P		**Pn**	**21 37 05.2**	**+0.7**	
P28A	**Saint Francis** baz=4.9,SNR=18	**4.91**	**147**	⇓P		**Pn**	**21 37 04.9**	**+0.3**	
BOZ	**Bozeman (W)**	**4.93**	**295**	*e*Pn		**Pn**	**21 37 06.3**	**+1.4**	
BOZ				*e*Pg		Pb	21 37 20.2	+3.5	
BOZ				*e*Sg		**Sb**	**21 38 14.0**	**-2.6**	
B20A	**Solberg Farm,** baz=5.1,SNR=5.5	**5.09**	**339**	⇑P		**Pn**	**21 37 06.9**	**-0.1**	
P29A	**Atwood** baz=5.2,SNR=7.5	**5.24**	**140**	⇑P		**Pn**	**21 37 09.3**	**+0.1**	
O30A	**MW Ranch, Wils** baz=5.2,SNR=6.5	**5.26**	**131**	⇓P		**Pn**	**21 37 10.0**	**+0.7**	
A22A	**Carney Farms,** baz=5.3	**5.28**	**355**	⇓P		**Pn**	**21 37 09.9**	**+0.2**	
EGMT	**Eagleton** 25nm,0.5s	**5.32**	**325**	*e*Pn		**Pn**	**21 37 10.0**	**-0.2**	
EGMT				*e*Sn		Sn	21 38 00.3	-12	
Q28A	**Sharon Springs** baz=5.3,SNR=5.4	**5.33**	**150**	⇓P		**Pn**	**21 37 10.3**	**0.0**	
DLMT	**Dillon** 4.8nm,0.6s	**5.49**	**290**	*e*Pn		**Pn**	**21 37 13.9**	**+1.2**	
DLMT				*e*Sn		**Sn**	**21 38 19.6**	**+3.0**	
LRM	**Limekiln Ridge** 23nm,0.4s	**5.53**	**295**	*e*Pn		**Pn**	**21 37 13.2**	**0.0**	
LRM				*e*Pg		Pg	21 37 32.2	-3.2	
LRM				*e*Sn		Sn	21 38 09.6	-8.1	
DAU	**Daniels Canyon**	**5.56**	**235**	*e*Pn		Pn	21 37 17.8	+4.1	
DAU				*e*Sg		**Sg**	**21 38 53.1**	**+5.1**	
MCMT	**McKenzie Canyo** 1.8nm,0.4s	**5.56**	**284**	*e*Pn		**Pn**	**21 37 15.1**	**+1.4**	
JLU	**Jordanelle**	**5.56**	**238**	*e*Pn		Pn	21 37 17.6	+3.9	
R26A	**Arlington** baz=5.6,SNR=12	**5.59**	**165**	⇓P		**Pn**	**21 37 14.2**	**+0.1**	
P30A	**Selden** baz=5.6	**5.62**	**136**	⇓P		**Pn**	**21 37 14.5**	**+0.2**	
R25A	**Fountain Ranch** baz=5.6	**5.62**	**172**	⇑P		**Pn**	**21 37 14.4**	**0.0**	
A26A	**Wade Farm, Ken** baz=5.6	**5.63**	**22**	⇓P		**Pn**	**21 37 14.6**	**+0.2**	
BGNE	**Belgrade** baz=5.7	**5.74**	**111**	⇑P		**Pn**	**21 37 16.4**	**+0.5**	
R27A	**Eads** baz=5.7	**5.75**	**160**	⇓P		**Pn**	**21 37 16.1**	**0.0**	
Q29A	**Oakley** baz=5.8,SNR=5.5	**5.81**	**145**	⇑P		**Pn**	**21 37 16.5**	**-0.4**	
HVU	**Hansel Valley** 4.0nm,0.6s	**5.87**	**253**	*e*Pn		**Pn**	**21 37 17.3**	**-0.5**	
HVU				*e*Sn		**Sn**	**21 38 28.4**	**+2.6**	
R28A	**Tribune** baz=6.0,SNR=11	**5.98**	**153**	⇑P		**Pn**	**21 37 19.3**	**0.0**	
SDCO	**Great Sand Dun** 3.7nm,0.6s	**5.98**	**182**	*e*Pn		Pn	21 37 20.2	+0.7	
SDCO				*e*Sn		Sb	21 38 39.6	-7.3	
SRU	**San Rafael**	**6.08**	**222**	*e*Pn		**Pn**	**21 37 20.1**	**-0.6**	
SRU				*e*S		Sb	21 38 57.2	+7.6	
S25A	**Robets Cordova** baz=6.1,SNR=10	**6.09**	**174**	⇑P		**Pn**	**21 37 20.7**	**-0.2**	
PV01	**Paradox Valley**	**6.12**	**205**	*e*Pn		**Pn**	**21 37 22.5**	**+1.1**	
S26A	**Kim** baz=6.3,SNR=14	**6.25**	**167**	⇓P		**Pn**	**21 37 23.0**	**-0.1**	
ECSD	**EROS Data Cent** 9.9nm,0.4s	**6.26**	**87**	*e*Pn		**Pn**	**21 37 23.6**	**+0.5**	
ECSD				*e*Sn		Sn	21 38 43.6	+8.2	
TMUT	**Trail Mountain**	**6.29**	**227**	*e*Pn		**Pn**	**21 37 23.8**	**+0.1**	
TMUT				*e*Sn		**Sn**	**21 38 42.2**	**+5.7**	
CHMT	**Chamberlain Mo** 2.4nm,0.5s	**6.47**	**302**	*e*Pn		**Pn**	**21 37 25.8**	**-0.4**	
CHMT				*e*Sn		Sn	21 38 31.1	-10	
Q16A	**Castle Valley**	**6.55**	**225**	*e*Pn		**Pn**	**21 37 27.4**	**+0.1**	
Q16A	**Castle Valley** baz=6.6,SNR=9.3	**6.55**	**225**	⇓P		**Pn**	**21 37 27.3**	**+0.1**	
DUG	**Dugway** baz=6.7,SNR=10	**6.64**	**240**	⇓P		**Pn**	**21 37 28.2**	**-0.3**	
T27A	**Campo** baz=6.9,SNR=7.3	**6.94**	**163**	⇓P		**Pn**	**21 37 32.5**	**+0.1**	
SWMT	**Swartz Lake** 2.0nm,0.3s	**7.20**	**305**	*e*Pn		**Pn**	**21 37 35.2**	**-0.8**	
YBMT	**Yellow Bay** 3.6nm,0.3s	**7.38**	**307**	*e*Pn		**Pn**	**21 37 38.0**	**-0.6**	
YBMT				*e*Sn		Sn	21 38 53.1	-10	
MVU	**Marysvale**	**7.40**	**228**	*e*Pn		**Pn**	**21 37 38.1**	**-0.9**	
ELK	**Elko**	**7.98**	**251**	Pn		**Pn**	**21 37 46.5**	**-0.4**	
ELK	**Elko** 0.3nm,0.3s,baz=354,slow=13,SNR=3.0	**7.98**	**251**	Pn		**Pn**	**21 37 46.5**	**-0.4**	
ULM	**Lac du Bonnet**	**9.14**	**41**	Pn		**Pn**	**21 38 01.6**	**-0.9**	
ULM	**Lac du Bonnet** 0.7nm,0.3s,baz=232,slow=12,SNR=5.2	**9.14**	**41**	Pn		**Pn**	**21 38 01.6**	**-0.9**	
NVAR	**Mina Array Bea**	**11.17**	**246**	Pn		**Pn**	**21 38 32.4**	**+1.7**	
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=60,slow=12,SNR=3.3	**11.17**	**246**	Pn		**Pn**	**21 38 32.4**	**+1.7**	
YBH	**Yreka Blue Hor**	**12.99**	**267**	Pn		Pn	21 38 59.9	+4.6	
YBH	**Yreka Blue Hor** 0.1nm,0.3s,baz=84,slow=9.0,SNR=4.8	**12.99**	**267**	Pn		Pn	21 38 59.9	+4.6	
ARCES	**ARCESS Array B**	**61.42**	**18**	P		**P**	**21 46 06.2**	**-0.8**	
ARCES	**ARCESS Array B** 3.8nm,0.9s,baz=328,slow=6.7,SNR=4.7	**61.42**	**18**	P		**P**	**21 46 06.2**	**-0.8**	
FINES	**FINESS Array B**	**68.04**	**23**	P		**P**	**21 46 49.3**	**-0.9**	
FINES	**FINESS Array B** 1.4nm,0.9s,baz=330,slow=8.0,SNR=3.9	**68.04**	**23**	P		**P**	**21 46 49.3**	**-0.9**	
AKASG	**Malin Array Be**	**77.96**	**28**	P		**P**	**21 47 48.5**	**-0.7**	
AKASG	**Malin Array Be** 0.4nm,0.3s,baz=325,slow=5.1,SNR=3.7	**77.96**	**28**	P		**P**	**21 47 48.5**	**-0.7**	
ZALV	**Zalesovo Beam**	**82.32**	**354**	P		**P**	**21 48 11.4**	**-1.2**	
ZALV	**Zalesovo Beam** 0.4nm,0.5s,baz=352,slow=4.5,SNR=3.9	**82.32**	**354**	P		**P**	**21 48 11.4**	**-1.2**	
SONM	**Songino Array**	**84.65**	**339**	P		**P**	**21 48 24.2**	**-0.8**	
SONM	**Songino Array** 0.4nm,0.6s,baz=344,slow=4.7,SNR=3.5	**84.65**	**339**	P		**P**	**21 48 24.2**	**-0.8**	
MKAR	**Makanchi Array**	**89.61**	**355**	P		**P**	**21 48 48.4**	**-0.5**	
MKAR	**Makanchi Array** 0.6nm,0.7s,baz=17,slow=5.1,SNR=5.9	**89.61**	**355**	P		**P**	**21 48 48.4**	**-0.5**	

*IDC **20** 21:48:21.6±0.8, 40°.42N×73°.12E, h0km, mb3.6/12, mb1 3.8/17, mb1mx3.7/33, mbtmp3.7/17, ML3.7/5, Error ellipse: s-maj=16.6km s-min=10.2km az=139.0*
*NNC **20** 21:48:24.7±3.6, 40°.76N×72°.94E, h0km, mb4.0, mpv3.9, Error ellipse: s-maj=37.9km s-min=13.6km az=13.0*
*ISCJB **20** 21:48:26.0±0.7, 40°.51N±0°.07×72°.94E±0°.06, h39km, mb3.5/12, Error ellipse: s-maj=9.4km s-min=6.3km az=172.4*

ISC 20 21:48:27.6±0.9, 40°.54N±0°.10×73°.04E±0°.08, h39km, n36, σ1§51/38, mb3.8/12, 11C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AML	**Almayashu** SNR=363	**1.67**	**17**	P		**Pn**	**21 48 53.7**	**-1.0**
EKS2	**Erkin-Say** SNR=320	**2.19**	**14**	P		**Pn**	**21 49 03.0**	**+1.3**
KZA	**Kyzart** SNR=447	**2.27**	**46**	P		**Pn**	**21 49 03.5**	**+0.7**
AAK	**Ala-Archa** SNR=327	**2.36**	**27**	P		**Pn**	**21 49 05.3**	**+1.3**
AAK	**Ala-Archa** 44nm,0.3s,baz=162,slow=6.2,SNR=357	**2.36**	**27**	Pn		**Pn**	**21 49 05.6**	**+1.6**
AAK	55nm,0.3s,baz=257,slow=22,SNR=19			*e*Lg		Lg	21 49 37.6	
KBK	**Karagaybulak** SNR=173	**2.56**	**33**	P		**Pn**	**21 49 08.2**	**+1.5**
CHMS	**Chumysh** SNR=70	**2.77**	**27**	P		**Pn**	**21 49 11.0**	**+1.5**
USP	**Ospenovka** SNR=32	**2.94**	**21**	P		**Pn**	**21 49 13.0**	**+1.2**
ULHL	**Ulahol** SNR=36	**2.95**	**54**	P		**Pn**	**21 49 12.6**	**+0.5**
TKM2	**Tokmak 2** 20nm,0.4s	**3.06**	**38**	⇑Pn		**Pn**	**21 49 14.7**	**+1.2**
TKM2	104nm,0.6s			⇓Lg		Lg	21 49 56.4	
TKM2	**Tokmak 2**	**3.06**	**38**	P		**Pn**	**21 49 14.7**	**+1.2**
	SNR=37							
KK31	**Karatay Array** 20nm,0.5s,baz=146,slow=14,SNR=446	**3.19**	**324**	⇑Pn		**Pn**	**21 49 16.1**	**+0.9**
KK31	51nm,0.6s,baz=146,slow=29,SNR=5.0			⇓Sn		**Sn**	**21 49 54.6**	**+2.7**
KK31	52nm,0.4s,baz=123,slow=28,SNR=3.8			⇓Lg		Lg	21 50 05.6	
KNDC	**Almaty**	**3.97**	**46**	⇑Pn		**Pn**	**21 49 28.2**	**+2.2**
KNDC				⇑Lg		Lg	21 50 28.8	
MK31	**Makanchi Array** 6.9nm,1.1s,baz=225,slow=15,SNR=10	**9.16**	**44**	Pn		**Pn**	**21 50 36.3**	**-0.9**
MK31	4.3nm,0.8s			⇓Lg		Lg	21 53 15.3	
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=224,slow=14,SNR=12	**9.16**	**44**	Pn		**Pn**	**21 50 37.0**	**-0.1**
MKAR	0.3nm,0.3s,baz=228,slow=29,SNR=3.6			Lg		Lg	21 53 14.0	
KURBB	**Kurchatov Arra** 20nm,0.7s	**10.79**	**19**	⇑Lg		Lg	21 54 04.2	
KURBB	**Kurchatov Arra** 0.2nm,0.3s,baz=186,slow=13,SNR=2.6	**10.79**	**19**	Pn		**Pn**	**21 50 58.2**	**-1.2**
KURBB	0.4nm,0.3s,baz=206,slow=30,SNR=9.8			Lg		Lg	21 54 07.5	
VOSK	**Vostochnaya** 0.8nm,0.8s	**12.27**	**354**	⇑Pn		**Pn**	**21 51 19.6**	**-0.1**
VOSK	32nm,1.6s			⇑Lg		Lg	21 54 47.7	
BVA0	**Borovoye Array** 1.8nm,0.8s,baz=161,slow=12,SNR=6.8	**12.62**	**353**	Pn		**Pn**	**21 51 24.8**	**+0.4**
BVA0	14nm,1.3s,baz=151,slow=29,SNR=3.7			⇓Lg		Lg	21 54 59.5	
BVAR	**Borovoye Array** 0.3nm,0.3s,baz=162,slow=12,SNR=6.9	**12.62**	**353**	Pn		**Pn**	**21 51 22.4**	**-2.0**
BVAR	0.3nm,0.3s,baz=152,slow=29,SNR=3.9			Lg		Lg	21 55 07.2	
BRVK	**Borovoye** 2.5nm,0.7s	**12.67**	**352**	⇑Pn		**Pn**	**21 51 23.3**	**-1.7**
BRVK	29nm,1.2s			⇑Lg		Lg	21 54 59.1	
AB31	**Akbulak array** 1.3nm,0.5s,baz=130,slow=13,SNR=36	**12.72**	**318**	⇑Pn		**Pn**	**21 51 25.3**	**-0.5**
AB31	0.9nm,0.5s			⇑Sn		**Sn**	**21 53 40.3**	**-5.7**
AKTO	**Aktyubinsk** 2.4nm,0.8s	**14.43**	**318**	⇓Pn		**Pn**	**21 51 47.7**	**-1.4**
AKTO				⇓Sn		**Sn**	**21 54 27.5**	**-0.1**
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=216,slow=8.4,SNR=4.9	**15.59**	**27**	Pn		**Pn**	**21 52 03.0**	**-1.3**
GNI	**Garni** 3.0nm,0.6s,baz=173,slow=8.1,SNR=3.1	**21.54**	**278**	P		**P**	**21 53 13.4**	**-0.2**
KBZ	**Khabaz** 1.2nm,0.8s,baz=96,slow=10,SNR=2.6	**22.52**	**288**	P		**P**	**21 53 24.1**	**+0.3**
SONM	**Songino Array** 0.3nm,0.6s,baz=264,slow=7.2,SNR=2.5	**24.86**	**62**	P		**P**	**21 53 46.5**	**+0.1**
BRTR	**Keskin Array B** 0.2nm,0.4s,baz=95,slow=8.0,SNR=2.5	**29.97**	**281**	P		**P**	**21 54 32.5**	**+0.2**
AKASG	**Malin Array Be** 0.1nm,0.3s,baz=79,slow=7.5,SNR=4.3	**31.86**	**303**	P		**P**	**21 54 48.5**	**-0.2**
FINES	**FINESS Array B** 0.8nm,0.6s,baz=112,slow=7.9,SNR=4.6	**35.15**	**322**	P		**P**	**21 55 16.8**	**-0.3**
ARCES	**ARCESS Array B** 0.9nm,0.5s,baz=108,slow=8.0,SNR=6.5	**38.09**	**335**	P		**P**	**21 55 44.0**	**+1.8**
GERES	**GERESS Array B** 0.6nm,0.6s,baz=68,slow=7.4,SNR=7.2	**42.03**	**302**	P		**P**	**21 56 16.3**	**+1.1**
TORD	**Torodi Ar. Bea** 0.7nm,0.5s,baz=49,slow=5.7,SNR=29	**67.43**	**268**	P		**P**	**21 59 18.9**	**-0.5**
YKA	**Yellowknife Ar** 0.4nm,0.5s,baz=350,slow=5.7,SNR=3.6	**77.14**	**4**	P		**P**	**22 00 17.0**	**+0.4**
WRA	**Warramunga Arr** 0.7nm,0.8s,baz=323,slow=4.7,SNR=4.8	**82.83**	**124**	P		**P**	**22 00 47.2**	**-0.7**
ASAR	**Alice Springs** 0.5nm,0.7s,baz=312,slow=4.7,SNR=5.6	**85.30**	**127**	P		**P**	**22 00 59.8**	**-0.7**

*THR **20** 21:48:31.8±0.4, 36°.71N×55°.02E, h7km, 6km, ML3.5*
*CSEM **20** 21:48:32.9±0.2, 36°.61N×54°.95E, h2km, ML3.6, Error ellipse: s-maj=6.7km s-min=3.4km az=159.0*
*ISCJB **20** 21:48:33.5±0.4, 36°.63N±0°.04×54°.96E±0°.04, h16km, Error ellipse: s-maj=6.8km s-min=3.6km az=146.3*
*TEH **20** 21:48:34.2, 36°.60N×54°.95E, h7km, ML3.6*

ISC 20 21:48:33.1±0.9, 36°.68N±0°.04×54°.92E±0°.04, h16km, n60, σ1§52/64, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IMND	**Minoodasht**	**0.70**	**34**	*e*Pg		**Pg**	**21 48 45.6**	**-1.2**
IMND	comp=Z,32μm,0.1s			*e*			21 48 46.9	
IMND				*e*Sg		**Sg**	**21 48 55.2**	**-0.9**
IMND	**Minoodasht**	**0.70**	**34**	*e*Pg		**Pg**	**21 48 45.6**	**-1.2**
SHRO	**Shahrood**	**1.11**	**128**	*e*Pg		**Pb**	**21 48 52.4**	**-1.7**
SHRO	**Shahrood**	**1.11**	**128**	*e*Pg		**Pb**	**21 48 52.4**	**-1.7**
MRVT	**Maraveh tapeh**	**1.35**	**43**	*e*Pg		**Pn**	**21 48 56.2**	**-1.3**
MRVT	**Maraveh tapeh**	**1.35**	**43**	*e*Pg		**Pn**	**21 48 56.2**	**-1.3**
IANJ	**Anjilo**	**1.46**	**214**	*e*Pn		**Pn**	**21 48 58.2**	**-0.8**
IANJ				*e*Sg		**Sn**	**21 49 17.6**	**-0.3**
IANJ	comp=Z,9μm,0.2s			*e*			21 49 21.8	
IANJ	**Anjilo**	**1.46**	**214**	*e*Pn		**Pn**	**21 48 58.2**	**-0.8**
IANJ				*e*Sg		**Sn**	**21 49 17.6**	**-0.3**
ISHM	**Shahmirzad**	**1.58**	**237**	*e*Pn		**Pn**	**21 49 00.4**	**-0.3**
ISHM	comp=Z,12μm,0.1s			*e*			21 49 04.3	
ISHM	**Shahmirzad**	**1.58**	**237**	*e*Pn		**Pn**	**21 49 00.4**	**-0.3**
IFIR	**Firoozkooh** comp=Z,9μm,0.1s	**2.04**	**240**	*e*			21 49 11.0	
IFIR				*e*Pn		**Pn**	**21 49 08.9**	**+1.9**
ILAS	**Lasjerd**	**2.05**	**232**	*e*Sg		**Sg**	**21 49 37.8**	**-1.3**
ILAS				*e*Pn		**Pn**	**21 49 08.6**	**+1.4**
ILAS	comp=Z,4μm,0.2s			*e*			21 49 44.1	
BJRD	**Bojnurd**	**2.23**	**62**	*e*Pg		**Pb**	**21 49 12.9**	**-0.3**
BJRD	**Bojnurd**	**2.23**	**62**	*e*Pg		**Pb**	**21 49 12.9**	**-0.3**
ISHV	**Shirvan**	**2.38**	**68**	*e*Pn		**Pn**	**21 49 13.6**	**+1.9**
ISHV	comp=Z,6μm,0.4s			*e*			21 50 03.5	
ISHV	**Shirvan**	**2.38**	**68**	*e*Pn		**Pn**	**21 49 13.6**	**+1.9**
ISFR	**Sfrayin** comp=Z,4μm,0.3s	**2.50**	**80**	*e*Pn		**Pn**	**21 49 15.0**	**+1.6**
ISFR				*e*			21 50 06.1	
ISFR	**Sfrayin**	**2.50**	**80**	*e*Pn		**Pn**	**21 49 15.0**	**+1.6**
IDMV	**Damavand**	**2.58**	**246**	*e*Pn		**Pn**	**21 49 16.8**	**+2.2**
IDMV	comp=Z,3μm,0.2s			*e*			21 49 27.6	
IDMV	**Damavand**	**2.58**	**246**	*e*Pn		**Pn**	**21 49 16.8**	**+2.2**
DAMV	**Damavand**	**2.61**	**247**	*e*Pn		**Pn**	**21 49 17.8**	**+3.0**
DAMV	comp=E,208nm,0.5s				AML	AML	21 49 59.3	
DAMV	comp=N,160nm,0.7s				AML	AML	21 50 01.0	
DAMV	**Damavand**	**2.61**	**247**	*e*Pn		**Pn**	**21 49 17.8**	**+3.0**
IKRD	**Kardeh**	**2.89**	**87**	*e*Pn		**Pg**	**21 49 31.1**	**+2.6**
IKRD	comp=Z,599nm,0.4s			*e*			21 50 52.0	
IEMG	**Emamgholi**	**3.07**	**75**	*e*Pn		**Pn**	**21 49 23.0**	**+1.7**
IEMG	comp=Z,1μm,0.2s			*e*			21 49 32.7	
IEMG	**Emamgholi**	**3.07**	**75**	*e*Pn		**Pn**	**21 49 23.0**	**+1.7**
IAKL	**Akhelmad**	**3.08**	**90**	*e*Pn		**Pn**	**21 49 22.7**	**+1.2**
IAKL	comp=Z,793nm,0.4s			*e*			21 50 29.0	
IVRN	**Varamin**	**3.09**	**238**	*e*Pn		**Pn**	**21 49 22.6**	**+1.3**
IVRN	**Varamin**	**3.09**	**238**	*e*Pn		**Pn**	**21 49 22.6**	**+1.3**
ISFB	**Sefidab**	**3.19**	**224**	*e*Pn		**Pn**	**21 49 23.5**	**+0.8**
ISFB	comp=Z,970nm,0.1s			*e*			21 49 45.2	
ISFB	**Sefidab**	**3.19**	**224**	*e*Pn		**Pn**	**21 49 23.5**	**+0.8**
IR3	**Iran Long-Peri**	**3.38**	**250**	*e*Pn		**Pn**	**21 49 27.2**	**+1.9**
IR3	**Iran Long-Peri**	**3.38**	**250**	*e*Pn		**Pn**	**21 49 27.2**	**+1.9**
TABS	**Tabas** comp=N,96nm,1.1s	**3.52**	**149**	*e*Pn		**Pn**	**21 49 28.8**	**+1.6**
TABS					AML	AML	21 50 41.4	
TABS	**Tabas**	**3.52**	**149**	*e*Pn		**Pn**	**21 49 28.8**	**+1.6**
IMHD	**Mahdasht**	**3.58**	**255**	*e*Pn		**Pn**	**21 49 29.9**	**+1.8**
IMHD	comp=Z,810nm,0.2s			*e*			21 49 38.9	
IMHD	**Mahdasht**	**3.58**	**255**	*e*Pn		**Pn**	**21 49 29.9**	**+1.8**
IMOG	**Moghan**	**3.61**	**98**	*e*Pn		**Pn**	**21 49 30.1**	**+1.4**
IMOG	comp=Z,537nm,0.1s			*e*			21 49 37.8	
IMOG	**Moghan**	**3.61**	**98**	*e*Pn		**Pn**	**21 49 30.1**	**+1.4**
ISRO	**Mashad**	**3.68**	**94**	*e*Pn		**Pn**	**21 49 31.0**	**+1.5**
ISRO	**Mashad**	**3.68**	**94**	*e*Pn		**Pn**	**21 49 31.0**	**+1.5**
IGZV	**Ghazvin**	**3.80**	**267**	*e*Pn		**Pn**	**21 49 33.1**	**+1.9**
IGZV	comp=Z,1μm,0.3s			*e*			21 49 46.3	
IGZV	**Ghazvin**	**3.80**	**267**	*e*Pn		**Pn**	**21 49 33.1**	**+1.9**
IMYA	**Miami**	**4.19**	**93**	*e*Pn		**Pn**	**21 49 37.4**	**+0.9**
IMYA	comp=Z,576nm,0.3s			*e*			21 51 03.9	
IMYA	**Miami**	**4.19**	**93**	*e*Pn		**Pn**	**21 49 37.4**	**+0.9**
IRAZ	**Razeghan**	**4.24**	**254**	*e*Pn		**Pn**	**21 49 38.5**	**+1.2**
IRAZ	comp=Z,826nm,0.3s			*e*			21 49 53.7	
IRAZ	**Razeghan**	**4.24**	**254**	*e*Pn		**Pn**	**21 49 38.5**	**+1.2**
IKLH	**Kolahrood**	**4.33**	**220**	*e*Pn		**Pn**	**21 49 39.7**	**+1.2**
IKLH	comp=Z,537nm,0.3s			*e*			21 51 14.2	
IKLH	**Kolahrood**	**4.33**	**220**	*e*Pn		**Pn**	**21 49 39.7**	**+1.2**
IZEF	**Zefreh**	**4.33**	**210**	*e*Pn		**Pn**	**21 49 39.1**	**+0.5**
IZEF	comp=Z,523nm,0.3s			*e*			21 51 02.1	
IZEF	**Zefreh**	**4.33**	**210**	*e*Pn		**Pn**	**21 49 39.1**	**+0.5**
ICHK	**Chekchek**	**4.44**	**186**	*e*Pn		**Pn**	**21 49 40.5**	**+0.4**
ICHK	comp=Z,468nm,0.2s			*e*			21 51 12.4	
ICHK	**Chekchek**	**4.44**	**186**	*e*Pn		**Pn**	**21 49 40.5**	**+0.4**
ASAO	**Ashtian**	**4.52**	**243**	*e*Pn		**Pn**	**21 49 44.0**	**+2.9**
ASAO	**Ashtian**	**4.52**	**243**	*e*Pn		**Pn**	**21 49 44.0**	**+2.9**
ISAD	**Sadrabad**	**4.86**	**193**	*e*Pn		**Pn**	**21 49 46.3**	**+0.4**
ISAD	comp=Z,431nm,0.2s			*e*			21 50 48.7	
ISAD	**Sadrabad**	**4.86**	**193**	*e*Pn		**Pn**	**21 49 46.3**	**+0.4**
IBAF	**Bafgh**	**5.10**	**174**	*e*Pn		**Pn**	**21 49 49.6**	**+0.5**
IBAF	comp=Z,332nm,0.2s			*e*			21 51 28.1	
IBAF	**Bafgh**	**5.10**	**174**	*e*Pn		**Pn**	**21 49 49.6**	**+0.5**
IMEH	**Mehriz**	**5.28**	**183**	*e*Pn		**Pn**	**21 49 51.9**	**+0.3**
IMEH	comp=Z,197nm,0.4s			*e*			21 51 33.8	
IMEH	**Mehriz**	**5.28**	**183**	*e*Pn		**Pn**	**21 49 51.9**	**+0.3**

*BEO **20** 21:49:54.6±0.7, 42°.83N×17°.61E, h0km, ML1.9/6*
CSEM 20 21:49:55.4±0.4, 42°.83N×17°.72E, h2km, ML1.9, Error ellipse: s-maj=10.1km s-min=5.2km az=20.0, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STON	**Ston**	**0.04**	**339**	*i* Pg		Pg	21 49 55.3	-1.0
STON				Sg		Sg	21 49 55.7	-1.2
STON	**Ston**	**0.04**	**339**	*e*Pg		Pg	21 49 55.2	-1.1
STON				*e*Sg		Sg	21 49 55.8	-1.2
STON	**Ston**	**0.04**	**339**	*e*Pg		Pg	21 49 55.2	-1.1
TREB	**Trebinje**	**0.48**	**103**	*e*Pg		Pg	21 50 04.0	-0.6
TREB				*e*Sg		Sg	21 50 12.3	+1.5
TREB	**Trebinje**	**0.48**	**103**	*e*Pg		Pg	21 50 04.0	-0.6
TREB				*e*Sg		Sg	21 50 12.3	+1.5
PDG	**Podgorica**	**1.20**	**109**	*e*Pn		Pg	21 50 18.4	0.0
PDG				*e*Sg		Sn	21 50 35.9	-0.1
PDG	**Podgorica**	**1.20**	**109**	*e*Pn		Pg	21 50 18.4	0.0
PDG				*e*Sg		Sn	21 50 35.9	-0.1
BBLS	**Lazići**	**1.61**	**49**	*e*Pg		Pb	21 50 25.6	-0.3
BBLS				*e*Sg		Sg	21 50 47.4	+0.1
BBLS	**Lazići**	**1.61**	**49**	*e*Pg		Pb	21 50 25.6	-0.3
BBLS				*e*Sg		Sg	21 50 47.4	+0.1
SJES	**Sjenica**	**1.71**	**75**	*e*Sg		Sg	21 50 51.6	+1.1
IVAS	**Ivanjica**	**1.93**	**66**	*e*Sg		Sg	21 50 58.5	+0.9
IVAS	**Ivanjica**	**1.93**	**66**	*e*Sg		Sg	21 50 58.5	+0.9
BLY	**Banja Luka**	**1.96**	**349**	*e*Pn		Pn	21 50 29.8	+0.2
BLY				*e*Sg		Sb	21 50 57.1	+0.4
BLY	**Banja Luka**	**1.96**	**349**	*e*Pn		Pn	21 50 29.8	+0.2
BLY				*e*Sg		Sb	21 50 57.1	+0.4
DIVS	**Divibare**	**2.08**	**52**	*e*Pn		Pn	21 50 31.4	-0.1
DIVS				*e*Sg		Sg	21 51 02.4	-0.2
DIVS	**Divibare**	**2.08**	**52**	*e*Pn		Pn	21 50 31.4	-0.1
DIVS				*e*Sg		Sg	21 51 02.4	-0.2
UDBI	**Udbina**	**2.21**	**321**	*e*Pn		Pn	21 50 34.3	+1.0
UDBI				Sn		Sb	21 51 04.6	+0.5
UDBI	**Udbina**	**2.21**	**321**	*e*Pn		Pn	21 50 34.2	+1.0
UDBI				Sn		Sb	21 51 04.6	+0.4
NVLJ	**Novalja**	**2.70**	**311**	*e*Pn		Pn	21 50 41.2	+1.4
NVLJ				Sn		Sn	21 51 13.4	+0.4
NVLJ	**Novalja**	**2.70**	**311**	*e*Pn

LPAZ	**La Paz**	**56.43**	**300**	P		**P**	**22 59 15.4**	**+0.7**
	0.8nm,0.8s,baz=172,slow=7.1,SNR=2.7							
DBIC	**Dimbokro**	**68.16**	**15**	*e*P		**P**	**23 00 32.1**	**-0.4**
	3.6nm,0.9s							
DBIC	**Dimbokro**	**68.16**	**15**	LR		LR	23 24 07.4	
	comp=Z,46nm,20.6s,baz=240,slow=30							
TORD	**Torodi Ar. Bea**	**75.52**	**21**	P		**P**	**23 01 16.8**	**+0.1**
TORD	**Torodi Ar. Bea**	**75.52**	**21**	P		**P**	**23 01 16.8**	**+0.1**
	1.4nm,1.0s,baz=201,slow=4.9,SNR=8.2							
TORD				LR		LR	23 27 03.8	
	comp=Z,70nm,20.2s,baz=325,slow=30							
OTAV	**Otavalo**	**75.65**	**298**	*e*P		**P**	**23 01 17.6**	**-0.5**
	5.0nm,0.8s							
STKA	**Stephens Creek**	**86.38**	**164**	*e*P		**P**	**23 02 14.4**	**-0.2**
	1.6nm,1.3s							
STKA	**Stephens Creek**	**86.38**	**164**	P		**P**	**23 02 15.1**	**+0.5**
	1.8nm,0.8s,baz=210,slow=6.4,SNR=2.9							
STKA				LR		LR	23 38 25.1	
	comp=Z,246nm,19.8s,baz=204,slow=34							
ASAR	**Alice Springs**	**93.10**	**155**	P		**P**	**23 02 46.5**	**+0.1**
ASAR	**Alice Springs**	**93.10**	**155**	P		**P**	**23 02 46.5**	**+0.1**
	0.3nm,0.7s,baz=187,slow=4.6,SNR=4.5							
MDT	**Midelt**	**94.00**	**12**	LR		LR	23 40 07.0	
	comp=Z,109nm,18.9s,baz=336,slow=32							
SONM	**Songino Array**	**146.77**	**88**	PKPbc		**PKPbc**	**23 09 14.1**	**+0.4**
SONM	**Songino Array**	**146.77**	**88**	PKPbc		**PKPbc**	**23 09 14.1**	**+0.4**
	1.8nm,1.0s,baz=238,slow=3.3,SNR=9.2							

WEL 20 22:58:36.0±0.2, 45°67'S×166°88'E, h62km±1km, ML3.6/11, Error ellipse: s-maj=1.6km s-min=0.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.27**	**46**	PN	Pn	22 58 45.7	-0.4
DCZ				SN	Sn	22 58 53.2	-0.3
DCZ				SN		22 58 53.2	
DCZ				AML	AML	22 58 53.5	
DCZ				AML	AML	22 58 53.6	
PYZ	**Puysegur Point**	**0.52**	**195**	PN	Pn	22 58 48.3	-0.1
PYZ				SN	Sn	22 58 57.8	+0.4
WHZ	**Wether Hill Ro**	**0.78**	**107**	PN	Pn	22 58 51.2	-0.2
WHZ				SN	Sn	22 59 02.7	-0.1
WHZ				AML	AML	22 59 04.4	
MLZ	**Mavora Lakes**	**0.96**	**71**	PN	Pn	22 58 52.9	-0.8
MLZ				SN	Sn	22 59 05.9	-1.0
MLZ				AML	AML	22 59 07.3	
MSZ	**Milford Sound**	**1.24**	**37**	PN	Pn	22 58 56.7	-0.5
MSZ				SN	Sn	22 59 13.6	+0.5
MSZ				AML	AML	22 59 18.7	
APZ	**The Paps**	**1.40**	**147**	PN	Pn	22 58 59.3	-0.1
APZ				SN	Sn	22 59 16.4	-0.6
WKZ	**Wanaka**	**1.73**	**62**	PN	Pn	22 59 04.5	+0.6
WKZ				AML	AML	22 59 26.7	
WKZ				AML	AML	22 59 26.7	
WKZ				AML	AML	22 59 27.5	
WKZ				AML	AML	22 59 27.5	
EAZ	**Earnscleugh**	**1.77**	**77**	PN	Pn	22 59 04.2	-0.1
EAZ				AML	AML	22 59 25.3	
EAZ				AML	AML	22 59 25.3	
EAZ				AML	AML	22 59 26.7	
EAZ				AML	AML	22 59 26.8	
SYZ	**Scrubby Hill**	**1.80**	**120**	PN	Pn	22 59 04.2	-0.5
TUZ	**Tuapeka**	**1.95**	**100**	PN	Pn	22 59 06.4	-0.4
TUZ				AML	AML	22 59 30.5	
TUZ				AML	AML	22 59 30.9	
JCZ	**Jackson Bay**	**2.08**	**41**	PN	Pn	22 59 08.3	-0.4
JCZ				AML	AML	22 59 36.4	
JCZ				AML	AML	22 59 41.1	
HHSZ	**Highcliff Hill**	**2.61**	**96**	PN	Pn	22 59 15.1	-0.7
LBZ	**Lake Benmore**	**2.67**	**63**	PN	Pn	22 59 15.3	-1.3
LBZ				AML	AML	22 59 45.7	
LBZ				AML	AML	22 59 47.5	
ODZ	**Otahua Downs**	**2.73**	**78**	PN	Pn	22 59 15.8	-1.5
FOZ	**Fox Glacier**	**2.91**	**45**	PN	Pn	22 59 19.7	-0.1
RPZ	**Rata Peaks**	**3.56**	**58**	PN	Pn	22 59 26.7	-2.0
RPZ				AML	AML	23 00 07.6	
RPZ				AML	AML	23 00 08.2	
WVZ	**Waitaha Valley**	**3.79**	**48**	PN	Pn	22 59 29.5	-2.3
DSZ	**Denniston Nort**	**5.30**	**44**	PN	Pn	22 59 50.3	-2.4

*IDC **20** 23:00:53.8±2.0, 1°.03N×126°.28E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/21, mbtmp3.6/3, Error ellipse: s-maj=177.7km s-min=25.8km az=65.0*
*DJA **20** 23:00:57.6±1.3, 1°.1N±19°×12°.6E±°, h10km, M4.1/5, mb4.6/1, mB4.7/1, MLv3.8/5, Mw(mB)3.9/1*

ISC 20 23:01:00.2±1.1, 1°.0N±0°.1×126°.29E±0°.07, h39km, n10, σ1§70/8, mb3.6/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.10**	**100**	P	**Pn**	**23 01 20.1**	**+1.0**
LBMI	**Labuha**	**2.01**	**143**	P	Pn	23 01 34.5	+2.9
KMSI	**Cibinong**	**2.34**	**260**	P	**Pn**	**23 01 34.8**	**-1.3**
SGSI	**Sangihe**	**2.80**	**344**	P	**Sn**	**23 02 15.3**	**+0.2**
LUWI	**Luwuk**	**4.04**	**240**	P	Pn	23 02 04.8	+5.2
MRSI	**Marisa**	**4.37**	**264**	P	**Pn**	**23 02 06.8**	**+2.7**
APSI	**Ampana**	**5.00**	**248**	P	**Pn**	**23 02 14.2**	**+1.5**
WRA	**Warramunga Arr**	**22.23**	**160**	P	**P**	**23 05 52.7**	**-1.0**
	2.7nm,0.8s,baz=338,slow=11,SNR=11						
ASAR	**Alice Springs**	**25.59**	**164**	P	**P**	**23 06 25.5**	**-0.4**
	0.7nm,0.4s,baz=341,slow=10,SNR=9.3						
MKAR	**Makanchi Array**	**59.57**	**326**	P	**P**	**23 10 59.0**	**-1.0**
	0.1nm,0.3s,baz=117,slow=8.5,SNR=5.4						

*IDC **20** 23:48:51.5±3.8, 5°.39S×101°.69E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/24, mbtmp3.6/6, MS2.9/1, Ms1 3.1/1, ms1mx2.7/30, Error ellipse: s-maj=162.7km s-min=21.1km az=52.0*
*ISCJB **20** 23:48:52.3±3.3, 5°.5S±0°.6×101°.5E±0°.8, h24km, mb3.6/6, MS2.7/1, Error ellipse: s-maj=142.2km s-min=17.6km az=142.4*

ISC 20 23:48:54.6±4.0, 5°.5S±0°.7×101°.6E±0°.9, h24km, n13, σ0§42/6, mb3.5/6, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**23.94**	**354**	LR	LR	00 03 52.8	
	comp=Z,27nm,19.6s,baz=140,slow=38						
H08S2	**Diego Garcia H**	**28.98**	**264**	T	T	00 25 40.3	
	baz=87,slow=0.7,SNR=128						
H08S3	**Diego Garcia H**	**28.99**	**264**	T	T	00 25 40.4	
	baz=87,slow=0.7,SNR=147						
H08S1	**Diego Carcia H**	**29.00**	**264**	T	T	00 25 38.4	
	baz=87,slow=0.7,SNR=102						
H01W3	**Cape Leeuwin H**	**31.46**	**160**	T	T	00 28 26.2	
	baz=337,slow=0.7,SNR=15						
H01W2	**Cape Leeuwin H**	**31.47**	**160**	T	T	00 28 27.2	
	baz=337,slow=0.7,SNR=15						
H01W1	**Cape Leeuwin H**	**31.48**	**160**	T	T	00 28 27.4	
	baz=337,slow=0.7,SNR=14						
WRA	**Warramunga Arr**	**34.93**	**117**	P	**P**	**23 55 45.1**	**+0.2**
	0.8nm,0.6s,baz=292,slow=8.5,SNR=8.8						
ASAR	**Alice Springs**	**35.97**	**123**	P	**P**	**23 55 53.7**	**-0.2**
	0.3nm,0.5s,baz=301,slow=7.7,SNR=4.8						
SONM	**Songino Array**	**53.27**	**4**	P	**P**	**23 58 11.4**	**-0.2**
	0.2nm,0.5s,baz=184,slow=8.5,SNR=5.7						
MKAR	**Makanchi Array**	**54.80**	**344**	P	**P**	**23 58 23.2**	**+0.6**
	0.4nm,0.8s,baz=150,slow=9.1,SNR=6.9						
KURBB	**Kurchatov Arra**	**59.33**	**343**	P	**P**	**23 58 54.3**	**-0.3**
	0.2nm,0.7s,baz=155,slow=7.1,SNR=2.7						
ZALV	**Zalesovo Beam**	**60.88**	**349**	P	**P**	**23 59 05.0**	**-0.1**
	1.0nm,0.6s,baz=163,slow=5.6,SNR=5.9						

MEX 21 00:13:23.1±0.5, 15°.67N×96°.34W, h20km±16km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.24**	**67**	*e*P	Pb	00 13 27.9	-1.0
HUIG				*i* S	Sb	00 13 31.7	-1.2
VHO	**Vista Hermosa**	**1.44**	**345**	*e*P	Pn	00 13 45.5	-2.9
VHO				*i* S	Sn	00 14 02.2	-4.7
PNIG	**Pinotepa**	**1.86**	**293**	*e*P	Pn	00 13 51.8	-2.1
PNIG				*i* S	Sn	00 14 12.4	-4.4
UTMO	**Huajuapan**	**2.56**	**327**	*i* P	Pn	00 14 00.9	-2.9
UTMO				*i* S	Sn	00 14 31.6	-3.0
PCIG		**3.01**	**89**	*e*P	Pn	00 14 06.7	-3.0
PCIG				*i* S	Sn	00 14 41.2	-3.9

2009 OCT

*DDA **21** 00:18:08.6, 40°.39N×34°.89E, h8km, MD3.6*
*ISK **21** 00:18:08.2, 40°.42N×34°.88E, h5km, MD3.8*
*IDC **21** 00:18:09.2±0.9, 40°.40N×34°.85E, h0km, mb3.4/3, mb1 3.4/8, mb1mx3.3/29, mbtmp3.3/8, ML3.2/5, Error ellipse: s-maj=16.5km s-min=9.4km az=142.0*
*CSEM **21** 00:18:09.5±0.1, 40°.45N×34°.88E, h2km, MD3.6, Error ellipse: s-maj=3.3km s-min=2.4km az=3.0*

ISC 21 00:18:09.6±1.0, 40°.41N±0°.02×34°.90E±0°.02, h7km±8km, n128, σ1§24/157, mb3.4/3, 9C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTKT	**Corum**	**0.23**	**338**	*i* P	**Pg**	**00 18 14.7**	**+0.5**
CTKT				*i* S	**Sg**	**00 18 18.9**	**+1.5**
CTKT	**Corum**	**0.23**	**338**	*e*P	**Pg**	**00 18 14.7**	**+0.5**
CORM	**Corum**	**0.31**	**222**	PG	**Pg**	**00 18 15.5**	**-0.3**
CORM				*e*SG	**Sg**	**00 18 20.7**	**+0.8**
CORM	**Corum**	**0.31**	**222**	*i* Pg	**Pg**	**00 18 15.5**	**-0.3**
CORM				*e*Sg	**Sg**	**00 18 20.7**	**+0.8**
YOZ	**Yozgat**	**0.83**	**157**	PG	**Pg**	**00 18 24.8**	**-0.8**
YOZ	**Yozgat**	**0.83**	**157**	*i* Pg	**Pg**	**00 18 24.8**	**-0.8**
CDAG	**Cicekdag**	**0.89**	**208**	*i* P	**Pg**	**00 18 25.8**	**-0.8**
CDAG				*i* S	**Sg**	**00 18 37.2**	**-0.9**
CDAG	**Cicekdag**	**0.89**	**208**	*i* P	**Pg**	**00 18 25.8**	**-0.8**
CDAG				*i* S	**Sg**	**00 18 37.2**	**-0.9**
HAVZ	**Havza**	**0.91**	**43**	*i* P	**Pg**	**00 18 26.6**	**-0.4**
HAVZ				*i* S	**Sg**	**00 18 38.9**	**+0.1**
HAVZ	**Havza**	**0.91**	**43**	*i* P	**Pg**	**00 18 26.6**	**-0.4**
HAVZ				*i* S	**Sg**	**00 18 38.9**	**+0.1**
TOS	**Tosya**	**0.92**	**313**	*e*PG	**Pg**	**00 18 26.5**	**-0.7**
TOS	**Tosya**	**0.92**	**313**	*e*Pg	**Pg**	**00 18 26.5**	**-0.7**
CANT	**Cankiri**	**1.00**	**282**	*e*PG	**Pg**	**00 18 28.0**	**-0.8**
CANT				*e*SG	**Sg**	**00 18 41.7**	**-0.1**
KVT	**Kavak**	**1.10**	**52**	*e*PN	**Pb**	**00 18 29.7**	**-1.2**
KVT	**Kavak**	**1.10**	**52**	*e*Pn	**Pb**	**00 18 29.7**	**-1.2**
ILGA	**Ilgaz**	**1.11**	**306**	*i* P	**Pb**	**00 18 30.2**	**-1.0**
ILGA				*i* S	**Sg**	**00 18 44.7**	**-0.6**
ILGA	**Ilgaz**	**1.11**	**306**	*i* P	**Pb**	**00 18 30.2**	**-1.0**
ILGA				*i* S	**Sg**	**00 18 44.7**	**-0.6**
ELDT	**Eldivan**	**1.13**	**275**	*i* P	**Pb**	**00 18 30.1**	**-1.5**
ELDT				*i* S	**Sb**	**00 18 44.0**	**-2.5**
ELDT	**Eldivan**	**1.13**	**275**	*i* P	**Pb**	**00 18 30.1**	**-1.5**
ELDT				*i* S	**Sb**	**00 18 44.0**	**-2.5**
BRTR	**Keskin Array B**	**1.19**	**235**	Pg	**Pb**	**00 18 30.6**	**-2.0**
	56nm,0.3s,baz=60,slow=14,SNR=1506						
BRTR				Lg	Lg	00 18 47.1	
	72nm,0.3s,baz=62,slow=26,SNR=26						
TOKA	**Tokat**	**1.21**	**94**	*i* P	**Pn**	**00 18 31.6**	**-1.3**
TOKA				*i* S	**Sn**	**00 18 49.2**	**-0.3**
TOKA	**Tokat**	**1.21**	**94**	*i* P	**Pn**	**00 18 31.6**	**-1.3**
TOKA				*i* S	**Sn**	**00 18 49.2**	**-0.3**
DIKM	**Dikmen**	**1.27**	**12**	*e*PN	**Pn**	**00 18 33.3**	**-0.4**
DIKM	**Dikmen**	**1.27**	**12**	*e*Pn	**Pn**	**00 18 33.3**	**-0.4**
ERBA	**Erbaa**	**1.44**	**79**	*i* P	**Pn**	**00 18 35.3**	**-0.8**
ERBA				*i* S	**Sn**	**00 18 53.7**	**-1.5**
ERBA	**Erbaa**	**1.44**	**79**	*i* P	**Pn**	**00 18 35.3**	**-0.8**
ERBA				*i* S	**Sn**	**00 18 53.7**	**-1.5**
BBAL	**Bala**	**1.62**	**238**	*i* P	**Pn**	**00 18 38.3**	**-0.4**
BBAL				*i* S	**Sb**	**00 19 00.1**	**-0.4**
BBAL	**Bala**	**1.62**	**238**	*i* P	**Pn**	**00 18 38.3**	**-0.4**
BBAL				*i* S	**Sb**	**00 19 00.1**	**-0.4**
AVNT	**Avonos**	**1.63**	**181**	*i* P	**Pb**	**00 18 40.0**	**-0.1**
AVNT				*i* S	**Sb**	**00 19 00.7**	**-0.2**
AVNT	**Avonos**	**1.63**	**181**	*i* P	**Pb**	**00 18 40.0**	**-0.1**
AVNT				*i* S	**Sb**	**00 19 00.7**	**-0.2**
SVSK	**Karacayir**	**1.68**	**106**	*e*PN	**Pb**	**00 18 40.1**	**-0.7**
SVSK	**Karacayir**	**1.68**	**106**	*e*Pn	**Pb**	**00 18 40.1**	**-0.7**
BZK	**Bozkurt**	**1.69**	**337**	*e*PN	**Pb**	**00 18 40.9**	**-0.1**
BZK	**Bozkurt**	**1.69**	**337**	*e*Pn	**Pb**	**00 18 40.9**	**-0.1**
ANTO	**Ankara**	**1.71**	**252**	*e*PN	**Pn**	**00 18 40.1**	**+0.3**
ANTO	**Ankara**	**1.71**	**252**	*i* P	**Pb**	**00 18 40.2**	**-1.1**
ANTO	**Ankara**	**1.71**	**252**	*i* P	**Pb**	**00 18 40.2**	**-1.1**
AFSR	**Af˙ar-Bala (A**	**1.71**	**236**	*e*PN	**Pn**	**00 18 40.1**	**+0.3**
AFSR	**Af˙ar-Bala (A**	**1.71**	**236**	*e*Pn	**Pn**	**00 18 40.1**	**+0.3**
BNN	**Bunyan**	**1.72**	**155**	*e*PN	**Pb**	**00 18 41.3**	**-0.2**
BNN	**Bunyan**	**1.72**	**155**	*e*Pn	**Pb**	**00 18 41.3**	**-0.2**
LOD	**Lodumlu**	**1.72**	**253**	*e*PN	**Pn**	**00 18 40.1**	**+0.1**
LOD	**Lodumlu**	**1.72**	**253**	*e*Pn	**Pn**	**00 18 40.1**	**+0.1**
SCER	**sogukcermik**	**1.79**	**107**	*i* P	**Pb**	**00 18 42.2**	**-0.6**
SCER				*i* S	**Sg**	**00 19 07.2**	**0.0**
SCER	**sogukcermik**	**1.79**	**107**	*i* P	**Pb**	**00 18 42.2**	**-0.6**
SCER				*i* S	**Sg**	**00 19 07.2**	**0.0**
RSDY	**Resadiye-TOKAT**	**1.85**	**90**	*e*PN	**Pb**	**00 18 42.6**	**-1.1**
RSDY	**Resadiye-TOKAT**	**1.85**	**90**	*e*Pn	**Pb**	**00 18 42.6**	**-1.1**
SAFT	**Safranbolu**	**1.88**	**297**	*e*PN	**Pn**	**00 18 42.6**	**+0.5**
SAFT	**Safranbolu**	**1.88**	**297**	*e*Pn	**Pn**	**00 18 42.6**	**+0.5**
PINB	**Pinarbasi**	**2.08**	**146**	*i* P	**Pb**	**00 18 46.4**	**-1.5**
PINB				*i* S	**Sb**	**00 19 13.9**	**-0.1**
PINB	**Pinarbasi**	**2.08**	**146**	*i* P	**Pb**	**00 18 46.4**	**-1.5**
PINB				*i* S	**Sb**	**00 19 13.9**	**-0.1**
NIG	**Nigde**	**2.31**	**186**	*e*PN	**Pn**	**00 18 49.4**	**+1.1**
NIG	**Nigde**	**2.31**	**186**	*e*Pn	**Pn**	**00 18 49.4**	**+1.1**
SULT	**Sultanhani-AKS**	**2.46**	**206**	*e*PN	**Pn**	**00 18 51.1**	**+0.9**
SULT	**Sultanhani-AKS**	**2.46**	**206**	*e*Pn	**Pn**	**00 18 51.1**	**+0.9**
SUSE	**Susehri**	**2.53**	**93**	*i* P	**Pn**	**00 18 52.5**	**+1.2**
SUSE				*i* S	**Sg**	**00 19 29.7**	**-1.2**
SUSE	**Susehri**	**2.53**	**93**	*i* P	**Pn**	**00 18 52.5**	**+1.2**
GRSN	**GIRESUNGRSN**	**2.61**	**78**	*i* P	**Pn**	**00 18 53.2**	**+1.0**
GRSN				*i* S	**Sb**	**00 19 30.4**	**+1.4**
GRSN	**GIRESUNGRSN**	**2.61**	**78**	*i* P	**Pn**	**00 18 53.2**	**+1.0**
DARE	**Darende-Malaty**	**2.71**	**132**	*e*PN	**Pn**	**00 18 53.9**	**+0.2**
SVRH	**Sivrihisar-ESK**	**2.77**	**251**	*e*PN	**Pn**	**00 18 54.8**	**+0.3**
SVRH	**Sivrihisar-ESK**	**2.77**	**251**	*e*Pn	**Pn**	**00 18 54.8**	**+0.3**
KIZT	**Kizilcal**	**2.79**	**238**	*e*PN	**Pn**	**00 18 55.0**	**+0.2**
KIZT	**Kizilcal**	**2.79**	**238**	*e*Pn	**Pn**	**00 18 55.0**	**+0.2**
MDUB	**Mudurnu**	**2.83**	**272**	*e*PN	**Pn**	**00 18 56.2**	**+0.9**
MDUB	**Mudurnu**	**2.83**	**272**	*e*Pn	**Pn**	**00 18 56.2**	**+0.9**
ESPY	**Espiye-Giresun**	**2.95**	**79**	*e*PN	**Pn**	**00 18 58.4**	**+1.5**
ESPY	**Espiye-Giresun**	**2.95**	**79**	*e*Pn	**Pn**	**00 18 58.4**	**+1.5**
LADK	**Ladik-KONYA**	**2.96**	**223**	*e*PN	**Pn**	**00 18 57.3**	**+0.2**
LADK	**Ladik-KONYA**	**2.96**	**223**	*e*Pn	**Pn**	**00 18 57.3**	**+0.2**
ILIC	**ilic-Erzincan**	**2.98**	**108**	*e*PN	**Pn**	**00 18 58.9**	**+1.6**
ILIC	**ilic-Erzincan**	**2.98**	**108**	*e*Pn	**Pn**	**00 18 58.9**	**+1.6**
KEMA	**Kemaliye**	**2.99**	**111**	*i* P	**Pn**	**00 18 58.7**	**+1.2**
KEMA				*i* S	**Sb**	**00 19 40.9**	**+0.9**
KEMA	**Kemaliye**	**2.99**	**111**	*i* P	**Pn**	**00 18 58.7**	**+1.2**
KOZT	**Kozan**	**3.01**	**166**	*e*PN	**Pn**	**00 18 59.5**	**+1.8**
KOZT	**Kozan**	**3.01**	**166**	*e*Pn	**Pn**	**00 18 59.5**	**+1.8**
KARA	**Karaisali**	**3.15**	**178**	*e*PN	**Pn**	**00 19 01.2**	**+1.7**
KARA	**Karaisali**	**3.15**	**178**	*e*Pn	**Pn**	**00 19 01.3**	**+1.7**
AKCD	**Akcadag**	**3.15**	**131**	*i* P	**Pn**	**00 19 00.5**	**+0.8**
AKCD				*i* S	**Sb**	**00 19 44.9**	**+0.2**
AKCD	**Akcadag**	**3.15**	**131**	*i* P	**Pn**	**00 19 00.5**	**+0.8**
KONT	**Konya--Tatoy**	**3.16**	**220**	*e*PN	**Pn**	**00 19 01.1**	**+1.4**
KONT	**Konya--Tatoy**	**3.16**	**220**	*e*Pn	**Pn**	**00 19 01.1**	**+1.4**
ESKT	**Eskisehir**	**3.24**	**255**	*e*PN	**Pn**	**00 19 02.2**	**+1.3**
ESKT	**Eskisehir**	**3.24**	**255**	*e*Pn	**Pn**	**00 19 02.2**	**+1.3**
KMRS	**Kahramanmaras**	**3.29**	**151**	*e*PN	**Pn**	**00 19 03.4**	**+1.8**
KMRS	**Kahramanmaras**	**3.29**	**151**	*e*Pn	**Pn**	**00 19 03.4**	**+1.8**
AYKD	**Aykdinkavak**	**3.34**	**153**	*i* P	**Pn**	**00 19 03.1**	**+0.9**
AYKD				*i* S	**Sb**	**00 19 46.1**	**-3.8**
KELT	**Kelkit**	**3.34**	**93**	*i* P	**Pn**	**00 19 03.1**	**+0.7**
KELT				*i* S	**Sb**	**00 19 47.9**	**-2.3**
KELT	**Kelkit**	**3.34**	**93**	*i* P	**Pn**	**00 19 03.1**	**+0.7**
GULT	**Gulveren**	**3.35**	**272**	*e*PN	**Pn**	**00 19 03.4**	**+1.0**
GULT	**Gulveren**	**3.35**	**272**	*e*Pn	**Pn**	**00 19 03.4**	**+1.0**
MALT	**Malatya**	**3.44**	**126**	*e*PN	**Pn**	**00 19 05.4**	**+1.7**
MALT	**Malatya**	**3.44**	**126**	*e*Pn	**Pn**	**00 19 04.6**	**+0.9**
MALT	**Malatya**	**3.44**	**126**	*i* P	**Pn**	**00 19 04.6**	**+0.9**
MALT	**Malatya**	**3.44**	**126**	*i* P	**Pn**	**00 19 05.4**	**+1.7**
GUMT	**Gumushane**	**3.49**	**88**	*e*PN	**Pn**	**00 19 05.9**	**+1.5**
GUMT	**Gumushane**	**3.49**	**88**	*e*Pn	**Pn**	**00 19 05.9**	**+1.5**
MERS	**Mersin**	**3.55**	**185**	*e*PN	**Pn**	**00 19 07.4**	**+2.3**
MERS	**Mersin**	**3.55**	**185**	*e*Pn	**Pn**	**00 19 07.4**	**+2.3**
PTK	**Pertek**	**3.78**	**112**	*e*PN	**Pn**	**00 19 10.4**	**+1.9**
PTK	**Pertek**	**3.78**	**112**	*e*Pn	**Pn**	**00 19 10.4**	**+1.9**
ERZN	**Erzincan**	**3.79**	**101**	*e*PN	**Pn**	**00 19 10.5**	**+2.0**
SHUT	**Suhut-Afyon**	**3.84**	**243**	*e*PN	**Pn**	**00 19 10.2**	**+0.9**
SHUT	**Suhut-Afyon**	**3.84**	**243**	*e*Pn	**Pn**	**00 19 10.2**	**+0.9**
HDMB	**Hadim**	**3.93**	**210**	*e*PN	**Pn**	**00 19 12.7**	**+2.2**
HDMB	**Hadim**	**3.93**	**210**	*e*Pn	**Pn**	**00 19 12.7**	**+2.2**
ADVT	**Abdulvahap**	**3.94**	**272**	*e*PN	**Pn**	**00 19 12.1**	**+1.6**
ADVT	**Abdulvahap**	**3.94**	**272**	*e*Pn	**Pn**	**00 19 12.1**	**+1.6**
TAHT	**Tahtakopru-Hat**	**4.15**	**166**	*e*PN	**Pn**	**00 19 15.1**	**+1.7**
TAHT	**Tahtakopru-Hat**	**4.15**	**166**	*e*Pn	**Pn**	**00 19 15.1**	**+1.7**
IKL	**Isikli**	**4.27**	**193**	*e*PN	**Pn**	**00 19 17.5**	**+2.5**
IKL	**Isikli**	**4.27**	**193**	*e*Pn	**Pn**	**00 19 17.5**	**+2.5**
TVSB	**Tavsanli**	**4.29**	**259**	*e*PN	**Pn**	**00 19 17.3**	**+1.9**
TVSB	**Tavsanli**	**4.29**	**259**	*e*Pn	**Pn**	**00 19 17.3**	**+1.9**
TIRR	**Tirgusor**	**6.28**	**312**	⇑*i* P	**Pn**	**00 19 41.2**	**-1.3**
TIRR	**Tirgusor**	**6.28**	**312**	⇑*i* P	**Pn**	**00 19 41.2**	**-1.3**
KBZ	**Khabaz**	**6.81**	**58**	Pn	Pn	00 19 52.7	+2.9
	0.1nm,0.3s,baz=234,slow=14,SNR=2.7						
CFR	**Carcaliu**	**6.89**	**316**	⇑*i* P	**Pn**	**00 19 49.1**	**-1.8**
CFR	**Carcaliu**	**6.89**	**316**	⇑*i* P	**Pn**	**00 19 49.1**	**-1.8**
MMAI	**Mount Meron Ar**	**7.39**	**177**	Pn	**Pn**	**00 19 59.7**	**+1.7**
	0.8nm,0.3s,baz=357,slow=14,SNR=5.9						
MLR	**Muntele Rosu**	**9.30**	**311**	Pn	**Pn**	**00 20 11.1**	**+0.6**
	0.0nm,0.3s,baz=137,slow=16,SNR=7.6						
TESR	**Tescani**	**8.55**	**318**	⇑*i* P	**Pn**	**00 20 12.0**	**-1.8**
BURAR	**Bucovina Array**	**10.02**	**319**	⇓*i* P	**Pn**	**00 20 34.1**	**+0.1**
AKASG	**Malin Array Be**	**11.03**	**341**	Pn	**Pn**	**00 20 46.9**	**-0.7**
	0.6nm,0.3s,baz=154,slow=13,SNR=2.6						
AKTO	**Aktyubinsk**	**19.00**	**50**	P	**Pn**	**00 22 32.3**	**0.0**
	0.1nm,0.3s,baz=248,slow=9.4,SNR=6.7						
FINES	**FINESS Array B**	**21.74**	**349**	P	**P**	**00 23 03.3**	**+2.0**
	1.4nm,0.9s,baz=170,slow=9.3,SNR=3.4						
MKAR	**Makanchi Array**	**34.48**	**63**	P	**P**	**00 24 59.5**	**+1.6**
	0.8nm,0.7s,baz=271,slow=7.2,SNR=9.9						
TORD	**Torodi Ar. Bea**	**39.80**	**236**	P	**P**	**00 25 44.2**	**+0.7**
	0.3nm,0.9s,baz=31,slow=8.7,SNR=3.1						

MEX 21 00:40:56.9±0.9, 19°.19N×96°.36W, h16km±9km, MD3.6, Veracruz

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVIG	**Laguna Verde**	**0.54**	**354**	*i* P	Pg	00 41 05.3	-2.3
LVIG				*i* S	Sg	00 41 12.4	-2.4
TPIG	**Tehuac#an**	**1.22**	**231**	*i* P	Pn	00 41 16.3	-3.2
TPIG				*e*S	Sb	00 41 29.3	-6.1
UTMO	**Huajuapan**	**1.92**	**226**	*i* P	Pn	00 41 26.5	-2.8
UTMO				*e*S	Sn	00 41 48.3	-5.0
VHO	**Vista Hermosa**	**2.13**	**190**	*i* P	Pn	00 41 29.1	-3.1
VHO				*i* S	Sn	00 41 52.8	-5.7
PPM	**Popocatepetl**	**2.14**	**267**	*e*P	Pn	00 41 29.4	-3.3
PPM				*i* S	Sn	00 41 54.3	-5.1
YAIG	**Yautepec**	**2.58**	**263**	*i* P	Pn	00 41 34.8	-3.4
YAIG				*i* S	Sn	00 42 05.0	-4.4
TLIG	**Tlapa**	**2.64**	**233**	*i* P

ISC 21 01:07:50.3±0.4,2°51N±0.04×126°98E±0.06,h53km±3km, h52km:pP-P,n129,σ1§53/148,mb4.5/45,2C-1D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.77**	**167**	P	Pn	01 08 24.6	+6.0
TNTI				S	Sn	01 08 47.6	+7.6
SGSI	**Sangihe**	**1.86**	**309**	P	**Pn**	**01 08 22.7**	**+2.9**
SGSI				S	**Sn**	**01 08 44.8**	**+2.7**
LBMI	**Labuha**	**3.17**	**171**	P	Pn	01 08 44.7	+6.9
KMSI	**Cibinong**	**3.56**	**237**	P	Pn	01 08 47.8	+4.7
MRSI	**Marisa** 318nm,0.7s,6µm	**5.43**	**248**	P	Pn	01 09 14.4	+5.7
MRSI	318nm,0.7s,6µm			S	**Sn**	**01 10 13.5**	**+3.6**
SWI	**Sorong**	**5.44**	**128**	P	Pn	01 09 25.3	+17
LUWI	**Luwuk** 159nm,0.8s,9µm	**5.49**	**230**	P	Pn	01 09 16.0	+6.4
NLAI	**Namlea** 49nm,0.6s,3µm	**5.71**	**179**	P	Pn	01 09 17.0	+4.4
NLAI	49nm,0.6s,3µm			S	**Sn**	**01 10 17.9**	**+1.0**
MSAI	**Masohi**	**6.14**	**161**	P	Pn	01 09 37.5	+19
APSI	**Ampana**	**6.32**	**238**	P	Pn	01 09 26.0	+5.0
TOLI	**Toli-Toli**	**6.33**	**258**	S	**Sn**	**01 10 31.3**	**-0.9**
MYLDM	**Lahad Datu**	**8.87**	**288**	P	Pn	01 10 01.9	+6.1
SPSI	**Sidrap Palu**	**9.66**	**228**	P	Pn	01 10 10.7	+4.0
BKSI	**Bulukumba**	**10.37**	**221**	P	Pn	01 10 21.4	+5.0
KAPI	**Kappang**	**10.39**	**224**	P	**Pn**	**01 10 19.1**	**+2.4**
KAPI				S	**Sn**	**01 12 10.0**	**-1.9**
KAPI	**Kappang** 1.3nm,0.3s,baz=261,slow=3.0,SNR=7.0	**10.39**	**224**	P	**Pn**	**01 10 19.1**	**+2.4**
KAPI	3.1nm,0.3s,baz=37,slow=20,SNR=5.7			S	**Sn**	**01 12 10.0**	**-1.9**
KKM	**Kota Kinabalu**	**11.29**	**288**	*e*Pn	Pn	01 10 23.8	-5.3
JAY	**Jayapura** baz=15,SNR=4.9	**14.60**	**110**	P	**P**	**01 11 22.1**	**+2.9**
SBUM	**Sibu**	**14.75**	**270**	P	**P**	**01 11 22.7**	**+1.9**
MTNI	**Mataram**	**15.45**	**224**	P	**P**	**01 11 30.3**	**+1.7**
SRBI	**Singaraja**	**15.77**	**229**	P	**P**	**01 11 34.6**	**+2.5**
MTN	**Manton Dam** baz=15,SNR=3.5	**15.80**	**165**	P	**Pn**	**01 11 30.1**	**+0.6**
KDU	**Kakadu** baz=16,SNR=4.9	**16.05**	**160**	P	**P**	**01 11 37.6**	**+2.3**
KSM	**Kuching**	**16.69**	**267**	P	**P**	**01 11 44.3**	**+1.9**
KSM	**Kuching** 25nm,0.8s	**16.69**	**267**	*e*Pn	**P**	**01 11 42.5**	**+0.1**
KSM	**Kuching** baz=16,SNR=5.3	**16.69**	**267**	P	**P**	**01 11 44.3**	**+1.9**
KNRA	**Kununurra** baz=18,SNR=5.1	**18.16**	**174**	P	**Pn**	**01 12 01.3**	**+2.6**
PCJI	**Pacitan**	**19.01**	**236**	P	**Pn**	**01 12 09.0**	**-0.1**
FITZ	**Fitzroy Crossi** 4.5nm,0.6s	**20.53**	**184**	*e*P	**P**	**01 12 24.7**	**+0.4**
FITZ				S	**S**	**01 16 08.4**	**-2.8**
FITZ	**Fitzroy Crossi** baz=20,SNR=20	**20.53**	**184**	P	**P**	**01 12 24.8**	**+0.4**
FITZ	**Fitzroy Crossi** 4.3nm,0.5s,baz=17,slow=7.8,SNR=35	**20.53**	**184**	P	**P**	**01 12 24.8**	**+0.5**
FITZ	2.4nm,1.0s,baz=68,slow=20,SNR=2.8			S	**S**	**01 16 08.4**	**-2.8**
WRA	**Warramunga Arr**	**23.46**	**162**	P	**P**	**01 12 55.8**	**+0.6**
WRA				pP	**pP**	**01 13 05.8**	**-2.2**
WRA				S	**S**	**01 16 59.3**	**-5.7**
WRA	**Warramunga Arr** 3.3nm,0.6s,baz=342,slow=10,SNR=38	**23.46**	**162**	P	**P**	**01 12 55.8**	**+0.6**
WRA	9.3nm,0.5s,baz=342,slow=11,SNR=14			pP	**pP**	**01 13 05.8**	**-2.2**
WRA	1.5nm,0.8s,baz=334,slow=13,SNR=2.9			S	**S**	**01 16 59.3**	**-5.7**
MBWA	**Marble Bar** 21nm,0.8s	**24.57**	**196**	*e*P	**P**	**01 13 05.8**	**+0.3**
IPM	**Ipoh** 7.2nm,0.6s	**25.98**	**275**	*e*P	**P**	**01 13 17.7**	**-0.7**
CHBT	**CHBT**	**26.43**	**294**	P	**P**	**01 13 21.4**	**-1.0**
CHBT	**CHBT** 19nm,0.8s,3µm	**26.43**	**294**	P	**P**	**01 13 21.5**	**-1.0**
MTSU	**Mount Surprise** baz=26,SNR=4.7	**26.70**	**141**	P	**P**	**01 13 27.9**	**+3.2**
AS31	**Alice Springs**	**26.88**	**166**	*e*P	**P**	**01 13 26.4**	**0.0**
ASAR	**Alice Springs**	**26.88**	**166**	P	**P**	**01 13 26.7**	**+0.4**
ASAR				pP	**pP**	**01 13 40.9**	**+1.2**
ASAR				sP	**sP**	**01 13 46.1**	**+0.1**
ASAR				PcP	**PcP**	**01 16 47.9**	**0.0**
ASAR				S	**S**	**01 17 56.4**	**-3.1**
ASAR	**Alice Springs** 1.2nm,0.6s,baz=342,slow=7.1,SNR=12	**26.88**	**166**	P	**P**	**01 13 26.7**	**+0.4**
ASAR	2.7nm,0.6s,baz=345,slow=7.9,SNR=11			pP	**pP**	**01 13 40.9**	**+1.2**
ASAR	4.8nm,0.8s,baz=347,slow=12,SNR=8.1			sP	**sP**	**01 13 46.1**	**+0.1**
ASAR	0.6nm,0.7s,baz=352,slow=1.3,SNR=4.3			PcP	**PcP**	**01 16 47.9**	**0.0**
ASAR	0.7nm,0.8s,baz=347,slow=20,SNR=3.9			S	**S**	**01 17 56.4**	**-3.1**
CHAI	**Chaiyaphum** 8.5nm,0.7s	**27.98**	**300**	P	**P**	**01 13 35.0**	**-1.3**
PSI	**Prapat**	**28.03**	**271**	P	**P**	**01 13 35.3**	**-1.7**
PSI	**Prapat** 3.7nm,0.6s,baz=11,slow=13,SNR=3.7	**28.03**	**271**	P	**P**	**01 13 35.3**	**-1.7**
PBKT	**Sadao Pong**	**29.14**	**300**	P	**P**	**01 13 46.1**	**-0.5**
LOEI	**Loei** 24nm,1.5s	**29.32**	**302**	P	P	01 13 44.4	-3.8
GSI	**Gunungsitoli**	**29.41**	**268**	P	**P**	**01 13 48.0**	**-1.1**
UTHA	**Uthaitani** 4.8nm,0.8s	**30.07**	**297**	P	**P**	**01 13 53.9**	**-0.9**
MEEK	**Meekatharra** baz=30,SNR=16	**30.09**	**195**	P	**P**	**01 13 55.2**	**+0.3**
NANT	**Nan** 33nm,0.7s,2µm	**30.40**	**304**	P	**P**	**01 13 58.3**	**+0.6**
CMAR	**Chiang Mai Arr**	**31.71**	**302**	P	**P**	**01 14 08.9**	**-0.4**
CMAR	**Chiang Mai Arr** 3.9nm,0.9s,baz=117,slow=7.1,SNR=18	**31.71**	**302**	P	**P**	**01 14 08.9**	**-0.4**
CHTO	**Chiang Mai**	**31.87**	**303**	P	**P**	**01 14 10.3**	**-0.4**
CHTO	**Chiang Mai** 15nm,0.5s	**31.87**	**303**	*e*P	**P**	**01 14 09.3**	**-1.4**
CHTO	**Chiang Mai** 55nm,1.1s	**31.87**	**303**	P	**P**	**01 14 10.0**	**-0.7**
ENH	**Enshi** 7.4nm,0.7s	**32.20**	**331**	*e*P	**P**	**01 14 12.5**	**-1.0**
CMAI	**Chiengmai2** 76nm,1.0s,4µm	**32.31**	**304**	P	**P**	**01 14 14.2**	**-0.6**
BLDU	**Baliidu** baz=34,SNR=4.6	**34.37**	**196**	P	**P**	**01 14 31.6**	**-0.7**
KSAR	**Wonju Array Be**	**34.77**	**1**	P	**P**	**01 14 36.7**	**+1.0**
KSRS	**Korea Array** 1.9nm,0.6s,baz=180,slow=10,SNR=5.8	**34.78**	**1**	P	**P**	**01 14 36.7**	**+0.9**
MJAR	**Matsushiro Arr**	**35.41**	**16**	P	**P**	**01 14 40.5**	**-0.9**
MJAR	**Matsushiro Arr** 1.8nm,0.6s,baz=181,slow=10,SNR=9.0	**35.41**	**16**	P	**P**	**01 14 40.5**	**-0.9**
NWAO	**Narrogin (SRO)**	**36.43**	**194**	P	**P**	**01 14 50.5**	**+0.4**
NWAO				pP	**pP**	**01 15 02.7**	**-1.0**
NWAO	**Narrogin (SRO)** 6.0nm,0.7s,baz=11,slow=9.2,SNR=4.3	**36.43**	**194**	P	**P**	**01 14 50.5**	**+0.4**
NWAO	6.8nm,0.8s,baz=240,slow=12,SNR=2.4			pP	**pP**	**01 15 02.7**	**-1.0**
STKA	**Stephens Creek** 2.8nm,0.7s	**36.91**	**159**	*e*P	**P**	**01 14 54.4**	**+0.3**
STKA				pP	**pP**	**01 15 07.2**	**-0.6**
STKA	**Stephens Creek** baz=37,SNR=5.8	**36.91**	**159**	P	**P**	**01 14 54.8**	**+0.7**
STKA	**Stephens Creek** 3.3nm,0.7s,baz=339,slow=7.0,SNR=8.7	**36.91**	**159**	P	**P**	**01 14 54.6**	**+0.5**
STKA	15nm,0.7s,baz=338,slow=9.1,SNR=17			pP	**pP**	**01 15 07.2**	**-0.6**
USRK	**Ussuriysk Arra** 3.9nm,0.8s,baz=184,slow=6.9,SNR=10	**41.75**	**5**	P	**P**	**01 15 30.5**	**+0.8**
USRK	4.3nm,0.9s,baz=175,slow=7.1,SNR=4.9			pP	**pP**	**01 15 50.4**	**+2.3**
LSA	**Lhasa** 15nm,0.6s	**43.43**	**312**	*e*P	**P**	**01 15 48.0**	**-0.8**
TAPN	**Taplejung** 35nm,0.8s	**44.94**	**307**	*e*P	**P**	**01 15 59.3**	**-1.4**
ODAN	**Odare** 50nm,0.7s	**44.98**	**306**	*e*P	**P**	**01 15 59.6**	**-1.4**
RAMN	**Ramite** 53nm,0.7s	**45.66**	**306**	*e*P	**P**	**01 16 05.2**	**-1.1**
JIRN	**Jiri** 50nm,0.6s	**46.29**	**307**	*e*P	**P**	**01 16 10.2**	**-1.2**
GUN	**Gumba** 81nm,0.7s	**46.65**	**307**	*e*P	**P**	**01 16 12.9**	**-1.3**
PKI	**Pulchoki** 21nm,0.7s	**46.88**	**306**	*e*P	**P**	**01 16 14.1**	**-1.9**
PKIN	**Phulchoki** 14nm,0.7s	**46.89**	**306**	*e*P	**P**	**01 16 14.0**	**-2.0**
KKN	**Kakani** 30nm,0.7s	**47.07**	**306**	*e*P	**P**	**01 16 15.8**	**-1.6**
DMN	**Daman** 38nm,0.8s	**47.14**	**306**	*e*P	**P**	**01 16 16.5**	**-1.5**
GKN	**Gorkha** 32nm,0.8s	**47.68**	**306**	*e*P	**P**	**01 16 20.3**	**-1.7**
KOLN	**Koldanda** 55nm,0.7s	**48.42**	**306**	*e*P	**P**	**01 16 26.6**	**-1.3**
SONM	**Songino Array**	**48.52**	**342**	P	**P**	**01 16 28.5**	**+0.3**
SONM				pP	**pP**	**01 16 41.2**	**-1.0**
SONM	**Songino Array** 5.9nm,1.0s,baz=155,slow=8.8,SNR=25	**48.52**	**342**	P	**P**	**01 16 28.5**	**+0.3**
SONM	1.9nm,0.8s,baz=154,slow=9.6,SNR=6.1			pP	**pP**	**01 16 41.2**	**-1.0**
DANN	**Dangsing** 73nm,0.7s	**48.53**	**306**	*e*P	**P**	**01 16 27.2**	**-1.5**
PETK	**Petropavlovsk-**	**56.46**	**22**	P	**P**	**01 17 27.4**	**+0.8**
PETK	**Petropavlovsk-** 1.4nm,0.5s,baz=191,slow=3.7,SNR=4.0	**56.46**	**22**	P	**P**	**01 17 27.4**	**+0.8**
MK31	**Makanchi Array**	**58.69**	**326**	*e*P	**P**	**01 17 41.3**	**-1.3**
MKAR	**Makanchi Array**	**58.69**	**326**	P	**P**	**01 17 41.7**	**-0.8**
MKAR				pP	**pP**	**01 17 54.5**	**-2.5**
MKAR	**Makanchi Array** 1.6nm,0.4s,baz=120,slow=7.9,SNR=46	**58.69**	**326**	P	**P**	**01 17 41.7**	**-0.8**
MKAR	1.4nm,0.5s,baz=121,slow=8.3,SNR=5.8			pP	**pP**	**01 17 54.5**	**-2.5**
TKM2	**Tokmak 2** 2.4nm,0.5s	**60.82**	**319**	*e*P	**P**	**01 17 56.8**	**-0.6**
AAK	**Ala-Archa**	**61.42**	**318**	P	**P**	**01 18 01.2**	**-0.3**
AAK	**Ala-Archa** 1.2nm,0.5s,baz=154,slow=3.5,SNR=4.7	**61.42**	**318**	P	**P**	**01 18 01.2**	**-0.3**
ZAA0	**Zalesovo Array**	**61.78**	**333**	*e*P	**P**	**01 18 02.1**	**-1.3**
ZALV	**Zalesovo Beam**	**61.78**	**333**	P	**P**	**01 18 02.3**	**-1.1**
ZALV	**Zalesovo Beam** 2.9nm,0.5s,baz=114,slow=5.7,SNR=15	**61.78**	**333**	P	**P**	**01 18 02.3**	**-1.1**
EKS2	**Erkin-Say** 2.1nm,0.6s	**61.91**	**318**	*e*P	**P**	**01 18 04.4**	**-0.4**
KBL	**Kabul** 5.7nm,0.8s	**62.46**	**308**	*e*P	**P**	**01 18 06.8**	**-1.8**
KURBB	**Kurchatov Arra** 7.7nm,0.9s,baz=122,slow=6.8,SNR=41	**62.89**	**328**	P	**P**	**01 18 10.5**	**-0.5**
KURBB	3.4nm,0.7s,baz=122,slow=7.0,SNR=6.3			pP	**pP**	**01 18 24.9**	**-0.6**
KURK	**Kurchatov**	**62.90**	**328**	P	**P**	**01 18 10.5**	**-0.5**
KURK				pP	**pP**	**01 18 24.9**	**-0.6**
KKAR	**Karatay Array** 1.5nm,0.6s	**64.29**	**317**	*e*P	**P**	**01 18 19.2**	**-1.2**
BVAR	**Borovoye Array**	**68.47**	**327**	P	**P**	**01 18 46.6**	**-0.3**
BVAR	**Borovoye Array** 9.6nm,0.9s,baz=131,slow=8.3,SNR=31	**68.47**	**327**	P	**P**	**01 18 46.6**	**-0.3**
BRVK	**Borovoye** 23nm,1.1s	**68.54**	**327**	*e*P	**P**	**01 18 46.5**	**-0.8**
ABKAR	**Akbulak array** 12nm,0.7s	**73.25**	**321**	*e*P	**P**	**01 19 15.1**	**-0.9**
KBD	**Kabd**	**79.42**	**299**	*e*P	**P**	**01 19 50.3**	**-1.1**
KBD	comp=Z,23nm,0.8s			AMb	AMB	01 19 50.9	
RDF	**Al-Radifah**	**79.54**	**299**	*e*P	**P**	**01 19 50.9**	**-1.1**
RDF	comp=Z,51nm,0.8s			AMb	AMB	01 19 51.5	
NAY	**Al-Naaiem**	**79.82**	**299**	*e*P	**P**	**01 19 52.2**	**-1.4**
NAY	comp=Z,46nm,0.8s			AMb	AMB	01 19 53.3	
RST	**Umm Al-Ruwaisa**	**80.05**	**299**	*e*P	**P**	**01 19 53.3**	**-1.5**
RST	comp=Z,693nm,1.0s			AMb	AMB	01 19 54.7	
VNDA	**Vanda** comp=Z,2.2nm,0.8s	**82.19**	**173**	*e*P	**P**	**01 20 05.3**	**+0.1**
VNDA	comp=Z,0.4nm,0.4s,baz=325,slow=7.7,SNR=3.7			*e*pP	**pP**	**01 20 17.4**	**-2.9**
VNDA	**Vanda**	**82.19**	**173**	P	**P**	**01 20 05.6**	**+0.4**
VNDA	comp=Z,1.8nm,0.7s,baz=307,slow=5.1,SNR=6.4			pP	**pP**	**01 20 18.1**	**-2.2**
GNI	**Garni** comp=Z,8.1nm,0.9s	**82.45**	**310**	*e*P	**P**	**01 20 08.2**	**+0.6**
MAW	**Mawson**	**82.71**	**200**	P	**P**	**01 20 08.6**	**+0.6**
MAW				pP	**pP**	**01 20 22.0**	**-1.1**
MAW	**Mawson** comp=Z,3.1nm,0.9s,baz=84,slow=4.8,SNR=7.3	**82.71**	**200**	P	**P**	**01 20 08.6**	**+0.6**
MAW	comp=Z,1.3nm,0.5s,baz=85,slow=5.2,SNR=3.8			pP	**pP**	**01 20 22.0**	**-1.1**
KMBO	**Kilima Mbogo** comp=Z,1.4nm,0.7s	**89.78**	**269**	*e*P	**P**	**01 20 44.5**	**+0.2**
BR131	**Keskin Array S** comp=Z,1.2nm,0.7s	**90.98**	**310**	*e*P	**P**	**01 20 48.5**	**-0.6**
BRTR	**Keskin Array B**	**90.98**	**310**	P	**P**	**01 20 48.6**	**-0.6**
BRTR	**Keskin Array B** comp=Z,0.9nm,0.8s,baz=102,slow=4.0,SNR=5.6	**90.98**	**310**	P	**P**	**01 20 48.6**	**-0.6**
CSS	**Prodhromos** comp=Z,38nm,1.6s	**91.57**	**305**	*e*P	**P**	**01 20 52.1**	**+0.3**
AKASG	**Malin Array Be**	**92.99**	**321**	P	**P**	**01 20 58.1**	**+0.1**
AKASG	**Malin Array Be** comp=Z,0.5nm,0.5s,baz=67,slow=4.8,SNR=3.9	**92.99**	**321**	P	**P**	**01 20 58.1**	**+0.1**
FINES	**FINESS Array B**	**93.02**	**332**	P	**P**	**01 20 57.6**	**-0.3**
FINES	**FINESS Array B** comp=Z,0.4nm,0.5s,baz=115,slow=6.6,SNR=3.5	**93.02**	**332**	P	**P**	**01 20 57.6**	**-0.3**
TESR	**Tescani**	**95.29**	**317**	*i*P	**P**	**01 21 07.5**	**-1.2**
BURAR	**Bucovina Array**	**96.07**	**318**	*i*P	**P**	**01 21 13.4**	**+1.0**
BUR08	**Bucovina Ar. S**	**96.08**	**318**	*e*P	**P**	**01 21 13.2**	**+0.8**
VTS	**Vitosha**	**98.41**	**314**	*i*P	P	01 21 15.3	-7.8
TORD	**Torodi Ar. Bea**	**123.53**	**287**	PKP	**PKPdf**	**01 26 42.1**	**-0.7**
TORD	**Torodi Ar. Bea** comp=Z,0.8nm,0.8s,baz=44,slow=3.0,SNR=4.8	**123.53**	**287**	PKP	**PKPdf**	**01 26 42.1**	**-0.7**
LPAZ	**La Paz**	**159.79**	**134**	PKPab	**PKPab**	**01 28 25.8**	**+1.6**
LPAZ	**La Paz** comp=Z,0.4nm,0.4s,baz=234,slow=5.2,SNR=3.0	**159.79**	**134**	PKPab	**PKPab**	**01 28 25.8**	**+1.6**

DJA 21 01:34:13.8±0.5,2°S±4°×10°2E±°,h10km,M3.7/6,MLv3.7/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**1.04**	**136**	P	Pg	01 34 31.5	-2.5
MASI				S	Sg	01 34 47.2	-0.4
SDSI	**Sungai Dareh**	**1.45**	**357**	P	Pn	01 34 38.3	-1.8
SDSI				S	Sg	01 35 00.4	-0.1
PDSI	**Padang**	**1.80**	**324**	P	Pn	01 34 45.7	+0.7
PPI	**Padang Panjang**	**2.22**	**330**	P	Pb	01 34 52.5	-1.5
MNAI	**Manna**	**2.43**	**144**	P	Pn	01 34 55.5	+1.9
MNAI				S	Sb	01 35 25.8	-2.0
LHSI	**Lahat**	**2.46**	**125**	P	Pn	01 34 55.7	+1.6
LHSI				S	Sb	01 35 28.6	-0.1

*THR **21** 01:44:37.5±1.1,30°14N×57°60E,h15km,ML3.9*
*ISCJB **21** 01:44:38.0±0.3,30°12N±0.03×57°58E±0.04,h15km, mb3.4/7, Error ellipse: s-maj=5.5km s-min=3.8km az=27.2*
*IDC **21** 01:44:38.4±1.8,29°98N×57°56E,h18km±4km,mb3.4/7, mb1 3.5/7,mb1mx3.4/28,mbtmp3.4/7, Error ellipse: s-maj=44.5km s-min=16.0km az=162.0*
*CSEM **21** 01:44:38.0±0.2,30°12N×57°63E,h2km,Ms3.9, Error ellipse: s-maj=5.3km s-min=3.6km az=109.0*
*TEH **21** 01:44:40.8,30°15N×57°68E,h17km,ML3.9*
*KISR **21** 01:44:49.2±0.4,30°16N×56°09E,h3km±999km,ML3.4*

ISC 21 01:44:38.7±0.7,30°16N±0.05×57°56E±0.05,h15km,n64, σ1§42/73,mb3.4/7,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.74**	**257**	*e*Pg	**Pg**	**01 44 51.7**	**-1.6**
KRBR				*e*Sg	**Sg**	**01 45 02.3**	**-0.9**
KRBR	comp=N,5µm,0.2s			AML	AML	01 45 02.9	
KRBR	comp=E,5µm,0.0s			AML	AML	01 45 03.1	
KRBR	**Kerman**	**0.74**	**257**	*e*Pg	**Pg**	**01 44 51.7**	**-1.6**
KRBR				*e*Sg	**Sg**	**01 45 02.3**	**-0.9**
IBAF	**Bafgh**	**2.25**	**310**	*e*Pn	**Pb**	**01 45 17.9**	**-1.3**
IBAF	comp=Z,7µm,0.1s			*e*		01 45 25.5	
IBAF	**Bafgh**	**2.25**	**310**	*e*Pn	**Pb**	**01 45 17.9**	**-1.3**
IKOO	**Kooshah**	**2.56**	**28**	*e*Pn	**Pn**	**01 45 20.5**	**+0.5**
IKOO	comp=Z,14µm,0.1s			*e*		01 45 27.7	
IKOO	**Kooshah**	**2.56**	**28**	*e*Pn	**Pn**	**01 45 20.5**	**+0.5**
ZHSF	**Zahedan**	**2.82**	**100**	*e*Pn	**Pn**	**01 45 23.3**	**-0.1**
ZHSF	**Zahedan**	**2.82**	**100**	*e*Pn	**Pn**	**01 45 23.3**	**-0.1**
IMEH	**Mehriz**	**2.84**	**296**	*e*Pn	**Pn**	**01 45 25.9**	**+2.1**
IMEH	comp=Z,3µm,0.1s			*e*		01 46 17.9	
IMEH	**Mehriz**	**2.84**	**296**	*e*Pn	**Pn**	**01 45 25.9**	**+2.1**
IBND	**Bandar-abas**	**2.85**	**199**	*e*Pn	**Pn**	**01 45 25.6**	**+1.9**
IBND	comp=Z,6µm,0.3s			*e*		01 46 16.0	
IBND	**Bandar-abas**	**2.85**	**199**	*e*Pn	**Pn**	**01 45 25.6**	**+1.9**
ITEG	**Tejag**	**2.90**	**20**	*e*Pn	**Pn**	**01 45 25.2**	**+0.6**
ITEG	comp=Z,10µm,0.1s			*e*		01 45 36.4	
ITEG				*e*Sg	**Sg**	**01 46 10.8**	**-1.2**
ITEG	**Tejag**	**2.90**	**20**	*e*Pn	**Pn**	**01 45 25.2**	**+0.6**
ITEG				*e*Sg	**Sg**	**01 46 10.8**	**-1.2**
BNDS	**Bandar-Abbas**	**3.02**	**205**	*e*Pn	**Pn**	**01 45 27.5**	**+1.3**
BNDS	comp=N,242nm,1.0s			AML	AML	01 46 24.1	
BNDS	**Bandar-Abbas**	**3.02**	**205**	*e*Pn	**Pn**	**01 45 27.5**	**+1.3**
IDAH	**Dahanechah**	**3.22**	**36**	*e*Pn	**Pn**	**01 45 30.6**	**+1.5**
IDAH	comp=Z,6µm,0.2s			*e*		01 45 40.7	
IDAH	**Dahanechah**	**3.22**	**36**	*e*Pn	**Pn**	**01 45 30.6**	**+1.5**
ICHK	**Chekchek**	**3.43**	**308**	*e*Pn	**Pn**	**01 45 34.3**	**+2.4**
ICHK	comp=Z,2µm,0.2s			*e*		01 46 39.9	
ICHK	**Chekchek**	**3.43**	**308**	*e*Pn	**Pn**	**01 45 34.3**	**+2.4**
IMON	**Monand**	**3.50**	**30**	*e*Pn	**Pn**	**01 45 34.0**	**+1.1**
IMON	comp=Z,4µm,0.1s			*e*		01 45 49.3	
IMON	**Monand**	**3.50**	**30**	*e*Pn	**Pn**	**01 45 34.0**	**+1.1**
ISAD	**Sadrabad**	**3.78**	**299**	*e*Pn	**Pn**	**01 45 39.2**	**+2.4**
ISAD	comp=Z,1µm,0.3s			*e*		01 46 42.6	
ISAD	**Sadrabad**	**3.78**	**299**	*e*Pn	**Pn**	**01 45 39.2**	**+2.4**
IPAR	**Pars**	**3.96**	**267**	*e*Pn	**Pn**	**01 45 41.7**	**+2.5**
IPAR	comp=Z,852nm,0.4s			*e*		01 46 51.4	
IPAR	**Pars**	**3.96**	**267**	*e*Pn	**Pn**	**01 45 41.7**	**+2.5**
SHRT	**Shahrakht**	**4.17**	**33**	*e*PN5	**Pn**	**01 45 43.1**	**+1.2**
BANOM	**Banah** SNR=9.6	**4.37**	**195**	P	**Pn**	**01 45 45.2**	**+0.5**
BANOM				S	**Sn**	**01 46 35.5**	**+0.1**
NASN	**Na'in**	**4.86**	**304**	*e*PN5	**Pn**	**01 45 53.1**	**+1.4**
IZEF	**Zefreh**	**5.26**	**303**	*e*Pn	**Pn**	**01 45 59.3**	**+2.2**
IZEF	comp=Z,287nm,0.3s			*e*		01 47 38.4	
IZEF	**Zefreh**	**5.26**	**303**	*e*Pn	**Pn**	**01 45 59.3**	**+2.2**
NAZ	**Nazwa, Dubai**	**5.43**	**199**	P	**Pn**	**01 45 59.5**	**+0.3**
HATD	**Hatta, Dubai**	**5.47**	**194**	P	**Pn**	**01 46 00.3**	**+0.6**
ASHO	**Ashiyiah** SNR=8.1	**5.62**	**194**	P	**Pn**	**01 46 03.2**	**+1.3**
FAQ	**Al Faqa, Dubai**	**5.68**	**199**	P	**Pn**	**01 46 03.1**	**+0.5**
ASUD	**Al Ashush, Dub**	**5.87**	**201**	P	**Pn**	**01 46 04.8**	**-0.4**
IMOG	**Moghan**	**6.11**	**13**	*e*Pn	**Pn**	**01 46 10.5**	**+1.7**
IMOG	**Moghan**	**6.11**	**13**	*e*Pn	**Pn**	**01 46 10.5**	**+1.7**
IANJ	**Anjilo**	**6.13**	**331**	*e*Pn	**Pn**	**01 46 10.2**	**+1.2**
IANJ	comp=Z,347nm,0.4s			*e*		01 48 14.0	
IANJ	**Anjilo**	**6.13**	**331**	*e*Pn	**Pn**	**01 46 10.2**	**+1.2**
ISFB	**Sefidab**	**6.17**	**314**	*e*Pn	**Pn**	**01 46 11.3**	**+1.9**
ISFB	comp=Z,252nm,0.5s			*e*		01 48 19.3	
ISFB	**Sefidab**	**6.17**	**314**	*e*Pn	**Pn**	**01 46 11.3**	**+1.9**
IAKL	**Akhelmad**	**6.50**	**8**	*e*Pn	**Pn**	**01 46 15.0**	**+0.9**
IAKL	comp=Z,210nm,0.1s			*e*		01 46 17.1	
IKRD	**Kardeh**	**6.64**	**6**	*e*Pn	Pn	01 46 20.5	+4.4
IKRD	comp=Z,163nm,0.3s			*e*		01 47 42.4	
ISHM	**Shahmirzad**	**6.69**	**328**	*e*Pn	**Pn**	**01 46 18.6**	**+1.8**
ISHM	comp=Z,304nm,0.3s			*e*		01 48 27.7	
ISHM	**Shahmirzad**	**6.69**	**328**	*e*Pn	**Pn**	**01 46 18.6**	**+1.8**
IFIR	**Firoozkooh**	**6.81**	**325**	*e*Pn	**Pn**	**01 46 20.0**	**+1.6**
IFIR	comp=Z,109nm,0.1s			*e*		01 46 54.4	
IFIR	**Firoozkooh**	**6.81**	**325**	*e*Pn	**Pn**	**01 46 20.0**	**+1.6**
ISFR	**Sfrayin**	**6.89**	**3**	*e*Pn	**Pn**	**01 46 21.4**	**+2.0**
ISFR	comp=Z,155nm,0.2s			*e*		01 46 54.7	
IEMG	**Emamgholi**	**7.29**	**7**	*e*Pn	**Pn**	**01 46 26.0**	**+1.0**
IEMG	comp=Z,94nm,0.2s			*e*		01 46 36.0	
IEMG	**Emamgholi**	**7.29**	**7**	*e*Pn	**Pn**	**01 46 26.0**	**+1.0**
RDF	**Al-Radifah**	**8.84**	**264**	*e*P	**Pn**	**01 46 45.6**	**-0.3**
RDF	**Al-Radifah**	**8.84**	**264**	*e*P	**Pn**	**01 46 45.6**	**-0.3**
NAY	**Al-Naaiem**	**9.05**	**267**	*e*P	**Pn**	**01 46 48.9**	**0.0**
NAY				*e*S	Sn	01 48 18.3	-12
NAY	comp=Z,4.3nm,0.6s			AML	AML	01 48 36.3	
NAY	**Al-Naaiem**	**9.05**	**267**	*e*P	**Pn**	**01 46 48.8**	**0.0**
RST	**Umm Al-Ruwaisa**	**9.23**	**269**	*e*P	**Pn**	**01 46 51.1**	**-0.2**
RST	**Umm Al-Ruwaisa**	**9.23**	**269**	*e*P	**Pn**	**01 46 51.1**	**-0.2**
BRTR	**Keskin Array B** comp=Z,0.6nm,0.8s,baz=129,slow=12,SNR=3.3	**21.78**	**302**	P	**P**	**01 49 30.3**	**+0.2**
BRTR	comp=Z,1.0nm,0.8s,baz=121,slow=12,SNR=5.2			pP	**pP**	**01 49 35.7**	**+1.3**
BRTR	comp=Z,0.2nm,0.5s,baz=293,slow=16,SNR=5.1			sP	**sP**	**01 49 38.5**	**+2.1**
BVAR	**Borovoye Array** comp=Z,0.7nm,0.5s,baz=222,slow=5.8,SNR=2.8	**24.70**	**19**	P	**P**	**01 49 59.4**	**+0.3**
MKAR	**Makanchi Array** comp=Z,

10nm,0.8s,baz=144,slow=10,SNR=7.6
KSRS Korea Array 74.78 318 P P 02 04 01.6 +2.7
2.0nm,0.8s,baz=321,slow=37,SNR=3.5
USRK Ussuriysk Arra 76.65 326 P P 02 04 12.2 +3.1
1.2nm,0.6s,baz=86,slow=6.5,SNR=3.4
NVAR Mina Array Bea 79.10 44 P **P 02 04 23.4 +0.7**
2.1nm,0.7s,baz=225,slow=9.0,SNR=19
TXAR Lajitas Array 85.65 58 P **P 02 04 56.7 +0.9**
1.4nm,0.7s,baz=221,slow=5.0,SNR=12
ILAR Eielson Array 85.66 13 P **P 02 04 54.5 -0.4**
1.4nm,0.4s,baz=220,slow=5.0,SNR=30
PDAR Pinedale Array 87.03 43 P **P 02 05 01.9 -0.2**
1.1nm,0.7s,baz=230,slow=2.8,SNR=11
CMAR Chiang Mai Arr 89.11 290 P **P 02 05 14.1 +2.0**
1.6nm,0.6s,baz=106,slow=3.0,SNR=7.8
SONM Songino Array 93.62 319 P **P 02 05 33.9 +1.6**
0.4nm,0.9s,baz=123,slow=5.3,SNR=3.0
YKA Yellowknife Ar 94.06 25 P **P 02 05 34.0 +0.2**
1.9nm,0.8s,baz=204,slow=28,SNR=3.6
ARCES ARCESS Array B 126.20 350 PKP **PKPdf 02 11 13.2 -0.5**
2.4nm,0.8s,baz=341,slow=2.6,SNR=6.3
NOA NORSAR Array B 136.25 353 PKP **PKPdf 02 11 34.1 +1.1**
0.5nm,0.7s,baz=9.1,slow=1.9,SNR=2.5
AKASG Malin Array Be 140.55 333 PKhKP PKPpre 02 11 34.7
0.3nm,0.3s,baz=46,slow=4.0,SNR=5.5
AKASG PKP **PKiKP 02 11 43.0 -0.8**
1.1nm,0.5s,baz=40,slow=3.0,SNR=4.6
BSEG Bad Segeberg 143.29 352 *e*PKPbc **PKPdf 02 11 44.4 -1.3**
KWP Kalwaria Pacla 144.04 337 ↑*i*P **PKPdf 02 11 47.3 +0.1**
TLCR 144.60 326 ↑*i*P **PKPab 02 11 48.0 -1.4**
BURAR Bucovina Array 144.61 332 ↑*i*P **PKPab 02 11 49.9 +0.4**
GHRR 144.72 329 ↑*i*P **PKPab 02 11 50.4 +0.6**
TESR Tescani 144.77 330 ↓*i*P **PKPab 02 11 49.3 -0.7**
BRTR Keskin Array B 144.88 315 PKPbc **PKPab 02 11 50.1 -0.8**
4.2nm,0.7s,baz=132,slow=3.2,SNR=26
CFR Carcaliu 144.96 327 ↑*i*P **PKPab 02 11 49.9 -0.8**
VRI Vrincioaia 145.19 329 ↑*i*P **PKPab 02 11 50.6 -1.1**
CLZ Clausthal 145.32 351 *e*PKPbc **PKPab 02 11 51.1 -0.9**
TRPA Tarpa 145.32 335 ↑*i*P **PKPab 02 11 52.2 -1.9**
CLL Collm 145.37 348 *e*PKPbc **PKPab 02 11 51.0 -1.1**
CLL Collm 145.37 348 ↑*i*PKP **PKPab 02 11 50.3 -1.8**
comp=Z,17nm,0.8s
ANTO Ankara 145.37 316 ↑*i*P **PKPab 02 11 51.3 -1.4**
OKC Ostrava-Krasne 145.41 341 *e*PKP **PKPab 02 11 51.0 -1.4**
UPC Upice 145.41 344 *e*PKP **PKPab 02 11 51.3 -1.1**
DPC Dobruska-Polom 145.47 344 *e*PKP **PKPab 02 11 51.7 -1.0**
BRG Berggiesshubel 145.58 346 *i* PKP **PKPab 02 11 51.5 -1.5**
comp=Z,14nm,1.3s
FBE Freiberg 145.66 347 *e*PKPbc **PKPab 02 11 52.3 -1.0**
PVCC Panska Ves 145.75 346 *e*PKP **PKPbc 02 11 51.4 -0.5**
DOPR Dopca 145.76 330 ↑*i*P **PKPab 02 11 53.1 -0.8**
MLR Muntele Rosu 145.84 329 ↑*i*P **PKPbc 02 11 51.8 -0.7**
PRU Pruhonice 146.26 345 *e*PKP **PKPab 02 11 53.7 -2.0**
DRGR 146.32 334 ↑*i*P **PKPab 02 11 53.8 -2.4**
TANN Tannenbergstha 146.32 348 *e*PKPbc **PKPab 02 11 53.8 -2.3**
WERD Werda 146.32 348 *e*PKPbc **PKPab 02 11 53.9 -2.1**
VRAC Vranov 146.34 343 ↑*i*P **PKPbc 02 11 53.4 -0.2**
GUNZ Gunzen 146.40 348 *e*PKPbc **PKPab 02 11 54.1 -2.2**
WERN Wernitzgruen 146.46 348 *e*PKPbc **PKPab 02 11 54.6 -2.0**
PSZ Piszkesteto 146.50 338 ↓*i*P **PKPab 02 11 54.3 -2.6**
NKC Novy Kostel 146.50 348 *e*PKP **PKPab 02 11 54.1 -2.6**
ARR Arges 146.56 330 ↑*i*P **PKPab 02 11 55.6 -1.6**
ROTZ Rotzenmuhle 146.99 348 *e*PKPbc **PKPab 02 11 55.9 -2.8**
TNS Taunus Mts 147.17 352 *e*PKPbc **PKPbc 02 11 56.1 +0.3**
KHC Kasperske Hory 147.29 346 *e*PKP **PKPbc 02 11 56.3 +0.1**
KHC *ex* x 02 12 01.1
GZR Gura Zlata 147.39 332 ↑*i*P **PKPbc 02 11 56.4 -0.2**
GEC2 GERESS Array S 147.53 345 *e*PKPbc **PKPbc 02 11 57.0 +0.1**
GERES GERESS Array B 147.53 345 PKPbc **PKPbc 02 11 57.0 +0.1**
comp=Z,3.2nm,0.5s,baz=28,slow=3.2,SNR=16
BZS Buzias 147.72 334 ↑*i*P **PKPbc 02 11 56.6 -0.7**
CONA Conrad Observa 147.80 342 ↓*i*PKPbc **PKPbc 02 11 58.1 +0.5**
comp=Z,5.9nm,0.7s
KBA Koelnbreinsper 149.26 345 ↑*i*PKPbc **PKPbc 02 12 01.1 -0.2**
comp=Z,4.2nm,0.5s
ABTA Abfaltersbach 149.78 345 ↓*i*PKPbc **PKPbc 02 12 01.7 -0.7**
comp=Z,9.8nm,0.6s
DAVA Damuels 149.81 349 ↑*i*PKPbc **PKPbc 02 12 02.9 +0.4**
comp=Z,12nm,1.1s
LJU Ljubljana 149.89 342 *i* PKPbc **PKPbc 02 12 02.6 0.0**
CRNS Cerns Vrh 149.94 343 *i* PKPbc **PKPbc 02 12 02.3 -0.4**
BOJS Bojanci 150.16 341 *e*PKPbc **PKPbc 02 12 03.5 +0.3**

IDC 21 02:05:14.0±9.9, 0.°35N×131.°26E, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.4/21, mbtmp3.6/3, MS3.0/1, Ms1 3.0/1, ms1mx2.7/20, Error ellipse: s-maj=352.6km s-min=28.4km az=59.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.39**	**172**	P	P	02 09 51.6	-1.1
	0.8nm,0.8s,baz=352,slow=11,SNR=4.4						
WRA				LR	LR	02 16 25.0	
	comp=Z,47nm,20.2s,baz=320,slow=33						
ASAR	**Alice Springs**	**24.01**	**174**	P	P	02 10 31.4	+0.7
	0.9nm,0.9s,baz=356,slow=10,SNR=6.4						
CMAR	**Chiang Mai Arr**	**36.48**	**301**	P	P	02 12 21.1	-0.2
	1.5nm,0.4s,baz=110,slow=7.9,SNR=4.9						

*IDC **21** 02:33:11.5±1.2, 10.°94S×164.°58E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.9/19, mbtmp3.9/7, MS3.3/2, Ms1 3.3/2, ms1mx2.9/30, Error ellipse: s-maj=40.8km s-min=25.0km az=113.0*
*ISCJB **21** 02:33:13.6±0.9, 11.°1S±0.°2×164.°8E±0.°2, h29km, mb4.0/9, MS3.4/1, Error ellipse: s-maj=31.1km s-min=16.3km az=37.3*
*NEIC **21** 02:33:16.1±1.0, 10.°98S×164.°84E, h35km, mb4.4/3, Error ellipse: s-maj=33.2km s-min=16.5km az=129.0*
ISC 21 02:33:15.5±1.1, 11.°0S±0.°2×164.°7E±0.°2, h29km, n21, σ0s98/20, mb4.0/9, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.12**	**172**	LR	LR	02 39 27.0	
	comp=Z,86nm,19.6s,baz=168,slow=34						
CTA	**Charters Tower**	**19.95**	**241**	P	**Pn**	**02 37 47.3**	**0.0**
CTA	**Charters Tower**	**19.95**	**241**	P	**Pn**	**02 37 47.3**	**0.0**
	0.2nm,0.3s,baz=65,slow=12,SNR=4.0						
CTAO	**Charters Tower**	**19.95**	**241**	*e*P	**Pn**	**02 37 48.2**	**+0.9**
	18nm,1.1s						
STKA	**Stephens Creek**	**29.80**	**222**	P	**P**	**02 39 18.5**	**-1.5**
STKA	**Stephens Creek**	**29.80**	**222**	P	**P**	**02 39 18.5**	**-1.5**
	0.4nm,0.4s,baz=54,slow=14,SNR=3.1						
STKA				LR	LR	02 49 46.4	
	comp=Z,93nm,20.2s,baz=27,slow=33						
WRA	**Warramunga Arr**	**30.57**	**249**	P	**P**	**02 39 26.4**	**-0.6**
WRA	**Warramunga Arr**	**30.57**	**249**	P	**P**	**02 39 26.4**	**-0.6**
	1.7nm,0.7s,baz=81,slow=9.0,SNR=8.2						
ASAR	**Alice Springs**	**31.93**	**243**	P	**P**	**02 39 38.4**	**-0.6**
ASAR	**Alice Springs**	**31.93**	**243**	P	**P**	**02 39 38.4**	**-0.6**
	2.7nm,0.7s,baz=73,slow=9.5,SNR=27						
KAPI	**Kappang**	**44.91**	**274**	*e*P	**P**	**02 41 29.9**	**+1.8**
	4.4nm,0.5s						
VNDA	**Vanda**	**66.52**	**181**	P	**P**	**02 44 03.5**	**+1.4**
VNDA	**Vanda**	**66.52**	**181**	P	**P**	**02 44 03.5**	**+1.4**
	0.6nm,0.6s,baz=9.5,slow=6.1,SNR=3.7						
SONM	**Songino Array**	**78.06**	**324**	P	**P**	**02 45 11.7**	**0.0**
SONM	**Songino Array**	**78.06**	**324**	P	**P**	**02 45 11.7**	**0.0**
	0.4nm,0.8s,baz=116,slow=6.6,SNR=2.6						
ILAR	**Eielson Array**	**83.80**	**19**	P	**P**	**02 45 41.8**	**0.0**
ILAR	**Eielson Array**	**83.80**	**19**	P	**P**	**02 45 41.8**	**0.0**
	0.5nm,0.9s,baz=230,slow=5.2,SNR=6.2						
INK	**Inuvik**	**90.19**	**19**	*e*P	**P**	**02 46 11.3**	**-1.5**
	1.6nm,0.7s						
MK31	**Makanchi Array**	**92.82**	**317**	*e*P	**P**	**02 46 25.2**	**-0.3**
MKAR	**Makanchi Array**	**92.82**	**317**	P	**P**	**02 46 25.4**	**-0.1**
MKAR	**Makanchi Array**	**92.82**	**317**	P	**P**	**02 46 25.4**	**-0.1**
	1.1nm,0.8s,baz=101,slow=5.1,SNR=8.8						

PGC 21 02:39:16.9±6.0, 47.°43N×128.°84W, h10km, ML3.0/10, Mw3.6, 6D, 289km Wsw of Tofino, Bc Off Coast Of Washington, Off coast of Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETB	**Estevan Point**	**2.48**	**37**	↓Pn	Pn	02 39 56.1	-1.2
EDB	**Eliza Dome**	**2.70**	**24**	↑Pn	Pn	02 39 58.3	-2.1
OZB	**Mount Ozzard**	**2.71**	**54**	Pn	Pn	02 39 58.8	-1.9
OZB				↓Sn	Sn	02 40 29.5	-4.1
BMSB	**Bamfield Mari**	**2.85**	**59**	↓Pn	Pn	02 40 01.0	-1.5
GDR	**Gold River**	**3.00**	**37**	Pn	Pn	02 40 03.3	-1.3
BTB	**Buttle Lake**	**3.01**	**46**	↑Pn	Pn	02 40 03.3	-1.6
BTB				↓Sn	Sn	02 40 37.2	-3.9
WOSB	**Woss**	**3.12**	**28**	Pn	Pn	02 40 05.0	-1.3
PFB	**Port Renfrew**	**3.17**	**67**	Pn	Pn	02 40 05.3	-1.6
PFB				↑Sn	Sn	02 40 41.4	-3.4
MAYB	**Maynard**	**3.17**	**20**	↑Pn	Pn	02 40 05.3	-1.8
MGB	**Mount Grey**	**3.19**	**59**	↓Pn	Pn	02 40 05.6	-1.7
MGB				↑Sn	Sn	02 40 41.2	-4.3
SPLB	**Strathcona Par**	**3.25**	**39**	↑Pn	Pn	02 40 07.2	-0.7
ALB	**Alberni**	**3.25**	**54**	↑Pn	Pn	02 40 06.4	-1.5
YOUB	**Youbou, Lake C**	**3.40**	**63**	↓Pn	Pn	02 40 08.8	-1.3

NNC 21 02:49:34.8±5.2, 38.°16N×70.°70E, h0km, mb3.8, mpv3.5, 2C-4D, Error ellipse: s-maj=41.8km s-min=29.0km az=174.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.94**	**358**	↑Pn	Pn	02 50 51.1	+0.9
	2.1nm,0.3s,baz=179,slow=12,SNR=14						
KK31				↑Sn	Sn	02 51 49.4	+1.4
	5.8nm,0.3s,baz=177,slow=28,SNR=7.3						
TKM2	**Tokmak 2**	**6.04**	**37**	↓Pn	Pn	02 51 06.9	+1.3
	2.8nm,0.6s						
TKM2				↓Sn	Sn	02 52 15.9	+0.2
	2.8nm,0.6s						
AB31	**Akbulak array**	**13.53**	**328**	↓P	Pn	02 52 44.4	-3.5
	0.4nm,0.3s,baz=160,slow=12,SNR=4.3						
AKTO	**Aktyubinsk**	**15.23**	**328**	↓P	Pn	02 53 09.6	-1.5
	1.0nm,0.5s						

*NIED **21** 02:58:00, 38.°90N×140.°90E, h5km, Mw4.0 Best double couple: M0 9.63000×10^14 NP1:ϕs3.00000°, δ65.00000°, λ73.00000°. NP2:ϕs219.00000°, δ30.00000°, λ122.00000°.*
*JMA **21** 02:58:33.2, 38.°87N×140.°86E, h8km±1km, M4.1 Broadband fault plane solution: P waves. NP1: ϕs346.00000°, δ83.00000°, λ42.00000°. NP2: ϕs250.00000°, δ49.00000°, λ170.00000°. Principal axes: T Plg34.0000°, Azm217.0000°; N Plg48.0000°, Azm355.0000°; P Plg22.0000°, Azm111.0000°;*
JMA Felt III J1.
*ISCJB **21** 02:58:33.1±0.4, 38.°87N±0.°02×140.°85E±0.°03, h21km±3km, mb4.3/49 Error ellipse: s-maj=4.7km s-min=3.5km az=33.8*
*MOS **21** 02:58:35.3±1.0, 38.°94N×140.°73E, h33km, mb4.5/34, Error ellipse: s-maj=9.8km s-min=7.5km az=89.7*
*IDC **21** 02:58:36.0±0.6, 38.°85N×140.°69E, h28km±3km, mb3.9/26, mb1 4.1/29, mb1mx4.1/35, mbtmp3.9/29, ML3.5/3, MS2.9/1, Ms1 2.9/1, ms1mx2.4/48, Error ellipse: s-maj=13.1km s-min=10.1km az=116.0*
*NEIC **21** 02:58:38.6±0.7, 38.°89N×140.°75E, h50km±6km, mb4.4/17, Error ellipse: s-maj=7.0km s-min=5.4km az=130.0*
ISC 21 02:58:35.6±0.5, 38.°85N±0.°03×140.°78E±0.°04, h27km±3km, h27km:pP-P, n130, σ1s21/148, mb4.3/49, 4C-5D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYK	**Kaneyama**	**0.34**	**281**	↓P	**Pb**	**02 58 41.0**	**-2.3**
JYK				S	**Sb**	**02 58 46.2**	**-2.3**
JMK	**Ichinoseki**	**0.36**	**74**	↓P	Pb	02 58 38.9	-4.6
JMK				S	Sb	02 58 43.0	-6.0
JOU	**Okura**	**0.49**	**191**	↑P	**Pb**	**02 58 43.4**	**-2.4**
JOU				S	**Sb**	**02 58 50.6**	**-2.1**
JRG	**Rokugo**	**0.56**	**348**	↓P	**Pb**	**02 58 43.9**	**-2.9**
JRG				*e*S	**Sb**	**02 58 52.0**	**-2.4**
JIO	**Ouri**	**0.60**	**132**	↓P	Pb	02 58 43.7	-3.7
JOM	**Ohasama**	**0.74**	**32**	↑P	Pb	02 58 46.1	-3.7
JOM				*e*S	**Sb**	**02 58 55.3**	**-4.2**
JYS	**Shirataka**	**0.84**	**222**	↑P	**Pb**	**02 58 50.0**	**-1.6**
JYS				S	**Sb**	**02 59 02.2**	**-0.4**
JYA	**Atsumi**	**0.87**	**253**	P	**Pn**	**02 58 50.9**	**-1.2**
JYA				*e*S	**Sb**	**02 59 03.2**	**-0.2**
JMM	**Marumori**	**0.98**	**179**	P	**Pn**	**02 58 51.0**	**-2.6**
JMM				*e*S	**Sb**	**02 59 04.7**	**-1.8**
MJAR	**Matsushiro Arr**	**3.08**	**222**	Pn	**Pn**	**02 59 23.8**	**+1.4**
MJAR				Pg	**Pb**	**02 59 30.7**	**+1.1**
MJAR				Lg	Lg	03 00 09.6	
MJAR	**Matsushiro Arr**	**3.08**	**222**	Pn	**Pn**	**02 59 23.8**	**+1.4**
	4.3nm,0.3s,baz=27,slow=15,SNR=19						
MJAR				Pg	**Pb**	**02 59 30.7**	**+1.1**
	8.4nm,0.3s,baz=21,slow=16,SNR=26						
MJAR				Lg	Lg	03 00 09.6	
	10.0nm,0.3s,baz=14,slow=12,SNR=5.9						
MAJO	**Matsushiro**	**3.08**	**222**	*e*P	**Pn**	**02 59 23.6**	**+1.1**
MAJO	**Matsushiro**	**3.08**	**222**	*e*Pn	**Pn**	**02 59 23.6**	**+1.1**
MAT	**Matsushiro**	**3.08**	**222**	P	**Pn**	**02 59 23.4**	**+1.0**
MAT				S	**Sb**	**03 00 05.4**	**-1.4**
ASAJ	**Asahikawa**	**5.43**	**14**	Pn	**Pn**	**02 59 55.4**	**+0.6**
ASAJ				Sn	**Sn**	**03 00 58.9**	**+2.5**
ASAJ	**Asahikawa**	**5.43**	**14**	Pn	**Pn**	**02 59 55.4**	**+0.6**
	2.7nm,0.3s,baz=224,slow=13,SNR=4.9						
ASAJ				Sn	**Sn**	**03 00 58.8**	**+2.5**
	baz=195,slow=19,SNR=1.9						
ASAJ				LR	LR	03 02 06.4	
	comp=Z,103nm,18.1s,baz=46,slow=39						
YUK	**Yuzh-Kuril'sk**	**6.43**	**35**	*i* P	**Pn**	**03 00 11.1**	**+2.7**
YUK				*i* S	**Sn**	**03 01 24.6**	**+3.7**
YUK				pmax	pmax		
	comp=E,81nm,0.2s						
YUK				pmax	pmax		
	comp=Z,183nm,0.2s						
YUK				pmax	pmax		
	comp=N,71nm,0.2s						
YUK				smax	smax		
	comp=N,65nm,0.5s						
YUK				smax	smax		
	comp=E,101nm,0.5s						
YUK				smax	smax		
	comp=N,419nm,2.4s						
YUK				smax	smax		
	comp=E,1μm,2.4s						
USRK	**Ussuriysk Arra**	**8.48**	**312**	Pn	**Pn**	**03 00 36.8**	**+0.2**
	comp=E,2.1nm,0.3s,baz=123,slow=14,SNR=24						
USRK				Sn	**Sn**	**03 02 13.8**	**+2.4**
	comp=E,0.2nm,0.3s,baz=94,slow=19,SNR=2.8						
JNU	**Nakatsue**	**9.85**	**238**	Pn	Pn	03 00 60.0	+4.6
JNU	**Nakatsue**	**9.85**	**238**	Pn	Pn	03 00 60.0	+4.6
	comp=E,0.2nm,0.3s,baz=127,slow=5.7,SNR=4.3						
KSRS	**Korea Array**	**10.22**	**266**	Pn	Pn	03 01 04.8	+4.4
	comp=E,1.1nm,0.3s,baz=84,slow=14,SNR=4.3						
KSAR	**Wonju Array Be**	**10.26**	**266**	Pn	Pn	03 01 04.8	+3.9
SEY	**Seymchan**	**25.12**	**13**	*e*P	**P**	**03 03 57.0**	**-0.8**
FX1	**Attu Island--F**	**26.29**	**47**	P	**P**	**03 04 09.3**	**+0.8**
FX1	**Attu Island--F**	**26.29**	**47**	P	**P**	**03 04 09.3**	**+0.8**
	comp=E,22nm,0.9s,baz=107,slow=22,SNR=3.1						
SONM	**Songino Array**	**26.39**	**301**	P	**P**	**03 04 08.8**	**-0.9**
SONM	**Songino Array**	**26.39**	**301**	P	**P**	**03 04 08.9**	**-0.9**
	comp=E,0.6nm,0.7s,baz=107,slow=10,SNR=4.5						
ENH	**Enshi**	**27.05**	**261**	*e*P	**P**	**03 04 16.1**	**+0.4**
	comp=E,7.5nm,0.6s						
TLY	**Talaya**	**28.78**	**309**	*e*P	P	03 04 21.1	-10
TLY				pmax	pmax		
	comp=Z,7.0nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**29.53**	**123**	T	T	03 35 10.5	
	baz=320,slow=0.7,SNR=1371						
H11N1	**WAKE ISLAND Hy**	**29.54**	**123**	T	T	03 35 12.6	
	baz=320,slow=0.7,SNR=1096						
H11N3	**WAKE ISLAND Hy**	**29.55**	**123**	T	T	03 35 13.2	
	baz=320,slow=0.7,SNR=521						
H11S1	**WAKE ISLAND Hy**	**30.28**	**125**	T	T	03 35 51.8	
	baz=321,slow=0.7,SNR=204						
H11S3	**WAKE ISLAND Hy**	**30.29**	**125**	T	T	03 35 54.0	
	baz=321,slow=0.7,SNR=358						
H11S2	**WAKE ISLAND Hy**	**30.30**	**125**	T	T	03 35 53.0	
	baz=321,slow=0.7,SNR=206						
ZAA0	**Zalesovo Array**	**40.34**	**311**	*e*P	**P**	**03 06 10.1**	**-0.4**
ZALV	**Zalesovo Beam**	**40.34**	**311**	*i* P	**P**	**03 06 10.8**	**+0.3**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZALV	**Zalesovo Beam**	**40.34**	**311**	P	**P**	**03 06 10.5**	**0.0**
ZALV	**Zalesovo Beam**	**40.34**	**311**	P	**P**	**03 06 10.5**	**0.0**
	comp=Z,2.8nm,0.8s,baz=92,slow=7.9,SNR=10						
CMAR	**Chiang Mai Arr**	**41.52**	**253**	P	**P**	**03 06 21.8**	**+1.2**
CMAR	**Chiang Mai Arr**	**41.52**	**253**	P	**P**	**03 06 21.8**	**+1.2**
	comp=Z,0.9nm,0.3s,baz=54,slow=4.6,SNR=2.5						
MK31	**Makanchi Array**	**42.75**	**300**	*e*P	**P**	**03 06 29.6**	**-0.9**
MK31	**Makanchi Array**	**42.75**	**300**	*e*P	**P**	**03 06 29.6**	**-0.9**
MKAR	**Makanchi Array**	**42.75**	**300**	P	**P**	**03 06 30.3**	**-0.2**
MKAR				*PP	**pP**	**03 06 37.8**	**-0.7**
MKAR				*SP	**sP**	**03 06 43.3**	**+1.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**42.75**	**300**	P	**P**	**03 06 30.3**	**-0.2**
MKAR				pP	**pP**	**03 06 37.9**	**-0.7**
MKAR				sP	**sP**	**03 06 43.3**	**+1.5**
MKAR	**Makanchi Array**	**42.75**	**300**	P	**P**	**03 06 30.3**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=76,slow=10,SNR=5.3						
MKAR				pP	**pP**	**03 06 37.8**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=82,slow=11,SNR=4.0						
MKAR				sP	**sP**	**03 06 43.3**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=70,slow=10,SNR=3.3						
KURK	**Kurchatov**	**44.43**	**307**	P	**P**	**03 06 43.9**	**0.0**
KURK				*SP	**sP**	**03 06 56.8**	**+1.5**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KURK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURK	**Kurchatov**	**44.43**	**307**	P	**P**	**03 06 43.9**	**0.0**
KURK				sP	**sP**	**03 06 56.8**	**+1.5**
KURBB	**Kurchatov Arra**	**44.51**	**306**	P	**P**	**03 06 43.9**	**-0.6**
	comp=Z,4.8nm,0.8s,baz=83,slow=8.3,SNR=39						
KURBB				sP	**sP**	**03 06 56.8**	**+0.9**
	comp=Z,0.8nm,0.4s,baz=83,slow=8.2,SNR=2.9						
KAPI	**Kappang**	**47.79**	**209**	*e*P	**P**	**03 07 11.0**	**+0.3**
	comp=Z,4.3nm,0.7s						
ILAR	**Eielson Array**	**48.24**	**33**	P	**P**	**03 07 13.6**	**0.0**
ILAR				pP	**pP**	**03 07 22.6**	**+0.8**
ILAR	**Eielson Array**	**48.24**	**33**	P	**P**	**03 07 13.6**	**0.0**
	comp=Z,1.3nm,0.7s,baz=268,slow=6.4,SNR=16						
ILAR				pP	**pP**	**03 07 22.6**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=263,slow=6.1,SNR=3.6						
TKM2	**Tokmak 2**	**48.34**	**297**	*e*P	**P**	**03 07 14.9**	**-0.1**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TKM2	**Tokmak 2**	**48.34**	**297**	*e*P	**P**	**03 07 14.9**	**-0.1**
	comp=Z,2.1nm,0.6s						
VOSK	**Vostochnaya**	**48.71**	**311**	P	**P**	**03 07 16.9**	**-0.5**
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BVA0	**Borovoye Array**	**48.99**	**311**	*i* P	**P**	**03 07 19.7**	**+0.1**
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BVAR	**Borovoye Array**	**48.99**	**311**	P	**P**	**03 07 19.0**	**-0.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**48.99**	**311**	P	**P**	**03 07 19.0**	**-0.5**
BVAR	**Borovoye Array**	**48.99**	**311**	P	**P**	**03 07 19.0**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=73,slow=9.9,SNR=4.8						
BRVK	**Borovoye**	**49.05**	**311**	*e*P	**P**	**03 07 20.2**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BRVK	**Borovoye**	**49.05**	**311**	*e*P	**P**	**03 07 20.2**	**+0.2**
	comp=Z,4.9nm,0.9s						
KULM	**Kulim**	**49.33**	**238**	*e*P	**P**	**03 07 20.8**	**-1.8**
	comp=Z,9.3nm,0.9s						
INK	**Inuvik**	**53.01**	**28**	*e*P	**P**	**03 07 49.7**	**+0.2**
	comp=Z,7.2nm,1.3s						
INK	**Inuvik**	**53.01**	**28**	P	**P**	**03 07 50.0**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=273,slow=7.5,SNR=3.0						
ARU	**Arti**	**54.68**	**318**	*d i*P	**P**	**03 08 02.2**	**+0.3**
ARU						03 10 03.3	
ARU				S	**S**	**03 15 41.2**	**+1.2**
ARU				SS	**SS**	**03 19 25.0**	**+2.5**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.2s						
AB31	**Akbulak array**	**56.40**	**309**	*ce*P	**P**	**03 08 13.8**	**-0.6**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ABKAR	**Akbulak array**	**56.40**	**309**	*e*P	**P**	**03 08 14.1**	**-0.2**
	comp=Z,5.6nm,0.6s						
AKTO	**Aktyubinsk**	**57.10**	**311**	P	**P**	**03 08 18.7**	**-0.7**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKTO	**Aktyubinsk**	**57.10**	**311**	P	**P**	**03 08 18.6**	**-0.7**
AKTO	**Aktyubinsk**	**57.10**	**311**	P	**P**	**03 08 18.7**	**-0.7**
	comp=Z,2.5nm,0.7s,baz=67,slow=12,SNR=11						
WRA	**Warramunga Arr**	**58.80**	**187**	P	**P**	**03 08 31.1**	**-0.3**
WRA				pP	**pP**	**03 08 40.4**	**+0.6**
WRA	**Warramunga Arr**	**58.80**	**187**	P	**P**	**03 08 31.1**	**-0.3**
	comp=Z,5.3nm,0.7s,baz=4.6,slow=6.9,SNR=37						
WRA				pP	**pP**	**03 08 40.4**	**+0.6**
	comp=Z,1.6nm,0.5s,baz=6.0,slow=7.0,SNR=6.0						
RES	**Resolute Bay**	**60.97**	**15**	*e*P	**P**	**03 08 45.0**	**-0.8**
	comp=Z,4.7nm,1.1s						
RES	**Resolute Bay**	**60.97**	**15**	P	**P**	**03 08 45.1**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=298,slow=8.5,SNR=7.1						
ARCES	**ARCESS Array B**	**62.12**	**339**	P	**P**	**03 08 53.5**	**-0.2**
ARCES	**ARCESS Array B**	**62.12**	**339**	P	**P**	**03 08 53.5**	**-0.2**
	comp=Z,5.1nm,0.9s,baz=49,slow=8.4,SNR=7.0						
AS31	**Alice Springs**	**62.52**	**187**	*e*P	**P**	**03 08 56.8**	**0.0**
ASAR	**Alice

BW06	**Boulder Array**	**76.75**	**45**	*eP*	**P**		**03 10 24.6**	**-0.1**
	comp=Z,1.3nm,0.7s							
PDAR	**Pinedale Array**	**76.75**	**45**	P	**P**		**03 10 25.1**	**+0.4**
PDAR	**Pinedale Array**	**76.75**	**45**	P	**P**		**03 10 25.1**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=263,slow=1.7,SNR=11							
BR131	**Keskin Array S**	**77.28**	**311**	*eP*	**P**		**03 10 27.7**	**0.0**
	comp=Z,2.2nm,0.9s							
BRTR	**Keskin Array B**	**77.28**	**311**	P	**P**		**03 10 28.1**	**+0.5**
BRTR	**Keskin Array B**	**77.28**	**311**	P	**P**		**03 10 28.1**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=89,slow=6.4,SNR=7.3							
MMAI	**Mount Meron Ar**	**80.51**	**305**	P	**P**		**03 10 45.6**	**+0.2**
MMAI	**Mount Meron Ar**	**80.51**	**305**	P	**P**		**03 10 45.6**	**+0.2**
	comp=Z,1.0nm,0.2s,baz=65,slow=8.1,SNR=5.0							
GERES	**GERESS Array B**	**80.91**	**328**	P	**P**		**03 10 47.5**	**+0.2**
GERES	**GERESS Array B**	**80.91**	**328**	P	**P**		**03 10 47.5**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=39,slow=8.6,SNR=4.0							
ANMO	**Albuquerque**	**83.80**	**50**	*eP*	**P**		**03 11 04.0**	**+1.2**
	comp=Z,1.3nm,0.8s							
MNTX	**Cornudas Mount**	**86.69**	**51**	*eP*	**P**		**03 11 17.3**	**+0.2**
TXAR	**Lajitas Array**	**89.40**	**52**	P	**P**		**03 11 31.2**	**+1.0**
TXAR	**Lajitas Array**	**89.40**	**52**	P	**P**		**03 11 31.2**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=298,slow=3.2,SNR=5.1							
TORD	**Torodi Ar. Bea**	**115.70**	**315**	PKP	**PKPdf**		**03 17 14.9**	**-1.0**
TORD	**Torodi Ar. Bea**	**115.70**	**315**	PKP	**PKPdf**		**03 17 14.9**	**-1.0**
	comp=Z,0.1nm,0.6s,baz=72,slow=2.1,SNR=2.8							
LBTB	**Lobatse**	**124.34**	**264**	*e*PKPdf	**PKPdf**		**03 17 32.5**	**+0.2**
DBIC	**Dimbokro**	**124.62**	**317**	*e*PKPdf	**PKPdf**		**03 17 33.1**	**0.0**
LPAZ	**La Paz**	**146.16**	**56**	*e*PKPbc	**PKPbc**		**03 18 14.2**	**-0.2**
LPAZ	**La Paz**	**146.16**	**56**	PKPbc	**PKPbc**		**03 18 14.7**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=5.6,slow=4.0,SNR=11							

*ISCJB **21** 03:05:43.3±1.6, 6°.8S±0°.1×129°.8E±0°.3, h10km, mb3.5/1, Error ellipse: s-maj=44.2km s-min=18.2km az=166.5*
*IDC **21** 03:05:43.7±2.4, 6°.75S×129°.93E, h0km, mb3.5/1, mb1 3.8/3, mb1mx3.5/19, mbtmp3.6/3, ML3.9/2, Error ellipse: s-maj=143.2km s-min=32.5km az=69.0*
ISC 21 03:05:45.1±1.7, 6°.8S±0°.1×129°.9E±0°.2, h10km, n7, σ0§67/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**6.09**	**168**	P	**Sn**	**03 08 24.0**	**-0.9**
	baz=4.0,SNR=4.8						
KDU	**Kakadu**	**6.34**	**157**	P	**Sn**	**03 08 31.5**	**+0.3**
	baz=4.5,SNR=6.2						
KNRA	**Kununurra**	**8.85**	**187**	P	Pn	03 07 56.9	+3.8
	baz=2.0,SNR=11						
FITZ	**Fitzroy Crossi**	**11.93**	**200**	P	**Pn**	**03 08 35.8**	**+0.4**
	baz=4.8,SNR=9.1						
WRA	**Warramunga Ar**	**13.72**	**162**	Pn	**Pn**	**03 09 00.2**	**+0.4**
	0.6nm,0.3s,baz=345,slow=13,SNR=14						
WRA				Sn	Sn	03 11 21.4	-11
	0.7nm,0.3s,baz=335,slow=22,SNR=7.5						
ASAR	**Alice Springs**	**17.17**	**167**	P	**P**	**03 09 46.6**	**-0.2**
	0.3nm,0.3s,baz=347,slow=12,SNR=9.6						
ASAR				S	Sn	03 12 44.4	-12
	0.1nm,0.3s,baz=343,slow=25,SNR=4.4						
MKAR	**Makanchi Array**	**68.04**	**327**	P	**P**	**03 16 44.6**	**-0.2**
	0.3nm,0.6s,baz=128,slow=7.4,SNR=4.3						

*CSEM **21** 03:10:11.6, 35°.21N×6°.92E, h0km, ML3.5, After ALG*
CRAAG 21 03:10:11.6, 35°.21N×6°.92E, Ml3.5, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTEI	**Djebel Teioual**	**0.95**	**334**	P	Pg	03 10 28.9	-1.1
CTEI	**Djebel Teioual**	**0.95**	**334**	P	Pg	03 10 28.9	-1.1
CASM	**Ain Smara**	**1.11**	**342**	P	Pg	03 10 32.6	-0.3
CASM	**Ain Smara**	**1.11**	**342**	P	Pg	03 10 32.6	-0.3
CKFL	**Kef-Lekhel**	**1.20**	**352**	P	Pn	03 10 35.7	-0.2
CKFL	**Kef-Lekhel**	**1.20**	**352**	P	Pn	03 10 35.7	-0.2
CKHR	**Kef el Ahmar**	**1.40**	**306**	P	Pn	03 10 37.4	-1.2
CKHR	**Kef el Ahmar**	**1.40**	**306**	P	Pn	03 10 37.4	-1.2
CMAH	**Djebel Manchou**	**1.47**	**16**	P	Pn	03 10 38.1	-1.4
CMAH	**Djebel Manchou**	**1.47**	**16**	P	Pn	03 10 38.1	-1.4
DFRA	**Djebel Bou Aff**	**1.58**	**328**	P	Pn	03 10 39.9	-1.2
DFRA	**Djebel Bou Aff**	**1.58**	**328**	P	Pn	03 10 39.9	-1.2
SET	**Setif**	**1.58**	**309**	P	Pn	03 10 40.0	-1.1
SET	**Setif**	**1.58**	**309**	P	Pn	03 10 40.0	-1.1

*IDC **21** 03:25:44.8±2.5, 6°.51S×149°.64E, h0km, mb3.7/3, mb1 4.0/5, mb1mx3.7/19, mbtmp3.9/5, ML3.1/1, Error ellipse: s-maj=60.5km s-min=36.6km az=115.0*
ISC 21 03:25:49.8±2.3, 6°.5S±0°.3×149°.7E±0°.4, h49km, n6, σ1§16/7, mb3.5/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.84**	**220**	Pn	**Pn**	**03 26 46.1**	**-0.3**
	10.0nm,0.3s,baz=50,slow=9.3,SNR=14						
PMG				Sn	**Sn**	**03 27 30.2**	**-0.1**
	50nm,0.3s,baz=36,slow=20,SNR=17						
WRA	**Warramunga Arr**	**20.03**	**227**	P	**P**	**03 30 18.8**	**0.0**
	0.7nm,0.3s,baz=52,slow=11,SNR=30						
ASAR	**Alice Springs**	**22.86**	**220**	P	**P**	**03 30 47.8**	**-1.4**
	0.9nm,0.7s,baz=48,slow=9.8,SNR=9.8						
FITZ	**Fitzroy Crossi**	**26.14**	**242**	P	**P**	**03 31 21.0**	**+1.5**
	1.0nm,0.3s,baz=60,slow=10.0,SNR=14						
STKA	**Stephens Creek**	**26.39**	**196**	P	**P**	**03 31 22.4**	**+0.7**
	0.7nm,0.5s,baz=32,slow=9.5,SNR=2.9						
TORD	**Torodi Ar. Bea**	**147.78**	**284**	PKPbc	**PKPab**	**03 45 31.9**	**-0.9**
	0.7nm,0.7s,baz=72,slow=2.4,SNR=5.7						

*IDC **21** 03:27:25.7±14.0, 17°.41S×178°.29W, h530km±149km, mb2.9/4, mb1 3.1/4, mb1mx2.8/19, mbtmp2.9/4, Error ellipse: s-maj=151.2km s-min=53.8km az=134.0*
ISC 21 03:27:27.2±3.9, 17°.4S±1°.0×178°.4W±0°.9, h547km, n7, σ1§27/6, mb3.4/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.91**	**241**	P	**P**	**03 34 06.3**	**-0.1**
	1.3nm,0.4s,baz=85,slow=8.9,SNR=5.4						
WRA	**Warramunga Arr**	**44.76**	**259**	P	**P**	**03 34 52.5**	**-0.1**
	0.9nm,0.9s,baz=95,slow=7.7,SNR=4.6						
ASAR	**Alice Springs**	**44.97**	**254**	P	**P**	**03 34 54.4**	**+0.2**
	0.6nm,0.4s,baz=88,slow=8.7,SNR=13						
ILAR	**Eielson Array**	**85.37**	**13**	P	**P**	**03 39 07.4**	**+1.0**
	0.6nm,1.0s,baz=219,slow=5.2,SNR=6.5						
BRTR	**Keskin Array B**	**144.44**	**315**	PKP	PKPbc	03 46 01.2	-0.6
	0.6nm,0.9s,baz=132,slow=2.1,SNR=3.8						
GERES	**GERESS Array B**	**147.12**	**345**	PKPbc	**PKPbc**	**03 46 09.4**	**+0.3**
	0.3nm,0.5s,baz=23,slow=3.2,SNR=3.7						
ESDC	**Sonseca Array**	**157.26**	**11**	PKPab	**PKPab**	**03 46 53.6**	**-1.9**
	0.2nm,0.3s,baz=8.5,slow=4.5,SNR=4.1						

MAN 21 03:37:59, 6°.73N×124°.98E, h16km, mb4.8, ML3.7, MS3.7, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.29**	**21**	*i*P	Pb	03 38 06.2	+0.2
KCP				*i* S	Sb	03 38 11.9	+1.2
DMPH	**Davao City--Mi**	**0.63**	**56**	*i*P	Pn	03 38 12.6	-0.7
DMPH				*i* S	Sb	03 38 20.9	+0.7
GSPH	**General Santos**	**0.64**	**183**	*i*P	Pn	03 38 13.3	-0.3
GSPH				*e*S	Sn	03 38 24.2	+0.6
CTBH	**Cotabato--PC H**	**0.88**	**304**	*i*P	Pb	03 38 14.6	-1.2
CTBH				*i* S	Sb	03 38 22.3	-5.0
BUKP	**Musuan**	**1.14**	**4**	*e*P	Pn	03 38 20.0	-0.4
BUKP				*e*S	Sb	03 38 33.1	-1.9
MATI	**Mati**	**1.28**	**80**	*e*P	Pn	03 38 22.4	+0.1
CGP	**Cagayan de Oro**	**1.73**	**351**	*e*P	Pn	03 38 29.3	+0.8
CGP				*e*S	Sb	03 38 52.3	+0.2
PAGZ	**Pagadian**	**1.94**	**305**	*e*P	Pn	03 38 32.0	+0.8

IDC 21 03:43:32.6±1.7, 2°.83N×126°.12E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/23, mbtmp3.7/5, Error ellipse: s-maj=120.7km s-min=22.3km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.80**	**181**	P	P	03 48 15.4	-0.3
	1.7nm,0.9s,baz=6.7,slow=11,SNR=7.5						
WRA	**Warramunga Arr**	**24.02**	**161**	P	P	03 48 50.4	+1.0
	1.7nm,0.3s,baz=339,slow=9.6,SNR=9.9						
ASAR	**Alice Springs**	**27.40**	**164**	P	P	03 49 20.0	-0.1
	0.3nm,0.4s,baz=347,slow=7.6,SNR=4.7						
STKA	**Stephens Creek**	**37.51**	**158**	P	P	03 50 47.4	-1.0
	0.5nm,0.4s,baz=336,slow=10.0,SNR=2.4						
MKAR	**Makanchi Array**	**57.95**	**326**	P	P	03 53 27.1	+0.1
	0.3nm,0.3s,baz=117,slow=8.2,SNR=8.8						

*NIED **21** 03:45:00, 41°.30N×142°.70E, h14km, Mw3.6 Best double couple: M0=2.92000×10^14 NP1:φs=258.00000°, δ71.00000°, λ24.00000°. NP2:φs=159.00000°, δ67.00000°, λ159.00000°.*
JMA 21 03:45:29.3±0.2, 41°.29N×142°.66E, h20km±4km, M3.7, 1C-5D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.81**	**27**	⇓P	Pb	03 45 44.3	-0.5
JEM				*e*S	Sb	03 45 55.3	0.0
JNBK	**Urakawa-nobuka**	**0.99**	**4**	⇓P	Pb	03 45 47.4	-0.4
JNBK				*e*S	Sn	03 46 01.3	-0.2
JOT	**Ohata**	**1.22**	**275**	⇓P	Pn	03 45 51.1	-0.1
JOT				*e*S	Sb	03 46 06.3	-0.6
JANG	**Nango**	**1.26**	**224**	P	Pn	03 45 51.1	-0.7
JTM	**Tenmabayashi**	**1.30**	**248**	⇓P	Pb	03 45 52.8	-0.3
JTM				*e*S	Sb	03 46 10.1	+0.7
JKB	**Kayabe**	**1.36**	**297**	⇑P	Pn	03 45 52.7	-0.4
JKB				*e*S	Sn	03 46 09.4	-1.1
JCH	**Churui**	**1.42**	**21**	P	Pn	03 45 54.1	+0.1
JBT2	**Biratori 2**	**1.50**	**352**	P	Pn	03 45 55.5	+0.4
JNB	**Noboribetsu**	**1.69**	**315**	⇓P	Pn	03 45 57.4	-0.3
JNB				*e*S	Sn	03 46 17.8	-0.9
JSR	**Shiriuchi**	**1.70**	**279**	P	Pn	03 45 58.8	+1.0
JSR				*e*S	Sb	03 46 20.2	-0.7
JEW	**Eniwo**	**1.79**	**330**	P	Pn	03 46 00.2	+1.1
JEW				*e*S	Sb	03 46 22.4	-1.1
JFR	**Furan**	**1.87**	**359**	P	Pn	03 46 01.2	+1.0
MAT	**Matsushiro**	**5.88**	**218**	P	Pn	03 46 59.1	+3.8

*ISCJB **21** 03:47:45.3±0.2, 51°.53N±0°.01×16°.09E±0°.02, h0km, mb4.2/3, Error ellipse: s-maj=2.1km s-min=1.8km az=164.0*
*MOS **21** 03:47:46.4±0.9, 51°.62N×16°.13E, h10km, mb4.4/1, Error ellipse: s-maj=8.0km s-min=4.5km az=85.7*
*CSEM **21** 03:47:47.4±0.1, 51°.51N×16°.09E, h2km, ML3.4/21, ML3.8/10, Error ellipse: s-maj=2.2km s-min=2.0km az=135.0*
*LDG **21** 03:47:48.2±0.2, 51°.48N×16°.06E, h1km, Ml3.8/6, Error ellipse: s-maj=6.1km s-min=4.6km az=179.0, Suspected Mining induced.*
*IPEC **21** 03:47:48.6±0.6, 51°.45N×16°.11E, h2km±2km, ML3.0/2, Error ellipse: s-maj=7.8km s-min=2.0km az=65.0*
*IDC **21** 03:47:48.9±0.6, 51°.51N×15°.82E, h0km, mb3.4/1, mb1 3.6/9, mb1mx3.4/29, mbtmp3.5/9, ML3.5/8, Error ellipse: s-maj=12.2km s-min=6.0km az=100.0*
*WAR **21** 03:47:49.0, 51°.47N×16°.10E*
*UPP **21** 03:47:49.1, 51°.50N×15°.59E, h0km, ML3.0, Suspected Mining explosion.*
*BGR **21** 03:47:49.0±0.3, 51°.45N×16°.11E, h1km, ML3.4/21, Error ellipse: s-maj=4.4km s-min=2.2km az=22.0*
*PRU **21** 03:47:49.5, 51°.42N×16°.06E, h0km*
*VIE **21** 03:47:50.5±0.2, 51°.29N×15°.93E, h0km, mb2.8/10, ML2.9/12, Error ellipse: s-maj=2.0km s-min=1.6km az=99.0 78 km WNW of Wroclaw Suspected Mining induced.*
ISC 21 03:47:46.7±0.5, 51°.54N±0°.02×16°.08E±0°.02, h0km, n201, σ1§20/280, mb4.4/3, 18C-15D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**169**	*e*Pg	**Pg**	**03 48 00.9**	**+0.5**
KSP				*e*Sg	**Sg**	**03 48 09.4**	**-0.1**
KSP	**Ksiaz**	**0.71**	**169**	⇓*i*P	**Pg**	**03 48 00.9**	**+0.5**
KSP				*e*		03 48 12.8	
KSP	**Ksiaz**	**0.71**	**169**	*e*Pg	**Pg**	**03 48 00.9**	**+0.5**
KSP				*e*Sg	**Sg**	**03 48 10.1**	**+0.5**
KSP	**Ksiaz**	**0.71**	**169**	Pg	**Pg**	**03 48 00.9**	**+0.5**
KSP				Sg	**Sg**	**03 48 09.4**	**-0.1**
KSP				*e*S	**Sb**	**03 48 12.8**	**+0.5**
UPC	**Upice**	**1.04**	**182**	*e*P	**Pg**	**03 48 07.0**	**+0.4**
UPC	**Upice**	**1.04**	**182**	*e*PG	**Pg**	**03 48 07.0**	**+0.4**
UPC	**Upice**	**1.04**	**182**	Pg	**Pg**	**03 48 07.0**	**+0.4**
DPC	**Dobruska-Polom**	**1.20**	**173**	*e*Pg	**Pg**	**03 48 09.8**	**0.0**
DPC				*e*Sg	**Sg**	**03 48 24.3**	**-1.0**
DPC	**Dobruska-Polom**	**1.20**	**173**	*e*P	**Pg**	**03 48 09.7**	**0.0**
DPC				*e*		03 48 24.2	
DPC	**Dobruska-Polom**	**1.20**	**173**	*e*PG	**Pg**	**03 48 09.7**	**0.0**
DPC				*e*SG	**Sg**	**03 48 24.2**	**-1.1**
DPC	**Dobruska-Polom**	**1.20**	**173**	Pg	**Pg**	**03 48 09.8**	**0.0**
DPC				Sg	**Sg**	**03 48 24.3**	**-1.0**
PVCC	**Panska Ves**	**1.39**	**224**	*e*P	**Pb**	**03 48 14.0**	**+0.4**
PVCC				*e*		03 48 33.0	
PVCC				smax	smax		
	comp=N,333nm,0.3s						
PVCC	**Panska Ves**	**1.39**	**224**	*e*PG	**Pb**	**03 48 14.0**	**+0.4**
PVCC				*e*SG	**Sn**	**03 48 33.0**	**+0.5**
	comp=N,333nm,0.3s						
PVCC	**Panska Ves**	**1.39**	**224**	Pg	**Pb**	**03 48 14.0**	**+0.4**
PVCC				Sg	**Sn**	**03 48 33.0**	**+0.5**
	comp=N,333nm,0.3s						
BRG	**Berggiesshubel**	**1.50**	**244**	PN	**Pn**	**03 48 14.9**	**0.0**
BRG				PG	**Pg**	**03 48 16.6**	**+1.1**
BRG				SG	**Sn**	**03 48 36.4**	**+1.2**
	comp=N,192nm,0.4s						
BRG	**Berggiesshubel**	**1.50**	**244**	*e*Pn	**Pn**	**03 48 15.2**	**+0.3**
BRG				*e*Pg	**Pg**	**03 48 16.7**	**+1.2**
BRG				*e*Sg	**Sn**	**03 48 36.6**	**+1.3**
BRG	**Berggiesshubel**	**1.50**	**244**	P	**Pn**	**03 48 14.9**	**0.0**
BRG				*e*		03 48 36.4	
BRG				smax	smax		
	comp=N,192nm,0.4s						
BRG	**Berggiesshubel**	**1.50**	**244**	P	**Pn**	**03 48 14.9**	**0.0**
BRG	**Berggiesshubel**	**1.50**	**244**	Pn	**Pn**	**03 48 15.2**	**+0.3**
RUE	**Ruedersdorf**	**1.71**	**304**	*e*Pn	**Pb**	**03 48 18.8**	**-0.1**
RUE				*e*Sg	**Sg**	**03 48 45.8**	**+4.2**
RUE	**Ruedersdorf**	**1.71**	**304**	Pn	**Pb**	**03 48 18.8**	**-0.1**
PRA	**Prague**	**1.81**	**216**	PG	**Pn**	**03 48 20.0**	**+0.9**
PRA				SG	**Sn**	**03 48 43.0**	**+0.3**
FBE	**Freiberg**	**1.82**	**251**	*e*Sg	**Sg**	**03 48 46.2**	**+0.9**
FBE	**Freiberg**	**1.82**	**251**	Sg	**Sg**	**03 48 46.2**	**+0.9**
PRU	**Pruhonice**	**1.84**	**213**	*e*P	**Pn**	**03 48 19.6**	**+0.1**
PRU				*e*		03 48 44.8	
PRU				smax	smax		
	comp=N,51nm,0.4s						
PRU	**Pruhonice**	**1.84**	**213**	*e*PN	**Pn**	**03 48 19.6**	**+0.1**
PRU				*e*PG	**Pb**	**03 48 21.5**	**+0.3**
PRU				*e*SG	**Sb**	**03 48 44.8**	**+0.1**
	comp=N,51nm,0.4s						
PRU	**Pruhonice**	**1.84**	**213**	Pn	**Pn**	**03 48 19.6**	**+0.1**
GKP	**Gorka Klasztor**	**1.87**	**22**	*e*P	**Pg**	**03 48 23.0**	**+0.4**
GKP	**Gorka Klasztor**	**1.87**	**22**	*e*Pg	**Pg**	**03 48 23.0**	**+0.4**
GKP	**Gorka Klasztor**	**1.87**	**22**	*e*P	**Pg**	**03 48 23.0**	**+0.4**
CLL	**Collm**	**1.94**	**264**	*e*Pn	**Pn**	**03 48 21.7**	**+0.6**
CLL				*e*Sg	**Sg**	**03 48 51.0**	**+1.9**
CLL	**Collm**	**1.94**	**264**	*i* P	**Pn**	**03 48 21.6**	**+0.6**
CLL				*e*		03 48 51.0	
CLL				pmax	pmax		
	comp=Z,17nm,0.4s						
CLL	**Collm**	**1.94**	**264**	*i* Pn	**Pn**	**03 48 21.6**	**+0.6**
	comp=Z,12nm,0.4s						
CLL				*i* Pg	**Pg**	**03 48 24.0**	**+0.1**
CLL				*i*		03 48 26.8	
CLL				*e*Sn	Sn	03 48 40.0	-6.1
CLL				*e*Sg	**Sg**	**03 48 51.0**	**+1.9**
	comp=Z,72nm,0.7s						
CLL	**Collm**	**1.94**	**264**	*i* P	**Pn**	**03 48 21.6**	**+0.6**
	comp=Z,17nm,0.4s						
CLL				Sg	**Sg**	**03 48 51.0**	**+1.9**
RAC	**Raciborz**	**1.98**	**137**	*e*P	**Pb**	**03 48 24.0**	**+0.4**
RAC				*e*		03 48 49.2	
RAC	**Raciborz**	**1.98**	**137**	*e*P	**Pb**	**03 48 24.0**	**+0.4**
RAC				*e*S	**Sb**	**03 48 49.2**	**+0.4**
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*Sg	**Sb**	**03 48 53.8**	**0.0**
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*P	**Pb**	**03 48 27.4**	**+0.8**
OKC				*e*		03 48 53.7	
OKC				smax	smax		
	comp=N,140nm,0.6s						
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*PG	**Pb**	**03 48 27.4**	**+0.8**
OKC				*e*SG	**Sb**	**03 48 53.7**	**0.0**
	comp=N,140nm,0.6s						
OKC	**Ostrava-Krasne**	**2.15**	**142**	Pg	**Pb**	**03 48 27.4**	**+0.8**
OKC				Sg	**Sb**	**03 48 53.8**	**0.0**
VRAC	**Vranov**	**2.26**	**171**	⇑*i*P	**Pn**	**03 48 26.0**	**+0.6**
VRAC	**Vranov**	**2.26**	**171**	*e*Pn	**Pn**	**03 48 25.5**	**+0.2**
	baz=352						
VRAC	**Vranov**	**2.26**	**171**	P	**Pn**	**03 48 26.0**	**+0.6**
VRAC				*e*Sg	**Sn**	**03 48 55.7**	**+1.8**
VRAC	**Vranov**	**2.26**	**171**	Pn	**Pn**	**03 48 26.0**	**+0.6**
	comp=N,6.3nm,0.3s,baz=348,slow=16,SNR=22						
VRAC				Pg	**Pg**	**03 48 32.0**	**+2.0**
	comp=N,10nm,0.3s,baz=342,slow=19,SNR=22						
VRAC				Sn	**Sb**	**03 48 56.4**	**-0.5**
	comp=N,16nm,0.3s,baz=262,slow=21,SNR=12						
TREC	**Trest**	**2.28**	**190**	*e*P	**Pn**	**03 48 26.1**	**+0.4**
TREC				*e*		03 48 58.1	
TREC				smax	smax		
	comp=N,58nm,0.3s						
TREC	**Trest**	**2.28**	**190**	*e*PN	**Pn**	**03 48 26.1**	**+0.4**
TREC				*e*PG	**Pb**	**03 48 29.8**	**+1.0**
TREC				*e*SG	**Sb**	**03 48 58.1**	**+0.6**
	comp=N,58nm,0.3s						
TREC	**Trest**	**2.28**	**190**	Pn	**Pn**	**03 48 26.1**	**+0.4**
KRUC	**Moravsky**	**2.49**	**175**	*e*Pn	**Pn**	**03 48 28.9**	**+0.4**
	baz=356						
KRUC				*e*Sg	**Sb**	**03 49 03.7**	**+0.2**
	comp=N,65nm,0.4s,baz=356						
TANN	**Tannenbergstha**	**2.55**	**245**	*e*Pn	**Pn**	**03 48 30.4**	**+1.1**
TANN				*e*Pg	**Pg**	**03 48 36.3**	**+0.6**
TANN	**Tannenbergstha**	**2.55**	**245**	Pn	**Pn**	**03 48 30.5**	**+1.1**
WERD	**Werda**	**2.62**	**247**	*e*Pn	**Pn**	**03 48 31.5**	**+1.1**
WERD				*e*Pg	**Pg**	**03 48 37.7**	**+0.6**
WERD				*e*Sg	**Sg**	**03 49 10.7**	**-0.3**
WERD	**Werda**	**2.62**	**247**	Pn	**Pn**	**03 48 31.5**	**+1.1**
NKC	**Novy Kostel**	**2.65**	**242**	*e*P	**Pn**	**03 48 31.6**	**+0.9**
NKC				*e*		03 49 13.8	
NKC				smax	smax		
	comp=N,63nm,0.3s						
NKC	**Novy Kostel**	**2.65**	**242**	*e*PN	**Pn**	**03 48 31.6**	**+0.9**
NKC				*e*PG	**Pg**	**03 48 37.8**	**+0.3**
NKC				*e*SG	**Sg**	**03 49 13.8**	**+2.0**
	comp=N,63nm,0.3s						
NKC	**Novy Kostel**	**2.65**	**242**	Pn	**Pn**	**03 48 31.6**	**+0.9**
GUNZ	**Gunzen**	**2.65**	**245**	*e*Pn	**Pn**	**03 48 32.1**	**+1.4**
GUNZ				*e*Pg	**Pg**	**03 48 38.1**	**+0.6**
GUNZ				*e*Sg	**Sg**	**03 49 12.1**	**+0.3**
GUNZ	**Gunzen**	**2.65**	**245**	Pn	**Pn**	**03 48 32.1**	**+1.4**
WERN	**Wernitzgruen**	**2.66**	**243**	*e*Pn	**Pn**	**03 48 32.0**	**+1.1**
WERN				*e*Pg	**Pg**	**03 48 38.4**	**+0.7**
WERN				*e*Sg	**Sg**	**03 49 11.9**	**-0.3**
WERN	**Wernitzgruen**	**2.66**	**243**	Pn	**Pn**	**03 48 32.0**	**+1.1**
PLN	**Plauen**	**2.69**	**248**	*e*Pn	**Pn**	**03 48 32.3**	**+1.0**
PLN				*e*Pg	**Pg**	**03 48 39.0**	**+0.6**
PLN				*e*Sg	**Sg**	**03 49 13.1**	**-0.2**
PLN	**Plauen**	**2.69**	**248**	Pn	**Pn**	**03 48 32.3**	**+1.0**
PLN	**Plauen**	**2.69**	**248**	Pg	**Pg**	**03 48 39.0**	**+0.6**
PLN				Sg	**Sg**	**03 49 13.1**	**-0.2**
OJC	**Ojcow**	**2.70**	**118**	*e*Pn	**Pn**	**03 48 30.1**	**-1.3**
OJC				*e*Pg	**Pg**	**03 48 38.6**	**+0.2**
OJC	**Ojcow**	**2.70**	**118**	*e*P	**Pn**	**03 48 30.4**	**-1.0**
OJC	**Ojcow**	**2.70**	**118**	*e*Pn	**Pn**	**03 48 30.4**	**-1.0**
OJC				*e*Pg	**Pg**	**03 48 38.6**	**+0.2**
OJC				*e*Sg	**Sg**	**03 49 14.4**	**+1.0**
OJC	**Ojcow**	**2.70**	**118**	Pn	**Pn**	**03 48 30.1**	**-1.3**
OJC	**Ojcow**	**2.70**	**118**	*e*P	**Pn**	**03 48 30.4**	**-1.0**
NEUB	**Neuenburg**	**2.72**	**265**	*e*Pg	**Pg**	**03 48 40.0**	**+1.1**
NEUB	**Neuenburg**	**2.72**	**265**	Pg	**Pg**	**03 48 40.0**	**+1.1**
KHC	**Kasperske Hory**	**2.90**	**215**	*e*P	**Pn**	**03 48 34.3**	**+0.1**
KHC				*e*		03 49 09.0	
KHC				smax	smax		
	comp=N,32nm,0.5s						
KHC	**Kasperske Hory**	**2.90**	**215**	*e*PN	**Pn**	**03 48 34.3**	**+0.1**
KHC				*e*PG	**Pb**	**03 48 40.6**	**+1.3**
KHC				*e*SN	**Sn**	**03 49 09.0**	**-0.7**
KHC				*e*SG	**Sg**	**03 49 18.3**	**-1.5**
	comp=N,32nm,0.5s						
KHC	**Kasperske Hory**	**2.90**	**215**	Pn	**Pn**	**03 48 34.3**	**+0.1**
MANZ	**Manzenberg**	**2.96**	**240**	*e*Pn	**Pn**	**03 48 36.2**	**+1.1**
MANZ				*e*Pg	**Pg**	**03 48 44.8**	**+1.2**
MANZ	**Manzenberg**	**2.96**	**240**	Pn	**Pn**	**03 48 36.2**	**+1.1**
ROTZ	**Rotzenmuhle**	**3.04**	**236**	*e*Pn	**Pn**	**03

	comp=N,29nm,0.8s										
SOKA	**Soboth**		**4.92**	**188**	⇓*i*	Pn		**Pn**	03 49 02.1	**+0.2**
SOKA					⇓*i*	Sg		**Sg**	03 50 25.1	**+0.5**
	comp=N,12nm,0.9s										
SOKA	**Soboth**		**4.92**	**188**		Pn		**Pn**	03 49 02.1	**+0.2**
SOKA						Sg		**Sg**	03 50 25.1	**+0.5**
	comp=N,12nm,0.9s										
UZH	**Uzhgorod**		**4.95**	**124**	*eP*	Pn			03 49 06.0	+3.8	
UZH					*eS*			**Sn**	**03 50 05.0**	**+4.9**	
UZH	**Uzhgorod**		**4.95**	**124**	*eP*	Pn			03 49 06.0	+3.8	
UZH					*eS*			**Sn**	**03 50 05.0**	**+4.9**	
TNS	**Taunus Mts**		**5.01**	**258**	*eP*	**Pn**		**Pn**	**03 49 04.4**	**+1.2**	
TNS					*eSg*			**Sg**	**03 50 27.8**	**+0.1**	
TNS	**Taunus Mts**		**5.01**	**258**	*eP*	**Pn**		**Pn**	**03 49 04.4**	**+1.2**	
TNS	**Taunus Mts**		**5.01**	**258**	Pn	**Pn**		**Pn**	**03 49 04.4**	**+1.2**	
TNS					Sg			**Sg**	**03 50 27.8**	**+0.1**	
DEL	**Delary**		**5.11**	**346**	P	**Pn**		**Pn**	**03 49 05.0**	**+0.6**	
OBKA	**Obir**		**5.14**	**192**	⇑*i*	**Pn**		**Pn**	**03 49 05.2**	**+0.2**	
OBKA					⇓*i*	Pg		**Pg**	**03 49 23.9**	**-1.3**	
OBKA	**Obir**		**5.14**	**192**	Pn	**Pn**		**Pn**	**03 49 05.2**	**+0.2**	
MYKA	**Terra Mystica**		**5.17**	**199**	⇑*i*	**Pn**		**Pn**	**03 49 05.4**	**0.0**	
MYKA	**Terra Mystica**		**5.17**	**199**	Pn	**Pn**		**Pn**	**03 49 05.4**	**0.0**	
WTTA	**Wattenberg**		**5.17**	**216**	⇓*i*	**Pn**		**Pn**	**03 49 05.2**	**-0.3**	
WTTA					⇓*i*	Sg		**Sg**	**03 50 32.9**	**+0.1**	
	comp=N,12nm,0.5s										
WTTA	**Wattenberg**		**5.17**	**216**	Pn	**Pn**		**Pn**	**03 49 05.2**	**-0.3**	
WTTA					Sg			**Sg**	**03 50 32.9**	**+0.1**	
	comp=N,12nm,0.5s										
RETA	**Reutte**		**5.33**	**223**	⇑*i*	**Pn**		**Pn**	**03 49 08.1**	**+0.4**	
RETA	**Reutte**		**5.33**	**223**	Pn	**Pn**		**Pn**	**03 49 08.1**	**+0.4**	
ABTA	**Abfaltersbach**		**5.34**	**207**	⇓*i*	**Pn**		**Pn**	**03 49 07.9**	**+0.2**	
ABTA	**Abfaltersbach**		**5.34**	**207**	Pn	**Pn**		**Pn**	**03 49 07.9**	**+0.2**	
LVV	**L'vov**		**5.34**	**106**	*eP*	**Pn**		**Pn**	**03 49 08.7**	**+1.1**	
LVV					*i S*			**Sn**	**03 50 10.5**	**+0.7**	
LVV	**L'vov**		**5.34**	**106**	*eP*	**Pn**		**Pn**	**03 49 08.7**	**+1.1**	
LVV					*i S*			**Sn**	**03 50 10.5**	**+0.7**	
TRPA	**Tarpa**		**5.39**	**127**	⇓*i*	**Pn**		**Pn**	**03 49 07.4**	**-1.0**	
TRPA	**Tarpa**		**5.39**	**127**	⇓*i*	**Pn**		**Pn**	**03 49 07.4**	**-1.0**	
VXJU	**Vaexsjoe**		**5.43**	**353**	P	**Pn**		**Pn**	**03 49 10.0**	**+1.1**	
VNDS	**Vrh nad Dolski**		**5.52**	**190**	*i* Pn	**Pn**		**Pn**	**03 49 11.6**	**+1.4**	
GOLS	**Golise**		**5.54**	**183**	*i* Pn	**Pn**		**Pn**	**03 49 11.9**	**+1.4**	
OSKU	**Oskarshamn**		**5.67**	**0**	P	**Pn**		**Pn**	**03 49 13.4**	**+1.3**	
FETA	**Feichten**		**5.72**	**220**	⇑*i*	**Pn**		**Pn**	**03 49 12.9**	**-0.1**	
FETA	**Feichten**		**5.72**	**220**	Pn	**Pn**		**Pn**	**03 49 12.9**	**-0.1**	
CRES	**Cresnjev**		**5.74**	**184**	*ePn*	**Pn**		**Pn**	**03 49 14.4**	**+1.3**	
VISS	**Visnje**		**5.80**	**189**	*i* Pn	**Pn**		**Pn**	**03 49 15.0**	**+1.0**	
FABU	**Falkenberg**		**5.81**	**342**	P	**Pn**		**Pn**	**03 49 14.6**	**+0.5**	
DAVA	**Damuels**		**5.87**	**226**	⇑*i*	**Pn**		**Pn**	**03 49 15.4**	**+0.3**	
DAVA	**Damuels**		**5.87**	**226**	Pn	**Pn**		**Pn**	**03 49 15.4**	**+0.3**	
ASPU	**Aespoe**		**5.90**	**3**	P	**Pn**		**Pn**	**03 49 16.9**	**+1.6**	
EKSU	**Eksjoe**		**6.06**	**356**	P	**Pn**		**Pn**	**03 49 18.8**	**+1.3**	
VSTU	**Vaestervik**		**6.14**	**2**	P	**Pn**		**Pn**	**03 49 20.2**	**+1.6**	
DAVOX	**Davos/Dischmat**		**6.26**	**223**	P	**Pn**		**Pn**	**03 49 21.3**	**+0.8**	
	comp=N,1.0nm,0.3s										
DAVOX	**Davos/Dischmat**		**6.26**	**223**	Pn	**Pn**		**Pn**	**03 49 21.3**	**+0.8**	
	comp=N,0.7nm,0.3s,baz=47,slow=11,SNR=7.2										
DAVOX					Lg	Lg			03 51 03.8		
	comp=N,0.5nm,0.3s,baz=195,slow=20,SNR=2.7										
BORU	**Boraas**		**6.40**	**344**	P	**Pn**		**Pn**	**03 49 23.2**	**+1.0**	
DRGR			**6.44**	**135**	⇑P	**Pn**		**Pn**	**03 49 22.8**	**0.0**	
DRGR			**6.44**	**135**	⇑*i* P	**Pn**		**Pn**	**03 49 22.8**	**0.0**	
DRGR			**6.44**	**135**	P	**Pn**		**Pn**	**03 49 22.8**	**0.0**	
CDF	**Champ du Feu**		**6.49**	**245**	*ePn*	**Pn**		**Pn**	**03 49 23.8**	**+0.3**	
CDF					*eSg*			**Sg**	**03 51 09.9**	**-5.0**	
	comp=N,36nm,0.9s										
CDF	**Champ du Feu**		**6.49**	**245**	*ePn*	**Pn**		**Pn**	**03 49 23.8**	**+0.3**	
FKPU	**Falk**		**6.77**	**349**	P	**Pn**		**Pn**	**03 49 28.6**	**+1.3**	
HINF	**Hinteralfeld**		**7.05**	**242**	*ePn*	**Pn**		**Pn**	**03 49 29.2**	**-2.0**	
HINF					*eSg*	Sg			03 51 26.7	-6.4	
	comp=N,38nm,1.1s										
BURAR	**Bucovina Array**		**7.12**	**120**	⇑P	**Pn**		**Pn**	**03 49 32.6**	**+0.4**	
BURAR	**Bucovina Array**		**7.12**	**120**	⇑*i* P	**Pn**		**Pn**	**03 49 32.6**	**+0.4**	
HAU	**Haudompre**		**7.23**	**244**	*ePn*	**Pn**		**Pn**	**03 49 31.8**	**-1.8**	
HAU					*eSg*	Sg			03 51 32.6	-6.1	
	comp=N,17nm,0.7s										
HAU	**Haudompre**		**7.23**	**244**	*ePn*	**Pn**		**Pn**	**03 49 31.8**	**-1.8**	
GIVF	**Givet**		**7.28**	**263**	*eSg*	**Sg**		**Sg**	**03 51 34.8**	**-5.5**	
	comp=N,35nm,0.9s										
NASU	**Vaermlandsnaes**		**7.59**	**349**	P	**Pn**		**Pn**	**03 49 39.5**	**+1.1**	
MICGM	**Minsk**		**7.71**	**63**	*e*	**Sg**		**Sg**	**03 51 54.0**	**0.0**	
AKASG	**Malin Array Be**		**8.31**	**91**	P	**Pn**		**Pn**	**03 49 49.0**	**+0.6**	
AKASG									03 51 17.6		
AKASG					pmax	pmax					
	comp=Z,2.0nm,0.3s										
AKASG					smax	smax					
	comp=N,1.0nm,0.3s										
AKASG	**Malin Array Be**		**8.31**	**91**	P	**Pn**		**Pn**	**03 49 49.0**	**+0.6**	
	comp=N,2.0nm,0.3s										
AKASG	**Malin Array Be**		**8.31**	**91**	Pn	**Pn**		**Pn**	**03 49 49.0**	**+0.6**	
	comp=N,1.5nm,0.3s,baz=278,slow=12,SNR=7.1										
AKASG					Sn	Sn			03 51 17.6	-5.4	
	comp=N,1.3nm,0.3s,baz=274,slow=22,SNR=4.2										
AKASG					Lg	Lg			03 52 19.5		
	comp=N,0.5nm,0.3s,baz=272,slow=28,SNR=4.5										
LPG	**La Plagne**		**8.65**	**229**	*ePn*	**Pn**		**Pn**	**03 49 52.3**	**-1.1**	
LPG					*eSg*	Sg			03 52 17.6	-6.8	
	comp=N,10.0nm,1.0s										
LPG	**La Plagne**		**8.65**	**229**	*ePn*	**Pn**		**Pn**	**03 49 52.3**	**-1.1**	
HFS	**Hagfors**		**8.72**	**352**	P	**Pn**		**Pn**	**03 49 54.4**	**+0.5**	
HFS	**Hagfors**		**8.72**	**352**	Pn	**Pn**		**Pn**	**03 49 54.4**	**+0.5**	
	comp=N,0.4nm,0.3s,baz=174,slow=14,SNR=14										
VSU	**Vasula**		**9.24**	**37**	*eP*	**Pn**		**Pn**	**03 50 00.5**	**-0.6**	
VSU					pmax	pmax					
	comp=Z,51nm,1.4s										
VSU	**Vasula**		**9.24**	**37**	*eP*	**Pn**		**Pn**	**03 50 00.5**	**-0.6**	
	comp=Z,51nm,1.4s										
NOA	**NORSAR Array B**		**9.90**	**346**	P	**Pn**		**Pn**	**03 50 09.1**	**-1.0**	
NOA	**NORSAR Array B**		**9.90**	**346**	Pn	**Pn**		**Pn**	**03 50 09.1**	**-1.0**	
	comp=Z,0.3nm,0.3s,baz=174,slow=13,SNR=7.1										
FINES	**FINESS Array B**		**11.34**	**25**	P	**Pn**		**Pn**	**03 50 29.3**	**-0.6**	
	comp=Z,1.0nm,0.3s										
FINES	**FINESS Array B**		**11.34**	**25**	Pn	**Pn**		**Pn**	**03 50 29.2**	**-0.6**	
	comp=Z,0.5nm,0.3s,baz=211,slow=10,SNR=16										
FINES					Sn	Sn			03 52 31.1	-6.1	
	comp=Z,0.6nm,0.3s,baz=203,slow=20,SNR=7.0										
KAF	**Kangasniemi**		**11.96**	**24**	*eP*	**Pn**		**Pn**	**03 50 38.6**	**+0.2**	
KAF					pmax	pmax					
	comp=Z,2.0nm,0.4s										
KAF	**Kangasniemi**		**11.96**	**24**	*ep*	**Pn**		**Pn**	**03 50 38.6**	**+0.2**	
	comp=Z,1.8nm,0.4s										
KAF	**Kangasniemi**		**11.96**	**24**	*eP*	**Pn**		**Pn**	**03 50 38.6**	**+0.2**	
	comp=Z,2.0nm,0.4s										
EKA	**Eskdalemuir Ar**		**12.08**	**296**	Pn	**Pn**		**Pn**	**03 50 37.7**	**-2.2**	
	baz=98,slow=14,SNR=4.7										
OBN	**Obninsk**		**12.75**	**66**	*i* P	**Pn**		**Pn**	**03 50 48.2**	**-0.8**	
OBN					pmax	pmax					
	comp=Z,6.0nm,0.8s										
OBN	**Obninsk**		**12.75**	**66**	*i* P	**Pn**		**Pn**	**03 50 48.2**	**-0.8**	
	comp=Z,6.0nm,0.8s										
JOF	**Joensuu**		**14.02**	**30**	*eP*	**Pn**		**Pn**	**03 51 06.2**	**-0.2**	
JOF					pmax	pmax					
	comp=Z,1.0nm,0.5s										
JOF	**Joensuu**		**14.02**	**30**	*ep*	**Pn**		**Pn**	**03 51 06.2**	**-0.2**	
	comp=Z,1.0nm,0.5s										
ARCES	**ARCESS Array B**		**18.59**	**10**	Pn	**P**		**P**	**03 52 02.5**	**-2.6**	
	comp=Z,0.7nm,0.3s,baz=194,slow=11,SNR=15										
ARU	**Arti**		**25.14**	**62**	*d i* P	**P**		**P**	**03 53 14.5**	**+1.4**	
ARU									03 53 47.9		
ARU					SS	SS			03 58 38.6		
ARU					pmax	pmax					
	comp=Z,20nm,2.5s										
ARU	**Arti**		**25.14**	**62**	*i* P	**P**		**P**	**03 53 14.5**	**+1.4**	
	comp=Z,20nm,2.5s										
TORD	**Torodi Ar. Bea**		**40.02**	**202**	P	**P**		**P**	**03 55 23.8**	**+0.4**	
	comp=Z,0.5nm,0.8s,baz=14,slow=10,SNR=3.2										
PETK	**Petropavlovsk-**		**70.85**	**23**	P	**P**		**P**	**03 59 02.6**	**-2.4**	
PETK	**Petropavlovsk-**		**70.85**	**23**	P	**P**		**P**	**03 59 02.6**	**-2.4**	
	comp=Z,7.9nm,1.0s,baz=289,slow=9.0,SNR=4.4										

*BEO **21** 03:48:34.3±0.3, 44.12°N×20.71E, h10km±2km, ML1.5/9*
CSEM 21 03:48:33.6±0.2, 44.10°N×20.74E, h12km, ML1.5, 2C, Error ellipse: s-maj=3.5km s-min=3.2km az=163.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GRUS	**Gruza**	**0.21**	**184**	*eP*g	Pg	03 48 38.1	0.0
GRUS				*eS*g	Sg	03 48 41.8	+0.6
GRUS	**Gruza**	**0.21**	**184**	*eP*g	Pg	03 48 38.1	0.0
GRUS				*eS*g	Sg	03 48 41.8	+0.6
TRUS	**Trudelj**	**0.27**	**298**	*eP*g	Pg	03 48 38.4	-0.8
TRUS				*eS*g	Sg	03 48 43.4	+0.4
TRUS	**Trudelj**	**0.27**	**298**	*eP*g	Pg	03 48 38.4	-0.8
TRUS				*eS*g	Sg	03 48 43.4	+0.4
SVIS	**Svilajnac**	**0.38**	**64**	*eP*g	Pb	03 48 42.3	-0.1
SVIS				*eS*g	Sb	03 48 50.4	+2.1
DIVS	**Divibare**	**0.54**	**271**	*eP*g	Pg	03 48 44.2	-0.1
DIVS				*eS*g	Sg	03 48 51.9	+0.4
DIVS	**Divibare**	**0.54**	**271**	*eP*g	Pg	03 48 44.2	-0.1
DIVS				*eS*g	Sg	03 48 51.9	+0.4
IVAS	**Ivanjica**	**0.67**	**219**	*eP*g	Pg	03 48 46.9	+0.2
IVAS	**Ivanjica**	**0.67**	**219**	*eP*g	Pg	03 48 46.9	+0.2
SELS	**Selova**	**0.92**	**162**	*eP*g	Pg	03 48 50.3	-1.1
SELS				*eS*g	Sn	03 49 05.3	-0.2
BBLS	**Lazi?i**	**0.99**	**257**	*eP*g	Pg	03 48 52.8	0.0
BBLS				*eS*g	Sb	03 49 06.5	+0.7
BBLS	**Lazi?i**	**0.99**	**257**	*eP*g	Pg	03 48 52.8	0.0
BBLS				*eS*g	Sb	03 49 06.5	+0.7
SJES	**Sjenica**	**1.00**	**214**	*eP*g	Pb	03 48 52.8	-0.2
SJES				*eS*g	Sn	03 49 07.6	-0.2
SJES	**Sjenica**	**1.00**	**214**	*eP*g	Pb	03 48 52.8	-0.2
SJES				*eS*g	Sn	03 49 07.6	-0.2
ZAPS	**Zavoj**	**1.60**	**120**	*eP*g	Pb	03 49 03.8	+0.6
ZAPS				*eS*g	Sg	03 49 25.5	+0.2
BZS	**Buzias**	**1.65**	**22**	*ePn*	Pn	03 49 02.2	-0.1
BZS				*eSn*	Sn	03 49 23.3	-0.1
BZS	**Buzias**	**1.65**	**22**	⇑*iP*	Pn	03 49 02.5	+0.2
BZS	**Buzias**	**1.65**	**22**	*ePn*	Pn	03 49 02.2	-0.1
BZS	**Buzias**	**1.65**	**22**	⇑*iP*	Pn	03 49 02.5	+0.2
BZS				*eSn*	Sn	03 49 23.3	-0.1

*IDC **21** 03:50:56.8±2.9, 6°40S×128°23E, h403km±34km, mb3.3/7, mb1 3.4/10, mb1mx3.2/23, mbtmp3.3/10, Error ellipse: s-maj=43.7km s-min=10.7km az=67.0*
*DJA **21** 03:51:07.1±0.7, 9°S×12°6E±°, h10km, M4.8/5, mB4.9/2, mb4.9/5, MLv4.8/3, Mw(mB)4.2/2*
ISC 21 03:50:50.8±0.7, 6°11S±0.06×128°90E±0°08, h322km, n17, σ2s50/17, mb3.8/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**2.74**	**1**	P	**S**	**03 52 28.3**	**-1.5**
NLAI	**Namlea**	**3.37**	**328**	P	**S**	**03 52 45.7**	**+5.1**
TLE	**Tual**	**3.85**	**83**	P	**S**	**03 52 51.7**	**+2.2**
	0.6nm186nm,0.8s						
FAKI	**Fak Fak**	**4.60**	**47**	P	**S**	**03 53 07.4**	**+3.0**
	48nm,0.8s						
SWI	**Sorong**	**5.72**	**24**	P	**S**	**03 53 26.7**	**-0.8**
SOEI	**Soe**	**5.85**	**231**	P	S	03 53 10.1	-20
BKSI	**Bulukumba**	**8.77**	**275**	P	**Pn**	**03 52 54.3**	**+0.3**
	28nm,0.6s,426nm0.1nm						
FITZ	**Fitzroy Crossi**	**12.34**	**195**	P	**Pn**	**03 53 35.7**	**-1.4**
	0.7nm,0.3s,baz=24,slow=10,SNR=37						
FITZ				S	**S**	**03 55 56.5**	**+2.4**
	0.3nm,0.3s,baz=119,slow=19,SNR=2.4						
WRA	**Warramunga Arr**	**14.73**	**159**	P	**Pn**	**03 54 05.2**	**-0.3**
	1.3nm,0.3s,baz=335,slow=12,SNR=21						
WRA				S	**S**	**03 56 41.2**	**-3.1**
	0.7nm,0.3s,baz=334,slow=21,SNR=9.3						
ASAR	**Alice Springs**	**18.11**	**165**	P	**P**	**03 54 41.4**	**+0.8**
	1.8nm,0.3s,baz=344,slow=12,SNR=81						
ASAR				S	**S**	**03 57 48.4**	**-2.8**
	0.8nm,0.3s,baz=346,slow=22,SNR=27						
CTA	**Charters Tower**	**21.85**	**131**	P	**P**	**03 55 21.0**	**+3.1**
	2.9nm,0.5s,baz=311,slow=13,SNR=5.3						
STKA	**Stephens Creek**	**28.25**	**157**	P	**P**	**03 56 15.4**	**+0.3**
	1.4nm,0.6s,baz=345,slow=13,SNR=4.6						
SONM	**Songino Array**	**57.26**	**342**	P	**P**	**04 00 05.0**	**-0.5**
	0.4nm,0.5s,baz=145,slow=5.3,SNR=2.9						
MKAR	**Makanchi Array**	**66.89**	**327**	P	**P**	**04 01 07.1**	**-1.9**
	1.1nm,0.6s,baz=124,slow=7.6,SNR=11						
ZALV	**Zalesovo Beam**	**70.30**	**334**	P	P	04 01 26.9	-2.9
	0.6nm,0.4s,baz=152,slow=6.5,SNR=2.6						
KURBB	**Kurchatov Arra**	**71.18**	**329**	P	**P**	**04 01 32.8**	**-2.3**
	1.1nm,0.6s,baz=129,slow=5.1,SNR=11						
AKTO	**Aktyubinsk**	**82.70**	**322**	P	P	04 02 34.7	-4.2
	0.6nm,0.4s,baz=209,slow=20,SNR=3.6						

IDC 21 03:52:16.1±4.6, 8°75S×121°08E, h135km±36km, mb3.4/2, mb1 3.3/5, mb1mx3.2/21, mbtmp3.2/5, Error ellipse: s-maj=175.4km s-min=17.4km az=58.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**3.94**	**340**	P	Pn	03 53 14.2	-1.1
	4.9nm,0.3s,baz=179,slow=7.6,SNR=17						
KAPI				S	Sn	03 54 02.0	+0.9
	1.6nm,0.3s,baz=49,slow=15,SNR=2.2						
WRA	**Warramunga Arr**	**16.98**	**132**	P	P	03 56 04.1	-1.3
	0.1nm,0.3s,baz=306,slow=14,SNR=2.8						
WRA				S	Sn	03 59 00.1	-15
	0.1nm,0.3s,baz=302,slow=20,SNR=3.4						
ASAR	**Alice Springs**	**19.25**	**142**	P	P	03 56 31.1	+0.9
	baz=320,slow=10,SNR=9.5						
MKAR	**Makanchi Array**	**65.19**	**332**	P	P	04 02 43.5	+0.5
	0.4nm,0.7s,baz=141,slow=7.8,SNR=3.7						
ZALV	**Zalesovo Beam**	**69.56**	**338**	P	P	04 03 09.7	-0.5
	0.8nm,0.5s,baz=133,slow=6.1,SNR=4.2						

*ISCJB **21** 03:56:54.7±0.5, 10°67N±0°03×62°39W±0°03, h95km±6km, Error ellipse: s-maj=6.2km s-min=4.1km az=135.8*
*FUNV **21** 03:56:56.4, 10°70N×62°33W, h85km, MW3.1*
*TRN **21** 03:56:57.6, 10°72N×62°30W, h87km, MD3.5*
ISC 21 03:56:54.9±1.3, 10°67N±0°04×62°40W±0°04, h97km±8km, n21, σ1s32/35, 2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.18**	**96**	⇓*eP*	**Pn**	**03 57 08.4**	**-0.2**
GUIV				*eS*	**Sn**	**03 57 16.7**	**-2.2**
TCE	**Chacachacare**	**0.64**	**87**	*eP*	**Pn**	**03 57 12.8**	**+1.3**
TCE				*eS*	**Sn**	**03 57 23.3**	**-0.6**
GUNV	**Guanoco**	**0.73**	**227**	*eP*	**Pn**	**03 57 13.8**	**+1.4**
GUNV				*eS*	**Sn**	**03 57 26.6**	**+1.2**
CRUV	**Carupano**	**0.82**	**271**	⇓*iP*	**Pn**	**03 57 13.7**	**+0.5**
CRUV				*eS*	**Sn**	**03 57 26.1**	**-0.7**
TBH	**Brigand Hill**	**1.32**	**98**	*eP*	**Pn**	**03 57 20.6**	**+1.7**
TBH				*eS*	**Sn**	**03 57 36.7**	**-0.3**
GRW	**Mount Saint Ca**	**1.65**	**26**	*eP*	**Pn**	**03 57 24.7**	**+1.7**
GRW				*eS*	**Sn**	**03 57 43.1**	**-1.3**
GRHS	**Sauteurs**	**1.72**	**26**	*eP*	**Pn**	**03 57 24.7**	**+1.0**
GRHS				*eS*	**Sn**	**03 57 45.7**	**0.0**
BOT	**Bacolet**	**1.73**	**73**	*eP*	**Pn**	**03 57 25.2**	**+1.3**
BOT				*eS*	**Sn**	**03 57 44.7**	**-1.2**
GRSS	**Sisters**	**1.80**	**25**	*eP*	**Pn**	**03 57 25.2**	**+0.5**
GRSS				*eS*	**Sn**	**03 57 46.4**	**-1.0**
ORIV	**Oritupano**	**1.87**	**212**	*eP*	**Pn**	**03 57 27.2**	**+1.5**
TOSP	**Speyside**	**1.94**	**71**	*eP*	**Pn**	**03 57 26.7**	**+0.1**
TOSP				*eS*	**Sn**	**03 57 49.6**	**-1.1**
PCRV	**Puerto La Cruz**	**2.25**	**258**	*eP*	**Pn**	**03 57 31.8**	**+1.1**
RIOV	**Rio Grande**	**2.65**	**167**	*eP*	**Pn**	**03 57 37.1**	**+1.2**
RIOV				*eS*	**Sn**	**03 58 06.6**	**-0.7**
SVB	**Belmont**	**2.83**	**23**	*eS*	**Sn**	**03 58 11.5**	**-0.2**
GURV	**El Guri**	**2.96**	**193**	*eP*	**Pn**	**03 57 41.0**	**+0.8**
GURV				*eS*	**Sn**	**03 58 13.7**	**-1.3**
MCLT	**Moule a Chique**	**3.35**	**25**	*eS*	**Sn**	**03 58 22.9**	**-1.3**
CUPV	**Cœpira**	**3.38**	**260**	*eP*	**Pn**	**03 57 47.5**	**+1.6**
CUPV				*eS*	**Sn**	**03 58 25.4**	**+0.2**
BIRV	**Birongo**	**3.81**	**268**	*eP*	**Pn**	**03 57 52.9**	**+1.4**
LUEV	**Luepa**	**4.88**	**169**	*eP*	**Pn**	**03 58 06.0**	**-0.2**
BAUV	**El Baul**	**5.81**	**253**	*eP*	**Pn**	**03 58 19.1**	**+0.4**
BAUV				*eS*	**Sn**	**03 59 20.3**	**-3.7**
MAPV	**Macapo**	**6.02**	**263**	*eP*	**Pn**	**03 58 21.9**	**+0.4**

*IDC **21** 04:11:53.4±4.3, 3°03S×100°88E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.5/25, mbtmp3.7/4, ML3.1/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/28, Error ellipse: s-maj=171.7km s-min=23.3km az=59.0*
*ISCJB **21** 04:11:59.2±0.8, 2°36S±0°04×101°38E±0°08, h10km, mb3.5/2, MS3.0/1, Error ellipse: s-maj=11.9km s-min=4.6km az=157.8*
*DJA **21** 04:12:00.7±0.6, 2°S±4°×10°1E±°, h13km±4km, M4.2/8, MLv4.2/8*
ISC 21 04:11:58.7±1.1, 2°37S±0°05×101°34E±0°09, h10km, n17, σ1s22/15, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRJI	**Kerinci**	**0.30**	**23**	P	**Pg**	**04 12 05.3**	**+0.5**
KRJI				S	**Sg**	**04 12 09.7**	**+0.9**
MASI	**Maura Aman, Be**	**1.18**	**131**	P	Pb	04 12 18.3	-2.9
MASI					S	**Sb**	**04 12 35.6**	**-1.0**
MBSI	**MBSI**	**1.67**	**146**	P	**Pn**	**04 12 29.7**	**+1.8**
MBSI					S	**Sn**	**04 12 48.6**	**-0.8**
PDSI	**Padang**	**1.69**	**329**	P	**Pb**	**04 12 30.6**	**+0.6**
PDSI					S	**Sn**	**04 12 47.7**	**-2.4**
PPI	**Padang Panjang**	**2.12**	**334**	P	**Pb**	**04 12 37.7**	**+0.5**
RGRI	**Rengat**	**2.24**	**26**	P	**Pn**	**04 12 36.1**	**+0.3**
MNAI	**Manna**	**2.55**	**141**	P	**Pb**	**04 12 43.9**	**-0.7**
LHSI	**Lahat**	**2.62**	**124**	P	**Pn**	**04 12 42.0**	**+1.0**
MDSI	**Maura Dua**	**3.53**	**127**	P	**Pn**	**04 12 54.9**	**+1.3**
KASI	**Kota Agung**	**4.44**	**135**	P	Pn	04 13 10.8	+4.7
MYKOM	**Kota Tinggi**	**4.83**	**31**	P	**Pn**	**04 13 12.0**	**+0.5**
PSI	**Prapat**	**5.68**	**335**	Pn	**Pn**	**04 13 23.9**	**+0.7**
	0.5nm,0.3s,baz=164,slow=15,SNR=2.6						
CMAR	**Chiang Mai Arr**	**20.83**	**354**	P	Pn	04 16 43.9	+0.8
	2.0nm,0.3s,baz=183,slow=12,SNR=3.5						
FITZ	**Fitzroy Crossi**	**28.50**	**125**	LR	LR	04 29 52.3	
	comp=Z,40nm,21.7s,baz=194,slow=38						
WRA	**Warramunga Arr**	**36.65**	**121**	P	P	04 19 01.4	-4.4
	0.7nm,1.0s,baz=290,slow=9.7,SNR=2.8						
ASAR	**Alice Springs**	**37.95**	**127**	P	P	04 19 14.2	-2.6
	0.5nm,0.5s,baz=302,slow=8.1,SNR=9.9						
TXAR	**Lajitas Array**	**144.16**	**39**	PKP	**PKPab**	**04 31 32.1**	**-1.2**
	0.2nm,0.5s,baz=225,slow=0.1,SNR=3.1						

MAN 21 04:47:40, 12°56N×123°67E, h124km, mb4.5, ML3.4, MS3.3, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNP	**Catarman**	**0.97**	**93**	*eP*	Pn	04 48 03.3	+1.3
CNP				*eS*	Sn	04 48 19.8	+1.1
PVCP	**Virac**	**1.14**	**24**	⇑*eP*	Pn	04 48 04.6	+0.9
AUQP	**San Andres**	**1.23**	**308**	*eP*	Pn	04 48 05.1	+0.4
BOAC	**Boac**	**1.99**	**297**	*eP*	Pn	04 48 17.4	+3.8

**NEIC 21 04:50:53.2, 51°15N×178°93W, h25km, ML3.5 (AEIC

0.5nm,0.2s,baz=148,slow=11,SNR=5.1
WRA Warramunga Arr 59.53 138 P P 06 04 46.8 +0.2
2.2nm,0.5s,baz=327,slow=7.6,SNR=21
ASAR Alice Springs 62.18 141 P P 06 05 05.0 +0.4
0.5nm,0.5s,baz=323,slow=7.0,SNR=11
TORD Torodi Ar. Bea 88.22 284 P P 06 07 35.0 +0.2
0.7nm,0.9s,baz=65,slow=3.6,SNR=4.1

*ISCJB **21** 06:24:20.7±0.5, 10°.84N±0°.03×61°.89W±0°.03, h62km±6km, Error ellipse: s-maj=6.6km s-min=3.6km az=137.8*
*TRN **21** 06:24:23.3, 11°.08N×61°.70W, h3km, MD3.5*
*FUNV **21** 06:24:23.2, 10°.77N×61°.84W, h42km, MW3.1*
ISC 21 06:24:21.6±1.2, 10°.84N±0°.04×61°.91W±0°.03, h56km±9km, n26, σ1°57/44, 3C-2D, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.21**	**132**	*i*P	**Pn**	**06 24 30.6**	**-0.1**
TCE				*e*S	**Sn**	**06 24 36.4**	**-0.9**
GUIV	**Guiria**	**0.36**	**238**	*e*P	**Pn**	**06 24 32.5**	**+0.6**
GUIV				*e*S	**Sn**	**06 24 39.7**	**+0.5**
TRN	**Trinidad (W)**	**0.54**	**111**	*e*P	**Pn**	**06 24 33.6**	**0.0**
TRN				*e*S	**Sn**	**06 24 40.5**	**-1.9**
TPP	**Pointe-a-Pierr**	**0.69**	**139**	*e*P	**Pn**	**06 24 38.4**	**+2.9**
TBH	**Brigand Hill**	**0.90**	**113**	*e*P	**Pn**	**06 24 40.3**	**+2.1**
TBH				*e*S	**Sn**	**06 24 53.3**	**+2.8**
TPR	**Prospect**	**1.17**	**73**	*e*S	**Sn**	**06 24 54.4**	**-2.3**
GUNV	**Guanoco**	**1.22**	**236**	*i*P	**Pn**	**06 24 43.6**	**+1.3**
GUNV				*e*S	**Sn**	**06 24 59.3**	**+1.4**
BOT	**Bacolet**	**1.22**	**74**	*e*P	**Pn**	**06 24 42.5**	**+0.2**
BOT				*e*S	**Sn**	**06 24 55.5**	**-2.4**
CRUV	**Carupano**	**1.31**	**263**	*i*P	**Pn**	**06 24 44.3**	**+0.7**
CRUV				*e*S	**Sn**	**06 25 01.3**	**+1.2**
GRW	**Mount Saint Ca**	**1.34**	**11**	*e*P	**Pn**	**06 24 44.3**	**+0.2**
GRW				*e*S	**Sn**	**06 24 59.3**	**-1.6**
GRHS	**Sauteurs**	**1.40**	**11**	*e*P	**Pn**	**06 24 45.7**	**+0.8**
GRHS				*e*S	**Sn**	**06 25 01.9**	**-0.5**
TOSP	**Speyside**	**1.43**	**71**	*e*P	**Pn**	**06 24 45.6**	**+0.4**
TOSP				*e*S	**Sn**	**06 25 02.4**	**-0.6**
GRSS	**Sisters**	**1.48**	**11**	*e*P	**Pn**	**06 24 46.5**	**+0.6**
GRSS				*e*S	**Sn**	**06 25 04.5**	**+0.2**
ORIV	**Oritupano**	**2.29**	**220**	*e*P	**Pn**	**06 24 57.9**	**+0.9**
ORIV				*e*S	**Sn**	**06 25 24.2**	**+0.1**
SVB	**Belmont**	**2.50**	**15**	*e*P	**Pn**	**06 25 02.5**	**+2.5**
SVB				*e*S	**Sn**	**06 25 29.5**	**+0.2**
RIOV	**Rio Grande**	**2.75**	**178**	*e*P	**Pn**	**06 25 03.4**	**+0.1**
RIOV				*e*S	**Sn**	**06 25 32.3**	**-3.1**
PCRV	**Puerto La Cruz**	**2.76**	**256**	*e*P	**Pn**	**06 25 04.6**	**+1.2**
MCLT	**Moule a Chique**	**3.01**	**18**	*e*P	**Pn**	**06 25 07.7**	**+0.9**
MCLT				*e*S	**Sn**	**06 25 41.2**	**-0.5**
CUPV	**Cœpira**	**3.89**	**259**	*e*P	**Pn**	**06 25 20.8**	**+1.9**
CUPV				*e*S	**Sn**	**06 26 01.9**	**-1.5**
BIRV	**Birongo**	**4.30**	**266**	*e*P	**Pn**	**06 25 25.7**	**+1.2**
BIRV				*e*S	**Sn**	**06 26 11.1**	**-2.3**
MERV	**Las Mercedes**	**4.60**	**250**	*e*P	**Pn**	**06 25 29.3**	**+0.8**
TURV	**Turiamo**	**5.84**	**267**	*e*P	**Pn**	**06 25 46.5**	**+0.9**
BAUV	**El Baul**	**6.33**	**253**	*e*P	**Pn**	**06 25 53.0**	**+0.8**
BAUV				*e*S	**Sn**	**06 26 59.2**	**-4.0**
MAPV	**Macapo**	**6.52**	**262**	*e*P	**Pn**	**06 25 55.6**	**+0.7**
PAYV	**Puerto Ayacuch**	**7.83**	**227**	*e*P	**Pn**	**06 26 12.1**	**-0.8**
PAYV				*e*S	Sn	06 27 32.7	-7.4
MONV	**Montecano**	**7.98**	**279**	*e*P	**Pn**	**06 26 15.4**	**+0.5**

*ISCJB **21** 06:30:09.6±0.7, 13°.9N±0°.1×92°.9E±0°.1, h32km, mb3.9/11, Error ellipse: s-maj=18.6km s-min=14.1km az=26.9*
*IDC **21** 06:30:19.3±4.8, 14°.07N×93°.17E, h103km±44km, mb3.5/11, mb1 3.7/12, mb1mx3.5/28, mbtmp3.5/12, Error ellipse: s-maj=31.2km s-min=15.7km az=52.0*
ISC 21 06:30:11.3±0.8, 14°0N±0°.2×93°1E±0°.2, h32km, n16, σ0°74/14, mb3.9/11, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.17**	**51**	P	Pn	06 32 01.1	+7.1
	0.9nm,0.3s,baz=240,slow=16,SNR=5.3						
VIS	**Vishakhapatnam**	**10.05**	**293**	*i*P	**Pn**	**06 32 32.3**	**-1.2**
VIS				*i*S	Sn	06 34 15.1	-10
VIS				*i*S	Sn	06 34 16.3	-9.0
VIS				*ex*	x	06 34 17.4	
	comp=N,44nm,0.5s						
VIS				*ex*	x	06 34 19.6	
	comp=E,34nm,0.4s						
H08S3	**Diego Garcia H**	**29.66**	**225**	T	T	07 07 10.2	
	baz=42,slow=0.7,SNR=10.0						
H08S2	**Diego Garcia H**	**29.67**	**225**	T	T	07 07 17.3	
	baz=42,slow=0.7,SNR=5.6						
H08S1	**Diego Garcia H**	**29.68**	**225**	T	T	07 07 11.8	
	baz=42,slow=0.7,SNR=8.3						
MKAR	**Makanchi Array**	**33.89**	**347**	P	**P**	**06 36 52.0**	**+0.8**
	comp=E,0.5nm,0.7s,baz=159,slow=8.2,SNR=5.3						
ZALV	**Zalesovo Beam**	**40.35**	**352**	P	**P**	**06 37 46.2**	**+0.3**
	comp=E,0.4nm,0.3s,baz=182,slow=8.1,SNR=3.6						
WRA	**Warramunga Arr**	**52.81**	**129**	P	**P**	**06 39 23.1**	**-0.9**
	comp=E,0.5nm,0.3s,baz=311,slow=8.0,SNR=8.6						
WRA				PcP	**PcP**	**06 40 33.0**	**-0.2**
	comp=E,0.8nm,0.6s,baz=313,slow=3.1,SNR=5.1						
ASAR	**Alice Springs**	**54.76**	**133**	P	**P**	**06 39 37.9**	**-0.5**
	comp=E,0.9nm,0.4s,baz=309,slow=6.8,SNR=24						
ASAR				PcP	**PcP**	**06 40 40.4**	**-0.2**
	comp=E,0.4nm,0.5s,baz=318,slow=3.8,SNR=3.4						
BRTR	**Keskin Array B**	**57.71**	**308**	P	**P**	**06 39 59.6**	**+0.3**
	comp=E,0.4nm,0.5s,baz=104,slow=4.9,SNR=2.9						
FINES	**FINESS Array B**	**66.82**	**331**	P	**P**	**06 40 59.4**	**-0.3**
	comp=E,0.9nm,0.7s,baz=178,slow=18,SNR=2.4						
GERES	**GERESS Array B**	**72.58**	**317**	P	**P**	**06 41 35.4**	**-0.2**
	comp=E,0.3nm,0.2s,baz=40,slow=7.7,SNR=2.5						
LBTB	**Lobatse**	**76.33**	**240**	P	**P**	**06 41 59.0**	**+1.2**
	comp=E,1.7nm,0.7s,baz=63,slow=4.5,SNR=3.4						
BOSA	**Boshof**	**78.01**	**236**	P	**P**	**06 42 08.0**	**+0.8**
	comp=E,5.0nm,1.2s,baz=45,slow=4.3,SNR=4.4						
TORD	**Torodi Ar. Bea**	**88.17**	**283**	P	**P**	**06 43 00.4**	**+0.5**
	comp=E,0.5nm,0.7s,baz=82,slow=5.7,SNR=3.5						
ILAR	**Eielson Array**	**89.47**	**22**	P	**P**	**06 43 05.0**	**+0.1**
	comp=E,0.2nm,0.7s,baz=308,slow=5.3,SNR=4.4						

*ISCJB **21** 06:41:14.2±0.8, 5°.3S±0°.1×154°.4E±0°.1, h118km, mb3.5/7, Error ellipse: s-maj=19.7km s-min=11.4km az=147.0*
*IDC **21** 06:41:20.1±4.0, 5°.43S×154°.18E, h158km±36km, mb3.4/8, mb1 3.5/9, mb1mx3.4/21, mbtmp3.4/9, Error ellipse: s-maj=23.5km s-min=20.6km az=50.0*
ISC 21 06:41:15.3±1.2, 5°4S±0°.2×154°4E±0°.2, h118km, n12, σ1°32/9, mb3.6/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.25**	**241**	P	**Pn**	**06 43 13.6**	**+1.4**
	1.0nm,0.3s,baz=45,slow=9.7,SNR=2.0						
PMG				S	**Sn**	**06 44 44.3**	**+0.5**
	1.4nm,0.3s,baz=127,slow=19,SNR=3.1						
DZM	**Mont Dzumac**	**20.26**	**146**	P	Pn	06 45 44.5	-0.2
	9.8nm,0.5s,baz=279,slow=8.6,SNR=22						
WRA	**Warramunga Arr**	**24.33**	**232**	P	**P**	**06 46 21.8**	**-0.4**
	2.1nm,0.6s,baz=53,slow=10.0,SNR=15						
H11S3	**WAKE ISLAND Hy**	**26.62**	**27**	T	T	07 15 25.6	
	baz=206,slow=0.7,SNR=5.1						
H11S2	**WAKE ISLAND Hy**	**26.62**	**27**	T	T	07 15 27.7	
	baz=206,slow=0.7,SNR=4.1						
H11S1	**WAKE ISLAND Hy**	**26.64**	**27**	T	T	07 15 25.0	
	baz=206,slow=0.7,SNR=5.7						
ASAR	**Alice Springs**	**26.86**	**225**	P	**P**	**06 46 44.5**	**-0.7**
	0.2nm,0.3s,baz=56,slow=9.1,SNR=5.6						
FITZ	**Fitzroy Crossi**	**30.84**	**243**	P	**P**	**06 47 17.8**	**-2.6**
	0.5nm,0.4s,baz=54,slow=11,SNR=5.3						
SONM	**Songino Array**	**67.68**	**327**	P	**P**	**06 52 00.4**	**+0.5**
	0.7nm,0.5s,baz=136,slow=4.7,SNR=5.9						
VNDA	**Vanda**	**72.21**	**178**	P	**P**	**06 52 27.4**	**+0.5**
	0.9nm,0.6s,baz=1.2,slow=6.3,SNR=6.2						
MKAR	**Makanchi Array**	**81.83**	**319**	P	**P**	**06 53 21.1**	**-0.3**
	0.5nm,0.7s,baz=87,slow=8.8,SNR=5.8						
ILAR	**Eielson Array**	**82.08**	**22**	P	**P**	**06 53 22.8**	**+0.5**
	0.4nm,0.7s,baz=234,slow=5.3,SNR=7.2						

*NEIC **21** 06:47:09.9, 30°.71S×70°.83W, h65km, MG4.4(GUC), After GUC.*
NEIC Felt [III] at Combarbala and Punitaqui; [II] at Monte Patria, Ovalle and Rio Hurtado.
*GUC **21** 06:47:09.9±0.8, 30°.71S×70°.83W, h65km±4km, ML4.4*
*ISCJB **21** 06:47:10.2±0.4, 30°.66S±0°.02×71°.18W±0°.08, h65km±5km, mb4.0/5, Error ellipse: s-maj=11.5km s-min=3.7km az=7.4*
*IDC **21** 06:47:14.2±3.5, 30°.58S×71°.16W, h84km±27km, mb4.0/5, mb1 3.9/9, mb1mx3.7/19, mbtmp3.8/9, MS3.0/2, Ms1 3.0/2, ms1mx2.7/26, Error ellipse: s-maj=30.5km s-min=21.2km az=73.0*
ISC 21 06:47:10.4±0.9, 30°63S±0°.03×71°32W±0°.06, h51km±8km, n73, σ1°09/80, mb4.4/5, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.61**	**153**	*i*P	**Pn**	**06 47 22.6**	**-0.5**
CMCH				*e*S	**Sn**	**06 47 31.8**	**-0.5**
CMCH	**Combarbala**	**0.61**	**153**	*i*P	**Pn**	**06 47 22.6**	**-0.5**
CMCH				*e*S	**Sn**	**06 47 31.8**	**-0.5**
CMCH				AML	AML	06 47 33.4	
	comp=E,50μm,0.7s						
TLL	**Tololo Astrono**	**0.64**	**44**	*e*P	**Pn**	**06 47 23.5**	**-0.2**
TLL				*i*S	**Sn**	**06 47 34.1**	**+0.7**
TLL	**Tololo Astrono**	**0.64**	**44**	*e*P	**Pn**	**06 47 23.5**	**-0.2**
TLL				*i*S	**Sn**	**06 47 34.1**	**+0.7**
TLL				AML	AML	06 47 37.1	
	comp=N,11μm,0.7s						
CHNG	**Los Chungos**	**1.26**	**187**	*e*P	**Pn**	**06 47 32.2**	**+0.5**
CHNG				*i*S	**Sn**	**06 47 49.4**	**+1.9**
CHNG	**Los Chungos**	**1.26**	**187**	*e*P	**Pn**	**06 47 32.2**	**+0.5**
CHNG				*i*S	**Sn**	**06 47 49.4**	**+1.9**
LCO	**Las Campanas**	**1.70**	**19**	*e*Pn	**Pn**	**06 47 38.7**	**+0.8**
LCO				*e*Sn	**Sn**	**06 47 59.9**	**+1.1**
LCO	**Las Campanas**	**1.70**	**19**	*i*P	**Pn**	**06 47 38.5**	**+0.5**
LCO				*e*S	**Sn**	**06 47 59.9**	**+1.1**
VACH	**Vallenar**	**2.11**	**14**	*e*P	**Pn**	**06 47 43.5**	**+0.2**
VACH				*e*S	**Sn**	**06 48 09.7**	**+1.4**
VACH	**Vallenar**	**2.11**	**14**	*e*P	**Pn**	**06 47 43.5**	**+0.2**
VACH				*e*S	**Sn**	**06 48 09.7**	**+1.4**
VACH				AML	AML	06 48 18.1	
	comp=E,3μm,0.1s						
JACH	**Jahuel**	**2.14**	**163**	P	**Pn**	**06 47 43.3**	**-0.5**
JACH	**Jahuel**	**2.14**	**163**	*e*P	**Pn**	**06 47 43.3**	**-0.5**
ROCH	**El Roble**	**2.35**	**174**	*e*P	**Pn**	**06 47 46.5**	**-0.3**
ROCH				AML	AML	06 48 25.2	
	comp=N,1μm,0.4s						
IHA	**Instituto Hidr**	**2.40**	**186**	*e*P	**Pn**	**06 47 47.2**	**-0.1**
IHA	**Instituto Hidr**	**2.40**	**186**	*e*P	**Pn**	**06 47 47.2**	**-0.1**
PEL	**Peldehue**	**2.56**	**168**	*e*P	**Pn**	**06 47 50.1**	**+0.5**
PEL				*e*S	**Sn**	**06 48 16.5**	**-3.1**
PEL				AML	AML	06 48 32.2	
	comp=N,2μm,0.8s						
CFAA	**Coronel Fontan**	**2.81**	**111**	P	**Pn**	**06 47 54.9**	**+1.9**
CFAA				S	**Sn**	**06 48 28.7**	**+3.0**
CFAA	**Coronel Fontan**	**2.81**	**111**	P	**Pn**	**06 47 54.9**	**+1.9**
	comp=N,8.8nm,0.3s,baz=298,slow=12,SNR=346						
CFAA				S	**Sn**	**06 48 28.7**	**+3.0**
	comp=N,17nm,0.3s,baz=89,slow=16,SNR=10						
CLCH	**Cerro Calan**	**2.84**	**167**	AML	AML	06 48 49.2	
	comp=E,2μm,0.7s						
STL	**Santa Lucia**	**2.85**	**169**	*e*P	**Pn**	**06 47 54.4**	**+0.8**
LACH	**Col Las Americ**	**2.89**	**167**	P	**Pn**	**06 47 54.9**	**+0.8**
LACH	**Col Las Americ**	**2.89**	**167**	*e*P	**Pn**	**06 47 54.9**	**+0.8**
ANTU	**Antumapu**	**2.99**	**169**	P	**Pn**	**06 47 54.8**	**-0.6**
ANTU	**Antumapu**	**2.99**	**169**	*e*P	**Pn**	**06 47 54.8**	**-0.6**
ANTU				AML	AML	06 48 41.2	
	comp=E,1μm,0.6s						
TACH	**Talagante**	**3.03**	**174**	P	**Pn**	**06 47 57.1**	**+1.2**
TACH	**Talagante**	**3.03**	**174**	*e*P	**Pn**	**06 47 57.1**	**+1.2**
PCH	**Pirque**	**3.06**	**167**	P	**Pn**	**06 47 57.2**	**+0.8**
PCH	**Pirque**	**3.06**	**167**	*e*P	**Pn**	**06 47 57.2**	**+0.8**
SJCH	**San Jose de Ma**	**3.11**	**165**	P	**Pn**	**06 47 57.3**	**+0.2**
SJCH	**San Jose de Ma**	**3.11**	**165**	*e*P	**Pn**	**06 47 57.3**	**+0.2**
CHCH	**Chadas Angostu**	**3.34**	**170**	P	**Pn**	**06 48 00.1**	**-0.2**
CHCH	**Chadas Angostu**	**3.34**	**170**	*e*P	**Pn**	**06 48 00.1**	**-0.2**
LMEL	**Las Melosas**	**3.34**	**164**	P	**Pn**	**06 48 02.4**	**+2.0**
LMEL	**Las Melosas**	**3.34**	**164**	*e*P	**Pn**	**06 48 02.4**	**+2.0**
LMEL				AML	AML	06 48 49.7	
	comp=N,790nm,0.5s						
CPCH	**Copiapo**	**3.37**	**15**	*e*P	**Pn**	**06 48 00.8**	**+0.2**
CPCH				*e*S	**Sn**	**06 48 39.0**	**-0.3**
CPCH	**Copiapo**	**3.37**	**15**	*e*P	**Pn**	**06 48 00.8**	**+0.2**
CPCH				*e*S	**Sn**	**06 48 39.0**	**-0.3**
CPCH				AML	AML	06 48 49.3	
	comp=E,2μm,0.1s						
CACH	**El Canelo**	**3.53**	**170**	*e*P	**Pn**	**06 48 03.1**	**+0.2**
CACH	**El Canelo**	**3.53**	**170**	*e*P	**Pn**	**06 48 03.1**	**+0.2**
CDCH	**Caldera**	**3.58**	**7**	*e*P	**Pn**	**06 48 04.0**	**+0.6**
CDCH	**Caldera**	**3.58**	**7**	*e*P	**Pn**	**06 48 04.0**	**+0.6**
CDCH				AML	AML	06 49 08.9	
	comp=N,348nm,0.2s						
H03N1	**Juan Fernandez**	**7.03**	**245**	T	T	06 55 42.7	
	baz=69,slow=0.7,SNR=734						
H03N2	**Juan Fernandez**	**7.04**	**245**	T	T	06 55 46.4	
	baz=69,slow=0.7,SNR=730						
H03N3	**Juan Fernandez**	**7.04**	**244**	T	T	06 55 41.4	
	baz=69,slow=0.7,SNR=673						
LVC	**Limon Verde**	**8.27**	**16**	*e*Pn	**Pn**	**06 49 09.8**	**+1.7**
TRQA	**Tornquist**	**10.69**	**136**	*e*Pn	**Pn**	**06 49 40.4**	**-0.5**
CPUP	**Villa Florida**	**13.03**	**74**	P	**Pn**	**06 50 13.7**	**+0.9**
CPUP				S	**Sn**	**06 52 34.7**	**-1.5**
CPUP	**Villa Florida**	**13.03**	**74**	P	**Pn**	**06 50 13.7**	**+0.9**
	comp=N,1.0nm,0.3s,baz=235,slow=15,SNR=5.3						
CPUP				S	**Sn**	**06 52 34.7**	**-1.5**
	comp=N,0.7nm,0.3s,baz=215,slow=16,SNR=2.2						
CPUP				LR	LR	06 55 44.7	
	comp=N,76nm,19.3s,baz=320,slow=40						
LPAZ	**La Paz**	**14.57**	**12**	P	**Pn**	**06 50 35.2**	**+1.0**
LPAZ	**La Paz**	**14.57**	**12**	P	**Pn**	**06 50 35.2**	**+1.0**
	comp=N,0.1nm,0.3s,baz=169,slow=9.8,SNR=5.5						
SIV	**San Ignacio**	**17.33**	**35**	P	**Pn**	**06 51 08.3**	**-0.5**
SIV	**San Ignacio**	**17.33**	**35**	P	**Pn**	**06 51 08.3**	**-0.5**
	comp=N,0.2nm,0.3s,baz=217,slow=14,SNR=16						
SIV				LR	LR	06 57 28.7	
	comp=N,49nm,19.9s,slow=36						
BDFB	**Brasilia**	**26.03**	**60**	P	**P**	**06 52 38.0**	**-1.2**
BDFB	**Brasilia**	**26.03**	**60**	P	**P**	**06 52 38.0**	**-1.2**
	comp=N,7.7nm,0.6s,baz=236,slow=11,SNR=19						
TXAR	**Lajitas Array**	**67.12**	**330**	P	**P**	**06 58 00.1**	**+1.2**
TXAR	**Lajitas Array**	**67.12**	**330**	P	**P**	**06 58 00.1**	**+1.2**
	comp=N,0.3nm,0.7s,baz=157,slow=9.8,SNR=3.8						
DBIC	**Dimbokro**	**73.53**	**72**	P	**P**	**06 58 37.5**	**-0.8**
DBIC	**Dimbokro**	**73.53**	**72**	P	**P**	**06 58 37.5**	**-0.8**
	comp=N,6.1nm,0.8s,baz=210,slow=8.3,SNR=5.7						
MAW	**Mawson**	**76.23**	**164**	P	**P**	**06 58 52.4**	**-0.6**
MAW	**Mawson**	**76.23**	**164**	P	**P**	**06 58 52.4**	**-0.6**
	comp=N,1.1nm,0.5s,baz=214,slow=3.6,SNR=5.1						
TORD	**Torodi Ar. Bea**	**82.49**	**70**	P	**P**	**06 59 27.5**	**-0.5**
TORD	**Torodi Ar. Bea**	**82.49**	**70**	P	**P**	**06 59 27.5**	**-0.5**
	comp=N,4.2nm,0.9s,baz=224,slow=4.0,SNR=14						
KEST	**Kesra**	**100.43**	**55**	P	**Pdif**	**07 00 51.4**	**-0.6**
KEST	**Kesra**	**100.43**	**55**	P	**Pdif**	**07 00 51.4**	**-0.6**
	comp=N,1.0nm,0.4s,baz=8.5,slow=1.7,SNR=5.8						
H11S2	**WAKE ISLAND Hy**	**26.37**	**271**	T	T	09 24 56.5	
	baz=118						
H11S1	**WAKE ISLAND Hy**	**26.38**	**271**	T	T	09 24 58.3	
	baz=118						
H11S3	**WAKE ISLAND Hy**	**26.39**	**271**	T	T	09 24 57.8	
	baz=118						
H11N3	**WAKE ISLAND Hy**	**26.70**	**273**	T	T	09 25 28.4	
	baz=119						
H11N1	**WAKE ISLAND Hy**	**26.71**	**273**	T	T	09 25 27.5	
	baz=119						
H11N2	**WAKE ISLAND Hy**	**26.72**	**273**	T	T	09 25 38.3	
	baz=119						
ZALV	**Zalesovo Beam**	**151.03**	**30**	PKPbc	**PKPbc**	**07 06 56.8**	**-0.3**
ZALV	**Zalesovo Beam**	**151.03**	**30**	PKPbc	**PKPbc**	**07 06 56.8**	**-0.3**
	comp=N,4.4nm,0.7s,baz=301,slow=3.4,SNR=14						
MKAR	**Makanchi Array**	**154.01**	**44**	PKPab	**PKPab**	**07 07 17.5**	**-0.2**
MKAR	**Makanchi Array**	**154.01**	**44**	PKPab	**PKPab**	**07 07 17.5**	**-0.2**
	comp=N,0.7nm,0.8s,baz=289,slow=4.4,SNR=5.6						

*NIC **21** 06:57:23.3±0.1, 36°.00N×30°.98E, h55km, ML3.3, MW3.2*
*CSEM **21** 06:57:24.6±0.2, 35°.77N×31°.18E, h2km, Mw3.2, Error ellipse: s-maj=5.7km s-min=2.6km az=30.0*
*DDA **21** 06:57:25.4, 35°.94N×31°.20E, h14km, MD3.3*
*ISK **21** 06:57:26.4, 35°.76N×31°.19E, h70km, MD3.7*
ISC 21 06:57:26.3±1.2, 35°78N±0°.04×31°17E±0°.03, h20km±6km, n70, σ1°18/88, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**1.03**	**64**	*e*P	**Pb**	**06 57 45.0**	**-0.5**
GAZI				*e*S	**Sb**	**06 57 56.2**	**-2.3**
GAZI	**Gazipasa**	**1.03**	**64**	*e*P	**Pb**	**06 57 45.0**	**-0.5**
GAZI				*e*S	**Sb**	**06 57 56.2**	**-2.3**
ANTB	**Antalya**	**1.19**	**339**	*e*PN	**Pn**	**06 57 47.9**	**+0.1**
ANTB				*e*SN	**Sn**	**06 58 05.0**	**+1.6**
ANTB	**Antalya**	**1.19**	**339**	*e*Pn	**Pn**	**06 57 47.9**	**+0.1**
ANTB				*e*Sn	**Sn**	**06 58 05.0**	**+1.6**
AKMC	**Akamas**	**1.21**	**128**	P	**Pn**	**06 57 48.7**	**+0.6**
AKMC	**Akamas**	**1.21**	**128**	P	**Pn**	**06 57 48.7**	**+0.6**
PPCY	**Paphos**	**1.31**	**133**	P	**Pn**	**06 57 49.9**	**+0.4**
PPCY	**Paphos**	**1.31**	**133**	P	**Pn**	**06 57 49.9**	**+0.4**
ALFC	**Alevga**	**1.32**	**118**	P	**Pn**	**06 57 49.6**	**-0.1**
	23nm,0.2s						
ALFC				S	**Sb**	**06 58 10.2**	**+3.2**
ALFC	**Alevga**	**1.32**	**118**	P	**Pn**	**06 57 49.6**	**-0.1**
	23nm,0.2s						
ALFC				S	**Sb**	**06 58 10.2**	**+3.2**
AKAS	**Kas**	**1.35**	**290**	*e*P	**Pn**	**06 57 49.9**	**-0.2**
AKAS				*e*S	**Sn**	**06 58 06.3**	**-1.2**
AKAS	**Kas**	**1.35**	**290**	*e*P	**Pn**	**06 57 49.9**	**-0.2**
AKAS				*e*S	**Sn**	**06 58 06.3**	**-1.2**
ELL	**Elmali**	**1.40**	**314**	*e*PN	**Pn**	**06 57 51.5**	**+0.6**
ELL				*e*SN	**Sb**	**06 58 10.6**	**+1.1**
ELL	**Elmali**	**1.40**	**314**	*e*Pn	**Pn**	**06 57 51.5**	**+0.6**
ELL				*e*Sn	**Sb**	**06 58 10.6**	**+1.1**
LEF	**Lefka**	**1.55**	**115**	*e*PN	**Pn**	**06 57 52.2**	**-0.6**
LEF	**Lefka**	**1.55**	**115**	*e*Pn	**Pn**	**06 57 52.2**	**-0.6**
HDMB	**Hadim**	**1.58**	**42**	*e*PN	**Pn**	**06 57 53.3**	**-0.2**
HDMB	**Hadim**	**1.58**	**42**	*e*Pn	**Pn**	**06 57 53.3**	**-0.2**
SUTC	**Sutluce-Ispart**	**1.69**	**355**	*e*PN	**Pn**	**06 57 54.9**	**0.0**
SUTC	**Sutluce-Ispart**	**1.69**	**355**	*e*Pn	**Pn**	**06 57 54.9**	**0.0**
SZAC	**Souni-Zanaja**	**1.73**	**126**	P	**Pn**	**06 57 55.3**	**0.0**
	5.2nm,0.2s						
SZAC				S	**Sb**	**06 58 19.7**	**+0.8**
SZAC	**Souni-Zanaja**	**1.73**	**126**	P	**Pn**	**06 57 55.3**	**0.0**
	5.2nm,0.2s						
SZAC				S	**Sb**	**06 58 19.7**	**+0.8**
BCK	**Bucak**	**1.74**	**344**	*e*PN	**Pn**	**06 57 55.4**	**-0.1**
BCK	**Bucak**	**1.74**	**344**	*e*Pn	**Pn**	**06 57 55.4**	**-0.1**
MAMC	**Mammari**	**1.78**	**110**	P	**Pn**	**06 57 54.9**	**-1.0**
MAMC	**Mammari**	**1.78**	**110**	P	**Pn**	**06 57 54.9**	**-1.0**
GLHS	**Glhisar (BURDU**	**1.92**	**316**	*e*PN	**Pn**	**06 57 58.7**	**+0.7**
GLHS	**Glhisar (BURDU**	**1.92**	**316**	*e*Pn	**Pn**	**06 57 58.7**	**+0.7**
CSS	**Prodhromos**	**1.94**	**114**	P	**Pn**	**06 57 57.1**	**-1.1**
	1.6nm,0.2s						
CSS				S	**Sb**	**06 58 24.2**	**-0.7**
CSS	**Prodhromos**	**1.94**	**114**	P	**Pn**	**06 57 57.1**	**-1.1**
	1.6nm,0.2s						
CSS				S	**Sb**	**06 58 24.2**	**-0.7**
GOLH	**Golhisar**	**1.95**	**319**	*e*P	**Pn**	**06 57 59.8**	**+1.5**
GOLH				*e*S	**Sb**	**06 58 24.8**	**-0.3**
GOLH	**Golhisar**	**1.95**	**319**	*e*P	**Pn**	**06 57 59.8**	**+1.5**
GOLH				*e*S	**Sb**	**06 58 24.8**	**-0.3**
LFK	**Lefkose**	**1.99**	**104**	*e*PN	**Pn**	**06 57 59.3**	**+0.4**
LFK	**Lefkose**	**1.99**	**104**	*e*Pn	**Pn**	**06 57 59.3**	**+0.4**
IKL	**Isikli**	**2.09**	**77**	*e*PN	**Pn**	**06 58 00.9**	**+0.8**
IKL	**Isikli**	**2.09**	**77**	*e*Pn	**Pn**	**06 58 00.9**	**+0.8**
ISP	**Isparta**	**2.10**	**346**	*e*PN	**Pn**	**06 58 01.9**	**+1.5**
ISP	**Isparta**	**2.10**	**346**	*e*Pn	**Pn**	**06 58 01.9**	**+1.5**
DALY	**Dalyan (Mu¨la**	**2.28**	**298**	*e*PN	**Pn**	**06 58 03.6**	**+0.8**
DALY	**Dalyan (Mu¨la**	**2.28**	**298**	*e*Pn	**Pn**	**06 58 03.6**	**+0.8**
**

baz=35,SNR=3.4
NWAO Narrogin (SRO) 35.51 154 LR LR 07 32 19.4
comp=Z,84nm,19.2s,baz=331,slow=37
H01W3 Cape Leeuwin H 35.99 159 T T 07 55 08.3
baz=335,slow=0.7,SNR=131
H01W2 Cape Leeuwin H 36.01 159 T T 07 55 09.0
baz=335,slow=0.7,SNR=118
H01W1 Cape Leeuwin H 36.01 159 T T 07 55 09.5
baz=335,slow=0.7,SNR=94
WRA Warramunga Arr 38.74 121 P **P 07 17 38.9 -1.2**
WRA PcP **PcP 07 19 51.6 0.0**
WRA Warramunga Arr 38.74 121 P **P 07 17 38.9 -1.2**
4.1nm,0.6s,baz=302,slow=9.1,SNR=44
WRA PcP **PcP 07 19 51.6 0.0**
0.6nm,0.5s,baz=310,slow=2.7,SNR=5.4
WRA LR LR 07 33 42.4
comp=Z,79nm,20.0s,baz=335,slow=36
ASAR Alice Springs 40.02 126 P **P 07 17 50.3 -0.5**
ASAR PcP **PcP 07 19 56.0 +0.4**
ASAR S **S 07 23 53.2 -1.6**
ASAR Alice Springs 40.02 126 P **P 07 17 50.3 -0.5**
1.6nm,0.6s,baz=298,slow=7.8,SNR=19
ASAR PcP **PcP 07 19 56.0 +0.4**
1.3nm,0.8s,baz=306,slow=2.6,SNR=7.0
ASAR S **S 07 23 53.2 -1.6**
0.8nm,0.9s,baz=302,slow=18,SNR=6.5
AS31 Alice Springs 40.02 126 *eP* **P 07 17 50.3 -0.5**
JNU Nakatsue 45.36 38 LR LR 07 40 50.1
comp=Z,110nm,18.9s,baz=322,slow=40
KSAR Wonju Array Be 46.77 31 P **P 07 18 44.9 -0.1**
KSRS Korea Array 46.80 31 P **P 07 18 44.8 -0.3**
1.2nm,0.5s,baz=224,slow=9.3,SNR=4.9
TKM2 Tokmak 2 49.09 337 *eP* **P 07 19 03.9 +0.8**
3.6nm,0.5s
AAK Ala-Archa 49.30 336 P **P 07 19 05.9 +1.2**
AAK Ala-Archa 49.30 336 P **P 07 19 05.9 +1.2**
1.2nm,0.6s,baz=231,slow=11,SNR=4.2
SONM Songino Array 49.42 6 P **P 07 19 06.3 +0.9**
SONM PcP **PcP 07 20 28.0 +0.5**
SONM Songino Array 49.42 6 P **P 07 19 06.3 +0.9**
1.2nm,0.6s,baz=189,slow=8.5,SNR=11
SONM PcP **PcP 07 20 28.0 +0.5**
1.4nm,0.4s,baz=192,slow=4.6,SNR=7.6
EKS2 Erkin-Say 49.62 335 *eP* **P 07 19 07.6 +0.5**
3.8nm,0.6s
QLP Quilpie 49.72 124 P **P 07 19 08.1 +0.2**
baz=52,SNR=5.1
STKA Stephens Creek 49.93 132 *eP* **P 07 19 09.5 0.0**
0.9nm,0.8s
STKA Stephens Creek 49.93 132 P **P 07 19 09.9 +0.4**
baz=52,SNR=9.6
STKA Stephens Creek 49.93 132 P **P 07 19 09.8 +0.4**
4.6nm,0.7s,baz=324,slow=7.8,SNR=14
MK31 Makanchi Array 50.33 345 *eP* **P 07 19 12.9 +0.6**
MKAR Makanchi Array 50.33 345 P **P 07 19 13.1 +0.8**
MKAR Makanchi Array 50.33 345 P **P 07 19 13.1 +0.8**
6.5nm,0.5s,baz=150,slow=8.2,SNR=75
KKAR Karatay Array 51.40 333 *eP* **P 07 19 20.0 -0.4**
CMSA Cobar Meteorol 52.89 129 P **P 07 19 32.2 +0.6**
baz=55,SNR=11
USRK Ussuriysk Arra 53.90 29 P **P 07 19 39.0 +0.2**
2.3nm,0.6s,baz=255,slow=4.9,SNR=5.2
KURBB Kurchatov Arra 54.85 344 P **P 07 19 45.8 +0.3**
2.1nm,0.8s,baz=164,slow=7.1,SNR=10
KURK Kurchatov 54.91 344 P **P 07 19 45.8 -0.1**
ZAA0 Zalesovo Array 56.51 350 *eP* **P 07 19 57.3 -0.1**
ZALV Zalesovo Beam 56.51 350 P **P 07 19 57.8 +0.4**
ZALV Zalesovo Beam 56.51 350 P **P 07 19 57.8 +0.4**
5.2nm,0.4s,baz=182,slow=5.6,SNR=34
BVAR Borovoye Array 59.46 340 P **P 07 20 17.7 -0.4**
BVAR Borovoye Array 59.46 340 P **P 07 20 17.7 -0.4**
1.4nm,0.6s,baz=134,slow=8.5,SNR=6.8
ABKAR Akbulak array 60.88 331 *eP* **P 07 20 27.1 -0.8**
1.3nm,0.6s
KMBO Kilima Mbogo 62.20 269 P **P 07 20 38.4 +0.5**
KMBO Kilima Mbogo 62.20 269 P **P 07 20 38.4 +0.5**
0.5nm,0.3s,baz=50,slow=22,SNR=6.7
KBZ Khabaz 67.53 319 P **P 07 21 11.2 -0.4**
KBZ Khabaz 67.53 319 P **P 07 21 11.2 -0.4**
2.9nm,0.7s,baz=103,slow=3.6,SNR=6.6
MAW Mawson 70.71 194 P **P 07 21 31.2 +0.3**
MAW Mawson 70.71 194 P **P 07 21 31.2 +0.3**
1.2nm,0.7s,baz=315,slow=10.0,SNR=4.6
BOSA Boshof 75.47 241 LR LR 07 48 04.3
comp=Z,46nm,20.1s,baz=346,slow=30
VNDA Vanda 82.83 169 P **P 07 22 39.1 -0.1**
VNDA Vanda 82.83 169 P **P 07 22 39.1 -0.1**
0.8nm,0.8s,baz=280,slow=7.3,SNR=3.6
FINES FINESS Array B 83.36 332 P **P 07 22 41.6 -0.5**
FINES FINESS Array B 83.36 332 P **P 07 22 41.6 -0.5**
2.0nm,0.5s,baz=103,slow=6.6,SNR=15
ARCES ARCESS Array B 85.75 340 P **P 07 22 53.3 -0.8**
ARCES ARCESS Array B 85.75 340 P **P 07 22 53.3 -0.8**
4.6nm,1.0s,baz=97,slow=3.6,SNR=3.3
GERES GERESS Array B 88.27 319 P **P 07 23 07.1 +0.2**
GERES GERESS Array B 88.27 319 P **P 07 23 07.1 +0.2**
0.5nm,0.5s,baz=104,slow=5.6,SNR=4.9
CPUP Villa Florida 144.46 217 PKP PKPbc 07 29 51.0 +0.1
CPUP Villa Florida 144.46 217 PKP PKPbc 07 29 51.0 +0.1
3.8nm,0.7s,baz=103,slow=0.8,SNR=6.6
TXAR Lajitas Array 144.56 36 PKP **PKPdf 07 29 52.2 -0.5**
TXAR Lajitas Array 144.56 36 PKP **PKPdf 07 29 52.2 -0.5**
4.8nm,0.5s,baz=176,slow=1.5,SNR=104
MIAR Mount Ida 144.87 19 *e*PKPdf **PKPab 07 29 51.8 -0.2**
TZTN Tazewell 144.94 4 *e*PKPbc **PKPab 07 29 50.9 -1.3**
JCT Junction City 145.80 30 *e*PKPdf **PKPdf 07 29 54.5 -0.2**

*IDC **21** 07:18:31.7±1.9,8.°00N×127.°02E,h0km,mb4.0/5,*
mb1 4.2/5,mb1mx3.8/25,mbtmp4.0/5,Error ellipse:
s-maj=119.1km s-min=22.2km az=68.0
*MAN **21** 07:18:37,7.°97N×126.°79E,h26km,mb4.8,ML3.7,MS3.8*
ISC 21 07:18:36.2±2.0,7.°87N±0.°05×126.°86E±0.°10,h27km±13km,
n20,σ0°84/19,mb3.9/5,1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.58**	**303**	⇓*eP*		**Pn**	**07 18 49.0**	**+0.3**
BIPH				*i* S		**Sb**	**07 18 56.0**	**+0.2**
MATI	**Mati**	**1.09**	**213**	*eP*		**Pb**	**07 18 56.2**	**-0.2**
MATI				*e*S		**Sn**	**07 19 08.9**	**-1.1**
DMPH	**Davao City--Mi**	**1.55**	**240**	*eP*		**Pb**	**07 19 04.1**	**-0.1**
DMPH				*e*S		**Sb**	**07 19 22.5**	**-0.9**
BUTP	**Butuan**	**1.64**	**312**	*eP*		**Pb**	**07 19 05.8**	**0.0**
BUKP	**Musuan**	**1.78**	**271**	*eP*		**Pn**	**07 19 06.3**	**+1.1**
CGP	**Cagayan de Oro**	**2.22**	**285**	*eP*		**Pn**	**07 19 11.7**	**+0.5**
CGP				*i* S		**Sn**	**07 19 37.2**	**-0.7**
MSLP	**Maasin**	**3.00**	**319**	*eP*		**Pn**	**07 19 21.1**	**-0.8**
PAGZ	**Pagadian**	**3.44**	**270**	*eP*		**Pn**	**07 19 29.4**	**+1.3**
TBP	**Tagbilaran**	**3.47**	**302**	*eP*		**Pn**	**07 19 30.3**	**+1.8**
TBP				*e*S		**Sn**	**07 20 08.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**25.83**	**183**	P		**P**	**07 24 05.6**	**+0.1**
5.3nm,0.8s,baz=3.2,slow=10.0,SNR=11								
WRA	**Warramunga Arr**	**28.60**	**165**	P		**P**	**07 24 30.8**	**+0.4**
0.6nm,0.7s,baz=348,slow=9.7,SNR=6.2								
ASAR	**Alice Springs**	**32.09**	**168**	P		**P**	**07 25 01.9**	**+0.6**
0.8nm,0.5s,baz=348,slow=7.1,SNR=14								
H11S3	**WAKE ISLAND Hy**	**40.10**	**71**	T		T	08 09 28.7	
baz=263,slow=0.6,SNR=6.5								
H11S1	**WAKE ISLAND Hy**	**40.12**	**71**	T		T	08 09 26.8	
baz=263,slow=0.6,SNR=5.1								
H11S2	**WAKE ISLAND Hy**	**40.12**	**71**	T		T	08 09 26.2	
baz=263,slow=0.6,SNR=6.7								
H11N1	**WAKE ISLAND Hy**	**40.52**	**69**	T		T	08 10 05.7	
baz=268,slow=0.7,SNR=8.0								
H11N2	**WAKE ISLAND Hy**	**40.52**	**69**	T		T	08 10 04.7	
baz=268,slow=0.7,SNR=5.1								
H11N3	**WAKE ISLAND Hy**	**40.53**	**69**	T		T	08 10 03.7	
baz=268,slow=0.7,SNR=6.7								
STKA	**Stephens Creek**	**41.95**	**161**	P		**P**	**07 26 25.0**	**0.0**
0.9nm,0.5s,baz=327,slow=7.6,SNR=6.7								
MKAR	**Makanchi Array**	**54.29**	**324**	P		**P**	**07 27 59.5**	**-0.6**
1.3nm,0.5s,baz=123,slow=8.5,SNR=16								

*IDC **21** 07:26:37.9±0.7,4.°92N×126.°51E,h0km,mb4.2/15,*
mb1 4.3/15,mb1mx4.2/27,mbtmp4.2/15,MS3.5/6,
Ms1 3.5/6,ms1mx3.1/40,Error ellipse: s-maj=39.0km
s-min=14.6km az=76.0
*ISCJB **21** 07:26:48.0±0.5,4.°91N±0.°05×126.°44E±0.°09,h100km,*
mb4.1/15,Error ellipse: s-maj=13.3km s-min=6.8km
az=179.4
*DJA **21** 07:26:59.6±1.4,4.°N±12.°×12.°5E±1.°0,h10km,M4.3/3,*
mB5.0/2,mb4.8/3,MLv4.0/1,Mw(mB)4.3/2

*IDC **21** 07:27:31.4±2.2,18.°94S×177.°64W,h545km±24km,*
mb3.6/10,mb1 3.7/12,mb1mx3.5/25,mbtmp3.6/12,Error
ellipse: s-maj=57.8km s-min=11.7km az=154.0
*ISCJB **21** 07:27:32.4±0.6,18.°3S±0.°2×177.°9W±0.°1,h557km,*
mb4.0/10,Error ellipse: s-maj=34.1km s-min=7.3km
az=151.1
*AUST **21** 07:27:52.5,19.°72S×179.°01E,h450km*
ISC 21 07:27:33.2±0.9,18.°3S±0.°3×177.°9W±0.°2,h557km,n26,
σ1°39/28,mb4.1/10,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.31**	**54**	P		**P**	**07 29 24.1**	**-0.5**
3.8nm,0.3s,baz=241,slow=19,SNR=4.9								
AFI				S		**S**	**07 30 53.2**	**-2.6**
1.2nm,0.3s,baz=239,slow=18,SNR=2.5								
DZM	**Mont Dzumac**	**15.18**	**253**	P		**P**	**07 30 43.7**	**-0.8**
0.6nm,0.3s,baz=60,slow=20,SNR=4.9								
EIDS	**Eidsvold**	**29.60**	**251**	P		**P**	**07 32 54.3**	**+0.4**
baz=26,SNR=4.2								
ARMA	**Armidale**	**30.18**	**241**	P		**P**	**07 33 00.0**	**+1.1**
baz=27,SNR=6.7								
CNB	**Canberra Magne**	**33.59**	**233**	P		**P**	**07 33 28.6**	**+0.7**
baz=30,SNR=9.9								
CTA	**Charters Tower**	**33.87**	**261**	P		**P**	**07 33 31.0**	**+0.7**
5.6nm,0.4s,baz=83,slow=11,SNR=12								
PMG	**Port Moresby**	**35.00**	**280**	P		**P**	**07 33 41.5**	**+1.7**
22nm,0.7s,baz=86,slow=4.9,SNR=4.5								
CMSA	**Cobar Meteorol**	**35.40**	**241**	P		**P**	**07 33 43.3**	**+0.4**
baz=32,SNR=25								
MTSU	**Mount Surprise**	**35.85**	**264**	P		**P**	**07 33 47.6**	**+0.7**
baz=33,SNR=5.1								
QLP	**Quilpie**	**35.86**	**250**	P		**P**	**07 33 47.0**	**+0.2**
baz=33,SNR=10								
TOO	**Toolangi**	**37.32**	**231**	P		**P**	**07 33 59.2**	**+0.5**
baz=34,SNR=4.1								
COEN	**Coen**	**37.60**	**271**	P		**P**	**07 34 02.6**	**+1.4**
baz=35,SNR=6.3								
STKA	**Stephens Creek**	**38.88**	**242**	P		**P**	**07 34 11.4**	**0.0**
baz=36,SNR=4.3								
STKA	**Stephens Creek**	**38.88**	**242**	P		**P**	**07 34 08.5**	**-2.9**
7.1nm,0.7s,baz=81,slow=9.2,SNR=14								
WRA	**Warramunga Arr**	**45.05**	**260**	P		**P**	**07 34 60.0**	**-0.1**
5.7nm,0.4s,baz=97,slow=7.1,SNR=65								
ASAR	**Alice Springs**	**45.16**	**255**	P		**P**	**07 35 01.1**	**+0.1**
12nm,0.4s,baz=90,slow=8.4,SNR=111								
ASAR				S		**S**	**07 40 56.1**	**-4.4**
0.6nm,0.8s,baz=90,slow=16,SNR=4.4								
KDU	**Kakadu**	**48.04**	**269**	P		**P**	**07 35 22.9**	**+0.2**
baz=45,SNR=6.9								
KNRA	**Kununurra**	**50.94**	**264**	P		**P**	**07 35 44.1**	**+0.2**
baz=48,SNR=3.8								
FITZ	**Fitzroy Crossi**	**53.45**	**261**	P		**P**	**07 36 02.3**	**+0.4**
baz=50,SNR=7.6								
FITZ	**Fitzroy Crossi**	**53.45**	**261**	P		**P**	**07 36 01.6**	**-0.4**
1.3nm,0.3s,baz=127,slow=8.4,SNR=12								
MEEK	**Meekatharra**	**58.76**	**250**	P		**P**	**07 36 37.8**	**-0.7**
baz=56,SNR=7.1								
YBH	**Yreka Blue Hor**	**78.50**	**39**	P		**P**	**07 38 00.0**	**+0.7**
0.8nm,0.5s,baz=203,slow=8.5,SNR=6.2								
NVAR	**Mina Array Bea**	**79.35**	**44**	P		**P**	**07 38 42.7**	**+0.7**
0.8nm,0.6s,baz=224,slow=8.6,SNR=10								
TXAR	**Lajitas Array**	**85.78**	**57**	P		**P**	**07 39 16.0**	**+1.6**
2.0nm,0.8s,baz=214,slow=6.6,SNR=19								
PDAR	**Pinedale Array**	**87.28**	**43**	P		**P**	**07 39 20.9**	**-0.5**
0.4nm,0.6s,baz=222,slow=2.0,SNR=3.7								
BRTR	**Keskin Array B**	**145.39**	**315**	PKPbc		**PKPbc**	**07 46 09.7**	**0.0**
0.7nm,0.7s,baz=40,slow=4.7,SNR=3.6								

*TIR **21** 07:35:07.6±0.9,41.°44N×20.°48E,h17km±8km, ML3.0*
*SKO **21** 07:35:08.3,41.°39N×20.°48E,h10km, M2.1,ML2.4*
*PDG **21** 07:35:08.4±0.3,41.°42N×20.°51E,h10km,ML2.6/10,Error*
ellipse: s-maj=0.5km s-min=0.5km az=0.0
*CSEM **21** 07:35:09.3±0.6,41.°42N×20.°42E,h2km,ML3.0,Error*
ellipse: s-maj=11.1km s-min=6.9km az=165.0
*BEO **21** 07:35:10.5±0.6,41.°42N×20.°48E,h2km,3km,ML2.2/7*
ISC 21 07:35:08.4±1.2,41.°42N±0.°03×20.°47E±0.°02,h5km±9km,
n48,σ1°17/83,9C-11D,Albania

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.27**	**356**	*i* PG		**Pg**	**07 35 12.9**	**-0.7**
PHP				*i* SG		**Sg**	**07 35 17.4**	**+0.2**
PHP	**Peshkopia**	**0.27**	**356**	*i* Pg		**Pg**	**07 35 12.9**	**-0.7**
SNR=121								
PHP				*i* Sg		**Sg**	**07 35 17.4**	**+0.2**
SNR=121								
TIR	**Tirane**	**0.46**	**261**	*i* PG		**Pg**	**07 35 17.6**	**+0.4**
TIR				*i* SG		**Sb**	**07 35 24.9**	**-1.2**
TIR	**Tirane**	**0.46**	**261**	⇓*iPg*		**Pg**	**07 35 17.8**	**+0.6**
TIR				*e*Sg		**Sb**	**07 35 26.6**	**+0.5**
TIR	**Tirane**	**0.46**	**261**	*i* Pg		**Pg**	**07 35 17.6**	**+0.4**
SNR=101								
TIR				*i* Sg		**Sb**	**07 35 24.9**	**-1.2**
SNR=101								
PUK	**Puka**	**0.76**	**326**	*i* PG		**Pg**	**07 35 22.2**	**-0.7**
PUK				*i* SG		**Sg**	**07 35 33.4**	**+0.6**
PUK	**Puka**	**0.76**	**326**	*i* Pg		**Pg**	**07 35 22.2**	**-0.7**
SNR=95								
PUK				*i* Sg		**Sg**	**07 35 33.4**	**+0.6**
SNR=95								
BIA	**Bitola**	**0.76**	**121**	*i* Pg		**Pg**	**07 35 22.7**	**-0.3**
BIA				*i* Sg		**Sb**	**07 35 34.8**	**-0.1**
SKO	**Skopje**	**0.92**	**53**	*e*Pg		**Pn**	**07 35 27.9**	**-0.1**
SKO				*e*Sg		**Sb**	**07 35 39.2**	**-0.1**
SKO	**Skopje**	**0.92**	**53**	*i* Pg		**Pb**	**07 35 26.4**	**-0.4**
SKO				*i* Sg		**Sn**	**07 35 40.0**	**-1.6**
SKO				*i* Lg		Lg	07 35 41.1	
comp=E,105nm,0.7s								
SKO				*i* Lg		Lg	07 35 42.4	
comp=N,205nm,0.3s								
SKO	**Skopje**	**0.92**	**53**	*e*Pg		**Pn**	**07 35 27.9**	**-0.1**
SKO				*e*Sg		**Sb**	**07 35 39.2**	**-0.1**
ULC	**Ulcinj**	**1.06**	**301**	⇓*i*Pg		**Pg**	**07 35 28.2**	**-0.6**
ULC				*e*Sg		**Sn**	**07 35 45.3**	**0.0**
ULC	**Ulcinj**	**1.06**	**301**	⇓*i*Pg		**Pg**	**07 35 28.2**	**-0.6**
ULC				*e*Sg		**Sn**	**07 35 45.3**	**0.0**
DRME	**Dracevica, Mon**	**1.23**	**309**	⇓*i*Pg		**Pn**	**07 35 30.7**	**-1.6**
DRME				*e*Sg		**Sn**	**07 35 51.3**	**+2.0**
DRME	**Dracevica, Mon**	**1.23**	**309**	⇓*i*Pg		**Pn**	**07 35 30.7**	**-1.6**
DRME				*e*Sg		**Sn**	**07 35 51.3**	**+2.0**
PVY	**Plav**	**1.23**	**342**	⇑*i*Pg		**Pn**	**07 35 31.0**	**-1.5**
PVY				*e*Sg		**Sn**	**07 35 50.6**	**+1.0**
PVY	**Plav**	**1.23**	**342**	⇑*i*Pg		**Pn**	**07 35 31.0**	**-1.5**
PVY				*e*Sg		**Sn**	**07 35 50.6**	**+1.0**
PDG	**Podgorica**	**1.35**	**319**	*e*Pg		**Pg**	**07 35 34.3**	**-0.1**
PDG				*e*Sg		**Sg**	**07 35 53.5**	**+1.5**
PDG	**Podgorica**	**1.35**	**319**	*e*Pg		**Pg**	**07 35 34.3**	**-0.1**
PDG				*e*Sg		**Sg**	**07 35 53.5**	**+1.5**
TTG	**Podgorica**	**1.35**	**319**	⇑*i*Pg		**Pn**	**07 35 33.5**	**-0.5**
TTG				*e*Sg		**Sg**	**07 35 55.9**	**+3.9**
BUM	**Brajici-Budva**	**1.47**	**307**	⇓*i*Pg		**Pn**	**07 35 35.2**	**-0.5**
BUM				*e*Sg		**Sg**	**07 35 58.0**	**+2.4**
BUM	**Brajici-Budva**	**1.47**	**307**	⇓*i*Pg		**Pn**	**07 35 35.2**	**-0.5**
BUM				*e*Sg		**Sg**	**07 35 58.0**	**+2.4**
BEY	**Berane**	**1.51**	**344**	⇓*i*Pg		**Pg**	**07 35 37.2**	**-0.2**
BEY				*e*Sg		**Sg**	**07 35 59.5**	**+2.5**
IVA	**Berane**	**1.51**	**344**	⇓*i*Pg		**Pg**	**07 35 37.2**	**-0.2**
IVA				*e*Sg		**Sg**	**07 35 59.5**	**+2.5**
VAY	**Valandovo**	**1.59**	**93**	*i* Pn		**Pb**	**07 35 37.7**	**-0.6**
VAY				*i* Sg		**Sg**	**07 36 00.2**	**+0.8**
VAY				*i* Lg		Lg	07 36 01.6	
comp=E,20nm,0.5s								
VAY				*i* Lg		Lg	07 36 01.8	
comp=N,35nm,0.6s								
NKME	**Niksic**	**1.75**	**321**	⇑*i*Pn		**Pn**	**07 35 39.7**	**+0.1**
NKME				*e*Sn		**Sg**	**07 36 05.3**	**+0.5**
NKME	**Niksic**	**1.75**	**321**	⇑*i*Pn		**Pn**	**07 35 39.7**	**+0.1**
NKME				*e*Sn		**Sg**	**07 36 05.3**	**+0.5**
NKY	**Niksic**	**1.77**	**322**	⇓*i*Pn		**Pb**	**07 35 41.2**	**-0.3**
NKY				*e*Sn		**Sg**	**07 36 05.8**	**+0.4**
NKY	**Niksic**	**1.77**	**322**	⇓*i*Pn		**Pb**	**07 35 41.2**	**-0.3**
NKY				*e*Sn		**Sg**	**07 36 05.8**	**+0.4**
HCY	**Herceg Novi**	**1.79**	**306**	⇑*i*Pn		**Pb**	**07 35 40.8**	**-1.0**
HCY				*e*Sn		**Sg**	**07 36 06.0**	**-0.1**
HCY	**Herceg Novi**	**1.79**	**306**	⇑*i*Pn		**Pb**	**07 35 40.8**	**-1.0**
HCY				*e*Sn		**Sg**	**07 36 06.0**	**-0.1**
SELS	**Selova**	**1.86**	**15**	*e*Pn		**Pb**	**07 35 42.4**	**-0.6**
SJES	**Sjenica**	**1.88**	**349**	*e*Pn		**Pb**	**07 35 42.4**	**-0.9**
SJES	**Sjenica**	**1.88**	**349**	*e*Pn		**Pb**	**07 35 42.4**	**-0.9**
TREB	**Trebinje**	**2.04**	**310**	*e*Pn		**Pb**	**07 35 44.7**	**-1.3**
TREB				*e*Sn		**Sg**	**07 36 13.6**	**-0.4**
TREB	**Trebinje**	**2.04**	**310**	*e*Pn		**Pb**	**07 35 44.7**	**-1.3**
TREB				*e*Sn		**Sg**	**07 36 13.6**	**-0.4**
UPM	**Unac-Piva**	**2.13**	**328**	⇑*i*Pn		**Pb**	**07 35 46.1**	**-1.5**
UPM				*e*Sn		**Sb**	**07 36 14.2**	**-0.1**
UPM	**Unac-Piva**	**2.13**	**328**	⇑*i*Pn		**Pb**	**07 35 46.1**	**-1.5**
UPM				*e*Sn		**Sb**	**07 36 14.2**	**-0.1**
IVAS	**Ivanjica**	**2.17**	**354**	*e*Pn		**Pb**	**07 35 46.9**	**-1.3**
IVAS	**Ivanjica**	**2.17**	**354**	*e*Pn		**Pb**	**07 35 46.9**	**-1.3**
ZAPS	**Zavoj**	**2.45**	**40**	*e*Pn		**Pb**	**07 35 52.7**	**-0.3**
ZAPS	**Zavoj**	**2.45**	**40**	*e*Pn		**Pb**	**07 35 52.7**	**-0.3**
GRUS	**Gruza**	**2.48**	**4**	*e*Pn		**Pb**	**07 35 52.6**	**-0.8**
GRUS	**Gruza**	**2.48**	**4**	*e*Pn		**Pb**	**07 35 52.6**	**-0.8**
BBLS	**Lazići**	**2.57**	**343**	*e*Pn		**Pb**	**07 35 53.8**	**-1.2**
BBLS	**Lazići**	**2.57**	**343**	*e*Pn		**Pb**	**07 35 53.8**	**-1.2**
TEKS	**Tekeris**	**3.20**	**348**	*e*Pn		**Pn**	**07 36 01.9**	**+2.4**
TEKS	**Tekeris**	**3.20**	**348**	*e*Pn		**Pn**	**07 36 01.9**	**+2.4**

*ISCJB **21** 07:39:30.5±0.2,38.°20N±0.°01×21.°70E±0.°02,h16km±3km,*
Error ellipse: s-maj=2.6km s-min=2.4km az=15.6
*CSEM **21** 07:39:30.4±0.1,38.°19N×21.°70E,h10km,ML3.4,Error*
ellipse: s-maj=2.3km s-min=2.2km az=128.0
*THE **21** 07:39:30.5,38.°18N×21.°72E,h17km,ML3.6/4,Error*
ellipse: s-maj=0.6km s-min=0.4km az=130.0
*ATH **21** 07:39:30.0,38.°21N×21.°69E,h2km,MD3.3/40,ML3.0*
*SKO **21** 07:39:35.8,38.°44N×22.°04E,h0km*
ISC 21 07:39:30.0±0.8,38.°20N±0.°01×21.°70E±0.°01,h15km±6km,
n137,σ0°72/203,Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
UPR	**University Cam**	**0.11**	**42**	P		**Pb**	**07 39 34.4**	**+0.6**
UPR				S		**Sb**	**07 39 37.6**	**+1.3**
UPR	**University Cam**	**0.11**	**42**	P		**Pb**	**07 39 34.3**	**+0.5**
UPR				S		**Sb**	**07 39 37.6**	**+1.3**
PSA1	**Psathopyrgos**	**0.19**	**51**	*e*PB		**Pb**	**07 39 35.3**	**+0.1**
PSA1				*e*SB		**Sb**	**07 39 39.2**	**+0.5**
LAKA	**Lakka**	**0.23**	**81**	P		**Pb**	**07 39 35.4**	**-0.3**
LAKA	**Lakka**	**0.23**	**81**	*e*PB		**Pb**	**07 39 35.5**	**-0.3**
LAKA				*e*SB		**Sb**	**07 39 39.4**	**-0.3**
LAKA	**Lakka**	**0.23**	**81**	*e*Pb		**Pb**	**07 39 35.5**	**-0.3**
LAKA				S		**Sg**	**07 39 38.7**	**+0.1**
LAKA				*e*Sb		**Sb**	**07 39 39.4**	**-0.3**
RLS	**Riolos of Patr**	**0.23**	**231**	P		**Pb**	**07 39 35.7**	**-0.2**
RLS				S		**Sb**	**07 39 40.0**	**+0.3**
RLS	**Riolos of Patr**	**0.23**	**231**	*e*PB		**Pb**	**07 39 35.7**	**-0.2**
RLS				*e*SB		**Sb**	**07 39 40.1**	**+0.3**
RLS	**Riolos of Patr**	**0.23**	**231**	P		**Pg**	**07 39 35.5**	**+0.3**
RLS				S		**Sg**	**07 39 38.3**	**-0.4**
RLS				*e*Sb		**Sb**	**07 39 40.1**	**+0.3**
AXS	**Araxos**	**0.25**	**268**	P		**Pb**	**07 39 36.0**	**-0.2**
AXS				S		**Sb**	**07 39 40.9**	**+0.5**
AXS	**Araxos**	**0.25**	**268**	P		**Pb**	**07 39 36.0**	**-0.2**
AXS				S		**Sb**	**07 39 39.9**	**-0.5**
DRO	**Drossia**	**0.25**	**177**	P		**Pg**	**07 39 35.5**	**0.0**
DRO				S		**Sb**	**07 39 39.9**	**-0.4**
DRO	**Drossia**	**0.25**	**177**	*e*PB		**Pg**	**07 39 35.6**	**0.0**
DRO				*e*SB		**Sb**	**07 39 40.0**	**-0.4**
DRO	**Drossia**	**0.25**	**177**	P		**Pg**	**07 39 35.5**	**0.0**
DRO				S		**Sg**	**07 39 39.1**	**-0.2**
DRO				*e*Sb		**Sb**	**07 39 40.0**	**-0.4**
EFP	**Efpalio**	**0.28**	**37**	P		**Pb**	**07 39 36.6**	**-0.1**
EFP				S		**Sb**	**07 39 41.6**	**+0.4**
EFP	**Efpalio**	**0.28**	**37**	*e*PB		**Pb**	**07 39 36.7**	**0.0**
EFP				*e*SB		**Sb**	**07 39 41.7**	**+0.5**
EFP	**Efpalio**	**0.28**	**37**	*e*Pb		**Pb**	**07 39 36.7**	**0.0**
EFP				S		**Sb**	**07 39 40.8**	**-0.4**
EFP				*e*Sb		**Sb**	**07 39 41.7**	**+0.5**
TRIZ	**Trizonia**	**0.34**	**61**	P		**Pb**	**07 39 37.4**	**-0.3**
TRIZ				S		**Sb**	**07 39 43.0**	**+0.1**
TRIZ	**Trizonia**	**0.34**	**61**	*e*PB		**Pb**	**07 39 37.4**	**-0.3**
TRIZ				*e*SB		**Sb**	**07 39 43.0**	**+0.1**
TRIZ	**Trizonia**	**0.34**	**61**	P		**Pb**	**07 39 37.4**	**-0.3**
TRIZ				S		**Sb**	**07 39 42.7**	**-0.2**
TRIZ				*e*Sb		**Sb**	**07 39 43.0**	**+0.1**
KLV	**Kalavryta, Ach**	**0.39**	**114**	P		**Pg**	**07 39 37.8**	**-0.2**
KLV				S		**Sg**	**07 39 43.7**	**+0.2**
KLV	**Kalavryta, Ach**	**0.39**	**114**	*e*PB		**Pg**	**07 39 37.8**	**-0.2**
KLV		

PDO	**Prodromos**	**0.56**	**315**	P	**Pb**	**07 39 41.7 +0.2**
PDO				S	**Sb**	**07 39 49.7 +0.3**
GUR	**Goura**	**0.58**	**117**	P	**Pg**	**07 39 40.8 -0.6**
GUR				S	**Sb**	**07 39 49.5 -0.3**
GUR	**Goura**	**0.58**	**117**	*e*PN	**Pg**	**07 39 40.9 -0.5**
GUR				*e*SN	**Sb**	**07 39 49.7 -0.1**
GUR	**Goura**	**0.58**	**117**	*e*Pn	**Pg**	**07 39 40.9 -0.5**
GUR				S	**Sg**	**07 39 49.1 0.0**
AMT	**Artemida-Makis**	**0.67**	**179**	P	**Pg**	**07 39 43.0 -0.2**
AMT				S	**Sb**	**07 39 52.9 +0.4**
AMT	**Artemida-Makis**	**0.67**	**179**	*e*PN	**Pg**	**07 39 42.9 -0.2**
AMT	**Artemida-Makis**	**0.67**	**179**	P	**Pg**	**07 39 42.8 -0.3**
AMT				S	**Sb**	**07 39 52.6 +0.1**
DSF	**Desfina**	**0.69**	**72**	P	**Pg**	**07 39 42.7 -0.8**
DSF				S	**Sb**	**07 39 53.2 +0.2**
DSF	**Desfina**	**0.69**	**72**	*e*PB	**Pg**	**07 39 42.9 -0.6**
DSF				*e*SN	**Sb**	**07 39 52.9 -0.2**
DSF	**Desfina**	**0.69**	**72**	*e*Pb	**Pg**	**07 39 42.9 -0.6**
DSF				*e*Sn	**Sb**	**07 39 52.9 -0.1**
DSF	**Desfina**	**0.69**	**72**	*e*Pb	**Pg**	**07 39 42.9 -0.6**
DSF				*e*Sn	**Sb**	**07 39 52.9 -0.1**
DSF				S	**Sb**	**07 39 53.2 +0.2**
EVR	**Evrytania**	**0.72**	**7**	P	**Pg**	**07 39 44.0 0.0**
EVR	**Evrytania**	**0.72**	**7**	*e*PN	**Pb**	**07 39 44.3 0.0**
EVR	**Evrytania**	**0.72**	**7**	P	**Pg**	**07 39 44.1 0.0**
EVR				S	**Sn**	**07 39 55.9 -0.6**
KFL	**Anninata**	**0.72**	**263**	P	**Pg**	**07 39 44.0 -0.1**
KFL				S	**Sn**	**07 39 55.4 -1.0**
KFL	**Anninata**	**0.72**	**263**	P	**Pg**	**07 39 44.0 -0.1**
KFL				S	**Sn**	**07 39 55.4 -1.0**
VLS	**Valsamata**	**0.87**	**269**	P	**Pb**	**07 39 46.3 -0.5**
VLS	**Valsamata**	**0.87**	**269**	*e*PB	**Pb**	**07 39 46.2 -0.5**
VLS	**Valsamata**	**0.87**	**269**	P	**Pb**	**07 39 46.3 -0.5**
MAKR	**Makrakomi, Fth**	**0.88**	**23**	P	**Pg**	**07 39 47.4 +0.3**
MAKR	**Makrakomi, Fth**	**0.88**	**23**	*e*PN	**Pg**	**07 39 47.4 +0.3**
MAKR				*e*SN	**Sn**	**07 40 00.0 -0.3**
MAKR	**Makrakomi, Fth**	**0.88**	**23**	P	**Pg**	**07 39 47.4 +0.3**
MAKR				*e*Sn	**Sn**	**07 40 00.0 -0.3**
AXAR	**Agios Charalam**	**0.94**	**53**	P	**Pb**	**07 39 48.0 0.0**
AXAR				S	**Sn**	**07 40 02.0 +0.1**
AXAR	**Agios Charalam**	**0.94**	**53**	P	**Pb**	**07 39 48.0 0.0**
AXAR				S	**Sn**	**07 40 02.0 +0.1**
AGG	**Agios Georgios**	**0.96**	**31**	P	**Pb**	**07 39 47.9 -0.4**
AGG				S	**Sn**	**07 40 02.4 +0.1**
AGG	**Agios Georgios**	**0.96**	**31**	*e*PN	**Pb**	**07 39 47.8 -0.5**
AGG	**Agios Georgios**	**0.96**	**31**	P	**Pb**	**07 39 47.9 -0.4**
AGG				S	**Sn**	**07 40 02.4 +0.1**
VLX	**Vlachokerasia**	**0.99**	**147**	P	**Pb**	**07 39 48.0 -0.9**
VLX				S	**Sb**	**07 40 01.9 +0.1**
VLX	**Vlachokerasia**	**0.99**	**147**	*e*PB	**Pb**	**07 39 48.1 -0.9**
VLX				*e*SN	**Sn**	**07 40 03.0 -0.2**
VLX	**Vlachokerasia**	**0.99**	**147**	P	**Pb**	**07 39 48.0 -0.9**
VLX				S	**Sb**	**07 40 01.9 +0.1**
VLX				*e*Sn	**Sn**	**07 40 03.0 -0.2**
LKD2	**Lefkada island**	**1.00**	**306**	P	**Pb**	**07 39 48.8 -0.2**
LKD2	**Lefkada island**	**1.00**	**306**	*e*PN	**Pb**	**07 39 48.8 -0.2**
LKD2	**Lefkada island**	**1.00**	**306**	P	**Pb**	**07 39 48.8 -0.2**
LTK	**Loutraki**	**1.02**	**100**	P	**Pb**	**07 39 49.3 -0.1**
LTK	**Loutraki**	**1.02**	**100**	*e*PN	**Pb**	**07 39 49.2 -0.1**
LTK	**Loutraki**	**1.02**	**100**	P	**Pb**	**07 39 49.3 -0.1**
ITM	**Ithomi**	**1.04**	**170**	P	**Pb**	**07 39 48.8 -0.8**
ITM	**Ithomi**	**1.04**	**170**	*e*PB	**Pb**	**07 39 49.0 -0.6**
ITM	**Ithomi**	**1.04**	**170**	*e*Pb	**Pb**	**07 39 49.0 -0.6**
ITM				S	**Sn**	**07 40 04.4 +0.2**
SFD	**Strofades**	**1.09**	**210**	*e*PN	**Pg**	**07 39 50.2 +0.9**
SFD	**Strofades**	**1.09**	**210**	*e*Pn	**Pg**	**07 39 52.0 +0.9**
LKR	**Lokris**	**1.12**	**66**	P	**Pb**	**07 39 50.4 -0.6**
LKR	**Lokris**	**1.12**	**66**	*e*PN	**Pb**	**07 39 50.6 -0.4**
LKR	**Lokris**	**1.12**	**66**	P	**Pb**	**07 39 50.4 -0.6**
VIL2	**Platees**	**1.24**	**89**	*e*PB	**Pb**	**07 39 53.2 +0.1**
VILL	**Villia**	**1.27**	**91**	*e*Pb	**Pn**	**07 39 53.2 -0.1**
PYL	**PYLOS**	**1.31**	**178**	P	**Pn**	**07 39 53.5 -0.1**
PYL	**PYLOS**	**1.31**	**178**	*e*PB	**Pn**	**07 39 53.7 +0.1**
PYL	**PYLOS**	**1.31**	**178**	P	**Pn**	**07 39 53.7 +0.1**
THL	**Klokotos Trika**	**1.38**	**10**	P	**Pb**	**07 39 55.9 +0.4**
THL	**Klokotos Trika**	**1.38**	**10**	*e*PN	**Pb**	**07 39 56.0 +0.4**
THL	**Klokotos Trika**	**1.38**	**10**	P	**Pb**	**07 39 55.9 +0.4**
DIDY	**Didyma**	**1.40**	**121**	*e*PN	**Pb**	**07 39 55.9 0.0**
DIDY				*e*SN	**Sg**	**07 40 15.8 +0.5**
DIDY	**Didyma**	**1.40**	**121**	*e*Pn	**Pb**	**07 39 55.9 0.0**
DIDY				*e*Sn	**Sg**	**07 40 15.8 +0.5**
DID	**Didima**	**1.41**	**119**	*e*PN	**Pb**	**07 39 56.2 +0.3**
DID				*e*SN	**Sg**	**07 40 15.9 +0.6**
DID	**Didima**	**1.41**	**119**	P	**Pb**	**07 39 56.1 +0.2**
DID				S	**Sn**	**07 40 13.2 -0.1**
DID				*e*Sn	**Sg**	**07 40 15.9 +0.6**
NAIG	**Nisos Aigina**	**1.48**	**107**	*e*PN	**Pb**	**07 39 57.8 +0.5**
NAIG	**Nisos Aigina**	**1.48**	**107**	*e*Pn	**Pb**	**07 39 57.8 +0.5**
DYR	**Agios Nikonas**	**1.53**	**160**	P	**Pb**	**07 39 57.5 -0.5**
DYR	**Agios Nikonas**	**1.53**	**160**	*e*PN	**Pb**	**07 39 57.8 -0.2**
DYR	**Agios Nikonas**	**1.53**	**160**	P	**Pb**	**07 39 57.5 -0.5**
DYR	**Agios Nikonas**	**1.53**	**160**	*e*Pn	**Pb**	**07 39 57.8 -0.2**
MRKA	**Markates**	**1.57**	**71**	*e*PN	**Pb**	**07 39 58.9 +0.2**
MRKA				*e*SN	**Sg**	**07 40 20.3 -0.3**
MRKA	**Markates**	**1.57**	**71**	*e*Pn	**Pb**	**07 39 58.9 +0.2**
MRKA				*e*Sn	**Sg**	**07 40 20.3 -0.3**
ATH	**Athens Observa**	**1.61**	**98**	*e*PN	**Pb**	**07 40 00.1 +0.7**
ATH	**Athens Observa**	**1.61**	**98**	*e*Pn	**Pb**	**07 40 00.1 +0.7**
NEO	**Neokhori**	**1.62**	**47**	*e*PB	**Pn**	**07 39 58.7 +0.6**
NEO	**Neokhori**	**1.62**	**47**	*e*Pb	**Pn**	**07 39 58.7 +0.6**
XOR	**Xorichti**	**1.65**	**45**	*e*PB	**Pn**	**07 39 58.8 +0.4**
XOR	**Xorichti**	**1.65**	**45**	*e*Pb	**Pn**	**07 39 58.8 +0.4**
SKIA	**Skiathos**	**1.69**	**55**	*e*PN	**Pb**	**07 40 00.6 -0.1**
SKIA	**Skiathos**	**1.69**	**55**	*e*Pn	**Pb**	**07 40 00.6 -0.1**
IGT	**Igoumenitsa**	**1.70**	**322**	*e*PN	**Pb**	**07 40 00.2 -0.7**
IGT	**Igoumenitsa**	**1.70**	**322**	*e*Pn	**Pb**	**07 40 00.2 -0.7**
PTL	**Penteli**	**1.72**	**94**	*e*PN	**Pn**	**07 40 00.2 +0.9**
PTL	**Penteli**	**1.72**	**94**	*e*Pn	**Pn**	**07 40 00.2 +0.9**
VLI	**Veliai**	**1.78**	**146**	*e*PN	**Pb**	**07 40 02.4 +0.1**
VLI	**Veliai**	**1.78**	**146**	*e*Pn	**Pb**	**07 40 02.4 +0.1**
AOS	**Alonnisos**	**1.96**	**60**	*e*PB	**Pn**	**07 40 03.4 +0.7**
AOS	**Alonnisos**	**1.96**	**60**	*e*Pb	**Pn**	**07 40 03.4 +0.7**
LIT	**Litokhoron**	**1.99**	**18**	*e*PN	**Pb**	**07 40 05.6 -0.3**
LIT	**Litokhoron**	**1.99**	**18**	*e*Pn	**Pb**	**07 40 05.6 -0.3**
KEK	**Kerkira**	**2.11**	**316**	*e*PB	**Pn**	**07 40 05.6 +0.9**
KEK	**Kerkira**	**2.11**	**316**	*e*Pb	**Pn**	**07 40 05.6 +0.9**
KYTH	**Kithira**	**2.20**	**150**	*e*PN	**Pb**	**07 40 08.6 -0.8**
KYTH	**Kithira**	**2.20**	**150**	*e*Pn	**Pb**	**07 40 08.6 -0.8**
PAIG	**Paliouri**	**2.31**	**41**	*e*PN	**Pn**	**07 40 07.5 0.0**
PAIG	**Paliouri**	**2.31**	**41**	*e*Pn	**Pn**	**07 40 07.5 0.0**
FNA	**Florina**	**2.59**	**355**	*e*PB	**Pb**	**07 40 14.2 -1.9**
FNA	**Florina**	**2.59**	**355**	*e*Pb	**Pb**	**07 40 14.2 -1.9**
HORT	**Hortiatis**	**2.63**	**24**	*e*PB	**Pb**	**07 40 14.7 -2.1**
HORT	**Hortiatis**	**2.63**	**24**	*e*Pb	**Pb**	**07 40 14.7 -2.1**
ANKY	**Antikythira Is**	**2.66**	**151**	*e*PB	**Pn**	**07 40 14.7 +2.4**
ANKY	**Antikythira Is**	**2.66**	**151**	*e*Pb	**Pn**	**07 40 14.7 +2.4**
OUR	**Ouranopolis**	**2.77**	**39**	*e*PN	**Pn**	**07 40 15.1 +1.3**
OUR	**Ouranopolis**	**2.77**	**39**	*e*Pn	**Pn**	**07 40 15.1 +1.3**
GRG	**Griva**	**2.80**	**11**	*e*PN	**Pn**	**07 40 15.7 +1.4**
GRG	**Griva**	**2.80**	**11**	*e*Pn	**Pn**	**07 40 15.7 +1.4**
BIA	**Bitola**	**2.83**	**354**	*i* Pn	**Pb**	**07 40 19.3 -0.9**
KNT	**Kendrikon**	**3.10**	**17**	*e*PB	**Pb**	**07 40 22.1 -2.7**
KNT	**Kendrikon**	**3.10**	**17**	*e*Pb	**Pb**	**07 40 22.1 -2.7**
VAY	**Valandovo**	**3.19**	**12**	*e*Pn	**Pb**	**07 40 25.2 -1.1**
VAY				*e*Sg	**Sb**	**07 41 01.4 -3.5**
CHOS	**Chios island**	**3.44**	**86**	*e*PN	**Pn**	**07 40 23.6 +0.6**
CHOS	**Chios island**	**3.44**	**86**	*e*Pn	**Pn**	**07 40 23.6 +0.6**

IDC 21 07:41:08.7±1.4, 14°49S×179°43E, h0km, mb4.0/6, mb1 4.3/6, mb1mx3.9/20, mbtmp4.0/6, Error ellipse: s-maj=137.0km s-min=22.0km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.12**	**255**	P	P	07 47 37.5	-0.6
	3.7nm,0.3s,baz=69,slow=8.6,SNR=6.9						
STKA	**Stephens Creek**	**38.60**	**237**	P	P	07 48 35.0	+1.3
	1.8nm,0.5s,baz=82,slow=7.1,SNR=5.0						
WRA	**Warramunga Arr**	**43.31**	**256**	P	P	07 49 12.3	-0.4
	0.3nm,0.4s,baz=95,slow=7.9,SNR=7.7						
ASAR	**Alice Springs**	**43.82**	**251**	P	P	07 49 16.4	-0.5
	3.7nm,0.4s,baz=85,slow=8.7,SNR=48						
TXAR	**Lajitas Array**	**85.96**	**58**	P	P	07 53 50.7	-0.7
	0.1nm,0.5s,baz=232,slow=5.6,SNR=2.6						
PDAR	**Pinedale Array**	**86.34**	**44**	P	P	07 53 53.8	+0.6
	0.4nm,0.8s,baz=241,slow=5.0,SNR=3.0						

H10S3	**ASCENSION HYDR**	**52.84**	**148**	T	T	10 51 49.1
	baz=205,slow=0.7,SNR=12					
H10S2	**ASCENSION HYDR**	**52.84**	**148**	T	T	10 51 48.6
	baz=205,slow=0.7,SNR=14					
H10S1	**ASCENSION HYDR**	**52.86**	**148**	T	T	10 51 48.6
	baz=205,slow=0.7,SNR=11					
H10N3	**ASCENSION HYDR**	**53.87**	**147**	T	T	10 52 51.8
	baz=204,slow=0.7,SNR=22					
H10N1	**ASCENSION HYDR**	**53.87**	**147**	T	T	10 52 52.2
	baz=204,slow=0.7,SNR=19					
H10N2	**ASCENSION HYDR**	**53.88**	**147**	T	T	10 52 53.2
	baz=204,slow=0.7,SNR=25					

*CSEM **21** 07:55:29.0, 38°.18N×21°.72E, h19km, ML1.5/2, After THE* **THE 21 07:55:29.0, 38°.18N×21°.72E, h19km±1km, ML1.5/2, Error ellipse: s-maj=1.4km s-min=0.3km az=274.0, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAKA	**Lakka**	**0.22**	**73**	P	Pb	07 55 34.1	+0.2
LAKA				S	Sg	07 55 38.0	0.0
LAKA	**Lakka**	**0.22**	**73**	P	Pb	07 55 34.1	+0.2
LAKA				S	Sg	07 55 38.0	0.0
DRO	**Drossia**	**0.23**	**181**	P	Pb	07 55 34.2	+0.1
DRO				S	Sg	07 55 38.5	+0.3
DRO	**Drossia**	**0.23**	**181**	P	Pb	07 55 34.2	+0.1
DRO				S	Sg	07 55 38.5	+0.3
RLS	**Riolos of Patr**	**0.23**	**239**	P	Pb	07 55 34.3	+0.1
RLS				S	Sg	07 55 38.7	+0.5
RLS	**Riolos of Patr**	**0.23**	**239**	P	Pb	07 55 34.3	+0.1
RLS				S	Sg	07 55 38.7	+0.5
EFP	**Efpalio**	**0.29**	**31**	P	Pg	07 55 35.3	-0.2
EFP				S	Sb	07 55 40.2	+0.2
EFP	**Efpalio**	**0.29**	**31**	P	Pg	07 55 35.3	-0.2
EFP				S	Sb	07 55 40.2	+0.2
KALE	**Kalithea**	**0.40**	**57**	P	Pg	07 55 37.0	-0.4
KALE				S	Sb	07 55 43.5	0.0
KALE	**Kalithea**	**0.40**	**57**	P	Pg	07 55 37.0	-0.4
KALE				S	Sb	07 55 43.5	0.0
GUR	**Goura**	**0.55**	**116**	P	Pb	07 55 39.5	-0.6
GUR				S	Sg	07 55 48.0	+0.2
GUR	**Goura**	**0.55**	**116**	P	Pb	07 55 39.5	-0.6
GUR				S	Sg	07 55 48.0	+0.2

*IDC **21** 08:00:10.9±2.3, 59°.60N×23°.16E, h0km, mb1 3.3/4, mb1mx3.1/28, mbtmp3.2/4, ML3.3/3, Error ellipse: s-maj=32.1km s-min=8.9km az=160.0*
*ISCJB **21** 08:00:10.7±0.5, 59°.86N±0°.03×22°.82E±0°.06, h0km, Error ellipse: s-maj=5.1km s-min=3.9km az=152.5*
*CSEM **21** 08:00:12.2±0.2, 59°.86N×22°.92E, h2km, ML2.5, Error ellipse: s-maj=5.1km s-min=4.1km az=150.0, Mining explosion.*
*HEL **21** 08:00:12.4±0.4, 59°.74N×23°.00E, h0km, ML2.5, Explosion*
*NAO **21** 08:00:12.1±1.1, 59°.77N×22°.99E, ML2.4*
*BER **21** 08:00:13.0±4.4, 59°.78N×22°.96E, h0km, ML2.4(NAO), Suspected explosion*
ISC 21 08:00:12.1±0.9, 59°.91N±0°.05×22°.90E±0°.03, h0km, n36, σ1s08/60, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.81**	**67**	*e*P	**Pg**	**08 00 27.8**	**+0.2**
MEF				*e*S	**Sg**	**08 00 38.1**	**0.0**
MEF	**Metsahovi**	**0.81**	**67**	*e*P	**Pg**	**08 00 27.7**	**+0.1**
	SNR=90						
MEF				S	**Sg**	**08 00 38.1**	**0.0**
RAF	**Rauma**	**1.25**	**334**	*e*P	**Pn**	**08 00 37.6**	**+0.8**
RAF				*e*S	**Sn**	**08 00 56.6**	**+2.3**
RAF	**Rauma**	**1.25**	**334**	*e*P	**Pn**	**08 00 38.0**	**+1.2**
	SNR=50						
RAF				S	**Sn**	**08 00 56.6**	**+2.3**
PVF	**Pernaja**	**1.61**	**65**	*e*P	**Pn**	**08 00 41.8**	**+0.1**
PVF				*e*S	**Sn**	**08 01 02.9**	**-0.3**
PVF				MSG		08 01 07.5	
	comp=Z,44nm,0.3s						
PVF	**Pernaja**	**1.61**	**65**	P	**Pn**	**08 00 41.8**	**+0.1**
PVF				S	**Sn**	**08 01 02.8**	**-0.3**
FIA0	**FINESS Array S**	**2.19**	**44**	Pn	**Pb**	**08 00 51.9**	**-0.7**
	baz=218,slow=16						
FIA0				Lg	Lg	08 01 22.0	
	baz=222,slow=28						
FIA0	**FINESS Array S**	**2.19**	**44**	Pn	**Pb**	**08 00 51.9**	**-0.7**
	baz=218,slow=16						
FIA0				Lg	Lg	08 01 22.0	
	baz=222,slow=28						
FIA0	**FINESS Array S**	**2.19**	**44**	*e*P	**Pb**	**08 00 52.1**	**-0.5**
FIA0				*e*S	**Sb**	**08 01 20.2**	**-0.1**
FIA0				MSG		08 01 23.6	
	comp=Z,24nm,0.2s						
FIA0	**FINESS Array S**	**2.19**	**44**	Pn	**Pb**	**08 00 51.9**	**-0.7**
	baz=218,slow=14,SNR=50						
FIA0				S	**Sb**	**08 01 20.2**	**-0.1**
FIA0				Lg	Lg	08 01 22.0	
	baz=222,slow=25,SNR=101						
FINES	**FINESS Array B**	**2.19**	**44**	Pn	**Pb**	**08 00 52.0**	**-0.6**
	comp=Z,9.7nm,0.3s,baz=220,slow=12,SNR=245						
FINES				Sn	**Sb**	**08 01 21.7**	**+1.4**
	comp=Z,17nm,0.3s,baz=221,slow=24,SNR=46						
SLIT	**Slitere, Latvi**	**2.31**	**188**	*e*P	**Pn**	**08 00 50.3**	**-1.0**
	SNR=50						
SLIT				*e*S	**Sn**	**08 01 18.9**	**-1.4**
	comp=Z,398nm,0.3s,SNR=50						
VJF	**Virojoki**	**2.41**	**73**	*e*P	**Pn**	**08 00 52.4**	**-0.2**
VJF				*e*S	**Sn**	**08 01 23.4**	**+0.5**
VJF	**Virojoki**	**2.41**	**73**	P	**Pn**	**08 00 52.4**	**-0.2**
VJF				S	**Sn**	**08 01 23.3**	**+0.5**
VSU	**Vasula**	**2.45**	**125**	Pn	**Pn**	**08 00 53.2**	**0.0**
VSU				Lg	Lg	08 01 23.8	
VSU	**Vasula**	**2.45**	**125**	Pn	**Pn**	**08 00 53.2**	**0.0**
VSU				Lg	Lg	08 01 23.8	
VSU	**Vasula**	**2.45**	**125**	*e*P	**Pn**	**08 00 53.2**	**0.0**
	SNR=50						
VSU				Lg	Lg	08 01 23.8	
VSU				*e*S	**Sn**	**08 01 24.0**	**+0.2**
	comp=Z,164nm,0.4s,SNR=50						
KEF	**Keuruu**	**2.46**	**22**	*e*PB	**Pb**	**08 00 57.5**	**+0.3**
KEF				*e*SB	**Sg**	**08 01 30.7**	**-0.4**
KEF	**Keuruu**	**2.46**	**22**	Pb	**Pb**	**08 00 57.4**	**+0.3**
KEF				Sb	**Sg**	**08 01 30.7**	**-0.4**
KAF	**Kangasniemi**	**2.77**	**35**	*e*PB	**Pb**	**08 01 01.2**	**-1.1**
KAF				*e*SB	**Sb**	**08 01 37.7**	**+1.0**
KAF	**Kangasniemi**	**2.77**	**35**	Pb	**Pb**	**08 01 01.2**	**-1.1**
KAF				Sb	**Sb**	**08 01 37.7**	**+1.0**
HFS	**Hagfors**	**4.62**	**277**	Pn	**Pn**	**08 01 24.6**	**+1.5**
	baz=83,slow=10						
HFS				Sn	**Sn**	**08 02 17.8**	**+0.4**
	baz=100,slow=28						
HFS				Lg	Lg	08 02 32.7	
	baz=97,slow=37						
HFS	**Hagfors**	**4.62**	**277**	Pn	**Pn**	**08 01 24.6**	**+1.5**
	baz=83,slow=9.5,SNR=50						
HFS				Sn	**Sn**	**08 02 17.8**	**+0.4**
	baz=100,slow=25,SNR=50						
HFS				Lg	Lg	08 02 32.7	
	baz=97,slow=32,SNR=70						
HFS	**Hagfors**	**4.62**	**277**	Pn	**Pn**	**08 01 23.7**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=96,slow=12,SNR=8.2						
HFS				Sn	**Sn**	**08 02 19.0**	**+1.5**
	comp=Z,1.2nm,0.3s,baz=97,slow=26,SNR=8.2						
HFS				Lg	Lg	08 02 35.0	
	comp=Z,1.6nm,0.3s,baz=90,slow=29,SNR=7.3						
NB2	**NORSAR Subarra**	**5.89**	**286**	Pn	**Pn**	**08 01 39.5**	**-1.0**
	baz=105,slow=12						
NB2				Lg	Lg	08 03 17.9	
NB2	**NORSAR Subarra**	**5.89**	**286**	Pn	**Pn**	**08 01 39.5**	**-1.0**
	baz=105,slow=12						
NB2				Lg	Lg	08 03 17.9	
NB2	**NORSAR Subarra**	**5.89**	**286**	Pn	**Pn**	**08 01 39.5**	**-1.0**
	baz=105,slow=12,SNR=50						
NB2				Lg	Lg	08 03 17.9	
	SNR=50						
NOA	**NORSAR Array B**	**5.89**	**286**	Pn	**Pn**	**08 01 39.3**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=92,slow=12,SNR=13						
NOA				Sn	**Sn**	**08 02 47.1**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=98,slow=18,SNR=5.4						
APA0	**Apatity Array**	**8.91**	**26**	Pn	**Pn**	**08 02 21.8**	**-0.1**
	baz=230,slow=16						
APA0	**Apatity Array**	**8.91**	**26**	Pn	**Pn**	**08 02 21.8**	**-0.1**
	baz=230,slow=16						
APA0	**Apatity Array**	**8.91**	**26**	Pn	**Pn**	**08 02 21.8**	**-0.1**
	baz=230,slow=15,SNR=50						
ARA0	**ARCESS Array S**	**9.73**	**5**	Pn	**Pn**	**08 02 33.6**	**+0.5**
	baz=187,slow=12						
ARA0				Sn	**Sn**	**08 04 19.5**	**-3.4**
	baz=187,slow=22						
ARA0	**ARCESS Array S**	**9.73**	**5**	Pn	**Pn**	**08 02 33.6**	**+0.5**
	baz=187,slow=12						
ARA0				Sn	**Sn**	**08 04 19.5**	**-3.4**
	baz=187,slow=22						
ARA0	**ARCESS Array S**	**9.73**	**5**	Pn	**Pn**	**08 02 33.6**	**+0.5**
	baz=187,slow=12,SNR=50						
ARCES	**ARCESS Array B**	**9.73**	**5**	Pn	**Pn**	**08 02 33.1**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=183,slow=12,SNR=32						

BUC 21 08:11:52.6±0.1, 44°.40N×28°.59E, h13km, MD1.8/1, 6C, Error ellipse: s-maj=1.4km s-min=0.7km az=30.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIRR	**Tirgusor**	**0.14**	**294**	*i*P	Pg	08 11 56.3	+0.2
TIRR				S	Sg	08 11 58.9	+0.4
TIRR	**Tirgusor**	**0.14**	**294**	*i*P	Pg	08 11 56.3	+0.2
TIRR				*i* S	Sg	08 11 58.9	+0.4
TLB	**Topalu**	**0.43**	**295**	*i*P	Pg	08 12 01.6	+0.4
TLB				S	Sb	08 12 08.2	-0.3
TLB	**Topalu**	**0.43**	**295**	*i*P	Pg	08 12 01.6	+0.4
TLB				*i* S	Sb	08 12 08.2	-0.3
CFR	**Carcaliu**	**0.84**	**338**	*i*P	Pn	08 12 09.7	-0.4
CFR				S	Sn	08 12 21.3	-1.0
CFR	**Carcaliu**	**0.84**	**338**	*i*P	Pn	08 12 09.7	-0.4
CFR				*i* S	Sn	08 12 21.3	-1.0

MEX 21 08:43:26.6±1.2, 16°.69N×93°.99W, h145km±14km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**0.83**	**84**	*i* P	Pn	08 43 48.3	-1.3
TGIG				*i* S	Sn	08 44 04.4	-2.8
PCIG		**1.23**	**143**	*i* P	Pn	08 43 52.5	-0.5
PCIG				*i* S	Sn	08 44 11.9	-1.3
CCIG	**Comitan**	**1.82**	**103**	*e*P	Pn	08 43 58.6	-1.0
CCIG				*i* S	Sn	08 44 22.8	-2.1
HUIG	**Huatulco**	**2.24**	**246**	*e*P	Pn	08 44 01.6	-2.7
HUIG				*i* S	Sn	08 44 31.9	-1.4
VHO	**Vista Hermosa**	**2.66**	**279**	*i* P	Pn	08 44 09.2	-0.5
VHO				*i* S	Sn	08 44 41.4	-1.6
TPIG	**Tehuac#an**	**3.65**	**299**	*i* P	Pn	08 44 21.8	-0.7
TPIG				*i* S	Sn	08 45 04.0	-1.7
UTMO	**Huajuapan**	**3.82**	**288**	*e*P	Pn	08 44 22.9	-1.8
UTMO				*i* S	Sn	08 45 07.4	-2.3
PNIG	**Pinotepa**	**3.98**	**266**	*i* P	Pn	08 44 24.6	-2.0
PNIG				*i* S	Sn	08 45 11.9	-1.2

*UPP **21** 08:59:31.3, 64°.30N×32°.84E, h0km, ML1.3, Suspected Mining explosion.*
*ISCJB **21** 08:59:42.4±0.7, 64°.80N±0°.03×30°.6E±0°.1, h0km, Error ellipse: s-maj=7.5km s-min=3.8km az=2.2*
*CSEM **21** 08:59:43.5±0.4, 64°.79N×30°.63E, h2km, ML1.7, Error ellipse: s-maj=10.5km s-min=5.3km az=93.0, Mining explosion.*
*HEL **21** 08:59:44.2±0.1, 64°.80N×30°.65E, h0km, ML1.7, Explosion*
*IDC **21** 08:59:46.1±2.0, 64°.78N×30°.38E, h0km, mb1 3.2/4, mb1mx3.0/29, mbtmp3.2/4, ML2.5/4, Error ellipse: s-maj=29.3km s-min=8.5km az=102.0*
ISC 21 08:59:43.4±1.0, 64°.81N±0°.03×30°.53E±0°.06, h0km, n31, σ0s94/48, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.25**	**348**	*e*P	**Pg**	**09 00 07.0**	**-0.4**
KU6				*e*S	**Sg**	**09 00 23.2**	**-0.4**
KU6				MSG		09 00 29.8	
	comp=Z,7.2nm,0.1s						
KU6	**Riekki**	**1.25**	**348**	P	**Pg**	**09 00 06.9**	**-0.4**
KU6				S	**Sg**	**09 00 23.1**	**-0.4**
MSF	**Maaselka**	**1.27**	**331**	*e*P	**Pg**	**09 00 07.8**	**+0.1**
MSF				*e*S	**Sg**	**09

*IDC **21** 09:02:22.2±1.7, 1°.59S×99°.42E, h0km, mb3.9/9, mb1 4.0/11,mb1mx3.8/27,mbtmp3.9/11, ML4.0/2, Error ellipse: s-maj=80.2km s-min=15.2km az=57.0*
*ISCJB **21** 09:02:25.5±1.4, 1°.4S±0°.2×99°.7E±0°.4, h30km, mb3.9/9, Error ellipse: s-maj=57.4km s-min=10.9km az=150.6*

ISC 21 09:02:27.4±1.6, **1°.4S**±0°.2×**99°.6E**±0°.4, **h30**km, **n21, σ0s75/13, mb4.0/9, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.26**	**351**	Pn	**Pn**	**09 03 29.8**	**-0.6**
	1.3nm,0.3s,baz=1.7,slow=10,SNR=3.8						
CMAR	**Chiang Mai Arr**	**19.78**	**358**	P	**P**	**09 06 55.9**	**+0.5**
	0.6nm,0.3s,baz=186,slow=8.6,SNR=4.1						
H08S2	**Diego Garcia H**	**27.70**	**256**	T	T	09 36 13.6	
	baz=79,slow=0.7,SNR=122						
H08S3	**Diego Garcia H**	**27.71**	**256**	T	T	09 36 12.8	
	baz=79,slow=0.7,SNR=105						
H08S1	**Diego Carcia H**	**27.72**	**256**	T	T	09 36 14.5	
	baz=79,slow=0.7,SNR=98						
H08N1	**Diego Carcia H**	**28.93**	**260**	T	T	09 38 22.8	
	baz=62						
H08N2	**Diego Garcia H**	**28.94**	**260**	T	T	09 38 24.5	
	baz=62						
H08N3	**Diego Garcia H**	**28.95**	**260**	T	T	09 38 22.5	
	baz=62						
FITZ	**Fitzroy Crossi**	**30.46**	**125**	P	**P**	**09 08 36.2**	**-1.5**
	1.5nm,0.8s,baz=280,slow=11,SNR=3.0						
H01W3	**Cape Leeuwin H**	**35.93**	**159**	T	T	09 47 10.2	
	baz=335,slow=0.7,SNR=21						
H01W2	**Cape Leeuwin H**	**35.94**	**159**	T	T	09 47 11.4	
	baz=335,slow=0.7,SNR=23						
H01W1	**Cape Leeuwin H**	**35.95**	**159**	T	T	09 47 11.9	
	baz=335,slow=0.7,SNR=20						
WRA	**Warramunga Arr**	**38.62**	**121**	P	**P**	**09 09 48.0**	**-0.3**
	1.3nm,0.5s,baz=302,slow=9.0,SNR=21						
ASAR	**Alice Springs**	**39.90**	**126**	P	**P**	**09 09 58.6**	**-0.4**
	0.4nm,0.5s,baz=310,slow=7.8,SNR=12						
SONM	**Songino Array**	**49.43**	**6**	P	**P**	**09 11 15.4**	**+0.8**
	0.4nm,0.7s,baz=186,slow=8.5,SNR=3.0						
SONM				PcP	**PcP**	**09 12 36.8**	**+0.1**
	0.4nm,0.4s,baz=179,slow=4.2,SNR=3.3						
STKA	**Stephens Creek**	**49.82**	**132**	P	**P**	**09 11 19.0**	**+1.2**
	1.2nm,0.4s,baz=312,slow=6.3,SNR=4.0						
MKAR	**Makanchi Array**	**50.38**	**345**	P	**P**	**09 11 22.1**	**+0.3**
	2.2nm,0.6s,baz=150,slow=8.3,SNR=22						
KURBB	**Kurchatov Arra**	**54.90**	**344**	P	**P**	**09 11 55.2**	**+0.1**
	0.7nm,0.7s,baz=164,slow=6.7,SNR=6.2						
ZALV	**Zalesovo Beam**	**56.55**	**350**	P	**P**	**09 12 06.8**	**0.0**
	1.5nm,0.4s,baz=177,slow=5.6,SNR=6.9						
FINES	**FINESS Array B**	**83.43**	**332**	P	**P**	**09 14 51.3**	**-0.4**
	0.7nm,0.6s,baz=92,slow=6.5,SNR=4.6						
TXAR	**Lajitas Array**	**144.49**	**36**	PKP	**PKPdf**	**09 22 01.2**	**-0.5**
	1.3nm,0.6s,baz=183,slow=1.3,SNR=28						

*ISCJB **21** 09:34:34.1±0.4, 31°.47N±0°.05×138°.49E±0°.07, h432km, mb3.8/18, Error ellipse: s-maj=8.5km s-min=5.5km az=27.8*
*IDC **21** 09:34:34.5±1.1, 31°.38N×138°.35E, h409km±10km, mb3.3/15, mb1 3.4/21, mb1mx3.3/32, mbtmp3.3/21, Error ellipse: s-maj=21.7km s-min=10.3km az=74.0*
*JMA **21** 09:34:34.1±0.3, 31°.46N×138°.51E, h432km, M3.9*

ISC 21 09:34:35.7±0.7, **31°.51N**±0°.08×**138°.49E**±0°.09, **h432**km, **n52, σ1s26/60, mb3.7/18, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**1.91**	**35**	P	**P**	**09 35 33.3**	**-0.6**
JHCJ				eS	**S**	**09 36 18.3**	**-3.0**
JHJ2	**Mitsune**	**1.95**	**35**	P	**P**	**09 35 33.4**	**-0.8**
TK02	**Tokai 2**	**2.50**	**346**	P	**P**	**09 35 37.4**	**+0.1**
TTO2	**TONANKAI O.B.S**	**2.54**	**331**	P	**P**	**09 35 37.5**	**+0.1**
TTO1	**TONANKAI O.B.S**	**2.55**	**326**	P	**P**	**09 35 37.2**	**-0.3**
TTO4	**TONANKAI O.B.S**	**2.61**	**342**	P	**P**	**09 35 38.0**	**0.0**
JWZ	**Kozaga**	**3.09**	**311**	P	**P**	**09 35 40.4**	**-1.5**
JIE	**Ise**	**3.24**	**333**	P	**P**	**09 35 42.8**	**-0.2**
JIE				eS	**S**	**09 36 36.1**	**-1.8**
BSO1	**Boso 1**	**3.77**	**33**	P	**P**	**09 35 45.9**	**-0.9**
BSO1				eS	**S**	**09 36 44.3**	**-0.6**
JOD2	**Odawara 2**	**3.77**	**7**	P	**P**	**09 35 46.9**	**-0.6**
JRY	**Ryogami san**	**4.50**	**4**	P	**P**	**09 35 54.0**	**-0.2**
JRY				eS	**S**	**09 36 55.2**	**-3.2**
JTO	**Tosashimizu**	**5.00**	**287**	P	**P**	**09 35 57.2**	**-1.9**
MJAR	**Matsushiro Arr**	**5.02**	**357**	P	**P**	**09 35 58.5**	**-0.7**
	8.2nm,0.3s,baz=175,slow=11,SNR=85						
MJAR				S	**S**	**09 37 05.6**	**-1.9**
	0.2nm,0.3s,baz=176,slow=20,SNR=4.2						
MAT	**Matsushiro**	**5.02**	**357**	P	**P**	**09 35 58.6**	**-0.6**
MAT				S	**S**	**09 37 05.1**	**-2.4**
JCJ	**Chichijima**	**5.46**	**143**	P	**P**	**09 36 01.0**	**-2.8**
	30nm,0.3s,baz=310,slow=11,SNR=6.7						
JCJ				S	S	09 37 06.1	-10
	204nm,0.3s,baz=282,slow=21,SNR=20						
JHS	**Saijyo**	**5.69**	**309**	P	**P**	**09 36 05.2**	**-0.8**
JNU	**Nakatsue**	**6.64**	**286**	P	**P**	**09 36 14.7**	**-1.6**
	1.2nm,0.3s,baz=91,slow=5.4,SNR=13						
JMK	**Ichinoseki**	**7.75**	**16**	P	**P**	**09 36 29.0**	**+0.9**
JMK				eS	**S**	**09 37 57.0**	**-3.1**
JOT	**Ohata**	**10.06**	**11**	P	P	09 36 55.6	+2.3
KSRS	**Korea Array**	**10.54**	**307**	P	**P**	**09 36 58.9**	**+0.3**
	0.4nm,0.3s,baz=121,slow=10,SNR=13						
ASAJ	**Asahikawa**	**12.99**	**13**	P	P	09 37 27.7	+2.4
	0.7nm,0.3s,baz=246,slow=20,SNR=8.2						
USRK	**Ussuriysk Arra**	**13.66**	**340**	P	**P**	**09 37 33.0**	**+0.4**
	1.4nm,0.3s,baz=150,slow=16,SNR=6.5						
SONM	**Songino Array**	**29.32**	**313**	P	**P**	**09 40 01.3**	**0.0**
	0.9nm,0.6s,baz=117,slow=7.9,SNR=5.1						
CMAR	**Chiang Mai Arr**	**37.92**	**260**	P	**P**	**09 41 13.4**	**-1.1**
	1.6nm,0.5s,baz=48,slow=7.6,SNR=6.0						
ZALV	**Zalesovo Beam**	**44.06**	**317**	P	**P**	**09 42 03.9**	**+0.7**
	0.8nm,0.5s,baz=116,slow=6.8,SNR=4.7						
ZALV				PcP	**PcP**	**09 43 40.5**	**+1.0**
	1.7nm,0.5s,baz=105,slow=2.6,SNR=7.2						
ODAN	**Odare**	**44.53**	**278**	*e*P	**P**	**09 42 07.0**	**-0.6**
	9.8nm,0.3s						
RAMN	**Ramite**	**45.17**	**278**	*e*P	**P**	**09 42 11.7**	**-0.9**
	20nm,0.7s						
MKAR	**Makanchi Array**	**45.22**	**306**	P	**P**	**09 42 12.3**	**-0.1**
	2.2nm,0.8s,baz=90,slow=9.9,SNR=24						
MKAR				PcP	**PcP**	**09 43 44.8**	**+1.0**
	0.4nm,0.5s,baz=74,slow=5.1,SNR=3.6						
MKAR				ScP	**ScP**	**09 46 57.3**	**+2.7**
	0.1nm,0.4s,baz=79,slow=3.0,SNR=3.5						
JIRN	**Jiri**	**45.29**	**279**	*e*P	**P**	**09 42 13.4**	**-0.3**
	28nm,0.3s						
GUN	**Gumba**	**45.48**	**280**	*e*P	**P**	**09 42 14.7**	**-0.4**
	18nm,0.6s						
PKI	**Pulchoki**	**45.98**	**279**	*e*P	**P**	**09 42 18.0**	**-0.9**
	5.5nm,0.4s						
KKN	**Kakani**	**46.02**	**280**	*e*P	**P**	**09 42 18.6**	**-0.5**
	11nm,0.5s						
DMN	**Daman**	**46.22**	**279**	*e*P	**P**	**09 42 19.8**	**-0.9**
	6.1nm,0.4s						
GKN	**Gorkha**	**46.49**	**280**	*e*P	**P**	**09 42 21.9**	**-0.8**
	7.1nm,0.3s						
DANN	**Dangsing**	**47.12**	**281**	*e*P	**P**	**09 42 27.4**	**-0.2**
	18nm,0.4s						
KOLN	**Koldanda**	**47.44**	**280**	*e*P	**P**	**09 42 29.4**	**-0.5**
	5.7nm,0.2s						
AAK	**Ala-Archa**	**51.14**	**302**	P	**P**	**09 42 57.3**	**+0.1**
	1.2nm,0.4s,baz=57,slow=17,SNR=4.0						
WRA	**Warramunga Arr**	**51.32**	**185**	P	**P**	**09 42 57.5**	**-0.9**
	0.4nm,0.3s,baz=360,slow=7.8,SNR=7.2						
BVAR	**Borovoye Array**	**52.63**	**315**	P	**P**	**09 43 08.6**	**+1.0**
	3.7nm,0.6s,baz=99,slow=9.2,SNR=12						
BVAR				PcP	**PcP**	**09 44 11.9**	**+1.1**
	1.2nm,0.6s,baz=117,slow=2.0,SNR=4.8						
ASAR	**Alice Springs**	**55.04**	**185**	P	**P**	**09 43 25.2**	**+0.1**
	0.1nm,0.4s,baz=26,slow=10,SNR=10						
STKA	**Stephens Creek**	**63.12**	**177**	P	**P**	**09 44 19.6**	**+0.1**
	0.6nm,0.5s,baz=346,slow=12,SNR=3.0						
ARCES	**ARCESS Array B**	**68.31**	**340**	P	P	09 44 53.9	+2.2
	4.5nm,0.9s,baz=60,slow=9.2,SNR=11						
FINES	**FINESS Array B**	**72.56**	**332**	P	**P**	**09 45 18.5**	**+1.4**
	2.2nm,0.4s,baz=67,slow=4.8,SNR=22						
KBZ	**Khabaz**	**72.66**	**311**	P	**P**	**09 45 18.8**	**+0.7**
	3.2nm,0.7s,baz=94,slow=4.1,SNR=6.6						
KBD	**Kabd**	**75.00**	**296**	*e*P	**P**	**09 45 37.2**	**-0.1**
RDF	**Al-Radifah**	**76.23**	**296**	*e*P	**P**	**09 45 38.2**	**-0.4**
RDF				AMb	AMB	09 45 49.5	
	comp=Z,35nm,1.5s						
NAY	**Al-Naaiem**	**76.31**	**296**	*e*P	**P**	**09 45 38.6**	**-0.5**
NAY				AMb	AMB	09 45 43.4	
	comp=Z,12nm,1.2s						
RST	**Umm Al-Ruwaisa**	**76.38**	**296**	*e*P	**P**	**09 45 38.5**	**-1.0**
RST				AMb	AMB	09 45 39.9	
	comp=Z,79nm,0.7s						
AKASG	**Malin Array Be**	**77.16**	**322**	P	**P**	**09 45 44.2**	**+0.9**
	comp=Z,1.6nm,0.3s,baz=50,slow=5.8,SNR=18						
NOA	**NORSAR Array B**	**78.31**	**337**	P	**P**	**09 45 50.9**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=46,slow=5.2,SNR=3.3						
BRTR	**Keskin Array B**	**80.66**	**311**	P	**P**	**09 46 03.9**	**+1.3**
	comp=Z,1.1nm,0.5s,baz=108,slow=3.9,SNR=6.9						
TORD	**Torodi Ar. Bea**	**119.27**	**310**	PKP	**PKPdf**	**09 52 35.4**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=62,slow=2.0,SNR=4.7						

*IDC **21** 10:02:53.7±1.5, 33°.89N×26°.03E, h0km, mb4.1/5, mb1 4.0/8,mb1mx3.7/28,mbtmp3.9/8, ML3.5/2, Error ellipse: s-maj=31.4km s-min=21.7km az=133.0*
*ISCJB **21** 10:02:56.1±0.7, 33°.82N±0°.06×25°.83E±0°.05, h26km, mb4.0/5, Error ellipse: s-maj=8.9km s-min=5.2km az=14.5*
*CSEM **21** 10:03:02.2±0.5, 34°.11N×25°.73E, h40km, Error ellipse: s-maj=12.6km s-min=4.0km az=174.0*
*ATH **21** 10:03:03.1, 34°.31N×25°.64E, h71km±4km*

ISC 21 10:02:57.4±0.9, **33°.94N**±0°.06×**25°.76E**±0°.04, **h26**km, **n73, σ1s63/77, mb4.1/5, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**1.23**	**18**	*e*P	**Pb**	**10 03 21.2**	**+1.1**
ZKR				*e*S	**Sb**	**10 03 35.2**	**-0.4**
ZKR	**Zakros**	**1.23**	**18**	*e*P	**Pb**	**10 03 21.2**	**+1.1**
ZKR				*e*S	**Sb**	**10 03 35.2**	**-0.4**
LAST	**Lasithi**	**1.24**	**349**	*e*P	**Pb**	**10 03 20.6**	**+0.3**
LAST				*e*S	**Sn**	**10 03 33.5**	**-1.6**
LAST	**Lasithi**	**1.24**	**349**	*e*P	**Pb**	**10 03 20.6**	**+0.3**
LAST				*e*S	**Sn**	**10 03 33.5**	**-1.6**
NPS	**Neapolis**	**1.33**	**355**	*e*P	**Pb**	**10 03 21.8**	**+0.1**
NPS	**Neapolis**	**1.33**	**355**	*e*P	**Pb**	**10 03 21.8**	**+0.1**
SIVA	**Sivas**	**1.33**	**324**	*e*P	**Pb**	**10 03 22.9**	**+1.2**
SIVA	**Sivas**	**1.33**	**324**	*e*P	**Pb**	**10 03 22.9**	**+1.2**
IDI	**Anoyia**	**1.52**	**332**	*e*P	**Pb**	**10 03 25.0**	**-0.1**
IDI	**Anoyia**	**1.52**	**332**	*e*P	**Pb**	**10 03 25.0**	**-0.1**
IDI	**Anoyia**	**1.52**	**332**	Pn	**Pb**	**10 03 25.3**	**+0.2**
	7.0nm,0.3s,baz=158,slow=15,SNR=22						
GVD	**Gavdhos**	**1.65**	**304**	*e*P	**Pb**	**10 03 27.2**	**+0.1**
GVD	**Gavdhos**	**1.65**	**304**	*e*P	**Pb**	**10 03 27.2**	**+0.1**
VAM	**Vamos**	**1.95**	**319**	*e*P	**Pb**	**10 03 31.7**	**-0.5**
VAM	**Vamos**	**1.95**	**319**	*e*P	**Pb**	**10 03 31.7**	**-0.5**
KARP	**Karpathos**	**1.98**	**35**	*e*P	**Pb**	**10 03 32.9**	**+0.1**
KARP	**Karpathos**	**1.98**	**35**	*e*P	**Pb**	**10 03 32.9**	**+0.1**
KARN	**Karanos**	**2.10**	**314**	*e*P	**Pb**	**10 03 33.7**	**-1.2**
KARN	**Karanos**	**2.10**	**314**	*e*P	**Pb**	**10 03 33.7**	**-1.2**
ANKY	**Antikythira Is**	**2.79**	**314**	*e*P	**Pn**	**10 03 41.8**	**+1.4**
ANKY	**Antikythira Is**	**2.79**	**314**	*e*P	**Pn**	**10 03 41.8**	**+1.4**
APE	**Apeiranthos**	**3.13**	**357**	*e*PN	**Pn**	**10 03 46.4**	**+1.3**
APE	**Apeiranthos**	**3.13**	**357**	*e*P	**Pn**	**10 03 47.0**	**+1.9**
APE	**Apeiranthos**	**3.13**	**357**	*e*Pn	**Pn**	**10 03 46.4**	**+1.3**
APE	**Apeiranthos**	**3.13**	**357**	*e*P	**Pn**	**10 03 47.0**	**+1.9**
DAT	**Datca**	**3.16**	**28**	*e*PN	**Pn**	**10 03 47.2**	**+1.6**
DAT	**Datca**	**3.16**	**28**	*e*Pn	**Pn**	**10 03 47.2**	**+1.6**
KYTH	**Kithira**	**3.23**	**317**	*e*P	**Pn**	**10 03 48.5**	**+2.0**
KYTH	**Kithira**	**3.23**	**317**	*e*P	**Pn**	**10 03 48.5**	**+2.0**
VLI	**Veliai**	**3.61**	**321**	*e*P	**Pn**	**10 03 53.4**	**+1.8**
VLI	**Veliai**	**3.61**	**321**	*e*P	**Pn**	**10 03 53.4**	**+1.8**
YER	**Yerkesik**	**3.80**	**32**	*e*PN	**Pn**	**10 03 56.3**	**+2.0**
YER	**Yerkesik**	**3.80**	**32**	*e*Pn	**Pn**	**10 03 56.3**	**+2.0**
FETY	**Fethiye**	**3.83**	**44**	*e*PN	**Pn**	**10 03 56.7**	**+2.0**
FETY	**Fethiye**	**3.83**	**44**	*e*Pn	**Pn**	**10 03 56.7**	**+2.0**
DYR	**Agios Nikonas**	**3.97**	**316**	*e*P	**Pn**	**10 03 58.8**	**+2.2**
DYR	**Agios Nikonas**	**3.97**	**316**	*e*P	**Pn**	**10 03 58.8**	**+2.2**
DIDY	**Didyma**	**4.09**	**330**	*e*P	**Pn**	**10 03 59.6**	**+1.2**
DIDY	**Didyma**	**4.09**	**330**	*e*P	**Pn**	**10 03 59.6**	**+1.2**
DID	**Didima**	**4.11**	**331**	*e*P	**Pn**	**10 03 59.7**	**+1.2**
DID	**Didima**	**4.11**	**331**	*e*P	**Pn**	**10 03 59.7**	**+1.2**
NAIG	**Nisos Aigina**	**4.23**	**335**	*e*P	**Pn**	**10 04 02.6**	**+2.4**
NAIG	**Nisos Aigina**	**4.23**	**335**	*e*P	**Pn**	**10 04 02.6**	**+2.4**
AYDB	**Zeytinkoy-Aydi**	**4.36**	**23**	*e*PN	**Pn**	**10 04 04.2**	**+2.2**
AYDB	**Zeytinkoy-Aydi**	**4.36**	**23**	*e*Pn	**Pn**	**10 04 04.2**	**+2.2**
ELL	**Elmali**	**4.40**	**49**	*e*PN	**Pn**	**10 04 04.8**	**+2.1**
ELL	**Elmali**	**4.40**	**49**	*e*Pn	**Pn**	**10 04 04.8**	**+2.1**
PYL	**PYLOS**	**4.41**	**313**	*e*P	**Pn**	**10 04 05.1**	**+2.4**
PYL	**PYLOS**	**4.41**	**313**	*e*P	**Pn**	**10 04 05.1**	**+2.4**
ITM	**Ithomi**	**4.50**	**317**	*e*P	**Pn**	**10 04 05.2**	**+1.3**
ITM	**Ithomi**	**4.50**	**317**	*e*P	**Pn**	**10 04 05.2**	**+1.3**
VILL	**Villia**	**4.66**	**336**	*e*P	**Pn**	**10 04 08.2**	**+2.1**
VIL2	**Platees**	**4.72**	**335**	*e*P	**Pn**	**10 04 08.2**	**+1.3**
GUR	**Goura**	**4.86**	**326**	*e*P	**Pn**	**10 04 10.6**	**+1.7**
GUR	**Goura**	**4.86**	**326**	*e*P	**Pn**	**10 04 10.6**	**+1.7**
KLV	**Kalavryta, Ach**	**5.03**	**326**	*e*P	**Pn**	**10 04 12.8**	**+1.5**
KLV	**Kalavryta, Ach**	**5.03**	**326**	*e*P	**Pn**	**10 04 12.8**	**+1.5**
KALE	**Kalithea**	**5.32**	**328**	*e*P	**Pn**	**10 04 18.1**	**+2.9**
KALE	**Kalithea**	**5.32**	**328**	*e*P	**Pn**	**10 04 18.1**	**+2.9**
MAKR	**Makrakomi, Fth**	**5.85**	**331**	*e*P	**Pn**	**10 04 24.3**	**+1.9**
MAKR	**Makrakomi, Fth**	**5.85**	**331**	*e*P	**Pn**	**10 04 24.3**	**+1.9**
HDMB	**Hadim**	**6.27**	**59**	*e*PN	**Pn**	**10 04 30.7**	**+2.3**
IKL	**Isikli**	**6.89**	**68**	*e*P	**Pn**	**10 04 38.7**	**+1.9**
MMAI	**Mount Meron Ar**	**8.11**	**94**	Sn	**Sn**	**10 06 21.0**	**-3.5**
	1.1nm,0.3s,baz=264,slow=24,SNR=2.3						
BRTR	**Keskin Array B**	**8.56**	**45**	Pn	**Pn**	**10 04 59.2**	**-0.5**
	0.1nm,0.3s,baz=213,slow=16,SNR=2.6						
EIL	**Elat**	**8.90**	**116**	Sn	**Sn**	**10 06 42.6**	**-1.3**
	0.6nm,0.3s,baz=292,slow=19,SNR=2.9						
AKASG	**Malin Array Be**	**16.94**	**8**	Pn	**P**	**10 06 53.9**	**-0.4**
	1.5nm,0.3s,baz=197,slow=11,SNR=6.7						
GERES	**GERESS Array B**	**17.39**	**333**	P	**P**	**10 06 59.0**	**-0.4**
	baz=155,slow=12,SNR=2.6						
FINES	**FINESS Array B**	**27.52**	**0**	P	**P**	**10 08 41.3**	**-0.3**
	0.8nm,0.3s,baz=162,slow=11,SNR=7.5						
AKTO	**Aktyubinsk**	**28.74**	**45**	P	**P**	**10 08 50.4**	**-2.2**
	0.6nm,0.3s,baz=286,slow=7.4,SNR=2.6						
TORD	**Torodi Ar. Bea**	**30.11**	**232**	P	**P**	**10 09 06.7**	**+1.6**
	2.2nm,0.6s,baz=36,slow=7.2,SNR=23						
ARCES	**ARCESS Array B**	**35.65**	**360**	P	**P**	**10 09 52.9**	**0.0**
	2.5nm,0.9s,baz=180,slow=8.5,SNR=5.5						
ZALV	**Zalesovo Beam**	**45.50**	**45**	P	**P**	**10 11 14.8**	**+0.4**
	1.0nm,0.4s,baz=277,slow=6.7,SNR=3.5						

IDC 21 10:17:29.0±5.8, **1°.85S×99°.15E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/24, mbtmp3.5/4, Error ellipse: s-maj=278.9km s-min=23.1km az=54.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**27.17**	**257**	T	T	10 51 15.0	
	baz=78,slow=0.7,SNR=62						
H08S3	**Diego Garcia H**	**27.18**	**257**	T	T	10 51 15.4	
	baz=78,slow=0.7,SNR=67						
H08S1	**Diego Carcia H**	**27.19**	**257**	T	T	10 51 19.2	
	baz=78,slow=0.7,SNR=66						
H01W3	**Cape Leeuwin H**	**35.71**	**159**	T	T	11 02 23.8	
	baz=335,slow=0.7,SNR=11						
H01W2	**Cape Leeuwin H**	**35.72**	**159**	T	T	11 02 23.8	
	baz=335,slow=0.7,SNR=9.2						
H01W1	**Cape Leeuwin H**	**35.73**	**159**	T	T	11 02 23.2	
	baz=335,slow=0.7,SNR=12						
WRA	**Warramunga Arr**	**38.80**	**120**	P	P	10 24 55.9	0.0
	0.5nm,0.8s,baz=296,slow=9.6,SNR=4.6						
ASAR	**Alice Springs**	**40.03**	**126**	P	P	10 25 05.9	-0.2
	0.2nm,0.5s,baz=297,slow=7.6,SNR=3.3						
MKAR	**Makanchi Array**	**50.66**	**345**	P	P	10 26 29.8	-0.4
	0.5nm,0.6s,baz=153,slow=8.8,SNR=5.4						
ZALV	**Zalesovo Beam**	**56.87**	**350**	P	P	10 27 15.6	+0.1
	0.5nm,0.5s,baz=157,slow=7.8,SNR=2.6						

*MOS **21** 10:55:31.5±0.9, 42°.18N×47°.94E, h9km, mb3.9/1, Error ellipse: s-maj=13.8km s-min=7.1km az=124.8*
MOS Felt (III-IV) at Sergokala.
*CSEM **21** 10:55:33.2±0.5, 42°.24N×47°.90E, h10km, mb3.9, Error ellipse: s-maj=10.9km s-min=7.8km az=175.0*
*ISCJB **21** 10:55:35.7±0.6, 42°.48N±0°.03×47°.85E±0°.04, h12km±4km, Error ellipse: s-maj=5.4km s-min=4.5km az=43.6*
*AZER **21** 10:55:35.6±0.1, 42°.25N×47°.75E, h15km, Error ellipse: s-maj=2.2km s-min=1.3km az=31.0*

ISC 21 10:55:35.0±0.9, **42°.42N**±0°.03×**47°.83E**±0°.03, **h16**km±6km, **n52, σ1s49/78, 12C-8D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGKR	**Sergokala**	**0.14**	**289**	*i* PG	**Pg**	**10 55 39.0**	**+0.2**
SGKR				pmax	pmax		
	comp=Z,1μm,0.1s						
SGKR	**Sergokala**	**0.14**	**289**	*i* Pg	**Pg**	**10 55 39.0**	**+0.2**
	comp=Z,1μm,0.1s						
MNSR	**Manas**	**0.30**	**344**	⇓*i* PG	**Pn**	**10 55 44.2**	**-0.6**
MNSR				*e*S	**Sn**	**10 55 50.2**	**-0.7**
MNSR				pmax	pmax		
	comp=Z,225nm,0.2s						
MNSR	**Manas**	**0.30**	**344**	*i* Pg	**Pn**	**10 55 44.2**	**-0.6**
	comp=Z,225nm,0.2s						
MNSR				*e*Sg	**Sn**	**10 55 50.2**	**-0.7**
MAK	**Makhachkala**	**0.60**	**336**	⇑*i* PG	**Pn**	**10 55 49.0**	**+0.2**
MAK				*e*		10 56 00.1	
MAK				pmax	pmax		
	comp=Z,190nm,0.1s						
MAK				smax	smax		
	comp=E,914nm,0.6s						
MAK				smax	smax		
	comp=N,800nm,0.4s						
MAK	**Makhachkala**	**0.60**	**336**	*i* Pg	**Pn**	**10 55 49.0**	**+0.2**
	comp=N,190nm,0.1s						
MAK				*e*Sg	**Sn**	**10 56 00.1**	**+1.9**
	comp=N,800nm,0.4s						
GNBR	**Gunib**	**0.64**	**268**	⇑*i* PG	**Pg**	**10 55 46.7**	**-0.9**
GNBR				*i* S	**Sg**	**10 55 55.9**	**-0.3**
GNBR	**Gunib**	**0.64**	**268**	*i* Pg	**Pg**	**10 55 46.7**	**-0.9**
GNBR				*i* Sg	**Sg**	**10 55 55.9**	**-0.3**
BUJR	**Buynaksk**	**0.67**	**308**	*e*PG	**Pn**	**10 55 50.2**	**+0.3**
BUJR				*e*S	**Sn**	**10 56 03.2**	**+3.0**
BUJR	**Buynaksk**	**0.67**	**308**	*e*Pg	**Pn**	**10 55 50.2**	**+0.3**
BUJR				*e*Sg	**Sn**	**10 56 03.2**	**+3.0**
KRNR	**Karanay**	**0.80**	**301**	*e*PG	**Pb**	**10 55 51.5**	**+0.9**
KRNR				*e*S	**Sn**	**10 56 04.0**	**+0.6**
KRNR				pmax	pmax		
	comp=Z,57nm,0.2s						
KRNR	**Karanay**	**0.80**	**301**	*e*Pg	**Pb**	**10 55 51.5**	**+0.9**
	comp=Z,57nm,0.2s						
KRNR				*e*Sg	**Sn**	**10 56 04.0**	**+0.6**
UNCR	**Uncukul**	**0.82**	**292**	*e*PG	**Pg**	**10 55 51.5**	**+0.5**
UNCR				*e*S	**Sn**	**10 56 07.0**	**+3.1**
UNCR				pmax	pmax		
	comp=Z,135nm,0.2s						
UNCR	**Uncukul**	**0.82**	**292**	*e*Pg	**Pg**	**10 55 51.5**	**+0.5**
	comp=Z,135nm,0.2s						
UNCR				*e*Sg	**Sn**	**10 56 07.0**	**+3.1**
XNZR	**Khunzakh**	**0.84**	**279**	*e*PG	**Pg**	**10 55 50.0**	**-1.4**
XNZR				*e*S	**Sg**	**10 56 00.0**	**-2.5**
XNZR	**Khunzakh**	**0.84**	**279**	*e*Pg	**Pg**	**10 55 50.0**	**-1.4**
XNZR				*e*Sg	**Sg**	**10 56 00.0**	**-2.5**
DBC	**Dubki**	**0.95**	**310**	PG	**Pb**	**10 55 53.6**	**+0.4**
DBC				S	**Sg**	**10 56 06.9**	**+0.9**
DBC	**Dubki**	**0.95**	**310**	Pg	**Pb**	**10 55 53.6**	**+0.4**
DBC				Sg	**Sg**	**10 56 06.9**	**+0.9**
QUBA	**Quba, Azerbaij**	**1.17**	**155**	⇓P	**Pg**	**10 55 57.8**	**+0.2**
	SNR=12						
QUBA				⇓S	**Sg**	**10 56 13.4**	**+0.6**
SEKA	**Sheki**	**1.29**	**202**	⇓P	**Pn**	**10 55 57.5**	**-1.0**
	SNR=20						
SIZA	**Siyzn**	**1.56**	**149**	⇑P	**

TORD	**Torodi Ar. Bea**	**164.59**	**275**	PKPab		**PKPab**	**11 23 43.4**	**+0.5**		
	0.7nm,1.0s,baz=92,slow=3.3,SNR=3.4									

MAN 21 11:10:10.7±7.68N×126.41E,h1km,mb4.2,ML3.0,MS2.7, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.50**	**354**	⇑*e*P	Pb	11 10 21.7	0.0
BIPH				*e*S	Sb	11 10 28.9	-0.7
MATI	**Mati**	**0.74**	**192**	*e*P	Pg	11 10 25.0	+0.7
MATI				*e*S	Sb	11 10 35.9	-0.6
BUKP	**Musuan**	**1.35**	**279**	*e*P	Pb	11 10 37.2	+1.0
BUKP				*e*S	Sn	11 10 56.3	+1.5
BUTP	**Butuan**	**1.50**	**329**	*e*P	Pg	11 10 39.4	+0.5
CGP	**Cagayan de Oro**	**1.87**	**294**	*e*P	Pn	11 10 43.8	+0.6
CGP				*i* S	Sb	11 11 08.4	-0.4

*IDC **21** 11:16:17.3±1.9,40.46N×78.03E,h0km,mb3.2/2, mb1 3.4/6,mb1mx3.3/31,mbtmp3.4/6,ML3.6/5,Error ellipse: s-maj=26.1km s-min=17.8km az=148.0*
*ISCJB **21** 11:16:18.9±0.7,40.58N±0.05×78.12E±0.07,h10km, mb3.5/3,Error ellipse: s-maj=7.8km s-min=6.7km az=32.7*
*BJI **21** 11:16:18.8,40.66N×77.76E,h7km,mb4.2/2,ML3.4/7*
*MOS **21** 11:16:22.7±1.9,40.74N×78.13E,h33km,mb4.6/1,Error ellipse: s-maj=14.9km s-min=7.6km az=112.7*
*NNC **21** 11:16:24.0±3.3,40.85N×77.63E,h0km,mb4.1,mpv3.8, Error ellipse: s-maj=29.8km s-min=25.3km az=18.0*

ISC 21 11:16:19.5±1.1,40.60N±0.07×77.95E±0.07,h10km,n41, σ1§67/43,mb3.7/3,7C-4D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.86**	**235**	Pn	Pg	11 16 59.8	+4.6
KSH				Sn	Sg	11 17 30.3	+11
KSH	500nm,0.9s			SMN			
KSH	820nm,0.8s			SME			
ULHL	**Ulahol**	**2.09**	**323**	*i* PN	**Pn**	**11 16 53.9**	**-0.9**
ULHL	**Ulahol** SNR=73	**2.09**	**323**	P	**Pn**	**11 16 54.0**	**-0.9**
KZA	**Kyzart**	**2.51**	**307**	*i* PN	**Pn**	**11 17 01.4**	**+0.6**
KZA	**Kyzart** SNR=572	**2.51**	**307**	P	**Pn**	**11 17 01.4**	**+0.6**
KNDC	**Almaty** 82nm,0.3s	**2.72**	**345**	⇑Pn	**Pb**	**11 17 06.7**	**-1.5**
KNDC	405nm,0.3s			⇑Lg	Lg	11 17 40.9	
AAA	**Alma-Ata**	**2.77**	**345**	*e*PN	**Pb**	**11 17 06.8**	**-2.4**
AAA				*e*S	**Sn**	**11 17 39.0**	**+1.4**
AAA	comp=Z,345nm,0.6s			pmax	pmax		
AAA	comp=E,1μm,0.9s			smax	smax		
TKM2	**Tokmak 2** comp=E,33nm,0.5s	**2.91**	**324**	⇑Pn	**Pn**	**11 17 07.2**	**+1.1**
TKM2				⇑Lg	Lg	11 17 45.5	
TKM2	comp=E,72nm,0.3s						
TKM2	**Tokmak 2**	**2.91**	**324**	PN	**Pn**	**11 17 07.2**	**+1.1**
TKM2						11 17 46.1	
TKM2	comp=Z,33nm,0.5s			pmax	pmax		
TKM2	comp=N,72nm,0.4s			pmax	pmax		
TKM2	**Tokmak 2** SNR=20	**2.91**	**324**	P	**Pn**	**11 17 07.2**	**+1.1**
KBK	**Karagaybulak**	**3.05**	**313**	*i* PN	**Pb**	**11 17 11.6**	**-2.3**
KBK	**Karagaybulak** SNR=32	**3.05**	**313**	P	**Pb**	**11 17 11.6**	**-2.3**
AAK	**Ala-Archa**	**3.29**	**309**	⇓*e*PN	**Pn**	**11 17 12.0**	**+0.7**
AAK	**Ala-Archa** SNR=66	**3.29**	**309**	P	**Pb**	**11 17 15.9**	**-2.2**
AAK	**Ala-Archa** comp=N,44nm,0.3s,baz=132,slow=15,SNR=308	**3.29**	**309**	Pn	**Pb**	**11 17 15.7**	**-2.4**
AAK	comp=N,17nm,0.3s,baz=336,slow=22,SNR=13			Sn	**Sn**	**11 17 55.6**	**+5.0**
CHMS	**Chumysh**	**3.38**	**316**	*i* PN	**Pb**	**11 17 17.8**	**-1.8**
CHMS	**Chumysh** SNR=34	**3.38**	**316**	P	**Pb**	**11 17 17.8**	**-1.8**
AML	**Almayashu**	**3.55**	**297**	*i* PN	**Pn**	**11 17 14.9**	**-0.1**
AML	**Almayashu** SNR=6.6	**3.55**	**297**	P	**Pn**	**11 17 15.0**	**-0.1**
USP	**Ospenovka**	**3.70**	**317**	*i* PN	**Pb**	**11 17 22.9**	**-2.2**
USP	**Ospenovka** SNR=102	**3.70**	**317**	P	**Pb**	**11 17 22.9**	**-2.2**
EKS2	**Erkin-Say** SNR=10	**3.74**	**305**	P	**Pb**	**11 17 23.9**	**-1.9**
KK31	**Karatay Array** comp=N,5.8nm,0.6s,baz=110,slow=16,SNR=50	**6.09**	**297**	⇓Pg	**Pb**	**11 18 05.7**	**0.0**
KK31	comp=N,5.0nm,0.5s,baz=110,slow=28,SNR=5.2			⇑Lg	Lg	11 19 24.2	
KK31	**Karatay Array**	**6.09**	**297**	*e*PN	**Pb**	**11 18 05.7**	**0.0**
KK31						11 19 24.2	
KK31	comp=Z,3.0nm,0.3s			pmax	pmax		
KK31	comp=N,3.0nm,0.3s			smax	smax		
MK31	**Makanchi Array** comp=N,0.8nm,0.4s,baz=205,slow=12,SNR=18	**6.95**	**25**	⇑Pn	**Pn**	**11 18 03.2**	**+1.8**
MK31	comp=N,5.0nm,0.6s			⇑Lg	Lg	11 19 55.7	
MK31	**Makanchi Array**	**6.95**	**25**	*e*PN	**Pn**	**11 18 03.2**	**+1.8**
MKAR	**Makanchi Array**	**6.95**	**25**	PN	**Pn**	**11 18 02.7**	**+1.4**
MKAR						11 19 21.4	
MKAR	comp=Z,1.0nm,0.3s			pmax	pmax		
MKAR	comp=N,1.0nm,0.3s			smax	smax		
MKAR	**Makanchi Array** comp=N,0.7nm,0.3s,baz=204,slow=15,SNR=20	**6.95**	**25**	Pn	**Pn**	**11 18 02.7**	**+1.4**
MKAR	comp=N,0.9nm,0.3s,baz=202,slow=24,SNR=4.0			Sn	**Sn**	**11 19 21.4**	**+1.1**
MKAR	comp=N,0.8nm,0.3s,baz=216,slow=26,SNR=3.1			Lg	Lg	11 19 57.7	
CHCP	**Chirah Chowk**	**7.87**	**210**	P	Pn	11 18 16.7	+2.6
CEP	**Cherat**	**8.30**	**217**	P	Pn	11 18 22.3	+2.2
CEP				S	**Sn**	**11 19 53.0**	**-1.0**
KURBB	**Kurchatov Arra** comp=N,0.9nm,0.5s	**10.03**	**2**	⇓Pn	**Pn**	**11 18 43.7**	**+0.1**
KURBB	comp=N,24nm,0.8s			⇓Lg	Lg	11 21 33.6	
KURBB	**Kurchatov Arra** comp=N,0.3nm,0.3s,baz=196,slow=11,SNR=4.1	**10.03**	**2**	Pn	**Pn**	**11 18 43.1**	**-0.5**
KURBB	comp=N,0.6nm,0.3s,baz=18,slow=31,SNR=5.7			Lg	Lg	11 21 27.3	
KURK	**Kurchatov**	**10.13**	**2**	P	**Pn**	**11 18 43.1**	**-1.8**
BVAR	**Borovoye Array**	**13.45**	**340**	P	**Pn**	**11 19 29.4**	**-1.0**
BVAR						11 22 00.3	
BVAR	**Borovoye Array** comp=N,0.1nm,0.3s,baz=148,slow=14,SNR=2.9	**13.45**	**340**	Pn	**Pn**	**11 19 29.4**	**-1.0**
BVAR	comp=N,0.3nm,0.3s,baz=143,slow=25,SNR=3.1			Sn	**Sn**	**11 22 00.3**	**+0.5**
BVAR	comp=N,0.1nm,0.3s,baz=180,slow=26,SNR=2.6			Lg	Lg	11 23 14.2	
ZALV	**Zalesovo Beam**	**14.13**	**17**	P	**Pn**	**11 19 38.9**	**-0.7**
ZALV	**Zalesovo Beam** comp=N,0.1nm,0.3s,baz=203,slow=10,SNR=2.8	**14.13**	**17**	Pn	**Pn**	**11 19 38.9**	**-0.7**
SONM	**Songino Array** comp=N,0.3nm,0.5s,baz=263,slow=12,SNR=3.1	**21.55**	**61**	P	**P**	**11 21 10.3**	**+1.3**
HHC	**Hu-ho-hao-te**	**25.39**	**78**	*e*P	**P**	**11 21 48.3**	**+1.2**
KIV	**Kislovodsk**	**26.18**	**289**	*e*P	**P**	**11 21 56.2**	**+2.0**
KIV	comp=Z,9.0nm,1.0s			pmax	pmax		
TORD	**Torodi Ar. Bea** comp=Z,0.3nm,0.5s,baz=51,slow=5.4,SNR=5.6	**71.17**	**271**	P	**P**	**11 27 37.3**	**-1.5**

*BJI **21** 11:17:18.0,44.10N×128.70W,h10km,Ms4.8/2,Ms7 4.5/1*
*IDC **21** 11:17:18.7±1.1,43.99N×128.76W,h0km,mb3.7/8, mb1 3.9/14,mb1mx3.8/33,mbtmp3.7/14,ML3.4/7,MS3.7/15, Ms1 3.7/15,ms1mx3.5/47,Error ellipse: s-maj=27.0km s-min=12.9km az=39.0*
*ISCJB **21** 11:17:20.8±0.4,44.18N±0.02×128.76W±0.05,h15km, mb3.6/8,MS3.9/12,Error ellipse: s-maj=5.1km s-min=3.5km az=178.1*
*NEIC **21** 11:17:20.9±0.8,44.07N×128.80W,h10km,mb4.0/8,Error ellipse: s-maj=10.3km s-min=6.8km az=62.0*

ISC 21 11:17:21.0±0.6,44.09N±0.07×128.88W±0.06,h15km, n352,σ1§14/298,mb3.9/8,MS3.8/12,122C-116D,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**3.53**	**109**	*e*Pn	Pn	11 18 11.5	-3.8
COR	**Corvallis**	**4.03**	**81**	*e*Pn	Pn	11 18 18.4	-3.8
COR				*e*Sn	**Sn**	**11 19 09.8**	**+0.7**
F03A	**Seaside**	**4.20**	**62**	*e*Pn	**Pn**	**11 18 23.7**	**-0.7**
E03A	**Lebam**	**4.48**	**55**	P	**Pn**	**11 18 28.3**	**-0.1**
HUMO	**Hull Mountain**	**4.57**	**107**	*e*Pn	**Pn**	**11 18 26.7**	**-2.9**
HUMO				*e*Sn	**Sn**	**11 19 18.4**	**-4.0**
BMW	**Boistfort Moun**	**4.65**	**57**	P	**Pn**	**11 18 30.6**	**-0.1**
HBO	**Huckleberry Mo**	**4.74**	**91**	P	**Pn**	**11 18 32.1**	**0.0**
IRO	**Indian Ridge**	**4.78**	**89**	P	**Pn**	**11 18 30.3**	**-2.3**
NLWA	**Neilton Lookou**	**4.81**	**45**	*e*Pn	**Pn**	**11 18 32.2**	**-0.8**
H04A	**Detroit Lake**	**4.83**	**81**	*e*Pn	**Pn**	**11 18 32.6**	**-0.7**
FL2	**Flat Top 2**	**5.08**	**63**	P	**Pn**	**11 18 36.2**	**-0.5**
MTMW	**Mount Mitchell**	**5.10**	**65**	P	**Pn**	**11 18 36.4**	**-0.6**
YBH	**Yreka Blue Hor**	**5.11**	**115**	Pn	**Pn**	**11 18 35.0**	**-2.1**
YBH				Sn	**Sn**	**11 19 35.5**	**-0.3**
YBH	**Yreka Blue Hor** 0.2nm,0.3s,baz=278,slow=14,SNR=5.8	**5.11**	**115**	Pn	**Pn**	**11 18 35.0**	**-2.1**
YBH	0.3nm,0.3s,baz=240,slow=20,SNR=3.7			Sn	**Sn**	**11 19 35.5**	**-0.3**
YBH	comp=Z,1μm,19.3s,baz=243,slow=38			LR	LR	11 20 27.0	
TDH	**Tom, Dick, Har**	**5.20**	**74**	P	**Pn**	**11 18 38.5**	**+0.1**
LON	**Longmire**	**5.64**	**59**	*e*Pn	**Pn**	**11 18 45.0**	**+0.7**
D05A	**Enumclaw**	**5.74**	**55**	*e*Pn	**Pn**	**11 18 46.2**	**+0.6**
PINOR	**Pine Mountain**	**5.79**	**90**	*e*Pn	**Pn**	**11 18 44.6**	**-1.7**
PGC	**Sidney**	**5.91**	**38**	*e*Pn	**Pn**	**11 18 45.5**	**-2.3**
PGC				*e*Sn	**Sn**	**11 19 53.9**	**-1.3**
K05A	**Summer Lake**	**5.98**	**100**	*e*Pn	**Pn**	**11 18 47.9**	**-1.2**
G06A	**Carlson Farm,**	**5.99**	**76**	*e*Pn	**Pn**	**11 18 47.6**	**-1.6**
LTY	**Liberty**	**6.56**	**58**	*e*Pn	**Pn**	**11 18 58.1**	**+1.0**
MOD	**Modoc**	**6.66**	**106**	*e*Pn	**Pn**	**11 18 57.2**	**-1.3**
I07A	**Izee**	**6.75**	**87**	*e*Pn	**Pn**	**11 19 01.2**	**+1.5**
A05A	**Maple Falls**	**6.78**	**41**	*e*Pn	**Pn**	**11 19 00.9**	**+1.0**
HAWA	**Hanford**	**6.99**	**68**	*e*Pn	**Pn**	**11 19 04.2**	**+1.4**
G08A	**Pilot Rock**	**7.17**	**77**	*e*Pn	**Pn**	**11 19 03.8**	**-1.6**
J08A	**Circle Bar Ran**	**7.58**	**92**	*e*Pn	Pn	11 19 15.6	+4.6
WVOR	**Wild Horse Val**	**7.66**	**99**	*e*Pn	**Pn**	**11 19 11.6**	**-0.5**
B08A	**Colville Reser**	**7.87**	**54**	*e*Pn	Pn	11 19 20.2	+5.2
E09A	**Wood Farm, Sta**	**7.95**	**69**	*e*Pn	Pn	11 19 20.0	+4.1
BBB	**Bella Bella**	**8.11**	**3**	Pn	Pn	11 19 20.4	+2.2
BBB	**Bella Bella** 1.1nm,0.3s,baz=129,slow=12,SNR=6.7	**8.11**	**3**	Pn	Pn	11 19 20.4	+2.2
C09A	**Chrisman Ranch**	**8.27**	**60**	*e*Pn	**Pn**	**11 19 21.4**	**+1.0**
BMO	**Blue Mountains**	**8.31**	**81**	*e*Pn	**Pn**	**11 19 22.2**	**+1.2**
F10A	**Beach Ranch, E**	**8.47**	**73**	*e*Pn	**Pn**	**11 19 24.8**	**+1.7**
CMB	**Columbia Colle**	**8.82**	**130**	*e*Pn	**Pn**	**11 19 29.1**	**+1.2**
NEW	**Newport**	**9.16**	**59**	Pn	**Pn**	**11 19 32.5**	**0.0**
NEW	**Newport** baz=9.1	**9.16**	**59**	⇓P	**Pn**	**11 19 32.6**	**0.0**
NEW	**Newport** 0.5nm,0.3s,baz=252,slow=11,SNR=10	**9.16**	**59**	Pn	**Pn**	**11 19 32.5**	**0.0**
NVAR	**Mina Array Bea**	**9.77**	**122**	Pn	**Pn**	**11 19 40.6**	**-0.5**
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=294,slow=15,SNR=8.7	**9.77**	**122**	Pn	**Pn**	**11 19 40.6**	**-0.5**
NVAR	comp=Z,326nm,21.3s,baz=80,slow=37			LR	LR	11 23 22.2	
NV11	**Mina Array Sit**	**9.85**	**121**	*e*Pn	**Pn**	**11 19 43.7**	**+1.4**
HLID	**Hailey**	**10.47**	**88**	*e*Pn	Pn	11 19 55.2	+4.5
HLID	**Hailey** baz=10	**10.47**	**88**	⇑P	**Pn**	**11 19 52.1**	**+1.4**
BSMT	**Bassoo Peak**	**10.51**	**64**	*e*Pn	**Pn**	**11 19 50.9**	**-0.3**
ELK	**Elko**	**10.63**	**104**	Pn	**Pn**	**11 19 53.5**	**+0.6**
ELK	**Elko** 0.0nm,0.3s,baz=267,slow=23,SNR=6.9	**10.63**	**104**	Pn	**Pn**	**11 19 53.5**	**+0.6**
ELK	comp=Z,276nm,18.5s,baz=180,slow=40			LR	LR	11 24 16.1	
MSO	**Missoula**	**10.85**	**70**	*e*Pn	**Pn**	**11 19 57.4**	**+1.6**
MSO	**Missoula** baz=11	**10.85**	**70**	⇓P	**Pn**	**11 19 57.1**	**+1.3**
SWMT	**Swartz Lake**	**10.94**	**67**	*e*Pn	**Pn**	**11 19 58.3**	**+1.3**
VES	**Vestal, Richgr** baz=11	**11.15**	**134**	⇑P	**Pn**	**11 20 02.7**	**+2.9**
SLMT	**Seeley Lake**	**11.22**	**68**	*e*Pn	**Pn**	**11 20 01.4**	**+0.5**
CWC	**Cottonwood Cre** baz=11	**11.24**	**129**	⇑P	Pn	11 20 04.5	+3.2
MCMT	**McKenzie Canyo**	**11.48**	**81**	*e*Pn	**Pn**	**11 20 05.1**	**+0.5**
R11A	**Troy Canyon, C** baz=11	**11.54**	**115**	⇓P	**Pn**	**11 20 07.3**	**+2.1**
MPMC	**Manual Prospec** baz=12	**11.84**	**129**	⇓P	**Pn**	**11 20 10.8**	**+1.2**
FURC	**Furnace Creek,** baz=12	**11.92**	**126**	⇑P	Pn	11 20 14.6	+4.3
QLMT	**Earthquake Lak**	**12.49**	**81**	*e*Pn	Pn	11 20 20.9	+2.5
IMW	**Indian Meadow**	**12.93**	**85**	*e*Pn	**Pn**	**11 20 24.7**	**+0.3**
TPAW	**Teton Pass**	**12.97**	**86**	*e*Pn	**P**	**11 20 36.8**	**+1.2**
REDW	**Red Top Meadow**	**13.06**	**87**	*e*Pn	**P**	**11 20 37.7**	**+1.2**
FLWY	**Flagg Ranch**	**13.07**	**84**	*e*Pn	Pn	11 20 29.0	+2.6
MOOW	**Moo Ponds**	**13.08**	**85**	*e*Pn	Pn	11 20 28.9	+2.5
H17A	**Grant Village**	**13.13**	**82**	*e*Pn	Pn	11 20 30.6	+3.5
H17A	**Grant Village** baz=13	**13.13**	**82**	⇓P	Pn	11 20 29.8	+2.7
I17A	**Pilgrim Ck.** baz=13	**13.18**	**84**	⇑P	Pn	11 20 30.2	+2.4
MVU	**Marysvale**	**13.71**	**108**	*e*Pn	**Pn**	**11 20 34.7**	**-0.3**
GCMT	**Greycliff**	**13.72**	**76**	*e*Pn	P	11 20 38.6	-5.1
H18A	**Shoshone NF, C** baz=14	**13.76**	**81**	⇓P	Pn	11 20 38.0	+2.4
EGMT	**Eagleton** baz=14	**13.85**	**67**	⇓P	Pn	11 20 38.9	+2.3
PDAR	**Pinedale Array**	**14.11**	**89**	Pn	**Pn**	**11 20 41.9**	**+1.5**
PDAR	**Pinedale Array** 0.0nm,0.3s,baz=292,slow=7.8,SNR=5.6	**14.11**	**89**	Pn	**Pn**	**11 20 41.9**	**+1.5**
PDAR	comp=Z,161nm,19.2s,baz=335,slow=39			LR	LR	11 26 21.7	
Q16A	**Castle Valley**	**14.23**	**105**	*e*P	**P**	**11 20 51.9**	**+2.4**
Q16A	**Castle Valley** baz=14,SNR=12	**14.23**	**105**	⇓P	**Pn**	**11 20 44.9**	**+2.7**
PFO	**Pinyon Flat Ob** baz=14	**14.24**	**133**	⇑P	**Pn**	**11 20 44.3**	**+2.1**
H19A	**Powell** baz=14	**14.24**	**81**	⇑P	Pn	11 20 44.6	+2.5
C19A	**Slack Wire Ran** baz=14,SNR=8.5	**14.27**	**68**	⇓P	**Pn**	**11 20 43.5**	**+1.0**
I19A	**Meeteetse** baz=14	**14.30**	**83**	⇑P	**Pn**	**11 20 44.9**	**+1.8**
D19A	**Cripps Ranch,** baz=14	**14.32**	**71**	⇓P	**Pn**	**11 20 44.6**	**+1.3**
E19A	**Rath Farm, Rou** baz=14	**14.34**	**73**	⇑P	**Pn**	**11 20 43.7**	**+0.2**
J19A	**Crowheart** baz=14	**14.38**	**86**	⇑P	**Pn**	**11 20 44.5**	**+0.4**
B19A	**Brinkman Farms** baz=14	**14.45**	**65**	⇓P	**Pn**	**11 20 44.9**	**0.0**
W13A	**Hualapai Mount** baz=14	**14.62**	**123**	⇑P	**Pn**	**11 20 49.7**	**+2.2**
A19A	**Klindworth Far** baz=15	**14.67**	**64**	⇓P	**Pn**	**11 20 49.3**	**+1.3**
G20A	**Bridger** baz=15	**14.75**	**78**	⇑P	**Pn**	**11 20 49.6**	**+0.4**
U15A	**North Rim** baz=15,SNR=6.2	**14.78**	**116**	⇓P	**Pn**	**11 20 51.4**	**+1.6**
E20A	**Meyer Farm, Mu** baz=15	**14.80**	**73**	⇓P	**Pn**	**11 20 48.9**	**-0.8**
MONP	**Monument Peak** baz=15	**14.82**	**135**	⇑P	**Pn**	**11 20 49.7**	**-0.5**
I20A	**Worland** baz=15	**14.93**	**83**	⇑P	P	11 20 53.7	-3.4
H20A	**Greybull** baz=15	**14.96**	**81**	⇑P	**Pn**	**11 20 51.8**	**-0.2**
PDMCI	**Parker Dam,Lak** baz=15	**15.02**	**126**	⇓P	**P**	**11 20 56.2**	**-1.8**
J20A	**Shoshoni** baz=15	**15.06**	**86**	⇓P	**Pn**	**11 20 54.4**	**+1.1**
SWSC	**Sam W. Stewart** baz=15	**15.11**	**133**	⇑P	**P**	**11 20 57.1**	**-1.9**
A20A	**Cobblestone Ra** baz=15	**15.19**	**64**	⇑P	**P**	**11 20 56.7**	**-3.2**
P19A	**Cripple Cowboy** baz=15	**15.47**	**100**	⇓P	**Pn**	**11 20 58.6**	**-0.3**
J21A	**Lysite** baz=15,SNR=8.3	**15.52**	**85**	⇑P	**P**	**11 21 02.1**	**-1.6**
E21A	**Keefer Ranch,** baz=15	**15.53**	**73**	⇑P	**P**	**11 21 01.5**	**-2.2**
I21A	**Big Trails, Te** baz=15	**15.55**	**84**	⇑P	**P**	**11 21 01.7**	**-2.3**
C21A	**Desert Coulee** baz=16	**15.59**	**69**	⇓P	**Pn**	**11 21 00.8**	**+0.6**
D21A	**La Casta Ranch** baz=16	**15.60**	**71**	⇑P	**Pn**	**11 21 00.3**	**0.0**
H21A	**Big Horn, Sher** baz=16	**15.63**	**80**	⇓P	**Pn**	**11 21 00.6**	**-0.1**
B21A	**Ellsworth Farm** baz=16	**15.72**	**66**	⇑P	**Pn**	**11 21 02.8**	**+1.0**
K21A	**Alcova** baz=16	**15.80**	**88**	⇑P	**Pn**	**11 21 03.9**	**+0.8**
O20A	**White River Ci** baz=16	**15.81**	**97**	⇑P	**Pn**	**11 21 03.6**	**+0.3**
PV09	**Paradox Valley**	**15.85**	**104**	*e*Pn	**Pn**	**11 21 04.2**	**+0.4**
A21A	**Bergtoll Ranch** baz=16	**15.86**	**64**	⇓P	**Pn**	**11 21 02.8**	**-0.9**
WUAZ	**Wupatki** baz=16,SNR=6.1	**15.93**	**117**	⇑P	**Pn**	**11 21 05.9**	**+1.2**
Y14A	**Wickenburg** baz=16	**15.94**	**124**	⇑P	**Pn**	**11 21 06.1**	**+1.3**
P20A	**De Beque** baz=16	**15.95**	**100**	⇓P	**Pn**	**11 21 04.0**	**-0.9**
PV05	**Paradox Valley**	**16.07**	**105**	*e*Pn	**P**	**11 21 08.8**	**-1.1**
I22A	**9 Mile Ranch,** baz=16	**16.12**	**83**	⇓P	**P**	**11 21 08.2**	**-2.1**
LAO	**LASA Array** 6.5nm,1.0s	**16.12**	**73**	*e*Pn	**Pn**	**11 21 06.2**	**-0.8**
D22A	**Cohagen** baz=16	**16.16**	**71**	⇓P	**Pn**	**11 21 07.9**	**+0.4**
J22A	**Midwest** baz=16	**16.20**	**85**	⇓P	**Pn**	**11 21 07.7**	**-0.4**
Q20A	**Ridgley Place,** baz=16	**16.24**	**101**	⇓P	**Pn**	**11 21 08.8**	**+0.1**
E22A	**Miles City** baz=16	**16.30**	**74**	⇑P	**Pn**	**11 21 08.8**	**-0.6**
B22A	**Reddig Ranch S** baz=16	**16.38**	**67**	⇑P	**Pn**	**11 21 09.7**	**-0.6**
C22A	**Vida** baz=16	**16.40**	**69**	⇓P	**Pn**	**11 21 10.3**	**-0.2**
PV01	**Paradox Valley**	**16.41**	**104**	*e*Pn	**Pn**	**11 21 11.3**	**+0.4**
R20A	**Redvale** baz=16	**16.52**	**104**	⇓P	**Pn**	**11 21 11.8**	**-0.5**
A22A	**Carney Farms,** baz=16	**16.52**	**65**	⇑P	**Pn**	**11 21 11.6**	**-0.5**
X16A	**Lo Mia Camp, P** baz=16	**16.58**	**120**	⇓P	**Pn**	**11 21 14.1**	**+1.0**
M22A	**Cedar Creek Ra** baz=16	**16.58**	**92**	⇑P	**P**	**11 21 13.8**	**-1.8**
P21A	**Newcastle** baz=16	**16.61**	**99**	⇓P	**Pn**	**11 21 11.8**	**-1.6**
S20A	**Disappointment** baz=17	**16.70**	**105**	⇑P	**Pn**	**11 21 14.8**	**+0.2**
F23A	**Volborg** baz=17	**16.70**	**76**	⇓P	**P**	**11 21 15.1**	**-1.6**
G23A	**Biddle** baz=17	**16.75**	**78**	⇓P	**P**	**11 21 15.6**	**-1.6**
D23A	**Lindsay** baz=17	**16.83**	**71**	⇓P	**Pn**	**11 21 15.9**	**-0.1**
N22A	**Wattenberg Ran** baz=17	**16.87**	**93**	⇓P	**Pn**	**11 21 15.8**	**-1.0**
C23A	**Lambert** baz=17	**16.87**	**69**	⇓P	**Pn**	**11 21 15.6**	**-1.0**
MVCO	**Mesa Verde** 15nm,1.1s	**16.90**	**107**	*e*Pn	**P**	**11 21 18.1**	**-1.1**
MVCO	**Mesa Verde** baz=17	**16.90**	**107**	⇑P	**Pn**	**11 21 16.5**	**-0.7**
O22A	**Kremmling** baz=17,SNR=5.1	**17.02**	**96**	⇑P	**Pn**	**11 21 17.9**	**-0.7**
R21A	**Cimarron** baz=17	**17.02**	**102**	⇓P	**Pn**	**11 21 18.6**	**0.0**
B23A	**Brockton** baz=17	**17.06**	**67**	⇑P	**Pn**	**11 21 18.0**	**-0.9**
P22A	**Eagle** baz=17	**17.07**	**98**	⇓P	**Pn**	**11 21 18.8**	**-0.5**
SMCO	**Snowmass**	**17.08**	**99**	*e*Pn	**P**	**11 21 22.7**	**+1.3**
M23A	**Laramie** baz=17	**17.19**	**91**	⇑P	**Pn**	**11 21 20.1**	**-0.7**
N23A	**Red Feather La** baz=17	**17.20**	**93**	⇓P	**Pn**	**11 21 20.3**	**-0.7**
W18A	**Petrified Fore**	**17.23**	**115**	*e*Pn	**P**	**11 21 22.4**	**-0.4**
W18A	**Petrified Fore** baz=17,SNR=5.5	**17.23**	**115**	⇓P	**P**	**11 21 22.9**	**+0.1**
Q22A	**Crested Butte,** baz=17	**17.26**	**100**	⇓P	**Pn**	**11 21 21.6**	**-0.1**
U20A	**Newcomb** baz=17	**17.32**	**109**	⇓P	**P**	**11 21 23.2**	**-0.6**
F24A	**Ekalaka** baz=17	**17.37**	**76**	⇑P	**Pn**	**11 21 22.3**	**-0.5**
H24A	**Dirks Ranch, A** baz=17,SNR=11	**17.38**	**79**	⇓P	**Pn**	**11 21 22.5**	**-0.5**
G24A	**Alzada** baz=17	**17.42**	**77**	⇑P	**Pn**	**11 21 22.9**	**-0.6**
E24A	**Baker** baz=17	**17.44**	**73**	⇑P	**P**	**11 21 25.3**	**+0.5**
I24A	**Kuemmerle Ranc** baz=17	**17.45**	**82**	⇓P	**Pn**	**11 21 23.5**	**-0.3**
O23A	**Lake Granby, G** baz=17	**17.45**	**95**	⇓P	**Pn**	**11 21 24.1**	**0.0**
X18A	**Snowflake** baz=17	**17.45**	**117**	⇑P	**P**	**11 21 25.9**	**+0.7**
DGMT	**Dagmar** 14nm,1.0s	**17.59**	**67**	*e*Pn	**P**	**11 21 25.6**	**-0.8**
DGMT	**Dagmar** baz=18	**17.59**	**67**	⇑P	**P**	**11 21 25.6**	**-0.8**
R22A	**Saguache, Gunn** baz=18	**17.64**	**102**	⇑P	**P**	**11 21 26.8**	**-0.6**
V20A	**Brimhall** baz=18,SNR=7.3	**17.68**	**111**	⇓P	**P**	**11 21 27.4**	**-0.4**
T21A	**Navajo Lake** baz=18	**17.68**	**106**	⇑P	**P**	**11 21 27.0**	**-0.7**
A24A	**Westby** baz=18	**17.76**	**65**	⇑P	**Pn**	**11 21 26.1**	**-1.5**
S22A	**4UR Ranch, Cre** baz=18	**17.81**	**103**	⇓P	**Pn**	**11 21 27.3**	**-1.2**
P23A	**Jefferson** baz=18	**17.81**	**97**	⇑P	**P**	**11 21 28.5**	**-0.8**
ISCO	**Idaho Springs** 6.9nm,1.4s	**17.81**	**96**	*e*P	P	11 21 34.4	+5.1
ISCO	**Idaho Springs** baz=18	**17.81**	**96**	⇑P	**Pn**	**11 21 27.4**	**-1.2**
M24A	**Cheyenne** baz=18	**17.84**	**90**	⇓P	**Pn**	**11 21 27.4**	**-1.4**
U21A	**Nageezi** baz=18,SNR=22	**17.89**	**108**	⇑P	**P**	**11 21 30.2**	**+0.1**
W20A	**Ramah** baz=18,SNR=6.7	**18.04**	**113**	⇑P	**P**	**11 21 32.6**	**+0.8**
I25A	**Rochford** baz=18	**18.06**	**81**

	baz=19							
U23A	**El Rito**	18.95	106	⇑P		Pn	11 21 43.1	+0.7
	baz=19							
C26A	**Wahner Farm, P**	18.95	69	⇑P		Pn	11 21 41.3	-0.9
	baz=19							
S24A	**Houchin Ranch,**	18.99	102	⇑P		Pn	11 21 43.6	+0.6
	baz=19							
F27A	**Lemmon**	19.05	75	⇓P		Pn	11 21 43.5	+0.1
	baz=19							
T24B	**San Luis**	19.14	103	⇑P		Pn	11 21 45.6	+0.8
	baz=19							
H27A	**Howes**	19.15	79	⇓P		Pn	11 21 44.3	-0.2
	baz=19,SNR=8.1							
Z20A	**Nine Sixteen R**	19.23	118	⇑P		Pn	11 21 46.6	+0.9
	baz=19							
I27A	**Quinn**	19.25	81	⇓P		Pn	11 21 45.6	-0.2
	baz=19							
Y21A	**Point of Rocks**	19.25	114	⇑P		Pn	11 21 47.1	+1.0
	baz=19							
V23A	**Ortiz Mt. (NFS**	19.26	108	⇓P		Pn	11 21 45.4	-0.8
	baz=19,SNR=7.2							
E27A	**Carson**	19.34	73	⇑P		Pn	11 21 46.5	-0.3
	baz=19							
LAZ	**Ladron**	19.37	113	*e*P		Pn	11 21 47.3	-0.2
	15nm,1.9s							
K27A	**Flueckinger Fa**	19.39	85	⇑P		Pn	11 21 47.2	-0.3
	baz=19							
X22A	**Bernardo**	19.40	112	⇑P		Pn	11 21 48.3	+0.5
	baz=19							
R25A	**Fountain Ranch**	19.43	99	⇓P		Pn	11 21 48.1	0.0
	baz=19							
J27A	**Elkhorn Farm,**	19.43	83	⇓P		Pn	11 21 47.6	-0.4
	baz=19							
ANMO	**Albuquerque**	19.51	110	P		P	11 21 47.9	0.0
ANMO	**Albuquerque**	19.51	110	P		P	11 21 47.9	0.0
	0.1nm,0.3s,baz=320,slow=10,SNR=6.9							
ANMO				LR		LR	11 29 56.2	
	comp=Z,254nm,18.1s,baz=125,slow=39							
S25A	**Robets Cordova**	19.53	101	⇓P		Pn	11 21 48.7	-0.6
	baz=19							
B27A	**Peters Farms,**	19.53	68	⇓P		Pn	11 21 48.6	-0.5
	baz=19							
U24A	**Moreno Valley**	19.54	105	⇓P		Pn	11 21 49.7	+0.1
	baz=19							
120A	**U Bar Ranch, L**	19.57	119	⇓P		Pn	11 21 50.6	+0.7
	baz=20							
A27A	**Ledoux Ranch,**	19.58	66	⇓P		Pn	11 21 48.7	-1.0
	baz=20							
W23A	**Werner Place,**	19.60	109	⇓P		Pn	11 21 49.9	-0.3
	baz=20,SNR=5.5							
LENM	**Lemitar**	19.62	113	*e*Pn		Pn	11 21 53.3	+2.9
Z21A	**St. Cloud Mine**	19.69	116	⇓P		Pn	11 21 51.4	+0.1
	baz=20							
T25A	**Trinidad**	19.79	102	⇑P		Pn	11 21 52.0	-0.5
	baz=20,SNR=8.6							
BNM	**Barren Site**	19.86	112	*e*P		Pn	11 21 53.4	+0.1
	15nm,1.5s							
I28A	**Midland**	19.89	81	⇑P		Pn	11 21 52.5	-0.9
	baz=20							
V24A	**Rampart Ranch,**	19.90	107	⇓P		Pn	11 21 53.8	0.0
	baz=20,SNR=12							
X23A	**Hourglass Bar**	19.90	111	⇓P		Pn	11 21 53.7	-0.1
	baz=20							
E28A	**Huff**	19.93	73	⇑P		Pn	11 21 53.5	-0.4
	baz=20							
J28A	**Allard Ranch,**	19.95	82	⇓P		Pn	11 21 54.1	-0.1
	baz=20							
R26A	**Arlington**	19.95	98	⇓P		Pn	11 21 53.9	-0.4
	baz=20							
D28A	**Regan**	19.99	71	⇓P		Pn	11 21 53.7	-0.8
	baz=20							
220A	**Playas Peak, P**	20.07	120	⇓P		Pn	11 21 55.0	-0.8
	baz=20							
W24A	**Lazy 6 Ranch,**	20.08	108	⇑P		Pn	11 21 55.8	-0.1
	baz=20,SNR=10							
C28A	**Hausauer Farms**	20.11	70	⇑P		Pn	11 21 54.9	-1.1
	baz=20							
121A	**Cookes Peak, D**	20.12	118	⇓P		Pn	11 21 55.7	-0.7
	baz=20							
B28A	**Dugan Ranch, T**	20.13	67	⇑P		Pn	11 21 55.2	-1.1
	baz=20,SNR=17							
U25A	**Circle Dot Ran**	20.15	104	⇓P		Pn	11 21 56.3	-0.5
	baz=20,SNR=11							
Z22A	**Elephant Butte**	20.18	115	⇑P		P	11 21 55.7	+0.5
	baz=20							
A28A	**Rude Farm, Bot**	20.21	66	⇓P		Pn	11 21 55.9	-1.3
	baz=20							
YKA	**Yellowknife Ar**	20.22	19	P		Pn	11 21 55.9	-1.2
YKA	**Yellowknife Ar**	20.22	19	P		Pn	11 21 55.9	-1.2
	4.4nm,0.8s,baz=210,slow=11,SNR=4.6							
S26A	**Kim**	20.23	100	⇓P		Pn	11 21 57.1	-0.6
	baz=20							
V25A	**Rancho No Teng**	20.29	106	⇑P		Pn	11 21 57.3	-1.1
	baz=20,SNR=15							
T26A	**Comanche Natio**	20.35	101	⇑P		Pn	11 21 57.8	-1.3
	baz=20,SNR=9.1							
FFC	**Flin Flon**	20.35	49	*e*P		Pn	11 21 57.2	-1.5
	36nm,0.8s							
Y23A	**Lovelace Mesa,**	20.37	112	⇑P		Pn	11 21 58.5	-0.9
	baz=20							
R27A	**Eads**	20.43	97	⇓P		P	11 21 58.3	+0.6
	baz=20							
320A	**Kipp Ranch, An**	20.46	122	⇓P		Pn	11 21 59.9	-0.4
	baz=20							
H29A	**Onida**	20.46	78	⇑P		Pn	11 21 59.7	-0.5
	baz=20							
I29A	**Vivian Onida**	20.50	80	⇓P		Pn	11 21 59.1	-1.5
	baz=20							
Z23A	**Rita Site, Whi**	20.66	114	⇓P		Pn	11 22 02.2	-0.5
	baz=21							
P28A	**Saint Francis**	20.67	93	⇑P		Pn	11 22 01.2	-1.5
	baz=21							
W25A	**X Bar L Ranch,**	20.73	107	⇑P		Pn	11 22 02.6	-0.9
	baz=21							
K29A	**Lazy Trails An**	20.75	84	⇓P		Pn	11 22 02.3	-1.2
	baz=21							
Y24A	**Capitan**	20.79	111	⇓P		P	11 22 02.5	+0.7
	baz=21							
B29A	**Wagenman Farm,**	20.80	67	⇓P		Pn	11 22 02.6	-1.5
	baz=21							
222A	**Williams Famil**	20.84	118	⇑P		Pn	11 22 03.5	-1.2
	baz=21							
V26A	**Tequesquite Ra**	20.89	105	⇓P		Pn	11 22 04.2	-1.2
	baz=21,SNR=9.3							
A29A	**Manning Farm,**	20.90	66	⇓P		Pn	11 22 03.3	-1.9
	baz=21,SNR=10.0							
X25A	**Clemmons Ranch**	20.97	109	⇓P		Pn	11 22 05.1	-1.2
	baz=21							
T27A	**Campo**	21.02	101	⇓P		P	11 22 05.0	+0.8
	baz=21,SNR=5.4							
E30A	**Jud**	21.16	73	⇓P		P	11 22 04.9	-0.6
	baz=21							
O29A	**4D Ranch, Culb**	21.16	91	⇓P		P	11 22 05.5	-0.1
	baz=21							
Z24A	**Sheeppen Canyo**	21.19	112	⇑P		P	11 22 07.9	+1.8
	baz=21,SNR=6.9							
J30A	**Dallas**	21.21	82	⇓P		P	11 22 06.8	+0.7
	baz=21							
D30A	**Buchanan**	21.23	71	⇑P		P	11 22 08.9	+2.7
	baz=21							
U27A	**Thompson Grove**	21.25	102	⇑P		P	11 22 07.1	+0.5
	baz=21							
K30A	**Basset**	21.27	84	⇓P		P	11 22 07.4	+0.6
	baz=21							
W26A	**Owens Ranch, T**	21.28	106	⇑P		P	11 22 07.8	+0.8
	baz=21							
Y25A	**Mesa, Roswell**	21.29	110	⇓P		P	11 22 08.6	+1.4
	baz=21							
T28A	**Walsh**	21.42	100	⇑P		P	11 22 08.4	-0.1
	baz=21							
B30A	**Myrvik Farm, E**	21.49	68	⇑P		P	11 22 09.7	+0.7
	baz=21,SNR=8.0							
A30A	**Hoffart Farm,**	21.51	66	⇓P		P	11 22 09.2	0.0
	baz=21							
124A	**Stringfield Ra**	21.52	114	⇑P		P	11 22 11.2	+1.5
	baz=21							
X26A	**CR and CF Fran**	21.54	108	⇓P		P	11 22 11.0	+1.2
	baz=21,SNR=5.3							
V27A	**Dan Oppiter Fa**	21.57	104	⇑P		P	11 22 11.2	+1.1
	baz=22							
Z25A	**Roswell**	21.66	112	⇓P		P	11 22 12.2	+1.2
	baz=22							
O30A	**MW Ranch, Wils**	21.68	90	⇑P		P	11 22 11.7	+0.5
	baz=22							
U28A	**Mallet**	21.70	102	⇓P		P	11 22 12.5	+1.1
	baz=22							
W27A	**Bowe Ranch, En**	21.78	106	⇑P		P	11 22 13.1	+0.8
	baz=22							
224A	**Cornudas Mount**	21.87	115	⇑P		P	11 22 14.1	+0.7
	baz=22							
Y26A	**Elida**	21.88	109	⇓P		P	11 22 14.3	+0.9
	baz=22							
X27A	**F and S Farms,**	21.98	107	⇑P		P	11 22 15.3	+0.8
	baz=22							
Q30A	**Quinter**	22.00	94	⇓P		P	11 22 15.3	+0.8
	baz=22							
V28A	**Channing**	22.01	103	⇓P		P	11 22 15.1	+0.3
	baz=22							
125A	**Gardner Draw,**	22.07	113	⇑P		P	11 22 16.3	+0.8
	baz=22							
Z26A	**Caprock**	22.16	111	⇓P		P	11 22 17.4	+1.0
	baz=22							
R30A	**Dighton**	22.23	95	⇓P		P	11 22 16.9	-0.2
	baz=22							
225A	**Deer Hill, Car**	22.31	114	⇑P		P	11 22 18.9	+0.8
	baz=22							
324A	**Moseley Ranch,**	22.31	117	⇑P		P	11 22 19.3	+1.2
	baz=22							
Y27A	**Causey**	22.36	108	⇑P		P	11 22 19.1	+0.6
	baz=22							
Z27A	**Tatum**	22.65	110	⇓P		P	11 22 21.6	-0.1
	baz=22,SNR=6.5							
325A	**Bean Ranch, Si**	22.68	116	⇑P		P	11 22 23.3	+1.2
	baz=23							
226B	**Tecolote Peak,**	22.76	113	⇑P		P	11 22 23.4	+0.6
	baz=23							
R31A	**Burdett**	22.77	95	⇑P		P	11 22 22.7	-0.1
	baz=23							
AMTX	**Amarillo**	22.83	104	*e*P		P	11 22 24.0	+0.4
	7.6nm,0.9s							
AMTX	**Amarillo**	22.83	104	⇑P		P	11 22 23.4	-0.2
	baz=23							
P32A	**Huiting Farm,**	22.92	91	⇓P		P	11 22 24.2	-0.2
	baz=23							
Y28A	**McKinney Farm,**	22.97	107	⇑P		P	11 22 25.3	+0.3
	baz=23							
ILAR	**Eielson Array**	23.05	340	P		P	11 22 27.0	+1.6
ILAR	**Eielson Array**	23.05	340	P		P	11 22 27.0	+1.6
	0.8nm,0.8s,baz=154,slow=8.8,SNR=10							
ULM	**Lac du Bonnet**	23.14	63	P		P	11 22 26.0	-0.4
ULM	**Lac du Bonnet**	23.14	63	P		P	11 22 26.0	-0.4
	2.5nm,0.7s,baz=275,slow=12,SNR=4.3							
T31A	**Randall Ranch,**	23.17	97	⇓P		P	11 22 27.6	+0.6
	baz=23							
ECSD	**EROS Data Cent**	23.17	80	*e*P		P	11 22 27.1	+0.1
326A	**Caldwell Ranch**	23.37	115	⇑P		P	11 22 30.1	+1.1
	baz=23							
Z29A	**Hungry Hill Ra**	23.71	108	⇓P		P	11 22 32.4	0.0
	baz=24							
426A	**McDonald Obser**	23.75	116	⇓P		P	11 22 33.9	+0.9
	baz=24							
228A	**UT Block 9, Go**	23.78	111	⇑P		P	11 22 34.3	+1.2
	baz=24							
R33A	**Olander Ranch,**	23.87	93	⇑P		P	11 22 35.0	+1.2
	baz=24							
427A	**Hayter Ranch,**	24.04	115	⇓P		P	11 22 36.0	+0.4
	baz=24							
526A	**Mary Lane Ranc**	24.12	117	⇑P		P	11 22 37.1	+0.8
	baz=24							
X31A	**McDonald Ranch**	24.16	103	⇑P		P	11 22 36.5	0.0
	baz=24							
527A	**Woodward Ranch**	24.37	116	⇑P		P	11 22 38.8	+0.1
	baz=24							
INK	**Inuvik**	24.40	356	LR		LR	11 32 48.8	
	comp=Z,58nm,18.2s,baz=159,slow=38							
626A	**Big Bend Ranch**	24.43	118	⇓P		P	11 22 40.4	+1.2
	baz=24							
329A	**Wagon Wheel Ra**	24.58	112	⇑P		P	11 22 40.7	+0.2
	baz=24							
428A	**Kincaid Ranch,**	24.59	114	⇑P		P	11 22 41.1	+0.5
	baz=24							
TXAR	**Lajitas Array**	24.88	118	P		P	11 22 42.3	-0.9
TXAR	**Lajitas Array**	24.88	118	P		P	11 22 42.3	-0.9
	0.5nm,0.7s,baz=286,slow=6.5,SNR=5.1							
TXAR				LR		LR	11 32 35.9	
	comp=Z,109nm,19.9s,baz=5.0,slow=37							
528A	**Cox Ranch, San**	24.89	115	⇓P		P	11 22 43.2	-0.2
	baz=25							
627A	**Terlingua Ranc**	24.98	117	⇑P		P	11 22 43.8	-0.4
	baz=25							
LPIG	**La Paz**	25.08	137	LR		LR	11 31 56.1	
	comp=Z,72nm,19.0s,baz=144,slow=35							
330A	**Mertzon**	25.17	111	⇑P		P	11 22 45.8	0.0
	baz=25							
429A	**Davenport Ranc**	25.18	113	⇑P		P	11 22 45.8	-0.1
	baz=25							
Z32A	**Haskell**	25.22	105	⇑P		P	11 22 46.1	-0.1
	baz=25							
628A	**Black Gap, Mar**	25.28	117	⇑P		P	11 22 48.4	+1.7
	baz=25							
529A	**Stev Forest Ra**	25.29	114	⇑P		P	11 22 47.9	+1.0
	baz=25,SNR=5.4							
430A	**Baggett Ranch,**	25.52	112	⇓P		P	11 22 49.1	+0.2
	baz=25							
530A	**J-C Ranch, Com**	25.86	113	⇑P		P	11 22 52.6	+0.6
	baz=26							
232A	**Coleman**	25.92	108	⇑P		P	11 22 53.2	+0.7
	baz=26							
431A	**Sonora**	26.00	111	⇑P		P	11 22 54.5	+1.2
	baz=26							
332A	**Millersview**	26.16	109	⇑P		P	11 22 55.2	+0.5
	baz=26							
432A	**Menard**	26.43	110	⇓P		P	11 22 57.4	+0.2
	baz=26							
631A	**Perdido Creek**	26.84	114	⇑P		P	11 23 01.5	+0.6
	baz=27							
SFJD	**Kangerlussuaq**	45.95	32	LR		LR	11 43 50.8	
	comp=Z,108nm,18.5s,baz=290,slow=35							
JMIC	**Jan Mayen**	57.61	20	LR		LR	11 50 57.0	
	comp=Z,86nm,19.6s,baz=16,slow=35							
BORG	**Borgarnes**	57.78	29	LR		LR	11 50 04.2	
	comp=Z,145nm,21.2s,baz=356,slow=34							
H11N3	**WAKE ISLAND Hy**	58.14	267	T		T	12 29 44.3	
	baz=52,slow=0.7,SNR=6.2							
H11N2	**WAKE ISLAND Hy**	58.14	267	T		T	12 29 47.6	
	baz=52,slow=0.7,SNR=14							
H11N1	**WAKE ISLAND Hy**	58.15	267	T		T	12 30 06.1	
	baz=48,slow=0.7,SNR=320							
H11S1	**WAKE ISLAND Hy**	59.07	266	T		T	12 31 15.8	
	baz=48,slow=0.7,SNR=74							
H11S2	**WAKE ISLAND Hy**	59.08	266	T		T	12 31 13.0	
	baz=48,slow=0.7,SNR=38							
H11S3	**WAKE ISLAND Hy**	59.09	266	T		T	12 31 17.1	
	baz=48,slow=0.7,SNR=39							
PPT	**Papeete**	64.22	202	LR		LR	11 49 10.3	
	comp=Z,62nm,18.6s,baz=357,slow=30							
NOA	**NORSAR Array B**	70.32	19	LR		LR	11 58 35.0	
	comp=Z,48nm,18.5s,baz=170,slow=35							
SONM	**Songino Array**	76.36	325	P		P	11 29 10.3	+0.8
SONM	**Songino Array**	76.36	325	P		P	11 29 10.3	+0.8
	1.0nm,0.8s,baz=52,slow=3.8,SNR=6.2							
ZALV	**Zalesovo Beam**	78.17	340	P		P	11 29 20.0	+0.6
ZALV	**Zalesovo Beam**	78.17	340	P		P	11 29 20.0	+0.6
	0.4nm,0.4s,baz=32,slow=4.1,SNR=3.2							
HHC	**Hu-ho-hao-te**	79.50	318	*e*P		P	11 29 25.8	-1.3
HHC				sP		sP	11 29 32.8	-1.0
HHC				PcP		PcP	11 29 34.3	-0.8
HHC				PP		PP	11 32 27.3	+0.5
HHC				S		S	11 39 24.3	-3.7
HHC				SKS		SKSac	11 39 36.3	-6.8
HHC				LR		LR		
	comp=N,280nm,16.1s							
HHC				LR		LR		
	comp=E,290nm,17.3s							
HHC				LR		LR		
	comp=Z,190nm,17.7s							
LPAZ	**La Paz**	81.67	122	P		P	11 29 39.8	+0.3
LPAZ	**La Paz**	81.67	122	P		P	11 29 39.8	+0.3
	0.8nm,0.7s,baz=342,slow=3.2,SNR=3.6							
GERES	**GERESS Array B**	81.81	24	LR		LR	12 06 48.9	
	comp=Z,79nm,18.6s,baz=96,slow=36							
DAVOX	**Davos/Dischmat**	82.45	27	LR		LR	12 02 31.9	
	comp=Z,114nm,21.6s,baz=151,slow=33							
MKAR	**Makanchi Array**	85.40	339	P		P	11 29 57.5	-0.2
MKAR	**Makanchi Array**	85.40	339	P		P	11 29 57.5	-0.2
	0.2nm,0.6s,baz=352,slow=3.0,SNR=3.0							
WMQ	**Urumqi**	86.58	334	*e*P		P	11 30 05.0	+1.4
WMQ				LR		LR		
	comp=N,79nm,17.6s							
WMQ				LR		LR		
	comp=E,60nm,18.8s							
CD2	**Chengdu**	91.22	317	P		P	11 30 26.8	+1.0
GYA	**Guiyang**	93.33	312	*e*P		P	11 30 37.3	+1.6

IDC 21 11:20:25.2±4.2, 19°56S×65°36E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/25, mbtmp3.7/5, MS3.6/4, Ms1 3.6/4, ms1mx3.2/32, Error ellipse: s-maj=122.0km s-min=33.7km az=60.0, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	13.71	31	T	T	11 36 45.0	
	baz=211,slow=0.7,SNR=108						
H08S2	**Diego Garcia H**	13.72	31	T	T	11 36 45.8	
	baz=211,slow=0.7,SNR=38						
H08S3	**Diego Garcia H**	13.73	31	T	T	11 36 47.5	
	baz=211,slow=0.7,SNR=79						
H08N3	**Diego Carcia H**	14.23	23	T	T	11 37 15.3	
	baz=203,slow=0.7,SNR=105						
H08N1	**Diego Carcia H**	14.24	23	T	T	11 37 16.2	
	baz=203,slow=0.7,SNR=44						
H08N2	**Diego Garcia H**	14.25	23	T	T	11 37 16.9	
	baz=203,slow=0.7,SNR=125						
KMBO	**Kilima Mbogo**	33.05	300	LR	LR	11 38 39.9	
	comp=Z,82nm,20.5s,baz=101,slow=33						
BOSA	**Boshof**	37.56	248	LR	LR	11 39 54.6	
	comp=Z,60nm,20.0s,baz=256,slow=31						
PSI	**Prapat**	39.77	60	LR	LR	11 40 16.5	
	comp=Z,86nm,19.3s,baz=259,slow=30						
CMAR	**Chiang Mai Arr**	50.14	43	P	P	11 29 22.5	-0.1
	0.5nm,0.3s,baz=243,slow=8.0,SNR=3.6						
CMAR				LR	LR	11 46 01.3	
	comp=Z,73nm,20.5s,baz=214,slow=31						
ASAR	**Alice Springs**	63.32	107	P	P	11 30 56.5	0.0
	0.4nm,0.8s,baz=263,slow=5.7,SNR=4.4						
WRA	**Warramunga Arr**	64.47	103	P	P	11 31 04.0	0.0
	0.5nm,0.8s,baz=258,slow=5.9,SNR=3.1						
MKAR	**Makanchi Array**	67.79	12	P	P	11 31 24.7	0.0
	0.7nm,0.8s,baz=191,slow=7.0,SNR=5.5						
ZALV	**Zalesovo Beam**	75.10	12	P	P	11 32 08.8	+0.1
	0.8nm,0.6s,baz=204,slow=6.0,SNR=5.6						

BKK 21 11:22:54.9±1.7, 21°N±8°×99°8E±°, h0km, M3.6/3, MLv3.6/3, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAI	**Chiengmai2**	1.56	129	P	Pn	11 23 20.6	-3.5
CHTO	**Chiang Mai**	2.37	152	P	Pn	11 23 36.3	+1.2
CHTO				S	Sb	11 24 07.1	-1.4
CRAI	**Chiangrai**	2.54	105	P	Pn	11 23 37.7	+0.2
CRAI				S	Sn	11 24 10.7	+1.5

*KRSC **21** 11:24:25.1±7.8, 49°34N×157°02E, h36km±35km, ML4.4*
*MOS **21** 11:24:25.1±1.1, 49°34N×157°02E, h36km, mb4.5/1, Error ellipse: s-maj=83.4km s-min=17.6km az=83.8*

ISC 21 11:24:27.4±4.2, 49°4N±0°2×156°8E±0°1, h53km, n23, σ1§08/30, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	1.39	341	*e*PN	Pn	11 24 43.0	-7.4
SKR				pmax	pmax		
	comp=N,150nm,0.5s						
SKR				pmax	pmax		
	comp=E,110nm,0.5s						
SKR				pmax	pmax		
	comp=Z,230nm,0.5s						
SKR	**Severo-Kuril's**	1.39	341	*i* P	Pn	11 24 49.6	-0.8
SKR				*i* S	Sn	11 25 06.4	-1.3
PAU	**Pauzhetka**	2.10	360	PN	Pn	11 25 00.6	+0.5
PAU				S	Sn	11 25 24.9	-0.1
PAU	**Pauzhetka**	2.10	360	*i* P	Pn	11 25 00.6	+0.5
PAU				*i* S	Sn	11 25 24.9	-0.1
ASAK	**Asacha**	3.09	12	*e*P	Pn	11 25 15.7	+1.9
MTVR	**Mutnovka**	3.23	15	*e*P	Pn	11 25 16.4	+0.6
MTVR				*i* S	Sn	11 25 53.2	+0.1
RUS	**Russkaya**	3.25	19	PN	Pn	11 25 15.5	-0.3
RUS				S	Sn	11 25 52.0	-1.2
RUS	**Russkaya**	3.25	19	*e*P	Pn	11 25 15.5	-0.3
RUS				*i* S	Sn	11 25 52.0	-1.2
APC	**Apacha**	3.57	3	*e*P	Pn	11 25 22.2	+2.0
PET	**Petropavlovsk**	3.84	17	PN	Pn	11 25 24.9	+1.0
PET				S	Sn	11 25 24.9	+1.0
PET	**Petropavlovsk**	3.84	17	*e*P	Pn	11 25 24.9	+1.0
PET				*i* S	Sn	11 26 07.1	-0.6
UGLR	**Uglovaya**	4.04	17	*e*P	Pn	11 25 27.4	+0.5
AVH	**Avacha**	4.08	16	*e*P	Pn	11 25 28.8	+1.5
KOK	**Koryaka**	4.09	16	*e*P	Pn	11 25 29.2	+1.7
SMAR	**Somma**	4.09	17	*e*P	Pn	11 25 28.8	+1.2
KRER	**Koryakskii**	4.12	16	*e*P	Pn	11 25 29.2	+1.2
SDLR	**Sedlovina**	4.12	18	*i* P	Pn	11 25 28.6	+0.7
KRX	**Arik**	4.16	15	*e*P	Pn	11 25 30.2	+1.8
GNL	**Ganaly**	4.39	9	*e*P	Pn	11 25 33.0	+1.4
MKZ	**Mys Kozlova**	6.01	28	PN	Pn	11 25 53.3	-0.4
MKZ	**Mys Kozlova**	6.01	28	*e*P	Pn	11 25 53.3	-0.4
KBTR	**Krutoberegovo**	7.75	26	PN	Pn	11 26 17.8	+0.3
KBTR	**Krutoberegovo**	7.75	26	*e*P	Pn	11 26 17.8	+0.3

*NIED **21** 11:35:00.26°.60N×141°.90E, h5km, Mw4.4 Best double couple: M0=4.26000×10^15 NP1:φs=0.00000°, δ65.00000°, λ-98.00000°. NP2:φs=199.00000°, δ26.00000°, λ-73.00000°.*
*IDC **21** 11:35:28.2±0.6, 26°.56N×141°.83E, h0km, mb4.1/22, mb1 4.3/24, mb1mx4.3/28, mbtmp4.1/24, ML3.2/3, MS3.1/2, Ms1 3.1/2, ms1mx2.7/38, Error ellipse: s-maj=17.4km s-min=13.4km az=110.0*
*NEIC **21** 11:35:31.4±0.9, 26°.55N×141°.80E, h20km±5km, mb4.5/2, MW4.4(NIED), Error ellipse: s-maj=7.3km s-min=5.3km az=78.0*
*ISCJB **21** 11:35:32.2±0.4, 26°.62N±0°.03×141°.88E±0°.06, h40km, mb4.2/27, Error ellipse: s-maj=7.2km s-min=4.8km az=1.3*
*JMA **21** 11:35:33.4±0.1, 26°.60N×141

baz=297,slow=0.7,SNR=14
H11S1 WAKE ISLAND Hy 24.25 104 T T 12 05 39.4
baz=297,slow=0.7,SNR=15
H11S2 WAKE ISLAND Hy 24.26 104 T T 12 05 40.2
baz=297,slow=0.7,SNR=16
SONM Songino Array 34.88 317 P **P** **11 42 21.4 -0.3**
SONM PcP **PcP** **11 44 53.9 +0.1**
SONM Songino Array 34.88 317 P **P** **11 42 21.4 -0.3**
0.3nm,0.5s,baz=117,slow=7.3,SNR=2.7
SONM PcP **PcP** **11 44 53.9 +0.1**
0.5nm,0.4s,baz=140,slow=3.5,SNR=6.4
CMAR Chiang Mai Arr 40.35 268 P **P** **11 43 07.3 -0.8**
CMAR Chiang Mai Arr 40.35 268 P **P** **11 43 07.3 -0.8**
0.9nm,0.3s,baz=58,slow=6.8,SNR=4.3
WRAB Tennant Creek 46.85 190 *eP* **P** **11 43 59.6 -0.6**
9.3nm,0.8s
WRA Warramunga Arr 46.86 190 P **P** **11 43 59.4 -0.9**
WRA Warramunga Arr 46.86 190 P **P** **11 43 59.4 -0.9**
4.2nm,0.5s,baz=11,slow=8.7,SNR=26
ZALV Zalesovo Beam 49.68 319 PcP **PcP** **11 45 42.7 +0.2**
0.9nm,0.4s,baz=116,slow=3.4,SNR=3.6
AS31 Alice Springs 50.58 190 *eP* **P** **11 44 28.2 -0.6**
ASAR Alice Springs 50.58 190 P **P** **11 44 28.2 -0.7**
ASAR Alice Springs 50.58 190 P **P** **11 44 28.2 -0.7**
0.4nm,0.3s,baz=8.8,slow=5.0,SNR=29
MKAR Makanchi Array 50.58 310 P **P** **11 44 28.5 -0.3**
MKAR Makanchi Array 50.58 310 P **P** **11 44 28.5 -0.3**
0.2nm,0.5s,baz=90,slow=7.3,SNR=2.6
STKA Stephens Creek 58.17 180 P **P** **11 45 24.0 +0.2**
STKA Stephens Creek 58.17 180 P **P** **11 45 24.0 +0.2**
1.4nm,0.7s,baz=9.1,slow=7.1,SNR=2.8
BVAR Borovoye Array 58.22 318 P **P** **11 45 24.2 +0.1**
BVAR Borovoye Array 58.22 318 P **P** **11 45 24.2 +0.1**
1.0nm,0.4s,baz=88,slow=6.3,SNR=4.6
ILAR Eielson Array 58.25 28 P **P** **11 45 24.4 +0.3**
ILAR Eielson Array 58.25 28 P **P** **11 45 24.4 +0.3**
0.7nm,0.8s,baz=252,slow=6.1,SNR=7.3
INK Inuvik 63.57 24 P **P** **11 46 00.9 +0.8**
INK Inuvik 63.57 24 P **P** **11 46 00.9 +0.8**
1.2nm,0.8s,baz=301,slow=7.4,SNR=4.3
ABKAR Akbulak array 65.25 314 *eP* **P** **11 46 11.1 -0.4**
0.6nm,0.4s
AKTO Aktyubinsk 66.20 316 P **P** **11 46 16.8 -0.8**
AKTO Aktyubinsk 66.20 316 P **P** **11 46 16.8 -0.8**
0.6nm,0.3s,baz=61,slow=13,SNR=4.5
YKA Yellowknife Ar 72.68 28 P **P** **11 46 58.1 +0.7**
YKA Yellowknife Ar 72.68 28 P **P** **11 46 58.1 +0.7**
1.4nm,0.7s,baz=294,slow=6.2,SNR=2.7
KEV Kevo 73.35 341 *ep* **P** **11 47 02.0 +0.8**
8.8nm,0.9s
ARCES ARCESS Array B 73.91 341 P **P** **11 47 05.7 +1.1**
ARCES ARCESS Array B 73.91 341 P **P** **11 47 05.7 +1.1**
12nm,1.1s,baz=66,slow=8.2,SNR=8.9
JOF Joensuu 75.40 334 *ep* **P** **11 47 14.1 +0.9**
2.9nm,0.5s
KAF Kangasniemi 77.79 334 *ep* **P** **11 47 27.3 +0.5**
3.9nm,0.4s
KBZ Khabaz 78.15 313 P **P** **11 47 29.3 +0.2**
KBZ Khabaz 78.15 313 P **P** **11 47 29.3 +0.2**
1.4nm,0.6s,baz=180,slow=2.0,SNR=5.2
FINES FINESS Array B 78.26 334 P **P** **11 47 30.1 +0.7**
FINES FINESS Array B 78.26 334 P **P** **11 47 30.1 +0.7**
5.1nm,0.4s,baz=68,slow=5.1,SNR=40
NVAR Mina Array Bea 81.01 52 P **P** **11 47 46.1 +1.0**
NVAR Mina Array Bea 81.01 52 P **P** **11 47 46.1 +1.0**
1.1nm,0.8s,baz=288,slow=6.1,SNR=8.1
AKASG Malin Array Be 82.85 324 P **P** **11 47 54.3 +0.1**
AKASG Malin Array Be 82.85 324 P **P** **11 47 54.3 +0.1**
0.7nm,0.4s,baz=52,slow=5.7,SNR=4.6
HFS Hagfors 83.76 337 P **P** **11 47 58.8 0.0**
HFS Hagfors 83.76 337 P **P** **11 47 58.7 0.0**
3.5nm,0.3s,baz=85,slow=3.6,SNR=21
NOA NORSAR Array B 83.96 338 P **P** **11 47 59.8 0.0**
NOA NORSAR Array B 83.96 338 P **P** **11 47 59.8 0.0**
1.6nm,0.5s,baz=45,slow=4.9,SNR=5.0
PDAR Pinedale Array 84.73 45 P **P** **11 48 04.9 +0.6**
PDAR Pinedale Array 84.73 45 P **P** **11 48 04.9 +0.6**
0.6nm,0.5s,baz=258,slow=2.7,SNR=7.7
BRTR Keskin Array B 86.14 313 P **P** **11 48 11.8 +0.5**
BRTR Keskin Array B 86.14 313 P **P** **11 48 11.8 +0.5**
0.5nm,0.6s,baz=27,slow=4.2,SNR=1.8
GERES GERESS Array B 91.79 329 P **P** **11 48 37.7 -0.1**
GERES GERESS Array B 91.79 329 P **P** **11 48 37.7 -0.1**
0.4nm,0.5s,baz=22,slow=6.4,SNR=2.7
TXAR Lajitas Array 96.09 53 P **P** **11 48 59.2 +1.3**
TXAR Lajitas Array 96.09 53 P **P** **11 48 59.2 +1.3**
0.7nm,0.8s,baz=302,slow=0.9,SNR=8.1
TORD Torodi Ar. Bea 124.70 311 PKP **PKPdf** **11 54 30.1 0.0**
TORD Torodi Ar. Bea 124.70 311 PKP **PKPdf** **11 54 30.1 0.0**
0.2nm,0.4s,baz=30,slow=1.4,SNR=4.5
LPAZ La Paz 150.29 76 PKPbc **PKPbc** **11 55 23.0 +0.7**
LPAZ La Paz 150.29 76 PKPbc **PKPbc** **11 55 23.0 +0.7**
1.0nm,0.6s,baz=308,slow=3.6,SNR=4.1

*AUST **21** 11:53:47.8,8.99S×127.04E,h15km*
*IDC **21** 11:54:30.7±2.4,5.98S×130.44E,h0km,mb3.9/1,*
mb1 3.9/3,mb1mx3.5/18,mbtmp3.7/3,ML3.8/2,Error ellipse: s-maj=146.7km s-min=31.2km az=70.0
ISC 21 11:54:38.3±1.8,6.49S±0.08×130.0E±0.2,h146km,n6,
σ1e43/6,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TLE	**Tual**	**2.82**	**73**	P		**Pn**	**11 55 23.9**	**+0.5**
	baz=6.6,SNR=14							
FAKI	**Fak Fak**	**4.18**	**32**	P		**Pn**	**11 55 39.7**	**-1.2**
	baz=8.0,SNR=5.9							
SWI	**Sorong**	**5.73**	**12**	P		**Pn**	**11 56 01.6**	**+0.2**
	baz=9.2,SNR=4.6							
WRA	**Warramunga Arr**	**14.01**	**163**	Pn		**P**	**11 57 55.0**	**+1.1**
	0.4nm,0.3s,baz=348,slow=14,SNR=22							
WRA				Sn		**Sn**	**12 00 24.5**	**-1.3**
	0.4nm,0.3s,baz=335,slow=24,SNR=8.6							
ASAR	**Alice Springs**	**17.48**	**168**	P		Pn	11 58 41.8	+8.6
	0.2nm,0.3s,baz=347,slow=9.0,SNR=22							
ASAR				S		**Sn**	**12 01 47.9**	**-1.1**
	0.1nm,0.3s,baz=348,slow=26,SNR=3.1							
MKAR	**Makanchi Array**	**67.82**	**327**	P		P	12 05 29.4	+8.7
	0.5nm,0.3s,baz=115,slow=8.2,SNR=6.1							

MAN 21 12:00:55,17.36N×119.63E,h27km,mb4.7,ML3.6,MS3.6,
2C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**0.97**	**55**	↑*eP*		Pn	12 01 12.4	-0.5
ABRA	**Dolores**	**1.08**	**75**	*eP*		Pn	12 01 13.4	-0.9
ABRA				*eS*		Sb	12 01 29.1	+0.5
PIP	**Pasuquin**	**1.35**	**45**	↑*iP*		Pb	12 01 19.0	-0.6
SCZP	**Santa Cruz**	**1.60**	**170**	*eP*		Pn	12 01 21.5	0.0
APYP	**Conner**	**1.62**	**72**	*eP*		Pn	12 01 21.7	-0.1
CAUP	**Cauayan**	**2.14**	**101**	*eP*		Pb	12 01 31.3	-1.8
BALP	**Baler**	**2.47**	**130**	*eP*		Pn	12 01 34.1	+0.6

*DJA **21** 12:03:46.3±0.6,0.7N±5.5×12.6E±.,h10km,M3.6/3,MLv3.6/3*
*IDC **21** 12:03:46.1±2.0,0.30N×126.28E,h0km,mb3.4/3,*
mb1 3.7/3,mb1mx3.4/22,mbtmp3.5/3,MS3.5/1,Ms1 3.5/1,
ms1mx2.4/30,Error ellipse: s-maj=175.6km s-min=25.7km az=65.0
*ISCJB **21** 12:03:49.1±0.9,0.49N±0.09×126.42E±0.06,h47km,*
mb3.4/3,MS3.4/1,Error ellipse: s-maj=12.6km
s-min=9.2km az=8.6
ISC 21 12:03:50.7±1.1,0.51N±0.09×126.48E±0.07,h47km,n7,
σ1e93/8,mb3.5/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.92**	**74**	P		**Pn**	**12 04 04.9**	**-2.4**
TNTI				S		**Sn**	**12 04 20.5**	**+1.0**
LBMI	**Labuha**	**1.53**	**138**	P		**Pn**	**12 04 14.6**	**-1.0**
LBMI				S		**Sn**	**12 04 34.8**	**+0.5**
KMSI	**Cibinong**	**2.50**	**272**	P		**Pn**	**12 04 26.9**	**-2.0**
WRA	**Warramunga Arr**	**21.73**	**160**	P		**P**	**12 08 37.6**	**-0.7**
	0.4nm,0.4s,baz=338,slow=10,SNR=18							
ASAR	**Alice Springs**	**25.09**	**164**	P		**P**	**12 09 11.5**	**+0.3**
	0.6nm,0.4s,baz=341,slow=9.8,SNR=20							
NWAO	**Narrogin (SRO)**	**34.38**	**194**	LR		LR	12 25 29.9	
	comp=Z,72nm,19.1s,baz=40,slow=38							
MKAR	**Makanchi Array**	**60.06**	**326**	P		**P**	**12 13 55.4**	**+2.4**
	0.3nm,0.5s,baz=119,slow=6.9,SNR=5.5							

*IDC **21** 12:13:42.2±1.2,12.21S×165.53E,h0km,mb4.0/10,*
mb1 4.2/11,mb1mx4.0/22,mbtmp4.0/11,ML3.5/1,MS3.5/4,
Ms1 3.5/4,ms1mx3.2/35,Error ellipse: s-maj=37.5km
s-min=21.4km az=131.0
*ISCJB **21** 12:13:45.7±0.8,12.13S±0.1×165.15E±0.1,h33km,mb3.9/9,*
MS3.5/2,Error ellipse: s-maj=20.2km s-min=15.6km
az=21.8
ISC 21 12:13:47.7±0.9,12.3S±0.1×165.5E±0.2,h35km,n14,
σ0e86/12,mb3.9/9,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.11**	**297**	LR		LR	12 17 18.4	
	comp=Z,311nm,21.2s,baz=136,slow=35							
DZM	**Mont Dzumac**	**9.81**	**175**	Pn		**Pn**	**12 16 06.8**	**+0.5**
	0.4nm,0.3s,baz=275,slow=24,SNR=6.7							
PMG	**Port Moresby**	**18.20**	**277**	LR		LR	12 23 52.7	
	comp=Z,160nm,20.1s,baz=220,slow=33							
CTA	**Charters Tower**	**20.02**	**245**	P		**Pn**	**12 18 18.4**	**-1.1**
	4.3nm,0.7s,baz=42,slow=9.9,SNR=4.8							
STKA	**Stephens Creek**	**29.39**	**225**	P		**P**	**12 19 47.8**	**0.0**
	1.3nm,0.6s,baz=30,slow=5.3,SNR=4.1							
STKA				LR		LR	12 29 44.6	
	comp=Z,117nm,18.5s,baz=24,slow=33							
WRA	**Warramunga Arr**	**30.83**	**252**	P		**P**	**12 20 00.0**	**-0.6**
	2.9nm,0.8s,baz=79,slow=9.4,SNR=14							
ASAR	**Alice Springs**	**32.02**	**245**	P		**P**	**12 20 10.3**	**-0.8**
	1.3nm,0.8s,baz=71,slow=9.1,SNR=6.7							
FITZ	**Fitzroy Crossi**	**38.82**	**256**	P		**P**	**12 21 09.8**	**+0.2**
	2.0nm,0.9s,baz=90,slow=12,SNR=3.8							
FITZ				LR		LR	12 36 10.2	
	comp=Z,62nm,18.2s,baz=40,slow=35							
CMAR	**Chiang Mai Arr**	**72.35**	**294**	P		**P**	**12 25 11.8**	**+1.3**
	0.3nm,0.4s,baz=127,slow=3.4,SNR=4.2							
SONM	**Songino Array**	**79.48**	**324**	P		**P**	**12 25 51.5**	**+0.8**
	0.6nm,0.8s,baz=149,slow=6.1,SNR=5.1							
ILAR	**Eielson Array**	**84.74**	**19**	P		**P**	**12 26 16.6**	**-1.2**
	0.8nm,0.6s,baz=230,slow=5.5,SNR=13							
MKAR	**Makanchi Array**	**94.21**	**317**	P		**P**	**12 27 03.2**	**0.0**
	1.4nm,0.8s,baz=99,slow=6.1,SNR=15							
TXAR	**Lajitas Array**	**96.64**	**62**	P		**P**	**12 27 14.4**	**-0.3**
	0.1nm,0.6s,baz=243,slow=6.0,SNR=2.7							
TORD	**Torodi Ar. Bea**	**164.14**	**275**	PKPab		**PKPab**	**12 34 42.6**	**+0.5**
	0.5nm,0.8s,baz=92,slow=4.7,SNR=4.1							

*IDC **21** 12:18:13.9±2.3,12.73S×166.07E,h0km,mb3.7/6,*
mb1 3.9/7,mb1mx3.7/20,mbtmp3.8/7,ML4.1/1,Error
ellipse: s-maj=63.1km s-min=30.0km az=134.0
*ISCJB **21** 12:18:18.8±1.5,12.7S±0.2×165.9E±0.2,h40km,mb3.7/6,*
Error ellipse: s-maj=33.6km s-min=24.9km az=146.4
ISC 21 12:18:20.1±1.7,12.8S±0.3×166.0E±0.2,h40km,n7,
σ0e73/7,mb3.7/6,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.79**	**298**	Pn		**Pn**	**12 19 57.7**	**+0.4**
	3.8nm,0.3s,baz=134,slow=3.4,SNR=3.8							
WRA	**Warramunga Arr**	**31.16**	**253**	P		**P**	**12 24 35.7**	**+0.1**
	0.7nm,1.1s,baz=84,slow=8.0,SNR=3.1							
ASAR	**Alice Springs**	**32.28**	**246**	P		**P**	**12 24 45.5**	**+0.1**
	0.7nm,0.9s,baz=78,slow=8.6,SNR=5.0							
USRK	**Ussuriysk Arra**	**64.57**	**334**	P		**P**	**12 28 52.6**	**-0.6**
	1.0nm,0.5s,baz=121,slow=6.9,SNR=2.9							
SONM	**Songino Array**	**80.17**	**324**	P		**P**	**12 30 26.1**	**-0.3**
	0.3nm,0.3s,baz=120,slow=5.2,SNR=3.3							
ILAR	**Eielson Array**	**85.04**	**18**	P		**P**	**12 30 52.2**	**+1.0**
	0.3nm,0.6s,baz=233,slow=4.9,SNR=4.1							
MKAR	**Makanchi Array**	**94.92**	**317**	P		**P**	**12 31 37.6**	**-0.7**
	0.2nm,0.5s,baz=91,slow=5.0,SNR=4.1							

*IDC **21** 12:19:16.6±7.7,12.32S×165.38E,h97km±54km,mb3.6/9,*
mb1 3.7/10,mb1mx3.6/20,mbtmp3.7/10,MS3.7/1,
Ms1 3.7/1,ms1mx3.0/25,Error ellipse: s-maj=72.7km
s-min=22.6km az=113.0
ISC 21 12:19:07.6±1.4,12.5S±0.2×165.9E±0.2,h35km,n10,
σ1e36/10,mb3.9/9,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.63**	**297**	P		**Pn**	**12 20 43.8**	**+1.2**
	8.0nm,0.3s,baz=75,slow=16,SNR=3.4							
STKA	**Stephens Creek**	**29.54**	**225**	P		**P**	**12 25 10.2**	**+1.2**
	1.6nm,0.6s,baz=360,slow=7.1,SNR=4.2							
WRA	**Warramunga Arr**	**31.20**	**252**	P		**P**	**12 25 23.1**	**-0.7**
	0.4nm,0.7s,baz=81,slow=9.4,SNR=3.5							
ASAR	**Alice Springs**	**32.34**	**245**	P		**P**	**12 25 32.4**	**-1.5**
	1.0nm,0.8s,baz=78,slow=9.9,SNR=6.0							
ASAR				LR		LR	12 39 04.2	
	comp=Z,116nm,18.6s,baz=124,slow=37							
MJAR	**Matsushiro Arr**	**55.34**	**333**	P		**P**	**12 28 36.6**	**-1.5**
	2.0nm,0.8s,baz=177,slow=9.1,SNR=5.1							
USRK	**Ussuriysk Arra**	**64.33**	**334**	P		**P**	**12 29 39.6**	**-0.1**
	3.6nm,0.8s,baz=131,slow=7.9,SNR=5.4							
SONM	**Songino Array**	**79.95**	**324**	P		**P**	**12 31 13.4**	**+0.2**
	0.5nm,0.3s,baz=148,slow=6.7,SNR=5.0							
ILAR	**Eielson Array**	**84.82**	**18**	P		**P**	**12 31 39.9**	**+1.8**
	0.3nm,0.7s,baz=224,slow=5.2,SNR=4.7							
MKAR	**Makanchi Array**	**94.71**	**317**	P		**P**	**12 32 24.7**	**-0.7**
	0.5nm,0.5s,baz=92,slow=5.4,SNR=5.8							
ZALV	**Zalesovo Beam**	**94.84**	**324**	P		**P**	**12 32 24.5**	**-1.2**
	0.4nm,0.4s,baz=69,slow=9.7,SNR=3.6							

*IDC **21** 12:24:52.9±0.5,2.28N×126.66E,h0km,mb4.1/20,*
mb1 4.3/21,mb1mx4.2/26,mbtmp4.1/21,ML3.8/1,MS3.1/1,
Ms1 3.1/1,ms1mx2.7/39,Error ellipse: s-maj=26.0km
s-min=11.3km az=79.0
*DJA **21** 12:24:55.7±1.5,3.1N±4.4×12.7E±.,h11km±10km,M4.5/3,*
mb4.9/3,mB4.9/3,MLv4.4/3,Mw(mB)4.2/3
*ISCJB **21** 12:24:58.4±0.3,2.36N±0.04×126.82E±0.05,h53km,*
mb4.2/24,MS3.1/1,Error ellipse: s-maj=7.9km
s-min=4.5km az=159.5
*NEIC **21** 12:24:58.1±0.2,2.26N×126.67E,h35km,mb4.5/5,Error*
ellipse: s-maj=10.2km s-min=4.8km az=75.0
*AUST **21** 12:24:59.8±1.5,2.61N×127.31E,h81km,Error ellipse:*
s-maj=2.8km s-min=1.4km az=309.0
ISC 21 12:25:00.3±0.4,2.37N±0.05×126.83E±0.08,h53km,n78,
σ1e10/78,mb4.2/24,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.67**	**161**	P		**Pn**	**12 25 25.3**	**-1.9**
TNTI				S		**Sn**	**12 25 49.9**	**+2.4**
SGSI	**Sangihe**	**1.84**	**315**	P		**Pn**	**12 25 27.5**	**-2.1**
SGSI				S		**Sn**	**12 25 51.8**	**0.0**
LBMI	**Labuha**	**3.06**	**167**	P		**Pn**	**12 25 45.4**	**-0.8**
KMSI	**Cibinong**	**3.35**	**238**	P		**Pn**	**12 25 49.4**	**-0.8**
MRSI	**Marisa**	**5.23**	**249**	P		**Pn**	**12 26 16.8**	**+0.8**
	100nm,0.5s,1μm							
LUWI	**Luwuk**	**5.28**	**230**	P		**Pn**	**12 26 19.4**	**+2.7**
	156nm,0.9s,2μm							
NLAI	**Namlea**	**5.57**	**177**	P		**Pn**	**12 26 21.2**	**+0.5**
MYLDM	**Lahad Datu**	**8.77**	**289**	P		**Pn**	**12 27 06.0**	**+1.5**
PALU	**Palau**	**9.08**	**57**	P		Pn	12 27 01.2	-7.6
	baz=8.6,SNR=5.5							
SPSI	**Sidrap Palu**	**9.45**	**228**	P		**Pn**	**12 27 14.8**	**+1.0**
BNSI	**Bone**	**9.50**	**225**	P		**Pn**	**12 27 14.3**	**-0.2**
BKSI	**Bulukumba**	**10.16**	**221**	P		**Pn**	**12 27 24.7**	**+1.2**
KAPI	**Kappang**	**10.18**	**224**	Pn		Pn	12 27 19.7	-4.2
KAPI	**Kappang**	**10.18**	**224**	Pn		Pn	12 27 19.7	-4.2
	0.9nm,0.3s,baz=100,slow=6.1,SNR=3.6							
JAY	**Jayapura**	**14.70**	**109**	P		**P**	**12 28 31.5**	**+1.3**
	baz=14,SNR=4.1							
MTN	**Manton Dam**	**15.70**	**164**	P		**Pn**	**12 28 37.8**	**-0.4**
	baz=16,SNR=3.1							
KDU	**Kakadu**	**15.97**	**160**	P		**P**	**12 28 43.7**	**-0.6**
	baz=16,SNR=9.0							
KNRA	**Kununurra**	**18.03**	**174**	P		**P**	**12 29 05.7**	**-1.4**
	baz=18,SNR=6.4							
FITZ	**Fitzroy Crossi**	**20.37**	**183**	*eP*		**P**	**12 29 30.7**	**-2.0**
FITZ				*eS*		Sn	12 33 31.7	+7.6
FITZ	**Fitzroy Crossi**	**20.37**	**183**	P		**P**	**12 29 30.7**	**-2.0**
	baz=21,SNR=27							
FITZ	**Fitzroy Crossi**	**20.37**	**183**	P		**P**	**12 29 30.4**	**-2.3**
	1.7nm,0.4s,baz=24,slow=11,SNR=21							
WRAB	**Tennant Creek**	**23.36**	**162**	*eP*		**P**	**12 30 02.5**	**-1.8**
	14nm,0.6s							
WRA	**Warramunga Arr**	**23.36**	**162**	P		**P**	**12 30 02.6**	**-1.7**
WRA	**Warramunga Arr**	**23.36**	**162**	P		**P**	**12 30 02.6**	**-1.7**
	11nm,0.5s,baz=340,slow=10,SNR=129							

MTSU Mount Surprise 26.68 140 P **P** **12 30 36.0 +1.3**
baz=27,SNR=6.7
AS31 Alice Springs 26.77 165 *eP* **P** **12 30 34.5 -0.9**
ASAR Alice Springs 26.78 165 P **P** **12 30 34.4 -1.0**
ASAR PcP **PcP** **12 33 57.9 +0.3**
ASAR Alice Springs 26.78 165 P **P** **12 30 34.4 -1.0**
1.4nm,0.4s,baz=343,slow=6.7,SNR=27
ASAR PcP **PcP** **12 33 57.9 +0.3**
0.9nm,0.5s,baz=350,slow=2.5,SNR=4.8
MEEK Meekatharra 29.91 195 P **P** **12 31 02.6 -0.7**
baz=30,SNR=5.9
CMAR Chiang Mai Arr 31.66 302 P **P** **12 31 18.1 -0.8**
CMAR Chiang Mai Arr 31.66 302 P **P** **12 31 18.1 -0.8**
2.1nm,0.8s,baz=118,slow=6.8,SNR=12
CHTO Chiang Mai 31.82 303 *eP* **P** **12 31 18.9 -1.4**
12nm,0.7s
MORW Morawa 32.92 198 P **P** **12 31 30.8 +1.0**
baz=34,SNR=3.8
BLDU Ballidu 34.19 196 P **P** **12 31 41.9 +1.2**
baz=35,SNR=5.0
KSAR Wonju Array Be 34.92 1 P **P** **12 31 48.6 +1.7**
KSRS Korea Array 34.93 2 P **P** **12 31 48.6 +1.6**
1.5nm,0.5s,baz=181,slow=10.0,SNR=9.1
KSRS LR LR 12 44 32.5
comp=Z,33nm,20.5s,baz=170,slow=34
MJAR Matsushiro Arr 35.60 16 P **P** **12 31 53.1 +0.2**
MJAR Matsushiro Arr 35.60 16 P **P** **12 31 53.1 +0.2**
2.0nm,0.7s,baz=182,slow=9.8,SNR=6.3
BBOO Buckleboo 36.06 167 P **P** **12 31 56.2 -0.6**
baz=36,SNR=7.9
EIDS Eidsvold 36.23 141 P **P** **12 31 58.2 -0.2**
baz=36,SNR=3.2
STKA Stephens Creek 36.83 159 P **P** **12 32 02.5 -0.9**
STKA Stephens Creek 36.83 159 P **P** **12 32 02.9 -0.6**
baz=37,SNR=19
STKA Stephens Creek 36.83 159 P **P** **12 32 02.5 -0.9**
4.2nm,0.4s,baz=331,slow=8.5,SNR=19
ARMA Armidale 40.28 146 *eP* **P** **12 32 33.0 +0.4**
12nm,0.8s
ARMA Armidale 40.28 146 P **P** **12 32 33.3 +0.7**
baz=40,SNR=14
ARPS Mount Arapiles 41.37 162 P **P** **12 32 41.5 +0.2**
baz=42,SNR=7.4
USRK Ussuriysk Arra 41.91 6 P **P** **12 32 46.2 +0.6**
3.2nm,0.8s,baz=196,slow=7.3,SNR=7.5
LHI Lord Howe Isla 45.54 140 P P 12 33 06.6 -8.3
baz=46,SNR=3.5
SONM Songino Array 48.62 342 P **P** **12 33 39.0 +0.1**
SONM Songino Array 48.62 342 P **P** **12 33 38.9 +0.1**
1.1nm,0.6s,baz=160,slow=9.5,SNR=8.9
PETK Petropavlovsk- 56.65 22 P **P** **12 34 39.8 +1.8**
PETK Petropavlovsk- 56.65 22 P **P** **12 34 39.8 +1.8**
3.4nm,1.0s,baz=90,slow=2.9,SNR=4.3
MK31 Makanchi Array 58.73 326 *eP* **P** **12 34 52.4 -0.3**
MKAR Makanchi Array 58.73 326 P **P** **12 34 52.2 -0.5**
MKAR Makanchi Array 58.73 326 P **P** **12 34 52.2 -0.5**
1.5nm,0.5s,baz=122,slow=7.9,SNR=19
ZALV Zalesovo Beam 61.84 333 P **P** **12 35 12.3 -1.5**
ZALV Zalesovo Beam 61.84 333 P **P** **12 35 12.3 -1.5**
0.7nm,0.5s,baz=132,slow=7.7,SNR=3.5
KURBB Kurchatov Array 62.94 328 P **P** **12 35 20.8 -0.4**
3.0nm,0.6s,baz=130,slow=6.0,SNR=20
KURK Kurchatov 62.94 328 P **P** **12 35 20.8 -0.4**
KKAR Karatay Array 64.29 317 *eP* **P** **12 35 29.9 -0.5**
1.5nm,0.8s
BVAR Borovoye Array 68.51 327 P **P** **12 35 56.3 -0.8**
BVAR Borovoye Array 68.51 327 P **P** **12 35 56.3 -0.8**
0.7nm,0.4s,baz=134,slow=6.2,SNR=5.0
ABKAR Akbulak array 73.26 321 *eP* **P** **12 36 25.4 -0.6**
0.8nm,0.4s
AKTO Aktyubinsk 74.78 322 P **P** **12 36 34.6 -0.2**
AKTO Aktyubinsk 74.78 322 P **P** **12 36 34.6 -0.2**
1.2nm,0.3s,baz=86,slow=9.1,SNR=3.7
VNDA Vanda 82.07 173 P **P** **12 37 14.4 -0.1**
VNDA Vanda 82.07 173 P **P** **12 37 14.4 -0.1**
1.0nm,0.4s,baz=316,slow=4.7,SNR=19
MAW Mawson 82.52 200 P **P** **12 37 16.7 -0.2**
MAW Mawson 82.52 200 P **P** **12 37 16.7 -0.2**
0.7nm,0.6s,baz=66,slow=7.9,SNR=4.9
ILAR Eielson Array 86.29 25 P **P** **12 37 36.4 +0.2**
ILAR Eielson Array 86.29 25 P **P** **12 37 36.4 +0.2**
0.2nm,0.5s,baz=250,slow=4.7,SNR=7.5
BRTR Keskin Array B 90.96 310 P **P** **12 37 59.7 +0.6**
BRTR Keskin Array B 90.96 310 P **P** **12 37 59.7 +0.6**
1.1nm,0.9s,baz=33,slow=3.4,SNR=3.7
QSPA South Pole Qui 92.28 180 *eP* **P** **12 38 03.6 -1.0**
FINES FINESS Array B 93.07 332 P **P** **12 38 08.2 +0.1**
FINES FINESS Array B 93.07 332 P **P** **12 38 08.2 +0.1**
0.9nm,0.7s,baz=34,slow=5.5,SNR=2.6
TORD Torodi Ar. Bea 123.42 287 PKP **PKPdf** **12 43 52.4 -0.3**
TORD Torodi Ar. Bea 123.42 287 PKP **PKPdf** **12 43 52.4 -0.3**
0.4nm,0.8s,baz=80,slow=1.6,SNR=2.7

WEL 21 12:27:34.7±0.3,41.06S×172.96E,h156km±2km,ML3.6/11,
5C-4D,Error ellipse: s-maj=2.7km s-min=2.4km az=90.0,
South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NNZ	**Nelson**	**0.35**	**116**	P		Pn	12 27 56.2	+0.2
NNZ				S		Sn	12 28 11.8	+0.6
THZ	**Tophouse**	**0.70**	**183**	↑P		Pn	12 27 58.2	+0.3
THZ				S		Sn	12 28 14.8	-1.0
DUWZ	**D'Urville Isla**	**0.78**	**71**	P		Pn	12 27 58.7	+0.4
DUWZ				S		Sn	12 28 16.0	-0.4
TUWZ	**Tuamarina**	**0.83**	**117**	↑P		Pn	12 27 59.1	+0.5
TUWZ					AML	AML	12 28 17.1	
TUWZ					AML	AML	12 28 17.3	
BSWZ	**Blackbirch Sta**	**0.95**	**134**		PN	Pn	12 28 00.1	+0.5
TCW	**Tory Channel**	**1.01**	**99**		PN	Pn	12 28 00.5	+0.5
TCW					AML	AML	12 28 19.1	
TCW					AML	AML	12 28 20.5	
DSZ	**Denniston Nort**	**1.10**	**231**		PN	Pn	12 28 00.8	-0.1
DSZ					SN	Sn	12 28 19.0	-2.1
SNZO	**South Karori**	**1.34**	**101**		PN	Pn	12 28 02.9	-0.1
SNZO					AML	AML	12 28 24.8	
SNZO					AML	AML	12 28 25.0	
WEL	**Wellington**	**1.38**	**100**

KAHZ	Kahuranaki	3.25	68	PN	Pn	12 28 24.3	-1.2
FOZ	Fox Glacier	3.48	223	⇓PN	Pn	12 28 25.6	-2.6
LBZ	Lake Benmore	3.90	211	PN	Pn	12 28 32.0	-1.7
JCZ	Jackson Bay	4.32	224	⇓PN	Pn	12 28 37.4	-1.9
JCZ				SN	Sn	12 29 23.5	-6.2
ODZ	Otahua Downs	4.33	202	PN	Pn	12 28 38.1	-1.1
PRGZ	Paritu Road	4.34	62	PN	Pn	12 28 37.2	-2.4
RIGZ	Rimuhau	4.38	59	PN	Pn	12 28 37.8	-2.4
WKZ	Wanaka	4.75	216	PN	Pn	12 28 42.5	-2.3

IDC 21 12:29:21.6±1.2, 8.94S×128.11E, h0km, mb3.6/2, mb1 3.8/5, mb1mx3.5/21, mbtmp3.6/5, ML3.6/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/28, Error ellipse: s-maj=63.3km s-min=21.9km az=70.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	9.42	195	Pn	Pn	12 31 39.5	+0.8
	1.0nm,0.3s,baz=15,slow=12,SNR=15						
FITZ				Sn	Sn	12 33 35.9	+10
	0.5nm,0.3s,baz=232,slow=19,SNR=4.9						
WRA	Warramunga Arr	12.49	152	Pn	Pn	12 32 20.7	0.0
	0.2nm,0.3s,baz=330,slow=9.7,SNR=3.4						
WRA				Sn	Sn	12 34 42.5	+1.8
	1.3nm,0.3s,baz=332,slow=22,SNR=11						
ASAR	Alice Springs	15.66	160	Pn	Pn	12 33 02.5	-1.3
	0.2nm,0.3s,baz=337,slow=10,SNR=5.8						
ASAR				Sn	Sn	12 35 59.9	+1.7
	0.1nm,0.3s,baz=322,slow=16,SNR=3.3						
PMG	Port Moresby	18.81	93	LR	LR	12 40 04.7	
	comp=Z,76nm,21.4s,baz=336,slow=34						
MKAR	Makanchi Array	68.84	328	P	P	12 40 27.9	0.0
	0.2nm,0.4s,baz=123,slow=7.4,SNR=4.9						
KURBB	Kurchatov Arra	73.20	330	P	P	12 40 54.5	+0.2
	0.5nm,0.6s,baz=132,slow=6.3,SNR=7.7						
PDAR	Pinedale Array	119.57	46	PKP	PKPdf	12 48 13.5	-0.5
	0.2nm,0.6s,baz=251,slow=2.8,SNR=2.1						

IDC 21 12:35:53.0±0.9, 16.34S×173.41W, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.0/22, mbtmp4.0/9, MS3.8/2, Ms1 3.7/2, ms1mx3.1/24, Error ellipse: s-maj=35.1km s-min=20.4km az=131.0

ISCJB 21 12:35:54.8±0.7, 16.1S±0.1×173.4W±0.2, h26km, mb4.0/9, MS3.7/2, Error ellipse: s-maj=31.4km s-min=8.6km az=39.2

ISC 21 12:35:56.3±0.8, 16.2S±0.2×173.3W±0.2, h26km, n15, σ1§56/12, mb4.1/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.68	33	Pn	Pn	12 36 36.4	-1.4
	13nm,0.3s,baz=203,slow=7.7,SNR=15						
AFI				Sn	Sn	12 37 07.7	-1.8
	33nm,0.3s,baz=229,slow=20,SNR=9.4						
DZM	Mont Dzumac	20.01	250	eLR	LR	12 45 41.8	
	386nm,25.6s						
PPT2	Papeete2	22.74	97	eLR	LR	12 46 10.0	
	163nm,24.8s						
TBI	Tubuai	23.53	111	eLQ	LQ	12 45 41.1	
	144nm,26.0s						
TBI				eLR	LR	12 46 35.0	
	183nm,26.2s						
URZ	Urewera	23.58	199	P	P	12 41 02.6	-2.2
	7.5nm,0.4s,baz=48,slow=14,SNR=12						
HNR	Honiara	26.91	281	LR	LR	12 50 35.3	
	comp=Z,258nm,21.9s,baz=288,slow=33						
STKA	Stephens Creek	43.74	241	P	P	12 43 59.3	-0.4
	1.5nm,0.4s,baz=90,slow=8.1,SNR=6.6						
STKA				LR	LR	12 58 37.2	
	comp=Z,89nm,19.0s,baz=28,slow=31						
WRA	Warramunga Arr	49.77	257	P	P	12 44 46.5	-0.6
	0.6nm,0.5s,baz=93,slow=6.6,SNR=16						
ASAR	Alice Springs	49.97	253	P	P	12 44 47.9	-0.7
	7.1nm,0.6s,baz=89,slow=8.2,SNR=158						
QSPA	South Pole Qui	73.89	180	P	P	12 47 29.2	+0.4
	1.7nm,0.8s						
NVAR	Mina Array Bea	74.83	42	P	P	12 47 36.7	+1.9
	0.4nm,0.7s,baz=245,slow=5.8,SNR=3.5						
PDAR	Pinedale Array	82.77	42	P	P	12 48 20.2	+1.8
	0.6nm,0.7s,baz=194,slow=4.3,SNR=5.6						
ILAR	Eielson Array	83.17	11	P	P	12 48 21.5	+1.9
	0.3nm,0.6s,baz=234,slow=6.2,SNR=4.7						
CMAR	Chiang Mai Arr	92.94	288	P	P	12 49 08.3	+0.5
	0.4nm,0.5s,baz=104,slow=3.8,SNR=3.4						
BRTR	Keskin Array B	146.83	320	PKPbc	PKPab	12 55 37.6	-0.2
	1.0nm,0.8s,baz=35,slow=3.0,SNR=4.5						

IDC 21 12:40:15.7±0.5, 32.76S×71.91W, h0km, mb4.4/16, mb1 4.5/20, mb1mx4.5/24, mbtmp4.4/20, ML4.4/3, MS4.3/1, Ms1 4.4/1, ms1mx3.6/13, Error ellipse: s-maj=18.7km s-min=13.9km az=81.0

ISCJB 21 12:40:16.9±0.9, 32.76S±0.03×71.96W±0.05, h16km±7km, mb4.9/59, MS4.5/2, Error ellipse: s-maj=7.3km s-min=4.8km az=169.4

GUC 21 12:40:16.1±0.7, 32.75S×71.99W, h8km±2km, ML4.8

NEIC 21 12:40:19.4±0.2, 32.77S×71.76W, mb5.1/47, ML4.8(GUC), Error ellipse: s-maj=5.6km s-min=3.3km az=63.0

NEIC Felt [II] at Concon, El Tabo, Limache, Quillota, Quilpue, San Antonio, San Felipe, Santiago, Valparaiso and Vina del Mar. Also felt at Colina.

MOS 21 12:40:19.8±1.4, 32.71S×71.71W, h33km, mb5.4/18, Error ellipse: s-maj=15.0km s-min=8.9km az=101.7

BJI 21 12:40:19.2, 32.70S×71.70W, h23km, mB5.3/9, Ms5.3/8, Ms7 5.0/9

ISC 21 12:40:19.2±0.4, 32.79S±0.03×71.85W±0.04, h25km±2km, h25km:pP-P, n461, σ1§12/508, mb5.0/59, 144C-110D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.29	144	⇑iP	Pb	12 40 24.3	-1.8
IHA				iS	Sb	12 40 30.4	-0.5
IHA	Instituto Hidr	0.29	144	⇑iP	Pb	12 40 24.3	-1.8
IHA				iS	Sb	12 40 30.4	-0.5
PACH	Papudo	0.43	54	eP	Pb	12 40 27.0	-1.4
PACH	Papudo	0.43	54	eP	Pb	12 40 27.0	-1.4
LCCH	Las Cruces	0.72	161	eP	Pb	12 40 31.1	-2.0
LCCH	Las Cruces	0.72	161	eP	Pb	12 40 31.1	-2.0
ROCH	El Roble	0.73	105	⇑iP	Pb	12 40 32.3	-1.1
ROCH				iS	Sb	12 40 43.9	+0.9
ROCH				AML	AML	12 40 46.2	
	comp=E,55μm,0.7s						
PEL	Peldehue	1.04	110	⇑iP	Pn	12 40 37.1	-1.2
PEL				iS	Sn	12 40 53.2	+1.2
PEL				AML	AML	12 41 02.2	
	comp=E,60μm,0.5s						
JACH	Jahuel	1.06	84	⇑iP	Pn	12 40 37.6	-1.0
JACH	Jahuel	1.06	84	⇑iP	Pn	12 40 37.6	-1.0
TACH	Talagante	1.15	139	⇓iP	Pn	12 40 38.5	-1.2
TACH	Talagante	1.15	139	⇓iP	Pn	12 40 38.5	-1.2
SAN	Santiago	1.19	124	⇓iP	Pn	12 40 40.0	-0.4
SAN				iS	Sb	12 40 57.3	+1.0
SAN	Santiago	1.19	124	⇓iP	Pn	12 40 40.0	-0.4
SAN				iS	Sb	12 40 57.3	+1.0
SAN	Santiago	1.19	124	⇓iP	Pn	12 40 40.0	-0.4
SAN				iS	Sb	12 40 57.3	+1.0
LNV	Longovilo	1.22	163	⇑iP	Pn	12 40 38.9	-1.9
LNV	Longovilo	1.22	163	⇑iP	Pn	12 40 38.9	-1.9
CLCH	Cerro Calan	1.25	119	⇑iP	Pn	12 40 40.7	-0.6
CLCH				iS	Sb	12 40 59.2	+1.1
CLCH				AML	AML	12 41 05.2	
	comp=N,24μm,0.8s						
ANTU	Antumapu	1.28	128	eP	Pn	12 40 41.2	-0.4
ANTU				iS	Sb	12 40 59.9	+1.1
ANTU	Antumapu	1.28	128	eP	Pn	12 40 41.2	-0.4
ANTU				iS	Sb	12 40 59.9	+1.1
ANTU				AML	AML	12 41 07.1	
	comp=E,20μm,0.4s						
LACH	Col Las Americ	1.29	121	eP	Pn	12 40 41.4	-0.3
LACH				iS	Sb	12 41 00.2	+1.2
LACH	Col Las Americ	1.29	121	eP	Pn	12 40 41.4	-0.3
LACH				iS	Sb	12 41 00.2	+1.2
LACH				AML	AML	12 41 22.4	
	comp=N,10μm,0.5s						
FSR	Penalolen	1.30	122	P	Pb	12 40 43.1	0.0
FSR	Penalolen	1.30	122	eP	Pb	12 40 43.1	0.0
PCH	Pirque	1.39	127	⇓iP	Pn	12 40 43.1	-0.1
PCH	Pirque	1.39	127	⇓iP	Pn	12 40 43.1	-0.1
CACH	El Canelo	1.68	142	⇓iP	Pn	12 40 48.3	+1.1
CACH	El Canelo	1.68	142	⇓iP	Pn	12 40 48.3	+1.1
CMCH	Combarbala	1.77	24	⇑iP	Pn	12 40 47.2	-1.1
CMCH				iS	Sn	12 41 10.7	+0.6
CMCH	Combarbala	1.77	24	⇑iP	Pn	12 40 47.2	-1.1
CMCH				iS	Sn	12 41 10.7	+0.6
CMCH				AML	AML	12 41 18.4	
	comp=E,48μm,0.8s						
TLL	Tololo Astrono	2.76	19	⇑iP	Pn	12 41 01.8	-0.4
TLL	Tololo Astrono	2.76	19	⇑iP	Pn	12 41 01.8	-0.4
TLL	Tololo Astrono	2.76	19	⇑iP	Pn	12 41 01.8	-0.4
TLL				AML	AML	12 41 50.5	
	comp=E,4μm,0.8s						
CFAA	Coronel Fontan	3.28	70	Pn	Pn	12 41 10.6	+1.4
CFAA	Coronel Fontan	3.28	70	Pn	Pn	12 41 10.6	+1.4
	comp=E,0.1nm,0.3s,baz=241,slow=14,SNR=14						
CFAA				Sn	Sb	12 41 55.5	-0.9
	comp=E,11nm,0.3s,baz=232,slow=14,SNR=4.6						
LCO	Las Campanas	3.89	15	⇑iP	Pn	12 41 16.5	-1.3
LCO				iS	Sn	12 42 03.5	+0.6
LCO	Las Campanas	3.89	15	⇑iP	Pn	12 41 16.5	-1.3
LCO				iS	Sn	12 42 03.5	+0.6
H03N1	Juan Fernandez	5.96	262	T	T	12 48 24.7	
	baz=83,slow=0.7,SNR=353						
H03N3	Juan Fernandez	5.97	262	T	T	12 48 23.9	
	baz=83,slow=0.7,SNR=226						
H03N2	Juan Fernandez	5.98	262	T	T	12 48 25.9	
	baz=83,slow=0.7,SNR=303						
TRQA	Tornquist	9.61	126	ePn	Pn	12 42 37.5	+1.5
LVC	Limon Verde	10.47	15	Pn	Pn	12 42 45.2	-2.8
	comp=E,28nm,0.8s						
CPUP	Villa Florida	14.17	67	Pn	Pn	12 43 36.7	-1.8
CPUP	Villa Florida	14.17	67	Pn	Pn	12 43 39.1	+0.7
	comp=E,0.4nm,0.3s,baz=255,slow=12,SNR=2.0						
LPAZ	La Paz	16.77	12	eP	Pn	12 44 12.4	-0.7
	comp=E,34nm,0.9s						
LPAZ	La Paz	16.77	12	Pn	Pn	12 44 12.3	-0.7
	comp=E,0.6nm,0.3s,baz=181,slow=8.1,SNR=58						
SIV	San Ignacio	19.37	33	P	P	12 44 42.6	-0.6
SIV	San Ignacio	19.37	33	P	P	12 44 42.6	-0.6
	comp=E,0.4nm,0.3s,baz=207,slow=14,SNR=23						
EFI	East Falkland	21.39	156	eP	P	12 45 04.9	+0.1
EFI				pmax	pmax		
	comp=Z,249nm,0.9s						
EFI	East Falkland	21.39	156	eP	P	12 45 04.9	+0.1
	comp=Z,249nm,0.9s						
EFI	East Falkland	21.39	156	P	P	12 45 05.9	+1.1
	comp=Z,548nm,0.8s,SNR=5.3						
USHA	Ushuaia	22.17	175	P	P	12 45 13.9	+0.7
USHA	Ushuaia	22.17	175	P	P	12 45 13.9	+0.7
	comp=Z,12nm,1.0s,baz=337,slow=13,SNR=2.7						
SPB	Sao Paulo	23.34	73	eP	P	12 45 24.6	-1.1
	comp=Z,114nm,1.5s						
SPB				eScP	ScP	12 52 46.2	-2.6
SAML	Samuel	25.04	21	eP	P	12 45 40.9	-0.7
	comp=Z,53nm,1.1s						
BDFB	Brasilia	27.54	57	eP	P	12 46 04.1	-0.2
BDFB	Brasilia	27.54	57	P	P	12 46 04.2	0.0
	comp=Z,12nm,0.8s,baz=233,slow=8.3,SNR=11						
OTAV	Otavalo	33.44	348	eP	P	12 46 56.6	-0.2
	comp=Z,32nm,1.6s						
ROSC	El Rosal	37.51	356	eP	P	12 47 33.9	+2.1
SDV	Santo Domingo	41.46	2	eP	P	12 48 04.3	-0.1
	comp=Z,40nm,1.0s						
CRPR	Cabo Rojo, PR	50.71	6	P	P	12 49 16.3	-0.6
	comp=Z,18nm,0.9s						
VNA1	Neumayer--Stat	50.72	157	eP	P	12 49 22.0	+5.5
CELP	Cerrillos	50.83	6	eP	P	12 49 17.3	-0.5
LSP	Las Mesas	50.88	6	eP	P	12 49 23.5	+5.3
MPR	Mayaguez	50.91	6	eP	P	12 49 20.7	+2.3
	comp=Z,80nm,1.2s						
VNA2	Neumayer--Watz	51.06	158	eP	P	12 49 20.5	+1.4
	baz=286,slow=9.1						
SNAA	Sanae	52.64	158	eP	P	12 49 31.4	+0.4
SNAA	Sanae	52.64	158	P	P	12 49 31.3	+0.4
SNAA	Sanae	52.64	158	P	P	12 49 31.3	+0.4
	comp=Z,1.3nm,0.7s,baz=282,slow=5.7,SNR=14						
TEIG	Tepich	55.01	341	eP	P	12 49 48.6	-0.1
	comp=Z,5.9nm,0.6s						
TEIG				epP	pP	12 49 55.5	-0.9
RKT	Rikitea	55.88	263	eS	S	12 57 46.7	+5.4
	comp=Z,127nm,35.8s						
RKT				eLR	LR	13 06 16.4	
	comp=Z,624nm,25.5s						
MAIT	Maitri	57.33	157	eP	P	12 50 03.3	-1.4
QSPA	South Pole Qui	57.44	180	eP	P	12 50 06.2	+0.5
	comp=Z,39nm,1.0s						
QSPA				epP	pP	12 50 14.4	+0.9
QSPA	South Pole Qui	57.44	180	P	P	12 50 06.4	+0.6
	comp=Z,6.3nm,0.9s						
VNDA	Vanda	65.31	191	P	P	12 50 59.1	+0.5
VNDA	Vanda	65.31	191	P	P	12 50 59.1	+0.5
	comp=Z,0.6nm,1.1s,baz=116,slow=6.6,SNR=3.0						
VNDA				LR	LR	13 14 33.6	
	comp=Z,253nm,20.6s,baz=138,slow=32						
732A	Laxson Ranch,	66.75	333	⇓P	P	12 51 08.8	+0.4
	baz=67						
SYO	Syowa Base	66.93	159	⇑iP	P	12 51 07.9	-1.2
SYO	Syowa Base	66.93	159	⇓epP	pP	12 51 14.6	-2.3
SYO	Syowa Base	66.93	159	⇓esP	sP	12 51 17.3	-2.6
632A	Uvalde	67.39	334	⇑P	P	12 51 12.8	+0.4
	baz=68						
631A	Perdido Creek	67.60	333	⇑P	P	12 51 14.3	+0.5
	baz=68						
TBI	Tubuai	67.76	256	eS	S	13 00 14.8	+3.1
	comp=Z,358nm,29.5s						
TBI	Tubuai	67.76	256	eLR	LR	13 11 52.2	
	comp=Z,2μm,25.5s						
532A	Rocksprings	67.99	334	⇓P	P	12 51 16.9	+0.6
	baz=68						
531A	Rocksprings	68.26	333	⇓P	P	12 51 18.4	+0.5
	baz=69						
JCT	Junction City	68.27	334	eP	P	12 51 17.4	-0.6
JCT				pmax	pmax		
	comp=Z,22nm,1.0s						
JCT	Junction City	68.27	334	eP	P	12 51 17.4	-0.6
	comp=Z,22nm,1.0s						
JCT	Junction City	68.27	334	⇓P	P	12 51 18.5	+0.5
	baz=69						
530A	J-C Ranch, Com	68.55	333	⇓P	P	12 51 19.8	0.0
	baz=69						
628A	Black Gap, Mar	68.58	331	⇓P	P	12 51 20.4	+0.4
	baz=69						
432A	Menard	68.62	334	⇑P	P	12 51 20.9	+0.7
	baz=69						
TXAR	Lajitas Array	68.76	330	P	P	12 51 21.4	+0.3
TXAR	Lajitas Array	68.76	330	P	P	12 51 21.4	+0.3
	comp=Z,1.5nm,0.8s,baz=150,slow=7.4,SNR=12						
WHTX	Lake Whitney	68.82	337	⇑P	P	12 51 22.0	+0.6
	baz=69						
529A	Stev Forest Ra	68.87	332	⇓P	P	12 51 22.3	+0.5
	baz=69						
CPCT	Cooper Cave	68.92	349	eP	P	12 51 20.8	-1.1
SWET	Sewanee	68.93	348	eP	P	12 51 22.0	0.0
	comp=Z,28nm,0.9s						
TKL	Tulaleechee C	69.00	350	eP	P	12 51 22.9	+0.4
332A	Millersview	69.06	335	⇓P	P	12 51 23.1	+0.2
	baz=69						
430A	Baggett Ranch,	69.08	333	⇑P	P	12 51 23.3	+0.2
	baz=69						
528A	Cox Ranch, San	69.13	332	⇓P	P	12 51 23.2	-0.3
	baz=69						
626A	Big Bend Ranch	69.15	330	⇓P	P	12 51 24.0	+0.4
	baz=70						
429A	Davenport Ranc	69.19	332	⇓P	P	12 51 23.7	0.0
	baz=70						
331A	San Angelo	69.24	334	⇓P	P	12 51 24.2	+0.1
	baz=70						
527A	Woodward Ranch	69.45	331	⇑P	P	12 51 25.0	-0.5
	baz=70						
232A	Coleman	69.48	335	⇓P	P	12 51 25.4	-0.2
	baz=70						
526A	Mary Lane Ranc	69.58	330	⇓P	P	12 51 25.8	-0.5
	baz=70						
428A	Kincaid Ranch,	69.59	332	⇑P	P	12 51 26.3	+0.1
	baz=70						
330A	Mertzon	69.61	333	⇑P	P	12 51 26.1	-0.3
	baz=70						
231A	Bronte	69.77	334	⇑P	P	12 51 27.5	+0.2
	baz=70						
427A	Hayter Ranch,	69.98	331	⇑P	P	12 51 28.8	+0.1
	baz=70						
329A	Wagon Wheel Ra	69.99	333	⇓P	P	12 51 28.9	+0.2
	baz=70						
426A	McDonald Obser	70.08	331	⇑P	P	12 51 29.4	-0.1
	baz=70						
WVT	Waverly	70.18	346	eP	P	12 51 28.9	-0.7
WVT				pmax	pmax		
	comp=Z,25nm,0.7s						
WVT	Waverly	70.18	346	eP	P	12 51 28.9	-0.7
	comp=Z,25nm,0.7s						
328A	Wristen Ranch,	70.22	332	⇓P	P	12 51 30.6	+0.5
	baz=70						
131A	Roby	70.46	335	⇑P	P	12 51 31.5	-0.1
	baz=71						
PPT2	Papeete2	70.57	261	eS	S	13 00 47.7	+2.5
	comp=Z,105nm,22.0s						
PPT2	Papeete2	70.57	261	eLR	LR	13 12 59.0	
	comp=Z,594nm,25.2s						
425A	Indio Mountain	70.58	330	⇓P	P	12 51 32.6	+0.2
	baz=71						
326A	Caldwell Ranch	70.63	331	⇓P	P	12 51 32.4	-0.3
	baz=71						
Z32A	Haskell	70.71	336	⇑P	P	12 51 33.5	+0.4
	baz=71						
228A	UT Block 9, Go	70.79	333	⇑P	P	12 51 33.8	+0.2
	baz=71						
Z31A	Sharp Cattle R	70.95	335	⇑P	P	12 51 34.9	+0.4
	baz=71						
129A	Stewart Farms,	70.97	333	⇓P	P	12 51 35.1	+0.4
	baz=71						
325A	Bean Ranch, Si	71.08	330	⇑P	P	12 51 35.9	+0.3
	baz=71						
128A	Castleberry Fa	71.19	333	⇓P	P	12 51 36.3	+0.3
	baz=72						
Z30A	Sanderson Ranc	71.28	334	⇑P	P	12 51 36.7	+0.2
	baz=72						
Y32A	R-V Farms, Ver	71.33	336	⇓P	P	12 51 37.0	+0.2
	baz=72						
324A	Moseley Ranch,	71.36	330	⇓P	P	12 51 36.9	-0.2
	baz=72						
226B	Tecolote Peak,	71.37	331	⇑P	P	12 51 37.0	-0.2
	baz=72						
Z29A	Hungry Hill Ra	71.47	334	⇓P	P	12 51 37.5	-0.2
	baz=72						
MNTX	Cornudas Mount	71.54	330	eP	P	12 51 37.5	-0.6
	comp=Z,7.7nm,0.9s						
Y31A	Rekieta Farm,	71.58	335	⇑P	P	12 51 38.5	+0.2
	baz=72						
USIN	University of	71.92	347	eP	P	12 51 40.0	-0.2
	comp=Z,81nm,1.2s						
224A	Cornudas Mount	71.93	330	⇓P	P	12 51 40.5	-0.1
	baz=72						
TUL1	Tulsa	71.93	340	eP	P	12 51 40.2	-0.1
Y29A	Porterfield Fa	71.99	334	⇓P	P	12 51 41.0	+0.1
	baz=72						
125A	Gardner Draw,	72.08	331	⇓P	P	12 51 41.2	-0.2
	baz=72						
X31A	McDonald Ranch	72.08	336	⇑P	P	12 51 41.5	+0.2
	baz=72						
Z27A	Tatum	72.09	333	⇑P	P	12 51 41.4	0.0
	baz=72						
Z26A	Caprock	72.35	332	⇑P	P	12 51 42.8	-0.2
	baz=73						
124A	Stringfield Ra	72.44	331	⇑P	P	12 51 43.5	-0.2
	baz=73						
MSTX	Muleshoe	72.50	333	eP	P	12 51 43.9	0.0
MSTX	Muleshoe	72.50	333	⇑P	P	12 51 43.3	-0.6
	baz=73						
Y27A	Causey	72.57	333	⇑P	P	12 51 44.2	-0.2
	baz=73						
W31A	Holland Ranch,	72.58	336	⇓P	P	12 51 44.3	0.0
	baz=73						
320A	Kipp Ranch, An	72.60	328	⇑P	P	12 51 44.8	+0.2
	baz=73						
Z25A	Roswell	72.65	332	⇓P	P	12 51 44.2	-0.6
	baz=73						
Y26A	Elida	72.86	333	⇑P	P	12 51 46.3	+0.2
	baz=73						
AMTX	Amarillo	72.91	335	eP	P	12 51 47.5	+1.2
AMTX	Amarillo	72.91	335	⇑P	P	12 51 46.7	+0.4
	baz=73						
Z24A	Sheeppen Canyo	72.95	331	⇑P	P	12 51 46.9	+0.2
	baz=73						
319A	Douglas	72.97	327	⇓P	P	12 51 47.2	+0.4
	baz=73						
220A	Playas Peak, P	73.08	328	⇑P	P	12 51 48.3	+0.8
	baz=73						
Y25A	Mesa, Roswell	73.20	332	⇑P	P	12 51 48.2	+0.1
	baz=74						
Z23A	Rita Site, Whi	73.25	330	⇑P	P	12 51 49.0	+0.6
	baz=74						
121A	Cookes Peak, D	73.29	329	⇑P	P	12 51 49.4	+0.8
	baz=74						
ACSO	Alum Creek Sta	73.39	351	eP	P	12 51 48.6	-0.3
	comp=Z,43nm,0.8s						
X26A	CR and CF Fran	73.41	333	⇑P	P	12 51 49.6	+0.3
	baz=74						
Y24A	Capitan	73.50	331	⇑P	P	12 51 49.9	-0.1
	baz=74						
Z22A	Elephant Butte	73.55	330	⇑P	P	12 51 50.3	+0.1
	baz=74						
W27A	Bowe Ranch, En	73.58	334	⇓P	P	12 51 50.4	+0.1
	baz=74						
120A	U Bar Ranch, L	73.67	328	⇓P	P	12 51 51.7	+0.8
	baz=74						
Y23A	Lovelace Mesa,	73.76	331	⇑P	P	12 51 52.0	+0.5
	baz=74						
W26A	Owens Ranch, T	73.87	333	⇓P	P	12 51 52.7	+0.7
	baz=74						
Z21A	St. Cloud Mine	73.90	329	⇓P	P	12 51 53.1	+0.8
	baz=74						
U30A	WK&E Inc. Balk	74.04	336	⇑P	P	12 51 53.5	+0.6
	baz=74						
X24A	Lazy VL Ranch,	74.06	332	⇑P	P	12 51 53.7	+0.5
	baz=74						
Z20A	Nine Sixteen R	74.13	329	⇑P	P	12 51 54.2	+0.5
	baz=74						
Y22A	Socorro	74.14	330	⇓P	P	12 51 53.9	+0.2
	baz=74						
W25A	X Bar L Ranch,	74.25	333	⇑P	P	12 51 54.2	-0.1
	baz=75						
MAW	Mawson	74.29	164	P	P	12 51 54.4	+0.5
MAW	Mawson	74.29	164	P	P	12 51 54.4	+0.5
	comp=Z,4.0nm,0.8s,baz=215,slow=6.6,SNR=11						
X23A	Hourglass Bar	74.38	331	⇑P	P	12 51 55.6	+0.5
	baz=75						
TUC	Tucson	74.45	326	eP	P	12 51 56.3	+0.9
TUC				pmax	pmax		
	comp=Z,55nm,2.2s						
TUC	Tucson	74.45	326	eP	P	12 51 56.3	+0.9
	comp=Z,55nm,2.2s			

baz=76
W21A San Fidel 75.44 330 ⇑P P 12 52 01.4 +0.2
baz=76
T26A Comanche Natio 75.65 334 ⇓P P 12 52 03.9 +1.5
baz=76
W20A Ramah 75.81 330 ⇓P P 12 52 03.7 +0.4
baz=76
V22A San Miguel Ran 75.82 331 ⇓P P 12 52 04.0 +0.6
baz=76,SNR=8.9
Q31A Ellis 75.88 338 ⇑P P 12 52 03.9 +0.5
baz=76
U23A El Rito 75.90 332 ⇑P P 12 52 04.3 +0.5
baz=76
T25A Trinidad 75.92 334 ⇑P P 12 52 04.6 +0.6
baz=76,SNR=6.2
X18A Snowflake 75.93 328 ⇓P P 12 52 04.9 +0.9
baz=76
S26A Kim 76.00 335 ⇑P P 12 52 04.9 +0.7
baz=76
V21A Milan 76.03 331 ⇑P P 12 52 05.3 +0.8
baz=76
Q30A Quinter 76.11 338 ⇓P P 12 52 05.3 +0.5
baz=76
U22A Llaves 76.20 332 ⇓P P 12 52 06.0 +0.5
baz=76
T24B San Luis 76.22 333 ⇓P P 12 52 06.0 +0.2
baz=77
113A Mohawk Valley, 76.25 325 ⇓P P 12 52 06.9 +1.3
baz=77
W18A Petrified Fore 76.33 329 *e*P P 12 52 07.2 +1.0
W18A Petrified Fore 76.33 329 ⇑P P 12 52 06.9 +0.6
baz=77
R27A Eads 76.36 335 ⇓P P 12 52 06.9 +0.7
baz=77
V20A Brimhall 76.37 330 ⇑P P 12 52 07.0 +0.5
baz=77
S25A Robets Cordova 76.39 334 ⇓P P 12 52 06.4 -0.1
baz=77
X16A Lo Mia Camp, P 76.51 327 ⇓P P 12 52 07.2 -0.1
baz=77,SNR=5.7
U21A Nageezi 76.57 331 ⇑P P 12 52 07.8 +0.1
baz=77,SNR=6.2
S24A Houchin Ranch, 76.66 333 ⇓P P 12 52 08.7 +0.5
baz=77,SNR=7.5
R25A Fountain Ranch 76.77 334 ⇓P P 12 52 09.0 +0.4
baz=77
T22A Edith 76.77 332 ⇓P P 12 52 09.4 +0.6
baz=77
Y14A Wickenburg 76.84 326 ⇑P P 12 52 09.4 +0.4
baz=77
SDCO Great Sand Dun 76.87 333 *e*P P 12 52 09.7 +0.3
comp=Z,11nm,1.1s
U20A Newcomb 76.88 330 ⇑P P 12 52 09.7 +0.3
baz=77
SCIA State Center 76.89 344 *e*P P 12 52 09.0 0.0
comp=Z,35nm,0.9s
P29A Atwood 76.91 337 ⇑P P 12 52 09.4 +0.1
baz=77
KSCO Kaye Shedlock' 76.95 336 ⇓P P 12 52 10.0 +0.4
baz=77
GLA Glamis 77.00 324 *e*P P 12 52 11.3 +1.4
GLA pmax pmax
comp=Z,21nm,1.4s
GLA Glamis 77.00 324 *e*P P 12 52 11.3 +1.4
comp=Z,21nm,1.4s
GLA Glamis 77.00 324 ⇓P P 12 52 10.2 +0.3
baz=77
T21A Navajo Lake 77.01 331 ⇓P P 12 52 10.0 -0.1
baz=77
R24A Sanders Place, 77.14 334 ⇓P P 12 52 11.0 +0.2
baz=78,SNR=8.3
R23A Moffat 77.38 333 ⇓P P 12 52 12.8 +0.6
baz=78
S22A 4UR Ranch, Cre 77.38 332 ⇑P P 12 52 12.9 +0.6
baz=78
WUAZ Wupatki 77.39 328 *e*P P 12 52 13.4 +1.2
comp=Z,26nm,1.2s
WUAZ Wupatki 77.39 328 ⇓P P 12 52 12.2 -0.1
baz=78
Y12C Blythe 77.42 325 ⇓P P 12 52 13.0 +0.9
baz=78
MVCO Mesa Verde 77.59 331 ⇑P P 12 52 13.7 +0.4
baz=78
O28A Krutsinger Ran 77.66 337 ⇓P P 12 52 14.3 +0.8
baz=78
P26A Davis Ranch, A 77.69 336 ⇓P P 12 52 14.6 +0.9
baz=78
R22A Saguache, Gunn 77.77 333 ⇓P P 12 52 14.5 +0.1
baz=78
Q24A Divide 77.80 334 ⇑P P 12 52 15.1 +0.4
baz=78
P25A Willow Gulch B 77.93 335 ⇑P P 12 52 15.5 +0.4
baz=78
IRM Iron Mountain 78.05 324 ⇑P P 12 52 16.8 +1.0
baz=78
S20A Disappointment 78.06 331 ⇑P P 12 52 16.5 +0.4
baz=78
R21A Cimarron 78.20 332 ⇓P P 12 52 17.6 +0.8
baz=78
W13A Hualapai Mount 78.20 326 ⇑P P 12 52 17.1 +0.3
baz=78
PFO Pinyon Flat Ob 78.26 323 P P 12 52 18.3 +1.3
PFO Pinyon Flat Ob 78.26 323 ⇑P P 12 52 18.6 +1.5
baz=79
PFO Pinyon Flat Ob 78.26 323 P P 12 52 18.3 +1.3
comp=Z,3.3nm,0.8s,baz=150,slow=3.5
O26A Horse Wrangler 78.28 336 ⇓P P 12 52 17.0 0.0
baz=79
R20A Redvale 78.38 331 ⇑P P 12 52 18.2 +0.5
baz=79
Q22A Crested Butte, 78.38 333 ⇑P P 12 52 18.7 +0.9
baz=79
U15A North Rim 78.56 328 ⇑P P 12 52 20.1 +1.3
baz=79,SNR=5.7
SMCO Snowmass 78.68 333 *e*P P 12 52 20.2 +0.6
comp=Z,34nm,1.2s
ISCO Idaho Springs 78.71 334 *e*P P 12 52 21.6 +2.0
ISCO pmax pmax
comp=Z,15nm,1.1s
ISCO Idaho Springs 78.71 334 *e*P P 12 52 21.6 +2.0
comp=Z,14nm,1.1s
ISCO Idaho Springs 78.71 334 ⇑P P 12 52 19.5 -0.1
baz=79
GMRC Granite Mounta 78.80 324 ⇑P P 12 52 20.7 +0.7
baz=79
P22A Eagle 78.96 333 ⇑P P 12 52 22.2 +1.3
baz=79
P21A Newcastle 79.16 333 ⇓P P 12 52 23.7 +1.7
baz=80
O23A Lake Granby, G 79.18 334 ⇑P P 12 52 24.1 +1.9
baz=80
BFSC Mount Baldy Ra 79.37 323 ⇓P P 12 52 24.0 +0.9
baz=80
O22A Kremmling 79.37 334 ⇑P P 12 52 23.4 +0.2
baz=80
TSUM Tsumeb 79.39 106 *e*P P 12 52 24.0 +0.3
comp=Z,46nm,1.4s
TSUM *e*pP pP 12 52 31.3 -0.5
ECSD EROS Data Cent 79.45 342 *e*P P 12 52 23.1 -0.1
comp=Z,46nm,1.0s
ECSD *e*pP pP 12 52 30.1 -1.1
TUQ Turquoise Moun 79.45 325 ⇓P P 12 52 24.7 +1.2
baz=80
P20A De Beque 79.51 332 ⇓P P 12 52 24.6 +0.8
baz=80
GSC Goldstone 79.78 324 ⇓P P 12 52 26.5 +1.2
baz=80
N23A Red Feather La 79.79 334 ⇑P P 12 52 26.4 +1.0
baz=80
P19A Cripple Cowboy 79.86 332 ⇓P P 12 52 26.9 +1.1
baz=80
N22A Wattenberg Ran 79.90 334 ⇑P P 12 52 26.5 +0.5
baz=80
SHPR Sheep Range 79.95 326 *e*P P 12 52 27.0 +0.7
SHPR *e* 12 52 34.7
CCUT Cedar City 79.97 328 *e*P P 12 52 28.8 +2.3
comp=Z,17nm,1.0s
CCUT *e* 12 52 35.4
PHWY Pilot Hill 79.97 335 *e*P P 12 52 26.9 +0.5
comp=Z,15nm,1.3s
PHWY *e*pP pP 12 52 34.1 -0.4
O20A White River Ci 80.00 332 ⇓P P 12 52 27.1 +0.6
baz=80
EDW2 Edwards Air Fo 80.04 323 ⇑P P 12 52 26.8 +0.1
baz=80
SRU San Rafael 80.04 330 *e*P P 12 52 26.9 +0.2
SRU pmax pmax
comp=Z,12nm,1.0s
SRU San Rafael 80.04 330 *e*P P 12 52 26.9 +0.2
comp=Z,12nm,1.0s
Q16A Castle Valley 80.15 330 *e*P P 12 52 27.7 +0.3
Q16A *e* 12 52 35.1
Q16A Castle Valley 80.15 330 ⇑P P 12 52 27.1 -0.2
baz=80
J29A Okreek 80.18 339 ⇑P P 12 52 27.4 +0.3
baz=80
ARUT Antelope Range 80.20 328 *e*P P 12 52 27.3 -0.3
ARUT pmax pmax
comp=Z,177nm,1.2s
ARUT Antelope Range 80.20 328 *e*P P 12 52 27.3 -0.3
comp=Z,177nm,1.2s
M23A Laramie 80.21 335 ⇑P P 12 52 27.3 -0.3
baz=80
MVU Marysvale 80.25 329 *e*P P 12 52 35.4 +7.5
comp=Z,12nm,1.2s
LRMC Laurel Mountai 80.36 324 ⇓P P 12 52 28.5 +0.1
baz=81
J28A Allard Ranch, 80.47 339 ⇑P P 12 52 28.9 +0.1
baz=81
BOSA Boshof 80.49 118 *e*P P 12 52 30.3 +0.8
comp=Z,26nm,1.0s
BOSA *e* 12 52 36.9
BOSA Boshof 80.49 118 P P 12 52 30.3 +0.8
comp=Z,3.2nm,0.6s,baz=235,slow=5.6,SNR=13
MPMC Manual Prospec 80.72 324 ⇓P P 12 52 31.3 +0.8
baz=81
ISA Isabella 80.90 323 *e*P P 12 52 32.8 +1.5
ISA pmax pmax
comp=Z,24nm,1.4s
ISA Isabella 80.90 323 *e*P P 12 52 32.8 +1.5
comp=Z,24nm,1.4s
ISA Isabella 80.90 323 ⇑P P 12 52 31.9 +0.7
baz=81
L22A Ellis Ranch, M 80.96 335 ⇑P P 12 52 32.1 +0.4
baz=81
I28A Midland 80.97 339 ⇑P P 12 52 31.7 +0.3
baz=81
PKM Peak Mountain 80.99 322 ⇓P P 12 52 32.8 +0.9
baz=81
J25A Sunshine Ranch 81.26 337 ⇑P P 12 52 33.7 +0.7
baz=82
H29A Onida 81.26 340 ⇑P P 12 52 33.2 +0.3
baz=82
I27A Quinn 81.31 338 ⇓P P 12 52 33.7 +0.5
baz=82
CWC Cottonwood Cre 81.31 324 ⇑P P 12 52 34.3 +0.8
baz=82
J24A Dixon Ranch, L 81.49 336 ⇑P P 12 52 34.3 0.0
baz=82
K22A Casper 81.54 335 ⇑P P 12 52 34.7 +0.1
baz=82
H28A Mission Ridge 81.54 339 ⇑P P 12 52 34.7 +0.3
baz=82
R11A Troy Canyon, C 81.64 327 *e*P P 12 52 36.6 +1.3
comp=Z,16nm,1.3s
R11A Troy Canyon, C 81.64 327 ⇑P P 12 52 35.7 +0.4
baz=82
K21A Alcova 81.78 334 ⇓P P 12 52 35.7 -0.3
baz=82
I25A Rochford 81.80 337 ⇓P P 12 52 35.9 -0.1
baz=82
H27A Howes 81.82 339 ⇑P P 12 52 35.7 -0.3
baz=82
G28A Parade 81.88 340 ⇓P P 12 52 36.4 +0.2
baz=82
DUG Dugway 81.91 330 *e*P P 12 52 38.7 +2.0
DUG pmax pmax
comp=Z,13nm,1.1s
DUG Dugway 81.91 330 *e*P P 12 52 38.7 +2.0
comp=Z,12nm,1.1s
DUG Dugway 81.91 330 ⇑P P 12 52 37.2 +0.6
baz=82
RSSD Black Hills 81.98 337 *e*P P 12 52 36.6 -0.4
RSSD *e**PP pP 12 52 44.6 -0.4
RSSD pmax pmax
comp=Z,54nm,1.2s
RSSD Black Hills 81.98 337 *e*P P 12 52 36.6 -0.4
comp=Z,54nm,1.2s
RSSD *e*pP pP 12 52 44.6 -0.4
J22A Midwest 82.19 335 ⇓P P 12 52 37.6 -0.4
baz=82
G26A Maurine 82.58 339 ⇑P P 12 52 39.6 -0.3
baz=83
I22A 9 Mile Ranch, 82.61 336 ⇓P P 12 52 40.1 -0.1
baz=83
LBTB Lobatse 82.67 115 *e*P P 12 52 41.8 +0.7
comp=Z,66nm,1.4s
LBTB *e*pP pP 12 52 48.4 -0.7
H24A Dirks Ranch, A 82.71 337 ⇓P P 12 52 40.8 +0.2
baz=83
J20A Shoshoni 82.71 334 ⇓P P 12 52 40.9 +0.1
baz=83
G25A Newell 82.74 338 ⇑P P 12 52 41.0 +0.2
baz=83
G27A Dupree 82.76 338 ⇑P P 12 52 39.1 -1.7
baz=83
PDAR Pinedale Array 82.76 333 P P 12 52 41.0 -0.2
PDAR Pinedale Array 82.76 333 P P 12 52 41.0 -0.2
comp=Z,0.8nm,0.8s,baz=151,slow=5.8,SNR=8.1
I21A Big Trails, Te 82.82 335 ⇓P P 12 52 41.2 -0.1
baz=83
F27A Lemmon 82.93 339 ⇑P P 12 52 41.4 -0.3
baz=83
NVAR Mina Array Bea 82.99 325 P P 12 52 43.0 +0.6
NVAR Mina Array Bea 82.99 325 P P 12 52 43.0 +0.6
comp=Z,2.2nm,0.8s,baz=154,slow=6.3,SNR=19
J19A Crowheart 83.00 334 ⇓P P 12 52 42.4 +0.1
baz=83
I20A Worland 83.24 335 ⇑P P 12 52 44.7 +1.2
baz=84
F25A Bowman 83.41 338 ⇑P P 12 52 44.2 0.0
baz=84
ELK Elko 83.42 328 *e*P P 12 52 45.1 +0.5
E26A Carlson Angus 83.60 339 ⇓P P 12 52 45.2 +0.1
baz=84
C30A Mose, Pekin 83.62 342 ⇓P P 12 52 45.3 +0.2
baz=84
I19A Meeteetse 83.64 334 ⇑P P 12 52 46.8 +1.2
baz=84
TOA0 Torodi Ar. Sit 83.65 70 *e*P P 12 52 46.1 +0.1
TOA0 *e*pP pP 12 52 52.9 -1.2
TORD Torodi Ar. Bea 83.65 70 P P 12 52 46.4 +0.3
TORD Torodi Ar. Bea 83.65 70 P P 12 52 46.4 +0.3
comp=Z,7.4nm,0.8s,baz=253,slow=4.6,SNR=33
G22A Birey 83.71 336 ⇑P P 12 52 45.9 +0.2
baz=84
D28A Regan 83.71 341 ⇑P P 12 52 45.7 0.0
baz=84
MDND Maddock 84.05 342 *e*P P 12 52 47.6 +0.2
MDND *e*pP pP 12 52 55.1 -0.3
MDND Maddock 84.05 342 ⇑P P 12 52 47.1 -0.2
baz=84
D26A Manning 84.10 340 ⇑P P 12 52 47.9 +0.3
baz=84
H19A Powell 84.18 334 ⇑P P 12 52 48.1 -0.1
baz=84
F22A Rosebud 84.19 337 ⇑P P 12 52 48.3 +0.2
baz=84
B30A Myrvik Farm, E 84.28 343 ⇑P P 12 52 48.5 +0.1
baz=85,SNR=5.8
G20A Bridger 84.37 335 ⇑P P 12 52 49.2 0.0
baz=85
H18A Shoshone NF, C 84.43 334 ⇑P P 12 52 49.8 +0.2
baz=85
B29A Wagenman Farm, 84.55 342 ⇓P P 12 52 50.2 +0.3
baz=85
A29A Manning Farm, 84.94 342 ⇑P P 12 52 52.1 +0.3
baz=85
D23A Lindsay 85.07 338 ⇑P P 12 52 53.0 +0.4
baz=85
D22A Cohagen 85.36 337 ⇓P P 12 52 53.7 -0.4
baz=86
HLID Hailey 85.36 330 *e*P P 12 52 56.9 +2.6
comp=Z,13nm,1.3s
HLID Hailey 85.36 330 ⇑P P 12 52 54.7 +0.4
baz=86
ULM Lac du Bonnet 85.38 345 *e*P P 12 52 53.1 -0.9
comp=Z,5.5nm,1.0s
ULM Lac du Bonnet 85.38 345 P P 12 52 53.0 -0.9
comp=Z,4.7nm,0.9s,baz=180,slow=5.1,SNR=5.2
E20A Meyer Farm, Mu 85.45 336 ⇓P P 12 52 54.7 +0.1
baz=86
D21A La Casta Ranch 85.56 337 ⇓P P 12 52 55.4 +0.3
baz=86
C23A Lambert 85.62 338 ⇑P P 12 52 55.7 +0.4
baz=86
E19A Rath Farm, Rou 85.65 335 ⇓P P 12 52 55.3 -0.2
baz=86
A26A Wade Farm, Ken 85.67 341 ⇑P P 12 52 55.9 +0.4
baz=86
MCMT McKenzie Canyo 85.78 332 *e*P P 12 52 56.7 +0.3
comp=Z,2.0nm,1.0s
MCMT *e*pP pP 12 53 04.2 -0.3
DGMT Dagmar 85.91 339 *e*P P 12 52 57.2 +0.5
comp=Z,41nm,1.1s
DGMT Dagmar 85.91 339 ⇓P P 12 52 56.5 -0.2
baz=86
D20A Manuel Ranch, 85.97 336 ⇑P P 12 52 56.9 -0.1
baz=86
C21A Desert Coulee 86.26 337 ⇓P P 12 52 58.2 -0.2
baz=87
A24A Westby 86.26 339 ⇓P P 12 52 58.7 +0.3
baz=87
D19A Cripps Ranch, 86.29 336 ⇓P P 12 52 58.7 +0.1
baz=87
B22A Reddig Ranch S 86.32 338 ⇓P P 12 52 59.4 +0.6
baz=87
LRM Limekiln Ridge 86.45 333 *e*P P 12 53 00.1 +0.4
LRM *e*pP pP 12 53 07.0 -0.8
A22A Carney Farms, 86.90 338 ⇑P P 12 53 01.6 0.0
baz=87
A21A Bergtoll Ranch 87.22 338 ⇓P P 12 53 02.5 -0.6
baz=88
EGMT Eagleton 87.33 336 ⇓P P 12 53 03.4 -0.3
baz=88
B19A Brinkman Farms 87.42 336 ⇓P P 12 53 04.1 0.0
baz=88
A20A Cobblestone Ra 87.45 337 ⇑P P 12 53 04.4 +0.2
baz=88
BMO Blue Mountains 87.63 330 *e*P P 12 53 04.3 -1.0
BMO *e**PP pP 12 53 12.5 -0.8
BMO pmax pmax
comp=Z,275nm,1.2s
BMO Blue Mountains 87.63 330 *e*P P 12 53 04.3 -1.0
comp=Z,275nm,1.2s
BMO *e*pP pP 12 53 12.5 -0.8
CHMT Chamberlain Mo 87.67 333 *e*P P 12 53 06.5 +1.0
YBH Yreka Blue Hor 87.68 324 P P 12 53 05.0 -0.6
YBH Yreka Blue Hor 87.68 324 P P 12 53 05.0 -0.6
comp=Z,2.8nm,0.8s,baz=79,slow=5.7,SNR=6.8
I07A Izee 87.98 328 *e*P P 12 53 08.0 +1.0
comp=Z,21nm,1.4s
LSZ Lusaka 90.03 108 *e*P P 12 53 18.3 +0.9
comp=Z,43nm,1.5s
LSZ *e*pP pP 12 53 25.6 +0.1
C09A Chrisman Ranch 90.38 331 *e*P P 12 53 18.4 +0.4
comp=Z,9.1nm,0.8s
TAM Tamanrasset 92.16 64 *e*P P 12 53 27.2 +0.1
TAM *e**PP pP 12 53 34.6 -0.6
TAM pmax pmax
comp=Z,5.0nm,1.1s
TAM Tamanrasset 92.16 64 *e*P P 12 53 27.2 +0.1
comp=Z,5.3nm,1.1s
TAM *e*pP pP 12 53 34.6 -0.6
DZM Mont Dzumac 102.08 234 eLR LR 13 27 50.4
comp=Z,445nm,21.9s
UZH Uzhgorod 116.34 48 *e*PKIKP PKPdf 12 59 01.8 +1.6
UZH *e* 12 59 12.6
ASAR Alice Springs 118.72 207 PKP PKPdf 12 59 07.3 +1.6
ASAR Alice Springs 118.72 207 PKP PKPdf 12 59 07.3 +1.6
comp=Z,0.7nm,1.0s,baz=125,slow=1.5,SNR=3.0
WRA Warramunga Arr 121.89 209 PKP PKPdf 12 59 10.9 -1.0
WRA Warramunga Arr 121.89 209 PKP PKPdf 12 59 11.0 -1.0
comp=Z,0.4nm,0.6s,baz=151,slow=1.9,SNR=7.0
H11S2 WAKE ISLAND Hyl 125.94 270 T T 15 18 19.9
baz=121,slow=0.7,SNR=121
H11S1 WAKE ISLAND Hyl 125.95 270 T T 15 18 21.3
baz=121,slow=0.7,SNR=142
H11S3 WAKE ISLAND Hyl 125.96 270 T T 15 18 21.2
baz=121,slow=0.7,SNR=104
H11N3 WAKE ISLAND Hyl 126.32 271 T T 15 18 49.6
baz=115,slow=0.7,SNR=7.8
H11N1 WAKE ISLAND Hyl 126.34 271 T T 15 18 48.2
baz=115
H11N2 WAKE ISLAND Hyl 126.34 271 T T 15 18 51.0
baz=115,slow=0.7,SNR=30
OBN Obninsk 126.44 43 *i* PKIKP PKPdf 12 59 16.3 -3.0
OBN *i* 12 59 27.7
OBN *e*SS SS 13 18 17.2 -1.3
OBN pmax pmax
comp=Z,5.0nm,0.8s
OBN MLR MLR
comp=Z,100nm,16.0s
KLMR Klimovskoe 128.33 36 *e*PKIKP PKPdf 12 59 30.0 +7.2
KLMR pmax pmax
comp=Z,24nm,1.8s
KIV Kislovodsk 128.71 57 *i* PKIKP PKPdf 12 59 30.1 +5.9
KIV pmax pmax
comp=Z,6.0nm,0.9s
IBAF Bafgh 135.87 77 *e*P Pdif 12 56 45.9 +3.9
TIXI Tiksi 139.53 350 *i* PKIKP PKPdf 12 59 45.7 +2.2
ABKAR Akbulak array 140.80 51 *e*PKPdf PKPdf 12 59 39.3 -7.2
POO Poona 146.14 106 *e*P PKPdf 12 59 57.0 +0.1
BRVK Borovoye 146.21 42 *c i* PKP2 PKPab 12 59 58.1 +0.4
BRVK Borovoye 146.21 42 *e*PKPbc PKPab 12 59 58.0 +0.3
BVAR Borovoye Array 146.28 42 PKP2 PKPbc 12 59 57.4 +0.2
BVAR Borovoye Array 146.28 42 PKPbc PKPbc 12 59 57.4 +0.2
BVAR Borovoye Array 146.28 42 PKPbc PKPbc 12 59 57.4 +0.2
comp=Z,3.3nm,0.5s,baz=282,slow=2.9,SNR=26
YAK Yakutsk 147.65 341 *e*PKP2 PKPbc 13 00 00.0 -0.7
YAK pmax pmax
comp=Z,38nm,1.3s
YAK pmax pmax
comp=N,9.0nm,1.7s
YAK pmax pmax
comp=E,8.0nm,1.3s
YAK pmax pmax
comp=Z,139nm,1.3s
YAK pmax pmax
comp=E,15nm,1.0s
YAK pmax pmax
comp=N,12nm,1.4s
KSM Kuching 148.78 184 *e*PKPdf PKPbc 13 00 03.9 -1.4
KKAR Karatay Array 148.81 60 *e*PKP2 PKPbc 13 00 03.6 -0.9
KKAR Karatay Array 148.81 60 *e*PKPbc PKPbc 13 00 03.6 -0.9
HYB Hyderabad 149.27 113 *i* PKP PKPbc 13 00 06.0 -0.3
HYB *e* 13 00 46.0
HYB *e* 13 00 52.5
IPM Ipoh 151.06 165 *e*PKPbc PKPbc 13 00 10.1 -0.7
IPM *e*PKPab PKPab 13 00 18.7 +0.5
EKS2 Erkin-Say 151.25 60 *e*PKIKP PKPbc 13 00 11.4 +0.9
EKS2 *e* 13 00 19.3
EKS2 Erkin-Say 151.25 60 P PKPbc 13 00 11.4 +0.9
SNR=12
EKS2 Erkin-Say 151.25 60 *e*PKPbc PKPbc 13 00 11.4 +0.9
EKS2 *e*PKPab PKPab 13 00 19.2 +0.7
AML Almayashu 151.26 61 P PKPbc 13 00 11.9 +0.9
SNR=8.0
USP Ospenovka 151.68 59 P PKPbc 13 00 11.6 +0.3
SNR=6.4
KULM Kulim 151.76 164 *e*PKPab PKPab 13 00 20.6 -0.5
AAK Ala-Archa 151.78 60 *c i* PKIKP PKPbc 13 00 12.5 +0.7
AAK Ala-Archa 151.78 60 P PKPbc 13 00 12.7 +0.9
SNR=11
AAK Ala-Archa 151.78 60 *e*PKPbc PKPbc 13 00 12.6 +0.7
AAK Ala-Archa 151.78 60 PKPbc PKPbc 13 00 12.5 +0.7
comp=N,8.6nm,0.7s,baz=202,slow=2.6,SNR=36
NVS Novosibirsk 151.83 31 *e*PKIKP PKPbc 13 00 11.1 -0.1
NVS pmax pmax
comp=E,10.0nm,1.3s
NVS pmax pmax
comp=Z,30nm,1.3s
FRU Bishkek 151.84 59 *e*PKIKP PKPdf 13 00 08.0 +2.7
KURBB Kurchatov Arra 151.87 42 PKPbc PKPbc 13 00 11.7 +0.3
comp=Z,4.8nm,0.7s,baz=299,slow=3.1,SNR=54
KURK Kurchatov 151.88 42 PKIKP PKPbc 13 00 11.7 +0.2
KURK Kurchatov 151.88 42 PKPbc PKPbc 13 00 11.7 +0.2
TKM2 Tokmak 2 152.53 59 *e*PKIKP PKPbc 13 00 14.0 +0.5
TKM2 Tokmak 2 152.53 59 P PKPbc 13 00 13.9 +0.3
SNR=6.2
TKM2 Tokmak 2 152.53 59 *e*PKPbc PKPbc 13 00 14.0 +0.5
ZAA0 Zalesovo Array 153.12 31 *e*PKPbc PKPbc 13 00 14.3 +0.1
ZALV Zalesovo Beam 153.12 31 PKIKP PKPbc 13 00 14.2 +0.1
ZALV Zalesovo Beam 153.12 31 PKPbc PKPbc 13 00 14.2 +0.1
ZALV Zalesovo Beam 153.12 31 PKPbc PKPbc 13 00 14.2 +0.1
comp=Z,7.3nm,0.7s,baz=303,slow=3.0,SNR=24
KSH Kashi 153.26 66 PKPbc PKPdf 13 00 09.9 +2.3
KSH pPKP pPKPdf 13 00 15.9 -0.1
KSH PP PP 13 04 01.4 +0.2
KSH SKS SKSdf 13 07 10.0 -3.2

KSH					SKKS	**SKKSac**	**13 10 43.8**	**-5.8**	
KSH					SS	SS	13 23 25.0	-9.4	
KSH					PPMZ				
	comp=Z,170nm,5.1s								
KSH					LR	LR			
	comp=Z,100nm,5.0s								
KSH					LR	LR			
	comp=Z,90nm,4.5s								
KSH					LR	LR			
	comp=Z,110nm,5.0s								
MK31	**Makanchi Array**	**155.84**	**47**	*e*PKP2	**PKPab**	**13 00 38.1**	**+0.4**		
MK31	**Makanchi Array**	**155.84**	**47**	*e*PKPab	**PKPab**	**13 00 38.0**	**+0.4**		
MKAR	**Makanchi Array**	**155.84**	**47**	PKIKP	PKPdf	13 00 20.7	+10		
MKAR	**Makanchi Array**	**155.84**	**47**	PKPbc	PKPdf	13 00 20.7	+10		
MKAR				PKPab	**PKPab**	**13 00 37.9**	**+0.2**		
MKAR	**Makanchi Array**	**155.84**	**47**	PKPbc	PKPdf	13 00 20.7	+10		
	comp=Z,1.4nm,0.9s,baz=298,slow=2.6,SNR=8.3								
MKAR				PKPab	**PKPab**	**13 00 37.9**	**+0.2**		
	comp=Z,3.7nm,0.7s,baz=295,slow=4.0,SNR=22								
WMQ	**Urumqi**	**160.58**	**50**	*e*PKP	**PKPdf**	**13 00 16.5**	**-0.3**		
WMQ				LR	LR				
	comp=Z,92nm,22.8s								
WMQ				LR	LR				
	comp=Z,83nm,23.4s								
WMQ				LR	LR				
	comp=Z,110nm,24.4s								
ZAK	**Zakamensk**	**162.06**	**10**	*e*PKP2	PKPab	13 01 11.4	+6.9		
ZAK				pmax	pmax				
	comp=Z,5.0nm,1.2s								
CN2	**Changchun**	**162.57**	**314**	*e*PKP	**PKPdf**	**13 00 16.9**	**-1.8**		
CN2				*e*pPKP	**pPKPdf**	**13 00 27.0**	**-0.1**		
CN2				*e*PP	**PP**	**13 04 52.8**	**+1.3**		
CN2				*e*SS	SS	13 25 09.9	-2.4		
CN2				PPMZ					
	comp=Z,200nm,6.0s								
CN2				LR	LR				
	comp=Z,200nm,20.0s								
CN2				LR	LR				
	comp=Z,400nm,20.0s								
CN2				LR	LR				
	comp=Z,500nm,22.0s								
KSRS	**Korea Array**	**163.18**	**292**	PKPab	**PKPab**	**13 01 05.9**	**-4.0**		
	comp=Z,3.3nm,1.0s,baz=146,slow=0.2,SNR=8.2								
KSAR	**Wonju Array Be**	**163.21**	**292**	PKPab	**PKPab**	**13 01 05.9**	**-4.1**		
SONM	**Songino Array**	**164.91**	**5**	PKPab	**PKPab**	**13 01 17.2**	**0.0**		
SONM	**Songino Array**	**164.91**	**5**	PKPab	**PKPab**	**13 01 17.2**	**0.0**		
	comp=Z,0.7nm,0.7s,baz=324,slow=2.9,SNR=3.5								
QIZ	**Qiongzhong**	**166.21**	**187**	PKP	**PKPdf**	**13 00 18.3**	**-4.4**		
QIZ				PP	**PP**	**13 05 11.9**	**+2.3**		
QIZ				SS	SS	13 25 51.8	+3.8		
QIZ				LR	LR				
	comp=Z,54nm,18.3s								
GTA	**Gaotai**	**170.56**	**43**	*e*PKP	**PKPdf**	**13 00 27.0**	**+1.8**		
GTA				pPKP	**pPKPdf**	**13 00 37.8**	**+4.2**		
GTA				PKPab	**PKPab**	**13 01 44.8**	**+2.3**		
GTA				PP	**PP**	**13 05 35.4**	**+2.6**		
GTA				SKS	**SKSdf**	**13 07 25.8**	**-1.3**		
GTA				SKKS	**SKKSac**	**13 12 17.0**	**-1.3**		
GTA				PPMZ					
	comp=Z,140nm,7.8s								
GTA				LR	LR				
	comp=Z,140nm,19.9s								
GTA				LR	LR				
	comp=Z,210nm,19.5s								
GTA				LR	LR				
	comp=Z,240nm,19.9s								
NJ2	**Nanjing**	**170.92**	**268**	*e*PKP	**PKPdf**	**13 00 26.5**	**+1.1**		
HHC	**Hu-ho-hao-te**	**171.51**	**342**	*e*PKP	**PKPdf**	**13 00 23.6**	**-2.0**		
HHC				pPKP	**pPKPdf**	**13 00 34.4**	**+0.4**		
HHC				sPKP		13 00 38.0			
HHC				PKS	**PKSdf**	**13 03 54.8**	**-3.2**		
HHC				PP	**PP**	**13 05 38.0**	**+1.2**		
HHC				SKS	**SKSdf**	**13 07 21.8**	**-5.6**		
HHC				SKKS	**SKKSac**	**13 12 19.9**	**-2.6**		
HHC				SS	**SS**	**13 26 38.0**	**-3.3**		
HHC				PPMZ					
	comp=Z,240nm,7.8s								
HHC				LR	LR				
	comp=Z,300nm,19.8s								
HHC				LR	LR				
	comp=Z,310nm,19.0s								
HHC				LR	LR				
	comp=Z,400nm,20.1s								
GYA	**Guiyang**	**173.56**	**168**	*e*PKP	**PKPdf**	**13 00 26.8**	**-0.1**		
GYA				sPKP		13 00 37.4			
GYA				PKPab	**PKPab**	**13 01 58.0**	**+2.1**		
GYA				PKS	**PKSdf**	**13 03 58.4**	**-1.0**		
GYA				PP	**PP**	**13 05 50.9**	**+4.1**		
GYA				SKKS		13 12 33.6			
GYA				SS	**SS**	**13 27 02.6**	**+1.4**		
GYA				PPMZ					
	comp=Z,120nm,8.0s								
GYA				LR	LR				
	comp=Z,130nm,24.0s								
GYA				LR	LR				
	comp=Z,120nm,20.8s								
GYA				LR	LR				
	comp=Z,140nm,23.2s								
LZH	**Lanzhou**	**175.15**	**46**	*e*PKP	**PKPdf**	**13 00 27.3**	**+0.1**		
LZH				pPKP	**pPKPdf**	**13 00 34.8**	**-0.8**		
LZH				sPKP		13 00 37.3			
LZH				PKPab	**PKPab**	**13 02 04.5**	**+1.4**		
LZH				PP	**PP**	**13 05 57.1**	**+1.6**		
LZH				SKKS		13 12 40.5			
LZH				*e*SS	**SS**	**13 27 16.3**	**-2.1**		
LZH				PPMZ					
	comp=Z,110nm,7.0s								
LZH				LR	LR				
	comp=Z,160nm,19.2s								
LZH				LR	LR				
	comp=Z,160nm,18.9s								
LZH				LR	LR				
	comp=Z,200nm,20.2s								
CD2	**Chengdu**	**175.82**	**115**	PKP	**PKPdf**	**13 00 27.0**	**-0.4**		
CD2				pPKP	**pPKPdf**	**13 00 37.8**	**+2.0**		
CD2				sPKP		13 00 41.4			
CD2				PKS	**PKSdf**	**13 03 57.8**	**-1.9**		
CD2				PP	**PP**	**13 06 01.3**	**+2.2**		
CD2				SKS	**SKSdf**	**13 07 25.9**	**-3.1**		
CD2				SKKS	**SKKSac**	**13 12 43.3**	**-0.5**		
CD2				SS	**SS**	**13 27 22.3**	**-3.2**		
CD2				PPMZ					
	comp=Z,420nm,6.6s								
CD2				LR	LR				
	comp=Z,580nm,7.2s								
CD2				LR	LR				
	comp=Z,450nm,7.2s								

*IDC **21** 12:40:55.4±0.5, 32.°76S×71.°87W, h0km, mb4.7/16, mb1 4.8/18, mb1mx4.7/21, mbtmp4.7/18, ML4.9/2, MS3.8/1, Ms1 3.8/1, ms1mx3.4/15, Error ellipse: s-maj=21.9km s-min=15.7km az=66.0*

*ISCJB **21** 12:40:56.7±0.5, 32.°74S±0.°09×71.°8W±0.°1, h16km, mb4.8/19, Error ellipse: s-maj=16.5km s-min=12.5km az=162.3*

ISC 21 12:40:57.9±0.5, **32.°7S**±0.°1×**71.°89W**±0.°09, **h16**km, **n38,**
σ1**9**32/42, **mb4.8**/19, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
CFAA	**Coronel Fontan**	**3.29**	**71**	Sn	**Sb**	**12 42 38.7**		**+2.9**
	16nm,0.3s,baz=90,slow=18,SNR=5.0							
CPUP	**Villa Florida**	**14.18**	**67**	Pn	**Pn**	**12 44 15.8**		**-2.4**
	2.3nm,0.3s,baz=237,slow=13,SNR=5.4							
CPUP				Sn	Sn	12 47 03.0		+7.8
	1.0nm,0.3s,baz=127,slow=20,SNR=2.3							
CPUP				LR	LR	12 50 32.2		
	comp=Z,456nm,22.0s,baz=235,slow=41							
LPAZ	**La Paz**	**16.72**	**13**	Pn	**Pn**	**12 44 52.1**		**-0.1**
	1.1nm,0.3s,baz=134,slow=5.1,SNR=6.6							
BDFB	**Brasilia**	**27.53**	**58**	P	**P**	**12 46 44.0**		**-0.1**
	21nm,0.9s,baz=238,slow=6.6,SNR=6.1							
ROSC	**El Rosal**	**37.45**	**356**	P	**P**	**12 48 12.8**		**+1.6**
	3.8nm,0.5s,baz=270,slow=18,SNR=2.4							
SNAA	**Sanae**	**52.71**	**158**	P	**P**	**12 50 11.8**		**+0.3**
	4.3nm,0.8s,baz=273,slow=6.6,SNR=4.8							
QSPA	**South Pole Qui**	**57.50**	**180**	P	**P**	**12 50 46.6**		**+0.4**
	13nm,0.9s							
TXAR	**Lajitas Array**	**68.69**	**330**	P	**P**	**12 51 60.0**		**-0.8**
	3.1nm,0.8s,baz=151,slow=7.5,SNR=7.2							
LIC	**Lamto**	**74.25**	**72**	*e*P	**P**	**12 52 34.5**		**-0.1**
	52nm,1.1s							
MAW	**Mawson**	**74.36**	**164**	P	**P**	**12 52 34.6**		**+0.2**
	8.2nm,0.8s,baz=220,slow=9.5,SNR=5.3							
TIC	**Toumodi**	**74.51**	**71**	*e*P	**P**	**12 52 36.2**		**+0.1**
	77nm,1.3s							
KIC	**Kosan Boka**	**74.56**	**72**	*e*P	**P**	**12 52 36.6**		**+0.2**
	163nm,1.4s							
DBIC	**Dimbokro**	**74.65**	**72**	P	**P**	**12 52 37.1**		**+0.2**
	10nm,0.8s,baz=218,slow=6.3,SNR=7.3							
SUR	**Sutherland**	**75.33**	**119**	P	**P**	**12 52 41.7**		**+0.7**
	19nm,0.9s,baz=300,slow=3.9,SNR=5.7							
PFO	**Pinyon Flat Ob**	**78.19**	**323**	P	**P**	**12 52 57.8**		**+1.1**
	7.8nm,1.0s,baz=130,slow=5.5,SNR=2.7							
BOSA	**Boshof**	**80.55**	**118**	P	**P**	**12 53 09.8**		**-0.1**
	16nm,0.9s,baz=249,slow=6.1,SNR=6.3							
PDAR	**Pinedale Array**	**82.69**	**333**	P	**P**	**12 53 21.3**		**+0.5**
	1.2nm,0.7s,baz=190,slow=4.5,SNR=4.8							
NVAR	**Mina Array Bea**	**82.92**	**325**	P	**P**	**12 53 23.0**		**+0.9**
	3.4nm,0.7s,baz=148,slow=6.3,SNR=8.4							
TORD	**Torodi Ar. Bea**	**83.66**	**70**	P	**P**	**12 53 26.5**		**+0.3**
	14nm,0.8s,baz=258,slow=4.6,SNR=12							
ULM	**Lac du Bonnet**	**85.31**	**345**	P	**P**	**12 53 33.3**		**-0.4**
	6.0nm,0.8s,baz=196,slow=3.7,SNR=4.6							
YBH	**Yreka Blue Hor**	**87.61**	**324**	P	**P**	**12 53 45.2**		**-0.1**
	2.9nm,0.8s,baz=123,slow=6.5,SNR=4.4							
ESDC	**Sonseca Array**	**95.61**	**46**	P	**P**	**12 54 22.5**		**0.0**
	0.1nm,0.2s,baz=255,slow=4.9,SNR=3.1							
ASAR	**Alice Springs**	**118.75**	**207**	PKP	**PKPdf**	**12 59 44.4**		**-1.5**
	0.4nm,0.6s,baz=140,slow=1.7,SNR=4.1							
ASAR				PKKPbc	**PKKPab**	**13 10 04.0**		**-2.5**
	0.8nm,0.9s,baz=352,slow=4.1,SNR=3.4							
BRTR	**Keskin Array B**	**121.10**	**60**	PKP	**PKPdf**	**12 59 49.8**		**-0.2**
	1.2nm,0.8s,baz=231,slow=4.7,SNR=4.4							
AKASG	**Malin Array Be**	**121.24**	**47**	PKP	**PKPdf**	**12 59 49.1**		**-0.6**
	0.7nm,0.4s,baz=279,slow=2.4,SNR=4.3							
WRA	**Warramunga Arr**	**121.93**	**209**	PKP	**PKPdf**	**12 59 50.6**		**-1.6**
	0.6nm,0.5s,baz=160,slow=1.6,SNR=5.6							
KBZ	**Khabaz**	**128.81**	**58**	PKP	**PKPdf**	**13 00 05.0**		**+0.7**
	1.9nm,0.8s,baz=158,slow=5.4,SNR=3.6							
AKTO	**Aktyubinsk**	**139.42**	**49**	PKP	**PKPdf**	**13 00 23.1**		**-1.0**
	2.7nm,0.9s,baz=306,slow=4.8,SNR=4.1							
BVAR	**Borovoye Array**	**146.26**	**42**	PKPbc	**PKPbc**	**13 00 37.1**		**-0.2**
	7.3nm,0.8s,baz=270,slow=3.0,SNR=8.8							
AAK	**Ala-Archa**	**151.78**	**60**	PKPbc	**PKPbc**	**13 00 52.1**		**+0.2**
	16nm,0.7s,baz=183,slow=2.6,SNR=9.7							
KURBB	**Kurchatov Arra**	**151.85**	**42**	PKPbc	**PKPbc**	**13 00 51.4**		**-0.2**
	9.0nm,0.7s,baz=300,slow=3.1,SNR=14							
KURBB				PP	**PP**	**13 04 29.6**		**-2.7**
	0.5nm,0.7s,baz=289,slow=4.3,SNR=2.2							
ZALV	**Zalesovo Beam**	**153.08**	**31**	PKPbc	**PKPbc**	**13 00 53.4**		**-0.8**
	20nm,0.9s,baz=297,slow=3.1,SNR=9.0							
MKAR	**Makanchi Array**	**155.82**	**47**	PKPab	**PKPab**	**13 01 17.4**		**-0.3**
	7.0nm,0.6s,baz=293,slow=4.2,SNR=10							
KLR	**Kul'dur**	**155.86**	**320**	*e*PKP2	**PKPdf**	**13 00 55.8**		**+4.9**
KSRS	**Korea Array**	**163.12**	**292**	PKPab	**PKPab**	**13 01 50.7**		**+1.0**
	1.0nm,0.6s,baz=118,slow=4.0,SNR=4.8							
CMAR	**Chiang Mai Arr**	**163.57**	**148**	PKP	**PKPdf**	**13 01 00.3**		**-0.3**
	0.5nm,0.3s,baz=237,slow=3.1,SNR=3.4							
SONM	**Songino Array**	**164.86**	**4**	PKP	**PKPdf**	**13 01 00.4**		**-0.7**
	0.4nm,0.7s,baz=42,slow=2.3,SNR=2.7							
SONM				PKPab	**PKPab**	**13 01 57.4**		**+0.4**
	1.1nm,0.7s,baz=329,slow=3.9,SNR=4.8							
SONM				PP	**PP**	**13 05 43.2**		**+0.4**
	1.3nm,1.0s,baz=345,slow=5.1,SNR=3.8							
XAN	**Xi'an**	**178.53**	**333**	PKP	**PKPdf**	**13 01 07.8**		**-0.1**

GUC 21 12:46:49.1±0.8, **32.°77S**×**71.°91W**, **h8**km±3km, **ML3.5,**
11C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
IHA	**Instituto Hidr**	**0.34**	**139**	⇑*i*P	Pg	12 46 56.2		+0.3
IHA				*i* S	Sg	12 47 01.6		+1.1
ROCH	**El Roble**	**0.78**	**105**	⇑*i*P	Pg	12 47 04.2		-0.3
ROCH				*i* S	Sb	12 47 15.9		-0.4
ROCH				AML	AML	12 47 17.7		
	comp=N,8μm,0.4s							
CHNG	**Los Chungos**	**0.95**	**22**	⇑*i*P	Pg	12 47 06.4		-0.9
CHNG				*i* S	Sb	12 47 20.1		-0.4
CHNG				AML	AML	12 47 23.7		
	comp=E,2μm,0.5s							
PEL	**Peldehue**	**1.10**	**110**	⇓*i*P	Pg	12 47 09.2		-1.1
PEL				*i* S	Sg	12 47 24.7		+0.1
PEL				AML	AML	12 47 31.5		
	comp=E,6μm,1.0s							
JACH	**Jahuel**	**1.11**	**86**	⇑*i*P	Pg	12 47 09.6		-1.1
JACH				*i* S	Sg	12 47 24.9		-0.4
TACH	**Talagante**	**1.20**	**138**	⇑*i*P	Pb	12 47 10.7		-1.4
TACH				*i* S	Sb	12 47 26.8		-1.1
SAN	**Santiago**	**1.25**	**123**	⇑*i*P	Pn	12 47 12.0		-0.9
SAN				*i* S	Sb	12 47 28.7		-0.6
SAN				AML	AML	12 47 30.0		
	comp=N,2μm,0.2s							
LNV	**Longovilo**	**1.26**	**161**	*e*P	Pn	12 47 11.1		-1.9
STL	**Santa Lucia**	**1.26**	**122**	⇑*i*P	Pn	12 47 12.1		-0.9
STL				*i* S	Sb	12 47 29.1		-0.4
STL				AML	AML	12 47 29.8		
	comp=N,262nm,0.4s							
CLCH	**Cerro Calan**	**1.31**	**119**	⇑*i*P	Pn	12 47 12.8		-1.0
CLCH				*i* S	Sb	12 47 30.7		-0.5
CLCH				AML	AML	12 47 37.7		
	comp=N,3μm,0.5s							
ANTU	**Antumapu**	**1.34**	**127**	⇑*i*P	Pn	12 47 13.5		-0.6
ANTU				*i* S	Sb	12 47 31.0		-0.8
ANTU				AML	AML	12 47 37.7		
	comp=N,2μm,0.7s							
PCH	**Pirque**	**1.45**	**126**	⇓*i*P	Pn	12 47 15.0		-0.7
PCH				*i* S	Sn	12 47 34.4		-0.6
SJCH	**San Jose de Ma**	**1.57**	**124**	⇓*i*P	Pn	12 47 16.1		-1.3
SJCH				*i* S	Sn	12 47 37.0		-1.0
SJCH				AML	AML	12 47 42.5		
	comp=N,1μm,0.6s							
CACH	**El Canelo**	**1.74**	**141**	⇑*i*P	Pn	12 47 20.0		+0.3
LMEL	**Las Melosas**	**1.79**	**127**	⇑*i*P	Pn	12 47 20.6		0.0
LMEL				*i* S	Sb	12 47 44.6		-0.5
LMEL				AML	AML	12 47 49.4		
	comp=N,1μm,1.1s							

*ISCJB **21** 12:50:09.6±0.4, 38.°57S±0.°03×175.°81E±0.°05, h174km±3km, mb3.4/5, Error ellipse: s-maj=5.9km s-min=4.4km az=10.5*

*IDC **21** 12:50:10.1±0.8, 38.°63S×175.°62E, h136km±9km, mb3.3/5, mb1 3.5/6, mb1mx3.4/18, mbtmp3.4/6, Error ellipse: s-maj=19.7km s-min=14.3km az=146.0*

*NEIC **21** 12:50:11.2, 38.°47S×175.°88E, h162km, MG4.6(WEL), After WEL.*

*WEL **21** 12:50:11.6±0.2, 38.°47S×175.°90E, h159km±1km, ML4.6/20, Error ellipse: s-maj=1.0km s-min=0.8km az=90.0*

ISC 21 12:50:10.2±0.8, **38.°60S**±0.°04×**175.°81E**±0.°04, **h173**km±5km,
n221, σ1**9**33/229, **mb3.3**/5, **45C-23D, North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
WATZ	**Wairara**	**0.13**	**206**	⇑PN	**Pn**	**12 50 33.3**		**+0.1**
WATZ				SN	**Sn**	**12 50 50.2**		**-0.9**
WATZ	**Wairara**	**0.13**	**206**	Pn	**Pn**	**12 50 33.3**		**+0.1**
WATZ				Sn	**Sn**	**12 50 50.2**		**-0.9**
RATZ	**Rangitukua**	**0.27**	**186**	PN	**Pn**	**12 50 33.6**		**0.0**
RATZ	**Rangitukua**	**0.27**	**186**	Pn	**Pn**	**12 50 33.6**		**0.0**
TLZ	**Tolley Road**	**0.34**	**322**	PN	**Pn**	**12 50 33.5**		**-0.2**
HATZ	**Hinemaiaia**	**0.37**	**143**	⇑PN	**Pn**	**12 50 33.6**		**-0.2**
HATZ	**Hinemaiaia**	**0.37**	**143**	Pn	**Pn**	**12 50 33.6**		**-0.2**
RITZ	**Rihia Road**	**0.38**	**174**	PN	**Pn**	**12 50 34.4**		**+0.6**
RITZ	**Rihia Road**	**0.38**	**174**	Pn	**Pn**	**12 50 34.4**		**+0.6**
KATZ	**Kakaramea**	**0.39**	**193**	PN	**Pn**	**12 50 34.2**		**+0.2**
KATZ	**Kakaramea**	**0.39**	**193**	Pn	**Pn**	**12 50 34.2**		**+0.2**
ALRZ	**Allen Road**	**0.42**	**86**	PN	**Pn**	**12 50 33.4**		**-0.6**
ALRZ				SN	**Sn**	**12 50 49.7**		**-2.4**
ALRZ	**Allen Road**	**0.42**	**86**	Pn	**Pn**	**12 50 33.4**		**-0.6**
HRRZ	**Handcock Road**	**0.43**	**62**	⇓PN	**Pn**	**12 50 33.3**		**-0.7**
HRRZ				SN	**Sn**	**12 50 49.9**		**-2.3**
HRRZ	**Handcock Road**	**0.43**	**62**	Pn	**Pn**	**12 50 33.3**		**-0.7**
PRRZ	**Plateau Road**	**0.47**	**78**	PN	**Pn**	**12 50 33.4**		**-0.8**
PRRZ				SN	**Sn**	**12 50 50.1**		**-2.4**
KRVZ	**Karewarewa**	**0.52**	**194**	⇑PN	**Pn**	**12 50 34.8**		**+0.3**
KRVZ	**Karewarewa**	**0.52**	**194**	Pn	**Pn**	**12 50 34.8**		**+0.3**
WTVZ	**West Tongariro**	**0.55**	**198**	⇑PN	**Pn**	**12 50 35.0**		**+0.4**
WTVZ	**West Tongariro**	**0.55**	**198**	Pn	**Pn**	**12 50 35.0**		**+0.4**
TWVZ	**Taurewa**	**0.56**	**211**	⇑PN	**Pn**	**12 50 35.2**		**+0.6**
TWVZ	**Taurewa**	**0.56**	**211**	Pn	**Pn**	**12 50 35.2**		**+0.6**
NGZ	**Ngauruhoe**	**0.60**	**195**	PN	**Pn**	**12 50 35.2**		**+0.3**
NGZ	**Ngauruhoe**	**0.60**	**195**	Pn	**Pn**	**12 50 35.2**		**+0.3**
RRRZ	**Republican Roa**	**0.61**	**66**	⇓PN	**Pn**	**12 50 33.9**		**-0.9**
RRRZ				SN	**Sn**	**12 50 50.7**		**-3.0**
RRRZ	**Republican Roa**	**0.61**	**66**	Pn	**Pn**	**12 50 33.9**		**-0.9**
WPVZ	**Whakapapa**	**0.64**	**198**	PN	**Pn**	**12 50 35.4**		**+0.4**
WPVZ	**Whakapapa**	**0.64**	**198**	Pn	**Pn**	**12 50 35.5**		**+0.4**
TARZ	**Mount Tarawera**	**0.66**	**57**	PN	**Pn**	**12 50 34.2**		**-0.9**
TARZ	**Mount Tarawera**	**0.66**	**57**	Pn	**Pn**	**12 50 34.3**		**-0.9**
KARZ	**Kaharoa**	**0.67**	**31**	⇓PN	**Pn**	**12 50 34.2**		**-1.0**
KARZ	**Kaharoa**	**0.67**	**31**	Pn	**Pn**	**12 50 34.2**		**-1.0**
TUVZ	**Tukino**	**0.68**	**190**	PN	**Pn**	**12 50 35.9**		**+0.6**
TUVZ	**Tukino**	**0.68**	**190**	Pn	**Pn**	**12 50 36.0**		**+0.6**
FWVZ	**Far West T-bar**	**0.69**	**197**	PN	**Pn**	**12 50 35.8**		**+0.4**
FWVZ	**Far West T-bar**	**0.69**	**197**	Pn	**Pn**	**12 50 35.9**		**+0.4**
DRZ	**Dome Shelter**	**0.70**	**195**	⇓PN	**Pn**	**12 50 36.4**		**+0.8**
DRZ	**Dome Shelter**	**0.70**	**195**	Pn	**Pn**	**12 50 36.4**		**+0.8**
WHVZ	**Whangaehu Hut**	**0.71**	**194**	⇑PN	**Pn**	**12 50 35.9**		**+0.3**
TRVZ	**Turoa**	**0.73**	**196**	⇓PN	**Pn**	**12 50 36.2**		**+0.5**
TRVZ	**Turoa**	**0.73**	**196**	Pn	**Pn**	**12 50 36.1**		**+0.5**
HIZ	**Hauiti**	**0.75**	**276**	⇓PN	**Pn**	**12 50 35.9**		**+0.4**
HIZ	**Hauiti**	**0.75**	**276**	Pn	**Pn**	**12 50 36.0**		**+0.4**
WNVZ	**Wahianoa**	**0.75**	**192**	⇑PN	**Pn**	**12 50 36.5**		**+0.8**
WNVZ	**Wahianoa**	**0.75**	**192**	Pn	**Pn**	**12 50 36.5**		**+0.8**
PKVZ	**Pokaka**	**0.78**	**207**	⇑PN	**Pn**	**12 50 36.6**		**+0.8**
PKVZ	**Pokaka**	**0.78**	**207**	Pn	**Pn**	**12 50 36.6**		**+0.8**
BKZ	**Black Stump Fm**	**0.78**	**137**	⇓PN	**Pn**	**12 50 35.9**		**+0.1**
BKZ				AML	AML	12 50 55.4		
BKZ				AML	AML	12 50 55.7		
BKZ	**Black Stump Fm**	**0.78**	**137**	Pn	**Pn**	**12 50 35.5**		**-0.3**
MOVZ	**Moawhango**	**0.81**	**183**	⇑PN	**Pn**	**12 50 36.5**		**+0.5**
MOVZ	**Moawhango**	**0.81**	**183**	Pn	**Pn**	**12 50 36.5**		**+0.5**
MTVZ	**Mangateitei**	**0.83**	**198**	⇑PN	**Pn**	**12 50 36.9**		**+0.8**
MTVZ	**Mangateitei**	**0.83**	**198**	Pn	**Pn**	**12 50 37.0**		**+0.8**
TOZ	**Tahuroa Road**	**0.90**	**344**	⇑PN	**Pn**	**12 50 35.9**		**-0.6**
TOZ	**Tahuroa Road**	**0.90**	**344**	Pn	**Pn**	**12 50 35.2**		**-1.3**
BHHZ	**Black Hill Sta**	**0.91**	**167**	⇑PN	**Pn**	**12 50 37.2**		**+0.5**
BHHZ	**Black Hill Sta**	**0.91**	**167**	Pn	**Pn**	**12 50 37.2**		**+0.5**
NMHZ	**Naumai**	**0.93**	**123**	⇑PN	**Pn**	**12 50 37.6**		**+0.8**
NMHZ	**Naumai**	**0.93**	**123**	Pn	**Pn**	**12 50 37.6**		**+0.8**
TGRZ	**Tauranga**	**0.94**	**23**	⇓PN	**Pn**	**12 50 35.7**		**-1.1**
TGRZ				SN	**Sn**	**12 50 54.8**		**-2.4**
TGRZ	**Tauranga**	**0.94**	**23**	Pn	**Pn**	**12 50 35.7**		**-1.1**
OPRZ	**Ohinepanea**	**0.95**	**38**	⇓PN	**Pn**	**12 50 35.7**		**-1.2**
OPRZ	**Ohinepanea**	**0.95**	**38**	Pn	**Pn**	**12 50 35.3**		**-1.6**
VRZ	**Vera Road**	**0.97**	**237**	⇑PN	**Pn**	**12 50 38.1**		**+1.1**
VRZ	**Vera Road**	**0.97**	**237**	Pn	**Pn**	**12 50 37.8**		**+0.7**
RAHZ	**Arahi**	**1.05**	**108**	PN	**Pn**	**12 50 37.9**		**+0.3**
RAHZ	**Arahi**	**1.05**	**108**	Pn	**Pn**	**12 50 37.9**		**+0.3**
URZ	**Urewera**	**1.08**	**72**	⇓PN	**Pn**	**12 50 36.4**		**-1.4**
URZ				AML	AML	12 50 56.0		
URZ				AML	AML	12 50 56.3		
URZ	**Urewera**	**1.08**	**72**	*e*Pn	**Pn**	**12 50 36.5**		**-1.4**
URZ				*e*Sn	**Sn**	**12 50 55.6**		**-3.5**
URZ	**Urewera**	**1.08**	**72**	P	**Pn**	**12 50 36.4**		**-1.4**
	151nm,0.3s,baz=252,slow=6.3,SNR=2030							
URZ				S	**Sn**	**12 50 55.2**		**-3.9**
	243nm,0.3s,baz=132,slow=20,SNR=68							
MCHZ	**McNeill Hill**	**1.09**	**141**	⇑PN	**Pn**	**12 50 39.3**		**+1.3**
SNGZ	**Shannon Statio**	**1.22**	**99**	Pn	**Pn**	**12 50 39.1**		**+0.1**
WHHZ	**Waihua**	**1.22**	**114**	⇑PN	**Pn**	**12 50 39.4**		**+0.4**
MHEZ	**Mangahewa**	**1.25**	**247**	⇑PN	**Pn**	**12 50 40.9**		**+1.6**
MHEZ	**Mangahewa

CAW	**Cannon Point**	**2.57**	**193**	Pn	**Pn**	**12 50 53.6**	**+0.2**
DUWZ	**D'Urville Isla**	**2.64**	**213**	PN	**Pn**	**12 50 54.3**	**+0.2**
DUWZ	**D'Urville Isla**	**2.64**	**213**	Pn	**Pn**	**12 50 54.4**	**+0.2**
PAWZ	**Paruwai Farm**	**2.80**	**186**	⇑PN	**Pn**	**12 50 56.0**	**0.0**
PAWZ				AML	AML	12 51 31.1	
PAWZ				AML	AML	12 51 32.9	
PAWZ	**Paruwai Farm**	**2.80**	**186**	Pn	**Pn**	**12 50 56.0**	**0.0**
TRWZ	**Traveller**	**2.80**	**182**	⇑PN	**Pn**	**12 50 56.1**	**0.0**
TRWZ				AML	AML	12 51 32.7	
TRWZ				AML	AML	12 51 33.2	
TRWZ	**Traveller**	**2.80**	**182**	Pn	**Pn**	**12 50 56.1**	**0.0**
WEL	**Wellington**	**2.80**	**196**	⇑PN	**Pn**	**12 50 56.1**	**0.0**
WEL	**Wellington**	**2.80**	**196**	Pn	**Pn**	**12 50 56.1**	**0.0**
SNZO	**South Karori**	**2.84**	**197**	⇑PN	**Pn**	**12 50 56.5**	**0.0**
SNZO				AML	AML	12 51 05.3	
SNZO				AML	AML	12 51 34.3	
SNZO				AML	AML	12 51 34.6	
SNZO				AML	AML	12 51 34.6	
SNZO	**South Karori**	**2.84**	**197**	Pn	**Pn**	**12 50 56.5**	**0.0**
MSWZ	**Moikau Station**	**2.85**	**188**	⇑PN	**Pn**	**12 50 56.5**	**-0.1**
MSWZ				AML	AML	12 50 57.5	
MSWZ				AML	AML	12 51 32.6	
MSWZ	**Moikau Station**	**2.85**	**188**	Pn	**Pn**	**12 50 56.5**	**-0.1**
TCW	**Tory Channel**	**2.87**	**204**	⇑PN	**Pn**	**12 50 56.9**	**0.0**
TCW				AML	AML	12 51 34.1	
TCW				AML	AML	12 51 34.2	
TCW	**Tory Channel**	**2.87**	**204**	Pn	**Pn**	**12 50 56.9**	**0.0**
BHW	**Baring Head**	**2.90**	**194**	⇑PN	**Pn**	**12 50 57.1**	**-0.1**
BHW				AML	AML	12 50 57.6	
BHW				AML	AML	12 51 34.7	
BHW	**Baring Head**	**2.90**	**194**	Pn	**Pn**	**12 50 57.1**	**-0.1**
PLWZ	**Palliser**	**3.00**	**188**	⇑PN	**Pn**	**12 50 58.2**	**-0.4**
PLWZ	**Palliser**	**3.00**	**188**	Pn	**Pn**	**12 50 58.2**	**-0.4**
TUWZ	**Tuamarina**	**3.17**	**206**	⇓PN	**Pn**	**12 51 00.4**	**-0.2**
TUWZ				AML	AML	12 51 40.9	
TUWZ				AML	AML	12 51 42.0	
TUWZ	**Tuamarina**	**3.17**	**206**	Pn	**Pn**	**12 51 00.4**	**-0.2**
NNZ	**Nelson**	**3.21**	**215**	PN	**Pn**	**12 51 00.8**	**-0.3**
NNZ	**Nelson**	**3.21**	**215**	Pn	**Pn**	**12 51 00.8**	**-0.3**
BSWZ	**Blackbirch Sta**	**3.45**	**205**	Pn	**Pn**	**12 51 03.9**	**-0.2**
BSWZ				AML	AML	12 51 48.4	
BSWZ				AML	AML	12 51 51.9	
BSWZ	**Blackbirch Sta**	**3.45**	**205**	Pn	**Pn**	**12 51 03.9**	**-0.2**
OUZ	**Omahuta**	**3.81**	**332**	*e*Pn	**Pn**	**12 51 08.8**	**+0.2**
THZ	**Tophouse**	**3.87**	**214**	⇑PN	**Pn**	**12 51 08.6**	**-0.8**
THZ	**Tophouse**	**3.87**	**214**	Pn	**Pn**	**12 51 08.6**	**-0.8**
KHZ	**Kahutara**	**4.19**	**204**	⇓PN	**Pn**	**12 51 12.9**	**-0.5**
KHZ				AML	AML	12 52 04.9	
KHZ				AML	AML	12 52 05.0	
KHZ	**Kahutara**	**4.19**	**204**	*e*Pn	**Pn**	**12 51 13.2**	**-0.3**
KHZ				Sn	**Sn**	**12 52 01.7**	**-1.3**
DSZ	**Denniston Nort**	**4.39**	**223**	PN	**Pn**	**12 51 14.9**	**-1.3**
DSZ	**Denniston Nort**	**4.39**	**223**	Pn	**Pn**	**12 51 14.9**	**-1.3**
LTZ	**Lake Taylor**	**4.97**	**212**	PN	**Pn**	**12 51 22.0**	**-1.6**
LTZ	**Lake Taylor**	**4.97**	**212**	Pn	**Pn**	**12 51 22.1**	**-1.5**
OXZ	**Oxford**	**5.52**	**210**	PN	**Pn**	**12 51 28.2**	**-2.6**
CRLZ	**Canterbury Las**	**5.53**	**205**	PN	**Pn**	**12 51 28.9**	**-1.9**
CRLZ	**Canterbury Las**	**5.53**	**205**	Pn	**Pn**	**12 51 29.1**	**-1.7**
MQZ	**McQueen's Vall**	**5.63**	**204**	PN	**Pn**	**12 51 29.9**	**-2.3**
MQZ	**McQueen's Vall**	**5.63**	**204**	Pn	**Pn**	**12 51 29.9**	**-2.3**
WVZ	**Waitaha Valley**	**5.90**	**219**	PN	**Pn**	**12 51 33.5**	**-2.2**
WVZ	**Waitaha Valley**	**5.90**	**219**	Pn	**Pn**	**12 51 33.5**	**-2.2**
RPZ	**Rata Peaks**	**6.25**	**214**	PN	**Pn**	**12 51 38.2**	**-2.1**
RPZ	**Rata Peaks**	**6.25**	**214**	*e*Pn	**Pn**	**12 51 39.0**	**-1.3**
RPZ				*e*Sn	**Sn**	**12 52 45.6**	**-5.7**
RPZ	**Rata Peaks**	**6.25**	**214**	P	**Pn**	**12 51 38.6**	**-1.7**
	14nm,0.3s,baz=58,slow=1.2,SNR=92						
RPZ				S	**Sn**	**12 52 47.1**	**-4.1**
	28nm,0.3s,baz=40,slow=23,SNR=27						
FOZ	**Fox Glacier**	**6.78**	**221**	Pn	Pn	12 51 43.3	-4.0
LBZ	**Lake Benmore**	**7.16**	**214**	*e*PN	**Pn**	**12 51 49.3**	**-3.0**
LBZ	**Lake Benmore**	**7.16**	**214**	Pn	**Pn**	**12 51 49.5**	**-2.8**
ODZ	**Otahua Downs**	**7.51**	**209**	PN	**Pn**	**12 51 54.7**	**-2.2**
ODZ	**Otahua Downs**	**7.51**	**209**	*e*Pn	**Pn**	**12 51 55.7**	**-1.2**
ODZ				*e*Sn	**Sn**	**12 53 16.5**	**-4.7**
JCZ	**Jackson Bay**	**7.62**	**222**	*e*PN	Pn	12 51 54.3	-4.2
JCZ	**Jackson Bay**	**7.62**	**222**	Pn	**Pn**	**12 51 55.5**	**-3.0**
WKZ	**Wanaka**	**8.03**	**217**	*e*PN	Pn	12 52 00.2	-3.6
WKZ	**Wanaka**	**8.03**	**217**	Pn	**Pn**	**12 52 00.8**	**-3.0**
EAZ	**Earnscleugh**	**8.21**	**214**	*e*PN	**Pn**	**12 52 03.1**	**-3.0**
EAZ	**Earnscleugh**	**8.21**	**214**	Pn	**Pn**	**12 52 03.3**	**-2.8**
TUZ	**Tuapeka**	**8.66**	**210**	PN	**Pn**	**12 52 11.2**	**-0.9**
TUZ	**Tuapeka**	**8.66**	**210**	Pn	**Pn**	**12 52 11.3**	**-0.8**
MLZ	**Mavora Lakes**	**8.82**	**218**	PN	**Pn**	**12 52 12.0**	**-2.2**
MLZ	**Mavora Lakes**	**8.82**	**218**	Pn	**Pn**	**12 52 12.4**	**-1.8**
WHZ	**Wether Hill Ro**	**9.33**	**216**	Pn	**Pn**	**12 52 18.3**	**-2.7**
SYZ	**Scrubby Hill**	**9.33**	**210**	PN	**Pn**	**12 52 19.3**	**-1.7**
SYZ	**Scrubby Hill**	**9.33**	**210**	Pn	**Pn**	**12 52 19.8**	**-1.2**
ASAR	**Alice Springs**	**38.49**	**280**	P	**P**	**12 57 18.0**	**+2.3**
	0.7nm,0.9s,baz=110,slow=8.0,SNR=16						
WRA	**Warramunga Arr**	**40.27**	**285**	P	**P**	**12 57 32.2**	**+1.9**
	0.3nm,0.6s,baz=125,slow=7.4,SNR=6.0						
QSPA	**South Pole Qui**	**51.53**	**180**	P	P	12 59 02.8	+4.8
	3.1nm,0.7s						
SNAA	**Sanae**	**70.03**	**180**	P	**P**	**13 01 05.8**	**+3.1**
	0.2nm,0.4s,baz=196,slow=15,SNR=6.2						
PLCA	**Paso Flores**	**80.50**	**135**	P	P	13 02 06.7	+3.7
	0.9nm,0.7s,baz=220,slow=7.9,SNR=3.6						
DBIC	**Dimbokro**	**148.21**	**179**	PKPbc	**PKPab**	**13 09 41.0**	**+1.6**
	2.2nm,1.0s,baz=176,slow=5.2,SNR=5.9						
TORD	**Torodi Ar. Bea**	**154.12**	**193**	PKPab	**PKPab**	**13 10 05.7**	**+1.7**
	0.5nm,0.8s,baz=156,slow=2.2,SNR=3.6						

JMA 21 12:55:22.3±0.2, 29°.12N×127°.97E, h177km, M3.5, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMN	**Amaminishikomi**	**1.37**	**129**	P	Pn	12 55 53.1	+0.3
JAMN				*e*S	Sn	12 56 17.0	+0.7
JTK	**Tokunoshima**	**1.58**	**147**	P	Pn	12 55 19.1	+0.2
JTK				*e*S	Sn	12 56 19.9	-0.1
JAM	**Amami Oshima**	**1.60**	**116**	P	Pn	12 55 55.0	0.0
JAM				*e*S	Sn	12 56 19.3	-0.9
JNN	**Nakanoshima**	**1.81**	**66**	*e*S	Sn	12 56 25.0	+0.9
JZK	**Kikaishima**	**1.93**	**114**	P	Pn	12 55 59.3	+0.9
JZK				*e*S	Sn	12 56 27.1	+0.7
JIH	**Iheya**	**2.08**	**180**	P	Pn	12 56 00.4	+0.4
JIH				*e*S	Sn	12 56 29.0	-0.3
JOW	**Kunigami**	**2.29**	**173**	P	Pn	12 56 02.3	-0.2
JOW				*e*S	Sn	12 56 32.1	-1.6
JAGN	**Aguni-jima**	**2.60**	**195**	P	Pn	12 56 06.3	+0.2
JAGN				*e*S	Sn	12 56 40.5	+0.4
JKE	**Kume jima 2**	**2.98**	**201**	P	Pn	12 56 10.7	+0.2
JKE				*e*S	Sn	12 56 46.9	-1.2
JJT2	**Tamagusuku 2**	**2.98**	**184**	*e*S	Sn	12 56 47.4	-0.7
JTN	**Tanegashima 3**	**3.03**	**59**	P	Pn	12 56 10.3	-0.8
JTN				*e*S	Sn	12 56 47.1	-2.1

IDC 21 13:01:05.1±3.6, 10°.88S×76°.35W, h111km±24km, mb3.3/4, mb1 3.7/6, mb1mx3.5/22, mbtmp3.3/6, Error ellipse: s-maj=108.1km s-min=21.2km az=38.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**4.24**	**331**	P	Pn	13 02 08.2	-0.1
	19nm,0.3s,baz=164,slow=5.5,SNR=212						
ATAH				S	Sn	13 02 48.0	-9.2
	6.1nm,0.3s,baz=126,slow=13,SNR=5.5						
LPAZ	**La Paz**	**9.62**	**125**	P	Pn	13 03 21.2	-0.3
	0.2nm,0.3s,baz=311,slow=6.3,SNR=5.4						
TXAR	**Lajitas Array**	**47.89**	**327**	P	P	13 09 32.3	0.0
	0.7nm,0.6s,baz=153,slow=9.6,SNR=7.5						
PDAR	**Pinedale Array**	**61.43**	**333**	P	P	13 11 09.3	-0.7
	0.5nm,0.9s,baz=120,slow=6.4,SNR=2.9						
NVAR	**Mina Array Bea**	**62.77**	**324**	P	P	13 11 19.4	+0.4
	0.7nm,0.7s,baz=144,slow=8.3,SNR=8.1						
TORD	**Torodi Ar. Bea**	**81.03**	**75**	P	P	13 13 08.4	+0.1
	0.8nm,1.1s,baz=270,slow=4.3,SNR=3.1						

GUC 21 13:04:41.7±0.9, 32°.73S×71°.88W, h4km±3km, ML3.6, 12C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.35**	**145**	⇑*i*P	Pg	13 04 48.7	+0.1
IHA				*i* S	Sg	13 04 54.5	+1.2
ROCH	**El Roble**	**0.77**	**108**	⇑*i*P	Pg	13 04 57.3	+0.4
ROCH				*i* S	Sb	13 05 08.9	-0.1
ROCH				AML	AML	13 05 10.1	
	comp=E,4μm,0.5s						
CHNG	**Los Chungos**	**0.91**	**21**	⇓*i*P	Pg	13 04 59.3	+0.2
CHNG				*i* S	Sb	13 05 12.0	-0.3
CHNG				AML	AML	13 05 17.1	
	comp=E,615nm,0.3s						
PEL	**Peldehue**	**1.09**	**112**	⇑*i*P	Pg	13 05 02.4	-0.2
PEL				*i* S	Sb	13 05 17.9	+0.2
PEL				AML	AML	13 05 24.7	
	comp=E,8μm,0.4s						
JACH	**Jahuel**	**1.09**	**88**	⇑*i*P	Pg	13 05 02.6	-0.2
TACH	**Talagante**	**1.21**	**139**	⇑*i*P	Pg	13 05 03.5	-1.5
TACH				*i* S	Sg	13 05 19.4	-1.4
SAN	**Santiago**	**1.25**	**125**	⇑*i*P	Pg	13 05 04.7	-1.1
SAN				*i* S	Sb	13 05 22.3	-0.1
SAN				AML	AML	13 05 28.9	
	comp=N,2μm,0.2s						
LNV	**Longovilo**	**1.28**	**162**	⇑*i*P	Pg	13 05 04.7	-1.7
LNV				*i* S	Sb	13 05 23.1	-0.1
CLCH	**Cerro Calan**	**1.31**	**121**	⇑*i*P	Pn	13 05 05.7	-1.1
CLCH				*i* S	Sg	13 05 23.8	-0.2
CLCH				AML	AML	13 05 32.0	
	comp=N,2μm,0.6s						
ANTU	**Antumapu**	**1.34**	**129**	⇑*i*P	Pn	13 05 06.2	-1.0
ANTU				*i* S	Sg	13 05 24.5	-0.4
ANTU				AML	AML	13 05 32.7	
	comp=N,3μm,0.5s						
PCH	**Pirque**	**1.45**	**128**	⇓*i*P	Pn	13 05 08.1	-0.7
PCH				*i* S	Sb	13 05 27.4	-0.8
CMCH	**Combarbala**	**1.73**	**26**	⇑*i*P	Pn	13 05 12.4	-0.2
CMCH				*i* S	Sn	13 05 35.1	0.0
CMCH				AML	AML	13 05 45.4	
	comp=E,3μm,0.6s						
CACH	**El Canelo**	**1.75**	**143**	⇑*i*P	Pn	13 05 13.2	+0.2
LMEL	**Las Melosas**	**1.79**	**129**	⇑*i*P	Pn	13 05 13.7	+0.1
LMEL				*i* S	Sn	13 05 37.5	+0.6
LMEL				AML	AML	13 05 43.2	
	comp=N,1μm,0.8s						

*IDC **21** 13:11:20.2±3.3, 59°.50N×23°.08E, h0km, mb1 3.2/3, mb1mx3.0/27, mbtmp3.1/3, ML2.4/2, Error ellipse: s-maj=44.4km s-min=16.1km az=159.0*
*ISCJB **21** 13:11:23.2±1.5, 59°.77N±0°.08×23°.03E±0°.10, h0km, Error ellipse: s-maj=11.4km s-min=6.1km az=19.4*
*HEL **21** 13:11:23.7±0.6, 59°.70N×23°.01E, h0km, ML1.8, Explosion*

ISC 21 13:11:20.3±2.1, 59°.6N±0°.1×22°.84E±0°.05, h0km, n12, σ1°.44/22, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.98**	**53**	*e*P	**Pg**	**13 11 38.5**	**-0.5**
MEF				*e*S	**Sg**	**13 11 49.6**	**-2.0**
RAF	**Rauma**	**1.49**	**339**	*e*P	**Pg**	**13 11 49.2**	**+0.3**
RAF				*e*S	**Sb**	**13 12 08.1**	**-0.1**
RAF				MSG		13 12 13.9	
	comp=Z,7.8nm,0.1s						
PVF	**Pernaja**	**1.77**	**58**	*e*P	**Pn**	**13 11 52.6**	**+0.6**
PVF				*e*S	**Sn**	**13 12 13.7**	**-1.5**
FIA0	**FINESS Array S**	**2.42**	**40**	*e*P	**Pb**	**13 12 03.4**	**-1.2**
FIA0				*e*S	**Sn**	**13 12 32.5**	**+1.2**
FIA0				MSG		13 12 35.4	
	comp=Z,4.3nm,0.1s						
FINES	**FINESS Array B**	**2.42**	**40**	Pn	**Pn**	**13 12 02.8**	**+1.8**
	comp=Z,0.9nm,0.3s,baz=221,slow=14,SNR=43						
FINES				Sn	**Sn**	**13 12 33.0**	**+1.7**
	comp=Z,1.6nm,0.3s,baz=220,slow=24,SNR=7.2						
VJF	**Virojoki**	**2.53**	**67**	*e*P	**Pn**	**13 12 03.9**	**+1.4**
VJF				*e*S	**Sn**	**13 12 35.1**	**+1.1**
VJF				MSG		13 12 40.2	
	comp=Z,2.8nm,0.1s						
KEF	**Keuruu**	**2.73**	**20**	*e*P	**Pb**	**13 12 08.1**	**-1.7**
KEF				*e*S	**Sn**	**13 12 40.0**	**+1.1**
KAF	**Kangasniemi**	**3.01**	**33**	*e*P	**Pn**	**13 12 11.8**	**+2.7**
KAF				*e*S	**Sn**	**13 12 46.7**	**+0.9**
VAF	**Ylistaro**	**3.42**	**359**	*e*PB	**Pb**	**13 12 21.5**	**-0.2**
VAF				*e*SB	**Sb**	**13 13 03.0**	**-0.7**
SUF	**Sumiainen**	**3.48**	**26**	*e*P	**Pn**	**13 12 18.2**	**+2.6**
SUF				*e*S	**Sn**	**13 12 57.8**	**+0.3**
NOA	**NORSAR Array B**	**5.94**	**289**	Pn	**Pn**	**13 12 48.9**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=341,slow=17,SNR=1.4						
ARCES	**ARCESS Array B**	**10.01**	**5**	Pn	**Pn**	**13 13 44.3**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=180,slow=13,SNR=5.4						

MAN 21 13:23:30, 17°.84N×120°.34E, h38km, mb4.1, ML2.9, MS2.6, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.41**	**117**	*e*P	Pn	13 23 41.1	+1.9
ABRA				*e*S	Sn	13 23 49.5	+3.5
PIP	**Pasuquin**	**0.56**	**29**	⇓*i*P	Pn	13 23 43.5	+2.0
APYP	**Conner**	**0.86**	**88**	*e*P	Pn	13 23 47.0	+1.3
APYP				*e*S	Sn	13 23 59.0	+1.9

*IDC **21** 13:35:58.1±0.7, 51°.82N×173°.96W, h0km, mb4.0/18, mb1 4.2/20, mb1mx4.1/32, mbtmp4.0/20, ML4.1/2, MS3.8/1, Ms1 3.8/1, ms1mx2.8/48, Error ellipse: s-maj=23.9km s-min=13.1km az=170.0*
*NEIC **21** 13:36:00.3, 51°.49N×173°.89W, h19km, mb4.5/4, ML3.7(AEIC), After AEIC.*
*ISCJB **21** 13:36:01.2±0.5, 51°.7N±0°.1×173°.78W±0°.05, h33km, mb4.1/23, MS3.7/1, Error ellipse: s-maj=16.8km s-min=4.0km az=175.2*

ISC 21 13:36:03.2±0.7, 51°.8N±0°.1×173°.83W±0°.05, h35km, n80, σ1°.00/79, mb4.2/23, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSMY	**Great Sitkin M**	**1.41**	**282**	P	**Pn**	**13 36 25.3**	**-1.0**
GSMY				S	**Sn**	**13 36 45.3**	**+1.6**
GSTR	**Great Sitkin T**	**1.42**	**284**	*e*P	**Pn**	**13 36 26.0**	**-0.6**
GSTD	**Great Sitkin T**	**1.47**	**282**	P	**Pn**	**13 36 26.3**	**-0.9**
GSTD				S	**Sn**	**13 36 47.8**	**+2.7**
GSCK	**Great Sitkin C**	**1.47**	**281**	P	**Pn**	**13 36 25.8**	**-1.3**
ETKA	**Kagalaska Isla**	**1.60**	**274**	P	**Pn**	**13 36 27.3**	**-1.8**
ADAG	**Mount Adagdak**	**1.73**	**278**	P	**Pn**	**13 36 30.4**	**-0.4**
ADK	**Adak**	**1.78**	**275**	P	**Pn**	**13 36 29.4**	**-2.0**
ADK				S	**Sn**	**13 36 52.9**	**+0.2**
KINC	**Kanaga Island**	**2.05**	**276**	P	**Pn**	**13 36 33.9**	**-1.3**
KINC				S	**Sn**	**13 36 60.0**	**+0.4**
KIKV	**Kanaga Island**	**2.08**	**274**	P	**Pn**	**13 36 34.0**	**-1.5**
NIKH	**Nikolski High**	**3.28**	**66**	P	**Pn**	**13 36 49.9**	**-2.1**
OKCE	**Okmok Cone E**	**3.83**	**62**	P	**Pn**	**13 36 58.9**	**-0.8**
AMKA	**Amchitka**	**4.30**	**268**	*e*Pn	**Pn**	**13 37 06.4**	**+0.3**
UNV	**Unalaska Valle**	**4.91**	**62**	*e*Pn	**Pn**	**13 37 15.6**	**+1.2**
FX1	**Attu Island--F**	**8.05**	**283**	*e*P	Pn	13 38 01.1	+3.6
FX1	**Attu Island--F**	**8.05**	**283**	Pn	**Pn**	**13 37 59.6**	**+2.1**
	5.2nm,0.3s,baz=268,slow=19,SNR=8.2						
PETK	**Petropavlovsk-**	**17.37**	**286**	Pn	**Pn**	**13 40 02.2**	**-0.4**
PETK	**Petropavlovsk-**	**17.37**	**286**	Pn	**Pn**	**13 40 02.2**	**-0.4**
	0.3nm,0.3s,baz=72,slow=14,SNR=4.7						
ILAR	**Eielson Array**	**19.04**	**37**	P	**P**	**13 40 20.6**	**-1.3**
ILAR	**Eielson Array**	**19.04**	**37**	P	**P**	**13 40 20.6**	**-1.3**
	0.5nm,0.3s,baz=227,slow=8.6,SNR=22						
EGAK	**Eagle**	**21.24**	**40**	*e*P	**P**	**13 40 47.4**	**+1.5**
	17nm,0.7s						
INK	**Inuvik**	**25.38**	**34**	P	**P**	**13 41 27.4**	**+0.8**
INK	**Inuvik**	**25.38**	**34**	P	**P**	**13 41 27.4**	**+0.8**
	2.5nm,0.6s,baz=228,slow=6.0,SNR=17						
DLBC	**Dease Lake**	**25.54**	**58**	P	**P**	**13 41 29.4**	**+1.0**
DLBC	**Dease Lake**	**25.54**	**58**	P	**P**	**13 41 29.4**	**+1.0**
	2.0nm,0.9s,baz=262,slow=15,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**35.36**	**213**	T	T	14 20 55.2	
	baz=32,slow=0.4,SNR=8.6						
H11N3	**WAKE ISLAND Hy**	**35.37**	**212**	T	T	14 21 01.3	
	baz=32,slow=0.4,SNR=9.1						
H11N1	**WAKE ISLAND Hy**	**35.38**	**213**	T	T	14 20 53.1	
	baz=32,slow=0.4,SNR=10						
EDM	**Edmonton**	**35.89**	**63**	*e*P	**P**	**13 43 00.8**	**+1.2**
USRK	**Ussuriysk Arra**	**36.31**	**280**	P	**P**	**13 43 01.6**	**-1.5**
	8.5nm,0.6s,baz=58,slow=9.7,SNR=20						
H11S1	**WAKE ISLAND Hy**	**36.57**	**212**	T	T	14 22 19.1	
	baz=20,slow=0.7,SNR=31						
H11S2	**WAKE ISLAND Hy**	**36.58**	**212**	T	T	14 22 17.4	
	baz=20,slow=0.7,SNR=23						
H11S3	**WAKE ISLAND Hy**	**36.58**	**212**	T	T	14 22 19.3	
	baz=20,slow=0.7,SNR=10						
NVAR	**Mina Array Bea**	**40.43**	**87**	P	**P**	**13 43 38.9**	**+0.7**
NVAR	**Mina Array Bea**	**40.43**	**87**	P	**P**	**13 43 38.9**	**+0.7**
	0.6nm,0.8s,baz=301,slow=6.8,SNR=3.9						
KSRS	**Korea Array**	**42.72**	**274**	P	**P**	**13 43 56.4**	**-0.2**
	2.4nm,0.8s,baz=53,slow=8.3,SNR=8.0						
KSRS				LR	LR	14 02 04.0	
	comp=Z,101nm,18.6s,baz=264,slow=37						
KSAR	**Wonju Array Be**	**42.75**	**274**	P	**P**	**13 43 56.4**	**-0.5**
PDAR	**Pinedale Array**	**43.22**	**76**	P	**P**	**13 44 01.2**	**+0.2**
PDAR	**Pinedale Array**	**43.22**	**76**	P	**P**	**13 44 01.2**	**+0.2**
	0.6nm,0.7s,baz=276,slow=2.7,SNR=5.4						
ULM	**Lac du Bonnet**	**46.84**	**59**	P	**P**	**13 44 29.9**	**+0.6**
ULM	**Lac du Bonnet**	**46.84**	**59**	P	**P**	**13 44 29.9**	**+0.6**
	1.5nm,0.5s,baz=287,slow=9.6,SNR=3.1						
SONM	**Songino Array**	**49.21**	**299**	P	**P**	**13 44 47.7**	**-0.1**
SONM				PcP	**PcP**	**13 46 11.4**	**+0.8**
SONM	**Songino Array**	**49.21**	**299**	P	**P**	**13 44 47.7**	**-0.1**
	2.8nm,0.7s,baz=48,slow=8.3,SNR=10						
SONM				PcP	**PcP**	**13 46 11.4**	**+0.8**
	0.3nm,0.6s,baz=37,slow=3.6,SNR=2.8						
TXAR	**Lajitas Array**	**55.53**	**85**	P	**P**	**13 45 34.6**	**-0.2**
TXAR	**Lajitas Array**	**55.53**	**85**	P	**P**	**13 45 34.6**	**-0.2**
	0.2nm,0.4s,baz=323,slow=5.9,SNR=2.7						
KURK	**Kurchatov**	**60.95**	**316**	P	**P**	**13 46 12.3**	**0.0**
KURBB	**Kurchatov Arra**	**61.05**	**316**	P	**P**	**13 46 12.3**	**-0.7**
	1.8nm,0.4s,baz=45,slow=6.8,SNR=12						
MK31	**Makanchi Array**	**62.17**	**311**	*e*P	**P**	**13 46 19.2**	**-1.5**
MKAR	**Makanchi Array**	**62.17**	**311**	P	**P**	**13 46 19.7**	**-0.9**
MKAR	**Makanchi Array**	**62.17**	**311**	P	**P**	**13 46 19.7**	**-0.9**
	0.9nm,0.4s,baz=48,slow=5.4,SNR=24						
FINES	**FINESS Array B**	**66.03**	**350**	P	**P**	**13 46 45.1**	**-0.6**
FINES	**FINESS Array B**	**66.03**	**350**	P	**P**	**13 46 45.1**	**-0.6**
	1.8nm,0.6s,baz=27,slow=8.8,SNR=5.7						
ABKAR	**Akbulak array**	**69.44**	**326**	*e*P	**P**	**13 47 07.1**	**-0.2**
	1.6nm,0.5s						
LSA	**Lhasa**	**70.19**	**293**	*e*P	**P**	**13 47 13.9**	**+1.0**
	4.5nm,0.6s						
KKAR	**Karatay Array**	**70.35**	**315**	*e*P	**P**	**13 47 12.7**	**-0.4**
	1.1nm,0.5s						
TAPN	**Taplejung**	**73.94**	**294**	*e*P	**P**	**13 47 34.9**	**-0.2**
	20nm,0.8s						
CMAR	**Chiang Mai Arr**	**74.03**	**280**	P	**P**	**13 47 34.8**	**-0.7**
CMAR	**Chiang Mai Arr**	**74.03**	**280**	P	**P**	**13 47 34.8**	**-0.7**
	1.7nm,0.9s,baz=26,slow=7.0,SNR=8.9						
GUN	**Gumba**	**74.54**	**295**	*e*P	**P**	**13 47 38.7**	**0.0**
	33nm,0.8s						
JIRN	**Jiri**	**74.56**	**295**	*e*P	**P**	**13 47 38.8**	**0.0**
	36nm,0.7s						
RAMN	**Ramite**	**74.88**	**294**	*e*P	**P**	**13 47 40.1**	**-0.4**
	38nm,0.8s						
KKN	**Kakani**	**74.97**	**296**	*e*P	**P**	**13 47 41.2**	**+0.2**
	15nm,0.8s						
PKI	**Pulchoki**	**75.07**	**296**	*e*P	**P**	**13 47 41.4**	**-0.3**
	25nm,1.0s						
PKIN	**Phulchoki**	**75.07**	**296**	*e*P	**P**	**13 47 41.1**	**-0.6**
	16nm,1.0s						
GKN	**Gorkha**	**75.17**	**296**	*e*P	**P**	**13 47 41.8**	**-0.3**
	24nm,0.9s						
DMN	**Daman**	**75.21**	**296**	*e*P	**P**	**13 47 42.3**	**-0.2**
	14nm,0.8s						
DANN	**Dangsing**	**75.38**	**297**	*e*P	**P**	**13 47 43.4**	**-0.1**
	36nm,0.7s						
KOLN	**Koldanda**	**75.92**	**297**	*e*P	**P**	**13 47 46.0**	**-0.5**
	15nm,0.9s						
AKASG	**Malin Array Be**	**76.05**	**345**	P	**P**	**13 47 46.2**	**-0.4**
AKASG	**Malin Array Be**	**76.05**	**345**

baz=47,SNR=14
MTN Manton Dam 48.73 268 P P 13 51 22.6 -1.1
baz=48,SNR=16
TLE Tual 49.14 278 P P 13 51 27.1 +0.3
baz=49,SNR=4.8
KNRA Kununurra 50.41 264 P P 13 51 35.2 -0.9
baz=50,SNR=56
FAKI Fak Fak 50.51 281 P P 13 51 36.4 -0.5
baz=50,SNR=4.4
FITZ Fitzroy Crossi 52.95 261 *eP* **P 13 51 53.6 -0.7**
6.8nm,0.8s
FITZ Fitzroy Crossi 52.95 261 P P 13 51 53.9 -0.4
baz=53,SNR=31
FITZ Fitzroy Crossi 52.95 261 P P 13 51 53.9 -0.4
3.3nm,0.3s,baz=162,slow=2.9,SNR=57
AAI Ambon 54.05 279 P P 13 52 03.4 +1.2
baz=54,SNR=4.4
MEEK Meekatharra 58.36 249 P P 13 52 30.5 -1.1
baz=58,SNR=9.4
BLDU Ballidu 59.71 245 P P 13 52 39.5 -1.0
baz=59,SNR=19
SBA Scott Base 60.40 184 *eP* **P 13 52 46.8 +2.6**
MORW Morawa 60.41 246 P P 13 52 44.3 -0.9
baz=60,SNR=11
VNDA Vanda 60.42 185 *eP* **P 13 52 45.5 +1.1**
0.7nm,0.6s
VNDA Vanda 60.42 185 P P 13 52 45.5 +1.1
0.7nm,0.6s,baz=1.9,slow=7.9,SNR=9.7
GIRL Giralia 62.82 253 P P 13 53 01.4 +0.5
baz=62,SNR=5.2
MJAR Matsushiro Arr 67.88 323 P P 13 53 31.0 -1.3
1.2nm,0.4s,baz=172,slow=5.5,SNR=5.5
UGM Wanagama 69.57 268 P P 13 53 42.5 -0.4
baz=69,SNR=4.4
QSPA South Pole Qui 72.13 180 P P 13 53 58.1 +1.0
8.7nm,0.8s
KSM Kuching 72.62 277 *eP* **P 13 54 00.8 +0.1**
30nm,0.9s
KSM Kuching 72.62 277 P P 13 54 01.1 +0.4
baz=72,SNR=14
PETK Petropavlovsk- 73.68 345 P P 13 54 05.0 -0.9
4.1nm,0.9s,baz=147,slow=8.6,SNR=3.3
KSRS Korea Array 74.67 318 P P 13 54 12.0 +0.2
0.6nm,0.6s,baz=139,slow=6.5,SNR=4.6
NJ2 Nanjing 77.90 310 *eP* **P 13 54 30.3 +0.7**
NJ2 AMB AMB
comp=Z,10.0nm,0.7s
YBH Yreka Blue Hor 78.58 39 P P 13 54 34.3 +1.1
4.7nm,0.7s,baz=135,slow=1.7,SNR=12
QIZ Qiongzhong 79.39 294 P P 13 54 33.5 -4.4
QIZ S **S** **14 03 53.4 +1.0**
QIZ LR LR
comp=Z,93nm,18.9s
NVAR Mina Array Bea 79.49 44 P P 13 54 39.1 +0.8
comp=Z,3.6nm,0.7s,baz=224,slow=8.9,SNR=25
WVOR Wild Horse Val 81.47 40 *eP* **P 13 54 48.8 +0.5**
comp=Z,5.9nm,1.0s
WUAZ Wupatki 82.81 49 *eP* **P 13 54 56.1 +0.8**
comp=Z,3.1nm,0.9s
PSI Prapat 83.81 275 P P 13 55 00.3 -0.4
baz=84,SNR=6.2
MAW Mawson 83.82 200 *eP* **P 13 54 59.5 +0.1**
comp=Z,0.9nm,0.8s
MAW Mawson 83.82 200 P P 13 54 59.9 +0.4
baz=84,SNR=8.0
MAW Mawson 83.82 200 P P 13 55 00.1 +0.6
comp=Z,3.3nm,0.5s,baz=126,slow=5.8,SNR=14
ENH Enshi 84.22 304 *eP* **P 13 55 02.6 +0.4**
comp=Z,5.5nm,0.6s
GYA Guiyang 84.98 300 *eP* **P 13 55 05.4 -0.7**
GYA pP **pP** **13 57 09.6 -0.8**
GYA sP **S** **13 58 05.8 -2.9**
GYA PP **PP** **13 58 34.3 +0.1**
GYA SKS **SKSac** **14 04 33.0 -3.3**
GYA AMB AMB
comp=Z,10.0nm,1.0s
ILAR Eielson Array 85.92 13 P P 13 55 08.7 -0.9
comp=Z,1.2nm,0.4s,baz=224,slow=5.3,SNR=39
TXAR Lajitas Array 86.07 58 P P 13 55 13.3 +2.1
comp=Z,2.4nm,0.7s,baz=215,slow=6.0,SNR=22
XAN Xi'an 86.22 307 P P 13 55 12.5 +0.7
XAN AMB AMB
comp=Z,2.0nm,0.9s
HHC Hu-ho-hao-te 87.23 314 *eP* **P 13 55 17.6 +1.1**
HHC PP **PP** **13 58 53.8 +2.0**
HHC SKS **SKSac** **14 04 52.6 +3.3**
HHC S **S** **14 05 11.0 +2.4**
HHC SS **SS** **14 11 14.5 +3.4**
HHC AMB AMB
comp=Z,32nm,0.7s
HHC AMB AMB
comp=Z,290nm,6.4s
PDAR Pinedale Array 87.42 43 P P 13 55 18.0 +0.6
comp=Z,2.1nm,0.6s,baz=218,slow=3.7,SNR=19
CMAR Chiang Mai Arr 88.82 290 P P 13 55 25.2 +1.0
comp=Z,3.0nm,0.9s,baz=108,slow=3.0,SNR=18
CD2 Chengdu 89.02 303 P P 13 55 25.3 +0.3
CD2 AMB AMB
comp=Z,10.0nm,0.5s
SYO Syowa Base 89.12 193↑ *eP* **P 13 55 23.2 -1.4**
SNAA Sanae 90.58 179 *eP* **P 13 55 31.1 -0.4**
SNAA Sanae 90.58 179 P P 13 55 31.2 -0.2
comp=Z,0.8nm,0.6s,baz=226,slow=6.4,SNR=16
VNA2 Neumayer--Watz 91.16 177 *eP* **P 13 55 34.4 +0.3**
VNA1 Neumayer--Stat 91.39 177 *eP* **P 13 55 35.8 +0.7**
INK Inuvik 91.92 15 P P 13 55 36.9 -0.5
comp=Z,1.5nm,0.7s,baz=202,slow=3.6,SNR=5.4
SONM Songino Array 93.52 319 P P 13 55 43.8 -1.5
comp=Z,0.3nm,0.5s,baz=116,slow=3.4,SNR=3.3
MKAR Makanchi Array 109.10 314 PKiKP **PKiKP** **14 00 54.3 -1.0**
comp=Z,0.6nm,0.5s,baz=125,slow=0.8,SNR=12
ARCES ARCESS Array B 126.32 350 PKP **PKPdf** **14 01 27.4 -0.2**
comp=Z,2.5nm,0.8s,baz=29,slow=2.1,SNR=3.4
AKASG Malin Array Be 140.54 332 PKP **PKPdf** **14 01 55.6 +1.0**
comp=Z,0.6nm,0.4s,baz=45,slow=4.1,SNR=4.3
BR131 Keskin Array S 144.75 315 *ePKPdf* PKPbc 14 02 02.9 -0.2
BRTR Keskin Array B 144.75 315 PKP **PKPdf** **14 02 02.8 +0.2**
comp=Z,2.4nm,0.5s,baz=125,slow=3.1,SNR=16
STHS Stebnicka Huta 144.78 338 *ePKP* PKPbc 14 02 02.8 +0.1
KOLS Kolonicke sedl 144.79 336 *ePKP* PKPbc 14 02 03.2 +0.4
GERES GERESS Array B 147.61 345 PKPbc **PKPbc** **14 02 10.7 0.0**
comp=Z,1.3nm,0.3s,baz=35,slow=3.6,SNR=10
ESDC Sonseca Array 157.81 11 PKPab **PKPab** **14 02 56.9 -1.5**
comp=Z,0.2nm,0.3s,baz=349,slow=4.6,SNR=3.2
TORD Torodi Ar. Bea 175.24 182 PKPab **PKPab** **14 04 15.4 -0.3**
comp=Z,0.3nm,0.5s,baz=174,slow=4.2,SNR=2.9

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*ISCJB **21** 13:49:39.6±1.0, 32.°78S±0.°03×72.°06W±0.°05, h10km±6km, mb3.7/5, Error ellipse: s-maj=6.9km s-min=4.4km az=154.3*

*IDC **21** 13:49:39.6±1.0, 32.°80S×72.°06W, h0km, mb3.8/5, mb1 3.9/8, mb1mx3.8/19, mbtmp3.7/8, ML3.9/3, MS3.1/1, Ms1 3.1/1, ms1mx2.4/24, Error ellipse: s-maj=32.7km s-min=20.7km az=96.0*

*GUC **21** 13:49:40.7±0.7, 32.°77S×71.°98W, h9km±2km, MD4.0, ML4.0*

ISC 21 13:49:39.7±1.5, 32.°80S±0.°03×71.°99W±0.°06, h2km±9km, n35, σ0°74/45, mb3.8/5, 8C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.37**	**128**	↓*iP*	**Pb**	**13 49 48.6**	**-0.4**
IHA				*i* S	**Sb**	**13 49 54.6**	**-0.7**
LCCH	**Las Cruces**	**0.76**	**153**	*eP*	**Pg**	**13 49 55.2**	**+0.9**
ROCH	**El Roble**	**0.84**	**102**	↓*iP*	**Pb**	**13 49 56.6**	**-0.6**
ROCH				*i* S	**Sb**	**13 50 08.4**	**-0.6**
ROCH				AML	AML	13 50 10.1	
	comp=N,14μm,0.4s						
CHNG	**Los Chungos**	**1.00**	**25**	↓*iP*	**Pg**	**13 49 58.7**	**-0.2**
CHNG				*i* S	**Sg**	**13 50 11.7**	**-0.1**
CHNG				AML	AML	13 50 16.1	
	comp=E,3μm,0.5s						
PEL	**Peldehue**	**1.15**	**108**	↑*iP*	**Pg**	**13 50 01.9**	**+0.2**
PEL				*i* S	**Sb**	**13 50 17.5**	**-0.3**
PEL				AML	AML	13 50 24.1	
	comp=N,18μm,0.3s						
JACH	**Jahuel**	**1.18**	**85**	↑*iP*	**Pg**	**13 50 02.1**	**-0.2**
JACH				*i* S	**Sb**	**13 50 18.4**	**-0.3**
TACH	**Talagante**	**1.23**	**135**	↑*iP*	**Pg**	**13 50 02.9**	**-0.3**
LNV	**Longovilo**	**1.25**	**158**	*eP*	**Pg**	**13 50 03.2**	**-0.6**
LNV				*i* S	**Sg**	**13 50 20.5**	**+0.4**
SAN	**Santiago**	**1.29**	**121**	↑*iP*	**Pg**	**13 50 04.3**	**-0.1**
SAN				*i* S	**Sg**	**13 50 21.3**	**+0.1**
SAN				AML	AML	13 50 27.2	
	comp=N,4μm,0.4s						
STL	**Santa Lucia**	**1.30**	**120**	*eP*	**Pg**	**13 50 04.2**	**-0.4**
STL				*i* S	**Sg**	**13 50 21.6**	**+0.1**
CLCH	**Cerro Calan**	**1.36**	**117**	↓*iP*	**Pn**	**13 50 05.1**	**-0.7**
CLCH				*i* S	**Sg**	**13 50 23.4**	**+0.1**
CLCH				AML	AML	13 50 29.4	
	comp=N,7μm,0.5s						
ANTU	**Antumapu**	**1.37**	**125**	↑*iP*	**Pn**	**13 50 05.3**	**-0.7**
ANTU				*i* S	**Sb**	**13 50 24.2**	**0.0**
ANTU				AML	AML	13 50 30.8	
	comp=N,4μm,0.6s						
LACH	**Col Las Americ**	**1.39**	**119**	*eP*	**Pn**	**13 50 05.5**	**-0.6**
LACH				*eS*	**Sb**	**13 50 24.1**	**-0.6**
LACH				AML	AML	13 50 30.8	
	comp=N,2μm,0.4s						
PCH	**Pirque**	**1.48**	**124**	↑*iP*	**Pn**	**13 50 07.5**	**-0.1**
PCH				*i* S	**Sn**	**13 50 27.1**	**-0.6**
SJCH	**San Jose de Ma**	**1.61**	**122**	*eP*	**Pn**	**13 50 08.3**	**-0.9**
SJCH				*i* S	**Sn**	**13 50 29.7**	**-1.0**
SJCH				AML	AML	13 50 35.5	
	comp=E,2μm,1.1s						
CACH	**El Canelo**	**1.76**	**139**	↑*iP*	**Pb**	**13 50 12.6**	**-0.1**
CACH				*i* S	**Sg**	**13 50 36.5**	**+0.3**
CMCH	**Combarbala**	**1.82**	**28**	↑*iP*	**Pn**	**13 50 11.5**	**-0.7**
CMCH				*i* S	**Sn**	**13 50 35.5**	**-0.4**
CMCH				AML	AML	13 50 50.7	
	comp=E,7μm,0.6s						
LMEL	**Las Melosas**	**1.83**	**126**	↓*iP*	**Pn**	**13 50 12.9**	**+0.5**
LMEL				*i* S	**Sb**	**13 50 37.0**	**-0.3**
LMEL				AML	AML	13 50 43.9	
	comp=N,3μm,0.4s						
CFAA	**Coronel Fontan**	**3.39**	**71**	Pn	**Pn**	**13 50 36.7**	**+2.9**
	comp=N,1.5nm,0.3s,baz=243,slow=14,SNR=14						
CFAA				Sn	**Sb**	**13 51 24.2**	**+1.9**
	comp=N,2.5nm,0.3s,baz=350,slow=23,SNR=5.6						
H03N1	**Juan Fernandez**	**5.85**	**262**	T	T	13 57 32.9	
	baz=85,slow=0.7,SNR=59						
H03N3	**Juan Fernandez**	**5.86**	**262**	T	T	13 57 33.6	
	baz=85,slow=0.7,SNR=51						
H03N2	**Juan Fernandez**	**5.86**	**262**	T	T	13 57 33.6	
	baz=85,slow=0.7,SNR=64						
PLCA	**Paso Flores**	**8.01**	**172**	Pn	**Pn**	**13 51 37.8**	**+0.6**
	comp=N,0.9nm,0.3s,baz=330,slow=9.6,SNR=20						
CPUP	**Villa Florida**	**14.28**	**67**	LR	LR	13 58 23.5	
	comp=N,79nm,19.8s,baz=69,slow=36						
LPAZ	**La Paz**	**16.80**	**13**	Pn	**Pn**	**13 53 37.1**	**+0.3**
	comp=N,0.2nm,0.3s,baz=174,slow=6.9,SNR=4.8						
BDFB	**Brasilia**	**27.64**	**58**	P	**P**	**13 55 30.0**	**+1.0**
	comp=N,2.0nm,0.5s,baz=146,slow=8.1,SNR=3.5						
SNAA	**Sanae**	**52.68**	**158**	P	**P**	**13 58 55.4**	**+0.1**
	comp=N,0.6nm,1.1s,baz=252,slow=6.4,SNR=4.4						
QSPA	**South Pole Qui**	**57.44**	**180**	P	**P**	**13 59 30.2**	**+0.4**
	comp=N,1.2nm,0.8s						
TXAR	**Lajitas Array**	**68.71**	**331**	P	**P**	**14 00 45.6**	**+0.6**
	comp=N,0.2nm,0.6s,baz=153,slow=8.1,SNR=2.9						
TORD	**Torodi Ar. Bea**	**83.76**	**70**	P	**P**	**14 02 10.3**	**-0.5**
	comp=N,0.5nm,0.7s,baz=231,slow=4.6,SNR=3.5						
H11S2	**WAKE ISLAND Hyl**	**25.82**	**270**	T	T	16 27 39.4	
	baz=121,slow=0.7,SNR=7.6						
H11S1	**WAKE ISLAND Hyl**	**25.83**	**270**	T	T	16 27 40.0	
	baz=121,slow=0.7,SNR=7.0						
H11S3	**WAKE ISLAND Hyl**	**25.84**	**270**	T	T	16 27 44.8	
	baz=121,slow=0.7,SNR=5.5						
ZALV	**Zalesovo Beam**	**153.18**	**31**	PKPbc	**PKPbc**	**14 09 38.4**	**-0.2**
	comp=N,0.6nm,0.4s,baz=325,slow=2.3,SNR=4.6						
MKAR	**Makanchi Array**	**155.93**	**47**	PKPab	**PKPab**	**14 10 02.1**	**-0.3**
	comp=N,0.5nm,0.7s,baz=286,slow=4.8,SNR=5.4						

GUC 21 13:56:29.1±0.7, 32.°73S×71.°83W, h2km±2km, MD3.8, ML2.8, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**0.73**	**109**	↓*iP*	Pg	13 56 44.1	+0.7
ROCH				*i* S	Sb	13 56 55.8	+0.2
ROCH				AML	AML	13 56 57.5	
	comp=N,1μm,0.5s						
CHNG	**Los Chungos**	**0.89**	**18**	↑*iP*	Pg	13 56 46.1	-0.1
CHNG				*i* S	Sb	13 56 59.7	+0.1
CHNG				AML	AML	13 57 03.5	
	comp=E,257nm,0.7s						
PEL	**Peldehue**	**1.05**	**113**	↑*iP*	Pg	13 56 49.5	+0.2
PEL				*i* S	Sb	13 57 04.2	-0.1
PEL				AML	AML	13 57 11.5	
	comp=N,1μm,0.3s						
SAN	**Santiago**	**1.22**	**127**	*eP*	Pg	13 56 51.9	-0.6
SAN				*i* S	Sb	13 57 09.2	0.0
SAN				AML	AML	13 57 23.2	
	comp=N,290nm,0.8s						
CLCH	**Cerro Calan**	**1.27**	**122**	*eP*	Pg	13 56 52.9	-0.7
CLCH				*i* S	Sb	13 57 10.6	-0.3
CLCH				AML	AML	13 57 15.8	
	comp=E,426nm,0.4s						
PCH	**Pirque**	**1.42**	**129**	↑*iP*	Pn	13 56 55.0	-1.1
CHCH	**Chadas Angostu**	**1.55**	**141**	↑*iP*	Pn	13 56 57.3	-0.6
LMEL	**Las Melosas**	**1.76**	**130**	*eP*	Pn	13 57 00.5	-0.4
LMEL				*i* S	Sn	13 57 24.4	+0.3
LMEL				AML	AML	13 57 31.9	
	comp=N,268nm,0.4s						

IDC 21 13:57:52.0±4.7, 2.°35S×139.°01E, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.2/17, mbtmp3.2/3, ML3.3/1, Error ellipse: s-maj=187.2km s-min=29.9km az=87.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.07**	**194**	P	P	14 02 05.6	+0.4
	0.1nm,0.3s,baz=17,slow=13,SNR=13						
ASAR	**Alice Springs**	**21.76**	**193**	P	P	14 02 45.4	-0.1
	0.1nm,0.2s,baz=21,slow=11,SNR=3.5						
MKAR	**Makanchi Array**	**69.69**	**322**	P	P	14 09 03.5	-0.2
	0.3nm,0.6s,baz=111,slow=6.2,SNR=4.1						

IDC 21 14:35:17.4±6.4, 18.°62S×174.°85W, h0km, mb4.1/2, mb1 4.4/2, mb1mx3.7/19, mbtmp4.1/2, Error ellipse: s-maj=294.8km s-min=59.8km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**47.83**	**260**	P	P	14 43 56.9	-0.4
	0.6nm,0.3s,baz=98,slow=7.2,SNR=36						
ASAR	**Alice Springs**	**47.86**	**255**	P	P	14 43 57.7	+0.2
	3.5nm,0.8s,baz=89,slow=8.6,SNR=45						
BRTR	**Keskin Array B**	**147.65**	**317**	PKPbc	PKPbc	14 55 03.6	-0.8
	0.4nm,0.7s,baz=62,slow=1.0,SNR=2.5						

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*CSEM **21** 14:55:23.8±0.2, 36.°03N×27.°23E, h10km, MD3.7, Error ellipse: s-maj=4.9km s-min=3.3km az=148.0*

*ISK **21** 14:55:23.2, 36.°04N×27.°20E, h15km, MD3.4*

*ISCJB **21** 14:55:24.0±0.4, 36.°01N±0.°02×27.°23E±0.°03, h20km±5km, Error ellipse: s-maj=4.5km s-min=3.2km az=144.6*

*ATH **21** 14:55:23.1, 36.°01N×27.°32E, h30km, MD3.7/19*

*THE **21** 14:55:24.2, 36.°02N×27.°33E, h17km±1km, ML3.1/1, Error ellipse: s-maj=1.8km s-min=0.8km az=79.0*

*DDA **21** 14:55:36.2, 36.°40N×27.°54E, h9km, ML3.2*

ISC 21 14:55:23.5±1.1, 36.°03N±0.°02×27.°25E±0.°03, h10km±10km, n126, σ0°89/145, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.48**	**189**	P	**Pg**	**14 55 33.4**	**+0.5**
KARP				S	**Sb**	**14 55 41.5**	**+0.3**
KARP	**Karpathos**	**0.48**	**189**	*ePB*	**Pg**	**14 55 33.4**	**+0.5**
KARP				*eSB*	**Sb**	**14 55 40.8**	**-0.4**
KARP	**Karpathos**	**0.48**	**189**	P	**Pg**	**14 55 33.4**	**+0.5**
KARP				*eSb*	**Sb**	**14 55 40.8**	**-0.4**
KARP				S	**Sb**	**14 55 41.5**	**+0.3**
NIS3	**Nisyros Isl.**	**0.55**	**352**	P	**Pg**	**14 55 35.0**	**+0.7**
NIS3				S	**Sb**	**14 55 43.8**	**+0.5**
NIS2	**Nisyros Isl.**	**0.56**	**354**	P	**Pb**	**14 55 35.4**	**0.0**
NIS1	**Nisyros Isl.**	**0.58**	**354**	P	**Pb**	**14 55 36.0**	**+0.2**
NIS1	**Nisyros Isl.**	**0.58**	**354**	*ePN*	**Pb**	**14 55 36.0**	**+0.2**
NIS1				*eSN*	**Sb**	**14 55 44.7**	**+0.6**
NIS1	**Nisyros Isl.**	**0.58**	**354**	P	**Pb**	**14 55 36.0**	**+0.2**
NIS1				*eSn*	**Sb**	**14 55 44.7**	**+0.6**
ARG	**Arkhangelos**	**0.73**	**75**	P	**Pg**	**14 55 37.3**	**-0.4**
ARG				S	**Sg**	**14 55 46.7**	**-0.5**
ARG	**Arkhangelos**	**0.73**	**75**	*ePN*	**Pg**	**14 55 37.5**	**-0.2**
ARG				*eSN*	**Sg**	**14 55 46.8**	**-0.5**
ARG	**Arkhangelos**	**0.73**	**75**	P	**Pg**	**14 55 37.3**	**-0.4**
ARG				S	**Sg**	**14 55 46.7**	**-0.5**
DAT	**Datca**	**0.75**	**20**	*ePG*	**Pb**	**14 55 38.4**	**-0.3**
DAT				*eSG*	**Sb**	**14 55 49.2**	**+0.1**
DAT	**Datca**	**0.75**	**20**	*ePg*	**Pb**	**14 55 38.4**	**-0.3**
DAT				*eSg*	**Sb**	**14 55 49.2**	**+0.1**
BODT	**Bodrum**	**1.04**	**3**	*ePG*	**Pb**	**14 55 43.5**	**0.0**
BODT				*eSG*	**Sn**	**14 55 58.0**	**-0.6**
BODT	**Bodrum**	**1.04**	**3**	*ePg*	**Pb**	**14 55 43.5**	**0.0**
BODT				*eSg*	**Sn**	**14 55 58.1**	**-0.6**
BDRM	**Kayabasi**	**1.05**	**8**	*iP*	**Pb**	**14 55 43.4**	**-0.4**
BDRM				*iS*	**Sn**	**14 55 58.4**	**-0.6**
BDRM	**Kayabasi**	**1.05**	**8**	*iP*	**Pb**	**14 55 43.4**	**-0.4**
BDRM				*i* S	**Sn**	**14 55 58.4**	**-0.6**
ZKR	**Zakros**	**1.24**	**223**	*ePN*	**Pb**	**14 55 47.4**	**+0.4**
ZKR	**Zakros**	**1.24**	**223**	*ePn*	**Pb**	**14 55 47.4**	**+0.4**
DALY	**Dalyan (Mu¨la**	**1.38**	**55**	*ePN*	**Pb**	**14 55 48.9**	**-0.5**
DALY	**Dalyan (Mu¨la**	**1.38**	**55**	*ePn*	**Pb**	**14 55 48.9**	**-0.5**
TURN	**Turunc**	**1.38**	**52**	*i* P	Pn	14 55 44.2	-4.6
TURN				*i* S	Sn	14 55 58.8	-8.3
TURN	**Turunc**	**1.38**	**52**	*i* P	Pn	14 55 44.2	-4.6
YER	**Yerkesik**	**1.38**	**37**	*ePN*	**Pn**	**14 55 48.8**	**-0.1**
YER	**Yerkesik**	**1.38**	**37**	*ePn*	**Pn**	**14 55 48.8**	**-0.1**
THR1	**Thera Island**	**1.49**	**284**	P	**Pn**	**14 55 49.5**	**-0.9**
THR1	**Thera Island**	**1.49**	**284**	P	**Pn**	**14 55 49.5**	**-0.9**
THR6	**Thira Island,**	**1.54**	**283**	P	**Pn**	**14 55 50.0**	**-0.9**
THR6	**Thira Island,**	**1.54**	**283**	P	**Pn**	**14 55 50.0**	**-0.9**
NPS	**Neapolis**	**1.54**	**241**	P	**Pn**	**14 55 50.6**	**-0.4**
NPS				S	**Sn**	**14 56 09.5**	**-1.5**
NPS	**Neapolis**	**1.54**	**241**	*ePB*	**Pn**	**14 55 50.2**	**-0.8**
NPS	**Neapolis**	**1.54**	**241**	*ePb*	**Pn**	**14 55 50.2**	**-0.8**
NPS	**Neapolis**	**1.54**	**241**	P	**Pn**	**14 55 50.6**	**-0.4**
NPS				S	**Sn**	**14 56 09.5**	**-1.5**
THR3	**Thira Island,**	**1.54**	**285**	P	**Pn**	**14 55 49.9**	**-1.2**
THR3	**Thira Island,**	**1.54**	**285**	P	**Pn**	**14 55 49.9**	**-1.2**
FETY	**Fethiye**	**1.60**	**67**	*ePN*	**Pb**	**14 55 52.0**	**-1.1**
FETY	**Fethiye**	**1.60**	**67**	*ePn*	**Pb**	**14 55 52.0**	**-1.1**
LAST	**Lasithi**	**1.68**	**240**	*ePB*	**Pn**	**14 55 52.8**	**-0.2**
LAST	**Lasithi**	**1.68**	**240**	*ePb*	**Pn**	**14 55 52.8**	**-0.2**
SMG	**Samos**	**1.71**	**349**	*ePB*	**Pn**	**14 55 52.6**	**-0.8**
SMG	**Samos**	**1.71**	**349**	*ePb*	**Pn**	**14 55 52.6**	**-0.8**
APE	**Apeiranthos**	**1.73**	**307**	P	**Pn**	**14 55 52.8**	**-0.9**
APE	**Apeiranthos**	**1.73**	**307**	*ePN*	**Pn**	**14 55 52.6**	**-1.1**
APE	**Apeiranthos**	**1.73**	**307**	*ePB*	**Pn**	**14 55 52.9**	**-0.8**
APE	**Apeiranthos**	**1.73**	**307**	*ePb*	**Pn**	**14 55 52.9**	**-0.8**
KSL	**Kastellorizon**	**1.89**	**86**	*ePB*	**Pn**	**14 55 54.8**	**-1.1**
KSL	**Kastellorizon**	**1.89**	**86**	*ePb*	**Pn**	**14 55 54.8**	**-1.1**
AYDB	**Zeytinkoy-Aydi**	**1.98**	**15**	*ePN*	**Pn**	**14 55 56.6**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.98**	**15**	*ePn*	**Pn**	**14 55 56.7**	**-0.6**
IDI	**Anoyia**	**2.06**	**250**	P	**Pn**	**14 55 58.0**	**-0.2**
IDI				S	**Sn**	**14 56 22.8**	**-1.2**
IDI	**Anoyia**	**2.06**	**250**	*ePN*	**Pn**	**14 55 57.8**	**-0.5**
IDI	**Anoyia**	**2.06**	**250**	*ePN*	**Pn**	**14 55 57.7**	**-0.5**
IDI	**Anoyia**	**2.06**	**250**	P	**Pn**	**14 55 58.0**	**-0.2**
IDI				S	**Sn**	**14 56 22.8**	**-1.2**
GLHS	**Glhisar (BURDU**	**2.13**	**57**	*ePN*	**Pn**	**14 55 59.7**	**+0.4**
GLHS	**Glhisar (BURDU**	**2.13**	**57**	*ePn*	**Pn**	**14 55 59.7**	**+0.4**
DNZL	**Cakiroluk**	**2.20**	**40**	*i* P	**Pb**	**14 56 02.8**	**-0.7**
DNZL	**Cakiroluk**	**2.20**	**40**	*i* P	**Pb**	**14 56 02.8**	**-0.7**
GOLH	**Golhisar**	**2.22**	**56**	*i* P	**Pb**	**14 56 04.1**	**+0.4**
GOLH				*i* S	**Sg**	**14 56 32.5**	**-2.3**
GOLH	**Golhisar**	**2.22**	**56**	*i* P	**Pb**	**14 56 04.1**	**+0.4**
ELL	**Elmali**	**2.26**	**71**	*ePN*	**Pn**	**14 56 01.6**	**+0.5**
ELL	**Elmali**	**2.26**	**71**	*ePn*	**Pn**	**14 56 01.6**	**+0.5**
BLCB	**Balcova**	**2.36**	**356**	*ePN*	**Pn**	**14 56 03.0**	**+0.7**
BLCB	**Balcova**	**2.36**	**356**	*ePn*	**Pn**	**14 56 03.0**	**+0.7**
IZM	**Izmir**	**2.37**	**0**	*ePN*	**Pn**	**14 56 01.8**	**-0.6**
IZM	**Izmir**	**2.37**	**0**	*ePn*	**Pn**	**14 56 01.8**	**-0.6**
CHOS	**Chios island**	**2.54**	**338**	*ePN*	**Pn**	**14 56 04.8**	**-0.1**
CHOS	**Chios island**	**2.54**	**338**	*ePn*	**Pn**	**14 56 04.8**	**-0.1**
VAM	**Vamos**	**2.56**	**257**	*ePN*	**Pn**	**14 56 05.3**	**+0.3**
VAM	**Vamos**	**2.56**	**257**	*ePn*	**Pn**	**14 56 05.3**	**+0.3**
KULA	**Kula-Manisa**	**2.73**	**24**	*ePN*	**Pn**	**14 56 08.3**	**+0.9**
KULA	**Kula-Manisa**	**2.73**	**24**	*ePn*	**Pn**	**14 56 08.3**	**+0.9**
KARN	**Karanos**	**2.78**	**258**	*ePN*	**Pn**	**14 56 08.6**	**+0.5**
KARN	**Karanos**	**2.78**	**258**	*ePn*	**Pn**	**14 56 08.6**	**+0.5**
KHL	**Karahalli**	**2.92**	**38**	*ePN*	**Pn**	**14 56 11.2**	**+1.1**
KHL	**Karahalli**	**2.92**	**38**	*ePn*	**Pn**	**14 56 11.2**	**+1.1**
BCK	**Bucak**	**3.04**	**61**	*ePN*	**Pn**	**14 56 12.6**	**+0.9**
BCK	**Bucak**	**3.04**	**61**	*ePn*	**Pn**	**14 56 12.6**	**+0.9**
ANKY	**Antikythira Is**	**3.21**	**268**	*ePN*	**Pn**	**14 56 14.2**	**+0.2**
ANKY	**Antikythira Is**	**3.21**	**268**	*ePn*	**Pn**	**14 56 14.2**	**+0.2**
SUTC	**Sutluce-Ispart**	**3.34**	**63**	*ePN*	**Pn**	**14 56 17.0**	**+1.1**
SUTC	**Sutluce-Ispart**	**3.34**	**63**	*ePn*	**Pn**	**14 56 17.0**	**+1.1**
KYTH	**Kithira**	**3.42**	**276**	P	**Pn**	**14 56 17.3**	**+0.4**
KYTH	**Kithira**	**3.42**	**276**	*ePN*	**Pn**	**14 56 17.5**	**+0.6**
KYTH	**Kithira**	**3.42**	**276**	P	**Pn**	**14 56 17.3**	**+0.4**
NAIG	**Nisos Aigina**	**3.48**	**301**	*ePN*	**Pn**	**14 56 18.3**	**+0.6**
NAIG	**Nisos Aigina**	**3.48**	**301**	*ePn*	**Pn**	**14 56 18.3**	**+0.6**
DID	**Didima**	**3.55**	**296**	*ePN*	**Pn**	**14 56 18.3**	**-0.3**
DID	**Didima**	**3.55**	**296**	*ePn*	**Pn**	**14 56 18.3**

*ISCJB **21** 15:26:01.3±0.5, 38°.94N±0°.01×25°.94E±0°.02, h7km±3km, mb3.1/2, Error ellipse: s-maj=2.4km s-min=2.3km az=168.6*

*ISK **21** 15:26:01.0, 38°.92N×25°.92E, h10km, ML3.6*

*IDC **21** 15:26:01.0±2.4, 39°.06N×25°.87E, h0km, mb3.2/2, mb1 3.1/3, mb1mx3.0/23, mbtmp3.1/3, ML2.5/1, Error ellipse: s-maj=139.1km s-min=26.9km az=149.0*

*CSEM **21** 15:26:01.7±0.1, 38°.90N×25°.96E, h5km, MD3.5, Error ellipse: s-maj=2.6km s-min=2.4km az=159.0*

*ATH **21** 15:26:01.3, 38°.95N×26°.01E, h23km, MD3.5/21, ML3.1*

*DDA **21** 15:26:02.3, 39°.00N×25°.89E, h22km, MD3.5*

*THE **21** 15:26:02.3, 38°.94N×26°.02E, h9km±1km, ML3.3/11, Error ellipse: s-maj=1.4km s-min=0.6km az=83.0*

*SKO **21** 15:26:11.8, 39°.53N×25°.42E, h0km*

ISC 21 15:26:02.4±0.9, 38°.94N±0°.02×25°.97E±0°.02, h10km±7km, n205, σ0°89/257, 14C-13D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIGR	**SIGRI**	**0.29**	**342**	P	**Pg**	**15 26 07.9**	**-0.3**
SIGR				S	**Sg**	**15 26 12.6**	**+0.6**
SIGR	**SIGRI**	**0.29**	**342**	*e*PB	**Pg**	**15 26 07.9**	**-0.3**
SIGR				*e*SB	**Sg**	**15 26 12.4**	**+0.4**
SIGR	**SIGRI**	**0.29**	**342**	*e*Pb	**Pg**	**15 26 07.9**	**-0.3**
SIGR				*e*Sb	**Sg**	**15 26 12.4**	**+0.4**
PRK	**Paraskevi**	**0.39**	**37**	P	**Pg**	**15 26 09.2**	**-0.8**
PRK				S	**Sg**	**15 26 15.2**	**+0.1**
PRK	**Paraskevi**	**0.39**	**37**	*e*PB	**Pg**	**15 26 08.7**	**-1.3**
PRK				*e*SB	**Sg**	**15 26 15.3**	**+0.1**
PRK	**Paraskevi**	**0.39**	**37**	P	**Pg**	**15 26 09.2**	**-0.8**
PRK				*e*Sb	**Sg**	**15 26 15.3**	**+0.1**
CHOS	**Chios island**	**0.56**	**173**	P	**Pg**	**15 26 12.9**	**-0.3**
CHOS				S	**Sg**	**15 26 20.8**	**+0.3**
CHOS	**Chios island**	**0.56**	**173**	*e*PN	**Pg**	**15 26 12.9**	**-0.3**
CHOS				*e*SN	**Sg**	**15 26 20.8**	**+0.3**
CHOS	**Chios island**	**0.56**	**173**	P	**Pg**	**15 26 12.9**	**-0.3**
CHOS				S	**Sg**	**15 26 20.8**	**+0.3**
AYVA	**Ayvalik**	**0.67**	**56**	*i* P	**Pg**	**15 26 14.3**	**-1.1**
AYVA				*i* S	**Sb**	**15 26 25.0**	**-0.6**
AYVA	**Ayvalik**	**0.67**	**56**	*i* P	**Pg**	**15 26 14.3**	**-1.1**
AYVA				*i* S	**Sb**	**15 26 25.0**	**-0.6**
BLCB	**Balcova**	**1.00**	**123**	*e*PG	**Pg**	**15 26 21.1**	**-0.6**
BLCB				*e*SG	**Sg**	**15 26 35.0**	**+0.2**
BLCB	**Balcova**	**1.00**	**123**	*e*Pg	**Pg**	**15 26 21.1**	**-0.6**
BLCB				*e*Sg	**Sg**	**15 26 35.0**	**+0.2**
LIA	**Limnos Island**	**1.14**	**328**	P	**Pg**	**15 26 23.4**	**-0.8**
LIA				S	**Sn**	**15 26 39.6**	**-0.4**
LIA	**Limnos Island**	**1.14**	**328**	*e*PN	**Pn**	**15 26 23.8**	**-0.6**
LIA				*e*SN	**Sn**	**15 26 39.8**	**-0.2**
LIA	**Limnos Island**	**1.14**	**328**	P	**Pg**	**15 26 23.4**	**-0.8**
LIA	**Limnos Island**	**1.14**	**328**	*e*Pn	**Pn**	**15 26 23.8**	**-0.6**
LIA				*e*Sn	**Sn**	**15 26 39.8**	**-0.2**
IZM	**Izmir**	**1.15**	**118**	*e*PN	**Pb**	**15 26 24.3**	**-0.1**
IZM				*e*SN	**Sn**	**15 26 41.3**	**+0.8**
IZM	**Izmir**	**1.15**	**118**	*e*Pn	**Pb**	**15 26 24.3**	**-0.1**
SMG	**Samos**	**1.41**	**151**	P	**Pn**	**15 26 27.0**	**-1.1**
SMG				S	**Sn**	**15 26 45.2**	**-1.5**
SMG	**Samos**	**1.41**	**151**	*e*PN	**Pn**	**15 26 27.2**	**-0.9**
SMG				*e*SN	**Sn**	**15 26 46.7**	**0.0**
SMG	**Samos**	**1.41**	**151**	*e*Pn	**Pn**	**15 26 27.2**	**-0.9**
SMG				S	**Sn**	**15 26 45.2**	**-1.5**
SMG				*e*Sn	**Sn**	**15 26 46.7**	**0.0**
AKS	**Akhisar**	**1.44**	**92**	*e*PN	**Pn**	**15 26 27.8**	**-0.8**
AKS	**Akhisar**	**1.44**	**92**	*e*Pn	**Pn**	**15 26 27.8**	**-0.8**
AKHS	**Akhisar**	**1.44**	**92**	*i* P	**Pn**	**15 26 28.3**	**-0.3**
AKHS				*i* S	**Sb**	**15 26 48.1**	**+0.4**
AKHS	**Akhisar**	**1.44**	**92**	*i* P	**Pn**	**15 26 28.3**	**-0.3**
AKHS				*i* S	**Sb**	**15 26 48.1**	**+0.4**
BALY	**Balya**	**1.51**	**57**	*i* P	**Pn**	**15 26 27.4**	**-2.2**
BALY				*i* S	**Sg**	**15 26 50.9**	**-0.1**
BALY	**Balya**	**1.51**	**57**	*i* P	**Pn**	**15 26 27.4**	**-2.2**
BALY				*i* S	**Sg**	**15 26 50.9**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.51**	**15**	*e*PN	**Pn**	**15 26 29.3**	**-0.2**
GELI				*e*SN	**Sg**	**15 26 50.2**	**-0.7**
GELI	**Tayfur-Gelibol**	**1.51**	**15**	*e*Pn	**Pn**	**15 26 29.3**	**-0.2**
GELI				*e*Sn	**Sg**	**15 26 50.2**	**-0.7**
MRMA	**Marmari**	**1.53**	**235**	P	**Pn**	**15 26 29.0**	**-0.8**
MRMA				S	**Sn**	**15 26 49.4**	**-0.3**
MRMA	**Marmari**	**1.53**	**235**	P	**Pn**	**15 26 29.0**	**-0.8**
MRMA				S	**Sn**	**15 26 49.4**	**-0.3**
LPK	**Lapseki**	**1.56**	**23**	*e*PN	**Pn**	**15 26 29.3**	**-0.9**
LPK				*e*SN	**Sb**	**15 26 50.9**	**-0.2**
LPK	**Lapseki**	**1.56**	**23**	*e*Pn	**Pn**	**15 26 29.3**	**-0.9**
LPK				*e*Sn	**Sb**	**15 26 50.9**	**-0.2**
SMTH	**Samothraki Isl**	**1.57**	**348**	P	**Pn**	**15 26 30.3**	**-0.1**
SMTH				S	**Sn**	**15 26 49.7**	**-1.1**
SMTH	**Samothraki Isl**	**1.57**	**348**	*e*PN	**Pn**	**15 26 29.5**	**-0.9**
SMTH				*e*SN	**Sn**	**15 26 50.0**	**-0.8**
SMTH	**Samothraki Isl**	**1.57**	**348**	*e*Pn	**Pn**	**15 26 29.5**	**-0.9**
SMTH	**Samothraki Isl**	**1.57**	**348**	P	**Pn**	**15 26 30.3**	**-0.1**
SMTH				S	**Sn**	**15 26 49.7**	**-1.1**
SMTH				*e*Sn	**Sn**	**15 26 50.0**	**-0.8**
GCAM	**G?zelcaml?**	**1.59**	**141**	*i* P	**Pn**	**15 26 28.0**	**-2.6**
GCAM				*i* S	**Sg**	**15 26 53.5**	**+0.1**
GCAM	**G?zelcaml?**	**1.59**	**141**	*i* P	**Pn**	**15 26 28.0**	**-2.6**
AOS	**Alonnisos**	**1.64**	**279**	P	**Pn**	**15 26 31.3**	**-0.1**
AOS				S	**Sg**	**15 26 53.8**	**-1.4**
AOS	**Alonnisos**	**1.64**	**279**	*e*PN	**Pn**	**15 26 31.2**	**-0.1**
AOS	**Alonnisos**	**1.64**	**279**	*e*Pn	**Pn**	**15 26 31.2**	**-0.1**
AOS				S	**Sg**	**15 26 53.8**	**-1.4**
ERET	**Eretria**	**1.76**	**254**	P	**Pn**	**15 26 32.1**	**-1.0**
ERET	**Eretria**	**1.76**	**254**	P	**Pn**	**15 26 32.1**	**-1.0**
KRBG	**Karabiga-Canak**	**1.78**	**35**	*e*PN	**Pn**	**15 26 32.4**	**-0.8**
KRBG	**Karabiga-Canak**	**1.78**	**35**	*e*Pn	**Pn**	**15 26 32.4**	**-0.8**
ERIK	**Erikli-Kesan**	**1.78**	**13**	*e*PN	**Pn**	**15 26 33.1**	**-0.1**
ERIK	**Erikli-Kesan**	**1.78**	**13**	*e*Pn	**Pn**	**15 26 33.1**	**-0.1**
ENEZ	**Enez**	**1.80**	**4**	*e*PN	**Pn**	**15 26 33.2**	**-0.3**
ENEZ	**Enez**	**1.80**	**4**	*e*Pn	**Pn**	**15 26 33.3**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.81**	**123**	*e*PN	**Pn**	**15 26 33.0**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**1.81**	**123**	*e*Pn	**Pn**	**15 26 33.0**	**-0.7**
MRKA	**Markates**	**1.88**	**264**	P	**Pn**	**15 26 34.0**	**-0.6**
MRKA				S	**Sn**	**15 26 58.1**	**-0.3**
MRKA	**Markates**	**1.88**	**264**	P	**Pn**	**15 26 34.0**	**-0.6**
MRKA				S	**Sn**	**15 26 58.1**	**-0.3**
PTL	**Penteli**	**1.88**	**242**	*e*PB	**Pn**	**15 26 33.6**	**-1.0**
PTL	**Penteli**	**1.88**	**242**	*e*Pb	**Pn**	**15 26 33.6**	**-1.0**
APE	**Apeiranthos**	**1.90**	**191**	P	**Pn**	**15 26 33.7**	**-1.2**
APE				S	**Sn**	**15 26 59.0**	**0.0**
APE	**Apeiranthos**	**1.90**	**191**	*e*PN	**Pn**	**15 26 34.3**	**-0.7**
APE	**Apeiranthos**	**1.90**	**191**	P	**Pn**	**15 26 33.7**	**-1.2**
APE	**Apeiranthos**	**1.90**	**191**	*e*Pn	**Pn**	**15 26 34.3**	**-0.7**
APE				S	**Sn**	**15 26 59.0**	**0.0**
ALN	**Alexandroupoli**	**1.96**	**2**	P	**Pn**	**15 26 35.2**	**-0.5**
ALN				S	**Sn**	**15 26 59.5**	**-0.8**
ALN	**Alexandroupoli**	**1.96**	**2**	*e*PN	**Pn**	**15 26 35.4**	**-0.3**
ALN	**Alexandroupoli**	**1.96**	**2**	*e*Pn	**Pn**	**15 26 35.4**	**-0.3**
ALN				S	**Sn**	**15 26 59.5**	**-0.8**
RKY	**Sarkoy-Tekirda**	**1.98**	**28**	*e*PN	**Pn**	**15 26 35.2**	**-0.8**
RKY	**Sarkoy-Tekirda**	**1.98**	**28**	*e*Pn	**Pn**	**15 26 35.2**	**-0.8**
SART	**Tekirdag**	**1.98**	**28**	*i* P	**Pn**	**15 26 37.0**	**+0.9**
SART				*i* S	**Sn**	**15 27 01.9**	**+0.8**
SART	**Tekirdag**	**1.98**	**28**	*i* P	**Pn**	**15 26 37.0**	**+0.9**
SART				*i* S	**Sn**	**15 27 01.9**	**+0.8**
ATH	**Athens Observa**	**2.02**	**242**	*e*PN	**Pn**	**15 26 37.2**	**+0.7**
ATH	**Athens Observa**	**2.02**	**242**	*e*Pn	**Pn**	**15 26 37.2**	**+0.7**
PAIG	**Paliouri**	**2.03**	**300**	P	**Pn**	**15 26 36.6**	**-0.1**
PAIG	**Paliouri**	**2.03**	**300**	*e*PB	**Pn**	**15 26 36.5**	**-0.1**
PAIG	**Paliouri**	**2.03**	**300**	P	**Pn**	**15 26 36.6**	**-0.1**
DURS	**Dursunbey**	**2.05**	**70**	*i* P	**Pn**	**15 26 36.3**	**-0.8**
DURS				*i* S	**Sb**	**15 27 06.2**	**+0.7**
DURS	**Dursunbey**	**2.05**	**70**	*i* P	**Pn**	**15 26 36.3**	**-0.8**
DURS				*i* S	**Sb**	**15 27 06.2**	**+0.7**
OUR	**Ouranopolis**	**2.07**	**313**	P	**Pn**	**15 26 37.2**	**-0.1**
OUR	**Ouranopolis**	**2.07**	**313**	*e*PB	**Pn**	**15 26 37.1**	**-0.2**
OUR	**Ouranopolis**	**2.07**	**313**	P	**Pn**	**15 26 37.2**	**-0.1**
KULA	**Kula-Manisa**	**2.15**	**101**	*e*PN	**Pn**	**15 26 39.0**	**+0.6**
KULA	**Kula-Manisa**	**2.15**	**101**	*e*Pn	**Pn**	**15 26 39.0**	**+0.6**
BODT	**Bodrum**	**2.15**	**150**	*e*PN	**Pn**	**15 26 38.3**	**-0.1**
BODT	**Bodrum**	**2.15**	**150**	*e*Pn	**Pn**	**15 26 38.3**	**-0.1**
DST	**Dursunbey**	**2.16**	**71**	*e*PN	**Pn**	**15 26 38.8**	**+0.2**
DST	**Dursunbey**	**2.16**	**71**	*e*Pn	**Pn**	**15 26 38.8**	**+0.2**
XOR	**Xorichti**	**2.20**	**282**	P	**Pn**	**15 26 38.0**	**-0.1**
XOR	**Xorichti**	**2.20**	**282**	*e*PN	**Pn**	**15 26 38.7**	**-0.4**
XOR	**Xorichti**	**2.20**	**282**	*e*Pn	**Pn**	**15 26 38.7**	**-0.4**
XOR	**Xorichti**	**2.20**	**282**	P	**Pn**	**15 26 39.0**	**-0.1**
KCTX	**Karacabey (Bur**	**2.27**	**54**	*e*PN	**Pn**	**15 26 39.3**	**-0.7**
KCTX	**Karacabey (Bur**	**2.27**	**54**	*e*Pn	**Pn**	**15 26 39.3**	**-0.7**
LKR	**Lokris**	**2.34**	**264**	*e*PB	**Pn**	**15 26 41.6**	**+0.7**
LKR	**Lokris**	**2.34**	**264**	*e*Pb	**Pn**	**15 26 41.6**	**+0.7**
KAVA	**Kavala**	**2.34**	**332**	P	**Pn**	**15 26 40.7**	**-0.3**
KAVA				S	**Sn**	**15 27 08.1**	**-1.7**
KAVA	**Kavala**	**2.34**	**332**	*e*PN	**Pn**	**15 26 40.1**	**-0.9**
KAVA	**Kavala**	**2.34**	**332**	*e*Pn	**Pn**	**15 26 40.1**	**-0.9**
KAVA	**Kavala**	**2.34**	**332**	P	**Pn**	**15 26 40.7**	**-0.3**
KAVA				S	**Sn**	**15 27 08.1**	**-1.7**
TKR	**Tekirdag**	**2.38**	**30**	*e*PN	**Pn**	**15 26 41.3**	**-0.2**
TKR	**Tekirdag**	**2.38**	**30**	*e*Pn	**Pn**	**15 26 41.3**	**-0.2**
PLG	**Polygyros**	**2.42**	**307**	*e*PN	**Pn**	**15 26 42.2**	**+0.1**
PLG	**Polygyros**	**2.42**	**307**	*e*Pn	**Pn**	**15 26 42.2**	**+0.1**
LTK	**Loutraki**	**2.53**	**250**	P	**Pn**	**15 26 44.4**	**+0.8**
LTK	**Loutraki**	**2.53**	**250**	P	**Pn**	**15 26 44.4**	**+0.8**
YER	**Yerkesik**	**2.56**	**134**	*e*PN	**Pn**	**15 26 43.5**	**-0.6**
YER	**Yerkesik**	**2.56**	**134**	*e*Pn	**Pn**	**15 26 43.5**	**-0.6**
DID	**Didima**	**2.58**	**237**	P	**Pn**	**15 26 43.6**	**-0.8**
DID	**Didima**	**2.58**	**237**	P	**Pn**	**15 26 43.6**	**-0.8**
MDNY	**Mudanya-Bursa**	**2.67**	**57**	*e*PN	**Pn**	**15 26 45.9**	**+0.5**
MDNY	**Mudanya-Bursa**	**2.67**	**57**	*e*Pn	**Pn**	**15 26 45.9**	**+0.5**
ULDT	**Uludag**	**2.73**	**63**	*i* P	**Pn**	**15 26 44.8**	**-1.7**
ULDT				*i* S	**Sb**	**15 27 26.2**	**+1.2**
ULDT	**Uludag**	**2.73**	**63**	*i* P	**Pn**	**15 26 44.8**	**-1.7**
GDZ	**Gediz**	**2.74**	**86**	*i* P	**Pb**	**15 26 51.5**	**0.0**
GDZ				*i* S	**Sb**	**15 27 27.9**	**+2.6**
DSF	**Desfina**	**2.75**	**260**	P	**Pn**	**15 26 46.2**	**-0.4**
DSF	**Desfina**	**2.75**	**260**	P	**Pn**	**15 26 46.2**	**-0.4**
ARMT	**Armutlu**	**2.76**	**53**	*e*PN	**Pn**	**15 26 46.9**	**+0.2**
ARMT	**Armutlu**	**2.76**	**53**	*e*Pn	**Pn**	**15 26 46.9**	**+0.2**
TVSB	**Tavsanli**	**2.76**	**78**	*e*PN	**Pn**	**15 26 47.5**	**+0.7**
TVSB	**Tavsanli**	**2.76**	**78**	*e*Pn	**Pn**	**15 26 47.5**	**+0.7**
HORT	**Hortiatis**	**2.76**	**308**	*e*PN	**Pn**	**15 26 47.1**	**+0.2**
HORT	**Hortiatis**	**2.76**	**308**	*e*Pn	**Pn**	**15 26 47.1**	**+0.2**
AGG	**Agios Georgios**	**2.84**	**273**	P	**Pn**	**15 26 48.3**	**+0.5**
AGG	**Agios Georgios**	**2.84**	**273**	*e*PN	**Pn**	**15 26 48.5**	**+0.7**
AGG	**Agios Georgios**	**2.84**	**273**	P	**Pn**	**15 26 48.3**	**+0.5**
SRS	**Serrai**	**2.84**	**321**	P	**Pn**	**15 26 47.8**	**-0.1**
SRS	**Serrai**	**2.84**	**321**	*e*PN	**Pn**	**15 26 47.9**	**0.0**
SRS	**Serrai**	**2.84**	**321**	*e*Pn	**Pn**	**15 26 47.9**	**0.0**
SLVT	**Silivri**	**2.86**	**36**	*e*PN	**Pn**	**15 26 47.9**	**-0.2**
SLVT	**Silivri**	**2.86**	**36**	*e*Pn	**Pn**	**15 26 47.9**	**-0.2**
GEMT	**Gemlik**	**2.90**	**58**	*e*PN	**Pn**	**15 26 49.2**	**+0.5**
GEMT	**Gemlik**	**2.90**	**58**	*e*Pn	**Pn**	**15 26 49.2**	**+0.5**
NVR	**Nevrokopi**	**2.90**	**327**	P	**Pn**	**15 26 48.9**	**+0.2**
NVR				S	**Sn**	**15 27 21.9**	**-1.8**
NVR	**Nevrokopi**	**2.90**	**327**	*e*PN	**Pn**	**15 26 48.6**	**-0.1**
NVR	**Nevrokopi**	**2.90**	**327**	*e*Pn	**Pn**	**15 26 48.6**	**-0.1**
NVR	**Nevrokopi**	**2.90**	**327**	P	**Pn**	**15 26 48.9**	**+0.2**
NVR				S	**Sn**	**15 27 21.9**	**-1.8**
PHSR	**Pinarhisar**	**2.94**	**23**	*e*PN	**Pn**	**15 26 50.5**	**+1.3**
PHSR	**Pinarhisar**	**2.94**	**23**	*e*Pn	**Pn**	**15 26 50.5**	**+1.3**
EDRB	**Edirne**	**2.96**	**11**	*e*PN	**Pn**	**15 26 50.0**	**+0.5**
EDRB	**Edirne**	**2.96**	**11**	*e*Pn	**Pn**	**15 26 50.0**	**+0.5**
CTKS	**Kestanelik-??a**	**3.01**	**39**	*e*PN	**Pn**	**15 26 50.6**	**+0.5**
CTKS	**Kestanelik-??a**	**3.01**	**39**	*e*Pn	**Pn**	**15 26 50.6**	**+0.5**
GUR	**Goura**	**3.02**	**252**	P	**Pn**	**15 26 50.2**	**-0.2**
GUR	**Goura**	**3.02**	**252**	P	**Pn**	**15 26 50.2**	**-0.2**
CTYL	**Yal??k??y-??at**	**3.09**	**34**	*e*PN	**Pn**	**15 26 52.8**	**+1.5**
CTYL	**Yal??k??y-??at**	**3.09**	**34**	*e*Pn	**Pn**	**15 26 52.8**	**+1.5**
BGKT	**Bogazkoy**	**3.10**	**43**	*e*PN	**Pn**	**15 26 52.7**	**+1.2**
BGKT	**Bogazkoy**	**3.10**	**43**	*e*Pn	**Pn**	**15 26 52.7**	**+1.2**
KLV	**Kalavryta, Ach**	**3.13**	**255**	P	**Pn**	**15 26 51.8**	**-0.1**
KLV	**Kalavryta, Ach**	**3.13**	**255**	*e*PN	**Pn**	**15 26 52.0**	**+0.1**
KLV	**Kalavryta, Ach**	**3.13**	**255**	P	**Pn**	**15 26 51.8**	**-0.1**
ISK	**Istanbul-Kandi**	**3.19**	**47**	*e*PN	**Pn**	**15 26 53.3**	**+0.7**
ISK	**Istanbul-Kandi**	**3.19**	**47**	*e*Pn	**Pn**	**15 26 53.3**	**+0.7**
KNT	**Kendrikon**	**3.24**	**314**	*e*PN	**Pn**	**15 26 54.3**	**+1.0**
KNT	**Kendrikon**	**3.24**	**314**	*e*Pn	**Pn**	**15 26 54.3**	**+1.0**
CAVI	**Cavuskoy**	**3.25**	**66**	*e*PN	**Pn**	**15 26 54.6**	**+1.1**
CAVI	**Cavuskoy**	**3.25**	**66**	*e*Pn	**Pn**	**15 26 54.6**	**+1.1**
ADVT	**Abdulvahap**	**3.27**	**62**	*e*PN	**Pn**	**15 26 54.5**	**+0.8**
ADVT	**Abdulvahap**	**3.27**	**62**	*e*Pn	**Pn**	**15 26 54.5**	**+0.8**
VLI	**Veliai**	**3.27**	**228**	P	**Pn**	**15 26 53.0**	**-0.7**
VLI	**Veliai**	**3.27**	**228**	P	**Pn**	**15 26 53.0**	**-0.7**
KLYT	**Kilyos**	**3.30**	**45**	*e*PN	**Pn**	**15 26 55.5**	**+1.3**
KLYT	**Kilyos**	**3.30**	**45**	*e*Pn	**Pn**	**15 26 55.5**	**+1.3**
GRG	**Griva**	**3.40**	**307**	P	**Pn**	**15 26 55.7**	**+0.1**
GRG	**Griva**	**3.40**	**307**	*e*PN	**Pn**	**15 26 56.6**	**+1.0**
GRG	**Griva**	**3.40**	**307**	P	**Pn**	**15 26 55.7**	**+0.1**
GRG	**Griva**	**3.40**	**307**	*e*Pn	**Pn**	**15 26 56.6**	**+1.0**
HRT	**Hereke**	**3.41**	**55**	*e*PN	**Pn**	**15 26 57.2**	**+1.5**
HRT	**Hereke**	**3.41**	**55**	*e*Pn	**Pn**	**15 26 57.2**	**+1.5**
VAY	**Valandovo**	**3.53**	**313**	*e*Pn	**Pn**	**15 26 59.0**	**+1.7**
DYR	**Agios Nikonas**	**3.61**	**234**	P	**Pn**	**15 26 58.8**	**+0.4**
DYR	**Agios Nikonas**	**3.61**	**234**	P	**Pn**	**15 26 58.8**	**+0.4**
IDI	**Anoyia**	**3.75**	**194**	*e*PN	**Pn**	**15 27 00.2**	**-0.2**
IDI	**Anoyia**	**3.75**	**194**	*e*Pn	**Pn**	**15 27 00.2**	**-0.2**
VTS	**Vitosha**	**4.21**	**331**	*i* P	**Pn**	**15 27 08.2**	**+1.4**
VTS	**Vitosha**	**4.21**	**331**	*i* P	**Pn**	**15 27 08.2**	**+1.4**
BOLS	**Boljevac**	**5.74**	**330**	*e*Pn	**Pn**	**15 27 27.2**	**-0.5**
TIRR	**Tirgusor**	**5.81**	**18**	*i* P	**Pn**	**15 27 28.7**	**+0.1**
TIRR	**Tirgusor**	**5.81**	**18**	*i* P	**Pn**	**15 27 28.7**	**+0.1**
TLB	**Topalu**	**5.85**	**15**	*i* P	**Pn**	**15 27 29.6**	**+0.4**
TLB	**Topalu**	**5.85**	**15**	*i* P	**Pn**	**15 27 29.6**	**+0.4**
BRTR	**Keskin Array B**	**6.00**	**80**	Pn	**Pn**	**15 27 31.9**	**+0.6**
	0.1nm,0.3s,baz=266,slow=11,SNR=2.9						
GRUS	**Gruza**	**6.33**	**323**	*e*Pn	**Pn**	**15 27 38.0**	**+2.2**
IVAS	**Ivanjica**	**6.38**	**318**	*i*Pn	**Pn**	**15 27 37.2**	**+0.7**
CFR	**Carcaliu**	**6.44**	**14**	*i* P	Pn	15 27 29.4	-7.9
ARR	**Arges**	**6.50**	**352**	*i* P	**Pn**	**15 27 40.3**	**+2.1**
ARR	**Arges**	**6.50**	**352**	*i* P	**Pn**	**15 27 40.3**	**+2.1**
MLR	**Muntele Rosu**	**6.55**	**360**	*i* P	**Pn**	**15 27 40.7**	**+1.8**
MLR	**Muntele Rosu**	**6.55**	**360**	*i* P	**Pn**	**15 27 40.7**	**+1.8**
LOT	**Lotru**	**6.71**	**347**	*i* P	**Pn**	**15 27 42.0**	**+0.9**
LOT	**Lotru**	**6.71**	**347**	*i* P	**Pn**	**15 27 42.0**	**+0.9**
DIVS	**Divibare**	**6.83**	**321**	*e*Pn	**Pn**	**15 27 44.3**	**+1.5**
GZR	**Gura Zlata**	**6.87**	**341**	*i* P	**Pn**	**15 27 43.0**	**-0.3**
GZR	**Gura Zlata**	**6.87**	**341**	*i* P	**Pn**	**15 27 43.0**	**-0.3**
PLOR	**Plostina**	**6.93**	**4**	*i* P	**Pn**	**15 27 46.4**	**+2.4**
PLOR	**Plostina**	**6.93**	**4**	*i* P	**Pn**	**15 27 46.4**	**+2.4**
VRI	**Vrincioaia**	**6.95**	**4**	*i* P	**Pn**	**15 27 45.1**	**+0.8**
VRI	**Vrincioaia**	**6.95**	**4**	*i* P	**Pn**	**15 27 45.1**	**+0.8**
BBLS	**Lazići**	**6.97**	**317**	*e*Pn	**Pn**	**15 27 46.9**	**+2.3**
BZS	**Buzias**	**7.41**	**336**	*i* P	**Pn**	**15 27 51.4**	**+0.8**
BZS	**Buzias**	**7.41**	**336**	*i* P	**Pn**	**15 27 51.4**	**+0.8**
TESR	**Tescani**	**7.58**	**4**	*i* P	**Pn**	**15 27 54.4**	**+1.4**
TESR	**Tescani**	**7.58**	**4**	*i* P	**Pn**	**15 27 54.4**	**+1.4**
SIRR	**Siria**	**7.98**	**338**	*i* P	**Pn**	**15 27 59.0**	**+0.5**
SIRR	**Siria**	**7.98**	**338**	*i* P	**Pn**	**15 27 59.0**	**+0.5**
DRGR		**8.20**	**344**	*i* P	Pn	15 28 09.9	+8.3
TORD	**Torodi Ar. Bea**	**33.49**	**227**	P	**P**	**15 32 42.3**	**+0.3**
	0.3nm,0.8s,baz=38,slow=7.3,SNR=2.3						
MKAR	**Makanchi Array**	**41.24**	**60**	P	**P**	**15 33 47.5**	**0.0**
	0.2nm,0.7s,baz=278,slow=6.9,SNR=3.5						

*ISCJB **21** 15:30:37.9±1.0, 4°.45S±0°.06×34°.72E±0°.05, h10km, Error ellipse: s-maj=10.0km s-min=6.6km az=150.9*

*PRE **21** 15:30:42.6±2.7, 4°.26S×34°.75E, h10km, ML4.8*

ISC 21 15:30:40.7±1.3, 4°.41S±0°.10×34°.71E±0°.06, h10km, n5, σ1§34/9, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAUS	**Longido**	**2.59**	**50**	*i* P	**Pg**	**15 31 31.4**	**+1.0**
MAUS				*i* S	**Sn**	**15 31 52.9**	**-1.5**
KMBO	**Kilima Mbogo**	**4.13**	**38**	*e*P	**Pn**	**15 31 45.2**	**+1.0**
KMBO				*e*S	**Sn**	**15 32 30.4**	**-2.3**
KIG	**Kigali**	**5.24**	**298**	*e*P	**Pn**	**15 31 59.5**	**+0.2**
KIG				*e*S	**Sn**	**15 33 00.2**	**+0.3**
KIG				AML	AML	15 33 38.2	
	comp=Z,498nm,0.5s						
MBAR	**Mbarara**	**5.48**	**314**	*e*P	**Pn**	**15 32 02.5**	**-0.2**
MBAR				*e*S	**Sn**	**15 33 05.3**	**-0.7**
LSZ	**Lusaka**	**12.56**	**210**	*e*S	**Sn**	**15 35 59.3**	**-0.6**

IDC 21 15:31:33.8±8.7, 15°.63S×173°.17W, h0km, mb4.2/3, mb1 4.5/3, mb1mx3.8/19, mbtmp4.2/3, ML1.3/1, Error ellipse: s-maj=399.9km s-min=24.6km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.17**	**38**	Pn	Pn	15 32 09.1	-2.2
	5.4nm,0.3s,baz=0.6,slow=20,SNR=9.1						
AFI				Sn	Sn	15 32 31.2	-7.8
	12nm,0.3s,baz=58,slow=20,SNR=7.6						
H11S2	**WAKE ISLAND Hy 39.27 329**			T	T	16 20 43.4	
	baz=152,slow=0.7,SNR=23						
H11S3	**WAKE ISLAND Hy 39.28 329**			T	T	16 20 44.5	
	baz=152,slow=0.7,SNR=13						
H11S1	**WAKE ISLAND Hy 39.29 329**			T	T	16 20 46.7	
	baz=152,slow=0.7,SNR=12						
H11N3	**WAKE ISLAND Hy 40.22 330**			T	T	16 22 01.6	
	baz=152,slow=0.7,SNR=12						
H11N1	**WAKE ISLAND Hy 40.22 330**			T	T	16 22 09.0	
	baz=152,slow=0.7,SNR=11						
H11N2	**WAKE ISLAND Hy 40.24 330**			T	T	16 22 08.6	
	baz=152,slow=0.7,SNR=12						
WRA	**Warramunga Arr**	**50.01**	**257**	P	P	15 40 30.0	-0.5
	0.5nm,0.8s,baz=94,slow=7.4,SNR=3.4						
ASAR	**Alice Springs**	**50.26**	**252**	P	P	15 40 31.8	-0.5
	2.4nm,0.8s,baz=85,slow=8.1,SNR=36						
ILAR	**Eielson Array**	**82.62**	**11**	P	P	15 44 00.2	+1.7
	3.1nm,1.4s,baz=236,slow=6.7,SNR=4.9						

*IDC **21** 15:46:36.6±0.7, 4°.91N×126°.79E, h0km, mb4.0/11, mb1 4.2/11, mb1mx4.0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMV	**Vieux Emosson**	**0.16**	**123**	⇓*i*Pg	**Pg**	**16 11 01.7**	**-0.2**
	18µm,0.1s						
EMV				*i* Sg	**Sg**	**16 11 03.9**	**-0.8**
	18µm,0.1s						
EMV	**Vieux Emosson**	**0.16**	**123**	⇓*i*Pg	**Pg**	**16 11 01.7**	**-0.2**
	18µm,0.1s						
EMV				*i* Sg	**Sg**	**16 11 03.9**	**-0.8**
	18µm,0.1s						
OG01	**Vacheresse**	**0.18**	**355**	Pg	**Pb**	**16 11 03.5**	**+0.5**
OG01				Sg	**Sb**	**16 11 06.7**	**+0.2**
OG01	**Vacheresse**	**0.18**	**355**	Pg	**Pb**	**16 11 03.5**	**+0.5**
OG01				Sg	**Sb**	**16 11 06.7**	**+0.2**
SALAN	**Lac Salanfe**	**0.19**	**92**	⇓*i*Pg	**Pg**	**16 11 02.2**	**0.0**
	3µm,0.3s						
SALAN				*i* Sg	**Sg**	**16 11 04.7**	**-0.5**
	3µm,0.3s						
SALAN	**Lac Salanfe**	**0.19**	**92**	⇓*i*Pg	**Pg**	**16 11 02.2**	**0.0**
	3µm,0.3s						
SALAN				*i* Sg	**Sg**	**16 11 04.7**	**-0.5**
	3µm,0.3s						
AIGLE	**Aigle**	**0.26**	**42**	⇑*i*Pg	**Pg**	**16 11 04.0**	**+0.7**
	4µm,0.4s						
AIGLE				*e*Sg	**Sg**	**16 11 07.6**	**+0.6**
	4µm,0.4s						
AIGLE	**Aigle**	**0.26**	**42**	⇑*i*Pg	**Pg**	**16 11 04.0**	**+0.7**
	4µm,0.4s						
AIGLE				*e*Sg	**Sg**	**16 11 07.6**	**+0.6**
	4µm,0.4s						
SENIN	**Lac Senin/Sane**	**0.46**	**62**	⇓*i*Pg	**Pg**	**16 11 07.5**	**+0.5**
	3µm,0.4s						
SENIN				*i* Sg	**Sg**	**16 11 13.9**	**+0.6**
	3µm,0.4s						
SENIN	**Lac Senin/Sane**	**0.46**	**62**	⇓*i*Pg	**Pg**	**16 11 07.5**	**+0.5**
	3µm,0.4s						
SENIN				*i* Sg	**Sg**	**16 11 13.9**	**+0.6**
	3µm,0.4s						
DIX	**Grande Dixence**	**0.49**	**98**	⇓*i*Pg	**Pg**	**16 11 08.2**	**+0.6**
	11µm,0.3s						
DIX				*i* Sg	**Sg**	**16 11 14.5**	**+0.3**
	11µm,0.3s						
DIX	**Grande Dixence**	**0.49**	**98**	⇓*i*Pg	**Pg**	**16 11 08.2**	**+0.6**
	11µm,0.3s						
DIX				*i* Sg	**Sg**	**16 11 14.5**	**+0.3**
	11µm,0.3s						
CABF	**La Chapelle**	**0.63**	**317**	*e*Pg	**Pb**	**16 11 11.6**	**+0.9**
CABF	**La Chapelle**	**0.63**	**317**	*e*P	**Pn**	**16 11 12.7**	**+0.2**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**16 11 19.4**	**+0.9**
	593nm,0.4s,SNR=1.0						
CABF	**La Chapelle**	**0.63**	**317**	*e*Pg	**Pb**	**16 11 11.6**	**+0.9**
CABF	**La Chapelle**	**0.63**	**317**	*e*P	**Pn**	**16 11 12.7**	**+0.2**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**16 11 19.4**	**+0.9**
	296nm,0.4s,SNR=1.0						
LPL	**La Plagne**	**0.63**	**178**	*e*Pg	**Pg**	**16 11 10.7**	**+0.5**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**16 11 19.0**	**+0.4**
	156nm,0.2s						
LPL	**La Plagne**	**0.63**	**178**	*e*Pg	**Pg**	**16 11 10.7**	**+0.5**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**16 11 19.0**	**+0.4**
	78nm,0.2s						
LPG	**La Plagne**	**0.65**	**177**	*e*Pg	**Pg**	**16 11 11.2**	**+0.6**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**16 11 19.5**	**+0.2**
	319nm,0.2s						
LPG	**La Plagne**	**0.65**	**177**	*e*Pg	**Pg**	**16 11 11.2**	**+0.6**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**16 11 19.5**	**+0.2**
	160nm,0.2s						
LKBD	**Leukerbad**	**0.68**	**69**	*e*Pg	**Pg**	**16 11 11.4**	**+0.3**
	526nm,0.2s						
LKBD	**Leukerbad**	**0.68**	**69**	*e*Pg	**Pg**	**16 11 11.4**	**+0.3**
	526nm,0.2s						
LKBD2	**Leukerbad 2**	**0.69**	**71**	*e*Pg	**Pg**	**16 11 11.7**	**+0.4**
LKBD2	**Leukerbad 2**	**0.69**	**71**	*e*Pg	**Pg**	**16 11 11.7**	**+0.4**
BRANT	**Les Verrieres**	**0.80**	**349**	*e*Pg	**Pn**	**16 11 14.7**	**-0.2**
	714nm,0.5s						
BRANT	**Les Verrieres**	**0.80**	**349**	*e*Pg	**Pn**	**16 11 14.7**	**-0.2**
	714nm,0.5s						
WIMIS	**Wimmis**	**0.82**	**51**	*e*Pg	**Pb**	**16 11 14.1**	**+0.2**
	1µm,0.4s						
WIMIS	**Wimmis**	**0.82**	**51**	*e*Pg	**Pb**	**16 11 14.1**	**+0.2**
	1µm,0.4s						
MMK	**Mattmark**	**0.88**	**96**	⇓*i*Pg	**Pb**	**16 11 14.9**	**-0.1**
	897nm,0.1s						
MMK	**Mattmark**	**0.88**	**96**	⇓*i*Pg	**Pb**	**16 11 14.9**	**-0.1**
	897nm,0.1s						
TRAV	**Traversella**	**0.97**	**131**	P	**Pb**	**16 11 16.4**	**0.0**
TRAV				S	**Sb**	**16 11 26.9**	**-2.2**
GDM	**Grand'Maison**	**1.03**	**204**	Pn	**Pn**	**16 11 20.5**	**+2.4**
GDM				Sg	**Sn**	**16 11 35.8**	**+3.4**
GDM	**Grand'Maison**	**1.03**	**204**	Pn	**Pn**	**16 11 20.5**	**+2.4**
RSP	**Reno Superiore**	**1.08**	**158**	P	**Pb**	**16 11 18.7**	**+0.4**
RSP				S	**Sb**	**16 11 30.7**	**-1.6**
GRN	**Grenoble**	**1.13**	**217**	Pg	**Pg**	**16 11 22.4**	**+2.8**
GRN	**Grenoble**	**1.13**	**217**	Pg	**Pg**	**16 11 22.4**	**+2.8**
LOMF	**Lomont**	**1.20**	**4**	Pg	**Pg**	**16 11 22.0**	**+1.0**
LOMF	**Lomont**	**1.20**	**4**	Pg	**Pg**	**16 11 22.0**	**+1.0**
BOURR	**Bourrignon**	**1.29**	**16**	*e*P	**Pg**	**16 11 23.0**	**+0.3**
	651nm,0.6s						
BOURR	**Bourrignon**	**1.29**	**16**	*e*P	**Pg**	**16 11 23.0**	**+0.3**
	651nm,0.6s						
ORIF	**Oris-en-Rattie**	**1.36**	**206**	*e*Pg	**Pb**	**16 11 24.1**	**+0.9**
ORIF	**Oris-en-Rattie**	**1.36**	**206**	*e*P	**Pg**	**16 11 25.0**	**+1.0**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**16 11 42.3**	**+0.6**
	251nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.36**	**206**	*e*Pg	**Pb**	**16 11 24.1**	**+0.9**
ORIF	**Oris-en-Rattie**	**1.36**	**206**	*e*P	**Pg**	**16 11 25.0**	**+1.0**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**16 11 42.3**	**+0.6**
	125nm,0.3s						
BALST	**Balsthal**	**1.37**	**29**	*e*Pn	**Pg**	**16 11 24.3**	**+0.2**
BALST	**Balsthal**	**1.37**	**29**	*e*P	**Pg**	**16 11 24.3**	**+0.2**
	2µm,0.4s						
BALST	**Balsthal**	**1.37**	**29**	*e*P	**Pg**	**16 11 24.3**	**+0.2**
	2µm,0.4s						
BNALP	**Bannalp**	**1.39**	**58**	*e*P	**Pg**	**16 11 24.9**	**+0.4**
	790nm,0.4s						
BNALP	**Bannalp**	**1.39**	**58**	*e*P	**Pg**	**16 11 24.9**	**+0.4**
	790nm,0.4s						
FUSIO	**Fusio**	**1.39**	**77**	*e*P	**Pb**	**16 11 23.8**	**+0.1**
	562nm,0.4s						
FUSIO	**Fusio**	**1.39**	**77**	*e*P	**Pb**	**16 11 23.8**	**+0.1**
	562nm,0.4s						
MBDF	**Montbardon**	**1.42**	**178**	*e*Pn	**Pb**	**16 11 24.9**	**+0.7**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**16 11 42.1**	**0.0**
	SNR=1.0						
MBDF				*e*Sg	**Sb**	**16 11 44.0**	**+1.7**
	150nm,0.5s,SNR=1.0						
MBDF	**Montbardon**	**1.42**	**178**	*e*Pn	**Pb**	**16 11 24.9**	**+0.7**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**16 11 42.1**	**0.0**
	SNR=1.0						
MBDF				*e*Sg	**Sb**	**16 11 44.0**	**+1.7**
	75nm,0.5s,SNR=1.0						
BBS	**Basel-Blauen**	**1.43**	**22**	Pn	**Pb**	**16 11 24.6**	**+0.4**
BBS	**Basel-Blauen**	**1.43**	**22**	Pg	**Pg**	**16 11 26.3**	**+1.1**
BBS				Sg	**Sg**	**16 11 45.6**	**+1.9**
MUGIO	**Muggio**	**1.64**	**97**	⇓*i*P	**Pb**	**16 11 27.8**	**-0.1**
	812nm,0.5s						
MUGIO	**Muggio**	**1.64**	**97**	⇓*i*P	**Pb**	**16 11 27.8**	**-0.1**
	812nm,0.5s						
PZZ	**Stroppo**	**1.67**	**170**	P	**Pb**	**16 11 28.2**	**-0.2**
PZZ				S	**Sn**	**16 11 46.5**	**-1.6**
HINF	**Hinteralfeld**	**1.67**	**3**	*e*Pn	**Pb**	**16 11 27.9**	**-0.5**
	SNR=1.0						
HINF	**Hinteralfeld**	**1.67**	**3**	*e*Pg	**Pg**	**16 11 30.2**	**+0.3**
HINF				*e*Sn	**Sn**	**16 11 48.2**	**+0.2**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**16 11 51.9**	**+0.3**
	141nm,0.3s						
HINF	**Hinteralfeld**	**1.67**	**3**	*e*Pn	**Pb**	**16 11 27.9**	**-0.5**
	SNR=1.0						
HINF	**Hinteralfeld**	**1.67**	**3**	*e*Pg	**Pg**	**16 11 30.2**	**+0.3**
HINF				*e*Sn	**Sn**	**16 11 48.2**	**+0.2**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**16 11 51.9**	**+0.3**
	71nm,0.3s						
SURF	**Saint Ours**	**1.67**	**177**	Pn	**Pg**	**16 11 30.0**	**+0.1**
SURF	**Saint Ours**	**1.67**	**177**	Pn	**Pg**	**16 11 30.0**	**+0.1**
SULZ	**Cheisacher**	**1.68**	**34**	*e*Pg	**Pg**	**16 11 31.1**	**+1.0**
SULZ				*e*Sg	**Sg**	**16 11 53.6**	**+1.7**
SULZ	**Cheisacher**	**1.68**	**34**	*e*Pn	**Pb**	**16 11 28.7**	**+0.1**
	1µm,0.4s						
SULZ	**Cheisacher**	**1.68**	**34**	*e*Pn	**Pb**	**16 11 28.7**	**+0.1**
	1µm,0.4s						
SULZ	**Cheisacher**	**1.68**	**34**	Pg	**Pg**	**16 11 31.1**	**+1.0**
SULZ				Sg	**Sg**	**16 11 53.6**	**+1.7**
MOF	**Molkenrain**	**1.73**	**10**	Pn	**Pn**	**16 11 28.5**	**+0.9**
MOF	**Molkenrain**	**1.73**	**10**	Pg	**Pg**	**16 11 32.0**	**+1.0**
MOF				Sg	**Sg**	**16 11 54.5**	**+1.1**
MOF	**Molkenrain**	**1.73**	**10**	Pn	**Pn**	**16 11 28.5**	**+0.9**
MOF	**Molkenrain**	**1.73**	**10**	Pg	**Pg**	**16 11 32.0**	**+1.0**
MOF				Sg	**Sg**	**16 11 54.5**	**+1.1**
LLS	**Linth-Limmern**	**1.74**	**66**	⇑*i*P	**Pb**	**16 11 30.4**	**+0.8**
	219nm,0.2s						
LLS	**Linth-Limmern**	**1.74**	**66**	⇑*i*P	**Pb**	**16 11 30.4**	**+0.8**
	219nm,0.2s						
SSB	**Saint Sauveur**	**1.75**	**241**	Pn	**Pn**	**16 11 28.9**	**+1.1**
SSB	**Saint Sauveur**	**1.75**	**241**	Pg	**Pg**	**16 11 33.0**	**+1.6**
SSB	**Saint Sauveur**	**1.75**	**241**	Pn	**Pn**	**16 11 28.9**	**+1.1**
SSB	**Saint Sauveur**	**1.75**	**241**	Pg	**Pg**	**16 11 33.0**	**+1.6**
OG25	**Le Caire**	**1.84**	**194**	Pn	**Pb**	**16 11 31.8**	**+0.6**
OG25	**Le Caire**	**1.84**	**194**	Pg	Pg	16 11 37.0	+4.0
OG25	**Le Caire**	**1.84**	**194**	Pn	**Pb**	**16 11 31.8**	**+0.6**
HAU	**Haudompre**	**1.87**	**353**	*e*Pn	**Pb**	**16 11 31.0**	**-0.8**
	SNR=1.0						
HAU	**Haudompre**	**1.87**	**353**	*e*Pg	**Pg**	**16 11 34.1**	**+0.4**
HAU				*e*Sn	**Sn**	**16 11 53.4**	**+0.4**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**16 11 58.4**	**+0.4**
	108nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**1.87**	**353**	*e*Pn	**Pb**	**16 11 31.0**	**-0.8**
	SNR=1.0						
HAU	**Haudompre**	**1.87**	**353**	*e*Pg	**Pg**	**16 11 34.1**	**+0.4**
HAU				*e*Sn	**Sn**	**16 11 53.4**	**+0.4**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**16 11 58.4**	**+0.4**
	54nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**1.93**	**229**	*e*Pn	**Pn**	**16 11 31.7**	**+1.4**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**1.93**	**229**	*e*Pg	**Pg**	**16 11 35.3**	**+0.5**
VIVF				*e*Sn	**Sn**	**16 11 54.5**	**+0.1**
VIVF				*e*Sg	**Sg**	**16 12 00.1**	**+0.3**
	156nm,0.4s						
VIVF	**Saint-Julien-l**	**1.93**	**229**	*e*Pn	**Pn**	**16 11 31.7**	**+1.4**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**1.93**	**229**	*e*Pg	**Pg**	**16 11 35.3**	**+0.5**
VIVF				*e*Sn	**Sn**	**16 11 54.5**	**+0.1**
VIVF				*e*Sg	**Sg**	**16 12 00.1**	**+0.3**
	78nm,0.4s						
FELD	**Feldberg im Sc**	**1.94**	**27**	Pn	**Pn**	**16 11 30.8**	**+0.2**
FELD	**Feldberg im Sc**	**1.94**	**27**	Pg	**Pg**	**16 11 35.4**	**+0.3**
FELD				Sg	**Sg**	**16 12 01.6**	**+1.3**
FELD	**Feldberg im Sc**	**1.94**	**27**	Pn	**Pn**	**16 11 30.8**	**+0.2**
FELD	**Feldberg im Sc**	**1.94**	**27**	Pg	**Pg**	**16 11 35.4**	**+0.3**
FELD				Sg	**Sg**	**16 12 01.6**	**+1.3**
STV	**Sant Anna di V**	**1.95**	**167**	P	**Pb**	**16 11 32.6**	**-0.6**
STV				S	**Sn**	**16 11 53.7**	**-1.3**
WILA	**Wila**	**1.97**	**49**	*e*Pg	**Pg**	**16 11 36.4**	**+0.8**
WILA				*e*Sg	**Sg**	**16 12 02.3**	**+1.1**
WILA	**Wila**	**1.97**	**49**	Pg	**Pg**	**16 11 36.4**	**+0.8**
WILA				Sg	**Sg**	**16 12 02.3**	**+1.1**
ENR	**Entracque**	**1.99**	**165**	P	**Pn**	**16 11 33.0**	**+1.9**
ENR				S	**Sn**	**16 11 52.6**	**-3.3**
SLE	**Schleitheim**	**2.03**	**36**	*e*Pg	**Pg**	**16 11 37.3**	**+0.6**
SLE				*e*Sg	**Sg**	**16 12 04.0**	**+1.1**
SLE	**Schleitheim**	**2.03**	**36**	*e*Pn	**Pn**	**16 11 32.1**	**+0.5**
	1µm,0.5s						
SLE	**Schleitheim**	**2.03**	**36**	*e*Pn	**Pn**	**16 11 32.1**	**+0.5**
	1µm,0.5s						
SLE	**Schleitheim**	**2.03**	**36**	Pg	**Pg**	**16 11 37.3**	**+0.6**
SLE				Sg	**Sg**	**16 12 04.0**	**+1.1**
SMF	**Signal de Mont**	**2.04**	**285**	*e*Pn	**Pn**	**16 11 33.6**	**+1.8**
	SNR=1.0						
SMF	**Signal de Mont**	**2.04**	**285**	*e*Pg	**Pg**	**16 11 37.5**	**+0.5**
SMF				*e*Sg	**Sg**	**16 12 04.1**	**+0.6**
	88nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**2.04**	**285**	*e*Pn	**Pn**	**16 11 33.6**	**+1.8**
	SNR=1.0						
SMF	**Signal de Mont**	**2.04**	**285**	*e*Pg	**Pg**	**16 11 37.5**	**+0.5**
SMF				*e*Sg	**Sg**	**16 12 04.1**	**+0.6**
	44nm,0.2s,SNR=1.0						
PLONS	**Plons/SG**	**2.05**	**63**	*e*Pn	**Pb**	**16 11 34.3**	**-0.6**
PLONS				*e*Pg	**Pg**	**16 11 37.7**	**+0.6**
PLONS				*e*Sg	**Sg**	**16 12 05.3**	**+1.5**
PLONS	**Plons/SG**	**2.05**	**63**	⇑*i*Pn	**Pb**	**16 11 34.3**	**-0.6**
	393nm,0.3s						
PLONS	**Plons/SG**	**2.05**	**63**	⇑*i*Pn	**Pb**	**16 11 34.3**	**-0.6**
	393nm,0.3s						
PCP	**Piancastagn**	**2.07**	**140**	P	**Pb**	**16 11 35.5**	**+0.4**
PCP				S	**Sn**	**16 11 56.9**	**-0.9**
ECH	**Echery**	**2.09**	**8**	Pn	**Pn**	**16 11 33.3**	**+0.8**
ECH				Sg	**Sg**	**16 12 05.7**	**+0.7**
ECH	**Echery**	**2.09**	**8**	Pn	**Pn**	**16 11 33.3**	**+0.8**
ECH				Sg	**Sg**	**16 12 05.7**	**+0.7**
LIBD	**Limburg**	**2.09**	**17**	Pn	**Pn**	**16 11 33.2**	**+0.7**
THEF	**They Montfort**	**2.13**	**347**	Pn	**Pn**	**16 11 33.3**	**+0.2**
THEF				Sg	**Sg**	**16 12 06.5**	**+0.1**
THEF	**They Montfort**	**2.13**	**347**	Pn	**Pn**	**16 11 33.3**	**+0.2**
THEF				Sg	**Sg**	**16 12 06.5**	**+0.1**
PLDF	**La Plantade**	**2.16**	**266**	Pn	**Pn**	**16 11 34.0**	**+0.6**
PLDF	**La Plantade**	**2.16**	**266**	Pn	**Pn**	**16 11 34.0**	**+0.6**
TOUF	**Mont Tournerai**	**2.17**	**170**	Pn	**Pb**	**16 11 37.0**	**0.0**
TOUF	**Mont Tournerai**	**2.17**	**170**	Pn	**Pb**	**16 11 37.0**	**0.0**
COLF	**Collangettes**	**2.20**	**254**	Pn	**Pn**	**16 11 35.3**	**+1.3**
COLF	**Collangettes**	**2.20**	**254**	Pg	**Pg**	**16 11 40.6**	**+0.7**
COLF	**Collangettes**	**2.20**	**254**	Pn	**Pn**	**16 11 35.3**	**+1.3**
COLF	**Collangettes**	**2.20**	**254**	Pg	**Pg**	**16 11 40.6**	**+0.7**
AUTN	**L'Aution**	**2.21**	**166**	Pn	**Pb**	**16 11 37.2**	**-0.6**
AUTN	**L'Aution**	**2.21**	**166**	Pn	**Pb**	**16 11 37.2**	**-0.6**
RORO	**Rocca Rossa**	**2.25**	**154**	P	**Pb**	**16 11 37.6**	**-0.7**
LOR	**Lormes**	**2.26**	**301**	*e*Pn	**Pn**	**16 11 36.7**	**+1.9**
	baz=131,SNR=1.0						
LOR	**Lormes**	**2.26**	**301**	*e*Pg	**Pg**	**16 11 41.9**	**+0.9**
	baz=125						
LOR				*e*Sn	**Sn**	**16 12 03.1**	**+0.7**
	45nm,0.2s,SNR=1.0						
LOR				*e*Sg	**Sg**	**16 12 11.5**	**+1.2**
	47nm,0.2s						
LOR	**Lormes**	**2.26**	**301**	*e*Pn	**Pn**	**16 11 36.7**	**+1.9**
	baz=131,SNR=1.0						
LOR	**Lormes**	**2.26**	**301**	*e*Pg	**Pg**	**16 11 41.9**	**+0.9**
	baz=125						
LOR				*e*Sn	**Sn**	**16 12 03.1**	**+0.7**
	22nm,0.2s,SNR=1.0						
LOR				*e*Sg	**Sg**	**16 12 11.5**	**+1.2**
	23nm,0.2s						
MVIF	**Mont Vial**	**2.28**	**172**	Pn	**Pb**	**16 11 38.7**	**-0.1**
MVIF	**Mont Vial**	**2.28**	**172**	Pn	**Pb**	**16 11 38.7**	**-0.1**
DAVOX	**Davos/Dischmat**	**2.28**	**73**	⇑*i*Pn	**Pb**	**16 11 38.9**	**0.0**
	247nm,0.5s						
DAVOX	**Davos/Dischmat**	**2.28**	**73**	⇑*i*Pn	**Pb**	**16 11 38.9**	**0.0**
	247nm,0.5s						
CDF	**Champ du Feu**	**2.30**	**10**	*e*Pn	**Pn**	**16 11 36.2**	**+0.8**
	SNR=1.0						
CDF	**Champ du Feu**	**2.30**	**10**	*e*Pg	**Pg**	**16 11 41.7**	**-0.1**
CDF				*e*Sn	**Sn**	**16 12 11.1**	**-0.5**
	65nm,0.4s,SNR=1.0						
CDF	**Champ du Feu**	**2.30**	**10**	*e*Pn	**Pn**	**16 11 36.2**	**+0.8**
	SNR=1.0						
CDF	**Champ du Feu**	**2.30**	**10**	*e*Pg	**Pg**	**16 11 41.7**	**-0.1**
CDF				*e*Sg	**Sg**	**16 12 11.1**	**-0.5**
	32nm,0.4s,SNR=1.0						
LUCF	**Luceram**	**2.30**	**168**	Pn	**Pb**	**16 11 38.8**	**-0.4**
LUCF	**Luceram**	**2.30**	**168**	Pn	**Pb**	**16 11 38.8**	**-0.4**
SMRF	**Simiane la Rot**	**2.32**	**201**	*e*P	**Pb**	**16 11 38.1**	**-1.3**
	SNR=1.0						
SMRF	**Simiane la Rot**	**2.32**	**201**	*e*Pg	**Pg**	**16 11 41.8**	**-0.4**
SMRF				*e*Sn	**Sn**	**16 12 03.8**	**-0.1**
	26nm,0.2s						
SMRF	**Simiane la Rot**	**2.32**	**201**	*e*P	**Pb**	**16 11 38.1**	**-1.3**
	SNR=1.0						
SMRF	**Simiane la Rot**	**2.32**	**201**	*e*Pg	**Pg**	**16 11 41.8**	**-0.4**
SMRF				*e*Sn	**Sn**	**16 12 03.8**	**-0.1**
	13nm,0.2s						
SBF	**Sospel**	**2.34**	**167**	*e*P	**Pb**	**16 11 39.4**	**-0.5**
	SNR=1.0						
SBF	**Sospel**	**2.34**	**167**	*e*Pg	**Pg**	**16 11 42.2**	**-0.5**
SBF				*e*Sn	**Sn**	**16 12 04.1**	**-0.6**
	72nm,0.4s,SNR=1.0						
SBF	**Sospel**	**2.34**	**167**	*e*P	**Pb**	**16 11 39.4**	**-0.5**
	SNR=1.0						
SBF	**Sospel**	**2.34**	**167**	*e*Pg	**Pg**	**16 11 42.2**	**-0.5**
SBF				*e*Sn	**Sn**	**16 12 04.1**	**-0.6**
	36nm,0.4s,SNR=1.0						
SFTF	**Sexfontaines**	**2.35**	**332**	*e*Pn	**Pn**	**16 11 38.0**	**+2.0**
	baz=145						
SFTF	**Sexfontaines**	**2.35**	**332**	*e*Pg	**Pg**	**16 11 43.1**	**+0.3**
	baz=144						
SFTF				*e*Sn	**Sn**	**16 12 04.8**	**+0.1**
SFTF				*e*Sg	**Sg**	**16 12 13.7**	**+0.4**
	37nm,0.2s						
SFTF	**Sexfontaines**	**2.35**	**332**	*e*Pn	**Pn**	**16 11 38.0**	**+2.0**
	baz=145						
SFTF	**Sexfontaines**	**2.35**	**332**	*e*Pg	**Pg**	**16 11 43.1**	**+0.3**
	baz=144						
SFTF				*e*Sn	**Sn**	**16 12 04.8**	**+0.1**
SFTF				*e*Sg	**Sg**	**16 12 13.7**	**+0.4**
	18nm,0.2s						
SSF	**Saint Saulge**	**2.39**	**294**	*e*Pn	**Pn**	**16 11 38.6**	**+2.1**
	SNR=1.0						
SSF	**Saint Saulge**	**2.39**	**294**	*e*Pg	**Pg**	**16 11 44.3**	**+0.8**
SSF				*e*Sn	**Sn**	**16 12 06.0**	**+0.4**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**16 12 14.8**	**+0.3**
	40nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**2.39**	**294**	*e*Pn	**Pn**	**16 11 38.6**	**+2.1**
	SNR=1.0						
SSF	**Saint Saulge**	**2.39**	**294**	*e*Pg	**Pg**	**16 11 44.3**	**+0.8**
SSF				*e*Sn	**Sn**	**16 12 06.0**	**+0.4**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**16 12 14.8**	**+0.3**
	20nm,0.3s,SNR=1.0						
CALN	**Calern**	**2.40**	**177**	Pn	**Pn**	**16 11 39.4**	**+2.5**
CALN	**Calern**	**2.40**	**177**	Pn	**Pn**	**16 11 39.4**	**+2.5**
AVF	**Avril sur Loir**	**2.41**	**287**	*e*Pn	**Pn**	**16 11 38.6**	**+1.8**
	SNR=1.0						
AVF	**Avril sur Loir**	**2.41**	**287**	*e*Pg	**Pg**	**16 11 44.3**	**+0.4**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**16 12 14.8**	**-0.2**
	34nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**2.41**	**287**	*e*Pn	**Pn**	**16 11 38.6**	**+1.8**
	SNR=1.0						
AVF	**Avril sur Loir**	**2.41**	**287**	*e*Pg	**Pg**	**16 11 44.3**	**+0.4**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**16 12 14.8**	**-0.2**
	17nm,0.2s,SNR=1.0						
NEGI	**Seborga**	**2.41**	**163**	P	**Pb**	**16 11 40.2**	**-0.8**
BFO	**Black Forest**	**2.44**	**26**	*e*Pn	**Pn**	**16 11 37.5**	**+0.1**
BFO				*e*Pg	**Pg**	**16 11 45.5**	**+0.9**
BFO				*e*Sg	**Sg**	**16 12 16.4**	**+0.1**
BFO	**Black Forest**	**2.44**	**26**	Pn	**Pn**	**16 11 37.5**	**+0.1**
REVF	**Revere**	**2.46**	**169**	Pn	**Pb**	**16 11 41.4**	**-0.4**
DAVA	**Damuels**	**2.46**	**61**	*e*Pg	**Pg**	**16 11 45.6**	**+0.6**
DAVA				*e*Sg	**Sg**	**16 12 18.3**	**+1.4**
DAVA	**Damuels**	**2.46**	**61**	⇓*i*Pn	**Pb**	**16 11 40.6**	**-1.3**
DAVA				⇓*i*Sn	**Sg**	**16 12 15.4**	**-1.5**
DAVA	**Damuels**	**2.46**	**61**	Pn	**Pb**	**16 11 40.6**	**-1.3**
DAVA	**Damuels**	**2.46**	**61**	Pg	**Pg**	**16 11 45.6**	**+0.6**
DAVA				Sg	**Sg**	**16 12 18.3**	**+1.4**
AGO	**Saint Agoulin**	**2.49**	**269**	Pn	**Pn**	**16 11 38.4**	**+0.4**
AGO	**Saint Agoulin**	**2.49**	**269**	Pn	**Pn**	**16 11 38.4**	**+0.4**
PAGF	**Fort de Pagny**	**2.50**	**345**	*e*Pn	**Pn**	**16 11 40.1**	**+2.0**
PAGF	**Fort de Pagny**	**2.50**	**345**	*e*Pg	**Pg**	**16 11 45.8**	**+0.2**
	baz=157						
PAGF				*e*Sg	**Sg**	**16 12 18.1**	**+0.1**
	6.1nm,0.3s						
PAGF	**Fort de Pagny**	**2.50**	**345**	*e*Pn	**Pn**	**16 11 40.1**	**+2.0**
PAGF	**Fort de Pagny**	**2.50**	**345**	*e*Pg	**Pg**	**16 11 45.8**	**+0.2**

CAF					*e*Sn	**Sn**	**16 12 32.0**	**-0.7**
	SNR=1.0							
CAF					*e*Sg	**Sg**	**16 12 48.2**	**-1.4**
	40nm,0.4s,SNR=1.0							
CAF	**Calviac**	**3.48**	**251**		*e*Pn	**Pn**	**16 11 52.0**	**+0.4**
	SNR=1.0							
CAF	**Calviac**	**3.48**	**251**		*e*Pg	**Pg**	**16 12 03.8**	**-0.7**
CAF					*e*Sn	**Sn**	**16 12 32.0**	**-0.7**
	SNR=1.0							
CAF					*e*Sg	**Sg**	**16 12 48.2**	**-1.4**
	20nm,0.4s,SNR=1.0							
WLF	**Walferdange**	**3.54**	**354**		*e*Sg	**Sg**	**16 12 51.6**	**+0.3**
WLF	**Walferdange**	**3.54**	**354**		Sg	**Sg**	**16 12 51.6**	**+0.3**
WATA	**Walderalm**	**3.55**	**69**	⇓	*i*Pn	**Pn**	**16 11 55.7**	**+3.0**
WATA	**Walderalm**	**3.55**	**69**		Pn	**Pn**	**16 11 55.7**	**+3.0**
WTTA	**Wattenberg**	**3.57**	**70**		*e*Pn	Pn	16 11 56.1	+3.1
WTTA					*e*Sg	**Sg**	**16 12 55.1**	**+2.7**
WTTA	**Wattenberg**	**3.57**	**70**	⇑	*i*Pn	Pn	16 11 56.1	+3.1
WTTA	**Wattenberg**	**3.57**	**70**		Pn	Pn	16 11 56.1	+3.1
WTTA					Sg	**Sg**	**16 12 55.1**	**+2.7**
FUR	**Furstenfeldbru**	**3.71**	**55**		*e*Sg	**Sg**	**16 12 57.2**	**+0.2**
FUR	**Furstenfeldbru**	**3.71**	**55**		Sg	**Sg**	**16 12 57.2**	**+0.2**
RJF	**Les Rejaudoux**	**3.73**	**259**		*e*Pn	**Pn**	**16 11 57.1**	**+2.1**
	SNR=1.0							
RJF					*e*Sg	**Sg**	**16 12 56.7**	**-0.9**
	11nm,0.2s							
RJF	**Les Rejaudoux**	**3.73**	**259**		*e*Pn	**Pn**	**16 11 57.1**	**+2.1**
	SNR=1.0							
RJF					*e*Sg	**Sg**	**16 12 56.7**	**-0.9**
	5.6nm,0.2s							
PGF	**Pioggiola**	**3.96**	**155**		*e*Pn	**Pn**	**16 11 59.1**	**+0.9**
	SNR=1.0							
PGF					*e*Sn	**Sn**	**16 12 42.6**	**-1.9**
	14nm,0.7s,SNR=1.0							
PGF	**Pioggiola**	**3.96**	**155**		*e*Pn	**Pn**	**16 11 59.1**	**+0.9**
	SNR=1.0							
PGF					*e*Sn	**Sn**	**16 12 42.6**	**-1.9**
	7.1nm,0.7s,SNR=1.0							
GIVF	**Givet**	**4.15**	**343**		*e*Pn	**Pn**	**16 12 02.8**	**+2.0**
	SNR=1.0							
GIVF					*e*Sg	**Sg**	**16 13 09.6**	**-1.4**
	8.3nm,0.3s							
GIVF	**Givet**	**4.15**	**343**		*e*Pn	**Pn**	**16 12 02.8**	**+2.0**
	SNR=1.0							
GIVF					*e*Sg	**Sg**	**16 13 09.6**	**-1.4**
	4.2nm,0.3s							
TNS	**Taunus Mts**	**4.24**	**15**		*e*Pn	**Pn**	**16 12 02.9**	**+0.9**
TNS					*e*Sg	**Sg**	**16 13 14.7**	**+0.9**
TNS	**Taunus Mts**	**4.24**	**15**		Pn	**Pn**	**16 12 02.9**	**+0.9**
TNS					Sg	**Sg**	**16 13 14.7**	**+0.9**
BAIF	**Baives**	**4.25**	**338**		*e*Pn	**Pn**	**16 12 03.1**	**+0.9**
	SNR=1.0							
BAIF					*e*Sn	**Sn**	**16 12 50.7**	**-0.9**
	14nm,0.7s,SNR=1.0							
BAIF	**Baives**	**4.25**	**338**		*e*Pn	**Pn**	**16 12 03.1**	**+0.9**
	SNR=1.0							
BAIF					*e*Sn	**Sn**	**16 12 50.7**	**-0.9**
	6.8nm,0.7s,SNR=1.0							
MTLF	**Montolieu**	**4.26**	**230**		*e*Pn	**Pn**	**16 12 03.9**	**+1.7**
	SNR=1.0							
MTLF					*e*Sg	**Sg**	**16 13 12.9**	**-1.5**
	9.4nm,0.3s							
MTLF	**Montolieu**	**4.26**	**230**		*e*Pn	**Pn**	**16 12 03.9**	**+1.7**
	SNR=1.0							
MTLF					*e*Sg	**Sg**	**16 13 12.9**	**-1.5**
	4.7nm,0.3s							
LFF	**La Frestale**	**4.36**	**256**		*e*Pn	**Pn**	**16 12 04.7**	**+1.0**
LFF					*e*Sg	**Sg**	**16 13 16.6**	**-1.2**
	25nm,0.4s							
LFF	**La Frestale**	**4.36**	**256**		*e*Pn	**Pn**	**16 12 04.7**	**+1.0**
LFF					*e*Sg	**Sg**	**16 13 16.6**	**-1.2**
	12nm,0.4s							
RJOB	**Jochberg**	**4.46**	**67**		*e*Pn	**Pn**	**16 12 07.6**	**+2.5**
RJOB					*e*Pg	**Pg**	**16 12 24.2**	**+0.9**
RJOB	**Jochberg**	**4.46**	**67**		Pn	**Pn**	**16 12 07.6**	**+2.5**
GRA1	**Grafenberg Arr**	**4.67**	**39**		Sg	**Sg**	**16 13 27.4**	**-0.1**
GRF	**Grafenberg Arr**	**4.67**	**39**		*e*Sg	**Sg**	**16 13 27.4**	**-0.1**
KBA	**Koelnbreinsper**	**4.67**	**76**		*e*Pn	Pn	16 12 11.4	+3.4
KBA	**Koelnbreinsper**	**4.67**	**76**	⇓	*i*Pn	Pn	16 12 11.6	+3.6
KBA	**Koelnbreinsper**	**4.67**	**76**		Pn	Pn	16 12 11.4	+3.4
MFF	**Saint Martin d**	**4.76**	**278**		*e*Pn	**Pn**	**16 12 11.2**	**+2.0**
	SNR=1.0							
MFF					*e*Sg	**Sg**	**16 13 29.1**	**-1.6**
	7.4nm,0.3s							
MFF	**Saint Martin d**	**4.76**	**278**		*e*Pn	**Pn**	**16 12 11.2**	**+2.0**
	SNR=1.0							
MFF					*e*Sg	**Sg**	**16 13 29.1**	**-1.6**
	3.7nm,0.3s							
WET	**Wettzell**	**5.13**	**52**		*e*Pn	**Pn**	**16 12 14.6**	**+0.3**
WET					*e*Sn	**Sn**	**16 13 11.2**	**-2.2**
WET					*e*Sg	**Sg**	**16 13 41.3**	**-1.2**
WET	**Wettzell**	**5.13**	**52**		Pn	**Pn**	**16 12 14.6**	**+0.3**
WET					Sn	**Sn**	**16 13 11.2**	**-2.2**
WET					Sg	**Sg**	**16 13 41.3**	**-1.2**
ROTZ	**Rotzenmuhle**	**5.17**	**44**		*e*Sn	**Sn**	**16 13 12.0**	**-2.2**
ROTZ					*e*Sg	**Sg**	**16 13 42.5**	**-1.2**
ROTZ	**Rotzenmuhle**	**5.17**	**44**		Sn	**Sn**	**16 13 12.0**	**-2.2**
ROTZ					Sg	**Sg**	**16 13 42.5**	**-1.2**
LDF	**La Druitiere**	**5.24**	**300**		*e*Pn	**Pn**	**16 12 16.9**	**+1.1**
	SNR=1.0							
LDF					*e*Sn	**Sn**	**16 13 13.9**	**-2.1**
	5.4nm,0.4s,SNR=1.0							
LDF	**La Druitiere**	**5.24**	**300**		*e*Pn	**Pn**	**16 12 16.9**	**+1.1**
	SNR=1.0							
LDF					*e*Sn	**Sn**	**16 13 13.9**	**-2.1**
	2.7nm,0.4s,SNR=1.0							
MOA	**Molln**	**5.44**	**69**		*e*Pn	**Pn**	**16 12 20.2**	**+1.6**
MOA	**Molln**	**5.44**	**69**		Pn	**Pn**	**16 12 20.2**	**+1.6**
GEC2	**GERESS Array S**	**5.45**	**58**		*e*Pn	**Pn**	**16 12 19.6**	**+0.8**
GEC2					*e*Pg	**Pg**	**16 12 43.0**	**+0.9**
GEC2	**GERESS Array S**	**5.45**	**58**		Pn	**Pn**	**16 12 19.6**	**+0.8**
EPF	**Esparros**	**5.51**	**238**		*e*Pn	**Pn**	**16 12 21.0**	**+1.5**
EPF					*e*Sg	**Sg**	**16 13 52.5**	**-2.2**
	6.4nm,0.3s							
EPF	**Esparros**	**5.51**	**238**		*e*Pn	**Pn**	**16 12 21.0**	**+1.5**
KHC	**Kasperske Hory**	**5.52**	**55**		*e*PN	**Pn**	**16 12 20.7**	**+1.1**
KHC					*e*PG	**Pg**	**16 12 40.8**	**-2.6**
KHC					*e*SN	**Sn**	**16 13 20.4**	**-2.5**
KHC					*e*SG	**Sg**	**16 13 52.2**	**-2.6**
	comp=Z,8.7nm,0.4s							
KHC	**Kasperske Hory**	**5.52**	**55**		Pn	**Pn**	**16 12 20.7**	**+1.1**
FLN	**La Foliniere**	**5.53**	**301**		*e*Pn	**Pn**	**16 12 21.6**	**+1.9**
	SNR=1.0							
FLN					*e*Sg	**Sg**	**16 13 52.5**	**-2.7**
	9.5nm,0.3s							
FLN	**La Foliniere**	**5.53**	**301**		*e*Pn	**Pn**	**16 12 21.6**	**+1.9**
	SNR=1.0							
GRR	**Gorron**	**5.61**	**296**		*e*Pn	**Pn**	**16 12 22.4**	**+1.6**
	SNR=1.0							
GRR					*e*Sn	**Sn**	**16 13 21.8**	**-3.3**
	5.7nm,0.2s,SNR=1.0							
GRR	**Gorron**	**5.61**	**296**		*e*Pn	**Pn**	**16 12 22.4**	**+1.6**
	SNR=1.0							
TANN	**Tannenbergstha**	**5.74**	**40**		*e*Pg	**Pg**	**16 12 47.4**	**-0.3**
TANN					*e*Sg	**Sg**	**16 14 01.4**	**-0.6**
TANN	**Tannenbergstha**	**5.74**	**40**		Pg	**Pg**	**16 12 47.4**	**-0.3**
TANN					Sg	**Sg**	**16 14 01.4**	**-0.6**
PRU	**Pruhonice**	**6.50**	**51**		*e*SG	**Sg**	**16 14 25.1**	**-1.3**
	comp=Z,6.8nm,0.6s							
PRU	**Pruhonice**	**6.50**	**51**		Sg	**Sg**	**16 14 25.1**	**-1.3**
	6.8nm,0.6s							
CLL	**Collm**	**6.63**	**37**		*e*Sg	**Sg**	**16 14 32.0**	**+1.6**
SGMF	**Saint Gilles**	**6.65**	**292**		*e*Pn	**Pn**	**16 12 36.4**	**+1.3**
SGMF					*e*Sn	**Sn**	**16 13 48.2**	**-2.5**
	2.6nm,0.2s							
SGMF	**Saint Gilles**	**6.65**	**292**		*e*Pn	**Pn**	**16 12 36.4**	**+1.3**
BRG	**Berggiesshubel**	**6.74**	**43**		SG	**Sg**	**16 14 33.9**	**0.0**
	7.8nm,0.9s							
PVCC	**Panska Ves**	**6.83**	**47**		*e*SG	**Sg**	**16 14 36.8**	**0.0**
	comp=Z,9.7nm,0.5s							
PVCC	**Panska Ves**	**6.83**	**47**		Sg	**Sg**	**16 14 36.8**	**0.0**
	9.7nm,0.5s							
QUIF	**Quistinic**	**6.97**	**288**		*e*Pn	**Pn**	**16 12 40.8**	**+1.3**
	SNR=1.0							
QUIF					*e*Sn	**Sn**	**16 13 56.4**	**-2.2**
	13nm,0.8s,SNR=1.0							
QUIF	**Quistinic**	**6.97**	**288**		*e*Pn	**Pn**	**16 12 40.8**	**+1.3**
	SNR=1.0							
ROSF	**Rostrenen**	**7.14**	**291**		*e*Pn	**Pn**	**16 12 42.4**	**+0.6**
ROSF	**Rostrenen**	**7.14**	**291**		*e*Pn	**Pn**	**16 12 42.4**	**+0.6**
VRAC	**Vranov**	**7.38**	**61**		*e*Pn	**Pn**	**16 12 46.2**	**+1.1**
DPC	**Dobruska-Polom**	**7.67**	**53**		*ex*	**Sg**	**16 14 59.9**	**-3.8**

MEX 21 16:51:49.9±0.8, 16°.00N×94°.43W, h122km±14km, MD3.8,

Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.21**	**104**	*i* P	Pn	16 52 13.1	-1.1
PCIG				*i* S	Sn	16 52 30.4	-2.2
HUIG	**Huatulco**	**1.63**	**262**	*e*P	Pn	16 52 17.8	-1.2
HUIG				*i* S	Sn	16 52 39.4	-1.7
VHO	**Vista Hermosa**	**2.45**	**296**	*i* P	Pn	16 52 28.9	-0.5
VHO				*i* S	Sn	16 52 57.6	-2.1
PNIG	**Pinotepa**	**3.57**	**277**	*i* P	Pn	16 52 42.2	-1.6
PNIG				*i* S	Sn	16 53 23.2	-2.3
UTMO	**Huajuapan**	**3.70**	**300**	*e*P	Pn	16 52 44.1	-1.7
UTMO				*i* S	Sn	16 53 26.6	-2.5

*NEIC **21** 16:59:57.9±4.1, 22°.91N×144°.17E, h5km±25km, mb4.6/11, Error ellipse: s-maj=12.7km s-min=8.1km az=82.0*
*IDC **21** 16:59:57.3±0.6, 22°.89N×144°.05E, h0km, mb4.2/20, mb1 4.3/22, mb1mx4.3/31, mbtmp4.2/22, ML4.4/2, MS3.7/9, Ms1 3.7/9, ms1mx3.3/35, Error ellipse: s-maj=20.8km s-min=12.7km az=78.0*
*ISCJB **21** 17:00:00.6±0.4, 22°.95N±0°.04×144°.13E±0°.09, h34km, mb4.5/39, MS3.7/9, Error ellipse: s-maj=12.5km s-min=5.9km az=168.6*
*MOS **21** 17:00:00.1±1.1, 22°.93N×144°.16E, h34km, mb4.9/13, Error ellipse: s-maj=16.3km s-min=6.7km az=115.5*
ISC 21 17:00:02.4±0.5, 22°.95N±0°.07×144°.1E±0°.1, h34km, n105, σ1§12/100, mb4.5/39, MS3.8/9, 2C-3D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.47**	**338**	Pn	**Pn**	**17 01 07.9**	**+0.1**
CBIJ				Sn	**Sn**	**17 01 59.1**	**+0.5**
JCJ	**Chichijima**	**4.47**	**338**	Pn	**Pn**	**17 01 07.9**	**+0.1**
	30nm,0.3s,baz=286,slow=19,SNR=5.4						
JCJ				Sn	**Sn**	**17 01 59.1**	**+0.5**
	54nm,0.3s,baz=85,slow=24,SNR=7.4						
MJA0	**Matsu Arr-Jizo**	**14.46**	**341**	*e*P	**Pn**	**17 03 26.4**	**+1.8**
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**14.47**	**341**	Pn	**Pn**	**17 03 22.7**	**-2.1**
MJAR	**Matsushiro Arr**	**14.47**	**341**	Pn	**Pn**	**17 03 22.7**	**-2.1**
	comp=Z,0.9nm,0.3s,baz=155,slow=10,SNR=12						
MAJO	**Matsushiro**	**14.47**	**341**	*e*P	**Pn**	**17 03 23.4**	**-1.4**
MAJO				pmax	pmax		
	comp=Z,15nm,0.8s						
MAJO	**Matsushiro**	**14.47**	**341**	*e*P	**Pn**	**17 03 23.4**	**-1.4**
	comp=Z,15nm,0.8s						
MAT	**Matsushiro**	**14.47**	**341**	P	**Pn**	**17 03 25.9**	**+1.1**
JNU	**Nakatsue**	**15.43**	**314**	Pn	**P**	**17 03 43.8**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=138,slow=5.2,SNR=4.9						
JNU				LR	LR	17 08 41.1	
	comp=Z,118nm,19.6s,baz=84,slow=34						
KSRS	**Korea Array**	**20.05**	**320**	P	**P**	**17 04 33.5**	**+0.9**
	comp=Z,11nm,0.9s,baz=133,slow=12,SNR=16						
KSRS				LR	LR	17 11 48.0	
	comp=Z,160nm,18.6s,baz=289,slow=35						
KSAR	**Wonju Array Be**	**20.07**	**320**	P	**P**	**17 04 33.5**	**+0.7**
ASAJ	**Asahikawa**	**21.15**	**357**	LR	LR	17 11 36.8	
	comp=Z,103nm,21.9s,baz=266,slow=33						
SSLB	**Suanglung**	**21.25**	**277**	*e*P	**P**	**17 04 48.4**	**+2.7**
	comp=Z,17nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**21.49**	**94**	T	T	17 26 59.8	
	baz=286,slow=0.7,SNR=27						
H11N2	**WAKE ISLAND Hy**	**21.49**	**94**	T	T	17 27 01.4	
	baz=286,slow=0.7,SNR=28						
H11N3	**WAKE ISLAND Hy**	**21.50**	**94**	T	T	17 27 02.5	
	baz=286,slow=0.7,SNR=24						
H11S3	**WAKE ISLAND Hy**	**21.60**	**98**	T	T	17 27 29.3	
	baz=286,slow=0.7,SNR=9.4						
H11S1	**WAKE ISLAND Hy**	**21.60**	**98**	T	T	17 27 22.3	
	baz=286,slow=0.7,SNR=6.0						
H11S2	**WAKE ISLAND Hy**	**21.61**	**98**	T	T	17 27 26.0	
	baz=286,slow=0.7,SNR=4.4						
USRK	**Ussuriysk Arra**	**23.42**	**338**	P	**P**	**17 05 09.5**	**+1.2**
	comp=Z,3.8nm,0.6s,baz=162,slow=10,SNR=11						
USRK				LR	LR	17 13 33.6	
	comp=Z,158nm,20.7s,baz=51,slow=35						
MDJ	**Mudanjiang**	**24.66**	**335**	*e*P	**P**	**17 05 21.9**	**+1.9**
	comp=Z,5.3nm,0.7s						
KLR	**Kul'dur**	**27.98**	**343**	*e*P	**P**	**17 05 48.0**	**-1.8**
SONM	**Songino Array**	**38.92**	**319**	P	**P**	**17 07 25.6**	**+0.6**
SONM	**Songino Array**	**38.92**	**319**	P	**P**	**17 07 25.6**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=126,slow=7.2,SNR=7.9						
SONM				LR	LR	17 22 32.3	
	comp=Z,99nm,19.1s,baz=198,slow=35						
YAK	**Yakutsk**	**40.28**	**350**	*e*P	**P**	**17 07 34.5**	**-1.5**
YAK				*e*		17 07 53.4	
YAK				pmax	pmax		
	comp=Z,22nm,0.9s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.1s						
ZAK	**Zakamensk**	**41.88**	**321**	*e*P	**P**	**17 07 49.3**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
TLY	**Talaya**	**42.25**	**323**	*i* P	**P**	**17 07 51.7**	**-0.7**
CMAR	**Chiang Mai Arr**	**42.34**	**273**	P	**P**	**17 07 53.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**42.34**	**273**	P	**P**	**17 07 53.9**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=58,slow=7.5,SNR=8.6						
CTA	**Charters Tower**	**42.83**	**177**	P	**P**	**17 07 57.1**	**-0.2**
CTA	**Charters Tower**	**42.83**	**177**	P	**P**	**17 07 57.1**	**-0.2**
	comp=Z,3.0nm,0.7s,baz=0.0,slow=11,SNR=3.6						
WRAB	**Tennant Creek**	**43.67**	**193**	*e*P	**P**	**17 08 03.4**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.6s						
WRAB	**Tennant Creek**	**43.67**	**193**	*e*P	**P**	**17 08 03.4**	**-0.7**
	comp=Z,2.6nm,0.6s						
WRA	**Warramunga Arr**	**43.68**	**193**	P	**P**	**17 08 03.1**	**-1.0**
WRA	**Warramunga Arr**	**43.68**	**193**	P	**P**	**17 08 03.1**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=18,slow=9.0,SNR=32						
ASAR	**Alice Springs**	**47.38**	**193**	P	**P**	**17 08 32.3**	**-1.2**
ASAR	**Alice Springs**	**47.38**	**193**	P	**P**	**17 08 32.3**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=10,slow=8.2,SNR=8.3						
LSA	**Lhasa**	**47.58**	**290**	*e*P	**P**	**17 08 37.3**	**+1.7**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
LSA	**Lhasa**	**47.58**	**290**	*e*P	**P**	**17 08 37.3**	**+1.7**
	comp=Z,2.1nm,0.6s						
HVS	**Khovu-Aksy**	**47.82**	**319**	⇓ *i*P	**P**	**17 08 37.9**	**+1.2**
HVS				pmax	pmax		
	comp=Z,29nm,1.1s						
TIXI	**Tiksi**	**49.50**	**354**	⇓ *e*P	**P**	**17 08 49.6**	**+0.5**
TAPN	**Taplejung**	**50.86**	**287**	*e*P	**P**	**17 09 01.2**	**+0.7**
	comp=Z,17nm,1.0s						
ODAN	**Odare**	**51.21**	**287**	*e*P	**P**	**17 09 03.4**	**+0.3**
	comp=Z,14nm,0.8s						
RAMN	**Ramite**	**51.90**	**287**	*e*P	**P**	**17 09 08.6**	**+0.3**
	comp=Z,15nm,0.9s						
JIRN	**Jiri**	**52.15**	**288**	*e*P	**P**	**17 09 11.1**	**+0.8**
	comp=Z,12nm,0.6s						
PKIN	**Phulchoki**	**52.86**	**288**	*e*P	**P**	**17 09 15.1**	**-0.3**
KKN	**Kakani**	**52.93**	**288**	*e*P	**P**	**17 09 16.9**	**+1.0**
GKN	**Gorkha**	**53.46**	**289**	*e*P	**P**	**17 09 19.8**	**+0.1**
	comp=Z,18nm,1.0s						
ZALV	**Zalesovo Beam**	**53.76**	**321**	*e*P	**P**	**17 09 21.0**	**-0.2**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**53.76**	**321**	P	**P**	**17 09 21.1**	**-0.2**
ZALV	**Zalesovo Beam**	**53.76**	**321**	P	**P**	**17 09 21.1**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=110,slow=7.0,SNR=8.7						
ZALV				LR	LR	17 32 47.3	
	comp=Z,87nm,19.0s,baz=75,slow=37						
DANN	**Dangsing**	**54.17**	**289**	*e*P	**P**	**17 09 25.5**	**+0.5**
	comp=Z,30nm,0.6s						
KOLN	**Koldanda**	**54.40**	**288**	*e*P	**P**	**17 09 26.7**	**+0.1**
	comp=Z,8.0nm,0.7s						
MK31	**Makanchi Array**	**54.47**	**312**	*e*P	**P**	**17 09 27.2**	**+0.6**
MK31	**Makanchi Array**	**54.47**	**312**	*e*P	**P**	**17 09 27.2**	**+0.6**
MKAR	**Makanchi Array**	**54.47**	**312**	P	**P**	**17 09 27.2**	**+0.5**
MKAR	**Makanchi Array**	**54.47**	**312**	P	**P**	**17 09 27.2**	**+0.5**
MKAR	**Makanchi Array**	**54.47**	**312**	P	**P**	**17 09 27.2**	**+0.5**
	comp=Z,2.2nm,0.7s,baz=92,slow=9.3,SNR=21						
STKA	**Stephens Creek**	**54.57**	**183**	P	**P**	**17 09 26.4**	**-1.0**
STKA	**Stephens Creek**	**54.57**	**183**	P	**P**	**17 09 26.4**	**-1.0**
	comp=Z,2.2nm,0.7s,baz=342,slow=11,SNR=6.5						
TKM2	**Tokmak 2**	**59.24**	**307**	*e*P	**P**	**17 10 01.8**	**+1.0**
TKM2				pmax	pmax		
	comp=Z,5.0nm,1.1s						
TKM2	**Tokmak 2**	**59.24**	**307**	*e*P	**P**	**17 10 01.8**	**+1.0**
	comp=Z,5.2nm,1.1s						
AAK	**Ala-Archa**	**60.07**	**307**	⇓ *e*P	**P**	**17 10 06.5**	**0.0**
AAK				pmax	pmax		
	comp=Z,13nm,1.5s						
AAK	**Ala-Archa**	**60.07**	**307**	*e*P	**P**	**17 10 06.4**	**0.0**
	comp=Z,1.9nm,0.8s						
ILAR	**Eielson Array**	**60.55**	**27**	P	**P**	**17 10 09.1**	**0.0**
ILAR	**Eielson Array**	**60.55**	**27**	P	**P**	**17 10 09.1**	**0.0**
	comp=Z,1.5nm,0.7s,baz=253,slow=5.6,SNR=12						
BVAR	**Borovoye Array**	**62.27**	**319**	P	**P**	**17 10 21.4**	**+0.5**
BVAR	**Borovoye Array**	**62.27**	**319**	P	**P**	**17 10 21.4**	**+0.5**
BVAR	**Borovoye Array**	**62.27**	**319**	P	**P**	**17 10 21.4**	**+0.5**
	comp=Z,5.2nm,0.3s,baz=89,slow=6.6,SNR=57						
BRVK	**Borovoye**	**62.33**	**319**	*ce*P	**P**	**17 10 21.8**	**+0.4**
BRVK	**Borovoye**	**62.33**	**319**	*e*P	**P**	**17 10 21.7**	**+0.4**
	comp=Z,11nm,1.0s						
KKAR	**Karatay Array**	**62.94**	**308**	*e*P	**P**	**17 10 25.8**	**+0.2**
KKAR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KKAR	**Karatay Array**	**62.94**	**308**	*e*P	**P**	**17 10 25.8**	**+0.2**
	comp=Z,7.9nm,1.0s						
KBL	**Kabul**	**65.46**	**299**	*e*P	**P**	**17 10 43.2**	**+0.6**
KBL				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KBL	**Kabul**	**65.46**	**299**	*e*P	**P**	**17 10 43.2**	**+0.6**
	comp=Z,7.7nm,0.8s						
INK	**Inuvik**	**66.09**	**24**	P	**P**	**17 10 46.0**	**+0.3**
INK	**Inuvik**	**66.09**	**24**	P	**P**	**17 10 46.0**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=215,slow=3.0,SNR=4.9						
ARU	**Arti**	**68.75**	**324**	*c i*P	**P**	**17 11 02.7**	**0.0**
ARU						17 13 33.1	
ARU				S	**S**	**17 20 00.7**	**-3.0**
ARU				SS	**SS**	**17 24 22.6**	**-5.8**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ABKAR	**Akbulak array**	**69.23**	**316**	*e*P	**P**	**17 11 05.6**	**-0.3**
	comp=Z,4.4nm,0.6s						
PPT	**Papeete**	**76.32**	**116**	LR	LR	17 42 07.1	
	comp=Z,57nm,20.3s,baz=197,slow=33						
ARCES	**ARCESS Array B**	**78.00**	**342**	P	**P**	**17 11 57.7**	**+0.7**
ARCES	**ARCESS Array B**	**78.00**	**342**	P	**P**	**17 11 57.7**	**+0.7**
	comp=Z,4.2nm,0.8s,baz=60,slow=7.2,SNR=6.6						
ARCES				LR	LR	17 51 50.5	
	comp=Z,77nm,20.2s,baz=186,slow=40						
NEW	**Newport**	**78.80**	**42**	P	**P**	**17 12 03.0**	**+1.1**
NEW	**Newport**	**78.80**	**42**	P	**P**	**17 12 03.0**	**+1.1**
	comp=Z,1.8nm,0.6s,baz=302,slow=9.5,SNR=3.0						
NVAR	**Mina Array Bea**	**81.72**	**52**	P	**P**	**17 12 19.2**	**+1.2**
NVAR	**Mina Array Bea**	**81.72**	**52**	P	**P**	**17 12 19.2**	**+1.2**
	comp=Z,1.0nm,0.8s,baz=272,slow=6.4,SNR=6.1						
ZEI	**Tsey**	**81.81**	**313**	*e*P	**P**	**17 12 16.9**	**-1.5**
ZEI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KBZ	**Khabaz**	**82.10**	**314**	P	**P**	**17 12 19.6**	**0.0**
KBZ	**Khabaz**	**82.10**	**314**	P	**P**	**17 12 19.6**	**0.0**
KBZ	**Khabaz**	**82.10**	**314**	P	**P**	**17 12 19.6**	**0.0**
	comp=Z,9.4nm,0.9s,baz=89,slow=3.1,SNR=21						
KIV	**Kislovodsk**	**82.15**	**314**	*e*P	**P**	**17 12 20.8**	**+0.8**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,60nm,19.0s						
GNI	**Garni**	**82.28**	**310**	*e*P	**P**	**17 12 20.8**	**-0.1**
	comp=Z,4.8nm,0.3s						
FINES	**FINESS Array B**	**82.41**	**335**	P	**P**	**17 12 20.3**	**-0.6**
FINES	**FINESS Array B**	**82.41**	**335**	P	**P**	**17 12 20.3**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=65,slow=5.1,SNR=14						
RDF	**Al-Radifah**	**84.57**	**299**	*e*P	**P**	**17 12 33.0**	**+0.4**
RDF				AMb	AMB	17 12 33.4	

0.7nm,0.8s,baz=128,slow=8.6,SNR=8.2
WRA Warramunga Arr 31.70 158 P P 17 20 27.6 -0.9
0.3nm,0.4s,baz=347,slow=8.7,SNR=21
ASAR Alice Springs 35.01 162 P P 17 20 57.5 +0.3
1.3nm,0.5s,baz=339,slow=7.6,SNR=42
ASAR PcP PcP 17 23 26.9 -2.3
0.6nm,0.9s,baz=337,slow=2.1,SNR=4.2
SONM Songino Array 40.35 343 P P 17 21 41.8 -0.5
0.5nm,0.7s,baz=169,slow=8.9,SNR=5.0
STKA Stephens Creek 45.22 157 P P 17 22 21.8 0.0
1.2nm,0.6s,baz=336,slow=12,SNR=3.6
MKAR Makanchi Array 50.27 325 P P 17 23 01.2 +0.3
1.3nm,0.9s,baz=116,slow=8.2,SNR=11

IDC 21 17:20:25.2±3.8, 24°.65N×141°.75E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/23, mbtmp3.1/3, Error ellipse: s-maj=103.7km s-min=29.0km az=63.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**40.16**	**270**	P	P	17 28 03.4	0.0
	0.2nm,0.6s,baz=61,slow=7.3,SNR=3.2						
WRA	**Warramunga Arr**	**44.91**	**190**	P	P	17 28 42.1	+0.2
	2.1nm,0.3s,baz=7.1,slow=8.7,SNR=120						
ASAR	**Alice Springs**	**48.63**	**190**	P	P	17 29 10.3	-0.6
	0.1nm,0.5s,baz=5.3,slow=5.9,SNR=6.9						
MKAR	**Makanchi Array**	**51.75**	**311**	P	P	17 29 34.4	-0.2
	0.1nm,0.3s,baz=90,slow=9.8,SNR=4.2						

IDC 21 17:39:35.9±2.2, 24°.67N×122°.24E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/25, mbtmp3.4/3, Error ellipse: s-maj=161.8km s-min=27.0km az=64.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**26.31**	**335**	P	P	17 45 13.4	0.0
	0.5nm,0.9s,baz=164,slow=8.0,SNR=4.0						
MKAR	**Makanchi Array**	**38.67**	**315**	P	P	17 47 01.1	-0.1
	0.3nm,0.5s,baz=101,slow=10,SNR=6.0						
WRA	**Warramunga Arr**	**45.88**	**164**	P	P	17 48 00.1	-0.1
	0.2nm,0.4s,baz=346,slow=8.6,SNR=6.2						

*KRSC **21** 17:40:14.4±5.3, 50°.08N×156°.88E, h5km±5km, ML4.2*
*MOS **21** 17:40:14.4±0.5, 50°.08N×156°.88E, h5km, mb4.3/1, Error ellipse: s-maj=55.0km s-min=17.5km az=84.7*
ISC 21 17:40:17.3±4.0, 50°.0N±0°.2×156°.5E±0°.1, h55km, n18, σ0s96/24, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.69**	**342**	*i* P	Pn	17 40 24.0	-7.1
SKR				pmax	pmax		
	comp=N,120nm,0.3s						
SKR				pmax	pmax		
	comp=Z,200nm,0.3s						
SKR	**Severo-Kuril's**	**0.69**	**342**	*i* P	**Pn**	**17 40 30.4**	**-0.7**
SKR				*i* S	**Sn**	**17 40 41.0**	**-0.1**
PAU	**Pauzhetka**	**1.46**	**9**	PN	**Pn**	**17 40 40.9**	**-0.3**
PAU				S	**Sn**	**17 40 59.7**	**+0.5**
PAU	**Pauzhetka**	**1.46**	**9**	*i* P	**Pn**	**17 40 40.9**	**-0.3**
PAU				*i* S	**Sn**	**17 40 59.7**	**+0.5**
RUS	**Russkaya**	**2.73**	**27**	PN	**Pn**	**17 40 57.6**	**-1.0**
RUS				S	**Sn**	**17 41 28.6**	**-1.8**
RUS	**Russkaya**	**2.73**	**27**	*e*P	**Pn**	**17 40 57.6**	**-1.0**
RUS				*i* S	**Sn**	**17 41 28.6**	**-1.8**
PET	**Petropavlovsk**	**3.30**	**24**	PN	**Pn**	**17 41 06.2**	**-0.1**
PET				S	**Sn**	**17 41 44.3**	**+0.1**
PET	**Petropavlovsk**	**3.30**	**24**	*e*P	**Pn**	**17 41 06.2**	**-0.1**
PET				*i* S	**Sn**	**17 41 44.3**	**+0.1**
KOK	**Koryaka**	**3.54**	**22**	*e*P	**Pn**	**17 41 11.3**	**+1.6**
AVH	**Avacha**	**3.54**	**23**	*e*P	**Pn**	**17 41 10.9**	**+1.2**
SMAR	**Somma**	**3.55**	**23**	*e*P	**Pn**	**17 41 11.7**	**+1.7**
KRER	**Koryakskii**	**3.58**	**23**	*e*P	**Pn**	**17 41 10.7**	**+0.3**
SDLR	**Sedlovina**	**3.59**	**24**	*e*P	**Pn**	**17 41 10.4**	**0.0**
GNL	**Ganaly**	**3.78**	**14**	*e*P	**Pn**	**17 41 14.1**	**+1.0**
MKZ	**Mys Kozlova**	**5.57**	**33**	PN	**Pn**	**17 41 38.1**	**+0.7**
MKZ	**Mys Kozlova**	**5.57**	**33**	*e*P	**Pn**	**17 41 38.1**	**+0.7**
KBTR	**Krutoberegovo**	**7.27**	**29**	PN	**Pn**	**17 42 01.6**	**+0.8**
KBTR	**Krutoberegovo**	**7.27**	**29**	*e*P	**Pn**	**17 42 01.6**	**+0.8**

MAN 21 17:48:26, 5°.83N×126°.14E, h58km, mb4.3, ML3.1, MS3.0, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.11**	**6**	*e*P	Pn	17 48 47.4	+1.8
MATI				*e*S	Sn	17 49 01.1	+1.1
GSPH	**General Santos**	**1.21**	**282**	⇓*i*P	Pn	17 48 44.4	-2.5
GSPH				*e*S	Sn	17 49 03.6	+1.0
DMPH	**Davao City--Mi**	**1.39**	**333**	⇑*e*P	Pn	17 48 50.5	+1.3
DMPH				*e*S	Sn	17 49 08.8	+2.1
BUKP	**Musuan**	**2.30**	**332**	*e*P	Pn	17 49 02.1	+0.5
BUKP				*e*S	Sn	17 49 14.2	-15

*NIED **21** 17:50:00, 47°.10N×153°.00E, h32km, Mw4.3 Best double couple: M₀3.10000×10¹⁵ NP1:φs304.00000°, δ84.00000°, λ21.00000°. NP2:φs212.00000°, δ69.00000°, λ173.00000°.*
*SKHL **21** 17:50:20.5±1.5, 46°.78N×153°.49E, h56km±21km, mb4.8/5*
*ISCJB **21** 17:50:21.5±0.4, 46°.72N±0°.06×152°.97E±0°.07, h40km, mb4.4/39, MS3.6/5, Error ellipse: s-maj=10.0km s-min=3.6km az=140.5*
*JMA **21** 17:50:21.1±0.8, 47°.10N×153°.00E, h30km, M4.7*
*MOS **21** 17:50:24.6±1.0, 46°.89N×152°.91E, h62km, mb4.6/22, Error ellipse: s-maj=9.5km s-min=7.4km az=97.1*
*NEIC **21** 17:50:26.6±0.8, 46°.89N×152°.87E, h66km±6km, mb4.9/7, Error ellipse: s-maj=9.8km s-min=4.9km az=138.0*
*IDC **21** 17:50:26.9±2.5, 46°.87N×152°.85E, h68km±22km, mb3.9/22, mb1 4.1/26, mb1mx4.1/32, mbtmp4.3/26, MS3.5/9, Ms1 3.5/9, ms1mx3.2/42, Error ellipse: s-maj=16.2km s-min=10.7km az=137.0*
*BJI **21** 17:50:29.1, 47°.00N×152°.88E, h114km, mB4.9/7, mb4.5/12*
ISC 21 17:50:23.0±0.5, 46°.64N±0°.08×153°.11E±0°.07, h40km, n178, σ1s40/161, mb4.4/39, MS3.6/5, 4C-23D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.92**	**251**	*e*PN	**Pn**	**17 51 22.4**	**+1.8**
KUR				*e*S	**Sn**	**17 52 10.0**	**+4.7**
KUR				pmax	pmax		
	comp=Z,170nm,0.5s						
KUR				smax	smax		
	comp=E,1μm,1.0s						
KUR				smax	smax		
	comp=N,320nm,0.8s						
KUR	**Kuril'sk**	**3.92**	**251**	*e*P	**Pn**	**17 51 22.4**	**+1.8**
KUR				AMB	AMB	17 51 22.6	
	comp=N,170nm,0.5s						
KUR				*e*S	**Sn**	**17 52 10.0**	**+4.7**
KUR				A	A	17 52 23.4	
	comp=N,320nm,0.8s						
KUR				A	A	17 52 23.4	
	comp=N,1μm,1.0s						
SKR	**Severo-Kuril's**	**4.51**	**25**	*e*PN	Pn	17 51 24.0	-4.7
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR	**Severo-Kuril's**	**4.51**	**25**	*e*P	Pn	17 51 24.0	-4.7
SKR				AMB	AMB	17 51 25.5	
	comp=Z,80nm,0.5s						
SKR				*e*S	Sn	17 52 10.5	-9.3
SKR				A	A	17 52 16.0	
	comp=Z,240nm,0.2s						
SKR				A	A	17 52 16.0	
	comp=Z,430nm,0.2s						
SKR				A	A	17 52 16.0	
	comp=Z,80nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.73**	**246**	*i* PN	Pn	17 51 43.1	-2.5
YUK				*i* S	**Sn**	**17 52 54.3**	**+4.2**
YUK				pmax	pmax		
	comp=Z,31nm,0.4s						
YUK				pmax	pmax		
	comp=N,25nm,0.4s						
YUK				pmax	pmax		
	comp=Z,92nm,0.4s						
YUK				smax	smax		
	comp=N,151nm,0.6s						
YUK				smax	smax		
	comp=E,274nm,0.6s						
YUK				pmax	pmax		
	comp=N,2μm,2.4s						
YUK				pmax	pmax		
	comp=E,1μm,2.9s						
YUK				pmax	pmax		
	comp=N,172nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.73**	**246**	⇑*i* P	Pn	17 51 43.2	-2.4
YUK				AMB	AMB	17 51 49.1	
	comp=N,30nm,0.5s						
YUK				AMB	AMB	17 51 49.1	
	comp=N,90nm,0.5s						
YUK				*i* S	**Sn**	**17 52 54.4**	**+4.3**
YUK				A	A	17 53 17.7	
	comp=N,150nm,0.7s						
YUK				A	A	17 53 17.7	
	comp=N,270nm,0.7s						
NEM2	**Nemuro 2**	**6.16**	**241**	P	**Pn**	**17 51 51.2**	**-0.3**
NEM2				*e*S	**Sn**	**17 52 58.6**	**-2.0**
JRA	**Rausu**	**6.25**	**247**	P	**Pn**	**17 51 55.0**	**+2.4**
JNK	**Nakash**	**6.67**	**246**	P	**Pn**	**17 52 00.2**	**+1.7**
JNK				*e*S	**Sn**	**17 53 13.5**	**+0.3**
JAK	**Akkeshi**	**7.00**	**242**	P	**Pn**	**17 52 02.9**	**-0.1**
JAK				*e*S	**Sn**	**17 53 18.3**	**-3.0**
JTKR	**Abashiri--Toko**	**7.01**	**251**	P	**Pn**	**17 52 05.7**	**+2.6**
YSS	**Yuzh-Sakhalins**	**7.11**	**276**	*e*PN	**Pn**	**17 52 07.0**	**+2.5**
YSS				pmax	pmax		
	comp=Z,40nm,0.9s						
YSS	**Yuzh-Sakhalins**	**7.11**	**276**	*e*P	**Pn**	**17 52 07.0**	**+2.5**
YSS				AMB	AMB	17 52 10.2	
	comp=Z,40nm,0.9s						
PEA0B	**Petropavlovsk-**	**7.12**	**23**	*e*P	**Pn**	**17 52 05.0**	**+0.5**
PETK	**Petropavlovsk-**	**7.12**	**23**	PN	**Pn**	**17 52 05.8**	**+1.3**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**7.12**	**23**	P	**Pn**	**17 52 05.8**	**+1.3**
PETK				S	Sn	17 53 35.9	+12
PETK	**Petropavlovsk-**	**7.12**	**23**	P	**Pn**	**17 52 05.8**	**+1.3**
	comp=Z,1.0nm,0.3s,baz=182,slow=14,SNR=28						
PETK				S	Sn	17 53 35.9	+12
	comp=Z,0.2nm,0.3s,baz=243,slow=29,SNR=2.1						
PET	**Petropavlovsk**	**7.32**	**27**	*e*PN	Pn	17 52 14.5	+7.2
PET				pmax	pmax		
	comp=Z,21nm,0.6s						
JAR	**Ashorobuto**	**7.42**	**247**	P	**Pn**	**17 52 10.5**	**+1.8**
JAR				*e*S	**Sn**	**17 53 31.3**	**-0.2**
JOB	**Onbets**	**7.58**	**244**	P	**Pn**	**17 52 12.2**	**+1.3**
JOB				*e*S	**Sn**	**17 53 33.8**	**-1.7**
JKK2	**Kamakawa 2**	**7.82**	**253**	P	**Pn**	**17 52 17.1**	**+2.9**
ASAJ	**Asahikawa**	**7.82**	**255**	P	**Pn**	**17 52 17.4**	**+3.2**
ASAJ	**Asahikawa**	**7.82**	**255**	*e*P	**Pn**	**17 52 17.3**	**+3.1**
	comp=Z,49nm,1.0s						
ASAJ	**Asahikawa**	**7.82**	**255**	P	**Pn**	**17 52 17.4**	**+3.2**
	comp=Z,4.0nm,0.3s,baz=80,slow=16,SNR=35						
ASAJ				LR	LR	17 55 06.6	
	comp=Z,203nm,19.6s,baz=321,slow=36						
JCH	**Churui**	**8.03**	**243**	P	**Pn**	**17 52 17.4**	**+0.3**
JCH				*e*S	**Sn**	**17 53 43.4**	**-3.2**
TYV	**Tymovskoe**	**8.09**	**305**	*e*P	**Pn**	**17 52 16.8**	**-1.1**
TYV				AMB	AMB	17 52 21.0	
	comp=Z,18nm,0.8s						
JBT2	**Biratori 2**	**8.57**	**247**	P	**Pn**	**17 52 25.6**	**+1.1**
JNBK	**Urakawa-nobuka**	**8.59**	**243**	P	**Pn**	**17 52 24.5**	**-0.3**
JNBK				*e*S	**Sn**	**17 53 55.8**	**-4.5**
JYM2	**Yakumo 2**	**10.18**	**248**	P	**Pn**	**17 52 46.7**	**+0.2**
JANG	**Nango**	**10.49**	**237**	P	Pn	17 52 48.1	-2.7
JANG				*e*S	Sn	17 54 36.9	-10
JTM	**Tenmabayashi**	**10.49**	**240**	P	**Pn**	**17 52 49.5**	**-1.3**
JTM				*e*S	Sn	17 54 38.6	-8.3
JTH	**Tanohata**	**10.58**	**235**	*e*S	Sn	17 54 39.0	-10
JRG	**Rokugo**	**11.64**	**236**	P	**Pn**	**17 53 05.0**	**-1.6**
JRG				*e*S	Sn	17 55 06.0	-9.2
JIO	**Ouri**	**11.91**	**231**	*e*S	Sn	17 55 11.3	-10
HABR	**Khabarovsk**	**12.34**	**285**	*e*PN	**Pn**	**17 53 17.1**	**+1.2**
HABR				pmax	pmax		
	comp=Z,21nm,1.3s						
HABR				MLR	MLR		
	comp=Z,256nm,17.0s						
FX1	**Attu Island--F**	**14.36**	**57**	*e*P	Pn	17 53 41.9	-1.6
FX1				S	Sn	17 56 10.7	-11
FX1	**Attu Island--F**	**14.36**	**57**	P	Pn	17 53 41.9	-1.6
	comp=Z,5.6nm,0.3s,baz=284,slow=22,SNR=10.0						
FX1				S	Sn	17 56 10.7	-11
	comp=Z,3.9nm,0.3s,baz=56,slow=21,SNR=5.9						
FX1				LR	LR	17 59 57.7	
	comp=Z,106nm,18.1s,baz=143,slow=40						
KLR	**Kul'dur**	**14.54**	**288**	*e*P	**Pn**	**17 53 46.4**	**+0.4**
KLR				MLR	MLR		
	comp=Z,900nm,13.0s						
MJA0	**Matsu Arr-Jizo**	**14.99**	**233**	*e*P	**P**	**17 53 56.4**	**-0.5**
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.01**	**233**	P	Pn	17 53 55.7	+3.4
MJAR	**Matsushiro Arr**	**15.01**	**233**	P	Pn	17 53 55.7	+3.4
	comp=Z,0.6nm,0.3s,baz=32,slow=8.7,SNR=12						
MJAR				LR	LR	18 00 00.4	
	comp=Z,69nm,18.0s,baz=20,slow=38						
USRK	**Ussuriysk Arra**	**15.03**	**268**	P	**Pn**	**17 53 53.7**	**+1.3**
	comp=Z,1.1nm,0.3s,baz=71,slow=12,SNR=15						
USRK				LR	LR	17 59 19.3	
	comp=Z,146nm,18.8s,baz=358,slow=36						
YAK	**Yakutsk**	**20.41**	**327**	*e*P	**P**	**17 54 55.5**	**-0.8**
YAK				pmax	pmax		
	comp=Z,20nm,1.5s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.1s						
KSRS	**Korea Array**	**20.76**	**253**	P	**P**	**17 55 01.0**	**+0.7**
	comp=E,4.0nm,0.6s,baz=59,slow=8.8,SNR=18						
KSRS				LR	LR	18 02 02.9	
	comp=E,53nm,19.0s,baz=80,slow=34						
KSAR	**Wonju Array Be**	**20.79**	**253**	P	**P**	**17 55 01.0**	**+0.3**
JNU	**Nakatsue**	**21.66**	**239**	P	**P**	**17 55 10.3**	**+0.2**
JNU	**Nakatsue**	**21.66**	**239**	P	**P**	**17 55 10.3**	**+0.2**
	comp=E,8.0nm,0.8s,baz=50,slow=9.8,SNR=7.0						
TIXI	**Tiksi**	**27.57**	**344**	*i* P	**P**	**17 56 05.6**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**29.13**	**153**	T	T	18 27 41.7	
	baz=343,slow=0.7,SNR=697						
H11N1	**WAKE ISLAND Hy**	**29.14**	**153**	T	T	18 27 50.9	
	baz=343,slow=0.7,SNR=422						
H11N3	**WAKE ISLAND Hy**	**29.14**	**153**	T	T	18 27 34.4	
	baz=343,slow=0.7,SNR=381						
H11S1	**WAKE ISLAND Hy**	**30.21**	**154**	T	T	18 29 12.5	
	baz=344,slow=0.7,SNR=669						
H11S3	**WAKE ISLAND Hy**	**30.22**	**154**	T	T	18 28 51.4	
	baz=344,slow=0.7,SNR=465						
H11S2	**WAKE ISLAND Hy**	**30.23**	**154**	T	T	18 29 09.4	
	baz=344,slow=0.7,SNR=559						
SONM	**Songino Array**	**31.36**	**290**	P	**P**	**17 56 39.6**	**-0.3**
SONM				PcP	**PcP**	**17 59 32.5**	**-0.2**
SONM	**Songino Array**	**31.36**	**290**	P	**P**	**17 56 39.6**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=84,slow=7.7,SNR=5.0						
SONM				PcP	**PcP**	**17 59 32.5**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=154,slow=5.0,SNR=3.6						
SONM				LR	LR	18 10 03.6	
	comp=Z,134nm,18.3s,baz=34,slow=38						
IMA2	**Indian Mountai**	**33.89**	**36**	*e*P	**P**	**17 57 02.2**	**+0.4**
XAN	**Xi'an**	**35.50**	**265**	P	**P**	**17 57 15.8**	**-0.1**
XAN				AMB	AMB		
	comp=Z,3.0nm,0.9s						
ILAR	**Eielson Array**	**36.63**	**38**	P	**P**	**17 57 25.6**	**+0.5**
ILAR	**Eielson Array**	**36.63**	**38**	P	**P**	**17 57 25.6**	**+0.5**
	comp=Z,823nm,0.3s,baz=278,slow=6.5,SNR=9.0						
HVS	**Khovu-Aksy**	**38.39**	**299**	*i* P	**P**	**17 57 39.1**	**-1.2**
HVS				pmax	pmax		
	comp=Z,5.0nm,0.6s						
GTA	**Gaotai**	**38.98**	**279**	*e*P	**P**	**17 57 46.3**	**+0.9**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s						
INK	**Inuvik**	**41.74**	**32**	P	**P**	**17 58 08.9**	**+1.2**
INK	**Inuvik**	**41.74**	**32**	P	**P**	**17 58 08.9**	**+1.2**
	comp=Z,5.5nm,0.7s,baz=290,slow=8.5,SNR=13						
ZALV	**Zalesovo Beam**	**42.67**	**306**	P	P	17 58 13.0	-2.5
ZALV						18 00 06.1	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZALV				MLR	MLR		
	comp=Z,81nm,20.6s						
ZALV	**Zalesovo Beam**	**42.67**	**306**	P	P	17 58 12.9	-2.5
ZALV				PcP	**PcP**	**18 00 06.1**	**-0.6**
ZALV	**Zalesovo Beam**	**42.67**	**306**	P	P	17 58 12.9	-2.5
ZALV				PcP	**PcP**	**18 00 06.1**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=52,slow=7.2,SNR=4.3						
ZALV				PcP	**PcP**	**18 00 06.1**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=50,slow=2.3,SNR=5.7						
ZALV				LR	LR	18 16 42.4	
	comp=Z,81nm,20.6s,baz=62,slow=37						
MK31	**Makanchi Array**	**46.99**	**297**	*e*P	P	17 58 47.7	-2.2
MK31	**Makanchi Array**	**46.99**	**297**	*e*P	P	17 58 47.7	-2.2
MKAR	**Makanchi Array**	**46.99**	**297**	P	**P**	**17 58 48.3**	**-1.7**
MKAR						18 00 21.3	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,118nm,19.7s						
MKAR	**Makanchi Array**	**46.99**	**297**	P	**P**	**17 58 48.2**	**-1.7**
MKAR				PcP	**PcP**	**18 00 21.2**	**-0.5**
MKAR	**Makanchi Array**	**46.99**	**297**	P	**P**	**17 58 48.2**	**-1.7**
	comp=Z,0.9nm,0.5s,baz=70,slow=7.4,SNR=10						
MKAR				PcP	**PcP**	**18 00 21.2**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=65,slow=5.8,SNR=5.2						
MKAR				LR	LR	18 19 37.2	
	comp=Z,118nm,19.7s,baz=246,slow=38						
LSA	**Lhasa**	**50.27**	**273**	P	**P**	**17 59 14.1**	**-1.8**
LSA	**Lhasa**	**50.27**	**273**	*e*P	**P**	**17 59 16.6**	**+0.6**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
LSA	**Lhasa**	**50.27**	**273**	*e*P	**P**	**17 59 16.6**	**+0.6**
	comp=Z,5.4nm,0.6s						
RES	**Resolute Bay**	**50.94**	**19**	P	P	17 59 18.1	-1.7
RES	**Resolute Bay**	**50.94**	**19**	P	P	17 59 18.1	-1.7
	comp=Z,1.6nm,0.7s,baz=270,slow=5.1,SNR=3.6						
BRVK	**Borovoye**	**50.96**	**310**	⇓*e*P	**P**	**17 59 19.3**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.6s						
CHTO	**Chiang Mai**	**52.09**	**257**	*e*P	**P**	**17 59 28.3**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,28nm,0.9s						
CHTO	**Chiang Mai**	**52.09**	**257**	*e*P	**P**	**17 59 28.3**	**-0.8**
	comp=Z,28nm,0.9s						
CMAR	**Chiang Mai Arr**	**52.34**	**256**	P	**P**	**17 59 32.2**	**+1.3**
CMAR	**Chiang Mai Arr**	**52.34**	**256**	P	**P**	**17 59 32.2**	**+1.3**
	comp=Z,3.0nm,0.8s,baz=34,slow=7.5,SNR=30						
AAK	**Ala-Archa**	**53.88**	**296**	⇓*e*P	**P**	**17 59 41.4**	**-0.8**
AAK				pmax	pmax		
	comp=Z,20nm,2.8s						
TAPN	**Taplejung**	**54.10**	**273**	*e*P	**P**	**17 59 44.4**	**+0.2**
	comp=Z,8.7nm,0.6s						
ODAN	**Odare**	**54.63**	**273**	*e*P	**P**	**17 59 48.1**	**+0.1**
	comp=Z,8.8nm,0.7s						
JIRN	**Jiri**	**54.95**	**275**	*e*P	**P**	**17 59 50.7**	**+0.3**
	comp=Z,18nm,0.6s						
GUN	**Gumba**	**55.01**	**275**	*e*P	**P**	**17 59 50.6**	**-0.2**
	comp=Z,9.2nm,0.5s						
RAMN	**Ramite**	**55.12**	**274**	*e*P	**P**	**17 59 51.6**	**+0.1**
	comp=Z,20nm,0.4s						
KKN	**Kakani**	**55.49**	**275**	*e*P	**P**	**17 59 54.4**	**+0.2**
	comp=Z,15nm,0.6s						
PKI	**Pulchoki**	**55.54**	**275**	*e*P	**P**	**17 59 54.6**	**-0.1**
PKIN	**Phulchoki**	**55.55**	**275**	*e*P	**P**	**17 59 54.4**	**-0.2**
	comp=Z,5.0nm,0.4s						
DMN	**Daman**	**55.73**	**275**	*e*P	**P**	**17 59 56.2**	**+0.3**
	comp=Z,17nm,0.6s						
GKN	**Gorkha**	**55.80**	**276**	*e*P	**P**	**17 59 56.4**	**+0.1**
	comp=Z,28nm,0.9s						
DANN	**Dangsing**	**56.18**	**277**	*e*P	**P**	**17 59 59.5**	**+0.3**
	comp=Z,12nm,0.6s						
KOLN	**Koldanda**	**56.66**	**276**	*e*P	**P**	**18 00 02.4**	**-0.1**
	comp=Z,9.3nm,0.6s						
ARCES	**ARCESS Array B**	**57.95**	**341**	P	**P**	**18 00 09.5**	**-1.3**
ARCES	**ARCESS Array B**	**57.95**	**341**	P	**P**	**18 00 09.5**	**-1.3**
	comp=Z,6.1nm,1.0s,baz=4.6,slow=6.1,SNR=5.3						
SUMG	**Summit**	**60.81**	**4**	*e*P	**P**	**18 00 30.3**	**-0.6**
SUMG				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SUMG	**Summit**	**60.81**	**4**	*i* P	**P**	**18 00 30.6**	**-0.3**
	comp=Z,13nm,0.9s						
SUMG	**Summit**	**60.81**	**4**	*e*P	**P**	**18 00 30.3**	**-0.6**
	comp=Z,10nm,0.8s						
JOF	**Joensuu**	**61.43**	**334**	*e*P	P	18 00 32.5	-2.2
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s						
JOF	**Joensuu**	**61.43**	**334**	*e*p	P	18 00 32.5	-2.2
	comp=Z,1.4nm,0.4s						
NVAR	**Mina Array Bea**	**62.49**	**62**	P	**P**	**18 00 44.0**	**+1.5**
NVAR	**Mina Array Bea**	**62.49**	**62**	P	**P**	**18 00 44.0**	**+1.5**
	comp=Z,1.2nm,0.7s,baz=303,slow=7.4,SNR=8.2						
KAF	**Kangasniemi**	**63.54**	**335**	*e*P	P	18 00 46.7	-2.1
KAF				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KAF	**Kangasniemi**	**63.54**	**335**	*e*p	P	18 00 46.7	-2.1
	comp=Z,4.2nm,0.6s						
FINES	**FINESS Array B**	**64.14**	**335**	P	**P**	**18 00 51.2**	**-1.5**
FINES	**FINESS Array B**	**64.14**	**335**	P	**P**	**18 00 51.2**	**-1.5**
	comp=Z,5.0nm,0.5s,baz=35,slow=7.5,SNR=48						
PDAR	**Pinedale Array**	**64.81**	**54**	P	**P**	**18 00 59.0**	**+1.2**
PDAR	**Pinedale Array**	**64.81**	**54**	P	**P**	**18 00 59.0**	**+1.2**
	comp=Z,1.8nm,0.8s,baz=285,slow=2.2,SNR=14						
OBN	**Obninsk**	**65.39**	**326**	*e*P	**P**	**18 01 00.8**	**-0.2**
OBN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ULM	**Lac du Bonnet**	**66.61**	**41**	P	**P**	**18 01 08.9**	**0.0**
ULM	**Lac du Bonnet**	**66.61**	**41**	P	**P**	**18 01 08.9**	**0.0**
	comp=Z,2.2nm,0.6s,baz=288,slow=6.4,SNR=3.2						
NB2	**NORSAR Subarra**	**68.33**	**341**	P	**P**	**18 01 18.3**	**-1.4**
	comp=Z,4.4nm,0.6s,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.33**	**341**	P	**P**	**18 01 18.6**	**-1.

comp=Z,1.2nm,0.7s,baz=30,slow=6.2,SNR=7.6

BZS	**Buzias**	**78.70**	**328**	⇓P	**P**	**18 02 20.7**	**-0.1**
BZS	**Buzias**	**78.70**	**328**	⇓*i*P	**P**	**18 02 20.6**	**-0.2**
VTS	**Vitosha**	**80.66**	**325**	⇓P	P	18 02 29.2	-2.5
VTS	**Vitosha**	**80.66**	**325**	⇓*i*P	P	18 02 29.2	-2.5
CDF	**Champ du Feu**	**80.75**	**338**	*e*P	**P**	**18 02 31.5**	**-0.5**
	comp=Z,17nm,1.1s						
CDF	**Champ du Feu**	**80.75**	**338**	*e*P	**P**	**18 02 31.5**	**-0.5**
CDF				pmax	pmax		
	comp=Z,17nm,1.1s						
CDF	**Champ du Feu**	**80.75**	**338**	*e*P	**P**	**18 02 31.5**	**-0.5**
	comp=Z,17nm,1.1s						
SFTF	**Sexfontaines**	**81.51**	**339**	*e*P	**P**	**18 02 35.2**	**-0.8**
	comp=Z,7.5nm,0.6s						
SFTF	**Sexfontaines**	**81.51**	**339**	*e*P	**P**	**18 02 35.2**	**-0.8**
	comp=Z,7.5nm,0.6s						
SSF	**Saint Saulge**	**82.95**	**340**	*e*P	**P**	**18 02 42.7**	**-0.8**
	comp=Z,45nm,1.5s						
SSF	**Saint Saulge**	**82.95**	**340**	*e*P	**P**	**18 02 42.7**	**-0.8**
SSF				pmax	pmax		
	comp=Z,45nm,1.5s						
SSF	**Saint Saulge**	**82.95**	**340**	*e*P	**P**	**18 02 42.7**	**-0.8**
	comp=Z,45nm,1.5s						
SMF	**Signal de Mont**	**83.26**	**339**	*e*P	**P**	**18 02 44.5**	**-0.6**
	comp=Z,12nm,0.9s						
SMF	**Signal de Mont**	**83.26**	**339**	*e*P	**P**	**18 02 44.5**	**-0.6**
SMF				pmax	pmax		
	comp=Z,12nm,0.9s						
SMF	**Signal de Mont**	**83.26**	**339**	*e*P	**P**	**18 02 44.5**	**-0.6**
	comp=Z,12nm,0.9s						
VNDA	**Vanda**	**124.01**	**178**	PKP	**PKPdf**	**18 09 15.6**	**+0.3**
VNDA	**Vanda**	**124.01**	**178**	PKP	**PKPdf**	**18 09 15.6**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=340,slow=4.2,SNR=3.7						
H03N2	**Juan Fernandez**	**138.75**	**90**	T	T	20 42 44.0	
	baz=324,slow=0.7,SNR=33						
H03N1	**Juan Fernandez**	**138.77**	**90**	T	T	20 42 43.9	
	baz=324,SNR=3.1						
H03N3	**Juan Fernandez**	**138.77**	**90**	T	T	20 42 46.4	
	baz=324,slow=0.7,SNR=2.4						
CPUP	**Villa Florida**	**148.52**	**61**	PKPbc	**PKPbc**	**18 10 05.6**	**+0.3**
CPUP	**Villa Florida**	**148.52**	**61**	PKPbc	**PKPbc**	**18 10 05.6**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=270,slow=5.1,SNR=4.6						

*IDC **21** 18:05:29.9±2.6, 4.°88S×131.°23E, h0km, mb3.2/1, mb1 3.4/4, mb1mx3.2/19, mbtmp3.2/4, ML2.9/3, Error ellipse: s-maj=125.0km s-min=28.2km az=77.0*
*ISCJB **21** 18:05:35.1±0.7, 4.°99S±0.°06×131.°0E±0.°1, h61km, mb3.2/1, Error ellipse: s-maj=14.6km s-min=8.4km az=169.8*
*AUST **21** 18:05:35.6, 4.°98S×131.°02E, h35km*
ISC 21 18:05:36.5±1.1, 5.°00S±0.°09×131.°1E±0.°1, h61km, n10, σ1°81/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.25**	**292**	P		**Pn**	**18 05 56.2**	**-1.7**
	baz=1.2,SNR=5.1							
FAKI	**Fak Fak**	**2.38**	**30**	P		**Pn**	**18 06 11.6**	**-1.6**
	baz=2.4,SNR=4.2							
AAI	**Ambon**	**3.15**	**294**	P		**Pn**	**18 06 22.2**	**-1.4**
	baz=3.1,SNR=10							
SWI	**Sorong**	**4.12**	**3**	P		**Pn**	**18 06 37.6**	**+0.6**
	baz=4.1,SNR=3.7							
KDU	**Kakadu**	**7.76**	**170**	P		Pn	18 07 29.8	+2.9
	baz=7.8,SNR=3.1							
MTN	**Manton Dam**	**7.79**	**180**	P		**Pn**	**18 07 29.0**	**+1.7**
	baz=7.9,SNR=4.0							
FITZ	**Fitzroy Crossi**	**14.06**	**202**	Pn		**Pn**	**18 08 51.2**	**-1.5**
	0.0nm,0.3s,baz=6.0,slow=14,SNR=3.0							
WRA	**Warramunga Arr**	**15.19**	**168**	Pn		**Pn**	**18 09 05.9**	**-1.6**
	0.0nm,0.3s,baz=356,slow=14,SNR=4.8							
WRA						Sn	18 11 45.3	-10
	0.1nm,0.3s,baz=359,slow=23,SNR=4.2							
ASAR	**Alice Springs**	**18.76**	**172**	P		**Pn**	**18 09 53.0**	**+1.2**
	0.1nm,0.3s,baz=352,slow=10,SNR=6.1							
MKAR	**Makanchi Array**	**67.16**	**326**	P		**P**	**18 16 25.7**	**+1.6**
	0.1nm,0.4s,baz=130,slow=6.2,SNR=3.0							

AUST 21 18:22:06.4, 7.°49S×128.°03E, h300km, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.35**	**239**	P		Pn	18 23 18.0	+1.3
	baz=4.4,SNR=4.9							
MTN	**Manton Dam**	**6.13**	**150**	P		Pn	18 23 37.6	+0.3
	baz=6.2,SNR=13							
MTN	**Manton Dam**	**6.13**	**150**	P		S	18 24 43.8	-6.9
	baz=4.3,SNR=7.2							
FAKI	**Fak Fak**	**6.18**	**43**	P		Pn	18 23 37.8	-0.2
	baz=6.2,SNR=6.5							
KDU	**Kakadu**	**6.77**	**140**	P		Pn	18 23 45.2	+0.3
	baz=6.8,SNR=39							
KDU	**Kakadu**	**6.77**	**140**	P		S	18 24 55.2	-9.4
	baz=5.0,SNR=8.9							
SWI	**Sorong**	**7.33**	**26**	P		Pn	18 23 53.8	+1.9
	baz=7.4,SNR=4.4							
KNRA	**Kununurra**	**8.17**	**175**	P		Pn	18 24 04.4	+2.4
	baz=8.2,SNR=7.9							
KNRA	**Kununurra**	**8.17**	**175**	P		Pn	18 24 04.5	+2.5
	baz=1.3,SNR=6.5							
FITZ	**Fitzroy Crossi**	**10.80**	**192**	P		P	18 24 37.7	+0.6
	baz=11,SNR=10							
FITZ	**Fitzroy Crossi**	**10.80**	**192**	P		P	18 24 39.6	+2.5
	baz=3.9,SNR=3.5							

*AUST **21** 18:31:14.3±87.0, 21.°31S×177.°43E, h0km±5km, Error ellipse: s-maj=5.5km s-min=3.1km az=340.0*
*IDC **21** 18:31:44.8±1.7, 21.°95S×173.°37E, h0km, mb4.1/7, mb1 4.3/8, mb1mx4.1/19, mbtmp4.1/8, ML3.8/1, MS3.9/18, Ms1 3.9/18, ms1mx3.9/23, Error ellipse: s-maj=42.1km s-min=26.0km az=28.0*
*GCMT **21** 18:31:47.6±0.3, 21.°87S×173.°50E, h20km±1km, MW4.8, Moment Tensor Solution. s16,c19; s63,c88; Moment tensor: Scale 10^{16}Nm; M_{rr}-1.50±.18; $M_{\theta\theta}$0.62±.13; $M_{\phi\phi}$0.89±.12; $M_{r\theta}$-0.15±.17; $M_{r\phi}$2.04±.07; $M_{\theta\phi}$0.10±.15; Best double couple: $M_0$2.20000×10^{16} NP1:$\phi_1$70.00000°, δ53.00000°, λ-51.00000°. NP2:$\phi_1$196.00000°, δ52.00000°, λ-130.00000°. Principal axes: T 2.8000, Plg0.0000°, Azm133.0000°; N -1.1900, Plg30.0000°, Azm223.0000°; P -1.6000, Plg60.0000°, Azm42.0000°; Data Used: IU II IC G CN. Surface wave period40 sec.*
*ISCJB **21** 18:31:50.0±1.1, 22.°1S±0.°2×173.°2E±0.°1, h40km, mb4.2/9, MS4.0/15 Error ellipse: s-maj=30.7km s-min=11.7km az=17.2*
*NEIC **21** 18:31:52.9±3.6, 22.°03S×173.°17E, h53km±24km, mb4.7/2, Error ellipse: s-maj=35.5km s-min=18.6km az=47.0*
ISC 21 18:31:51.3±1.1, 22.°1S±0.°2×173.°3E±0.°1, h40km, n58, σ0°90/35, mb4.1/9, MS4.0/15, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.34**	**268**	*e*Pn		**Pn**	**18 33 22.6**	**+0.2**
	6.1nm,0.2s							
DZM				*e*Sn		**Sn**	**18 34 32.4**	**-1.3**
	6.9nm,0.3s							
DZM				*e*LR		LR	18 34 57.0	
	405nm,22.6s							
DZM	**Mont Dzumac**	**6.34**	**268**	Pn		**Pn**	**18 33 22.5**	**0.0**
DZM				Sn		**Sn**	**18 34 34.4**	**+0.7**
DZM	**Mont Dzumac**	**6.34**	**268**	Pn		**Pn**	**18 33 22.5**	**0.0**
	1.9nm,0.3s,baz=81,slow=20,SNR=37							
DZM				Sn		**Sn**	**18 34 34.4**	**+0.7**
	1.1nm,0.3s,baz=288,slow=20,SNR=3.8							
RAO	**Raoul Island**	**10.70**	**134**	LR		LR	18 37 38.3	
	comp=Z,1μm,18.3s,baz=184,slow=33							
AFI	**Afiamalu**	**16.34**	**63**	LR		LR	18 40 28.4	
	comp=Z,184nm,19.3s,baz=170,slow=32							
URZ	**Urewera**	**16.49**	**169**	LR		LR	18 40 32.5	
	comp=Z,600nm,21.9s,baz=151,slow=32							
EIDS	**Eidsvold**	**20.59**	**256**	P		Pn	18 36 29.8	+0.3
	baz=24,SNR=3.8							
ARMA	**Armidale**	**21.11**	**242**	P		P	18 36 37.9	+5.2
	baz=25,SNR=4.0							
RPZ	**Rata Peaks**	**21.69**	**184**	LR		LR	18 42 16.8	
	comp=Z,174nm,20.5s,baz=284,slow=29							
RMQ	**Roma**	**22.78**	**254**	P		**P**	**18 36 52.4**	**+1.9**
	baz=27,SNR=19							
CTA	**Charters Tower**	**25.29**	**269**	P		**P**	**18 37 14.7**	**+0.5**
CTA	**Charters Tower**	**25.29**	**269**	P		**P**	**18 37 14.7**	**+0.5**
	2.0nm,0.5s,baz=74,slow=7.4,SNR=3.2							
QLP	**Quilpie**	**26.82**	**254**	P		**P**	**18 37 28.3**	**+0.2**
	baz=31,SNR=4.3							
MTSU	**Mount Surprise**	**27.46**	**273**	P		**P**	**18 37 34.8**	**+0.9**
	baz=31,SNR=7.3							
STKA	**Stephens Creek**	**29.80**	**244**	*e*P		**P**	**18 37 53.2**	**-1.3**
STKA	**Stephens Creek**	**29.80**	**244**	P		**P**	**18 37 55.3**	**+0.7**
	1.0nm,0.6s,baz=103,slow=15,SNR=2.9							
STKA						LR	18 48 03.0	
	comp=Z,257nm,21.2s,baz=292,slow=33							
TBI	**Tubuai**	**34.34**	**99**	*e*LQ		LQ	18 46 03.4	
	497nm,30.5s							
TBI				*e*LR		LR	18 47 41.3	
	407nm,28.2s,baz=267							
PPT2	**Papeete2**	**35.16**	**89**	*e*LQ		LQ	18 46 34.4	
	461nm,27.5s							
PPT2				*e*LR		LR	18 48 02.7	
	379nm,26.8s							
PPT	**Papeete**	**35.17**	**89**	LR		LR	18 51 11.6	
	comp=Z,22nm,18.4s,baz=358,slow=33							
AS31	**Alice Springs**	**36.25**	**260**	*e*P		**P**	**18 38 49.4**	**-1.5**
ASAR	**Alice Springs**	**36.25**	**260**	P		**P**	**18 38 50.2**	**-0.7**
ASAR	**Alice Springs**	**36.25**	**260**	P		**P**	**18 38 50.2**	**-0.7**
	2.2nm,0.7s,baz=76,slow=9.2,SNR=37							
ASAR						LR	18 53 16.9	
	comp=Z,176nm,19.2s,baz=97,slow=36							
WRAB	**Tennant Creek**	**36.35**	**266**	*e*P		**P**	**18 38 50.2**	**-1.6**
WRA	**Warramunga Arr**	**36.35**	**266**	P		**P**	**18 38 50.7**	**-1.2**
WRA	**Warramunga Arr**	**36.35**	**266**	P		**P**	**18 38 50.7**	**-1.2**
	1.9nm,0.7s,baz=98,slow=7.7,SNR=17							
H11S2	**WAKE ISLAND Hy**	**40.80**	**350**	T		T	19 22 37.0	
	baz=174,slow=0.7,SNR=33							
H11S3	**WAKE ISLAND Hy**	**40.80**	**350**	T		T	19 22 37.6	
	baz=174,slow=0.7,SNR=26							
H11S1	**WAKE ISLAND Hy**	**40.82**	**350**	T		T	19 22 38.4	
	baz=174,slow=0.7,SNR=27							
MTN	**Manton Dam**	**41.13**	**276**	P		**P**	**18 39 31.8**	**0.0**
	baz=45,SNR=4.1							
H11N1	**WAKE ISLAND Hy**	**41.97**	**351**	T		T	19 24 23.0	
	baz=274,SNR=4.5							
H11N3	**WAKE ISLAND Hy**	**41.97**	**351**	T		T	19 24 09.0	
	baz=274							
H11N2	**WAKE ISLAND Hy**	**41.99**	**351**	T		T	19 24 06.4	
	baz=274							
KNRA	**Kununurra**	**42.49**	**271**	P		**P**	**18 39 42.6**	**-0.3**
	baz=46,SNR=4.9							
FITZ	**Fitzroy Crossi**	**44.78**	**266**	*e*P		**P**	**18 40 02.1**	**+0.6**
	9.7nm,0.9s							
FITZ	**Fitzroy Crossi**	**44.78**	**266**	P		**P**	**18 40 02.0**	**+0.6**
	baz=49,SNR=12							
RKT	**Rikitea**	**47.58**	**102**	*e*LR		LR	18 53 48.4	
	242nm,27.2s							
BATI	**Baumata**	**48.90**	**276**	LR		LR	19 00 32.3	
	comp=Z,352nm,19.7s,baz=299,slow=35							
MBWA	**Marble Bar**	**49.58**	**260**	*e*P		**P**	**18 40 38.8**	**0.0**
MEEK	**Meekatharra**	**49.71**	**253**	P		**P**	**18 40 39.4**	**-0.4**
	baz=54,SNR=4.2							
VNDA	**Vanda**	**55.80**	**183**	P		**P**	**18 41 24.0**	**+0.1**
VNDA	**Vanda**	**55.80**	**183**	P		**P**	**18 41 24.0**	**+0.1**
	0.9nm,0.6s,baz=357,slow=8.6,SNR=12							
VNDA						LR	19 02 06.2	
	comp=Z,127nm,18.1s,baz=12,slow=33							
SBA	**Scott Base**	**55.95**	**182**	*e*P		**P**	**18 41 25.8**	**+0.8**
	10nm,1.2s							
JCJ	**Chichijima**	**57.38**	**327**	LR		LR	19 03 50.2	
	comp=Z,131nm,19.8s,baz=127,slow=34							
MJAR	**Matsushiro Arr**	**67.03**	**330**	LR		LR	19 07 25.1	
	comp=Z,84nm,18.5s,baz=160,slow=32							
KSRS	**Korea Array**	**72.97**	**324**	LR		LR	19 09 27.5	
	comp=Z,51nm,19.9s,baz=48,slow=31							
USRK	**Ussuriysk Arra**	**75.99**	**331**	LR		LR	19 12 20.0	
	comp=Z,61nm,21.7s,baz=166,slow=32							
PETK	**Petropavlovsk-**	**76.05**	**350**	LR		LR	19 09 49.0	
	comp=Z,58nm,20.7s,baz=345,slow=30							
MAW	**Mawson**	**77.25**	**202**	P		**P**	**18 43 41.2**	**+0.2**
MAW	**Mawson**	**77.25**	**202**	P		**P**	**18 43 41.2**	**+0.2**
	2.1nm,0.7s,baz=114,slow=8.9,SNR=5.1							
CMAR	**Chiang Mai Arr**	**83.09**	**293**	P		**P**	**18 44 13.8**	**+0.5**
CMAR	**Chiang Mai Arr**	**83.09**	**293**	P		**P**	**18 44 13.8**	**+0.5**
	1.1nm,0.6s,baz=135,slow=3.7,SNR=5.2							
SONM	**Songino Array**	**91.74**	**322**	LR		LR	19 20 20.5	
	comp=Z,91nm,21.5s,baz=34,slow=32							
PLCA	**Paso Flores**	**93.92**	**137**	LR		LR	19 17 14.0	
	comp=Z,176nm,21.5s,baz=59,slow=29							
TXAR	**Lajitas Array**	**94.81**	**60**	LR		LR	19 20 00.1	
	comp=Z,66nm,18.7s,baz=180,slow=31							
PDAR	**Pinedale Array**	**95.78**	**46**	LR		LR	19 19 03.3	
	comp=Z,137nm,21.9s,baz=178,slow=30							
BRG	**Berggiesshubel**	**147.01**	**336**	*e*PKP		**PKPab**	**18 51 32.5**	**+1.5**
	3.3nm,0.9s							
BRG				*e*			18 51 38.5	
	20nm,1.6s							
GERES	**GERESS Array B**	**148.71**	**334**	PKPbc		**PKPbc**	**18 51 33.0**	**-1.3**
GERES	**GERESS Array B**	**148.71**	**334**	PKPbc		**PKPbc**	**18 51 33.0**	**-1.3**
	0.6nm,0.7s,baz=54,slow=3.4,SNR=4.3							

*PRE **21** 18:33:35.1±1.5, 4.°83S×35.°08E, h10km, ML4.2*
ISC 21 18:33:33.4±1.4, 5.°0S±0.°1×35.°03E±0.°07, h10km, n6, σ2°64/10, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MAUS	**Longido**	**2.77**	**37**	*i*P		**Pb**	**18 34 23.3**	**+0.1**
MAUS				*i*S		**Sn**	**18 34 51.5**	**-0.2**
KMBO	**Kilima Mbogo**	**4.42**	**30**	*e*P		**Pn**	**18 34 42.2**	**+1.5**
KMBO				*e*S		**Sn**	**18 35 28.0**	**-4.4**
KMBO	**Kilima Mbogo**	**4.42**	**30**	P		**Pn**	**18 34 43.4**	**+2.6**
	baz=91,SNR=9.1							
KIG	**Kigali**	**5.79**	**301**	*e*P		**Pn**	**18 35 02.2**	**+2.6**
KIG				*e*S		**Sn**	**18 36 04.7**	**-1.5**
KIG					AML	AML	18 36 52.6	
	comp=Z,72nm,0.4s							
MBAR	**Mbarara**	**6.10**	**315**	*e*P		**Pn**	**18 35 05.6**	**+1.7**
MBAR				*e*S		**Sn**	**18 36 11.5**	**-2.4**
MBAR					AML	AML	18 36 52.8	
	comp=Z,115nm,0.2s							
LSZ	**Lusaka**	**12.26**	**213**	*e*S		**Sn**	**18 38 43.4**	**-1.7**

*CSEM **21** 18:35:45.5, 36.°48N×21.°08E, h19km, MD3.5, After ATH*
ATH 21 18:35:45.5, 36.°48N×21.°09E, h18km±3km, MD3.5/13, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.67**	**51**	*e*PB		Pb	18 35 58.0	-0.6
PYL				*e*SN		Sg	18 36 08.6	+0.9
PYL	**PYLOS**	**0.67**	**51**	*e*Pb		Pb	18 35 58.0	-0.6
PYL				*e*Sn		Sg	18 36 08.6	+0.9
SFD	**Strofades**	**0.77**	**356**	*e*PN		Pb	18 36 00.2	-0.2
SFD				*e*SN		Sg	18 36 10.8	-0.1
SFD	**Strofades**	**0.77**	**356**	*e*Pn		Pb	18 36 00.2	-0.2
SFD				*e*Sn		Sg	18 36 10.8	-0.1
ITM	**Ithomi**	**0.97**	**44**	*e*PN		Pb	18 36 03.9	+0.1
ITM				*e*SN		Sn	18 36 18.3	+0.7
ITM	**Ithomi**	**0.97**	**44**	*e*Pn		Pb	18 36 03.9	+0.1
ITM				*e*Sn		Sn	18 36 18.3	+0.7
DYR	**Agios Nikonas**	**1.04**	**74**	*e*PN		Pg	18 36 06.1	+0.4
DYR				*e*SN		Sn	18 36 19.0	-0.3
DYR	**Agios Nikonas**	**1.04**	**74**	*e*Pn		Pg	18 36 06.1	+0.4
DYR				*e*Sn		Sn	18 36 19.0	-0.3
AMT	**Artemida-Makis**	**1.16**	**25**	*e*PN		Pg	18 36 08.4	+0.3
AMT				*e*SN		Sg	18 36 23.1	-0.2
AMT	**Artemida-Makis**	**1.16**	**25**	*e*Pn		Pg	18 36 08.4	+0.3
AMT				*e*Sn		Sg	18 36 23.1	-0.2
VLX	**Vlachokerasia**	**1.36**	**49**	*e*PN		Pg	18 36 11.6	-0.4
VLX	**Vlachokerasia**	**1.36**	**49**	*e*Pn		Pg	18 36 11.6	-0.4
VLI	**Veliai**	**1.50**	**80**	*e*PN		Pb	18 36 13.5	+0.6
VLI	**Veliai**	**1.50**	**80**	*e*Pn		Pb	18 36 13.5	+0.6
DRO	**Drossia**	**1.55**	**18**	*e*PN		Pg	18 36 14.6	-0.8
DRO	**Drossia**	**1.55**	**18**	*e*Pn		Pg	18 36 14.6	-0.8
KYTH	**Kithira**	**1.58**	**97**	*e*PN		Pb	18 36 14.8	+0.5
KYTH	**Kithira**	**1.58**	**97**	*e*Pn		Pb	18 36 14.8	+0.5
GUR	**Goura**	**1.76**	**34**	*e*PN		Pb	18 36 17.6	+0.1
GUR	**Goura**	**1.76**	**34**	*e*Pn		Pb	18 36 17.6	+0.1
KLV	**Kalavryta, Ach**	**1.77**	**28**	*e*PN		Pb	18 36 17.5	-0.1
KLV	**Kalavryta, Ach**	**1.77**	**28**	*e*Pn		Pb	18 36 17.5	-0.1
DIDY	**Didyma**	**1.97**	**59**	*e*PB		Pn	18 36 19.3	+1.2
DIDY	**Didyma**	**1.97**	**59**	*e*Pb		Pn	18 36 19.3	+1.2
DESF	**Desfina**	**2.25**	**30**	*e*PB		Pn	18 36 23.7	+1.8
DESF	**Desfina**	**2.25**	**30**	*e*Pb		Pn	18 36 23.7	+1.8

GUC 21 18:48:36.5±0.7, 32.°78S×71.°99W, h15km±7km, MD3.8, ML2.9, 6C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.98**	**25**	⇑*i*P		Pb	18 48 53.4	-1.8
CHNG				*i*S		Sb	18 49 07.1	-0.9
CHNG					AML	AML	18 49 10.4	
	comp=E,237nm,0.5s							
PEL	**Peldehue**	**1.16**	**109**	⇑*i*P		Pn	18 48 56.8	-1.5
PEL				*i*S		Sb	18 49 12.1	-1.1
PEL					AML	AML	18 49 18.8	
	comp=N,1μm,0.5s							
JACH	**Jahuel**	**1.18**	**86**	⇑*i*P		Pn	18 48 57.4	-1.3
JACH				*i*S		Sb	18 49 13.3	-0.7
TACH	**Talagante**	**1.24**	**135**	⇑*i*P		Pn	18 48 57.9	-1.5
TACH				*i*S		Sb	18 49 13.9	-1.8
CLCH	**Cerro Calan**	**1.37**	**117**	⇑*i*P		Pn	18 48 60.0	-1.2
CLCH				*i*S		Sn	18 49 18.0	-1.1
CLCH					AML	AML	18 49 26.1	
	comp=N,502nm,0.5s							
PCH	**Pirque**	**1.50**	**125**	⇑*i*P		Pn	18 49 02.3	-0.7
PCH				*i*S		Sn	18 49 21.8	-0.6
CACH	**El Canelo**	**1.77**	**139**	⇓*i*P		Pn	18 49 07.8	+1.0
CACH				*i*S		Sb	18 49 31.3	+0.1
LMEL	**Las Melosas**	**1.84**	**126**	*e*P		Pn	18 49 07.9	+0.1
LMEL				*i*S		Sn	18 49 31.8	+0.8
LMEL					AML	AML	18 49 39.3	
	comp=N,274nm,0.8s							

*ISCJB **21** 18:53:43.7±0.7, 18.°3S±0.°2×177.°9W±0.°2, h590km, mb3.4/10, Error ellipse: s-maj=30.2km s-min=14.0km az=150.8*
*IDC **21** 18:53:48.5±2.8, 18.°28S×177.°91W, h635km±33km, mb3.0/10, mb1 3.2/10, mb1mx3.1/20, mbtmp3.0/10, Error ellipse: s-maj=22.6km s-min=14.6km az=153.0*
ISC 21 18:53:44.6±0.7, 18.°2S±0.°2×177.°9W±0.°1, h590km, n14, σ1°04/17, mb3.6/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.91**	**261**	P		**P**	**18 59 41.4**	**+1.2**
	3.8nm,1.0s,baz=94,slow=13,SNR=3.7							
STKA	**Stephens Creek**	**38.34**	**242**	P		**P**	**19 00 22.4**	**+1.2**
	2.4nm,0.7s,baz=103,slow=12,SNR=5.9							
WRA	**Warramunga Arr**	**45.09**	**260**	P		**P**	**19 01 10.0**	**+0.4**
	1.3nm,0.4s,baz=97,slow=7.1,SNR=42							
WRA				PcP		**PcP**	**19 02 37.2**	**-0.2**
	0.4nm,0.5s,baz=94,slow=3.5,SNR=4.2							
ASAR	**Alice Springs**	**45.21**	**254**	P		**P**	**19 01 10.9**	**+0.5**
	3.3nm,0.7s,baz=89,slow=7.9,SNR=51							
ASAR				PcP		**PcP**	**19 02 37.2**	**-0.6**
	0.7nm,0.5s,baz=103,slow=4.0,SNR=11							
ASAR				S		**S**	**19 07 06.8**	**-1.8**
	0.4nm,0.7s,baz=91,slow=14,SNR=5.3							
VNDA	**Vanda**	**60.19**	**185**	P		**P**	**19 02 56.1**	**+0.2**
	0.3nm,0.6s,baz=357,slow=6.7,SNR=5.1							
NVAR	**Mina Array Bea**	**79.28**	**44**	P		**P**	**19 04 51.2**	**+1.0**
	0.2nm,0.6s,baz=230,slow=8.2,SNR=4.4							
MAW	**Mawson**	**83.75**	**200**	P		**P**	**19 05 11.3**	**-0.8**
	0.4nm,0.4s,baz=112,slow=5.4,SNR=4.0							
TXAR	**Lajitas Array**	**85.72**	**57**	P		**P**	**19 05 24.0**	**+1.5**
	1.4nm,0.8s,baz=224,slow=7.0,SNR=7.1							
ILAR	**Eielson Array**	**86.07**	**13**	P		**P**	**19 05 21.7**	**-1.5**
	0.2nm,0.4s,baz=224,slow=5.3,SNR=3.2							
PDAR	**Pinedale Array**	**87.22**	**43**	P		**P**	**19 05 29.1**	**-0.3**
	0.7nm,0.8s,baz=253,slow=1.5,SNR=3.6							
ARCES	**ARCESS Array B**	**126.71**	**350**	PKP		**PKPdf**	**19 11 40.2**	**-0.9**
	2.5nm,0.9s,baz=2.3,slow=2.3,SNR=3.6							
BRTR	**Keskin Array B**	**145.37**	**315**	PKPbc		**PKPbc**	**19 12 17.5**	**-0.3**
	0.9nm,0.9s,baz=357,slow=5.8,SNR=3.5							
GERES	**GERESS Array B**	**148.04**	**346**	PKPbc		**PKPbc**	**19 12 24.6**	**0.0**
	0.6nm,0.6s,baz=25,slow=3.5,SNR=5.1							
TORD	**Torodi Ar. Bea**	**174.94**	**175**	PKPab		**PKPab**	**19 14 26.3**	**-1.0**
	0.2nm,0.7s,baz=178,slow=5.5,SNR=2.5							

DJA 21 19:21:50.0±1.6, 1.°S±12.°×9.°9E±1.°2, h20km, M3.7/3, MLv3.7/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.20**	**66**	P		Pn	19 22 09.8	-2.0
PDSI				S		Sb	19 22 27.0	-0.3
PPI	**Padang Panjang**	**1.40**	**48**	P		Pn	19 22 13.9	-0.5
PPI				S		Sn	19 22 32.5	+0.3
SDSI	**Sungai Dareh**	**2.12**	**77**	P		Pn	19 22 25.4	+1.1

*DDA **21** 19:25:53.9, 36.°97N×28.°23E, h

KARP				*e*SN	**Sn**	**19 26 44.9**	**+0.2**
KARP	**Karpathos**	**1.65**	**212**	*e*Pb	**Pn**	**19 26 23.6**	**+0.3**
KARP				*e*Sn	**Sn**	**19 26 44.9**	**+0.2**
KHL	**Karahalli**	**1.71**	**37**	*e*PN	**Pb**	**19 26 24.9**	**-0.7**
KHL	**Karahalli**	**1.71**	**37**	*e*Pn	**Pb**	**19 26 24.9**	**-0.7**
BLCB	**Balcova**	**1.71**	**327**	*e*PN	**Pn**	**19 26 24.2**	**+0.2**
BLCB	**Balcova**	**1.71**	**327**	*e*Pn	**Pn**	**19 26 24.2**	**+0.2**
AKS	**Akhisar**	**1.94**	**350**	*e*PN	**Pn**	**19 26 27.3**	**0.0**
AKS	**Akhisar**	**1.94**	**350**	*e*Pn	**Pn**	**19 26 27.3**	**0.0**
SUTC	**Sutluce-Ispart**	**2.27**	**76**	*e*PN	**Pn**	**19 26 33.1**	**+1.2**
SUTC	**Sutluce-Ispart**	**2.27**	**76**	*e*Pn	**Pn**	**19 26 33.1**	**+1.2**
TVSB	**Tavsanli**	**2.67**	**21**	*e*PN	**Pn**	**19 26 37.8**	**+0.4**
TVSB	**Tavsanli**	**2.67**	**21**	*e*Pn	**Pn**	**19 26 37.8**	**+0.4**
IDI	**Anoyia**	**3.18**	**239**	*e*PN	**Pn**	**19 26 45.7**	**+1.4**
IDI	**Anoyia**	**3.18**	**239**	*e*Pn	**Pn**	**19 26 45.7**	**+1.4**
HDMB	**Hadim**	**3.41**	**89**	*e*PN	**Pn**	**19 26 49.4**	**+1.8**
HDMB	**Hadim**	**3.41**	**89**	*e*Pn	**Pn**	**19 26 49.4**	**+1.8**

*IDC **21** 19:41:54.3±1.6, 9.°43S×122.°88E, h0km, mb3.3/1, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, ML3.6/3, MS3.2/2, Ms1 3.2/2, ms1mx2.7/14, Error ellipse: s-maj=136.9km s-min=25.9km az=60.0*
*ISCJB **21** 19:42:04.2±0.7, 10.°27S±0.°08×122.°88E±0.°06, h33km, mb3.4/1, MS2.8/1, Error ellipse: s-maj=13.4km s-min=6.3km az=31.9*
*AUST **21** 19:42:05.9, 10.°00S×123.°00E, h35km*
*DJA **21** 19:42:07.3±2.2, 10.°S±7.°×12.°3E±.°, h38km±37km, M3.4/4, MLv3.4/4*

ISC 21 19:42:06.9±1.0, 10.°11S±0.°08×122.°93E±0.°07, h35km, n18, σ1⁹98/14, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.72**	**98**	P	Pn	19 42 25.0	+4.2
BATI	**Baumata**	**0.72**	**98**	Pn	Pn	19 42 24.9	+4.2
	16nm,0.3s,baz=332,slow=4.6,SNR=39						
BATI					Sn	19 42 39.6	+9.0
	55nm,0.3s,baz=288,slow=20,SNR=20						
SOEI	**Soe**	**1.36**	**75**	P	**Pn**	**19 42 31.4**	**+1.9**
SOEI	**Soe**	**1.36**	**75**	P	**Pn**	**19 42 31.3**	**+1.7**
	baz=1.3,SNR=11						
MMRI	**Maumere**	**1.62**	**335**	P	Pn	19 42 27.4	-5.6
MMRI				S	Sn	19 42 43.7	-8.9
WSI	**Waingapu**	**2.63**	**279**	P	**Pn**	**19 42 45.0**	**-1.9**
WSI				S	**Sn**	**19 43 14.5**	**-3.2**
WSI	**Waingapu**	**2.63**	**279**	P	**Pn**	**19 42 46.9**	**-0.1**
	baz=2.7,SNR=5.3						
KNRA	**Kununurra**	**7.93**	**135**	P	**Pn**	**19 44 00.2**	**+0.4**
	baz=8.0,SNR=70						
FITZ	**Fitzroy Crossi**	**8.37**	**162**	P	**Pn**	**19 44 08.4**	**+2.7**
	baz=8.5,SNR=3.6						
FITZ	**Fitzroy Crossi**	**8.37**	**162**	Pn	**Pn**	**19 44 06.9**	**+1.2**
	0.4nm,0.3s,baz=5.4,slow=9.8,SNR=27						
FITZ					Sn	**19 45 37.9**	**-1.1**
	2.0nm,0.3s,baz=196,slow=9.4,SNR=13						
MTN	**Manton Dam**	**8.48**	**109**	P	**Pn**	**19 44 06.2**	**-1.1**
	baz=8.5,SNR=12						
KDU	**Kakadu**	**9.70**	**106**	P	**Pn**	**19 44 22.4**	**-1.6**
	baz=9.7,SNR=27						
WRA	**Warramunga Arr**	**14.72**	**133**	Pn	Pn	19 45 28.8	-3.9
	0.3nm,0.3s,baz=305,slow=15,SNR=34						
WRA					Sn	19 48 06.5	-8.2
	0.5nm,0.3s,baz=297,slow=22,SNR=11						
ASAR	**Alice Springs**	**17.07**	**144**	P	**Pn**	**19 46 02.3**	**-0.7**
	0.2nm,0.3s,baz=321,slow=12,SNR=31						
ASAR				S	Sn	19 49 05.0	-6.8
	0.2nm,0.3s,baz=312,slow=25,SNR=8.3						
ASAR				LR	LR	19 54 15.4	
	comp=Z,122nm,18.9s,baz=87,slow=42						
PPI	**Padang Panjang**	**24.38**	**292**	P	**P**	**19 47 25.1**	**+3.0**
	baz=24,SNR=3.1						
PSI	**Prapat**	**27.13**	**297**	LR	LR	19 58 59.5	
	comp=Z,28nm,20.1s,baz=148,slow=38						
MKAR	**Makanchi Array**	**67.26**	**331**	P	P	19 52 46.7	-11
	0.2nm,0.5s,baz=132,slow=8.6,SNR=3.7						
KBL	**Kabul**	**67.63**	**314**	P	**P**	**19 53 00.7**	**-0.1**
	baz=68,SNR=4.6						

IDC 21 19:55:49.6±3.2, 7.°06S×131.°39E, h0km, mb3.5/1, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=211.0km s-min=32.8km az=72.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.12**	**168**	Pn	Pn	19 58 56.6	-0.9
	0.2nm,0.3s,baz=346,slow=14,SNR=17						
WRA					Sn	20 01 13.7	-11
	0.9nm,0.3s,baz=350,slow=23,SNR=11						
ASAR	**Alice Springs**	**16.69**	**172**	Pn	Pn	19 59 45.9	+0.8
	0.1nm,0.3s,baz=357,slow=7.7,SNR=11						
ASAR					Sn	20 02 42.9	-8.4
	0.2nm,0.3s,baz=355,slow=27,SNR=5.9						
MKAR	**Makanchi Array**	**69.04**	**326**	P	P	20 06 57.2	0.0
	0.2nm,0.5s,baz=116,slow=8.0,SNR=4.5						

IDC 21 20:08:29.6±58.0, 23.°18S×178.°04W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/18, mbtmp3.7/3, Error ellipse: s-maj=1051.0km s-min=158.1km az=87.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.66**	**247**	P	P	20 15 37.6	-0.5
	0.5nm,0.3s,baz=102,slow=8.9,SNR=5.3						
ASAR	**Alice Springs**	**43.93**	**259**	P	P	20 16 38.1	-0.5
	0.2nm,0.3s,baz=100,slow=8.1,SNR=14						
WRA	**Warramunga Arr**	**44.26**	**265**	P	P	20 16 41.7	+0.5
	0.5nm,0.3s,baz=101,slow=8.3,SNR=41						

*ISCJB **21** 20:23:42.1±1.4, 7.°6S±0.°2×117.°3E±0.°3, h306km, mb3.0/3, Error ellipse: s-maj=39.2km s-min=15.3km az=154.9*
*IDC **21** 20:23:42.3±5.0, 7.°65S×117.°27E, h295km±44km, mb2.7/4, mb1 2.8/6, mb1mx2.7/24, mbtmp2.7/6, Error ellipse: s-maj=96.8km s-min=14.8km az=61.0*

ISC 21 20:23:43.9±1.4, 7.°5S±0.°2×117.°5E±0.°3, h306km, n6, σ0⁸56/6, mb2.9/3, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**3.36**	**43**	P	**Pn**	**20 24 43.8**	**+0.1**
	0.5nm,0.3s,baz=60,slow=21,SNR=4.2						
FITZ	**Fitzroy Crossi**	**13.20**	**144**	P	**P**	**20 26 40.9**	**+0.1**
	0.1nm,0.3s,baz=322,slow=7.5,SNR=6.1						
WRA	**Warramunga Arr**	**20.50**	**129**	P	**P**	**20 27 58.8**	**-0.9**
	0.4nm,0.6s,baz=304,slow=8.6,SNR=7.8						
ASAR	**Alice Springs**	**22.51**	**137**	P	**P**	**20 28 18.2**	**0.0**
	0.7nm,0.6s,baz=314,slow=9.0,SNR=14						
SONM	**Songino Array**	**55.97**	**351**	P	**P**	**20 32 51.3**	**+0.3**
	0.2nm,0.5s,baz=148,slow=8.4,SNR=1.7						
MKAR	**Makanchi Array**	**62.45**	**333**	P	**P**	**20 33 34.8**	**-0.3**
	0.2nm,0.6s,baz=147,slow=6.3,SNR=2.7						

MEX 21 20:25:43.3±0.8, 17.°14N×101.°48W, h16km±45km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**1.17**	**95**	*e*P	Pn	20 26 01.2	-3.7
CAIG				*i* S	Sb	20 26 14.4	-5.6
ARIG	**Puente Sto Nin**	**1.56**	**44**	*e*P	Pn	20 26 06.6	-3.9
ARIG				*i* S	Sn	20 26 25.1	-5.4
ACX	**Acapulco**	**1.58**	**100**	*i* P	Pn	20 26 05.7	-5.0
ACX				*e*S	Sn	20 26 25.1	-5.7
MEIG	**Mezcala**	**1.94**	**66**	*e*P	Pn	20 26 12.5	-3.2
MEIG				*i* S	Sn	20 26 34.8	-5.1
PLIG	**Platanillo**	**2.26**	**56**	*e*P	Pn	20 26 17.4	-2.7
PLIG				*i* S	Sn	20 26 43.3	-4.5
TLIG	**Tlapa**	**2.81**	**81**	*i* P	Pn	20 26 24.9	-2.9
TLIG				*i* S	Sn	20 26 56.9	-4.7
YAIG	**Yautepec**	**2.86**	**53**	*i* P	Pn	20 26 26.0	-2.6
YAIG				*i* S	Sn	20 26 58.4	-4.4
UTMO	**Huajuapan**	**3.58**	**78**	*i* P	Pn	20 26 35.9	-2.5
UTMO				*i* S	Sn	20 27 17.3	-3.3

*ISCJB **21** 20:58:19.4±0.9, 4.°52N±0.°08×126.°7E±0.°1, h71km, mb3.5/4, Error ellipse: s-maj=22.9km s-min=7.7km az=156.6*

*IDC **21** 20:58:34.9±16.0, 4.°57N×125.°86E, h250km±167km, mb3.0/4, mb1 3.3/5, mb1mx3.0/25, mbtmp3.2/5, Error ellipse: s-maj=99.1km s-min=26.6km az=60.0*
*MAN **21** 20:58:36, 5.°52N×125.°77E, h117km, mb4.4, ML3.3, MS3.1*

ISC 21 20:58:21.1±1.3, 4.°53N±0.°09×126.°6E±0.°2, h71km, n9, σ1⁹40/9, mb3.5/4, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.25**	**314**	*i* P	**Pn**	**20 58 57.9**	**+1.6**
GSPH				*e*S	**Sn**	**20 59 21.8**	**-1.3**
MATI	**Mati**	**2.42**	**352**	*e*P	Pn	20 59 04.8	+6.2
MATI				*e*S	**Sn**	**20 59 25.8**	**-1.4**
BUKP	**Musuan**	**3.66**	**336**	*e*P	**Pn**	**20 59 17.2**	**+1.8**
PAGZ	**Pagadian**	**4.58**	**316**	*e*P	**Pn**	**20 59 27.9**	**-0.1**
BATI	**Baumata**	**14.93**	**191**	P	**P**	**21 01 53.0**	**+0.7**
	3.6nm,0.3s,baz=332,slow=1.7,SNR=5.9						
FITZ	**Fitzroy Crossi**	**22.51**	**182**	P	**P**	**21 03 14.3**	**-0.8**
	2.1nm,0.4s,baz=354,slow=9.2,SNR=24						
WRA	**Warramunga Arr**	**25.49**	**163**	P	**P**	**21 03 42.5**	**-0.4**
	0.3nm,0.4s,baz=337,slow=10,SNR=17						
ASAR	**Alice Springs**	**28.92**	**166**	P	**P**	**21 04 12.9**	**-0.8**
	0.6nm,0.5s,baz=343,slow=7.4,SNR=11						
MKAR	**Makanchi Array**	**56.82**	**325**	P	P	21 07 50.2	-8.1
	0.2nm,0.4s,baz=111,slow=7.9,SNR=5.4						

IDC 21 21:07:34.3±3.0, 12.°22S×167.°51E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/20, mbtmp3.9/5, Error ellipse: s-maj=139.2km s-min=26.7km az=141.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.74**	**252**	P	P	21 14 08.9	-0.3
	0.3nm,0.4s,baz=84,slow=8.8,SNR=7.3						
ASAR	**Alice Springs**	**33.85**	**246**	P	P	21 14 19.1	+0.2
	0.8nm,0.7s,baz=70,slow=9.8,SNR=13						
FITZ	**Fitzroy Crossi**	**40.77**	**256**	P	P	21 15 18.2	+0.6
	0.6nm,0.3s,baz=56,slow=10,SNR=7.0						
ILAR	**Eielson Array**	**84.08**	**18**	P	P	21 20 07.7	+1.0
	2.0nm,0.6s,baz=231,slow=5.1,SNR=31						
MKAR	**Makanchi Array**	**95.56**	**317**	P	P	21 21 00.5	-1.1
	0.3nm,0.6s,baz=86,slow=6.5,SNR=4.4						
ARCES	**ARCESS Array B**	**117.89**	**346**	PKP	PKPdf	21 26 20.5	-1.9
	3.4nm,0.9s,baz=58,slow=3.0,SNR=6.0						

*IDC **21** 21:28:47.7±1.0, 11.°39S×166.°33E, h0km, mb4.2/8, mb1 4.4/8, mb1mx4.1/19, mbtmp4.1/8, MS3.4/2, Ms1 3.4/2, ms1mx3.0/26, Error ellipse: s-maj=36.7km s-min=24.3km az=118.0*
*NEIC **21** 21:28:52.6±0.4, 11.°52S×166.°36E, h35km, mb4.1/6, Error ellipse: s-maj=10.6km s-min=9.4km az=160.0*
*ISCJB **21** 21:28:53.5±0.7, 11.°57S±0.°07×166.°33E±0.°10, h59km, mb4.1/12, MS3.4/2, Error ellipse: s-maj=14.1km s-min=9.9km az=170.4*

ISC 21 21:28:55.4±0.7, 11.°53S±0.°08×166.°4E±0.°1, h59km, n33, σ0⁸97/36, mb4.0/12, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.49**	**180**	*e*Pn	**Pn**	**21 31 20.4**	**-2.7**
DZM				Sn	**Sn**	**21 33 19.5**	**+0.3**
DZM	**Mont Dzumac**	**10.49**	**180**	Pn	**Pn**	**21 31 24.5**	**+1.4**
	0.8nm,0.3s,baz=324,slow=19,SNR=6.5						
DZM				Sn	**Sn**	**21 33 19.5**	**+0.3**
	0.2nm,0.3s,baz=78,slow=20,SNR=2.4						
CTAO	**Charters Tower**	**21.12**	**244**	P	**P**	**21 33 34.5**	**-0.9**
AFI	**Afiamalu**	**21.46**	**99**	*e*P	**P**	**21 33 37.7**	**-1.5**
H11S2	**WAKE ISLAND Hy**	**29.83**	**1**	T	T	22 05 37.5	
	baz=182						
H11S3	**WAKE ISLAND Hy**	**29.83**	**1**	T	T	22 05 32.5	
	baz=182						
H11S1	**WAKE ISLAND Hy**	**29.84**	**1**	T	T	22 05 48.6	
	baz=182						
STKA	**Stephens Creek**	**30.52**	**225**	*e*P	**P**	**21 35 02.7**	**-0.4**
	0.5nm,0.8s						
STKA	**Stephens Creek**	**30.52**	**225**	P	**P**	**21 35 04.0**	**+0.8**
	1.1nm,0.8s,baz=356,slow=9.1,SNR=3.7						
WRAB	**Tennant Creek**	**31.88**	**251**	*e*P	**P**	**21 35 14.3**	**-1.0**
	2.8nm,0.9s						
WRA	**Warramunga Arr**	**31.89**	**251**	P	**P**	**21 35 14.4**	**-1.0**
WRA				PcP	**PcP**	**21 38 05.9**	**+0.8**
WRA	**Warramunga Arr**	**31.89**	**251**	P	**P**	**21 35 14.4**	**-1.0**
	1.6nm,0.8s,baz=84,slow=9.0,SNR=9.6						
WRA				PcP	**PcP**	**21 38 05.9**	**+0.8**
	0.5nm,0.7s,baz=84,slow=3.2,SNR=4.1						
ASAR	**Alice Springs**	**33.12**	**244**	P	**P**	**21 35 25.1**	**-1.1**
ASAR				PcP	**PcP**	**21 38 08.6**	**+0.2**
ASAR	**Alice Springs**	**33.12**	**244**	P	**P**	**21 35 25.1**	**-1.1**
	2.5nm,0.7s,baz=70,slow=9.6,SNR=29						
ASAR				PcP	**PcP**	**21 38 08.6**	**+0.2**
	0.9nm,0.8s,baz=90,slow=2.1,SNR=7.7						
FITZ	**Fitzroy Crossi**	**39.84**	**256**	*e*P	**P**	**21 36 23.0**	**-0.5**
	1.4nm,0.5s						
PPT	**Papeete**	**43.00**	**103**	LR	LR	21 49 02.9	
	comp=Z,36nm,20.6s,baz=183,slow=28						
MBWA	**Marble Bar**	**45.61**	**252**	*e*P	**P**	**21 37 09.9**	**-0.4**
	8.6nm,0.8s						
ASAJ	**Asahikawa**	**59.44**	**340**	LR	LR	22 04 17.1	
	comp=Z,43nm,19.7s,baz=184,slow=36						
VNDA	**Vanda**	**66.03**	**181**	*e*P	**P**	**21 39 36.1**	**+0.7**
	1.2nm,0.9s						
VNDA	**Vanda**	**66.03**	**181**	P	**P**	**21 39 37.0**	**+1.6**
	0.9nm,0.8s,baz=8.2,slow=7.6,SNR=5.0						
CMAR	**Chiang Mai Arr**	**72.85**	**293**	P	**P**	**21 40 19.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**72.85**	**293**	P	**P**	**21 40 19.4**	**+0.9**
	1.6nm,0.8s,baz=120,slow=5.0,SNR=12						
QSPA	**South Pole Qui**	**78.48**	**180**	*e*P	**P**	**21 40 50.7**	**+0.6**
	5.4nm,1.0s						
SONM	**Songino Array**	**79.41**	**324**	P	**P**	**21 40 55.2**	**-0.2**
SONM	**Songino Array**	**79.41**	**324**	P	**P**	**21 40 55.2**	**-0.2**
	0.4nm,0.5s,baz=140,slow=5.5,SNR=5.7						
ILAR	**Eielson Array**	**83.78**	**18**	P	**P**	**21 41 17.1**	**-0.8**
ILAR	**Eielson Array**	**83.78**	**18**	P	**P**	**21 41 17.1**	**-0.8**
	0.7nm,0.6s,baz=247,slow=5.7,SNR=8.5						
MKAR	**Makanchi Array**	**94.28**	**317**	P	**P**	**21 42 08.7**	**+0.2**
MKAR	**Makanchi Array**	**94.28**	**317**	P	**P**	**21 42 08.7**	**+0.2**
	1.3nm,0.7s,baz=90,slow=6.6,SNR=12						
ARCES	**ARCESS Array B**	**116.95**	**346**	PKP	**PKPdf**	**21 47 32.8**	**-0.2**
ARCES	**ARCESS Array B**	**116.95**	**346**	PKP	**PKPdf**	**21 47 32.8**	**-0.2**
	2.7nm,0.8s,baz=57,slow=4.5,SNR=7.3						
TORD	**Torodi Ar. Bea**	**164.93**	**278**	PKP	**PKPdf**	**21 48 55.2**	**+1.4**
TORD				PKPab	**PKPab**	**21 49 50.8**	**+0.4**
TORD	**Torodi Ar. Bea**	**164.93**	**278**	PKP	**PKPdf**	**21 48 55.2**	**+1.4**
	0.3nm,0.9s,baz=188,slow=0.9,SNR=3.0						
TORD				PKPab	**PKPab**	**21 49 50.8**	**+0.4**
	0.2nm,0.6s,baz=63,slow=4.0,SNR=2.5						

*ISCJB **21** 21:31:50.9±1.1, 3.°7N±0.°2×63.°5E±0.°1, h10km, mb3.9/15, Error ellipse: s-maj=26.2km s-min=16.1km az=34.3*
*IDC **21** 21:31:50.9±1.2, 3.°64N×63.°45E, h0km, mb3.8/11, mb1 3.9/11, mb1mx3.8/28, mbtmp3.8/11, Error ellipse: s-maj=34.8km s-min=20.1km az=43.0*
*NEIC **21** 21:31:52.5±0.8, 3.°71N×63.°49E, h10km, mb4.3/5, Error ellipse: s-maj=20.1km s-min=13.4km az=214.0*

ISC 21 21:31:53.3±1.2, 3.°8N±0.°2×63.°6E±0.°1, h10km, n33, σ0⁸99/32, mb4.0/15, 1D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**12.47**	**144**	T	T	21 47 56.1	
	baz=323,slow=0.7,SNR=188						
H08N3	**Diego Garcia H**	**12.48**	**144**	T	T	21 47 46.8	
	baz=323,slow=0.7,SNR=214						
H08N1	**Diego Garcia H**	**12.49**	**144**	T	T	21 47 57.8	
	baz=323,slow=0.7,SNR=218						
TRD	**Trivandrum**	**14.05**	**70**	*i* P	P	21 35 24.4	+3.9
TRD				*e*S	**Sn**	**21 37 46.4**	**-2.4**
LSA	**Lhasa**	**36.64**	**42**	*e*P	**P**	**21 39 02.0**	**+1.2**
	6.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**37.48**	**64**	P	**P**	**21 39 09.6**	**+2.1**
CMAR	**Chiang Mai Arr**	**37.48**	**64**	P	**P**	**21 39 09.6**	**+2.1**
	1.3nm,1.1s,baz=262,slow=9.3,SNR=8.0						
CHTO	**Chiang Mai**	**37.60**	**64**	*e*P	**P**	**21 39 08.6**	**+0.1**
	23nm,1.1s						
KKAR	**Karatay Array**	**39.61**	**8**	P	**P**	**21 39 25.5**	**+0.5**
	6.1nm,1.3s						
EKS2	**Erkin-Say**	**39.74**	**12**	*e*P	**P**	**21 39 26.0**	**-0.2**
	11nm,1.1s						
AAK	**Ala-Archa**	**39.86**	**13**	*e*P	**P**	**21 39 26.9**	**-0.4**
	2.7nm,0.9s						
AAK	**Ala-Archa**	**39.86**	**13**	P	**P**	**21 39 28.8**	**+1.5**
	1.6nm,0.8s,baz=204,slow=8.3,SNR=7.8						
GNI	**Garni**	**40.01**	**337**	P	**P**	**21 39 29.1**	**+0.6**
GNI	**Garni**	**40.01**	**337**	P	**P**	**21 39 29.1**	**+0.6**
	1.5nm,0.5s,baz=312,slow=2.8,SNR=4.1						
BRTR	**Keskin Array B**	**44.89**	**327**	P	**P**	**21 40 08.4**	**+0.1**
BRTR	**Keskin Array B**	**44.89**	**327**	P	**P**	**21 40 08.4**	**+0.1**
	0.7nm,0.9s,baz=152,slow=14,SNR=4.6						
MKAR	**Makanchi Array**	**45.78**	**18**	P	**P**	**21 40 15.0**	**-0.1**
MKAR				PcP	**PcP**	**21 41 53.0**	**+0.3**
MKAR	**Makanchi Array**	**45.78**	**18**	P	**P**	**21 40 15.0**	**-0.1**
	0.1nm,0.6s,baz=193,slow=5.9,SNR=2.4						
MKAR				PcP	**PcP**	**21 41 53.0**	**+0.3**
	0.7nm,1.0s,baz=212,slow=4.3,SNR=4.0						
ZAA0	**Zalesovo Array**	**52.91**	**16**	*e*P	**P**	**21 41 08.2**	**-1.3**
ZALV	**Zalesovo Beam**	**52.91**	**16**	P	**P**	**21 41 08.4**	**-1.0**
ZALV	**Zalesovo Beam**	**52.91**	**16**	P	**P**	**21 41 08.4**	**-1.0**
	2.7nm,0.8s,baz=217,slow=7.2,SNR=9.4						
AKASG	**Malin Array Be**	**54.94**	**334**	P	**P**	**21 41 23.6**	**-0.8**
AKASG	**Malin Array Be**	**54.94**	**334**	P	**P**	**21 41 23.6**	**-0.8**
	0.3nm,0.4s,baz=135,slow=5.6,SNR=6.0						
SONM	**Songino Array**	**57.17**	**33**	P	**P**	**21 41 41.5**	**+1.0**
SONM	**Songino Array**	**57.17**	**33**	P	**P**	**21 41 41.5**	**+1.0**
	0.7nm,0.8s,baz=215,slow=6.0,SNR=5.4						
ESDC	**Sonseca Array**	**70.40**	**311**	P	**P**	**21 43 07.1**	**-0.8**
ESDC	**Sonseca Array**	**70.40**	**311**	P	**P**	**21 43 07.1**	**-0.8**
	1.0nm,0.8s,baz=88,slow=6.6,SNR=5.1						
WRA	**Warramunga Arr**	**73.28**	**112**	P	**P**	**21 43 25.4**	**-0.1**
WRA	**Warramunga Arr**	**73.28**	**112**	P	**P**	**21 43 25.4**	**-0.1**
	1.7nm,0.9s,baz=289,slow=5.8,SNR=6.8						
ASAR	**Alice Springs**	**73.59**	**116**	P	**P**	**21 43 26.9**	**-0.4**
ASAR	**Alice Springs**	**73.59**	**116**	P	**P**	**21 43 26.9**	**-0.4**
	1.2nm,0.9s,baz=290,slow=6.2,SNR=10						
TXAR	**Lajitas Array**	**144.87**	**341**	PKP	**PKPab**	**21 51 29.8**	**-0.8**
TXAR	**Lajitas Array**	**144.87**	**341**	PKP	**PKPab**	**21 51 29.8**	**-0.8**
	0.8nm,0.9s,baz=116,slow=2.9,SNR=5.9						

*ISCJB **21** 21:32:13.7±1.1, 3.°6N±0.°2×63.°4E±0.°2, h10km, mb3.8/12, MS3.3/1, Error ellipse: s-maj=31.7km s-min=17.8km az=36.2*
*IDC **21** 21:32:13.8±1.1, 3.°55N×63.°39E, h0km, mb3.9/12, mb1 4.0/12, mb1mx3.8/28, mbtmp3.9/12, MS3.3/1, Ms1 3.2/1, ms1mx2.9/34, Error ellipse: s-maj=34.6km s-min=19.2km az=40.0*

ISC 21 21:32:15.2±1.3, 3.°5N±0.°2×63.°4E±0.°2, h10km, n14, σ0⁸97/15, mb3.9/12, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**37.83**	**64**	P	**P**	**21 39 33.0**	**+0.7**
	0.7nm,0.8s,baz=250,slow=7.6,SNR=3.5						
CMAR				PcP	**PcP**	**21 41 49.4**	**+0.4**
	0.5nm,0.7s,baz=230,slow=5.6,SNR=4.2						
GNI	**Garni**	**40.15**	**338**	P	**P**	**21 39 53.3**	**+1.6**
	1.4nm,0.5s,baz=218,slow=8.6,SNR=3.6						
AAK	**Ala-Archa**	**40.17**	**13**	P	**P**	**21 39 52.4**	**+0.5**
	1.8nm,0.8s,baz=201,slow=8.7,SNR=5.0						
KBZ	**Khabaz**	**43.94**	**339**	LR	LR	22 00 01.1	
	comp=Z,35nm,18.6s,baz=193,slow=38						
BRTR	**Keskin Array B**	**44.97**	**327**	P	**P**	**21 40 32.1**	**+1.2**
	0.9nm,0.8s,baz=146,slow=10,SNR=3.8						
MKAR	**Makanchi Array**	**46.11**	**18**	P	**P**	**21 40 39.6**	**-0.1**
	0.2nm,0.6s,baz=207,slow=6.1,SNR=3.1						
MKAR				PcP	**PcP**	**21 42 15.5**	**-0.2**
	0.6nm,0.8s,baz=180,slow=3.0,SNR=3.7						
ZALV	**Zalesovo Beam**	**53.23**	**16**	P	**P**	**21 41 32.1**	**-1.7**
	3.2nm,0.9s,baz=217,slow=7.1,SNR=5.5						
AKASG	**Malin Array Be**	**55.07**	**334**	P	**P**	**21 41 46.7**	**-0.5**
	0.4nm,0.4s,baz=122,slow=6.2,SNR=2.1						
SONM	**Songino Array**	**57.53**	**33**	P	**P**	**21 42 04.7**	**-0.4**
	0.9nm,0.8s,baz=239,slow=7.0,SNR=4.2						
NOA	**NORSAR Array B**	**69.42**	**336**	P	**P**	**21 43 22.6**	**-0.7**
	0.8nm,0.9s,baz=112,slow=7.2,SNR=3.3						
ESDC	**Sonseca Array**	**70.38**	**311**	P	**P**	**21 43 30.1**	**+0.4**
	1.0nm,0.6s,baz=90,slow=5.0,SNR=5.2						
WRA	**Warramunga Arr**	**73.42**	**112**	P	**P**	**21 43 48.4**	**+0.1**
	3.0nm,1.0s,baz=289,slow=5.0,SNR=7.8						
ASAR	**Alice Springs**	**73.71**	**116**	P	**P**	**21 43 50.2**	**+0.2**
	2.0nm,0.9s,baz=286,slow=5.6,SNR=8.8						
TXAR	**Lajitas Array**	**145.03**	**340**	PKPbc	**PKPab**	**21 51 51.5**	**-1.6**
	0.9nm,0.9s,baz=62,slow=3.0,SNR=5.1						

*NIED **21** 21:47:00, 32.°90

IDC 21 22:01:49.2±1.6,**5°37'S**×**147°18'E, h0**km,**mb4.4/1, mb1 4.1/3, mb1mx3.5**/17,**mbtmp3.9**/3,**ML3.2**/2,**Error ellipse: s-maj=62.9km s-min=25.8km az=120.0,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.01**	**180**	Pn	Pn	22 02 52.8	+0.8
	4.5nm,0.3s,baz=8.5,slow=5.8,SNR=9.5						
PMG				Sn	Sn	22 03 33.8	-6.0
	6.3nm,0.3s,baz=2.6,slow=22,SNR=7.1						
WRA	**Warramunga Arr**	**19.13**	**220**	P	P	22 06 13.8	-0.3
	0.1nm,0.3s,baz=38,slow=11,SNR=10						
ASAR	**Alice Springs**	**22.24**	**214**	P	P	22 06 47.4	-0.4
	0.4nm,0.4s,baz=51,slow=8.8,SNR=9.2						
FITZ	**Fitzroy Crossi**	**24.56**	**237**	P	P	22 07 11.0	+0.1
	7.0nm,0.7s,baz=72,slow=7.7,SNR=28						
ILAR	**Eielson Array**	**84.83**	**23**	P	P	22 14 25.5	+0.1
	0.3nm,0.6s,baz=238,slow=5.0,SNR=4.0						

IDC 21 22:06:13.5±13.0,**11°77'S**×**165°67'E, h0**km,**mb3.7/4, mb1 3.8/4, mb1mx3.6**/19,**mbtmp3.7**/4,**MS3.5**/1,**Ms1 3.4**/1, **ms1mx2.9**/26,**Error ellipse: s-maj=409.6km s-min=39.9km az=124.0,Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**29.88**	**224**	LR	LR	22 24 11.0	
	comp=Z,88nm,19.2s,baz=27,slow=36						
WRA	**Warramunga Arr**	**31.18**	**251**	P	P	22 12 34.2	-0.3
	0.3nm,0.8s,baz=89,slow=11,SNR=3.3						
ASAR	**Alice Springs**	**32.41**	**244**	P	P	22 12 45.8	+0.3
	0.3nm,0.6s,baz=68,slow=10,SNR=4.2						
SONM	**Songino Array**	**79.20**	**324**	P	P	22 18 20.6	0.0
	0.6nm,1.0s,baz=132,slow=6.7,SNR=4.0						
MKAR	**Makanchi Array**	**94.00**	**317**	P	P	22 19 33.5	-0.1
	1.0nm,0.7s,baz=98,slow=4.9,SNR=13						

IDC 21 22:17:47.1±1.7,**2°27N**×**122°62E, h488**km±**22**km,**mb3.1**/10, **mb1 3.2**/10,**mb1mx3.0**/26,**mbtmp3.1**/10,**Error ellipse: s-maj=46.3km s-min=10.0km az=69.0,Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.46**	**172**	P	P	22 21 51.0	+0.4
	0.8nm,0.3s,baz=11,slow=12,SNR=10						
WRA	**Warramunga Arr**	**24.89**	**153**	P	P	22 22 29.6	-0.8
	1.5nm,0.6s,baz=336,slow=9.6,SNR=26						
WRA				ScP	ScP	22 28 42.5	-0.4
	0.3nm,0.8s,baz=327,slow=2.8,SNR=5.5						
ASAR	**Alice Springs**	**28.02**	**158**	P	P	22 22 57.9	-0.1
	0.5nm,0.6s,baz=337,slow=7.3,SNR=11						
ASAR				ScP	ScP	22 28 51.9	-0.3
	0.4nm,0.5s,baz=348,slow=3.4,SNR=5.5						
STKA	**Stephens Creek**	**38.44**	**154**	P	P	22 24 26.9	+0.7
	2.8nm,0.8s,baz=354,slow=7.0,SNR=5.9						
USRK	**Ussuriysk Arra**	**42.57**	**10**	P	P	22 24 58.8	-0.3
	1.1nm,0.5s,baz=196,slow=3.6,SNR=4.4						
SONM	**Songino Array**	**47.51**	**345**	P	P	22 25 37.7	+0.4
	2.3nm,0.8s,baz=162,slow=8.7,SNR=18						
MKAR	**Makanchi Array**	**56.50**	**328**	P	P	22 26 42.7	+0.5
	3.5nm,0.4s,baz=124,slow=8.3,SNR=90						
ZALV	**Zalesovo Beam**	**60.11**	**335**	P	P	22 27 05.8	-0.5
	0.6nm,0.4s,baz=108,slow=4.8,SNR=4.8						
BVAR	**Borovoye Array**	**66.36**	**329**	P	P	22 27 46.7	0.0
	0.4nm,0.3s,baz=132,slow=8.7,SNR=5.9						
AKTO	**Aktyubinsk**	**72.29**	**323**	P	P	22 28 21.3	-1.1
	1.1nm,0.3s,baz=79,slow=6.0,SNR=8.5						

IDC ***21*** *22:20:47.1±4.7, 14°96N×94°91W, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.8/23, mbtmp3.7/7, ML3.5/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/22, Error ellipse: s-maj=107.4km s-min=26.4km az=20.0*

ISCJB ***21*** *22:20:52.1±0.8, 15°43N±0°09×94°78W±0°03, h37km, mb3.9/6, Error ellipse: s-maj=13.3km s-min=3.6km az=7.4*

MEX ***21*** *22:20:53.4±0.7, 15°36N×94°76W, h18km±37km, MD4.4*

ISC 21 22:20:53.7±1.2,**15°4N**±0°1×**94°77W**±0°03,**h37km**,**n17,** σ1§**40**/23,**mb3.8/6,Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.33**	**285**	*e*P	**Pn**	**22 21 14.5**	**-1.3**
HUIG				*i* S	**Sn**	**22 21 29.6**	**-2.7**
PCIG		**1.52**	**79**	*i* P	**Pn**	**22 21 16.6**	**-1.8**
PCIG				*i* S	**Sn**	**22 21 34.0**	**-2.9**
TGIG		**2.08**	**49**	*e*P	**Pn**	**22 21 25.4**	**-0.7**
TGIG				*i* S	**Sn**	**22 21 49.7**	**-1.1**
VHO	**Vista Hermosa**	**2.50**	**311**	*e*P	**Pn**	**22 21 31.1**	**-0.9**
VHO				*e*S	**Sn**	**22 22 01.0**	**-0.3**
CCIG	**Comitan**	**2.68**	**71**	*e*P	**Pn**	**22 21 33.8**	**-0.6**
CCIG				*i* S	**Sn**	**22 22 04.9**	**-0.8**
PNIG	**Pinotepa**	**3.37**	**287**	*e*P	**Pn**	**22 21 44.0**	**+0.2**
PNIG				*i* S	**Sn**	**22 22 21.2**	**-1.4**
UTMO	**Huajuapan**	**3.77**	**310**	*i* P	**Pn**	**22 21 49.9**	**+0.4**
UTMO				*i* S	**Sn**	**22 22 31.7**	**-1.0**
APG	**El Apazote**	**4.18**	**95**	Pn	**Pn**	**22 21 54.7**	**-0.5**
	2.4nm,0.3s,baz=274,slow=9.9,SNR=18						
APG				Sn	**Sn**	**22 22 44.8**	**+1.9**
	3.9nm,0.3s,baz=176,slow=17,SNR=6.1						
TLIG	**Tlapa**	**4.22**	**301**	*e*P	**Pn**	**22 21 54.6**	**-1.0**
TLIG				*i* S	**Sn**	**22 22 43.4**	**-0.3**
JTS	**JuntasAbangare**	**10.85**	**117**	LR	LR	22 27 18.9	
	comp=Z,69nm,20.0s,baz=80,slow=36						
TXAR	**Lajitas Array**	**16.09**	**331**	Pn	**P**	**22 24 40.0**	**-0.3**
	baz=157,slow=13,SNR=4.5						
ANMO	**Albuquerque**	**22.09**	**334**	P	**P**	**22 25 47.7**	**+1.7**
	0.9nm,0.7s,baz=146,slow=15,SNR=2.8						
PDAR	**Pinedale Array**	**30.06**	**338**	P	**P**	**22 27 01.1**	**+1.4**
	0.4nm,0.8s,baz=134,slow=8.2,SNR=3.1						
NVAR	**Mina Array Bea**	**30.90**	**322**	P	P	22 27 09.9	+2.8
	0.3nm,0.5s,baz=152,slow=10,SNR=3.4						
ULM	**Lac du Bonnet**	**34.75**	**359**	P	P	22 27 44.8	+4.5
	2.3nm,0.6s,baz=135,slow=10.0,SNR=3.2						
INK	**Inuvik**	**58.33**	**344**	P	**P**	**22 30 45.0**	**+0.4**
	2.0nm,1.0s,baz=246,slow=10,SNR=3.5						
ILAR	**Eielson Array**	**60.49**	**337**	P	**P**	**22 31 01.1**	**+1.4**
	4.0nm,0.3s,baz=144,slow=4.2,SNR=4.8						

SZGRF ***21*** *22:26:55.7, 51°64N×158°88E, h33km, mb5.1, Near east coast of Kamchatka Peninsula, Russia*

BJI ***21*** *22:26:56.8, 52°99N×159°73E, h17km, mB4.9/21, mb4.6/25, Ms4.7/15, Ms7 4.5/11*

MOS ***21*** *22:26:57.4±0.8, 52°82N×159°33E, h16km, mb4.8/52, Error ellipse: s-maj=9.3km s-min=6.0km az=87.2*

MOS Felt (II-III) at Petropavlovsk-Kamchatskiy.

KRSC ***21*** *22:26:59.9±3.2, 52°54N×159°75E, h16km±16km, ML4.7, FELT [II-III] at Petropavlovsk, Institute.*

ISCJB ***21*** *22:27:00.5±0.1, 52°83N±0°03×159°44E±0°03, h33km, mb4.7/129, MS3.7/23, Error ellipse: s-maj=5.0km s-min=2.3km az=170.3*

NEIC ***21*** *22:27:05.5±0.6, 52°86N×159°26E, h67km±5km, mb4.9/62, Error ellipse: s-maj=5.8km s-min=3.1km az=173.0*

NEIC Felt [III] at Petropavlovsk-Kamchatskiy.

IDC ***21*** *22:27:06.7±0.9, 52°84N×159°26E, h80km±7km, mb4.1/37, mb1 4.2/39, mb1mx4.2/41, mbtmp4.1/39, MS3.5/14, Ms1 3.6/14, ms1mx3.5/28, Error ellipse: s-maj=12.3km s-min=8.6km az=149.0*

ISC 21 22:26:59.9±0.4,**52°78N**±0°04×**159°67E**±0°03,**h22**km±2km, **n655,** σ1§**63**/679,**mb4.8**/129,**MS3.7**/23,**142C-181D,Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLC	**Nalytchevo**	**0.44**	**334**	PN	Pn	22 27 14.2	+3.3
NLC	**Nalytchevo**	**0.44**	**334**	*i* P	Pn	22 27 14.2	+3.3
PET	**Petropavlovsk**	**0.66**	**292**	*e*PN	**Pn**	**22 27 15.9**	**+2.0**
PET				pmax	pmax		
	comp=Z,2μm,0.3s						
PET	**Petropavlovsk**	**0.66**	**292**	*i* P	**Pn**	**22 27 16.0**	**+2.0**
UGLR	**Uglovaya**	**0.67**	**311**	*i* P	Pn	22 27 17.2	+3.1
SDLR	**Sedlovina**	**0.69**	**317**	P	Pn	22 27 17.4	+3.0
INSR	**Institute**	**0.70**	**295**	*i* P	**Pn**	**22 27 16.0**	**+1.5**
INSR				*i* S	**Sn**	**22 27 26.9**	**+2.2**
SMAR	**Somma**	**0.71**	**313**	P	Pn	22 27 17.7	+2.8
SMAR				*i* S	**Sn**	**22 27 28.7**	**+3.5**
AVH	**Avacha**	**0.74**	**311**	P	Pn	22 27 18.4	+3.3
AVH				*i* S	**Sn**	**22 27 29.7**	**+3.9**
KRER	**Koryakskii**	**0.76**	**314**	P	Pn	22 27 18.8	+3.3
RUS	**Russkaya**	**0.78**	**244**	PN	**Pn**	**22 27 15.7**	**+0.1**
RUS	**Russkaya**	**0.78**	**244**	*i* P	**Pn**	**22 27 15.7**	**+0.1**
KOK	**Koryaka**	**0.81**	**310**	P	Pn	22 27 19.1	+3.1
KRX	**Arik**	**0.84**	**314**	P	Pn	22 27 19.8	+3.2
MTVR	**Mutnovka**	**0.95**	**252**	*i* P	**Pn**	**22 27 18.7**	**+0.7**
GRL	**Gorelyy**	**0.99**	**257**	*i* P	**Pn**	**22 27 19.9**	**+1.3**
GRL				*i* S	**Sn**	**22 27 31.5**	**-0.6**
ASAK	**Asacha**	**1.15**	**250**	P	**Pb**	**22 27 21.9**	**+0.8**
ASAK				*i* S	**Sn**	**22 27 35.9**	**+0.2**
PEA0B	**Petropavlovsk-**	**1.23**	**286**	*e*Pn	**Pb**	**22 27 23.7**	**+1.2**
PEA0B				*e*Sn	**Sn**	**22 27 33.4**	**-4.4**
PETK	**Petropavlovsk-**	**1.23**	**286**	PN	**Pb**	**22 27 24.2**	**+1.6**
PETK				pmax	pmax		
	comp=Z,617nm,0.3s						
PETK	**Petropavlovsk-**	**1.23**	**286**	P	**Pb**	**22 27 24.2**	**+1.6**
PETK				S	**Sb**	**22 27 40.4**	**+2.4**
PETK	**Petropavlovsk-**	**1.23**	**286**	P	**Pb**	**22 27 24.2**	**+1.6**
	comp=Z,617nm,0.3s,baz=104,slow=20,SNR=4199						
PETK				S	**Sb**	**22 27 40.4**	**+2.4**
	comp=Z,460nm,0.3s,baz=79,slow=20,SNR=24						
GNL	**Ganaly**	**1.38**	**312**	P	**Pb**	**22 27 27.5**	**+2.3**
APC	**Apacha**	**1.53**	**276**	*i* P	**Pb**	**22 27 28.3**	**+0.8**
APC				*i* S	**Sb**	**22 27 48.7**	**+2.3**
MIPR	**Malaya Ipel'ka**	**1.85**	**255**	*e*P	**Pb**	**22 27 32.0**	**-1.0**
PAU	**Pauzhetka**	**2.20**	**234**	PN	**Pn**	**22 27 36.1**	**+1.1**
PAU	**Pauzhetka**	**2.20**	**234**	*i* P	**Pn**	**22 27 36.1**	**+1.1**
TUMR	**Tumrok**	**2.52**	**6**	*i* P	**Pb**	**22 27 45.6**	**+1.0**
KMNR	**Kamenistaya**	**3.00**	**6**	*e*P	**Pb**	**22 27 52.8**	**+0.1**
SKR	**Severo-Kuril's**	**3.04**	**228**	*e*PN	**Pn**	**22 27 45.4**	**-1.3**
SKR				*e*S	**Sn**	**22 28 19.0**	**-3.4**
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,150nm,0.5s						
SKR				pmax	pmax		
	comp=Z,230nm,0.5s						
SKR				smax	smax		
	comp=N,460nm,0.5s						
SKR				smax	smax		
	comp=E,770nm,0.5s						
SKR	**Severo-Kuril's**	**3.04**	**228**	*i* P	**Pn**	**22 27 47.5**	**+0.8**
SKR				*i* S	**Sn**	**22 28 20.2**	**-2.2**
ESO	**Esso**	**3.20**	**350**	PN	**Pb**	**22 27 54.8**	**-1.3**
ESO	**Esso**	**3.20**	**350**	*i* P	**Pb**	**22 27 54.8**	**-1.3**
KIRR	**Kirishev**	**3.21**	**7**	*e*P	**Pb**	**22 27 55.4**	**-0.8**
KPT	**Kopyto**	**3.21**	**6**	*e*P	**Pb**	**22 27 55.2**	**-1.1**
KOZ	**Kozyrevsk**	**3.29**	**2**	*e*P	**Pb**	**22 27 56.1**	**-1.4**
KOZR	**Kozyr**	**3.30**	**2**	PN	**Pb**	**22 27 56.1**	**-1.6**
ZLN	**Zelenaya**	**3.31**	**11**	*i* P	**Pb**	**22 27 57.0**	**-1.0**
KRSR	**Krestovskiy**	**3.48**	**8**	*e*P	**Pb**	**22 27 58.9**	**-2.0**
SRDR	**Sredinnyy**	**3.55**	**0**	*i* P	**Pb**	**22 27 59.5**	**-2.4**
KLY	**Klyuchi**	**3.59**	**9**	PN	Pn	22 27 58.5	+4.4
KLY	**Klyuchi**	**3.59**	**9**	*e*P	Pn	22 27 58.5	+4.4
KBTR	**Krutoberegovo**	**3.90**	**27**	PN	Pn	22 28 03.6	+5.2
KBTR	**Krutoberegovo**	**3.90**	**27**	P	Pn	22 28 03.6	+5.2
BDR	**Baidarnaya**	**3.90**	**13**	*e*P	**Pb**	**22 28 05.4**	**-2.6**
SMKR	**Semkarok**	**3.95**	**15**	*i* P	Pb	22 28 05.9	-3.0
BKI	**Bering**	**4.45**	**54**	PN	Pn	22 28 09.3	+3.4
BKI	**Bering**	**4.45**	**54**	*i* P	Pn	22 28 09.3	+3.4
BKI				*i* S	**Sn**	**22 28 56.8**	**0.0**
FX1	**Attu Island--F**	**8.18**	**84**	*e*Pn	**Pn**	**22 29 00.2**	**+3.0**
FX1				*e*Sn	**Sn**	**22 30 25.6**	**-3.2**
FX1	**Attu Island--F**	**8.18**	**84**	P	**Pn**	**22 29 00.1**	**+3.0**
	comp=E,89nm,0.3s,baz=306,slow=8.1,SNR=216						
FX1				S	**Sn**	**22 30 25.2**	**-3.6**
	comp=E,58nm,0.3s,baz=193,slow=20,SNR=13						
SMY	**Shemya**	**8.76**	**85**	*e*PN	Pn	22 29 08.6	+3.5
SMY	**Shemya**	**8.76**	**85**	*e*Pn	Pn	22 29 08.6	+3.5
SMY				*e*Sn	**Sn**	**22 30 40.7**	**-2.3**
AMKA	**Amchitka**	**12.16**	**89**	*e*Pn	Pn	22 29 56.1	+4.5
ASAJ	**Asahikawa**	**14.23**	**239**	*e*Pn	**Pn**	**22 30 21.5**	**+1.5**
ASAJ	**Asahikawa**	**14.23**	**239**	P	**Pn**	**22 30 22.2**	**+2.3**
	comp=E,2.0nm,0.3s,baz=35,slow=11,SNR=8.0						
ASAJ				LR	LR	22 35 26.3	
	comp=E,172nm,18.8s,baz=6.1,slow=36						
KLR	**Kul'dur**	**17.87**	**270**	*e*P	**P**	**22 31 07.2**	**-0.2**
YAK	**Yakutsk**	**18.45**	**312**	*e*P	**Pn**	**22 31 14.6**	**+0.8**
YAK				*e*S	**Sn**	**22 34 35.1**	**-4.0**
YAK				pmax	pmax		
	comp=E,29nm,1.0s						
YAK				pmax	pmax		
	comp=N,13nm,1.3s						
YAK				pmax	pmax		
	comp=Z,71nm,0.9s						
YAK				pmax	pmax		
	comp=Z,10.0nm,0.6s						
YAK				smax	smax		
	comp=N,79nm,1.8s						
YAK				smax	smax		
	comp=E,272nm,3.3s						
USRK	**Ussuriysk Arra**	**20.15**	**256**	P	**P**	**22 31 32.5**	**+0.2**
	comp=E,0.3nm,0.3s,baz=53,slow=13,SNR=7.3						
USRK				LR	LR	22 40 10.9	
	comp=E,217nm,18.3s,baz=28,slow=39						
MDJ	**Mudanjiang**	**21.34**	**260**	P	**P**	**22 31 44.0**	**-1.2**
MDJ				pP	**pP**	**22 31 49.8**	**-1.7**
MDJ				sP	**sP**	**22 31 52.3**	**-2.0**
MDJ				S	**S**	**22 35 39.4**	**-1.6**
MDJ				ScS	**ScS**	**22 43 01.5**	**-6.2**
MDJ				AMB	AMB		
	comp=E,3.0nm,0.8s						
MDJ				AMB	AMB		
	comp=E,110nm,4.6s						
MAJO	**Matsushiro**	**22.15**	**231**	*e*P	**P**	**22 31 53.9**	**-0.1**
MAJO				pmax	pmax		
	comp=Z,41nm,1.0s						
MAJO	**Matsushiro**	**22.15**	**231**	*e*P	**P**	**22 31 53.9**	**-0.1**
	comp=Z,41nm,1.0s						
MAT	**Matsushiro**	**22.15**	**231**	P	**P**	**22 31 53.4**	**-0.6**
MAT				*e*S	Sn	22 36 02.8	-5.6
MJAR	**Matsushiro Arr**	**22.15**	**231**	P	**P**	**22 31 53.7**	**-0.3**
MJAR	**Matsushiro Arr**	**22.15**	**231**	P	**P**	**22 31 53.7**	**-0.3**
	comp=Z,24nm,1.1s,baz=19,slow=11,SNR=32						
MJAR				LR	LR	22 40 29.4	
	comp=Z,74nm,20.6s,baz=65,slow=36						
TIXI	**Tiksi**	**23.26**	**336**	*e*P	**P**	**22 32 04.7**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
TIXI				MLR	MLR		
	comp=Z,154nm,21.0s						
CN2	**Changchun**	**24.27**	**262**	*e*P	**P**	**22 32 14.5**	**-0.7**
CN2				*e*sP	**sP**	**22 32 24.1**	**-0.6**
CN2				*e*S	**S**	**22 36 27.8**	**-4.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,500nm,16.0s						
CN2				LR	LR		
	comp=Z,300nm,16.0s						
CN2				LR	LR		
	comp=Z,600nm,17.0s						
IMA2	**Indian Mountai**	**26.45**	**42**	*e*P	**P**	**22 32 36.7**	**+1.8**
IMA2				*e*PcP	**PcP**	**22 35 59.8**	**+0.4**
KSRS	**Korea Array**	**26.86**	**248**	P	**P**	**22 32 38.2**	**-0.4**
	comp=Z,1.7nm,1.0s,baz=39,slow=10.0,SNR=3.9						
KSRS				LR	LR	22 42 15.0	
	comp=Z,75nm,21.0s,baz=349,slow=34						
KSAR	**Wonju Array Be**	**26.89**	**248**	P	**P**	**22 32 38.2**	**-0.7**
TRF	**Thorofare Moun**	**27.76**	**48**	*e*P	**P**	**22 32 48.5**	**+1.8**
	comp=Z,201nm,2.9s						
COLD	**Coldfoot**	**27.96**	**40**	*e*P	**P**	**22 32 50.1**	**+1.8**
	comp=Z,41nm,2.1s						
MCK	**McKinley**	**28.36**	**47**	*e*P	**P**	**22 32 51.2**	**-0.7**
MCK				pmax	pmax		
	comp=Z,58nm,1.9s						
MCK	**McKinley**	**28.36**	**47**	*e*P	**P**	**22 32 51.2**	**-0.7**
	comp=Z,58nm,1.9s						
JNU	**Nakatsue**	**28.50**	**238**	P	**P**	**22 32 54.2**	**+0.7**
JNU	**Nakatsue**	**28.50**	**238**	P	**P**	**22 32 54.2**	**+0.7**
	comp=Z,5.8nm,0.7s,baz=51,slow=8.4,SNR=3.8						
JNU				LR	LR	22 43 42.1	
	comp=Z,56nm,20.6s,baz=161,slow=35						
ILAR	**Eielson Array**	**29.22**	**45**	P	**P**	**22 33 00.7**	**+1.1**
ILAR	**Eielson Array**	**29.22**	**45**	P	**P**	**22 33 00.7**	**+1.1**
	comp=Z,6.1nm,0.5s,baz=262,slow=8.1,SNR=50						
EGAK	**Eagle**	**31.67**	**44**	*e*P	**P**	**22 33 21.9**	**+0.8**
	comp=Z,11nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**33.48**	**168**	T	T	23 09 31.7	
	baz=354,slow=0.7,SNR=1725						
H11N3	**WAKE ISLAND Hy**	**33.48**	**168**	T	T	23 09 21.5	
	baz=354,slow=0.7,SNR=1417						
H11N1	**WAKE ISLAND Hy**	**33.48**	**168**	T	T	23 09 29.2	
	baz=354,slow=0.7,SNR=1794						
TLY	**Talaya**	**33.59**	**291**	*e*P	P	22 33 41.8	+3.6
TLY				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TLY				MLR	MLR		
	comp=Z,112nm,19.0s						
SONM	**Songino Array**	**33.72**	**283**	P	**P**	**22 33 38.9**	**-0.6**
SONM				PcP	**PcP**	**22 36 17.5**	**-1.0**
SONM	**Songino Array**	**33.72**	**283**	P	**P**	**22 33 38.9**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=63,slow=8.1,SNR=7.8						
SONM				PcP	**PcP**	**22 36 17.5**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=80,slow=1.8,SNR=9.4						
SONM				LR	LR	22 48 46.1	
	comp=Z,219nm,18.0s,baz=3.6,slow=39						
INK	**Inuvik**	**34.28**	**37**	*e*P	**P**	**22 33 45.1**	**+1.2**
	comp=Z,7.5nm,0.9s						
INK				PcP	**PcP**	**22 36 19.8**	**+0.2**
INK	**Inuvik**	**34.28**	**37**	P	**P**	**22 33 45.6**	**+1.8**
	comp=Z,9.5nm,0.7s,baz=289,slow=6.7,SNR=32						
INK				PcP	**PcP**	**22 36 19.8**	**+0.2**
	comp=Z,2.7nm,0.8s,baz=319,slow=6.8,SNR=4.3						
HHC	**Hu-ho-hao-te**	**34.38**	**269**	*e*P	**P**	**22 33 44.6**	**-0.6**
HHC				pP	**pP**	**22 33 49.0**	**-3.0**
HHC				PcP	**PcP**	**22 36 21.8**	**+1.3**
HHC				S	**S**	**22 39 09.0**	**-2.6**
HHC				PcS	**PcS**	**22 40 07.1**	**+0.2**
HHC				AMB	AMB		
	comp=Z,14nm,0.7s						
HHC				AMB	AMB		
	comp=Z,130nm,6.3s						
HHC				LR	LR		
	comp=Z,520nm,14.2s						
HHC				LR	LR		
	comp=Z,430nm,14.4s						
H11S1	**WAKE ISLAND Hy**	**34.64**	**168**	T	T	23 11 03.7	
	baz=354,slow=0.7,SNR=155						
H11S3	**WAKE ISLAND Hy**	**34.65**	**168**	T	T	23 10 52.0	
	baz=354,slow=0.7,SNR=294						
H11S2	**WAKE ISLAND Hy**	**34.66**	**168**	T	T	23 10 54.5	
	baz=354,slow=0.7,SNR=81						
NJ2	**Nanjing**	**35.91**	**251**	*e*P	**P**	**22 33 59.1**	**+0.8**
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s						
LZH	**Lanzhou**	**42.08**	**270**	*e*P	**P**	**22 34 48.8**	**-1.3**
LZH				pP	**pP**	**22 34 54.8**	**-2.1**
LZH				sP	**sP**	**22 34 57.9**	**-1.8**
LZH				*e*S	**S**	**22 41 05.0**	**-3.1**
LZH				*e*SS	SS	22 44 05.8	-10
LZH				AMB	AMB		
	comp=Z,21nm,1.0s						
LZH				AMB	AMB		
	comp=Z,120nm,5.2s						
LZH				LR	LR		
	comp=Z,340nm,13.0s						
LZH				LR	LR		
	comp=Z,430nm,13.5s						
LZH				LR	LR		
	comp=Z,630nm,16.3s						
GTA	**Gaotai**	**42.38**	**276**	*e*P	**P**	**22 34 53.3**	**+0.8**
GTA				pP	**pP**	**22 34 59.3**	**-0.1**
GTA				sP	**sP**	**22 35 02.1**	**0.0**
GTA				S	**S**	**22 41 12.6**	**+0.1**
GTA				sS	**sS**	**22 41 22.1**	**-1.7**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.4s						
GTA				AMB	AMB		
	comp=Z,110nm,5.9s						
GTA				LR	LR		
	comp=Z,120nm,17.1s						
GTA				LR	LR		
	comp=Z,130nm,16.4s						
ZALV	**Zalesovo Beam**	**42.73**	**303**	P	**P**	**22 34 51.9**	**-3.1**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV				MLR	MLR		
	comp=Z,70nm,18.2s						
ZALV	**Zalesovo Beam**	**42.73**	**303**	P	**P**	**22 34 51.9**	**-3.1**
ZALV	**Zalesovo Beam**	**42.73**	**303**	P	**P**	**22 34 51.9**	**-3.1**
	comp=Z,0.6nm,0.3s,baz=46,slow=6.2,SNR=3.4						
ZALV				LR	LR	22 54 05.9	
	comp=Z,70nm,18.2s,baz=75,slow=38						
NVS	**Novosibirsk**	**43.08**	**305**	*e*P	**P**	**22 34 55.6**	**-2.2**
NVS				pmax	pmax		
	comp=Z,11nm,1.0s						
NVS				pmax	pmax		
	comp=E,12nm,1.1s						
YKA	**Yellowknife Ar**	**43.57**	**42**	P	**P**	**22 35 02.6**	**+1.0**
YKA	**Yellowknife Ar**	**43.57**	**42**	P	**P**	**22 35 02.6**	**+1.0**
	comp=E,3.5nm,0.7s,baz=298,slow=6.9,SNR=3.0						
CD2	**Chengdu**	**45.68**	**264**	P	**P**	**22 35 20.3**	**+1.4**
CD2				pP	**pP**	**22 35 26.8**	**+1.0**
CD2				sP	**sP**	**22 35 29.8**	**+1.3**
CD2				PP	**PP**	**22 37 07.3**	**+1.5**
CD2				S	**S**	**22 41 59.8**	**-0.7**
CD2				sS	**sS**	**22 42 10.6**	**-1.3**
CD2				SS	**ScS**	**22 45 14.8**	**+1.2**
CD2				AMB	AMB		
	comp=E,20nm,0.5s						
CD2				AMB	AMB		
	comp=E,230nm,4.9s						
CD2				LR	LR		
	comp=E,580nm,6.0s						
CD2				LR	LR		
	comp=E,390nm,6.0s						
WMQ	**Urum

VOSK	**Vostochnaya**	**50.28**	**308**	*e*P		**P**		**22 35 53.7**	**-0.5**
VOSK				pmax		pmax				
	comp=Z,3.0nm,0.9s									
VOSK	**Vostochnaya**	**50.28**	**308**	*e*P		**P**		**22 35 53.7**	**-0.5**
	comp=Z,3.2nm,0.9s									
NEW	**Newport**	**50.29**	**60**	*e*P		**P**		**22 35 55.6**	**+1.2**
	comp=Z,6.3nm,1.1s									
NEW	**Newport**	**50.29**	**60**	⇓P		**P**		**22 35 55.9**	**+1.6**
	baz=50									
BVAR	**Borovoye Array**	**50.38**	**308**	P		**P**		**22 35 52.9**	**-2.0**
BVAR				pmax		pmax				
	comp=Z,1.0nm,0.4s									
BVAR	**Borovoye Array**	**50.38**	**308**	P		**P**		**22 35 52.9**	**-2.0**
BVAR	**Borovoye Array**	**50.38**	**308**	P		**P**		**22 35 52.9**	**-2.0**
	comp=Z,1.3nm,0.4s,baz=56,slow=9.2,SNR=11									
BRVK	**Borovoye**	**50.41**	**308**	⇓*e*P		**P**		**22 35 54.5**	**-0.7**
BRVK				pmax		pmax				
	comp=Z,5.0nm,1.0s									
BRVK				MLR		MLR				
	comp=Z,128nm,22.0s									
BRVK	**Borovoye**	**50.41**	**308**	*e*P		**P**		**22 35 54.1**	**-1.1**
KMI	**Kunming**	**50.51**	**260**	P		P		22 36 01.6	+5.1
KMI				AMB		AMB				
	comp=Z,5.0nm,0.6s									
E09A	**Wood Farm, Sta**	**50.84**	**62**	*e*P		**P**		**22 36 00.2**	**+1.7**
	comp=Z,16nm,0.8s									
QIZ	**Qiongzhong**	**51.08**	**248**	P		**P**		**22 35 59.9**	**-0.7**
G08A	**Pilot Rock**	**51.17**	**64**	*e*P		**P**		**22 36 02.8**	**+1.6**
	comp=Z,31nm,2.7s									
KHMM	**Horse Mountain**	**51.35**	**71**	*e*P		P		22 36 05.8	+3.2
YBH	**Yreka Blue Hor**	**51.38**	**69**	*e*P		**P**		**22 36 05.1**	**+2.4**
	comp=Z,72nm,2.7s									
K05A	**Summer Lake**	**51.76**	**67**	*e*P		**P**		**22 36 07.3**	**+1.6**
	comp=Z,95nm,2.3s									
BSMT	**Bassoo Peak**	**51.76**	**59**	*e*P		**P**		**22 36 07.4**	**+1.8**
BLMT	**Blacktail Moun**	**51.88**	**58**	*e*P		**P**		**22 36 08.6**	**+2.0**
JTMT	**Jette**	**52.09**	**59**	*e*P		**P**		**22 36 10.1**	**+2.0**
SWMT	**Swartz Lake**	**52.39**	**59**	*e*P		**P**		**22 36 11.8**	**+1.6**
MOD	**Modoc**	**52.62**	**68**	*e*P		**P**		**22 36 14.6**	**+2.5**
	comp=Z,36nm,0.8s									
SLMT	**Seeley Lake**	**52.83**	**59**	*e*P		**P**		**22 36 14.4**	**+0.9**
MSO	**Missoula**	**52.86**	**59**	⇓P		**P**		**22 36 15.5**	**+1.8**
	baz=53									
CHMT	**Chamberlain Mo**	**53.17**	**59**	*e*P		**P**		**22 36 17.1**	**+1.1**
WVOR	**Wild Horse Val**	**53.21**	**66**	*e*P		**P**		**22 36 17.4**	**+1.1**
WVOR				pmax		pmax				
	comp=Z,57nm,2.4s									
WVOR	**Wild Horse Val**	**53.21**	**66**	*e*P		**P**		**22 36 17.4**	**+1.1**
	comp=Z,57nm,2.4s									
ARU	**Arti**	**53.45**	**317**	*c i*P		**P**		**22 36 18.0**	**+0.3**
ARU								22 38 17.6		
ARU				S		**S**		**22 43 48.2**	**-0.4**
ARU				SS		**SS**		**22 47 25.5**	**-2.5**
ARU				pmax		pmax				
	comp=Z,17nm,2.5s									
ARCES	**ARCESS Array B**	**53.51**	**342**	P		**P**		**22 36 16.6**	**-1.3**
ARCES	**ARCESS Array B**	**53.51**	**342**	P		**P**		**22 36 16.6**	**-1.3**
	comp=Z,2.7nm,0.8s,baz=38,slow=8.0,SNR=4.0									
ARCES				LR		LR		23 04 05.3		
	comp=Z,33nm,20.6s,baz=267,slow=42									
FCC	**Fort Churchill**	**53.89**	**38**	*e*P		**P**		**22 36 22.2**	**+1.3**
FCC				pmax		pmax				
	comp=Z,2.0nm,1.4s									
FCC	**Fort Churchill**	**53.89**	**38**	*e*P		**P**		**22 36 22.2**	**+1.3**
	comp=Z,1.8nm,1.4s									
HRY	**Holter Researc**	**54.03**	**58**	*e*P		**P**		**22 36 23.2**	**+0.9**
	comp=Z,5.1nm,0.8s									
A19A	**Klindworth Far**	**54.13**	**54**	⇓P		**P**		**22 36 24.4**	**+1.5**
	baz=54									
EGMT	**Eagleton**	**54.22**	**56**	*e*P		**P**		**22 36 25.1**	**+1.5**
	comp=Z,77nm,2.2s									
EGMT	**Eagleton**	**54.22**	**56**	⇑P		**P**		**22 36 24.9**	**+1.3**
	baz=54									
LRM	**Limekiln Ridge**	**54.30**	**59**	*e*P		**P**		**22 36 26.1**	**+1.6**
SUMG	**Summit**	**54.30**	**7**	*i*P		**P**		**22 36 25.1**	**+0.9**
SUMG				pmax		pmax				
	comp=Z,28nm,1.0s									
SUMG	**Summit**	**54.30**	**7**	*i*P		**P**		**22 36 25.1**	**+0.9**
	comp=Z,28nm,1.0s									
SUMG	**Summit**	**54.30**	**7**	*e*P		**P**		**22 36 24.3**	**+0.1**
	comp=Z,34nm,0.9s									
B19A	**Brinkman Farms**	**54.34**	**55**	⇑P		**P**		**22 36 25.8**	**+1.3**
	baz=54,SNR=5.6									
A20A	**Cobblestone Ra**	**54.56**	**54**	⇑P		**P**		**22 36 27.6**	**+1.5**
	baz=54									
PAHR	**Pah Rah Range**	**54.61**	**69**	*e*P		**P**		**22 36 28.6**	**+2.0**
	comp=Z,13nm,0.9s									
MCMT	**McKenzie Canyo**	**54.76**	**61**	*e*P		**P**		**22 36 28.2**	**+0.5**
	comp=Z,1.4nm,0.7s									
HLID	**Hailey**	**54.77**	**63**	*e*P		**P**		**22 36 29.9**	**+2.1**
	comp=Z,13nm,1.7s									
HLID	**Hailey**	**54.77**	**63**	⇓P		**P**		**22 36 29.5**	**+1.7**
	baz=55									
C19A	**Slack Wire Ran**	**54.77**	**56**	⇑P		**P**		**22 36 29.1**	**+1.5**
	baz=55,SNR=7.2									
B20A	**Solberg Farm,**	**54.81**	**55**	⇑P		**P**		**22 36 29.4**	**+1.5**
	baz=55									
A21A	**Bergtoll Ranch**	**54.98**	**53**	⇑P		**P**		**22 36 30.8**	**+1.7**
	baz=55									
AAK	**Ala-Archa**	**54.98**	**296**	⇑*i*P		**P**		**22 36 27.9**	**-1.4**
AAK				pmax		pmax				
	comp=Z,9.0nm,1.0s									
AAK				MLR		MLR				
	comp=Z,125nm,17.0s									
AAK	**Ala-Archa**	**54.98**	**296**	*e*P		**P**		**22 36 27.1**	**-2.2**
	comp=Z,4.2nm,1.1s									
CMB	**Columbia Colle**	**55.17**	**71**	*e*P		**P**		**22 36 33.0**	**+2.4**
CMB				pmax		pmax				
	comp=Z,69nm,2.6s									
CMB	**Columbia Colle**	**55.17**	**71**	*e*P		**P**		**22 36 33.0**	**+2.4**
	comp=Z,68nm,2.6s									
D19A	**Cripps Ranch,**	**55.24**	**56**	⇓P		**P**		**22 36 32.5**	**+1.5**
	baz=55									
C20A	**Veseth Ranch,**	**55.31**	**55**	⇑P		**P**		**22 36 33.1**	**+1.6**
	baz=55									
BMN	**Battle Mountai**	**55.34**	**67**	*e*P		**P**		**22 36 34.7**	**+2.8**
BMN	**Battle Mountai**	**55.34**	**67**	*e*P		**P**		**22 36 34.7**	**+2.8**
EKS2	**Erkin-Say**	**55.36**	**297**	*e*P		**P**		**22 36 30.2**	**-1.8**
EKS2				pmax		pmax				
	comp=Z,47nm,2.5s									
EKS2	**Erkin-Say**	**55.36**	**297**	*e*P		**P**		**22 36 30.2**	**-1.8**
	comp=Z,46nm,2.5s									
WAKR	**Walker**	**55.40**	**70**	*e*P		**P**		**22 36 35.2**	**+2.8**
A22A	**Carney Farms,**	**55.47**	**53**	⇑P		**P**		**22 36 34.4**	**+1.8**
	baz=55									
QLMT	**Earthquake Lak**	**55.50**	**60**	*e*P		**P**		**22 36 35.4**	**+2.3**
D20A	**Manuel Ranch,**	**55.66**	**56**	⇑P		**P**		**22 36 35.6**	**+1.6**
	baz=56									
C21A	**Desert Coulee**	**55.68**	**55**	⇓P		**P**		**22 36 35.9**	**+1.7**
	baz=56									
E19A	**Rath Farm, Rou**	**55.76**	**57**	⇑P		**P**		**22 36 36.7**	**+2.0**
	baz=56									
B22A	**Reddig Ranch S**	**55.90**	**54**	⇓P		**P**		**22 36 37.2**	**+1.5**
	baz=56									
E20A	**Meyer Farm, Mu**	**56.06**	**56**	⇑P		**P**		**22 36 38.6**	**+1.7**
	baz=56									
NVAR	**Mina Array Bea**	**56.09**	**70**	P		**P**		**22 36 39.7**	**+2.3**
NVAR	**Mina Array Bea**	**56.09**	**70**	P		**P**		**22 36 39.7**	**+2.3**
	comp=Z,7.3nm,0.7s,baz=296,slow=7.3,SNR=39									
F19A	**Roth Farm, Mol**	**56.09**	**57**	⇓P		**P**		**22 36 39.0**	**+1.8**
	baz=56									
ELK	**Elko**	**56.23**	**66**	*e*P		**P**		**22 36 41.2**	**+2.8**
	comp=Z,4.8nm,0.8s									
H17A	**Grant Village**	**56.24**	**60**	⇑P		**P**		**22 36 41.5**	**+3.0**
	baz=56,SNR=6.3									
D21A	**La Casta Ranch**	**56.25**	**55**	⇓P		**P**		**22 36 39.9**	**+1.7**
	baz=56									
B23A	**Brockton**	**56.28**	**53**	⇑P		**P**		**22 36 39.8**	**+1.4**
	baz=56									
KSH	**Kashi**	**56.29**	**292**	*e*P		P		22 36 44.5	+5.8
KSH				pP		pP		22 36 49.3	+3.6
KSH				sP		sP		22 36 54.8	+6.4
C22A	**Vida**	**56.34**	**54**	⇑P		**P**		**22 36 40.2**	**+1.4**
	baz=56									
IMW	**Indian Meadow**	**56.39**	**60**	*e*P		**P**		**22 36 42.4**	**+2.8**
	comp=Z,5.9nm,0.8s									
A24A	**Westby**	**56.44**	**52**	⇓P		**P**		**22 36 41.5**	**+2.0**
	baz=56									
H18A	**Shoshone NF, C**	**56.53**	**59**	⇑P		**P**		**22 36 43.0**	**+2.5**
	baz=56,SNR=5.7									
F20A	**Billings**	**56.54**	**57**	⇑P		**P**		**22 36 42.0**	**+1.7**
	baz=56									
RRI2	**Red Ridge**	**56.57**	**61**	*e*P		**P**		**22 36 43.5**	**+2.6**
	comp=Z,27nm,1.7s									
E21A	**Keefer Ranch,**	**56.57**	**56**	⇑P		**P**		**22 36 43.0**	**+2.5**
	baz=56									
MOOW	**Moose Ponds**	**56.60**	**60**	*e*P		**P**		**22 36 43.3**	**+2.3**
	comp=Z,3.3nm,0.8s									
D22A	**Cohagen**	**56.60**	**55**	⇑P		**P**		**22 36 42.7**	**+2.0**
	baz=56									
C23A	**Lambert**	**56.64**	**54**	⇑P		**P**		**22 36 42.8**	**+1.9**
	baz=56									
TPAW	**Teton Pass**	**56.67**	**61**	*e*P		**P**		**22 36 44.4**	**+2.8**
	comp=Z,23nm,1.6s									
LOHW	**Long Hollow**	**56.77**	**60**	*e*P		**P**		**22 36 44.7**	**+2.5**
	comp=Z,8.0nm,1.0s									
A25A	**Svangstu Ranch**	**56.85**	**51**	⇓P		**P**		**22 36 44.0**	**+1.6**
	baz=57									
H19A	**Powell**	**56.88**	**58**	⇓P		**P**		**22 36 45.0**	**+2.1**
	baz=57									
G20A	**Bridger**	**56.90**	**57**	⇑P		**P**		**22 36 44.3**	**+1.3**
	baz=57,SNR=5.8									
F21A	**Absaloka Mine,**	**57.04**	**56**	⇓P		**P**		**22 36 45.8**	**+1.9**
	baz=57									
E22A	**Miles City**	**57.20**	**55**	⇓P		**P**		**22 36 46.9**	**+1.9**
	baz=57									
B25A	**Knox Farm, Ray**	**57.29**	**52**	⇑P		**P**		**22 36 47.7**	**+2.2**
	baz=57									
BGU	**Big Grassy Mou**	**57.32**	**64**	*e*P		**P**		**22 36 48.5**	**+2.5**
	comp=Z,10nm,1.6s									
I19A	**Meeteetse**	**57.32**	**59**	⇓P		**P**		**22 36 48.0**	**+2.0**
	baz=57									
G21A	**Lodge Grass**	**57.41**	**57**	⇓P		**P**		**22 36 48.4**	**+1.8**
	baz=57									
E23A	**Ismay**	**57.48**	**55**	⇓P		**P**		**22 36 49.3**	**+2.3**
	baz=57									
H20A	**Greybull**	**57.52**	**58**	⇑P		**P**		**22 36 49.2**	**+1.8**
	baz=58									
CWC	**Cottonwood Cre**	**57.60**	**71**	⇑P		**P**		**22 36 49.7**	**+1.6**
	baz=58,SNR=5.4									
R11A	**Troy Canyon, C**	**57.69**	**68**	*e*P		**P**		**22 36 49.7**	**+1.0**
R11A	**Troy Canyon, C**	**57.69**	**68**	⇓P		**P**		**22 36 50.3**	**+1.6**
	baz=58,SNR=6.6									
J19A	**Crowheart**	**57.82**	**60**	⇓P		**P**		**22 36 51.8**	**+2.3**
	baz=58,SNR=6.8									
I20A	**Worland**	**57.83**	**59**	⇓P		**P**		**22 36 51.5**	**+1.9**
	baz=58,SNR=5.9									
AKTO	**Aktyubinsk**	**57.84**	**312**	P		**P**		**22 36 46.3**	**-3.1**
AKTO				pmax		pmax				
	comp=Z,1.0nm,0.4s									
AKTO	**Aktyubinsk**	**57.84**	**312**	P		**P**		**22 36 46.2**	**-3.1**
AKTO	**Aktyubinsk**	**57.84**	**312**	P		**P**		**22 36 46.2**	**-3.1**
	comp=Z,0.8nm,0.4s,baz=56,slow=9.6,SNR=5.1									
CMAR	**Chiang Mai Arr**	**57.86**	**258**	P		**P**		**22 36 48.9**	**-1.0**
CMAR	**Chiang Mai Arr**	**57.86**	**258**	P		**P**		**22 36 48.9**	**-1.0**
	comp=Z,1.2nm,0.4s,baz=19,slow=6.8,SNR=8.1									
CMAR				LR		LR		23 04 48.0		
	comp=Z,56nm,18.9s,baz=29,slow=39									
G22A	**Birney**	**57.88**	**56**	⇓P		**P**		**22 36 51.8**	**+1.9**
	baz=58									
BW06	**Boulder Array**	**57.90**	**60**	*e*P		**P**		**22 36 52.3**	**+2.0**
	comp=Z,12nm,0.9s									
PDAR	**Pinedale Array**	**57.90**	**60**	P		P		**22 36 52.0**	**+1.8**
PDAR	**Pinedale Array**	**57.90**	**60**	P		P		**22 36 52.0**	**+1.8**
	comp=Z,12nm,0.8s,baz=312,slow=2.7,SNR=93									
H21A	**Big Horn, Sher**	**57.91**	**57**	⇓P		**P**		**22 36 52.4**	**+2.3**
	baz=58									
ISA	**Isabella**	**57.92**	**72**	⇓P		**P**		**22 36 51.7**	**+1.5**
	baz=58									
E24A	**Baker**	**57.93**	**54**	⇓P		**P**		**22 36 52.2**	**+2.0**
	baz=58									
DUG	**Dugway**	**57.94**	**65**	*e*P		**P**		**22 36 53.0**	**+2.6**
DUG				pmax		pmax				
	comp=Z,9.0nm,0.9s									
DUG	**Dugway**	**57.94**	**65**	*e*P		**P**		**22 36 53.0**	**+2.6**
	comp=Z,9.0nm,0.9s									
DUG	**Dugway**	**57.94**	**65**	⇓P		**P**		**22 36 52.4**	**+2.0**
	baz=58,SNR=6.8									
F23A	**Volborg**	**57.98**	**55**	⇑P		**P**		**22 36 52.4**	**+1.9**
	baz=58									
ARVC	**Arvin**	**58.09**	**73**	⇓P		P		22 36 54.5	+3.2
	baz=58									
C26A	**Wahner Farm, P**	**58.11**	**52**	⇑P		**P**		**22 36 53.5**	**+2.1**
	baz=58									
A28A	**Rude Farm, Bot**	**58.21**	**50**	⇓P		**P**		**22 36 54.0**	**+2.1**
	baz=58									
MPMC	**Manual Prospec**	**58.21**	**71**	⇓P		**P**		**22 36 54.2**	**+1.8**
	baz=58,SNR=6.8									
J20A	**Shoshoni**	**58.27**	**59**	⇓P		**P**		**22 36 54.6**	**+2.0**
	baz=58,SNR=9.8									
FURC	**Furnace Creek,**	**58.28**	**70**	⇓P		**P**		**22 36 54.7**	**+2.1**
	baz=58,SNR=9.0									
G23A	**Biddle**	**58.35**	**56**	⇑P		**P**		**22 36 55.0**	**+1.9**
	baz=58									
I21A	**Big Trails, Te**	**58.35**	**58**	⇓P		**P**		**22 36 55.1**	**+1.8**
	baz=58,SNR=5.5									
F24A	**Ekalaka**	**58.37**	**55**	⇑P		**P**		**22 36 55.2**	**+2.0**
	baz=58									
SFJD	**Kangerlussuaq**	**58.38**	**13**	P		**P**		**22 36 52.8**	**0.0**
SFJD	**Kangerlussuaq**	**58.38**	**13**	P		**P**		**22 36 52.8**	**0.0**
	comp=Z,8.9nm,0.5s,baz=342,slow=4.4,SNR=11									
E25A	**Miller Ranch,**	**58.42**	**54**	⇑P		**P**		**22 36 55.8**	**+2.2**
	baz=58									
C27A	**Sayler Ranch,**	**58.48**	**52**	⇓P		**P**		**22 36 55.8**	**+2.0**
	baz=58									
B28A	**Dugan Ranch, T**	**58.49**	**50**	⇑P		**P**		**22 36 55.9**	**+2.0**
	baz=58									
LRMC	**Laurel Mountai**	**58.51**	**72**	⇑P		**P**		**22 36 56.0**	**+1.6**
	baz=58,SNR=6.5									
J21A	**Lysite**	**58.60**	**59**	⇓P		**P**		**22 36 56.6**	**+1.5**
	baz=58,SNR=6.0									
A29A	**Manning Farm,**	**58.67**	**49**	⇑P		**P**		**22 36 57.0**	**+1.8**
	baz=59									
BLG	**Laguna Peak**	**58.67**	**74**	⇑P		**P**		**22 36 57.3**	**+1.9**
	baz=59									
MPU	**Maple Canyon**	**58.71**	**64**	*e*P		**P**		**22 36 58.5**	**+2.6**
	comp=Z,9.2nm,0.9s									
I22A	**9 Mile Ranch,**	**58.72**	**58**	⇑P		**P**		**22 36 57.6**	**+1.8**
	baz=59,SNR=6.4									
G24A	**Alzada**	**58.75**	**55**	⇑P		**P**		**22 36 57.7**	**+1.8**
	baz=59									
EDW2	**Edwards Air Fo**	**58.75**	**72**	⇑P		**P**		**22 36 58.1**	**+2.1**
	baz=59									
H23A	**Clabaugh Cattl**	**58.79**	**56**	⇑P		**P**		**22 36 58.1**	**+1.9**
	baz=59									
D27A	**Center**	**58.90**	**52**	⇓P		**P**		**22 36 58.9**	**+2.1**
	baz=59									
E26A	**Carson Angus**	**58.90**	**53**	⇑P		**P**		**22 36 58.7**	**+1.8**
	baz=59									
B29A	**Wagenman Farm,**	**58.95**	**50**	⇓P		**P**		**22 36 59.3**	**+2.2**
	baz=59									
J22A	**Midwest**	**59.06**	**58**	⇑P		**P**		**22 36 59.9**	**+1.8**
	baz=59,SNR=13									
H24A	**Dirks Ranch, A**	**59.09**	**56**	⇑P		**P**		**22 36 59.4**	**+1.1**
	baz=59,SNR=5.6									
GSC	**Goldstone**	**59.14**	**71**	*e*P		**P**		**22 37 00.8**	**+2.1**
GSC				pmax		pmax				
	comp=Z,9.0nm,0.8s									
GSC	**Goldstone**	**59.14**	**71**	*e*P		**P**		**22 37 00.8**	**+2.1**
	comp=Z,9.4nm,0.8s									
GSC	**Goldstone**	**59.14**	**71**	⇑P		**P**		**22 37 00.8**	**+2.1**
	baz=59,SNR=5.5									
MWC	**Mount Wilson**	**59.18**	**73**	*e*P		**P**		**22 37 00.9**	**+1.7**
MWC				pmax		pmax				
	comp=Z,32nm,1.5s									
MWC	**Mount Wilson**	**59.18**	**73**	*e*P		**P**		**22 37 00.9**	**+1.7**
	comp=Z,32nm,1.5s									
I23A	**Meade Ranch, G**	**59.19**	**57**	⇑P		**P**		**22 37 01.4**	**+2.4**
	baz=59									
K21A	**Alcova**	**59.21**	**59**	⇑P		**P**		**22 37 00.8**	**+1.5**
	baz=59,SNR=16									
ULM	**Lac du Bonnet**	**59.23**	**46**	P		**P**		**22 36 59.6**	**+0.7**
ULM	**Lac du Bonnet**	**59.23**	**46**	P		**P**		**22 36 59.6**	**+0.7**
	comp=Z,6.3nm,0.5s,baz=321,slow=7.2,SNR=10									
F26A	**Lodgepole**	**59.24**	**54**	⇑P		**P**		**22 37 01.0**	**+1.8**
	baz=59									
MDND	**Maddock**	**59.27**	**50**	⇓P		**P**		**22 37 01.7**	**+2.3**
	baz=59									
D28A	**Regan**	**59.29**	**51**	⇑P		**P**		**22 37 01.6**	**+2.0**
	baz=59,SNR=5.5									
BFSC	**Mount Baldy Ra**	**59.40**	**73**	⇓P		**P**		**22 37 02.5**	**+1.9**
	baz=59									
B30A	**Myrvik Farm, E**	**59.43**	**49**	⇑P		**P**		**22 37 02.2**	**+1.7**
	baz=59									
G27A	**Dupree**	**59.45**	**54**	⇓P		P		22 37 05.6	+4.9
	baz=60									
TMUT	**Trail Mountain**	**59.45**	**64**	*e*P		**P**		**22 37 03.6**	**+2.5**
	comp=Z,15nm,1.0s									
F27A	**Lemmon**	**59.54**	**53**	⇓P		**P**		**22 37 03.1**	**+1.8**
	baz=59									
TUQ	**Turquoise Moun**	**59.55**	**71**	⇓P		**P**		**22 37 03.8**	**+2.2**
	baz=60									
CIS	**Catalina Islan**	**59.56**	**74**	⇓P		**P**		**22 37 03.7**	**+2.1**
	baz=60									
K22A	**Casper**	**59.57**	**59**	⇓P		**P**		**22 37 04.0**	**+2.3**
	baz=60									
H25A	**Fruitdale**	**59.66**	**55**	⇓P		**P**		**22 37 04.0**	**+1.8**
	baz=60									
G26A	**Maurine**	**59.67**	**54**	⇓P		**P**		**22 37 04.0**	**+1.8**
	baz=60,SNR=7.0									
E28A	**Huff**	**59.68**	**52**	⇓P		**P**		**22 37 03.9**	**+1.7**
	baz=60									
I24A	**Kuemmerle Ranc**	**59.69**	**56**	⇑P		**P**		**22 37 03.8**	**+1.4**
	baz=60									
Q16A	**Castle Valley**	**59.74**	**65**	⇑P		**P**		**22 37 05.2**	**+2.2**
	baz=60									
HEC	**Hector,Ludlow**	**59.75**	**71**	⇓P		**P**		**22 37 05.1**	**+2.2**
	baz=60									
RSSD	**Black Hills**	**59.80**	**56**	*e*P		**P**		**22 37 04.6**	**+1.3**
RSSD				pmax		pmax				
	comp=Z,89nm,0.7s									
RSSD	**Black Hills**	**59.80**	**56**	*e*P		**P**		**22 37 04.5**	**+1.3**
	comp=Z,89nm,0.7s									
O19A	**Miners Draw (B**	**59.87**	**62**	⇑P		**P**		**22 37 05.9**	**+2.1**
	baz=60									
RWWY	**Rawlins**	**59.90**	**60**	*e*P		P		22 37 12.0	+7.9
	comp=Z,7.4nm,0.9s									
N20A	**Spence Gulch,**	**59.95**	**61**	⇓P		**P**		**22 37 06.7**	**+2.2**
	baz=60,SNR=8.3									
SRU	**San Rafael**	**59.96**	**64**	*e*P		**P**		**22 37 06.8**	**+2.3**
SRU				pmax		pmax				
	comp=Z,15nm,0.8s									
SRU	**San Rafael**	**59.96**	**64**	*e*P		**P**		**22 37 06.8**	**+2.3**
	comp=Z,15nm,0.8s									
K23A	**Bowen Ranch, D**	**59.96**	**58**	⇓P		**P**		**22 37 05.6**	**+1.2**
	baz=60									
I25A	**Rochford**	**60.02**	**56**	⇑P		**P**		**22 37 06.1**	**+1.3**
	baz=60,SNR=6.6									
J24A	**Dixon Ranch, L**	**60.05**	**57**	⇓P		**P**		**22 37 06.7**	**+1.8**
	baz=60									
L22A	**Ellis Ranch, M**	**60.06**	**59**	⇑P		**P**		**22 37 07.2**	**+2.1**
	baz=60,SNR=7.0									
H26A	**Fairpoint**	**60.07**	**55**	⇓P		**P**		**22 37 07.0**	**+2.0**
	baz=60									
MURC	**Murrieta**	**60.12**	**73**	⇓P		**P**		**22 37 07.6**	**+2.2**
	baz=60									
GMRC	**Granite Mounta**	**60.17**	**71**	⇑P		**P**		**22 37 07.6**	**+1.7**
	baz=60,SNR=7.7									
D30A	**Buchanan**	**60.21**	**50**	⇑P		**P**		**22 37 07.7**	**+1.9**
	baz=60									
FINES	**FINESS Array B**	**60.30**	**336**	P		**P**		**22 37 05.0**	**-1.2**
FINES	**FINESS Array B**	**60.30**	**336**	P		**P**		**22 37 05.0**	**-1.2**
	comp=Z,2.1nm,0.6s,baz=34,slow=7.4,SNR=13									
FINES				LR		LR		23 08 44.6		
	comp=Z,17nm,19.1s,baz=20,slow=42									
L23A	**Garrett**	**60.38**	**59**	⇓P		**P**		**22 37 08.8**	**+1.4**
	baz=60,SNR=6.5									
H27A	**Howes**	**60.40**	**54**	⇓P		**P**		**22 37 09.0**	**+1.8**
	baz=60									
P19A	**Cripple Cowboy**	**60.42**	**63**	⇑P		**P**		**22 37 09.3**	**+1.6**
	baz=60,SNR=5.4									
M22A	**Cedar Creek Ra**	**60.43**	**60**	⇓P		**P**		**22 37 09.7**	**+2.0**
	baz=60									
J25A	**Sunshine Ranch**	**60.44**	**56**	⇑P		**P**		**22 37 08.7**	**+1.1**
	baz=60									
O20A	**White River Ci**	**60.46**	**62**	⇓P		**P**		**22 37 09.8**	**+1.9**
	baz=60									
BELC	**Belle Mtn. Jos**	**60.53**	**72**	⇓P		**P**		**22 37 09.9**	**+1.5**

113A	Mohawk Valley, baz=63	62.71	71	⇓P		P	22 37 24.7	+1.8
X16A	Lo Mia Camp, P baz=63,SNR=8.0	62.83	68	⇑P		P	22 37 25.9	+1.9
S22A	4UR Ranch, Cre baz=63	62.95	63	⇑P		P	22 37 26.9	+2.1
Q24A	Divide baz=63	62.96	61	⇓P		P	22 37 26.9	+2.1
N27A	Anderson Farm, baz=63	62.97	58	⇑P		P	22 37 26.9	+2.3
O26A	Horse Wrangler baz=63	62.98	59	⇓P		P	22 37 26.9	+2.1
P25A	Willow Gulch B baz=63	63.07	60	⇑P		P	22 37 27.4	+2.0
L29A	Maesberg Ranch baz=63	63.08	55	⇑P		P	22 37 27.2	+1.9
T21A	Navajo Lake baz=63	63.12	64	⇑P		P	22 37 28.1	+2.2
R23A	Moffat baz=63	63.16	62	⇓P		P	22 37 28.7	+2.5
T22A	Edith baz=63,SNR=8.2	63.45	63	⇓P		P	22 37 30.1	+2.0
O27A	Beecher Island baz=63	63.45	58	⇓P		P	22 37 29.7	+1.9
P26A	Davis Ranch, A baz=63	63.47	59	⇓P		P	22 37 30.0	+1.9
U21A	Nageezi baz=63	63.47	64	⇓P		P	22 37 31.1	+2.9
V20A	Brimhall baz=64	63.48	65	⇑P		P	22 37 30.4	+2.1
R24A	Sanders Place, baz=64	63.52	61	⇑P		P	22 37 30.6	+2.2
X18A	Snowflake baz=64	63.59	67	⇓P		P	22 37 31.2	+2.3
SDCO	Great Sand Dun comp=Z,9.0nm,1.4s	63.66	62	*eP*		P	22 37 30.9	+1.4
ECSD	EROS Data Cent comp=Z,8.5nm,0.9s	63.72	52	*eP*		P	22 37 30.4	+1.0
NB2	NORSAR Subarra comp=Z,1.3nm,0.5s,baz=20,slow=6.9	63.77	344	P		P	22 37 28.9	-0.7
NOA	NORSAR Array B	63.77	344	P		P	22 37 29.1	-0.5
NOA	NORSAR Array B comp=Z,1.3nm,0.5s,baz=20,slow=6.6,SNR=9.6	63.77	344	P		P	22 37 29.1	-0.5
NOA				LR		LR	23 13 27.3	
214A	comp=Z,38nm,18.2s,baz=0.0,slow=44 Organ Pipe Nat baz=64	63.85	71	⇓P		P	22 37 32.5	+2.0
S24A	Houchin Ranch, baz=64	63.90	62	⇓P		P	22 37 33.1	+2.0
V21A	Milan baz=64	63.93	65	⇑P		P	22 37 33.2	+1.9
U22A	Llaves baz=64,SNR=5.0	63.94	64	⇑P		P	22 37 33.1	+1.8
W20A	Ramah baz=64	63.96	66	⇓P		P	22 37 32.9	+1.4
R25A	Fountain Ranch baz=64	64.02	61	⇓P		P	22 37 33.5	+1.8
HFS	Hagfors	64.17	342	P		P	22 37 31.3	-0.9
HFS	Hagfors comp=Z,1.8nm,0.5s,baz=36,slow=6.7,SNR=14	64.17	342	P		P	22 37 31.3	-0.9
T24B	San Luis baz=64	64.23	62	⇓P		P	22 37 35.6	+2.3
V22A	San Miguel Ran baz=64	64.25	64	⇓P		P	22 37 35.0	+1.6
P28A	Saint Francis baz=64	64.28	58	⇓P		P	22 37 34.9	+1.6
S25A	Robets Cordova baz=64	64.30	61	⇑P		P	22 37 35.3	+1.7
U23A	El Rito baz=64	64.34	63	⇓P		P	22 37 36.0	+2.1
R26A	Arlington baz=64,SNR=11	64.34	60	⇑P		P	22 37 35.3	+1.5
SPMN	St. Paul baz=64	64.36	48	⇑P		P	22 37 34.8	+1.2
X20A	Quemado baz=64,SNR=8.3	64.39	66	⇓P		P	22 37 36.3	+2.0
O30A	MW Ranch, Wils baz=65	64.69	56	⇓P		P	22 37 37.5	+1.5
T25A	Trinidad baz=65,SNR=5.5	64.69	62	⇑P		P	22 37 38.1	+1.8
R27A	Eads baz=65	64.70	60	⇓P		P	22 37 37.7	+1.6
V23A	Ortiz Mt. (NFS baz=65,SNR=9.5	64.77	64	⇑P		P	22 37 39.1	+2.4
S26A	Kim baz=65	64.84	61	⇓P		P	22 37 38.2	+1.1
X21A	Alamocita Cree baz=65	64.86	66	⇑P		P	22 37 39.8	+2.5
Y20A	Horse Springs, baz=65,SNR=7.1	64.92	67	⇓P		P	22 37 40.2	+2.4
P30A	Selden baz=65	65.08	57	⇓P		P	22 37 39.4	+0.9
T26A	Comanche Natio baz=65	65.10	61	⇓P		P	22 37 40.2	+1.4
ANMO	Albuquerque	65.22	65	*eP*		P	22 37 41.4	+1.8
ANMO	Albuquerque comp=Z,3.8nm,0.7s,baz=325,slow=6.9,SNR=13	65.22	65	P		P	22 37 41.3	+1.7
W23A	Werner Place, baz=65	65.22	64	⇓P		P	22 37 42.2	+2.5
X22A	Bernardo baz=65,SNR=5.8	65.24	65	⇓P		P	22 37 42.2	+2.4
Y21A	Point of Rocks baz=65	65.24	66	⇑P		P	22 37 42.2	+2.3
U25A	Circle Dot Ran baz=65	65.25	62	⇑P		P	22 37 42.2	+2.4
V24A	Rampart Ranch, baz=65,SNR=6.2	65.28	63	⇑P		P	22 37 42.2	+2.1
Z20A	Nine Sixteen R baz=65	65.39	67	⇓P		P	22 37 42.7	+1.9
R29A	Marienthal baz=65	65.46	58	⇓P		P	22 37 42.5	+1.5
Q30A	Quinter baz=65	65.51	57	⇑P		P	22 37 42.8	+1.4
V25A	Rancho No Teng baz=66,SNR=5.4	65.55	63	⇑P		P	22 37 43.4	+1.6
W24A	Lazy 6 Ranch, baz=66,SNR=7.6	65.59	64	⇓P		P	22 37 44.2	+2.1
X23A	Hourglass Bar baz=66	65.64	65	⇑P		P	22 37 44.3	+2.0
Y22A	Socorro baz=66	65.69	66	⇓P		P	22 37 44.7	+2.0
S28A	Manter baz=66	65.69	60	⇓P		P	22 37 43.9	+1.4
Z21A	St. Cloud Mine baz=66	65.76	67	⇓P		P	22 37 45.2	+2.0
120A	U Bar Ranch, L baz=66,SNR=6.2	65.79	68	⇓P		P	22 37 45.3	+1.9
T28A	Walsh baz=66	65.93	60	⇓P		P	22 37 45.2	+1.1
R30A	Dighton baz=66	66.01	58	⇑P		P	22 37 45.4	+0.9
V26A	Tequesquite Ra baz=66,SNR=5.4	66.03	62	⇑P		P	22 37 45.9	+1.1
SCHQ	Schefferville	66.05	27	P		P	22 37 44.5	0.0
SCHQ	Schefferville comp=Z,3.0nm,0.7s,baz=333,slow=6.8,SNR=4.1	66.05	27	P		P	22 37 44.5	0.0
U27A	Thompson Grove baz=66	66.08	61	⇑P		P	22 37 46.5	+1.4
W25A	X Bar L Ranch, baz=66,SNR=6.3	66.10	63	⇑P		P	22 37 46.8	+1.5
Y23A	Lovelace Mesa, baz=66,SNR=11	66.19	65	⇓P		P	22 37 48.0	+2.1
Z22A	Elephant Butte baz=66,SNR=5.6	66.19	66	⇓P		P	22 37 47.7	+1.8
121A	Cookes Peak, D baz=66	66.28	67	⇓P		P	22 37 48.5	+2.0
319A	Douglas baz=66,SNR=5.7	66.30	69	⇑P		P	22 37 48.1	+1.6
220A	Playas Peak, P baz=66	66.33	68	⇓P		P	22 37 48.6	+1.8
U28A	Mallet baz=66	66.43	61	⇓P		P	22 37 49.0	+1.8
X25A	Clemmons Ranch baz=66	66.51	64	⇓P		P	22 37 50.1	+2.2
Y24A	Capitan baz=66,SNR=12	66.54	65	⇑P		P	22 37 50.0	+1.8
W26A	Owens Ranch, T baz=66	66.57	63	⇑P		P	22 37 50.1	+1.9
122A	Conniff Cattle baz=67	66.59	67	⇓P		P	22 37 50.7	+2.2
Z23A	Rita Site, Whi baz=67	66.60	66	⇑P		P	22 37 50.2	+1.8
SCIA	State Center comp=Z,61nm,0.6s	66.73	51	*eP*		P	22 37 50.2	+1.2
Y25A	Mesa, Roswell baz=67,SNR=11	66.95	64	⇑P		P	22 37 52.2	+1.5
X26A	CR and CF Fran baz=67	66.95	63	⇓P		P	22 37 52.4	+1.7
W27A	Bowe Ranch, En baz=67	66.97	62	⇑P		P	22 37 52.9	+2.1
222A	Williams Famil baz=67	66.98	67	⇓P		P	22 37 52.9	+2.0
Z24A	Sheeppen Canyo baz=67,SNR=8.8	67.02	65	⇓P		P	22 37 53.1	+1.8
U30A	WK&E Inc. Balk baz=67	67.14	60	⇓P		P	22 37 52.6	+0.8
R33A	Olander Ranch, baz=67	67.16	56	⇓P		P	22 37 52.1	+0.2
IMYA	Miami	67.22	300	*eP*		P	22 37 48.2	-4.2
X27A	F and S Farms, baz=67	67.27	62	⇓P		P	22 37 54.5	+1.8
W28A	Vega baz=67	67.28	61	⇓P		P	22 37 55.0	+2.2
Z25A	Roswell baz=67	67.42	65	⇓P		P	22 37 55.4	+1.7
Y26A	Elida baz=67	67.42	63	⇑P		P	22 37 55.0	+1.3
124A	Stringfield Ra baz=67	67.45	65	⇓P		P	22 37 55.2	+1.2
Y27A	Causey baz=68,SNR=9.2	67.81	63	⇑P		P	22 37 57.4	+1.3
Z26A	Caprock baz=68,SNR=9.5	67.83	64	⇑P		P	22 37 57.7	+1.5
X28A	Dimmitt baz=68	67.85	62	⇑P		P	22 37 57.9	+1.6
224A	Cornudas Mount baz=68	67.88	66	⇓P		P	22 37 58.3	+1.6
125A	Gardner Draw, baz=68,SNR=8.8	67.92	65	⇓P		P	22 37 58.2	+1.4
MSTX	Muleshoe baz=68,SNR=5.6	67.95	63	⇓P		P	22 37 57.9	+0.8
X29A	Tulia baz=68,SNR=6.5	68.17	62	⇓P		P	22 37 59.4	+1.1
Z27A	Tatum baz=68,SNR=9.1	68.21	63	⇑P		P	22 37 59.7	+1.1
225A	Deer Hill, Car baz=68	68.24	65	⇓P		P	22 38 00.6	+1.6
126A	Clayton Basin, baz=68	68.28	65	⇓P		P	22 38 00.5	+1.5
324A	Moseley Ranch, baz=68	68.38	66	⇓P		P	22 38 01.2	+1.4
W31A	Holland Ranch, baz=68	68.53	60	⇓P		P	22 38 01.9	+1.3
X30A	Coker Ranch, T baz=69	68.61	61	⇑P		P	22 38 02.4	+1.3
127A	Arkansas Junct baz=69	68.62	64	⇓P		P	22 38 02.8	+1.6
226B	Tecolote Peak, baz=69,SNR=13	68.63	65	⇓P		P	22 38 02.5	+1.2
325A	Bean Ranch, Si baz=69,SNR=5.5	68.72	66	⇓P		P	22 38 03.2	+1.2
AKASG	Malin Array Be	68.75	329	P		P	22 38 00.3	-1.2
AKASG	comp=Z,1.0nm,0.4s			pmax		pmax		
AKASG	Malin Array Be	68.75	329	P		P	22 38 00.3	-1.2
AKASG	Malin Array Be comp=Z,1.0nm,0.4s,baz=29,slow=6.0,SNR=10	68.75	329	P		P	22 38 00.3	-1.2
X31A	McDonald Ranch baz=69	68.94	60	⇓P		P	22 38 04.3	+1.2
Y30A	Stafford Cattl baz=69	69.03	62	⇑P		P	22 38 04.9	+1.2
Z29A	Hungry Hill Ra baz=69	69.07	62	⇓P		P	22 38 05.6	+1.7
128A	Castleberry Fa baz=69	69.14	63	⇑P		P	22 38 06.1	+1.7
425A	Indio Mountain baz=69,SNR=7.3	69.16	66	⇓P		P	22 38 06.0	+1.4
Y31A	Rekieta Farm, baz=69	69.31	61	⇑P		P	22 38 06.9	+1.6
326A	Caldwell Ranch baz=69,SNR=5.6	69.31	65	⇓P		P	22 38 06.7	+1.2
Z30A	Sanderson Ranc baz=69,SNR=6.9	69.36	62	⇑P		P	22 38 06.7	+0.9
228A	UT Block 9, Go baz=69	69.46	64	⇓P		P	22 38 07.8	+1.4
KIV	Kislovodsk	69.49	317	*eP*		P	22 38 06.4	0.0
KIV	comp=Z,5.0nm,1.1s			pmax		pmax		
KIV	comp=Z,27nm,18.0s			MLR		MLR		
WMOK	Wichita Mounta	69.49	59	*eP*		P	22 38 07.1	+0.6
WMOK	comp=Z,12nm,1.0s			pmax		pmax		
WMOK	Wichita Mounta comp=Z,12nm,1.0s	69.49	59	*eP*		P	22 38 07.1	+0.6
KBZ	Khabaz	69.58	316	P		P	22 38 05.5	-1.4
KBZ	comp=Z,1.0nm,0.5s			pmax		pmax		
KBZ	Khabaz	69.58	316	P		P	22 38 05.5	-1.4
KBZ	Khabaz comp=Z,0.6nm,0.5s,baz=240,slow=8.1,SNR=3.2	69.58	316	P		P	22 38 05.5	-1.4
Y32A	R-V Farms, Ver baz=70	69.71	60	⇓P		P	22 38 08.6	+0.8
426A	McDonald Obser baz=70	69.78	66	⇑P		P	22 38 09.7	+1.1
Z31A	Sharp Cattle R baz=70	69.86	61	⇑P		P	22 38 09.9	+1.1
328A	Wristen Ranch, baz=70,SNR=19	69.91	65	⇓P		P	22 38 10.6	+1.4
130A	Snyder baz=70	69.98	62	⇓P		P	22 38 11.0	+1.5
427A	Hayter Ranch, baz=70	69.99	65	⇑P		P	22 38 11.3	+1.6
229A	Bryant Ranch, baz=70	70.00	63	⇑P		P	22 38 11.3	+1.6
TUL1	Tulsa baz=70	70.12	57	⇑P		P	22 38 11.6	+1.2
526A	Mary Lane Ranc baz=70,SNR=6.0	70.21	66	⇓P		P	22 38 12.6	+1.5
Z32A	Haskell baz=70	70.22	61	⇓P		P	22 38 12.1	+1.1
131A	Roby baz=70	70.23	62	⇓P		P	22 38 12.6	+1.5
329A	Wagon Wheel Ra baz=70,SNR=9.3	70.28	64	⇓P		P	22 38 12.6	+1.1
527A	Woodward Ranch baz=70	70.41	66	⇑P		P	22 38 13.9	+1.6
230A	Sterling City baz=70	70.44	63	⇓P		P	22 38 14.2	+1.8
428A	Kincaid Ranch, baz=70,SNR=13	70.48	65	⇑P		P	22 38 14.4	+1.8
626A	Big Bend Ranch baz=71,SNR=7.2	70.57	67	⇑P		P	22 38 14.4	+1.1
ITEG	Tejag	70.57	299	*eP*		P	22 38 13.2	-0.2
ABTX	Abilene, Hawle	70.67	61	*eP*		P	22 38 14.5	+0.9
ABTX	Abilene, Hawle baz=71,SNR=5.1	70.67	61	⇓P		P	22 38 14.6	+0.9
SFIN	Scholer Farm baz=71	70.76	48	⇓P		P	22 38 14.5	+0.3
330A	Mertzon baz=71	70.78	63	⇑P		P	22 38 15.5	+1.0
231A	Bronte baz=71	70.83	62	⇓P		P	22 38 15.8	+1.0
528A	Cox Ranch, San baz=71,SNR=5.1	70.85	65	⇓P		P	22 38 16.7	+1.7
ANN	Anapa	70.90	320	*eP*		P	22 38 24.5	+10
ANN				*e**PP		PcP	22 38 34.8	-0.5
ANN	comp=Z,55nm,1.5s			pmax		pmax		
429A	Davenport Ranc baz=71	70.99	64	⇓P		P	22 38 16.9	+1.1
TXAR	Lajitas Array	71.00	67	P		P	22 38 17.2	+1.3
TXAR	Lajitas Array comp=Z,8.1nm,0.6s,baz=298,slow=4.0,SNR=110	71.00	67	P		P	22 38 17.2	+1.3
627A	Terlingua Ranc baz=71,SNR=8.0	71.06	66	⇓P		P	22 38 17.7	+1.5
529A	Stev Forest Ra baz=71,SNR=8.9	71.19	65	⇓P		P	22 38 18.3	+1.3
430A	Baggett Ranch, baz=71,SNR=6.4	71.22	64	⇑P		P	22 38 18.3	+1.1
232A	Coleman baz=71,SNR=5.1	71.23	62	⇓P		P	22 38 18.0	+0.9
331A	San Angelo baz=71,SNR=6.1	71.26	63	⇑P		P	22 38 18.2	+0.9
628A	Black Gap, Mar baz=71,SNR=5.4	71.32	66	⇓P		P	22 38 19.0	+1.3
EKA	Eskdalemuir Ar	71.32	350	P		P	22 38 17.2	0.0
EKA	Eskdalemuir Ar comp=Z,2.0nm,0.5s,baz=18,slow=5.2,SNR=22	71.32	350	P		P	22 38 17.2	0.0
332A	Millersview baz=72,SNR=7.5	71.57	62	⇑P		P	22 38 20.3	+1.1
431A	Sonora baz=72,SNR=5.2	71.64	63	⇓P		P	22 38 20.6	+0.8
KWP	Kalwaria Pacla	71.65	332	*eP*		P	22 38 19.5	+0.1
KWP	Kalwaria Pacla comp=Z,34nm,1.5s	71.65	332	*eP*		P	22 38 19.1	-0.3
KWP	Kalwaria Pacla	71.65	332	*eP*		P	22 38 19.4	+0.1
530A	J-C Ranch, Com baz=72,SNR=6.2	71.66	64	⇓P		P	22 38 21.0	+1.2
432A	Menard baz=72	71.94	63	⇑P		P	22 38 23.1	+1.7
531A	Rocksprings baz=72	72.08	64	⇓P		P	22 38 23.5	+1.2
KSP	Ksiaz	72.23	337	*eP*		P	22 38 22.9	+0.1
JCT	Junction City	72.24	63	*eP*		P	22 38 24.3	+1.0
JCT	comp=Z,22nm,1.4s			pmax		pmax		
JCT	Junction City comp=Z,22nm,1.4s	72.24	63	*eP*		P	22 38 24.3	+1.0
JCT	Junction City baz=72	72.24	63	⇑P		P	22 38 24.5	+1.2
STHS	Stebnicka Huta	72.25	333	*eP*		P	22 38 23.4	+0.4
STHS	comp=Z,5.0nm,0.9s			pmax		pmax		
STHS	Stebnicka Huta	72.25	333	*eP*		P	22 38 23.4	+0.4
MIAR	Mount Ida	72.31	56	*eP*		P	22 38 24.4	+0.8
MIAR	comp=Z,8.0nm,0.8s			pmax		pmax		
MIAR	Mount Ida comp=Z,8.2nm,0.8s	72.31	56	*eP*		P	22 38 24.4	+0.8
WHTX	Lake Whitney baz=72	72.32	60	⇑P		P	22 38 25.2	+1.6
KOLS	Kolonicke sedl	72.40	332	*eP*		P	22 38 22.8	-1.1
KOLS	Kolonicke sedl	72.40	332	*eP*		P	22 38 22.8	-1.1
532A	Rocksprings baz=72	72.46	63	⇓P		P	22 38 25.9	+1.3
CLL	Collm	72.55	339	*i* P		P	22 38 24.2	-0.5
CLL	comp=Z,6.0nm,1.0s			pmax		pmax		
CLL	Collm comp=Z,15nm,1.0s	72.55	339	*i* P		P	22 38 24.2	-0.5
CLL				LmV			23 10 00.0	
631A	comp=Z,100nm,19.6s Perdido Creek baz=73,SNR=5.1	72.65	64	⇑P		P	22 38 26.5	+0.9
UZH	Uzhgorod	72.67	332	*eP*		P	22 38 23.9	-1.5
UZH				*e*			22 38 37.9	
DPC	Dobruska-Polom	72.68	336	*eP*		P	22 38 25.7	+0.1
DPC	Dobruska-Polom	72.68	336	*eP*		P	22 38 25.7	+0.1
BUR08	Bucovina Ar. S	72.69	330	*eP*		P	22 38 24.8	-0.9
OKC	Ostrava-Krasne	72.69	335	*eP*		P	22 38 25.6	0.0
OKC	Ostrava-Krasne	72.69	335	*eP*		P	22 38 25.6	0.0
ACSO	Alum Creek Sta comp=Z,10nm,0.8s	72.70	45	*eP*		P	22 38 26.7	+0.9
BURAR	Bucovina Array	72.72	330	⇑P		P	22 38 25.3	-0.6
BURAR	Bucovina Array	72.72	330	⇑*i*P		P	22 38 25.3	-0.6
BRG	Berggiesshubel comp=Z,4.5nm,1.1s	72.75	338	*eP*		P	22 38 25.4	-0.5
BRG	Berggiesshubel	72.75	338	*eP*		P	22 38 25.4	-0.5
MORC	Moravsky Berou	72.91	335	⇓P		P	22 38 27.1	+0.2
MORC	Moravsky Berou	72.91	335	⇓*i*P		P	22 38 27.1	+0.2
632A	Uvalde baz=73	73.00	64	⇑P		P	22 38 28.9	+1.1
TESR	Tescani	73.25	328	⇑*i*P		P	22 38 28.1	-0.8
PRU	Pruhonice	73.44	337	*eP*		P	22 38 30.0	0.0
PRU	Pruhonice	73.44	337	*eP*		P	22 38 30.0	0.0
732A	Laxson Ranch, baz=74	73.51	64	⇑P		P	22 38 32.6	+1.8
CFR	Carcaliu	73.94	327	⇓P		P	22 38 32.1	-0.9
CFR	Carcaliu	73.94	327	⇓*i*P		P	22 38 32.1	-0.9
DRGR		74.21	331	⇓P		P	22 38 34.1	-0.6
DRGR		74.21	331	⇓*i*P		P	22 38 34.1	-0.6
MLR	Muntele Rosu	74.38	328	⇑*i*P		P	22 38 35.2	-0.5
GRF	Grafenberg Arr	74.46	339	*eP*		P	22 38 34.2	-1.8
GRF	comp=Z,35nm,1.6s			pmax		pmax		
GRF	Grafenberg Arr comp=Z,35nm,1.6s	74.46	339	*eP*		P	22 38 34.2	-1.8
KHC	Kasperske Hory	74.47	338	*eP*		P	22 38 36.2	+0.1
KHC	Kasperske Hory	74.47	338	*eP*		P	22 38 36.2	+0.1
TIRR	Tirgusor	74.48	326	⇓P		P	22 38 35.5	-0.6
TIRR	Tirgusor	74.48	326	⇓*i*P		P	22 38 35.5	-0.6
MEM	Membach comp=Z,18nm,1.0s	74.61	343	P		P	22 38 37.1	+0.2
GERES	GERESS Array B	74.70	337	P		P	22 38 37.5	-0.1
GERES	GERESS Array B comp=Z,1.6nm,0.5s,baz=33,slow=6.2,SNR=22	74.70	337	P		P	22 38 37.5	-0.1
GERES				LR		LR	23 13 13.2	
ARR	comp=Z,78nm,18.7s,baz=100,slow=37 Arges	74.90	329	⇑*i*P		P	22 38 38.8	+0.1
CONA	Conrad Observa comp=Z,4.0nm,0.6s	75.04	336	⇓*i*P		P	22 38 39.7	+0.3
GIVF	Givet	75.31	344	*eP*		P	22 38 40.6	-0.2
GIVF	Givet	75.31	344	*eP*		P	22 38 40.6	-0.2
GIVF	Givet	75.31	344	*eP*		P	22 38 40.6	-0.2
BAIF	Baives	75.45	344	*eP*		P	22 38 42.4	+0.7
BAIF	Baives	75.45	344	*eP*		P	22 38 42.4	+0.7
BAIF	Baives	75.45	344	*eP*		P	22 38 42.4	+0.7
GZR	Gura Zlata	75.45	330	⇓P		P	22 38 41.3	-0.6
GZR	Gura Zlata	75.45	330	⇓*i*P		P	22 38 41.3	-0.6
SWET	Sewanee comp=Z,20nm,0.7s	75.49	50	*eP*		P	22 38 42.1	-0.1
WRA	Warramunga Arr	75.69	205	P		P	22 38 41.9	-1.4
WRA	Warramunga Arr comp=Z,3.5nm,0.8s,baz=19,slow=6.0,SNR=18	75.69	205	P		P	22 38 41.9	-1.4
TKL	Tuckaleechee C	76.12	49	P		P	22 38 45.8	0.0
TKL	Tuckaleechee C comp=Z,4.7nm,0.7s,baz=116,slow=3.5,SNR=7.6	76.12	49	P		P	22 38 45.8	0.0
SOKA	Soboth comp=Z,12nm,1.2s	76.41	336	⇓*i*P		P	22 38 47.4	+0.1
KBA	Koelnbreinsper comp=Z,31nm,1.0s	76.44	337	⇑*i*P		P	22 38 48.5	+0.9
CDF	Champ du Feu comp=Z,16nm,0.9s	76.48	341	*eP*		P	22 38 47.5	-0.2
CDF	Champ du Feu	76.48	341	*eP*		P	22 38 47.5	-0.2
CDF	comp=Z,16nm,0.9s			pmax		pmax		
CDF	Champ du Feu comp=Z,16nm,0.9s	76.48	341	*eP*		P	22 38 47.5	-0.2
FITZ	Fitzroy Crossi	76.50	213	P		P	22 38 46.9	-1.0
FITZ	Fitzroy Crossi comp=Z,5.3nm,1.0s,baz=15,slow=3.6,SNR=6.1	76.50	213	P		P	22 38 46.9	-1.0
PAGF	Fort de Pagny comp=Z,4.9nm,0.6s	76.64	343	*eP*		P	22 38 48.2	-0.3
PAGF	Fort de Pagny comp=Z,4.9nm,0.6s	76.64	343	*eP*		P	22 38 48.2	-0.3
BRTR	Keskin Array B	76.70	320	P		P	22 38 48.1	-1.0
BRTR	Keskin Array B comp=Z,0.9nm,0.6s,baz=69,slow=1.2,SNR=5.4	76.70	320	P		P	22 38 48.1	-1.0
BRTR				LR		LR	23 13 28.2	
MEZF	comp=Z,34nm,19.4s,baz=200,slow=36 Maizieres J'vi	76.81	343	*eP*		P	22 38 49.6	+0.2
MEZF	Maizieres J'vi	76.81	343	*eP*		P	22 38 49.6	+0.2
ABTA	Abfaltersbach comp=Z,16nm,1.2s	76.95	337	⇑*i*P		P	22 38 50.8	+0.4
HAU	Haudompre	77.05	342	*eP*		P	22 38 50.5	-0.3
HAU	Haudompre	77.05	342	*eP*		P	22 38 50.5	-0.3
HAU	Haudompre	77.05	342	*eP*		P	22 38 50.5	-0.3
SFTF	Sexfontaines comp=Z,30nm,0.9s	77.10	343	*eP*		P	22 38 51.1	0.0
SFTF	Sexfontaines comp=Z,30nm,0.9s	77.10	343	*eP*		P	22 38 51.1	0.0
HINF	Hinteralfeld	77.14	342	*eP*		P	22 38 50.7	-0.7
HINF	Hinteralfeld	77.14	342	*eP*		P	22 38 50.7	-0.7
HINF	Hinteralfeld	77.14	342	*eP*		P	22 38 50.7	-0.7
KMSC	Kings Mountain baz=78	77.66	47	⇓P		P	22 38 54.7	+0.3
VTS	Vitosha	77.85	329	⇑P		P	22 38 53.3	-2.3
VTS	Vitosha	77.85	329	⇑*i*P		P	22 38 53.3	-2.3
LOR	Lormes	78.21	343	*eP*		P	22 38 57.2	-0.1
LOR	Lormes	78.21	343	*eP*		P	22 38 57.2	-0.1
SSF	Saint Saulge comp=Z,31nm,1.1s	78.47	344	*eP*		P	22 38 58.5	-0.2
SSF	Saint Saulge	78.47	344	*eP*		P	22 38 58.5	-0.2
SSF	comp=Z,31nm,1.1s			pmax		pmax		
SSF	Saint Saulge comp=Z,31nm,1.1s	78.47	344	*eP*		P	22 38 58.5	-0.2
AVF	Avril sur Loir comp=Z,19nm,0.9s	78.76	344	*eP*		P	22 38 59.4	-0.9
AVF	Avril sur Loir	78.76	344	*eP*		P	22 38 59.4	-0.9
AVF	comp=Z,19nm,0.9s			pmax		pmax		
AVF	Avril sur Loir comp=Z,19nm,0.9s	78.76	344	*eP*		P	22 38 59.4	-0.9
SMF	Signal de Mont comp=Z,19nm,1.1s	78.82	343	*eP*		P	22 39 00.6	-0.1
SMF	Signal de Mont	78.82	343	*eP*		P	22 39 00.6	-0.1
SMF	com

comp=Z,19nm,1.1s
ASAR Alice Springs 79.36 204 P **P 22 39 03.2 -0.5**
ASAR Alice Springs 79.36 204 P **P 22 39 03.2 -0.5**
comp=Z,1.9nm,0.8s,baz=15,slow=5.1,SNR=16
LPL La Plagne 79.37 341 *eP* **P 22 39 04.0 0.0**
comp=Z,16nm,0.9s
LPL La Plagne 79.37 341 *eP* **P 22 39 04.0 0.0**
LPL pmax pmax
comp=Z,16nm,0.9s
LPL La Plagne 79.37 341 *eP* **P 22 39 04.0 0.0**
comp=Z,16nm,0.9s
LPG La Plagne 79.38 341 *eP* **P 22 39 03.8 -0.3**
comp=Z,30nm,1.1s
LPG La Plagne 79.38 341 *eP* **P 22 39 03.8 -0.3**
LPG pmax pmax
comp=Z,31nm,1.1s
LPG La Plagne 79.38 341 *eP* **P 22 39 03.8 -0.3**
comp=Z,30nm,1.1s
TCF Toulx Ste Croi 79.44 344 *eP* **P 22 39 03.5 -0.6**
TCF Toulx Ste Croi 79.44 344 *eP* **P 22 39 03.5 -0.6**
TCF Toulx Ste Croi 79.44 344 *eP* **P 22 39 03.5 -0.6**
VIVF Saint-Julien-l 80.40 342 *eP* **P 22 39 09.7 +0.4**
comp=Z,39nm,1.1s
VIVF Saint-Julien-l 80.40 342 *eP* **P 22 39 09.7 +0.4**
VIVF pmax pmax
comp=Z,39nm,1.0s
VIVF Saint-Julien-l 80.40 342 *eP* **P 22 39 09.7 +0.4**
comp=Z,39nm,1.0s
PMOR Pomariorio Ree 81.17 129 *eT* T 00 08 36.1
comp=Z,2.5nm,0.2s
PPT2 Papeete2 82.65 132 *eLR* LR 23 05 22.3
comp=Z,113nm,25.2s
STKA Stephens Creek 85.76 195 P **P 22 39 36.1 -0.7**
STKA Stephens Creek 85.76 195 P **P 22 39 36.1 -0.7**
comp=Z,2.2nm,0.8s,baz=337,slow=9.2,SNR=4.0
ESDC Sonseca Array 86.83 347 P **P 22 39 42.0 -0.5**
ESDC Sonseca Array 86.83 347 P **P 22 39 42.0 -0.5**
comp=Z,0.2nm,0.4s,baz=4.6,slow=4.9,SNR=7.2
DBIC Dimbokro 119.33 342 PKP **PKPdf 22 45 46.6 -0.9**
DBIC Dimbokro 119.33 342 PKP **PKPdf 22 45 46.6 -0.9**
comp=Z,3.0nm,0.7s,baz=111,slow=11,SNR=5.8
TRQA Tornquist 147.78 80 *e*PKPdf **PKPbc 22 46 41.2 -1.1**

*ISCJB **21** 22:49:32.4±0.6, 55°.5S±0°.1×124°.7W±0°.2, h10km, mb4.2/12, MS4.0/7, Error ellipse: s-maj=16.9km s-min=15.4km az=149.6*
*IDC **21** 22:49:32.2±0.5, 55°.37S×124°.75W, h0km, mb4.1/11, mb1 4.3/11, mb1mx4.3/16, mbtmp4.1/11, MS4.0/7, Ms1 3.9/7, ms1mx3.7/19, Error ellipse: s-maj=21.7km s-min=16.9km az=155.0*
*NEIC **21** 22:49:33.5±0.4, 55°.46S×124°.76W, h10km, mb4.1/6, Error ellipse: s-maj=12.6km s-min=9.6km az=146.0*
ISC 21 22:49:33.6±0.4, 55°.4S±0°.1×124°.8W±0°.1, h10km, n98, σ0§71/85, mb4.2/12, MS4.0/7, 3C, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
USHA	**Ushuaia**	**31.46**	**113**	LR		LR	23 05 35.3	
	comp=Z,291nm,19.2s,baz=245,slow=31							
RKT	**Rikitea**	**33.13**	**343**	*e*LR		LR	23 05 07.8	
	509nm,28.2s							
RKT	**Rikitea**	**33.13**	**343**	*e*T		T	23 31 03.3	
	7.7nm,0.2s							
VNDA	**Vanda**	**33.15**	**202**	*e*P		**P**	**22 56 09.7 +0.1**	
	1.0nm,0.8s							
VNDA					PcP	**PcP**	**22 58 52.6 +0.7**	
VNDA	**Vanda**	**33.15**	**202**	P		**P**	**22 56 11.6 +2.1**	
	0.8nm,0.8s,baz=97,slow=6.4,SNR=4.3							
VNDA					PcP	**PcP**	**22 58 52.6 +0.7**	
	1.1nm,0.8s,baz=78,slow=1.1,SNR=6.7							
VNDA					LR	LR	23 07 07.8	
	comp=Z,121nm,18.0s,baz=100,slow=32							
QSPA	**South Pole Qui**	**34.77**	**180**	*e*P		**P**	**22 56 24.5 +0.6**	
	3.4nm,1.0s							
QSPA	**South Pole Qui**	**34.77**	**180**	P		**P**	**22 56 26.2 +2.3**	
	2.4nm,0.9s							
TBI	**Tubuai**	**36.88**	**320**	*e*LR		LR	23 06 28.9	
	311nm,27.8s							
TBI	**Tubuai**	**36.88**	**320**	*e*T		T	23 35 00.5	
	135nm,0.4s							
H03N3	**Juan Fernandez**	**38.46**	**75**	T		T	23 37 39.9	
	baz=220,slow=0.7,SNR=2.2							
H03N2	**Juan Fernandez**	**38.47**	**75**	T		T	23 37 42.1	
	baz=220,slow=0.7,SNR=2.2							
H03N1	**Juan Fernandez**	**38.48**	**75**	T		T	23 37 47.0	
	baz=220,slow=0.7,SNR=674							
TIAR	**Tiarei**	**42.19**	**324**	*e*T		T	23 41 38.9	
	9.0nm,0.3s							
PPT2	**Papeete2**	**42.23**	**323**	*e*LR		LR	23 09 13.3	
	359nm,25.2s,baz=149							
PPT	**Papeete**	**42.25**	**323**	LR		LR	23 10 37.3	
	comp=Z,199nm,21.6s,baz=23,slow=30							
VAH	**Vaihoa**	**43.80**	**327**	*e*T		T	23 43 54.1	
	190nm,0.3s							
PMOR	**Pomariorio Ree**	**44.11**	**327**	*e*T		T	23 44 16.3	
	15nm,0.3s							
CFAA	**Coronel Fontan**	**45.82**	**83**	P		**P**	**22 57 56.0 +0.4**	
CFAA					PcP	**PcP**	**22 59 31.7 -1.1**	
CFAA	**Coronel Fontan**	**45.82**	**83**	P		**P**	**22 57 56.0 +0.4**	
	0.4nm,0.7s,baz=212,slow=13,SNR=3.2							
CFAA					PcP	**PcP**	**22 59 31.7 -1.1**	
	0.2nm,0.6s,baz=214,slow=3.6,SNR=2.7							
VNA1	**Neumayer--Stat**	**46.39**	**156**	*e*P		**P**	**22 57 58.6 -0.9**	
VNA2	**Neumayer--Watz**	**46.40**	**156**	*e*P		**P**	**22 57 59.9 +0.3**	
VNA2	**Neumayer--Watz**	**46.40**	**156**	*e*I			22 58 08.9	
SNAA	**Sanae**	**46.85**	**158**	*e*P		**P**	**22 58 03.2 0.0**	
SNAA	**Sanae**	**46.85**	**158**	*e*P		**P**	**22 58 02.5 -0.8**	
	1.2nm,0.6s							
SNAA					PcP	**PcP**	**22 59 34.3 -1.5**	
SNAA	**Sanae**	**46.85**	**158**	P		**P**	**22 58 02.6 -0.6**	
	0.6nm,0.8s,baz=195,slow=1.6,SNR=7.6							
SNAA					PcP	**PcP**	**22 59 34.3 -1.5**	
	0.6nm,1.1s,baz=200,slow=4.0,SNR=3.5							
CPUP	**Villa Florida**	**56.02**	**88**	*e*P		**P**	**22 59 11.9 -0.4**	
CPUP	**Villa Florida**	**56.02**	**88**	P		**P**	**22 59 12.5 +0.2**	
	0.6nm,0.4s,baz=186,slow=9.6,SNR=4.0							
CPUP					LR	LR	23 19 50.2	
	comp=Z,83nm,19.8s,baz=13,slow=32							
MAW	**Mawson**	**57.17**	**183**	*e*P		**P**	**22 59 19.7 -0.2**	
	1.1nm,0.9s							
MAW	**Mawson**	**57.17**	**183**	P		**P**	**22 59 20.3 +0.4**	
	baz=65,SNR=6.8							
MAW	**Mawson**	**57.17**	**183**	P		**P**	**22 59 20.4 +0.4**	
	4.4nm,0.8s,baz=192,slow=9.2,SNR=9.1							
MAW					LR	LR	23 21 38.8	
	comp=Z,239nm,20.0s,baz=182,slow=34							
STKA	**Stephens Creek**	**66.38**	**248**	*e*P		**P**	**23 00 22.2 -0.3**	
	0.8nm,0.6s							
STKA	**Stephens Creek**	**66.38**	**248**	P		**P**	**23 00 23.2 +0.8**	
	4.5nm,0.8s,baz=113,slow=4.2,SNR=7.9							
STKA					LR	LR	23 26 50.9	
	comp=Z,79nm,18.6s,baz=233,slow=34							
H01W1	**Cape Leeuwin H**	**76.96**	**226**	T		T	00 26 48.5	
	baz=150,slow=0.7,SNR=993							
H01W2	**Cape Leeuwin H**	**76.96**	**226**	T		T	00 26 48.8	
	baz=150,slow=0.7,SNR=869							
H01W3	**Cape Leeuwin H**	**76.98**	**226**	T		T	00 26 49.7	
	baz=150,slow=0.7,SNR=912							
AS31	**Alice Springs**	**77.00**	**247**	*e*P		**P**	**23 01 25.8 -0.8**	
ASAR	**Alice Springs**	**77.00**	**247**	P		**P**	**23 01 26.2 -0.4**	
ASAR	**Alice Springs**	**77.00**	**247**	P		**P**	**23 01 26.2 -0.4**	
	4.2nm,0.8s,baz=147,slow=5.4,SNR=35							
WRA	**Warramunga Arr**	**79.81**	**250**	P		**P**	**23 01 42.0 -0.1**	
WRA	**Warramunga Arr**	**79.81**	**250**	P		**P**	**23 01 42.0 -0.1**	
	8.1nm,0.9s,baz=146,slow=4.9,SNR=41							
WRAB	**Tennant Creek**	**79.81**	**250**	*e*P		**P**	**23 01 41.9 -0.2**	
	12nm,0.9s							
TXAR	**Lajitas Array**	**86.31**	**18**	P		**P**	**23 02 16.8 +1.4**	
TXAR	**Lajitas Array**	**86.31**	**18**	P		**P**	**23 02 16.8 +1.4**	
	1.4nm,0.9s,baz=186,slow=8.3,SNR=12							
BOSA	**Boshof**	**92.46**	**154**	LR		LR	23 38 34.2	
	comp=Z,68nm,19.1s,baz=345,slow=32							
H11S2	**WAKE ISLAND Hy**	**93.50**	**298**	T		T	00 46 43.1	
	baz=151,slow=0.7,SNR=39							
H11S3	**WAKE ISLAND Hy**	**93.51**	**298**	T		T	00 46 50.7	
	baz=151,slow=0.7,SNR=34							
H11S1	**WAKE ISLAND Hy**	**93.52**	**298**	T		T	00 46 58.1	
	baz=151,slow=0.7,SNR=35							
NVAR	**Mina Array Bea**	**93.63**	**5**	P		**P**	**23 02 51.0 +1.2**	
NVAR	**Mina Array Bea**	**93.63**	**5**	P		**P**	**23 02 51.0 +1.2**	
	0.5nm,0.5s,baz=202,slow=7.4,SNR=4.4							
H11N3	**WAKE ISLAND Hy**	**94.43**	**299**	T		T	00 47 51.1	
	baz=151,slow=0.7,SNR=38							
H11N1	**WAKE ISLAND Hy**	**94.44**	**299**	T		T	00 47 55.0	
	baz=151,slow=0.7,SNR=29							
H11N2	**WAKE ISLAND Hy**	**94.45**	**299**	T		T	00 48 05.3	
	baz=151,slow=0.7,SNR=34							
TORD	**Torodi Ar. Bea**	**121.04**	**114**	PKP		**PKPdf**	**23 08 25.2 -1.1**	
TORD	**Torodi Ar. Bea**	**121.04**	**114**	PKP		**PKPdf**	**23 08 25.2 -1.1**	
	0.5nm,1.0s,baz=230,slow=0.5,SNR=5.8							
ILAR	**Eielson Array**	**121.05**	**349**	PKP		**PKPdf**	**23 08 25.1 +0.3**	
ILAR	**Eielson Array**	**121.05**	**349**	PKP		**PKPdf**	**23 08 25.1 +0.3**	
	0.9nm,0.9s,baz=197,slow=3.0,SNR=6.1							
CMAR	**Chiang Mai Arr**	**130.54**	**240**	PKP		**PKPdf**	**23 08 44.9 +0.5**	
CMAR	**Chiang Mai Arr**	**130.54**	**240**	PKP		**PKPdf**	**23 08 44.9 +0.5**	
	0.7nm,0.5s,baz=211,slow=2.6,SNR=5.5							
RAMN	**Ramite**	**143.62**	**232**	*e*P		PKPbc	23 09 06.8 +0.8	
JIRN	**Jiri**	**144.41**	**232**	*e*P		PKPbc	23 09 08.5 -0.1	
	24nm,0.9s							
LFF	**La Frestale**	**144.43**	**84**	*e*PKIKP		**PKPab**	**23 09 07.3 -0.1**	
	8.4nm,0.6s							
LFF	**La Frestale**	**144.43**	**84**	*e*PKPdf		**PKPab**	**23 09 07.3 -0.1**	
PKI	**Pulchoki**	**144.68**	**230**	*e*P		**PKPab**	**23 09 09.0 -0.3**	
	24nm,1.0s							
PKIN	**Phulchoki**	**144.69**	**230**	*e*P		**PKPab**	**23 09 09.0 -0.2**	
	13nm,1.0s							
GUN	**Gumba**	**144.76**	**231**	*e*P		PKPbc	23 09 09.7 0.0	
	48nm,0.8s							
DMN	**Daman**	**144.85**	**230**	*e*P		**PKPab**	**23 09 09.8 0.0**	
	63nm,0.9s							
MFF	**Saint Martin d**	**144.91**	**81**	*e*PKIKP		PKPbc	23 09 09.1 -0.1	
MFF	**Saint Martin d**	**144.91**	**81**	*e*PKPdf		PKPbc	23 09 09.1 -0.1	
KKN	**Kakani**	**144.93**	**230**	*e*P		**PKPab**	**23 09 09.9 -0.1**	
	50nm,1.0s							
RJF	**Les Rejaudoux**	**145.09**	**84**	*e*PKIKP		**PKPbc**	**23 09 09.5 -0.3**	
	7.3nm,0.6s							
RJF	**Les Rejaudoux**	**145.09**	**84**	*e*PKPdf		**PKPbc**	**23 09 09.5 -0.3**	
CAF	**Calviac**	**145.17**	**85**	*e*PKIKP		**PKPbc**	**23 09 10.1 0.0**	
	16nm,1.0s							
CAF	**Calviac**	**145.17**	**85**	*e*PKPdf		**PKPbc**	**23 09 10.1 0.0**	
GKN	**Gorkha**	**145.39**	**230**	*e*P		**PKPbc**	**23 09 10.9 -0.6**	
	56nm,1.0s							
KOLN	**Kotlanda**	**145.64**	**228**	*e*P		**PKPdf**	**23 09 11.7 -0.4**	
	37nm,0.9s							
FLN	**La Foliniere**	**145.93**	**77**	*e*PKIKP		**PKPdf**	**23 09 11.8 +0.2**	
	88nm,1.3s							
FLN	**La Foliniere**	**145.93**	**77**	*e*PKPdf		**PKPdf**	**23 09 11.8 +0.2**	
DANN	**Dangsing**	**146.07**	**229**	*e*P		**PKPdf**	**23 09 13.1 +0.2**	
	51nm,0.8s							
BGF	**Bois d'Agland**	**146.57**	**83**	*e*PKIKP		**PKPbc**	**23 09 13.7 -0.6**	
	51nm,1.2s							
BGF	**Bois d'Agland**	**146.57**	**83**	*e*PKPdf		**PKPbc**	**23 09 13.7 -0.6**	
SONM	**Songino Array**	**148.00**	**278**	PKPbc		**PKPbc**	**23 09 18.5 +0.1**	
SONM	**Songino Array**	**148.00**	**278**	PKPbc		**PKPbc**	**23 09 18.5 +0.1**	
	2.1nm,0.9s,baz=128,slow=1.7,SNR=13							
DAVA	**Damuels**	**150.98**	**87**			**PKPbc**	**23 09 26.5 +0.7**	
	6.4nm,0.7s							
FETA	**Feichten**	**151.31**	**88**	⇑*i*	PKPbc	**PKPbc**	**23 09 26.8 +0.2**	
	12nm,1.0s,SNR=5.6							
RETA	**Reutte**	**151.59**	**87**	⇑*i*	PKPbc	**PKPbc**	**23 09 26.9 -0.2**	
	16nm,1.5s,SNR=5.1							
MOTA	**Moosalm**	**151.71**	**88**	⇑*i*	PKPbc	**PKPbc**	**23 09 27.8 +0.3**	
	7.6nm,0.8s,SNR=5.7							
GERES	**GERESS Array B**	**153.98**	**87**		PKPbc	**PKPbc**	**23 09 32.1 -0.3**	
GERES					PKPab	**PKPab**	**23 09 45.6 -0.3**	
GERES	**GERESS Array B**	**153.98**	**87**		PKPbc	**PKPbc**	**23 09 32.1 -0.3**	
	1.2nm,0.8s,baz=191,slow=1.4,SNR=8.0							
GERES					PKPab	**PKPab**	**23 09 45.6 -0.3**	
	0.4nm,0.7s,baz=204,slow=2.9,SNR=3.9							
BRTR	**Keskin Array B**	**158.72**	**128**		PKP	**PKPdf**	**23 09 31.2 +0.3**	
BRTR					PKPab	**PKPab**	**23 10 06.2 -0.3**	
BRTR	**Keskin Array B**	**158.72**	**128**		PKP	**PKPdf**	**23 09 31.3 +0.3**	
	1.0nm,1.0s,baz=158,slow=4.7,SNR=3.0							
BRTR					PKPab	**PKPab**	**23 10 06.2 -0.3**	
	1.2nm,0.9s,baz=168,slow=6.3,SNR=4.7							
MKAR	**Makanchi Array**	**161.06**	**254**		PKPab	**PKPab**	**23 10 16.0 -0.5**	
MKAR					PP	**PP**	**23 13 59.0 -1.1**	
MKAR	**Makanchi Array**	**161.06**	**254**		PKPab	**PKPab**	**23 10 16.0 -0.5**	
	1.9nm,0.6s,baz=126,slow=4.7,SNR=22							
MKAR					PP	**PP**	**23 13 59.0 -1.1**	
	0.9nm,0.9s,baz=122,slow=5.9,SNR=6.4							
ZALV	**Zalesovo Beam**	**162.90**	**277**		PKPab	**PKPab**	**23 10 23.6 -0.6**	
ZALV	**Zalesovo Beam**	**162.90**	**277**		PKPab	**PKPab**	**23 10 23.6 -0.6**	
	0.9nm,0.5s,baz=106,slow=4.8,SNR=6.3							
AKASG	**Malin Array Be**	**163.70**	**96**		PKP	**PKPdf**	**23 09 35.4 -0.2**	
AKASG					PKPab	**PKPab**	**23 10 27.5 -0.4**	
AKASG	**Malin Array Be**	**163.70**	**96**		PKP	**PKPdf**	**23 09 35.4 -0.2**	
	0.2nm,0.3s,baz=228,slow=1.8,SNR=4.0							
AKASG					PKPab	**PKPab**	**23 10 27.5 -0.4**	
	0.3nm,0.4s,baz=246,slow=6.3,SNR=4.3							
BVAR	**Borovoye Array**	**170.82**	**261**		PKP	**PKPdf**	**23 09 40.4 -0.4**	
BVAR					PKPab	**PKPab**	**23 10 58.5 -0.8**	
BVAR	**Borovoye Array**	**170.82**	**261**		PKP	**PKPdf**	**23 09 40.4 -0.4**	
	0.2nm,0.4s,baz=163,slow=1.5,SNR=2.9							
BVAR					PKPab	**PKPab**	**23 10 58.5 -0.8**	
	1.1nm,0.8s,baz=103,slow=4.7,SNR=6.7							

*ISCJB **21** 23:25:08.1±0.8, 5°.9S±0°.1×150°.0E±0°.1, h52km, mb3.7/2, Error ellipse: s-maj=18.2km s-min=9.6km az=44.5*
*AUST **21** 23:25:09.3±0.8, 5°.85S×150°.16E, h56km, Error ellipse: s-maj=1.7km s-min=1.0km az=313.0*
*IDC **21** 23:25:10.9±7.5, 6°.07S×150°.25E, h75km±57km, mb3.7/3, mb1 4.0/4, mb1mx3.5/18, mbtmp3.9/4, ML3.9/1, Error ellipse: s-maj=59.1km s-min=48.7km az=115.0*
ISC 21 23:25:09.4±0.9, 5°.8S±0°.1×150°.1E±0°.1, h52km, n16, σ1§40/17, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.64**	**52**	P		**Pn**	**23 25 50.7 +1.2**	
	baz=2.6,SNR=12							
PMG	**Port Moresby**	**4.58**	**219**	P		**Pn**	**23 26 17.8 +1.6**	
	38nm,0.3s,baz=36,slow=4.2,SNR=61							
PMG					S	**Sn**	**23 27 07.8 -0.4**	
	37nm,0.3s,baz=123,slow=21,SNR=9.4							
COEN	**Coen**	**10.55**	**220**	P		**Pn**	**23 27 38.6 +0.5**	
	baz=11,SNR=9.3							
KDU	**Kakadu**	**18.66**	**247**	P		**P**	**23 29 23.3 +0.1**	
	baz=19,SNR=24							
EIDS	**Eidsvold**	**19.45**	**177**	P		**P**	**23 29 31.8 0.0**	
	baz=20,SNR=6.7							
MTN	**Mason Dam**	**19.94**	**248**	P		**P**	**23 29 37.7 +0.4**	
	baz=20,SNR=5.1							
RMQ	**Roma**	**20.58**	**183**	P		**P**	**23 29 44.8 +0.7**	
	baz=21,SNR=9.3							
WRA	**Warramunga Arr**	**20.76**	**226**	P		**P**	**23 29 46.4 +0.3**	
	2.5nm,0.4s,baz=51,slow=10,SNR=29							
QLP	**Quilpie**	**21.38**	**194**	P		**P**	**23 29 52.5 -0.1**	
	baz=22,SNR=3.8							
KNRA	**Kununurra**	**23.09**	**243**	P		**P**	**23 30 12.8 +1.8**	
	baz=23,SNR=4.1							
ASAR	**Alice Springs**	**23.60**	**220**	P		**P**	**23 30 15.8 0.0**	
	1.2nm,0.5s,baz=55,slow=8.6,SNR=13							
STKA	**Stephens Creek**	**27.10**	**196**	P		**P**	**23 30 44.1 -3.3**	
	3.1nm,0.8s,baz=36,slow=14,SNR=4.8							
LUWI	**Luwuk**	**27.67**	**279**	P		**P**	**23 30 51.6 -1.2**	
	baz=28,SNR=5.7							
MEEK	**Meekatharra**	**36.43**	**232**	P		**P**	**23 32 09.3 -0.1**	
	baz=36,SNR=4.5							
TORD	**Torodi Ar. Bea**	**148.01**	**285**	PKPbc		**PKPdf**	**23 44 48.3 +1.2**	
	0.5nm,0.3s,baz=96,slow=2.7,SNR=34							
BDFB	**Brasilia**	**152.13**	**140**	PKPbc		**PKPbc**	**23 44 58.0 -2.3**	
	2.8nm,0.6s,baz=258,slow=1.1,SNR=4.7							

*IDC **21** 23:38:49.1±12.0, 12°.50S×167°.19E, h160km±108km, mb3.5/7, mb1 3.7/7, mb1mx3.5/20, mbtmp3.5/7, Error ellipse: s-maj=41.8km s-min=27.3km az=82.0*
*ISCJB **21** 23:38:54.9±1.2, 12°.5S±0°.2×166°.9E±0°.2, h220km, mb3.5/7, Error ellipse: s-maj=36.3km s-min=22.9km az=32.1*
ISC 21 23:38:55.8±1.1, 12°.6S±0°.2×167°.1E±0°.2, h220km, n10, σ1§13/12, mb3.6/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**30.32**	**227**	P		**P**	**23 44 48.0 +1.1**	
	0.7nm,0.3s,baz=38,slow=11,SNR=5.3							
WRA	**Warramunga Arr**	**32.25**	**253**	P		**P**	**23 45 02.8 -1.2**	
	0.4nm,0.6s,baz=82,slow=8.7,SNR=10							
ASAR	**Alice Springs**	**33.35**	**246**	P		**P**	**23 45 11.9 -1.6**	
	0.5nm,0.6s,baz=70,slow=9.2,SNR=5.9							
CMAR	**Chiang Mai Arr**	**73.92**	**294**	P		**P**	**23 50 08.2 +0.8**	
	0.5nm,0.4s,baz=129,slow=3.3,SNR=5.3							
QSPA	**South Pole Qui**	**77.46**	**180**	P		**P**	**23 50 27.3 +0.5**	
	0.7nm,0.6s							
SONM	**Songino Array**	**80.66**	**323**	P		**P**	**23 50 45.1 +0.8**	
	0.4nm,0.6s,baz=147,slow=6.2,SNR=4.7							
ILAR	**Eielson Array**	**84.52**	**18**	P		**P**	**23 51 02.9 -0.8**	
	1.9nm,0.6s,baz=244,slow=5.1,SNR=30							
ARCES	**ARCESS Array B**	**118.11**	**346**	PKP		**PKPdf**	**23 57 15.8 -0.2**	
	3.9nm,0.9s,baz=27,slow=3.9,SNR=8.4							
ESDC	**Sonseca Array**	**151.85**	**345**	PKPbc		**PKPbc**	**23 58 25.1 +0.2**	
	0.2nm,0.4s,baz=60,slow=2.8,SNR=2.6							
ESDC				PKPab		**PKPab**	**23 58 35.6 +0.9**	
	0.1nm,0.3s,baz=360,slow=5.6,SNR=4.6							
TORD	**Torodi Ar. Bea**	**165.75**	**274**	PKP		**PKPdf**	**23 58 33.4 -1.8**	
	0.2nm,0.9s,baz=17,slow=1.5,SNR=4.0							
TORD				PKPab		**PKPab**	**23 59 35.7 -0.1**	
	0.7nm,1.1s,baz=89,slow=4.2,SNR=2.4							

IDC 21 23:42:30.8±26.0, 21°.59S×173°.08W, h0km, mb4.3/4, mb1 4.5/4, mb1mx4.0/20, mbtmp4.3/4, Error ellipse: s-maj=487.9km s-min=156.0km az=75.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.96**	**265**	P		P	23 49 51.2	+0.7
	10nm,0.3s,baz=95,slow=11,SNR=20							
STKA	**Stephens Creek**	**41.50**	**246**	P		P	23 50 18.2	-1.7
	1.0nm,0.6s,baz=69,slow=11,SNR=3.9							
ASAR	**Alice Springs**	**48.75**	**257**	P		P	23 51 17.6	-0.1
	1.2nm,0.5s,baz=97,slow=7.1,SNR=18							
WRA	**Warramunga Arr**	**49.00**	**262**	P		P	23 51 19.8	+0.1
	1.5nm,0.3s,baz=94,slow=8.3,SNR=154							

*BJI **21** 23:44:34.5, 84°.00N×112°.10E, h10km, mB4.9/1, mb4.4/3*
*ISCJB **21** 23:44:35.5±0.3, 84°.00N±0°.05×112°.4E±0°.4, h10km, mb4.3/56, MS3.7/30, Error ellipse: s-maj=6.9km s-min=5.5km az=154.8*
*IDC **21** 23:44:35.6±0.5, 83°.95N×112°.49E, h0km, mb4.0/25, mb1 4.2/25, mb1mx4.1/35, mbtmp4.1/25, MS3.7/24, Ms1 3.7/24, ms1mx3.6/40, Error ellipse: s-maj=15.4km s-min=11.6km az=143.0*
*MOS **21** 23:44:36.3±1.2, 83°.96N×112°.22E, h15km, mb4.4/40, Error ellipse: s-maj=52.5km s-min=7.7km az=88.7*
*NEIC **21** 23:44:36.9±0.3, 83°.97N×112°.57E, h10km, mb4.5/13, Error ellipse: s-maj=8.0km s-min=5.1km az=147.0*
ISC 21 23:44:37.2±0.5, 84°.07N±0°.07×112°.14E±0°.06, h10km, n134, σ1§20/137, mb4.4/56, MS3.6/30, 10C-7D, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TIXI	**Tiksi**	**12.86**	**156**	⇓*i*	P	**Pn**	**23 47 40.6 +0.9**	
TIXI					pmax	pmax		
	comp=Z,3.0nm,0.8s							
TIXI					MLR	MLR		
	comp=Z,177nm,21.0s							
SPITS	**Spitsbergen Ar**	**13.82**	**301**		Pn	**Pn**	**23 47 50.1 -2.6**	
SPITS	**Spitsbergen Ar**	**13.82**	**301**		Pn	**Pn**	**23 47 50.1 -2.6**	
	baz=58,slow=14,SNR=3.7							
RES	**Resolute Bay**	**20.90**	**20**	P		Pn	23 49 21.9	+0.3
	comp=Z,3.1nm,1.0s,baz=349,slow=10,SNR=2.6							
RES					LR	LR	23 58 12.1	
	comp=Z,176nm,20.6s,baz=26,slow=39							
ARCES	**ARCESS Array B**	**21.06**	**282**	P		**P**	**23 49 22.2 +1.3**	
ARCES	**ARCESS Array B**	**21.06**	**282**	P		**P**	**23 49 22.2 +1.3**	
	comp=Z,8.6nm,0.8s,baz=20,slow=9.0,SNR=7.4							
ARCES					LR	LR	23 57 50.3	
	comp=Z,92nm,18.8s,baz=96,slow=38							
LVZ	**Lovozero**	**21.70**	**272**	*i* P		**P**	**23 49 29.6 +1.8**	
LVZ					pmax	pmax		
	comp=Z,41nm,1.0s							
YAK	**Yakutsk**	**22.50**	**158**	*e*P		**P**	**23 49 37.5 +1.2**	
JMIC	**Jan Mayen**	**22.74**	**313**	LR		LR	23 56 48.8	
	comp=Z,74nm,20.0s,baz=271,slow=32							
SUMG	**Summit**	**22.91**	**338**	*e*P		**P**	**23 49 42.2 +1.1**	
SUMG					pmax	pmax		
	comp=Z,8.0nm,1.0s							
SUMG	**Summit**	**22.91**	**338**	*e*P		**P**	**23 49 42.2 +1.1**	
	comp=Z,7.5nm,1.0s							
SEY	**Seymchan**	**22.97**	**131**	*i* P		**P**	**23 49 42.8 +1.5**	
INK	**Inuvik**	**24.86**	**54**	P		**P**	**23 49 59.3 +0.1**	
INK	**Inuvik**	**24.86**	**54**	P		**P**	**23 49 59.8 +0.6**	
	comp=Z,3.8nm,1.0s,baz=4.7,slow=16,SNR=5.7

HVS	**Khovu-Aksy**	**33.44**	**201**⇑	*eP*		**P**	**23 51 16.4**	**+0.7**	
HVS				pmax	pmax				
	comp=Z,24nm,1.5s								
ZAK	**Zakamensk**	**33.92**	**190**	*eP*		**P**	**23 51 20.2**	**+0.2**	
ZAK				pmax	pmax				
	comp=Z,3.0nm,1.7s								
OBN	**Obninsk**	**34.01**	**264**	*eP*		P	23 51 22.5	+2.0	
OBN				*e*			23 53 56.9		
OBN				pmax	pmax				
	comp=Z,35nm,2.5s								
OBN				MLR	MLR				
	comp=Z,100nm,18.0s								
KURK	**Kurchatov**	**34.63**	**218**	P		**P**	**23 51 25.9**	**0.0**	
KURK							23 52 46.6		
KURK							23 53 59.6		
KURK				pmax	pmax				
	comp=Z,4.0nm,1.1s								
KURK	**Kurchatov**	**34.63**	**218**	P		**P**	**23 51 25.9**	**0.0**	
KURK				PP		**PP**	**23 52 46.6**	**+2.4**	
KURK				PcP		**PcP**	**23 53 59.6**	**-0.2**	
KURBB	**Kurchatov Arra**	**34.73**	**218**	P		**P**	**23 51 25.9**	**-0.9**	
	comp=Z,0.4nm,0.3s,baz=20,slow=7.3,SNR=5.9								
KURBB				PP		**PP**	**23 52 46.6**	**+1.3**	
	comp=Z,3.9nm,1.1s,baz=14,slow=11,SNR=6.7								
KURBB				PcP		**PcP**	**23 53 59.6**	**-0.5**	
	comp=Z,0.2nm,0.5s,baz=3.9,slow=3.9,SNR=4.3								
FX1	**Attu Island--F**	**34.75**	**112**	LR		LR	00 07 52.5		
	comp=Z,91nm,18.4s,baz=269,slow=40								
SONM	**Songino Array**	**36.42**	**187**	P		**P**	**23 51 41.9**	**+0.4**	
SONM				PcP		**PcP**	**23 54 04.5**	**-0.8**	
SONM	**Songino Array**	**36.42**	**187**	P		**P**	**23 51 41.9**	**+0.4**	
	comp=Z,2.6nm,1.1s,baz=351,slow=9.1,SNR=10								
SONM				PcP		**PcP**	**23 54 04.5**	**-0.8**	
	comp=Z,0.8nm,0.8s,baz=55,slow=3.0,SNR=4.0								
SONM				LR		LR	00 07 08.7		
	comp=Z,75nm,18.6s,baz=310,slow=37								
AKTO	**Aktyubinsk**	**36.52**	**241**	P		**P**	**23 51 40.2**	**-2.0**	
AKTO				pmax	pmax				
	comp=Z,6.0nm,1.1s								
AKTO				MLR	MLR				
	comp=Z,218nm,18.8s								
AKTO	**Aktyubinsk**	**36.52**	**241**	P		**P**	**23 51 40.2**	**-2.0**	
AKTO	**Aktyubinsk**	**36.52**	**241**	P		**P**	**23 51 40.2**	**-2.0**	
	comp=Z,5.6nm,1.1s,baz=15,slow=11,SNR=6.4								
AKTO				LR		LR	00 08 11.1		
	comp=Z,218nm,18.8s,baz=8.4,slow=39								
VRHR	**Novokhopersk**	**37.46**	**258**	*eP*		**P**	**23 51 50.0**	**-0.1**	
VRHR				pmax	pmax				
	comp=N,8.0nm,0.7s								
VRHR				pmax	pmax				
	comp=E,9.0nm,0.7s								
VRHR				pmax	pmax				
	comp=Z,8.0nm,0.7s								
ABKAR	**Akbulak array**	**37.52**	**238**	*eP*		**P**	**23 51 49.8**	**-0.9**	
	comp=Z,5.3nm,1.2s								
VORD	**Divnogorie**	**37.82**	**260**	*eP*		**P**	**23 51 52.2**	**-1.0**	
VORD				pmax	pmax				
	comp=E,10.0nm,1.2s								
VORD				pmax	pmax				
	comp=Z,10.0nm,1.2s								
MK31	**Makanchi Array**	**38.31**	**213**	*eP*		**P**	**23 51 55.5**	**-2.0**	
MK31				*e*			23 53 23.5		
MK31	**Makanchi Array**	**38.31**	**213**	*eP*		**P**	**23 51 55.5**	**-2.0**	
MK31				*e*PP		**PP**	**23 53 23.4**	**-1.4**	
MKAR	**Makanchi Array**	**38.31**	**213**	P		**P**	**23 51 56.1**	**-1.4**	
MKAR							23 53 26.7		
MKAR				pmax	pmax				
	comp=Z,2.0nm,0.7s								
MKAR				pmax	pmax				
	comp=Z,2.0nm,1.0s								
MKAR				MLR	MLR				
	comp=Z,149nm,18.6s								
MKAR	**Makanchi Array**	**38.31**	**213**	*eP*		**P**	**23 51 56.4**	**-1.1**	
MKAR				pmax	pmax				
	comp=Z,2.0nm,0.7s								
MKAR	**Makanchi Array**	**38.31**	**213**	P		**P**	**23 51 56.1**	**-1.4**	
MKAR				PP		**PnPn**	**23 53 26.7**	**+0.2**	
MKAR	**Makanchi Array**	**38.31**	**213**	P		**P**	**23 51 56.1**	**-1.4**	
	comp=Z,1.5nm,0.7s,baz=9.9,slow=7.8,SNR=19								
MKAR				PP		**PnPn**	**23 53 26.7**	**+0.2**	
	comp=Z,1.9nm,1.0s,baz=15,slow=10.0,SNR=4.0								
MKAR				LR		LR	00 08 47.9		
	comp=Z,149nm,18.6s,baz=351,slow=38								
AKASG	**Malin Array Be**	**39.13**	**270**	P		**P**	**23 52 03.4**	**-0.8**	
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.4s								
AKASG	**Malin Array Be**	**39.13**	**270**	P		**P**	**23 52 03.4**	**-0.8**	
AKASG	**Malin Array Be**	**39.13**	**270**	P		**P**	**23 52 03.4**	**-0.8**	
	comp=Z,0.5nm,0.4s,baz=10,slow=8.4,SNR=7.0								
CLL	**Collm**	**40.19**	**286**	*eP*		**P**	**23 52 14.0**	**+1.0**	
KSP	**Ksiaz**	**40.32**	**283**	*eP*		**P**	**23 52 14.6**	**+0.5**	
USRK	**Ussuriysk Arra**	**40.42**	**158**	LR		LR	00 09 03.7		
	comp=Z,108nm,18.4s,baz=245,slow=36								
LVV	**L'vov**	**40.54**	**275**	*eP*		P	23 52 07.0	-8.9	
KWP	**Kalwaria Pacla**	**40.86**	**276**	*eP*		**P**	**23 52 18.8**	**+0.2**	
KWP				pmax	pmax				
	comp=Z,20nm,1.0s								
KWP	**Kalwaria Pacla**	**40.86**	**276**	*eP*		**P**	**23 52 18.8**	**+0.2**	
	comp=Z,20nm,1.0s								
STHS	**Stebnicka Huta**	**41.22**	**278**	*eP*		**P**	**23 52 22.8**	**+1.2**	
STHS				pmax	pmax				
	comp=Z,11nm,0.9s								
STHS	**Stebnicka Huta**	**41.22**	**278**	*eP*		**P**	**23 52 22.8**	**+1.2**	
MORC	**Moravsky Berou**	**41.25**	**281**	⇓P		**P**	**23 52 22.2**	**+0.4**	
MORC	**Moravsky Berou**	**41.25**	**281**	⇓*i*P		**P**	**23 52 22.2**	**+0.4**	
KOLS	**Kolonicke sedl**	**41.60**	**277**	*eP*		**P**	**23 52 25.3**	**+0.6**	
KOLS				pmax	pmax				
	comp=Z,7.0nm,1.2s								
KOLS	**Kolonicke sedl**	**41.60**	**277**	*eP*		**P**	**23 52 25.3**	**+0.6**	
UZH	**Uzhgorod**	**41.89**	**277**	*eP*		**P**	**23 52 28.1**	**+1.1**	
UZH				*e*			23 52 32.5		
GRF	**Grafenberg Arr**	**41.97**	**288**	*eP*		**P**	**23 52 29.1**	**+1.4**	
GRF				pmax	pmax				
	comp=Z,45nm,1.5s								
GRF				MLR	MLR				
	comp=Z,100nm,18.3s								
GRF	**Grafenberg Arr**	**41.97**	**288**	*eP*		**P**	**23 52 29.1**	**+1.4**	
	comp=Z,45nm,1.5s								
GRF				*e*L		L	00 09 12.4		
	comp=Z,102nm,18.3s								
GERES	**GERESS Array B**	**42.56**	**285**	P		**P**	**23 52 33.2**	**+0.6**	
GERES	**GERESS Array B**	**42.56**	**285**	P		**P**	**23 52 33.2**	**+0.6**	
	comp=Z,2.3nm,0.8s,baz=10,slow=8.1,SNR=15								
BURAR	**Bucovina Array**	**42.59**	**273**	⇓P		**P**	**23 52 33.4**	**+0.5**	
BURAR	**Bucovina Array**	**42.59**	**273**	⇓*i*P		**P**	**23 52 33.4**	**+0.5**	
AAK	**Ala-Archa**	**42.95**	**221**	*eP*		**P**	**23 52 35.5**	**-0.5**	
AAK				*e*			23 54 13.5		
AAK				pmax	pmax				
	comp=Z,11nm,1.5s								
AAK	**Ala-Archa**	**42.95**	**221**	*eP*		**P**	**23 52 35.5**	**-0.5**	
	comp=Z,11nm,1.5s								
AAK				*e*PP		**PP**	**23 54 13.5**	**-1.9**	
AAK	**Ala-Archa**	**42.95**	**221**	P		**P**	**23 52 36.6**	**+0.7**	
	comp=Z,0.5nm,0.3s,baz=58,slow=5.5,SNR=5.8								
AAK				LR		LR	00 12 36.8		
	comp=Z,145nm,19.2s,baz=17,slow=39								
TESR	**Tescani**	**43.54**	**272**	⇓*i*P		**P**	**23 52 40.8**	**+0.4**	
DRGR		**43.67**	**276**	⇑P		**P**	**23 52 42.5**	**+0.9**	
DRGR		**43.67**	**276**	⇑*i*P		**P**	**23 52 42.5**	**+0.9**	
VRI	**Vrincioaia**	**44.17**	**272**	⇑P		**P**	**23 52 47.1**	**+1.6**	
VRI	**Vrincioaia**	**44.17**	**272**	⇑*i*P		**P**	**23 52 47.1**	**+1.6**	
KIV	**Kislovodsk**	**44.41**	**255**	*eP*		**P**	**23 52 48.5**	**+0.9**	
KIV				pmax	pmax				
	comp=Z,11nm,1.1s								
KIV				MLR	MLR				
	comp=Z,67nm,16.0s								
KBZ	**Khabaz**	**44.62**	**255**	P		**P**	**23 52 50.2**	**+1.1**	
KBZ				pmax	pmax				
	comp=Z,2.0nm,0.9s								
KBZ				MLR	MLR				
	comp=Z,67nm,19.5s								
KBZ	**Khabaz**	**44.62**	**255**	P		**P**	**23 52 50.1**	**+1.1**	
KBZ	**Khabaz**	**44.62**	**255**	P		**P**	**23 52 50.1**	**+1.1**	
	comp=Z,2.0nm,0.9s,baz=67,slow=5.9,SNR=4.1								
KBZ				LR		LR	00 14 23.2		
	comp=Z,67nm,19.5s,baz=13,slow=40								
MLR	**Muntele Rosu**	**44.62**	**272**	⇑*i*P		P	23 52 51.3	+2.0	
ARR	**Arges**	**44.88**	**274**	⇑*i*P		**P**	**23 52 51.6**	**+0.3**	
GZR	**Gura Zlata**	**45.05**	**275**	⇑P		**P**	**23 52 53.6**	**+1.0**	
GZR	**Gura Zlata**	**45.05**	**275**	⇑*i*P		**P**	**23 52 53.6**	**+1.0**	
ULM	**Lac du Bonnet**	**45.28**	**25**	LR		LR	00 12 12.5		
	comp=Z,77nm,18.5s,baz=14,slow=36								
KSRS	**Korea Array**	**47.01**	**163**	LR		LR	00 15 22.6		
	comp=Z,48nm,19.2s,baz=15,slow=39								
GNI	**Garni**	**47.98**	**252**	LR		LR	00 15 12.7		
	comp=Z,31nm,19.5s,baz=196,slow=38								
LAO	**LASA Array**	**48.30**	**35**	*eP*		**P**	**23 53 16.8**	**-1.3**	
	comp=Z,11nm,0.9s								
MJAR	**Matsushiro Arr**	**48.33**	**152**	P		**P**	**23 53 16.3**	**-2.0**	
MJAR	**Matsushiro Arr**	**48.33**	**152**	P		**P**	**23 53 16.3**	**-2.0**	
	comp=Z,1.6nm,0.7s,baz=346,slow=9.7,SNR=4.1								
MJA0	**Matsu Arr-Jizo**	**48.33**	**152**	*eP*		**P**	**23 53 18.4**	**0.0**	
MJA0				pmax	pmax				
	comp=Z,2.0nm,0.7s								
GCMT	**Greycliff**	**48.98**	**38**	*eP*		**P**	**23 53 23.3**	**-0.1**	
	comp=Z,5.9nm,1.0s								
BOZ	**Bozeman (W)**	**48.99**	**40**	*eP*		**P**	**23 53 23.5**	**0.0**	
BOZ				pmax	pmax				
	comp=Z,7.0nm,1.2s								
BOZ	**Bozeman (W)**	**48.99**	**40**	*eP*		**P**	**23 53 23.5**	**0.0**	
	comp=Z,7.3nm,1.2s								
BR131	**Keskin Array S**	**49.53**	**263**	*eP*		**P**	**23 53 27.9**	**+0.2**	
	comp=Z,1.6nm,0.7s								
BRTR	**Keskin Array B**	**49.53**	**263**	P		**P**	**23 53 28.7**	**+1.1**	
BRTR				PP		**PP**	**23 55 23.4**	**+1.9**	
BRTR	**Keskin Array B**	**49.53**	**263**	P		**P**	**23 53 28.7**	**+1.1**	
	comp=Z,2.2nm,0.8s,baz=15,slow=5.1,SNR=9.2								
BRTR				PP		**PP**	**23 55 23.4**	**+1.9**	
	comp=Z,1.0nm,0.9s,baz=35,slow=6.8,SNR=3.7								
BRTR				LR		LR	00 17 57.9		
	comp=Z,46nm,19.5s,baz=46,slow=40								
MCMT	**McKenzie Canyo**	**49.73**	**41**	*eP*		**P**	**23 53 29.8**	**+0.6**	
	comp=Z,3.1nm,1.2s								
MCMT				*e*PcP		**PcP**	**23 54 49.8**	**-0.3**	
RSSD	**Black Hills**	**50.98**	**33**	*eP*		**P**	**23 53 38.8**	**+0.1**	
RSSD				pmax	pmax				
	comp=Z,13nm,0.9s								
RSSD	**Black Hills**	**50.98**	**33**	*eP*		**P**	**23 53 38.8**	**+0.1**	
	comp=Z,13nm,0.9s								
PDAR	**Pinedale Array**	**52.00**	**38**	P		**P**	**23 53 46.4**	**+0.1**	
PDAR	**Pinedale Array**	**52.00**	**38**	P		**P**	**23 53 46.4**	**+0.1**	
	comp=Z,0.6nm,0.7s,baz=24,slow=3.6,SNR=5.0								
PDAR				LR		LR	00 17 57.0		
	comp=Z,102nm,18.1s,baz=336,slow=38								
ESDC	**Sonseca Array**	**53.34**	**300**	P		**P**	**23 53 56.3**	**+0.2**	
ESDC	**Sonseca Array**	**53.34**	**300**	P		**P**	**23 53 56.3**	**+0.2**	
	comp=Z,0.3nm,0.3s,baz=0.7,slow=7.3,SNR=4.1								
NVAR	**Mina Array Bea**	**55.69**	**47**	LR		LR	00 20 04.8		
	comp=Z,23nm,18.4s,baz=327,slow=38								
KEST	**Kesra**	**55.98**	**287**	*eP*		**P**	**23 54 14.4**	**-0.9**	
KEST	**Kesra**	**55.98**	**287**	P		**P**	**23 54 16.3**	**+1.0**	
	comp=Z,2.5nm,0.8s,baz=312,slow=8.6,SNR=7.7								
PV01	**Paradox Valley**	**56.67**	**38**	*eP*		**P**	**23 54 20.7**	**+0.3**	
	comp=Z,1μm,1.1s								
ANMO	**Albuquerque**	**59.98**	**36**	*eP*		**P**	**23 54 43.1**	**-0.3**	
	comp=Z,7.5nm,1.4s								
ANMO	**Albuquerque**	**59.98**	**36**	P		**P**	**23 54 42.9**	**-0.6**	
	comp=Z,1.7nm,0.9s,baz=28,slow=6.0,SNR=5.0								
TXAR	**Lajitas Array**	**65.72**	**34**	P		**P**	**23 55 21.3**	**-0.4**	
TXAR	**Lajitas Array**	**65.72**	**34**	P		**P**	**23 55 21.3**	**-0.4**	
	comp=Z,1.7nm,0.9s,baz=352,slow=3.3,SNR=10								
TXAR				LR		LR	00 23 27.2		
	comp=Z,118nm,21.8s,baz=80,slow=35								
CMAR	**Chiang Mai Arr**	**65.85**	**194**	P		**P**	**23 55 21.2**	**-1.3**	
CMAR	**Chiang Mai Arr**	**65.85**	**194**	P		**P**	**23 55 21.2**	**-1.3**	
	comp=Z,1.6nm,0.3s,baz=351,slow=7.4,SNR=11								
CMAR				LR		LR	00 25 42.0		
	comp=Z,124nm,18.3s,baz=158,slow=38								
TORD	**Torodi Ar. Bea**	**79.08**	**292**	P		**P**	**23 56 40.8**	**-0.5**	
TORD	**Torodi Ar. Bea**	**79.08**	**292**	P		**P**	**23 56 40.8**	**-0.5**	
	comp=Z,1.8nm,0.7s,baz=357,slow=6.0,SNR=10								

*IDC **21** 23:51:04.1±1.4,6°.36S×102°.16E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.8/24, mbtmp3.9/9, Error ellipse: s-maj=63.3km s-min=17.2km az=52.0*
*ISCJB **21** 23:51:07.0±0.7,6°.36S±0°.06×102°.18E±0°.06, h33km, mb3.9/9, Error ellipse: s-maj=10.3km s-min=8.0km az=41.7*
*DJA **21** 23:51:09.2±1.9,6°.5S±10°×10°.2E±2°.3, h14km±36km, M4.3/8, mb4.5/3, mB5.3/1, MLv4.2/8, Mw(mB)4.7/1*
*AUST **21** 23:51:10.8±12.0,7°.24S×102°.42E, h0km, Error ellipse: s-maj=2.9km s-min=1.2km az=338.0*

ISC 21 23:51:09.6±1.0,**6°.27S**±0°.09×**102°.2E**±0°.1,**h35**km,**n29,**
σ0§**87**/25,**mb3.9/9,Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**2.03**	**21**	P	**Pn**	**23 51 40.8**	**-0.6**
MNAI	**Manna**	**2.03**	**21**	P	**Pn**	**23 51 40.7**	**-0.6**
	baz=2.9,SNR=22						
LWLI	**Liwa**	**2.21**	**56**	P	**Pn**	**23 51 43.7**	**-0.3**
KASI	**Kota Agung**	**2.38**	**72**	P	**Pn**	**23 51 45.6**	**-0.6**
MDSI	**Maura Dua**	**2.63**	**48**	P	**Pn**	**23 51 49.9**	**+0.2**
MDSI				S	**Sn**	**23 52 20.8**	**+0.4**
LHSI	**Lahat**	**2.75**	**28**	P	**Pn**	**23 51 51.3**	**0.0**
DBJI	**Dramaga**	**4.51**	**94**	P	**Pn**	**23 52 15.7**	**+0.2**
CBJI	**Citeko**	**4.61**	**92**	P	**Pn**	**23 52 19.2**	**+2.4**
XMI	**Christmas Isla**	**5.39**	**141**	P	Pn	23 52 20.9	-6.7
	baz=4.6,SNR=3.5						
XMIS	**Christmas Isla**	**5.39**	**141**	P	Pn	23 52 20.6	-7.0
	baz=4.6,SNR=24						
LEM	**Lembang**	**5.39**	**96**	P	**Pn**	**23 52 30.1**	**+2.3**
	baz=5.2,SNR=3.0						
CISI	**Cisompet, Garu**	**5.70**	**103**	P	**Pn**	**23 52 31.7**	**-0.2**
	baz=5.4,SNR=4.4						
KPJI	**Karang Pucung**	**6.75**	**99**	P	**Pn**	**23 52 47.2**	**+0.9**
	22nm,0.8s,0.1nm						
UGM	**Wanagama**	**8.40**	**102**	P	**Pn**	**23 53 08.7**	**-0.3**
	baz=8.1,SNR=3.8						
PCJI	**Pacitan**	**9.09**	**103**	P	**Pn**	**23 53 18.0**	**-0.4**
	49nm,1.2s,1μm						
PWJI	**Pagerwojo**	**9.67**	**101**	P	**Pn**	**23 53 25.6**	**-0.8**
CMAR	**Chiang Mai Arr**	**24.78**	**353**	P	**P**	**23 56 28.9**	**+0.5**
	2.4nm,0.3s,baz=188,slow=8.4,SNR=14						
H08S2	**Diego Garcia H**	**29.53**	**266**	T	T	00 28 08.2	
	baz=88,slow=0.7,SNR=58						
H08S3	**Diego Garcia H**	**29.54**	**266**	T	T	00 28 09.8	
	baz=88,slow=0.7,SNR=44						
H08S1	**Diego Garcia H**	**29.55**	**266**	T	T	00 28 13.8	
	baz=88,slow=0.7,SNR=59						
WRA	**Warramunga Arr**	**34.02**	**117**	P	**P**	**23 57 49.5**	**-1.1**
	0.4nm,0.7s,baz=298,slow=8.1,SNR=6.1						
ASAR	**Alice Springs**	**35.03**	**123**	P	**P**	**23 57 58.9**	**-0.4**
	0.5nm,0.5s,baz=297,slow=8.0,SNR=8.0						
STKA	**Stephens Creek**	**44.70**	**130**	P	**P**	**23 59 18.9**	**-0.6**
	1.2nm,0.7s,baz=292,slow=8.9,SNR=3.6						
SONM	**Songino Array**	**54.00**	**3**	P	**P**	**00 00 31.0**	**+0.7**
	2.2nm,0.6s,baz=182,slow=9.0,SNR=23						
MKAR	**Makanchi Array**	**55.71**	**344**	P	**P**	**00 00 43.0**	**+0.3**
	0.9nm,0.6s,baz=149,slow=8.6,SNR=11						
KURBB	**Kurchatov Arra**	**60.25**	**343**	P	**P**	**00 01 14.1**	**-0.2**
	0.2nm,0.4s,baz=164,slow=7.2,SNR=3.4						
ZALV	**Zalesovo Beam**	**61.76**	**348**	P	**P**	**00 01 24.3**	**-0.2**
	0.8nm,0.4s,baz=158,slow=4.8,SNR=5.6						
BRTR	**Keskin Array B**	**77.82**	**313**	P	**P**	**00 03 04.2**	**+0.3**
	0.5nm,0.6s,baz=93,slow=4.1,SNR=3.5						
TXAR	**Lajitas Array**	**146.49**	**44**	PKPbc	**PKPab**	**00 10 48.9**	**-0.1**
	0.5nm,0.7s,baz=310,slow=1.8,SNR=4.7						

*ISCJB **21** 23:51:26.2±0.8,46°.8N±0°.1×152°.6E±0°.2, h67km, mb3.6/11, Error ellipse: s-maj=22.5km s-min=12.0km az=144.8*
*IDC **21** 23:51:26.8±0.8,46°.80N×152°.63E, h59km±5km, mb3.5/12, mb1 3.7/14, mb1mx3.6/27, mbtmp3.5/14, MS2.9/2, Ms1 2.9/2, ms1mx2.5/27, Error ellipse: s-maj=21.6km s-min=16.8km az=141.0*

ISC 21 23:51:27.4±0.8,**46°.8N**±0°.1×**152°.7E**±0°.1,**h67**km,**n26,**
σ1§**14**/21,**mb3.6**/11,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**7.09**	**25**	P	**Pn**	**23 53 09.2**	**+0.9**
	0.2nm,0.3s,baz=177,slow=13,SNR=4.7						
USRK	**Ussuriysk Arra**	**14.76**	**267**	P	**Pn**	**23 54 52.9**	**+0.7**
	0.1nm,0.3s,baz=89,slow=14,SNR=4.3						
USRK				LR	LR	00 00 34.4	
	comp=Z,32nm,18.1s,baz=26,slow=37						
KSRS	**Korea Array**	**20.54**	**252**	P	**P**	**23 56 00.6**	**+0.4**
	1.5nm,0.8s,baz=56,slow=10.0,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**29.39**	**152**	T	T	00 28 45.7	
	baz=342,slow=0.7,SNR=640						
H11N1	**WAKE ISLAND Hy**	**29.40**	**152**	T	T	00 29 17.1	
	baz=342,slow=0.7,SNR=499						
H11N3	**WAKE ISLAND Hy**	**29.41**	**152**	T	T	00 28 52.9	
	baz=342,slow=0.7,SNR=471						
H11S1	**WAKE ISLAND Hy**	**30.47**	**153**	T	T	00 30 17.4	
	baz=345						
H11S3	**WAKE ISLAND Hy**	**30.48**	**153**	T	T	00 30 12.1	
	baz=345						
H11S2	**WAKE ISLAND Hy**	**30.49**	**153**	T	T	00 30 11.3	
	baz=345						
ZALV	**Zalesovo Beam**	**42.36**	**306**	PcP	**PcP**	**00 01 08.2**	**+1.5**
	0.3nm,0.4s,baz=70,slow=4.7,SNR=2.6						
ZALV				LR	LR	00 18 42.1	
	comp=Z,23nm,18.8s,baz=145,slow=39						
MKAR	**Makanchi Array**	**46.67**	**297**	P	**P**	**23 59 48.4**	**-0.7**
	0.2nm,0.4s,baz=58,slow=6.9,SNR=8.8						
KURBB	**Kurchatov Arra**	**47.20**	**303**	P	**P**	**23 59 52.0**	**-1.1**
	0.2nm,0.3s,baz=72,slow=8.0,SNR=5.3						
CMAR	**Chiang Mai Arr**	**52.11**	**256**	P	**P**	**00 00 31.2**	**+0.4**
	0.6nm,0.3s,baz=38,slow=8.2,SNR=5.3						
NVAR	**Mina Array Bea**	**62.66**	**62**	pP	pP	00 02 02.0	-0.8
	0.4nm,0.5s,baz=303,slow=7.7,SNR=3.8						
FINES	**FINESS Array B**	**63.88**	**335**	P	**P**	**00 01 52.6**	**+0.2**
	1.0nm,0.4s,baz=34,slow=7.4,SNR=15						
FINES				pP	**pP**	**00 02 08.7**	**-1.4**
	0.9nm,0.4s,baz=60,slow=4.6,SNR=1.8						
PDAR	**Pinedale Array**	**64.95**	**54**	P	**P**	**00 02 00.6**	**+0.6**
	0.5nm,0.7s,baz=270,slow=1.5,SNR=3.6						
PDAR				pP	**pP**	**00 02 15.8**	**-1.9**
	0.2nm,0.4s,baz=98,slow=40,SNR=2.8						
NB2	**NORSAR Subarra**	**68.09**	**341**	P	**P**	**00 02 20.2**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**68.09**	**341**	P	**P**	**00 02 20.4**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=26,slow=6.4,SNR=6.6						
HFS	**Hagfors**	**68.32**	**339**	P	**P**	**00 02 21.5**	**+0.6**
	comp=Z,1.9nm,0.5s,baz=62,slow=6.9,SNR=19						
HFS				sP	**sP**	**00 02 44.6**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=50,slow=2.3,SNR=1.4						
AKASG	**Malin Array Be**	**71.35**	**326**	P	**P**	**00 02 38.8**	**-0.9**
	comp=Z,1.5nm,0.4s,baz=40,slow=7.6,SNR=4.9						
ASAR	**Alice Springs**	**72.16**	**198**	P	**P**	**00 02 44.7**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=15,slow=4.4,SNR=5.2						
ASAR				pP	**PcP**	**00 03 01.7**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=12,slow=5.4,SNR=2.3						
TXAR	**Lajitas Array**	**77.71**	**60**	P	**P**	**00 03 18.7**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=318,slow=3.5,SNR=3.8						
TXAR				pP	**pP**	**00 03 33.5**	**-1.7**
	comp=Z,1.0nm,0.5s,baz=295,slow=4.1,SNR=11						
GERES	**GERESS Array B**	**78.29**	**334**	P	**P**	**00 03 20.6**	**+0.7**
	comp=Z,0.1nm,0.4s,baz=13,slow=8.6,SNR=3.5						
H03N2	**Juan Fernandez**	**139.03**	**90**	T	T	02 46 13.2	
	baz=306,slow=0.7,SNR=9.5						
H03N1	**Juan Fernandez**	**139.05**	**90**	T	T	02 46 10.3	
	baz=306,slow=0.7,SNR=13						
H03N3	**Juan Fernandez**	**139.05**	**90**	T	T	02 46 11.6	
	baz=306,slow=0.7,SNR=9.6						

IDC 22 00:11:26.4±7.0,**26°.96S×177°.96W, h0km, mb3.6**/2,
mb1 3.8/2, **mb1mx3.5**/14, **mbtmp3.6**/2, **Error ellipse:**
s-maj=235.2km s-min=114.3km az=159.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.44**	**263**	P	P	00 19 30.5	-0.9
	0.2nm,0.3s,baz=107,slow=7.2,SNR=3.9						
WRA	**Warramunga Arr**	**44.11**	**269**	P	P	00 19 37.4	+0.5
	0.3nm,0.3s,baz=108,slow=8.0,SNR=22						
FINES	**FINESS Array B**	**141.93**	**341**	PKP	PKPdf	00 30 58.9	-0.8
	2.9nm,0.4s,baz=56,slow=3.4,SNR=38						

*IDC **22** 00:21:50.0±2.6, 7°.26S×107°.80E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/22, mbtmp3.8/3, Error ellipse: s-maj=142.9km s-min=26.1km az=52.0*
*DJA **22** 00:21:54.7±1.4, 8°.5S±5°×10°.7E±°, h15km±13km, M4.1/10, M

SNJE	San Jose	2.94	297	eS	Sn	00 35 16.0 +0.1	229A	Bryant Ranch, baz=24,SNR=7.7	23.69	327	⇑P	P	00 38 48.6 +0.6	R30A	Dighton baz=28,SNR=7.3	28.25	337	⇑P	P	00 39 29.4 +0.4
SBLS	San Blas	2.94	296⇑	eP	Pn	00 34 39.4 +0.4	427A	Hayter Ranch, baz=24	23.74	323	⇓P	P	00 38 49.3 +0.7	S28A	Manter baz=28	28.30	334	⇓P	P	00 39 29.9 +0.5
SBLS				eS	Sn	00 35 15.8 -0.2	130A	Snyder baz=24	23.75	329	⇑P	P	00 38 49.0 +0.4	V24A	Rampart Ranch, baz=28	28.41	327	⇑P	P	00 39 31.4 +0.8
JTS	JuntasAbangare	2.95	140	eP	Pn	00 34 39.9 +0.9	328A	Wristen Ranch, baz=24,SNR=14	23.79	324	⇓P	P	00 38 49.9 +0.9	P33A	Williams Farm, baz=29	28.42	342	⇑P	P	00 39 31.3 +0.9
JTS				S	Sn	00 35 14.1 -1.7	Z31A	Sharp Cattle R baz=24,SNR=25	23.95	332	⇓P	P	00 38 51.4 +1.1	W23A	Werner Place, baz=28,SNR=8.2	28.46	325	⇓P	P	00 39 32.3 +1.2
JTS	JuntasAbangare	2.95	140	P	Pn	00 34 39.3 +0.4	426A	McDonald Obser baz=24,SNR=6.1	23.99	321	⇑P	P	00 38 51.7 +0.7	ANMO	Albuquerque	28.48	325	eP	P	00 39 32.5 +1.3
	comp=Z,56nm,0.3s,baz=318,slow=10,SNR=106						CNNC	Cliffs of the comp=Z,29nm,0.8s	24.01	18	eP	P	00 38 52.6 +1.8	ANMO	Albuquerque	28.48	325	P	P	00 39 33.0 +1.8
JTS				S	Sn	00 35 14.1 -1.7	TZTN	Tazewell comp=Z,29nm,0.8s	24.07	7	eP	P	00 38 52.8 +1.4		comp=Z,2.8nm,0.6s,baz=139,slow=6.3,SNR=12					
	comp=Z,166nm,0.3s,baz=127,slow=20,SNR=15						Y32A	R-V Farms, Ver baz=24,SNR=14	24.21	334	⇑P	P	00 38 53.7 +1.0	X22A	Bernardo baz=28	28.48	323	⇑P	P	00 39 32.5 +1.4
RTR	El Retiro	2.99	297	eP	Pn	00 34 39.8 +0.3	228A	UT Block 9, Go baz=24,SNR=5.9	24.22	326	⇑P	P	00 38 53.5 +0.5	U25A	Circle Dot Ran baz=29	28.49	329	⇑P	P	00 39 32.5 +1.3
RBDL	Robledal	3.12	300⇑	eP	Pn	00 34 41.8 +0.6	129A	Stewart Farms, baz=24	24.23	328	⇑P	P	00 38 53.4 +0.4	Z20A	Nine Sixteen R baz=28	28.49	319	⇑P	P	00 39 32.8 +1.5
JCR	Jicaral	3.21	147⇓	eP	Pn	00 34 43.6 +1.4	PBMO	Poplar Bluff comp=Z,11nm,0.7s	24.32	353	eP	P	00 38 53.8 +0.2	Y21A	Point of Rocks baz=29	28.52	322	⇑P	P	00 39 33.3 +1.6
MRL	Marmol	3.68	313	eP	Pn	00 34 50.7 +2.5	Z30A	Sanderson Ranc baz=24,SNR=14	24.39	330	⇓P	P	00 38 54.3 0.0	Q31A	Ellis baz=29	28.58	339	⇑P	P	00 39 32.6 +0.8
MRL				eS	Sn	00 35 52.7 +20	326A	Caldwell Ranch baz=24,SNR=5.1	24.42	323	⇑P	P	00 38 55.3 +0.6	W22A	Albuquerque baz=29	28.80	324	⇓P	P	00 39 35.8 +1.8
IXG	Ixpaco	3.82	295	eP	Pn	00 34 51.0 +1.1	Y31A	Rekieta Farm, baz=25,SNR=17	24.54	332	⇓P	P	00 38 56.8 +1.2	Q30A	Quinter baz=29	28.84	338	⇓P	P	00 39 34.5 +0.3
IXG				eS	Sn	00 35 36.0 +0.5	128A	Castleberry Fa baz=25,SNR=7.1	24.55	327	⇓P	P	00 38 56.3 +0.4	MVL	Millersville comp=Z,11nm,0.7s	28.87	17	eP	P	00 39 36.2 +1.9
NBG	Las Nubes	3.91	301	eP	Pn	00 34 53.6 +2.3	WMOK	Wichita Mounta comp=Z,61nm,1.1s	24.57	336	eP	P	00 38 55.6 -0.3	P32A	Huiting Farm, baz=29,SNR=6.7	28.87	341	⇓P	P	00 39 34.6 +0.2
PCG	Pacaya	4.04	297	eP	Pn	00 34 54.9 +1.9	TUL1	Tulsa	24.59	342	eP	P	00 38 56.3 +0.2	Y20A	Horse Springs, baz=29,SNR=5.4	28.88	321	⇑P	P	00 39 36.4 +1.5
QCR	Quepos	4.11	139	eP	Pn	00 34 55.1 +1.5	TUL1	Tulsa	24.59	342	⇑P	P	00 38 55.7 -0.5	R28A	Tribune baz=29	28.91	335	⇑P	P	00 39 35.3 +0.5
QCR				eS	Sn	00 35 42.5 +0.3		baz=25,SNR=7.9						V23A	Ortiz Mt. (NFS baz=29	28.91	326	⇓P	P	00 39 36.0 +1.0
APG	El Apazote	4.23	305	P	Pn	00 34 56.1 +0.8	MLG	Mont-d'or	24.64	79	eP	P	00 38 57.3 +0.4	Q29A	Oakley baz=29	29.05	337	⇑P	P	00 39 36.4 +0.4
APG				S	Sn	00 35 44.2 -1.0	HMG	Houelmont	24.65	79	eP	P	00 38 57.6 +0.7	SSPA	Standing Stone comp=Z,16nm,0.6s	29.07	14	eP	P	00 39 36.7 +0.7
APG	El Apazote	4.23	305	P	Pn	00 34 56.1 +0.8	Z29A	Hungry Hill Ra baz=25,SNR=7.9	24.65	329	⇑P	P	00 38 57.2 +0.4	T25A	Trinidad baz=29	29.07	330	⇑P	P	00 39 37.8 +1.4
	comp=Z,7.9nm,0.3s,baz=127,slow=8.8,SNR=120						GRGR	Grenville	24.66	88	P	P	00 38 58.1 +1.1	R27A	Eads baz=29	29.27	334	⇓P	P	00 39 38.3 +0.2
APG				S	Sn	00 35 44.2 -1.0	425A	Indio Mountain baz=25,SNR=8.1	24.66	320	⇓P	P	00 38 57.6 +0.6	U23A	El Rito baz=29,SNR=15	29.35	327	⇓P	P	00 39 39.7 +0.7
	comp=Z,4.1nm,0.3s,baz=36,slow=11,SNR=8.7						FNG	Fond-Bernard	24.67	79	eP	P	00 38 57.5 +0.4	O32A	Brockman Farm, baz=30	29.36	342	⇑P	P	00 39 39.3 +0.6
FUG	Fuego 3	4.27	296	eP	Pn	00 34 57.6 +1.8	SSG	Sans Toucher	24.68	79	eP	P	00 38 57.5 +0.2	P30A	Selden baz=30	29.36	339	⇑P	P	00 39 39.3 +0.5
FUG				eS	Sn	00 35 47.2 +1.2	ECG	Echelle	24.70	79	eP	P	00 38 57.6 +0.1	X20A	Quemado baz=29	29.39	322	⇓P	P	00 39 40.4 +1.1
BUS	Buena Vista	4.29	134	eP	Pn	00 34 58.8 +2.4	ANWB	Willy Bob comp=Z,51nm,0.8s	24.76	75	eP	P	00 38 56.3 -1.4	V22A	San Miguel Ran baz=30	29.43	326	⇑P	P	00 39 40.9 +1.2
BUS				eS	Sn	00 35 48.9 +1.9	Y30A	Stafford Cattl baz=25	24.76	331	⇓P	P	00 38 58.5 +0.7	O31A	Woolen Ranch, baz=30	29.59	340	⇓P	P	00 39 41.6 +0.8
JAT	Jato	4.93	291	eP	Pn	00 35 05.8 +1.6	SEG	Port Louis	24.87	78	eP	P	00 38 58.9 +0.1	P29A	Atwood baz=30	29.66	338	⇓P	P	00 39 42.5 +1.1
BCIP	Isla Barro Col	7.71	115	ePn	Pn	00 35 42.6 +1.6	X31A	McDonald Ranch baz=25,SNR=22	24.98	334	⇓P	P	00 39 00.5 +0.9	U22A	Llaves baz=30	29.74	326	⇑P	P	00 39 44.0 +1.6
TEIG	Tepich	7.74	350	ePn	Pn	00 35 42.6 +1.4	Z28A	Tucker Farm, M baz=25,SNR=10	25.02	328	⇑P	P	00 39 01.0 +0.9	V21A	Milan baz=30	29.76	325	⇓P	P	00 39 44.4 +1.8
ROSC	El Rosal	14.58	121	ePn	P	00 37 12.2 -0.2	325A	Bean Ranch, Si baz=25,SNR=6.7	25.06	321	⇑P	P	00 39 01.1 +0.5	N32A	Stulken Farm, baz=30	29.82	342	⇑P	P	00 39 43.5 +0.7
ROSC	El Rosal	14.58	121	P	Pn	00 37 10.3 -0.2	127A	Arkansas Junct baz=25	25.07	326	⇑P	P	00 39 01.5 +0.9	R25A	Fountain Ranch baz=30	29.82	332	⇑P	P	00 39 43.9 +0.9
	comp=Z,1.4nm,0.3s,baz=112,slow=21,SNR=12						226B	Tecolote Peak, baz=25,SNR=11	25.08	324	⇓P	P	00 39 01.7 +1.0	O30A	MW Ranch, Wils baz=30	29.86	339	⇓P	P	00 39 44.1 +0.9
OTAV	Otavalo	14.84	145	ePn	P	00 37 15.1 -0.1	Y29A	Porterfield Fa baz=25,SNR=12	25.12	330	⇓P	P	00 39 01.8 +0.8	S24A	Houchin Ranch, baz=30	29.86	330	⇓P	P	00 39 45.0 +1.5
SDDR	Presa de Saban comp=Z,19nm,0.8s	16.32	65	ePn	Pn	00 37 32.7 +1.4	X30A	Coker Ranch, T baz=25,SNR=22	25.22	332	⇓P	P	00 39 02.8 +0.9	P28A	Saint Francis baz=30	29.94	337	⇑P	P	00 39 44.9 +1.0
SDV	Santo Domingo comp=Z,119nm,1.2s	16.39	101	eP	Pn	00 37 33.4 +1.0	BLA	Blacksburg comp=Z,17nm,0.8s	25.22	12	eP	P	00 39 03.2 +1.4	ERPA	Erie	30.05	10	eP	P	00 39 45.9 +1.1
TIGA	Tifton baz=19,SNR=12	19.03	9	eP	Pn	00 38 02.6 -0.8	VWCC	Virginia Weste	25.35	13	eP	P	00 39 04.5 +1.5	O29A	4D Ranch, Culb baz=30	30.07	338	⇓P	P	00 39 46.0 +1.0
TIGA	Tifton	19.03	9	⇑P	Pn	00 38 03.3 -0.1	126A	Clayton Basin, baz=26,SNR=6.0	25.41	325	⇓P	P	00 39 04.5 +0.8	U21A	Nageezi baz=30	30.22	325	⇑P	P	00 39 48.0 +1.4
HKT	Hockley comp=Z,30nm,1.3s	19.19	336	eP	Pn	00 38 04.4 -0.6	324A	Moseley Ranch, baz=26,SNR=9.7	25.42	321	⇑P	P	00 39 04.3 +0.4	V20A	Brimhall baz=30	30.23	324	⇓P	P	00 39 48.2 +1.5
CRPR	Cabo Rojo, PR comp=Z,42nm,0.9s	19.83	72	eP	Pn	00 38 12.6 -0.3	W31A	Holland Ranch, baz=26	25.44	334	⇑P	P	00 39 04.5 +0.6	P27A	Ficken Ranch, baz=30	30.25	335	⇑P	P	00 39 47.6 +0.8
MPR	Mayaguez comp=Z,34nm,0.8s	19.85	71	eP	Pn	00 38 12.2 -1.0	Y28A	McKinney Farm, baz=26	25.44	329	⇓P	P	00 39 04.2 +0.3	X18A	Snowflake baz=30	30.27	320	⇓P	P	00 39 48.6 +1.5
LSP	Las Mesas	19.89	71	eP	P	00 38 11.9 +1.8	Z27A	Tatum baz=26,SNR=6.6	25.48	327	⇑P	P	00 39 04.2 -0.1	BGNE	Belgrade	30.38	343	eP	P	00 39 48.1 +0.4
LRS	Lares	20.14	71	eP	P	00 38 14.1 +1.3	225A	Deer Hill, Car baz=26,SNR=7.1	25.49	323	⇓P	P	00 39 05.8 +1.3	BGNE	Belgrade baz=30,SNR=5.8	30.38	343	⇓P	P	00 39 48.1 +0.4
732A	Laxson Ranch, baz=20,SNR=9.9	20.18	325	⇑P	P	00 38 13.8 +0.7	X29A	Tulia baz=26,SNR=12	25.61	331	⇓P	P	00 39 06.7 +1.3	W18A	Petrified Fore baz=31	30.52	321	⇑P	P	00 39 50.5 +1.2
AOPR	Arecibo Observ comp=Z,44nm,0.6s	20.24	71	eP	Pn	00 38 16.8 -1.1	MSTX	Muleshoe	25.75	328	eP	P	00 39 06.9 +0.1	M31A	Lambtecht Ranc baz=31	30.56	342	⇑P	P	00 39 50.2 +0.9
OBIP	Obispado Ponce comp=Z,30nm,0.8s	20.31	72	eP	P	00 38 16.6 +2.0	MSTX	Muleshoe baz=26,SNR=6.6	25.75	328	⇑P	P	00 39 06.8 0.0	T21A	Navajo Lake baz=31	30.57	326	⇓P	P	00 39 51.0 +1.4
CELP	Cerrillos	20.34	72	eP	P	00 38 16.7 +1.8	125A	Garrard Draw, baz=26,SNR=10	25.79	324	⇑P	P	00 39 07.7 +0.6	R23A	Moffat baz=31,SNR=5.2	30.59	330	⇑P	P	00 39 50.9 +1.0
LRAL	Lakeview Retre comp=Z,32nm,0.9s	20.38	360	eP	P	00 38 15.7 +0.5	Z26A	Caprock baz=26	25.86	326	⇑P	P	00 39 08.1 +0.4	U20A	Newcomb baz=31	30.67	324	⇑P	P	00 39 51.5 +1.0
NATX	Nacogdoches comp=Z,17nm,0.6s	20.40	341	eP	P	00 38 16.3 +0.9	224A	Cornudas Mount baz=26,SNR=7.4	25.88	322	⇑P	P	00 39 08.5 +0.4	N28A	Pribbeno Ranch baz=31	30.83	338	⇓P	P	00 39 52.3 +0.5
GOGA	Godfrey comp=Z,70nm,0.8s	20.99	8	eP	P	00 38 23.4 +1.7	X28A	Dimmitt baz=26	25.90	330	⇑P	P	00 39 08.5 +0.4	Q24A	Divide baz=31	30.88	332	⇓P	P	00 39 52.8 +0.3
HUMP	Col San Antoni comp=Z,36nm,0.7s	21.03	72	eP	P	00 38 24.2 +1.9	AMTX	Amarillo comp=Z,36nm,1.3s	25.95	331	eP	P	00 39 09.2 +0.7	P25A	Willow Gulch B baz=31	30.89	333	⇓P	P	00 39 53.4 +1.0
631A	Perdido Creek baz=21,SNR=10	21.04	325	⇓P	P	00 38 22.1 -0.2	AMTX	Amarillo baz=26	25.95	331	⇓P	P	00 39 08.9 +0.4	M30A	Dale-Ortello V baz=31	31.02	341	⇑P	P	00 39 53.8 +0.5
CBYP	Canovanas comp=Z,57nm,0.8s	21.05	72	eP	P	00 38 23.3 +0.7	W29A	Amraillo baz=26	26.13	332	⇑P	P	00 39 10.9 +0.8	R22A	Saguache, Gunn baz=31,SNR=5.9	31.09	329	⇓P	P	00 39 54.4 +0.1
532A	Rocksprings baz=21,SNR=9.3	21.23	327	⇓P	P	00 38 24.6 +0.2	Z25A	Roswell baz=26,SNR=6.7	26.28	325	⇑P	P	00 39 12.5 +1.0	O26A	Horse Wrangler baz=31	31.13	335	⇑P	P	00 39 55.2 +0.7
MTP	Monte Pirata comp=Z,75nm,0.7s	21.30	72	eP	P	00 38 25.4 +0.3	124A	Stringfield Ra baz=26,SNR=10	26.28	323	⇑P	P	00 39 12.8 +1.1	X16A	Lo Mia Camp, P baz=31,SNR=8.0	31.15	318	⇑P	P	00 39 55.8 +1.1
ATAH	Atahualpa	21.32	156	P	P	00 38 27.1 +1.3	JSRW	J. Sargeant Re	26.29	16	eP	P	00 39 13.0 +1.6	MVCO	Mesa Verde baz=31	31.25	325	⇑P	P	00 39 56.7 +1.0
ATAH	Atahualpa	21.32	156	P	P	00 38 27.1 +1.3	Z24A	Sheeppen Canyo baz=27	26.68	324	⇑P	P	00 39 16.0 +0.8	L31A	Butterfield Fa baz=31	31.28	343	⇓P	P	00 39 56.2 +0.6
	comp=Z,7.3nm,0.5s,baz=347,slow=1.9,SNR=5.7						Y25A	Mesa, Roswell baz=27	26.74	326	⇓P	P	00 39 16.6 +0.9	L30A	Spencer Herefo baz=32	31.34	341	⇓P	P	00 39 57.3 +1.1
JCT	Junction City comp=Z,14nm,0.8s	21.46	328	eP	P	00 38 26.4 -0.4	X26A	CR and CF Fran baz=27	26.74	328	⇑P	P	00 39 16.3 +0.6	O25A	Wiggins baz=32	31.36	334	⇓P	P	00 39 57.5 +1.0
JCT	Junction City baz=22,SNR=7.1	21.46	328	⇑P	P	00 38 26.0 -0.8	W27A	Bowe Ranch, En baz=27,SNR=11	26.77	330	⇓P	P	00 39 16.9 +1.0	M28A	Bar X Bar Ranc baz=32	31.39	339	⇑P	P	00 39 57.7 +1.0
531A	Rocksprings baz=22	21.61	326	⇓P	P	00 38 28.2 -0.2	U30A	WK&E Inc. Balk baz=27	26.88	335	⇑P	P	00 39 17.6 +0.8	P23A	Jefferson baz=32	31.53	331	⇑P	P	00 39 59.6 +1.4
WHTX	Lake Whitney baz=22,SNR=8.4	21.64	335	⇑P	P	00 38 28.4 -0.2	CBN	Corbin comp=Z,44nm,0.5s	26.91	17	eP	P	00 39 17.6 +0.7	R21A	Cimarron baz=32	31.60	328	⇓P	P	00 39 59.6 +0.9
432A	Menard baz=22,SNR=5.3	21.77	329	⇓P	P	00 38 30.1 0.0	V28A	Channing baz=27	26.92	332	⇓P	P	00 39 18.1 +0.9	S20A	Disappointment baz=32	31.63	326	⇑P	P	00 40 00.5 +1.5
STVI	Saint Thomas comp=Z,112nm,0.7s	21.91	72	eP	P	00 38 32.6 +1.1	T31A	Randall Ranch, baz=27	26.99	337	⇑P	P	00 39 18.2 +0.5	Q22A	Crested Butte, baz=32	31.65	329	⇑P	P	00 40 00.1 +0.9
CDVI	St. Croix comp=Z,98nm,0.7s	21.97	74	eP	P	00 38 33.5 +1.4	Z23A	Rita Site, Whi baz=27,SNR=5.6	27.14	323	⇑P	P	00 39 20.6 +1.4	L29A	Maesberg Ranch baz=32	31.68	341	⇓P	P	00 40 00.0 +0.8
OXF	Oxford comp=Z,50nm,0.9s	21.97	354	eP	P	00 38 32.1 +0.1	Y24A	Capitan baz=27,SNR=8.6	27.16	325	⇓P	P	00 39 20.6 +1.2	ISCO	Idaho Springs baz=32	31.77	332	⇑P	P	00 40 01.0 +0.8
530A	J-C Ranch, Com baz=22,SNR=9.0	22.03	325	⇓P	P	00 38 32.8 +0.1	X25A	Clemmons Ranch baz=27	27.18	327	⇑P	P	00 39 20.7 +1.1	WUAZ	Wupatki baz=32,SNR=8.3	31.80	320	⇑P	P	00 40 01.5 +1.1
431A	Sonora baz=22,SNR=14	22.04	327	⇑P	P	00 38 32.8 0.0	V27A	Dan Oppiter Fa baz=27	27.21	331	⇓P	P	00 39 20.5 +0.7	SAML	Samuel comp=Z,1.5nm,0.5s	31.81	131	eP	P	00 39 59.1 -1.4
332A	Millersview baz=22,SNR=28	22.16	330	⇑P	P	00 38 33.8 -0.1	S32A	Newby Ranch, P baz=27	27.25	339	⇓P	P	00 39 21.0 +1.0	M27A	Reverse DX Ran baz=32	31.88	338	⇑P	P	00 40 02.1 +1.1
331A	San Angelo baz=22,SNR=29	22.44	328	⇑P	P	00 38 36.8 +0.1	320A	Kipp Ranch, An baz=27	27.32	317	⇑P	P	00 39 22.3 +1.4	Y14A	Wickenburg baz=32	31.90	316	⇓P	P	00 40 02.6 +1.4
628A	Black Gap, Mar baz=22	22.46	321	⇓P	P	00 38 37.4 +0.6	Y23A	Lovelace Mesa, baz=28,SNR=9.3	27.51	324	⇓P	P	00 39 23.8 +1.2	R20A	Redvale baz=32	31.90	327	⇓P	P	00 40 01.8 +0.5
430A	Baggett Ranch, baz=22	22.46	326	⇓P	P	00 38 37.3 +0.5	W25A	X Bar L Ranch, baz=28,SNR=6.5	27.60	328	⇑P	P	00 39 24.1 +0.8	SMCO	Snowmass comp=Z,8.5nm,1.4s	31.92	330	eP	P	00 40 02.8 +1.1
529A	Stev Forest Ra baz=23	22.52	323	⇑P	P	00 38 37.9 +0.6	121A	Cookes Peak, D baz=28	27.60	319	⇑P	P	00 39 24.8 +1.4	K30A	Basset baz=32,SNR=14	31.97	342	⇓P	P	00 40 01.8 +0.1
232A	Coleman baz=23,SNR=30	22.53	331	⇓P	P	00 38 38.0 +0.6	220A	Playas Peak, P baz=28	27.67	318	⇑P	P	00 39 25.2 +1.2	P22A	Eagle baz=32	32.14	330	⇑P	P	00 40 04.5 +1.0
SWET	Sewanee comp=Z,58nm,1.2s	22.57	2	eP	P	00 38 38.8 +1.0	V26A	Tequesquite Ra baz=28,SNR=6.2	27.70	329	⇓P	P	00 39 24.8 +0.6	ECSD	EROS Data Cent comp=Z,28nm,1.3s	32.17	347	eP	P	00 40 02.5 -0.9
UALR	University of comp=Z,51nm,1.4s	22.66	348	eP	P	00 38 39.1 +0.6	U27A	Thompson Grove baz=28	27.75	332	⇑P	P	00 39 25.4 +0.8	TRY	Troy	32.18	18	eP	P	00 40 05.4 +2.1
429A	Davenport Ranc baz=23,SNR=14	22.70	325	⇓P	P	00 38 39.8 +0.8	S30A	Montezuma baz=28	27.76	336	⇑P	P	00 39 25.2 +0.6	PV05	Paradox Valley	32.21	326	eP	P	00 40 05.3 +1.3
MIAR	Mount Ida comp=Z,20nm,0.6s	22.71	346	eP	P	00 38 39.6 +0.6	ACSO	Alum Creek Sta	27.78	6	eP	P	00 39 25.5 +0.9	K29A	Lazy Trails An baz=32,SNR=18	32.26	341	⇓P	P	00 40 05.3 +1.1
627A	Terlingua Ranc baz=23,SNR=9.2	22.74	320	⇓P	P	00 38 40.3 +0.8	KSU1	Kansas State U comp=Z,30nm,1.0s	27.80	344	eP	P	00 39 24.7 -0.1	N24A	Carr baz=32	32.28	334	⇓P	P	00 40 05.7 +1.2
TXAR	Lajitas Array	22.84	320	P	P	00 38 41.2 +0.9	319A	Douglas baz=28	27.85	316	⇓P	P	00 39 26.8 +1.2	P21A	Newcastle baz=32	32.43	330	⇑P	P	00 40 06.6 +0.7
TXAR				pP	pP	00 39 12.4 +1.4	R31A	Burdett baz=28	27.98	338	⇑P	P	00 39 27.1 +0.5	O22A	Kremmling baz=33	32.49	331	⇑P	P	00 40 07.1 +0.5
TXAR				PcP	PcP	00 42 26.3 +0.3	T28A	Walsh baz=28	28.00	333	⇓P	P	00 39 27.0 +0.2	J30A	Dallas baz=33,SNR=12	32.53	343	⇓P	P	00 40 06.6 +0.1
TXAR				ScP	ScP	00 45 48.7 +0.5	Y22A	Socorro baz=28,SNR=5.8	28.05	323	⇓P	P	00 39 28.5 +1.2	K28A	Ten Mile Ranch baz=33	32.56	340	⇑P	P	00 40 07.9 +1.1
TXAR	Lajitas Array	22.84	320	P	P	00 38 41.2 +0.9	X23A	Hourglass Bar baz=28	28.06	325	⇑P	P	00 39 28.8 +1.3	ACCN	Adirondack Com comp=Z,9.1nm,0.9s	32.77	18	eP	P	00 40 09.4 +0.9
	comp=Z,6.4nm,0.7s,baz=140,slow=9.9,SNR=69						W24A	Lazy 6 Ranch, baz=28	28.09	326	⇑P	P	00 39 29.0 +1.2	M24A	Cheyenne	32.78	335	⇑P	P	00 40 09.9 +0.9
TXAR				pP	pP	00 39 12.4 +1.4	120A	U Bar Ranch, L baz=28	28.15	318	⇓P	P	00 39 29.8 +1.5							
	comp=Z,3.1nm,1.1s,baz=128,slow=10,SNR=2.7						V25A	Rancho No Teng baz=28	28.16	328	⇓P	P	00 39 29.4 +1.0							
TXAR				PcP	PcP	00 42 26.3 +0.3	SDMD	Soldier's Deli comp=Z,22nm,0.7s	28.18	17	eP	P	00 39 29.9 +1.7							
	comp=Z,0.9nm,0.9s,baz=150,slow=5.8,SNR=4.1																			
TXAR				ScP	ScP	00 45 48.7 +0.5														
	comp=Z,0.4nm,0.5s,baz=147,slow=6.8,SNR=9.5																			
528A	Cox Ranch, San baz=23,SNR=7.7	22.88	322	⇓P	P	00 38 41.7 +1.0														
CPCT	Cooper Cave	22.89	5	eP	P	00 38 42.4 +1.7														
231A	Bronte baz=23,SNR=7.0	22.89	330	⇓P	P	00 38 40.9 +0.2														
330A	Mertzon baz=23,SNR=7.8	22.91	327	⇓P	P	00 38 41.5 +0.5														
KMSC	Kings Mountain	23.04	12	eP	P	00 38 43.8 +1.8														
KMSC	Kings Mountain baz=23,SNR=18	23.04	12	⇑P	P	00 38 44.0 +2.0														
ABTX	Abilene, Hawle	23.14	332	eP	P	00 38 43.5 +0.5														
ABTX	Abilene, Hawle baz=23,SNR=10	23.14	332	⇑P	P	00 38 43.6 +0.7														
TKL	Tuckaleechee C	23.17	6	eP	P	00 38 44.9 +1.7														
TKL	Tuckaleechee C	23.17	6	P	P	00 38 43.3 +0.2														
	comp=Z,39nm,0.8s,baz=179,slow=10,SNR=35																			
428A	Kincaid Ranch, baz=23	23.23	324	⇑P	P	00 38 44.6 +0.7														
230A	Sterling City baz=23,SNR=7.5	23.26	328	⇑P	P	00 38 44.4 +0.4														
626A	Big Bend Ranch baz=23,SNR=13	23.28	319	⇓P	P	00 38 45.6 +1.2														
527A	Woodward Ranch baz=23,SNR=6.6	23.37	321	⇓P	P	00 38 46.0 +0.8														
329A	Wagon Wheel Ra baz=24,SNR=17	23.41	326	⇑P	P	00 38 46.2 +0.7														
WVT	Waverly comp=Z,6.8nm,0.7s	23.48	358	eP	P	00 38 46.2 +0.2														
131A	Roby baz=24,SNR=8.0	23.53	330	⇓P	P	00 38 47.2 +0.6														
526A	Mary Lane Ranc baz=24,SNR=6.0	23.60	320	⇓P	P	00 38 48.4 +1.0														
Z32A	Haskell baz=24,SNR=30	23.64	333	⇓P	P	00 38 48.4 +0.9														

	baz=33							
N23A	**Red Feather La**	**32.80**	**333**	⇑P		**P**	**00 40 09.8**	**+0.6**
	baz=33							
K27A	**Flueckinger Fa**	**32.85**	**339**	⇓P		**P**	**00 40 10.7**	**+1.3**
	baz=33							
J29A	**Okreek**	**32.85**	**342**	⇓P		**P**	**00 40 09.9**	**+0.6**
	baz=33,SNR=39							
PDMCI	**Parker Dam,Lak**	**32.88**	**316**	⇓P		**P**	**00 40 10.4**	**+0.8**
	baz=33							
P20A	**De Beque**	**32.88**	**329**	⇓P		**P**	**00 40 11.0**	**+1.2**
	baz=33,SNR=6.2							
PHWY	**Pilot Hill**	**32.92**	**334**	*e*P		**P**	**00 40 11.3**	**+1.1**
SPMN	**St. Paul**	**32.94**	**352**	*e*P		**P**	**00 40 09.2**	**-0.8**
SPMN	**St. Paul**	**32.94**	**352**	⇑P		**P**	**00 40 09.5**	**-0.5**
	baz=33,SNR=11							
U15A	**North Rim**	**32.95**	**321**	⇑P		**P**	**00 40 11.9**	**+1.3**
	baz=33							
I30A	**Oaconna**	**33.05**	**343**	⇑P		**P**	**00 40 11.1**	**+0.1**
	baz=33,SNR=9.8							
NCB	**Newcomb**	**33.14**	**17**	*e*P		**P**	**00 40 12.7**	**+0.9**
	comp=Z,23nm,1.4s							
J28A	**Allard Ranch,**	**33.15**	**341**	⇓P		**P**	**00 40 12.7**	**+0.7**
	baz=33,SNR=11							
W13A	**Hualapai Mount**	**33.16**	**317**	⇑P		**P**	**00 40 13.2**	**+0.8**
	baz=33							
M23A	**Laramie**	**33.17**	**334**	⇓P		**P**	**00 40 13.1**	**+0.8**
	baz=33							
J27A	**Elkhorn Farm,**	**33.25**	**340**	⇓P		**P**	**00 40 14.3**	**+1.4**
	baz=33,SNR=5.8							
O20A	**White River Ci**	**33.28**	**329**	⇑P		**P**	**00 40 14.3**	**+1.0**
	baz=33							
K25A	**Mack Ranch, Ha**	**33.37**	**337**	⇑P		**P**	**00 40 14.1**	**+0.1**
	baz=34							
I29A	**Vivian Onida**	**33.40**	**342**	⇓P		**P**	**00 40 14.4**	**+0.3**
	baz=34,SNR=11							
BRSD	**Miller**	**33.41**	**344**	*e*P		**P**	**00 40 13.5**	**-0.6**
BRSD	**Miller**	**33.41**	**344**	⇓P		**P**	**00 40 13.9**	**-0.3**
	baz=34,SNR=7.3							
BC3	**Big Chuckawall**	**33.43**	**314**	⇓P		**P**	**00 40 15.9**	**+1.3**
	baz=34							
HNH	**Hanover**	**33.49**	**19**	*e*P		**P**	**00 40 16.9**	**+2.1**
LONY	**Lake Ozonia**	**33.64**	**16**	*e*P		**P**	**00 40 16.9**	**+0.7**
	comp=Z,29nm,1.0s							
I28A	**Midland**	**33.65**	**341**	⇑P		**P**	**00 40 16.4**	**+0.2**
	baz=34,SNR=10							
L23A	**Garrett**	**33.69**	**334**	⇑P		**P**	**00 40 17.7**	**+0.9**
	baz=34							
SRU	**San Rafael**	**33.73**	**326**	*e*P		**P**	**00 40 18.6**	**+1.4**
	comp=Z,9.1nm,0.6s							
MONP	**Monument Peak**	**33.73**	**312**	⇑P		**P**	**00 40 19.0**	**+1.6**
	baz=34							
N20A	**Spence Gulch,**	**33.83**	**330**	⇑P		**P**	**00 40 19.2**	**+1.1**
	baz=34,SNR=5.9							
O19A	**Miners Draw (B**	**33.85**	**329**	⇑P		**P**	**00 40 19.2**	**+1.0**
	baz=34							
H29A	**Onida**	**33.93**	**343**	⇑P		**P**	**00 40 18.2**	**-0.4**
	baz=34,SNR=5.6							
L22A	**Ellis Ranch, M**	**33.93**	**333**	⇑P		**P**	**00 40 19.8**	**+0.8**
	baz=34							
Q16A	**Castle Valley**	**33.95**	**325**	⇑P		**P**	**00 40 18.8**	**-0.3**
	baz=34							
I27A	**Quinn**	**33.99**	**340**	⇓P		**P**	**00 40 20.3**	**+1.1**
	baz=34,SNR=9.9							
G30A	**Faulkton**	**34.10**	**344**	⇓P		**P**	**00 40 19.8**	**-0.3**
	baz=34							
PFO	**Pinyon Flat Ob**	**34.12**	**313**	⇓P		**P**	**00 40 22.1**	**+1.5**
	baz=34							
H28A	**Mission Ridge**	**34.21**	**342**	⇑P		**P**	**00 40 21.1**	**+0.1**
	baz=34,SNR=6.9							
G29A	**Hoven**	**34.37**	**344**	⇑P		**P**	**00 40 21.7**	**-0.7**
	baz=34,SNR=8.6							
H27A	**Howes**	**34.50**	**341**	⇓P		**P**	**00 40 24.3**	**+0.7**
	baz=35,SNR=25							
I25A	**Rochford**	**34.53**	**338**	⇓P		**P**	**00 40 24.7**	**+0.7**
	baz=35							
G28A	**Parade**	**34.54**	**342**	⇓P		**P**	**00 40 24.1**	**+0.2**
	baz=35							
MURC	**Murrieta**	**34.66**	**312**	⇓P		**P**	**00 40 26.8**	**+1.8**
	baz=35							
H26A	**Fairpoint**	**34.72**	**340**	⇓P		**P**	**00 40 26.3**	**+0.8**
	baz=35,SNR=12							
RSSD	**Black Hills**	**34.73**	**338**	*e*P		**P**	**00 40 27.8**	**+2.1**
K21A	**Alcova**	**34.78**	**333**	⇑P		**P**	**00 40 26.9**	**+0.7**
	baz=35							
F29A	**Eureka**	**34.93**	**344**	⇑P		**P**	**00 40 26.5**	**-0.7**
	baz=35,SNR=5.5							
J22A	**Midwest**	**35.08**	**335**	⇓P		**P**	**00 40 29.6**	**+0.9**
	baz=35							
F28A	**McLaughlin**	**35.21**	**343**	⇓P		**P**	**00 40 29.6**	**-0.1**
	baz=35							
G26A	**Maurine**	**35.26**	**341**	⇓P		**P**	**00 40 30.5**	**+0.4**
	baz=35,SNR=19							
JLU	**Jordanelle**	**35.28**	**327**	*e*P		**P**	**00 40 32.0**	**+1.4**
	comp=Z,4.4nm,0.9s							
E30A	**Jud**	**35.32**	**346**	⇑P		**P**	**00 40 30.2**	**-0.3**
	baz=36,SNR=10							
J21A	**Lysite**	**35.44**	**334**	⇓P		**P**	**00 40 32.8**	**+1.0**
	baz=36,SNR=5.9							
G25A	**Newell**	**35.44**	**340**	⇓P		**P**	**00 40 32.4**	**+0.8**
	baz=36							
G27A	**Dupree**	**35.44**	**340**	⇓P		**P**	**00 40 29.2**	**-2.4**
	baz=35,SNR=14							
H24A	**Dirks Ranch, A**	**35.45**	**338**	⇓P		**P**	**00 40 32.2**	**+0.4**
	baz=36,SNR=5.6							
I22A	**9 Mile Ranch,**	**35.48**	**335**	⇑P		**P**	**00 40 32.1**	**0.0**
	baz=36							
E29A	**Napoleon**	**35.56**	**345**	⇓P		**P**	**00 40 32.3**	**-0.4**
	baz=36,SNR=6.5							
F27A	**Lemmon**	**35.60**	**342**	⇓P		**P**	**00 40 33.0**	**0.0**
	baz=36,SNR=9.1							
J20A	**Shoshoni**	**35.72**	**333**	⇑P		**P**	**00 40 34.8**	**+0.7**
	baz=36							
DUG	**Dugway**	**35.75**	**325**	*e*P		**P**	**00 40 36.5**	**+2.0**
	comp=Z,6.1nm,1.2s							
DUG	**Dugway**	**35.75**	**325**	⇓P		**P**	**00 40 35.9**	**+1.4**
	baz=36							
I21A	**Big Trails, Te**	**35.75**	**334**	⇓P		**P**	**00 40 35.0**	**+0.6**
	baz=36							
F26A	**Lodgepole**	**35.78**	**341**	⇓P		**P**	**00 40 35.3**	**+0.8**
	baz=36,SNR=7.1							
E28A	**Huff**	**35.85**	**344**	⇓P		**P**	**00 40 35.1**	**+0.1**
	baz=36							
D30A	**Buchanan**	**35.85**	**346**	⇓P		**P**	**00 40 34.8**	**-0.2**
	baz=36,SNR=15							
PKME	**Peaks-Kenny Pk**	**35.88**	**21**	*e*P		**P**	**00 40 37.1**	**+1.8**
	comp=Z,27nm,0.8s							
G24A	**Alzada**	**35.91**	**339**	⇑P		**P**	**00 40 36.9**	**+1.2**
	baz=36							
PDAR	**Pinedale Array**	**35.93**	**331**	P		**P**	**00 40 36.5**	**+0.4**
PDAR	**Pinedale Array**	**35.93**	**331**	P		**P**	**00 40 36.5**	**+0.4**
	comp=Z,2.6nm,0.6s,baz=129,slow=9.9,SNR=24							
E27A	**Carson**	**35.96**	**343**	⇓P		**P**	**00 40 36.3**	**+0.3**
	baz=36,SNR=14							
H22A	**Clearmont**	**36.01**	**336**	⇓P		**P**	**00 40 37.1**	**+0.6**
	baz=36							
D29A	**Pettibone, Tap**	**36.01**	**345**	⇓P		**P**	**00 40 35.7**	**-0.7**
	baz=36,SNR=5.7							
J19A	**Crowheart**	**36.09**	**332**	⇑P		**P**	**00 40 37.7**	**+0.4**
	baz=36							
F25A	**Bowman**	**36.10**	**340**	⇓P		**P**	**00 40 37.8**	**+0.6**
	baz=36							
MPMC	**Manual Prospec**	**36.13**	**316**	⇑P		**P**	**00 40 38.9**	**+1.1**
	baz=36							
R11A	**Troy Canyon, C**	**36.20**	**320**	⇓P		**P**	**00 40 38.9**	**+0.6**
	baz=36							
I20A	**Worland**	**36.22**	**334**	⇓P		**P**	**00 40 38.8**	**+0.4**
	baz=36							
E26A	**Carlson Angus**	**36.27**	**342**	⇑P		**P**	**00 40 38.8**	**+0.1**
	baz=36							
H21A	**Big Horn, Sher**	**36.31**	**335**	⇑P		**P**	**00 40 39.3**	**+0.2**
	baz=36							
C30A	**Mose, Pekin**	**36.35**	**347**	⇓P		**P**	**00 40 39.0**	**-0.2**
	baz=36,SNR=8.9							
F24A	**Ekalaka**	**36.36**	**339**	⇓P		**P**	**00 40 39.3**	**-0.2**
	baz=36							
BGU	**Big Grassy Mou**	**36.37**	**326**	*e*P		**P**	**00 40 41.1**	**+1.4**
	comp=Z,16nm,1.6s							
D28A	**Regan**	**36.38**	**344**	⇑P		**P**	**00 40 39.6**	**0.0**
	baz=36,SNR=12							
AGMN	**Agassiz Nation**	**36.40**	**350**	*e*P		**P**	**00 40 38.6**	**-1.1**
	comp=Z,17nm,0.7s							
D27A	**Center**	**36.57**	**343**	⇑P		**P**	**00 40 41.9**	**+0.7**
	baz=37							
E25A	**Miller Ranch,**	**36.59**	**341**	⇓P		**P**	**00 40 42.2**	**+0.8**
	baz=37							
H20A	**Greybull**	**36.59**	**334**	⇓P		**P**	**00 40 42.0**	**+0.5**
	baz=37							
F23A	**Volborg**	**36.60**	**338**	⇑P		**P**	**00 40 42.0**	**+0.5**
	baz=37							
MDND	**Maddock**	**36.75**	**346**	*e*P		**P**	**00 40 42.7**	**0.0**
MDND	**Maddock**	**36.75**	**346**	⇓P		**P**	**00 40 42.6**	**0.0**
	baz=37,SNR=8.5							
HVU	**Hansel Valley**	**36.83**	**327**	*e*P		**P**	**00 40 45.5**	**+2.0**
	comp=Z,4.1nm,0.8s							
E24A	**Baker**	**36.94**	**340**	⇓P		**P**	**00 40 45.3**	**+1.0**
	baz=37							
F22A	**Rosebud**	**36.96**	**337**	⇑P		**P**	**00 40 44.6**	**+0.1**
	baz=37							
REDW	**Red Top Meadow**	**37.00**	**331**	*e*P		**P**	**00 40 46.1**	**+0.9**
B30A	**Myrvik Farm, E**	**37.02**	**347**	⇓P		**P**	**00 40 44.4**	**-0.5**
	baz=37,SNR=9.5							
SNOW	**Snow King Moun**	**37.03**	**331**	*e*P		**P**	**00 40 46.2**	**+0.8**
LOHW	**Long Hollow**	**37.07**	**331**	*e*P		**P**	**00 40 46.7**	**+0.9**
C27A	**Sayler Ranch,**	**37.12**	**344**	⇑P		**P**	**00 40 45.9**	**+0.1**
	baz=37,SNR=9.5							
D25A	**Fairfield**	**37.14**	**341**	⇑P		**P**	**00 40 47.3**	**+1.3**
	baz=37							
TPAW	**Teton Pass**	**37.15**	**331**	*e*P		**P**	**00 40 47.4**	**+1.0**
RRI2	**Red Ridge**	**37.22**	**330**	*e*P		**P**	**00 40 48.1**	**+1.1**
E23A	**Ismay**	**37.23**	**339**	⇓P		**P**	**00 40 47.9**	**+1.1**
	baz=37							
B29A	**Wagenman Farm,**	**37.27**	**346**	⇑P		**P**	**00 40 46.9**	**-0.1**
	baz=37,SNR=15							
G20A	**Bridger**	**37.27**	**335**	⇑P		**P**	**00 40 47.2**	**-0.1**
	baz=37,SNR=5.2							
C26A	**Wahner Farm, P**	**37.38**	**343**	⇓P		**P**	**00 40 48.0**	**0.0**
	baz=38,SNR=6.8							
E22A	**Miles City**	**37.41**	**338**	⇓P		**P**	**00 40 48.4**	**+0.1**
	baz=38							
D24A	**Glendive**	**37.43**	**340**	⇑P		**P**	**00 40 49.1**	**+0.6**
	baz=38							
IMW	**Indian Meadow**	**37.45**	**331**	*e*P		**P**	**00 40 49.7**	**+0.8**
H18A	**Shoshone NF, C**	**37.46**	**333**	⇑P		**P**	**00 40 48.9**	**-0.1**
	baz=38							
A30A	**Hoffart Farm,**	**37.48**	**348**	⇓P		**P**	**00 40 48.5**	**-0.3**
	baz=38							
B28A	**Dugan Ranch, T**	**37.49**	**345**	⇓P		**P**	**00 40 48.8**	**-0.1**
	baz=38,SNR=9.1							
ELK	**Elko**	**37.49**	**324**	*e*P		**P**	**00 40 50.9**	**+1.6**
C25A	**Freed Ranch, W**	**37.62**	**342**	⇑P		**P**	**00 40 49.8**	**-0.3**
	baz=38,SNR=6.5							
A29A	**Manning Farm,**	**37.67**	**347**	⇑P		**P**	**00 40 50.3**	**0.0**
	baz=38,SNR=9.3							
B27A	**Peters Farms,**	**37.68**	**344**	⇑P		**P**	**00 40 50.7**	**+0.2**
	baz=38,SNR=6.9							
F20A	**Billings**	**37.72**	**336**	⇑P		**P**	**00 40 51.4**	**+0.4**
	baz=38							
D23A	**Lindsay**	**37.78**	**340**	⇓P		**P**	**00 40 52.4**	**+1.0**
	baz=38							
C24A	**Savage**	**37.83**	**341**	⇓P		**P**	**00 40 52.4**	**+0.6**
	baz=38,SNR=5.6							
A28A	**Rude Farm, Bot**	**37.90**	**346**	⇓P		**P**	**00 40 52.0**	**-0.3**
	baz=38							
NVAR	**Mina Array Bea**	**37.98**	**318**	P		**P**	**00 40 54.0**	**+0.6**
NVAR				pP		**pP**	**00 41 30.6**	**+1.4**
NVAR				PcP		**PcP**	**00 43 06.2**	**+0.5**
NVAR				ScP		**ScP**	**00 46 38.4**	**+0.7**
NVAR	**Mina Array Bea**	**37.98**	**318**	P		**P**	**00 40 54.0**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=136,slow=7.6,SNR=15							
NVAR				pP		**pP**	**00 41 30.6**	**+1.4**
	comp=Z,1.1nm,0.9s,baz=137,slow=8.6,SNR=3.0							
NVAR				PcP		**PcP**	**00 43 06.2**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=146,slow=4.0,SNR=7.0							
NVAR				ScP		**ScP**	**00 46 38.4**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=134,slow=4.3,SNR=4.4							
F19A	**Roth Farm, Mol**	**38.09**	**335**	⇑P		**P**	**00 40 54.7**	**+0.6**
	baz=38							
B25A	**Knox Farm, Ray**	**38.09**	**342**	⇑P		**P**	**00 40 54.8**	**+0.8**
	baz=38							
D22A	**Cohagen**	**38.10**	**339**	⇓P		**P**	**00 40 54.7**	**+0.6**
	baz=38							
SIV	**San Ignacio**	**38.18**	**137**	P		**P**	**00 40 55.9**	**+0.8**
SIV	**San Ignacio**	**38.18**	**137**	P		**P**	**00 40 55.9**	**+0.8**
	comp=Z,3.4nm,0.7s,baz=318,slow=8.4,SNR=11							
E20A	**Meyer Farm, Mu**	**38.29**	**336**	⇑P		**P**	**00 40 56.2**	**+0.5**
	baz=38,SNR=7.8							
ULM	**Lac du Bonnet**	**38.30**	**351**	*e*P		**P**	**00 40 54.2**	**-1.3**
ULM	**Lac du Bonnet**	**38.30**	**351**	P		**P**	**00 40 54.3**	**-1.3**
	comp=Z,14nm,0.5s,baz=166,slow=8.5,SNR=31							
C23A	**Lambert**	**38.32**	**340**	⇓P		**P**	**00 40 56.1**	**+0.2**
	baz=38,SNR=6.5							
D21A	**La Casta Ranch**	**38.32**	**338**	⇓P		**P**	**00 40 56.3**	**+0.3**
	baz=38							
C22A	**Vida**	**38.50**	**339**	⇓P		**P**	**00 40 58.0**	**+0.5**
	baz=39							
E19A	**Rath Farm, Rou**	**38.52**	**336**	⇑P		**P**	**00 40 58.2**	**+0.6**
	baz=39							
DGMT	**Dagmar**	**38.59**	**342**	*e*P		**P**	**00 40 58.9**	**+0.8**
	comp=Z,42nm,0.6s							
DGMT	**Dagmar**	**38.59**	**342**	⇑P		**P**	**00 40 58.4**	**+0.3**
	baz=39,SNR=8.7							
A25A	**Svangstu Ranch**	**38.68**	**343**	⇑P		**P**	**00 40 59.2**	**+0.4**
	baz=39							
D20A	**Manuel Ranch,**	**38.77**	**337**	⇑P		**P**	**00 40 60.0**	**+0.2**
	baz=39							
B23A	**Brockton**	**38.83**	**341**	⇓P		**P**	**00 41 00.7**	**+0.6**
	baz=39,SNR=8.2							
A24A	**Westby**	**38.93**	**342**	⇑P		**P**	**00 41 01.5**	**+0.6**
	baz=39,SNR=6.2							
HLID	**Hailey**	**38.94**	**328**	*e*P		**P**	**00 41 02.2**	**+1.0**
	comp=Z,2.4nm,0.6s							
HLID	**Hailey**	**38.94**	**328**	⇓P		**P**	**00 41 01.7**	**+0.4**
	baz=39,SNR=5.6							
C21A	**Desert Coulee**	**39.00**	**338**	⇑P		**P**	**00 41 02.0**	**+0.4**
	baz=39							
B22A	**Reddig Ranch S**	**39.02**	**340**	⇓P		**P**	**00 41 02.8**	**+1.0**
	baz=39							
MCMT	**McKenzie Canyo**	**39.05**	**330**	*e*P		**P**	**00 41 03.1**	**+0.8**
	comp=Z,1.7nm,0.5s							
D19A	**Cripps Ranch,**	**39.13**	**336**	⇑P		**P**	**00 41 03.0**	**+0.4**
	baz=39,SNR=5.3							
LVC	**Limon Verde**	**39.15**	**153**	*e*P		**P**	**00 41 05.8**	**+2.5**
A23A	**Redstone**	**39.23**	**341**	⇓P		**P**	**00 41 04.3**	**+0.9**
	baz=39							
LRM	**Limekiln Ridge**	**39.60**	**332**	*e*P		**P**	**00 41 07.8**	**+0.9**
C19A	**Slack Wire Ran**	**39.66**	**336**	⇑P		**P**	**00 41 07.5**	**+0.5**
	baz=40							
A20A	**Cobblestone Ra**	**40.19**	**338**	⇓P		**P**	**00 41 12.3**	**+0.9**
	baz=40							
B19A	**Brinkman Farms**	**40.21**	**337**	⇑P		**P**	**00 41 12.2**	**+0.7**
	baz=40							
MSO	**Missoula**	**41.04**	**332**	⇓P		**P**	**00 41 18.8**	**+0.3**
	baz=41							
FFC	**Flin Flon**	**43.70**	**347**	*e*P		**P**	**00 41 39.8**	**+0.1**
	comp=Z,31nm,0.7s							
SCHQ	**Schefferville**	**45.02**	**16**	*e*P		**P**	**00 41 49.9**	**-0.2**
SCHQ	**Schefferville**	**45.02**	**16**	P		**P**	**00 41 48.9**	**-1.3**
	comp=Z,12nm,0.6s,baz=211,slow=5.9,SNR=35							
YKA	**Yellowknife Ar**	**53.65**	**344**	P		**P**	**00 42 52.9**	**-2.5**
YKA	**Yellowknife Ar**	**53.65**	**344**	P		**P**	**00 42 52.9**	**-2.5**
	comp=Z,3.4nm,0.8s,baz=155,slow=6.3,SNR=4.9							
TRQA	**Tornquist**	**55.50**	**156**	*e*P		**P**	**00 43 08.6**	**-0.6**
	comp=Z,19nm,1.3s							
ILAR	**Eielson Array**	**66.14**	**336**	P		**P**	**00 44 18.2**	**-2.3**
ILAR				pP		**pP**	**00 44 58.5**	**-1.6**
ILAR	**Eielson Array**	**66.14**	**336**	P		**P**	**00 44 18.2**	**-2.3**
	comp=Z,1.0nm,0.7s,baz=149,slow=4.5,SNR=14							
ILAR				pP		**pP**	**00 44 58.5**	**-1.6**
	comp=Z,0.7nm,0.9s,baz=94,slow=3.9,SNR=3.0							
SUMG	**Summit**	**66.35**	**14**	*i* P		pP	00 45 02.4	+0.5
	comp=Z,5.4nm,0.9s							
ESDC	**Sonseca Array**	**76.70**	**52**	P		**P**	**00 45 23.1**	**-1.3**
ESDC				pP		**pP**	**00 46 04.5**	**-0.6**
ESDC	**Sonseca Array**	**76.70**	**52**	P		**P**	**00 45 23.1**	**-1.3**
	comp=Z,1.2nm,0.7s,baz=281,slow=5.0,SNR=4.4							
ESDC				pP		**pP**	**00 46 04.5**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=276,slow=7.3,SNR=3.2							
NOA	**NORSAR Array B**	**83.01**	**29**	P		**P**	**00 45 56.4**	**-1.4**
NOA	**NORSAR Array B**	**83.01**	**29**	P		**P**	**00 45 56.4**	**-1.4**
	comp=Z,0.9nm,0.8s,baz=283,slow=4.8,SNR=3.0							
TORD	**Torodi Ar. Bea**	**85.86**	**78**	P		P	00 46 10.0	-3.0
TORD	**Torodi Ar. Bea**	**85.86**	**78**	P		P	00 46 10.0	-3.0
	comp=Z,0.6nm,0.7s,baz=288,slow=6.2,SNR=6.1							
ARCES	**ARCESS Array B**	**85.90**	**19**	PKKPbc		PKKPbc	01 04 12.2	-2.4
ARCES	**ARCESS Array B**	**85.90**	**19**	PKKPbc		PKKPbc	01 04 12.2	-2.4
	comp=Z,10nm,1.2s,baz=85,slow=2.6,SNR=5.4							
GERES	**GERESS Array B**	**87.50**	**41**	P		**P**	**00 46 17.9**	**-2.6**
GERES	**GERESS Array B**	**87.50**	**41**	P		**P**	**00 46 17.8**	**-2.6**
	comp=Z,0.3nm,0.5s,baz=317,slow=4.2,SNR=3.7							
SONM	**Songino Array**	**118.72**	**350**	PKKPbc		PKKPbc	01 02 36.0	-2.1
SONM	**Songino Array**	**118.72**	**350**	PKKPbc		PKKPbc	01 02 36.0	-2.1
	comp=Z,0.9nm,0.6s,baz=206,slow=3.3,SNR=5.4							
STKA	**Stephens Creek**	**131.61**	**238**	PKP		**PKPdf**	**00 52 45.6**	**+0.7**
STKA	**Stephens Creek**	**131.61**	**238**	PKP		**PKPdf**	**00 52 45.6**	**+0.7**
	comp=Z,6.5nm,0.6s,baz=92,slow=2.8,SNR=37							
WRAB	**Tennant Creek**	**139.81**	**254**	*e*PKPdf		**PKPdf**	**00 53 01.4**	**+1.0**
AS31	**Alice Springs**	**139.81**	**248**	*e*PKPdf		**PKPdf**	**00 53 00.3**	**-0.1**
ASAR	**Alice Springs**	**139.81**	**248**	PKPpre		PKPpre	00 52 53.5	
ASAR				PKP		**PKPdf**	**00 53 00.8**	**+0.4**
ASAR				SKPbc		**SKPbc**	**00 56 20.8**	**0.0**
ASAR	**Alice Springs**	**139.81**	**248**	PKhKP		PKPpre	00 52 53.5	
	comp=Z,1.5nm,0.5s,baz=107,slow=3.2,SNR=18							
ASAR				PKP		**PKPdf**	**00 53 00.8**	**+0.4**
	comp=Z,8.5nm,0.6s,baz=103,slow=2.0,SNR=61							
ASAR				SKPbc		**SKPbc**	**00 56 20.8**	**0.0**
	comp=Z,1.3nm,0.9s,baz=97,slow=2.9,SNR=7.0							
WRA	**Warramunga Arr**	**139.82**	**254**	PKPpre		PKPpre	00 52 52.6	
WRA				PKP		**PKPdf**	**00 53 00.7**	**+0.2**
WRA				SKPbc		**SKPbc**	**00 56 20.8**	**0.0**
WRA	**Warramunga Arr**	**139.82**	**254**	PKhKP		PKPpre	00 52 52.6	
	comp=Z,1.4nm,0.6s,baz=90,slow=3.6,SNR=30							
WRA				PKP		**PKPdf**	**00 53 00.7**	**+0.2**
	comp=Z,16nm,0.7s,baz=91,slow=2.3,SNR=107							
WRA				SKPbc		**SKPbc**	**00 56 20.8**	**0.0**
	comp=Z,0.8nm,0.7s,baz=334,slow=1.0,SNR=9.8							
CMAR	**Chiang Mai Arr**	**148.64**	**349**	PKPbc		**PKPbc**	**00 53 18.4**	**-1.3**
CMAR	**Chiang Mai Arr**	**148.64**	**349**	PKPbc		**PKPbc**	**00 53 18.4**	**-1.3**
	comp=Z,1.3nm,0.4s,baz=336,slow=3.8,SNR=6.4							
BATI	**Baumata**	**149.96**	**271**	PKPbc		**PKPbc**	**00 53 22.9**	**-0.2**
BATI	**Baumata**	**149.96**	**271**	PKPbc		**PKPbc**	**00 53 22.9**	**-0.2**
	comp=Z,31nm,0.5s,baz=218,slow=1.8,SNR=4.7							
NWAO	**Narrogin (SRO)**	**150.03**	**223**	PKPbc		**PKPbc**	**00 53 23.1**	**+0.3**
NWAO	**Narrogin (SRO)**	**150.03**	**223**	PKPbc		**PKPbc**	**00 53 23.1**	**+0.3**
	comp=Z,45nm,0.8s,baz=116,slow=4.3,SNR=19							

CASC ***22*** *00:51:33.5±3.4, 6.86N×82.71W, h0km±19km, MD5.1, mb5.9(NEIC)*

IDC ***22*** *00:51:35.9±0.5, 6.75N×82.68W, h0km, mb4.9/23, mb1 5.1/26, mb1mx5.0/28, mbtmp4.9/26, ML4.3/2, MS5.3/30, Ms1 5.3/30, ms1mx5.2/34, Error ellipse: s-maj=23.0km s-min=10.0km az=52.0*

ISCJB ***22*** *00:51:36.5±0.9, 6.74N±0.02×82.59W±0.02, h7km±5km, mb5.4/255, MS5.4/187, Error ellipse: s-maj=3.9km s-min=2.6km az=26.9*

MOS ***22*** *00:51:37.1±1.4, 6.95N×82.49W, h10km, mb5.8/82, MS5.3/37, Error ellipse: s-maj=7.3km s-min=4.7km az=100.4*

NEIC ***22*** *00:51:39.2±0.2, 6.73N×82.58W, h18km, mb5.5/216, MS5.4/142, MW5.9, MW5.9, Error ellipse: s-maj=5.8km s-min=3.5km az=25.0, Moment Tensor Solution. s41 Moment tensor: Scale 10^17Nm; Mrr0.47; Mθθ-1.42; Mφφ0.95; Mrθ-1.08; Mθφ7.41; Mφr2.69; Best double couple: M08.10000×10^17 NP1:φ176.00000°, δ87.00000°, λ-160.00000°. NP2:φ85.00000°, δ70.00000°, λ-3.00000°. Principal axes: T 7.5400, Plg11.0000°, Azm308.0000°; N 0.9500, Plg69.0000°, Azm184.0000°; P -8.4900, Plg16.0000°, Azm41.0000°;*

NEIC Felt [II] at David, Penonome and Puerto Armuelles. Also felt at Bocas del Toro, Boquete, Colon, Guabito, Las Tablas, Montijo, Palmira and Santiago. Felt in the Valle Central, Costa Rica.

BJI ***22*** *00:51:39.4, 6.80N×82.60W, h12km, mB5.8/23, Ms6.0/25, Ms7 5.7/25*

GCMT ***22*** *00:51:43.4±0.1, 6.64N×82.69W, h22km, MW6.0, Moment Tensor Solution. s108,c235; s81,c120; Moment tensor: Scale 10^18Nm; Mrr0.00±.01; Mθθ-0.23±.01; Mφφ0.23±.01; Mrθ0.15±.01; Mθφ1.01±.01; Mφr0.04±.02; Best double couple: M0 1.10000×10^18 NP1:φ84.00000°, δ89.00000°, λ8.00000°. NP2:φ354.00000°, δ82.00000°, λ179.00000°. Principal axes: T 1.0500, Plg7.0000°, Azm309.0000°; N -0.0100, Plg82.0000°, Azm91.0000°; P -1.0400, Plg5.0000°, Azm218.0000°; Data Used: II IU CN G IC. Surface waves: sta=122, comp=278, per= 50.*

NEIC ***22*** *00:51:55.0±0.0, 6.52N×82.25W, h10km, Moment Tensor Solution. s131 Moment tensor: Scale 10^17Nm; Mrr0.12; Mθθ-1.89; Mφφ1.77; Mrθ4.40; Mθφ8.32; Mφr1.20; Best double couple: M09.60000×10^17 NP1:φ353.00000°, δ62.00000°, λ177.00000°. NP2:φ84.00000°, δ87.00

TGUH eSn **Sn** 00 55 19.4 +0.7
VSM San Miguel 8.64 321 eP **Pn** 00 53 41.4 -2.6
VSM San Miguel 8.64 321 eP **Pn** 00 53 41.4 -2.6
PAYG Puerto Ayora 10.61 226⇓ePn **Pn** 00 54 10.8 0.0
2µm,1.7s
PAYG eSn **Sn** 00 56 11.8 +2.8
IXG Ixpaco 10.64 315 eP **Pn** 00 54 14.5 +3.1
IXG eS **Sn** 00 56 14.3 +4.3
IXG Ixpaco 10.64 315 eP **Pn** 00 54 14.5 +3.1
IXG eS **Sn** 00 56 14.3 +4.3
MRL Marmol 10.77 321 eP Pn 00 54 17.1 +4.0
MRL Marmol 10.77 321 eP Pn 00 54 17.1 +4.0
NBG Las Nubes 10.85 316 eP Pn 00 54 18.9 +4.6
NBG Las Nubes 10.85 316 eP Pn 00 54 18.9 +4.6
PCG Pacaya 10.90 315 eP Pn 00 54 20.3 +5.3
PCG Pacaya 10.90 315 eP Pn 00 54 20.3 +5.3
FUG Fuego 3 11.10 314 eP **Pn** 00 54 20.6 +3.0
FUG eS **Sn** 00 56 21.6 +0.3
FUG Fuego 3 11.10 314 eP **Pn** 00 54 20.6 +3.0
FUG eS **Sn** 00 56 21.6 +0.3
APG El Apazote 11.22 318 Pn **Pn** 00 54 18.2 -1.2
APG El Apazote 11.22 318 Pn **Pn** 00 54 18.2 -1.2
3.0nm,0.3s,baz=131,slow=9.2,SNR=48
APG LR LR 00 58 51.7
comp=Z,11µm,19.4s,baz=127,slow=39
JAT Jato 11.59 311 eP Pn 00 54 28.6 +4.3
JAT Jato 11.59 311 eP Pn 00 54 28.6 +4.3
SDV Santo Domingo 12.10 79 ePn **Pn** 00 54 31.3 -0.1
SDV eSn **Sn** 00 56 40.2 -5.6
MCJ Malvern 12.11 23 *i* P **Pn** 00 54 34.4 +2.9
PCJ Portland Cotta 12.17 26 *i* P Pn 00 54 35.5 +3.4
MTDJ Mount Denham 12.45 23 ePn **Pn** 00 54 36.3 +0.3
237nm,0.4s
HOJ Hope 12.58 27 *i* P **Pn** 00 54 40.4 +2.6
STH Stony Hill 12.62 26 *i* P **Pn** 00 54 40.3 +2.0
GWJ Greenwich 12.65 27 *i* P **Pn** 00 54 41.2 +2.4
CCIG Comitan 13.26 316 P **Pn** 00 54 46.0 -1.3
PCIG 13.65 312 P **Pn** 00 54 49.9 -2.5
TGIG 14.29 315 P Pn 00 54 57.9 -3.3
ATAH Atahualpa 14.44 163 Pn **Pn** 00 55 03.8 +0.3
ATAH Atahualpa 14.44 163 Pn **Pn** 00 55 03.8 +0.3
1.1nm,0.3s,baz=347,slow=10,SNR=50
ATAH LR LR 00 59 57.4
comp=Z,22µm,19.8s,baz=338,slow=35
TEIG Tepich 14.46 338 ePn **Pn** 00 55 03.5 0.0
TEIG eSn **Sn** 00 57 43.8 +0.5
GTBY Guantanamo Bay 15.00 28⇓ePn **Pn** 00 55 11.6 +0.8
826nm,1.2s
GTBY eSn **Sn** 00 57 57.9 +1.4
HUIG Huatulco 15.94 305 P **Pn** 00 55 19.9 -3.3
SDDR Presa de Saban 16.43 41 ePn **Pn** 00 55 27.6 -1.8
450nm,1.0s
SDDR eSn **Sn** 00 58 31.6 +0.3
VHO Vista Hermosa 17.16 308 P **Pn** 00 55 38.2 -0.6
PNIG Pinotepa 17.92 304 P **Pn** 00 55 45.5 -2.5
GRTK Grand Turk 18.42 36 eP **Pn** 00 55 54.5 +0.4
270nm,1.2s
UTMO Huajuapan 18.43 308 P **Pn** 00 55 55.1 +0.6
TPIG Tehuac#an 18.43 310 P **P** 00 55 52.5 -1.8
LVIG Laguna Verde 18.57 315 P P 00 55 48.9 -6.7
CRPR Cabo Rojo, PR 18.84 52 ePn **Pn** 00 56 00.1 +0.9
804nm,1.5s
MPR Mayaguez 18.93 52 ePn **Pn** 00 56 01.1 +0.8
471nm,1.2s
LSP Las Mesas 18.95 52 ePn **Pn** 00 56 00.5 -0.1
AGP Aguadilla 19.04 51 ePn Pn 00 56 10.9 +9.2
AGPR Aguadilla, PR 19.10 51 eP **P** 00 56 01.7 +0.2
1µm,1.0s
LRS Lares 19.20 52 ePn **Pn** 00 56 04.0 +0.3
OBIP Obispado Ponce 19.25 53 ePn **Pn** 00 56 03.9 -0.4
370nm,1.1s
CELP Cerrillos 19.29 53 eP **P** 00 56 03.9 +0.3
AOPR Arecibo Observ 19.31 52 ePn **Pn** 00 56 05.1 +0.2
790nm,0.9s
PPM Popocatepetl 19.78 310 P **Pn** 00 56 11.9 +0.9
PPM Popocatepetl 19.78 310 P **Pn** 00 56 11.9 +0.9
HUMP Col San Antoni 19.91 54 eP **P** 00 56 09.1 -1.2
272nm,0.9s
MEIG Mezcala 19.93 305 P **Pn** 00 56 11.9 -0.4
CBYP Canovanas 19.98 53 eP **P** 00 56 11.1 0.0
295nm,1.0s
YAIG Yautepec 20.00 309 P Pn 00 56 14.0 +0.6
CAIG El Cayaco 20.02 302 P **P** 00 56 10.8 -0.8
PLIG Platanillo 20.08 307 P **P** 00 56 12.3 0.0
MTP Monte Pirata 20.13 54⇓eP **P** 00 56 09.8 -2.9
357nm,1.1s
MTP S **S** 00 59 58.4 +0.4
IIO Organos 20.16 311 P Pn 00 56 15.9 +0.4
PBVM Pinon 20.35 310 P Pn 00 56 18.1 +0.9
PTVM Pico Tres Padr 20.46 310 P Pn 00 56 19.3 +0.4
CDVI St. Croix 20.59 56 eP **P** 00 56 18.8 +1.0
664nm,1.0s
STVI Saint Thomas 20.74 55 eP **P** 00 56 19.4 0.0
329nm,1.0s
DEIG Demacu 20.83 312 P Pn 00 56 22.5 -0.6
GRGR Grenville 21.39 74⇓eP **P** 00 56 26.7 +0.3
325nm,1.1s
GRGR eS **S** 01 00 23.5 +0.5
GRGR LR LR
comp=Z,7µm,20.0s
SABA Saba 21.80 59 eP **P** 00 56 34.4 +3.5
MOIG Morelia 22.12 307 P **P** 00 56 33.7 -0.8
ANWB Willy Bob 23.07 60 eP **P** 00 56 41.8 -2.5
comp=Z,1µm,1.4s
ANWB LR LR
comp=Z,5µm,20.0s
MMIG Aquila 23.19 302 P **P** 00 56 45.0 -0.6
BBGH Gun Hill 23.60 73 PFAKE 00 57 00.0 +10
BBGH LR LR
comp=Z,25µm,22.0s
SFJM Santa Fe 24.02 307 P **P** 00 56 53.5 -0.2
LNIG Linares 24.18 320 P **P** 00 56 53.9 -1.1
BRAL Brewton 24.48 351 eP **P** 00 56 58.2 +0.6
comp=Z,365nm,1.2s
BRAL LR LR
comp=Z,8µm,22.0s
TIGA Tifton 24.57 358⇑eP **P** 00 56 58.7 +0.2
TIGA Tifton 24.57 358 ⇓P **P** 00 56 58.7 +0.2
baz=25,SNR=22
SAML Samuel 24.90 129⇑*i* P **P** 00 57 00.7 -0.9
comp=Z,138nm,0.9s
SAML eS **S** 01 01 26.7 +2.8
SAML LR LR
comp=Z,4µm,20.0s
ZAIG Zacatecas 24.93 312 P **P** 00 57 02.8 +0.6
KVTX Kingsville 25.24 327 eP **P** 00 57 05.7 +1.1
comp=Z,791nm,1.7s
KVTX LR LR
comp=Z,8µm,21.0s
ANIG Ahuacatlan 25.49 306 P **P** 00 57 07.9 +0.8
HKT Hockley 26.20 333 eP **P** 00 57 14.0 +0.9
HKT pmax pmax
comp=Z,38nm,1.1s
HKT Hockley 26.20 333 eP **P** 00 57 14.0 +0.9
comp=Z,38nm,1.1s
VBMS Vicksburg 26.38 345 eP **P** 00 57 15.2 +0.4
comp=Z,112nm,0.9s
VBMS LR LR
comp=Z,4µm,20.0s
LRAL Lakeview Retre 26.46 352 eP **P** 00 57 16.6 +1.0
comp=Z,152nm,0.9s
LRAL eS **S** 01 01 49.6 +1.3
LRAL LR LR
comp=Z,4µm,22.0s
GOGA Godfrey 26.54 358 eP **P** 00 57 13.5 -2.7
GOGA pmax pmax
comp=Z,109nm,1.0s
GOGA Godfrey 26.54 358 eP **P** 00 57 13.5 -2.7
comp=Z,108nm,1.0s
NATX Nacogdoches 27.29 337 eP **P** 00 57 23.5 +0.4
comp=Z,81nm,1.1s
NATX LR LR
comp=Z,3µm,20.0s
732A Laxson Ranch, 27.31 325 ⇓P **P** 00 57 22.3 -1.0
baz=28,SNR=25
632A Uvalde 27.80 327 ⇓P **P** 00 57 27.2 -0.5
baz=28
631A Perdido Creek 28.17 325 ⇓P **P** 00 57 31.2 +0.2
baz=28,SNR=41
KMSC Kings Mountain 28.28 2 eP **P** 00 57 32.2 +0.3
KMSC Kings Mountain 28.28 2 ⇓P **P** 00 57 32.4 +0.5
baz=28
OXF Oxford 28.32 348 eP **P** 00 57 32.8 +0.6
OXF *e* 01 00 46.0
comp=Z,76nm,1.0s
OXF pmax pmax
MLR MLR
comp=Z,4µm,21.0s
OXF Oxford 28.32 348 eP **P** 00 57 32.8 +0.6
comp=Z,76nm,1.0s
OXF ePcP **PcP** 01 00 46.0 +1.0
OXF LR LR
comp=Z,4µm,21.0s
532A Rocksprings 28.35 327 ⇑P **P** 00 57 32.6 -0.1
baz=28,SNR=44
SWET Sewanee 28.49 354 eP **P** 00 57 33.4 -0.4
comp=Z,70nm,0.8s
JCT Junction City 28.57 328 eP **P** 00 57 35.3 +0.7
JCT pmax pmax
comp=Z,99nm,1.3s
JCT MLR MLR
comp=Z,7µm,22.0s
JCT Junction City 28.57 328 eP **P** 00 57 35.3 +0.7
comp=Z,99nm,1.3s
JCT LR LR
comp=Z,7µm,22.0s
JCT Junction City 28.57 328 ⇑P **P** 00 57 35.0 +0.4
baz=29,SNR=27
CPCT Cooper Cave 28.61 357 eP **P** 00 57 34.7 -0.1
WHTX Lake Whitney 28.66 333 eP **P** 00 57 36.1 +0.8
WHTX ePcP **PcP** 01 00 46.8 +0.8
WHTX Lake Whitney 28.66 333 ⇓P **P** 00 57 35.7 +0.4
baz=29,SNR=5.8
CNNC Cliffs of the 28.69 8 PFAKE 00 57 50.0 +15
CNNC LR LR
comp=Z,9µm,19.0s
531A Rocksprings 28.73 326 ⇑P **P** 00 57 36.7 +0.7
baz=29,SNR=39
TKL Tuckaleechee C 28.79 358 eP **P** 00 57 36.8 +0.5
TKL Tuckaleechee C 28.79 358 P **P** 00 57 36.9 +0.5
comp=Z,47nm,1.0s,baz=167,slow=8.6,SNR=24
TKL LR LR 01 09 28.3
comp=Z,9µm,18.2s,baz=181,slow=37
432A Menard 28.88 328 ⇓P **P** 00 57 37.4 +0.1
baz=29,SNR=13
530A J-C Ranch, Com 29.16 325 ⇑P **P** 00 57 40.1 +0.3
baz=29,SNR=36
431A Sonora 29.16 327 ⇓P **P** 00 57 40.5 +0.7
baz=29,SNR=28
332A Millersview 29.26 329 ⇑P **P** 00 57 41.0 +0.3
baz=29,SNR=16
UALR University of 29.28 344 eP **P** 00 57 40.2 -0.6
comp=Z,73nm,0.8s
MIAR Mount Ida 29.44 341 eP **P** 00 57 41.1 -1.1
MIAR pmax pmax
comp=Z,44nm,1.0s
MIAR MLR MLR
comp=Z,3µm,20.0s
MIAR Mount Ida 29.44 341 eP **P** 00 57 41.1 -1.1
comp=Z,44nm,1.0s
MIAR LR LR
comp=Z,3µm,20.0s
331A San Angelo 29.55 328 ⇑P **P** 00 57 44.1 +0.7
baz=30,SNR=21
628A Black Gap, Mar 29.58 322 ⇑P **P** 00 57 44.9 +1.3
baz=30,SNR=20
430A Baggett Ranch, 29.58 326 ⇑P **P** 00 57 44.3 +0.7
baz=30,SNR=25
232A Coleman 29.61 330 ⇓P **P** 00 57 44.0 +0.1
baz=30,SNR=11
WVT Waverly 29.62 352 eP **P** 00 57 42.1 -1.7
WVT eS S 01 02 31.3 -6.8
WVT pmax pmax
comp=Z,36nm,0.8s
WVT Waverly 29.62 352 eP **P** 00 57 42.1 -1.7
comp=Z,36nm,0.8s
WVT eS S 01 02 31.3 -6.8
529A Stev Forest Ra 29.64 324 ⇑P **P** 00 57 44.8 +0.6
baz=30,SNR=50
TZTN Tazewell 29.66 359 eP **P** 00 57 44.1 -0.1
comp=Z,86nm,0.9s
HPIG 29.69 315 P **P** 00 57 47.8 +3.0
429A Davenport Ranc 29.83 325 ⇑P **P** 00 57 45.1 -0.7
baz=30,SNR=109
627A Terlingua Ranc 29.86 322 ⇑P **P** 00 57 47.0 +0.9
baz=30
TXAR Lajitas Array 29.95 321 P **P** 00 57 47.5 +0.5
TXAR Lajitas Array 29.95 321 P **P** 00 57 47.5 +0.5
comp=Z,5.2nm,0.9s,baz=146,slow=7.1,SNR=17
TXAR LR LR 01 12 47.4
comp=Z,3µm,18.9s,baz=115,slow=42
231A Bronte 29.99 329 ⇓P **P** 00 57 46.8 -0.4
baz=30,SNR=8.8
GLAT Glass 30.00 349 eP **P** 00 57 47.2 +0.1
528A Cox Ranch, San 30.01 323 ⇑P **P** 00 57 47.6 +0.2
baz=30
330A Mertzon 30.03 327 ⇑P **P** 00 57 47.7 +0.1
baz=30,SNR=12
ABTX Abilene, Hawle 30.21 331 eP **P** 00 57 48.6 -0.6
ABTX PcP PcP 01 00 44.7 -5.2
ABTX Abilene, Hawle 30.21 331 ⇓P **P** 00 57 49.1 0.0
baz=30,SNR=13
428A Kincaid Ranch, 30.36 324 ⇓P **P** 00 57 51.2 +0.7
baz=30,SNR=54
230A Sterling City 30.37 328 ⇓P **P** 00 57 50.4 -0.2
baz=30,SNR=10.0
BLA Blacksburg 30.39 4 eP **P** 00 57 50.6 0.0
BLA *e* 01 00 47.1
BLA pmax pmax
comp=Z,71nm,1.1s
BLA MLR MLR
comp=Z,7µm,22.0s
BLA Blacksburg 30.39 4 eP **P** 00 57 50.6 0.0
comp=Z,71nm,1.1s
BLA ePcP **PcP** 01 00 47.1 -3.2
BLA LR LR
comp=Z,7µm,22.0s
626A Big Bend Ranch 30.39 321 ⇓P **P** 00 57 51.7 +0.9
baz=30,SNR=14
VWCC Virginia Weste 30.45 4 eP **P** 00 57 51.8 +0.6
VWCC ePP **PP** 00 58 59.7 -0.4
PARMO Parma 30.47 349 eP **P** 00 57 52.3 +1.0
527A Woodward Ranch 30.49 322 ⇓P **P** 00 57 52.3 +0.5
baz=31,SNR=38
BBSR BB Station 30.49 31 PFAKE 00 58 00.0 +8.5
BBSR LR LR
comp=Z,4µm,20.0s
329A Wagon Wheel Ra 30.53 326 ⇑P **P** 00 57 52.6 +0.6
baz=31,SNR=29
131A Roby 30.62 330 ⇑P **P** 00 57 52.6 -0.1
baz=31,SNR=11
Z32A Haskell 30.69 332 ⇓P **P** 00 57 53.2 -0.1
baz=31,SNR=34
PBMO Poplar Bluff 30.72 348 eP **P** 00 57 54.2 +0.7
comp=Z,22nm,0.8s
526A Mary Lane Ranc 30.72 322 ⇓P **P** 00 57 54.3 +0.5
baz=31,SNR=18
229A Bryant Ranch, 30.80 327 ⇓P **P** 00 57 54.6 +0.2
baz=31,SNR=14
130A Snyder 30.85 329 ⇓P **P** 00 57 54.0 -0.8
baz=31
427A Hayter Ranch, 30.87 324 ⇑P **P** 00 57 55.6 +0.5
baz=31,SNR=18
328A Wristen Ranch, 30.92 325 ⇓P **P** 00 57 55.9 +0.4
baz=31,SNR=38
Z31A Sharp Cattle R 31.02 331 ⇑P **P** 00 57 55.9 -0.4
baz=31,SNR=7.1
SIV San Ignacio 31.10 137 P **P** 00 57 55.9 -1.2
SIV San Ignacio 31.10 137 P **P** 00 57 55.9 -1.2
comp=Z,53nm,0.8s,baz=317,slow=9.4,SNR=75
JSRW J. Sargeant Re 31.10 7 eP **P** 00 57 57.6 +0.8
426A McDonald Obser 31.11 323 ⇓P **P** 00 57 58.0 +0.7
baz=31,SNR=40
Y32A R-V Farms, Ver 31.25 332 ⇓P **P** 00 57 58.7 +0.4
baz=31,SNR=7.8
327A Balmorhea Ranc 31.30 324 ⇑P **P** 00 57 59.0 +0.2
baz=32
129A Stewart Farms, 31.35 328 ⇑P **P** 00 57 59.1 -0.1
baz=32,SNR=14
228A UT Block 9, Go 31.35 326 ⇓P **P** 00 57 59.0 -0.2
baz=32,SNR=17
SIUC Southern Illin 31.39 350 eP **P** 00 58 00.1 +0.7
comp=Z,50nm,0.9s
USIN University of 31.40 352 eP **P** 00 58 00.5 +1.0
comp=Z,90nm,0.8s
TUL1 Tulsa 31.42 339 eP **P** 00 57 58.0 -1.7
TUL1 Tulsa 31.42 339 ⇑P **P** 00 58 00.0 +0.3
baz=32,SNR=12
Z30A Sanderson Ranc 31.48 329 ⇑P **P** 00 57 59.8 -0.6
baz=32,SNR=28
WCI Wyandotte Cave 31.51 355 eP **P** 00 58 01.3 +0.8
WCI eS **S** 01 03 08.7 +1.0
WCI pmax pmax
comp=Z,95nm,0.8s
WCI Wyandotte Cave 31.51 355 eP **P** 00 58 01.2 +0.8
comp=Z,95nm,0.8s
WCI eS **S** 01 03 08.7 +1.0
326A Caldwell Ranch 31.55 323 ⇑P **P** 00 58 01.8 +0.8
baz=32,SNR=23
WMOK Wichita Mounta 31.57 334 eP **P** 00 58 00.5 -0.6
WMOK *e* 00 59 12.3
WMOK *e* 01 00 54.1
WMOK pmax pmax
comp=Z,24nm,1.0s
WMOK MLR MLR
comp=Z,4µm,20.0s
WMOK Wichita Mounta 31.57 334 eP **P** 00 58 00.5 -0.6
comp=Z,24nm,1.0s
WMOK ePP **PP** 00 59 12.3 -0.3
WMOK ePcP **PcP** 01 00 54.1 +0.7
WMOK LR LR
comp=Z,4µm,20.0s
Y31A Rekieta Farm, 31.60 331 ⇓P **P** 00 58 01.2 -0.2
baz=32,SNR=8.3
227A Bennet, Jal 31.66 325 ⇓P **P** 00 58 02.2 +0.2
baz=32,SNR=10
128A Castleberry Fa 31.67 327 ⇓P **P** 00 58 01.9 -0.2
baz=32,SNR=9.9
CBN Corbin 31.67 8 eP **P** 00 58 03.2 +1.3
comp=Z,25nm,0.3s
CBN LR LR
comp=Z,12µm,19.0s
Z29A Hungry Hill Ra 31.75 329 ⇑P **P** 00 58 02.9 +0.1
baz=32,SNR=22
425A Indio Mountain 31.78 322 ⇑P **P** 00 58 03.9 +0.8
baz=32,SNR=38
Y30A Stafford Cattl 31.84 330 ⇑P **P** 00 58 03.9 +0.4
baz=32,SNR=8.6
X31A McDonald Ranch 32.02 332 ⇓P **P** 00 58 05.2 +0.2
baz=32,SNR=7.4
Z28A Tucker Farm, M 32.13 328 ⇑P **P** 00 58 06.1 0.0
baz=32,SNR=11
LVC Limon Verde 32.14 156 eP **P** 00 58 07.8 +1.3
comp=Z,241nm,1.6s
LVC LR LR
comp=Z,4µm,19.0s
325A Bean Ranch, Si 32.18 322 ⇓P **P** 00 58 07.5 +0.8
baz=32,SNR=23
127A Arkansas Junct 32.19 326 ⇑P **P** 00 58 07.3 +0.6
baz=32,SNR=6.7
226B Tecolote Peak, 32.21 324 ⇑P **P** 00 58 07.9 +1.1
baz=32,SNR=44
Y29A Porterfield Fa 32.21 329 ⇓P **P** 00 58 07.0 +0.2
baz=32,SNR=6.4
OLIL Olney 32.22 352 eP **P** 00 58 08.1 +1.4
comp=Z,93nm,0.9s
X30A Coker Ranch, T 32.29 331 ⇑P **P** 00 58 08.2 +0.8
baz=32,SNR=8.7
GDL2 Guadalupe Moun 32.41 324 eP P 00 58 02.7 -5.9
W31A Holland Ranch, 32.46 333 ⇑P **P** 00 58 09.3 +0.3
baz=33
BLO Bloomington 32.46 354 eP **P** 00 58 09.8 +0.9
BLO pmax pmax
comp=Z,106nm,1.0s
BLO Bloomington 32.46 354 eP **P** 00 58 09.8 +0.9
comp=Z,106nm,1.0s
SLM Saint Louis 32.47 349 eP **P** 00 58 09.8 +0.9
SLM pmax pmax
comp=Z,68nm,0.9s
SLM Saint Louis 32.47 349 eP **P** 00 58 09.8 +0.9
comp=Z,68nm,0.9s
126A Clayton Basin, 32.54 325 ⇑P **P** 00 58 10.3 +0.6
baz=33,SNR=12
324A Moseley Ranch, 32.54 322 ⇓P **P** 00 58 10.7 +0.8
baz=33,SNR=33
Y28A McKinney Farm, 32.54 329 ⇓P **P** 00 58 09.8 +0.1
baz=33,SNR=9.1
Z27A Tatum 32.59 327 ⇓P **P** 00 58 10.3 +0.1
baz=33,SNR=24
225A Deer Hill, Car 32.62 324 ⇓P **P** 00 58 11.3 +0.7
baz=33,SNR=38
MNTX Cornudas Mount 32.66 322 eP **P** 00 58 08.2 -2.5
comp=Z,54nm,1.4s
MNTX LR LR
comp=Z,2µm,21.0s
X29A Tulia 32.69 330 ⇑P **P** 00 58 11.4 +0.4
baz=33,SNR=6.7
MCWV Mont Chateau 32.86 4 eP **P** 00 58 13.0 +0.7
comp=Z,84nm,1.2s
MCWV ePP **PP** 00 59 26.4 -0.4
MCWV LR LR
comp=Z,7µm,20.0s
MSTX Muleshoe 32.86 328 eP **P** 00 58 10.1 -2.5
MSTX Muleshoe 32.86 328 ⇓P **P** 00 58 13.0 +0.5
baz=33,SNR=32
125A Gardner Draw, 32.91 324 ⇓P **P** 00 58 13.8 +0.8
baz=33,SNR=80
SDMD Soldier's Deli 32.93 8 eP **P** 00 58 14.4 +1.5
comp=Z,38nm,1.1s
Z26A Caprock 32.98 326 ⇑P **P** 00 58 14.2 +0.6
baz=33,SNR=10.0
X28A Dimmitt 33.00 330 ⇓P **P** 00 58 14.0 +0.3
baz=33,SNR=15
Y27A Causey 33.00 328 ⇓P **P** 00 58 13.9 +0.1
baz=33,SNR=26
224A Cornudas Mount 33.01 323 ⇑P **P** 00 58 14.3 +0.4
baz=33,SNR=27
AMTX Amarillo 33.03 331 eP **P** 00 58 13.7 -0.3
comp=Z,30nm,0.9s
AMTX Amarillo 33.03 331 ⇑P **P** 00 58 13.7 -0.3
baz=33
W29A Amraillo 33.20 331 ⇑P **P** 00 58 16.0 +0.5
baz=33
V30A Spur Ranch, Mi 33.28 333 ⇓P **P** 00 58 16.9 +0.8
baz=33
ACSO Alum Creek Sta 33.34 360 eP **P** 00 58 13.8 -2.6
comp=Z,241nm,1.0s
ACSO LR LR
comp=Z,9µm,19.0s
T33A Patterson Ranc 33.37 337 ⇑P **P** 00 58 16.6 -0.2
baz=34
Y26A Elida 33.39 327 ⇓P **P** 00 58 16.7 -0.4
baz=34
Z25A Roswell 33.40 325 ⇑P **P** 00 58 18.7 +1.4
baz=34
124A Stringfield Ra 33.41 324 ⇑P **P** 00 58 18.8 +1.3
baz=34,SNR=31
U31A Nine Bar Ranch 33.41 334 ⇑P **P** 00 58 18.0 +0.7
baz=34
223A Chaparral, Ant 33.51 322 ⇓P **P** 00 58 19.2 +0.9
baz=34
X27A F and S Farms, 33.56 329 ⇑P **P** 00 58 19.3 +0.7
baz=34,SNR=12
MVL Millersville 33.58 9 eP **P** 00 58 19.7 +1.1
comp=Z,48nm,1.1s
W28A Vega 33.59 330 ⇓P **P** 00 58 19.0 +0.2
baz=34
SFIN Scholer Farm 33.72 354 eP **P** 00 58 17.5 -2.3
SFIN Scholer Farm 33.72 354 ⇓P **P** 00 58 20.1 +0.4
baz=34
T32A Huddler Ranch, 33.72 336 ⇑P **P** 00 58 19.9 0.0
baz=34
V29A Stinnett 33.75 332 ⇑P **P** 00 58 20.7 +0.4
baz=34
Z24A Sheeppen Canyo 33.81 324 ⇓P **P** 00 58 22.4 +1.5
baz=34,SNR=45
123A Bell Site, Whi 33.84 323 ⇓P **P** 00 58 22.5 +1.4
baz=34
X26A CR and CF Fran 33.86 328 ⇑P **P** 00 58 21.9 +0.6
baz=34,SNR=13
W27A Bowe Ranch, En 33.86 329 ⇓P **P** 00 58 21.8 +0.5
baz=34,SNR=15
Y25A Mesa, Roswell 33.86 326 ⇓P **P** 00 58 21.9 +0.6
baz=34,SNR=42
U30A WK&E Inc. Balk 33.90 333 ⇓P **P** 00 58 21.6 +0.1
baz=34,SNR=11
T31A Randall Ranch, 33.96 335 ⇓P **P** 00 58 21.8 -0.2
baz=34,SNR=9.2
V28A Channing 33.99 331 ⇑P **P** 00 58 23.2 +0.9
baz=34
222A Williams Famil 33.99 321 ⇑P **P** 00 58 23.8 +1.3
baz=34
SSPA Standing Stone 34.01 6 eP **P** 00 58 22.5 +0.2
comp=Z,54nm,1.1s
U29A Oasis Ranch, S 34.11 333 ⇓P **P** 00 58 23.9 +0.5
baz=34
S32A Newby Ranch, P 34.18 337 ⇑P **P** 00 58 24.8 +0.9
baz=34
W26A Owens Ranch, T 34.24 328 ⇓P **P** 00 58 25.6 +1.0

baz=34,SNR=9.8
Z23A Rita Site, Whi 34.27 323 ⇑P **P 00 58 27.2 +2.4**
baz=34,SNR=35
T30A Plains 34.28 334 ⇑P **P 00 58 25.0 +0.2**
baz=34
Y24A Capitan 34.28 325 ⇓P **P 00 58 25.9 +0.9**
baz=34,SNR=86
V27A Dan Oppiter Fa 34.30 330 ⇓P **P 00 58 25.7 +0.6**
baz=34
X25A Clemmons Ranch 34.30 327 ⇓P **P 00 58 25.7 +0.6**
baz=34,SNR=7.7
S31A Mullinville 34.33 336 ⇓P **P 00 58 24.9 -0.3**
baz=34,SNR=12
122A Conniff Cattle 34.34 322 ⇑P **P 00 58 26.8 +1.3**
baz=34
R33A Olander Ranch, 34.35 338 ⇓P **P 00 58 25.2 -0.1**
baz=34
320A Kipp Ranch, An 34.40 319 ⇑P **P 00 58 27.1 +1.1**
baz=34,SNR=41
U28A Mallet 34.50 331 ⇓P **P 00 58 27.1 +0.4**
baz=35
KSU1 Kansas State U 34.58 341 *e*P **P 00 58 28.5 +1.2**
comp=Z,140nm,0.9s
KSU1 LR LR
comp=Z,3µm,19.0s
Y23A Lovelace Mesa, 34.64 324 ⇓P **P 00 58 29.3 +1.1**
baz=35,SNR=44
Z22A Elephant Butte 34.70 323 ⇓P **P 00 58 28.9 +0.2**
baz=35,SNR=12
T29A Hugoton 34.70 333 ⇓P **P 00 58 29.3 +0.8**
baz=35,SNR=9.9
W25A X Bar L Ranch, 34.71 328 ⇑P **P 00 58 28.8 +0.2**
baz=35,SNR=25
121A Cookes Peak, D 34.71 321 ⇑P **P 00 58 29.2 +0.5**
baz=35,SNR=28
S30A Montezuma 34.75 335 ⇓P **P 00 58 29.9 +1.0**
baz=35,SNR=13
X24A Lazy VL Ranch, 34.75 326 ⇓P **P 00 58 29.5 +0.4**
baz=35
220A Playas Peak, P 34.77 319 ⇓P **P 00 58 30.7 +1.5**
baz=35,SNR=68
V26A Tequesquite Ra 34.80 329 ⇑P **P 00 58 30.4 +1.0**
baz=35,SNR=24
U27A Thompson Grove 34.82 331 ⇓P **P 00 58 29.8 +0.3**
baz=35,SNR=12
ALLY Alegheny Colle 34.82 3 *e*P **P 00 58 29.6 +0.3**
comp=Z,45nm,0.9s
R31A Burdett 34.92 336 ⇑P **P 00 58 30.5 +0.2**
baz=35,SNR=11
319A Douglas 34.93 318 ⇓P **P 00 58 31.9 +1.3**
baz=35,SNR=24
PAL Palisades 34.99 12 *e*P P 00 58 34.0 +3.2
PAL pmax pmax
comp=Z,102nm,1.1s
PAL Palisades 34.99 12 *e*P P 00 58 34.0 +3.2
comp=Z,102nm,1.1s
S29A Ulysses 35.01 334 ⇑P **P 00 58 31.5 +0.3**
baz=35,SNR=7.9
T28A Walsh 35.05 332 ⇑P **P 00 58 32.8 +1.3**
baz=35
BNM Barren Site 35.13 324 *e*P **P 00 58 33.2 +0.8**
comp=Z,59nm,1.3s
Q32A Meitler Ranch, 35.16 338 ⇑P **P 00 58 33.5 +1.1**
baz=35
Z21A St. Cloud Mine 35.16 322 ⇑P **P 00 58 34.8 +2.1**
baz=35,SNR=30
Y22A Socorro 35.18 324 ⇑P **P 00 58 34.5 +1.7**
baz=35,SNR=91
X23A Hourglass Bar 35.19 325 ⇓P **P 00 58 34.3 +1.4**
baz=35
W24A Lazy 6 Ranch, 35.21 327 ⇓P **P 00 58 34.4 +1.4**
baz=35,SNR=37
R30A Dighton 35.22 336 ⇓P **P 00 58 33.5 +0.6**
baz=35,SNR=15
P33A Williams Farm, 35.25 340 ⇓P **P 00 58 34.4 +1.4**
baz=35
Y22D IRIS PASSCAL I 35.25 324 ⇑P **P 00 58 34.7 +1.4**
baz=35
U26A Atchley Ranch, 35.25 330 ⇑P **P 00 58 33.7 +0.4**
baz=35,SNR=13
120A U Bar Ranch, L 35.26 320 ⇓P **P 00 58 35.4 +2.0**
baz=35,SNR=79
V25A Rancho No Teng 35.26 328 ⇓P **P 00 58 35.2 +1.7**
baz=35,SNR=65
T27A Campo 35.28 332 ⇓P **P 00 58 34.6 +1.0**
baz=35
ERPA Erie 35.30 3 *e*P **P 00 58 33.2 -0.2**
comp=Z,36nm,1.0s
ERPA LR LR
comp=Z,5µm,19.0s
S28A Manter 35.33 333 ⇑P **P 00 58 35.2 +1.3**
baz=36,SNR=6.7
LENM Lemitar 35.34 324 *e*P **P 00 58 34.6 +0.4**
Q31A Ellis 35.49 337 ⇓P **P 00 58 36.1 +0.9**
baz=36,SNR=16
V24A Rampart Ranch, 35.52 327 ⇑P **P 00 58 37.0 +1.2**
baz=36,SNR=25
W23A Werner Place, 35.59 326 ⇑P **P 00 58 37.9 +1.6**
baz=36,SNR=31
U25A Circle Dot Ran 35.59 329 ⇑P **P 00 58 37.7 +1.4**
baz=36,SNR=6.0
ANMO Albuquerque 35.60 325 *e*P **P 00 58 34.4 -2.1**
comp=Z,94nm,1.2s
ANMO LR LR
comp=Z,4µm,20.0s
ANMO Albuquerque 35.60 325 P **P 00 58 34.9 -1.5**
comp=Z,50nm,1.0s,baz=142,slow=9.1,SNR=24
Z20A Nine Sixteen R 35.60 321 ⇓P **P 00 58 38.3 +1.9**
baz=36,SNR=28
X22A Bernardo 35.60 324 ⇓P **P 00 58 38.2 +1.8**
baz=36,SNR=19
LAZ Ladron 35.61 324 *e*P **P 00 58 37.5 +1.0**
comp=Z,59nm,1.2s
LAZ *e*PP **PP 00 59 57.6 +0.1**
Y21A Point of Rocks 35.65 323 ⇓P **P 00 58 38.1 +1.2**
baz=36,SNR=34
R29A Marienthal 35.70 335 ⇑P **P 00 58 38.2 +1.2**
baz=36
P32A Huiting Farm, 35.73 339 ⇓P **P 00 58 37.7 +0.4**
baz=36,SNR=12
Q30A Quinter 35.79 336 ⇑P **P 00 58 38.1 +0.3**
baz=36,SNR=8.4
T26A Comanche Natio 35.79 331 ⇑P **P 00 58 38.3 +0.3**
baz=36,SNR=7.7
BINY Binghamton 35.79 8 *e*P **P 00 58 38.3 +0.6**
comp=Z,64nm,1.2s
BINY LR LR
comp=Z,7µm,20.0s
S27A Las Animas 35.87 332 ⇓P **P 00 58 39.0 +0.4**
baz=36
R28A Tribune 35.92 334 ⇑P **P 00 58 39.0 0.0**
baz=36,SNR=38
W22A Albuquerque 35.93 325 ⇓P **P 00 58 40.6 +1.4**
baz=36,SNR=15
P31A Stockton 35.93 338 ⇓P **P 00 58 39.7 +0.8**
baz=36
Y20A Horse Springs, 36.00 322 ⇑P **P 00 58 41.5 +1.6**
baz=36,SNR=31
X21A Alamocita Cree 36.02 323 ⇓P **P 00 58 41.1 +1.1**
baz=36
Q29A Oakley 36.02 335 ⇓P **P 00 58 40.5 +0.7**
baz=36,SNR=16
V23A Ortiz Mt. (NFS 36.03 326 ⇓P **P 00 58 41.3 +1.2**
baz=36,SNR=22
U24A Moreno Valley 36.05 328 ⇓P **P 00 58 41.7 +1.4**
baz=36,SNR=17
S26A Kim 36.09 331 ⇓P **P 00 58 40.8 +0.3**
baz=36
T25A Trinidad 36.16 330 ⇑P **P 00 58 42.5 +1.3**
baz=36,SNR=45
O32A Brockman Farm, 36.18 340 ⇑P **P 00 58 41.9 +0.8**
baz=36,SNR=12
SCIA State Center 36.24 347 *e*P **P 00 58 40.2 -1.3**
comp=Z,73nm,0.9s
SCIA LR LR
comp=Z,4µm,20.0s
P30A Selden 36.28 337 ⇓P **P 00 58 42.8 +0.7**
baz=36,SNR=19
R27A Eads 36.31 333 ⇓P **P 00 58 43.1 +0.7**
baz=36,SNR=12
W21A San Fidel 36.41 324 ⇓P **P 00 58 45.2 +1.9**
baz=37,SNR=34
O31A Woolen Ranch, 36.46 338 ⇓P **P 00 58 44.8 +1.3**
baz=37
U23A El Rito 36.47 327 ⇓P **P 00 58 44.9 +1.0**
baz=37,SNR=85
TUC Tucson 36.51 318 *e*P **P 00 58 42.9 -1.2**
TUC pmax pmax
comp=Z,43nm,1.0s
TUC MLR MLR
comp=Z,7µm,19.0s
TUC Tucson 36.51 318 *e*P **P 00 58 42.9 -1.2**
comp=Z,44nm,1.0s
TUC LR LR
comp=Z,7µm,19.0s
X20A Quemado 36.51 323 ⇑P **P 00 58 45.5 +1.3**
baz=37,SNR=9.9
Q28A Sharon Springs 36.52 335 ⇓P **P 00 58 44.8 +0.7**
baz=37,SNR=16
V22A San Miguel Ran 36.56 326 ⇑P **P 00 58 46.2 +1.5**
baz=37,SNR=15
S25A Robets Cordova 36.58 330 ⇑P **P 00 58 45.3 +0.5**
baz=37
T24B San Luis 36.60 329 ⇑P **P 00 58 46.3 +1.3**
baz=37,SNR=33
P29A Atwood 36.61 336 ⇓P **P 00 58 45.3 +0.5**
baz=37,SNR=12
R26A Arlington 36.62 332 ⇓P **P 00 58 45.4 +0.4**
baz=37
JFWS Jewell Farm 36.63 351 *e*P **P 00 58 44.3 -0.6**
JFWS pmax pmax
comp=Z,48nm,0.7s
JFWS MLR MLR
comp=Z,3µm,20.0s
JFWS Jewell Farm 36.63 351 *e*P **P 00 58 44.2 -0.6**
comp=Z,48nm,0.7s
JFWS LR LR
comp=Z,3µm,20.0s
N32A Stulken Farm, 36.64 340 ⇓P **P 00 58 47.1 +2.1**
baz=37
TRY Troy 36.70 11 *e*P **P 00 58 47.2 +1.8**
O30A MW Ranch, Wils 36.76 337 ⇓P **P 00 58 47.7 +1.7**
baz=37,SNR=6.9
KSCO Kaye Shedlock' 36.83 334 *e*P **P 00 58 47.7 +1.0**
KSCO *e*PP **PnPn 01 00 11.0 +0.1**
KSCO Kaye Shedlock' 36.83 334 ⇑P **P 00 58 47.9 +1.2**
baz=37,SNR=6.3
U22A Llaves 36.87 327 ⇑P **P 00 58 49.2 +2.0**
baz=37,SNR=52
V21A Milan 36.89 325 ⇓P **P 00 58 49.4 +1.9**
baz=37,SNR=46
R25A Fountain Ranch 36.89 331 ⇑P **P 00 58 48.5 +1.1**
baz=37
W20A Ramah 36.91 323 ⇓P **P 00 58 48.3 +0.7**
baz=37
T23A Casias Ranch, 36.92 328 ⇓P **P 00 58 49.0 +1.3**
baz=37,SNR=42
N31A Bailey Ranch, 36.92 339 ⇓P **P 00 58 48.9 +1.5**
baz=37
P28A Saint Francis 36.92 335 ⇓P **P 00 58 48.5 +1.0**
baz=37,SNR=10
HRV Adam Dziewonsk 36.94 14 *e*P **P 00 58 47.6 +0.2**
HRV pmax pmax
comp=Z,33nm,1.3s
HRV Adam Dziewonsk 36.94 14 *e*P **P 00 58 47.6 +0.2**
comp=Z,33nm,1.3s
S24A Houchin Ranch, 36.95 330 ⇑P **P 00 58 49.3 +1.3**
baz=37,SNR=40
O29A 4D Ranch, Culb 37.00 337 ⇓P **P 00 58 49.8 +1.6**
baz=37,SNR=5.4
Q26A Hugo 37.16 333 ⇓P **P 00 58 50.8 +1.3**
baz=37,SNR=9.0
BGNE Belgrade 37.17 341 *e*P **P 00 58 50.1 +0.6**
BGNE Belgrade 37.17 341 ⇓P **P 00 58 51.7 +2.2**
baz=37,SNR=5.3
SDCO Great Sand Dun 37.18 329 *e*P **P 00 58 48.7 -1.3**
comp=Z,107nm,1.2s
SDCO S **S 01 04 37.1 +1.2**
SDCO LR LR
comp=Z,5µm,22.0s
P27A Ficken Ranch, 37.26 334 ⇑P **P 00 58 52.0 +1.6**
baz=37,SNR=6.6
N30A Hueftle Ranch, 37.31 338 ⇓P **P 00 58 52.0 +1.2**
baz=38
ACCN Adirondack Com 37.33 11 *e*P **P 00 58 51.2 +0.4**
comp=Z,28nm,1.0s
U21A Nageezi 37.35 326 ⇓P **P 00 58 53.5 +2.1**
baz=38,SNR=41
R24A Sanders Place, 37.36 330 ⇑P **P 00 58 52.8 +1.4**
baz=38,SNR=21
V20A Brimhall 37.36 324 ⇓P **P 00 58 53.3 +1.9**
baz=38,SNR=24
T22A Edith 37.36 327 ⇓P **P 00 58 53.4 +1.9**
baz=38,SNR=23
LCO Las Campanas 37.38 163 *e*P **P 00 58 53.6 +1.9**
comp=Z,264nm,2.2s
LCO LR LR
comp=Z,3µm,21.0s
X18A Snowflake 37.39 321 ⇓P **P 00 58 53.6 +1.9**
baz=38,SNR=28
M31A Lambtecht Ranc 37.39 340 ⇑P **P 00 58 53.3 +1.9**
baz=38
O28A Krutsinger Ran 37.39 336 ⇑P **P 00 58 52.8 +1.3**
baz=38,SNR=8.6
S23A Nye Farm, Mont 37.41 329 ⇑P **P 00 58 53.4 +1.6**
baz=38,SNR=7.3
Q25A Bedland, Calha 37.49 332 ⇑P **P 00 58 53.9 +1.5**
baz=38,SNR=6.1
N29A Votaw Ranch, W 37.53 337 ⇓P **P 00 58 54.4 +1.8**
baz=38
P26A Davis Ranch, A 37.60 333 ⇑P **P 00 58 54.6 +1.3**
baz=38
W18A Petrified Fore 37.65 322 *e*P **P 00 58 53.9 +0.1**
W18A Petrified Fore 37.65 322 ⇓P **P 00 58 55.0 +1.2**
baz=38,SNR=20
214A Organ Pipe Nat 37.68 316 ⇑P **P 00 58 55.2 +1.2**
baz=38,SNR=9.2
R23A Moffat 37.69 330 ⇓P **P 00 58 56.1 +1.8**
baz=38,SNR=47
T21A Navajo Lake 37.69 327 ⇓P **P 00 58 56.0 +1.8**
baz=38,SNR=39
O27A Beecher Island 37.74 335 ⇑P **P 00 58 55.5 +1.1**
baz=38
N28A Pribbeno Ranch 37.77 336 ⇑P **P 00 58 55.6 +0.9**
baz=38,SNR=12
U20A Newcomb 37.80 325 ⇓P **P 00 58 57.1 +2.0**
baz=38,SNR=31
NCB Newcomb 37.80 10 *e*P **P 00 58 56.8 +2.0**
comp=Z,63nm,1.7s
NCB LR LR
comp=Z,6µm,22.0s
S22A 4UR Ranch, Cre 37.87 328 ⇓P **P 00 58 56.0 +0.2**
baz=38
M30A Dale-Ortello V 37.88 339 ⇑P **P 00 58 56.9 +1.4**
baz=38,SNR=7.5
HNH Hanover 37.91 12 *e*P P 00 58 59.7 +4.0
P25A Willow Gulch B 37.93 333 ⇑P **P 00 58 57.3 +1.2**
baz=38,SNR=34
Q24A Divide 37.95 331 ⇑P **P 00 58 57.7 +1.2**
baz=38,SNR=51
MDV Middlebury 38.02 11 *e*P **P 00 58 57.7 +1.1**
L31A Butterfield Fa 38.08 340 ⇓P **P 00 58 58.1 +0.9**
baz=38,SNR=13
M29A Burnside Ranch 38.09 338 ⇑P **P 00 58 58.3 +0.9**
baz=38,SNR=16
O26A Horse Wrangler 38.14 334 ⇓P **P 00 58 58.5 +0.7**
baz=38,SNR=9.1
L30A Spencer Herefo 38.18 339 ⇑P **P 00 58 58.9 +0.8**
baz=38,SNR=10.0
R22A Saguache, Gunn 38.19 329 ⇑P **P 00 58 58.1 -0.4**
baz=38,SNR=27
Q23A Hartsel 38.24 330 ⇑P **P 00 58 59.1 +0.1**
baz=38
X16A Lo Mia Camp, P 38.25 320 ⇓P **P 00 58 59.1 +0.2**
baz=38,SNR=61
P24A Kohler Place, 38.27 332 ⇓P **P 00 58 59.3 +0.2**
baz=38
N27A Anderson Farm, 38.28 335 ⇓P **P 00 58 59.6 +0.6**
baz=38,SNR=14
M28A Bar X Bar Ranc 38.31 337 ⇑P **P 00 58 59.8 +0.5**
baz=38,SNR=6.2
LONY Lake Ozonia 38.37 9 *e*P **P 00 59 00.4 +0.8**
comp=Z,37nm,1.2s
LONY LR LR
comp=Z,5µm,21.0s
MVCO Mesa Verde 38.38 326 *e*P **P 00 58 58.7 -1.4**
comp=Z,258nm,1.3s
MVCO LR LR
comp=Z,3µm,19.0s
MVCO Mesa Verde 38.38 326 ⇓P **P 00 59 00.8 +0.8**
baz=38,SNR=79
O25A Wiggins 38.39 333 ⇓P **P 00 59 00.9 +0.9**
baz=39,SNR=8.8
LBNH Lisbon 38.50 12 *e*P **P 00 59 01.0 +0.3**
LBNH pmax pmax
comp=Z,109nm,1.8s
LBNH MLR MLR
comp=Z,6µm,22.0s
LBNH Lisbon 38.50 12 *e*P **P 00 59 01.0 +0.3**
comp=Z,109nm,1.8s
LBNH LR LR
comp=Z,6µm,22.0s
L29A Maesberg Ranch 38.55 339 ⇓P **P 00 59 01.7 +0.5**
baz=39,SNR=12
N26A Koester Ranch, 38.59 335 ⇑P **P 00 59 02.6 +1.0**
baz=39
Z14A Wintersburg 38.59 317 ⇑P **P 00 59 02.8 +1.2**
baz=39,SNR=9.4
P23A Jefferson 38.61 331 ⇓P **P 00 59 03.5 +1.4**
baz=39,SNR=51
R21A Cimarron 38.71 328 ⇓P **P 00 59 03.6 +0.8**
baz=39,SNR=29
S20A Disappointment 38.75 327 ⇑P **P 00 59 04.0 +0.8**
baz=39,SNR=34
Q22A Crested Butte, 38.75 329 ⇑P **P 00 59 04.4 +1.2**
baz=39
FRNY Flat Rock 38.75 10 *e*P **P 00 59 02.4 -0.3**
comp=Z,38nm,1.4s
FRNY *e*PP **PP 01 00 31.8 +0.1**
K30A Basset 38.79 340 ⇓P **P 00 59 03.6 +0.4**
baz=39,SNR=19
113A Mohawk Valley, 38.80 316 ⇑P **P 00 59 04.0 +0.7**
baz=39,SNR=25
ECSD EROS Data Cent 38.82 344 *e*P **P 00 59 01.4 -2.0**
comp=Z,42nm,1.0s
ECSD LR LR
comp=Z,4µm,20.0s
M27A Reverse DX Ran 38.83 336 ⇓P **P 00 59 04.3 +0.8**
baz=39
ISCO Idaho Springs 38.83 331 *e*P **P 00 59 04.4 +0.5**
ISCO pmax pmax
comp=Z,26nm,0.9s
ISCO MLR MLR
comp=Z,2µm,21.0s
ISCO Idaho Springs 38.83 331 *e*P **P 00 59 04.4 +0.5**
comp=Z,26nm,0.9s
ISCO LR LR
comp=Z,2µm,21.0s
ISCO Idaho Springs 38.83 331 ⇑P **P 00 59 04.9 +0.9**
baz=39,SNR=28
O24A Longmont 38.83 332 ⇓P **P 00 59 04.8 +1.1**
baz=39,SNR=7.2
L28A Connealy Angus 38.89 337 ⇑P **P 00 59 05.0 +0.9**
baz=39,SNR=8.4
WUAZ Wupatki 38.91 321 *e*P **P 00 59 03.8 -0.7**
comp=Z,117nm,1.0s
WUAZ LR LR
comp=Z,4µm,20.0s
WUAZ Wupatki 38.91 321 ⇑P **P 00 59 05.9 +1.4**
baz=39,SNR=66
N25A Grover 38.95 334 ⇓P **P 00 59 05.4 +0.7**
baz=39
Y14A Wickenburg 38.97 318 ⇓P **P 00 59 07.4 +2.6**
baz=39,SNR=30
R20A Redvale 39.02 327 ⇓P **P 00 59 05.4 +0.1**
baz=39,SNR=35
SMCO Snowmass 39.02 329 *e*P **P 00 59 04.5 -1.1**
comp=Z,98nm,1.3s
Q21A Lamborn Mesa, 39.07 329 ⇑P **P 00 59 07.5 +1.7**
baz=39,SNR=45
M26A McRoberts Ranc 39.08 335 ⇓P **P 00 59 07.2 +1.5**
baz=39
PV01 Paradox Valley 39.08 327 *e*P **P 00 59 06.1 +0.1**
comp=Z,8µm,1.3s
K29A Lazy Trails An 39.11 339 ⇑P **P 00 59 07.4 +1.5**
baz=39,SNR=8.4
PV15 Paradox Valley 39.18 327 *e*P **P 00 59 05.9 -0.9**
P22A Eagle 39.23 330 ⇓P **P 00 59 08.3 +1.1**
baz=39,SNR=59
O23A Lake Granby, G 39.30 331 ⇑P **P 00 59 09.0 +1.2**
baz=40,SNR=15
N24A Carr 39.31 333 ⇑P **P 00 59 08.5 +0.7**
baz=40
J30A Dallas 39.32 341 ⇑P **P 00 59 07.0 -0.6**
baz=40,SNR=54
SPMN St. Paul 39.33 349 *e*P **P 00 59 05.3 -2.3**
SPMN St. Paul 39.33 349 ⇑P **P 00 59 07.8 +0.2**
baz=40,SNR=16
PV05 Paradox Valley 39.33 326 *e*P **P 00 59 06.5 -1.5**
M25A Palm-Egli Farm 39.44 334 ⇓P **P 00 59 09.3 +0.5**
baz=40
K28A Ten Mile Ranch 39.45 338 ⇑P **P 00 59 09.6 +0.9**
baz=40,SNR=8.9
P21A Newcastle 39.52 329 ⇑P **P 00 59 10.8 +1.2**
baz=40,SNR=50
L26A Underwood Farm 39.53 336 ⇓P **P 00 59 10.7 +1.3**
baz=40
Q20A Ridgley Place, 39.53 328 ⇑P **P 00 59 10.4 +0.7**
baz=40,SNR=40
O22A Kremmling 39.56 331 ⇑P **P 00 59 11.1 +1.1**
baz=40,SNR=16
PV09 Paradox Valley 39.65 327 *e*P **P 00 59 13.1 +2.3**
J29A Okreek 39.68 340 ⇓P **P 00 59 12.9 +2.3**
baz=40,SNR=21
GLA Glamis 39.70 316 *e*P **P 00 59 12.3 +1.4**
GLA pmax pmax
comp=Z,72nm,1.3s
GLA Glamis 39.70 316 *e*P **P 00 59 12.3 +1.4**
comp=Z,72nm,1.3s
GLA Glamis 39.70 316 ⇑P **P 00 59 12.2 +1.4**
baz=40,SNR=22
K27A Flueckinger Fa 39.76 337 ⇓P **P 00 59 13.1 +1.7**
baz=40,SNR=5.3
M24A Cheyenne 39.80 334 ⇑P **P 00 59 13.6 +1.8**
baz=40,SNR=8.4
I30A Oacoma 39.83 341 ⇑P **P 00 59 13.7 +1.9**
baz=40,SNR=8.4
N23A Red Feather La 39.85 332 ⇓P **P 00 59 13.8 +1.5**
baz=40,SNR=17
Y12C Blythe 39.88 317 ⇑P **P 00 59 13.9 +1.5**
baz=40,SNR=8.7
PDMCI Parker Dam,Lak 39.95 318 ⇑P **P 00 59 14.9 +2.0**
baz=40,SNR=13
PHWY Pilot Hill 39.95 333 *e*P **P 00 59 14.8 +1.6**
comp=Z,15nm,0.9s
P20A De Beque 39.99 328 ⇑P **P 00 59 15.5 +2.1**
baz=40,SNR=58
L25A Engebretsen Ra 40.00 335 ⇑P **P 00 59 15.7 +2.3**
baz=40
J28A Allard Ranch, 40.01 339 ⇓P **P 00 59 14.1 +0.7**
baz=40,SNR=19
N22A Wattenberg Ran 40.02 332 ⇓P **P 00 59 15.7 +2.0**
baz=40,SNR=5.8
O21A Pagoda 40.06 330 ⇓P **P 00 59 15.9 +1.8**
baz=40,SNR=12
U15A North Rim 40.07 322 ⇓P **P 00 59 15.7 +1.4**
baz=40,SNR=43
PKME Peaks-Kenny Pk 40.08 15 *e*P **P 00 59 14.5 +0.7**
comp=Z,43nm,1.0s
PKME LR LR
comp=Z,6µm,20.0s
H03N2 Juan Fernandez 40.13 175 T T 01 41 56.2
baz=354,slow=0.7,SNR=138
H03N1 Juan Fernandez 40.13 175 T T 01 42 00.9
baz=354,slow=0.7,SNR=197
K26A Motz Farm, Whi 40.13 336 ⇑P **P 00 59 16.6 +2.2**
baz=40,SNR=6.0
H03N3 Juan Fernandez 40.14 175 T T 01 41 50.5
baz=354,slow=0.7,SNR=147
J27A Elkhorn Farm, 40.15 338 ⇓P **P 00 59 15.7 +1.2**
baz=40,SNR=11
BRSD Miller 40.16 342 *e*P **P 00 59 13.2 -1.4**
BRSD *e*ScP **S 01 05 14.3 -5.7**
BRSD Miller 40.16 342 ⇑P **P 00 59 14.6 +0.1**
baz=40,SNR=13
M23A Laramie 40.20 333 ⇑P **P 00 59 17.0 +1.8**
baz=40,SNR=17
I29A Vivian Onida 40.21 340 ⇓P **P 00 59 16.2 +1.2**
baz=40,SNR=8.7
W13A Hualapai Mount 40.25 319 ⇑P **P 00 59 16.2 +0.5**
baz=40,SNR=41
SWSC Sam W. Stewart 40.31 315 ⇑P **P 00 59 17.2 +1.2**
baz=40,SNR=5.3
L24A Wheatland 40.32 334 ⇓P **P 00 59 17.3 +1.3**
baz=40
K25A Mack Ranch, Ha 40.34 336 ⇑P **P 00 59 17.2 +1.0**
baz=40
DVTC Desert V Tower 40.38 314 ⇓P **P 00 59 18.0 +1.4**
baz=40
O20A White River Ci 40.38 329 *e*P **P 00 59 16.8 +0.1**
O20A *e*PP **PP 01 00 48.6 -1.2**
O20A White River Ci 40.38 329 ⇑P **P 00 59 16.3 -0.4**
baz=40,SNR=43
P19A Cripple Cowboy 40.39 328 ⇑P **P 00 59 18.1 +1.3**

baz=41
BC3 Big Chuckawall 40.47 316 ⇓P P 00 59 19.0 +1.6
baz=41,SNR=11
I28A Midland 40.49 339 ⇑P P 00 59 18.8 +1.5
baz=41,SNR=8.8
IRM Iron Mountain 40.55 317 ⇓P P 00 59 20.3 +2.4
baz=41,SNR=6.3
CFAA Coronel Fontan 40.55 161 P P 00 59 16.8 -1.2
CFAA Coronel Fontan 40.55 161 P P 00 59 16.8 -1.2
comp=Z,2.3nm,1.0s,baz=330,slow=6.9,SNR=21
M22A Cedar Creek Ra 40.55 332 ⇑P P 00 59 19.1 +0.9
baz=41
L23A Garrett 40.71 333 ⇓P P 00 59 20.3 +0.9
baz=41,SNR=35
H29A Onida 40.72 341 ⇑P P 00 59 20.5 +1.3
baz=41,SNR=13
MONP Monument Peak 40.73 314 ⇓P P 00 59 20.8 +1.1
baz=41
BAR Barrett 40.80 314 eP P 00 59 24.2 +4.1
comp=Z,249nm,3.0s
G30A Faulkton 40.83 342 ⇓P P 00 59 20.3 +0.2
baz=41,SNR=16
SRU San Rafael 40.85 326 eP P 00 59 19.6 -1.0
SRU pmax pmax
comp=Z,187nm,0.9s
SRU San Rafael 40.85 326 eP P 00 59 19.6 -1.0
SRU eScP ScP 01 05 18.2 +8.4
comp=Z,187nm,0.9s
I27A Quinn 40.87 339 ⇑P P 00 59 21.1 +0.7
baz=41,SNR=15
BDFB Brasilia 40.89 123 eP P 00 59 21.0 -0.1
BDFB Brasilia 40.89 123 P P 00 59 20.1 -1.0
comp=Z,42nm,0.8s,baz=280,slow=9.2,SNR=30
BDFB LR LR 01 15 55.7
comp=Z,5μm,19.4s,baz=114,slow=36
N20A Spence Gulch, 40.92 330 ⇓P P 00 59 21.2 +0.1
baz=41,SNR=44
O19A Miners Draw (B 40.95 329 ⇓P P 00 59 22.5 +1.1
baz=41,SNR=12
J25A Sunshine Ranch 40.96 336 ⇓P P 00 59 22.5 +1.2
baz=41
L22A Ellis Ranch, M 40.97 333 ⇓P P 00 59 22.5 +0.9
baz=41,SNR=24
H28A Mission Ridge 41.03 340 ⇑P P 00 59 23.4 +1.6
baz=41,SNR=8.5
BELC Belle Mtn. Jos 41.04 316 ⇓P P 00 59 23.7 +1.6
baz=41,SNR=10.0
CPUP Villa Florida 41.05 144 eP P 00 59 22.0 -0.1
CPUP ePP PP 01 00 57.7 +0.7
CPUP Villa Florida 41.05 144 P P 00 59 21.1 -0.9
comp=Z,5.1nm,0.6s,baz=317,slow=8.9,SNR=12
CPUP LR LR 01 18 23.9
comp=Z,4μm,18.4s,baz=303,slow=39
RWWY Rawlins 41.06 332 eP P 00 59 26.8 +4.5
comp=Z,91nm,1.1s
Q16A Castle Valley 41.08 325 eP P 00 59 21.1 -1.3
Q16A eScP ScP 01 05 09.9 -0.9
Q16A Castle Valley 41.08 325 ⇓P P 00 59 23.2 +0.7
baz=41,SNR=19
G29A Hoven 41.13 341 ⇑P P 00 59 23.7 +1.1
baz=41,SNR=12
I26A New Underwood 41.13 338 ⇓P P 00 59 23.8 +1.1
baz=41,SNR=9.6
PFO Pinyon Flat Ob 41.14 315 eP P 00 59 24.2 +1.2
comp=Z,481nm,3.0s
PFO Pinyon Flat Ob 41.14 315 ⇓P P 00 59 25.3 +2.4
baz=41,SNR=9.2
PFO Pinyon Flat Ob 41.14 315 LR LR 01 15 57.7
comp=Z,4μm,21.5s,baz=125,slow=36
K23A Bowen Ranch, D 41.19 334 ⇑P P 00 59 23.8 +0.5
baz=41
109C Camp Elliot, M 41.22 314 ⇓P P 00 59 25.2 +1.7
baz=41
GMRC Granite Mounta 41.24 317 ⇑P P 00 59 25.1 +1.3
baz=41,SNR=8.0
J24A Dixon Ranch, L 41.26 336 ⇑P P 00 59 24.6 +0.8
baz=41,SNR=5.2
G28A Parade 41.35 340 ⇑P P 00 59 26.2 +1.8
baz=42,SNR=8.9
TMUT Trail Mountain 41.36 326 eP P 00 59 25.4 +0.6
comp=Z,118nm,1.4s
H27A Howes 41.36 339 ⇓P P 00 59 25.3 +0.8
baz=42,SNR=20
MVU Marysvale 41.39 324 eP P 00 59 25.2 +0.1
comp=Z,644nm,2.7s
MVU ePP PP 01 01 02.0 +1.1
MVU LR LR
comp=Z,6μm,19.0s
F30A Leola 41.43 343 ⇓P P 00 59 26.0 +1.0
baz=42
I25A Rochford 41.46 337 ⇓P P 00 59 27.0 +1.5
baz=42,SNR=17
K22A Casper 41.51 333 ⇓P P 00 59 26.7 +0.8
baz=42,SNR=15
H26A Fairpoint 41.60 338 ⇓P P 00 59 27.2 +0.7
baz=42,SNR=12
ARUT Antelope Range 41.65 322 eP P 00 59 26.8 -0.3
ARUT pmax pmax
comp=Z,536nm,0.7s
ARUT Antelope Range 41.65 322 eP P 00 59 26.8 -0.3
comp=Z,536nm,0.7s
MURC Murrieta 41.66 315 ⇑P P 00 59 29.1 +1.9
baz=42
RSSD Black Hills 41.66 337 eP P 00 59 28.1 +0.9
RSSD pmax pmax
comp=Z,100nm,0.9s
RSSD Black Hills 41.66 337 eP P 00 59 28.1 +0.9
comp=Z,100nm,0.9s
F29A Eureka 41.67 342 ⇑P P 00 59 28.8 +1.7
baz=42,SNR=12
I24A Kuemmerle Ranc 41.68 336 ⇓P P 00 59 28.4 +1.2
baz=42
J23A Dilts Ranch, B 41.69 335 ⇓P P 00 59 29.1 +1.8
baz=42
HEC Hector,Ludlow 41.73 317 ⇓P P 00 59 29.7 +2.0
baz=42,SNR=9.7
EYMN Ely 41.73 351 eP P 00 59 27.6 +0.2
EYMN LR LR
comp=Z,4μm,20.0s
TUQ Turquoise Moun 41.80 318 ⇑P P 00 59 30.8 +2.5
baz=42,SNR=12
K21A Alcova 41.82 333 ⇑P P 00 59 29.4 +0.9
baz=42,SNR=28
BBRC Big Bear Solar 41.82 316 ⇑P P 00 59 30.2 +1.5
baz=42
H25A Fruitdale 41.91 338 ⇓P P 00 59 31.1 +2.1
baz=42,SNR=5.6
SHPR Sheep Range 41.92 320 eP P 00 59 29.7 +0.3
F28A McLaughlin 42.00 341 ⇓P P 00 59 30.9 +1.3
baz=42,SNR=8.6
E30A Jud 42.01 343 ⇓P P 00 59 30.9 +1.2
baz=42,SNR=32
J22A Midwest 42.09 334 ⇑P P 00 59 31.3 +0.7
baz=42,SNR=50
MPU Maple Canyon 42.09 326 eP P 00 59 32.3 +1.5
comp=Z,86nm,0.9s
I23A Meade Ranch, G 42.10 335 ⇑P P 00 59 30.4 -0.3
baz=42
G26A Maurine 42.12 339 ⇑P P 00 59 31.6 +0.9
baz=42,SNR=15
DAU Daniels Canyon 42.17 327 eP P 00 59 29.4 -2.1
DAU Daniels Canyon 42.17 327 eP P 00 59 29.4 -2.1
E29A Napoleon 42.28 343 ⇓P P 00 59 33.4 +1.4
baz=42,SNR=8.5
NLU North Lily Min 42.30 326 eP P 00 59 32.8 +0.3
comp=Z,37nm,1.1s
SHOC Shoshone 42.30 318 ⇓P P 00 59 33.8 +1.5
baz=42,SNR=9.2
G27A Dupree 42.31 339 ⇑P P 00 59 30.6 -1.7
baz=42,SNR=14
GSC Goldstone 42.31 317 eP P 00 59 34.1 +1.6
GSC pmax pmax
comp=Z,67nm,1.5s
GSC Goldstone 42.31 317 eP P 00 59 34.1 +1.6
comp=Z,67nm,1.5s
GSC Goldstone 42.31 317 ⇑P P 00 59 33.8 +1.3
baz=42,SNR=15
BFSC Mount Baldy Ra 42.32 315 ⇓P P 00 59 34.1 +1.4
baz=42
G25A Newell 42.33 338 ⇑P P 00 59 33.4 +0.9
baz=42
H24A Dirks Ranch, A 42.39 337 ⇓P P 00 59 34.5 +1.5
baz=43,SNR=19
JLU Jordanelle 42.40 327 eP P 00 59 32.0 -1.4
comp=Z,89nm,1.1s
CIS Catalina Islan 42.42 314 ⇑P P 00 59 35.6 +2.3
baz=43
F27A Lemmon 42.42 340 ⇑P P 00 59 34.4 +1.3
baz=43,SNR=14
RPN Rapa Nui 42.45 216 eP P 00 59 34.5 +0.9
RPN eS S 01 05 55.7 +1.3
RPN LR LR
comp=Z,5μm,20.0s
J21A Lysite 42.47 333 ⇑P P 00 59 34.6 +0.8
baz=43,SNR=29
I22A 9 Mile Ranch, 42.48 334 ⇑P P 00 59 34.6 +0.9
baz=43,SNR=12
D30A Buchanan 42.52 344 ⇑P P 00 59 35.1 +1.2
baz=43,SNR=30
MWC Mount Wilson 42.59 315 eP P 00 59 38.0 +3.1
MWC pmax pmax
comp=Z,77nm,1.8s
MWC Mount Wilson 42.59 315 eP P 00 59 38.0 +3.1
comp=Z,77nm,1.8s
E28A Huff 42.61 342 ⇑P P 00 59 35.7 +1.0
baz=43,SNR=14
F26A Lodgepole 42.63 339 ⇓P P 00 59 35.9 +1.1
baz=43,SNR=7.5
CTU Camp Tracy 42.63 327 eP P 00 59 35.4 +0.3
comp=Z,133nm,1.0s
D29A Pettibone, Tap 42.71 343 ⇑P P 00 59 36.7 +1.2
baz=43,SNR=8.2
E27A Carson 42.76 341 ⇑P P 00 59 36.3 +0.4
baz=43,SNR=14
J20A Shoshoni 42.76 333 ⇑P P 00 59 37.5 +1.4
baz=43,SNR=32
I21A Big Trails, Te 42.77 334 ⇓P P 00 59 37.1 +1.0
baz=43,SNR=16
G24A Alzada 42.82 337 ⇑P P 00 59 37.0 +0.5
baz=43,SNR=12
DUG Dugway 42.87 326 eP P 00 59 36.4 -0.6
DUG pmax pmax
comp=Z,63nm,1.3s
DUG MLR MLR
comp=Z,5μm,19.0s
DUG Dugway 42.87 326 eP P 00 59 36.4 -0.6
comp=Z,63nm,1.3s
DUG LR LR
comp=Z,5μm,19.0s
DUG Dugway 42.87 326 ⇑P P 00 59 38.3 +1.2
baz=43,SNR=36
AGMN Agassiz Nation 42.90 347 eP P 00 59 37.5 +0.6
comp=Z,34nm,0.8s
AGMN LR LR
comp=Z,3μm,19.0s
EDW2 Edwards Air Fo 42.90 316 ⇓P P 00 59 38.8 +1.6
baz=43,SNR=9.7
F25A Bowman 42.97 339 ⇑P P 00 59 38.7 +1.1
baz=43
C30A Mose, Pekin 42.98 344 ⇑P P 00 59 39.0 +1.4
baz=43,SNR=15
H22A Clearmont 42.99 335 ⇓P P 00 59 38.4 +0.5
baz=43
BW06 Boulder Array 43.01 331 eP P 00 59 35.6 -2.6
comp=Z,96nm,1.3s
BW06 ePP PP 01 01 18.8 +0.5
BW06 LR LR
comp=Z,3μm,20.0s
PDAR Pinedale Array 43.01 331 P P 00 59 35.6 -2.6
PDAR Pinedale Array 43.01 331 P P 00 59 35.6 -2.6
comp=Z,8.2nm,1.1s,baz=134,slow=8.5,SNR=36
LRMC Laurel Mountai 43.01 317 ⇓P P 00 59 39.4 +1.1
baz=43,SNR=7.4
FURC Furnace Creek, 43.01 318 ⇓P P 00 59 39.8 +1.8
baz=43,SNR=8.7
E26A Carlson Angus 43.09 340 ⇑P P 00 59 39.1 +0.5
baz=43,SNR=11
G23A Biddle 43.10 336 ⇑P P 00 59 39.6 +0.9
baz=43,SNR=15
D28A Regan 43.12 342 ⇑P P 00 59 39.1 +0.3
baz=43,SNR=14
J19A Crowheart 43.15 332 ⇓P P 00 59 39.4 +0.2
baz=43,SNR=32
MPMC Manual Prospec 43.20 317 ⇓P P 00 59 40.7 +0.8
baz=43
I20A Worland 43.25 333 ⇓P P 00 59 40.4 +0.4
baz=43,SNR=48
BLG Laguna Peak 43.25 314 ⇑P P 00 59 41.7 +1.7
baz=43
F24A Ekalaka 43.27 338 ⇓P P 00 59 40.8 +0.7
baz=43,SNR=11
H21A Big Horn, Sher 43.31 335 ⇓P P 00 59 41.0 +0.5
baz=44,SNR=7.8
R11A Troy Canyon, C 43.31 321 eP P 00 59 39.6 -1.1
R11A Troy Canyon, C 43.31 321 ⇑P P 00 59 40.4 -0.3
baz=44,SNR=70
D27A Center 43.34 341 ⇑P P 00 59 41.6 +1.0
baz=44
MDND Maddock 43.43 343 eP P 00 59 40.9 -0.3
MDND Maddock 43.43 343 ⇑P P 00 59 42.0 +0.8
baz=44,SNR=11
SPUT South Promonto 43.44 327 eP P 00 59 42.6 +1.0
comp=Z,143nm,1.1s
E25A Miller Ranch, 43.45 339 ⇑P P 00 59 41.9 +0.4
baz=44,SNR=12
G22A Birney 43.47 336 ⇑P P 00 59 42.0 +0.2
baz=44,SNR=9.1
BGU Big Grassy Mou 43.49 326 eP P 00 59 40.5 -1.6
comp=Z,117nm,1.2s
F23A Volborg 43.53 337 ⇓P P 00 59 42.6 +0.4
baz=44,SNR=20
C28A Hausauer Farms 43.53 343 ⇓P P 00 59 43.6 +1.5
baz=44,SNR=9.7
D26A Manning 43.57 340 ⇑P P 00 59 43.1 +0.7
baz=44
ARVC Arvin 43.61 315 ⇑P P 00 59 44.0 +1.1
baz=44
H20A Greybull 43.61 334 ⇑P P 00 59 42.7 -0.2
baz=44,SNR=19
B30A Myrvik Farm, E 43.63 345 ⇑P P 00 59 43.6 +0.7
baz=44,SNR=22
ISA Isabella 43.65 316 eP P 00 59 43.2 -0.1
ISA pmax pmax
comp=Z,22nm,1.2s
ISA Isabella 43.65 316 eP P 00 59 43.2 -0.1
comp=Z,22nm,1.2s
ISA Isabella 43.65 316 ⇑P P 00 59 44.9 +1.6
baz=44,SNR=7.7
I19A Meeteetse 43.71 332 ⇑P P 00 59 44.4 +0.6
baz=44,SNR=14
AHID Auburn Hatcher 43.77 330 eP P 00 59 44.7 +0.4
comp=Z,95nm,1.2s
AHID LR LR
comp=Z,3μm,21.0s
CWC Cottonwood Cre 43.81 318 ⇑P P 00 59 45.5 +0.8
baz=44
E24A Baker 43.82 338 ⇓P P 00 59 45.0 +0.5
baz=44,SNR=7.4
G21A Lodge Grass 43.86 335 ⇓P P 00 59 44.9 0.0
baz=44
C27A Sayler Ranch, 43.87 342 ⇑P P 00 59 45.4 +0.6
baz=44,SNR=12
SBC Santa Barbara 43.88 314 ⇓P P 00 59 44.8 -0.3
baz=44
F22A Rosebud 43.92 336 ⇑P P 00 59 45.1 -0.1
baz=44,SNR=13
B29A Wagenman Farm, 43.92 344 ⇑P P 00 59 45.9 +0.7
baz=44,SNR=59
HVU Hansel Valley 43.94 327 eP P 00 59 46.6 +0.9
HVU pmax pmax
comp=Z,54nm,0.9s
HVU Hansel Valley 43.94 327 eP P 00 59 46.6 +0.9
comp=Z,54nm,0.9s
D25A Fairfield 43.98 340 ⇑P P 00 59 46.7 +0.9
baz=44
A30A Hoffart Farm, 44.08 345 ⇑P P 00 59 47.6 +1.2
baz=44,SNR=8.2
REDW Red Top Meadow 44.09 330 eP P 00 59 45.4 -1.5
comp=Z,185nm,1.2s
SNOW Snow King Moun 44.11 330 eP P 00 59 48.0 +0.9
comp=Z,218nm,1.5s
E23A Ismay 44.14 338 ⇓P P 00 59 48.2 +1.1
baz=44,SNR=8.9
LOHW Long Hollow 44.15 331 eP P 00 59 45.7 -1.7
comp=Z,92nm,1.4s
C26A Wahner Farm, P 44.16 341 ⇓P P 00 59 48.6 +1.5
baz=44,SNR=10
VES Vestal, Richgr 44.16 316 ⇑P P 00 59 48.6 +1.3
baz=44
TPH Tonopah 44.18 320 eP P 00 59 46.3 -1.4
TPH pmax pmax
comp=Z,63nm,1.0s
TPH MLR MLR
comp=Z,4μm,19.0s
TPH Tonopah 44.18 320 eP P 00 59 46.3 -1.4
comp=Z,63nm,1.0s
TPH LR LR
PKM Peak Mountain 44.19 315 ⇓P P 00 59 50.2 +2.4
baz=44
B28A Dugan Ranch, T 44.19 343 ⇑P P 00 59 48.9 +1.6
baz=44,SNR=8.1
H19A Powell 44.20 333 ⇑P P 00 59 47.8 +0.1
baz=44,SNR=12
TPAW Teton Pass 44.23 330 eP P 00 59 46.5 -1.6
comp=Z,99nm,1.3s
TIN Tinemaha 44.25 318 ⇓P P 00 59 49.7 +1.5
baz=44
G20A Bridger 44.28 334 ⇓P P 00 59 48.4 0.0
baz=44,SNR=38
D24A Glendive 44.30 339 ⇓P P 00 59 49.6 +1.3
baz=44,SNR=15
A29A Manning Farm, 44.30 344 ⇓P P 00 59 49.4 +1.2
baz=44,SNR=17
F21A Absaloka Mine, 44.31 336 ⇓P P 00 59 48.7 +0.3
baz=44
RRI2 Red Ridge 44.31 330 eP P 00 59 46.8 -1.9
comp=Z,540nm,2.0s
MOOW Moose Ponds 44.32 331 eP P 00 59 49.2 +0.5
comp=Z,48nm,1.0s
E22A Miles City 44.34 337 ⇑P P 00 59 49.1 +0.5
baz=44,SNR=16
I17A Pilgrim Ck. 44.37 331 ⇓P P 00 59 50.7 +1.6
baz=44,SNR=13
B27A Peters Farms, 44.41 342 ⇑P P 00 59 50.9 +1.8
baz=45
C25A Freed Ranch, W 44.44 340 ⇓P P 00 59 51.0 +1.6
baz=45
H18A Shoshone NF, C 44.51 332 ⇑P P 00 59 50.9 +0.6
baz=45,SNR=14
SMMC Simmler 44.52 315 ⇓P P 00 59 52.4 +2.1
baz=45
IMW Indian Meadow 44.52 331 eP P 00 59 48.8 -1.7
comp=Z,54nm,1.0s
FLWY Flagg Ranch 44.55 331 eP P 00 59 51.1 +0.5
comp=Z,73nm,0.9s
A28A Rude Farm, Bot 44.58 343 ⇑P P 00 59 51.7 +1.2
baz=45,SNR=9.4
ELK Elko 44.62 324 eP P 00 59 50.3 -1.0
comp=Z,32nm,0.8s
ELK Elko 44.62 324 P P 00 59 50.2 -1.0
comp=Z,13nm,0.8s,baz=183,slow=2.3,SNR=13
ELK LR LR 01 18 47.1
comp=Z,3μm,21.2s,baz=181,slow=37
MTUM Tungsten Hills 44.64 318 eP P 00 59 53.9 +2.6
LAO LASA Array 44.65 337 eP P 00 59 51.7 +0.6
comp=Z,56nm,1.1s
LAO LR LR
comp=Z,3μm,20.0s
D23A Lindsay 44.67 338 ⇑P P 00 59 51.9 +0.6
baz=45,SNR=22
RLMT Red Lodge 44.67 333 eP P 00 59 48.3 -3.2
comp=Z,52nm,1.0s
RLMT LR LR
comp=Z,4μm,19.0s
B26A Jensen Ranch, 44.69 341 ⇓P P 00 59 52.7 +1.3
baz=45
C24A Savage 44.69 339 ⇑P P 00 59 52.0 +0.6
baz=45,SNR=10
F20A Billings 44.72 335 ⇓P P 00 59 52.1 +0.4
baz=45,SNR=18
H17A Grant Village 44.72 332 eP P 00 59 52.5 +0.5
H17A Grant Village 44.72 332 ⇓P P 00 59 53.2 +1.2
baz=45,SNR=14
ULM Lac du Bonnet 44.74 348 eP P 00 59 49.5 -2.3
comp=Z,73nm,0.8s
ULM Lac du Bonnet 44.74 348 P P 00 59 50.4 -1.3
comp=Z,51nm,0.8s,baz=163,slow=8.3,SNR=19
ULM LR LR 01 20 39.4
comp=Z,3μm,18.7s,baz=338,slow=39
LKWY Lake 44.77 332 eP P 00 59 53.3 +0.9
LKWY pmax pmax
comp=Z,35nm,1.1s
LKWY MLR MLR
comp=Z,9μm,21.0s
LKWY Lake 44.77 332 eP P 00 59 53.3 +0.9
comp=Z,35nm,1.1s
LKWY LR LR
comp=Z,9μm,21.0s
E21A Keefer Ranch, 44.87 336 ⇓P P 00 59 53.8 +0.9
baz=45
YFT Old Faithful 44.89 331 eP P 00 59 54.2 +1.0
comp=Z,119nm,1.2s
YFT ePP PP 01 01 38.1 -0.2
B25A Knox Farm, Ray 44.90 341 ⇑P P 00 59 54.5 +1.4
baz=45
A27A Ledoux Ranch, 44.90 343 ⇓P P 00 59 54.5 +1.5
baz=45
MLAC Mammoth Lakes 44.97 318 ⇓P P 00 59 54.9 +0.8
baz=45
NV11 Mina Array Sit 44.98 320 eP P 00 59 55.1 +1.0
D22A Cohagen 45.02 337 ⇓P P 00 59 54.8 +0.8
baz=45,SNR=19
NVAR Mina Array Bea 45.08 320 P P 00 59 54.3 -0.5
NVAR Mina Array Bea 45.08 320 P P 00 59 54.3 -0.5
comp=Z,14nm,0.8s,baz=130,slow=7.0,SNR=46
NVAR LR LR 01 19 35.5
comp=Z,4μm,18.3s,baz=242,slow=37
A26A Wade Farm, Ken 45.09 342 ⇑P P 00 59 55.6 +1.1
baz=45
F19A Roth Farm, Mol 45.10 334 ⇓P P 00 59 54.9 +0.1
baz=45,SNR=36
YMR Madison River 45.11 331 eP P 00 59 55.9 +0.8
comp=Z,128nm,1.1s
C23A Lambert 45.19 339 ⇑P P 00 59 56.3 +0.9
baz=45,SNR=15
D21A La Casta Ranch 45.26 337 ⇓P P 00 59 56.9 +0.8
baz=45,SNR=10
E20A Meyer Farm, Mu 45.27 335 ⇑P P 00 59 56.9 +0.8
baz=45,SNR=42
GCMT Greycliff 45.37 333 eP P 00 59 56.2 -0.8
comp=Z,30nm,1.0s
C22A Vida 45.40 338 ⇑P P 00 59 57.9 +0.9
baz=46,SNR=16
DGMT Dagmar 45.41 340 eP P 00 59 56.9 -0.3
comp=Z,54nm,0.8s
DGMT ePcP PcP 01 01 37.7 +1.5
DGMT LR LR
comp=Z,4μm,20.0s
DGMT Dagmar 45.41 340 ⇓P P 00 59 58.1 +1.0
baz=46,SNR=15
QLMT Earthquake Lak 45.45 331 eP P 00 59 57.2 -0.5
QLMT ePP PP 01 01 44.5 +0.2
A25A Svangstu Ranch 45.46 341 ⇓P P 00 59 58.2 +0.7
baz=46
E19A Rath Farm, Rou 45.51 335 ⇓P P 00 59 58.4 +0.4
baz=46,SNR=30
BMN Battle Mountai 45.59 323 eP P 00 59 57.5 -1.4
BMN pmax pmax
comp=Z,130nm,0.9s
BMN MLR MLR
comp=Z,4μm,19.0s
BMN Battle Mountai 45.59 323 eP P 00 59 57.5 -1.4
comp=Z,130nm,0.9s
BMN LR LR
comp=Z,4μm,19.0s
B23A Brockton 45.69 339 ⇑P P 01 00 00.1 +0.8
baz=46,SNR=13
A24A Westby 45.74 340 ⇓P P 01 00 00.8 +1.0
baz=46,SNR=12
D20A Manuel Ranch, 45.74 336 ⇓P P 01 00 00.7 +0.9
baz=46,SNR=14
SPB Sao Paulo 45.75 132 eP P 00 59 59.7 -0.3
comp=Z,33nm,0.9s
SPB LR LR
comp=Z,4μm,20.0s
WAKR Walker 45.85 319 eP P 01 00 02.8 +1.8
B22A Reddig Ranch S 45.91 338 ⇑P P 01 00 01.7 +0.6
baz=46,SNR=8.3
C21A Desert Coulee 45.93 337 ⇑P P 01 00 02.6 +1.4
baz=46,SNR=8.5
HLID Hailey 46.05 328 eP P 01 00 00.7 -1.7
comp=Z,70nm,0.8s
HLID LR LR
comp=Z,5μm,19.0s
HLID Hailey 46.05 328 ⇑P P 01 00 03.9 +1.5
baz=46,SNR=173
A23A Redstone 46.07 340 ⇓P P 01 00 04.2 +1.9
baz=46
D19A Cripps Ranch, 46.11 335 ⇑P P 01 00 03.5 +0.8
baz=46,SNR=39
MCMT McKenzie Canyo 46.14 330 eP P 01 00 02.3 -0.9
comp=Z,41nm,1.1s
BOZ Bozeman (W) 46.15 332 eP P 01 00 00.8 -2.4

BOZ pmax pmax
comp=Z,97nm,1.3s
BOZ MLR MLR
comp=Z,4µm,21.0s
BOZ Bozeman (W) 46.15 332 *eP* **P 01 00 00.8 -2.4**
comp=Z,97nm,1.3s
BOZ LR LR
comp=Z,4µm,21.0s
C20A Veseth Ranch, 46.19 336 ⇑P **P 01 00 04.6 +1.3**
baz=46
CMB Columbia Colle 46.22 318 *eP* P 01 00 07.5 +3.8
CMB pmax pmax
comp=Z,22nm,1.3s
CMB Columbia Colle 46.22 318 *eP* P 01 00 07.5 +3.8
comp=Z,22nm,1.3s
B21A Ellsworth Farm 46.39 338 ⇓P **P 01 00 06.3 +1.4**
baz=47
DLMT Dillon 46.40 331 *eP* P 00 59 59.9 -5.2
comp=Z,70nm,1.0s
A22A Carney Farms, 46.46 339 ⇑P **P 01 00 06.5 +1.1**
baz=47,SNR=12
PAHR Pah Rah Range 46.50 321 *eP* **P 01 00 07.1 +1.1**
comp=Z,106nm,1.3s
C19A Slack Wire Ran 46.63 336 ⇑P **P 01 00 07.2 +0.4**
baz=47,SNR=32
LRM Limekiln Ridge 46.67 331 *eP* **P 01 00 05.4 -2.0**
B20A Solberg Farm, 46.78 337 ⇓P **P 01 00 09.0 +1.0**
baz=47,SNR=13
A21A Bergtoll Ranch 46.82 338 ⇑P **P 01 00 09.7 +1.5**
baz=47,SNR=14
HRY Holter Researc 47.04 333 *eP* **P 01 00 10.7 +0.6**
A20A Cobblestone Ra 47.11 337 ⇓P **P 01 00 12.1 +1.6**
baz=47,SNR=10
EGMT Eagleton 47.15 335 *eP* **P 01 00 11.5 +0.6**
comp=Z,183nm,1.9s
EGMT *ePcP* **PcP 01 01 42.6 +0.2**
EGMT LR LR
comp=Z,3µm,20.0s
EGMT Eagleton 47.15 335 ⇑P **P 01 00 11.9 +1.0**
baz=47,SNR=9.8
B19A Brinkman Farms 47.16 336 ⇓P **P 01 00 11.9 +0.9**
baz=47,SNR=8.7
BEKR Beckworth 47.21 320 *eP* **P 01 00 11.4 -0.2**
comp=Z,18nm,1.0s
BEKR *ePcP* **PcP 01 01 44.3 +1.5**
BEKR *ePP* **PP 01 02 03.1 +0.5**
A19A Klindworth Far 47.46 337 ⇑P **P 01 00 14.6 +1.3**
baz=48
OHCM Honcut 47.64 319 *eP* **P 01 00 13.6 -1.1**
WVOR Wild Horse Val 47.66 324 *eP* **P 01 00 13.1 -1.9**
WVOR *e* 01 01 45.4
WVOR pmax pmax
comp=Z,123nm,1.0s
WVOR MLR MLR
comp=Z,3µm,21.0s
WVOR Wild Horse Val 47.66 324 *eP* **P 01 00 13.1 -1.9**
comp=Z,123nm,1.0s
WVOR *ePcP* **PcP 01 01 45.4 +1.0**
WVOR LR LR
comp=Z,3µm,21.0s
CHMT Chamberlain Mo 47.85 332 *eP* **P 01 00 17.4 +0.9**
CHMT *ePcP* **PcP 01 01 45.9 +0.8**
MSO Missoula 48.11 331 *eP* **P 01 00 18.7 +0.3**
comp=Z,103nm,1.3s
MSO Missoula 48.11 331 ⇓P **P 01 00 19.0 +0.6**
baz=48,SNR=37
J08A Circle Bar Ran 48.14 325 *eP* **P 01 00 19.9 +1.2**
comp=Z,23nm,0.7s
SLMT Seeley Lake 48.20 332 *eP* **P 01 00 19.9 +0.8**
RCBR Riachuelo 48.30 104 *eP* **P 01 00 20.4 +0.1**
comp=Z,22nm,0.9s
RCBR LR LR
comp=Z,5µm,19.0s
MOD Modoc 48.34 322 *eP* **P 01 00 21.2 +0.9**
comp=Z,153nm,1.1s
BMO Blue Mountains 48.45 327 *eP* **P 01 00 21.7 +0.6**
comp=Z,19nm,0.9s
BMO *ePcP* **PcP 01 01 46.8 -0.3**
BMO LR LR
comp=Z,4µm,21.0s
TRQA Tornquist 48.56 158 *eP* **P 01 00 20.9 -1.0**
comp=Z,396nm,2.2s
TRQA LR LR
comp=Z,2µm,20.0s
SWMT Swartz Lake 48.63 332 *eP* **P 01 00 22.8 +0.4**
SWMT *ePcP* **PcP 01 01 49.0 +1.3**
JTMT Jette 48.94 332 *eP* **P 01 00 25.3 +0.5**
LASM Arnica Sink 48.95 321 P **P 01 00 27.1 +2.1**
F10A Beach Ranch, E 49.15 328 *eP* **P 01 00 27.4 +1.0**
comp=Z,385nm,2.1s
BLMT Blacktail Moun 49.16 332 *eP* **P 01 00 27.3 +0.7**
K05A Summer Lake 49.17 323 *eP* **P 01 00 29.6 +2.8**
comp=Z,38nm,1.1s
I07A Izee 49.18 325 *eP* **P 01 00 24.9 -1.7**
comp=Z,23nm,0.8s
KIPM Iron Peak 49.20 318 *eP* **P 01 00 28.5 +1.5**
comp=Z,51nm,1.1s
BSMT Bassoo Peak 49.25 332 *eP* **P 01 00 27.8 +0.6**
SCHQ Schefferville 49.60 12 *eP* **P 01 00 28.7 -0.8**
SCHQ Schefferville 49.60 12 P **P 01 00 28.1 -1.5**
comp=Z,18nm,0.9s,baz=186,slow=7.9,SNR=7.6
SCHQ LR LR 01 20 19.0
comp=Z,5µm,21.9s,baz=337,slow=35
G08A Pilot Rock 49.63 327 *eP* **P 01 00 30.3 +0.2**
comp=Z,258nm,2.5s
WALA Waterton Lakes 49.73 333 *eP* **P 01 00 31.9 +1.2**
comp=Z,2.0nm,1.2s
WALA *ePcP* **PcP 01 01 49.0 -2.6**
YBH Yreka Blue Hor 49.73 321 P **P 01 00 29.3 -1.5**
YBH Yreka Blue Hor 49.73 321 P **P 01 00 29.3 -1.5**
comp=Z,6.9nm,0.9s,baz=95,slow=5.1,SNR=16
YBH LR LR 01 22 42.0
comp=Z,3µm,21.2s,baz=125,slow=38
PINOR Pine Mountain 49.80 324 *eP* P 01 00 34.5 +3.3
comp=Z,28nm,0.8s
KHMM Horse Mountain 49.92 319 *eP* **P 01 00 34.6 +2.2**
comp=Z,35nm,0.9s
E09A Wood Farm, Sta 49.99 328 *eP* **P 01 00 30.9 -1.7**
comp=Z,126nm,1.0s
FFC Flin Flon 50.30 346 *i* P **P 01 00 34.9 +0.1**
FFC Flin Flon 50.30 346 *eP* **P 01 00 34.0 -0.8**
comp=Z,66nm,0.9s
FFC LR LR
comp=Z,2µm,19.0s
FFC Flin Flon 50.30 346 P **P 01 00 33.0 -1.8**
comp=Z,194nm,1.4s,SNR=5.8
HUMO Hull Mountain 50.36 322 *eP* P 01 00 40.7 +5.2
comp=Z,193nm,2.8s
KRMB Red Mountain 50.37 320 *eP* P 01 00 39.9 +4.1
comp=Z,242nm,2.4s
G06A Carlson Farm, 50.52 326 *eP* **P 01 00 38.8 +2.0**
comp=Z,700nm,2.8s
REDWA Red Mountain 50.53 327 P P 01 00 40.4 +3.6
HAWA Hanford 50.64 328 *eP* **P 01 00 39.1 +1.5**
comp=Z,42nm,1.0s
HAWA LR LR
comp=Z,3µm,19.0s
NEW Newport 50.65 331 *eP* **P 01 00 38.1 +0.4**
NEW Newport 50.65 331 ⇓P **P 01 00 38.2 +0.5**
baz=51,SNR=19
NEW Newport 50.65 331 P **P 01 00 37.5 -0.2**
comp=Z,33nm,1.0s,baz=140,slow=7.7,SNR=19
NEW LR LR 01 23 38.8
comp=Z,4µm,21.7s,baz=128,slow=38
C09A Chrisman Ranch 50.91 330 *eP* P 01 00 42.9 +3.3
comp=Z,25nm,0.8s
KBO Bosley Butte 50.94 321 *eP* **P 01 00 41.1 +1.1**
comp=Z,179nm,1.1s
H04A Detroit Lake 51.08 324 *eP* **P 01 00 40.7 -0.3**
comp=Z,67nm,0.8s
SAW Saint Andrews 51.41 329 P **P 01 00 45.0 +1.5**
ASR Mount Adams--S 51.61 326 P P 01 00 48.4 +3.4
COR Corvallis 51.67 324 *eP* **P 01 00 46.0 +0.6**
COR pmax pmax
comp=Z,703nm,1.1s
COR Corvallis 51.67 324 *eP* **P 01 00 46.0 +0.6**
comp=Z,704nm,1.1s
LTY Liberty 51.79 328 *eP* P 01 00 49.7 +3.4
comp=Z,386nm,2.3s
B08A Colville Reser 51.81 330 *eP* **P 01 00 47.5 +1.1**
comp=Z,34nm,0.9s
ETW Entiat 51.84 328 P **P 01 00 49.3 +2.6**
LON Longmire 52.09 327 *eP* **P 01 00 49.6 +1.1**
LON pmax pmax
comp=Z,20nm,0.9s
LON Longmire 52.09 327 *eP* **P 01 00 49.6 +1.1**
comp=Z,20nm,0.9s

D05A Enumclaw 52.46 327 *eP* P 01 00 54.7 +3.5
comp=Z,51nm,1.0s
EDM Edmonton 52.64 337 *eP* **P 01 00 52.3 -0.2**
EDM Edmonton 52.64 337 *eP* **P 01 00 52.3 -0.2**
E03A Lebam 52.95 326 *eP* P 01 00 58.5 +3.7
comp=Z,42nm,0.8s
NLWA Neilton Lookou 53.61 326 *eP* **P 01 01 01.0 +1.3**
comp=Z,232nm,1.9s
NLWA LR LR
comp=Z,4µm,21.0s
A05A Maple Falls 53.62 329 *eP* P 01 01 03.9 +4.2
comp=Z,99nm,1.6s
FRB Frobisher Bay 57.79 7 LR LR 01 25 56.1
comp=Z,4µm,19.3s,baz=200,slow=36
SACV Santiago Islan 58.42 77 *eP* **P 01 01 34.7 +0.1**
SACV *eS* **S 01 09 37.0 0.0**
SACV LR LR
comp=Z,2µm,20.0s
BBB Bella Bella 58.60 329 LR LR 01 27 58.3
comp=Z,2µm,20.9s,baz=125,slow=37
RKT Rikitea 59.12 238 *eP* **P 01 01 38.6 -0.7**
comp=Z,87nm,1.3s
RKT *eS* **S 01 09 43.5 -2.3**
comp=Z,4µm,30.5s
RKT *eLQ* LQ 01 16 23.7
comp=Z,2µm,34.0s
RKT *eLR* LR 01 19 07.2
comp=Z,6µm,35.2s,baz=62
YKA Yellowknife Ar 60.35 344 P **P 01 01 45.8 -1.4**
YKA Yellowknife Ar 60.35 344 P **P 01 01 45.7 -1.4**
comp=Z,15nm,0.8s,baz=139,slow=6.8,SNR=15
EFI East Falkland 61.91 163 PFAKE 01 02 10.0 +12
EFI LR LR
comp=Z,2µm,21.0s
WRAK Wrangell Islan 62.99 332 PFAKE 01 02 20.0 +15
WRAK LR LR
comp=Z,2µm,19.0s
SFJD Kangerlussuaq 64.00 13 *eP* **P 01 02 11.7 +0.2**
SFJD *eS* **S 01 10 46.2 -0.2**
SFJD LR LR
comp=Z,3µm,20.0s
PMOZ Porto Moniz, M 65.77 57 *eS* S 01 10 57.8 -12
VAH Vaihoa 67.97 251 *eP* **P 01 02 36.7 -1.3**
comp=Z,85nm,1.3s
PMOR Pomariorio Ree 68.17 251 *eP* **P 01 02 37.9 -1.3**
comp=Z,96nm,1.2s
RES Resolute Bay 68.25 357 LR LR 01 30 09.4
comp=Z,3µm,21.4s,baz=167,slow=34
ASCN Ascension 69.64 101 PFAKE 01 03 00.0 +11
ASCN LR LR
comp=Z,584nm,19.0s
INK Inuvik 70.03 342 P **P 01 02 49.4 -0.5**
INK Inuvik 70.03 342 P **P 01 02 49.4 -0.5**
comp=Z,15nm,0.9s,baz=112,slow=7.9,SNR=12
PPT Papeete 70.35 249 LR LR 01 25 34.5
comp=Z,2µm,20.8s,baz=74,slow=29
PPT2 Papeete2 70.35 249 *eS* **S 01 12 02.1 -2.6**
comp=Z,2µm,28.2s
PPT2 *eSS* **SS 01 16 32.2 -3.6**
comp=Z,1µm,27.0s
PPT2 *eLR* LR 01 24 18.0
comp=Z,4µm,25.5s,baz=62
EGAK Eagle 70.86 337 *eP* **P 01 02 55.5 +0.5**
comp=Z,24nm,0.9s
EGAK LR LR
comp=Z,3µm,19.0s
SUMG Summit 70.98 13 *i* P **P 01 02 54.7 -1.4**
SUMG pmax pmax
comp=Z,39nm,1.0s
SUMG Summit 70.98 13 *eP* **P 01 02 54.6 -1.4**
comp=Z,65nm,1.0s
DOT Dot Lake 71.54 336 *eP* **P 01 02 59.8 +0.6**
comp=Z,26nm,0.8s
TBI Tubuai 71.73 243 *eS* **S 01 12 17.2 -3.1**
comp=Z,1µm,30.2s
TBI *eLQ* LQ 01 21 51.8
comp=Z,4µm,33.5s
TBI *eLR* LR 01 24 56.6
comp=Z,5µm,28.5s,baz=68
PAX Paxson 71.87 335 *eP* **P 01 03 03.8 +2.6**
PAX pmax pmax
comp=Z,198nm,2.6s
PAX Paxson 71.87 335 *eP* **P 01 03 03.8 +2.6**
comp=Z,198nm,2.6s
BORG Borgarnes 71.94 23 PFAKE 01 03 10.0 +8.5
BORG LR LR
comp=Z,3µm,20.0s
PMSA Palmer Station 72.67 172 PFAKE 01 03 20.0 +14
PMSA LR LR
comp=Z,756nm,20.0s
ILAR Eielson Array 73.11 336 P **P 01 03 08.3 -0.2**
ILAR PP **PP 01 05 51.8 +0.5**
ILAR Eielson Array 73.11 336 P **P 01 03 08.3 -0.2**
comp=Z,9.7nm,0.8s,baz=108,slow=4.3,SNR=44
ILAR PP **PP 01 05 51.8 +0.5**
comp=Z,4.6nm,0.9s,baz=109,slow=6.5,SNR=7.6
ILAR LR LR 01 39 41.7
comp=Z,2µm,18.3s,baz=113,slow=40
COLA College 73.53 336 *eP* **P 01 03 11.3 +0.4**
COLA pmax pmax
comp=Z,32nm,0.8s
COLA MLR MLR
comp=Z,2µm,19.0s
COLA College 73.53 336 *eP* **P 01 03 11.3 +0.4**
comp=Z,32nm,0.8s
COLA LR LR
comp=Z,2µm,19.0s
PCAS Casmilo, Conde 73.56 50 *eP* P 01 03 16.2 +4.5
comp=Z,166nm,1.8s
MCK McKinley 73.60 335 *eP* **P 01 03 11.8 +0.4**
MCK pmax pmax
comp=Z,297nm,2.8s
MCK McKinley 73.60 335 *eP* **P 01 03 11.8 +0.4**
comp=Z,297nm,2.8s
KDAK Kodiak Island 73.67 328 PFAKE 01 03 20.0 +8.1
KDAK LR LR
comp=Z,4µm,19.0s
EVOP Sao Brissos 73.72 52 *eP* **P 01 03 10.9 -1.7**
EVOP pmax pmax
comp=Z,43nm,1.0s
EVOP Sao Brissos 73.72 52 *eP* **P 01 03 10.9 -1.7**
comp=Z,43nm,1.0s
EVO Evora 73.81 52 *eP* **P 01 03 10.9 -2.3**
comp=Z,43nm,1.0s
EVO *eR*
comp=Z,3µm,23.0s
PGAV Gavieira, Arco 73.91 48 *eLR* LR 01 29 11.1
comp=Z,2µm,20.0s
PVAQ Vaqueiros 73.97 53 *eS* S 01 12 54.9 +9.5
PVAQ Vaqueiros 73.97 53 *eLR* LR 01 26 22.8
comp=Z,1µm,20.0s
TRF Thorofare Moun 74.09 334 *eP* **P 01 03 15.2 +0.7**
comp=Z,105nm,2.0s
SCO Scoresbysund 74.14 18 *i* P **P 01 03 12.9 -1.5**
SCO *i* 01 03 25.3
SCO pmax pmax
comp=Z,11nm,0.9s
PESTR Estremoz 74.17 52 *eP* P 01 03 19.2 +3.9
comp=Z,72nm,1.6s
MTE Manteigas 74.32 50 *eS* **S 01 12 49.6 +0.2**
MTE Manteigas 74.32 50 *eLR* LR 01 26 28.7
comp=Z,2µm,20.0s
MTE Manteigas 74.32 50 PFAKE 01 03 30.0 +14
MTE LR LR
comp=Z,3µm,20.0s
PMRV Marv??o 74.36 51 *eP* **P 01 03 19.1 +2.7**
comp=Z,44nm,1.5s
PMRV *eS* S 01 12 55.6 +5.8
PMRV Marv??o 74.36 51 *eLR* LR 01 26 26.1
comp=Z,2µm,22.0s
RSO Redoubt South 74.40 331 *eP* **P 01 03 17.1 +0.7**
RTC Rabat Centre 74.48 57 PFAKE 01 03 30.0 +13
RTC LR LR
comp=Z,2µm,21.0s
PBAR Barrancos 74.55 52 *eP* P 01 03 21.9 +4.4
comp=Z,69nm,1.9s
BPAW Bear Paw Mtn. 74.57 335 *eP* **P 01 03 18.0 +0.9**
comp=Z,24nm,0.8s
PPLA Purkeypile 74.76 334 *eP* **P 01 03 20.0 +1.6**
MVO Moncorvo 74.77 49 *eP* P 01 03 22.9 +4.1
comp=Z,73nm,1.8s
MVO *eS* S 01 13 01.5 +7.1
MVO Moncorvo 74.77 49 *eLR* LR 01 26 58.8
comp=Z,1µm,22.0s
CAST Castle Rocks 74.85 334 *eP* **P 01 03 21.2 +2.5**
comp=Z,20nm,0.6s
COLD Coldfoot 75.21 338 *eP* **P 01 03 21.5 +0.8**

comp=Z,33nm,1.1s
IMA2 Indian Mountai 76.21 337 *eP* **P 01 03 28.2 +1.6**
IM04 Indian Mountai 76.23 336 *eP* **P 01 03 27.6 +1.0**
PAB San Pablo 76.72 51 *eP* **P 01 03 29.8 -0.2**
PAB MLR MLR
comp=Z,4µm,21.0s
PAB San Pablo 76.72 51 *eP* **P 01 03 29.8 -0.2**
PAB LR LR
comp=Z,4µm,21.0s
TIC Toumodi 77.01 85 *eP* **P 01 03 33.9 +1.9**
comp=Z,105nm,1.4s
ESDC Sonseca Array 77.02 51 P **P 01 03 31.2 -0.5**
ESDC Sonseca Array 77.02 51 P **P 01 03 31.2 -0.5**
comp=Z,10nm,0.9s,baz=275,slow=5.2,SNR=25
ESDC LR LR 01 32 07.6
comp=Z,1µm,21.2s,baz=280,slow=32
LIC Lamto 77.05 85 *eP* **P 01 03 34.1 +1.9**
comp=Z,44nm,0.9s
DBIC Dimbokro 77.17 85 *eP* **P 01 03 33.3 +0.4**
DBIC Dimbokro 77.17 85 P **P 01 03 33.5 +0.6**
comp=Z,10nm,0.9s,baz=222,slow=4.0,SNR=6.8
DBIC LR LR 01 35 45.1
comp=Z,1µm,21.4s,baz=257,slow=34
KIC Kosan Boka 77.32 85 *eP* **P 01 03 35.8 +2.1**
comp=Z,163nm,1.7s
ROSF Rostrenen 77.93 42 *eP* **P 01 03 34.5 -2.0**
comp=Z,207nm,1.5s
ROSF Rostrenen 77.93 42 *eP* **P 01 03 34.5 -2.0**
ROSF pmax pmax
comp=Z,207nm,1.5s
ROSF Rostrenen 77.93 42 *eP* **P 01 03 34.5 -2.0**
comp=Z,207nm,1.5s
QUIF Quistinic 77.97 43 *eP* **P 01 03 34.9 -1.8**
comp=Z,76nm,0.9s
QUIF Quistinic 77.97 43 *eP* **P 01 03 34.9 -1.8**
QUIF pmax pmax
comp=Z,76nm,0.9s
QUIF Quistinic 77.97 43 *eP* **P 01 03 34.9 -1.8**
comp=Z,76nm,0.9s
SGMF Saint Gilles 78.40 42 *eP* **P 01 03 36.9 -2.2**
comp=Z,425nm,1.9s
SGMF Saint Gilles 78.40 42 *eP* **P 01 03 36.9 -2.2**
SGMF pmax pmax
comp=Z,425nm,1.9s
SGMF Saint Gilles 78.40 42 *eP* **P 01 03 36.9 -2.2**
comp=Z,425nm,1.9s
ESK Eskdalemuir 78.47 35 PFAKE 01 03 50.0 +11
ESK LR LR
comp=Z,2µm,21.0s
SJPF Ste Jean 79.17 47 *eP* **P 01 03 42.3 -1.1**
comp=Z,111nm,1.1s
SJPF Ste Jean 79.17 47 *eP* **P 01 03 42.3 -1.1**
SJPF pmax pmax
comp=Z,111nm,1.1s
SJPF Ste Jean 79.17 47 *eP* **P 01 03 42.3 -1.1**
comp=Z,111nm,1.1s
SHEL Horse Pasture 79.37 108 PFAKE 01 04 00.0 +15
SHEL LR LR
comp=Z,2µm,21.0s
GRR Gorron 79.54 42 *eP* **P 01 03 43.4 -1.9**
comp=Z,108nm,1.0s
GRR Gorron 79.54 42 *eP* **P 01 03 43.4 -1.9**
GRR pmax pmax
comp=Z,108nm,1.0s
GRR Gorron 79.54 42 *eP* **P 01 03 43.4 -1.9**
comp=Z,108nm,1.0s
ETSF Etsaut 79.65 48 *eP* **P 01 03 45.1 -1.1**
comp=Z,33nm,1.0s
ETSF Etsaut 79.65 48 *eP* **P 01 03 45.1 -1.1**
ETSF pmax pmax
comp=Z,33nm,1.0s
ETSF Etsaut 79.65 48 *eP* **P 01 03 45.1 -1.1**
comp=Z,33nm,1.0s
FLN La Foliniere 79.80 42 *eP* **P 01 03 44.9 -1.8**
comp=Z,161nm,1.3s
FLN *eR*
comp=Z,2µm,22.0s
FLN La Foliniere 79.80 42 *eP* **P 01 03 44.9 -1.8**
FLN pmax pmax
comp=Z,161nm,1.3s
FLN La Foliniere 79.80 42 *eP* **P 01 03 44.9 -1.8**
comp=Z,161nm,1.3s
MFF Saint Martin d 79.98 44 *eP* **P 01 03 45.9 -1.9**
comp=Z,76nm,0.8s
MFF Saint Martin d 79.98 44 *eP* **P 01 03 45.9 -1.9**
MFF pmax pmax
comp=Z,76nm,0.8s
MFF Saint Martin d 79.98 44 *eP* **P 01 03 45.9 -1.9**
comp=Z,76nm,0.8s
LDF La Druitiere 80.03 42 *eP* **P 01 03 46.0 -2.0**
comp=Z,71nm,0.9s
LDF La Druitiere 80.03 42 *eP* **P 01 03 46.0 -2.0**
LDF pmax pmax
comp=Z,71nm,0.9s
LDF La Druitiere 80.03 42 *eP* **P 01 03 46.0 -2.0**
comp=Z,71nm,0.9s
EPF Esparros 80.31 48 *eP* **P 01 03 48.3 -1.4**
comp=Z,115nm,1.2s
EPF Esparros 80.31 48 *eP* **P 01 03 48.3 -1.4**
EPF pmax pmax
comp=Z,115nm,1.2s
EPF Esparros 80.31 48 *eP* **P 01 03 48.3 -1.4**
comp=Z,115nm,1.2s
RAR Rarotonga 80.53 247 PFAKE 01 04 00.0 +8.8
RAR LR LR
comp=Z,2µm,22.0s
LFF La Frestale 80.60 46 *eP* **P 01 03 49.4 -1.7**
comp=Z,91nm,1.2s
LFF La Frestale 80.60 46 *eP* **P 01 03 49.4 -1.7**
LFF pmax pmax
comp=Z,91nm,1.2s
LFF La Frestale 80.60 46 *eP* **P 01 03 49.4 -1.7**
comp=Z,91nm,1.2s
RJF Les Rejaudoux 81.14 45 *eP* **P 01 03 52.0 -2.1**
comp=Z,81nm,1.3s
RJF *eR*
comp=Z,2µm,22.0s
RJF Les Rejaudoux 81.14 45 *eP* **P 01 03 52.0 -2.1**
RJF pmax pmax
comp=Z,81nm,1.3s
RJF Les Rejaudoux 81.14 45 *eP* **P 01 03 52.0 -2.1**
comp=Z,81nm,1.3s
CAF Calviac 81.54 46 *eP* **P 01 03 54.2 -2.0**
comp=Z,68nm,1.1s
CAF Calviac 81.54 46 *eP* **P 01 03 54.2 -2.0**
CAF pmax pmax
comp=Z,68nm,1.1s
CAF Calviac 81.54 46 *eP* **P 01 03 54.2 -2.0**
comp=Z,68nm,1.1s
TCF Toulx Ste Croi 81.61 44 *eP* **P 01 03 54.3 -2.3**
comp=Z,47nm,0.9s
TCF Toulx Ste Croi 81.61 44 *eP* **P 01 03 54.3 -2.3**
TCF pmax pmax
comp=Z,47nm,0.9s
TCF Toulx Ste Croi 81.61 44 *eP* **P 01 03 54.3 -2.3**
comp=Z,47nm,0.9s
MTLF Montolieu 81.68 47 *eP* **P 01 03 55.2 -1.7**
comp=Z,83nm,1.3s
MTLF Montolieu 81.68 47 *eP* **P 01 03 55.2 -1.7**
MTLF pmax pmax
comp=Z,83nm,1.3s
MTLF Montolieu 81.68 47 *eP* **P 01 03 55.2 -1.7**
comp=Z,83nm,1.3s
HYF Humbligny 81.89 43 *eP* **P 01 03 56.0 -2.0**
HYF Humbligny 81.89 43 *eP* **P 01 03 56.0 -2.0**
BGF Bois d'Agland 82.05 44 *eP* **P 01 03 56.7 -2.1**
comp=Z,161nm,1.5s
BGF Bois d'Agland 82.05 44 *eP* **P 01 03 56.7 -2.1**
BGF pmax pmax
comp=Z,161nm,1.5s
BGF Bois d'Agland 82.05 44 *eP* **P 01 03 56.7 -2.1**
comp=Z,161nm,1.5s
PYM Petit Puy Mans 82.18 45 *eP* P 01 04 03.8 +4.2
LBL Lubilhac 82.37 45 *eP* P 01 04 04.6 +4.0
AVF Avril sur Loir 82.39 44 *eP* **P 01 03 58.0 -2.6**
comp=Z,55nm,1.3s
AVF Avril sur Loir 82.39 44 *eP* **P 01 03 58.0 -2.6**
AVF pmax pmax
comp=Z,55nm,1.3s
AVF Avril sur Loir 82.39 44 *eP* **P 01 03 58.0 -2.6**
comp=Z,55nm,1.3s
SSF Saint Saulge 82.49 43 *eP* **P 01 03 58.4 -2.7**
comp=Z,38nm,1.2s
SSF Saint Saulge 82.49 43 *eP* **P 01 03 58.4 -2.7**
SSF pmax pmax
comp=Z,38nm,1.2s
SSF Saint Saulge 82.49 43 *eP* P 01 03 58.4 -2.7

comp=Z,38nm,1.2s
PLDF La Plantade 82.60 45 *e*P P 01 04 05.3 +3.5
LOR Lormes 82.72 43 *e*P **P 01 03 59.8 -2.5**
comp=Z,25nm,1.0s
LOR *e*R
comp=Z,2μm,20.5s
LOR Lormes 82.72 43 *e*P **P 01 03 59.8 -2.5**
comp=Z,25nm,1.0s
SMF Signal de Mont 82.73 44 *e*P **P 01 03 59.8 -2.6**
comp=Z,48nm,1.1s
SMF Signal de Mont 82.73 44 *e*P **P 01 03 59.8 -2.6**
SMF pmax pmax
comp=Z,48nm,1.1s
SMF Signal de Mont 82.73 44 *e*P **P 01 03 59.8 -2.6**
comp=Z,48nm,1.1s
LASF Ste Croix 82.84 46 *e*P **P 01 04 01.7 -1.4**
comp=Z,36nm,0.9s
LASF Ste Croix 82.84 46 *e*P **P 01 04 01.7 -1.4**
comp=Z,36nm,0.9s
BAIF Baives 82.86 40 *e*P **P 01 04 00.4 -2.5**
comp=Z,78nm,1.5s
BAIF Baives 82.86 40 *e*P **P 01 04 00.4 -2.5**
BAIF pmax pmax
comp=Z,78nm,1.5s
BAIF Baives 82.86 40 *e*P **P 01 04 00.4 -2.5**
comp=Z,78nm,1.5s
TOA0 Torodi Ar. Sit 83.01 78 *e*P **P 01 04 05.0 +0.6**
TORD Torodi Ar. Bea 83.01 78 P **P 01 04 05.3 +0.9**
TORD PKKPbc **PKKPbc 01 22 28.7 +2.3**
TORD Torodi Ar. Bea 83.01 78 P **P 01 04 05.3 +0.9**
comp=Z,3.7nm,0.7s,baz=289,slow=2.3,SNR=18
TORD PKKPbc **PKKPbc 01 22 28.7 +2.3**
comp=Z,0.5nm,0.8s,baz=43,slow=1.7,SNR=5.0
TORD LR LR 01 38 01.4
comp=Z,1μm,21.9s,baz=265,slow=34
GIVF Givet 83.25 40 *e*P **P 01 04 02.7 -2.3**
comp=Z,33nm,0.9s
GIVF Givet 83.25 40 *e*P **P 01 04 02.7 -2.3**
GIVF pmax pmax
comp=Z,33nm,0.9s
GIVF Givet 83.25 40 *e*P **P 01 04 02.7 -2.3**
comp=Z,33nm,0.9s
SSB Saint Sauveur 83.28 45 PFAKE 01 04 20.0 +15
SSB LR LR
comp=Z,1μm,20.0s
VIVF Saint-Julien-l 83.39 46 *e*P **P 01 04 04.6 -1.3**
comp=Z,74nm,0.9s
VIVF Saint-Julien-l 83.39 46 *e*P **P 01 04 04.6 -1.3**
VIVF pmax pmax
comp=Z,74nm,0.9s
VIVF Saint-Julien-l 83.39 46 *e*P **P 01 04 04.6 -1.3**
comp=Z,74nm,0.9s
MEZF Maizieres J'vi 83.47 42 *e*P **P 01 04 03.9 -2.2**
comp=Z,28nm,0.8s
MEZF Maizieres J'vi 83.47 42 *e*P **P 01 04 03.9 -2.2**
comp=Z,28nm,0.8s
SFTF Sexfontaines 83.48 42 *e*P **P 01 04 03.8 -2.4**
comp=Z,93nm,1.4s
SFTF Sexfontaines 83.48 42 *e*P **P 01 04 03.8 -2.4**
comp=Z,93nm,1.4s
PAGF Fort de Pagny 83.92 42 *e*P **P 01 04 06.3 -2.1**
comp=Z,50nm,1.5s
PAGF Fort de Pagny 83.92 42 *e*P **P 01 04 06.3 -2.1**
comp=Z,50nm,1.5s
THEF They Montfort 84.11 42 *e*P P 01 04 12.6 +3.2
WLF Walferdange 84.13 41 *e*P **P 01 04 09.6 +0.1**
WLF pmax pmax
comp=Z,34nm,1.1s
WLF MLR MLR
comp=Z,2μm,22.0s
WLF Walferdange 84.13 41 *e*P **P 01 04 09.9 +0.4**
comp=Z,43nm,1.2s
WLF Walferdange 84.13 41 *e*P **P 01 04 09.6 +0.1**
comp=Z,34nm,1.1s
WLF LR LR
comp=Z,2μm,22.0s
ORIF Oris-en-Rattie 84.25 46 *e*P **P 01 04 09.2 -1.1**
comp=Z,132nm,1.5s
ORIF *e*R
comp=Z,1μm,21.0s
ORIF Oris-en-Rattie 84.25 46 *e*P **P 01 04 09.2 -1.1**
ORIF pmax pmax
comp=Z,132nm,1.5s
ORIF Oris-en-Rattie 84.25 46 *e*P **P 01 04 09.2 -1.1**
comp=Z,132nm,1.5s
CABF La Chapelle 84.28 44 *e*P **P 01 04 08.4 -2.1**
comp=Z,62nm,1.1s
CABF La Chapelle 84.28 44 *e*P **P 01 04 08.4 -2.1**
CABF pmax pmax
comp=Z,62nm,1.1s
CABF La Chapelle 84.28 44 *e*P **P 01 04 08.4 -2.1**
comp=Z,62nm,1.1s
KBS Kingsbay 84.31 11 PFAKE 01 04 20.0 +10
KBS LR LR
comp=Z,3μm,21.0s
HAU Haudompre 84.36 42 *e*P **P 01 04 08.5 -2.3**
comp=Z,30nm,1.1s
HAU *e*R
comp=Z,1μm,18.0s
HAU Haudompre 84.36 42 *e*P **P 01 04 08.5 -2.3**
HAU pmax pmax
comp=Z,30nm,1.1s
HAU Haudompre 84.36 42 *e*P **P 01 04 08.5 -2.3**
comp=Z,30nm,1.1s
HINF Hinteralfeld 84.72 43 *e*P **P 01 04 10.0 -2.6**
comp=Z,46nm,1.3s
HINF Hinteralfeld 84.72 43 *e*P **P 01 04 10.0 -2.6**
HINF pmax pmax
comp=Z,46nm,1.3s
HINF Hinteralfeld 84.72 43 *e*P **P 01 04 10.0 -2.6**
comp=Z,46nm,1.3s
BUG Bochum--Univer 84.72 39 *e*P **P 01 04 12.3 -0.1**
comp=Z,45nm,1.2s
BNI Bardonecchia 84.80 45 PFAKE 01 04 20.0 +6.8
BNI LR LR
comp=Z,2μm,20.0s
LPL La Plagne 84.80 45 *e*P **P 01 04 11.9 -1.4**
comp=Z,105nm,1.5s
LPL La Plagne 84.80 45 *e*P **P 01 04 11.9 -1.4**
LPL pmax pmax
comp=Z,105nm,1.5s
LPL La Plagne 84.80 45 *e*P **P 01 04 11.9 -1.4**
comp=Z,105nm,1.5s
LMR La Mourre 84.81 47 *e*P **P 01 04 11.3 -1.8**
comp=Z,227nm,1.7s
LMR La Mourre 84.81 47 *e*P **P 01 04 11.3 -1.8**
LMR pmax pmax
comp=Z,227nm,1.7s
LMR La Mourre 84.81 47 *e*P **P 01 04 11.3 -1.8**
comp=Z,227nm,1.7s
LPG La Plagne 84.82 45 *e*P **P 01 04 12.2 -1.3**
LPG La Plagne 84.82 45 *e*P **P 01 04 12.2 -1.3**
LPG La Plagne 84.82 45 *e*P **P 01 04 12.2 -1.3**
FRF La Foret Royal 84.89 47 *e*P **P 01 04 11.6 -1.9**
comp=Z,162nm,1.5s
FRF La Foret Royal 84.89 47 *e*P **P 01 04 11.6 -1.9**
FRF pmax pmax
comp=Z,162nm,1.5s
FRF La Foret Royal 84.89 47 *e*P **P 01 04 11.6 -1.9**
comp=Z,162nm,1.5s
MBDF Montbardon 84.89 46 *e*P **P 01 04 12.3 -1.4**
MBDF Montbardon 84.89 46 *e*P **P 01 04 12.3 -1.4**
MBDF Montbardon 84.89 46 *e*P **P 01 04 12.3 -1.4**
ECH Echery 84.89 42 *e*P **P 01 04 14.2 +0.8**
ECH pmax pmax
comp=Z,41nm,1.2s
ECH MLR MLR
comp=Z,2μm,22.0s
ECH Echery 84.89 42 *e*P **P 01 04 16.3 +2.9**
ECH Echery 84.89 42 *e*P **P 01 04 14.2 +0.8**
comp=Z,40nm,1.2s
ECH LR LR
comp=Z,2μm,22.0s
CDF Champ du Feu 84.95 42 *e*P **P 01 04 11.4 -2.4**
comp=Z,115nm,1.6s
CDF Champ du Feu 84.95 42 *e*P **P 01 04 11.4 -2.4**
CDF pmax pmax
comp=Z,115nm,1.6s
CDF Champ du Feu 84.95 42 *e*P **P 01 04 11.4 -2.4**
comp=Z,115nm,1.6s
SENIN Lac Senin/Sane 85.13 44 *e*P P 01 04 19.3 +4.4
comp=Z,153nm,2.3s
KONO Kongsberg 85.36 31 PFAKE 01 04 30.0 +15
KONO LR LR
comp=Z,3μm,21.0s
TNS Taunus Mts 85.57 40 *e*P **P 01 04 17.8 +1.0**
TNS pmax pmax
comp=Z,130nm,2.1s
TNS Taunus Mts 85.57 40 *e*P **P 01 04 17.8 +1.0**
comp=Z,130nm,2.1s
BFO Black Forest 85.66 42 *e*P **P 01 04 17.9 +0.6**
BFO pmax pmax
comp=Z,70nm,1.9s
BFO Black Forest 85.66 42 *e*P **P 01 04 17.9 +0.6**
comp=Z,70nm,1.9s
BFO Black Forest 85.66 42 *e*P **P 01 04 17.9 +0.6**
comp=Z,15nm,0.9s
BFO LR LR
comp=Z,2μm,22.0s
TAM Tamanrasset 85.75 68 *e*P **P 01 04 18.8 +0.4**
TAM pmax pmax
comp=Z,24nm,1.3s
TAM MLR MLR
comp=Z,2μm,22.0s
TAM Tamanrasset 85.75 68 *e*P **P 01 04 18.8 +0.4**
comp=Z,24nm,1.3s
TAM LR LR
comp=Z,2μm,22.0s
NB2 NORSAR Subarra 86.02 29 P **P 01 04 19.3 +0.5**
comp=Z,26nm,1.0s,baz=278,slow=5.1
NB2 NORSAR Subarra 86.02 29 P **P 01 04 19.3 +0.5**
baz=278,slow=5.1
NOA NORSAR Array B 86.02 29 P **P 01 04 16.9 -1.9**
NOA NORSAR Array B 86.02 29 P **P 01 04 16.9 -1.9**
comp=Z,11nm,0.8s,baz=276,slow=4.8,SNR=17
NOA LR LR 01 40 39.4
comp=Z,760nm,19.1s,baz=270,slow=34
STU Stuttgart 86.19 42 *e*P **P 01 04 20.7 +0.9**
STU pmax pmax
comp=Z,27nm,0.9s
STU Stuttgart 86.19 42 *e*P **P 01 04 20.7 +0.9**
comp=Z,45nm,1.2s
STU Stuttgart 86.19 42 *e*P **P 01 04 20.7 +0.9**
comp=Z,27nm,0.9s
NRDL Niersach Rie 86.38 38 *e*P **P 01 04 21.6 +1.0**
comp=Z,81nm,1.9s
TUE Stuetta 86.53 44 *e*P **P 01 04 22.5 +0.6**
comp=Z,27nm,0.8s
TUE LR LR
comp=Z,1μm,19.0s
CLZ Clausthal 86.61 38 *e*P **P 01 04 21.0 -0.9**
CLZ pmax pmax
comp=Z,291nm,2.7s
CLZ Clausthal 86.61 38 *e*P **P 01 04 21.0 -0.9**
comp=Z,291nm,2.7s
PGF Pioggiola 86.70 48 *e*P **P 01 04 20.6 -2.0**
comp=Z,107nm,1.1s
PGF Pioggiola 86.70 48 *e*P **P 01 04 20.6 -2.0**
PGF pmax pmax
comp=Z,107nm,1.1s
PGF Pioggiola 86.70 48 *e*P **P 01 04 20.6 -2.0**
comp=Z,107nm,1.1s
DAVA Damuels 86.81 43 *i* pP pP 01 04 27.3 -2.9
comp=Z,27nm,0.8s,SNR=9.0
FUORN Ofenpass-Fuorn 87.14 44 *e*P **P 01 04 26.8 +1.9**
comp=Z,56nm,1.4s
VSL Villasalto 87.32 51 PFAKE
VSL LR LR 01 04 40.0 +14
comp=Z,2μm,22.0s
GRFO Grafenberg 87.41 40 *e*P **P 01 04 26.4 +0.6**
GRFO pmax pmax
comp=Z,121nm,1.9s
GRFO Grafenberg 87.41 40 *e*P **P 01 04 26.4 +0.6**
comp=Z,121nm,1.9s
GRF Grafenberg Arr 87.41 40 *e*P **P 01 04 25.7 -0.1**
GRF *e*S **S 01 15 00.0 -5.5**
GRF pmax pmax
comp=Z,106nm,1.7s
GRF Grafenberg Arr 87.41 40 *e*P **P 01 04 25.7 -0.1**
comp=Z,106nm,1.7s
GRF *e*S **S 01 15 00.0 -5.5**
GRF *e*SS **SS 01 20 56.6 +6.4**
GRF *e*L L 01 37 35.9
comp=Z,2μm,21.7s
FETA Feichten 87.41 43⇑ *i*PcP **PcP 01 04 28.2 +0.1**
comp=Z,20nm,1.0s
VLC Villacollemand 87.52 46 PFAKE 01 04 40.0 +14
VLC LR LR
comp=Z,1μm,19.0s
NEUB Neuenburg 87.56 39 *e*P **P 01 04 26.6 +0.2**
comp=Z,101nm,2.0s
MOTA Moosalm 87.63 43⇑ *i*pP P 01 04 30.4 +3.3
comp=Z,12nm,0.9s
PLN Plauen 87.90 40 *e*P **P 01 04 28.6 +0.5**
comp=Z,161nm,1.3s
WTTA Wattenberg 88.00 43⇑ *i*PcP **PcP 01 04 31.4 +0.7**
comp=Z,16nm,1.2s
GUNZ Gunzen 88.03 40 *e*P **P 01 04 28.9 +0.1**
comp=Z,34nm,1.5s
ROTZ Rotzenmuhle 88.03 40 *e*P **P 01 04 29.1 +0.3**
comp=Z,90nm,2.3s
TANN Tannenbergstha 88.10 40 *e*P **P 01 04 28.6 -0.5**
comp=Z,34nm,1.3s
CLL Collm 88.31 39 *e*P **P 01 04 31.0 +1.0**
CLL *e*S **S 01 15 17.0 +3.1**
CLL pmax pmax
comp=Z,15nm,1.4s
CLL MLR MLR
comp=Z,1μm,20.2s
CLL Collm 88.31 39 *e*P **P 01 04 29.8 -0.2**
comp=Z,33nm,1.4s
WET Wettzell 88.55 41 *e*P **P 01 04 32.2 +0.9**
WET pmax pmax
comp=Z,38nm,1.2s
WET Wettzell 88.55 41 *e*P **P 01 04 32.2 +0.9**
comp=Z,38nm,1.2s
FBE Freiberg 88.59 39 *e*P **P 01 04 32.7 +1.4**
comp=Z,51nm,1.7s
ABTA Abfaltersbach 88.66 43⇑ *i*PcP **PcP 01 04 33.0 -0.5**
comp=Z,20nm,0.9s,SNR=11
RJOB Jochberg 88.71 42 *e*P **P 01 04 32.9 +0.8**
comp=Z,35nm,1.6s
BRG Berggiesshubel 88.96 39 *e*P **P 01 04 35.9 +2.8**
BRG 01 15 06.0
BRG SP SP 01 16 30.0 +6.4
BRG pmax pmax
comp=Z,5.0nm,1.6s
BRG MLR MLR
comp=N,36μm,16.6s
BRG MLR MLR
comp=E,592nm,18.5s
BRG MLR MLR
comp=Z,1μm,14.7s
BRG Berggiesshubel 88.96 39 *e*P **P 01 04 33.6 +0.5**
comp=Z,33nm,1.5s
KHC Kasperske Hory 89.01 41 *e*P **P 01 04 33.3 -0.1**
KHC *e* 01 04 39.8
KHC *e* 01 15 07.0
KHC *e* 01 16 28.2
KHC MLR MLR
comp=Z,1μm,17.4s
KHC Kasperske Hory 89.01 41 *e*P **P 01 04 33.3 -0.1**
KHC *e*pP **pP 01 04 39.8 -0.7**
KHC *ex* x 01 04 44.2
KHC *e*SKS **SKSac 01 15 07.0 +4.9**
KHC *e*PS **PS 01 16 28.2 +0.7**
KHC *e*SS SS 01 21 23.1 +10
KHC AMS AMS 01 46 30.0
comp=Z,1μm,17.4s
KHC Kasperske Hory 89.01 41 *e*P **P 01 04 34.4 +0.9**
comp=Z,16nm,1.3s
GEC2 GERESS Array S 89.14 41 *e*P **P 01 04 34.5 +0.4**
GEC2 pmax pmax
comp=Z,18nm,1.2s
GEC2 GERESS Array S 89.14 41 *e*P **P 01 04 34.5 +0.4**
comp=Z,18nm,1.2s
GEC2 GERESS Array S 89.14 41 *e*P **P 01 04 35.6 +1.5**
GERES GERESS Array B 89.14 41 P **P 01 04 31.8 -2.3**
GERES GERESS Array B 89.14 41 P **P 01 04 31.8 -2.3**
comp=Z,2.4nm,1.0s,baz=316,slow=3.7,SNR=6.1
GERES LR LR 01 38 36.5
comp=Z,2μm,21.8s,baz=278,slow=32
PRA Prague 89.41 40 P P 01 04 41.0 +5.8
PRA SKS SKSac 01 15 13.0 +8.7
PVCC Panska Ves 89.41 39 *e*P P 01 04 39.0 +3.8
PVCC *e* 01 04 48.2
PVCC MLR MLR
comp=Z,1μm,20.0s
PVCC Panska Ves 89.41 39 *e*P P 01 04 39.0 +3.8
PVCC *ex* x 01 04 48.2
PVCC AMS AMS 01 52 00.0
comp=Z,1μm,20.0s
MYKA Terra Mystica 89.45 43⇓ *i*pP P 01 04 39.2 +3.6
comp=Z,13nm,0.8s
PRU Pruhonice 89.49 40 *e*P P 01 04 41.1 +5.5
PRU *e* 01 15 12.5
PRU *e* 01 16 35.9
PRU MLR MLR
comp=Z,1μm,17.7s
PRU Pruhonice 89.49 40 *e*pP P 01 04 41.1 +5.5
PRU *ex* x 01 04 51.5
PRU *e*SKS SKSac 01 15 12.5 +7.7
PRU *e*PS **PS 01 16 35.9 +3.2**
PRU *ex* x 01 21 33.3
PRU AMS AMS 01 50 20.0
comp=Z,1μm,17.7s
AQU L'Aquila 89.96 47 PFAKE 01 04 50.0 +12
AQU LR LR
comp=Z,2μm,21.0s
ARCES ARCESS Array B 89.97 20 P **P 01 04 36.6 -0.8**
ARCES ARCESS Array B 89.97 20 P **P 01 04 36.6 -0.8**
comp=Z,3.8nm,0.7s,baz=113,slow=21,SNR=5.4
ARCES LR LR 01 39 57.6
comp=Z,1μm,21.8s,baz=294,slow=32
TREC Trest 90.22 40 *e*P **P 01 04 42.1 +3.0**
TREC *e* 01 15 13.6
TREC *e*SS SS 01 21 35.7 +4.7
TREC MLR MLR
comp=Z,1μm,20.8s
TREC Trest 90.22 40 *e*P **P 01 04 42.1 +3.0**
TREC *ex* x 01 04 53.7
TREC *e*SKS **SKSac 01 15 13.6 +4.4**
TREC *e*SS **SS 01 21 35.7 +4.7**
TREC AMS AMS 01 47 40.0
comp=Z,1μm,20.8s
UPC Upice 90.32 39 *e*P **P 01 04 39.8 +0.3**
UPC Upice 90.32 39 *e*P **P 01 04 39.8 +0.3**
UPC *ex* x 01 04 50.7
SOKA Soboth 90.39 43⇓ *i*pP **P 01 04 43.0 +3.0**
comp=Z,7.7nm,0.8s
KEV Kevo 90.39 19 PFAKE 01 04 50.0 +11
KEV LR LR
comp=Z,2μm,21.0s
KSP Ksiaz 90.43 39 *e*P P 01 04 43.5 +3.5
KSP *e*SP SP 01 16 43.0 +3.0
GKP Gorka Klasztor 90.52 36 *e*P P 01 04 44.3 +4.0
DPC Dobruska-Polom 90.55 39 *e*P **P 01 04 41.4 +0.8**
DPC *e* 01 15 14.5
DPC *e* 01 16 46.1
DPC *e*SS SS 01 21 45.5 +10
DPC Dobruska-Polom 90.55 39 *e*P **P 01 04 41.4 +0.8**
DPC *e*SKS **SKSac 01 15 14.5 +3.4**
DPC *e*PS **PnS 01 16 46.1 +1.5**
DPC *e*SS SS 01 21 45.5 +10
DPC AMS AMS 01 50 30.0
AFI Afiamalu 90.75 256 LR LR 01 37 22.5
comp=Z,849nm,18.6s,baz=82,slow=30
MORC Moravsky Berou 91.43 40⇑P P 01 04 48.7 +4.0
MORC Moravsky Berou 91.43 40 *e*P **P 01 04 45.0 +0.2**
comp=Z,4.7nm,1.0s
OKC Ostrava-Krasne 91.80 40 *e*P **P 01 04 48.5 +2.1**
OKC *e* 01 16 56.6
OKC MLR MLR
comp=Z,1μm,15.7s
OKC Ostrava-Krasne 91.80 40 *e*P **P 01 04 48.5 +2.1**
OKC *ex* x 01 04 59.1
OKC *e*PS **PS 01 16 56.6 -1.8**
OKC AMS AMS 01 48 40.0
comp=Z,1μm,15.7s
WDD Wield Dalam 91.87 54 PFAKE 01 05 00.0 +13
WDD LR LR
comp=Z,987nm,21.0s
CUC Castrocucco 92.15 50 PFAKE 01 05 00.0 +12
CUC LR LR
comp=Z,911nm,20.0s
CEL Celeste 92.53 51 PFAKE 01 05 00.0 +10
CEL LR LR
comp=Z,991nm,22.0s
FINES FINESS Array B 92.91 27 P **P 01 04 50.0 -1.3**
FINES FINESS Array B 92.91 27 P **P 01 04 50.0 -1.3**
comp=Z,2.2nm,0.8s,baz=356,slow=2.7,SNR=4.9
FINES LR LR 01 41 23.8
comp=Z,1μm,20.9s,baz=287,slow=32
BEL Belsk 92.96 37 *e*P **P 01 04 54.1 +2.4**
TIP Timpagrande 93.02 50 PFAKE 01 05 00.0 +7.6
TIP LR LR
comp=Z,923nm,22.0s
SNAA Sanae 93.17 162 *e*P **P 01 04 51.9 -0.3**
comp=Z,14nm,1.1s
SNAA *e*PP **PP 01 08 37.1 +1.5**
PSZ Piszkesteto 93.36 41 *e*P **P 01 04 54.3 +0.6**
PSZ pmax pmax
comp=Z,15nm,1.3s
PSZ MLR MLR
comp=Z,2μm,22.0s
PSZ Piszkesteto 93.36 41 *e*P **P 01 04 54.3 +0.6**
comp=Z,15nm,1.3s
PSZ LR LR
comp=Z,2μm,22.0s
STHS Stebnicka Huta 93.86 39 *e*P P 01 05 00.5 +4.6
STHS pmax pmax
comp=Z,3.0nm,1.0s
KOLS Kolonicke sedl 94.64 40 *e*P P 01 05 04.9 +5.4
KWP Kalwaria Pacla 94.72 39 PFAKE 01 05 10.0 +10
KWP LR LR
comp=Z,2μm,22.0s
UZH Uzhgorod 94.73 40 *e*P **P 01 05 01.2 +1.3**
TIR Tirane 94.89 48 PFAKE 01 05 10.0 +9.2
TIR LR LR
comp=Z,710nm,19.0s
BZS Buzias 95.08 43⇑P P 01 05 05.6 +4.0
DRGR 95.50 42⇓P P 01 05 07.1 +3.5
QSPA South Pole Qui 96.76 180 *e*P **P 01 05 09.0 +0.2**
comp=Z,67nm,1.7s
QSPA LR LR
comp=Z,898nm,22.0s
VTS Vitosha 96.99 46⇑P P 01 05 14.6 +4.1
RAO Raoul Island 97.84 241 LR LR 01 39 17.8
comp=Z,685nm,20.8s,baz=194,slow=29
KIEV Kiev 98.34 37 PFAKE 01 05 30.0 +14
KIEV LR LR
comp=Z,2μm,21.0s
AKASG Malin Array Be 98.35 37 PP PP 01 09 19.6 +3.7
AKASG Malin Array Be 98.35 37 PP PP 01 09 19.6 +3.7
comp=Z,0.2nm,0.3s,baz=294,slow=6.7,SNR=6.7
AKASG LR LR 01 46 34.2
comp=Z,2μm,21.2s,baz=285,slow=34
FUNA Funafuti 99.00 262 PFAKE 01 05 30.0 +10
FUNA LR LR
comp=Z,7μm,20.0s
KLMR Klimovskoe 99.03 25 *e* **PP 01 09 17.9 -2.9**
KLMR pmax pmax
comp=Z,31nm,1.9s
TIXI Tiksi 99.05 350⇓ *e*P **Pdif 01 05 20.9 +2.0**
TIXI pmax pmax
comp=Z,9.0nm,1.0s
TIXI MLR MLR
comp=Z,2μm,22.0s
SANT Santorini 100.38 51 PFAKE 01 05 40.0 +14
SANT LR LR
comp=Z,464nm,20.0s
SBA Scott Base 100.84 192 PFAKE 01 05 40.0 +13
SBA LR LR
comp=Z,667nm,22.0s
MSVF Nonsavu 100.85 253 PFAKE 01 05 40.0 +12
MSVF LR LR
comp=Z,677nm,19.0s
PET Petropavlovsk 101.24 327 *e* **PP 01 09 34.3 -3.4**
PET *e*PS **PS 01 18 34.9 -6.1**
PET pmax pmax
comp=Z,300nm,12.8s
PET MLR MLR
comp=Z,1μm,18.0s
PET MLR MLR
comp=Z,1μm,16.0s
TSUM Tsumeb 101.83 108 PFAKE 01 05 40.0 +7.4
TSUM LR LR
comp=Z,2μm,20.0s
ISP Isparta 103.78 49 PFAKE 01 05 50.0 +9.1
ISP LR LR
comp=Z,666nm,21.0s
SNZO South Karori 103.92 229 PFAKE 01 05 50.0 +8.8
SNZO LR LR
comp=Z,1μm,20.0s
TARA Tarawa 104.16 273 PFAKE 01 05 50.0 +7.1
TARA LR LR
comp=Z,2μm,19.0s

ANTO	**Ankara**	**104.70**	**46**	PFAKE			01 06 00.0	+15
ANTO				LR	LR			
	comp=Z,481nm,20.0s							
SUR	**Sutherland**	**104.95**	**122**	PFAKE			01 06 00.0	+14
SUR				LR	LR			
	comp=Z,4μm,21.0s							
CSS	**Prodhromos**	**106.90**	**51**	PFAKE			01 10 20.0	
CSS				LR	LR			
	comp=Z,667nm,21.0s							
WAKE	**Wake Island**	**107.05**	**292**	PFAKE			01 10 20.0	
WAKE				LR	LR			
	comp=Z,2μm,20.0s							
H11S2	**WAKE ISLAND Hy**	**107.18**	**292**	T	T		03 05 51.4	
	baz=78,slow=0.7,SNR=18							
H11S1	**WAKE ISLAND Hy**	**107.18**	**292**	T	T		03 05 52.2	
	baz=78,slow=0.7,SNR=13							
H11S3	**WAKE ISLAND Hy**	**107.20**	**292**	T	T		03 05 54.0	
	baz=78,slow=0.7,SNR=14							
LSZ	**Lusaka**	**111.81**	**104**	PFAKE			01 10 30.0	
LSZ				LR	LR			
	comp=Z,1μm,21.0s							
DZM	**Mont Dzumac**	**111.86**	**249**	*e*LR	LR		01 43 33.1	
	comp=Z,810nm,28.2s							
GNI	**Garni**	**112.78**	**41**	PFAKE			01 10 30.0	
GNI				LR	LR			
	comp=Z,659nm,22.0s							
MAK	**Makhachkala**	**113.01**	**38**	*i* PKIKP		**PKiKP**	**01 10 16.3**	**+0.5**
MAK				*e*			01 11 00.4	
MAK				*e*PPP	PPP		01 13 29.9	
MAK				*e*			01 17 00.6	
MAK				*e*PS	**PS**		**01 20 39.6**	**-0.4**
MAK				*e*SS	SS		01 27 01.4	+15
MAK				pmax	pmax			
	comp=Z,61nm,0.7s							
YUK	**Yuzh-Kuril'sk**	**113.18**	**324**	*i* PKIKP		**PKiKP**	**01 10 17.7**	**+1.6**
YUK				*i* PS	**PS**		**01 20 43.4**	**+1.9**
YUK				*i* SS	SS		01 26 46.3	-2.5
MBAR	**Mbarara**	**113.30**	**88**	PFAKE			01 10 30.0	
MBAR				LR	LR			
	comp=Z,270nm,19.0s							
ABKAR	**Akbulak array**	**115.38**	**26**	*e*PKPdf		**PKPdf**	**01 10 21.0**	**+0.8**
BRVK	**Borovoye**	**116.15**	**18**	*i* PKIKP		**PKPdf**	**01 10 22.0**	**+0.4**
BRVK	**Borovoye**	**116.15**	**18**	PFAKE			01 10 30.0	+8.4
BRVK				LR	LR			
	comp=Z,2μm,19.0s							
IKOM	**Komasi**	**117.76**	**46**	*e*P	PKPdf		01 10 33.6	+8.1
HNR	**Honiara**	**118.03**	**263**	PFAKE			01 10 40.0	+14
HNR				LR	LR			
	comp=Z,37nm,19.0s							
ZALV	**Zalesovo Beam**	**118.61**	**8**	PKIKP		**PKPdf**	**01 10 24.6**	**-1.7**
ZALV							01 11 42.2	
ZALV	**Zalesovo Beam**	**118.61**	**8**	PKP		**PKPdf**	**01 10 24.6**	**-1.7**
ZALV				PP		**PP**	**01 11 42.2**	**-0.5**
ZALV	**Zalesovo Beam**	**118.61**	**8**	PKP		**PKPdf**	**01 10 24.6**	**-1.7**
	comp=Z,0.5nm,0.5s,baz=298,slow=6.4,SNR=2.4							
ZALV				PP		**PP**	**01 11 42.2**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=347,slow=6.4,SNR=4.8							
KMBO	**Kilima Mbogo**	**119.82**	**87**	PFAKE			01 10 40.0	+10
KMBO				LR	LR			
	comp=Z,994nm,20.0s							
CASY	**Casey**	**119.87**	**186**	PFAKE			01 10 40.0	+12
CASY				LR	LR			
	comp=Z,1μm,20.0s							
USRK	**Ussuriysk Arra**	**120.43**	**332**	PKP		**PKPdf**	**01 10 29.2**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=239,slow=4.9,SNR=2.6							
ISHM	**Shahmirzad**	**120.81**	**41**	*e*P		**PKPdf**	**01 10 36.1**	**+4.6**
MDJ	**Mudanjiang**	**121.21**	**334**	PKP		**PKPdf**	**01 10 31.5**	**-0.1**
MDJ				PP		**PP**	**01 12 03.8**	**+2.8**
MDJ				LR	LR			
	comp=Z,1μm,36.1s							
MDJ				LR	LR			
	comp=Z,2μm,31.6s							
MDJ				LR	LR			
	comp=Z,1μm,27.1s							
MDJ	**Mudanjiang**	**121.21**	**334**	PFAKE			01 10 40.0	+8.4
MDJ				LR	LR			
	comp=Z,1μm,19.0s							
TLY	**Talaya**	**121.55**	**355**	*i* PKIKP		PKPdf	01 10 40.8	+8.7
TLY				*e*			01 17 31.3	
TLY				pmax	pmax			
	comp=Z,7.0nm,1.3s							
MAJO	**Matsushiro**	**122.39**	**321**	PFAKE			01 10 50.0	+16
MAJO				LR	LR			
	comp=Z,850nm,21.0s							
TAU	**Tasmania Unive**	**123.27**	**222**	PFAKE			01 10 50.0	+14
TAU				LR	LR			
	comp=Z,974nm,22.0s							
CN2	**Changchun**	**123.62**	**336**	*e*PKP		**PKPdf**	**01 10 37.4**	**+1.1**
CN2				*e*PP	PP		01 12 22.9	+5.6
CN2				SKKS			01 19 14.9	
CN2				*e*SS		**SS**	**01 29 06.9**	**+3.5**
CN2				PPMZ				
	comp=Z,200nm,6.0s							
CN2				LR	LR			
	comp=Z,2μm,22.0s							
CN2				LR	LR			
	comp=Z,1μm,22.0s							
CN2				LR	LR			
	comp=Z,1μm,22.0s							
IPAR	**Pars**	**124.04**	**47**	*e*P		PKPdf	01 10 48.4	+11
CAN	**Canberra**	**124.83**	**231**	PFAKE			01 10 50.0	+11
CAN				LR	LR			
	comp=Z,630nm,19.0s							
MKAR	**Makanchi Array**	**125.03**	**13**	PP	PP		01 12 23.9	-2.7
MKAR	**Makanchi Array**	**125.03**	**13**	PP	PP		01 12 23.9	-2.7
	comp=Z,1.1nm,0.9s,baz=2.8,slow=5.0,SNR=3.7							
SONM	**Songino Array**	**125.06**	**353**	PKP		**PKPdf**	**01 10 37.2**	**-1.9**
SONM				PP		**PP**	**01 12 27.7**	**+0.8**
SONM	**Songino Array**	**125.06**	**353**	PKP		**PKPdf**	**01 10 37.2**	**-1.9**
	comp=Z,1.5nm,0.7s,baz=336,slow=2.4,SNR=8.1							
SONM				PP		**PP**	**01 12 27.7**	**+0.8**
	comp=Z,1.4nm,1.1s,baz=332,slow=5.1,SNR=4.6							
EKS2	**Erkin-Say**	**126.34**	**21**	*e*PKIKP		**PKPdf**	**01 10 42.1**	**+0.4**
EKS2				*e*			01 12 36.2	
EKS2				MLR	MLR			
	comp=Z,2μm,22.0s							
EKS2	**Erkin-Say**	**126.34**	**21**	*e*PKPdf		**PKPdf**	**01 10 42.1**	**+0.4**
EKS2				*e*PP		**PP**	**01 12 36.2**	**+0.6**
EKS2				LR	LR			
	comp=Z,2μm,22.0s							
AAK	**Ala-Archa**	**126.62**	**21**	PKIKP		**PKPdf**	**01 10 41.4**	**-0.9**
AAK				*e*			01 10 43.1	
AAK				MLR	MLR			
	comp=Z,2μm,20.0s							
AAK	**Ala-Archa**	**126.62**	**21**	PKP		**PKPdf**	**01 10 41.4**	**-0.9**
AAK				*e*PKPdf		**PKiKP**	**01 10 43.1**	**+0.3**
AAK				LR	LR			
	comp=Z,2μm,20.0s							
AAK	**Ala-Archa**	**126.62**	**21**	PKP		**PKPdf**	**01 10 41.4**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=240,slow=16,SNR=2.5							
TKM2	**Tokmak 2**	**126.75**	**20**	PFAKE			01 10 50.0	+7.4
TKM2				LR	LR			
	comp=Z,1μm,22.0s							
KSRS	**Korea Array**	**127.57**	**329**	PKP		**PKPdf**	**01 10 44.6**	**+0.7**
	comp=Z,4.0nm,0.7s,baz=12,slow=1.3,SNR=13							
KSAR	**Wonju Array Be**	**127.60**	**329**	PKP		**PKPdf**	**01 10 44.6**	**+0.6**
INCN	**Inchon**	**128.19**	**330**	PFAKE			01 11 00.0	+15
INCN				LR	LR			
	comp=Z,1μm,20.0s							
GUMO	**Guam**	**128.67**	**293**	PFAKE			01 11 00.0	+13
GUMO				LR	LR			
	comp=Z,759nm,20.0s							
WMQ	**Urumqi**	**128.91**	**9**	*e*PKP		**PKPdf**	**01 10 42.6**	**-3.9**
WMQ				PP		**PP**	**01 12 53.9**	**+1.7**
WMQ				PKS	PKSdf		01 14 17.8	-5.3
WMQ				PPMZ				
	comp=Z,53nm,14.0s							
WMQ				LR	LR			
	comp=Z,2μm,29.2s							
WMQ				LR	LR			
	comp=Z,2μm,28.2s							
WMQ				LR	LR			
	comp=Z,2μm,28.8s							
ABPO	**Ambohimpanom**	**129.81**	**109**	PFAKE			01 11 00.0	+11
ABPO				LR	LR			
	comp=Z,1μm,21.0s							
KSH	**Kashi**	**129.89**	**22**	PKP	PKPdf		01 10 54.3	+5.7
KSH				PP	PP		01 13 06.0	+7.0
KSH				SKKS			01 20 01.0	
KSH				PPMZ				
	comp=Z,110nm,4.4s							
KSH				LR	LR			
	comp=Z,220nm,6.7s							
KSH				LR	LR			
	comp=Z,100nm,4.5s							
KSH				LR	LR			
	comp=Z,1μm,16.5s							
PMG	**Port Moresby**	**130.64**	**263**	PFAKE			01 11 00.0	+10
PMG				LR	LR			
	comp=Z,1μm,20.0s							
CTAO	**Charters Tower**	**130.80**	**249**	PFAKE			01 11 00.0	+9.4
CTAO				LR	LR			
	comp=Z,505nm,20.0s							
HHC	**Hu-ho-hao-te**	**130.86**	**346**	*e*PKP		**PKPdf**	**01 10 46.8**	**-3.5**
HHC				PP		**PP**	**01 13 06.3**	**+1.3**
HHC				PPMZ				
	comp=Z,390nm,6.1s							
HHC				LR	LR			
	comp=Z,2μm,19.0s							
HHC				LR	LR			
	comp=Z,2μm,17.7s							
HHC				LR	LR			
	comp=Z,2μm,17.8s							
STKA	**Stephens Creek**	**131.81**	**233**	PKP		**PKPdf**	**01 10 51.5**	**-0.7**
STKA	**Stephens Creek**	**131.81**	**233**	PKP		**PKPdf**	**01 10 51.5**	**-0.7**
	comp=Z,2.6nm,0.7s,baz=57,slow=4.7,SNR=6.2							
GTA	**Gaotai**	**134.01**	**357**	*e*PKP		**PKPdf**	**01 10 59.0**	**+2.6**
GTA				PP	PP		01 13 34.3	+9.2
GTA				SKS		**SKSdf**	**01 18 08.9**	**+2.1**
GTA				SKKS		**SKKSac**	**01 20 25.3**	**+4.0**
GTA				SS	SS		01 31 21.4	+10
GTA				PPMZ				
	comp=Z,210nm,8.1s							
GTA				LR	LR			
	comp=Z,1μm,19.5s							
GTA				LR	LR			
	comp=Z,960nm,19.5s							
GTA				LR	LR			
	comp=Z,1μm,19.9s							
SSE	**Sheshan**	**135.99**	**330**	PKP		**PKPdf**	**01 10 59.5**	**-0.6**
SSE				PP		**PP**	**01 13 41.6**	**+3.5**
SSE				SS	SS		01 31 36.6	+0.6
SSE				PPMZ				
	comp=Z,370nm,5.8s							
SSE				LR	LR			
	comp=Z,880nm,25.0s							
SSE				LR	LR			
	comp=Z,2μm,25.0s							
SSE				LR	LR			
	comp=Z,1μm,17.9s							
LZH	**Lanzhou**	**136.95**	**352**	*e*PKP		**PKPdf**	**01 11 01.8**	**-0.2**
LZH				PP	PP		01 13 49.3	+5.5
LZH				PKS		**PKSdf**	**01 14 36.3**	**-2.1**
LZH				SKS		**SKSdf**	**01 18 05.3**	**-6.8**
LZH				SS		**SS**	**01 31 46.4**	**-0.4**
LZH				PPMZ				
	comp=Z,470nm,5.2s							
LZH				LR	LR			
	comp=Z,1μm,17.6s							
LZH				LR	LR			
	comp=Z,1μm,16.4s							
LZH				LR	LR			
	comp=Z,2μm,20.8s							
XAN	**Xi'an**	**137.97**	**346**	PKP		**PKPdf**	**01 11 06.3**	**+2.5**
XAN				LR	LR			
	comp=Z,770nm,25.5s							
XAN				LR	LR			
	comp=Z,250nm,20.4s							
XAN				LR	LR			
	comp=Z,430nm,20.4s							
MSEY	**Mahe Island**	**138.30**	**89**	PFAKE			01 11 20.0	+15
MSEY				LR	LR			
	comp=Z,684nm,22.0s							
RTK	**Rohtak**	**139.10**	**29**	*e*P		**PKPdf**	**01 11 02.9**	**-3.0**
KUDL	**Kundal**	**139.88**	**29**	*e*P		**PKPdf**	**01 11 06.7**	**-0.7**
AYAN	**Aya Nagar**	**139.90**	**28**	*e*P		**PKPdf**	**01 11 06.0**	**-1.3**
SONA	**Sohna**	**140.08**	**28**	*e*P		**PKPdf**	**01 11 05.6**	**-2.1**
SONA				AMB	AMB		01 11 16.9	
	comp=Z,4.9nm,0.8s							
YHNB	**Yeheng**	**140.97**	**324**	PFAKE			01 11 20.0	+11
YHNB				LR	LR			
	comp=Z,2μm,21.0s							
AS31	**Alice Springs**	**141.09**	**240**	*e*PKPdf		**PKPdf**	**01 11 10.6**	**+0.9**
AS31				*e*PP		**PP**	**01 14 10.7**	**-0.4**
ASAR	**Alice Springs**	**141.09**	**240**	PKPpre	PKPpre		01 11 03.1	
ASAR				PKP		**PKPdf**	**01 11 09.4**	**-0.3**
ASAR	**Alice Springs**	**141.09**	**240**	PKhKP	PKPpre		01 11 03.1	
	comp=Z,1.0nm,0.6s,baz=118,slow=3.3,SNR=5.7							
ASAR				PKP		**PKPdf**	**01 11 09.4**	**-0.3**
	comp=Z,2.6nm,0.6s,baz=114,slow=3.1,SNR=8.7							
WRAB	**Tennant Creek**	**141.79**	**246**	*e*PKIKP		**PKPdf**	**01 11 07.7**	**-3.3**
WRAB				MLR	MLR			
	comp=Z,985nm,19.0s							
WRAB	**Tennant Creek**	**141.79**	**246**	*e*PKPdf		**PKPdf**	**01 11 07.7**	**-3.3**
WRAB				LR	LR			
	comp=Z,985nm,19.0s							
WRA	**Warramunga Arr**	**141.80**	**246**	PKPpre	PKPpre		01 11 04.5	
WRA				PKP		**PKPdf**	**01 11 09.5**	**-1.5**
WRA	**Warramunga Arr**	**141.80**	**246**	PKhKP	PKPpre		01 11 04.5	
	comp=Z,0.9nm,0.8s,baz=102,slow=3.2,SNR=6.6							
WRA				PKP		**PKPdf**	**01 11 09.5**	**-1.5**
	comp=Z,3.4nm,0.6s,baz=100,slow=2.7,SNR=15							
CD2	**Chengdu**	**142.05**	**351**	PKP		**PKPdf**	**01 11 11.0**	**-0.3**
CD2				PP		**PP**	**01 14 19.1**	**+4.0**
CD2				PKS		**PKSdf**	**01 14 45.3**	**-2.0**
CD2				SKS		**SKSdf**	**01 18 18.3**	**-2.1**
CD2				SKKS		**SKKSac**	**01 21 07.9**	**-1.1**
CD2				SS		**SS**	**01 32 48.6**	**+2.1**
CD2				PPMZ				
	comp=Z,520nm,7.8s							
CD2				LR	LR			
	comp=Z,1μm,18.6s							
CD2				LR	LR			
	comp=Z,2μm,23.4s							
DANN	**Dangsing**	**142.72**	**20**	*e*P		**PKPdf**	**01 11 08.6**	**-4.2**
	comp=Z,39nm,0.8s							
KOLN	**Koldanda**	**143.20**	**21**	*e*P		PKPbc	01 11 10.0	-0.4
LSA	**Lhasa**	**143.27**	**9**	PKP		PKPbc	01 11 11.3	+0.4
LSA	**Lhasa**	**143.27**	**9**	PFAKE			01 11 30.0	+16
LSA				LR	LR			
	comp=Z,737nm,21.0s							
GKN	**Gorkha**	**143.33**	**19**	*e*P		PKPab	01 11 10.1	+0.5
KKN	**Kakani**	**143.73**	**18**	*e*P		PKPab	01 11 10.1	-1.2
GUN	**Gumba**	**143.80**	**17**	*e*P		PKPab	01 11 10.8	-0.9
	comp=Z,62nm,0.9s							
DMN	**Daman**	**143.85**	**19**	*e*P		PKPab	01 11 11.0	-0.8
	comp=Z,37nm,0.8s							
PKIN	**Phulchoki**	**143.97**	**18**	*e*P		PKPab	01 11 10.9	-1.3
	comp=Z,22nm,0.7s							
PKI	**Pulchoki**	**143.98**	**18**	*e*P		PKPab	01 11 11.2	-1.1
JIRN	**Jiri**	**144.13**	**17**	*e*P		**PKPab**	**01 11 11.9**	**-1.1**
	comp=Z,137nm,1.2s							
TAPN	**Taplejung**	**144.84**	**15**	*e*P		**PKPab**	**01 11 14.1**	**-1.4**
	comp=Z,91nm,0.9s							
RAMN	**Ramite**	**144.91**	**17**	*e*P		**PKPab**	**01 11 14.0**	**-1.7**
	comp=Z,100nm,1.1s							
ODAN	**Odare**	**145.22**	**16**	*e*P		**PKPbc**	**01 11 14.9**	**-1.8**
	comp=Z,118nm,1.2s							
GYA	**Guiyang**	**145.77**	**345**	PKPbc		**PKPbc**	**01 11 18.4**	**+0.1**
GYA				PKS		**PKSdf**	**01 14 51.4**	**-2.3**
GYA				SKKS			01 21 28.9	
GYA				SS		**SS**	**01 33 31.0**	**+1.3**
GYA				PPMZ				
	comp=Z,980nm,8.7s							
GYA				LR	LR			
	comp=Z,1μm,24.8s							
GYA				LR	LR			
	comp=Z,620nm,20.0s							
GYA				LR	LR			
	comp=Z,1μm,23.5s							
POO	**Poona**	**145.82**	**42**	*e*P		**PKPdf**	**01 11 17.0**	**-1.1**
AKL	**Akola**	**146.18**	**36**	⇓ *i* P		**PKPdf**	**01 11 17.0**	**-1.7**
AKL				AMP			01 11 28.4	
	comp=Z,42nm,1.1s							
AKL				*i* x	x		01 18 02.5	
SHL	**Shillong**	**147.44**	**9**	*e*P		**PKPdf**	**01 11 20.0**	**-0.9**
H01W1	**Cape Leeuwin H**	**148.00**	**207**	T	T		03 57 31.4	
	baz=150,slow=0.7,SNR=17							
H01W2	**Cape Leeuwin H**	**148.00**	**207**	T	T		03 57 18.3	
	baz=150,slow=0.7,SNR=15							
H01W3	**Cape Leeuwin H**	**148.02**	**207**	T	T		03 57 31.7	
	baz=150,slow=0.7,SNR=15							
NWAO	**Narrogin (SRO)**	**148.07**	**213**	*e*PKPdf		**PKPdf**	**01 11 22.9**	**+1.5**
NWAO				*e*PKPab		**PKPab**	**01 11 27.9**	**+0.6**
NWAO				LR	LR			
	comp=Z,866nm,20.0s							
IMP	**Imphal**	**148.48**	**6**	*ex*		**PKPdf**	**01 11 25.0**	**+2.5**
DAV	**Davao City (W)**	**148.67**	**295**	PFAKE			01 11 30.0	-0.3
DAV				LR	LR			
	comp=Z,2μm,22.0s							
HYB	**Hyderabad**	**149.64**	**37**	*i* PKP		**PKPbc**	**01 11 31.0**	**+1.9**
FITZ	**Fitzroy Crossi**	**150.21**	**245**	PKPbc		**PKPbc**	**01 11 28.2**	**-2.2**
FITZ	**Fitzroy Crossi**	**150.21**	**245**	PKPbc		**PKPbc**	**01 11 28.2**	**-2.2**
QIZ	**Qiongzhong**	**151.57**	**335**	PFAKE			01 11 40.0	-1.9
QIZ				LR	LR			
	comp=Z,739nm,20.0s							
MBWA	**Marble Bar**	**154.04**	**234**	PFAKE			01 11 40.0	+1.0
MBWA				LR	LR			
	comp=Z,1μm,20.0s							
CHTO	**Chiang Mai**	**154.55**	**356**	PFAKE			01 11 40.0	-0.1
CHTO				LR	LR			
	comp=Z,886nm,21.0s							
CMAR	**Chiang Mai Arr**	**154.90**	**356**	PKP		**PKPdf**	**01 11 33.2**	**+1.0**
CMAR				PKPab		**PKPab**	**01 11 55.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**154.90**	**356**	PKP		**PKPdf**	**01 11 33.2**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=306,slow=1.4,SNR=9.8							
CMAR				PKPab		**PKPab**	**01 11 55.4**	**-0.5**
	comp=Z,2.8nm,0.3s,baz=330,slow=2.8,SNR=8.2							
DGAR	**Diego Garcia**	**155.29**	**93**	PFAKE			01 11 40.0	+7.2
DGAR				LR	LR			
	comp=Z,1μm,22.0s							
KKM	**Kota Kinabalu**	**157.28**	**304**	PFAKE			01 11 50.0	+14
KKM				LR	LR			
	comp=Z,624nm,22.0s							
KAPI	**Kappang**	**157.65**	**273**	PFAKE			01 11 50.0	+14
KAPI				LR	LR			
	comp=Z,541nm,20.0s							
KSM	**Kuching**	**164.70**	**302**	PFAKE			01 11 50.0	+6.6
KSM				LR	LR			
	comp=Z,471nm,20.0s							
KULM	**Kulim**	**167.59**	**345**	PFAKE			01 12 00.0	+14
KULM				LR	LR			
	comp=Z,962nm,21.0s							
PSI	**Prapat**	**170.38**	**351**	PKP		**PKPdf**	**01 11 49.0**	**+1.4**
PSI				PKPab		**PKPab**	**01 13 04.1**	**+0.4**
PSI	**Prapat**	**170.38**	**351**	PKP		**PKPdf**	**01 11 49.0**	**+1.4**
	comp=Z,5.1nm,0.7s,baz=262,slow=9.0,SNR=4.2							
PSI				PKPab		**PKPab**	**01 13 04.1**	**+0.4**
	comp=Z,6.2nm,0.8s,baz=311,slow=11,SNR=2.5							
COCO	**West Island**	**174.57**	**175**	PFAKE			01 12 00.0	+11
COCO				LR	LR			
	comp=Z,1μm,21.0s							

CASC 22 00:58:31.3±2.8, 6°.85N×82°.80W, h34^{km}±312^{km}, MD3.8, 2D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBS2		**1.93**	**4**	*e*P	Pn	00 59 03.1	+1.0
CTCR	**Cotoan**	**2.03**	**1**	*e*P	Pn	00 59 03.4	0.0
BUS	**Buena Vista**	**2.85**	**341**	⇓ *e*P	Pn	00 59 15.8	+0.8
BUS				*e*S	Sn	00 59 50.7	+2.2
QCR	**Quepos**	**2.89**	**332**	⇓ *i* P	Pn	00 59 15.4	+0.5
QCR				*e*S	Sn	00 59 47.3	-1.3
CAO	**Cobano**	**3.63**	**321**	*e*P	Pn	00 59 25.7	+0.5
JCR	**Jicaral**	**3.75**	**323**	*e*P	Pn	00 59 27.4	+0.5
VCR	**Vista de Mar**	**4.29**	**319**	*e*P	Pn	00 59 35.1	+0.8

ISCJB ***22*** *01:02:01.0±0.7, 6°.1N×0°.1×123°.8E±0°.2, h574^{km}, mb3.6/9, Error ellipse: s-maj=22.4km s-min=11.5km az=149.7*
IDC ***22*** *01:02:02.7±2.8, 6°.07N×123°.69E, h571^{km}±37^{km}, mb3.0/9, mb1 3.1/9, mb1mx2.9/26, mbtmp3.0/9, Error ellipse: s-maj=72.8km s-min=12.0km az=67.0*
ISC 22 01:02:02.7±0.8, **6°.1N**±0°.1×**123°.7E**±0°.2, **h574^{km}, n13, σ0^{s}73**/15, **mb3.6/9, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MYLDM	**Lahad Datu**	**5.27**	**260**	P	**P**	**01 03 37.6**	**+1.3**
SDKM	**Sandakan**	**6.50**	**266**	P	**P**	**01 03 46.5**	**-0.7**
KKM	**Kota Kinabalu**	**7.46**	**270**	P	**P**	**01 03 55.6**	**-0.5**
FITZ	**Fitzroy Crossi**	**24.14**	**176**	P	**P**	**01 06 34.2**	**-0.5**
	0.9nm,0.6s						
WRA	**Warramunga Arr**	**27.93**	**158**	P	**P**	**01 07 07.0**	**-1.0**
	1.0nm,0.3s,baz=330,slow=11,SNR=94						
WRA				PcP	**PcP**	**01 10 04.1**	**-0.4**
	0.4nm,0.9s,baz=318,slow=3.0,SNR=4.7						
ASAR	**Alice Springs**	**31.23**	**162**	P	**P**	**01 07 36.7**	**+0.2**
	1.2nm,0.4s,baz=340,slow=6.9,SNR=18						
ASAR				PcP	**PcP**	**01 10 13.5**	**+0.3**
	0.4nm,0.3s,baz=352,slow=2.8,SNR=5.1						
STKA	**Stephens Creek**	**41.45**	**157**	P	**P**	**01 09 00.4**	**+0.1**
	0.8nm,0.4s,baz=322,slow=11,SNR=2.8						
SONM	**Songino Array**	**44.13**	**343**	P	**P**	**01 09 21.4**	**+0.4**
	0.3nm,0.6s,baz=153,slow=9.7,SNR=3.0						
MKAR	**Makanchi Array**	**53.90**	**326**	P	**P**	**01 10 34.1**	**+1.1**
	1.8nm,0.3s,baz=121,slow=7.6,SNR=48						
ZALV	**Zalesovo Beam**	**57.12**	**334**	P	**P**	**01 10 54.6**	**-0.5**
	1.1nm,0.5s,baz=129,slow=6.8,SNR=3.7						
AKTO	**Aktyubinsk**	**69.93**	**322**	P	**P**	**01 12 16.4**	**-0.5**
	1.2nm,0.5s,baz=82,slow=12,SNR=4.0						
BRTR	**Keskin Array B**	**86.19**	**309**	P	**P**	**01 13 43.9**	**-0.4**
	0.7nm,0.8s,baz=142,slow=4.2,SNR=4.3						
TORD	**Torodi Ar. Bea**	**119.32**	**289**	PKP	**PKPdf**	**01 19 48.6**	**+0.3**
	0.1nm,0.3s,baz=57,slow=2.1,SNR=6.7						

IDC ***22*** *01:15:40.3±1.5, 29°.19N×130°.68E, h0^{km}, mb3.3/4, mb1 3.4/5, mb1mx3.3/26, mbtmp3.3/5, ML3.1/1, Error ellipse: s-maj=64.5km s-min=19.8km az=76.0*
ISCJB ***22*** *01:15:44.7±0.7, 29°.20N±0°.04×130°.76E±0°.09, h40^{km}, mb3.2/4, Error ellipse: s-maj=11.2km s-min=5.7km az=11.8*
JMA ***22*** *01:15:45.7±0.1, 29°.26N×130°.61E, h68^{km}±4^{km}, M3.4*
ISC 22 01:15:46.3±1.1, **29°.24N**±0°.06×**130°.66E**±0°.09, **h40^{km}, n14, σ0^{s}76**/18, **mb3.3**/4, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.91**	**311**	P	**Pn**	**01 16 02.6**	**0.0**
JNN				*e*S	**Sn**	**01 16 15.3**	**+0.7**
JAM	**Amami Oshima**	**1.24**	**229**	P	**Pn**	**01 16 07.1**	**-0.1**
JKC	**Kuchinoerabu**	**1.28**	**342**	P

PRYS				AML	AML	01 17 08.4	
	comp=Z,110nm,0.7s						
SEK	**Senekal**	**2.13**	**199**	*eP*	**Pb**	**01 17 03.0**	**+1.1**
SEK				*eS*	**Sg**	**01 17 30.2**	**-0.9**
SEK				AML	AML	01 17 33.9	
	comp=Z,38nm,0.3s						
LBTB	**Lobatse**	**2.84**	**296**	*eP*	**Pn**	**01 17 09.9**	**+1.0**
LBTB				*eS*	**Sn**	**01 17 45.4**	**+1.8**
LBTB				AML	AML	01 17 52.1	
	comp=Z,53nm,0.3s						
SWZ	**Schweizer**	**2.88**	**252**	*eP*	**Pn**	**01 17 09.7**	**+0.2**
SWZ				*eS*	**Sb**	**01 17 48.8**	**-1.6**
SWZ				AML	AML	01 17 57.4	
	comp=Z,63nm,0.4s						
BOSA	**Boshof**	**3.62**	**230**	*eP*	**Pn**	**01 17 21.0**	**+1.4**
BOSA				*eS*	**Sn**	**01 18 02.5**	**-0.3**
BOSA				AML	AML	01 18 17.7	
	comp=Z,24nm,0.5s						
BOSA	**Boshof**	**3.62**	**230**	Pn	**Pn**	**01 17 20.2**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=53,slow=14,SNR=9.1						
BOSA				Pg	**Pb**	**01 17 27.7**	**+0.4**
	comp=Z,2.1nm,0.3s,baz=55,slow=16,SNR=29						
BOSA				Lg	Lg	01 18 10.8	
	comp=Z,4.0nm,0.3s,baz=320,slow=18,SNR=17						
MSNA	**Messina**	**4.21**	**21**	*eP*	**Pn**	**01 17 28.3**	**+0.7**
MSNA				*eS*	**Sn**	**01 18 15.5**	**-1.8**
MSNA				AML	AML	01 18 39.5	
	comp=Z,22nm,0.7s						
SUR	**Sutherland**	**8.97**	**226**	*eP*	**Pn**	**01 18 34.1**	**+0.9**
SUR				*eS*	**Sn**	**01 20 14.1**	**-0.6**
SUR				AML	AML	01 21 15.4	
	comp=Z,4.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**47.04**	**323**	P	**P**	**01 24 56.0**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=136,slow=7.5,SNR=5.1						
BDFB	**Brasilia**	**71.27**	**261**	P	**P**	**01 27 42.9**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=117,slow=6.8,SNR=3.4						

GUC 22 01:16:37.1±0.7, 32°.75S×71°.95W, h8km±2km, MD3.7, ML3.2, 6C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.38**	**137**	*iP*	Pg	01 16 44.9	+0.4
IHA				*iS*	Sg	01 16 50.5	+1.0
ROCH	**El Roble**	**0.82**	**106**	*iP*	Pg	01 16 52.9	-0.3
ROCH				*iS*	Sg	01 17 04.6	+0.6
ROCH				AML	AML	01 17 05.6	
	comp=E,2μm,0.4s						
CHNG	**Los Chungos**	**0.94**	**24**	*iP*	Pg	01 16 54.6	-0.6
CHNG				*iS*	Sb	01 17 08.0	-0.3
CHNG				AML	AML	01 17 11.5	
	comp=E,388nm,0.5s						
PEL	**Peldehue**	**1.13**	**111**	*iP*	Pg	01 16 58.0	-0.9
PEL				*iS*	Sg	01 17 13.4	-0.3
PEL				AML	AML	01 17 20.3	
	comp=N,2μm,0.6s						
LNV	**Longovilo**	**1.28**	**160**	*eP*	Pn	01 16 59.5	-1.8
LNV				*iS*	Sb	01 17 17.2	-1.0
CLCH	**Cerro Calan**	**1.35**	**119**	*iP*	Pn	01 17 01.6	-0.8
CLCH				*iS*	Sb	01 17 19.6	-0.6
CLCH				AML	AML	01 17 26.1	
	comp=N,936nm,0.5s						
ANTU	**Antumapu**	**1.37**	**127**	*iP*	Pn	01 17 01.7	-0.9
ANTU				*iS*	Sb	01 17 20.0	-0.9
ANTU				AML	AML	01 17 26.2	
	comp=N,689nm,0.3s						
CHCH	**Chadas Angostu**	**1.60**	**138**	*iP*	Pn	01 17 05.3	-0.5
SJCH	**San Jose de Ma**	**1.60**	**124**	*iP*	Pn	01 17 04.7	-1.2
SJCH				*iS*	Sn	01 17 25.9	-1.0
SJCH				AML	AML	01 17 30.9	
	comp=N,478nm,0.3s						
CMCH	**Combarbala**	**1.77**	**27**	*iP*	Pn	01 17 07.5	-0.6
CMCH				*iS*	Sn	01 17 31.2	+0.4
CMCH				AML	AML	01 17 40.4	
	comp=E,906nm,0.6s						
CACH	**El Canelo**	**1.77**	**141**	*iP*	Pn	01 17 08.9	+0.7
CACH				*iS*	Sb	01 17 33.2	+0.7
LMEL	**Las Melosas**	**1.82**	**127**	*iP*	Pn	01 17 09.1	+0.1
LMEL				*iS*	Sb	01 17 33.4	-0.8
LMEL				AML	AML	01 17 37.9	
	comp=N,654nm,0.1s						

MEX 22 01:35:48.8±0.5, 15°.97N×96°.80W, h6km±4km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PANG	**Puerto Angel**	**0.43**	**133**	*eP*	Pg	01 35 56.7	-0.5
PANG				*iS*	Sg	01 36 03.5	+0.6
HUIG	**Huatulco**	**0.70**	**106**	*eP*	Pg	01 36 01.2	-1.0
HUIG				*iS*	Sg	01 36 10.7	-0.7
VHO	**Vista Hermosa**	**1.10**	**4**	*eP*	Pg	01 36 07.0	-3.3
VHO				*eS*	Sg	01 36 21.2	-3.6
PNIG	**Pinotepa**	**1.34**	**289**	*eP*	Pn	01 36 10.1	-4.0
PNIG				*eS*	Sb	01 36 27.4	-4.5
UTMO	**Huajuapan**	**2.09**	**333**	*eP*	Pn	01 36 21.7	-2.9
UTMO				*iS*	Sn	01 36 46.5	-4.6
TLIG	**Tlapa**	**2.32**	**314**	*eP*	Pn	01 36 24.6	-3.1
TLIG				*eS*	Sn	01 36 52.3	-4.3

MEX 22 01:43:05.2±1.2, 15°.89N×95°.12W, h118km±21km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.96**	**263**	*iP*	Pn	01 43 24.8	-1.9
HUIG				*iS*	Sn	01 43 41.3	-1.7
HUIG				*iS*	Sn	01 43 42.0	-1.0
PCIG		**1.84**	**96**	*eP*	Pn	01 43 35.8	-0.7
PCIG				*iS*	Sn	01 43 58.2	-2.3
VHO	**Vista Hermosa**	**1.95**	**307**	*iP*	Pn	01 43 37.1	-1.1
VHO				*iS*	Sn	01 44 00.7	-2.7
PNIG	**Pinotepa**	**2.94**	**280**	*eP*	Pn	01 43 50.2	-0.4
PNIG				*iS*	Sn	01 44 23.4	-2.3
UTMO	**Huajuapan**	**3.21**	**307**	*iP*	Pn	01 43 53.2	-1.4
UTMO				*iS*	Sn	01 44 29.0	-3.7

IDC ***22*** *01:49:27.4±1.0, 13°.98N×92°.98E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.7/27, mbtmp3.7/9, ML3.9/1, Error ellipse: s-maj=33.6km s-min=20.9km az=53.0*

ISCJB ***22*** *01:49:30.2±0.8, 14°.0N±0°.1×93°.0E±0°.1, h32km, mb3.7/8, Error ellipse: s-maj=19.1km s-min=13.7km az=17.1*

ISC 22 01:49:32.5±1.0, 14°.0N±0°.2×92°.92E±0°.09, h32km, n10, σ1§61/11, mb3.7/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.27**	**52**	Pn	**Pn**	**01 51 16.4**	**-0.2**
	0.5nm,0.3s,baz=234,slow=16,SNR=2.5						
VIS	**Vishakhapatnam**	**9.93**	**293**	*iP*	**Pn**	**01 51 54.7**	**+1.6**
VIS				*iS*	Sn	01 53 38.3	-5.2
VIS				*iS*	**Sn**	**01 53 40.3**	**-3.2**
VIS				*ex*	x	01 53 42.3	
	comp=E,27nm,0.4s						
VIS				*ex*	x	01 53 42.6	
	comp=N,47nm,0.5s						
MKAR	**Makanchi Array**	**33.86**	**347**	P	**P**	**01 56 10.9**	**-1.2**
	comp=N,1.4nm,0.9s,baz=165,slow=10.0,SNR=8.2						
SONM	**Songino Array**	**35.52**	**16**	P	**P**	**01 56 27.3**	**+0.7**
	comp=N,0.6nm,1.0s,baz=193,slow=6.1,SNR=3.8						
ZALV	**Zalesovo Beam**	**40.34**	**353**	P	**P**	**01 57 06.3**	**-0.6**
	comp=N,1.4nm,0.7s,baz=177,slow=9.6,SNR=5.6						
WRA	**Warramunga Arr**	**52.91**	**129**	P	**P**	**01 58 44.4**	**-1.6**
	comp=N,0.5nm,1.0s,baz=322,slow=9.5,SNR=4.7						
ASAR	**Alice Springs**	**54.86**	**133**	P	**P**	**01 58 59.3**	**-0.9**
	comp=N,0.3nm,0.5s,baz=308,slow=6.3,SNR=6.3						
BRTR	**Keskin Array B**	**57.61**	**308**	P	**P**	**01 59 20.4**	**+0.7**
	comp=N,0.7nm,0.8s,baz=122,slow=12,SNR=3.8						
GERES	**GERESS Array B**	**72.50**	**317**	P	**P**	**02 00 56.8**	**+0.5**
	comp=N,0.5nm,0.6s,baz=99,slow=8.6,SNR=4.4						
TORD	**Torodi Ar. Bea**	**88.04**	**283**	P	**P**	**02 02 21.7**	**+1.3**
	comp=N,0.5nm,0.8s,baz=92,slow=3.5,SNR=4.0						

IDC ***22*** *01:50:38.3±0.8, 6°.91N×82°.67W, h0km, mb4.4/14, mb1 4.7/17, mb1mx4.5/25, mbtmp4.5/17, ML4.5/2, MS4.2/7, Ms1 4.2/7, ms1mx3.9/25, Error ellipse: s-maj=29.6km s-min=13.5km az=51.0*

SZGRF ***22*** *01:50:39.9, 6°.62N×82°.63W, h10km, mb5.3, South of Panama*

NEIC ***22*** *01:50:40.1±0.3, 6°.83N×82°.63W, h10km, mb4.9/104, Error ellipse: s-maj=6.8km s-min=4.3km az=20.0*

BJI ***22*** *01:50:40.6, 6°.80N×82°.60W, h10km, mB5.5/2, Ms5.3/6, Ms7 4.9/6*

ISCJB ***22*** *01:50:41.6±1.1, 7°.09N±0°.04×82°.52W±0°.02, h18km±7km, mb4.8/113, MS4.8/8, Error ellipse: s-maj=6.7km s-min=3.3km az=24.7*

CASC ***22*** *01:50:41.7±2.7, 7°.17N×82°.74W, h1km±13km, MD4.5, mb4.9(NEIC)*

GCMT ***22*** *01:50:44.6±0.3, 6°.81N×82°.64W, h22km±1km, MW5.1, Moment Tensor Solution. s30,c37; s73,c115; Moment tensor: Scale 10^16 Nm; Mrr 0.00±.27; Mθθ -1.36±.17; Mϕϕ 1.36±.23; Mrθ -0.60±.32; Mθϕ 4.72±.18; Mϕr -0.67±.36; Best double couple: M0 5.00000×10^16 NP1:ϕs 262.00000°, δ 84.00000°, λ 8.00000°. NP2:ϕs 172.00000°, δ 82.00000°, λ 174.00000°. Principal axes: T 5.0700, Plg 10.0000°, Azm 127.0000°; N -0.1600, Plg 80.0000°, Azm 302.0000°; P -4.9100, Plg 1.0000°, Azm 37.0000°; Data Used: IU II CN G IC.*

ISC 22 01:50:42.4±2.1, 6°.89N±0°.05×82°.70W±0°.04, h25km±15km, n628, σ1§47/609, mb4.8/117, MS4.6/8, 157C-168D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**1.82**	**345**	*eP*	Pn	01 51 09.5	-2.6
ACR				*eS*	**Sn**	**01 51 30.4**	**-3.9**
ACR	**Cerro Adams**	**1.82**	**345**	*eP*	Pn	01 51 09.5	-2.6
ACR				*eS*	**Sn**	**01 51 30.4**	**-3.9**
ACR	**Cerro Adams**	**1.82**	**345**	*eP*	Pn	01 51 09.5	-2.6
ACR				*eS*	**Sn**	**01 51 30.4**	**-3.9**
BRU2	**Volcan**	**1.90**	**0**	*eP*	Pn	01 51 11.0	-2.3
BRU2				*eS*	**Sn**	**01 51 34.4**	**-2.1**
BRU2	**Volcan**	**1.90**	**0**	*eP*	Pn	01 51 11.0	-2.3
BRU2				*eS*	**Sn**	**01 51 34.4**	**-2.1**
BRU2	**Volcan**	**1.90**	**0**	*eP*	Pn	01 51 11.0	-2.3
BRU2				*eS*	**Sn**	**01 51 34.4**	**-2.1**
CTCR	**Cotoan**	**2.00**	**358**	*iP*	Pn	01 51 12.5	-2.3
CTCR	**Cotoan**	**2.00**	**358**	*iP*	Pn	01 51 12.5	-2.3
BUS	**Buena Vista**	**2.85**	**339**	*eP*	**Pn**	**01 51 24.8**	**-2.0**
BUS				*eS*	**Sn**	**01 51 57.4**	**-3.1**
BUS	**Buena Vista**	**2.85**	**339**	*eP*	**Pn**	**01 51 24.8**	**-2.0**
BUS				*eS*	**Sn**	**01 51 57.4**	**-3.1**
QCR	**Quepos**	**2.91**	**330**	*eP*	Pn	01 51 24.3	-2.8
QCR	**Quepos**	**2.91**	**330**	*eP*	Pn	01 51 24.3	-2.8
SJS	**Escuela Geolog**	**3.32**	**336**	*eP*	**Pn**	**01 51 31.7**	**-1.1**
SJS				*eS*	**Sn**	**01 52 08.6**	**-3.0**
SJS	**Escuela Geolog**	**3.32**	**336**	*eP*	**Pn**	**01 51 31.7**	**-1.1**
SJS				*eS*	**Sn**	**01 52 08.6**	**-3.0**
SJS	**Escuela Geolog**	**3.32**	**336**	*eP*	**Pn**	**01 51 31.7**	**-1.1**
SJS				*eS*	**Sn**	**01 52 08.6**	**-3.0**
ZANG	**Zanguenga, Cho**	**3.48**	**54**	*eP*	**Pn**	**01 51 34.6**	**-0.3**
ZANG	**Zanguenga, Cho**	**3.48**	**54**	*eP*	**Pn**	**01 51 34.6**	**-0.3**
PINA	**Piqa, Costa Ab**	**3.51**	**48**	*eP*	**Pn**	**01 51 35.6**	**+0.2**
PINA	**Piqa, Costa Ab**	**3.51**	**48**	*eP*	**Pn**	**01 51 35.6**	**+0.2**
PINA	**Piqa, Costa Ab**	**3.51**	**48**	*eP*	**Pn**	**01 51 35.6**	**+0.2**
BCIP	**Isla Barro Col**	**3.63**	**51**	*eP*	**Pn**	**01 51 37.1**	**+0.1**
BCIP	**Isla Barro Col**	**3.63**	**51**	*eP*	**Pn**	**01 51 37.1**	**+0.1**
BCIP	**Isla Barro Col**	**3.63**	**51**	*ePn*	**Pn**	**01 51 36.2**	**-0.8**
BCIP				*eS*	**Sn**	**01 52 24.5**	**+5.5**
CAO	**Cobano**	**3.67**	**320**	*eP*	Pn	01 51 34.6	-3.0
CAO	**Cobano**	**3.67**	**320**	*eP*	Pn	01 51 34.6	-3.0
CAO	**Cobano**	**3.67**	**320**	*eP*	Pn	01 51 34.6	-3.0
UPA	**Univ. de Panam**	**3.76**	**56**	*eP*	**Pn**	**01 51 38.3**	**-0.6**
UPA				*eS*	**Sn**	**01 52 19.0**	**-3.4**
UPA	**Univ. de Panam**	**3.76**	**56**	*eP*	**Pn**	**01 51 38.3**	**-0.6**
UPA				*eS*	**Sn**	**01 52 19.0**	**-3.4**
UPA	**Univ. de Panam**	**3.76**	**56**	*eP*	**Pn**	**01 51 38.3**	**-0.6**
UPA				*eS*	**Sn**	**01 52 23.3**	**+1.0**
JCR	**Jicaral**	**3.79**	**321**	*eP*	Pn	01 51 36.5	-2.7
JCR	**Jicaral**	**3.79**	**321**	*eP*	Pn	01 51 36.5	-2.7
JCR	**Jicaral**	**3.79**	**321**	*eP*	Pn	01 51 36.5	-2.7
JTS	**JuntasAbangare**	**4.05**	**327**	*ePn*	**Pn**	**01 51 41.3**	**-1.5**
JTS				*eS*	**Sn**	**01 52 29.2**	**-0.3**
JTS	**JuntasAbangare**	**4.05**	**327**	Pn	Pn	01 51 40.5	-2.3
	211nm,0.3s,baz=104,slow=13,SNR=1100						
JTS				Sn	**Sn**	**01 52 27.6**	**-1.9**
	90nm,0.3s,baz=43,slow=23,SNR=3.7						
JTS				LR	LR	01 53 16.5	
	comp=Z,3μm,19.2s,baz=142,slow=39						
CASO	**Castillo**	**4.06**	**330**	*iP*	**Pn**	**01 51 42.9**	**-0.1**
CASO	**Castillo**	**4.06**	**330**	*iP*	**Pn**	**01 51 42.9**	**-0.1**
CEDE	**Laguna Cede^–o**	**4.09**	**331**	*iP*	**Pn**	**01 51 43.7**	**+0.2**
CEDE				*iS*	**Sn**	**01 52 30.7**	**+0.1**
CEDE	**Laguna Cede^–o**	**4.09**	**331**	*iP*	**Pn**	**01 51 43.7**	**+0.2**
CEDE				*iS*	**Sn**	**01 52 30.7**	**+0.1**
CHPA	**Chiripa**	**4.15**	**328**	*iP*	**Pn**	**01 51 44.1**	**-0.2**
CHPA	**Chiripa**	**4.15**	**328**	*iP*	**Pn**	**01 51 44.1**	**-0.2**
VCR	**Vista de Mar**	**4.33**	**318**	*eP*	Pn	01 51 44.4	-2.4
VCR	**Vista de Mar**	**4.33**	**318**	*eP*	Pn	01 51 44.4	-2.4
VCR	**Vista de Mar**	**4.33**	**318**	*eP*	Pn	01 51 44.4	-2.4
AMAS	**Alto Masis**	**4.34**	**329**	*iP*	**Pn**	**01 51 45.2**	**-1.7**
AMAS				*iS*	**Sn**	**01 52 36.9**	**+0.1**
AMAS	**Alto Masis**	**4.34**	**329**	*iP*	**Pn**	**01 51 45.2**	**-1.7**
AMAS				*iS*	**Sn**	**01 52 36.9**	**+0.1**
CUI	**Cuipilapa**	**4.47**	**327**	*iP*	**Pn**	**01 51 46.9**	**-1.8**
CUI	**Cuipilapa**	**4.47**	**327**	*iP*	**Pn**	**01 51 46.9**	**-1.8**
COLC	**Colonia**	**4.50**	**327**	*iP*	**Pn**	**01 51 48.2**	**-0.8**
COLC	**Colonia**	**4.50**	**327**	*iP*	**Pn**	**01 51 48.2**	**-0.8**
GUAB	**Guayabo de Bag**	**4.55**	**327**	*iP*	**Pn**	**01 51 49.2**	**-0.5**
GUAB	**Guayabo de Bag**	**4.55**	**327**	*iP*	**Pn**	**01 51 49.2**	**-0.5**
LIM1	**Limonal**	**4.55**	**327**	*iP*	**Pn**	**01 51 48.6**	**-1.1**
LIM1	**Limonal**	**4.55**	**327**	*iP*	**Pn**	**01 51 48.6**	**-1.1**
GPS2	**Hotel Rinc^‡n**	**4.65**	**326**	*iP*	**Pn**	**01 51 50.7**	**-0.4**
GPS2	**Hotel Rinc^‡n**	**4.65**	**326**	*iP*	**Pn**	**01 51 50.7**	**-0.4**
GPS1	**Guardaparques**	**4.67**	**326**	*iP*	**Pn**	**01 51 51.0**	**-0.4**
GPS1				*iS*	**Sn**	**01 52 43.9**	**-1.0**
GPS1	**Guardaparques**	**4.67**	**326**	*iP*	**Pn**	**01 51 51.0**	**-0.4**
GPS1				*iS*	**Sn**	**01 52 43.9**	**-1.0**
BUEV	**Buena Vista**	**4.72**	**326**	*iP*	**Pn**	**01 51 51.1**	**-1.0**
BUEV	**Buena Vista**	**4.72**	**326**	*iP*	**Pn**	**01 51 51.1**	**-1.0**
GB1A	**Borinquen Arri**	**4.73**	**326**	*iP*	**Pn**	**01 51 51.9**	**-0.3**
GB1A	**Borinquen Arri**	**4.73**	**326**	*iP*	**Pn**	**01 51 51.9**	**-0.3**
GBS3	**Finca Las Im^¡**	**4.73**	**325**	*iP*	**Pn**	**01 51 50.9**	**-1.3**
GBS3	**Finca Las Im^¡**	**4.73**	**325**	*iP*	**Pn**	**01 51 50.9**	**-1.3**
GBS2	**Las Lilas**	**4.78**	**325**	*iP*	**Pn**	**01 51 51.8**	**-1.1**
GBS2				*iS*	**Sn**	**01 52 46.7**	**-0.8**
GBS2	**Las Lilas**	**4.78**	**325**	*iP*	**Pn**	**01 51 51.8**	**-1.1**
GBS2				*iS*	**Sn**	**01 52 46.7**	**-0.8**
COPN	**Copaltepe**	**6.51**	**324**	*eP*	**Pn**	**01 52 16.0**	**-0.7**
COPN				*eS*	**Sn**	**01 53 31.1**	**+1.0**
COPN	**Copaltepe**	**6.51**	**324**	*eP*	**Pn**	**01 52 16.0**	**-0.7**
COPN				*eS*	**Sn**	**01 53 31.1**	**+1.0**
OTAV	**Otavalo**	**7.85**	**147**	*ePn*	**Pn**	**01 52 33.8**	**-1.6**
OTAV				*eS*	Sn	01 53 57.0	-6.7
TGUH	**Tegucigalpa,Un**	**8.43**	**328**	*ePn*	**Pn**	**01 52 43.5**	**+0.6**
TGUH				*eS*	Sn	01 54 29.6	+12
VSM	**San Miguel**	**8.51**	**320**	*eP*	**Pn**	**01 52 43.4**	**-0.9**
VSM	**San Miguel**	**8.51**	**320**	*eP*	**Pn**	**01 52 43.4**	**-0.9**
ROSC	**El Rosal**	**8.57**	**103**	*ePn*	Pn	01 52 49.5	+4.3
ROSC				*eS*	Sn	01 54 09.3	-12
ROSC	**El Rosal**	**8.57**	**103**	Pn	**Pn**	**01 52 45.7**	**+0.5**
	4.5nm,0.3s,baz=76,slow=2.0,SNR=47						
ROSC				LR	LR	01 55 50.1	
	comp=Z,887nm,21.0s,baz=89,slow=36						
LFRS	**El Faro**	**9.16**	**317**	*eP*	**Pn**	**01 52 52.4**	**-0.8**
LFRS				*eS*	**Sn**	**01 54 33.8**	**-1.9**
LFRS	**El Faro**	**9.16**	**317**	*eP*	**Pn**	**01 52 52.4**	**-0.8**
LFRS				*eS*	**Sn**	**01 54 33.8**	**-1.9**
BOQS	**Boqueron**	**9.39**	**317**	*eP*	**Pn**	**01 52 55.0**	**-1.4**
BOQS	**Boqueron**	**9.39**	**317**	*eP*	**Pn**	**01 52 55.0**	**-1.4**
MRL	**Marmol**	**10.64**	**320**	*eP*	Pn	01 53 17.2	+3.8
MRL	**Marmol**	**10.64**	**320**	*eP*	Pn	01 53 17.2	+3.8
PAYG	**Puerto Ayora**	**10.66**	**226**	*ePn*	**Pn**	**01 53 13.1**	**-0.6**
NBG	**Las Nubes**	**10.72**	**316**	*eP*	Pn	01 53 19.1	+4.4
NBG	**Las Nubes**	**10.72**	**316**	*eP*	Pn	01 53 19.1	+4.4
FUG	**Fuego 3**	**10.97**	**314**	*eP*	Pn	01 53 22.7	+4.6
FUG	**Fuego 3**	**10.97**	**314**	*eP*	Pn	01 53 22.7	+4.6
APG	**El Apazote**	**11.10**	**317**	Pn	**Pn**	**01 53 19.9**	**+0.1**
APG	**El Apazote**	**11.10**	**317**	Pn	**Pn**	**01 53 19.9**	**+0.1**
	16nm,0.3s,baz=125,slow=8.8,SNR=198						
APG				LR	LR	01 57 46.2	
	comp=Z,538nm,18.9s,baz=125,slow=39						
JAT	**Jato**	**11.47**	**311**	*eP*	Pn	01 53 30.2	+5.5
JAT	**Jato**	**11.47**	**311**	*eP*	Pn	01 53 30.2	+5.5
SDV	**Santo Domingo**	**12.12**	**80**	*ePn*	**Pn**	**01 53 33.9**	**+0.1**
SDV				*eS*	Sn	01 55 42.4	-5.9
TEIG	**Tepich**	**14.32**	**338**	*ePn*	**Pn**	**01 54 04.9**	**+1.2**
ATAH	**Atahualpa**	**14.57**	**163**	Pn	**Pn**	**01 54 08.4**	**+0.9**
ATAH	**Atahualpa**	**14.57**	**163**	Pn	**Pn**	**01 54 08.4**	**+0.9**
	0.4nm,0.3s,baz=44,slow=9.3,SNR=10						
ATAH				LR	LR	01 58 58.7	
	comp=Z,543nm,18.6s,baz=339,slow=34						
GTBY	**Guantanamo Bay**	**14.91**	**29**	*ePn*	**Pn**	**01 54 12.7**	**+1.0**
SDDR	**Presa de Saban**	**16.36**	**42**	*ePn*	**Pn**	**01 54 30.3**	**-0.3**
CRPR	**Cabo Rojo, PR**	**18.79**	**53**	*ePn*	**P**	**01 55 00.7**	**+0.6**
MPR	**Mayaguez**	**18.88**	**52**	*ePn*	**Pn**	**01 55 03.0**	**+1.3**
	58nm,0.9s						
LSP	**Las Mesas**	**18.91**	**52**	*ePn*	**P**	**01 55 02.0**	**+0.6**
AGPR	**Aguadilla, PR**	**19.05**	**51**	*eP*	**Pn**	**01 55 04.2**	**+0.4**
	281nm,1.0s						
LRS	**Lares**	**19.16**	**52**	*eP*	**P**	**01 55 04.4**	**+0.3**
OBIP	**Obispado Ponce**	**19.21**	**53**	*eP*	**P**	**01 55 05.9**	**+1.3**
	55nm,0.9s						
CELP	**Cerrillos**	**19.25**	**53**	*eP*	**P**	**01 55 05.8**	**+0.7**
AOPR	**Arecibo Observ**	**19.26**	**52**	*ePn*	**P**	**01 55 06.6**	**+1.3**
	119nm,0.8s						
CPD	**Cerro la Pandu**	**19.76**	**54**	*eP*	**P**	**01 55 11.8**	**+1.1**
	73nm,0.7s						
HUMP	**Col San Antoni**	**19.87**	**54**	*eP*	**P**	**01 55 12.2**	**+0.3**
	60nm,0.9s						
CBYP	**Canovanas**	**19.93**	**54**	*eP*	**P**	**01 55 12.7**	**+0.1**
	20nm,0.7s						
MTP	**Monte Pirata**	**20.09**	**55**	*eP*	**P**	**01 55 14.2**	**-0.1**
	86nm,0.9s						
CDVI	**St. Croix**	**20.56**	**57**	*eP*	**P**	**01 55 19.9**	**+0.5**
	54nm,0.6s						
STVI	**Saint Thomas**	**20.70**	**55**	*eP*	**P**	**01 55 21.1**	**+0.1**
	36nm,0.8s						
SABA	**Saba**	**21.78**	**59**	*eP*	**P**	**01 55 34.1**	**+1.6**
TIGA	**Tifton**	**24.44**	**358**	⇓P	**P**	**01 56 00.4**	**+1.2**
	baz=25						
SAML	**Samuel**	**25.02**	**129**	*eP*	**P**	**01 56 02.4**	**-2.2**
	16nm,0.6s						
LRAL	**Lakeview Retre**	**26.32**	**352**	*eP*	**P**	**01 56 17.1**	**+0.8**
	30nm,0.8s						
GOGA	**Godfrey**	**26.40**	**359**	*eP*	**P**	**01 56 17.3**	**+0.4**
732A	**Laxson Ranch,**	**27.17**	**325**	⇑P	**P**	**01 56 25.2**	**+1.2**
	baz=27						
632A	**Uvalde**	**27.67**	**327**	⇑P	**P**	**01 56 29.8**	**+1.4**
	baz=28						
631A	**Perdido Creek**	**28.03**	**325**	⇑P	**P**	**01 56 33.2**	**+1.5**
	baz=28,SNR=6.9						
KMSC	**Kings Mountain**	**28.15**	**2**	*eP*	**P**	**01 56 33.7**	**+1.1**
	10nm,0.9s						
KMSC	**Kings Mountain**	**28.15**	**2**	⇓P	**P**	**01 56 33.5**	**+0.9**
	baz=28						
532A	**Rocksprings**	**28.21**	**327**	⇓P	**P**	**01 56 34.5**	**+1.1**
	baz=28						
SWET	**Sewanee**	**28.35**	**354**	*eP*	**P**	**01 56 34.3**	**-0.2**
	16nm,0.8s						
JCT	**Junction City**	**28.43**	**328**	*eP*	**P**	**01 56 37.7**	**+2.3**
	22nm,1.5s						
JCT	**Junction City**	**28.43**	**328**	⇑P	**P**	**01 56 36.8**	**+1.5**
	baz=29						
CPCT	**Cooper Cave**	**28.48**	**357**	*eP*	**P**	**01 56 36.2**	**+0.6**
WHTX	**Lake Whitney**	**28.52**	**333**	⇑P	**P**	**01 56 36.8**	**+0.8**
	baz=29						
531A	**Rocksprings**	**28.59**	**326**	⇓P	**P**	**01 56 39.0**	**+2.3**
	baz=29						
TKL	**Tuckaleechee C**	**28.65**	**358**	*eP*	**P**	**01 56 37.8**	**+0.7**
TKL	**Tuckaleechee C**	**28.65**	**358**	P	**P**	**01 56 36.5**	**-0.6**
	10nm,1.0s,baz=178,slow=11,SNR=6.7						
432A	**Menard**	**28.74**	**328**	⇑P	**P**	**01 56 39.7**	**+1.6**
	baz=29						
530A	**J-C Ranch, Com**	**29.02**	**325**	⇑P	**P**	**01 56 42.7**	**+2.1**
	baz=29,SNR=6.4						
431A	**Sonora**	**29.02**	**327**	⇑P	**P**	**01 56 42.2**	**+1.7**
	baz=29,SNR=6.6						
**

baz=32
LVC Limon Verde 32.28 156 eP P 01 57 10.0 +0.5
7.1nm,1.0s
W31A Holland Ranch, 32.32 333 ⇑P P 01 57 10.2 +0.5
baz=32
126A Clayton Basin, 32.41 325 ⇓P P 01 57 12.3 +1.8
baz=33
324A Moseley Ranch, 32.41 322 ⇑P P 01 57 12.7 +2.1
baz=33
Z27A Tatum 32.46 327 ⇑P P 01 57 12.5 +1.6
baz=33
225A Deer Hill, Car 32.48 323 ⇓P P 01 57 13.6 +2.4
baz=33,SNR=7.0
MSTX Muleshoe 32.73 328 eP P 01 57 14.6 +1.3
9.3nm,0.9s
MSTX Muleshoe 32.73 328 ⇑P P 01 57 14.5 +1.3
baz=33
125A Gardner Draw, 32.78 324 ⇓P P 01 57 15.7 +1.9
baz=33,SNR=12
Z26A Caprock 32.85 326 ⇓P P 01 57 15.4 +1.0
baz=33
X28A Dimmitt 32.86 329 ⇑P P 01 57 15.2 +0.7
baz=33
Y27A Causey 32.87 328 ⇓P P 01 57 16.0 +1.4
baz=33,SNR=5.4
224A Cornudas Mount 32.88 323 ⇑P P 01 57 17.0 +2.3
baz=33,SNR=6.7
AMTX Amarillo 32.89 331 ⇓P P 01 57 15.5 +0.8
baz=33
ACSO Alum Creek Sta 33.20 360 eP P 01 57 17.2 0.0
47nm,1.0s
Z25A Roswell 33.27 325 ⇑P P 01 57 20.1 +2.0
baz=34,SNR=6.9
124A Stringfield Ra 33.28 324 ⇑P P 01 57 20.7 +2.4
baz=34,SNR=9.9
SFIN Scholer Farm 33.58 354 ⇑P P 01 57 19.6 -0.9
baz=34
V29A Stinnett 33.62 332 ⇑P P 01 57 23.3 +2.3
baz=34
Z24A Sheeppen Canyo 33.68 324 ⇓P P 01 57 24.1 +2.4
baz=34
X26A CR and CF Fran 33.72 328 ⇑P P 01 57 24.1 +2.2
baz=34
W27A Bowe Ranch, En 33.73 329 ⇓P P 01 57 23.9 +1.9
baz=34
Y25A Mesa, Roswell 33.73 326 ⇓P P 01 57 24.0 +2.0
baz=34,SNR=7.4
U30A WK&E Inc. Balk 33.76 333 ⇓P P 01 57 23.3 +1.0
baz=34
T31A Randall Ranch, 33.82 335 ⇑P P 01 57 22.8 +0.2
baz=34
222A Williams Famil 33.86 321 ⇑P P 01 57 25.0 +1.7
baz=34
SSPA Standing Stone 33.88 7 eP P 01 57 23.7 +0.6
12nm,1.1s
S32A Newby Ranch, P 34.04 337 ⇓P P 01 57 25.0 +0.4
baz=34
Z23A Rita Site, Whi 34.13 323 ⇑P P 01 57 27.7 +2.1
baz=34
T30A Plains 34.14 334 ⇓P P 01 57 26.3 +0.8
baz=34
Y24A Capitan 34.15 325 ⇑P P 01 57 28.0 +2.2
baz=34,SNR=14
X25A Clemmons Ranch 34.16 327 ⇑P P 01 57 27.7 +1.8
baz=34,SNR=6.8
S31A Mullinville 34.19 336 ⇑P P 01 57 26.3 +0.4
baz=34
R33A Olander Ranch, 34.21 338 ⇓P P 01 57 26.2 +0.2
baz=34
320A Kipp Ranch, An 34.27 319 ⇑P P 01 57 30.0 +3.1
baz=34
KSU1 Kansas State U 34.44 341 eP P 01 57 27.4 -0.6
26nm,0.8s
Y23A Lovelace Mesa, 34.51 324 ⇑P P 01 57 31.3 +2.4
baz=35,SNR=9.0
T29A Hugoton 34.57 333 ⇓P P 01 57 30.7 +1.4
baz=35
Z22A Elephant Butte 34.57 323 ⇑P P 01 57 32.3 +2.9
baz=35,SNR=7.3
W25A X Bar L Ranch, 34.57 328 ⇓P P 01 57 31.1 +1.8
baz=35,SNR=5.4
121A Cookes Peak, D 34.58 321 ⇓P P 01 57 33.3 +3.8
baz=35
S30A Montezuma 34.61 335 ⇓P P 01 57 30.0 +0.4
baz=35
X24A Lazy VL Ranch, 34.62 326 ⇓P P 01 57 32.0 +2.1
baz=35,SNR=6.5
220A Playas Peak, P 34.64 319 ⇑P P 01 57 33.0 +3.0
baz=35,SNR=10
V26A Tequesquite Ra 34.67 329 ⇑P P 01 57 31.9 +1.8
baz=35
U27A Thompson Grove 34.68 331 ⇓P P 01 57 31.0 +0.7
baz=35
R31A Burdett 34.78 336 ⇑P P 01 57 31.0 0.0
baz=35
319A Douglas 34.80 318 ⇓P P 01 57 32.8 +1.5
baz=35
S29A Ulysses 34.87 334 ⇓P P 01 57 33.1 +1.2
baz=35
BNM Barren Site 35.00 324 eP P 01 57 35.8 +2.7
Q32A Meitler Ranch, 35.02 338 ⇓P P 01 57 33.4 +0.3
baz=35
Z21A St. Cloud Mine 35.03 322 ⇑P P 01 57 36.4 +3.0
baz=35
Y22A Socorro 35.04 323 ⇑P P 01 57 36.4 +2.8
baz=35,SNR=16
R30A Dighton 35.08 336 ⇓P P 01 57 34.3 +0.7
baz=35,SNR=6.1
W24A Lazy 6 Ranch, 35.08 327 ⇑P P 01 57 36.2 +2.4
baz=35,SNR=6.5
U26A Atchley Ranch, 35.11 330 ⇑P P 01 57 35.9 +1.8
baz=35
120A U Bar Ranch, L 35.12 320 ⇓P P 01 57 37.4 +3.2
baz=35,SNR=7.0
V25A Rancho No Teng 35.13 328 ⇓P P 01 57 36.7 +2.5
baz=35,SNR=12
Q31A Ellis 35.35 337 ⇑P P 01 57 36.1 +0.2
baz=36,SNR=5.2
V24A Rampart Ranch, 35.39 327 ⇓P P 01 57 38.4 +1.8
baz=36,SNR=9.1
W23A Werner Place, 35.45 326 ⇑P P 01 57 39.1 +2.0
baz=36,SNR=11
ANMO Albuquerque 35.47 325 eP P 01 57 39.3 +2.1
10.0nm,0.8s
X22A Bernardo 35.47 324 ⇑P P 01 57 40.2 +3.0
baz=36,SNR=6.6
LAZ Ladron 35.47 324 eP P 01 57 40.0 +2.7
Z20A Nine Sixteen R 35.47 321 ⇑P P 01 57 40.8 +3.6
baz=36
Y21A Point of Rocks 35.52 323 ⇑P P 01 57 41.1 +3.5
baz=36,SNR=8.1
P32A Huiting Farm, 35.59 339 ⇑P P 01 57 38.0 +0.1
baz=36
Q30A Quinter 35.65 336 ⇑P P 01 57 39.4 +0.9
baz=36
R28A Tribune 35.78 334 ⇓P P 01 57 40.6 +0.9
baz=36,SNR=9.1
P31A Stockton 35.79 338 ⇓P P 01 57 40.1 +0.5
baz=36
W22A Albuquerque 35.79 325 ⇑P P 01 57 43.0 +3.1
baz=36
Y20A Horse Springs, 35.87 322 ⇓P P 01 57 43.4 +2.6
baz=36
Q29A Oakley 35.88 335 ⇑P P 01 57 41.1 +0.6
baz=36,SNR=11
X21A Alamocita Cree 35.88 323 ⇓P P 01 57 43.8 +3.0
baz=36
V23A Ortiz Mt. (NFS 35.90 326 ⇓P P 01 57 43.1 +2.3
baz=36
U24A Moreno Valley 35.91 328 ⇑P P 01 57 43.3 +2.2
baz=36
S26A Kim 35.95 331 ⇑P P 01 57 42.7 +1.5
baz=36
T25A Trinidad 36.03 330 ⇓P P 01 57 42.7 +0.8
baz=36
O32A Brockman Farm, 36.04 340 ⇑P P 01 57 41.9 0.0
baz=36
P30A Selden 36.15 337 ⇑P P 01 57 43.2 +0.5
baz=36,SNR=7.1
R27A Eads 36.17 333 ⇑P P 01 57 43.3 +0.3
baz=36
W21A San Fidel 36.27 324 ⇑P P 01 57 47.1 +3.0
baz=36
U23A El Rito 36.34 327 ⇑P P 01 57 47.1 +2.5
baz=36,SNR=31
X20A Quemado 36.38 323 ⇓P P 01 57 48.5 +3.5
baz=37
TUC Tucson 36.38 318 eP P 01 57 47.3 +2.4
10nm,1.5s
Q28A Sharon Springs 36.39 335 ⇓P P 01 57 45.7 +0.8
baz=37,SNR=5.3
V22A San Miguel Ran 36.42 326 ⇓P P 01 57 48.0 +2.6
baz=37
S25A Robets Cordova 36.45 330 ⇓P P 01 57 47.4 +1.8
baz=37
T24B San Luis 36.46 329 ⇑P P 01 57 48.3 +2.5
baz=37
P29A Atwood 36.47 336 ⇑P P 01 57 46.4 +0.9
baz=37
R26A Arlington 36.48 332 ⇓P P 01 57 46.9 +1.1
baz=37
JFWS Jewell Farm 36.49 351 eP P 01 57 44.5 -1.1
9.3nm,0.7s
O30A MW Ranch, Wils 36.62 337 ⇑P P 01 57 47.3 +0.5
baz=37
KSCO Kaye Shedlock' 36.69 334 ⇑P P 01 57 48.5 +1.0
baz=37
U22A Llaves 36.73 326 ⇓P P 01 57 51.0 +3.0
baz=37,SNR=12
V21A Milan 36.76 325 ⇓P P 01 57 51.1 +2.9
baz=37,SNR=13
W20A Ramah 36.78 323 ⇓P P 01 57 51.8 +3.4
baz=37,SNR=14
P28A Saint Francis 36.78 335 ⇓P P 01 57 48.8 +0.6
baz=37
T23A Casias Ranch, 36.78 328 ⇓P P 01 57 51.0 +2.5
baz=37,SNR=12
S24A Houchin Ranch, 36.82 330 ⇓P P 01 57 50.9 +2.1
baz=37
Q26A Hugo 37.02 333 ⇓P P 01 57 51.7 +1.4
baz=37
BGNE Belgrade 37.03 341 ⇓P P 01 57 50.1 -0.1
baz=37
SDCO Great Sand Dun 37.04 329 eP P 01 57 52.8 +2.0
SDCO ePP PP 01 59 13.6 -1.8
P27A Ficken Ranch, 37.12 334 ⇑P P 01 57 52.0 +0.9
baz=37
U21A Nageezi 37.21 326 ⇓P P 01 57 54.5 +2.4
baz=37,SNR=5.4
R24A Sanders Place, 37.22 330 ⇓P P 01 57 54.1 +2.0
baz=37
T22A Edith 37.23 327 ⇓P P 01 57 54.3 +2.1
baz=37
V20A Brimhall 37.23 324 ⇑P P 01 57 55.0 +2.8
baz=37
M31A Lambtecht Ranc 37.25 340 ⇑P P 01 57 52.0 -0.1
baz=38
O28A Krutsinger Ran 37.25 336 ⇓P P 01 57 53.4 +1.2
baz=38
X18A Snowflake 37.26 321 ⇓P P 01 57 55.9 +3.4
baz=37,SNR=6.5
Q25A Bedland, Calha 37.35 332 ⇑P P 01 57 54.5 +1.3
baz=38
W18A Petrified Fore 37.51 322 eP P 01 57 54.7 +0.1
25nm,1.0s
W18A Petrified Fore 37.51 322 ⇑P P 01 57 57.8 +3.2
baz=38
214A Organ Pipe Nat 37.55 316 ⇑P P 01 57 56.8 +2.0
baz=38
R23A Moffat 37.55 329 ⇓P P 01 57 57.0 +2.0
baz=38,SNR=13
T21A Navajo Lake 37.55 327 ⇓P P 01 57 57.5 +2.5
baz=38,SNR=7.1
O27A Beecher Island 37.60 335 ⇑P P 01 57 56.2 +1.0
baz=38
N28A Pribbeno Ranch 37.63 336 ⇑P P 01 57 56.3 +0.8
baz=38
U20A Newcomb 37.66 325 ⇓P P 01 57 58.4 +2.6
baz=38
S22A 4UR Ranch, Cre 37.73 328 ⇑P P 01 57 58.4 +1.9
baz=38
P25A Willow Gulch B 37.79 332 ⇓P P 01 57 58.4 +1.5
baz=38,SNR=5.2
Q24A Divide 37.82 331 ⇓P P 01 57 58.5 +1.2
baz=38,SNR=6.3
L31A Butterfield Fa 37.94 340 ⇑P P 01 57 58.0 0.0
baz=38
M29A Burnside Ranch 37.95 338 ⇓P P 01 57 58.3 +0.2
baz=38,SNR=6.1
O26A Horse Wrangler 38.00 334 ⇑P P 01 57 59.6 +1.0
baz=38
R22A Saguache, Gunn 38.05 329 ⇓P P 01 58 01.3 +2.0
baz=38,SNR=12
X16A Lo Mia Camp, P 38.12 320 ⇑P P 01 58 02.8 +3.1
baz=38,SNR=8.3
N27A Anderson Farm, 38.14 335 ⇑P P 01 58 00.7 +0.9
baz=38
MVCO Mesa Verde 38.24 326 eP P 01 58 02.9 +2.1
30nm,1.0s
MVCO Mesa Verde 38.24 326 ⇑P P 01 58 02.9 +2.1
baz=38,SNR=16
O25A Wiggins 38.25 333 ⇑P P 01 58 02.0 +1.3
baz=38
L29A Maesberg Ranch 38.42 339 ⇓P P 01 58 02.3 +0.3
baz=39
P23A Jefferson 38.47 331 ⇑P P 01 58 05.4 +2.6
baz=39,SNR=9.6
R21A Cimarron 38.57 328 ⇓P P 01 58 05.5 +1.9
baz=39
Q22A Crested Butte, 38.61 329 ⇓P P 01 58 05.8 +1.8
baz=39
S20A Disappointment 38.61 327 ⇑P P 01 58 06.4 +2.4
baz=39,SNR=8.1
K30A Basset 38.65 340 ⇓P P 01 58 03.8 -0.1
baz=39,SNR=6.7
ECSD EROS Data Cent 38.68 344 eP P 01 58 03.0 -1.2
15nm,1.4s
ISCO Idaho Springs 38.70 331 eP P 01 58 06.3 +1.7
15nm,1.8s
ISCO Idaho Springs 38.70 331 ⇑P P 01 58 06.1 +1.4
baz=39
O24A Longmont 38.70 332 ⇑P P 01 58 06.1 +1.6
baz=39
WUAZ Wupatki 38.78 321 eP P 01 58 08.3 +3.0
12nm,1.0s
WUAZ Wupatki 38.78 321 ⇑P P 01 58 08.5 +3.2
baz=39,SNR=9.2
SMCO Snowmass 38.88 329 eP P 01 58 08.5 +2.1
8.8nm,1.0s
R20A Redvale 38.88 327 ⇓P P 01 58 08.1 +1.9
baz=39,SNR=9.1
Q21A Lamborn Mesa, 38.93 328 ⇓P P 01 58 08.3 +1.8
baz=39,SNR=12
PV01 Paradox Valley 38.95 327 eP P 01 58 08.6 +1.9
P22A Eagle 39.09 330 ⇑P P 01 58 09.8 +1.9
baz=39,SNR=15
O23A Lake Granby, G 39.16 331 ⇑P P 01 58 10.5 +1.9
baz=39
N24A Carr 39.17 333 ⇑P P 01 58 10.3 +1.8
baz=39
J30A Dallas 39.19 341 ⇓P P 01 58 07.8 -0.6
baz=39,SNR=17
SPMN St. Paul 39.19 349 eP P 01 58 06.6 -1.7
SPMN St. Paul 39.19 349 ⇓P P 01 58 06.7 -1.7
baz=39,SNR=5.8
PV05 Paradox Valley 39.20 326 eP P 01 58 10.9 +2.1
K28A Ten Mile Ranch 39.31 338 ⇓P P 01 58 09.9 +0.4
baz=40
P21A Newcastle 39.38 329 ⇓P P 01 58 12.7 +2.4
baz=40,SNR=12
Q20A Ridgley Place, 39.40 328 ⇓P P 01 58 12.2 +1.8
baz=40,SNR=8.1
O22A Kremmling 39.42 331 ⇑P P 01 58 12.0 +1.3
baz=40
J29A Okreek 39.54 340 ⇓P P 01 58 11.0 -0.3
baz=40,SNR=11
M24A Cheyenne 39.66 334 ⇓P P 01 58 13.8 +1.2
baz=40
N23A Red Feather La 39.71 332 ⇓P P 01 58 14.2 +1.1
baz=40
P20A De Beque 39.85 328 ⇑P P 01 58 16.3 +2.1
baz=40,SNR=10.0
J28A Allard Ranch, 39.87 339 ⇑P P 01 58 14.0 -0.2
baz=40,SNR=5.3
O21A Pagoda 39.92 330 ⇓P P 01 58 16.8 +2.0
baz=40
U15A North Rim 39.94 322 ⇓P P 01 58 18.5 +3.4
baz=40,SNR=10
J27A Elkhorn Farm, 40.01 338 ⇓P P 01 58 16.0 +0.7
baz=40,SNR=6.9
BRSD Miller 40.02 342 ⇓P P 01 58 14.9 -0.4
baz=40
I29A Vivian Onida 40.07 340 ⇑P P 01 58 15.3 -0.5
baz=40,SNR=5.4
O20A White River Ci 40.25 329 ⇓P P 01 58 19.8 +2.3
baz=40,SNR=8.5
P19A Cripple Cowboy 40.26 328 ⇑P P 01 58 19.8 +2.2
baz=40
H03N2 Juan Fernandez 40.26 175 T T 02 41 08.9
baz=354,slow=0.7,SNR=34
H03N1 Juan Fernandez 40.27 175 T T 02 41 08.3
baz=354,slow=0.7,SNR=68
H03N3 Juan Fernandez 40.28 175 T T 02 41 13.2
baz=354,slow=0.7,SNR=39
L23A Garrett 40.57 333 ⇓P P 01 58 21.3 +1.2
baz=41,SNR=6.3
MONP Monument Peak 40.61 314 ⇓P P 01 58 24.2 +3.6
baz=41
G30A Faulkton 40.69 342 ⇑P P 01 58 20.2 -0.6
baz=41
CFAA Coronel Fontan 40.69 161 P P 01 58 20.8 -0.3
CFAA Coronel Fontan 40.69 161 P P 01 58 20.8 -0.3
1.0nm,0.7s,baz=336,slow=7.2,SNR=16
SRU San Rafael 40.71 326 eP P 01 58 22.8 +1.5
26nm,0.8s
I27A Quinn 40.73 339 ⇑P P 01 58 21.6 +0.4
baz=41,SNR=5.2
N20A Spence Gulch, 40.78 330 ⇑P P 01 58 23.7 +1.8
baz=41,SNR=8.4
O19A Miners Draw (B 40.82 329 ⇑P P 01 58 24.1 +2.0
baz=41
L22A Ellis Ranch, M 40.84 333 ⇑P P 01 58 24.1 +1.8
baz=41,SNR=5.5
BELC Belle Mtn. Jos 40.91 316 ⇓P P 01 58 26.1 +3.1
baz=41
RWWY Rawlins 40.93 332 eP P 01 58 27.1 +4.0
11nm,0.9s
Q16A Castle Valley 40.94 325 ⇓P P 01 58 26.3 +3.1
baz=41
I26A New Underwood 40.99 338 ⇓P P 01 58 24.0 +0.5
baz=41
BDFB Brasilia 41.00 123 P P 01 58 22.9 -1.0
BDFB Brasilia 41.00 123 P P 01 58 22.9 -1.0
6.1nm,0.8s,baz=283,slow=9.5,SNR=13
PFO Pinyon Flat Ob 41.02 315 ⇓P P 01 58 26.6 +2.7
baz=41
K23A Bowen Ranch, D 41.05 334 ⇓P P 01 58 25.7 +1.7
baz=41
G28A Parade 41.21 340 ⇓P P 01 58 24.9 -0.2
baz=41
H27A Howes 41.23 339 ⇓P P 01 58 25.4 +0.1
baz=41,SNR=9.6
I25A Rochford 41.32 337 ⇓P P 01 58 27.0 +0.8
baz=42
K22A Casper 41.37 333 ⇓P P 01 58 27.7 +1.1
baz=42
H26A Fairpoint 41.46 338 ⇓P P 01 58 27.8 +0.6
baz=42
RSSD Black Hills 41.52 337 eP P 01 58 29.3 +1.4
16nm,0.8s
F29A Eureka 41.54 342 ⇓P P 01 58 26.9 -0.9
baz=42
HEC Hector,Ludlow 41.60 317 ⇑P P 01 58 33.1 +4.5
baz=42
TUQ Turquoise Moun 41.67 318 ⇓P P 01 58 33.0 +3.8
baz=42
K21A Alcova 41.68 333 ⇓P P 01 58 30.5 +1.2
baz=42
H25A Fruitdale 41.77 338 ⇓P P 01 58 30.4 +0.6
baz=42
SHPR Sheep Range 41.80 320 eP P 01 58 32.6 +2.4
14nm,1.4s
F28A McLaughlin 41.86 341 ⇑P P 01 58 30.5 0.0
baz=42
E30A Jud 41.87 343 ⇑P P 01 58 29.7 -0.8
baz=42,SNR=8.8
J22A Midwest 41.95 334 ⇑P P 01 58 32.5 +1.1
baz=42,SNR=6.9
MPU Maple Canyon 41.96 326 eP P 01 58 33.9 +2.4
11nm,0.8s
G26A Maurine 41.98 339 ⇑P P 01 58 31.6 +0.1
baz=42
DAU Daniels Canyon 42.03 327 eP P 01 58 34.2 +1.9
E29A Napoleon 42.14 343 ⇓P P 01 58 32.5 -0.2
baz=42
G27A Dupree 42.17 339 ⇑P P 01 58 29.2 -3.9
baz=42
H24A Dirks Ranch, A 42.25 337 ⇓P P 01 58 34.2 +0.4
baz=42
JLU Jordanelle 42.27 327 eP P 01 58 36.1 +1.9
16nm,1.1s
F27A Lemmon 42.28 340 ⇓P P 01 58 33.8 -0.2
baz=42
J21A Lysite 42.33 333 ⇓P P 01 58 35.5 +0.9
baz=42,SNR=5.5
D30A Buchanan 42.38 344 ⇓P P 01 58 34.4 -0.2
baz=43
E28A Huff 42.47 342 ⇓P P 01 58 35.2 -0.2
baz=43
D29A Pettibone, Tap 42.57 343 ⇓P P 01 58 35.7 -0.5
baz=43
E27A Carson 42.62 341 ⇓P P 01 58 36.9 +0.2
baz=43,SNR=5.7
J20A Shoshoni 42.63 332 ⇓P P 01 58 38.2 +1.3
baz=43
I21A Big Trails, Te 42.63 334 ⇑P P 01 58 37.8 +0.9
baz=43
G24A Alzada 42.68 337 ⇑P P 01 58 38.0 +0.7
baz=43
DUG Dugway 42.74 326 eP P 01 58 40.3 +2.4
28nm,1.9s
DUG Dugway 42.74 326 ⇑P P 01 58 40.2 +2.4
baz=43
F25A Bowman 42.83 339 ⇓P P 01 58 39.0 +0.5
baz=43
C30A Mose, Pekin 42.84 344 ⇑P P 01 58 37.7 -0.7
baz=43
H22A Clearmont 42.85 335 ⇑P P 01 58 39.5 +0.8
baz=43
PDAR Pinedale Array 42.87 331 P P 01 58 38.9 -0.1
PDAR PcP PcP 02 00 28.6 -1.2
PDAR Pinedale Array 42.87 331 P P 01 58 38.9 -0.1
2.7nm,0.9s,baz=138,slow=9.1,SNR=20
PDAR PcP PcP 02 00 28.6 -1.2
1.0nm,0.9s,baz=138,slow=4.5,SNR=4.0
FURC Furnace Creek, 42.88 318 ⇓P P 01 58 42.6 +3.7
baz=43
LRMC Laurel Mountai 42.88 317 ⇓P P 01 58 42.8 +3.7
baz=43
E26A Carlson Angus 42.95 340 ⇑P P 01 58 39.6 +0.2
baz=43
G23A Biddle 42.96 336 ⇓P P 01 58 40.4 +0.9
baz=43
D28A Regan 42.98 342 ⇑P P 01 58 39.3 -0.2
baz=43
J19A Crowheart 43.01 332 ⇓P P 01 58 41.0 +1.0
baz=43,SNR=5.4
MPMC Manual Prospec 43.07 317 ⇑P P 01 58 45.0 +4.3
baz=43
I20A Worland 43.11 333 ⇑P P 01 58 42.2 +1.4
baz=43,SNR=12
F24A Ekalaka 43.13 338 ⇓P P 01 58 41.4 +0.5
baz=43
R11A Troy Canyon, C 43.18 321 eP P 01 58 44.1 +2.6
6.0nm,1.0s
R11A Troy Canyon, C 43.18 321 ⇓P P 01 58 44.3 +2.8
baz=43,SNR=14
MDND Maddock 43.29 343 ⇓P P 01 58 41.9 -0.2
baz=44
G22A Birney 43.34 336 ⇑P P 01 58 44.1 +1.5
baz=44
BGU Big Grassy Mou 43.36 326 eP P 01 58 45.1 +2.2
13nm,0.9s
F23A Volborg 43.39 337 ⇓P P 01 58 43.3 +0.4
baz=44,SNR=5.1
C28A Hausauer Farms 43.40 343 ⇓P P 01 58 42.5 -0.4
baz=44
D26A Manning 43.43 340 ⇑P P 01 58 43.4 +0.2
baz=44
H20A Greybull 43.48 334 ⇑P P 01 58 44.3 +0.6
baz=44,SNR=5.3
B30A Myrvik Farm, E 43.49 345 ⇑P P 01 58 42.5 -1.1
baz=44,SNR=6.8
I19A Meeteetse 43.57 332 ⇑P P 01 58 46.2 +1.5
baz=44
E24A Baker 43.68 338 ⇓P P 01 58 45.8 +0.5
baz=44
F22A Rosebud 43.78 336 ⇓P P 01 58 46.6 +0.5
baz=44
B29A Wagenman Farm, 43.78 344 ⇓P P 01 58 45.7 -0.2
baz=44,SNR=5.4
HVU Hansel Valley 43.81 327 eP P 01 58 47.4 +0.9
5.2nm,0.5s
A30A Hoffart Farm, 43.94 345 ⇑P P 01 58 46.7 -0.5

baz=44
REDW **Red Top Meadow** 43.95 330 *e*P P 01 58 48.9 +1.2
19nm,1.0s
SNOW **Snow King Moun** 43.98 330 *e*P P 01 58 49.1 +1.2
9.0nm,0.8s
LOHW **Long Hollow** 44.01 331 *e*P P 01 58 49.6 +1.5
6.2nm,0.8s
B28A **Dugan Ranch, T** 44.05 343 ⇑P P 01 58 48.0 -0.1
baz=44
H19A **Powell** 44.06 333 ⇑P P 01 58 49.6 +1.2
baz=44
TPAW **Teton Pass** 44.09 330 *e*P P 01 58 49.5 +0.6
9.6nm,1.0s
G20A **Bridger** 44.15 334 ⇓P P 01 58 49.6 +0.5
baz=44,SNR=6.2
D24A **Glendive** 44.16 339 ⇓P P 01 58 49.7 +0.6
baz=44,SNR=5.9
A29A **Manning Farm,** 44.16 344 ⇓P P 01 58 48.3 -0.8
baz=44
F21A **Absaloka Mine,** 44.17 335 ⇓P P 01 58 49.8 +0.6
baz=44
RRI2 **Red Ridge** 44.17 330 *e*P P 01 58 50.7 +1.2
15nm,0.9s
MOOW **Moose Ponds** 44.18 331 *e*P P 01 58 50.9 +1.3
7.4nm,0.9s
E22A **Miles City** 44.20 337 ⇑P P 01 58 49.7 +0.3
baz=44,SNR=7.8
I17A **Pilgrim Ck.** 44.23 331 ⇓P P 01 58 52.0 +2.1
baz=44
C25A **Freed Ranch, W** 44.30 340 ⇑P P 01 58 50.0 -0.3
baz=44
H18A **Shoshone NF, C** 44.37 332 ⇑P P 01 58 51.8 +0.7
baz=45
IMW **Indian Meadow** 44.39 331 *e*P P 01 58 52.1 +0.8
7.5nm,0.8s
FLWY **Flagg Ranch** 44.41 331 *e*P P 01 58 52.7 +1.3
13nm,0.9s
A28A **Rude Farm, Bot** 44.44 343 ⇑P P 01 58 51.6 +0.3
baz=45
ELK **Elko** 44.49 324 *e*P P 01 58 54.2 +2.2
120nm,2.8s
D23A **Lindsay** 44.53 338 ⇑P P 01 58 52.7 +0.7
baz=45,SNR=6.5
C24A **Savage** 44.55 339 ⇓P P 01 58 52.7 +0.6
baz=45
F20A **Billings** 44.58 335 ⇑P P 01 58 53.5 +0.9
baz=45
ULM **Lac du Bonnet** 44.61 348 *e*P P 01 58 50.0 -2.5
11nm,0.9s
ULM **Lac du Bonnet** 44.61 348 P P 01 58 50.4 -2.2
11nm,0.8s,baz=151,slow=6.9,SNR=14
E21A **Keefer Ranch,** 44.73 336 ⇑P P 01 58 54.8 +1.1
baz=45
B25A **Knox Farm, Ray** 44.76 341 ⇓P P 01 58 54.3 +0.4
baz=45
A27A **Ledoux Ranch,** 44.76 343 ⇓P P 01 58 53.3 -0.5
baz=45
D22A **Cohagen** 44.88 337 ⇓P P 01 58 55.5 +0.7
baz=45,SNR=6.7
NVAR **Mina Array Bea** 44.95 320 P P 01 58 56.5 +0.8
NVAR **Mina Array Bea** 44.95 320 P P 01 58 56.5 +0.8
2.2nm,0.6s,baz=127,slow=7.2,SNR=24
NVAR LR LR 02 21 30.2
comp=Z,317nm,19.4s,baz=278,slow=41
A26A **Wade Farm, Ken** 44.95 342 ⇑P P 01 58 55.4 +0.1
baz=45
F19A **Roth Farm, Mol** 44.96 334 ⇓P P 01 58 56.6 +1.0
baz=45
C23A **Lambert** 45.05 339 ⇓P P 01 58 57.0 +0.8
baz=45
D21A **La Casta Ranch** 45.12 337 ⇓P P 01 58 57.6 +0.8
baz=45
E20A **Meyer Farm, Mu** 45.13 335 ⇑P P 01 58 57.9 +1.0
baz=45,SNR=7.8
GCMT **Greycliff** 45.23 333 *e*P P 01 58 58.4 +0.6
C22A **Vida** 45.26 338 ⇓P P 01 58 58.7 +0.9
baz=46
DGMT **Dagmar** 45.27 340 *e*P P 01 58 58.6 +0.7
15nm,1.1s
DGMT **Dagmar** 45.27 340 ⇑P P 01 58 58.4 +0.5
baz=46
QLMT **Earthquake Lak** 45.32 331 *e*P P 01 59 00.5 +2.0
E19A **Rath Farm, Rou** 45.37 335 ⇓P P 01 58 59.8 +1.0
baz=46
BMN **Battle Mountai** 45.46 323 *e*P P 01 59 01.7 +1.9
23nm,0.8s
B23A **Brockton** 45.55 339 ⇓P P 01 59 01.0 +0.9
baz=46,SNR=5.3
A24A **Westby** 45.60 340 ⇓P P 01 59 01.1 +0.6
baz=46
D20A **Manuel Ranch,** 45.60 336 ⇓P P 01 59 01.4 +0.8
baz=46
WAKR **Walker** 45.72 319 *e*P P 01 59 02.4 +0.5
B22A **Reddig Ranch S** 45.77 338 ⇓P P 01 59 02.5 +0.7
baz=46
C21A **Desert Coulee** 45.79 337 ⇑P P 01 59 02.8 +0.8
baz=46
HLID **Hailey** 45.91 328 *e*P P 01 59 04.2 +1.0
13nm,0.8s
HLID **Hailey** 45.91 328 ⇑P P 01 59 05.0 +1.7
baz=46,SNR=34
D19A **Cripps Ranch,** 45.97 335 ⇓P P 01 59 04.4 +0.9
baz=46
MCMT **McKenzie Canyo** 46.00 330 *e*P P 01 59 06.2 +2.2
BOZ **Bozeman (W)** 46.02 332 *e*P P 01 59 04.9 +0.9
12nm,1.1s
DLMT **Dillon** 46.27 331 *e*P P 01 59 07.8 +1.8
12nm,1.0s
A22A **Carney Farms,** 46.32 339 ⇓P P 01 59 07.2 +1.0
baz=46
PAHR **Pah Rah Range** 46.37 320 *e*P P 01 59 09.6 +2.7
18nm,1.4s
C19A **Slack Wire Ran** 46.49 336 ⇑P P 01 59 08.6 +1.0
baz=47,SNR=5.3
LRM **Limekiln Ridge** 46.53 331 *e*P P 01 59 09.3 +1.1
B20A **Solberg Farm,** 46.65 337 ⇑P P 01 59 09.8 +1.1
baz=47
A21A **Bergtoll Ranch** 46.69 338 ⇑P P 01 59 09.9 +0.9
baz=47
HRY **Holter Researc** 46.91 333 *e*P P 01 59 11.0 +0.1
EGMT **Eagleton** 47.01 335 ⇓P P 01 59 12.6 +0.9
baz=47
B19A **Brinkman Farms** 47.02 336 ⇑P P 01 59 12.4 +0.7
baz=47
WVOR **Wild Horse Val** 47.53 324 *e*P P 01 59 17.3 +1.4
14nm,0.8s
CHMT **Chamberlain Mo** 47.71 332 *e*P P 01 59 18.1 +0.8
MSO **Missoula** 47.98 331 *e*P P 01 59 20.6 +1.3
10nm,0.9s
MSO **Missoula** 47.98 331 ⇓P P 01 59 20.2 +1.0
baz=48,SNR=6.5
J08A **Circle Bar Ran** 48.01 325 *e*P P 01 59 20.9 +1.3
80nm,2.6s
SLMT **Seeley Lake** 48.06 332 *e*P P 01 59 20.6 +0.6
4.7nm,1.0s
MOD **Modoc** 48.21 322 *e*P P 01 59 23.3 +2.2
34nm,1.4s
SWMT **Swartz Lake** 48.49 332 P P 01 59 23.0 -0.3
8.5nm,1.3s
TRQA **Tornquist** 48.70 158 *e*P P 01 59 24.0 -0.8
9.1nm,1.1s
JTMT **Jette** 48.80 332 *e*P P 01 59 26.7 +1.1
F10A **Beach Ranch, E** 49.02 328 *e*P P 01 59 28.3 +1.0
13nm,1.0s
I07A **Izee** 49.04 325 *e*P P 01 59 28.5 +1.0
5.8nm,0.9s
BSMT **Bassoo Peak** 49.11 332 *e*P P 01 59 29.3 +1.2
SCHQ **Schefferville** 49.48 12 LR LR 02 20 31.9
comp=Z,360nm,18.2s,baz=102,slow=36
G08A **Pilot Rock** 49.50 327 *e*P P 01 59 33.0 +2.0
67nm,2.8s
PINOR **Pine Mountain** 49.67 324 *e*P P 01 59 34.2 +2.2
8.8nm,1.0s
E09A **Wood Farm, Sta** 49.85 328 *e*P P 01 59 34.7 +1.2
23nm,1.0s
HAWA **Hanford** 50.51 327 *e*P P 01 59 39.7 +1.2
40nm,1.9s
NEW **Newport** 50.52 331 *e*P P 01 59 39.4 +0.8
11nm,1.1s
NEW **Newport** 50.52 331 ⇑P P 01 59 39.2 +0.6
baz=51,SNR=7.3
C09A **Chrisman Ranch** 50.77 330 *e*P P 01 59 41.8 +1.3
35nm,1.8s
H04A **Detroit Lake** 50.94 324 *e*P P 01 59 43.4 +1.5
13nm,0.8s
LTY **Liberty** 51.66 328 *e*P P 01 59 48.6 +1.4
16nm,1.4s
B08A **Colville Reser** 51.67 330 *e*P P 01 59 48.3 +1.1
8.5nm,1.0s
EDM **Edmonton** 52.50 337 *e*P P 01 59 53.1 -0.2
YKA **Yellowknife Ar** 60.21 344 P P 02 00 48.0 -0.1
YKA **Yellowknife Ar** 60.21 344 P P 02 00 47.9 -0.1
5.9nm,0.8s,baz=137,slow=7.2,SNR=6.4
SFJD **Kangerlussuaq** 63.88 13 P P 02 01 13.8 +1.1
SFJD **Kangerlussuaq** 63.88 13 P P 02 01 13.8 +1.1
8.3nm,0.8s,baz=23,slow=2.4,SNR=3.8
SUMG **Summit** 70.86 13 *i* P P 02 01 56.0 -1.2
6.3nm,0.9s
SUMG **Summit** 70.86 13 *e*P P 02 01 55.9 -1.4
9.5nm,1.0s
ILAR **Eielson Array** 72.97 336 P P 02 02 09.0 -0.5
ILAR **Eielson Array** 72.97 336 P P 02 02 09.0 -0.5
3.3nm,0.7s,baz=108,slow=5.1,SNR=36
ILAR LR LR 02 36 42.2
comp=Z,221nm,18.5s,baz=316,slow=38
EVOP **Sao Brissos** 73.68 52 *e*P P 02 02 13.2 -1.0
94nm,1.6s
EVO **Evora** 73.77 52 *e*P P 02 02 13.2 -1.6
94nm,1.6s
BPAW **Bear Paw Mtn.** 74.44 335 *e*P P 02 02 19.0 +0.8
9.0nm,0.8s
COLD **Coldfoot** 75.07 338 *e*P P 02 02 23.9 +2.1
7.3nm,0.9s
ESDC **Sonseca Array** 76.97 51 P P 02 02 33.3 0.0
ESDC **Sonseca Array** 76.97 51 P P 02 02 33.3 0.0
6.9nm,1.1s,baz=276,slow=4.8,SNR=8.7
SJPF **Ste Jean** 79.11 48 *e*P P 02 02 44.6 -0.4
23nm,0.9s
SJPF **Ste Jean** 79.11 48 *e*P P 02 02 44.6 -0.4
23nm,0.9s
GRR **Gorron** 79.47 42 *e*P P 02 02 45.7 -1.1
68nm,1.1s
GRR **Gorron** 79.47 42 *e*P P 02 02 45.7 -1.1
68nm,1.1s
ETSF **Etsaut** 79.60 48 *e*P P 02 02 47.3 -0.4
14nm,0.9s
ETSF **Etsaut** 79.60 48 *e*P P 02 02 47.3 -0.4
14nm,0.9s
FLN **La Foliniere** 79.73 42 *e*P P 02 02 47.2 -1.0
FLN **La Foliniere** 79.73 42 *e*P P 02 02 47.2 -1.0
MFF **Saint Martin d** 79.92 44 *e*P P 02 02 48.2 -1.1
50nm,1.0s
MFF **Saint Martin d** 79.92 44 *e*P P 02 02 48.2 -1.1
50nm,1.0s
LDF **La Druitiere** 79.97 42 *e*P P 02 02 48.4 -1.1
50nm,1.0s
LDF **La Druitiere** 79.97 42 *e*P P 02 02 48.4 -1.1
50nm,1.0s
EPF **Esparros** 80.26 48 *e*P P 02 02 50.6 -0.7
42nm,1.2s
EPF **Esparros** 80.26 48 *e*P P 02 02 50.6 -0.7
42nm,1.2s
LFF **La Frestale** 80.54 46 *e*P P 02 02 51.6 -1.0
LFF **La Frestale** 80.54 46 *e*P P 02 02 51.6 -1.0
TCF **Toulx Ste Croi** 81.55 44 *e*P P 02 02 56.5 -1.6
18nm,0.8s
TCF **Toulx Ste Croi** 81.55 44 *e*P P 02 02 56.5 -1.6
18nm,0.8s
MTLF **Montolieu** 81.63 47 *e*P P 02 02 57.4 -1.1
24nm,1.0s
MTLF **Montolieu** 81.63 47 *e*P P 02 02 57.4 -1.1
24nm,1.0s
AVF **Avril sur Loir** 82.33 44 *e*P P 02 03 00.3 -1.8
AVF **Avril sur Loir** 82.33 44 *e*P P 02 03 00.3 -1.8
SSF **Saint Saulge** 82.42 43 *e*P P 02 03 00.7 -1.9
15nm,1.0s
SSF **Saint Saulge** 82.42 43 *e*P P 02 03 00.7 -1.9
15nm,1.0s
LOR **Lormes** 82.66 43 *e*P P 02 03 02.0 -1.9
13nm,0.8s
LOR **Lormes** 82.66 43 *e*P P 02 03 02.0 -1.9
13nm,0.8s
SMF **Signal de Mont** 82.67 44 *e*P P 02 03 02.0 -1.9
19nm,1.0s
SMF **Signal de Mont** 82.67 44 *e*P P 02 03 02.0 -1.9
19nm,1.0s
LASF **Ste Croix** 82.79 46 *e*P P 02 03 03.9 -0.7
31nm,1.1s
LASF **Ste Croix** 82.79 46 *e*P P 02 03 03.9 -0.7
31nm,1.1s
TORD **Torodi Ar. Bea** 83.03 78 P P 02 03 06.8 +0.5
TORD **Torodi Ar. Bea** 83.03 78 P P 02 03 06.8 +0.5
1.4nm,1.0s,baz=276,slow=4.6,SNR=5.7
VIVF **Saint-Julien-l** 83.33 46 *e*P P 02 03 06.9 -0.5
35nm,0.9s
VIVF **Saint-Julien-l** 83.33 46 *e*P P 02 03 06.9 -0.5
35nm,0.9s
MEZF **Maizieres J'vi** 83.41 42 *e*P P 02 03 06.3 -1.4
12nm,0.7s
MEZF **Maizieres J'vi** 83.41 42 *e*P P 02 03 06.3 -1.4
12nm,0.6s
SFTF **Sexfontaines** 83.41 42 *e*P P 02 03 06.1 -1.6
49nm,1.1s
SFTF **Sexfontaines** 83.41 42 *e*P P 02 03 06.1 -1.6
49nm,1.0s
PAGF **Fort de Pagny** 83.85 42 *e*P P 02 03 08.7 -1.3
7.1nm,0.9s
PAGF **Fort de Pagny** 83.85 42 *e*P P 02 03 08.7 -1.3
7.1nm,0.9s
ORIF **Oris-en-Rattie** 84.19 46 *e*P P 02 03 11.4 -0.5
38nm,1.1s
ORIF **Oris-en-Rattie** 84.19 46 *e*P P 02 03 11.4 -0.5
38nm,1.1s
CABF **La Chapelle** 84.22 44 *e*P P 02 03 10.7 -1.3
30nm,1.0s
CABF **La Chapelle** 84.22 44 *e*P P 02 03 10.7 -1.3
30nm,1.0s
HAU **Haudompre** 84.30 42 *e*P P 02 03 10.7 -1.6
HAU **Haudompre** 84.30 42 *e*P P 02 03 10.7 -1.6
HINF **Hinteralfeld** 84.65 43 *e*P P 02 03 12.3 -1.8
13nm,0.9s
HINF **Hinteralfeld** 84.65 43 *e*P P 02 03 12.3 -1.8
13nm,0.9s
LPG **La Plagne** 84.76 45 *e*P P 02 03 14.5 -0.5
LPG **La Plagne** 84.76 45 *e*P P 02 03 14.5 -0.5
TAM **Tamanrasset** 85.74 68 *e*P P 02 03 20.9 +0.7
3.6nm,1.4s
NB2 **NORSAR Subarra** 85.92 29 P P 02 03 19.7 -0.5
comp=Z,2.2nm,0.7s,baz=278,slow=5.1
NOA **NORSAR Array B** 85.92 29 P P 02 03 19.7 -0.5
NOA **NORSAR Array B** 85.92 29 P P 02 03 19.7 -0.5
comp=Z,6.2nm,0.9s,baz=276,slow=4.8,SNR=11
TUE **Stuetta** 86.47 44 *e*P P 02 03 23.3 -0.1
comp=Z,43nm,1.5s
PGF **Pioggiola** 86.65 48 *e*P P 02 03 22.9 -1.3
comp=Z,239nm,1.5s
PGF **Pioggiola** 86.65 48 *e*P P 02 03 22.9 -1.3
comp=Z,239nm,1.5s
DAVA **Damuels** 86.74 43 ⇓*i*PcP P 02 03 25.2 +0.5
comp=Z,16nm,1.0s,SNR=6.4
GRF **Grafenberg Arr** 87.34 40 *e*P P 02 03 27.7 +0.4
comp=Z,33nm,1.3s
FETA **Feichten** 87.35 43 ⇓*i*PcP P 02 03 28.1 +0.5
comp=Z,14nm,1.1s
CLL **Collm** 88.23 39 ⇑*i*P P 02 03 32.1 +0.6
comp=Z,15nm,1.2s
ABTA **Abfaltersbach** 88.60 43 ⇑*i*P P 02 03 33.6 +0.1
comp=Z,13nm,1.0s
BRG **Berggiesshubel** 88.89 39 *e*P P 02 03 34.7 +0.1
comp=Z,8.5nm,1.1s
KHC **Kasperske Hory** 88.94 41 *e*P P 02 03 35.5 +0.5
KHC *ex* x 02 03 50.4
GERES **GERESS Array B** 89.07 41 P P 02 03 35.8 +0.1
GERES **GERESS Array B** 89.07 41 P P 02 03 35.8 +0.1
comp=Z,2.5nm,0.9s,baz=298,slow=2.9,SNR=15
KBA **Koelnbreinsper** 89.11 43 ⇑*i*PcP P 02 03 36.4 +0.4
comp=Z,12nm,1.2s
PRU **Pruhonice** 89.42 40 *e*P P 02 03 37.7 +0.6
TREC **Trest** 90.14 40 *e*P P 02 03 40.7 +0.1
UPC **Upice** 90.25 39 *e*P P 02 03 41.3 +0.3
DPC **Dobruska-Polom** 90.47 39 *e*P P 02 03 43.0 +0.9
DPC *ex* x 02 03 57.9
CONA **Conrad Observa** 90.64 42 ⇓*i*PcP P 02 03 43.5 +0.5
comp=Z,6.3nm,0.9s,SNR=5.5
SNAA **Sanae** 93.31 162 *e*P P 02 03 54.2 -0.5
STHS **Stebnicka Huta** 93.79 39 *e*P P 02 03 56.4 -1.0
CN2 **Changchun** 123.49 336 *e*PKP PKPdf 02 09 37.0 -0.8
CN2 SKKS 02 18 14.4
CN2 LR LR
comp=Z,1μm,22.0s
CN2 LR LR
comp=Z,700nm,22.0s
CN2 LR LR
comp=Z,800nm,23.0s
KSRS **Korea Array** 127.43 329 PKP PKPdf 02 09 44.4 -1.1
comp=Z,0.9nm,0.4s,baz=39,slow=0.8,SNR=8.1
KSAR **Wonju Array Be** 127.46 329 PKP PKPdf 02 09 44.4 -1.2
WMQ **Urumqi** 128.79 9 *e*PKP PKPdf 02 09 48.1 0.0
WMQ LR LR
comp=Z,150nm,22.2s
WMQ LR LR
comp=Z,140nm,22.0s
WMQ LR LR
comp=Z,100nm,21.6s
KSH **Kashi** 129.79 21 *e*PKP PKPdf 02 09 53.3 +3.1
KSH PP PP 02 12 06.8 +6.7
HHC **Hu-ho-hao-te** 130.72 346 *e*PKP PKPdf 02 09 47.6 -4.3
HHC sPKP 02 09 57.8
HHC PP PP 02 12 07.4 +1.4
HHC LR LR
comp=Z,270nm,20.2s
HHC LR LR
comp=Z,300nm,20.2s
HHC LR LR
comp=Z,320nm,17.8s
NJ2 **Nanjing** 136.16 333 *e*PKP PKPdf 02 10 02.5 +0.3
LZH **Lanzhou** 136.81 352 *e*PKP PKPdf 02 10 01.4 -2.2
LZH LR LR
comp=Z,250nm,17.2s
LZH LR LR
comp=Z,200nm,18.1s
LZH LR LR
comp=Z,330nm,20.0s
ASAR **Alice Springs** 141.11 241 PKP PKPdf 02 10 10.7 -0.9
ASAR **Alice Springs** 141.11 241 PKP PKPdf 02 10 10.7 -0.9
comp=Z,0.2nm,0.3s,baz=116,slow=4.2,SNR=3.8
WRA **Warramunga Arr** 141.81 246 PKP PKPdf 02 10 12.9 0.0
WRA **Warramunga Arr** 141.81 246 PKP PKPdf 02 10 12.9 0.0
comp=Z,0.8nm,0.8s,baz=95,slow=2.6,SNR=7.8
CD2 **Chengdu** 141.91 351 PKP PKPdf 02 10 12.0 -0.8
GYA **Guiyang** 145.63 345 *e*PKPbc PKPab 02 10 20.8 +0.8
GYA PP PP 02 13 42.6 +4.0
GYA SKKS 02 20 30.6
GYA SS SS 02 32 31.5 +1.9
GYA PPMZ
comp=Z,90nm,7.8s
GYA LR LR
comp=Z,110nm,22.8s
GYA LR LR
comp=Z,90nm,23.0s
GYA LR LR
comp=Z,120nm,21.5s
H01W1 **Cape Leeuwin H** 148.10 207 T T 04 56 24.5
SNR=2.5
CMAR **Chiang Mai Arr** 154.76 356 PKPab PKPab 02 10 55.6 -1.6
CMAR **Chiang Mai Arr** 154.76 356 PKPab PKPab 02 10 55.6 -1.6
comp=Z,1.4nm,0.4s,baz=327,slow=4.5,SNR=5.1

GUC 22 02:10:08.9±0.6, 27.52S×70.90W, h25km±4km, ML3.7, 1C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.46**	**9**	*e*P		P	Pb	02 10 18.1	-0.3
CDCH				*i* S		Sn	Sb	02 10 24.7	-0.2
CPCH	**Copiapo**	**0.51**	**72**	⇓*i*P		P	Pb	02 10 19.0	-0.4
CPCH				*i* S		Sn	Sb	02 10 26.7	+0.3
CPCH				AML		AML		02 10 27.2	
comp=E,31μm,0.1s									
VACH	**Vallenar**	**1.06**	**173**	⇑*i*P		P	Pb	02 10 28.6	0.0
VACH				*i* S		Sn		02 10 42.5	+0.3
LCO	**Las Campanas**	**1.50**	**173**	⇓*i*P		P	Pn	02 10 35.0	+0.5
LCO				*i* S		Sb		02 10 55.0	-0.2
LCO				AML		AML		02 10 57.8	
comp=E,982nm,0.5s									
TLL	**Tololo Astrono**	**2.64**	**178**	*e*P		Pn		02 10 52.1	+1.8
TLL				*e*S		Sn		02 11 24.2	+2.5
TLL				AML		AML		02 11 40.1	
comp=N,191nm,0.7s									

IDC 22 02:12:09.8±4.6, 18.88S×169.40E, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.8/17, mbtmp4.0/3, ML4.3/1, Error ellipse: s-maj=100.9km s-min=57.9km az=123.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.21**	**221**	Pn		P	Pn	02 13 15.6	+0.1
16nm,0.3s,baz=101,slow=18,SNR=124									
DZM				Sn		Sn		02 13 58.5	-7.1
8.4nm,0.3s,baz=87,slow=19,SNR=4.0									
WRA	**Warramunga Arr**	**33.06**	**262**	P		P		02 18 48.3	+1.0
0.9nm,0.6s,baz=90,slow=8.2,SNR=16									
ASAR	**Alice Springs**	**33.36**	**255**	P		P		02 18 48.8	-1.3
1.7nm,0.8s,baz=86,slow=8.8,SNR=15									
GERES	**GERESS Array B**	**144.24**	**332**	PKP		PKPdf		02 31 47.7	-0.2
0.3nm,0.6s,baz=29,slow=3.0,SNR=4.2									

IDC 22 02:35:37.4±4.6, 17.17S×172.83W, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.8/20, mbtmp3.9/5, Error ellipse: s-maj=197.3km s-min=32.5km az=138.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.66**	**242**	P		P		02 43 44.9	+0.8
1.4nm,0.6s,baz=82,slow=5.5,SNR=7.3									
WRA	**Warramunga Arr**	**49.99**	**258**	P		P		02 44 33.0	-0.9
0.6nm,0.4s,baz=99,slow=6.7,SNR=30									
ASAR	**Alice Springs**	**50.10**	**253**	P		P		02 44 34.1	-0.7
1.4nm,0.4s,baz=91,slow=7.8,SNR=23									
FITZ	**Fitzroy Crossi**	**58.40**	**259**	P		P		02 45 35.7	+0.4
0.4nm,0.4s,baz=80,slow=6.1,SNR=3.7									
ILAR	**Eielson Array**	**84.07**	**11**	P		P		02 48 09.6	0.0
0.8nm,1.0s,baz=206,slow=8.0,SNR=3.2									

*IDC **22** 02:38:23.9±1.2, 20.48S×174.21W, h0km, mb4.5/6, mb1 4.7/7, mb1mx4.2/20, mbtmp4.5/7, ML4.6/1, Error ellipse: s-maj=45.7km s-min=22.2km az=141.0*
*ISCJB **22** 02:38:24.6±0.7, 20.45S±0.07×173.8W±0.1, h33km, mb4.4/7, Error ellipse: s-maj=16.3km s-min=6.2km az=35.1*
*NEIC **22** 02:38:29.3±2.0, 20.55S×174.12W, h41km±18km, mb4.5/1, Error ellipse: s-maj=27.4km s-min=12.5km az=133.0*
*AUST **22** 02:38:32.3±1.9, 20.27S×173.41W, h115km, Error ellipse: s-maj=2.8km s-min=1.3km az=358.0*

ISC 22 02:38:27.8±1.0, 20.4S±0.1×174.1W±0.2, h27km, n44, σ1s20/44, mb4.5/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.15**	**72**	P		Pn	Pn	02 39 24.9	-4.5
baz=3.5,SNR=21									
AFI	**Afiamalu**	**6.84**	**19**	*e*Pn		**Pn**		**02 40 08.4**	**+1.9**
AFI				*e*S		**Sn**		**02 41 20.1**	**-3.5**
AFI				Sn		**Sn**		**02 41 21.9**	**-1.8**
AFI	**Afiamalu**	**6.84**	**19**	Sn		**Sn**		**02 41 21.9**	**-1.8**
9.6nm,0.3s,baz=165,slow=16,SNR=3.5									
DZM	**Mont Dzumac**	**18.21**	**261**	P		**P**		**02 42 41.3**	**+2.3**
DZM	**Mont Dzumac**	**18.21**	**261**	P		**P**		**02 42 41.3**	**+2.3**
0.9nm,0.3s,baz=73,slow=18,SNR=7.1									
URZ	**Urewera**	**19.34**	**201**	P		P		**02 42 50.0**	**-1.0**
URZ	**Urewera**	**19.34**	**201**	P		P		**02 42 50.1**	**-1.0**
1.8nm,0.3s,baz=43,slow=24,SNR=8.7									
EIDS	**Eidsvold**	**32.39**	**255**	P		**P**		**02 44 55.1**	**-0.3**
baz=33,SNR=3.5									
MGCD	**Mangrove Creek**	**33.40**	**240**	P		**P**		**02 45 04.3**	**+0.1**
baz=34,SNR=6.7									
RMQ	**Roma**	**34.52**	**253**	P		**P**		**02 45 14.7**	**+0.6**
baz=35,SNR=8.8									
CTA	**Charters Tower**	**37.14**	**263**	P		**P**		**02 45 36.1**	**-0.3**
CTA	**Charters Tower**	**37.14**	**263**	P		**P**		**02 45 36.1**	**-0.3**
3.3nm,0.3s,baz=97,slow=8.8,SNR=8.1									
CMSA	**Cobar Meteorol**	**37.61**	**245**	P		**P**		**02 45 39.8**	**-0.6**
baz=38,SNR=25									
QLP	**Quilpie**	**38.58**	**253**	P		**P**		**02 45 47.7**	**-0.8**
baz=39,SNR=11									
MTSU	**Mount Surprise**	**39.25**	**266**	P		**P**		**02 45 54.9**	**+0.6**
baz=40,SNR=6.5									
STKA	**Stephens Creek**	**41.12**	**245**	*e*P		**P**		**02 46 08.3**	**-1.4**
0.7nm,0.7s									
STKA	**Stephens Creek**	**41.12**	**245**	P		**P**		**02 46 08.9**	**-0.8**
baz=42,SNR=13									
STKA	**Stephens Creek**	**41.12**	**245**	P		**P**		**02 46 09.1**	**-0.6**
7.0nm,0.7s,baz=87,slow=8.3,SNR=20									
COEN	**Coen**	**41.23**	**272**	P		**P**		**02 46 11.5**	**+0.7**

	baz=42,SNR=5.5							
ARPS	**Mount Arapiles**	**41.59 237**	P		**P**		**02 46 12.9**	**-0.5**
	baz=42,SNR=6.4							
BBOO	**Buckleboo**	**45.86 244**	P		**P**		**02 46 46.2**	**-1.6**
	baz=46,SNR=13							
AS31	**Alice Springs**	**48.09 256**	*eP*		**P**		**02 47 04.6**	**-0.9**
ASAR	**Alice Springs**	**48.09 256**	P		**P**		**02 47 04.5**	**-1.0**
ASAR	**Alice Springs**	**48.09 256**	P		**P**		**02 47 04.5**	**-1.0**
	8.3nm,0.7s,baz=91,slow=8.2,SNR=72							
WRAB	**Tennant Creek**	**48.22 261**	*eP*		**P**		**02 47 04.9**	**-1.6**
	3.9nm,0.7s							
WRA	**Warramunga Arr**	**48.23 261**	P		**P**		**02 47 05.3**	**-1.3**
WRA			PcP		**PcP**		**02 48 33.2**	**-0.4**
WRA	**Warramunga Arr**	**48.23 261**	P		**P**		**02 47 05.3**	**-1.3**
	1.8nm,0.3s,baz=96,slow=8.2,SNR=90							
WRA			PcP		**PcP**		**02 48 33.2**	**-0.4**
	0.9nm,0.6s,baz=101,slow=3.1,SNR=4.1							
KDU	**Kakadu**	**51.61 270**	P		**P**		**02 47 32.5**	**+0.2**
	baz=52,SNR=5.8							
MTN	**Manton Dam**	**52.82 269**	P		**P**		**02 47 40.6**	**-0.7**
	baz=53,SNR=3.4							
KNRA	**Kununurra**	**54.31 265**	P		**P**		**02 47 52.0**	**-0.2**
	baz=55,SNR=4.4							
FITZ	**Fitzroy Crossi**	**56.66 261**	P		**P**		**02 48 08.7**	**-0.4**
	baz=57,SNR=5.5							
PALU	**Palau**	**57.59 293**	P		P		02 48 11.0	-4.7
	baz=58,SNR=3.0							
MEEK	**Meekatharra**	**61.39 250**	P		**P**		**02 48 41.1**	**-0.8**
	baz=62,SNR=3.8							
BLDU	**Ballidu**	**62.42 245**	P		**P**		**02 48 48.4**	**-0.3**
	baz=63,SNR=12							
MJAR	**Matsushiro Arr**	**72.38 321**	P		**P**		**02 49 51.8**	**+0.4**
MJAR	**Matsushiro Arr**	**72.38 321**	P		**P**		**02 49 51.8**	**+0.4**
	1.8nm,0.5s,baz=157,slow=6.1,SNR=6.3							
NVAR	**Mina Array Bea**	**78.50 42**	P		**P**		**02 50 28.1**	**+1.3**
NVAR	**Mina Array Bea**	**78.50 42**	P		**P**		**02 50 28.1**	**+1.3**
	1.1nm,0.8s,baz=222,slow=7.5,SNR=7.7							
AKASG	**Malin Array Be**	**144.63 334**	PKP		PKPbc		02 58 00.5	0.0
AKASG	**Malin Array Be**	**144.63 334**	PKP		PKPbc		02 58 00.5	0.0
	0.9nm,0.6s,baz=39,slow=4.1,SNR=16							
BRTR	**Keskin Array B**	**149.43 315**	PKPbc		**PKPbc**		**02 58 15.2**	**+0.3**
BRTR	**Keskin Array B**	**149.43 315**	PKPbc		**PKPbc**		**02 58 15.2**	**+0.3**
	0.9nm,0.7s,baz=144,slow=6.0,SNR=5.3							
GERES	**GERESS Array B**	**150.96 349**	PKPbc		**PKPbc**		**02 58 18.9**	**+0.8**
GERES	**GERESS Array B**	**150.96 349**	PKPbc		**PKPbc**		**02 58 18.9**	**+0.8**
	0.2nm,0.4s,baz=38,slow=2.4,SNR=3.7							

IDC ***22*** *02:55:44.6±0.9,2.66S×119.89E,h0km,mb3.7/6, mb1 3.8/7,mb1mx3.6/23,mbtmp3.7/7,ML3.9/1,Error ellipse: s-maj=55.0km s-min=15.6km az=70.0*

ISCJB ***22*** *02:55:48.1±0.6,2.67S±0.04×119.67E±0.06,h33km, mb3.8/7,Error ellipse: s-maj=9.3km s-min=6.1km az=8.0*

NEIC ***22*** *02:55:49.6±0.6,2.77S×119.74E,h35km,mb3.8/2,Error ellipse: s-maj=33.3km s-min=9.9km az=68.0*

NEIC Felt [III] at Masamba.

DJA ***22*** *02:55:49.5±0.4,3.3°S×3.12°0E±°,h27km,M3.9/10, MLv3.9/10*

ISC 22 02:55:49.9±0.8,2.74S±0.05×119.59E±0.06,h35km,n25, σ1°48/27,mb3.8/7,Sulawesi

Code	Station Name	Δ° AZ°	Phase	ID	ISC	Time h m s	Res ISC
			Op				
TTSI	**Tana Toraja**	**0.38 143**	P		Pn	02 55 52.1	-6.7
TTSI			S		Sn	02 55 57.7	-7.2
MMSI	**Mamuju**	**0.68 274**	P		**Pn**	**02 56 01.9**	**-1.1**
MJSI	**Majene**	**1.01 217**	P		**Pn**	**02 56 07.9**	**+0.4**
MJSI			S		**Sn**	**02 56 24.2**	**+3.7**
SPSI	**Sidrap Palu**	**1.23 172**	P		**Pn**	**02 56 08.3**	**-2.2**
BNSI	**Bone**	**1.73 163**	P		**Pn**	**02 56 16.9**	**-0.5**
KAPI	**Kappang**	**2.26 176**	P		**Pn**	**02 56 24.7**	**-0.1**
KAPI	**Kappang**	**2.26 176**	*e*Pn		**Pn**	**02 56 23.8**	**-0.9**
KAPI			*e*S		**Sn**	**02 56 51.9**	**+0.5**
KAPI	**Kappang**	**2.26 176**	Pn		**Pn**	**02 56 24.4**	**-0.3**
	30nm,0.3s,baz=6.2,slow=9.1,SNR=46						
KAPI			Sn		**Sn**	**02 56 54.4**	**+2.9**
	27nm,0.3s,baz=200,slow=21,SNR=4.6						
KKSI	**Kolaka, Sulawe**	**2.50 125**	P		**Pn**	**02 56 28.8**	**+0.7**
BKSI	**Bulukumba**	**2.62 168**	P		**Pn**	**02 56 31.4**	**+1.7**
LUWI	**Luwuk**	**3.60 62**	P		**Pn**	**02 56 43.1**	**-0.1**
MRSI	**Marisa**	**3.97 36**	P		**Pn**	**02 56 49.3**	**+1.0**
WRA	**Warramunga Arr**	**22.35 141**	P		**P**	**03 00 42.5**	**-2.5**
WRA	**Warramunga Arr**	**22.35 141**	P		**P**	**03 00 42.5**	**-2.5**
	2.0nm,0.8s,baz=314,slow=12,SNR=12						
WRAB	**Tennant Creek**	**22.35 141**	P		**P**	**03 00 43.7**	**-1.4**
	4.4nm,1.0s						
ASAR	**Alice Springs**	**24.99 148**	P		**P**	**03 01 09.7**	**-0.9**
ASAR	**Alice Springs**	**24.99 148**	P		**P**	**03 01 09.7**	**-0.9**
	0.9nm,0.6s,baz=315,slow=7.7,SNR=10						
STKA	**Stephens Creek**	**35.62 147**	P		**P**	**03 02 44.3**	**-0.2**
	1.3nm,1.3s						
STKA	**Stephens Creek**	**35.62 147**	P		**P**	**03 02 43.9**	**-0.6**
	1.1nm,0.8s,baz=330,slow=17,SNR=3.7						
SONM	**Songino Array**	**51.68 349**	P		**P**	**03 04 53.1**	**-0.3**
SONM	**Songino Array**	**51.68 349**	P		**P**	**03 04 53.1**	**-0.3**
	0.6nm,0.8s,baz=175,slow=7.2,SNR=3.0						
MKAR	**Makanchi Array**	**59.24 331**	P		**P**	**03 05 48.4**	**+0.6**
MKAR	**Makanchi Array**	**59.24 331**	P		**P**	**03 05 48.4**	**+0.6**
	1.0nm,0.7s,baz=130,slow=8.0,SNR=12						
ZALV	**Zalesovo Beam**	**63.47 338**	P		**P**	**03 06 16.4**	**+0.2**
ZALV	**Zalesovo Beam**	**63.47 338**	P		**P**	**03 06 16.4**	**+0.2**
	0.6nm,0.3s,baz=150,slow=16,SNR=4.1						

IDC ***22*** *03:03:03.2±5.9,36.37N×71.28E,h67km±53km,mb3.5/5, mb1 3.7/11,mb1mx3.4/32,mbtmp3.6/11,ML4.0/6,Error ellipse: s-maj=38.6km s-min=25.0km az=27.0*

ISCJB ***22*** *03:03:05.9±0.5,36.43N±0.03×71.60E±0.07,h114km, mb3.6/5,Error ellipse: s-maj=8.3km s-min=3.6km az=166.8*

NNC ***22*** *03:03:15.3±4.7,37.11N×71.13E,h189km±45km,mb3.2, mpv4.4,Error ellipse: s-maj=41.8km s-min=27.7km az=28.0*

ISC 22 03:03:06.9±0.7,36.46N±0.05×71.52E±0.09,h114km,n46, σ1°84/48,mb3.5/5,6C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ° AZ°	Phase	ID	ISC	Time h m s	Res ISC
			Op				
CEP	**Cherat**	**2.65 173**	P		**Pn**	**03 03 49.7**	**+1.0**
CEP			S		Sn	**03 04 21.0**	**+0.3**
CHCP	**Chirah Chowk**	**3.15 152**	P		**Pn**	**03 03 57.4**	**+2.4**
THW	**Thamme Wali**	**3.67 177**	P		**Pn**	**03 04 02.5**	**+0.6**
SARP	**Sargodha**	**4.63 168**	P		**Pn**	**03 04 14.5**	**-0.3**
AML	**Almayashu**	**5.91 16**	P		**Pn**	**03 04 33.7**	**+1.4**
	SNR=148						
KZA	**Kyzart**	**6.31 26**	P		**Pn**	**03 04 39.5**	**+1.7**
	SNR=35						
EKS2	**Erkin-Say**	**6.43 15**	P		**Pn**	**03 04 40.9**	**+1.7**
	SNR=32						
AAK	**Ala-Archa**	**6.58 20**	P		**Pn**	**03 04 43.1**	**+1.9**
	SNR=12						
AAK	**Ala-Archa**	**6.58 20**	P		**Pn**	**03 04 41.2**	**0.0**
	6.5nm,0.3s,baz=177,slow=6.1,SNR=44						
AAK			S		**Sn**	**03 05 55.2**	**+0.5**
	1.6nm,0.3s,baz=323,slow=21,SNR=13						
KK31	**Karatay Array**	**6.68 354**	⇓P		**Pn**	**03 04 42.0**	**-0.3**
	16nm,0.4s,baz=181,slow=13,SNR=367						
KK31			⇑S		**Sn**	**03 05 52.3**	**-4.7**
	6.4nm,0.3s,baz=187,slow=26,SNR=8.0						
SDNR	**Sundarnagar**	**6.71 136**	*e*S		**Sn**	**03 05 57.0**	**-0.9**
KBK	**Karagaybulak**	**6.73 22**	P		**Pn**	**03 04 45.5**	**+2.2**
	SNR=7.3						
ULHL	**Ulahol**	**6.83 31**	P		**Pn**	**03 04 47.8**	**+3.1**
	SNR=12						
CHMS	**Chumysh**	**6.99 20**	P		**Pn**	**03 04 48.3**	**+1.7**
	SNR=5.3						
SMLA	**Simla**	**7.10 137**	*i* 4		**Pn**	**03 04 48.1**	**0.0**
SMLA			*i* S		**Sn**	**03 06 04.1**	**-3.2**
USP	**Ospenovka**	**7.17 18**	P		**Pn**	**03 04 50.7**	**+1.6**
	SNR=15						
TKM2	**Tokmak 2**	**7.17 25**	⇑P		**Pn**	**03 04 50.8**	**+1.5**
	13nm,0.6s						
TKM2			⇑S		**Sn**	**03 06 09.8**	**+0.4**
	4.1nm,0.7s						
TKM2	**Tokmak 2**	**7.17 25**	P		**Pn**	**03 04 51.4**	**+2.0**
	SNR=10.0						
AYAN	**Aya Nagar**	**9.26 148**	*e*S		Sn	03 06 50.5	-9.3
KUDL	**Kundal**	**9.30 152**	*e*P		Pn	03 05 25.9	+7.9
KUDL			*e*S		Sn	03 06 51.8	-8.9
KUDL				AML	AML	03 06 57.5	
	comp=E,19nm,0.1s						
KUDL				AML	AML	03 06 57.9	
	comp=N,17nm,0.7s						
SONA	**Sohna**	**9.44 149**	*e*S		Sn	03 06 54.2	-10
SONA				AML	AML	03 07 01.2	
	comp=N,19nm,0.3s						
SONA				AML	AML	03 07 01.5	
	comp=E,25nm,0.2s						
MKAR	**Makanchi Array**	**13.08 35**	P		**Pn**	**03 06 08.0**	**-0.3**
	comp=E,0.1nm,0.3s,baz=221,slow=13,SNR=8.2						
DANN	**Dangsing**	**13.12 125**	*e*P		**Pn**	**03 06 07.2**	**-2.0**
	comp=E,19nm,0.3s						
KOLN	**Koldanda**	**13.41 127**	*e*P		**Pn**	**03 06 11.2**	**-1.6**
	comp=E,15nm,0.5s						
GKN	**Gorkha**	**13.94 124**	*e*P		**Pn**	**03 06 17.9**	**-1.7**
	comp=E,27nm,0.4s						
DMN	**Daman**	**14.51 124**	*e*P		**Pn**	**03 06 25.2**	**-1.8**
	comp=E,15nm,0.3s						
KKN	**Kakani**	**14.51 123**	*e*P		**Pn**	**03 06 25.4**	**-1.6**
PKIN	**Phulchoki**	**14.72 123**	*e*P		**Pn**	**03 06 28.0**	**-1.8**
	comp=E,14nm,0.3s						
PKI	**Pulchoki**	**14.73 123**	*e*P		**Pn**	**03 06 27.9**	**-2.1**
	comp=E,8.1nm,0.3s						
GUN	**Gumba**	**14.84 121**	*e*P		**Pn**	**03 06 29.2**	**-2.1**
	comp=E,19nm,0.4s						
KURBB	**Kurchatov Arra**	**15.03 17**	P		**Pn**	**03 06 33.6**	**+0.5**
	comp=E,0.3nm,0.3s,baz=206,slow=11,SNR=7.8						
JIRN	**Jiri**	**15.21 121**	*e*P		**Pn**	**03 06 33.9**	**-2.1**
	comp=E,32nm,0.4s						
AB31	**Akbulak array**	**15.32 330**	⇓P		**Pn**	**03 06 35.1**	**-1.7**
	comp=E,0.6nm,0.3s,baz=135,slow=13,SNR=44						
AB31			⇑S		Sn	03 09 12.1	-14
	comp=E,4.4nm,0.8s,baz=149,slow=23,SNR=9.1						
RAMN	**Ramite**	**15.94 122**	*e*P		**Pn**	**03 06 43.3**	**-1.7**
	comp=E,23nm,0.5s						
TAPN	**Taplejung**	**16.46 119**	*e*P		**Pn**	**03 06 50.6**	**-0.9**
	comp=E,15nm,0.3s						
ODAN	**Odare**	**16.54 121**	*e*P		**Pn**	**03 06 51.3**	**-1.1**
	comp=E,15nm,0.6s						
BVA0	**Borovoye Array**	**16.58 358**	⇑P		**Pn**	**03 06 50.0**	**-2.4**
	comp=E,3.7nm,0.8s,baz=157,slow=9.0,SNR=4.3						
BVAR	**Borovoye Array**	**16.58 358**	P		**Pn**	**03 06 51.5**	**-0.9**
	comp=E,0.2nm,0.3s,baz=188,slow=9.9,SNR=2.9						
AKTO	**Aktyubinsk**	**17.02 329**	⇓P		**Pn**	**03 06 55.0**	**-2.8**
	comp=E,7.1nm,1.4s						
AKTO			⇑S		Sn	03 09 53.0	-14
	comp=E,3.3nm,0.8s						
AKTO	**Aktyubinsk**	**17.02 329**	P		**Pn**	**03 06 54.7**	**-3.1**
	comp=E,0.2nm,0.3s,baz=143,slow=12,SNR=3.3						
ZALV	**Zalesovo Beam**	**19.78 24**	P		**P**	**03 07 28.9**	**+1.0**
	comp=E,3.4nm,0.3s,baz=226,slow=11,SNR=30						
FINES	**FINESS Array B**	**37.74 326**	P		**P**	**03 10 12.5**	**+1.2**
	comp=E,2.7nm,0.9s,baz=123,slow=7.0,SNR=4.1						
ARCES	**ARCESS Array B**	**41.34 337**	P		**P**	**03 10 42.4**	**+1.4**
	comp=E,3.9nm,0.8s,baz=119,slow=7.1,SNR=4.1						
NOA	**NORSAR Array B**	**44.66 323**	P		**P**	**03 11 08.4**	**+0.5**
	comp=E,0.8nm,0.8s,baz=97,slow=7.9,SNR=3.1						
TORD	**Torodi Ar. Bea**	**66.13 269**	P		**P**	**03 13 42.4**	**0.0**
	comp=E,0.3nm,0.8s,baz=44,slow=6.7,SNR=3.8						
WRA	**Warramunga Arr**	**81.62 122**	P		**P**	**03 15 14.6**	**+2.2**
	comp=E,0.5nm,1.0s,baz=312,slow=5.8,SNR=3.2						

PRU 22 03:22:39.7,49.80N×18.48E,h0km,Czech and Slovak Republics

Code	Station Name	Δ° AZ°	Phase	ID	ISC	Time h m s	Res ISC
			Op				
OKC	**Ostrava-Krasne**	**0.22 280**	*e*PG		Pg	03 22 43.9	0.0
OKC			*e*SG		Sg	03 22 46.7	-0.1
	comp=Z,12nm,0.4s						

PRU 22 03:22:45.1,51.57N×16.10E,h0km,Poland

Code	Station Name	Δ° AZ°	Phase	ID	ISC	Time h m s	Res ISC
			Op				
KSP	**Ksiaz**	**0.74 170**	*e*Pg		Pn	03 23 08.8	+6.0
KSP			*e*Sg		Sb	03 23 12.4	+0.9
UPC	**Upice**	**1.07 183**	*e*SG		Sg	03 23 18.9	-0.5
	comp=Z,1.5nm,0.2s						
DPC	**Dobruska-Polom**	**1.23 173**	*e*PG		Pg	03 23 07.6	-1.2
DPC			*e*SG		Sg	03 23 24.3	-0.5
PVCC	**Panska Ves**	**1.42 223**	*e*PG		Pn	03 23 11.6	-0.6
PVCC			*e*SG		Sg	03 23 30.3	-0.5
	comp=Z,5.2nm,0.2s						
BRG	**Berggiesshubel**	**1.52 244**	SG		Sg	03 23 33.1	-1.0
	2.1nm,0.2s						

ISCJB ***22*** *03:25:26.9±0.3,3.40N±0.04×126.05E±0.06,h116km, mb4.3/17,Error ellipse: s-maj=8.6km s-min=4.7km az=150.3*

AUST ***22*** *03:25:29.0±5.6,2.61N×125.98E,h68km±1km,Error ellipse: s-maj=4.6km s-min=1.5km az=28.0*

NEIC ***22*** *03:25:30.7±1.5,3.11N×125.65E,h136km±14km,mb4.3/4, Error ellipse: s-maj=16.0km s-min=5.4km az=63.0*

IDC ***22*** *03:25:32.0±2.8,3.10N×125.63E,h148km±25km,mb4.0/15, mb1 4.2/16,mb1mx3.9/26,mbtmp4.0/16,MS3.0/1, Ms1 3.0/1,ms1mx2.6/39,Error ellipse: s-maj=29.9km s-min=10.6km az=63.0*

DJA ***22*** *03:25:36.1±0.6,3.7°N×5.12°6E±°,h118km±7km,M4.7/9, mB5.2/4,mb4.5/9,MLv4.9/6,Mw(mB)4.5/4*

ISC 22 03:25:28.6±0.5,3.28N±0.07×125.89E±0.08,h116km,n81, σ1°46/72,mb4.4/17,Talaud Islands

Code	Station Name	Δ° AZ°	Phase	ID	ISC	Time h m s	Res ISC
			Op				
SGSI	**Sangihe**	**0.54 319**	P		Pn	03 25 55.9	+10
SGSI			S		Sn	03 26 12.7	+13
TNTI	**Ternate**	**2.90 149**	P		Pn	03 26 17.7	+4.3
TNTI			S		**Sn**	**03 26 52.2**	**+4.2**
LBMI	**Labuha**	**4.21 157**	P		Pn	03 26 34.5	+3.5
LBMI			S		**Sn**	**03 27 20.8**	**+1.5**
MRSI	**Marisa**	**4.83 235**	P		Pn	03 26 43.0	+3.8
LUWI	**Luwuk**	**5.30 216**	P		Pn	03 26 50.6	+5.0
TOLI	**Toli-Toli**	**5.52 247**	P		**Pn**	**03 26 51.3**	**+2.8**
	231nm,0.6s,4μm1.7nm						
APSI	**Ampana**	**5.94 226**	P		Pn	03 26 58.8	+4.6
	57nm,1.2s,1μm						
NLAI	**Namlea**	**6.59 169**	P		**Pn**	**03 27 05.3**	**+2.3**
	93nm,1.0s,11μm						
NLAI			S		**Sn**	**03 28 12.5**	**-4.2**
	93nm,1.0s,11μm						
MYLDM	**Lahad Datu**	**7.60 285**	P		Pn	03 27 23.3	+6.6
	78nm,1.1s						
TTSI	**Tana Toraja**	**8.73 224**	P		**Pn**	**03 27 34.8**	**+2.8**
	19nm,1.0s						
FAKI	**Fak Fak**	**8.85 134**	P		Pn	03 27 38.6	+4.9
	42nm,0.9s						
MMSI	**Mamuju**	**9.15 230**	P		Pn	03 27 41.8	+4.1
	17nm,1.1s,0.2nm						
SPSI	**Sidrap Palu**	**9.44 220**	P		**Pn**	**03 27 42.4**	**+0.8**
	13nm,0.8s						
KKM	**Kota Kinabalu**	**10.02 286**	*e*Pn		**Pn**	**03 27 49.4**	**-0.2**
KAPI	**Kappang**	**10.27 217**	P		Pn	03 27 49.9	-2.9
KAPI	**Kappang**	**10.27 217**	P		Pn	03 27 49.9	-2.9
	1.0nm,0.3s,baz=74,slow=18,SNR=3.4						
TGY	**Tagaytay City**	**11.81 336**	LR		LR	03 33 06.1	
	comp=Z,68nm,20.6s,baz=274,slow=38						
KSM	**Kuching**	**15.67 264**	P		**P**	**03 29 06.6**	**+1.9**
KSM	**Kuching**	**15.67 264**	P		**P**	**03 29 06.7**	**+1.9**
	baz=16,SNR=4.4						
MTN	**Manton Dam**	**16.84 162**	P		Pn	03 29 09.0	-8.5
	baz=16,SNR=4.3						
KDU	**Kakadu**	**17.16 158**	P		**P**	**03 29 20.4**	**-0.8**
	baz=17,SNR=5.5						
KNRA	**Kununurra**	**19.05 171**	P		**P**	**03 29 42.4**	**+0.5**
	baz=18,SNR=9.6						
YULB	**Yu-li**	**20.48 348**	*e*P		Pn	03 29 59.5	-1.2
	7.1nm,0.3s						
FITZ	**Fitzroy Crossi**	**21.25 181**	P		**P**	**03 30 04.3**	**-1.3**
FITZ	**Fitzroy Crossi**	**21.25 181**	P		**P**	**03 30 04.3**	**-1.3**
	24nm,0.8s,baz=11,slow=8.7,SNR=42						
COEN	**Coen**	**24.23 135**	P		**P**	**03 30 35.9**	**+1.0**
	baz=24,SNR=5.0						
WRAB	**Tennant Creek**	**24.52 161**	*e*P		**P**	**03 30 37.0**	**-0.4**
	15nm,0.7s						
WRA	**Warramunga Arr**	**24.52 161**	P		**P**	**03 30 37.1**	**-0.4**
WRA	**Warramunga Arr**	**24.52 161**	P		**P**	**03 30 37.1**	**-0.4**
	38nm,0.6s,baz=344,slow=10,SNR=133						
AS31	**Alice Springs**	**27.90 164**	*e*P		**P**	**03 31 06.9**	**-0.9**
ASAR	**Alice Springs**	**27.90 164**	P		**P**	**03 31 07.6**	**-0.3**
ASAR			ScP		**ScP**	**03 37 46.2**	**-5.0**
ASAR	**Alice Springs**	**27.90 164**	P		**P**	**03 31 07.6**	**-0.3**
	3.1nm,0.7s,baz=350,slow=15,SNR=36						
ASAR			ScP		**ScP**	**03 37 46.2**	**-5.0**
	0.1nm,0.4s,baz=358,slow=2.8,SNR=4.6						
CMAR	**Chiang Mai Arr**	**30.38 302**	P		**P**	**03 31 30.6**	**+0.7**
CMAR	**Chiang Mai Arr**	**30.38 302**	P		**P**	**03 31 30.6**	**+0.7**
	1.8nm,0.5s,baz=112,slow=6.3,SNR=5.5						
MEEK	**Meekatharra**	**30.56 193**	P		**P**	**03 31 30.3**	**-1.1**
	baz=30,SNR=6.3						
CTA	**Charters Tower**	**30.65 140**	P		**P**	**03 31 33.2**	**+1.0**
CTA	**Charters Tower**	**30.65 140**	P		**P**	**03 31 33.2**	**+1.0**
	4.8nm,0.6s,baz=328,slow=11,SNR=4.6						
BBOO	**Buckleboo**	**37.16 166**	P		**P**	**03 32 28.3**	**-0.1**
	baz=37,SNR=17						
EIDS	**Eidsvold**	**37.53 141**	P		**P**	**03 32 32.0**	**+0.4**
	baz=37,SNR=7.9						
STKA	**Stephens Creek**	**38.02 158**	*e*P		**P**	**03 32 36.0**	**+0.5**
	4.0nm,0.9s						
STKA	**Stephens Creek**	**38.02 158**	P		**P**	**03 32 36.1**	**+0.5**
	baz=38,SNR=23						
STKA	**Stephens Creek**	**38.02 158**	P		**P**	**03 32 36.1**	**+0.5**
	17nm,0.7s,baz=332,slow=8.1,SNR=38						
CMSA	**Cobar Meteorol**	**39.42 153**	P		**P**	**03 32 48.4**	**+1.1**
	baz=39,SNR=6.2						
ARPS	**Mount Arapiles**	**42.53 161**	P		**P**	**03 33 13.7**	**+1.0**
	baz=42,SNR=6.8						
TAPN	**Taplejung**	**43.61 307**	*e*P		**P**	**03 33 21.7**	**-0.3**
	9.3nm,0.7s						
ODAN	**Odare**	**43.65 306**	*e*P		**P**	**03 33 22.5**	**+0.3**
	20nm,0.7s						
RAMN	**Ramite**	**44.33 306**	*e*P		**P**	**03 33 28.1**	**+0.5**
	25nm,0.8s						
JIRN	**Jiri**	**44.96 307**	*e*P		**P**	**03 33 32.9**	**+0.1**
	29nm,0.7s						
GUN	**Gumba**	**45.31 307**	*e*P		**P**	**03 33 35.7**	**+0.1**
	42nm,0.6s						
PKI	**Pulchoki**	**45.55 306**	*e*P		**P**	**03 33 37.1**	**-0.3**
KKN	**Kakani**	**45.74 306**	*e*P		**P**	**03 33 38.3**	**-0.5**
DMN	**Daman**	**45.81 306**	*e*P		**P**	**03 33 39.4**	**0.0**
GKN	**Gorkha**	**46.35 306**	*e*P		**P**	**03 33 43.1**	**-0.4**
	15nm,0.6s						
DZM	**Mont Dzumac**	**46.97 124**	P		**P**	**03 33 49.2**	**+0.8**
DZM	**Mont Dzumac**	**46.97 124**	P		**P**	**03 33 49.2**	**+0.8**
	6.7nm,0.7s,baz=224,slow=20,SNR=3.2						
KOLN	**Koldanda**	**47.09 306**	*e*P		**P**	**03 33 49.5**	**+0.1**
	42nm,0.6s						
DANN	**Dangsing**	**47.20 306**	*e*P		**P**	**03 33 50.1**	**-0.2**
	56nm,0.6s						
SONM	**Songino Array**	**47.46 342**	P		**P**	**03 33 53.2**	**+1.4**
SONM	**Songino Array**	**47.46 342**	P		**P**	**03 33 53.2**	**+1.4**
	1.6nm,0.7s,baz=160,slow=8.0,SNR=10						
MK31	**Makanchi Array**	**57.45 326**	*e*P		**P**	**03 35 05.6**	**+0.2**
MKAR	**Makanchi Array**	**57.45 326**	P		**P**	**03 35 05.7**	**+0.3**
MKAR	**Makanchi Array**	**57.45 326**	P		**P**	**03 35 05.7**	**+0.3**
	4.2nm,0.5s,baz=123,slow=8.5,SNR=48						
TKM2	**Tokmak 2**	**59.53 319**	*e*P		**P**	**03 35 19.9**	**-0.2**
ZALV	**Zalesovo Beam**	**60.61 334**	P		**P**	**03 35 26.4**	**-0.6**
ZALV	**Zalesovo Beam**	**60.61 334**	P		**P**	**03 35 26.4**	**-0.6**
	1.1nm,0.6s,baz=173,slow=9.0,SNR=4.3						
VNDA	**Vanda**	**83.09 173**	P		**P**	**03 37 39.7**	**-1.2**
VNDA	**Vanda**	**83.09 173**	P		**P**	**03 37 39.7**	**-1.2**
	1.1nm,0.5s,baz=322,slow=7.0,SNR=10.0						
ILAR	**Eielson Array**	**85.87 25**	P		**P**	**03 37 54.9**	**-0.2**
ILAR	**Eielson Array**	**85.87 25**	P		**P**	**03 37 54.9**	**-0.2**
	0.5nm,0.8s,baz=222,slow=4.2,SNR=4.5						
BRTR	**Keskin Array B**	**89.66 310**	P		**P**	**03 38 12.6**	**-1.4**
BRTR	**Keskin Array B**	**89.66 310**	P		**P**	**03 38 12.6**	**-1.4**
	1.0nm,0.8s,baz=132,slow=4.6,SNR=5.3						
ARCES	**ARCESS Array B**	**90.58 340**	P		**P**	**03 38 16.7**	**-0.7**
ARCES	**ARCESS Array B**	**90.58 340**	P		**P**	**03 38 16.7**	**-0.7**
	3.7nm,0.9s,baz=89,slow=7.3,SNR=2.3						
FINES	**FINESS Array B**	**91.83 332**	P		**P**	**03 38 22.9**	**-0.4**
FINES	**FINESS Array B**	**91.83 332**	P		**P**	**03 38 22.9**	**-0.4**
	1.9nm,0.6s,baz=38,slow=3.4,SNR=8.9						
QSPA	**South Pole Qui**	**93.19 180**	*e*P		**P**	**03 38 29.3**	**-0.4**
	0.8nm,0.6s						
BUR08	**Bucovina Ar. S**	**94.78 318**	*e*P		**P**	**03 38 37.3**	**-0.1**
TORD	**Torodi Ar. Bea**	**122.25 288**	PKP		**PKPdf**	**03 44 10.5**	**-0.5**
TORD	**Torodi Ar. Bea**	**122.25 288**	PKP		**PKPdf**	**03 44 10.5**	**-0.5**
	0.3nm,0.6s,baz=99,slow=2.1,SNR=3.9						
TXAR	**Lajitas Array**	**122

TAI1					*e*S		**Sb**	**03 37 05.8**	**+1.3**
	baz=214								
CHN5	**Tsauling**	**0.36**	**48**	⇓	*i*P		**Pb**	**03 37 00.2**	**+0.8**
	baz=45								
CHN5					S		**Sb**	**03 37 06.3**	**+1.4**
	baz=45								
WGK	**Gukeng**	**0.36**	**26**	⇓	*i*P		**Pb**	**03 37 00.8**	**+1.3**
	baz=24								
ALS	**Alishan**	**0.41**	**68**		*e*P		**Pb**	**03 37 01.4**	**+0.9**
	baz=65								
WTCT	**Ta-ch'eng**	**0.51**	**349**		*e*P		**Pb**	**03 37 02.5**	**+0.4**
	baz=349								
WTCT					*e*S		**Sn**	**03 37 11.0**	**-1.5**
	baz=349								
TWM1	**Shoushan**	**0.53**	**176**	⇓	P		**Pn**	**03 37 04.3**	**0.0**
	baz=177								
WNT	**Mingjian**	**0.59**	**28**		*e*P		**Pb**	**03 37 04.2**	**+0.9**
	baz=27								
WNT					*e*S		**Sn**	**03 37 13.5**	**-0.8**
	baz=27								
SGLT	**Jiouru**	**0.64**	**171**		*e*P		**Pn**	**03 37 06.2**	**+0.4**
	baz=171								
SGLT					*e*S		**Sn**	**03 37 16.9**	**+1.3**
	baz=171								
SSLB	**Suanglung**	**0.67**	**50**		*e*Pg		**Pb**	**03 37 05.2**	**+0.3**
SSLB					*e*S		**Sg**	**03 37 12.6**	**-1.0**
WDGT	**Dungji**	**0.68**	**262**	⇑	*i*P		**Pg**	**03 37 04.7**	**+0.1**
	baz=263								
WDGT					*e*S		**Sg**	**03 37 13.6**	**+0.1**
	baz=263								
TYC	**Yuchr**	**0.69**	**38**	⇓	*i*P		**Pn**	**03 37 06.1**	**-0.4**
	baz=37								
TYC					S		**Sn**	**03 37 16.6**	**-0.4**
	baz=37								
SMLT	**Sun Moon Lake**	**0.70**	**42**	⇑	*i*P		**Pn**	**03 37 06.4**	**-0.4**
	baz=41								
SMLT					S		**Sn**	**03 37 17.2**	**-0.3**
	baz=41								
KAU	**Kaohsiung**	**0.79**	**185**		*e*P		**Pn**	**03 37 07.8**	**-0.1**
	baz=200								
PNG	**Penghu**	**0.79**	**285**	⇑	*i*P		**Pb**	**03 37 06.5**	**-0.3**
	baz=287								
PNG					*e*S		**Sb**	**03 37 16.9**	**-0.4**
	baz=287								
TWG	**Pinlang**	**0.83**	**130**	⇑	*i*P		**Pn**	**03 37 08.4**	**0.0**
	baz=119								
TWG					S		**Sn**	**03 37 20.1**	**-0.3**
	baz=119								
TWG	**Pinlang**	**0.83**	**130**		*e*Pg		**Pn**	**03 37 08.1**	**-0.4**
TWG					*e*S		**Sn**	**03 37 20.1**	**-0.3**
TCU	**Taichung**	**0.83**	**19**		*e*P		**Pn**	**03 37 08.5**	**+0.1**
	baz=17								
TWF1	**Yuli**	**0.84**	**90**	⇑	*i*P		**Pn**	**03 37 08.4**	**-0.1**
	baz=89								
TWF1					S		**Sn**	**03 37 20.0**	**-0.6**
	baz=89								
YULB	**Yu-li**	**0.84**	**87**		*e*Pg		**Pg**	**03 37 08.1**	**+0.4**
YULB					*e*S		**Sn**	**03 37 20.1**	**-0.5**
EHY	**Hungye**	**0.87**	**80**	⇑	*i*P		**Pn**	**03 37 09.1**	**+0.1**
	baz=79								
EHY					*i* S		**Sn**	**03 37 21.0**	**-0.4**
	baz=79								
ECL	**Taimali**	**0.92**	**145**		P		**Pn**	**03 37 09.7**	**0.0**
	baz=145								
ECL					S		**Sn**	**03 37 22.5**	**-0.1**
	baz=145								
TTN	**Taitung**	**0.92**	**130**		*e*P		**Pn**	**03 37 10.1**	**+0.4**
	baz=130								
TTN					*e*S		**Sn**	**03 37 25.4**	**+2.7**
	baz=130								
CHKT	**Chengkung**	**0.94**	**106**		*i* P		**Pn**	**03 37 10.8**	**+0.9**
	baz=105								
CHKT					*e*S		**Sn**	**03 37 25.6**	**+2.6**
	baz=105								
TWP	**Hsiaoliuchiu**	**1.01**	**181**		*e*P		**Pg**	**03 37 11.2**	**+0.4**
	baz=182								
TWQ1	**Liyutan**	**1.05**	**20**		*e*P		**Pg**	**03 37 12.2**	**+0.5**
	baz=19								
TWQ1					*e*S		**Sn**	**03 37 27.4**	**+1.6**
	baz=19								
EAST	**Anshuo**	**1.06**	**156**	⇓	*i*P		**Pg**	**03 37 12.0**	**+0.1**
	baz=149								
EAST					*e*S		**Sn**	**03 37 26.4**	**+0.3**
	baz=149								
ESL	**Shilin**	**1.06**	**64**		P		**Pg**	**03 37 12.6**	**+0.6**
	baz=64								
ESL					S		**Sn**	**03 37 26.8**	**+0.7**
	baz=64								
TAW	**Tawu**	**1.10**	**155**		*e*P		**Pg**	**03 37 12.7**	**+0.1**
	baz=149								
TAW					*e*S		**Sg**	**03 37 28.0**	**+0.9**
	baz=149								
NSY	**Sanyi**	**1.11**	**18**		*e*P		**Pg**	**03 37 13.2**	**+0.4**
	baz=16								
WHF	**Hehuan Shan**	**1.12**	**46**	⇑	P		**Pg**	**03 37 14.0**	**+0.8**
	baz=44								
TWT	**Tachien**	**1.15**	**39**		*e*P		**Pg**	**03 37 13.7**	**+0.1**
	baz=29								
TWT					*e*S		**Sg**	**03 37 29.7**	**+1.0**
	baz=29								
HWA	**Hwalien**	**1.28**	**61**		*e*P		**Pn**	**03 37 13.7**	**-0.8**
	baz=60								
TWD	**Chiawan**	**1.32**	**57**		*e*P		**Pg**	**03 37 17.4**	**+0.5**
	baz=56								
TWD					S		**Sg**	**03 37 34.1**	**0.0**
	baz=56								
NACB	**Ninganchiao**	**1.37**	**53**		*e*Pn		**Pg**	**03 37 17.4**	**-0.4**
NACB					*e*S		**Sg**	**03 37 35.5**	**-0.2**
HEN	**Hengchun**	**1.38**	**166**		*e*P		**Pn**	**03 37 15.5**	**-0.6**
	baz=166								
HEN					*e*S		**Sn**	**03 37 34.2**	**+0.2**
	baz=166								
NSTT	**Nanjuang**	**1.39**	**24**		*e*P		**Pn**	**03 37 16.2**	**+0.1**
	baz=22								
NNS	**Nan Shan**	**1.41**	**40**		*e*P		**Pb**	**03 37 17.7**	**+0.3**
	baz=29								
NNS					*e*S		**Sg**	**03 37 37.5**	**+0.7**
	baz=29								
TWK1	**Hengchun**	**1.46**	**165**		*e*P		**Pn**	**03 37 16.9**	**-0.2**
	baz=165								
NSK	**Sanguang**	**1.58**	**34**		*e*P		**Pb**	**03 37 20.8**	**+0.4**
	baz=18								
YHNB	**Yeheng**	**1.59**	**35**		*e*Pn		**Pn**	**03 37 19.6**	**+0.7**
YHNB					*e*S		**Sg**	**03 37 46.4**	**+3.8**
ENA	**Nanau**	**1.64**	**49**		*e*P		**Pb**	**03 37 21.7**	**+0.6**
	baz=66								
ENTT	**Nioudou**	**1.67**	**40**		*e*P		**Pb**	**03 37 21.5**	**-0.3**
	baz=30								
TWE	**Neicheng**	**1.79**	**41**		*e*P		**Pb**	**03 37 23.2**	**-0.6**
	baz=25								
TWC	**Suao**	**1.83**	**47**		P		**Pb**	**03 37 24.9**	**+0.5**
	baz=46								
TWC					*e*S		**Sb**	**03 37 48.6**	**+1.4**
	baz=46								
TATO	**Taipei**	**1.90**	**32**		*e*Pn		**Pn**	**03 37 21.4**	**-1.8**
TATO					*e*S		**Sg**	**03 37 51.1**	**-1.4**
TWA	**Mucha**	**1.95**	**34**		*e*P		**Pg**	**03 37 28.0**	**-0.8**
	baz=18								
TAP1	**Taipei**	**1.97**	**32**		*e*P		**Pn**	**03 37 25.3**	**+1.2**
	baz=30								
TWS1	**Kuangyinshan**	**1.97**	**28**		*e*P		**Pb**	**03 37 27.0**	**0.0**
	baz=27								
EGS		**2.05**	**43**		*e*P		**Pb**	**03 37 27.8**	**-0.4**
	baz=29								
KNM	**Kinmen**	**2.08**	**301**		*e*P		**Pn**	**03 37 26.6**	**+1.0**
	baz=300								
NWF	**Wu-fen Shan**	**2.13**	**36**		*e*P		**Pb**	**03 37 29.9**	**+0.2**
	baz=37								
NWF					*e*S		**Sb**	**03 37 57.0**	**+1.1**
	baz=37								
TWB1	**Santiao Chiao**	**2.20**	**41**		*e*P		**Pb**	**03 37 31.7**	**+0.9**
	baz=25								
QZH	**Quanzhou**	**2.28**	**314**	⇑	*i*Pn		**Pn**	**03 37 28.5**	**+0.2**
QZH					Sn		**Sb**	**03 37 58.8**	**-1.2**
QZH					SMN				
	comp=E,3μm,0.6s								
QZH					SME				
	comp=E,2μm,0.6s								
YOJ	**Yonaguni jima**	**2.64**	**65**		*e*P		**Pn**	**03 37 34.8**	**+1.4**
	baz=66								
GZH	**Guangzhou**	**6.48**	**269**		P		**Pn**	**03 38 27.3**	**+1.1**
GZH					S		**Sn**	**03 39 41.3**	**+1.4**
GZH					SMN				
	990nm,1.0s								
GZH					SME				
	650nm,1.1s								
NJ2	**Nanjing**	**8.77**	**351**		*e*P		**Pn**	**03 38 57.0**	**-0.5**
NJ2					AMB	AMB			
	comp=Z,10.0nm,0.6s								
NJ2					SMN				
	comp=Z,190nm,0.8s								
NJ2					SME				
	comp=Z,120nm,0.9s								
NJ2					LR	LR			
	comp=N,650nm,7.9s								
NJ2					LR	LR			
	comp=E,480nm,6.8s								
WHN	**Wuhan**	**8.96**	**324**	⇓	P		**Pn**	**03 39 00.3**	**+0.2**
WHN					LR	LR			
	comp=Z,2μm,10.0s								
XAN	**Xi'an**	**14.63**	**319**		P	P		03 40 30.3	+6.2
XAN					LR	LR			
	comp=N,140nm,10.2s								
XAN					LR	LR			
	comp=E,120nm,12.6s								
XAN					LR	LR			
	comp=Z,110nm,13.1s								
KSAR	**Wonju Array Be**	**15.45**	**23**		Pn		**Pn**	**03 40 25.4**	**-3.3**
KSRS	**Korea Array**	**15.47**	**23**		Pn		**Pn**	**03 40 25.4**	**-3.6**
	baz=205,slow=10,SNR=3.1								
KSRS					LR	LR		03 47 12.7	
	comp=Z,76nm,18.2s,baz=190,slow=41								
HHC	**Hu-ho-hao-te**	**18.95**	**339**		*e*P		**Pn**	**03 41 13.5**	**+0.8**
HHC					PP		**PnPn**	**03 41 30.6**	**+5.4**
HHC					S		**Sn**	**03 44 45.5**	**+0.9**
HHC					SS		SnSn	03 45 10.5	+12
HHC					PcP		**PcP**	**03 45 37.0**	**-0.5**
HHC					AMB	AMB			
	comp=Z,53nm,1.1s								
HHC					AMB	AMB			
	comp=Z,270nm,4.9s								
HHC					LR	LR			
	comp=Z,350nm,11.8s								
HHC					LR	LR			
	comp=Z,210nm,10.6s								
HHC					LR	LR			
	comp=Z,320nm,11.0s								
CHTO	**Chiang Mai**	**20.51**	**261**		*e*P		**P**	**03 41 29.9**	**+0.9**
	comp=Z,49nm,1.4s								
CMAR	**Chiang Mai Arr**	**20.61**	**260**		P		Pn	03 41 31.6	-0.9
CMAR	**Chiang Mai Arr**	**20.61**	**260**		P		Pn	03 41 31.6	-0.9
	comp=Z,0.6nm,0.3s,baz=64,slow=7.5,SNR=7.1								
SONM	**Songino Array**	**26.86**	**339**		P		**P**	**03 42 30.7**	**-0.7**
SONM	**Songino Array**	**26.86**	**339**		P		**P**	**03 42 30.7**	**-0.7**
	comp=Z,1.0nm,1.0s,baz=157,slow=10,SNR=4.1								
PSI	**Prapat**	**29.14**	**229**		LR	LR		03 54 52.2	
	comp=Z,59nm,18.4s,baz=205,slow=37								
MKAR	**Makanchi Array**	**38.43**	**317**		P		**P**	**03 44 13.2**	**+0.8**
MKAR	**Makanchi Array**	**38.43**	**317**		P		**P**	**03 44 13.2**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=102,slow=10,SNR=6.4								
ZALV	**Zalesovo Beam**	**40.55**	**328**		P		**P**	**03 44 29.9**	**+0.1**
ZALV	**Zalesovo Beam**	**40.55**	**328**		P		**P**	**03 44 29.9**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=150,slow=12,SNR=2.6								
KURK	**Kurchatov**	**42.26**	**321**		P		**P**	**03 44 44.5**	**+0.5**
KURBB	**Kurchatov Arra**	**42.28**	**321**		P		**P**	**03 44 44.5**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=185,slow=8.8,SNR=4.7								
COEN	**Coen**	**43.27**	**147**		*e*P		**P**	**03 44 52.2**	**-0.3**
	comp=Z,26nm,0.6s								
WRAB	**Tennant Creek**	**45.13**	**161**		*e*P		**P**	**03 45 05.7**	**-1.7**
	comp=Z,5.7nm,1.0s								
WRA	**Warramunga Arr**	**45.14**	**161**		P		**P**	**03 45 05.9**	**-1.5**
WRA	**Warramunga Arr**	**45.14**	**161**		P		**P**	**03 45 05.9**	**-1.5**
	comp=Z,2.9nm,0.9s,baz=345,slow=8.7,SNR=14								
ASAR	**Alice Springs**	**48.55**	**163**		P		**P**	**03 45 32.2**	**-1.9**
ASAR	**Alice Springs**	**48.55**	**163**		P		**P**	**03 45 32.2**	**-1.9**
	comp=Z,1.1nm,0.6s,baz=342,slow=5.9,SNR=12								
ILAR	**Eielson Array**	**70.28**	**27**		P		P	03 47 58.9	-4.9
ILAR	**Eielson Array**	**70.28**	**27**		P		P	03 47 58.9	-4.9
	comp=Z,0.2nm,0.5s,baz=269,slow=6.0,SNR=3.0								
FINES	**FINESS Array B**	**71.79**	**330**		P		**P**	**03 48 12.0**	**-0.9**
FINES	**FINESS Array B**	**71.79**	**330**		P		**P**	**03 48 12.0**	**-0.9**
	comp=Z,2.3nm,0.7s,baz=79,slow=4.1,SNR=6.8								
NB2	**NORSAR Subarra**	**78.61**	**332**		P		**P**	**03 48 52.4**	**+0.1**
	comp=Z,3.0nm,1.0s,baz=62,slow=5.3								
NOA	**NORSAR Array B**	**78.61**	**332**		P		**P**	**03 48 52.8**	**+0.6**
NOA	**NORSAR Array B**	**78.61**	**332**		P		**P**	**03 48 52.8**	**+0.6**
	comp=Z,2.2nm,0.9s,baz=58,slow=5.6,SNR=4.7								
GERES	**GERESS Array B**	**83.01**	**320**		P		**P**	**03 49 16.5**	**+0.4**
GERES	**GERESS Array B**	**83.01**	**320**		P		**P**	**03 49 16.5**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=73,slow=4.6,SNR=6.2								

IDC ***22*** *03:51:43.4±7.2,37.°13N×70.°61E,h207km±52km, mb2.7/1, mb1 3.0/5, mb1mx2.8/30, mbtmp3.0/5, Error ellipse: s-maj=136.0km s-min=35.4km az=140.0*
NNC ***22*** *03:51:47.8±3.9, 37.°23N×71.°28E, h201km±51km, mb2.7, mpv3.5, Error ellipse: s-maj=38.7km s-min=21.0km az=12.0*

ISC 22 03:51:32.7±1.9,**36.°4N**±0.°2×**71.°0E**±0.°2,**h114**km,**n9, σ1§93/9,3C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.70**	**357**	⇓P	Pn	03 53 13.8	+5.4
	1.6nm,0.3s,baz=172,slow=11,SNR=97						
KK31				S	**Sn**	**03 54 21.9**	**-1.3**
	8.1nm,0.4s,baz=193,slow=23,SNR=28						
AAK	**Ala-Archa**	**6.77**	**22**	P	Pn	03 53 14.9	+5.3
	1.0nm,0.3s,baz=184,slow=7.0,SNR=10						
AAK				S	**Sn**	**03 54 25.8**	**+0.5**
	0.6nm,0.3s,baz=318,slow=22,SNR=35						
TKM2	**Tokmak 2**	**7.40**	**27**	⇓P	Pn	03 53 22.2	+4.0
	1.8nm,0.6s						
TKM2				⇑S	**Sn**	**03 54 38.7**	**-1.9**
	2.4nm,0.7s						
MKAR	**Makanchi Array**	**13.36**	**36**	P	**Pn**	**03 54 39.2**	**+1.6**
	0.3nm,0.3s,baz=209,slow=9.3,SNR=8.4						
AB31	**Akbulak array**	**15.17**	**331**	⇑P	**P**	**03 55 05.9**	**+2.9**
	1.9nm,0.7s,baz=142,slow=12,SNR=22						
KURBB	**Kurchatov Arra**	**15.21**	**19**	P	**Pn**	**03 55 00.5**	**-0.6**
	0.1nm,0.3s,baz=202,slow=11,SNR=2.6						
AKTO	**Aktyubinsk**	**16.86**	**330**	⇑P	**P**	**03 55 23.3**	**+1.4**
	2.2nm,0.9s						
ZALV	**Zalesovo Beam**	**19.99**	**24**	P	**P**	**03 55 54.7**	**-1.3**
	0.8nm,0.3s,baz=218,slow=9.0,SNR=6.6						
TORD	**Torodi Ar. Bea**	**65.72**	**269**	P	**P**	**04 02 04.1**	**-1.3**
	0.2nm,0.6s,baz=48,slow=4.8,SNR=2.6						

IDC 22 03:53:08.0±3.3,**26.°35S**×**67.°13W, h0**km,**mb4.2/2, mb1 4.3/2, mb1mx3.7/16, mbtmp4.2/2, Error ellipse: s-maj=321.0km s-min=68.0km az=160.0, Catamarca Province**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDFB	**Brasilia**	**20.76**	**63**	P	P	03 57 50.8	0.0
	8.4nm,0.6s,baz=247,slow=10,SNR=17						
TORD	**Torodi Ar. Bea**	**77.53**	**68**	P	P	04 05 06.1	0.0
	0.7nm,0.4s,baz=247,slow=5.6,SNR=24						
MKAR	**Makanchi Array**	**148.38**	**42**	PKPbc	PKPbc	04 12 55.7	-0.6
	0.8nm,0.7s,baz=296,slow=3.2,SNR=7.1						

IDC ***22*** *03:59:10.7±0.9,5.°69N×61.°51E, h0km, mb3.8/11, mb1 4.0/11, mb1mx3.8/28, mbtmp3.8/11, MS3.9/21, Ms1 3.9/21, ms1mx3.8/37, Error ellipse: s-maj=24.2km s-min=21.8km az=1.0*
ISCJB ***22*** *03:59:11.2±0.8, 5.°7N±0.°1×61.°5E±0.°1, h14km, mb3.8/11, MS4.0/20, Error ellipse: s-maj=20.3km s-min=17.3km az=160.1*

ISC 22 03:59:12.9±1.1,**5.°7N**±0.°2×**61.°5E**±0.°2,**h14**km,**n31, σ1§04/11, mb4.0/11, MS4.0/20, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**15.28**	**141**	T	T	04 18 26.2	
	baz=321,slow=0.7,SNR=106						
H08N3	**Diego Garcia H**	**15.29**	**142**	T	T	04 18 23.8	
	baz=321,slow=0.7,SNR=146						
H08N1	**Diego Garcia H**	**15.30**	**141**	T	T	04 18 27.8	
	baz=321,slow=0.7,SNR=173						
ATD	**Arta Tunnel**	**19.31**	**289**	LR	LR	04 10 06.0	
	comp=Z,146nm,18.4s,baz=115,slow=34						
KMBO	**Kilima Mbogo**	**25.15**	**255**	P	**P**	**04 04 39.8**	**+1.5**
	2.4nm,0.7s,baz=59,slow=15,SNR=5.7						
OPO	**Ambohidratompo**	**27.97**	**210**	LR	LR	04 13 26.3	
	comp=Z,420nm,18.7s,baz=16,slow=31						
AAK	**Ala-Archa**	**38.52**	**15**	P	**P**	**04 06 37.0**	**+1.9**
	0.8nm,0.5s,baz=22,slow=3.5,SNR=3.9						
CMAR	**Chiang Mai Arr**	**38.64**	**68**	LR	LR	04 20 19.0	
	comp=Z,142nm,21.5s,baz=342,slow=33						
KBZ	**Khabaz**	**41.23**	**339**	LR	LR	04 25 14.0	
	comp=Z,90nm,18.5s,baz=156,slow=38						
BRTR	**Keskin Array B**	**42.13**	**328**	P	**P**	**04 07 04.8**	**-0.3**
	1.3nm,0.9s,baz=146,slow=9.0,SNR=6.2						
BRTR				LR	LR	04 24 55.4	
	comp=Z,116nm,19.3s,baz=126,slow=37						
AKTO	**Aktyubinsk**	**44.65**	**357**	P	**P**	**04 07 24.7**	**-0.3**
	2.8nm,0.8s,baz=188,slow=6.3,SNR=5.7						
AKTO				LR	LR	04 26 43.0	
	comp=Z,152nm,19.7s,baz=357,slow=37						
MKAR	**Makanchi Array**	**44.67**	**20**	P	**P**	**04 07 25.8**	**+0.5**
	0.4nm,0.8s,baz=197,slow=7.4,SNR=3.2						
KURBB	**Kurchatov Arra**	**46.96**	**15**	P	**P**	**04 07 43.3**	**0.0**
	0.5nm,0.4s,baz=222,slow=8.4,SNR=5.8						
BVAR	**Borovoye Array**	**47.71**	**7**	LR	LR	04 29 12.3	
	comp=Z,171nm,18.9s,baz=202,slow=38						
BOSA	**Boshof**	**48.82**	**224**	LR	LR	04 26 35.0	
	comp=Z,307nm,18.1s,baz=19,slow=34						
ZALV	**Zalesovo Beam**	**51.67**	**17**	LR	LR	04 30 52.3	
	comp=Z,142nm,19.2s,baz=247,slow=37						
KEST	**Kesra**	**56.33**	**309**	LR	LR	04 33 56.3	
	comp=Z,51nm,18.7s,baz=218,slow=37						
SONM	**Songino Array**	**56.76**	**35**	P	**P**	**04 08 56.8**	**+0.2**
	1.9nm,1.3s,baz=216,slow=7.3,SNR=4.6						
SONM				LR	LR	04 34 10.5	
	comp=Z,182nm,18.2s,baz=356,slow=37						
KAPI	**Kappang**	**59.14**	**99**	LR	LR	04 31 10.2	
	comp=Z,62nm,22.0s,baz=68,slow=32						
TORD	**Torodi Ar. Bea**	**59.34**	**282**	P	**P**	**04 09 15.1**	**0.0**
	1.1nm,1.1s,baz=64,slow=6.8,SNR=4.3						
TORD				LR	LR	04 36 10.9	
	comp=Z,94nm,19.9s,baz=10.0,slow=37						
DBIC	**Dimbokro**	**65.93**	**275**	LR	LR	04 38 29.9	
	comp=Z,98nm,19.8s,baz=57,slow=36						
NOA	**NORSAR Array B**	**66.66**	**336**	LR	LR	04 40 49.5	
	comp=Z,66nm,19.2s,baz=125,slow=38						
ESDC	**Sonseca Array**	**67.54**	**311**	P	**P**	**04 10 07.8**	**-1.3**
	1.4nm,0.8s,baz=78,slow=6.6,SNR=4.0						
KSRS	**Korea Array**	**67.87**	**52**	LR	LR	04 42 57.4	
	comp=Z,92nm,18.2s,baz=88,slow=39						
USRK	**Ussuriysk Arra**	**72.07**	**45**	LR	LR	04 43 39.4	
	comp=Z,157nm,18.4s,baz=167,slow=37						
MAW	**Mawson**	**73.17**	**179**	LR	LR	04 34 50.1	
	comp=Z,102nm,18.6s,baz=140,slow=29						
MJAR	**Matsushiro Arr**	**75.94**	**54**	LR	LR	04 47 17.3	
	comp=Z,43nm,18.2s,baz=265,slow=38						
WRA	**Warramunga Arr**	**75.96**	**112**	P	**P**	**04 10 59.4**	**-0.7**
	1.2nm,0.9s,baz=294,slow=4.7,SNR=5.8						
ASAR	**Alice Springs**	**76.34**	**116**	P	**P**	**04 11 02.2**	**0.0**
	0.9nm,0.8s,baz=284,slow=6.8,SNR=6.5						
PETK	**Petropavlovsk-**	**89.18**	**37**	LR	LR	04 54 56.0	
	comp=Z,76nm,18.1s,baz=251,slow=38						
VNDA	**Vanda**	**97.80**	**168**	LR	LR	04 51 53.1	
	comp=Z,96nm,18.5s,baz=281,slow=32						

IDC 22 04:10:23.6±7.1,**15.°41S**×**172.°17W, h0**km,**mb3.9/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.9/3, Error ellipse: s-maj=211.6km s-min=20.2km az=120.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.54**	**14**	Pn	Pb	04 10 52.8	-0.2
	34nm,0.3s,baz=192,slow=1.6,SNR=13						
AFI				Sn	Sn	04 11 12.4	-0.8
	557nm,0.3s,baz=192,slow=22,SNR=68						
STKA	**Stephens Creek**	**45.06**	**240**	P	P	04 18 41.0	-0.5
	1.7nm,0.9s,baz=80,slow=6.1,SNR=3.5						
WRA	**Warramunga Arr**	**51.00**	**257**	P	P	04 19 27.4	-0.4
	0.9nm,0.9s,baz=98,slow=7.5,SNR=5.1						
ASAR	**Alice Springs**	**51.24**	**252**	P	P	04 19 29.9	+0.3
	1.6nm,0.8s,baz=86,slow=8.2,SNR=14						

ISCJB ***22*** *04:16:24.8±0.3,35.°38N±0.°04×28.°94E±0.°04, h58km±22km, Error ellipse: s-maj=7.5km s-min=5.2km az=164.1*
HLW ***22*** *04:16:25.5,35.°54N×28.°90E, h31km±28km, Md3.3, MI3.2*
CSEM ***22*** *04:16:26.3±0.1,35.°40N×28.°94E, h40km, MD3.4, Error ellipse: s-maj=3.7km s-min=3.3km az=35.0*
ATH ***22*** *04:16:26.3,35.°53N×28.°86E, h45km, MD3.2/6*
NSSC ***22*** *04:16:27.4±0.8,35.°60N×29.°51E, h0km±205km, ML2.5*
DDA ***22*** *04:16:30.3,36.°04N×28.°76E, h7km, MD3.4*
NIC ***22*** *04:17:04.9±0.1,35.°03N×32.°28E, h23km, ML1.6*

ISC 22 04:16:25.4±1.0,**35.°40N**±0.°05×**28.°94E**±0.°03,**h43**km±52km, **n54, σ1§82/74, 2C, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSL	**Kastellorizon**	**0.91**	**35**	*e*P	**Pn**	**04 16 42.9**	**+1.2**
AKAS	**Kas**	**0.99**	**33**	*i* P	**Pn**	**04 16 43.9**	**+0.9**
AKAS				*i* S	**Sn**	**04 16 54.6**	**-1.2**
AKAS	**Kas**	**0.99**	**33**	*i* P	**Pn**	**04 16 43.9**	**+0.9**
AKAS				*i* S	**Sn**	**04 16 54.6**	**-1.2**
ARG	**Arkhangelos**	**1.05**	**321**	*e*P	**Pn**	**04 16 43.7**	**+0.1**
ARG				*e*S	**Sn**	**04 16 56.5**	**-0.6**
ARG	**Arkhangelos**	**1.05**	**321**	*e*P	**Pn**	**04 16 43.7**	**+0.1**
ARG				*e*S	**Sn**	**04 16 56.5**	**-0.6**
KARP	**Karpathos**	**1.46**	**276**	*e*P	**Pn**	**04 16 50.6**	**+1.3**
KARP				*e*S	**Sn**	**04 17 07.7**	**+0.4**
KARP	**

HAWK				AML	AML	04 19 04.2	
	comp=E,5.4nm,0.4s						
HAWK				AML	AML	04 19 05.3	
	comp=Z,10.0nm,0.5s						
HAWK	**Haweek**	**6.19**	**96**	*eP*	**Pn**	**04 17 55.0**	**+0.7**
	SNR=45						
SUZ		**6.44**	**148**	P	**Pn**	**04 17 58.6**	**+0.9**
	baz=148						
SUZ		**6.44**	**148**	P	**Pn**	**04 17 58.6**	**+0.9**
TOTH	**TOTAH**	**6.51**	**106**	*eP*	**Pn**	**04 18 00.7**	**+1.9**
TOTH				AML	AML	04 19 02.7	
	comp=E,9.3nm,0.5s						
TOTH				*eS*	**Sn**	**04 19 06.9**	**-4.9**
TOTH				AML	AML	04 19 13.9	
	comp=Z,12nm,0.8s						
TOTH				AML	AML	04 19 14.2	
	comp=N,11nm,0.5s						
TOTH	**TOTAH**	**6.51**	**106**	*eP*	**Pn**	**04 18 00.7**	**+1.9**
	SNR=45						
SWA2		**6.81**	**207**	P	**Pn**	**04 18 03.5**	**+0.7**
	baz=206						
SWA2				S	**Sn**	**04 19 13.8**	**-5.2**
	baz=206						
SWA2		**6.81**	**207**	P	**Pn**	**04 18 03.4**	**+0.7**
HNKL	**Nakhl**	**6.91**	**141**	P	**Pn**	**04 18 04.8**	**+0.6**
	baz=141						
HNKL				S	**Sn**	**04 19 17.3**	**-4.3**
	baz=141						
HNKL	**Nakhl**	**6.91**	**141**	P	**Pn**	**04 18 04.8**	**+0.6**
HKAT	**Jabal Katrina**	**8.09**	**147**	P	**Pn**	**04 18 21.5**	**+1.0**
	baz=146						
HKAT	**Jabal Katrina**	**8.09**	**147**	P	**Pn**	**04 18 21.5**	**+1.0**
HFRF	**Wahat Farafira**	**8.25**	**184**	P	**Pn**	**04 18 23.0**	**+0.6**
	baz=184						
HFRF	**Wahat Farafira**	**8.25**	**184**	P	**Pn**	**04 18 23.0**	**+0.6**

*IDC **22** 04:37:11.5±1.6, 12.°65S×165.°94E, h0km, mb4.1/8, mb1 4.2/9, mb1mx4.1/20, mbtmp4.2/9, ML4.3/1, MS4.3/3, Ms1 4.3/3, ms1mx3.3/33, Error ellipse: s-maj=45.7km s-min=23.4km az=121.0*

*ISCJB **22** 04:37:16.3±1.3, 12.°7S±0.°2×165.°8E±0.°2, h40km, mb4.1/8, MS4.4/3, Error ellipse: s-maj=27.7km s-min=19.5km az=29.2*

ISC 22 04:37:17.6±1.3, 12.°7S±0.°2×165.°9E±0.°2, h40km, n14, σ0s78/11, mb4.1/8, MS4.7/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.65**	**298**	Pn	**Pn**	**04 38 53.2**	**+0.4**
	6.5nm,0.3s,baz=199,slow=4.7,SNR=5.2						
DZM	**Mont Dzumac**	**9.36**	**177**	*e*LR	LR	04 42 07.9	
	219nm,25.6s						
STKA	**Stephens Creek**	**29.37**	**225**	P	**P**	**04 43 17.4**	**+0.4**
	3.9nm,0.8s,baz=33,slow=6.9,SNR=9.9						
STKA				LR	LR	04 55 00.3	
	comp=Z,134nm,19.2s,baz=24,slow=36						
WRA	**Warramunga Arr**	**31.07**	**252**	P	**P**	**04 43 32.3**	**0.0**
	1.1nm,0.8s,baz=84,slow=8.7,SNR=6.1						
ASAR	**Alice Springs**	**32.20**	**246**	P	**P**	**04 43 42.0**	**-0.1**
	2.1nm,0.8s,baz=76,slow=9.5,SNR=18						
KSRS	**Korea Array**	**61.29**	**326**	P	**P**	**04 47 28.2**	**-0.8**
	0.6nm,0.3s,baz=136,slow=9.6,SNR=3.3						
USRK	**Ussuriysk Arra**	**64.45**	**334**	P	**P**	**04 47 49.9**	**-0.1**
	4.1nm,0.9s,baz=147,slow=6.4,SNR=7.3						
SONM	**Songino Array**	**80.05**	**324**	P	**P**	**04 49 23.1**	**-0.1**
	0.5nm,0.4s,baz=162,slow=5.8,SNR=4.9						
ILAR	**Eielson Array**	**85.02**	**18**	P	**P**	**04 49 49.8**	**+1.3**
	0.6nm,0.7s,baz=234,slow=6.2,SNR=4.3						
ELK	**Elko**	**89.94**	**48**	LR	LR	05 25 02.0	
	comp=Z,472nm,21.8s,baz=4.1,slow=32						
PDAR	**Pinedale Array**	**94.56**	**47**	LR	LR	05 22 52.4	
	comp=Z,267nm,21.9s,baz=356,slow=29						
MKAR	**Makanchi Array**	**94.79**	**317**	P	**P**	**04 50 35.0**	**-0.2**
	0.9nm,0.6s,baz=101,slow=6.4,SNR=5.1						
KEST	**Kesra**	**148.77**	**321**	PKPbc	**PKPbc**	**04 56 59.9**	**-1.5**
	8.2nm,1.3s,baz=33,slow=3.4,SNR=4.7						
TORD	**Torodi Ar. Bea**	**164.56**	**273**	PKP	**PKPdf**	**04 57 17.9**	**-0.3**
	0.3nm,1.0s,baz=132,slow=2.1,SNR=2.5						

PRE 22 04:45:21.4±1.9, 6.°21S×26.°71E, h10km, ML3.5, Zaire

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIG	**Kigali**	**5.38**	**39**	*e*P	Pn	04 46 42.5	+0.4
KIG				*e*S	Sn	04 47 43.5	-0.9
KIG				AML	AML	04 48 22.6	
	comp=Z,23nm,0.4s						
MBAR	**Mbarara**	**6.87**	**36**	*e*P	Pn	04 47 03.9	+1.4
MBAR				*e*S	Sn	04 48 16.2	-4.8
LSZ	**Lusaka**	**9.13**	**171**	*e*P	Pn	04 47 35.1	+1.7
LSZ				*e*S	Sn	04 49 11.2	-5.3
KMBO	**Kilima Mbogo**	**11.67**	**65**	*e*P	Pn	04 48 09.7	+1.2
KMBO				*e*S	Sn	04 50 12.9	-6.2

*AUST **22** 05:07:51.1±0.0, 8.°06S×122.°94E, h162km, Error ellipse: s-maj=1.8km s-min=0.9km az=29.0*

*IDC **22** 05:07:56.7±3.1, 8.°19S×123.°27E, h198km±18km, mb3.4/1, mb1 3.6/5, mb1mx3.2/22, mbtmp3.4/5, Error ellipse: s-maj=81.8km s-min=28.2km az=66.0*

ISC 22 05:07:57.8±2.0, 8.°4S±0.°2×123.°1E±0.°1, h221km, n14, σ1s57/18, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**1.90**	**163**	P	**Pn**	**05 08 35.9**	**-1.1**
	24nm,0.3s,baz=321,slow=2.5,SNR=12						
BATI				S	**S**	**05 09 06.5**	**-1.0**
	76nm,0.3s,baz=31,slow=5.0,SNR=8.6						
MTN	**Manton Dam**	**9.06**	**120**	P	**Pn**	**05 10 04.1**	**-0.6**
	baz=9.4,SNR=22						
KNRA	**Kununurra**	**9.13**	**143**	P	**Pn**	**05 10 04.9**	**-0.7**
	baz=9.5,SNR=13						
FITZ	**Fitzroy Crossi**	**9.98**	**166**	P	**Pn**	**05 10 15.5**	**-0.9**
	baz=10,SNR=17						
FITZ	**Fitzroy Crossi**	**9.98**	**166**	P	**Pn**	**05 10 15.6**	**-0.9**
	0.8nm,0.3s,baz=341,slow=11,SNR=20						
FITZ				S	**S**	**05 12 06.9**	**-1.6**
	2.2nm,0.3s,baz=186,slow=5.6,SNR=15						
KDU	**Kakadu**	**10.17**	**116**	P	**Pn**	**05 10 17.4**	**-1.5**
	baz=10,SNR=8.6						
WRA	**Warramunga Arr**	**15.83**	**138**	P	**P**	**05 11 28.7**	**+0.1**
	0.3nm,0.3s,baz=319,slow=12,SNR=14						
WRA				S	**S**	**05 14 23.9**	**+0.1**
	0.9nm,0.3s,baz=312,slow=22,SNR=9.8						
ASAR	**Alice Springs**	**18.39**	**147**	P	**Pn**	**05 11 58.6**	**-0.8**
	0.5nm,0.3s,baz=331,slow=11,SNR=30						
ASAR				S	**S**	**05 15 19.6**	**+4.5**
	baz=314,slow=22,SNR=4.3						
MEEK	**Meekatharra**	**18.65**	**193**	P	**Pn**	**05 12 01.3**	**-1.1**
	baz=19,SNR=27						
COEN	**Coen**	**20.46**	**108**	P	**P**	**05 12 18.7**	**-0.2**
	baz=21,SNR=7.7						
MORW	**Morawa**	**21.62**	**197**	P	**P**	**05 12 31.6**	**+1.0**
	baz=22,SNR=8.4						
BLDU	**Ballidu**	**22.91**	**194**	P	**P**	**05 12 43.7**	**+1.1**
	baz=23,SNR=9.7						
BBOO	**Buckleboo**	**27.12**	**156**	P	**P**	**05 13 21.9**	**+1.5**
	baz=28,SNR=11						
STKA	**Stephens Creek**	**29.03**	**146**	P	**P**	**05 13 38.4**	**+1.0**
	1.8nm,0.9s,baz=307,slow=11,SNR=2.8						

*ISCJB **22** 05:13:58.1±0.5, 37.°69N±0.°03×72.°41E±0.°09, h119km, mb3.7/3, Error ellipse: s-maj=10.2km s-min=3.6km az=165.3*

*IDC **22** 05:13:58.5±5.4, 37.°70N×72.°38E, h104km±49km, mb3.5/3, mb1 3.7/8, mb1mx3.4/32, mbtmp3.7/8, Error ellipse: s-maj=39.4km s-min=27.8km az=22.0*

*NNC **22** 05:14:06.3±3.6, 38.°25N×72.°23E, h204km±30km, mb3.3, mpv4.5, Error ellipse: s-maj=34.2km s-min=16.8km az=14.0*

ISC 22 05:14:00.1±0.7, 37.°76N±0.°05×72.°66E±0.°09, h119km, n48, σ1s99/53, mb3.5/3, 3C-8D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**3.97**	**189**	↑P	Pn	05 15 03.1	+3.7
CEP				S	**Sn**	**05 15 50.0**	**+4.7**
CHCP	**Chirah Chowk**	**4.12**	**173**	P	Pn	05 15 06.6	+5.3
AML	**Almayashu**	**4.44**	**10**	P	**Pn**	**05 15 07.3**	**+1.4**
	SNR=109						
KZA	**Kyzart**	**4.75**	**24**	P	**Pn**	**05 15 11.8**	**+1.7**
	SNR=28						
EKS2	**Erkin-Say**	**4.97**	**10**	P	**Pn**	**05 15 14.7**	**+2.0**
	SNR=128						
THW	**Thamme Wali**	**5.01**	**189**	P	Pn	05 15 16.0	+2.8
AAK	**Ala-Archa**	**5.07**	**16**	P	**Pn**	**05 15 16.6**	**+2.5**
	SNR=36						
AAK	**Ala-Archa**	**5.07**	**16**	P	**Pn**	**05 15 15.8**	**+1.7**
	24nm,0.3s,baz=175,slow=6.3,SNR=203						
AAK				S	**Sn**	**05 16 12.5**	**+0.8**
	4.4nm,0.3s,baz=316,slow=23,SNR=11						
KBK	**Karagaybulak**	**5.20**	**19**	P	**Pn**	**05 15 18.1**	**+2.3**
	SNR=18						
ULHL	**Ulahol**	**5.26**	**30**	P	**Pn**	**05 15 18.5**	**+1.8**
	SNR=60						
CHMS	**Chumysh**	**5.47**	**16**	P	**Pn**	**05 15 21.6**	**+2.1**
	SNR=44						
KK31	**Karatay Array**	**5.59**	**344**	P	**Pn**	**05 15 21.6**	**+0.6**
	52nm,0.3s,baz=153,slow=11,SNR=1746						
KK31				⇓S	**Sn**	**05 16 20.3**	**-3.5**
	36nm,0.3s,baz=154,slow=14,SNR=17						
TKM2	**Tokmak 2**	**5.62**	**23**	⇓P	**Pn**	**05 15 23.3**	**+1.6**
	34nm,1.1s						
TKM2				⇓S	**Sn**	**05 16 28.8**	**+3.6**
	18nm,0.7s						
TKM2	**Tokmak 2**	**5.62**	**23**	P	**Pn**	**05 15 23.5**	**+1.9**
	SNR=27						
USP	**Ospenovka**	**5.68**	**14**	P	**Pn**	**05 15 23.8**	**+1.6**
	SNR=18						
THN	**Thein Dam**	**5.87**	**154**	*e*P	**Pn**	**05 15 25.7**	**+0.9**
THN				*e*4	**Sn**	**05 16 29.0**	**-1.9**
DHRM	**DHARAMSHALA**	**6.25**	**150**	*e*P	**Pn**	**05 15 33.1**	**+2.9**
DHRM				*e*S	**Sn**	**05 16 40.5**	**+0.1**
DHRM				AML	AML	05 16 42.6	
	comp=N,969nm,0.6s						
DHRM				AML	AML	05 16 42.8	
	comp=E,1μm,0.4s						
SDNR	**Sundarnagar**	**7.18**	**149**	*e*4	**Pn**	**05 15 45.0**	**+2.4**
SDNR				*e*S	**Sn**	**05 16 58.6**	**-4.0**
SMLA	**Simla**	**7.59**	**149**	*e*P	**Pn**	**05 15 49.5**	**+1.5**
SMLA				*i* S	**Sn**	**05 17 08.6**	**-3.9**
SMLA				*i* S	**Sn**	**05 17 08.7**	**-3.7**
SMLA				AML	AML	05 17 14.7	
	comp=E,681nm,0.5s						
SMLA				AML	AML	05 17 14.8	
	comp=N,950nm,0.5s						
DDI	**Dehra Dun**	**8.66**	**147**	*e*P	**Pn**	**05 16 03.5**	**+1.0**
DDI				*e*S	Sn	05 17 31.5	-7.1
DDI				AML	AML	05 17 38.9	
	comp=E,914nm,0.6s						
DDI				AML	AML	05 17 41.8	
	comp=N,1μm,0.6s						
NDI	**New Delhi**	**9.82**	**156**	*e*P	**Pn**	**05 16 18.0**	**-0.2**
NDI				*e*4		05 17 56.0	
MK31	**Makanchi Array**	**11.50**	**35**	⇓P	**Pn**	**05 16 41.6**	**+0.9**
	comp=N,3.3nm,0.7s,baz=212,slow=16,SNR=23						
MKAR	**Makanchi Array**	**11.50**	**35**	P	**Pn**	**05 16 40.8**	**+0.2**
	comp=N,0.2nm,0.3s,baz=233,slow=13,SNR=14						
DANN	**Dangsing**	**13.21**	**132**	*e*P	**Pn**	**05 17 02.7**	**-0.7**
	comp=N,26nm,0.3s						
KURBB	**Kurchatov Arra**	**13.53**	**16**	⇓P	**Pn**	**05 17 04.6**	**-2.4**
	comp=N,9.8nm,0.8s						
KURBB	**Kurchatov Arra**	**13.53**	**16**	P	**Pn**	**05 17 05.0**	**-2.0**
	comp=N,0.1nm,0.3s,baz=206,slow=12,SNR=21						
KOLN	**Koldanda**	**13.55**	**134**	*e*P	**Pn**	**05 17 07.4**	**-0.3**
	comp=N,14nm,0.3s						
GKN	**Gorkha**	**13.98**	**131**	*e*P	**Pn**	**05 17 12.7**	**-0.6**
	comp=N,22nm,0.2s						
KKN	**Kakani**	**14.53**	**129**	*e*P	**Pn**	**05 17 19.6**	**-0.7**
	comp=N,17nm,0.4s						
DMN	**Daman**	**14.55**	**130**	*e*P	**Pn**	**05 17 20.4**	**-0.2**
	comp=N,29nm,0.6s						
AB31	**Akbulak array**	**14.71**	**325**	⇓P	**Pn**	**05 17 19.5**	**-2.6**
	comp=N,1.5nm,0.3s,baz=134,slow=12,SNR=84						
AB31				S	Sn	05 19 51.5	-13
	comp=N,19nm,0.9s,baz=133,slow=23,SNR=13						
PKIN	**Phulchoki**	**14.75**	**130**	*e*P	**Pn**	**05 17 23.0**	**-0.1**
	comp=N,14nm,0.3s						
PKI	**Pulchoki**	**14.77**	**130**	*e*P	**Pn**	**05 17 23.2**	**-0.2**
	comp=N,11nm,0.2s						
GUN	**Gumba**	**14.81**	**128**	*e*P	**Pn**	**05 17 22.9**	**-1.1**
	comp=N,24nm,0.4s						
VOSK	**Vostochnaya**	**15.01**	**356**	⇓P	**Pn**	**05 17 23.7**	**-2.3**
	comp=N,6.5nm,1.1s						
BHPL	**Bhopal**	**15.04**	**163**	*e*P	**P**	**05 17 29.9**	**+1.0**
BHPL				*ex*	x	05 19 59.5	
JIRN	**Jiri**	**15.19**	**128**	*e*P	**Pn**	**05 17 27.7**	**-1.0**
	comp=N,40nm,0.4s						
BVA0	**Borovoye Array**	**15.35**	**355**	⇓P	**Pn**	**05 17 28.4**	**-1.8**
	comp=N,11nm,1.2s,baz=146,slow=4.8,SNR=14						
BVAR	**Borovoye Array**	**15.35**	**355**	P	**Pn**	**05 17 29.2**	**-1.0**
	comp=N,0.5nm,0.3s,baz=164,slow=13,SNR=12						
RAMN	**Ramite**	**15.95**	**128**	*e*P	**Pn**	**05 17 37.3**	**-0.7**
	comp=N,40nm,0.6s						
AKTO	**Aktyubinsk**	**16.43**	**325**	⇑P	Pn	05 17 38.2	-5.3
	comp=N,3.2nm,0.8s						
AKTO				⇑S	Sn	05 20 32.1	-14
	comp=N,15nm,1.0s						
AKTO	**Aktyubinsk**	**16.43**	**325**	P	**Pn**	**05 17 41.2**	**-2.3**
	comp=N,0.8nm,0.3s,baz=136,slow=11,SNR=6.3						
AKTO				S	Sn	05 20 32.5	-13
	comp=N,0.5nm,0.3s,baz=356,slow=18,SNR=8.7						
ODAN	**Odare**	**16.50**	**127**	*e*P	**Pn**	**05 17 44.7**	**-0.2**
	comp=N,52nm,0.6s						
ZALV	**Zalesovo Beam**	**18.23**	**23**	P	**P**	**05 18 04.7**	**+0.8**
	comp=N,0.6nm,0.3s,baz=213,slow=10,SNR=22						
SHL	**Shillong**	**20.34**	**121**	*e*P	**P**	**05 18 28.0**	**+0.8**
ARCES	**ARCESS Array B**	**40.50**	**337**	P	**P**	**05 21 27.0**	**+0.1**
	comp=N,3.7nm,0.9s,baz=112,slow=12,SNR=3.4						
TORD	**Torodi Ar. Bea**	**67.07**	**269**	P	**P**	**05 24 39.1**	**-1.8**
	comp=N,0.3nm,0.5s,baz=53,slow=5.0,SNR=7.8						
WRA	**Warramunga Arr**	**81.55**	**123**	P	**P**	**05 26 05.6**	**+0.9**
	comp=N,0.6nm,0.7s,baz=323,slow=4.8,SNR=5.5						

GUC 22 05:23:48.2±0.7, 32.°78S×71.°92W, h10km±2km, MD3.9, ML3.4, 4C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.34**	**136**	⇑*i*P	Pg	05 23 55.3	+0.3
IHA				*i* S	Sg	05 24 00.6	+1.0
ROCH	**El Roble**	**0.79**	**104**	⇓*i*P	Pg	05 24 03.2	-0.6
ROCH				*i* S	Sg	05 24 14.6	+0.2
ROCH				AML	AML	05 24 16.4	
	comp=N,4μm,0.5s						
CHNG	**Los Chungos**	**0.96**	**22**	⇓*i*P	Pg	05 24 05.5	-1.2
CHNG				*i* S	Sg	05 24 19.0	-0.3
PEL	**Peldehue**	**1.10**	**109**	⇑*i*P	Pb	05 24 08.4	-1.1
PEL				*i* S	Sg	05 24 23.4	-0.5
PEL				AML	AML	05 24 31.0	
	comp=N,2μm,0.4s						
JACH	**Jahuel**	**1.13**	**85**	*e*P	Pb	05 24 08.8	-1.1
JACH				*e*S	Sb	05 24 24.4	-0.4
TACH	**Talagante**	**1.20**	**137**	⇓*i*P	Pb	05 24 09.5	-1.6
TACH				*i* S	Sb	05 24 25.6	-1.1
LNV	**Longovilo**	**1.25**	**160**	*e*P	Pn	05 24 10.0	-1.7
SAN	**Santiago**	**1.25**	**123**	*e*P	Pn	05 24 10.8	-1.0
SAN				*e*S	Sb	05 24 27.4	-0.9
SAN				AML	AML	05 24 28.9	
	comp=N,971nm,0.3s						
STL	**Santa Lucia**	**1.26**	**122**	*e*P	Pn	05 24 10.7	-1.2
STL				*i* S	Sb	05 24 27.5	-1.0
CLCH	**Cerro Calan**	**1.32**	**118**	⇓*i*P	Pn	05 24 11.9	-0.9
CLCH				*i* S	Sb	05 24 29.6	-0.6
CLCH				AML	AML	05 24 35.4	
	comp=N,1μm,0.5s						
ANTU	**Antumapu**	**1.34**	**126**	*e*P	Pn	05 24 12.2	-0.8
ANTU				*i* S	Sb	05 24 29.8	-0.9
ANTU				AML	AML	05 24 35.8	
	comp=E,866nm,0.4s						
LACH	**Col Las Americ**	**1.35**	**120**	*i* S	Sb	05 24 30.3	-0.7
LACH				AML	AML	05 24 40.2	
	comp=E,382nm,0.5s						
PCH	**Pirque**	**1.45**	**126**	⇓*i*P	Pn	05 24 14.1	-0.5
PCH				*i* S	Sn	05 24 33.2	-0.6
CHCH	**Chadas Angostu**	**1.57**	**138**	*e*P	Pn	05 24 15.6	-0.6
SJCH	**San Jose de Ma**	**1.57**	**124**	*e*P	Pn	05 24 15.1	-1.2
SJCH				*i* S	Sn	05 24 35.7	-1.1
SJCH				AML	AML	05 24 36.9	
	comp=E,482nm,0.8s						
CACH	**El Canelo**	**1.73**	**141**	⇑*i*P	Pn	05 24 19.3	+0.7
CACH				*e*S	Sb	05 24 42.5	+0.2
CMCH	**Combarbala**	**1.78**	**26**	⇑*i*P	Pn	05 24 18.4	-0.8
CMCH				*i* S	Sn	05 24 42.1	+0.1
CMCH				AML	AML	05 24 50.1	
	comp=E,2μm,0.8s						
LMEL	**Las Melosas**	**1.79**	**127**	*e*P	Pn	05 24 19.4	0.0
LMEL				*i* S	Sb	05 24 43.3	-0.8
LMEL				AML	AML	05 24 47.4	
	comp=N,787nm,0.4s						

*IDC **22** 05:54:52.9±0.7, 16.°13S×173.°33W, h0km, mb4.1/9, mb1 4.3/10, mb1mx4.2/21, mbtmp4.1/10, ML3.7/1, MS3.4/4, Ms1 3.4/4, ms1mx3.2/24, Error ellipse: s-maj=34.7km s-min=16.3km az=141.0*

*ISCJB **22** 05:54:55.6±0.6, 15.°9S±0.°2×173.°5W±0.°2, h29km, mb4.1/9, MS3.2/2, Error ellipse: s-maj=32.4km s-min=11.4km az=138.6*

ISC 22 05:54:56.7±0.7, 15.°8S±0.°2×173.°3W±0.°2, h29km, n26, σ1s89/15, mb4.2/9, MS3.3/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.43**	**38**	Pn	**Pn**	**05 55 33.7**	**-0.9**
	36nm,0.3s,baz=202,slow=2.7,SNR=25						
AFI				Sn	**Sn**	**05 55 59.3**	**-4.1**
	46nm,0.3s,baz=221,slow=24,SNR=8.5						
AFI				LR	LR	05 56 25.3	
	comp=Z,407nm,19.4s,baz=109,slow=35						
DZM	**Mont Dzumac**	**20.11**	**249**	*e*LR	LR	06 04 47.2	
	301nm,24.9s						
DZM	**Mont Dzumac**	**20.11**	**249**	P	**P**	**05 59 27.9**	**-0.6**
	0.2nm,0.3s,baz=223,slow=19,SNR=3.9						
DZM				LR	LR	06 05 30.6	
	comp=Z,238nm,20.0s,baz=201,slow=32						
PPT	**Papeete**	**22.80**	**98**	LR	LR	06 06 32.1	
	comp=Z,92nm,21.7s,baz=183,slow=31						
PPT2	**Papeete2**	**22.80**	**98**	*e*LR	LR	06 05 07.3	
	165nm,25.0s						
TBI	**Tubuai**	**23.66**	**112**	*e*LR	LR	06 05 35.0	
	235nm,27.5s						
URZ	**Urewera**	**23.87**	**199**	P	**P**	**06 00 05.5**	**-2.2**
	5.4nm,0.5s,baz=63,slow=9.0,SNR=5.3						
HNR	**Honiara**	**26.84**	**281**	LR	LR	06 08 26.2	
	comp=Z,88nm,19.7s,baz=188,slow=30						
RKT	**Rikitea**	**36.78**	**107**	*e*LR	LR	06 11 37.2	
	160nm,27.5s						
H11S2	**WAKE ISLAND Hy**	**39.38**	**329**	T	T	06 44 22.5	
	baz=152,slow=0.7,SNR=7.6						
H11S3	**WAKE ISLAND Hy**	**39.40**	**329**	T	T	06 44 37.2	
	baz=152,slow=0.7,SNR=6.0						
H11S1	**WAKE ISLAND Hy**	**39.40**	**329**	T	T	06 44 32.8	
	baz=152,slow=0.7,SNR=7.7						
H11N3	**WAKE ISLAND Hy**	**40.34**	**330**	T	T	06 45 43.7	
	baz=152,slow=0.7,SNR=24						
H11N1	**WAKE ISLAND Hy**	**40.34**	**330**	T	T	06 45 41.8	
	baz=152,slow=0.7,SNR=24						
H11N2	**WAKE ISLAND Hy**	**40.35**	**330**	T	T	06 45 42.8	
	baz=152,slow=0.7,SNR=22						
STKA	**Stephens Creek**	**43.89**	**240**	P	**P**	**06 02 59.9**	**-1.0**
	1.0nm,0.5s,baz=58,slow=9.8,SNR=4.8						
WRA	**Warramunga Arr**	**49.82**	**257**	P	**P**	**06 03 46.5**	**-1.1**
	0.7nm,0.8s,baz=92,slow=6.9,SNR=14						
ASAR	**Alice Springs**	**50.05**	**252**	P	**P**	**06 03 48.5**	**-0.7**
	2.0nm,0.6s,baz=90,slow=7.6,SNR=14						
NVAR	**Mina Array Bea**	**74.60**	**42**	P	**P**	**06 06 35.5**	**+1.9**
	2.3nm,0.8s,baz=226,slow=10,SNR=17						
TXAR	**Lajitas Array**	**80.79**	**56**	P	**P**	**06 07 10.2**	**+2.1**
	0.9nm,0.9s,baz=218,slow=8.0,SNR=7.7						
PDAR	**Pinedale Array**	**82.54**	**42**	P	**P**	**06 07 18.9**	**+1.6**
	2.4nm,0.8s,baz=212,slow=3.6,SNR=20						
ILAR	**Eielson Array**	**82.86**	**11**	P	**P**	**06 07 20.1**	**+2.0**
	0.9nm,0.6s,baz=231,slow=6.3,SNR=21						
MAW	**Mawson**	**87.40**	**199**	P	**P**	**06 07 41.1**	**+0.2**
	1.1nm,0.5s,baz=142,slow=9.0,SNR=7.7						
BRTR	**Keskin Array B**	**146.55**	**321**	PKPbc	**PKPab**	**06 14 37.9**	**+1.0**
	2.4nm,0.8s,baz=73,slow=1.4,SNR=11						
GERES	**GERESS Array B**	**146.59**	**352**	PKPbc	**PKPab**	**06 14 37.4**	**+0.8**
	0.5nm,0.2s,baz=341,slow=2.8,SNR=7.1						
TORD	**Torodi Ar. Bea**	**174.47**	**118**	PKPab	**PKPab**	**06 16 36.7**	**-0.9**
	0.6nm,0.8s,baz=232,slow=4.2,SNR=3.5						

*IDC **22** 06:10:45.0±0.5, 15.°78S×172.°25W, h0km, mb4.6/18, mb1 4.8/18, mb1mx4.8/21, mbtmp4.6/18, MS4.0/13, Ms1 4.0/13, ms1mx3.9/21, Error ellipse: s-maj=21.3km s-min=14.1km az=129.0*

*BJI **22** 06:10:45.0, 15.°80S×171.°90W, h5km, mB5.5/15, mb5.2/21, Ms5.3/9, Ms7 4.9/9*

*AUST **22** 06:10:46.2, 15.°89S×171.°88W, h20km*

*SZGRF **22** 06:10:46.0, 16.°45S×172.°68W, h10km, Samoa Islands region*

*NEIC **22** 06:10:46.6±0.2, 15.°76S×172.°29W, h10km, mb4.9/57, Error ellipse: s-maj=9.0km s-min=4.6km az=139.0*

*ISCJB **22** 06:10:48.8±0.2, 15.°82S±0.°05×172.°28W±0.°04, h33km, mb4.8/86, MS4.2/16, Error ellipse: s-maj=7.2km s-min=4.9km az=157.5*

ISC 22 06:10:51.3±0.3, 15.°96S±0.°08×171.°99W±0.°06, h41km, n478, σ0s98/477, mb4.8/86, MS4.1/16, 150C-133D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.05**	**6**	*e*Pn	Pn	06 11 13.7	-10
AFI				Sn	Sn	06 11 34.3	-14
AFI				*e*Sn	Sn	06 11 36.6	-11
AFI	**Afiamalu**	**2.05**	**6**	Pn	Pn	06 11 13.4	-10
	112nm,0.3s,baz=147,slow=0.9,SNR=49						
AFI				Sn	Sn	06

WRA Warramunga Arr 51.04 257 P P 06 19 46.8 -3.0
WRA Warramunga Arr 51.04 257 P P 06 19 46.8 -3.0
2.7nm,0.8s,baz=92,slow=7.1,SNR=34
AS31 Alice Springs 51.23 252 eP P 06 19 47.7 -3.6
ASAR Alice Springs 51.23 252 P P 06 19 48.4 -2.9
ASAR Alice Springs 51.23 252 P P 06 19 48.4 -2.9
13nm,0.6s,baz=86,slow=8.4,SNR=110
ASAR LR LR 06 39 48.5
comp=Z,407nm,21.7s,baz=93,slow=34
FITZ Fitzroy Crossi 59.42 258 P P 06 20 49.1 -1.2
baz=60,SNR=4.4
SBA Scott Base 62.81 185 eP P 06 21 14.8 +2.5
20nm,1.0s
VNDA Vanda 62.96 186 P P 06 21 14.7 +1.3
VNDA Vanda 62.96 186 P P 06 21 14.7 +1.3
6.1nm,0.9s,baz=11,slow=7.5,SNR=22
BLDU Ballidu 66.15 243 P P 06 21 33.9 -1.0
baz=66,SNR=7.9
ATKA Atka Island 67.90 359 eP P 06 21 45.8 +0.4
6um,1.1s
MJAR Matsushiro Arr 70.25 319 P P 06 21 58.2 -2.2
MJAR Matsushiro Arr 70.25 319 P P 06 21 58.2 -2.2
3.9nm,0.8s,baz=159,slow=5.5,SNR=6.0
VES Vestal, Richgr 71.81 43 ⇑P P 06 22 10.3 +0.4
baz=72
MYLDM Lahad Datu 71.89 281 eP P 06 22 12.1 +1.3
15nm,1.0s
MONP Monument Peak 71.95 47 ⇓P P 06 22 11.7 +0.7
baz=72
EDW2 Edwards Air Fo 71.98 44 ⇑P P 06 22 11.7 +0.7
baz=72
ISA Isabella 72.11 43 eP P 06 22 12.1 +0.3
6.7nm,1.1s
ISA Isabella 72.11 43 ⇓P P 06 22 12.5 +0.7
baz=72
CMB Columbia Colle 72.30 41 eP P 06 22 12.4 -0.4
5.8nm,0.9s
PFO Pinyon Flat Ob 72.32 46 ⇓P P 06 22 14.0 +0.9
baz=73
LRMC Laurel Mountai 72.53 44 ⇓P P 06 22 15.4 +1.0
baz=73
MPMC Manual Prospec 73.00 44 ⇓P P 06 22 17.7 +0.5
baz=73
GSC Goldstone 73.02 45 ⇓P P 06 22 17.6 +0.4
baz=73
MTUM Tungsten Hills 73.04 42 eP P 06 22 17.2 -0.3
GLA Glamis 73.16 48 ⇓P P 06 22 18.9 +0.8
baz=73
WAKR Walker 73.17 41 eP P 06 22 18.4 +0.2
GMRC Granite Mounta 73.51 46 ⇑P P 06 22 20.9 +0.7
baz=74
IRM Iron Mountain 73.53 46 ⇑P P 06 22 20.9 +0.7
baz=74
PETK Petropavlovsk- 73.58 342 P P 06 22 17.6 -2.4
PETK Petropavlovsk- 73.58 342 P P 06 22 17.6 -2.4
11nm,0.8s,baz=133,slow=6.5,SNR=9.6
PETK LR LR 06 48 30.5
comp=Z,39nm,20.0s,baz=318,slow=31
FURC Furnace Creek, 73.65 44 ⇑P P 06 22 21.5 +0.7
baz=74
TUQ Turquoise Moun 73.69 45 ⇑P P 06 22 21.5 +0.3
baz=74
SHOC Shoshone 73.71 44 ⇓P P 06 22 21.7 +0.5
baz=74
Y12C Blythe 73.75 47 ⇓P P 06 22 21.7 +0.3
baz=74
NVAR Mina Array Bea 73.84 41 P P 06 22 22.4 +0.2
NVAR Mina Array Bea 73.84 41 P P 06 22 22.4 +0.2
4.7nm,0.8s,baz=227,slow=10,SNR=41
PAHR Pah Rah Range 73.93 40 eP P 06 22 22.6 0.0
6.8nm,1.1s
QSPA South Pole Qui 74.09 180 eP P 06 22 24.2 +1.1
27nm,1.0s
MOD Modoc 74.73 37 eP P 06 22 27.0 -0.1
38nm,0.9s
SHPR Sheep Range 74.80 44 eP P 06 22 28.4 +0.6
K05A Summer Lake 74.91 36 eP P 06 22 27.8 -0.4
22nm,1.3s
R11A Troy Canyon, C 75.54 43 eP P 06 22 31.6 -0.4
31nm,2.6s
R11A Troy Canyon, C 75.54 43 ⇑P P 06 22 32.2 +0.3
baz=76
PINOR Pine Mountain 75.61 36 eP P 06 22 32.3 +0.4
13nm,0.9s
TUC Tucson 75.70 50 eP P 06 22 32.0 -0.9
41nm,2.2s
X16A Lo Mia Camp, P 76.28 48 ⇑P P 06 22 36.7 +0.4
baz=76
319A Douglas 76.37 51 ⇓P P 06 22 37.8 +1.0
baz=77
I07A Izee 76.55 36 eP P 06 22 37.6 +0.1
11nm,1.1s
G06A Carlson Farm, 76.64 35 eP P 06 22 37.7 -0.2
17nm,1.3s
J08A Circle Bar Ran 76.69 37 eP P 06 22 38.2 -0.1
12nm,1.2s
U15A North Rim 76.71 46 ⇓P P 06 22 39.6 +0.9
baz=77
WUAZ Wupatki 76.88 47 ⇓P P 06 22 40.0 +0.3
baz=77
320A Kipp Ranch, An 76.92 52 ⇓P P 06 22 41.0 +1.1
baz=77
ELK Elko 77.11 41 eP P 06 22 40.6 -0.3
64nm,2.8s
D05A Enumclaw 77.18 32 eP P 06 22 41.6 +0.8
48nm,1.4s
220A Playas Peak, P 77.19 51 ⇓P P 06 22 42.3 +0.9
baz=77
X18A Snowflake 77.40 48 ⇑P P 06 22 43.4 +0.8
baz=78
120A U Bar Ranch, L 77.41 51 ⇓P P 06 22 43.7 +1.0
baz=78
KSRS Korea Array 77.51 315 P P 06 22 42.1 -0.7
5.1nm,0.8s,baz=125,slow=6.4,SNR=16
KSRS LR LR 06 54 55.4
comp=Z,30nm,18.2s,baz=135,slow=34
KSAR Wonju Array Be 77.53 315 P P 06 22 42.1 -0.8
G08A Pilot Rock 77.60 35 eP P 06 22 42.9 -0.5
14nm,1.3s
Z20A Nine Sixteen R 77.71 50 ⇓P P 06 22 45.4 +1.1
baz=78
MVU Marysvale 77.85 44 eP P 06 22 45.9 +0.8
20nm,1.5s
HAWA Hanford 77.97 34 eP P 06 22 45.0 -0.2
7.4nm,0.9s
121A Cookes Peak, D 78.03 51 ⇓P P 06 22 47.6 +1.5
baz=78
Y20A Horse Springs, 78.24 50 ⇑P P 06 22 48.5 +1.1
baz=78
DUG Dugway 78.36 42 eP P 06 22 47.6 -0.1
11nm,1.4s
DUG Dugway 78.36 42 ⇑P P 06 22 48.1 +0.4
baz=79
X20A Quemado 78.45 49 ⇑P P 06 22 49.5 +1.0
baz=79
Z21A St. Cloud Mine 78.48 50 ⇑P P 06 22 49.7 +1.0
baz=79
KSM Kuching 78.59 275 eP P 06 22 49.5 +0.1
26nm,1.1s
KSM Kuching 78.59 275 P P 06 22 49.8 +0.4
baz=79,SNR=6.6
BGU Big Grassy Mou 78.61 41 eP P 06 22 48.7 -0.4
42nm,2.3s
USRK Ussuriysk Arra 78.65 323 P P 06 22 48.1 -0.9
2.7nm,0.9s,baz=113,slow=4.4,SNR=4.3
W20A Ramah 78.73 48 ⇑P P 06 22 50.7 +0.7
baz=79
Q16A Castle Valley 78.76 44 ⇓P P 06 22 51.0 +1.0
baz=79
Y21A Point of Rocks 78.80 50 ⇑P P 06 22 51.7 +1.2
baz=79
X21A Alamocita Cree 78.93 49 ⇓P P 06 22 51.8 +0.7
baz=79
TMUT Trail Mountain 78.93 44 eP P 06 22 51.5 +0.4
14nm,1.0s
F10A Beach Ranch, E 78.98 35 eP P 06 22 50.0 -0.9
10.0nm,1.1s
Z22A Elephant Butte 78.98 51 ⇑P P 06 22 52.1 +0.8
baz=79
V20A Brimhall 79.08 48 ⇑P P 06 22 52.9 +1.0
baz=79
HLID Hailey 79.21 39 eP P 06 22 52.5 +0.1
6.8nm,0.9s
HLID Hailey 79.21 39 ⇑P P 06 22 52.8 +0.4
baz=79
324A Moseley Ranch, 79.29 53 ⇑P P 06 22 53.5 +0.5
baz=80,SNR=12
B08A Colville Reser 79.31 33 eP P 06 22 52.0 -0.6
32nm,1.9s
U20A Newcomb 79.32 47 ⇓P P 06 22 53.6 +0.5
baz=80
425A Indio Mountain 79.39 54 ⇑P P 06 22 54.3 +0.7
baz=80,SNR=12
PMR Palmer 79.41 11 eP P 06 22 51.8 -0.9
46nm,1.4s
JLU Jordanelle 79.45 42 eP P 06 22 53.6 -0.3
6.3nm,1.0s
MNTX Cornudas Mount 79.48 53 eP P 06 22 54.1 +0.3
13nm,1.3s
C09A Chrisman Ranch 79.52 34 eP P 06 22 53.5 -0.2
7.8nm,1.0s
626A Big Bend Ranch 79.53 55 ⇓P P 06 22 55.0 +0.7
baz=80,SNR=11
Z23A Rita Site, Whi 79.53 51 ⇓P P 06 22 54.7 +0.5
baz=80
224A Cornudas Mount 79.54 52 ⇑P P 06 22 54.9 +0.5
baz=80,SNR=11
DIV Divide 79.64 13 eP P 06 22 53.5 -0.6
35nm,0.9s
BNM Barren Site 79.64 50 eP P 06 22 55.5 +0.4
5.9nm,1.5s
325A Bean Ranch, Si 79.65 53 ⇓P P 06 22 55.4 +0.4
baz=80,SNR=16
V21A Milan 79.67 48 ⇑P P 06 22 55.8 +0.7
baz=80
PV05 Paradox Valley 79.74 46 eP P 06 22 56.7 +1.2
526A Mary Lane Ranc 79.77 55 ⇑P P 06 22 56.2 +0.4
baz=80,SNR=13
TXAR Lajitas Array 79.80 56 P P 06 22 56.8 +1.0
TXAR Lajitas Array 79.80 56 P P 06 22 56.8 +1.0
9.5nm,1.1s,baz=216,slow=6.2,SNR=39
TXAR LR LR 06 50 14.4
comp=Z,181nm,21.9s,baz=290,slow=30
124A Stringfield Ra 79.86 52 ⇓P P 06 22 56.8 +0.6
baz=80,SNR=5.7
PV09 Paradox Valley 79.93 45 eP P 06 22 57.5 +0.9
U21A Nageezi 79.95 48 ⇓P P 06 22 57.2 +0.5
baz=80,SNR=13
Y23A Lovelace Mesa, 79.96 50 ⇓P P 06 22 56.9 +0.2
baz=80
627A Terlingua Ranc 80.07 56 ⇑P P 06 22 58.0 +0.7
baz=80,SNR=22
426A McDonald Obser 80.08 54 ⇓P P 06 22 58.0 +0.6
baz=80,SNR=22
225A Deer Hill, Car 80.08 53 ⇑P P 06 22 57.9 +0.5
baz=80,SNR=15
ANMO Albuquerque 80.13 49 eP P 06 22 57.9 +0.3
27nm,1.8s
S20A Disappointment 80.13 46 ⇓P P 06 22 58.0 +0.3
baz=80
PV01 Paradox Valley 80.13 46 eP P 06 22 57.9 +0.3
1um,1.0s
X23A Hourglass Bar 80.16 50 ⇓P P 06 22 58.5 +0.7
baz=80
527A Woodward Ranch 80.19 55 ⇓P P 06 22 58.4 +0.4
baz=80,SNR=16
Z24A Sheeppen Canyo 80.21 51 ⇓P P 06 22 58.5 +0.4
baz=80
V22A San Miguel Ran 80.25 48 ⇑P P 06 22 58.5 +0.2
baz=80
R20A Redvale 80.29 46 ⇑P P 06 22 58.9 +0.5
baz=80
MDJ Mudanjiang 80.30 322 P P 06 22 58.8 +0.8
MDJ AMB AMB
comp=Z,7.0nm,0.9s
MDJ AMB AMB
comp=Z,83nm,5.0s
T21A Navajo Lake 80.31 47 ⇑P P 06 22 59.0 +0.5
baz=80
326A Caldwell Ranch 80.39 54 ⇓P P 06 22 59.3 +0.3
baz=81,SNR=6.3
NEW Newport 80.41 34 ⇓P P 06 22 58.6 0.0
baz=81
Y24A Capitan 80.42 51 ⇑P P 06 22 59.9 +0.7
baz=81,SNR=14
125A Gardner Draw, 80.45 52 ⇓P P 06 22 59.9 +0.7
baz=81,SNR=6.7
W23A Werner Place, 80.45 49 ⇓P P 06 22 59.5 +0.1
baz=81,SNR=5.8
GDL2 Guadalupe Moun 80.47 53 eP P 06 23 00.7 +1.2
628A Black Gap, Mar 80.48 56 ⇑P P 06 22 60.0 +0.5
baz=81,SNR=12
U22A Llaves 80.50 48 ⇓P P 06 22 60.0 +0.4
baz=81
226B Tecolote Peak, 80.57 53 ⇓P P 06 23 00.4 +0.5
baz=81,SNR=22
P19A Cripple Cowboy 80.59 44 ⇑P P 06 23 00.3 +0.3
baz=81
427A Hayter Ranch, 80.64 54 ⇑P P 06 23 01.3 +1.0
baz=81,SNR=18
Z25A Roswell 80.67 52 ⇓P P 06 23 01.1 +0.6
baz=81,SNR=9.0
V23A Ortiz Mt. (NFS 80.69 49 ⇓P P 06 23 01.3 +0.6
baz=81,SNR=5.7
Q20A Ridgley Place, 80.72 45 ⇓P P 06 23 00.9 +0.3
baz=81,SNR=8.6
T22A Edith 80.76 47 ⇑P P 06 23 01.3 +0.3
baz=81
528A Cox Ranch, San 80.84 55 ⇑P P 06 23 01.8 +0.4
baz=81,SNR=16
P20A De Beque 80.92 45 ⇓P P 06 23 02.1 +0.4
baz=81,SNR=8.1
126A Clayton Basin, 80.93 52 ⇑P P 06 23 02.2 +0.4
baz=81,SNR=9.4
TRF Thorofare Moun 80.94 10 eP P 06 22 59.5 -1.7
17nm,0.8s
R21A Cimarron 80.95 46 ⇓P P 06 23 02.5 +0.6
baz=81,SNR=5.9
U23A El Rito 80.95 48 ⇓P P 06 23 02.5 +0.5
baz=81,SNR=6.0
Y25A Mesa, Roswell 80.97 51 ⇓P P 06 23 02.3 +0.2
baz=81,SNR=9.8
RRI2 Red Ridge 80.98 40 eP P 06 23 01.9 -0.1
7.8nm,0.9s
W24A Lazy 6 Ranch, 81.02 50 ⇓P P 06 23 02.5 +0.1
baz=81,SNR=5.1
428A Kincaid Ranch, 81.15 55 ⇑P P 06 23 03.7 +0.7
baz=81,SNR=13
Q21A Lamborn Mesa, 81.16 45 ⇑P P 06 23 03.9 +0.9
baz=81
S22A 4UR Ranch, Cre 81.16 47 ⇑P P 06 23 03.9 +0.7
baz=81
227A Bennet, Jal 81.22 53 ⇓P P 06 23 03.9 +0.6
baz=82
Z26A Caprock 81.23 52 ⇓P P 06 23 03.7 +0.3
baz=82,SNR=20
X25A Clemmons Ranch 81.26 50 ⇑P P 06 23 03.7 +0.1
baz=82,SNR=7.0
529A Stev Forest Ra 81.27 55 ⇓P P 06 23 04.1 +0.5
baz=82,SNR=18
REDW Red Top Meadow 81.28 40 eP P 06 23 03.4 -0.2
8.9nm,1.4s
TPAW Teton Pass 81.28 40 eP P 06 23 03.2 -0.5
8.3nm,0.9s
DLMT Dillon 81.29 38 eP P 06 23 03.8 +0.3
9.8nm,1.3s
MSO Missoula 81.33 36 eP P 06 23 03.0 -0.6
14nm,1.4s
MSO Missoula 81.33 36 ⇓P P 06 23 02.8 -0.8
baz=82,SNR=5.6
328A Wristen Ranch, 81.33 54 ⇓P P 06 23 04.1 +0.2
baz=82,SNR=12
O20A White River Ci 81.33 44 ⇑P P 06 23 04.1 +0.2
baz=82
V24A Rampart Ranch, 81.34 49 ⇓P P 06 23 04.7 +0.6
baz=82
PAX Paxson 81.37 12 eP P 06 23 02.4 -1.0
40nm,1.6s
SNOW Snow King Moun 81.39 40 eP P 06 23 03.6 -0.7
9.8nm,1.0s
MCK McKinley 81.43 10 eP P 06 23 02.2 -1.4
37nm,0.9s
R22A Saguache, Gunn 81.43 46 ⇓P P 06 23 05.5 +0.8
baz=82,SNR=6.5
BSMT Basseo Peak 81.44 35 eP P 06 23 03.9 -0.4
127A Arkansas Junct 81.45 53 ⇓P P 06 23 05.1 +0.5
baz=82,SNR=7.2
IMW Indian Meadow 81.50 40 eP P 06 23 04.6 -0.3
5.5nm,0.9s
LOHW Long Hollow 81.56 40 eP P 06 23 04.6 -0.5
4.4nm,1.0s
P21A Newcastle 81.57 45 ⇓P P 06 23 05.9 +0.7
baz=82,SNR=5.1
NJ2 Nanjing 81.59 307 eP P 06 23 06.1 +1.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s
Y26A Elida 81.62 51 ⇑P P 06 23 06.1 +0.6
baz=82
Q22A Crested Butte, 81.62 46 ⇓P P 06 23 06.1 +0.4
baz=82,SNR=11
N20A Spence Gulch, 81.66 43 ⇑P P 06 23 06.1 +0.4
baz=82,SNR=5.7
MENT Mentasta 81.69 13 eP P 06 23 03.7 -1.4
QLMT Earthquake Lak 81.70 39 eP P 06 23 05.9 +0.2
0.5nm,0.7s
W25A X Bar L Ranch, 81.71 50 ⇑P P 06 23 06.4 +0.4
baz=82
SMCO Snowmass 81.73 45 eP P 06 23 06.5 +0.2
8.5nm,0.9s
429A Davenport Ranc 81.73 55 ⇑P P 06 23 06.6 +0.6
baz=82,SNR=30
I17A Pilgrim Ck. 81.74 40 ⇑P P 06 23 06.5 +0.5
baz=82
FLWY Flagg Ranch 81.75 40 eP P 06 23 06.8 +0.8
8.3nm,1.0s
CHMT Chamberlain Mo 81.76 36 eP P 06 23 05.0 -1.1
PDAR Pinedale Array 81.78 41 P P 06 23 06.0 -0.3
PDAR Pinedale Array 81.78 41 P P 06 23 06.0 -0.3
1.4nm,0.7s,baz=218,slow=2.7,SNR=13
PDAR LR LR 06 53 35.2
comp=Z,190nm,20.8s,baz=266,slow=31
228A UT Block 9, Go 81.80 53 ⇓P P 06 23 07.1 +0.6
baz=82
Z27A Tatum 81.83 52 ⇑P P 06 23 06.7 +0.1
baz=82,SNR=5.8
T24B San Luis 81.87 48 ⇓P P 06 23 07.9 +1.0
baz=82
V25A Rancho No Teng 81.87 49 ⇓P P 06 23 07.2 +0.3
baz=82,SNR=7.1
O21A Pagoda 81.89 44 ⇑P P 06 23 07.5 +0.6
baz=82
X26A CR and CF Fran 81.90 51 ⇓P P 06 23 07.5 +0.6
baz=82
530A J-C Ranch, Com 81.98 56 ⇑P P 06 23 08.0 +0.6
baz=82,SNR=7.0
H17A Grant Village 81.99 39 ⇓P P 06 23 08.2 +0.8
baz=82
329A Wagon Wheel Ra 82.02 54 ⇑P P 06 23 07.8 +0.3
baz=82,SNR=14
R23A Moffat 82.06 47 ⇓P P 06 23 08.5 +0.6
baz=82,SNR=6.7
P22A Eagle 82.07 45 ⇓P P 06 23 08.3 +0.4
baz=82,SNR=7.5
128A Castleberry Fa 82.09 53 ⇓P P 06 23 08.4 +0.5
baz=82,SNR=13
Y27A Causey 82.10 52 ⇓P P 06 23 08.1 +0.1
baz=82,SNR=11
S24A Houchin Ranch, 82.25 47 ⇓P P 06 23 09.7 +0.8
baz=82,SNR=8.4
DOT Dot Lake 82.26 12 eP P 06 23 07.2 -0.9
28nm,1.2s
U25A Circle Dot Ran 82.27 49 ⇑P P 06 23 09.4 +0.4
baz=82,SNR=7.1
631A Perdido Creek 82.30 57 ⇑P P 06 23 09.6 +0.6
baz=82
430A Baggett Ranch, 82.32 55 ⇓P P 06 23 09.3 +0.2
baz=83
229A Bryant Ranch, 82.34 54 ⇑P P 06 23 09.5 +0.3
baz=83,SNR=6.3
J19A Crowheart 82.35 41 ⇑P P 06 23 09.0 -0.2
baz=83,SNR=6.9
CN2 Changchun 82.39 320 eP P 06 23 08.3 -0.8
CN2 esP sP 06 23 15.1 -11
CN2 eS S 06 33 22.8 +0.5
CN2 eSS SS 06 38 46.8 +2.7
CN2 AMB AMB
comp=Z,10.0nm,0.8s
MSTX Muleshoe 82.44 52 eP P 06 23 09.7 -0.1
MSTX Muleshoe 82.44 52 ⇑P P 06 23 10.2 +0.4
baz=83,SNR=9.6
Z28A Tucker Farm, M 82.44 52 ⇓P P 06 23 10.0 +0.2
baz=83,SNR=7.5
V26A Tequesquite Ra 82.46 50 ⇓P P 06 23 10.1 +0.3
baz=83
HRY Holter Researc 82.47 37 eP P 06 23 09.3 -0.3
X27A F and S Farms, 82.48 51 ⇓P P 06 23 10.0 0.0
baz=83
O22A Kremmling 82.48 45 ⇓P P 06 23 10.5 +0.4
baz=83,SNR=18
732A Laxson Ranch, 82.52 57 ⇑P P 06 23 10.7 +0.5
baz=83
129A Stewart Farms, 82.57 53 ⇑P P 06 23 10.8 +0.4
baz=83,SNR=12
R24A Sanders Place, 82.59 47 ⇑P P 06 23 11.5 +0.9
baz=83,SNR=12
T25A Trinidad 82.59 48 ⇓P P 06 23 11.0 +0.4
baz=83,SNR=5.0
P23A Jefferson 82.60 46 ⇓P P 06 23 11.6 +0.8
baz=83,SNR=7.1
330A Mertzon 82.61 55 ⇓P P 06 23 10.6 -0.1
baz=83,SNR=5.4
531A Rocksprings 82.62 56 ⇓P P 06 23 11.2 +0.5
baz=83,SNR=16
COLA College 82.67 10 eP P 06 23 08.9 -1.1
54nm,0.9s
W27A Bowe Ranch, En 82.68 51 ⇓P P 06 23 11.3 +0.3
baz=83,SNR=5.9
H18A Shoshone NF, C 82.69 40 ⇓P P 06 23 11.0 +0.1
baz=83
ILAR Eielson Array 82.74 11 P P 06 23 09.1 -1.4
ILAR Eielson Array 82.74 11 P P 06 23 09.1 -1.4
6.7nm,0.8s,baz=225,slow=5.9,SNR=61
U26A Atchley Ranch, 82.75 49 ⇓P P 06 23 11.9 +0.4
baz=83,SNR=7.9
431A Sonora 82.77 55 ⇓P P 06 23 11.5 0.0
baz=83
I19A Meeteetse 82.78 40 ⇓P P 06 23 11.9 +0.5
baz=83,SNR=5.1
Y28A McKinney Farm, 82.81 52 ⇑P P 06 23 12.0 +0.3
baz=83
S25A Robets Cordova 82.81 48 ⇓P P 06 23 12.1 +0.4
baz=83
IM04 Indian Mountai 82.83 7 eP P 06 23 10.0 -1.0
N22A Wattenberg Ran 82.85 44 ⇓P P 06 23 12.6 +0.7
baz=83,SNR=16
230A Sterling City 82.86 54 ⇓P P 06 23 12.4 +0.5
baz=83
Q24A Divide 82.89 46 ⇓P P 06 23 13.0 +0.7
baz=83,SNR=10
O23A Lake Granby, G 82.93 45 ⇓P P 06 23 13.1 +0.6
baz=83,SNR=8.4
IMA2 Indian Mountai 82.93 7 eP P 06 23 11.0 -0.6
Z29A Hungry Hill Ra 82.95 53 ⇓P P 06 23 12.5 +0.1
baz=83,SNR=6.9
ISCO Idaho Springs 82.95 45 eP P 06 23 13.2 +0.6
5.6nm,1.0s
ISCO Idaho Springs 82.95 45 ⇑P P 06 23 12.9 +0.4
baz=83,SNR=6.7
632A Uvalde 82.97 57 ⇓P P 06 23 13.2 +0.7
baz=83
J20A Shoshoni 83.01 41 ⇑P P 06 23 12.9 +0.3
baz=83,SNR=11
M22A Cedar Creek Ra 83.04 44 ⇑P P 06 23 13.1 +0.2
baz=83
X28A Dimmitt 83.10 51 ⇑P P 06 23 13.3 +0.2
baz=83,SNR=5.4
H19A Powell 83.10 40 ⇑P P 06 23 13.8 +0.8
baz=83,SNR=14
532A Rocksprings 83.12 56 ⇑P P 06 23 13.7 +0.4
baz=83
R25A Fountain Ranch 83.13 47 ⇑P P 06 23 13.6 +0.3
baz=83
V27A Dan Oppiter Fa 83.14 50 ⇑P P 06 23 13.9 +0.5
baz=83
331A San Angelo 83.16 55 ⇑P P 06 23 13.4 -0.1
baz=83,SNR=7.7
K21A Alcova 83.19 42 ⇑P P 06 23 13.4 -0.2
baz=83,SNR=9.8
T26A Comanche Natio 83.20 48 ⇑P P 06 23 13.6 -0.1
baz=83
Y29A Porterfield Fa 83.22 52 ⇓P P 06 23 14.1 +0.3
baz=84,SNR=5.3
N23A Red Feather La 83.23 44 ⇑P P 06 23 14.3 +0.4
baz=83,SNR=8.1
130A Snyder 83.25 53 ⇑P P 06 23 13.9 0.0
baz=84
GCMT Greycliff 83.26 39 eP P 06 23 14.1 +0.3
6.5nm,1.2s
I20A Worland 83.28 41 ⇑P P 06 23 14.1 +0.2
baz=84,SNR=14
P24A Kohler Place, 83.31 46 ⇑P P 06 23 14.6 +0.4
baz=84
JCT Junction City 83.33 56 eP P 06 23 14.3 -0.1
5.8nm,0.8s

JCT	Junction City	83.33	56	⇑P		P	06 23 14.9	+0.5	
	baz=84								
Z30A	Sanderson Ranc	83.40	53	⇑P		P	06 23 14.6	-0.2	
	baz=84,SNR=10								
J21A	Lysite	83.41	42	⇑P		P	06 23 14.9	+0.2	
	baz=84,SNR=22								
U27A	Thompson Grove	83.43	49	⇓P		P	06 23 14.8	0.0	
	baz=84,SNR=6.8								
L22A	Ellis Ranch, M	83.44	43	⇑P		P	06 23 15.5	+0.6	
	baz=84,SNR=7.6								
X29A	Tulia	83.44	52	⇓P		P	06 23 15.3	+0.4	
	baz=84								
O24A	Longmont	83.47	45	⇓P		P	06 23 15.5	+0.5	
	baz=84,SNR=7.6								
S26A	Kim	83.48	48	⇓P		P	06 23 15.2	+0.1	
	baz=84,SNR=8.1								
432A	Menard	83.49	55	⇓P		P	06 23 15.3	+0.1	
	baz=84								
231A	Bronte	83.50	54	⇑P		P	06 23 15.1	-0.1	
	baz=84,SNR=8.7								
Q25A	Bedland, Calha	83.50	47	⇑P		P	06 23 15.2	0.0	
	baz=84								
V28A	Channing	83.59	50	⇑P		P	06 23 15.9	+0.2	
	baz=84								
H20A	Greybull	83.62	40	⇑P		P	06 23 15.6	-0.1	
	baz=84,SNR=9.4								
AMTX	Amarillo	83.64	51	*eP*		P	06 23 16.2	+0.3	
	28nm,1.2s								
AMTX	Amarillo	83.64	51	⇑P		P	06 23 16.1	+0.1	
	baz=84								
M23A	Laramie	83.65	44	⇑P		P	06 23 15.9	-0.1	
	baz=84								
K22A	Casper	83.67	42	⇑P		P	06 23 16.0	0.0	
	baz=84								
F19A	Roth Farm, Mol	83.73	39	⇑P		P	06 23 16.1	-0.1	
	baz=84,SNR=13								
131A	Roby	83.73	54	⇑P		P	06 23 16.6	+0.2	
	baz=84								
332A	Millersview	83.73	55	⇓P		P	06 23 16.6	+0.2	
	baz=84								
I21A	Big Trails, Te	83.74	41	⇑P		P	06 23 16.1	-0.3	
	baz=84,SNR=14								
W29A	Amraillo	83.76	51	⇑P		P	06 23 16.8	+0.3	
	baz=84,SNR=5.6								
T27A	Campo	83.78	49	⇑P		P	06 23 16.7	+0.1	
	baz=84								
R26A	Arlington	83.79	47	⇑P		P	06 23 16.7	+0.1	
	baz=84,SNR=5.4								
P25A	Willow Gulch B	83.82	46	⇓P		P	06 23 17.1	+0.2	
	baz=84,SNR=11								
Y30A	Stafford Cattl	83.82	52	⇑P		P	06 23 17.3	+0.4	
	baz=84								
G20A	Bridger	83.85	40	⇑P		P	06 23 17.0	+0.1	
	baz=84								
EGAK	Eagle	83.86	13	*eP*		P	06 23 15.4	-0.8	
	13nm,0.9s								
N24A	Carr	83.92	45	⇓P		P	06 23 17.9	+0.6	
	baz=84								
L23A	Garrett	83.96	43	⇓P		P	06 23 17.5	-0.1	
	baz=84,SNR=9.8								
232A	Coleman	84.00	55	⇓P		P	06 23 18.2	+0.5	
	baz=84								
Q26A	Hugo	84.01	47	⇑P		P	06 23 17.8	0.0	
	baz=84								
J22A	Midwest	84.06	42	⇑P		P	06 23 17.6	-0.4	
	baz=84,SNR=14								
X30A	Coker Ranch, T	84.06	52	⇑P		P	06 23 18.1	+0.1	
	baz=84,SNR=5.6								
E19A	Rath Farm, Rou	84.13	38	⇓P		P	06 23 18.2	0.0	
	baz=84,SNR=8.2								
V29A	Stinnett	84.16	50	⇑P		P	06 23 18.9	+0.4	
	baz=84								
Z31A	Sharp Cattle R	84.17	53	⇓P		P	06 23 18.9	+0.3	
	baz=84								
F20A	Billings	84.18	39	⇑P		P	06 23 18.9	+0.4	
	baz=84								
T28A	Walsh	84.24	49	⇓P		P	06 23 18.9	0.0	
	baz=84								
R27A	Eads	84.25	48	⇓P		P	06 23 19.0	+0.1	
	baz=84								
M24A	Cheyenne	84.25	44	⇑P		P	06 23 19.2	+0.2	
	baz=84								
ABTX	Abilene, Hawle	84.29	54	*eP*		P	06 23 18.6	-0.6	
ABTX	Abilene, Hawle	84.29	54	⇑P		P	06 23 19.7	+0.5	
	baz=84								
H21A	Big Horn, Sher	84.29	41	⇑P		P	06 23 18.9	-0.1	
	baz=84,SNR=5.9								
I22A	9 Mile Ranch,	84.29	41	⇓P		P	06 23 19.1	0.0	
	baz=84,SNR=6.2								
K23A	Bowen Ranch, D	84.31	43	⇓P		P	06 23 19.2	0.0	
	baz=84,SNR=7.1								
Y31A	Rekieta Farm,	84.34	52	⇑P		P	06 23 19.5	+0.1	
	baz=85								
EGMT	Eagleton	84.36	37	⇓P		P	06 23 19.3	0.0	
	baz=84								
D19A	Cripps Ranch,	84.43	38	⇑P		P	06 23 19.7	0.0	
	baz=85,SNR=8.0								
L24A	Wheatland	84.44	44	⇑P		P	06 23 20.4	+0.5	
	baz=85								
G21A	Lodge Grass	84.48	40	⇓P		P	06 23 20.1	+0.1	
	baz=85								
COLD	Coldfoot	84.49	8	*eP*		P	06 23 19.8	+0.4	
	25nm,1.1s								
E20A	Meyer Farm, Mu	84.54	39	⇓P		P	06 23 20.3	0.0	
	baz=85,SNR=7.6								
U29A	Oasis Ranch, S	84.58	50	⇓P		P	06 23 21.2	+0.5	
	baz=85								
C19A	Slack Wire Ran	84.62	37	⇑P		P	06 23 21.0	+0.4	
	baz=85,SNR=14								
Z32A	Haskell	84.68	53	⇓P		P	06 23 21.7	+0.6	
	baz=85								
H22A	Clearmont	84.71	41	⇑P		P	06 23 21.3	+0.1	
	baz=85								
V30A	Spur Ranch, Mi	84.73	51	⇑P		P	06 23 22.2	+0.7	
	baz=85								
X31A	McDonald Ranch	84.81	52	⇑P		P	06 23 22.5	+0.7	
	baz=85								
K24A	Anderson Ranch	84.82	43	⇓P		P	06 23 22.3	+0.4	
	baz=85								
D20A	Manuel Ranch,	84.83	38	⇓P		P	06 23 21.8	+0.2	
	baz=85,SNR=9.5								
T29A	Hugoton	84.85	49	⇑P		P	06 23 22.6	+0.6	
	baz=85								
R28A	Tribune	84.97	48	⇑P		P	06 23 22.9	+0.3	
	baz=85								
Y32A	R-V Farms, Ver	84.98	53	⇑P		P	06 23 23.1	+0.4	
	baz=85								
G22A	Birney	85.04	40	⇑P		P	06 23 23.5	+0.7	
	baz=85								
B19A	Brinkman Farms	85.05	37	⇑P		P	06 23 23.3	+0.7	
	baz=85								
W31A	Holland Ranch,	85.06	51	⇑P		P	06 23 23.4	+0.4	
	baz=85								
S29A	Ulysses	85.17	49	⇑P		P	06 23 24.2	+0.6	
	baz=85								
E21A	Keefer Ranch,	85.19	39	⇑P		P	06 23 24.0	+0.5	
	baz=85								
J24A	Dixon Ranch, L	85.20	43	⇓P		P	06 23 24.1	+0.5	
	baz=85								
C20A	Veseth Ranch,	85.22	38	⇑P		P	06 23 24.0	+0.4	
	baz=85,SNR=7.1								
EDM	Edmonton	85.26	31	*eP*		P	06 23 23.1	-0.5	
A19A	Klindworth Far	85.40	36	⇓P		P	06 23 24.7	+0.2	
	baz=86								
D21A	La Casta Ranch	85.50	38	⇓P		P	06 23 25.2	+0.2	
	baz=86								
G23A	Biddle	85.59	41	⇑P		P	06 23 25.9	+0.4	
	baz=86								
U31A	Nine Bar Ranch	85.60	50	⇑P		P	06 23 26.1	+0.3	
	baz=86								
WHTX	Lake Whitney	85.76	55	⇑P		P	06 23 27.1	+0.6	
	baz=86								
Q29A	Oakley	85.79	48	⇑P		P	06 23 26.7	0.0	
	baz=86								
F23A	Volborg	85.83	40	⇑P		P	06 23 26.7	0.0	
	baz=86								
A20A	Cobblestone Ra	85.84	37	⇓P		P	06 23 26.9	+0.2	
	baz=86								
K26A	Motz Farm, Whi	85.89	44	⇑P		P	06 23 27.6	+0.5	
	baz=86								
H24A	Dirks Ranch, A	85.91	41	⇓P		P	06 23 27.1	0.0	
	baz=86								
T31A	Randall Ranch,	86.01	50	⇓P		P	06 23 28.3	+0.6	
	baz=86								
D22A	Cohagen	86.03	39	⇑P		P	06 23 28.1	+0.5	
	baz=86								
R30A	Dighton	86.05	49	⇓P		P	06 23 28.7	+0.8	
	baz=86								
I25A	Rochford	86.11	42	⇓P		P	06 23 28.7	+0.5	
	baz=86								
S31A	Mullinville	86.36	49	⇑P		P	06 23 29.8	+0.3	
	baz=87								
Q30A	Quinter	86.37	48	⇓P		P	06 23 29.9	+0.4	
	baz=87								
A21A	Bergtoll Ranch	86.47	37	⇓P		P	06 23 30.0	+0.2	
	baz=87								
F24A	Ekalaka	86.48	40	⇓P		P	06 23 30.1	+0.2	
	baz=87								
P30A	Selden	86.58	47	⇓P		P	06 23 30.6	+0.1	
	baz=87								
R31A	Burdett	86.59	49	⇑P		P	06 23 30.5	-0.1	
	baz=87								
D23A	Lindsay	86.62	39	⇓P		P	06 23 31.1	+0.6	
	baz=87								
BJI	Beijing	86.84	313	P		P	06 23 29.9	-1.8	
BJI				AMB		AMB			
	comp=Z,11nm,0.8s								
J27A	Elkhorn Farm,	86.91	43	⇑P		P	06 23 32.1	0.0	
	baz=87								
B23A	Brockton	87.35	38	⇓P		P	06 23 34.3	+0.3	
	baz=88								
J28A	Allard Ranch,	87.49	44	⇓P		P	06 23 35.4	+0.5	
	baz=88								
MAW	Mawson	87.69	198	P		P	06 23 36.1	+0.8	
MAW	Mawson	87.69	198	P		P	06 23 36.4	+1.1	
	baz=88,SNR=8.9								
MAW	Mawson	87.69	198	P		P	06 23 36.1	+0.8	
	9.0nm,0.9s,baz=124,slow=6.8,SNR=16								
MAW				LR		LR	07 00 35.3		
	comp=Z,73nm,19.1s,baz=1.5,slow=34								
D25A	Fairfield	87.76	40	⇓P		P	06 23 36.4	+0.4	
	baz=88								
I28A	Midland	87.77	43	⇓P		P	06 23 36.6	+0.5	
	baz=88								
DGMT	Dagmar	87.83	38	⇓P		P	06 23 36.7	+0.4	
	baz=88								
J29A	Okreek	88.09	44	⇓P		P	06 23 37.4	-0.2	
	baz=88								
K30A	Basset	88.27	45	⇑P		P	06 23 38.7	+0.1	
	baz=88								
GYA	Guiyang	89.50	298	*eP*		P	06 23 45.8	+1.0	
GYA				PP		PP	06 27 20.0	+3.1	
GYA				SKS		SKSac	06 34 13.3	+0.9	
GYA				S		S	06 34 35.0	+2.1	
GYA				SS		SS	06 40 33.8	+4.2	
GYA				AMB		AMB			
	comp=Z,10.0nm,0.9s								
GYA				AMB		AMB			
	comp=Z,120nm,6.0s								
GYA				LR		LR			
	comp=N,450nm,19.6s								
GYA				LR		LR			
	comp=E,430nm,20.2s								
GYA				LR		LR			
	comp=Z,390nm,20.9s								
YKA	Yellowknife Ar	90.08	23	P		P	06 23 46.1	-0.4	
YKA	Yellowknife Ar	90.08	23	P		P	06 23 46.1	-0.4	
	6.4nm,0.8s,baz=236,slow=4.6,SNR=6.9								
A28A	Rude Farm, Bot	90.36	39	⇓P		P	06 23 49.0	+0.8	
	baz=90								
HHC	Hu-ho-hao-te	90.40	312	*eP*		P	06 23 50.0	+1.3	
HHC				sP		sP	06 23 55.1	-11	
HHC				PP		PP	06 27 26.8	+3.1	
HHC				SKS		SKSac	06 34 18.4	+1.4	
HHC				S		ScS	06 34 43.3	-1.0	
HHC				SS		SS	06 40 48.4	+6.4	
HHC				AMB		AMB			
	comp=Z,47nm,0.6s								
HHC				AMB		AMB			
	comp=Z,320nm,4.2s								
HHC				LR		LR			
	comp=N,390nm,17.8s								
HHC				LR		LR			
	comp=E,350nm,17.8s								
HHC				LR		LR			
	comp=Z,230nm,17.8s								
D30A	Buchanan	90.58	41	⇑P		P	06 23 49.8	+0.6	
	baz=91								
ECSD	EROS Data Cent	90.70	45	*eP*		P	06 23 49.4	-0.5	
	48nm,2.4s								
SNAA	Sanae	92.27	177	*eP*		P	06 23 57.3	+0.5	
SNAA	Sanae	92.27	177	*eP*		P	06 23 57.3	+0.5	
	7.1nm,1.1s								
SYO	Syowa Base	92.31	191	⇓*eP*		P	06 23 55.5	-1.4	
VNA2	Neumayer--Watz	92.68	175	*eP*		P	06 23 59.9	+1.3	
	baz=184,slow=1.7								
VNA1	Neumayer--Stat	92.87	175	*eP*		P	06 24 00.8	+1.3	
CD2	Chengdu	93.26	301	P		P	06 24 03.5	+1.4	
CD2				AMB		AMB			
	comp=Z,20nm,0.5s								
ULM	Lac du Bonnet	93.52	39	LR		LR	07 02 17.5		
	comp=Z,168nm,21.5s,baz=334,slow=33								
CMAR	Chiang Mai Arr	94.08	288	P		P	06 24 05.8	-0.3	
CMAR	Chiang Mai Arr	94.08	288	P		P	06 24 05.8	-0.3	
	0.9nm,0.3s,baz=96,slow=2.8,SNR=6.0								
CMAR				LR		LR	07 00 07.7		
	comp=Z,57nm,21.8s,baz=341,slow=32								
LZH	Lanzhou	94.65	306	*eP*		P	06 24 09.5	+1.0	
LZH				pP		PcP	06 24 14.0	+5.1	
LZH				sP		sP	06 24 17.3	-8.4	
LZH				PP		PP	06 28 00.3	+3.0	
LZH				SKS		SKSac	06 34 41.5	+0.5	
LZH				*e*S		S	06 35 17.1	-1.8	
LZH				sS		sS	06 35 32.4	-7.6	
LZH				SS		SS	06 41 40.5	-2.8	
LZH				AMB		AMB			
	comp=Z,20nm,1.1s								
LZH				AMB		AMB			
	comp=Z,100nm,6.0s								
LZH				LR		LR			
	comp=N,680nm,17.0s								
LZH				LR		LR			
	comp=E,700nm,16.5s								
LZH				LR		LR			
	comp=Z,810nm,19.0s								
SONM	Songino Array	96.17	318	P		P	06 24 12.8	-2.3	
SONM	Songino Array	96.17	318	P		P	06 24 12.8	-2.3	
	0.5nm,0.8s,baz=68,slow=4.0,SNR=3.7								
ROSC	El Rosal	98.67	87	LR		LR	06 58 38.2		
	comp=Z,64nm,21.6s,baz=11,slow=29								
MKAR	Makanchi Array	112.19	314	PKiKP		PKiKP	06 29 21.1	-1.5	
MKAR	Makanchi Array	112.19	314	PKiKP		PKiKP	06 29 21.1	-1.5	
	0.7nm,0.7s,baz=90,slow=2.4,SNR=5.8								
KSH	Kashi	116.90	306	PKP		PKPdf	06 29 36.3	+4.3	
KSH				PP		PP	06 30 49.5	+8.1	
KSH				PKS		PKSdf	06 33 08.8	0.0	
KSH				SKS		SKSdf	06 36 46.1	+5.0	
KSH				SKKS		SKKSac	06 37 43.8	+4.7	
KSH				PPMZ					
	comp=Z,54nm,4.3s								
KSH				LR		LR			
	comp=N,79nm,5.7s								
KSH				LR		LR			
	comp=E,130nm,4.7s								
KSH				LR		LR			
	comp=Z,97nm,7.3s								
ARCES	ARCESS Array B	125.34	353	PKP		PKPdf	06 29 46.7	-0.5	
ARCES	ARCESS Array B	125.34	353	PKP		PKPdf	06 29 46.7	-0.5	
	4.9nm,0.9s,baz=318,slow=1.6,SNR=4.4								
NAO01	NORSAR Array S	135.13	358	*e*PKPdf		PKPdf	06 30 09.5	+3.6	
AKASG	Malin Array Be	141.37	338	PKPpre		PKPpre	06 30 10.6		
AKASG				PKP		PKPdf	06 30 16.1	-1.5	
AKASG	Malin Array Be	141.37	338	PKhKP		PKPpre	06 30 10.6		
	0.3nm,0.4s,baz=43,slow=4.0,SNR=6.2								
AKASG				PKP		PKPdf	06 30 16.1	-1.5	
	1.0nm,0.5s,baz=34,slow=2.3,SNR=8.2								
TSUM	Tsumeb	143.81	195	*e*PKPdf		PKPbc	06 30 21.1	+0.3	
CLL	Collm	144.51	355	*e*PKPbc		PKPbc	06 30 21.6	-0.3	
CLL	Collm	144.51	355	⇑*i*PKPdf		PKPbc	06 30 21.6	-0.3	
	comp=Z,8.0nm,0.7s								
CLL				*i* (sPKiKP)			06 30 33.6		
OJC	Ojcow	144.52	347	*e*PKP		PKPab	06 30 21.3	-0.4	
STHS	Stebnicka Huta	144.93	345	*e*PKP		PKPbc	06 30 23.1	-0.2	
UPC	Upice	144.94	351	*e*PKP		PKPab	06 30 22.5	-0.8	
UPC				*e*pPKP		PKiKP	06 30 26.0	-1.8	
DPC	Dobruska-Polom	145.05	351	*i* PKP		PKPbc	06 30 23.5	-0.2	
DPC				*e*pPKP		PKPdf	06 30 25.7	+1.4	
KOLS	Kolonicke sedl	145.11	343	*e*PKP		PKPbc	06 30 23.4	-0.5	
NIE	Niedzica	145.16	346	*e*PKP		PKPab	06 30 23.9	-0.2	
MALT	Malatya	145.21	316	⇑*i*P		PKPdf	06 30 25.7	+0.7	
OKC	Ostrava-Krasne	145.22	348	*e*PKP		PKPbc	06 30 23.5	-0.7	
OKC				*ep*PKP		PKiKP	06 30 26.7	-1.7	
BURAR	Bucovina Array	145.38	339	⇑*i*P		PKPdf	06 30 25.3	+0.3	
MORC	Moravsky Berou	145.40	349	*e*PKPbc		PKPbc	06 30 23.9	-1.0	
TANN	Tannenbergstha	145.45	355	*e*PKPbc		PKPbc	06 30 24.0	-1.0	
BCLA	Clavier	145.56	3	PKP		PKPdf	06 30 24.2	-0.8	
PRU	Pruhonice	145.65	353	*e*PKP		PKPdf	06 30 25.0	-0.2	
PRU				*ep*PKP		PKiKP	06 30 27.5	-1.8	
TRPA	Tarpa	145.76	343	⇓*i*P		PKPbc	06 30 25.4	-0.5	
TESR	Tescani	145.81	337	⇑*i*P		PKPdf	06 30 25.5	-0.1	
TNS	Taunus Mts	145.82	360	*e*PKPbc		PKPdf	06 30 25.6	0.0	
DOU	Dourbes	145.84	4	PKP		PKPbc	06 30 25.9	-0.3	
GHRR		145.89	336	⇑*i*P		PKPab	06 30 26.3	-0.6	
TLCR		146.01	333	⇑*i*P		PKPab	06 30 26.7	-0.6	
VRAC	Vranov	146.01	350	⇑*i*P		PKPbc	06 30 26.2	-0.5	
ROTZ	Rotzenmuhle	146.11	355	*e*PKPbc		PKPbc	06 30 26.4	-0.6	
TREC	Trest	146.20	351	*e*PKP		PKPdf	06 30 26.3	+0.1	
GRF	Grafenberg Arr	146.26	356	*e*PKPbc		PKPbc	06 30 27.1	-0.3	
CFR	Carcaliu	146.31	334	⇑*i*P		PKPbc	06 30 26.8	-0.9	
VRI	Vrincioaia	146.31	336	⇑*i*P		PKPbc	06 30 27.2	-0.5	
WLF	Walferdange	146.35	2	*e*PKPbc		PKPbc	06 30 27.8	+0.1	
PLOR	Plostina	146.36	336	⇑*i*P		PKPbc	06 30 27.0	-0.9	
KHC	Kasperske Hory	146.61	353	*e*PKP		PKPbc	06 30 28.0	-0.5	
KHC				*ep*PKP		PKiKP	06 30 31.7	+0.3	
KHC	Kasperske Hory	146.61	353	*e*PKPdf		PKPdf	06 30 26.7	-0.3	
KHC				*e*PKPbc		PKPbc	06 30 28.3	-0.2	
PSZ	Piszkesteto	146.66	345	⇓*i*P		PKPdf	06 30 21.3	-5.8	
TIRR	Tirgusor	146.76	333	⇑*i*P		PKPbc	06 30 28.2	-0.8	
TIRR	Tirgusor	146.76	333	*e*PKPbc		PKPbc	06 30 28.3	-0.8	
TLB	Topalu	146.82	333	⇑*i*P		PKPbc	06 30 28.8	-0.4	
GEC2	GERESS Array S	146.88	353	*e*PKPbc		PKPbc	06 30 28.6	-0.7	
GERES	GERESS Array B	146.88	353	PKPbc		PKPbc	06 30 28.7	-0.7	
GERES	GERESS Array B	146.88	353	PKPbc		PKPbc	06 30 28.7	-0.7	
	comp=Z,2.6nm,0.8s,baz=26,slow=3.4,SNR=13								
DRGR		146.91	341	⇑*i*P		PKPbc	06 30 28.9	-0.6	
ISR	Istrita	147.01	336	⇑*i*P		PKPbc	06 30 29.7	-0.1	
VOIR		147.31	338	⇑*i*P		PKPbc	06 30 30.9	+0.2	
BR131	Keskin Array S	147.44	322	*e*PKPbc		PKPbc	06 30 31.0	-0.3	
BRTR	Keskin Array B	147.44	322	PKPbc		PKPbc	06 30 30.6	-0.7	
BRTR	Keskin Array B	147.44	322	PKPbc		PKPbc	06 30 30.6	-0.7	
	comp=Z,18nm,0.8s,baz=118,slow=2.0,SNR=67								
CONA	Conrad Observa	147.47	350	⇑*i*PKPdf		PKPdf	06 30 26.6	-1.9	
	comp=Z,17nm,1.4s								
ARR	Arges	147.52	338	⇑*i*P		PKPab	06 30 31.9	-1.4	
BFO	Black Forest	147.72	360	*e*PKPbc		PKPbc	06 30 31.2	-0.4	
BFO	Black Forest	147.72	360	*e*PKPab		PKPbc	06 30 31.1	-0.6	
ANTO	Ankara	147.85	323	⇑*i*P		PKPbc	06 30 32.7	+0.4	
ANTO	Ankara	147.85	323	*e*PKPab		PKPbc	06 30 32.6	+0.2	
RJOB	Jochberg	148.07	354	*e*PKPbc		PKPbc	06 30 32.1	-0.5	
GZR	Gura Zlata	148.14	340	⇑*i*P		PKPbc	06 30 31.7	-1.2	
BZS	Buzias	148.31	342	⇑*i*P		PKPbc	06 30 33.1	-0.1	
FETA	Feichten	148.95	356	⇑*i*PKPdf		PKPdf	06 30 30.8	-0.3	
	comp=Z,21nm,1.4s								
FUORN	Ofenpass-Fuorn	149.37	357	*e*PKPab		PKPbc	06 30 36.5	+0.3	
VTS	Vitosha	150.43	337	⇑*i*P		PKPbc	06 30 37.4	-1.5	
ESDC	Sonseca Array	154.16	22	PKPab		PKPab	06 31 00.1	-0.8	
ESDC	Sonseca Array	154.16	22	PKPab		PKPab	06 31 00.1	-0.8	
	comp=Z,1.4nm,0.6s,baz=307,slow=3.5,SNR=6.6								
TORD	Torodi Ar. Bea	173.28	114	PKP		PKPdf	06 30 55.9	-1.3	
TORD				PKPab		PKPab	06 32 24.4	-0.9	
TORD	Torodi Ar. Bea	173.28	114	PKP		PKPdf	06 30 55.9	-1.3	
	comp=Z,2.7nm,1.0s,baz=345,slow=0.9,SNR=10								
TORD				PKPab		PKPab	06 32 24.4	-0.9	
	comp=Z,1.5nm,1.0s,baz=260,slow=4.4,SNR=4.6								

IDC 22 06:14:28.9±1.9, 15°.92S×173°.53W, h0km, mb3.6/6, mb1 4.0/6, mb1mx3.8/18, mbtmp3.6/6, MS3.3/1, Ms1 3.3/1, ms1mx3.1/18, Error ellipse: s-maj=126.7km s-min=24.3km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	2.62	40	Pn	Pn	06 15 08.8	-3.9
	15nm,0.3s,baz=162,slow=6.4,SNR=6.1						
AFI				Sn	Sn	06 15 36.2	-9.1
	70nm,0.3s,baz=246,slow=23,SNR=6.3						
AFI				LR	LR	06 15 46.6	
	comp=Z,602nm,19.7s,baz=247,slow=30						
H11N3	WAKE ISLAND Hy	40.30	331	T	T	07 05 02.9	
	baz=152,slow=0.7,SNR=13						
H11N1	WAKE ISLAND Hy	40.31	331	T	T	07 05 16.4	
	baz=152,slow=0.7,SNR=13						
H11N2	WAKE ISLAND Hy	40.32	331	T	T	07 05 19.1	
	baz=152,slow=0.7,SNR=15						
WRA	Warramunga Arr	49.61	257	P	P	06 23 22.3	-0.2
	0.2nm,0.4s,baz=96,slow=7.6,SNR=3.5						
ASAR	Alice Springs	49.84	252	P	P	06 23 24.2	0.0
	0.5nm,0.5s,baz=91,slow=7.5,SNR=4.3						
NVAR	Mina Array Bea	74.80	42	P	P	06 26 11.7	+0.3
	0.9nm,0.8s,baz=230,slow=10,SNR=4.5						
TXAR	Lajitas Array	81.00	56	P	P	06 26 46.2	+0.1
	0.5nm,1.0s,baz=243,slow=5.0,SNR=2.7						
PDAR	Pinedale Array	82.73	42	P	P	06 26 54.6	-0

σ0^{s}70/12, **mb3.9/7, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.16**	**228**	Pn	**Pn**	**06 53 26.3**	**-0.9**
	178nm,0.3s,baz=184,slow=23,SNR=17						
RAO				Sn	**Sn**	**06 53 42.9**	**+0.9**
	644nm,0.3s,baz=78,slow=21,SNR=7.6						
STKA	**Stephens Creek**	**35.85**	**254**	P	**P**	**07 00 03.2**	**+0.5**
	1.8nm,0.5s,baz=97,slow=11,SNR=6.4						
STKA				LR	LR	07 13 12.3	
	comp=Z,86nm,19.0s,baz=24,slow=34						
ASAR	**Alice Springs**	**44.18**	**264**	P	**P**	**07 01 11.9**	**0.0**
	1.4nm,0.6s,baz=96,slow=6.9,SNR=27						
WRA	**Warramunga Arr**	**44.99**	**270**	P	**P**	**07 01 17.9**	**-0.5**
	1.1nm,0.6s,baz=109,slow=7.8,SNR=12						
WRA				PcP	**PcP**	**07 02 59.2**	**+0.3**
	0.7nm,0.7s,baz=110,slow=3.1,SNR=5.5						
FITZ	**Fitzroy Crossi**	**53.32**	**268**	LR	LR	07 25 11.0	
	comp=Z,46nm,19.9s,baz=281,slow=36						
NVAR	**Mina Array Bea**	**86.20**	**42**	P	**P**	**07 05 44.9**	**+0.9**
	0.5nm,0.7s,baz=227,slow=8.3,SNR=5.0						
TXAR	**Lajitas Array**	**90.57**	**57**	P	**P**	**07 06 04.6**	**-0.2**
	0.2nm,0.7s,baz=218,slow=5.7,SNR=2.7						
PDAR	**Pinedale Array**	**94.10**	**43**	P	**P**	**07 06 20.7**	**-0.3**
	0.3nm,0.8s,baz=225,slow=0.8,SNR=2.4						
ILAR	**Eielson Array**	**95.86**	**12**	P	**P**	**07 06 28.6**	**+0.4**
	0.2nm,0.7s,baz=244,slow=5.8,SNR=4.1						
FINES	**FINESS Array B**	**143.64**	**342**	PKP	PKPbc	07 12 34.1	+0.2
	1.8nm,0.7s,baz=117,slow=5.0,SNR=3.3						
NOA	**NORSAR Array B**	**146.98**	**353**	PKPbc	**PKPab**	**07 12 44.8**	**-0.9**
	1.0nm,0.8s,baz=7.6,slow=5.9,SNR=3.6						
AKASG	**Malin Array Be**	**150.29**	**326**	PKPbc	**PKPbc**	**07 12 53.0**	**0.0**
	1.1nm,0.4s,baz=44,slow=2.9,SNR=5.3						

WEL 22 07:11:19.3±0.3**, 41°29**S**×172°93**E**, h117**km±3km**, ML3.7**/15, **8C-2D, Error ellipse: s-maj=2.5km s-min=2.4km az=0.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNZ	**Nelson**	**0.34**	**79**	⇓P	Pn	07 11 35.8	-0.3
NNZ				SN	Sn	07 11 47.8	-0.9
THZ	**Tophouse**	**0.48**	**183**	⇑P	Pn	07 11 37.0	+0.1
THZ				SN	Sn	07 11 49.2	-0.9
TUWZ	**Tuamarina**	**0.77**	**101**	⇑P	Pn	07 11 39.2	+0.2
TUWZ				AML	AML	07 11 55.0	
TUWZ				AML	AML	07 11 55.5	
BSWZ	**Blackbirch Sta**	**0.83**	**122**	⇑P	Pn	07 11 39.6	+0.2
BSWZ				AML	AML	07 11 58.3	
BSWZ				AML	AML	07 12 00.7	
DUWZ	**D'Urville Isla**	**0.89**	**58**	P	Pn	07 11 40.5	+0.5
DUWZ				SN	Sn	07 11 55.5	-0.1
DSZ	**Denniston Nort**	**0.97**	**241**	⇑P	Pn	07 11 40.5	-0.3
DSZ				SN	Sn	07 11 54.7	-2.3
TCW	**Tory Channel**	**1.01**	**86**	⇑P	Pn	07 11 41.6	+0.4
TCW				AML	AML	07 11 59.8	
TCW				AML	AML	07 12 01.2	
KHZ	**Kahutara**	**1.22**	**158**	PN	Pn	07 11 43.6	+0.3
KHZ				AML	AML	07 12 00.6	
KHZ				AML	AML	07 12 01.3	
SNZO	**South Karori**	**1.33**	**92**	PN	Pn	07 11 44.2	-0.3
SNZO				AML	AML	07 12 04.0	
SNZO				AML	AML	07 12 04.1	
WEL	**Wellington**	**1.38**	**91**	PN	Pn	07 11 44.9	-0.2
BHW	**Baring Head**	**1.46**	**95**	⇑P	Pn	07 11 45.5	-0.6
BHW				AML	AML	07 12 06.5	
BHW				AML	AML	07 12 06.5	
KIW	**Kapiti Island**	**1.55**	**75**	PN	Pn	07 11 47.1	-0.1
KIW				AML	AML	07 12 14.2	
KIW				AML	AML	07 12 14.4	
LTZ	**Lake Taylor**	**1.58**	**198**	PN	Pn	07 11 47.7	+0.2
CAW	**Cannon Point**	**1.62**	**84**	PN	Pn	07 11 47.4	-0.5
CAW				AML	AML	07 12 16.2	
CAW				AML	AML	07 12 19.3	
MSWZ	**Moikau Station**	**1.75**	**95**	PN	Pn	07 11 48.6	-0.9
MSWZ				AML	AML	07 12 11.7	
MSWZ				AML	AML	07 12 11.9	
OGWZ	**Otaki Gorge**	**1.75**	**75**	⇓P	Pn	07 11 49.3	-0.2
PLWZ	**Palliser**	**1.77**	**100**	⇑P	Pn	07 11 48.9	-0.9
PAWZ	**Paruwai Farm**	**1.88**	**94**	PN	Pn	07 11 50.1	-1.0
PAWZ				AML	AML	07 12 14.5	
PAWZ				AML	AML	07 12 14.8	
MTW	**Mount Morrison**	**1.94**	**87**	PN	Pn	07 11 50.9	-0.9
MTW				AML	AML	07 12 16.4	
MTW				AML	AML	07 12 27.1	
HOWZ	**Holdsworth Sta**	**1.99**	**80**	PN	Pn	07 11 51.6	-0.9
NMEZ	**Namu Road**	**2.00**	**21**	PN	Pn	07 11 53.5	+0.9
TRWZ	**Traveller**	**2.08**	**94**	PN	Pn	07 11 53.0	-0.6
TRWZ				AML	AML	07 12 19.5	
TRWZ				AML	AML	07 12 20.4	
MRZ	**Mangatainoka R**	**2.10**	**74**	⇑P	Pn	07 11 52.8	-1.0
MRZ				AML	AML	07 12 19.8	
MRZ				AML	AML	07 12 20.6	
OXZ	**Oxford**	**2.15**	**198**	PN	Pn	07 11 53.7	-0.7
DFE	**Dawson Falls**	**2.15**	**25**	PN	Pn	07 11 55.7	+1.1
KHEZ	**Kahui Hut**	**2.15**	**23**	PN	Pn	07 11 55.7	+1.0
WAZ	**Wanganui**	**2.19**	**46**	PN	Pn	07 11 56.9	+1.9
TMWZ	**Te Maipa**	**2.24**	**86**	PN	Pn	07 11 54.4	-1.3
TIWZ	**Tintock**	**2.29**	**78**	PN	Pn	07 11 55.0	-1.3
CRLZ	**Canterbury Las**	**2.30**	**186**	PN	Pn	07 11 55.7	-0.6
DREZ	**Durham Road**	**2.31**	**25**	PN	Pn	07 11 56.9	+0.4
WVZ	**Waitaha Valley**	**2.42**	**222**	PN	Pn	07 11 57.8	-0.1
MQZ	**McQueen's Vall**	**2.43**	**185**	PN	Pn	07 11 56.8	-1.2
VRZ	**Vera Road**	**2.57**	**34**	PN	Pn	07 12 00.5	+0.6
BFZ	**Birch Farm**	**2.58**	**78**	PN	Pn	07 11 58.5	-1.5
TSZ	**Takapari Road**	**2.61**	**63**	PN	Pn	07 11 59.1	-1.3
TSZ				AML	AML	07 12 52.8	
TSZ				AML	AML	07 12 54.6	
RPZ	**Rata Peaks**	**2.80**	**209**	*e*PN	Pn	07 12 02.4	-0.5
ANWZ	**Angora Road**	**2.81**	**74**	SN	Sn	07 12 34.8	-1.7
TRVZ	**Turoa**	**2.82**	**46**	PN	Pn	07 12 05.1	+1.7
PNHZ	**Pukenui**	**2.84**	**62**	PN	Pn	07 12 02.0	-1.4
FWVZ	**Far West T-bar**	**2.85**	**46**	*e*PN	Pn	07 12 03.7	-0.1
WPHZ	**Waipukurau**	**2.93**	**67**	SN	Sn	07 12 38.1	-1.4
BHHZ	**Black Hill Sta**	**2.99**	**54**	*e*PN	Pn	07 12 05.0	-0.4
HIZ	**Hauiti**	**3.14**	**29**	PN	Pn	07 12 07.4	+0.1
PXZ	**Pawanui**	**3.24**	**69**	*e*PN	Pn	07 12 07.1	-1.5
PXZ				AML	AML	07 12 46.1	
FOZ	**Fox Glacier**	**3.31**	**225**	PN	Pn	07 12 07.8	-1.7
ODZ	**Otahua Downs**	**4.11**	**203**	*e*PN	Pn	07 12 18.8	-1.4
JCZ	**Jackson Bay**	**4.15**	**226**	PN	Pn	07 12 19.9	-1.0

*IDC **22** 07:15:26.5±8.0, 6°17S×149°73E, h64**km±59km**, mb3.2/4, mb1 3.4/5, mb1mx3.2/19, mbtmp3.3/5, ML2.5/1, MS3.9/3, Ms1 3.9/3, ms1mx3.2/19, Error ellipse: s-maj=62.5km s-min=51.1km az=112.0*

ISC 22 07:15:25.9±2.1**, 6°2S**±0°3**×149°8E**±0°4**, h52**km**, n12, **σ1^{s}05/7, **mb3.3/3, MS4.0/3, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.13**	**219**	P	**Pn**	**07 16 26.9**	**+0.5**
	2.3nm,0.3s,baz=35,slow=13,SNR=3.6						
PMG				S	**Sn**	**07 17 13.9**	**+0.3**
	11nm,0.3s,baz=144,slow=22,SNR=9.0						
WRA	**Warramunga Arr**	**20.31**	**226**	P	**P**	**07 19 57.3**	**-0.5**
	0.3nm,0.4s,baz=52,slow=11,SNR=6.3						
ASAR	**Alice Springs**	**23.15**	**220**	P	**P**	**07 20 28.3**	**+0.3**
	0.2nm,0.5s,baz=59,slow=8.8,SNR=4.2						
FITZ	**Fitzroy Crossi**	**26.37**	**241**	P	**P**	**07 20 56.2**	**-1.3**
	0.6nm,0.4s,baz=54,slow=9.8,SNR=6.1						
STKA	**Stephens Creek**	**26.69**	**196**	P	**P**	**07 20 59.4**	**-0.8**
	0.5nm,0.5s,baz=339,slow=8.6,SNR=2.9						
JCJ	**Chichijima**	**33.89**	**348**	LR	LR	07 33 51.9	
	comp=Z,310nm,20.9s,baz=143,slow=33						
JNU	**Nakatsue**	**43.02**	**337**	LR	LR	07 38 05.7	
	comp=Z,178nm,19.8s,baz=79,slow=32						
MJAR	**Matsushiro Arr**	**43.87**	**347**	LR	LR	07 39 04.1	
	comp=Z,102nm,18.4s,baz=180,slow=32						
H03N3	**Juan Fernandez**	**119.32**	**134**	T	T	09 45 28.0	
	baz=244,slow=0.7,SNR=22						
H03N2	**Juan Fernandez**	**119.32**	**134**	T	T	09 45 27.3	
	baz=244,slow=0.7,SNR=22						
H03N1	**Juan Fernandez**	**119.34**	**134**	T	T	09 45 29.6	
	baz=244,slow=0.7,SNR=16						
TORD	**Torodi Ar. Bea**	**147.82**	**285**	PKPbc	**PKPdf**	**07 35 04.3**	**+1.1**
	0.6nm,0.4s,baz=80,slow=2.3,SNR=6.8						

IDC 22 07:23:00.8±1.3**, 4°46S×137°77E, h0**km**, mb3.7/3,**

mb1 4.0/5, mb1mx3.7/16, mbtmp3.8/5, ML3.6/2, Error ellipse: s-maj=58.9km s-min=25.7km az=95.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.75**	**192**	Pn	Pn	07 26 38.7	-5.5
	0.2nm,0.3s,baz=4.4,slow=13,SNR=14						
FITZ	**Fitzroy Crossi**	**18.02**	**220**	P	Pn	07 27 12.2	-0.8
	0.1nm,0.3s,baz=46,slow=13,SNR=3.6						
ASAR	**Alice Springs**	**19.46**	**191**	P	P	07 27 29.1	-0.3
	0.6nm,0.3s,baz=18,slow=10.0,SNR=63						
STKA	**Stephens Creek**	**27.51**	**173**	P	P	07 28 49.8	+0.5
	1.1nm,0.8s,baz=331,slow=17,SNR=3.0						
MKAR	**Makanchi Array**	**70.60**	**323**	P	P	07 34 18.5	+0.3
	0.3nm,0.6s,baz=120,slow=7.2,SNR=4.4						
ILAR	**Eielson Array**	**87.80**	**25**	P	P	07 35 51.3	-0.4
	0.5nm,0.9s,baz=237,slow=6.3,SNR=3.0						

*IDC **22** 07:27:00.9±0.7, 18°27N×146°74E, h0**km**, mb4.4/17, mb1 4.5/18, mb1mx4.4/28, mbtmp4.4/18, ML4.0/1, MS3.7/13, Ms1 3.8/13, ms1mx3.6/31, Error ellipse: s-maj=24.2km s-min=13.6km az=91.0*

*MOS **22** 07:27:04.1±0.9, 18°29N×146°65E, h33**km**, mb4.7/10, Error ellipse: s-maj=18.6km s-min=8.1km az=111.6*

*NEIC **22** 07:27:06.3±0.4, 18°30N×146°67E, h35**km**, mb4.4/4, Error ellipse: s-maj=15.1km s-min=6.9km az=87.0*

*ISCJB **22** 07:27:07.7±0.5, 18°30N±0°06×146°6E±0°1, h64**km**, mb4.5/33, Error ellipse: s-maj=18.3km s-min=8.3km az=177.0*

ISC 22 07:27:09.4±0.7**, 18°28N**±0°09**×146°6E**±0°2**, h64**km**, n75, **σ0^{s}81/69, **mb4.5/33, 3C-1D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**19.03**	**86**	T	T	07 50 49.8	
	baz=274,slow=0.7,SNR=12						
H11S1	**WAKE ISLAND Hy**	**19.04**	**86**	T	T	07 50 49.6	
	baz=274,slow=0.7,SNR=11						
H11S2	**WAKE ISLAND Hy**	**19.05**	**86**	T	T	07 50 47.6	
	baz=274,slow=0.7,SNR=10						
MJAR	**Matsushiro Arr**	**19.65**	**339**	P	**P**	**07 31 31.4**	**-1.7**
MJAR	**Matsushiro Arr**	**19.65**	**339**	P	**P**	**07 31 31.4**	**-1.7**
	0.4nm,0.3s,baz=170,slow=11,SNR=4.8						
MAJO	**Matsushiro**	**19.65**	**339**	*e*P	**P**	**07 31 31.6**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,16nm,0.7s						
MAJO	**Matsushiro**	**19.65**	**339**	*e*P	**P**	**07 31 31.6**	**-1.5**
	comp=Z,16nm,0.7s						
MAT	**Matsushiro**	**19.65**	**339**	P	**P**	**07 31 33.6**	**+0.5**
KSRS	**Korea Array**	**25.18**	**323**	P	**P**	**07 32 28.3**	**-0.6**
	comp=Z,2.6nm,0.6s,baz=148,slow=9.3,SNR=8.3						
KSAR	**Wonju Array Be**	**25.20**	**323**	P	**P**	**07 32 28.3**	**-0.8**
PMG	**Port Moresby**	**27.52**	**179**	LR	LR	07 43 04.0	
	comp=Z,40nm,18.6s,baz=49,slow=35						
USRK	**Ussuriysk Arra**	**28.62**	**338**	P	**P**	**07 32 59.6**	**-0.2**
	comp=Z,4.5nm,0.6s,baz=135,slow=9.2,SNR=8.6						
USRK				LR	LR	07 43 52.7	
	comp=Z,73nm,18.9s,baz=284,slow=35						
KLR	**Kul'dur**	**33.13**	**342**	*e*P	P	07 33 35.7	-3.8
PETK	**Petropavlovsk-**	**35.81**	**11**	LR	LR	07 45 45.0	
	comp=Z,43nm,20.3s,baz=346,slow=31						
WRAB	**Tennant Creek**	**39.84**	**198**	*e*P	**P**	**07 34 36.5**	**-0.4**
WRAB	**Tennant Creek**	**39.84**	**198**	*e*P	**P**	**07 34 36.5**	**-0.4**
WRA	**Warramunga Arr**	**39.86**	**198**	P	**P**	**07 34 36.5**	**-0.5**
WRA	**Warramunga Arr**	**39.86**	**198**	P	**P**	**07 34 36.5**	**-0.5**
	comp=Z,4.8nm,0.8s,baz=24,slow=8.5,SNR=17						
FITZ	**Fitzroy Crossi**	**41.63**	**211**	P	**P**	**07 34 51.8**	**+0.2**
	comp=Z,2.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**41.63**	**211**	P	**P**	**07 34 51.8**	**+0.2**
	comp=Z,3.4nm,0.6s,baz=31,slow=11,SNR=9.2						
ASAR	**Alice Springs**	**43.51**	**197**	P	**P**	**07 35 06.1**	**-0.7**
ASAR	**Alice Springs**	**43.51**	**197**	P	**P**	**07 35 06.1**	**-0.7**
	comp=Z,1.8nm,0.6s,baz=18,slow=8.2,SNR=15						
SONM	**Songino Array**	**44.03**	**321**	P	**P**	**07 35 11.3**	**+0.4**
SONM				PcP	**PcP**	**07 36 55.4**	**0.0**
SONM	**Songino Array**	**44.03**	**321**	P	**P**	**07 35 11.3**	**+0.4**
	comp=Z,2.6nm,0.7s,baz=136,slow=8.9,SNR=16						
SONM				PcP	**PcP**	**07 36 55.4**	**0.0**
	comp=Z,0.4nm,0.6s,baz=120,slow=5.3,SNR=3.7						
SONM				LR	LR	07 54 40.4	
	comp=Z,142nm,18.2s,baz=6.2,slow=38						
SEY	**Seymchan**	**44.79**	**4**	*e*P	**P**	**07 35 16.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**45.16**	**278**	P	**P**	**07 35 20.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**45.16**	**278**	P	**P**	**07 35 20.6**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=72,slow=7.1,SNR=3.3						
CMAR				LR	LR	07 52 19.3	
	comp=Z,50nm,19.0s,baz=343,slow=34						
YAK	**Yakutsk**	**45.30**	**349**	*e*P	**P**	**07 35 21.2**	**+0.6**
ZAK	**Zakamensk**	**47.02**	**323**	*e*P	**P**	**07 35 34.2**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.8s						
STKA	**Stephens Creek**	**50.10**	**186**	*e*P	**P**	**07 35 58.3**	**+0.1**
STKA	**Stephens Creek**	**50.10**	**186**	P	**P**	**07 35 57.5**	**-0.7**
	comp=Z,7.6nm,0.9s,baz=354,slow=8.2,SNR=10						
STKA				LR	LR	07 55 25.1	
	comp=Z,123nm,19.8s,baz=26,slow=34						
BBOO	**Buckleboo**	**51.80**	**191**	*e*P	**P**	**07 36 11.2**	**+0.3**
	comp=Z,174nm,0.5s						
TIXI	**Tiksi**	**54.39**	**353**	*e*P	**P**	**07 36 28.9**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.2s						
NWAO	**Narrogin (SRO)**	**58.16**	**209**	LR	LR	08 04 07.2	
	comp=Z,64nm,18.2s,baz=312,slow=38						
ZAA0	**Zalesovo Array**	**58.89**	**323**	*e*P	**P**	**07 37 01.6**	**-0.1**
ZALV	**Zalesovo Beam**	**58.89**	**323**	P	**P**	**07 37 01.8**	**+0.2**
ZALV	**Zalesovo Beam**	**58.89**	**323**	P	**P**	**07 37 01.8**	**+0.2**
ZALV	**Zalesovo Beam**	**58.89**	**323**	P	**P**	**07 37 01.8**	**+0.2**
	comp=Z,6.6nm,0.6s,baz=106,slow=7.8,SNR=19						
MK31	**Makanchi Array**	**59.39**	**314**	*ce*P	**P**	**07 37 06.2**	**+0.9**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MK31	**Makanchi Array**	**59.39**	**314**	*e*P	**P**	**07 37 05.3**	**-0.1**
MKAR	**Makanchi Array**	**59.39**	**314**	P	**P**	**07 37 06.3**	**+0.9**
MKAR	**Makanchi Array**	**59.39**	**314**	P	**P**	**07 37 06.3**	**+0.9**
MKAR	**Makanchi Array**	**59.39**	**314**	P	**P**	**07 37 06.3**	**+0.9**
	comp=Z,3.4nm,0.6s,baz=90,slow=9.2,SNR=24						
MKAR				LR	LR	08 02 16.2	
	comp=Z,58nm,18.1s,baz=167,slow=36						
NVS	**Novosibirsk**	**59.98**	**323**	*e*P	**P**	**07 37 09.1**	**0.0**
NVS				pmax	pmax		
	comp=Z,5.0nm,0.7s						
NVS				pmax	pmax		
	comp=N,4.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.7s						
ILAR	**Eielson Array**	**63.63**	**26**	P	**P**	**07 37 32.8**	**-0.7**
ILAR	**Eielson Array**	**63.63**	**26**	P	**P**	**07 37 32.8**	**-0.7**
	comp=E,1.1nm,0.8s,baz=258,slow=5.5,SNR=11						
ILAR				LR	LR	08 02 58.2	
	comp=E,186nm,18.5s,baz=327,slow=34						
VOSK	**Vostochnaya**	**67.01**	**320**	P	**P**	**07 37 54.7**	**-0.9**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BVA0	**Borovoye Array**	**67.36**	**321**	*i* P	**P**	**07 37 57.5**	**-0.3**
BVA0				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BVAR	**Borovoye Array**	**67.36**	**321**	P	**P**	**07 37 58.6**	**+0.7**
BVAR	**Borovoye Array**	**67.36**	**321**	P	**P**	**07 37 58.6**	**+0.7**
BVAR	**Borovoye Array**	**67.36**	**321**	P	**P**	**07 37 58.6**	**+0.7**
	comp=Z,7.6nm,0.6s,baz=95,slow=9.1,SNR=36						
BVAR				LR	LR	08 06 49.5	
	comp=Z,89nm,20.5s,baz=66,slow=35						
BRVK	**Borovoye**	**67.43**	**321**	*e*P	**P**	**07 37 58.4**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KK31	**Karatay Array**	**67.72**	**310**	*ce*P	**P**	**07 38 00.7**	**+0.4**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KKAR	**Karatay Array**	**67.72**	**310**	*e*P	**P**	**07 38 01.2**	**+0.9**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KKAR	**Karatay Array**	**67.72**	**310**	*e*P	**P**	**07 38 01.2**	**+0.9**
	comp=Z,4.0nm,0.7s						
INK	**Inuvik**	**69.41**	**23**	*e*P	**P**	**07 38 10.6**	**+0.3**
INK	**Inuvik**	**69.41**	**23**	P	**P**	**07 38 10.5**	**+0.3**
	comp=Z,2.3nm,0.9s,baz=251,slow=11,SNR=4.6						
PPT	**Papeete**	**72.13**	**116**	LR	LR	08 04 27.1	
	comp=Z,3.2nm,19.7s,baz=341,slow=31						
ARU	**Arti**	**73.92**	**325**	*d i*P	**P**	**07 38 37.4**	**-0.2**
ARU						07 41 20.2	
ARU				S	**SKiKP**	**07 47 59.7**	**-0.8**
ARU				pmax	pmax		
	comp=Z,9.0nm,1.0s						
AB31	**Akbulak array**	**74.25**	**317**	*ce*P	**P**	**07 38 38.9**	**-0.8**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ABKAR	**Akbulak array**	**74.25**	**317**	*e*P	**P**	**07 38 39.0**	**-0.7**
	comp=Z,2.8nm,0.7s						
AKTO	**Aktyubinsk**	**75.27**	**319**	LR	LR	08 11 48.4	
	comp=Z,88nm,19.0s,baz=280,slow=36						
KLMR	**Klimovskoe**	**82.25**	**332**	*e*P	**P**	**07 39 21.8**	**-1.8**
KLMR				pmax	pmax		
	comp=Z,39nm,2.0s						
KEV	**Kevo**	**82.60**	**342**	*e*P	**P**	**07 39 26.6**	**+1.3**
KEV				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KEV	**Kevo**	**82.60**	**342**	*e*p	**P**	**07 39 26.6**	**+1.3**
	comp=Z,4.5nm,0.5s						
NVAR	**Mina Array Bea**	**82.69**	**52**	P	**P**	**07 39 27.7**	**+1.0**
NVAR	**Mina Array Bea**	**82.69**	**52**	P	**P**	**07 39 27.7**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=268,slow=6.2,SNR=12						
ARCES	**ARCESS Array B**	**83.16**	**342**	P	**P**	**07 39 29.6**	**+1.4**
ARCES	**ARCESS Array B**	**83.16**	**342**	P	**P**	**07 39 29.6**	**+1.4**
	comp=Z,9.2nm,0.6s,baz=66,slow=6.8,SNR=29						
ARCES				LR	LR	08 18 35.2	
	comp=Z,64nm,21.0s,baz=248,slow=37						
JOF	**Joensuu**	**84.77**	**335**	*e*P	**P**	**07 39 36.8**	**+0.3**
JOF				pmax	pmax		
	comp=Z,10.0nm,0.6s						
JOF	**Joensuu**	**84.77**	**335**	*e*p	**P**	**07 39 36.8**	**+0.3**
	comp=Z,10nm,0.6s						
FINES	**FINESS Array B**	**87.64**	**336**	P	**P**	**07 39 49.6**	**-1.0**
FINES	**FINESS Array B**	**87.64**	**336**	P	**P**	**07 39 49.6**	**-1.0**
	comp=Z,3.9nm,0.6s,baz=65,slow=5.1,SNR=19						
NOA	**NORSAR Array B**	**93.27**	**340**	P	**P**	**07 40 15.9**	**-1.1**
NOA	**NORSAR Array B**	**93.27**	**340**	P	**P**	**07 40 15.9**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=46,slow=4.5,SNR=3.3						
NOA				LR	LR	08 25 20.3	
	comp=Z,36nm,18.2s,baz=240,slow=38						

MEX 22 07:55:03.6±1.2**, 18°79N×104°55W, h15**km**, MD3.8, Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R15V		**0.65**	**54**	*e*P	Pg	07 55 13.5	-3.0
R15V				*i* S	Sg	07 55 21.8	-3.5
EZ5V		**1.12**	**52**	*e*P	Pb	07 55 22.2	-2.9
EZ5V				*i* S	Sb	07 55 36.0	-3.9
MMIG	**Aquila**	**1.24**	**113**	*i* P	Pn	07 55 22.6	-3.9
MMIG				*i* S	Sb	07 55 37.9	-4.7
SFJM	**Santa Fe**	**2.21**	**40**	*e*P	Pn	07 56 36.3	-3.7
SFJM				*i* S	Sn	07 56 02.3	-4.9
URUA	**Uruapan**	**2.42**	**75**	*i* P	Pn	07 55 41.2	-1.7
URUA				*e*S	Sn	07 56 07.7	-4.8
ZIIG	**Zihuatanejo**	**3.15**	**111**	*i* P	Pn	07 55 51.0	-1.7
ZIIG				*i* S	Sn	07 56 26.9	-3.3
ARIG	**Puente Sto Nin**	**4.01**	**97**	*i* P	Pn	07 56 02.5	-2.1
ARIG				*i* S	Sn	07 56 48.1	-3.4

*ISCJB **22** 08:19:29.3±0.8, 14°95N±0°07×95°20W±0°03, h10**km**, mb3.6/6, Error ellipse: s-maj=10.7km s-min=3.8km az=16.0*

*IDC **22** 08:19:32.7±2.7, 15°34N×94°86W, h0**km**, mb3.6/6, mb1 4.0/9, mb1mx3.8/26, mbtmp3.7/9, ML3.6/3, Error ellipse: s-maj=65.3km s-min=21.4km az=27.0*

*NEIC **22** 08:19:32.8, 14°94N×95°26W, h5**km**, MD4.0(MEX), After MEX.*

*MEX **22** 08:19:32.8±0.7, 14°94N×95°26W, h5**km±14km**, MD4.0*

ISC 22 08:19:30.7±1.0**, 14°97N**±0°09**×95°21W**±0°04**, h10**km**, n26, **σ1^{s}39/43, **mb3.8/6, Off coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.18**	**313**	*e*P	**Pb**	**08 19 52.0**	**-1.2**
HUIG				*i* S	**Sb**	**08 20 06.0**	**-2.5**
HUIG	**Huatulco**	**1.18**	**313**	*e*P	**Pb**	**08 19 52.0**	**-1.2**
HUIG				*i* S	**Sb**	**08 20 06.0**	**-2.5**
PCIG		**2.05**	**69**	*e*P	**Pn**	**08 20 03.7**	**-1.6**
PCIG				*i* S	**Sn**	**08 20 28.5**	**-2.5**
PCIG		**2.05**	**69**	*e*P	**Pn**	**08 20 03.7**	**-1.6**
PCIG				*i* S	**Sn**	**08 20 28.5**	**-2.5**
VHO	**Vista Hermosa**	**2.56**	**325**	*i* P	**Pn**	**08 20 12.0**	**-0.3**
VHO				*i* S

PET smax smax
comp=N,16µm,0.4s
PET Petropavlovsk 0.70 307 P **Pn** **08 21 46.7 +0.1**
PET *i* S **Sn** **08 21 56.0 -0.2**
UGLR Uglovaya 0.76 324 P **Pn** **08 21 47.9 +0.4**
UGLR *i* S **Sn** **08 21 58.4 +0.6**
SDLR Sedlovina 0.79 329 P **Pn** **08 21 48.1 +0.1**
SDLR *i* S **Sn** **08 21 58.5 -0.3**
SMAR Somma 0.81 325 P **Pn** **08 21 48.3 0.0**
SMAR *i* S **Sn** **08 21 58.7 -0.6**
AVH Avacha 0.83 323 P **Pn** **08 21 49.0 +0.5**
AVH *i* S **Sn** **08 22 00.2 +0.6**
MTVR Mutnovka 0.86 262 P **Pn** **08 21 49.5 +0.6**
MTVR *i* S **Sn** **08 22 00.8 +0.5**
KRER Koryakskii 0.86 325 P **Pn** **08 21 49.4 +0.4**
KRER *i* S **Sn** **08 22 00.3 -0.2**
KOK Koryaka 0.89 321 P **Pn** **08 21 49.7 +0.4**
KOK *i* S **Sn** **08 22 00.9 -0.2**
GRL Gorelyy 0.92 267 P **Pn** **08 21 50.7 +1.0**
GRL *i* S **Sn** **08 22 03.4 +1.7**
KRX Arik 0.94 324 P **Pn** **08 21 50.3 +0.3**
KRX *i* S **Sn** **08 22 01.8 -0.6**
ASAK Asacha 1.04 258 P **Pn** **08 21 52.7 +1.3**
ASAK *i* S **Sn** **08 22 06.5 +1.6**
PETK Petropavlovsk- 1.24 295 PN **Pn** **08 21 54.7 +0.6**
PETK S **Sn** **08 22 09.5 -0.1**
PETK pmax pmax
comp=Z,156nm,0.3s
PETK smax smax
comp=N,226nm,0.3s
PETK Petropavlovsk- 1.24 295 P **Pn** **08 21 54.6 +0.6**
comp=N,156nm,0.3s,baz=100,slow=20,SNR=712
PETK S **Sn** **08 22 09.5 -0.1**
comp=N,226nm,0.3s,baz=156,slow=18,SNR=35
GNL Ganaly 1.47 319 P **Pn** **08 21 58.0 +0.7**
GNL *i* S **Sn** **08 22 17.0 +1.7**
APC Apacha 1.50 283 P **Pn** **08 21 59.0 +1.4**
APC *i* S **Sn** **08 22 18.7 +2.8**
MIPR Malaya Ipel'ka 1.75 260 P **Pn** **08 22 01.8 +0.7**
PAU Pauzhetka 2.05 237 PN **Pn** **08 22 06.6 +1.5**
PAU S **Sn** **08 22 31.7 +2.3**
PAU Pauzhetka 2.05 237 P **Pn** **08 22 06.6 +1.5**
PAU *i* S **Sn** **08 22 31.7 +2.3**
TUMR Tumrok 2.71 7 P **Pn** **08 22 16.1 +1.9**
TUMR *i* S **Sn** **08 22 47.5 +1.8**
SKR Severo-Kuril's 2.89 230 *e*PN **Pn** **08 22 14.9 -1.7**
SKR Severo-Kuril's 2.89 230 P **Pn** **08 22 17.4 +0.8**
SKR *i* S **Sn** **08 22 50.4 +0.4**
KMNR Kamenistaya 3.18 7 P **Pn** **08 22 22.9 +2.1**
KMNR *i* S **Sn** **08 22 58.2 +0.7**
ESO Esso 3.37 352 PN **Pn** **08 22 23.6 +0.4**
ESO Esso 3.37 352 P **Pn** **08 22 23.6 +0.4**
BZMR Bezymyannaya 3.38 9 P **Pn** **08 22 25.8 +2.3**
KIRR Kirishev 3.38 7 P **Pn** **08 22 26.1 +2.5**
KIRR *i* S **Sn** **08 23 06.2 +3.7**
KPT Kopyto 3.39 6 P **Pn** **08 22 24.8 +1.2**
BZGR Bezymyannyi-Gr 3.41 11 P **Pn** **08 22 26.3 +2.5**
BZWR Bezymyannyi-We 3.41 9 P **Pn** **08 22 25.8 +1.9**
KOZ Kozyrevsk 3.46 3 P **Pn** **08 22 27.2 +2.6**
KOZR Kozyr 3.47 3 PN **Pn** **08 22 27.2 +2.5**
ZLN Zelenaya 3.50 11 P **Pn** **08 22 27.6 +2.6**
KRSR Krestovskiy 3.67 9 P **Pn** **08 22 29.2 +1.8**
SRDR Sredinnyy 3.72 1 P **Pn** **08 22 28.8 +0.7**
KLY Klyuchi 3.77 9 PN **Pn** **08 22 31.4 +2.7**
KLY Klyuchi 3.77 9 P **Pn** **08 22 31.4 +2.7**
KBTR Krutoberegovo 4.08 26 PN **Pn** **08 22 34.8 +1.8**
KBTR S **Sn** **08 23 20.6 +1.2**
KBTR Krutoberegovo 4.08 26 P **Pn** **08 22 34.8 +1.8**
KBTR *i* S **Sn** **08 23 20.6 +1.2**
BDR Baidarnaya 4.08 13 P **Pn** **08 22 36.1 +3.0**
SMKR Semkarok 4.13 15 P **Pn** **08 22 35.8 +2.0**
BKI Bering 4.59 53 PN **Pn** **08 22 39.8 -0.2**
BKI Bering 4.59 53 P **Pn** **08 22 39.8 -0.2**
BKI *i* S **Sn** **08 23 29.0 -3.0**
FX1 Attu Island--F 8.26 83 P **Pn** **08 23 31.1 +0.8**
comp=N,11nm,0.3s,baz=179,slow=15,SNR=46
FX1 S Sn 08 24 55.4 -6.7
comp=N,12nm,0.3s,baz=280,slow=23,SNR=9.0
ASAJ Asahikawa 14.10 240 P P 08 24 53.5 -3.4
comp=N,0.6nm,0.3s,baz=57,slow=17,SNR=5.3
YAK Yakutsk 18.53 312 *e*P **P** **08 25 44.2 -1.5**
YAK pmax pmax
comp=Z,20nm,0.9s
USRK Ussuriysk Arra 20.05 256 LR LR 08 35 36.1
comp=Z,65nm,18.2s,baz=150,slow=42
MJA0 Matsu Arr-Jizo 21.98 231 *e*P **P** **08 26 24.3 +0.9**
MJA0 pmax pmax
comp=Z,3.0nm,0.7s
MJAR Matsushiro Arr 21.99 232 P **P** **08 26 24.4 +0.8**
comp=Z,3.0nm,0.7s,baz=20,slow=9.4,SNR=9.6
TIXI Tiksi 23.39 336 *e*P **P** **08 26 38.0 +0.2**
TIXI pmax pmax
comp=Z,1.0nm,1.0s
ILAR Eielson Array 29.39 45 P **P** **08 27 31.5 -0.5**
comp=Z,0.9nm,0.7s,baz=267,slow=7.7,SNR=12
H11N2 WAKE ISLAND Hy 33.30 167 T T 09 03 55.0
baz=354,slow=0.7,SNR=328
H11N3 WAKE ISLAND Hy 33.32 167 T T 09 03 59.5
baz=354,slow=0.7,SNR=304
H11N1 WAKE ISLAND Hy 33.32 167 T T 09 03 56.3
baz=354,slow=0.7,SNR=517
INK Inuvik 34.45 37 P **P** **08 28 16.1 -0.1**
comp=Z,0.9nm,0.3s,baz=280,slow=6.1,SNR=9.5
H11S1 WAKE ISLAND Hy 34.48 168 T T 09 05 26.2
baz=354,slow=0.7,SNR=111
H11S3 WAKE ISLAND Hy 34.49 168 T T 09 05 27.1
baz=354,slow=0.7,SNR=217
H11S2 WAKE ISLAND Hy 34.50 168 T T 09 05 27.0
baz=354,slow=0.7,SNR=50
KURK Kurchatov 47.72 302 P **P** **08 30 03.6 -1.8**
KURK pmax pmax
comp=Z,1.0nm,0.4s
KURBB Kurchatov Arra 47.82 302 P **P** **08 30 03.6 -2.6**
comp=Z,0.8nm,0.4s,baz=60,slow=7.7,SNR=8.8
MKAR Makanchi Array 48.08 296 *e*P **P** **08 30 08.2 -0.1**
MKAR Makanchi Array 48.08 296 P **P** **08 30 05.8 -2.5**
comp=Z,0.3nm,0.3s,baz=54,slow=7.2,SNR=6.2
BVAR Borovoye Array 50.44 308 P **P** **08 30 24.6 -1.6**
BVAR pmax pmax
comp=Z,2.0nm,0.7s
BVAR Borovoye Array 50.44 308 P **P** **08 30 24.6 -1.6**
comp=Z,2.0nm,0.7s,baz=46,slow=8.3,SNR=3.9
AAK Ala-Archa 55.01 296 *e*P P 08 30 57.3 -3.0
AAK pmax pmax
comp=Z,2.0nm,1.0s
NVAR Mina Array Bea 56.21 69 P **P** **08 31 10.4 +1.4**
comp=Z,1.8nm,0.7s,baz=307,slow=7.5,SNR=15
PDAR Pinedale Array 58.04 60 P **P** **08 31 22.9 +1.0**
comp=Z,2.0nm,0.6s,baz=308,slow=3.0,SNR=21
ULM Lac du Bonnet 59.39 46 P **P** **08 31 30.5 -0.4**
comp=Z,1.7nm,0.5s,baz=325,slow=4.9,SNR=4.2
ANMO Albuquerque 65.34 64 P **P** **08 32 10.1 -1.0**
comp=Z,0.4nm,0.6s,baz=332,slow=7.6,SNR=5.7
TXAR Lajitas Array 71.12 66 P **P** **08 32 47.9 +0.6**
comp=Z,1.8nm,0.6s,baz=301,slow=4.4,SNR=12
MLR Muntele Rosu 74.50 328 LR LR 09 06 55.4
comp=Z,9.5nm,19.4s,baz=25,slow=37
WRA Warramunga Arr 75.50 204 P **P** **08 33 12.7 -0.2**
comp=Z,0.7nm,0.7s,baz=21,slow=6.1,SNR=7.2
ASAR Alice Springs 79.18 204 P **P** **08 33 33.2 -0.2**
comp=Z,0.3nm,0.4s,baz=12,slow=5.1,SNR=7.2

BJI ***22*** *08:34:00.8,3.˚13N×126.˚87E,h35km,mB5.1/32,mb4.9/41, Ms4.7/31,Ms7 4.3/29*
BKK ***22*** *08:34:02.3±0.4,4.˚N±4.˚×12.˚7E±.˚,h10km,M5.2/27, mB5.6/10,mb5.0/27,MLv5.5/4,Mw(mB)5.1/10*
MOS ***22*** *08:34:05.1±1.3,3.˚75N×126.˚67E,h33km,mb5.3/19,Error ellipse: s-maj=13.7km s-min=5.9km az=115.8*
IDC ***22*** *08:34:06.8±2.1,3.˚66N×126.˚57E,h31km±14km,mb4.5/30, mb1 4.5/32,mb1mx4.5/35,mbtmp4.5/32,ML4.2/2,MS4.1/19, Ms1 4.1/19,ms1mx3.8/41,Error ellipse: s-maj=18.0km s-min=8.5km az=79.0*
NEIC ***22*** *08:34:07.2±0.2,3.˚67N×126.˚65E,h35km,mb4.9/20,Error ellipse: s-maj=8.5km s-min=4.9km az=80.0*
ISCJB ***22*** *08:34:08.8±0.5,3.˚74N±0.˚02×126.˚78E±0.˚03,h67km±4km, mb4.8/86,Error ellipse: s-maj=5.4km s-min=3.5km az=158.2*
DJA ***22*** *08:34:11.9±0.4,4.˚N±4.˚×12.˚7E±.˚,h20km,M5.1/11, mB5.4/11,mb5.2/11,MLv5.4/3,Mw(mB)4.8/11*
AUST ***22*** *08:34:14.8±0.5,3.˚39N×126.˚68E,h97km,Error ellipse:*

s-maj=1.6km s-min=0.7km az=28.0
ISC 22 08:34:08.4±0.3,3˚68N±0.˚03×126˚70E±0.˚04,h44km±2km, n259,σ1s67/300,mb4.8/86,MS4.1/32,5C-3D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
SGSI	**Sangihe**	**1.17**	**270**	P	**Pn**	**08 34 28.0**	**-0.4**
SGSI				S	**Sn**	**08 34 47.5**	**+4.3**
GSPH	**General Santos**	**2.96**	**324**	⇑P	**Pn**	**08 34 52.9**	**-0.1**
TNTI	**Ternate**	**2.96**	**167**	P	**Pn**	**08 34 54.5**	**+1.5**
TNTI				S	**Sn**	**08 35 29.6**	**+2.3**
MATI	**Mati**	**3.27**	**352**	*e*P	Pn	08 35 01.5	+4.3
KMSI	**Cibinong**	**4.11**	**221**	P	Pn	08 35 14.2	+5.4
CTBH	**Cotabato--PC H**	**4.28**	**325**	*e*P	**Pn**	**08 35 13.7**	**+2.6**
CTBH				*i* S	**Sn**	**08 36 04.5**	**+4.6**
BUKP	**Musuan**	**4.48**	**339**	*e*P	**Pn**	**08 35 15.6**	**+1.8**
BUKP				*e*S	Sn	08 35 53.3	-11
CGP	**Cagayan de Oro**	**5.15**	**337**	*e*P	**Pn**	**08 35 25.6**	**+2.6**
CGP				*i* S	Sn	08 36 29.9	+8.8
PAGZ	**Pagadian**	**5.30**	**322**	*e*P	**Pn**	**08 35 27.1**	**+2.1**
MRSI	**Marisa**	**5.73**	**236**	P	**Pn**	**08 35 33.5**	**+2.6**
	385nm,0.8s,3µm						
MRSI				S	**Sn**	**08 36 38.9**	**+3.5**
	385nm,0.8s,3µm						
LUWI	**Luwuk**	**6.12**	**220**	P	Pn	08 35 42.9	+6.6
	690nm,1.1s,6µm						
LUWI	**Luwuk**	**6.12**	**220**	P	Pn	08 35 42.9	+6.6
	baz=5.9,SNR=8.8						
SWI	**Sorong**	**6.41**	**135**	P	**Pn**	**08 35 41.8**	**+1.5**
	241nm,1.2s,3µm						
SWI	**Sorong**	**6.41**	**135**	P	**Pn**	**08 35 42.0**	**+1.7**
	baz=6.2,SNR=4.6						
TOLI	**Toli-Toli**	**6.43**	**247**	P	Pn	08 35 48.9	+8.3
NLAI	**Namlea**	**6.89**	**177**	P	**Pn**	**08 35 49.2**	**+2.4**
	100nm,0.6s,5µm						
MYLDM	**Lahad Datu**	**8.31**	**281**	P	Pn	08 36 11.3	+4.9
MYLDM	**Lahad Datu**	**8.31**	**281**	P	Pn	08 36 10.3	+3.9
	155nm,1.0s,2µm						
MYLDM	**Lahad Datu**	**8.31**	**281**	*e*Pn	Pn	08 36 10.0	+3.5
PALU	**Palau**	**8.55**	**64**	P	**Pn**	**08 36 09.0**	**-0.7**
	baz=8.7,SNR=19						
FAKI	**Fak Fak**	**8.59**	**140**	P	**Pn**	**08 36 13.0**	**+2.8**
	115nm,1.1s,1µm						
FAKI	**Fak Fak**	**8.59**	**140**	P	**Pn**	**08 36 11.8**	**+1.6**
	baz=8.4,SNR=11						
TSM	**Tawau**	**8.83**	**274**	P	Pn	08 36 18.6	+5.1
TTSI	**Tana Toraja**	**9.59**	**226**	P	Pn	08 36 27.9	+4.0
	158nm,1.1s,2µm						
SDKM	**Sandakan**	**9.68**	**282**	P	Pn	08 36 29.7	+4.5
MMSI	**Mamuju**	**10.04**	**231**	P	**Pn**	**08 36 33.2**	**+3.1**
	71nm,1.0s,917nm						
SPSI	**Sidrap Palu**	**10.28**	**222**	P	Pn	08 36 37.6	+4.2
	47nm,1.1s,2µm						
KDM	**Kudat**	**10.34**	**289**	P	Pn	08 36 42.3	+8.1
BNSI	**Bone**	**10.39**	**219**	P	Pn	08 36 40.4	+5.5
	60nm,1.1s,998nm						
BAKI	**Biak**	**10.57**	**117**	P	Pn	08 36 41.3	+3.9
KKM	**Kota Kinabalu**	**10.71**	**283**	P	Pn	08 36 45.2	+5.8
KKM	**Kota Kinabalu**	**10.71**	**283**	*e*Pn	**Pn**	**08 36 39.2**	**-0.2**
KKM				*e*Sn	**Sn**	**08 38 35.8**	**-2.3**
KKM	**Kota Kinabalu**	**10.71**	**283**	P	Pn	08 36 44.3	+4.9
	baz=11,SNR=7.5						
KAPI	**Kappang**	**11.08**	**219**	Pn	Pn	08 36 41.9	-2.5
KAPI	**Kappang**	**11.08**	**219**	Pn	Pn	08 36 41.9	-2.5
	0.6nm,0.3s,baz=54,slow=14,SNR=2.1						
KAPI				LR	LR	08 41 51.5	
	comp=Z,1µm,18.9s,baz=58,slow=42						
SOEI	**Soe**	**13.57**	**190**	P	Pn	08 37 23.1	+4.6
BATI	**Baumata**	**14.12**	**192**	P	**P**	**08 37 30.2**	**-2.4**
BATI	**Baumata**	**14.12**	**192**	Pn	Pn	08 37 23.1	-2.9
BATI	**Baumata**	**14.12**	**192**	Pn	Pn	08 37 23.1	-2.9
	2.5nm,0.3s,baz=67,slow=13,SNR=2.6						
SBUM	**Sibu**	**14.51**	**266**	P	**P**	**08 37 37.9**	**+1.0**
SBUM	**Sibu**	**14.51**	**266**	P	**P**	**08 37 34.9**	**-2.0**
SBUM	**Sibu**	**14.51**	**266**	*e*Pn	**P**	**08 37 34.6**	**-2.3**
JAY	**Jayapura**	**15.29**	**114**	P	**P**	**08 37 46.6**	**+1.0**
JAY	**Jayapura**	**15.29**	**114**	P	**P**	**08 37 46.4**	**+0.9**
	baz=15,SNR=17						
MTNI	**Mataram**	**16.12**	**221**	P	**P**	**08 37 54.7**	**-0.1**
SRBI	**Singaraja**	**16.37**	**224**	P	**P**	**08 37 59.6**	**+2.1**
KSM	**Kuching**	**16.52**	**263**	P	**P**	**08 38 02.1**	**+2.9**
KSM	**Kuching**	**16.52**	**263**	P	**P**	**08 38 01.8**	**+2.6**
KSM	**Kuching**	**16.52**	**263**	*e*Pn	**P**	**08 38 00.9**	**+1.7**
KSM				*e*Sn	Sn	08 40 36.8	-23
KSM	**Kuching**	**16.52**	**263**	P	**P**	**08 38 01.6**	**+2.4**
	baz=16,SNR=9.7						
MTN	**Manton Dam**	**17.00**	**165**	P	**Pn**	**08 38 01.8**	**-1.2**
	baz=17,SNR=9.0						
KDU	**Kakadu**	**17.24**	**161**	P	**Pn**	**08 38 06.4**	**+0.3**
	baz=17,SNR=8.8						
KNRA	**Kununurra**	**19.34**	**174**	P	**P**	**08 38 30.1**	**-0.1**
	baz=19,SNR=15						
TPUB	**Ta-pu**	**20.37**	**344**	*e*P	**P**	**08 38 39.4**	**-2.0**
	66nm,1.0s						
SSLB	**Suanglung**	**20.75**	**345**	*e*P	**P**	**08 38 44.1**	**-1.4**
	33nm,0.9s						
YHNB	**Yeheng**	**21.49**	**347**	*e*P	**P**	**08 38 54.8**	**+1.2**
	32nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.67**	**183**	*e*P	**P**	**08 38 55.2**	**-0.2**
FITZ				S	**S**	**08 42 48.3**	**-4.8**
FITZ	**Fitzroy Crossi**	**21.67**	**183**	P	**P**	**08 38 55.2**	**-0.2**
	baz=22,SNR=22						
FITZ	**Fitzroy Crossi**	**21.67**	**183**	P	**P**	**08 38 54.6**	**-0.9**
	10nm,0.6s,baz=13,slow=11,SNR=19						
FITZ				S	**S**	**08 42 48.3**	**-4.8**
	5.9nm,1.0s,baz=186,slow=19,SNR=5.9						
QIZ	**Qiongzhong**	**22.45**	**314**	P	**P**	**08 39 04.3**	**+0.4**
QIZ				S	**S**	**08 43 11.1**	**+3.3**
QIZ				AMB	AMB		
	comp=Z,25nm,1.5s						
QIZ				AMB	AMB		
	comp=Z,110nm,4.7s						
QIZ				LR	LR		
	comp=Z,630nm,19.1s						
MYKOM	**Kota Tinggi**	**22.90**	**266**	P	**P**	**08 39 10.4**	**+1.7**
KGM	**Kluang**	**23.41**	**267**	P	**P**	**08 39 15.0**	**+1.2**
KTGM	**Kuala Trenggan**	**23.55**	**275**	P	**P**	**08 39 16.9**	**+1.8**
COEN	**Coen**	**23.96**	**137**	*e*P	**P**	**08 39 18.6**	**-0.3**
	84nm,0.9s						
PMG	**Port Moresby**	**24.18**	**123**	LR	LR	08 50 13.6	
	comp=Z,393nm,19.0s,baz=231,slow=40						
WRAB	**Tennant Creek**	**24.64**	**163**	*e*P	**P**	**08 39 24.4**	**-0.6**
WRAB				*e*S	**S**	**08 43 43.7**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,58nm,0.8s						
WRAB	**Tennant Creek**	**24.64**	**163**	*e*P	**P**	**08 39 24.4**	**-0.6**
	comp=Z,58nm,0.8s						
WRAB				*e*S	**S**	**08 43 43.7**	**+0.1**
WRA	**Warramunga Arr**	**24.65**	**163**	P	**P**	**08 39 24.9**	**-0.2**
WRA				S	**S**	**08 43 39.6**	**-4.1**
WRA				ScP	**ScP**	**08 46 38.2**	**+0.8**
WRA	**Warramunga Arr**	**24.65**	**163**	P	**P**	**08 39 24.9**	**-0.2**
	comp=Z,56nm,0.8s,baz=343,slow=10,SNR=153						
WRA				S	**S**	**08 43 39.6**	**-4.1**
	comp=Z,1.9nm,0.8s,baz=346,slow=16,SNR=4.2						
WRA				ScP	**ScP**	**08 46 38.2**	**+0.8**
	comp=Z,2.9nm,0.8s,baz=344,slow=3.3,SNR=6.7						
FRIM	**Kepong**	**25.04**	**270**	P	**P**	**08 39 29.5**	**+0.8**
MBWA	**Marble Bar**	**25.61**	**195**	*e*P	**P**	**08 39 34.4**	**+0.6**
	comp=Z,11nm,0.7s						
IPM	**Ipoh**	**25.62**	**273**	P	**P**	**08 39 34.7**	**+0.6**
IPM	**Ipoh**	**25.62**	**273**	*e*P	**P**	**08 39 34.4**	**+0.3**
SKNT	**Sakolnakorn**	**25.92**	**302**	P	**P**	**08 39 36.8**	**+0.1**
	comp=Z,84nm,1.1s,comp=Z,7µm						
KULM	**Kulim**	**26.02**	**274**	P	**P**	**08 39 41.0**	**+3.4**
KULM	**Kulim**	**26.02**	**274**	*e*P	**P**	**08 39 37.9**	**+0.2**
	comp=Z,23nm,1.0s						
CHAI	**Chaiyaphum**	**27.17**	**298**	P	**P**	**08 39 48.6**	**+0.6**
	comp=Z,5.4nm,0.8s,comp=Z,2µm						
JCJ	**Chichijima**	**27.59**	**31**	LR	LR	08 49 19.0	
	comp=Z,324nm,18.2s,baz=343,slow=33						
PSI	**Prapat**	**27.75**	**269**	P	**P**	**08 39 52.6**	**-0.7**
PSI	**Prapat**	**27.75**	**269**	P	**P**	**08 39 53.5**	**+0.1**
	baz=28,SNR=5.0						
PSI	**Prapat**	**27.75**	**269**	P	**P**	**08 39 52.6**	**-0.7**
	comp=Z,15nm,0.9s,baz=102,slow=2.8,SNR=7.4						
PSI				LR	LR	08 51 52.9	
	comp=Z,386nm,20.0s,baz=263,slow=39						
AS31	**Alice Springs**	**28.07**	**166**	*e*P	**P**	**08 39 55.7**	**-0.3**
ASAR	**Alice Springs**	**28.07**	**166**	P	**P**	**08 39 55.8**	**-0.2**
ASAR				PcP	**PcP**	**08 43 10.4**	**+0.6**
ASAR				S	**S**	**08 44 38.5**	**+0.5**
ASAR				ScP	**ScP**	**08 46 47.1**	**-0.4**
ASAR	**Alice Springs**	**28.07**	**166**	P	**P**	**08 39 55.8**	**-0.2**
	comp=Z,2.1nm,0.5s,baz=351,slow=7.6,SNR=48						
ASAR				PcP	**PcP**	**08 43 10.4**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=352,slow=2.1,SNR=4.2						
ASAR				S	**S**	**08 44 38.5**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=350,slow=21,SNR=6.0						
ASAR				ScP	**ScP**	**08 46 47.1**	**-0.4**
	comp=Z,1.4nm,0.9s,baz=5.7,slow=2.8,SNR=4.5						
SURT	**Suratani**	**28.22**	**282**	P	**P**	**08 39 59.5**	**+2.1**
	comp=Z,5.0nm,0.9s						
PBKT	**Sadao Pong**	**28.33**	**299**	P	**P**	**08 39 59.2**	**+0.9**
	comp=Z,24nm,1.2s						
LOEI	**Loei**	**28.47**	**301**	P	**P**	**08 39 56.6**	**-3.0**
	comp=Z,44nm,1.1s,comp=Z,778nm						
PKDT	**Phuket**	**28.52**	**280**	P	**P**	**08 40 00.6**	**+0.5**
	comp=Z,28nm,0.4s,comp=Z,10µm						
JNU	**Nakatsue**	**29.55**	**7**	P	**P**	**08 40 09.2**	**+0.2**
JNU	**Nakatsue**	**29.55**	**7**	P	**P**	**08 40 09.2**	**+0.2**
	comp=Z,8.7nm,1.0s,baz=200,slow=9.5,SNR=4.1						
JNU				LR	LR	08 51 52.3	
	comp=Z,151nm,18.7s,baz=13,slow=36						
GYA	**Guiyang**	**29.69**	**322**	*e*P	**P**	**08 40 13.0**	**+2.5**
GYA				pP	**pP**	**08 40 21.3**	**-0.9**
GYA				sP	**sP**	**08 40 27.8**	**+0.3**
GYA				PP	**PnPn**	**08 41 10.5**	**+3.4**
GYA				PcP	**PcP**	**08 43 15.0**	**+1.0**
GYA				S	**S**	**08 45 05.4**	**+1.9**
GYA				sS	**sS**	**08 45 23.9**	**+0.6**
GYA				SS	**SnSn**	**08 46 41.3**	**+5.6**
GYA				ScP	**ScP**	**08 46 52.5**	**-0.2**
GYA				ScS	**ScS**	**08 50 45.3**	**-2.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
GYA				AMB	AMB		
	comp=Z,90nm,4.8s						
GYA				LR	LR		
	comp=Z,480nm,17.0s						
GYA				LR	LR		
	comp=Z,390nm,18.0s						
GYA				LR	LR		
	comp=Z,420nm,17.4s						
CRAI	**Chiangrai**	**30.48**	**305**	P	**P**	**08 40 17.2**	**-0.2**
	comp=Z,8.1nm,1.1s						
CMAR	**Chiang Mai Arr**	**30.87**	**301**	P	**P**	**08 40 20.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**30.87**	**301**	P	**P**	**08 40 20.9**	**+0.1**
	comp=Z,3.2nm,0.4s,baz=119,slow=7.6,SNR=15						
CMAR				LR	LR	08 54 52.7	
	comp=Z,178nm,18.4s,baz=360,slow=40						
CHTO	**Chiang Mai**	**31.02**	**301**	*e*P	**P**	**08 40 22.1**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,89nm,1.2s						
CHTO	**Chiang Mai**	**31.02**	**301**	*e*P	**P**	**08 40 22.1**	**-0.1**
	comp=Z,89nm,1.2s						
CHTO	**Chiang Mai**	**31.02**	**301**	P	**P**	**08 40 22.3**	**+0.1**
	comp=Z,72nm,1.2s						
ENH	**Enshi**	**31.06**	**330**	*e*P	**P**	**08 40 22.2**	**-0.1**
	comp=Z,6.7nm,0.6s						
MEEK	**Meekatharra**	**31.14**	**194**	P	**P**	**08 40 23.3**	**+0.2**
	baz=31,SNR=8.0						
KMI	**Kunming**	**31.39**	**315**	P	**P**	**08 40 27.6**	**+1.9**
KMI				S	**S**	**08 45 33.3**	**+2.8**
KMI				AMB	AMB		
	comp=Z,16nm,0.8s						
KMI				LR	LR		
	comp=Z,190nm,13.9s						
KMI				LR	LR		
	comp=Z,310nm,16.0s						
KMI				LR	LR		
	comp=Z,480nm,26.1s						
CMAI	**Chiengmai2**	**31.43**	**303**	P	**P**	**08 40 25.8**	**-0.2**
	comp=Z,12nm,1.1s						
KSAR	**Wonju Array Be**	**33.62**	**2**	P	**P**	**08 40 45.2**	**+0.6**
KSRS	**Korea Array**	**33.63**	**2**	P	**P**	**08 40 45.2**	**+0.5**
	comp=Z,5.1nm,0.8s,baz=176,slow=9.6,SNR=13						
KSRS				LR	LR	08 55 42.5	
	comp=Z,223nm,19.8s,baz=307,slow=38						
MORW	**Morawa**	**34.13**	**197**	P	**P**	**08 40 49.8**	**+0.5**
	baz=34,SNR=3.8						
MJAR	**Matsushiro Arr**	**34.38**	**17**	P	**P**	**08 40 50.9**	**-0.5**
MJAR	**Matsushiro Arr**	**34.38**	**17**	P	**P**	**08 40 50.9**	**-0.5**
	comp=Z,1.7nm,1.0s,baz=208,slow=7.6,SNR=3.4						
MJAR				LR	LR	08 55 42.8	
	comp=Z,215nm,18.1s,baz=200,slow=38						
XAN	**Xi'an**	**34.45**	**333**	P	**P**	**08 40 49.9**	**-2.1**
XAN				pP	**pP**	**08 41 00.4**	**-3.5**
XAN				sP	sP	08 41 05.6	-3.5
XAN				AMB	AMB		
	comp=Z,5.0nm,1.0s						
XAN				AMB	AMB		
	comp=Z,33nm,5.2s						
XAN				LR	LR		
	comp=Z,230nm,18.3s						
CD2	**Chengdu**	**34.67**	**324**	P	**P**	**08 40 53.3**	**-0.7**
CD2				pP	**pP**	**08 41 03.3**	**-2.5**
CD2				sP	sP	08 41 07.5	-3.6
CD2				PP	**PnPn**	**08 42 11.1**	**+0.3**
CD2				S	**S**	**08 46 20.6**	**-0.3**
CD2				sS	sS	08 46 37.3	-3.5
CD2				AMB	AMB		
	comp=Z,20nm,0.5s						
CD2				AMB	AMB		
	comp=Z,270nm,5.5s						
CD2				LR	LR		
	comp=Z,520nm,7.7s						
CD2				LR	LR		
	comp=Z,420nm,17.8s						
HNR	**Honiara**	**35.60**	**112**	LR	LR	08 54 23.3	
	comp=Z,240nm,19.3s,baz=112,slow=34						
BBOO	**Buckleboo**	**37.36**	**167**	P	**P**	**08 41 18.6**	**+1.7**
	baz=37,SNR=12						
BJT	**Baijiatuau**	**37.41**	**347**	*e*P	**P**	**08 41 17.5**	**+0.4**
	comp=Z,127nm,1.1s						
BJI	**Beijing**	**37.43**	**347**	P	**P**	**08 41 17.9**	**+0.6**
BJI				S	**S**	**08 47 05.8**	**+3.1**
BJI				AMB	AMB		
	comp=Z,91nm,0.9s						
BJI				AMB	AMB		
	comp=Z,240nm,3.3s						
BJI				LR	LR		
	comp=Z,160nm,26.5s						
BJI				LR	LR		
	comp=Z,240nm,25.0s						
NWAO	**Narrogin (SRO)**	**37.50**	**193**	P	**P**	**08 41 17.3**	**-0.8**
NWAO	**Narrogin (SRO)**	**37.50**	**193**	P	**P**	**08 41 17.3**	**-0.8**
	comp=Z,8.1nm,0.7s,baz=47,slow=6.6,SN

HHC AMB AMB
comp=Z,440nm,8.4s
HHC LR LR
comp=Z,730nm,15.5s
HHC LR LR
comp=Z,440nm,16.7s
HHC LR LR
comp=Z,610nm,15.5s
SHL Shillong 39.88 306 *e*P **P 08 41 36.0 -2.4**
SHL *e*S **S 08 47 39.0 -1.6**
CN2 Changchun 39.97 359 *e*P **P 08 41 38.3 -0.3**
CN2 *e*pP **pP 08 41 47.9 -2.7**
CN2 *e*PP **PnPn 08 43 15.0 +0.2**
CN2 *e*S **S 08 47 41.3 +0.4**
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,200nm,18.0s
USRK Ussuriysk Arra 40.62 6 P **P 08 41 44.4 +0.4**
comp=Z,3.0nm,0.5s,baz=189,slow=7.5,SNR=18
MDJ Mudanjiang 40.85 3 P **P 08 41 47.3 +1.4**
MDJ pP **pP 08 41 55.9 -2.0**
MDJ sP sP 08 42 00.3 -2.8
MDJ PcP PcP 08 43 39.4 -6.7
MDJ S **S 08 47 55.9 +1.9**
MDJ AMB AMB
comp=Z,23nm,1.1s
MDJ AMB AMB
comp=Z,80nm,5.1s
MDJ Mudanjiang 40.85 3 *e*P **P 08 41 47.0 +1.2**
comp=Z,29nm,1.0s
ARMA Armidale 41.44 147 P **P 08 41 52.4 +1.3**
baz=41,SNR=8.4
LSA Lhasa 42.45 311 P **P 08 41 59.3 -0.5**
LSA Lhasa 42.45 311 *e*P **P 08 42 00.1 +0.3**
LSA pmax pmax
comp=Z,13nm,0.7s
LSA Lhasa 42.45 311 *e*P **P 08 42 00.1 +0.3**
comp=Z,13nm,0.7s
ASAJ Asahikawa 42.65 17 P **P 08 42 01.4 +0.8**
ASAJ Asahikawa 42.65 17 P **P 08 42 01.4 +0.8**
comp=Z,16nm,1.0s,baz=291,slow=20,SNR=3.6
ARPS Mount Arapiles 42.65 162 P P 08 42 04.3 +3.6
baz=43,SNR=6.5
GTA Gaotai 43.12 329 *e*P **P 08 42 03.9 -0.8**
GTA pP **pP 08 42 13.9 -3.0**
GTA sP sP 08 42 17.9 -4.2
GTA PcP **PcP 08 43 55.3 +1.4**
GTA S **S 08 48 28.1 0.0**
GTA sS sS 08 48 44.3 -4.1
GTA AMB AMB
comp=Z,5.0nm,1.2s
GTA AMB AMB
comp=Z,160nm,6.2s
GTA LR LR
comp=Z,200nm,19.9s
GTA LR LR
comp=Z,430nm,20.0s
GTA LR LR
comp=Z,480nm,20.4s
TAPN Taplejung 44.02 306 *e*P **P 08 42 11.4 -1.0**
comp=Z,63nm,1.2s
ODAN Odare 44.08 306 *e*P **P 08 42 11.7 -1.0**
comp=Z,21nm,0.6s
RAMN Ramite 44.76 305 *e*P **P 08 42 17.4 -0.8**
comp=Z,18nm,0.6s
HABR Khabarovsk 45.20 8 *e*P **P 08 42 18.6 -2.3**
HABR *e**PP pP 08 42 28.4 -4.8
HABR *e*S **S 08 48 56.9 -0.8**
HABR *e**SS sS 08 49 13.6 -4.4
HABR *e* 08 52 12.7
HABR *e*SSS SSS 08 53 08.8
HABR pmax pmax
comp=Z,110nm,2.6s
HABR MLR MLR
comp=Z,150nm,18.0s
JIRN Jiri 45.38 306 *e*P **P 08 42 22.3 -0.9**
KLR Kul'dur 45.59 5 *e*P **P** 08 42 20.6 -3.5
KLR pmax pmax
comp=Z,43nm,1.4s
GUN Gumba 45.73 306 *e*P **P 08 42 25.1 -0.9**
comp=Z,60nm,1.0s
PKI Pulchoki 45.98 305 *e*P **P 08 42 26.6 -1.3**
PKIN Phulchoki 45.99 305 *e*P **P 08 42 27.3 -0.6**
KKN Kakani 46.17 306 *e*P **P 08 42 28.0 -1.3**
DMN Daman 46.24 305 *e*P **P 08 42 28.8 -1.1**
GKN Gorkha 46.77 306 *e*P **P 08 42 32.5 -1.5**
comp=Z,13nm,0.6s
SONM Songino Array 47.34 341 P **P 08 42 37.2 -0.8**
SONM PcP **PcP 08 44 08.5 +0.1**
SONM Songino Array 47.34 341 P **P 08 42 37.2 -0.8**
comp=Z,4.9nm,0.7s,baz=160,slow=7.6,SNR=27
SONM PcP **PcP**
comp=Z,1.8nm,0.8s,baz=157,slow=3.7,SNR=3.7 **08 44 08.5 +0.1**
SONM LR LR 09 05 12.7
comp=Z,179nm,18.2s,baz=166,slow=39
KOLN Koldanda 47.53 305 *e*P **P 08 42 38.7 -1.2**
comp=Z,26nm,0.5s
DANN Dangsing 47.62 306 *e*P **P 08 42 39.6 -1.1**
comp=Z,43nm,0.5s
HYB Hyderabad 49.11 290 *i* P **P 08 42 51.0 -1.0**
ZAK Zakamensk 50.56 341 *e*P **P 08 42 59.5 -3.1**
ZAK *e* 08 44 19.1
ZAK pmax pmax
comp=Z,2.0nm,1.4s
ZAK pmax pmax
comp=Z,5.0nm,1.2s
TLY Talaya 51.57 342 *e*P **P 08 43 11.5 +1.5**
TLY pmax pmax
comp=Z,12nm,1.4s
TLY MLR MLR
comp=Z,166nm,20.0s
IRK Irkutsk 51.87 343 *e*P **P 08 43 11.9 -0.4**
IRK pmax pmax
comp=Z,30nm,1.8s
WMQ Urumqi 52.75 325 P **P 08 43 18.8 -0.2**
WMQ pP **pP 08 43 28.8 -2.7**
WMQ sP sP 08 43 32.8 -3.8
WMQ PcP **PcP 08 44 28.0 -0.2**
WMQ S **S 08 50 43.4 -0.8**
WMQ ScS **ScS 08 53 02.5 -2.8**
WMQ SS **SS 08 54 21.3 -2.0**
WMQ AMB AMB
comp=Z,14nm,0.9s
WMQ AMB AMB
comp=Z,200nm,5.4s
WMQ LR LR
comp=Z,290nm,6.4s
WMQ LR LR
comp=Z,240nm,7.2s
WMQ LR LR
comp=Z,270nm,22.4s
NDI New Delhi 53.12 303 *e*P P 08 43 18.0 -4.0
HVS Khovu-Aksy 54.77 335 *e*P **P 08 43 33.8 +0.1**
PETK Petropavlovsk- 55.48 22 P **P 08 43 39.2 +0.5**
PETK Petropavlovsk- 55.48 22 P **P 08 43 39.2 +0.5**
PETK Petropavlovsk- 55.48 22 P P **08 43 39.2 +0.5**
comp=Z,9.5nm,0.9s,baz=224,slow=8.1,SNR=10
PETK LR LR 09 08 16.0
comp=Z,94nm,18.4s,baz=118,slow=37
MK31 Makanchi Array 57.58 325 *ce*P **P 08 43 52.5 -1.3**
MK31 pmax pmax
comp=Z,2.0nm,0.3s
MK31 Makanchi Array 57.58 325 *e*P **P 08 43 52.8 -1.0**
MKAR Makanchi Array 57.58 325 P **P 08 43 52.6 -1.2**
MKAR Makanchi Array 57.58 325 P **P 08 43 52.6 -1.2**
MKAR ScP **ScP 08 48 46.9 +3.5**
MKAR Makanchi Array 57.58 325 P **P 08 43 52.6 -1.2**
comp=Z,5.4nm,0.6s,baz=121,slow=7.9,SNR=36
MKAR ScP **ScP 08 48 46.9 +3.5**
comp=Z,1.4nm,0.8s,baz=131,slow=4.0,SNR=5.6
MKAR LR LR 09 10 25.7
comp=Z,194nm,18.2s,baz=253,slow=38
KSH Kashi 58.06 315 P **P 08 43 58.8 +1.4**
KSH pP **pP 08 44 12.1 +2.1**
KSH sP **sP 08 44 16.0 +0.9**
KSH PP **PP 08 46 10.0 +3.6**
KSH S S 08 52 00.8 +5.4
KSH sS **sS 08 52 18.4 +2.1**
KSH SS SS 08 55 57.3 +10
KSH AMB AMB
comp=Z,74nm,1.8s
KSH LR LR
comp=Z,93nm,4.7s
KSH LR LR
comp=Z,100nm,6.0s
KSH LR LR
comp=Z,150nm,6.7s
YAK Yakutsk 58.26 2 *e*P **P 08 43 57.5 -0.7**
ULHL Ulahol 59.04 318 *i* P **P 08 44 04.9 +0.6**
ULHL Ulahol 59.04 318 P **P 08 44 04.9 +0.6**
SNR=11
KZA Kyzart 59.63 318 *i* P **P 08 44 09.8 +1.2**
KZA Kyzart 59.63 318 P **P 08 44 09.8 +1.2**
SNR=8.8
TKM2 Tokmak 2 59.77 319 *i* P **P 08 44 09.9 +0.6**
TKM2 Tokmak 2 59.77 319 P **P 08 44 09.9 +0.6**
SNR=14
KBK Karagaybulak 60.08 318 *i* P **P 08 44 12.5 +1.0**
KBK Karagaybulak 60.08 318 P **P 08 44 12.5 +1.0**
SNR=6.9
AAK Ala-Archa 60.37 318 *e*P **P 08 44 14.1 +0.7**
AAK Ala-Archa 60.37 318 *e*P **P 08 44 14.1 +0.7**
AAK Ala-Archa 60.37 318 P **P 08 44 13.6 +0.2**
comp=Z,3.4nm,0.7s,baz=116,slow=7.3,SNR=13
AAK LR LR 09 14 11.5
comp=Z,124nm,19.7s,baz=84,slow=40
FRU Bishkek 60.38 318 *e*P **P 08 44 12.0 -1.3**
ZALV Zalesovo Beam 60.62 333 P **P 08 44 12.8 -1.8**
ZALV Zalesovo Beam 60.62 333 P **P 08 44 12.8 -1.8**
ZALV Zalesovo Beam 60.62 333 P **P 08 44 12.8 -1.8**
comp=Z,2.7nm,0.6s,baz=123,slow=7.1,SNR=11
ZALV LR LR 09 11 49.8
comp=Z,93nm,18.9s,baz=250,slow=37
USP Ospenovka 60.64 319 *i* P **P 08 44 15.6 +0.5**
USP Ospenovka 60.64 319 P **P 08 44 15.6 +0.5**
SNR=16
AML Almayashu 60.71 317 *i* P **P 08 44 16.9 +0.9**
AML Almayashu 60.71 317 P **P 08 44 16.9 +0.9**
SNR=8.3
EKS2 Erkin-Say 60.87 318 *e*P **P 08 44 17.3 +0.6**
EKS2 pmax pmax
comp=Z,22nm,1.1s
EKS2 Erkin-Say 60.87 318 P **P 08 44 17.7 +1.0**
SNR=13
EKS2 Erkin-Say 60.87 318 *e*P **P 08 44 17.3 +0.6**
comp=Z,22nm,1.1s
KBL Kabul 61.53 307 *e*P **P 08 44 20.4 -1.1**
KBL pmax pmax
comp=Z,15nm,1.0s
KBL Kabul 61.53 307 *e*P **P 08 44 20.4 -1.1**
comp=Z,15nm,1.0s
KURBB Kurchatov Arra 61.77 327 P **P 08 44 21.4 -1.1**
comp=Z,8.4nm,0.6s,baz=130,slow=6.4,SNR=57
KURK Kurchatov 61.77 328 P **P 08 44 21.4 -1.1**
KURK Kurchatov 61.77 328 P **P 08 44 21.4 -1.1**
NVS Novosibirsk 61.90 333 *e*P **P 08 44 21.6 -1.7**
NVS pmax pmax
comp=Z,14nm,1.5s
SEY Seymchan 62.09 13 *e*P **P 08 44 26.9 +2.5**
URZ Urewera 62.52 137 P **P 08 44 27.4 -0.4**
URZ Urewera 62.52 137 P **P 08 44 27.4 -0.4**
comp=Z,10nm,0.8s,baz=146,slow=2.9,SNR=5.5
URZ LR LR 09 11 45.4
comp=Z,249nm,19.0s,baz=308,slow=36
KK31 Karatay Array 63.25 317 *ce*P **P 08 44 32.0 -0.6**
KK31 pmax pmax
comp=Z,19nm,0.9s
KKAR Karatay Array 63.25 317 *e*P **P 08 44 32.3 -0.3**
KKAR pmax pmax
comp=Z,29nm,1.1s
KKAR Karatay Array 63.25 317 *e*P **P**
comp=Z,29nm,1.1s **08 44 32.3 -0.3**
VOSK Vostochnaya 66.89 327 P **P 08 44 54.6 -1.4**
VOSK pmax pmax
comp=Z,21nm,1.0s
BVA0 Borovoye Array 67.35 327 *i* P **P 08 44 57.6 -1.3**
BVA0 pmax pmax
comp=Z,36nm,1.1s
BVAR Borovoye Array 67.35 327 P **P 08 44 58.1 -0.8**
BVAR Borovoye Array 67.35 327 P **P 08 44 58.1 -0.8**
BVAR Borovoye Array 67.35 327 P **P 08 44 58.1 -0.8**
comp=Z,20nm,1.0s,baz=104,slow=6.1,SNR=48
BRVK Borovoye 67.42 327 *e*P **P 08 44 58.8 -0.5**
BRVK pmax pmax
comp=Z,57nm,1.2s
BRVK Borovoye 67.42 327 *e*P **P 08 44 58.5 -0.8**
comp=Z,48nm,1.0s
TIXI Tiksi 67.89 1 *e*P **P 08 45 01.6 -0.3**
TIXI pmax pmax
comp=Z,6.0nm,1.0s
AB31 Akbulak array 72.17 321 *ce*P **P 08 45 27.6 -1.0**
AB31 pmax pmax
comp=Z,4.0nm,0.5s
ABKAR Akbulak array 72.17 321 *e*P **P 08 45 27.6 -1.1**
comp=Z,16nm,1.0s
AKTO Aktyubinsk 73.68 322 P **P 08 45 35.3 -2.3**
AKTO Aktyubinsk 73.68 322 P **P 08 45 35.3 -2.3**
AKTO Aktyubinsk 73.68 322 P **P 08 45 35.3 -2.3**
comp=Z,9.1nm,0.7s,baz=113,slow=11
AKTO LR LR 09 20 18.8
comp=Z,190nm,21.5s,baz=298,slow=38
ARU Arti 74.96 328 *d* iP **P 08 45 42.7 -2.2**
ARU S **S 08 55 18.2 -1.0**
ARU SS **SS 09 00 02.1 -6.2**
ARU pmax pmax
comp=Z,139nm,1.2s
RDF Al-Radifah 78.74 299 *e*P **P 08 46 05.4 -1.4**
RDF AMb AMB 08 46 17.1
comp=Z,46nm,1.5s
NAY Al-Naaiem 79.02 299 *e*P **P 08 46 06.0 -2.2**
NAY AMb AMB 08 46 08.4
comp=Z,24nm,1.4s
RST Umm Al-Ruwaisa 79.24 299 *e*P **P 08 46 07.6 -1.9**
ABPO Ambohimpanom 81.27 250 *e*P **P 08 46 20.6 -0.2**
ABPO pmax pmax
comp=Z,10.0nm,0.9s
ABPO Ambohimpanom 81.27 250 *e*P **P**
comp=Z,10nm,0.9s **08 46 20.6 -0.2**
ZEI Tsey 82.23 313 *e*P **P 08 46 24.3 -1.2**
ZEI pmax pmax
comp=Z,12nm,1.4s
IMA2 Indian Mountai 82.44 24 *e*P **P 08 46 27.5 +1.6**
KBZ Khabaz 82.99 313 LR LR 09 29 09.9
comp=Z,68nm,19.5s,baz=162,slow=40
VNDA Vanda 83.38 173 *e*P **P 08 46 31.4 +1.0**
VNDA Vanda 83.38 173 P **P 08 46 30.0 -0.4**
comp=Z,3.0nm,0.9s,baz=321,slow=6.9,SNR=14
VNDA LR LR 09 25 37.2
comp=Z,83nm,18.9s,baz=346,slow=37
MAW Mawson 83.70 200 P **P 08 46 33.1 +0.9**
MAW Mawson 83.70 200 P **P 08 46 33.1 +0.9**
comp=Z,5.4nm,1.0s,baz=78,slow=6.8,SNR=7.5
ILAR Eielson Array 85.16 25 P **P 08 46 40.5 +0.7**
ILAR Eielson Array 85.16 25 P **P 08 46 40.5 +0.7**
comp=Z,1.4nm,1.0s,baz=247,slow=4.6,SNR=8.6
ILAR LR LR 09 27 01.8
comp=Z,244nm,18.7s,baz=107,slow=37
KLMR Klimovskoe 85.43 331 *e*P **P 08 46 38.2 -2.9**
KLMR pmax pmax
comp=Z,87nm,1.3s
TMCR Tamitsa 86.13 334 *e*P P 08 46 48.0 +3.5
TMCR *e* 08 50 11.4
TMCR pmax pmax
comp=Z,15nm,0.5s
MOS Moscow 86.46 325 *e*P **P 08 46 43.9 -2.4**
MOS pmax pmax
comp=Z,74nm,1.1s
OBN Obninsk 87.08 325 *e*P **P 08 46 47.6 -1.8**
OBN *i* 08 46 58.4
OBN pmax pmax
comp=Z,26nm,1.4s
KMBO Kilima Mbogo 89.52 269 P **P 08 47 02.4 +0.2**
KMBO Kilima Mbogo 89.52 269 P **P 08 47 02.4 +0.2**
comp=Z,14nm,1.1s,baz=61,slow=4.4,SNR=15
BR131 Keskin Array S 90.03 310 *e*P **P 08 47 03.0 -0.9**
comp=Z,5.1nm,0.9s
BRTR Keskin Array B 90.03 310 P **P 08 47 02.5 -1.5**
BRTR Keskin Array B 90.03 310 P **P 08 47 02.5 -1.5**
comp=Z,5.0nm,0.9s,baz=120,slow=5.2,SNR=18
ARCES ARCESS Array B 90.48 340 P **P 08 47 04.1 -1.1**
ARCES ARCESS Array B 90.48 340 P **P 08 47 04.1 -1.1**
comp=Z,3.8nm,0.8s,baz=82,slow=6.5,SNR=11
FINES FINESS Array B 91.86 332 P **P 08 47 11.4 -0.3**
FINES FINESS Array B 91.86 332 P **P 08 47 11.4 -0.3**
comp=Z,1.3nm,0.5s,baz=46,slow=6.0,SNR=2.7
AKASG Malin Array Be 91.91 321 P **P 08 47 11.0 -1.2**
AKASG Malin Array Be 91.91 321 P **P 08 47 10.9 -1.2**
comp=Z,1.5nm,0.6s,baz=66,slow=2.5,SNR=14
SYO Syowa Base 92.37 201 ⇓*e*P **P 08 47 14.2 +0.4**
KOLS Kolonicke sedl 96.67 320 *e*P **P 08 47 34.7 +0.6**
KOLS Kolonicke sedl 96.67 320 *e*P **P 08 47 34.7 +0.6**
UZH Uzhgorod 96.72 320 ⇓*i*P **P 08 47 33.3 -1.0**
UZH *e* 08 47 41.7
UZH *e* 08 47 49.5
NB2 NORSAR Subarra 98.82 334 P **P 08 47 42.9 -0.6**
comp=Z,4.0nm,1.0s,baz=68,slow=4.4
NB2 NORSAR Subarra 98.82 334 P **P 08 47 42.9 -0.6**
baz=68,slow=4.4
NOA NORSAR Array B 98.82 334 P **P 08 47 41.0 -2.5**
NOA NORSAR Array B 98.82 334 P **P 08 47 41.0 -2.5**
comp=Z,2.3nm,0.9s,baz=77,slow=4.0,SNR=4.7
TXAR Lajitas Array 121.65 52 PKP **PKPdf 08 53 00.4 +2.1**
TXAR Lajitas Array 121.65 52 PKP **PKPdf 08 53 00.4 +2.1**
comp=Z,0.4nm,0.8s,baz=222,slow=1.2,SNR=2.8
TORD Torodi Ar. Bea 122.91 288 PKP **PKPdf 08 53 00.4 -0.5**
TORD Torodi Ar. Bea 122.91 288 PKP **PKPdf 08 53 00.4 -0.5**
comp=Z,1.1nm,1.0s,baz=69,slow=2.5,SNR=5.0
JCT Junction City 124.11 49 *e*PKIKP **PKPdf 08 53 03.3 +0.4**
JCT Junction City 124.11 49 *e*PKPdf **PKPdf 08 53 03.3 +0.4**

IDC 22 08:35:05.8±1.4, 15°27S×173°01W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/20, mbtmp4.2/3, MS3.5/1, Ms1 3.5/1, ms1mx3.1/29, Error ellipse: s-maj=57.6km s-min=23.9km az=134.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.80**	**41**	Pn	Pn	08 35 36.9	-1.4
	44nm,0.3s,baz=48,slow=7.8,SNR=54						
AFI				Sn	Sn	08 35 54.5	-7.4
	168nm,0.3s,baz=220,slow=17,SNR=23						
URZ	**Urewera**	**24.50**	**199**	P	P	08 40 26.8	0.0
	3.6nm,0.5s,baz=0.0,slow=4.0,SNR=5.5						
RPZ	**Rata Peaks**	**31.44**	**202**	LR	LR	08 51 04.6	
	comp=Z,84nm,20.3s,baz=280,slow=30						
H11S2	**WAKE ISLAND Hy**	**39.05**	**329**	T	T	09 24 13.3	
	baz=151,slow=0.7						
H11S3	**WAKE ISLAND Hy**	**39.06**	**328**	T	T	09 24 11.2	
	baz=151,slow=0.7						
H11S1	**WAKE ISLAND Hy**	**39.07**	**329**	T	T	09 24 15.2	
	baz=151,slow=0.7						
H11N3	**WAKE ISLAND Hy**	**39.99**	**330**	T	T	09 25 29.5	
	baz=152,slow=0.7,SNR=12						
H11N1	**WAKE ISLAND Hy**	**40.00**	**330**	T	T	09 25 29.9	
	baz=152,slow=0.7,SNR=15						
H11N2	**WAKE ISLAND Hy**	**40.01**	**330**	T	T	09 25 31.0	
	baz=152,slow=0.7,SNR=15						
WRA	**Warramunga Arr**	**50.24**	**257**	P	P	08 44 03.3	-0.9
	3.0nm,0.8s,baz=90,slow=6.7,SNR=6.0						
ASAR	**Alice Springs**	**50.51**	**252**	P	P	08 44 05.5	-0.7
	2.0nm,0.7s,baz=88,slow=8.0,SNR=11						
BRTR	**Keskin Array B**	**146.30**	**321**	PKPbc	PKPab	08 54 50.4	+0.7
	1.3nm,0.8s,baz=60,slow=3.0,SNR=6.1						

NNC 22 08:38:45.4±7.4, 36°80N×71°05E, h124km±150km, mb2.9, mpv3.5, 3C-1D, Error ellipse: s-maj=98.3km s-min=42.6km az=53.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.30**	**356**	⇓P	Pn	08 40 16.3	+0.3
	1.0nm,0.2s,baz=182,slow=12,SNR=4.2						
KK31				⇑S	Sn	08 41 27.2	+0.5
	0.4nm,0.3s,baz=185,slow=23,SNR=3.7						
TKM2	**Tokmak 2**	**7.04**	**28**	⇑P	Pn	08 40 25.7	-0.5
	1.9nm,0.5s						
AB31	**Akbulak array**	**14.84**	**330**	⇑P	Pn	08 42 08.9	0.0
	0.5nm,0.6s,baz=146,slow=14,SNR=8.9						

*ISCJB **22** 08:47:43.7±0.5, 36°50N±0°03×70°76E±0°07, h188km, mb3.6/8, Error ellipse: s-maj=8.3km s-min=3.5km az=159.5*
*IDC **22** 08:47:43.3±4.4, 36°38N×70°85E, h190km±32km, mb3.5/9, mb1 3.6/14, mb1mx3.4/33, mbtmp3.5/14, Error ellipse: s-maj=38.1km s-min=20.6km az=169.0*
*NNC **22** 08:47:51.5±2.4, 36°97N×70°91E, h218km±20km, mb3.1, mpv4.4, Error ellipse: s-maj=21.2km s-min=13.1km az=26.0*

ISC 22 08:47:44.9±0.6, 36°58N±0°05×70°80E±0°07, h188km, n43, σ1°87/51, mb3.7/8, 5C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.89**	**161**	⇓P	Pn	08 48 36.5	+3.7
CEP				S	**Sn**	**08 49 14.0**	**+3.8**
CHCP	**Chirah Chowk**	**3.54**	**144**	P	Pn	08 48 44.1	+3.5
THW	**Thamme Wali**	**3.85**	**168**	⇑P	**Pn**	**08 48 47.3**	**+2.8**
SARP	**Sargodha**	**4.90**	**161**	P	**Pn**	**08 49 00.8**	**+3.1**
THN	**Thein Dam**	**5.79**	**134**	*e*P	**Pn**	**08 49 08.5**	**-0.8**
THN				*e*S	**Sn**	**08 50 13.3**	**-2.5**
AML	**Almayashu**	**5.98**	**21**	P	**Pn**	**08 49 13.9**	**+1.8**
	SNR=193						
DHRM	**DHARAMSHALA**	**6.27**	**132**	*e*P	**Pn**	**08 49 17.5**	**+1.8**
DHRM				*e*S	**Sn**	**08 50 25.4**	**-2.0**
DHRM				AML	AML	08 50 26.9	
	comp=E,683nm,0.4s						
DHRM				AML	AML	08 50 28.2	
	comp=N,370nm,0.6s						
KZA	**Kyzart**	**6.49**	**31**	P	**Pn**	**08 49 20.1**	**+1.4**
	SNR=15						
EKS2	**Erkin-Say**	**6.50**	**20**	P	**Pn**	**08 49 20.4**	**+1.8**
	SNR=22						
KK31	**Karatay Array**	**6.52**	**358**	⇓P	**Pn**	**08 49 20.6**	**+1.9**
	comp=N,7.5nm,0.3s,baz=189,slow=13,SNR=193						
KK31				⇓S	**Sn**	**08 50 31.6**	**-1.3**
	comp=N,14nm,0.5s,baz=184,slow=22,SNR=7.5						
AAK	**Ala-Archa**	**6.69**	**24**	P	**Pn**	**08 49 23.1**	**+2.1**
	SNR=56						
AAK	**Ala-Archa**	**6.69**	**24**	P	**Pn**	**08 49 23.1**	**+2.1**
	comp=N,20nm,0.3s,baz=178,slow=5.7,SNR=117						
AAK				S	**Sn**	**08 50 37.9**	**+0.8**
	comp=N,4.2nm,0.3s,baz=315,slow=19,SNR=13						
KBK	**Karagaybulak**	**6.87**	**27**	P	**Pn**	**08 49 25.6**	**+2.3**
	SNR=14						
ULHL	**Ulahol**	**7.06**	**35**	P	**Pn**	**08 49 27.6**	**+1.6**
	SNR=21						
CHMS	**Chumysh**	**7.10**	**24**	P	**Pn**	**08 49 27.9**	**+1.6**
	SNR=15						
USP	**Ospenovka**	**7.26**	**22**	P	**Pn**	**08 49 30.4**	**+1.9**
	SNR=16						
TKM2	**Tokmak 2**	**7.33**	**29**	⇓P	**Pn**	**08 49 30.9**	**+1.3**
	comp=N,41nm,0.8s						
TKM2				⇓S	**Sn**	**08 50 51.6**	**-0.8**
	comp=N,24nm,0.8s						
TKM2	**Tokmak 2**	**7.33**	**29**	P	**Pn**	**08 49 31.3**	**+1.7**
	SNR=54						
SMLA	**Simla**	**7.59**	**134**	*i* P	**Pn**	**08 49 33.8**	**+1.0**
SMLA				*i* S	**Sn**	**08 50 54.8**	**-3.5**
SMLA				*i* S	**Sn**	**08 50 55.4**	**-2.8**
SMLA				AML	AML	08 50 56.9	
	comp=E,1μm,0.0s						
SMLA				AML	AML	08 50 57.6	
	comp=N,843nm,0.3s						
DDI	**Dehra Dun**	**8.70**	**134**	*ex*	**Sn**	**08 51 28.6**	**+3.8**
KUDL	**Kundal**	**9.69**	**149**	*e*P	**Pn**	**08 49 59.0**	**-1.2**
KUDL				*e*S	Sn	08 51 40.2	-8.1
KUDL				AML	AML	08 51 43.5	
	comp=E,17nm,0.5s						
KUDL				AML	AML	08 51 45.4	
	comp=N,10nm,0.4s						
SONA	**Sohna**	**9.85**	**146**	*e*P	**Pn**	**08 50 01.4**	**-1.0**
SONA				*e*S	Sn	08 51 43.9	-8.5
SONA				AML	AML	08 51 48.9	
	comp=E,35nm,0.3s						
SONA				AML	AML	08 51 49.0	
	comp=N,20nm,0.1s						
MK31	**Makanchi Array**	**13.33**	**36**	P	**Pn**	**08 50 46.9**	**+0.1**
	comp=N,1.2nm,0.5s,baz=217,slow=14,SNR=35						
MKAR	**Makanchi Array**	**13.33**	**36**	P	**Pn**	**08 50 46.8**	**0.0**
	comp=N,1.1nm,0.3s,baz=218,slow=13,SNR=22						
MKAR				S	**S**	**08 53 20.8**	**+3.4**
	baz=230,slow=26,SNR=2.5						
BHPL	**Bhopal**	**14.47**	**155**	*e*P	**P**	**08 51 02.3**	**-0.5**
BHPL				*e*S	Sn	08 53 35.7	-7.2
AB31	**Akbulak array**	**14.94**	**331**	⇑P	**P**	**08 51 10.2**	**+2.6**
	comp=N,1.4nm,0.4s,baz=143,slow=12,SNR=39						

AB31 ⇑S Sn 08 53 51.5 -2.0
comp=N,1.2nm,0.7s,baz=158,slow=22,SNR=2.6
KURBB **Kurchatov Arra 15.10 19** ⇓P P 08 51 09.3 -0.2
comp=N,2.0nm,0.4s
KURBB **Kurchatov Arra 15.10 19** P Pn 08 51 08.4 -0.3
comp=N,0.6nm,0.3s,baz=206,slow=11,SNR=12
BVA0 **Borovoye Array 16.45 359** P Pn 08 51 26.2 +1.3
baz=0.0,slow=0.1,SNR=5.0
BVAR **Borovoye Array 16.45 359** P P 08 51 24.5 +0.2
comp=N,0.6nm,0.3s,baz=160,slow=12,SNR=5.2
AKTO **Aktyubinsk 16.63 330** ⇑P P 08 51 26.3 -0.1
comp=N,4.2nm,0.9s
AKTO ⇑S S 08 54 27.5 -2.7
AKTO **Aktyubinsk 16.63 330** P P 08 51 26.2 -0.1
comp=N,0.5nm,0.3s,baz=140,slow=10.0,SNR=7.2
BOK **Bokaro 18.20 130** *e*P Pn 08 51 55.7 +10
BOK *ex* x 08 52 41.4
ZALV **Zalesovo Beam 19.91 25** P P 08 52 01.5 -0.4
comp=N,4.7nm,0.3s,baz=216,slow=10,SNR=26
SONM **Songino Array 28.43 55** P P 08 53 21.9 -0.1
comp=N,0.6nm,0.7s,baz=262,slow=11,SNR=4.7
FINES **FINESS Array B 37.33 326** P P 08 54 39.3 +0.6
comp=N,2.3nm,0.8s,baz=94,slow=7.2,SNR=2.7
ARCES **ARCESS Array B 41.01 338** P P 08 55 09.4 +0.3
comp=N,1.6nm,0.4s,baz=112,slow=7.8,SNR=21
NB2 **NORSAR Subarra 44.22 323** P P 08 55 34.4 -0.7
comp=Z,0.6nm,0.5s,baz=97,slow=7.9
NOA **NORSAR Array B 44.22 323** P P 08 55 34.6 -0.5
comp=Z,0.3nm,0.6s,baz=96,slow=7.8,SNR=4.0
TORD **Torodi Ar. Bea 65.56 268** P P 08 58 06.6 -2.1
comp=Z,0.6nm,0.5s,baz=49,slow=5.9,SNR=7.2
INK **Inuvik 73.86 9** P P 08 58 58.0 -0.4
comp=Z,1.4nm,0.6s,baz=323,slow=4.8,SNR=7.8
ILAR **Eielson Array 74.75 16** P P 08 59 02.1 -1.5
comp=Z,0.4nm,0.8s,baz=343,slow=5.6,SNR=4.3
YKA **Yellowknife Ar 81.18 3** P P 08 59 37.9 -1.2
comp=Z,1.1nm,0.5s,baz=352,slow=5.3,SNR=3.8

ISCJB ***22*** *08:51:15.4±0.3, 18°.60N±0°.03×104°.36W±0°.02, h10km, mb4.8/111, MS4.4/15, Error ellipse: s-maj=4.0km s-min=3.1km az=22.6*

MEX ***22*** *08:51:20.6±0.7, 18°.81N×104°.42W, h5km, MD4.6*

NEIC ***22*** *08:51:24.3±0.6, 18°.87N×104°.25W, h53km±5km, mb4.6/91, MD4.6(MEX), Error ellipse: s-maj=7.6km s-min=3.6km az=220.0*

NEIC Felt [III] at Manzanillo. Also felt at Cihuatlan, Colima and Tapalpa.

IDC ***22*** *08:51:24.7±3.0, 19°.02N×104°.25W, h53km±24km, mb4.4/25, mb1 4.5/29, mb1mx4.5/36, mbtmp4.4/29, ML3.7/4, MS4.3/16, Ms1 4.3/16, ms1mx4.1/28, Error ellipse: s-maj=23.3km s-min=13.8km az=39.0*

GCMT ***22*** *08:51:26.4±0.4, 18°.90N×104°.44W, h25km±1km, MW5.0, Moment Tensor Solution. s38,c48; s77,c117; Moment tensor: Scale 10^16 Nm; Mrr 2.97±.18; Mθθ -2.13±.12; Mφφ -0.83±.12; Mrθ 3.06±.27; Mθφ 1.65±.08; Mφr -1.68±.26; Best double couple: M0 4.70000×10^16 NP1: θ 120.00000°, δ 69.00000°, λ 87.00000°. NP2: θ 309.00000°, δ 21.00000°, λ 99.00000°. Principal axes: T 4.5400, Plg 66.0000°, Azm 24.0000°; N 0.2700, Plg 3.0000°, Azm 121.0000°; P -4.8100, Plg 24.0000°, Azm 213.0000°; Data Used: II IU CN G IC.*

BJI ***22*** *08:51:29.0, 19°.10N×104°.20W, h97km, mB5.1/2*

ISC 22 08:51:19.6±0.7, 18°.75N±0°.03×104°.42W±0°.03, h16km±4km, n630, σ1§34/547, mb4.8/110, MS4.5/15, 177C-180D, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
R15V		**0.59**	**44**	*e*P		**Pg**		**08 51 30.0**	**-1.3**
R15V				*i* S		**Sg**		**08 51 38.6**	**-0.5**
CJM	**Chamela**	**0.95**	**322**	*e*P		P*g*		08 51 35.5	-2.6
CJM				*e*S		**Sg**		**08 51 48.0**	**-2.7**
CJM	**Chamela**	**0.95**	**322**	*e*P		P*g*		08 51 35.5	-2.6
CJM				*e*S		**Sg**		**08 51 48.0**	**-2.7**
EZ5V		**1.06**	**46**	*e*P		**Pg**		**08 51 38.7**	**-1.5**
EZ5V				*i* S		**Sg**		**08 51 51.5**	**-2.7**
MMIG	**Aquila**	**1.11**	**114**	*e*P		**Pg**		**08 51 39.5**	**-1.6**
MMIG				*e*S		**Sg**		**08 51 54.1**	**-1.6**
MMIG	**Aquila**	**1.11**	**114**	*e*P		**Pg**		**08 51 39.5**	**-1.6**
MMIG				*i* S		**Sg**		**08 51 55.9**	**+0.3**
ANIG	**Ahuacatlan**	**2.30**	**358**	*e*P		**Pn**		**08 51 55.6**	**-1.3**
ANIG				*i* S		**Sn**		**08 52 22.3**	**-2.7**
ANIG	**Ahuacatlan**	**2.30**	**358**	*e*P		**Pn**		**08 51 55.6**	**-1.3**
ANIG				*i* S		**Sn**		**08 52 23.3**	**-1.7**
ZIIG	**Zihuatanejo**	**3.03**	**112**	*e*P		**Pn**		**08 52 06.2**	**-0.6**
ZIIG				*i* S		**Sn**		**08 52 43.0**	**+0.2**
ZIIG	**Zihuatanejo**	**3.03**	**112**	*e*P		**Pn**		**08 52 06.2**	**-0.6**
ZIIG				*i* S		**Sn**		**08 52 45.3**	**+2.5**
ARIG	**Puente Sto Nin**	**3.89**	**96**	*e*P		**Pn**		**08 52 19.0**	**+0.3**
ARIG				*i* S		**Sn**		**08 53 04.5**	**+0.3**
CAIG	**El Cayaco**	**4.30**	**112**	*e*P		**Pn**		**08 52 25.9**	**+1.6**
CAIG				*i* S		**Sn**		**08 53 16.0**	**+1.8**
CAIG	**El Cayaco**	**4.30**	**112**	*e*P		**Pn**		**08 52 25.9**	**+1.6**
CAIG				*i* S		**Sn**		**08 53 16.0**	**+1.8**
MEIG	**Mezcala**	**4.63**	**99**	*e*P		**Pn**		**08 52 30.4**	**+1.4**
MEIG				*i* S		**Sn**		**08 53 24.2**	**+1.7**
MEIG	**Mezcala**	**4.63**	**99**	*e*P		**Pn**		**08 52 30.4**	**+1.4**
MEIG				*i* S		**Sn**		**08 53 24.2**	**+1.7**
H06E1	**SOCORRO T-PHAS**	**6.17**	**271**	T		T		08 59 06.3	
	SNR=453								
H06S1	**SOCORRO T**	**6.20**	**271**	T		T		08 59 06.1	
	SNR=122								
H06N1	**SOCORRO T-PHAS**	**6.22**	**272**	T		T		08 59 14.3	
	SNR=67								
LPIG	**La Paz**	**7.65**	**315**	P		**Pn**		**08 53 10.6**	**+0.2**
LPIG	**La Paz**	**7.65**	**315**	P		**Pn**		**08 53 10.6**	**+0.2**
	2.2nm,0.3s,baz=99,slow=8.3,SNR=3.7								
TXAR	**Lajitas Array**	**10.56**	**4**	P		Pn		08 53 53.1	+2.6
TXAR	**Lajitas Array**	**10.56**	**4**	P		Pn		08 53 53.1	+2.6
	0.6nm,0.3s,baz=183,slow=14,SNR=69								
627A	**Terlingua Ranc**	**10.70**	**5**	⇓P		**Pn**		**08 53 54.4**	**+2.0**
	baz=11,SNR=29								
732A	**Laxson Ranch,**	**10.74**	**21**	⇑P		Pn		08 53 56.5	+3.7
	baz=11,SNR=13								
626A	**Big Bend Ranch**	**10.76**	**1**	⇓P		Pn		08 53 56.3	+3.1
	baz=11,SNR=14								
628A	**Black Gap, Mar**	**10.78**	**7**	⇓P		**Pn**		**08 53 55.3**	**+1.9**
	baz=11,SNR=22								
631A	**Perdido Creek**	**11.18**	**18**	⇑P		**Pn**		**08 54 01.4**	**+2.5**
	baz=11,SNR=9.8								
526A	**Mary Lane Ranc**	**11.27**	**1**	⇓P		**Pn**		**08 54 02.6**	**+2.4**
	baz=11,SNR=18								
527A	**Woodward Ranch**	**11.37**	**4**	⇑P		Pn		08 54 04.7	+3.1
	baz=11,SNR=24								
528A	**Cox Ranch, San**	**11.46**	**7**	⇑P		**Pn**		**08 54 05.0**	**+2.3**
	baz=11,SNR=9.3								
529A	**Stev Forest Ra**	**11.50**	**10**	⇓P		Pn		08 54 06.6	+3.3
	baz=11								
632A	**Uvalde**	**11.52**	**21**	⇓P		**Pn**		**08 54 06.0**	**+2.5**
	baz=11								
530A	**J-C Ranch, Com**	**11.69**	**13**	⇓P		**Pn**		**08 54 08.2**	**+2.3**
	baz=12,SNR=11								
426A	**McDonald Obser**	**11.88**	**2**	⇓P		Pn		08 54 11.1	+2.6
	baz=12,SNR=11								
531A	**Rocksprings**	**11.90**	**16**	⇑P		Pn		08 54 11.8	+3.0
	baz=12,SNR=9.0								
425A	**Indio Mountain**	**12.00**	**358**	⇓P		**Pn**		**08 54 12.4**	**+2.2**
	baz=12,SNR=24								
428A	**Kincaid Ranch,**	**12.03**	**7**	⇓P		Pn		08 54 14.4	+3.8
	baz=12,SNR=14								
429A	**Davenport Ranc**	**12.05**	**10**	⇓P		Pn		08 54 13.6	+2.9
	baz=12								
532A	**Rocksprings**	**12.05**	**19**	⇓P		Pn		08 54 13.6	+2.8
	baz=12,SNR=13								
427A	**Hayter Ranch,**	**12.09**	**4**	⇑P		Pn		08 54 14.5	+3.2
	baz=12,SNR=5.5								
430A	**Baggett Ranch,**	**12.33**	**13**	⇑P		Pn		08 54 18.8	+4.2
	baz=12,SNR=14								
431A	**Sonora**	**12.38**	**15**	⇓P		Pn		08 54 18.9	+3.6
	baz=12,SNR=18								
JCT	**Junction City**	**12.41**	**19**	*e*Pn		**Pn**		**08 54 18.0**	**+2.3**
JCT	**Junction City**	**12.41**	**19**	⇑P		**Pn**		**08 54 17.9**	**+2.2**
	baz=12								
326A	**Caldwell Ranch**	**12.52**	**2**	⇓P		Pn		08 54 20.6	+3.3
	baz=12,SNR=8.6								
325A	**Bean Ranch, Si**	**12.58**	**358**	⇓P		Pn		08 54 21.2	+3.0
	baz=12,SNR=23								
328A	**Wristen Ranch,**	**12.67**	**6**	⇑P		Pn		08 54 21.7	+2.5
	baz=13								
324A	**Moseley Ranch,**	**12.68**	**356**	⇑P		Pn		08 54 21.9	+2.5
	baz=13								
432A	**Menard**	**12.78**	**18**	⇓P		**Pn**		**08 54 23.2**	**+2.4**
	baz=13,SNR=16								
329A	**Wagon Wheel Ra**	**12.88**	**9**	⇑P		**Pn**		**08 54 24.1**	**+2.0**
	baz=13								
MNTX	**Cornudas Mount**	**12.93**	**356**	*e*Pn		**Pn**		**08 54 24.6**	**+1.9**
	15nm,1.0s								
MNTX				*e*Sn		Sn		08 57 25.8	+39
330A	**Mertzon**	**12.94**	**12**	⇑P		**Pn**		**08 54 24.4**	**+1.4**
	baz=13								
331A	**San Angelo**	**13.02**	**15**	⇑P		Pn		08 54 27.0	+3.0
	baz=13,SNR=14								
320A	**Kipp Ranch, An**	**13.08**	**344**	⇓P		Pn		08 54 27.4	+2.5
	baz=13								
227A	**Bennet, Jal**	**13.25**	**4**	⇑P		Pn		08 54 30.1	+2.9
	baz=13,SNR=5.3								
332A	**Millersview**	**13.27**	**18**	⇓P		**Pn**		**08 54 28.5**	**+1.1**
	baz=13								
226B	**Tecolote Peak,**	**13.28**	**1**	⇑P		Pn		08 54 30.2	+2.7
	baz=13,SNR=11								
224A	**Cornudas Mount**	**13.31**	**356**	⇓P		**Pn**		**08 54 30.3**	**+2.2**
	baz=13,SNR=13								
225A	**Deer Hill, Car**	**13.31**	**359**	⇓P		Pn		08 54 31.0	+2.8
	baz=13,SNR=14								
319A	**Douglas**	**13.32**	**342**	⇑P		Pn		08 54 31.5	+3.3
	baz=13,SNR=6.9								
229A	**Bryant Ranch,**	**13.37**	**10**	⇑P		**Pn**		**08 54 30.7**	**+1.9**
	baz=13,SNR=7.8								
GDL2	**Guadalupe Moun**	**13.40**	**0**	*e*Pn		Pn		08 54 31.9	+2.6
GDL2				*e*Sn		**Sn**		**08 56 54.8**	**-3.2**
228A	**UT Block 9, Go**	**13.42**	**7**	⇓P		**Pn**		**08 54 31.5**	**+2.0**
	baz=13,SNR=5.1								
230A	**Sterling City**	**13.42**	**12**	⇓P		**Pn**		**08 54 30.4**	**+0.9**
	baz=13								
HKT	**Hockley**	**13.62**	**33**	*e*Pn		P		08 54 38.1	-2.8
220A	**Playas Peak, P**	**13.62**	**345**	⇓P		**Pn**		**08 54 34.2**	**+2.0**
	baz=14,SNR=6.4								
231A	**Bronte**	**13.64**	**15**	⇑P		**Pn**		**08 54 33.9**	**+1.4**
	baz=14,SNR=7.0								
232A	**Coleman**	**13.78**	**17**	⇑P		**Pn**		**08 54 35.6**	**+1.2**
	baz=14,SNR=7.8								
126A	**Clayton Basin,**	**13.85**	**1**	⇑P		Pn		08 54 37.9	+2.5
	baz=14,SNR=6.7								
125A	**Gardner Draw,**	**13.86**	**359**	⇑P		Pn		08 54 38.6	+3.1
	baz=14,SNR=32								
APG	**El Apazote**	**13.86**	**103**	P		**Pn**		**08 54 38.3**	**+2.6**
APG	**El Apazote**	**13.86**	**103**	P		**Pn**		**08 54 38.3**	**+2.6**
	0.2nm,0.3s,baz=279,slow=19,SNR=5.4								
APG					LR	LR		08 59 47.1	
	comp=Z,2μm,19.3s,baz=288,slow=36								
127A	**Arkansas Junct**	**13.91**	**4**	⇓P		Pn		08 54 38.6	+2.4
	baz=14,SNR=10								
128A	**Castleberry Fa**	**13.93**	**7**	⇑P		**Pn**		**08 54 38.0**	**+1.5**
	baz=14,SNR=22								
124A	**Stringfield Ra**	**13.93**	**356**	⇑P		**Pn**		**08 54 38.8**	**+2.2**
	baz=14,SNR=18								
129A	**Stewart Farms,**	**14.02**	**9**	⇓P		**Pn**		**08 54 39.3**	**+1.7**
	baz=14,SNR=10								
121A	**Cookes Peak, D**	**14.06**	**348**	⇓P		Pn		08 54 40.7	+2.4
	baz=14								
122A	**Conniff Cattle**	**14.09**	**351**	⇓P		**Pn**		**08 54 40.3**	**+1.6**
	baz=14								
130A	**Snyder**	**14.14**	**12**	⇓P		**Pn**		**08 54 40.7**	**+1.4**
	baz=14,SNR=13								
120A	**U Bar Ranch, L**	**14.26**	**345**	⇓P		**Pn**		**08 54 42.4**	**+1.4**
	baz=14,SNR=7.4								
131A	**Roby**	**14.34**	**14**	⇑P		**Pn**		**08 54 42.5**	**+0.5**
	baz=14,SNR=6.9								
ABTX	**Abilene, Hawle**	**14.47**	**16**	*e*Pn		**Pn**		**08 54 44.7**	**+0.8**
ABTX	**Abilene, Hawle**	**14.47**	**16**	⇑P		**Pn**		**08 54 44.4**	**+0.6**
	baz=14,SNR=9.7								
Z26A	**Caprock**	**14.47**	**1**	⇓P		**Pn**		**08 54 45.9**	**+1.9**
	baz=14,SNR=14								
Z25A	**Roswell**	**14.48**	**359**	⇓P		**Pn**		**08 54 46.1**	**+2.0**
	baz=14,SNR=11								
Z23A	**Rita Site, Whi**	**14.55**	**354**	⇑P		**Pn**		**08 54 46.3**	**+1.3**
	baz=14,SNR=8.2								
Z24A	**Sheeppen Canyo**	**14.55**	**357**	⇑P		**Pn**		**08 54 47.2**	**+2.1**
	baz=14,SNR=17								
Z27A	**Tatum**	**14.55**	**4**	⇓P		**Pn**		**08 54 46.6**	**+1.6**
	baz=14,SNR=39								
Z28A	**Tucker Farm, M**	**14.60**	**7**	⇑P		**Pn**		**08 54 46.4**	**+0.8**
	baz=14,SNR=13								
WHTX	**Lake Whitney**	**14.61**	**24**	*e*Pn		**Pn**		**08 54 46.2**	**+0.6**
WHTX	**Lake Whitney**	**14.61**	**24**	⇑P		**Pn**		**08 54 46.0**	**+0.3**
	baz=14,SNR=9.1								
Z22A	**Elephant Butte**	**14.63**	**352**	⇑P		**Pn**		**08 54 48.5**	**+2.3**
	baz=15,SNR=9.6								
Z29A	**Hungry Hill Ra**	**14.66**	**9**	⇓P		**Pn**		**08 54 46.4**	**0.0**
	baz=15,SNR=12								
TUC	**Tucson**	**14.67**	**338**	*e*Pn		**Pn**		**08 54 48.1**	**+1.4**
Z30A	**Sanderson Ranc**	**14.78**	**11**	⇑P		**Pn**		**08 54 48.8**	**+0.8**
	baz=15,SNR=22								
Z20A	**Nine Sixteen R**	**14.79**	**346**	⇑P		Pn		08 54 51.4	+3.1
	baz=15,SNR=14								
Z21A	**St. Cloud Mine**	**14.79**	**349**	⇓P		**Pn**		**08 54 50.0**	**+1.6**
	baz=15,SNR=18								
Z31A	**Sharp Cattle R**	**15.01**	**14**	⇓P		**Pn**		**08 54 51.4**	**+0.3**
	baz=15,SNR=8.6								
Y25A	**Mesa, Roswell**	**15.12**	**359**	⇓P		**Pn**		**08 54 53.9**	**+1.2**
	baz=15,SNR=25								
Y27A	**Causey**	**15.12**	**4**	⇑P		**Pn**		**08 54 53.5**	**+0.9**
	baz=15,SNR=95								
Y26A	**Elida**	**15.13**	**2**	⇓P		**Pn**		**08 54 54.0**	**+1.2**
	baz=15,SNR=7.6								
Y24A	**Capitan**	**15.15**	**357**	⇑P		**Pn**		**08 54 54.9**	**+1.8**
	baz=15,SNR=19								
Z32A	**Haskell**	**15.16**	**16**	⇓P		**Pn**		**08 54 53.0**	**-0.2**
	baz=15,SNR=49								
214A	**Organ Pipe Nat**	**15.18**	**332**	⇑P		**Pn**		**08 54 54.8**	**+1.4**
	baz=15,SNR=8.7								
Y23A	**Lovelace Mesa,**	**15.20**	**355**	⇓P		**Pn**		**08 54 54.3**	**+0.6**
	baz=15,SNR=18								
Y28A	**McKinney Farm,**	**15.23**	**7**	⇓P		**Pn**		**08 54 54.7**	**+0.6**
	baz=15,SNR=27								
MSTX	**Muleshoe**	**15.23**	**5**	*e*Pn		**Pn**		**08 54 54.2**	**0.0**
MSTX	**Muleshoe**	**15.23**	**5**	⇓P		**Pn**		**08 54 54.7**	**+0.5**
	baz=15,SNR=12								
Y29A	**Porterfield Fa**	**15.25**	**9**	⇓P		**Pn**		**08 54 54.9**	**+0.5**
	baz=15,SNR=16								
Y22A	**Socorro**	**15.30**	**352**	⇓P		**Pn**		**08 54 56.0**	**+0.9**
	baz=15,SNR=10								
Y22D	**IRIS PASSCAL I**	**15.43**	**352**	⇓P		**Pn**		**08 54 58.3**	**+1.5**
	baz=15								
BNM	**Barren Site**	**15.47**	**353**	*e*Pn		P		**08 55 02.0**	**+0.2**
	14nm,1.0s								
Y21A	**Point of Rocks**	**15.48**	**350**	⇓P		**Pn**		**08 54 58.8**	**+1.3**
	baz=15,SNR=14								
Y20A	**Horse Springs,**	**15.51**	**348**	⇓P		**Pn**		**08 54 58.8**	**+0.9**
	baz=16,SNR=15								
LENM	**Lemitar**	**15.53**	**352**	*e*Pn		**Pn**		**08 54 59.5**	**+1.4**
Y31A	**Rekieta Farm,**	**15.60**	**13**	⇑P		**Pn**		**08 54 58.1**	**-0.9**
	baz=16,SNR=6.1								
LPM	**Los Pinos Moun**	**15.63**	**353**	*e*P		**P**		**08 55 03.0**	**-0.5**
NATX	**Nacogdoches**	**15.66**	**32**	*e*Pn		**Pn**		**08 54 59.1**	**-0.6**
	100nm,1.0s								
X25A	**Clemmons Ranch**	**15.72**	**359**	⇓P		**Pn**		**08 55 01.1**	**+0.5**
	baz=16,SNR=8.2								
X26A	**CR and CF Fran**	**15.75**	**2**	⇓P		**Pn**		**08 55 01.6**	**+0.6**
	baz=16,SNR=12								
LAZ	**Ladron**	**15.78**	**352**	*e*Pn		**Pn**		**08 55 02.9**	**+1.4**
	4.7nm,1.0s								
X24A	**Lazy VL Ranch,**	**15.78**	**357**	⇑P		**Pn**		**08 55 02.8**	**+1.4**
	baz=16,SNR=8.1								
X29A	**Tulia**	**15.82**	**8**	⇑P		**Pn**		**08 55 00.6**	**-1.2**
	baz=16,SNR=6.2								
Y32A	**R-V Farms, Ver**	**15.83**	**15**	⇑P		**Pn**		**08 55 01.3**	**-0.6**
	baz=16,SNR=6.6								
X28A	**Dimmitt**	**15.83**	**7**	⇓P		**Pn**		**08 55 02.6**	**+0.6**
	baz=16,SNR=10								
X22A	**Bernardo**	**15.87**	**352**	⇓P		**Pn**		**08 55 03.3**	**+0.8**
	baz=16								
X27A	**F and S Farms,**	**15.88**	**4**	⇓P		**Pn**		**08 55 03.0**	**+0.3**
	baz=16,SNR=14								
X21A	**Alamocita Cree**	**15.92**	**350**	⇓P		**Pn**		**08 55 04.5**	**+1.2**
	baz=16								
X30A	**Coker Ranch, T**	**15.95**	**11**	⇓P		**Pn**		**08 55 03.1**	**-0.4**
	baz=16,SNR=9.2								
X20A	**Quemado**	**16.15**	**348**	⇓P		**Pn**		**08 55 06.5**	**+0.3**
	baz=16,SNR=16								
ANMO	**Albuquerque**	**16.24**	**354**	*e*P		**P**		**08 55 11.6**	**+1.2**
ANMO	**Albuquerque**	**16.24**	**354**	P		**Pn**		**08 55 07.8**	**+0.5**
	0.2nm,0.3s,baz=160,slow=12,SNR=39								
ANMO					LR	LR		09 01 03.5	
	comp=Z,844nm,21.4s,baz=26,slow=36								
AMTX	**Amarillo**	**16.26**	**8**	*e*P		**Pn**		**08 55 09.8**	**+2.4**
	40nm,1.0s								
AMTX	**Amarillo**	**16.26**	**8**	⇓P		**Pn**		**08 55 07.5**	**+0.1**
	baz=16								
W26A	**Owens Ranch, T**	**16.29**	**2**	⇑P		**Pn**		**08 55 08.0**	**+0.1**
	baz=16								
113A	**Mohawk Valley,**	**16.29**	**331**	⇓P		**Pn**		**08 55 09.7**	**+1.9**
	baz=16,SNR=6.7								
W27A	**Bowe Ranch, En**	**16.30**	**4**	⇑P		**Pn**		**08 55 08.4**	**+0.4**
	baz=16,SNR=31								
X31A	**McDonald Ranch**	**16.31**	**13**	⇑P		**Pn**		**08 55 06.9**	**-1.1**
	baz=16,SNR=9.8								
W22A	**Albuquerque**	**16.41**	**353**	⇓P		**Pn**		**08 55 10.7**	**+1.3**
	baz=16								
W25A	**X Bar L Ranch,**	**16.41**	**360**	⇓P		**Pn**		**08 55 09.8**	**+0.4**
	baz=16,SNR=29								
W23A	**Werner Place,**	**16.42**	**355**	⇓P		**Pn**		**08 55 11.7**	**+2.0**
	baz=16,SNR=26								
W24A	**Lazy 6 Ranch,**	**16.42**	**357**	⇓P		**Pn**		**08 55 10.8**	**+1.1**
	baz=16,SNR=20								
Z14A	**Wintersburg**	**16.44**	**334**	⇑P		**Pn**		**08 55 12.2**	**+2.5**
	baz=16								
X18A	**Snowflake**	**16.47**	**344**	⇓P		**Pn**		**08 55 11.4**	**+1.1**
	baz=16								
W29A	**Amarillo**	**16.50**	**8**	⇓P		**Pn**		**08 55 11.1**	**+0.6**
	baz=16								
WMOK	**Wichita Mounta**	**16.70**	**16**	*e*P		**Pn**		**08 55 11.2**	**-1.8**
	22nm,0.9s								
W20A	**Ramah**	**16.71**	**348**	⇓P		**Pn**		**08 55 15.7**	**+2.3**
	baz=17,SNR=5.4								
X16A	**Lo Mia Camp, P**	**16.82**	**340**	⇓P		**Pn**		**08 55 16.0**	**+1.3**
	baz=17								
W31A	**Holland Ranch,**	**16.85**	**13**	⇓P		**Pn**		**08 55 15.0**	**+0.1**
	baz=17,SNR=5.9								
V24A	**Rampart Ranch,**	**16.93**	**358**	⇓P		**Pn**		**08 55 17.2**	**+1.1**
	baz=17,SNR=15								
Y14A	**Wickenburg**	**16.96**	**335**	⇓P		**P**		**08 55 18.8**	**+0.6**
	baz=17								
V26A	**Tequesquite Ra**	**17.00**	**2**	⇑P		**Pn**		**08 55 18.0**	**+1.1**
	baz=17,SNR=35								
V23A	**Ortiz Mt. (NFS**	**17.01**	**355**	⇓P		**Pn**		**08 55 19.0**	**+2.0**
	baz=17,SNR=9.6								
V25A	**Rancho No Teng**	**17.03**	**359**	⇑P		**Pn**		**08 55 18.4**	**+1.1**
	baz=17,SNR=14								
GLA	**Glamis**	**17.03**	**329**	*e*Pn		**Pn**		**08 55 19.1**	**+1.9**
	19nm,1.0s								
GLA	**Glamis**	**17.03**	**329**	⇑P		**P**		**08 55 19.4**	**+0.5**
	baz=17								
V28A	**Channing**	**17.05**	**6**	⇑P		**Pn**		**08 55 17.5**	**0.0**
	baz=17								
TGUH	**Tegucigalpa,Un**	**17.09**	**103**	*e*P		**Pn**		**08 55 21.0**	**+3.0**
	62nm,1.0s								
V22A	**San Miguel Ran**	**17.24**	**353**	⇑P		**Pn**		**08 55 21.8**	**+1.8**
	baz=17,SNR=12								
V29A	**Stinnett**	**17.25**	**8**	⇓P		**Pn**		**08 55 20.4**	**+0.4**
	baz=17								
V30A	**Spur Ranch, Mi**	**17.27**	**10**	⇓P		**Pn**		**08 55 20.7**	**+0.5**
	baz=17								
V20A	**Brimhall**	**17.36**	**349**	⇑P		**Pn**		**08 55 22.3**	**+0.8**
	baz=17								
DVTC	**Desert V Tower**	**17.38**	**325**	⇓P		**P**		**08 55 23.9**	**+1.0**
	baz=17,SNR=5.7								
SWSC	**Sam W. Stewart**	**17.44**	**326**	⇓P		**P**		**08 55 24.2**	**+0.9**
	baz=18,SNR=6.3								
Y12C	**Blythe**	**17.46**	**331**	⇑P		**Pn**		**08 55 24.2**	**+1.7**
	baz=18								
U23A	**El Rito**	**17.59**	**355**	⇑P		**Pn**		**08 55 25.3**	**+1.0**
	baz=18,SNR=32								
U25A	**Circle Dot Ran**	**17.59**	**0**	⇑P		**Pn**		**08 55 25.2**	**+0.9**
	baz=18,SNR=45								
U26A	**Atchley Ranch,**	**17.59**	**2**	⇓P		**Pn**		**08 55 24.0**	**-0.3**
	baz=18								
U24A	**Moreno Valley**	**17.61**	**358**	⇓P

S30A **Montezuma** 19.14 10 ⇓P P 08 55 41.0 -1.2
baz=19
HEC **Hector,Ludlow** 19.20 329 ⇓P P 08 55 44.5 +1.6
baz=19,SNR=27
UALR **University of** 19.24 32 *eP* P 08 55 42.0 -1.2
22nm,1.0s
S31A **Mullinville** 19.29 12 ⇑P P 08 55 42.9 -1.0
baz=19,SNR=5.9
S20A **Disappointment** 19.32 351 ⇓P P 08 55 44.3 -0.1
baz=19,SNR=6.1
R25A **Fountain Ranch** 19.33 0 ⇓P P 08 55 44.1 -0.3
baz=19,SNR=20
R23A **Moffat** 19.41 357 ⇓P P 08 55 45.6 +0.1
baz=19,SNR=15
BFSC **Mount Baldy Ra** 19.43 325 ⇑P P 08 55 46.5 +1.1
baz=20,SNR=18
R24A **Sanders Place,** 19.43 358 ⇓P P 08 55 45.5 0.0
baz=19,SNR=70
S32A **Newby Ranch, P** 19.48 13 ⇑P P 08 55 44.9 -1.1
baz=19,SNR=8.8
TUQ **Turquoise Moun** 19.50 331 ⇓P P 08 55 47.5 +1.3
baz=20,SNR=32
R26A **Arlington** 19.50 2 ⇓P P 08 55 46.4 +0.2
baz=19,SNR=30
R22A **Saguache, Gunn** 19.52 354 ⇑P P 08 55 46.9 +0.3
baz=20,SNR=27
R27A **Eads** 19.52 4 ⇑P P 08 55 45.5 -0.9
baz=20
MWC **Mount Wilson** 19.63 324 *eP* P 08 55 48.9 +1.1
54nm,1.2s
PV01 **Paradox Valley** 19.66 350 *eP* P 08 55 47.8 -0.3
621nm,0.8s
R28A **Tribune** 19.66 6 ⇓P P 08 55 46.9 -1.0
baz=20
R20A **Redvale** 19.68 351 ⇓P P 08 55 48.9 +0.6
baz=20,SNR=10
PV05 **Paradox Valley** 19.69 349 *eP* P 08 55 48.1 -0.3
R21A **Cimarron** 19.74 353 ⇑P P 08 55 50.5 +1.5
baz=20,SNR=18
R30A **Dighton** 19.80 10 ⇑P P 08 55 49.1 -0.3
baz=20,SNR=11
DECC **Green Verdugo** 19.80 324 ⇓P Pn 08 55 51.5 +0.5
baz=20
GSC **Goldstone** 19.81 329 *eP* P 08 55 51.3 +1.7
19nm,0.8s
GSC **Goldstone** 19.81 329 ⇓P P 08 55 50.9 +1.3
baz=20,SNR=18
R31A **Burdett** 19.93 11 ⇑P P 08 55 49.9 -0.9
baz=20
SHOC **Shoshone** 20.05 331 ⇑P P 08 55 53.9 +1.8
baz=20,SNR=26
SHPR **Sheep Range** 20.06 334 *eP* P 08 55 53.5 +1.1
EDW2 **Edwards Air Fo** 20.09 326 ⇓P P 08 55 53.4 +0.8
baz=20
Q25A **Bedland, Calha** 20.10 0 ⇑P P 08 55 52.2 -0.6
baz=20,SNR=13
PV09 **Paradox Valley** 20.11 349 *eP* P 08 55 53.0 0.0
Q26A **Hugo** 20.12 2 ⇓P P 08 55 52.2 -0.8
baz=20,SNR=8.4
Q23A **Hartsel** 20.13 357 ⇑P P 08 55 53.7 +0.5
baz=20,SNR=7.1
Q24A **Divide** 20.16 358 ⇑P P 08 55 53.1 -0.4
baz=20,SNR=8.4
Q22A **Crested Butte,** 20.16 354 ⇓P P 08 55 53.9 +0.2
baz=20,SNR=16
Q21A **Lamborn Mesa,** 20.20 353 ⇑P P 08 55 54.4 +0.4
baz=20,SNR=12
KSCO **Kaye Shedlock'** 20.25 4 *eP* P 08 55 54.7 +0.3
KSCO **Kaye Shedlock'** 20.25 4 ⇓P P 08 55 53.6 -0.8
baz=20
R33A **Olander Ranch,** 20.28 15 ⇓P P 08 55 53.2 -1.4
baz=20
Q29A **Oakley** 20.30 8 ⇑P P 08 55 53.2 -1.6
baz=20,SNR=5.7
Q28A **Sharon Springs** 20.37 6 ⇑P P 08 55 54.1 -1.6
baz=20
LRMC **Laurel Mountai** 20.39 327 ⇓P P 08 55 56.8 +0.8
baz=20,SNR=21
Q20A **Ridgley Place,** 20.42 351 ⇓P P 08 55 56.5 +0.2
baz=20,SNR=14
SMCO **Snowmass** 20.48 354 *eP* P 08 55 57.6 +0.5
31nm,0.9s
Q30A **Quinter** 20.49 9 ⇑P P 08 55 55.7 -1.2
baz=20,SNR=15
ARUT **Antelope Range** 20.55 339 *eP* P 08 55 58.8 +1.1
521nm,0.9s
P23A **Jefferson** 20.59 357 ⇓P P 08 55 58.1 -0.2
baz=21,SNR=20
JTS **JuntasAbangare** 20.62 111 *eP* P 08 55 58.2 -0.2
JTS **JuntasAbangare** 20.62 111 P P 08 56 00.9 +2.5
14nm,0.9s,baz=287,slow=5.0,SNR=5.7
JTS LR LR 09 03 39.5
comp=Z,276nm,20.2s,baz=301,slow=36
Q31A **Ellis** 20.65 11 ⇑P P 08 55 57.0 -1.7
baz=21
P25A **Willow Gulch B** 20.70 1 ⇓P P 08 55 58.0 -1.3
baz=21,SNR=16
HBAR **Harrisburg** 20.70 33 *eP* P 08 55 58.6 -0.5
ARVC **Arvin** 20.73 325 ⇓P P 08 56 00.5 +1.0
baz=21,SNR=11
MPMC **Manual Prospec** 20.75 329 ⇑P P 08 56 00.6 +0.7
baz=21,SNR=53
P26A **Davis Ranch, A** 20.76 2 ⇑P P 08 55 58.7 -1.2
baz=21,SNR=7.5
FURC **Furnace Creek,** 20.78 331 ⇑P P 08 56 00.9 +0.9
baz=21,SNR=19
P27A **Ficken Ranch,** 20.80 4 ⇓P P 08 55 59.3 -1.0
baz=21,SNR=8.5
MVU **Marysvale** 20.82 343 *eP* P 08 56 01.1 +0.3
38nm,1.0s
P21A **Newcastle** 20.87 353 ⇓P P 08 56 00.3 -1.0
baz=21,SNR=8.3
P22A **Eagle** 20.88 355 ⇓P P 08 56 01.4 +0.1
baz=21,SNR=58
P28A **Saint Francis** 20.88 6 ⇑P P 08 56 00.1 -1.1
baz=21,SNR=5.8
Q16A **Castle Valley** 20.94 345 *eP* P 08 56 01.4 -0.5
Q16A **Castle Valley** 20.94 345 ⇑P P 08 56 01.6 -0.3
baz=21,SNR=35
ISA **Isabella** 20.94 326 *eP* P 08 56 03.0 +1.1
41nm,0.9s
ISA **Isabella** 20.94 326 ⇑P P 08 56 02.6 +0.8
baz=21,SNR=34
P20A **De Beque** 20.97 351 ⇑P P 08 56 01.5 -0.7
baz=21,SNR=13
SRU **San Rafael** 20.97 347 *eP* P 08 56 01.6 -0.7
13nm,0.9s
P29A **Atwood** 21.00 8 ⇑P P 08 56 00.5 -1.9
baz=21,SNR=7.4
ISCO **Idaho Springs** 21.01 357 *eP* P 08 56 02.1 -0.6
11nm,0.8s
ISCO **Idaho Springs** 21.01 357 ⇑P P 08 56 01.9 -0.8
baz=21,SNR=26
P30A **Selden** 21.04 9 ⇓P P 08 56 01.2 -1.6
baz=21,SNR=13
PKM **Peak Mountain** 21.11 323 ⇓P P 08 56 04.9 +1.0
baz=21
LRAL **Lakeview Retre** 21.12 44 *eP* P 08 56 02.7 -1.0
13nm,1.0s
P19A **Cripple Cowboy** 21.19 350 ⇑P P 08 56 03.9 -0.8
baz=21,SNR=14
O25A **Wiggins** 21.30 1 ⇓P P 08 56 04.8 -0.9
baz=21,SNR=9.3
TMUT **Trail Mountain** 21.31 345 *eP* P 08 56 05.8 -0.2
34nm,1.1s
O24A **Longmont** 21.31 359 ⇓P P 08 56 05.1 -0.8
baz=21,SNR=9.2
CWC **Cottonwood Cre** 21.34 328 ⇑P P 08 56 06.5 +0.3
baz=21,SNR=9.0
GNAR **Gosnell** 21.35 34 *eP* P 08 56 05.3 -0.8
634nm,0.9s
KSU1 **Kansas State U** 21.39 17 *eP* P 08 56 04.6 -1.9
19nm,0.8s
VES **Vestal, Richgr** 21.40 326 ⇑P P 08 56 08.1 +1.5
baz=21,SNR=17
P32A **Huiting Farm,** 21.40 12 ⇓P P 08 56 05.3 -1.4
baz=21
O22A **Kremmling** 21.42 356 ⇓P P 08 56 06.9 -0.3
baz=21,SNR=40
O28A **Krutsinger Ran** 21.43 6 ⇑P P 08 56 06.1 -1.0
baz=21
O23A **Lake Granby, G** 21.43 357 ⇓P P 08 56 07.6 +0.3
baz=21,SNR=34
O27A **Beecher Island** 21.44 4 ⇑P P 08 56 06.2 -1.0
baz=21
O26A **Horse Wrangler** 21.45 2 ⇓P P 08 56 06.1 -1.2
baz=21,SNR=10
SMMC **Simmler** 21.51 323 ⇑P P 08 56 09.0 +1.0
baz=22,SNR=5.8
O29A **4D Ranch, Culb** 21.53 8 ⇓P P 08 56 06.6 -1.6
baz=22
O21A **Pagoda** 21.56 354 ⇑P P 08 56 08.6 -0.1
baz=22
O20A **White River Ci** 21.57 352 *eP* P 08 56 09.3 +0.6
O20A **White River Ci** 21.57 352 ⇑P P 08 56 09.0 +0.3
baz=22,SNR=8.6
O30A **MW Ranch, Wils** 21.69 9 ⇓P P 08 56 08.3 -1.5
baz=22,SNR=10
PBMO **Poplar Bluff** 21.77 32 *eP* P 08 56 08.7 -1.9
31nm,1.0s
O31A **Woolen Ranch,** 21.78 11 ⇑P P 08 56 09.3 -1.5
baz=22
R11A **Troy Canyon, C** 21.82 336 *eP* P 08 56 11.7 +0.2
9.1nm,0.9s
R11A **Troy Canyon, C** 21.82 336 ⇑P P 08 56 11.4 0.0
baz=22,SNR=17
O19A **Miners Draw (B** 21.86 350 ⇑P P 08 56 11.1 -0.7
baz=22,SNR=6.3
PTRM **Twissleman Ran** 21.88 324 *eP* P 08 56 12.4 +0.5
TIN **Tinemaha** 21.90 329 ⇓P P 08 56 12.9 +0.8
baz=22
N24A **Carr** 22.01 359 ⇑P P 08 56 12.5 -0.9
baz=22
N26A **Koester Ranch,** 22.03 2 ⇓P P 08 56 12.7 -0.9
baz=22
N22A **Wattenberg Ran** 22.05 356 ⇑P P 08 56 13.2 -0.8
baz=22,SNR=6.9
MPU **Maple Canyon** 22.09 345 *eP* P 08 56 12.7 -1.7
17nm,1.0s
N23A **Red Feather La** 22.11 357 ⇑P P 08 56 13.9 -0.7
baz=22,SNR=7.0
NLU **North Lily Min** 22.15 344 *eP* P 08 56 15.3 +0.4
5.3nm,1.0s
N20A **Spence Gulch,** 22.26 352 ⇓P P 08 56 15.7 -0.5
baz=22,SNR=17
MTUM **Tungsten Hills** 22.30 329 *eP* P 08 56 17.9 +1.3
DAU **Daniels Canyon** 22.38 346 *eP* P 08 56 17.2 -0.4
PHWY **Pilot Hill** 22.50 358 *eP* P 08 56 17.7 -1.0
7.3nm,0.9s
PHWY *epP* pP 08 56 40.0 +17
DUG **Dugway** 22.57 343 *eP* P 08 56 20.1 +0.7
24nm,1.1s
DUG **Dugway** 22.57 343 ⇑P P 08 56 19.6 +0.2
baz=23,SNR=26
JLU **Janelle** 22.61 346 *eP* P 08 56 20.2 +0.3
15nm,1.2s
M25A **Palm-Egli Farm** 22.62 1 ⇑P P 08 56 19.2 -0.7
baz=23
M24A **Cheyenne** 22.65 359 ⇓P P 08 56 18.8 -1.5
baz=23,SNR=5.6
MLAC **Mammoth Lakes** 22.65 329 ⇓P P 08 56 20.8 +0.4
baz=23
M22A **Cedar Creek Ra** 22.66 356 ⇑P P 08 56 20.7 +0.3
baz=23,SNR=6.8
WVT **Waverly** 22.67 37 *eP* P 08 56 17.1 -3.2
11nm,1.0s
M26A **McRoberts Ranc** 22.67 2 ⇑P P 08 56 19.5 -0.9
baz=23,SNR=5.9
M23A **Laramie** 22.68 357 ⇑P P 08 56 19.5 -1.1
baz=23
NV11 **Mina Array Sit** 22.98 331 *eP* P 08 56 24.5 +0.9
RWWY **Rawlins** 22.99 355 *eP* P 08 56 29.3 +5.3
15nm,0.9s
NVAR **Mina Array Bea** 23.04 331 P P 08 56 24.5 +0.1
NVAR PcP PcP 09 00 13.7 -0.1
NVAR **Mina Array Bea** 23.04 331 P P 08 56 24.5 +0.1
32nm,1.0s,baz=156,slow=12,SNR=94
NVAR PcP PcP 09 00 13.7 -0.1
0.3nm,0.5s,baz=160,slow=2.9,SNR=3.9
SIUC **Southern Illin** 23.10 32 *eP* P 08 56 24.0 -0.8
14nm,0.8s
BGU **Big Grassy Mou** 23.31 343 *eP* P 08 56 26.9 -0.1
12nm,0.9s
L23A **Garrett** 23.32 358 ⇓P P 08 56 25.2 -2.0
baz=23,SNR=7.9
L25A **Engebretsen Ra** 23.34 1 ⇑P P 08 56 25.9 -1.4
baz=23,SNR=6.5
WAKR **Walker** 23.63 330 *eP* P 08 56 31.3 +1.0
CMB **Columbia Colle** 23.74 327 *eP* P 08 56 31.5 +0.3
80nm,2.0s
GOGA **Godfrey** 23.75 48 *eP* P 08 56 29.0 -2.3
12nm,1.0s
K25A **Mack Ranch, Ha** 23.80 1 ⇓P P 08 56 30.3 -1.5
baz=24
ELK **Elko** 23.81 339 *eP* P 08 56 31.8 -0.3
9.6nm,1.0s
ELK **Elko** 23.81 339 P P 08 56 32.1 0.0
9.5nm,0.9s,baz=181,slow=8.4,SNR=31
ELK LR LR 09 05 55.3
comp=Z,734nm,19.4s,baz=352,slow=37
K22A **Casper** 23.90 356 ⇑P P 08 56 31.0 -1.8
baz=24,SNR=7.6
K21A **Alcova** 23.93 355 ⇓P P 08 56 31.2 -2.0
baz=24,SNR=45
K23A **Bowen Ranch, D** 23.96 358 ⇑P P 08 56 31.8 -1.6
baz=24,SNR=14
K28A **Ten Mile Ranch** 24.03 6 ⇑P P 08 56 32.0 -1.9
baz=24
HVU **Hansel Valley** 24.04 345 *eP* P 08 56 33.3 -0.9
24nm,1.0s
USIN **University of** 24.09 34 *eP* P 08 56 32.8 -1.7
69nm,0.9s
K29A **Lazy Trails An** 24.19 7 ⇓P P 08 56 33.5 -1.9
baz=24
K30A **Basset** 24.20 9 ⇓P P 08 56 34.4 -1.1
baz=24,SNR=11
CPCT **Cooper Cave** 24.22 43 *eP* P 08 56 33.3 -2.4
BMN **Battle Mountai** 24.26 336 *eP* P 08 56 36.6 +0.4
BW06 **Boulder Array** 24.34 351 *eP* P 08 56 36.3 -0.7
9.8nm,0.9s
PDAR **Pinedale Array** 24.34 351 P P 08 56 36.0 -1.0
PDAR PcP PcP 09 00 15.3 -1.1
PDAR **Pinedale Array** 24.34 351 P P 08 56 36.0 -1.0
10nm,0.9s,baz=160,slow=8.6,SNR=42
PDAR PcP PcP 09 00 15.3 -1.1
1.5nm,1.1s,baz=158,slow=3.7,SNR=3.6
PDAR LR LR 09 06 48.6
comp=Z,842nm,19.2s,baz=189,slow=38
OLIL **Olney** 24.45 32 *eP* P 08 56 36.0 -1.7
30nm,1.0s
J27A **Elkhorn Farm,** 24.52 4 ⇑P P 08 56 37.1 -1.3
baz=24,SNR=7.4
PAHR **Pah Rah Range** 24.57 331 *eP* P 08 56 40.1 +1.2
20nm,1.1s
J25A **Sunshine Ranch** 24.57 1 ⇑P P 08 56 37.4 -1.6
baz=24,SNR=8.0
J22A **Midwest** 24.65 356 ⇓P P 08 56 37.4 -2.3
baz=25,SNR=10
J21A **Lysite** 24.66 355 ⇑P P 08 56 38.4 -1.4
baz=25,SNR=19
J20A **Shoshoni** 24.73 354 ⇑P P 08 56 39.1 -1.2
baz=25,SNR=18
J28A **Allard Ranch,** 24.75 6 ⇓P P 08 56 38.9 -1.6
baz=25,SNR=17
J19A **Crowheart** 24.76 352 ⇑P P 08 56 39.2 -1.5
baz=25,SNR=22
J29A **Okreek** 24.83 7 ⇓P P 08 56 39.7 -1.5
baz=25,SNR=8.3
TKL **Tuckaleechee C** 24.83 43 P P 08 56 38.3 -3.0
TKL **Tuckaleechee C** 24.83 43 P P 08 56 38.3 -3.0
4.7nm,0.9s,baz=206,slow=11,SNR=6.7
TKL LR LR 09 09 42.5
comp=Z,551nm,18.6s,baz=333,slow=45
J30A **Dallas** 24.85 9 ⇓P P 08 56 40.1 -1.3
baz=25,SNR=7.7
WCI **Wyandotte Cave** 25.03 35 *eP* P 08 56 40.8 -2.2
12nm,1.0s
I24A **Kuemmerle Ranc** 25.04 360 ⇓P P 08 56 41.4 -1.8
baz=25
I21A **Big Trails, Te** 25.11 355 ⇓P P 08 56 42.2 -1.6
baz=25,SNR=8.9
I22A **9 Mile Ranch,** 25.13 356 ⇑P P 08 56 42.6 -1.4
baz=25,SNR=5.1
REDW **Red Top Meadow** 25.14 349 *eP* P 08 56 42.8 -1.4
21nm,1.1s
BEKR **Beckworth** 25.15 330 *eP* P 08 56 44.8 +0.6
32nm,1.0s
I25A **Rochford** 25.20 1 ⇓P P 08 56 43.3 -1.4
baz=25,SNR=8.7
RRI2 **Red Ridge** 25.21 348 *eP* P 08 56 43.7 -1.2
16nm,1.1s
SNOW **Snow King Moun** 25.21 349 *eP* P 08 56 43.0 -1.9
18nm,0.8s
TPAW **Teton Pass** 25.28 349 *eP* P 08 56 44.6 -0.9
34nm,1.0s
OHCM **Honcut** 25.29 328 *eP* P 08 56 46.4 +1.1
RSSD **Black Hills** 25.30 1 *eP* P 08 56 43.6 -2.0
58nm,0.9s
I20A **Worland** 25.32 354 ⇓P P 08 56 44.9 -0.8
baz=25,SNR=12
I27A **Quinn** 25.33 4 ⇓P P 08 56 44.6 -1.1
baz=25,SNR=10
LOHW **Long Hollow** 25.33 349 *eP* P 08 56 44.9 -1.1
15nm,0.8s
I29A **Vivian Onida** 25.44 7 ⇓P P 08 56 45.6 -1.1
baz=25
MOOW **Moose Ponds** 25.49 349 *eP* P 08 56 46.1 -1.3
7.3nm,0.9s
I19A **Meeteetse** 25.51 352 ⇑P P 08 56 46.2 -1.2
baz=26,SNR=8.5
I17A **Pilgrim Ck.** 25.63 350 ⇑P P 08 56 47.7 -1.0
baz=26
IMW **Indian Meadow** 25.67 349 *eP* P 08 56 47.8 -1.3
7.8nm,0.8s
ECSD **EROS Data Cent** 25.76 13 *epP* pP 08 57 09.4 +15
FLWY **Flagg Ranch** 25.81 350 *eP* P 08 56 49.4 -0.8
13nm,1.1s
H25A **Fruitdale** 25.81 1 ⇓P P 08 56 49.2 -0.9
baz=26
H26A **Fairpoint** 25.83 3 ⇓P P 08 56 48.9 -1.3
baz=26,SNR=12
H20A **Greybull** 25.84 354 ⇓P P 08 56 48.7 -1.7
baz=26,SNR=6.7
H27A **Howes** 25.89 4 ⇓P P 08 56 48.5 -2.2
baz=26
H21A **Big Horn, Sher** 25.90 356 ⇑P P 08 56 49.3 -1.7
baz=26
H24A **Dirks Ranch, A** 25.93 360 ⇑P P 08 56 49.0 -2.1
baz=26,SNR=6.0
H28A **Mission Ridge** 26.01 6 ⇑P P 08 56 50.3 -1.5
baz=26
BRSD **Miller** 26.03 9 *eP* P 08 56 52.8 +0.8
BRSD **Miller** 26.03 9 ⇓P P 08 56 51.0 -1.0
baz=26
H29A **Onida** 26.04 7 ⇑P P 08 56 50.6 -1.6
baz=26
H17A **Grant Village** 26.09 350 ⇑P P 08 56 51.6 -1.3
baz=26
H19A **Powell** 26.13 353 ⇑P P 08 56 51.9 -1.2
baz=26
HLID **Hailey** 26.14 343 *eP* P 08 56 53.1 -0.1
6.4nm,0.9s
HLID **Hailey** 26.14 343 ⇓P P 08 56 52.8 -0.4
baz=26,SNR=11
KMSC **Kings Mountain** 26.17 47 *eP* P 08 56 53.2 -0.2
KMSC **Kings Mountain** 26.17 47 ⇑P P 08 56 50.8 -2.6
baz=26
SFIN **Scholer Farm** 26.21 31 ⇑P P 08 56 50.7 -2.9
baz=26
H18A **Shoshone NF, C** 26.23 352 ⇓P P 08 56 53.2 -0.8
baz=26
G25A **Newell** 26.39 2 ⇓P P 08 56 54.2 -1.1
baz=26
G23A **Biddle** 26.39 358 ⇑P P 08 56 52.8 -2.6
baz=26
G28A **Parade** 26.42 6 ⇓P P 08 56 54.3 -1.2
baz=26
G22A **Birney** 26.44 357 ⇑P P 08 56 53.3 -2.6
baz=26
G24A **Alzada** 26.51 0 ⇓P P 08 56 54.4 -2.0
baz=26,SNR=5.9
G26A **Maurine** 26.52 3 ⇓P P 08 56 54.5 -2.0
baz=26,SNR=14
WVOR **Wild Horse Val** 26.52 336 *eP* P 08 56 56.3 -0.4
18nm,1.0s
G27A **Dupree** 26.59 2 ⇓P P 08 56 55.4 -1.7
baz=27,SNR=6.4
G20A **Bridger** 26.59 354 ⇓P P 08 56 55.0 -2.1
baz=27,SNR=6.7
G30A **Faulkton** 26.67 8 ⇑P P 08 56 54.8 -3.0
baz=27
MOD **Modoc** 26.76 333 *eP* P 08 56 59.5 +0.7
126nm,1.0s
F23A **Volborg** 26.91 358 ⇓P P 08 56 57.4 -2.6
baz=27
F22A **Rosebud** 27.00 357 ⇑P P 08 56 58.2 -2.7
baz=27,SNR=5.1
F24A **Ekalaka** 27.02 360 ⇓P P 08 56 59.0 -2.1
baz=27,SNR=6.5
F26A **Lodgepole** 27.07 3 ⇓P P 08 56 58.8 -2.6
baz=27
F25A **Bowman** 27.12 1 ⇑P P 08 56 59.3 -2.6
baz=27
F27A **Lemmon** 27.12 4 ⇑P P 08 56 59.3 -2.7
baz=27
F20A **Billings** 27.16 354 ⇑P P 08 57 00.5 -1.8
baz=27
J08A **Circle Bar Ran** 27.25 337 *eP* P 08 57 03.3 +0.1
18nm,1.0s
F29A **Eureka** 27.28 7 ⇑P P 08 57 01.1 -2.2
baz=27
F19A **Roth Farm, Mol** 27.29 353 ⇑P P 08 57 01.2 -2.2
baz=27
KHMM **Horse Mountain** 27.58 327 *eP* P 08 57 07.4 +1.2
55nm,1.0s
E22A **Miles City** 27.65 358 ⇓P P 08 57 03.5 -3.1
baz=28
K05A **Summer Lake** 27.68 333 *eP* P 08 57 07.9 +0.7
25nm,1.1s
E25A **Miller Ranch,** 27.69 2 ⇓P P 08 57 04.4 -2.6
baz=28
E26A **Carlson Angus** 27.70 3 ⇑P P 08 57 04.7 -2.3
baz=28
YBH **Yreka Blue Hor** 27.72 330 P P 08 57 06.0 -1.3
YBH **Yreka Blue Hor** 27.72 330 P P 08 57 06.0 -1.3
12nm,0.9s,baz=155,slow=6.6,SNR=22
YBH LR LR 09 09 44.6
comp=Z,320nm,18.8s,baz=329,slow=40
E20A **Meyer Farm, Mu** 27.85 355 ⇓P P 08 57 05.9 -2.5
baz=28
E19A **Rath Farm, Rou** 27.87 354 ⇑P P 08 57 06.9 -1.8
baz=28,SNR=6.3
E28A **Huff** 27.92 5 ⇑P P 08 57 06.7 -2.4
baz=28
E29A **Napoleon** 28.02 7 ⇑P P 08 57 07.5 -2.4
baz=28
KRMB **Red Mountain** 28.15 328 *eP* P 08 57 12.3 +1.1
387nm,2.8s
BMO **Blue Mountains** 28.17 340 *eP* P 08 57 09.9 -1.4
4.4nm,0.8s
D26A **Manning** 28.26 3 ⇑P P 08 57 10.2 -1.8
baz=28,SNR=7.5
I07A **Izee** 28.26 337 *eP* P 08 57 13.6 +1.4
65nm,2.7s
D21A **La Casta Ranch** 28.32 356 ⇓P P 08 57 10.7 -2.0
baz=28
D22A **Cohagen** 28.37 357 ⇓P P 08 57 10.9 -2.1
baz=28,SNR=7.8
D20A **Manuel Ranch,** 28.43 355 ⇓P P 08 57 11.4 -2.3
baz=28,SNR=6.6
D28A **Regan** 28.55 5 ⇓P P 08 57 12.5 -2.1
baz=28
PINOR **Pine Mountain** 28.56 335 *eP* P 08 57 15.7 +1.0
35nm,1.6s
D19A **Cripps Ranch,** 28.58 354 ⇑P P 08 57 12.9 -2.0
baz=29,SNR=12
D30A **Buchanan** 28.67 8 ⇓P P 08 57 13.3 -2.4
baz=29,SNR=5.9
C24A **Savage** 28.71 360 ⇑P P 08 57 14.0 -2.1
baz=29
C25A **Freed Ranch, W** 28.91 2 ⇑P P 08 57 16.2 -1.6
baz=29
C22A **Vida** 28.95 358 ⇓P P 08 57 16.2 -2.0
baz=29
C23A **Lambert** 28.99 359 ⇓P P 08 57 16.7 -1.8
baz=29,SNR=8.3
C20A **Veseth Ranch,** 29.04 355 ⇑P P 08 57 17.0 -2.0
baz=29,SNR=5.6
C26A **Wahner Farm, P** 29.07 3 ⇑P P 08 57 17.6 -1.6
baz=29
C28A **Hausauer Farms** 29.08 6 ⇑P P 08 57 17.7 -1.7
baz=29
MSO **Missoula** 29.08 346 *eP* P 08 57 18.1 -1.4
87nm,3.0s
MSO **Missoula** 29.08 346 ⇓P P 08 57 17.8 -1.7
baz=29
C21A **Desert Coulee** 29.09 356 ⇑P P 08 57 17.6 -1.8
baz=29
G08A **Pilot Rock** 29.10 339 *eP* P 08 57 19.7 0.0
8.6nm,1.0s
F10A **Beach Ranch, E** 29.15 341 *eP* P 08 57 19.3 -0.7
26nm,1.3s
C19A **Slack Wire Ran** 29.16 354 ⇓P P 08 57 18.3 -1.8
baz=29,SNR=8.4

C30A	**Mose, Pekin**	**29.29**	**8**	⇓P		P		08 57 18.9	-2.3	
	baz=29,SNR=7.3									
KEBM	**Edson Butte**	**29.36**	**329**	*e*P		P		08 57 14.8	-7.1	
	64nm,1.0s									
B25A	**Knox Farm, Ray**	**29.47**	**2**	⇓P		P		08 57 20.8	-2.0	
	baz=29									
EGMT	**Eagleton**	**29.53**	**353**	⇑P		P		08 57 21.3	-2.0	
	baz=30,SNR=8.1									
B26A	**Jensen Ranch,**	**29.61**	**3**	⇑P		P		08 57 21.9	-2.1	
	baz=30									
B23A	**Brockton**	**29.65**	**359**	⇓P		P		08 57 22.4	-1.9	
	baz=30,SNR=6.2									
DGMT	**Dagmar**	**29.65**	**0**	*e*P		**P**		**08 57 22.7**	**-1.7**	
	15nm,0.9s									
DGMT	**Dagmar**	**29.65**	**0**	⇑P		P		08 57 22.3	-2.1	
	baz=30,SNR=5.0									
B27A	**Peters Farms,**	**29.70**	**4**	⇑P		P		08 57 22.8	-2.0	
	baz=30,SNR=5.6									
B28A	**Dugan Ranch, T**	**29.81**	**5**	⇑P		P		08 57 23.5	-2.3	
	baz=30									
H04A	**Detroit Lake**	**29.82**	**334**	*e*P		**P**		**08 57 25.9**	**-0.1**	
	13nm,0.8s									
B19A	**Brinkman Farms**	**29.86**	**354**	⇓P		P		08 57 24.5	-1.8	
	baz=30									
RNO	**Roman Nose**	**29.88**	**331**	P		**P**		**08 57 27.6**	**+1.1**	
B29A	**Wagenman Farm,**	**29.93**	**7**	⇑P		P		08 57 24.7	-2.1	
	baz=30									
B30A	**Myrvik Farm, E**	**30.04**	**8**	⇑P		P		08 57 25.7	-2.2	
	baz=30									
A24A	**Westby**	**30.11**	**1**	⇓P		P		08 57 26.5	-1.9	
	baz=30									
A25A	**Svangstu Ranch**	**30.14**	**2**	⇑P		P		08 57 26.6	-2.0	
	baz=30									
A20A	**Cobblestone Ra**	**30.19**	**355**	⇑P		P		08 57 27.4	-1.9	
	baz=30									
A22A	**Carney Farms,**	**30.20**	**358**	⇑P		**P**		**08 57 27.7**	**-1.6**	
	baz=30,SNR=6.5									
A21A	**Bergtoll Ranch**	**30.24**	**357**	⇑P		P		08 57 27.4	-2.3	
	baz=30,SNR=5.2									
A27A	**Ledoux Ranch,**	**30.24**	**4**	⇓P		P		08 57 27.6	-2.0	
	baz=30									
VLL	**Laurance Lake**	**30.25**	**336**	P		**P**		**08 57 31.0**	**+1.1**	
MPOR	**Mary's Peak**	**30.26**	**332**	P		**P**		**08 57 31.4**	**+1.5**	
A28A	**Rude Farm, Bot**	**30.28**	**5**	⇑P		P		08 57 27.7	-2.2	
	baz=30									
AGMN	**Agassiz Nation**	**30.29**	**11**	*e*P		P		08 57 27.7	-2.3	
	8.4nm,0.9s									
A29A	**Manning Farm,**	**30.39**	**7**	⇑P		P		08 57 28.6	-2.4	
	baz=30									
A30A	**Hoffart Farm,**	**30.52**	**8**	⇑P		P		08 57 29.9	-2.2	
	baz=30									
ASR	**Mount Adams--S**	**30.80**	**336**	P		**P**		**08 57 35.6**	**+1.0**	
C09A	**Chrisman Ranch**	**31.11**	**342**	*e*P		**P**		**08 57 37.6**	**+0.3**	
	4.9nm,1.0s									
NEW	**Newport**	**31.20**	**344**	⇓P		**P**		**08 57 37.0**	**-1.1**	
	baz=31									
WPW	**White Pass**	**31.24**	**337**	P		**P**		**08 57 38.8**	**+0.3**	
SDDR	**Presa de Saban**	**31.33**	**84**	*e*P		**P**		**08 57 39.5**	**0.0**	
	11nm,0.6s									
LON	**Longmire**	**31.38**	**337**	*e*P		**P**		**08 57 40.6**	**+0.9**	
	11nm,0.9s									
LTY	**Liberty**	**31.40**	**339**	*e*P		**P**		**08 57 40.0**	**+0.1**	
	11nm,1.0s									
OTAV	**Otavalo**	**31.43**	**123**	*e*P		P		08 57 44.1	+3.1	
E03A	**Lebam**	**31.90**	**335**	*e*P		**P**		**08 57 45.0**	**+0.8**	
	80nm,1.0s									
B08A	**Colville Reser**	**31.93**	**341**	*e*P		**P**		**08 57 44.0**	**-0.4**	
	9.2nm,0.9s									
NLW	**Nelson Butte**	**32.00**	**340**	P		**P**		**08 57 45.4**	**+0.2**	
ULM	**Lac du Bonnet**	**32.17**	**10**	P		P		08 57 43.0	-3.5	
ULM				PcP		**PcP**		**09 00 33.4**	**-1.8**	
ULM	**Lac du Bonnet**	**32.17**	**10**	P		P		08 57 43.0	-3.5	
	7.4nm,1.0s,baz=194,slow=11,SNR=6.2									
ULM				PcP		**PcP**		**09 00 33.4**	**-1.8**	
	5.4nm,0.9s,baz=192,slow=4.6,SNR=3.9									
ULM				LR		LR		09 11 49.7		
	comp=Z,889nm,19.4s,baz=227,slow=38									
SMW	**South Mountain**	**32.44**	**336**	P		**P**		**08 57 50.1**	**+1.1**	
OSD	**Olympics--Snow**	**32.99**	**336**	P		**P**		**08 57 55.2**	**+1.2**	
A05A	**Maple Falls**	**33.38**	**339**	*e*P		**P**		**08 57 57.5**	**+0.3**	
	20nm,1.0s									
SDV	**Santo Domingo**	**34.18**	**102**	*e*P		**P**		**08 58 06.1**	**+1.4**	
	27nm,1.2s									
EDM	**Edmonton**	**35.10**	**351**	*e*P		P		08 58 09.8	-2.2	
CELP	**Cerrillos**	**35.87**	**85**	*e*P		**P**		**08 58 18.3**	**-0.8**	
FFC	**Flin Flon**	**35.96**	**2**	*e*P		P		08 58 16.4	-2.9	
	47nm,1.2s									
MTP	**Monte Pirata**	**36.83**	**85**	*e*P		**P**		**08 58 26.3**	**-1.0**	
	26nm,0.9s									
DLBC	**Dease Lake**	**43.85**	**341**	*e*P		**P**		**08 59 25.8**	**+0.8**	
DLBC	**Dease Lake**	**43.85**	**341**	P		**P**		**08 59 25.3**	**+0.3**	
	33nm,1.0s,baz=170,slow=6.1,SNR=25									
YKA	**Yellowknife Ar**	**44.28**	**353**	P		P		08 59 25.1	-3.1	
YKA	**Yellowknife Ar**	**44.28**	**353**	P		P		08 59 25.1	-3.1	
	2.3nm,0.7s,baz=151,slow=8.3,SNR=3.7									
SCHQ	**Schefferville**	**45.97**	**29**	*e*P		P		08 59 39.6	-2.2	
SCHQ	**Schefferville**	**45.97**	**29**	P		P		08 59 39.0	-2.9	
	11nm,0.8s,baz=240,slow=13,SNR=8.0									
SCHQ				LR		LR		09 19 58.1		
	comp=Z,580nm,21.2s,baz=105,slow=38									
SAML	**Samuel**	**49.10**	**121**	*e*P		P		09 00 05.5	-1.2	
	12nm,1.1s									
DAWY	**Dawson**	**51.07**	**341**	*e*P		**P**		**09 00 20.7**	**-0.3**	
RKT	**Rikitea**	**51.20**	**217**	*e*LR		LR		09 15 12.7		
	560nm,26.8s,baz=32									
RKT	**Rikitea**	**51.20**	**217**	*e*T		T		09 55 00.9		
	11nm,0.3s									
EGAK	**Eagle**	**52.12**	**341**	*e*P		**P**		**09 00 28.3**	**-0.5**	
	14nm,0.7s									
PAX	**Paxson**	**52.37**	**338**	*e*P		**P**		**09 00 30.6**	**-0.1**	
	23nm,0.8s									
INK	**Inuvik**	**52.82**	**347**	*e*P		**P**		**09 00 32.8**	**-1.1**	
INK	**Inuvik**	**52.82**	**347**	P		**P**		**09 00 32.5**	**-1.4**	
	23nm,1.0s,baz=148,slow=8.4,SNR=26									
ILAR	**Eielson Array**	**53.97**	**339**	P		**P**		**09 00 41.6**	**-0.9**	
ILAR	**Eielson Array**	**53.97**	**339**	P		**P**		**09 00 41.6**	**-0.9**	
	25nm,1.0s,baz=149,slow=6.0,SNR=122									
MCK	**McKinley**	**54.08**	**337**	*e*P		**P**		**09 00 43.1**	**-0.1**	
	34nm,0.9s									
COLA	**College**	**54.36**	**339**	*e*P		**P**		**09 00 44.5**	**-0.8**	
	45nm,0.9s									
TRF	**Thorofare Moun**	**54.42**	**337**	*e*P		**P**		**09 00 45.4**	**-0.6**	
	74nm,0.8s									
PPLA	**Purkeypile**	**54.85**	**335**	*e*P		**P**		**09 00 48.8**	**-0.3**	
	53nm,1.1s									
BPAW	**Bear Paw Mtn.**	**55.03**	**337**	*e*P		P		09 00 48.2	-2.0	
	13nm,0.8s									
RES	**Resolute Bay**	**56.20**	**3**	P		P		09 00 55.5	-2.9	
RES	**Resolute Bay**	**56.20**	**3**	P		P		09 00 55.5	-2.9	
	1.1nm,0.5s,baz=146,slow=7.3,SNR=11									
COLD	**Coldfoot**	**56.53**	**340**	*e*P		**P**		**09 01 00.1**	**-0.8**	
	17nm,0.9s									
IMA2	**Indian Mountai**	**57.05**	**338**	*e*P		P		09 01 02.9	-1.8	
PPT2	**Papeete2**	**57.22**	**234**	*e*S		**S**		**09 09 04.8**	**+2.7**	
	156nm,27.8s									
PPT2				*e*LR		LR		09 17 51.5		
	462nm,25.5s,baz=49									
H03N2	**Juan Fernandez**	**57.31**	**155**	T		T		10 03 08.2		
	baz=332,slow=0.7,SNR=145									
H03N1	**Juan Fernandez**	**57.32**	**155**	T		T		10 03 08.9		
	baz=332,slow=0.7,SNR=188									
H03N3	**Juan Fernandez**	**57.33**	**155**	T		T		10 03 11.2		
	baz=332,slow=0.7,SNR=115									
TBI	**Tubuai**	**60.69**	**228**	*e*LR		LR		09 19 36.8		
	460nm,25.8s,baz=55									
SUMG	**Summit**	**65.11**	**18**	*e*P		P		09 01 57.6	-2.0	
	8.0nm,1.0s									
BDFB	**Brasilia**	**65.19**	**118**	P		**P**		**09 02 00.7**	**0.0**	
BDFB	**Brasilia**	**65.19**	**118**	P		**P**		**09 02 00.7**	**0.0**	
	4.5nm,0.7s,baz=307,slow=5.1,SNR=7.2									
BORG	**Borgarnes**	**70.28**	**27**	P		**P**		**09 02 31.4**	**-0.5**	
BORG	**Borgarnes**	**70.28**	**27**	P		**P**		**09 02 31.4**	**-0.5**	
	30nm,1.0s,baz=248,slow=5.4,SNR=3.2									
SPITS	**Spitsbergen Ar**	**77.73**	**10**	P		**P**		**09 03 14.4**	**-0.9**	
SPITS	**Spitsbergen Ar**	**77.73**	**10**	P		**P**		**09 03 14.4**	**-0.9**	
	21nm,1.1s,baz=70,slow=7.2,SNR=3.1									
PETK	**Petropavlovsk-**	**79.83**	**323**	P		**P**		**09 03 27.3**	**0.0**	
PETK	**Petropavlovsk-**	**79.83**	**323**	P		**P**		**09 03 27.3**	**0.0**	
	10nm,0.8s,baz=93,slow=10,SNR=9.6									
EKA	**Eskdalemuir Ar**	**81.00**	**35**	P		**P**		**09 03 32.8**	**-0.7**	
EKA	**Eskdalemuir Ar**	**81.00**	**35**	P		**P**		**09 03 32.8**	**-0.7**	
	12nm,0.9s,baz=297,slow=5.4,SNR=9.8									
POLO	**Lamas de Olo**	**82.64**	**49**	*e*P		**P**		**09 03 42.4**	**-0.2**	
	34nm,1.5s									
H11N3	**WAKE ISLAND Hy**	**82.66**	**288**	T		T		10 35 02.5		
	baz=69,slow=0.7,SNR=6.0									
H11N2	**WAKE ISLAND Hy**	**82.67**	**288**	T		T		10 34 52.9		
	baz=69,slow=0.7,SNR=5.1									
H11N1	**WAKE ISLAND Hy**	**82.67**	**288**	T		T		10 34 55.4		
	baz=69,slow=0.7,SNR=6.2									
PMTG	**Montargil**	**83.05**	**51**	*e*P		**P**		**09 03 44.5**	**-0.1**	
	62nm,2.0s									
PFVI	**Vila Bisbo**	**83.21**	**53**	*e*P		**P**		**09 03 46.7**	**+1.2**	
PBRG	**Braganca**	**83.25**	**48**	*e*P		**P**		**09 03 46.4**	**+0.7**	
	59nm,1.8s									
EVOP	**Sao Brissos**	**83.30**	**52**	*e*P		**P**		**09 03 45.6**	**-0.3**	
	101nm,1.1s									
EVO	**Evora**	**83.38**	**52**	*e*P		**P**		**09 03 45.6**	**-0.7**	
	101nm,1.1s									
PMRV	**Marv??o**	**83.55**	**51**	*e*P		**P**		**09 03 46.2**	**-1.0**	
	48nm,1.8s									
PCVE	**Castro Verde**	**83.65**	**53**	*e*P		**P**		**09 03 48.0**	**+0.3**	
	62nm,1.9s									
PBEJ	**Beja**	**83.65**	**52**	*e*P		**P**		**09 03 47.5**	**-0.2**	
	38nm,1.4s									
PBDV	**Barranco-do-Ve**	**83.85**	**53**	*e*P		**P**		**09 03 48.2**	**-0.6**	
	116nm,1.6s									
PBAR	**Barrancos**	**84.22**	**52**	*e*P		**P**		**09 03 50.2**	**-0.4**	
	62nm,1.6s									
GRR	**Gorron**	**84.83**	**41**	*e*P		**P**		**09 03 53.5**	**0.0**	
	208nm,1.4s									
GRR	**Gorron**	**84.83**	**41**	*e*P		**P**		**09 03 53.5**	**0.0**	
	208nm,1.4s									
FLN	**La Foliniere**	**84.92**	**40**	*e*P		**P**		**09 03 54.0**	**0.0**	
	103nm,1.0s									
FLN	**La Foliniere**	**84.92**	**40**	*e*P		**P**		**09 03 54.0**	**0.0**	
	103nm,1.0s									
ARCES	**ARCESS Array B**	**85.12**	**16**	P		**P**		**09 03 54.1**	**-0.4**	
ARCES	**ARCESS Array B**	**85.12**	**16**	P		**P**		**09 03 54.1**	**-0.4**	
	8.3nm,0.9s,baz=316,slow=5.0,SNR=11									
ARCES				LR		LR		09 42 01.8		
	comp=Z,261nm,20.6s,baz=338,slow=36									
LDF	**La Druitiere**	**85.21**	**40**	*e*P		**P**		**09 03 55.3**	**-0.1**	
	37nm,0.9s									
LDF	**La Druitiere**	**85.21**	**40**	*e*P		**P**		**09 03 55.3**	**-0.1**	
	37nm,0.9s									
NB2	**NORSAR Subarra**	**85.44**	**26**	P		**P**		**09 03 55.4**	**-1.0**	
	comp=Z,6.0nm,1.0s,baz=303,slow=4.8									
NOA	**NORSAR Array B**	**85.44**	**26**	P		**P**		**09 03 55.4**	**-1.0**	
NOA	**NORSAR Array B**	**85.44**	**26**	P		**P**		**09 03 55.4**	**-1.0**	
	comp=Z,2.0nm,0.9s,baz=310,slow=5.3,SNR=3.9									
ESDC	**Sonseca Array**	**85.96**	**50**	P		**P**		**09 03 58.7**	**-0.7**	
ESDC	**Sonseca Array**	**85.96**	**50**	P		**P**		**09 03 58.7**	**-0.7**	
	comp=Z,4.9nm,0.9s,baz=305,slow=4.9,SNR=12									
MFF	**Saint Martin d**	**85.97**	**42**	*e*P		**P**		**09 03 59.1**	**-0.1**	
MFF	**Saint Martin d**	**85.97**	**42**	*e*P		**P**		**09 03 59.1**	**-0.1**	
HFS	**Hagfors**	**86.96**	**26**	LR		LR		09 44 16.9		
	comp=Z,291nm,18.6s,baz=160,slow=37									
ETSF	**Etsaut**	**87.14**	**46**	*e*P		**P**		**09 04 05.0**	**-0.2**	
	comp=Z,36nm,1.1s									
ETSF	**Etsaut**	**87.14**	**46**	*e*P		**P**		**09 04 05.0**	**-0.2**	
	comp=Z,36nm,1.1s									
RJF	**Les Rejaudoux**	**87.55**	**43**	*e*P		**P**		**09 04 06.8**	**-0.2**	
	comp=Z,24nm,1.0s									
RJF	**Les Rejaudoux**	**87.55**	**43**	*e*P		**P**		**09 04 06.8**	**-0.2**	
	comp=Z,24nm,1.0s									
MDT	**Midelt**	**87.91**	**56**	P		P		09 04 06.3	-2.8	
MDT	**Midelt**	**87.91**	**56**	P		P		09 04 06.3	-2.8	
	comp=Z,2.9nm,0.8s,baz=52,slow=3.4,SNR=4.8									
SSF	**Saint Saulge**	**88.07**	**41**	*e*P		**P**		**09 04 09.2**	**-0.2**	
SSF	**Saint Saulge**	**88.07**	**41**	*e*P		**P**		**09 04 09.2**	**-0.2**	
FINES	**FINESS Array B**	**90.89**	**21**	P		P		09 04 20.0	-2.3	
FINES	**FINESS Array B**	**90.89**	**21**	P		P		09 04 20.0	-2.3	
	comp=Z,4.1nm,0.9s,baz=133,slow=19,SNR=4.2									
FINES				LR		LR		09 49 33.0		
	comp=Z,156nm,18.6s,baz=173,slow=38									
GERES	**GERESS Array B**	**93.17**	**36**	P		**P**		**09 04 32.2**	**-1.1**	
GERES	**GERESS Array B**	**93.17**	**36**	P		**P**		**09 04 32.2**	**-1.1**	
	comp=Z,0.3nm,0.3s,baz=267,slow=6.8,SNR=3.9									
GERES				LR		LR		09 46 51.9		
	comp=Z,227nm,18.6s,baz=317,slow=36									
DZM	**Mont Dzumac**	**96.09**	**249**	*e*LR		LR		09 36 09.2		
	comp=Z,399nm,22.9s									
DBIC	**Dimbokro**	**96.86**	**81**	P		P		09 04 49.5	-1.2	
DBIC	**Dimbokro**	**96.86**	**81**	P		P		09 04 49.5	-1.2	
	comp=Z,4.6nm,1.0s,baz=276,slow=7.2,SNR=2.7									
DBIC				LR		LR		09 44 17.1		
	comp=Z,128nm,20.5s,baz=350,slow=33									
KEST	**Kesra**	**97.18**	**49**	LR		LR		09 50 42.8		
	comp=Z,74nm,18.7s,baz=306,slow=37									
TORD	**Torodi Ar. Bea**	**100.60**	**72**	P		**Pdif**		**09 05 05.0**	**-2.5**	
TORD	**Torodi Ar. Bea**	**100.60**	**72**	P		**Pdif**		**09 05 05.0**	**-2.5**	
	comp=Z,0.8nm,0.9s,baz=305,slow=4.3,SNR=4.8									
CN2	**Changchun**	**102.82**	**325**	*e*P		**Pdif**		**09 05 15.3**	**-1.5**	
CN2				*e*PP		**PP**		**09 09 31.4**	**+1.4**	
CN2				*e*S		Sdif		09 16 47.1	-15	
HHC	**Hu-ho-hao-te**	**111.94**	**331**	*e*PKP		PKiKP		09 09 50.8	-3.7	
HHC				sPKP				09 10 27.8		
HHC				PP		**PP**		**09 10 38.1**	**+1.4**	
HHC				SKS		SKSdf		09 16 51.6	-15	
HHC				SKKS		SKKSac		09 17 21.6	-18	
HHC				SS		SS		09 26 03.4	-10	
HHC				PPMZ						
	comp=Z,260nm,10.7s									
HHC				LR		LR				
	comp=Z,420nm,15.5s									
HHC				LR		LR				
	comp=Z,270nm,16.7s									
HHC				LR		LR				
	comp=Z,170nm,17.8s									
MKAR	**Makanchi Array**	**114.49**	**355**	PKP		PKPdf		09 09 57.4	-1.7	
MKAR	**Makanchi Array**	**114.49**	**355**	PKP		PKPdf		09 09 57.4	-1.7	
	comp=Z,0.5nm,0.8s,baz=57,slow=5.3,SNR=3.1									
GTA	**Gaotai**	**117.87**	**339**	PKPbc		PKPdf		09 10 11.1	+5.2	
GTA				sPKP				09 10 49.0		
LZH	**Lanzhou**	**119.26**	**334**	*e*PKP		**PKPdf**		**09 10 07.6**	**-1.1**	
LZH				sPKP				09 10 44.8		
LZH				LR		LR				
	comp=Z,260nm,17.0s									
LZH				LR		LR				
	comp=Z,200nm,16.0s									
LZH				LR		LR				
	comp=Z,270nm,18.2s									
CD2	**Chengdu**	**123.69**	**331**	PKP		**PKPdf**		**09 10 15.4**	**-1.8**	
WRA	**Warramunga Arr**	**124.80**	**258**	PKP		**PKPdf**		**09 10 18.7**	**-0.8**	
WRA	**Warramunga Arr**	**124.80**	**258**	PKP		**PKPdf**		**09 10 18.7**	**-0.8**	
	comp=Z,1.5nm,0.9s,baz=78,slow=2.4,SNR=9.8									
ASAR	**Alice Springs**	**125.72**	**254**	PKP		**PKPdf**		**09 10 20.2**	**-1.0**	
ASAR	**Alice Springs**	**125.72**	**254**	PKP		**PKPdf**		**09 10 20.2**	**-1.0**	
	comp=Z,0.8nm,0.8s,baz=96,slow=1.9,SNR=7.4									
GYA	**Guiyang**	**125.87**	**325**	*e*Pdif		**Pdif**		**09 06 55.8**	**-4.0**	
GYA				PKP		**PKPdf**		**09 10 18.9**	**-2.7**	
GYA				sPKP				09 10 56.6		
GYA				PP		**PP**		**09 12 15.3**	**+2.0**	
GYA				PPMZ						
	comp=Z,80nm,7.6s									
MAW	**Mawson**	**130.49**	**174**	PKP		**PKPdf**		**09 10 28.4**	**-0.5**	
MAW	**Mawson**	**130.49**	**174**	PKP		**PKPdf**		**09 10 28.4**	**-0.5**	
	comp=Z,2.6nm,1.0s,baz=305,slow=4.5,SNR=3.9									
BOSA	**Boshof**	**133.16**	**112**	PKP		**PKPdf**		**09 10 34.7**	**-0.6**	
BOSA	**Boshof**	**133.16**	**112**	PKP		**PKPdf**		**09 10 34.7**	**-0.6**	
	comp=Z,5.2nm,1.0s,baz=350,slow=1.0,SNR=3.8									
CMAR	**Chiang Mai Arr**	**136.49**	**327**	PKP		**PKPdf**		**09 10 42.2**	**+0.5**	
CMAR	**Chiang Mai Arr**	**136.49**	**327**	PKP		**PKPdf**		**09 10 42.2**	**+0.5**	
	comp=Z,0.7nm,0.4s,baz=9.0,slow=2.1,SNR=8.0									
PSI	**Prapat**	**148.60**	**311**	PKPbc		**PKPdf**		**09 11 06.5**	**+3.1**	
PSI	**Prapat**	**148.60**	**311**	PKPbc		**PKPdf**		**09 11 06.5**	**+3.1**	
	comp=Z,18nm,0.9s,baz=211,slow=5.5,SNR=8.0									

IDC ***22*** *08:51:38.8±0.5, 3.66N×126.65E, h0km, mb4.3/22, mb1 4.4/22, mb1mx4.3/29, mbtmp4.3/22, MS3.7/11, Ms1 3.7/11, ms1mx3.5/30, Error ellipse: s-maj=28.3km s-min=11.7km az=73.0*

BJI ***22*** *08:51:40.5, 3.69N×126.47E, h20km, mB5.0/3, mb4.6/6*

NEIC ***22*** *08:51:43.9±0.3, 3.66N×126.74E, h35km, mb4.4/11, Error ellipse: s-maj=16.2km s-min=5.4km az=73.0*

ISCJB ***22*** *08:51:44.3±0.3, 3.74N±0.03×126.80E±0.04, h53km, mb4.3/29, MS3.6/10, Error ellipse: s-maj=6.6km s-min=4.0km az=157.5*

AUST ***22*** *08:51:46.5±5.1, 3.57N×126.60E, h53km, Error ellipse: s-maj=3.2km s-min=1.3km az=275.0*

DJA ***22*** *08:51:48.3±0.8, 4°N±7°×12°7E±°, h31km, M4.8/6, mB5.2/2, mb4.8/6, MLv4.9/3, Mw(mB)4.6/2*

ISC 22 08:51:46.4±0.4, 3.70N±0.04×126.70E±0.06, h53km, n83, σ1°44/83, mb4.3/29, MS3.6/10, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.17**	**269**	P		P	**Pn**	**08 52 05.4**	**-1.0**
SGSI				S		S	**Sn**	**08 52 20.2**	**-1.2**

GSPH	**General Santos**	**2.94**	**324**	⇑*i*P		P	**Pn**	**08 52 32.0**	**+1.2**	
GSPH				*i* S		S	**Sn**	**08 53 05.3**	**+0.4**	
TNTI	**Ternate**	**2.99**	**167**	P		P	**Pn**	**08 52 31.0**	**-0.3**	
TNTI				S		S	**Sn**	**08 53 07.0**	**+1.1**	
KMSI	**Cibinong**	**4.13**	**221**	P		P	Pn	08 52 50.5	+3.6	
CTBH	**Cotabato--PC H**	**4.26**	**325**	*e*P		P	**Pn**	**08 52 50.7**	**+1.9**	
CTBH				*i* S		S	**Sn**	**08 53 41.2**	**+3.9**	
MRSI	**Marisa**	**5.73**	**236**	P		P	**Pn**	**08 53 11.2**	**+2.2**	
	124nm,0.7s,2μm									
LUWI	**Luwuk**	**6.13**	**220**	P		P	**Pn**	**08 53 16.5**	**+2.0**	
	217nm,1.2s,2μm									
SWI	**Sorong**	**6.43**	**135**	P		P	**Pn**	**08 53 18.7**	**+0.2**	
	82nm,1.0s									
MYLDM	**Lahad Datu**	**8.30**	**280**	P		P	Pn	08 53 49.6	+5.4	
	57nm,1.0s									
PALU	**Palau**	**8.54**	**65**	P		P	**Pn**	**08 53 47.4**	**-0.1**	
	baz=8.7,SNR=4.7									
FAKI	**Fak Fak**	**8.60**	**140**	P		P	**Pn**	**08 53 48.6**	**+0.3**	
	baz=8.6,SNR=7.2									
TTSI	**Tana Toraja**	**9.60**	**226**	P		P	**Pn**	**08 54 04.6**	**+2.6**	
	38nm,0.9s									
KAPI	**Kappang**	**11.10**	**219**	LR		LR		08 59 21.8		
	comp=Z,433nm,19.1s,baz=58,slow=42									
SBUM	**Sibu**	**14.51**	**265**	P		**P**		**08 55 13.4**	**-0.8**	
JAY	**Jayapura**	**15.30**	**114**	P		**P**		**08 55 23.3**	**+0.3**	
	baz=15,SNR=8.1									
MTN	**Manton Dam**	**17.02**	**165**	P		P	Pn	08 55 31.8	-9.1	
	baz=17,SNR=4.2									
KDU	**Kakadu**	**17.26**	**161**	P		P	**Pn**	**08 55 42.8**	**-1.0**	
	baz=17,SNR=4.7									
KNRA	**Kununurra**	**19.36**	**174**	P		P		**08 56 07.9**	**+0.1**	
	baz=19,SNR=7.0									
YULB	**Yu-li**	**20.26**	**346**	*e*P		**P**		**08 56 16.8**	**-0.7**	
	6.4nm,0.4s									
TPUB	**Ta-pu**	**20.35**	**344**	*e*P		**P**		**08 56 17.9**	**-0.6**	
	8.2nm,0.5s									
SSLB	**Suanglung**	**20.73**	**345**	*e*P		**P**		**08 56 21.3**	**-1.3**	
	11nm,0.7s									
FITZ	**Fitzroy Crossi**	**21.69**	**183**	*e*P		**P**		**08 56 30.9**	**-2.1**	
	6.8nm,0.9s									
FITZ	**Fitzroy Crossi**	**21.69**	**183**	P		**P**		**08 56 31.4**	**-1.6**	
	baz=22,SNR=10									
FITZ	**Fitzroy Crossi**	**21.69**	**183**	P		**P**		**08 56 31.2**	**-1.7**	
	2.6nm,0.6s,baz=10,slow=9.1,SNR=8.5									
PMG	**Port Moresby**	**24.19**	**123**	LR		LR		09 07 39.3		
	comp=Z,165nm,18.5s,baz=266,slow=40									
WRAB	**Tennant Creek**	**24.66**	**163**	*e*P		**P**		**08 57 01.1**	**-1.3**	
	31nm,0.8s									
WRA	**Warramunga Arr**	**24.67**	**163**	P		**P**		**08 57 00.6**	**-1.8**	
WRA	**Warramunga Arr**	**24.67**	**163**	P		**P**		**08 57 00.6**	**-1.8**	
	17nm,0.8s,baz=345,slow=10.0,SNR=86									
JCJ	**Chichijima**	**27.57**	**31**	LR		LR		09 07 24.0		
	comp=Z,113nm,19.6s,baz=178,slow=34									
PSI	**Prapat**	**27.74**	**269**	LR		LR		09 08

WEL 22 09:38:39.8±0.6, 38°44S×175°90E, h159km±4km, ML3.6/18, 12C-4D, Error ellipse: s-maj=2.8km s-min=2.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.72**	**209**	PN	Pn	09 39 03.5	+0.1
WPVZ	**Whakapapa**	**0.81**	**200**	PN	Pn	09 39 03.4	-0.7
FWVZ	**Far West T-bar**	**0.86**	**198**	⇑PN	Pn	09 39 04.5	0.0
BKZ	**Black Stump Fm**	**0.86**	**147**	⇑PN	Pn	09 39 04.3	0.0
BKZ				SN	Sn	09 39 21.6	-1.7
BKZ				AML	AML	09 39 21.8	
WHVZ	**Whangaehu Hut**	**0.87**	**196**	⇑PN	Pn	09 39 04.6	0.0
TRVZ	**Turoa**	**0.90**	**197**	PN	Pn	09 39 04.6	-0.3
WNVZ	**Wahianoa**	**0.92**	**195**	⇑PN	Pn	09 39 04.9	0.0
PKVZ	**Pokaka**	**0.95**	**207**	⇑PN	Pn	09 39 05.0	-0.1
NMHZ	**Naumai**	**0.97**	**133**	PN	Pn	09 39 06.1	+0.9
MOVZ	**Moawhango**	**0.97**	**187**	⇑PN	Pn	09 39 04.8	-0.4
URZ	**Urewera**	**0.97**	**80**	⇓PN	Pn	09 39 04.8	-0.3
URZ				SN	Sn	09 39 23.3	-1.2
BHHZ	**Black Hill Sta**	**1.05**	**173**	⇑PN	Pn	09 39 05.5	-0.3
VRZ	**Vera Road**	**1.12**	**232**	⇑PN	Pn	09 39 06.5	+0.1
MCHZ	**McNeill Hill**	**1.18**	**148**	PN	Pn	09 39 07.6	+0.7
MCHZ				SN	Sn	09 39 27.6	-0.2
SNGZ	**Shannon Statio**	**1.18**	**107**	PN	Pn	09 39 07.3	+0.4
WHHZ	**Waihua**	**1.22**	**122**	PN	Pn	09 39 07.7	+0.4
MWZ	**Matawai**	**1.29**	**86**	PN	Pn	09 39 08.0	+0.1
PNHZ	**Pukenui**	**1.49**	**171**	PN	Pn	09 39 09.4	-0.5
WAZ	**Wanganui**	**1.49**	**208**	PN	Pn	09 39 09.5	-0.4
KNZ	**Kokohu**	**1.51**	**113**	PN	Pn	09 39 10.1	+0.1
CKHZ	**Cape Kidnapper**	**1.52**	**143**	PN	Pn	09 39 10.4	+0.2
CKHZ				SN	Sn	09 39 32.4	-1.3
KAHZ	**Kahuranaki**	**1.55**	**151**	PN	Pn	09 39 10.7	+0.2
TSZ	**Takapari Road**	**1.62**	**178**	⇑PN	Pn	09 39 10.7	-0.5
WPHZ	**Waipukurau**	**1.68**	**166**	PN	Pn	09 39 11.4	-0.4
PXZ	**Pawanui**	**1.76**	**155**	PN	Pn	09 39 12.4	-0.3
DVHZ	**Dannevirke**	**1.87**	**174**	PN	Pn	09 39 12.9	-1.0
PUZ	**Puketiti**	**1.90**	**80**	SN	Sn	09 39 38.5	-2.2
PUZ				AML	AML	09 39 40.6	
PRHZ	**Porangahau**	**1.91**	**163**	PN	Pn	09 39 13.8	-0.5
POWZ	**Post Office Ro**	**1.95**	**183**	PN	Pn	09 39 13.8	-1.1
ANWZ	**Angora Road**	**2.07**	**168**	⇑PN	Pn	09 39 15.4	-0.7
MXZ	**Matakaoa Point**	**2.10**	**66**	PN	Pn	09 39 16.5	0.0
MRZ	**Mangatainoka R**	**2.23**	**186**	⇑PN	Pn	09 39 16.5	-1.5
MRZ				AML	AML	09 39 46.4	
MRZ				AML	AML	09 39 46.4	
BFZ	**Birch Farm**	**2.25**	**173**	PN	Pn	09 39 17.0	-1.3
TIWZ	**Tintock**	**2.33**	**180**	PN	Pn	09 39 17.9	-1.4
OGWZ	**Otaki Gorge**	**2.44**	**193**	PN	Pn	09 39 19.1	-1.4
HOWZ	**Holdsworth Sta**	**2.47**	**187**	PN	Pn	09 39 19.0	-2.0
CPWZ	**Castlepoint**	**2.48**	**175**	PN	Pn	09 39 20.0	-1.0
KIW	**Kapiti Island**	**2.54**	**197**	AML	AML	09 39 16.6	
KIW				PN	Pn	09 39 19.6	-2.1
TMWZ	**Te Maipa**	**2.66**	**180**	⇓PN	Pn	09 39 21.3	-1.9
MTW	**Mount Morrison**	**2.73**	**186**	PN	Pn	09 39 21.7	-2.3
CAW	**Cannon Point**	**2.74**	**193**	PN	Pn	09 39 22.0	-2.2
PAWZ	**Paruwai Farm**	**2.96**	**187**	⇓PN	Pn	09 39 24.5	-2.4
TRWZ	**Traveller**	**2.96**	**183**	PN	Pn	09 39 24.7	-2.2
SNZO	**South Karori**	**3.01**	**197**	PN	Pn	09 39 24.8	-2.7
MSWZ	**Moikau Station**	**3.01**	**189**	PN	Pn	09 39 24.9	-2.6
TCW	**Tory Channel**	**3.04**	**204**	PN	Pn	09 39 25.3	-2.6
PLWZ	**Palliser**	**3.16**	**189**	⇓PN	Pn	09 39 26.6	-2.9
TUWZ	**Tuamarina**	**3.34**	**206**	PN	Pn	09 39 28.9	-2.8
NNZ	**Nelson**	**3.38**	**214**	PN	Pn	09 39 29.3	-2.9
THZ	**Tophouse**	**4.03**	**214**	PN	Pn	09 39 37.3	-3.4
KHZ	**Kahutara**	**4.36**	**204**	PN	Pn	09 39 41.7	-3.1
KHZ				SN	Sn	09 40 30.0	-5.6
LTZ	**Lake Taylor**	**5.14**	**211**	PN	Pn	09 39 50.7	-4.4
OXZ	**Oxford**	**5.69**	**210**	PN	Pn	09 39 57.2	-5.2
MQZ	**McQueen's Vall**	**5.80**	**204**	⇑PN	Pn	09 39 58.8	-5.0

IDC 22 09:45:31.8±1.2, 44°82N×100°45E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.5/28, mbtmp3.6/6, ML3.5/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/45, Error ellipse: s-maj=28.0km s-min=19.6km az=161.0, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**5.10**	**52**	Pn	Pn	09 46 51.1	+1.4
	1.8nm,0.3s,baz=235,slow=15,SNR=20						
SONM				Pg	Pb	09 47 04.3	+2.1
	6.3nm,0.3s,baz=235,slow=15,SNR=21						
SONM				Lg	Lg	09 48 14.5	
	20nm,0.3s,baz=234,slow=30,SNR=14						
SONM				LR	LR	09 49 02.2	
	comp=Z,90nm,20.5s,baz=38,slow=41						
MKAR	**Makanchi Array**	**12.82**	**285**	Lg	Lg	09 52 19.3	
	0.3nm,0.3s,baz=82,slow=34,SNR=3.6						
KURBB	**Kurchatov Arra**	**15.82**	**299**	Pn	P	09 49 19.2	-0.5
	0.2nm,0.3s,baz=104,slow=12,SNR=12						
KURBB				Lg	Lg	09 53 54.2	
	0.2nm,0.3s,baz=198,slow=27,SNR=3.0						
BVAR	**Borovoye Array**	**21.26**	**303**	P	P	09 50 20.2	+0.7
	1.2nm,0.6s,baz=97,slow=12,SNR=3.5						
ARCES	**ARCESS Array B**	**43.73**	**331**	P	P	09 53 37.9	-0.4
	6.0nm,1.1s,baz=72,slow=8.9,SNR=4.9						
BRTR	**Keskin Array B**	**48.45**	**289**	P	P	09 54 15.8	-0.2
	0.4nm,0.7s,baz=352,slow=8.7,SNR=2.6						
ILAR	**Eielson Array**	**58.86**	**28**	P	P	09 55 31.0	-0.8
	0.2nm,0.6s,baz=312,slow=6.8,SNR=4.0						
ASAR	**Alice Springs**	**74.69**	**148**	P	P	09 57 13.4	+0.2
	0.4nm,0.9s,baz=340,slow=5.1,SNR=5.7						

KRSC 22 10:08:21.1±4.8, 54°71N×162°70E, h10km±10km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.50**	**3**	P	Pb	10 08 49.4	+0.3
KBTR				*i* S	Sg	10 09 09.6	+0.1
TUMR	**Tumrok**	**1.58**	**292**	P	Pn	10 08 49.4	+0.1
TUMR				*i* S	Sn	10 09 09.7	-0.2
BZGR	**Bezymyannyi-Gr**	**1.68**	**318**	P	Pn	10 08 51.0	+0.3
BZGR				*i* S	Sn	10 09 12.0	-0.4
KMNR	**Kamenistaya**	**1.76**	**308**	P	Pn	10 08 51.9	+0.2
KMNR				*i* S	Sn	10 09 13.4	-0.9
BZMR	**Bezymyannaya**	**1.76**	**315**	P	Pb	10 08 53.7	0.0
BZMR				*i* S	Sb	10 09 16.2	+0.2
BZWR	**Bezymyannyi-We**	**1.78**	**316**	P	Pb	10 08 53.7	-0.3
BZWR				*i* S	Sb	10 09 16.0	-0.5
KIRR	**Kirishev**	**1.83**	**314**	P	Pb	10 08 54.6	-0.4
KIRR				*i* S	Sb	10 09 17.8	-0.3
KPT	**Kopyto**	**1.89**	**313**	P	Pn	10 08 54.4	+0.8
KPT				*i* S	Sn	10 09 17.9	+0.3
KRSR	**Krestovskiy**	**1.94**	**322**	P	Pn	10 08 55.4	+1.2
KRSR				*i* S	Sn	10 09 19.3	+0.6
BKI	**Bering**	**1.95**	**74**	P	Pb	10 08 55.7	-1.0
BKI				*i* S	Sn	10 09 19.6	+0.9
KLY	**Klyuchi**	**1.98**	**325**	P	Pn	10 08 54.1	-0.6
KLY				*i* S	Sn	10 09 17.6	-2.0
SMKR	**Semkarok**	**2.00**	**340**	P	Pb	10 08 57.1	-0.6
SMKR				*i* S	Sn	10 09 21.4	+1.2
BDR	**Baidarnaya**	**2.04**	**336**	P	Pb	10 08 57.7	-0.7
BDR				*i* S	Sb	10 09 23.2	-0.8
KOZ	**Kozyrevsk**	**2.10**	**311**	P	Pn	10 08 57.8	+1.4
KOZ				*i* S	Sn	10 09 23.4	+0.8
SRDR	**Sredinnyy**	**2.34**	**315**	P	Pb	10 09 01.7	-1.7
SRDR				*i* S	Sb	10 09 30.9	-1.5
NLC	**Nalytchevo**	**2.51**	**233**	P	Pn	10 09 03.1	+1.2
NLC				*i* S	Sn	10 09 32.6	0.0
ESO	**Esso**	**2.59**	**300**	P	Pn	10 09 04.6	+1.5
ESO				*i* S	Sn	10 09 35.5	+0.9
SDLR	**Sedlovina**	**2.67**	**239**	P	Pn	10 09 06.1	+1.8
SDLR				*i* S	Sn	10 09 37.5	+0.7
SMAR	**Somma**	**2.72**	**239**	P	Pn	10 09 05.7	+0.6
SMAR				*i* S	Sn	10 09 37.6	-0.6
KRER	**Koryakskii**	**2.72**	**240**	P	Pn	10 09 07.0	+1.9
KRER				*i* S	Sn	10 09 40.1	+1.8
UGLR	**Uglovaya**	**2.74**	**238**	P	Pn	10 09 07.1	+1.9
UGLR				*i* S	Sn	10 09 40.4	+1.9
KRX	**Arik**	**2.75**	**242**	P	Pn	10 09 07.6	+2.2
KRX				*i* S	Sn	10 09 40.8	+2.1
AVH	**Avacha**	**2.75**	**240**	P	Pn	10 09 07.6	+2.2
AVH				*i* S	Sn	10 09 40.5	+1.8
KOK	**Koryaka**	**2.79**	**241**	P	Pn	10 09 07.8	+1.9
PET	**Petropavlovsk**	**2.93**	**236**	P	Pn	10 09 09.7	+2.0
PET				*i* S	Sn	10 09 44.1	+1.2
GNL	**Ganaly**	**2.97**	**252**	P	Pn	10 09 10.7	+2.2
RUS	**Russkaya**	**3.38**	**229**	P	Pn	10 09 13.9	0.0
RUS				*i* S	Sn	10 09 54.1	+0.1
MTVR	**Mutnovka**	**3.50**	**232**	P	Pn	10 09 17.2	+1.5
MTVR				*i* S	Sn	10 09 58.1	+0.9
ASAK	**Asacha**	**3.69**	**233**	P	Pn	10 09 20.8	+2.5
ASAK				*i* S	Sn	10 10 03.7	+1.8
APC	**Apacha**	**3.74**	**244**	P	Pn	10 09 20.9	+2.1

IDC 22 10:10:38.3±3.4, 4°80S×151°26E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/19, mbtmp3.6/3, Error ellipse: s-maj=119.1km s-min=47.0km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.31**	**226**	P	P	10 15 37.2	-0.5
	0.8nm,0.7s,baz=51,slow=10,SNR=6.3						
ASAR	**Alice Springs**	**25.13**	**220**	P	P	10 16 05.4	+0.1
	1.1nm,0.7s,baz=56,slow=9.0,SNR=15						
FITZ	**Fitzroy Crossi**	**28.32**	**240**	P	P	10 16 34.1	+0.1
	0.6nm,0.3s,baz=66,slow=10.0,SNR=5.6						
TORD	**Torodi Ar. Bea**	**148.84**	**287**	PKPbc	PKPbc	10 30 28.6	-0.5
	0.5nm,0.5s,baz=75,slow=2.0,SNR=7.4						

IDC ***22*** *10:13:51.8±0.6, 54°82N×162°44E, h0km, mb3.8/12, mb1 4.1/14, mb1mx3.9/30, mbtmp3.8/14, ML3.9/2, MS3.1/1, Ms1 3.1/1, ms1mx2.6/46, Error ellipse: s-maj=19.4km s-min=12.5km az=178.0*

KRSC ***22*** *10:13:52.9±4.9, 54°73N×162°62E, h25km±25km, ML4.3*

ISCJB ***22*** *10:13:54.6±1.1, 54°71N±0°02×162°66E±0°04, h29km±9km, mb3.8/15, Error ellipse: s-maj=4.2km s-min=3.3km az=20.3*

MOS ***22*** *10:13:54.2±0.9, 54°71N×162°66E, h28km, mb4.1/10, Error ellipse: s-maj=14.4km s-min=9.1km az=72.8*

ISC 22 10:13:55.1±0.6, 54°73N±0°03×162°65E±0°03, h19km±4km, n61, σ1°29/91, mb4.0/15, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.49**	**4**	PN	Pn	10 14 20.2	-0.6
KBTR				S	Sb	10 14 40.8	+0.2
KBTR	**Krutoberegovo**	**1.49**	**4**	*e*P	Pn	10 14 20.2	-0.6
KBTR				*i* S	Sb	10 14 40.8	+0.2
TUMR	**Tumrok**	**1.54**	**292**	*e*P	Pn	10 14 20.3	-1.3
BZGR	**Bezymyannyi-Gr**	**1.65**	**318**	*i* P	Pn	10 14 21.8	-1.3
BZGR				*i* S	Sn	10 14 42.4	-1.4
ZLN	**Zelenaya**	**1.67**	**322**	*i* P	Pn	10 14 23.4	+0.1
ZLN				*i* S	Sn	10 14 44.8	+0.6
KMNR	**Kamenistaya**	**1.72**	**308**	*i* P	Pn	10 14 22.9	-1.2
KMNR				*i* S	Sn	10 14 44.6	-1.0
BZMR	**Bezymyannaya**	**1.73**	**315**	*i* P	Pn	10 14 23.5	-0.7
BZMR				*i* S	Sn	10 14 43.9	-1.9
BZWR	**Bezymyannyi-We**	**1.75**	**316**	*i* P	Pn	10 14 24.6	+0.1
BZWR				*i* S	Sn	10 14 45.4	-0.8
CIRR	**Tsirk**	**1.76**	**323**	*i* P	Pn	10 14 25.1	+0.4
CIRR				*i* S	Sn	10 14 45.9	-0.7
KIRR	**Kirishev**	**1.80**	**314**	*e*P	Pn	10 14 25.5	+0.3
KIRR				*i* S	Sn	10 14 48.3	+0.7
KPT	**Kopyto**	**1.86**	**313**	*e*P	Pn	10 14 25.0	-1.0
KPT				*i* S	Sn	10 14 48.9	-0.1
KLY	**Klyuchi**	**1.95**	**325**	PN	Pn	10 14 25.8	-1.3
KLY				S	Sn	10 14 48.5	-2.6
KLY	**Klyuchi**	**1.95**	**325**	*e*P	Pn	10 14 25.8	-1.3
KLY				*i* S	Sn	10 14 48.5	-2.6
SMKR	**Semkarok**	**1.98**	**341**	*e*P	Pn	10 14 27.4	-0.1
SMKR				*i* S	Sn	10 14 52.5	+0.7
BKI	**Bering**	**1.98**	**75**	PN	Pn	10 14 26.9	-0.5
BKI				S	Sn	10 14 50.3	-1.4
BKI	**Bering**	**1.98**	**75**	*e*P	Pn	10 14 26.9	-0.5
BKI				*i* S	Sn	10 14 50.3	-1.4
KOZR	**Kozyr**	**2.06**	**312**	PN	Pn	10 14 28.4	-0.3
KOZR				S	Sn	10 14 52.6	-1.3
KOZ	**Kozyrevsk**	**2.07**	**311**	*e*P	Pn	10 14 28.4	-0.4
KOZ				*i* S	Sn	10 14 52.6	-1.4
SRDR	**Sredinnyy**	**2.31**	**315**	*e*P	Pn	10 14 31.7	-0.3
NLC	**Nalytchevo**	**2.50**	**233**	PN	Pn	10 14 34.1	-0.5
NLC				S	Sn	10 15 04.8	+0.3
NLC	**Nalytchevo**	**2.50**	**233**	*e*P	Pn	10 14 34.1	-0.5
NLC				*i* S	Sn	10 15 04.8	+0.3
ESO	**Esso**	**2.55**	**300**	PN	Pn	10 14 35.1	-0.3
ESO				S	Sn	10 15 03.9	-2.1
ESO	**Esso**	**2.55**	**300**	*e*P	Pn	10 14 35.1	-0.3
ESO				*i* S	Sn	10 15 03.9	-2.1
SDLR	**Sedlovina**	**2.65**	**238**	*e*P	Pn	10 14 35.9	-1.0
SDLR				*i* S	Sn	10 15 08.5	0.0
SMAR	**Somma**	**2.70**	**239**	*e*P	Pn	10 14 36.7	-0.9
KRER	**Koryakskii**	**2.71**	**240**	*e*P	Pn	10 14 36.8	-0.9
KRER				*i* S	Sn	10 15 09.5	-0.5
UGLR	**Uglovaya**	**2.72**	**238**	*i* P	Pn	10 14 38.5	+0.7
UGLR				*i* S	Sn	10 15 10.9	+0.7
KRX	**Arik**	**2.73**	**241**	*e*P	Pn	10 14 37.1	-0.8
KRX				*i* S	Sn	10 15 09.5	-0.9
KOK	**Koryaka**	**2.77**	**240**	*i* P	Pn	10 14 38.8	+0.3
KOK				*i* S	Sn	10 15 11.8	+0.4
PET	**Petropavlovsk**	**2.92**	**236**	*e*PN	Pn	10 14 40.7	+0.4
PET				*e*S	Sn	10 15 15.8	+1.0
PET				pmax	pmax		
	comp=Z,236nm,0.5s						
PET				smax	smax		
	comp=E,310nm,0.5s						
PET				smax	smax		
	comp=N,503nm,0.7s						
PET				MLR	MLR		
	comp=Z,400nm,15.0s						
PET				MLR	MLR		
	comp=Z,500nm,15.0s						
PET	**Petropavlovsk**	**2.92**	**236**	*i* P	Pn	10 14 40.5	+0.2
PET				*i* S	Sn	10 15 14.8	0.0
PETK	**Petropavlovsk-**	**3.34**	**243**	PN	Pn	10 14 45.6	-0.7
PETK						10 15 30.5	
PETK				pmax	pmax		
	comp=Z,12nm,0.3s						
PETK				smax	smax		
	comp=N,7.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,238nm,18.1s						
PETK	**Petropavlovsk-**	**3.34**	**243**	Pn	Pn	10 14 45.6	-0.7
	comp=Z,12nm,0.3s,baz=71,slow=15,SNR=100						
PETK				Sn	Sb	10 15 30.5	-3.4
	comp=Z,7.3nm,0.3s,baz=299,slow=33,SNR=10						
PETK				LR	LR	10 16 09.3	
	comp=Z,238nm,18.1s,baz=284,slow=42						
RUS	**Russkaya**	**3.37**	**229**	PN	Pn	10 14 46.3	-0.3
RUS				S	Sn	10 15 24.3	-1.7
RUS	**Russkaya**	**3.37**	**229**	*i* P	Pn	10 14 46.3	-0.3
RUS				*i* S	Sn	10 15 24.3	-1.7
MTVR	**Mutnovka**	**3.48**	**232**	*e*P	Pn	10 14 48.8	+0.5
MTVR				*i* S	Sn	10 15 29.3	+0.3
APC	**Apacha**	**3.72**	**243**	*e*P	Pn	10 14 52.1	+0.7
APC				*i* S	Sn	10 15 35.1	+0.5
SKR	**Severo-Kuril's**	**5.67**	**227**	*e*PN	Pn	10 15 17.4	-0.8
FX1	**Attu Island--F**	**6.50**	**102**	Pn	Pn	10 15 28.8	-0.8
	comp=Z,9.6nm,0.3s,baz=183,slow=3.7,SNR=17						
FX1				Sn	Sn	10 16 38.2	-4.9
	comp=Z,13nm,0.3s,baz=132,slow=23,SNR=12						
YSS	**Yuzh-Sakhalins**	**14.74**	**246**	*e*P	Pn	10 17 18.0	-4.3
TIXI	**Tiksi**	**22.28**	**332**	*e*P	P	10 18 53.6	+3.0
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.0s						
MJA0	**Matsu Arr-Jizo**	**24.73**	**233**	*e*P	P	10 19 14.9	-0.1
MJA0				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MAT	**Matsushiro**	**24.74**	**233**	P	P	10 19 14.6	-0.6
MJAR	**Matsushiro Arr**	**24.74**	**233**	P	P	10 19 15.0	-0.2
	comp=Z,4.7nm,0.8s,baz=34,slow=9.3,SNR=18						
ILAR	**Eielson Array**	**26.59**	**48**	P	P	10 19 31.8	+0.1
	comp=Z,7.7nm,0.4s,baz=268,slow=8.1,SNR=13						
INK	**Inuvik**	**31.65**	**39**	P	P	10 20 16.6	+0.1
	comp=Z,1.2nm,0.8s,baz=262,slow=7.1,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**35.09**	**173**	T	T	10 58 06.4	
	baz=358,slow=0.7,SNR=52						
H11N3	**WAKE ISLAND Hy**	**35.10**	**173**	T	T	10 58 05.9	
	baz=358,slow=0.7,SNR=40						
H11N1	**WAKE ISLAND Hy**	**35.10**	**173**	T	T	10 58 06.1	
	baz=358,slow=0.7,SNR=52						
KURK	**Kurchatov**	**48.15**	**302**	P	P	10 22 31.9	-1.6
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**48.25**	**302**	P	P	10 22 31.9	-2.4
	comp=Z,0.5nm,0.5s,baz=57,slow=7.9,SNR=6.7						
MKAR	**Makanchi Array**	**48.80**	**296**	*e*P	P	10 22 36.6	-2.0
MKAR	**Makanchi Array**	**48.80**	**296**	P	P	10 22 36.1	-2.5
	comp=Z,0.3nm,0.7s,baz=63,slow=7.8,SNR=3.8						
NVAR	**Mina Array Bea**	**53.79**	**73**	P	P	10 23 18.4	+2.0
	comp=Z,1.7nm,0.7s,baz=310,slow=7.0,SNR=9.9						
PDAR	**Pinedale Array**	**55.42**	**63**	P	P	10 23 29.4	+1.2
	comp=Z,1.1nm,0.7s,baz=310,slow=4.2,SNR=10						
FINES	**FINESS Array B**	**59.20**	**337**	P	P	10 23 52.7	-1.5
	comp=Z,3.5nm,0.9s,baz=21,slow=9.4,SNR=3.9						
NOA	**NORSAR Array B**	**62.38**	**345**	P	P	10 24 13.6	-2.4
	comp=Z,0.9nm,0.7s,baz=18,slow=6.6,SNR=3.0						
TXAR	**Lajitas Array**	**68.63**	**69**	P	P	10 24 58.1	+1.2
	comp=Z,0.8nm,0.5s,baz=297,slow=4.0,SNR=7.4						
BRTR	**Keskin Array B**	**76.29**	**322**	P	P	10 25 42.0	-0.5
	comp=Z,0.3nm,0.4s,baz=20,slow=3.3,SNR=2.6						
WRA	**Warramunga Arr**	**78.21**	**207**	P	P	10 25 53.0	-0.1
	comp=Z,0.5nm,0.9s,baz=22,slow=6.1,SNR=5.1						
ASAR	**Alice Springs**	**81.88**	**206**	P	P	10 26 13.3	+0.4
	comp=Z,0.2nm,0.6s,baz=18,slow=5.6,SNR=4.6						

ISCJB ***22*** *10:21:12.7±0.5, 24°33N±0°06×142°0E±0°1, h33km, mb4.2/22, MS3.7/9, Error ellipse: s-maj=14.2km s-min=8.9km az=169.0*

IDC ***22*** *10:21:19.9±1.8, 24°40N×141°88E, h81km±16km, mb3.9/18, mb1 4.1/21, mb1mx3.9/32, mbtmp3.8/21, MS3.5/13, Ms1 3.6/13, ms1mx3.3/49, Error ellipse: s-maj=18.4km s-min=11.2km az=102.0*

NEIC ***22*** *10:21:19.4±1.1, 24°41N×141°89E, h78km±10km, mb4.4/3, Error ellipse: s-maj=11.4km s-min=8.1km az=96.0*

ISC 22 10:21:15.0±0.6, 24°33N±0°06×141°9E±0°1, h35km, n64, σ1°85/52, mb4.2/22, MS3.5/9, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.76**	**5**	P	Pn	10 22 01.4	+4.7
CBIJ				S	Sn	10 22 33.6	+4.8
JCJ	**Chichijima**	**2.76**	**5**	P	Pn	10 22 01.4	+4.7
	34nm,0.3s,baz=270,slow=21,SNR=9.4						
JCJ				S	Sn	10 22 33.6	+4.8
	68nm,0.3s,baz=293,slow=23,SNR=6.3						
MJAR	**Matsushiro Arr**	**12.58**	**346**	P	Pn	10 24 14.0	+2.6
MJAR				S	Sn	10 26 24.4	-5.9
MJAR	**Matsushiro Arr**	**12.58**	**346**	P	Pn	10 24 14.0	+2.6
	0.3nm,0.3s,baz=148,slow=14,SNR=2.6						
MJAR				S	Sn	10 26 24.4	-5.9
	0.5nm,0.3s,baz=218,slow=26,SNR=7.0						
MJAR				LR	LR	10 28 49.5	
	comp=Z,109nm,19.1s,baz=185,slow=36						
JNU	**Nakatsue**	**13.04**	**315**	P	Pn	10 24 20.8	+3.0
JNU	**Nakatsue**	**13.04**	**315**	LR	LR	10 28 42.9	
	comp=Z,80nm,19.0s,baz=61,slow=34						
KSRS	**Korea Array**	**17.72**	**321**	P	P	10 25 20.4	+0.9
	0.2nm,0.3s,baz=133,slow=12,SNR=5.3						
KSRS				LR	LR	10 31 16.4	
	comp=Z,44nm,20.8s,baz=130,slow=34						
KSAR	**Wonju Array Be**	**17.74**	**321**	P	P	10 25 20.4	+0.7
ASAJ	**Asahikawa**	**19.74**	**1**	Pn	P	10 25 41.7	0.0
ASAJ	**Asahikawa**	**19.74**	**1**	LR	LR	10 32 48.6	
	comp=Z,139nm,21.6s,baz=140,slow=35						
H11N1	**WAKE ISLAND Hy**	**23.60**	**96**	T	T	10 51 01.0	
	baz=287						
H11N2	**WAKE ISLAND Hy**	**23.60**	**96**	T	T	10 51 18.9	
	baz=287,slow=0.7						
H11N3	**WAKE ISLAND Hy**	**23.61**	**96**	T	T	10 51 20.7	
	baz=287,slow=0.7						
H11S3	**WAKE ISLAND Hy**	**23.77**	**99**	T	T	10 51 52.0	
	baz=292,slow=0.7,SNR=5.6						
H11S1	**WAKLAND Hy**	**23.78**	**99**	T	T	10 51 53.0	
	baz=292,slow=0.7,SNR=20						
H11S2	**WAKE ISLAND Hy**	**23.79**	**99**	T	T	10 51 53.7	
	baz=292,slow=0.7,SNR=16						
PETK	**Petropavlovsk-**	**31.12**	**19**	LR	LR	10 38 08.6	
	comp=Z,49nm,19.2s,baz=5.4,slow=32						
KAPI	**Kappang**	**36.29**	**219**	LR	LR	10 40 59.2	
	comp=Z,67nm,20.1s,baz=43,slow=32						
SONM	**Songino Array**	**36.58**	**319**	LR	LR	10 42 27.5	
	comp=Z,43nm,18.4s,baz=36,slow=35						
CMAR	**Chiang Mai Arr**	**40.31**	**270**	P	P	10 28 51

8.4nm,0.3s,baz=281,slow=16,SNR=3.5
JCJ S Sn 10 27 26.9 +0.9
22nm,0.3s,baz=285,slow=20,SNR=3.8
WRA Warramunga Arr 44.70 190 P P 10 34 17.6 -0.1
2.3nm,0.5s,baz=12,slow=8.7,SNR=25
ASAR Alice Springs 48.42 190 P P 10 34 47.0 +0.3
0.5nm,0.7s,baz=358,slow=5.5,SNR=9.3
MKAR Makanchi Array 52.05 311 P P 10 35 13.9 -0.1
0.2nm,0.4s,baz=88,slow=9.6,SNR=2.6
KURBB Kurchatov Arra 54.79 316 P P 10 35 33.7 -0.2
0.4nm,0.4s,baz=92,slow=8.4,SNR=4.2
STKA Stephens Creek 55.97 180 P P 10 35 41.9 -0.6
1.0nm,0.6s,baz=1.1,slow=9.3,SNR=4.0
BVAR Borovoye Array 59.89 319 P P 10 36 09.8 0.0
1.0nm,0.5s,baz=96,slow=5.8,SNR=3.2
ILAR Eielson Array 60.17 28 P P 10 36 10.9 -0.5
0.6nm,0.8s,baz=277,slow=5.5,SNR=6.6
NVAR Mina Array Bea 82.34 51 P P 10 38 26.5 +0.6
0.3nm,0.6s,baz=289,slow=5.6,SNR=4.4

WEL 22 10:29:53.9±0.7, 35°44S×179°07E, h237km±18km, ML3.8/10, Error ellipse: s-maj=17.2km s-min=14.6km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.21**	**196**	PN	Pn	10 30 37.1	-0.1
MXZ				SN	S	10 31 09.3	-2.1
PUZ	**Puketiti**	**2.71**	**194**	PN	Pn	10 30 42.4	0.0
PUZ				SN	S	10 31 19.7	-0.9
CNGZ	**Carnagh Statio**	**3.12**	**193**	PN	Pn	10 30 47.6	+0.8
MWZ	**Matawai**	**3.14**	**203**	PN	Pn	10 30 47.2	0.0
MWZ				SN	S	10 31 29.2	-0.1
URZ	**Urewera**	**3.22**	**209**	PN	Pn	10 30 47.6	-0.5
URZ				SN	S	10 31 31.1	+0.3
RIGZ	**Rimuhau**	**3.42**	**197**	*e*PN	Pn	10 30 50.4	0.0
PRGZ	**Paritu Road**	**3.60**	**195**	*e*PN	Pn	10 30 52.5	0.0
SNGZ	**Shannon Statio**	**3.61**	**202**	PN	Pn	10 30 52.8	+0.2
KNZ	**Kokohu**	**3.74**	**197**	PN	Pn	10 30 53.5	-0.5
MHGZ	**Mahia Peninsul**	**3.82**	**194**	*e*PN	Pn	10 30 55.5	+0.5
NMHZ	**Naumai**	**4.07**	**206**	PN	Pn	10 30 58.3	+0.2
BKZ	**Black Stump Fm**	**4.25**	**208**	PN	Pn	10 31 00.0	-0.2
MCHZ	**McNeill Hill**	**4.42**	**205**	PN	Pn	10 31 03.5	+1.4
PXZ	**Pawanui**	**4.91**	**200**	PN	Pn	10 31 06.9	-1.1
PXZ				SN	S	10 32 06.9	-0.1
TSZ	**Takapari Road**	**5.23**	**207**	*e*PN	Pn	10 31 11.1	-1.0
BFZ	**Birch Farm**	**5.69**	**202**	PN	Pn	10 31 16.9	-0.9
MRZ	**Mangatainoka R**	**5.90**	**207**	PN	Pn	10 31 18.4	-2.0
MRZ				*e*SN	S	10 32 26.5	-2.9
TMWZ	**Te Maipa**	**6.19**	**203**	PN	Pn	10 31 22.8	-1.3
KIW	**Kapiti Island**	**6.33**	**210**	PN	Pn	10 31 23.7	-2.1
MTW	**Mount Morrison**	**6.36**	**205**	PN	Pn	10 31 24.0	-2.3
CAW	**Cannon Point**	**6.47**	**208**	PN	Pn	10 31 25.5	-2.2
TCW	**Tory Channel**	**6.88**	**212**	*e*PN	Pn	10 31 30.6	-2.3
TUWZ	**Tuamarina**	**7.21**	**212**	PN	Pn	10 31 34.2	-2.8
NNZ	**Nelson**	**7.30**	**216**	PN	Pn	10 31 35.3	-2.8
KHZ	**Kahutara**	**8.19**	**210**	PN	Pn	10 31 47.0	-2.5
MQZ	**McQueen's Vall**	**9.62**	**209**	PN	Pn	10 32 04.3	-3.4

IDC 22 10:40:53.3±5.2, 14°79S×172°73W, h0km, mb4.1/2, mb1 4.3/2, mb1mx3.6/20, mbtmp4.1/2, Error ellipse: s-maj=291.3km s-min=17.9km az=145.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.27**	**46**	Pn	Pg	10 41 17.9	+0.1
	110nm,0.3s,baz=136,slow=1.1,SNR=290						
AFI				Sn	Sn	10 41 38.5	+2.2
	217nm,0.3s,baz=187,slow=21,SNR=13						
WRA	**Warramunga Arr**	**50.62**	**256**	P	P	10 49 54.8	+0.3
	1.1nm,0.8s,baz=92,slow=7.9,SNR=7.2						
ASAR	**Alice Springs**	**50.92**	**251**	P	P	10 49 56.5	-0.3
	4.1nm,0.9s,baz=85,slow=8.4,SNR=25						
BRTR	**Keskin Array B**	**146.09**	**322**	PKPbc	PKPdf	11 00 34.9	-0.1
	0.9nm,0.7s,baz=41,slow=4.6,SNR=3.8						

*ISCJB **22** 11:01:10.0±1.0, 23°89S±0°07×66°7W±0°1, h195km, mb3.5/1, Error ellipse: s-maj=19.0km s-min=9.6km az=166.1*
*IDC **22** 11:01:10.8±1.8, 23°84S×66°73W, h194km±16km, mb3.5/1, mb1 3.4/6, mb1mx3.2/20, mbtmp3.3/6, Error ellipse: s-maj=24.4km s-min=17.4km az=91.0*
ISC 22 11:01:10.8±1.0, 23°85S±0°09×66°7W±0°1, h195km, n9, σ0s92/10, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**7.64**	**350**	P	**Pn**	**11 03 01.3**	**+1.3**
	0.7nm,0.3s,baz=168,slow=10,SNR=22						
LPAZ				S	**Sn**	**11 04 25.1**	**-1.5**
	baz=350,slow=18,SNR=2.2						
CFAA	**Coronel Fontan**	**7.84**	**189**	P	**Pn**	**11 03 01.5**	**-0.5**
	0.2nm,0.3s,baz=14,slow=14,SNR=32						
CFAA				S	Sn	11 04 22.9	-7.4
	0.4nm,0.3s,baz=131,slow=20,SNR=12						
CPUP	**Villa Florida**	**8.87**	**108**	P	**Pn**	**11 03 15.6**	**+0.2**
	0.1nm,0.3s,baz=83,slow=20,SNR=3.7						
SIV	**San Ignacio**	**9.46**	**35**	P	**Pn**	**11 03 23.0**	**-0.1**
	1.4nm,0.3s,baz=221,slow=14,SNR=27						
BDFB	**Brasilia**	**19.40**	**69**	P	**P**	**11 05 23.4**	**+1.1**
	0.7nm,0.3s,baz=237,slow=11,SNR=14						
TORD	**Torodi Ar. Bea**	**76.28**	**69**	P	**P**	**11 12 38.0**	**-0.5**
	0.7nm,0.5s,baz=254,slow=5.5,SNR=16						
ASAR	**Alice Springs**	**128.69**	**204**	PKP	**PKPdf**	**11 19 55.9**	**+0.4**
	0.5nm,0.7s,baz=143,slow=3.2,SNR=4.1						
WRA	**Warramunga Arr**	**131.87**	**207**	PKP	**PKPdf**	**11 20 01.7**	**+0.1**
	0.2nm,0.3s,baz=154,slow=1.7,SNR=10						
MKAR	**Makanchi Array**	**146.25**	**40**	PKPbc	**PKPbc**	**11 20 28.0**	**-0.3**
	0.5nm,0.5s,baz=316,slow=2.2,SNR=7.8						

*ISCJB **22** 11:04:21.8±0.4, 59°80N±0°02×23°23E±0°05, h0km, Error ellipse: s-maj=3.7km s-min=3.3km az=42.8*
*IDC **22** 11:04:21.1±2.8, 59°55N×23°66E, h0km, mb1 3.5/4, mb1mx3.2/27, mbtmp3.5/4, ML3.3/4, Error ellipse: s-maj=37.3km s-min=9.1km az=157.0*
*NAO **22** 11:04:22.7±1.1, 59°79N×23°24E, ML2.3*
*CSEM **22** 11:04:23.1±0.2, 59°76N×23°24E, h2km, ML2.1, Error ellipse: s-maj=5.6km s-min=4.5km az=58.0, Mining explosion.*
*BER **22** 11:04:23.7±3.3, 59°78N×23°19E, h0km, ML2.3(NAO), Suspected explosion*
*HEL **22** 11:04:23.3±0.1, 59°78N×23°28E, h0km, ML2.3, Explosion*
ISC 22 11:04:22.0±0.6, 59°82N±0°02×23°23E±0°03, h0km, n45, σ1s57/68, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPE	**Suurupi**	**0.69**	**121**	*e*S	**Sg**	**11 04 43.9**	**-0.1**
	347nm,0.4s,SNR=90						
MEF	**Metsahovi**	**0.71**	**56**	*e*P	**Pg**	**11 04 36.1**	**+0.5**
MEF				*e*S	**Sg**	**11 04 45.1**	**+0.4**
MEF	**Metsahovi**	**0.71**	**56**	P	**Pg**	**11 04 36.0**	**+0.5**
MEF				S	**Sg**	**11 04 45.1**	**+0.4**
MTSE	**Matsula**	**1.15**	**165**	*e*P	**Pg**	**11 04 42.8**	**-1.2**
MTSE				*e*SB	**Sg**	**11 04 58.2**	**-0.8**
MTSE	**Matsula**	**1.15**	**165**	P	**Pg**	**11 04 42.8**	**-1.2**
MTSE				*e*S	**Sg**	**11 04 57.2**	**-1.8**
	SNR=90						
MTSE				Sb	**Sg**	**11 04 58.1**	**-0.8**
RAF	**Rauma**	**1.41**	**330**	*e*P	**Pn**	**11 04 48.9**	**+0.1**
RAF				*e*PN	**Pb**	**11 04 51.2**	**+2.2**
RAF				*e*S	**Sg**	**11 05 08.0**	**+0.9**
PVF	**Pernaja**	**1.50**	**60**	*e*P	**Pn**	**11 04 49.9**	**-0.3**
PVF				*e*S	**Sg**	**11 05 09.1**	**-1.1**
PVF	**Pernaja**	**1.50**	**60**	P	**Pn**	**11 04 49.8**	**-0.3**
PVF				S	**Sg**	**11 05 09.1**	**-1.1**
AAL	**Aland**	**1.66**	**284**	*e*P	**Pn**	**11 04 53.1**	**+0.8**
AAL				*e*S	**Sn**	**11 05 15.5**	**+1.1**
AAL	**Aland**	**1.66**	**284**	P	**Pn**	**11 04 53.1**	**+0.8**
AAL				S	**Sn**	**11 05 15.5**	**+1.1**
FIA0	**FINESS Array S**	**2.15**	**40**	Pn	**Pb**	**11 05 01.2**	**-0.5**
	baz=217,slow=16						
FIA0				Lg	Lg	11 05 29.9	
	baz=226,slow=28						
FIA0	**FINESS Array S**	**2.15**	**40**	Pn	**Pb**	**11 05 01.2**	**-0.5**
	baz=217,slow=16						
FIA0				Lg	Lg	11 05 29.9	
	baz=226,slow=28						
FIA0	**FINESS Array S**	**2.15**	**40**	*e*PB	**Pb**	**11 05 01.1**	**-0.5**
FIA0				*e*SG	**Sb**	**11 05 29.5**	**+0.6**
FIA0	**FINESS Array S**	**2.15**	**40**	Pn	**Pb**	**11 05 01.2**	**-0.5**
	baz=217,slow=15,SNR=50						
FIA0				Lg	Lg	11 05 30.0	
	baz=226,slow=27,SNR=6.9						
FINES	**FINESS Array B**	**2.15**	**40**	Pn	**Pb**	**11 05 00.9**	**-0.8**
	15nm,0.3s,baz=218,slow=16,SNR=206						
FINES				Sn	**Sb**	**11 05 28.6**	**-0.2**
	14nm,0.3s,baz=233,slow=26,SNR=45						
SLIT	**Slitere, Latvi**	**2.26**	**193**	*e*P	**Pn**	**11 05 02.2**	**+1.7**
	SNR=50						
VSU	**Vasula**	**2.27**	**126**	Pn	**Pn**	**11 05 01.9**	**+1.3**
VSU				Lg	Lg	11 05 31.7	
VSU	**Vasula**	**2.27**	**126**	Pn	**Pn**	**11 05 01.9**	**+1.3**
VSU				Lg	Lg	11 05 31.7	
VSU	**Vasula**	**2.27**	**126**	*e*PB	**Pn**	**11 05 02.4**	**+1.7**
VSU	**Vasula**	**2.27**	**126**	Pn	**Pn**	**11 05 01.9**	**+1.3**
VSU	**Vasula**	**2.27**	**126**	Pb	**Pn**	**11 05 02.3**	**+1.7**
VSU	**Vasula**	**2.27**	**126**	*e*P	**Pn**	**11 05 02.4**	**+1.7**
	SNR=50						
VSU				*e*S	**Sb**	**11 05 31.7**	**-0.5**
	SNR=50						
VJF	**Virojoki**	**2.28**	**70**	*e*P	**Pn**	**11 05 01.2**	**+0.4**
VJF				*e*SG	**Sb**	**11 05 33.4**	**+0.8**
VJF				MSG		11 05 35.2	
	comp=Z,14nm,0.2s						
VJF	**Virojoki**	**2.28**	**70**	P	**Pn**	**11 05 01.2**	**+0.4**
KEF	**Keuruu**	**2.48**	**18**	*e*P	**Pn**	**11 05 06.0**	**+2.3**
KEF				*e*SB	**Sb**	**11 05 39.7**	**+1.2**
KEF	**Keuruu**	**2.48**	**18**	P	**Pn**	**11 05 05.9**	**+2.3**
KEF				Sb	**Sb**	**11 05 39.7**	**+1.2**
KAF	**Kangasniemi**	**2.74**	**32**	MSG		11 05 48.2	
	comp=Z,11nm,0.2s						
SUF	**Sumiainen**	**3.23**	**25**	*e*P	**Pn**	**11 05 16.2**	**+2.3**
SUF				*e*SB	**Sb**	**11 05 58.7**	**-1.2**
SUF				MSG		11 06 06.5	
	comp=Z,6.0nm,0.2s						
SUF	**Sumiainen**	**3.23**	**25**	P	**Pn**	**11 05 16.1**	**+2.3**
VAF	**Ylistaro**	**3.24**	**356**	*e*P	Pn	11 05 17.5	+3.5
VAF				*e*SB	**Sb**	**11 06 00.3**	**0.0**
VAF				MSG		11 06 07.8	
	comp=Z,6.7nm,0.2s						
VAF	**Ylistaro**	**3.24**	**356**	P	Pn	11 05 17.5	+3.5
VAF				Sb	**Sb**	**11 06 00.2**	**0.0**
HFS	**Hagfors**	**4.80**	**278**	Pn	**Pn**	**11 05 36.3**	**+0.8**
	baz=99,slow=14						
HFS				Lg	Lg	11 06 49.8	
	baz=94,slow=37						
HFS	**Hagfors**	**4.80**	**278**	Pn	**Pn**	**11 05 36.3**	**+0.8**
	baz=99,slow=14						
HFS				Lg	Lg	11 06 49.8	
	baz=94,slow=37						
HFS	**Hagfors**	**4.80**	**278**	Pn	**Pn**	**11 05 36.3**	**+0.8**
	baz=99,slow=13,SNR=5.1						
HFS				Lg	Lg	11 06 49.8	
	baz=94,slow=31,SNR=90						
HFS	**Hagfors**	**4.80**	**278**	Pn	**Pn**	**11 05 37.2**	**+1.8**
	comp=Z,0.8nm,0.3s,baz=93,slow=14,SNR=23						
HFS				Sn	**Sn**	**11 06 31.8**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=97,slow=25,SNR=5.8						
HFS				Lg	Lg	11 06 49.0	
	comp=Z,1.7nm,0.3s,baz=85,slow=32,SNR=8.3						
NB2	**NORSAR Subarra**	**6.07**	**287**	Pn	**Pn**	**11 05 52.9**	**-0.1**
	baz=101,slow=12						
NB2				Sn	**Sn**	**11 07 01.0**	**-2.1**
	baz=111,slow=22						
NB2				Lg	Lg	11 07 29.3	
NB2	**NORSAR Subarra**	**6.07**	**287**	Pn	**Pn**	**11 05 52.9**	**-0.1**
	baz=101,slow=12						
NB2				Sn	**Sn**	**11 07 01.0**	**-2.1**
	baz=111,slow=22						
NB2				Lg	Lg	11 07 29.3	
NB2	**NORSAR Subarra**	**6.07**	**287**	Pn	**Pn**	**11 05 52.9**	**-0.1**
	baz=101,slow=12,SNR=50						
NB2				Lg	Lg	11 07 29.3	
NOA	**NORSAR Array B**	**6.07**	**287**	Pn	**Pn**	**11 05 53.1**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=88,slow=12,SNR=10						
NOA				Sn	**Sn**	**11 07 06.1**	**+3.0**
	comp=Z,0.5nm,0.3s,baz=55,slow=20,SNR=4.4						
NOA				Lg	Lg	11 07 29.6	
	comp=Z,0.9nm,0.3s,baz=87,slow=8.8,SNR=4.1						
APA0	**Apatity Array**	**8.92**	**25**	Pn	**Pn**	**11 06 33.9**	**+2.0**
	baz=205,slow=12						
APA0	**Apatity Array**	**8.92**	**25**	Pn	**Pn**	**11 06 33.9**	**+2.0**
	baz=205,slow=12,SNR=50						
APA0	**Apatity Array**	**8.92**	**25**	Pn	**Pn**	**11 06 33.9**	**+2.0**
	baz=205,slow=12,SNR=50						
ARCES	**ARCESS Array B**	**9.80**	**5**	Pn	**Pn**	**11 06 43.9**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=183,slow=14,SNR=43						
ARA0	**ARCESS Array S**	**9.80**	**5**	Pn	**Pn**	**11 06 43.7**	**-0.2**
	baz=183,slow=14						
ARA0				Sn	**Sn**	**11 08 29.1**	**-5.5**
	baz=187,slow=28						
ARA0	**ARCESS Array S**	**9.80**	**5**	Pn	**Pn**	**11 06 43.7**	**-0.2**
	baz=183,slow=14						
ARA0				Sn	**Sn**	**11 08 29.1**	**-5.5**
	baz=187,slow=28						

IDC 22 11:19:07.7±1.5, 19°48N×145°86E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.4/26, mbtmp3.4/4, Error ellipse: s-maj=183.6km s-min=26.2km az=114.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.77**	**197**	P	P	11 26 51.2	+0.3
	0.2nm,0.4s,baz=20,slow=8.9,SNR=6.3						
FITZ	**Fitzroy Crossi**	**42.30**	**209**	P	P	11 27 02.6	-0.8
	1.0nm,0.7s,baz=23,slow=8.1						
ASAR	**Alice Springs**	**44.44**	**196**	P	P	11 27 20.8	+0.1
	0.3nm,0.8s,baz=24,slow=9.2,SNR=2.9						
ILAR	**Eielson Array**	**62.88**	**26**	P	P	11 29 35.4	0.0
	0.2nm,0.4s,baz=251,slow=6.0,SNR=5.2						

*ISCJB **22** 11:20:57.3±0.4, 14°31N±0°08×90°13W±0°07, h194km±3km, mb3.6/9, Error ellipse: s-maj=16.1km s-min=6.0km az=42.2*
*IDC **22** 11:20:57.0±0.8, 14°48N×89°72W, h175km±6km, mb3.4/8, mb1 3.6/9, mb1mx3.4/21, mbtmp3.4/9, Error ellipse: s-maj=31.9km s-min=16.0km az=57.0*
*CASC **22** 11:20:59.4±4.8, 12°88N×90°68W, h20km±21km, MD4.1, ML3.6*
ISC 22 11:20:57.7±0.7, 14°3N±0°1×89°99W±0°10, h192km±5km, n33, σ1s69/34, mb3.7/9, 5C-1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RBDL	**Robledal**	**0.35**	**122**	*e*P	**Pn**	**11 21 23.4**	**-0.2**
RBDL				*e*S	**Sn**	**11 21 44.2**	**+0.6**
NBG	**Las Nubes**	**0.45**	**310**	*e*P	**Pn**	**11 21 24.6**	**+0.6**
NBG				*e*S	**Sn**	**11 21 44.9**	**+0.6**
RTR	**El Retiro**	**0.52**	**140**	*e*P	**Pn**	**11 21 24.5**	**+0.2**
RTR				*e*S	**Sn**	**11 21 44.5**	**-0.2**
SNJE	**San Jose**	**0.57**	**139**	*e*P	**Pn**	**11 21 24.4**	**0.0**
SNJE				*e*S	**Sn**	**11 21 45.5**	**+0.4**
SBLS	**San Blas**	**0.58**	**142**	*e*P	**Pn**	**11 21 24.6**	**+0.1**
MRL	**Marmol**	**0.81**	**21**	*e*P	Pn	11 21 27.2	+1.6
MRL				*e*S	Sn	11 21 48.2	+0.8
APG	**El Apazote**	**0.84**	**327**	P	**Pn**	**11 21 24.7**	**-1.2**
	116nm,0.3s,baz=147,slow=5.2,SNR=511						
APG				S	**Sn**	**11 21 44.5**	**-3.2**
	36nm,0.3s,baz=165,slow=20,SNR=80						
FUG	**Fuego 3**	**0.84**	**280**	*e*P	**Pn**	**11 21 25.3**	**-0.5**
BOQS	**Boqueron**	**0.89**	**129**	*e*P	**Pn**	**11 21 26.5**	**+0.3**
SNET	**Serv Nac Est T**	**0.96**	**130**	*e*P	**Pn**	**11 21 26.8**	**+0.3**
SNET				AML	AML	11 21 57.0	
	comp=Z,906nm,0.3s						
LBRS	**Las Brisas**	**1.07**	**121**	*e*P	Pn	11 21 28.4	+1.1
LFRS	**El Faro**	**1.12**	**127**	*e*P	Pn	11 21 28.2	+0.5
LFRS				*e*S	**Sn**	**11 21 52.1**	**+1.3**
SNVI	**San Vicente**	**1.31**	**121**	*e*P	Pn	11 21 30.4	+1.2
JAT	**Jato**	**1.60**	**271**	*e*P	**Pn**	**11 21 30.8**	**-0.8**
JAT				*e*S	**Sn**	**11 21 54.3**	**-3.5**
VSM	**San Miguel**	**1.88**	**117**	*e*P	Pn	11 21 35.9	+1.2
CNCH	**Conchagua**	**2.33**	**116**	*e*P	Pn	11 21 40.9	+1.5
VCR	**Vista de Mar**	**5.95**	**134**	*e*P	Pn	11 22 27.2	+2.9
VCR				*e*S	**Sn**	**11 23 28.8**	**-3.9**
JTS	**JuntasAbangare**	**6.33**	**128**	P	Pn	11 22 31.8	+2.5
	comp=Z,12nm,0.3s,baz=322,slow=16,SNR=28						
JTS				S	**Sn**	**11 23 39.0**	**-2.7**
	comp=Z,12nm,0.3s,baz=285,slow=23,SNR=11						
JCR	**Jicaral**	**6.51**	**132**	*e*P	Pn	11 22 34.5	+2.9
JCR				*e*S	**Sn**	**11 23 44.0**	**-1.8**
QCR	**Quepos**	**7.48**	**130**	*e*P	Pn	11 22 48.4	+4.1
QCR				*e*S	**Sn**	**11 24 11.2**	**+2.4**
BUS	**Buena Vista**	**7.71**	**127**	*e*P	Pn	11 22 50.8	+3.1
BUS				*e*S	**Sn**	**11 24 12.3**	**-2.5**
TXAR	**Lajitas Array**	**19.59**	**322**	P	**P**	**11 25 13.5**	**+2.1**
	comp=Z,0.4nm,0.3s,baz=137,slow=10,SNR=22						
TKL	**Tuckaleechee C**	**21.99**	**14**	P	**P**	**11 25 37.9**	**+1.5**
	comp=Z,9.9nm,0.8s,baz=186,slow=14,SNR=9.7						
PDAR	**Pinedale Array**	**33.00**	**333**	P	**P**	**11 27 14.9**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=238,slow=8.5,SNR=3.2						
NVAR	**Mina Array Bea**	**34.69**	**319**	P	**P**	**11 27 30.9**	**+1.4**
	comp=Z,0.6nm,0.8s,baz=134,slow=7.7,SNR=4.7						
ULM	**Lac du Bonnet**	**36.17**	**354**	P	**P**	**11 27 40.9**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=177,slow=9.9,SNR=3.5						
LPAZ	**La Paz**	**37.28**	**144**	P	**P**	**11 27 53.9**	**+1.8**
	comp=Z,0.6nm,0.5s,baz=327,slow=4.9,SNR=7.3						
SCHQ	**Schefferville**	**44.28**	**19**	P	**P**	**11 28 48.2**	**0.0**
	comp=Z,2.0nm,0.4s,baz=225,slow=18,SNR=6.7						
YKA	**Yellowknife Ar**	**51.20**	**346**	P	**P**	**11 29 41.2**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=150,slow=7.5,SNR=2.7						
DBIC	**Dimbokro**	**83.68**	**85**	P	**P**	**11 33 04.5**	**-1.1**
	comp=Z,2.2nm,0.7s,baz=259,slow=4.9,SNR=4.3						
TORD	**Torodi Ar. Bea**	**88.41**	**77**	P	**P**	**11 33 26.6**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=286,slow=5.8,SNR=3.3						
WRA	**Warramunga Arr**	**137.36**	**256**	PKP	**PKPdf**	**11 39 58.5**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=78,slow=2.1,SNR=2.8						
FITZ	**Fitzroy Crossi**	**145.61**	**259**	PKPbc	**PKPdf**	**11 40 15.6**	**+1.6**
	comp=Z,1.2nm,0.6s,baz=104,slow=4.2,SNR=10						

*ISCJB **22** 11:52:55.4±0.6, 36°33N±0°03×71°0E±0°1, h100km, mb3.5/5, Error ellipse: s-maj=12.0km s-min=4.3km az=170.1*
*IDC **22** 11:52:56.1±5.3, 36°21N×70°74E, h123km±50km, mb3.5/6, mb1 3.7/11, mb1mx3.4/32, mbtmp3.6/11, Error ellipse: s-maj=36.3km s-min=20.4km az=17.0*
*NNC **22** 11:53:05.0±4.7, 36°95N×70°88E, h159km±46km, mb3.3, mpv4.4, Error ellipse: s-maj=44.3km s-min=22.6km az=33.0*
ISC 22 11:52:56.7±0.9, 36°32N±0°06×71°1E±0°1, h100km, n37, σ1s70/41, mb3.7/5, 5C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.57**	**165**	⇑P	**Pn**	**11 53 38.6**	**+1.8**
CEP				S	**Sn**	**11 54 10.0**	**+2.4**
CHCP	**Chirah Chowk**	**3.18**	**146**	⇑P	**Pn**	**11 53 47.5**	**+2.6**
THW	**Thamme Wali**	**3.55**	**172**	P	**Pn**	**11 53 51.0**	**+1.1**
SARP	**Sargodha**	**4.56**	**163**	P	**Pn**	**11 54 04.5**	**+1.0**
THN	**Thein Dam**	**5.42**	**134**	*e*4	**Pn**	**11 54 15.0**	**-0.1**
THN				*e*S	**Sn**	**11 55 15.3**	**-0.8**
DHRM	**DHARAMSHALA**	**5.89**	**132**	*e*P	**Pn**	**11 54 22.9**	**+1.1**
DHRM				*e*S	**Sn**	**11 55 27.4**	**-0.6**
DHRM				AML	AML	11 55 30.3	
	comp=N,1μm,0.2s						
DHRM				AML	AML	11 55 31.2	
	comp=E,1μm,0.5s						
AML	**Almayashu**	**6.14**	**18**	P	**Pn**	**11 54 26.9**	**+1.6**
	SNR=94						
KZA	**Kyzart**	**6.58**	**28**	P	**Pn**	**11 54 32.9**	**+1.7**
	SNR=23						
EKS2	**Erkin-Say**	**6.66**	**17**	P	**Pn**	**11 54 33.5**	**+1.5**
	SNR=17						
KK31	**Karatay Array**	**6.80**	**356**	⇓P	**Pn**	**11 54 33.9**	**+0.1**
	comp=E,22nm,0.7s,baz=185,slow=14,SNR=138						
KK31				⇓S	Sn	11 55 44.7	-5.0
	comp=E,43nm,0.9s,baz=178,slow=15,SNR=6.3						
AAK	**Ala-Archa**	**6.82**	**21**	P	**Pn**	**11 54 36.2**	**+1.9**
	SNR=26						
AAK	**Ala-Archa**	**6.82**	**21**	P	**Pn**	**11 54 36.1**	**+1.9**
	comp=E,7.5nm,0.3s,baz=176,slow=4.6,SNR=57						
AAK				S	**Sn**	**11 55 50.8**	**+0.3**
	comp=E,6.3nm,0.3s,baz=158,slow=23,SNR=22						
SDNR	**Sundarnagar**	**6.83**	**133**	*e*P	**Pn**	**11 54 36.6**	**+2.3**
SDNR				*ex*	**Sn**	**11 55 48.0**	**-2.5**
KBK	**Karagaybulak**	**6.99**	**24**	P	**Pn**	**11 54 39.6**	**+3.1**
	SNR=7.3						
ULHL	**Ulahol**	**7.12**	**32**	P	**Pn**	**11 54 41.1**	**+2.6**
	SNR=9.9						
SMLA	**Simla**	**7.21**	**134**	*i* P	**Pn**	**11 54 40.1**	**+0.6**
SMLA				*i* S	**Sn**	**11 55 57.8**	**-2.0**
SMLA				*i* S	**Sn**	**11 55 58.0**	**-1.8**
SMLA				AML	AML	11 55 59.6	
	comp=N,209nm,0.4s						
SMLA				AML	AML	11 56 00.8	
	comp=E,241nm,0.4s						
CHMS	**Chumysh**	**7.24**	**22**	P	**Pn**	**11 54 41.4**	**+1.7**
	SNR=8.6						
USP	**Ospenovka**	**7.41**	**19**	P	**Pn**	**11 54 43.3**	**+1.1**
	SNR=12						
TKM2	**Tokmak 2**	**7.44**	**26**	⇓P	**Pn**	**11 54 44.2**	**+1.5**
	comp=E,19nm,0.7s						
TKM2				⇓S	Sn	11 56 00.7	-5.1
	comp=E,44nm,0.8s			

PEL				*i* S		Sg	12 00 17.0	-0.6
PEL				AML		AML	12 00 24.4	
	comp=N,2μm,0.4s							
JACH	**Jahuel**	**1.13**	**86**	⇑*i*P		Pg	12 00 02.6	-1.0
JACH				*i* S		Sg	12 00 17.9	-0.4
TACH	**Talagante**	**1.21**	**137**	⇑*i*P		Pb	12 00 03.2	-1.6
TACH				*i* S		Sb	12 00 19.6	-1.0
LNV	**Longovilo**	**1.25**	**160**	⇓*i*P		Pn	12 00 04.0	-1.4
SAN	**Santiago**	**1.26**	**123**	*i* S		Sb	12 00 21.5	-0.6
CLCH	**Cerro Calan**	**1.32**	**118**	⇑*i*P		Pn	12 00 05.7	-0.8
CLCH				*i* S		Sb	12 00 23.6	-0.4
CLCH				AML		AML	12 00 29.7	
	comp=N,907nm,0.5s							
PCH	**Pirque**	**1.45**	**126**	⇑*i*P		Pn	12 00 07.7	-0.7
CHCH	**Chadas Angostu**	**1.57**	**138**	*e*P		Pn	12 00 09.3	-0.7
CACH	**El Canelo**	**1.74**	**141**	*e*P		Pn	12 00 12.9	+0.5
CACH				*i* S		Sb	12 00 36.7	+0.5
LMEL	**Las Melosas**	**1.80**	**127**	⇑*i*P		Pn	12 00 13.2	+0.1
LMEL				*i* S		Sn	12 00 36.9	+0.6
LMEL				AML		AML	12 00 44.2	
	comp=N,355nm,0.4s							

KRSC ***22*** *12:00:04.8±8.4, 47.92N×156.20E, h5km±5km, ML4.3*
MOS ***22*** *12:00:04.8±1.8, 47.92N×156.20E, h5km, mb4.2/2, Error ellipse: s-maj=38.8km s-min=10.3km az=77.2*
IDC ***22*** *12:00:05.3±2.7, 47.85N×154.12E, h65km±26km, mb3.4/6, mb1 3.8/10, mb1mx3.5/30, mbtmp3.6/10, ML3.7/4, Error ellipse: s-maj=35.5km s-min=15.1km az=147.0*

ISC 22 12:00:05.9±1.8, 47.8N±0.1×155.5E±0.2, h27km, n44, σ1§36/39, mb3.9/6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.90**	**8**	*e*PN		Pn	12 00 46.5	-3.7
SKR				pmax		pmax		
	comp=N,60nm,0.5s							
SKR				pmax		pmax		
	comp=Z,80nm,0.5s							
SKR	**Severo-Kuril's**	**2.90**	**8**	P		**Pn**	**12 00 49.2**	**-1.0**
SKR				S		**Sn**	**12 01 22.8**	**-1.3**
PAU	**Pauzhetka**	**3.75**	**13**	PN		**Pn**	**12 01 01.3**	**-0.7**
PAU				S		**Sn**	**12 01 44.8**	**-0.5**
PAU	**Pauzhetka**	**3.75**	**13**	P		**Pn**	**12 01 01.3**	**-0.7**
PAU				S		**Sn**	**12 01 44.8**	**-0.5**
ASAK	**Asacha**	**4.83**	**18**	P		**Pn**	**12 01 18.1**	**+1.2**
ASAK				S		**Sn**	**12 02 13.6**	**+1.7**
MTVR	**Mutnovka**	**4.99**	**19**	P		**Pn**	**12 01 19.4**	**+0.4**
MTVR				S		**Sn**	**12 02 15.2**	**-0.6**
RUS	**Russkaya**	**5.02**	**22**	PN		**Pn**	**12 01 19.3**	**0.0**
RUS	**Russkaya**	**5.02**	**22**	P		**Pn**	**12 01 19.3**	**0.0**
RUS				S		**Sn**	**12 02 14.5**	**-1.9**
APC	**Apacha**	**5.23**	**11**	P		**Pn**	**12 01 24.0**	**+1.8**
PETK	**Petropavlovsk-**	**5.48**	**14**	PN		**Pn**	**12 01 27.0**	**+1.2**
PETK				pmax		pmax		
	comp=Z,2.0nm,0.3s							
PETK	**Petropavlovsk-**	**5.48**	**14**	P		**Pn**	**12 01 27.0**	**+1.2**
	comp=Z,2.2nm,0.3s,baz=180,slow=14,SNR=76							
PET	**Petropavlovsk**	**5.59**	**20**	*e*PN		**Pn**	**12 01 28.0**	**+0.8**
PET				*e*S		**Sn**	**12 02 33.4**	**+2.8**
PET				smax		smax		
	comp=N,73nm,1.3s							
PET				smax		smax		
	comp=E,56nm,0.6s							
PET	**Petropavlovsk**	**5.59**	**20**	P		**Pn**	**12 01 27.8**	**+0.6**
PET				S		**Sn**	**12 02 30.8**	**+0.2**
UGLR	**Uglovaya**	**5.81**	**20**	P		**Pn**	**12 01 31.8**	**+1.5**
AVH	**Avacha**	**5.84**	**20**	P		**Pn**	**12 01 32.4**	**+1.7**
KOK	**Koryaka**	**5.84**	**19**	P		**Pn**	**12 01 32.8**	**+2.1**
SMAR	**Somma**	**5.85**	**20**	P		**Pn**	**12 01 32.3**	**+1.3**
KRER	**Koryakskii**	**5.88**	**20**	P		**Pn**	**12 01 32.6**	**+1.3**
SDLR	**Sedlovina**	**5.88**	**20**	P		**Pn**	**12 01 31.8**	**+0.5**
NLC	**Nalytchevo**	**5.90**	**23**	S		**Sn**	**12 02 37.4**	**-0.7**
KRX	**Arik**	**5.91**	**19**	P		**Pn**	**12 01 33.5**	**+1.8**
GNL	**Ganaly**	**6.09**	**14**	P		**Pn**	**12 01 34.7**	**+0.5**
KBTR	**Krutoberegovo**	**9.54**	**26**	PN		**Pn**	**12 02 21.8**	**+0.4**
KBTR	**Krutoberegovo**	**9.54**	**26**	P		**Pn**	**12 02 21.8**	**+0.4**
ASAJ	**Asahikawa**	**9.69**	**252**	P		Pn	12 02 12.1	-11
	comp=E,1.5nm,0.3s,baz=96,slow=15,SNR=9.2							
ASAJ				S		Sn	12 03 48.6	-23
	comp=E,0.1nm,0.3s,baz=21,slow=13,SNR=1.6							
BKI	**Bering**	**9.87**	**38**	PN		**Pn**	**12 02 25.2**	**-0.6**
BKI	**Bering**	**9.87**	**38**	P		**Pn**	**12 02 25.2**	**-0.6**
BKI				S		**Sn**	**12 04 12.9**	**-2.7**
FX1	**Attu Island--F**	**12.38**	**59**	P		P	12 03 07.2	-4.7
	comp=E,1.8nm,0.3s,baz=260,slow=11,SNR=6.6							
FX1				S		**Sn**	**12 05 20.3**	**+3.2**
	comp=E,1.4nm,0.3s,baz=205,slow=24,SNR=1.9							
USRK	**Ussuriysk Arra**	**16.69**	**266**	P		Pn	12 03 45.2	-12
	comp=E,0.4nm,0.3s,baz=67,slow=12,SNR=6.7							
H11N2	**WAKE ISLAND Hy**	**29.52**	**158**	T		T	12 38 06.3	
	baz=344,slow=0.7,SNR=99							
H11N1	**WAKE ISLAND Hy**	**29.53**	**158**	T		T	12 38 12.7	
	baz=344,slow=0.7,SNR=142							
H11N3	**WAKE ISLAND Hy**	**29.53**	**158**	T		T	12 38 11.2	
	baz=344,slow=0.7,SNR=62							
H11S1	**WAKE ISLAND Hy**	**30.64**	**159**	T		T	12 39 32.8	
	baz=347							
H11S3	**WAKE ISLAND Hy**	**30.65**	**159**	T		T	12 39 33.2	
	baz=347							
H11S2	**WAKE ISLAND Hy**	**30.66**	**159**	T		T	12 39 35.0	
	baz=347							
INK	**Inuvik**	**39.88**	**33**	P		**P**	**12 07 36.2**	**-0.6**
	comp=E,2.1nm,1.0s,baz=315,slow=8.3,SNR=5.4							
MKAR	**Makanchi Array**	**47.87**	**298**	P		P	12 08 29.4	-12
	comp=E,0.2nm,0.5s,baz=67,slow=11,SNR=3.2							
NVAR	**Mina Array Bea**	**60.52**	**64**	P		**P**	**12 10 15.1**	**+1.3**
	comp=E,0.6nm,0.6s,baz=299,slow=5.5,SNR=4.0							
PDAR	**Pinedale Array**	**62.82**	**56**	P		**P**	**12 10 29.2**	**0.0**
	comp=E,0.8nm,0.8s,baz=274,slow=2.4,SNR=5.9							
WRA	**Warramunga Ar**	**70.07**	**201**	P		P	12 11 07.9	-7.4
	comp=E,0.4nm,0.9s,baz=17,slow=8.2,SNR=3.1							
TXAR	**Lajitas Array**	**75.58**	**62**	P		**P**	**12 11 47.7**	**-0.6**
	comp=E,0.7nm,0.5s,baz=295,slow=4.2,SNR=6.6							
H03N2	**Juan Fernandez**	**137.16**	**91**	T		T	14 52 47.8	
	baz=307,slow=0.7,SNR=6.9							
H03N1	**Juan Fernandez**	**137.18**	**91**	T		T	14 52 47.6	
	baz=307,slow=0.7,SNR=7.1							
H03N3	**Juan Fernandez**	**137.18**	**91**	T		T	14 52 47.8	
	baz=307,slow=0.7,SNR=5.9							

IDC ***22*** *12:07:53.7±2.0, 0.42N×124.66E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/22, mbtmp3.2/3, Error ellipse: s-maj=146.9km s-min=26.8km az=66.0*
DJA ***22*** *12:08:13.6±0.4, 0.0°N±4.4°×12.4°E±1.4°, h23km, M3.7/3, MLv3.7/3*

ISC 22 12:07:54.3±1.4, 0.4N±0.1×124.65E±0.08, h10km, n8, σ1§79/8, mb3.1/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.69**	**285**	P		Pn	12 08 22.2	+12
KMSI				S		Sn	12 08 35.3	+14
LUWI	**Luwuk**	**2.35**	**233**	P		**Pb**	**12 08 37.3**	**+0.5**
LUWI				S		**Sn**	**12 09 00.7**	**-1.3**
MRSI	**Marisa**	**2.71**	**272**	P		**Pb**	**12 08 40.6**	**-2.2**
MRSI				S		Sn	12 09 01.8	-8.9
NLAI	**Namlea**	**4.36**	**146**	P		**Pb**	**12 09 09.0**	**-2.1**
FITZ	**Fitzroy Crossi**	**18.41**	**177**	P		**Pn**	**12 12 10.5**	**+0.8**
	baz=14,slow=12							
WRA	**Warramunga Arr**	**22.33**	**155**	P		**P**	**12 12 54.0**	**+1.5**
	0.3nm,0.4s,baz=336,slow=9.6,SNR=7.7							
ASAR	**Alice Springs**	**25.55**	**160**	P		**P**	**12 13 24.1**	**+0.5**
	0.2nm,0.5s,baz=330,slow=9.0,SNR=6.7							
MKAR	**Makanchi Array**	**59.16**	**327**	P		**P**	**12 17 56.5**	**+1.1**
	0.2nm,0.4s,baz=133,slow=8.8,SNR=3.1							

MAN 22 12:08:16, 12.41N×123.80E, h49km, mb4.2, ML3.0, MS2.8, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RCP	**Roxas**	**1.33**	**231**	⇓*e*P		Pn	12 08 38.8	+0.6
RCP				*e*S		Sn	12 08 56.1	+1.3
OCLP	**Ormoc**	**1.57**	**149**	*e*P		Pn	12 09 42.4	+0.9
OCLP				*e*S		Sn	12 09 02.0	+1.4
GUIM	**Jordan**	**2.13**	**214**	*e*P		Pn	12 08 50.6	+1.4
MSLP	**Maasin**	**2.49**	**155**	*e*P		Pn	12 08 55.5	+1.4

IDC 22 12:12:08.9±1.8, 3.68S×151.48E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/18, mbtmp3.5/3, MS4.1/1, Ms1 4.1/1, ms1mx3.0/27, Error ellipse: s-maj=109.7km s-min=24.6km az=128.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.25**	**225**	P		P	12 17 17.5	-0.7
	0.3nm,0.2s,baz=49,slow=10.0,SNR=13							
ASAR	**Alice Springs**	**26.14**	**219**	P		P	12 17 44.7	-0.3
	0.1nm,0.3s,baz=54,slow=8.7,SNR=5.3							
ASAR				LR		LR	12 28 20.1	
	comp=Z,412nm,19.1s,baz=114,slow=37							
FITZ	**Fitzroy Crossi**	**29.08**	**239**	P		P	12 18 12.5	+1.1
	0.7nm,0.3s,baz=71,slow=7.6,SNR=9.5							
ILAR	**Eielson Array**	**81.62**	**22**	P		P	12 24 28.5	-0.1
	0.4nm,0.8s,baz=259,slow=5.2,SNR=3.4							
TORD	**Torodi Ar. Bea**	**148.70**	**289**	PKPbc		PKPbc	12 31 58.6	-0.7
	0.3nm,0.6s,baz=65,slow=3.6,SNR=3.4							

IDC ***22*** *12:17:47.2±1.2, 3.49S×100.47E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.8/26, mbtmp3.9/9, MS3.9/3, Ms1 3.9/3, ms1mx3.2/46, Error ellipse: s-maj=51.1km s-min=15.9km az=59.0*
DJA ***22*** *12:17:58.7±1.8, 3°S±14°×10°1E±1°2, h18km±15km, M3.9/4, MLv3.9/4*

ISC 22 12:17:55.2±1.0, 3.2S±0.1×101.0E±0.1, h46km, n20, σ1§54/15, mb3.9/9, MS4.1/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MASI	**Maura Aman, Be**	**1.29**	**86**	P		**Pn**	**12 18 17.0**	**+0.1**
MASI				S		**Sn**	**12 18 31.1**	**-1.9**
PDSI	**Padang**	**2.37**	**348**	P		**Pn**	**12 18 32.0**	**+0.4**
LHSI	**Lahat**	**2.63**	**103**	P		Pn	12 18 39.2	+4.0
PPI	**Padang Panjang**	**2.82**	**349**	P		**Pn**	**12 18 40.0**	**+2.2**
MDSI	**Maura Dua**	**3.45**	**111**	P		**Pn**	**12 18 49.4**	**+2.9**
CMAR	**Chiang Mai Arr**	**21.65**	**355**	LR		LR	12 30 46.3	
	comp=Z,57nm,20.4s,baz=16,slow=36							
FITZ	**Fitzroy Crossi**	**28.34**	**123**	P		**P**	**12 23 45.3**	**+0.2**
	1.6nm,0.8s,baz=315,slow=5.7,SNR=2.9							
H08S2	**Diego Garcia H**	**28.66**	**260**	T		T	12 53 19.7	
	baz=83,slow=0.7,SNR=22							
H08S3	**Diego Garcia H**	**28.66**	**260**	T		T	12 53 20.7	
	baz=83,slow=0.7,SNR=20							
H08S1	**Diego Carcia H**	**28.68**	**260**	T		T	12 53 18.9	
	baz=83,slow=0.7,SNR=21							
WRA	**Warramunga Arr**	**36.55**	**120**	P		**P**	**12 24 57.1**	**+0.2**
	0.2nm,0.3s,baz=296,slow=12,SNR=14							
ASAR	**Alice Springs**	**37.76**	**125**	P		**P**	**12 25 08.1**	**+0.9**
	0.6nm,0.4s,baz=300,slow=7.7,SNR=18							
SONM	**Songino Array**	**51.09**	**5**	P		**P**	**12 26 52.9**	**-0.4**
	0.9nm,0.5s,baz=185,slow=10,SNR=15							
MKAR	**Makanchi Array**	**52.48**	**344**	P		**P**	**12 27 03.2**	**-0.3**
	1.8nm,0.6s,baz=149,slow=8.3,SNR=22							
USRK	**Ussuriysk Arra**	**54.81**	**27**	P		**P**	**12 27 22.2**	**+1.7**
	0.6nm,0.5s,baz=190,slow=4.2,SNR=4.8							
USRK				LR		LR	12 52 13.9	
	comp=Z,152nm,19.9s,baz=232,slow=37							
KURBB	**Kurchatov Arra**	**57.00**	**343**	P		**P**	**12 27 35.7**	**-0.4**
	1.1nm,0.9s,baz=163,slow=6.8,SNR=9.2							
ZALV	**Zalesovo Beam**	**58.56**	**349**	P		**P**	**12 27 46.0**	**-1.0**
	2.5nm,0.4s,baz=167,slow=5.4,SNR=24							
VNDA	**Vanda**	**80.77**	**169**	P		**P**	**12 30 00.9**	**-2.5**
	0.4nm,0.5s,baz=333,slow=4.5,SNR=5.9							
FINES	**FINESS Array B**	**85.65**	**332**	LR		LR	13 11 46.0	
	comp=Z,231nm,18.4s,baz=167,slow=38							
TXAR	**Lajitas Array**	**145.08**	**39**	PKPbc		**PKPab**	**12 37 28.2**	**+0.2**
	0.5nm,0.5s,baz=89,slow=0.2,SNR=8.8							

ISCJB ***22*** *12:20:56.7±0.2, 45.67N±0.02×26.48E±0.02, h154km±2km, mb3.6/14, Error ellipse: s-maj=3.2km s-min=2.5km az=178.8*
MOS ***22*** *12:20:56.8±0.7, 45.69N×26.48E, h155km, mb3.9/4, Error ellipse: s-maj=7.1km s-min=5.9km az=103.6*
BUC ***22*** *12:20:57.5±0.7, 45.68N×26.48E, h156km±7km, MD5.0/2, Error ellipse: s-maj=5.3km s-min=4.1km az=315.0*
IDC ***22*** *12:20:57.6±0.4, 45.72N×26.31E, h145km±3km, mb3.4/12, mb1 3.5/17, mb1mx3.4/30, mbtmp3.8/17, MS3.3/2, Ms1 3.3/2, ms1mx2.5/30, Error ellipse: s-maj=14.6km s-min=9.7km az=143.0*
CSEM ***22*** *12:20:57.2±0.1, 45.66N×26.47E, h153km±1km, mb3.9, Error ellipse: s-maj=2.7km s-min=2.1km az=178.0*
SOF ***22*** *12:21:03.5, 45.16N×26.30E, h15km, MD3.2*
THE ***22*** *12:21:07.8, 45.01N×25.99E, h50km±33km, Error ellipse: s-maj=34.0km s-min=3.7km az=185.0*

ISC 22 12:20:57.6±0.5, 45.67N±0.02×26.49E±0.02, h153km±3km, n270, σ0§89/366, mb3.7/14, 91C-56D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.21**	**31**	⇑P		**Pn**	**12 21 18.2**	**-0.2**
PLOR				S		**Sn**	**12 21 33.7**	**-0.6**
PLOR	**Plostina**	**0.21**	**31**	⇑*i*P		**Pn**	**12 21 18.2**	**-0.2**
PLOR	**Plostina**	**0.21**	**31**	⇑*i*P		**Pn**	**12 21 18.2**	**-0.2**
PLOR				*i* S		**Sn**	**12 21 33.8**	**-0.6**
PLOR	**Plostina**	**0.21**	**31**	⇑*i*P		**Pn**	**12 21 18.2**	**-0.2**
PLOR				*i* S		**Sn**	**12 21 33.8**	**-0.6**
VRI	**Vrincioaia**	**0.26**	**40**	⇑P		**Pn**	**12 21 18.5**	**0.0**
VRI				S		**Sn**	**12 21 34.1**	**-0.3**
VRI	**Vrincioaia**	**0.26**	**40**	⇑*i*P		**Pn**	**12 21 18.5**	**0.0**
VRI	**Vrincioaia**	**0.26**	**40**	⇑*i*P		**Pn**	**12 21 18.5**	**0.0**
VRI				*i* S		**Sn**	**12 21 33.9**	**-0.5**
VRI	**Vrincioaia**	**0.26**	**40**	⇑*i*P		**Pn**	**12 21 18.5**	**0.0**
VRI				*i* S		**Sn**	**12 21 33.9**	**-0.5**
ODBI	**Odobesti**	**0.41**	**76**	⇑*i*P		**Pn**	**12 21 20.0**	**+1.1**
ODBI	**Odobesti**	**0.41**	**76**	⇑*i*P		**Pn**	**12 21 20.0**	**+1.1**
ODBI				*i* S		**Sn**	**12 21 36.2**	**+1.0**
ODBI	**Odobesti**	**0.41**	**76**	⇑*i*P		**Pn**	**12 21 20.0**	**+1.1**
ODBI				*i* S		**Sn**	**12 21 36.2**	**+1.0**
MLR	**Muntele Rosu**	**0.42**	**245**	⇑*i*P		**Pn**	**12 21 19.2**	**0.0**
MLR	**Muntele Rosu**	**0.42**	**245**	⇑*i*P		**Pn**	**12 21 19.2**	**0.0**
MLR				*i* S		**Sn**	**12 21 35.3**	**-0.3**
MLR	**Muntele Rosu**	**0.42**	**245**	⇑*i*P		**Pn**	**12 21 19.2**	**0.0**
MLR				*i* S		**Sn**	**12 21 35.3**	**-0.3**
MLR	**Muntele Rosu**	**0.42**	**245**	P		**Pn**	**12 21 19.0**	**-0.2**
	130nm,0.3s,baz=34,slow=2.5,SNR=3433							
MLR				S		**Sn**	**12 21 34.6**	**-1.0**
	274nm,0.3s,baz=77,slow=22,SNR=20							
GRER		**0.45**	**130**	⇑*i*P		**Pn**	**12 21 20.1**	**+1.0**
GRER		**0.45**	**130**	⇑*i*P		**Pn**	**12 21 20.1**	**+1.0**
GRER				*i* S		**Sn**	**12 21 35.9**	**+0.4**
GRER		**0.45**	**130**	⇑*i*P		**Pn**	**12 21 20.1**	**+1.0**
GRER				*i* S		**Sn**	**12 21 35.9**	**+0.4**
PETR	**Petresti**	**0.52**	**84**	⇑*i*P		**Pn**	**12 21 20.0**	**+0.6**
PETR	**Petresti**	**0.52**	**84**	⇑*i*P		**Pn**	**12 21 20.0**	**+0.6**
PETR				*i* S		**Sn**	**12 21 36.6**	**+0.6**
PETR	**Petresti**	**0.52**	**84**	⇑*i*P		**Pn**	**12 21 20.0**	**+0.6**
PETR				*i* S		**Sn**	**12 21 36.6**	**+0.6**
ISR	**Istrita**	**0.55**	**176**	⇑P		**Pn**	**12 21 20.1**	**+0.4**
ISR				S		**Sn**	**12 21 36.3**	**-0.2**
ISR	**Istrita**	**0.55**	**176**	⇑*i*P		**Pn**	**12 21 19.9**	**+0.2**
ISR	**Istrita**	**0.55**	**176**	⇑*i*P		**Pn**	**12 21 19.9**	**+0.2**
ISR				*i* S		**Sn**	**12 21 36.3**	**-0.2**
ISR	**Istrita**	**0.55**	**176**	P		**Pn**	**12 21 20.1**	**+0.4**
ISR				*i* S		**Sn**	**12 21 36.3**	**-0.2**
GHRR		**0.75**	**58**	⇑*i*P		**Pn**	**12 21 21.2**	**+0.4**
GHRR		**0.75**	**58**	⇑*i*P		**Pn**	**12 21 21.2**	**+0.4**
GHRR				*i* S		**Sn**	**12 21 37.1**	**-1.4**
GHRR		**0.75**	**58**	⇑*i*P		**Pn**	**12 21 21.2**	**+0.4**
GHRR				*i* S		**Sn**	**12 21 37.1**	**-1.4**
PGOR	**Pogoanele**	**0.84**	**155**	⇑*i*P		**Pn**	**12 21 21.8**	**+0.4**
PGOR	**Pogoanele**	**0.84**	**155**	⇑*i*P		**Pn**	**12 21 21.8**	**+0.4**
PGOR				*i* S		**Sn**	**12 21 39.7**	**+0.1**
PGOR	**Pogoanele**	**0.84**	**155**	⇑*i*P		**Pn**	**12 21 21.8**	**+0.4**
PGOR				*i* S		**Sn**	**12 21 39.7**	**+0.1**
TESR	**Tescani**	**0.85**	**7**	⇑*i*P		**Pn**	**12 21 21.3**	**-0.2**
TESR	**Tescani**	**0.85**	**7**	⇑*i*P		**Pn**	**12 21 21.3**	**-0.2**
TESR				*i* S		**Sn**	**12 21 38.1**	**-1.8**
TESR	**Tescani**	**0.85**	**7**	⇑*i*P		**Pn**	**12 21 21.3**	**-0.2**
TESR				*i* S		**Sn**	**12 21 38.1**	**-1.8**
VOIR		**1.04**	**258**	⇑P		**Pn**	**12 21 22.8**	**-0.3**
VOIR				S		**Sn**	**12 21 41.7**	**-0.9**
VOIR		**1.04**	**258**	⇓*i*P		**Pn**	**12 21 22.8**	**-0.3**
VOIR		**1.04**	**258**	⇓*i*P		**Pn**	**12 21 22.8**	**-0.3**
VOIR				*i* S		**Sn**	**12 21 40.9**	**-1.7**
VOIR		**1.04**	**258**	⇓*i*P		**Pn**	**12 21 22.8**	**-0.3**
VOIR				S		**Sn**	**12 21 41.7**	**-0.9**
MTUR	**Matau**	**1.10**	**247**	⇓P		**Pn**	**12 21 23.8**	**+0.1**
MTUR	**Matau**	**1.10**	**247**	⇓*i*P		**Pn**	**12 21 23.8**	**+0.1**
MTUR	**Matau**	**1.10**	**247**	⇓*i*P		**Pn**	**12 21 23.8**	**+0.1**
MTUR	**Matau**	**1.10**	**247**	⇓*i*P		**Pn**	**12 21 23.8**	**+0.1**
AMRR	**Amara**	**1.22**	**150**	⇑P		**Pn**	**12 21 24.9**	**+0.3**
AMRR				S		**Sn**	**12 21 45.4**	**+0.2**
AMRR	**Amara**	**1.22**	**150**	⇑*i*P		**Pn**	**12 21 24.9**	**+0.3**
AMRR	**Amara**	**1.22**	**150**	⇑*i*P		**Pn**	**12 21 24.9**	**+0.3**
AMRR				*i* S		**Sn**	**12 21 45.4**	**+0.2**
AMRR	**Amara**	**1.22**	**150**	⇑*i*P		**Pn**	**12 21 24.9**	**+0.3**
AMRR				*i* S		**Sn**	**12 21 45.4**	**+0.2**
CFR	**Carcaliu**	**1.26**	**112**	⇓P		**Pn**	**12 21 25.0**	**0.0**
CFR				S		**Sn**	**12 21 44.6**	**-1.3**
CFR	**Carcaliu**	**1.26**	**112**	⇑*i*P		**Pn**	**12 21 24.6**	**-0.4**
CFR	**Carcaliu**	**1.26**	**112**	⇑*i*P		**Pn**	**12 21 24.6**	**-0.4**
CFR				*i* S		**Sn**	**12 21 44.7**	**-1.2**
CFR	**Carcaliu**	**1.26**	**112**	P		**Pn**	**12 21 25.0**	**0.0**
CFR				*i* S		**Sn**	**12 21 44.7**	**-1.2**
CIOR	**Ciorogarla**	**1.29**	**200**	⇑*i*P		**Pn**	**12 21 25.0**	**-0.4**
CIOR	**Ciorogarla**	**1.29**	**200**	⇑*i*P		**Pn**	**12 21 25.0**	**-0.4**
CIOR				*i* S		**Sn**	**12 21 46.0**	**-0.6**
CIOR	**Ciorogarla**	**1.29**	**200**	⇑*i*P		**Pn**	**12 21 25.0**	**-0.4**
CIOR				*i* S		**Sn**	**12 21 46.0**	**-0.6**
ARR	**Arges**	**1.34**	**258**	⇓*i*P		**Pn**	**12 21 25.9**	**0.0**
ARR	**Arges**	**1.34**	**258**	⇓*i*P		**Pn**	**12 21 25.9**	**0.0**
ARR				*i* S		**Sn**	**12 21 46.9**	**-0.6**
ARR	**Arges**	**1.34**	**258**	⇓*i*P		**Pn**	**12 21 25.9**	**0.0**
ARR				*i* S		**Sn**	**12 21 46.9**	**-0.6**
BUC1	**Bucharest**	**1.36**	**194**	⇓P		**Pn**	**12 21 26.3**	**+0.3**
BUC1				S		**Sn**	**12 21 47.5**	**-0.2**
BUC1	**Bucharest**	**1.36**	**194**	⇓*i*P		**Pn**	**12 21 26.1**	**+0.1**
BUC1	**Bucharest**	**1.36**	**194**	⇓*i*P		**Pn**	**12 21 26.1**	**+0.1**
BUC1				*i* S		**Sn**	**12 21 47.0**	**-0.7**
BUC1	**Bucharest**	**1.36**	**194**	P		**Pn**	**12 21 26.3**	**+0.3**
BUC1				S		**Sn**	**12 21 47.5**	**-0.2**
GOLR		**1.36**	**233**	⇓*i*P		**Pn**	**12 21 26.3**	**+0.3**
GOLR		**1.36**	**233**	⇓*i*P		**Pn**	**12 21 26.3**	**+0.3**
GOLR				*i* S		**Sn**	**12 21 48.1**	**+0.3**
GOLR		**1.36**	**233**	⇓*i*P		**Pn**	**12 21 26.3**	**+0.3**
GOLR				*i* S		**Sn**	**12 21 48.1**	**+0.3**
HARR	**Harsova**	**1.41**	**133**	⇓P		**Pn**	**12 21 26.8**	**+0.3**
HARR	**Harsova**	**1.41**	**133**	⇑*i*P		**Pn**	**12 21 26.5**	**0.0**
HARR	**Harsova**	**1.41**	**133**	⇑*i*P		**Pn**	**12 21 26.5**	**0.0**
HARR	**Harsova**	**1.41**	**133**	P		**Pn**	**12 21 26.8**	**+0.3**
LEOM	**Leova**	**1.46**	**56**	⇓P		**Pn**	**12 21 27.3**	**+0.3**
LEOM				S		**Sn**	**12 21 48.0**	**-1.6**
LEOM	**Leova**	**1.46**	**56**	⇓*i*P		**Pn**	**12 21 27.3**	**+0.3**
LEOM	**Leova**	**1.46**	**56**	⇓*i*P		**Pn**	**12 21 27.3**	**+0.3**
LEOM				*i* S		**Sn**	**12 21 48.0**	**-1.6**
LEOM	**Leova**	**1.46**	**56**	⇓*i*P		**Pn**	**12 21 27.3**	**+0.3**
LEOM				*i* S		**Sn**	**12 21 48.0**	**-1.6**
TLB	**Topalu**	**1.54**	**134**	⇑P		**Pn**	**12 21 27.9**	**0.0**
TLB				S		**Sn**	**12 21 50.1**	**-0.9**
TLB	**Topalu**	**1.54**	**134**	⇑*i*P		**Pn**	**12 21 27.9**	**0.0**
TLB	**Topalu**	**1.54**	**134**	⇑*i*P		**Pn**	**12 21 27.

SRE	**Strehaia**	**2.53**	**248**	⇓	P		**Pn**	**12 21 39.0**	**-0.3**
SRE					S		**Sn**	**12 22 10.4**	**-1.0**
SRE	**Strehaia**	**2.53**	**248**	⇓	*i*P		**Pn**	**12 21 39.0**	**-0.3**
SRE	**Strehaia**	**2.53**	**248**	⇓	*i*P		**Pn**	**12 21 39.0**	**-0.3**
SRE					*i* S		**Sn**	**12 22 10.1**	**-1.3**
SRE	**Strehaia**	**2.53**	**248**	⇓	*i*P		**Pn**	**12 21 39.0**	**-0.3**
SRE					S		**Sn**	**12 22 10.4**	**-1.0**
PRD	**Provadia**	**2.55**	**165**		*i*P		**Pn**	**12 21 39.7**	**+0.1**
PRD	**Provadia**	**2.55**	**165**		*i*P		**Pn**	**12 21 39.7**	**+0.1**
PVL	**Pavlikeni**	**2.59**	**199**		*i*P		**Pn**	**12 21 40.9**	**+0.9**
PVL	**Pavlikeni**	**2.59**	**199**		*i*P		**Pn**	**12 21 40.9**	**+0.9**
GZR	**Gura Zlata**	**2.62**	**265**	⇓	*i*P		**Pn**	**12 21 40.2**	**-0.3**
GZR	**Gura Zlata**	**2.62**	**265**	⇓	*i*P		**Pn**	**12 21 40.2**	**-0.3**
GZR	**Gura Zlata**	**2.62**	**265**	⇓	*i*P		**Pn**	**12 21 40.2**	**-0.3**
DRGR		**2.85**	**295**	⇑	P		**Pn**	**12 21 42.7**	**-0.6**
DRGR					S		**Sn**	**12 22 18.4**	**-0.3**
DRGR		**2.85**	**295**	⇓	*i*P		**Pn**	**12 21 42.7**	**-0.6**
DRGR		**2.85**	**295**	⇓	*i*P		**Pn**	**12 21 42.7**	**-0.6**
DRGR		**2.85**	**295**	⇓	*i*P		**Pn**	**12 21 42.7**	**-0.6**
DRGR					S		**Sn**	**12 22 18.4**	**-0.3**
DJES	**Djerdap**	**2.98**	**252**	⇑	*i*Pn		**Pn**	**12 21 43.2**	**-1.7**
MPEP	**Malo Peshtene**	**3.04**	**221**		*i*P		**Pn**	**12 21 45.2**	**-0.4**
JMB	**Yambol**	**3.20**	**179**		P		**Pn**	**12 21 47.6**	**-0.1**
JMB	**Yambol**	**3.20**	**179**		P		**Pn**	**12 21 47.6**	**-0.1**
BZS	**Buzias**	**3.42**	**271**	⇓	P		**Pn**	**12 21 50.3**	**-0.1**
BZS	**Buzias**	**3.42**	**271**	⇓	*i*P		**Pn**	**12 21 50.0**	**-0.4**
BZS	**Buzias**	**3.42**	**271**	⇓	*i*P		**Pn**	**12 21 50.0**	**-0.4**
BZS					*i* S		**Sn**	**12 22 29.7**	**-1.6**
BZS	**Buzias**	**3.42**	**271**		P		**Pn**	**12 21 50.3**	**-0.1**
BZS					*i* S		**Sn**	**12 22 29.7**	**-1.6**
SIRR	**Siria**	**3.42**	**282**	⇑	*i*P		**Pn**	**12 21 50.4**	**-0.1**
SIRR	**Siria**	**3.42**	**282**	⇑	*i*P		**Pn**	**12 21 50.4**	**-0.1**
SIRR	**Siria**	**3.42**	**282**	⇑	*i*P		**Pn**	**12 21 50.4**	**-0.1**
PGB	**Panagyurishte**	**3.54**	**209**		*i*P		**Pn**	**12 21 52.0**	**-0.1**
PGB	**Panagyurishte**	**3.54**	**209**		*i*P		**Pn**	**12 21 52.0**	**-0.1**
ZAPS	**Zavoj**	**3.66**	**230**	⇓	*i*Pn		**Pn**	**12 21 53.2**	**-0.3**
BOLS	**Boljevac**	**3.72**	**242**	⇓	*i*Pn		**Pn**	**12 21 51.5**	**-2.8**
PLD	**Plovdiv**	**3.79**	**201**		P		**Pn**	**12 21 54.4**	**-0.8**
PLD					S		Sn	12 22 29.9	-10
PLD	**Plovdiv**	**3.79**	**201**		P		**Pn**	**12 21 54.4**	**-0.8**
EDRB	**Edirne**	**3.83**	**177**		P		**Pn**	**12 21 55.8**	**+0.1**
EDRB	**Edirne**	**3.83**	**177**		P		**Pn**	**12 21 55.8**	**+0.1**
VTS	**Vitosha**	**3.88**	**219**		P		**Pn**	**12 21 55.7**	**-0.8**
VTS	**Vitosha**	**3.88**	**219**	⇑	P		**Pn**	**12 21 56.3**	**-0.3**
VTS	**Vitosha**	**3.88**	**219**	⇓	*i*P		**Pn**	**12 21 55.8**	**-0.8**
VTS	**Vitosha**	**3.88**	**219**	⇓	*i*P		**Pn**	**12 21 55.8**	**-0.8**
VTS	**Vitosha**	**3.88**	**219**		*i*P		**Pn**	**12 21 56.4**	**-0.2**
VTS	**Vitosha**	**3.88**	**219**		P		**Pn**	**12 21 56.3**	**-0.3**
UZH	**Uzhgorod**	**4.12**	**317**		*e*P		**Pn**	**12 21 59.0**	**-0.4**
UZH					*e*S		**Sn**	**12 22 46.9**	**-0.7**
UZH	**Uzhgorod**	**4.12**	**317**		*e*P		**Pn**	**12 21 59.0**	**-0.4**
UZH					*e*S		**Sn**	**12 22 46.9**	**-0.7**
KOLS	**Kolonicke sedl**	**4.35**	**320**		*e*P		**Pn**	**12 22 03.2**	**+0.8**
KOLS	**Kolonicke sedl**	**4.35**	**320**		*e*P		**Pn**	**12 22 03.2**	**+0.8**
KOLS	**Kolonicke sedl**	**4.35**	**320**		*e*P		**Pn**	**12 22 03.2**	**+0.8**
LVV	**L'vov**	**4.47**	**339**		*e*P		Pn	12 21 59.0	-5.0
LVV					*e*S		Sn	12 22 46.4	-9.4
GRUS	**Gruza**	**4.48**	**249**	⇓	*i*Pn		**Pn**	**12 22 03.3**	**-0.9**
KKB	**Krupnik**	**4.53**	**214**		*i*P		**Pn**	**12 22 04.8**	**-0.1**
KKB	**Krupnik**	**4.53**	**214**		*i*P		**Pn**	**12 22 04.8**	**-0.1**
MMB	**Musomiste**	**4.54**	**207**		*i*P		**Pn**	**12 22 05.2**	**+0.1**
MMB	**Musomiste**	**4.54**	**207**		*i*P		**Pn**	**12 22 05.2**	**+0.1**
TRUS	**Trudelj**	**4.55**	**254**	⇓	*i*Pn		**Pn**	**12 22 03.5**	**-1.7**
SELS	**Selova**	**4.56**	**239**		*i*Pn		**Pn**	**12 22 04.4**	**-0.9**
CRVS	**Cervenica-Dubn**	**4.71**	**315**		*e*P		**Pn**	**12 22 07.6**	**+0.4**
CRVS	**Cervenica-Dubn**	**4.71**	**315**		*e*P		**Pn**	**12 22 07.6**	**+0.4**
CRVS	**Cervenica-Dubn**	**4.71**	**315**		*e*P		**Pn**	**12 22 07.6**	**+0.4**
NVR	**Nevrokopi**	**4.72**	**205**		P		**Pn**	**12 22 07.2**	**-0.3**
NVR	**Nevrokopi**	**4.72**	**205**		*e*P		**Pn**	**12 22 07.2**	**-0.3**
NVR	**Nevrokopi**	**4.72**	**205**		P		**Pn**	**12 22 07.2**	**-0.3**
FGSL	**Fruska Gora**	**4.73**	**266**	⇓	*i*Pn		**Pn**	**12 22 07.3**	**-0.2**
ALN	**Alexandroupoli**	**4.78**	**184**		P		**Pn**	**12 22 08.3**	**+0.1**
ALN	**Alexandroupoli**	**4.78**	**184**		P		**Pn**	**12 22 08.3**	**+0.1**
DIVS	**Divibare**	**4.88**	**254**	⇓	*i*Pn		**Pn**	**12 22 08.7**	**-0.8**
KAVA	**Kavala**	**4.89**	**198**		P		**Pn**	**12 22 09.1**	**-0.5**
KAVA	**Kavala**	**4.89**	**198**		P		**Pn**	**12 22 09.1**	**-0.5**
IVAS	**Ivanjica**	**4.98**	**247**		*i*Pn		**Pn**	**12 22 10.5**	**-0.4**
SRS	**Serrai**	**5.02**	**206**		P		**Pn**	**12 22 10.9**	**-0.4**
SRS	**Serrai**	**5.02**	**206**		*e*P		**Pn**	**12 22 10.9**	**-0.4**
SRS	**Serrai**	**5.02**	**206**		P		**Pn**	**12 22 10.9**	**-0.4**
VAY	**Valandovo**	**5.20**	**215**		*i*Pn		**Pn**	**12 22 13.4**	**-0.3**
SEV	**Sevastopol'**	**5.20**	**100**	⇓	*i*P		**Pn**	**12 22 12.4**	**-1.3**
SEV					*e*S		**Sn**	**12 23 12.2**	**-0.9**
SEV	**Sevastopol'**	**5.20**	**100**		*i*P		**Pn**	**12 22 12.4**	**-1.3**
SEV					*e*S		**Sn**	**12 23 12.2**	**-0.9**
KNT	**Kendrikon**	**5.21**	**211**		P		**Pn**	**12 22 13.7**	**-0.2**
KNT	**Kendrikon**	**5.21**	**211**		P		**Pn**	**12 22 13.7**	**-0.2**
AKASG	**Malin Array Be**	**5.36**	**19**		P		**Pn**	**12 22 14.9**	**-0.8**
AKASG					pmax	pmax			
	comp=Z,47nm,0.3s								
AKASG	**Malin Array Be**	**5.36**	**19**		P		**Pn**	**12 22 14.9**	**-0.8**
	comp=Z,47nm,0.3s								
AKASG	**Malin Array Be**	**5.36**	**19**		P		**Pn**	**12 22 14.9**	**-0.8**
	comp=Z,46nm,0.3s,baz=205,slow=13,SNR=91								
BBLS	**Lazići**	**5.36**	**253**		*e*Pn		**Pn**	**12 22 15.6**	**-0.3**
SOH	**Sokhos**	**5.36**	**206**		P		**Pn**	**12 22 15.5**	**-0.4**
SOH	**Sokhos**	**5.36**	**206**		*e*P		**Pn**	**12 22 15.7**	**-0.2**
SOH	**Sokhos**	**5.36**	**206**		P		**Pn**	**12 22 15.5**	**-0.4**
SIM	**Simferopol'**	**5.43**	**95**		P		**Pn**	**12 22 15.5**	**-1.2**
SIM					*e*S		**Sn**	**12 23 16.2**	**-2.3**
SIM					pmax	pmax			
	comp=Z,17nm,0.8s								
SIM	**Simferopol'**	**5.43**	**95**		P		**Pn**	**12 22 15.5**	**-1.2**
	comp=Z,17nm,0.8s								
SIM					*e*S		**Sn**	**12 23 16.2**	**-2.3**
YAL	**Yalta**	**5.55**	**100**		*e*P		**Pn**	**12 22 19.7**	**+1.3**
YAL					*e*S		**Sn**	**12 23 23.9**	**+2.4**
YAL	**Yalta**	**5.55**	**100**		*e*P		**Pn**	**12 22 19.7**	**+1.3**
YAL					*e*S		**Sn**	**12 23 23.9**	**+2.4**
GRG	**Griva**	**5.58**	**214**		*e*P		**Pn**	**12 22 18.2**	**-0.5**
OUR	**Ouranopolis**	**5.64**	**200**		*e*P		**Pn**	**12 22 17.5**	**-2.1**
HORT	**Hortiatis**	**5.64**	**207**		*e*P		**Pn**	**12 22 19.2**	**-0.5**
PLG	**Polygyros**	**5.74**	**204**		P		**Pn**	**12 22 20.6**	**-0.4**
PLG	**Polygyros**	**5.74**	**204**		*e*P		**Pn**	**12 22 20.7**	**-0.3**
SUDU	**Sudak**	**6.05**	**94**	⇑	*e*P		**Pn**	**12 22 24.3**	**-0.7**
SUDU					*e*S		**Sn**	**12 23 33.6**	**+0.2**
SUDU	**Sudak**	**6.05**	**94**		*e*P		**Pn**	**12 22 24.3**	**-0.7**
SUDU					*e*S		**Sn**	**12 23 33.6**	**+0.2**
PAIG	**Paliouri**	**6.10**	**201**		*e*P		**Pn**	**12 22 24.6**	**-1.1**
XOR	**Xorichti**	**6.75**	**202**		*e*P		**Pn**	**12 22 33.7**	**-0.7**
AOS	**Alonnisos**	**6.78**	**197**		*e*P		**Pn**	**12 22 32.9**	**-1.8**
CHOS	**Chios island**	**7.28**	**183**		P		Pn	12 22 44.8	+3.2
BRTR	**Keskin Array B**	**7.94**	**136**		P		**Pn**	**12 22 50.5**	**+0.2**
BRTR	**Keskin Array B**	**7.94**	**136**		P		**Pn**	**12 22 50.5**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=343,slow=13,SNR=2.6								
GERES	**GERESS Array B**	**9.26**	**295**		P		**Pn**	**12 23 07.9**	**+0.2**
	comp=Z,51nm,21.2s								
GERES	**GERESS Array B**	**9.26**	**295**		P		**Pn**	**12 23 07.9**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=114,slow=9.8,SNR=3.4								
GERES					LR		LR	12 26 20.6	
	comp=Z,51nm,21.2s,baz=312,slow=35								
VORD	**Divnogorie**	**10.04**	**54**		*e*P		**Pn**	**12 23 18.9**	**+1.0**
VORD					pmax	pmax			
	comp=E,40nm,0.6s								
VORD					pmax	pmax			
	comp=Z,20nm,0.6s								
VORD	**Divnogorie**	**10.04**	**54**		*e*P		**Pn**	**12 23 18.9**	**+1.0**
VSR	**Storozhevoye**	**10.08**	**52**		*e*P		**Pn**	**12 23 18.5**	**0.0**
VSR					pmax	pmax			
	comp=N,6.0nm,0.4s								
VSR					pmax	pmax			
	comp=E,9.0nm,0.4s								
VSR					pmax	pmax			
	comp=Z,20nm,0.4s								
VSR	**Storozhevoye**	**10.08**	**52**		*e*P		**Pn**	**12 23 18.5**	**0.0**
OBN	**Obninsk**	**11.42**	**31**	⇓	*i*P		**Pn**	**12 23 33.4**	**-2.6**
OBN					pmax	pmax			
	comp=Z,17nm,0.5s								
OBN					pmax	pmax			
	comp=Z,10.0nm,1.0s								
KIV	**Kislovodsk**	**11.63**	**93**		*e*P		**Pn**	**12 23 39.3**	**+0.3**
KIV					pmax	pmax			
	comp=Z,6.0nm,0.8s								
KIV					MLR	MLR			
	comp=Z,15nm,12.0s								
KIV	**Kislovodsk**	**11.63**	**93**		*e*P		**Pn**	**12 23 39.3**	**+0.3**
	comp=Z,15nm,12.0s								
KBZ	**Khabaz**	**11.84**	**94**		P		**Pn**	**12 23 44.3**	**+2.7**
KBZ	**Khabaz**	**11.84**	**94**		P		**Pn**	**12 23 44.3**	**+2.7**
KBZ	**Khabaz**	**11.84**	**94**		P		**Pn**	**12 23 44.3**	**+2.7**
	comp=Z,0.3nm,0.3s,baz=315,slow=10.0,SNR=2.8								
PUL	**Pulkovo**	**14.31**	**8**		*e*P		**Pn**	**12 24 12.8**	**-0.1**
FINES	**FINESS Array B**	**15.81**	**359**		P		**Pn**	**12 24 27.6**	**-3.9**
	comp=Z,0.2nm,0.3s,baz=161,slow=13,SNR=3.4								
HFS	**Hagfors**	**16.37**	**337**		P		**Pn**	**12 24 37.2**	**-1.1**
HFS	**Hagfors**	**16.37**	**337**		P		**Pn**	**12 24 37.2**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=151,slow=10,SNR=5.6								
KLMR	**Klimovskoe**	**17.04**	**22**		*e*P		P	12 24 40.4	-5.3
KLMR					pmax	pmax			
	comp=Z,17nm,1.4s								
NB2	**NORSAR Subarra**	**17.82**	**335**		P		**P**	**12 24 55.0**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=143,slow=11								
NB2	**NORSAR Subarra**	**17.82**	**335**		P		**P**	**12 24 55.0**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=143,slow=11,SNR=4.4								
NOA	**NORSAR Array B**	**17.82**	**335**		P		**P**	**12 24 53.8**	**-0.6**
	comp=Z,1.0nm,0.3s								
NOA	**NORSAR Array B**	**17.82**	**335**		P		**P**	**12 24 53.8**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=145,slow=9.9,SNR=5.2								
EKA	**Eskdalemuir Ar**	**21.04**	**308**		P		**P**	**12 25 27.3**	**-1.9**
EKA	**Eskdalemuir Ar**	**21.04**	**308**		P		**P**	**12 25 27.3**	**-1.9**
	comp=Z,0.8nm,0.5s,baz=100,slow=11,SNR=3.6								
AKTK	**Aktyubinsk**	**21.51**	**66**		P		**P**	**12 25 34.7**	**+0.5**
	comp=Z,1.0nm,0.3s								
AKTO	**Aktyubinsk**	**21.51**	**66**		P		**P**	**12 25 34.7**	**+0.5**
AKTO					pmax	pmax			
	comp=Z,1.0nm,0.3s								
AKTO	**Aktyubinsk**	**21.51**	**66**		P		**P**	**12 25 34.7**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=265,slow=12,SNR=8.5								
ESDC	**Sonseca Array**	**23.09**	**266**		P		**P**	**12 25 48.8**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=58,slow=10.0,SNR=4.4								
ARCES	**ARCESS Array B**	**23.94**	**359**		P		**P**	**12 25 57.2**	**+0.1**
ARCES	**ARCESS Array B**	**23.94**	**359**		P		**P**	**12 25 57.2**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=179,slow=8.5,SNR=8.5								
ARCES					pP		**pP**	**12 26 25.5**	**-1.9**
	comp=Z,1.0nm,0.6s,baz=178,slow=12,SNR=1.4								
BRVK	**Borovoye**	**29.08**	**59**		*e*P		**P**	**12 26 41.8**	**-1.6**
BRVK					pmax	pmax			
	comp=Z,1.0nm,0.8s								
BVAR	**Borovoye Array**	**29.14**	**59**		pP		pP	12 27 17.4	+1.2
	comp=Z,0.7nm,0.4s,baz=255,slow=11,SNR=3.7								
ZALV	**Zalesovo Beam**	**37.56**	**56**		P		**P**	**12 27 58.5**	**+1.8**
ZALV					*P		**pP**	**12 28 30.4**	**+0.6**
ZALV					pmax	pmax			
	comp=Z,1.0nm,0.4s								
ZALV					pmax	pmax			
	comp=Z,1.0nm,0.5s								
ZALV					pmax	pmax			
	comp=Z,1.0nm,0.5s								
ZALV	**Zalesovo Beam**	**37.56**	**56**		P		**P**	**12 27 58.5**	**+1.8**
	comp=Z,0.8nm,0.4s,baz=280,slow=8.2,SNR=3.1								
ZALV					pP		**pP**	**12 28 30.4**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=280,slow=8.6,SNR=2.1								
ZALV					sP		**sP**	**12 28 45.1**	**-2.2**
	comp=Z,1.0nm,0.5s,baz=280,slow=8.6,SNR=2.6								
MKAR	**Makanchi Array**	**37.92**	**68**		P		**P**	**12 28 01.9**	**+2.0**
MKAR	**Makanchi Array**	**37.92**	**68**		P		**P**	**12 28 01.9**	**+2.0**
	comp=Z,0.3nm,0.4s,baz=264,slow=10,SNR=4.5								
TORD	**Torodi Ar. Bea**	**38.63**	**221**		P		**P**	**12 28 06.8**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=23,slow=8.6,SNR=16								
TORD					PcP		**PcP**	**12 30 15.1**	**0.0**
	comp=Z,0.3nm,0.6s,baz=12,slow=2.7,SNR=2.6								
DBIC	**Dimbokro**	**47.38**	**225**		P		**P**	**12 29 16.3**	**0.0**
	comp=Z,4.7nm,0.3s,baz=12,slow=9.0,SNR=22								
KMBO	**Kilima Mbogo**	**47.56**	**165**		LR		LR	12 50 02.2	
	comp=Z,161nm,21.8s,baz=256,slow=37								
SONM	**Songino Array**	**52.44**	**57**		P		**P**	**12 29 56.2**	**+1.9**
	comp=Z,0.5nm,0.4s,baz=292,slow=8.5,SNR=6.9								
SONM					pP		**pP**	**12 30 29.7**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=324,slow=14,SNR=2.3								
CMAR	**Chiang Mai Arr**	**64.85**	**89**		P		**P**	**12 31 21.7**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=294,slow=5.8,SNR=5.9								
ILAR	**Eielson Array**	**69.78**	**357**		P		**P**	**12 31 52.0**	**+1.4**
	comp=Z,0.3nm,0.8s,baz=353,slow=5.4,SNR=4.2								
PDAR	**Pinedale Array**	**83.65**	**329**		P		**P**	**12 33 09.2**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=64,slow=6.1,SNR=3.6								

IDC 22 12:31:13.9±1.4, 15°.84S×173°.34W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/20, mbtmp3.9/3, ML1.6/1, Error ellipse: s-maj=55.6km s-min=22.2km az=129.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.44**	**38**		Pn	Pn	12 31 53.4	-1.8
	7.6nm,0.3s,baz=76,slow=23,SNR=12							
AFI					Sn	Sn	12 32 19.9	-6.0
	27nm,0.3s,baz=77,slow=17,SNR=9.4							
URZ	**Urewera**	**23.87**	**199**		P	P	12 36 28.8	-0.2
	11nm,1.2s,baz=291,slow=2.8,SNR=3.2							
WRA	**Warramunga Arr**	**49.80**	**257**		P	P	12 40 08.4	-0.5
	0.5nm,0.7s,baz=90,slow=7.0,SNR=9.7							
ASAR	**Alice Springs**	**50.03**	**252**		P	P	12 40 10.1	-0.6
	1.4nm,0.6s,baz=89,slow=7.8,SNR=18							
ILAR	**Eielson Array**	**82.86**	**11**		P	P	12 43 40.4	+0.5
	0.4nm,0.6s,baz=206,slow=6.0,SNR=8.6							
BRTR	**Keskin Array B**	**146.53**	**321**		PKPbc	PKPab	12 50 58.6	-0.1
	1.2nm,0.7s,baz=62,slow=3.4,SNR=3.8							

*IDC **22** 12:32:19.2±1.8, 15°.68S×173°.30W, h0km, mb3.8/5, mb1 4.2/5, mb1mx3.8/19, mbtmp3.8/5, Error ellipse: s-maj=114.0km s-min=23.0km az=151.0*

ISC 22 12:32:25.4±1.9, 15°.6S±0°.7×173°.4W±0°.4, h42km, n15, σ1§13/8, mb3.8/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.29**	**44**		Pn	Pn	12 32 51.0	-10
	39nm,0.3s,baz=114,slow=19,SNR=7.9							
AFI					Sn	Sn	12 33 09.7	-18
	164nm,0.3s,baz=7.9,slow=22,SNR=14							
H11S2	**WAKE ISLAND Hy**	**39.09**	**329**		T	T	13 20 56.9	
	baz=149,slow=0.7,SNR=12							
H11S3	**WAKE ISLAND Hy**	**39.10**	**329**		T	T	13 20 55.6	
	baz=149,slow=0.7,SNR=11							
H11S1	**WAKE ISLAND Hy**	**39.11**	**329**		T	T	13 20 57.0	
	baz=149,slow=0.7,SNR=7.2							
H11N3	**WAKE ISLAND Hy**	**40.04**	**330**		T	T	13 21 57.7	
	baz=152,slow=0.7,SNR=4.5							
H11N1	**WAKE ISLAND Hy**	**40.05**	**330**		T	T	13 21 58.1	
	baz=152,slow=0.7,SNR=6.8							
H11N2	**WAKE ISLAND Hy**	**40.06**	**330**		T	T	13 21 59.0	
	baz=152,slow=0.7,SNR=5.7							
WRA	**Warramunga Arr**	**49.79**	**257**		P	P	**12 41 13.6**	**-0.8**
	1.2nm,0.9s,baz=91,slow=6.7,SNR=6.0							
ASAR	**Alice Springs**	**50.04**	**252**		P	P	**12 41 16.9**	**+0.6**
	3.7nm,0.8s,baz=84,slow=8.6,SNR=1.5							
NVAR	**Mina Array Bea**	**74.46**	**42**		P	P	**12 44 01.5**	**+1.8**
	0.3nm,0.8s,baz=238,slow=8.5,SNR=4.0							
TXAR	**Lajitas Array**	**80.72**	**56**		P	P	**12 44 33.7**	**-1.0**
	0.3nm,0.7s,baz=234,slow=7.7,SNR=4.1							
PDAR	**Pinedale Array**	**82.40**	**42**		P	P	**12 44 43.8**	**+0.3**
	0.6nm,0.7s,baz=220,slow=5.2,SNR=6.0							
ILAR	**Eielson Array**	**82.61**	**11**		P	P	**12 44 43.0**	**-0.8**
	8.3nm,0.3s,baz=237,slow=6.1,SNR=6.0							
BRTR	**Keskin Array B**	**146.27**	**321**		PKPbc	**PKPab**	**12 52 03.5**	**+0.7**
	0.6nm,0.7s,baz=83,slow=2.6,SNR=2.9							
GERES	**GERESS Array B**	**146.30**	**352**		PKPbc	**PKPbc**	**12 52 01.8**	**+0.1**
	0.4nm,0.5s,baz=339,slow=5.2,SNR=5.5							

GUC 22 12:35:19.5±0.6, 32°.74S×71°.89W, h7km±5km, MD3.7, ML2.7, 5C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ROCH	**El Roble**	**0.78**	**107**	⇓	*i*P	Pg	12 35 34.6	-0.2
ROCH					*i* S	Sb	12 35 46.1	-0.6
ROCH					AML	AML	12 35 47.9	
	comp=N,657nm,0.5s							
CHNG	**Los Chungos**	**0.92**	**21**	⇑	*i*P	Pg	12 35 36.4	-0.7
CHNG					*i* S	Sb	12 35 50.0	-0.2
CHNG					AML	AML	12 35 53.3	
	comp=E,118nm,0.8s							
PEL	**Peldehue**	**1.09**	**112**	⇑	*i*P	Pg	12 35 39.8	-0.8
PEL					*i* S	Sg	12 35 55.1	+0.3
PEL					AML	AML	12 36 01.9	
	comp=N,699nm,0.4s							
JACH	**Jahuel**	**1.10**	**87**	⇑	*i*P	Pg	12 35 40.1	-0.7
TACH	**Talagante**	**1.21**	**139**	⇑	*i*P	Pg	12 35 41.2	-1.7
CLCH	**Cerro Calan**	**1.31**	**120**	⇓	*i*P	Pn	12 35 43.2	-1.3
CLCH					*i* S	Sb	12 36 01.4	-0.5
CLCH					AML	AML	12 36 09.1	
	comp=N,348nm,0.3s							
PCH	**Pirque**	**1.45**	**128**	⇓	*i*P	Pn	12 35 45.5	-0.9
PCH					*i* S	Sn	12 36 05.3	-0.5
CHCH	**Chadas Angostu**	**1.58**	**139**		*e*P	Pn	12 35 47.7	-0.4
CHCH					*i* S	Sn	12 36 08.8	0.0
CACH	**El Canelo**	**1.75**	**142**		*e*P	Pn	12 35 51.0	+0.5
CACH					*i* S	Sb	12 36 15.2	+0.7
LMEL	**Las Melosas**	**1.79**	**128**	⇑	*i*P	Pn	12 35 51.1	0.0
LMEL					*i* S	Sn	12 36 14.8	+0.4
LMEL					AML	AML	12 36 22.4	
	comp=N,232nm,0.2s							

*CSEM **22** 12:43:50.6±0.4, 39°.28N×27°.76E, h1km, MD2.7, Error ellipse: s-maj=10.3km s-min=5.2km az=93.0*

DDA 22 12:43:49.8, 39°.28N×27°.72E, h7km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AKHS	**Akhisar**	**0.41**	**169**		*i*P	Pb	12 43 58.7	-0.7
AKHS					*i* S	Sb	12 44 06.5	+0.6
AKHS	**Akhisar**	**0.41**	**169**		*i*P	Pb	12 43 58.7	-0.7
AKHS					*i* S	Sb	12 44 06.5	+0.6
BALY	**Balya**	**0.46**	**351**		*i*P	Pg	12 43 59.6	+0.8
BALY					*i* S	Sb	12 44 07.2	-0.3
BALY	**Balya**	**0.46**	**351**		*i*P	Pg	12 43 59.6	+0.7
BALY					*i* S	Sb	12 44 07.2	-0.3
DURS	**Dursunbey**	**0.67**	**61**		*i*P	Pg	12 44 02.5	-0.3
DURS					*i* S	Sb	12 44 12.8	-0.7
DURS	**Dursunbey**	**0.67**	**61**		*i*P	Pg	12 44 02.5	-0.3
DURS					*i* S	Sb	12 44 12.8	-0.7
MANT	**Manisa**	**1.03**	**140**		*i*P	Pg	12 44 09.1	-0.8
MANT					*i* S	Sb	12 44 24.2	+0.1
MANT	**Manisa**	**1.03**	**140**		*i*P	Pg	12 44 09.1	-0.8
MANT					*i* S	Sb	12 44 24.2	+0.1
ULDT	**Uludag**	**1.39**	**51**		*i*P	Pg	12

MEF					S	**Sg**	12 56 57.4	+1.2
MTSE	**Matsula**	**1.13**	**167**	*e*P	**Pg**	12 56 55.6	-0.4
MTSE	**Matsula**	**1.13**	**167**	P	**Pg**	12 56 55.6	-0.4
RAF	**Rauma**	**1.44**	**328**	*e*P	**Pn**	12 57 01.8	0.0
RAF				*e*PN	**Pb**	12 57 04.0	+1.9
RAF				*e*S	**Sg**	12 57 20.6	0.0
RAF	**Rauma**	**1.44**	**328**	P	**Pn**	12 57 01.7	0.0
PVF	**Pernaja**	**1.47**	**59**	*e*P	**Pn**	12 57 02.5	+0.3
PVF				*e*S	**Sg**	12 57 21.9	+0.2
PVF	**Pernaja**	**1.47**	**59**	P	**Pn**	12 57 02.5	+0.3
AAL	**Aland**	**1.71**	**284**	*e*S	**Sn**	12 57 28.1	+0.1
AAL	**Aland**	**1.71**	**284**	P	**Pn**	12 57 06.0	+0.6
AAL				S	**Sb**	12 57 28.4	-0.3
FIA0	**FINESS Array S**	**2.13**	**39**	Pn	**Pb**	12 57 13.6	-0.3
	baz=220,slow=18						
FIA0				Lg	Lg	12 57 42.8	
	baz=227,slow=28						
FIA0	**FINESS Array S**	**2.13**	**39**	Pn	**Pb**	12 57 13.6	-0.3
	baz=220,slow=18						
FIA0				Lg	Lg	12 57 42.8	
	baz=227,slow=28						
FIA0	**FINESS Array S**	**2.13**	**39**	*e*PB	**Pb**	12 57 13.9	0.0
FIA0				*e*SG	**Sb**	12 57 42.3	+1.4
FIA0	**FINESS Array S**	**2.13**	**39**	Pn	**Pb**	12 57 13.6	-0.3
	baz=220,slow=16,SNR=50						
FIA0	**FINESS Array S**	**2.13**	**39**	Pb	**Pb**	12 57 13.9	0.0
FIA0				Sg	**Sb**	12 57 42.2	+1.4
FINES	**FINESS Array B**	**2.13**	**39**	Pn	**Pb**	12 57 13.8	-0.1
	4.0nm,0.3s,baz=216,slow=15,SNR=147						
FINES				Sn	**Sb**	12 57 41.8	+1.0
	4.6nm,0.3s,baz=231,slow=26,SNR=41						
VSU	**Vasula**	**2.22**	**126**	Pn	**Pn**	12 57 13.2	+0.7
VSU				Lg	Lg	12 57 43.6	
VSU	**Vasula**	**2.22**	**126**	Pn	**Pn**	12 57 13.2	+0.7
VSU				Lg	Lg	12 57 43.6	
VSU	**Vasula**	**2.22**	**126**	*e*SG	**Sb**	12 57 43.9	+0.4
VSU	**Vasula**	**2.22**	**126**	Pn	**Pn**	12 57 13.2	+0.7
	SNR=50						
VSU	**Vasula**	**2.22**	**126**	*e*P	**Pb**	12 57 14.9	-0.5
	SNR=50						
VSU				Lg	Lg	12 57 43.6	
VSU				*e*S	**Sb**	12 57 44.0	+0.6
	52nm,0.4s,SNR=50						
VJF	**Virojoki**	**2.24**	**69**	*e*P	**Pn**	12 57 13.7	+1.0
VJF				*e*SG	**Sb**	12 57 45.8	+1.7
VJF				MSG		12 57 47.4	
	comp=Z,7.2nm,0.2s						
VJF	**Virojoki**	**2.24**	**69**	P	**Pn**	12 57 13.7	+1.0
VJF				Sg	**Sb**	12 57 45.7	+1.7
SLIT	**Slitere, Latvi**	**2.25**	**194**	*e*P	**Pb**	12 57 14.9	-1.0
	SNR=50						
SLIT				*e*S	**Sb**	12 57 44.7	+0.4
	SNR=50						
KEF	**Keuruu**	**2.48**	**17**	*e*P	**Pb**	12 57 19.6	-0.3
KEF				*e*SG	**Sb**	12 57 52.8	+1.7
KEF	**Keuruu**	**2.48**	**17**	P	**Pb**	12 57 19.6	-0.3
KEF				Sg	**Sb**	12 57 52.7	+1.7
FORU	**Forsmark**	**2.63**	**285**	*e*P	**Pb**	12 57 21.1	-1.3
FORU	**Forsmark**	**2.63**	**285**	P	**Pb**	12 57 21.1	-1.3
KAF	**Kangasniemi**	**2.73**	**31**	*e*PB	**Pb**	12 57 23.1	-1.1
KAF				*e*SB	**Sb**	12 57 58.5	+0.4
KAF				MSG		12 58 01.0	
	comp=Z,2.9nm,0.2s						
KAF	**Kangasniemi**	**2.73**	**31**	Pb	**Pb**	12 57 23.0	-1.1
KAF				Sb	**Sb**	12 57 58.5	+0.4
FLYU	**Flymyra**	**2.75**	**279**	*e*P	**Pn**	12 57 21.1	+1.4
FLYU	**Flymyra**	**2.75**	**279**	P	**Pn**	12 57 21.1	+1.4
OSTU	**Oestervaala**	**3.13**	**280**	*e*P	**Pn**	12 57 26.4	+1.4
OSTU	**Oestervaala**	**3.13**	**280**	P	**Pn**	12 57 26.3	+1.4
BACU	**Backbrunna**	**3.13**	**273**	*e*P	**Pn**	12 57 26.6	+1.6
BACU	**Backbrunna**	**3.13**	**273**	P	**Pn**	12 57 26.6	+1.6
IGGU	**Iggoen**	**3.17**	**292**	*e*P	**Pn**	12 57 27.0	+1.5
IGGU	**Iggoen**	**3.17**	**292**	P	**Pn**	12 57 27.0	+1.5
SUF	**Sumiainen**	**3.23**	**24**	*e*P	Pn	12 57 29.6	+3.4
SUF				*e*SB	**Sb**	12 58 12.0	-0.3
SUF				MSG		12 58 15.6	
	comp=Z,1.8nm,0.2s						
SUF	**Sumiainen**	**3.23**	**24**	P	Pn	12 57 29.6	+3.4
SUF				Sb	**Sb**	12 58 11.9	-0.3
VAF	**Ylistaro**	**3.26**	**355**	*e*PB	**Pb**	12 57 32.0	-1.1
VAF				*e*PG	**Pg**	12 57 35.9	-1.0
VAF				*e*SB	**Sb**	12 58 14.6	+1.4
VAF	**Ylistaro**	**3.26**	**355**	Pb	**Pb**	12 57 31.9	-1.1
HFS	**Hagfors**	**4.84**	**278**	Pn	**Pn**	12 57 50.0	+1.5
	baz=87,slow=11						
HFS				Sn	**Sn**	12 58 44.5	-0.8
	baz=85,slow=22						
HFS				Lg	Lg	12 59 02.7	
	baz=105,slow=37						
HFS	**Hagfors**	**4.84**	**278**	Pn	**Pn**	12 57 50.0	+1.5
	baz=87,slow=11						
HFS				Sn	**Sn**	12 58 44.5	-0.8
	baz=85,slow=22						
HFS				Lg	Lg	12 59 02.7	
	baz=105,slow=37						
HFS	**Hagfors**	**4.84**	**278**	Pn	**Pn**	12 57 50.0	+1.5
	baz=87,slow=11,SNR=50						
HFS				Sn	**Sn**	12 58 44.5	-0.8
	baz=85,slow=20,SNR=50						
HFS				Lg	Lg	12 59 02.7	
	baz=105,slow=30,SNR=50						
HFS	**Hagfors**	**4.84**	**278**	Pn	**Pn**	12 57 50.0	+1.5
	comp=Z,0.2nm,0.3s,baz=88,slow=10,SNR=8.8						
HFS				Pg	**Pb**	12 58 01.3	+1.2
	comp=Z,0.1nm,0.3s,baz=94,slow=18,SNR=5.0						
HFS				Sn	**Sn**	12 58 43.5	-1.8
	comp=Z,0.2nm,0.3s,baz=275,slow=37,SNR=1.1						
HFS				Lg	Lg	12 59 02.7	
	comp=Z,1.1nm,0.3s,baz=87,slow=33,SNR=10.0						
NB2	**NORSAR Subarra**	**6.12**	**287**	Pn	**Pn**	12 58 05.9	-0.2
	baz=98,slow=14						
NB2	**NORSAR Subarra**	**6.12**	**287**	Pn	**Pn**	12 58 05.9	-0.2
	baz=98,slow=14						
NB2	**NORSAR Subarra**	**6.12**	**287**	Pn	**Pn**	12 58 05.9	-0.2
	baz=98,slow=13,SNR=50						
NOA	**NORSAR Array B**	**6.12**	**287**	Pn	**Pn**	12 58 06.0	0.0
	comp=Z,0.2nm,0.3s,baz=84,slow=14,SNR=3.1						
NOA				Lg	Lg	12 59 44.7	
	comp=Z,0.4nm,0.3s,baz=134,slow=25,SNR=2.6						
APA0	**Apatity Array**	**8.91**	**25**	Pn	**Pn**	12 58 45.5	+1.3
	baz=213,slow=10						
APA0	**Apatity Array**	**8.91**	**25**	Pn	**Pn**	12 58 45.5	+1.3
	baz=213,slow=10						
APA0	**Apatity Array**	**8.91**	**25**	Pn	**Pn**	12 58 45.5	+1.3
	baz=213,slow=9.9,SNR=50						
ARA0	**ARCESS Array S**	**9.81**	**5**	Pn	**Pn**	12 58 57.2	+0.7
	baz=177,slow=14						
ARA0				Sn	**Sn**	13 00 43.9	-3.3
	baz=190,slow=22						
ARA0	**ARCESS Array S**	**9.81**	**5**	Pn	**Pn**	12 58 57.2	+0.7
	baz=177,slow=14						
ARA0				Sn	**Sn**	13 00 43.9	-3.3
	baz=190,slow=22						
ARA0	**ARCESS Array S**	**9.81**	**5**	Pn	**Pn**	12 58 57.2	+0.7
	baz=177,slow=14,SNR=50						
ARCES	**ARCESS Array B**	**9.81**	**5**	Pn	**Pn**	12 58 57.3	+0.8
	comp=Z,0.2nm,0.3s,baz=181,slow=13,SNR=16						
ARCES				Sn	**Sn**	13 00 43.3	-3.9
	comp=Z,0.1nm,0.3s,baz=328,slow=22,SNR=4.0						

IDC 22 12:59:34.2±12.0, 6°.94N×94°.17E, h0km, mb3.7/2, mb1 3.7/3, mb1mx3.3/27, mbtmp3.6/3, ML4.0/1, Error ellipse: s-maj=222.8km s-min=91.0km az=151.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**12.36**	**22**	Pn	Pn	13 02 31.5	0.0
	0.3nm,0.3s,baz=211,slow=15,SNR=6.8						
H08S3	**Diego Garcia H**	**26.02**	**237**	T	T	13 32 19.3	
	baz=52,slow=0.7,SNR=7.3						
H08S2	**Diego Garcia H**	**26.02**	**237**	T	T	13 32 21.7	
	baz=52,slow=0.7,SNR=11						
H08S1	**Diego Garcia H**	**26.04**	**237**	T	T	13 32 20.0	
	baz=52,slow=0.7,SNR=8.3						
MKAR	**Makanchi Array**	**41.00**	**348**	P	P	13 07 18.1	-0.9
	0.4nm,0.8s,baz=169,slow=8.2,SNR=3.4						
ZALV	**Zalesovo Beam**	**47.48**	**353**	P	P	13 08 11.3	+0.6
	1.6nm,0.6s,baz=171,slow=8.8,SNR=9.2						

IDC 22 13:22:24.6±2.2, 7°.51S×127°.28E, h0km, mb3.4/1, mb1 3.7/3, mb1mx3.4/19, mbtmp3.5/3, ML3.7/2, Error ellipse: s-maj=277.7km s-min=32.1km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.13**	**152**	Pn	Pn	13 25 45.1	-1.1
	0.3nm,0.3s,baz=326,slow=14,SNR=20						
WRA				Sn	Sn	13 28 09.7	-14
	0.6nm,0.3s,baz=336,slow=21,SNR=4.8						
ASAR	**Alice Springs**	**17.28**	**159**	P	P	13 26 28.4	-0.8
	0.3nm,0.3s,baz=345,slow=11,SNR=36						
ASAR				S	Sn	13 29 27.9	-13
	0.2nm,0.3s,baz=314,slow=17,SNR=6.6						
MKAR	**Makanchi Array**	**67.20**	**328**	P	P	13 33 20.7	0.0
	0.2nm,0.5s,baz=113,slow=6.1,SNR=4.5						

IDC 22 13:48:20.7±1.7, 1°.38N×124°.28E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/23, mbtmp3.3/3, Error ellipse: s-maj=180.5km s-min=24.6km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.37**	**156**	P	P	13 53 31.5	+0.3
	0.5nm,0.3s,baz=336,slow=10,SNR=10						
ASAR	**Alice Springs**	**26.59**	**160**	P	P	13 54 00.6	-0.3
	0.3nm,0.6s,baz=344,slow=15,SNR=6.3						
MKAR	**Makanchi Array**	**58.14**	**327**	P	P	13 58 16.3	0.0
	0.2nm,0.7s,baz=120,slow=7.3,SNR=3.7						

*JMA **22** 14:08:09.7±0.3, 33°.91N×141°.58E, h22km±3km, M3.0*
*ISCJB **22** 14:08:10.5±1.4, 33°.90N±0°.09×141°.6E±0°.1, h41km±14km, mb3.3/3, Error ellipse: s-maj=19.4km s-min=11.0km az=139.2*
*IDC **22** 14:08:10.3±4.6, 33°.55N×140°.68E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/25, mbtmp3.3/4, ML3.1/1, Error ellipse: s-maj=172.1km s-min=25.0km az=67.0*
ISC 22 14:08:12.4±1.8, 33°.91N±0°.10×141°.6E±0°.2, h38km±6km, n12, σ1°33/18, mb3.3/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.88**	**328**	P	**Pn**	14 08 26.3	-1.4
BSO4	**Boso 4**	**1.47**	**317**	P	**Pn**	14 08 36.3	+0.1
JHJ2	**Mitsune**	**1.65**	**242**	P	**Pn**	14 08 38.7	-0.1
JIM2	**Oshima 3**	**1.93**	**295**	P	**Pn**	14 08 41.9	-0.7
JIM2				*e*S	**Sn**	14 09 05.0	-0.6
KTJJ	**Kamata 2**	**2.29**	**297**	P	**Pn**	14 08 46.6	-1.0
KTJJ				*e*S	**Sn**	14 09 14.0	-0.5
JIZS	**Izushimoda**	**2.35**	**291**	P	**Pn**	14 08 48.4	0.0
JIZS				*e*S	**Sn**	14 09 17.1	+1.1
JOD2	**Odawara 2**	**2.44**	**304**	P	**Pn**	14 08 48.2	-1.4
JOD2				*e*S	**Sn**	14 09 17.4	-0.8
MJAR	**Matsushiro Arr**	**3.79**	**315**	Pn	**Pn**	14 09 07.9	-0.3
	1.8nm,0.3s,baz=144,slow=12,SNR=15						
MJAR				Sn	**Sn**	14 09 54.8	+3.3
	1.1nm,0.3s,baz=138,slow=15,SNR=7.1						
MAT	**Matsushiro**	**3.79**	**315**	P	**Pn**	14 09 09.0	+0.8
MAT				S	**Sn**	14 09 52.8	+1.2
MKAR	**Makanchi Array**	**45.93**	**305**	P	**P**	14 16 31.1	-0.2
	0.3nm,0.7s,baz=95,slow=6.1,SNR=3.6						
WRA	**Warramunga Arr**	**53.99**	**188**	P	**P**	14 17 31.4	-1.2
	0.5nm,0.8s,baz=6.9,slow=7.6,SNR=5.6						
ASAR	**Alice Springs**	**57.72**	**188**	P	**P**	14 18 01.0	+1.6
	0.1nm,0.5s,baz=355,slow=5.5,SNR=7.0						

*IDC **22** 14:26:22.9±1.4, 1°.08N×97°.84E, h0km, mb3.4/6, mb1 3.5/6, mb1mx3.4/26, mbtmp3.4/6, Error ellipse: s-maj=38.1km s-min=19.8km az=64.0*
ISC 22 14:26:28.3±1.4, 1°.2N±0°.1×98°.1E±0°.2, h32km, n10, σ0°.97/8, mb3.4/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**1.80**	**29**	Pn	**Pn**	14 26 58.4	+1.1
	3.3nm,0.3s,baz=256,slow=8.3,SNR=5.6						
PSI				Sn	**Sb**	14 27 22.3	-0.7
	4.1nm,0.3s,baz=305,slow=15,SNR=6.9						
H08S2	**Diego Garcia H**	**26.97**	**251**	T	T	14 59 33.1	
	baz=72,slow=0.7,SNR=10						
H08S3	**Diego Garcia H**	**26.97**	**251**	T	T	14 59 32.8	
	baz=72,slow=0.7,SNR=10						
H08S1	**Diego Garcia H**	**26.99**	**251**	T	T	14 59 33.9	
	baz=72,slow=0.7,SNR=11						
WRA	**Warramunga Arr**	**41.32**	**123**	P	**P**	14 34 11.9	+0.5
	0.5nm,1.0s,baz=302,slow=9.0,SNR=2.7						
ASAR	**Alice Springs**	**42.73**	**128**	P	**P**	14 34 22.2	-0.7
	0.1nm,0.8s,baz=304,slow=6.6,SNR=3.2						
SONM	**Songino Array**	**47.00**	**8**	P	**P**	14 34 56.1	-0.6
	0.3nm,0.3s,baz=185,slow=9.7,SNR=4.0						
MKAR	**Makanchi Array**	**47.44**	**345**	P	**P**	14 34 59.5	-0.5
	0.4nm,0.4s,baz=160,slow=8.7,SNR=10						
KURBB	**Kurchatov Arra**	**51.94**	**344**	P	**P**	14 35 35.2	+1.1
	0.1nm,0.4s,baz=172,slow=7.0,SNR=2.7						
ZALV	**Zalesovo Beam**	**53.68**	**350**	P	**P**	14 35 46.3	-0.6
	0.9nm,0.4s,baz=170,slow=8.1,SNR=5.9						

*BJI **22** 14:33:15.0, 17°.90S×178°.30W, h561km, mB5.1/8, mb4.7/12*
*ISCJB **22** 14:33:16.8±0.2, 18°.04S±0°.06×178°.37W±0°.04, h579km, mb4.5/50, Error ellipse: s-maj=8.4km s-min=5.3km az=168.0*
*NEIC **22** 14:33:16.8±0.3, 17°.92S×178°.48W, mb4.5/18, Error ellipse: s-maj=14.4km s-min=8.7km az=150.0*
*AUST **22** 14:33:17.0±0.0, 17°.86S×178°.22W, h573km, Error ellipse: s-maj=1.5km s-min=1.3km az=336.0*
*IDC **22** 14:33:18.1±1.6, 17°.99S×178°.50W, h576km±18km, mb3.8/20, mb1 3.9/21, mb1mx3.9/23, mbtmp4.7/21, Error ellipse: s-maj=13.6km s-min=8.8km az=153.0*
*SZGRF **22** 14:33:20.4, 16°.94S×176°.84W, h570km, Fiji Islands region*
ISC 22 14:33:18.0±0.3, 18°.01S±0°.08×178°.42W±0°.06, h579km, n251, σ0°.97/269, mb4.6/50, 28C-9D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.37**	**274**	*e*P	**P**	14 34 38.0	+0.2
AFI	**Afiamalu**	**7.58**	**58**	P	P	14 35 08.3	-4.4
AFI				S	S	14 36 38.7	-8.0
AFI	**Afiamalu**	**7.58**	**58**	P	P	14 35 08.3	-4.4
	6.0nm,0.3s,baz=233,slow=15,SNR=17						
AFI				S	S	14 36 38.7	-8.0
	5.4nm,0.3s,baz=6.2,slow=20,SNR=4.5						
NIUE	**Niue**	**8.13**	**99**	P	**P**	14 35 16.2	-1.7
	baz=8.0,SNR=7.7						
DZM	**Mont Dzumac**	**14.78**	**252**	*e*P	**P**	14 36 23.4	-1.4
	3.9nm,0.3s						
DZM	**Mont Dzumac**	**14.78**	**252**	P	**P**	14 36 23.3	-1.5
DZM	**Mont Dzumac**	**14.78**	**252**	P	**P**	14 36 23.3	-1.5
	3.0nm,0.3s,baz=95,slow=17,SNR=16						
URZ	**Urra**	**20.55**	**190**	P	**P**	14 37 16.5	-0.9
URZ	**Urewera**	**20.55**	**190**	P	**P**	14 37 16.5	-0.9
	4.2nm,0.6s,baz=0.0,slow=0.0,SNR=3.8						
PAE	**Paea**	**27.45**	**94**	*e*P	**P**	14 38 17.6	-1.3
	16nm,1.2s						
PPT2	**Papeete2**	**27.46**	**94**	*e*P	**P**	14 38 18.1	-1.0
	67nm,1.3s						
PPT	**Papeete**	**27.46**	**94**	P	**P**	14 38 18.5	-0.5
PPT	**Papeete**	**27.46**	**94**	P	**P**	14 38 18.5	-0.5
	37nm,0.7s,baz=14,slow=4.0,SNR=11						
TBI	**Tubuai**	**27.58**	**106**	*e*P	**P**	14 38 20.3	+0.3
	62nm,0.8s						
PMOR	**Pomariorio Ree**	**29.41**	**89**	*e*P	**P**	14 38 35.0	-0.9
	112nm,1.0s						
VAH	**Vaihoa**	**29.62**	**89**	*e*P	**P**	14 38 36.6	-1.1
	61nm,1.0s						
ARMA	**Armidale**	**29.88**	**240**	P	**P**	14 38 41.1	+1.2
	baz=30,SNR=11						
MGCD	**Mangrove Creek**	**31.22**	**235**	P	**P**	14 38 52.9	+1.6
	baz=32,SNR=6.0						
RMQ	**Roma**	**31.45**	**249**	P	**P**	14 38 54.3	+1.0
	baz=32,SNR=14						
CNB	**Canberra Magne**	**33.35**	**232**	P	**P**	14 39 10.5	+1.2
	baz=34,SNR=32						
CTA	**Charters Tower**	**33.41**	**261**	P	**P**	14 39 09.9	-0.1
CTA	**Charters Tower**	**33.41**	**261**	P	**P**	14 39 09.9	-0.1
	14nm,0.6s,baz=99,slow=12,SNR=14						
CMSA	**Cobar Meteorol**	**35.09**	**241**	P	**P**	14 39 24.4	+0.6
	baz=35,SNR=47						
MTSU	**Mount Surprise**	**35.38**	**264**	P	**P**	14 39 26.4	-0.1
	baz=36,SNR=9.2						
QLP	**Quilpie**	**35.48**	**249**	P	**P**	14 39 27.4	+0.2
	baz=36,SNR=23						
COEN	**Coen**	**37.09**	**271**	P	P	14 39 41.2	+0.7
	baz=37,SNR=7.9						
TOO	**Toolangi**	**37.09**	**231**	P	**P**	14 39 41.1	+0.9
	baz=37,SNR=14						
STKA	**Stephens Creek**	**38.57**	**241**	P	**P**	14 39 53.0	+0.7
	51nm,1.1s						
STKA				PcP	**PcP**	14 41 50.1	+0.4
STKA	**Stephens Creek**	**38.57**	**241**	P	**P**	14 39 53.3	+1.1
	baz=39,SNR=27						
STKA	**Stephens Creek**	**38.57**	**241**	P	**P**	14 39 53.0	+0.7
	21nm,0.8s,baz=86,slow=9.3,SNR=51						
STKA				PcP	**PcP**	14 41 50.1	+0.4
	2.9nm,0.6s,baz=170,slow=19,SNR=2.9						
ARPS	**Mount Arapiles**	**39.58**	**234**	P	**P**	14 40 00.9	+0.6
	baz=40,SNR=6.4						
JAY	**Jayapura**	**42.92**	**286**	P	**P**	14 40 27.6	+0.5
	baz=43,SNR=16						
BBOO	**Buckleboo**	**43.34**	**241**	*e*P	**P**	14 40 30.5	+0.4
	525nm,0.9s						
BBOO	**Buckleboo**	**43.34**	**241**	P	**P**	14 40 30.5	+0.4
	baz=44,SNR=30						
WRAB	**Tennant Creek**	**44.59**	**260**	*e*P	**P**	14 40 37.3	-2.5
	12nm,0.6s						
WRA	**Warramunga Arr**	**44.60**	**260**	P	**P**	14 40 39.1	-0.9
WRA				PcP	**PcP**	14 42 10.4	+0.3
WRA				S	**S**	14 46 31.2	-3.5
WRA	**Warramunga Arr**	**44.60**	**260**	P	**P**	14 40 39.1	-0.9
	16nm,0.7s,baz=96,slow=6.8,SNR=322						
WRA				PcP	**PcP**	14 42 10.4	+0.3
	4.6nm,0.7s,baz=91,slow=3.9,SNR=8.6						
WRA				S	**S**	14 46 31.2	-3.5
	1.6nm,0.9s,baz=96,slow=13,SNR=6.4						
ASAR	**Alice Springs**	**44.75**	**254**	P	**P**	14 40 41.0	-0.1
ASAR				PcP	**PcP**	14 42 10.9	+0.2
ASAR				S	**S**	14 46 35.4	-1.4
ASAR	**Alice Springs**	**44.75**	**254**	P	**P**	14 40 41.0	-0.1
	113nm,0.6s,baz=88,slow=8.5,SNR=2255						
ASAR				PcP	**PcP**	14 42 10.9	+0.2
	6.3nm,0.6s,baz=100,slow=4.0,SNR=9.0						
ASAR				S	**S**	14 46 35.4	-1.4
	10nm,1.2s,baz=88,slow=15,SNR=24						
KDU	**Kakadu**	**47.54**	**269**	P	**P**	14 41 02.1	-0.2
	baz=48,SNR=14						
MTN	**Manton Dam**	**48.78**	**269**	P	**P**	14 41 10.8	-0.7
	baz=49,SNR=11						
KNRA	**Kununurra**	**50.46**	**264**	P	**P**	14 41 23.4	-0.3
	baz=51,SNR=19						
SWI	**Sorong**	**52.25**	**283**	P	**P**	14 41 37.2	+0.5
	baz=52,SNR=12						
FITZ	**Fitzroy Crossi**	**53.00**	**261**	*e*P	**P**	14 41 41.5	-0.5
	12nm,1.1s						
FITZ	**Fitzroy Crossi**	**53.00**	**261**	P	**P**	14 41 42.1	+0.2
	baz=53,SNR=6.8						
AAI	**Ambon**	**54.12**	**279**	P	**P**	14 41 51.7	+1.8
	baz=54,SNR=4.2						
SOEI	**Soe**	**56.06**	**270**	P	**P**	14 42 05.0	+1.4
	baz=56,SNR=15						
MBWA	**Marble Bar**	**58.03**	**256**	*e*P	**P**	14 42 15.1	-1.7
	14nm,0.7s						
MEEK	**Meekatharra**	**58.38**	**249**	P	**P**	14 42 18.5	-0.6
	baz=59,SNR=6.3						
BLDU	**Ballidu**	**59.72**	**245**	P	**P**	14 42 27.7	-0.3
	baz=60,SNR=11						
LUWI	**Luwuk**	**60.11**	**279**	P	**P**	14 42 31.3	+0.6
	baz=60,SNR=4.5						
VNDA	**Vanda**	**60.34**	**185**	P	**P**	14 42 32.4	+1.3
VNDA	**Vanda**	**60.34**	**185**	P	**P**	14 42 32.4	+1.3
	1.0nm,0.9s,baz=337,slow=7.7,SNR=5.1						
MORW	**Morawa**	**60.43**	**246**	P	**P**	14 42 32.3	-0.4
	baz=61,SNR=8.4						
KAPI	**Kappang**	**61.69**	**274**	P	**P**	14 42 40.4	-0.7
KAPI	**Kappang**	**61.69**	**274**	P	**P**	14 42 40.4	-0.7
	7.6nm,0.2s,baz=153,slow=16,SNR=4.6						
GIRL	**Giralia**	**62.85**	**253**	P	**P**	14 42 49.7	+1.2
	baz=63,SNR=4.8						
CASY	**Casey**	**66.03**	**205**	*e*P	**P**	14 43 07.6	-0.1
	9.6nm,1.0s						
MYLDM	**Lahad Datu**	**66.32**	**284**	P	**P**	14 43 11.9	+1.4
MYLDM	**Lahad Datu**	**66.32**	**284**	*e*P	**P**	14 43 07.7	-2.8
	35nm,1.3s						
TSM	**Tawau**	**66.58**	**283**	P	**P**	14 43 12.8	+0.8
SDKM	**Sandakan**	**67.70**	**284**	P	**P**	14 43 20.1	+1.1
MJAR	**Matsushiro Arr**	**67.98**	**323**	P	**P**	14 43 19.5	-0.7
MJAR	**Matsushiro Arr**	**67.98**	**323**	P	**P**	14 43 19.5	-0.7
	15nm,0.8s,baz=160,slow=6.2,SNR=36						
MAJO	**Matsushiro**	**67.98**	**323**	*e*P	**P**	14 43 17.1	-3.1
	14nm,0.8s						
MAT	**Matsushiro**	**67.98**	**323**	P	**P**	14 43 19.7	-0.5
KKM	**Kota Kinabalu**	**68.75**	**284**	P	**P**	14 43 26.0	+0.6
KKM	**Kota Kinabalu**	**68.75**	**284**	*e*P	P	14 43 22.1	-3.4
	104nm,2.0s						
KKM	**Kota Kinabalu**	**68.75**	**284**	P	**P**	14 43 25.7	+0.2
	baz=69,SNR=6.4						
UGM	**Wanagama**	**69.63**	**268**	P	**P**	14 43 30.7	+0.1
	baz=70,SNR=16						
JNU	**Nakatsue

0.6nm,1.0s,baz=238,slow=5.0,SNR=2.5
XAN Xi'an 86.31 307 P **P** 14 45 00.5 +1.0
XAN AMB AMB
comp=Z,9.0nm,1.0s
RRI2 Red Ridge 86.57 42 *eP* **P** 14 45 00.6 -0.3
32nm,0.8s
PDAR Pinedale Array 87.44 43 P **P** 14 45 04.9 0.0
PDAR Pinedale Array 87.44 43 P **P** 14 45 04.9 0.0
1.5nm,0.6s,baz=222,slow=2.4,SNR=13
UTHA Uthaitani 87.50 287 P **P** 14 45 08.0 +2.6
2.6nm,1.1s
CRAI Chiangrai 88.22 292 P **P** 14 45 10.9 +2.2
21nm,1.3s
CMAR Chiang Mai Arr 88.91 290 P **P** 14 45 13.2 +1.2
CMAR Chiang Mai Arr 88.91 290 P **P** 14 45 13.2 +1.2
6.5nm,0.9s,baz=108,slow=3.0,SNR=43
CHTO Chiang Mai 89.02 290 P **P** 14 45 13.5 +1.0
45nm,1.0s
SYO Syowa Base 89.05 193⇓ *eP* **P** 14 45 10.0 -1.6
CMAI Chiengmai2 89.30 291 P **P** 14 45 15.3 +1.3
SNAA Sanae 90.49 179 *eP* **P** 14 45 18.1 -0.3
VNA2 Neumayer--Watz 91.07 177 *eP* **P** 14 45 21.8 +0.8
VNA1 Neumayer--Stat 91.30 177 *eP* **P** 14 45 22.4 +0.4
SONM Songino Array 93.62 319 P **P** 14 45 32.7 -0.4
SONM Songino Array 93.62 319 P **P** 14 45 32.7 -0.4
0.9nm,0.6s,baz=130,slow=5.2,SNR=7.8
ZALV Zalesovo Beam 108.31 322 PKiKP **PKiKP** 14 50 39.2 -1.6
ZALV Zalesovo Beam 108.31 322 PKiKP **PKiKP** 14 50 39.2 -1.6
1.2nm,0.6s,baz=189,slow=1.5,SNR=5.9
MKAR Makanchi Array 109.20 314 PKiKP **PKiKP** 14 50 41.8 -1.0
MKAR Makanchi Array 109.20 314 PKiKP **PKiKP** 14 50 41.8 -1.0
1.4nm,0.5s,baz=184,slow=0.4,SNR=27
AAK Ala-Archa 114.44 309 PKP PKPdf 14 50 52.3 -0.7
AAK Ala-Archa 114.44 309 PKP PKPdf 14 50 52.3 -0.7
0.5nm,0.3s,baz=208,slow=9.0,SNR=4.4
BVAR Borovoye Array 116.92 321 PKP **PKPdf** 14 50 56.4 -0.9
BVAR Borovoye Array 116.92 321 PKP **PKPdf** 14 50 56.4 -0.9
2.3nm,0.5s,baz=117,slow=1.2,SNR=16
AKTO Aktyubinsk 124.94 319 PKP **PKPdf** 14 51 11.0 -1.8
AKTO Aktyubinsk 124.94 319 PKP **PKPdf** 14 51 11.0 -1.8
2.7nm,0.6s,baz=98,slow=3.5,SNR=16
ARCES ARCESS Array B 126.42 350 PKP **PKPdf** 14 51 14.6 -0.5
ARCES ARCESS Array B 126.42 350 PKP **PKPdf** 14 51 14.6 -0.5
8.6nm,0.8s,baz=7.6,slow=3.7,SNR=9.8
BOSA Boshof 128.30 207 PKP **PKPdf** 14 51 20.5 +0.4
BOSA Boshof 128.30 207 PKP **PKPdf** 14 51 20.5 +0.4
2.5nm,0.8s,baz=100,slow=6.1,SNR=3.5
FINES FINESS Array B 133.29 344 PKP **PKPdf** 14 51 27.4 -0.9
FINES FINESS Array B 133.29 344 PKP **PKPdf** 14 51 27.4 -0.9
2.7nm,0.7s,baz=90,slow=4.7,SNR=6.7
NOA NORSAR Array B 136.48 353 PKP **PKPdf** 14 51 34.5 +0.2
NOA NORSAR Array B 136.48 353 PKP **PKPdf** 14 51 34.5 +0.2
1.1nm,0.9s,baz=12,slow=3.2,SNR=4.0
KBZ Khabaz 136.87 316 PKP **PKPdf** 14 51 37.6 +2.2
KBZ Khabaz 136.87 316 PKP **PKPdf** 14 51 37.6 +2.2
1.7nm,0.8s,baz=27,slow=2.3,SNR=3.6
HFS Hagfors 137.03 351 PKP **PKPdf** 14 51 36.0 +0.7
HFS Hagfors 137.03 351 PKP **PKPdf** 14 51 36.0 +0.7
2.7nm,0.7s,baz=35,slow=8.0,SNR=3.6
AKASG Malin Array Be 140.65 332 PKP **PKPdf** 14 51 44.1 +2.0
AKASG Malin Array Be 140.65 332 PKhKP PKPpre 14 51 35.2
1.8nm,0.6s,baz=43,slow=4.0,SNR=9.5
AKASG PKP **PKPdf** 14 51 44.1 +2.0
1.8nm,0.6s,baz=71,slow=1.6,SNR=8.8
EKA Eskdalemuir Ar 142.57 4 PKhKP PKPpre 14 51 42.0
3.4nm,0.9s,baz=70,slow=8.1,SNR=4.1
BSEG Bad Segeberg 143.51 351 *e*PKPbc PKPab 14 51 45.6 -0.2
LEOM Leova 144.08 328⇑ *i*P **PKPab** 14 51 48.2 0.0
TLCR 144.65 326⇑ *i*P **PKPab** 14 51 50.2 -0.2
OJC Ojcow 144.71 340 *e*PKP PKPbc 14 51 49.8 0.0
GHRR 144.79 328⇓ *i*P **PKPab** 14 51 51.8 +0.8
TESR Tescani 144.84 329⇓ *i*P PKPbc 14 51 50.3 0.0
BRTR Keskin Array B 144.85 315 PKP PKPbc 14 51 50.5 -0.2
BRTR Keskin Array B 144.85 315 PKP PKPbc 14 51 50.5 -0.2
14nm,0.9s,baz=142,slow=3.0,SNR=52
STHS Stebnicka Huta 144.88 330 *e*PKP **PKPab** 14 51 51.0 -0.3
KOLS Kolonicke sedl 144.89 336 *e*PKP PKPbc 14 51 50.6 +0.2
NRDL Niedersach Rie 144.95 351 *e*PKPbc PKPbc 14 51 50.2 -0.1
CFR Carcaliu 145.02 327⇑ *i*P **PKPbc** 14 51 50.9 +0.1
KSP Ksiaz 145.21 344 *e*PKP **PKPbc** 14 51 51.7 +0.5
NIE Niedzica 145.21 338 *e*PKP **PKPab** 14 51 52.0 -0.6
ASF Jabal al Asfar 145.22 301 PKPbc **PKPbc** 14 51 52.1 +0.1
ASF Jabal al Asfar 145.22 301 PKPbc **PKPbc** 14 51 52.1 +0.1
8.2nm,0.8s,baz=67,slow=1.1,SNR=8.5
CRVS Cervenica-Dubn 145.23 337 *e*PKP **PKPbc** 14 51 51.6 +0.2
VRI Vrincioaia 145.26 329⇑ *i*P **PKPab** 14 51 52.3 -0.5
PLOR Plostina 145.31 329⇑ *i*P **PKPbc** 14 51 52.0 +0.2
TIRR Tirgusor 145.34 325⇑ *i*P **PKPbc** 14 51 52.0 +0.2
TIRR Tirgusor 145.34 325 *e*PKPdf **PKPdf** 14 51 51.1 +0.6
TRPA Tarpa 145.44 335⇑ *i*P **PKPbc** 14 51 52.0 0.0
TRPA Tarpa 145.44 335⇑ *e* **PKPbc** 14 51 52.3 +0.3
TLB Topalu 145.46 326⇓ *i*P **PKPbc** 14 51 52.3 +0.2
CLZ Clausthal 145.54 350 *e*PKPbc **PKPbc** 14 51 52.4 +0.2
CLZ *e*PKiKP **PKiKP** 14 51 56.4 +1.4
CLL Collm 145.56 347 *e*PKPbc **PKPbc** 14 51 52.3 +0.1
CLL Collm 145.56 347 *i* PKPbc **PKPbc** 14 51 51.9 -0.3
comp=Z,43nm,1.0s
OKC Ostrava-Krasne 145.57 341 *e*PKP **PKPbc** 14 51 51.8 -0.5
UPC Upice 145.59 344 *e*PKP **PKPbc** 14 51 52.6 +0.2
DPC Dobruska-Polom 145.65 343 *e*PKP **PKPbc** 14 51 53.0 +0.4
BRG Berggiesshubel 145.76 346 *i* PKP **PKPab** 14 51 53.9 -0.7
comp=Z,34nm,1.3s
BRG Berggiesshubel 145.76 346 *e*PKPbc **PKPbc** 14 51 53.0 +0.2
MORC Moravsky Berou 145.81 341⇑ *i*P **PKPbc** 14 51 53.6 +0.5
FBE Freiberg 145.85 347 *e*PKPbc **PKPbc** 14 51 53.6 +0.5
ISR Istrita 145.88 326⇑ *i*P **PKPbc** 14 51 51.9 +0.4
NEUB Neuenburg 145.90 349 *e*PKPbc **PKPbc** 14 51 53.3 +0.1
NEUB *e*PKiKP **PKiKP** 14 51 57.5 +1.8
MLR Muntele Rosu 145.91 329⇑ *i*P **PKPbc** 14 51 53.5 -0.1
MLR Muntele Rosu 145.91 329 PKPbc **PKPbc** 14 51 53.5 -0.1
MLR Muntele Rosu 145.91 329 PKPbc **PKPbc** 14 51 53.5 -0.1
comp=Z,2.2nm,0.5s,baz=12,slow=0.4,SNR=9.0
PVCC Panska Ves 145.94 345 *e*PKP **PKPbc** 14 51 53.7 +0.4
MMAI Mount Meron Ar 146.19 303 PKPbc **PKPbc** 14 51 55.2 +0.5
MMAI Mount Meron Ar 146.19 303 PKPbc **PKPbc** 14 51 55.2 +0.5
comp=Z,16nm,0.6s,baz=69,slow=5.4,SNR=20
VOIR 146.39 330⇓ *i*P **PKPbc** 14 51 55.4 +0.5
DRGR 146.43 333⇓ *i*P **PKPbc** 14 51 54.9 0.0
PRU Pruhonice 146.44 345⇑ *e*PKP **PKPbc** 14 51 54.9 +0.2
PRU *e*PKPAB **PKPab** 14 51 57.6 +0.3
VRAC Vranov 146.51 342⇑ *i*P **PKPbc** 14 51 55.6 +0.6
VRAC Vranov 146.51 342 PKPbc **PKPbc** 14 51 55.5 +0.5
VRAC Vranov 146.51 342 PKPbc **PKPbc** 14 51 55.5 +0.5
comp=Z,12nm,0.8s,baz=30,slow=5.5,SNR=8.3
PLN Plauen 146.52 348 *e*PKPbc **PKPbc** 14 51 55.2 +0.3
TANN Tannenbergstha 146.52 347 *e*PKPbc **PKPbc** 14 51 55.2 +0.2
TANN *e*PKPab **PKiKP** 14 51 57.3 +0.2
WERD Werda 146.52 348 *e*PKPbc **PKPbc** 14 51 55.3 +0.3
WERD *e*PKPab **PKPab** 14 51 57.4 -0.3
GUNZ Gunzen 146.60 347 *e*PKPbc **PKPbc** 14 51 55.6 +0.4
GUNZ *e*PKPab **PKiKP** 14 51 57.6 +0.3
PSZ Piszkesteto 146.63 337⇑ *i*P **PKPbc** 14 51 55.9 +0.5
PSZ Piszkesteto 146.63 337 *e* **PKPbc** 14 51 55.5 +0.1
ARR Arges 146.64 330⇑ *i*P **PKPbc** 14 51 56.6 +1.1
WERN Wernitzgruen 146.66 347 *e*PKPbc **PKPbc** 14 51 55.8 +0.4
WERN *e*PKPab **PKiKP** 14 51 57.8 +0.4
TREC Trest 146.83 343⇑ *e*PKP **PKPbc** 14 51 55.9 +0.1
TREC *e*PKPAB **PKPab** 14 51 59.6 +0.6
LOT Lotru 146.99 331⇑ *i*P **PKPab** 14 51 56.3 -0.2
MANZ Manzenberg 147.00 347 *e*PKPbc **PKPbc** 14 51 56.5 +0.2
ROTZ Rotzenmuhle 147.19 347 *e*PKPbc **PKPbc** 14 51 57.2 +0.5
SIRR Siria 147.29 334⇑ *i*P **PKPbc** 14 51 57.5 +0.4
TNS Taunus Mts 147.40 352 *e*PKPbc **PKPbc** 14 51 57.5 +0.2
TNS *e*PKPab **PKPab** 14 52 01.1 -0.2
EIL Elat 147.46 297 PKPbc **PKPbc** 14 51 58.5 +0.4
EIL Elat 147.46 297 PKPbc **PKPbc** 14 51 58.5 +0.4
comp=Z,15nm,1.0s,baz=0.0,slow=3.0,SNR=5.4
GRF Grafenberg Arr 147.46 348 *e*PKPbc **PKPbc** 14 51 57.8 +0.3
GRF *e*PKPab **PKPab** 14 52 01.3 -0.2
KHC Kasperske Hory 147.47 345⇑ *e*PKP **PKPbc** 14 51 57.6 0.0
KHC *e*PKPAB **PKPab** 14 52 01.9 +0.3
GZR Gura Zlata 147.48 332⇑ *i*P **PKPab** 14 51 56.5 -1.2
WET Wettzell 147.63 346 *e*PKPab **PKPab** 14 52 02.3 +0.1
GEC2 GERESS Array S 147.71 345 *e*PKPbc **PKPbc** 14 51 58.3 +0.1
GERES GERESS Array B 147.71 345 PKPbc **PKPbc** 14 51 58.1 -0.1
GERES GERESS Array B 147.71 345 PKPbc **PKPbc** 14 51 58.1 -0.1
comp=Z,11nm,0.6s,baz=24,slow=3.0,SNR=61
BZS Buzias 147.82 333⇑ *i*P **PKPbc** 14 51 58.3 -0.2
CONA Conrad Observa 147.96 342⇓ *i*PKiKP **PKPbc** 14 51 59.4 +0.5
comp=Z,15nm,0.8s,SNR=6.4
WLF Walferdange 148.21 354 *e*PKPbc **PKPbc** 14 51 59.9 +0.6
PKSM Moragy 148.53 337⇑ *i*P **PKPbc** 14 52 00.3 +0.1
PKSM Moragy 148.53 337⇑ *e* **PKPbc** 14 52 00.1 -0.1

FUR Furstenfeldbru 148.90 347 *e*PKPab **PKPab** 14 52 07.1 -0.4
RJOB Jochberg 148.96 345 *e*PKPbc **PKPbc** 14 52 01.3 0.0
RJOB *e*PKiKP **PKiKP** 14 52 03.9 +1.6
RJOB *e*PKPab **PKPab** 14 52 07.6 -0.2
BFO Black Forest 149.26 351 *e*PKPbc **PKPbc** 14 52 01.9 -0.1
BFO *e*PKPab **PKPab** 14 52 08.3 -0.7
SOKA Soboth 149.33 342⇓ *i*PKPbc **PKPbc** 14 52 01.7 -0.6
comp=Z,12nm,1.0s
PERS Pernice 149.34 342 *i* PKPbc **PKPbc** 14 52 01.7 -0.5
VTS Vitosha 149.37 328⇑ *i*P **PKPbc** 14 52 02.7 +0.1
KBA Koelnbreinsper 149.44 344⇑ *i*PKPbc **PKPbc** 14 52 02.0 -0.6
comp=Z,14nm,0.8s
WATA Walderalm 149.62 346⇑ *i*PKiKP **PKPbc** 14 52 03.0 0.0
comp=Z,8.1nm,0.5s
WTTA Wattenberg 149.68 346 *i* PKiKP **PKPbc** 14 52 03.1 -0.1
comp=Z,24nm,0.6s,SNR=5.1
MOTA Moosalm 149.72 347⇑ *i*PKiKP **PKPbc** 14 52 03.1 -0.1
comp=Z,17nm,0.8s,SNR=6.2
ABTA Abfaltersbach 149.96 345 *i* PKPbc **PKPbc** 14 52 03.1 -0.7
comp=Z,25nm,0.7s,SNR=5.6
DAVA Damuels 150.02 349⇑ *i*PKiKP **PKiKP** 14 52 04.3 -0.3
comp=Z,20nm,0.9s
LJU Ljubljana 150.05 342 *i* PKPbc **PKPbc** 14 52 03.8 -0.1
FETA Feichten 150.10 347⇓ *i*PKiKP **PKPbc** 14 52 04.2 0.0
comp=Z,26nm,1.1s
BOJS Bojanci 150.31 340 *i* PKPdf **PKPdf** 14 51 60.0 +1.3
BOJS *i* PKPbc **PKiKP** 14 52 04.9 -0.2
BOJS *i* PKPab **PKPab** 14 52 12.9 -0.4
JAVS Javornik 150.33 342 *i* PKPbc **PKPbc** 14 52 04.2 -0.5
JAVS *i* PKPab **PKPab** 14 52 10.7 -2.9
DAVOX Davos/Dischmat 150.50 348 PKPbc **PKPbc** 14 52 05.5 +0.3
DAVOX Davos/Dischmat 150.50 348 PKPbc **PKPbc** 14 52 05.5 +0.3
comp=Z,26nm,0.7s,baz=59,slow=1.1,SNR=25
VAY Valandovo 150.62 327 *e*PKP **PKPdf** 14 52 01.6 +2.4
SKO Skopje 150.71 329 *e*PKP **PKPdf** 14 52 01.1 +1.8
BIA Bitola 151.48 328 *e*PKP **PKPdf** 14 52 01.4 +0.7
IDI Anoyia 153.09 314 PKPbc **PKPbc** 14 52 11.2 +0.1
IDI Anoyia 153.09 314 PKPbc **PKPbc** 14 52 11.2 +0.1
comp=Z,4.2nm,0.5s,baz=28,slow=9.9,SNR=5.0
ESDC Sonseca Array 157.89 11 PKPab **PKPab** 14 52 45.3 -0.8
ESDC Sonseca Array 157.89 11 PKPab **PKPab** 14 52 45.3 -0.8
comp=Z,0.3nm,0.3s,baz=360,slow=1.8,SNR=5.6

*SOF **22** 14:45:45.7,39.74N×21.23E,h2km,MD2.9*
*IDC **22** 14:45:52.1±0.9,40.13N×21.52E,h0km,mb3.8/8,*
mb1 3.9/12,mb1mx3.7/31,mbtmp3.7/12,ML3.5/4,Error
ellipse: s-maj=17.8km s-min=13.5km az=106.0
*TIR **22** 14:45:52.8±2.3,40.13N×21.67E,h8km±18km,ML3.4*
*ATH **22** 14:45:53.9,40.16N×21.64E,h17km±1km,MD3.7/57*
*PDG **22** 14:45:54.4±0.6,40.21N×21.60E,h13km,ML3.5/11,Error*
ellipse: s-maj=0.5km s-min=0.7km az=0.0
*CSEM **22** 14:45:54.3±0.1,40.16N×21.64E,h5km,ML3.8/9,Error*
ellipse: s-maj=2.6km s-min=1.9km az=63.0
*THE **22** 14:45:54.7,40.15N×21.63E,h2km±1km,ML3.8/9,Error*
ellipse: s-maj=1.3km s-min=0.5km az=288.0
*ISCJB **22** 14:45:54.4±0.4,40.18N±0.01×21.63E±0.02,h13km±3km,*
mb3.7/7,Error ellipse: s-maj=2.5km s-min=1.6km
az=151.9
*SKO **22** 14:45:55.4,40.13N×21.61E,h12km,M3.0,ML3.5*
ISC 22 14:45:54.6±0.8,40.15N±0.01×21.62E±0.01,h12km±6km,
n289,σ1§03/366,mb3.8/7,23C-20D,Greece

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.20**	**36**	P	**Pg**		14 45 59.3	+0.4
KZN				S	**Sg**		14 46 02.5	+0.5
KZN	**Kozani**	**0.20**	**36**	P	**Pg**		14 45 59.3	+0.4
NEST	**Nestorio**	**0.51**	**301**	P	**Pg**		14 46 03.5	-1.1
NEST				S	**Sg**		14 46 12.8	+1.3
NEST	**Nestorio**	**0.51**	**301**	*e*PN	**Pg**		14 46 03.5	-1.1
NEST				*e*SN	**Sg**		14 46 11.9	+0.4
NEST	**Nestorio**	**0.51**	**301**	*e*Pn	**Pg**		14 46 03.5	-1.1
NEST				*e*Sn	**Sg**		14 46 11.9	+0.4
NEST				S	**Sg**		14 46 12.8	+1.3
THL	**Klokotos Trika**	**0.66**	**152**	P	**Pg**		14 46 06.1	-1.3
THL				S	**Sb**		14 46 17.1	0.0
THL	**Klokotos Trika**	**0.66**	**152**	*e*PB	**Pg**		14 46 06.3	-1.1
THL				*e*SN	**Sb**		14 46 17.0	0.0
THL	**Klokotos Trika**	**0.66**	**152**	*e*Pb	**Pg**		14 46 06.3	-1.1
THL				S	**Sb**		14 46 17.1	0.0
FNA	**Florina**	**0.66**	**344**	P	**Pg**		14 46 06.4	-1.1
FNA				S	**Sb**		14 46 17.7	+0.4
FNA	**Florina**	**0.66**	**344**	*e*PN	**Pg**		14 46 06.6	-0.9
FNA				*e*SN	**Sg**		14 46 16.2	0.0
FNA	**Florina**	**0.66**	**344**	P	**Pg**		14 46 06.4	-1.1
FNA				*e*Sn	**Sg**		14 46 16.2	0.0
FNA				S	**Sb**		14 46 17.7	+0.4
LIT	**Litokhoron**	**0.67**	**94**	P	**Pg**		14 46 07.2	-0.3
LIT				S	**Sg**		14 46 15.9	-0.5
LIT	**Litokhoron**	**0.67**	**94**	*e*PN	**Pg**		14 46 07.3	-0.3
LIT	**Litokhoron**	**0.67**	**94**	P	**Pg**		14 46 07.2	-0.3
LIT				S	**Sg**		14 46 15.9	-0.5
JAN	**Janina**	**0.77**	**231**	P	**Pg**		14 46 08.4	-1.1
JAN				S	**Sb**		14 46 20.8	+0.5
JAN	**Janina**	**0.77**	**231**	*e*PN	**Pg**		14 46 08.2	-1.3
JAN				*e*SN	**Sg**		14 46 19.8	+0.3
JAN	**Janina**	**0.77**	**231**	*e*Pn	**Pg**		14 46 08.2	-1.3
JAN				*e*Sn	**Sg**		14 46 19.8	+0.3
JAN				S	**Sb**		14 46 20.8	+0.5
BIA	**Bitola**	**0.90**	**346**	P	**Pg**		14 46 10.2	-1.7
BIA				S	**Sb**		14 46 24.4	+0.3
BIA	**Bitola**	**0.90**	**346**	*i* Pg	**Pg**		14 46 10.8	-1.2
BIA				*i* Sg	**Sb**		14 46 25.5	+1.4
GRG	**Griva**	**1.00**	**36**	P	**Pg**		14 46 13.4	-0.5
GRG				S	**Sb**		14 46 28.3	+1.2
GRG	**Griva**	**1.00**	**36**	*e*PN	**Pg**		14 46 13.4	-0.5
GRG	**Griva**	**1.00**	**36**	P	**Pg**		14 46 13.4	-0.5
GRG				S	**Sb**		14 46 28.3	+1.2
THE	**Thessaloniki**	**1.14**	**64**	P	**Pb**		14 46 16.2	+0.1
THE				S	**Sn**		14 46 32.5	+0.7
THE	**Thessaloniki**	**1.14**	**64**	P	**Pb**		14 46 16.2	+0.1
THE				S	**Sn**		14 46 32.5	+0.7
IGT	**Igoumenitsa**	**1.17**	**239**	P	**Pb**		14 46 15.7	-1.0
IGT				S	**Sg**		14 46 33.1	+0.9
IGT	**Igoumenitsa**	**1.17**	**239**	*e*PB	**Pb**		14 46 14.5	-2.2
IGT	**Igoumenitsa**	**1.17**	**239**	*e*Pb	**Pb**		14 46 14.5	-2.2
IGT	**Igoumenitsa**	**1.17**	**239**	P	**Pb**		14 46 15.7	-1.0
IGT				S	**Sg**		14 46 33.1	+0.9
MAKR	**Makrakomi, Fth**	**1.20**	**161**	P	**Pb**		14 46 17.0	-0.3
MAKR				S	**Sn**		14 46 35.3	+1.9
MAKR	**Makrakomi, Fth**	**1.20**	**161**	*e*PN	**Pb**		14 46 17.2	-0.1
MAKR	**Makrakomi, Fth**	**1.20**	**161**	*e*Pn	**Pb**		14 46 17.2	-0.1
MAKR				S	**Sn**		14 46 35.3	+1.9
HORT	**Hortiatis**	**1.22**	**68**	P	**Pb**		14 46 17.0	-0.6
HORT	**Hortiatis**	**1.22**	**68**	*e*PN	**Pb**		14 46 17.2	-0.4
HORT	**Hortiatis**	**1.22**	**68**	*e*Pn	**Pb**		14 46 17.2	-0.4
EVR	**Evrytania**	**1.24**	**173**	P	**Pn**		14 46 16.9	-0.9
EVR				S	**Sn**		14 46 36.3	+1.8
EVR	**Evrytania**	**1.24**	**173**	*e*PN	**Pn**		14 46 17.2	-0.6
EVR	**Evrytania**	**1.24**	**173**	P	**Pn**		14 46 16.9	-0.9
EVR	**Evrytania**	**1.24**	**173**	*e*Pn	**Pn**		14 46 17.2	-0.6
EVR				S	**Sn**		14 46 36.3	+1.8
AGG	**Agios Georgios**	**1.25**	**154**	P	**Pn**		14 46 18.1	+0.2
AGG				S	**Sn**		14 46 36.3	+1.6
AGG	**Agios Georgios**	**1.25**	**154**	*e*PN	**Pn**		14 46 17.9	0.0
AGG	**Agios Georgios**	**1.25**	**154**	P	**Pn**		14 46 18.1	+0.2
AGG				S	**Sn**		14 46 36.2	+1.6
SRN	**Sarande**	**1.27**	**258**	*i* PN	**Pn**		14 46 19.0	+0.8
SRN				*i* SN	**Sn**		14 46 37.1	+2.0
SRN	**Sarande**	**1.27**	**258**	P	**Pn**		14 46 18.7	+0.6
SRN				S	**Sn**		14 46 37.6	+2.5
SRN	**Sarande**	**1.27**	**258**	P	**Pn**		14 46 18.7	+0.6
SRN	**Sarande**	**1.27**	**258**	*i* Pn	**Pn**		14 46 19.0	+0.8
SRN				*i* Sn	**Sn**		14 46 37.1	+2.0
VAY	**Valandovo**	**1.38**	**31**	P	**Pn**		14 46 19.0	-0.6
VAY				S	**Sg**		14 46 40.5	+1.6
VAY	**Valandovo**	**1.38**	**31**	*i* Pg	**Pn**		14 46 20.0	+0.4
VAY				*i* Sg	**Sg**		14 46 41.6	+2.7
VAY				*i* Lg	Lg		14 46 44.0	
	comp=E,758nm,0.8s							
VAY				*i* Lg	Lg		14 46 46.1	
	comp=N,1μm,0.9s							
VAY	**Valandovo**	**1.38**	**31**	P	**Pn**		14 46 19.0	-0.6
PLG	**Polygyros**	**1.42**	**80**	P	**Pn**		14 46 19.9	-0.2
PLG	**Polygyros**	**1.42**	**80**	*e*PN	**Pn**		14 46 20.0	-0.2
PLG	**Polygyros**	**1.42**	**80**	*e*Pn	**Pn**		14 46 20.0	-0.2
XOR	**Xorichti**	**1.44**	**122**	P	**Pn**		14 46 20.9	+0.4
XOR				S	**Sb**		14 46 40.2	+0.5
XOR	**Xorichti**	**1.44**	**122**	*e*PN	**Pn**		14 46 21.0	+0.4
XOR				*e*SN	**Sb**		14 46 40.5	+0.8
XOR	**Xorichti**	**1.44**	**122**	P	**Pn**		14 46 20.9	+0.4
XOR				S	**Sb**		14 46 40.2	+0.5
KEK	**Kerkira**	**1.47**	**253**	P	**Pn**		14 46 21.9	+1.1
KEK	**Kerkira**	**1.47**	**253**	*e*PN	**Pb**		14 46 22.6	+0.8
KEK				*e*SN	**Sg**		14 46 42.6	+0.8
KEK	**Kerkira**	**1.47**	**253**	P	**Pn**		14 46 21.9	+1.1
KEK	**Kerkira**	**1.47**	**253**	*e*Pn	**Pb**		14 46 22.6	+0.8
KEK				*e*Sn	**Sg**		14 46 42.6	+0.8
SOH	**Sokhos**	**1.48**	**62**	P	**Pn**		14 46 21.8	+0.7
SOH	**Sokhos**	**1.48**	**62**	*e*PN	**Pn**		14 46 21.9	+0.8
SOH	**Sokhos**	**1.48**	**62**	P	**Pn**		14 46 21.8	+0.7
NEO	**Neokhori**	**1.50**	**124**	P	**Pn**		14 46 21.7	+0.5
NEO				S	**Sn**		14 46 41.3	+0.6
NEO	**Neokhori**	**1.50**	**124**	*e*PN	**Pn**		14 46 21.8	+0.5
NEO	**Neokhori**	**1.50**	**124**	P	**Pn**		14 46 21.7	+0.5
NEO				S	**Sn**		14 46 41.3	+0.6
LKD2	**Lefkada island**	**1.55**	**209**	P	**Pn**		14 46 23.1	+1.1
LKD2	**Lefkada island**	**1.55**	**209**	*e*PN	**Pb**		14 46 23.5	+0.3
LKD2	**Lefkada island**	**1.55**	**209**	P	**Pn**		14 46 23.1	+1.1
LKD2	**Lefkada island**	**1.55**	**209**	*e*Pn	**Pb**		14 46 23.5	+0.3
PDO	**Prodromos**	**1.58**	**192**	*e*PN	**Pb**		14 46 24.5	+0.7
PDO	**Prodromos**	**1.58**	**192**	*e*Pn	**Pb**		14 46 24.5	+0.7
PAIG	**Paliouri**	**1.60**	**97**	P	**Pn**		14 46 22.8	+0.2
PAIG	**Paliouri**	**1.60**	**97**	*e*PN	**Pn**		14 46 22.9	+0.3
PAIG	**Paliouri**	**1.60**	**97**	P	**Pn**		14 46 22.8	+0.2
AXAR	**Agios Charalam**	**1.60**	**149**	P	**Pn**		14 46 22.9	+0.2
AXAR	**Agios Charalam**	**1.60**	**149**	P	**Pn**		14 46 22.9	+0.2
SKIA	**Skiathos**	**1.73**	**124**	P	**Pn**		14 46 24.9	+0.5
SKIA	**Skiathos**	**1.73**	**124**	*e*PN	**Pn**		14 46 25.0	+0.5
SKIA				*e*SN	**Sn**		14 46 47.3	+0.8
SKIA	**Skiathos**	**1.73**	**124**	P	**Pn**		14 46 24.9	+0.5
SKIA				*e*Sn	**Sn**		14 46 47.3	+0.8
EFP	**Efpalio**	**1.73**	**173**	*e*PN	**Pn**		14 46 25.6	+1.1
EFP	**Efpalio**	**1.73**	**173**	*e*Pn	**Pn**		14 46 25.6	+1.1
SMIA	**Simia**	**1.77**	**135**	P	**Pn**		14 46 25.6	+0.6
SMIA	**Simia**	**1.77**	**135**	*e*PN	**Pn**		14 46 26.0	+1.0
SMIA	**Simia**	**1.77**	**135**	P	**Pn**		14 46 25.6	+0.6
SMIA	**Simia**	**1.77**	**135**	*e*Pn	**Pn**		14 46 26.0	+1.0
PHP	**Peshkopia**	**1.78**	**330**	*i* PN	**Pn**		14 46 25.6	+0.4
PHP				*i* SN	**Sg**		14 46 53.1	+1.4
PHP	**Peshkopia**	**1.78**	**330**	P	**Pn**		14 46 25.6	+0.4
PHP	**Peshkopia**	**1.78**	**330**	P	**Pn**		14 46 25.6	+0.4
SRS	**Serrai**	**1.79**	**57**	P	**Pn**		14 46 25.2	0.0
SRS	**Serrai**	**1.79**	**57**	*e*PB	**Pn**		14 46 24.7	-0.5
SRS	**Serrai**	**1.79**	**57**	*e*Pb	**Pn**		14 46 24.7	-0.5
SRS	**Serrai**	**1.79**	**57**	P	**Pn**		14 46 25.2	0.0
TIR	**Tirane**	**1.79**	**312**	*i* PN	**Pb**		14 46 27.4	+0.1
TIR	**Tirane**	**1.79**	**312**	*i* Pn	**Pb**		14 46 27.4	+0.1
	SNR=40							
KALE	**Kalithea**	**1.80**	**167**	P	**Pn**		14 46 25.8	+0.3
KALE	**Kalithea**	**1.80**	**167**	*e*PN	**Pn**		14 46 25.9	+0.4
KALE				*e*SN	**Sb**		14 46 50.8	+0.7
KALE	**Kalithea**	**1.80**	**167**	*e*Pn	**Pn**		14 46 25.9	+0.4
KALE				*e*Sn	**Sb**		14 46 50.8	+0.7
TRIZ	**Trizonia**	**1.81**	**169**	P	**Pn**		14 46 26.0	+0.4
TRIZ	**Trizonia**	**1.81**	**169**	*e*PN	**Pn**		14 46 26.3	+0.7
TRIZ	**Trizonia**	**1.81**	**169**	P	**Pn**		14 46 26.0	+0.4
TRIZ	**Trizonia**	**1.81**	**169**	*e*Pn	**Pn**		14 46 26.3	+0.7
OUR	**Ouranopolis**	**1.82**	**83

TTG	Podgorica	2.89	323	⇓i	Pn	Pn	14 46 40.2	-0.2
TTG				e	Sn	Sn	14 47 16.2	+1.1
DIDY	Didyma	2.94	155		P	Pn	14 46 41.8	+0.6
DIDY	Didyma	2.94	155	e	PN	Pn	14 46 41.2	0.0
DIDY	Didyma	2.94	155	e	Pn	Pn	14 46 41.2	0.0
DIDY	Didyma	2.94	155		P	Pn	14 46 41.8	+0.6
ITM	Ithomi	2.97	175	e	PB	Pn	14 46 44.8	+3.2
ITM	Ithomi	2.97	175	e	Pb	Pn	14 46 44.8	+3.2
BUM	Brajici-Budva	2.98	317	⇓i	Pn	Pn	14 46 41.4	-0.2
BUM					eSn	Sn	14 47 18.2	+0.9
BUM	Brajici-Budva	2.98	317	⇓i	Pn	Pn	14 46 41.4	-0.2
BUM					eSn	Sn	14 47 18.2	+0.9
SMTH	Samothraki Isl	3.01	83	e	PN	Pn	14 46 43.3	+1.3
SMTH	Samothraki Isl	3.01	83	e	Pn	Pn	14 46 43.3	+1.3
BEY	Berane	3.01	335	⇓i	Pn	Pn	14 46 42.1	-0.1
BEY					eSn	Sn	14 47 19.1	+0.8
IVA	Berane	3.01	335	⇓i	Pn	Pn	14 46 42.1	-0.1
IVA					eSn	Sn	14 47 19.1	+0.8
PYL	PYLOS	3.25	178	e	PN	Pn	14 46 47.4	+2.0
PYL	PYLOS	3.25	178	e	Pn	Pn	14 46 47.4	+2.0
PE1	Pezze di Greco	3.27	283	e	Pn	Pn	14 46 45.0	-0.6
HCY	Herceg Novi	3.29	315	⇓i	Pn	Pn	14 46 45.8	-0.1
HCY					eSn	Sn	14 47 25.5	+0.6
HCY	Herceg Novi	3.29	315	⇓i	Pn	Pn	14 46 45.8	-0.1
HCY					eSn	Sn	14 47 25.5	+0.6
NKME	Niksic	3.29	323	⇑i	Pn	Pn	14 46 46.6	+0.6
NKME					eSn	Sn	14 47 25.9	+0.7
NKME	Niksic	3.29	323	⇑i	Pn	Pn	14 46 46.6	+0.6
NKME					eSn	Sn	14 47 25.9	+0.7
NKY	Niksic	3.31	324	e	Pn	Pn	14 46 45.6	-0.7
NKY					eSn	Sn	14 47 26.2	+0.5
NKY	Niksic	3.31	324	e	Pn	Pn	14 46 45.6	-0.7
NKY					eSn	Sn	14 47 26.2	+0.5
SIGR	SIGRI	3.40	105		P	Pn	14 46 48.9	+1.5
SIGR	SIGRI	3.40	105	e	PN	Pn	14 46 48.8	+1.4
SIGR	SIGRI	3.40	105	e	Pn	Pn	14 46 48.8	+1.4
DYR	Agios Nikonas	3.43	170	e	PN	Pn	14 46 50.3	+2.5
DYR	Agios Nikonas	3.43	170	e	Pn	Pn	14 46 50.3	+2.5
ALN	Alexandroupoli	3.46	76		P	Pn	14 46 48.3	+0.1
ALN	Alexandroupoli	3.46	76	e	PN	Pn	14 46 48.2	+0.1
ALN	Alexandroupoli	3.46	76		P	Pn	14 46 48.3	+0.1
MPEP	Malo Peshtene	3.58	26	i	P	Pn	14 46 50.3	+0.5
VLI	Veliai	3.58	163		P	Pn	14 46 50.2	+0.3
VLI	Veliai	3.58	163	e	PN	Pn	14 46 50.7	+0.8
VLI	Veliai	3.58	163		P	Pn	14 46 50.2	+0.3
PLE	Pljevlja	3.59	333	⇑i	Pn	Pn	14 46 50.6	+0.4
PLE					eSn	Sn	14 47 32.6	+0.1
PLE	Pljevlja	3.59	333	⇑i	Pn	Pn	14 46 50.6	+0.4
PLE					eSn	Sn	14 47 32.6	+0.1
IVAS	Ivanjica	3.60	343	e	Pn	Pn	14 46 50.7	+0.5
UPM	Unac-Piva	3.67	327	⇑i	Pn	Pn	14 46 51.4	+0.1
UPM					eSn	Sn	14 47 34.4	-0.1
UPM	Unac-Piva	3.67	327	⇑i	Pn	Pn	14 46 51.4	+0.1
UPM					eSn	Sn	14 47 34.4	-0.1
BOLS	Boljevac	3.69	4	i	Pn	Pn	14 46 49.9	-1.4
BAI	Bari	3.73	286	e	Pn	Pn	14 46 53.2	+1.2
GRUS	Gruza	3.80	350	⇓i	Pn	Pn	14 46 53.3	+0.4
CHOS	Chios island	3.87	116		P	Pn	14 46 55.2	+1.3
CHOS	Chios island	3.87	116	e	PN	Pn	14 46 55.3	+1.3
CHOS	Chios island	3.87	116		P	Pn	14 46 55.2	+1.3
STON	Ston	4.01	314	i	Pn	Pn	14 46 55.7	0.0
STON	Ston	4.01	314	i	Pn	Pn	14 46 55.7	0.0
KYTH	Kithira	4.02	163	e	PN	Pn	14 46 57.6	+1.6
BBLS	Lazići	4.06	337	e	Pn	Pn	14 46 58.9	+2.3
DIVS	Divibare	4.13	343		P	Pn	14 46 58.0	+0.5
DIVS	Divibare	4.13	343		P	Pn	14 46 58.0	+0.5
TRUS	Trudelj	4.17	349	i	Pn	Pn	14 46 57.5	-0.5
APE	Apeiranthos	4.34	134	e	PN	Pn	14 47 00.2	+0.2
APE	Apeiranthos	4.34	134	⇑i	P	Pn	14 47 01.9	+1.5
APE	Apeiranthos	4.34	134	⇑i	P	Pn	14 47 01.9	+1.5
ANKY	Antikythira Is	4.48	162		P	Pn	14 47 03.8	+1.6
ANKY	Antikythira Is	4.48	162	e	PN	Pn	14 47 05.4	+3.2
ANKY	Antikythira Is	4.48	162		P	Pn	14 47 03.8	+1.6
MS1	Monte Sant'Ang	4.57	292	e	Pn	Pn	14 47 03.0	-0.6
MS1					eSn	Sn	14 47 54.5	-2.2
KARN	Karanos	5.08	158	e	PN	Pn	14 47 13.9	+3.4
VAM	Vamos	5.16	156	e	PN	Pn	14 47 13.2	+1.6
VAM					eSN	Sn	14 48 12.0	+1.0
FGSL	Fruska Gora	5.18	346	e	Pn	Pn	14 47 12.3	+0.4
GZR	Gura Zlata	5.31	9	⇑i	P	Pn	14 47 14.3	+0.6
GZR	Gura Zlata	5.31	9	⇑i	P	Pn	14 47 14.3	+0.6
BZS	Buzias	5.46	360	⇑i	P	Pn	14 47 21.3	+5.5
IDI	Anoyia	5.50	151	e	PN	Pn	14 47 17.9	+1.5
IDI					eSN	Sn	14 48 20.3	+0.7
IDI	Anoyia	5.50	151		Pn	Pn	14 47 17.7	+1.3
	comp=N,1.8nm,0.3s,baz=328,slow=11,SNR=11							
IDI					Sn	Sn	14 48 20.3	+0.7
	comp=N,1.8nm,0.3s,baz=338,slow=20,SNR=2.7							
GVD	Gavdhos	5.65	159	e	PN	Pn	14 47 20.0	+1.6
ARR	Arges	5.67	22	⇑i	P	Pn	14 47 19.2	+0.6
ARR	Arges	5.67	22	⇑i	P	Pn	14 47 19.2	+0.6
LAST	Lasithi	5.84	147	e	PN	Pn	14 47 21.6	+0.5
VOIR		5.86	24	⇓i	P	Pn	14 47 22.6	+1.4
VOIR		5.86	24	⇓i	P	Pn	14 47 22.6	+1.4
MLR	Muntele Rosu	6.21	29	⇑i	P	Pn	14 47 28.0	+1.8
MLR	Muntele Rosu	6.21	29	⇑i	P	Pn	14 47 28.0	+1.8
MLR	Muntele Rosu	6.21	29	Pn		Pn	14 47 27.8	+1.7
	comp=N,0.8nm,0.3s,baz=315,slow=4.0,SNR=25							
MLR					Sn	Sn	14 48 39.0	+1.9
	baz=127,slow=12,SNR=0.9							
KARP	Karpathos	6.35	135	e	PN	Pn	14 47 29.6	+1.6
PKSM	Moragy	6.44	341	⇓i	P	Pn	14 47 30.2	+1.1
PKSM	Moragy	6.44	341	⇓i	P	Pn	14 47 30.2	+1.1
NVLJ	Novalja	6.67	314	e	Pn	Pn	14 47 31.2	-1.0
NVLJ					Sn	Sn	14 48 45.1	-3.0
NVLJ	Novalja	6.67	314	e	Pn	Pn	14 47 31.2	-1.0
DRGR		6.69	6	⇓i	P	Pn	14 47 34.6	+2.0
DRGR		6.69	6	⇓i	P	Pn	14 47 34.6	+2.0
PLOR	Plostina	6.79	31	⇓i	P	Pn	14 47 36.3	+2.3
PLOR	Plostina	6.79	31	⇓i	P	Pn	14 47 36.3	+2.3
VRI	Vrincioaia	6.83	32	⇑i	P	Pn	14 47 37.1	+2.5
VRI	Vrincioaia	6.83	32	⇑i	P	Pn	14 47 37.1	+2.5
CRES	Cresnjev	7.25	324	i	Pn	Pn	14 47 40.1	-0.2
CRES	Cresnjev	7.25	324	i	Pn	Pn	14 47 40.1	-0.2
PSZ	Piszkesteto	7.87	351	⇑i	P	Pn	14 47 48.5	-0.3
PSZ	Piszkesteto	7.87	351	⇑i	P	Pn	14 47 48.5	-0.3
VOJS	Vojsko	8.16	319	i	Pn	Pn	14 47 52.2	-0.6
VOJS	Vojsko	8.16	319	i	Pn	Pn	14 47 52.2	-0.6
BRTR	Keskin Array B	9.24	89	Pn		Pn	14 48 09.5	+1.7
	comp=N,0.1nm,0.3s,baz=286,slow=13,SNR=3.0							
GERES	GERESS Array B	10.37	330	Pn		Pn	14 48 24.2	+1.1
	comp=N,0.2nm,0.3s,baz=147,slow=18,SNR=4.1							
HFS	Hagfors	20.61	349	P		P	14 50 31.5	-1.9
	comp=N,2.4nm,0.5s,baz=171,slow=12,SNR=11							
FINES	FINESS Array B	21.50	6	P		P	14 50 41.6	-1.4
	comp=N,3.0nm,0.8s,baz=152,slow=8.6,SNR=5.1							
NB2	NORSAR Subarra	21.88	346	P		P	14 50 45.2	-1.9
	comp=Z,3.7nm,0.6s,baz=160,slow=11							
NB2	NORSAR Subarra	21.88	346	P		P	14 50 45.2	-1.9
	comp=Z,3.7nm,0.6s,baz=160,slow=10,SNR=9.7							
NOA	NORSAR Array B	21.88	346	P		P	14 50 45.7	-1.4
	comp=Z,5.7nm,0.9s,baz=161,slow=11,SNR=9.1							
EKA	Eskdalemuir Ar	22.37	321	P		P	14 50 50.9	-1.5
	comp=Z,2.5nm,0.7s,baz=117,slow=9.0,SNR=5.1							
ARCES	ARCESS Array B	29.52	3	P		P	14 51 56.3	-2.1
	comp=Z,1.0nm,0.6s,baz=194,slow=9.9,SNR=6.8							
TORD	Torodi Ar. Bea	32.10	219	P		P	14 52 21.2	-0.5
	comp=Z,1.4nm,0.8s,baz=29,slow=10.0,SNR=8.7							
MKAR	Makanchi Array	43.56	60	P		P	14 53 57.2	-1.0
	comp=Z,0.5nm,0.5s,baz=288,slow=6.6,SNR=7.2							
TXAR	Lajitas Array	94.22	314	P		P	14 59 13.4	-0.4
	comp=Z,0.2nm,0.7s,baz=69,slow=4.9,SNR=2.4							
ASAR	Alice Springs	121.52	96	PKP		PKPdf	15 04 46.1	-2.1
	comp=Z,0.3nm,0.5s,baz=308,slow=1.7,SNR=8.7							

IDC 22 14:56:46.2±7.7, 15°54S×71°34W, h144km±54km, mb3.9/2, mb1 3.7/3, mb1mx3.3/20, mbtmp3.7/3, Error ellipse: s-maj=158.6km s-min=71.1km az=9.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	3.17	104	P		P	Pn	14 57 36.0	-0.3
	2.9nm,0.3s,baz=290,slow=8.1,SNR=88								
LPAZ				S		S	Sn	14 58 15.1	+0.1
	3.5nm,0.3s,baz=166,slow=22,SNR=15								
H03N1	Juan Fernandez	19.10	200	T		T		15 19 00.5	
	baz=23,slow=0.7,SNR=28								
H03N2	Juan Fernandez	19.11	200	T		T		15 18 53.5	
	baz=23,slow=0.7,SNR=24								
H03N3	Juan Fernandez	19.12	200	T		T		15 18 54.4	
	baz=23,slow=0.7,SNR=34								

DBIC	Dimbokro	69.43	77	P		P	15 07 39.1	-0.1
	2.3nm,0.6s,baz=250,slow=7.9,SNR=3.3							
TORD	Torodi Ar. Bea	77.65	73	P		P	15 08 27.4	+0.1
	2.6nm,0.9s,baz=257,slow=5.3,SNR=13							

JMA 22 15:12:30.5±0.6, 47.10N×141.76E, h25km, M3.4
SKHL 22 15:12:30.9±0.5, 46.86N×141.75E, h10km, mb3.7/1

ISC 22 15:12:32.9±4.4, 47.1N±0.2×142.0E±0.1, h58km±34km, n9, σ0$48/15, 1D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YSS	Yuzh-Sakhalins	0.56	102	⇓i	Pg	P	Pn	15 12 44.9	-0.4
YSS					AMB	AMB		15 12 45.3	
	70nm,0.4s								
YSS				e	Sg	S	Sn	15 12 55.0	+0.7
YSS					A	A		15 12 56.8	
	800nm,0.5s								
YSS					A	A		15 12 56.8	
	1μm,0.5s								
JWK2	Keihoku	1.75	181		P	P	Pn	15 13 00.7	-0.3
JWK2						eS	Sn	15 13 22.2	0.0
JRR	Rishiri	1.98	193		P	P	Pn	15 13 04.0	-0.1
JRR						eS	Sn	15 13 28.1	+0.3
JSE	Soyaes	2.16	168		P	P	Pn	15 13 05.9	-0.5
JSE						eS	Sn	15 13 32.0	0.0
ASAJ	Asahikawa	2.99	171		P	P	Pn	15 13 17.8	0.0
JMP	Maruseppu	3.22	162		P	P	Pn	15 13 21.3	+0.3
JKK2	Kamakawa 2	3.25	170		P	P	Pn	15 13 21.3	-0.1
JTKR	Abashiri--Toko	3.39	155		P	P	Pn	15 13 23.3	0.0
JTKR						eS	Sn	15 14 01.3	-0.9
JAR	Ashorobuto	3.99	161		P	P	Pn	15 13 31.9	+0.4
JAR						eS	Sn	15 14 17.4	+0.5

MEX 22 15:32:23.4±1.1, 16°27N×95°87W, h71km±22km, MD4.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.55	205	e	P	P	Pn	15 32 34.7	-2.1
HUIG					i	S	Sn	15 32 45.7	-1.0
PANG	Puerto Angel	0.84	224	e	P	P	Pn	15 32 39.4	-0.6
PANG					i	S	Sn	15 32 50.0	-2.2
OXBJ	Oaxaca	1.14	314	i	P	P	Pn	15 32 42.8	-1.2
OXBJ					i	S	Sn	15 32 55.8	-3.5
OXX	Oaxaca	1.15	314	e	P	P	Pn	15 32 35.4	-8.8
OXX					i	S	Sn	15 32 49.6	-10
VHO	Vista Hermosa	1.15	314	e	P	P	Pn	15 32 38.9	-5.3
VHO					i	S	Sn	15 32 53.3	-6.3
PNIG	Pinotepa	2.17	273	e	P	P	Pn	15 32 57.2	-0.3
PNIG					i	S	Sn	15 33 21.3	-2.2
UTMO	Huajuapan	2.41	310	e	P	P	Pn	15 32 59.7	-1.3
UTMO					i	S	Sn	15 33 28.2	-1.6
TPIG	Tehuac#an	2.57	326	i	P	P	Pn	15 33 01.4	-1.6
TPIG					i	S	Sn	15 33 31.5	-1.8
PCIG		2.61	102	i	P	P	Pn	15 33 01.9	-1.3
PCIG					i	S	Sn	15 33 32.3	-1.6
TGIG		2.68	79	e	P	P	Pn	15 33 03.7	-0.7
TGIG					i	S	Sn	15 33 34.0	-1.8
TGBT	Tuxtla Gutierr	2.71	79	i	P	P	Pn	15 33 00.8	-3.9
CCIG	Comitan	3.58	89	e	P	P	Pn	15 33 16.8	0.0
CCIG					i	S	Sn	15 33 57.2	-1.0
PPM	Popocatepetl	3.83	317	i	P	P	Pn	15 33 19.3	-1.2
ACX	Acapulco	3.87	279	i	P	P	Pn	15 33 16.5	-4.1

ISCJB 22 15:55:16.5±0.4, 0.34S±0.04×122.90E±0.03, h78km, mb3.6/7, Error ellipse: s-maj=6.1km s-min=4.1km az=148.4
IDC 22 15:55:16.1±2.1, 0.30S×123.02E, h80km±19km, mb3.4/7, mb1 3.6/9, mb1mx3.4/24, mbtmp3.5/9, Error ellipse: s-maj=25.1km s-min=13.1km az=83.0
DJA 22 15:55:18.9±0.4, 0.5S±3.3×12.3E±.7, h59km±10km, M4.6/18, mb4.7/7, mB5.2/2, MLv4.5/18, Mw(mB)4.6/2
AUST 22 15:55:20.4±3.3, 0.55S×122.98E, h77km, Error ellipse: s-maj=4.0km s-min=1.1km az=334.0

ISC 22 15:55:16.4±0.6, 0.28S±0.05×122.92E±0.05, h78km, n35, σ1$59/42, mb3.9/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.77	191	P		P	Pn	15 55 33.7	+1.0
LUWI	Luwuk	0.77	191	P		P	Pn	15 55 33.7	+1.0
	baz=0.5,SNR=195								
MRSI	Marisa	1.23	307	P		P	Pn	15 55 39.5	+1.3
KMSI	Cibinong	1.36	51	P		P	Pn	15 55 41.2	+1.4
APSI	Ampana	1.42	244	P		P	Pn	15 55 42.2	+1.6
TOLI	Toli-Toli	2.54	303	P		P	Pn	15 55 57.8	+2.3
KKSI	Kolaka, Sulawe	4.07	198	P		P	Pn	15 56 22.5	+6.2
TTSI	Tana Toraja	4.14	228	P		P	Pn	15 56 19.2	+1.9
TTSI				S		S	Sn	15 57 03.1	-1.4
TNTI	Ternate	4.57	77	P		P	Pn	15 56 25.2	+2.1
LBMI	Labuha	4.60	94	P		P	Pn	15 56 26.2	+2.7
LBMI				S		S	Sn	15 57 16.4	+0.7
MMSI	Mamuju	4.67	239	P		P	Pn	15 56 26.2	+1.7
SPSI	Sidrap Palu	4.83	221	P		P	Pn	15 56 28.4	+1.8
SPSI				S		S	Sn	15 57 21.9	+0.6
BNSI	Bone	4.97	214	P		P	Pn	15 56 30.9	+2.4
BNSI				S		S	Sn	15 57 25.5	+0.8
MJSI	Majene	5.10	230	P		P	Pn	15 56 31.4	+1.0
	60nm,1.2s,0.3nm								
NLAI	Namlea	5.11	125	P		P	Pn	15 56 31.2	+0.7
	186nm,0.7s,6μm1.0nm								
BBSI	Bau Bau	5.19	184	P		P	Pn	15 56 32.1	+0.6
	36nm,1.0s,1μm0.4nm								
BBSI				S		S	Sn	15 57 30.7	+0.6
	36nm,1.0s,1μm0.4nm								
KAPI	Kappang	5.67	214	P		P	Pn	15 56 38.9	+0.8
	29nm,1.0s,0.1nm								
KAPI	Kappang	5.67	214	P		P	Pn	15 56 38.9	+0.8
	6.6nm,0.3s,baz=25,slow=7.4,SNR=23								
KAPI					S		Sn	15 57 40.5	-1.4
	4.2nm,0.3s,baz=16,slow=22,SNR=2.5								
BKSI	Bulukumba	5.74	209	S		S	Sn	15 57 43.9	+0.4
AAI	Ambon	6.27	123	P		P	Pn	15 56 48.3	+2.0
	127nm,0.8s,0.6nm								
AAI	Ambon	6.27	123	P		P	Pn	15 56 48.5	+2.2
	baz=6.1,SNR=8.2								
MSAI	Masohi	6.74	117	P		P	Pn	15 56 55.7	+3.0
SWI	Sorong	8.36	94	P		P	Pn	15 57 19.7	+4.8
	baz=8.3,SNR=4.6								
FAKI	Fak Fak	9.69	106	P		P	Pn	15 57 31.2	-1.8
	baz=9.6,SNR=6.8								
MTN	Manton Dam	14.91	147	P		P	P	15 58 45.2	-1.5
	baz=15,SNR=4.5								
KNRA	Kununurra	16.35	160	P		P	P	15 59 04.2	+1.4
	baz=16,SNR=3.9								
FITZ	Fitzroy Crossi	17.91	172	P		P	Pn	15 59 21.0	+0.6
	baz=18,SNR=6.6								
FITZ	Fitzroy Crossi	17.91	172	P		P	P	15 59 19.9	-0.2
WRA	Warramunga Arr	22.52	151	P		P	P	16 00 08.7	-1.3
	0.9nm,0.6s,baz=330,slow=10,SNR=18								
WRA					ScP	ScP	ScP	16 07 29.7	-2.5
	0.4nm,1.0s,baz=316,slow=2.7,SNR=5.6								
ASAR	Alice Springs	25.58	156	P		P	P	16 00 38.4	0.0
	0.8nm,0.6s,baz=338,slow=13,SNR=22								
ASAR					PcP	PcP	PcP	16 04 07.2	-0.7
	0.4nm,0.5s,baz=346,slow=2.3,SNR=11								
ASAR					ScP	ScP	ScP	16 07 38.6	-1.9
	0.3nm,0.7s,baz=353,slow=1.6,SNR=5.0								
CMAR	Chiang Mai Arr	30.03	310	P		P	P	16 01 20.1	+1.9
	0.3nm,0.6s,baz=141,slow=8.5,SNR=4.8								
MJAR	Matsushiro Arr	39.29	20	P		P	P	16 02 35.3	-2.5
	2.2nm,0.8s,baz=199,slow=10,SNR=7.6								
USRK	Ussuriysk Arra	45.02	9	P		P	P	16 03 23.3	-0.8
	1.4nm,0.5s,baz=183,slow=5.5,SNR=6.6								
SONM	Songino Array	50.03	346	P		P	P	16 04 03.6	+0.4
	1.4nm,0.8s,baz=158,slow=9.2,SNR=9.4								
MKAR	Makanchi Array	58.80	328	P		P	P	16 05 06.4	-0.3
	0.3nm,0.3s,baz=123,slow=8.4,SNR=10								

ISCJB 22 15:56:46.0±0.3, 3.79N±0.04×76.42W±0.04, h120km, mb4.3/29, Error ellipse: s-maj=6.6km s-min=4.6km az=150.8
NEIC 22 15:56:48.1±0.6, 3.71N×76.52W, h134km±5km, mb4.6/21, Error ellipse: s-maj=6.8km s-min=5.3km az=48.0
IDC 22 15:56:49.8±1.2, 3.79N×76.45W, h144km±11km, mb3.8/14, mb1 4.0/18, mb1mx3.9/25, mbtmp4.3/18, MS3.4/4, Ms1 3.4/4, ms1mx3.0/36, Error ellipse: s-maj=13.4km s-min=10.2km az=57.0

ISC 22 15:56:47.7±0.4, 3.78N±0.05×76.57W±0.05, h120km, n278, σ1$10/293, mb4.2/29, 95C-102D, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	2.48	64	e	Pn	P	Pn	15 57 29.8	+2.2
ROSC				e	Sn	S	Sn	15 57 59.6	+1.5
ROSC						S	Sn	15 58 00.2	+2.0
ROSC	El Rosal	2.48	64		P	P	Pn	15 57 29.9	+2.3
	262nm,0.3s,baz=310,slow=1.9,SNR=197								
ROSC						S	Sn	15 58 00.2	+2.0
	205nm,0.3s,baz=83,slow=19,SNR=5.7								
ROSC						LR	LR	15 58 19.5	
	comp=Z,800nm,19.3s,baz=20,slow=38								
OTAV	Otavalo	3.99	208	e	Pn	P	Pn	15 57 46.8	-0.8
OTAV				e	Sn	S	Sn	15 58 33.1	-0.8
BCIP	Isla Barro Col	6.26	329	e	Pn	P	Pn	15 58 17.3	-0.4
	90nm,0.4s								
BCIP				e	Sn	S	Sn	15 59 28.9	+1.0
SDV	Santo Domingo	7.78	49	e	Pn	P	Pn	15 58 38.3	-0.2
	62nm,0.3s								
JTS	JuntasAbangare	10.54	308		P	P	Pn	15 59 17.9	+2.4
JTS	JuntasAbangare	10.54	308		P	P	Pn	15 59 17.9	+2.4
JTS						LR	LR	16 03 24.7	
	comp=Z,148nm,21.9s,baz=133,slow=37								
ATAH	Atahualpa	10.99	190		P	P	Pn	15 59 25.0	+2.9
ATAH	Atahualpa	10.99	190		P	P	Pn	15 59 25.0	+2.9
MTDJ	Mount Denham	14.39	356	e	Pn	P	P	16 00 10.7	+1.2
	64nm,0.9s								
TGUH	Tegucigalpa,Un	14.69	315	e	Pn	Pn	Pn	16 00 10.8	+1.1
SDDR	Presa de Saban	15.97	18	e	Pn	P	P	16 00 27.6	+0.8
	41nm,1.2s								
GTBY	Guantanamo Bay	16.11	5	e	Pn	Pn	Pn	16 00 27.9	+0.4
	101nm,1.5s								
GRGR	Grenville	16.93	60	e	Pn	Pn	Pn	16 00 37.2	-0.3
	52nm,0.5s								
APG	El Apazote	17.66	310		P	P	Pn	16 00 47.4	+0.9
APG	El Apazote	17.66	310		P	P	Pn	16 00 47.4	+0.9
	0.4nm,0.3s,baz=126,slow=12,SNR=4.4								
SAML	Samuel	18.38	134	e	Pn	P	P	16 00 52.8	-0.7
	26nm,0.6s								
ANWB	Willy Bob	20.01	45	e	Pn	P	P	16 01 09.6	-1.6
LPAZ	La Paz	21.61	158		P	P	P	16 01 27.3	-1.7
LPAZ	La Paz	21.61	158		P	P	P	16 01 27.3	-1.7
	6.2nm,0.7s,baz=337,slow=10,SNR=12								
SIV	San Ignacio	24.92	142		P	P	P	16 01 58.6	-1.3
SIV						pP	pP	16 02 30.3	+4.6
SIV	San Ignacio	24.92	142		P	P	P	16 01 58.6	-1.3
	2.7nm,0.4s,baz=328,slow=9.8,SNR=12								
SIV						pP	pP	16 02 30.3	+4.6
	2.4nm,0.5s,baz=324,slow=9.2,SNR=2.5								
SIV						LR	LR	16 11 41.5	
	comp=Z,70nm,18.6s,slow=36								
LVC	Limon Verde	27.28	164		P	P	P	16 02 24.3	+3.0
	5.3nm,0.5s								
732A	Laxson Ranch,	33.32	321	⇑	P	P	P	16 03 13.4	-0.9
	baz=34								
632A	Uvalde	33.75	322	⇓	P	P	P	16 03 18.0	0.0
	baz=34,SNR=5.9								
WVT	Waverly	33.83	344		P	P	P	16 03 17.0	-1.5
	2.1nm,0.6s								
631A	Perdido Creek	34.18	321	⇓	P	P	P	16 03 21.9	+0.2
	baz=34								
BDFB	Brasilia	34.22	125		P	P	P	16 03 21.5	-0.8
BDFB	Brasilia	34.22	125		P	P	P	16 03 21.5	-0.8
	3.1nm,0.7s,baz=296,slow=14,SNR=3.3								
532A	Rocksprings	34.26	322	⇓	P

	13nm,1.0s						
Y27A	**Causey**	38.87	324	⇓P	P	16 04 01.1	-0.5
	baz=39,SNR=5.7						
W29A	**Amraillo**	38.89	326	⇓P	P	16 04 02.1	+0.3
	baz=39						
Z26A	**Caprock**	38.94	322	⇓P	P	16 04 02.5	+0.3
	baz=39						
125A	**Gardner Draw,**	38.94	321	⇓P	P	16 04 02.5	+0.3
	baz=39						
224A	**Cornudas Mount**	39.12	319	⇓P	P	16 04 04.2	+0.5
	baz=39,SNR=7.3						
Y26A	**Elida**	39.29	323	⇓P	P	16 04 05.2	+0.1
	baz=40						
Z25A	**Roswell**	39.40	321	⇑P	P	16 04 06.9	+0.9
	baz=40						
U30A	**WK&E Inc. Balk**	39.41	329	⇑P	P	16 04 06.3	+0.2
	baz=40						
124A	**Stringfield Ra**	39.48	320	⇑P	P	16 04 07.5	+0.7
	baz=40,SNR=13						
KSU1	**Kansas State U**	39.60	335	*e*P	P	16 04 05.9	-1.5
	29nm,1.0s						
W27A	**Bowe Ranch, En**	39.64	325	⇑P	P	16 04 08.1	+0.1
	baz=40						
X26A	**CR and CF Fran**	39.71	324	⇓P	P	16 04 09.3	+0.7
	baz=40						
Y25A	**Mesa, Roswell**	39.81	322	⇑P	P	16 04 10.3	+0.8
	baz=40						
Z24A	**Sheeppen Canyo**	39.83	321	⇑P	P	16 04 10.9	+1.2
	baz=40						
123A	**Bell Site, Whi**	39.96	319	⇓P	P	16 04 12.0	+1.3
	baz=40						
V27A	**Dan Oppiter Fa**	40.01	326	⇓P	P	16 04 11.9	+0.8
	baz=40						
X25A	**Clemmons Ranch**	40.20	323	⇑P	P	16 04 13.7	+1.0
	baz=40						
Y24A	**Capitan**	40.27	322	⇓P	P	16 04 14.3	+0.9
	baz=40						
Z23A	**Rita Site, Whi**	40.34	320	⇓P	P	16 04 15.1	+1.2
	baz=40,SNR=8.2						
122A	**Conniff Cattle**	40.48	319	⇓P	P	16 04 16.5	+1.5
	baz=41						
S29A	**Ulysses**	40.49	329	⇓P	P	16 04 15.9	+0.9
	baz=41						
U27A	**Thompson Grove**	40.49	327	⇓P	P	16 04 15.0	0.0
	baz=41						
W25A	**X Bar L Ranch,**	40.56	324	⇑P	P	16 04 16.3	+0.7
	baz=41						
V26A	**Tequesquite Ra**	40.58	325	⇓P	P	16 04 16.5	+0.7
	baz=41						
R30A	**Dighton**	40.59	331	⇑P	P	16 04 15.7	0.0
	baz=41						
T28A	**Walsh**	40.63	328	⇑P	P	16 04 16.0	-0.1
	baz=41						
Y23A	**Lovelace Mesa,**	40.66	321	⇓P	P	16 04 17.3	+0.7
	baz=41						
320A	**Kipp Ranch, An**	40.69	316	⇑P	P	16 04 18.0	+1.3
	baz=41						
Q31A	**Ellis**	40.74	332	⇓P	P	16 04 16.9	-0.1
	baz=41						
Z22A	**Elephant Butte**	40.80	320	⇑P	P	16 04 19.0	+1.3
	baz=41,SNR=12						
S28A	**Manter**	40.87	329	⇓P	P	16 04 18.4	+0.4
	baz=41						
121A	**Cookes Peak, D**	40.90	318	⇑P	P	16 04 20.1	+1.6
	baz=41,SNR=24						
U26A	**Atchley Ranch,**	40.98	326	⇑P	P	16 04 19.4	+0.2
	baz=41						
220A	**Playas Peak, P**	41.02	317	⇓P	P	16 04 20.7	+1.3
	baz=41,SNR=17						
V25A	**Rancho No Teng**	41.09	324	⇑P	P	16 04 20.6	+0.6
	baz=41,SNR=7.3						
Q30A	**Quinter**	41.11	332	⇓P	P	16 04 20.2	+0.2
	baz=41						
W24A	**Lazy 6 Ranch,**	41.12	323	⇓P	P	16 04 21.0	+0.7
	baz=41						
Y22A	**Socorro**	41.24	320	⇓P	P	16 04 22.1	+0.8
	baz=41,SNR=5.8						
Z21A	**St. Cloud Mine**	41.30	319	⇓P	P	16 04 23.4	+1.6
	baz=42						
U25A	**Circle Dot Ran**	41.36	325	⇓P	P	16 04 22.9	+0.7
	baz=42						
V24A	**Rampart Ranch,**	41.39	324	⇓P	P	16 04 23.4	+0.9
	baz=42						
R28A	**Tribune**	41.39	330	⇑P	P	16 04 22.3	0.0
	baz=42						
Q29A	**Oakley**	41.40	331	⇓P	P	16 04 22.6	+0.2
	baz=42						
T26A	**Comanche Natio**	41.46	327	⇓P	P	16 04 23.7	+0.7
	baz=42						
120A	**U Bar Ranch, L**	41.47	317	⇑P	P	16 04 24.4	+1.2
	baz=42,SNR=6.1						
W23A	**Werner Place,**	41.53	322	⇑P	P	16 04 24.8	+1.1
	baz=42						
ANMO	**Albuquerque**	41.58	322	*e*P	P	16 04 24.7	+0.6
	12nm,1.0s						
X22A	**Bernardo**	41.63	321	⇑P	P	16 04 26.0	+1.6
	baz=42						
S26A	**Kim**	41.72	327	⇑P	P	16 04 25.6	+0.5
	baz=42,SNR=7.1						
Y21A	**Point of Rocks**	41.74	320	⇓P	P	16 04 26.6	+1.2
	baz=42,SNR=6.0						
Z20A	**Nine Sixteen R**	41.79	318	⇑P	P	16 04 27.0	+1.3
	baz=42,SNR=5.2						
R27A	**Eads**	41.86	329	⇓P	P	16 04 26.2	+0.1
	baz=42,SNR=5.8						
T25A	**Trinidad**	41.89	326	⇑P	P	16 04 27.1	+0.5
	baz=42						
V23A	**Ortiz Mt. (NFS**	41.95	323	⇓P	P	16 04 28.2	+1.1
	baz=42						
Y20A	**Horse Springs,**	42.13	319	⇓P	P	16 04 29.9	+1.3
	baz=42,SNR=7.3						
S25A	**Robets Cordova**	42.27	327	⇑P	P	16 04 30.4	+0.8
	baz=42,SNR=7.8						
U23A	**El Rito**	42.35	324	⇑P	P	16 04 31.6	+1.3
	baz=42						
T24B	**San Luis**	42.38	325	⇑P	P	16 04 31.9	+1.3
	baz=43						
V22A	**San Miguel Ran**	42.50	323	⇑P	P	16 04 32.9	+1.4
	baz=43,SNR=6.3						
R25A	**Fountain Ranch**	42.54	327	⇓P	P	16 04 33.1	+1.3
	baz=43						
X20A	**Quemado**	42.60	320	⇑P	P	16 04 33.9	+1.5
	baz=43,SNR=7.5						
S24A	**Houchin Ranch,**	42.69	326	⇓P	P	16 04 34.0	+0.8
	baz=43						
T23A	**Casias Ranch,**	42.74	325	⇑P	P	16 04 34.5	+1.0
	baz=43						
U22A	**Llaves**	42.77	323	⇑P	P	16 04 34.8	+1.0
	baz=43,SNR=5.3						
V21A	**Milan**	42.87	322	⇑P	P	16 04 35.8	+1.2
	baz=43,SNR=5.2						
SDCO	**Great Sand Dun**	42.93	326	*e*P	P	16 04 34.8	-0.2
	7.6nm,0.9s						
W20A	**Ramah**	42.97	321	⇑P	P	16 04 36.6	+1.2
	baz=43						
R24A	**Sanders Place,**	43.05	327	⇑P	P	16 04 36.7	+0.8
	baz=43,SNR=5.9						
U21A	**Nageezi**	43.29	323	⇑P	P	16 04 38.7	+0.8
	baz=44						
V20A	**Brimhall**	43.38	321	⇓P	P	16 04 39.8	+1.2
	baz=44						
R23A	**Moffat**	43.42	326	⇑P	P	16 04 39.9	+0.9
	baz=44						
P25A	**Willow Gulch B**	43.48	329	⇓P	P	16 04 40.2	+0.8
	baz=44						
X18A	**Snowflake**	43.54	319	⇓P	P	16 04 41.0	+1.1
	baz=44						
S22A	**4UR Ranch, Cre**	43.69	325	⇑P	P	16 04 42.0	+0.9
	baz=44,SNR=6.6						
W18A	**Petrified Fore**	43.76	320	⇑P	P	16 04 42.8	+1.1
	baz=44						
K30A	**Basset**	43.83	335	⇑P	P	16 04 41.9	0.0
	baz=44						
R22A	**Saguache, Gunn**	43.98	325	⇓P	P	16 04 44.3	+0.8
	baz=44						
214A	**Organ Pipe Nat**	44.06	314	⇑P	P	16 04 45.1	+1.2
	baz=44,SNR=6.3						
RPN	**Rapa Nui**	44.10	224	P	P	16 04 44.8	+0.5
RPN	**Rapa Nui**	44.10	224	P	P	16 04 44.8	+0.5
	0.3nm,0.3s,baz=74,slow=7.4,SNR=3.5						
MVCO	**Mesa Verde**	44.31	323	⇑P	P	16 04 46.6	+0.5
	baz=44						
J30A	**Dallas**	44.32	336	⇓P	P	16 04 45.3	-0.5
	baz=44						
ISCO	**Idaho Springs**	44.45	328	⇑P	P	16 04 47.5	+0.3
	baz=45						
Q22A	**Crested Butte,**	44.50	326	⇑P	P	16 04 48.2	+0.6
	baz=45						
R21A	**Cimarron**	44.52	325	⇓P	P	16 04 48.5	+0.7
	baz=45						
S20A	**Disappointment**	44.64	324	⇓P	P	16 04 49.4	+0.7
	baz=45,SNR=5.9						
J29A	**Okreek**	44.73	335	⇓P	P	16 04 48.2	-0.8
	baz=45						
N24A	**Carr**	44.82	329	⇑P	P	16 04 50.5	+0.5
	baz=45						
R20A	**Redvale**	44.89	324	⇓P	P	16 04 51.8	+1.2
	baz=45						
Z14A	**Wintersburg**	44.91	315	⇓P	P	16 04 52.0	+1.4
	baz=45						
O23A	**Lake Granby, G**	44.91	328	⇑P	P	16 04 51.6	+0.7
	baz=45						
P22A	**Eagle**	44.93	327	⇓P	P	16 04 51.5	+0.6
	baz=45						
WUAZ	**Wupatki**	45.07	319	⇓P	P	16 04 52.9	+0.9
	baz=45,SNR=7.9						
O22A	**Kremmling**	45.21	327	⇓P	P	16 04 53.3	0.0
	baz=45,SNR=5.0						
P21A	**Newcastle**	45.26	326	⇓P	P	16 04 54.5	+0.9
	baz=46						
Y14A	**Wickenburg**	45.27	316	⇓P	P	16 04 55.1	+1.6
	baz=45						
Q20A	**Ridgley Place,**	45.35	325	⇓P	P	16 04 55.2	+1.0
	baz=46						
L25A	**Engebretsen Ra**	45.37	331	⇑P	P	16 04 54.9	+0.7
	baz=46						
N23A	**Red Feather La**	45.42	329	⇑P	P	16 04 55.7	+0.8
	baz=46						
O21A	**Pagoda**	45.75	327	⇑P	P	16 04 58.1	+0.6
	baz=46						
O20A	**White River Ci**	46.12	326	⇑P	P	16 05 01.1	+0.8
	baz=46						
L23A	**Garrett**	46.19	330	⇑P	P	16 05 01.4	+0.6
	baz=46						
P19A	**Cripple Cowboy**	46.20	325	⇑P	P	16 05 01.6	+0.7
	baz=46						
U15A	**North Rim**	46.21	319	⇓P	P	16 05 02.1	+1.0
	baz=46						
J25A	**Sunshine Ranch**	46.24	332	⇑P	P	16 05 01.2	+0.2
	baz=46						
L22A	**Ellis Ranch, M**	46.50	329	⇓P	P	16 05 03.9	+0.7
	baz=47						
W13A	**Hualapai Mount**	46.51	317	⇓P	P	16 05 04.9	+1.4
	baz=47						
N20A	**Spence Gulch,**	46.62	327	⇑P	P	16 05 04.6	+0.4
	baz=47						
I25A	**Rochford**	46.70	333	⇑P	P	16 05 05.0	+0.3
	baz=47						
O19A	**Miners Draw (B**	46.73	326	⇓P	P	16 05 05.2	+0.2
	baz=47						
BC3	**Big Chuckawall**	46.84	314	⇓P	P	16 05 07.0	+1.0
	baz=47						
IRM	**Iron Mountain**	46.89	315	⇓P	P	16 05 07.2	+1.0
	baz=47,SNR=9.2						
RSSD	**Black Hills**	46.92	333	*e*P	P	16 05 06.4	0.0
	16nm,0.6s						
MONP	**Monument Peak**	47.16	313	⇑P	P	16 05 09.3	+0.8
	baz=47						
G26A	**Maurine**	47.21	335	⇓P	P	16 05 07.6	-0.9
	baz=47						
K21A	**Alcova**	47.35	329	⇓P	P	16 05 09.9	+0.1
	baz=48						
BELC	**Belle Mtn. Jos**	47.41	314	⇓P	P	16 05 11.4	+1.0
	baz=48						
J22A	**Midwest**	47.53	330	⇓P	P	16 05 11.2	+0.1
	baz=48						
GMRC	**Granite Mounta**	47.57	315	⇑P	P	16 05 12.8	+1.2
	baz=48						
H24A	**Dirks Ranch, A**	47.63	333	⇓P	P	16 05 11.7	-0.2
	baz=48						
H23A	**Clabaugh Cattl**	47.88	332	⇑P	P	16 05 14.0	+0.3
	baz=48						
I22A	**9 Mile Ranch,**	47.89	331	⇓P	P	16 05 14.0	+0.1
	baz=48						
J21A	**Lysite**	47.97	330	⇓P	P	16 05 15.3	+0.7
	baz=48						
HEC	**Hector,Ludlow**	48.07	315	⇓P	P	16 05 16.7	+1.3
	baz=48						
TUQ	**Turquoise Moun**	48.10	316	⇓P	P	16 05 16.4	+0.8
	baz=48						
I21A	**Big Trails, Te**	48.23	330	⇓P	P	16 05 16.5	0.0
	baz=48						
J20A	**Shoshoni**	48.30	329	⇓P	P	16 05 17.5	+0.5
	baz=48						
H22A	**Clearmont**	48.35	332	⇓P	P	16 05 17.6	+0.2
	baz=49						
G23A	**Biddle**	48.36	333	⇑P	P	16 05 17.6	+0.2
	baz=49						
D26A	**Manning**	48.55	337	⇑P	P	16 05 18.3	-0.5
	baz=49						
GSC	**Goldstone**	48.64	315	⇑P	P	16 05 20.8	+1.0
	baz=49						
PDAR	**Pinedale Array**	48.65	328	P	P	16 05 19.4	-0.4
PDAR				pP	pP	16 05 52.8	+5.0
PDAR	**Pinedale Array**	48.65	328	P	P	16 05 19.4	-0.4
	1.0nm,0.5s,baz=123,slow=11,SNR=8.9						
PDAR				pP	pP	16 05 52.8	+5.0
	0.6nm,0.8s,baz=128,slow=6.9,SNR=1.8						
J19A	**Crowheart**	48.73	329	⇓P	P	16 05 20.0	-0.4
	baz=49						
I20A	**Worland**	48.74	330	⇓P	P	16 05 20.5	+0.1
	baz=49						
F23A	**Volborg**	48.77	333	⇓P	P	16 05 20.4	-0.1
	baz=49						
G22A	**Birney**	48.79	332	⇓P	P	16 05 20.6	-0.2
	baz=49,SNR=5.4						
ULM	**Lac du Bonnet**	49.10	344	P	P	16 05 21.2	-1.6
ULM	**Lac du Bonnet**	49.10	344	P	P	16 05 21.2	-1.6
	5.6nm,0.7s,baz=156,slow=9.9,SNR=7.7						
I19A	**Meeteetse**	49.24	329	⇑P	P	16 05 24.3	-0.1
	baz=49						
EDW2	**Edwards Air Fo**	49.27	314	⇓P	P	16 05 25.9	+1.3
	baz=49						
R11A	**Troy Canyon, C**	49.45	319	⇓P	P	16 05 26.4	+0.4
	baz=50						
MPMC	**Manual Prospec**	49.51	316	⇓P	P	16 05 27.5	+1.0
	baz=50						
G20A	**Bridger**	49.71	331	⇓P	P	16 05 27.4	-0.3
	baz=50						
D23A	**Lindsay**	49.81	335	⇑P	P	16 05 28.9	+0.5
	baz=50						
H18A	**Shoshone NF, C**	50.04	329	⇓P	P	16 05 30.4	+0.1
	baz=50						
CWC	**Cottonwood Cre**	50.11	316	⇑P	P	16 05 32.6	+1.6
	baz=50						
D22A	**Cohagen**	50.21	334	⇑P	P	16 05 31.9	+0.5
	baz=50						
C23A	**Lambert**	50.29	335	⇑P	P	16 05 32.5	+0.5
	baz=50						
H17A	**Grant Village**	50.31	329	⇑P	P	16 05 32.7	+0.2
	baz=50						
TPH	**Tonopah**	50.38	318	P	P	16 05 33.3	+0.2
	1.6nm,0.6s						
F19A	**Roth Farm, Mol**	50.52	331	⇓P	P	16 05 34.2	+0.4
	baz=51						
C22A	**Vida**	50.54	335	⇑P	P	16 05 34.3	+0.5
	baz=51						
E20A	**Meyer Farm, Mu**	50.61	332	⇓P	P	16 05 34.5	+0.1
	baz=51,SNR=5.9						
B23A	**Brockton**	50.73	336	⇑P	P	16 05 35.6	+0.3
	baz=51						
E19A	**Rath Farm, Rou**	50.88	332	⇑P	P	16 05 36.7	+0.1
	baz=51						
D20A	**Manuel Ranch,**	51.04	333	⇓P	P	16 05 38.2	+0.5
	baz=51						
NVAR	**Mina Array Bea**	51.29	318	P	P	16 05 40.4	+0.5
NVAR				PcP	PcP	16 06 53.5	+0.2
NVAR	**Mina Array Bea**	51.29	318	P	P	16 05 40.4	+0.5
	3.4nm,0.8s,baz=130,slow=6.9,SNR=23						
NVAR				PcP	PcP	16 06 53.5	+0.2
	1.6nm,0.7s,baz=134,slow=4.0,SNR=6.3						
D19A	**Cripps Ranch,**	51.44	332	⇓P	P	16 05 40.6	-0.1
	baz=52,SNR=7.4						
SCHQ	**Schefferville**	51.51	7	P	P	16 05 40.6	-0.3
	3.1nm,0.7s						
SCHQ	**Schefferville**	51.51	7	P	P	16 05 40.9	0.0
	1.9nm,0.4s,baz=181,slow=19,SNR=7.1						
A22A	**Carney Farms,**	51.52	336	⇓P	P	16 05 41.7	+0.4
	baz=52						
HLID	**Hailey**	51.85	325	*e*P	P	16 05 43.7	-0.2
	2.1nm,0.7s						
HLID	**Hailey**	51.85	325	⇓P	P	16 05 44.4	+0.5
	baz=52						
C19A	**Slack Wire Ran**	51.94	333	⇑P	P	16 05 44.6	+0.3
	baz=52						
MSO	**Missoula**	53.69	329	⇓P	P	16 05 57.8	+0.4
	baz=54						
NEW	**Newport**	56.27	329	P	P	16 06 15.1	-0.6
YKA	**Yellowknife Ar**	64.98	342	P	P	16 07 13.3	-1.1
YKA	**Yellowknife Ar**	64.98	342	P	P	16 07 13.4	-1.1
	2.5nm,0.7s,baz=138,slow=6.5,SNR=4.5						
DLBC	**Dease Lake**	68.40	333	*e*P	P	16 07 36.3	-0.1
DBIC	**Dimbokro**	71.42	84	*e*P	P	16 07 54.4	-1.2
	6.8nm,0.9s						
DBIC	**Dimbokro**	71.42	84	P	P	16 07 54.5	-1.2
	2.6nm,0.6s,baz=251,slow=5.2,SNR=6.3						
SUMG	**Summit**	72.61	11	*i* P	P	16 08 01.3	-0.8
	4.3nm,0.8s						
SUMG	**Summit**	72.61	11	*e*P	P	16 08 01.4	-0.7
	12nm,1.0s						
ESDC	**Sonseca Array**	74.22	50	P	P	16 08 11.5	-0.3
ESDC	**Sonseca Array**	74.22	50	P	P	16 08 11.5	-0.3
	0.8nm,0.4s,baz=271,slow=5.8,SNR=6.4						
INK	**Inuvik**	74.75	341	P	P	16 08 12.7	-1.4
	6.3nm,1.2s						
TOA0	**Torodi Ar. Sit**	77.73	77	*e*P	P	16 08 30.2	-1.9
TORD	**Torodi Ar. Bea**	77.73	77	P	P	16 08 30.3	-1.8
TORD	**Torodi Ar. Bea**	77.73	77	P	P	16 08 30.3	-1.8
	1.0nm,0.4s,baz=287,slow=6.7,SNR=16						
ILAR	**Eielson Array**	78.28	336	P	P	16 08 33.2	-0.9
ILAR	**Eielson Array**	78.28	336	P	P	16 08 33.2	-0.9
	2.2nm,0.7s,baz=117,slow=4.0,SNR=31						
COLA	**College**	78.70	336	P	P	16 08 35.4	-1.0
	22nm,0.9s						
MCK	**McKinley**	78.86	334	P	P	16 08 36.8	-0.7
NOA	**NORSAR Array B**	85.64	29	P	P	16 09 12.3	-0.5
NOA	**NORSAR Array B**	85.64	29	P	P	16 09 12.3	-0.5
	0.8nm,0.9s,baz=285,slow=8.4,SNR=3.0						
QSPA	**South Pole Qui**	93.81	180	P	P	16 09 51.9	+0.8
MKAR	**Makanchi Array**	126.29	18	PKP	PKPdf	16 15 35.0	-1.5
MKAR	**Makanchi Array**	126.29	18	PKP	PKPdf	16 15 35.0	-1.5
	0.4nm,0.4s,baz=316,slow=2.9,SNR=8.4						
SONM	**Songino Array**	128.54	357	PKP	PKPdf	16 15 39.8	-1.1
SONM	**Songino Array**	128.54	357	PKP	PKPdf	16 15 39.8	-1.1
	0.1nm,0.5s,baz=50,slow=1.3,SNR=4.3						
ASAR	**Alice Springs**	144.56	233	PKP	PKPab	16 16 08.2	-1.6
ASAR	**Alice Springs**	144.56	233	PKP	PKPab	16 16 08.2	-1.6
	3.2nm,0.7s,baz=116,slow=4.1,SNR=67						
WRAB	**Tennant Creek**	145.85	239	*e*PKPdf	PKPdf	16 16 12.3	-1.0
WRA	**Warramunga Arr**	145.86	239	PKPbc	PKPdf	16 16 12.3	-1.0
WRA	**Warramunga Arr**	145.86	239	PKPbc	PKPdf	16 16 12.3	-1.0
	2.5nm,0.9s,baz=111,slow=3.1,SNR=14						
CMAR	**Chiang Mai Arr**	157.47	11	PKP	PKPdf	16 16 29.1	-1.6
CMAR				PKPab	PKPab	16 17 01.0	-1.6
CMAR	**Chiang Mai Arr**	157.47	11	PKP	PKPdf	16 16 29.2	-1.6
	0.4nm,0.9s,baz=19,slow=3.1,SNR=3.5						
CMAR				PKPab	PKPab	16 17 01.0	-1.6
	0.4nm,0.5s,baz=326,slow=6.3,SNR=4.8						

IDC 22 16:12:23.7±1.8, **16°.88S×175°.07W, h0km, mb4.0**/4, **mb1 4.2**/5, **mb1mx3.8**/20, **mbtmp4.1**/5, **Error ellipse: s-maj=43.4km s-min=29.3km az=129.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	4.33	48	Pn	Pn	16 13 30.9	0.0
	17nm,0.3s,baz=249,slow=0.2,SNR=30						
AFI				Sn	Sn	16 14 11.5	-11
	26nm,0.3s,baz=273,slow=17,SNR=11						
RAO	**Raoul Island**	12.59	191	Pn	Pn	16 15 24.4	+0.2
	94nm,0.3s,baz=250,slow=21,SNR=4.2						
URZ	**Urewera**	22.38	196	P	P	16 17 23.5	0.0
	3.3nm,0.3s,baz=45,slow=7.1,SNR=9.4						
STKA	**Stephens Creek**	41.92	241	P	P	16 20 16.5	+0.3
	0.5nm,0.4s,baz=86,slow=14,SNR=3.7						
WRA	**Warramunga Arr**	47.96	258	P	P	16 21 04.2	-0.3
	0.4nm,0.5s,baz=96,slow=7.0,SNR=20						
ASAR	**Alice Springs**	48.14	253	P	P	16 21 05.7	-0.2
	5.9nm,0.5s,baz=88,slow=8.8,SNR=179						

AUST 22 16:17:11.6±20.0, 5°.45N×124°.84E, h59km±1km, Error ellipse: s-maj=8.7km s-min=2.8km az=327.0

IDC 22 16:18:27.1±19.0, **1°.23N×125°.60E, h543**km±270km, **mb2.6**/5, **mb1 2.9**/6, **mb1mx2.6**/24, **mbtmp2.7**/6, **Error ellipse: s-maj=113.2km s-min=38.7km az=42.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTN	**Manton Dam**	15.02	159	P	P	16 21 31.8	-5.2
	baz=19,SNR=3.5						
KDU	**Kakadu**	15.41	154	P	P	16 21 34.7	-6.3
	baz=20,SNR=7.4						
KNRA	**Kununurra**	17.08	170	P	P	16 21 54.6	-2.4
	baz=22,SNR=6.8						
FITZ	**Fitzroy Crossi**	19.21	180	P	P	16 22 17.1	+0.7
	baz=24,SNR=14						
FITZ	**Fitzroy Crossi**	19.21	180	P	P	16 22 17.1	+0.7
	0.6nm,0.3s,baz=359,slow=10,SNR=37						
WRA	**Warramunga Arr**	22.71	158	P	P	16 22 46.9	-1.3
	0.8nm,0.3s,baz=329,slow=11,SNR=36						
ASAR	**Alice Springs**	26.03	162	P	P	16 23 17.5	0.0
	0.8nm,0.6s,baz=341,slow=6.9,SNR=42						
MEEK	**Meekatharra**	28.51	193	P	P	16 23 39.1	-0.1
	baz=33,SNR=4.0						
BBOO	**Buckleboo**	35.26	165	P	P	16 24 38.0	+1.4
	baz=40,SNR=15						
STKA	**Stephens Creek**	36.24	157	P	P	16 24 44.9	+0.2
	0.9nm,0.3s,baz=355,slow=9.7,SNR=7.8						
LHI	**Lord Howe Isla**	45.47	139	P	P	16 25 54.3	-3.7
	baz=49,SNR=3.5						
MKAR	**Makanchi Array**	58.99	327	P	P	16 27 35.4	+0.6
	0.1nm,0.4s,baz=113,slow=8.9,SNR=2.7						
KURBB	**Kurchatov Arra**	63.25	329	P	P	16 28 01.2	-1.4
	0.2nm,0.5s,baz=124,slow=7.4,SNR=2.7						

IDC 22 16:25:39.3±0.8, 11°.20S×165°.62E, h0km, mb4.2/13, mb1 4.4/15, mb1mx4.3/24, mbtmp4.3/15, ML4.4/2, MS3.9/11, Ms1 3.9/11, ms1mx3.8/27, Error ellipse: s-maj=21.3km s-min=18.4km az=125.0

ISCJB 22 16:25:42.0±0.5, 11°.28S±0°.07×165°.56E±0°.06, h30km, mb4.5/22, MS4.0/9, Error ellipse: s-maj=10.6km s-min=8.2km az=22.6

*NEIC 22 16:25:43.9±3.5, 11

RPZ	Rata Peaks	32.70 173	LR	LR	16 43 08.9	
	comp=Z,302nm,20.7s,baz=186,slow=32					
FITZ	Fitzroy Crossi	39.22 255	P	P	16 33 08.6	-1.0
FITZ	Fitzroy Crossi	39.22 255	P	P	16 33 08.6	-1.0
	4.6nm,0.9s,baz=144,slow=7.6,SNR=6.8					
PPT2	Papeete2	43.77 104	eLQ	LQ	16 43 56.3	
	310nm,27.0s					
PPT2			eLR	LR	16 45 41.4	
	131nm,22.5s					
TBI	Tubuai	44.37 112	eS	S	16 40 23.8	-0.7
	59nm,29.5s					
TBI			eLQ	LQ	16 44 06.5	
	163nm,38.5s					
TBI			eLR	LR	16 46 01.1	
	301nm,29.2s					
MBWA	Marble Bar	45.02 251	P	P	16 33 56.9	0.0
	14nm,1.1s					
KSM	Kuching	56.42 279	P	P	16 35 21.1	-1.9
	10nm,1.2s					
RKT	Rikitea	57.63 110	eLQ	LQ	16 49 47.9	
	383nm,38.0s					
RKT			eLR	LR	16 52 03.0	
	212nm,26.2s					
KSRS	Korea Array	59.97 326	LR	LR	17 01 38.5	
	comp=Z,100nm,18.3s,baz=90,slow=36					
FX1	Attu Island--F	64.19 5	LR	LR	17 00 15.7	
	comp=Z,60nm,19.9s,baz=82,slow=32					
PETK	Petropavlovsk-	64.45 355	LR	LR	16 59 53.2	
	comp=Z,34nm,19.3s,baz=346,slow=32					
VNDA	Vanda	66.30 181	eP	P	16 36 29.6	+0.8
	3.9nm,1.4s					
VNDA	Vanda	66.30 181	P	P	16 36 29.8	+1.0
	1.1nm,1.0s,baz=350,slow=5.8,SNR=5.1					
SBA	Scott Base	66.61 180	eP	P	16 36 32.0	+1.3
	5.8nm,1.2s					
KULM	Kulim	66.70 281	eP	P	16 36 31.8	-0.7
	15nm,1.3s					
CMAR	Chiang Mai Arr	72.08 294	P	P	16 37 06.5	+0.9
CMAR	Chiang Mai Arr	72.08 294	P	P	16 37 06.5	+0.9
	1.4nm,0.8s,baz=127,slow=4.3,SNR=15					
CHTO	Chiang Mai	72.19 294	P	P	16 37 05.8	-0.6
	24nm,1.1s					
SONM	Songino Array	78.75 324	P	P	16 37 44.6	+1.1
SONM	Songino Array	78.75 324	P	P	16 37 44.6	+1.1
	0.5nm,1.0s,baz=94,slow=5.9,SNR=3.3					
SONM			LR	LR	17 08 34.6	
	comp=Z,73nm,19.4s,baz=103,slow=33					
QSPA	South Pole Qui	78.77 180	eP	P	16 37 43.4	+0.1
	7.0nm,1.2s					
QSPA	South Pole Qui	78.77 180	P	P	16 37 45.2	+1.9
	2.4nm,1.1s					
MCK	McKinley	82.36 19	eP	P	16 38 01.1	-1.4
	22nm,1.4s					
COLA	College	83.50 18	eP	P	16 38 08.2	-0.1
	36nm,0.8s					
ILAR	Eielson Array	83.73 19	P	P	16 38 09.5	+0.1
ILAR	Eielson Array	83.73 19	P	P	16 38 09.5	+0.1
	1.5nm,0.6s,baz=229,slow=5.4,SNR=25					
ILAR			LR	LR	17 11 24.6	
	comp=Z,124nm,18.2s,baz=278,slow=33					
MAW	Mawson	84.50 202	P	P	16 38 12.6	-0.8
MAW	Mawson	84.50 202	P	P	16 38 12.6	-0.8
	5.1nm,1.1s,baz=101,slow=7.9,SNR=7.4					
EGAK	Eagle	85.60 20	eP	P	16 38 19.3	+0.4
	5.9nm,0.8s					
NVAR	Mina Array Bea	86.24 50	P	P	16 38 21.9	-1.0
NVAR	Mina Array Bea	86.24 50	P	P	16 38 21.9	-1.0
	1.1nm,0.8s,baz=234,slow=7.5,SNR=6.0					
DLBC	Dease Lake	86.63 28	LR	LR	17 11 09.2	
	comp=Z,231nm,18.9s,baz=177,slow=32					
MK31	Makanchi Array	93.58 317	eP	P	16 38 57.9	+0.9
MKAR	Makanchi Array	93.58 317	P	P	16 38 57.1	+0.1
MKAR	Makanchi Array	93.58 317	P	P	16 38 57.1	+0.1
	0.7nm,0.8s,baz=106,slow=4.4,SNR=8.0					
MKAR			LR	LR	17 25 05.7	
	comp=Z,30nm,18.7s,baz=1.4,slow=38					
ARCES	ARCESS Array B	116.49 345	PKP	PKPdf	16 44 24.7	+0.6
ARCES	ARCESS Array B	116.49 345	PKP	PKPdf	16 44 24.7	+0.6
	5.4nm,1.1s,baz=41,slow=1.7,SNR=3.8					
TORD	Torodi Ar. Bea	164.18 279	PKP	PKPdf	16 45 46.1	+0.9
TORD	Torodi Ar. Bea	164.18 279	PKP	PKPdf	16 45 46.1	+0.9
	0.5nm,0.9s,baz=82,slow=0.3,SNR=3.7					

*IDC **22** 16:27:28.4±0.9, 11°.27S×165°.57E, h0km, mb4.2/11, mb1 4.4/12, mb1mx4.2/22, mbtmp4.3/12, ML4.6/1, MS3.9/2, Ms1mx 4.0/2, ms1mx3.4/26, Error ellipse: s-maj=29.8km s-min=21.5km az=132.0*
*ISCJB **22** 16:27:30.9±0.6, 11°.34S±0°.08×165°.52E±0°.10, h24km, mb4.4/20, MS3.9/2, Error ellipse: s-maj=13.9km s-min=11.2km az=177.0*
*AUST **22** 16:27:30.7±30.0, 10°.12S×167°.43E, h194km, Error ellipse: s-maj=2.8km s-min=1.5km az=28.0*
*NEIC **22** 16:27:34.0±0.6, 11°.30S×165°.46E, h35km, mb4.8/12, Error ellipse: s-maj=13.3km s-min=11.0km az=97.0*

ISC 22 16:27:32.3±0.7, 11°.35S±0°.09×165°.6E±0°.1, h24km, n51, σ1°.38/48, mb4.5/20, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	10.69	176	Pn	Pn	16 30 05.1	+1.0
DZM	Mont Dzumac	10.69	176	Pn	Pn	16 30 05.1	+1.0
	4.6nm,0.3s,baz=342,slow=16,SNR=9.3						
DZM	Mont Dzumac	10.69	176	eSn	Pn	16 30 05.3	+1.2
	35nm,0.5s						
MANU	Manus Island	20.30	296	P	Pn	16 32 07.8	-1.0
	baz=22,SNR=3.7						
CTA	Charters Tower	20.52	243	P	P	16 32 08.9	-0.1
CTA	Charters Tower	20.52	243	P	P	16 32 08.9	-0.1
	26nm,1.0s,baz=67,slow=13,SNR=8.4						
CTAO	Charters Tower	20.52	243	ePn	P	16 32 08.9	-0.1
	25nm,0.9s						
MTSU	Mount Surprise	21.63	249	P	P	16 32 25.9	+4.8
	baz=24,SNR=5.0						
RMQ	Roma	21.87	224	P	P	16 32 25.9	+2.5
	baz=24,SNR=5.3						
COEN	Coen	22.02	261	P	P	16 32 25.8	+0.6
	baz=24,SNR=4.1						
ARMA	Armidale	22.97	212	eP	P	16 32 37.0	+1.6
	74nm,1.9s						
ARMA	Armidale	22.97	212	P	P	16 32 37.4	+2.0
	baz=25,SNR=4.3						
QLP	Quilpie	25.18	230	P	P	16 32 56.6	+0.5
	baz=27,SNR=3.6						
STKA	Stephens Creek	30.11	224	eP	P	16 33 39.0	-1.2
	0.8nm,0.8s						
STKA	Stephens Creek	30.11	224	P	P	16 33 41.8	+1.5
	baz=32,SNR=4.2						
STKA	Stephens Creek	30.11	224	P	P	16 33 41.0	+0.8
	3.1nm,0.8s,baz=55,slow=6.7,SNR=4.3						
WRAB	Tennant Creek	31.22	250	eP	P	16 33 49.6	-0.6
	20nm,1.2s						
WRA	Warramunga Arr	31.23	250	P	P	16 33 49.5	-0.8
WRA	Warramunga Arr	31.23	250	P	P	16 33 49.5	-0.8
	12nm,1.0s,baz=80,slow=9.0,SNR=13						
ASAR	Alice Springs	32.51	244	P	P	16 34 00.9	-0.7
ASAR	Alice Springs	32.51	244	P	P	16 34 00.9	-0.7
	2.0nm,0.8s,baz=74,slow=9.2,SNR=6.9						
TAU	Tasmania Unive	35.22	204	P	P	16 34 22.7	-2.1
FITZ	Fitzroy Crossi	39.15	255	P	P	16 34 58.1	-0.4
FITZ	Fitzroy Crossi	39.15	255	P	P	16 34 58.6	+0.1
	baz=41,SNR=3.7						
FITZ	Fitzroy Crossi	39.15	255	P	P	16 34 58.1	-0.4
	5.9nm,1.0s,baz=97,slow=7.8,SNR=4.3						
MIDW	Midway	42.66	22	P	P	16 35 31.1	+4.0
	129nm,1.1s						
PPT	Papeete	43.78	104	LR	LR	16 50 41.8	
	comp=Z,154nm,19.3s,baz=353,slow=32						
MBWA	Marble Bar	44.95	251	eP	P	16 35 45.9	+0.1
	14nm,1.0s						
KKM	Kota Kinabalu	52.08	287	P	P	16 36 40.1	-0.8
	10nm,1.0s						
KKM	Kota Kinabalu	52.08	287	P	P	16 36 43.5	+2.6
	baz=54,SNR=3.7						
VNDA	Vanda	66.18	181	P	P	16 38 18.6	+1.1
	6.6nm,1.4s						
VNDA				P	pP	16 38 20.6	-4.6
SBA	Scott Base	66.49	180	eP	P	16 38 21.3	+1.8
	4.7nm,1.1s						
KULM	Kulim	66.68	281	P	P	16 38 20.5	-1.3
	12nm,1.2s						
CMAR	Chiang Mai Arr	72.09	294	P	P	16 38 55.9	+0.6
CMAR	Chiang Mai Arr	72.09	294	P	P	16 38 55.9	+0.6
	1.1nm,0.8s,baz=120,slow=4.2,SNR=5.4						
CMAR				LR	LR	17 07 48.8	
	comp=Z,54nm,19.0s,baz=110,slow=34						

CHTO	Chiang Mai	72.20 294	eP	P	16 38 55.4	-0.5
	29nm,1.4s					
QSPA	South Pole Qui	78.65 180	eP	P	16 39 32.8	+0.6
	4.8nm,1.0s					
QSPA	South Pole Qui	78.65 180	P	P	16 39 32.8	+0.6
	1.5nm,0.9s					
SONM	Songino Array	78.82 324	P	P	16 39 35.9	+2.5
SONM	Songino Array	78.82 324	P	P	16 39 35.9	+2.5
	0.4nm,0.8s,baz=118,slow=5.2,SNR=2.6					
ILAR	Eielson Array	83.85 19	P	P	16 39 58.6	-0.9
ILAR	Eielson Array	83.85 19	P	P	16 39 58.6	-0.9
	1.1nm,0.6s,baz=231,slow=5.0,SNR=7.4					
MAW	Mawson	84.38 202	P	P	16 40 01.7	-0.6
MAW	Mawson	84.38 202	P	P	16 40 01.7	-0.6
	2.3nm,0.9s,baz=99,slow=8.3,SNR=4.6					
NVAR	Mina Array Bea	86.34 50	P	P	16 40 12.8	-0.2
NVAR	Mina Array Bea	86.34 50	P	P	16 40 12.8	-0.2
	0.4nm,0.5s,baz=235,slow=4.3,SNR=3.3					
MK31	Makanchi Array	93.64 317	P	P	16 40 45.2	-1.6
MKAR	Makanchi Array	93.64 317	P	P	16 40 46.3	-0.5
MKAR	Makanchi Array	93.64 317	P	P	16 40 46.3	-0.5
	0.6nm,0.7s,baz=93,slow=5.8,SNR=3.8					
TORD	Torodi Ar. Bea	164.16 278	PKP	PKPdf	16 47 35.9	+1.1
TORD	Torodi Ar. Bea	164.16 278	PKP	PKPdf	16 47 35.9	+1.1
	0.3nm,0.8s,baz=108,slow=3.2,SNR=2.2					

*IDC **22** 16:28:21.4±0.9, 11°.20S×165°.77E, h0km, mb4.3/13, mb1 4.5/14, mb1mx4.3/23, mbtmp4.4/14, ML4.5/1, Error ellipse: s-maj=28.3km s-min=20.2km az=119.0*
*ISCJB **22** 16:28:24.5±0.6, 11°.33S±0°.06×165°.65E±0°.10, h30km, mb4.4/19, Error ellipse: s-maj=13.7km s-min=8.3km az=173.2*
*NEIC **22** 16:28:26.9±0.5, 11°.26S×165°.64E, h35km, mb4.5/10, Error ellipse: s-maj=12.7km s-min=9.7km az=111.0*

ISC 22 16:28:26.1±0.7, 11°.25S±0°.07×165°.7E±0°.1, h30km, n41, σ0°.78/41, mb4.4/19, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	10.79	176	Pn	Pn	16 30 59.4	+0.7
DZM				Sn	Sn	16 32 57.8	-0.7
DZM	Mont Dzumac	10.79	176	Pn	Pn	16 30 59.4	+0.7
	3.4nm,0.3s,baz=336,slow=18,SNR=3.3						
DZM				Sn	Sn	16 32 57.8	-0.7
	0.2nm,0.3s,baz=0.0,slow=20,SNR=2.5						
PMG	Port Moresby	18.30	274	P	P	16 32 37.1	-0.8
	38nm,1.3s						
CTA	Charters Tower	20.64	242	P	Pn	16 33 05.1	-0.7
CTA	Charters Tower	20.64	242	P	Pn	16 33 05.1	-0.7
	12nm,0.9s,baz=78,slow=16,SNR=3.9						
CTAO	Charters Tower	20.64	242	ePn	P	16 33 03.7	+0.3
	32nm,1.1s						
ARMA	Armidale	23.10	212	P	P	16 33 30.3	+0.5
	18nm,1.2s						
STKA	Stephens Creek	30.24	224	eP	P	16 34 34.7	+0.3
	1.2nm,0.8s						
STKA	Stephens Creek	30.24	224	P	P	16 34 35.6	+1.2
	4.3nm,0.7s,baz=54,slow=9.4,SNR=7.3						
WRAB	Tennant Creek	31.33	250	eP	P	16 34 43.5	-0.7
	11nm,0.9s						
WRA	Warramunga Arr	31.34	250	P	P	16 34 44.2	-0.1
WRA	Warramunga Arr	31.34	250	P	P	16 34 44.2	-0.1
	9.9nm,0.8s,baz=80,slow=9.3,SNR=9.5						
ASAR	Alice Springs	32.63	244	P	P	16 34 55.0	-0.7
ASAR	Alice Springs	32.63	244	P	P	16 34 55.0	-0.7
	2.7nm,0.8s,baz=76,slow=9.1,SNR=7.0						
FITZ	Fitzroy Crossi	39.25	255	P	P	16 35 52.7	+0.3
FITZ	Fitzroy Crossi	39.25	255	P	P	16 35 52.7	+0.3
	5.3nm,1.0s,baz=68,slow=7.3,SNR=3.6						
MBWA	Male Bar	45.06	251	eP	P	16 36 37.6	-2.1
	18nm,1.2s						
VNDA	Vanda	66.29	181	P	P	16 39 10.7	-0.4
	2.1nm,0.9s						
ENH	Enshi	67.97	309	P	P	16 39 22.4	-0.3
CM31	Chiang Mai Arr	72.12	294	eP	P	16 39 50.1	+1.8
	3.7nm,0.9s						
CMAR	Chiang Mai Arr	72.12	294	P	P	16 39 50.0	+1.6
CMAR	Chiang Mai Arr	72.12	294	P	P	16 39 50.0	+1.6
	2.6nm,0.8s,baz=122,slow=4.2,SNR=8.9						
CHTO	Chiang Mai	72.24	294	P	P	16 39 49.2	+0.1
	14nm,1.0s						
QSPA	South Pole Qui	78.75	180	P	P	16 40 25.9	+0.2
QSPA	South Pole Qui	78.75	180	P	P	16 40 25.9	+0.2
	4.4nm,1.0s						
SONM	Songino Array	78.79	324	P	P	16 40 26.9	+0.8
SONM	Songino Array	78.79	324	P	P	16 40 26.9	+0.8
	1.5nm,1.1s,baz=134,slow=6.4,SNR=4.5						
COLA	College	83.50	18	P	P	16 40 50.3	-0.4
	41nm,1.0s						
ILAR	Eielson Array	83.73	19	P	P	16 40 51.4	-0.5
ILAR	Eielson Array	83.73	19	P	P	16 40 51.4	-0.5
	1.5nm,0.7s,baz=226,slow=6.6,SNR=5.2						
MAW	Mawson	84.50	202	P	P	16 40 56.4	+0.5
MAW	Mawson	84.50	202	P	P	16 40 56.4	+0.5
	4.6nm,0.9s,baz=109,slow=5.8,SNR=7.3						
NVAR	Mina Array Bea	86.21	50	P	P	16 41 04.7	-0.6
NVAR	Mina Array Bea	86.21	50	P	P	16 41 04.7	-0.6
	0.9nm,0.8s,baz=234,slow=7.6,SNR=3.5						
MK31	Makanchi Array	93.62	317	eP	P	16 41 40.1	+0.5
MKAR	Makanchi Array	93.62	317	P	P	16 41 39.1	-0.5
MKAR	Makanchi Array	93.62	317	P	P	16 41 39.1	-0.5
	1.7nm,0.9s,baz=107,slow=6.7,SNR=6.1						
ZALV	Zalesovo Beam	93.68	324	P	P	16 41 39.3	-0.4
ZALV	Zalesovo Beam	93.68	324	P	P	16 41 39.3	-0.4
	0.8nm,0.7s,baz=88,slow=6.7,SNR=4.2						
TORD	Torodi Ar. Bea	164.22	279	PKP	PKPdf	16 48 28.0	+0.3
TORD	Torodi Ar. Bea	164.22	279	PKP	PKPdf	16 48 28.0	+0.3
	0.8nm,0.9s,baz=64,slow=1.0,SNR=3.1						

*ISCJB **22** 16:33:35.7±0.5, 42°.79S±0°.07×124°.5E±0°.2, h10km, mb4.2/12, Error ellipse: s-maj=17.6km s-min=9.4km az=6.2*
*IDC **22** 16:33:36.4±0.9, 42°.77S×124°.73E, h0km, mb3.8/6, mb1 4.0/8, mb1mx3.9/18, mbtmp3.9/8, ML3.8/1, MS3.6/1, Ms1 3.6/1, ms1mx2.9/23, Error ellipse: s-maj=38.5km s-min=17.9km az=90.0*
*NEIC **22** 16:33:37.3±0.6, 42°.81S×124°.57E, h10km, mb4.5/9, Error ellipse: s-maj=18.9km s-min=10.4km az=94.0*

ISC 22 16:33:37.3±0.6, 42°.81S±0°.08×124°.5E±0°.1, h10km, n29, σ1°.25/26, mb4.3/12, South of Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W1	Cape Leeuwin H	11.29	311	T	T	16 47 59.5	
	baz=133,slow=0.7,SNR=3.4						
H01W2	Cape Leeuwin H	11.30	311	T	T	16 47 58.0	
	baz=133,slow=0.7,SNR=3.8						
H01W3	Cape Leeuwin H	11.31	311	T	T	16 48 01.1	
	baz=133,slow=0.7,SNR=4.4						
NWAO	Narrogin (SRO)	11.41	327	Pn	Pn	16 36 19.2	-1.1
NWAO	Narrogin (SRO)	11.41	327	Pn	Pn	16 36 19.2	-1.1
	0.7nm,0.3s,baz=144,slow=13,SNR=9.7						
NWAO				LR	LR	16 39 51.4	
	comp=Z,317nm,20.7s,baz=216,slow=33						
STKA	Stephens Creek	17.39	57	Pn	Pn	16 37 39.0	-1.0
	1.2nm,0.9s						
STKA	Stephens Creek	17.39	57	P	Pn	16 37 39.4	-0.6
	0.2nm,0.3s,baz=212,slow=15,SNR=3.9						
ASAR	Alice Springs	20.62	25	P	P	16 38 16.2	-0.5
ASAR	Alice Springs	20.62	25	P	P	16 38 16.2	-0.5
	0.6nm,0.9s,baz=198,slow=12,SNR=4.8						
MBWA	Marble Bar	21.95	348	P	P	16 38 31.8	+0.6
WRA	Warramunga Arr	24.25	23	P	P	16 38 53.4	-1.2
WRA	Warramunga Arr	24.25	23	P	P	16 38 53.4	-1.2
	3.7nm,0.9s,baz=199,slow=9.7,SNR=10						
WRAB	Tennant Creek	24.27	23	P	P	16 38 53.2	-1.4
	4.4nm,1.0s						
FITZ	Fitzroy Crossi	24.65	3	P	P	16 38 58.5	+0.4
FITZ	Fitzroy Crossi	24.65	3	P	P	16 38 58.5	+0.4
	3.3nm,1.1s,baz=172,slow=14,SNR=2.7						
CASY	Casey	24.76	193	P	P	16 38 56.1	-2.6
	22nm,1.4s						
VNDA	Vanda	37.99	168	eP	P	16 40 55.1	+0.3
	2.6nm,0.8s						
VNDA	Vanda	37.99	168	P	P	16 40 55.5	+0.7
	2.2nm,0.7s,baz=318,slow=9.2,SNR=8.7						
SBA	Scott Base	39.00	167	eP	P	16 41 05.1	+1.8
	3.6nm,1.0s						
QSPA	South Pole Qui	47.32	180	eP	P	16 42 11.2	+0.4
	6.7nm,1.1s						
QSPA	South Pole Qui	47.32	180	P	P	16 42 11.4	+0.5
	3.2nm,1.0s						

SNAA	Sanae	59.93	197	eP	P	16 43 43.2	+0.1
	6.3nm,1.1s						
CM31	Chiang Mai Arr	65.35	333	P	P	16 44 21.5	+1.8
	2.8nm,0.8s						
CMAR	Chiang Mai Arr	65.35	333	P	P	16 44 21.8	+2.0
CMAR	Chiang Mai Arr	65.35	333	P	P	16 44 21.8	+2.0
	1.1nm,0.9s,baz=176,slow=5.6,SNR=11						
LSA	Lhasa	78.40	331	eP	P	16 45 39.7	+1.2
	6.8nm,1.2s						
LSZ	Lusaka	84.31	255	P	P	16 46 08.3	-1.6
	3.2nm,0.8s						
TORD	Torodi Ar. Bea	122.79	257	PKP	PKPdf	16 52 34.0	+0.2
TORD	Torodi Ar. Bea	122.79	257	PKP	PKPdf	16 52 34.0	+0.2
	1.0nm,1.0s,baz=106,slow=1.8,SNR=4.6						

IDC 22 16:36:26.1±1.9, 11°.20S×165°.56E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.5/20, mbtmp3.7/4, ML3.9/1, Error ellipse: s-maj=53.4km s-min=33.4km az=126.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	10.84	176	Pn	Pn	16 39 03.0	+0.2
	1.0nm,0.3s,baz=302,slow=18,SNR=8.1						
WRA	Warramunga Arr	31.25	250	P	P	16 42 48.0	+0.1
	1.2nm,0.8s,baz=82,slow=8.9,SNR=6.4						
ASAR	Alice Springs	32.56	243	P	P	16 42 59.0	-0.3
	0.3nm,0.7s,baz=67,slow=10,SNR=4.0						
ILAR	Eielson Array	83.72	19	P	P	16 48 56.6	0.0
	0.3nm,0.6s,baz=227,slow=5.6,SNR=4.6						

*AUST **22** 17:03:37.1±9.6, 5°.22S×130°.33E, h602km, Error ellipse: s-maj=4.0km s-min=1.5km az=233.0*
*IDC **22** 17:03:46.5±2.1, 6°.67S×128°.88E, h0km, mb3.4/1, mb1 3.4/3, mb1mx3.2/19, mbtmp3.2/3, ML3.0/2, Error ellipse: s-maj=143.4km s-min=31.6km az=67.0*

ISC 22 17:03:45.8±1.0, 6°.60S±0°.08×128°.85E±0°.08, h10km, n12, σ1°.92/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLE	Tual	3.98	76	P	Pb	17 04 54.9	-1.2
	baz=2.4,SNR=9.0						
FAKI	Fak Fak	4.98	43	P	Pn	17 04 57.2	-3.6
	baz=3.0,SNR=4.3						
SOEI	Soe	5.52	235	P	Pg	17 05 31.8	+0.2
	baz=7.5,SNR=3.6						
MTN	Manton Dam	6.60	160	P	Pn	17 05 30.0	+7.0
	baz=7.7,SNR=5.9						
KDU	Kakadu	7.02	150	P	Pn	17 05 34.1	+5.3
	baz=7.8,SNR=25						
LUWI	Luwuk	8.20	312	P	Pn	17 05 43.1	-1.9
	baz=8.6,SNR=3.9						
WSI	Waingapu	9.00	250	P	Pn	17 05 54.8	-1.1
	baz=11,SNR=3.6						
KNRA	Kununurra	9.02	181	P	Pn	17 06 04.8	+8.6
	baz=11,SNR=6.3						
FITZ	Fitzroy Crossi	11.86	195	Sn	Sn	17 08 45.9	-1.6
	0.1nm,0.3s,baz=127,slow=20,SNR=3.0						
WRA	Warramunga Arr	14.29	159	Pn	Pn	17 07 09.7	+1.2
	0.1nm,0.3s,baz=341,slow=13,SNR=9.4						
WRA				Sn	Sn	17 09 34.3	-13
	0.2nm,0.3s,baz=329,slow=24,SNR=6.9						
ASAR	Alice Springs	17.65	165	P	P	17 07 52.9	-0.1
	0.0nm,0.3s,baz=349,slow=11,SNR=3.9						
MKAR	Makanchi Array	67.27	327	P	P	17 14 43.5	+2.8
	0.2nm,0.4s,baz=124,slow=7.3,SNR=2.9						

IDC 22 17:08:53.7±34.0, 14°.95N×54°.78E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.3/27, mbtmp3.6/3, Error ellipse: s-maj=682.5km s-min=63.2km az=53.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N2	Diego Garcia H	26.56	142	T	T	17 41 39.5	
	baz=323,slow=0.7,SNR=72						
H08N3	Diego Garcia H	26.57	142	T	T	17 41 40.2	
	baz=323,slow=0.7,SNR=73						
H08N1	Diego Garcia H	26.58	142	T	T	17 41 47.9	
	baz=323,slow=0.7,SNR=93						
MKAR	Makanchi Array	39.17	30	P	P	17 16 23.5	+0.2
	0.4nm,0.5s,baz=214,slow=8.9,SNR=5.7						
CMAR	Chiang Mai Arr	42.37	79	P	P	17 16 49.9	-0.2
	0.9nm,0.9s,baz=280,slow=10,SNR=5.0						
ZALV	Zalesovo Beam	45.46	25	P	P	17 17 13.9	-0.4
	0.4nm,0.4s,baz=232,slow=7.3,SNR=3.8						
H01W3	Cape Leeuwin H	74.99	133	T	T	18 42 02.0	
	baz=301,slow=0.7,SNR=20						
H01W2	Cape Leeuwin H	74.99	133	T	T	18 42 03.4	
	baz=301,slow=0.7,SNR=19						
H01W1	Cape Leeuwin H	75.00	133	T	T	18 42 02.8	
	baz=301,slow=0.7,SNR=17						

DJA 22 17:23:56.9±1.2, 0°.N±5°×12°.4E±°, h62km±12km, M3.6/5, MLv3.6/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	Cibinong	0.27	60	P	Pn	17 24 07.9	+0.9
KMSI				S	Sn	17 24 17.5	+3.2
LUWI	Luwuk	1.77	214	P	Pn	17 24 24.3	-1.0
LUWI				S	Sn	17 24 48.2	+1.5
MRSI	Marisa	1.81	271	P	Pn	17 24 26.6	+0.8
MRSI				S	Sn	17 24 48.9	+1.1
APSI	Ampana	2.49	237	P	Pn	17 24 34.9	-0.2
TOLI	Toli-Toli	3.03	283	P	Pn	17 24 43.8	+1.3
TOLI				S	Sn	17 25 18.1	+0.5

IDC 22 17:33:45.9±4.0, 14°.65N×54°.32E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/26, mbtmp3.7/5, MS3.2/3, Ms1 3.2/3, ms1mx2.8/44, Error ellipse: s-maj=102.5km s-min=40.6km az=82.0, Owen Fracture Zone region

| Code | Station Name | Δ° | AZ° | Phase | ID

DYDN	**Diyadin**	**0.50**	**351**	*i* P	**Pg**	**17**	**35**	**00.2**	**0.0**
DYDN				*i* S	**Sb**	**17**	**35**	**08.7**	**-0.5**
DYDN	**Diyadin**	**0.50**	**351**	*i* P	**Pg**	**17**	**35**	**00.2**	**0.0**
DYDN				*i* S	**Sb**	**17**	**35**	**08.7**	**-0.5**
AGRB	**Hanur-Agry**	**0.81**	**311**	*e*PG	**Pg**	**17**	**35**	**05.2**	**-0.9**
AGRB				*e*SG	**Sg**	**17**	**35**	**17.2**	**+0.5**
AGRB	**Hanur-Agry**	**0.81**	**311**	*e*Pg	**Pg**	**17**	**35**	**05.2**	**-0.9**
AGRB				*e*Sg	**Sg**	**17**	**35**	**17.2**	**+0.5**
TUTA	**Tutak**	**0.84**	**295**	*i* P	**Pb**	**17**	**35**	**06.8**	**-0.6**
TUTA				*i* S	**Sb**	**17**	**35**	**18.8**	**-0.1**
TUTA	**Tutak**	**0.84**	**295**	*i* P	**Pb**	**17**	**35**	**06.8**	**-0.6**
TUTA				*i* S	**Sb**	**17**	**35**	**18.8**	**-0.1**
EATA	**Eleskirt**	**1.29**	**309**	*i* P	**Pg**	**17**	**35**	**16.0**	**+0.8**
EATA				*i* S	**Sn**	**17**	**35**	**35.5**	**+2.7**
EATA	**Eleskirt**	**1.29**	**309**	*i* P	**Pg**	**17**	**35**	**16.0**	**+0.8**
TATV	**Tatvan**	**1.31**	**246**	*e*P	**Pg**	**17**	**35**	**15.1**	**-0.4**
TATV				*e*S	**Sn**	**17**	**35**	**32.8**	**-0.2**
TATV	**Tatvan**	**1.31**	**246**	*e*P	**Pg**	**17**	**35**	**15.1**	**-0.4**
TATV				*e*S	**Sn**	**17**	**35**	**32.8**	**-0.2**
GNI	**Garni**	**1.32**	**33**	*e*PG	**Pn**	**17**	**35**	**15.0**	**-0.4**
GNI	**Garni**	**1.32**	**33**	*e*Pg	**Pn**	**17**	**35**	**15.0**	**-0.4**
HAKT	**HAKKARI**	**1.49**	**183**	*i* P	**Pn**	**17**	**35**	**17.4**	**-0.4**
HAKT				*e*S	**Sg**	**17**	**35**	**40.3**	**+2.0**
HAKT	**HAKKARI**	**1.49**	**183**	*i* P	**Pn**	**17**	**35**	**17.4**	**-0.4**

*ISCJB **22** 17:47:22.6±0.5, 14.8N±0.1×55.0E±0.1, h10km, mb4.0/13, MS3.1/6, Error ellipse: s-maj=19.8km s-min=11.1km az=36.9*
*IDC **22** 17:47:22.9±0.7, 14.74N×55.06E, h0km, mb3.9/13, mb1 4.1/13, mb1mx3.8/29, mbtmp3.9/13, MS3.2/7, Ms1 3.2/7, ms1mx2.9/39, Error ellipse: s-maj=24.9km s-min=15.4km az=128.0*
*NEIC **22** 17:47:24.2±0.5, 14.74N×55.05E, h10km, mb4.5/3, Error ellipse: s-maj=17.2km s-min=9.9km az=127.0*

ISC 22 17:47:24.4±0.7, 14.8N±0.1×55.0E±0.1, h10km, n41, σ0s87/30, mb3.9/13, MS3.1/6, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s	ISC
ATD	**Arta Tunnel**	**12.29**	**256**	LR	LR	17	53	57.8	
	comp=Z,173nm,18.3s,baz=58,slow=32								
KMBO	**Kilima Mbogo**	**23.64**	**230**	*e*P	**P**	**17**	**52**	**36.4**	**+0.1**
	20nm,1.6s								
KMBO	**Kilima Mbogo**	**23.64**	**230**	P	**P**	**17**	**52**	**37.0**	**+0.7**
	2.3nm,0.8s,baz=50,slow=23,SNR=6.3								
ASF	**Jabal al Asfar**	**23.96**	**319**	LR	LR	18	02	36.0	
	comp=Z,32nm,20.6s,baz=358,slow=38								
MMAI	**Mount Meron Ar**	**25.47**	**319**	LR	LR	18	03	34.8	
	comp=Z,42nm,18.2s,baz=350,slow=38								
H08N2	**Diego Garcia H**	**26.25**	**142**	T	T	18	20	08.6	
	baz=323,slow=0.7,SNR=173								
H08N3	**Diego Garcia H**	**26.27**	**142**	T	T	18	20	09.3	
	baz=323,slow=0.7,SNR=168								
H08N1	**Diego Garcia H**	**26.28**	**142**	T	T	18	20	10.9	
	baz=323,slow=0.7,SNR=157								
GNI	**Garni**	**26.86**	**342**	LR	LR	18	05	19.0	
	comp=Z,49nm,19.1s,baz=126,slow=40								
KBZ	**Khabaz**	**30.68**	**343**	LR	LR	18	07	35.4	
	comp=Z,47nm,19.4s,baz=196,slow=40								
MK31	**Makanchi Array**	**39.22**	**30**	*e*P	**P**	**17**	**54**	**53.1**	**+0.3**
MKAR	**Makanchi Array**	**39.22**	**30**	P	**P**	**17**	**54**	**53.4**	**+0.5**
MKAR	**Makanchi Array**	**39.22**	**30**	P	**P**	**17**	**54**	**53.4**	**+0.5**
	0.6nm,0.5s,baz=213,slow=8.3,SNR=11								
MKAR				LR	LR	18	12	28.2	
	comp=Z,36nm,18.6s,baz=215,slow=38								
KURBB	**Kurchatov Arra**	**40.52**	**23**	P	**P**	**17**	**55**	**03.7**	**+0.2**
	0.7nm,0.7s,baz=224,slow=8.1,SNR=11								
KURK	**Kurchatov**	**40.62**	**23**	P	**P**	**17**	**55**	**03.7**	**-0.7**
CMAR	**Chiang Mai Arr**	**42.16**	**79**	P	**P**	**17**	**55**	**18.4**	**+0.8**
CMAR	**Chiang Mai Arr**	**42.16**	**79**	P	**P**	**17**	**55**	**18.4**	**+0.8**
	1.1nm,0.8s,baz=278,slow=9.1,SNR=12								
ZAA0	**Zalesovo Array**	**45.54**	**24**	*e*P	**P**	**17**	**55**	**43.8**	**-0.4**
ZALV	**Zalesovo Beam**	**45.54**	**24**	P	**P**	**17**	**55**	**43.8**	**-0.4**
ZALV	**Zalesovo Beam**	**45.54**	**24**	P	**P**	**17**	**55**	**43.8**	**-0.4**
	1.8nm,0.6s,baz=231,slow=7.4,SNR=8.1								
ZALV				LR	LR	18	14	53.6	
	comp=Z,30nm,20.3s,baz=34,slow=36								
LBTB	**Lobatse**	**48.85**	**216**	*e*P	**P**	**17**	**56**	**11.7**	**+1.3**
	7.9nm,0.8s								
LBTB	**Lobatse**	**48.85**	**216**	P	**P**	**17**	**56**	**11.3**	**+0.8**
	6.0nm,0.7s,baz=50,slow=7.6,SNR=7.5								
FINES	**FINESS Array B**	**51.05**	**343**	P	**P**	**17**	**56**	**26.3**	**-0.2**
FINES	**FINESS Array B**	**51.05**	**343**	P	**P**	**17**	**56**	**26.3**	**-0.2**
	3.5nm,1.0s,baz=162,slow=8.0,SNR=5.9								
TORD	**Torodi Ar. Bea**	**51.69**	**275**	P	**P**	**17**	**56**	**31.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**51.69**	**275**	P	**P**	**17**	**56**	**31.9**	**-0.2**
	0.7nm,1.0s,baz=94,slow=6.4,SNR=4.8								
BOSA	**Boshof**	**51.85**	**214**	P	**P**	**17**	**56**	**32.4**	**-0.8**
	5.4nm,0.8s								
BOSA	**Boshof**	**51.85**	**214**	P	**P**	**17**	**56**	**33.3**	**+0.1**
	2.6nm,0.5s,baz=122,slow=4.2,SNR=6.3								
SONM	**Songino Array**	**53.56**	**41**	P	**P**	**17**	**56**	**46.4**	**+0.8**
SONM	**Songino Array**	**53.56**	**41**	P	**P**	**17**	**56**	**46.4**	**+0.8**
	1.2nm,0.9s,baz=258,slow=4.4,SNR=6.3								
ARCES	**ARCESS Array B**	**57.79**	**348**	P	**P**	**17**	**57**	**14.6**	**-0.9**
ARCES	**ARCESS Array B**	**57.79**	**348**	P	**P**	**17**	**57**	**14.6**	**-0.9**
	4.4nm,1.0s,baz=134,slow=5.2,SNR=5.2								
H01W3	**Cape Leeuwin H**	**74.67**	**133**	T	T	19	20	33.0	
	baz=301,slow=0.7,SNR=34								
H01W2	**Cape Leeuwin H**	**74.68**	**133**	T	T	19	20	33.0	
	baz=301,slow=0.7,SNR=39								
H01W1	**Cape Leeuwin H**	**74.69**	**133**	T	T	19	20	34.1	
	baz=301,slow=0.7,SNR=40								
WRA	**Warramunga Arr**	**85.23**	**112**	P	**P**	**18**	**00**	**00.1**	**-1.7**
WRA	**Warramunga Arr**	**85.23**	**112**	P	**P**	**18**	**00**	**00.1**	**-1.7**
	0.8nm,1.0s,baz=296,slow=4.0,SNR=4.2								
ASAR	**Alice Springs**	**85.97**	**116**	P	**P**	**18**	**00**	**04.1**	**-1.4**
ASAR	**Alice Springs**	**85.97**	**116**	P	**P**	**18**	**00**	**04.1**	**-1.4**
	0.6nm,0.8s,baz=292,slow=4.8,SNR=6.0								
NVAR	**Mina Array Bea**	**126.73**	**353**	PKP	**PKPdf**	**18**	**06**	**29.6**	**+0.7**
NVAR	**Mina Array Bea**	**126.73**	**353**	PKP	**PKPdf**	**18**	**06**	**29.6**	**+0.7**
	0.7nm,0.8s,baz=45,slow=2.3,SNR=4.0								

CASC 22 17:47:56.4±1.8, 13.05N×89.17W, h32km±4km, MD3.5, 4C-7D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
LFRS	**El Faro**	**0.58**	**10**	⇓*i*P	Pb	17	48	08.0	-0.4
SNVI	**San Vicente**	**0.64**	**30**	*i* P	Pb	17	48	08.9	-0.6
SNVI				*e*S	Sn	17	48	19.2	+0.4
BOQS	**Boqueron**	**0.69**	**351**	⇑*i*P	Pn	17	48	09.8	-0.5
BOQS				*e*S	Sn	17	48	21.2	+1.1
LBRS	**Las Brisas**	**0.69**	**10**	⇓*i*P	Pn	17	48	09.8	-0.3
LFU	**La Fuente**	**0.69**	**4**	⇓*i*P	Pn	17	48	09.8	-0.4
SBLS	**San Blas**	**0.90**	**330**	⇓*i*P	Pn	17	48	12.6	-0.6
SBLS				*e*S	Sb	17	48	26.3	+0.4
SNJE	**San Jose**	**0.92**	**332**	⇓*i*P	Pn	17	48	12.8	-0.6
SNJE				*e*S	Sn	17	48	25.9	+0.2
VSM	**San Miguel**	**0.94**	**67**	⇑*i*P	Pn	17	48	13.6	-0.2
RTR	**El Retiro**	**0.96**	**331**	⇓*i*P	Pn	17	48	13.6	-0.4
RTR				*e*S	Sb	17	48	27.5	0.0
BLLM	**Bellamira**	**0.98**	**67**	*e*P	Pn	17	48	13.9	-0.2
BLLM				*e*S	Sb	17	48	28.4	+0.6
RBDL	**Robledal**	**1.17**	**334**	⇓*i*P	Pn	17	48	16.4	-0.5
CAHU	**Cacacuatique**	**1.17**	**52**	⇑*i*P	Pn	17	48	17.1	+0.1
CAHU				*e*S	Sn	17	48	32.6	+0.6
CNCH	**Conchagua**	**1.32**	**80**	⇑*i*P	Pn	17	48	18.2	-0.5
CNCH				*e*S	Sn	17	48	36.0	+0.6
IXG	**Ixpaco**	**1.68**	**312**	*e*P	Pn	17	48	23.8	-0.1
IXG				*e*S	Sn	17	48	43.3	-1.1
NBG	**Las Nubes**	**1.91**	**323**	*e*P	Pb	17	48	29.6	-1.4
MRL	**Marmol**	**2.07**	**346**	*e*P	Pn	17	48	29.7	+0.5
FUG	**Fuego 3**	**2.14**	**311**	*e*P	Pn	17	48	31.1	+0.9

*IDC **22** 18:01:58.6±0.8, 11.24S×165.54E, h0km, mb4.1/13, mb1 4.3/14, mb1mx4.2/22, mbtmp4.1/14, ML4.6/1, MS3.4/2, Ms1 3.4/2, ms1mx3.2/24, Error ellipse: s-maj=27.4km s-min=18.7km az=122.0*
*ISCJB **22** 18:02:00.8±0.6, 11.40S±0.06×165.56E±0.07, h24km, mb4.2/15, MS3.4/2, Error ellipse: s-maj=11.2km s-min=7.9km az=150.0*
*NEIC **22** 18:02:05.0±1.8, 11.35S×165.59E, h44km±15km, mb4.5/4, Error ellipse: s-maj=13.3km s-min=9.0km az=46.0*

ISC 22 18:02:02.7±0.6, 11.31S±0.07×165.58E±0.08, h24km, n44, σ1s03/43, mb4.2/15, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
HNR	**Honiara**	**5.85**	**288**	Sn	**Sn**	**18**	**04**	**36.2**	**+1.9**
HNR	**Honiara**	**5.85**	**288**	Sn	**Sn**	**18**	**04**	**36.2**	**+1.9**
	4.5nm,0.3s,baz=180,slow=20,SNR=1.7								
DZM	**Mont Dzumac**	**10.73**	**176**	*e*Pn	**Pn**	**18**	**04**	**35.2**	**+0.1**
	44nm,0.5s								
DZM				*e*LR	LR	18	07	08.8	
	576nm,26.2s								
DZM	**Mont Dzumac**	**10.73**	**176**	Pn	**Pn**	**18**	**04**	**35.1**	**0.0**
DZM				Sn	**Sn**	**18**	**06**	**34.2**	**-0.4**
DZM	**Mont Dzumac**	**10.73**	**176**	Pn	**Pn**	**18**	**04**	**35.1**	**0.0**
	4.7nm,0.3s,baz=332,slow=18,SNR=35								
DZM				Sn	**Sn**	**18**	**06**	**34.2**	**-0.4**
	0.3nm,0.3s,baz=306,slow=19,SNR=2.1								
CTA	**Charters Tower**	**20.54**	**242**	P	**P**	**18**	**06**	**40.0**	**+0.4**
CTA	**Charters Tower**	**20.54**	**242**	P	**P**	**18**	**06**	**40.0**	**+0.4**
	9.1nm,0.8s,baz=82,slow=14,SNR=7.3								
CTAO	**Charters Tower**	**20.54**	**242**	*e*P	**P**	**18**	**06**	**40.5**	**+0.9**
	15nm,0.9s								
COEN	**Coen**	**22.02**	**261**	*e*P	**P**	**18**	**06**	**55.7**	**+0.1**
STKA	**Stephens Creek**	**30.14**	**224**	P	**P**	**18**	**08**	**11.0**	**+0.1**
STKA	**Stephens Creek**	**30.14**	**224**	P	**P**	**18**	**08**	**11.0**	**+0.1**
	5.1nm,0.7s,baz=26,slow=9.5,SNR=18								
WRAB	**Tennant Creek**	**31.23**	**250**	*e*P	**P**	**18**	**08**	**19.4**	**-1.3**
	9.5nm,0.9s								
WRA	**Warramunga Arr**	**31.24**	**250**	P	**P**	**18**	**08**	**19.7**	**-1.1**
WRA	**Warramunga Arr**	**31.24**	**250**	P	**P**	**18**	**08**	**19.7**	**-1.1**
	6.7nm,0.7s,baz=83,slow=9.2,SNR=66								
ASAR	**Alice Springs**	**32.53**	**244**	P	**P**	**18**	**08**	**30.6**	**-1.5**
ASAR	**Alice Springs**	**32.53**	**244**	P	**P**	**18**	**08**	**30.6**	**-1.5**
	2.0nm,0.7s,baz=71,slow=9.6,SNR=27								
RPZ	**Rata Peaks**	**32.63**	**173**	LR	LR	18	17	53.2	
	comp=Z,51nm,21.9s,baz=282,slow=29								
FITZ	**Fitzroy Crossi**	**39.16**	**255**	P	**P**	**18**	**09**	**28.1**	**-0.8**
FITZ	**Fitzroy Crossi**	**39.16**	**255**	P	**P**	**18**	**09**	**28.1**	**-0.8**
	2.6nm,0.7s,baz=110,slow=8.4,SNR=7.1								
PPT2	**Papeete2**	**43.79**	**104**	*e*S	**S**	**18**	**16**	**39.8**	**+3.1**
	60nm,24.2s								
PPT2				*e*LR	LR	18	22	29.0	
	107nm,21.2s								
TBI	**Tubuai**	**44.38**	**112**	*e*LR	LR	18	22	50.0	
	196nm,27.2s								
PETK	**Petropavlovsk-**	**64.51**	**355**	LR	LR	18	43	35.8	
	comp=Z,30nm,18.0s,baz=152,slow=39								
VNDA	**Vanda**	**66.23**	**181**	P	**P**	**18**	**12**	**48.6**	**+0.4**
VNDA	**Vanda**	**66.23**	**181**	P	**P**	**18**	**12**	**48.6**	**+0.4**
	0.6nm,0.7s,baz=8.0,slow=5.2,SNR=5.9								
CMAR	**Chiang Mai Arr**	**72.07**	**294**	P	**P**	**18**	**13**	**25.6**	**+0.1**
CMAR	**Chiang Mai Arr**	**72.07**	**294**	P	**P**	**18**	**13**	**25.6**	**+0.1**
	1.0nm,0.6s,baz=125,slow=5.2,SNR=10								
QSPA	**South Pole Qui**	**78.70**	**180**	*e*P	**P**	**18**	**14**	**03.7**	**+0.8**
	4.1nm,1.0s								
SONM	**Songino Array**	**78.78**	**324**	P	**P**	**18**	**14**	**04.2**	**+0.7**
SONM	**Songino Array**	**78.78**	**324**	P	**P**	**18**	**14**	**04.2**	**+0.7**
	0.3nm,0.7s,baz=99,slow=4.5,SNR=3.2								
ILAR	**Eielson Array**	**83.81**	**19**	P	**P**	**18**	**14**	**29.2**	**-0.5**
ILAR	**Eielson Array**	**83.81**	**19**	P	**P**	**18**	**14**	**29.2**	**-0.5**
	1.2nm,0.7s,baz=235,slow=5.3,SNR=17								
MAW	**Mawson**	**84.42**	**202**	P	**P**	**18**	**14**	**32.9**	**0.0**
MAW	**Mawson**	**84.42**	**202**	P	**P**	**18**	**14**	**32.9**	**0.0**
	1.4nm,0.8s,baz=100,slow=5.8,SNR=5.3								
EGAK	**Eagle**	**85.68**	**20**	*e*P	**P**	**18**	**14**	**39.1**	**0.0**
	8.2nm,0.7s								
NVAR	**Mina Array Bea**	**86.31**	**50**	P	**P**	**18**	**14**	**42.9**	**-0.3**
NVAR	**Mina Array Bea**	**86.31**	**50**	P	**P**	**18**	**14**	**42.9**	**-0.3**
	0.3nm,0.5s,baz=237,slow=8.2,SNR=3.5								
MKAR	**Makanchi Array**	**93.60**	**317**	P	**P**	**18**	**15**	**15.3**	**-1.7**
MKAR	**Makanchi Array**	**93.60**	**317**	P	**P**	**18**	**15**	**15.3**	**-1.7**
	0.5nm,0.8s,baz=84,slow=6.2,SNR=5.1								
ZALV	**Zalesovo Beam**	**93.67**	**324**	P	**P**	**18**	**15**	**15.8**	**-1.3**
ZALV	**Zalesovo Beam**	**93.67**	**324**	P	**P**	**18**	**15**	**15.8**	**-1.3**
	0.3nm,0.5s,baz=103,slow=3.1,SNR=2.6								
ARCES	**ARCESS Array B**	**116.55**	**345**	PKP	**PKPdf**	**18**	**20**	**43.3**	**-0.8**
ARCES	**ARCESS Array B**	**116.55**	**345**	PKP	**PKPdf**	**18**	**20**	**43.3**	**-0.8**
	7.3nm,1.1s,baz=100,slow=1.1,SNR=3.3								
TORD	**Torodi Ar. Bea**	**164.15**	**278**	PKP	**PKPdf**	**18**	**22**	**05.5**	**+0.4**
TORD	**Torodi Ar. Bea**	**164.15**	**278**	PKP	**PKPdf**	**18**	**22**	**05.5**	**+0.4**
	0.5nm,1.0s,baz=150,slow=1.3,SNR=2.9								

*ATH **22** 18:02:17.2, 36.98N×27.99E, h34km±3km, MD3.0/5*
*DDA **22** 18:02:17.6, 36.94N×27.87E, h11km, MD3.0*
*THE **22** 18:02:17.7, 36.97N×27.95E, h8km±2km, ML2.8/2, Error ellipse: s-maj=2.6km s-min=1.0km az=206.0*
*CSEM **22** 18:02:18.0±0.2, 36.95N×27.86E, h10km, MD3.0, Error ellipse: s-maj=4.2km s-min=3.5km az=66.0*

ISC 22 18:02:18.3±1.0, 36.96N±0.02×27.89E±0.02, h12km±9km, n32, σ0s96/53, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
BDRM	**Kayabasi**	**0.37**	**286**	*i* P	**Pg**	**18**	**02**	**25.0**	**-0.7**
BDRM				*i* S	**Sg**	**18**	**02**	**31.3**	**+0.5**
BDRM	**Kayabasi**	**0.37**	**286**	*i* P	**Pg**	**18**	**02**	**25.0**	**-0.7**
BDRM				*i* S	**Sg**	**18**	**02**	**31.3**	**+0.5**
TURN	**Turunc**	**0.58**	**99**	*i* P	Pg	18	02	23.9	-5.6
TURN				*i* S	Sg	18	02	29.8	-7.4
NIS1	**Nisyros Isl.**	**0.68**	**238**	P	**Pg**	**18**	**02**	**31.7**	**+0.3**
NIS1				S	**Sb**	**18**	**02**	**42.8**	**+1.5**
NIS1	**Nisyros Isl.**	**0.68**	**238**	*e*PN	**Pg**	**18**	**02**	**31.4**	**0.0**
NIS1				*e*SN	**Sb**	**18**	**02**	**43.4**	**+2.1**
NIS1	**Nisyros Isl.**	**0.68**	**238**	*e*Pn	**Pg**	**18**	**02**	**31.4**	**0.0**
NIS1	**Nisyros Isl.**	**0.68**	**238**	P	**Pg**	**18**	**02**	**31.7**	**+0.3**
NIS1				S	**Sb**	**18**	**02**	**42.8**	**+1.5**
NIS1				*e*Sn	**Sb**	**18**	**02**	**43.4**	**+2.1**
NIS2	**Nisyros Isl.**	**0.69**	**236**	P	**Pg**	**18**	**02**	**31.5**	**-0.1**
AYDN	**Tasoluk**	**0.70**	**359**	*i* P	**Pg**	**18**	**02**	**31.3**	**-0.5**
AYDN				*i* S	**Sb**	**18**	**02**	**40.9**	**-1.1**
AYDN	**Tasoluk**	**0.70**	**359**	*i* P	**Pg**	**18**	**02**	**31.3**	**-0.5**
AYDN				*i* S	**Sb**	**18**	**02**	**40.9**	**-1.1**
NIS3	**Nisyros Isl.**	**0.71**	**237**	P	**Pg**	**18**	**02**	**31.9**	**-0.1**
ARG	**Arkhangelos**	**0.77**	**166**	P	**Pg**	**18**	**02**	**32.0**	**-1.1**
ARG				S	**Sb**	**18**	**02**	**44.3**	**+0.4**
ARG	**Arkhangelos**	**0.77**	**166**	*e*PN	**Pg**	**18**	**02**	**32.1**	**-1.1**
ARG				*e*SN	**Sb**	**18**	**02**	**44.4**	**+0.5**
ARG	**Arkhangelos**	**0.77**	**166**	P	**Pg**	**18**	**02**	**32.0**	**-1.1**
ARG				*e*Sn	**Sb**	**18**	**02**	**44.4**	**+0.5**
GCAM	**G?zelcaml?**	**0.90**	**325**	*i* P	**Pg**	**18**	**02**	**35.4**	**-0.4**
GCAM				*i* S	**Sb**	**18**	**02**	**48.3**	**+0.5**
GCAM	**G?zelcaml?**	**0.90**	**325**	*i* P	**Pg**	**18**	**02**	**35.4**	**-0.4**
GCAM				*i* S	**Sb**	**18**	**02**	**48.3**	**+0.5**
SMG	**Samos**	**1.12**	**312**	P	**Pb**	**18**	**02**	**39.0**	**-0.6**
SMG				S	**Sb**	**18**	**02**	**54.2**	**0.0**
SMG	**Samos**	**1.12**	**312**	*e*PN	**Pb**	**18**	**02**	**38.9**	**-0.6**
SMG				*e*SN	**Sn**	**18**	**02**	**55.3**	**+0.2**
SMG	**Samos**	**1.12**	**312**	P	**Pb**	**18**	**02**	**39.0**	**-0.6**
SMG				S	**Sb**	**18**	**02**	**54.2**	**0.0**
SMG				*e*Sn	**Sn**	**18**	**02**	**55.3**	**+0.2**
DNZL	**Cakiroluk**	**1.17**	**51**	*i* P	**Pn**	**18**	**02**	**40.2**	**-0.4**
DNZL				*i* S	**Sn**	**18**	**02**	**58.6**	**+2.0**
DNZL	**Cakiroluk**	**1.17**	**51**	*i* P	**Pn**	**18**	**02**	**40.2**	**-0.4**
GOLH	**Golhisar**	**1.36**	**78**	*i* P	**Pg**	**18**	**02**	**45.0**	**+0.5**
GOLH				*i* S	**Sg**	**18**	**03**	**05.2**	**+3.0**
GOLH	**Golhisar**	**1.36**	**78**	*i* P	**Pg**	**18**	**02**	**45.0**	**+0.5**
KARP	**Karpathos**	**1.53**	**203**	P	**Pn**	**18**	**02**	**44.9**	**-0.5**
KARP				S	**Sn**	**18**	**03**	**04.6**	**-0.6**
KARP	**Karpathos**	**1.53**	**203**	*e*PN	**Pn**	**18**	**02**	**44.9**	**-0.5**
KARP				*e*SN	**Sn**	**18**	**03**	**04.6**	**-0.6**
KARP	**Karpathos**	**1.53**	**203**	P	**Pn**	**18**	**02**	**44.9**	**-0.5**
KARP				S	**Sn**	**18**	**03**	**04.6**	**-0.6**
AKAS	**Kas**	**1.56**	**117**	*i* P	**Pg**	**18**	**02**	**46.8**	**-1.4**
AKAS				*i* S	Sg	18	03	13.4	+4.9
AKAS	**Kas**	**1.56**	**117**	*i* P	**Pg**	**18**	**02**	**46.8**	**-1.4**
APE	**Apeiranthos**	**1.89**	**274**	*e*PN	**Pn**	**18**	**02**	**49.9**	**-0.5**
APE	**Apeiranthos**	**1.89**	**274**	*e*Pn	**Pn**	**18**	**02**	**49.9**	**-0.5**
CHOS	**Chios island**	**2.04**	**315**	*e*PN	**Pn**	**18**	**02**	**52.2**	**-0.2**
CHOS	**Chios island**	**2.04**	**315**	*e*Pn	**Pn**	**18**	**02**	**52.2**	**-0.2**

*IDC **22** 18:51:55.3±0.7, 3.71N×126.85E, h0km, mb4.1/15, mb1 4.2/15, mb1mx4.1/25, mbtmp4.1/15, MS3.4/3, Ms1 3.4/3, ms1mx2.8/37, Error ellipse: s-maj=36.6km s-min=13.4km az=65.0*
*ISCJB **22** 18:52:01.0±0.4, 3.80N±0.04×126.80E±0.05, h48km, mb4.0/15, MS3.4/2, Error ellipse: s-maj=7.6km s-min=5.5km az=144.7*
*AUST **22** 18:52:04.4, 4.00N×127.01E, h100km*
*DJA **22** 18:52:04.1±1.0, 4.1N±8.2×127.7E±*, h34km, M4.5/4, mb4.8/3, mB4.9/3, MLv4.5/4, Mw(mB)4.2/3*

ISC 22 18:52:02.6±0.5, 3.78N±0.06×126.77E±0.07, h48km, n36, σ1s39/33, mb4.1/15, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
SGSI	**Sangihe**	**1.24**	**266**	P	**Pn**	**18**	**52**	**22.6**	**-1.0**
SGSI				S	**Sn**	**18**	**52**	**37.9**	**-1.3**
GSPH	**General Santos**	**2.93**	**322**	⇑*i*P	**Pn**	**18**	**52**	**48.0**	**+1.1**
TNTI	**Ternate**	**3.04**	**169**	P	**Pn**	**18**	**52**	**49.0**	**+0.7**
TNTI				S	**Sn**	**18**	**53**	**23.2**	**-0.3**
KMSI	**Cibinong**	**4.23**	**221**	P	**Pn**	**18**	**53**	**06.6**	**+2.0**
LBMI	**Labuha**	**4.44**	**171**	P	**Pn**	**18**	**53**	**08.4**	**+0.8**
MRSI	**Marisa**	**5.83**	**236**	P	**Pn**	**18**	**53**	**28.3**	**+1.7**
	81nm,0.9s,739nm								
LUWI	**Luwuk**	**6.23**	**220**	P	Pn	18	53	37.0	+4.9
	119nm,0.9s,1μm								
LUWI	**Luwuk**	**6.23**	**220**	P	Pn	18	53	38.5	+6.4
	baz=6.6,SNR=6.6								
SWI	**Sorong**	**6.43**	**136**	P	**Pn**	**18**	**53**	**36.1**	**+1.2**
SWI	**Sorong**	**6.43**	**136**	P	**Pn**	**18**	**53**	**36.0**	**+1.2**
	baz=6.5,SNR=11								
PALU	**Palau**	**8.45**	**65**	P	**Pn**	**18**	**54**	**03.3**	**+0.8**
	baz=8.2,SNR=14								
FAKI	**Fak Fak**	**8.62**	**140**	P	**Pn**	**18**	**54**	**06.0**	**+1.2**
	baz=8.7,SNR=5.5								
KAPI	**Kappang**	**11.20**	**219**	LR	LR	18	59	46.1	
	comp=Z,142nm,18.3s,baz=234,slow=42								
JAY	**Jayapura**	**15.27**	**114**	P	Pn	18	55	25.8	-9.5
	baz=15,SNR=3.1								
KSM	**Kuching**	**16.60**	**263**	P	**P**	**18**	**55**	**55.8**	**+1.8**
	baz=17,SNR=6.8								
MTN	**Manton Dam**	**17.07**	**165**	P	**Pn**	**18**	**55**	**59.0**	**+1.0**
	baz=17,SNR=3.7								
KDU	**Kakadu**	**17.31**	**161**	P	**P**	**18**	**56**	**02.7**	**+0.9**
	baz=18,SNR=4.9								
KNRA	**Kununurra**	**19.43**	**174**	P	**P**	**18**	**56**	**25.7**	**+0.5**
	baz=20,SNR=9.4								
FITZ	**Fitzroy Crossi**	**21.77**	**183**	P	**P**	**18**	**56

5.5nm,0.3s,baz=184,slow=12,SNR=3.3
AFI Sn Sn 19 33 22.8 +0.8
19nm,0.3s,baz=66,slow=20,SNR=4.2
WRA Warramunga Arr 50.44 257 P P 19 41 11.1 -0.3
0.2nm,0.5s,baz=95,slow=7.2,SNR=34
ASAR Alice Springs 50.62 252 P P 19 41 12.7 -0.1
2.1nm,0.5s,baz=87,slow=9.0,SNR=56
NVAR Mina Array Bea 74.38 41 P P 19 43 51.3 -0.2
0.2nm,0.3s,baz=229,slow=8.2,SNR=2.5
BRTR Keskin Array B 147.26 321 PKPbc PKPbc 19 51 57.0 -0.4
0.6nm,0.7s,baz=39,slow=5.5,SNR=3.6

KRSC 22 19:49:28.5±3.1, 52.58N×159.76E, h31km±30km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLC	**Nalytchevo**	**0.64**	**337**	*i* P		Pn 19 49 42.2	+0.7
NLC				*i* S		Sn 19 49 50.7	+0.1
RUS	**Russkaya**	**0.78**	**260**	*i* P		Pb 19 49 44.0	+0.5
RUS				*i* S		Sb 19 49 53.7	0.0
PET	**Petropavlovsk**	**0.81**	**304**	*i* P		Pb 19 49 43.9	-0.1
PET				*i* S		Sb 19 49 53.2	-1.4
UGLR	**Uglovaya**	**0.85**	**318**	*i* P		Pb 19 49 45.1	+0.2
UGLR				*i* S		Sn 19 49 55.6	-0.3
SDLR	**Sedlovina**	**0.88**	**323**	*i* P		Pb 19 49 45.3	-0.1
SDLR				*i* S		Sn 19 49 55.7	-1.0
SMAR	**Somma**	**0.90**	**320**	*i* P		Pb 19 49 45.6	-0.3
AVH	**Avacha**	**0.92**	**318**	*i* P		Pb 19 49 46.2	+0.1
AVH				*e*S		Sn 19 49 57.6	-0.2
KRER	**Koryakskii**	**0.95**	**320**	*i* P		Pb 19 49 46.7	0.0
KRER				*i* S		Sn 19 49 58.0	-0.6
MTVR	**Mutnovka**	**0.97**	**265**	*i* P		Pb 19 49 46.9	0.0
MTVR				*i* S		Sn 19 49 58.4	-0.6
KOK	**Koryaka**	**0.99**	**317**	*i* P		Pb 19 49 46.9	-0.3
KOK				*i* S		Sn 19 49 59.0	-0.3
GRL	**Gorelyy**	**1.03**	**269**	*e*P		Pb 19 49 48.2	+0.2
GRL				*e*S		Sn 19 50 00.6	+0.1
KRX	**Arik**	**1.03**	**320**	*i* P		Pb 19 49 47.5	-0.5
KRX				*e*S		Sn 19 49 59.5	-1.0
ASAK	**Asacha**	**1.16**	**261**	*e*P		Pb 19 49 49.8	-0.2
ASAK				*e*S		Sb 19 50 04.1	-0.6
GNL	**Ganaly**	**1.56**	**316**	*e*P		Pn 19 49 55.6	+1.3
GNL				*e*S		Sn 19 50 13.8	+0.2
APC	**Apacha**	**1.62**	**283**	*e*P		Pb 19 49 56.5	-1.2
APC				*e*S		Sn 19 50 15.8	+1.2
SRDR	**Sredinnyy**	**3.75**	**360**	*e*P		Pn 19 50 26.9	+1.8
KBTR	**Krutoberegovo**	**4.05**	**25**	*e*P		Pn 19 50 30.9	+2.6
BKI	**Bering**	**4.52**	**52**	*e*S		Sn 19 51 26.8	+0.7

*BGS **22** 19:51:12.7±1.2,34°.79N×72°.34E,h186km,mb6.1,MS5.6*
*MOS **22** 19:51:25.7±0.8,36°.53N×71°.01E,h183km,mb6.3/133, MS5.3/23,Error ellipse: s-maj=4.4km s-min=2.8km az=126.0*
MOS Felt (II) at Chimkent, Taraz.
*ISCJB **22** 19:51:25.2±0.2,36°.50N±0°.01×70°.99E±0°.01,h176km±2km, mb6.1/489,Error ellipse: s-maj=2.1km s-min=1.4km az=19.3*
*NEIC **22** 19:51:27.5±0.1,36°.52N×70°.95E,mb6.1/223,ME5.8, MW6.1,MW6.2,Error ellipse: s-maj=2.9km s-min=2.1km az=9.0,Moment Tensor Solution. s97 Moment tensor: Scale 10^{18}Nm; M_{rr}2.26; $M_{\theta\theta}$-1.99; $M_{\phi\phi}$-0.27; $M_{r\theta}$-0.25; $M_{\theta\phi}$-0.16; $M_{\phi r}$-0.20; Best double couple: $M_0$2.20000×10^{18} NP1:ϕ±261.00000°,δ49.00000°,λ85.00000°. NP2: ϕ±88.00000°,δ42.00000°,λ96.00000°. Principal axes: T 2.2900, Plg84.0000°, Azm127.0000°; N -0.2700, Plg3.0000°, Azm263.0000°; P -2.0200, Plg3.0000°, Azm354.0000°; Broadband fault plane solution: P waves. NP1:ϕ±265.00000°,δ45.00000°,λ90.00000°. NP2: ϕ±85.00000°,δ45.00000°,λ90.00000°. Principal axes: T Plg90.0000°, Azm0.0000°; N Plg0.0000°, Azm0.0000°; P Plg0.0000°, Azm175.0000°; Depth from broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [V] at Faizabad; [IV] at Charikar, Jalalabad, Kabul and Konduz; [III] at Baghlan, Bagrami, Eshkashem and Jabal os Saraj. Also felt at Khowst and Mazar-e Sharif. Three people killed by landslides and 2 others died of heart attacks in Mirpur, Pakistan. Felt [IV] at Islamabad, Peshawar and Rawalpindi; [III] at Lahore and Quetta. Also felt at Abottabad, Chitral and Multan. Felt [IV] at Amritsar, Mohali and Srinagar; [III] at Chandigarh; [II] at Delhi and Gurgaon, India. Felt [III] at Dushanbe, Tajikistan and Tashkent, Uzbekistan. Felt at Shymkent and Taraz, Kazakhstan.
*IDC **22** 19:51:27.7±0.3,36°.47N×71°.10E,h191km±2km,mb5.6/30, mb1 5.8/35,mb1mx5.8/35,mbtmp6.2/35,MS5.4/10, Ms1 5.4/10,ms1mx4.9/37 Error ellipse: s-maj=6.6km s-min=5.2km az=14.0*
*DJA **22** 19:51:28.1±0.6,36°.N±5°.×7°.1E±°,h181km±6km,M6.0/49, mb6.0/49,mB6.3/49,Mw(mB)6.0/49*
*BJI **22** 19:51:28.0,36°.71N×71°.16E,h190km,mB6.3/50,mb6.0/69*
*GCMT **22** 19:51:28.9±0.1,36°.51N×70°.82E,h182km,MW6.1, Moment Tensor Solution. s119,c272; s93,c145; Moment tensor: Scale 10^{18}Nm; M_{rr}2.17±.01; $M_{\theta\theta}$-1.82±.02; $M_{\phi\phi}$-0.35±.02; $M_{r\theta}$-0.22±.01; $M_{\theta\phi}$-0.34±.02; $M_{\phi r}$-0.31±.01; Best double couple: $M_0$2.10000×10^{18} NP1:ϕ±252.00000°,δ49.00000°,λ82.00000°. NP2: ϕ±83.00000°,δ41.00000°,λ99.00000°. Principal axes: T 2.2200, Plg83.0000°, Azm110.0000°; N -0.3000, Plg6.0000°, Azm257.0000°; P -1.9100, Plg4.0000°, Azm347.0000°; Data Used: II IU CN IC G. Surface waves: sta=128, comp=309, per= 50.*
*TEH **22** 19:51:29.0,36°.47N×70°.93E,h196km,ML6.2*
*NNC **22** 19:51:34.1±2.1,37°.17N×71°.08E,h207km±17km,mb6.1, mpv7.0,Error ellipse: s-maj=18.7km s-min=13.0km az=30.0*
*NEIC **22** 19:51:34.3±0.0,36°.84N×70°.84E,h172km,Moment Tensor Solution. s149 Moment tensor: Scale 10^{18}Nm; M_{rr}1.80; $M_{\theta\theta}$-1.41; $M_{\phi\phi}$-0.39; $M_{r\theta}$-0.12; $M_{\theta\phi}$-0.42; $M_{\phi r}$-0.32; Best double couple: $M_0$1.70000×10^{18} NP1: ϕ±243.00000°,δ49.00000°,λ80.00000°. NP2:ϕ±77.00000°, δ42.00000°,λ101.00000°. Principal axes: T 1.8500, Plg81.0000°, Azm97.0000°; N -0.2700, Plg7.0000°, Azm249.0000°; P -1.5800, Plg3.0000°, Azm339.0000°;*
*AUST **22** 19:51:35.7±1.9,36°.28N×70°.89E,h272km±19km Error ellipse: s-maj=12.1km s-min=5.9km az=19.0*

ISC 22 19:51:27.6±0.2, 36°.52N±0°.02×71°.01E±0°.02, h189km±1km, h188km:pP-P,n2327,σ1ϱ31/2885, mb6.1/477,532C-207D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.54**	**220**	*e*PN		Pn 19 52 10.3	-1.3
KBL				*e*		19 52 42.1	
KBL	**Kabul**	**2.54**	**220**	*e*Pn		Pn 19 52 10.3	-1.3
KBL				*e*Sn		Sn 19 52 42.1	-3.6
CEP	**Cherat**	**2.79**	**164**	⇑P		Pn 19 52 14.2	-0.1
CEP				S		Sn 19 52 49.0	-1.7
CHCP	**Chirah Chowk**	**3.40**	**146**	⇑P		Pn 19 52 21.7	+0.1
THW	**Thamme Wali**	**3.76**	**171**	⇑P		Pn 19 52 25.8	-0.3
SARP	**Sargodha**	**4.79**	**163**	⇑P		Pn 19 52 39.1	+0.1
KSH	**Kashi**	**4.93**	**51**	P		Pn 19 52 36.5	-4.4
KSH				S		Sn 19 53 26.1	-13
KSH				SMN			
	comp=Z,59μm,0.7s						
KSH				SME			
	comp=Z,49μm,0.9s						
JMU	**Jammu**	**4.97**	**139**	*i* P		Pn 19 52 38.5	-2.8
JMU				*ex*		Sn 19 53 40.0	+0.8
AML	**Almayashu**	**5.98**	**20**	*i* PN		Pn 19 52 52.6	-2.1
AML	**Almayashu**	**5.98**	**20**	P		Pn 19 52 52.6	-2.1
DHRM	**DHARAMSHALA**	**6.10**	**133**	*e*P		Pn 19 52 55.8	-0.5
DHRM				*e*S		Sn 19 54 03.6	-2.6
KZA	**Kyzart**	**6.45**	**29**	*i* PN		Pn 19 52 58.7	-2.2
KZA	**Kyzart**	**6.45**	**29**	P		Pn 19 52 58.7	-2.2
	SNR=1798						
EKS2	**Erkin-Say**	**6.50**	**18**	*e*PN		Pn 19 52 59.9	-1.3
EKS2				pmax	pmax		
	comp=Z,10μm,1.6s						
EKS2	**Erkin-Say**	**6.50**	**18**	P		Pn 19 52 59.7	-1.5
EKS2	**Erkin-Say**	**6.50**	**18**	*e*Pn		Pn 19 52 59.9	-1.3
	comp=Z,40μm,1.6s						
EKS2				*e*Sn		Sn 19 54 11.3	-3.9
KK31	**Karatay Array**	**6.59**	**357**	⇑P		Pn 19 53 00.4	-1.9
	comp=Z,7μm,0.6s,baz=176,slow=12						
KK31				S		Sn 19 54 10.6	-6.6
	comp=Z,25μm,0.9s,baz=177,slow=17,SNR=13						
KK31	**Karatay Array**	**6.59**	**357**	*i* PN		Pn 19 53 00.4	-1.9
KK31				pmax	pmax		
	comp=Z,3μm,0.2s						
KKAR	**Karatay Array**	**6.59**	**357**	*e*PN		Pn 19 52 59.9	-2.4
KKAR				pmax	pmax		
	comp=Z,9μm,0.6s						
KKAR	**Karatay Array**	**6.59**	**357**	*e*Pn		Pn 19 52 59.9	-2.4
	comp=Z,9μm,0.6s						
KKAR				*e*Sn		Sn 19 54 09.4	-7.8
AAK	**Ala-Archa**	**6.67**	**23**	*e*PN		Pn 19 53 02.1	-1.4
AAK				S		Sn 19 54 17.5	-1.9
AAK				pmax	pmax		
	comp=Z,8μm,0.6s						
AAK	**Ala-Archa**	**6.67**	**23**	P		Pn 19 53 02.8	-0.8
	SNR=5237						
AAK	**Ala-Archa**	**6.67**	**23**	P		Pn 19 53 02.4	-1.2
	SNR=8159						
AAK	**Ala-Archa**	**6.67**	**23**	*e*Pn		Pn 19 53 02.1	-1.4
	comp=Z,8μm,0.6s						
AAK				S		Sn 19 54 17.5	-1.9
AAK	**Ala-Archa**	**6.67**	**23**	Pn		Pn 19 53 02.4	-1.2
	comp=Z,72μm,0.6s						
AAK	**Ala-Archa**	**6.67**	**23**	P		Pn 19 53 02.8	-0.7
	SNR=1000

BRVK	Borovoye	16.55 358	P	P	19 55 07.8	-0.2
	SNR=977					
AKL	Akola	16.61 160	*e*P	Pn	19 55 09.9	0.0
AKL			AMP		19 55 13.1	
	comp=Z,4μm,0.8s					
AKL			*i* 4		19 58 04.1	
ISRV	Sarvestan	16.61 250	*e*P	P	19 55 09.6	+0.3
IGZV	Ghazvin	16.73 276	*e*P	Pn	19 55 12.3	+0.8
AKTO	Aktyubinsk	16.77 330	⇓P	P	19 55 08.9	-1.6
	comp=Z,6μm,0.8s					
AKTO			⇓S	S	19 58 11.1	-4.5
	comp=Z,1μm,0.8s					
AKTO	Aktyubinsk	16.77 330	P	P	19 55 09.7	-0.8
AKTO			S	S	19 58 10.0	-5.7
AKTO			pmax	pmax		
	comp=Z,211nm,0.3s					
AKTO			smax	smax		
	comp=N,18nm,0.3s					
AKTO	Aktyubinsk	16.77 330	P	P	19 55 09.7	-0.8
AKTO			S	S	19 58 10.0	-5.7
AKTO	Aktyubinsk	16.77 330	P	P	19 55 09.7	-0.8
	comp=N,211nm,0.3s,baz=143,slow=11,SNR=1844					
AKTO			S	S	19 58 10.0	-5.7
	comp=N,18nm,0.3s,baz=343,slow=19,SNR=4.7					
NGP	Nagpur	16.84 153	*ex*	P	19 55 09.1	-2.5
NGP			*ex*	x	19 55 24.5	
	comp=Z,3μm,0.9s					
NGP			*e*4		19 58 07.1	
TAPN	Taplejung	16.85 118	*e*P	P	19 55 12.2	+0.3
	comp=Z,6μm,0.6s					
ODAN	Odare	16.92 120	*e*P	P	19 55 12.6	-0.1
	comp=Z,16μm,1.1s					
IRAZ	Razeghan	17.11 273	*e*P	Pn	19 55 15.4	-0.5
UOSS	Wadi Hilu	17.16 232	P	P	19 55 13.1	-1.9
	comp=Z,9μm,0.6s					
HATD	Hatta, Dubai	17.29 232	P	Pn	19 55 18.1	+0.2
	SNR=17					
HATD	Hatta, Dubai	17.29 232	P	P	19 55 16.0	-0.4
	SNR=186					
HATD	Hatta, Dubai	17.29 232	P	P	19 55 16.0	-0.4
	SNR=186					
HATD	Hatta, Dubai	17.29 232	P	P	19 55 16.0	-0.4
	SNR=186					
HATD	Hatta, Dubai	17.29 232	P	P	19 55 16.0	-0.4
	SNR=186					
HATD	Hatta, Dubai	17.29 232	P	P	19 55 16.0	-0.4
	SNR=186					
HATD	Hatta, Dubai	17.29 232	P	P	19 55 16.0	-0.4
	SNR=186					
HATD	Hatta, Dubai	17.29 232	P	P	19 55 16.0	-0.4
	SNR=186					
HATD	Hatta, Dubai	17.29 232	P	P	19 55 16.0	-0.4
	SNR=186					
HATD	Hatta, Dubai	17.29 232	P	P	19 55 16.0	-0.4
	SNR=186					
HATD	Hatta, Dubai	17.29 232	P	Pn	19 55 18.1	+0.2
	SNR=17					
HATD	Hatta, Dubai	17.29 232	P	Pn	19 55 18.1	+0.2
	SNR=17					
WBK	Wadi Bani Khal	17.35 220	P	Pn	19 55 20.5	+1.8
	SNR=16					
WBK	Wadi Bani Khal	17.35 220	P	Pn	19 55 18.5	-0.2
	SNR=319					
WBK	Wadi Bani Khal	17.35 220	P	Pn	19 55 18.5	-0.2
	SNR=319					
WBK	Wadi Bani Khal	17.35 220	P	Pn	19 55 18.5	-0.2
	SNR=319					
WBK	Wadi Bani Khal	17.35 220	P	Pn	19 55 18.5	-0.2
	SNR=319					
WBK	Wadi Bani Khal	17.35 220	P	Pn	19 55 18.5	-0.2
	SNR=319					
WBK	Wadi Bani Khal	17.35 220	P	Pn	19 55 18.5	-0.2
	SNR=319					
WBK	Wadi Bani Khal	17.35 220	P	Pn	19 55 18.5	-0.2
	SNR=319					
WBK	Wadi Bani Khal	17.35 220	P	Pn	19 55 18.5	-0.2
	SNR=319					
WBK	Wadi Bani Khal	17.35 220	P	Pn	19 55 18.5	-0.2
	SNR=319					
WBK	Wadi Bani Khal	17.35 220	P	Pn	19 55 18.5	-0.2
	SNR=319					
WBK	Wadi Bani Khal	17.35 220	P	Pn	19 55 20.5	+1.8
	SNR=16					
ASHO	Ashiyiah	17.43 232	P	Pn	19 55 18.8	-0.9
	SNR=358					
ASHO	Ashiyiah	17.43 232	P	P	19 55 18.4	+0.3
	SNR=666					
ASHO	Ashiyiah	17.43 232	P	P	19 55 18.4	+0.3
	SNR=666					
ASHO	Ashiyiah	17.43 232	P	P	19 55 18.4	+0.3
	SNR=666					
ASHO	Ashiyiah	17.43 232	P	P	19 55 18.4	+0.3
	SNR=666					
ASHO	Ashiyiah	17.43 232	P	P	19 55 18.4	+0.3
	SNR=666					
ASHO	Ashiyiah	17.43 232	P	P	19 55 18.4	+0.3
	SNR=666					
ASHO	Ashiyiah	17.43 232	P	P	19 55 18.4	+0.3
	SNR=666					
ASHO	Ashiyiah	17.43 232	P	P	19 55 18.4	+0.3
	SNR=666					
ASHO	Ashiyiah	17.43 232	P	P	19 55 18.4	+0.3
	SNR=666					
ASHO	Ashiyiah	17.43 232	P	P	19 55 18.4	+0.3
	SNR=666					
ASHO	Ashiyiah	17.43 232	P	P	19 55 18.4	+0.3
	SNR=666					
ASHO	Ashiyiah	17.43 232	P	P	19 55 18.4	+0.3
	SNR=666					
ASHO	Ashiyiah	17.43 232	P	Pn	19 55 18.8	-0.9
	SNR=358					
ASHO	Ashiyiah	17.43 232	P	Pn	19 55 18.8	-0.9
	SNR=358					
NAZ	Nazwa, Dubai	17.47 233	P	P	19 55 18.5	+0.1
	SNR=234					
NAZ	Nazwa, Dubai	17.47 233	P	P	19 55 18.5	+0.1
	SNR=234					
NAZ	Nazwa, Dubai	17.47 233	P	P	19 55 18.5	+0.1
	SNR=234					
NAZ	Nazwa, Dubai	17.47 233	P	P	19 55 18.5	+0.1
	SNR=234					
NAZ	Nazwa, Dubai	17.47 233	P	P	19 55 18.5	+0.1
	SNR=234					
NAZ	Nazwa, Dubai	17.47 233	P	P	19 55 18.5	+0.1
	SNR=234					
NAZ	Nazwa, Dubai	17.47 233	P	P	19 55 18.5	+0.1
	SNR=234					
NAZ	Nazwa, Dubai	17.47 233	P	P	19 55 18.5	+0.1
	SNR=234					
NAZ	Nazwa, Dubai	17.47 233	P	P	19 55 18.5	+0.1
	SNR=234					
NAZ	Nazwa, Dubai	17.47 233	P	P	19 55 18.5	+0.1
	SNR=234					
NAZ	Nazwa, Dubai	17.47 233	P	P	19 55 18.5	+0.1
	SNR=234					
SMDO	Samad	17.48 223	P	Pn	19 55 19.9	-0.4
	SNR=322					
SMDO	Samad	17.48 223	P	Pn	19 55 19.9	-0.4
	SNR=322					
SMDO	Samad	17.48 223	P	Pn	19 55 19.9	-0.4
	SNR=322					
SMDO	Samad	17.48 223	P	Pn	19 55 19.9	-0.4
	SNR=322					
SMDO	Samad	17.48 223	P	Pn	19 55 19.9	-0.4
	SNR=322					
SMDO	Samad	17.48 223	P	Pn	19 55 19.9	-0.4
	SNR=322					
SMDO	Samad	17.48 223	P	Pn	19 55 19.9	-0.4
	SNR=322					
SMDO	Samad	17.48 223	P	Pn	19 55 19.9	-0.4
	SNR=322					
SMDO	Samad	17.48 223	P	Pn	19 55 19.9	-0.4
	SNR=322					
SMDO	Samad	17.48 223	P	Pn	19 55 19.9	-0.4
	SNR=322					
HOQ	Hoqain	17.49 226	P	Pn	19 55 21.6	+1.3
	SNR=7.4					
HOQ	Hoqain	17.49 226	P	P	19 55 19.0	+0.3
	SNR=179					
HOQ	Hoqain	17.49 226	P	P	19 55 19.0	+0.3
	SNR=179					
HOQ	Hoqain	17.49 226	P	P	19 55 19.0	+0.3
	SNR=179					
HOQ	Hoqain	17.49 226	P	P	19 55 19.0	+0.3
	SNR=179					
HOQ	Hoqain	17.49 226	P	P	19 55 19.0	+0.3
	SNR=179					
HOQ	Hoqain	17.49 226	P	P	19 55 19.0	+0.3
	SNR=179					
HOQ	Hoqain	17.49 226	P	P	19 55 19.0	+0.3
	SNR=179					
HOQ	Hoqain	17.49 226	P	P	19 55 19.0	+0.3
	SNR=179					
HOQ	Hoqain	17.49 226	P	P	19 55 19.0	+0.3
	SNR=179					
HOQ	Hoqain	17.49 226	P	P	19 55 19.0	+0.3
	SNR=179					
HOQ	Hoqain	17.49 226	P	P	19 55 19.0	+0.3
	SNR=179					
HOQ	Hoqain	17.49 226	P	P	19 55 19.0	+0.3
	SNR=179					
HOQ	Hoqain	17.49 226	P	Pn	19 55 21.6	+1.3
	SNR=7.4					
HOQ	Hoqain	17.49 226	P	Pn	19 55 21.6	+1.3
	SNR=7.4					
SLGI	Shiliguri	17.74 119	*ex*	Pn	19 55 24.5	+1.3
ASUD	Al Ashush, Dub	17.94 233	P	P	19 55 24.0	+0.4
	SNR=286					
ASUD	Al Ashush, Dub	17.94 233	P	P	19 55 24.4	+0.9
	SNR=171					
ASUD	Al Ashush, Dub	17.94 233	P	P	19 55 24.0	+0.4
	SNR=286					
ASUD	Al Ashush, Dub	17.94 233	P	P	19 55 24.4	+0.9
	SNR=171					
ASUD	Al Ashush, Dub	17.94 233	P	P	19 55 24.4	+0.9
	SNR=171					
ASUD	Al Ashush, Dub	17.94 233	P	P	19 55 24.4	+0.9
	SNR=171					
ASUD	Al Ashush, Dub	17.94 233	P	P	19 55 24.4	+0.9
	SNR=171					
ASUD	Al Ashush, Dub	17.94 233	P	P	19 55 24.4	+0.9
	SNR=171					
ASUD	Al Ashush, Dub	17.94 233	P	P	19 55 24.4	+0.9
	SNR=171					
ASUD	Al Ashush, Dub	17.94 233	P	P	19 55 24.4	+0.9
	SNR=171					
ASUD	Al Ashush, Dub	17.94 233	P	P	19 55 24.4	+0.9
	SNR=171					
ASUD	Al Ashush, Dub	17.94 233	P	P	19 55 24.4	+0.9
	SNR=171					
JMDO	Jabal Madar	18.00 222	P	Pn	19 55 27.0	+0.6
	SNR=8.1					
JMDO	Jabal Madar	18.00 222	P	Pn	19 55 25.8	-0.6
	SNR=402					
JMDO	Jabal Madar	18.00 222	P	Pn	19 55 25.8	-0.5
	SNR=402					
JMDO	Jabal Madar	18.00 222	P	Pn	19 55 25.8	-0.5
	SNR=402					
JMDO	Jabal Madar	18.00 222	P	Pn	19 55 25.8	-0.5
	SNR=402					
JMDO	Jabal Madar	18.00 222	P	Pn	19 55 25.8	-0.5
	SNR=402					
JMDO	Jabal Madar	18.00 222	P	Pn	19 55 25.8	-0.5
	SNR=402					
JMDO	Jabal Madar	18.00 222	P	Pn	19 55 25.8	-0.5
	SNR=402					
JMDO	Jabal Madar	18.00 222	P	Pn	19 55 25.8	-0.5
	SNR=402					
JMDO	Jabal Madar	18.00 222	P	Pn	19 55 27.0	+0.7
	SNR=8.1					
BOK	Bokaro	18.03 131	*e*P	Pn	19 55 26.1	-0.6
POO	Poona	18.09 171	⇓*i*P	P	19 55 26.0	+0.7
	comp=Z,4μm,1.5s					
POO			*ex*	x	19 55 27.0	
ARQ	Araqi	18.14 228	P	Pn	19 55 26.8	-1.2
	SNR=362					
ARQ	Araqi	18.14 228	P	Pn	19 55 26.8	-1.2
	SNR=362					
ARQ	Araqi	18.14 228	P	Pn	19 55 26.8	-1.2
	SNR=362					
ARQ	Araqi	18.14 228	P	Pn	19 55 26.8	-1.2
	SNR=362					
ARQ	Araqi	18.14 228	P	Pn	19 55 26.8	-1.2
	SNR=362					
ARQ	Araqi	18.14 228	P	Pn	19 55 26.8	-1.2
	SNR=362					
ARQ	Araqi	18.14 228	P	Pn	19 55 26.8	-1.2
	SNR=362					
ARQ	Araqi	18.14 228	P	Pn	19 55 26.8	-1.2
	SNR=362					
ARQ	Araqi	18.14 228	P	Pn	19 55 26.8	-1.2
	SNR=362					
ARQ	Araqi	18.14 228	P	Pn	19 55 26.8	-1.2
	SNR=362					
ARQ	Araqi	18.14 228	P	Pn	19 55 26.8	-1.2
	SNR=362					
LSA	Lhasa	18.17 106	P	Pn	19 55 29.9	+1.2
LSA			sP	sP	19 56 17.5	-4.2
LSA			S	S	19 58 40.1	-5.0
LSA			AMB	AMB		
	comp=Z,2μm,1.3s					
LSA	Lhasa	18.17 106	*e*P	Pn	19 55 29.2	+0.5
LSA			pmax	pmax		
	comp=Z,1μm,0.8s					
LSA	Lhasa	18.17 106	*e*P	Pn	19 55 29.2	+0.5
	comp=Z,1μm,0.8s					
BSYO	Bisya	18.20 225	P	Pn	19 55 27.9	-0.7
	SNR=607					
BSYO	Bisya	18.20 225	P	Pn	19 55 27.9	-0.7
	SNR=607					
BSYO	Bisya	18.20 225	P	Pn	19 55 27.9	-0.7
	SNR=607					
BSYO	Bisya	18.20 225	P	Pn	19 55 27.9	-0.7
	SNR=607					
BSYO	Bisya	18.20 225	P	Pn	19 55 27.9	-0.7
	SNR=607					
BSYO	Bisya	18.20 225	P	Pn	19 55 27.9	-0.7
	SNR=607					
BSYO	Bisya	18.20 225	P	Pn	19 55 27.9	-0.7
	SNR=607					
BSYO	Bisya	18.20 225	P	Pn	19 55 27.9	-0.7
	SNR=607					
BSY	Bisya	18.21 225	P	Pn	19 55 27.9	-0.8
	SNR=607					
ISRB	Sarab	18.64 281	*e*P	P	19 55 32.2	+0.9
IHRS	Heris	19.11 283	*e*P	P	19 55 37.3	+0.9
MAK	Makhachkala	19.16 297	*e*P	P	19 55 37.3	+0.8
MAK			*e*S	S	19 59 05.7	+2.3
MAK			pmax	pmax		
	comp=Z,2μm,1.3s					
MAK			MLR	MLR		
	comp=Z,27μm,13.0s					
IBST	Bostanabad	19.27 281	*e*P	P	19 55 38.4	+0.3
IKOM	Komasi	19.31 270	*e*P	P	19 55 38.8	+0.3
ILIN	Lien	19.59 272	*e*P	P	19 55 42.2	+0.7
IFTB	Fath-abad	19.64 282	*e*P	P	19 55 43.9	+1.8
IVIS	Veis	19.76 271	*e*P	P	19 55 44.0	+0.7
ITBZ	Tabriz	19.82 282	*e*P	P	19 55 45.8	+1.8
ZAA0	Zalesovo Array	19.89 24	⇑*i*P	P	19 55 43.9	-0.4
ZALV	Zalesovo Beam	19.89 24	P	P	19 55 44.1	-0.3
ZALV			S	S	19 59 16.9	-0.8
ZALV			pmax	pmax		
	comp=Z,481nm,0.3s					
ZALV			smax	smax		
	comp=N,5.0nm,0.3s					
ZALV	Zalesovo Beam	19.89 24	P	P	19 55 44.0	-0.3
ZALV			S	S	19 59 16.9	-0.8
ZALV			PKiKP	PKiKP	20 07 40.1	-1.5
ZALV	Zalesovo Beam	19.89 24	P	P	19 55 44.0	-0.3
	comp=N,481nm,0.3s,baz=221,slow=11,SNR=2767					
ZALV			S	S	19 59 16.9	-0.8
	comp=N,4.9nm,0.3s,baz=210,slow=17,SNR=2.4					
ZALV			PKiKP	PKiKP	20 07 40.1	-1.5
	comp=N,0.8nm,0.3s,baz=193,slow=2.2,SNR=5.2					
IGHG	Ghaleghazi	20.03 271	*e*P	P	19 55 46.9	+0.6
IDHR	Dehrash	20.09 272	*e*P	P	19 55 47.2	+0.2
IMRD	Marand	20.15 284	*e*P	P	19 55 48.7	+1.2
NVS	Novosibirsk	20.16 21	⇑*i*P	P	19 55 46.9	-0.3
NVS			*i* *PP	pP	19 56 15.4	-3.5
NVS			*e*S	S	19 59 21.0	-1.9
NVS			pmax	pmax		
	comp=N,4μm,1.3s					
NVS			pmax	pmax		
	comp=E,1μm,1.0s					
NVS			smax	smax		
	comp=N,6μm,3.1s					
HYB	Hyderabad	20.16 159	⇓*i*P	P	19 55 47.5	-0.1
	comp=N,1μm,1.0s					
HYB			*e*pP	pP	19 56 20.0	+0.6
HYB			*e*sP	sP	19 56 44.0	+0.9
HYB			*e*S	S	19 59 20.0	-3.7
HYB	Hyderabad	20.16 159	*e*P	P	19 55 48.7	+1.1
DGRG	David-gareji	20.50 292	P	P	19 55 52.5	+1.5
DGRG			S	S	19 59 36.3	+6.4
UMR	Umm Al-Rimmam	20.70 257	*e*P	P	19 55 53.2	-0.1
UMR			AMb	AMB	19 55 57.7	
	comp=Z,7μm,1.3s					
MIB	Mutribah	20.89 258	*e*P	P	19 55 55.4	+0.1
MIB			AMb	AMB	19 55 59.5	
	comp=Z,7μm,1.4s					
GNI	Garni	20.90 288	*e*P	P	19 55 57.0	+1.6
GNI	Garni	20.90 288	P	P	19 55 57.8	+2.5
	SNR=970					
GNI	Garni	20.90 288	⇑*e*P	P	19 55 57.2	+1.8
	comp=Z,5μm,1.1s					
GNI			S	S	19 59 44.4	+6.7
GNI	Garni	20.90 288	P	P	19 55 57.8	+2.4
	SNR=970					
GNI	Garni	20.90 288	P	P	19 55 57.8	+2.4
	SNR=970					
GNI	Garni	20.90 288	P	P	19 55 57.8	+2.4
	SNR=970					
GNI	Garni	20.90 288	P	P	19 55 57.8	+2.4
	SNR=970					
GNI	Garni	20.90 288	P	P	19 55 57.8	+2.4
	SNR=970					
GNI	Garni	20.90 288	P	P	19 55 57.8	+2.4
	SNR=970					
GNI	Garni	20.90 288	P	P	19 55 57.8	+2.4
	SNR=970					
GNI	Garni	20.90 288	P	P	19 55 57.8	+2.4
	SNR=970					
GNI	Garni	20.90 288	P	P	19 55 57.8	+2.4
	SNR=970					
GNI	Garni	20.90 288	P	P	19 55 57.8	+2.4
	SNR=970					
GNI	Garni	20.90 288	P	P	19 55 57.8	+2.4
	SNR=970					
GNI	Garni	20.90 288	P	P	19 55 57.8	+2.4
	SNR=970					
GNI	Garni	20.90 288	P	P	19 55 57.8	+2.4
	SNR=970					
GNI	Garni	20.90 288	P	P	19 55 57.5	+2.1
	comp=Z,2μm,0.9s,baz=90,slow=0.7,SNR=478					
GNI			S	S	19 59 44.3	+6.7
	comp=Z,117nm,0.8s,baz=171,slow=19,SNR=1.6					
QRN	Al-Qurain	20.91 255	*e*P	P	19 55 55.3	-0.1
QRN			AMb	AMB	19 55 59.4	
	comp=Z,5μm,1.1s					
SHL	Shillong	20.91 116	*i* PDNE	P	19 55 56.0	+0.4
SHL			*ex*	x	19 59 40.0	
SEAG	Tbilisi Sea	20.95 293	P	P	19 55 57.3	+1.5
TBLG	Delisi	21.00 292	P	P	19 55 57.3	+1.0
TBLG			S	S	19 59 41.7	+2.5
GOA	Goa	21.09 172	*e*P	P	19 55 56.5	-0.9
NAY	Al-Naaiem	21.21 257	*e*P	P	19 55 58.2	-0.4
NAY			AMb	AMB	19 56 04.1	
	comp=Z,3μm,1.4s					
KZR	Kazreti	21.21 291	P	P	19 55 59.8	+1.2
GUDG	Gudauri	21.28 294	P	P	19 56 01.1	+1.6
RST	Umm Al-Ruwaisa	21.29 258	*e*P	P	19 55 58.8	-0.7
RST			AMb	AMB	19 56 02.8	
	comp=Z,32μm,1.1s					
SVE	Sverdlovsk	21.48 344	*d*i*P*	P	19 56 01.3	+0.2
SVE			*e*		19 56 53.4	
SVE			*e*S	S	19 59 49.0	+2.1
SVE			pmax	pmax		
	comp=Z,1μm,0.8s					
SVE			MLR	MLR		
	comp=N,38μm,12.1s					
SVE			MLR	MLR		
	comp=E,11μm,8.4s					
CLDR	Caldiran	21.53 285	*e*P	P	19 56 03.7	+1.5
ARU	Arti	21.62 341	*c* *i*P	P	19 56 02.5	-0.1
ARU					19 56 31.1	
ARU			S	S	19 59 51.5	+2.3
ARU			pmax	pmax		
	comp=Z,1μm,0.7s					
VIS	Vishakhapatnam	21.66 147	*e*P	P	19 56 02.7	-0.6
VIS			*e*P	P	19 56 04.3	+0.9
VIS			*e*4		20 00 16.0	
DYDN	Diyadin	21.70 286	*i* P	P	19 56 04.1	+0.2
ZEI	Tsey	21.74 295	*e*P	P	19 56 04.1	-0.1
ZEI			pmax	pmax		
	comp=Z,1μm,1.0s					
EAK	Akyaka	21.78 289	*i* P	P	19 56 05.4	+0.8
HAKT	HAKKARI	21.80 281	*i* P	P	19 56 04.1	-0.8

HVS Khovu-Aksy 21.82 41c iP P 19 56 04.4 -0.4
AKH Akhalkalaki 21.90 291 P P 19 56 07.9 +2.0
AKH S S 20 00 01.1 +6.6
CUKT Cukurca 21.91 280 eP P 19 56 07.0 +1.0
DIGO Kars 21.95 289 iP P 19 56 05.0 -1.4
ONI Oni 22.04 294 P P 19 56 10.0 +2.9
ONI S S 20 00 02.2 +5.8
NCK Nalchik 22.06 297 eP P 19 56 07.6 +0.4
KARS Kars 22.18 289 eP P 19 56 10.3 +1.8
AGRB Hanur-Agry 22.24 286 eP P 19 56 10.3 +1.1
GEVA Gevas 22.25 283 iP P 19 56 08.4 -0.7
TUTA Tutak 22.38 286 iP P 19 56 10.6 +0.1
EPOS Posof 22.48 291 iP P 19 56 05.8 -5.5
KBZ Khabaz 22.60 297 P P 19 56 12.2 +0.1
KBZ pmax pmax
comp=Z,525nm,0.8s
KBZ Khabaz 22.60 297 P P 19 56 12.2 +0.1
KBZ S S 20 00 12.4 +7.2
KBZ Khabaz 22.60 297 P P 19 56 12.2 +0.1
comp=Z,525nm,0.8s,baz=128,slow=7.9,SNR=528
KBZ S S 20 00 12.4 +7.2
comp=Z,96nm,0.9s,baz=330,slow=14,SNR=1.6
EATA Eleskirt 22.62 287 iP P 19 56 13.6 +0.8
GOF Gofitskoye 22.74 301⇑iP P 19 56 14.1 +0.7
GOF pmax pmax
comp=Z,6μm,1.2s
KIV Kislovodsk 22.79 298c iP P 19 56 14.5 +0.5
KIV e*PP pP 19 56 46.5 -1.4
KIV e*SP sP 19 57 09.2 -2.4
KIV eS S 20 00 09.6 +1.1
KIV pmax pmax
comp=Z,4μm,2.7s
KIV pmax pmax
comp=Z,510nm,0.6s
KIV MLR MLR
comp=Z,10μm,15.0s
KIV Kislovodsk 22.79 298 P P 19 56 14.5 +0.5
comp=Z,5μm,0.7s
SIRT Sirnak 22.81 281 eP P 19 56 13.6 -0.6
SIRN S¯–rnak 22.83 281 iP P 19 56 14.1 -0.3
GTA Gaotai 22.85 74 ⇑P P 19 56 16.3 +1.7
GTA pP pP 19 56 52.1 +3.4
GTA sP sP 19 57 15.5 +3.2
GTA S S 20 00 12.5 +2.8
GTA AMB AMB
comp=Z,1μm,1.9s
GTA AMB AMB
comp=Z,13μm,7.6s
GTA LR LR
comp=Z,5μm,14.2s
GTA LR LR
comp=Z,10μm,15.4s
GTA LR LR
comp=Z,8μm,15.2s
TATV Tatvan 22.85 284 iP P 19 56 14.1 -0.7
IMP Imphal 22.87 114 e4 19 56 15.0
EKAR Karacoban 22.97 286 iP P 19 56 16.2 +0.4
ARTV Artvin 23.07 291 iP P 19 56 17.1 +0.4
HOMI Horasan 23.07 288 iP P 19 56 17.5 +0.8
DAGI Agillar 23.08 290 iP P 19 56 16.7 0.0
DDEM Demirkent 23.20 290 iP P 19 56 19.3 +1.6
DBAD Bademkaya 23.24 290 iP P 19 56 17.5 -0.6
DBOC Borcka 23.27 291 iP P 19 56 17.5 -0.8
BCA Borcka 23.31 291 eP P 19 56 20.6 +2.0
VRTB Varto-Mus 23.45 285 eP P 19 56 21.8 +1.8
ERZM Erzurum 23.49 287 iP P 19 56 22.7 +2.2
EZM Erzurum 23.49 287 eP P 19 56 23.8 +3.2
BEST Besiri 23.69 282 iP P 19 56 23.6 +1.4
BNGL BINGOL 23.69 285 iP P 19 56 21.9 -0.5
PZAR Pazar-Rize 23.85 290 eP P 19 56 24.5 +1.1
BNGB Bing¶l 24.06 285 eP P 19 56 27.8 +2.2
RBK Rabkut 24.07 223 P P 19 56 25.9 +0.1
SNR=281
RBK Rabkut 24.07 223 P P 19 56 25.9 +0.1
SNR=281
RBK Rabkut 24.07 223 P P 19 56 25.9 +0.1
SNR=281
RBK Rabkut 24.07 223 P P 19 56 25.9 +0.1
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SNR=281
RBK Rabkut 24.07 223 P P 19 56 25.9 +0.1
SNR=281
RBK Rabkut 24.07 223 P P 19 56 25.9 +0.1
SNR=281
RBK Rabkut 24.07 223 P P 19 56 25.9 +0.1
SNR=281
MARD Mardin 24.14 281 iP P 19 56 26.2 -0.2
KOPT Kop Dagi 24.15 288 iP P 19 56 27.9 +1.3
MAZI Mazidag 24.39 281 eP P 19 56 28.4 -0.2
KRAR Krasnoyarsk 24.48 30c iP P 19 56 35.4 +6.4
KRAR pmax pmax
comp=Z,469nm,1.0s
DIY Diyarbakir 24.51 283 eP P 19 56 30.5 +0.9
ABTO Aybut 24.70 224 P P 19 56 31.4 -0.1
SNR=542
ABTO Aybut 24.70 224 P P 19 56 31.4 -0.1
SNR=542
ABTO Aybut 24.70 224 P P 19 56 31.4 -0.1
SNR=542
ABTO Aybut 24.70 224 P P 19 56 31.4 -0.1
SNR=542
ABTO Aybut 24.70 224 P P 19 56 31.4 -0.1
SNR=542
ABTO Aybut 24.70 224 P P 19 56 31.4 -0.1
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ABTO Aybut 24.70 224 P P 19 56 31.4 -0.1
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ABTO Aybut 24.70 224 P P 19 56 31.4 -0.1
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ABTO Aybut 24.70 224 P P 19 56 31.4 -0.1
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ABTO Aybut 24.70 224 P P 19 56 31.4 -0.1
SNR=542
ABTO Aybut 24.70 224 P P 19 56 31.4 -0.1
SNR=542
ABTO Aybut 24.70 224 P P 19 56 31.4 -0.1
SNR=542
MACK Trabzon 24.70 290 iP P 19 56 29.2 -2.1
KTUT Trabzon 24.70 290 eP P 19 56 31.6 +0.4
ERZN Erzincan 24.77 287 eP P 19 56 32.7 +0.7
EUZM Uzumlu 24.78 287 iP P 19 56 32.3 +0.1
MDRS Chennai 24.78 158 eP P 19 56 33.0 +0.8
SOKR Solikamsk 24.86 343c iP P 19 56 33.6 +1.2
SOKR *PP pP 19 57 07.5 -2.4
SOKR *SP sP 19 57 28.5 -3.9
SOKR S S 20 00 42.4 +1.4
SOKR e 20 01 55.3
SOKR pmax pmax
comp=Z,510nm,0.7s
SOKR MLR MLR
comp=Z,19μm,14.0s
SOC Sochi 24.87 296c iP P 19 56 33.0 +0.2
SOC e*PP pP 19 57 11.8 +1.6
SOC e 19 57 17.0
SOC e*SP sP 19 57 29.8 -2.9
SOC iS S 20 00 45.0 +3.4
SOC e*SS sS 20 01 50.3 +0.9
SOC pmax pmax
comp=Z,1μm,0.8s
SOC pmax pmax
comp=Z,2μm,1.0s
GUMT Gumushane 24.92 289 eP P 19 56 35.4 +2.0
EZC Erzincan 25.04 287 eP P 19 56 37.5 +2.9
PTK Pertek 25.07 285 eP P 19 56 34.4 -0.5
KELT Kelkit 25.10 288 iP P 19 56 35.7 +0.6
ELZG Elazig 25.42 284 iP P 19 56 38.3 +0.3
ESPY Espiye-Giresun 25.49 290 eP P 19 56 40.2 +1.8
RAYN Ar Rayn 25.52 247 P P 19 56 38.3 -0.5
comp=Z,6μm,1.1s
VRHR Novokhopersk 25.52 314 eP P 19 56 38.3 -0.2
VRHR pmax pmax
comp=N,520nm,1.1s
VRHR pmax pmax
comp=E,950nm,1.1s
VRHR pmax pmax

comp=Z,2μm,1.1s
ILIC Ilic-Erzincan 25.66 286 eP P 19 56 42.0 +1.9
URFA Urfa 25.67 282 eP P 19 56 40.4 +0.2
KEMA Kemaliye 25.73 286 iP P 19 56 41.3 +0.6
MALT Malatya 25.87 284 eP P 19 56 43.7 +1.7
MALT Malatya 25.87 284 ⇑P P 19 56 43.7 +1.7
MALT Malatya 25.87 284⇑iP P 19 56 43.7 +1.7
SUSE Susehri 25.91 288 iP P 19 56 41.8 -0.5
ATAB Bozova 26.08 282 iP P 19 56 43.5 -0.3
MOY Mondy 26.09 45 eP P 19 56 45.1 +1.3
MOY pmax pmax
comp=Z,740nm,2.0s
AKCD Akcadag 26.27 284 iP P 19 56 44.1 -1.5
LZH Lanzhou 26.40 81 ⇑P P 19 56 48.8 +2.0
LZH pP pP 19 57 25.8 +0.8
LZH sP sP 19 57 51.1 +4.2
LZH S S 20 01 09.5 +3.4
LZH AMB AMB
comp=Z,500nm,1.4s
LZH AMB AMB
comp=Z,2μm,4.0s
LZH LR LR
comp=Z,5μm,11.6s
LZH LR LR
comp=Z,5μm,10.0s
LZH LR LR
comp=Z,6μm,12.3s
RSDY Resadiye-TOKAT 26.57 289 eP P 19 56 47.4 -0.6
ANN Anapa 26.63 299c iP P 19 56 48.7 +0.1
ANN i*PP pP 19 57 27.0 +0.2
ANN i 19 57 39.4
ANN eS S 20 01 12.2 +2.9
ANN i*SS sS 20 02 19.9 +2.2
ANN pmax pmax
comp=Z,1μm,0.8s
GZT Gaziantep 26.67 282 iP P 19 56 49.1 -0.1
SCER sogukcermik 26.75 288 iP P 19 56 50.0 +0.2
VORD Divnogorie 26.84 313 eP P 19 56 50.4 +0.1
VORD e*PP pP 19 57 26.7 -1.9
VORD eS S 20 01 13.0 +0.7
VORD pmax pmax
comp=E,2μm,1.1s
VORD pmax pmax
comp=Z,1μm,1.1s
VORD smax smax
comp=E,6μm,2.9s
VORD smax smax
comp=Z,3μm,2.9s
SVSK Karacayir 26.84 288 eP P 19 56 51.2 +0.8
ZAK Zakamensk 26.97 49⇓iP P 19 56 52.6 +0.9
ZAK pmax pmax
comp=Z,166nm,1.3s
VSR Storozhevoye 27.00 313 eP P 19 56 51.8 +0.1
VSR e*PP pP 19 57 28.5 -1.5
VSR e*SP sP 19 57 49.7 -2.3
VSR eS S 20 01 14.6 -0.3
VSR e*SS sS 20 02 20.8 -2.6
VSR pmax pmax
comp=N,600nm,1.1s
VSR pmax pmax
comp=E,3μm,1.1s
VSR pmax pmax
comp=Z,2μm,1.1s
VSR pmax pmax
comp=N,1μm,1.4s
VSR pmax pmax
comp=E,5μm,1.4s
VSR pmax pmax
comp=Z,3μm,1.4s
VSR smax smax
comp=N,4μm,2.3s
VSR smax smax
comp=E,4μm,2.3s
VSR smax smax
comp=Z,2μm,2.3s
KUZU Kuzuini 27.15 281 iP P 19 56 53.0 -0.3
VOR Voronezh 27.16 314⇑iP P 19 56 53.0 -0.2
VOR pmax pmax
comp=Z,3μm,1.4s
KMRS Kahramanmaras 27.17 282 eP P 19 56 54.5 +1.0
TOKA Tokat 27.22 289 iP P 19 56 55.2 +1.3
AYKD Aykdinkavak 27.26 282 iP P 19 56 51.3 -3.0
KVT Kavak 27.51 290 eP P 19 56 56.2 -0.4
ANDN Andirin 27.60 283 iP P 19 56 56.1 -1.3
TLY Talaya 27.62 46c iP P 19 56 58.9 +1.6
TLY e 19 57 36.6
TLY ePPP PPP 19 57 47.8
TLY eS S 20 01 30.8 +6.0
TLY pmax pmax
comp=Z,273nm,1.3s
CD2 Chengdu 27.72 92 P P 19 57 00.5 +2.0
CD2 pP pP 19 57 39.0 +2.1
CD2 PP PnPn 19 57 58.5 +2.8
CD2 sP sP 19 58 02.3 +3.5
CD2 PcP PcP 20 00 11.8 +1.5
CD2 S S 20 01 26.6 -0.3
CD2 sS sS 20 02 36.9 +1.4
CD2 SS SnSn 20 03 05.4 +2.3
CD2 AMB AMB
comp=Z,660nm,1.1s
CD2 AMB AMB
comp=Z,5μm,5.4s
CD2 LR LR
comp=Z,7μm,9.5s
CD2 LR LR
comp=Z,8μm,10.7s
HAVZ Havza 27.76 290 iP P 19 56 59.5 +0.8
BNN Bunyan 27.83 286 eP P 19 56 60.0 +0.5
COBT Iskenderun 27.84 281 iP P 19 56 59.1 -0.6
TAHT Tahtakopru-Hat 27.93 280 eP P 19 57 01.6 +1.4
KOZT Kozan 28.02 283 eP P 19 57 01.1 0.0
DIKM Dikmen 28.09 292 eP P 19 57 01.6 +0.1
CEYT Ceyhan 28.16 282 eP P 19 57 02.7 +0.5
IRK Irkutsk 28.18 46 eP P 19 57 02.8 +0.5
IRK e 19 57 44.9
IRK pmax pmax
comp=Z,702nm,1.5s
MNCY Minicoy 28.18 176 iP P 19 57 05.0 +2.4
SONM Songino Array 28.32 55 P P 19 57 05.0 +1.3
SONM e 20 29 19.4
SONM Songino Array 28.32 55 P P 19 57 05.0 +1.3
comp=Z,250nm,1.0s,baz=261,slow=9.0,SNR=677
SONM P3KPbc 20 29 19.4
comp=Z,8.7nm,1.0s,baz=99,slow=3.6,SNR=35
TRD Trivandrum 28.40 168 eP P 19 57 05.4 +0.9
TRD AMB AMB 19 57 07.1
comp=Z,360nm,0.8s
ASF Jabal al Asfar 28.41 271 P P 19 57 06.0 +1.4
ASF pP pP 19 57 45.6 +2.4
ASF Jabal al Asfar 28.41 271 P P 19 57 06.0 +1.4
comp=Z,32nm,0.9s,baz=40,slow=3.6,SNR=66
ASF pP pP 19 57 45.6 +2.4
comp=Z,67nm,0.8s,baz=48,slow=2.6,SNR=5.1
CTKT Corum 28.49 289 iP P 19 57 03.9 -1.4
KRTS Karatas 28.53 281 eP P 19 57 07.9 +2.3
AVNT Avonos 28.60 286 iP P 19 57 06.0 -0.3
CORM Corum 28.64 289 eP P 19 57 06.5 -0.1
KARA Karaisali 28.66 282 eP P 19 57 06.5 -0.2
NIG Nigde 28.88 284 eP P 19 57 10.9 +1.9
SIM Simferopol' 29.00 298ceP P 19 57 10.0 +0.4
SIM e 19 57 49.9
SIM eS S 20 01 48.1 +1.6
SIM pmax pmax
comp=Z,311nm,0.9s
SIM MLR MLR
comp=Z,2μm,10.0s
BZK Bozkurt 29.02 292 eP P 19 57 08.7 -1.1
TOS Tosya 29.04 290 eP P 19 57 09.8 -0.3
MERS Mersin 29.15 282 eP P 19 57 12.5 +1.4
MMAI Mount Meron Ar 29.36 274 P P 19 57 14.4 +1.4
MMAI pP pP 19 57 53.6 +2.0
MMAI PcP PcP 20 00 15.7 +1.3
MMAI ScP ScP 20 03 37.0 -1.1
MMAI Mount Meron Ar 29.36 274 P P 19 57 14.4 +1.4
comp=Z,81nm,1.0s,baz=80,slow=11,SNR=34
MMAI pP pP 19 57 53.6 +2.0
comp=Z,13nm,0.6s,baz=70,slow=8.1,SNR=2.6
MMAI PcP PcP 20 00 15.7 +1.3
comp=Z,59nm,0.6s,baz=73,slow=5.5,SNR=12
MMAI ScP ScP 20 03 37.0 -1.1
comp=Z,7.6nm,0.5s,baz=71,slow=5.4,SNR=4.4
KMI Kunming 29.39 104 ⇑P P 19 57 14.6 +1.1
KMI pP pP 19 57 51.8 -0.4
KMI sP sP 19 58 12.6 -1.3

KMI S S 20 01 54.5 +1.0
KMI sS sS 20 03 02.1 -0.1
KMI AMB AMB
comp=Z,140nm,0.9s
KMI AMB AMB
comp=Z,4μm,6.2s
KMI LR LR
comp=Z,5μm,15.5s
KMI LR LR
comp=Z,2μm,9.4s
KMI LR LR
comp=Z,3μm,18.2s
BR131 Keskin Array S 29.44 288 eP P 19 57 14.1 +0.4
comp=Z,80nm,0.7s
BRTR Keskin Array B 29.44 288 P P 19 57 14.2 +0.5
BRTR pP pP 19 57 54.0 +1.6
BRTR PcP PcP 20 00 14.9 +0.4
BRTR e 20 29 15.0
BRTR Keskin Array B 29.44 288 P P 19 57 14.2 +0.5
comp=Z,98nm,0.8s,baz=102,slow=8.1,SNR=216
BRTR pP pP 19 57 54.0 +1.6
comp=Z,90nm,0.7s,baz=104,slow=9.6,SNR=4.7
BRTR PcP PcP 20 00 14.9 +0.4
comp=Z,37nm,0.9s,baz=77,slow=2.7,SNR=5.8
BRTR P3KPbc 20 29 15.0
comp=Z,2.0nm,0.9s,baz=266,slow=3.7,SNR=11
MUKL Al Mukalla 29.45 228⇑eP P 19 57 14.3 +0.5
MUKL AMb AMB 19 57 15.8
comp=Z,283nm,1.1s
ELDT Eldivan 29.53 289 iP P 19 57 13.0 -1.6
CMAI Chiengmai2 29.57 116 P P 19 57 15.1 +0.1
comp=Z,124nm,1.4s,comp=Z,10μm
MOS Moscow 29.65 321 eP P 19 57 15.2 0.0
MOS e*PP pP 19 57 52.4 -1.5
MOS e 19 58 11.7
MOS e 19 58 22.2
MOS eS S 20 01 57.3 +0.8
MOS e*SS sS 20 03 00.3 -4.9
MOS e 20 03 50.1
MOS pmax pmax
comp=Z,2μm,1.2s
MOS pmax pmax
comp=N,394nm,1.0s
MOS pmax pmax
comp=E,965nm,1.0s
MOS pmax pmax
comp=Z,3μm,1.4s
MOS pmax pmax
comp=N,500nm,1.1s
MOS pmax pmax
comp=E,2μm,1.2s
MOS smax smax
comp=N,4μm,3.0s
MOS smax smax
comp=E,9μm,3.9s
EREN Erenkoy 29.70 279 eP P 19 57 16.3 +0.5
SULT Sultanhani-AKS 29.72 285 eP P 19 57 16.9 +0.7
BBAL Bala 29.85 287 iP P 19 57 15.6 -1.8
AFSR Af¯ar-Bala (A 29.90 287 eP P 19 57 18.7 +0.9
OBN Obninsk 29.93 319⇑iP P 19 57 18.3 +0.7
OBN i*PP pP 19 57 55.2 -1.1
OBN i 19 58 22.6
OBN i 20 00 14.4
OBN iS S 20 02 01.8 +1.0
OBN pmax pmax
comp=Z,4μm,1.6s
OBN pmax pmax
comp=Z,2μm,1.2s
OBN MLR MLR
comp=Z,10μm,17.0s
OBN Obninsk 29.93 319 P P 19 57 18.3 +0.7
comp=Z,9μm,0.5s
PHNC Paralimni 29.93 278 P P 19 57 18.0 +0.1
comp=Z,4.8nm,1.2s
IKL Isikli 29.93 281 eP P 19 57 16.9 -1.0
SAFT Safranbolu 30.04 291 eP P 19 57 19.1 +0.3
ANTO Ankara 30.07 288 eP P 19 57 19.5 +0.3
ANTO Ankara 30.07 288 ⇑P P 19 57 20.2 +1.0
ANTO Ankara 30.07 288 P P 19 57 20.5 +1.3
SNR=74
ANTO Ankara 30.07 288⇑iP P 19 57 20.2 +1.0
ANTO Ankara 30.07 288 eP P 19 57 20.0 +0.8
comp=Z,219nm,1.1s
ANTO Ankara 30.07 288 P P 19 57 20.5 +1.3
SNR=74
ANTO Ankara 30.07 288 P P 19 57 20.5 +1.3
SNR=74
ANTO Ankara 30.07 288 P P 19 57 20.5 +1.3
SNR=74
ANTO Ankara 30.07 288 P P 19 57 20.5 +1.3
SNR=74
ANTO Ankara 30.07 288 P P 19 57 20.5 +1.3
SNR=74
ANTO Ankara 30.07 288 P P 19 57 20.5 +1.3
SNR=74
ANTO Ankara 30.07 288 P P 19 57 20.5 +1.3
SNR=74
ANTO Ankara 30.07 288 P P 19 57 20.5 +1.3
SNR=74
ANTO Ankara 30.07 288 P P 19 57 20.5 +1.3
SNR=74
ANTO Ankara 30.07 288 P P 19 57 20.5 +1.3
SNR=74
ANTO Ankara 30.07 288 P P 19 57 20.5 +1.3
SNR=74
ANTO Ankara 30.07 288 P P 19 57 20.5 +1.3
SNR=74
ANTO Ankara 30.07 288 P P 19 57 20.5 +1.3
SNR=74
ANTO Ankara 30.07 288 P P 19 57 20.5 +1.3
SNR=74
ANTO Ankara 30.07 288 P P 19 57 20.5 +1.3
SNR=74
ANTO Ankara 30.07 288 P P 19 57 20.5 +1.3
SNR=74
ANTO Ankara 30.07 288 P P 19 57 20.5 +1.3
SNR=74
LOD Lodumlu 30.09 288 eP P 19 57 19.1 -0.3
CHTO Chiang Mai 30.22 118 eP P 19 57 21.0 +0.4
CHTO pmax pmax
comp=Z,1μm,0.9s
CHTO Chiang Mai 30.22 118 P P 19 57 21.5 +0.8
SNR=50
CHTO Chiang Mai 30.22 118 P P 19 57 21.4 +0.8
CHTO Chiang Mai 30.22 118 eP P 19 57 20.9 +0.4
comp=Z,1μm,0.9s
CHTO Chiang Mai 30.22 118 P P 19 57 21.1 +0.4
comp=Z,897nm,1.2s,comp=Z,32μm
LFK Lefkose 30.26 279 eP P 19 57 20.2 -0.8
CRAI Chiangrai 30.35 114 P P 19 57 22.7 +0.9
comp=Z,294nm,1.6s
PALK Pallekele 30.43 161 P P 19 57 24.4 +2.0
SNR=16
PALK Pallekele 30.43 161 P P 19 57 24.3 +1.8
PALK Pallekele 30.43 161 eP P 19 57 23.7 +1.3
comp=Z,28nm,1.7s
PALK Pallekele 30.43 161 P P 19 57 24.0 +1.5
comp=Z,4μm,0.6s,SNR=83
DGPR DIGLIPUR 30.44 134 eP P 19 57 25.0 +2.4
DGPR AMB AMB 19 57 25.7
comp=Z,690nm,2.5s
CM31 Chiang Mai Arr 30.45 119 eP P 19 57 23.7 +1.0
comp=Z,371nm,0.9s
CMAR Chiang Mai Arr 30.45 119 P P 19 57 23.6 +1.0
CMAR PcP PcP 20 00 17.7 +0.4
CMAR ScP ScP 20 03 40.8 -1.1
CMAR Chiang Mai Arr 30.45 119 P P 19 57 23.6 +1.0
comp=Z,74nm,0.7s,baz=298,slow=8.1,SNR=365
CMAR PcP PcP 20 00 17.7 +0.4
comp=Z,101nm,0.9s,baz=307,slow=6.2,SNR=5.9
CMAR ScP ScP 20 03 40.8 -1.1
comp=Z,16nm,0.8s,baz=292,slow=4.2,SNR=4.6
CSS Prodhromos 30.50 278 P P 19 57 21.9 -1.1
comp=Z,1.9nm,0.9s
CSS Prodhromos 30.50 278 P P 19 57 22.5 -0.5
CSS Prodhromos 30.50 278 eP P 19 57 21.6 -1.3
comp=Z,226nm,1.3s
MAMC Mammari 30.54 279 P P 19 57 23.2 -0.1
BTO Baotou 30.60 70 eP P 19 57 25.3 +1.4
LADK Ladik-KONYA 30.62 285 eP P 19 57 25.1 +1.1
KONT Konya--Tatoy 30.66 284 eP P 19 57 25.1 +0.7
HDMB Hadim 30.74 283 eP P 19 57 25.5 +0.2
LEF Lefka 30.81 279 eP P 19 57 25.8 +0.1
EIL Elat 30.84 268 P P 19 57 27.0 +1.0

EIL pP **pP** 19 58 06.5 +1.7
EIL Elat 30.84 268 ⇑P **P** 19 57 26.7 +0.7
baz=31,SNR=66
EIL Elat 30.84 268 P **P** 19 57 27.0 +1.0
comp=Z,220nm,1.1s,baz=57,slow=3.4,SNR=82
EIL pP **pP** 19 58 06.5 +1.7
comp=Z,82nm,0.9s,baz=13,slow=7.6,SNR=2.9
KIZT Kizilcal 30.89 286 *eP* **P** 19 57 25.6 -0.9
SZAC Souni-Zanaja 30.91 278 P **P** 19 57 26.6 0.0
comp=Z,5.6nm,1.4s
XAN Xi'an 30.92 83 P **P** 19 57 27.5 +0.8
XAN pP pP 19 58 11.3 +5.8
XAN sP **sP** 19 58 26.9 -0.3
XAN PP **PnPn** 19 58 37.1 +1.0
XAN S **S** 20 02 17.0 +0.1
XAN sS sS 20 03 31.3 +5.6
XAN ScP **ScP** 20 03 41.4 -1.8
XAN SS **SnSn** 20 04 19.1 -2.0
XAN AMB AMB
comp=Z,170nm,1.0s
XAN AMB AMB
comp=Z,680nm,6.1s
XAN LR LR
comp=Z,3μm,14.2s
XAN LR LR
comp=Z,1μm,15.3s
XAN LR LR
comp=Z,1μm,13.2s
GAZI Gazipasa 31.02 281 *i* P P 19 57 23.8 -3.7
ALFC Alevga 31.04 279 P **P** 19 57 27.3 -0.4
comp=Z,4.8nm,0.7s
AKMC Akamas 31.28 279 P **P** 19 57 29.7 -0.1
PPCY Paphos 31.30 279 P **P** 19 57 29.7 -0.3
KLMR Klimovskoe 31.47 331 *c* iP **P** 19 57 31.3 +0.2
KLMR *e**PP **pP** 19 58 09.5 -0.4
KLMR S **S** 20 02 24.5 -0.2
KLMR pmax pmax
comp=Z,1μm,1.2s
PBA Port Blair 31.57 136 *eP* P 19 57 35.0 +2.6
PBA AMB AMB 19 57 37.4
comp=Z,700nm,1.2s
BOLV Bolvadin 31.64 286 *i* P **P** 19 57 31.1 -1.9
HHC Hu-ho-hao-te 31.75 70 *eP* **P** 19 57 35.8 +1.9
HHC pP **pP** 19 58 15.3 +2.5
HHC sP **sP** 19 58 37.0 +2.4
HHC PP **PP** 19 58 48.8 -0.7
HHC S **S** 20 02 31.1 +1.3
HHC ScS **ScS** 20 07 42.8 -1.8
HHC AMB AMB
comp=Z,490nm,1.3s
HHC AMB AMB
comp=Z,8μm,5.6s
HHC LR LR
comp=Z,9μm,14.3s
HHC LR LR
comp=Z,8μm,15.5s
HHC LR LR
comp=Z,9μm,14.3s
GYA Guiyang 31.86 98 ⇑*i* iP **P** 19 57 36.6 +1.5
GYA pP **pP** 19 58 17.8 +3.8
GYA sP **sP** 19 58 40.1 +4.5
GYA PP **PP** 19 58 51.4 +0.5
GYA PcP **PcP** 20 00 20.8 -0.4
GYA S **S** 20 02 33.9 +2.1
GYA ScP **ScP** 20 03 44.9 -1.7
GYA PcS **PcS** 20 04 07.8 +1.5
GYA ScS **ScS** 20 07 42.4 -3.2
GYA AMB AMB
comp=Z,390nm,1.0s
GYA AMB AMB
comp=Z,2μm,4.9s
GYA LR LR
comp=Z,10μm,17.8s
GYA LR LR
comp=Z,8μm,17.4s
GYA LR LR
comp=Z,10μm,16.9s
BORA Eskisehir 31.86 289 *i* P **P** 19 57 32.0 -2.9
BDHA Al Bayda' 31.97 232 ⇑*eP* **P** 19 57 36.7 +0.5
HAJJ Hajjah 32.00 237 ⇑*eP* **P** 19 57 36.8 +0.4
HAJJ AMb AMB 19 57 38.1
comp=Z,4μm,2.1s
ISP Isparta 32.12 285 P **P** 19 57 36.3 -0.9
ISP Isparta 32.12 285 ⇑P **P** 19 57 37.3 +0.1
ISP Isparta 32.12 285 ⇑*i*P **P** 19 57 37.3 +0.1
ISP Isparta 32.12 285 *eP* **P** 19 57 37.2 0.0
comp=Z,222nm,1.3s
KORT Korkueli 32.41 283 *i* P P 19 57 35.9 -3.9
ENH Enshi 32.56 90 *eP* **P** 19 57 42.6 +1.5
comp=Z,0.6nm,0.9s
GDZ Gediz 32.71 287 *i* P **P** 19 57 39.8 -2.6
TLCR 32.76 299 ⇓P **P** 19 57 43.1 +0.6
TLCR 32.76 299 ⇓*i*P **P** 19 57 43.1 +0.6
ISK Istanbul-Kandi 32.78 291 P **P** 19 57 42.9 +0.1
ISK Istanbul-Kandi 32.78 291 P **P** 19 57 42.9 +0.1
ISK Istanbul-Kandi 32.78 291 P **P** 19 57 42.9 +0.1
KIS Kishinev 32.81 302 ⇑*i*P **P** 19 57 43.0 0.0
comp=Z,4μm,1.2s
KIS *i* pP **pP** 19 58 23.0 +1.0
KIS Kishinev 32.81 302 *i* PP PP 19 58 46.0 -15
comp=Z,5μm,4.0s
KIS Kishinev 32.81 302 *i* PPP PPP 19 58 54.0
KIS Kishinev 32.81 302 *i* PcP PcP 20 00 45.0 +22
KIS *i* S **S** 20 02 47.0 +1.1
comp=Z,6μm,5.0s
KIS *i* sS sS 20 03 58.0 +3.0
KIS *i* SS ScP 20 04 18.0 +29
KIS LRM MLR 20 14 38.0
comp=Z,6μm,18.0s
KIS Kishinev 32.81 302 α *i*P **P** 19 57 43.0 0.0
KIS *i* *PP **pP** 19 58 23.0 +1.0
KIS *i* 19 58 46.0
KIS *i* PPP PPP 19 58 54.0
KIS *i* S **S** 20 02 47.0 +1.1
KIS *i* *SS **sS** 20 03 58.0 +3.0
KIS pmax pmax
comp=E,3μm,1.2s
KIS pmax pmax
comp=Z,4μm,1.2s
KIS pmax pmax
comp=N,600nm,1.0s
KIS pmax pmax
comp=N,500nm,2.0s
KIS pmax pmax
comp=E,4μm,2.0s
KIS smax smax
comp=N,6μm,5.0s
KIS smax smax
comp=E,7μm,13.0s
KIS MLR MLR
comp=Z,5μm,14.0s
KIS MLR MLR
comp=Z,6μm,18.0s
KIS Kishinev 32.81 302 ⇓*i*P **P** 19 57 43.2 +0.2
ULDT Uludag 32.83 289 *i* P **P** 19 57 42.8 -0.6
TIY Taiyuan 32.86 75 *eP* **P** 19 57 45.3 +1.7
TIY pP **pP** 19 58 24.4 +1.7
TIY sP **sP** 19 58 45.1 +0.7
TIY S **S** 20 02 50.3 +3.2
TIY AMB AMB
comp=Z,510nm,1.3s
EFOR EFORIE 32.90 297 ⇑*i*P **P** 19 57 44.9 +1.1
AKASG **Malin Array Be** 32.94 309 P **P** 19 57 44.1 +0.1
AKASG *PP **pP** 19 58 23.9 +0.8
AKASG S **S** 20 02 47.9 +0.1
AKASG smax smax
comp=N,15nm,0.8s
AKASG MLR MLR
comp=Z,6μm,18.4s
AKASG **Malin Array Be** 32.94 309 P **P** 19 57 44.1 +0.1
AKASG pP **pP** 19 58 23.9 +0.8
AKASG S **S** 20 02 47.9 +0.1
AKASG *e* 20 28 56.6
AKASG **Malin Array Be** 32.94 309 P **P** 19 57 44.1 +0.1
comp=Z,1μm,0.8s,baz=82,slow=7.1,SNR=1886
AKASG pP **pP** 19 58 23.9 +0.8
comp=Z,225nm,0.8s,baz=90,slow=7.0,SNR=3.1
AKASG S **S** 20 02 47.9 +0.1
comp=Z,15nm,0.8s,baz=91,slow=13,SNR=3.8
AKASG LR LR 20 14 26.4
comp=Z,6μm,18.4s,baz=110,slow=42
AKASG P3KPbc 20 28 56.6
comp=Z,0.4nm,0.4s,baz=272,slow=3.4,SNR=4.6
AKBB Malin Array Si 32.94 309 *eP* **P** 19 57 44.0 0.0
AKBB Malin Array Si 32.94 309 *eP* **P** 19 57 44.0 0.0
MANR Mangalia 32.94 296 ⇓*i*P **P** 19 57 45.8 +1.7
AK02 Malin Array Si 32.95 309 *eP* **P** 19 57 44.0 -0.1
AK01 Malin Array Si 32.95 309 *eP* **P** 19 57 44.1 0.0
KIEV Kiev 32.95 309 *eP* **P** 19 57 44.1 0.0
KIEV pmax pmax
comp=Z,1μm,0.9s
KIEV Kiev 32.95 309 *eP* **P** 19 57 44.1 0.0
comp=Z,1μm,0.9s
GOLH Golhisar 32.98 284 *i* P **P** 19 57 43.3 -1.4
TIRR Tirgusor 33.05 297 ⇑P **P** 19 57 45.5 +0.4
TIRR Tirgusor 33.05 297 ⇑*i*P **P** 19 57 45.5 +0.4
TIRR Tirgusor 33.05 297 *eP* **P** 19 57 45.1 +0.1
comp=Z,491nm,1.6s
PBKT Sadao Pong 33.15 119 P **P** 19 57 48.0 +1.8
PBKT Sadao Pong 33.15 119 P **P** 19 57 47.6 +1.4
comp=Z,720nm,1.2s,comp=Z,10μm
AKAS Kas 33.16 282 *i* P P 19 57 42.9 -3.4
LEOM Leova 33.18 301 ⇓P **P** 19 57 46.5 +0.3
LEOM Leova 33.18 301 ⇓*i*P **P** 19 57 46.5 +0.3
CFR Carcaliu 33.24 299 ⇑P **P** 19 57 47.2 +0.5
CFR Carcaliu 33.24 299 ⇑*i*P **P** 19 57 47.2 +0.5
PSN Preselentsi 33.24 296 *eP* sP 19 58 47.9 +0.4
ELBA Catalca 33.24 291 *i* P **P** 19 57 45.0 -1.8
DNZL Cakiroluk 33.29 285 *i* P **P** 19 57 46.2 -2.1
TLB Topalu 33.31 298 ⇑P **P** 19 57 47.8 +0.5
TLB Topalu 33.31 298 ⇑*i*P **P** 19 57 47.8 +0.5
DURS Dursunbey 33.41 288 *i* P **P** 19 57 47.6 -0.8
KULA Kula-Manisa 33.44 286 P **P** 19 57 48.8 +0.2
KULA Kula-Manisa 33.44 286 P **P** 19 57 48.8 +0.2
TRBA At Turbah 33.45 233 ⇑*eP* **P** 19 57 49.5 +0.4
MSAB Monastry St. A 33.48 297 ⇓*i*P **P** 19 57 49.5 +0.7
CIT Chita 33.63 49 *eP* **P** 19 57 50.8 +0.7
CIT *e* 19 58 33.4
CIT *e* 19 59 11.4
CIT pmax pmax
comp=Z,2μm,2.2s
IAS Iasi 33.68 302 ⇑*i*P **P** 19 57 51.6 +1.1
GHRR 33.75 300 ⇑*i*P **P** 19 57 52.8 +1.7
TURN Turunc 33.80 294 *i* P **P** 19 57 50.2 -1.5
AMRR Amara 33.82 298 ⇓P **P** 19 57 53.7 +2.0
AMRR Amara 33.82 298 ⇓*i*P **P** 19 57 53.7 +2.0
PETR Petresti 33.88 300 ⇓*i*P **P** 19 57 53.9 +1.7
TMCR Tamitsa 34.03 335 *eP* **P** 19 57 54.3 +1.0
TMCR *e* 19 59 15.3
TMCR *e*S **S** 20 03 06.9 +2.6
TMCR pmax pmax
comp=Z,899nm,1.0s
GRER 34.06 299 ⇑*i*P **P** 19 57 56.5 +2.7
PGOR Pogoanele 34.06 298 ⇑*i*P **P** 19 57 56.0 +2.2
VRI Vrincioaia 34.23 300 ⇑P **P** 19 57 55.8 +0.5
VRI Vrincioaia 34.23 300 ⇑*i*P **P** 19 57 55.8 +0.5
SART Tekirdag 34.24 291 *i* P **P** 19 57 54.5 -1.0
PLOR Plostina 34.28 300 ⇑P **P** 19 57 57.4 +1.6
PLOR Plostina 34.28 300 ⇑*i*P **P** 19 57 57.4 +1.6
TESR Tescani 34.28 301 ⇑*i*P **P** 19 57 56.4 +0.7
ARG Arkhangelos 34.32 283 P **P** 19 57 55.9 -0.3
ARG Arkhangelos 34.32 283 P **P** 19 57 55.9 -0.3
ARG Arkhangelos 34.32 283 *eP* **P** 19 57 56.2 0.0
ARG Arkhangelos 34.32 283 P **P** 19 57 55.9 -0.3
ISR Istrita 34.37 299 ⇑*i*P **P** 19 57 58.6 +2.1
EDRB Edirne 34.43 293 P **P** 19 57 56.8 -0.2
EDRB Edirne 34.43 293 P **P** 19 57 56.8 -0.2
JMB Yambol 34.49 294 P **P** 19 57 58.9 +1.4
JMB Yambol 34.49 294 P **P** 19 57 58.9 +1.4
JMB Yambol 34.49 294 P **P** 19 57 58.9 +1.4
MICGM Minsk 34.49 315 ⇑*i*P **P** 19 57 56.0 -1.4
MNK Minsk 34.52 315 ⇑*i*P **P** 19 57 56.0 -1.6
MNK *e**PP **pP** 19 58 32.0 -4.9
MNK *e* 19 59 00.0
MNK *e*PPP PPP 19 59 23.0
MNK *e*S S **20 03 10.0 -2.0**
MNK *e*SS SnSn 20 05 30.0 -17
MNK pmax pmax
comp=E,3μm,0.8s
MNK pmax pmax
comp=Z,3μm,0.8s
MNK pmax pmax
comp=Z,9μm,3.0s
MNK pmax pmax
comp=N,990nm,1.0s
MNK smax smax
comp=E,27μm,8.0s
PRAR RASCA 34.59 302 ⇑*i*P **P** 19 57 58.9 +0.5
GCAM G?zelcaml? 34.70 285 *i* P **P** 19 57 57.6 -1.8
MLR Muntele Rosu 34.78 299 ⇑*i*P **P** 19 58 02.0 +1.9
CIOR Ciorogarla 34.86 297 ⇑*i*P **P** 19 58 02.7 +2.0
NIS1 Nisyros Isl. 34.98 284 P **P** 19 58 00.5 -1.3
NIS1 Nisyros Isl. 34.98 284 P **P** 19 58 00.5 -1.3
NIS2 Nisyros Isl. 34.98 284 P **P** 19 58 01.0 -0.9
NIS3 Nisyros Isl. 35.00 284 P **P** 19 58 01.2 -0.8
SMG Samos 35.00 286 P **P** 19 58 02.4 +0.4
SMG Samos 35.00 286 *eP* **P** 19 58 02.3 +0.3
SMG Samos 35.00 286 P **P** 19 58 02.4 +0.4
SKNT Sakolnakorn 35.05 115 P **P** 19 58 03.2 +0.6
comp=E,1μm,0.9s,comp=E,13μm
ALN Alexandroupoli 35.07 291 P **P** 19 58 02.2 -0.3
ALN Alexandroupoli 35.07 291 P **P** 19 58 02.2 -0.3
ALN Alexandroupoli 35.07 291 *eP* **P** 19 58 03.1 +0.6
ALN Alexandroupoli 35.07 291 P **P** 19 58 02.2 -0.3
PRK Paraskevi 35.15 288 P **P** 19 58 02.9 -0.3
PRK Paraskevi 35.15 288 P **P** 19 58 02.9 -0.3
PRK Paraskevi 35.15 288 *eP* **P** 19 58 03.7 +0.5
PRK Paraskevi 35.15 288 P **P** 19 58 02.9 -0.3
NACGM Naroch 35.21 316 *eP* **P** 19 58 02.0 -1.5
KARP Karpathos 35.25 282 P **P** 19 58 04.1 0.0
KARP Karpathos 35.25 282 *eP* **P** 19 58 04.5 +0.4
KARP Karpathos 35.25 282 P **P** 19 58 04.1 0.0
BJT Baijiatuau 35.34 70 *eP* **P** 19 58 06.4 +1.6
comp=E,112nm,0.7s
BJI Beijing 35.34 70 P **P** 19 58 06.3 +1.5
BJI pP **pP** 19 58 46.8 +2.6
BJI sP **sP** 19 59 09.0 +3.2
BJI S **S** 20 03 26.3 +1.4
BJI AMB AMB
comp=E,200nm,1.4s
BJI AMB AMB
comp=E,3μm,5.0s
PVL Pavlikeni 35.34 295 *eP* **P** 19 58 06.7 +1.9
MTUR Matau 35.41 299 ⇓P **P** 19 58 06.2 +0.7
MTUR Matau 35.41 299 ⇓*i*P **P** 19 58 06.2 +0.7
VOIR 35.41 299 ⇑P **P** 19 58 06.3 +0.8
VOIR 35.41 299 ⇑*i*P **P** 19 58 06.3 +0.8
RDO Rodhopi 35.41 292 P **P** 19 58 05.5 +0.1
RDO Rodhopi 35.41 292 *eP* **P** 19 58 05.9 +0.5
RDO Rodhopi 35.41 292 P **P** 19 58 05.5 +0.1
CHOS Chios island 35.47 287 P **P** 19 58 06.5 +0.4
CHOS Chios island 35.47 287 *eP* **P** 19 58 06.7 +0.6
CHOS Chios island 35.47 287 P **P** 19 58 06.5 +0.4
SIGR SIGRI 35.47 288 P **P** 19 58 05.5 -0.5
SIGR SIGRI 35.47 288 *eP* **P** 19 58 06.3 +0.3
SIGR SIGRI 35.47 288 P **P** 19 58 05.5 -0.5
GOLR 35.50 298 ⇑*i*P **P** 19 58 08.4 +2.3
SMTH Samothraki Isl 35.52 291 P **P** 19 58 06.4 +0.1
SMTH Samothraki Isl 35.52 291 *eP* **P** 19 58 06.8 +0.5
SMTH Samothraki Isl 35.52 291 P **P** 19 58 06.4 +0.1
IIGN Ignalina 35.62 316 *eP* **P** 19 58 07.8 +0.8
IIGN AMB AMB 19 58 10.3
comp=Z,1μm,1.2s
PATY Pattaya 35.62 124 P **P** 19 58 09.1 +1.6
comp=Z,52nm,1.7s,comp=Z,830nm
ARR Arges 35.71 299 ⇓P **P** 19 58 09.1 +1.1
ISAL Salakas 35.73 317 *eP* **P** 19 58 09.1 +1.2
ISAL AMB AMB 19 58 11.7
comp=Z,706nm,1.2s
JOF Joensuu 35.86 330 *eP* **P** 19 58 09.6 +0.7
JOF pmax pmax
comp=Z,455nm,0.4s
JOF Joensuu 35.86 330 *ep* **P** 19 58 09.6 +0.7
comp=Z,455nm,0.4s
LIA Limnos Island 35.87 290 P **P** 19 58 09.2 -0.1
LIA Limnos Island 35.87 290 *eP* **P** 19 58 09.8 +0.5
LIA Limnos Island 35.87 290 P **P** 19 58 09.2 -0.1
KAAM Kaadhehdhoo 35.89 177 P **P** 19 58 11.6 +1.9
PLD Plovdiv 35.91 293 P **P** 19 58 09.7 0.0
PLD Plovdiv 35.91 293 P **P** 19 58 09.7 0.0
PLD Plovdiv 35.91 293 P **P** 19 58 09.7 0.0
ZKR Zakros 36.10 281 P **P** 19 58 11.3 -0.1
ZKR Zakros 36.10 281 *eP* **P** 19 58 11.9 +0.5
ZKR Zakros 36.10 281 P **P** 19 58 11.3 -0.1
LVV L'vov 36.16 307 ⇓*i*P **P** 19 58 12.0 +0.3
LVV *e* 19 58 52.1
LVV *e* 19 59 34.5
LVV *i* 20 00 32.5
LVV *e*S **S** 20 03 37.1 0.0
APE Apeiranthos 36.16 285 P **P** 19 58 11.6 -0.3
APE Apeiranthos 36.16 285 P **P** 19 58 11.6 -0.3
APE Apeiranthos 36.16 285 *eP* **P** 19 58 12.2 +0.3
APE Apeiranthos 36.16 285 ⇑*i*P **P** 19 58 11.8 -0.1
APE Apeiranthos 36.16 285 P **P** 19 58 11.6 -0.3
VSU Vasula 36.18 322 *c* iP **P** 19 58 12.1 +0.5
VSU pmax pmax
comp=Z,3μm,1.0s
KAVA Kavala 36.20 292 P **P** 19 58 12.6 +0.5
KAVA Kavala 36.20 292 *eP* **P** 19 58 13.0 +0.9
KAVA Kavala 36.20 292 P **P** 19 58 12.6 +0.5
PGB Panagyurishte 36.26 294 *eP* **P** 19 58 13.9 +1.2
LOT Lotru 36.31 299 ⇓*i*P **P** 19 58 14.0 +0.8
SANT Santorini 36.38 284 P **P** 19 58 12.3 -1.5
SANT Santorini 36.38 284 *eP* **P** 19 58 13.3 -0.5
SANT Santorini 36.38 284 *eP* **P** 19 58 12.8 -1.0
comp=Z,872nm,1.4s
THR1 Thera Island 36.38 284 P **P** 19 58 13.1 -0.7
THR2 Thira island, 36.38 284 P **P** 19 58 13.0 -0.7
THR2 Thira island, 36.38 284 P **P** 19 58 13.0 -0.7
WHN Wuhan 36.38 87 ⇑*i*P **P** 19 58 15.4 +1.6
WHN pP **pP** 19 58 55.3 +2.0
WHN sP **sP** 19 59 12.4 -2.5
WHN S **S** 20 03 41.0 +0.1
WHN AMB AMB
comp=Z,10μm,3.8s
WHN LR LR
comp=Z,3μm,6.9s
WHN LR LR
comp=Z,6μm,9.0s
WHN LR LR
comp=Z,16μm,17.0s
CJR Cluj-Napoca 36.39 301 ⇓P **P** 19 58 15.3 +1.6
CJR Cluj-Napoca 36.39 301 ⇓*i*P **P** 19 58 15.3 +1.6
THR3 Thira Island, 36.42 284 P **P** 19 58 13.5 -0.5
THR3 Thira Island, 36.42 284 P **P** 19 58 13.5 -0.5
THR6 Thira Island, 36.43 284 P **P** 19 58 13.1 -1.0
THR6 Thira Island, 36.43 284 P **P** 19 58 13.1 -1.0
MPEP Malo Peshtene 36.48 296 *eP* **P** 19 58 16.5 +2.0
NPS Neapolis 36.54 282 P **P** 19 58 14.4 -0.7
NPS Neapolis 36.54 282 P **P** 19 58 14.4 -0.7
NPS Neapolis 36.54 282 *eP* **P** 19 58 15.2 +0.1
NPS Neapolis 36.54 282 P **P** 19 58 14.4 -0.7
NVR Nevrokopi 36.64 292 P **P** 19 58 17.0 +1.1
NVR Nevrokopi 36.64 292 *eP* **P** 19 58 16.7 +0.8
NVR Nevrokopi 36.64 292 P **P** 19 58 17.0 +1.1
LAST Lasithi 36.67 282 P **P** 19 58 16.5 +0.2
LAST Lasithi 36.67 282 *eP* **P** 19 58 16.6 +0.2
LAST Lasithi 36.67 282 P **P** 19 58 16.5 +0.2
OUR Ouranopolis 36.70 291 P **P** 19 58 16.3 -0.1
OUR Ouranopolis 36.70 291 P **P** 19 58 16.3 -0.1
OUR Ouranopolis 36.70 291 *eP* **P** 19 58 16.6 +0.2
OUR Ouranopolis 36.70 291 P **P** 19 58 16.3 -0.1
TIA Tai'an 36.86 76 P **P** 19 58 19.8 +2.0
TIA pP **pP** 19 58 59.0 +1.6
TIA S **S** 20 03 51.1 +3.0
TIA AMB AMB
comp=Z,120nm,1.0s
TIA AMB AMB
comp=Z,5μm,10.1s
TIA LR LR
comp=Z,2μm,11.3s
TIA LR LR
comp=Z,3μm,9.5s
TIA LR LR
comp=Z,2μm,9.5s
SRS Serrai 36.87 292 P **P** 19 58 18.0 +0.2
SRS Serrai 36.87 292 P **P** 19 58 18.0 +0.2
SRS Serrai 36.87 292 *eP* **P** 19 58 18.6 +0.8
SRS Serrai 36.87 292 P **P** 19 58 18.0 +0.2
DEV Deva 36.90 300 ⇓P **P** 19 58 19.2 +1.2
DEV Deva 36.90 300 ⇓*i*P **P** 19 58 19.2 +1.2
VTS Vitosha 36.96 294 P **P** 19 58 19.1 +0.4
VTS Vitosha 36.96 294 ⇑P **P** 19 58 19.6 +0.9
VTS Vitosha 36.96 294 ⇑*i*P **P** 19 58 19.6 +0.9
VTS Vitosha 36.96 294 *eP* **P** 19 58 19.9 +1.2
VTS Vitosha 36.96 294 P **P** 19 58 19.1 +0.4
AOS Alonnisos 36.99 289 P **P** 19 58 17.9 -0.9
AOS Alonnisos 36.99 289 *eP* **P** 19 58 18.9 +0.1
AOS Alonnisos 36.99 289 P **P** 19 58 17.9 -0.9
DRGR 36.99 302 ⇑P **P** 19 58 20.2 +1.3
DRGR 36.99 302 ⇑*i*P **P** 19 58 20.2 +1.3
PAIG Paliouri 37.00 290 P **P** 19 58 18.9 0.0
PAIG Paliouri 37.00 290 P **P** 19 58 18.9 0.0
PAIG Paliouri 37.00 290 *eP* **P** 19 58 19.5 +0.6
PAIG Paliouri 37.00 290 P **P** 19 58 18.9 0.0
KWP Kalwaria Pacla 37.01 306 *eP* **P** 19 58 19.6 +0.7
KWP *e**PP **pP** 19 59 00.6 +2.0
KWP *e**SP **sP** 19 59 22.4 +2.3
KWP *e* 19 59 47.7
KWP *e*S **S** 20 03 51.7 +1.7
KWP pmax pmax
comp=Z,3μm,1.3s
KWP Kalwaria Pacla 37.01 306 ⇑*i*P **P** 19 58 19.6 +0.7
KWP Kalwaria Pacla 37.01 306 *eP* **P** 19 58 19.5 +0.7
comp=Z,2μm,0.9s
KWP Kalwaria Pacla 37.01 306 *eP* **P** 19 58 19.6 +0.7
KWP *ep*P **pP** 19 59 00.5 +2.0
KWP *es*P **sP** 19 59 22.3 +2.2
KWP *ePP* **PP** 19 59 47.7 +0.6
KWP *eS* **S** 20 03 51.6 +1.6
GZR Gura Zlata 37.01 299 ⇑P **P** 19 58 19.5 +0.5
GZR Gura Zlata 37.01 299 ⇑*i*P **P** 19 58 19.5 +0.5
TRPA Tarpa 37.09 304 ⇑*i*P **P** 19 58 20.6 +1.1
TRPA Tarpa 37.09 304 ⇑*e* **P** 19 58 21.0 +1.5
SOH Sokhos 37.10 292 P **P** 19 58 19.8 0.0
SOH Sokhos 37.10 292 P **P** 19 58 19.8 0.0
SOH Sokhos 37.10 292 *eP* **P** 19 58 20.4 +0.6
SOH Sokhos 37.10 292 P **P** 19 58 19.8 0.0
PLG Polygyros 37.10 291 P **P** 19 58 19.3 -0.5
PLG Polygyros 37.10 291 P **P** 19 58 19.3 -0.5
PLG Polygyros 37.10 291 *eP* **P** 19 58 20.6 +0.8
PLG Polygyros 37.10 291 P **P** 19 58 19.3 -0.5
IDI Anoyia 37.10 282 P **P** 19 58 19.1 -0.8
IDI Anoyia 37.10 282 *eP* **P** 19 58 19.8 -0.1
IDI Anoyia 37.10 282 *eP* **P** 19 58 18.5 -1.4
comp=Z,335nm,1.0s
SUW Suwalki 37.11 314 ⇑*i*P **P** 19 58 19.8 +0.2
SUW *e**PP **pP** 19 59 00.1 +0.8
SUW *e**SP **sP** 19 59 21.7 +0.8
SUW *e* 19 59 47.4
SUW *e*S **S** 20 03 52.4 +1.0
SUW pmax pmax
comp=Z,3μm,1.0s
SUW Suwalki 37.11 314 *eP* **P** 19 58 19.6 0.0
comp=Z,2μm,0.9s
SUW Suwalki 37.11 314 *i* P **P** 19 58 19.8 +0.2
SUW *ep*P **pP** 19 59 00.0 +0.8
SUW *es*P **sP** 19 59 21.7 +0.8
SUW *ePP* **PP** 19 59 47.4 -0.7
SUW *eS* **S** 20 03 52.4 +1.0
ERET Eretria 37.19 288 P **P** 19 58 20.0 -0.6
ERET Eretria 37.19 288 P **P** 19 58 20.0 -0.6
UBPT Khong Chiam 37.23 116 P **P** 19 58 21.5 +0.4
UBPT Khong Chiam 37.23 116 P **P** 19 58 21.2 +0.1
comp=Z,321nm,1.6s,comp=Z,8μm
PTL Penteli 37.23 287 P **P** 19 58 20.7 -0.2
PTL Penteli 37.23 287 *eP* **P** 19 58 21.7 +0.8
PTL Penteli 37.23 287 P **P** 19 58 20.7 -0.2
PTL Penteli 37.23 287 P **P** 19 58 20.7 -0.2
SIVA Sivas 37.24 282 P **P** 19 58 20.8 -0.2
SIVA Sivas 37.24 282 *eP* **P** 19 58 21.4 +0.4
SIVA Sivas 37.24 282 P **P** 19 58 20.8 -0.2
UZH Uzhgorod 37.26 305 ⇑*i*P **P** 19 58 21.4 +0.5
UZH *e**PP **pP** 19 59 01.6 +1.0
UZH *e**SP **sP** 19 59 21.8 -0.4
UZH *eS* **S** 20 03 53.0 -0.8
SURT Suratani 37.27 130 P **P** 19 58 22.5 +1.1
comp=Z,262nm,0.7s,comp=Z,4μm
HIA Hailar 37.27 54 *eP* **P** 19 58 22.3 +1.2
comp=Z,227nm,1.1s
KOLS Kolonicke sedl 37.27 305 *eP* **P** 19 58 22.0 +0.9
KOLS pmax pmax
comp=Z,608nm,1.0s
KOLS Kolonicke sedl 37.27 305 *eP* **P** 19 58 22.0 +0.9
KOLS *ePP* **PP** 19 59 51.5 +1.5
KOLS *eS* **S** 20 03 55.2 +1.1

KOLS eSS SS 20 06 42.7 -2.8
MRKA Markates 37.31 288 P P 19 58 20.7 -0.8
MRKA Markates 37.31 288 ePN P 19 58 21.0 -0.5
MRKA Markates 37.31 288 P P 19 58 20.7 -0.8
MRKA Markates 37.31 288 ePn P 19 58 21.0 -0.5
SKIA Skiathos 37.31 289 P P 19 58 21.8 +0.3
SKIA Skiathos 37.31 289 P P 19 58 21.8 +0.3
ATHU Athens Univers 37.31 287 P P 19 58 21.6 0.0
ATHU Athens Univers 37.31 287 P P 19 58 21.6 0.0
ATHU Athens Univers 37.31 287 P P 19 58 21.6 0.0
HORT Hortiatis 37.32 291 P P 19 58 21.2 -0.5
HORT Hortiatis 37.32 291 eP P 19 58 22.0 +0.3
HORT Hortiatis 37.32 291 P P 19 58 21.2 -0.5
ATH Athens Observa 37.36 287 P P 19 58 22.1 +0.1
ATH Athens Observa 37.36 287 P P 19 58 22.1 +0.1
ATH Athens Observa 37.36 287 P P 19 58 22.1 +0.1
ATH Athens Observa 37.36 287 P P 19 58 22.1 +0.1
KNT Kendrikon 37.38 292 P P 19 58 21.4 -0.7
KNT Kendrikon 37.38 292 P P 19 58 21.4 -0.7
KNT Kendrikon 37.38 292 eP P 19 58 22.7 +0.6
KNT Kendrikon 37.38 292 P P 19 58 21.4 -0.7
THE Thessaloniki 37.42 291 P P 19 58 22.1 -0.3
THE Thessaloniki 37.42 291 P P 19 58 22.1 -0.3
THE Thessaloniki 37.42 291 P P 19 58 22.1 -0.3
LVZ Lovozero 37.45 338 *c iP* P 19 58 22.8 +0.5
LVZ pmax pmax
comp=Z,533nm,1.0s
LVZ Lovozero 37.45 338 P P 19 58 22.5 +0.2
comp=Z,4µm,0.8s,SNR=49
NEO Neokhori 37.46 289 P P 19 58 22.4 -0.5
NEO Neokhori 37.46 289 eP P 19 58 22.6 -0.3
NEO Neokhori 37.46 289 P P 19 58 22.4 -0.5
NEO Neokhori 37.46 289 P P 19 58 22.4 -0.5
FIA1 FINESS Array S 37.47 326 eP P 19 58 23.1 +0.6
FINES FINESS Array B 37.47 326 P P 19 58 23.2 +0.6
FINES pP pP 19 59 03.2 +0.9
FINES S S 20 03 57.1 +0.4
FINES FINESS Array B 37.47 326 P P 19 58 23.2 +0.6
comp=Z,589nm,0.8s,baz=112,slow=7.1,SNR=773
FINES pP pP 19 59 03.2 +0.9
comp=Z,140nm,0.6s,baz=114,slow=9.4,SNR=2.3
FINES S S 20 03 57.1 +0.4
comp=Z,36nm,0.8s,baz=96,slow=22,SNR=2.4
FINES LR LR 20 15 51.4
comp=Z,4µm,20.1s,baz=147,slow=39
XOR Xorichti 37.48 289 P P 19 58 22.9 -0.1
XOR Xorichti 37.48 289 eP P 19 58 23.2 +0.2
XOR Xorichti 37.48 289 P P 19 58 22.9 -0.1
XOR Xorichti 37.48 289 P P 19 58 22.9 -0.1
SMIA Simia 37.56 288 P P 19 58 23.9 +0.2
VAY Valandovo 37.60 293 P P 19 58 23.8 -0.2
VAY Valandovo 37.60 293 P P 19 58 23.8 -0.2
VAY Valandovo 37.60 293 P P 19 58 23.8 -0.2
VAY Valandovo 37.60 293 *i P* P 19 58 24.7 +0.7
KAF Kangasniemi 37.62 327 eP P 19 58 24.5 +0.7
KAF pmax pmax
comp=Z,801nm,1.0s
KAF Kangasniemi 37.62 327 ep P 19 58 24.5 +0.7
comp=Z,801nm,1.0s
VAM Vamos 37.62 283 P P 19 58 23.4 -0.7
VAM Vamos 37.62 283 P P 19 58 23.4 -0.7
VAM Vamos 37.62 283 eP P 19 58 23.9 -0.2
VAM Vamos 37.62 283 P P 19 58 23.4 -0.7
APA Apatity 37.62 337⇑ *iP* P 19 58 16.6 -7.1
APA *i* SS SS 20 06 40.0 -12
APA pmax pmax
comp=Z,312nm,1.0s
FYTO Fytoko, Volos 37.66 289 P P 19 58 24.0 -0.5
FYTO Fytoko, Volos 37.66 289 P P 19 58 24.0 -0.5
FYTO Fytoko, Volos 37.66 289 P P 19 58 24.0 -0.5
LKR Lokris 37.77 288 P P 19 58 24.3 -1.1
LKR Lokris 37.77 288 P P 19 58 24.3 -1.1
CRVS Cervenica-Dubn 37.81 305 eP P 19 58 26.1 +0.5
CRVS *e* 19 59 06.2
CRVS *e* 19 59 58.7
CRVS eS S 20 04 03.9 +1.7
CRVS pmax pmax
comp=Z,160nm,1.1s
CRVS Cervenica-Dubn 37.81 305 eP P 19 58 26.1 +0.5
CRVS epP pP 19 59 06.2 +0.8
CRVS ePP PnPn 19 59 58.7 -0.8
CRVS eS S 20 04 03.9 +1.7
CRVS eSS SS 20 07 00.0 +3.8
BZS Buzias 37.81 300⇑P P 19 58 26.5 +0.9
BZS Buzias 37.81 300⇑ *iP* P 19 58 26.5 +0.9
KARN Karanos 37.84 283 P P 19 58 25.4 -0.6
KARN Karanos 37.84 283 eP P 19 58 26.4 +0.4
KARN Karanos 37.84 283 P P 19 58 25.4 -0.6
GVD Gavdhos 37.86 282 P P 19 58 25.7 -0.5
GVD Gavdhos 37.86 282 eP P 19 58 25.9 -0.3
GVD Gavdhos 37.86 282 eP P 19 58 25.4 -0.8
comp=Z,3µm,1.3s
DIDY Didyma 37.86 286 P P 19 58 24.0 -2.3
LIT Litokhoron 37.87 291 P P 19 58 25.0 -1.2
LIT Litokhoron 37.87 291 P P 19 58 25.0 -1.2
LIT Litokhoron 37.87 291 eP P 19 58 26.3 +0.1
LIT Litokhoron 37.87 291 P P 19 58 25.0 -1.2
LIT Litokhoron 37.87 291 P P 19 58 25.0 -1.2
DESE Dese 37.95 236 *i P* P 19 58 30.0 +2.5
STHS Stebnicka Huta 37.95 306 eP P 19 58 27.7 +0.9
STHS pmax pmax
comp=Z,270nm,0.9s
STHS Stebnicka Huta 37.95 306 eP P 19 58 27.7 +0.9
AXAR Agios Charalam 38.00 288 P P 19 58 27.4 0.0
AXAR Agios Charalam 38.00 288 P P 19 58 27.4 0.0
ACOR Acrocorinthos 38.03 287 P P 19 58 20.0 -7.6
ANKY Antikythira Is 38.20 284 P P 19 58 27.3 -1.7
ANKY Antikythira Is 38.20 284 P P 19 58 27.3 -1.7
ANKY Antikythira Is 38.20 284 P P 19 58 27.3 -1.7
AGG Agios Georgios 38.20 289 P P 19 58 28.0 -1.0
AGG Agios Georgios 38.20 289 P P 19 58 28.0 -1.0
AGG Agios Georgios 38.20 289 P P 19 58 28.0 -1.0
QIZ Qiongzhong 38.22 106 P P 19 58 30.0 +0.7
QIZ sP sP 19 59 33.1 +2.5
QIZ S ScP 20 04 09.3 -0.2
QIZ AMB AMB
comp=Z,170nm,1.9s
QIZ AMB AMB
comp=Z,3µm,6.3s
QIZ Qiongzhong 38.22 106 eP P 19 58 30.1 +0.7
comp=Z,303nm,1.4s
VLI Veliai 38.26 285 P P 19 58 27.5 -2.0
VLI Veliai 38.26 285 P P 19 58 27.5 -2.0
KYTH Kithira 38.30 284 ePN P 19 58 20.6 -9.3
KYTH Kithira 38.30 284 ePn P 19 58 20.6 -9.3
BEL Belsk 38.33 310⇑ eP P 19 58 30.6 +0.7
BEL e*PP pP 19 59 10.2 +0.5
BEL e*SP sP 19 59 31.4 +0.2
BEL e 20 00 01.3
BEL eS S 20 04 10.6 +0.8
BEL pmax pmax
comp=Z,2µm,1.1s
BEL Belsk 38.33 310 eP P 19 58 30.5 +0.7
BEL epP pP 19 59 10.2 +0.5
BEL esP sP 19 59 31.3 +0.1
BEL ePP PP 20 00 01.2 -0.3
BEL eS S 20 04 10.6 +0.8
THL Klokotos Trika 38.33 290 P P 19 58 28.9 -1.2
SKO Skopje 38.34 294 P P 19 58 29.7 -0.4
SKO Skopje 38.34 294 P P 19 58 29.7 -0.4
SKO Skopje 38.34 294 P P 19 58 29.7 -0.4
SKO Skopje 38.34 294 *i P* P 19 58 31.4 +1.2
MAKR Makrakomi, Fth 38.35 289 P P 19 58 29.9 -0.4
MAKR Makrakomi, Fth 38.35 289 P P 19 58 29.9 -0.4
KZN Kozani 38.37 291 P P 19 58 30.1 -0.4
KZN Kozani 38.37 291 P P 19 58 30.1 -0.4
KZN Kozani 38.37 291 eP P 19 58 31.2 +0.7
KZN Kozani 38.37 291 P P 19 58 30.1 -0.4
KZN Kozani 38.37 291 P P 19 58 30.1 -0.4
TRIZ Trizonia 38.54 288 P P 19 58 30.9 -0.9
KLV Kalavryta, Ach 38.55 287 P P 19 58 30.6 -1.4
KLV Kalavryta, Ach 38.55 287 P P 19 58 30.6 -1.4
NIE Niedzica 38.56 306⇑ *iP* P 19 58 33.4 +1.5
NIE *e*PP pP 19 59 09.9 -1.9
NIE eS S 20 04 15.9 +2.4
NIE MLR MLR
comp=Z,7µm,16.4s
NIE Niedzica 38.56 306 *i P* P 19 58 33.4 +1.5
NIE epP pP 19 59 09.9 -1.9
NIE eS S 20 04 15.9 +2.4
NIE L L 20 17 55.0
comp=Z,6µm,20.6s
BIA Bitola 38.58 292 P P 19 58 31.4 -0.8
BIA Bitola 38.58 292 P P 19 58 31.4 -0.8
BIA Bitola 38.58 292 *i* P P 19 58 32.6 +0.4
BIA Bitola 38.58 292 P P 19 58 31.4 -0.8
FNA Florina 38.58 292 P P 19 58 31.3 -0.9
FNA Florina 38.58 292 P P 19 58 31.3 -0.9
FNA Florina 38.58 292 eP P 19 58 32.2 0.0
FNA Florina 38.58 292 P P 19 58 31.3 -0.9
FNA Florina 38.58 292 P P 19 58 31.3 -0.9
EVR Evrytania 38.62 289 P P 19 58 32.2 -0.4
EVR Evrytania 38.62 289 P P 19 58 32.2 -0.4
LAKA Lakka 38.64 288 P P 19 58 31.1 -1.6
LAKA Lakka 38.64 288 P P 19 58 31.1 -1.6
GZH Guangzhou 38.79 98 P P 19 58 35.1 +1.0
GZH S S 20 04 18.3 +0.9
GZH AMB AMB
comp=Z,9µm,3.9s
GZH LR LR
comp=Z,6µm,12.0s
GZH LR LR
comp=Z,5µm,11.6s
PSZ Piszkesteto 38.87 303⇑P P 19 58 35.7 +1.2
PSZ Piszkesteto 38.87 303⇑ *iP* P 19 58 35.7 +1.2
PSZ Piszkesteto 38.87 303 eP P 19 58 35.2 +0.7
comp=Z,1µm,1.6s
PSZ Piszkesteto 38.87 303⇑ eP P 19 58 35.8 +1.2
NEST Nestorio 38.90 291 P P 19 58 34.6 -0.3
OJC Ojcow 38.90 307⇑ *iP* P 19 58 35.0 +0.3
OJC *e* 20 00 41.6
OJC eS S 20 04 19.8 +1.3
OJC MLR MLR
comp=Z,7µm,16.4s
OJC Ojcow 38.90 307 *i* P P 19 58 35.0 +0.3
OJC ePcP PcP 20 00 41.6 +0.2
OJC eS S 20 04 19.8 +1.3
OJC L L 20 18 14.0
comp=Z,7µm,16.4s
PKSN Nyarlorinc 38.94 302 *ie* P 19 58 37.1 +2.1
DIVS Divibare 39.11 297 P P 19 58 36.7 +0.1
PHP Peshkopia 39.12 294 P P 19 58 39.0 +2.3
PHP Peshkopia 39.12 294 P P 19 58 39.0 +2.3
PHP Peshkopia 39.12 294 P P 19 58 39.0 +2.3
LHMI Lhok Sumawe 39.19 136 P P 19 58 38.9 +1.5
comp=Z,841nm,0.7s,comp=Z,13µm
JAN Janina 39.19 290 P P 19 58 37.2 -0.1
JAN Janina 39.19 290 P P 19 58 37.2 -0.1
JAN Janina 39.19 290 P P 19 58 37.2 -0.1
PVY Plav 39.33 295⇑ *iP* P 19 58 39.2 +0.7
IVA Berane 39.34 295⇑ *iP* P 19 58 39.0 +0.5
PKS7 Kunszentmiklos 39.41 302 *ie* P 19 58 40.4 +1.5
PKS2 Kecel 39.42 301 *ie* P 19 58 40.7 +1.7
NJ2 Nanjing 39.46 82 eP P 19 58 39.1 -0.4
NJ2 pP pP 19 59 21.1 +1.5
NJ2 sP sP 19 59 44.8 +3.8
NJ2 ScP ScP 20 04 11.0 -3.1
NJ2 S S 20 04 28.0 +0.7
NJ2 sS sS 20 05 40.0 +2.2
NJ2 AMB AMB
comp=Z,890nm,0.8s
NJ2 AMB AMB
comp=Z,4µm,6.4s
NJ2 LR LR
comp=Z,2µm,11.2s
NJ2 LR LR
comp=Z,3µm,17.4s
NJ2 LR LR
comp=Z,4µm,17.1s
BUD Budapest 39.48 303⇑ *ie* P 19 58 40.6 +1.1
LKD2 Lefkada island 39.52 289 P P 19 58 38.8 -1.2
LKD2 Lefkada island 39.52 289 P P 19 58 38.8 -1.2
IGT Igoumenitsa 39.61 290 P P 19 58 39.3 -1.4
IGT Igoumenitsa 39.61 290 P P 19 58 39.3 -1.4
IGT Igoumenitsa 39.61 290 eP P 19 58 40.5 -0.2
IGT Igoumenitsa 39.61 290 P P 19 58 39.3 -1.4
PLE Pljevlja 39.64 296 eP P 19 58 41.2 +0.2
DL2 Dalian 39.70 71 P P 19 58 42.0 +0.6
DL2 S S 20 04 29.9 -0.7
DL2 AMB AMB
comp=Z,530nm,0.6s
DL2 AMB AMB
comp=Z,3µm,5.1s
DL2 LR LR
comp=Z,2µm,12.8s
DL2 LR LR
comp=Z,3µm,15.5s
DL2 LR LR
comp=Z,3µm,15.7s
VLS Valsamata 39.72 288 P P 19 58 39.7 -1.9
VLS Valsamata 39.72 288 P P 19 58 39.7 -1.9
VLS Valsamata 39.72 288 P P 19 58 39.7 -1.9
SRN Sarande 39.79 291 P P 19 58 41.7 -0.4
SRN Sarande 39.79 291 P P 19 58 41.7 -0.4
PKSM Moragy 39.84 301⇑ *iP* P 19 58 42.7 +0.3
PKSM Moragy 39.84 301⇑ *ie* P 19 58 43.3 +0.9
HKC Hong Kong Obse 39.85 99⇑ *iP* P 19 58 44.0 +1.2
TTG Podgorica 39.87 295⇑ *iP* P 19 58 42.6 -0.2
PKSG 39.91 303⇓ *ieP* P 19 58 44.5 +1.4
RAC Raciborz 39.93 307 eP P 19 58 44.0 +0.8
RAC *e*PP pP 19 59 24.8 +1.5
RAC *e* 20 00 19.9
RAC eS S 20 04 37.7 +3.9
RAC MLR MLR
comp=Z,4µm,16.8s
ULC Ulcinj 39.96 294⇑ *iP* P 19 58 44.2 +0.6
DRME Dracevica, Mon 39.97 295⇑ *iP* P 19 58 45.4 +1.8
OKC Ostrava-Krasne 39.97 307⇑ *iP* P 19 58 44.1 +0.6
OKC *e*PP pP 19 59 25.7 +2.1
OKC eS S 20 04 31.1 -3.3
OKC eSS SS 20 07 35.3 -3.7
OKC Ostrava-Krasne 39.97 307⇑ *iP* P 19 58 44.1 +0.6
OKC epP pP 19 59 25.7 +2.1
OKC *ex* x 20 01 04.1
OKC eS S 20 04 31.1 -3.3
OKC eXS sS 20 05 45.7 +0.7
OKC eSS SS 20 07 35.3 -3.7
NKY Niksic 40.00 296 eP P 19 58 44.5 +0.5
UPM Unac-Piva 40.01 296⇑ *iP* P 19 58 44.3 +0.2
NKME Niksic 40.04 295⇑ *iP* P 19 58 43.1 -1.1
PKS9 Tamasi 40.05 301⇓ *ie* P 19 58 45.4 +1.2
AAE Adis Abeba 40.06 235 *i P* P 19 58 47.4 +2.5
BUM Brajici-Budva 40.16 295⇑ *iP* P 19 58 45.6 +0.4
PKST T˜˜s 40.16 303⇓ *ie* P 19 58 46.1 +0.9
FURI Furi 40.22 235 *i P* P 19 58 49.0 +2.7
FURI eS ScS 20 08 39.1 +6.5
MORC Moravsky Berou 40.36 306 eP P 19 58 46.9 +0.1
MORC pmax pmax
comp=Z,826nm,1.0s
MORC Moravsky Berou 40.36 306⇑ *iP* P 19 58 47.6 +0.8
MORC Moravsky Berou 40.36 306 eP P 19 58 46.9 +0.1
comp=Z,826nm,1.0s
HCY Herceg Novi 40.43 295⇑ *iP* P 19 58 47.6 +0.2
GKP Gorka Klasztor 40.57 312⇑ *eP* P 19 58 48.9 +0.6
GKP e*PP pP 19 59 29.6 +1.0
GKP e*SP sP 19 59 49.7 -0.3
GKP *e* 20 00 29.8
GKP eS S 20 04 44.0 +0.9
GKP eSS SS 20 07 51.6 +0.9
GKP Gorka Klasztor 40.57 312 eP P 19 58 48.9 +0.6
GKP epP pP 19 59 29.6 +1.0
GKP esP sP 19 59 49.6 -0.4
GKP ePP PnPn 20 00 29.7 -1.7
GKP eS S 20 04 44.0 +0.9
GKP eSS SS 20 07 51.6 +0.9
SNY Shenyang 40.57 66 ⇑P P 19 58 48.8 +0.3
SNY pP pP 19 59 29.3 +0.5
SNY sP sP 19 59 48.6 -1.5
SNY S S 20 04 36.3 -7.2
SNY AMB AMB
comp=Z,230nm,1.8s
SNY AMB AMB
comp=Z,2µm,6.5s
SNY LR LR
comp=Z,2µm,12.5s
SNY LR LR
comp=Z,4µm,14.3s
SNY LR LR
comp=Z,4µm,11.2s
KEV Kevo 40.79 338 eP P 19 58 50.7 +0.8
KEV pmax pmax
comp=Z,419nm,0.8s
KEV Kevo 40.79 338 *ep* P 19 58 50.7 +0.8
comp=Z,419nm,0.8s
KEV Kevo 40.79 338 eP P 19 58 50.3 +0.4
comp=Z,466nm,0.8s
CLNS Chul'man 40.89 43 eP P 19 58 51.9 +0.9
CLNS *e* 20 00 25.7
CLNS *e* 20 00 53.3
CLNS eS S 20 04 51.7 +3.7
CLNS *e* 20 08 42.6
CLNS pmax pmax
comp=Z,266nm,1.2s
CLNS pmax pmax
comp=N,62nm,1.1s
CLNS pmax pmax
comp=E,168nm,1.1s
CLNS pmax pmax
comp=E,73nm,0.9s
CLNS pmax pmax
comp=N,101nm,1.0s
CLNS pmax pmax
comp=Z,131nm,1.2s
CLNS smax smax
comp=E,2µm,15.8s
CLNS smax smax
comp=N,1µm,12.1s
CLNS MLR MLR
comp=Z,2µm,14.0s
CLNS MLR MLR
comp=N,3µm,13.0s
CLNS MLR MLR
comp=E,3µm,14.0s
VRAC Vranov 41.00 306⇑ *iP* P 19 58 53.1 +1.2
KCSI Kotacane, Aceh 41.05 137 P P 19 58 51.3 -1.4
comp=E,468nm,0.7s,comp=E,6µm
BEHE Becsehely 41.10 301⇑ *ie* P 19 58 53.8 +1.0
DPC Dobruska-Polom 41.13 307⇑ *iP* P 19 58 54.0 +1.0
DPC e*PP pP 19 59 34.6 +1.2
DPC *e* 20 00 38.4
DPC *e* 20 01 17.7
DPC eS S 20 04 54.0 +2.3
DPC *e* 20 06 03.5
DPC eSS SS 20 08 01.3 -0.6
DPC Dobruska-Polom 41.13 307⇑ *iP* P 19 58 54.0 +1.0
DPC epP pP 19 59 34.6 +1.2
DPC ePP PnPn 20 00 38.4 +0.3
DPC *ex* x 20 01 17.7
DPC eS S 20 04 54.0 +2.3
DPC eXS sS 20 06 03.5 +0.9
DPC eSS SS 20 08 01.3 -0.6
SOP Sopron 41.13 303⇑ *ie* P 19 58 53.8 +0.8
ARCES ARCESS Array B 41.13 338 P P 19 58 53.6 +0.8
ARCES pP pP 19 59 33.8 +0.7
ARCES S S 20 04 52.2 +1.1
ARCES ARCESS Array B 41.13 338 P P 19 58 53.6 +0.8
comp=E,738nm,0.8s,baz=112,slow=8.3,SNR=1360
ARCES pP pP 19 59 33.8 +0.7
comp=E,290nm,0.8s,baz=115,slow=8.1,SNR=4.6
ARCES S S 20 04 52.2 +1.1
comp=E,20nm,0.9s,baz=159,slow=28,SNR=2.1
ARCES LR LR 20 17 10.4
comp=E,22µm,18.0s,baz=179,slow=37
ARE0 ARCESS Array S 41.13 338 eP P 19 58 53.3 +0.6
KSP Ksiaz 41.13 308⇑ eP P 19 58 53.6 +0.6
KSP e*PP pP 19 59 34.3 +0.9
KSP e*SP sP 19 59 54.2 -0.5
KSP eS S 20 04 50.8 -0.8
KSP e*SS sS 20 06 04.1 +1.6
KSP eSS SS 20 08 01.0 -0.9
KSP Ksiaz 41.13 308 eP P 19 58 53.7 +0.7
KSP epP pP 19 59 34.4 +1.0
KSP esP sP 19 59 54.7 0.0
KSP ePP PnPn 20 00 36.8 -1.3
KSP eS S 20 04 53.7 +2.1
KSP eSS SS 20 08 01.7 -0.2
SNSI Sinabang, Aceh 41.21 140 P P 19 58 55.4 +1.4
KULM Kulim 41.28 132 P P 19 58 56.2 +1.6
KULM Kulim 41.28 132 P P 19 58 55.6 +1.0
KULM Kulim 41.28 132 eP P 19 58 55.1 +0.5
comp=E,544nm,1.4s
UPC Upice 41.32 308⇑ *iP* P 19 58 55.4 +0.8
UPC e*PP pP 19 59 36.4 +1.4
UPC Upice 41.32 308⇑ *iP* P 19 58 55.4 +0.8
UPC epP pP 19 59 36.4 +1.4
SISC Sisak 41.49 300 P P 19 58 56.5 +0.6
CONA Conrad Observa 41.58 304⇑ *iP* P 19 58 57.3 +0.5
comp=E,3µm,2.7s,SNR=238
CN2 Changchun 41.59 63 eP P 19 58 57.0 +0.2
CN2 epP pP 19 59 40.8 +3.5
CN2 ePP PP 20 00 37.5 +0.7
CN2 eS S 20 04 52.1 -6.4
CN2 esS sS 20 06 08.9 -0.7
CN2 LR LR
comp=E,4µm,13.0s
CN2 LR LR
comp=E,2µm,13.0s
CN2 LR LR
comp=E,4µm,14.0s
KTK1 Kautokeino 41.60 336 eP P 19 58 57.2 +0.6
SSE Sheshan 41.66 82 P P 19 58 58.0 +0.5
SSE pP pP 19 59 40.9 +2.9
SSE sP sP 20 00 03.4 +4.1
SSE S S 20 05 00.6 +0.8
SSE sS sS 20 06 15.8 +4.9
SSE AMB AMB
comp=E,770nm,1.0s
SSE AMB AMB
comp=E,3µm,8.3s
SSE LR LR
comp=E,3µm,14.2s
SSE LR LR
comp=E,930nm,14.2s
SSE LR LR
comp=E,3µm,16.2s
TREC Trest 41.72 306⇑ *iP* P 19 58 58.4 +0.6
TREC e*PP pP 19 59 38.7 +0.4
TREC *e* 20 00 46.6
TREC eS S 20 04 57.8 -2.6
TREC Trest 41.72 306⇑ *iP* P 19 58 58.4 +0.6
TREC epP pP 19 59 38.7 +0.4
TREC ePP PnPn 20 00 46.6 +1.6
TREC eS S 20 04 57.8 -2.6
TREC eXS sS 20 06 15.4 +4.0
TREC eSS SS 20 08 18.3 +4.8
BAI Bari 41.86 293 ePn P 19 58 59.5 +0.5
ARSA Arzberg 41.87 303 *i P* P 19 58 59.7 +0.6
comp=E,1µm,2.1s,SNR=82
GCIS Gornji Cirnik 41.96 301⇑ eP P 19 59 00.3 +0.5
BSD Bornholm Skovb 42.00 315⇑ *iP* P 19 58 59.4 -0.6
BSD *i* *PP pP 19 59 39.0 -1.5
BSD pmax pmax
comp=Z,970nm,0.9s
BSD Bornholm Skovb 42.00 315⇑ *iP* P 19 58 59.4 -0.6
comp=Z,967nm,0.9s
BSD *i* pP pP 19 59 39.0 -1.5
UDBI Udbina 42.05 299 P P 19 59 00.9 +0.3
QZH Quanzhou 42.12 92⇑ *iP* P 19 58 58.3 -3.0
QZH sP sP 20 00 02.1 -1.0
QZH S S 20 05 07.3 +0.7
QZH AMB AMB
comp=Z,440nm,0.9s
QZH AMB AMB
comp=Z,5µm,8.5s
QZH LR LR
comp=Z,3µm,10.9s
QZH LR LR
comp=Z,9µm,10.5s
QZH LR LR
comp=Z,9µm,14.4s
IPM Ipoh 42.15 132 P P 19 59 02.9 +1.2
IPM Ipoh 42.15 132 P P 19 59 02.3 +0.6
IPM Ipoh 42.15 132 eP P 19 59 01.9 +0.3
comp=Z,413nm,0.8s
BISS Bistriski jare 42.21 302⇑ *iP* P 19 59 02.6 +0.8
PVCC Panska Ves 42.24 308⇑ *iP* P 19 59 02.9 +0.9
PVCC e*PP pP 19 59 43.1 +0.6
PVCC eS S 20 05 09.8 +1.9
PVCC *e* 20 06 21.9
PVCC Panska Ves 42.24 308⇑ *iP* P 19 59 02.9 +0.9
PVCC epP pP 19 59 43.1 +0.6
PVCC *ex* x 20 01 07.2
PVCC eS S 20 05 09.8 +1.9
PVCC eXS sS 20 06 21.9 +2.8
PVCC eSS SS 20 08 25.0 +1.5
SOKA Soboth 42.27 302 *i P* P 19 59 03.0 +0.6

comp=Z,2µm,1.7s,SNR=180
BOJS Bojanci 42.27 300 *i* P **P** **19 59 02.9 +0.6**
BOJS *i* pP **pP** **19 59 42.4 -0.5**
BOJS *e*S **S** **20 05 08.6 +0.2**
PSI Prapat 42.29 136 P **P** **19 59 02.9 0.0**
PSI Prapat 42.29 136 P **P** **19 59 02.8 -0.2**
PSI Prapat 42.29 136 ⇑P **P** **19 59 02.7 -0.2**
baz=42,SNR=163
PSI Prapat 42.29 136 P **P** **19 59 02.8 -0.2**
comp=Z,481nm,0.7s,baz=330,slow=9.6,SNR=117
PRU Pruhonice 42.29 307 ⇑*i*P **P** **19 59 02.9 +0.5**
PRU *e**PP **pP** **19 59 43.6 +0.7**
PRU *e* 20 00 07.1
PRU *e* 20 01 00.3
PRU *e*S **S** **20 05 09.4 +0.8**
PRU *e* 20 06 22.3
PRU Pruhonice 42.29 307 ⇑*i*P **P** **19 59 02.9 +0.5**
PRU *e*pP **pP** **19 59 43.6 +0.7**
PRU *e*sP **sP** **20 00 07.1 +2.8**
PRU *e*x x 20 01 00.3
PRU *e*S **S** **20 05 09.4 +0.8**
PRU *e*XS **sS** **20 06 22.3 +2.5**
PRU *e*SS SS 20 08 32.3 +7.8
CDT Castel del Mon 42.32 294 *e*Pn **P** **19 59 02.6 -0.2**
PRA Prague 42.35 307 ⇑P **P** **19 59 03.0 +0.1**
PRA pP **pP** **19 59 44.0 +0.5**
PRA S **S** **20 05 10.0 +0.5**
TIP Timpagrande 42.39 291 P **P** **19 59 02.8 -0.6**
TIP Timpagrande 42.39 291 *e*P **P** **19 59 02.9 -0.6**
comp=Z,309nm,1.3s
BRG Berggiesshubel 42.62 308 ⇑*i*P **P** **19 59 05.9 +0.9**
comp=Z,1µm,1.1s
BRG pP **pP** **19 59 43.0 -2.6**
BRG sP **sP** **20 00 03.0 -4.0**
BRG PP **PP** **20 00 48.0 +0.3**
BRG S **S** **20 05 10.0 -3.4**
BRG *i* 20 06 23.0
BRG *i* 20 08 40.0
BRG
comp=N,2µm,15.1s
BRG
comp=E,4µm,10.6s
BRG
comp=Z,6µm,12.6s
BRG Berggiesshubel 42.62 308 ⇑*i*P **P** **19 59 05.9 +0.9**
BRG *PP **pP** **19 59 43.0 -2.6**
BRG *SP **sP** **20 00 03.0 -4.0**
BRG 20 00 48.0
BRG S **S** **20 05 10.0 -3.4**
BRG *i* 20 06 23.0
BRG *i* 20 08 40.0
BRG MLR MLR
comp=N,1245µm,15.1s
BRG MLR MLR
comp=E,2µm,10.6s
BRG MLR MLR
comp=Z,4µm,12.6s
BRG Berggiesshubel 42.62 308 *e*P **P** **19 59 06.2 +1.2**
comp=Z,1µm,1.1s
BRG *e*pP **pP** **19 59 46.4 +0.8**
BRG *e*PPP PPP 20 01 34.8
OBKA Obir 42.62 302 *i*P **P** **19 59 06.2 +1.0**
comp=Z,3µm,2.5s,SNR=46
MOA Molln 42.65 304 *i*P **P** **19 59 05.8 +0.4**
comp=Z,1µm,1.6s,SNR=146
RUE Ruedersdorf 42.66 311 *e*P **P** **19 59 05.8 +0.5**
comp=Z,2µm,1.0s
RUE *e*pP **pP** **19 59 46.4 +0.5**
RUE Ruedersdorf 42.66 311 *e*P **P** **19 59 05.5 +0.2**
comp=Z,2µm,1.0s
NVLJ Novalja 42.68 299 P **P** **19 59 05.3 -0.3**
LJU Ljubljana 42.70 301 *i*P **P** **19 59 06.7 +0.9**
LJU *i*pP **pP** **19 59 46.6 +0.2**
LJU *i*sP **sP** **20 00 04.5 -3.2**
LJU *e*S **S** **20 05 15.9 +1.2**
LJU *e*sS **sS** **20 06 27.0 +1.0**
LJU *e*SS **ScS** **20 08 44.7 -1.5**
KTGM Kuala Trenggan 42.78 129 P **P** **19 59 08.6 +1.9**
GSI Gunungsitoli 42.80 139 P **P** **19 59 08.2 +1.3**
comp=Z,3µm,0.7s,comp=Z,33µm
CUC Castrocucco 42.90 292 *e*P **P** **19 59 07.6 +0.1**
comp=Z,526nm,0.9s
RGN Rugen 42.91 314 *e*P **P** **19 59 08.7 +1.4**
comp=Z,7µm,1.4s
RGN *e*pP **pP** **19 59 48.5 +0.6**
RGN *e*sP **sP** **20 00 09.9 +0.7**
RGN Rugen 42.91 314 *e*P **P** **19 59 07.8 +0.5**
comp=Z,3µm,0.9s
GEC2 GERESS Array S 42.93 305 *e*P **P** **19 59 08.2 +0.5**
GEC2 pmax pmax
comp=Z,408nm,1.4s
GEC2 GERESS Array S 42.93 305 *e*P **P** **19 59 08.2 +0.5**
comp=Z,408nm,1.4s
GERES GERESS Array B 42.93 305 P **P** **19 59 08.1 +0.4**
GERES pP **pP** **19 59 49.0 +0.6**
GERES PP **PP** **20 00 46.4 -4.8**
GERES GERESS Array B 42.93 305 P **P** **19 59 08.1 +0.4**
comp=Z,159nm,1.1s,baz=87,slow=7.0,SNR=311
GERES pP **pP** **19 59 49.0 +0.6**
comp=Z,22nm,0.8s,baz=91,slow=9.5,SNR=2.5
GERES PP **PP** **20 00 46.4 -4.8**
comp=Z,36nm,0.8s,baz=92,slow=7.1,SNR=3.9
KHC Kasperske Hory 42.98 306 ⇑*i*P **P** **19 59 08.4 +0.4**
KHC *e**PP **pP** **19 59 50.0 +1.3**
KHC *e**SP **sP** **20 00 12.3 +2.3**
KHC *e* 20 00 52.8
KHC *e*S **S** **20 05 21.5 +2.7**
KHC *e* 20 06 30.5
KHC *e*SS **SS** **20 08 42.0 +4.0**
KHC Kasperske Hory 42.98 306 ⇑P **P** **19 59 08.4 +0.4**
KHC *e*pP **pP** **19 59 50.0 +1.3**
KHC *e*sP **sP** **20 00 12.3 +2.3**
KHC *e*PP **PP** **20 00 52.8 +1.2**
KHC *e*S **S** **20 05 21.5 +2.7**
KHC *e*XS **sS** **20 06 30.5 +0.3**
KHC *e*SS **SS** **20 08 42.0 +4.0**
KHC Kasperske Hory 42.98 306 *e*P **P** **19 59 08.2 +0.2**
comp=Z,447nm,1.4s
FBE Freiberg 42.99 308 *e*P **P** **19 59 09.3 +1.3**
comp=Z,1µm,1.0s
FBE *e*pP **pP** **19 59 50.1 +1.4**
JAVS Javornik 43.04 301 *i*P **P** **19 59 08.7 +0.1**
JAVS *i*pP **pP** **19 59 49.0 -0.2**
JAVS *e*S **S** **20 05 21.8 +1.9**
HFS Hagfors 43.06 322 P **P** **19 59 08.7 +0.3**
HFS pP **pP** **19 59 49.6 +0.5**
HFS S **S** **20 05 19.8 +0.2**
HFS Hagfors 43.06 322 P **P** **19 59 08.7 +0.3**
comp=Z,971nm,0.6s,baz=99,slow=9.2,SNR=1354
HFS pP **pP** **19 59 49.6 +0.5**
comp=Z,277nm,0.6s,baz=97,slow=8.1,SNR=3.3
HFS S **S** **20 05 19.8 +0.2**
comp=Z,21nm,0.8s,baz=91,slow=29,SNR=2.1
HFS LR LR 20 20 19.5
comp=Z,5µm,19.2s,baz=119,slow=40
VOY Vojsko 43.13 301 *e*P **P** **19 59 09.5 +0.1**
VOY *e* 19 59 50.7
CLL Collm 43.19 309 ⇑*i*P **P** **19 59 09.8 +0.2**
CLL *e**PP **pP** **19 59 51.0 +0.7**
CLL *e*S **S** **20 05 22.0 +0.3**
CLL *e**SS **sS** **20 06 32.0 -1.1**
CLL pmax pmax
comp=Z,43nm,1.0s
CLL Collm 43.19 309 *e*P **P** **19 59 10.1 +0.5**
comp=Z,566nm,0.9s
CLL *e*PPP PPP 20 01 41.7
CLL Collm 43.19 309 ⇑*i*P **P** **19 59 09.8 +0.2**
comp=Z,566nm,1.0s
CLL *e*pP **pP** **19 59 51.0 +0.7**
CLL *e*(sP) **sP** **20 00 15.0 +3.4**
CLL *e*PP PcP 20 01 01.0 +5.6
CLL *e*sPP 20 01 50.0
CLL *e*S **S** **20 05 22.0 +0.3**
CLL *e*S **S** **20 05 22.0 +0.3**
CLL *e*sS **sS** **20 06 32.0 -1.1**
CLL *e*SS **SS** **20 08 45.0 +3.2**
MYKA Terra Mystica 43.22 302 ⇑*i*P **P** **19 59 10.4 +0.4**
comp=Z,2µm,2.4s,SNR=36
TRO Tromso 43.26 336 ⇑*i*P **P** **19 59 10.5 +0.6**
TRO *e*S **S** **20 05 23.1 +0.9**
TRO *e*SS **SS** **20 08 44.6 +2.2**
TRO AMS AMS 20 18 10.4
comp=Z,14µm,13.4s

TRI Trieste 43.27 301 *e*P **P** **19 59 10.1 -0.2**
TRI pmax pmax
comp=Z,604nm,1.5s
TRI Trieste 43.27 301 *e*P **P** **19 59 10.1 -0.2**
comp=Z,604nm,1.5s
CEL Celeste 43.28 290 *e*P **P** **19 59 10.0 -0.6**
comp=Z,1µm,1.6s
KBA Koelnbreinsper 43.37 303 *i*P **P** **19 59 11.6 +0.3**
comp=Z,2µm,2.3s,SNR=72
COP Copenhagen 43.43 315 ⇑*i*P **P** **19 59 12.6 +1.2**
COP pmax pmax
comp=Z,910nm,1.0s
COP Copenhagen 43.43 315 ⇑*i*P **P** **19 59 12.6 +1.2**
comp=Z,907nm,0.9s
WET Wettzell 43.44 306 *e*P **P** **19 59 12.4 +0.7**
WET pmax pmax
comp=Z,395nm,1.5s
WET Wettzell 43.44 306 *e*P **P** **19 59 12.4 +0.7**
comp=Z,395nm,1.5s
MSEY Mahe Island 43.48 203 *e*P **P** **19 59 13.1 +0.8**
comp=Z,287nm,1.3s
MSEY Mahe Island 43.48 203 P **P** **19 59 13.7 +1.4**
comp=Z,947nm,0.8s,SNR=12
FRIM Kepong 43.49 132 P **P** **19 59 14.4 +1.9**
LLD Lille Linde 43.55 315 *i*P **P** **19 59 13.6 +1.2**
LLD *i* 19 59 54.1
LLD pmax pmax
comp=Z,2µm,0.9s
LLD Lille Linde 43.55 315 *i*P **P** **19 59 13.6 +1.2**
comp=Z,2µm,0.9s
LLD *i* 19 59 54.1
TANN Tannenbergstha 43.59 308 *e*P **P** **19 59 14.0 +1.1**
comp=Z,612nm,1.2s
TANN *e*pP **pP** **19 59 55.1 +1.4**
RJOB Jochberg 43.65 304 *e*P **P** **19 59 13.7 +0.3**
comp=Z,346nm,1.1s
WERN Wernitzgruen 43.66 307 *e*P **P** **19 59 14.4 +1.0**
comp=Z,587nm,1.5s
WERN *e*pP **pP** **19 59 55.4 +1.2**
GUNZ Gunzen 43.68 308 *e*P **P** **19 59 14.6 +1.0**
comp=Z,628nm,1.2s
WERD Werda 43.69 308 *e*P **P** **19 59 14.5 +0.9**
comp=Z,671nm,1.2s
WERD *e*pP **pP** **19 59 55.5 +1.1**
DGAR Diego Garcia 43.72 178 *e*P **P** **19 59 13.0 -1.2**
DGAR pmax pmax
comp=Z,397nm,1.0s
DGAR Diego Garcia 43.72 178 *e*P **P** **19 59 13.0 -1.2**
comp=Z,397nm,1.0s
PLN Plauen 43.78 308 *e*P **P** **19 59 15.2 +0.9**
comp=Z,3µm,1.2s
PLN *e*pP **pP** **19 59 56.1 +0.9**
ROTZ Rotzenmuhle 43.81 307 *e*P **P** **19 59 16.0 +1.4**
comp=Z,1µm,1.4s
MANZ Manzenberg 43.85 307 *e*P **P** **19 59 16.2 +1.2**
comp=Z,745nm,1.2s
MANZ *e*pP **pP** **19 59 57.2 +1.4**
INCN Inchon 43.87 71 P **P** **19 59 16.2 +0.9**
SNR=10
INCN Inchon 43.87 71 *e*P **P** **19 59 15.2 -0.1**
comp=Z,542nm,1.4s
INCN Inchon 43.87 71 P **P** **19 59 16.2 +0.9**
SNR=10
INCN Inchon 43.87 71 P **P** **19 59 16.2 +0.9**
SNR=10
INCN Inchon 43.87 71 P **P** **19 59 16.2 +0.9**
SNR=10
INCN Inchon 43.87 71 P **P** **19 59 16.2 +0.9**
SNR=10
INCN Inchon 43.87 71 P **P** **19 59 16.2 +0.9**
SNR=10
INCN Inchon 43.87 71 P **P** **19 59 16.2 +0.9**
SNR=10
INCN Inchon 43.87 71 P **P** **19 59 16.2 +0.9**
SNR=10
INCN Inchon 43.87 71 P **P** **19 59 16.2 +0.9**
SNR=10
INCN Inchon 43.87 71 P **P** **19 59 16.2 +0.9**
SNR=10
INCN Inchon 43.87 71 P **P** **19 59 16.2 +0.9**
SNR=10
YAK Yakutsk 43.95 35*c* *i*P **P** **19 59 15.3 -0.1**
YAK *e**PP **pP** **19 59 57.0 +0.7**
YAK *e* 20 00 59.3
YAK *e* 20 01 04.4
YAK *e*S **S** **20 05 31.1 -1.2**
YAK *e**SS **sS** **20 06 43.4 -0.5**
YAK *e*SS **ScS** **20 08 54.5 +1.1**
YAK *e*SSS SSS 20 10 01.0
YAK pmax pmax
comp=Z,609nm,0.9s
YAK pmax pmax
comp=E,149nm,1.1s
YAK pmax pmax
comp=N,69nm,0.9s
YAK smax smax
comp=E,3µm,3.0s
YAK smax smax
comp=N,1µm,1.9s
NEUB Neuenburg 43.96 309 *e*P **P** **19 59 16.6 +0.8**
comp=Z,1µm,1.0s
ABTA Abfaltersbach 43.98 302 ⇓*i*P **P** **19 59 15.6 -0.5**
comp=Z,776nm,2.0s,SNR=36
AQU L'Aquila 44.15 296 *e*P **P** **19 59 17.5 +0.1**
comp=Z,366nm,1.1s
NB2 NORSAR Subarra 44.37 323 P **P** **19 59 19.1 +0.2**
comp=Z,1µm,0.7s,baz=96,slow=7.9
NB2 NORSAR Subarra 44.37 323 P **P** **19 59 19.1 +0.2**
baz=96,slow=7.9
NOA NORSAR Array B 44.37 323 P **P** **19 59 18.6 -0.3**
NOA pP **pP** **19 59 59.9 0.0**
NOA S **S** **20 05 40.9 +2.2**
NOA NORSAR Array B 44.37 323 P **P** **19 59 18.6 -0.3**
comp=Z,1µm,0.8s,baz=96,slow=7.8,SNR=2073
NOA pP **pP** **19 59 59.9 0.0**
comp=Z,234nm,0.9s,baz=97,slow=8.1,SNR=2.5
NOA S **S** **20 05 40.9 +2.2**
comp=Z,14nm,0.9s,baz=90,slow=16,SNR=2.5
NOA LR LR 20 21 02.2
comp=Z,4µm,18.3s,baz=95,slow=40
MDJ Mudanjiang 44.39 61 P **P** **19 59 20.1 +0.9**
MDJ sP **sP** **20 00 22.9 +1.5**
MDJ PcP **PcP** **20 00 58.3 -1.3**
MDJ PP **PP** **20 01 10.3 +3.7**
MDJ S **S** **20 05 40.1 +0.9**
MDJ ScS **ScS** **20 08 50.8 -6.1**
MDJ AMB AMB
comp=Z,150nm,1.0s
MDJ AMB AMB
comp=Z,2µm,6.0s
MDJ LR LR
comp=Z,3µm,19.8s
MDJ LR LR
comp=Z,1µm,15.6s
MDJ LR LR
comp=Z,4µm,17.0s
MDJ Mudanjiang 44.39 61 *e*P **P** **19 59 19.7 +0.4**
comp=Z,446nm,1.6s
STOK Stokkvaagen 44.40 331 *e*P **P** **19 59 19.1 +0.1**
TATO Taipei 44.43 90 *e*P **P** **19 59 21.5 +1.7**
comp=Z,1µm,1.1s
GRF Grafenberg Arr 44.46 307 *e*P **P** **19 59 21.3 +1.6**
GRF *e**PP **pP** **20 00 02.1 +1.4**
GRF *e**SP **sP** **20 00 23.8 +1.9**
GRF *e*PPP PPP 20 01 55.8
GRF *e*S **S** **20 05 44.2 +4.0**
GRF *e*SS **sS** **20 06 53.2 +1.3**
GRF *e*SS **SS** **20 09 01.8 -2.5**
GRF pmax pmax
comp=Z,2µm,1.4s
GRF Grafenberg Arr 44.46 307 *e*P **P** **19 59 21.3 +1.6**
comp=Z,2µm,1.4s
GRF *e*pP **pP** **20 00 02.1 +1.4**
GRF *e*sP **sP** **20 00 23.8 +1.9**
GRF *e*PPP PPP 20 01 55.8
GRF *e*S **S** **20 05 44.2 +4.0**
GRF *e*sS **sS** **20 06 53.2 +1.3**
GRF *e*SS **SS** **20 09 01.8 -2.5**

GRFO Grafenberg 44.46 307 *e*P **P** **19 59 20.9 +1.2**
GRFO pmax pmax
comp=Z,1µm,1.3s
GRFO Grafenberg 44.46 307 *e*P **P** **19 59 20.9 +1.2**
comp=Z,1µm,1.3s
YHNB Yeheng 44.48 91 *e*P **P** **19 59 22.1 +1.7**
comp=Z,452nm,1.1s
NSS Namsos 44.49 328 ⇑*i*P **P** **19 59 19.6 -0.1**
NSS AMB AMB 19 59 20.8
comp=Z,365nm,0.9s
NSS *e*S **S** **20 05 41.1 +1.0**
NSS AMS AMS 20 18 29.8
comp=Z,6µm,14.6s
WTTA Wattenberg 44.49 303 *i*P **P** **19 59 20.0 -0.3**
comp=Z,2µm,2.7s,SNR=85
NAO01 NORSAR Array S 44.51 323 *e*P **P** **19 59 19.5 -0.5**
comp=Z,968nm,0.9s
WATA Walderalm 44.52 303 *i*P **P** **19 59 20.0 -0.5**
comp=Z,328nm,1.3s,SNR=79
OSL Oslo 44.52 321 *e*P **P** **19 59 21.3 +1.2**
TPUB Ta-pu 44.53 93 *e*P **P** **19 59 22.4 +1.8**
comp=Z,186nm,0.9s
SSLB Suanglung 44.56 92 *e*P **P** **19 59 23.1 +2.2**
comp=Z,454nm,0.8s
FUR Furstenfeldbru 44.61 305 *e*P **P** **19 59 21.9 +0.9**
FUR *e**PP **pP** **20 00 03.5 +1.6**
FUR pmax pmax
comp=Z,1µm,1.4s
FUR Furstenfeldbru 44.61 305 *e*P **P** **19 59 21.9 +0.9**
comp=Z,1µm,1.4s
FUR *e*pP **pP** **20 00 03.5 +1.6**
LOF Lofoten 44.63 333 *e*P **P** **19 59 20.1 -0.7**
LOF *e*S **S** **20 05 39.9 -2.2**
LOF *e*SS **SS** **20 09 09.2 +2.8**
BSEG Bad Segeberg 44.69 313 *e*P **P** **19 59 22.7 +1.3**
BSEG *e**SP **sP** **20 00 24.2 +0.6**
BSEG *e*S **S** **20 05 39.6 -3.6**
BSEG pmax pmax
comp=Z,2µm,1.0s
BSEG Bad Segeberg 44.69 313 *e*P **P** **19 59 22.7 +1.3**
comp=Z,2µm,1.0s
BSEG *e*sP **sP** **20 00 24.2 +0.6**
BSEG *e*S **S** **20 05 39.6 -3.6**
TJN Taejon 44.76 73 *i*P **P** **19 59 22.1 -0.2**
CLZ Clausthal 44.79 310 *e*P **P** **19 59 23.2 +0.8**
CLZ *e**PP **pP** **20 00 04.6 +1.3**
CLZ pmax pmax
comp=Z,1µm,1.1s
CLZ Clausthal 44.79 310 *e*P **P** **19 59 23.2 +0.8**
comp=Z,1µm,1.1s
CLZ *e*pP **pP** **20 00 04.6 +1.3**
KSAR Wonju Array Be 44.84 71 P **P** **19 59 23.3 +0.4**
KSAR ScP **ScP** **20 04 34.8 -0.8**
KSAR S **S** **20 05 48.0 +2.1**
MOTA Moosalm 44.84 303 ⇑*i*P **P** **19 59 22.3 -0.7**
comp=Z,223nm,1.2s,SNR=74
KSRS Korea Array 44.86 71 P **P** **19 59 23.3 +0.2**
comp=Z,87nm,0.6s,baz=270,slow=7.0,SNR=243
KSRS ScP **ScP** **20 04 34.8 -0.9**
comp=Z,33nm,1.1s,baz=286,slow=4.5,SNR=5.8
KSRS S **S** **20 05 48.0 +1.8**
comp=Z,3.9nm,1.1s,baz=298,slow=7.8,SNR=2.4
NACB Ninganchiao 44.89 91 *e*P **P** **19 59 25.4 +1.9**
comp=Z,343nm,1.1s
NRDL Niedersach Rie 44.90 311 *e*P **P** **19 59 24.2 +1.1**
comp=Z,1µm,1.1s
NRDL *e*pP **pP** **20 00 04.8 +0.7**
HOPEN Hopen 44.98 346 *e*P **P** **19 59 25.6 +2.2**
HOPEN *e*S **S** **20 05 49.8 +2.8**
HOPEN AMS AMS 20 20 08.8
comp=Z,8µm,20.1s
WDD Wield Dalam 45.02 287 *e*P **P** **19 59 25.2 +0.9**
comp=Z,2µm,1.4s
YULB Yu-li 45.02 92 *e*P **P** **19 59 26.5 +2.0**
comp=Z,415nm,0.9s
RETA Reutte 45.05 304 *i*P **P** **19 59 24.2 -0.4**
comp=Z,1µm,2.4s,SNR=57
TBLU Trondheim 45.05 326 ⇑*i*P **P** **19 59 23.8 -0.4**
TBLU *i* 20 05 45.8
KONO Kongsberg 45.08 321 ⇑*i*P **P** **19 59 24.7 +0.2**
KONO *e*S **S** **20 05 49.4 +0.7**
KONO AMS AMS 20 21 04.6
comp=Z,6µm,14.1s
KONO Kongsberg 45.08 321 *e*P **P** **19 59 24.3 -0.1**
KONO Kongsberg 45.08 321 *e*P **P** **19 59 24.3 -0.1**
comp=Z,8.2nm,0.7s
UBBA Unterbreizbach 45.12 308 *e*P **P** **19 59 25.6 +0.8**
comp=Z,761nm,1.6s
TWG Pinlang 45.12 93 *e*P **P** **19 59 28.1 +2.9**
comp=Z,3µm,0.8s
KLR Kul'dur 45.12 54 ⇓*i*P **P** **19 59 22.2 -2.8**
KLR pmax pmax
comp=E,470nm,1.6s
KLR pmax pmax
comp=Z,900nm,1.6s
KLR pmax pmax
comp=E,2µm,9.0s
KLR pmax pmax
comp=Z,4µm,9.0s
FETA Feichten 45.14 303 ⇓*i*P **P** **19 59 24.8 -0.6**
comp=Z,894nm,2.1s,SNR=64
BJO Bjornoya 45.21 343 *e*P **P** **19 59 26.4 +1.1**
BJO AMB AMB 19 59 28.6
comp=Z,696nm,1.1s
BJO *e*pP **pP** **20 00 06.7 +0.4**
BJO *e*S **S** **20 05 51.3 +1.0**
BJO *e*SS **SS** **20 09 17.1 +1.6**
BJO AMS AMS 20 20 17.1
comp=Z,13µm,13.5s
MUD Monsted U'grnd 45.26 316 ⇑*i*P **P** **19 59 27.0 +1.1**
MUD pmax pmax
comp=Z,550nm,1.1s
MUD Monsted U'grnd 45.26 316 ⇑*i*P **P** **19 59 27.0 +1.1**
comp=Z,546nm,1.0s
KGM Kluang 45.48 131 P **P** **19 59 30.2 +2.1**
DOMB Dombas 45.48 324 *e*P **P** **19 59 27.9 +0.3**
DOMB AMB AMB 19 59 32.7
comp=Z,502nm,1.9s
HOMB Homborsund 45.61 319 ⇑*i*P **P** **19 59 29.0 +0.4**
HOMB AMB AMB 19 59 32.3
comp=Z,1µm,2.4s
HOMB *e*S **S** **20 05 57.3 +0.9**
HOMB AMS AMS 20 21 34.4
comp=Z,7µm,18.2s
DAVA Damuels 45.67 304 ⇑*i*P **P** **19 59 29.2 -0.3**
comp=Z,1µm,1.5s,SNR=215
TIXI Tiksi 45.75 22*c* *i*P **P** **19 59 29.8 +0.2**
TIXI pmax pmax
comp=Z,534nm,1.0s
PPI Padang Panjang 45.80 137 P **P** **19 59 30.7 +0.1**
comp=Z,1µm,0.7s,comp=Z,19µm
PPI Padang Panjang 45.80 137 P **P** **19 59 31.2 +0.6**
baz=46,SNR=108
STU Stuttgart 45.89 306 *e*P **P** **19 59 31.6 +0.6**
STU pmax pmax
comp=Z,950nm,1.5s
STU Stuttgart 45.89 306 *e*P **P** **19 59 31.8 +0.8**
comp=Z,752nm,1.3s
STU *e*pP **pP** **20 00 13.3 +1.1**
STU *e*PPP PPP 20 02 13.3
STU Stuttgart 45.89 306 *e*P **P** **19 59 31.6 +0.6**
comp=Z,950nm,1.5s
VLC Villacollemand 45.91 299 *e*P **P** **19 59 32.1 +0.8**
comp=Z,3µm,2.0s
MYKOM Kota Tinggi 45.98 131 P **P** **19 59 34.1 +2.1**
MYKOM Kota Tinggi 45.98 131 P **P** **19 59 33.3 +1.2**
HLG Helgoland 46.10 313 *e*P **P** **19 59 33.8 +1.3**
comp=Z,2µm,1.2s
USRK Ussuriysk Arra 46.15 61 P **P** **19 59 33.1 +0.1**
comp=Z,66nm,0.8s,baz=275,slow=7.1,SNR=112
TNS Taunus Mts 46.17 308 *e*P **P** **19 59 33.9 +0.7**
TNS *e*PPP PPP 20 02 18.6
TNS *e*S **S** **20 06 04.6 -0.2**
TNS *e*SS **sS** **20 07 18.3 +1.4**
TNS *e*SS **SS** **20 09 31.4 -0.7**
TNS pmax pmax
comp=Z,502nm,1.1s
TNS Taunus Mts 46.17 308 *e*P **P** **19 59 33.9 +0.7**
comp=Z,502nm,1.1s
TNS *e*PPP PPP 20 02 18.6
TNS *e*S **S** **20 06 04.6 -0.2**
TNS *e*sS **sS** **20 07 18.3 +1.4**
TNS *e*SS **SS** **20 09 31.4 -0.7**
TUE Stuetta 46.17 303 *e*P **P** **19 59 32.8 -0.7**
comp=Z,357nm,1.3s

PDSI	**Padang**	**46.21 137**	P		**P**	**19 59 33.6**	**-0.3**		
	comp=Z,3µm,0.6s,comp=Z,41µm								
MOL	**Molde**	**46.23 325**	⇑	*i*P	**P**	**19 59 34.1**	**+0.7**		
MOL				*e*S	**S**	**20 06 06.5**	**+1.4**		
MOL				*e*SS	**SS**	**20 09 39.1**	**+6.7**		
BTDF	**Bukit Timah Da**	**46.27 132**	⇓	P	**P**	**19 59 35.4**	**+1.0**		
	baz=46,SNR=50								
BTDF			⇓	P	**P**	**19 59 35.4**	**+1.0**		
	baz=46,SNR=50								
SNART	**Snartemo**	**46.29 319**		*e*P	**P**	**19 59 34.6**	**+0.7**		
SNART				AMB	AMB	19 59 39.0			
	comp=Z,949nm,1.4s								
IBBN	**Ibbenburen**	**46.35 311**		*e*P	**P**	**19 59 35.3**	**+0.8**		
	comp=Z,2µm,1.0s								
IBBN				*e*pP	**pP**	**20 00 16.3**	**+0.6**		
BFO	**Black Forest**	**46.53 305**		*e*P	**P**	**19 59 36.1**	**+0.1**		
BFO				*e**PP	**pP**	**20 00 18.0**	**+0.7**		
BFO				*e*PPP	PPP	20 02 23.6			
BFO				*e*S	S	20 06 03.3	-6.6		
BFO				pmax	pmax				
	comp=Z,379nm,1.4s								
BFO	**Black Forest**	**46.53 305**		*e*P	**P**	**19 59 36.1**	**+0.1**		
	comp=Z,379nm,1.4s								
BFO				*e*pP	**pP**	**20 00 18.0**	**+0.7**		
BFO				*e*PPP	PPP	20 02 23.6			
BFO				*e*S	S	20 06 03.3	-6.6		
BFO				*e*sS	**sS**	**20 07 21.6**	**-0.5**		
BFO	**Black Forest**	**46.53 305**		*e*P	**P**	**19 59 35.6**	**-0.5**		
	comp=Z,195nm,1.0s								
BFO	**Black Forest**	**46.53 305**		P	**P**	**19 59 36.7**	**+0.7**		
	comp=Z,1µm,1.1s,SNR=50								
ODD1	**Odda**	**46.59 321**		*e*P	**P**	**19 59 37.0**	**+0.7**		
BLS5	**Blasjo**	**46.67 321**	⇑	*i*P	**P**	**19 59 37.8**	**+0.8**		
BLS5				AMB	AMB	19 59 42.4			
	comp=Z,630nm,1.9s								
BUG	**Bochum--Univer**	**46.75 310**		*e*P	**P**	**19 59 38.3**	**+0.7**		
	comp=Z,1µm,1.1s								
BUG				*e*pP	**pP**	**20 00 19.9**	**+1.0**		
LANF	**Langenberg**	**46.77 306**		*e*P	**P**	**19 59 38.3**	**+0.5**		
RGRI	**Rengat**	**46.80 135**		P	**P**	**19 59 39.1**	**+0.7**		
HYA	**Hoyanger**	**46.82 323**	⇑	*i*P	**P**	**19 59 38.6**	**+0.7**		
HYA				AMB	AMB	19 59 43.8			
	comp=Z,797nm,1.2s								
FELD	**Feldberg im Sc**	**46.82 305**		*e*P	**P**	**19 59 38.2**	**-0.3**		
STR	**Strasbourg**	**46.86 306**		*e*P	**P**	**19 59 39.1**	**+0.6**		
WTSB	**Winterswijk**	**46.98 310**		*e*P	**P**	**19 59 40.1**	**+0.8**		
	comp=Z,2µm,1.3s								
WTSB				*e*pP	**pP**	**20 00 21.9**	**+1.2**		
WTSB				*e*pS		20 06 18.9			
STAV	**Stavanger**	**47.07 320**		*e*P	x	20 00 40.4			
STAV				AMB	AMB	20 00 42.4			
	comp=Z,529nm,0.7s								
HSP	**Hornsund**	**47.12 345**		*e*P	**P**	**19 59 41.9**	**+1.8**		
WLS	**Welschbruch**	**47.16 305**		*e*P	**P**	**19 59 41.0**	**+0.1**		
CDF	**Champ du Feu**	**47.21 305**	⇑	*i*P	**P**	**19 59 41.1**	**-0.3**		
	comp=Z,387nm,1.0s								
CDF				*e*pP	**pP**	**20 00 21.6**	**-1.1**		
CDF	**Champ du Feu**	**47.21 305**	⇑	*i*P	**P**	**19 59 41.1**	**-0.3**		
CDF				*e**PP	**pP**	**20 00 21.6**	**-1.1**		
CDF				pmax	pmax				
	comp=Z,387nm,1.0s								
CDF	**Champ du Feu**	**47.21 305**	⇑	*i*P	**P**	**19 59 41.1**	**-0.3**		
	comp=Z,387nm,1.0s								
CDF				*e*pP	**pP**	**20 00 21.6**	**-1.1**		
RUND	**Rundenannen**	**47.21 322**	⇑	*i*P	**P**	**19 59 40.1**	**-1.0**		
BER	**Bergen**	**47.23 322**	⇑	*i*P	**P**	**19 59 41.9**	**+0.7**		
BER				*e*S	**S**	**20 06 20.4**	**+1.1**		
BER				*e*SS	**SS**	**20 09 50.4**	**+1.7**		
PGF	**Pioggiola**	**47.27 297**	⇑	*i*P	**P**	**19 59 41.0**	**-0.9**		
	comp=Z,471nm,0.7s								
PGF				*e*pP	**pP**	**20 00 21.6**	**-1.7**		
PGF	**Pioggiola**	**47.27 297**	⇑	*i*P	**P**	**19 59 41.0**	**-0.9**		
PGF				*e**PP	**pP**	**20 00 21.6**	**-1.7**		
PGF				pmax	pmax				
	comp=Z,471nm,0.7s								
PGF	**Pioggiola**	**47.27 297**	⇑	*i*P	**P**	**19 59 41.0**	**-0.9**		
	comp=Z,471nm,0.7s								
PGF				*e*pP	**pP**	**20 00 21.6**	**-1.7**		
EGD	**Espegrend**	**47.29 322**		*e*P	**P**	**19 59 41.3**	**-0.4**		
EGD				AMB	AMB	19 59 44.2			
	comp=Z,924nm,1.8s								
KMY	**Karmoy**	**47.30 320**		*e*P	**P**	**19 59 42.2**	**+0.5**		
ASK	**Askoy**	**47.30 322**		*e*P	**P**	**19 59 41.3**	**-0.5**		
ASK				AMB	AMB	19 59 44.3			
	comp=Z,1µm,1.8s								
ECH	**Echery**	**47.32 305**		*e*P	**P**	**19 59 41.5**	**-0.7**		
ECH				pmax	pmax				
	comp=Z,236nm,1.1s								
ECH	**Echery**	**47.32 305**		*e*P	**P**	**19 59 42.0**	**-0.2**		
ECH	**Echery**	**47.32 305**		*e*P	**P**	**19 59 41.5**	**-0.7**		
	comp=Z,236nm,1.1s								
HABR	**Khabarovsk**	**47.40 54**	*c*	*i*P	**P**	**19 59 41.7**	**-1.0**		
HABR				*e**PP	**pP**	**20 00 21.4**	**-2.7**		
HABR				*e**SP	**sP**	**20 00 41.7**	**-3.5**		
HABR				*e*		20 01 09.3			
HABR				*e*		20 01 34.7			
HABR				PPP	PPP	20 02 27.8			
HABR				*e*S	**S**	**20 06 22.4**	**+0.4**		
HABR				*e**SS	**sS**	**20 07 32.2**	**-2.3**		
HABR				*e*		20 09 16.4			
HABR				*e*SS	**SS**	**20 09 54.5**	**+2.7**		
HABR				pmax	pmax				
	comp=Z,3µm,3.0s								
HABR				pmax	pmax				
	comp=E,828nm,2.3s								
HABR				pmax	pmax				
	comp=Z,1µm,2.3s								
HABR				pmax	pmax				
	comp=N,159nm,2.3s								
HABR				MLR	MLR				
	comp=Z,2µm,15.0s								
MOF	**Molkenrain**	**47.40 305**		*e*P	**P**	**19 59 42.9**	**0.0**		
SUE	**Sulen**	**47.51 323**		*e*P	**P**	**19 59 43.6**	**+0.3**		
SUE				*i*		20 06 26.0			
ABRA	**Dolores**	**47.52 100**		*e*P	**P**	**19 59 46.4**	**+2.4**		
HINF	**Hinteralfeld**	**47.59 305**	⇑	*i*P	**P**	**19 59 44.0**	**-0.3**		
	comp=Z,652nm,1.0s								
HINF	**Hinteralfeld**	**47.59 305**	⇑	*i*P	**P**	**19 59 44.0**	**-0.3**		
HINF				pmax	pmax				
	comp=Z,652nm,1.0s								
HINF	**Hinteralfeld**	**47.59 305**	⇑	*i*P	**P**	**19 59 44.0**	**-0.3**		
	comp=Z,652nm,1.0s								
MEM	**Membach**	**47.66 309**		P	**P**	**19 59 45.3**	**+0.6**		
	comp=Z,380nm,1.2s								
MEM				AP	**pP**	**20 00 26.5**	**+0.4**		
MEM				XP	**sP**	**20 00 49.6**	**+2.4**		
HGN	**Heimansgroeve**	**47.68 309**		*e*P	**P**	**19 59 45.1**	**+0.3**		
	comp=Z,1µm,2.6s								
HGN				*e*pP	**pP**	**20 00 26.8**	**+0.5**		
HGN				*e*PPP	PPP	20 02 30.7			
HGN				*e*S	S	20 05 44.8	-41		
HGN				*e*pS		20 06 29.4			
LOMF	**Lomont**	**47.70 304**		*e*P	**P**	**19 59 44.9**	**-0.3**		
WLF	**Walferdange**	**47.72 307**		P	**P**	**19 59 46.2**	**+1.0**		
	comp=Z,710nm,1.4s								
WLF				AP	**pP**	**20 00 27.3**	**+0.6**		
WLF				XP	**sP**	**20 00 51.4**	**+3.7**		
WLF	**Walferdange**	**47.72 307**		*e*P	**P**	**19 59 45.9**	**+0.7**		
WLF				pmax	pmax				
	comp=Z,897nm,1.0s								
WLF	**Walferdange**	**47.72 307**		*e*P	**P**	**19 59 46.4**	**+1.2**		
	comp=Z,929nm,1.0s								
WLF				*e*pP	**pP**	**20 00 28.0**	**+1.4**		
WLF	**Walferdange**	**47.72 307**		*e*P	**P**	**19 59 45.9**	**+0.7**		
	comp=Z,897nm,1.0s								
VSL	**Villasalto**	**47.82 293**		*e*P	**P**	**19 59 45.0**	**-1.1**		
	comp=Z,163nm,0.9s								
APYP	**Conner**	**47.82 99**		*e*P	**P**	**19 59 48.0**	**+1.7**		
BEBN	**Eben Emael**	**47.84 309**		P	**P**	**19 59 46.4**	**+0.3**		
	comp=Z,112nm,1.9s								
BEBN				AP	**pP**	**20 00 27.2**	**-0.3**		
BEBN				XP	**sP**	**20 00 48.3**	**-0.2**		
HAU	**Haudompre**	**47.89 305**	⇑	*i*P	**P**	**19 59 46.5**	**-0.1**		
	comp=Z,345nm,0.6s								
HAU				*e*R					
	comp=Z,3µm,20.0s								
HAU	**Haudompre**	**47.89 305**	⇑	*i*P	**P**	**19 59 46.5**	**-0.1**		
HAU				pmax	pmax				
	comp=Z,345nm,0.6s								
HAU	**Haudompre**	**47.89 305**	⇑	*i*P	**P**	**19 59 46.5**	**-0.1**		
	comp=Z,345nm,0.6s								
SAOF	**Saorge**	**47.94 300**		*e*P	**P**	**19 59 46.8**	**-0.2**		
AUTN	**L'Aution**	**48.03 300**		*e*P	**P**	**19 59 48.1**	**+0.2**		
SBF	**Sospel**	**48.05 299**	⇑	*i*P	**P**	**19 59 47.7**	**-0.2**		
	comp=Z,637nm,0.7s								
SBF				*e*pP	**pP**	**20 00 28.2**	**-1.2**		
SBF	**Sospel**	**48.05 299**	⇑	*i*P	**P**	**19 59 47.7**	**-0.2**		
SBF				*e**PP	**pP**	**20 00 28.2**	**-1.2**		
SBF				pmax	pmax				
	comp=Z,637nm,0.7s								
SBF	**Sospel**	**48.05 299**	⇑	*i*P	**P**	**19 59 47.7**	**-0.2**		
	comp=Z,637nm,0.7s								
SBF				*e*pP	**pP**	**20 00 28.2**	**-1.2**		
THEF	**They Montfort**	**48.09 305**		*e*P	**P**	**19 59 48.5**	**+0.5**		
LUCF	**Luceram**	**48.11 299**		*e*P	**P**	**19 59 48.5**	**+0.1**		
REVF	**Revere**	**48.13 299**		*e*P	**P**	**19 59 48.5**	**0.0**		
BCLA	**Clavier**	**48.13 308**		P	**P**	**19 59 48.7**	**+0.4**		
	comp=Z,184nm,1.6s								
BCLA				AP	**pP**	**20 00 30.1**	**+0.2**		
LPG	**La Plagne**	**48.15 302**	⇑	*i*P	**P**	**19 59 48.8**	**-0.1**		
	comp=Z,604nm,0.8s								
LPG	**La Plagne**	**48.15 302**	⇑	*i*P	**P**	**19 59 48.8**	**-0.1**		
LPG				pmax	pmax				
	comp=Z,604nm,0.8s								
LPG	**La Plagne**	**48.15 302**	⇑	*i*P	**P**	**19 59 48.8**	**-0.1**		
	comp=Z,604nm,0.8s								
TOUF	**Mont Tournerai**	**48.15 300**		*e*P	**P**	**19 59 48.9**	**+0.1**		
LPL	**La Plagne**	**48.15 302**	⇑	*i*P	**P**	**19 59 48.8**	**0.0**		
	comp=Z,445nm,0.7s								
LPL				*e*pP	**pP**	**20 00 29.3**	**-1.1**		
LPL	**La Plagne**	**48.15 302**	⇑	*i*P	**P**	**19 59 48.8**	**0.0**		
LPL				*e**PP	**pP**	**20 00 29.3**	**-1.1**		
LPL				pmax	pmax				
	comp=Z,445nm,0.7s								
LPL	**La Plagne**	**48.15 302**	⇑	*i*P	**P**	**19 59 48.8**	**0.0**		
	comp=Z,445nm,0.7s								
LPL				*e*pP	**pP**	**20 00 29.3**	**-1.1**		
PAGF	**Fort de Pagny**	**48.20 306**	⇑	*i*P	**P**	**19 59 49.5**	**+0.7**		
	comp=Z,194nm,0.6s,baz=100								
PAGF				*e*pP	**pP**	**20 00 29.8**	**-0.6**		
PAGF	**Fort de Pagny**	**48.20 306**	⇑	*i*P	**P**	**19 59 49.5**	**+0.7**		
	comp=Z,194nm,0.6s								
PAGF				*e*pP	**pP**	**20 00 29.8**	**-0.6**		
MVIF	**Mont Vial**	**48.24 300**		*e*P	**P**	**19 59 49.7**	**+0.2**		
BNI	**Bardonecchia**	**48.30 301**		*e*P	**P**	**19 59 49.3**	**-0.5**		
BNI				pmax	pmax				
	comp=Z,668nm,1.4s								
BNI	**Bardonecchia**	**48.30 301**		*e*P	**P**	**19 59 49.3**	**-0.5**		
	comp=Z,668nm,1.4s								
MBDF	**Montbardon**	**48.31 301**	⇑	*i*P	**P**	**19 59 49.4**	**-0.6**		
	comp=Z,435nm,0.6s								
MBDF	**Montbardon**	**48.31 301**	⇑	*i*P	**P**	**19 59 49.4**	**-0.6**		
MBDF				pmax	pmax				
	comp=Z,435nm,0.6s								
MBDF	**Montbardon**	**48.31 301**	⇑	*i*P	**P**	**19 59 49.4**	**-0.6**		
	comp=Z,435nm,0.6s								
CABF	**La Chapelle**	**48.35 303**	⇑	*i*P	**P**	**19 59 50.3**	**+0.1**		
	comp=Z,541nm,0.6s								
CABF				*e*pP	**pP**	**20 00 30.6**	**-1.1**		
CABF	**La Chapelle**	**48.35 303**	⇑	*i*P	**P**	**19 59 50.3**	**+0.1**		
CABF				*e**PP	**pP**	**20 00 30.6**	**-1.1**		
CABF				pmax	pmax				
	comp=Z,541nm,0.6s								
CABF	**La Chapelle**	**48.35 303**	⇑	*i*P	**P**	**19 59 50.3**	**+0.1**		
	comp=Z,541nm,0.6s								
CABF				*e*pP	**pP**	**20 00 30.6**	**-1.1**		
CVP	**Callao Caves**	**48.37 99**	⇑	*e*P	**P**	**19 59 51.4**	**+0.9**		
CALN	**Calern**	**48.47 299**		*e*P	**P**	**19 59 50.8**	**-0.3**		
GIVF	**Givet**	**48.49 308**	⇑	*i*P	**P**	**19 59 51.6**	**+0.5**		
	comp=Z,3µm,1.6s								
GIVF				*e*pP	**pP**	**20 00 32.2**	**-0.5**		
GIVF	**Givet**	**48.49 308**	⇑	*i*P	**P**	**19 59 51.6**	**+0.5**		
GIVF				*e**PP	**pP**	**20 00 32.2**	**-0.5**		
GIVF				pmax	pmax				
	comp=Z,3µm,1.6s								
GIVF	**Givet**	**48.49 308**	⇑	*i*P	**P**	**19 59 51.6**	**+0.5**		
	comp=Z,3µm,1.6s								
GIVF				*e*pP	**pP**	**20 00 32.2**	**-0.5**		
JNU	**Nakatsue**	**48.58 75**		*e*P	**P**	**19 59 52.7**	**+0.7**		
	comp=Z,224nm,1.4s								
KBS	**Kingsbay**	**48.59 347**	⇑	*i*P	**P**	**19 59 52.8**	**+1.3**		
KBS				AMB	AMB	19 59 54.1			
	comp=Z,972nm,1.1s								
KBS				*e*S	**S**	**20 06 38.6**	**+0.5**		
KBS				AMS	AMS	20 22 20.7			
	comp=Z,8µm,16.8s								
KBS	**Kingsbay**	**48.59 347**	*c*	*i*P	**P**	**19 59 52.7**	**+1.3**		
KBS				pmax	pmax				
	comp=Z,1µm,1.5s								
KBS	**Kingsbay**	**48.59 347**		*e*P	**P**	**19 59 52.6**	**+1.2**		
	comp=Z,712nm,0.9s								
DOU	**Doubes**	**48.64 308**		P	**P**	**19 59 52.5**	**+0.4**		
	comp=Z,423nm,1.7s								
DOU				AP	**pP**	**20 00 35.0**	**+1.2**		
DOU				XP	**sP**	**20 00 57.8**	**+3.0**		
MEZF	**Maizieres J'vi**	**48.65 306**	⇑	*i*P	**P**	**19 59 52.7**	**+0.4**		
	comp=Z,412nm,0.6s,baz=76								
MEZF				*e*pP	**pP**	**20 00 33.2**	**-0.7**		
MEZF	**Maizieres J'vi**	**48.65 306**	⇑	*i*P	**P**	**19 59 52.7**	**+0.4**		
	comp=Z,412nm,0.6s								
MEZF				*e*pP	**pP**	**20 00 33.2**	**-0.7**		
UCC	**Uccle**	**48.66 309**		AP	pP	20 00 34.9	+0.9		
FRF	**La Foret Royal**	**48.68 299**	⇑	*i*P	**P**	**19 59 52.3**	**-0.3**		
	comp=Z,446nm,0.9s								
FRF				*e*pP	**pP**	**20 00 32.6**	**-1.7**		
FRF	**La Foret Royal**	**48.68 299**	⇑	*i*P	**P**	**19 59 52.3**	**-0.3**		
FRF				*e**PP	**pP**	**20 00 32.6**	**-1.7**		
FRF				pmax	pmax				
	comp=Z,446nm,0.9s								
FRF	**La Foret Royal**	**48.68 299**	⇑	*i*P	**P**	**19 59 52.3**	**-0.3**		
	comp=Z,446nm,0.9s								
FRF				*e*pP	**pP**	**20 00 32.6**	**-1.7**		
SFTF	**Sexfontaines**	**48.71 306**	⇑	*i*P	**P**	**19 59 52.9**	**+0.1**		
	comp=Z,664nm,0.9s,baz=88								
SFTF				*e*pP	**pP**	**20 00 33.3**	**-1.1**		
SFTF	**Sexfontaines**	**48.71 306**	⇑	*i*P	**P**	**19 59 52.9**	**+0.1**		
	comp=Z,664nm,0.9s								
SFTF				*e*pP	**pP**	**20 00 33.3**	**-1.1**		
SNF	**Seneffe**	**48.76 309**		P	**P**	**19 59 53.8**	**+0.7**		
SNF				AP	**pP**	**20 00 34.9**	**+0.2**		
SNF				XP	**sP**	**20 00 56.1**	**+0.4**		
CAUP	**Cauayan**	**48.79 100**		*e*P	**P**	**19 59 55.7**	**+1.9**		
LMR	**La Mourre**	**48.84 299**	⇑	*i*P	**P**	**19 59 53.6**	**-0.2**		
	comp=Z,327nm,1.1s								
LMR	**La Mourre**	**48.84 299**	⇑	*i*P	**P**	**19 59 53.6**	**-0.2**		
LMR				pmax	pmax				
	comp=Z,327nm,1.1s								
LMR	**La Mourre**	**48.84 299**	⇑	*i*P	**P**	**19 59 53.6**	**-0.2**		
	comp=Z,327nm,1.1s								
KMBO	**Kilima Mbogo**	**48.85 228**		P	**P**	**19 59 56.0**	**+1.5**		
	SNR=201								
KMBO	**Kilima Mbogo**	**48.85 228**		*e*P	**P**	**19 59 55.6**	**+1.1**		
	comp=Z,407nm,1.1s								
KMBO				pP	**pP**	**20 00 36.7**	**+0.5**		
KMBO				S	**S**	**20 06 46.9**	**+3.2**		
KMBO	**Kilima Mbogo**	**48.85 228**		P	**P**	**19 59 55.5**	**+1.1**		
	baz=49,SNR=127								
KMBO	**Kilima Mbogo**	**48.85 228**		P	**P**	**19 59 56.0**	**+1.5**		
	SNR=201

CAF	**Calviac**	**51.49 302**	⇑	*i*	P	**P**	**20 00 14.2**	**+0.4**
	comp=Z,451nm,0.9s							
CAF				*e*	pP	**pP**	**20 00 55.0**	**-0.9**
LWLI	**Liwa**	**51.59 136**			P	**P**	**20 00 12.4**	**-2.5**
	comp=Z,672nm,0.8s,comp=Z,7µm							
DRUM	**Mains of Drumt**	**51.62 318**	⇑	*e*	P	**P**	**20 00 14.2**	**-0.2**
DRUM					AMB	AMB	20 00 16.6	
	comp=Z,782nm,1.4s							
DRUM					AMS	AMS	20 25 22.7	
	comp=Z,6µm,17.0s							
SKP1	**Kophill**	**51.67 311**	⇑	*e*	P	**P**	**20 00 14.1**	**-0.8**
HPK	**Haverah Park**	**51.68 314**	⇑	*e*	P	**P**	**20 00 14.9**	**0.0**
HPK					AMB	AMB	20 00 17.1	
	comp=Z,1µm,1.2s							
HPK				*e*			20 00 55.7	
HPK					AMS	AMS	20 12 30.9	
	comp=Z,5µm,22.1s							
RJF	**Les Rejaudoux**	**51.76 303**	⇑	*i*	P	**P**	**20 00 16.1**	**+0.4**
	comp=Z,773nm,1.1s							
RJF				*e*	pP	**pP**	**20 00 57.0**	**-0.8**
RJF				*e*	R			
	comp=Z,4µm,20.2s							
RJF	**Les Rejaudoux**	**51.76 303**	⇑	*i*	P	**P**	**20 00 16.1**	**+0.4**
RJF				*e*	*PP	**pP**	**20 00 57.0**	**-0.8**
RJF					pmax	pmax		
	comp=Z,773nm,1.1s							
RJF	**Les Rejaudoux**	**51.76 303**	⇑	*i*	P	**P**	**20 00 16.1**	**+0.4**
	comp=Z,773nm,1.1s							
RJF				*e*	pP	**pP**	**20 00 57.0**	**-0.8**
KBI1	**Birley Grange**	**51.77 313**	⇑	*e*	P	**P**	**20 00 15.0**	**-0.6**
MME1	**Meikle Cairn**	**51.80 318**	⇑	*e*	P	**P**	**20 00 15.6**	**-0.2**
XAL	**Allendale**	**51.84 315**	⇑	*e*	P	**P**	**20 00 15.9**	**-0.2**
MTLF	**Montolieu**	**51.84 300**	⇑	*i*	P	**P**	**20 00 16.4**	**0.0**
	comp=Z,473nm,1.0s							
MTLF	**Montolieu**	**51.84 300**	⇑	*i*	P	**P**	**20 00 16.4**	**0.0**
MTLF					pmax	pmax		
	comp=Z,473nm,1.0s							
MTLF	**Montolieu**	**51.84 300**	⇑	*i*	P	**P**	**20 00 16.4**	**0.0**
	comp=Z,473nm,1.0s							
CKHR	**Kef el Ahmar**	**51.85 290**		P		**P**	**20 00 16.7**	**0.0**
ESY	**Stoneypath**	**51.86 317**	⇑	*e*	P	**P**	**20 00 16.1**	**-0.1**
ESY				*e*			20 00 57.8	
SET	**Setif**	**51.87 291**		P		**P**	**20 00 17.0**	**+0.2**
MCD	**Coleburn Disti**	**51.91 319**	⇑	*e*	P	**P**	**20 00 16.7**	**+0.1**
KLI	**Kotabumi**	**51.92 135**		P		**P**	**20 00 15.2**	**-2.0**
	comp=Z,200nm,0.8s,comp=Z,4µm							
LDF	**La Druitiere**	**51.97 307**	⇑	*i*	P	**P**	**20 00 16.8**	**-0.4**
	comp=Z,950nm,1.0s							
LDF				*e*	pP	**pP**	**20 00 57.7**	**-1.7**
LDF	**La Druitiere**	**51.97 307**	⇑	*i*	P	**P**	**20 00 16.8**	**-0.4**
LDF				*e*	*PP	**pP**	**20 00 57.7**	**-1.7**
LDF					pmax	pmax		
	comp=Z,950nm,1.0s							
LDF	**La Druitiere**	**51.97 307**	⇑	*i*	P	**P**	**20 00 16.8**	**-0.4**
	comp=Z,950nm,1.0s							
LDF				*e*	pP	**pP**	**20 00 57.7**	**-1.7**
WOL	**Wolverton**	**52.01 311**	⇑	*e*	P	**P**	**20 00 16.5**	**-0.9**
WOL					AMB	AMB	20 00 19.8	
	comp=Z,2µm,1.4s							
WOL				*e*			20 00 56.9	
WOL					AMS	AMS	20 13 06.8	
	comp=Z,3µm,15.6s							
CARF	**Carcanieres**	**52.11 299**		*e*	P	**P**	**20 00 18.3**	**-0.2**
EBL	**Broad Law**	**52.13 317**	⇑	*e*	P	**P**	**20 00 17.5**	**-0.8**
EBL				*e*			20 00 58.2	
STKI	**Sintang**	**52.15 125**		P		**P**	**20 00 20.3**	**+1.4**
FLN	**La Foliniere**	**52.16 307**	⇑	*i*	P	**P**	**20 00 18.1**	**-0.5**
	comp=Z,713nm,1.0s,baz=72							
FLN				*e*	R			
	comp=Z,4µm,19.0s							
FLN	**La Foliniere**	**52.16 307**	⇑	*i*	P	**P**	**20 00 18.1**	**-0.5**
FLN					pmax	pmax		
	comp=Z,713nm,1.0s							
FLN	**La Foliniere**	**52.16 307**	⇑	*i*	P	**P**	**20 00 18.1**	**-0.5**
	comp=Z,713nm,1.0s							
EDI	**Edinburgh**	**52.18 317**			AMB	AMB	20 00 14.5	
	comp=Z,936nm,1.1s							
EDI					AMS	AMS	20 12 45.6	
	comp=Z,4µm,26.0s							
SDKM	**Sandakan**	**52.20 115**		P		**P**	**20 00 20.8**	**+1.5**
STNC	**Stoke**	**52.20 313**	⇑	*e*	P	**P**	**20 00 18.9**	**+0.1**
STNC					AMB	AMB	20 00 21.1	
	comp=Z,856nm,1.5s							
STNC				*e*			20 01 00.0	
STNC					AMS	AMS	20 12 28.6	
	comp=Z,4µm,27.1s							
SSW	**Stow on the Wo**	**52.24 312**	⇑	*e*	P	**P**	**20 00 18.9**	**-0.2**
KASI	**Kota Agung**	**52.26 136**			P	**P**	**20 00 16.8**	**-2.8**
	comp=Z,470nm,0.8s,comp=Z,5µm							
VALF	**Valcebollere**	**52.27 299**		*e*	P	**P**	**20 00 19.3**	**-0.4**
ECK	**Cauldkaine Hil**	**52.29 316**	⇑	*e*	P	**P**	**20 00 18.9**	**-0.6**
ESK	**Eskdalemuir**	**52.31 316**	⇑	*e*	P	**P**	**20 00 19.3**	**-0.2**
ESK					AMB	AMB	20 00 21.7	
	comp=Z,890nm,1.2s							
ESK				*e*			20 00 58.5	
ESK					AMS	AMS	20 25 03.2	
	comp=Z,4µm,18.4s							
ESK	**Eskdalemuir**	**52.31 316**		*i*	P	**P**	**20 00 19.6**	**0.0**
ESK	**Eskdalemuir**	**52.31 316**		*e*	P	**P**	**20 00 19.2**	**-0.4**
	comp=Z,1µm,1.3s							
ESK	**Eskdalemuir**	**52.31 316**			P	**P**	**20 00 19.9**	**+0.3**
	comp=Z,4µm,1.2s,SNR=74							
SWN1	**Swindon**	**52.31 311**	⇑	*e*	P	**P**	**20 00 19.0**	**-0.6**
SWN1					AMB	AMB	20 00 22.0	
	comp=Z,2µm,1.1s							
SWN1				*e*			20 00 59.8	
SWN1					AMS	AMS	20 27 16.4	
	comp=Z,4µm,17.4s							
MVH1	**Achvaich**	**52.34 319**	⇑	*e*	P	**P**	**20 00 19.6**	**-0.1**
LFF	**La Frestale**	**52.39 302**	⇑	*i*	P	**P**	**20 00 20.7**	**+0.4**
	comp=Z,644nm,0.9s							
LFF	**La Frestale**	**52.39 302**	⇑	*i*	P	**P**	**20 00 20.7**	**+0.4**
LFF					pmax	pmax		
	comp=Z,644nm,0.9s							
LFF	**La Frestale**	**52.39 302**	⇑	*i*	P	**P**	**20 00 20.7**	**+0.4**
	comp=Z,644nm,0.9s							
KESW	**Keswick, Cumbr**	**52.40 315**	⇑	*e*	P	**P**	**20 00 20.3**	**+0.1**
KESW					AMB	AMB	20 00 22.7	
	comp=Z,1µm,1.4s							
KESW					AMS	AMS	20 13 33.9	
	comp=Z,6µm,13.6s							
STRD	**Stroud**	**52.47 311**	⇑	*e*	P	**P**	**20 00 20.0**	**-0.8**
STRD					AMB	AMB	20 00 22.6	
	comp=Z,962nm,1.0s							
GRR	**Gorron**	**52.50 307**	⇑	*i*	P	**P**	**20 00 20.6**	**-0.5**
	comp=Z,516nm,0.8s							
GRR	**Gorron**	**52.50 307**	⇑	*i*	P	**P**	**20 00 20.6**	**-0.5**
GRR					pmax	pmax		
	comp=Z,516nm,0.8s							
GRR	**Gorron**	**52.50 307**	⇑	*i*	P	**P**	**20 00 20.6**	**-0.5**
	comp=Z,516nm,0.8s							
MFF	**Saint Martin d**	**52.52 305**	⇑	*i*	P	**P**	**20 00 20.7**	**-0.5**
	comp=Z,681nm,1.0s							
MFF	**Saint Martin d**	**52.52 305**	⇑	*i*	P	**P**	**20 00 20.7**	**-0.5**
MFF					pmax	pmax		
	comp=Z,681nm,1.0s							
MFF	**Saint Martin d**	**52.52 305**	⇑	*i*	P	**P**	**20 00 20.7**	**-0.5**
	comp=Z,681nm,1.0s							
MBAR	**Mbarara**	**52.53 235**	⇑	*i*	P	**P**	**20 00 21.6**	**-0.3**
MBAR	**Mbarara**	**52.53 235**		P		**P**	**20 00 21.6**	**-0.3**
MBAR	**Mbarara**	**52.53 235**		P		**P**	**20 00 21.8**	**-0.1**
	comp=Z,1µm,0.7s							
MDO	**Dochfour**	**52.53 319**	⇑	*e*	P	**P**	**20 00 20.9**	**-0.3**
PVCP	**Virac**	**52.54 101**	⇑	*i*	P	**P**	**20 00 23.9**	**+2.2**
BLSI	**Bandar Lampung**	**52.55 135**		P		**P**	**20 00 19.2**	**-2.6**
	comp=Z,390nm,0.9s,comp=Z,4µm							
JMIC	**Jan Mayen**	**52.57 336**	⇑	*e*	P	**P**	**20 00 21.2**	**0.0**
JMIC				*e*	pP	**pP**	**20 01 04.2**	**+0.7**
JMIC				*e*	S	**S**	**20 07 34.0**	**+1.0**
JMIC					AMS	AMS	20 22 35.5	
	comp=Z,3µm,17.4s							
RCP	**Roxas**	**52.63 105**	⇑	*e*	P	**P**	**20 00 23.0**	**+0.5**
BATH	**Bath**	**52.65 311**	⇑	*e*	P	**P**	**20 00 21.6**	**-0.5**
BATH					AMB	AMB	20 00 23.9	
	comp=Z,821nm,1.3s							
HLM1	**Long Mynd**	**52.73 312**	⇑	*e*	P	**P**	**20 00 22.6**	**-0.2**
HLM1					AMB	AMB	20 00 24.9	
	comp=Z,627nm,1.4s							
HLM1				*e*			20 01 03.1	
OLDB	**Oldbury-Upon-S**	**52.73 311**	⇑	*e*	P	**P**	**20 00 22.2**	**-0.5**
OLDB					AMB	AMB	20 00 24.6	
	comp=Z,1µm,1.2s							
OLDB				*e*			20 01 02.4	
MLS	**Moulis**	**52.74 300**	⇑	*e*	P	**P**	**20 00 22.6**	**-0.4**
EAB	**Aberfoyle**	**52.76 317**	⇑	*e*	P	**P**	**20 00 22.3**	**-0.6**
YSS	**Yuzh-Sakhalins**	**52.80 55**	*c*	*i*	P	**P**	**20 00 23.0**	**-0.3**
YSS				*e*	*PP	**pP**	**20 01 04.0**	**-1.6**
YSS				*e*	*SP	**sP**	**20 01 27.0**	**+0.5**
YSS				*e*			20 02 22.0	
YSS				*e*	S	**S**	**20 07 32.0**	**-4.9**
YSS					pmax	pmax		
	comp=Z,500nm,1.0s							
YSS					pmax	pmax		
	comp=Z,3µm,9.0s							
YSS					MLR	MLR		
	comp=E,2µm,16.0s							
YSS					MLR	MLR		
	comp=Z,2µm,16.0s							
YSS					MLR	MLR		
	comp=N,2µm,14.0s							
FOEL	**Foel Wylfa**	**52.83 313**	⇑	*e*	P	**P**	**20 00 23.3**	**-0.2**
FOEL					AMB	AMB	20 00 25.8	
	comp=Z,747nm,1.8s							
FOEL				*e*			20 01 04.1	
FOEL					AMS	AMS	20 13 19.2	
	comp=Z,3µm,13.8s							
MONM	**Monmouth**	**52.84 312**	⇑	*e*	P	**P**	**20 00 23.1**	**-0.5**
MONM					AMB	AMB	20 00 25.5	
	comp=Z,1µm,1.3s							
MONM				*e*			20 01 04.6	
PGBU	**Glenifferbraes**	**52.92 317**	⇑	*e*	P	**P**	**20 00 24.2**	**+0.2**
PGBU					AMB	AMB	20 00 26.4	
	comp=Z,1µm,1.2s							
PGBU				*e*			20 01 03.5	
PGBU					AMS	AMS	20 27 19.4	
	comp=Z,6µm,16.6s							
MCH1	**Michaelchurch**	**52.92 312**	⇑	*e*	P	**P**	**20 00 23.5**	**-0.6**
MCH1					AMB	AMB	20 00 26.1	
	comp=Z,2µm,1.0s							
MCH1				*e*			20 01 04.2	
MCH1					AMS	AMS	20 26 25.2	
	comp=Z,4µm,14.7s							
MAJO	**Matsushiro**	**52.94 68**		*e*	P	**P**	**20 00 23.8**	**-0.7**
MAJO					pmax	pmax		
	comp=Z,79nm,0.7s							
MAJO	**Matsushiro**	**52.94 68**		*e*	P	**P**	**20 00 23.8**	**-0.7**
	comp=Z,79nm,0.7s							
MJAR	**Matsushiro Arr**	**52.94 68**		P		**P**	**20 00 24.4**	**-0.1**
MJAR					pP	**pP**	**20 01 08.2**	**+1.4**
MJAR					ScP	**ScP**	**20 05 09.2**	**-0.9**
MJAR	**Matsushiro Arr**	**52.94 68**		P		**P**	**20 00 24.4**	**-0.1**
	comp=Z,136nm,1.2s,baz=289,slow=8.1,SNR=72							
MJAR					pP	**pP**	**20 01 08.2**	**+1.4**
	comp=Z,41nm,0.9s,baz=243,slow=3.3,SNR=3.8							
MJAR					ScP	**ScP**	**20 05 09.2**	**-0.9**
	comp=Z,11nm,0.9s,baz=284,slow=5.7,SNR=3.4							
MELF	**Melles**	**53.00 300**		*e*	P	**P**	**20 00 24.8**	**-0.2**
KAC	**Achnashellach**	**53.01 319**	⇑	*e*	P	**P**	**20 00 24.7**	**0.0**
GUIM	**Jordan**	**53.08 106**		*e*	P	**P**	**20 00 27.1**	**+1.3**
JSA	**Saint Aubin**	**53.13 308**	⇑	*e*	P	**P**	**20 00 24.9**	**-0.7**
JSA					AMB	AMB	20 00 27.2	
	comp=Z,431nm,1.8s							
JSA				*e*			20 01 05.3	
JSA					AMS	AMS	20 13 49.5	
	comp=Z,3µm,10.9s							
WPM1	**Penmaenmawr**	**53.16 314**	⇑	*e*	P	**P**	**20 00 25.6**	**-0.2**
WPM1				*e*			20 01 08.1	
KPL	**Plockton**	**53.23 319**	⇑	*e*	P	**P**	**20 00 26.1**	**-0.1**
KPL					AMB	AMB	20 00 28.4	
	comp=Z,897nm,1.2s							
KPL					AMS	AMS	20 26 06.8	
	comp=Z,6µm,17.4s							
EPF	**Esparros**	**53.25 300**	⇑	*i*	P	**P**	**20 00 25.7**	**-1.0**
	comp=Z,266nm,1.0s							
EPF	**Esparros**	**53.25 300**	⇑	*i*	P	**P**	**20 00 25.7**	**-1.0**
EPF					pmax	pmax		
	comp=Z,266nm,1.0s							
EPF	**Esparros**	**53.25 300**	⇑	*i*	P	**P**	**20 00 25.7**	**-1.0**
	comp=Z,266nm,1.0s							
GAL1	**Galloway**	**53.25 316**		*e*	P	**P**	**20 00 26.4**	**0.0**
GAL1					AMB	AMB	20 00 28.7	
	comp=Z,630nm,1.3s							
GAL1					AMS	AMS	20 12 58.2	
	comp=Z,4µm,26.3s							
RESF	**Ens**	**53.32 300**		*e*	P	**P**	**20 00 26.8**	**-0.5**
YLL	**Llanberis**	**53.34 313**	⇑	*e*	P	**P**	**20 00 26.9**	**-0.2**
WME	**Myndd Eilian**	**53.36 314**	⇑	*e*	P	**P**	**20 00 26.9**	**-0.4**
LABF	**Labassere**	**53.43 300**		*e*	P	**P**	**20 00 27.3**	**-0.7**
WLF1	**Llynfaes**	**53.44 314**	⇑	*e*	P	**P**	**20 00 27.2**	**-0.6**
WLF1					AMB	AMB	20 00 30.0	
	comp=Z,561nm,2.1s							
WLF1				*e*			20 01 08.6	
WLF1					AMS	AMS	20 13 02.7	
	comp=Z,4µm,16.1s							
MYLDM	**Lahad Datu**	**53.47 114**			P	P	20 00 31.9	+3.4
MYLDM	**Lahad Datu**	**53.47 114**			P	**P**	**20 00 30.7**	**+2.1**
VIEF	**Viey**	**53.51 300**		*e*	P	**P**	**20 00 28.3**	**-0.4**
YRE	**Yr Eifl**	**53.53 313**	⇑	*e*	P	**P**	**20 00 28.2**	**-0.3**
LPW	**Lampeter**	**53.53 312**	⇑	*e*	P	**P**	**20 00 28.1**	**-0.5**
LPW					AMB	AMB	20 00 30.7	
	comp=Z,6µm,1.2s							
LPW					AMS	AMS	20 17 05.8	
	comp=Z,71µm,54.9s							
ASAJ	**Asahikawa**	**53.54 58**		*e*	P	**P**	**20 00 28.4**	**-0.4**
	comp=Z,113nm,1.4s							
ASAJ	**Asahikawa**	**53.54 58**			LR	LR	20 24 03.5	
	comp=Z,1µm,20.9s,baz=303,slow=37							
YRC	**Rhoscolyn**	**53.55 314**	⇑	*e*	P	**P**	**20 00 28.8**	**+0.1**
YRC				*e*			20 01 10.7	
TSM	**Tawau**	**53.60 115**			P	**P**	**20 00 31.1**	**+1.6**
SGMF	**Saint Gilles**	**53.63 307**	⇑	*i*	P	**P**	**20 00 29.2**	**-0.1**
	comp=Z,916nm,1.1s							
SGMF				*e*	pP	**pP**	**20 01 10.2**	**-1.5**
SGMF	**Saint Gilles**	**53.63 307**	⇑	*i*	P	**P**	**20 00 29.2**	**-0.1**
SGMF				*e*	*PP	**pP**	**20 01 10.2**	**-1.5**
SGMF					pmax	pmax		
	comp=Z,916nm,1.0s							
SGMF	**Saint Gilles**	**53.63 307**	⇑	*i*	P	**P**	**20 00 29.2**	**-0.1**
	comp=Z,916nm,1.0s							
SGMF				*e*	pP	**pP**	**20 01 10.2**	**-1.5**
EMHD	**Djebel Mahouad**	**53.71 291**			P	**P**	**20 00 31.3**	**+1.0**
REYF	**Montagne du Re**	**53.74 301**		*e*	P	**P**	**20 00 29.5**	**-0.9**
DODT	**Dodoma, Tanzan**	**53.81 225**		*i*	P	**P**	**20 00 32.1**	**+0.9**
DYA	**Yadsworthy**	**53.89 310**		*e*	P	**P**	**20 00 29.9**	**-1.3**
DYA					AMB	AMB	20 00 32.9	
	comp=Z,461nm,1.6s							
DYA					AMS	AMS	20 22 42.2	
	comp=Z,3µm,28.0s							
ETSF	**Etsaut**	**53.91 300**	⇑	*i*	P	**P**	**20 00 31.9**	**+0.3**
	comp=Z,338nm,0.6s							
ETSF	**Etsaut**	**53.91 300**	⇑	*i*	P	**P**	**20 00 31.9**	**+0.3**
ETSF					pmax	pmax		
	comp=Z,338nm,0.6s							
ETSF	**Etsaut**	**53.91 300**	⇑	*i*	P	**P**	**20 00 31.9**	**+0.3**
	comp=Z,338nm,0.6s							
KIG	**Kigali**	**53.99 234**		*e*	P	**P**	**20 00 33.1**	**+0.6**
KIG					AMB	AMB	20 00 34.2	
	comp=Z,155nm,2.2s							
KIG	**Kigali**	**53.99 234**			P	**P**	**20 00 33.1**	**+0.6**
	comp=Z,155nm,2.2s							
ROSF	**Rostrenen**	**54.06 308**	⇑	*i*	P	**P**	**20 00 32.1**	**-0.4**
	comp=Z,477nm,0.7s							
ROSF	**Rostrenen**	**54.06 308**	⇑	*i*	P	**P**	**20 00 32.1**	**-0.4**
ROSF					pmax	pmax		
	comp=Z,477nm,0.7s							
ROSF	**Rostrenen**	**54.06 308**	⇑	*i*	P	**P**	**20 00 32.1**	**-0.4**
	comp=Z,477nm,0.7s							
ORDF	**Ordiarp**	**54.07 301**		*e*	P	**P**	**20 00 31.4**	**-1.2**
HTL	**Hartland**	**54.08 311**	⇑	*e*	P	**P**	**20 00 31.7**	**-0.8**
HTL					AMB	AMB	20 00 34.9	
	comp=Z,349nm,1.0s							
HTL					AMS	AMS	20 28 13.7	
	comp=Z,4µm,16.0s							
GMM	**Mts of Mourne**	**54.10 315**	⇑	*e*	P	**P**	**20 00 32.2**	**-0.4**
GMM				*e*			20 01 14.5	
QUIF	**Quistinic**	**54.12 307**	⇑	*i*	P	**P**	**20 00 32.3**	**-0.5**
	comp=Z,557nm,0.9s							
QUIF	**Quistinic**	**54.12 307**	⇑	*i*	P	**P**	**20 00 32.3**	**-0.5**
QUIF					pmax	pmax		
	comp=Z,557nm,0.9s							
QUIF	**Quistinic**	**54.12 307**	⇑	*i*	P	**P**	**20 00 32.3**	**-0.5**
	comp=Z,557nm,0.9s							
LARF	**Larrau**	**54.17 301**		*e*	P	**P**	**20 00 31.6**	**-1.8**
COCO	**West Island**	**54.22 148**		*i*	P	P	20 00 37.7	+3.8
COCO	**West Island**	**54.22 148**			P	**P**	**20 00 36.5**	**+2.6**
	SNR=6.6							
COCO	**West Island**	**54.22 148**			P	**P**	**20 00 36.8**	**+2.9**
COCO	**West Island**	**54.22 148**		*e*	P	**P**	**20 00 36.7**	**+2.9**
	comp=Z,653nm,1.4s							
COCO	**West Island**	**54.22 148**			P	**P**	**20 00 36.4**	**+2.6**
	comp=Z,2µm,1.1s,SNR=5.6							
OSSF	**Osses**	**54.28 301**		*e*	P	**P**	**20 00 33.1**	**-1.1**
SJPF	**Ste Jean**	**54.31 301**	⇑	*i*	P	**P**	**20 00 34.5**	**+0.2**
	comp=Z,175nm,0.8s							
SJPF	**Ste Jean**	**54.31 301**	⇑	*i*	P	**P**	**20 00 34.5**	**+0.2**
SJPF					pmax	pmax		
	comp=Z,175nm,0.8s							
SJPF	**Ste Jean**	**54.31 301**	⇑	*i*	P	**P**	**20 00 34.5**	**+0.2**
	comp=Z,175nm,0.8s							
LLP	**Lapu-Lapu**	**54.34 105**	⇑	*e*	P	**P**	**20 00 35.6**	**+0.7**
LLP				*e*	S	pP	20 01 22.8	+5.4
DBJI	**Dramaga**	**54.38 134**			P	**P**	**20 00 32.0**	**-3.1**
	comp=Z,196nm,0.8s,comp=Z,4µm							
OCLP	**Ormoc**	**54.40 104**		*e*	P	**P**	**20 00 35.8**	**+0.5**
SEY	**Seymchan**	**54.40 34**		*c*	*i* P	**P**	**20 00 35.4**	**+0.8**
BST	**Brest**	**54.58 308**		*e*	P	**P**	**20 00 35.2**	**-1.0**
SKJI	**Sukabumi**	**54.63 135**			P	P	20 00 33.5	-3.4
	comp=Z,338nm,0.6s,comp=Z,6µm							
DAG	**Danmarks Havn**	**54.71 344**	⇑	*i*	P	**P**	**20 00 37.7**	**+1.0**
DAG				*i*			20 01 18.5	
DAG					pmax	pmax		
	comp=Z,510nm,0.9s							
DAG					MLR	MLR		
	comp=Z,3µm,19.0s							
DAG	**Danmarks Havn**	**54.71 344**	⇑	*i*	P	**P**	**20 00 37.7**	**+1.0**
	comp=Z,603nm,0.9s							
DAG				*i*			20 01 18.5	
DAG								
	comp=Z,3µm,19.0s							
EBNR	**Beni Rached**	**54.74 292**			P	**P**	**20 00 38.0**	**+0.4**
CCA1	**Carnmenellis**	**54.76 310**	⇑	*e*	P	**P**	**20 00 36.5**	**-1.0**
CCA1					AMB	AMB	20 00 39.3	
	comp=Z,724nm,0.9s							
CCA1				*e*			20 01 17.1	
CCA1					AMS	AMS	20 13 26.0	
	comp=Z,2µm,20.4s							
IPIL	**Ipil**	**54.83 108**		*e*	P	**P**	**20 00 40.0**	**+1.6**
ECHA	**Ech Chlef**	**54.92 292**			P	**P**	**20 00 40.1**	**+1.3**
DCPH	**Dipolog City**	**54.93 107**		*e*	P	**P**	**20 00 40.5**	**+1.4**
LEM	**Lembang**	**55.10 134**			P	**P**	**20 00 43.1**	**+2.6**
	comp=Z,72nm,1.1s,comp=Z,3µm							
LEM	**Lembang**	**55.10 134**	⇑		P	**P**	**20 00 37.6**	**-2.9**
	baz=55,SNR=3.2							
MSLP	**Maasin**	**55.15 104**		*e*	P	**P**	**20 00 42.1**	**+1.4**
EANR	**'Ain N'Sour**	**55.19 292**			P	**P**	**20 00 41.5**	**+0.6**
ETRT	**Tiaret**	**55.26 291**			P	**P**	**20 00 42.9**	**+1.4**
PAGZ	**Pagadian**	**55.41 108**		*e*	P	**P**	**20 00 44.2**	**+1.6**
OJGS	**Djebel Guires**	**55.63 291**			P	**P**	**20 00 45.0**	**+1.0**
YUK	**Yuzh-Kuril'sk**	**55.79 57**	*c*	*i*	P	P	20 00 38.1	-6.8
YUK				*i*	*PP	pP	20 01 21.7	-5.9
YUK				*i*			20 01 40.4	
YUK				*e*			20 02 48.4	
YUK				*i*	PPP	PPP	20 04 10.2	
YUK				*i*	S	**S**	**20 08 13.9**	**-2.9**
YUK					pmax	pmax		
	comp=Z,3µm,2.3s							
YUK					pmax	pmax		
	comp=E,243nm,0.9s							
YUK					pmax	pmax		
	comp=Z,1µm,1.7s							
YUK					pmax	pmax		
	comp=N,57nm,0.6s							
YUK					MLR	MLR		
	comp=E,2µm,19.0s							
YUK					MLR	MLR		
	comp=Z,2µm,19.0s							
CISI	**Cisompet, Garu**	**55.80 134**			P	**P**	**20 00 43.3**	**-2.0**
	comp=Z,174nm,0.7s,comp=Z,3µm							
TGJI	**Tegal**	**56.02 132**			P	**P**	**20 00 46.4**	**-0.4**
	comp=Z,226nm,1.3s,comp=Z,5µm							
KPJI	**Karang Pucung**	**56.27 133**			P	**P**	**20 00 46.8**	**-1.8**
	comp=Z,270nm,1.0s,comp=Z,3µm							
ODJA	**Bouhanifia**	**56.37 292**			P	P	20 00 44.0	-5.3
BUTP	**Butuan**	**56.45 105**		*e*	P	**P**	**20 00 51.0**	**+1.1**
BUKP	**Musuan**	**56.69 106**		*e*	P	**P**	**20 00 53.4**	**+1.7**
BJII	**Banjamegara**	**56.73 132**			P	**P**	**20 00 50.8**	**-1.2**
	comp=Z,102nm,1.1s,comp=Z,3µm							
XMI	**Christmas Isla**	**56.98 138**	⇓		P	**P**	**20 00 52.6**	**-1.0**
	baz=57,SNR=8.0							
XMIS	**Christmas Isla**	**56.99 138**	⇓		P	**P**	**20 00 51.4**	**-2.3**
	baz=57,SNR=3.7							
SCO	**Scoresbysund**	**57.04 336**	⇑	*i*	P	**P**	**20 00 55.0**	**+1.7**
SCO					pmax	pmax		
	comp=Z,100nm,1.0s							
SCO	**Scoresbysund**	**57.04 336**	⇑	*i*	P	**P**	**20 00 55.0**	**+1.7**
	comp=Z,101nm,1.0s							
VAL	**Valentia**	**57.24 313**	⇑	*i*	P

ABPO Ambohimpanom 59.64 206 *e*P **P 20 01 12.7 +0.6**
comp=Z,278nm,1.0s
ABPO Ambohimpanom 59.64 206 P **P 20 01 13.0 +0.9**
comp=Z,795nm,1.0s,SNR=34
MTE Manteigas 59.70 300 *e*P **P 20 01 12.8 +0.5**
comp=Z,1µm,1.9s
MTE *e*pP **pP 20 01 54.8 -0.8**
MTE Manteigas 59.70 300 *e*P **P 20 01 12.8 +0.5**
comp=Z,859nm,1.4s
SGSI Sangihe 59.70 110 P **P 20 01 12.5 0.0**
comp=Z,178nm,0.8s,comp=Z,4µm
GMJI Gumukmas 59.75 129 P **P 20 01 11.3 -1.5**
comp=Z,85nm,2.2s,comp=Z,3µm
MJSI Majene 59.88 121 P **P 20 01 15.8 +2.1**
comp=Z,377nm,1.4s,comp=Z,11µm
PCBR Castelo Branco 59.88 299 *e*P **P 20 01 13.4 0.0**
comp=Z,477nm,1.5s
PCBR *e*pP **pP 20 01 55.9 -0.8**
ABJI Asem Bagus 59.88 128 P **P 20 01 14.3 +0.6**
comp=Z,377nm,1.3s,comp=Z,7µm
APSI Ampana 59.90 117 P **P 20 01 14.4 +0.5**
comp=Z,629nm,1.2s,comp=Z,10µm
SKR Severo-Kuril's 59.94 47 *e*P P 20 01 10.0 -3.6
SKR *e* 20 01 54.5
SKR *e* 20 02 16.0
SKR *e*SSS SSS 20 09 08.0
SKR pmax pmax
comp=N,180nm,1.0s
SKR pmax pmax
comp=E,180nm,1.0s
SKR pmax pmax
comp=Z,270nm,1.0s
SKR pmax pmax
comp=Z,3µm,5.0s
PEA0B Petropavlovsk- 59.95 44 *e*P **P 20 01 13.2 -0.5**
PETK Petropavlovsk- 59.95 44 P **P 20 01 13.4 -0.3**
PETK *PP **pP 20 01 57.1 +0.1**
PETK Petropavlovsk- 59.95 44 P **P 20 01 13.3 -0.3**
PETK pP **pP 20 01 57.1 +0.1**
PETK P'P' 20 30 35.9
PETK Petropavlovsk- 59.95 44 P **P 20 01 13.3 -0.3**
comp=Z,28nm,0.8s,baz=240,slow=3.2,SNR=21
PETK pP **pP 20 01 57.1 +0.1**
comp=Z,44nm,0.8s,baz=242,slow=4.4,SNR=5.4
PETK PKPPKP **P'P'df 20 30 35.9 -3.6**
comp=Z,4.3nm,0.9s,baz=114,slow=6.6,SNR=4.0
PMRV Marv??o 59.99 299 *e*P **P 20 01 14.1 -0.1**
comp=Z,693nm,2.4s
PMRV *e*pP **pP 20 01 56.5 -1.0**
TTSI Tana Toraja 60.10 120 P **P 20 01 15.0 -0.2**
comp=Z,485nm,1.4s,comp=Z,8µm
PBAR Barrancos 60.26 297 *e*P **P 20 01 15.8 -0.2**
comp=Z,675nm,1.6s
PBAR *e*pP **pP 20 01 58.5 -0.9**
BYJI Banyuwangi 60.28 129 P **P 20 01 16.3 -0.1**
comp=Z,519nm,0.9s,comp=Z,10µm
PESTR Estremoz 60.36 298 *e*P **P 20 01 16.6 -0.1**
comp=Z,463nm,1.5s
PESTR *e*pP **PcP 20 01 59.0 -0.8**
PCAS Casmilo, Conde 60.51 300 *e*P **P 20 01 17.5 -0.2**
comp=Z,552nm,1.3s
PCAS *e*pP **pP 20 02 00.8 -0.3**
PET Petropavlovsk 60.51 44 *ce*P **P 20 01 16.0 -1.5**
PET *e**PP **PcP 20 02 00.0 -0.1**
PET *e**SP **sP 20 02 20.4 -1.1**
PET *e* 20 03 32.9
PET *e*S **S 20 09 16.3 -1.5**
PET *e* 20 10 44.5
PET *e*SS **SS 20 13 18.6 +0.1**
PET *e*SSS SSS 20 16 07.9
PET pmax pmax
comp=Z,2µm,7.8s
PET pmax pmax
comp=Z,176nm,1.2s
PET pmax pmax
comp=Z,2µm,14.4s
PET MLR MLR
comp=Z,2µm,21.0s
PET MLR MLR
comp=Z,2µm,14.0s
KMSI Cibinong 60.59 114 P **P 20 01 18.9 +0.3**
comp=Z,723nm,0.9s,comp=Z,12µm
PTOM Tomar 60.62 299 *e*P **P 20 01 18.8 +0.3**
comp=Z,1µm,1.8s
PTOM *e*pP **pP 20 02 02.5 +0.6**
SPSI Sidrap Palu 60.72 121 P **P 20 01 18.9 -0.5**
comp=Z,142nm,2.5s,comp=Z,4µm
SRBI Singaraja 60.72 128 P **P 20 01 19.5 +0.1**
comp=Z,453nm,0.9s,comp=Z,6µm
PMTG Montargil 60.72 299 *e*P **P 20 01 18.7 -0.5**
comp=Z,429nm,2.0s
PMTG *e*pP **PcP 20 02 01.4 +0.1**
EVO Evora 60.80 298 ⇑*i*P **P 20 01 20.2 +0.5**
comp=Z,693nm,1.3s
EVO ⇑*i*pP **pP 20 02 04.0 +0.9**
EVO *e*R
comp=Z,2µm,22.8s
EVO Evora 60.80 298 *e*P **P 20 01 19.3 -0.4**
comp=Z,552nm,1.8s
EVO *e*pP **PcP 20 02 02.3 +0.7**
LUWI Luwuk 60.80 116 P **P 20 01 20.6 +0.6**
comp=Z,146nm,1.0s,comp=Z,5µm
EVOP Sao Brissos 60.88 298 ⇑*i*P **P 20 01 20.2 0.0**
EVOP *i* 20 02 04.0
EVOP pmax pmax
comp=Z,693nm,1.3s
EVOP Sao Brissos 60.88 298 ⇑*i*P **P 20 01 20.2 0.0**
comp=Z,693nm,1.3s
EVOP ⇑*i*pP **pP 20 02 04.0 +0.3**
PBEJ Beja 60.91 298 *e*P **P 20 01 20.7 +0.3**
comp=Z,514nm,1.9s
PBEJ *e*pP **pP 20 02 03.0 -0.9**
SUMG Summit 61.05 341 ⇑*i*P **P 20 01 22.8 +1.5**
SUMG *i* 20 02 04.5
SUMG pmax pmax
comp=Z,790nm,0.9s
SUMG Summit 61.05 341 ⇑*i*P **P 20 01 22.8 +1.5**
comp=Z,787nm,0.9s
SUMG *i* 20 02 04.5
SUMG Summit 61.05 341 *e*P **P 20 01 22.5 +1.2**
comp=Z,980nm,0.9s
PVAQ Vaqueiros 61.07 297 *e*P **P 20 01 21.1 -0.4**
comp=Z,609nm,1.5s
PVAQ *e*pP **pP 20 02 04.5 -0.5**
DNP Denpasar 61.17 128 P **P 20 01 21.9 -0.5**
comp=Z,365nm,0.8s,comp=Z,8µm
PCVE Castro Verde 61.20 297 *e*P **P 20 01 22.0 -0.4**
comp=Z,445nm,1.3s
PCVE *e*pP **pP 20 02 05.0 -0.9**
BNSI Bone 61.26 121 P **P 20 01 23.5 +0.5**
comp=Z,112nm,1.0s,comp=Z,4µm
PACT Alcochete 61.28 299 *e*P **P 20 01 22.9 0.0**
comp=Z,1µm,1.9s
PACT *e*pP **pP 20 02 07.3 +0.9**
PBDV Barranco-do-Ve 61.29 297 *e*P **P 20 01 23.3 +0.2**
comp=Z,586nm,1.4s
PBDV *e*pP **pP 20 02 05.2 -1.4**
PNCL Nicolau / Gran 61.35 298 *e*P **P 20 01 23.5 +0.1**
comp=Z,584nm,1.8s
PNCL *e*pP **pP 20 02 06.5 -0.4**
KAPI Kappang 61.46 122 P **P 20 01 22.9 -1.5**
comp=Z,622nm,1.4s,SNR=13
PMAFR Mafra 61.52 299 *e*P **P 20 01 24.4 -0.1**
comp=Z,1µm,1.5s
PMAFR *e*pP **pP 20 02 07.4 -0.7**
PMST Lisbon--Monsan 61.54 299 *e*P **P 20 01 24.5 -0.2**
comp=Z,699nm,1.8s
PMST *e*pP **pP 20 02 07.7 -0.5**
PTEO Sao Teotonio 61.73 297 *e*P **P 20 01 26.9 +1.0**
comp=Z,817nm,2.2s
PTEO *e*pP **pP 20 02 09.7 +0.2**
MORF Marmelete 61.78 297 *e*P **P 20 01 26.1 -0.3**
comp=Z,449nm,1.3s
MORF *e*pP **pP 20 02 08.9 -1.1**
MORF Marmelete 61.78 297 *e*P **P 20 01 26.8 +0.4**
MORF *e*S **S 20 09 36.2 +1.8**
BKSI Bulukumba 61.93 121 P **P 20 01 27.5 0.0**
comp=Z,428nm,1.8s,comp=Z,7µm
PFVI Vila Bisbo 61.98 297 *e*P **P 20 01 27.5 -0.1**
comp=Z,789nm,1.6s
PFVI *e*pP **pP 20 02 10.1 -1.2**
KKSI Kolaka, Sulawe 62.18 119 P **P 20 01 29.4 +0.2**
comp=Z,194nm,2.1s,comp=Z,6µm
BBSI Bau Bau 63.75 120 P **P 20 01 41.1 +1.6**
KULLO Kullorsuaq 64.05 346 ⇑*i*P **P 20 01 41.4 +0.8**
KULLO pmax pmax
comp=Z,300nm,0.9s
KULLO MLR MLR
PALU Palau 64.39 100 ⇑P **P 20 01 43.0 -0.7**
baz=64,SNR=26
WSI Waingapu 65.21 125 P **P 20 01 46.6 -2.4**
baz=65,SNR=6.4
LSZ Lusaka 65.47 226 ⇑*i*P **P 20 01 51.2 +0.4**
LSZ Lusaka 65.47 226 P **P 20 01 51.5 +0.8**
SNR=98
LSZ Lusaka 65.47 226 *e*P **P 20 01 51.0 +0.3**
comp=Z,358nm,0.8s
TOA0 Torodi Ar. Sit 65.73 269 *e*P **P 20 01 50.5 -1.9**
TORD Torodi Ar. Bea 65.73 269 P **P 20 01 51.1 -1.3**
TORD pP **pP 20 02 37.5 +1.1**
TORD S S 20 10 15.7 -7.8
TORD P'P' 20 30 18.4
TORD Torodi Ar. Bea 65.73 269 P **P 20 01 51.1 -1.3**
comp=Z,293nm,0.7s,baz=48,slow=5.5,SNR=214
TORD pP **pP 20 02 37.5 +1.1**
comp=Z,104nm,0.6s,baz=43,slow=5.8,SNR=3.1
TORD S S 20 10 15.7 -7.8
comp=Z,5.1nm,1.1s,baz=55,slow=12,SNR=3.0
TORD PKPPKP P'P'df 20 30 18.4 -11
comp=Z,2.2nm,1.0s,baz=224,slow=1.5,SNR=6.2
ILULI Ilulissat 66.39 341 *i*P **P 20 01 56.6 +0.9**
ILULI *i* 20 02 39.5
ILULI pmax pmax
comp=Z,540nm,0.8s
ILULI MLR MLR
comp=Z,3µm,17.0s
AAI Ambon 66.56 114 ⇑P **P 20 01 57.2 -0.4**
baz=67,SNR=5.3
SWI Sorong 66.99 109 ⇓P **P 20 01 59.8 -0.6**
baz=67,SNR=60
SFJD Kangerlussuaq 67.74 339 ⇑*i*P **P 20 02 04.6 +0.3**
comp=Z,181nm,0.8s
SFJD *i* 20 02 47.4
SFJD *e* 20 03 17.6
SFJD
comp=Z,3µm,17.0s
SFJD Kangerlussuaq 67.74 339 *e*P **P 20 02 04.2 0.0**
comp=Z,212nm,0.8s
FX1 Attu Island--F 68.38 40 *e*P **P 20 02 08.2 -0.3**
TNA Tin City 68.54 23 *e*P **P 20 02 09.8 +0.6**
comp=Z,413nm,1.4s
PMPST Porto Santo, M 69.32 296 *e*pP pP 20 02 57.3 -1.9
NRS Narsarsuaq 69.86 332 ⇑*i*P **P 20 02 18.0 +0.6**
NRS *i* 20 03 02.5
NRS pmax pmax
comp=Z,240nm,1.1s
PMAR Madeira 69.92 296 *e*P **P 20 02 18.7 +0.2**
comp=Z,1µm,0.8s
PMAR *e*pP **pP 20 03 02.9 -0.3**
FUL Funchal 69.94 296 *e*P **P 20 02 19.4 +1.0**
comp=Z,482nm,1.8s
FUL *e*pP **pP 20 03 03.6 +0.5**
PMOZ Porto Moniz, M 70.07 296 *e*P **P 20 02 19.0 -0.4**
comp=Z,548nm,2.1s
PMOZ *e*pP **pP 20 03 03.0 -1.0**
MSNA Messina 70.19 220 ⇑*i*P **P 20 02 20.5 +0.6**
MSNA AMB AMB 20 02 22.6
comp=Z,888nm,2.1s
MSNA Messina 70.19 220 P **P 20 02 20.5 +0.6**
comp=Z,888nm,2.1s
BAKI Biak 70.92 106 P pP 20 03 13.4 +4.0
KUK Kukurantumi 71.39 264 *i*P **P 20 02 27.0 -0.4**
SRPI Serui, Papua 71.45 107 P pP 20 03 16.2 +3.6
GIRL Giralia 71.61 138 ⇑P **P 20 02 28.9 +0.4**
baz=72,SNR=17
COLD Coldfoot 71.95 16 *e*P **P 20 02 30.6 +0.7**
comp=Z,617nm,1.1s
COLD *e*pP **pP 20 03 15.0 +0.2**
IMA2 Indian Mountai 72.10 18 *e*P **P 20 02 30.7 -0.3**
IMA2 *e*pP **pP 20 03 15.2 -0.7**
IM04 Indian Mountai 72.15 18 *e*P **P 20 02 31.1 -0.1**
IM04 *e*pP **pP 20 03 14.3 -1.8**
AMKA Amchitka 72.35 39 *e*P **P 20 02 34.2 +1.7**
comp=Z,111nm,0.7s
RUDU RUNDU 72.63 231 ⇑*i*P **P 20 02 35.2 +0.5**
RUDU AMB AMB 20 02 37.2
comp=Z,830nm,1.3s
RUDU RUNDU 72.63 231 P **P 20 02 35.2 +0.5**
comp=Z,830nm,1.3s
CMLA Cha da Macela 73.22 305 *e*P **P 20 02 40.7 +2.7**
comp=Z,125nm,1.5s
CMLA *e*pP **pP 20 03 22.8 -0.2**
PSET Sete Cidades 73.32 305 *e*P **P 20 02 40.0 +1.4**
comp=Z,232nm,0.6s
PSET *e*pP **pP 20 03 21.5 -2.1**
PSMN Pico do Norte, 73.33 304 *e*P **P 20 02 39.5 +0.9**
comp=Z,415nm,1.4s
PSMN *e*pP **pP 20 03 23.1 -0.6**
PSMA Santa Maria 73.38 304 *e*P **P 20 02 40.0 +1.1**
comp=Z,534nm,1.4s
PSMA *e*pP **pP 20 03 22.8 -1.1**
MBWA Marble Bar 73.53 133 P **P 20 02 40.2 +0.4**
SNR=27
MBWA Marble Bar 73.53 133 *e*P **P 20 02 39.8 -0.1**
comp=Z,1µm,1.8s
SLR Silverton 73.87 220 ⇑*i*P **P 20 02 42.2 +0.3**
SLR AMB AMB 20 02 44.5
comp=Z,929nm,1.9s
SLR Silverton 73.87 220 P **P 20 02 42.2 +0.3**
SLR pmax pmax
comp=Z,929nm,1.9s
SLR Silverton 73.87 220 P **P 20 02 42.2 +0.3**
comp=Z,929nm,1.9s
INK Inuvik 73.89 9 *e*P **P 20 02 42.0 +0.8**
comp=Z,548nm,0.9s
INK *e*pP **pP 20 03 26.3 0.0**
PGRA Graciosa 74.13 307 *e*P **P 20 02 44.8 +1.6**
comp=Z,204nm,1.0s
PGRA *e*pP **pP 20 03 27.0 -1.3**
BPAW Bear Paw Mtn. 74.37 18 *e*P **P 20 02 44.3 +0.1**
comp=Z,402nm,1.1s
ERPM east rand prop 74.39 219 *e*P **P 20 02 44.7 -0.3**
ERPM AMB AMB 20 02 46.9
comp=Z,794nm,1.4s
ERPM east rand prop 74.39 219 P **P 20 02 44.7 -0.3**
comp=Z,794nm,1.4s
PMAN Manadas 74.42 307 *e*P **P 20 02 44.4 -0.5**
comp=Z,155nm,0.9s
PMAN *e*pP **pP 20 03 30.2 +0.1**
COLA College 74.46 16 *e*P **P 20 02 45.0 +0.4**
COLA pmax pmax
comp=Z,3µm,1.0s
COLA College 74.46 16 *e*P **P 20 02 45.0 +0.4**
comp=Z,3µm,1.0s
KSR Koster 74.68 221 ⇑*i*P **P 20 02 47.0 +0.4**
KSR AMB AMB 20 02 49.1
comp=Z,375nm,1.3s
KSR Koster 74.68 221 P **P 20 02 47.0 +0.4**
comp=Z,375nm,1.3s
LBTB Lobatse 74.70 222 ⇑*i*P **P 20 02 47.3 +0.7**
LBTB AMB AMB 20 02 49.4
comp=Z,1µm,1.4s
LBTB Lobatse 74.70 222 *e*P **P 20 02 47.2 +0.5**
comp=Z,2µm,1.4s
DBIC Dimbokro 74.71 267 ⇑*i*P **P 20 02 45.5 -1.4**
DBIC Dimbokro 74.71 267 *e*P **P 20 02 45.2 -1.7**
comp=Z,217nm,1.0s
DBIC pP **pP 20 03 30.0 -2.1**
DBIC S S 20 12 00.8 -6.9
DBIC Dimbokro 74.71 267 P **P 20 02 45.5 -1.4**
comp=Z,63nm,0.5s,baz=37,slow=6.9,SNR=142
DBIC pP **pP 20 03 30.0 -2.1**
comp=Z,42nm,0.7s,baz=12,slow=10,SNR=5.9
DBIC S S 20 12 00.8 -6.9
comp=Z,4.4nm,0.7s,baz=155,slow=21,SNR=7.7
DBIC LR LR 20 39 20.9
comp=Z,2µm,19.4s,baz=40,slow=38
ILAR Eielson Array 74.76 16 P **P 20 02 46.1 -0.3**
ILAR pP **pP 20 03 30.6 -0.9**
ILAR PKKPbc **PKKPbc 20 22 08.2 -2.0**
ILAR Eielson Array 74.76 16 P **P 20 02 46.1 -0.3**
comp=Z,258nm,1.0s,baz=318,slow=4.4,SNR=484
ILAR pP **pP 20 03 30.6 -0.9**
comp=Z,60nm,0.9s,baz=316,slow=4.4,SNR=3.1
ILAR PKKPbc **PKKPbc 20 22 08.2 -2.0**
comp=Z,0.9nm,0.5s,baz=188,slow=1.9,SNR=5.7
PCAN Candelaria 74.77 307 *e*P **P 20 02 48.6 +1.6**
comp=Z,144nm,0.6s
PCAN *e*pP **pP 20 03 30.5 -1.7**
KIC Kosan Boka 74.80 267 *e*P P 20 02 43.4 -4.0
comp=Z,896nm,1.2s
TIC Toumodi 74.86 267 *e*P **P 20 02 45.1 -2.7**
comp=Z,2µm,1.6s
FITZ Fitzroy Crossi 74.90 127 P **P 20 02 47.9 +0.2**
baz=75,SNR=156
MTN Manton Dam 74.90 119 P **P 20 02 47.2 -0.7**
baz=75,SNR=96
TSUM Tsumeb 74.94 232 ⇑*i*P **P 20 02 48.4 +0.2**
TSUM AMB AMB 20 02 50.5
comp=Z,19µm,1.3s
TSUM Tsumeb 74.94 232 *e*P **P 20 02 48.3 +0.1**
comp=Z,576nm,1.1s
PPLA Purkeypile 75.06 19 *e*P **P 20 02 48.2 -0.1**
comp=Z,491nm,1.2s
TRF Thorofare Moun 75.09 18 *e*P **P 20 02 48.1 -0.4**
comp=Z,119nm,0.9s
LIC Lamto 75.11 267 ⇑*i*P **P 20 02 47.7 -1.5**
comp=Z,190nm,0.6s,baz=59
LIC *e*pP pP 20 03 29.1 -5.4
LIC *e*R
comp=Z,3µm,22.2s
LIC Lamto 75.11 267 *e*P **P 20 02 46.7 -2.5**
comp=Z,327nm,0.6s
LIC Lamto 75.11 267 ⇑*i*P **P 20 02 47.7 -1.5**
comp=Z,190nm,0.6s
LIC *e*pP pP 20 03 29.1 -5.4
MCK McKinley 75.18 17 *e*P **P 20 02 48.2 -0.6**
MCK *e**PP **pP 20 03 34.5 +0.4**
MCK pmax pmax
comp=Z,1µm,1.9s
MCK McKinley 75.18 17 *e*P **P 20 02 48.2 -0.6**
comp=Z,1µm,1.9s
MCK *e*pP **pP 20 03 34.5 +0.4**
KNRA Kununurra 75.23 123 P **P 20 02 50.0 +0.3**
baz=75,SNR=304
PRYS Parys 75.31 220 ⇑*i*P **P 20 02 49.8 -0.4**
PRYS AMB AMB 20 02 52.1
comp=Z,361nm,1.9s
PRYS Parys 75.31 220 P **P 20 02 49.8 -0.4**
comp=Z,361nm,1.9s
JAY Jayapura 75.32 104 P sP 20 03 58.5 +2.7
JAY Jayapura 75.32 104 P **P 20 02 50.2 -0.2**
baz=75,SNR=4.5
KDU Kakadu 75.74 118 P **P 20 02 52.2 -0.4**
baz=76,SNR=110
EGAK Eagle 75.93 14 *e*P **P 20 02 53.2 +0.2**
comp=Z,457nm,1.3s
SEK Senekal 76.32 219 ⇑*i*P **P 20 02 56.0 +0.1**
SEK AMB AMB 20 02 58.0
comp=Z,1µm,1.7s
SEK Senekal 76.32 219 P **P 20 02 56.0 +0.1**
comp=Z,1µm,1.7s
DOT Dot Lake 76.35 15 *e*P **P 20 02 55.5 +0.1**
comp=Z,425nm,1.4s
SWZ Schweizer 76.58 221 ⇑*i*P **P 20 02 57.6 +0.2**
SWZ AMB AMB 20 02 59.5
comp=Z,1µm,1.5s
SWZ Schweizer 76.58 221 P **P 20 02 57.6 +0.2**
comp=Z,1µm,1.5s
PAX Paxson 76.64 16 *e*P **P 20 02 57.1 -0.1**
PAX *e**PP **pP 20 03 42.8 +0.2**
PAX pmax pmax
comp=Z,615nm,1.2s
PAX Paxson 76.64 16 *e*P **P 20 02 57.1 -0.1**
comp=Z,615nm,1.2s
PAX *e*pP **pP 20 03 42.8 +0.2**
RSO Redoubt South 76.92 21 *e*P **P 20 02 58.5 -0.5**
comp=Z,402nm,0.9s
PMR Palmer 76.95 18 *e*P **P 20 02 58.5 -0.2**
PMR *e**PP **pP 20 03 45.2 +1.0**
PMR pmax pmax
comp=Z,419nm,1.2s
PMR Palmer 76.95 18 *e*P **P 20 02 58.5 -0.2**
comp=Z,419nm,1.2s
PMR *e*pP **pP 20 03 45.2 +1.0**
MENT Mentasta 77.05 16 *e*P **P 20 02 59.8 +0.3**
MEEK Meekatharra 77.18 137 P **P 20 03 00.1 -0.4**
baz=77,SNR=56
KSD Kokstad 77.28 216 ⇑*i*P **P 20 03 01.0 -0.1**
KSD AMB AMB 20 03 02.5
comp=Z,724nm,2.4s
KSD Kokstad 77.28 216 P **P 20 03 01.0 -0.1**
comp=Z,724nm,2.4s
MORW Morawa 77.76 141 P **P 20 03 03.2 -0.5**
baz=78,SNR=133
BOSA Boshof 77.77 220 ⇑*i*P **P 20 03 04.2 +0.4**
BOSA AMB AMB 20 03 06.0
comp=Z,814nm,1.4s
BOSA Boshof 77.77 220 *e*P **P 20 03 03.9 0.0**
comp=Z,507nm,0.8s
BOSA pP **pP 20 03 50.6 +1.1**
BOSA S **S 20 12 39.0 -1.6**
BOSA PKKPbc **PKKPbc 20 22 05.0 0.0**
BOSA Boshof 77.77 220 P **P 20 03 04.0 +0.1**
comp=Z,564nm,0.8s,baz=39,slow=5.8,SNR=366
BOSA pP **pP 20 03 50.6 +1.1**
comp=Z,123nm,0.7s,baz=34,slow=6.5,SNR=3.4
BOSA S **S 20 12 39.0 -1.6**
comp=Z,7.3nm,1.0s,baz=178,slow=19,SNR=9.1
BOSA PKKPbc **PKKPbc 20 22 05.0 0.0**
comp=Z,1.9nm,0.6s,baz=127,slow=13,SNR=4.0
SEW Seward 78.13 19 *e*P **P 20 03 05.1 -0.2**
comp=Z,519nm,1.5s
DIV Divide 78.17 17 *e*P **P 20 03 06.1 +0.4**
comp=Z,363nm,1.0s
KDAK Kodiak Island 79.18 22 *e*P **P 20 03 11.3 +0.2**
comp=Z,659nm,1.1s
KDAK Kodiak Island 79.18 22 P **P 20 03 11.0 -0.1**
comp=Z,3µm,0.9s,SNR=27
HVD Gariep Dam 79.25 219 ⇑*i*P **P 20 03 12.0 0.0**
HVD AMB AMB 20 03 14.1
comp=Z,564nm,1.6s
HVD Gariep Dam 79.25 219 P **P 20 03 12.0 0.0**
HVD pmax pmax
comp=Z,564nm,1.6s
HVD Gariep Dam 79.25 219 P **P 20 03 12.0 0.0**
comp=Z,564nm,1.6s
BLDU Ballidu 79.35 141 P **P 20 03 11.1 -1.2**
baz=80,SNR=68
OHAK Old Harbor 79.42 23 *e*P **P 20 03 12.7 +0.3**
comp=Z,677nm,1.1s
PKA Prieska 79.92 221 ⇑*i*P **P 20 03 15.7 +0.1**
PKA AMB AMB 20 03 17.6
comp=Z,162nm,1.3s
PKA Prieska 79.92 221 P **P 20 03 15.7 +0.1**
comp=Z,162nm,1.3s
HYT Haines Junctio 80.23 14 *e*P **P 20 03 17.8 +0.9**
HYT *e*pP **pP 20 04 03.7 +1.0**
SOE Somerset East 80.92 217 *e*P **P 20 03 20.8 0.0**
SOE AMB AMB 20 03 23.4
comp=Z,509nm,1.8s
SOE Somerset East 80.92 217 P **P 20 03 20.8 0.0**
comp=Z,509nm,1.8s
GRM Grahamstown 80.95 216 ⇑*i*P **P 20 03 21.0 +0.1**
GRM AMB AMB 20 03 23.2
comp=Z,548nm,1.8s
GRM Grahamstown 80.95 216 P **P 20 03 21.0 +0.1**
GRM pmax pmax
comp=Z,548nm,1.8s
GRM Grahamstown 80.95 216 P **P 20 03 21.0 +0.1**
comp=Z,548nm,1.8s
YKA Yellowknife Ar 81.23 3 P **P 20 03 22.3 +0.4**
YKA pP **pP 20 04 09.2 +1.4**
YKA PKKPbc **PKKPbc 20 21 53.6 -2.6**
YKA Yellowknife Ar 81.23 3 P **P 20 03 22.3 +0.4**
comp=Z,116nm,0.5s,baz=349,slow=5.4,SNR=285
YKA pP **pP 20 04 09.2 +1.4**
comp=Z,148nm,0.8s,baz=350,slow=5.4,SNR=6.4
YKA PKKPbc **PKKPbc 20 21 53.6 -2.6**
comp=Z,5.2nm,0.6s,baz=164,slow=2.0,SNR=15
NWAO Narrogin (SRO) 81.48 142 P **P 20 03 22.8 -0.8**
SNR=9.0
NWAO Narrogin (SRO) 81.48 142 *ep*P pP 20 04 09.5 -0.1
comp=Z,189nm,1.2s
SKAG Skagway 81.91 13 *e*P **P 20 03 26.6 +1.1**
comp=Z,327nm,1.4s
WRA Warramunga Arr 81.99 122 P **P 20 03 25.8 -0.9**
WRA pP **pP 20 04 13.0 +0.4**
WRA S **S 20 13 20.9 -4.1**
WRA PKKP **PKKPdf 20 21 43.9 -1.7**
WRA PKKPbc **PKKPbc 20 21 55.0 +0.4**
WRA P'P' 20 29 57.2
WRA Warramunga Arr 81.99 122 P **P 20 03 25.8 -0.9**
comp=Z,225nm,0.6s,baz=324,slow=4.9,SNR=789
WRA pP **pP 20 04 13.0 +0.4**
comp=Z,58nm,0.7s,baz=320,slow=4.8,SNR=2.9
WRA S **S 20 13 20.9 -4.1**

comp=Z,6.1nm,1.0s,baz=320,slow=9.9,SNR=5.8
WRA PKKP **PKKPdf** **20 21 43.9 -1.7**
comp=Z,2.3nm,0.9s,baz=140,slow=1.1,SNR=6.8
WRA PKKPbc **PKKPbc** **20 21 55.0 +0.4**
comp=Z,15nm,0.8s,baz=132,slow=2.2,SNR=57
WRA PKPPKP **P'P'df** **20 29 57.2 -2.4**
comp=Z,8.9nm,1.0s,baz=118,slow=1.4,SNR=12
WRAB Tennant Creek 81.99 122 *e*P **P** **20 03 25.7 -1.0**
WRAB pmax pmax
comp=Z,617nm,1.0s
WRAB Tennant Creek 81.99 122 *e*P **P** **20 03 25.7 -1.0**
comp=Z,617nm,1.0s
WRAB Tennant Creek 81.99 122 P **P** **20 03 25.6 -1.0**
comp=Z,3µm,0.5s
SCHQ Schefferville 82.08 337 *e*P **P** **20 03 26.5 -0.2**
comp=Z,950nm,1.8s
SCHQ pP **pP** **20 04 13.0 +0.4**
SCHQ Schefferville 82.08 337 P **P** **20 03 26.7 0.0**
comp=Z,117nm,0.8s,baz=44,slow=5.6,SNR=62
SCHQ pP **pP** **20 04 13.0 +0.4**
comp=Z,60nm,0.7s,baz=41,slow=5.9,SNR=3.5
SCHQ LR LR 20 39 55.4
comp=Z,2µm,20.8s,baz=58,slow=35
BUFB Buffelsbos 82.49 217 ⇑*i*P **P** **20 03 29.1 +0.3**
BUFB AMB AMB 20 03 30.7
comp=Z,244nm,1.7s
BUFB Buffelsbos 82.49 217 P **P** **20 03 29.1 +0.3**
comp=Z,244nm,1.7s
RKGY Rocky Gully 82.71 143 ⇓P **P** **20 03 29.2 -0.8**
baz=83,SNR=23
CVNA Calvinia 82.94 222 ⇑*i*P **P** **20 03 31.5 +0.1**
CVNA AMB AMB 20 03 32.6
comp=Z,441nm,2.5s
CVNA Calvinia 82.94 222 P **P** **20 03 31.5 +0.1**
comp=Z,441nm,2.5s
SUR Sutherland 83.08 221 ⇑*i*P **P** **20 03 33.0 +0.8**
SUR AMB AMB 20 03 33.8
comp=Z,313nm,2.5s
SUR Sutherland 83.08 221 P **P** **20 03 33.5 +1.3**
SNR=9.3
SUR Sutherland 83.08 221 *e*P **P** **20 03 32.7 +0.5**
comp=Z,250nm,0.8s
SUR Sutherland 83.08 221 P **P** **20 03 32.0 -0.2**
comp=Z,2µm,0.9s,SNR=66
DLBC Dease Lake 83.77 11 *e*P **P** **20 03 36.1 +0.8**
DLBC *e*pP **pP** **20 04 22.2 +0.7**
AS31 Alice Springs 84.26 125 *e*P **P** **20 03 37.2 -1.0**
ASAR Alice Springs 84.26 125 P **P** **20 03 37.4 -0.8**
ASAR pP **pP** **20 04 24.3 -0.2**
ASAR S S 20 13 38.5 -9.2
ASAR PKKPbc **PKKPbc** **20 21 49.6 +0.1**
ASAR P'P' 20 29 52.2
ASAR Alice Springs 84.26 125 P **P** **20 03 37.4 -0.8**
comp=Z,264nm,0.7s,baz=312,slow=4.8,SNR=2060
ASAR pP **pP** **20 04 24.3 -0.2**
comp=Z,70nm,0.9s,baz=318,slow=4.9,SNR=2.3
ASAR S S 20 13 38.5 -9.2
comp=Z,6.1nm,0.9s,baz=302,slow=6.0,SNR=6.8
ASAR PKKPbc **PKKPbc** **20 21 49.6 +0.1**
comp=Z,4.1nm,0.5s,baz=130,slow=2.9,SNR=20
ASAR PKPPKP **P'P'df** **20 29 52.2 -3.1**
comp=Z,6.9nm,0.9s,baz=135,slow=2.7,SNR=11
FCC Fort Churchill 84.26 352 *e*P **P** **20 03 38.0 +0.4**
FCC *e**PP **pP** **20 04 23.5 -0.3**
FCC Fort Churchill 84.26 352 *e*P **P** **20 03 38.0 +0.4**
comp=Z,28nm,1.5s
FCC *e*pP **pP** **20 04 23.5 -0.3**
COEN Coen 84.40 112 *e*P **P** **20 03 37.9 -1.2**
comp=Z,3µm,1.6s
COEN *e*pP **pP** **20 04 26.5 +1.1**
COEN Coen 84.40 112 ⇑P **P** **20 03 38.1 -0.9**
baz=84,SNR=34
PMG Port Moresby 84.60 106 P **P** **20 03 40.0 -0.1**
PMG Port Moresby 84.60 106 *e*P **P** **20 03 39.5 -0.5**
comp=Z,650nm,1.8s
CER Ceres 84.64 221 ⇑*i*P **P** **20 03 40.4 +0.5**
CER AMB AMB 20 03 41.7
comp=Z,590nm,2.5s
CER Ceres 84.64 221 P **P** **20 03 40.4 +0.5**
comp=Z,590nm,2.5s
SACV Santiago Islan 84.87 285 *e*P **P** **20 03 40.9 -0.6**
comp=Z,322nm,1.6s
WRAK Wrangell Islan 85.32 13 *e*P **P** **20 03 44.0 +1.0**
comp=Z,316nm,1.4s
WRAK *e*pP **pP** **20 04 29.4 +0.1**
ELIM Elim 85.36 220 ⇑*i*P **P** **20 03 43.8 +0.4**
ELIM AMB AMB 20 03 44.7
comp=Z,504nm,2.5s
ELIM Elim 85.36 220 P **P** **20 03 43.8 +0.4**
comp=Z,504nm,2.5s
FORT Forrest 85.67 134 *e*P **P** **20 03 44.6 -0.4**
comp=Z,704nm,0.8s
FORT Forrest 85.67 134 ⇑P **P** **20 03 44.1 -0.9**
baz=86,SNR=158
MTSU Mount Surprise 87.89 114 P **P** **20 03 55.6 -0.4**
baz=88,SNR=35
FFC Flin Flon 88.92 356 *i* P **P** **20 04 00.8 +0.5**
FFC Flin Flon 88.92 356 *e*P **P** **20 04 00.4 +0.1**
comp=Z,1µm,1.2s
FFC Flin Flon 88.92 356 P **P** **20 04 00.3 0.0**
comp=Z,2µm,1.4s,SNR=68
SHEL Horse Pasture 89.11 249 *e*P **P** **20 04 01.8 0.0**
SHEL pmax pmax
comp=Z,159nm,1.0s
SHEL Horse Pasture 89.11 249 *e*P **P** **20 04 01.8 0.0**
comp=Z,159nm,1.0s
CTAO Charters Tower 90.54 115 *e*P **P** **20 04 07.6 -0.8**
CTAO pmax pmax
comp=Z,240nm,0.9s
CTAO Charters Tower 90.54 115 *e*P **P** **20 04 07.5 -0.8**
comp=Z,240nm,0.9s
EDM Edmonton 90.55 3 *e*P **P** **20 04 08.6 +0.6**
EDM *e**PP **pP** **20 04 55.4 +0.6**
EDM Edmonton 90.55 3 *e*P **P** **20 04 08.6 +0.6**
EDM *e*pP **pP** **20 04 55.4 +0.6**
PKME Peaks-Kenny Pk 91.05 333 *e*P **P** **20 04 12.4 +2.0**
comp=Z,37nm,0.9s
BBOO Buckleboo 91.91 130 *e*P **P** **20 04 12.7 -1.7**
comp=Z,1µm,0.8s
BBOO *e*pP **pP** **20 05 02.1 +0.9**
BBOO Buckleboo 91.91 130 P **P** **20 04 13.2 -1.3**
baz=92,SNR=47
ULM Lac du Bonnet 92.83 352 *e*P **P** **20 04 17.7 -0.9**
comp=Z,218nm,1.2s
ULM *e*pP **pP** **20 05 02.8 -2.5**
ULM pP **pwP** **20 05 04.8 -0.5**
ULM PKKP **PKKPdf** **20 21 23.7 -0.6**
ULM Lac du Bonnet 92.83 352 P **P** **20 04 18.3 -0.3**
comp=Z,155nm,1.0s,baz=4.0,slow=5.2,SNR=80
ULM pP **pwP** **20 05 04.8 -0.5**
comp=Z,44nm,1.1s,baz=346,slow=5.5,SNR=2.4
ULM PKKP **PKKPdf** **20 21 23.7 -0.6**
comp=Z,4.6nm,0.5s,baz=326,slow=1.5,SNR=5.7
ULM LR LR 20 49 55.8
comp=Z,2µm,20.3s,baz=35,slow=38
LBNH Lisbon 92.87 334 *e*P **P** **20 04 19.7 +0.8**
LBNH pmax pmax
comp=Z,48nm,1.1s
LBNH Lisbon 92.87 334 *e*P **P** **20 04 19.7 +0.8**
comp=Z,48nm,1.1s
FRNY Flat Rock 92.92 336 *e*P **P** **20 04 18.8 -0.3**
comp=Z,70nm,1.4s
QLP Quilpie 93.18 121 P **P** **20 04 19.7 -0.8**
baz=93,SNR=54
LONY Lake Ozonia 93.43 336 *e*P **P** **20 04 21.7 +0.2**
comp=Z,148nm,1.3s
LONY *e*pP **pP** **20 05 08.1 -0.2**
MDV Middlebury 93.52 335 *e*P **P** **20 04 22.6 +0.8**
NCB Newcomb 93.89 336 *e*P **P** **20 04 23.8 +0.2**
comp=Z,48nm,1.3s
VDB Vedder Mountai 94.03 9 P **P** **20 04 24.2 +0.1**
ACCN Adirondack Com 94.22 335 *e*P **P** **20 04 25.3 +0.2**
comp=Z,84nm,1.4s
PGC Sidney 94.23 10 *e*P **P** **20 04 26.1 +1.1**
comp=Z,7.5nm,1.4s
A30A Hoffart Farm, 94.39 353 ⇓P **P** **20 04 25.8 0.0**
baz=94,SNR=25
EYMN Ely 94.47 348 *e*P **P** **20 04 26.2 0.0**
comp=Z,222nm,1.1s
EYMN *e*pP **pP** **20 05 12.7 -0.3**
A29A Manning Farm, 94.49 354 ⇑P **P** **20 04 26.0 -0.2**
baz=94
A29A ⇑SKSac **SKSac** **20 14 41.2 -2.1**
baz=94
A28A Rude Farm, Bot 94.59 354 ⇑P **P** **20 04 26.9 +0.1**
baz=94
A27A Ledoux Ranch, 94.62 355 ⇑P **P** **20 04 27.4 +0.6**
baz=94,SNR=14
WALA Waterton Lakes 94.69 3 *e*P **P** **20 04 27.3 0.0**
comp=Z,5.0nm,1.0s
WALA *e*pP **pP** **20 05 12.1 -2.0**
STW Striped Peak 94.69 10 P **P** **20 04 28.9 +1.8**
A26A Wade Farm, Ken 94.73 355 ⇓P **P** **20 04 27.6 +0.3**
baz=94
AGMN Agassiz Nation 94.75 351 *e*P **P** **20 04 27.1 -0.3**
comp=Z,223nm,1.3s
AGMN *e*pP **pP** **20 05 12.0 -2.3**
A25A Svangstu Ranch 94.76 356 ⇑P **P** **20 04 28.3 +0.8**
baz=94
STKA Stephens Creek 94.79 126 *e*P **P** **20 04 25.7 -2.0**
comp=Z,11nm,1.1s
STKA pP **pP** **20 05 13.4 -1.2**
STKA PKKP **PKKPbc** **20 21 23.3 -0.1**
STKA Stephens Creek 94.79 126 ⇑P **P** **20 04 26.5 -1.2**
baz=95,SNR=43
STKA Stephens Creek 94.79 126 P **P** **20 04 26.1 -1.6**
comp=Z,14nm,0.4s,baz=323,slow=5.8,SNR=49
STKA pP **pP** **20 05 13.4 -1.2**
comp=Z,7.1nm,0.5s,baz=12,slow=5.5,SNR=1.7
STKA PKKP **PKKPbc** **20 21 23.3 -0.1**
comp=Z,5.2nm,1.0s,baz=41,slow=4.9,SNR=4.3
A24A Westby 94.82 357 ⇑P **P** **20 04 28.9 +1.2**
baz=94,SNR=28
A23A Redstone 94.82 357 ⇑P **P** **20 04 28.5 +0.7**
baz=94,SNR=8.1
A22A Carey Farms, 94.82 358 ⇑P **P** **20 04 28.5 +0.7**
baz=94,SNR=19
A21A Bergtoll Ranch 94.84 359 ⇓P **P** **20 04 28.4 +0.5**
baz=94,SNR=22
B30A Myrvik Farm, E 94.87 353 ⇑P **P** **20 04 27.9 -0.1**
baz=94,SNR=40
JCW Jim Creek 94.88 9 P **P** **20 04 28.4 +0.4**
A19A Klindworth Far 94.93 360 ⇓P **P** **20 04 28.7 +0.4**
baz=95,SNR=9.7
B29A Wagenan Farm, 94.96 354 ⇓P **P** **20 04 28.4 +0.1**
baz=95,SNR=37
A20A Cobblestone Ra 94.97 359 ⇑P **P** **20 04 29.1 +0.7**
baz=95,SNR=48
B28A Dugan Ranch, T 95.06 354 ⇑P **P** **20 04 29.1 +0.3**
baz=95,SNR=13
B27A Peters Farms, 95.17 355 ⇑P **P** **20 04 30.4 +1.1**
baz=95
B26A Jensen Ranch, 95.27 355 ⇑P **P** **20 04 30.4 +0.6**
baz=95,SNR=15
DGMT Dagmar 95.28 357 *e*P **P** **20 04 30.5 +0.7**
comp=Z,367nm,1.4s
DGMT Dagmar 95.28 357 ⇑P **P** **20 04 30.9 +1.1**
baz=95,SNR=20
NEW Newport 95.28 5 *e*P **P** **20 04 30.4 +0.5**
comp=Z,113nm,1.2s
NEW *e*pP **pP** **20 05 16.1 -0.6**
NEW Newport 95.28 5 ⇓P **P** **20 04 30.4 +0.5**
baz=95,SNR=33
OSR Olympics--Salm 95.28 10 P **P** **20 04 31.9 +1.9**
B23A Brockton 95.32 357 ⇑P **P** **20 04 30.8 +0.7**
baz=95,SNR=22
B19A Brinkman Farms 95.40 360 ⇑P **P** **20 04 30.9 +0.4**
baz=95,SNR=28
NLWA Neilton Lookou 95.41 10 *e*P **P** **20 04 31.8 +1.4**
comp=Z,82nm,1.0s
NLWA *e*pP **pP** **20 05 19.9 +2.5**
B21A Ellsworth Farm 95.41 359 ⇑P **P** **20 04 31.5 +1.0**
baz=95
B20A Solberg Farm, 95.41 359 ⇑P **P** **20 04 31.2 +0.7**
baz=95,SNR=31
B25A Knox Farm, Ray 95.42 356 ⇓P **P** **20 04 31.5 +1.0**
baz=95,SNR=6.3
B22A Reddig Ranch S 95.51 358 ⇓P **P** **20 04 32.1 +1.1**
baz=95,SNR=25
WTV Waterville 95.59 7 P **P** **20 04 31.2 -0.1**
MDND Maddock 95.59 354 *e*P **P** **20 04 31.9 +0.7**
MDND Maddock 95.59 354 ⇑P **P** **20 04 31.5 +0.2**
baz=95,SNR=7.5
C30A Mose, Pekin 95.63 353 ⇑P **P** **20 04 31.3 -0.1**
baz=95,SNR=25
BLMT Blacktail Moun 95.71 4 *e*P **P** **20 04 31.9 -0.1**
comp=Z,95nm,1.4s
C28A Hausauer Farms 95.79 354 ⇓P **P** **20 04 32.9 +0.7**
baz=95
C26A Wahner Farm, P 95.81 355 ⇓P **P** **20 04 33.2 +0.9**
baz=95,SNR=6.0
EGMT Eagleton 95.83 1 *e*P **P** **20 04 32.4 0.0**
comp=Z,172nm,1.1s
EGMT *e*pP **pP** **20 05 21.5 +2.2**
EGMT Eagleton 95.83 1 ⇓P **P** **20 04 32.6 +0.1**
baz=96,SNR=25
COWI Conover 95.83 346 *e*P **P** **20 04 31.9 -0.6**
comp=Z,161nm,1.4s
COWI *e*pP **pP** **20 05 18.0 -1.3**
BSMT Bassoo Peak 95.84 4 *e*P **P** **20 04 33.3 +0.7**
comp=Z,11µm,1.4s
BSMT *e*pP **pP** **20 05 19.8 +0.2**
YBMT Yellow Bay 95.87 3 *e*P **P** **20 04 33.7 +1.0**
comp=Z,17nm,0.9s
C27A Sayler Ranch, 95.88 355 ⇓P **P** **20 04 33.3 +0.7**
baz=96,SNR=8.3
JTMT Jette 95.98 4 *e*P **P** **20 04 33.3 +0.2**
comp=Z,83nm,1.3s
C23A Lambert 95.98 357 ⇑P **P** **20 04 34.6 +1.5**
baz=96,SNR=23
C25A Freed Ranch, W 95.99 356 ⇓P **P** **20 04 34.3 +1.2**
baz=96
C21A Desert Coulee 96.01 359 ⇓P **P** **20 04 34.5 +1.2**
baz=96,SNR=39
TBM Table Mountain 96.04 8 P **P** **20 04 34.0 +0.6**
BINY Binghamton 96.06 336 *e*P **P** **20 04 33.1 -0.4**
comp=Z,32nm,1.0s
C22A Vida 96.06 358 ⇓P **P** **20 04 34.5 +1.0**
baz=96,SNR=46
C19A Slack Wire Ran 96.12 0 ⇑P **P** **20 04 33.9 +0.2**
baz=96,SNR=27
C20A Veseth Ranch, 96.14 359 ⇓P **P** **20 04 34.1 +0.3**
baz=96,SNR=12
C24A Savage 96.23 357 ⇑P **P** **20 04 35.2 +1.0**
baz=96,SNR=8.8
SWMT Swartz Lake 96.23 3 *e*P **P** **20 04 34.6 +0.3**
comp=Z,49nm,1.1s
D30A Buchanan 96.24 353 ⇑P **P** **20 04 34.5 +0.2**
baz=96,SNR=20
RMQ Roma 96.29 118 P **P** **20 04 34.5 -0.2**
baz=96,SNR=22
LON Longmire 96.31 9 *e*P **P** **20 04 35.0 +0.4**
LON pmax pmax
comp=Z,48nm,1.0s
LON Longmire 96.31 9 *e*P **P** **20 04 35.0 +0.4**
comp=Z,48nm,1.0s
D28A Regan 96.32 354 ⇑P **P** **20 04 35.0 +0.4**
baz=96,SNR=14
D29A Pettibone, Tap 96.37 354 ⇓P **P** **20 04 34.9 +0.1**
baz=96,SNR=7.0
WPW White Pass 96.39 9 P **P** **20 04 35.5 +0.4**
D27A Cener 96.48 355 ⇑P **P** **20 04 36.5 +1.2**
baz=96,SNR=20
SLMT Seeley Lake 96.52 3 *e*P **P** **20 04 35.5 -0.2**
comp=Z,11µm,1.4s
SLMT *e*pP **pP** **20 05 22.6 0.0**
D25A Fairfield 96.55 356 ⇓P **P** **20 04 37.1 +1.4**
baz=96,SNR=19
D23A Lindsay 96.61 357 ⇓P **P** **20 04 37.3 +1.3**
baz=96,SNR=11
D26A Manning 96.62 355 ⇑P **P** **20 04 37.0 +1.1**
baz=96,SNR=38
D24A Glendive 96.64 357 ⇓P **P** **20 04 37.4 +1.3**
baz=96,SNR=11
D22A Cohagen 96.67 358 ⇓P **P** **20 04 37.7 +1.5**
baz=96,SNR=43
D19A Cripps Ranch, 96.69 360 ⇓P **P** **20 04 36.9 +0.5**
baz=96,SNR=28
D20A Manuel Ranch, 96.76 359 ⇓P **P** **20 04 36.9 +0.3**
baz=96,SNR=12
D21A La Casta Ranch 96.77 359 ⇓P **P** **20 04 37.2 +0.5**
baz=96,SNR=39
CHMT Chamberlain Mo 96.86 3 *e*P **P** **20 04 37.0 -0.3**
comp=Z,23nm,0.6s
CHMT *e*pP **pP** **20 05 24.0 -0.2**
E30A Jud 96.86 353 ⇑P **P** **20 04 37.4 +0.3**
baz=96,SNR=20
E29A Napoleon 96.86 354 ⇑P **P** **20 04 37.4 +0.3**
baz=96,SNR=16
MSO Missoula 96.91 3 ⇓P **P** **20 04 37.8 +0.4**
baz=96,SNR=5.2
E28A Huff 96.95 354 ⇓P **P** **20 04 38.0 +0.5**
baz=97,SNR=13
HRY Holter Researc 97.11 2 *e*P Pdif 20 04 39.3 +0.9
comp=Z,136nm,1.3s
HRY *e*pP pP 20 05 25.6 +0.4
LAO LASA Array 97.13 358 *e*P Pdif 20 04 39.6 +1.2
comp=Z,145nm,1.0s
LAO *e*pP pP 20 05 27.4 +2.1
E27A Carson 97.16 355 ⇓P Pdif 20 04 39.3 +0.8
baz=97,SNR=8.1
E26A Carlson Angus 97.18 355 ⇑P Pdif 20 04 39.5 +1.0
baz=97,SNR=22
E24A Baker 97.19 357 ⇑P Pdif 20 04 39.5 +0.8
baz=97,SNR=14
E25A Miller Ranch, 97.20 356 ⇓P Pdif 20 04 39.7 +1.0
baz=97,SNR=22
CMSA Cobar Meteorol 97.28 124 P **P** **20 04 37.8 -1.2**
baz=97,SNR=28
EIDS Eidsvold 97.28 116 *e*P **P** **20 04 36.8 -2.4**
comp=Z,234nm,2.1s
EIDS Eidsvold 97.28 116 ⇓P **P** **20 04 38.5 -0.7**
baz=97,SNR=4.6
E23A Ismay 97.29 357 ⇑P Pdif 20 04 40.0 +0.9
baz=97,SNR=25
E21A Keefer Ranch, 97.30 359 ⇑P Pdif 20 04 39.8 +0.7
baz=97
SPMN St. Paul 97.33 349 *e*P **P** **20 04 38.8 -0.3**
SPMN St. Paul 97.33 349 ⇑P Pdif 20 04 39.3 +0.1
baz=97
E20A Meyer Farm, Mu 97.35 359 ⇓P Pdif 20 04 39.7 +0.3
baz=97,SNR=31
E22A Miles City 97.37 358 ⇓P Pdif 20 04 40.0 +0.5
baz=97,SNR=8.1
E19A Rath Farm, Rou 97.40 360 ⇑P Pdif 20 04 40.0 +0.4
baz=97,SNR=36
F30A Leola 97.53 353 ⇑P Pdif 20 04 40.4 +0.2
baz=97
F29A Eureka 97.61 354 ⇓P **P** **20 04 40.5 0.0**
baz=97,SNR=12
F28A McLaughlin 97.68 354 ⇓P Pdif 20 04 41.3 +0.5
baz=97
F27A Lemmon 97.74 355 ⇑P Pdif 20 04 41.8 +0.7
baz=97,SNR=25
F25A Bowman 97.78 356 ⇑P Pdif 20 04 42.0 +0.7
baz=97,SNR=9.6
F26A Lodgepole 97.81 356 ⇓P Pdif 20 04 42.1 +0.7
baz=97,SNR=5.2
F24A Ekalaka 97.91 357 ⇓P Pdif 20 04 43.0 +1.1
baz=98,SNR=10
LRM Limekiln Ridge 97.98 2 *e*P Pdif 20 04 42.6 +0.2
comp=Z,548nm,1.3s
LRM *e*pP pP 20 05 28.9 -0.4
F19A Roth Farm, Mol 98.00 360 ⇓P Pdif 20 04 42.9 +0.5
baz=98,SNR=30
F21A Absaloka Mine, 98.02 359 ⇑P Pdif 20 04 42.9 +0.5
baz=98
F22A Rosebud 98.04 358 ⇑P Pdif 20 04 42.9 +0.4
baz=98
F20A Billings 98.05 359 ⇓P Pdif 20 04 43.0 +0.4
baz=98,SNR=9.8
GCMT Greycliff 98.06 0 *e*P Pdif 20 04 44.5 +1.9
comp=Z,24nm,0.8s
F23A Volborg 98.07 357 ⇓P Pdif 20 04 43.1 +0.5
baz=98
SSPA Standing Stone 98.08 337 *e*P **P** **20 04 41.7 -0.9**
comp=Z,69nm,1.5s
BOZ Bozeman (W) 98.18 2 *e*P **P** **20 04 43.0 -0.2**
BOZ pmax pmax
comp=Z,122nm,1.6s
BOZ Bozeman (W) 98.18 2 *e*P **P** **20 04 43.0 -0.2**
comp=Z,122nm,1.6s
G30A Faulkton 98.24 353 ⇑Pdiff Pdif 20 04 43.4 +0.1
baz=98
G29A Hoven 98.25 354 ⇓Pdiff Pdif 20 04 43.5 +0.2
baz=98
G27A Dupree 98.30 356 ⇓Pdiff **P** **20 04 43.2 -0.4**
baz=98
G26A Maurine 98.36 355 ⇑Pdiff Pdif 20 04 44.6 +0.8
baz=98
G24A Alzada 98.42 357 ⇓Pdiff Pdif 20 04 44.4 +0.2
baz=98
G28A Parade 98.45 354 ⇑Pdiff Pdif 20 04 44.6 +0.3
baz=98
G25A Newell 98.51 356 ⇑Pdiff Pdif 20 04 45.4 +0.9
baz=98
G23A Biddle 98.59 357 ⇓Pdiff Pdif 20 04 45.7 +0.7
baz=98
G22A Birney 98.60 358 ⇓Pdiff Pdif 20 04 45.2 +0.2
baz=98
G21A Lodge Grass 98.62 359 ⇓Pdiff Pdif 20 04 45.7 +0.6
baz=98
G20A Bridger 98.63 359 ⇑Pdiff Pdif 20 04 45.5 +0.3
baz=98
RLMT Red Lodge 98.73 0 *e*P Pdif 20 04 46.8 +1.1
comp=Z,187nm,1.6s
H29A Onida 98.84 354 ⇑Pdiff **P** **20 04 45.9 -0.1**
baz=98
SDMD Soldier's Deli 98.84 335 *e*P Pdif 20 04 47.3 +1.2
comp=Z,27nm,1.1s
H28A Mission Ridge 98.86 354 ⇓Pdiff Pdif 20 04 46.4 +0.3
baz=98
BRSD Miller 98.90 353 *e*P Pdif 20 04 46.6 +0.3
BRSD Miller 98.90 353 ⇑Pdiff **P** **20 04 46.1 -0.2**
baz=98
MCMT McKenzie Canyo 98.95 3 *e*P Pdif 20 04 47.1 +0.3
comp=Z,11µm,1.4s
H27A Howes 98.98 355 ⇓Pdiff **P** **20 04 46.5 -0.1**
baz=99
QLMT Earthquake Lak 99.00 2 *e*P **Pdif** **20 04 48.0 +1.1**
comp=Z,4.7nm,1.3s
H24A Dirks Ranch, A 99.01 357 ⇑Pdiff **Pdif** **20 04 46.7 -0.2**
baz=99
H26A Fairpoint 99.05 356 ⇓Pdiff **Pdif** **20 04 47.3 +0.4**
baz=99
H25A Fruitdale 99.09 356 ⇑Pdiff **Pdif** **20 04 47.5 +0.4**
baz=99
JFWS Jewell Farm 99.12 346 *e*P **Pdif** **20 04 47.1 -0.1**
JFWS pmax pmax
comp=Z,38nm,0.9s
JFWS Jewell Farm 99.12 346 *e*P **Pdif** **20 04 47.1 -0.1**
comp=Z,38nm,0.9s
YMR Madison River 99.17 1 *e*P **Pdif** **20 04 48.8 +1.0**
comp=Z,42nm,1.4s
H18A Shoshone NF, C 99.18 0 ⇑Pdiff **Pdif** **20 04 48.3 +0.5**
baz=99
H19A Powell 99.19 360 ⇑Pdiff **Pdif** **20 04 48.5 +0.8**
baz=99
H21A Big Horn, Sher 99.21 359 ⇑Pdiff **Pdif** **20 04 48.3 +0.5**
baz=99
H22A Clearmont 99.23 358 ⇑Pdiff **Pdif** **20 04 48.4 +0.6**
baz=99
H23A Clabaugh Cattl 99.23 357 ⇓Pdiff **Pdif** **20 04 48.0 +0.2**
baz=99
LKWY Lake 99.28 1 *e*P **Pdif** **20 04 50.2 +2.0**
LKWY pmax pmax
comp=Z,176nm,1.9s
LKWY Lake 99.28 1 *e*P **Pdif** **20 04 50.2 +2.0**
comp=Z,176nm,1.9s
ECSD EROS Data Cent 99.33 351 *e*P **Pdif** **20 04 48.3 +0.1**
comp=Z,88nm,1.3s
H20A Greybull 99.37 359 ⇓Pdiff **Pdif** **20 04 48.6 +0.2**
baz=99
YFT Old Faithful 99.39 1 *e*Pdif **Pdif** **20 04 51.8 +3.1**
comp=Z,229nm,1.9s
I29A Vivian Onida 99.45 354 ⇓Pdiff **Pdif** **20 04 49.0 +0.3**
baz=99
H17A Grant Village 99.45 1 *e*Pdif **Pdif** **20 04 51.1 +2.1**
H17A Grant Village 99.45 1 ⇓Pdiff **Pdif** **20 04 50.9 +1.9**
baz=99
I30A Oacoma 99.47 353 ⇓Pdiff **Pdif** **20 04 48.6 -0.2**
baz=99
I27A Quinn 99.54 355 ⇓Pdiff **Pdif** **20 04 49.4 +0.2**
baz=99
I28A Midland 99.54 354 ⇑Pdiff **Pdif** **20 04 49.4 +0.3**
baz=99
MCWV Mont Chateau 99.58 338 *e*P **Pdif** **20 04 49.4 +0.1**
comp=Z,137nm,1.4s
RSSD Black Hills 99.61 356 *e*P **Pdif** **20 04 50.1 +0.4**
RSSD Black Hills 99.61 356 *e*P **Pdif** **20 04 50.1 +0.4**
I26A New Underwood 99.63 356 ⇑Pdiff **Pdif** **20 04 50.3 +0.7**
baz=99
I25A Rochford 99.70 356 ⇓Pdiff **Pdif** **20 04 50.4 +0.4**
baz=99
I19A Meeteetse 99.82 0 ⇓Pdiff **Pdif** **20 04 51.3 +0.7**
baz=99
I23A Meade Ranch, G 99.83 357 ⇑Pdiff **Pdif** **20 04 50.9 +0.4**
baz=100
I24A Kuemmerle Ranc 99.90 357 ⇑Pdiff **Pdif** **20 04 50.9 0.0**
baz=100
I20A Worland 99.90 359 ⇑Pdiff **Pdif** **20 04 51.5 +0.7**

		baz=100								
I17A	**Pilgrim Ck.**	99.92	1	⇓Pdiff		**Pdif**		20 04 52.7	+1.6	
	baz=100									
I22A	**9 Mile Ranch,**	99.93	358	⇑Pdiff		**Pdif**		20 04 51.5	+0.5	
	baz=100									
ACSO	**Alum Creek Sta**	99.97	340	*e*Pdif		**Pdif**		20 04 50.6	-0.5	
	comp=Z,23nm,0.7s									
I21A	**Big Trails, Te**	100.03	359	⇓Pdiff		**Pdif**		20 04 52.1	+0.6	
	baz=100									
J29A	**Okreek**	100.06	354	⇑Pdiff		**Pdif**		20 04 52.2	+0.7	
	baz=100									
J30A	**Dallas**	100.06	353	⇑Pdiff		**Pdif**		20 04 52.1	+0.6	
	baz=100									
J28A	**Allard Ranch,**	100.12	354	⇑Pdiff		**Pdif**		20 04 52.5	+0.7	
	baz=100									
HLID	**Hailey**	100.14	4	⇑Pdiff		**Pdif**		20 04 52.3	+0.3	
	baz=100									
J25A	**Sunshine Ranch**	100.33	356	⇓Pdiff		**Pdif**		20 04 53.0	+0.3	
	baz=100									
J27A	**Elkhorn Farm,**	100.35	355	⇓Pdiff		**Pdif**		20 04 53.2	+0.4	
	baz=100									
J23A	**Dilts Ranch, B**	100.39	357	⇓Pdiff		**Pdif**		20 04 53.4	+0.4	
	baz=100									
J22A	**Midwest**	100.41	358	⇓Pdiff		**Pdif**		20 04 53.4	+0.2	
	baz=100									
J24A	**Dixon Ranch, L**	100.43	357	⇑Pdiff		**Pdif**		20 04 53.7	+0.5	
	baz=100									
J21A	**Lysite**	100.50	359	⇓Pdiff		**Pdif**		20 04 54.1	+0.5	
	baz=100									
J20A	**Shoshoni**	100.50	359	⇓Pdiff		**Pdif**		20 04 54.3	+0.7	
	baz=100									
J19A	**Crowheart**	100.59	0	⇓Pdiff		**Pdif**		20 04 54.8	+0.8	
	baz=100									
SCIA	**State Center**	100.63	348	*e*Pdif		**Pdif**		20 04 54.9	+1.0	
	comp=Z,40nm,0.9s									
ARMA	**Armidale**	100.66	120	*e*Pdif		**Pdif**		20 04 53.8	-0.5	
	comp=Z,24nm,1.2s									
ARMA	**Armidale**	100.66	120	P		**Pdif**		20 04 54.3	0.0	
	baz=101,SNR=7.6									
K29A	**Lazy Trails An**	100.70	354	⇑Pdiff		**Pdif**		20 04 54.5	+0.2	
	baz=100									
K30A	**Basset**	100.72	353	⇑Pdiff		**Pdif**		20 04 55.0	+0.6	
	baz=100									
JSRW	**J. Sargeant Re**	100.74	335	*e*Pdif		**Pdif**		20 04 54.5	0.0	
K28A	**Ten Mile Ranch**	100.84	354	⇓Pdiff		**Pdif**		20 04 55.4	+0.4	
	baz=100									
TOO	**Toolangi**	100.86	129	P		**Pdif**		20 04 54.7	-0.2	
	baz=101,SNR=4.7									
SFIN	**Scholer Farm**	100.88	343	*e*Pdif		**Pdif**		20 04 55.0	-0.1	
SFIN	**Scholer Farm**	100.88	343	⇑Pdiff		**Pdif**		20 04 55.0	-0.1	
	baz=100									
K27A	**Flueckinger Fa**	100.91	355	⇑Pdiff		**Pdif**		20 04 55.7	+0.4	
	baz=100									
WVOR	**Wild Horse Val**	100.93	7	*e*P		**Pdif**		20 04 56.3	+0.8	
WVOR				pmax		pmax				
	comp=Z,27nm,1.2s									
WVOR	**Wild Horse Val**	100.93	7	*e*Pdif		**Pdif**		20 04 56.2	+0.8	
	comp=Z,27nm,1.2s									
K26A	**Motz Farm, Whi**	100.98	356	⇑Pdiff		**Pdif**		20 04 56.0	+0.4	
	baz=101									
K23A	**Bowen Ranch, D**	101.04	357	⇑Pdiff		**Pdif**		20 04 55.7	-0.3	
	baz=101									
K24A	**Anderson Ranch**	101.04	357	⇑Pdiff		**Pdif**		20 04 55.2	-0.8	
	baz=101									
PDAR	**Pinedale Array**	101.09	0	P		**Pdif**		20 04 57.1	+0.9	
PDAR				PP		**PP**		20 09 02.5	-3.5	
PDAR				PKKPbc		**PKKPbc**		20 21 04.3	-2.0	
PDAR	**Pinedale Array**	101.09	0	P		**Pdif**		20 04 57.1	+0.9	
	comp=Z,5.7nm,0.7s,baz=34,slow=2.8,SNR=26									
PDAR				PP		**PP**		20 09 02.5	-3.5	
	comp=Z,7.9nm,0.9s,baz=19,slow=4.5,SNR=4.6									
PDAR				PKKPbc		**PKKPbc**		20 21 04.3	-2.0	
	comp=Z,3.7nm,0.8s,baz=147,slow=6.2,SNR=11									
K25A	**Mack Ranch, Ha**	101.11	356	⇑Pdiff		**Pdif**		20 04 56.8	+0.6	
	baz=101									
YBH	**Yreka Blue Hor**	101.12	10	*e*Pdif		**Pdif**		20 04 57.9	+1.7	
	comp=Z,7.6nm,1.0s									
L31A	**Butterfield Fa**	101.13	352	⇓Pdiff		**Pdif**		20 04 56.1	-0.2	
	baz=101									
K22A	**Casper**	101.17	358	⇑Pdiff		**Pdif**		20 04 56.3	-0.3	
	baz=101									
K21A	**Alcova**	101.21	359	⇑Pdiff		**Pdif**		20 04 56.7	-0.1	
	baz=101									
L29A	**Maesberg Ranch**	101.41	354	⇑Pdiff		**Pdif**		20 04 57.4	-0.1	
	baz=101									
L30A	**Spencer Herefo**	101.45	353	⇓Pdiff		**Pdif**		20 04 57.9	+0.2	
	baz=101									
L27A	**T5 Ranch, Ells**	101.53	355	⇑Pdiff		**Pdif**		20 04 58.7	+0.6	
	baz=101									
L28A	**Connealy Angus**	101.55	354	⇓Pdiff		**Pdif**		20 04 58.7	+0.5	
	baz=101									
L25A	**Engebretsen Ra**	101.57	356	⇓Pdiff		**Pdif**		20 04 58.8	+0.5	
	baz=101									
L26A	**Underwood Farm**	101.63	356	⇑Pdiff		**Pdif**		20 04 58.8	+0.2	
	baz=101									
L23A	**Garrett**	101.69	358	⇑Pdiff		**Pdif**		20 04 58.4	-0.5	
	baz=101									
L24A	**Wheatland**	101.72	357	⇑Pdiff		**Pdif**		20 04 58.8	-0.2	
	baz=101									
L22A	**Ellis Ranch, M**	101.79	358	⇑Pdiff		**Pdif**		20 04 58.9	-0.5	
	baz=101									
BGNE	**Belgrade**	101.81	352	*e*Pdif		**Pdif**		20 05 00.3	+1.0	
BGNE	**Belgrade**	101.81	352	⇑Pdiff		**Pdif**		20 04 59.6	+0.3	
	baz=101									
M30A	**Dale-Ortello V**	101.87	353	⇑Pdiff		**Pdif**		20 04 59.6	0.0	
	baz=102									
M31A	**Lambtecht Ranc**	101.97	352	⇑Pdiff		**Pdif**		20 05 00.4	+0.4	
	baz=102									
HVU	**Hansel Valley**	102.00	3	*e*P		**Pdif**		20 05 01.4	+1.1	
HVU				pmax		pmax				
	comp=Z,20nm,0.9s									
HVU	**Hansel Valley**	102.00	3	*e*Pdif		**Pdif**		20 05 01.4	+1.1	
	comp=Z,20nm,0.9s									
M27A	**Reverse DX Ran**	102.09	355	⇓Pdiff		**Pdif**		20 05 00.5	-0.1	
	baz=102									
M28A	**Bar X Bar Ranc**	102.15	354	⇓Pdiff		**Pdif**		20 05 01.0	+0.1	
	baz=102									
M26A	**McRoberts Ranc**	102.20	356	⇓Pdiff		**Pdif**		20 05 02.0	+0.8	
	baz=102									
M25A	**Palm-Egli Farm**	102.29	356	⇓Pdiff		**Pdif**		20 05 02.3	+0.8	
	baz=102									
M24A	**Cheyenne**	102.30	357	⇑Pdiff		**Pdif**		20 05 02.2	+0.6	
	baz=102									
M23A	**Laramie**	102.33	357	⇓Pdiff		**Pdif**		20 05 02.4	+0.6	
	baz=102									
M22A	**Cedar Creek Ra**	102.42	358	⇑Pdiff		**Pdif**		20 05 02.6	+0.3	
	baz=102									
N32A	**Stulken Farm,**	102.47	352	⇓Pdiff		**Pdif**		20 05 02.5	+0.3	
	baz=102									
SPUT	**South Promonto**	102.48	3	*e*Pdif		**Pdif**		20 05 03.2	+0.7	
	comp=Z,190nm,2.3s									
N31A	**Bailey Ranch,**	102.48	352	⇓Pdiff		**Pdif**		20 05 02.2	-0.1	
	baz=102									
N30A	**Hueftle Ranch,**	102.63	353	⇑Pdiff		**Pdif**		20 05 03.5	+0.5	
	baz=102									
OGNE	**Ogallala**	102.65	355	*e*Pdif		**Pdif**		20 05 03.6	+0.5	
	comp=Z,22nm,1.0s									
OGNE	**Ogallala**	102.65	355	⇓Pdiff		**Pdif**		20 05 03.4	+0.4	
	baz=102									
N29A	**Votaw Ranch, W**	102.66	354	⇑Pdiff		**Pdif**		20 05 03.3	+0.3	
	baz=102									
OLIL	**Olney**	102.67	343	*e*Pdif		**Pdif**		20 05 03.4	+0.3	
	comp=Z,20nm,1.1s									
N27A	**Anderson Farm,**	102.82	355	⇑Pdiff		**Pdif**		20 05 04.7	+0.8	
	baz=102									
BGU	**Big Grassy Mou**	102.84	3	*e*Pdif		**Pdif**		20 05 04.0	-0.1	
	comp=Z,121nm,2.3s									
N26A	**Koester Ranch,**	102.84	356	⇑Pdiff		**Pdif**		20 05 04.6	+0.6	
	baz=102									
N28A	**Pribbeno Ranch**	102.86	354	⇓Pdiff		**Pdif**		20 05 04.0	0.0	
	baz=102									
N23A	**Red Feather La**	102.91	358	⇓Pdiff		**Pdif**		20 05 05.1	+0.6	
	baz=102									
N25A	**Grover**	102.91	356	⇓Pdiff		**Pdif**		20 05 05.1	+0.8	
	baz=102									
N24A	**Carr**	102.94	357	⇓Pdiff		**Pdif**		20 05 05.3	+0.9	
	baz=103									
O32A	**Brockman Farm,**	102.96	352	⇓Pdiff		**Pdif**		20 05 04.6	+0.2	
	baz=103									
N22A	**Wattenberg Ran**	103.02	358	⇓Pdiff		**Pdif**		20 05 06.0	+1.0	
	baz=103									
N20A	**Spence Gulch,**	103.02	359	⇓Pdiff		**Pdif**		20 05 06.1	+1.2	
	baz=103									
BMN	**Battle Mountai**	103.05	6	*e*P		**Pdif**		20 05 06.0	+1.0	
BMN				pmax		pmax				
	comp=Z,20nm,1.4s									
BMN	**Battle Mountai**	103.05	6	*e*Pdif		**Pdif**		20 05 06.0	+1.0	
	comp=Z,20nm,1.4s									
O31A	**Woolen Ranch,**	103.19	352	⇑Pdiff		**Pdif**		20 05 05.3	-0.1	
	baz=103									
JLU	**Jordanelle**	103.22	2	*e*Pdif		**Pdif**		20 05 07.4	+1.5	
	comp=Z,300nm,2.4s									
O30A	**MW Ranch, Wils**	103.23	353	⇓Pdiff		**Pdif**		20 05 05.4	-0.2	
	baz=103									
O29A	**4D Ranch, Culb**	103.36	354	⇓Pdiff		**Pdif**		20 05 06.3	+0.1	
	baz=103									
DAU	**Daniels Canyon**	103.41	2	*e*P		**Pdif**		20 05 07.3	+0.5	
DAU				pmax		pmax				
	comp=Z,43nm,1.2s									
DAU	**Daniels Canyon**	103.41	2	*e*Pdif		**Pdif**		20 05 07.3	+0.5	
	comp=Z,43nm,1.2s									
O27A	**Beecher Island**	103.43	355	⇓Pdiff		**Pdif**		20 05 06.8	+0.2	
	baz=103									
O26A	**Horse Wrangler**	103.44	356	⇑Pdiff		**Pdif**		20 05 06.7	0.0	
	baz=103									
O28A	**Krutsinger Ran**	103.44	354	⇓Pdiff		**Pdif**		20 05 06.8	+0.2	
	baz=103									
O19A	**Miners Draw (B**	103.56	0	⇑Pdiff		**Pdif**		20 05 08.1	+0.9	
	baz=103									
DUG	**Dugway**	103.58	3	*e*P		**Pdif**		20 05 08.2	+0.9	
DUG				pmax		pmax				
	comp=Z,10.0nm,0.8s									
DUG	**Dugway**	103.58	3	*e*Pdif		**Pdif**		20 05 08.2	+0.9	
	comp=Z,10nm,0.8s									
DUG	**Dugway**	103.58	3	⇑Pdiff		**Pdif**		20 05 08.3	+1.0	
	baz=103									
O23A	**Lake Granby, G**	103.59	358	⇑Pdiff		**Pdif**		20 05 08.6	+1.1	
	baz=103									
O25A	**Wiggins**	103.61	356	⇑Pdiff		**Pdif**		20 05 07.8	+0.4	
	baz=103									
O21A	**Pagoda**	103.63	359	⇓Pdiff		**Pdif**		20 05 08.8	+1.1	
	baz=103									
P32A	**Huiting Farm,**	103.63	352	⇓Pdiff		**Pdif**		20 05 07.5	+0.2	
	baz=103									
O24A	**Longmont**	103.65	357	⇓Pdiff		**Pdif**		20 05 08.1	+0.5	
	baz=103									
O22A	**Kremmling**	103.66	358	⇑Pdiff		**Pdif**		20 05 08.3	+0.4	
	baz=103									
P33A	**Williams Farm,**	103.70	351	⇑Pdiff		**Pdif**		20 05 07.6	-0.1	
	baz=103									
O20A	**White River Ci**	103.72	359	*e*Pdif		**Pdif**		20 05 09.3	+1.3	
O20A	**White River Ci**	103.72	359	⇓Pdiff		**Pdif**		20 05 08.3	+0.3	
	baz=103									
P31A	**Stockton**	103.82	352	⇓Pdiff		**Pdif**		20 05 08.3	0.0	
	baz=103									
P30A	**Selden**	103.88	353	⇓Pdiff		**Pdif**		20 05 08.4	-0.1	
	baz=104									
P29A	**Atwood**	103.89	354	⇑Pdiff		**Pdif**		20 05 08.7	+0.1	
	baz=104									
KSU1	**Kansas State U**	103.89	350	*e*Pdif		**Pdif**		20 05 08.9	+0.4	
	comp=Z,64nm,1.4s									
MAW	**Mawson**	103.99	183	Pdif		**Pdif**		20 05 08.4	+0.5	
MAW				*e*				20 05 56.6		
MAW				PKiKP		**PKiKP**		20 09 23.3	-0.9	
MAW				PKKPbc		**PKKPbc**		20 20 58.2	-0.5	
MAW	**Mawson**	103.99	183	Pdiff		**Pdif**		20 05 08.4	+0.5	
	comp=Z,2.1nm,0.6s,baz=12,slow=6.8,SNR=5.6									
MAW				pPdiff		**pPdif**		20 05 56.6	+1.6	
	comp=Z,7.6nm,0.8s,baz=327,slow=8.9,SNR=4.5									
MAW				PKiKP		**PKiKP**		20 09 23.3	-0.9	
	comp=Z,2.9nm,0.7s,baz=27,slow=2.3,SNR=2.5									
MAW				PKKPbc		**PKKPbc**		20 20 58.2	-0.5	
	comp=Z,5.2nm,0.9s,baz=258,slow=4.2,SNR=10									
P28A	**Saint Francis**	103.99	354	⇑Pdiff		**Pdif**		20 05 08.9	-0.2	
	baz=104									
ISCO	**Idaho Springs**	103.99	357	⇓Pdiff		**Pdif**		20 05 09.0	-0.3	
	baz=104									
P27A	**Ficken Ranch,**	104.07	355	⇓Pdiff		**Pdif**		20 05 10.0	+0.5	
	baz=104									
P26A	**Davis Ranch, A**	104.12	356	⇓Pdiff		**Pdif**		20 05 10.1	+0.4	
	baz=104									
KMSC	**Kings Mountain**	104.20	337	⇑Pdiff		**Pdif**		20 05 09.9	-0.1	
	baz=104									
P25A	**Willow Gulch B**	104.21	356	⇑Pdiff		**Pdif**		20 05 10.8	+0.6	
	baz=104									
P19A	**Cripple Cowboy**	104.22	360	⇑Pdiff		**Pdif**		20 05 10.9	+0.6	
	baz=104									
P22A	**Eagle**	104.23	358	⇓Pdiff		**Pdif**		20 05 11.2	+0.9	
	baz=104									
P24A	**Kohler Place,**	104.25	357	⇓Pdiff		**Pdif**		20 05 10.9	+0.6	
	baz=104									
Q31A	**Ellis**	104.33	352	⇑Pdiff		**Pdif**		20 05 11.0	+0.5	
	baz=104									
P20A	**De Beque**	104.35	360	⇑Pdiff		**Pdif**		20 05 11.5	+0.7	
	baz=104									
P23A	**Jefferson**	104.42	357	⇑Pdiff		**Pdif**		20 05 11.6	+0.2	
	baz=104									
Q30A	**Quinter**	104.44	353	⇓Pdiff		**Pdif**		20 05 11.4	+0.3	
	baz=104									
Q28A	**Sharon Springs**	104.50	354	⇑Pdiff		**Pdif**		20 05 11.9	+0.5	
	baz=104									
Q29A	**Oakley**	104.60	354	⇓Pdiff		**Pdif**		20 05 12.1	+0.3	
	baz=104									
KSCO	**Kaye Shedlock'**	104.61	355	⇓Pdiff		**Pdif**		20 05 12.3	+0.4	
	baz=104									
Q26A	**Hugo**	104.76	356	⇓Pdiff		**Pdif**		20 05 12.9	+0.3	
	baz=104									
Q24A	**Divide**	104.81	357	⇓Pdiff		**Pdif**		20 05 13.0	0.0	
	baz=104									
Q25A	**Bedland, Calha**	104.81	356	⇑Pdiff		**Pdif**		20 05 12.9	0.0	
	baz=104									
R33A	**Olander Ranch,**	104.85	351	⇓Pdiff		**Pdif**		20 05 13.0	+0.1	
	baz=104									
Q23A	**Hartsel**	104.89	357	⇑Pdiff		**Pdif**		20 05 13.5	+0.1	
	baz=104									
Q20A	**Ridgley Place,**	104.90	359	⇑Pdiff		**Pdif**		20 05 13.4	+0.2	
	baz=104									
Q16A	**Castle Valley**	104.91	2	⇑Pdiff		**Pdif**		20 05 13.6	+0.3	
	baz=104									
NVAR	**Mina Array Bea**	104.93	8	Pdif		**Pdif**		20 05 14.8	+1.3	
NVAR				*e*				20 06 04.7		
NVAR				PP		**PKiKP**		20 09 24.0	-3.4	
NVAR				PKKPbc		**PKKPbc**		20 20 53.5	-1.4	
NVAR	**Mina Array Bea**	104.93	8	Pdiff		**Pdif**		20 05 14.8	+1.3	
	comp=Z,8.0nm,0.9s,baz=343,slow=2.9,SNR=20									
NVAR				pPdiff		**pPdif**		20 06 04.7	+4.2	
	comp=Z,3.7nm,0.8s,baz=5.9,slow=3.5,SNR=6.1									
NVAR				PP		**PKiKP**		20 09 24.0	-3.4	
	comp=Z,6.2nm,1.0s,baz=6.3,slow=4.1,SNR=4.3									
NVAR				PKKPbc		**PKKPbc**		20 20 53.5	-1.4	
	comp=Z,4.4nm,0.8s,baz=193,slow=4.9,SNR=14									
NV11	**Mina Array Sit**	104.94	7	*e*Pdif		**Pdif**		20 05 14.4	+1.0	
Q22A	**Crested Butte,**	104.97	358	⇑Pdiff		**Pdif**		20 05 14.1	+0.4	
	baz=105									
Q21A	**Lamborn Mesa,**	105.01	359	⇓Pdiff		**Pdif**		20 05 13.9	+0.2	
	baz=105									
R31A	**Burdett**	105.05	352	⇓Pdiff		**Pdif**		20 05 14.1	+0.3	
	baz=105									
R29A	**Marienthal**	105.08	354	⇓Pdiff		**Pdif**		20 05 14.2	+0.3	
	baz=105									
WVT	**Waverly**	105.09	342	*e*P		**Pdif**		20 05 13.4	-0.5	
WVT				pmax		pmax				
	comp=Z,51nm,1.5s									
WVT	**Waverly**	105.09	342	*e*Pdif		**Pdif**		20 05 13.4	-0.5	
	comp=Z,50nm,1.5s									
R30A	**Dighton**	105.13	353	⇓Pdiff		**Pdif**		20 05 14.1	0.0	
	baz=105									
R28A	**Tribune**	105.22	354	⇑Pdiff		**Pdif**		20 05 15.1	+0.5	
	baz=105									
R11A	**Troy Canyon, C**	105.25	5	⇑Pdiff		**Pdif**		20 05 13.3	-1.6	
	baz=105									
R27A	**Eads**	105.35	355	⇓Pdiff		**Pdif**		20 05 14.9	-0.2	
	baz=105									
R26A	**Arlington**	105.38	355	⇓Pdiff		**Pdif**		20 05 16.4	+1.0	
	baz=105									
R21A	**Cimarron**	105.47	359	⇓Pdiff		**Pdif**		20 05 17.2	+1.3	
	baz=105									
R24A	**Sanders Place,**	105.53	357	⇑Pdiff		**Pdif**		20 05 17.3	+1.2	
	baz=105									
S33A	**Kaszmaul Farm,**	105.56	351	⇓Pdiff		**Pdif**		20 05 16.7	+0.7	
	baz=105									
S32A	**Newby Ranch, P**	105.57	352	⇑Pdiff		**Pdif**		20 05 16.4	+0.3	
	baz=105									
R25A	**Fountain Ranch**	105.58	356	⇓Pdiff		**Pdif**		20 05 16.7	+0.5	
	baz=105									
R23A	**Moffat**	105.60	357	⇓Pdiff		**Pdif**		20 05 17.5	+0.9	
	baz=105									
MLAC	**Mammoth Lakes**	105.66	8	⇓Pdiff		**Pdif**		20 05 18.2	+1.5	
	baz=105									
R20A	**Redvale**	105.66	360	⇓Pdiff		**Pdif**		20 05 18.2	+1.5	
	baz=105									
S31A	**Mullinville**	105.71	352	⇑Pdiff		**Pdif**		20 05 17.3	+0.6	
	baz=105									
S30A	**Montezuma**	105.79	353	⇓Pdiff		**Pdif**		20 05 17.5	+0.4	
	baz=105									
S29A	**Ulysses**	105.87	354	⇑Pdiff		**Pdif**		20 05 17.9	+0.5	
	baz=106									
S27A	**Las Animas**	105.95	355	⇑Pdiff		**Pdif**		20 05 18.1	+0.1	
	baz=106									
S28A	**Manter**	105.97	354	⇓Pdiff		**Pdif**		20 05 18.8	+0.9	
	baz=106									
S20A	**Disappointment**	106.02	359	⇓Pdiff		**Pdif**		20 05 20.2	+1.9	
	baz=106									
SDCO	**Great Sand Dun**	106.03	357	*e*Pdif		**Pdif**		20 05 19.3	+0.8	
	comp=Z,30nm,1.8s									
S26A	**Kim**	106.05	355	⇑Pdiff		**Pdif**		20 05 18.3	-0.1	
	baz=106									
S25A	**Robets Cordova**	106.07	356	⇓Pdiff		**Pdif**		20 05 18.3	-0.2	
	baz=106									
S22A	**4UR Ranch, Cre**	106.08	358	⇓Pdiff		**Pdif**		20 05 19.0	+0.3	
	baz=106									
T32A	**Huddler Ranch,**	106.08	352	⇓Pdiff		**Pdif**		20 05 18.3	0.0	
	baz=106									
T33A	**Patterson Ranc**	106.09	351	⇓Pdiff		**Pdif**		20 05 18.4	0.0	
	baz=106									
S23A	**Nye Farm, Mont**	106.09	358	⇑Pdiff		**Pdif**		20 05 19.7	+1.0	
	baz=106									
T31A	**Randall Ranch,**	106.25	352	⇑Pdiff		**Pdif**		20 05 19.3	+0.2	
	baz=106									
TIN	**Tinemaha**	106.30	8	⇑Pdiff		**Pdif**		20 05 19.4	0.0	
	baz=106									
T29A	**Hugoton**	106.35	354	⇓Pdiff		**Pdif**		20 05 19.8	+0.2	
	baz=106									
T30A	**Plains**	106.38	353	⇓Pdiff		**Pdif**		20 05 20.2	+0.5	
	baz=106									
T28A	**Walsh**	106.45	354	⇑Pdiff		**Pdif**		20 05 19.7	-0.4	
	baz=106									
T26A	**Comanche Natio**	106.50	356	⇑Pdiff		**Pdif**		20 05 20.5	0.0	
	baz=106									
T27A	**Campo**	106.56	355	⇓Pdiff		**Pdif**		20 05 20.6	-0.1	
	baz=106									
T25A	**Trinidad**	106.59	356	⇑Pdiff		**Pdif**		20 05 21.6	+0.7	
	baz=106									
MVCO	**Mesa Verde**	106.64	360	⇑Pdiff		**Pdif**		20 05 22.1	+1.0	
	baz=106									
T24B	**San Luis**	106.71	357	⇓Pdiff		**Pdif**		20 05 22.2	+0.7	
	baz=106									
T23A	**Casias Ranch,**	106.76	358	⇓Pdiff		**Pdif**		20 05 22.9	+1.2	
	baz=106									
T22A	**Edith**	106.81	358	⇓Pdiff		**Pdif**		20 05 22.7	+0.8	
	baz=106									
TUL1	**Tulsa**	106.90	349	⇓Pdiff		**Pdif**		20 05 21.9	-0.1	
	baz=106									
U30A	**WK&E Inc. Balk**	106.91	353	⇑Pdiff		**Pdif**		20 05 22.5	+0.4	
	baz=106									
FURC	**Furnace Creek,**	107.01	7	⇑Pdiff		**Pdif**		20 05 23.4	+1.0	
	baz=107									
U29A	**Oasis Ranch, S**	107.04	353	⇑Pdiff		**Pdif**		20 05 23.8	+1.1	
	baz=107									
U28A	**Mallet**	107.20	354	⇓Pdiff		**Pd

	comp=Z,16nm,1.0s								
SNAA					pPKP	**pPKPdf**	**20 10 41.8**	**-0.7**	
	comp=Z,9.4nm,0.9s,baz=169,slow=1.5,SNR=4.1								
SNAA					PKKPbc	**PKKPab**	**20 20 05.8**	**0.0**	
	comp=Z,1.2nm,0.5s,baz=229,slow=6.2,SNR=30								
AFI	**Afiamalu**	**119.95**	**85**		PKP	**PKPdf**	**20 09 55.7**	**-0.4**	
AFI					*e*PKPdf	**PKiKP**	**20 09 56.3**	**+0.1**	
AFI	**Afiamalu**	**119.95**	**85**		PKP	**PKPdf**	**20 09 55.7**	**-0.4**	
	comp=Z,100nm,0.9s,baz=70,slow=4.6,SNR=9.1								
TEIG	**Tepich**	**120.26**	**337**		*e*PKPdf	**PKPdf**	**20 09 55.7**	**-0.9**	
VNA2	**Neumayer--Watz**	**120.42**	**202**		*e*PKP	**PKPdf**	**20 09 54.8**	**-0.5**	
VNA2	**Neumayer--Watz**	**120.42**	**202**		*ep*PKP	pPKPdf	20 10 44.4	0.0	
VNA1	**Neumayer--Stat**	**120.57**	**202**		*e*PKP	**PKPdf**	**20 09 55.3**	**-0.2**	
VNA1	**Neumayer--Stat**	**120.57**	**202**		*ep*PKP	pPKPdf	20 10 43.8	-0.8	
RPZ	**Rata Peaks**	**120.66**	**124**		*e*PKPdf	**PKPdf**	**20 09 55.2**	**-1.4**	
RPZ					PKP	**PKPdf**	**20 09 55.4**	**-1.2**	
RPZ	**Rata Peaks**	**120.66**	**124**		PKP	**PKPdf**	**20 09 55.4**	**-1.2**	
	comp=Z,59nm,0.8s								
KHZ	**Kahutara**	**121.84**	**122**		*e*PKPdf	**PKPdf**	**20 09 57.2**	**-1.7**	
BDFB	**Brasilia**	**122.37**	**274**		PKP	**PKPdf**	**20 09 59.4**	**-1.4**	
BDFB					PP	**PP**	**20 11 37.6**	**-2.0**	
BDFB	**Brasilia**	**122.37**	**274**		PKP	**PKPdf**	**20 09 59.4**	**-1.4**	
	comp=Z,8.2nm,0.5s,baz=35,slow=4.7,SNR=13								
BDFB					PP	**PP**	**20 11 37.6**	**-2.0**	
	comp=Z,27nm,1.0s,baz=52,slow=7.2,SNR=7.3								
URZ	**Urewera**	**122.77**	**116**		*e*PKPdf	**PKPdf**	**20 09 57.9**	**-2.9**	
URZ					PKP	**PKPdf**	**20 09 58.0**	**-2.7**	
URZ	**Urewera**	**122.77**	**116**		PKP	**PKPdf**	**20 09 58.1**	**-2.7**	
	comp=Z,124nm,0.8s,baz=334,slow=2.5,SNR=27								
VNDA	**Vanda**	**125.51**	**165**		PKPpre	PKPpre	20 09 56.5		
VNDA					*e*PKPdf	**PKPdf**	**20 10 03.8**	**-1.2**	
VNDA	**Vanda**	**125.51**	**165**		PKhKP	PKPpre	20 09 56.5		
	comp=Z,4.1nm,1.1s,baz=281,slow=8.3,SNR=4.5								
VNDA					PKP	**PKPdf**	**20 10 03.7**	**-1.2**	
	comp=Z,22nm,0.9s,baz=284,slow=5.0,SNR=46								
TGUH	**Tegucigalpa,Un**	**125.68**	**334**		*e*PKPdf	**PKPdf**	**20 10 07.3**	**+0.2**	
SPB	**Sao Paulo**	**126.00**	**266**		*e*PKPdf	**PKPdf**	**20 10 07.9**	**+0.5**	
QSPA	**South Pole Qui**	**126.31**	**180**		*e*PKPdf	**PKPdf**	**20 10 05.0**	**-1.8**	
QSPA					PKP	**PKPdf**	**20 10 05.5**	**-1.3**	
QSPA	**South Pole Qui**	**126.31**	**180**		PKP	**PKPdf**	**20 10 05.5**	**-1.3**	
	comp=Z,103nm,1.0s								
SBA	**Scott Base**	**126.59**	**165**		*e*PKIKP	**PKPdf**	**20 10 07.0**	**+0.1**	
SBA	**Scott Base**	**126.59**	**165**		*e*PKPdf	**PKPdf**	**20 10 07.0**	**+0.1**	
BCIP	**Isla Barro Col**	**126.93**	**323**		*e*PKPdf	**PKPdf**	**20 10 08.3**	**-1.2**	
ROSC	**El Rosal**	**127.62**	**314**		*e*PKPdf	**PKPdf**	**20 10 11.8**	**+0.5**	
ROSC					pPKP	**pPKPdf**	**20 11 00.0**	**-0.4**	
ROSC	**El Rosal**	**127.62**	**314**		PKP	**PKPdf**	**20 10 11.8**	**+0.5**	
	comp=Z,152nm,0.9s,baz=114,slow=5.5,SNR=42								
ROSC					pPKP	**pPKPdf**	**20 11 00.0**	**-0.4**	
	comp=Z,50nm,0.7s,baz=88,slow=5.6,SNR=3.0								
SAML	**Samuel**	**130.27**	**292**		*e*PKPpre	PKPpre	20 10 06.8		
SAML					*e*PKPdf	**PKPdf**	**20 10 15.6**	**-0.2**	
RAR	**Rarotonga**	**133.50**	**85**		PKP	**PKPdf**	**20 10 22.8**	**+1.1**	
RAR	**Rarotonga**	**133.50**	**85**		PKP	**PKPdf**	**20 10 22.8**	**+1.1**	
	comp=Z,17nm,0.4s,baz=270,slow=4.2,SNR=4.9								
OTAV	**Otavalo**	**133.74**	**315**		*e*PKPdf	**PKPdf**	**20 10 21.8**	**-1.3**	
CPUP	**Villa Florida**	**135.22**	**268**		PKPpre	PKPpre	20 10 11.1		
CPUP					*e*PKPdf	**PKPdf**	**20 10 23.8**	**-0.9**	
CPUP					pPKP	pPKPdf	20 11 12.3	-1.5	
CPUP	**Villa Florida**	**135.22**	**268**		PKhKP	PKPpre	20 10 11.1		
	comp=Z,3.6nm,0.8s,baz=66,slow=4.8,SNR=4.9								
CPUP					PKP	**PKPdf**	**20 10 23.9**	**-0.9**	
	comp=Z,72nm,0.8s,baz=46,slow=2.2,SNR=66								
CPUP					pPKP	pPKPdf	20 11 12.3	-1.5	
	comp=Z,14nm,0.7s,baz=98,slow=2.0,SNR=2.2								
LPAZ	**La Paz**	**138.62**	**288**		*e*PKPpre	PKPpre	20 10 20.1		
LPAZ					PKPpre	PKPpre	20 10 20.4		
LPAZ					PKP	**PKPdf**	**20 10 31.4**	**-0.7**	
LPAZ					*e*PKPdf	**PKiKP**	**20 10 31.6**	**-2.7**	
LPAZ					pPKP	pPKPdf	20 11 20.0	-1.2	
LPAZ	**La Paz**	**138.62**	**288**		PKhKP	PKPpre	20 10 20.4		
	comp=Z,3.3nm,0.8s,baz=31,slow=5.4,SNR=7.4								
LPAZ					PKP	**PKPdf**	**20 10 31.4**	**-0.7**	
	comp=Z,40nm,0.8s,baz=59,slow=4.1,SNR=47								
LPAZ					pPKP	pPKPdf	20 11 20.0	-1.2	
	comp=Z,8.2nm,0.9s,baz=34,slow=6.2,SNR=1.0								
PMOR	**Pomariorio Ree**	**139.31**	**69**		*e*PKIKP	**PKPdf**	**20 10 34.5**	**+1.9**	
	comp=Z,84nm,1.0s								
PMOR					*e*SKPdf	**SKPbc**	**20 13 51.5**	**+1.4**	
	comp=Z,178nm,1.1s								
PPT	**Papeete**	**139.58**	**73**		PKP	**PKPdf**	**20 10 33.8**	**+0.7**	
PPT	**Papeete**	**139.58**	**73**		PKP	**PKPdf**	**20 10 33.8**	**+0.7**	
	comp=Z,66nm,0.7s,baz=62,slow=23,SNR=5.7								
PPT2	**Papeete2**	**139.59**	**73**		*e*PKIKP	**PKPdf**	**20 10 35.1**	**+1.9**	
	comp=Z,95nm,1.2s								
VAH	**Vaihoa**	**139.65**	**69**		*e*PKIKP	**PKPdf**	**20 10 34.9**	**+1.7**	
	comp=Z,55nm,1.0s								
VAH					*e*SKPdf	**SKPbc**	**20 13 52.3**	**+1.3**	
	comp=Z,106nm,1.2s								
PMSA	**Palmer Station**	**141.23**	**209**		*e*PKPpre	PKPpre	20 10 27.2		
EFI	**East Falkland**	**141.24**	**231**		*e*PKHKP	PKPpre	20 10 28.8		
EFI	**East Falkland**	**141.24**	**231**		*e*PKPpre	PKPpre	20 10 28.8		
LVC	**Limon Verde**	**142.76**	**281**		*e*PKPpre	PKPpre	20 10 34.2		
TBI	**Tubuai**	**142.82**	**81**		*e*PKIKP	**PKPdf**	**20 10 35.2**	**-3.5**	
	comp=Z,294nm,1.2s								
TRQA	**Tornquist**	**142.88**	**253**		*e*PKPpre	PKPpre	20 10 34.0		
CEN1	**Los Morros**	**144.18**	**280**	⇓	*i*P	**PKPab**	**20 10 39.6**	**+0.1**	
USHA	**Ushuaia**	**146.87**	**223**		pPKPbc	pPKPbc	20 11 35.5	+0.1	
USHA	**Ushuaia**	**146.87**	**223**		pPKPbc	pPKPbc	20 11 35.5	+0.1	
	baz=108,slow=2.3								
LCO	**Las Campanas**	**147.11**	**272**		*e*PKPdf	**PKPdf**	**20 10 46.6**	**+0.3**	
LCO	**Las Campanas**	**147.11**	**272**	⇑	*i*P	**PKPdf**	**20 10 46.8**	**+0.4**	
LCO				⇑	*i*P	**PKPdf**	**20 10 46.8**	**+0.4**	
TLL	**Tololo Astrono**	**147.63**	**270**	⇑	*i*P	**PKPdf**	**20 10 47.4**	**+0.2**	
LMEL	**Las Melosas**	**148.33**	**263**	⇑	*i*P	**PKPdf**	**20 10 48.4**	**+0.3**	
CLCH	**Cerro Calan**	**148.47**	**264**	⇑	*i*P	**PKPdf**	**20 10 48.5**	**+0.3**	
PEL	**Peldehue**	**148.52**	**265**	⇓	*i*P	**PKPdf**	**20 10 48.4**	**+0.2**	
ROCH	**El Roble**	**148.73**	**265**	⇑	*i*P	**PKPdf**	**20 10 48.7**	**-0.2**	
CCHI	**Chillan**	**150.47**	**259**	⇑	*i*P	**PKPdf**	**20 10 51.5**	**+0.3**	
CHRN	**Cochrane**	**151.23**	**237**	⇑	*i*P	**PKPbc**	**20 10 58.2**	**+0.1**	
RKT	**Rikitea**	**153.90**	**66**		*e*PKPbc	**PKPbc**	**20 11 06.6**	**+1.9**	
	comp=Z,97nm,1.2s								

*CSEM **22** 19:57:43.7±0.3, 37.71N×21.25E, h8km, MD2.9, Error ellipse: s-maj=5.8km s-min=4.1km az=59.0*
ATH 22 19:57:44.1, 37.74N×21.31E, h17km±2km, MD2.9/23, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.34**	**21**		*e*PB	Pg	19 57 51.3	0.0
RLS					*e*SB	Sb	19 57 57.6	+0.7
RLS	**Riolos of Patr**	**0.34**	**21**		P	Pg	19 57 51.0	-0.3
RLS	**Riolos of Patr**	**0.34**	**21**		*e*Pb	Pg	19 57 51.3	0.0
RLS					*e*Sb	Sb	19 57 57.6	+0.7
AMT	**Artemida-Makis**	**0.38**	**123**		*e*PB	Pg	19 57 51.1	-0.9
AMT					*e*SB	Sg	19 57 57.1	-0.2
AMT	**Artemida-Makis**	**0.38**	**123**		P	Pg	19 57 50.8	-1.2
AMT	**Artemida-Makis**	**0.38**	**123**		*e*Pb	Pg	19 57 51.1	-0.9
AMT					S	Sg	19 57 56.5	-0.8
AMT					*e*Sb	Sb	19 57 57.1	-0.9
DRO	**Drossia**	**0.38**	**56**		*e*PB	Pg	19 57 52.2	+0.2
DRO					*e*SB	Sb	19 57 58.5	+0.4
DRO	**Drossia**	**0.38**	**56**		P	Pg	19 57 51.8	-0.2
DRO	**Drossia**	**0.38**	**56**		*e*Pb	Pg	19 57 52.2	+0.2
DRO					S	Sb	19 57 57.9	-0.2
DRO					*e*Sb	Sg	19 57 58.5	+1.1
AXS	**Araxos**	**0.46**	**7**		P	Pb	19 57 53.7	0.0
AXS					S	Sb	19 58 01.6	+1.3
SFD	**Strofades**	**0.54**	**206**		*e*PN	Pg	19 57 54.3	-0.6
SFD					*e*SN	Sb	19 58 03.5	+0.9
SFD	**Strofades**	**0.54**	**206**		*e*Pn	Pg	19 57 54.3	-0.6
SFD					*e*Sn	Sb	19 58 03.5	+0.9
KFL	**Anninata**	**0.55**	**312**		P	Pg	19 57 54.2	-1.0
VLS	**Valsamata**	**0.72**	**308**		*e*PB	Pb	19 57 56.6	-1.6
VLS					*e*SN	Sn	19 58 09.1	-1.1
VLS	**Valsamata**	**0.72**	**308**		*e*Pb	Pb	19 57 56.6	-1.6
VLS					*e*Sn	Sn	19 58 09.1	-1.1
LAKA	**Lakka**	**0.73**	**46**		*e*PN	Pb	19 57 58.0	-0.4
LAKA	**Lakka**	**0.73**	**46**		*e*Pn	Pb	19 57 58.0	-0.4
LAKA					S	Sn	19 58 10.3	-0.1
KLV	**Kalavryta, Ach**	**0.73**	**65**		*e*PN	Pb	19 57 57.9	-0.6
KLV					*e*SN	Sn	19 58 09.8	-0.8
KLV	**Kalavryta, Ach**	**0.73**	**65**		P	Pb	19 57 57.9	-0.6
KLV					S	Sg	19 58 09.1	+0.8
PSA1	**Psathopyrgos**	**0.74**	**38**		*e*PN	Pg	19 57 58.9	+0.3
PSA1					*e*SN	Sg	19 58 08.7	+0.3
ITM	**Ithomi**	**0.74**	**139**		*e*PB	Pb	19 57 57.3	-1.3
ITM					*e*SN	Sn	19 58 09.8	-1.0
ITM	**Ithomi**	**0.74**	**139**		*e*Pb	Pb	19 57 57.3	-1.3
ITM					S	Sb	19 58 07.1	-1.4
ITM					*e*Sn	Sn	19 58 09.8	-1.0
EFP	**Efpalio**	**0.83**	**34**		*e*PN	Pg	19 58 00.5	+0.2
EFP					*e*SN	Sn	19 58 12.4	-0.5
EFP	**Efpalio**	**0.83**	**34**		*e*Pn	Pg	19 58 00.5	+0.2
EFP					*e*Sn	Sn	19 58 12.4	-0.5
GUR	**Goura**	**0.84**	**76**		*e*PB	Pb	19 57 59.6	-0.8
GUR	**Goura**	**0.84**	**76**		*e*Pb	Pb	19 57 59.6	-0.8
GUR					S	Sn	19 58 13.6	+0.2
PDO	**Prodromos**	**0.86**	**353**		*e*PN	Pb	19 58 00.7	0.0
PDO					*e*SN	Sn	19 58 14.0	+0.3
PDO	**Prodromos**	**0.86**	**353**		P	Pb	19 58 00.7	0.0
PDO					S	Sn	19 58 13.5	-0.2
PDO					*e*Sn	Sg	19 58 14.0	+1.6
TRIZ	**Trizonia**	**0.87**	**44**		*e*PN	Pg	19 58 01.1	+0.1
TRIZ	**Trizonia**	**0.87**	**44**		*e*Pn	Pg	19 58 01.1	+0.1
TRIZ					S	Sn	19 58 16.1	+2.3
PVO	**Paravola**	**0.89**	**11**		P	Pg	19 58 01.4	-0.1
PVO					S	Sn	19 58 18.0	+3.6
PYL	**PYLOS**	**0.91**	**158**		*e*PN	Pb	19 57 59.4	-2.1
PYL	**PYLOS**	**0.91**	**158**		*e*Pn	Pb	19 57 59.4	-2.1
PYL					S	Sb	19 58 11.8	-1.5
KALE	**Kalithea**	**0.92**	**45**		*e*PN	Pb	19 58 01.7	-0.1
KALE	**Kalithea**	**0.92**	**45**		*e*Pn	Pb	19 58 01.7	-0.1
KALE					S	Sn	19 58 16.0	+0.7
VLX	**Vlachokerasia**	**0.93**	**113**		*e*PN	Pb	19 58 00.7	-1.2
VLX	**Vlachokerasia**	**0.93**	**113**		*e*Pn	Pb	19 58 00.7	-1.2
VLX	**Vlachokerasia**	**0.93**	**113**		P	Pb	19 58 01.4	-0.5
LKD2	**Lefkada island**	**1.17**	**334**		*e*PB	Pn	19 58 05.0	-0.7
LKD2					*e*SN	Sg	19 58 22.2	+0.2
LKD2	**Lefkada island**	**1.17**	**334**		*e*Pb	Pn	19 58 05.0	-0.7
LKD2					*e*Sn	Sg	19 58 22.2	+0.2
DSF	**Desfina**	**1.17**	**55**		*e*PN	Pb	19 58 06.1	+0.1
DSF	**Desfina**	**1.17**	**55**		*e*Pn	Pb	19 58 06.1	+0.1
DSF	**Desfina**	**1.17**	**55**		P	Pg	19 58 06.5	-0.4
DSF					S	Sg	19 58 26.5	+4.2
DESF	**Desfina**	**1.18**	**55**		*e*PN	Pb	19 58 06.5	+0.4
DESF					*e*SN	Sg	19 58 22.6	+0.2
DESF	**Desfina**	**1.18**	**55**		*e*Pn	Pb	19 58 06.5	+0.4
DESF					*e*Sn	Sg	19 58 22.6	+0.2
EVR	**Evrytania**	**1.24**	**18**		*e*PN	Pb	19 58 07.6	+0.4
EVR	**Evrytania**	**1.24**	**18**		*e*Pn	Pb	19 58 07.6	+0.4
DYR	**Agios Nikonas**	**1.27**	**140**		*e*PB	Pn	19 58 06.9	-0.2
DYR	**Agios Nikonas**	**1.27**	**140**		*e*Pb	Pn	19 58 06.9	-0.2
LTK	**Loutraki**	**1.34**	**77**		*e*PN	Pg	19 58 09.6	-0.4
LTK	**Loutraki**	**1.34**	**77**		*e*Pn	Pg	19 58 09.6	-0.4
AGG	**Agios Georgios**	**1.51**	**32**		*e*PN	Pb	19 58 12.1	+0.3
AGG	**Agios Georgios**	**1.51**	**32**		*e*Pn	Pb	19 58 12.1	+0.3
DIDY	**Didyma**	**1.53**	**99**		*e*PN	Pg	19 58 13.2	-0.6
DIDY	**Didyma**	**1.53**	**99**		*e*Pn	Pg	19 58 13.2	-0.6
DID	**Didima**	**1.55**	**98**		*e*PN	Pg	19 58 13.4	-0.6
DID					*e*SN	Sg	19 58 33.4	-0.8
DID	**Didima**	**1.55**	**98**		*e*Pn	Pg	19 58 13.4	-0.6
DID					*e*Sn	Sg	19 58 33.4	-0.8
LKR	**Lokris**	**1.61**	**55**		*e*PN	Pg	19 58 14.9	-0.2
LKR					*e*SN	Sg	19 58 36.3	+0.2
LKR	**Lokris**	**1.61**	**55**		*e*Pn	Pg	19 58 14.9	-0.2
LKR					*e*Sn	Sg	19 58 36.3	+0.2
VIL2	**Platees**	**1.62**	**72**		*e*PN	Pg	19 58 14.9	-0.4
VILL	**Villia**	**1.64**	**74**		*e*Pn	Pg	19 58 14.9	-0.8
VLI	**Veliai**	**1.65**	**128**		*e*PN	Pb	19 58 14.1	0.0
VLI	**Veliai**	**1.65**	**128**		*e*Pn	Pb	19 58 14.1	0.0
NAIG	**Nisos Aigina**	**1.73**	**89**		*e*PN	Pb	19 58 16.3	+0.9
NAIG	**Nisos Aigina**	**1.73**	**89**		*e*Pn	Pb	19 58 16.3	+0.9
SMIA	**Simia**	**1.88**	**52**		*e*PN	Pb	19 58 18.4	+0.4
SMIA	**Simia**	**1.88**	**52**		*e*Pn	Pb	19 58 18.4	+0.4
THL	**Klokotos Trika**	**1.90**	**17**		*e*PN	Pb	19 58 18.9	+0.5
THL	**Klokotos Trika**	**1.90**	**17**		*e*Pn	Pb	19 58 18.9	+0.5

*TAP **22** 20:09:48.7, 24.82N×122.04E, h10km, ML3.5, C*
*JMA **22** 20:09:49.8±0.4, 24.96N×122.08E, h43km, M3.0*
ISC 22 20:09:48.2±0.9, 24.86N±0.02×122.08E±0.03, h13km±5km, n45, σ0.79/85, 2C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EGS		**0.14**	**263**	⇓	*i*P	**Pg**	**20 09 51.6**	**-0.1**
	baz=282							
EGS					S	Sg	20 09 54.0	-0.1
	baz=282							
TWB1	**Santiao Chiao**	**0.17**	**330**	⇓	*i*P	**Pb**	**20 09 53.2**	**-0.1**
	baz=347							
TWB1					*i* S	**Sb**	**20 09 56.1**	**-0.5**
	baz=347							
ILA	**Ilan**	**0.32**	**253**		*e*P	**Pg**	**20 09 55.2**	**+0.5**
	baz=257							
ILA					*e*S	**Sg**	**20 09 59.9**	**+0.8**
	baz=257							
TWC	**Suao**	**0.33**	**220**	⇑	*i*P	**Pg**	**20 09 54.5**	**-0.5**
	baz=227							
TWC					*e*S	**Sg**	**20 09 57.6**	**-1.7**
	baz=227							
NWF	**Wu-fen Shan**	**0.34**	**308**	⇓	*i*P	**Pb**	**20 09 56.5**	**+0.1**
	baz=307							
NWF					*i* S	**Sb**	**20 10 01.6**	**-0.2**
	baz=307							
TWE	**Neicheng**	**0.40**	**250**	⇑	*i*P	**Pg**	**20 09 56.1**	**-0.2**
	baz=253							
TWE					*e*S	**Sg**	**20 10 02.4**	**+0.8**
	baz=253							
TWA	**Mucha**	**0.47**	**285**		*i* P	**Pb**	**20 09 58.2**	**-0.2**
	baz=281							
TWA					*i* S	**Sb**	**20 10 04.5**	**-0.8**
	baz=281							
ENTT	**Nioudou**	**0.52**	**245**		*e*P	**Pg**	**20 09 58.0**	**-0.5**
	baz=247							
ENTT					*e*S	**Sb**	**20 10 06.5**	**-0.2**
	baz=247							
ENA	**Nanau**	**0.53**	**216**		*e*P	**Pg**	**20 09 58.1**	**-0.6**
	baz=221							
ENA					*e*S	**Sg**	**20 10 04.7**	**-1.0**
	baz=221							
TAP1	**Taipei**	**0.54**	**289**		*i* P	**Pb**	**20 10 00.1**	**+0.5**
	baz=285							
TAP1					*e*S	**Sb**	**20 10 06.6**	**-0.7**
	baz=285							
TAP	**Taipei**	**0.55**	**289**		P	**Pb**	**20 10 00.0**	**+0.2**
	baz=285							
TAP					*e*S	**Sb**	**20 10 07.0**	**-0.6**
	baz=285							
TWY	**Chenhua**	**0.60**	**313**		*i* P	**Pn**	**20 10 01.4**	**-1.2**
	baz=316							
TWY					*e*S	**Sb**	**20 10 09.3**	**+0.2**
	baz=316							
EHP	**Heping Village**	**0.63**	**210**		*e*P	**Pg**	**20 10 00.3**	**-0.2**
	baz=201							
EHP					*e*S	**Sg**	**20 10 09.0**	**+0.1**
	baz=201							
TWS1	**Kuangyinshan**	**0.65**	**292**		P	**Pn**	**20 10 02.2**	**-1.0**
	baz=286							
TWS1					*e*S	**Sb**	**20 10 11.0**	**+0.5**
	baz=286							
NSK	**Sanguang**	**0.68**	**255**		*i* P	**Pg**	**20 10 01.0**	**-0.5**
	baz=257							
NSK					*e*S	**Sg**	**20 10 10.2**	**-0.4**
	baz=257							
PCYT	**Pengchaiyu**	**0.77**	**359**		*e*P	**Pb**	**20 10 03.6**	**+0.1**
	baz=354							
NNS	**Nan Shan**	**0.77**	**237**		*e*P	**Pg**	**20 10 02.8**	**-0.4**
	baz=238							
NNS					*e*S	**Sg**	**20 10 12.8**	**-0.5**
	baz=238							
NCU	**National Centr**	**0.82**	**278**		*e*P	**Pn**	**20 10 04.9**	**-0.7**
	baz=280							
NCU					*e*S	**Sn**	**20 10 17.1**	**-0.5**
	baz=280							
TWD	**Chiawan**	**0.90**	**210**		P	**Pb**	**20 10 05.3**	**-0.4**
	baz=203							
TWD					S	**Sb**	**20 10 16.0**	**-1.5**
	baz=203							
YOJ	**Yonaguni jima**	**0.93**	**115**		P	**Pn**	**20 10 07.3**	**+0.2**
YOJ					*e*S	**Sn**	**20 10 20.1**	**-0.3**
NSTT	**Nanjuang**	**1.01**	**257**		P	**Pn**	**20 10 08.2**	**0.0**
	baz=259							
NSTT					*e*S	**Sn**	**20 10 21.8**	**-0.4**
	baz=259							
TWT	**Tachien**	**1.02**	**234**		*e*P	**Pb**	**20 10 08.1**	**+0.2**
	baz=231							
TWT					*e*S	**Sg**	**20 10 21.9**	**+0.6**
	baz=231							
WHF	**Hehuan Shan**	**1.03**	**226**		*e*P	**Pb**	**20 10 07.5**	**-0.8**
	baz=228							
WHF					*e*S	**Sb**	**20 10 21.7**	**-0.2**
	baz=228							
ESL	**Shilin**	**1.20**	**210**		P	**Pn**	**20 10 10.3**	**-0.5**
	baz=211							
ESL					*e*S	**Sb**	**20 10 26.1**	**-0.2**
	baz=211							
NSY	**Sanyi**	**1.28**	**250**		*e*P	**Pg**	**20 10 13.5**	**+0.6**
	baz=245							
NSY					*e*S	**Sg**	**20 10 30.7**	**+1.1**
	baz=245							
TWQ1	**Liyutan**	**1.30**	**247**		*e*P	**Pg**	**20 10 13.3**	**+0.1**
	baz=249							
TWQ1					*e*S	**Sg**	**20 10 31.7**	**+1.6**
	baz=249							
SMLT	**Sun Moon Lake**	**1.45**	**228**		*e*P	**Pb**	**20 10 15.3**	**+0.1**
	baz=231							
SMLT					*e*S	**Sb**	**20 10 34.5**	**+0.8**
	baz=231							
TYC	**Yuchr**	**1.47**	**230**		*e*P	**Pb**	**20 10 15.0**	**-0.4**
	baz=225							
TYC					*e*S	**Sb**	**20 10 34.1**	**+0.1**
	baz=225							
EHY	**Hungye**	**1.52**	**207**		*e*P	**Pb**	**20 10 15.9**	**-0.4**
	baz=221							
EHY					*e*S	**Sb**	**20 10 36.2**	**+0.7**
	baz=221							
IRIF	**Iriomote-Funau**	**1.59**	**109**		P	**Pn**	**20 10 16.2**	**+0.1**
IRIF					*e*S	**Sn**	**20 10 36.3**	**-0.3**
WNT	**Mingjian**	**1.61**	**233**		*e*P	**Pg**	**20 10 19.2**	**+0.1**
	baz=226							
TWF1	**Yuli**	**1.66**	**206**		*e*P	**Pb**	**20 10 18.3**	**-0.6**
	baz=219							
TWF1					*e*S	**Sb**	**20 10 39.4**	**-0.3**
	baz=219							
HATJ	**Hateruma jima**	**1.76**	**117**		*e*S	**Sn**	**20 10 40.4**	**-0.5**
CHN5	**Tsauling**	**1.80**	**226**		*e*P	**Pb**	**20 10 22.1**	**+1.0**
	baz=230							
CHN5					*e*S	**Sg**	**20 10 46.3**	**+0.2**
	baz=230							
WGK	**Gukeng**	**1.81**	**230**		*e*P	**Pb**	**20 10 21.3**	**0.0**
	baz=250							
WGK					*e*S	**Sg**	**20 10 46.7**	**+0.1**
	baz=250							
JKRS	**Kuro-shima**	**1.86**	**109**		P	**Pn**	**20 10 21.3**	**+1.4**
JKRS					*e*S	**Sn**	**20 10 43.1**	**-0.2**
JIJ	**Ishigaki jima**	**1.94**	**104**		P	**Pn**	**20 10 21.6**	**+0.6**
JIJ					*e*S	**Sn**	**20 10 45.0**	**-0.3**
CHN4	**Tsaushan**	**2.03**	**222**		*e*P	**Pb**	**20 10 24.4**	**-0.6**
	baz=228							
CHN4					*e*S	**Sg**	**20 10 54.0**	**+0.6**
	baz=228							
WTP	**Ta-pu**	**2.09**	**220**		*e*P	**Pb**	**20 10 25.1**	**-1.1**
	baz=214							
WTP					*e*S	**Sb**	**20 10 53.1**	**+1.0**
	baz=214							
TWK	**Hsinying**	**2.15**	**223**		*e*P	**Pb**	**20 10 26.6**	**-0.6**
	baz=230							
TWK					*e*S	**Sb**	**20 10 55.1**	**+1.2**
	baz=230							
CHN1	**Nanshi**	**2.19**	**221**		*e*P	**Pb**	**20 10 27.8**	**0.0**

baz=252
TWQ1 Liyutan 1.24 248 *e*P Pg 20 16 58.8 +1.0
baz=242
TWQ1 *e*S Sn 20 17 14.6 +0.5
baz=242
SMLT Sun Moon Lake 1.39 228 *e*P Pb 20 17 00.2 0.0
baz=222
SMLT *e*S Sg 20 17 19.7 +0.6
baz=222
TYC Yuchr 1.41 230 P Pb 20 17 00.3 0.0
baz=225
TYC *e*S Sg 20 17 21.1 +1.8
baz=225
EHY Hungye 1.47 206 *e*P Pn 20 17 00.5 +0.1
baz=220
EHY *e*S Sb 20 17 20.4 +0.4
baz=220
WNT Mingjian 1.55 233 *e*P Pg 20 17 04.1 +0.4
baz=225
WNT *e*S Sg 20 17 26.1 +2.3
baz=225
TWF1 Yuli 1.61 205 *e*P Pb 20 17 03.6 -0.2
baz=218
TWF1 *e*S Sb 20 17 24.0 -0.2
baz=218
CHN5 Tsauling 1.74 225 *e*P Pg 20 17 07.0 -0.4
baz=230
CHN5 *e*S Sg 20 17 31.5 +1.5
baz=230
WGK Gukeng 1.76 230 *e*P Pb 20 17 05.9 -0.3
baz=249
WGK *e*S Sg 20 17 32.3 +1.9
baz=249
CHN2 Minshiung 1.92 228 *e*P Pb 20 17 08.1 -0.8
baz=232
CHN4 Tsaushan 1.97 222 *e*P Pb 20 17 10.7 +0.8
baz=230
CHN4 *e*S Sg 20 17 37.8 +0.4
baz=230
WTP Ta-pu 2.04 220 *e*P Pb 20 17 10.7 -0.4
baz=214
WTP *e*S Sg 20 17 38.7 -0.8
baz=214
TWK Hsinying 2.10 222 *e*P Pb 20 17 11.9 -0.2
baz=230
TWK *e*S Sb 20 17 37.2 -1.1
baz=230
CHN1 Nanshi 2.13 220 *e*P Pb 20 17 11.5 -1.2
baz=228
CHN1 *e*S Sg 20 17 42.5 -0.2
baz=228
TWG Pinlang 2.18 204 *e*P Pn 20 17 10.8 +0.5
baz=208
SGST Jiashian 2.18 218 *e*P Pb 20 17 13.2 -0.4
baz=213
SGST *e*S Sb 20 17 41.2 +0.5
baz=213
CHN3 Shinhua 2.31 221 *e*P Pn 20 17 12.9 +0.9
baz=225
ECL Taimali 2.43 204 *e*P Pn 20 17 15.0 +1.3
baz=201
ECL *e*S Sn 20 17 44.1 +0.7
baz=201
TWM1 Shoushan 2.48 217 *e*P Pn 20 17 15.9 +1.5
baz=221
EAST Anshuo 2.66 204 *e*P Pn 20 17 18.2 +1.3
baz=203
EAST *e*S Sb 20 17 52.2 -2.4
baz=203

TAP ***22*** *20:25:25.9, 24°.83N× 122°.03E, h11km, ML2.9, C*
JMA ***22*** *20:25:26.6± 0.4, 24°.16N× 121°.98E, h34km, M2.4*
ISC 22 20:25:25.6±0.9, 24°.83N±0°.03×122°.05E±0°.03, h13km±6km, n30, σ0s74/52, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EGS		**0.11**	**279**	*i* P		**Pg**	**20 25 28.9**	**+0.1**
	baz=281							
EGS				S		**Sg**	**20 25 30.9**	**-0.1**
	baz=281							
TWB1	**Santiao Chiao**	**0.19**	**342**	⇓*i* P		**Pb**	**20 25 30.3**	**-0.6**
	baz=341							
TWB1				*i* S		**Sg**	**20 25 33.4**	**+0.6**
	baz=341							
TWC	**Suao**	**0.29**	**220**	P		**Pb**	**20 25 31.6**	**-0.9**
	baz=223							
TWC				*e*S		**Sg**	**20 25 35.2**	**-0.3**
	baz=223							
NWF	**Wu-fen Shan**	**0.34**	**314**	*i* P		**Pb**	**20 25 33.5**	**-0.1**
	baz=307							
NWF				S		**Sb**	**20 25 38.5**	**-0.5**
	baz=307							
TWE	**Neicheng**	**0.37**	**253**	P		**Pb**	**20 25 33.2**	**-0.7**
	baz=252							
TWE				*e*S		**Sb**	**20 25 39.6**	**+0.1**
	baz=252							
TWA	**Mucha**	**0.45**	**290**	*i* P		**Pb**	**20 25 35.5**	**+0.1**
	baz=280							
TWA				*i* S		**Sb**	**20 25 41.6**	**-0.4**
	baz=280							
ENTT	**Nioudou**	**0.48**	**247**	*e*P		**Pb**	**20 25 35.8**	**-0.1**
	baz=247							
ENTT				*e*S		**Sb**	**20 25 43.6**	**+0.8**
	baz=247							
ENA	**Nanau**	**0.49**	**215**	*e*P		**Pb**	**20 25 36.0**	**0.0**
	baz=218							
ENA				*e*S		**Sb**	**20 25 42.8**	**-0.2**
	baz=218							
TAP1	**Taipei**	**0.52**	**294**	*e*P		**Pb**	**20 25 37.0**	**+0.4**
	baz=293							
TAP	**Taipei**	**0.54**	**293**	*e*P		**Pb**	**20 25 36.4**	**-0.5**
	baz=287							
TAP				*e*S		**Sb**	**20 25 44.2**	**-0.3**
	baz=287							
TWY	**Chenhua**	**0.61**	**317**	*e*P		**Pn**	**20 25 38.7**	**-1.1**
	baz=310							
TWS1	**Kuangyinshan**	**0.64**	**295**	*e*P		**Pn**	**20 25 39.2**	**-1.0**
	baz=295							
NSK	**Sanguang**	**0.65**	**257**	*e*P		**Pb**	**20 25 38.4**	**-0.4**
	baz=266							
NSK				*e*S		**Sb**	**20 25 48.4**	**+0.6**
	baz=266							
NNS	**Nan Shan**	**0.73**	**238**	*e*P		**Pn**	**20 25 40.5**	**-1.1**
	baz=238							
NNS				*e*S		**Sn**	**20 25 51.3**	**-1.4**
	baz=238							
TWD	**Chiawan**	**0.85**	**209**	*e*P		**Pn**	**20 25 42.6**	**-0.7**
	baz=211							
TWD				*e*S		**Sb**	**20 25 52.7**	**-0.9**
	baz=211							
YOJ	**Yonaguni jima**	**0.94**	**113**	P		**Pn**	**20 25 44.4**	**-0.1**
YOJ				*e*S		**Sb**	**20 25 56.9**	**+0.7**
NSTT	**Nanjuang**	**0.98**	**259**	*e*P		**Pn**	**20 25 45.7**	**+0.8**
	baz=253							
NSTT				*e*S		**Sn**	**20 26 00.3**	**+1.7**
	baz=253							
TWT	**Tachien**	**0.98**	**235**	*e*P		**Pn**	**20 25 46.0**	**+0.8**
	baz=229							
TWT				*e*S		**Sn**	**20 25 59.8**	**+0.8**
	baz=229							
WHF	**Hehuan Shan**	**0.99**	**227**	*e*P		**Pn**	**20 25 45.0**	**-0.5**
	baz=229							
WHF				*e*S		**Sn**	**20 25 59.1**	**-0.4**
	baz=229							
ESL	**Shilin**	**1.16**	**209**	*e*P		**Pg**	**20 25 47.7**	**-0.2**
	baz=220							
ESL				*e*S		**Sn**	**20 26 04.4**	**+1.3**
	baz=220							
TWQ1	**Liyutan**	**1.26**	**248**	*e*P		Pg	20 25 52.4	+2.6
	baz=248							
SMLT	**Sun Moon Lake**	**1.41**	**228**	*e*P		**Pg**	**20 25 52.4**	**-0.3**
	baz=230							
TYC	**Yuchr**	**1.43**	**230**	*e*P		**Pg**	**20 25 53.2**	**+0.2**
	baz=226							
TYC				*e*S		**Sg**	**20 26 11.3**	**-0.2**
	baz=226							
EHY	**Hungye**	**1.48**	**207**	*e*P		**Pb**	**20 25 52.4**	**-0.4**
	baz=221							
EHY				*e*S		**Sg**	**20 26 13.1**	**-0.1**
	baz=221							
WNT	**Mingjian**	**1.57**	**233**	*e*P		**Pg**	**20 25 56.9**	**+1.2**
	baz=227							
IRIF	**Iriomote-Funau**	**1.60**	**107**	P		**Pn**	**20 25 53.2**	**-0.4**
IRIF				*e*S		**Sn**	**20 26 13.8**	**-0.3**
TWF1	**Yuli**	**1.62**	**205**	*e*P		**Pb**	**20 25 54.3**	**-1.1**
	baz=220							
TWF1				*e*S		**Sg**	**20 26 18.0**	**+0.1**
	baz=220							
CHN5	**Tsauling**	**1.75**	**226**	*e*P		**Pg**	**20 25 59.5**	**+0.2**
	baz=231							
CHN5				*e*S		**Sg**	**20 26 24.2**	**+2.1**
	baz=231							
JKRS	**Kuro-shima**	**1.88**	**108**	*e*S		**Sn**	**20 26 20.6**	**-0.2**
JIJ	**Ishigaki jima**	**1.96**	**103**	P		**Pn**	**20 25 59.1**	**+0.7**
JIJ				*e*S		**Sn**	**20 26 23.3**	**+0.4**

IDC ***22*** *20:43:59.5± 1.4, 23°.18S× 66°.63W, h202km± 13km, mb3.5/7, mb1 3.7/12, mb1mx3.6/22, mbtmp3.6/12, Error ellipse: s-maj=16.3km s-min=12.3km az=72.0*
ISCJB ***22*** *20:44:00.0± 0.6, 23°.16S± 0°.07× 66°.6W± 0°.1, h222km, mb3.6/7, Error ellipse: s-maj=14.9km s-min=8.5km az=162.7*
ISC 22 20:44:01.4±0.6, 23°.11S±0°.08×66°.6W±0°.1, h222km, n18, σ0s92/19, mb3.6/7, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.95**	**347**	P		**Pn**	**20 45 41.5**	**-0.4**
	6.5nm,0.3s,baz=161,slow=7.8,SNR=161							
LPAZ				S		**S**	**20 47 00.3**	**-1.3**
	baz=248,slow=19,SNR=2.3							
CFAA	**Coronel Fontan**	**8.59**	**190**	P		**Pn**	**20 46 00.3**	**-1.9**
	0.6nm,0.3s,baz=359,slow=14,SNR=44							
CFAA				S		S	20 47 30.7	-8.6
	2.1nm,0.3s,baz=235,slow=14,SNR=19							
SIV	**San Ignacio**	**8.77**	**37**	P		**Pn**	**20 46 03.4**	**-1.3**
	3.4nm,0.3s,baz=222,slow=14,SNR=41							
CPUP	**Villa Florida**	**8.98**	**113**	P		**Pn**	**20 46 07.4**	**+0.1**
	0.5nm,0.3s,baz=268,slow=12,SNR=3.2							
BDFB	**Brasilia**	**19.00**	**70**	P		**P**	**20 48 07.7**	**+0.9**
	0.7nm,0.3s,baz=249,slow=11,SNR=8.6							
APG	**El Apazote**	**44.52**	**326**	P		**P**	**20 51 52.1**	**+0.5**
	5.7nm,0.7s,baz=268,slow=24,SNR=7.7							
SNAA	**Sanae**	**60.05**	**161**	P		**P**	**20 53 46.0**	**+1.4**
	0.3nm,0.7s,baz=252,slow=9.6,SNR=3.4							
TXAR	**Lajitas Array**	**63.20**	**324**	P		**P**	**20 54 06.3**	**+0.1**
	0.8nm,0.7s,baz=146,slow=9.4,SNR=7.3							
TORD	**Torodi Ar. Bea**	**75.87**	**69**	P		**P**	**20 55 23.6**	**-0.3**
	0.6nm,0.5s,baz=260,slow=5.6,SNR=14							
SCHQ	**Schefferville**	**77.62**	**360**	P		**P**	**20 55 32.6**	**-0.2**
	4.6nm,0.7s,baz=205,slow=5.5,SNR=5.4							
NVAR	**Mina Array Bea**	**78.10**	**321**	P		**P**	**20 55 36.9**	**+0.8**
	0.8nm,0.7s,baz=145,slow=6.9,SNR=6.8							
ESDC	**Sonseca Array**	**85.48**	**43**	P		**P**	**20 56 14.0**	**-0.3**
	0.8nm,0.6s,baz=243,slow=5.0,SNR=4.3							
ASAR	**Alice Springs**	**129.43**	**205**	PKP		**PKPdf**	**21 02 43.9**	**-0.4**
	0.6nm,0.7s,baz=147,slow=1.9,SNR=5.6							
WRA	**Warramunga Arr**	**132.60**	**207**	PKP		**PKPdf**	**21 02 49.7**	**-0.7**
	0.4nm,0.5s,baz=162,slow=1.6,SNR=8.6							
KURBB	**Kurchatov Arra**	**141.43**	**36**	PKhKP		PKPpre	21 03 02.1	
	0.4nm,0.6s,baz=306,slow=3.0,SNR=4.8							
KURBB				PKP		**PKPdf**	**21 03 06.4**	**+0.8**
	0.6nm,0.7s,baz=294,slow=2.6,SNR=6.3							
ZALV	**Zalesovo Beam**	**142.42**	**28**	PKhKP		PKPpre	21 03 04.0	
	1.7nm,0.7s,baz=311,slow=3.9,SNR=6.5							
MKAR	**Makanchi Array**	**145.58**	**39**	PKPbc		**PKPab**	**21 03 14.6**	**+0.2**
	5.3nm,0.6s,baz=315,slow=3.2,SNR=49							
SONM	**Songino Array**	**154.69**	**11**	PKPbc		**PKPbc**	**21 03 37.0**	**+0.9**
	0.7nm,0.8s,baz=312,slow=0.9,SNR=5.7							
SONM				PKPab		**PKPab**	**21 03 52.3**	**+0.5**
	1.0nm,0.7s,baz=330,slow=4.2,SNR=8.9							

NIED ***22*** *20:46:00, 24°.30N× 121°.40E, h35km, Mw4.7 Best double couple: M0 1.07000×10^16 NP1:φs245.00000°, δ88.00000°, λ79.00000°. NP2:φs143.00000°, δ11.00000°, λ169.00000°.*
BJI ***22*** *20:46:19.8, 24°.31N× 121°.82E, h6km, mB4.9/13, mb4.4/17, ML4.7/11, Ms4.4/14, Ms7 4.4/13*
JMA ***22*** *20:46:20.6± 0.4, 24°.30N× 121°.42E, h69km, M4.9*
IDC ***22*** *20:46:20.1± 0.5, 24°.26N× 121°.94E, h0km, mb4.2/22, mb1 4.3/25, mb1mx4.2/32, mbtmp4.1/25, ML3.5/2, MS3.9/3, Ms1 4.0/3, ms1mx3.5/39, Error ellipse: s-maj=18.9km s-min=11.7km az=67.0*
NEIC ***22*** *20:46:21.4± 1.2, 24°.26N× 121°.91E, h6km± 7km, mb4.6/13, ML5.0(TAP), Error ellipse: s-maj=7.0km s-min=5.4km az=101.0*
NEIC Recorded [5 TAP] in Hua-lien and I-lan; [2 TAP] in T'ai-chung and T'ai-pei; [1 TAP] in Chang-hua, Miao-li, Nan-t'ou, T'ao-yuan and Yun-lin.
ISCJB ***22*** *20:46:23.9± 0.3, 24°.29N± 0°.02× 121°.89E± 0°.02, h26km± 2km, mb4.3/41, MS4.1/3, Error ellipse: s-maj=3.3km s-min=2.2km az=33.6*
TAP ***22*** *20:46:24.3, 24°.28N× 121°.78E, h20km, ML4.9, B*
DJA ***22*** *20:46:37.0± 0.8, 25°.N± 9°× 12°.1E± 1°.0, h68km, M4.7/9, mB7.8/1, mb4.7/9, Mw(mB)8.0/1*
ISC 22 20:46:23.7±0.5, 24°.25N±0°.02×121°.84E±0°.02, h18km±1km, n200, σ1s27/224, mb4.3/40, MS4.2/3, 8C-31D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.11**	**304**	⇓*i*P		**Pg**	**20 46 28.1**	**+0.6**
	baz=317							
EHP				*i* S		**Sg**	**20 46 30.8**	**+0.7**
	baz=317							
ENA	**Nanau**	**0.20**	**333**	⇑*i*P		**Pb**	**20 46 29.0**	**+0.6**
	baz=349							
ENA				S		**Sb**	**20 46 32.4**	**+0.9**
	baz=349							
NACB	**Ninganchiao**	**0.23**	**251**	*e*Pn		**Pg**	**20 46 28.7**	**-0.5**
TWD	**Chiawan**	**0.28**	**233**	⇑*i*P		**Pb**	**20 46 30.5**	**+0.4**
	baz=224							
TWD				S		**Sb**	**20 46 34.8**	**+0.4**
	baz=224							
HWA	**Hwalien**	**0.34**	**218**	⇑*e*P		**Pb**	**20 46 32.3**	**+0.9**
	baz=214							
TWC	**Suao**	**0.36**	**1**	⇓*i*P		**Pb**	**20 46 31.9**	**+0.3**
	baz=8.0							
ENTT	**Nioudou**	**0.46**	**327**	⇓*i*P		**Pb**	**20 46 33.0**	**-0.3**
	baz=331							
NNS	**Nan Shan**	**0.47**	**294**	⇓*i*P		**Pb**	**20 46 33.1**	**-0.3**
	baz=293							
NNS				S		**Sg**	**20 46 38.8**	**-0.8**
	baz=293							
ESF	**Shoufeng Towns**	**0.48**	**219**	*e*P		**Pb**	**20 46 34.2**	**+0.5**
	baz=218							
ESF				*e*S		**Sb**	**20 46 41.0**	**+0.6**
	baz=218							
TWE	**Neicheng**	**0.49**	**342**	⇓*i*P		**Pb**	**20 46 33.9**	**0.0**
	baz=341							
ILA	**Ilan**	**0.52**	**351**	⇓*i*P		**Pb**	**20 46 34.8**	**+0.5**
	baz=353							
ILA				*e*S		**Sb**	**20 46 41.9**	**+0.4**
	baz=353							
WHF	**Hehuan Shan**	**0.53**	**259**	⇑*i*P		**Pg**	**20 46 34.4**	**-0.2**
	baz=254							
ESL	**Shilin**	**0.57**	**221**	⇓P		**Pb**	**20 46 35.4**	**+0.3**
	baz=219							
ESL				*e*S		**Sb**	**20 46 43.7**	**+0.9**
	baz=219							
YHNB	**Yeheng**	**0.59**	**315**	*e*Pn		Pg	20 46 31.9	-3.6
EGS		**0.60**	**8**	⇓*i*P		**Pn**	**20 46 36.5**	**-0.7**
	baz=19							
TEGC	**Jichi Village**	**0.60**	**207**	*e*P		**Pn**	**20 46 36.8**	**-0.5**
	baz=188							
TEGC				*e*S		**Sn**	**20 46 47.3**	**+0.7**
	baz=188							
TWT	**Tachien**	**0.60**	**271**	*i* P		**Pb**	**20 46 36.1**	**+0.3**
	baz=267							
TWT				*e*S		**Sg**	**20 46 43.9**	**-0.1**
	baz=267							
NSK	**Sanguang**	**0.61**	**314**	⇓*i*P		**Pg**	**20 46 35.5**	**-0.4**
	baz=316							
TWA	**Mucha**	**0.76**	**342**	⇓*i*P		**Pg**	**20 46 38.7**	**0.0**
	baz=345							
TWA				*e*S		**Sn**	**20 46 49.5**	**-1.1**
	baz=345							
TWB1	**Santiao Chiao**	**0.77**	**10**	⇓*i*P		**Pn**	**20 46 39.1**	**-0.5**
	baz=15							
TWB1				*e*S		**Sg**	**20 46 48.5**	**-0.5**
	baz=15							
TATO	**Taipei**	**0.79**	**336**	*e*Pn		**Pb**	**20 46 38.6**	**-0.3**
NWF	**Wu-fen Shan**	**0.82**	**356**	⇓*i*P		**Pn**	**20 46 40.2**	**-0.2**
	baz=359							
TAP1	**Taipei**	**0.84**	**340**	⇓*i*P		**Pn**	**20 46 40.1**	**-0.4**
	baz=341							
TAP1				*e*S		**Sn**	**20 46 51.2**	**-1.2**
	baz=341							
TAP	**Taipei**	**0.84**	**339**	⇓*i*P		**Pn**	**20 46 40.1**	**-0.5**
	baz=341							
TAP				*e*S		**Sn**	**20 46 51.4**	**-1.2**
	baz=341							
NSTT	**Nanjuang**	**0.85**	**297**	⇓*i*P		**Pg**	**20 46 40.1**	**-0.2**
	baz=295							
NSTT				*e*S		**Sb**	**20 46 50.1**	**-1.0**
	baz=295							
EHY	**Hungye**	**0.88**	**213**	*e*P		**Pb**	**20 46 39.4**	**-1.0**
	baz=217							
EHY				*e*S		**Sn**	**20 46 53.8**	**+0.4**
	baz=217							
TWS1	**Kuangyinshan**	**0.93**	**336**	⇓*i*P		**Pn**	**20 46 42.2**	**+0.4**
	baz=337							
TWS1				S		**Sn**	**20 46 55.4**	**+0.7**
	baz=337							
NCU	**National Centr**	**0.93**	**321**	⇓*i*P		**Pn**	**20 46 42.1**	**+0.2**
	baz=321							
NCU				S		**Sn**	**20 46 54.9**	**+0.2**
	baz=321							
SSLB	**Suanglung**	**0.93**	**241**	*e*Pn		**Pb**	**20 46 40.6**	**-0.7**
SMLT	**Sun Moon Lake**	**0.93**	**247**	⇓*i*P		**Pb**	**20 46 41.5**	**+0.1**
	baz=237							
SMLT				*e*S		**Sg**	**20 46 54.1**	**-0.1**
	baz=237							
TYC	**Yuchr**	**0.96**	**249**	⇓*i*P		**Pb**	**20 46 41.9**	**+0.1**
	baz=239							
TYC				*e*S		**Sb**	**20 46 53.8**	**-0.4**
	baz=239							
TWQ1	**Liyutan**	**0.98**	**276**	⇓*i*P		**Pn**	**20 46 43.0**	**+0.4**
	baz=273							
TWQ1				*e*S		**Sg**	**20 46 55.0**	**-0.6**
	baz=273							
YULB	**Yu-li**	**0.99**	**210**	*e*Pn		**Pb**	**20 46 40.8**	**-1.5**
NSY	**Sanyi**	**1.00**	**280**	⇓*i*P		**Pg**	**20 46 43.6**	**+0.6**
	baz=277							
NSY				*e*S		**Sn**	**20 46 56.1**	**-0.3**
	baz=277							
TWF1	**Yuli**	**1.02**	**209**	⇓*e*P		**Pb**	**20 46 41.6**	**-1.2**
	baz=218							
TWY	**Chenhua**	**1.04**	**348**	⇑P		**Pg**	**20 46 43.9**	**-0.1**
	baz=335							
TCU	**Taichung**	**1.07**	**265**	⇓*i*P		**Pg**	**20 46 45.0**	**+0.6**
	baz=261							
TCU				S		**Sg**	**20 46 59.0**	**+0.6**
	baz=261							
YOJ	**Yonaguni jima**	**1.09**	**79**	P		**Pg**	**20 46 45.4**	**+0.5**
YOJ				*e*S		**Sg**	**20 47 03.5**	**+4.4**
YOJ	**Yonaguni jima**	**1.09**	**79**	⇓*i*P		**Pg**	**20 46 45.4**	**+0.5**
	baz=72							
YOJ				*e*S		**Sg**	**20 47 02.0**	**+2.9**
	baz=72							
WNT	**Mingjian**	**1.12**	**251**	⇓P		**Pg**	**20 46 45.5**	**+0.2**
	baz=247							
WNT				*e*S		**Sg**	**20 47 01.2**	**+1.2**
	baz=247							
ALS	**Alishan**	**1.20**	**232**	*e*P		**Pg**	**20 46 47.3**	**+0.3**
	baz=229							
CHKT	**Chengkung**	**1.22**	**201**	*e*P		**Pn**	**20 46 45.0**	**-0.9**
	baz=183							
CHN5	**Tsauling**	**1.25**	**239**	*e*P		**Pb**	**20 46 47.3**	**+0.6**
	baz=235							
WGK	**Gukeng**	**1.30**	**245**	⇑*e*P		**Pg**	**20 46 48.7**	**-0.1**
	baz=241							
WGK				*e*S		**Sg**	**20 47 06.6**	**+0.9**
	baz=241							
PCYT	**Pengchaiyu**	**1.39**	**9**	*e*P		**Pb**	**20 46 48.8**	**-0.3**
	baz=9.0							
CHN2	**Minshiung**	**1.44**	**241**	*e*P		**Pb**	**20 46 50.6**	**+0.6**
	baz=237							
CHN2				*e*S		**Sg**	**20 47 12.1**	**+1.9**
	baz=237							
CHN4	**Tsaushan**	**1.45**	**232**	⇓P		**Pb**	**20 46 51.0**	**+0.8**
	baz=229							
CHN4				*e*S		**Sg**	**20 47 11.0**	**+0.4**
	baz=229							
TPUB	**Ta-pu**	**1.46**	**230**	*e*Pn		**Pb**	**20 46 50.0**	**-0.2**
WTCT	**Ta-ch'eng**	**1.48**	**255**	*e*P		**Pb**	**20 46 50.1**	**-0.4**
	baz=252							
WTCT				*e*S		**Sb**	**20 47 10.0**	**+1.0**
	baz=252							
CHY	**Chiayi**	**1.50**	**240**	*e*P		**Pb**	**20 46 51.7**	**+0.8**
	baz=237							
CHY				*e*S		**Sg**	**20 47 12.7**	**+0.7**
	baz=237							
WTP	**Ta-pu**	**1.50**	**229**	⇑P		**Pb**	**20 46 51.6**	**+0.5**
	baz=225							
WTP				*e*S		**Sg**	**20 47 13.1**	**+0.9**
	baz=225							
TWK	**Hsinying**	**1.58**	**232**	⇓P		**Pb**	**20 46 52.7**	**+0.3**
	baz=228							
TWK				*e*S		**Sg**	**20 47 14.9**	**+0.2**
	baz=228							
TWG	**Pinlang**	**1.59**	**206**	*e*P		**Pn**	**20 46 49.8**	**-1.1**
	baz=190							
TWG	**Pinlang**	**1.59**	**206**	*e*Pn		**Pn**	**20 46 49.5**	**-1.4**
WSF	**Szhu**	**1.60**	**248**	*e*P		**Pb**	**20 46 52.7**	**0.0**
	baz=244							
WSF				*e*S		**Sb**	**20 47 13.8**	**+1.2**
	baz=244							
CHN1	**Nanshi**	**1.60**	**229**	⇓*e*P		**Pb**	**20 46 52.6**	**-0.1**
	baz=226							
CHN1				*e*S		**Sg**	**20 47 14.9**	**-0.5**
	baz=226							
TTN	**Taitung**	**1.62**	**203**	*e*P		**Pb**	**20 46 53.7**	**+0.7**
	baz=200							
SGST	**Jiashian**	**1.64**	**225**	⇓P		**Pb**	**20 46 53.6**	**+0.3**
	baz=222							
SGST				*e*S		**Sg**	**20 47 16.7**	**+0.2**
	baz=222							
IRIF	**Iriomote-Funau**	**1.73**	**87**	P		**Pn**	**20 46 53.9**	**+1.1**
IRIF				*e*S		**Sg**	**20 47 19.1**	**-0.3**
CHN3	**Shinhua**	**1.79**	**229**	*e*P		**Pb**	**20 46 56.2**	**+0.3**
	baz=226							
CHN3				*e*S		**Sg**	**20 47 20.6**	**-0.7**
	baz=226							
HATJ	**Hateruma jima**	**1.81**	**96**	P		**Pb**	**20 46 55.6**	**-0.6**
ECL	**Taimali**	**1.83**	**206**	*e*P		**Pn**	**20 46 53.5**	**-0.8**
	baz=192							
SCLT	**Jiali**	**1.85**	**235**	*e*P		**Pb**	**20 46 57.9**	**+1.0**
	baz=232							
SCLT				*e*S		**Sg**	**20 47 21.8**	**-1.5**
	baz=232							
TAI1	**Yung-k'ang**	**1.91**	**231**	*e*P		**Pb**	**20 46 57.7**	**-0.2**
	baz=228							
TWM1	**Shoushan**	**1.93**	**223**	*e*P		**Pb**	**20 46 58.4**	**+0.1**
	baz=220							
SGLT	**Jiouru**	**1.96**	**219**	*e*P		**Pb**	**20 46 59.0**	**+0.2**
	baz=215							
JKRS	**Kuro-shima**	**1.98**	**90**	P		**Pn**	**20 46 58.0**	**+1.7**
JKRS				*e*S		**Sg**	**20 47 27.3**	**-0.2**
EAST	**Anshuo**	**2.07**	**206**	*e*P		**Pn**	**20 46 56.5**	**-1.1**
	baz=194							
TAW	**Tawu**	**2.07**	**205**	*e*P		**Pn**	**20 46 58.2**	**+0.7**
	baz=192							
JIJ	**Ishigaki jima**	**2.10**	**86**	P		**Pn**	**20 46 59.0**	**+1.0**
JIJ				*e*S		**Sb**	**20 47 29.4**	**+2.3**
PNG	**Penghu**	**2.20**	**252**	*e*P		**Pn**	**20 46 59.0**	**-0.3**
	baz=250							
WDGT	**Dungji**	**2.23**	**244**	*e*P		**Pn**	**20 47 00.7**	**+1.0**
	baz=242							
TWP	**Hsiaoliuchiu**	**2.33**	**216**	*e*P		**Pn**	**20 47 03.2**	**+2.1**
	baz=230							
HEN	**Hengchun**	**2.45**	**205**	*e*P		**Pb**	**20 47 06.2**	**-1.0**
	baz=194							
TWK1	**Hengchun**	**2.48**	**203**	*e*P		**Pn**	**20 47 05.0**	**+1.7**
	baz=192							
JTJ	**Tarama**	**2.64**	**81**	P		**Pn**	**20 47 06.8**	**+1.5**
QZH	**Quanzhou**	**3.04**	**284**	⇓*i*Pn		Pn	20 47 07.3	-3.5
QZH					Sn	**Sn**	**20 47 41.5**	**-5.2**
QZH					SMN			
	comp=Z,2μm,0.9s							
QZH					SME			
	comp=Z,2μm,0.8s							
QZH					LR	LR		
	comp=N,7μm,13.9s							
QZH					LR	LR		
	comp=E,6μm,10.0s							
QZH					LR	LR		
	comp=Z,7μm,11.0s							
KNM	**Kinmen**	**3.11**	**274

JOW	**Kunigami**	**6.36**	**65**	P		**Pn**	20 47 57.0	+0.5
JOW	**Kunigami**	**6.36**	**65**	*e*P		**Pn**	20 47 57.2	+0.7
	baz=71							
JOW	**Kunigami**	**6.36**	**65**	*e*Pn		**Pn**	20 47 57.0	+0.5
	18nm,0.3s							
JTK	**Tokunoshima**	**7.30**	**60**	P		**Pn**	20 48 09.8	+0.3
JTK				*e*S		Px	20 48 19.5	
JAMN	**Amaminishikomi**	**7.69**	**57**	P		**Pn**	20 48 14.5	-0.3
GZH	**Guangzhou**	**7.87**	**263**	P		Pn	20 48 13.6	-3.7
GZH				SMN				
	comp=Z,470nm,1.0s							
GZH				SME				
	comp=Z,350nm,1.0s							
JAM	**Amami Oshima**	**8.11**	**58**	P		**Pn**	20 48 20.9	+0.4
NJ2	**Nanjing**	**8.21**	**342**	*e*P		**Pn**	20 48 19.9	-2.0
NJ2				pP		pP	20 48 23.1	
NJ2				sP		sP	20 48 25.4	
NJ2				S		Sn	20 49 48.0	-6.1
NJ2				AMB		AMB		
	comp=Z,30nm,0.6s							
NJ2				SMN				
	comp=Z,350nm,0.8s							
NJ2				SME				
	comp=Z,290nm,1.0s							
NJ2				LR		LR		
	comp=N,1μm,12.3s							
NJ2				LR		LR		
	comp=E,1μm,12.0s							
NJ2				LR		LR		
	comp=Z,5μm,7.4s							
WHN	**Wuhan**	**9.14**	**315**	⇑P		**Pn**	20 48 33.9	-0.8
WHN				S		Sn	20 50 10.4	-6.7
WHN				LR		LR		
	comp=N,4μm,10.0s							
WHN				LR		LR		
	comp=E,4μm,10.4s							
WHN				LR		LR		
	comp=Z,5μm,9.9s							
JNU	**Nakatsue**	**11.87**	**40**	*e*Pn		Pn	20 49 17.1	+5.0
JNU	**Nakatsue**	**11.87**	**40**	Pn		**Pn**	20 49 10.6	-1.5
	baz=232,slow=12,SNR=2.1							
ENH	**Enshi**	**12.51**	**301**	*e*Pn		**Pn**	20 49 21.4	+0.5
	4.4nm,0.6s							
GYA	**Guiyang**	**13.90**	**282**	P		**Pn**	20 49 40.0	+0.1
GYA				S		**Sn**	20 52 19.6	+5.7
GYA				AMB		AMB		
	comp=Z,10.0nm,1.0s							
GYA				AMB		AMB		
	comp=Z,50nm,5.5s							
GYA				LR		LR		
	comp=N,710nm,10.2s							
GYA				LR		LR		
	comp=E,1μm,12.4s							
GYA				LR		LR		
	comp=Z,2μm,10.8s							
KSAR	**Wonju Array Be**	**14.13**	**20**	Pn		**Pn**	20 49 42.6	-0.4
KSRS	**Korea Array**	**14.16**	**20**	Pn		**Pn**	20 49 42.6	-0.7
	0.2nm,0.3s,baz=202,slow=12,SNR=3.1							
KSRS				LR		LR	20 56 03.5	
	comp=Z,283nm,18.5s,baz=280,slow=41							
XAN	**Xi'an**	**14.90**	**314**	P		**Pn**	20 49 54.3	+0.7
XAN				AMB		AMB		
	comp=Z,3.0nm,1.2s							
XAN				LR		LR		
	comp=N,490nm,10.0s							
XAN				LR		LR		
	comp=E,400nm,12.8s							
XAN				LR		LR		
	comp=Z,380nm,11.9s							
KDM	**Kudat**	**17.89**	**196**	P		P	20 50 55.0	+23
HHC	**Hu-ho-hao-te**	**18.66**	**335**	*e*P		P	20 50 35.6	-5.1
HHC				sP		sP	20 50 42.8	-5.4
HHC				PP		**PnPn**	**20 50 51.3**	**-1.9**
HHC				S		Sn	20 53 58.6	-11
HHC				AMB		AMB		
	comp=Z,36nm,1.1s							
HHC				AMB		AMB		
	comp=Z,410nm,5.5s							
HHC				LR		LR		
	comp=N,1μm,12.8s							
HHC				LR		LR		
	comp=E,800nm,12.8s							
HHC				LR		LR		
	comp=Z,1μm,12.9s							
MJAR	**Matsushiro Arr**	**18.66**	**45**	P		**P**	**20 50 39.0**	**-1.7**
MJAR	**Matsushiro Arr**	**18.66**	**45**	P		**P**	**20 50 39.0**	**-1.7**
	0.1nm,0.3s,baz=231,slow=10.0,SNR=5.9							
KKM	**Kota Kinabalu**	**18.89**	**198**	P		Pn	20 50 59.0	+15
SDKM	**Sandakan**	**19.03**	**194**	P		Pn	20 50 51.1	+5.4
MYLDM	**Lahad Datu**	**19.23**	**190**	P		Pn	20 51 04.4	+16
MYLDM	**Lahad Datu**	**19.23**	**190**	P		Pn	20 51 04.7	+17
	16nm,1.9s							
LZH	**Lanzhou**	**19.49**	**311**	*e*P		**Pn**	**20 50 54.3**	**+3.1**
LZH				pP		**pP**	**20 50 57.5**	**+2.4**
LZH				sP		**sP**	**20 51 00.8**	**+3.3**
LZH				AMB		AMB		
	comp=Z,18nm,1.0s							
LZH				AMB		AMB		
	comp=Z,97nm,4.6s							
LZH				LR		LR		
	comp=N,780nm,9.6s							
LZH				LR		LR		
	comp=E,950nm,10.1s							
LZH				LR		LR		
	comp=Z,1μm,10.7s							
CN2	**Changchun**	**19.73**	**8**	*e*P		**P**	**20 50 52.4**	**+0.1**
CN2				*e*pP		**pP**	**20 50 55.9**	**-1.5**
CRAI	**Chiangrai**	**20.26**	**263**	P		Pn	20 51 09.1	+8.7
LOEI	**Loei**	**20.35**	**255**	P		Pn	20 51 02.7	+1.4
	139nm,0.7s							
CHAI	**Chaiyaphum**	**20.39**	**250**	P		Pn	20 51 05.6	+3.7
	5.6nm,0.9s							
PBKT	**Sadao Pong**	**20.98**	**253**	P		**P**	**20 51 06.9**	**+0.8**
	19nm,1.1s							
PBKT	**Sadao Pong**	**20.98**	**253**	P		Pn	20 51 13.7	+5.0
	18nm,1.1s							
MDJ	**Mudanjiang**	**21.28**	**15**	P		**P**	**20 51 07.1**	**-2.0**
CMAI	**Chiengmai2**	**21.55**	**263**	P		P	20 51 17.8	+5.5
	86nm,1.4s,6μm							
USRK	**Ussuriysk Arra**	**21.57**	**20**	P		**P**	**20 51 12.6**	**+0.5**
	2.4nm,0.6s,baz=222,slow=6.5,SNR=5.0							
CHTO	**Chiang Mai**	**21.96**	**260**	P		**P**	**20 51 19.8**	**+3.1**
	64nm,1.1s							
CHTO	**Chiang Mai**	**21.96**	**260**	*e*P		**P**	**20 51 18.8**	**+2.2**
	62nm,1.1s							
CHTO	**Chiang Mai**	**21.96**	**260**	P		**P**	**20 51 20.9**	**+4.2**
	71nm,1.1s							
CM31	**Chiang Mai Arr**	**22.08**	**259**	*e*P		**P**	**20 51 19.0**	**+1.1**
	2.5nm,0.6s							
CMAR	**Chiang Mai Arr**	**22.08**	**259**	P		**P**	**20 51 18.7**	**+0.8**
CMAR	**Chiang Mai Arr**	**22.08**	**259**	P		**P**	**20 51 18.7**	**+0.8**
	1.3nm,0.7s,baz=63,slow=8.1,SNR=11							
CMAR				LR		LR	21 00 23.3	
	comp=Z,315nm,18.9s,baz=69,slow=38							
BTM	**Bintulu**	**22.57**	**203**	P		P	20 51 18.6	-4.5
SBUM	**Sibu**	**23.58**	**205**	P		**P**	**20 51 33.8**	**+0.3**
TNTI	**Ternate**	**23.95**	**166**	P		P	20 51 43.7	+6.7
	35nm,1.4s							
GTA	**Gaotai**	**23.96**	**314**	P		**P**	**20 51 37.8**	**+0.6**
GTA				pP		**pP**	**20 51 41.9**	**-0.8**
GTA				sP		**sP**	**20 51 43.6**	**-1.4**
GTA				S		**S**	**20 55 55.9**	**+2.7**
GTA				sS		**sS**	**20 56 02.8**	**+0.5**
GTA				AMB		AMB		
	comp=Z,4.0nm,1.1s							
GTA				AMB		AMB		
	comp=Z,280nm,6.2s							
GTA				LR		LR		
	comp=N,390nm,13.8s							
GTA				LR		LR		
	comp=E,680nm,12.4s							
GTA				LR		LR		
	comp=Z,830nm,12.8s							
HIA	**Hailar**	**25.02**	**357**	P		**P**	**20 51 46.6**	**0.0**
PCI	**Palu**	**25.08**	**185**	P		P	20 52 17.7	+30
KSM	**Kuching**	**25.24**	**208**	P		**P**	**20 51 47.0**	**-1.8**
KSM	**Kuching**	**25.24**	**208**	*e*P		**P**	**20 51 48.6**	**-0.2**
	9.9nm,0.8s							
LBMI	**Labuha**	**25.34**	**167**	P		P	20 52 02.8	+13
	26nm,0.9s							
SONM	**Songino Array**	**26.54**	**336**	P		**P**	**20 52 00.7**	**+0.2**
SONM				ScP		**ScP**	**20 59 03.1**	**-0.8**
SONM	**Songino Array**	**26.54**	**336**	P		**P**	**20 52 00.7**	**+0.2**
	2.9nm,0.7s,baz=154,slow=9.5,SNR=18							
SONM				ScP		**ScP**	**20 59 03.2**	**-0.8**
	0.4nm,0.9s,baz=151,slow=3.3,SNR=3.0							

SHL	**Shillong**	**27.18**	**279**	*ex*		pP	20 52 13.5	+1.5
LSA	**Lhasa**	**27.84**	**288**	P		**P**	**20 52 14.4**	**+1.7**
LSA	**Lhasa**	**27.84**	**288**	*e*P		**P**	**20 52 14.7**	**+1.9**
	6.4nm,0.6s							
RGRI	**Rengat**	**30.92**	**221**	P		P	20 52 56.8	+17
	525nm,0.4s,139μm							
MK31	**Makanchi Array**	**38.71**	**316**	*e*P		**P**	**20 53 45.8**	**-0.8**
MKAR	**Makanchi Array**	**38.71**	**316**	P		**P**	**20 53 46.5**	**-0.1**
MKAR	**Makanchi Array**	**38.71**	**316**	P		**P**	**20 53 46.5**	**-0.1**
	5.1nm,0.7s,baz=101,slow=10,SNR=21							
ZAA0	**Zalesovo Array**	**40.52**	**327**	*e*P		**P**	**20 53 59.9**	**-1.6**
ZALV	**Zalesovo Beam**	**40.52**	**327**	P		**P**	**20 54 00.1**	**-1.4**
ZALV	**Zalesovo Beam**	**40.52**	**327**	P		**P**	**20 54 00.1**	**-1.4**
	3.2nm,0.6s,baz=113,slow=8.5,SNR=11							
PMG	**Port Moresby**	**41.60**	**141**	P		**P**	**20 54 09.4**	**-1.4**
PMG	**Port Moresby**	**41.60**	**141**	P		**P**	**20 54 09.4**	**-1.4**
	11nm,0.9s,baz=336,slow=20,SNR=3.1							
PMG				LR		LR	21 10 38.3	
	comp=Z,289nm,18.6s,baz=24,slow=35							
H11N1	**WAKE ISLAND Hy**	**41.89**	**87**	T		T	21 39 34.3	
	baz=288							
H11N2	**WAKE ISLAND Hy**	**41.89**	**87**	T		T	21 39 33.6	
	baz=288,SNR=21							
H11N3	**WAKE ISLAND Hy**	**41.90**	**87**	T		T	21 39 34.5	
	baz=288							
H11S3	**WAKE ISLAND Hy**	**42.02**	**89**	T		T	21 39 31.7	
	baz=284,slow=0.7,SNR=34							
H11S1	**WAKE ISLAND Hy**	**42.03**	**89**	T		T	21 39 32.3	
	baz=284,slow=0.7,SNR=15							
H11S2	**WAKE ISLAND Hy**	**42.04**	**89**	T		T	21 39 35.9	
	baz=284							
TKM2	**Tokmak 2**	**42.20**	**308**	*e*P		**P**	**20 54 15.6**	**-0.1**
	4.8nm,0.6s							
FITZ	**Fitzroy Crossi**	**42.26**	**175**	P		**P**	**20 54 15.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**42.26**	**175**	P		**P**	**20 54 15.8**	**-0.3**
	0.9nm,0.5s,baz=346,slow=18,SNR=6.2							
KURK	**Kurchatov**	**42.43**	**320**	P		**P**	**20 54 16.9**	**-0.3**
KURBB	**Kurchatov Arra**	**42.45**	**320**	P		**P**	**20 54 16.9**	**-0.4**
	1.2nm,0.5s,baz=113,slow=9.1,SNR=15							
AAK	**Ala-Archa**	**42.94**	**307**	*e*P		**P**	**20 54 24.7**	**+3.0**
	3.1nm,0.8s							
WRAB	**Tennant Creek**	**45.58**	**163**	*e*P		**P**	**20 54 42.0**	**-0.8**
	7.4nm,0.9s							
WRA	**Warramunga Arr**	**45.58**	**163**	P		**P**	**20 54 41.4**	**-1.5**
WRA	**Warramunga Arr**	**45.58**	**163**	P		**P**	**20 54 41.4**	**-1.5**
	2.1nm,0.6s,baz=345,slow=8.5,SNR=45							
KKAR	**Karatay Array**	**45.91**	**307**	*e*P		**P**	**20 54 45.8**	**+0.5**
	1.5nm,0.5s							
KBL	**Kabul**	**46.68**	**295**	*e*P		**P**	**20 54 53.1**	**+1.4**
	5.7nm,0.8s							
BVAR	**Borovoye Array**	**48.00**	**321**	P		**P**	**20 55 00.4**	**-1.1**
BVAR	**Borovoye Array**	**48.00**	**321**	P		**P**	**20 55 00.4**	**-1.1**
	1.7nm,0.5s,baz=113,slow=9.1,SNR=10							
BRVK	**Borovoye**	**48.07**	**321**	*e*P		**P**	**20 55 00.1**	**-1.9**
	5.9nm,0.8s							
ASAR	**Alice Springs**	**49.05**	**165**	P		**P**	**20 55 09.1**	**-0.7**
ASAR	**Alice Springs**	**49.05**	**165**	P		**P**	**20 55 09.1**	**-0.7**
	1.5nm,0.6s,baz=339,slow=7.1,SNR=18							
IMYA	**Miami**	**53.85**	**298**	*e*P		P	20 55 51.6	+5.6
IKRD	**Kardeh**	**55.08**	**299**	*e*P		P	20 55 50.1	-4.9
AKTO	**Aktyubinsk**	**55.15**	**316**	P		**P**	**20 55 54.2**	**-0.7**
AKTO	**Aktyubinsk**	**55.15**	**316**	P		**P**	**20 55 54.2**	**-0.7**
	1.4nm,0.7s,baz=70,slow=10.0,SNR=6.3							
ITEG	**Tejag**	**55.37**	**294**	*e*P		**P**	**20 55 57.9**	**+0.8**
STKA	**Stephens Creek**	**58.92**	**160**	*e*P		**P**	**20 56 20.8**	**-0.9**
STKA	**Stephens Creek**	**58.92**	**160**	P		**P**	**20 56 20.6**	**-1.1**
	2.5nm,0.6s,baz=337,slow=8.1,SNR=11							
KBZ	**Khabaz**	**65.91**	**309**	P		**P**	**20 57 08.9**	**+0.4**
KBZ	**Khabaz**	**65.91**	**309**	P		**P**	**20 57 08.9**	**+0.4**
	2.9nm,0.9s,baz=59,slow=3.7,SNR=6.4							
ILAR	**Eielson Array**	**68.88**	**27**	P		**P**	**20 57 25.2**	**-1.7**
ILAR	**Eielson Array**	**68.88**	**27**	P		**P**	**20 57 25.2**	**-1.7**
	1.2nm,0.7s,baz=290,slow=8.5,SNR=11							
ARCES	**ARCESS Array B**	**69.70**	**338**	P		**P**	**20 57 30.8**	**-1.2**
ARCES	**ARCESS Array B**	**69.70**	**338**	P		**P**	**20 57 30.8**	**-1.2**
	3.0nm,0.9s,baz=57,slow=6.6,SNR=2.3							
FINES	**FINESS Array B**	**71.69**	**330**	P		**P**	**20 57 43.6**	**-0.6**
FINES	**FINESS Array B**	**71.69**	**330**	P		**P**	**20 57 43.6**	**-0.6**
	3.4nm,0.8s,baz=50,slow=5.9,SNR=12							
AKASG	**Malin Array Be**	**73.22**	**318**	P		**P**	**20 57 52.8**	**-0.8**
AKASG	**Malin Array Be**	**73.22**	**318**	P		**P**	**20 57 52.8**	**-0.8**
	1.1nm,0.6s,baz=60,slow=6.1,SNR=5.9							
BR131	**Keskin Array S**	**73.61**	**307**	*e*P		**P**	**20 57 56.2**	**-0.1**
	1.9nm,0.7s							
BRTR	**Keskin Array B**	**73.61**	**307**	P		**P**	**20 57 56.9**	**+0.6**
BRTR	**Keskin Array B**	**73.61**	**307**	P		**P**	**20 57 56.9**	**+0.6**
	1.9nm,0.7s,baz=103,slow=5.4,SNR=14							
KWP	**Kalwaria Pacla**	**77.52**	**319**	P		**P**	**20 58 18.0**	**-0.3**
	11nm,0.9s							
NB2	**NORSAR Subarra**	**78.45**	**332**	P		**P**	**20 58 22.0**	**-1.3**
	comp=Z,2.7nm,0.8s,baz=57,slow=5.6							
NOA	**NORSAR Array B**	**78.45**	**332**	P		**P**	**20 58 22.8**	**-0.5**
NOA	**NORSAR Array B**	**78.45**	**332**	P		**P**	**20 58 22.8**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=56,slow=5.5,SNR=3.7							
YKA	**Yellowknife Ar**	**82.68**	**23**	P		**P**	**20 58 44.8**	**-1.1**
YKA	**Yellowknife Ar**	**82.68**	**23**	P		**P**	**20 58 44.8**	**-1.1**
	comp=Z,4.3nm,0.8s,baz=312,slow=5.2,SNR=7.6							
GERES	**GERESS Array B**	**83.17**	**321**	P		**P**	**20 58 48.8**	**0.0**
GERES	**GERESS Array B**	**83.17**	**321**	P		**P**	**20 58 48.8**	**0.0**
	comp=Z,0.4nm,0.7s,baz=20,slow=4.3,SNR=4.9							
SLMT	**Seeley Lake**	**93.14**	**34**	*e*P		**P**	**20 59 37.5**	**+0.6**
	comp=Z,4.9nm,0.9s							
NVAR	**Mina Array Bea**	**95.97**	**43**	P		**P**	**20 59 50.5**	**+0.3**
NVAR	**Mina Array Bea**	**95.97**	**43**	P		**P**	**20 59 50.5**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=286,slow=4.6,SNR=4.3							
OTAV	**Otavalo**	**148.70**	**42**	*e*PKPdf		**PKPdf**	**21 06 08.1**	**+0.6**

IDC ***22*** *20:48:38.6±1.9,28.01N×140.17E,h310km±47km,mb3.2/5, mb1 3.3/6,mb1mx3.0/25,mbtmp3.3/6,Error ellipse: s-maj=172.5km s-min=47.0km az=10.0*
JMA ***22*** *20:48:41.1±0.2,27.93N×140.69E,h335km, M3.7*
ISC 22 20:48:38.4±1.0,27.73N±0.1×139.8E±0.1,h300km,n14, σ1§69/17,mb3.3/5,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.25**	**106**	P		P	**Pn**	**20 49 28.3**	**+1.1**
CBIJ				S		S	**S**	**20 50 04.2**	**-2.0**
JCJ	**Chichijima**	**2.25**	**106**	P		P	**Pn**	**20 49 28.3**	**+1.1**
	32nm,0.3s,baz=272,slow=20,SNR=18								
JCJ				S		S	**S**	**20 50 04.4**	**-1.7**
	32nm,0.3s,baz=263,slow=21,SNR=10.0								
JHHJ	**Haha-jima-NKT**	**2.42**	**116**	P		P	**Pn**	**20 49 30.1**	**+1.4**
JHHJ				S		S	**S**	**20 50 09.4**	**+0.6**
JHJ2	**Mitsune**	**5.37**	**1**	P		P	Pn	20 50 03.9	+3.8
JHJ2				*e*S		S	**S**	**20 51 07.4**	**+1.5**
BSO1	**Boso 1**	**6.99**	**8**	P		P	**Pn**	**20 50 20.3**	**+1.4**
BSO1				*e*S		S	**S**	**20 51 37.7**	**-2.7**
JOD2	**Odawara 2**	**7.54**	**356**	P		P	**Pn**	**20 50 29.1**	**+2.9**
JRY	**Ryogami san**	**8.30**	**355**	P		P	**Pn**	**20 50 37.6**	**+2.0**
JAG	**Ashikaga**	**8.68**	**358**	P		P	**Pn**	**20 50 40.5**	**+0.3**
KSRS	**Korea Array**	**13.90**	**317**	P		P	Pn	20 51 50.6	+6.9
	0.3nm,0.3s,baz=134,slow=13,SNR=5.9								
SONM	**Songino Array**	**32.77**	**317**	P		P	**Pn**	**20 54 43.9**	**-0.1**
	0.3nm,0.5s,baz=125,slow=8.8,SNR=3.1								
MKAR	**Makanchi Array**	**48.41**	**309**	P		P	**Pn**	**20 56 50.5**	**-0.4**
	0.2nm,0.3s,baz=89,slow=9.4,SNR=3.1								
KURBB	**Kurchatov Arra**	**51.06**	**314**	P		P	**Pn**	**20 57 10.0**	**-0.5**
	0.4nm,0.3s,baz=91,slow=7.4,SNR=6.1								
ARCES	**ARCESS Array B**	**72.23**	**340**	P		P	**Pn**	**20 59 29.5**	**-1.2**
	3.9nm,0.9s,baz=54,slow=8.3,SNR=4.8								
FINES	**FINESS Array B**	**76.42**	**333**	P		P	**Pn**	**20 59 53.1**	**-1.8**
	7.4nm,1.1s,baz=72,slow=4.5,SNR=9.1								

IDC ***22*** *20:59:08.0±0.7,16.67S×172.94W,h0km,mb3.9/9, mb1 4.2/10,mb1mx4.0/21,mbtmp3.9/10,ML2.0/1,Error ellipse: s-maj=33.6km s-min=18.5km az=139.0*
ISC 22 20:59:12.8±0.8,16.5S±0.1×173.0W±0.2,h32km,n13, σ1§73/14,mb3.9/9,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.77**	**25**	Pn			**Pn**	**20 59 54.3**	**-0.7**
	11nm,0.3s,baz=201,slow=16,SNR=6.3								
AFI				Sn			**Sn**	**21 00 25.1**	**-2.3**
	46nm,0.3s,baz=112,slow=22,SNR=12								
STKA	**Stephens Creek**	**43.89**	**241**	P		P	**P**	**21 07 15.6**	**-1.0**
	1.7nm,0.7s,baz=73,slow=11,SNR=3.9								
WRA	**Warramunga Arr**	**50.03**	**258**	P		P	**P**	**21 08 03.3**	**-1.4**
	2.1nm,0.7s,baz=96,slow=7.5,SNR=15								
ASAR	**Alice Springs**	**50.20**	**253**	P		P	**P**	**21 08 04.7**	**-1.3**
	5.8nm,0.7s,baz=87,slow=8.8,SNR=62								
VNDA	**Vanda**	**62.39**	**186**	P		P	**P**	**21 09 31.0**	**-1.0**

	1.2nm,0.9s,baz=17,slow=6.4,SNR=7.2							
NVAR	**Mina Array Bea**	**74.82**	**42**	P		**P**	**21 10 51.8**	**+1.4**
	0.3nm,0.5s,baz=229,slow=9.2,SNR=3.3							
TXAR	**Lajitas Array**	**80.84**	**56**	P		**P**	**21 11 25.5**	**+1.5**
	0.1nm,0.4s,baz=224,slow=5.9,SNR=4.0							
PDAR	**Pinedale Array**	**82.76**	**42**	P		**P**	**21 11 35.2**	**+1.2**
	0.2nm,0.4s,baz=263,slow=4.5,SNR=2.6							
ILAR	**Eielson Array**	**83.38**	**11**	P		**P**	**21 11 37.6**	**+1.2**
	0.5nm,0.9s,baz=221,slow=5.9,SNR=4.4							
CMAR	**Chiang Mai Arr**	**93.34**	**288**	P		**P**	**21 12 27.6**	**+2.4**
	0.3nm,0.5s,baz=120,slow=2.5,SNR=4.8							
KMBO	**Kilima Mbogo**	**145.45**	**243**	PKPbc		**PKPab**	**21 18 50.6**	**+1.4**
	1.4nm,0.8s,baz=127,slow=4.4,SNR=4.5							
BRTR	**Keskin Array B**	**147.23**	**320**	PKPbc		**PKPab**	**21 18 54.8**	**-0.3**
	1.2nm,0.9s,baz=37,slow=2.1,SNR=3.3							
TORD	**Torodi Ar. Bea**	**173.88**	**122**	PKPab		**PKPab**	**21 20 48.1**	**-2.5**
	0.8nm,1.0s,baz=253,slow=5.0,SNR=3.1							

JMA ***22*** *21:09:55.4±0.1,23.91N×121.61E,h38km,M3.0*
ISCJB ***22*** *21:09:58.6±0.3,24.27N±0.02×121.81E±0.02,h16km±5km, Error ellipse: s-maj=3.8km s-min=2.2km az=22.9*
TAP ***22*** *21:09:58.1,24.28N×121.77E,h20km,ML3.6,C*
ISC 22 21:09:58.2±0.8,24.25N±0.02×121.78E±0.02,h17km±5km, n41,σ0§66/76,4C-2D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.07**	**328**	*i* P			**Pg**	**21 10 01.7**	**+0.1**
	baz=324								
EHP				*e*S			**Sg**	**21 10 04.3**	**+0.5**
	baz=324								
ENA	**Nanau**	**0.18**	**348**	⇑*i*P			**Pg**	**21 10 02.6**	**-0.3**
	baz=349								
ENA				*e*S			**Sg**	**21 10 05.7**	**-0.3**
	baz=349								
TWD	**Chiawan**	**0.24**	**226**	⇑*i*P			**Pb**	**21 10 04.0**	**-0.1**
	baz=224								
TWD				*i* S			**Sb**	**21 10 08.7**	**+0.7**
	baz=224								
HWA	**Hwalien**	**0.31**	**211**	*e*P			**Pb**	**21 10 05.6**	**+0.2**
	baz=215								
HWA				*e*S			**Sb**	**21 10 11.7**	**+1.5**
	baz=215								
TWC	**Suao**	**0.36**	**9**	*i* P			**Pg**	**21 10 05.7**	**-0.2**
	baz=8.0								
TWC				S			**Sg**	**21 10 10.8**	**-0.2**
	baz=8.0								
NNS	**Nan Shan**	**0.42**	**297**	⇑*i*P			**Pg**	**21 10 06.7**	**-0.2**
	baz=294								
NNS				*i* S			**Sg**	**21 10 12.4**	**-0.4**
	baz=294								
ENTT	**Nioudou**	**0.44**	**333**	*i* P			**Pg**	**21 10 06.8**	**-0.4**
	baz=325								
ENTT				*i* S			**Sg**	**21 10 13.0**	**-0.2**
	baz=325								
ESF	**Shoufeng Towns**	**0.45**	**214**	*e*P			**Pb**	**21 10 08.2**	**+0.5**
	baz=218								
ESF				*e*S			**Sb**	**21 10 15.3**	**+1.1**
	baz=218								
TWE	**Neicheng**	**0.48**	**347**	⇓*i*P			**Pg**	**21 10 07.7**	**-0.3**
	baz=348								
TWE				*i* S			**Sg**	**21 10 14.1**	**-0.4**
	baz=348								
WHF	**Hehuan Shan**	**0.48**	**258**	⇑*i*P			**Pg**	**21 10 08.0**	**-0.1**
	baz=254								
WHF				*i* S			**Sg**	**21 10 15.0**	**+0.1**
	baz=254								
ILA	**Ilan**	**0.52**	**356**	*i* P			**Pg**	**21 10 08.6**	**0.0**
	baz=353								
ILA				S			**Sg**	**21 10 15.9**	**+0.3**
	baz=353								
ESL	**Shilin**	**0.54**	**217**	P			**Pb**	**21 10 09.0**	**-0.2**
	baz=219								
ESL				*e*S			**Sb**	**21 10 17.1**	**+0.4**
	baz=219								
TWT	**Tachien**	**0.56**	**271**	P			**Pb**	**21 10 09.7**	**+0.1**
	baz=267								
TWT				S			**Sb**	**21 10 17.0**	**-0.3**
	baz=267								
NSK	**Sanguang**	**0.58**	**318**	⇓*i*P			**Pg**	**21 10 09.2**	**-0.6**
	baz=315								
NSK				*i* S			**Sg**	**21 10 16.7**	**-0.8**
	baz=315								
TEGC	**Jichi Village**	**0.58**	**203**	*e*P			**Pn**	**21 10 10.9**	**-0.8**
	baz=191								
EGS		**0.61**	**13**	P			**Pg**	**21 10 10.1**	**-0.2**
	baz=17								
EGS				*e*S			**Sg**	**21 10 18.2**	**

JKRS	**Kuro-shima**	**2.03**	**90**	*eS*		**Sn**	**21 10 57.6**	**+1.0**
EAST	**Anshuo**	**2.04**	**205**	*eP*		**Pb**	**21 10 33.7**	**-1.2**
	baz=194							
JIJ	**Ishigaki jima**	**2.16**	**86**	P		**Pn**	**21 10 33.1**	**-0.3**
JIJ				*eS*		**Sn**	**21 11 01.0**	**+1.3**

*CSEM **22** 21:10:07.8, 11.93N×43.48E, h6km, ML3.6, After DHMR*
DHMR 22 21:10:07.8±1.0, 11.93N×43.48E, h7km±6km, ML3.6, 1C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**1.43**	**26**	⇑*iP*	Pn	21 10 34.5	-0.1
TRBA				*iS*	Sg	21 10 55.2	+0.7
TRBA				AML	AML	21 10 55.9	
	comp=N,1μm,0.2s						
UDYN	**Al 'Udayn**	**2.08**	**13**	*iP*	Pn	21 10 44.2	+0.8
UDYN				*iS*	Sb	21 11 13.3	+1.0
UDYN				AML	AML	21 11 24.7	
	comp=E,425nm,0.5s						
UDYN	**Al 'Udayn**	**2.08**	**13**	*iP*	Pn	21 10 44.2	+0.8
UDYN				*iS*	Sb	21 11 13.4	+1.0
	comp=E,213nm,0.5s						
LBOS		**2.59**	**42**	*iP*	Pn	21 10 52.3	+1.8
LBOS				*iS*	Sb	21 11 28.0	+0.7
BDHA	**Al Bayda'**	**2.88**	**45**	*iP*	Pb	21 10 57.7	-2.1
BDHA				*iS*	Sb	21 11 35.4	-0.1
BDHA				AML	AML	21 11 46.6	
	comp=E,368nm,0.4s						
BDHA	**Al Bayda'**	**2.88**	**45**	*iP*	Pb	21 10 57.7	-2.1
BDHA				*iS*	Sb	21 11 35.3	-0.2
	comp=E,184nm,0.4s						
HAJJ	**Hajjah**	**3.75**	**2**	*iP*	Pn	21 11 08.9	+2.5
HAJJ				*iS*	Sb	21 11 56.4	-4.1
HAJJ				AML	AML	21 12 12.2	
	comp=Z,233nm,0.6s						
HAJJ	**Hajjah**	**3.75**	**2**	*iP*	Pn	21 11 08.9	+2.5
HAJJ				*iS*	Sb	21 11 56.4	-4.1
	comp=Z,117nm,0.6s						

DJA 22 21:30:25.6±0.5, 2°S±5', 10°1E±°, h12km, M3.5/6, MLv3.5/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**1.78**	**330**	P	Pb	21 30 57.4	-0.8
PPI	**Padang Panjang**	**2.21**	**335**	P	Pb	21 31 04.2	-1.3
LHSI	**Lahat**	**2.56**	**122**	P	Pn	21 31 07.1	+0.1
MDSI	**Maura Dua**	**3.47**	**125**	P	Pn	21 31 20.3	+0.8
LWLI	**Liwa**	**3.71**	**133**	P	Pb	21 31 29.1	-2.2
TPRI	**Tanjung Pinang**	**4.63**	**43**	P	Pn	21 31 34.6	-0.9
KGM	**Kluang**	**4.88**	**24**	P	Pn	21 31 36.8	-2.0
MYKOM	**Kota Tinggi**	**4.92**	**31**	P	Pn	21 31 36.5	-2.9
MYKOM	**Kota Tinggi**	**4.92**	**31**	P	Pn	21 31 36.5	-2.9
MYKOM	**Kota Tinggi**	**4.92**	**31**	P	Pn	21 31 37.0	-2.4
FRIM	**Kepong**	**5.68**	**3**	P	Pn	21 31 49.2	-0.6
IPM	**Ipoh**	**6.91**	**357**	P	Pn	21 32 11.9	+5.1
KULM	**Kulim**	**7.74**	**355**	P	Pn	21 32 18.2	0.0
KTGM	**Kuala Trenggan**	**7.95**	**13**	P	Pn	21 32 20.9	-0.2
SJI	**Sawahan**	**11.62**	**117**	P	Pn	21 33 06.2	-5.4
BTM	**Bintulu**	**13.02**	**64**	P	P	21 33 40.6	-0.5

IDC 22 21:36:30.2±3.0, 20.58S×66.92W, h212km±22km, mb2.9/1, mb1 3.3/3, mb1mx3.0/18, mbtmpb3.1/3, Error ellipse: s-maj=55.6km s-min=23.2km az=53.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.42**	**345**	P	Pn	21 37 39.4	+0.8
	8.6nm,0.3s,baz=156,slow=10.0,SNR=134						
LPAZ				S	S	21 38 31.8	-0.2
	baz=53,slow=20,SNR=2.0						
CPUP	**Villa Florida**	**10.50**	**125**	P	Pn	21 38 55.7	0.0
	0.9nm,0.3s,baz=272,slow=10,SNR=3.7						
TORD	**Torodi Ar. Bea**	**75.30**	**70**	P	P	21 47 50.4	-0.1
	0.3nm,0.6s,baz=258,slow=5.8,SNR=9.1						
ASAR	**Alice Springs**	**131.56**	**206**	PKP	PKPdf	21 55 15.7	-2.7
	0.2nm,0.5s,baz=151,slow=2.1,SNR=3.3						
WRA	**Warramunga Arr**	**134.67**	**209**	PKP	PKPdf	21 55 24.2	0.0
	0.3nm,0.6s,baz=151,slow=1.8,SNR=3.1						
MKAR	**Makanchi Array**	**143.80**	**37**	PKP	PKPbc	21 55 39.1	+0.8
	0.2nm,0.4s,baz=332,slow=1.8,SNR=5.0						
SONM	**Songino Array**	**152.28**	**10**	PKPbc	PKPbc	21 56 01.7	+0.8
	0.2nm,0.3s,baz=5.7,slow=2.0,SNR=3.6						

WEL 22 21:39:58.6±0.3, 35.62S×178.06E, h171km±5km, ML3.9/5, 1D, Error ellipse: s-maj=7.8km s-min=3.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.95**	**174**	PN	Pn	21 40 35.0	+0.5
MXZ				SN	Sn	21 41 02.0	-0.4
MXZ				AML	AML	21 42 00.5	
PUZ	**Puketiti**	**2.46**	**176**	*e*PN	Pn	21 40 39.9	-0.4
PUZ				SN	Sn	21 41 11.7	-1.1
PUZ				AML	AML	21 41 28.5	
URZ	**Urewera**	**2.75**	**196**	PN	Pn	21 40 44.2	+0.5
URZ				SN	Sn	21 41 19.3	+0.4
URZ				AML	AML	21 41 22.9	
MWZ	**Matawai**	**2.75**	**189**	SN	Sn	21 41 19.1	+0.1
MWZ				AML	AML	21 41 29.7	
CNGZ	**Carnagh Statio**	**2.87**	**178**	*e*PN	Pn	21 40 45.0	-0.1
RIGZ	**Rimuhau**	**3.09**	**184**	*e*PN	Pn	21 40 48.4	+0.4
RIGZ				SN	Sn	21 41 25.4	-1.2
SNGZ	**Shannon Statio**	**3.21**	**190**	*e*PN	Pn	21 40 49.3	-0.1
SNGZ				SN	Sn	21 41 28.6	-0.6
RAHZ	**Arahi**	**3.38**	**193**	*e*PN	Pn	21 40 52.0	+0.4
RAHZ				SN	Sn	21 41 32.8	-0.2
KNZ	**Kokohu**	**3.41**	**185**	*e*PN	Pn	21 40 51.6	-0.2
WHHZ	**Waihua**	**3.52**	**191**	*e*PN	Pn	21 40 53.2	0.0
MHGZ	**Mahia Peninsul**	**3.53**	**182**	*e*PN	Pn	21 40 53.7	+0.3
NMHZ	**Naumai**	**3.62**	**196**	*e*PN	Pn	21 40 54.9	+0.3
BKZ	**Black Stump Fm**	**3.76**	**199**	*e*PN	Pn	21 40 56.4	0.0
BKZ				SN	Sn	21 41 40.3	-1.2
MCHZ	**McNeill Hill**	**3.97**	**195**	*e*PN	Pn	21 40 58.7	-0.3
CKHZ	**Cape Kidnapper**	**4.11**	**191**	SN	Sn	21 41 47.6	-1.9
FWVZ	**Far West T-bar**	**4.14**	**208**	PN	Pn	21 41 01.2	-0.3
WHVZ	**Whangaehu Hut**	**4.15**	**208**	*e*PN	Pn	21 41 01.7	0.0
BHHZ	**Black Hill Sta**	**4.18**	**202**	*e*PN	Pn	21 41 00.7	-1.1
WNVZ	**Wahianoa**	**4.19**	**207**	*e*PN	Pn	21 41 01.9	-0.1
MOVZ	**Moawhango**	**4.21**	**205**	PN	Pn	21 41 01.4	-0.7
KAHZ	**Kahuranaki**	**4.28**	**192**	*e*PN	Pn	21 41 02.2	-0.8
PXZ	**Pawanui**	**4.51**	**192**	PN	Pn	21 41 03.8	-2.1
PXZ				SN	Sn	21 41 54.7	-4.0
PNHZ	**Pukenui**	**4.54**	**198**	PN	Pn	21 41 04.6	-1.7
TSZ	**Takapari Road**	**4.74**	**200**	*e*PN	Pn	21 41 07.0	-1.9
DVHZ	**Dannevirke**	**4.91**	**197**	*e*PN	Pn	21 41 09.3	-1.9
POWZ	**Post Office Ro**	**5.10**	**200**	PN	Pn	21 41 12.6	-1.1
PRWZ	**Pori Road**	**5.20**	**198**	PN	Pn	21 41 12.7	-2.2
BFZ	**Birch Farm**	**5.25**	**195**	PN	Pn	21 41 13.5	-2.2
BFZ				SN	Sn	21 42 11.0	-5.2
MRZ	**Mangatainoka R**	**5.40**	**200**	PN	Pn	21 41 14.6	-3.0
MRZ				SN	Sn	21 42 13.9	-5.7
TIWZ	**Tintock**	**5.43**	**198**	*e*PN	Pn	21 41 15.2	-2.8
HOWZ	**Holdsworth Sta**	**5.64**	**200**	*e*PN	Pn	21 41 17.1	-3.6
OGWZ	**Otaki Gorge**	**5.67**	**203**	*e*PN	Pn	21 41 18.2	-2.9
TMWZ	**Te Maipa**	**5.74**	**197**	PN	Pn	21 41 18.6	-3.4
KIW	**Kapiti Island**	**5.79**	**204**	PN	Pn	21 41 19.7	-3.0
MTW	**Mount Morrison**	**5.89**	**199**	PN	Pn	21 41 20.6	-3.3
CAW	**Cannon Point**	**5.96**	**202**	PN	Pn	21 41 21.7	-3.3
TRWZ	**Traveller**	**6.07**	**197**	*e*PN	Pn	21 41 22.6	-3.7
PAWZ	**Paruwai Farm**	**6.12**	**199**	SN	Sn	21 42 29.7	-6.8
DUWZ	**D'Urville Isla**	**6.12**	**211**	*e*PN	Pn	21 41 24.0	-3.0
MSWZ	**Moikau Station**	**6.20**	**200**	*e*PN	Pn	21 41 24.0	-4.0
TCW	**Tory Channel**	**6.33**	**207**	PN	Pn	21 41 26.3	-3.4
PLWZ	**Palliser**	**6.34**	**199**	PN	Pn	21 41 26.0	-3.9
TUWZ	**Tuamarina**	**6.64**	**208**	PN	Pn	21 41 30.5	-3.4
NNZ	**Nelson**	**6.69**	**212**	SN	Sn	21 42 44.9	-5.2
THZ	**Tophouse**	**7.34**	**212**	PN	Pn	21 41 39.9	-3.3
KHZ	**Kahutara**	**7.65**	**206**	⇓PN	Pn	21 41 43.0	-4.1
DSZ	**Denniston Nort**	**7.83**	**217**	PN	Pn	21 41 47.3	-2.4
LTZ	**Lake Taylor**	**8.45**	**210**	PN	Pn	21 41 53.6	-4.2
MQZ	**McQueen's Vall**	**9.09**	**206**	PN	Pn	21 42 00.3	-5.9
MQZ				SN	Sn	21 43 35.4	-12
ODZ	**Otahua Downs**	**10.98**	**209**	PN	Pn	21 42 26.0	-4.9

IDC 22 21:49:47.6±7.7, 15.31S×172.86W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.5/20, mbtmpb3.7/2, Error ellipse: s-maj=358.6km s-min=25.1km az=140.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.75**	**37**	Pn	Pn	21 50 18.0	-1.3
	45nm,0.3s,baz=225,slow=10.0,SNR=23						
AFI				Sn	Sn	21 50 38.3	-4.1
	268nm,0.3s,baz=60,slow=20,SNR=17						
WRA	**Warramunga Arr**	**50.37**	**257**	P	P	21 58 46.0	-1.0
	0.3nm,0.5s,baz=92,slow=7.3,SNR=7.6						
ASAR	**Alice Springs**	**50.63**	**252**	P	P	21 58 48.4	-0.6
	1.4nm,0.8s,baz=87,slow=8.0,SNR=13						
BRTR	**Keskin Array B**	**146.41**	**322**	PKPbc	PKPab	22 09 32.4	+0.4
	0.7nm,0.8s,baz=79,slow=3.1,SNR=3.8						

MAN 22 21:56:47, 17.25N×120.04E, h33km, mb4.4, ML3.3, MS3.1, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABRA	**Dolores**	**0.76**	**58**	*eP*	Pb	21 57 02.0	+0.2
ABRA				*eS*	Sn	21 57 06.8	-5.0
SIPP	**Brgy, Tapao**	**0.78**	**31**	⇑*iP*	Pb	21 57 02.7	+0.4
APYP	**Conner**	**1.30**	**62**	*eP*	Pn	21 57 09.6	+0.7
CAUP	**Cauayan**	**1.73**	**100**	*eP*	Pb	21 57 18.8	+0.5
CVP	**Callao Caves**	**1.76**	**75**	*eP*	Pn	21 57 16.7	+1.5
BALP	**Baler**	**2.10**	**135**	*eP*	Pn	21 57 20.3	+0.4

*ISCJB **22** 22:32:29.8±0.1, 43.72N±0.01×105.33W±0.02, h0km, mb4.1/6, Error ellipse: s-maj=1.7km s-min=1.5km az=167.8*
*NEIC **22** 22:32:30.4±0.3, 43.74N×105.24W, h0km, ML3.4, Error ellipse: s-maj=4.3km s-min=3.8km az=132.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
*IDC **22** 22:32:30.3±0.8, 43.91N×105.63W, h0km, mb4.0/6, mb1 3.9/11, mb1mx3.7/30, mbtmpb3.8/11, ML3.0/4, Error ellipse: s-maj=23.9km s-min=8.1km az=147.0*
ISC 22 22:32:29.9±0.5, 43.73N±0.02×105.36W±0.02, h0km, n207, σ1§15/226, mb4.1/6, 75C-70D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I23A	**Meade Ranch, G**	**0.25**	**343**	P	**Pg**	**22 32 36.8**	**+2.2**
	baz=0.3,SNR=178						
J23A	**Dilts Ranch, B**	**0.35**	**203**	P	**Pg**	**22 32 38.0**	**+1.5**
	baz=0.4,SNR=1000						
J23A				⇑S	**Sg**	**22 32 41.9**	**+0.8**
	baz=0.4						
I24A	**Kuemmerle Ranc**	**0.55**	**76**	⇑P	**Pg**	**22 32 41.0**	**+0.6**
	baz=0.5,SNR=389						
I24A				⇑S	**Sg**	**22 32 47.7**	**+0.2**
	baz=0.5						
J24A	**Dixon Ranch, L**	**0.65**	**128**	P	**Pg**	**22 32 42.5**	**+0.3**
	baz=0.6,SNR=117						
J24A				⇑S	**Sg**	**22 32 51.2**	**+0.6**
	baz=0.6						
I22A	**9 Mile Ranch,**	**0.83**	**282**	⇓P	**Pb**	**22 32 47.2**	**-0.1**
	baz=0.9,SNR=836						
H23A	**Clabaugh Cattl**	**0.84**	**358**	P	**Pg**	**22 32 46.8**	**+0.9**
	baz=0.8,SNR=42						
H23A				⇑S	**Sb**	**22 32 59.3**	**0.0**
	baz=0.8						
J22A	**Midwest**	**0.87**	**249**	P	**Pg**	**22 32 47.4**	**+0.9**
	baz=1.0,SNR=312						
J22A				⇓S	**Sg**	**22 32 59.5**	**+1.7**
	baz=1.0						
K23A	**Bowen Ranch, D**	**0.99**	**191**	⇓P	**Pg**	**22 32 48.9**	**+0.1**
	baz=1.0,SNR=40						
K23A				⇑S	**Sg**	**22 33 02.2**	**+0.6**
	baz=1.0						
RSSD	**Black Hills**	**1.04**	**67**	*e*Pg	**Pg**	**22 32 49.5**	**-0.3**
K24A	**Anderson Ranch**	**1.08**	**158**	P	**Pg**	**22 32 50.5**	**0.0**
	baz=1.1,SNR=592						
H22A	**Clearmont**	**1.12**	**321**	⇓P	**Pb**	**22 32 52.2**	**0.0**
	baz=1.2,SNR=32						
H24A	**Dirks Ranch, A**	**1.18**	**29**	P	**Pg**	**22 32 52.2**	**-0.2**
	baz=1.1,SNR=244						
H24A				⇑S	**Sg**	**22 33 08.6**	**+1.0**
	baz=1.1						
J25A	**Sunshine Ranch**	**1.18**	**106**	⇓P	**Pg**	**22 32 52.1**	**-0.4**
	baz=1.1,SNR=421						
I25A	**Rochford**	**1.22**	**75**	P	**Pg**	**22 32 52.8**	**-0.4**
	baz=1.1,SNR=114						
K22A	**Casper**	**1.37**	**219**	P	**Pg**	**22 32 56.1**	**0.0**
	baz=1.4,SNR=358						
K22A				⇑S	**Sn**	**22 33 15.9**	**+0.6**
	baz=1.4						
I21A	**Big Trails, Te**	**1.40**	**274**	⇑P	**Pn**	**22 32 56.3**	**-0.6**
	baz=1.5,SNR=371						
I21A				⇓S	**Sn**	**22 33 16.6**	**+0.5**
	baz=1.5						
G23A	**Biddle**	**1.48**	**359**	⇑P	**Pn**	**22 32 57.8**	**0.0**
	baz=1.5,SNR=338						
G23A				⇑S	**Sn**	**22 33 19.0**	**+1.2**
	baz=1.5						
H21A	**Big Horn, Sher**	**1.51**	**307**	⇓P	**Pg**	**22 32 59.4**	**+0.6**
	baz=1.6,SNR=154						
H21A				⇑S	**Sn**	**22 33 20.3**	**+1.6**
	baz=1.6						
H25A	**Fruitdale**	**1.55**	**54**	⇑P	**Pn**	**22 32 59.0**	**+0.1**
	baz=1.5,SNR=24						
H25A				⇓S	**Sg**	**22 33 21.0**	**+1.2**
	baz=1.5						
K25A	**Mack Ranch, Ha**	**1.56**	**135**	⇓P	**Pn**	**22 32 59.5**	**+0.6**
	baz=1.5,SNR=42						
K25A				⇑S	**Sn**	**22 33 20.4**	**+0.4**
	baz=1.5						
J21A	**Lysite**	**1.56**	**257**	P	**Pn**	**22 32 59.4**	**+0.3**
	baz=1.6,SNR=160						
J21A				⇓S	**Sg**	**22 33 21.8**	**+1.7**
	baz=1.6						
L23A	**Garrett**	**1.63**	**189**	P	**Pn**	**22 33 00.1**	**+0.1**
	baz=1.7,SNR=939						
G22A	**Birney**	**1.64**	**336**	⇑P	**Pn**	**22 33 00.7**	**+0.7**
	baz=1.7,SNR=113						
L24A	**Wheatland**	**1.71**	**169**	⇓P	**Pn**	**22 33 01.6**	**+0.5**
	baz=1.7,SNR=14						
L24A				⇓S	**Sn**	**22 33 24.6**	**+0.9**
	baz=1.7						
G24A	**Alzada**	**1.74**	**23**	⇑P	**Pb**	**22 33 02.4**	**-0.3**
	baz=1.7,SNR=5.7						
G24A				⇓S	**Sg**	**22 33 25.8**	**+0.1**
	baz=1.7						
K21A	**Alcova**	**1.76**	**232**	P	**Pb**	**22 33 03.1**	**-0.1**
	baz=1.8,SNR=1000						
K21A				⇑S	**Sb**	**22 33 26.6**	**+0.7**
	baz=1.8						
I26A	**New Underwood**	**1.83**	**80**	P	**Pn**	**22 33 03.8**	**+1.0**
	baz=1.7,SNR=30						
L22A	**Ellis Ranch, M**	**1.87**	**205**	⇑P	**Pn**	**22 33 04.3**	**+1.0**
	baz=1.9,SNR=283						
L25A	**Engebretsen Ra**	**1.88**	**146**	⇑P	**Pb**	**22 33 04.8**	**-0.3**
	baz=1.8,SNR=175						
L25A				⇑Sb	**Sg**	**22 33 30.4**	**+0.3**
	baz=1.8						
K26A	**Motz Farm, Whi**	**1.90**	**122**	⇑P	**Pn**	**22 33 04.2**	**+0.6**
	baz=1.8,SNR=50						
F23A	**Volborg**	**2.00**	**359**	P	**Pn**	**22 33 06.1**	**+1.1**
	baz=2.0,SNR=122						
G21A	**Lodge Grass**	**2.00**	**319**	⇓P	**Pn**	**22 33 06.3**	**+1.3**
	baz=2.0,SNR=71						
I20A	**Worland**	**2.01**	**277**	⇓P	**Pb**	**22 33 07.0**	**-0.5**
	baz=2.1,SNR=502						
J20A	**Shoshoni**	**2.01**	**260**	⇓Pb	**Pb**	**22 33 08.0**	**+0.5**
	baz=2.1						
G25A	**Newell**	**2.02**	**43**	⇓P	**Pn**	**22 33 06.5**	**+1.1**
	baz=1.9,SNR=58						
H20A	**Greybull**	**2.05**	**293**	⇑P	**Pn**	**22 33 06.8**	**+1.1**
	baz=2.1,SNR=51						
H26A	**Fairpoint**	**2.06**	**64**	⇓P	**Pb**	**22 33 07.5**	**-0.8**
	baz=2.0						
F22A	**Rosebud**	**2.15**	**343**	P	**Pn**	**22 33 07.7**	**+0.6**
	baz=2.2,SNR=124						
F22A				⇑S	**Sb**	**22 33 37.0**	**0.0**
	baz=2.2						
M24A	**Cheyenne**	**2.29**	**170**	⇓P	**Pn**	**22 33 10.8**	**+1.7**
	baz=2.3,SNR=97						
M24A				⇓Sb	**Sb**	**22 33 43.1**	**+2.0**
	baz=2.3						
L26A	**Underwood Farm**	**2.38**	**134**	⇑P	**Pn**	**22 33 11.7**	**+1.4**
	baz=2.3						
G27A	**Dupree**	**2.40**	**46**	⇓P	**Pg**	**22 33 19.0**	**+3.2**
	baz=2.9,SNR=9.6						
I27A	**Quinn**	**2.42**	**81**	⇑P	**Pn**	**22 33 12.1**	**+1.4**
	baz=2.3,SNR=64						
F21A	**Absaloka Mine,**	**2.44**	**330**	⇓P	**Pn**	**22 33 11.4**	**+0.3**
	baz=2.5						
M25A	**Palm-Egli Farm**	**2.48**	**157**	⇑P	**Pn**	**22 33 13.4**	**+1.6**
	baz=2.5						
J27A	**Elkhorn Farm,**	**2.49**	**100**	⇓P	**Pn**	**22 33 13.7**	**+2.0**
	baz=2.4						
K27A	**Flueckinger Fa**	**2.50**	**113**	⇓P	**Pn**	**22 33 13.4**	**+1.5**
	baz=2.4						
G26A	**Maurine**	**2.52**	**51**	⇑P	**Pn**	**22 33 13.9**	**+1.7**
	baz=2.4						
G20A	**Bridger**	**2.53**	**307**	P	**Pn**	**22 33 13.2**	**+0.8**
	baz=2.6,SNR=197						
F25A	**Bowman**	**2.58**	**31**	⇑P	**Pn**	**22 33 14.8**	**+1.8**
	baz=2.5						
I19A	**Meeteetse**	**2.64**	**278**	⇓P	**Pn**	**22 33 15.4**	**+1.4**
	baz=2.7,SNR=75						
J19A	**Crowheart**	**2.73**	**262**	⇓P	**Pb**	**22 33 17.9**	**-1.7**
	baz=2.8						
E22A	**Miles City**	**2.75**	**352**	P	**Pn**	**22 33 15.7**	**+0.5**
	baz=2.7,SNR=17						
E23A	**Ismay**	**2.77**	**1**	P	**Pn**	**22 33 16.6**	**+1.0**
	baz=2.8,SNR=22						
H19A	**Powell**	**2.77**	**291**	⇓P	**Pn**	**22 33 17.1**	**+1.4**
	baz=2.8,SNR=21						
M26A	**McRoberts Ranc**	**2.79**	**143**	⇑P	**Pn**	**22 33 16.2**	**+0.3**
	baz=2.8						
N23A	**Red Feather La**	**2.86**	**189**	⇓P	**Pn**	**22 33 18.8**	**+1.8**
	baz=2.9,SNR=68						
F20A	**Billings**	**2.87**	**317**	P	**Pn**	**22 33 17.8**	**+0.8**
	baz=2.9,SNR=15						
N24A	**Carr**	**2.92**	**173**	⇑P	**Pn**	**22 33 18.8**	**+1.0**
	baz=2.9						
E24A	**Baker**	**2.93**	**14**	⇑P	**Pn**	**22 33 18.9**	**+1.1**
	baz=2.9,SNR=23						
J28A	**Allard Ranch,**	**3.01**	**94**	⇑P	**Pn**	**22 33 20.4**	**+1.5**
	baz=2.9						
LAO	**LASA Array**	**3.02**	**349**	*e*Pn	**Pn**	**22 33 19.2**	**+0.1**
LAO				*e*Sn	**Sn**	**22 33 56.6**	**+0.6**
N22A	**Wattenberg Ran**	**3.03**	**196**	⇑P	**Pn**	**22 33 20.8**	**+1.4**
	baz=3.1						
I28A	**Midland**	**3.04**	**83**	⇓P	**Pn**	**22 33 21.1**	**+1.8**
	baz=2.9						
N25A	**Grover**	**3.06**	**162**	⇓Pb	**Pb**	**22 33 25.4**	**+0.1**
	baz=3.1						
E21A	**Keefer Ranch,**	**3.06**	**337**	⇑P	**Pn**	**22 33 19.7**	**+0.1**
	baz=3.1						
E25A	**Miller Ranch,**	**3.10**	**26**	⇑Pb	**Pb**	**22 33 26.2**	**+0.3**
	baz=3.0						
M27A	**Reverse DX Ran**	**3.10**	**134**	⇓P	**Pn**	**22 33 20.8**	**+0.6**
	baz=3.1						
RLMT	**Red Lodge**	**3.13**	**298**	*e*Pn	**Pn**	**22 33 22.1**	**+1.5**
RLMT				*e*Sn	**Sn**	**22 34 00.3**	**+1.5**
F27A	**Lemmon**	**3.20**	**47**	⇓P	**Pn**	**22 33 21.6**	**+0.1**
	baz=3.1						
BW06	**Boulder Array**	**3.21**	**254**	*e*Pn	**Pn**	**22 33 23.2**	**+1.4**
BW06				*e*Sn	**Sb**	**22 34 05.5**	**-2.2**
PDAR	**Pinedale Array**	**3.21**	**254**	Pn	**Pn**	**22 33 23.5**	**+1.7**
PDAR				Lg	Lg	22 34 07.0	
PDAR	**Pinedale Array**	**3.21**	**254**	Pn	**Pn**	**22 33 23.5**	**+1.7**
	8.8nm,0.3s,baz=73,slow=16,SNR=119						
PDAR				Lg	Lg	22 34 07.0	
	11nm,0.3s,baz=75,slow=29,SNR=5.9						
H18A	**Shoshone NF, C**	**3.24**	**289**	⇓P	**Pn**	**22 33 23.0**	**+0.8**
	baz=3.3,SNR=15						
H28A	**Mission Ridge**	**3.26**	**72**	⇑P	**Pn**	**22 33 22.7**	**+0.4**
	baz=3.2						
N26A	**Koester Ranch,**	**3.30**	**151**	⇓P	**Pn**	**22 33 24.1**	**+1.2**
	baz=3.3,SNR=12						
F19A	**Roth Farm, Mol**	**3.32**	**311**	⇑P	**Pn**	**22 33 24.7**	**+1.5**
	baz=3.4,SNR=49						
E20A	**Meyer Farm, Mu**	**3.40**	**326**	⇑P	**Pn**	**22 33 24.3**	**0.0**
	baz=3.4,SNR=9.8						
E26A	**Carlson Angus**	**3.43**	**36**	⇑P	**Pn**	**22 33 25.5**	**+0.9**
	baz=3.4						
D23A	**Lindsay**	**3.45**	**2**	⇓P	**Pn**	**22 33 26.2**	**+1.3**
	baz=3.4,SNR=26						
G28A	**Parade**	**3.46**	**66**	⇑P	**Pn**	**22 33 25.8**	**+0.8**
	baz=3.4						
D24A	**Glendive**	**3.47**	**12**	⇑P	**Pn**	**22 33 26.6**	**+1.4**
	baz=3.4,SNR=9.0						
D22A	**Cohagen**	**3.47**	**351**	⇓P	**Pn**	**22 33 26.2**	**+0.9**
	baz=3.5,SNR=6.6						
D21A	**La Casta Ranch**	**3.53**	**342**	⇓P	**Pn**	**22 33 26.9**	**+0.8**
	baz=3.5						
O23A	**Lake Granby, G**	**3.54**	**187**	⇑P	**Pn**	**22 33 28.4**	**+2.1**
	baz=3.6						
N27A	**Anderson Farm,**	**3.59**	**143**	⇓P	**Pn**	**22 33 27.7**	**+0.8**
	baz=3.6,SNR=26						
N20A	**Spence Gulch,**	**3.60**	**218**	⇓P	**Pn**	**22 33 28.6**	**+1.4**
	baz=3.7						
O24A	**Longmont**	**3.61**	**176**

P27A	**Ficken Ranch,** baz=4.6,SNR=15	4.66	152	⇓P		Pn	22 33 42.3 +0.8
C26A	**Wahner Farm, P** baz=4.6	4.69	28	⇑P		Pn	22 33 43.6 +1.6
B23A	**Brockton** baz=4.7,SNR=24	4.75	3	⇓P		Pn	22 33 44.4 +1.7
C19A	**Slack Wire Ran** baz=4.8,SNR=12	4.77	329	⇑P		Pn	22 33 44.0 +1.0
DGMT	**Dagmar**	4.81	9	*e*Pn		Pn	22 33 45.2 +1.5
DGMT	**Dagmar** baz=4.8,SNR=6.7	4.81	9	⇑P		Pn	22 33 45.0 +1.3
BOZ	**Bozeman (W)**	4.86	295	*e*Pn		Pn	22 33 44.5 0.0
Q25A	**Bedland, Calha** baz=4.9,SNR=6.9	4.88	170	⇑P		Pn	22 33 45.3 +0.6
P28A	**Saint Francis** baz=4.9,SNR=20	4.95	146	⇑P		Pn	22 33 46.0 +0.4
Q26A	**Hugo** baz=5.0	4.99	163	⇓P		Pn	22 33 47.0 +0.7
B20A	**Solberg Farm,** baz=5.1,SNR=6.3	5.06	340	⇓P		Pn	22 33 48.2 +1.1
KSCO	**Kaye Shedlock'**	5.14	155	*e*Pn		Pn	22 33 48.7 +0.5
KSCO	**Kaye Shedlock'** baz=5.1	5.14	155	⇑P		Pn	22 33 48.5 +0.3
Q20A	**Ridgley Place,** baz=5.3	5.25	206	⇑P		Pn	22 33 51.6 +1.8
EGMT	**Eagleton** 35nn,0.5s	5.28	326	*e*Pn		Pn	22 33 50.9 +0.8
A22A	**Carney Farms,** baz=5.3	5.28	356	⇑P		Pn	22 33 50.6 +0.6
O30A	**MW Ranch, Wils** baz=5.2	5.31	130	⇓P		Pn	22 33 51.4 +1.0
E30A	**Jud** baz=5.2	5.34	56	⇓P		Pn	22 33 51.1 +0.2
Q28A	**Sharon Springs** baz=5.3	5.36	149	⇓P		Pn	22 33 51.4 +0.2
A21A	**Bergtoll Ranch** baz=5.4	5.38	349	⇑P		Pn	22 33 52.1 +0.7
A25A	**Svangstu Ranch** baz=5.4	5.44	16	⇑P		Pn	22 33 53.4 +1.2
HRY	**Holter Researc** 23nn,0.5s	5.46	305	*e*Pn		Pn	22 33 53.8 +1.2
MCMT	**McKenzie Canyo** 2.1nn,0.5s	5.49	284	*e*Pn		Pn	22 33 57.4 +4.3
R24A	**Sanders Place,** baz=5.5	5.49	178	⇑P		Pn	22 33 54.5 +1.4
DAU	**Daniels Canyon** 14nn,0.4s	5.50	235	*e*Pn		Pn	22 33 55.5 +2.3
JLU	**Jordanelle** 12nn,0.5s	5.50	237	*e*Pn		Pn	22 33 54.5 +1.2
R26A	**Arlington** baz=5.6,SNR=51	5.61	164	⇑P		Pn	22 33 55.3 +0.6
R25A	**Fountain Ranch** baz=5.6,SNR=7.7	5.63	171	⇓P		Pn	22 33 55.5 +0.5
P30A	**Selden** baz=5.6	5.67	136	⇑P		Pn	22 33 55.7 +0.3
SPUT	**South Promonto** 13nn,0.7s	5.77	248	*e*Pn		Pn	22 33 58.8 +1.9
R27A	**Eads** baz=5.8	5.77	159	⇑P		Pn	22 33 57.8 +0.9
HVU	**Hansel Valley** 12nn,0.8s	5.79	253	*e*Pn		Pn	22 33 58.8 +1.6
Q29A	**Oakley** baz=5.8	5.85	144	⇑P		Pn	22 33 57.6 -0.3
SDCO	**Great Sand Dun** 4.2nn,0.6s	5.97	181	*e*Pn		Pn	22 34 01.6 +1.8
R28A	**Tribune** baz=6.0,SNR=16	6.01	152	⇓P		Pn	22 34 00.2 +0.1
SRU	**San Rafael** 16nn,0.5s	6.03	222	*e*Pn		Pn	22 34 01.3 +0.9
PV01	**Paradox Valley** 817nn,0.6s	6.09	205	*e*Pn		Pn	22 34 03.1 +1.8
S25A	**Robets Cordova** baz=6.1,SNR=11	6.10	173	⇓P		Pn	22 34 01.8 +0.4
TMUT	**Trail Mountain** 18nn,0.5s	6.23	227	*e*Pn		Pn	22 34 05.4 +2.1
S26A	**Kim** baz=6.3,SNR=15	6.26	166	⇑P		Pn	22 34 04.1 +0.4
BGU	**Big Grassy Mou** 5.1nn,0.8s	6.33	246	*e*Pn		Pn	22 34 05.3 +0.7
ECSD	**EROS Data Cent** 11nn,0.4s	6.34	87	*e*Pn		Pn	22 34 04.1 -0.4
CHMT	**Chamberlain Mo** 3.4nn,0.5s	6.41	303	*e*Pn		Pn	22 34 06.9 +1.2
Q16A	**Castle Valley**	6.49	224	*e*Pn		Pn	22 34 08.1 +1.2
Q16A	**Castle Valley** baz=6.6	6.49	224	⇑P		Pn	22 34 08.0 +1.2
HLID	**Hailey** 3.5nn,0.7s	6.57	272	*e*Pn		Pn	22 34 09.7 +1.8
DUG	**Dugway** 6.4nn,0.4s	6.58	240	*e*Pn		Pn	22 34 09.2 +1.3
DUG	**Dugway** baz=6.6	6.58	240	⇑P		Pn	22 34 09.4 +1.4
S28A	**Manter** baz=6.7	6.67	156	⇓P		Pn	22 34 09.4 +0.2
MSO	**Missoula** baz=6.8	6.80	300	⇓P		Pn	22 34 11.4 +0.4
S29A	**Ulysses** baz=6.9	6.90	151	⇓P		Pn	22 34 12.3 0.0
T27A	**Campo** baz=7.0	6.96	162	⇓P		Pn	22 34 13.2 +0.1
R31A	**Burdett** baz=6.9	7.00	139	⇓P		Pn	22 34 12.9 -0.7
T28A	**Walsh** baz=7.0	7.05	158	⇓P		Pn	22 34 14.4 +0.1
SWMT	**Swartz Lake** 3.6nn,0.5s	7.14	305	*e*Pn		Pn	22 34 16.8 +1.2
U25A	**Circle Dot Ran** baz=7.4	7.35	174	⇑P		Pn	22 34 19.1 +0.4
ELK	**Elko**	7.91	251	Pn		Pn	22 34 28.2 +1.9
ELK	**Elko** 0.3nn,0.3s,baz=41,slow=9.1,SNR=6.3	7.91	251	Pn		Pn	22 34 28.2 +1.9
ULM	**Lac du Bonnet** 3.7nn,0.4s	9.19	41	*e*Pn		Pn	22 34 42.1 -1.6
ULM					Lg	Lg	22 37 14.8
ULM	**Lac du Bonnet** 0.7nn,0.3s,baz=232,slow=14,SNR=6.6	9.19	41	Pn		Pn	22 34 42.3 -1.3
ULM	0.6nn,0.3s,baz=135,slow=22,SNR=2.9				Lg	Lg	22 37 14.8
NEW	**Newport** baz=252,slow=20,SNR=1.9	9.36	303	Lg		Lg	22 37 22.7
WUAZ	**Wupatki** 7.4nn,0.6s	9.41	211	*e*Pn		Pn	22 34 47.7 +0.8
NVAR	**Mina Array Bea**	11.11	246	Pn		Pn	22 35 10.6 +0.5
NVAR	**Mina Array Bea** 0.2nn,0.3s,baz=52,slow=11,SNR=4.4	11.11	246	Pn		Pn	22 35 10.6 +0.5
TUC	**Tucson** 2.8nn,0.5s	12.17	202	*e*Pn		Pn	22 35 24.8 +0.2
YBH	**Yreka Blue Hor**	12.91	267	Pn		Pn	22 35 40.3 +5.6
YBH	**Yreka Blue Hor** 0.2nn,0.3s,baz=83,slow=6.8,SNR=4.9	12.91	267	Pn		Pn	22 35 40.3 +5.6
TXAR	**Lajitas Array**	14.43	174	Pn		**P**	22 36 00.2 -2.3
TXAR	**Lajitas Array** 0.0nn,0.3s,baz=0.6,slow=9.4,SNR=5.7	14.43	174	Pn		**P**	22 36 00.2 -2.3
ARCES	**ARCESS Array B**	61.45	18	P		**P**	22 42 46.9 -0.6
ARCES	**ARCESS Array B** 2.8nn,0.9s,baz=332,slow=7.1,SNR=8.5	61.45	18	P		**P**	22 42 46.9 -0.6
FINES	**FINESS Array B**	68.07	23	P		**P**	22 43 30.5 -0.3
FINES	**FINESS Array B** 2.0nn,1.0s,baz=316,slow=7.8,SNR=4.4	68.07	23	P		**P**	22 43 30.5 -0.3
AKASG	**Malin Array Be**	78.00	28	P		**P**	22 44 29.1 -0.7
AKASG	**Malin Array Be** 0.4nn,0.4s,baz=342,slow=6.8,SNR=4.5	78.00	28	P		**P**	22 44 29.1 -0.7
ZALV	**Zalesovo Beam**	82.31	354	P		**P**	22 44 52.2 -0.8
ZALV	**Zalesovo Beam** 1.2nn,0.5s,baz=348,slow=5.6,SNR=5.4	82.31	354	P		**P**	22 44 52.2 -0.8
SONM	**Songino Array**	84.63	339	P		**P**	22 45 05.3 +0.1
SONM	**Songino Array** 0.4nn,0.6s,baz=356,slow=3.5,SNR=4.1	84.63	339	P		**P**	22 45 05.3 +0.1
MKAR	**Makanchi Array**	89.61	355	P		**P**	22 45 29.1 -0.2
MKAR	**Makanchi Array** 0.6nn,0.7s,baz=15,slow=5.0,SNR=5.6	89.61	355	P		**P**	22 45 29.1 -0.2

*ISCJB **22** 22:38:51.4±0.4, 61°.68S±0°.05×55°.5W±0°.1, h10km, mb4.4/23, MS3.8/11, Error ellipse: s-maj=10.3km s-min=6.5km az=154.4*
*IDC **22** 22:38:51.7±0.6, 61°.71S×55°.29W, h0km, mb4.2/14, mb1 4.3/16, mb1mx4.2/20, mbtmp4.2/16, ML3.5/2, MS3.9/11, Ms1 3.9/11, ms1mx3.7/24, Error ellipse: s-maj=23.6km s-min=13.1km az=79.0*
*NEIC **22** 22:38:54.5±0.3, 61°.70S×55°.42W, mb4.5/10, Error ellipse: s-maj=11.8km s-min=6.7km az=80.0*
ISC 22 22:38:53.0±0.4, **61°.76S**±0°.05×**55°.40W**±0°.06, **h10**km, **n75,** σ1s17/67, **mb4.4**/23, **MS3.9**/11, **1D, South Shetland Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	4.94	228	*e*Pn	**Pn**		22 40 07.0	-0.1
PMSA				Sn	**Sb**		22 41 17.4	-1.4
PMSA	**Palmer Station** 0.4nn,0.3s,baz=274,slow=11,SNR=9.2	4.94	228	Pn	**Pn**		22 40 06.7	-0.4
PMSA	3.1nn,0.3s,baz=34,slow=13,SNR=3.5			Sn	**Sb**		22 41 17.4	-1.4
USHA	**Ushuaia**	9.74	310	Pn	**Pn**		22 41 13.7	+0.7
USHA				Sn	**Sn**		22 43 03.6	+1.2
USHA	**Ushuaia** 0.2nn,0.3s,baz=199,slow=8.2,SNR=2.8	9.74	310	Pn	**Pn**		22 41 13.7	+0.7
USHA	0.4nn,0.3s,baz=75,slow=20,SNR=3.4			Sn	**Sn**		22 43 03.6	+1.2
USHA	comp=Z,1μm,18.7s,baz=194,slow=34			LR	LR		22 44 21.7	
EFI	**East Falkland**	10.21	351	*e*Pn	**Pn**		22 41 17.4	-2.0
VNA1	**Neumayer--Stat**	20.42	136	*e*P	Pn		22 43 41.2	+9.4
VNA2	**Neumayer--Watz** baz=258,slow=12	20.72	136	*e*P	Pn		22 43 35.2	-0.2
VNA2	**Neumayer--Watz** baz=258,slow=12	20.72	136	*e*I	Px		22 43 42.5	
SNAA	**Sanae**	22.19	138	*e*P	**P**		22 43 49.4	+0.4
SNAA	**Sanae** 57nn,1.4s	22.19	138	*e*Pn	**P**		22 43 49.3	+0.4
SNAA	**Sanae** 6.2nn,0.9s,baz=276,slow=8.3,SNR=32	22.19	138	P	**P**		22 43 49.3	+0.4
SNAA	comp=Z,127nm,20.9s,baz=105,slow=32			LR	LR		22 50 47.2	
TRQA	**Tornquist** 19nn,0.8s	24.07	347	*e*P	**P**		22 44 07.5	-0.7
QSPA	**South Pole Qui** 5.6nn,0.7s	28.47	180	*e*P	**P**		22 44 48.5	+0.6
QSPA				PcP	**PcP**		22 48 00.1	+0.8
QSPA	**South Pole Qui** 3.9nn,0.6s	28.47	180	P	**P**		22 44 48.7	+0.7
QSPA				PcP	**PcP**		22 48 00.1	+0.8
CFAA	**Coronel Fontan**	31.30	339	P	**P**		22 45 12.8	-0.3
CFAA	**Coronel Fontan** 0.3nn,0.5s,baz=180,slow=11,SNR=6.0	31.30	339	P	**P**		22 45 12.8	-0.3
CFAA	comp=Z,16nm,19.3s,baz=43,slow=38			LR	LR		22 58 27.0	
LCO	**Las Campanas**	34.28	336	*e*P	**P**		22 45 36.8	-2.6
CPUP	**Villa Florida** 17nn,0.6s	35.44	357	*e*P	**P**		22 45 49.0	0.0
CPUP				*e*pP	**pP**		22 45 56.1	+4.0
CPUP	**Villa Florida** 5.8nn,0.7s,baz=164,slow=7.0,SNR=12	35.44	357	P	**P**		22 45 49.5	+0.4
SYO	**Syowa Base**	36.33	143	*e*P	P		22 46 07.2	+11
SBA	**Scott Base** 3.6nn,0.9s	38.28	193	*e*P	**P**		22 46 13.6	+0.8
SPB	**Sao Paulo** 8.6nn,0.6s	38.53	12	*e*P	**P**		22 46 15.0	-0.4
VNDA	**Vanda**	39.09	192	P	**P**		22 46 21.7	+2.1
VNDA	**Vanda** 0.4nn,0.5s,baz=144,slow=6.2,SNR=4.5	39.09	192	P	**P**		22 46 21.7	+2.1
VNDA	comp=Z,139nm,18.1s,baz=158,slow=37			LR	LR		23 02 52.2	
MAW	**Mawson** 0.9nn,0.8s	43.44	151	*e*P	**P**		22 46 56.8	+1.5
MAW	**Mawson** 4.6nn,0.9s,baz=211,slow=7.4,SNR=12	43.44	151	P	**P**		22 46 57.3	+2.0
MAW	comp=Z,330nm,21.9s,baz=217,slow=35			LR	LR		23 04 22.4	
SIV	**San Ignacio**	45.88	352	P	**P**		22 47 15.8	+0.4
SIV	**San Ignacio** 4.2nn,0.8s,baz=180,slow=8.9,SNR=9.7	45.88	352	P	**P**		22 47 15.8	+0.4
SIV	comp=Z,128nm,19.8s,slow=37			LR	LR		23 06 55.0	
LPAZ	**La Paz** 3.4nn,0.7s	46.31	343	*e*P	**P**		22 47 18.9	-0.5
LPAZ	**La Paz** 1.9nn,0.7s,baz=173,slow=9.3,SNR=7.4	46.31	343	P	**P**		22 47 19.4	0.0
LPAZ	comp=Z,129nm,19.4s,baz=197,slow=38			LR	LR		23 07 47.2	
BDFB	**Brasilia**	46.35	10	P	**P**		22 47 19.8	+0.6
BDFB	**Brasilia** 4.8nn,0.5s,baz=175,slow=4.0,SNR=12	46.35	10	P	**P**		22 47 19.8	+0.6
SAML	**Samuel** 2.6nn,0.6s	53.02	350	*e*P	**P**		22 48 09.9	+0.1
SAML				*e*pP	**pP**		22 48 15.8	+2.8
BOSA	**Boshof**	60.86	97	P	**P**		22 49 06.1	+0.7
BOSA	**Boshof** 4.6nn,0.9s,baz=190,slow=3.7,SNR=5.3	60.86	97	P	**P**		22 49 06.1	+0.7
BOSA	comp=Z,96nm,20.6s,baz=43,slow=29			LR	LR		23 08 30.2	
OTAV	**Otavalo** 37nn,1.4s	64.27	334	*e*P	**P**		22 49 28.2	-0.5
ROSC	**El Rosal** comp=Z,58nn,18.1s,baz=184,slow=38	68.01	340	LR	LR		23 21 39.5	
LIC	**Lamto** 21nn,1.0s	78.06	52	*e*P	**P**		22 50 51.5	-0.1
KIC	**Kosan Boka** 39nn,1.3s	78.29	52	*e*P	**P**		22 50 53.0	+0.1
TIC	**Toumodi** 3.9nn,0.2s	78.45	51	*e*P	**P**		22 50 53.9	+0.1
DBIC	**Dimbokro**	78.53	51	*e*P	**P**		22 50 53.5	-0.7
DBIC	**Dimbokro** 1.6nn,0.7s,baz=218,slow=8.0,SNR=4.4	78.53	51	P	**P**		22 50 54.2	-0.1
APG	**El Apazote** comp=Z,45nm,21.1s,baz=42,slow=31	81.38	326	LR	LR		23 20 24.1	
STKA	**Stephens Creek**	85.69	194	P	**P**		22 51 30.1	-1.6
STKA	**Stephens Creek** 0.9nn,0.7s,baz=146,slow=7.3,SNR=3.0	85.69	194	P	**P**		22 51 30.1	-1.6
TORD	**Torodi Ar. Bea**	86.96	55	P	**P**		22 51 37.5	-0.5
TORD	**Torodi Ar. Bea** 1.8nn,0.8s,baz=220,slow=4.3,SNR=11	86.96	55	P	**P**		22 51 37.5	-0.5
ASAR	**Alice Springs**	94.55	189	P	**P**		22 52 13.6	-0.1
ASAR	**Alice Springs** 0.2nn,0.3s,baz=169,slow=4.8,SNR=4.0	94.55	189	P	**P**		22 52 13.6	-0.1
WRA	**Warramunga Arr**	98.21	189	P	**P**		22 52 29.2	-1.0
WRA	**Warramunga Arr** 0.4nn,0.6s,baz=180,slow=4.2,SNR=9.3	98.21	189	P	**P**		22 52 29.2	-1.0
WRA	comp=Z,76nm,18.8s,baz=160,slow=37			LR	LR		23 39 11.5	
TXAR	**Lajitas Array** comp=Z,49nm,18.1s,baz=185,slow=33	98.76	319	LR	LR		23 32 26.7	
ARCES	**ARCESS Array B**	142.84	35	PKPpre	PKPpre		22 58 20.9	
ARCES	**ARCESS Array B** 2.8nn,1.0s,baz=160,slow=2.9,SNR=5.0	142.84	35	PKhKP	PKPpre		22 58 20.9	
ILAR	**Eielson Array**	143.13	314	PKPpre	PKPpre		22 58 21.4	
ILAR	**Eielson Array** 1.0nn,0.8s,baz=160,slow=2.5,SNR=6.9	143.13	314	PKhKP	PKPpre		22 58 21.4	
KKAR	**Karatay Array**	143.44	95	*e*PKPdf	PKPab		22 58 23.4	+0.5
BPAW	**Bear Paw Mtn.**	144.15	312	*e*PKPdf	**PKPab**		22 58 24.9	-0.1
AML	**Almayashu** SNR=14	144.19	99	P	PKPbc		22 58 27.1	+0.4
EKS2	**Erkin-Say** SNR=12	144.64	99	P	PKPbc		22 58 28.0	+0.2
EKS2	**Erkin-Say**	144.64	99	*e*PKPdf	PKPbc		22 58 27.7	-0.1
KZA	**Kyzart** SNR=5.8	144.88	101	P	**PKPdf**		22 58 29.8	+0.1
AAK	**Ala-Archa** SNR=6.8	144.96	100	P	PKPbc		22 58 29.0	+0.2
AAK	**Ala-Archa**	144.96	100	*e*PKPdf	**PKPab**		22 58 28.8	-0.1
KBK	**Karagaybulak** SNR=5.9	145.19	100	P	**PKPab**		22 58 29.7	0.0
IM04	**Indian Mountai**	146.19	313	*e*PKPdf	**PKPdf**		22 58 29.4	-1.2
IMA2	**Indian Mountai**	146.21	313	*e*PKPdf	**PKPbc**		22 58 31.5	-0.5
ENH	**Enshi**	146.98	156	*e*PKPdf	**PKPdf**		22 58 32.3	-0.9
MK31	**Makanchi Array**	151.74	102	*e*PKPbc	**PKPbc**		22 58 45.5	-1.1
MKAR	**Makanchi Array**	151.74	102	PKPbc	**PKPbc**		22 58 45.5	-1.1
MKAR	**Makanchi Array** 3.5nn,0.6s,baz=222,slow=1.9,SNR=33	151.74	102	PKPbc	**PKPbc**		22 58 45.5	-1.1
ZALV	**Zalesovo Beam**	157.75	92	PKPab	**PKPab**		22 59 18.9	-2.0
ZALV	**Zalesovo Beam** 0.8nn,0.5s,baz=231,slow=4.6,SNR=3.3	157.75	92	PKPab	**PKPab**		22 59 19.0	-2.0
SONM	**Songino Array**	162.64	135	PKPab	**PKPab**		22 59 42.7	+0.1
SONM	**Songino Array** 0.8nn,0.7s,baz=229,slow=4.0,SNR=7.5	162.64	135	PKPab	**PKPab**		22 59 42.7	+0.1

*NSSP **22** 22:39:53.7, 41°.92N×43°.08E, h10km, Ms2.9*
*CSEM **22** 22:39:59.4±0.1, 41°.82N×43°.18E, h2km, mb4.0, Error ellipse: s-maj=4.4km s-min=2.6km az=121.0*
*DDA **22** 22:39:59.1, 41°.83N×43°.18E, h7km, MD3.5*
*ISK **22** 22:39:59.1, 41°.81N×43°.06E, h5km, MD3.3*
*MOS **22** 22:40:00.3±1.6, 41°.79N×43°.17E, h17km, mb4.0/1, Error ellipse: s-maj=13.1km s-min=6.0km az=77.6*
ISC 22 22:39:59.6±1.1, **41°.81N**±0°.02×**43°.19E**±0°.02, **h5**km±9km, **n78,** σ1s16/122, **8D, Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AKH	**Akhalkalaki**	0.46	151	*i* PG		**Pg**	22 40 09.1	+0.6
AKH	**Akhalkalaki**	0.46	151	P		**Pg**	22 40 09.1	+0.6
AKH				S		**Sb**	22 40 16.5	-0.9
AKH	**Akhalkalaki**	0.46	151	*i* Pg		**Pg**	22 40 09.1	+0.6
EPOS	**Posof**	0.47	229	*i* P		Pg	22 40 02.2	-6.3
EPOS				*i* S		**Sg**	22 40 09.9	-4.7
ONI	**Oni**	0.80	14	*i* PG		**Pg**	22 40 14.3	-0.7
ONI	**Oni**	0.80	14	P		**Pg**	22 40 14.3	-0.7
ONI				S		**Sg**	22 40 25.4	0.0
KZR	**Kazreti**	1.01	115	P		**Pg**	22 40 18.1	-0.9
KZR				S		**Sg**	22 40 31.8	-0.4
ZEI	**Tsey**	1.11	28	⇓*i* PG		**Pb**	22 40 20.0	-1.3
ZEI				*i* S		**Sg**	22 40 35.3	+0.1
ZEI	**Tsey**	1.11	28	*i* Pg		**Pb**	22 40 20.0	-1.3
ZEI				*i* Sg		**Sg**	22 40 35.3	+0.1
DIGR	**Digorskoe uzhe**	1.12	15	⇓*i* PG		**Pb**	22 40 20.1	-1.5
DIGR				*i* S		**Sb**	22 40 35.9	-0.7
DIGR	**Digorskoe uzhe**	1.12	15	*i* Pg		**Pb**	22 40 20.1	-1.5
DIGR				*i* Sg		**Sb**	22 40 35.9	-0.7
ARTV	**Artvin**	1.14	237	*i* P		**Pb**	22 40 21.0	-0.9
ARTV				*i* S		**Sg**	22 40 36.8	+0.6
ARTV	**Artvin**	1.14	237	*i* P		**Pb**	22 40 21.0	-0.9
ARTV				*i* S		**Sg**	22 40 36.8	+0.6
GUDG	**Gudauri**	1.16	55	P		**Pb**	22 40 20.6	-1.6
GUDG				S		**Sb**	22 40 36.4	-1.2
TBLG	**Delisi**	1.16	94	*i* PG		**Pb**	22 40 20.6	-1.5
TBLG	**Delisi**	1.16	94	P		**Pb**	22 40 20.6	-1.5
TBLG				S		**Sb**	22 40 36.3	-1.2
TBLG	**Delisi**	1.16	94	*i* Pg		**Pb**	22 40 20.6	-1.5
EAK	**Akyaka**	1.17	164	*i* P		**Pb**	22 40 21.4	-0.9
EAK				*i* S		**Sn**	22 40 38.3	-0.7
EAK	**Akyaka**	1.17	164	*i* P		**Pn**	22 40 21.4	-0.9
EAK				*i* S		**Sn**	22 40 38.3	-0.7
KARS	**Kars**	1.19	184	*e*PN		**Pg**	22 40 23.2	+0.8
KARS				*e*SN		**Sn**	22 40 40.5	+1.0
KARS	**Kars**	1.19	184	*e*Pn		**Pg**	22 40 23.2	+0.8
KARS				*e*Sn		**Sn**	22 40 40.5	+1.0
STE	**Stepanavan**	1.20	132	⇓P		**Pn**	22 40 21.5	-1.6
STE				S		**Sn**	22 40 41.0	+1.1
SEAG	**Tbilisi Sea**	1.21	92	P		**Pn**	22 40 21.8	-1.3
SEAG				S		**Sn**	22 40 40.0	+0.2
DAGI	**Agillar**	1.21	233	*i* P		**Pn**	22 40 22.3	-0.9
DAGI				*i* S		**Sn**	22 40 39.4	-0.6
STEZ	**Stepenevan**	1.22	131	⇓*i* P		**Pn**	22 40 21.5	-1.9
STEZ				⇓S		**Sn**	22 40 41.0	+0.7
BCA	**Borcka**	1.23	253	*e*PN		**Pn**	22 40 22.0	-1.4
BCA				*e*SN		**Sb**	22 40 38.6	-0.9
BCA	**Borcka**	1.23	253	*e*Pn		**Pn**	22 40 22.0	-1.4
BCA				*e*Sn		**Sb**	22 40 38.6	-0.9
DBOC	**Borcka**	1.24	248	*i* P		**Pn**	22 40 22.3	-1.2
DBOC				*i* S		**Sn**	22 40 39.7	-0.8
DBOC	**Borcka**	1.24	248	*i* P		**Pn**	22 40 22.3	-1.2
DBOC				*i* S		**Sn**	22 40 39.7	-0.8
LACR	**Lac**	1.30	39	*e*PG		**Pn**	22 40 23.2	-1.3
LACR				*i* S		**Sb**	22 40 41.0	-0.7
LACR	**Lac**	1.30	39	*e*Pg		**Pn**	22 40 23.2	-1.3
LACR				*i* Sg		**Sb**	22 40 41.0	-0.7
DBAD	**Bademkaya**	1.38	235	*i* P		**Pb**	22 40 25.1	-0.7
DBAD				*i* S		**Sg**	22 40 44.6	+0.7
DBAD	**Bademkaya**	1.38	235	*i* P		**Pb**	22 40 25.1	-0.7
DBAD				*i* S		**Sg**	22 40 44.6	+0.7
DIGO	**Kars**	1.40	174	*i* P		**Pb**	22 40 25.9	-0.5
DIGO				*i* S		**Sg**	22 40 46.0	+1.3
DIGO	**Kars**	1.40	174	*i* P		**Pb**	22 40 25.9	-0.5
DIGO				*i* S		**Sg**	22 40 46.0	+1.3
DDEM	**Demirkent**	1.42	230	*i* P		**Pb**	22 40 25.9	-0.7
DDEM				*i* S		**Sg**	22 40 46.5	+1.5
DDEM	**Demirkent**	1.42	230	*i* P		**Pb**	22 40 25.9	-0.7
DDEM				*i* S		**Sg**	22 40 46.8	+1.5
KORR	**Kora**	1.43	27	*e*PG		**Pb**	22 40 26.4	-0.3
KORR				*e*S		**Sg**	22 40 46.1	+0.6
KORR	**Kora**	1.43	27	*e*Pg		**Pb**	22 40 26.4	-0.3
KORR				*e*Sg		**Sg**	22 40 46.1	+0.6
LSNR	**Lesken**	1.54	18	⇓*i* PG		**Pg**	22 40 28.6	-0.5
LSNR				*e*S		**Sg**	22 40 49.3	+0.3
LSNR	**Lesken**	1.54	18	*i* Pg		**Pg**	22 40 28.6	-0.5
LSNR				*e*Sg		**Sg**	22 40 49.3	+0.3
ARNR	**Ardon**	1.59	30	⇓*i* PN		**Pg**	22 40 30.5	+0.5
ARNR				*e*S		**Sg**	22 40 52.0	+1.4
ARNR	**Ardon**	1.59	30	*i* Pn		**Pg**	22 40 30.5	+0.5
ARNR				*e*Sg		**Sg**	22 40 52.0	+1.4
VLKR	**Vladikavkaz**	1.65	41	*e*PN		**Pn**	22 40 29.0	-0.2
VLKR	**Vladikavkaz**	1.65	41	*e*Pn		**Pn**	22 40 29.0	-0.2
DGRG	**David-gareji**	1.67	102	PN		**Pb**

MTP				eS	Sn	23 02 03.0	0.0
SJG	**San Juan**	**1.27**	**202**↓	eP	Pn	23 01 47.9	-0.2
SJG				eS	Sn	23 02 05.3	+0.4
SJG	**San Juan**	**1.27**	**202**↓	eP	Pn	23 01 47.9	-0.2
SJG				eS	Sn	23 02 05.3	+0.4
CPD	**Cerro la Pandu**	**1.27**	**192**↓	eP	Pn	23 01 47.9	-0.3
CPD	**Cerro la Pandu**	**1.27**	**192**↓	eP	Pn	23 01 47.9	-0.3
CPD				eS	Sb	23 02 05.1	+0.2
AOPR	**Arecibo Observ**	**1.41**	**228**↓	eP	Pn	23 01 49.9	-0.2
AOPR	**Arecibo Observ**	**1.41**	**228**↓	eP	Pn	23 01 49.9	-0.2
AOPR				eS	Sb	23 02 09.2	+0.4
CELP	**Cerrillos**	**1.50**	**216**↓	eP	Pn	23 01 51.4	0.0
CELP	**Cerrillos**	**1.50**	**216**↓	eP	Pn	23 01 51.4	0.0
LRS	**Lares**	**1.51**	**229**↑	eP	Pn	23 01 51.3	-0.2
LRS	**Lares**	**1.51**	**229**↑	eP	Pn	23 01 51.3	-0.2
OBIP	**Obispado Ponce**	**1.54**	**216**↓	eP	Pn	23 01 51.9	0.0
OBIP	**Obispado Ponce**	**1.54**	**216**↓	eP	Pn	23 01 51.9	0.0
OBIP				eS	Sb	23 02 12.9	+0.3
AGPR	**Aguadilla, PR**	**1.61**	**240**↑	eP	Pn	23 01 53.0	+0.1
AGPR	**Aguadilla, PR**	**1.61**	**240**↑	eP	Pn	23 01 53.0	+0.1
AGPR				eS	Sb	23 02 14.7	0.0
GBPR	**Guanica, Bosqu**	**1.76**	**222**↓	eP	Pn	23 01 55.4	+0.6
GBPR	**Guanica, Bosqu**	**1.76**	**222**↓	eP	Pn	23 01 55.4	+0.6
LSP	**Las Mesas**	**1.76**	**231**↓	eP	Pn	23 01 55.0	0.0
LSP	**Las Mesas**	**1.76**	**231**↓	eP	Pn	23 01 55.0	0.0
CRPR	**Cabo Rojo, PR**	**1.89**	**228**↑	eP	Pn	23 01 57.4	+0.7
CRPR	**Cabo Rojo, PR**	**1.89**	**228**↑	eP	Pn	23 01 57.4	+0.7
IDE	**Isla Desecheo**	**1.96**	**243**↑	eP	Pn	23 01 57.5	-0.1
IDE	**Isla Desecheo**	**1.96**	**243**↑	eP	Pn	23 01 57.5	-0.1
DR12	**Loma Pena Alta**	**3.57**	**263**↓	eP	Pn	23 02 19.5	-0.4
DR12	**Loma Pena Alta**	**3.57**	**263**↓	eP	Pn	23 02 19.5	-0.4
MLG	**Mont-d'or**	**4.94**	**130**	eP	Pn	23 02 40.1	+1.4
SSG	**Sans Toucher**	**4.94**	**130**	eP	Pn	23 02 41.6	+2.8
FNG	**Fond-Bernard**	**4.96**	**130**	eP	Pn	23 02 40.7	+1.8
CRG	**Carmichael**	**4.98**	**130**	eP	Pn	23 02 41.0	+1.7
SCG	**Saint Claude**	**4.98**	**130**	eP	Pn	23 02 43.6	+4.3
BCG	**Bois Riant Cap**	**4.99**	**129**	eP	Pn	23 02 41.4	+2.1
ECG	**Echelle**	**4.99**	**130**	eP	Pn	23 02 43.0	+3.5
PHG	**Guadaloupe-2**	**5.02**	**130**	eP	Pn	23 02 42.5	+2.7
H05N1	**Guadeloupe/Mar**	**5.28**	**123**	Pn	Pn	23 02 45.3	+2.0
H05N1				Sn	Sn	23 03 44.7	+0.8
SDDR	**Presa de Saban**	**5.35**	**268**↓	iP	Pn	23 02 45.4	+1.1
SDDR	**Presa de Saban**	**5.35**	**268**↓	iP	Pn	23 02 45.4	+1.1
TKL	**Tuckaleechee C**	**22.84**	**319**	P	P	23 06 43.6	+16
TKL				S	**S**	**23 10 38.3**	**+1.9**
TKL	**Tuckaleechee C**	**22.84**	**319**	P	P	23 06 43.6	+16
	9.8nm,0.7s,baz=132,slow=15,SNR=14						
TKL				S	**S**	**23 10 38.3**	**+1.9**
	5.9nm,1.0s,baz=208,slow=15,SNR=4.0						
LPAZ	**La Paz**	**35.44**	**184**	P	P	23 08 27.6	+6.2
LPAZ	**La Paz**	**35.44**	**184**	P	P	23 08 27.6	+6.2
	1.0nm,0.8s,baz=348,slow=9.3,SNR=3.3						
TXAR	**Lajitas Array**	**35.93**	**294**	P	**P**	**23 08 25.5**	**+0.5**
TXAR	**Lajitas Array**	**35.93**	**294**	P	**P**	**23 08 25.5**	**+0.5**
	0.3nm,0.7s,baz=101,slow=9.5,SNR=4.3						
PDAR	**Pinedale Array**	**43.68**	**312**	P	**P**	**23 09 29.2**	**-0.3**
PDAR	**Pinedale Array**	**43.68**	**312**	P	**P**	**23 09 29.2**	**-0.3**
	0.6nm,0.8s,baz=115,slow=4.3,SNR=2.3						
NVAR	**Mina Array Bea**	**49.21**	**304**	P	**P**	**23 10 12.8**	**-0.2**
NVAR	**Mina Array Bea**	**49.21**	**304**	P	**P**	**23 10 12.8**	**-0.2**
	0.5nm,0.7s,baz=111,slow=4.9,SNR=3.8						
TORD	**Torodi Ar. Bea**	**64.61**	**84**	P	**P**	**23 12 01.8**	**-0.5**
TORD	**Torodi Ar. Bea**	**64.61**	**84**	P	**P**	**23 12 01.8**	**-0.5**
	0.4nm,0.8s,baz=286,slow=6.8,SNR=4.0						
ILAR	**Eielson Array**	**69.00**	**333**	P	**P**	**23 12 28.1**	**-1.4**
ILAR	**Eielson Array**	**69.00**	**333**	P	**P**	**23 12 28.1**	**-1.4**
	0.8nm,0.6s,baz=87,slow=4.5,SNR=7.1						

ISCJB ***22*** *23:02:13.6±0.5,27.°56S±0.°04×69.°58W±0.°08,h132km±7km, mb3.6/2,Error ellipse: s-maj=12.2km s-min=6.8km az=8.7*

IDC ***22*** *23:02:15.4±3.0,27.°44S×69.°30W,h103km±23km,mb3.5/2, mb1 3.4/6,mb1mx3.3/20,mbtmp3.3/6,MS3.2/1,Ms1 3.2/1, ms1mx2.3/21,Error ellipse: s-maj=43.4km s-min=26.5km az=99.0*

GUC ***22*** *23:02:15.0±0.9,27.°56S×69.°42W,h101km±19km,ML4.4*

ISC 22 23:02:14.7±0.7,27.°55S±0.°05×69.°53W±0.°08,h122km±8km, n18,σ1♀25/27,2C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.76**	**284**↓	*iP*			**Pn**	**23 02 34.6**	**-0.1**
CPCH				*i*	S		**Sn**	**23 02 48.6**	**-1.1**
CDCH	**Caldera**	**1.25**	**292**	*eP*			**Pn**	**23 02 40.0**	**+0.7**
CDCH				*i*	S		**Sn**	**23 02 57.9**	**-0.1**
CDCH					AML		AML	23 02 58.7	
	comp=N,6μm,0.5s								
VACH	**Vallenar**	**1.49**	**226**	*eP*			**Pn**	**23 02 42.6**	**+0.4**
VACH				*i*	S		**Sn**	**23 03 03.4**	**+0.2**
VACH					AML		AML	23 03 04.5	
	comp=E,15μm,0.1s								
LCO	**Las Campanas**	**1.79**	**215**↓	*iP*			**Pn**	**23 02 46.4**	**+0.5**
LCO				*i*	S		**Sn**	**23 03 10.2**	**+0.5**
LCO					AML		AML	23 03 10.8	
	comp=E,2μm,0.4s								
TLL	**Tololo Astrono**	**2.84**	**203**↑	*iP*			**Pn**	**23 03 00.0**	**+0.8**
TLL				*eS*			**Sn**	**23 03 34.2**	**+0.8**
TLL					AML		AML	23 03 36.7	
	comp=N,875nm,0.6s								
CFAA	**Coronel Fontan**	**4.20**	**165**	P			**Pn**	**23 03 18.0**	**+1.1**
	comp=N,1.0nm,0.3s,baz=345,slow=13,SNR=140								
CFAA					S		**Sn**	**23 04 03.5**	**-1.7**
	comp=N,5.4nm,0.3s,baz=199,slow=13,SNR=25								
CHNG	**Los Chungos**	**4.65**	**201**↑	*iP*			**Pn**	**23 03 21.9**	**-1.0**
CHNG				*i*	S		**Sn**	**23 04 14.7**	**-1.2**
H03N1	**Juan Fernandez**	**10.00**	**232**	P			**Pn**	**23 04 33.0**	**-1.8**
	baz=211,slow=0.7,SNR=7.7								
H03N1					T		T	23 14 32.7	
	baz=53								
H03N2	**Juan Fernandez**	**10.01**	**232**	P			**Pn**	**23 04 33.0**	**-2.0**
	baz=338,slow=0.7,SNR=9.3								
H03N2					T		T	23 14 29.6	
	baz=53								
H03N3	**Juan Fernandez**	**10.02**	**232**	P			**Pn**	**23 04 33.0**	**-2.1**
H03N3					T		T	23 14 30.0	
	baz=53								
CPUP	**Villa Florida**	**10.95**	**86**	P			**Pn**	**23 04 46.6**	**-1.3**
	comp=N,0.3nm,0.3s,baz=271,slow=7.7,SNR=2.4								
LPAZ	**La Paz**	**11.28**	**7**	P			**Pn**	**23 04 52.3**	**-0.6**
	comp=N,0.2nm,0.3s,baz=214,slow=5.1,SNR=5.0								
SIV	**San Ignacio**	**13.92**	**36**	P			**Pn**	**23 05 25.5**	**-1.3**
	comp=N,0.4nm,0.3s,baz=249,slow=11,SNR=8.0								
BDFB	**Brasilia**	**23.21**	**64**	P			**P**	**23 07 11.2**	**0.0**
	comp=N,4.3nm,0.8s,baz=222,slow=6.2,SNR=6.4								
JTS	**JuntasAbangare**	**40.48**	**336**	LR			LR	23 25 39.1	
	comp=N,31nm,18.9s,baz=112,slow=35								
TORD	**Torodi Ar. Bea**	**79.95**	**69**	P			**P**	**23 14 12.4**	**+1.6**
	comp=N,0.5nm,0.6s,baz=259,slow=4.5,SNR=12								
TORD					pP		**pP**	**23 14 43.0**	**+1.4**
	comp=N,0.6nm,0.6s,baz=267,slow=4.0,SNR=4.0								
ZALV	**Zalesovo Beam**	**147.58**	**29**	PKPbc			**PKPab**	**23 21 46.3**	**-0.5**
	comp=N,0.9nm,0.6s,baz=346,slow=4.7,SNR=4.8								
ZALV					pPKPbc		**pPKPbc**	**23 22 17.5**	**+0.7**
	comp=N,0.3nm,0.3s,baz=19,slow=28,SNR=2.1								
MKAR	**Makanchi Array**	**150.69**	**42**	PKPbc			**PKPbc**	**23 21 54.4**	**+2.0**
	comp=N,0.8nm,0.8s,baz=318,slow=1.6,SNR=5.8								
MKAR					pPKPbc		**pPKPbc**	**23 22 25.9**	**+0.9**
	comp=N,0.5nm,0.6s,baz=317,slow=2.5,SNR=3.7								

MEX 22 23:04:55.9±1.1,19.°19N×102.°94W,h79km±17km,MD3.6, Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EZ5V		**0.69**	**294**	*iP*			Pn	23 05 09.6	-2.2
EZ5V				*i*	S		Sn	23 05 22.1	-1.3
MMIG	**Aquila**	**0.98**	**203**	*eP*			Pn	23 05 13.3	-1.4
MMIG				*i*	S		Sn	23 05 26.6	-2.1
R15V		**0.99**	**269**	*eP*			Pn	23 05 13.4	-1.4
R15V				*i*	S		Sn	23 05 27.8	-1.2
SFJM	**Santa Fe**	**1.29**	**356**	*iP*			Pn	23 05 22.4	+3.7
SFJM				*i*	S		Sn	23 05 39.5	+3.6
MOIG	**Morelia**	**1.72**	**73**	*iP*			Pn	23 05 23.7	-0.7
MOIG				*i*	S		Sn	23 05 43.9	-2.0
ARIG	**Puente Sto Nin**	**2.62**	**110**	*eP*			Pn	23 05 35.5	-0.6
ARIG				*i*	S		Sn	23 06 05.3	-1.6

NIED ***22*** *23:05:00,22.°60N×121.°50E,h68km,Mw4.5 Best double couple: M0 5.63000×10^15 NP1:φ=240.00000°,δ85.00000°, λ-78.00000°. NP2:φ=351.00000°,δ13.00000°,*

λ-158.00000°.

ISCJB ***22*** *23:05:03.5±0.2,22.°65N±0.°02×121.°49E±0.°02, h118km±1km,mb4.8/117,Error ellipse: s-maj=3.3km s-min=2.4km az=40.2*

NEIC ***22*** *23:05:03.3±0.4,22.°55N×121.°56E,h113km±3km,mb4.9/50, Error ellipse: s-maj=5.8km s-min=4.2km az=79.0*

NEIC Felt at Taipei. Recorded [2 TAP] in T'ai-tung and [1 TAP] in Chang-hua, P'eng-hu, P'ing-tung, T'ai-nan and Yun-lin.

JMA ***22*** *23:05:04.7±0.5,22.°63N×121.°55E,h116km,M3.8*

BJI ***22*** *23:05:04.0,22.°77N×121.°43E,h100km,mB4.8/24, mb4.5/36*

IDC ***22*** *23:05:06.0±1.6,22.°61N×121.°58E,h135km±13km, mb4.3/20,mb1 4.3/22,mb1mx4.3/30,mbtmp4.2/22,MS3.4/7, Ms1 3.4/7,ms1mx3.0/41,Error ellipse: s-maj=14.9km s-min=9.6km az=75.0*

TAP ***22*** *23:05:05.1,22.°69N×121.°49E,h104km,ML5.1,C*

DJA ***22*** *23:05:06.6±0.6,23.°N±5.°×12.°2E±.°,h125km±8km,M5.0/24, mB5.4/10,mb4.8/24,MLv5.5/1,Mw(mB)4.8/10*

MOS ***22*** *23:05:12.3±0.8,23.°29N×121.°39E,h170km,mb4.9/40, Error ellipse: s-maj=13.9km s-min=5.2km az=122.4*

ISC 22 23:05:04.1±0.4,22.°64N±0.°03×121.°51E±0.°03,h116km±2km, h115km:pP-P,n471,σ1♀20/549,mb4.8/119,59C-34D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.35**	**288**	*eP*			**Pn**	**23 05 20.9**	**+0.1**
	baz=271								
TTN					*e*S		**Sn**	**23 05 33.3**	**0.0**
	baz=271								
TWG	**Pinlang**	**0.44**	**294**↑	*iP*			**Pn**	**23 05 21.0**	**-0.3**
	baz=281								
TWG				*i*	S		**Sn**	**23 05 32.1**	**-2.0**
	baz=281								
TWG	**Pinlang**	**0.44**	**294**	*eP*n			**Pn**	**23 05 20.5**	**-0.8**
TWG				*e*Sn			**Sn**	**23 05 30.7**	**-3.4**
CHKT	**Chengkung**	**0.47**	**344**↑	*iP*			**Pn**	**23 05 21.6**	**+0.1**
	baz=335								
CHKT					S		**Sn**	**23 05 33.8**	**-0.7**
	baz=335								
ECL	**Taimali**	**0.51**	**265**↓	*iP*			**Pn**	**23 05 21.1**	**-0.5**
	baz=257								
TAW	**Tawu**	**0.63**	**243**↓	*eP*			**Pn**	**23 05 22.4**	**-0.1**
	baz=237								
TAW					*e*S		**Sn**	**23 05 35.5**	**-0.8**
	baz=237								
EAST	**Anshuo**	**0.66**	**247**↓	*iP*			**Pn**	**23 05 22.9**	**+0.1**
	baz=241								
EAST					*e*S		**Sn**	**23 05 36.1**	**-0.7**
	baz=241								
TWF1	**Yuli**	**0.73**	**345**↑	*iP*			**Pn**	**23 05 23.0**	**-0.3**
	baz=340								
TWF1					*e*S		**Sn**	**23 05 35.5**	**-2.3**
	baz=340								
YULB	**Yu-li**	**0.77**	**346**	*eP*n			**Pn**	**23 05 22.8**	**-0.9**
YULB				*e*Sn			**Sn**	**23 05 37.2**	**-1.2**
EHY	**Hungye**	**0.88**	**349**↑	*iP*			**Pn**	**23 05 24.2**	**-0.4**
	baz=346								
EHY					*i* S		**Sn**	**23 05 38.3**	**-1.8**
	baz=346								
SGLT	**Jiouru**	**0.94**	**275**	*eP*			**Pn**	**23 05 26.4**	**+1.2**
	baz=281								
SGLT					*e*S		**Sn**	**23 05 41.1**	**0.0**
	baz=281								
TWK1	**Hengchun**	**0.95**	**223**	↓P			**Pn**	**23 05 26.0**	**+0.7**
	baz=221								
TWK1					*e*S		**Sn**	**23 05 40.9**	**-0.4**
	baz=221								
HEN	**Hengchun**	**0.95**	**228**↓	*iP*			**Pn**	**23 05 26.0**	**+0.7**
	baz=226								
HEN					S		**Sn**	**23 05 40.9**	**-0.4**
	baz=226								
SGST	**Jiashian**	**0.96**	**297**↑	*iP*			**Pn**	**23 05 25.8**	**+0.4**
	baz=295								
SGST					S		**Sn**	**23 05 40.5**	**-1.0**
	baz=295								
TWM1	**Shoushan**	**1.02**	**280**↑	*iP*			**Pn**	**23 05 27.3**	**+1.3**
	baz=285								
TWM1					*e*S		**Sn**	**23 05 42.8**	**+0.2**
	baz=285								
WTP	**Ta-pu**	**1.02**	**306**↑	*iP*			**Pn**	**23 05 26.2**	**+0.2**
	baz=305								
WTP					*e*S		**Sn**	**23 05 41.3**	**-1.3**
	baz=305								
TPUB	**Ta-pu**	**1.04**	**309**	*eP*n			**Pn**	**23 05 26.0**	**-0.2**
TPUB				*e*Sn			**Sn**	**23 05 42.1**	**-0.9**
CHN1	**Nanshi**	**1.05**	**301**↑	*iP*			**Pn**	**23 05 26.6**	**+0.2**
	baz=299								
CHN1					*e*S		**Sn**	**23 05 42.0**	**-1.1**
	baz=299								
TEGC	**Jichi Village**	**1.06**	**2**↓	*eP*			**Pn**	**23 05 27.0**	**+0.6**
	baz=355								
TEGC					*e*S		**Sn**	**23 05 44.4**	**+1.1**
	baz=355								
ALS	**Alishan**	**1.08**	**323**	*eP*			**Pn**	**23 05 27.5**	**+0.5**
	baz=313								
ALS					*e*S		**Sn**	**23 05 43.3**	**-0.9**
	baz=313								
CHN4	**Tsaushan**	**1.10**	**310**↑	*iP*			**Pn**	**23 05 26.8**	**0.0**
	baz=301								
CHN4					*e*S		**Sn**	**23 05 43.3**	**-0.7**
	baz=301								
TWP	**Hsiaoliuchiu**	**1.10**	**255**	↓P			**Pn**	**23 05 28.4**	**+1.6**
	baz=252								
TWP					*e*S		**Sn**	**23 05 45.8**	**+1.8**
	baz=252								
KAU	**Kaohsiung**	**1.11**	**266**↓	*iP*			**Pn**	**23 05 28.2**	**+1.4**
	baz=264								
KAU					*e*S		**Sn**	**23 05 44.5**	**+0.3**
	baz=264								
TWK	**Hsinying**	**1.12**	**304**↑	*iP*			**Pn**	**23 05 27.3**	**+0.1**
	baz=295								
TWK					S		**Sn**	**23 05 42.9**	**-1.7**
	baz=295								
CHN3	**Shinhua**	**1.14**	**292**↑	P			**Pn**	**23 05 28.3**	**+1.1**
	baz=290								
CHN3					*e*S		**Sn**	**23 05 45.9**	**+1.2**
	baz=290								
ESL	**Shilin**	**1.17**	**357**↑	*iP*			**Pn**	**23 05 27.2**	**-0.4**
	baz=357								
ESL					*e*S		**Sn**	**23 05 43.0**	**-2.4**
	baz=357								
CHN5	**Tsauling**	**1.22**	**321**↑	*iP*			**Pn**	**23 05 28.2**	**0.0**
	baz=313								
CHN5					*e*S		**Sn**	**23 05 45.6**	**-0.8**
	baz=313								
ESF	**Shoufeng Towns**	**1.22**	**0**	*eP*			**Pn**	**23 05 28.5**	**+0.4**
	baz=355								
ESF					*e*S		**Sn**	**23 05 45.9**	**-0.4**
	baz=355								
TAI1	**Yung-k'ang**	**1.24**	**289**	*eP*			**Pn**	**23 05 28.8**	**+0.4**
	baz=287								
TAI1					*e*S		**Sn**	**23 05 45.4**	**-1.2**
	baz=287								
SSLB	**Suanglung**	**1.25**	**336**	*eP*n			**Pn**	**23 05 28.3**	**-0.2**
SSLB				*e*Sn			**Sn**	**23 05 47.2**	**+0.3**
CHN2	**Minshiung**	**1.30**	**313**↑	*iP*			**Pn**	**23 05 29.1**	**+0.2**
	baz=304								
CHN2					*e*S		**Sn**	**23 05 46.8**	**-1.0**
	baz=304								
CHY	**Chiayi**	**1.31**	**311**↑	*iP*			**Pn**	**23 05 29.1**	**+0.1**
	baz=309								
CHY					S		**Sn**	**23 05 46.9**	**-1.2**
	baz=309								
SCLT	**Jiali**	**1.32**	**294**	*eP*			**Pn**	**23 05 29.4**	**+0.2**
	baz=292								
SCLT					*e*S		**Sn**	**23 05 47.8**	**-0.4**
	baz=292								
HWA	**Hwalien**	**1.33**	**4**↑	P			**Pn**	**23 05 29.8**	**+0.4**
	baz=357								
HWA					S		**Sn**	**23 05 49.5**	**+1.0**
	baz=357								
WGK	**Gukeng**	**1.35**	**320**↑	*iP*			**Pn**	**23 05 29.9**	**+0.3**
	baz=311								
WGK					*i* S		**Sn**	**23 05 48.5**	**-0.4**
	baz=311								
SMLT	**Sun Moon Lake**	**1.35**	**336**↑	*iP*			**Pn**	**23 05 29.9**	**+0.1**
	baz=326								
SMLT					*e*S		**Sn**	**23 05 49.0**	**-0.2**
	baz=326								
TYC	**Yuchr**	**1.39**	**335**↑	*iP*			**Pn**	**23 05 30.1**	**+0.1**
	baz=326								
TYC					*e*S		**Sn**	**23 05 49.2**	**-0.5**
	baz=326								
TWD	**Chiawan**	**1.43**	**3**↑	*iP*			**Pn**	**23 05 30.6**	**+0.1**
	baz=357								
TWD					*e*S		**Sn**	**23 05 49.2**	**-1.3**
	baz=357								
WNT	**Mingjian**	**1.44**	**329**↑	*iP*			**Pn**	**23 05 30.9**	**+0.3**
	baz=320								
WNT					*e*S		**Sn**	**23 05 50.4**	**-0.4**
	baz=320								
WHF	**Hehuan Shan**	**1.51**	**352**↑	P			**Pn**	**23 05 32.4**	**+0.5**
	baz=358								
WHF					*e*S		**Sn**	**23 05 52.5**	**-0.4**
	baz=358								
NACB	**Ninganchiao**	**1.53**	**3**	*eP*n			**Pn**	**23 05 31.3**	**-0.3**
NACB				*e*Sn			**Sn**	**23 05 50.2**	**-2.3**
WSF	**Szhu**	**1.54**	**310**↑	*iP*			**Pn**	**23 05 31.6**	**-0.2**
	baz=309								
WSF					*e*S		**Sn**	**23 05 51.3**	**-1.5**
	baz=309								
TWT	**Tachien**	**1.63**	**349**	P			**Pn**	**23 05 34.0**	**+1.0**
	baz=336								
TWT					*e*S		**Sn**	**23 05 54.8**	**-0.3**
	baz=336								
WTCT	**Ta-ch'eng**	**1.66**	**317**↑	P			**Pn**	**23 05 33.0**	**-0.1**
	baz=312								
WTCT					*e*S		**Sn**	**23 05 54.4**	**-0.9**
	baz=312								
ENA	**Nanau**	**1.79**	**7**↑	*eP*			**Pn**	**23 05 35.2**	**+0.4**
	baz=358								
ENA					*e*S		**Sn**	**23 05 57.6**	**-0.5**
	baz=358								
NNS	**Nan Shan**	**1.79**	**356**↑	*iP*			**Pn**	**23 05 35.9**	**+0.9**
	baz=1.0								
NNS					*e*S		**Sn**	**23 05 57.4**	**-1.1**
	baz=1.0								
WDGT	**Dungji**	**1.81**	**290**↑	*iP*			**Pn**	**23 05 34.5**	**-0.4**
	baz=289								
WDGT					S		**Sn**	**23 05 55.6**	**-2.9**
	baz=289								
TWQ1	**Liyutan**	**1.82**	**339**↑	*iP*			**Pn**	**23 05 35.3**	**+0.1**
	baz=338								
TWQ1					*e*S		**Sn**	**23 05 59.8**	**+0.8**
	baz=338								
NSY	**Sanyi**	**1.89**	**339**↑	*eP*			**Pn**	**23 05 36.3**	**+0.2**
	baz=339								
TWC	**Suao**	**1.98**	**9**↑	*iP*			**Pn**	**23 05 38.1**	**+1.0**
	baz=15								
TWC					S		**Sn**	**23 06 02.8**	**+0.4**
	baz=15								
ENTT	**Nioudou**	**1.99**	**2**↑	*iP*			**Pn**	**23 05 38.0**	**+0.7**
	baz=2.0								
ENTT					*e*S		**Sn**	**23 06 02.3**	**-0.3**
	baz=2.0								
PNG	**Penghu**	**2.02**	**297**↑	*iP*			**Pn**	**23 05 37.1**	**-0.5**
	baz=296								
PNG					*e*S		**Sn**	**23 06 00.7**	**-2.5**
	baz=296								
YHNB	**Yeheng**	**2.02**	**357**	*eP*n			**Pn**	**23 05 38.5**	**+0.8**
YHNB				*e*Sn			**Sn**	**23 06 04.5**	**+1.0**
NSK	**Sanguang**	**2.03**	**356**↓	*iP*			**Pn**	**23 05 39.0**	**+1.2**
	baz=3.0								
NSK					*e*S		**Sn**	**23 06 02.8**	**-0.8**
	baz=3.0								
NSTT	**Nanjuang**	**2.03**	**347**↑	P			**Pn**	**23 05 37.6**	**-0.2**
	baz=336								
NSTT					*e*S		**Sn**	**23 06 01.6**	**-2.0**
	baz=336								
TWE	**Neicheng**	**2.07**	**4**↑	*iP*			**Pn**	**23 05 39.0**	**+0.7**
	baz=4.0								
TWE					*e*S		**Sn**	**23 06 04.7**	**+0.2**
	baz=4.0								
ILA	**Ilan**	**2.12**	**6**	*eP*			**Pn**	**23 05 40.5**	**+1.5**
	baz=357								
ILA					*e*S		**Sn**	**23 06 07.0**	**+1.3**
	baz=357								
EGS		**2.23**	**10**	*eP*			**Pn**	**23 05 41.5**	**+1.2**
	baz=11								
YOJ	**Yonaguni jima**	**2.28**	**37**	P			**Pn**	**23 05 41.8**	**+0.9**
YOJ					*e*S		**Sn**	**23 06 09.7**	**+0.6**
YOJ	**Yonaguni jima**	**2.28**	**37**↓	*eP*			**Pn**	**23 05 41.8**	**+0.9**
	baz=45								
TATO	**Taipei**	**2.32**	**360**	*eP*n			**Pn**	**23 05 42.2**	**+0.7**
TATO				*e*Sn			**Sn**	**23 06 10.0**	**-0.1**
TWA	**Mucha**	**2.33**	**2**	*eP*			**Pn**	**23 05 42.3**	**+0.7**
	baz=2.0								
TWA					*e*S		**Sn**	**23 06 10.6**	**+0.3**
	baz=2.0								
NCU	**National Centr**	**2.33**	**353**	*eP*			**Pn**	**23 05 40.5**	**-1.1**
	baz=343								
TAP1	**Taipei**	**2.38**	**0**	*eP*			**Pn**	**23 05 42.9**	**+0.7**
	baz=360								
TAP1					*e*S		**Sn**	**23 06 10.8**	**-0.7**
	baz=360								
TWB1	**Santiao Chiao**	**2.40**	**11**	*eP*			**Pn**	**23 05 42.0**	**-0.4**
	baz=20								
TWB1					*e*S		**Sn**	**23 06 11.2**	**-0.6**
	baz=20								
NWF	**Wu-fen Shan**	**2.43**	**6**	↓P			**Pn**	**23 05 44.4**	**+1.4**
	baz=353								
NWF					*e*S		**Sn**	**23 06 12.9**	**+

MYLDM	**Lahad Datu**	**17.60**	**190**	P		**Pn**	**23 09 06.2**	**+3.9**
MYLDM	**Lahad Datu**	**17.60**	**190**	P		**Pn**	**23 09 05.3**	**+3.0**
	36nm,1.2s							
MYLDM	**Lahad Datu**	**17.60**	**190**	*e*P		**P**	**23 09 00.4**	**-1.2**
	34nm,1.0s							
CD2	**Chengdu**	**17.84**	**301**	P		**Pn**	**23 09 05.6**	**+0.5**
CD2				pP		**pP**	**23 09 21.3**	**-3.9**
CD2				PP		PP	23 09 23.8	
CD2				S		**S**	**23 12 18.5**	**-5.0**
CD2				sS		sS	23 12 42.9	-15
CD2				SS		Sn	23 12 45.8	+21
CD2				AMB		AMB		
	comp=Z,50nm,0.7s							
CD2				AMB		AMB		
	comp=Z,310nm,5.7s							
CD2				LR		LR		
	comp=N,510nm,8.9s							
CD2				LR		LR		
	comp=Z,320nm,6.5s							
BJT	**Baijiatuan**	**17.91**	**347**	*e*P		**P**	**23 09 03.2**	**-1.5**
BJI	**Beijing**	**17.92**	**347**	P		**Pn**	**23 09 06.3**	**+0.4**
BJI				AMB		AMB		
	comp=Z,24nm,0.9s							
JGF	**Kuroka**	**18.90**	**43**	P		**Pn**	**23 09 18.6**	**+1.0**
SNY	**Shenyang**	**19.21**	**5**	⇑P		**P**	**23 09 16.8**	**-2.1**
SNY				S		S	23 12 39.1	-11
SNY				AMB		AMB		
	comp=Z,220nm,5.1s							
SNY				LR		LR		
	comp=N,160nm,7.2s							
SNY				LR		LR		
	comp=E,150nm,4.8s							
SNY				LR		LR		
	comp=Z,170nm,13.2s							
SGSI	**Sangihe**	**19.24**	**168**	P		**Pn**	**23 09 24.8**	**+3.1**
	comp=Z,190nm,0.6s,comp=Z,9μm							
CRAI	**Chiangrai**	**19.82**	**267**	P		**Pn**	**23 09 31.8**	**+3.4**
	comp=Z,243nm,0.7s,comp=Z,8μm							
JOD2	**Odawara 2**	**19.83**	**47**	P		**Pn**	**23 09 30.3**	**+1.8**
HHC	**Hu-ho-hao-te**	**20.00**	**337**	*e*P		**Pn**	**23 09 29.3**	**-1.1**
HHC				pP		**pP**	**23 09 49.4**	**+0.4**
HHC				PP		PP	23 09 54.8	
HHC				sP		**sP**	**23 10 04.9**	**+1.3**
HHC				S		**S**	**23 13 04.4**	**-1.8**
HHC				sS		sS	23 13 34.3	-7.4
HHC				SS		SS	23 13 38.9	
HHC				AMB		AMB		
	comp=Z,68nm,1.1s							
HHC				LR		LR		
	comp=Z,250nm,15.5s							
HHC				LR		LR		
	comp=Z,380nm,14.3s							
HHC				LR		LR		
	comp=Z,330nm,16.7s							
MAJO	**Matsushiro**	**20.03**	**43**	*e*P		Pn	23 09 29.5	-1.2
MAJO				pmax		pmax		
	comp=Z,18nm,0.8s							
MAJO	**Matsushiro**	**20.03**	**43**	*e*P		Pn	23 09 29.5	-1.3
	comp=Z,18nm,0.8s							
MAT	**Matsushiro**	**20.03**	**43**	P		Pn	23 09 29.6	-1.1
MAT	**Matsushiro**	**20.03**	**43**	P		Pn	23 09 31.1	+0.4
MJAR	**Matsushiro Arr**	**20.03**	**43**	P		Pn	23 09 30.0	-0.8
	comp=Z,5.7nm,0.6s,baz=215,slow=14,SNR=19							
JRY	**Ryogami san**	**20.15**	**45**	P		Pn	23 09 32.0	-0.2
PBKT	**Sadao Pong**	**20.26**	**256**	P		Pn	23 09 33.6	+0.1
	comp=Z,4.9nm,2.2s,comp=Z,1μm							
LZH	**Lanzhou**	**20.36**	**315**	*e*P		Pn	23 09 34.5	-0.4
LZH				pP		pP	23 09 54.6	+1.5
LZH				sP		sP	23 10 05.5	-2.2
LZH				*e*S		**S**	**23 13 09.5**	**-4.1**
LZH				sS		sS	23 13 39.3	-10
LZH				AMB		AMB		
	comp=Z,77nm,1.4s							
LZH				AMB		AMB		
	comp=Z,180nm,4.3s							
BTM	**Bintulu**	**20.98**	**204**	P		**P**	**23 09 40.3**	**+2.0**
JSD	**Sado**	**21.03**	**39**	P		**P**	**23 09 38.8**	**+0.2**
CHTO	**Chiang Mai**	**21.44**	**264**	*e*P		**P**	**23 09 41.4**	**-1.8**
CHTO				pmax		pmax		
	comp=Z,11nm,1.3s							
CHTO	**Chiang Mai**	**21.44**	**264**	P		**P**	**23 09 45.3**	**+2.1**
	comp=Z,31nm,1.4s							
CHTO	**Chiang Mai**	**21.44**	**264**	*e*P		**P**	**23 09 41.4**	**-1.8**
	comp=Z,11nm,1.3s							
CHTO	**Chiang Mai**	**21.44**	**264**	P		**P**	**23 09 47.2**	**+4.0**
	comp=Z,22nm,1.3s							
CM01	**Chiang Mai Arr**	**21.52**	**263**	*e*P		**P**	**23 09 42.9**	**-1.3**
CM31	**Chiang Mai Arr**	**21.53**	**263**	*e*P		**P**	**23 09 46.0**	**+1.9**
CM31				*e*ScP		**ScP**	**23 17 05.8**	**-3.0**
CMAR	**Chiang Mai Arr**	**21.53**	**263**	P		**P**	**23 09 46.0**	**+1.9**
	comp=Z,3.0nm,0.9s,baz=63,slow=8.2,SNR=20							
CMAR				ScP		**ScP**	**23 17 05.8**	**-3.0**
	comp=Z,0.6nm,0.4s,baz=10,slow=1.6,SNR=5.5							
CMAR				LR		LR	23 20 00.7	
	comp=Z,66nm,18.2s,baz=85,slow=41							
SBUM	**Sibu**	**22.00**	**205**	P		**P**	**23 09 48.8**	**-0.4**
SBUM	**Sibu**	**22.00**	**205**	P		**P**	**23 09 47.6**	**-1.6**
	comp=Z,24nm,0.9s							
SBUM	**Sibu**	**22.00**	**205**	*e*P		**P**	**23 09 45.0**	**-4.2**
	comp=Z,21nm,1.0s							
MRSI	**Marisa**	**22.04**	**179**	P		**P**	**23 09 52.4**	**+2.9**
	comp=Z,60nm,0.6s,comp=Z,732nm							
JMM	**Marumori**	**22.47**	**43**	P		**P**	**23 09 52.7**	**-1.0**
TNTI	**Ternate**	**22.48**	**165**	P		**P**	**23 09 54.5**	**+0.5**
	comp=Z,82nm,1.0s							
TNTI	**Ternate**	**22.48**	**165**	*e*P		**P**	**23 09 51.8**	**-2.2**
	comp=Z,65nm,0.9s							
MDJ	**Mudanjiang**	**22.90**	**15**	P		**P**	**23 09 59.1**	**+1.2**
MDJ				pP		**pP**	**23 10 19.8**	**-0.6**
MDJ				sP		**sP**	**23 10 32.3**	**-2.5**
MDJ				S		**S**	**23 13 58.3**	**-0.5**
MDJ				ScS		**ScS**	**23 20 57.8**	**+0.2**
MDJ				AMB		AMB		
	comp=Z,16nm,1.0s							
MDJ				AMB		AMB		
	comp=Z,80nm,5.2s							
MDJ				LR		LR		
	comp=Z,36nm,24.8s							
MDJ				LR		LR		
	comp=Z,42nm,20.6s							
MDJ				LR		LR		
	comp=Z,57nm,22.7s							
MDJ	**Mudanjiang**	**22.90**	**15**	*e*P		**P**	**23 09 58.0**	**+0.1**
	comp=Z,29nm,1.1s							
USRK	**Ussuriysk Arra**	**23.17**	**19**	P		**P**	**23 10 00.8**	**+0.3**
	comp=Z,16nm,0.7s,baz=206,slow=10,SNR=38							
APSI	**Ampana**	**23.41**	**180**	P		**P**	**23 10 04.0**	**+1.1**
	comp=Z,104nm,0.9s,comp=Z,825nm							
LUWI	**Luwuk**	**23.57**	**177**	P		**P**	**23 10 03.6**	**-0.8**
	comp=Z,138nm,1.3s,comp=Z,1μm							
KSM	**Kuching**	**23.69**	**209**	P		**P**	**23 10 07.1**	**+1.6**
KSM	**Kuching**	**23.69**	**209**	P		**P**	**23 10 06.9**	**+1.4**
	comp=Z,21nm,1.2s							
KSM	**Kuching**	**23.69**	**209**	*e*P		**P**	**23 10 04.5**	**-0.9**
	comp=Z,21nm,1.1s							
JOM	**Ohasama**	**23.76**	**41**	P		**P**	**23 10 05.4**	**-0.5**
LBMI	**Labuha**	**23.87**	**165**	P		**P**	**23 10 08.3**	**+1.3**
	comp=Z,63nm,1.0s,comp=Z,2μm							
JTM	**Tenmabayashi**	**24.48**	**38**	P		**P**	**23 10 12.7**	**+0.3**
KTGM	**Kuala Trenggan**	**24.73**	**229**	P		Px	23 10 48.2	
JOT	**Ohata**	**24.87**	**37**	P		**P**	**23 10 16.5**	**+0.6**
GTA	**Gaotai**	**24.90**	**317**	⇑P		**P**	**23 10 16.8**	**+0.4**
GTA				S		**S**	**23 14 33.4**	**+2.2**
GTA				AMB		AMB		
	comp=Z,6.0nm,1.0s							
GTA				AMB		AMB		
	comp=Z,58nm,4.7s							
GTA				LR		LR		
	comp=Z,120nm,12.4s							
GTA				LR		LR		
	comp=Z,110nm,14.5s							
GTA				LR		LR		
	comp=Z,86nm,13.3s							
MMSI	**Mamuju**	**25.31**	**186**	P		**P**	**23 10 20.9**	**+0.8**
	comp=Z,96nm,0.8s							
NLAI	**Namlea**	**26.30**	**167**	P		**P**	**23 10 30.9**	**+1.9**
	comp=Z,160nm,0.8s,comp=Z,1μm							
HIA	**Hailar**	**26.61**	**357**	*e*P		**P**	**23 10 32.4**	**+0.8**
MYKOM	**Kota Tinggi**	**26.90**	**222**	P		**P**	**23 10 36.5**	**+2.0**
MYKOM	**Kota Tinggi**	**26.90**	**222**	P		P	23 10 40.4	+5.9
	comp=Z,15nm,1.0s,comp=Z,377nm							
MYKOM	**Kota Tinggi**	**26.90**	**222**	*e*P		**P**	**23 10 36.0**	**+1.5**
	comp=Z,11nm,0.9s							
KGM	**Kluang**	**27.06**	**223**	P		**P**	**23 10 38.3**	**+2.4**
KAPI	**Kappang**	**27.54**	**184**	*e*P		**P**	**23 10 38.8**	**-1.4**
KAPI	**Kappang**	**27.54**	**184**	P		**P**	**23 10 38.8**	**-1.4**
	comp=Z,4.1nm,0.7s,baz=270,slow=9.1,SNR=3.9							
KAPI				LR		LR	23 24 07.6	
	comp=Z,31nm,19.2s,baz=78,slow=42							
ASAJ	**Asahikawa**	**27.58**	**34**	*e*P		**P**	**23 10 40.2**	**-0.1**
	comp=Z,200nm,2.3s							
ASAJ	**Asahikawa**	**27.58**	**34**	P		**P**	**23 10 40.6**	**+0.3**
	comp=Z,5.5nm,0.4s,baz=207,slow=11,SNR=7.3							
ASAJ				LR		LR	23 23 23.5	
	comp=Z,39nm,19.5s,baz=332,slow=40							
KLR	**Kul'dur**	**27.75**	**15**	*e*P		**P**	**23 10 40.1**	**-1.6**
SONA0	**Songino Array**	**27.90**	**338**	*e*PcP		**PcP**	**23 13 55.1**	**-1.0**
SONA0				*e*ScP		**ScP**	**23 17 24.0**	**-2.3**
SONM	**Songino Array**	**27.90**	**338**	P		**P**	**23 10 43.0**	**-0.3**
	comp=Z,16nm,0.7s,baz=154,slow=9.5,SNR=148							
SONM				PcP		**PcP**	**23 13 55.1**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=171,slow=3.4,SNR=3.4							
SONM				ScP		**ScP**	**23 17 24.0**	**-2.3**
	comp=Z,1.1nm,0.8s,baz=151,slow=2.8,SNR=8.9							
SONM				LR		LR	23 22 57.0	
	comp=Z,90nm,21.3s,baz=11,slow=38							
SONA1	**Songino Array**	**27.91**	**338**	*e*P		**P**	**23 10 42.5**	**-0.9**
HABR	**Khabarovsk**	**27.94**	**19**	*e*P		**P**	**23 10 43.4**	**0.0**
HABR				*e**SP		**sP**	**23 11 20.4**	**-1.8**
HABR				*e*			23 11 37.2	
HABR				*e*			23 13 54.7	
HABR				*e*			23 21 17.6	
HABR				pmax		pmax		
	comp=Z,16nm,1.0s							
HABR				MLR		MLR		
	comp=Z,174nm,19.0s							
LSA	**Lhasa**	**28.08**	**291**	P		**P**	**23 10 47.5**	**+2.0**
LSA	**Lhasa**	**28.08**	**291**	*e*P		**P**	**23 10 47.9**	**+2.4**
LSA				pmax		pmax		
	comp=Z,5.0nm,0.6s							
LSA	**Lhasa**	**28.08**	**291**	*e*P		**P**	**23 10 47.9**	**+2.4**
	comp=Z,4.9nm,0.6s							
YSS	**Yuzh-Sakhalins**	**29.69**	**30**	*e*P		**P**	**23 11 00.0**	**+1.0**
PPI	**Padang Panjang**	**30.82**	**225**	P		P	23 11 23.0	+14
ZAK	**Zakamensk**	**31.15**	**337**	⇓*i*P		**P**	**23 11 11.0**	**-0.9**
ZAK				pmax		pmax		
	comp=Z,4.0nm,1.1s							
ODAN	**Odare**	**31.21**	**285**	*e*P		**P**	**23 11 14.4**	**+1.5**
	comp=Z,12nm,0.8s							
GSI	**Gunungsitoli**	**31.48**	**231**	P		**P**	**23 11 15.8**	**+0.7**
	comp=Z,8.2nm,1.0s							
MDSI	**Maura Dua**	**31.84**	**214**	P		**P**	**23 11 19.5**	**+1.3**
	comp=Z,19nm,1.0s							
KRKI	**Karangkates**	**31.87**	**197**	P		**P**	**23 11 19.9**	**+1.5**
	comp=Z,219nm,0.4s,comp=Z,18μm							
RAMN	**Ramite**	**31.91**	**285**	*e*P		**P**	**23 11 20.7**	**+1.6**
	comp=Z,26nm,0.9s							
PWJI	**Pagerwojo**	**31.92**	**198**	P		**P**	**23 11 20.7**	**+1.8**
	comp=Z,32nm,0.9s							
TLY	**Talaya**	**32.11**	**339**	*e*P		**P**	**23 11 20.1**	**-0.2**
TLY				pmax		pmax		
	comp=Z,8.0nm,0.7s							
TLY				MLR		MLR		
	comp=Z,54nm,15.0s							
JIRN	**Jiri**	**32.28**	**286**	*e*P		**P**	**23 11 24.1**	**+1.6**
	comp=Z,18nm,0.8s							
GUN	**Gumba**	**32.56**	**287**	*e*P		**P**	**23 11 26.3**	**+1.4**
PKI	**Pulchoki**	**32.98**	**286**	*e*P		**P**	**23 11 29.5**	**+1.0**
MOY	**Mondy**	**33.03**	**336**	*e*P		**P**	**23 11 28.3**	**-0.1**
KKN	**Kakani**	**33.09**	**286**	*e*P		**P**	**23 11 30.4**	**+1.0**
	comp=Z,21nm,1.1s							
DMN	**Daman**	**33.25**	**286**	*e*P		**P**	**23 11 31.8**	**+1.0**
	comp=Z,30nm,1.1s							
GKN	**Gorkha**	**33.66**	**287**	*e*P		**P**	**23 11 34.9**	**+0.6**
	comp=Z,24nm,1.1s							
DANN	**Dangsing**	**34.44**	**287**	*e*P		**P**	**23 11 42.3**	**+1.1**
	comp=Z,33nm,1.1s							
KOLN	**Koldanda**	**34.58**	**286**	*e*P		**P**	**23 11 43.5**	**+1.3**
	comp=Z,22nm,0.8s							
WMQ	**Urumqi**	**34.94**	**315**	P		**P**	**23 11 46.0**	**+1.0**
WMQ				pP		**pP**	**23 12 11.1**	**+0.4**
WMQ				sP		**sP**	**23 12 24.1**	**+0.1**
WMQ				PP		**PP**	**23 13 10.6**	**+4.2**
WMQ				AMB		AMB		
	comp=Z,11nm,0.5s							
WMQ				AMB		AMB		
	comp=Z,120nm,4.6s							
WMQ				LR		LR		
	comp=Z,150nm,6.0s							
WMQ				LR		LR		
	comp=Z,180nm,6.4s							
WMQ				LR		LR		
	comp=Z,49nm,21.8s							
KRAR	**Krasnoyarsk**	**39.46**	**335**	*e*P		**P**	**23 12 25.3**	**+2.5**
KRAR				pmax		pmax		
	comp=Z,43nm,0.8s							
MK01	**Makanchi Array**	**39.64**	**317**	*e*P		**P**	**23 12 25.1**	**+0.5**
MK31	**Makanchi Array**	**39.65**	**317**	*e*P		**P**	**23 12 25.5**	**+0.8**
MK31	**Makanchi Array**	**39.65**	**317**	*e*P		**P**	**23 12 25.5**	**+0.8**
MK32	**Makanchi Array**	**39.65**	**317**	*e*P		**P**	**23 12 25.7**	**+1.0**
MK32				*e*PcP		**PcP**	**23 14 29.5**	**+0.2**
MK32				*e*ScP		**ScP**	**23 18 06.9**	**-0.6**
MKAR	**Makanchi Array**	**39.65**	**317**	*e*P		**P**	**23 12 25.2**	**+0.5**
MKAR	**Makanchi Array**	**39.65**	**317**	*e*P		**P**	**23 12 25.2**	**+0.5**
MKAR	**Makanchi Array**	**39.65**	**317**	P		**P**	**23 12 25.7**	**+1.0**
	comp=Z,27nm,0.7s,baz=112,slow=9.8,SNR=269							
MKAR				PcP		**PcP**	**23 14 29.5**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=96,slow=2.9,SNR=3.5							
MKAR				ScP		**ScP**	**23 18 06.9**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=103,slow=4.9,SNR=7.0							
YAK	**Yakutsk**	**39.76**	**6**	*e*P		**P**	**23 12 26.4**	**+1.2**
FITZ	**Fitzroy Crossi**	**40.70**	**174**	*e*P		**P**	**23 12 31.2**	**-2.2**
	comp=Z,26nm,1.5s							
ZAA0	**Zalesovo Array**	**41.70**	**328**	*e*P		**P**	**23 12 40.8**	**-0.5**
ZALV	**Zalesovo Beam**	**41.70**	**328**	P		**P**	**23 12 41.3**	**0.0**
	comp=Z,29nm,0.6s,baz=115,slow=7.6,SNR=111							
KSH	**Kashi**	**42.00**	**304**	P		P	23 12 48.0	+3.9
KSH				pP		pP	23 13 12.0	+1.5
KSH				sP		sP	23 13 25.4	+1.7
KSH				PP		**PnPn**	**23 14 30.6**	**+0.8**
KSH				S		**S**	**23 18 58.9**	**+4.4**
KSH				sS		sS	23 19 45.3	+5.2
KSH				ScS		**ScS**	**23 22 37.4**	**+2.5**
KSH				AMB		AMB		
	comp=Z,7.0nm,0.7s							
KSH				AMB		AMB		
	comp=Z,79nm,4.2s							
KSH				LR		LR		
	comp=Z,51nm,5.5s							
KSH				LR		LR		
	comp=Z,74nm,4.4s							
KSH				LR		LR		
	comp=Z,63nm,8.2s							
COEN	**Coen**	**42.12**	**148**	*e*P		**P**	**23 12 43.1**	**-2.1**
	comp=Z,422nm,0.7s							
H11N1	**WAKE ISLAND Hy**	**42.30**	**85**	T		T	23 58 33.7	
	baz=285,slow=0.7,SNR=26							
H11N2	**WAKE ISLAND Hy**	**42.30**	**85**	T		T	23 58 21.2	
	baz=285,slow=0.7,SNR=41							
H11N3	**WAKE ISLAND Hy**	**42.32**	**85**	T		T	23 58 23.2	
	baz=285,slow=0.7,SNR=35							
H11S3	**WAKE ISLAND Hy**	**42.38**	**87**	T		T	23 58 37.6	
	baz=286,slow=0.7,SNR=85							
H11S1	**WAKE ISLAND Hy**	**42.39**	**87**	T		T	23 58 31.6	
	baz=286,slow=0.7,SNR=75							
H11S2	**WAKE ISLAND Hy**	**42.40**	**87**	T		T	23 58 29.3	
	baz=286,slow=0.7,SNR=38							
TKM2	**Tokmak 2**	**42.95**	**309**	*e*P		**P**	**23 12 51.5**	**-0.4**
TKM2				pmax		pmax		
	comp=Z,19nm,1.0s							
TKM2	**Tokmak 2**	**42.95**	**309**	*e*P		**P**	**23 12 51.5**	**-0.4**
	comp=Z,19nm,1.0s							
NVS	**Novosibirsk**	**42.96**	**328**	*e*P		**P**	**23 12 50.1**	**-1.4**
NVS				pmax		pmax		
	comp=Z,31nm,1.7s							
NVS				pmax		pmax		
	comp=E,1μm,1.0s							
MBWA	**Marble Bar**	**43.57**	**182**	*e*P		**P**	**23 12 55.7**	**-1.1**
	comp=E,14nm,0.9s							
AAK	**Ala-Archa**	**43.68**	**309**	*e*P		**P**	**23 12 59.3**	**+1.6**
AAK				pmax		pmax		
	comp=Z,4.0nm,0.8s							
AAK	**Ala-Archa**	**43.68**	**309**	*e*P		**P**	**23 12 59.3**	**+1.6**
	comp=Z,3.7nm,0.8s							
WRAB	**Tennant Creek**	**44.14**	**163**	*e*P		**P**	**23 12 59.2**	**-2.1**
WRAB				pmax		pmax		
	comp=Z,10.0nm,0.9s							
WRAB	**Tennant Creek**	**44.14**	**163**	*e*P		**P**	**23 12 59.1**	**-2.1**
	comp=Z,10nm,0.9s							
WRA	**Warramunga Arr**	**44.14**	**163**	*e*P		**P**	**23 12 59.8**	**-1.6**
WRA				*e*ScP		**ScP**	**23 18 21.5**	**-4.2**
WRA	**Warramunga Arr**	**44.14**	**163**	P		**P**	**23 12 59.8**	**-1.6**
	comp=Z,7.1nm,0.7s,baz=345,slow=8.7,SNR=68							
WRA				ScP		**ScP**	**23 18 21.5**	**-4.2**
	comp=Z,1.9nm,1.0s,baz=343,slow=4.2,SNR=5.4							
EKS2	**Erkin-Say**	**44.21**	**308**	*e*P		**P**	**23 13 03.3**	**+1.5**
EKS2				pmax		pmax		
	comp=Z,38nm,2.1s							
EKS2	**Erkin-Say**	**44.21**	**308**	*e*P		**P**	**23 13 03.3**	**+1.5**
	comp=Z,38nm,2.1s							
KKAR	**Karatay Array**	**46.65**	**308**	*e*P		**P**	**23 13 21.5**	**+0.5**
KKAR	**Karatay Array**	**46.65**	**308**	*e*P		**P**	**23 13 21.5**	**+0.5**
KBL	**Kabul**	**47.10**	**297**	*e*P		**P**	**23 13 25.6**	**+0.7**
KBL				pmax		pmax		
	comp=Z,11nm,0.9s							
KBL	**Kabul**	**47.10**	**297**	*e*P		**P**	**23 13 25.6**	**+0.7**
	comp=Z,11nm,0.9s							
AS31	**Alice Springs**	**47.58**	**165**	*e*P		**P**	**23 13 27.6**	**-0.7**
AS12	**Alice Springs**	**47.59**	**165**	*e*P		**P**	**23 13 27.9**	**-0.4**
AS12				*e*ScP		**ScP**	**23 18 36.8**	**-3.2**
ASAR	**Alice Springs**	**47.59**	**165**	P		**P**	**23 13 27.9**	**-0.4**
	comp=Z,3.5nm,0.5s,baz=346,slow=7.6,SNR=58							
ASAR				ScP		**ScP**	**23 18 36.8**	**-3.2**
	comp=Z,1.9nm,0.8s,baz=353,slow=4.8,SNR=9.6							
ASAR				LR		LR	23 37 15.8	
	comp=Z,130nm,18.7s,baz=273,slow=41							
AS01	**Alice Springs**	**47.59**	**164**	*e*P		**P**	**23 13 26.6**	**-1.9**
VOSK	**Vostochnaya**	**48.62**	**321**	*e*P		**P**	**23 13 35.7**	**-0.3**
VOSK				pmax		pmax		
	comp=Z,11nm,0.8s							
VOSK	**Vostochnaya**	**48.62**	**321**	*e*P		**P**	**23 13 35.7**	**-0.3**
	comp=Z,11nm,0.8s							
CTAO	**Charters Tower**	**48.86**	**149**	*e*P		**P**	**23 13 37.4**	**-0.8**
CTAO				pmax		pmax		
	comp=Z,24nm,1.1s							
CTAO	**Charters Tower**	**48.86**	**149**	*e*P		**P**	**23 13 37.4**	**-0.8**
	comp=Z,24nm,1.1s							
BRVK	**Borovoye**	**49.12**	**322**	*e*P		**P**	**23 13 40.1**	**+0.3**
BRVK				pmax		pmax		
	comp=Z,24nm,0.8s							
BRVK	**Borovoye**	**49.12**	**322**	*e*P		**P**	**23 13 40.1**	**+0.3**
	comp=Z,24nm,0.8s							
TIXI	**Tiksi**	**49.21**	**3**	*e*P		**P**	**23 13 39.5**	**-0.7**
TIXI				pmax		pmax		
	comp=Z,5.0nm,0.9s							
IMYA	**Miami**	**54.35**	**299**	*e*P		**P**	**23 14 20.4**	**+1.2**
IMOG	**Moghan**	**54.98**	**299**	*e*P		**P**	**23 14 24.4**	**+0.5**
SVE	**Sverdlovsk**	**55.46**	**324**	⇓*i*P		**P**	**23 14 27.2**	**+0.6**
SVE				pmax		pmax		
	comp=Z,40nm,0.8s							
IKRD	**Kardeh**	**55.59**	**300**	*e*P		P	23 14 23.8	-4.4
ITEG	**Tejag**	**55.76**	**295**	*e*P		**P**	**23 14 30.4**	**+1.0**
ISFR	**Sfrayin**	**55.99**	**300**	*e*P		**P**	**23 14 31.2**	**+0.1**
ARU	**Arti**	**56.51**	**324**	*c i*P		**P**	**23 14 34.2**	**+0.1**
ARU							23 16 38.0	
ARU				S		**S**	**23 22 18.8**	**+2.4**
ARU				pmax		pmax		
	comp=Z,24nm,0.6s							
STKA	**Stephens Creek**	**57.52**	**160**	*e*P		**P**	**23 14 41.5**	**0.0**
	comp=Z,3.8nm,0.7s							
STKA	**Stephens Creek**	**57.52**	**160**	P		**P**	**23 14 41.2**	**-0.3**
	comp=Z,18nm,0.7s,baz=336,slow=6.5,SNR=50							
SOKR	**Solikamsk**	**57.98**	**327**	*e*P		**P**	**23 14 44.9**	**+0.6**
SOKR				pmax		pmax		
	comp=Z,10.0nm,0.6s							
ARMA	**Armidale**	**60.17**	**150**	*e*P		**P**	**23 15 00.3**	**+0.3**
	comp=Z,11nm,0.8s							
ISFB	**Sefidab**	**60.95**	**298**	*e*P		**P**	**23 15 05.8**	**+0.5**
IPAR	**Pars**	**61.04**	**293**	*e*P		**P**	**23 15 06.7**	**+0.4**
ISRV	**Sarvestan**	**61.07**	**292**	*e*P		**P**	**23 15 06.1**	**-0.4**
IGZV	**Ghazvin**	**62.27**	**300**	*e*P		**P**	**23 15 16.2**	**+1.8**
IRAZ	**Razeghan**	**62.66**	**299**	*e*P		**P**	**23 15 17.6**	**+0.7**
ZEI	**Tsey**	**66.11**	**308**	*e*P		**P**	**23 15 39.1**	**-0.1**
ZEI				pmax		pmax		
	comp=Z,11nm,1.0s							
VRHR	**Novokhopersk**	**66.46**	**317**	*e*P		**P**	**23 15 40.3**	**-0.7**
VRHR				pmax		pmax		
	comp=N,5.0nm,0.8s							
VRHR				pmax		pmax		
	comp=E,5.0nm,0.8s							
VRHR				pmax		pmax		
	comp=Z,30nm,0.8s							
KLMR	**Klimovskoe**	**66.62**	**328**	*e*P		**P**	**23 15 40.3**	**-1.6**
KLMR				pmax		pmax		
	comp=Z,29nm,0.8s							
KBZ	**Khabaz**	**66.67**	**309**	*e*P		**P**	**23 15 43.2**	**+0.7**
KBZ	**Khabaz**	**66.67**	**309**	*e*P		**P**	**23 15 43.2**	**+0.7**
KBZ	**Khabaz**	**66.67**	**309**	P		**P**	**23 15 43.2**	**+0.7**
	comp=Z,4.9nm,0.8s,baz=121,slow=4.3,SNR=13							
KIV	**Kislovodsk**	**66.79**	**310**	*e*P		**P**	**23 15 43.0**	**-0.4**
KIV				pmax		pmax		
	comp=Z,13nm,1.0s							
VSR	**Storozhevoye**	**67.97**	**318**	*e*P		**P**	**23 15 50.0**	**-0.6**
VSR				pmax		pmax		
	comp=Z,20nm,0.9s							
VSR				pmax		pmax		
	comp=N,2.0nm,0.4s

MLR	Muntele Rosu	77.93 314	⇓	*i*	P	P	23 16 50.2 +0.6
KWP	Kalwaria Pacla	78.53 319	⇓	P		P	23 16 53.4 +0.7
KWP	Kalwaria Pacla	78.53 319	⇓	*i*	P	P	23 16 53.4 +0.7
KWP	Kalwaria Pacla	78.53 319		*e*	P	P	23 16 52.9 +0.2
	comp=Z,22nm,1.0s						
KWP	Kalwaria Pacla	78.53 319		*e*	P	P	23 16 53.2 +0.5
VOIR		78.54 314	⇑	P		P	23 16 53.8 +0.9
VOIR		78.54 314	⇑	*i*	P	P	23 16 53.8 +0.9
ARR	Arges	78.84 314	⇓	*i*	P	P	23 16 55.4 +0.9
KOLS	Kolonicke sedl	79.05 318		*e*	P	P	23 16 54.9 -0.6
KOLS	Kolonicke sedl	79.05 318		*e*	P	P	23 16 54.9 -0.6
TRPA	Tarpa	79.18 318	⇑	*i*	P	P	23 16 57.0 +0.8
LOT	Lotru	79.38 315	⇓	*i*	P	P	23 16 58.2 +0.7
STHS	Stebnicka Huta	79.49 319		*e*	P	P	23 16 57.7 -0.3
STHS				pmax	pmax		
	comp=Z,4.0nm,1.3s						
STHS	Stebnicka Huta	79.49 319		*e*	P	P	23 16 57.7 -0.3
CRVS	Cervenica-Dubn	79.55 319		*e*	P	P	23 16 59.3 +1.0
CRVS				pmax	pmax		
	comp=Z,37nm,2.3s						
CRVS	Cervenica-Dubn	79.55 319		*e*	P	P	23 16 59.3 +1.0
DRGR		79.57 316	⇓	P		P	23 16 59.2 +0.7
DRGR		79.57 316	⇓	*i*	P	P	23 16 59.2 +0.7
NB2	NORSAR Subarra	79.72 332		P		P	23 16 58.2 -0.8
	comp=Z,5.2nm,0.6s,baz=62,slow=5.6						
NOA	NORSAR Array B	79.72 332		P		P	23 16 58.1 -0.9
	comp=Z,5.4nm,0.7s,baz=61,slow=5.4,SNR=17						
NOA				LR		LR	23 56 12.1
	comp=Z,41nm,18.4s,baz=220,slow=38						
OJC	Ojcow	80.04 320		*e*	P	P	23 17 01.3 +0.4
OJC	Ojcow	80.04 320		*e*	P	P	23 17 00.8 -0.1
	comp=Z,18nm,0.6s						
OJC	Ojcow	80.04 320		*e*	P	P	23 17 01.3 +0.4
NIE	Niedzica	80.05 319		*e*	P	P	23 17 02.0 +1.0
NIE	Niedzica	80.05 319		*e*	P	P	23 17 02.0 +1.0
RPZ	Rata Peaks	80.15 146		*e*	P	P	23 17 01.1 -0.3
	comp=Z,470nm,2.7s						
BZS	Buzias	80.72 316	⇑	P		P	23 17 04.7 +0.1
BZS	Buzias	80.72 316	⇑	*i*	P	P	23 17 04.7 +0.1
VTS	Vitosha	80.81 312	⇑	P		P	23 17 06.3 +0.9
VTS	Vitosha	80.81 312	⇑	*i*	P	P	23 17 06.3 +0.9
PSZ	Piszkesteto	80.90 318	⇓	*i*	P	P	23 17 04.6 -1.0
OKC	Ostrava-Krasne	81.17 320		*e*	P	P	23 17 07.3 +0.4
OKC	Ostrava-Krasne	81.17 320		*e*	P	P	23 17 07.3 +0.4
MORC	Moravsky Berou	81.55 321	⇑	P		P	23 17 09.6 +0.6
MORC	Moravsky Berou	81.55 321	⇑	*i*	P	P	23 17 09.6 +0.6
KSP	Ksiaz	81.82 322	⇑	*e*	P	P	23 17 10.9 +0.6
KSP	Ksiaz	81.82 322		*e*	P	P	23 17 10.8 +0.5
DPC	Dobruska-Polom	82.02 321		*e*	P	P	23 17 11.1 -0.3
DPC				pmax	pmax		
	comp=Z,25nm,0.7s						
DPC	Dobruska-Polom	82.02 321		*e*	P	P	23 17 12.0 +0.6
DPC	Dobruska-Polom	82.02 321		*e*	P	P	23 17 12.0 +0.6
DPC	Dobruska-Polom	82.02 321		*e*	P	P	23 17 11.1 -0.3
	comp=Z,25nm,0.7s						
UPC	Upice	82.12 322		*e*	P	P	23 17 12.6 +0.7
UPC	Upice	82.12 322		*e*	P	P	23 17 12.6 +0.7
VRAC	Vranov	82.31 320	⇓	*i*	P	P	23 17 13.9 +1.0
PKSM	Moragy	82.38 317	⇓	P		P	23 17 13.8 +0.5
PKSM	Moragy	82.38 317	⇓	*i*	P	P	23 17 13.8 +0.5
PVCC	Panska Ves	82.94 322		*e*	P	P	23 17 17.7 +1.6
PVCC	Panska Ves	82.94 322		*e*	P	P	23 17 17.7 +1.6
TREC	Trest	82.97 321		*e*	P	P	23 17 17.1 +0.8
TREC	Trest	82.97 321		*e*	P	P	23 17 17.1 +0.8
BRG	Berggiesshubel	83.14 323		*e*	P	P	23 17 17.4 +0.3
	comp=Z,9.5nm,1.3s						
BRG	Berggiesshubel	83.14 323		*e*	P	P	23 17 17.4 +0.3
BRG				pmax	pmax		
	comp=Z,6.0nm,1.3s						
BRG	Berggiesshubel	83.14 323		*e*	P	P	23 17 17.5 +0.3
	comp=Z,10.0nm,1.3s						
PRU	Pruhonice	83.20 322		*e*	P	P	23 17 17.9 +0.4
PRU	Pruhonice	83.20 322		*e*	P	P	23 17 17.9 +0.4
CONA	Conrad Observa	83.35 319	⇑	*i*	P	P	23 17 19.0 +0.5
	comp=Z,14nm,1.3s						
FBE	Freiberg	83.44 323		*e*	P	P	23 17 19.3 +0.6
	comp=Z,14nm,1.0s						
CLL	Collm	83.46 323		*i*	P	P	23 17 18.7 0.0
CLL				pmax	pmax		
	comp=Z,566nm,0.8s						
CLL	Collm	83.46 323		*e*	P	P	23 17 18.8 0.0
	comp=Z,9.0nm,0.8s						
CLL	Collm	83.46 323		*i*	P	P	23 17 18.7 0.0
	comp=Z,9.0nm,0.8s						
SUMG	Summit	84.06 354		*e*	P	P	23 17 22.1 +0.2
SUMG				pmax	pmax		
	comp=Z,62nm,2.0s						
SUMG	Summit	84.06 354		*i*	P	P	23 17 21.7 -0.2
	comp=Z,7.6nm,0.9s						
SUMG	Summit	84.06 354		*e*	P	P	23 17 22.1 +0.2
	comp=Z,62nm,2.0s						
KHC	Kasperske Hory	84.15 321		*e*	P	P	23 17 22.6 +0.2
KHC	Kasperske Hory	84.15 321		*e*	P	P	23 17 22.6 +0.2
KHC	Kasperske Hory	84.15 321		*e*	P	P	23 17 22.3 -0.1
	comp=Z,5.3nm,0.9s						
NEUB	Neuenburg	84.18 323		*e*	P	P	23 17 22.6 +0.2
	comp=Z,21nm,0.9s						
TANN	Tannenbergstha	84.18 323		*e*	P	P	23 17 22.7 +0.1
	comp=Z,27nm,2.1s						
GEC2	GERESS Array S	84.22 321		*e*	P	P	23 17 23.1 +0.2
GEC2				pmax	pmax		
	comp=Z,12nm,0.9s						
GEC2	GERESS Array S	84.22 321		*e*	P	P	23 17 23.1 +0.2
	comp=Z,12nm,0.9s						
GEC2	GERESS Array S	84.22 321		*e*	P	P	23 17 23.0 +0.2
GERES	GERESS Array B	84.22 321		P	P	P	23 17 23.1 +0.2
	comp=Z,6.5nm,0.7s,baz=60,slow=4.6,SNR=68						
WERD	Werda	84.25 323		*e*	P	P	23 17 23.1 +0.2
	comp=Z,17nm,1.7s						
NKC	Novy Kostel	84.28 322		*e*	P	P	23 17 23.5 +0.5
NKC	Novy Kostel	84.28 322		*e*	P	P	23 17 23.5 +0.5
GUNZ	Gunzen	84.28 323		*e*	P	P	23 17 23.2 +0.2
	comp=Z,6.0nm,0.6s						
WERN	Wernitzgruen	84.29 322		*e*	P	P	23 17 23.6 +0.5
	comp=Z,23nm,1.6s						
PLN	Plauen	84.32 323		*e*	P	P	23 17 23.4 +0.2
	comp=Z,52nm,1.0s						
MOA	Molln	84.35 320	⇑	*i*	PcP	P	23 17 24.0 +0.6
	comp=Z,7.0nm,0.6s,SNR=14						
PERS	Pernice	84.39 318		*i*	P	P	23 17 24.1 +0.4
SOKA	Soboth	84.42 318		*i*	P	P	23 17 24.0 +0.2
	comp=Z,7.6nm,0.6s,SNR=12						
WET	Wettzell	84.55 321		*e*	P	P	23 17 24.8 +0.4
WET	Wettzell	84.55 321		*e*	P	P	23 17 24.8 +0.4
MANZ	Manzenberg	84.59 322		*e*	P	P	23 17 25.0 +0.4
	comp=Z,9.0nm,1.2s						
CLZ	Clausthal	84.63 324		*e*	P	P	23 17 25.3 +0.5
CLZ				pmax	pmax		
	comp=Z,13nm,0.9s						
CLZ	Clausthal	84.63 324		*e*	P	P	23 17 25.3 +0.5
	comp=Z,13nm,0.9s						
ROTZ	Rotzenmuhle	84.64 322		*e*	P	P	23 17 25.7 +0.9
	comp=Z,16nm,1.4s						
OBKA	Obir	84.79 318	⇑	*i*	P	P	23 17 25.7 -0.1
	comp=Z,8.0nm,0.8s						
BOJS	Bojanci	84.82 317		*i*	P	P	23 17 26.6 +0.8
BOJS	Bojanci	84.82 317		*i*	P	P	23 17 26.6 +0.8
VISS	Visnje	84.94 318		*i*	P	P	23 17 26.8 +0.4
VISS	Visnje	84.94 318		*i*	P	P	23 17 26.8 +0.4
GBRS	Gornja Briga	85.08 317		*i*	P	P	23 17 28.0 +0.8
KMBO	Kilima Mbogo	85.12 267		*e*	P	P	23 17 29.6 +1.4
	comp=Z,35nm,2.6s						
KMBO	Kilima Mbogo	85.12 267		P		P	23 17 29.6 +1.4
	comp=Z,0.9nm,0.4s,baz=12,slow=5.7,SNR=5.7						
RJOB	Jochberg	85.27 320		*e*	P	P	23 17 28.3 +0.2
	comp=Z,11nm,1.0s						
JAVS	Javornik	85.38 318		*i*	P	P	23 17 28.5 -0.2
JAVS	Javornik	85.38 318		*i*	P	P	23 17 28.5 -0.2
IBBN	Ibbenburen	85.77 326		*e*	P	P	23 17 30.9 +0.5
	comp=Z,23nm,0.7s						
FETA	Feichten	86.85 320	⇑	*i*	PcP	P	23 17 36.4 +0.3
	comp=Z,5.3nm,1.0s						
FUORN	Ofenpass-Fuorn	87.33 320		*e*	P	P	23 17 38.7 +0.2
	comp=Z,8.0nm,0.6s						
TUE	Stuetta	87.95 320		*e*	P	P	23 17 40.5 -0.8
	comp=Z,103nm,2.5s						
WLF	Walferdange	88.06 324		P		P	23 17 42.3 +0.8
	comp=Z,21nm,2.1s						
WLF	Walferdange	88.06 324		*e*	P	P	23 17 42.0 +0.5
	comp=Z,11nm,0.8s						
CDF	Champ du Feu	88.12 323		*e*	P	P	23 17 41.7 -0.2
	comp=Z,2.2nm,0.4s						
CDF	Champ du Feu	88.12 323		*e*	P	P	23 17 41.7 -0.2
CDF				pmax	pmax		
	comp=Z,2.0nm,0.4s						
CDF	Champ du Feu	88.12 323		*e*	P	P	23 17 41.7 -0.2
	comp=Z,2.2nm,0.4s						
GIVF	Givet	88.53 325		*e*	P	P	23 17 43.4 -0.3
GIVF	Givet	88.53 325		*e*	P	P	23 17 43.4 -0.3
GIVF	Givet	88.53 325		*e*	P	P	23 17 43.4 -0.3
DOU	Dourbes	88.65 325		P		P	23 17 44.3 0.0
	comp=Z,15nm,2.5s						
HINF	Hinteralfeld	88.68 322		*e*	P	P	23 17 43.9 -0.6
	comp=Z,5.2nm,0.7s						
HINF	Hinteralfeld	88.68 322		*e*	P	P	23 17 43.9 -0.6
HINF				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HINF	Hinteralfeld	88.68 322		*e*	P	P	23 17 43.9 -0.6
	comp=Z,5.2nm,0.7s						
HAU	Haudompre	88.86 323		*e*	P	P	23 17 44.9 -0.5
	comp=Z,6.3nm,0.7s						
HAU	Haudompre	88.86 323		*e*	P	P	23 17 44.9 -0.5
HAU				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HAU	Haudompre	88.86 323		*e*	P	P	23 17 44.9 -0.5
	comp=Z,6.3nm,0.7s						
BAIF	Baives	88.88 325		*e*	P	P	23 17 45.2 -0.1
BAIF	Baives	88.88 325		*e*	P	P	23 17 45.2 -0.1
BAIF	Baives	88.88 325		*e*	P	P	23 17 45.2 -0.1
PAGF	Fort de Pagny	88.90 323		*e*	P	P	23 17 45.5 0.0
PAGF	Fort de Pagny	88.90 323		*e*	P	P	23 17 45.5 0.0
MEZF	Maizieres J'vi	89.30 323		*e*	P	P	23 17 47.4 0.0
MEZF	Maizieres J'vi	89.30 323		*e*	P	P	23 17 47.4 0.0
LPG	La Plagne	90.00 320		*e*	P	P	23 17 51.3 +0.2
	comp=Z,26nm,0.7s						
LPG	La Plagne	90.00 320		*e*	P	P	23 17 51.3 +0.2
LPG				pmax	pmax		
	comp=Z,26nm,0.6s						
LPG	La Plagne	90.00 320		*e*	P	P	23 17 51.3 +0.2
	comp=Z,26nm,0.6s						
LPL	La Plagne	90.00 320		*e*	P	P	23 17 51.2 +0.2
	comp=Z,22nm,0.6s						
LPL	La Plagne	90.00 320		*e*	P	P	23 17 51.2 +0.2
LPL				pmax	pmax		
	comp=Z,23nm,0.6s						
LPL	La Plagne	90.00 320		*e*	P	P	23 17 51.2 +0.2
	comp=Z,22nm,0.6s						
PGF	Pioggiola	90.20 317		*e*	P	P	23 17 52.2 +0.4
	comp=Z,47nm,0.7s						
PGF	Pioggiola	90.20 317		*e*	P	P	23 17 52.2 +0.4
PGF				pmax	pmax		
	comp=Z,47nm,0.7s						
PGF	Pioggiola	90.20 317		*e*	P	P	23 17 52.2 +0.4
	comp=Z,47nm,0.7s						
MBDF	Montbardon	90.41 320		*e*	P	P	23 17 52.7 -0.1
	comp=Z,17nm,0.9s						
MBDF	Montbardon	90.41 320		*e*	P	P	23 17 52.7 -0.1
MBDF				pmax	pmax		
	comp=Z,17nm,0.9s						
MBDF	Montbardon	90.41 320		*e*	P	P	23 17 52.7 -0.1
	comp=Z,17nm,0.9s						
MBDF	Montbardon	90.41 320		*e*	P	P	23 17 52.7 -0.1
	comp=Z,17nm,0.9s						
SBF	Sospel	90.47 319		*e*	P	P	23 17 53.7 +0.7
	comp=Z,44nm,0.8s						
SBF	Sospel	90.47 319		*e*	P	P	23 17 53.7 +0.7
SBF				pmax	pmax		
	comp=Z,44nm,0.8s						
SBF	Sospel	90.47 319		*e*	P	P	23 17 53.7 +0.7
	comp=Z,44nm,0.8s						
LOR	Lormes	90.67 323		*e*	P	P	23 17 53.4 -0.4
	comp=Z,12nm,0.8s						
LOR	Lormes	90.67 323		*e*	P	P	23 17 53.4 -0.4
	comp=Z,12nm,0.8s						
ORIF	Oris-en-Rattie	90.83 320		*e*	P	P	23 17 54.7 0.0
	comp=Z,19nm,0.8s						
ORIF	Oris-en-Rattie	90.83 320		*e*	P	P	23 17 54.7 0.0
ORIF				pmax	pmax		
	comp=Z,19nm,0.8s						
ORIF	Oris-en-Rattie	90.83 320		*e*	P	P	23 17 54.7 0.0
	comp=Z,19nm,0.8s						
SSF	Saint Saulge	90.98 323		*e*	P	P	23 17 54.9 -0.3
	comp=Z,23nm,1.1s						
SSF	Saint Saulge	90.98 323		*e*	P	P	23 17 54.9 -0.3
SSF				pmax	pmax		
	comp=Z,23nm,1.0s						
SSF	Saint Saulge	90.98 323		*e*	P	P	23 17 54.9 -0.3
	comp=Z,23nm,1.0s						
SMF	Signal de Mont	91.03 322		*e*	P	P	23 17 55.3 -0.2
	comp=Z,36nm,0.9s						
SMF	Signal de Mont	91.03 322		*e*	P	P	23 17 55.3 -0.2
SMF				pmax	pmax		
	comp=Z,36nm,0.9s						
SMF	Signal de Mont	91.03 322		*e*	P	P	23 17 55.3 -0.2
	comp=Z,36nm,0.9s						
AVF	Avril sur Loir	91.22 323		*e*	P	P	23 17 56.1 -0.3
	comp=Z,15nm,0.6s						
AVF	Avril sur Loir	91.22 323		*e*	P	P	23 17 56.1 -0.3
AVF				pmax	pmax		
	comp=Z,15nm,0.6s						
AVF	Avril sur Loir	91.22 323		*e*	P	P	23 17 56.1 -0.3
	comp=Z,15nm,0.6s						
HYF	Humbligny	91.34 323		*e*	P	P	23 17 57.3 +0.4
HYF	Humbligny	91.34 323		*e*	P	P	23 17 57.3 +0.4
VIVF	Saint-Julien-l	91.58 321		*e*	P	P	23 17 58.0 -0.1
VIVF	Saint-Julien-l	91.58 321		*e*	P	P	23 17 58.0 -0.1
VIVF	Saint-Julien-l	91.58 321		*e*	P	P	23 17 58.0 -0.1
TCF	Toulx Ste Croi	92.16 323		*e*	P	P	23 18 00.8 0.0
	comp=Z,5.1nm,0.5s						
TCF	Toulx Ste Croi	92.16 323		*e*	P	P	23 18 00.8 0.0
TCF				pmax	pmax		
	comp=Z,5.0nm,0.5s						
TCF	Toulx Ste Croi	92.16 323		*e*	P	P	23 18 00.8 0.0
	comp=Z,5.1nm,0.5s						
CAF	Calviac	93.05 322		*e*	P	P	23 18 05.4 +0.5
	comp=Z,22nm,1.1s						
CAF	Calviac	93.05 322		*e*	P	P	23 18 05.4 +0.5
CAF				pmax	pmax		
	comp=Z,22nm,1.1s						
CAF	Calviac	93.05 322		*e*	P	P	23 18 05.4 +0.5
	comp=Z,22nm,1.1s						
RJF	Les Rejaudoux	93.13 322		*e*	P	P	23 18 05.8 +0.6
	comp=Z,25nm,0.7s						
RJF	Les Rejaudoux	93.13 322		*e*	P	P	23 18 05.8 +0.6
RJF				pmax	pmax		
	comp=Z,25nm,0.7s						
RJF	Les Rejaudoux	93.13 322		*e*	P	P	23 18 05.8 +0.6
	comp=Z,25nm,0.7s						
MLAC	Mammoth Lakes	97.48 44		*e*	P	P	23 18 24.0 -1.5
FMP	Fort Macarthur	100.13 47		*e*	Pdif	Pdif	23 18 37.2 +0.1
TOA0	Torodi Ar. Sit	111.15 295		*e*	PKiKP	PKiKP	23 23 24.1 -0.9
TORD	Torodi Ar. Bea	111.15 295		PKiKP		PKiKP	23 23 24.1 -0.9
	comp=Z,0.2nm,0.7s,baz=80,slow=2.3,SNR=4.5						
LTX	Lajitas	112.46 42		*e*	PKiKP	PKiKP	23 23 26.9 -0.4
TXAR	Lajitas Array	112.46 42		PKiKP		PKiKP	23 23 26.9 -0.4
	comp=Z,0.2nm,0.4s,baz=64,slow=2.1,SNR=8.4						
USHA	Ushuaia	147.00 169		*e*	PKPdf	PKPbc	23 24 33.3 +0.4
USHA	Ushuaia	147.00 169		PKPbc		PKPbc	23 24 33.3 +0.4
	comp=Z,6.4nm,0.8s,baz=90,slow=8.1,SNR=2.8						

IDC ***22*** *23:13:43.4±2.3, 6.60S×132.18E, h0km, mb3.6/2, mb1 3.6/4, mb1mx3.4/17, mbtmp3.5/4, ML3.2/2, Error ellipse: s-maj=184.7km s-min=25.5km az=69.0*

ISC 22 23:13:44.4±1.3, 6.52S±0.08×132.2E±0.2, h35km, n9, σ2s61/7, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
TLE	Tual	1.01	30	P		Pn	23 14 00.8	-1.3
	baz=4.9,SNR=23							
FAKI	Fak Fak	3.57	0	P		Pn	23 14 36.5	-0.9
	baz=6.1,SNR=7.6							
KDU	Kakadu	6.14	178	P		Pn	23 15 11.7	-0.9
	baz=8.6,SNR=16							
MTN	Manton Dam	6.38	190	P		Pn	23 15 26.2	+10
	baz=9.5,SNR=3.8							
KNRA	Kununurra	9.72	200	P		Pn	23 16 11.7	+10
	baz=13,SNR=3.3							
WRA	Warramunga Arr	13.50	171	Pn		Pn	23 16 54.0	+0.3
	0.1nm,0.3s,baz=356,slow=13,SNR=5.7							
WRA				Sn		Sn	23 19 19.8	-2.7
	0.2nm,0.3s,baz=23,slow=24,SNR=4.4							
ASAR	Alice Springs	17.13	175	P		P	23 17 42.6	0.0
	0.1nm,0.3s,baz=356,slow=14,SNR=3.6							
STKA	Stephens Creek	26.71	162	P		P	23 19 24.6	+4.0
	1.3nm,0.7s,baz=337,slow=13,SNR=3.1							
MKAR	Makanchi Array	69.05	326	P		P	23 24 51.3	+4.6
	0.3nm,0.7s,baz=111,slow=6.3,SNR=3.0							

CSEM ***22*** *23:15:38.7±0.2, 38.05N×21.53E, h15km, MD2.6, Error ellipse: s-maj=3.5km s-min=3.1km az=105.0*

ISCJB ***22*** *23:15:39.1±0.3, 38.05N±0.02×21.54E±0.02, h17km±2km, Error ellipse: s-maj=2.9km s-min=2.7km az=170.0*

ATH ***22*** *23:15:39.1, 38.03N×21.55E, h15km±1km, MD2.6/27*

THE ***22*** *23:15:39.1, 38.05N×21.56E, h14km, ML2.3/10, Error ellipse: s-maj=0.8km s-min=0.5km az=285.0*

ISC 22 23:15:39.1±0.8, 38.05N±0.01×21.55E±0.02, h16km±4km, n90, σ0s58/164, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
RLS	Riolos of Patr	0.07	278	P		Pg	23 15 41.9	-0.3
RLS				S		Sg	23 15 44.6	+0.4
RLS	Riolos of Patr	0.07	278	*e*PB		Pg	23 15 41.9	-0.3
RLS				*e*SB		Sg	23 15 44.6	+0.4
RLS	Riolos of Patr	0.07	278	P		Pg	23 15 41.9	-0.3
RLS				S		Sg	23 15 44.6	+0.4
DRO	Drossia	0.16	127	P		Pg	23 15 42.8	-0.4
DRO				S		Sg	23 15 46.2	+0.2
DRO	Drossia	0.16	127	P		Pg	23 15 42.8	-0.4
DRO				S		Sg	23 15 46.2	+0.2
AXS	Araxos	0.20	317	P		Pg	23 15 43.5	-0.4
AXS				S		Sg	23 15 47.0	-0.1
AXS	Araxos	0.20	317	P		Pg	23 15 43.5	-0.4
AXS				S		Sg	23 15 47.0	-0.1
UPR	University Cam	0.30	38	P		Pb	23 15 45.9	-0.2
UPR				S		Sb	23 15 50.6	-0.2
UPR	University Cam	0.30	38	P		Pb	23 15 45.9	-0.2
UPR				S		Sb	23 15 50.6	-0.2
VTN	Vitineika	0.32	246	P		Pg	23 15 45.9	+0.2
VTN				S		Sg	23 15 52.0	+0.7
VTN	Vitineika	0.32	246	P		Pg	23 15 45.9	+0.2
VTN				S		Sb	23 15 52.0	+0.7
PSA1	Psathopyrgos	0.38	43	*e*PB		Pg	23 15 46.6	-0.3
PSA1				*e*SB		Sb	23 15 53.2	+0.1
LAKA	Lakka	0.39	60	P		Pg	23 15 46.5	-0.5
LAKA				S		Sg	23 15 53.0	+0.6
LAKA	Lakka	0.39	60	*e*PB		Pg	23 15 46.6	-0.5
LAKA				*e*SB		Sg	23 15 53.1	+0.6
LAKA	Lakka	0.39	60	*e*Pb		Pg	23 15 46.6	-0.5
LAKA				S		Sg	23 15 53.0	+0.6
EFP	Efpalio	0.47	36	P		Pg	23 15 48.1	-0.4
EFP				S		Sg	23 15 54.7	-0.2
EFP	Efpalio	0.47	36	*e*PB		Pg	23 15 48.1	-0.4
EFP				*e*SB		Sb	23 15 55.9	+0.2
EFP	Efpalio	0.47	36	P		Pg	23 15 48.1	-0.4
EFP				S		Sg	23 15 54.7	-0.2
EFP				*e*Sb		Sb	23 15 55.9	+0.2
KLV	Kalavryta, Ach	0.47	90	P		Pg	23 15 47.6	-1.0
KLV				S		Sg	23 15 54.9	-0.1
KLV	Kalavryta, Ach	0.47	90	*e*PB		Pg	23 15 47.8	-0.8
KLV				*e*SB		Sg	23 15 55.2	+0.2
KLV	Kalavryta, Ach	0.47	90	*e*Pb		Pg	23 15 47.8	-0.8
KLV				S		Sg	23 15 54.9	-0.1
KLV				*e*Sb		Sg	23 15 55.2	+0.2
TRIZ	Trizonia	0.52	52	P		Pg	23 15 48.7	-0.7
TRIZ				S		Sg	23 15 56.2	-0.2
TRIZ	Trizonia	0.52	52	*e*PN		Pg	23 15 48.7	-0.7
TRIZ				*e*SN		Sb	23 15 57.3	+0.2
TRIZ	Trizonia	0.52	52	P		Pg	23 15 48.7	-0.7
TRIZ				S		Sg	23 15 56.2	-0.2
TRIZ				*e*Sn		Sb	23 15 57.3	+0.2
AMT	Artemida-Makis	0.53	166	P		Pg	23 15 49.0	-0.6
AMT				S		Sb	23 15 57.6	+0.2
AMT	Artemida-Makis	0.53	166	*e*PN		Pg	23 15 49.1	-0.6
AMT				*e*SN		Sg	23 15 56.8	+0.1
AMT	Artemida-Makis	0.53	166	P		Pg	23 15 49.0	-0.6
AMT				*e*Sn		Sg	23 15 56.8	+0.1
AMT				S		Sb	23 15 57.6	+0.2
PVO	Paravola	0.57	358	P		Pg	23 15 50.0	-0.3
PVO				S		Sb	23 15 58.5	-0.1
PVO	Paravola	0.57	358	P		Pg	23 15 50.0	-0.3
PVO				S		Sb	23 15 58.5	-0.1
KALE	Kalithea	0.58	53	P		Pg	23 15 49.6	-0.9
KALE				S		Sb	23 15 58.8	-0.1
KALE	Kalithea	0.58	53	*e*PN		Pg	23 15 49.8	-0.7
KALE				*e*SN		Sb	23 15 59.1	+0.2
KALE	Kalithea	0.58	53	*e*Pn		Pg	23 15 49.8	-0.7
KALE				S		Sb	23 15 58.8	-0.1
KALE				*e*Sn		Sb	23 15 59.1	+0.2
PDO	Prodromos	0.62	332	P		Pg	23 15 50.9	-0.4
PDO				S		Sb	23 16 00.3	+0.2
PDO	Prodromos	0.62	332	*e*PB		Pg	23 15 51.0	-0.4
PDO				*e*SN		Sb	23 16 00.0	+0.3
PDO	Prodromos	0.62	332	*e*Pb		Pg	23 15 51.0	-0.4
PDO				S		Sb	23 16 00.3	+0.2
GUR	Goura	0.64	100	P		Pg	23 15 50.5	-1.0
GUR				S		Sg	23 16 00.2	+0.1
GUR	Goura	0.64	100	*e*PB		Pg	23 15 50.6	-1.0
GUR				*e*SN		Sg	23 16 00.2	+0.1
GUR	Goura	0.64	100	*e*Pb		Pg	23 15 50.6	-1.0
GUR				S		Sg	23 16 00.2	+0.1

LKR				S	**Sn**	**23 16 19.8**	**+0.4**
LKR				*e*Sn	**Sg**	**23 16 21.5**	**+0.8**
VIL2	**Platees**	**1.36**	**83**	*e*PN	**Pg**	**23 16 05.0**	**-0.4**
VILL	**Villia**	**1.39**	**85**	*e*Pn	**Pb**	**23 16 05.0**	**+0.2**
DYR	**Agios Nikonas**	**1.43**	**154**	*e*PN	**Pg**	**23 16 06.4**	**-0.2**
DYR	**Agios Nikonas**	**1.43**	**154**	*e*Pn	**Pg**	**23 16 06.4**	**-0.2**
DIDY	**Didyma**	**1.44**	**113**	*e*PN	**Pg**	**23 16 06.6**	**-0.1**
DIDY				*e*SN	**Sg**	**23 16 26.2**	**+0.8**
DIDY	**Didyma**	**1.44**	**113**	*e*Pn	**Pg**	**23 16 06.6**	**-0.1**
DID	**Didima**	**1.44**	**112**	P	**Pn**	**23 16 04.9**	**+0.3**
DID	**Didima**	**1.44**	**112**	*e*PN	**Pb**	**23 16 06.3**	**+0.7**
DID				*e*SN	**Sg**	**23 16 26.4**	**+0.8**
DID	**Didima**	**1.44**	**112**	P	**Pn**	**23 16 04.9**	**+0.3**
DID	**Didima**	**1.44**	**112**	*e*Pn	**Pb**	**23 16 06.3**	**+0.7**
VLI	**Veliai**	**1.73**	**140**	*e*PN	**Pb**	**23 16 11.2**	**+0.8**
NEO	**Neokhori**	**1.81**	**46**	*e*PN	**Pb**	**23 16 12.4**	**+0.4**
NEO	**Neokhori**	**1.81**	**46**	*e*Pn	**Pb**	**23 16 12.4**	**+0.4**

CSEM ***22*** *23:16:27.8±0.2, 41°.73N×13°.73E, h20km, ML1.8/4, Error ellipse: s-maj=6.0km s-min=5.0km az=179.0*

ROM 22 23:16:28.5±0.1, 41°.74N×13°.71E, h11km, Md1.9/12, Ml1.5/3, 4C, Error ellipse: s-maj=1.6km s-min=1.3km az=19.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
POFI	**Posta Fibreno**	**0.02**	**180**	Pg	Pg	23 16 31.0	+0.5
POFI				Sg	Sg	23 16 32.4	+0.5
POFI	**Posta Fibreno**	**0.02**	**180**	Pg	Pg	23 16 31.0	+0.5
POFI				Sg	Sg	23 16 32.4	+0.5
SDI	**San Donato**	**0.08**	**112**	⇑*i*Pg	Pg	23 16 31.5	+0.5
SDI				Sg	Sg	23 16 33.3	+0.5
SDI	**San Donato**	**0.08**	**112**	⇑*i*Pg	Pg	23 16 31.5	+0.5
SDI				Sg	Sg	23 16 33.3	+0.5
VVLD	**Villa Vallelon**	**0.15**	**333**	⇑*i*Pg	Pg	23 16 32.3	+0.3
VVLD				Sg	Sg	23 16 34.9	+0.4
	115nm,0.1s						
VVLD	**Villa Vallelon**	**0.15**	**333**	⇑*i*Pg	Pg	23 16 32.3	+0.3
VVLD				Sg	Sg	23 16 34.9	+0.4
	115nm,0.1s						
CERA	**Filignano**	**0.27**	**121**	Pg	Pg	23 16 34.4	+0.3
CERA				Sg	Sg	23 16 38.9	+1.0
	84nm,0.7s						
CERA	**Filignano**	**0.27**	**121**	Pg	Pg	23 16 34.4	+0.3
CERA				Sg	Sg	23 16 38.9	+1.0
	84nm,0.7s						
GUAR	**Guarcino**	**0.30**	**281**	Pg	Pb	23 16 36.3	+0.2
GUAR				Sg	Sg	23 16 39.6	+0.7
GUAR	**Guarcino**	**0.30**	**281**	Pg	Pb	23 16 36.3	+0.2
GUAR				Sg	Sg	23 16 39.6	+0.7
INTR	**Introdacqua**	**0.31**	**28**	Pg	Pg	23 16 35.1	+0.2
INTR				Sg	Sg	23 16 40.1	+1.0
INTR	**Introdacqua**	**0.31**	**28**	Pg	Pg	23 16 35.1	+0.2
INTR				Sg	Sg	23 16 40.1	+1.0
PTQR	**Pietraquaria**	**0.37**	**321**	Pg	Pg	23 16 36.1	+0.2
PTQR				Sg	Sg	23 16 42.0	+1.1
	10.0nm,0.2s						
PTQR	**Pietraquaria**	**0.37**	**321**	Pg	Pg	23 16 36.1	+0.2
PTQR				Sg	Sg	23 16 42.0	+1.1
	10.0nm,0.2s						
GIUL	**Giuliano Di Ro**	**0.39**	**242**	Pg	Pg	23 16 36.3	+0.1
GIUL				Sg	Sb	23 16 42.9	-0.6
	164nm,1.8s						
GIUL	**Giuliano Di Ro**	**0.39**	**242**	Pg	Pg	23 16 36.3	+0.1
GIUL				Sg	Sb	23 16 42.9	-0.6
	164nm,1.8s						
LPEL	**Lama dei Pelig**	**0.47**	**49**	Pg	Pg	23 16 37.6	-0.2
LPEL	**Lama dei Pelig**	**0.47**	**49**	Pg	Pg	23 16 37.6	-0.2
FAGN	**Fagnano**	**0.54**	**350**	Pg	Pg	23 16 39.1	0.0
FAGN				Sg	Sb	23 16 47.8	-0.1
FAGN	**Fagnano**	**0.54**	**350**	Pg	Pg	23 16 39.1	0.0
FAGN				Sg	Sb	23 16 47.8	-0.1
CERT	**Cerreto**	**0.58**	**291**	Pg	Pg	23 16 39.4	-0.6
CERT				Sg	Sg	23 16 48.1	+0.3
CERT	**Cerreto**	**0.58**	**291**	Pg	Pg	23 16 39.4	-0.6
CERT				Sg	Sg	23 16 48.1	+0.3

IDC 22 23:21:42.9±4.2, 59°.88S×23°.84W, h0km, mb3.8/2, mb1 3.9/2, mb1mx3.6/15, mbtmp3.8/2, Error ellipse: s-maj=345.4km s-min=31.6km az=102.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**42.80**	**182**	P	P	23 29 41.5	-0.1
	0.5nm,0.7s,baz=186,slow=7.7,SNR=7.7						
TORD	**Torodi Ar. Bea**	**75.64**	**26**	P	P	23 33 29.6	0.0
	0.6nm,0.4s,baz=197,slow=6.1,SNR=27						
SONM	**Songino Array**	**149.05**	**90**	PKPbc	PKPbc	23 41 31.4	-0.5
	0.5nm,0.6s,baz=224,slow=3.8,SNR=4.3						

IDC ***22*** *23:26:59.7±4.3, 15°.43S×172°.92W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/20, mbtmp3.7/4, MS3.3/2, Ms1 3.3/2, ms1mx2.9/28, Error ellipse: s-maj=210.5km s-min=21.9km az=137.0*

ISC 22 23:27:03.3±3.0, 15°.1S±0°.8×172°.9W±0°.7, h29km, n14, σ1°.22/6, mb3.7/4, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.66**	**43**	Pn	**Pn**	**23 27 31.4**	**+0.8**
	123nm,0.3s,baz=50,slow=2.2,SNR=23						
AFI				Sn	**Sn**	**23 27 49.7**	**-1.3**
	317nm,0.3s,baz=81,slow=19,SNR=19						
RAR	**Rarotonga**	**13.89**	**118**	LR	LR	23 34 40.3	
	comp=Z,109nm,19.0s,baz=180,slow=34						
H11S2	**WAKE ISLAND Hy**	**38.97**	**328**	T	T	00 16 14.1	
	baz=150,slow=0.7,SNR=14						
H11S3	**WAKE ISLAND Hy**	**38.98**	**328**	T	T	00 16 20.4	
	baz=150,slow=0.7,SNR=24						
H11S1	**WAKE ISLAND Hy**	**38.99**	**328**	T	T	00 16 15.7	
	baz=150,slow=0.7,SNR=13						
H11N3	**WAKE ISLAND Hy**	**39.91**	**330**	T	T	00 17 16.5	
	baz=152,slow=0.7,SNR=6.9						
H11N1	**WAKE ISLAND Hy**	**39.91**	**330**	T	T	00 17 11.4	
	baz=152,slow=0.7,SNR=8.0						
H11N2	**WAKE ISLAND Hy**	**39.92**	**330**	T	T	00 17 17.5	
	baz=152,slow=0.7,SNR=6.7						
STKA	**Stephens Creek**	**14.58**	**240**	P	**P**	**23 35 12.4**	**-0.5**
	1.2nm,0.7s,baz=96,slow=9.2,SNR=2.5						
WRA	**Warramunga Arr**	**50.34**	**257**	P	**P**	**23 35 57.4**	**-0.6**
	0.6nm,0.9s,baz=91,slow=7.3,SNR=5.3						
ASAR	**Alice Springs**	**50.61**	**252**	P	**P**	**23 36 00.1**	**0.0**
	1.3nm,0.7s,baz=88,slow=8.2,SNR=12						
VNDA	**Vanda**	**63.68**	**186**	LR	LR	00 02 34.7	
	comp=Z,24nm,19.0s,baz=104,slow=34						
ILAR	**Eielson Array**	**82.10**	**11**	P	P	23 39 24.3	+3.6
	0.3nm,0.7s,baz=224,slow=6.3,SNR=4.3						
BRTR	**Keskin Array B**	**146.23**	**322**	PKPbc	**PKPab**	**23 46 43.5**	**+1.3**
	0.7nm,0.8s,baz=70,slow=1.7,SNR=4.1						

WEL 22 23:27:56.9±0.2, 41°.10S×173°.60E, h92km±1km, ML3.5/15, 7C-1D, Error ellipse: s-maj=1.3km s-min=1.1km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNZ	**Nelson**	**0.20**	**233**	⇑PN	Pn	23 29 09.6	-0.6
NNZ				SN	Sn	23 28 19.0	-1.0
DUWZ	**D'Urville Isla**	**0.38**	**40**	PN	Pn	23 28 10.8	-0.3
DUWZ				SN	Sn	23 28 21.0	-0.7
TUWZ	**Tuamarina**	**0.42**	**142**	⇓PN	Pn	23 28 11.6	+0.3
TUWZ				SN	Sn	23 28 21.7	-0.3
TUWZ				AML	AML	23 28 22.3	
TCW	**Tory Channel**	**0.53**	**103**	⇓PN	Pn	23 28 12.5	+0.5
TCW				SN	Sn	23 28 23.2	-0.1
TCW				AML	AML	23 28 24.9	
BSWZ	**Blackbirch Sta**	**0.65**	**161**	PN	Pn	23 28 13.6	+0.4
BSWZ				AML	AML	23 28 27.3	
BSWZ				AML	AML	23 28 27.9	
THZ	**Tophouse**	**0.85**	**218**	⇑PN	Pn	23 28 14.8	-0.3
QRZ	**Quartz Range**	**0.85**	**288**	PN	Pn	23 28 13.9	-1.3
SNZO	**South Karori**	**0.86**	**105**	PN	Pn	23 28 15.3	+0.1
SNZO				AML	AML	23 28 32.3	
SNZO				AML	AML	23 28 33.3	
WEL	**Wellington**	**0.90**	**103**	PN	Pn	23 28 15.9	+0.2
BHW	**Baring Head**	**1.01**	**108**	PN	Pn	23 28 16.8	0.0
BHW				AML	AML	23 28 32.6	
BHW				AML	AML	23 28 37.1	
KIW	**Kapiti Island**	**1.02**	**77**	⇓PN	Pn	23 28 17.1	+0.1
KIW				AML	AML	23 28 33.3	
KIW				AML	AML	23 28 33.4	
CAW	**Cannon Point**	**1.11**	**91**	⇓PN	Pn	23 28 17.9	-0.1
CAW				AML	AML	23 28 35.0	
CAW				AML	AML	23 28 41.2	
OGWZ	**Otaki Gorge**	**1.22**	**77**	⇓PN	Pn	23 28 19.3	0.0
OGWZ				SN	Sn	23 28 36.5	+0.3
MSWZ	**Moikau Station**	**1.29**	**105**	PN	Pn	23 28 19.8	-0.3
MSWZ				AML	AML	23 28 44.6	
MSWZ				AML	AML	23 28 45.3	
KHZ	**Kahutara**	**1.32**	**182**	PN	Pn	23 28 20.8	+0.3
KHZ				AML	AML	23 28 38.4	
KHZ				AML	AML	23 28 39.1	
PLWZ	**Palliser**	**1.33**	**111**	⇓PN	Pn	23 28 20.6	-0.1
PAWZ	**Paruwai Farm**	**1.41**	**102**	⇓PN	Pn	23 28 21.2	-0.4
PAWZ				AML	AML	23 28 50.0	
PAWZ				AML	AML	23 28 50.6	
MTW	**Mount Morrison**	**1.44**	**93**	PN	Pn	23 28 21.4	-0.6
MTW				AML	AML	23 28 40.4	
MTW				AML	AML	23 28 41.5	
HOWZ	**Holdsworth Sta**	**1.47**	**83**	⇓PN	Pn	23 28 21.8	-0.5
DSZ	**Denniston Nort**	**1.50**	**244**	PN	Pn	23 28 21.8	-0.9
MRZ	**Mangatainoka R**	**1.56**	**75**	⇓PN	Pn	23 28 22.8	-0.8
MRZ				AML	AML	23 28 44.7	
MRZ				AML	AML	23 28 50.8	
TRWZ	**Traveller**	**1.60**	**102**	PN	Pn	23 28 23.5	-0.5
TRWZ				AML	AML	23 28 44.2	
TRWZ				AML	AML	23 28 44.8	
NMEZ	**Namu Road**	**1.69**	**7**	PN	Pn	23 28 25.5	+0.3
WAZ	**Wanganui**	**1.71**	**39**	*e*PN	Pn	23 28 25.4	0.0
TMWZ	**Te Maipa**	**1.73**	**91**	PN	Pn	23 28 25.1	-0.7
POWZ	**Post Office Ro**	**1.79**	**68**	PN	Pn	23 28 25.4	-1.1
DFE	**Dawson Falls**	**1.81**	**13**	PN	Pn	23 28 27.1	+0.3
KHEZ	**Kahui Hut**	**1.83**	**10**	PN	Pn	23 28 27.2	+0.2
NWEZ	**Newall Road**	**1.83**	**7**	PN	Pn	23 28 27.2	+0.2
NEZ	**North Egmont**	**1.86**	**12**	PN	Pn	23 28 27.5	+0.1
PRWZ	**Pori Road**	**1.88**	**74**	⇓PN	Pn	23 28 26.8	-0.8
PRWZ				SN	Sn	23 28 50.2	-0.8
PKE	**Pukeiti**	**1.92**	**9**	PN	Pn	23 28 28.5	+0.3
LTZ	**Lake Taylor**	**1.96**	**210**	⇑PN	Pn	23 28 28.2	-0.4
DREZ	**Durham Road**	**1.96**	**14**	⇑PN	Pn	23 28 29.0	+0.4
BFZ	**Birch Farm**	**2.05**	**79**	PN	Pn	23 28 28.5	-1.3
BFZ				SN	Sn	23 28 53.0	-2.0
TSZ	**Takapari Road**	**2.08**	**61**	⇓PN	Pn	23 28 29.1	-1.1
TSZ				AML	AML	23 28 56.4	
TSZ				AML	AML	23 28 56.9	
MHEZ	**Mangahewa**	**2.09**	**16**	PN	Pn	23 28 31.0	+0.7
DVHZ	**Dannevirke**	**2.11**	**69**	PN	Pn	23 28 29.1	-1.5
VRZ	**Vera Road**	**2.16**	**25**	⇑PN	Pn	23 28 31.8	+0.5
PKVZ	**Pokaka**	**2.25**	**37**	*e*PN	Pn	23 28 32.1	-0.4
PNHZ	**Pukenui**	**2.31**	**60**	PN	Pn	23 28 31.8	-1.5
WNVZ	**Wahianoa**	**2.34**	**42**	PN	Pn	23 28 33.4	-0.5
MOVZ	**Moawhango**	**2.36**	**45**	PN	Pn	23 28 33.2	-0.8
WHVZ	**Whangaehu Hut**	**2.37**	**41**	⇑PN	Pn	23 28 34.0	-0.3
FWVZ	**Far West T-bar**	**2.37**	**40**	PN	Pn	23 28 34.1	-0.3
WPVZ	**Whakapapa**	**2.41**	**39**	*e*PN	Pn	23 28 34.4	-0.3
TUVZ	**Tukino**	**2.41**	**41**	PN	Pn	23 28 34.5	-0.3
TWVZ	**Taurewa**	**2.46**	**36**	PN	Pn	23 28 35.0	-0.5
BHHZ	**Black Hill Sta**	**2.48**	**50**	PN	Pn	23 28 34.5	-1.0
CRLZ	**Canterbury Las**	**2.58**	**196**	PN	Pn	23 28 35.3	-1.5
MQZ	**McQueen's Vall**	**2.70**	**195**	⇓PN	Pn	23 28 36.4	-2.0
MQZ				SN	Sn	23 29 06.0	-4.3
HIZ	**Hauiti**	**2.75**	**21**	⇑PN	Pn	23 28 38.9	-0.2
WVZ	**Waitaha Valley**	**2.91**	**226**	*e*PN	Pn	23 28 39.6	-1.5
BKZ	**Black Stump Fm**	**2.94**	**50**	*e*PN	Pn	23 28 39.8	-1.9
BKZ				AML	AML	23 29 25.2	
BKZ				AML	AML	23 29 43.1	
TLZ	**Tolley Road**	**3.14**	**29**	PN	Pn	23 28 43.5	-0.9
RPZ	**Rata Peaks**	**3.23**	**215**	PN	Pn	23 28 43.5	-2.0
RPZ				SN	Sn	23 29 19.0	-4.0
RAHZ	**Arahi**	**3.45**	**52**	SN	Sn	23 29 26.7	-1.8
TOZ	**Tahuroa Road**	**3.67**	**24**	PN	Pn	23 28 50.9	-0.6
FOZ	**Fox Glacier**	**3.81**	**228**	*e*PN	Pn	23 28 50.5	-2.7
RIGZ	**Rimuhau**	**4.00**	**55**	SN	Sn	23 29 39.0	-2.7
MKAZ	**Moumakai**	**4.16**	**18**	PN	Pn	23 28 58.0	-0.1
WTAZ	**Waiatarua**	**4.22**	**11**	*e*PN	Pn	23 28 57.9	-1.1
ODZ	**Otahua Downs**	**4.50**	**208**	PN	Pn	23 29 01.0	-1.7
KUZ	**Kuaotunu**	**4.65**	**22**	PN	Pn	23 29 04.1	-0.6
JCZ	**Jackson Bay**	**4.65**	**229**	*e*PN	Pn	23 29 02.7	-2.1
CTZ	**Chatham Island**	**7.71**	**113**	*e*PN	Pn	23 29 45.0	-1.3

IDC 22 23:33:23.0±12.0, 23°.82S×66°.93W, h220km±103km, mb3.0/1, mb1 3.2/4, mb1mx3.1/18, mbtmp3.1/4, Error ellipse: s-maj=150.9km s-min=36.8km az=6.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**7.58**	**351**	P	Pn	23 35 11.3	-0.4
	0.6nm,0.3s,baz=189,slow=11,SNR=7.1						
SIV	**San Ignacio**	**9.54**	**36**	P	Pn	23 35 36.6	+0.4
	0.6nm,0.3s,baz=218,slow=14,SNR=5.1						
BDFB	**Brasilia**	**19.56**	**69**	P	P	23 37 34.4	-0.1
	0.6nm,0.3s,baz=242,slow=9.1,SNR=8.9						
TORD	**Torodi Ar. Bea**	**76.44**	**69**	P	P	23 44 48.9	+0.1
	0.2nm,0.5s,baz=257,slow=5.7,SNR=8.4						
WRA	**Warramunga Arr**	**131.81**	**207**	PKP	PKPdf	23 52 10.5	-0.2
	0.5nm,1.1s,baz=154,slow=1.8,SNR=2.9						

ISCJB ***22*** *23:39:25.7±0.3, 38°.14N±0°.03×75°.53E±0°.07, h135km, mb3.7/9, Error ellipse: s-maj=8.3km s-min=3.1km az=162.0*

IDC ***22*** *23:39:27.2±4.1, 38°.15N×75°.53E, h131km±32km, mb3.6/8, mb1 3.5/13, mb1mx3.4/31, mbtmp3.9/13, MS2.9/1, Ms1 2.9/1, ms1mx2.3/33, Error ellipse: s-maj=36.5km s-min=19.0km az=163.0*

NNC ***22*** *23:39:33.5±4.0, 38°.70N×75°.40E, h170km±42km, mb2.9, mpv3.9, Error ellipse: s-maj=38.4km s-min=20.6km az=176.0*

ISC 22 23:39:27.0±0.6, 38°.17N±0°.05×75°.56E±0°.08, h135km, n48, σ1°.38/54, mb3.8/9, 2C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.38**	**13**	Pg	**Pn**	**23 39 52.0**	**-2.3**
KSH				Sg	Sn	23 40 07.1	-8.1
KSH				SMN			
	1μm,0.2s						
KSH				SME			
	2μm,0.2s						
KZA	**Kyzart**	**3.91**	**357**	P	**Pn**	**23 40 26.1**	**+0.1**
	SNR=119						
ULHL	**Ulahol**	**4.11**	**7**	P	**Pn**	**23 40 28.9**	**+0.5**
	SNR=39						
AML	**Almayashu**	**4.21**	**341**	P	**Pn**	**23 40 29.7**	**-0.3**
	SNR=90						
KBK	**Karagaybulak**	**4.51**	**354**	P	**Pn**	**23 40 34.3**	**+0.6**
	SNR=27						
AAK	**Ala-Archa**	**4.53**	**350**	P	**Pn**	**23 40 34.6**	**+0.6**
	SNR=17						
AAK	**Ala-Archa**	**4.53**	**350**	P	**Pn**	**23 40 34.4**	**+0.3**
	6.1nm,0.3s,baz=142,slow=7.7,SNR=52						
AAK				S	**Sn**	**23 41 25.0**	**-1.2**
	1.6nm,0.3s,baz=321,slow=14,SNR=5.3						
EKS2	**Erkin-Say**	**4.69**	**344**	P	**Pn**	**23 40 36.3**	**+0.2**
	SNR=30						
TKM2	**Tokmak 2**	**4.75**	**0**	⇑P	**Pn**	**23 40 37.3**	**+0.4**
	12nm,0.4s						
TKM2				⇓S	**Sn**	**23 41 28.0**	**-3.3**
	8.4nm,0.6s						
TKM2	**Tokmak 2**	**4.75**	**0**	P	**Pn**	**23 40 37.5**	**+0.6**
	SNR=40						
CHMS	**Chumysh**	**4.86**	**353**	P	**Pn**	**23 40 38.7**	**+0.4**
	SNR=6.3						
USP	**Ospenovka**	**5.16**	**351**	P	**Pn**	**23 40 42.4**	**+0.1**
	SNR=7.7						
THN	**Thein Dam**	**5.72**	**179**	*e*P	**Pn**	**23 40 50.5**	**+0.6**
THN				*e*S	**Sn**	**23 41 52.9**	**-1.6**
DHRM	**DHARAMSHALA**	**5.94**	**174**	*e*P	**Pn**	**23 40 54.5**	**+1.5**
DHRM				*e*S	**Sn**	**23 41 58.5**	**-1.5**
DHRM				AML	AML	23 42 06.8	
	comp=N,211nm,0.3s						
DHRM				AML	AML	23 42 07.2	
	comp=E,384nm,0.2s						
KK31	**Karatay Array**	**6.25**	**324**	⇓P	**Pn**	**23 40 55.9**	**-1.0**
	comp=E,2.5nm,0.2s,baz=132,slow=12,SNR=191						
KK31				⇑S	**Sn**	**23 42 02.7**	**-4.4**
	comp=E,13nm,0.3s,baz=136,slow=22,SNR=13						
SMLA	**Simla**	**7.15**	**169**	*e*P	**Pn**	**23 41 10.5**	**+1.5**
SMLA				*e*S	**Sn**	**23 42 25.0**	**-3.8**
SMLA				AML	AML	23 42 33.5	
	comp=N,111nm,0.3s						
SMLA				AML	AML	23 42 33.5	
	comp=E,115nm,0.2s						
DDI	**Dehra Dun**	**8.09**	**165**	*e*S	**Sn**	**23 42 50.7**	**-1.1**
MK31	**Makanchi Array**	**9.94**	**28**	P	**Pn**	**23 41 46.0**	**-0.5**
	comp=E,1.0nm,0.5s,baz=207,slow=13,SNR=9.0						
MKAR	**Makanchi Array**	**9.94**	**28**	P	**Pn**	**23 41 46.5**	**+0.1**
	comp=E,0.2nm,0.3s,baz=200,slow=15,SNR=9.4						
DANN	**Dangsing**	**11.95**	**143**	*e*P	**Pn**	**23 42 11.9**	**-1.5**
	comp=E,23nm,0.4s						
KOLN	**Koldanda**	**12.37**	**145**	*e*P	**Pn**	**23 42 17.6**	**-1.1**
	comp=E,15nm,0.3s						
GKN	**Gorkha**	**12.67**	**141**	*e*P	**Pn**	**23 42 21.6**	**-1.0**
	comp=E,19nm,0.3s						
KKN	**Kakani**	**13.17**	**139**	*e*P	**Pn**	**23 42 28.1**	**-1.0**
	comp=E,9.5nm,0.4s						
DMN	**Daman**	**13.23**	**140**	*e*P	**Pn**	**23 42 28.3**	**-1.6**
	comp=E,5.7nm,0.3s						
GUN	**Gumba**	**13.39**	**137**	*e*P	**Pn**	**23 42 31.1**	**-1.0**
	comp=E,8.8nm,0.3s						
PKIN	**Phulchoki**	**13.40**	**139**	*e*P	**Pn**	**23 42 31.2**	**-1.0**
	comp=E,11nm,0.5s						
PKI	**Pulchoki**	**13.41**	**139**	*e*P	**Pn**	**23 42 31.0**	**-1.4**
JIRN	**Jiri**	**13.75**	**137**	*e*P	**Pn**	**23 42 36.0**	**-0.8**
	comp=E,43nm,0.5s						
RAMN	**Ramite**	**14.54**	**137**	*e*P	**Pn**	**23 42 45.0**	**-1.6**
	comp=E,22nm,0.6s						
TAPN	**Taplejung**	**14.84**	**133**	*e*P	**Pn**	**23 42 50.1**	**-0.4**
	comp=E,3.7nm,0.2s						
BHPL	**Bhopal**	**14.97**	**173**	*e*P	**P**	**23 42 56.2**	**+2.3**
BHPL				*e*4	x	23 45 20.7	
ODAN	**Odare**	**15.04**	**135**	*e*P	**Pn**	**23 42 51.8**	**-1.1**
	comp=E,9.1nm,0.3s						
BVA0	**Borovoye Array**	**15.29**	**348**	P	**P**	**23 42 58.0**	**+0.8**
	baz=36,slow=14,SNR=6.0						
BVAR	**Borovoye Array**	**15.29**	**348**	P	**Pn**	**23 42 56.1**	**+0.7**
	comp=E,0.3nm,0.3s,baz=151,slow=10,SNR=7.2						
AB31	**Akbulak array**	**15.79**	**320**	P	**Pn**	**23 43 01.4**	**-0.3**
	comp=E,1.4nm,0.6s,baz=132,slow=14,SNR=30						
AB31				S	Sn	23 45 49.5	-7.5
	comp=E,0.8nm,0.5s,baz=131,slow=23,SNR=4.2						
ZALV	**Zalesovo Beam**	**17.01**	**19**	P	**P**	**23 43 16.3**	**0.0**
	comp=E,0.4nm,0.3s,baz=212,slow=12,SNR=8.8						
ZALV				LR	LR	23 50 00.6	
	comp=E,42nm,21.4s,baz=246,slow=37						
AKTO	**Aktyubinsk**	**17.50**	**320**	⇓P	**P**	**23 43 20.8**	**-0.9**
	comp=E,3.8nm,1.2s						
AKTO	**Aktyubinsk**	**17.50**	**320**	P	**P**	**23 43 21.0**	**-0.7**
	comp=E,0.3nm,0.3s,baz=112,slow=13,SNR=6.8						
SONM	**Songino Array**	**24.39**	**57**	P	**P**	**23 44 34.5**	**+1.7**
	comp=E,0.5nm,0.6s,baz=265,slow=11,SNR=6.5						
BRTR	**Keskin Array B**	**32.43**	**286**	P	**P**	**23 45 45.9**	**+1.5**
	comp=E,0.8nm,0.8s,baz=74,slow=9.2,SNR=5.6						
FINES	**FINESS Array B**	**38.21**	**324**	P	**P**	**23 46 33.9**	**+0.6**
	comp=E,1.3nm,0.4s,baz=118,slow=9.7,SNR=19						
ARCES	**ARCESS Array B**	**41.05**	**336**	P	**P**	**23 46 57.6**	**+0.9**
	comp=E,1.8nm,0.5s,baz=106,slow=9.0,SNR=24						
NB2	**NORSAR Subarra**	**45.28**	**322**	P	**P**	**23 47 30.9**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=90,slow=7.9						
NOA	**NORSAR Array B**	**45.28**	**322**	P	**P**	**23 47 31.1**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=91,slow=8.0,SNR=6.5						
ESDC	**Sonseca Array**	**59.87**	**299**	P	**P**	**23 49 18.9**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=52,slow=6.8,SNR=5.7						
TORD	**Torodi Ar. Bea**	**69.36**	**271**	P	**P**	**23 50 20.3**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=48,slow=5.5,SNR=44						
ILAR	**Eielson Array**	**72.14**	**18**	P	**P**	**23 50 36.6**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=346,slow=6.9,SNR=3.0						
DBIC	**Dimbokro**	**78.39**	**269**	P	**P**	**23 51 13.6**	**+0.6**
	comp=Z,3.2nm,0.9s,baz=40,slow=7.2,SNR=3.8						

GUC 22 23:45:42.8±0.8, 21°.14S×68°.97W, h121km±5km, ML3.8, 6C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**Plate Boundary**	**0.50**	**281**	⇑*i*P	Pn	23 46 01.3	+0.3
PB01				*i* S	Sn	23 46 15.1	+0.4
PB01				AML	AML	23 46 18.9	
	comp=E,2μm,0.2s						
PB09	**Plate Boundary**	**0.71**	**201**	⇑*i*P	Pn	23 46 03.0	+0.4

NWF				*e*S		Sn	00 02 09.2	-0.1
	baz=265							
TWC	**Suao**	**0.62**	**223**	P		Pn	00 01 51.6	+0.1
	baz=229							
TWC				*e*S		Sn	00 02 09.5	-0.8
	baz=229							
TWA	**Mucha**	**0.66**	**263**	*e*P		Pn	00 01 51.8	0.0
	baz=256							
TWA				*e*S		Sn	00 02 10.1	-0.6
	baz=256							
TWE	**Neicheng**	**0.68**	**240**	P		Pn	00 01 52.1	+0.3
	baz=238							
TWE				*e*S		Sn	00 02 11.9	+1.1
	baz=238							
TWY	**Chenhua**	**0.68**	**288**	⇓ *i*P		Pn	00 01 52.2	+0.4
	baz=276							
TWY				*e*S		Sn	00 02 09.5	-1.3
	baz=276							
ENTT	**Nioudou**	**0.80**	**238**	*e*P		Pn	00 01 53.0	+0.4
	baz=239							
ENTT				*e*S		Sn	00 02 11.6	-0.6
	baz=239							
TWS1	**Kuangyinshan**	**0.81**	**273**	*e*P		Pn	00 01 52.8	+0.2
	baz=269							
TWS1				*e*S		Sn	00 02 12.9	+0.6
	baz=269							
ENA	**Nanau**	**0.82**	**219**	*e*P		Pn	00 01 53.3	+0.5
	baz=227							
ENA				*e*S		Sn	00 02 13.1	+0.6
	baz=227							
YOJ	**Yonaguni jima**	**0.88**	**133**	P		Pn	00 01 53.1	0.0
YOJ				*e*S		Sn	00 02 13.6	+0.5
NSK	**Sanguang**	**0.95**	**246**	*i* P		Pn	00 01 53.7	0.0
	baz=238							
NSK				*e*S		Sn	00 02 13.3	-0.8
	baz=238							
NCU	**National Centr**	**1.02**	**265**	*e*P		Pn	00 01 54.6	+0.4
	baz=269							
NCU				*e*S		Sn	00 02 15.0	0.0
	baz=269							
NNS	**Nan Shan**	**1.05**	**234**	*e*P		Pn	00 01 54.8	+0.2
	baz=235							
NNS				*e*S		Sn	00 02 15.5	-0.2
	baz=235							
TWD	**Chiawan**	**1.18**	**214**	*e*P		Pn	00 01 55.6	+0.1
	baz=224							
TWD				*e*S		Sn	00 02 17.0	-0.3
	baz=224							
NSTT	**Nanjuang**	**1.26**	**250**	*i* P		Pn	00 01 56.1	-0.1
	baz=245							
NSTT				*e*S		Sn	00 02 18.2	-0.5
	baz=245							
TWT	**Tachien**	**1.31**	**232**	*e*P		Pn	00 01 57.4	+0.6
	baz=239							
TWT				*e*S		Sn	00 02 20.1	+0.4
	baz=239							
WHF	**Hehuan Shan**	**1.32**	**226**	⇑ *i*P		Pn	00 01 57.9	+0.7
	baz=222							
WHF				*e*S		Sn	00 02 20.6	+0.2
	baz=222							
ESL	**Shilin**	**1.48**	**213**	P		Pn	00 01 57.7	-0.5
	baz=220							
ESL				*e*S		Sn	00 02 21.8	-0.5
	baz=220							
IRIF	**Iriomote-Funau**	**1.48**	**119**	*e*S		Sn	00 02 21.7	-0.5
NSY	**Sanyi**	**1.55**	**246**	*e*P		Pn	00 01 58.7	-0.2
	baz=245							
NSY				*e*S		Sn	00 02 23.2	-0.2
	baz=245							
TWQ1	**Liyutan**	**1.57**	**243**	*e*P		Pn	00 01 59.2	+0.1
	baz=243							
TWQ1				*e*S		Sn	00 02 23.7	-0.1
	baz=243							
HATJ	**Hateruma jima**	**1.69**	**126**	*e*S		Sn	00 02 26.5	+0.5
SMLT	**Sun Moon Lake**	**1.74**	**228**	*e*P		Pn	00 02 01.5	+0.5
	baz=229							
SMLT				*e*S		Sn	00 02 27.2	+0.1
	baz=229							
JKRS	**Kuro-shima**	**1.75**	**118**	P		Pn	00 02 01.6	+0.7
JKRS				*e*S		Sn	00 02 27.0	-0.1
TYC	**Yuchr**	**1.76**	**229**	P		Pn	00 02 01.4	+0.4
	baz=231							
TYC				*e*S		Sn	00 02 27.2	0.0
	baz=231							
EHY	**Hungye**	**1.79**	**210**	*e*P		Pn	00 02 01.7	+0.3
	baz=218							
EHY				*e*S		Sn	00 02 27.5	-0.5
	baz=218							
JIJ	**Ishigaki jima**	**1.81**	**112**	P		Pn	00 02 01.6	+0.1
JIJ				*e*S		Sn	00 02 26.9	-1.3
WNT	**Mingjian**	**1.89**	**232**	*e*P		Pn	00 02 01.2	-1.2
	baz=240							
WNT				*e*S		Sn	00 02 30.3	+0.5
	baz=240							
TWF1	**Yuli**	**1.94**	**209**	*e*P		Pn	00 02 02.9	-0.1
	baz=217							
TWF1				*e*S		Sn	00 02 30.0	-0.8
	baz=217							
CHN5	**Tsauling**	**2.08**	**226**	*e*P		Pn	00 02 05.4	+0.8
	baz=228							
CHN5				*e*S		Sn	00 02 33.9	+0.1
	baz=228							
WGK	**Gukeng**	**2.10**	**230**	*e*P		Pn	00 02 05.0	+0.2
	baz=238							
WGK				*e*S		Sn	00 02 33.2	-0.7
	baz=238							
JTJ	**Tarama**	**2.21**	**100**	P		Pn	00 02 06.6	+0.6
JTJ				*e*S		Sn	00 02 35.4	-0.8
CHN4	**Tsaushan**	**2.32**	**223**	*e*P		Pn	00 02 07.2	-0.1
	baz=226							
CHN4				S		Sn	00 02 38.1	-0.3
	baz=226							
WSF	**Szhu**	**2.38**	**234**	*e*P		Pn	00 02 08.5	+0.7
	baz=232							
WSF				*e*S		Sn	00 02 39.5	0.0
	baz=232							
TWK	**Hsinying**	**2.44**	**223**	*e*P		Pn	00 02 09.9	+1.2
	baz=226							
TWK				*e*S		Sn	00 02 40.5	-0.6
	baz=226							
CHN1	**Nanshi**	**2.48**	**221**	*e*P		Pn	00 02 08.7	-0.4
	baz=224							
CHN1				*e*S		Sn	00 02 41.3	-0.5
	baz=224							

***IDC* 23 00:38:43.8±1.8, 1°08′S×127°35′E, *h*0km, mb 3.9/2, mb1 3.7/3, mb1mx3.4/21, mbtmp3.5/3, ML3.1/1, Error ellipse: s-maj=166.1km s-min=31.6km az=72.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.95**	**160**	P	P	00 43 17.9	+0.2
	0.1nm,0.3s,baz=339,slow=12,SNR=4.5						
ASAR	**Alice Springs**	**23.33**	**165**	P	P	00 43 53.7	-0.2
	0.4nm,0.7s,baz=347,slow=11,SNR=4.3						
ARCES	**ARCESS Array B**	**95.15**	**340**	P	P	00 52 08.6	-0.1
	1.0nm,0.5s,baz=89,slow=7.3,SNR=14						

IDC ***23*** *00:44:26.4±3.3, 42°.10N×84°.49E, h0km, mb3.3/2, mb1 3.3/5, mb1mx3.2/31, mbtmp3.3/5, ML3.0/3, Error ellipse: s-maj=51.1km s-min=24.1km az=98.0*

ISC 23 00:44:28.3±2.7, 42°.0N±0°.1×84°.6E±0°.2, *h*21km, n6, σ1.9 91/8, 1C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**5.10**	**342**	Pn	**Pn**	**00 45 45.9**	**+2.3**
	0.2nm,0.2s,baz=150,slow=13,SNR=45						
MK31				⇑Pg	**Pb**	**00 45 57.7**	**+0.8**
	3.8nm,0.5s,baz=163,slow=14,SNR=17						
MK31				Lg	Lg	00 47 00.9	
	38nm,0.7s,baz=148,slow=28,SNR=12						
MKAR	**Makanchi Array**	**5.10**	**342**	Pn	**Pn**	**00 45 45.1**	**+1.6**
	0.3nm,0.3s,baz=158,slow=14,SNR=19						
MKAR				Pg	Pb	00 46 01.0	+4.1
	1.8nm,0.3s,baz=155,slow=16,SNR=20						
MKAR				Sn	**Sn**	**00 46 40.0**	**-1.8**
	2.2nm,0.3s,baz=159,slow=15,SNR=5.7						
MKAR				Lg	Lg	00 47 04.4	
	6.5nm,0.3s,baz=153,slow=30,SNR=13						
AAK	**Ala-Archa**	**7.53**	**278**	Pn	**Pn**	**00 46 17.7**	**+0.7**
	0.4nm,0.3s,baz=94,slow=15,SNR=4.6						
AAK				Lg	Lg	00 48 05.9	

	0.4nm,0.3s,baz=186,slow=19,SNR=2.8							
ZALV	**Zalesovo Beam**	**11.99**	**1**	Pn		**Pn**	**00 47 15.7**	**-2.1**
	0.1nm,0.3s,baz=180,slow=17,SNR=3.5							
AKTO	**Aktyubinsk**	**20.18**	**304**	P		**P**	**00 49 01.0**	**-0.3**
	0.6nm,0.4s,baz=102,slow=9.3,SNR=4.3							
TORD	**Torodi Ar. Bea**	**76.10**	**275**	P		**P**	**00 56 15.9**	**+1.2**
	0.3nm,0.8s,baz=46,slow=5.2,SNR=4.1							

DDA ***23*** *01:07:24.7, 39°.11N×29°.02E, h22km, MD3.5*
ISK ***23*** *01:07:24.9, 39°.10N×29°.03E, h4km, ML3.7*
ISCJB ***23*** *01:07:25.4±0.4, 39°.11N±0°.01×29°.00E±0°.02, h8km±3km, Error ellipse: s-maj=2.3km s-min=2.3km az=168.7*
CSEM ***23*** *01:07:25.6±0.1, 39°.11N×29°.00E, h5km, MD3.5, Error ellipse: s-maj=1.7km s-min=1.5km az=71.0*
THE ***23*** *01:07:25.8, 39°.10N×29°.01E, h2km±1km, ML3.6/6, Error ellipse: s-maj=1.9km s-min=0.8km az=89.0*

ISC 23 01:07:26.0±0.9, 39°.11N±0°.01×29°.02E±0°.01, h9km±8km, n231, σ0.8 84/279, 15C-11D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**254**	*i* P	**Pg**	**01 07 30.9**	**-0.1**
DEMI				*i* S	**Sg**	**01 07 34.6**	**+0.3**
DEMI	**Demirci**	**0.24**	**254**	*i* P	**Pg**	**01 07 30.9**	**-0.1**
DEMI				*i* S	**Sg**	**01 07 34.6**	**+0.3**
GDZ	**Gediz**	**0.36**	**94**	*i* P	**Pg**	**01 07 32.5**	**-0.7**
GDZ				*i* S	**Sg**	**01 07 37.8**	**-0.2**
GDZ	**Gediz**	**0.36**	**94**	*i* P	**Pg**	**01 07 32.5**	**-0.7**
GDZ				*i* S	**Sg**	**01 07 37.8**	**-0.2**
TVSB	**Tavsanli**	**0.48**	**46**	PG	**Pg**	**01 07 34.5**	**-0.9**
TVSB	**Tavsanli**	**0.48**	**46**	*i* Pg	**Pg**	**01 07 34.5**	**-0.9**
DST	**Dursunbey**	**0.58**	**328**	*e*PG	**Pg**	**01 07 36.6**	**-0.7**
DST	**Dursunbey**	**0.58**	**328**	*e*Pg	**Pg**	**01 07 36.6**	**-0.7**
DURS	**Dursunbey**	**0.65**	**319**	*i* P	**Pg**	**01 07 37.9**	**-0.6**
DURS	**Dursunbey**	**0.65**	**319**	*i* P	**Pg**	**01 07 37.9**	**-0.6**
KULA	**Kula-Manisa**	**0.66**	**205**	*e*PG	**Pg**	**01 07 38.0**	**-0.8**
KULA	**Kula-Manisa**	**0.66**	**205**	P	**Pg**	**01 07 38.2**	**-0.5**
KULA				S	**Sg**	**01 07 47.1**	**-0.3**
KULA	**Kula-Manisa**	**0.66**	**205**	*e*Pg	**Pg**	**01 07 38.0**	**-0.8**
KULA	**Kula-Manisa**	**0.66**	**205**	P	**Pg**	**01 07 38.2**	**-0.5**
KULA				S	**Sg**	**01 07 47.1**	**-0.3**
MANT	**Manisa**	**0.72**	**210**	*i* P	**Pg**	**01 07 39.3**	**-0.6**
MANT				*i* S	**Sg**	**01 07 48.9**	**-0.3**
MANT	**Manisa**	**0.72**	**210**	*i* P	**Pg**	**01 07 39.3**	**-0.6**
MANT				*i* S	**Sg**	**01 07 48.9**	**-0.3**
KHAL	**Karahalli**	**0.83**	**153**	*i* P	**Pg**	**01 07 41.5**	**-0.5**
KHAL				*i* S	**Sg**	**01 07 52.7**	**-0.1**
KHAL	**Karahalli**	**0.83**	**153**	*i* P	**Pg**	**01 07 41.5**	**-0.5**
KHAL				*i* S	**Sg**	**01 07 52.7**	**-0.1**
KHL	**Karahalli**	**0.88**	**153**	*e*PG	**Pg**	**01 07 42.4**	**-0.6**
KHL				*e*SG	**Sg**	**01 07 54.5**	**0.0**
KHL	**Karahalli**	**0.88**	**153**	*e*Pg	**Pg**	**01 07 42.4**	**-0.6**
KHL				*e*Sg	**Sg**	**01 07 54.5**	**0.0**
AKHS	**Akhisar**	**0.97**	**256**	*i* P	**Pg**	**01 07 44.3**	**-0.3**
AKHS				*i* S	**Sb**	**01 07 57.9**	**+0.1**
AKHS	**Akhisar**	**0.97**	**256**	*i* P	**Pg**	**01 07 44.3**	**-0.3**
AKHS				*i* S	**Sb**	**01 07 57.9**	**+0.1**
AKS	**Akhisar**	**0.97**	**256**	*e*PG	**Pg**	**01 07 44.3**	**-0.3**
AKS	**Akhisar**	**0.97**	**256**	*e*Pg	**Pg**	**01 07 44.3**	**-0.3**
BALB	**Balikesir**	**1.03**	**301**	*e*PG	**Pg**	**01 07 45.4**	**-0.4**
BALB	**Balikesir**	**1.03**	**301**	*e*Pg	**Pg**	**01 07 45.4**	**-0.4**
ULDT	**Uludag**	**1.03**	**5**	*i* P	**Pg**	**01 07 44.4**	**-1.5**
ULDT				*i* S	**Sg**	**01 07 58.0**	**-1.3**
ULDT	**Uludag**	**1.03**	**5**	*i* P	**Pg**	**01 07 44.4**	**-1.5**
ULDT				*i* S	**Sg**	**01 07 58.0**	**-1.3**
BALY	**Balya**	**1.25**	**301**	*i* P	**Pg**	**01 07 48.3**	**-1.7**
BALY				*i* S	**Sg**	**01 08 05.9**	**-0.4**
BALY	**Balya**	**1.25**	**301**	*i* P	**Pg**	**01 07 48.3**	**-1.7**
BALY				*i* S	**Sg**	**01 08 05.9**	**-0.4**
KCTX	**Karacabey (Bur**	**1.26**	**336**	*e*PN	**Pg**	**01 07 49.0**	**-1.2**
KCTX				*e*SN	**Sb**	**01 08 07.6**	**+1.3**
KCTX	**Karacabey (Bur**	**1.26**	**336**	*e*Pn	**Pg**	**01 07 49.0**	**-1.2**
KCTX				*e*Sn	**Sb**	**01 08 07.6**	**+1.3**
MDNY	**Mudanya-Bursa**	**1.26**	**355**	*e*PN	**Pg**	**01 07 49.6**	**-0.6**
MDNY	**Mudanya-Bursa**	**1.26**	**355**	*e*Pn	**Pg**	**01 07 49.6**	**-0.6**
CAVI	**Cavuskoy**	**1.26**	**30**	*e*PN	**Pg**	**01 07 49.8**	**-0.5**
CAVI	**Cavuskoy**	**1.26**	**30**	*e*Pn	**Pg**	**01 07 49.8**	**-0.5**
SHUT	**Suhut-Afyon**	**1.32**	**114**	*e*PN	**Pn**	**01 07 50.4**	**-0.4**
SHUT	**Suhut-Afyon**	**1.32**	**114**	*e*Pn	**Pn**	**01 07 50.4**	**-0.4**
GEMT	**Gemlik**	**1.33**	**6**	*e*PN	**Pn**	**01 07 51.0**	**+0.2**
GEMT	**Gemlik**	**1.33**	**6**	*e*Pn	**Pn**	**01 07 51.0**	**+0.2**
BORA	**Eskisehir**	**1.35**	**55**	*i* P	**Pn**	**01 07 50.2**	**-1.0**
BORA				*i* S	**Sg**	**01 08 09.0**	**-0.5**
BORA	**Eskisehir**	**1.35**	**55**	*i* P	**Pn**	**01 07 50.2**	**-1.0**
BORA				*i* S	**Sg**	**01 08 09.0**	**-0.5**
GONE	**Gonen-Balikesi**	**1.39**	**313**	*e*PN	**Pn**	**01 07 51.8**	**+0.2**
GONE	**Gonen-Balikesi**	**1.39**	**313**	*e*Pn	**Pn**	**01 07 51.8**	**+0.2**
DNZL	**Cakiroluk**	**1.42**	**179**	*i* P	**Pn**	**01 07 51.4**	**-0.8**
DNZL	**Cakiroluk**	**1.42**	**179**	*i* P	**Pn**	**01 07 51.4**	**-0.8**
ADVT	**Abdulvahap**	**1.43**	**23**	*e*PN	**Pn**	**01 07 52.6**	**+0.4**
ADVT	**Abdulvahap**	**1.43**	**23**	*e*Pn	**Pn**	**01 07 52.6**	**+0.4**
ARMT	**Armutlu**	**1.46**	**355**	*e*PN	**Pn**	**01 07 52.1**	**-0.5**
ARMT	**Armutlu**	**1.46**	**355**	*e*Pn	**Pn**	**01 07 52.1**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**218**	*e*PN	**Pn**	**01 07 52.4**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**218**	*e*Pn	**Pn**	**01 07 52.4**	**-0.3**
ESKT	**Eskisehir**	**1.48**	**73**	*e*PN	**Pn**	**01 07 53.0**	**0.0**
ESKT	**Eskisehir**	**1.48**	**73**	*e*Pn	**Pn**	**01 07 53.0**	**0.0**
SEYT	**Eskypehyr**	**1.48**	**73**	*i* P	**Pn**	**01 07 52.2**	**-0.7**
SEYT				*i* S	**Sg**	**01 08 14.3**	**+0.7**
SEYT	**Eskypehyr**	**1.48**	**73**	*i* P	**Pn**	**01 07 52.2**	**-0.7**
SEYT				*i* S	**Sg**	**01 08 14.3**	**+0.7**
BNT	**Bandirma**	**1.50**	**326**	*e*PN	**Pn**	**01 07 53.5**	**+0.3**
BNT	**Bandirma**	**1.50**	**326**	*e*Pn	**Pn**	**01 07 53.5**	**+0.3**
GPA	**Golpazari**	**1.54**	**40**	*e*PN	**Pn**	**01 07 54.6**	**+0.8**
GPA	**Golpazari**	**1.54**	**40**	*e*Pn	**Pn**	**01 07 54.6**	**+0.8**
IZM	**Izmir**	**1.55**	**243**	*e*PN	**Pn**	**01 07 54.8**	**+1.0**
IZM	**Izmir**	**1.55**	**243**	*e*Pn	**Pn**	**01 07 54.8**	**+1.0**
AYDN	**Tasoluk**	**1.70**	**212**	*i* P	**Pn**	**01 07 55.2**	**-0.8**
AYDN	**Tasoluk**	**1.70**	**212**	*i* P	**Pn**	**01 07 55.2**	**-0.8**
BLCB	**Balcova**	**1.71**	**245**	*e*PN	**Pn**	**01 07 56.9**	**+0.9**
BLCB	**Balcova**	**1.71**	**245**	*e*Pn	**Pn**	**01 07 56.9**	**+0.9**
ISP	**Isparta**	**1.75**	**137**	*e*PN	**Pn**	**01 07 56.5**	**-0.2**
ISP	**Isparta**	**1.75**	**137**	P	**Pn**	**01 07 55.6**	**-1.0**
ISP				S	**Sn**	**01 08 18.5**	**-0.6**
ISP	**Isparta**	**1.75**	**137**	⇑ *i*P	**Pb**	**01 07 58.9**	**+0.6**
ISP	**Isparta**	**1.75**	**137**	P	**Pn**	**01 07 55.6**	**-1.0**
ISP	**Isparta**	**1.75**	**137**	*e*Pn	**Pn**	**01 07 56.5**	**-0.2**
ISP				S	**Sn**	**01 08 18.5**	**-0.6**
GULT	**Gulveren**	**1.75**	**41**	*e*PN	**Pn**	**01 07 56.9**	**+0.2**
GULT	**Gulveren**	**1.75**	**41**	*e*Pn	**Pn**	**01 07 56.9**	**+0.2**
HRT	**Hereke**	**1.78**	**16**	*e*PN	**Pn**	**01 07 57.7**	**+0.6**
HRT	**Hereke**	**1.78**	**16**	*e*Pn	**Pn**	**01 07 57.7**	**+0.6**
AYVA	**Ayvalik**	**1.82**	**277**	*i* P	**Pn**	**01 07 57.0**	**-0.5**
AYVA				*i* S	**Sg**	**01 08 24.6**	**+0.1**
AYVA	**Ayvalik**	**1.82**	**277**	*i* P	**Pn**	**01 07 57.0**	**-0.5**
KRBG	**Karabiga-Canak**	**1.84**	**315**	*e*PN	**Pn**	**01 07 58.5**	**+0.7**
KRBG	**Karabiga-Canak**	**1.84**	**315**	*e*Pn	**Pn**	**01 07 58.5**	**+0.7**
SPNC	**Sapanca-Adapaz**	**1.86**	**32**	*e*PN	**Pn**	**01 07 58.9**	**+0.8**
SPNC	**Sapanca-Adapaz**	**1.86**	**32**	*e*Pn	**Pn**	**01 07 58.9**	**+0.8**
ISK	**Istanbul-Kandi**	**1.95**	**1**	*e*PN	**Pn**	**01 07 59.6**	**+0.3**
ISK	**Istanbul-Kandi**	**1.95**	**1**	P	**Pn**	**01 07 58.0**	**-1.3**
ISK				S	**Sn**	**01 08 23.1**	**-0.9**
ISK	**Istanbul-Kandi**	**1.95**	**1**	P	**Pn**	**01 07 58.0**	**-1.3**
ISK	**Istanbul-Kandi**	**1.95**	**1**	*e*Pn	**Pn**	**01 07 59.6**	**+0.3**
ISK				S	**Sn**	**01 08 23.1**	**-0.9**
SVRH	**Sivrihisar-ESK**	**1.97**	**79**	*e*PN	**Pn**	**01 07 59.9**	**+0.1**
SVRH	**Sivrihisar-ESK**	**1.97**	**79**	*e*Pn	**Pn**	**01 07 59.9**	**+0.1**
GLHS	**Glhisar (BURDU**	**1.99**	**169**	*e*PN	**Pn**	**01 07 59.8**	**-0.2**
GLHS	**Glhisar (BURDU**	**1.99**	**169**	*e*Pn	**Pn**	**01 07 59.8**	**-0.2**
YER	**Yerkesik**	**2.06**	**197**	*e*PN	**Pn**	**01 08 00.8**	**-0.1**
YER	**Yerkesik**	**2.06**	**197**	*e*Pn	**Pn**	**01 08 00.8**	**-0.1**
BCK	**Bucak**	**2.06**	**143**	*e*PN	**Pn**	**01 08 00.7**	**-0.2**
BCK	**Bucak**	**2.06**	**143**	*e*Pn	**Pn**	**01 08 00.7**	**-0.2**
BGKT	**Bogazkoy**	**2.08**	**355**	*e*PN	**Pn**	**01 08 01.5**	**+0.5**
BGKT	**Bogazkoy**	**2.08**	**355**	*e*Pn	**Pn**	**01 08 01.5**	**+0.5**
ELBA	**Catalca**	**2.08**	**348**	*i* P	**Pn**	**01 07 59.9**	**-1.2**
ELBA				*i* S	**Sn**	**01 08 24.0**	**-3.2**
ELBA	**Catalca**	**2.08**	**348**	*i* P	**Pn**	**01 07 59.9**	**-1.2**
SILT	**Sile**	**2.09**	**13**	*e*PN	**Pn**	**01 08 01.9**	**+0.6**
SILT	**Sile**	**2.09**	**13**	*e*Pn	**Pn**	**01 08 01.9**	**+0.6**
RKY	**Sarkoy-Tekirda**	**2.12**	**319**	*e*PN	**Pn**	**01 08 02.7**	**+1.0**
RKY	**Sarkoy-Tekirda**	**2.12**	**319**	*e*Pn	**Pn**	**01 08 02.7**	**+1.0**
PRK	**Paraskevi**	**2.14**	**274**	P	**Pn**	**01 08 01.4**	**-0.5**
PRK				S	**Sn**	**01 08 28.6**	**0.0**
PRK	**Paraskevi**	**2.14**	**274**	P	**Pn**	**01 08 01.4**	**-0.5**
PRK				S	**Sn**	**01 08 28.6**	**0.0**
KLYT	**Kilyos**	**2.14**	**1**	*e*PN	**Pn**	**01 08 02.5**	**+0.6**
KLYT	**Kilyos**	**2.14**	**1**	*e*Pn	**Pn**	**01 08 02.5**	**+0.6**
CTKS	**Kestanelik-??a**	**2.16**	**350**	*e*PN	**Pn**	**01 08 03.0**	**+0.8**
CTKS	**Kestanelik-??a**	**2.16**	**350**	*e*Pn	**Pn**	**01 08 03.0**	**+0.8**
MDUB	**Mudurnu**	**2.16**	**50**	*e*PN	**Pn**	**01 08 03.3**	**+1.0**
MDUB	**Mudurnu**	**2.16**	**50**	*e*Pn	**Pn**	**01 08 03.3**	**+1.0**
TKR	**Tekirdag**	**2.19**	**329**	*e*PN	**Pn**	**01 08 03.0**	**+0.3**
TKR	**Tekirdag**	**2.19**	**329**	*e*Pn	**Pn**	**01 08 03.0**	**+0.3**
SLVT	**Silivri**	**2.20**	**344**	*e*PN	**Pn**	**01 08 02.5**	**-0.3**
SLVT	**Silivri**	**2.20**	**344**	*e*Pn	**Pn**	**01 08 02.5**	**-0.3**
SMG	**Samos**	**2.21**	**231**	P	**Pn**	**01 08 01.7**	**-1.3**
SMG				S	**Sn**	**01 08 30.8**	**+0.4**
SMG	**Samos**	**2.21**	**231**	P	**Pn**	**01 08 01.7**	**-1.3**
SMG				S	**Sn**	**01 08 30.8**	**+0.4**
CRLT	**Corlu**	**2.24**	**334**	*e*PN	**Pn**	**01 08 04.3**	**+1.0**
CRLT	**Corlu**	**2.24**	**334**	*e*Pn	**Pn**	**01 08 04.3**	**+1.0**
KIZT	**Kizilcal**	**2.24**	**95**	*e*PN	**Pn**	**01 08 03.6**	**+0.1**
KIZT	**Kizilcal**	**2.24**	**95**	*e*Pn	**Pn**	**01 08 03.6**	**+0.1**
SUTC	**Sutluce-Ispart**	**2.26**	**136**	*e*PN	**Pn**	**01 08 03.7**	**0.0**
SUTC	**Sutluce-Ispart**	**2.26**	**136**	*e*Pn	**Pn**	**01 08 03.7**	**0.0**
DALY	**Dalyan (Mu¨la**	**2.31**	**187**	*e*PN	**Pn**	**01 08 04.2**	**0.0**
DALY	**Dalyan (Mu¨la**	**2.31**	**187**	*e*Pn	**Pn**	**01 08 04.2**	**0.0**
GELI	**Tayfur-Gelibol**	**2.34**	**304**	*e*PN	**Pn**	**01 08 05.7**	**+1.0**
GELI	**Tayfur-Gelibol**	**2.34**	**304**	*e*Pn	**Pn**	**01 08 05.7**	**+1.0**
CTYL	**Yal??k??y-??at**	**2.42**	**347**	*e*PN	**Pn**	**01 08 06.7**	**+0.8**
CTYL	**Yal??k??y-??at**	**2.42**	**347**	*e*Pn	**Pn**	**01 08 06.7**	**+0.8**
CHOS	**Chios island**	**2.43**	**254**	P	**Pn**	**01 08 05.4**	**-0.6**
CHOS				S	**Sn**	**01 08 34.8**	**-1.0**
CHOS	**Chios island**	**2.43**	**254**	P	**Pn**	**01 08 05.4**	**-0.6**
CHOS				S	**Sn**	**01 08 34.8**	**-1.0**
BODT	**Bodrum**	**2.45**	**214**	*e*PN	**Pn**	**01 08 07.0**	**+0.8**
BODT	**Bodrum**	**2.45**	**214**	*e*Pn	**Pn**	**01 08 07.0**	**+0.8**
SIGR	**SIGRI**	**2.46**	**273**	P	**Pn**	**01 08 05.5**	**-0.8**
SIGR				S	**Sn**	**01 08 37.1**	**+0.6**
SIGR	**SIGRI**	**2.46**	**273**	P	**Pn**	**01 08 05.5**	**-0.8**
SIGR				S	**Sn**	**01 08 37.1**	**+0.6**
ELL	**Elmali**	**2.46**	**163**	*e*PN	**Pn**	**01 08 06.7**	**+0.2**
ELL	**Elmali**	**2.46**	**163**	*e*Pn	**Pn**	**01 08 06.7**	**+0.2**
FETY	**Fethiye**	**2.47**	**179**	*e*PN	**Pn**	**01 08 06.6**	**+0.1**
FETY	**Fethiye**	**2.47**	**179**	*e*Pn	**Pn**	**01 08 06.6**	**+0.1**
ERIK	**Erikli-Kesan**	**2.48**	**310**	*e*PN	**Pn**	**01 08 07.5**	**+1.0**
ERIK	**Erikli-Kesan**	**2.48**	**310**	*e*Pn	**Pn**	**01 08 07.5**	**+1.0**
ANTB	**Antalya**	**2.56**	**149**	*e*PN	**Pn**	**01 08 07.7**	**0.0**
ANTB	**Antalya**	**2.56**	**149**	*e*Pn	**Pn**	**01 08 07.7**	**0.0**
DAT	**Datca**	**2.64**	**206**	*e*PN	**Pn**	**01 08 09.3**	**+0.4**
DAT	**Datca**	**2.64**	**206**	*e*Pn	**Pn**	**01 08 09.3**	**+0.4**
ENEZ	**Enez**	**2.73**	**307**	*e*PN	**Pn**	**01 08 11.7**	**+1.6**
ENEZ	**Enez**	**2.73**	**307**	*e*Pn	**Pn**	**01 08 11.7**	**+1.6**
PHSR	**Pinarhisar**	**2.76**	**336**	*e*PN	**Pn**	**01 08 11.5**	**+1.0**
PHSR	**Pinarhisar**	**2.76**	**336**	*e*Pn	**Pn**	**01 08 11.5**	**+1.0**
LADK	**Ladik-KONYA**	**2.77**	**108**	*e*PN	**Pn**	**01 08 11.3**	**+0.5**
LADK	**Ladik-KONYA**	**2.77**	**108**	*e*Pn	**Pn**	**01 08 11.3**	**+0.5**
KONT	**

CNP	**Catarman**	**1.32 229**	*e*P	**Pn**	**01 11 59.2**	**-0.2**
CNP			*e*S	Sn	01 12 09.5	-6.6
PVCP	**Virac**	**1.50 278** ⇑	*i*P	**Pn**	**01 12 00.8**	**-1.1**
MSLP	**Maasin**	**3.33 194**	*e*P	**Pn**	**01 12 28.4**	**+1.4**
RCP	**Roxas**	**3.39 238** ⇓	*e*P	**Pn**	**01 12 28.8**	**+0.8**
LLP	**Lapu-Lapu**	**3.48 209**	*e*P	**Pn**	**01 12 29.1**	**-0.1**
BOAC	**Boac**	**3.74 272**	*e*P	**Pn**	**01 12 33.5**	**+0.8**
GUIM	**Jordan**	**4.08 228**	*e*P	**Pn**	**01 12 38.0**	**+0.6**
KAPI	**Kappang**	**19.20 198**	*e*P	**Pn**	**01 15 59.2**	**-0.5**
	24nm,0.9s						
KAPI	**Kappang**	**19.20 198**	P	**Pn**	**01 15 59.9**	**+0.2**
	1.2nm,0.3s,baz=37,slow=8.9,SNR=9.2						
KSAR	**Wonju Array Be**	**24.04 4**	P	**P**	**01 16 50.5**	**+0.9**
KSRS	**Korea Array**	**24.06 4**	P	**P**	**01 16 50.5**	**+0.7**
	1.7nm,0.7s,baz=182,slow=10,SNR=6.9						
FITZ	**Fitzroy Crossi**	**31.28 180**	P	**P**	**01 17 54.2**	**-0.4**
FITZ	**Fitzroy Crossi**	**31.28 180**	P	**P**	**01 17 54.2**	**-0.4**
	1.5nm,0.4s,baz=10,slow=5.8,SNR=9.9						
WRAB	**Tennant Creek**	**34.19 165**	*e*P	**P**	**01 18 18.9**	**-1.2**
	4.2nm,1.1s						
WRA	**Warramunga Arr**	**34.19 165**	P	**P**	**01 18 18.5**	**-1.6**
WRA	**Warramunga Arr**	**34.19 165**	P	**P**	**01 18 18.5**	**-1.6**
	0.6nm,0.8s,baz=345,slow=9.6,SNR=3.3						
ASAR	**Alice Springs**	**37.69 168**	P	**P**	**01 18 50.2**	**+0.2**
ASAR	**Alice Springs**	**37.69 168**	P	**P**	**01 18 50.2**	**+0.2**
	0.9nm,0.3s,baz=349,slow=7.0,SNR=14						
SONM	**Songino Array**	**37.93 339**	P	**P**	**01 18 51.9**	**0.0**
SONM	**Songino Array**	**37.93 339**	P	**P**	**01 18 51.9**	**0.0**
	2.0nm,0.9s,baz=149,slow=7.9,SNR=9.9						
FORT	**Forrest**	**43.96 177**	*e*P	**P**	**01 19 41.0**	**-0.7**
	27nm,1.0s						
STKA	**Stephens Creek**	**47.51 162**	P	**P**	**01 20 09.3**	**-0.4**
STKA	**Stephens Creek**	**47.51 162**	P	**P**	**01 20 09.3**	**-0.4**
	2.5nm,0.6s,baz=354,slow=7.1,SNR=6.1						
MK31	**Makanchi Array**	**49.24 321**	*e*P	**P**	**01 20 23.1**	**+0.1**
MKAR	**Makanchi Array**	**49.24 321**	P	**P**	**01 20 23.6**	**+0.7**
MKAR	**Makanchi Array**	**49.24 321**	P	**P**	**01 20 23.6**	**+0.7**
	3.2nm,0.8s,baz=117,slow=8.2,SNR=26						
ZALV	**Zalesovo Beam**	**51.65 330**	P	**P**	**01 20 41.4**	**+0.4**
ZALV	**Zalesovo Beam**	**51.65 330**	P	**P**	**01 20 41.4**	**+0.4**
	0.6nm,0.5s,baz=126,slow=7.5,SNR=3.3						
TKM2	**Tokmak 2**	**52.07 314**	*e*P	**P**	**01 20 45.4**	**+0.8**
	6.5nm,1.4s						
AAK	**Ala-Archa**	**52.75 314**	*e*P	**P**	**01 20 49.6**	**0.0**
	3.3nm,1.0s						
KKAR	**Karatay Array**	**55.69 313**	*e*P	**P**	**01 21 11.2**	**+0.3**
	7.6nm,1.1s						
BRVK	**Borovoye**	**58.88 325**	*e*P	**P**	**01 21 33.2**	**+0.1**
	1.5nm,0.6s						
KBZ	**Khabaz**	**75.70 312**	P	**P**	**01 23 20.2**	**+0.4**
KBZ	**Khabaz**	**75.70 312**	P	**P**	**01 23 20.2**	**+0.4**
	1.9nm,0.9s,baz=52,slow=7.0,SNR=3.6						
ILAR	**Eielson Array**	**76.91 26**	P	**P**	**01 23 26.0**	**-0.4**
ILAR	**Eielson Array**	**76.91 26**	P	**P**	**01 23 26.0**	**-0.4**
	0.4nm,0.7s,baz=244,slow=5.4,SNR=6.6						
ARCES	**ARCESS Array B**	**81.10 339**	P	**P**	**01 23 49.3**	**+0.1**
ARCES	**ARCESS Array B**	**81.10 339**	P	**P**	**01 23 49.3**	**+0.1**
	1.7nm,0.8s,baz=335,slow=1.7,SNR=3.6						
FINES	**FINESS Array B**	**82.90 331**	P	**P**	**01 23 58.2**	**-0.5**
FINES	**FINESS Array B**	**82.90 331**	P	**P**	**01 23 58.2**	**-0.5**
	3.9nm,1.1s,baz=83,slow=7.9,SNR=4.2						
BUR08	**Bucovina Ar. S**	**87.15 318**	*e*P	**P**	**01 24 20.7**	**+0.1**

NIED ***23*** *01:28:00, 36˚.60N×141˚.20E, h32km, Mw4.8 Best double couple: M₀1.67000×10¹⁶ NP1:φ₀219.00000°, δ73.00000°, λ-94.00000°. NP2:φ₀52.00000°, δ17.00000°, λ-77.00000°.*

BJI ***23*** *01:28:25.6, 36˚.59N×141˚.32E, h40km, mB5.0/34, mb4.9/48, Ms4.5/43, Ms7 4.3/40*

JMA ***23*** *01:28:26.9±0.1, 36˚.60N×141˚.18E, h45km±1km, M5.0 Broadband fault plane solution: P waves. NP1: φ₀66.00000°, δ86.00000°, λ76.00000°. NP2:φ₀322.00000°, δ14.00000°, λ165.00000°. Principal axes: T Plg47.0000°, Azm322.0000°; N Plg14.0000°, Azm67.0000°; P Plg40.0000°, Azm169.0000°;*

JMA Felt III J1.

ISCJB ***23*** *01:28:27.3±0.3, 36˚.59N±0˚.02×141˚.11E±0˚.02, h47km±2km, mb5.0/206, MS4.4/46 Error ellipse: s-maj=3.9km s-min=2.5km az=159.4*

SZGRF ***23*** *01:28:27.3, 36˚.72N×141˚.70E, h33km, mb5.3, Near east coast of eastern Honshu, Japan*

GCMT ***23*** *01:28:28.1±0.6, 36˚.71N×141˚.27E, h46km±1km, MW4.9, Moment Tensor Solution. s30,c37; s48,c67; Moment tensor: Scale 10¹⁶Nm; Mrr-3.08±.21; Mθθ1.74±.16; Mφφ1.34±.16; Mrθ0.65±.12; Mθφ1.25±.08; Mrφ1.24±.09; Best double couple: M₀3.30000×10¹⁶ NP1:φ₀221.00000°, δ57.00000°, λ-99.00000°. NP2:φ₀57.00000°, δ34.00000°, λ-77.00000°. Principal axes: T 3.0800, Plg12.0000°, Azm317.0000°; N 0.3400, Plg7.0000°, Azm226.0000°; P -3.4200, Plg76.0000°, Azm105.0000°; Data Used: II IU G IC CN. Surface wave period40 sec.*

MOS ***23*** *01:28:28.6±0.8, 36˚.93N×141˚.10E, h48km, mb5.2/86, MS4.3/21 Error ellipse: s-maj=6.8km s-min=4.4km az=110.1*

NEIC ***23*** *01:28:29.3±0.5, 36˚.58N×141˚.07E, h55km±4km, mb5.0/127, MW4.8(NIED), Error ellipse: s-maj=3.7km s-min=2.6km az=142.0*

NEIC Felt [II] at Tokyo. Also felt at Kitakata, Kodaira, Kuroiso, Sagamihara, Saitama, Tsukuba, Urayasu and Ushiku. Recorded [3 JMA] in Fukushima, Ibaraki and Tochigi; [2 JMA] in Chiba, Gumma, Iwate, Miyagi, Saitama, Tokyo and Yamagata; [3 JMA] in Aomori, Kanagawa and Niigata.

IDC ***23*** *01:28:30.3±2.3, 36˚.56N×141˚.08E, h67km±20km, mb4.5/27, mb1 4.7/30, mb1mx4.6/34, mbtmp4.5/30, MS4.2/28, Ms1 4.2/28, ms1mx4.1/41, Error ellipse: s-maj=13.4km s-min=10.9km az=106.0*

DJA ***23*** *01:29:31.4±2.6, 36˚.N±9˚×14˚.0E±1˚.6, h663km±32km, M4.8/21, mB5.4/6, mb4.7/21, Mw(mB)4.8/6*

ISC 23 01:28:28.0±0.3, 36˚.58N±0˚.03×141˚.24E±0˚.03, h44km±2km, h44km:pP-P, n983, σ1§12/1050, mb5.0/206, MS4.4/47, 215C-211D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	Time h m s	Res ISC
JHO	**Hitachi**	**0.54**	**273**	⇓P		**Pn**	**01 28 37.6**	**-1.9**
JHO				S		**Sn**	**01 28 45.0**	**-2.6**
ONAJ	**Iwakimizuishiy**	**0.63**	**326**	⇓P		**Pn**	**01 28 38.6**	**-2.1**
ONAJ				S		**Sn**	**01 28 46.5**	**-3.2**
JFK	**Kawauchi**	**0.83**	**340**	⇓P		**Pn**	**01 28 41.5**	**-1.9**
JFK				S		**Sn**	**01 28 51.9**	**-2.7**
JYT	**Yasato**	**0.91**	**247**	⇓P		**Pn**	**01 28 42.8**	**-1.6**
JYT				S		**Sn**	**01 28 54.2**	**-2.2**
JSB	**Shiboa**	**1.13**	**290**	⇑P		**Pn**	**01 28 46.5**	**-0.9**
JSB				S		**Sn**	**01 29 00.6**	**-1.1**
JFT	**Otama**	**1.18**	**323**	⇓P		**Pn**	**01 28 47.4**	**-0.7**
JFT				S		**Sn**	**01 29 01.6**	**-1.4**
JKT	**Katashina**	**1.61**	**277**	⇑P		**Pn**	**01 28 53.3**	**-0.8**
JOU	**Okura**	**1.84**	**346**	⇑P		**Pn**	**01 28 56.2**	**-0.9**
JIO	**Ouri**	**1.87**	**3**	⇓P		**Pn**	**01 28 56.0**	**-1.5**
JHK	**Hiroka**	**1.90**	**291**	⇑P		**Pn**	**01 28 57.4**	**-0.5**
JNS	**Sasagawa**	**1.97**	**309**	⇑P		**Pn**	**01 28 57.9**	**-1.0**
JRY	**Ryogami san**	**1.97**	**254**	⇓P		**Pn**	**01 28 58.0**	**-0.9**
JYA	**Atsumi**	**2.34**	**329**	⇑P		**Pn**	**01 29 03.8**	**-0.2**
JYK	**Kaneyama**	**2.43**	**344**	⇑P		**Pn**	**01 29 05.0**	**-0.3**
MJAR	**Matsushiro Arr**	**2.44**	**270**	P		**Pn**	**01 29 05.3**	**-0.1**
MJAR				S		**Sn**	**01 29 37.0**	**+3.1**
MJAR	**Matsushiro Arr**	**2.44**	**270**	P		**Pn**	**01 29 05.3**	**-0.1**
	133nm,0.3s,baz=106,slow=10.0,SNR=373							
MJAR				S		**Sn**	**01 29 37.0**	**+3.1**
	316nm,0.3s,baz=99,slow=15,SNR=10							
MJAR				LR		LR	01 30 14.5	
	comp=Z,5μm,21.5s,baz=110,slow=46							
MAJO	**Matsushiro**	**2.44**	**270**	*e*P		**Pn**	**01 29 05.6**	**+0.2**
MAJO				*e*S		**Sn**	**01 29 33.9**	**-0.1**
MAJO	**Matsushiro**	**2.44**	**270**	*e*Pn		**Pn**	**01 29 05.6**	**+0.2**
MAJO				*e*S		**Sn**	**01 29 33.9**	**-0.1**
MAT	**Matsushiro**	**2.44**	**270**	P		**Pn**	**01 29 05.2**	**-0.2**
MAT				S		**Sn**	**01 29 33.7**	**-0.3**
JNT	**Takato**	**2.60**	**255**	P		**Pn**	**01 29 08.1**	**+0.4**
MIYJ	**Miyakonagasawa**	**3.02**	**9**	⇑P		**Pn**	**01 29 11.9**	**-1.5**
JGN	**Niukaw**	**3.19**	**265**	⇑P		**Pn**	**01 29 12.5**	**+0.8**
JHJ2	**Mitsune**	**3.66**	**199**	*e*Pn		**Pn**	**01 29 22.9**	**+0.9**
ASAJ	**Asahikawa**	**7.60**	**7**	*e*Pn		**Pn**	**01 30 15.2**	**-0.9**
ASAJ				S		**Sn**	**01 31 39.4**	**-1.4**
ASAJ				*e*Sn		Sn	01 31 44.1	+3.3
ASAJ	**Asahikawa**	**7.60**	**7**	P		**Pn**	**01 30 15.2**	**-0.9**
	11nm,0.3s,baz=212,slow=13,SNR=23							
ASAJ				S		**Sn**	**01 31 39.4**	**-1.4**
	7.1nm,0.3s,baz=164,slow=20,SNR=3.8							
ASAJ				LR		LR	01 33 43.2	
	comp=Z,677nm,21.4s,baz=151,slow=41							
UWA2	**Uwa jima 2**	**7.83**	**247**	P		**Pn**	**01 30 22.3**	**+2.9**
YUK	**Yuzh-Kuril'sk**	**8.24**	**24**	*i* P		**Pn**	**01 30 23.4**	**-1.4**
YUK				*i* S		Sn	01 31 47.9	-8.6
YUK				pmax	pmax			
	comp=N,72nm,0.3s							
YUK				pmax	pmax			
	comp=Z,226nm,0.3s							
YUK				pmax	pmax			
	comp=E,53nm,0.1s							
YUK				smax	smax			
	comp=E,1μm,2.4s							
YUK				smax	smax			
	comp=N,611nm,2.4s							
YUK				MLR	MLR			
	comp=Z,633nm,19.0s							
JNU	**Nakatsue**	**9.19**	**251**	*e*Pn		**Pn**	**01 30 36.3**	**-1.7**
JNU	**Nakatsue**	**9.19**	**251**	P		**Pn**	**01 30 39.5**	**+1.6**
	comp=Z,1.9nm,0.3s,baz=62,slow=9.3,SNR=10							
JNU				LR	LR		01 34 20.5	
	comp=Z,1μm,20.3s,baz=66,slow=39							
CBIJ	**Chichi jima**	**9.49**	**175**	*e*Pn		**Pn**	**01 30 39.6**	**-2.6**
CBIJ				S		Sn	01 32 17.5	-10
JCJ	**Chichijima**	**9.49**	**175**	P		Pn	01 30 38.6	-3.6
	comp=Z,28nm,0.3s,baz=299,slow=24,SNR=14							
JCJ				S		Sn	01 32 17.5	-10
	comp=Z,58nm,0.3s,baz=122,slow=23,SNR=6.0							
USRK	**Ussuriysk Arra**	**10.37**	**320**	P		**Pn**	**01 30 56.2**	**+2.1**
	comp=Z,10nm,0.3s,baz=134,slow=12,SNR=197							
USRK				LR	LR		01 34 42.5	
	comp=Z,2μm,19.1s,baz=304,slow=36							
YSS	**Yuzh-Sakhalins**	**10.42**	**6**	*e*P		**Pn**	**01 30 53.2**	**-1.6**
YSS				*e*S		**Sn**	**01 32 49.2**	**-0.9**
YSS				pmax	pmax			
	comp=N,50nm,0.8s							
YSS				pmax	pmax			
	comp=Z,50nm,0.8s							
YSS				smax	smax			
	comp=N,110nm,1.1s							
YSS				MLR	MLR			
	comp=Z,1.0nm,15.0s							
YSS				MLR	MLR			
	comp=E,1.0nm,18.0s							
KSRS	**Korea Array**	**10.68**	**279**	P		Pn	01 31 01.6	+3.2
	comp=E,1.4nm,0.3s,baz=89,slow=13,SNR=50							
KSRS				LR	LR		01 34 56.0	
	comp=E,2μm,20.2s,baz=80,slow=36							
KSAR	**Wonju Array Be**	**10.71**	**279**	P		**Pn**	**01 31 01.6**	**+2.8**
MDJ	**Mudanjiang**	**11.94**	**316**	P		**Pn**	**01 31 14.8**	**-0.7**
MDJ				pP			01 31 21.9	
MDJ				sP			01 31 28.8	
MDJ				S		**Sn**	**01 33 30.3**	**+3.1**
MDJ				ScP		**ScP**	**01 40 29.3**	**+0.7**
MDJ				PcS		**PcS**	**01 40 33.8**	**+0.4**
MDJ				AMB	AMB			
	comp=E,7.0nm,0.6s							
MDJ				AMB	AMB			
	comp=E,130nm,5.8s							
MDJ				LR	LR			
	comp=E,900nm,20.8s							
MDJ				LR	LR			
	comp=E,850nm,24.1s							
MDJ				LR	LR			
	comp=E,2μm,21.4s							
MDJ	**Mudanjiang**	**11.94**	**316**	*e*Pn		**Pn**	**01 31 15.9**	**+0.4**
	comp=E,101nm,1.3s							
HABR	**Khabarovsk**	**12.72**	**341**	*e*P		**Pn**	**01 31 23.6**	**-2.5**
HABR				pmax	pmax			
	comp=Z,147nm,2.8s							
CN2	**Changchun**	**14.05**	**306**	*e*P		**Pn**	**01 31 45.0**	**+0.7**
CN2				*es*P			01 32 00.1	
CN2				*e*S		**Sn**	**01 34 18.6**	**0.0**
CN2				AMB	AMB			
	comp=Z,20nm,1.4s							
CN2				AMB	AMB			
	comp=Z,200nm,5.0s							
CN2				LR	LR			
	comp=Z,1μm,13.0s							
CN2				LR	LR			
	comp=Z,500nm,13.0s							
CN2				LR	LR			
	comp=Z,900nm,17.0s							
KLR	**Kul'dur**	**14.41**	**334**	*e*P		Pn	01 31 45.7	-3.4
KLR				MLR	MLR			
	comp=Z,2μm,12.5s							
SNY	**Shenyang**	**14.65**	**296**	⇑P		**Pn**	**01 31 54.1**	**+1.7**
SNY				AMB	AMB			
	comp=Z,40nm,1.3s							
SNY				AMB	AMB			
	comp=Z,220nm,5.1s							
SNY				LR	LR			
	comp=Z,980nm,16.8s							
SNY				LR	LR			
	comp=Z,930nm,21.0s							
SNY				LR	LR			
	comp=Z,1μm,20.4s							
DL2	**Dalian**	**15.69**	**284**	P		**P**	**01 32 12.6**	**+3.3**
DL2				S		**S**	**01 35 17.8**	**+5.9**
DL2				AMB	AMB			
	comp=Z,5.0nm,0.6s							
DL2				LR	LR			
	comp=E,680nm,16.7s							
DL2				LR	LR			
	comp=Z,760nm,17.2s							
SSE	**Sheshan**	**17.52**	**258**	P		**Pn**	**01 32 28.3**	**-0.7**
SSE				AMB	AMB			
	comp=Z,42nm,0.8s							
SSE				AMB	AMB			
	comp=Z,170nm,4.1s							
SSE				LR	LR			
	comp=Z,500nm,16.6s							
SSE				LR	LR			
	comp=Z,450nm,16.7s							
SSE				LR	LR			
	comp=Z,820nm,21.1s							
NJ2	**Nanjing**	**19.02**	**263**	*e*P		**Pn**	**01 32 47.9**	**+0.6**
NJ2				pP		**pP**	**01 32 54.6**	**-2.2**
NJ2				S		**Sn**	**01 36 15.0**	**-4.4**
NJ2				AMB	AMB			
	comp=Z,50nm,1.1s							
NJ2				AMB	AMB			
	comp=Z,480nm,4.9s							
NJ2				LR	LR			
	comp=Z,1μm,20.2s							
NJ2				LR	LR			
	comp=Z,1μm,18.4s							
NJ2				LR	LR			
	comp=Z,870nm,17.4s							
BJI	**Beijing**	**19.95**	**288**	P		**P**	**01 32 55.1**	**-1.1**
BJI				S		**S**	**01 36 32.1**	**-6.1**
BJI				AMB	AMB			
	comp=Z,44nm,0.8s							
BJI				AMB	AMB			
	comp=Z,110nm,3.4s							
BJI				LR	LR			
	comp=Z,270nm,21.5s							
BJI				LR	LR			
	comp=Z,410nm,18.6s							
BJT	**Baijiatuan**	**19.95**	**288**	*e*P		**Pn**	**01 32 57.4**	**-0.9**
	comp=Z,22nm,0.5s							
HIA	**Hailar**	**20.12**	**316**	*e*P		**P**	**01 32 58.0**	**-0.2**
PETK	**Petropavlovsk-**	**20.15**	**30**	P		**P**	**01 32 59.1**	**+0.8**
PETK				pmax	pmax			
	comp=Z,4.0nm,0.5s							
PETK				MLR	MLR			
	comp=Z,234nm,20.9s							
PETK	**Petropavlovsk-**	**20.15**	**30**	P		**P**	**01 32 59.0**	**+0.8**
PETK	**Petropavlovsk-**	**20.15**	**30**	P		**P**	**01 32 59.0**	**+0.8**
	comp=Z,9.2nm,0.9s,baz=224,slow=12,SNR=5.1							
PETK				LR	LR		01 40 23.3	
	comp=Z,234nm,20.9s,baz=219,slow=35							
PET	**Petropavlovsk**	**20.47**	**31**	*e*P		**P**	**01 33 02.7**	**+0.9**
PET				*e*S		**S**	**01 36 47.4**	**-0.9**
PET				pmax	pmax			
	comp=Z,72nm,1.2s							
PET				MLR	MLR			
	comp=Z,300nm,19.0s							
YHNB	**Yeheng**	**20.77**	**241**	*e*P		**P**	**01 33 05.0**	**-0.3**
	comp=Z,88nm,1.5s							
NACB	**Ninganchiao**	**20.93**	**239**	*e*P		**P**	**01 33 06.0**	**-1.0**
	comp=Z,24nm,0.9s							
YULB	**Yu-li**	**21.65**	**238**	*e*P		**P**	**01 33 13.3**	**-1.4**
	comp=Z,10.0nm,0.8s							
TPUB	**Ta-pu**	**22.17**	**239**	*e*P		**P**	**01 33 17.7**	**-2.6**
	comp=Z,10nm,0.5s							
TWG	**Pinlang**	**22.19**	**237**	*e*P		**P**	**01 33 20.0**	**-0.5**
	comp=Z,205nm,0.8s							
CLNS	**Chul'man**	**23.04**	**337**	*e*P		**P**	**01 33 28.1**	**-1.1**
CLNS				*e*			01 33 53.4	
CLNS				*e*			01 37 15.3	
CLNS				*e*SS		SS	01 38 08.3	
CLNS				pmax	pmax			
	comp=Z,27nm,1.1s							
CLNS				pmax	pmax			
	comp=N,22nm,1.2s							
CLNS				pmax	pmax			
	comp=E,9.0nm,1.2s							
CLNS				pmax	pmax			
	comp=E,10.0nm,0.8s							
CLNS				pmax	pmax			
	comp=N,13nm,0.8s							
CLNS				pmax	pmax			
	comp=Z,14nm,0.8s							
CLNS				MLR	MLR			
	comp=E,356nm,14.0s							
CLNS				MLR	MLR			
	comp=Z,567nm,17.0s							
CLNS				MLR	MLR			
	comp=N,508nm,15.0s							
WHN	**Wuhan**	**23.16**	**263**	⇓P		**P**	**01 33 31.9**	**+1.3**
WHN				AMB	AMB			
	comp=N,54nm,0.4s							
WHN				LR	LR			
	comp=N,2μm,19.2s							
HHC	**Hu-ho-hao-te**	**23.48**	**290**	*e*P		**P**	**01 33 33.1**	**-0.7**
HHC				pP		**pP**	**01 33 44.6**	**-0.5**
HHC				sP		**sP**	**01 33 50.1**	**-0.4**
HHC				PP		**PnPn**	**01 34 05.5**	**+3.8**
HHC				S		**S**	**01 37 38.9**	**-5.5**
HHC				sS		sS	01 37 57.1	-6.8
HHC				SS		**SnSn**	**01 38 25.6**	**+2.5**
HHC				AMB	AMB			
	comp=N,38nm,0.8s							
HHC				AMB	AMB			
	comp=N,300nm,5.2s							
HHC				LR	LR			
	comp=N,780nm,14.3s							
HHC				LR	LR			
	comp=N,760nm,15.5s							
HHC				LR	LR			
	comp=N,950nm,16.7s							
XAN	**Xi'an**	**26.43**	**274**	P		**P**	**01 34 00.8**	**+0.1**
XAN				S		**S**	**01 38 27.9**	**-3.4**
XAN				AMB	AMB			
	comp=N,2.0nm,0.5s							
XAN				AMB	AMB			
	comp=N,35nm,5.4s							
YAK	**Yakutsk**	**26.48**	**348**	*e*P		**P**	**01 34 00.0**	**-0.7**
YAK				*e**PP		**pP**	**01 34 09.0**	**-3.5**
YAK				*e*			01 34 39.8	
YAK				*e*			01 37 28.5	
YAK				*e*S		**S**	**01 38 30.4**	**-0.9**
YAK				*e*SSS		SSS	01 39 42.1	
YAK				*e*			01 44 54.6	
YAK				pmax	pmax			
	comp=Z,36nm,1.1s							
YAK				pmax	pmax			
	comp=N,20nm,1.1s							
YAK				pmax	pmax			
	comp=E,7.0nm,1.1s							
YAK				pmax	pmax			
	comp=Z,51nm,1.4s							
YAK				pmax	pmax			
	comp=N,47nm,1.4s							
YAK				pmax	pmax			
	comp=E,38nm,1.4s							
YAK				smax	smax			
	comp=E,277nm,3.5s							
YAK				smax	smax			
	comp=N,302nm,2.8s							
YAK				MLR	MLR			
	comp=Z,551nm,18.0s							
YAK				MLR	MLR			
	comp=N,526nm,16.0s							
YAK				MLR	MLR			
	comp=E,219nm,20.0s							
ENH	**Enshi**	**27.16**	**266**	*e*P		**P**	**01 34 06.3**	**-0.9**
	comp=E,20nm,0.5s							
SEY	**Seymchan**	**27.26**	**11**	*e*P		**P**	**01 34 09.7**	**+2.0**
FX1	**Attu Island--F**	**27.62**	**44**	*e*P		**P**	**01 34 10.7**	**-0.4**
FX1	**Attu Island--F**	**27.62**	**44**	LR		LR	01 42 56.4	
	comp=E,123nm,21.9s,baz=86,slow=31							
SONM	**Songino Array**	**27.92**	**305**	P		**P**	**01 34 13.8**	**-0.2**
SONM	**Songino Array**	**27.92**	**305**	P		**P**	**01 34 13.8**	**-0.2**
	comp=E,43nm,0.7s,baz=114,slow=8.9,SNR=47							
SONM				LR		LR	01 45 28.5	
	comp=E,425nm,20.2s,baz=173,slow=37							
H11N2	**WAKE ISLAND Hy**	**28.04**	**120**	T		T	02 04 22.5	
	baz=312,slow=0.7							
H11N1	**WAKE ISLAND Hy**	**28.05**	**120**	T		T	02 04 23.2	
	baz=312							
H11N3	**WAKE ISLAND Hy**	**28.06**	**120**	T		T	02 04 23.5	
	baz=312,slow=0.7							
H11S1	**WAKE ISLAND Hy**	**28.74**	**122**	T		T	02 05 10.5	
	baz=318,slow=0.7,SNR=417							
H11S3	**WAKE ISLAND Hy**	**28.74**	**122**	T		T	02 05 10.2	
	baz=318,slow=0.7,SNR=296							
H11S2	**WAKE ISLAND Hy**	**28.75**	**122**	T		T	02 05 11.3	
	baz=318,slow=0.7,SNR=304							
LZH	**Lanzhou**	**30.01**	**280**	*e*P		**P**	**01 34 33.8**	**+1.1**
LZH				pP		**pP**	**01 34 45.0**	**+0.5**
LZH				sP		**sP**	**01 34 50.3**	**+0.5**
LZH				PP		**PnPn**	**01 35 30.0**	**-0.5**
LZH				*e*S		**S**	**01 39 26.0**	**-1.8**
LZH				SS		**SnSn**	**01 41 01.0**	**-1.4**
LZH				AMB	AMB			
	comp=E,22nm,1.0s							
LZH				AMB	AMB			
	comp=E,93nm,4.7s							
LZH				LR	LR			
	comp=E,880nm,13.2s							
LZH				LR	LR			
	comp=E,1μm,14.6s							
LZH				LR	LR			
	comp=E,2μm,15.0s							
ZAK	**Zakamensk**	**30.44**	**309**	*e*P		**P**	**01 34 35.8**	**-0.5**
ZAK				pmax	pmax			
	comp=Z,7.0nm,1.0s							
TLY	**Talaya**	**30.52**	**312**	*e*P		**P**	**01 34 37.6**	**+0.7**
TLY				pmax	pmax			
	comp=Z,14nm,0.9s							
TLY				MLR	MLR			
	comp=Z,603nm,16.0s							
GYA	**Guiyang**	**31.01**	**261**	P		**P**	**01 34 41.8**	**+0.2**
GYA				pP		**pP**	**01 34 53.6**	**+0.2**
GYA				sP		**sP**	**01 34 58.8**	**+0.1**
GYA				PP		**PnPn**	**01 35 43.9**	**+0.2**
GYA				PcP		**PcP**	**01 37 38.3**	**+1.5**
GYA				S		**S**	**01 39 42.3**	**-1.2**
GYA				ScP		**ScP**	**01 41 15.4**	**-0.6**
GYA				SS		**SnSn**	**01 41 25.4**	**-1.5**
GYA				ScS		**ScS**	**01 45 11.0**	**-2.2**
GYA				AMB	AMB			
	comp=Z,20nm,0.9s							
GYA				AMB	AMB			
	comp=Z,110n

GTA sP **sP** **01 35 15.0 +2.7**
GTA PcP **PcP** **01 37 41.8 +1.0**
GTA S **S** **01 40 11.8 +4.2**
GTA sS **sS** **01 40 32.3 +4.8**
GTA AMB AMB
comp=Z,12nm,1.1s
GTA AMB AMB
comp=Z,120nm,6.6s
GTA LR LR
comp=Z,260nm,16.1s
GTA LR LR
comp=Z,320nm,16.1s
GTA LR LR
comp=Z,400nm,17.1s
QIZ Qiongzhong 32.62 246 P **P** **01 34 55.3 -0.3**
QIZ pP **pP** **01 35 07.0 -0.5**
QIZ sP **sP** **01 35 12.3 -0.4**
QIZ S **S** **01 40 07.1 -1.4**
QIZ ScS **ScS** **01 45 20.8 -0.4**
QIZ AMB AMB
comp=Z,15nm,2.5s
KMI Kunming 34.76 262 P **P** **01 35 15.1 +0.7**
KMI pP **pP** **01 35 26.9 +0.5**
KMI sP **sP** **01 35 32.0 +0.4**
KMI PP **PnPn** **01 36 31.6 +0.2**
KMI S **S** **01 40 40.9 -1.1**
KMI sS **sS** **01 41 00.3 -1.6**
KMI SS **SnSn** **01 42 53.1 -4.9**
KMI AMB AMB
comp=Z,13nm,1.0s
KMI AMB AMB
comp=Z,130nm,5.8s
KMI LR LR
comp=Z,390nm,13.7s
KMI LR LR
comp=Z,610nm,13.7s
KMI LR LR
comp=Z,550nm,16.1s
TIXI Tiksi 35.72 353 *e*P **P** **01 35 21.8 -0.1**
TIXI pmax pmax
comp=Z,13nm,1.7s
KKM Kota Kinabalu 38.05 223 *e*P **P** **01 35 41.7 -0.8**
SWI Sorong 38.39 196 P pP 01 35 57.4 +0.2
comp=Z,63nm,0.9s
CRAI Chiangrai 39.14 257 P **P** **01 35 52.1 +0.6**
comp=Z,15nm,1.2s
LBMI Labuha 39.17 202 P **PP** **01 37 19.2 -3.0**
LOEI Loei 40.00 253 P **P** **01 35 56.4 -2.2**
comp=Z,10nm,1.1s,comp=Z,1µm
MRSI Marisa 40.13 211 P **P** **01 35 59.9 +0.2**
comp=Z,30nm,1.4s
FAKI Fak Fak 40.18 194 P **P** **01 36 00.9 +0.8**
CMAI Chiengmai2 40.34 257 P **P** **01 36 02.3 +0.6**
comp=Z,7.9nm,0.7s,comp=Z,692nm
CHAI Chaiyaphum 40.42 250 P **P** **01 36 01.9 -0.2**
comp=Z,7.2nm,1.1s
PBKT Sadao Pong 40.78 252 P **P** **01 36 06.5 +1.4**
comp=Z,13nm,1.3s,comp=Z,2µm
PBKT Sadao Pong 40.78 252 P **P** **01 36 06.3 +1.2**
comp=Z,16nm,0.8s,comp=Z,2µm
WMQ Urumqi 40.92 297 P **P** **01 36 07.3 +1.2**
WMQ pP **pP** **01 36 19.5 +1.3**
WMQ sP **sP** **01 36 24.9 +1.5**
WMQ PP **PnPn** **01 37 45.3 0.0**
WMQ PcP **PcP** **01 38 08.3 +2.5**
WMQ PcS **PcS** **01 41 57.9 +1.1**
WMQ S **S** **01 42 14.8 +0.1**
WMQ sS **sS** **01 42 35.4 +0.5**
WMQ SS **SS** **01 45 12.3 -4.9**
WMQ ScS **ScS** **01 46 06.3 -0.7**
WMQ AMB AMB
comp=Z,41nm,0.8s
WMQ AMB AMB
comp=Z,170nm,3.6s
WMQ LR LR
comp=Z,310nm,16.0s
WMQ LR LR
comp=Z,410nm,15.0s
WMQ LR LR
comp=Z,370nm,24.0s
CHTO Chiang Mai 41.05 256 *e*P **P** **01 36 06.8 -0.5**
CHTO pmax pmax
comp=Z,5.0nm,0.9s
CHTO Chiang Mai 41.05 256 P P 01 36 11.9 +4.6
comp=Z,34nm,1.1s
CHTO Chiang Mai 41.05 256 *e*P **P** **01 36 06.8 -0.5**
comp=Z,5.4nm,0.9s
CHTO Chiang Mai 41.05 256 P P 01 36 11.9 +4.6
comp=Z,34nm,1.1s
CMAR Chiang Mai Arr 41.25 256 LR LR 01 55 21.3
comp=Z,272nm,20.4s,baz=228,slow=39
MSAI Masohi 41.35 199 P **P** **01 36 11.4 +1.7**
APSI Ampana 41.51 210 P **P** **01 36 10.0 -1.0**
LSA Lhasa 42.11 276 P P 01 36 19.8 +3.3
LSA Lhasa 42.11 276 *e*P **P** **01 36 17.3 +0.9**
LSA Lhasa 42.11 276 *e*P **P** **01 36 17.3 +0.9**
ZAA0 Zalesovo Array 42.12 313 *e*P **P** **01 36 15.3 -0.3**
ZALV Zalesovo Beam 42.12 313 P **P** **01 36 15.4 -0.2**
ZALV 01 38 09.0
ZALV pmax pmax
comp=Z,18nm,0.7s
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV MLR MLR
comp=Z,385nm,18.6s
ZALV Zalesovo Beam 42.12 313 P **P** **01 36 15.4 -0.2**
ZALV PcP **PcP** **01 38 09.0 -0.4**
ZALV Zalesovo Beam 42.12 313 P **P** **01 36 15.4 -0.2**
comp=Z,18nm,0.7s,baz=91,slow=7.4,SNR=53
ZALV PcP **PcP** **01 38 09.0 -0.4**
comp=Z,2.5nm,0.5s,baz=106,slow=4.0,SNR=4.2
ZALV LR LR 01 54 30.6
comp=Z,385nm,18.6s,baz=69,slow=37
NVS Novosibirsk 43.05 314 *e*P **P** **01 36 22.4 -0.8**
NVS *e*S **S** **01 42 45.4 -0.2**
NVS pmax pmax
comp=Z,30nm,1.3s
NVS pmax pmax
comp=E,24nm,1.2s
NVS smax smax
comp=E,39nm,2.5s
MK31 Makanchi Array 44.24 302 *e*P **P** **01 36 32.7 -0.2**
MK31 Makanchi Array 44.24 302 *e*P **P** **01 36 32.7 -0.2**
MKAR Makanchi Array 44.24 302 *e*P **P** **01 36 33.2 +0.2**
MKAR Makanchi Array 44.24 302 *e*P **P** **01 36 33.1 +0.2**
MKAR Makanchi Array 44.24 302 P **P** **01 36 32.6 -0.3**
comp=E,11nm,0.8s,baz=82,slow=10,SNR=59
MKAR LR LR 01 55 36.9
comp=E,280nm,20.0s,baz=90,slow=37
SPSI Sidrap Palu 45.05 211 P **P** **01 36 39.2 -0.4**
comp=E,19nm,1.1s
KSM Kuching 45.14 226 P **P** **01 36 40.5 +0.1**
comp=E,27nm,0.8s
KSM Kuching 45.14 226 *e*P **P** **01 36 40.7 +0.3**
comp=E,15nm,0.7s
BNSI Bone 45.30 210 P **P** **01 36 41.3 -0.3**
comp=E,54nm,1.4s
TAPN Taplejung 45.83 274 *e*P **P** **01 36 46.4 +0.3**
comp=E,20nm,0.4s
KAPI Kappang 46.00 210 P **P** **01 36 45.6 -1.5**
comp=E,56nm,1.4s,comp=E,666nm
KAPI Kappang 46.00 210 *e*P **P** **01 36 46.2 -0.9**
comp=E,76nm,1.3s
KAPI Kappang 46.00 210 P **P** **01 36 46.0 -1.1**
comp=E,271nm,1.2s,SNR=6.7
PMG Port Moresby 46.08 172 *e*P **P** **01 36 47.7 0.0**
comp=E,13nm,0.7s
KURK Kurchatov 46.10 308 P **P** **01 36 47.3 -0.3**
KURK pmax pmax
comp=Z,13nm,0.5s
KURK Kurchatov 46.10 308 P **P** **01 36 47.3 -0.3**
KURK Kurchatov 46.10 308 P **P** **01 36 46.7 -0.9**
comp=Z,273nm,0.8s,SNR=31
BKSI Bulukumba 46.13 210 P **P** **01 36 45.2 -2.9**
KURBB Kurchatov Arra 46.17 308 P **P** **01 36 47.3 -0.8**
comp=Z,17nm,0.7s,baz=84,slow=8.6,SNR=70
ODAN Odare 46.30 274 *e*P **P** **01 36 49.5 -0.3**
comp=Z,26nm,0.6s
RAMN Ramite 46.90 274 *e*P **P** **01 36 54.1 -0.3**
comp=Z,40nm,0.6s
JIRN Jiri 46.92 276 *e*P **P** **01 36 54.8 +0.1**
comp=Z,35nm,0.6s
GUN Gumba 47.06 276 *e*P **P** **01 36 56.2 +0.4**
comp=Z,34nm,0.4s
IMA2 Indian Mountai 47.14 30 *e*P **P** **01 36 56.4 +0.7**

PKI Pulchoki 47.58 276 *e*P **P** **01 36 59.5 -0.4**
comp=Z,24nm,0.7s
PKIN Phulchoki 47.59 276 *e*P **P** **01 37 00.0 +0.1**
comp=Z,21nm,0.7s
KKN Kakani 47.59 276 *e*P **P** **01 37 00.2 +0.4**
comp=Z,30nm,0.5s
PPLA Purkeypile 47.62 35 *e*P **P** **01 36 59.2 -0.3**
comp=Z,26nm,1.0s
SPU Mount Spurr 47.68 37 *e*P **P** **01 37 01.3 +1.5**
DMN Daman 47.81 276 *e*P **P** **01 37 01.5 0.0**
comp=Z,16nm,0.6s
GKN Gorkha 48.02 277 *e*P **P** **01 37 02.8 -0.2**
comp=Z,23nm,0.4s
KULM Kulim 48.47 240 *e*P **P** **01 37 06.0 -0.4**
comp=Z,7.9nm,0.6s
TRF Thorofare Moun 48.48 34 *e*P **P** **01 37 07.1 +0.9**
comp=Z,13nm,0.9s
DANN Dangsing 48.57 278 *e*P **P** **01 37 07.5 +0.1**
comp=Z,59nm,0.6s
COLD Coldfoot 48.61 29 *e*P **P** **01 37 08.2 +1.3**
comp=Z,4.8nm,1.2s
SOEI Soe 48.78 202 P pP 01 37 20.8 -0.4
IPM Ipoh 48.79 239 P **P** **01 37 09.1 +0.2**
comp=Z,18nm,0.8s
IPM Ipoh 48.79 239 *e*P **P** **01 37 08.2 -0.7**
comp=Z,13nm,0.7s
KOLN Koldanda 48.94 277 *e*P **P** **01 37 10.2 0.0**
PMR Palmer 49.07 36 *e*P **P** **01 37 10.8 +0.4**
PMR pmax pmax
comp=Z,26nm,1.0s
PMR Palmer 49.07 36 *e*P **P** **01 37 10.8 +0.4**
comp=Z,26nm,1.0s
MCK McKinley 49.09 34 *e*P **P** **01 37 10.7 +0.1**
MCK pmax pmax
comp=Z,81nm,1.9s
MCK McKinley 49.09 34 *e*P **P** **01 37 10.7 +0.1**
comp=Z,81nm,1.9s
BATI Baumata 49.39 203 P **P** **01 37 11.9 -1.5**
comp=Z,48nm,1.2s
BATI Baumata 49.39 203 P **P** **01 37 12.7 -0.7**
BATI Baumata 49.39 203 P **P** **01 37 12.7 -0.7**
comp=Z,39nm,0.4s,baz=24,slow=1.3,SNR=6.9
COLA College 49.53 32 *e*P **P** **01 37 14.8 +0.9**
COLA pmax pmax
comp=Z,12nm,0.9s
COLA College 49.53 32 *e*P **P** **01 37 14.8 +0.9**
comp=Z,12nm,0.9s
TKM2 Tokmak 2 49.72 299 *i*P **P** **01 37 16.5 +0.5**
TKM2 Tokmak 2 49.72 299 P **P** **01 37 16.6 +0.5**
SNR=26
TKM2 Tokmak 2 49.72 299 *e*P **P** **01 37 16.5 +0.5**
comp=Z,24nm,0.5s
ILAR Eielson Array 49.95 32 P **P** **01 37 17.3 +0.2**
ILAR Eielson Array 49.95 32 P **P** **01 37 17.3 +0.2**
comp=Z,12nm,0.8s,baz=270,slow=6.4,SNR=106
KZA Kyzart 50.21 298 P **P** **01 37 22.0 +2.1**
SNR=8.2
KBK Karagaybulak 50.25 299 P **P** **01 37 20.3 +0.3**
SNR=14
COEN Coen 50.30 178 *e*P **P** **01 37 20.3 +0.1**
USP Ospenovka 50.40 299 P **P** **01 37 21.0 +0.1**
SNR=11
FRU Bishkek 50.44 299 *e*P **P** **01 37 24.0 +2.8**
FRU *e* 01 37 38.0
FRU MLR MLR
comp=Z,500nm,20.0s
KSH Kashi 50.46 294 P P 01 37 27.0 +5.5
KSH pP pP 01 37 35.0 +1.1
KSH PP **PP** **01 39 18.9 +1.6**
KSH S **S** **01 44 36.3 +4.1**
KSH sS sS 01 44 56.3 +3.5
KSH SS **SS** **01 48 04.9 -1.3**
KSH AMB AMB
comp=Z,56nm,4.1s
KSH LR LR
comp=Z,110nm,5.4s
KSH LR LR
comp=Z,73nm,4.1s
KSH LR LR
comp=Z,100nm,6.1s
VOSK Vostochnaya 50.48 312 P **P** **01 37 20.3 -1.0**
VOSK pmax pmax
comp=Z,15nm,0.7s
AAK Ala-Archa 50.58 299 *i*P **P** **01 37 22.7 +0.3**
AAK Ala-Archa 50.58 299 P P 01 37 27.7 +5.2
SNR=6.0
AAK Ala-Archa 50.58 299 *e*P **P** **01 37 22.1 -0.3**
comp=Z,14nm,0.6s
DIV Divide 50.72 37 *e*P **P** **01 37 24.6 +1.5**
comp=Z,36nm,1.0s
BVA0 Borovoye Array 50.77 313 *i*P **P** **01 37 22.5 -1.0**
BVA0 pmax pmax
comp=Z,8.0nm,0.7s
BVAR Borovoye Array 50.77 313 LR LR 01 59 49.4
comp=Z,352nm,20.2s,baz=78,slow=37
MTNI Mataram 50.77 213 P **P** **01 37 21.8 -2.1**
comp=Z,97nm,1.1s,comp=Z,1µm
BRVK Borovoye 50.83 313 *e*P **P** **01 37 24.3 +0.4**
BRVK pmax pmax
comp=Z,11nm,0.6s
BRVK Borovoye 50.83 313 *e*P **P** **01 37 24.2 +0.4**
comp=Z,11nm,0.6s
BRVK Borovoye 50.83 313 P **P** **01 37 24.9 +1.0**
comp=Z,105nm,0.7s,SNR=5.1
EKS2 Erkin-Say 51.08 299 *e*P **P** **01 37 26.0 -0.1**
EKS2 pmax pmax
comp=Z,12nm,0.6s
EKS2 Erkin-Say 51.08 299 P P 01 37 31.3 +5.2
SNR=6.2
EKS2 Erkin-Say 51.08 299 *e*P **P** **01 37 26.0 -0.1**
comp=Z,12nm,0.6s
DOT Dot Lake 51.26 33 *e*P **P** **01 37 27.2 +0.1**
comp=Z,12nm,0.8s
AML Almayashu 51.30 298 P **P** **01 37 28.9 +0.8**
SNR=12
PSI Prapat 51.44 239 P **P** **01 37 28.7 -0.4**
comp=Z,10nm,1.1s
PSI Prapat 51.44 239 P **P** **01 37 28.4 -0.7**
PSI Prapat 51.44 239 P **P** **01 37 28.4 -0.7**
comp=Z,4.2nm,0.6s,baz=72,slow=7.6,SNR=5.4
PSI LR LR 02 02 23.7
comp=Z,120nm,18.4s,baz=230,slow=40
PWJI Pagerwojo 52.27 218 P P 01 37 31.6 -3.4
comp=Z,66nm,0.8s
EGAK Eagle 52.40 32 *e*P **P** **01 37 35.5 0.0**
comp=Z,99nm,2.3s
KK31 Karatay Array 53.23 300 *e*P **P** **01 37 41.4 -0.6**
KK31 pmax pmax
comp=Z,9.0nm,0.6s
KKAR Karatay Array 53.23 300 *e*P **P** **01 37 41.7 -0.3**
KKAR Karatay Array 53.23 300 *e*P **P** **01 37 41.7 -0.3**
DAWY Dawson 53.26 33 *e*P **P** **01 37 42.1 +0.2**
LHSI Lahat 53.42 229 P **P** **01 37 41.9 -1.7**
comp=Z,71nm,0.9s,comp=Z,2µm
GSI Gunungsitoli 53.45 239 P **P** **01 37 42.3 -1.5**
comp=Z,61nm,1.6s
GSI Gunungsitoli 53.45 239 *e*P **P** **01 37 43.4 -0.5**
comp=Z,102nm,1.3s
MDSI Maura Dua 53.54 228 P **P** **01 37 44.2 -0.3**
comp=Z,32nm,1.5s,comp=Z,1µm
HYT Haines Junctio 54.74 36 *e*P **P** **01 37 53.8 +0.9**
INK Inuvik 54.85 27 *e*P **P** **01 37 54.2 +0.9**
comp=Z,20nm,1.3s
INK Inuvik 54.85 27 P **P** **01 37 54.1 +0.8**
comp=Z,7.8nm,0.5s,baz=279,slow=5.7,SNR=37
INK LR LR 02 02 38.7
comp=Z,124nm,18.2s,baz=148,slow=37
SVE Sverdlovsk 55.39 319 *i*P **P** **01 37 57.6 +0.2**
SVE *e*S **S** **01 45 41.5 +3.0**
SVE *e* 01 47 45.3
SVE *e*SSS SSS 01 51 23.4
SVE pmax pmax
comp=Z,19nm,0.8s
SVE MLR MLR
comp=Z,516nm,16.0s
FITZ Fitzroy Crossi 56.35 198 *e*P **P** **01 38 04.6 -0.1**
comp=Z,61nm,1.6s
WRAB Tennant Creek 56.59 188 *e*P **P** **01 38 05.6 -0.7**
WRAB *e* 01 40 14.4
WRAB pmax pmax
comp=Z,47nm,1.0s
WRAB Tennant Creek 56.59 188 *e*P **P** **01 38 05.6 -0.7**
comp=Z,47nm,1.0s
WRAB *e*PP **PP** **01 40 14.4 +1.6**
WRAB Tennant Creek 56.59 188 P **P** **01 38 05.9 -0.4**
comp=Z,234nm,1.2s,SNR=25

WRA Warramunga Arr 56.60 188 P **P** **01 38 05.6 -0.7**
WRA Warramunga Arr 56.60 188 P **P** **01 38 05.6 -0.7**
comp=Z,20nm,0.5s,baz=6.6,slow=7.4,SNR=236
SOKR Solikamsk 56.60 323 *e*P P 01 38 17.7 +12
SOKR pmax pmax
comp=Z,10.0nm,0.6s
SOKR MLR MLR
comp=Z,490nm,25.0s
ARU Arti 56.60 319 *d i*P **P** **01 38 05.3 -0.8**
ARU 01 39 00.3
ARU 01 40 09.7
ARU S **S** **01 45 56.1 +1.4**
ARU SS **SS** **01 49 39.7 -2.4**
ARU pmax pmax
comp=Z,15nm,0.7s
ARU MLR MLR
comp=Z,310nm,17.0s
ARU Arti 56.60 319 P **P** **01 38 05.8 -0.3**
comp=Z,131nm,0.7s,SNR=7.2
KBL Kabul 57.45 291 *e*P **P** **01 38 12.1 -0.6**
KBL pmax pmax
comp=Z,18nm,1.1s
KBL Kabul 57.45 291 *e*P **P** **01 38 12.1 -0.6**
comp=Z,18nm,1.1s
HYB Hyderabad 58.05 269 *i*P **P** **01 38 17.0 +0.1**
AB31 Akbulak array 58.12 310 *i*P **P** **01 38 15.8 -1.1**
AB31 pmax pmax
comp=Z,2.0nm,0.3s
AKTO Aktyubinsk 58.87 312 P **P** **01 38 20.8 -1.3**
AKTO pmax pmax
comp=Z,19nm,1.2s
AS31 Alice Springs 60.32 188 *e*P **P** **01 38 31.5 -0.8**
ASAR Alice Springs 60.32 188 P **P** **01 38 31.9 -0.5**
ASAR Alice Springs 60.32 188 P **P** **01 38 31.9 -0.5**
comp=Z,11nm,0.7s,baz=9.7,slow=6.1,SNR=103
MBWA Marble Bar 60.92 203 *e*P **P** **01 38 35.8 -0.6**
comp=Z,12nm,0.5s
SPITS Spitsbergen Ar 60.94 349 LR LR 02 05 14.7
comp=Z,115nm,19.0s,baz=10.0,slow=36
DZM Mont Dzumac 63.01 154 *e*LR LR 01 57 36.2
comp=Z,413nm,21.3s
APA Apatity 63.04 336 *e*P P 01 38 56.0 +5.9
APA MLR MLR
comp=Z,600nm,16.0s
TMCR Tamitsa 63.07 331 *e*P P 01 38 58.8 +8.5
TMCR pmax pmax
comp=Z,39nm,1.3s
KEV Kevo 63.81 339 *e*P **P** **01 38 54.2 -1.0**
KEV pmax pmax
comp=Z,3.0nm,0.5s
KEV Kevo 63.81 339 *e*p **P** **01 38 54.2 -1.0**
comp=Z,2.7nm,0.5s
KLMR Klimovskoe 64.06 328 *e*P **P** **01 38 55.0 -1.9**
KLMR pmax pmax
comp=Z,34nm,1.4s
IKRD Kardeh 64.18 298 *e*P P 01 38 54.2 -4.3
YKA Yellowknife Ar 64.27 30 P **P** **01 38 58.2 -0.1**
YKA Yellowknife Ar 64.27 30 P **P** **01 38 58.2 -0.1**
comp=Z,4.9nm,0.8s,baz=294,slow=6.4,SNR=4.7
ARCES ARCESS Array B 64.37 339 P **P** **01 38 58.4 -0.5**
ARCES ARCESS Array B 64.37 339 P **P** **01 38 58.4 -0.5**
comp=Z,1.9nm,0.5s,baz=58,slow=8.0,SNR=15
ARCES LR LR 02 10 30.7
comp=Z,154nm,18.8s,baz=27,slow=39
IDAH Dahanechah 65.09 293 *e*P **P** **01 39 04.2 -0.3**
IKOO Kooshah 65.88 293 *e*P **P** **01 39 09.6 0.0**
DAG Danmarks Havn 66.21 355 *e*P P 01 39 16.3 +5.7
DAG pmax pmax
comp=Z,31nm,0.9s
JOF Joensuu 66.29 332 *e*P **P** **01 39 09.8 -1.6**
JOF pmax pmax
comp=Z,3.0nm,0.4s
JOF Joensuu 66.29 332 *e*p **P** **01 39 09.8 -1.6**
comp=Z,3.1nm,0.4s
NLWA Neilton Lookou 67.12 47 *e*P **P** **01 39 18.3 +1.3**
comp=Z,33nm,1.1s
ARMA Armidale 67.36 170 *e*P **P** **01 39 19.5 +0.9**
comp=Z,30nm,1.3s
MOS Moscow 67.53 323 *e*P P 01 39 26.4 +7.1
MOS *e* 01 48 13.2
MOS pmax pmax
comp=Z,39nm,1.0s
VRHR Novokhopersk 67.93 318 *e*P P 01 39 28.2 +6.3
VRHR pmax pmax
comp=N,4.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
IANJ Anjilo 68.07 298 *e*P **P** **01 39 21.7 -1.7**
STKA Stephens Creek 68.11 180 *e*P **P** **01 39 23.0 -0.1**
comp=Z,5.1nm,1.2s
STKA Stephens Creek 68.11 180 P **P** **01 39 22.4 -0.8**
comp=Z,9.1nm,0.5s,baz=346,slow=6.8,SNR=39
FORT Forrest 68.14 192 *e*P **P** **01 39 23.1 -0.3**
comp=Z,71nm,0.8s
OBN Obninsk 68.37 323 *e*P **P** **01 39 25.9 +1.3**
OBN *i* 01 39 36.0
OBN *e* 01 41 55.6
OBN *e*S **S** **01 48 23.6 +1.2**
OBN *e*PPS PPS 01 49 17.4
OBN pmax pmax
comp=Z,8.0nm,0.6s
OBN MLR MLR
comp=Z,300nm,16.0s
KAF Kangasniemi 68.64 333 *e*P **P** **01 39 24.8 -1.4**
KAF pmax pmax
comp=Z,5.0nm,0.5s
KAF Kangasniemi 68.64 333 *e*p **P** **01 39 24.8 -1.4**
comp=Z,5.3nm,0.5s
LON Longmire 68.66 47 *e*P **P** **01 39 27.3 +0.6**
LON pmax pmax
comp=Z,124nm,3.0s
LON Longmire 68.66 47 *e*P **P** **01 39 27.3 +0.6**
comp=Z,124nm,3.0s
ILAS Lasjerd 68.79 299 *e*P **P** **01 39 27.8 -0.1**
LTY Liberty 69.07 46 *e*P **P** **01 39 30.0 +0.8**
comp=Z,11nm,1.0s
FINES FINESS Array B 69.15 332 P **P** **01 39 28.6 -0.8**
FINES FINESS Array B 69.15 332 P **P** **01 39 28.6 -0.8**
comp=Z,7.2nm,0.7s,baz=46,slow=6.3,SNR=22
FINES LR LR 02 12 05.3
comp=Z,290nm,18.6s,baz=17,slow=38
VSR Storozhevoye 69.18 319 *e*P **P** **01 39 29.2 -0.5**
VSR pmax pmax
comp=N,4.0nm,0.5s
VSR pmax pmax
comp=E,7.0nm,0.5s
VSR pmax pmax
comp=Z,10.0nm,0.5s
BBOO Buckleboo 69.20 185 *e*P **P** **01 39 29.9 -0.1**
comp=Z,304nm,0.9s
VORD Divnogorie 69.25 319 *e*P **P** **01 39 32.4 +2.3**
VORD pmax pmax
comp=E,10.0nm,0.5s
VORD pmax pmax
comp=Z,20nm,0.5s
B08A Colville Reser 69.26 45 *e*P **P** **01 39 30.9 +0.6**
comp=Z,13nm,1.1s
IDMV Damavand 69.34 299 *e*P **P** **01 39 28.4 -3.0**
H04A Detroit Lake 69.51 49 *e*P **P** **01 39 33.0 +1.1**
comp=Z,39nm,1.4s
EDM Edmonton 69.79 38 *e*P **P** **01 39 33.6 +0.1**
EDM Edmonton 69.79 38 *e*P **P** **01 39 33.6 +0.1**
E07A Sunnyside 69.91 47 *e*P **P** **01 39 36.0 +1.6**
comp=Z,20nm,1.2s
ISAD Sadrabad 70.04 295 *e*P **P** **01 39 33.7 -2.1**
G06A Carlson Farm, 70.15 48 *e*P **P** **01 39 37.4 +1.5**
comp=Z,21nm,1.2s
G06A *e*pP pP 01 39 43.2 -5.6
HAWA Hanford 70.19 47 *e*P **P** **01 39 37.4 +1.3**
comp=Z,9.1nm,0.9s
NEW Newport 70.55 44 *e*P **P** **01 39 38.9 +0.6**
comp=Z,12nm,1.1s
NEW Newport 70.55 44 ⇑P **P** **01 39 39.0 +0.7**
baz=70
ZEI Tsey 70.97 309 *e*P **P** **01 39 38.2 -3.0**
ZEI pmax pmax
comp=Z,12nm,1.5s
KBZ Khabaz 71.09 311 P **P** **01 39 41.3 -0.3**
KBZ pmax pmax
comp=Z,4.0nm,0.8s
KBZ MLR MLR
comp=Z,227nm,18.8s
KBZ Khabaz 71.09 311 P **P** **01 39 41.2 -0.3**
KBZ Khabaz 71.09 311 P **P** **01 39 41.2 -0.3**

comp=Z,4.2nm,0.8s,baz=14,slow=6.2,SNR=8.1
KBZ LR LR 02 15 31.6
comp=Z,227nm,18.8s,baz=261,slow=40
KIV Kislovodsk 71.09 311 *e*P **P 01 39 41.1 -0.7**
KIV *i* 01 39 53.8
KIV *e* 01 42 20.8
KIV pmax pmax
comp=Z,12nm,1.0s
KIV MLR MLR
comp=Z,200nm,20.0s
SUMG Summit 71.13 360 *e*P **P 01 39 42.4 +0.5**
SUMG pmax pmax
comp=Z,14nm,1.0s
SUMG Summit 71.13 360 *i* P **P 01 39 42.4 +0.5**
comp=Z,14nm,1.0s
SUMG Summit 71.13 360 *e*P **P 01 39 42.4 +0.5**
comp=Z,17nm,0.9s
ISRB Sarab 71.17 303 *e*P **P 01 39 41.0 -1.5**
I07A Izee 71.45 49 *e*P **P 01 39 45.0 +1.1**
comp=Z,12nm,1.3s
IPAR Pars 71.58 294 *e*P **P 01 39 44.0 -1.2**
IBST Bostanabad 71.76 304 *e*P **P 01 39 44.6 -1.5**
GNI Garni 71.86 307 *e*P **P 01 39 47.7 +1.2**
comp=Z,11nm,0.9s
IMRD Marand 72.01 305 *e*P **P 01 39 45.6 -1.9**
BSMT Bassoo Peak 72.08 43 *e*P **P 01 39 48.1 +0.4**
comp=Z,8.2nm,1.5s
MOD Modoc 72.16 51 *e*P **P 01 39 49.6 +1.4**
comp=Z,30nm,1.6s
BMO Blue Mountains 72.34 47 *e*P **P 01 39 50.0 +0.8**
comp=Z,19nm,1.2s
BMO *e* 01 40 02.1
JTMT Jette 72.42 43 *e*P **P 01 39 51.0 +1.3**
J08A Circle Bar Ran 72.48 49 *e*P **P 01 39 51.5 +1.4**
SWMT Swartz Lake 72.71 43 *e*P **P 01 39 51.8 +0.4**
OHCM Honcut 72.81 54 *e*P **P 01 39 53.0 +1.1**
MSO Missoula 73.14 44 *e*P **P 01 39 54.4 +0.4**
comp=Z,13nm,1.1s
MSO Missoula 73.14 44 ⇑P **P 01 39 54.3 +0.4**
baz=73,SNR=9.0
SLMT Seeley Lake 73.15 43 *e*P **P 01 39 54.6 +0.5**
CHMT Chamberlain Mo 73.47 44 *e*P **P 01 39 56.5 +0.5**
ANN Anapa 73.74 314 *e*P **P 01 39 55.1 -2.2**
ANN pmax pmax
comp=Z,37nm,1.6s
ANN MLR MLR
comp=N,170nm,15.0s
ANN MLR MLR
comp=E,127nm,15.0s
ANN MLR MLR
comp=Z,155nm,15.0s
PAHR Pah Rah Range 73.95 52 *e*P **P 01 40 00.2 +1.3**
comp=Z,25nm,1.1s
FFC Flin Flon 74.16 33 *c e*P **P 01 40 00.2 +0.6**
FFC Flin Flon 74.16 33 P **P 01 40 00.2 +0.6**
comp=Z,155nm,1.0s,SNR=5.8
CMB Columbia Colle 74.25 54 *e*P **P 01 40 01.0 +0.5**
CMB *e* 01 40 15.1
CMB pmax pmax
comp=Z,28nm,1.1s
CMB Columbia Colle 74.25 54 *e*P **P 01 40 01.0 +0.5**
comp=Z,28nm,1.1s
CMB *e* 01 40 15.1
HRY Holter Researc 74.38 43 *e*P **P 01 40 02.1 +0.9**
FCC Fort Churchill 74.47 26 *e*P **P 01 40 01.4 +0.1**
FCC pmax pmax
comp=Z,1.0nm,1.2s
FCC Fort Churchill 74.47 26 *e*P **P 01 40 01.4 +0.1**
comp=Z,1.5nm,1.2s
NB2 NORSAR Subarra 74.55 337 P **P 01 40 01.1 -0.7**
comp=Z,2.3nm,0.6s,baz=40,slow=6.2
NOA NORSAR Array B 74.55 337 P **P 01 40 01.1 -0.7**
NOA NORSAR Array B 74.55 337 P **P 01 40 01.1 -0.7**
comp=Z,5.2nm,0.8s,baz=38,slow=5.7,SNR=13
NOA LR LR 02 16 01.7
comp=Z,378nm,19.4s,baz=25,slow=38
AKASG Malin Array Be 74.57 322 P **P 01 40 01.2 -0.9**
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKASG MLR MLR
comp=Z,400nm,21.1s
AKASG Malin Array Be 74.57 322 P **P 01 40 01.2 -0.9**
AKASG Malin Array Be 74.57 322 P **P 01 40 01.2 -0.9**
comp=Z,1.4nm,0.3s,baz=45,slow=6.4,SNR=20
AKASG LR LR 02 15 11.8
comp=Z,400nm,21.1s,baz=60,slow=38
AKBB Malin Array Si 74.57 322 *e*P **P 01 40 02.4 +0.3**
AKBB Malin Array Si 74.57 322 *e*P **P 01 40 02.4 +0.3**
LRM Limekiln Ridge 74.57 44 *e*P **P 01 40 03.4 +0.8**
LRM *e* 01 40 15.9
AK01 Malin Array Si 74.58 322 *e*P **P 01 40 01.3 -0.8**
KIEV Kiev 74.58 322 *e*P **P 01 40 01.3 -0.8**
KIEV pmax pmax
comp=Z,37nm,1.5s
KIEV Kiev 74.58 322 *e*P **P 01 40 01.3 -0.8**
comp=Z,37nm,1.5s
WAKR Walker 74.60 53 *e*P **P 01 40 04.0 +1.3**
comp=Z,8.9nm,0.9s
AK02 Malin Array Si 74.60 322 *e*P **P 01 40 01.4 -0.8**
A19A Klindworth Far 74.67 40 ⇓P **P 01 40 03.3 +0.4**
baz=74
EGMT Eagleton 74.70 41 *e*P **P 01 40 03.3 +0.3**
comp=Z,33nm,1.1s
EGMT Eagleton 74.70 41 ⇓P **P 01 40 03.6 +0.6**
baz=74,SNR=11
DLMT Dillon 74.76 45 *e*P **P 01 40 04.5 +1.0**
comp=Z,28nm,1.0s
HLID Hailey 74.78 47 *e*P **P 01 40 04.8 +1.1**
comp=Z,12nm,1.3s
HLID Hailey 74.78 47 ⇓P **P 01 40 04.7 +1.0**
baz=75,SNR=9.9
NAO01 NORSAR Array S 74.80 337 *e*P **P 01 40 02.0 -1.3**
comp=Z,10nm,1.0s
B19A Brinkman Farms 74.86 40 ⇑P **P 01 40 04.5 +0.6**
baz=75
BMN Battle Mountai 74.90 51 *e*P **P 01 40 05.3 +0.8**
BMN pmax pmax
comp=Z,24nm,1.2s
BMN Battle Mountai 74.90 51 *e*P **P 01 40 05.2 +0.8**
comp=Z,24nm,1.2s
MCMT McKenzie Canyo 74.94 45 *e*P **P 01 40 05.2 +0.6**
comp=Z,2.6nm,1.2s
A20A Cobblestone Ra 75.12 40 ⇓P **P 01 40 05.8 +0.3**
baz=75
BOZ Bozeman (W) 75.13 44 *e*P **P 01 40 06.7 +1.0**
BOZ pmax pmax
comp=Z,15nm,0.9s
BOZ Bozeman (W) 75.13 44 *e*P **P 01 40 06.7 +1.0**
comp=Z,15nm,0.9s
C19A Slack Wire Ran 75.25 41 ⇑P **P 01 40 07.3 +1.0**
baz=75,SNR=38
B20A Solberg Farm, 75.35 40 ⇓P **P 01 40 07.2 +0.5**
baz=75,SNR=7.3
NVAR Mina Array Bea 75.37 53 P **P 01 40 08.0 +0.8**
NVAR Mina Array Bea 75.37 53 P **P 01 40 08.0 +0.8**
comp=Z,12nm,0.9s,baz=282,slow=6.3,SNR=76
MLAC Mammoth Lakes 75.48 54 ⇓P **P 01 40 09.2 +1.3**
baz=75
A21A Bergtoll Ranch 75.56 39 ⇓P **P 01 40 08.6 +0.6**
baz=75,SNR=6.7
D19A Cripps Ranch, 75.70 41 ⇑P **P 01 40 09.7 +0.9**
baz=76,SNR=22
QLMT Earthquake Lak 75.74 44 *e*P **P 01 40 10.4 +1.1**
C20A Veseth Ranch, 75.82 41 ⇑P **P 01 40 10.3 +0.9**
baz=76,SNR=6.9
MTUM Tungsten Hills 75.82 54 *e*P **P 01 40 11.2 +1.4**
B21A Ellsworth Farm 75.88 40 ⇓P **P 01 40 10.4 +0.7**
baz=76,SNR=5.7
ELK Elko 75.95 50 *e*P **P 01 40 11.9 +1.4**
ELK Elko 75.95 50 P **P 01 40 11.2 +0.7**
comp=Z,5.7nm,0.9s,baz=342,slow=3.0,SNR=24
A22A Carney Farms, 76.08 39 ⇓P **P 01 40 11.2 +0.3**
baz=76,SNR=27
GCMT Greycliff 76.13 43 *e*P **P 01 40 12.4 +1.1**
comp=Z,20nm,1.3s
D20A Manuel Ranch, 76.14 41 ⇑P **P 01 40 12.3 +1.0**
baz=76,SNR=19
E19A Rath Farm, Rou 76.19 42 ⇑P **P 01 40 12.6 +1.0**
baz=76,SNR=24
TIN Tinemaha 76.21 54 ⇓P **P 01 40 13.0 +1.1**
baz=76
C21A Desert Coulee 76.22 40 ⇑P **P 01 40 12.3 +0.6**
baz=76,SNR=6.5
TPH Tonopah 76.27 53 *e*P **P 01 40 13.2 +0.9**
TPH *e* 01 40 24.5
TPH pmax pmax
comp=Z,30nm,1.1s
TPH Tonopah 76.27 53 *e*P **P 01 40 13.2 +0.9**
comp=Z,30nm,1.1s
TPH *e* 01 40 24.5
YFT Old Faithful 76.31 45 *e*P **P 01 40 14.8 +2.3**
comp=Z,9.8nm,0.7s
VES Vestal, Richgr 76.35 56 ⇑P **P 01 40 12.8 +0.3**
baz=76
PKM Peak Mountain 76.40 57 ⇓P **P 01 40 14.1 +0.9**
baz=76
B22A Reddig Ranch S 76.48 39 ⇑P **P 01 40 13.6 +0.4**
baz=76,SNR=8.7
F19A Roth Farm, Mol 76.48 43 ⇓P **P 01 40 14.1 +0.8**
baz=76,SNR=15
H17A Grant Village 76.49 44 *e*P **P 01 40 15.8 +2.2**
H17A *e* 01 40 28.9
H17A Grant Village 76.49 44 ⇑P **P 01 40 16.3 +2.7**
E20A Meyer Farm, Mu 76.52 42 ⇓P **P 01 40 14.4 +1.0**
baz=76,SNR=22
IMW Indian Meadow 76.59 45 *e*P **P 01 40 15.9 +1.7**
comp=Z,18nm,1.0s
FLWY Flagg Ranch 76.61 45 *e*P **P 01 40 16.4 +2.2**
comp=Z,22nm,1.0s
A23A Redstone 76.62 38 ⇑P **P 01 40 14.4 +0.5**
baz=76
FXWY Fox Creek 76.70 45 *e*P **P 01 40 15.9 +1.1**
comp=Z,17nm,1.1s
RRI2 Red Ridge 76.71 46 *e*P **P 01 40 16.3 +1.4**
comp=Z,21nm,1.2s
SBC Santa Barbara 76.73 57 ⇑P **P 01 40 15.8 +1.1**
baz=77
D21A La Casta Ranch 76.76 41 ⇑P **P 01 40 15.5 +0.7**
baz=77,SNR=12
RLMT Red Lodge 76.77 43 *e*P **P 01 40 15.8 +0.7**
comp=Z,15nm,1.1s
RLMT *e* 01 40 27.9
I17A Pilgrim Ck. 76.78 45 ⇑P **P 01 40 17.4 +2.2**
baz=77,SNR=6.5
MOOW Moose Ponds 76.79 45 *e*P **P 01 40 16.7 +1.4**
comp=Z,22nm,1.4s
HVU Hansel Valley 76.82 48 *e*P **P**
HVU pmax pmax **01 40 17.1 +1.8**
comp=Z,12nm,0.9s
HVU Hansel Valley 76.82 48 *e*P **P 01 40 17.1 +1.8**
comp=Z,12nm,0.9s
H18A Shoshone NF, C 76.83 44 ⇓P **P 01 40 16.5 +1.1**
baz=77,SNR=9.0
ISA Isabella 76.86 55 *e*P **P**
ISA pmax pmax **01 40 15.6 0.0**
comp=Z,7.0nm,0.9s
ISA Isabella 76.86 55 *e*P **P 01 40 15.6 0.0**
comp=Z,7.1nm,0.9s
ISA Isabella 76.86 55 ⇓P **P 01 40 15.5 0.0**
baz=77,SNR=5.5
B23A Brockton 76.88 39 ⇑P **P 01 40 15.9 +0.5**
baz=77,SNR=22
ARVC Arvin 76.93 56 ⇑P **P 01 40 16.6 +0.8**
baz=77
MALT Malatya 76.94 308 ⇓P **P 01 40 18.1 +2.0**
MALT Malatya 76.94 308 ⇓*i*P **P 01 40 18.0 +2.0**
F20A Billings 76.95 42 ⇓P **P 01 40 16.4 +0.5**
baz=77
LOHW Long Hollow 76.96 45 *e*P **P 01 40 17.5 +1.3**
comp=Z,5.7nm,0.9s
LOHW *ep*P **pP 01 40 29.9 +0.7**
SNOW Snow King Moun 76.96 45 *e*P **P**
SNOW *ep*P **pP** **01 40 18.1 +1.9**
comp=Z,10nm,0.9s
01 40 31.1 +1.8
REDW Red Top Meadow 76.97 45 *e*P **P 01 40 17.8 +1.5**
comp=Z,18nm,1.1s
E21A Keefer Ranch, 77.05 41 ⇓P **P 01 40 17.0 +0.6**
baz=77
A24A Westby 77.07 38 ⇓P **P 01 40 16.4 0.0**
baz=77
D22A Cohagen 77.13 40 ⇓P **P 01 40 17.7 +0.8**
baz=77,SNR=16
R11A Troy Canyon, C 77.15 52 *e*P **P 01 40 18.2 +0.9**
R11A Troy Canyon, C 77.15 52 ⇑P **P 01 40 18.3 +1.0**
baz=77,SNR=26
BGU Big Grassy Mou 77.18 48 *e*P **P 01 40 18.9 +1.5**
comp=Z,8.7nm,1.0s
H19A Powell 77.21 44 ⇓P **P 01 40 18.7 +1.2**
baz=77
C23A Lambert 77.22 39 ⇑P **P 01 40 17.8 +0.5**
baz=77,SNR=8.1
MPMC Maul Prospec 77.27 55 ⇑P **P 01 40 18.8 +0.7**
baz=77,SNR=9.8
DGMT Dagmar 77.28 38 *e*P **P**
DGMT *e* 01 40 28.3 **01 40 18.1 +0.4**
comp=Z,33nm,1.1s
DGMT Dagmar 77.28 38 ⇑P **P 01 40 17.8 +0.2**
baz=77,SNR=7.3
G20A Bridger 77.28 43 ⇓P **P 01 40 18.0 +0.2**
baz=77,SNR=8.2
BLG Laguna Peak 77.36 57 ⇑P **P 01 40 19.1 +0.7**
baz=77
LAO LASA Array 77.41 41 *e*P **P 01 40 18.8 +0.3**
comp=Z,24nm,1.0s
FURC Furnace Creek, 77.44 54 ⇓P **P 01 40 19.7 +1.0**
baz=77,SNR=8.8
LRMC Laurel Mountai 77.48 55 ⇑P **P 01 40 19.8 +0.6**
baz=77,SNR=8.4
F21A Absaloka Mine, 77.49 42 ⇑P **P 01 40 19.1 +0.2**
baz=77
A25A Svangstu Ranch 77.50 38 ⇑P **P 01 40 19.6 +0.7**
baz=77
I19A Meeteetse 77.60 44 ⇑P **P 01 40 21.0 +1.2**
baz=77,SNR=5.7
D23A Lindsay 77.62 40 ⇓P **P 01 40 20.5 +0.9**
baz=77,SNR=14
EDW2 Edwards Air Fo 77.64 56 ⇓P **P 01 40 20.7 +0.8**
baz=78,SNR=9.3
LVV L'vov 77.66 324 *e*P pP 01 40 31.3 -1.4
E22A Miles City 77.71 41 ⇑P **P 01 40 20.7 +0.6**
baz=78,SNR=7.4
DUG Dugway 77.76 49 *e*P **P**
DUG pmax pmax **01 40 21.8 +1.2**
comp=Z,23nm,1.0s
DUG Dugway 77.76 49 *e*P **P 01 40 21.8 +1.2**
comp=Z,22nm,1.0s
DUG Dugway 77.76 49 ⇓P **P 01 40 21.7 +1.2**
baz=78,SNR=21
DECC Green Verdugo 77.78 56 ⇓P **P 01 40 21.4 +0.7**
baz=78
C24A Savage 77.78 39 ⇓P **P 01 40 21.1 +0.6**
baz=78,SNR=6.0
G21A Lodge Grass 77.83 42 ⇑P **P 01 40 21.2 +0.3**
baz=78,SNR=14
H20A Greybull 77.87 43 ⇓P **P 01 40 21.7 +0.5**
baz=78,SNR=5.8
B25A Knox Farm, Ray 77.92 38 ⇑P **P 01 40 21.9 +0.7**
baz=78
F22A Rosbud 77.98 41 ⇑P **P 01 40 22.0 +0.4**
baz=78,SNR=12
E23A Ismay 78.01 40 ⇓P **P 01 40 22.7 +0.9**
baz=78,SNR=13
A26A Wade Farm, Ken 78.05 37 ⇑P **P 01 40 22.5 +0.6**
baz=78
J19A Crowheart 78.06 45 ⇑P **P 01 40 23.4 +1.1**
baz=78,SNR=19
BW06 Boulder Array 78.08 45 *e*P **P 01 40 22.8 +0.3**
comp=Z,6.5nm,0.8s
PDAR Pinedale Array 78.08 45 P **P 01 40 22.9 +0.4**
PDAR Pinedale Array 78.08 45 P **P 01 40 22.9 +0.4**
comp=Z,4.7nm,0.7s,baz=268,slow=2.1,SNR=40
PDAR LR LR 02 16 33.1
comp=Z,117nm,19.4s,baz=169,slow=37
D24A Glendive 78.11 39 ⇑P **P 01 40 23.0 +0.7**
baz=78,SNR=11
I20A Worland 78.14 44 ⇓P **P 01 40 23.7 +1.1**
baz=78,SNR=12
SHOC Shoshone 78.16 54 ⇓P **P 01 40 23.5 +0.7**
baz=78
GSC Goldstone 78.17 55 *e*P **P**
GSC pmax pmax **01 40 24.0 +1.1**
comp=Z,12nm,1.1s
GSC Goldstone 78.17 55 *e*P **P 01 40 24.0 +1.1**
comp=Z,12nm,1.1s
GSC Goldstone 78.17 55 ⇓P **P 01 40 23.7 +0.8**
baz=78,SNR=6.4
CIS Catalina Islan 78.22 57 ⇓P **P 01 40 23.7 +0.6**
baz=78
BFSC Mount Baldy Ra 78.23 56 ⇑P **P 01 40 24.3 +0.9**
baz=78
C25A Freed Ranch, W 78.25 39 ⇓P **P 01 40 23.9 +0.8**
baz=78
H21A Big Horn, Sher 78.30 43 ⇓P **P 01 40 24.4 +0.8**
baz=78,SNR=14
B26A Jensen Ranch, 78.31 38 ⇑P **P 01 40 23.9 +0.5**
baz=78
G22A Birney 78.32 42 ⇑P **P 01 40 24.2 +0.6**
baz=78,SNR=9.9
JLU Jordanelle 78.33 48 *e*P **P 01 40 25.3 +1.4**
comp=Z,16nm,1.1s
NLU North Lily Min 78.35 49 *e*P **P 01 40 23.8 -0.3**
comp=Z,13nm,0.9s
SCI San Clemente I 78.38 58 ⇑P **P 01 40 25.5 +1.5**
baz=78
A27A Ledoux Ranch, 78.40 37 ⇓P **P 01 40 24.5 +0.7**
baz=78,SNR=6.9
KWP Kalwaria Pacla 78.41 324 ⇓P **P 01 40 23.9 0.0**
KWP Kalwaria Pacla 78.41 324 ⇓*i*P **P 01 40 23.9 0.0**
KWP Kalwaria Pacla 78.41 324 *e*P **P 01 40 23.5 -0.4**
comp=Z,73nm,1.4s
KWP Kalwaria Pacla 78.41 324 *e*P **P 01 40 24.3 +0.4**
F23A Volborg 78.47 41 ⇑P **P 01 40 24.8 +0.4**
baz=78,SNR=20
E24A Baker 78.49 40 ⇑P **P 01 40 24.8 +0.4**
baz=78
SHPR Sheep Range 78.52 53 *e*P **P 01 40 25.8 +0.8**
J20A Shoshoni 78.55 44 ⇑P **P 01 40 25.7 +0.8**
baz=78,SNR=12
DAU Daniels Canyon 78.56 48 *e*P **P 01 40 26.8 +1.5**
DAU Daniels Canyon 78.56 48 *e*P **P 01 40 26.8 +1.5**
BUR08 Bucovina Ar. S 78.56 322 *e*P **P 01 40 24.4 -0.5**
BURAR Bucovina Array 78.58 322 ⇓P **P 01 40 25.0 +0.1**
BURAR Bucovina Array 78.58 322 ⇓*i*P **P 01 40 25.0 +0.1**
MPU Maple Canyon, 78.58 48 *e*P **P 01 40 25.4 +0.2**
comp=Z,23nm,1.0s
TESR Tescani 78.59 320 ⇑*i*P **P 01 40 24.7 -0.2**
D25A Fairfield 78.60 39 ⇑P **P 01 40 25.5 +0.5**
baz=78
TUQ Turquoise Moun 78.67 54 ⇓P **P 01 40 26.7 +1.0**
baz=79,SNR=11
I21A Big Trails, Te 78.69 43 ⇓P **P 01 40 26.6 +0.9**
baz=78,SNR=19
H22A Clearmont 78.70 42 ⇑P **P 01 40 26.4 +0.7**
baz=78
C26A Wahner Farm, P 78.75 38 ⇑P **P 01 40 26.5 +0.7**
baz=79
HEC Hector,Ludlow 78.77 55 ⇑P **P 01 40 26.8 +0.6**
baz=79
G23A Biddle 78.82 41 ⇑P **P 01 40 26.7 +0.4**
baz=79,SNR=7.1
F24A Ekalaka 78.89 40 ⇓P **P 01 40 27.1 +0.4**
baz=79,SNR=11
A28A Rude Farm, Bot 78.90 36 ⇓P **P 01 40 27.1 +0.5**
baz=79,SNR=7.0
J21A Lysite 78.91 44 ⇓P **P 01 40 27.1 +0.1**
baz=79
MURC Murrieta 78.92 56 ⇓P **P 01 40 27.2 +0.2**
baz=79
VRI Vrincioaia 78.98 320 ⇑*i*P **P 01 40 28.7 +1.6**
E25A Miller Ranch, 78.99 39 ⇓P **P 01 40 27.9 +0.7**
baz=79,SNR=5.5
PLOR Plostina 79.03 320 ⇑P **P 01 40 27.5 +0.1**
PLOR Plostina 79.03 320 ⇑*i*P **P 01 40 27.5 +0.1**
CCUT Cedar City 79.03 51 *e*P **P 01 40 28.5 +0.7**
comp=Z,19nm,1.3s
BR131 Keskin Array S 79.04 312 *e*P **P 01 40 27.4 -0.4**
comp=Z,5.9nm,0.9s
BRTR Keskin Array B 79.04 312 P **P 01 40 27.3 -0.4**
BRTR Keskin Array B 79.04 312 P **P 01 40 27.3 -0.4**
comp=Z,2.0nm,1.0s,baz=87,slow=2.6,SNR=10
BRTR LR LR 02 19 58.8
comp=Z,80nm,19.0s,baz=209,slow=39
I22A 9 Mile Ranch, 79.08 43 ⇓P **P 01 40 28.5 +0.7**
baz=79,SNR=9.0
KOLS Kolonicke sedl 79.10 324 *e*P **P 01 40 27.7 0.0**
KOLS Kolonicke sedl 79.10 324 *e*P **P 01 40 27.7 0.0**
C27A Sayler Ranch, 79.12 38 ⇑P **P 01 40 28.5 +0.7**
baz=79
D26A Manning 79.12 39 ⇓P **P 01 40 28.7 +0.8**
baz=79
MVU Marysvale 79.16 50 *e*P **P 01 40 30.1 +1.5**
comp=Z,18nm,1.2s
B28A Dugan Ranch, T 79.17 37 ⇓P **P 01 40 28.5 +0.4**
baz=79,SNR=5.8
H23A Clabaugh Cattl 79.23 42 ⇓P **P 01 40 29.2 +0.6**
baz=79
GMRC Granite Mounta 79.24 55 ⇑P **P 01 40 29.4 +0.6**
baz=79,SNR=10
STHS Stebnicka Huta 79.25 325 *e*P **P 01 40 29.6 +1.1**
STHS Stebnicka Huta 79.25 325 *e*P **P 01 40 29.6 +1.1**
G24A Alzada 79.25 41 ⇓P **P 01 40 28.5 -0.1**
baz=79,SNR=5.0
UZH Uzhgorod 79.30 324 ⇑*e*P **P 01 40 29.4 +0.7**
UZH *i* 01 40 36.8
UZH *e* 01 40 44.0
OJC Ojcow 79.33 326 *e*P **P 01 40 29.4 +0.5**
OJC *e**PP **pP 01 40 40.9 -1.1**
OJC Ojcow 79.33 326 *e*P **P 01 40 29.4 +0.5**
OJC *ep*P **pP 01 40 40.9 -1.1**
F25A Bowman 79.35 40 ⇓P **P 01 40 29.7 +0.5**
baz=79
A29A Manning Farm, 79.38 36 ⇓P **P 01 40 29.5 +0.3**
baz=79,SNR=12
J22A Midwest 79.40 43 ⇑P **P 01 40 29.9 +0.3**
baz=79,SNR=40
109C Camp Elliot, M 79.41 57 ⇑P **P 01 40 30.4 +0.8**
baz=79
PFO Pinyon Flat Ob 79.41 56 P **P 01 40 30.6 +0.8**
comp=Z,20nm,1.1s
PFO Pinyon Flat Ob 79.41 56 P **P 01 40 30.6 +0.8**
comp=Z,89nm,1.0s,SNR=7.3
PFO Pinyon Flat Ob 79.41 56 ⇑P **P 01 40 30.5 +0.6**
baz=79,SNR=9.9
LDFC Landfair 79.42 54 *e*P **P**
LDFC *e* **01 40 29.9 +0.1**
01 40 44.0
ANTO Ankara 79.46 312 *e*P **P 01 40 30.3 +0.4**
ANTO *e**PP **PcP 01 40 38.0 +0.2**
ANTO pmax pmax
comp=Z,20nm,1.4s
ANTO Ankara 79.46 312 ⇑*i*P **P 01 40 31.7 +1.8**
ANTO Ankara 79.46 312 *e*P **P 01 40 30.3 +0.4**
comp=Z,20nm,1.4s
ANTO *ep*P **PcP 01 40 38.0 +0.2**
K21A Alcova 79.48 44 ⇓P **P 01 40 30.6 +0.5**
baz=79,SNR=16
BELC Belle Mtn. Jos 79.48 55 ⇓P **P 01 40 30.4 +0.2**
baz=79,SNR=6.9
E26A Carlson Angus 79.49 39 ⇑P **P 01 40 30.2 +0.3**
baz=79,SNR=5.3
CRVS Cervenica-Dubn 79.51 324 *e*P **P 01 40 29.0 -0.9**
CRVS *e* 01 40 43.0
CRVS Cervenica-Dubn 79.51 324 *e*P **P 01 40 29.0 -0.9**
CRVS *ep*P **pP 01 40 43.0 0.0**
TRPA Tarpa 79.53 323 ⇑*i*P **P 01 40 30.5 +0.5**
Q16A Castle Valley 79.54 49 *e*P **P 01 40 32.0 +1.4**
Q16A Castle Valley 79.54 49 ⇑P **P 01 40 31.9 +1.4**
baz=79,SNR=6.1
H24A Dirks Ranch, A 79.56 41 ⇓P **P 01 40 30.3 -0.1**
baz=79,SNR=12
MLR Muntele Rosu 79.64 320 ⇑*i*P **P 01 40 31.8 +1.0**
B29A Wagenman Farm, 79.64 36 ⇑P **P 01 40 31.1 +0.4**
baz=79,SNR=5.7
C28A Hausauer Farms 79.67 37 ⇓P **P 01 40 31.2 +0.4**
baz=80
NIE Niedzica 79.67 325 *e*P **P 01 40 31.7 +0.9**
NIE *e**PP **pP 01 40 43.6 -0.3**
NIE Niedzica 79.67 325 *e*P **P 01 40 31.7 +0.9**
NIE *ep*P **pP 01 40 43.6 -0.3**
A30A Hoffart Farm, 79.80 35 ⇓P **P 01 40 31.7 +0.2**
baz=80,SNR=5.8
F26A Lodgepole 79.81 40 ⇓P **P 01 40 32.0 +0.4**
baz=80,SNR=5.1
SRU San Rafael 79.81 49 *e*P **P 01 40 32.7 +0.7**
SRU *e* 01 40 45.1
SRU pmax pmax
comp=Z,27nm,0.9s
SRU San Rafael 79.81 49 *e*P **P 01 40 32.6 +0.7**
comp=Z,27nm,0.9s
SRU *e* 01 40 45.0
G25A Newell 79.86 40 ⇑P **P 01 40 32.3 +0.3**
baz=80,SNR=5.7
MONP Monument Peak 79.87 57 ⇑P **P 01 40 33.1 +0.7**
baz=80,SNR=6.6
K22A Casper 79.87 44 ⇑P **P 01 40 32.5 +0.3**
baz=80,SNR=5.7
O19A Miners Draw (B 79.90 47 ⇓P **P 01 40 32.8 +0.4**
baz=80,SNR=9.4
D28A Regan 79.94 38 ⇓P **P 01 40 32.7 +0.4**
baz=80

IRM Iron Mountain 79.94 55 ⇑P P 01 40 33.4 +0.8
baz=80,SNR=11
MDND Maddock 79.95 37 eP P 01 40 33.2 +0.9
comp=Z,45nm,1.0s
MDND Maddock 79.95 37 ⇓P P 01 40 32.8 +0.4
baz=80
ULM Lac du Bonnet 79.96 33 P P 01 40 31.7 -0.6
ULM Lac du Bonnet 79.96 33 P P 01 40 31.7 -0.6
comp=Z,10nm,0.9s,baz=317,slow=5.0,SNR=11
E27A Carson 79.97 39 ⇓P P 01 40 33.0 +0.5
baz=80,SNR=7.6
RAR Rarotonga 80.01 126 LR LR 02 11 04.5
comp=Z,252nm,19.5s,baz=269,slow=32
BC3 Big Chuckawall 80.05 55 ⇑P P 01 40 33.8 +0.5
baz=80,SNR=9.8
N20A Spence Gulch, 80.06 46 ⇓P P 01 40 34.4 +1.1
baz=80,SNR=14
I24A Kuemmerle Ranc 80.12 42 ⇑P P 01 40 33.5 +0.1
baz=80
F27A Lemmon 80.12 39 ⇑P P 01 40 33.6 +0.3
baz=80,SNR=9.7
B30A Myrvik Farm, E 80.13 36 ⇑P P 01 40 33.6 +0.3
baz=80,SNR=7.4
H25A Fruitdale 80.16 41 ⇓P P 01 40 33.5 0.0
baz=80,SNR=7.5
W13A Hualapai Mount 80.20 54 ⇑P P 01 40 34.6 +0.4
baz=80,SNR=8.5
DVTC Desert V Tower 80.22 57 ⇑P P 01 40 34.8 +0.6
baz=80,SNR=5.3
G26A Maurine 80.22 40 ⇑P P 01 40 34.2 +0.3
baz=80,SNR=11
SWSC Sam W. Stewart 80.25 56 ⇑P P 01 40 34.4 +0.2
baz=80
RSSD Black Hills 80.26 42 eP P 01 40 34.5 +0.2
RSSD pmax pmax
comp=Z,11nm,1.0s
RSSD Black Hills 80.26 42 eP P 01 40 34.5 +0.2
comp=Z,11nm,1.0s
K23A Bowen Ranch, D 80.30 43 ⇓P P 01 40 34.4 -0.1
baz=80
E28A Huff 80.31 38 ⇓P P 01 40 34.5 +0.2
baz=80
L22A Ellis Ranch, M 80.33 44 ⇓P P 01 40 35.5 +0.7
baz=80,SNR=6.7
OKC Ostrava-Krasne 80.35 327 eP P 01 40 31.1 -3.3
OKC e*PP PcP 01 40 43.5 +2.1
OKC Ostrava-Krasne 80.35 327 eP P 01 40 31.1 -3.3
OKC ePCP PcP 01 40 43.5 +2.1
DRGR 80.38 322 ⇑iP P 01 40 33.6 -1.2
ARR Arges 80.40 320 ⇑iP P 01 40 35.8 +0.9
U15A North Rim 80.40 52 ⇓P P 01 40 36.4 +1.1
baz=80,SNR=20
P19A Cripple Cowboy 80.41 47 ⇑P P 01 40 35.9 +0.7
baz=80,SNR=20
KSP Ksiaz 80.41 328 eP P 01 40 34.3 -0.4
KSP e*PP pP 01 40 46.7 -1.1
KSP Ksiaz 80.41 328 eP P 01 40 34.6 -0.1
J24A Dixon Ranch, L 80.45 42 ⇑P P 01 40 35.1 -0.2
baz=80
I25A Rochford 80.49 42 ⇑P P 01 40 35.7 +0.2
baz=80,SNR=7.3
G27A Dupree 80.51 40 ⇓P P 01 40 35.7 +0.3
baz=80,SNR=10
D29A Pettibone, Tap 80.51 37 ⇑P P 01 40 35.4 0.0
baz=80
O20A White River Ci 80.52 47 ⇓P P 01 40 36.1 +0.3
baz=80,SNR=12
PDMCI Parker Dam,Lak 80.52 54 ⇓P P 01 40 36.4 +0.8
baz=80,SNR=7.8
H26A Fairpoint 80.59 41 ⇑P P 01 40 36.0 +0.1
baz=80,SNR=10
C30A Mose, Pekin 80.59 36 ⇓P P 01 40 35.8 0.0
baz=80,SNR=5.9
Y12C Blythe 80.61 55 ⇑P P 01 40 36.8 +0.7
baz=80,SNR=6.9
M22A Cedar Creek Ra 80.65 45 ⇑P P 01 40 36.9 +0.4
baz=80,SNR=9.2
MORC Moravsky Berou 80.66 327 ⇑P P 01 40 36.3 +0.2
MORC Moravsky Berou 80.66 327 ⇑iP P 01 40 36.3 +0.2
MORC Moravsky Berou 80.66 327 eP P 01 40 35.4 -0.7
comp=Z,26nm,1.4s
L23A Garrett 80.68 44 ⇓P P 01 40 36.6 0.0
baz=80,SNR=14
F28A McLaughlin 80.76 39 ⇓P P 01 40 37.0 +0.2
baz=81,SNR=6.6
DPC Dobruska-Polom 80.76 328 eP P 01 40 36.2 -0.5
DPC e*PP pP 01 40 47.7 -2.1
DPC Dobruska-Polom 80.76 328 eP P 01 40 36.2 -0.5
DPC ex x 01 40 47.7
DPC AMS AMS 02 19 30.0
DPC Dobruska-Polom 80.76 328 eP P 01 40 36.4 -0.3
K24A Anderson Ranch 80.77 43 ⇑P P 01 40 37.5 +0.5
baz=81
UPC Upice 80.78 328 eP P 01 40 35.3 -1.4
UPC e*PP PcP 01 40 45.5 +2.2
UPC Upice 80.78 328 eP P 01 40 35.3 -1.4
UPC ePCP PcP 01 40 45.5 +2.2
GLA Glamis 80.83 56 eP P 01 40 38.7 +1.3
GLA pmax pmax
comp=Z,20nm,0.9s
GLA Glamis 80.83 56 eP P 01 40 38.7 +1.3
comp=Z,20nm,0.9s
GLA Glamis 80.83 56 ⇓P P 01 40 38.4 +1.0
baz=81,SNR=8.3
E29A Napoleon 80.83 38 ⇓P P 01 40 37.6 +0.5
baz=81
P20A De Beque 80.84 47 ⇓P P 01 40 38.1 +0.6
baz=81
J25A Sunshine Ranch 80.88 42 ⇓P P 01 40 37.8 +0.3
baz=81
D30A Buchanan 80.88 37 ⇓P P 01 40 37.9 +0.5
baz=81
PSZ Piszkesteto 80.94 324 ⇑P P 01 40 38.2 +0.5
PSZ Piszkesteto 80.94 324 ⇑iP P 01 40 38.2 +0.5
PSZ Piszkesteto 80.94 324 eP P 01 40 37.4 -0.3
comp=Z,28nm,1.2s
H27A Howes 80.94 40 ⇑P P 01 40 38.8 +1.0
baz=81
I26A New Underwood 80.94 41 ⇑P P 01 40 38.2 +0.4
baz=81,SNR=5.4
PV09 Paradox Valley 81.04 48 eP P 01 40 40.3 +1.5
M23A Laramie 81.10 44 ⇓P P 01 40 39.3 +0.4
baz=81
N22A Wattenberg Ran 81.12 45 ⇓P P 01 40 40.2 +1.1
baz=81,SNR=6.3
L24A Wheatland 81.16 44 ⇓P P 01 40 40.0 +0.9
baz=81
G28A Parade 81.24 39 ⇑P P 01 40 39.8 +0.5
baz=81,SNR=6.4
E30A Jud 81.24 37 ⇓P P 01 40 39.5 +0.2
baz=81,SNR=7.0
Q20A Ridgley Place, 81.25 48 ⇓P P 01 40 40.4 +0.7
baz=81,SNR=12
F29A Eureka 81.26 38 ⇓P P 01 40 39.7 +0.3
baz=81
PV05 Paradox Valley 81.33 49 eP P 01 40 41.3 +1.2
I27A Quinn 81.34 41 ⇓P P 01 40 40.3 +0.3
baz=81,SNR=11
N23A Red Feather La 81.35 45 ⇓P P 01 40 41.3 +1.0
baz=81,SNR=14
PHWY Pilot Hill 81.36 44 eP P 01 40 39.6 -0.8
comp=Z,18nm,1.3s
K25A Mack Ranch, Ha 81.36 43 ⇓P P 01 40 40.4 +0.3
baz=81
BRG Berggiesshubel 81.37 329 eP P 01 40 39.9 +0.1
comp=Z,14nm,1.4s
BRG e 01 40 52.7
comp=Z,21nm,1.4s
BRG PP PP 01 43 23.0 -22
BRG S S 01 50 46.0 -1.3
BRG
comp=N,209nm,18.1s
BRG
comp=E,70nm,12.0s
BRG
comp=Z,272nm,19.9s
BRG Berggiesshubel 81.37 329 eP P 01 40 39.9 +0.1
BRG e 01 40 52.7
BRG S S 01 50 46.0 -1.3
BRG pmax pmax
comp=Z,14nm,1.4s
BRG pmax pmax
comp=Z,21nm,1.4s
BRG MLR MLR
comp=N,209nm,18.1s
BRG MLR MLR
comp=E,70nm,12.0s
BRG MLR MLR
comp=Z,272nm,19.9s
PVCC Panska Ves 81.37 329 eP P 01 40 37.8 -2.0
PVCC e*PP pP 01 40 50.0 -3.0
PVCC Panska Ves 81.37 329 eP P 01 40 37.8 -2.0
PVCC ex x 01 40 50.0
AGMN Agassiz Nation 81.39 35 eP P 01 40 39.4 -0.6
comp=Z,18nm,1.1s
CLL Collm 81.42 330 iP P 01 40 39.3 -0.8
CLL eS S 01 50 49.0 +1.2
CLL pmax pmax
comp=Z,9.0nm,1.2s
CLL Collm 81.42 330 iP P 01 40 39.3 -0.8
comp=Z,15nm,1.2s
CLL iPP pP 01 40 52.9 -0.3
comp=Z,36nm,1.2s
CLL eS S 01 50 49.0 +1.2
comp=N,100nm,16.4s
CLL eS S 01 50 49.0 +1.2
comp=E,100nm,15.7s
CLL eSS SS 01 56 18.0 +15
CLL Lm MLR 02 19 00.0
comp=Z,100nm,20.5s
VRAC Vranov 81.42 327 ⇑iP P 01 40 40.1 -0.1
H28A Mission Ridge 81.46 40 ⇑P P 01 40 41.1 +0.6
baz=81,SNR=27
Y14A Wickenburg 81.49 54 ⇑P P 01 40 41.5 +0.7
baz=81,SNR=11
O22A Kremmling 81.49 46 ⇓P P 01 40 41.7 +0.6
baz=81,SNR=12
URZ Urewera 81.52 152 LR LR 02 11 05.4
comp=Z,307nm,19.2s,baz=320,slow=31
WUAZ Wupatki 81.55 52 eP P 01 40 42.3 +1.0
comp=Z,20nm,1.0s
WUAZ Wupatki 81.55 52 ⇓P P 01 40 42.5 +1.2
baz=81,SNR=15
M24A Cheyenne 81.60 44 ⇑P P 01 40 42.7 +1.2
baz=81,SNR=12
PV01 Paradox Valley 81.61 48 eP P 01 40 42.5 +0.8
comp=Z,2um,1.1s
L25A Engebretsen Ra 81.62 43 ⇑P P 01 40 41.8 +0.3
baz=82
F30A Leola 81.65 38 ⇓P P 01 40 41.7 +0.3
baz=82
K26A Motz Farm, Whi 81.68 42 ⇓P P 01 40 41.9 +0.2
baz=82,SNR=6.3
R20A Redvale 81.69 48 ⇓P P 01 40 43.2 +1.1
baz=82,SNR=25
113A Mohawk Valley, 81.71 55 ⇓P P 01 40 42.8 +0.8
baz=82
P22A Eagle 81.74 46 ⇑P P 01 40 43.4 +1.1
baz=82,SNR=29
BZS Buzias 81.75 322 ⇑P P 01 40 41.8 -0.1
BZS Buzias 81.75 322 ⇑iP P 01 40 41.8 -0.1
Q21A Lamborn Mesa, 81.76 47 ⇑P P 01 40 43.0 +0.6
baz=82
PRU Pruhonice 81.79 328 eP P 01 40 41.8 -0.3
PRU e*PP pP 01 40 52.0 -3.2
PRU MLR MLR
comp=Z,300nm,16.5s
PRU Pruhonice 81.79 328 eP P 01 40 41.8 -0.3
PRU ex x 01 40 52.0
PRU AMS AMS 02 20 50.0
comp=Z,300nm,16.5s
O23A Lake Granby, G 81.82 45 ⇓P P 01 40 43.9 +1.1
baz=82,SNR=12
Z14A Wintersburg 81.88 54 ⇓P P 01 40 43.9 +1.1
baz=82
SMCO Snowmass 81.89 47 eP P 01 40 44.3 +0.9
comp=Z,14nm,1.1s
H29A Onida 81.91 39 ⇓P P 01 40 43.0 +0.1
baz=82
TREC Trest 81.91 328 eP P 01 40 41.9 -0.9
TREC e*PP pP 01 40 52.7 -3.2
TREC Trest 81.91 328 eP P 01 40 41.9 -0.9
TREC ex x 01 40 52.7
J27A Elkhorn Farm, 81.93 41 ⇓P P 01 40 43.6 +0.5
baz=82,SNR=6.0
S20A Disappointment 81.94 49 ⇓P P 01 40 44.2 +0.8
baz=82,SNR=7.5
N24A Carr 82.00 44 ⇑P P 01 40 44.4 +0.9
baz=82
M25A Palm-Egli Farm 82.05 44 ⇓P P 01 40 44.8 +1.0
baz=82
R21A Cimarron 82.07 48 ⇑P P 01 40 45.3 +1.2
baz=82,SNR=17
G30A Faulkton 82.09 38 ⇑P P 01 40 43.8 0.0
baz=82,SNR=12
Q22A Crested Butte, 82.13 47 ⇓P P 01 40 45.8 +1.3
baz=82
X16A Lo Mia Camp, P 82.20 53 ⇑P P 01 40 45.8 +1.0
baz=82,SNR=11
J28A Allard Ranch, 82.22 41 ⇓P P 01 40 45.1 +0.5
baz=82,SNR=7.3
CSS Prodhromos 82.23 308 eP P 01 40 45.2 +0.5
comp=Z,12nm,1.0s
MVCO Mesa Verde 82.25 49 eP P 01 40 45.7 +0.6
comp=Z,15nm,1.0s
MVCO Mesa Verde 82.25 49 ⇓P P 01 40 45.9 +0.8
baz=82,SNR=8.8
ISCO Idaho Springs 82.27 46 eP P 01 40 46.2 +1.0
ISCO pmax pmax
comp=Z,6.0nm,0.8s
ISCO Idaho Springs 82.27 46 eP P 01 40 46.2 +1.0
comp=Z,5.8nm,0.8s
ISCO Idaho Springs 82.27 46 ⇑P P 01 40 46.1 +0.9
baz=82,SNR=7.7
I29A Vivian Onida 82.28 40 ⇓P P 01 40 44.9 0.0
baz=82,SNR=5.9
O24A Longmont 82.36 45 ⇑P P 01 40 46.5 +1.0
baz=82,SNR=7.0
P23A Jefferson 82.42 46 ⇓P P 01 40 47.2 +1.2
baz=82,SNR=6.6
NKC Novy Kostel 82.47 330 eP P 01 40 46.0 +0.3
NKC e*PP pP 01 40 55.0 -3.8
NKC Novy Kostel 82.47 330 eP P 01 40 46.0 +0.3
NKC ex x 01 40 55.0
R22A Saguache, Gunn 82.64 47 ⇓P P 01 40 48.7 +1.6
baz=82,SNR=13
K28A Ten Mile Ranch 82.64 41 ⇓P P 01 40 47.4 +0.6
baz=82
BRSD Miller 82.67 39 ⇓P P 01 40 47.1 +0.3
baz=82
J29A Okreek 82.70 40 ⇓P P 01 40 47.1 +0.1
baz=82,SNR=5.9
CONA Conrad Observa 82.78 326 ⇑iP P 01 40 46.2 -1.2
comp=Z,9.7nm,1.4s
U20A Newcomb 82.78 50 ⇑P P 01 40 48.8 +1.0
baz=83
I30A Oacoma 82.81 39 ⇓P P 01 40 47.9 +0.4
baz=83
214A Organ Pipe Nat 82.85 55 ⇓P P 01 40 48.9 +0.9
baz=83
KHC Kasperske Hory 82.85 328 eP P 01 40 47.0 -0.7
KHC e*PP pP 01 40 57.5 -3.4
KHC MLR MLR
comp=Z,400nm,14.9s
KHC Kasperske Hory 82.85 328 eP P 01 40 47.0 -0.7
KHC ex x 01 40 57.5
KHC AMS AMS 02 20 40.0
comp=Z,400nm,14.9s
KHC Kasperske Hory 82.85 328 eP P 01 40 47.1 -0.6
comp=Z,23nm,1.2s
P24A Kohler Place, 82.86 45 ⇓P P 01 40 49.1 +0.9
baz=83
M27A Reverse DX Ran 82.91 43 ⇑P P 01 40 49.4 +1.2
baz=83
O25A Wiggins 82.91 45 ⇓P P 01 40 49.4 +1.1
baz=83
S22A 4UR Ranch, Cre 82.91 48 ⇑P P 01 40 49.8 +1.2
baz=83,SNR=14
N26A Koester Ranch, 82.93 44 ⇓P P 01 40 49.3 +0.9
baz=83
T21A Navajo Lake 82.98 49 ⇑P P 01 40 50.0 +1.2
baz=83
GEC2 GERESS Array S 83.02 328 eP P 01 40 49.6 +1.0
GEC2 GERESS Array S 83.02 328 eP P 01 40 49.6 +1.0
GERES GERESS Array B 83.02 328 P P 01 40 47.9 -0.7
GERES GERESS Array B 83.02 328 P P 01 40 47.9 -0.7
comp=Z,0.8nm,0.4s,baz=36,slow=5.4,SNR=11
GERES LR LR 02 23 17.3
comp=Z,198nm,18.1s,baz=244,slow=40
L28A Connealy Angus 83.05 42 ⇑P P 01 40 49.5 +0.5
baz=83
VTS Vitosha 83.06 319 ⇓P P 01 40 48.5 -0.5
VTS Vitosha 83.06 319 ⇓iP P 01 40 48.5 -0.5
X18A Snowflake 83.08 52 ⇑P P 01 40 50.1 +0.7
baz=83,SNR=6.1
Q24A Divide 83.09 46 ⇑P P 01 40 49.9 +0.4
baz=83
K29A Lazy Trails An 83.16 41 ⇓P P 01 40 49.7 +0.2
baz=83,SNR=6.8
V20A Brimhall 83.19 50 ⇑P P 01 40 50.8 +0.9
baz=83
J30A Dallas 83.19 40 ⇑P P 01 40 49.6 0.0
baz=83,SNR=5.2
R23A Moffat 83.21 47 ⇓P P 01 40 51.4 +1.3
baz=83
O26A Horse Wrangler 83.28 44 ⇓P P 01 40 50.8 +0.6
baz=83
U21A Nageezi 83.28 49 ⇓P P 01 40 51.3 +0.9
baz=83,SNR=9.7
P25A Willow Gulch B 83.29 45 ⇑P P 01 40 51.0 +0.7
baz=83,SNR=5.5
N27A Anderson Farm, 83.32 43 ⇓P P 01 40 51.2 +0.8
baz=83
T22A Edith 83.35 48 ⇑P P 01 40 52.1 +1.3
baz=83,SNR=13
GRF Grafenberg Arr 83.39 330 eP P 01 40 50.4 0.0
GRF pmax pmax
comp=Z,30nm,1.6s
GRF Grafenberg Arr 83.39 330 eP P 01 40 50.4 0.0
comp=Z,30nm,1.6s
GRFO Grafenberg 83.39 330 eP P 01 40 51.0 +0.6
GRFO pmax pmax
comp=Z,30nm,1.1s
GRFO Grafenberg 83.39 330 eP P 01 40 51.0 +0.6
comp=Z,30nm,1.1s
K30A Basset 83.59 40 ⇓P P 01 40 52.0 +0.3
baz=83,SNR=7.5
EYMN Ely 83.59 33 eP P 01 40 51.6 +0.1
comp=Z,31nm,1.2s
W20A Ramah 83.60 51 ⇑P P 01 40 52.7 +0.6
baz=84,SNR=9.4
R24A Sanders Place, 83.61 47 ⇓P P 01 40 53.1 +1.1
baz=84,SNR=14
Q25A Bedland, Calha 83.64 46 ⇓P P 01 40 52.6 +0.4
baz=84,SNR=5.4
V21A Milan 83.69 50 ⇑P P 01 40 53.1 +0.6
baz=84
P26A Davis Ranch, A 83.72 45 ⇑P P 01 40 53.0 +0.5
baz=84
O27A Beecher Island 83.78 44 ⇑P P 01 40 53.4 +0.7
baz=84
U22A Llaves 83.80 49 ⇑P P 01 40 54.2 +1.2
baz=84,SNR=9.1
T23A Casias Ranch, 83.85 48 ⇑P P 01 40 54.7 +1.3
baz=84,SNR=8.3
S24A Houchin Ranch, 83.94 47 ⇑P P 01 40 55.0 +1.1
baz=84,SNR=15
TUC Tucson 83.96 54 eP P 01 40 54.3 +0.5
TUC pmax pmax
comp=Z,10.0nm,1.2s
TUC Tucson 83.96 54 eP P 01 40 54.2 +0.5
comp=Z,10.0nm,1.2s
X20A Quemado 83.98 51 ⇑P P 01 40 55.2 +1.2
baz=84
GROS Grobnik 84.04 326 eP P 01 40 53.5 -0.4
GROS e 01 41 06.2
L30A Spencer Herefo 84.05 41 ⇑P P 01 40 54.6 +0.6
baz=84
Q26A Hugo 84.06 45 ⇑P P 01 40 54.8 +0.6
baz=84
V22A San Miguel Ran 84.07 49 ⇑P P 01 40 55.4 +0.9
baz=84,SNR=10
PERS Pernice 84.08 326 eP P 01 40 53.9 -0.2
PERS e 01 41 06.6
SOKA Soboth 84.09 326 ⇑iP P 01 40 52.5 -1.6
comp=Z,12nm,1.3s
PMOR Pomariorio Ree 84.13 113 eT T 03 13 17.8
comp=Z,16nm,0.2s
W21A San Fidel 84.14 50 ⇑P P 01 40 55.7 +0.9
baz=84,SNR=5.3
R25A Fountain Ranch 84.14 46 ⇓P P 01 40 55.2 +0.5
baz=84
P27A Ficken Ranch, 84.16 44 ⇓P P 01 40 55.0 +0.3
baz=84
O28A Krutsinger Ran 84.21 43 ⇑P P 01 40 55.0 0.0
baz=84,SNR=5.9
T24B San Luis 84.23 48 ⇑P P 01 40 57.1 +1.8
baz=84,SNR=13
U23A El Rito 84.23 49 ⇓P P 01 40 56.4 +1.2
baz=84,SNR=38
L31A Butterfield Fa 84.35 40 ⇓P P 01 40 55.6 +0.1
baz=84,SNR=10
ECSD EROS Data Cent 84.36 38 eP P 01 40 54.9 -0.6
comp=Z,15nm,1.0s
N29A Votaw Ranch, W 84.36 42 ⇑P P 01 40 55.8 +0.2
baz=84
S25A Robets Cordova 84.38 47 ⇓P P 01 40 56.5 +0.5
baz=84,SNR=6.9
Y20A Horse Springs, 84.47 52 ⇑P P 01 40 57.8 +1.2
baz=84,SNR=22
X21A Alamocita Cree 84.49 51 ⇓P P 01 40 57.9 +1.3
baz=84,SNR=18
KSCO Kaye Shedlock' 84.50 45 eP P 01 40 57.2 +0.8
KSCO Kaye Shedlock' 84.50 45 ⇓P P 01 40 57.1 +0.6
baz=84
R26A Arlington 84.52 46 ⇑P P 01 40 56.9 +0.4
baz=84,SNR=26
PPT Papeete 84.56 116 LR LR 02 12 52.9
comp=Z,207nm,20.3s,baz=315,slow=31
PPT2 Papeete2 84.57 116 eLR LR 02 07 29.7
comp=Z,433nm,28.2s
P28A Saint Francis 84.61 44 ⇓P P 01 40 57.0 +0.1
baz=84,SNR=5.6
V23A Ortiz Mt. (NFS 84.62 49 ⇓P P 01 40 58.9 +1.7
baz=84,SNR=9.5
U24A Moreno Valley 84.72 48 ⇓P P 01 40 59.7 +1.8
baz=85,SNR=7.9
O29A 4D Ranch, Culb 84.75 43 ⇑P P 01 40 57.6 0.0
baz=85,SNR=6.5
T25A Trinidad 84.75 47 ⇓P P 01 40 58.7 +0.8
baz=85,SNR=16
Y21A Point of Rocks 84.85 51 ⇓P P 01 40 59.7 +1.3
baz=85,SNR=5.4
Z20A Nine Sixteen R 84.85 52 ⇑P P 01 40 59.5 +1.1
baz=85,SNR=32
R27A Eads 84.90 45 ⇑P P 01 40 58.8 +0.3
baz=85,SNR=9.5
Q28A Sharon Springs 84.92 44 ⇑P P 01 40 58.8 +0.3
baz=85
STU Stuttgart 84.93 330 eP P 01 40 56.8 -1.5
STU pmax pmax
comp=Z,25nm,1.0s
STU Stuttgart 84.93 330 eP P 01 40 56.8 -1.5
comp=Z,25nm,1.0s
X22A Bernardo 84.94 50 ⇑P P 01 41 00.3 +1.5
baz=85
S26A Kim 84.97 46 ⇓P P 01 40 58.8 -0.1
baz=85,SNR=6.6
ANMO Albuquerque 84.98 50 eP P 01 40 59.3 +0.2
comp=Z,16nm,1.1s
ANMO e 01 41 11.0
ANMO Albuquerque 84.98 50 P P 01 40 59.6 +0.5
comp=Z,11nm,1.1s,baz=291,slow=4.1,SNR=23
W23A Werner Place, 85.03 49 ⇑P P 01 41 00.3 +1.0
baz=85,SNR=5.7
P29A Atwood 85.04 43 ⇓P P 01 40 58.9 -0.2
baz=85
SPMN St. Paul 85.08 35 ⇑P P 01 40 58.5 -0.5
baz=85
O30A MW Ranch, Wils 85.11 42 ⇓P P 01 40 59.8 +0.3
baz=85
V24A Rampart Ranch, 85.19 48 ⇑P P 01 41 01.6 +1.5
baz=85,SNR=22
120A U Bar Ranch, L 85.19 53 ⇓P P 01 41 01.1 +1.0
baz=85,SNR=8.0
T26A Comanche Natio 85.20 47 ⇑P P 01 41 00.4 +0.3
baz=85,SNR=17
U25A Circle Dot Ran 85.25 48 ⇓P P 01 41 01.3 +1.0
baz=85,SNR=20
BGNE Belgrade 85.26 41 ⇓P P 01 41 00.0 0.0
baz=85
Z21A St. Cloud Mine 85.31 52 ⇑P P 01 41 01.6 +0.9
baz=85,SNR=21
Y22A Socorro 85.34 51 ⇓P P 01 41 01.5 +0.7
baz=85,SNR=7.1
WLF Walferdange 85.37 333 eP P 01 40 00.9 +0.4
WLF pmax pmax
comp=Z,24nm,1.3s
WLF Walferdange 85.37 333 eP P 01 41 00.9 +0.4
comp=Z,24nm,1.3s
BNM Barren Site 85.41 50 eP P 01 41 01.8 +0.6
comp=Z,3.6nm,0.8s

R28A	**Tribune**	85.43	45	⇓P		P		01 41 01.0	-0.1
	baz=85,SNR=8.1								
W24A	**Lazy 6 Ranch,**	85.45	49	⇓P		P		01 41 02.8	+1.4
	baz=85,SNR=14								
P30A	**Selden**	85.46	43	⇑P		P		01 41 00.9	-0.3
	baz=85,SNR=5.4								
GIVF	**Givet**	85.50	334	*e*P		P		01 41 00.1	-0.9
GIVF	**Givet**	85.50	334	*e*P		P		01 41 00.1	-0.9
GIVF	**Givet**	85.50	334	*e*P		P		01 41 00.1	-0.9
V25A	**Rancho No Teng**	85.50	48	⇓P		P		01 41 02.9	+1.2
	baz=85,SNR=19								
Q29A	**Oakley**	85.51	44	⇓P		P		01 41 01.2	-0.2
	baz=85,SNR=5.6								
O31A	**Woolen Ranch,**	85.53	42	⇓P		P		01 41 00.9	-0.5
	baz=85								
319A	**Douglas**	85.53	54	⇑P		P		01 41 02.4	+0.6
	baz=85								
BFO	**Black Forest**	85.63	331	*e*P		P		01 41 01.0	-0.8
BFO					pmax	pmax			
	comp=Z,29nm,1.2s								
BFO	**Black Forest**	85.63	331	*e*P		P		01 41 01.0	-0.8
	comp=Z,29nm,1.2s								
U26A	**Atchley Ranch,**	85.65	47	⇑P		P		01 41 03.1	+0.8
	baz=86,SNR=15								
220A	**Playas Peak, P**	85.68	53	⇓P		P		01 41 03.2	+0.7
	baz=86,SNR=7.4								
121A	**Cookes Peak, D**	85.75	52	*e*P		P		01 41 04.2	+1.3
121A	**Cookes Peak, D**	85.75	52	⇑P		P		01 41 03.8	+0.9
	baz=86,SNR=11								
R29A	**Marienthal**	85.75	44	⇑P		P		01 41 02.7	+0.1
	baz=86								
BAIF	**Baives**	85.75	334	*e*P		P		01 41 01.4	-0.9
BAIF	**Baives**	85.75	334	*e*P		P		01 41 01.4	-0.9
BAIF	**Baives**	85.75	334	*e*P		P		01 41 01.4	-0.9
T27A	**Campo**	85.79	46	⇓P		P		01 41 03.7	+0.7
	baz=86								
Z22A	**Elephant Butte**	85.79	51	⇓P		P		01 41 03.7	+0.6
	baz=86,SNR=11								
SCHQ	**Schefferville**	85.81	16	P		P		01 41 02.3	-0.2
SCHQ	**Schefferville**	85.81	16	P		P		01 41 02.3	-0.2
	comp=Z,9.1nm,1.1s,baz=3.4,slow=6.8,SNR=10.0								
X24A	**Lazy VL Ranch,**	85.87	49	⇓P		P		01 41 04.3	+0.8
	baz=86								
S28A	**Manter**	85.90	45	⇑P		P		01 41 03.7	+0.3
	baz=86,SNR=14								
Y23A	**Lovelace Mesa,**	85.91	50	⇑P		P		01 41 04.4	+0.8
	baz=86,SNR=13								
P31A	**Stockton**	85.95	43	⇑P		P		01 41 03.5	0.0
	baz=86								
CDF	**Champ du Feu**	85.97	331	*e*P		P		01 41 02.1	-1.5
	comp=Z,45nm,1.3s								
CDF	**Champ du Feu**	85.97	331	*e*P		P		01 41 02.1	-1.5
CDF					pmax	pmax			
	comp=Z,45nm,1.3s								
CDF	**Champ du Feu**	85.97	331	*e*P		P		01 41 02.1	-1.5
	comp=Z,45nm,1.3s								
W25A	**X Bar L Ranch,**	86.02	48	⇑P		P		01 41 05.0	+0.9
	baz=86,SNR=16								
V26A	**Tequesquite Ra**	86.03	48	⇑P		P		01 41 04.8	+0.6
	baz=86,SNR=14								
320A	**Kipp Ranch, An**	86.05	54	⇓P		P		01 41 05.2	+0.8
	baz=86								
U27A	**Thompson Grove**	86.17	47	⇓P		P		01 41 05.2	+0.4
	baz=86,SNR=10.0								
FUORN	**Ofenpass-Fuorn**	86.21	329	*e*P		P		01 41 06.2	+1.3
Z23A	**Rita Site, Whi**	86.24	51	⇓P		P		01 41 05.6	+0.4
	baz=86,SNR=6.5								
Y24A	**Capitan**	86.29	50	⇑P		P		01 41 05.7	+0.1
	baz=86,SNR=5.8								
P32A	**Huiting Farm,**	86.30	42	⇑P		P		01 41 04.6	-0.7
	baz=86,SNR=6.8								
S29A	**Ulysses**	86.32	45	⇓P		P		01 41 05.2	-0.3
	baz=86								
R30A	**Dighton**	86.33	44	⇑P		P		01 41 05.1	-0.4
	baz=86,SNR=7.9								
X25A	**Clemmons Ranch**	86.36	49	⇓P		P		01 41 06.5	+0.6
	baz=86								
PAGF	**Fort de Pagny**	86.45	332	*e*P		P		01 41 04.5	-1.3
PAGF	**Fort de Pagny**	86.45	332	*e*P		P		01 41 04.5	-1.3
T29A	**Hugoton**	86.55	45	⇑P		P		01 41 06.9	+0.3
	baz=86								
U28A	**Mallet**	86.55	46	⇑P		P		01 41 07.1	+0.4
	baz=86								
V27A	**Dan Oppiter Fa**	86.62	47	⇑P		P		01 41 07.4	+0.4
	baz=86								
HINF	**Hinteralfeld**	86.62	331	*e*P		P		01 41 05.5	-1.2
HINF	**Hinteralfeld**	86.62	331	*e*P		P		01 41 05.5	-1.2
HINF	**Hinteralfeld**	86.62	331	*e*P		P		01 41 05.5	-1.2
HAU	**Haudompre**	86.66	332	*e*P		P		01 41 06.0	-0.9
HAU					*e*R				
	comp=Z,168nm,18.8s								
HAU	**Haudompre**	86.66	332	*e*P		P		01 41 06.0	-0.9
HAU	**Haudompre**	86.66	332	*e*P		P		01 41 06.0	-0.9
S30A	**Montezuma**	86.68	44	⇑P		P		01 41 07.5	+0.3
	baz=86								
Z24A	**Sheeppen Canyo**	86.74	50	⇓P		P		01 41 08.2	+0.4
	baz=87								
MEZF	**Maizieres J'vi**	86.74	333	*e*P		P		01 41 06.1	-1.1
MEZF	**Maizieres J'vi**	86.74	333	*e*P		P		01 41 06.1	-1.1
R31A	**Burdett**	86.74	43	⇑P		P		01 41 07.1	-0.4
	baz=87								
Y25A	**Mesa, Roswell**	86.75	50	⇑P		P		01 41 07.8	0.0
	baz=87								
X26A	**CR and CF Fran**	86.86	49	⇑P		P		01 41 08.6	+0.4
	baz=87								
P33A	**Williams Farm,**	86.92	42	⇓P		P		01 41 08.4	+0.1
	baz=87								
W27A	**Bowe Ranch, En**	86.96	48	⇓P		P		01 41 09.5	+0.8
	baz=87,SNR=17								
SFTF	**Sexfontaines**	86.99	332	*e*P		P		01 41 07.0	-1.5
	comp=Z,89nm,1.3s								
SFTF	**Sexfontaines**	86.99	332	*e*P		P		01 41 07.0	-1.5
	comp=Z,89nm,1.3s								
U29A	**Oasis Ranch, S**	87.05	46	⇑P		P		01 41 09.5	+0.4
	baz=87								
T30A	**Plains**	87.05	45	⇑P		P		01 41 09.5	+0.4
	baz=87								
124A	**Stringfield Ra**	87.10	51	⇓P		P		01 41 10.1	+0.5
	baz=87,SNR=6.8								
Z25A	**Roswell**	87.17	50	⇑P		P		01 41 10.5	+0.7
	baz=87,SNR=10								
IDI	**Anoyia**	87.19	313	*e*P		P		01 41 11.2	+1.4
	comp=Z,10nm,0.8s								
X27A	**F and S Farms,**	87.22	48	⇓P		P		01 41 10.7	+0.7
	baz=87,SNR=5.2								
S31A	**Mullinville**	87.24	44	⇑P		P		01 41 10.1	+0.2
	baz=87								
Y26A	**Elida**	87.28	49	⇑P		P		01 41 10.7	+0.4
	baz=87								
W28A	**Vega**	87.33	47	⇑P		P		01 41 11.0	+0.5
	baz=87								
U30A	**WK&E Inc. Balk**	87.35	45	⇓P		P		01 41 10.9	+0.4
	baz=87								
224A	**Cornudas Mount**	87.48	51	⇓P		P		01 41 11.7	+0.3
	baz=87,SNR=7.0								
S32A	**Newby Ranch, P**	87.49	44	⇓P		P		01 41 11.1	0.0
	baz=87								
T31A	**Randall Ranch,**	87.50	44	⇑P		P		01 41 11.3	+0.1
	baz=87,SNR=5.3								
125A	**Gardner Draw,**	87.63	50	⇓P		P		01 41 12.5	+0.5
	baz=88,SNR=10								
Z26A	**Caprock**	87.63	50	⇓P		P		01 41 12.1	+0.1
	baz=88,SNR=11								
Y27A	**Causey**	87.71	49	⇑P		P		01 41 12.7	+0.4
	baz=88								
KSU1	**Kansas State U**	87.74	41	*e*P		P		01 41 11.9	-0.3
	comp=Z,27nm,0.9s								
X28A	**Dimmitt**	87.85	48	⇑P		P		01 41 13.4	+0.4
	baz=88								
MSTX	**Muleshoe**	87.89	48	⇑P		P		01 41 13.2	0.0
	baz=88								
AMTX	**Amarillo**	87.90	47	*e*P		P		01 41 14.0	+0.8
	comp=Z,20nm,1.0s								
AMTX	**Amarillo**	87.90	47	⇓P		P		01 41 14.0	+0.8
	baz=88								
324A	**Moseley Ranch,**	87.93	52	⇑P		P		01 41 13.5	0.0
	baz=88								
126A	**Clayton Basin,**	88.03	50	⇑P		P		01 41 14.0	+0.2
	baz=88								
Z27A	**Tatum**	88.07	49	⇓P		P		01 41 14.3	+0.2
	baz=88,SNR=8.1								
X29A	**Tulia**	88.20	47	⇓P		P		01 41 15.5	+0.9
	baz=88								
LOR	**Lormes**	88.21	333	*e*P		P		01 41 13.4	-1.0
	comp=Z,37nm,1.3s								
LOR					*e*R				
	comp=Z,182nm,18.0s								
LOR	**Lormes**	88.21	333	*e*P		P		01 41 13.4	-1.0
	comp=Z,37nm,1.3s								
325A	**Bean Ranch, Si**	88.30	52	⇓P		P		01 41 15.7	+0.5
	baz=88								
226B	**Tecolote Peak,**	88.33	51	⇑P		P		01 41 16.1	+0.8
	baz=88								
TBI	**Tubuai**	88.42	121	*e*LR		LR		02 09 21.5	
	comp=Z,411nm,23.5s,baz=306								
TBI	**Tubuai**	88.42	121	*e*T		T		03 18 50.4	
	comp=Z,40nm,0.3s								
FLN	**La Foliniere**	88.46	336	*e*P		P		01 41 14.7	-0.7
FLN					*e*R				
	comp=Z,302nm,21.0s								
FLN	**La Foliniere**	88.46	336	*e*P		P		01 41 14.7	-0.7
FLN	**La Foliniere**	88.46	336	*e*P		P		01 41 14.7	-0.7
SSF	**Saint Saulge**	88.52	333	*e*P		P		01 41 14.9	-0.9
SSF	**Saint Saulge**	88.52	333	*e*P		P		01 41 14.9	-0.9
SSF	**Saint Saulge**	88.52	333	*e*P		P		01 41 14.9	-0.9
LPL	**La Plagne**	88.55	330	*e*P		P		01 41 14.6	-1.6
LPL	**La Plagne**	88.55	330	*e*P		P		01 41 14.6	-1.6
LPL	**La Plagne**	88.55	330	*e*P		P		01 41 14.6	-1.6
LPG	**La Plagne**	88.56	330	*e*P		P		01 41 15.4	-1.0
	comp=Z,18nm,1.0s								
LPG	**La Plagne**	88.56	330	*e*P		P		01 41 15.4	-1.0
LPG					pmax	pmax			
	comp=Z,18nm,1.0s								
LPG	**La Plagne**	88.56	330	*e*P		P		01 41 15.4	-1.0
	comp=Z,18nm,1.0s								
Z28A	**Tucker Farm, M**	88.59	49	⇓P		P		01 41 16.4	-0.1
	baz=88								
Y29A	**Porterfield Fa**	88.62	48	⇑P		P		01 41 17.0	+0.4
	baz=88								
X30A	**Coker Ranch, T**	88.68	47	⇓P		P		01 41 17.3	+0.4
	baz=88								
425A	**Indio Mountain**	88.69	52	⇓P		P		01 41 16.9	-0.1
	baz=89								
W31A	**Holland Ranch,**	88.70	46	⇑P		P		01 41 17.4	+0.4
	baz=89								
SMF	**Signal de Mont**	88.74	332	*e*P		P		01 41 15.7	-1.2
SMF	**Signal de Mont**	88.74	332	*e*P		P		01 41 15.7	-1.2
SMF	**Signal de Mont**	88.74	332	*e*P		P		01 41 15.7	-1.2
AVF	**Avril sur Loir**	88.80	333	*e*P		P		01 41 16.1	-1.0
	comp=Z,31nm,1.0s								
AVF	**Avril sur Loir**	88.80	333	*e*P		P		01 41 16.1	-1.0
AVF					pmax	pmax			
	comp=Z,31nm,1.0s								
AVF	**Avril sur Loir**	88.80	333	*e*P		P		01 41 16.1	-1.0
	comp=Z,31nm,1.0s								
GRR	**Gorron**	88.91	336	*e*P		P		01 41 16.7	-0.9
	comp=Z,74nm,1.2s								
GRR	**Gorron**	88.91	336	*e*P		P		01 41 16.7	-0.9
GRR					pmax	pmax			
	comp=Z,74nm,1.2s								
GRR	**Gorron**	88.91	336	*e*P		P		01 41 16.7	-0.9
	comp=Z,74nm,1.2s								
326A	**Caldwell Ranch**	88.96	51	⇑P		P		01 41 18.8	+0.6
	baz=89								
128A	**Castleberry Fa**	88.99	49	⇓P		P		01 41 18.9	+0.5
	baz=89								
Z29A	**Hungry Hill Ra**	89.02	48	⇑P		P		01 41 19.0	+0.5
	baz=89,SNR=8.7								
X31A	**McDonald Ranch**	89.08	46	⇑P		P		01 41 19.3	+0.6
	baz=89								
BGF	**Bois d'Agland**	89.19	333	*e*P		P		01 41 17.8	-1.1
	comp=Z,32nm,1.1s								
BGF	**Bois d'Agland**	89.19	333	*e*P		P		01 41 17.8	-1.1
BGF					pmax	pmax			
	comp=Z,32nm,1.1s								
BGF	**Bois d'Agland**	89.19	333	*e*P		P		01 41 17.8	-1.1
	comp=Z,32nm,1.1s								
Z30A	**Sandon Ranc**	89.34	48	⇓P		P		01 41 20.1	+0.1
	baz=89,SNR=6.8								
426A	**McDonald Obser**	89.37	52	⇑P		P		01 41 20.4	0.0
	baz=89								
Y31A	**Rekieta Farm,**	89.38	47	⇓P		P		01 41 20.6	+0.5
	baz=89								
ORIF	**Oris-en-Rattie**	89.39	330	*e*P		P		01 41 19.1	-0.9
	comp=Z,59nm,1.4s								
ORIF					*e*R				
	comp=Z,201nm,21.0s								
ORIF	**Oris-en-Rattie**	89.39	330	*e*P		P		01 41 19.1	-0.9
ORIF					pmax	pmax			
	comp=Z,59nm,1.4s								
ORIF	**Oris-en-Rattie**	89.39	330	*e*P		P		01 41 19.1	-0.9
	comp=Z,59nm,1.4s								
427A	**Hayter Ranch,**	89.64	51	⇑P		P		01 41 22.0	+0.5
	baz=90								
328A	**Wristen Ranch,**	89.64	50	⇓P		P		01 41 21.6	+0.2
	baz=90								
TCF	**Toulx Ste Croi**	89.65	333	*e*P		P		01 41 19.8	-1.3
TCF	**Toulx Ste Croi**	89.65	333	*e*P		P		01 41 19.8	-1.3
TCF	**Toulx Ste Croi**	89.65	333	*e*P		P		01 41 19.8	-1.3
526A	**Mary Lane Ranc**	89.74	52	⇑P		P		01 41 22.6	+0.6
	baz=90,SNR=6.3								
Y32A	**R-V Farms, Ver**	89.83	46	⇓P		P		01 41 22.4	+0.2
	baz=90								
229A	**Bryant Ranch,**	89.85	49	⇑P		P		01 41 22.8	+0.4
	baz=90								
Z31A	**Sharp Cattle R**	89.91	47	⇑P		P		01 41 22.7	+0.1
	baz=90,SNR=7.1								
130A	**Snyder**	89.92	48	⇓P		P		01 41 23.2	+0.4
	baz=90								
527A	**Woodward Ranch**	89.99	52	⇓P		P		01 41 23.3	+0.1
	baz=90								
626A	**Big Bend Ranch**	90.06	52	⇓P		P		01 41 23.8	+0.3
	baz=90,SNR=6.0								
329A	**Wagon Wheel Ra**	90.08	50	⇓P		P		01 41 23.8	+0.3
	baz=90,SNR=7.1								
428A	**Kincaid Ranch,**	90.17	51	⇓P		P		01 41 24.7	+0.8
	baz=90								
131A	**Roby**	90.22	48	⇑P		P		01 41 24.6	+0.6
	baz=90								
MFF	**Saint Martin d**	90.22	335	*e*P		P		01 41 22.8	-0.9
MFF	**Saint Martin d**	90.22	335	*e*P		P		01 41 22.8	-0.9
MFF	**Saint Martin d**	90.22	335	*e*P		P		01 41 22.8	-0.9
Z32A	**Haskell**	90.31	47	⇑P		P		01 41 24.9	+0.4
	baz=90,SNR=14								
230A	**Sterling City**	90.33	49	⇓P		P		01 41 25.4	+0.8
	baz=90								
528A	**Cox Ranch, San**	90.50	51	⇑P		P		01 41 25.9	+0.4
	baz=90,SNR=7.4								
TXAR	**Lajitas Array**	90.51	52	P		P		01 41 26.1	+0.5
TXAR					PKKPbc	PKKPbc		01 58 53.1	+1.5
TXAR	**Lajitas Array**	90.51	52	P		P		01 41 26.1	+0.5
	comp=Z,5.3nm,0.8s,baz=305,slow=2.2,SNR=52								
TXAR					PKKPbc	PKKPbc		01 58 53.1	+1.5
	comp=Z,0.1nm,0.4s,baz=144,slow=5.6,SNR=6.6								
TUL1	**Tulsa**	90.52	43	⇑P		P		01 41 25.8	+0.5
	baz=90								
627A	**Terlingua Ranc**	90.60	52	⇑P		P		01 41 26.4	+0.4
	baz=90,SNR=5.1								
330A	**Mertzon**	90.63	49	⇑P		P		01 41 26.2	+0.2
	baz=90								
ABTX	**Abilene, Hawle**	90.69	47	*e*P		P		01 41 26.8	+0.6
ABTX	**Abilene, Hawle**	90.69	47	⇓P		P		01 41 26.9	+0.6
	baz=91								
429A	**Davenport Ranc**	90.73	50	⇓P		P		01 41 27.0	+0.4
	baz=91								
231A	**Bronte**	90.78	48	⇑P		P		01 41 26.9	+0.2
	baz=91								
CAF	**Calviac**	90.86	332	*e*P		P		01 41 25.6	-1.2
CAF	**Calviac**	90.86	332	*e*P		P		01 41 25.6	-1.2
CAF	**Calviac**	90.86	332	*e*P		P		01 41 25.6	-1.2
529A	**Stev Forest Ra**	90.88	51	⇓P		P		01 41 27.6	+0.4
	baz=91								
628A	**Black Gap, Mar**	90.90	52	⇓P		P		01 41 27.8	+0.5
	baz=91								
430A	**Baggett Ranch,**	91.03	50	⇓P		P		01 41 27.9	+0.1
	baz=91								
331A	**San Angelo**	91.15	49	⇓P		P		01 41 28.6	+0.2
	baz=91								
232A	**Coleman**	91.22	48	⇓P		P		01 41 28.9	+0.1
	baz=91,SNR=5.8								
LFF	**La Frestale**	91.34	333	*e*P		P		01 41 28.2	-0.8
LFF	**La Frestale**	91.34	333	*e*P		P		01 41 28.2	-0.8
LFF	**La Frestale**	91.34	333	*e*P		P		01 41 28.2	-0.8
530A	**J-C Ranch, Com**	91.41	50	⇑P		P		01 41 30.2	+0.6
	baz=91								
SFIN	**Scholer Farm**	91.48	35	⇑P		P		01 41 30.0	+0.3
	baz=91								
431A	**Sonora**	91.48	49	⇑P		P		01 41 30.2	+0.2
	baz=91								
332A	**Millersview**	91.52	48	⇓P		P		01 41 30.7	+0.6
	baz=91								
432A	**Menard**	91.84	49	⇓P		P		01 41 32.0	+0.3
	baz=92								
531A	**Rocksprings**	91.89	50	⇓P		P		01 41 32.3	+0.4
	baz=92								
JCT	**Junction City**	92.12	49	⇑P		P		01 41 33.2	+0.3
	baz=92								
532A	**Rocksprings**	92.30	49	⇑P		P		01 41 34.1	+0.3
	baz=92								
631A	**Perdido Creek**	92.39	50	⇓P		P		01 41 34.7	+0.5
	baz=92								
WHTX	**Lake Whitney**	92.44	47	⇓P		P		01 41 34.8	+0.5
	baz=92								
H06E1	**SOCORRO T-PHAS**	92.50	65	T		T		03 24 38.8	
	SNR=12								
PBMO	**Poplar Bluff**	92.70	39	*e*P		P		01 41 35.7	+0.3
	comp=Z,24nm,1.3s								
MIAR	**Mount Ida**	92.75	42	*e*P		P		01 41 36.3	+0.6
MIAR					pmax	pmax			
	comp=Z,22nm,1.0s								
MIAR	**Mount Ida**	92.75	42	*e*P		P		01 41 36.3	+0.6
	comp=Z,22nm,1.0s								
632A	**Uvalde**	92.81	50	⇑P		P		01 41 36.8	+0.7
	baz=93								
732A	**Laxson Ranch,**	93.25	50	⇑P		P		01 41 38.6	+0.5
	baz=93								
KEST	**Kesra**	95.29	323	LR		LR		02 26 06.3	
	comp=Z,83nm,19.2s,baz=3.9,slow=36								
ESDC	**Sonseca Array**	97.63	334	LR		LR		02 30 26.3	
	comp=Z,186nm,21.8s,baz=80,slow=38								
RKT	**Rikitea**	98.71	112	*e*LR		LR		02 14 06.6	
	comp=Z,358nm,27.2s,baz=308								
LSZ	**Lusaka**	117.36	271	*e*PKPdf		PKPdf		01 47 09.0	-0.3
TOA0	**Torodi Ar. Sit**	117.55	315	*e*PKPdf		PKPdf		01 47 09.8	+0.2
TORD	**Torodi Ar. Bea**	117.55	315	PKP		PKPdf		01 47 07.8	-1.7
TORD				PKKPbc		PKKPbc		01 57 32.6	+2.0
TORD	**Torodi Ar. Bea**	117.55	315	PKP		PKPdf		01 47 07.8	-1.7
	comp=Z,0.3nm,0.5s,baz=35,slow=3.3,SNR=5.6								
TORD				PKKPbc		PKKPbc		01 57 32.6	+2.0
	comp=Z,0.5nm,0.6s,baz=230,slow=2.8,SNR=5.2								
MAW	**Mawson**	119.07	205	PKP		PKPdf		01 47 11.0	+0.2
MAW	**Mawson**	119.07	205	PKP		PKPdf		01 47 11.0	+0.2
	comp=Z,2.0nm,0.7s,baz=15,slow=7.2,SNR=4.8								
LBTB	**Lobatse**	124.44	263	*e*PKPdf		PKPdf		01 47 22.6	-0.1
QSPA	**South Pole Qui**	126.33	180	*e*PKPdf		PKPdf		01 47 24.7	-0.2
BOSA	**Boshof**	126.35	259	PKP		PKPdf		01 47 25.4	-0.8
BOSA	**Boshof**	126.35	259	PKP		PKPdf		01 47 25.4	-0.8
	comp=Z,3.3nm,0.9s,baz=63,slow=2.3,SNR=4.4								
DBIC	**Dimbokro**	126.52	316	PKP		PKPdf		01 47 25.0	-1.8
DBIC	**Dimbokro**	126.52	316	PKP		PKPdf		01 47 25.0	-1.8
	comp=Z,5.7nm,1.1s,baz=315,slow=2.9,SNR=3.3								
TSUM	**Tsumeb**	127.99	273	*e*PKPdf		PKPdf		01 47 28.6	-1.0
OTAV	**Otavalo**	128.09	54	*e*PKPdf		PKPdf		01 47 30.2	-0.3
SNAA	**Sanae**	140.28	197	*e*PKPdf		PKPdf		01 47 43.5	-7.4
SNAA	**Sanae**	140.28	197	*e*PKPdf		PKPdf		01 47 44.0	-6.9
VNA2	**Neumayer--Watz**	141.85	196	*e*PKPdf		PKPdf		01 47 47.7	-6.0
VNA1	**Neumayer--Stat**	142.25	196	*e*PKPdf		PKPdf		01 47 52.1	-2.3
SAML	**Samuel**	144.66	45	*e*PKPbc		PKPab		01 47 58.6	-0.4
LPAZ	**La Paz**	147.04	60	*e*PKPbc		PKPbc		01 48 07.2	+0.1
LPAZ	**La Paz**	147.04	60	PKPbc		PKPbc		01 48 07.0	-0.2
	comp=Z,10nm,0.7s,baz=344,slow=2.5,SNR=45								
H03N2	**Juan Fernandez**	147.11	97	T		T		04 33 18.3	
	baz=288,slow=0.7,SNR=107								
H03N3	**Juan Fernandez**	147.13	97	T		T		04 33 18.4	
	baz=288,slow=0.7,SNR=85								
H03N1	**Juan Fernandez**	147.13	97	T		T		04 33 20.5	
	baz=288,slow=0.7,SNR=93								
RCBR	**Riachuelo**	149.28	354	*e*PKPbc		PKPbc		01 48 12.0	-0.5
LVC	**Limon Verde**	150.46	70	*e*PKPbc		PKPbc		01 48 16.3	+0.9
LVC				*e*PKPab		PKPab		01 48 22.7	+0.7
SIV	**San Ignacio**	151.48	50	PKPbc		PKPbc		01 48 17.6	-0.1
SIV	**San Ignacio**	151.48	50	PKPbc		PKPbc		01 48 17.6	-0.1
	comp=Z,11nm,0.8s,baz=278,slow=1.3,SNR=24								
LCO	**Las Campanas**	152.20	84	*e*PKPbc		PKPbc		01 48 19.9	+0.6
CFAA	**Coronel Fontan**	155.14	87	PKPab		PKPab		01 48 42.1	+0.8
CFAA	**Coronel Fontan**

DZM					LR	LR	01 41 37.7		
	comp=Z,155nm,20.6s,baz=174,slow=31								
PPT2	**Papeete2**	**22.07**	**93**	*e*LR	LR	LR	01 41 04.6		
	392nm,27.0s								
PPT	**Papeete**	**22.07**	**93**	LR	LR	LR	01 42 55.1		
	comp=Z,296nm,19.7s,baz=227,slow=31								
URZ	**Urewera**	**22.39**	**201**	*e*P		**P**	**01 36 22.4**	**+0.3**	
	81nm,1.1s								
URZ	**Urewera**	**22.39**	**201**	P		**P**	**01 36 20.8**	**-1.3**	
	39nm,0.8s,baz=17,slow=6.3,SNR=14								
TBI	**Tubuai**	**22.52**	**108**	*e*LR	LR	LR	01 41 23.3		
	358nm,32.2s								
RPZ	**Rata Peaks**	**29.39**	**204**	*e*P		**P**	**01 37 26.0**	**-0.9**	
	17nm,0.6s								
EIDS	**Eidsvold**	**34.45**	**251**	*e*P		P	01 38 09.1	-2.4	
	13nm,1.2s								
RKT	**Rikitea**	**35.74**	**105**	*e*LR		LR	01 47 56.6		
	274nm,31.0s								
CTAO	**Charters Tower**	**38.82**	**260**	*e*P		**P**	**01 38 46.9**	**-2.1**	
	26nm,1.4s								
PMG	**Port Moresby**	**39.78**	**277**	*e*P		**P**	**01 38 57.5**	**+0.6**	
	20nm,1.0s								
WRA	**Warramunga Arr**	**49.99**	**259**	P		P	01 40 16.1	-2.3	
WRA	**Warramunga Arr**	**49.99**	**259**	P		P	01 40 16.1	-2.3	
	3.1nm,0.5s,baz=97,slow=8.2,SNR=8.6								
AS31	**Alice Springs**	**50.06**	**254**	*e*P		**P**	**01 40 17.1**	**-1.7**	
ASAR	**Alice Springs**	**50.06**	**254**	P		**P**	**01 40 17.1**	**-1.7**	
ASAR	**Alice Springs**	**50.06**	**254**	P		**P**	**01 40 17.1**	**-1.7**	
	19nm,0.7s,baz=89,slow=8.5,SNR=56								
SBA	**Scott Base**	**61.08**	**185**	*e*P		**P**	**01 41 38.3**	**+1.2**	
VNDA	**Vanda**	**61.23**	**186**	*e*P		**P**	**01 41 39.2**	**+1.1**	
	2.3nm,1.0s								
VNDA	**Vanda**	**61.23**	**186**	P		**P**	**01 41 38.5**	**+0.3**	
	1.6nm,1.0s,baz=0.9,slow=5.7,SNR=5.5								
KAPI	**Kappang**	**67.08**	**272**	*e*P		**P**	**01 42 17.1**	**-0.5**	
	10nm,1.1s								
CASY	**Casey**	**68.65**	**205**	*e*P		**P**	**01 42 27.4**	**+0.8**	
	6.0nm,1.0s								
MJAR	**Matsushiro Arr**	**71.05**	**320**	P		**P**	**01 42 42.0**	**+0.2**	
MJAR	**Matsushiro Arr**	**71.05**	**320**	P		**P**	**01 42 42.0**	**+0.2**	
	2.4nm,0.8s,baz=166,slow=5.9,SNR=4.0								
MAJO	**Matsushiro**	**71.06**	**320**	*e*P		**P**	**01 42 41.8**	**0.0**	
QSPA	**South Pole Qui**	**72.42**	**180**	*e*P		**P**	**01 42 49.8**	**+0.1**	
	6.5nm,0.9s								
ISA	**Isabella**	**73.82**	**43**	*e*P		**P**	**01 42 58.1**	**-0.3**	
	3.3nm,0.9s								
KKM	**Kota Kinabalu**	**73.95**	**282**	*e*P		**P**	**01 42 58.3**	**-1.4**	
CMB	**Columbia Colle**	**74.03**	**41**	*e*P		**P**	**01 42 59.5**	**0.0**	
	4.6nm,1.0s								
PETK	**Petropavlovsk-**	**74.95**	**342**	P		**P**	**01 43 04.6**	**+0.2**	
PETK	**Petropavlovsk-**	**74.95**	**342**	P		**P**	**01 43 04.6**	**+0.2**	
	3.6nm,0.8s,baz=142,slow=7.5,SNR=4.8								
NVAR	**Mina Array Bea**	**75.57**	**41**	P		**P**	**01 43 08.1**	**-0.5**	
NVAR	**Mina Array Bea**	**75.57**	**41**	P		**P**	**01 43 08.1**	**-0.5**	
	1.7nm,0.7s,baz=230,slow=8.2,SNR=5.7								
KSM	**Kuching**	**78.03**	**275**	*e*P		**P**	**01 43 21.4**	**-1.4**	
	23nm,1.1s								
KSRS	**Korea Array**	**78.20**	**316**	P		**P**	**01 43 24.1**	**+0.9**	
	4.1nm,0.9s,baz=134,slow=6.0,SNR=12								
KSAR	**Wonju Array Be**	**78.22**	**316**	P		**P**	**01 43 24.1**	**+0.8**	
I07A	**Izee**	**78.31**	**36**	*e*P		**P**	**01 43 23.6**	**-0.2**	
	84nm,2.8s								
ELK	**Elko**	**78.84**	**41**	P		**P**	**01 43 25.6**	**-1.4**	
ELK	**Elko**	**78.84**	**41**	P		**P**	**01 43 25.6**	**-1.4**	
	1.4nm,0.9s,baz=104,slow=4.1,SNR=4.0								
USRK	**Ussuriysk Arra**	**79.55**	**323**	P		**P**	**01 43 31.2**	**+0.7**	
	1.5nm,0.9s,baz=148,slow=8.5,SNR=3.4								
HLID	**Hailey**	**80.96**	**39**	*e*P		**P**	**01 43 37.8**	**-0.6**	
	69nm,2.8s								
MDJ	**Mudanjiang**	**81.18**	**322**	P		**P**	**01 43 39.3**	**+0.1**	
MDJ					AMB	AMB			
	comp=Z,12nm,2.1s								
MDJ					AMB	AMB			
	comp=Z,51nm,3.6s								
PMR	**Palmer**	**81.18**	**11**	*e*P		**P**	**01 43 37.8**	**-1.0**	
	7.0nm,0.6s								
TXAR	**Lajitas Array**	**81.33**	**56**	P		**P**	**01 43 41.0**	**+0.5**	
TXAR	**Lajitas Array**	**81.33**	**56**	P		**P**	**01 43 41.0**	**+0.5**	
	0.7nm,0.9s,baz=225,slow=8.9,SNR=3.0								
PV10	**Paradox Valley**	**81.61**	**45**	*e*P		**P**	**01 43 42.6**	**+0.6**	
ANMO	**Albuquerque**	**81.75**	**49**	*e*P		**P**	**01 43 41.1**	**-1.7**	
	5.8nm,1.3s								
ANMO	**Albuquerque**	**81.75**	**49**	P		**P**	**01 43 43.2**	**+0.4**	
	2.3nm,1.0s,baz=240,slow=7.5,SNR=3.8								
PV01	**Paradox Valley**	**81.81**	**46**	*e*P		**P**	**01 43 42.8**	**-0.3**	
NJ2	**Nanjing**	**82.02**	**307**	*e*P		**P**	**01 43 43.8**	**-0.2**	
MCMT	**McKenzie Canyo**	**82.60**	**38**	*e*P		**P**	**01 43 46.0**	**-1.0**	
	2.3nm,1.0s								
RRI2	**Red Ridge**	**82.71**	**40**	*e*P		**P**	**01 43 49.7**	**+1.9**	
	6.2nm,1.0s								
MCK	**McKinley**	**83.20**	**10**	*e*P		**P**	**01 43 48.4**	**-1.0**	
	14nm,1.0s								
CN2	**Changchun**	**83.20**	**320**	*e*P		**P**	**01 43 50.5**	**+0.6**	
CN2				*e*S		**S**	**01 54 08.6**	**-0.4**	
CN2					AMB	AMB			
	comp=Z,10.0nm,0.7s								
CN2					AMB	AMB			
	comp=Z,200nm,4.0s								
CN2					LR	LR			
	comp=N,200nm,16.0s								
CN2					LR	LR			
	comp=E,200nm,16.0s								
CN2					LR	LR			
	comp=Z,200nm,18.0s								
BSMT	**Bassoo Peak**	**83.21**	**35**	*e*P		**P**	**01 43 49.7**	**-0.4**	
	3.6nm,1.0s								
QLMT	**Earthquake Lak**	**83.44**	**39**	*e*P		**P**	**01 43 49.9**	**-1.5**	
	1.2nm,1.0s								
FLWY	**Flagg Ranch**	**83.49**	**40**	*e*P		**P**	**01 43 52.2**	**+0.6**	
	7.9nm,0.4s								
PDAR	**Pinedale Array**	**83.51**	**41**	P		**P**	**01 43 51.1**	**-0.7**	
PDAR	**Pinedale Array**	**83.51**	**41**	P		**P**	**01 43 51.1**	**-0.7**	
	1.8nm,0.8s,baz=209,slow=3.0,SNR=7.9								
SDCO	**Great Sand Dun**	**83.75**	**47**	*e*P		**P**	**01 43 52.1**	**-1.1**	
	2.8nm,1.1s								
HRY	**Holter Researc**	**84.23**	**37**	*e*P		**P**	**01 43 54.5**	**-0.8**	
QIZ	**Qiongzhong**	**84.33**	**292**	P		**P**	**01 43 55.3**	**-0.9**	
QIZ				S		S	**01 54 21.8**	**+0.5**	
QIZ					AMB	AMB			
	comp=Z,21nm,2.3s								
WALA	**Waterton Lakes**	**84.38**	**34**	*e*P		**P**	**01 43 57.0**	**+1.1**	
	0.3nm,1.2s								
COLA	**College**	**84.44**	**10**	*e*P		**P**	**01 43 52.8**	**-2.8**	
	12nm,0.9s								
ILAR	**Eielson Array**	**84.51**	**11**	P		**P**	**01 43 55.1**	**-0.9**	
ILAR	**Eielson Array**	**84.51**	**11**	P		**P**	**01 43 55.1**	**-0.9**	
	1.7nm,0.8s,baz=224,slow=6.0,SNR=18								
ILAR					LR	LR	02 17 58.1		
	comp=Z,106nm,18.1s,baz=218,slow=33								
MAW	**Mawson**	**85.88**	**198**	*e*P		**P**	**01 44 02.9**	**-0.2**	
BJI	**Beijing**	**87.47**	**313**	P		**P**	**01 44 12.8**	**+1.6**	
BJI					AMB	AMB			
	comp=Z,14nm,1.9s								
RSSD	**Black Hills**	**87.68**	**42**	*e*P		**P**	**01 44 11.4**	**-1.1**	
	6.4nm,0.7s								
IPM	**Ipoh**	**87.77**	**275**	*e*P		**P**	**01 44 13.8**	**+0.5**	
KULM	**Kulim**	**88.37**	**276**	*e*P		**P**	**01 44 16.8**	**+0.6**	
	17nm,1.3s								
ENH	**Enshi**	**88.65**	**302**	*e*P		**P**	**01 44 18.4**	**+1.2**	
GYA	**Guiyang**	**89.65**	**298**	*e*P		**P**	**01 44 23.8**	**+1.7**	
GYA				PP		**PP**	**01 47 55.4**	**+1.1**	
GYA				SKS		**SKSac**	**01 54 50.0**	**-1.9**	
GYA				S		**S**	**01 55 11.8**	**-0.9**	
GYA				SS		**SS**	**02 01 11.8**	**+2.1**	
GYA					AMB	AMB			
	comp=Z,10.0nm,1.0s								
GYA					AMB	AMB			
	comp=Z,90nm,5.9s								
GYA					LR	LR			
	comp=N,460nm,20.8s								
GYA					LR	LR			
	comp=E,380nm,21.0s								
GYA					LR	LR			
	comp=Z,410nm,20.6s								
GSI	**Gunungsitoli**	**90.09**	**271**	*e*P		**P**	**01 44 26.5**	**+2.2**	
	30nm,1.2s								
SNAA	**Sanae**	**90.65**	**177**	*e*P		**P**	**01 44 24.6**	**-1.2**	
	2.3nm,0.9s								
JTS	**JuntasAbangare**	**90.98**	**80**	*e*P		**P**	**01 44 29.2**	**+0.8**	
	135nm,1.2s								
HHC	**Hu-ho-hao-te**	**91.01**	**313**	*e*P		**P**	**01 44 27.8**	**-0.3**	
HHC					SKS	**SKSac**	**01 54 57.3**	**-1.8**	
HHC					S	**S**	**01 55 23.3**	**-1.3**	
HHC					SS	**SS**	**02 01 31.3**	**+2.5**	
HHC					LR	LR			
	comp=N,330nm,16.7s								
HHC					LR	LR			
	comp=E,280nm,16.7s								
HHC					LR	LR			
	comp=Z,300nm,17.8s								
ATAH	**Atahualpa**	**91.97**	**98**		LR	LR	02 20 05.8		
	comp=Z,104nm,18.2s,baz=94,slow=32								
KMI	**Kunming**	**92.56**	**295**	P		**P**	**01 44 36.6**	**+0.8**	
KMI					AMB	AMB			
	comp=Z,10.0nm,0.7s								
CFAA	**Coronel Fontan**	**92.67**	**124**	P		**P**	**01 44 36.0**	**0.0**	
CFAA	**Coronel Fontan**	**92.67**	**124**	P		**P**	**01 44 36.0**	**0.0**	
	0.1nm,0.4s,baz=265,slow=3.7,SNR=5.3								
CFAA					LR	LR	02 17 32.4		
	comp=Z,15nm,20.7s,baz=2.9,slow=30								
CD2	**Chengdu**	**93.51**	**301**	P		**P**	**01 44 40.6**	**+0.8**	
CD2					AMB	AMB			
	comp=Z,10.0nm,0.5s								
CMAR	**Chiang Mai Arr**	**93.92**	**288**	P		**P**	**01 44 43.5**	**+1.7**	
CMAR	**Chiang Mai Arr**	**93.92**	**288**	P		**P**	**01 44 43.5**	**+1.7**	
	2.1nm,0.4s,baz=91,slow=2.0,SNR=7.6								
CMAR					LR	LR	02 23 54.4		
	comp=Z,54nm,18.4s,baz=342,slow=34								
CHTO	**Chiang Mai**	**94.02**	**288**	*e*P		**P**	**01 44 41.5**	**-0.9**	
	12nm,0.8s								
LZH	**Lanzhou**	**95.06**	**306**	*e*P		**P**	**01 44 47.0**	**+0.1**	
LZH				pP		**pP**	**01 44 52.4**	**-1.6**	
LZH				sP		**sP**	**01 44 55.8**	**-0.6**	
LZH					AMB	AMB			
	comp=Z,12nm,1.0s								
LPAZ	**La Paz**	**98.45**	**110**	*e*P		Pdif	01 45 03.7	+0.4	
	1.4nm,1.1s								
GTA	**Gaotai**	**99.07**	**308**	*e*P		**Pdif**	**01 45 04.9**	**-0.1**	
GTA					AMB	AMB			
	comp=Z,2.0nm,0.9s								
MK31	**Makanchi Array**	**112.84**	**314**	*e*PKP		**PKiKP**	**01 50 00.1**	**-0.4**	
MKAR	**Makanchi Array**	**112.84**	**314**	PKiKP		**PKiKP**	**01 49 59.7**	**-0.8**	
MKAR	**Makanchi Array**	**112.84**	**314**	PKiKP		**PKiKP**	**01 49 59.7**	**-0.8**	
	0.5nm,0.8s,baz=98,slow=1.7,SNR=4.4								
KSH	**Kashi**	**117.31**	**306**	*e*PKP		**PKPdf**	**01 50 13.1**	**+3.7**	
KSH				PP		PP	01 51 29.5	+8.8	
KSH				PKS		**PKSdf**	**01 53 48.5**	**+2.3**	
KSH					LR	LR			
	comp=N,76nm,4.4s								
KSH					LR	LR			
	comp=E,77nm,4.3s								
KSH					LR	LR			
	comp=Z,160nm,5.7s								
TKM2	**Tokmak 2**	**117.58**	**310**	*e*PKPdf		**PKPdf**	**01 50 09.2**	**-0.7**	
EKS2	**Erkin-Say**	**118.93**	**309**	*e*PKPdf		**PKPdf**	**01 50 12.4**	**-0.1**	
BVAR	**Borovoye Array**	**120.03**	**322**	PKP		**PKPdf**	**01 50 14.0**	**-0.1**	
BVAR	**Borovoye Array**	**120.03**	**322**	PKP		**PKPdf**	**01 50 14.0**	**-0.1**	
	1.0nm,0.7s,baz=66,slow=3.6,SNR=5.8								
BRVK	**Borovoye**	**120.08**	**322**	*e*PKPdf		**PKPdf**	**01 50 14.3**	**+0.1**	
KBL	**Kabul**	**122.84**	**300**	*e*PKPdf		**PKPdf**	**01 50 20.7**	**+0.3**	
ARCES	**ARCESS Array B**	**126.90**	**352**	PKP		**PKPdf**	**01 50 27.1**	**+0.3**	
ARCES	**ARCESS Array B**	**126.90**	**352**	PKP		**PKPdf**	**01 50 27.1**	**+0.3**	
	2.8nm,0.8s,baz=61,slow=9.4,SNR=3.2								
GNI	**Garni**	**140.67**	**313**	*e*PKPdf		**PKPdf**	**01 50 54.6**	**+0.9**	
LSZ	**Lusaka**	**141.33**	**213**	*e*PKPdf		**PKPdf**	**01 50 55.4**	**-0.1**	
AKASG	**Malin Array Be**	**142.64**	**337**	PKP		**PKPdf**	**01 50 53.6**	**-3.0**	
AKASG	**Malin Array Be**	**142.64**	**337**	PKP		**PKPdf**	**01 50 53.6**	**-3.0**	
	0.2nm,0.3s,baz=38,slow=3.6,SNR=5.4								
KMBO	**Kilima Mbogo**	**145.07**	**241**	PKPbc		**PKPdf**	**01 51 02.9**	**+0.5**	
KMBO				*e*PKPdf		**PKPab**	**01 51 03.0**	**+1.2**	
KMBO	**Kilima Mbogo**	**145.07**	**241**	PKPbc		**PKPdf**	**01 51 02.9**	**+0.5**	
	3.9nm,0.8s,baz=146,slow=2.2,SNR=13								
KWP	**Kalwaria Pacla**	**145.74**	**342**	*i*P		**PKPab**	**01 51 03.0**	**+0.1**	
KWP	**Kalwaria Pacla**	**145.74**	**342**	*e*PKPdf		**PKPab**	**01 51 02.9**	**0.0**	
MALT	**Malatya**	**145.88**	**313**	*i*P		**PKPab**	**01 51 04.9**	**+1.0**	
OJC	**Ojcow**	**145.97**	**346**	*e*PKP		**PKPbc**	**01 51 03.3**	**+0.1**	
CLL	**Collm**	**146.10**	**354**	*i*PKPbc		**PKPbc**	**01 51 03.6**	**+0.1**	
	comp=Z,18nm,0.9s								
CLL				*i*			01 51 14.2		
STHS	**Stebnicka Huta**	**146.35**	**343**	*e*PKP		**PKPbc**	**01 51 04.5**	**+0.1**	
LEOM	**Leova**	**146.41**	**333**	*i*P		**PKPdf**	**01 51 03.5**	**+0.2**	
BRG	**Berggiesshubel**	**146.42**	**352**	*e*P		**PKPbc**	**01 51 04.5**	**+0.1**	
	comp=Z,20nm,1.4s								
UPC	**Upice**	**146.47**	**350**	*e*PKP		**PKPbc**	**01 51 05.0**	**+0.3**	
KOLS	**Kolonicke sedl**	**146.49**	**342**	*e*PKP		**PKPbc**	**01 51 04.5**	**-0.3**	
DPC	**Dobruska-Polom**	**146.57**	**349**	*e*PKP		**PKPab**	**01 51 05.8**	**-0.2**	
DPC				*ex*		x	01 51 15.7		
NIE	**Niedzica**	**146.59**	**344**	*e*PKP		**PKPab**	**01 51 05.9**	**-0.2**	
BUR08	**Bucovina Ar. S**	**146.65**	**338**	*e*PKPbc		**PKPbc**	**01 51 05.9**	**+0.4**	
PVCC	**Panska Ves**	**146.67**	**352**	*e*PKP		**PKPab**	**01 51 06.2**	**-0.1**	
OKC	**Ostrava-Krasne**	**146.71**	**347**	*e*PKP		**PKPbc**	**01 51 06.0**	**+0.6**	
OKC				*ex*		x	01 51 16.5		
CRVS	**Cervenica-Dubn**	**146.75**	**343**	*e*PKP		**PKPbc**	**01 51 06.0**	**+0.4**	
MORC	**Moravsky Berou**	**146.89**	**348**	*i*P		**PKPbc**	**01 51 06.4**	**+0.4**	
MORC	**Moravsky Berou**	**146.89**	**348**	*e*PKPbc		**PKPbc**	**01 51 05.5**	**-0.5**	
TESR	**Tescani**	**147.04**	**335**	*i*P		**PKPbc**	**01 51 05.9**	**-0.5**	
TRPA	**Tarpa**	**147.13**	**341**	*i*P		**PKPbc**	**01 51 07.2**	**+0.6**	
TLCR		**147.16**	**331**	*i*P		**PKPbc**	**01 51 07.6**	**+0.8**	
PRU	**Pruhonice**	**147.20**	**351**	*e*PKP		**PKPbc**	**01 51 06.8**	**0.0**	
PRU				*ex*		x	01 51 16.9		
NKC	**Novy Kostel**	**147.22**	**354**	*e*PKP		**PKPbc**	**01 51 06.8**	**-0.1**	
VRAC	**Vranov**	**147.52**	**349**	*i*P		**PKPab**	**01 51 10.5**	**+0.8**	
VRI	**Vrincioaia**	**147.53**	**334**	*i*P		**PKPdf**	**01 51 06.7**	**+1.4**	
PLOR	**Plostina**	**147.58**	**334**	*i*P		**PKPdf**	**01 51 04.9**	**-0.5**	
TREC	**Trest**	**147.73**	**350**	*e*PKP		**PKPbc**	**01 51 08.8**	**+0.5**	
TLB	**Topalu**	**147.97**	**331**	*i*P		**PKPbc**	**01 51 09.9**	**+0.9**	
WLF	**Walferdange**	**148.04**	**1**	*e*PKPbc		**PKPbc**	**01 51 09.9**	**+0.8**	
PSZ	**Piszkesteto**	**148.08**	**344**	*i*P		**PKPbc**	**01 51 09.7**	**+0.4**	
PSZ	**Piszkesteto**	**148.08**	**344**	*e*PKPbc		**PKPbc**	**01 51 10.1**	**+0.8**	
MLR	**Muntele Rosu**	**148.16**	**335**	*i*P		**PKPbc**	**01 51 09.5**	**-0.2**	
KHC	**Kasperske Hory**	**148.17**	**352**	*e*PKP		**PKPbc**	**01 51 09.9**	**+0.4**	
KHC				*ex*		x	01 51 23.4		
KHC	**Kasperske Hory**	**148.17**	**352**	*e*PKPbc		**PKPbc**	**01 51 10.0**	**+0.5**	
DRGR		**148.25**	**340**	*i*P		**PKPbc**	**01 51 10.4**	**+0.6**	
BR131	**Keskin Array S**	**148.28**	**319**	*e*PKPbc		**PKPbc**	**01 51 10.6**	**+0.4**	
BR131				*e*PKPab		**PKPab**	**01 51 14.3**	**+1.0**	
BRTR	**Keskin Array B**	**148.28**	**319**	PKPbc		**PKPbc**	**01 51 10.9**	**+0.7**	
BRTR	**Keskin Array B**	**148.28**	**319**	PKPbc		**PKPbc**	**01 51 10.9**	**+0.7**	
	comp=Z,4.5nm,0.9s,baz=103,slow=3.6,SNR=11								
GERES	**GERESS Array B**	**148.44**	**352**	PKPbc		**PKPbc**	**01 51 10.7**	**+0.4**	
GERES	**GERESS Array B**	**148.44**	**352**	PKPbc		**PKPbc**	**01 51 10.7**	**+0.4**	
	comp=Z,3.3nm,0.9s,baz=29,slow=3.0,SNR=20								
VOIR		**148.56**	**336**	*i*P		**PKPbc**	**01 51 12.3**	**+1.6**	
STU	**Stuttgart**	**148.91**	**358**	*e*PKPbc		**PKPbc**	**01 51 11.7**	**+0.3**	
CONA	**Conrad Observa**	**148.98**	**349**	*i*PKiKP		**PKPbc**	**01 51 12.0**	**+0.3**	
	comp=Z,14nm,1.1s								
BZS	**Buzias**	**149.65**	**340**	*i*P		**PKPbc**	**01 51 13.8**	**+0.5**	
PKSM	**Moragy**	**149.99**	**344**	*i*P		**PKPbc**	**01 51 13.2**	**-0.9**	
WTTA	**Wattenberg**	**150.24**	**354**	*i*PKiKP		**PKPbc**	**01 51 15.3**	**+0.4**	
	comp=Z,8.8nm,0.9s								
SOKA	**Soboth**	**150.34**	**349**	*i*PKPbc		**PKPbc**	**01 51 14.5**	**-0.5**	
	comp=Z,7.3nm,1.0s								
CSS	**Prodhromos**	**151.09**	**312**	*e*PKPbc		**PKPbc**	**01 51 18.4**	**+1.3**	
CSS				*e*PKPab		**PKPab**	**01 51 24.3**	**-0.4**	
VTS	**Vitosha**	**151.66**	**335**	*i*P		**PKPbc**	**01 51 19.0**	**+0.6**	
TOA0	**Torodi Ar. Sit**	**173.01**	**129**	*e*PKPab		**PKPab**	**01 52 59.9**	**-0.8**	
TORD	**Torodi Ar. Bea**	**173.01**	**129**	PKPab		**PKPab**	**01 53 00.4**	**-0.3**	
TORD	**Torodi Ar. Bea**	**173.01**	**129**	PKPab		**PKPab**	**01 53 00.4**	**-0.3**	
	comp=Z,1.1nm,0.8s,baz=267,slow=4.7,SNR=5.7								

IDC 23 02:06:38.5±46.0, 17°.84S×171°.86W, h0km, mb4.4/3, mb1 4.6/3, mb1mx3.9/20, mbtmp4.4/3, Error ellipse: s-maj=885.6km s-min=172.8km az=82.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.17**	**242**	P	P	02 14 49.2	-0.1
	1.7nm,0.5s,baz=98,slow=7.6,SNR=8.4						
WRA	**Warramunga Arr**	**50.77**	**259**	P	P	02 15 40.8	-0.1
	2.1nm,0.3s,baz=97,slow=7.0,SNR=32						
ASAR	**Alice Springs**	**50.81**	**254**	P	P	02 15 41.0	-0.2
	2.5nm,0.3s,baz=88,slow=8.2,SNR=52						

IDC 23 02:08:32.0±3.2, 30°.61S×177°.45W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/17, mbtmp3.6/2, Error ellipse: s-maj=67.9km s-min=28.4km az=98.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.42**	**343**	Pn	Pn	02 08 59.1	+0.1
	130nm,0.3s,baz=77,slow=19,SNR=9.5						
RAO				Sn	Sn	02 09 19.3	+1.0
	150nm,0.3s,baz=68,slow=19,SNR=7.3						
ASAR	**Alice Springs**	**43.57**	**267**	P	P	02 16 37.8	-0.2
	0.3nm,0.5s,baz=104,slow=7.7,SNR=2.9						
WRA	**Warramunga Arr**	**44.58**	**272**	P	P	02 16 46.0	-0.1
	0.4nm,0.6s,baz=111,slow=7.8,SNR=4.8						
FINES	**FINESS Array B**	**145.50**	**340**	PKPbc	PKPdf	02 28 10.6	-0.8
	1.9nm,0.9s,baz=76,slow=5.9,SNR=4.8						

*ISCJB **23** 02:12:44.8±0.3, 6°.72N±0°.03×72°.89W±0°.03, h175km±3km, mb4.4/70, Error ellipse: s-maj=4.7km s-min=4.1km az=151.9*
*IDC **23** 02:12:45.2±0.5, 6°.70N×72°.94W, h163km±4km, mb4.0/15, mb1 4.1/19, mb1mx4.0/25, mbtmp4.4/19, Error ellipse: s-maj=11.5km s-min=8.6km az=89.0*
*BJI **23** 02:12:45.7, 6°.70N×72°.90W, h169km, mB4.8/2*
*NEIC **23** 02:12:45.3±0.2, 6°.70N×72°.93W, mb4.5/53, Error ellipse: s-maj=4.0km s-min=3.4km az=80.0*
*FUNV **23** 02:12:47.1, 6°.82N×73°.05W, h144km, MW4.6*
ISC 23 02:12:45.0±0.4, 6°.76N±0°.04×72°.92W±0°.05, h164km±3km, h164km:pP-P, n508, σ0=94/549, mb4.4/70, 160C-168D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.25**	**29**	*e*P	**Pn**	**02 13 14.3**	**+0.7**
CAPV				*e*S	**Sn**	**02 13 31.9**	**-3.6**
ROSC	**El Rosal**	**2.36**	**217**	*e*Pn	**Pn**	**02 13 26.3**	**+0.8**
ROSC				*e*Sn	**Sn**	**02 13 57.7**	**+0.8**
ROSC	**El Rosal**	**2.36**	**217**	P	**Pn**	**02 13 26.5**	**+0.9**
	521nm,0.3s,baz=306,slow=4.3,SNR=430						
ROSC				S	**Sn**	**02 13 55.7**	**-1.2**
	432nm,0.3s,baz=109,slow=18,SNR=8.2						
SOCV	**Socops**	**2.54**	**53**	*e*P	**Pn**	**02 13 28.4**	**+1.1**
VIGV	**El Vigia**	**2.58**	**37**	*e*P	**Pn**	**02 13 28.9**	**+1.1**
VIGV				*e*S	**Sn**	**02 13 59.3**	**-1.7**
SDV	**Santo Domingo**	**3.10**	**47**	*e*Pn	**Pn**	**02 13 36.2**	**+1.8**
SDV				*e*Sn	**Sn**	**02 14 13.8**	**+1.2**
ELOV	**Elorza**	**3.42**	**86**	*e*P	**Pn**	**02 13 40.5**	**+2.3**
ELOV				*e*S	**Sn**	**02 14 19.6**	**0.0**
VIRV	**Villa del Rosa**	**3.75**	**8**	*e*P	**Pn**	**02 13 41.5**	**+1.0**
VIRV				*e*S	**Sn**	**02 14 23.1**	**-4.2**
QARV	**Quebrada Arrib**	**4.16**	**34**	*e*P	**Pn**	**02 13 49.0**	**+1.1**
SANV	**Sanarito**	**4.32**	**51**	*e*P	**Pn**	**02 13 50.6**	**+0.7**
SANV				*e*S	**Sn**	**02 14 37.8**	**-2.6**
CURV	**Curarigua**	**4.36**	**42**	*e*P	**Pn**	**02 13 51.0**	**+0.5**
DABV	**Dabajuro**	**4.71**	**28**	*e*P	**Pn**	**02 13 55.4**	**+0.5**
DABV				*e*S	**Sn**	**02 14 45.6**	**-3.9**
TEPV	**Terepaima**	**4.87**	**49**	*e*P	**Pn**	**02 13 58.2**	**+1.2**
SIQV	**Siquisique**	**4.94**	**38**	*e*P	**Pn**	**02 13 58.5**	**+0.6**
SIQV				*e*S	**Sn**	**02 14 51.2**	**-3.7**
BAUV	**El Baul**	**5.29**	**65**	*e*P	**Pn

	baz=36						
Z32A	**Haskell**	36.12	321	⇑P	P	02 19 32.0	+0.5
	baz=36,SNR=9.5						
628A	**Black Gap, Mar**	36.16	312	⇓P	P	02 19 31.8	-0.1
	baz=36						
230A	**Sterling City**	36.29	317	⇑P	P	02 19 33.4	+0.5
	baz=36						
131A	**Roby**	36.29	319	⇓P	P	02 19 33.2	+0.2
	baz=36						
528A	**Cox Ranch, San**	36.46	313	⇓P	P	02 19 34.5	0.0
	baz=37						
627A	**Terlingua Ranc**	36.51	312	⇓P	P	02 19 35.0	+0.1
	baz=37,SNR=7.7						
Z31A	**Sharp Cattle R**	36.55	320	⇑P	P	02 19 35.7	+0.6
	baz=37						
Y32A	**R-V Farms, Ver**	36.55	321	⇑P	P	02 19 35.6	+0.4
	baz=37						
130A	**Snyder**	36.62	318	⇑P	P	02 19 36.1	+0.3
	baz=37						
329A	**Wagon Wheel Ra**	36.64	316	⇓P	P	02 19 35.8	-0.2
	baz=37,SNR=6.6						
TXAR	**Lajitas Array**	36.65	312	P	P	02 19 36.4	+0.2
TXAR				pP	pP	02 20 12.0	+0.8
TXAR				PcP	PcP	02 21 57.2	+1.6
TXAR	**Lajitas Array**	36.65	312	P	P	02 19 36.4	+0.2
	2.8nm,0.6s,baz=128,slow=9.9,SNR=48						
TXAR				pP	pP	02 20 12.0	+0.8
	0.5nm,0.5s,baz=129,slow=9.0,SNR=2.1						
TXAR				PcP	PcP	02 21 57.2	+1.6
	1.5nm,0.8s,baz=129,slow=6.6,SNR=8.0						
428A	**Kincaid Ranch,**	36.70	314	⇓P	P	02 19 36.8	+0.3
	baz=37,SNR=7.3						
229A	**Bryant Ranch,**	36.81	317	⇑P	P	02 19 37.5	+0.1
	baz=37,SNR=7.3						
Y31A	**Rekieta Farm,**	37.04	321	⇓P	P	02 19 40.0	+0.8
	baz=37,SNR=11						
527A	**Woodward Ranch**	37.05	313	⇓P	P	02 19 40.1	+0.6
	baz=37,SNR=7.2						
626A	**Big Bend Ranch**	37.12	312	⇓P	P	02 19 40.4	+0.3
	baz=37						
328A	**Wristen Ranch,**	37.16	315	⇓P	P	02 19 40.1	-0.2
	baz=37,SNR=7.2						
Z30A	**Sanderson Ranc**	37.16	319	⇓P	P	02 19 40.5	+0.2
	baz=37,SNR=5.6						
129A	**Stewart Farms,**	37.24	318	⇓P	P	02 19 41.3	+0.2
	baz=37,SNR=6.0						
427A	**Hayter Ranch,**	37.28	314	⇓P	P	02 19 41.3	-0.1
	baz=37,SNR=9.2						
X31A	**McDonald Ranch**	37.30	322	⇑P	P	02 19 41.5	0.0
	baz=37						
526A	**Mary Lane Ranc**	37.35	312	⇓P	P	02 19 42.1	0.0
	baz=37,SNR=5.7						
Y30A	**Stafford Cattl**	37.39	320	⇑P	P	02 19 42.8	+0.6
	baz=38						
Z29A	**Hungry Hill Ra**	37.52	319	⇑P	P	02 19 43.4	0.0
	baz=38,SNR=11						
426A	**McDonald Obser**	37.63	313	⇓P	P	02 19 44.6	+0.1
	baz=38,SNR=13						
W31A	**Holland Ranch,**	37.65	322	⇑P	P	02 19 44.1	-0.3
	baz=38,SNR=6.5						
128A	**Castleberry Fa**	37.66	317	⇓P	P	02 19 45.0	+0.4
	baz=38,SNR=15						
X30A	**Coker Ranch, T**	37.74	321	⇑P	P	02 19 45.6	+0.5
	baz=38,SNR=9.4						
Y29A	**Porterfield Fa**	37.87	319	⇓P	P	02 19 46.7	+0.4
	baz=38,SNR=10						
Z28A	**Tucker Farm, M**	37.99	318	⇑P	P	02 19 47.8	+0.4
	baz=38						
X29A	**Tulia**	38.26	320	⇓P	P	02 19 50.0	+0.4
	baz=38						
Y28A	**McKinney Farm,**	38.28	319	⇑P	P	02 19 49.9	+0.1
	baz=38,SNR=9.9						
127A	**Arkansas Junct**	38.28	316	⇓P	P	02 19 50.3	+0.5
	baz=38						
425A	**Indio Mountain**	38.39	313	⇓P	P	02 19 50.8	+0.1
	baz=38,SNR=7.2						
CFAA	**Coronel Fontan**	38.41	174	P	P	02 19 49.8	-1.0
CFAA	**Coronel Fontan**	38.41	174	P	P	02 19 49.8	-1.0
	0.1nm,0.3s,baz=10.0,slow=4.4,SNR=3.8						
226B	**Tecolote Peak,**	38.50	315	⇓P	P	02 19 52.1	+0.4
	baz=39						
AMTX	**Amarillo**	38.53	321	eP	P	02 19 52.5	+0.6
	18nm,1.0s						
AMTX	**Amarillo**	38.53	321	⇑P	P	02 19 52.3	+0.5
	baz=39						
Z27A	**Tatum**	38.56	317	⇑P	P	02 19 52.3	+0.1
	baz=39,SNR=21						
X28A	**Dimmitt**	38.63	320	⇓P	P	02 19 52.6	0.0
	baz=39,SNR=5.9						
KSU1	**Kansas State U**	38.64	330	eP	P	02 19 52.0	-0.6
	17nm,0.8s						
MSTX	**Muleshoe**	38.66	319	eP	P	02 19 52.8	-0.2
MSTX	**Muleshoe**	38.66	319	⇓P	P	02 19 52.9	-0.1
	baz=39,SNR=6.2						
325A	**Bean Ranch, Si**	38.69	313	⇑P	P	02 19 53.6	+0.3
	baz=39						
126A	**Clayton Basin,**	38.72	316	⇑P	P	02 19 53.7	+0.2
	baz=39						
T31A	**Randall Ranch,**	38.81	325	⇑P	P	02 19 54.0	0.0
	baz=39						
S32A	**Newby Ranch, P**	38.82	326	⇓P	P	02 19 54.1	-0.1
	baz=39						
Y27A	**Causey**	38.87	318	⇑P	P	02 19 54.7	0.0
	baz=39,SNR=9.3						
225A	**Deer Hill, Car**	38.98	315	⇓P	P	02 19 56.1	+0.3
	baz=39,SNR=7.6						
U30A	**WK&E Inc. Balk**	38.98	323	⇑P	P	02 19 56.1	+0.5
	baz=39						
Z26A	**Caprock**	39.05	317	⇓P	P	02 19 56.6	+0.3
	baz=39,SNR=17						
V29A	**Stinnett**	39.07	322	⇓P	P	02 19 57.1	+0.8
	baz=39,SNR=6.4						
324A	**Moseley Ranch,**	39.10	313	⇑P	P	02 19 56.8	+0.2
	baz=39,SNR=11						
JFWS	**Jewell Farm**	39.12	340	eP	P	02 19 56.0	-0.5
	30nm,0.6s						
MNTX	**Cornudas Mount**	39.16	314	eP	P	02 19 57.1	0.0
	6.2nm,0.8s						
125A	**Gardner Draw,**	39.17	315	⇓P	P	02 19 57.5	+0.3
	baz=39,SNR=11						
X27A	**F and S Farms,**	39.29	319	⇓P	P	02 19 58.5	+0.3
	baz=39,SNR=5.8						
Y26A	**Elida**	39.33	318	⇑P	P	02 19 58.8	+0.2
	baz=39,SNR=15						
224A	**Cornudas Mount**	39.46	314	⇑P	P	02 20 00.5	+0.8
	baz=40,SNR=27						
W27A	**Bowe Ranch, En**	39.52	320	⇓P	P	02 20 00.6	+0.4
	baz=40,SNR=7.5						
Z25A	**Roswell**	39.56	316	⇑P	P	02 20 01.0	+0.6
	baz=40,SNR=11						
R31A	**Burdett**	39.57	326	⇓P	P	02 20 00.5	+0.2
	baz=40						
X26A	**CR and CF Fran**	39.70	318	⇓P	P	02 20 02.2	+0.6
	baz=40,SNR=7.3						
124A	**Stringfield Ra**	39.75	315	⇑P	P	02 20 03.9	+1.7
	baz=40,SNR=5.6						
V27A	**Dan Oppiter Fa**	39.81	321	⇑P	P	02 20 03.0	+0.5
	baz=40						
U28A	**Mallet**	39.83	322	⇓P	P	02 20 03.0	+0.4
	baz=40						
Y25A	**Mesa, Roswell**	39.92	317	⇓P	P	02 20 04.6	+1.2
	baz=40,SNR=6.1						
R30A	**Dighton**	39.98	326	⇓P	P	02 20 04.0	+0.2
	baz=40						
W26A	**Owens Ranch, T**	39.99	319	⇑P	P	02 20 04.7	+0.7
	baz=40						
S29A	**Ulysses**	40.00	324	⇑P	P	02 20 04.7	+0.8
	baz=40						
Z24A	**Sheeppen Canyo**	40.04	316	⇑P	P	02 20 05.2	+0.7
	baz=40						
P32A	**Huiting Farm,**	40.04	329	⇑P	P	02 20 04.1	-0.1
	baz=40						
U27A	**Thompson Grove**	40.23	321	⇑P	P	02 20 06.4	+0.5
	baz=40						
T28A	**Walsh**	40.25	323	⇓P	P	02 20 06.1	+0.1
	baz=40						
O32A	**Brockman Farm,**	40.36	330	⇓P	P	02 20 06.7	-0.1
	baz=40						
Y24A	**Capitan**	40.42	316	⇓P	P	02 20 08.6	+1.0
	baz=40,SNR=14						
S28A	**Manter**	40.43	324	⇓P	P	02 20 08.3	+0.7
	baz=41,SNR=11						
V26A	**Tequesquite Ra**	40.44	320	⇓P	P	02 20 08.3	+0.7
	baz=41,SNR=6.5						
W25A	**X Bar L Ranch,**	40.52	319	⇑P	P	02 20 09.2	+0.9
	baz=41,SNR=10						
T27A	**Campo**	40.58	322	⇑P	P	02 20 09.3	+0.5
	baz=41						
Z23A	**Rita Site, Whi**	40.61	315	⇑P	P	02 20 10.1	+1.0
	baz=41,SNR=5.3						
222A	**Williams Famil**	40.62	313	⇑P	P	02 20 10.0	+0.8
	baz=41,SNR=6.0						
U26A	**Atchley Ranch,**	40.78	321	⇑P	P	02 20 11.4	+0.9
	baz=41						
X24A	**Lazy VL Ranch,**	40.79	317	⇑P	P	02 20 11.7	+1.1
	baz=41						
Q29A	**Oakley**	40.80	326	⇓P	P	02 20 11.5	+1.1
	baz=41						
O31A	**Woolen Ranch,**	40.81	329	⇑P	P	02 20 10.3	-0.3
	baz=41						
Y23A	**Lovelace Mesa,**	40.85	316	⇑P	P	02 20 12.4	+1.2
	baz=41,SNR=7.7						
P30A	**Selden**	40.86	327	⇓P	P	02 20 10.7	-0.2
	baz=41						
R28A	**Tribune**	40.89	325	⇑P	P	02 20 11.7	+0.4
	baz=41,SNR=8.9						
V25A	**Rancho No Teng**	41.00	319	⇓P	P	02 20 13.1	+0.8
	baz=41						
Z22A	**Elephant Butte**	41.12	314	⇓P	P	02 20 14.4	+1.1
	baz=41,SNR=5.6						
W24A	**Lazy 6 Ranch,**	41.14	318	⇓P	P	02 20 14.3	+0.8
	baz=41						
T26A	**Comanche Natio**	41.18	322	⇑P	P	02 20 14.8	+1.0
	baz=41						
U25A	**Circle Dot Ran**	41.21	320	⇑P	P	02 20 15.1	+1.1
	baz=41						
O30A	**MW Ranch, Wils**	41.21	328	⇑P	P	02 20 14.5	+0.7
	baz=41						
P29A	**Atwood**	41.27	327	⇓P	P	02 20 14.9	+0.6
	baz=41						
320A	**Kipp Ranch, An**	41.29	311	⇑P	P	02 20 16.1	+1.4
	baz=41,SNR=5.1						
121A	**Cookes Peak, D**	41.33	313	eP	P	02 20 16.5	+1.4
121A	**Cookes Peak, D**	41.33	313	⇑P	P	02 20 16.3	+1.2
	baz=41,SNR=5.6						
V24A	**Rampart Ranch,**	41.36	319	⇓P	P	02 20 16.5	+1.2
	baz=42,SNR=7.7						
S26A	**Kim**	41.40	322	⇑P	P	02 20 17.0	+1.5
	baz=42,SNR=5.7						
R27A	**Eads**	41.43	324	⇓P	P	02 20 16.4	+0.7
	baz=42,SNR=14						
Y22A	**Socorro**	41.49	315	⇑P	P	02 20 16.8	+0.4
	baz=42						
220A	**Playas Peak, P**	41.56	312	⇑P	P	02 20 18.1	+1.2
	baz=42,SNR=9.5						
W23A	**Werner Place,**	41.61	317	⇓P	P	02 20 18.2	+0.8
	baz=42						
Z21A	**St. Cloud Mine**	41.65	314	⇓P	P	02 20 18.7	+1.0
	baz=42						
T25A	**Trinidad**	41.67	321	⇓P	P	02 20 18.8	+1.0
	baz=42						
P28A	**Saint Francis**	41.70	326	⇓P	P	02 20 18.7	+0.8
	baz=42						
U24A	**Moreno Valley**	41.77	320	⇑P	P	02 20 20.3	+1.6
	baz=42						
R26A	**Arlington**	41.82	323	⇓P	P	02 20 19.8	+0.9
	baz=42,SNR=6.4						
X22A	**Bernardo**	41.83	316	⇑P	P	02 20 20.4	+1.3
	baz=42						
319A	**Douglas**	41.87	311	⇑P	P	02 20 20.4	+0.9
	baz=42						
120A	**U Bar Ranch, L**	41.96	312	⇑P	P	02 20 21.6	+1.5
	baz=42,SNR=8.2						
V23A	**Ortiz Mt. (NFS**	41.97	318	⇓P	P	02 20 21.7	+1.5
	baz=42,SNR=6.9						
S25A	**Robets Cordova**	42.01	322	⇑P	P	02 20 21.8	+1.3
	baz=42,SNR=11						
Y21A	**Point of Rocks**	42.02	315	⇑P	P	02 20 21.9	+1.2
	baz=42						
SPMN	**St. Paul**	42.03	339	eP	P	02 20 20.3	-0.1
SPMN	**St. Paul**	42.03	339	⇓P	P	02 20 21.2	+0.8
	baz=42						
L31A	**Butterfield Fa**	42.08	331	⇓P	P	02 20 20.6	-0.2
	baz=42						
O28A	**Krutsinger Ran**	42.10	326	⇑P	P	02 20 21.5	+0.4
	baz=42						
Z20A	**Nine Sixteen R**	42.21	313	⇑P	P	02 20 23.6	+1.4
	baz=42						
R25A	**Fountain Ranch**	42.23	322	⇓P	P	02 20 23.4	+1.2
	baz=42						
T24B	**San Luis**	42.23	320	⇓P	P	02 20 24.4	+2.0
	baz=42,SNR=8.9						
Q26A	**Hugo**	42.27	324	⇓P	P	02 20 23.6	+1.0
	baz=42						
ECSD	**EROS Data Cent**	42.29	334	eP	P	02 20 22.0	-0.5
	8.6nm,1.0s						
U23A	**El Rito**	42.31	319	⇑P	P	02 20 24.7	+1.6
	baz=42,SNR=5.8						
X21A	**Alamocita Cree**	42.33	315	⇑P	P	02 20 24.5	+1.2
	baz=42,SNR=9.1						
L30A	**Spencer Herefo**	42.34	330	⇓P	P	02 20 23.8	+0.8
	baz=42						
Y20A	**Horse Springs,**	42.47	314	⇓P	P	02 20 25.9	+1.5
	baz=43,SNR=8.5						
S24A	**Houchin Ranch,**	42.48	321	⇓P	P	02 20 26.1	+1.6
	baz=43,SNR=7.9						
O27A	**Beecher Island**	42.53	326	⇓P	P	02 20 25.6	+1.0
	baz=43						
V22A	**San Miguel Ran**	42.55	318	⇑P	P	02 20 25.8	+0.8
	baz=43						
P26A	**Davis Ranch, A**	42.59	325	⇑P	P	02 20 25.8	+0.7
	baz=43						
T23A	**Casias Ranch,**	42.63	320	⇑P	P	02 20 27.3	+1.6
	baz=43						
Q25A	**Bedland, Calha**	42.70	323	⇓P	P	02 20 26.5	+0.4
	baz=43						
U22A	**Llaves**	42.78	318	⇓P	P	02 20 28.1	+1.3
	baz=43						
R24A	**Sanders Place,**	42.78	322	⇑P	P	02 20 28.1	+1.4
	baz=43,SNR=9.2						
K30A	**Basset**	42.84	331	⇓P	P	02 20 26.8	-0.1
	baz=43,SNR=20						
X20A	**Quemado**	42.88	315	⇑P	P	02 20 29.1	+1.5
	baz=43						
N27A	**Anderson Farm,**	42.99	327	⇓P	P	02 20 28.3	0.0
	baz=43						
O26A	**Horse Wrangler**	43.03	325	⇓P	P	02 20 29.9	+1.2
	baz=43						
P25A	**Willow Gulch B**	43.04	324	⇑P	P	02 20 29.9	+1.1
	baz=43						
T22A	**Edith**	43.18	319	⇓P	P	02 20 31.5	+1.5
	baz=43						
W20A	**Ramah**	43.19	316	⇑P	P	02 20 31.5	+1.4
	baz=43						
R23A	**Moffat**	43.20	321	⇓P	P	02 20 31.6	+1.4
	baz=43,SNR=6.9						
J30A	**Dallas**	43.27	332	⇓P	P	02 20 29.9	-0.5
	baz=43						
U21A	**Nageezi**	43.34	318	⇓P	P	02 20 32.5	+1.2
	baz=43						
N26A	**Koester Ranch,**	43.38	326	⇑P	P	02 20 32.6	+1.1
	baz=44						
TUC	**Tucson**	43.44	311	eP	P	02 20 32.4	+0.3
	2.7nm,0.8s						
V20A	**Brimhall**	43.53	317	⇑P	P	02 20 33.9	+1.0
	baz=44						
S22A	**4UR Ranch, Cre**	43.56	320	⇓P	P	02 20 34.3	+1.2
	baz=44,SNR=6.7						
T21A	**Navajo Lake**	43.58	319	⇓P	P	02 20 34.4	+1.2
	baz=44						
I30A	**Oacoma**	43.69	332	⇑P	P	02 20 33.8	+0.1
	baz=44						
J29A	**Okreek**	43.73	331	⇑P	P	02 20 33.7	-0.4
	baz=44,SNR=12						
K28A	**Ten Mile Ranch**	43.73	329	⇓P	P	02 20 34.6	+0.4
	baz=44						
R22A	**Saguache, Gunn**	43.80	321	⇑P	P	02 20 36.5	+1.4
	baz=44						
BRSD	**Miller**	43.88	333	eP	P	02 20 34.9	-0.3
	90nm,0.8s						
BRSD	**Miller**	43.88	333	⇑P	P	02 20 35.2	0.0
	baz=44,SNR=12						
X18A	**Snowflake**	43.90	314	⇓P	P	02 20 36.6	+0.8
	baz=44						
P23A	**Jefferson**	43.94	323	⇑P	P	02 20 37.4	+1.2
	baz=44						
O24A	**Longmont**	43.96	324	⇑P	P	02 20 37.1	+1.0
	baz=44						
EYMN	**Ely**	43.99	342	eP	P	02 20 36.2	+0.2
	26nm,0.6s						
W18A	**Petrified Fore**	44.05	315	⇓P	P	02 20 38.1	+1.1
	baz=44						
ISCO	**Idaho Springs**	44.08	323	eP	P	02 20 38.3	+1.0
	6.4nm,0.9s						
ISCO	**Idaho Springs**	44.08	323	⇑P	P	02 20 38.1	+0.9
	baz=44,SNR=9.1						
J28A	**Allard Ranch,**	44.19	330	⇑P	P	02 20 37.5	-0.3
	baz=44,SNR=11						
Q22A	**Crested Butte,**	44.28	321	⇓P	P	02 20 40.1	+1.2
	baz=44						
N24A	**Carr**	44.31	325	⇑P	P	02 20 40.1	+1.1
	baz=44						
MVCO	**Mesa Verde**	44.34	318	eP	P	02 20 39.7	+0.4
	4.2nm,0.6s						
MVCO	**Mesa Verde**	44.34	318	⇑P	P	02 20 39.8	+0.6
	baz=44						
R21A	**Cimarron**	44.39	320	⇑P	P	02 20 40.9	+1.2
	baz=44						
J27A	**Elkhorn Farm,**	44.45	330	⇑P	P	02 20 39.9	0.0
	baz=45						
G30A	**Faulkton**	44.50	333	⇑P	P	02 20 40.1	0.0
	baz=45,SNR=6.6						
SMCO	**Snowmass**	44.51	322	eP	P	02 20 41.8	+1.0
O23A	**Lake Granby, G**	44.52	323	⇓P	P	02 20 43.1	+2.4
	baz=45						
S20A	**Disappointment**	44.60	319	⇑P	P	02 20 42.9	+1.5
	baz=45,SNR=17						
H29A	**Onida**	44.60	332	⇓P	P	02 20 40.5	-0.4
	baz=45,SNR=6.4						
P22A	**Eagle**	44.64	322	⇓P	P	02 20 42.7	+1.1
	baz=45						
M24A	**Cheyenne**	44.70	326	⇓P	P	02 20 42.9	+0.9
	baz=45						
R20A	**Redvale**	44.81	320	⇑P	P	02 20 44.5	+1.5
	baz=45,SNR=8.4						
214A	**Organ Pipe Nat**	44.82	309	⇓P	P	02 20 43.9	+0.9
	baz=45						
O22A	**Kremmling**	44.86	323	⇓P	P	02 20 44.0	+0.5
	baz=45,SNR=12						
PV01	**Paradox Valley**	44.91	319	eP	P	02 20 44.9	+1.1
	567nm,0.9s						
X16A	**Lo Mia Camp, P**	44.92	313	⇑P	P	02 20 45.1	+1.3
	baz=45,SNR=6.3						
N23A	**Red Feather La**	44.97	324	⇑P	P	02 20 45.0	+0.7
	baz=45,SNR=6.9						
H28A	**Mission Ridge**	45.01	332	⇑P	P	02 20 44.3	0.0
	baz=45						
I27A	**Quinn**	45.06	330	⇓P	P	02 20 44.2	-0.4
	baz=45,SNR=6.3						
Q20A	**Ridgley Place,**	45.20	320	⇑P	P	02 20 47.5	+1.4
	baz=45,SNR=12						
M23A	**Laramie**	45.21	325	⇓P	P	02 20 46.3	+0.2
	baz=45						
PV05	**Paradox Valley**	45.22	319	eP	P	02 20 46.8	+0.6
G28A	**Parade**	45.26	332	⇑P	P	02 20 46.2	0.0
	baz=45,SNR=7.0						
F29A	**Eureka**	45.35	334	⇓P	P	02 20 47.0	+0.1
	baz=46						
WUAZ	**Wupatki**	45.41	315	eP	P	02 20 48.9	+1.2
	15nm,0.9s						
WUAZ	**Wupatki**	45.41	315	⇓P	P	02 20 48.9	+1.2
	baz=46,SNR=13						
I26A	**New Underwood**	45.44	330	⇑P	P	02 20 47.5	-0.1
	baz=46						
O21A	**Pagoda**	45.45	322	⇑P	P	02 20 49.3	+1.3
	baz=46						
E30A	**Jud**	45.48	335	⇑P	P	02 20 47.6	-0.2
	baz=46						
H27A	**Howes**	45.49	331	⇓P	P	02 20 47.8	-0.2
	baz=46						
Z14A	**Wintersburg**	45.54	311	⇑P	P	02 20 49.7	+1.2
	baz=46						
P20A	**De Beque**	45.59	321	⇓P	P	02 20 50.2	+1.2
	baz=46						
L23A	**Garrett**	45.62	326	⇓P	P	02 20 50.0	+0.7
	baz=46						
AGMN	**Agassiz Nation**	45.75	339	eP	P	02 20 50.2	+0.2
	10.0nm,0.6s						
F28A	**McLaughlin**	45.80	333	⇑P	P	02 20 50.4	+0.1
	baz=46,SNR=5.7						
H26A	**Fairpoint**	45.81	330	⇑P	P	02 20 50.1	-0.4
	baz=46						
Y14A	**Wickenburg**	45.84	312	⇓P	P	02 20 51.7	+0.8
	baz=46,SNR=9.5						
E29A	**Napoleon**	45.84	334	⇓P	P	02 20 50.9	+0.2
	baz=46						
I25A	**Rochford**	45.87	329	⇓P	P	02 20 51.5	+0.3
	baz=46,SNR=6.8						
O20A	**White River Ci**	45.87	322	eP	P	02 20 52.5	+1.2
	24nm,1.6s						
O20A	**White River Ci**	45.87	322	⇓P	P	02 20 52.1	+0.8
	baz=46,SNR=5.4						
D30A	**Buchanan**	45.90	336	⇓P	P	02 20 51.1	0.0
	baz=46,SNR=7.2						
113A	**Mohawk Valley,**	45.90	310	⇓P	P	02 20 52.1	+0.8
	baz=46						
K23A	**Bowen Ranch, D**	46.01	326	⇑P	P	02 20 52.9	+0.7
	baz=46						
P19A	**Cripple Cowboy**	46.03	321	⇓P	P	02 20 53.2	+0.6
	baz=46						
D29A	**Pettibone, Tap**	46.21	335	⇓P	P	02 20 53.8	+0.2
	baz=46						
I24A	**Kuemmerle Ranc**	46.22	328	⇓P	P	02 20 55.1	+1.3
	baz=46						
G26A	**Maurine**	46.22	331	⇓P	P	02 20 53.1	-0.7
	baz=46,SNR=6.0						
H25A	**Fruitdale**	46.23	330	⇑P	P	02 20 53.7	-0.1
	baz=46						
C30A	**Mose, Pekin**	46.26	336	⇓P	P	02 20 54.2	+0.3
	baz=46,SNR=6.9						
N20A	**Spence Gulch,**	46.30	323	⇑P	P	02 20 56.2	+1.6
	baz=46						
E28A	**Huff**	46.30	334	⇓P	P	02 20 54.8	+0.4
	baz=46,SNR=6.2						
F27A	**Lemmon**	46.38	332	⇑P	P	02 20 55.2	+0.2
	baz=46,SNR=9.4						
K22A	**Casper**	46.44	326	⇓P	P	02 20 56.4	+0.8
	baz=47						
G27A	**Dupree**	46.45	331	⇓P	P	02 20 51.5	-4.0
	baz=46,SNR=8.0						
U15A	**North Rim**	46.51	315	⇑P	P	02 20 57.4	+1.0
	baz=47,SNR=10						
O19A	**Miners Draw (B**	46.51	321	⇑P	P	02 20 57.1	+0.8
	baz=47						
G25A	**Newell**	46.55	330	⇑P	P	02 20 56.3	0.0
	baz=47,SNR=7.7						
E27A	**Carson**	46.58	333	⇑P	P	02 20 57.2	+0.6
	baz=47,SNR=6.3						
F26A	**Lodgepole**	46.66	332	⇑P	P	02 20 57.5	+0.3
	baz=47						
H24A	**Dirks Ranch, A**	46.80	329	⇑P	P	02 20 58.6	+0.3
	baz=47						
B30A	**Myrvik Farm, E**	46.81	337	⇓P	P	02 20 58.9	+0.7

	baz=48								
A29A	Manning Farm, baz=48,SNR=5.7	47.54	337	⇓P		P	02 21 04.0	+0.2	
G23A	Biddle baz=48	47.54	329	⇓P		P	02 21 04.4	+0.3	
BC3	Big Chuckawall baz=48	47.55	310	⇑P		P	02 21 04.2	-0.1	
I21A	Big Trails, Te baz=48,SNR=7.5	47.62	326	⇓P		P	02 21 04.9	+0.1	
B28A	Dugan Ranch, T baz=48	47.62	335	⇑P		P	02 21 05.5	+1.0	
J20A	Shoshoni baz=48,SNR=5.6	47.76	325	⇑P		P	02 21 06.6	+0.8	
CCUT	Cedar City 44nm,2.8s	47.80	316	*e*P		P	02 21 07.5	+1.2	
C26A	Wahner Farm, P baz=48	47.88	334	⇓P		P	02 21 07.5	+1.0	
F23A	Volborg baz=48,SNR=6.5	47.91	330	⇓P		P	02 21 07.1	+0.2	
D25A	Fairfield baz=48	47.93	332	⇑P		P	02 21 07.8	+0.8	
MPU	Maple Canyon 9.2nm,1.0s	47.93	320	*e*P		P	02 21 07.8	+0.5	
A28A	Rude Farm, Bot baz=48	47.94	336	⇓P		P	02 21 08.1	+1.1	
B27A	Peters Farms, baz=48	47.96	335	⇑P		P	02 21 08.2	+1.1	
H21A	Big Horn, Sher baz=48	48.02	327	⇓P		P	02 21 08.1	+0.3	
G22A	Birney baz=48,SNR=9.8	48.02	328	⇑P		P	02 21 08.3	+0.5	
BELC	Belle Mtn. Jos baz=48	48.11	310	⇑P		P	02 21 08.5	-0.2	
I20A	Worland baz=48,SNR=11	48.17	326	⇓P		P	02 21 09.6	+0.7	
GMRC	Granite Mounta baz=48	48.18	311	⇑P		P	02 21 09.8	+0.6	
SCHQ	Schefferville	48.18	5	P		P	02 21 10.3	+1.6	
SCHQ	Schefferville 17nm,0.5s,baz=187,slow=5.6,SNR=42	48.18	5	P		P	02 21 10.3	+1.6	
NLU	North Lily Min 6.9nm,1.0s	48.19	319	*e*P		P	02 21 10.4	+1.1	
PDAR	Pinedale Array	48.25	324	P		P	02 21 10.1	+0.4	
PDAR				PcP		PcP	02 22 34.6	+0.5	
PDAR	Pinedale Array 3.3nm,0.6s,baz=127,slow=9.4,SNR=26	48.25	324	P		P	02 21 10.0	+0.4	
PDAR	0.6nm,0.6s,baz=134,slow=6.4,SNR=3.3			PcP		PcP	02 22 34.6	+0.5	
BW06	Boulder Array 9.2nm,1.4s	48.25	324	*e*P		P	02 21 09.8	+0.1	
J19A	Crowheart baz=48,SNR=6.9	48.26	325	⇓P		P	02 21 10.1	+0.4	
B26A	Jensen Ranch, baz=48	48.36	334	⇑P		P	02 21 10.7	+0.5	
D24A	Glendive baz=48,SNR=6.3	48.37	332	⇑P		P	02 21 11.3	+0.9	
A27A	Ledoux Ranch, baz=48,SNR=6.7	48.38	335	⇓P		P	02 21 11.0	+0.7	
F22A	Rosebud baz=48,SNR=6.2	48.38	329	⇑P		P	02 21 10.8	+0.3	
E23A	Ismay baz=48	48.40	330	⇑P		P	02 21 10.7	+0.2	
H20A	Greybull baz=49,SNR=9.9	48.44	327	⇑P		P	02 21 11.1	+0.1	
G21A	Lodge Grass baz=49,SNR=6.6	48.50	328	⇓P		P	02 21 11.7	+0.3	
TUQ	Turquoise Moun baz=49	48.66	312	⇑P		P	02 21 13.2	+0.4	
A26A	Wade Farm, Ken baz=49	48.67	335	⇑P		P	02 21 13.2	+0.7	
E22A	Miles City baz=49	48.68	330	⇓P		P	02 21 13.0	+0.3	
B25A	Knox Farm, Ray baz=49,SNR=12	48.69	333	⇑P		P	02 21 14.3	+1.6	
HEC	Hector,Ludlow baz=49	48.70	311	⇓P		P	02 21 13.9	+0.8	
I19A	Meeteetse baz=49,SNR=5.2	48.71	326	⇓P		P	02 21 13.7	+0.5	
C24A	Savage baz=49	48.72	332	⇑P		P	02 21 13.9	+1.0	
DUG	Dugway 4.1nm,0.8s	48.79	319	*e*P		P	02 21 14.6	+0.8	
DUG	Dugway baz=49,SNR=7.2	48.79	319	⇑P		P	02 21 14.5	+0.8	
D23A	Lindsay baz=49,SNR=6.9	48.83	331	⇓P		P	02 21 14.6	+0.8	
LAO	LASA Array 2.6nm,0.5s	48.99	330	*e*P		P	02 21 14.7	-0.4	
G20A	Bridger baz=49,SNR=13	49.03	327	⇓P		P	02 21 15.5	-0.1	
H19A	Powell baz=49	49.10	326	⇓P		P	02 21 16.8	+0.8	
SHOC	Shoshone baz=49	49.12	312	⇓P		P	02 21 17.0	+0.8	
A25A	Svangstu Ranch baz=49	49.16	334	⇓P		P	02 21 17.6	+1.3	
GSC	Goldstone	49.25	312	*e*P		P	02 21 18.4	+1.1	
GSC	Goldstone baz=49,SNR=5.3	49.25	312	⇓P		P	02 21 18.0	+0.7	
C23A	Lambert baz=49,SNR=7.2	49.27	332	⇓P		P	02 21 18.0	+0.8	
D22A	Cohagen baz=49,SNR=18	49.29	330	⇑P		P	02 21 18.4	+1.1	
DGMT	Dagmar 47nm,0.6s	49.30	333	*e*P		P	02 21 18.4	+1.1	
DGMT	Dagmar baz=49,SNR=19	49.30	333	⇑P		P	02 21 18.4	+1.1	
E21A	Keefer Ranch, baz=50	49.32	329	⇑P		P	02 21 18.1	+0.6	
BGU	Big Grassy Mou 12nm,0.7s	49.32	320	*e*P		P	02 21 18.4	+0.6	
REDW	Red Top Meadow	49.36	324	*e*P		P	02 21 18.6	+0.4	
SNOW	Snow King Moun 6.4nm,0.7s	49.37	324	*e*P		P	02 21 19.0	+0.8	
LOHW	Long Hollow 5.8nm,0.6s	49.37	324	*e*P		P	02 21 18.9	+0.7	
F20A	Billings baz=50,SNR=6.5	49.38	328	⇓P		P	02 21 18.7	+0.6	
H18A	Shoshone NF, C baz=50,SNR=5.7	49.48	326	⇓P		P	02 21 18.8	-0.2	
MOOW	Moose Ponds 5.1nm,0.8s	49.53	324	*e*P		P	02 21 19.8	+0.4	
I17A	Pilgrim Ck. baz=50	49.53	325	⇑P		P	02 21 20.3	+0.8	
A24A	Westby baz=50,SNR=7.3	49.54	333	⇓P		P	02 21 20.6	+1.4	
C22A	Vida baz=50,SNR=11	49.56	331	⇓P		P	02 21 20.3	+0.9	
FXWY	Fox Creek 57nm,2.8s	49.63	324	*e*P		P	02 21 20.4	+0.2	
RRI2	Red Ridge 11nm,0.7s	49.63	324	*e*P		P	02 21 20.8	+0.5	
D21A	La Casta Ranch baz=50,SNR=12	49.63	330	⇑P		P	02 21 21.0	+1.1	
B23A	Brockton baz=50,SNR=9.1	49.66	332	⇓P		P	02 21 21.5	+1.5	
R11A	Troy Canyon, C	49.73	316	*e*P		P	02 21 21.8	+0.8	
R11A	Troy Canyon, C baz=50,SNR=8.5	49.73	316	⇓P		P	02 21 21.8	+0.8	
IMW	Indian Meadow	49.73	324	*e*P		P	02 21 21.5	+0.5	
FURC	Furnace Creek, baz=50	49.79	313	⇓P		P	02 21 22.3	+1.1	
E20A	Meyer Farm, Mu baz=50,SNR=16	49.83	329	⇑P		P	02 21 22.5	+1.0	
F19A	Roth Farm, Mol baz=50	49.84	327	⇓P		P	02 21 22.0	+0.5	
A23A	Redstone baz=50,SNR=12	49.96	333	⇑P		P	02 21 23.8	+1.5	
EDW2	Edwards Air Fo baz=50	49.97	311	⇓P		P	02 21 22.9	+0.2	
LRMC	Laurel Mountai baz=50	49.98	311	⇑P		P	02 21 23.3	+0.4	
B22A	Reddig Ranch S baz=50,SNR=8.9	50.01	332	⇓P		P	02 21 24.0	+1.3	
MPMC	Manual Prospec baz=50	50.08	312	⇓P		P	02 21 23.8	+0.2	
E19A	Rath Farm, Rou baz=50	50.15	328	⇑P		P	02 21 25.0	+1.1	
C21A	Desert Coulee baz=50	50.20	330	⇓P		P	02 21 25.4	+1.1	
D20A	Manuel Ranch, baz=50,SNR=8.5	50.23	329	⇓P		P	02 21 25.4	+0.9	
A22A	Carney Farms, baz=51,SNR=26	50.46	332	⇑P		P	02 21 27.7	+1.5	
QLMT	Earthquake Lak	50.57	325	*e*P		P	02 21 29.1	+1.9	
C20A	Veseth Ranch, baz=51	50.58	330	⇑P		P	02 21 28.1	+1.1	
B21A	Ellsworth Farm	50.58	331	⇑P		P	02 21 28.7	+1.7	
	baz=51								
ISA	Isabella baz=51	50.64	311	⇓P		P	02 21 28.4	+0.7	
D19A	Cripps Ranch, baz=51,SNR=16	50.66	329	⇑P		P	02 21 28.6	+0.9	
TPH	Tonopah 2.1nm,0.9s	50.75	315	*e*P		P	02 21 29.0	+0.4	
A21A	Bergtoll Ranch baz=51,SNR=8.6	50.93	332	⇓P		P	02 21 31.0	+1.4	
C19A	Slack Wire Ran baz=51	51.12	329	⇑P		P	02 21 32.1	+1.0	
SBC	Santa Barbara baz=51	51.12	309	⇑P		P	02 21 31.5	+0.3	
BOZ	Bozeman (W) 4.4nm,0.8s	51.18	326	*e*P		P	02 21 32.1	+0.5	
A20A	Cobblestone Ra baz=52,SNR=12	51.33	331	⇑P		P	02 21 33.9	+1.2	
MCMT	McKenzie Canyo 2.4nm,0.6s	51.39	324	*e*P		P	02 21 34.4	+1.1	
DLMT	Dillon 6.4nm,1.3s	51.55	325	*e*P		P	02 21 35.6	+1.2	
HLID	Hailey 4.3nm,0.8s	51.61	322	*e*P		P	02 21 35.8	+0.8	
HLID	Hailey baz=52,SNR=6.8	51.61	322	⇓P		P	02 21 35.6	+0.7	
EGMT	Eagleton baz=52	51.67	329	⇓P		P	02 21 36.1	+0.9	
NVAR	Mina Array Bea	51.67	315	P		P	02 21 36.4	+0.8	
NVAR				PcP		PcP	02 22 48.1	+1.2	
NVAR	Mina Array Bea 1.9nm,0.6s,baz=124,slow=7.3,SNR=18	51.67	315	P		P	02 21 36.4	+0.8	
NVAR	0.8nm,0.5s,baz=142,slow=4.1,SNR=4.6			PcP		PcP	02 22 48.1	+1.2	
LRM	Limekiln Ridge	51.74	325	*e*P		P	02 21 36.8	+0.8	
A19A	Klindworth Far baz=52	51.76	331	⇑P		P	02 21 37.0	+1.2	
MSO	Missoula baz=53	53.17	326	⇑P		P	02 21 47.1	+0.8	
FFC	Flin Flon 11nm,0.5s	53.21	339	*e*P		P	02 21 46.0	-0.3	
J08A	Circle Bar Ran	54.04	320	*e*P		P	02 21 53.0	+0.3	
BSMT	Bassoo Peak 7.1nm,1.2s	54.23	326	*e*P		P	02 21 54.6	+0.5	
FCC	Fort Churchill 1.1nm,1.1s	54.38	347	*e*P		P	02 21 54.5	-0.2	
F10A	Beach Ranch, E	54.59	323	*e*P		P	02 21 56.9	+0.2	
NEW	Newport baz=56	55.76	326	⇑P		P	02 22 05.0	+0.1	
EDM	Edmonton	56.77	332	*e*P		P	02 22 11.3	-0.7	
B08A	Colville Reser	57.06	325	*e*P		P	02 22 14.2	+0.1	
ASCN	Ascension 196nm,1.1s	60.19	103	*e*P		P	02 22 36.6	+0.4	
YKA	Yellowknife Ar	63.39	340	P		P	02 22 56.9	+0.1	
YKA	Yellowknife Ar 11nm,0.6s,baz=132,slow=6.6,SNR=33	63.39	340	P		P	02 22 56.8	+0.1	
TIC	Toumodi 3.9nm,0.2s	67.38	86	*e*P		P	02 23 23.9	+0.6	
LIC	Lamto 15nm,0.5s	67.40	86	*e*P		P	02 23 23.6	+0.1	
DBIC	Dimbokro 4.8nm,0.7s	67.54	86	*e*P		P	02 23 24.5	+0.2	
DBIC	Dimbokro 2.7nm,0.6s,baz=268,slow=8.0,SNR=11	67.54	86	P		P	02 23 24.8	+0.5	
KIC	Kosan Boka 12nm,0.6s	67.68	86	*e*P		P	02 23 25.4	+0.2	
SUMG	Summit 19nm,0.8s	69.01	11	*i* P		P	02 23 33.4	+0.5	
SUMG	Summit 18nm,0.6s	69.01	11	*e*P		P	02 23 33.5	+0.7	
PMSA	Palmer Station 12nm,0.7s	71.65	176	*e*P		P	02 23 47.5	-0.9	
INK	Inuvik 4.8nm,0.6s	73.16	340	*e*P		P	02 23 57.3	0.0	
TOA0	Torodi Ar. Sit	73.55	78	*e*P		P	02 24 00.4	-0.3	
TORD	Torodi Ar. Bea	73.55	78	P		P	02 24 00.7	0.0	
TORD	Torodi Ar. Bea 0.5nm,0.3s,baz=285,slow=6.6,SNR=29	73.55	78	P		P	02 24 00.7	0.0	
ILAR	Eielson Array	77.10	335	P		P	02 24 20.3	+0.3	
ILAR				pP		pP	02 25 00.8	+0.7	
ILAR	Eielson Array 2.0nm,0.8s,baz=117,slow=4.7,SNR=17	77.10	335	P		P	02 24 20.3	+0.3	
ILAR	0.8nm,0.8s,baz=108,slow=4.9,SNR=2.7			pP		pP	02 25 00.8	+0.7	
PPLA	Purkeypile 10.0nm,0.6s	79.13	333	*e*P		P	02 24 31.4	0.0	
NAO01	NORSAR Array S 8.2nm,1.0s	81.11	30	*e*P		P	02 24 42.4	+0.4	
NOA	NORSAR Array B	81.28	29	P		P	02 24 43.3	+0.5	
NOA				pP		pP	02 25 24.9	+1.6	
NOA	NORSAR Array B 0.9nm,0.6s,baz=268,slow=5.3,SNR=3.8	81.28	29	P		P	02 24 43.3	+0.5	
NOA	0.7nm,0.6s,baz=269,slow=5.3,SNR=1.7			pP		pP	02 25 24.8	+1.6	
GERES	GERESS Array B	82.73	42	P		P	02 24 50.0	-0.7	
GERES	GERESS Array B 0.7nm,0.6s,baz=270,slow=4.2,SNR=7.9	82.73	42	P		P	02 24 50.0	-0.7	
MORC	Moravsky Berou 5nm,0.9s	85.19	41	*e*P		P	02 25 03.5	+0.4	
ARCES	ARCESS Array B	86.66	20	P		P	02 25 10.5	+0.7	
ARCES	ARCESS Array B 1.4nm,0.6s,baz=283,slow=4.0,SNR=12	86.66	20	P		P	02 25 10.5	+0.7	
FINES	FINESS Array B	88.40	28	P		P	02 25 18.3	0.0	
FINES	FINESS Array B 3.1nm,0.9s,baz=276,slow=4.6,SNR=3.3	88.40	28	P		P	02 25 18.3	0.0	
SNAA	Sanae 0.7nm,0.6s	90.22	163	*e*P		P	02 25 26.4	-0.3	
ZALV	Zalesovo Beam	116.68	15	PKP		PKPdf	02 31 10.2	+0.4	
ZALV	Zalesovo Beam 0.9nm,0.5s,baz=228,slow=1.8,SNR=3.6	116.68	15	PKP		PKPdf	02 31 10.2	+0.4	
MK31	Makanchi Array	122.31	20	*e*PKPdf		PKPdf	02 31 20.9	0.0	
MKAR	Makanchi Array	122.31	20	PKP		PKPdf	02 31 21.1	+0.2	
MKAR	Makanchi Array 0.6nm,0.4s,baz=297,slow=2.8,SNR=18	122.31	20	PKP		PKPdf	02 31 21.1	+0.2	
AAK	Ala-Archa	122.59	28	PKP		PKPdf	02 31 22.0	+0.3	
AAK	Ala-Archa 0.7nm,0.3s,baz=143,slow=10,SNR=2.4	122.59	28	PKP		PKPdf	02 31 22.0	+0.3	
TKM2	Tokmak 2	122.87	27	*e*PKPdf		PKPdf	02 31 20.8	-1.5	
SONM	Songino Array	125.64	1	PKP		PKPdf	02 31 27.6	+0.2	
SONM	Songino Array 0.5nm,0.5s,baz=48,slow=2.1,SNR=3.2	125.64	1	PKP		PKPdf	02 31 27.6	+0.2	
WMQ	Urumqi	126.68	17	*e*PKP		PKPdf	02 31 29.4	0.0	
CN2	Changchun	127.00	343	*e*PKP		PKPdf	02 31 27.9	-2.0	
HHC	Hu-ho-hao-te	132.45	355	*e*PKP		PKPdf	02 31 40.3	-0.2	
HHC				sPKP			02 32 40.1		
HHC				SKS		SKSdf	02 38 33.3	-3.5	
HHC	130nm,11.9s			PPMZ					
HHC	comp=N,320nm,20.2s			LR		LR			
HHC	comp=E,360nm,19.0s			LR		LR			
HHC	comp=Z,190nm,19.0s			LR		LR			
LZH	Lanzhou	137.27	4	*e*PKP		PKPdf	02 31 49.1	-0.6	
LZH	comp=N,140nm,16.5s			LR		LR			
LZH	comp=E,200nm,17.3s			LR		LR			
LZH	comp=Z,240nm,20.2s			LR		LR			
STKA	Stephens Creek	139.26	228	PKP		PKPdf	02 31 53.2	-0.1	
STKA	Stephens Creek 0.7nm,0.6s,baz=39,slow=6.5,SNR=3.1	139.26	228	PKP		PKPdf	02 31 53.2	-0.1	
CD2	Chengdu	142.41	5	PKP		PKPdf	02 31 57.3	-1.7	
GYA	Guiyang	146.98	1	*e*PKPbc		PKPdf	02 32 06.0	-1.1	
GYA				pPKP		pPKPdf	02 32 49.4	-0.9	
GYA				sPKP			02 33 07.8		
GYA	70nm,7.8s			PPMZ					
AS31	Alice Springs	149.24	234	*e*PKPbc		PKPbc	02 32 14.9	-0.3	
ASAR	Alice Springs	149.24	234	PKP		PKPdf	02 32 11.5	+0.8	
ASAR				PKPbc		PKPbc	02 32 15.0	-0.2	
ASAR				pPKP		pPKPdf	02 32 52.5	-1.5	
ASAR				pPKPbc		pPKPbc	02 32 56.8	-1.3	
ASAR	Alice Springs 2.4nm,0.7s,baz=125,slow=2.7,SNR=18	149.24	234	PKP		PKPdf	02 32 11.5	+0.8	
ASAR	2.4nm,0.7s,baz=114,slow=3.5,SNR=10			PKPbc		PKPbc	02 32 15.0	-0.2	
ASAR	0.8nm,0.4s,baz=119,slow=3.1,SNR=1.5			pPKP		pPKPdf	02 32 52.5	-1.5	
ASAR	0.8nm,0.4s,baz=115,slow=3.7,SNR=2.6			pPKPbc		pPKPbc	02 32 56.8	-1.3	
WRAB	Tennant Creek	150.48	241	*e*PKPdf		PKPdf	02 32 13.2	+0.4	
WRAB				ePKPbc		PKPbc	02 32 17.8	-0.5	
WRA	Warramunga Arr	150.49	241	PKP		PKPdf	02 32 11.5	-1.3	
WRA				PKPbc		PKPbc	02 32 18.1	-0.2	
WRA				pPKP		pPKPdf	02 32 55.9	-0.2	
WRA				pPKPbc		pPKPbc	02 33 00.9	-0.2	
WRA	Warramunga Arr 0.7nm,0.7s,baz=101,slow=1.0,SNR=3.0	150.49	241	PKP		PKPdf	02 32 11.5	-1.3	
WRA	2.2nm,0.4s,baz=109,slow=2.4,SNR=20			PKPbc		PKPbc	02 32 18.1	-0.2	
WRA	1.9nm,0.6s,baz=107,slow=2.5,SNR=2.0			pPKP		pPKPdf	02 32 55.9	-0.2	
WRA	2.1nm,0.6s,baz=111,slow=2.5,SNR=3.5			pPKPbc		pPKPbc	02 33 00.9	-0.2	
CMAR	Chiang Mai Arr	153.69	18	PKP		PKPdf	02 32 17.6	+0.1	
CMAR				PKPbc		PKiKP	02 32 26.4	+0.9	
CMAR				PKPab		PKPab	02 32 39.0	+0.3	
CMAR	Chiang Mai Arr 1.4nm,0.3s,baz=331,slow=1.1,SNR=2.2	153.69	18	PKP		PKPdf	02 32 17.6	+0.1	
CMAR	1.6nm,0.4s,baz=106,slow=3.1,SNR=6.1			PKPbc		PKiKP	02 32 26.4	+0.9	
CMAR	0.9nm,0.3s,baz=337,slow=4.6,SNR=4.6			PKPab		PKPab	02 32 38.9	+0.3	
KKM	Kota Kinabalu	164.35	324	*e*PKPdf		PKPdf	02 32 29.5	-0.8	

IDC 23 02:23:09.9±1.9, 1.92S×150.81E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/19, mbtmp3.7/4, Error ellipse: s-maj=101.1km s-min=26.3km az=117.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	24.09	221	P	P	02 28 27.7	+0.3
	1.6nm,0.6s,baz=42,slow=10,SNR=12						
H11S3	WAKE ISLAND Hy	25.61	37	T	T	02 55 43.2	
	baz=222,slow=0.7,SNR=3697						
H11S2	WAKE ISLAND Hy	25.61	37	T	T	02 55 42.8	
	baz=222,slow=0.7,SNR=2165						
H11S1	WAKE ISLAND Hy	25.62	37	T	T	02 55 45.9	
	baz=222,slow=0.7,SNR=2101						
H11N1	WAKE ISLAND Hy	26.67	36	T	T	02 57 07.9	
	baz=222,slow=0.7,SNR=147						
H11N3	WAKE ISLAND Hy	26.69	36	T	T	02 57 03.9	
	baz=222,slow=0.7,SNR=213						
H11N2	WAKE ISLAND Hy	26.69	36	T	T	02 57 03.0	
	baz=222,slow=0.7,SNR=293						
ASAR	Alice Springs	27.12	216	P	P	02 28 55.0	+0.1
	2.2nm,0.8s,baz=46,slow=8.0,SNR=4.4						
ILAR	Eielson Array	80.27	23	P	P	02 35 22.4	0.0
	0.5nm,0.7s,baz=255,slow=5.6,SNR=5.4						
KURBB	Kurchatov Arra	80.32	322	P	P	02 35 24.0	+1.0
	0.2nm,0.6s,baz=106,slow=5.3,SNR=2.8						
H02S1	DAWSON INLET T	83.59	36	T	T	04 08 19.4	
	SNR=4.0						
TORD	Torodi Ar. Bea	147.47	292	PKPbc	PKPdf	02 42 54.6	+0.1
	0.3nm,0.7s,baz=43,slow=1.1,SNR=2.9						

ISCJB ***23*** *02:28:06.5±0.1, 24.47S±0.05×179.79E±0.04, h517km, mb4.5/59, Error ellipse: s-maj=6.7km s-min=3.7km az=151.8*

IDC ***23*** *02:28:06.4±0.9, 24.38S×179.87E, h513km±9km, mb4.0/18, mb1 4.2/20, mb1mx4.1/24, mbtmp4.9/20, Error ellipse: s-maj=11.5km s-min=9.6km az=173.0*

NEIC ***23*** *02:28:08.4±0.6, 24.45S×179.82E, h535km±6km, mb4.6/39, Error ellipse: s-maj=8.5km s-min=6.0km az=156.0*

AUST ***23*** *02:28:13.7±0.5, 24.38S×179.85E, h606km±14km, Error ellipse: s-maj=11.0km s-min=6.6km az=119.0*

BJI ***23*** *02:28:19.2, 21.97S×178.87E, h657km, mb4.7/13*

ISC 23 02:28:06.6±0.3, 24.48S±0.06×179.92E±0.06, h517km, n300, σ1°06/319, mb4.6/60, 69C-48D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	5.13	158	P	P	02 29 37.5	+2.0
RAO				S	S	02 30 46.0	-2.3
RAO	Raoul Island	5.13	158	P	P	02 29 37.5	+2.0
	46nm,0.3s,baz=288,slow=20,SNR=5.0						
RAO				S	S	02 30 46.0	-2.3
	24nm,0.3s,baz=233,slow=20,SNR=1.9						
MSVF	Nonsavu	6.94	345	*e*Pn	P	02 29 53.7	+0.7
	18nm,0.7s						
NIUE	Niue	10.86	62	P	P	02 30 41.1	+7.9
	baz=11,SNR=3.4						
DZM	Mont Dzumac	12.61	278	*e*P	P	02 30 54.3	+2.6
	164nm,0.8s						
DZM	Mont Dzumac	12.61	278	P	P	02 30 54.7	+2.9
	9.8nm,0.3s,baz=83,slow=17,SNR=85						
AFI	Afiamalu	13.11	38	S	S	02 33 07.4	-10
	8.0nm,0.3s,baz=226,slow=22,SNR=4.2						
URZ	Urewera	13.94	189	P	P	02 31 05.8	+0.4
URZ				S	S	02 33 30.1	-2.6
URZ	Urewera	13.94	189	P	P	02 31 05.8	+0.4
	1.0nm,0.3s,baz=281,slow=5.2,SNR=4.3						
URZ				S	S	02 33 30.1	-2.6
	1.1nm,0.3s,baz=246,slow=22,SNR=1.0						
RPZ	Rata Peaks	20.52	199	P	P	02 32 09.2	+0.3
RPZ	Rata Peaks	20.52	199	P	P	02 32 09.2	+0.3
	5.8nm,0.7s,baz=67,slow=13,SNR=4.0						
HNR	Honiara	24.21	305	P	P	02 32 40.8	-1.5
HNR	Honiara	24.21	305	P	P	02 32 40.8	-1.5
	70nm,0.6s,baz=185,slow=14,SNR=4.3						
ARMA	Armidale	25.75	250	*e*P	P	02 32 58.0	+2.1
	15nm,0.7s						
ARMA	Armidale	25.75	250	P	P	02 32 58.1	+2.1
	baz=26,SNR=10						
EIDS	Eidsvold	26.15	262	*e*P	P	02 33 00.4	+1.0
	17nm,0.7s						
EIDS	Eidsvold	26.15	262	P	P	02 33 00.3	+1.0
	baz=26,SNR=9.4						
MGCD	Mangrove Creek	26.62	244	P	P	02 33 05.8	+2.3
	baz=27,SNR=10						
RMQ	Roma	28.17	259	P	P	02 33 19.2	+2.1
	baz=28,SNR=14						
CNB	Canberra Magne	28.50	241	P	P	02 33 21.8	+1.9
	baz=28,SNR=9.0						
CNB				P	P	02 33 22.2	+2.2
	baz=28,SNR=5.6						
CMSA	Cobar Meteorol	30.93	249	P	P	02 33 42.1	+1.0
	baz=31,SNR=24						
CTA	Charters Tower	31.41	271	P	P	02 33 46.4	+1.1
CTA	Charters Tower	31.41	271	P	P	02 33 46.4	+1.1
	56nm,0.5s,baz=97,slow=11,SNR=80						
CTAO	Charters Tower	31.41	271	*e*P	P	02 33 46.2	+0.9
	56nm,0.6s						
TOO	Toolangi	32.07	238	P	P	02 33 52.0	+1.3
	baz=32,SNR=7.4						
QLP	Quilpie	32.20	259	P	P	02 33 52.7	+0.8
	baz=32,SNR=24						
MTSU	Mount Surprise	33.70	274	P	P	02 34 05.8	+1.1
	baz=34,SNR=53						
STKA	Stephens Creek	34.44	249	*e*P	P	02 34 11.8	+1.0
	2.8nm,0.7s						
STKA				ScP	ScP	02 39 27.9	+0.2
STKA	Stephens Creek	34.44	249	P	P	02 34 11.8	+1.0
	baz=34,SNR=36						
STKA	Stephens Creek	34.44	249	P	P	02 34 11.8	+1.0
	11nm,0.5s,baz=93,slow=9.2,SNR=58						
STKA				ScP	ScP	02 39 27.9	+0.2
	1.0nm,0.7s,baz=78,slow=1.8,SNR=3.5						
PMG	Port Moresby	34.62	290	*e*P	P	02 34 12.6	+0.1
	28nm,0.8s						
PMG	Port Moresby	34.62	290	P	P	02 34 12.1	-0.4
	21nm,0.6s,baz=120,slow=6.3,SNR=7.6						
ARPS	Mount Arapiles	34.76	240	P	P	02

WRA **Warramunga Arr** 42.30 267 P P 02 35 14.3 -0.5
20nm,0.4s,baz=98,slow=8.4,SNR=64
WRA ScP ScP 02 40 00.5 +2.4
11nm,0.9s,baz=102,slow=4.0,SNR=30
WRA S S 02 40 55.1 -3.1
4.1nm,1.1s,baz=102,slow=14,SNR=5.5
JAY Jayapura 43.68 294 P P 02 35 25.7 -0.1
baz=44,SNR=8.4
FORT Forrest 46.04 250 *e*P P 02 35 43.0 -0.7
60nm,0.7s
FORT Forrest 46.04 250 P P 02 35 43.2 -0.4
baz=46,SNR=31
KDU Kakadu 46.27 276 P P 02 35 45.0 -0.5
baz=46,SNR=14
MTN Manton Dam 47.43 275 P P 02 35 53.8 -0.6
baz=47,SNR=4.1
KNRA Kununurra 48.61 270 P P 02 36 03.4 +0.3
baz=48,SNR=24
FAKI Fak Fak 50.68 287 P P 02 36 18.1 -0.4
baz=51,SNR=3.5
FITZ Fitzroy Crossi 50.71 266 *e*P P 02 36 19.3 +0.6
23nm,0.7s
FITZ Fitzroy Crossi 50.71 266 P P 02 36 19.0 +0.4
baz=51,SNR=18
FITZ Fitzroy Crossi 50.71 266 P P 02 36 18.5 -0.2
22nm,0.6s,baz=102,slow=9.9,SNR=35
VNDA Vanda 53.80 185 *e*P P 02 36 42.0 +2.1
VNDA PcP PcP 02 37 38.3 +0.8
VNDA ScP ScP 02 40 46.1 +0.3
VNDA Vanda 53.80 185 P P 02 36 41.5 +1.6
0.5nm,0.7s,baz=347,slow=6.5,SNR=5.0
VNDA PcP PcP 02 37 38.3 +0.8
1.0nm,0.7s,baz=13,slow=2.8,SNR=6.0
VNDA ScP ScP 02 40 46.1 +0.3
0.3nm,0.4s,baz=264,slow=5.1,SNR=3.9
MEEK Meekatharra 54.88 254 P P 02 36 47.5 -0.8
baz=55,SNR=11
BATI Baumata 55.19 275 P P 02 36 50.8 0.0
BATI Baumata 55.19 275 P P 02 36 50.8 0.0
26nm,0.4s,baz=207,slow=2.3,SNR=4.3
MBWA Marble Bar 55.20 260 *e*P P 02 36 50.1 -0.5
BLDU Ballidu 55.74 249 P P 02 36 54.0 -0.4
baz=56,SNR=13
MORW Morawa 56.61 250 P P 02 37 00.1 -0.2
baz=56,SNR=12
QSPA South Pole Qui 65.61 180 *e*P P 02 38 00.1 +1.2
16nm,1.1s
QSPA South Pole Qui 65.61 180 P P 02 38 00.2 +1.2
8.3nm,0.7s
MAW Mawson 77.18 200 P P 02 39 07.6 +1.2
MAW Mawson 77.18 200 P P 02 39 07.6 +1.2
2.2nm,0.6s,baz=137,slow=7.8,SNR=7.2
PETK Petropavlovsk- 79.64 347 P P 02 39 19.9 +0.2
PETK Petropavlovsk- 79.64 347 P P 02 39 19.9 +0.2
4.5nm,0.7s,baz=134,slow=6.4,SNR=5.8
QIZ Qiongzhong 80.78 296 P P 02 39 17.8 -8.7
QIZ pP pP 02 41 32.5 +14
QIZ S S 02 48 21.8 -30
QIZ ScS SKSac 02 48 39.3 -17
QIZ AMB AMB
comp=Z,17nm,1.5s
NJ2 Nanjing 80.98 311 *e*P P 02 39 17.4 -10
NJ2 AMB AMB
comp=Z,200nm,1.0s
USRK Ussuriysk Arra 81.21 327 P P 02 39 28.8 +0.8
0.7nm,0.5s,baz=142,slow=4.9,SNR=3.1
SYO Syowa Base 82.43 193⇑ *e*P P 02 39 32.6 -1.4
MDJ Mudanjiang 82.70 326 P P 02 39 26.4 -9.3
MDJ AMB AMB
comp=Z,6.0nm,0.6s
MDJ AMB AMB
comp=Z,57nm,2.8s
MURC Murrieta 83.13 48 ⇑P P 02 39 39.3 +1.1
baz=83
VES Vestal, Richgr 83.18 46 ⇓P P 02 39 38.9 +0.5
baz=83
BFSC Mount Baldy Ra 83.19 48 ⇑P P 02 39 39.0 +0.5
baz=83
MONP Monument Peak 83.26 49 ⇓P P 02 39 40.1 +1.0
baz=84
EDW2 Edwards Air Fo 83.34 47 ⇓P P 02 39 40.3 +1.0
baz=84
DVTC Desert V Tower 83.35 50 ⇓P P 02 39 40.7 +1.4
baz=84,SNR=6.6
ISA Isabella 83.48 46 *e*P P 02 39 40.9 +1.0
11nm,0.8s
ISA Isabella 83.48 46 ⇓P P 02 39 40.5 +0.6
baz=84,SNR=8.5
PFO Pinyon Flat Ob 83.64 49 *e*P P 02 39 41.6 +0.8
11nm,1.2s
PFO Pinyon Flat Ob 83.64 49 ⇓P P 02 39 42.0 +1.1
baz=84
CMB Columbia Colle 83.67 43 *e*P P 02 39 41.3 +0.5
8.2nm,0.9s
SWSC Sam W. Stewart 83.72 50 ⇓P P 02 39 42.4 +1.4
baz=84
SNAA Sanae 84.09 179 *e*P P 02 39 42.1 -0.3
SNAA Sanae 84.09 179 *e*P P 02 39 41.8 -0.6
3.4nm,1.0s
BELC Belle Mtn. Jos 84.18 49 ⇑P P 02 39 44.5 +1.0
baz=84,SNR=7.4
CN2 Changchun 84.31 324 *e*P P 02 39 31.4 -12
CN2 AMB AMB
comp=Z,10.0nm,0.6s
MPMC Manual Prospec 84.36 46 ⇓P P 02 39 45.1 +0.7
baz=85
BC3 Big Chuckawall 84.36 49 ⇑P P 02 39 45.7 +1.4
baz=85
GSC Goldstone 84.37 47 ⇓P P 02 39 45.0 +0.7
baz=85,SNR=5.4
HEC Hector,Ludlow 84.42 48 ⇓P P 02 39 45.4 +0.8
baz=85
GLA Glamis 84.46 50 *e*P P 02 39 46.3 +1.5
18nm,0.9s
GLA Glamis 84.46 50 ⇑P P 02 39 46.1 +1.3
baz=85,SNR=6.5
WAKR Walker 84.55 43 *e*P P 02 39 46.3 +0.9
4.9nm,1.0s
VNA2 Neumayer--Watz 84.72 178 *e*P P 02 39 45.7 +0.3
baz=197,slow=3.8
GMRC Granite Mounta 84.85 48 ⇑P P 02 39 47.9 +1.2
baz=85
IRM Iron Mountain 84.85 49 ⇑P P 02 39 48.0 +1.3
baz=85,SNR=11
FURC Furnace Creek, 85.01 46 ⇓P P 02 39 48.0 +0.8
baz=85
TUQ Turquoise Moun 85.04 48 ⇓P P 02 39 48.5 +0.8
baz=85
113A Mohawk Valley, 85.04 51 ⇑P P 02 39 49.0 +1.4
baz=85
Y12C Blythe 85.05 50 ⇑P P 02 39 48.8 +1.2
baz=85
NVAR Mina Array Bea 85.22 44 P P 02 39 49.0 +0.4
NVAR Mina Array Bea 85.22 44 P P 02 39 49.0 +0.4
3.0nm,0.8s,baz=223,slow=8.3,SNR=23
214A Organ Pipe Nat 85.28 52 ⇓P P 02 39 50.5 +1.7
baz=86
PDMCI Parker Dam,Lak 85.62 49 ⇑P P 02 39 51.8 +1.5
baz=86
Z14A Wintersburg 85.94 51 ⇑P P 02 39 53.5 +1.6
baz=86
MOD Modoc 86.09 40 *e*P P 02 39 53.2 +0.6
4.7nm,0.8s
SHPR Sheep Range 86.15 47 *e*P P 02 39 53.6 +0.5
13nm,1.7s
Y14A Wickenburg 86.21 50 ⇓P P 02 39 54.3 +1.0
baz=86,SNR=6.5
W13A Hualapai Mount 86.24 49 ⇓P P 02 39 54.6 +1.1
baz=86
H04A Detroit Lake 86.75 37 *e*P P 02 39 56.0 +0.4
7.6nm,0.8s
R11A Troy Canyon, C 86.91 45 ⇓P P 02 39 57.0 +0.4
baz=87
TUC Tucson 86.93 52 *e*P P 02 39 58.3 +1.6
12nm,1.0s
GYA Guiyang 86.98 301 *e*P P 02 39 48.8 -8.3
GYA pP pP 02 42 06.8 +16
GYA sP sP 02 43 11.0 +28
GYA PP PP 02 43 18.8 -11
GYA SKS SKSac 02 49 09.4 -26
GYA S SKKSac 02 49 21.5 -24
GYA AMB AMB
comp=Z,10.0nm,1.0s
BJI Beijing 87.40 316 P P 02 39 49.4 -9.2
BJI AMB AMB
comp=Z,18nm,0.5s
319A Douglas 87.55 54 ⇓P P 02 40 01.4 +1.7
baz=88,SNR=12
X16A Lo Mia Camp, P 87.56 50 ⇓P P 02 40 01.1 +1.3
baz=88,SNR=7.4
I07A Izee 87.89 39 *e*P P 02 40 01.9 +1.0
13nm,0.9s
CCUT Cedar City 87.93 47 *e*P P 02 40 02.6 +1.1
4.7nm,1.0s
G06A Carlson Farm, 87.96 38 *e*P P 02 40 01.7 +0.5
67nm,2.1s
U15A North Rim 88.04 48 ⇑P P 02 40 03.1 +1.0
baz=88,SNR=10
J08A Circle Bar Ran 88.05 40 *e*P P 02 40 02.5 +0.8
20nm,1.2s
320A Kipp Ranch, An 88.08 54 ⇓P P 02 40 04.2 +2.0
baz=88,SNR=13
WUAZ Wupatki 88.19 50 ⇓P P 02 40 04.2 +1.5
baz=88
220A Playas Peak, P 88.37 54 ⇓P P 02 40 05.1 +1.5
baz=89,SNR=6.2
120A U Bar Ranch, L 88.61 53 ⇑P P 02 40 06.3 +1.6
baz=89,SNR=6.6
X18A Snowflake 88.67 51 ⇑P P 02 40 06.3 +1.4
baz=89
Z20A Nine Sixteen R 88.93 53 ⇑P P 02 40 07.7 +1.6
baz=89,SNR=7.2
E07A Sunnyside 89.20 37 *e*P P 02 40 07.9 +1.0
8.9nm,0.8s
MVU Marysvale 89.21 47 *e*P P 02 40 08.7 +1.2
36nm,2.4s
121A Cookes Peak, D 89.23 54 ⇓P P 02 40 08.9 +1.3
baz=90,SNR=5.4
HAWA Hanford 89.28 37 *e*P P 02 40 08.1 +0.9
9.5nm,1.1s
PMR Palmer 89.33 14 *e*P P 02 40 06.5 -0.5
KMI Kunming 89.47 298 P P 02 40 03.1 -5.8
KMI AMB AMB
comp=Z,9.0nm,0.9s
Y20A Horse Springs, 89.48 52 ⇑P P 02 40 10.3 +1.5
baz=90,SNR=12
222A Williams Famil 89.52 54 ⇑P P 02 40 10.2 +1.3
baz=90,SNR=5.2
CMAR Chiang Mai Arr 89.66 290 P P 02 40 09.8 +0.2
CMAR Chiang Mai Arr 89.66 290 P P 02 40 09.8 +0.2
2.8nm,0.2s,baz=118,slow=3.6,SNR=13
Z21A St. Cloud Mine 89.69 53 ⇓P P 02 40 11.2 +1.4
baz=90,SNR=6.4
X20A Quenado 89.71 52 ⇓P P 02 40 11.0 +1.1
baz=90,SNR=5.6
DUG Dugway 89.73 45 *e*P P 02 40 10.9 +1.3
62nm,3.0s
DUG Dugway 89.73 45 ⇓P P 02 40 09.9 +0.3
baz=90
122A Conniff Cattle 89.89 54 ⇓P P 02 40 12.4 +1.9
baz=90
W20A Ramah 90.00 51 ⇑P P 02 40 12.3 +1.2
baz=90,SNR=8.3
Y21A Point of Rocks 90.04 52 ⇓P P 02 40 12.9 +1.5
baz=90,SNR=12
Q16A Castle Valley 90.12 47 ⇓P P 02 40 13.2 +1.6
baz=90
X21A Alamocita Cree 90.17 52 ⇓P P 02 40 13.1 +1.1
baz=90,SNR=7.1
Z22A Elephant Butte 90.18 53 ⇑P P 02 40 13.1 +1.1
baz=90,SNR=9.1
TMUT Trail Mountain 90.29 46 *e*P P 02 40 13.6 +1.1
26nm,1.0s
V20A Brimhall 90.37 50 ⇑P P 02 40 13.5 +0.7
baz=91
MPU Maple Canyon 90.39 46 *e*P P 02 40 13.6 +0.8
7.2nm,0.9s
324A Moseley Ranch, 90.41 55 ⇑P P 02 40 13.6 +0.5
baz=91,SNR=6.8
425A Indio Mountain 90.47 56 ⇓P P 02 40 14.6 +1.3
baz=91
Y22A Socorro 90.52 53 ⇓P P 02 40 14.5 +1.0
baz=91
626A Big Bend Ranch 90.54 58 ⇑P P 02 40 14.6 +1.0
baz=91,SNR=8.5
HLID Hailey 90.58 41 *e*P P 02 40 14.3 +0.8
23nm,2.2s
HLID Hailey 90.58 41 ⇑P P 02 40 13.8 +0.3
baz=91
HVU Hansel Valley 90.61 44 *e*P P 02 40 14.5 +0.8
7.6nm,0.8s
LAZ Ladron 90.62 52 *e*P P 02 40 14.3 +0.3
1.3nm,0.8s
SRU San Rafael 90.65 47 *e*P P 02 40 14.9 +0.9
8.0nm,0.8s
224A Cornudas Mount 90.68 55 ⇑P P 02 40 15.4 +1.2
baz=91
Z23A Rita Site, Whi 90.72 54 ⇓P P 02 40 15.5 +1.1
baz=91
325A Bean Ranch, Si 90.76 56 ⇑P P 02 40 15.5 +0.8
baz=91
HHC Hu-ho-hao-te 90.77 315 *e*P P 02 40 04.9 -10
HHC pP pP 02 42 25.8 +17
HHC sP sP 02 43 30.0 +29
HHC PP PP 02 43 47.8 -12
HHC SKS SKSac 02 49 31.4 -25
HHC S SKKSac 02 49 53.4 -20
HHC sS sS 02 54 02.5 +11
HHC SS SS 02 56 07.6 -38
HHC AMB AMB
comp=Z,28nm,0.9s
TXAR Lajitas Array 90.80 58 P P 02 40 15.8 +1.0
TXAR Lajitas Array 90.80 58 P P 02 40 15.8 +1.0
4.8nm,0.8s,baz=208,slow=6.6,SNR=70
526A Mary Lane Ranc 90.81 57 ⇓P P 02 40 16.0 +1.1
baz=91,SNR=7.9
124A Stringfield Ra 91.03 54 ⇑P P 02 40 17.2 +1.2
baz=91
627A Terlingua Ranc 91.07 58 ⇑P P 02 40 17.1 +1.0
baz=91,SNR=8.5
426A McDonald Obser 91.14 57 ⇓P P 02 40 17.4 +0.9
baz=91
Y23A Lovelace Mesa, 91.17 53 ⇑P P 02 40 17.0 +0.4
baz=91
225A Deer Hill, Car 91.22 55 ⇓P P 02 40 18.0 +1.2
baz=91
527A Woodward Ranch 91.22 57 ⇑P P 02 40 17.4 +0.6
baz=91,SNR=5.0
U21A Nageezi 91.25 50 ⇓P P 02 40 17.8 +0.9
baz=92
CD2 Chengdu 91.33 303 P P 02 40 08.8 -8.4
CD2 AMB AMB
comp=Z,20nm,0.5s
ANMO Albuquerque 91.37 52 *e*P P 02 40 17.8 +0.3
16nm,1.9s
S20A Disappointment 91.46 49 ⇓P P 02 40 18.2 +0.3
baz=92
628A Black Gap, Mar 91.47 58 ⇑P P 02 40 18.6 +0.7
baz=92,SNR=8.3
V22A San Miguel Ran 91.52 51 ⇑P P 02 40 18.9 +0.7
baz=92
125A Gardner Draw, 91.60 55 ⇓P P 02 40 19.3 +0.8
baz=92
Y24A Capitan 91.62 53 ⇑P P 02 40 19.3 +0.7
baz=92,SNR=9.3
226B Tecolote Peak, 91.69 55 ⇓P P 02 40 19.7 +0.8
baz=92
427A Hayter Ranch, 91.70 57 ⇑P P 02 40 20.0 +1.0
baz=92,SNR=9.4
Z25A Roswell 91.85 54 ⇑P P 02 40 20.5 +0.9
baz=92
528A Cox Ranch, San 91.86 58 ⇓P P 02 40 20.6 +0.9
baz=92
V23A Ortiz Mt. (NFS 91.95 51 ⇓P P 02 40 21.1 +1.0
baz=92
Q20A Ridgley Place, 92.06 48 ⇑P P 02 40 20.9 +0.4
baz=92
Y25A Mesa, Roswell 92.17 54 ⇓P P 02 40 22.0 +0.9
baz=92
428A Kincaid Ranch, 92.20 57 ⇑P P 02 40 22.2 +1.0
baz=92
W24A Lazy 6 Ranch, 92.25 52 ⇑P P 02 40 22.0 +0.5
baz=92
P20A De Beque 92.27 47 ⇓P P 02 40 21.9 +0.4
baz=92
R21A Cimarron 92.28 49 ⇑P P 02 40 22.2 +0.6
baz=92
529A Stev Forest Ra 92.28 58 ⇑P P 02 40 22.1 +0.5
baz=92
Z26A Caprock 92.39 54 ⇓P P 02 40 22.7 +0.6
baz=93
328A Wristen Ranch, 92.40 57 ⇑P P 02 40 22.6 +0.5
baz=93
S22A 4UR Ranch, Cre 92.47 49 ⇓P P 02 40 23.0 +0.4
baz=93
ILAR Eielson Array 92.61 14 P P 02 40 20.9 -1.3
ILAR Eielson Array 92.61 14 P P 02 40 20.9 -1.3
0.9nm,0.6s,baz=221,slow=5.7,SNR=12
REDW Red Top Meadow 92.65 43 *e*P P 02 40 23.6 +0.4
22nm,1.8s
R22A Saguache, Gunn 92.75 49 ⇑P P 02 40 24.8 +0.9
baz=93
429A Davenport Ranc 92.76 58 ⇑P P 02 40 24.2 +0.4
baz=93,SNR=12
W25A X Bar L Ranch, 92.94 53 ⇑P P 02 40 24.8 +0.2
baz=93
Q22A Crested Butte, 92.96 48 ⇑P P 02 40 25.4 +0.6
baz=93
N20A Spence Gulch, 93.02 46 ⇑P P 02 40 25.4 +0.4
baz=93
SMCO Snowmass 93.07 48 *e*P P 02 40 25.7 +0.3
2.6nm,0.7s
329A Wagon Wheel Ra 93.08 57 ⇑P P 02 40 26.5 +1.3
baz=93
V25A Rancho No Teng 93.12 52 ⇑P P 02 40 26.0 +0.5
baz=93
T24B San Luis 93.15 51 ⇑P P 02 40 26.2 +0.4
baz=93
PDAR Pinedale Array 93.16 44 P P 02 40 25.3 -0.2
PDAR Pinedale Array 93.16 44 P P 02 40 25.3 -0.2
1.4nm,0.7s,baz=218,slow=3.0,SNR=12
128A Castleberry Fa 93.21 56 ⇑P P 02 40 26.9 +1.0
baz=93
631A Perdido Creek 93.24 59 ⇑P P 02 40 26.2 +0.3
baz=93,SNR=8.0
SDCO Great Sand Dun 93.39 50 *e*P P 02 40 26.7 -0.1
5.0nm,1.4s
S24A Houchin Ranch, 93.54 50 ⇑P P 02 40 28.2 +0.7
baz=94
531A Rocksprings 93.60 59 ⇑P P 02 40 28.3 +0.7
baz=94
330A Mertzon 93.66 57 ⇑P P 02 40 27.6 -0.3
baz=94
LZH Lanzhou 93.67 308 *e*P P 02 40 18.0 -10
LZH pP pP 02 42 33.3 +10
LZH sP sP 02 43 38.4 +23
LZH AMB AMB
comp=Z,16nm,1.0s
V26A Tequesquite Ra 93.70 52 ⇑P P 02 40 28.3 +0.3
baz=94
O22A Kremmling 93.83 47 ⇑P P 02 40 29.0 +0.2
baz=94
T25A Trinidad 93.87 51 ⇑P P 02 40 29.7 +0.8
baz=94
R24A Sanders Place, 93.89 50 ⇓P P 02 40 29.7 +0.7
baz=94
632A Uvalde 93.90 59 ⇑P P 02 40 30.2 +1.3
baz=94
U26A Atchley Ranch, 94.00 52 ⇑P P 02 40 29.7 +0.2
baz=94
532A Rocksprings 94.08 59 ⇑P P 02 40 30.3 +0.5
baz=94
432A Menard 94.49 58 ⇑P P 02 40 31.3 -0.4
baz=95
231A Bronte 94.55 57 ⇓P P 02 40 31.7 -0.2
baz=95
332A Millersview 94.75 58 ⇑P P 02 40 33.3 +0.5
baz=95
R26A Arlington 95.09 50 ⇓P P 02 40 34.5 +0.3
baz=95
P25A Willow Gulch B 95.14 49 ⇑P P 02 40 34.8 +0.2
baz=95
MK31 Makanchi Array 112.49 313 *e*PKP **PKiKP** 02 45 42.5 -1.2
MKAR Makanchi Array 112.49 313 PKiKP **PKiKP** 02 45 42.6 -1.2
MKAR PKKPbc **PKKPbc** 02 56 34.0 -1.4
MKAR PKKPab **PKKPab** 02 56 44.3 +0.8
MKAR Makanchi Array 112.49 313 PKiKP **PKiKP** 02 45 42.6 -1.2
0.5nm,0.7s,baz=214,slow=0.2,SNR=5.0
MKAR PKKPbc **PKKPbc** 02 56 34.0 -1.4
0.4nm,0.7s,baz=318,slow=1.6,SNR=3.9
MKAR PKKPab **PKKPab** 02 56 44.3 +0.8
0.6nm,0.8s,baz=336,slow=2.7,SNR=4.2
KURK Kurchatov 115.57 316 PKP **PKPdf** 02 45 48.4 -1.1
KURBB Kurchatov Arra 115.61 316 PKP **PKPdf** 02 45 48.4 -1.2
0.9nm,0.5s,baz=110,slow=2.1,SNR=10
TKM2 Tokmak 2 116.43 307 *e*PKP **PKPdf** 02 45 50.5 -1.2
AAK Ala-Archa 117.19 307 *e*PKP **PKPdf** 02 45 52.5 -0.6
EKS2 Erkin-Say 117.71 307 *e*PKPdf **PKPdf** 02 45 53.8 -0.2
KBL Kabul 120.04 297 *e*PKPdf **PKPdf** 02 45 58.7 -0.2
BVAR Borovoye Array 120.82 318 PKP **PKPdf** 02 45 58.9 -0.7
BVAR Borovoye Array 120.82 318 PKP **PKPdf** 02 45 58.9 -0.7
1.6nm,0.6s,baz=80,slow=3.3,SNR=7.0
BRVK Borovoye 120.89 319 *e*PKPdf **PKPdf** 02 45 58.5 -1.1
FRB Frobisher Bay 121.19 29 PKP **PKPdf** 02 45 59.5 -0.3
FRB Frobisher Bay 121.19 29 PKP **PKPdf** 02 45 59.5 -0.3
8.4nm,1.0s,baz=333,slow=4.5,SNR=2.4
BOSA Boshof 121.85 206 PKP **PKPdf** 02 46 03.0 +0.5
BOSA Boshof 121.85 206 PKP **PKPdf** 02 46 03.0 +0.5
3.0nm,1.0s,baz=162,slow=3.2,SNR=2.2
SPITS Spitsbergen Ar 125.69 356 PKP **PKPdf** 02 46 08.1 -0.2
SPITS Spitsbergen Ar 125.69 356 PKP **PKPdf** 02 46 08.1 -0.2
3.0nm,0.5s,baz=134,slow=9.4,SNR=4.4
AKTO Aktyubinsk 128.66 316 PKP **PKPdf** 02 46 12.7 -1.9
AKTO Aktyubinsk 128.66 316 PKP **PKPdf** 02 46 12.7 -1.9
1.3nm,0.7s,baz=75,slow=2.8,SNR=5.6
ARCES ARCESS Array B 132.44 348 PKPpre PKPpre 02 46 17.7
ARCES PKP **PKPdf** 02 46 20.4 -0.8
ARCES SKPbc **SKPbc** 02 48 59.3 -0.3
ARCES ARCESS Array B 132.44 348 PKhKP PKPpre 02 46 17.7
2.0nm,0.7s,baz=54,slow=1.7,SNR=11
ARCES PKP **PKPdf** 02 46 20.4 -0.8
2.0nm,0.7s,baz=88,slow=2.9,SNR=13
ARCES SKPbc **SKPbc** 02 48 59.3 -0.3
1.7nm,0.6s,baz=46,slow=3.9,SNR=11
RCBR Riachuelo 133.91 126 *e*PKPdf **PKPdf** 02 46 27.0 +1.3
FINES FINESS Array B 138.97 341 PKPpre PKPpre 02 46 23.6
FINES PKP **PKPdf** 02 46 33.8 +0.3
FINES SKPbc **SKPbc** 02 49 19.4 -0.3
FINES FINESS Array B 138.97 341 PKhKP PKPpre 02 46 23.6
2.2nm,0.9s,baz=48,slow=3.1,SNR=10
FINES PKP **PKPdf** 02 46 33.8 +0.3
2.9nm,0.7s,baz=54,slow=3.3,SNR=6.4
FINES SKPbc **SKPbc** 02 49 19.4 -0.3
5.4nm,0.7s,baz=45,slow=2.4,SNR=11
NB2 NORSAR Subarra 142.64 351 PKP PKPpre 02 46 36.6
comp=Z,1.8nm,0.8s,baz=14,slow=3.0
NOA NORSAR Array B 142.64 351 PKP PKPpre 02 46 36.6
NOA NORSAR Array B 142.64 351 PKhKP PKPpre 02 46 36.6
comp=Z,3.1nm,0.9s,baz=16,slow=4.7,SNR=7.0
NAO01 NORSAR Array S 142.87 351 *e*PKPdf PKPpre 02 46 37.0
HFS Hagfors 143.10 349 PKP PKPab 02 46 38.0 -0.6
HFS Hagfors 143.10 349 PKP PKPab 02 46 38.0 -0.6
comp=Z,13nm,0.4s,baz=66,slow=3.6,SNR=107
AKASG Malin Array Be 145.41 327 PKP **PKPdf** 02 46 42.5 -2.8
AKASG PKPbc **PKPbc** 02 46 45.5 -0.9
AKASG SKPbc **SKiKP** 02 49 36.2 -0.1
AKASG Malin Array Be 145.41 327 PKP **PKPdf** 02 46 42.5 -2.8
comp=Z,2.6nm,0.5s,baz=45,slow=3.9,SNR=23
AKASG PKPbc **PKPbc** 02 46 45.5 -0.9
comp=Z,2.6nm,0.5s,baz=44,slow=3.9,SNR=22
AKASG SKPbc **SKiKP** 02 49 36.2 -0.1
comp=Z,1.3nm,0.6s,baz=44,slow=2.0,SNR=6.4
AKBB Malin Array Si 145.41 327 *e*PKPdf **PKPdf** 02 46 45.7 +0.5
AK01 Malin Array Si 145.43 327 *e*PKPdf **PKPdf** 02 46 45.3 +0.1
KIEV Kiev 145.43 327 *e*PKPdf **PKPdf** 02 46 45.0 -0.3
AK02 Malin Array Si 145.45 327 *e*PKPdf **PKPdf** 02 46 45.4 +0.1
SUW Suwalki 145.76 336 *e*PKP **PKPbc** 02 46 46.9 -0.4
BR131 Keskin Array S 147.86 306 *e*PKPbc **PKPbc** 02 46 52.9 -0.7
BRTR Keskin Array B 147.86 306 PKP **PKPdf** 02 46 49.1 -0.8
BRTR PKPbc **PKPbc** 02 46 53.2 -0.4
BRTR Keskin Array B 147.86 306 PKP **PKPdf** 02 46 49.1 -0.8
comp=Z,1.8nm,0.7s,baz=203,slow=6.0,SNR=3.7
BRTR PKPbc **PKPbc** 02 46 53.2 -0.4
comp=Z,1.9nm,0.7s,baz=128,slow=3.7,SNR=13
EKA Eskdalemuir Ar 149.10 3 PKP **PKPdf** 02 46 49.9 -1.2
EKA PKPbc **PKPbc** 02 46 55.3 -0.7
EKA Eskdalemuir Ar 149.10 3 PKP **PKPdf** 02 46 49.9 -1.2
comp=Z,0.6nm,0.6s,baz=351,slow=3.1,SNR=2.7
EKA PKPbc **PKPbc** 02 46 55.3 -0.7
comp=Z,1.6nm,0.4s,baz=357,slow=3.2,SNR=23
KWP Kalwaria Pacla 149.23 331 *e*PKPbc **PKPbc** 02 46 56.6 +0.1
KWP Kalwaria Pacla 149.23 331 *e*PKP **PKPbc** 02 46 56.6 +0.1
CSS Prodhromos 149.29 298 *e*PKPbc **PKPbc** 02 46 56.7 -0.5
BUR08 Bucovina Ar. S 149.39 325 *e*PKPbc **PKPbc** 02 46 57.6 +0.5
OJC Ojcow 150.02 334 *e*PKPdf **PKPbc** 02 46 58.4 0.0
MLR Muntele Rosu 150.32 321 PKPbc **PKPbc** 02 46 57.8 -1.6
MLR Muntele Rosu 150.32 321 PKPbc **PKPbc** 02 46 57.8 -1.6
comp=Z,0.6nm,0.5s,baz=295,slow=1.3,SNR=6.1
NIE Niedzica 150.43 333 *e*PKPdf **PKPbc** 02 46 59.8 +0.4
KSP Ksiaz 150.80 339 *e*PKP **PKPbc** 02 47 00.5 +0.4

UPC	**Upice**	**151.18**	**338**⇑	*i*PKP	**PKPbc**	**02 47 01.2**	**+0.2**
UPC				*e*PKPAB	**PKPab**	**02 47 11.8**	**+0.6**
DPC	**Dobruska-Polom**	**151.21**	**338**⇑	*i*PKP	**PKPbc**	**02 47 00.9**	**-0.3**
MORC	**Moravsky Berou**	**151.25**	**336**	*e*PKPbc	**PKPbc**	**02 47 00.6**	**-0.7**
CLL	**Collm**	**151.38**	**343**⇑	*i*PKPbc	**PKPbc**	**02 47 01.4**	**0.0**
	comp=Z,14nm,0.7s						
BRG	**Berggiesshubel**	**151.51**	**341**	*i* P	**PKPbc**	**02 47 01.8**	**+0.1**
	comp=Z,9.1nm,0.6s						
PVCC	**Panska Ves**	**151.62**	**340**⇑	*i*PKP	**PKPbc**	**02 47 02.3**	**+0.3**
VRAC	**Vranov**	**151.98**	**336**	PKPbc	**PKPbc**	**02 47 01.1**	**-1.8**
VRAC	**Vranov**	**151.98**	**336**	PKPbc	**PKPbc**	**02 47 01.1**	**-1.8**
	comp=Z,1.4nm,0.5s,baz=188,slow=9.1,SNR=3.1						
PRU	**Pruhonice**	**152.10**	**340**⇑	*i*PKP	**PKPbc**	**02 47 03.1**	**0.0**
KHC	**Kasperske Hory**	**153.16**	**340**⇑	*i*PKP	**PKPbc**	**02 47 05.5**	**0.0**
GERES	**GERESS Array B**	**153.37**	**339**	PKPbc	**PKPbc**	**02 47 05.1**	**-0.9**
GERES	**GERESS Array B**	**153.37**	**339**	PKPbc	**PKPbc**	**02 47 05.1**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=45,slow=2.1,SNR=6.9						
DAVOX	**Davos/Dischmat**	**156.36**	**343**	PKPab	**PKPab**	**02 47 33.6**	**-0.1**
DAVOX	**Davos/Dischmat**	**156.36**	**343**	PKPab	**PKPab**	**02 47 33.6**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=346,slow=8.3,SNR=3.6						
ESDC	**Sonseca Array**	**164.50**	**11**	PKPab	**PKPab**	**02 48 08.4**	**-0.9**
ESDC	**Sonseca Array**	**164.50**	**11**	PKPab	**PKPab**	**02 48 08.4**	**-0.9**
	comp=Z,3.4nm,1.1s,baz=332,slow=2.3,SNR=6.2						
TORD	**Torodi Ar. Bea**	**168.60**	**189**	PKP	**PKPdf**	**02 47 13.8**	**-0.9**
TORD				PKPab	**PKPab**	**02 48 27.8**	**-0.1**
TORD	**Torodi Ar. Bea**	**168.60**	**189**	PKP	**PKPdf**	**02 47 13.8**	**-0.9**
	comp=Z,1.1nm,0.9s,baz=48,slow=0.8,SNR=6.7						
TORD				PKPab	**PKPab**	**02 48 27.8**	**-0.1**
	comp=Z,1.8nm,0.9s,baz=177,slow=3.7,SNR=9.7						

TRN 23 02:29:01.6, 14.80N×60.91W, h146km, MD3.5, M3.3 (FDF), 2C-5D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPMF	**Morne Lapointe**	**0.23**	**195**⇓	*e*P	Pn	02 29 22.4	+0.9
BAMF	**Morne Balai**	**0.23**	**274**⇓	*i*P	Pn	02 29 22.5	+1.0
FDF	**Fort de France**	**0.25**	**254**	*e*P	Pn	02 29 22.5	+1.0
FDF				*e*S	Sn	02 29 36.0	-0.6
GBMF	**Grand Be**	**0.25**	**269**	*e*P	Pn	02 29 22.5	+0.9
CXM	**Morne La Croix**	**0.25**	**272**	*e*P	Pn	02 29 22.6	+0.9
SVN	**Savane Anatole**	**0.26**	**279**	*e*P	Pn	02 29 22.5	+0.9
ZAM	**Aeronautique**	**0.26**	**208**⇓	*e*P	Pn	02 29 22.3	+0.8
PML	**Morne Lenard**	**0.27**	**266**	*e*P	Pn	02 29 22.4	+0.8
PCM	**Pelee Case Pet**	**0.29**	**273**⇑	*e*P	Pn	02 29 22.2	+0.5
TRMF	**Trois Ilets**	**0.30**	**208**⇓	*e*P	Pn	02 29 22.7	+1.0
SLB	**Belfond**	**0.98**	**188**	*e*P	Pn	02 29 27.8	+1.9
SLB				*e*S	Sn	02 29 46.2	+1.8
MCLT	**Moule a Chique**	**1.08**	**182**	*e*P	Pn	02 29 29.5	+2.7
MCLT				*e*S	Sn	02 29 45.8	-0.2
HMG	**Houelmont**	**1.40**	**327**	*e*P	Pn	02 29 30.4	+0.5
SCG	**Saint Claude**	**1.43**	**329**	*e*P	Pn	02 29 31.2	+1.0
SCG				*e*S	Sn	02 29 52.6	+0.5
TAG	**Tarade**	**1.43**	**329**	*e*P	Pn	02 29 31.5	+1.2
BCG	**Bois Riant Cap**	**1.45**	**332**	*e*P	Pn	02 29 31.3	+0.9
FNG	**Fond-Bernard**	**1.46**	**329**⇑	*i*P	Pn	02 29 31.5	+0.9
MLG	**Mont-d'or**	**1.47**	**328**	*e*P	Pn	02 29 31.8	+1.2
SVV	**Soufriere Volc**	**1.50**	**192**	*e*P	Pn	02 29 32.9	+1.9
SVV				*e*S	Sn	02 29 54.3	+0.8
DEG	**La Desirade**	**1.51**	**354**	*e*P	Pn	02 29 31.9	+0.8
DEG				*e*S	Sn	02 29 52.4	-1.3
SVB	**Belmont**	**1.56**	**192**	*e*P	Pn	02 29 33.1	+1.5
SVB				*e*S	Sn	02 29 54.7	+0.3
LZG	**Guadaloupe-1**	**1.57**	**328**	*e*P	Pn	02 29 32.6	+0.9

*ISCJB **23** 02:34:49.6±0.8, 37.25N×0.06×71.95E±0.09, h200km, mb3.0/2, Error ellipse: s-maj=10.6km s-min=6.8km az=147.1*
*IDC **23** 02:34:50.8±5.9, 37.30N×71.99E, h201km±48km, mb2.8/2, mb1 3.1/8, mb1mx3.0/32, mbtmp3.1/8, Error ellipse: s-maj=56.7km s-min=25.1km az=168.0*
*NNC **23** 02:35:00.1±8.9, 38.11N×72.32E, h236km±71km, mb2.9, mpv4.2, Error ellipse: s-maj=86.4km s-min=45.5km az=14.0*

ISC 23 02:34:50.4±1.1, 37.33N±0.08×71.9E±0.1, h200km, n22, σ1°91/26, 7C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.99**	**15**	P	**Pn**	**02 36 06.8**	**+1.9**
	SNR=25						
KZA	**Kyzart**	**5.40**	**27**	P	**Pn**	**02 36 10.9**	**+0.7**
	SNR=17						
EKS2	**Erkin-Say**	**5.52**	**15**	P	**Pn**	**02 36 14.1**	**+2.6**
	SNR=6.4						
AAK	**Ala-Archa**	**5.66**	**20**	P	**Pn**	**02 36 15.2**	**+1.9**
	SNR=18						
AAK	**Ala-Archa**	**5.66**	**20**	P	**Pn**	**02 36 15.2**	**+1.9**
	3.5nm,0.3s,baz=181,slow=5.4,SNR=58						
AAK				S	**Sn**	**02 37 18.8**	**-0.2**
	14nm,0.3s,baz=286,slow=23,SNR=23						
THN	**Thein Dam**	**5.80**	**146**	*e*S	**Sn**	**02 37 20.0**	**-1.9**
KBK	**Karagaybulak**	**5.81**	**23**	P	**Pn**	**02 36 17.4**	**+2.1**
	SNR=9.7						
KK31	**Karatay Array**	**5.87**	**350**	⇑P	**Pn**	**02 36 18.2**	**+2.3**
	11nm,0.6s,baz=158,slow=11,SNR=115						
KK31				⇑S	**Sn**	**02 37 20.3**	**-3.3**
	30nm,0.4s,baz=180,slow=25,SNR=6.6						
ULHL	**Ulahol**	**5.94**	**33**	P	**Pn**	**02 36 17.7**	**+0.7**
	SNR=16						
TKM2	**Tokmak 2**	**6.26**	**26**	⇑P	**Pn**	**02 36 21.8**	**+0.7**
	26nm,0.6s						
TKM2				⇑S	Sn	02 37 23.8	-9.3
	9.6nm,0.6s						
TKM2	**Tokmak 2**	**6.26**	**26**	P	**Pn**	**02 36 22.4**	**+1.2**
	SNR=55						
MK31	**Makanchi Array**	**12.20**	**36**	P	**Pn**	**02 37 36.5**	**-1.1**
	1.4nm,0.5s,baz=218,slow=8.4,SNR=17						
MKAR	**Makanchi Array**	**12.20**	**36**	P	**Pn**	**02 37 37.2**	**-0.4**
	0.3nm,0.3s,baz=215,slow=12,SNR=14						
KURBB	**Kurchatov Arra**	**14.11**	**18**	⇑P	**Pn**	**02 37 59.4**	**-2.1**
	2.2nm,0.5s						
KURBB	**Kurchatov Arra**	**14.11**	**18**	P	**Pn**	**02 38 00.9**	**-0.6**
	0.5nm,0.3s,baz=203,slow=11,SNR=15						
AB31	**Akbulak array**	**14.74**	**328**	P	**P**	**02 38 11.5**	**+1.3**
	1.0nm,0.7s,baz=141,slow=12,SNR=14						
AB31				⇓S	**S**	**02 40 49.9**	**-2.9**
	1.9nm,0.8s,baz=148,slow=22,SNR=4.7						
BVAR	**Borovoye Array**	**15.74**	**357**	P	**Pn**	**02 38 23.4**	**+2.2**
	0.5nm,0.3s,baz=155,slow=11,SNR=5.9						
AKTO	**Aktyubinsk**	**16.45**	**327**	⇑P	**Pn**	**02 38 30.6**	**+0.6**
	1.9nm,0.8s						
AKTO				⇑S	**S**	**02 41 26.9**	**-4.1**
	1.8nm,0.8s						
AKTO	**Aktyubinsk**	**16.45**	**327**	P	**Pn**	**02 38 31.1**	**+1.2**
	0.1nm,0.3s,baz=134,slow=13,SNR=4.2						
ZALV	**Zalesovo Beam**	**18.87**	**24**	P	**P**	**02 38 55.3**	**0.0**
	2.8nm,0.3s,baz=220,slow=11,SNR=48						
SONM	**Songino Array**	**27.27**	**56**	P	**P**	**02 40 16.4**	**+0.2**
	0.3nm,0.8s,baz=263,slow=12,SNR=2.8						
TORD	**Torodi Ar. Bea**	**66.46**	**269**	P	**P**	**02 45 18.7**	**+0.1**
	0.3nm,0.8s,baz=44,slow=5.4,SNR=4.2						

IDC 23 02:37:54.8±5.0, 28.73S×179.79W, h0km, mb3.7/2, mb1 4.2/3, mb1mx3.7/16, mbtmp4.1/3, ML4.8/1, Error ellipse: s-maj=97.3km s-min=49.5km az=73.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**9.85**	**194**	Pn	Pn	02 40 18.3	+0.7
	8.8nm,0.3s,baz=1.0,slow=2.2,SNR=59						
ASAR	**Alice Springs**	**41.66**	**266**	P	P	02 45 44.0	-1.3
	0.4nm,0.6s,baz=105,slow=7.4,SNR=4.7						
WRA	**Warramunga Arr**	**42.49**	**271**	P	P	02 45 52.7	+0.7
	1.0nm,0.4s,baz=112,slow=8.0,SNR=14						
FINES	**FINESS Array B**	**143.04**	**340**	PKP	PKPdf	02 57 28.6	-1.3
	2.0nm,0.5s,baz=38,slow=4.6,SNR=18						

*IDC **23** 03:14:05.0±0.4, 57.67S×25.36W, h0km, mb4.6/17, mb1 4.6/18, mb1mx4.5/22, mbtmp4.6/18, ML4.7/1, MS3.9/16, Ms1 3.9/16, ms1mx3.8/25, Error ellipse: s-maj=19.1km s-min=13.4km az=47.0*
*ISCJB **23** 03:14:06.9±4.5, 57.65S±0.08×25.3W±0.1, h21km±33km, mb4.8/31, MS3.9/14, Error ellipse: s-maj=13.3km s-min=9.6km az=28.0*
*NEIC **23** 03:14:12.3±1.5, 57.70S×25.34W, h52km±13km, mb4.9/20, Error ellipse: s-maj=8.1km s-min=5.9km az=216.0*

ISC 23 03:14:11.4±2.4, 57.72S±0.09×25.36W±0.08, h44km±21km, n116, σ0°69/114, mb4.8/31, MS4.0/14, 1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.86**	**158**	*e*Pn	**Pn**	**03 17 37.9**	**-0.4**
VNA2	**Neumayer--Watz**	**15.26**	**157**	*e*Pn	**Pn**	**03 17 42.1**	**-1.4**
	baz=328,slow=14						
VNA2	**Neumayer--Watz**	**15.26**	**157**	*e*Sn	Sn	03 20 15.2	-16
	baz=328,slow=14						
SNAA	**Sanae**	**16.80**	**155**	*e*Pn	**Pn**	**03 18 02.7**	**-0.4**
SNAA	**Sanae**	**16.80**	**155**	*e*Sn	Sn	03 20 52.9	-16
SNAA	**Sanae**	**16.80**	**155**	*e*Pn	**Pn**	**03 18 02.9**	**-0.2**
	16nm,0.4s						
SNAA				*e*S	Sn	03 20 59.6	-8.8
SNAA	**Sanae**	**16.80**	**155**	Pn	**Pn**	**03 18 02.9**	**-0.2**
	2.6nm,0.3s,baz=322,slow=15,SNR=204						
SNAA				Sn	Sn	03 20 56.1	-12
	0.1nm,0.3s,baz=322,slow=17,SNR=2.9						
SNAA				LR	LR	03 22 57.5	
	comp=Z,184nm,21.6s,baz=22,slow=32						
PMSA	**Palmer Station**	**19.62**	**233**	*e*P	**Pn**	**03 18 37.8**	**+0.4**
	44nm,0.8s						
PMSA	**Palmer Station**	**19.62**	**233**	P	**Pn**	**03 18 38.0**	**+0.6**
	1.5nm,0.3s,baz=87,slow=8.4,SNR=7.7						
PMSA				LR	LR	03 23 57.6	
	comp=Z,189nm,20.3s,baz=71,slow=30						
EFI	**East Falkland**	**19.71**	**274**	*e*P	**Pn**	**03 18 38.3**	**-0.2**
	488nm,1.1s						
USHA	**Ushuaia**	**23.79**	**258**	P	**P**	**03 19 19.8**	**+0.2**
USHA	**Ushuaia**	**23.79**	**258**	P	**P**	**03 19 19.8**	**+0.2**
	18nm,0.7s,baz=69,slow=6.5,SNR=8.0						
USHA				LR	LR	03 26 25.7	
	comp=Z,1µm,19.9s,baz=61,slow=31						
QSPA	**South Pole Qui**	**32.52**	**180**	*e*P	**P**	**03 20 38.1**	**+0.3**
	20nm,0.8s						
QSPA	**South Pole Qui**	**32.52**	**180**	P	**P**	**03 20 38.3**	**+0.6**
	16nm,0.8s						
SPB	**Sao Paulo**	**37.63**	**326**	*e*P	**P**	**03 21 23.9**	**+2.1**
	60nm,1.2s						
MAW	**Mawson**	**38.20**	**142**	*e*P	**P**	**03 21 26.1**	**-0.1**
	0.6nm,0.7s						
MAW				PcP	**PcP**	**03 23 40.0**	**+0.3**
MAW	**Mawson**	**38.20**	**142**	P	**P**	**03 21 25.8**	**-0.4**
	0.7nm,0.4s,baz=214,slow=11,SNR=2.5						
MAW				PcP	**PcP**	**03 23 40.0**	**+0.3**
	1.3nm,0.5s,baz=270,slow=4.9,SNR=3.9						
MAW				LR	LR	03 34 41.1	
	comp=Z,234nm,20.2s,baz=245,slow=32						
CPUP	**Villa Florida**	**38.67**	**310**	*e*P	**P**	**03 21 30.3**	**-0.2**
	20nm,0.5s						
CPUP				*e*PcP	**PcP**	**03 23 41.7**	**-0.1**
CPUP	**Villa Florida**	**38.67**	**310**	P	**P**	**03 21 30.1**	**-0.4**
	3.0nm,0.4s,baz=145,slow=7.0,SNR=15						
CPUP				PcP	**PcP**	**03 23 42.2**	**+0.4**
	3.4nm,0.7s,baz=167,slow=5.8,SNR=4.1						
CPUP				LR	LR	03 36 34.9	
	comp=Z,124nm,18.2s,baz=144,slow=35						
CFAA	**Coronel Fontan**	**39.15**	**293**	P	**P**	**03 21 32.1**	**-2.4**
CFAA				PcP	**PcP**	**03 23 43.3**	**0.0**
CFAA	**Coronel Fontan**	**39.15**	**293**	P	**P**	**03 21 32.1**	**-2.4**
	0.6nm,0.5s,baz=153,slow=7.2,SNR=9.7						
CFAA				PcP	**PcP**	**03 23 43.3**	**0.0**
	0.9nm,0.8s,baz=167,slow=4.6,SNR=8.2						
CFAA				LR	LR	03 35 41.0	
	comp=Z,28nm,21.8s,baz=146,slow=33						
LCO	**Las Campanas**	**42.48**	**293**	*e*P	**P**	**03 22 02.8**	**+0.4**
	50nm,1.5s						
SBA	**Scott Base**	**44.47**	**184**	*e*P	**P**	**03 22 18.9**	**+1.4**
	15nm,0.9s						
VNDA	**Vanda**	**44.94**	**182**	*e*P	**P**	**03 22 22.2**	**+1.0**
	13nm,0.8s						
VNDA	**Vanda**	**44.94**	**182**	P	**P**	**03 22 22.4**	**+1.2**
	14nm,0.8s,baz=187,slow=6.6,SNR=119						
VNDA				LR	LR	03 41 02.3	
	comp=Z,53nm,20.3s,baz=167,slow=36						
BOSA	**Boshof**	**45.46**	**72**	*e*P	**P**	**03 22 25.9**	**-0.2**
	24nm,1.5s						
BOSA	**Boshof**	**45.46**	**72**	P	**P**	**03 22 26.2**	**+0.2**
	2.6nm,0.8s,baz=218,slow=8.7,SNR=4.3						
BOSA				LR	LR	03 37 11.6	
	comp=Z,350nm,21.9s,baz=166,slow=30						
LVC	**Limon Verde**	**47.01**	**299**	*e*P	**P**	**03 22 37.9**	**-0.5**
	11nm,0.7s						
LVC				*e*PcP	**PcP**	**03 24 10.3**	**+0.3**
LBTB	**Lobatse**	**48.58**	**70**	*e*P	**P**	**03 22 51.0**	**+0.6**
	5.9nm,0.9s						
H10S2	**ASCENSION HYDR**	**49.35**	**14**	T	T	04 16 43.5	
	baz=190						
H10S3	**ASCENSION HYDR**	**49.35**	**14**	T	T	04 16 44.0	
	baz=190,slow=0.7						
H10S1	**ASCENSION HYDR**	**49.37**	**14**	T	T	04 16 45.0	
	baz=190,slow=0.7						
SIV	**San Ignacio**	**49.45**	**312**	P	**P**	**03 22 56.8**	**-0.3**
SIV				PcP	**PcP**	**03 24 19.5**	**+0.8**
SIV	**San Ignacio**	**49.45**	**312**	P	**P**	**03 22 56.8**	**-0.3**
	9.7nm,0.6s,baz=182,slow=8.6,SNR=23						
SIV				PcP	**PcP**	**03 24 19.5**	**+0.8**
	7.4nm,0.8s,baz=146,slow=5.5,SNR=7.2						
SIV				LR	LR	03 40 13.1	
	comp=Z,98nm,19.6s,slow=32						
ASCN	**Ascension**	**50.40**	**14**	*e*P	**P**	**03 23 03.0**	**-1.2**
	196nm,1.2s						
H10N1	**ASCENSION HYDR**	**50.47**	**14**	T	T	04 18 07.3	
	baz=195,slow=0.6,SNR=24						
H10N3	**ASCENSION HYDR**	**50.47**	**14**	T	T	04 18 07.7	
	baz=195,slow=0.6,SNR=88						
H10N2	**ASCENSION HYDR**	**50.48**	**14**	T	T	04 18 12.6	
	baz=195,slow=0.6,SNR=81						
LPAZ	**La Paz**	**52.16**	**304**	*e*P	**P**	**03 23 17.1**	**-0.9**
	6.6nm,0.4s						
LPAZ	**La Paz**	**52.16**	**304**	P	**P**	**03 23 18.1**	**0.0**
	6.9nm,0.4s,baz=160,slow=6.1,SNR=35						
LPAZ				LR	LR	03 45 55.0	
	comp=Z,90nm,20.4s,baz=99,slow=37						
SAML	**Samuel**	**56.69**	**314**	*e*P	**P**	**03 23 49.8**	**-0.5**
	41nm,0.8s						
LSZ	**Lusaka**	**58.09**	**66**	*e*P	**P**	**03 24 00.2**	**0.0**
	11nm,1.2s						
ATAH	**Atahualpa**	**64.89**	**299**	P	**P**	**03 24 47.0**	**+0.5**
ATAH	**Atahualpa**	**64.89**	**299**	P	**P**	**03 24 47.0**	**+0.5**
	6.5nm,0.9s,baz=90,slow=1.0,SNR=2.6						
LIC	**Lamto**	**65.84**	**22**	*e*P	**P**	**03 24 52.3**	**+0.2**
	16nm,0.6s						
KIC	**Kosan Boka**	**66.03**	**23**	*e*P	**P**	**03 24 53.4**	**+0.1**
	14nm,0.9s						
TIC	**Toumodi**	**66.25**	**22**	*e*P	**P**	**03 24 54.7**	**0.0**
	34nm,1.1s						
DBIC	**Dimbokro**	**66.31**	**22**	*e*P	**P**	**03 24 55.2**	**+0.1**
	5.5nm,0.7s						
DBIC	**Dimbokro**	**66.31**	**22**	P	**P**	**03 24 54.8**	**-0.2**
	4.0nm,0.6s,baz=192,slow=8.8,SNR=9.8						
DBIC				LR	LR	03 47 50.6	
	comp=Z,86nm,21.0s,baz=146,slow=31						
OTAV	**Otavalo**	**71.41**	**302**	*e*P	**P**	**03 25 28.1**	**+0.6**
	9.4nm,0.8s						
ROSC	**El Rosal**	**73.74**	**308**	*e*P	**P**	**03 25 41.2**	**+0.1**
ROSC	**El Rosal**	**73.74**	**308**	P	**P**	**03 25 41.0**	**-0.2**
	7.2nm,0.7s,baz=110,slow=5.1,SNR=7.5						
ROSC				LR	LR	04 01 30.3	
	comp=Z,55nm,19.2s,baz=16,slow=39						
TOA0	**Torodi Ar. Sit**	**74.05**	**27**	*e*P	**P**	**03 25 42.6**	**+0.2**
TORD	**Torodi Ar. Bea**	**74.05**	**27**	P	**P**	**03 25 43.1**	**+0.7**
TORD	**Torodi Ar. Bea**	**74.05**	**27**	P	**P**	**03 25 43.1**	**+0.7**
	9.7nm,0.8s,baz=196,slow=6.4,SNR=46						
TORD				LR	LR	03 51 12.5	
	comp=Z,208nm,21.2s,baz=185,slow=30						
RPZ	**Rata Peaks**	**78.00**	**192**	LR	LR	03 56 59.2	
	comp=Z,129nm,20.5s,baz=4.3,slow=33						
BCIP	**Isla Baltra Col**	**79.97**	**305**	*e*P	**P**	**03 26 15.7**	**0.0**
	9.6nm,0.8s						
JTS	**JuntasAbangare**	**83.25**	**301**	*e*P	**P**	**03 26 33.3**	**+0.3**
	76nm,0.9s						
JTS	**JuntasAbangare**	**83.25**	**301**	P	**P**	**03 26 33.4**	**+0.3**
	2.0nm,0.4s,baz=233,slow=10,SNR=2.8						
TAM	**Tamanrasset**	**84.26**	**28**	*e*P	**P**	**03 26 40.0**	**+1.8**
	8.9nm,1.6s						
H08N3	**Diego Garcia H**	**88.07**	**99**	T	T	05 05 54.1	
	baz=217,slow=0.7,SNR=2.9						
H08N1	**Diego Carcia H**	**88.08**	**99**	T	T	05 05 56.8	
	baz=217,slow=0.7,SNR=3.2						
H08N2	**Diego Garcia H**	**88.09**	**99**	T	T	05 06 00.8	
	baz=217,slow=0.7,SNR=3.9						
APG	**El Apazote**	**89.93**	**299**	P	**P**	**03 27 04.7**	**-1.2**
APG	**El Apazote**	**89.93**	**299**	P	**P**	**03 27 04.7**	**-1.2**
	6.7nm,0.8s,baz=141,slow=8.1,SNR=14						
STKA	**Stephens Creek**	**90.07**	**169**	P	**P**	**03 27 06.2**	**0.0**

*IDC **23** 03:14:28.6±1.0, 19.48N×65.55W, h0km, mb3.9/9, mb1 4.2/10, mb1mx3.9/26, mbtmp4.0/10, ML3.0/1, Error ellipse: s-maj=24.4km s-min=22.2km az=46.0*
*RSPR **23** 03:14:32.0, 19.41N×65.51W, h35km±16km, MD4.0/9*
*BJI **23** 03:14:32.0, 19.40N×65.50W, h35km, Ms4.9/2, Ms7 4.8/1*
*NEIC **23** 03:14:32.0, 19.41N×65.51W, h35km, mb4.4/2, MD4.0(RSPR), After RSPR.*

ISC 23 03:14:33.2±0.9, 19.34N±0.08×65.59W±0.04, h36km±2km, n72, σ1°30/89, mb4.0/10, 22C-10D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.09**	**193**⇑	*e*P	**Pn**	**03 14 50.5**	**-1.5**
CBYP	**Canovanas**	**1.09**	**193**⇑	*e*P	**Pn**	**03 14 50.5**	**-1.5**
CBYP				*e*S	**Sn**	**03 15 05.2**	**-0.7**
STVI	**Saint Thomas**	**1.16**	**148**	*e*Pn	**Pn**	**03 14 52.3**	**-0.5**
STVI				*e*Sn	**Sn**	**03 15 06.4**	**-0.9**
HUMP	**Col San Antoni**	**1.22**	**192**⇓	*e*P	**Pn**	**03 14 52.2**	**-1.4**
HUMP	**Col San Antoni**	**1.22**	**192**⇓	*e*P	**Pn**	**03 14 52.2**	**-1.4**
HUMP				*e*S	**Sn**	**03 15 08.3**	**-0.6**
MTP	**Monte Pirata**	**1.24**	**178**⇓	*e*P	**Pn**	**03 14 53.0**	**-0.9**
MTP	**Monte Pirata**	**1.24**	**178**⇓	*e*P	**Pn**	**03 14 53.0**	**-0.9**
MTP				*e*S	**Sn**	**03 15 08.3**	**-1.0**
SJG	**San Juan**	**1.33**	**203**⇓	*e*P	**Pn**	**03 14 54.1**	**-1.1**
SJG				*e*S	**Sn**	**03 15 11.8**	**+0.2**
SJG	**San Juan**	**1.33**	**203**⇓	*e*P	**Pn**	**03 14 54.1**	**-1.1**
SJG				*e*S	**Sn**	**03 15 11.8**	**+0.2**
CPD	**Cerro la Pandu**	**1.33**	**193**⇑	*e*P	**Pn**	**03 14 54.1**	**-1.1**
CPD	**Cerro la Pandu**	**1.33**	**193**⇑	*e*P	**Pn**	**03 14 54.1**	**-1.1**
CPD				*e*S	**Sn**	**03 15 11.4**	**-0.3**
AOPR	**Arecibo Observ**	**1.48**	**228**⇑	*e*P	**Pn**	**03 14 56.4**	**-0.9**
AOPR	**Arecibo Observ**	**1.48**	**228**⇑	*e*P	**Pn**	**03 14 56.4**	**-0.9**
AOPR				*e*S	**Sn**	**03 15 15.2**	**-0.1**
CELP	**Cerrillos**	**1.57**	**217**⇑	*e*P	**Pn**	**03 14 57.8**	**-0.7**
CELP				*e*S	**Sn**	**03 15 17.6**	**+0.1**
CELP	**Cerrillos**	**1.57**	**217**⇑	*e*P	**Pn**	**03 14 57.8**	**-0.7**
CELP				*e*S	**Sn**	**03 15 17.6**	**+0.1**
LRS	**Lares**	**1.58**	**229**⇑	*e*P	**Pn**	**03 14 57.5**	**-1.2**
LRS				*e*S	**Sn**	**03 15 18.0**	**+0.2**
LRS	**Lares**	**1.58**	**229**⇑	*e*P	**Pn**	**03 14 57.5**	**-1.2**
LRS				*e*S	**Sn**	**03 15 18.0**	**+0.2**
OBIP	**Obispado Ponce**	**1.61**	**217**⇑	*e*P	**Pn**	**03 14 58.5**	**-0.6**
OBIP	**Obispado Ponce**	**1.61**	**217**⇑	*e*P	**Pn**	**03 14 58.5**	**-0.6**
OBIP				*e*S	**Sn**	**03 15 18.7**	**+0.2**
AGPR	**Aguadilla, PR**	**1.68**	**239**⇑	*e*P	**Pn**	**03 14 58.7**	**-1.3**
AGPR	**Aguadilla, PR**	**1.68**	**239**⇑	*e*P	**Pn**	**03 14 58.7**	**-1.3**
CDVI	**St. Croix**	**1.76**	**153**	*e*Pn	**Pn**	**03 15 02.0**	**+0.8**
CDVI				*e*Sn	**Sn**	**03 15 19.1**	**-3.3**
GBPR	**Guanica, Bosqu**	**1.82**	**222**⇑	*e*P	**Pn**	**03 15 01.7**	**-0.3**
GBPR	**Guanica, Bosqu**	**1.82**	**222**⇑	*e*P	**Pn**	**03 15 01.7**	**-0.3**
LSP	**Las Mesas**	**1.83**	**231**⇑	*e*P	**Pn**	**03 15 01.6**	**-0.5**
LSP	**Las Mesas**	**1.83**	**231**⇑	*e*P	**Pn**	**03 15 01.6**	**-0.5**
LSP				*e*S	**Sn**	**03 15 24.2**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.96**	**228**⇓	*e*P	**Pn**	**03 15 03.4**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.96**	**228**⇓	*e*P	**Pn**	**03 15 03.4**	**-0.4**
CRPR				*e*S	**Sn**	**03 15 27.6**	**+0.5**
IDE	**Isla Desecheo**	**2.02**	**242**⇑	*e*P	**Pn**	**03 15 03.6**	**-1.0**
IDE	**Isla Desecheo**	**2.02**	**242**⇑	*e*P	**Pn**	**03 15 03.6**	**-1.0**
IDE				*e*S	**Sn**	**03 15 29.1**	**+0.5**
DR12	**Loma Pena Alta**	**3.62**	**262**⇓	*e*P	**Pn**	**03 15 25.7**	**-1.1**
DR12	**Loma Pena Alta**	**3.62**	**262**⇓	*e*P	**Pn**	**03 15 25.7**	**-1.1**

JTS	**JuntasAbangare**	**20.75**	**247**	P	**P**	**03 19 11.5**	**+0.6**
JTS	**JuntasAbangare**	**20.75**	**247**	P	**P**	**03 19 11.5**	**+0.6**
	6.8nm,0.8s,baz=354,slow=7.1,SNR=4.3						
BLA	**Blacksburg**	**22.03**	**327**	*e*P	**P**	**03 19 22.6**	**-2.0**
	17nm,0.6s						
OTAV	**Otavalo**	**22.79**	**215**	*e*P	**P**	**03 19 30.5**	**-2.8**
	8.3nm,1.1s						
APG	**El Apazote**	**24.14**	**264**	P	**P**	**03 19 47.2**	**+1.0**
APG	**El Apazote**	**24.14**	**264**	P	**P**	**03 19 47.2**	**+1.0**
	5.0nm,1.1s,baz=56,slow=17,SNR=4.4						
LPAZ	**La Paz**	**35.49**	**184**	P	**P**	**03 21 28.4**	**+1.1**
LPAZ	**La Paz**	**35.49**	**184**	P	**P**	**03 21 28.4**	**+1.1**
	0.7nm,0.4s,baz=4.5,slow=10.0,SNR=4.8						
TXAR	**Lajitas Array**	**35.95**	**293**	P	**P**	**03 21 32.2**	**+1.6**
TXAR	**Lajitas Array**	**35.95**	**293**	P	**P**	**03 21 32.2**	**+1.6**
	1.2nm,0.8s,baz=110,slow=11,SNR=16						
PDAR	**Pinedale Array**	**43.68**	**312**	P	**P**	**03 22 34.8**	**0.0**
PDAR	**Pinedale Array**	**43.68**	**312**	P	**P**	**03 22 34.8**	**0.0**
	1.4nm,0.8s,baz=108,slow=9.4,SNR=9.0						
NVAR	**Mina Array Bea**	**49.23**	**304**	P	**P**	**03 23 18.6**	**+0.3**
NVAR	**Mina Array Bea**	**49.23**	**304**	P	**P**	**03 23 18.6**	**+0.3**
	0.6nm,0.6s,baz=88,slow=7.8,SNR=6.3						
YKA	**Yellowknife Ar**	**54.61**	**335**	P	**P**	**03 23 57.5**	**-0.3**
YKA	**Yellowknife Ar**	**54.61**	**335**	P	**P**	**03 23 57.5**	**-0.3**
	0.8nm,0.5s,baz=109,slow=7.4,SNR=5.5						
TORD	**Torodi Ar. Bea**	**64.56**	**84**	P	**P**	**03 25 08.2**	**+1.1**
TORD	**Torodi Ar. Bea**	**64.56**	**84**	P	**P**	**03 25 08.2**	**+1.1**
	1.0nm,0.8s,baz=294,slow=7.9,SNR=6.9						
ILAR	**Eielson Array**	**68.98**	**333**	P	**P**	**03 25 34.6**	**+0.1**
ILAR	**Eielson Array**	**68.98**	**333**	P	**P**	**03 25 34.6**	**+0.1**
	1.6nm,0.6s,baz=111,slow=4.3,SNR=25						
WMQ	**Urumqi**	**112.54**	**21**	*e*PKP	**PKiKP**	**03 33 04.8**	**-1.1**
WMQ				LR	LR		
	comp=N,65nm,24.4s						
WMQ				LR	LR		
	comp=E,43nm,23.4s						
CN2	**Changchun**	**116.36**	**351**	*e*PKP	**PKPdf**	**03 33 11.1**	**-2.0**
HHC	**Hu-ho-hao-te**	**120.06**	**2**	*e*PKP	**PKPdf**	**03 33 19.0**	**-1.5**
HHC				sPKP		03 33 32.8	
HHC				PP	**PP**	**03 34 47.8**	**+3.9**
HHC				SKS	**SKSdf**	**03 40 25.4**	**-4.7**
HHC				SKKS	SKKSac	03 41 35.1	-7.5
HHC				SS	**SS**	**03 51 06.0**	**-1.1**
HHC				LR	LR		
	comp=N,250nm,16.7s						
HHC				LR	LR		
	comp=E,260nm,16.7s						
HHC				LR	LR		
	comp=Z,200nm,16.7s						
CD2	**Chengdu**	**129.00**	**12**	PKP	**PKPdf**	**03 33 35.8**	**-2.0**

*NEIC **23** 03:29:13.2, 19.52N×65.53W, h44km, MD3.5(RSPR), After RSPR.*

RSPR 23 03:29:13.2, 19.52N×65.53W, h44km±30km, MD3.5/6, 18C-4D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBYP	**Canovanas**	**1.28**	**194**	⇓*e*P	Pn	03 29 32.8	-1.9
CBYP	**Canovanas**	**1.28**	**194**	⇓*e*P	Pn	03 29 32.8	-1.9
CBYP				*e*S	Sn	03 29 49.0	-1.8
STVI	**Saint Thomas**	**1.28**	**155**	⇑*e*P	Pn	03 29 34.7	0.0
STVI	**Saint Thomas**	**1.28**	**155**	⇑*e*P	Pn	03 29 34.7	0.0
STVI				*e*S	Sn	03 29 49.7	-1.0
HUMP	**Col San Antoni**	**1.41**	**193**	⇑*e*P	Pn	03 29 34.6	-1.7
HUMP	**Col San Antoni**	**1.41**	**193**	⇑*e*P	Pn	03 29 34.6	-1.7
HUMP				*e*S	Sn	03 29 52.0	-1.7
MTP	**Monte Pirata**	**1.42**	**181**	⇑*e*P	Pn	03 29 35.5	-1.0
MTP	**Monte Pirata**	**1.42**	**181**	⇑*e*P	Pn	03 29 35.5	-1.0
MTP				*e*S	Sn	03 29 53.5	-0.5
SJG	**San Juan**	**1.52**	**203**	⇑*e*P	Pn	03 29 36.6	-1.3
SJG	**San Juan**	**1.52**	**203**	⇑*e*P	Pn	03 29 36.6	-1.3
CPD	**Cerro la Pandu**	**1.52**	**194**	⇓*e*P	Pn	03 29 36.4	-1.6
CPD	**Cerro la Pandu**	**1.52**	**194**	⇓*e*P	Pn	03 29 36.4	-1.6
CPD				*e*S	Sn	03 29 55.6	-1.0
AOPR	**Arecibo Observ**	**1.65**	**225**	⇑*e*P	Pn	03 29 38.3	-1.4
AOPR	**Arecibo Observ**	**1.65**	**225**	⇑*e*P	Pn	03 29 38.3	-1.4
AOPR				*e*S	Sn	03 29 58.6	-1.1
CELP	**Cerrillos**	**1.75**	**215**	⇑*e*P	Pn	03 29 40.0	-1.0
CELP				*e*S	Sn	03 30 01.6	-0.6
CELP	**Cerrillos**	**1.75**	**215**	⇑*e*P	Pn	03 29 40.0	-1.0
CELP				*e*S	Sn	03 30 01.6	-0.6
OBIP	**Obispado Ponce**	**1.79**	**215**	⇑*e*P	Pn	03 29 40.7	-0.9
OBIP	**Obispado Ponce**	**1.79**	**215**	⇑*e*P	Pn	03 29 40.7	-0.9
LSP	**Las Mesas**	**1.99**	**228**	⇑*e*P	Pn	03 29 43.9	-0.6
LSP	**Las Mesas**	**1.99**	**228**	⇑*e*P	Pn	03 29 43.9	-0.6
LSP				*e*S	Sn	03 30 08.0	-0.2
CRPR	**Cabo Rojo, PR**	**2.12**	**225**	⇑*e*P	Pn	03 29 45.8	-0.4
CRPR	**Cabo Rojo, PR**	**2.12**	**225**	⇑*e*P	Pn	03 29 45.8	-0.4
CRPR				*e*S	Sn	03 30 09.9	-1.5

*ISCJB **23** 03:52:13.7±1.6, 11.25S±0.04×165.88E±0.04, h36km±14km, mb4.8/51, MS4.2/14, Error ellipse: s-maj=8.1km s-min=6.5km az=137.0*

*IDC **23** 03:52:14.8±3.2, 11.20S×165.99E, h38km±26km, mb4.2/19, mb1 4.4/20, mb1mx4.3/22, mbtmp4.2/20, ML3.7/1, MS3.9/9, Ms1 3.9/9, ms1mx3.6/24, Error ellipse: s-maj=16.5km s-min=14.7km az=114.0*

*NEIC **23** 03:52:15.0±0.3, 11.17S×165.89E, h35km, mb5.0/28, Error ellipse: s-maj=8.8km s-min=6.1km az=146.0*

*BJI **23** 03:52:15.0, 11.09S×165.85E, h33km, mB5.2/13, mb4.9/17, Ms5.1/10, Ms7 4.8/12*

*AUST **23** 03:52:30.1±4.0, 11.46S×165.54E, h155km±25km, Error ellipse: s-maj=33.0km s-min=8.3km az=53.0*

ISC 23 03:52:15.7±0.7, 11.27S±0.06×165.97E±0.05, h42km±5km, n163, σ1§25/187, mb4.9/52, MS4.1/14, 11C-7D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.20**	**287**	Pn	**Pn**	**03 53 44.5**	**-0.2**
HNR				Sn	**Sn**	**03 54 53.5**	**-0.9**
HNR	**Honiara**	**6.20**	**287**	Pn	**Pn**	**03 53 44.5**	**-0.2**
	50nm,0.3s,baz=151,slow=2.0,SNR=13						
HNR				Sn	**Sn**	**03 54 53.5**	**-0.9**
	9.0nm,0.3s,baz=197,slow=19,SNR=1.8						
HNR				LR	LR	03 55 03.3	
	comp=Z,167nm,21.7s,baz=123,slow=27						
TARA	**Tarawa**	**14.32**	**29**	*e*Pn	**Pn**	**03 55 34.9**	**-1.0**
PMG	**Port Moresby**	**18.60**	**274**	*e*P	**P**	**03 56 28.2**	**-1.4**
	14nm,0.6s						
PMG	**Port Moresby**	**18.60**	**274**	P	**Pn**	**03 56 31.1**	**+0.9**
	0.8nm,0.3s,baz=96,slow=7.5,SNR=3.7						
EIDS	**Eidsvold**	**19.88**	**223**	*e*P	**Pn**	**03 56 45.0**	**-0.4**
	76nm,1.5s						
EIDS	**Eidsvold**	**19.88**	**223**	⇑P	**Pn**	**03 56 45.5**	**0.0**
	baz=20,SNR=6.8						
CTA	**Charters Tower**	**20.89**	**243**	P	**P**	**03 56 55.4**	**+0.8**
CTA	**Charters Tower**	**20.89**	**243**	⇑P	**P**	**03 56 55.4**	**+0.8**
	baz=20						
CTA	**Charters Tower**	**20.89**	**243**	P	**P**	**03 56 55.4**	**+0.8**
	16nm,0.9s,baz=76,slow=13,SNR=5.8						
CTAO	**Charters Tower**	**20.89**	**243**	*e*P	**P**	**03 56 55.3**	**+0.7**
	34nm,1.0s						
AFI	**Afiamalu**	**21.87**	**99**	*e*P	**P**	**03 57 07.2**	**+1.9**
	105nm,0.4s						
AFI	**Afiamalu**	**21.87**	**99**	P	**P**	**03 57 06.0**	**+0.8**
	83nm,0.3s,baz=140,slow=6.8,SNR=11						
AFI				LR	LR	04 03 42.7	
	comp=Z,497nm,20.1s,baz=261,slow=32						
MTSU	**Mount Surprise**	**22.02**	**249**	⇓P	**P**	**03 57 07.4**	**+0.7**
	baz=22,SNR=22						
RMQ	**Roma**	**22.19**	**225**	P	**P**	**03 57 09.8**	**+1.2**
	baz=22,SNR=14						
COEN	**Coen**	**22.40**	**261**	*e*P	**P**	**03 57 11.4**	**+0.5**
	280nm,1.0s						
COEN	**Coen**	**22.40**	**261**	⇑P	**P**	**03 57 11.8**	**+0.9**
	baz=22						
ARMA	**Armidale**	**23.25**	**213**	*e*P	**P**	**03 57 20.6**	**+1.0**
	37nm,1.1s						
ARMA	**Armidale**	**23.25**	**213**	⇑P	**P**	**03 57 20.8**	**+1.2**
	baz=23,SNR=5.5						
QLP	**Quilpie**	**25.52**	**230**	P	**P**	**03 57 41.1**	**+0.6**
	baz=25,SNR=5.1						
MGCD	**Mangrove Creek**	**25.75**	**210**	⇓P	**P**	**03 57 43.9**	**+1.5**
	baz=26						
CMSA	**Cobar Meteorol**	**27.53**	**220**	P	**P**	**03 57 58.5**	**0.0**
	baz=27,SNR=8.6						
CNB	**Canberra Magne**	**28.29**	**210**	⇑P	**P**	**03 58 06.1**	**+0.7**
	baz=28						
CAN	**Canberra**	**28.48**	**210**	⇓P	**P**	**03 58 07.8**	**+0.8**
	baz=28						
URZ	**Urewera**	**28.67**	**162**	P	**P**	**03 58 07.7**	**-0.8**
	6.9nm,0.7s,baz=297,slow=4.5,SNR=3.6						
BKZ	**Black Stump Fm**	**29.32**	**163**	*e*P	**P**	**03 58 14.8**	**+0.3**
	67nm,1.5s						
H11S2	**WAKE ISLAND Hy**	**29.58**	**1**	T	T	04 28 39.8	
	baz=182						
H11S3	**WAKE ISLAND Hy**	**29.58**	**1**	T	T	04 28 40.1	
	baz=182						
H11S1	**WAKE ISLAND Hy**	**29.60**	**1**	T	T	04 28 48.5	
	baz=182						
STKA	**Stephens Creek**	**30.43**	**224**	*e*P	**P**	**03 58 24.9**	**+0.6**
	3.8nm,0.9s						
STKA	**Stephens Creek**	**30.43**	**224**	P	**P**	**03 58 25.0**	**+0.7**
	baz=30,SNR=17						
STKA	**Stephens Creek**	**30.43**	**224**	P	**P**	**03 58 24.5**	**+0.1**
	14nm,0.8s,baz=36,slow=8.8,SNR=26						
STKA				LR	LR	04 09 38.4	
	comp=Z,335nm,21.2s,baz=25,slow=34						
H11N1	**WAKE ISLAND Hy**	**30.80**	**2**	T	T	04 30 11.4	
	baz=184						
H11N3	**WAKE ISLAND Hy**	**30.81**	**2**	T	T	04 30 11.7	
	baz=184						
H11N2	**WAKE ISLAND Hy**	**30.82**	**2**	T	T	04 30 12.7	
	baz=184						
WRAB	**Tennant Creek**	**31.60**	**250**	*e*P	**P**	**03 58 33.6**	**-1.2**
	28nm,1.2s						
WRAB	**Tennant Creek**	**31.60**	**250**	P	**P**	**03 58 33.9**	**-0.9**
	105nm,1.5s,SNR=8.2						
WRA	**Warramunga Arr**	**31.61**	**250**	PcP	**PcP**	**04 01 26.5**	**-0.2**
WRA	**Warramunga Arr**	**31.61**	**250**	P	**P**	**03 58 34.0**	**-1.0**
	8.0nm,0.7s,baz=82,slow=9.3,SNR=43						
WRA				PcP	**PcP**	**04 01 26.5**	**-0.2**
	2.0nm,0.9s,baz=79,slow=3.3,SNR=5.8						
WRA				LR	LR	04 11 09.4	
	comp=Z,195nm,18.2s,baz=95,slow=36						
TOO	**Toolangi**	**32.00**	**212**	P	**P**	**03 58 39.1**	**+1.0**
	baz=32,SNR=8.0						
RPZ	**Rata Peaks**	**32.63**	**173**	*e*P	**P**	**03 58 44.2**	**+0.8**
	16nm,0.8s						
RPZ	**Rata Peaks**	**32.63**	**173**	P	**P**	**03 58 43.3**	**-0.2**
	5.6nm,0.3s,baz=135,slow=5.7,SNR=3.8						
KDU	**Kakadu**	**32.79**	**264**	⇑P	**P**	**03 58 43.2**	**-2.0**
	baz=32,SNR=3.5						
AS08	**Alice Springs**	**32.84**	**244**	⇓P	**P**	**03 58 44.5**	**-1.2**
	baz=32						
AS19	**Alice Springs**	**32.85**	**244**	⇑P	**P**	**03 58 44.5**	**-1.2**
	baz=32						
AS15	**Alice Springs**	**32.87**	**244**	⇑P	**P**	**03 58 44.7**	**-1.3**
	baz=32						
AS31	**Alice Springs**	**32.89**	**244**	*e*P	**P**	**03 58 44.7**	**-1.4**
ASAR	**Alice Springs**	**32.89**	**244**	P	**P**	**03 58 44.7**	**-1.4**
ASAR				PcP	**PcP**	**04 01 29.7**	**-0.4**
ASAR				ScP	**ScP**	**04 05 11.3**	**+0.2**
ASAR	**Alice Springs**	**32.89**	**244**	P	**P**	**03 58 44.7**	**-1.4**
	8.3nm,0.8s,baz=72,slow=9.5,SNR=48						
ASAR				PcP	**PcP**	**04 01 29.7**	**-0.4**
	2.9nm,0.8s,baz=76,slow=2.7,SNR=13						
ASAR				ScP	**ScP**	**04 05 11.3**	**+0.2**
	1.2nm,1.0s,baz=77,slow=3.4,SNR=5.3						
ASAR				LR	LR	04 11 10.9	
	comp=Z,381nm,21.4s,baz=105,slow=34						
HTT	**Hallett**	**33.17**	**224**	⇓P	**P**	**03 58 49.1**	**+0.6**
	baz=33						
ARPS	**Mount Arapiles**	**33.43**	**217**	P	**P**	**03 58 51.4**	**+0.9**
	baz=33,SNR=7.1						
RAR	**Rarotonga**	**34.27**	**111**	LR	LR	04 09 07.5	
	comp=Z,150nm,20.2s,baz=89,slow=30						
BBOO	**Buckleboo**	**34.84**	**227**	*e*P	**P**	**03 59 03.0**	**+0.1**
	315nm,0.8s						
BBOO	**Buckleboo**	**34.84**	**227**	⇑P	**P**	**03 59 02.9**	**0.0**
	baz=34,SNR=5.3						
KNRA	**Kununurra**	**36.41**	**259**	⇓P	**P**	**03 59 16.1**	**-0.5**
	baz=36,SNR=8.8						
FITZ	**Fitzroy Crossi**	**39.54**	**255**	*e*P	**P**	**03 59 42.1**	**-0.8**
FITZ	**Fitzroy Crossi**	**39.54**	**255**	⇑P	**P**	**03 59 42.3**	**-0.6**
	baz=39						
PPT	**Papeete**	**43.43**	**104**	LR	LR	04 14 00.5	
	comp=Z,201nm,18.7s,baz=148,slow=30						
PPT2	**Papeete2**	**43.43**	**104**	*e*S	S	04 06 50.1	+9.4
	78nm,24.2s						
PPT2				*e*LR	LR	04 12 17.5	
	281nm,25.2s						
TBI	**Tubuai**	**44.04**	**112**	*e*LR	LR	04 12 42.6	
	401nm,28.0s						
MBWA	**Marble Bar**	**45.33**	**251**	*e*P	**P**	**04 00 29.5**	**-0.5**
	16nm,0.8s						
KAPI	**Kappang**	**46.13**	**274**	*e*P	**P**	**04 00 35.5**	**-0.9**
	30nm,1.0s						
MEEK	**Meekatharra**	**47.05**	**244**	⇓P	**P**	**04 00 43.4**	**-0.2**
	baz=47,SNR=9.0						
MORW	**Morawa**	**49.71**	**241**	⇑P	**P**	**04 01 03.6**	**-0.3**
	baz=49,SNR=4.5						
MYLDM	**Lahad Datu**	**49.98**	**287**	*e*P	**P**	**04 01 06.6**	**+0.4**
	21nm,1.0s						
KKM	**Kota Kinabalu**	**52.41**	**287**	*e*P	**P**	**04 01 23.8**	**-0.7**
	28nm,1.1s						
MJAR	**Matsushiro Arr**	**54.27**	**332**	P	**P**	**04 01 35.7**	**-2.0**
MJAR	**Matsushiro Arr**	**54.27**	**332**	P	**P**	**04 01 35.7**	**-2.0**
	0.7nm,0.3s,baz=173,slow=9.3,SNR=6.0						
RKT	**Rikitea**	**57.30**	**110**	*e*LR	LR	04 18 56.9	
	380nm,25.8s						
NJ2	**Nanjing**	**62.33**	**315**	*e*P	**P**	**04 02 35.3**	**+1.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
QIZ	**Qiongzhong**	**62.98**	**298**	P	**P**	**04 02 39.1**	**+0.5**
QIZ				pP	pP	04 02 48.5	-2.3
QIZ				sP	sP	04 02 52.4	-3.2
QIZ				S	**S**	**04 11 09.4**	**+3.1**
QIZ				ScS	**ScS**	**04 12 28.8**	**+0.2**
QIZ				LR	LR		
	comp=Z,300nm,5.8s						
USRK	**Ussuriysk Arra**	**63.25**	**333**	P	**P**	**04 02 39.3**	**-0.6**
	1.4nm,0.6s,baz=119,slow=5.1,SNR=4.7						
PETK	**Petropavlovsk-**	**64.51**	**354**	P	**P**	**04 02 48.8**	**+0.8**
PETK	**Petropavlovsk-**	**64.51**	**354**	P	**P**	**04 02 48.8**	**+0.8**
	1.9nm,0.7s,baz=111,slow=3.2,SNR=2.5						
MDJ	**Mudanjiang**	**64.65**	**332**	P	**P**	**04 02 50.4**	**+1.3**
MDJ				pP	pP	04 02 59.6	-1.8
MDJ				sP	sP	04 03 03.5	-2.7
MDJ				S	**S**	**04 11 21.1**	**-5.0**
MDJ				ScS	**ScS**	**04 12 38.6**	**-1.7**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,93nm,4.4s						
WHN	**Wuhan**	**64.71**	**312**	P	P	04 02 53.8	+4.0
CN2	**Changchun**	**66.05**	**329**	*e*P	**P**	**04 03 00.9**	**+2.7**
CN2				*e*S	**S**	**04 11 45.4**	**+2.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,14.0s						
CN2				LR	LR		
	comp=E,300nm,14.0s						
CN2				LR	LR		
	comp=Z,200nm,17.0s						
VNDA	**Vanda**	**66.27**	**181**	*e*P	**P**	**04 02 58.9**	**-0.3**
	8.1nm,1.4s						
VNDA	**Vanda**	**66.27**	**181**	P	**P**	**04 02 59.5**	**+0.3**
	2.5nm,0.9s,baz=346,slow=7.9,SNR=11						
IPM	**Ipoh**	**66.48**	**280**	*e*P	**P**	**04 03 00.5**	**-1.1**
	20nm,1.1s						
SBA	**Scott Base**	**66.58**	**180**	*e*P	**P**	**04 03 01.4**	**+0.3**
	9.6nm,1.0s						
GYA	**Guiyang**	**68.73**	**304**	*e*P	**P**	**04 03 17.0**	**+1.3**
GYA				pP	**pP**	**04 03 27.9**	**-0.1**
GYA				sP	sP	04 03 33.3	+0.5
GYA				PcP	**PcP**	**04 03 41.0**	**+0.7**
GYA				PP	**PP**	**04 05 51.5**	**+3.5**
GYA				ScP		04 07 41.9	
GYA				S	**S**	**04 12 17.8**	**+1.4**
GYA				sS	sS	04 12 33.0	-3.9
GYA				SKS	**SKSac**	**04 13 09.8**	**-2.4**
GYA				SS	**SS**	**04 16 42.3**	**+0.2**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s						
GYA				AMB	AMB		
	comp=Z,130nm,5.4s						
GYA				LR	LR		
	comp=N,660nm,19.8s						
GYA				LR	LR		
	comp=E,580nm,20.0s						
GYA				LR	LR		
	comp=Z,610nm,18.6s						
BJI	**Beijing**	**68.79**	**321**	P	**P**	**04 03 15.8**	**+0.2**
BJI				AMB	AMB		
	comp=Z,9.0nm,0.5s						
GSI	**Gunungsitoli**	**69.10**	**276**	*e*P	**P**	**04 03 18.0**	**-0.2**
	16nm,0.8s						
XAN	**Xi'an**	**70.44**	**312**	P	**P**	**04 03 24.5**	**-1.5**
XAN				pP	pP	04 03 32.3	-6.0
KMI	**Kunming**	**71.43**	**301**	P	**P**	**04 03 34.6**	**+2.2**
KMI				S	**S**	**04 12 48.6**	**+0.3**
KMI				AMB	AMB		
	comp=Z,9.0nm,0.7s						
KMI				LR	LR		
	comp=Z,89nm,19.3s						
HHC	**Hu-ho-hao-te**	**72.14**	**320**	*e*P	**P**	**04 03 38.4**	**+2.2**
HHC				pP	**pP**	**04 03 49.3**	**+0.7**
HHC				sP	sP	04 03 53.3	-0.1
HHC				PP	**PP**	**04 06 20.5**	**+3.4**
HHC				S	**S**	**04 12 57.8**	**+2.0**
HHC				sS	sS	04 13 15.6	-0.8
HHC				SKS	**SKKSac**	**04 13 35.8**	**-1.8**
HHC				SS	**SS**	**04 17 37.3**	**+3.2**
HHC				AMB	AMB		
	comp=Z,45nm,0.7s						
HHC				AMB	AMB		
	comp=Z,280nm,5.1s						
HHC				LR	LR		
	comp=N,230nm,19.0s						
HHC				LR	LR		
	comp=E,260nm,19.0s						
HHC				LR	LR		
	comp=Z,170nm,19.0s						
CMAR	**Chiang Mai Arr**	**72.40**	**294**	P	**P**	**04 03 38.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**72.40**	**294**	P	**P**	**04 03 38.5**	**+0.3**
	3.3nm,0.7s,baz=121,slow=4.5,SNR=12						
CHTO	**Chiang Mai**	**72.52**	**294**	*e*P	**P**	**04 03 38.5**	**-0.2**
	11nm,0.5s						
CD2	**Chengdu**	**72.91**	**307**	P	**P**	**04 03 42.3**	**+1.3**
CD2				pP	**pP**	**04 03 53.1**	**-0.3**
CD2				sP	sP	04 03 57.3	-0.8
CD2				PP	**PP**	**04 06 26.8**	**+3.0**
CD2				S	**S**	**04 13 04.9**	**+0.1**
CD2				sS	sS	04 13 23.0	-2.5
CD2				SS	**SS**	**04 17 47.9**	**+1.8**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
CD2				AMB	AMB		
	comp=Z,130nm,6.9s						
CD2				LR	LR		
	comp=N,360nm,7.1s						
CD2				LR	LR		
	comp=Z,420nm,6.5s						
LZH	**Lanzhou**	**75.07**	**312**	*e*P	**P**	**04 03 55.8**	**+2.2**
LZH				pP	**PcP**	**04 04 06.0**	**-1.1**
LZH				sP	sP	04 04 10.3	-0.5
LZH				PP	**PP**	**04 06 41.0**	**-1.2**
LZH				*e*S	**S**	**04 13 31.4**	**+2.3**
LZH				sS	sS	04 13 46.5	-3.4
LZH				SS	**SS**	**04 18 18.0**	**-1.1**
LZH				AMB	AMB		
	comp=Z,26nm,1.2s						
LZH				AMB	AMB		
	comp=Z,150nm,4.5s						
LZH				LR	LR		
	comp=N,530nm,14.3s						
LZH				LR	LR		
	comp=E,530nm,15.2s						
LZH				LR	LR		
	comp=Z,810nm,17.7s						
SONM	**Songino Array**	**78.98**	**324**	P	**P**	**04 04 14.4**	**-0.8**
SONM	**Songino Array**	**78.98**	**324**	P	**P**	**04 04 14.4**	**-0.8**
	0.5nm,0.5s,baz=134,slow=3.6,SNR=3.9						
MCK	**McKinley**	**82.28**	**19**	*e*P	**P**	**04 04 32.7**	**+0.2**
	4.1nm,0.7s						
COLA	**College**	**83.43**	**18**	*e*P	**P**	**04 04 37.7**	**-0.6**
	20nm,0.8s						
ILAR	**Eielson Array**	**83.66**	**18**	P	**P**	**04 04 37.7**	**-1.8**
ILAR	**Eielson Array**	**83.66**	**18**	P	**P**	**04 04 37.7**	**-1.8**
	1.6nm,0.5s,baz=239,slow=4.9,SNR=27						
CIS	**Catalina Islan**	**84.42**	**55**	P	**P**	**04 04 45.0**	**+0.8**
	baz=84						
MAW	**Mawson**	**84.60**	**202**	P	**P**	**04 04 44.5**	**+0.1**
MAW	**Mawson**	**84.60**	**202**	P	**P**	**04 04 44.5**	**+0.1**
	1.2nm,0.5s,baz=100,slow=4.5,SNR=5.2						
ISA	**Isabella**	**85.03**	**52**	P	**P**	**04 04 48.0**	**+0.7**
	baz=85						
EDW2	**Edwards Air Fo**	**85.18**	**53**	P	**P**	**04 04 48.3**	**+0.3**
	baz=85						
BFSC	**Mount Baldy Ra**	**85.25**	**54**	P	**P**	**04 04 48.7**	**+0.2**
	baz=85						
MURC	**Murrieta**	**85.44**	**55**	P	**P**	**04 04 50.1**	**+0.8**
	baz=86						
J05D	**Fort Rock, OR**	**85.45**	**44**	P	**P**	**04 04 49.7**	**+0.4**
	baz=86						
LRMC	**Laurel Mountai**	**85.59**	**53**	P	**P**	**04 04 50.2**	**0.0**
	baz=86						
MONP	**Monument Peak**	**85.86**	**55**	P	**P**	**04 04 52.1**	**+0.4**
	baz=86						
MPMC	**Manual Prospec**	**85.92**	**52**	P	**P**	**04 04 52.2**	**+0.4**
	baz=86						
NVAR	**Mina Array Bea**	**86.00**	**50**	P	**P**	**04 04 51.5**	**-0.7**
NVAR	**Mina Array Bea**	**86.00**	**50**	P	**P**	**04 04 51.5**	**-0.7**
	2.3nm,0.9s,baz=228,slow=5.0,SNR=11						
HEC	**Hector,Ludlow**	**86.47**	**54**	P	**P**	**04 04 54.5**	**+0.1**
	baz=87						
BELC	**Belle Mtn. Jos**	**86.51**	**55**	P	**P**	**04 04 54.7**	**0.0**
	baz=87						
FURC	**Furnace Creek,**	**86.52**	**52**	P	**P**	**04 04 54.5**	**0.0**
	baz=87						
BC3	**Big Chuckawall**	**86.85**	**55**	P	**P**	**04 04 55.7**	**-0.7**
	baz=87						
GMRC	**Granite Mounta**	**86.99**	**54**	P

PDAR	**Pinedale Array**	**93.54**	**47**	P		**P**	**04 05 25.6**	**-2.1**
PDAR	**Pinedale Array**	**93.54**	**47**	P		**P**	**04 05 25.6**	**-2.1**
	0.6nm,0.9s,baz=280,slow=5.4,SNR=3.5							
PDAR				LR		LR	04 43 03.9	
	comp=Z,62nm,19.2s,baz=261,slow=33							
U21A	**Nageezi**	**93.71**	**54**	P		**P**	**04 05 28.8**	**+0.1**
	baz=94							
MK31	**Makanchi Array**	**93.84**	**317**	*e*P		**P**	**04 05 27.3**	**-1.3**
MKAR	**Makanchi Array**	**93.84**	**317**	P		**P**	**04 05 27.6**	**-1.1**
MKAR	**Makanchi Array**	**93.84**	**317**	P		**P**	**04 05 27.6**	**-1.1**
	2.2nm,0.7s,baz=98,slow=6.8,SNR=15							
ZALV	**Zalesovo Beam**	**93.87**	**324**	P		**P**	**04 05 27.0**	**-1.6**
ZALV	**Zalesovo Beam**	**93.87**	**324**	P		**P**	**04 05 27.0**	**-1.6**
	0.6nm,0.5s,baz=111,slow=7.9,SNR=3.1							
YKA	**Yellowknife Ar**	**95.07**	**27**	P		**P**	**04 05 32.3**	**-1.6**
YKA	**Yellowknife Ar**	**95.07**	**27**	P		**P**	**04 05 32.3**	**-1.6**
	2.6nm,0.8s,baz=262,slow=15,SNR=3.5							
TXAR	**Lajitas Array**	**95.74**	**61**	P		**P**	**04 05 40.3**	**+2.4**
TXAR	**Lajitas Array**	**95.74**	**61**	P		**P**	**04 05 40.3**	**+2.4**
	0.3nm,0.6s,baz=223,slow=4.4,SNR=3.8							
TXAR				LR		LR	04 40 43.7	
	comp=Z,124nm,21.0s,baz=5.0,slow=30							
KSH	**Kashi**	**97.07**	**309**	*e*P		Pdif	04 05 46.6	+2.8
KSH				pP		pP	04 05 58.5	+2.0
KSH				sP		sP	04 06 01.5	+0.4
TKM2	**Tokmak 2**	**97.84**	**312**	*e*P		**P**	**04 05 44.9**	**-2.4**
	1.2nm,0.8s							
EKS2	**Erkin-Say**	**99.14**	**312**	*e*P		**Pdif**	**04 05 51.8**	**-1.1**
ARCES	**ARCESS Array B**	**116.61**	**345**	PKP		**PKPdf**	**04 10 53.0**	**-1.8**
ARCES	**ARCESS Array B**	**116.61**	**345**	PKP		**PKPdf**	**04 10 53.0**	**-1.8**
	2.3nm,0.8s,baz=67,slow=1.7,SNR=10							
FINES	**FINESS Array B**	**122.06**	**339**	PKP		**PKPdf**	**04 11 05.6**	**+0.2**
FINES	**FINESS Array B**	**122.06**	**339**	PKP		**PKPdf**	**04 11 05.6**	**+0.2**
	1.3nm,0.7s,baz=116,slow=6.3,SNR=3.4							
BOSA	**Boshof**	**125.10**	**223**	*e*PKPdf		**PKPdf**	**04 11 12.6**	**+0.1**
SAML	**Samuel**	**127.15**	**110**	*e*PKPdf		**PKPdf**	**04 11 17.1**	**+0.6**
MORC	**Moravsky Berou**	**133.60**	**332**	*e*PKPdf		**PKPdf**	**04 11 28.0**	**+0.2**
ESDC	**Sonseca Array**	**150.33**	**344**	PKPbc		**PKPbc**	**04 12 02.5**	**-0.5**
ESDC	**Sonseca Array**	**150.33**	**344**	PKPbc		**PKPbc**	**04 12 02.4**	**-0.5**
	0.8nm,0.8s,baz=80,slow=1.5,SNR=4.8							
TOA0	**Torodi Ar. Sit**	**164.52**	**279**	*e*PKPab		**PKPab**	**04 13 10.4**	**-0.5**
TORD	**Torodi Ar. Bea**	**164.52**	**279**	PKP		**PKPdf**	**04 12 15.1**	**-0.9**
TORD				PKPab		**PKPab**	**04 13 10.1**	**-0.8**
TORD	**Torodi Ar. Bea**	**164.52**	**279**	PKP		**PKPdf**	**04 12 15.1**	**-0.9**
	1.0nm,1.1s,baz=46,slow=4.2,SNR=3.0							
TORD				PKPab		**PKPab**	**04 13 10.1**	**-0.8**
	0.6nm,0.7s,baz=75,slow=4.0,SNR=3.6							

GUC 23 04:09:16.8±0.5, 32°.51S×71°.54W, h27km±2km, MD3.5, ML3.0, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PACH	**Papudo**	**0.09**	**111**	↑*i*	P	04 09 22.0	+0.3
PACH				*i*	S	04 09 25.4	+0.3
CHNG	**Los Chungos**	**0.62**	**3**	↑*i*	P	04 09 28.7	-0.4
CHNG				*i*	S	04 09 37.3	-0.1
CLCH	**Cerro Calan**	**1.22**	**137**	↓*i*	P	04 09 38.2	0.0
CLCH				*i*	S	04 09 54.6	-0.3
ANTU	**Antumapu**	**1.30**	**145**	AML	AML	04 10 00.0	
	comp=E,260nm,0.6s						
CMCH	**Combarbala**	**1.40**	**19**	↓*i*	P	04 09 41.0	+0.2
CMCH				*i*	S	04 09 59.7	-0.3
CHCH	**Chadas Angostu**	**1.60**	**153**	*i*	P	04 09 44.2	+0.7
CHCH				*i*	S	04 10 05.1	-0.8
LMEL	**Las Melosas**	**1.74**	**141**	↓*i*	P	04 09 46.2	+0.7
LMEL				*i*	S	04 10 08.9	-1.1
LMEL					AML	AML	04 10 12.8	
	comp=N,304nm,0.1s							
TLL	**Tololo Astrono**	**2.41**	**15**		AML	AML	04 10 36.4	
	comp=E,134nm,0.5s							

*IDC **23** 04:44:45.9±1.3, 25°.65N×100°.88E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/26, mbtmp3.8/6, MS3.5/4, Ms1 3.5/4, ms1mx2.9/45, Error ellipse: s-maj=43.3km s-min=20.3km az=65.0*

*BJI **23** 04:44:47.5, 25°.64N×101°.00E, h12km, mB4.5/1, mb4.6/3, ML4.0/9, Ms3.8/1, Ms7 3.8/3*

ISC 23 04:44:47.1±1.2, 25°.50N±0°.09×100°.90E±0°.10, h13km, n17, σ1s56/17, mb3.9/6, MS3.3/4, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**1.71**	**102**	Pg	**Pn**	**04 45 16.9**	**+0.1**
KMI				Sg	**Sn**	**04 45 39.8**	**+1.2**
KMI				SMN			
	comp=Z,2μm,0.7s						
KMI				SME			
	comp=Z,2μm,0.5s						
GYA	**Guiyang**	**5.27**	**78**	Pg	**Pn**	**04 46 05.4**	**-0.4**
GYA				Sg	**Pg**	**04 46 27.4**	**-0.8**
GYA				SMN			
	70nm,0.7s						
GYA				SME			
	70nm,0.7s						
CD2	**Chengdu**	**5.95**	**24**	Pg	**Pn**	**04 46 15.8**	**+0.8**
CD2				Sg	**Sn**	**04 47 24.4**	**+1.3**
CD2				SMN			
	190nm,0.9s						
CD2				SME			
	280nm,1.1s						
CD2				LR	LR		
	comp=N,1μm,7.7s						
CD2				LR	LR		
	comp=Z,460nm,7.7s						
LZH	**Lanzhou**	**10.85**	**13**	*e*P	Pn	04 47 27.6	+5.3
LZH				pP		04 47 31.8	
LZH				sP		04 47 34.3	
LZH				AMB	AMB		
	comp=Z,16nm,1.0s						
XAN	**Xi'an**	**10.99**	**37**	P	**Pn**	**04 47 25.8**	**+1.6**
XAN				AMB	AMB		
	comp=Z,3.0nm,0.6s						
XAN				LR	LR		
	comp=Z,85nm,7.2s						
GTA	**Gaotai**	**13.90**	**356**	*e*P	**P**	**04 48 12.3**	**+0.1**
GTA				pP	pP	04 48 18.9	
GTA				sP	sP	04 48 21.8	
GTA				AMB	AMB		
	comp=Z,6.0nm,1.1s						
HHC	**Hu-ho-hao-te**	**17.70**	**27**	*e*P	**Pn**	**04 48 49.5**	**-3.9**
HHC				PP	**PnPn**	**04 49 04.3**	**+0.3**
HHC				S	Sn	04 52 02.8	-7.7
HHC				SS	**SnSn**	**04 52 26.1**	**+1.9**
HHC				AMB	AMB		
	comp=Z,49nm,0.9s						
HHC				AMB	AMB		
	comp=Z,130nm,5.6s						
HHC				LR	LR		
	comp=Z,210nm,9.6s						
SONM	**Songino Array**	**22.71**	**10**	P	**P**	**04 49 47.4**	**-1.4**
	comp=Z,2.7nm,0.8s,baz=192,slow=10,SNR=14						
KSRS	**Korea Array**	**25.85**	**56**	P	**P**	**04 50 18.5**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=273,slow=9.6,SNR=3.8						
MKAR	**Makanchi Array**	**25.90**	**330**	P	**P**	**04 50 18.6**	**-0.3**
	comp=Z,3.0nm,0.8s,baz=134,slow=10,SNR=16						
ZALV	**Zalesovo Beam**	**30.84**	**341**	P	**P**	**04 51 01.9**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=146,slow=11,SNR=5.8						
USRK	**Ussuriysk Arra**	**31.34**	**46**	LR	LR	05 03 30.2	
	comp=Z,70nm,21.5s,baz=353,slow=36						
MJAR	**Matsushiro Arr**	**33.62**	**62**	LR	LR	05 06 20.5	
	comp=Z,58nm,19.2s,baz=295,slow=38						
WRA	**Warramunga Arr**	**55.65**	**141**	P	**P**	**04 54 24.6**	**+1.5**
	comp=Z,0.5nm,0.4s,baz=332,slow=8.0,SNR=5.1						
ASF	**Jabal al Asfar**	**55.75**	**293**	LR	LR	05 24 17.1	
	comp=Z,20nm,20.4s,baz=347,slow=4.5						
BRTR	**Keskin Array B**	**57.19**	**302**	LR	LR	05 21 14.3	
	comp=Z,160nm,19.0s,baz=65,slow=38						
ASAR	**Alice Springs**	**58.40**	**144**	P	**P**	**04 54 44.4**	**+1.8**
	comp=Z,0.4nm,0.4s,baz=329,slow=7.4,SNR=5.4						

IDC 23 04:45:11.5±1.9, 14°.69S×173°.45W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/17, mbtmp3.8/3, Error ellipse: s-maj=106.1km s-min=22.5km az=153.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.79**	**65**	Pn	Pn	04 45 43.7	-0.2
	42nm,0.3s,baz=222,slow=3.8,SNR=30						
AFI				Sn	Sn	04 46 03.5	-3.9
	49nm,0.3s,baz=270,slow=18,SNR=6.2						

H11S2	**WAKE ISLAND Hy**	**38.33**	**329**	T		T	05 33 46.6	
	baz=151,slow=0.7,SNR=19							
H11S3	**WAKE ISLAND Hy**	**38.34**	**329**	T		T	05 33 48.1	
	baz=151,slow=0.7,SNR=9.3							
H11S1	**WAKE ISLAND Hy**	**38.35**	**329**	T		T	05 33 49.5	
	baz=151,slow=0.7,SNR=8.5							
H11N3	**WAKE ISLAND Hy**	**39.27**	**330**	T		T	05 34 48.0	
	baz=152,slow=0.7,SNR=8.1							
H11N1	**WAKE ISLAND Hy**	**39.28**	**330**	T		T	05 34 49.5	
	baz=152,slow=0.7,SNR=7.1							
H11N2	**WAKE ISLAND Hy**	**39.29**	**330**	T		T	05 34 50.4	
	baz=152,slow=0.7,SNR=9.2							
WRA	**Warramunga Arr**	**49.96**	**256**	P		P	04 54 07.8	0.0
	0.6nm,0.5s,baz=90,slow=6.8,SNR=8.4							
ASAR	**Alice Springs**	**50.29**	**251**	P		P	04 54 09.9	-0.3
	2.1nm,0.6s,baz=86,slow=7.8,SNR=30							
ILAR	**Eielson Array**	**81.76**	**11**	P		P	04 57 31.9	+0.1
	0.2nm,0.6s,baz=208,slow=7.2,SNR=3.4							
H03N2	**Juan Fernandez**	**85.73**	**123**	T		T	06 32 37.1	
	baz=254							
H03N3	**Juan Fernandez**	**85.73**	**123**	T		T	06 32 37.7	
	baz=254							
H03N1	**Juan Fernandez**	**85.75**	**123**	T		T	06 32 38.2	
	baz=254							

*IDC **23** 05:05:41.5±0.8, 12°.46S×165°.58E, h0km, mb4.6/18, mb1 4.6/20, mb1mx4.6/25, mbtmp4.6/20, ML4.4/2, MS3.8/16, Ms1 3.8/16, ms1mx3.7/27, Error ellipse: s-maj=25.6km s-min=15.7km az=137.0*

*ISCJB **23** 05:05:46.6±0.3, 12°.31S±0°.06×165°.39E±0°.05, h33km, mb4.8/51, MS4.0/20, Error ellipse: s-maj=8.3km s-min=7.5km az=1.9*

*GCMT **23** 05:05:48.5±0.3, 12°.34S×165°.39E, h17km±1km, MW4.9, Moment Tensor Solution. s20,c22; s63,c84; Moment tensor: Scale 10^{16}Nm; M_{rr}-2.88±.22; $M_{\theta\theta}$1.13±.14; $M_{\phi\phi}$1.75±.15; $M_{r\theta}$-0.67±.46; $M_{r\phi}$-0.91±.09; $M_{\theta\phi}$-0.87±.41; Best double couple: $M_0$2.80000×10^{16} NP1:ϕ341.00000°, δ51.00000°, λ-70.00000°. NP2:ϕ130.00000°, δ43.00000°, λ-113.00000°. Principal axes: T 2.4200, Plg4.0000°, Azm56.0000°; N 0.7700, Plg16.0000°, Azm148.0000°; P -3.2000, Plg74.0000°, Azm313.0000°; Data Used: IU II CN G IC.*

*NEIC **23** 05:05:48.0±0.3, 12°.27S×165°.47E, h35km, mb4.8/22 Error ellipse: s-maj=10.8km s-min=7.0km az=132.0*

*BJI **23** 05:05:49.2, 11°.67S×165°.44E, h35km, mB5.1/21, mb5.0/35, Ms5.1/12, Ms7 4.6/9*

ISC 23 05:05:48.1±0.4, 12°.35S±0°.07×165°.46E±0°.06, h35km, n115, σ1s37/133, mb4.9/51, MS3.9/20, 2D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.14**	**298**	Pn	**Pn**	**05 07 15.6**	**-0.9**
HNR				Sn	**Sn**	**05 08 24.3**	**-1.2**
HNR	**Honiara**	**6.14**	**298**	Pn	**Pn**	**05 07 15.5**	**-0.9**
	44nm,0.3s,baz=155,slow=3.3,SNR=16						
HNR				Sn	**Sn**	**05 08 24.3**	**-1.2**
	17nm,0.3s,baz=46,slow=22,SNR=6.4						
HNR				LR	LR	05 09 19.6	
	comp=Z,828nm,18.7s,baz=128,slow=35						
PMG	**Port Moresby**	**18.21**	**277**	*e*P	**Pn**	**05 09 59.5**	**+1.2**
	25nm,1.0s						
PMG	**Port Moresby**	**18.21**	**277**	P	**Pn**	**05 09 59.2**	**+0.9**
	1.4nm,0.3s,baz=89,slow=6.7,SNR=4.2						
EIDS	**Eidsvold**	**18.76**	**224**	*e*P	**Pn**	**05 10 07.8**	**+2.8**
	179nm,2.3s						
CTA	**Charters Tower**	**19.97**	**245**	P	**P**	**05 10 17.8**	**+0.2**
CTA	**Charters Tower**	**19.97**	**245**	P	**P**	**05 10 17.8**	**+0.2**
	7.6nm,0.7s,baz=60,slow=12,SNR=6.0						
CTAO	**Charters Tower**	**19.97**	**245**	*e*P	**Pn**	**05 10 18.6**	**-0.9**
	59nm,1.5s						
ARMA	**Armidale**	**22.08**	**213**	*e*P	**P**	**05 10 41.4**	**+1.0**
	21nm,1.1s						
AFI	**Afiamalu**	**22.22**	**97**	LR	LR	05 17 24.3	
	comp=Z,283nm,21.5s,baz=243,slow=32						
URZ	**Urewera**	**27.82**	**160**	LR	LR	05 21 25.3	
	comp=Z,256nm,18.7s,baz=95,slow=34						
STKA	**Stephens Creek**	**29.32**	**225**	*e*P	**P**	**05 11 48.0**	**+0.5**
	10nm,1.9s						
STKA	**Stephens Creek**	**29.32**	**225**	P	**P**	**05 11 46.0**	**-1.5**
	2.7nm,0.8s,baz=28,slow=9.6,SNR=6.5						
STKA				LR	LR	05 22 40.7	
	comp=Z,495nm,18.8s,baz=30,slow=35						
H11S2	**WAKE ISLAND Hy**	**30.67**	**2**	T	T	05 44 10.9	
	baz=192						
H11S3	**WAKE ISLAND Hy**	**30.67**	**2**	T	T	05 44 13.2	
	baz=192						
H11S1	**WAKE ISLAND Hy**	**30.69**	**2**	T	T	05 44 12.1	
	baz=192						
WRAB	**Tennant Creek**	**30.78**	**252**	*e*P	**P**	**05 11 59.6**	**-1.1**
	4.1nm,0.6s						
WRA	**Warramunga Arr**	**30.80**	**252**	P	**P**	**05 11 59.7**	**-1.1**
WRA	**Warramunga Arr**	**30.80**	**252**	P	**P**	**05 11 59.7**	**-1.1**
	4.0nm,0.8s,baz=81,slow=9.1,SNR=19						
WRA				LR	LR	05 23 34.1	
	comp=Z,261nm,18.1s,baz=70,slow=35						
H11N1	**WAKE ISLAND Hy**	**31.89**	**3**	T	T	05 45 46.4	
	baz=192						
H11N3	**WAKE ISLAND Hy**	**31.90**	**3**	T	T	05 45 45.6	
	baz=192						
H11N2	**WAKE ISLAND Hy**	**31.91**	**3**	T	T	05 45 48.2	
	baz=192						
AS31	**Alice Springs**	**31.98**	**245**	*e*P	**P**	**05 12 09.7**	**-1.5**
AS31				*e*		05 12 19.2	
ASAR	**Alice Springs**	**31.98**	**245**	P	**P**	**05 12 09.9**	**-1.3**
ASAR				PcP	**PcP**	**05 15 00.5**	**-0.4**
ASAR	**Alice Springs**	**31.98**	**245**	P	**P**	**05 12 09.9**	**-1.3**
	5.2nm,0.8s,baz=76,slow=9.4,SNR=36						
ASAR				PcP	**PcP**	**05 15 00.5**	**-0.4**
	1.0nm,0.8s,baz=69,slow=2.6,SNR=4.9						
ASAR				LR	LR	05 24 44.0	
	comp=Z,315nm,18.0s,baz=75,slow=36						
RAR	**Rarotonga**	**34.37**	**110**	LR	LR	05 21 55.0	
	comp=Z,75nm,20.7s,baz=270,slow=28						
FITZ	**Fitzroy Crossi**	**38.79**	**256**	*e*P	**P**	**05 13 09.5**	**-0.3**
	29nm,1.1s						
FITZ	**Fitzroy Crossi**	**38.79**	**256**	P	**P**	**05 13 08.9**	**-0.9**
	14nm,0.9s,baz=85,slow=8.1,SNR=20						
FITZ				LR	LR	05 27 36.6	
	comp=Z,162nm,19.6s,baz=83,slow=34						
PPT	**Papeete**	**43.67**	**103**	LR	LR	05 27 38.1	
	comp=Z,98nm,20.6s,baz=292,slow=30						
PPT2	**Papeete2**	**43.67**	**103**	*e*LQ	LQ	05 24 14.6	
	550nm,25.0s						
PPT2				*e*LR	LR	05 26 04.8	
	461nm,30.5s						
TBI	**Tubuai**	**44.12**	**111**	*e*S	**S**	**05 20 25.9**	**+1.8**
	46nm,28.8s						
TBI				*e*LR	LR	05 26 20.8	
	136nm,28.2s						
MBWA	**Marble Bar**	**44.53**	**252**	*e*P	**P**	**05 13 56.5**	**-0.3**
	14nm,0.8s						
KKM	**Kota Kinabalu**	**52.25**	**288**	*e*P	**P**	**05 14 57.0**	**+0.5**
	16nm,1.0s						
MJAR	**Matsushiro Arr**	**55.00**	**333**	P	**P**	**05 15 14.1**	**-2.1**
MJAR	**Matsushiro Arr**	**55.00**	**333**	P	**P**	**05 15 14.1**	**-2.1**
	1.7nm,0.5s,baz=166,slow=8.5,SNR=8.1						
JNU	**Nakatsue**	**55.98**	**325**	*e*P	**P**	**05 15 23.0**	**-0.2**
	3.3nm,0.7s						
JNU	**Nakatsue**	**55.98**	**325**	P	**P**	**05 15 22.8**	**-0.5**
	8.7nm,0.9s,baz=88,slow=6.6,SNR=5.1						
TPUB	**Ta-pu**	**56.39**	**309**	*e*P	**P**	**05 15 25.0**	**-1.3**
	11nm,0.7s						
ASAJ	**Asahikawa**	**59.93**	**341**	P	**P**	**05 15 51.2**	**+0.5**
ASAJ	**Asahikawa**	**59.93**	**341**	P	**P**	**05 15 51.2**	**+0.5**
	3.3nm,0.2s,baz=231,slow=13,SNR=3.5						
KSRS	**Korea Array**	**60.80**	**326**	P	**P**	**05 15 56.5**	**-0.3**
	3.5nm,0.9s,baz=135,slow=6.6,SNR=9.6						
KSAR	**Wonju Array Be**	**60.81**	**326**	P	**P**	**05 15 56.5**	**-0.4**
NJ2	**Nanjing**	**62.75**	**316**	*e*P	**P**	**05 16 10.1**	**+0.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
QIZ	**Qiongzhong**	**63.05**	**299**	P	**P**	**05 16 12.3**	**0.0**
QIZ				S	**S**	**05 24 41.5**	**+0.5**
QIZ				AMB	AMB		
	comp=Z,30nm,1.9s						
USRK	**Ussuriysk Arra**	**63.98**	**334**	P	**P**	**05 16 17.9**	**0.0**
	4.7nm,0.8s,baz=135,slow=7.3,SNR=9.0						
WHN	**Wuhan**	**65.05**	**312**	P	**P**	**05 16 25.3**	**+0.1**
VNDA	**Vanda**	**65.19**	**181**	LR	LR	05 40 55.4	
	comp=Z,60nm,20.2s,baz=3.8,slow=32						
FX1	**Attu Island--F**	**65.30**	**5**	*e*P	**P**	**05 16 26.4**	**+0.1**
FX1	**Attu Island--F**	**65.30**	**5**	LR	LR	05 41 45.2	
	comp=Z,24nm,20.2s,baz=287,slow=33						

MDJ	**Mudanjiang**	**65.37**	**333**	P		**P**	**05 16 28.1**	**+1.1**
MDJ				AMB		AMB		
	comp=Z,6.0nm,1.1s							
MDJ				AMB		AMB		
	comp=Z,68nm,4.8s							
SBA	**Scott Base**	**65.50**	**180**	*e*P		**P**	**05 16 28.1**	**+0.7**
	8.0nm,1.4s							
PETK	**Petropavlovsk-**	**65.53**	**355**	P		**P**	**05 16 28.2**	**+0.3**
PETK	**Petropavlovsk-**	**65.53**	**355**	P		**P**	**05 16 28.2**	**+0.3**
	5.8nm,1.1s,baz=144,slow=5.4,SNR=4.0							
PETK				LR		LR	05 42 50.9	
	comp=Z,21nm,19.3s,baz=247,slow=34							
IPM	**Ipoh**	**66.18**	**281**	*e*P		**P**	**05 16 33.2**	**+0.3**
	24nm,1.3s							
PSI	**Prapat**	**67.77**	**278**	P		**P**	**05 16 42.3**	**-0.9**
PSI	**Prapat**	**67.77**	**278**	P		**P**	**05 16 42.3**	**-0.9**
	5.3nm,0.6s,baz=151,slow=1.7,SNR=6.2							
NONG	**Nongkai**	**68.51**	**295**	P		**P**	**05 16 50.2**	**+2.7**
	19nm,1.3s							
GSI	**Gunungsitoli**	**68.72**	**276**	*e*P		**P**	**05 16 49.3**	**+0.4**
	26nm,1.0s							
GYA	**Guiyang**	**68.92**	**305**	*e*P		**P**	**05 16 50.4**	**+0.3**
GYA				pP		**pP**	**05 17 02.0**	**+1.1**
GYA				PcP		**PcP**	**05 17 15.4**	**+1.1**
GYA				PP		**PP**	**05 19 25.6**	**+2.8**
GYA				ScP			05 21 14.5	
GYA				S		**S**	**05 25 52.0**	**-0.5**
GYA				SKS		**SKSac**	**05 26 44.0**	**-3.6**
GYA				SS		**SS**	**05 30 19.4**	**+0.7**
GYA				AMB		AMB		
	comp=Z,20nm,1.0s							
GYA				AMB		AMB		
	comp=Z,110nm,5.8s							
GYA				LR		LR		
	comp=N,460nm,19.4s							
GYA				LR		LR		
	comp=E,380nm,20.2s							
GYA				LR		LR		
	comp=Z,410nm,18.9s							
BJI	**Beijing**	**69.32**	**322**	P		**P**	**05 16 52.3**	**+0.2**
BJI				AMB		AMB		
	comp=Z,17nm,0.9s							
PBKT	**Sadao Pong**	**69.92**	**293**	P		**P**	**05 16 58.2**	**+2.0**
	24nm,1.0s							
LOEI	**Loei**	**69.98**	**294**	P		**P**	**05 16 55.6**	**-1.1**
	13nm,0.8s							
XAN	**Xi'an**	**70.79**	**313**	P		**P**	**05 17 01.5**	**+0.1**
XAN				pP		**pP**	**05 17 11.3**	**-0.9**
XAN				sP		**sP**	**05 17 16.3**	**0.0**
XAN				S		**S**	**05 26 11.6**	**-2.4**
XAN				AMB		AMB		
	comp=Z,5.0nm,0.8s							
UTHA	**Uthaitani**	**70.96**	**291**	P		**P**	**05 17 04.3**	**+1.6**
	4.1nm,1.0s							
KMI	**Kunming**	**71.56**	**302**	P		**P**	**05 17 07.9**	**+1.5**
KMI				pP		**pP**	**05 17 18.8**	**+1.5**
KMI				sP		**sP**	**05 17 22.5**	**+1.1**
KMI				S		**S**	**05 26 22.6**	**-1.1**
KMI				AMB		AMB		
	comp=Z,25nm,1.0s							
KMI				AMB		AMB		
	comp=Z,84nm,3.1s							
CRAI	**Chiangrai**	**71.73**	**296**	P		**P**	**05 17 08.4**	**+1.1**
	12nm,1.4s							
CHTO	**Chiang Mai**	**72.50**	**294**	*e*P		**P**	**05 17 12.3**	**+0.4**
	10nm,1.1s							
CHTO	**Chiang Mai**	**72.50**	**294**	P		**P**	**05 17 13.0**	**+1.1**
	51nm,1.4s							
HHC	**Hu-ho-hao-te**	**72.64**	**320**	*e*P		**P**	**05 17 14.6**	**+2.2**
HHC				pP		**pP**	**05 17 25.6**	**+2.3**
HHC				PP		**PP**	**05 19 59.0**	**+4.5**
HHC				SKS		**SKSac**	**05 27 12.5**	**-2.6**
HHC				AMB		AMB		
	comp=Z,57nm,0.7s							
HHC				AMB		AMB		
	comp=Z,150nm,6.2s							
HHC				LR		LR		
	comp=N,230nm,19.0s							
HHC				LR		LR		
	comp=E,570nm,19.0s							
HHC				LR		LR		
	comp=Z,130nm,19.0s							
CMAI	**Chiengmai2**	**72.80**	**295**	P		**P**	**05 17 14.8**	**+1.0**
	12nm,1.3s							
CD2	**Chengdu**	**73.17**	**308**	P		**P**	**05 17 16.9**	**+1.2**
CD2				AMB		AMB		
	comp=Z,40nm,0.6s							
CD2				AMB		AMB		
	comp=Z,250nm,4.9s							
LZH	**Lanzhou**	**75.43**	**313**	*e*P		**P**	**05 17 30.9**	**+2.0**
LZH				pP		**pP**	**05 17 40.8**	**+1.0**
LZH				sP		**sP**	**05 17 44.0**	**+0.2**
LZH				PP		**PP**	**05 20 16.3**	**-2.0**
LZH				*e*S		**S**	**05 27 07.3**	**+0.5**
LZH				SS		**SS**	**05 31 58.0**	**-0.1**
LZH				AMB		AMB		
	comp=Z,31nm,1.4s							
LZH				AMB		AMB		
	comp=Z,120nm,4.2s							
LZH				LR		LR		
	comp=N,590nm,14.0s							
LZH				LR		LR		
	comp=E,600nm,15.1s							
LZH				LR		LR		
	comp=Z,730nm,16.7s							
QSPA	**South Pole Qui**	**77.66**	**180**	*e*P		**P**	**05 17 41.3**	**+0.3**
	12nm,1.3s							
SONM	**Songino Array**	**79.55**	**324**	P		**P**	**05 17 51.9**	**+0.3**
SONM	**Songino Array**	**79.55**	**324**	P		**P**	**05 17 51.9**	**+0.3**
	6.3nm,1.0s,baz=139,slow=5.5,SNR=22							
GTA	**Gaotai**	**79.76**	**314**	↓P		**P**	**05 17 54.3**	**+1.4**
GTA				pP		**pP**	**05 18 04.9**	**+1.0

ZALV	**Zalesovo Beam**	**94.44**	**324**	P	**P**	**05 19 03.7**	**-0.8**
ZALV	**Zalesovo Beam**	**94.44**	**324**	P	**P**	**05 19 03.7**	**-0.8**
	3.7nm,0.8s,baz=112,slow=4.0,SNR=13						
PDAR	**Pinedale Array**	**94.64**	**47**	LR	LR	05 54 23.3	
	comp=Z,57nm,19.8s,baz=170,slow=31						
TXAR	**Lajitas Array**	**96.69**	**62**	P	**P**	**05 19 13.7**	**-1.7**
TXAR	**Lajitas Array**	**96.69**	**62**	P	**P**	**05 19 13.7**	**-1.7**
	0.2nm,0.7s,baz=193,slow=3.7,SNR=3.4						
TXAR				LR	LR	05 52 24.4	
	comp=Z,94nm,20.8s,baz=230,slow=29						
KSH	**Kashi**	**97.35**	**309**	*e*P	Pdif	05 19 19.6	+1.3
KSH				pP	pP	05 19 31.8	+2.4
KSH				sP	sP	05 19 34.5	+1.1
ARCES	**ARCESS Array B**	**117.52**	**345**	PKP	**PKPdf**	**05 24 29.0**	**-0.7**
ARCES	**ARCESS Array B**	**117.52**	**345**	PKP	**PKPdf**	**05 24 29.0**	**-0.7**
	2.2nm,0.7s,baz=66,slow=1.8,SNR=8.6						
AKASG	**Malin Array Be**	**127.79**	**326**	PKP	**PKPdf**	**05 24 49.3**	**-0.7**
AKASG	**Malin Array Be**	**127.79**	**326**	PKP	**PKPdf**	**05 24 49.3**	**-0.7**
	0.8nm,0.7s,baz=52,slow=2.2,SNR=6.3						
BRTR	**Keskin Array B**	**129.63**	**312**	PKP	**PKPdf**	**05 24 51.4**	**-2.6**
BRTR	**Keskin Array B**	**129.63**	**312**	PKP	**PKPdf**	**05 24 51.4**	**-2.6**
	0.7nm,0.8s,baz=122,slow=1.9,SNR=4.4						
STHS	**Stebnicka Huta**	**132.74**	**329**	*e*PKP	**PKPdf**	**05 24 57.4**	**-2.0**
GERES	**GERESS Array B**	**136.74**	**333**	PKP	**PKPdf**	**05 25 05.8**	**-1.2**
GERES	**GERESS Array B**	**136.74**	**333**	PKP	**PKPdf**	**05 25 05.8**	**-1.2**
	0.2nm,0.3s,baz=64,slow=3.1,SNR=5.0						
KEST	**Kesra**	**148.27**	**321**	PKPbc	**PKPbc**	**05 25 30.9**	**-0.2**
KEST	**Kesra**	**148.27**	**321**	PKPbc	**PKPbc**	**05 25 30.9**	**-0.2**
	3.7nm,0.9s,baz=45,slow=11,SNR=5.1						
ESDC	**Sonseca Array**	**151.22**	**343**	PKPbc	**PKPbc**	**05 25 37.9**	**-0.4**
ESDC	**Sonseca Array**	**151.22**	**343**	PKPbc	**PKPbc**	**05 25 37.9**	**-0.4**
	1.9nm,0.8s,baz=29,slow=1.8,SNR=6.5						
TORD	**Torodi Ar. Bea**	**164.15**	**275**	PKP	**PKPdf**	**05 25 48.6**	**-0.2**
TORD				PKPab	**PKPab**	**05 26 39.7**	**-2.8**
TORD	**Torodi Ar. Bea**	**164.15**	**275**	PKP	**PKPdf**	**05 25 48.6**	**-0.2**
	1.3nm,1.0s,baz=43,slow=1.5,SNR=6.7						
TORD				PKPab	**PKPab**	**05 26 39.7**	**-2.8**
	1.6nm,1.0s,baz=96,slow=1.4,SNR=4.9						

IDC ***23*** *05:10:39.4±1.2,3.°12N×127.°06E,h0km,mb4.0/8, mb1 4.1/8,mb1mx3.9/24,mbtmp4.1/8,MS3.3/1,Ms1 3.3/1, ms1mx2.4/28,Error ellipse: s-maj=108.5km s-min=15.6km az=71.0*

ISCJB ***23*** *05:10:43.5±0.7,3.°33N±0.°05×127.°36E±0.°07,h45km, mb4.0/8,Error ellipse: s-maj=11.3km s-min=6.3km az=153.9*

DJA ***23*** *05:10:47.1±1.3,3.°N±8.′×12.°7E±.′,h30km,M4.9/7,mb5.1/4, mB5.3/3,MLv4.8/7,Mw(mB)4.7/3*

ISC 23 05:10:45.4±0.9,3.°31N±0.°08×127.°3E±0.′1,h45km,n16, σ1§23/18,mb4.2/8,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SGSI	**Sangihe**	**1.83**	**282**	P		**Pn**	**05 11 14.5**	**+0.1**
SGSI				S		**Sn**	**05 11 35.2**	**-1.2**
TNTI	**Ternate**	**2.52**	**179**	P		**Pn**	**05 11 25.2**	**+1.3**
TNTI				S		**Sn**	**05 11 52.9**	**-0.5**
LBMI	**Labuha**	**3.92**	**177**	P		**Pn**	**05 11 44.1**	**+0.9**
LBMI				S		**Sn**	**05 12 29.8**	**+1.8**
MRSI	**Marisa**	**6.07**	**242**	P		**Pn**	**05 12 13.8**	**+1.1**
	336nm,0.6s,4µm1.2nm							
LUWI	**Luwuk**	**6.27**	**227**	P		**Pn**	**05 12 16.5**	**+1.0**
	92nm,1.0s,3µm0.6nm							
NLAI	**Namlea**	**6.51**	**182**	P		**Pn**	**05 12 18.3**	**-0.4**
	61nm,0.5s,0.3nm							
APSI	**Ampana**	**7.05**	**234**	P		**Pn**	**05 12 27.5**	**+1.4**
BATI	**Baumata**	**13.91**	**195**	LR		LR	05 18 59.1	
	comp=Z,126nm,21.9s,baz=131,slow=37							
FITZ	**Fitzroy Crossi**	**21.34**	**184**	P		**P**	**05 15 26.4**	**-2.4**
	2.8nm,0.7s,baz=30,slow=7.1,SNR=9.6							
WRA	**Warramunga Arr**	**24.11**	**164**	P		**P**	**05 15 56.1**	**-1.1**
	2.7nm,0.4s,baz=343,slow=11,SNR=9.8							
ASAR	**Alice Springs**	**27.57**	**167**	P		**P**	**05 16 27.1**	**-1.3**
	0.6nm,0.4s,baz=346,slow=7.0,SNR=9.4							
STKA	**Stephens Creek**	**37.53**	**160**	P		**P**	**05 17 54.7**	**-0.6**
	4.0nm,0.7s,baz=339,slow=8.8,SNR=6.4							
SONM	**Songino Array**	**47.88**	**341**	P		**P**	**05 19 20.5**	**+1.3**
	1.7nm,0.6s,baz=157,slow=9.1,SNR=5.4							
MKAR	**Makanchi Array**	**58.24**	**325**	P		**P**	**05 20 35.5**	**+0.2**
	0.9nm,0.4s,baz=120,slow=7.3,SNR=20							
ZALV	**Zalesovo Beam**	**61.23**	**333**	P		**P**	**05 20 56.0**	**+0.3**
	1.2nm,0.5s,baz=120,slow=8.7,SNR=3.5							
BVAR	**Borovoye Array**	**67.99**	**327**	P		**P**	**05 21 40.5**	**+0.6**
	1.5nm,0.7s,baz=124,slow=7.9,SNR=5.8							

IDC ***23*** *05:15:02.3±1.7,35.°09N×24.°14E,h28km±11km,mb4.1/16, mb1 4.1/22,mb1mx4.0/34,mbtmp4.0/22,ML3.6/4,MS3.2/8, Ms1 3.2/8,ms1mx2.8/40,Error ellipse: s-maj=17.2km s-min=13.3km az=160.0*

CSEM ***23*** *05:15:03.5±0.2,34.°85N×24.°28E,h30km,mb4.2/8,Error ellipse: s-maj=5.6km s-min=3.1km az=16.0*

ISCJB ***23*** *05:15:03.8±0.3,34.°94N±0.°03×24.°29E±0.°02,h56km±2km, mb4.2/26,MS3.3/5,Error ellipse: s-maj=5.0km s-min=2.8km az=12.5*

ATH ***23*** *05:15:04.2,35.°02N×24.°28E,h34km,MD3.7/37,ML3.7*

NEIC ***23*** *05:15:04.2,35.°02N×24.°28E,h35km,mb4.1/10, ML3.7(ATH),After ATH.*

THE ***23*** *05:15:07.7,35.°16N×24.°38E,h25km±1km,ML3.7/6,Error ellipse: s-maj=1.7km s-min=0.7km az=202.0*

ISC 23 05:15:04.2±0.3,34.°95N±0.°03×24.°32E±0.°02,h48km±2km, n434,σ1§50/429,mb4.1/26,MS3.3/5,10C-8D,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GVD	**Gavdhos**	**0.22**	**240**	*e*PB		**Pn**	**05 15 11.5**	**-1.0**
GVD				*e*SB		**Sn**	**05 15 17.1**	**-1.2**
GVD	**Gavdhos**	**0.22**	**240**	*e*Pn		**Pn**	**05 15 11.0**	**-1.5**
GVD				*e*Sn		**Sn**	**05 15 18.3**	**0.0**
GVD	**Gavdhos**	**0.22**	**240**	*e*Pn		**Pn**	**05 15 11.0**	**-1.5**
GVD	**Gavdhos**	**0.22**	**240**	*e*Pb		**Pn**	**05 15 11.5**	**-1.0**
GVD				*e*Sb		**Sn**	**05 15 17.1**	**-1.2**
GVD				*e*Sn		Sn	05 15 18.3	0.0
SIVA	**Sivas**	**0.41**	**80**	*e*PB		**Pn**	**05 15 13.6**	**-0.6**
SIVA				*e*SB		**Sn**	**05 15 21.3**	**-0.1**
SIVA	**Sivas**	**0.41**	**80**	*e*Pn		**Pn**	**05 15 13.6**	**-0.6**
SIVA				*e*Sb		**Sn**	**05 15 21.3**	**-0.1**
VAM	**Vamos**	**0.47**	**348**	P		**Pn**	**05 15 14.1**	**-0.9**
VAM				S		**Sn**	**05 15 20.3**	**-2.3**
VAM	**Vamos**	**0.47**	**348**	*e*PB		**Pn**	**05 15 14.2**	**-0.8**
VAM				*e*SB		**Sn**	**05 15 20.6**	**-2.0**
VAM	**Vamos**	**0.47**	**348**	*e*Pb		**Pn**	**05 15 14.2**	**-0.8**
VAM				S		**Sn**	**05 15 20.3**	**-2.3**
KARN	**Karanos**	**0.56**	**324**	*e*PB		**Pn**	**05 15 15.6**	**-0.5**
KARN				*e*SB		**Sn**	**05 15 22.6**	**-2.1**
KARN	**Karanos**	**0.56**	**324**	*e*Pb		**Pn**	**05 15 15.6**	**-0.5**
KARN				*e*Sb		**Sn**	**05 15 22.6**	**-2.1**
IDI	**Anoyia**	**0.57**	**54**	P		**Pn**	**05 15 15.8**	**-0.6**
IDI				S		**Sn**	**05 15 23.2**	**-1.9**
IDI	**Anoyia**	**0.57**	**54**	*e*PN		**Pn**	**05 15 15.8**	**-0.6**
IDI				*e*SN		**Sn**	**05 15 25.3**	**+0.2**
IDI	**Anoyia**	**0.57**	**54**	*e*Pn		**Pn**	**05 15 15.3**	**-1.1**
IDI				Lg		Lg	05 15 24.6	
IDI				*e*Sn		**Sn**	**05 15 25.1**	**0.0**
IDI	**Anoyia**	**0.57**	**54**	*e*Pn		**Pn**	**05 15 15.3**	**-1.1**
IDI	**Anoyia**	**0.57**	**54**	P		**Pn**	**05 15 15.8**	**-0.6**
IDI				S		**Sn**	**05 15 23.2**	**-1.9**
IDI				Lg		Lg	05 15 24.6	
IDI				*e*Sn		Sn	05 15 25.3	+0.2
IDI	**Anoyia**	**0.57**	**54**	Pg		**Pn**	**05 15 14.7**	**-1.7**
	711nm,0.3s,baz=240,slow=15,SNR=1916							
IDI				Lg		Lg	05 15 24.6	
	1µm,0.3s,baz=295,slow=14,SNR=77							
LAST	**Lasithi**	**0.97**	**77**	P		**Pn**	**05 15 23.0**	**+1.4**
LAST				S		**Sn**	**05 15 35.8**	**+1.4**
LAST	**Lasithi**	**0.97**	**77**	*e*PN		**Pn**	**05 15 23.2**	**+1.6**
LAST				*e*SN		**Sn**	**05 15 37.1**	**+2.7**
LAST	**Lasithi**	**0.97**	**77**	*e*Pn		**Pn**	**05 15 23.2**	**+1.6**
LAST				S		**Sn**	**05 15 35.8**	**+1.4**
LAST				*e*Sn		Sn	05 15 37.1	+2.6
NPS	**Neapolis**	**1.10**	**73**	P		**Pn**	**05 15 25.2**	**+1.9**
NPS				S		**Sn**	**05 15 39.8**	**+2.3**
NPS	**Neapolis**	**1.10**	**73**	*e*PN		**Pn**	**05 15 25.0**	**+1.7**
NPS	**Neapolis**	**1.10**	**73**	P		**Pn**	**05 15 25.2**	**+1.9**
NPS				S		**Sn**	**05 15 39.8**	**+2.3**
ANKY	**Antikythira Is**	**1.24**	**318**	P		Pn	05 15 27.4	+2.2
ANKY				S		**Sn**	**05 15 41.3**	**+0.6**
ANKY	**Antikythira Is**	**1.24**	**318**	*e*PN		**Pn**	**05 15 26.7**	**+1.5**
ANKY	**Antikythira Is**	**1.24**	**318**	*e*Pn		**Pn**	**05 15 26.7**	**+1.5**
ANKY	**Antikythira Is**	**1.24**	**318**	P		Pn	05 15 27.4	+2.2
ZKR	**Zakros**	**1.56**	**83**	P		Pn	05 15 32.2	+2.6
ZKR	**Zakros**	**1.56**	**83**	*e*PN		Pn	05 15 32.5	+2.9
ZKR	**Zakros**	**1.56**	**83**	P		Pn	05 15 32.2	+2.6
ZKR	**Zakros**	**1.56**	**83**	*e*Pb		Pn	05 15 32.5	+2.9
KYTH	**Kithira**	**1.69**	**322**	P		Pn	05 15 33.5	+2.1
KYTH	**Kithira**	**1.69**	**322**	*e*PB		**Pn**	**05 15 33.3**	**+1.9**
KYTH	**Kithira**	**1.69**	**322**	*e*Pb		**Pn**	**05 15 33.3**	**+1.9**
SANT	**Santorini**	**1.69**	**33**	P		**Pn**	**05 15 32.0**	**+0.6**
SANT				S		**Sn**	**05 15 51.1**	**-0.8**
SANT	**Santorini**	**1.69**	**33**	*e*Pn		**Pn**	**05 15 32.0**	**+0.6**
SANT	**Santorini**	**1.69**	**33**	P		**Pn**	**05 15 32.0**	**+0.6**
SANT				S		**Sn**	**05 15 51.1**	**-0.8**
THR1	**Thera Island**	**1.69**	**33**	P		**Pn**	**05 15 32.6**	**+1.2**
THR1	**Thera Island**	**1.69**	**33**	P		**Pn**	**05 15 32.6**	**+1.2**
THR3	**Thira Island,**	**1.70**	**31**	P		**Pn**	**05 15 32.6**	**+1.1**
THR3	**Thira Island,**	**1.70**	**31**	P		**Pn**	**05 15 32.6**	**+1.1**
VLI	**Veliai**	**2.09**	**328**	P		**Pn**	**05 15 37.8**	**+0.9**
VLI				S		**Sn**	**05 16 01.6**	**-0.1**
VLI	**Veliai**	**2.09**	**328**	P		**Pn**	**05 15 37.8**	**+0.9**
VLI				S		**Sn**	**05 16 01.6**	**-0.1**
APE	**Apeiranthos**	**2.33**	**24**	P		**Pn**	**05 15 40.3**	**+0.1**
APE				S		**Sn**	**05 16 06.6**	**-1.0**
APE	**Apeiranthos**	**2.33**	**24**	*e*PN		**Pn**	**05 15 41.3**	**+1.1**
APE	**Apeiranthos**	**2.33**	**24**	P		**Pn**	**05 15 40.3**	**+0.1**
APE	**Apeiranthos**	**2.33**	**24**	P		**Pn**	**05 15 40.3**	**+0.1**
APE	**Apeiranthos**	**2.33**	**24**	*e*Pn		**Pn**	**05 15 41.3**	**+1.1**
APE				S		**Sn**	**05 16 06.6**	**-1.0**
KARP	**Karpathos**	**2.40**	**75**	P		Pn	05 15 43.3	+2.2
KARP				S		**Sn**	**05 16 11.5**	**+2.2**
KARP	**Karpathos**	**2.40**	**75**	*e*PN		Pn	05 15 43.8	+2.7
KARP	**Karpathos**	**2.40**	**75**	P		Pn	05 15 43.3	+2.2
KARP	**Karpathos**	**2.40**	**75**	*e*Pn		Pn	05 15 43.8	+2.7
KARP				S		**Sn**	**05 16 11.5**	**+2.2**
DYR	**Agios Nikonas**	**2.42**	**319**	*e*PN		**Pn**	**05 15 42.7**	**+1.3**
DYR	**Agios Nikonas**	**2.42**	**319**	*e*Pn		**Pn**	**05 15 42.7**	**+1.3**
DIDY	**Didyma**	**2.68**	**341**	P		**Pn**	**05 15 45.8**	**+0.8**
DIDY				S		**Sn**	**05 16 15.4**	**-0.8**
DIDY	**Didyma**	**2.68**	**341**	*e*PN		**Pn**	**05 15 45.9**	**+0.9**
DIDY	**Didyma**	**2.68**	**341**	*e*Pn		**Pn**	**05 15 45.9**	**+0.9**
DIDY				S		**Sn**	**05 16 15.4**	**-0.8**
DID	**Didima**	**2.70**	**341**	*e*PN		**Pn**	**05 15 46.7**	**+1.5**
DID	**Didima**	**2.70**	**341**	*e*Pn		**Pn**	**05 15 46.7**	**+1.5**
NIS3	**Nisyros Isl.**	**2.82**	**54**	P		**Pn**	**05 15 48.4**	**+1.6**
NIS3				S		**Sn**	**05 16 20.5**	**+1.0**
NIS1	**Nisyros Isl.**	**2.85**	**54**	*e*PB		Pn	05 15 50.8	+3.6
NIS1	**Nisyros Isl.**	**2.85**	**54**	*e*Pb		Pn	05 15 50.8	+3.6
PYL	**PYLOS**	**2.86**	**314**	*e*PN		**Pn**	**05 15 47.8**	**+0.5**
PYL	**PYLOS**	**2.86**	**314**	*e*Pn		**Pn**	**05 15 47.8**	**+0.5**
NAIG	**Nisos Aigina**	**2.88**	**347**	*e*PN		**Pn**	**05 15 48.5**	**+0.8**
NAIG	**Nisos Aigina**	**2.88**	**347**	*e*Pn		**Pn**	**05 15 48.5**	**+0.8**
VLX	**Vlachokerasia**	**2.88**	**328**	*e*PN		**Pn**	**05 15 49.4**	**+1.6**
VLX	**Vlachokerasia**	**2.88**	**328**	*e*Pn		**Pn**	**05 15 49.4**	**+1.6**
ITM	**Ithomi**	**2.95**	**320**	*e*PN		**Pn**	**05 15 49.3**	**+0.6**
ITM	**Ithomi**	**2.95**	**320**	*e*Pn		**Pn**	**05 15 49.3**	**+0.6**
ATH	**Athens Observa**	**3.06**	**351**	*e*PN		**Pn**	**05 15 51.8**	**+1.8**
ATH	**Athens Observa**	**3.06**	**351**	*e*Pn		**Pn**	**05 15 51.8**	**+1.8**
PTL	**Penteli**	**3.12**	**353**	*e*PN		**Pn**	**05 15 52.1**	**+1.2**
PTL	**Penteli**	**3.12**	**353**	*e*Pn		**Pn**	**05 15 52.1**	**+1.2**
LTK	**Loutraki**	**3.26**	**341**	*e*PB		**Pn**	**05 15 53.8**	**+1.0**
LTK	**Loutraki**	**3.26**	**341**	*e*Pn		**Pn**	**05 15 53.8**	**+1.0**
BDRM	**Kayabasi**	**3.30**	**49**	*i* P		**Pn**	**05 15 54.8**	**+1.4**
BDRM	**Kayabasi**	**3.30**	**49**	*i* P		**Pn**	**05 15 54.8**	**+1.4**
AMT	**Artemida-Makis**	**3.33**	**321**	*e*PN		**Pn**	**05 15 55.6**	**+1.7**
AMT	**Artemida-Makis**	**3.33**	**321**	*e*Pn		**Pn**	**05 15 55.6**	**+1.7**
ARG	**Arkhangelos**	**3.35**	**67**	*e*PN		**Pn**	**05 15 56.1**	**+2.1**
ARG	**Arkhangelos**	**3.35**	**67**	*e*Pn		**Pn**	**05 15 56.1**	**+2.1**
GUR	**Goura**	**3.38**	**332**	*e*PN		**Pn**	**05 15 56.4**	**+1.8**
GUR	**Goura**	**3.38**	**332**	*e*Pn		**Pn**	**05 15 56.4**	**+1.8**
SMG	**Samos**	**3.42**	**36**	P		**Pn**	**05 15 55.6**	**+0.5**
SMG	**Samos**	**3.42**	**36**	*e*PN		**Pn**	**05 15 56.7**	**+1.6**
SMG	**Samos**	**3.42**	**36**	P		**Pn**	**05 15 55.6**	**+0.5**
SMG	**Samos**	**3.42**	**36**	*e*Pn		**Pn**	**05 15 56.7**	**+1.6**
ERET	**Eretria**	**3.51**	**353**	P		**Pn**	**05 15 57.2**	**+0.8**
ERET	**Eretria**	**3.51**	**353**	P		**Pn**	**05 15 57.2**	**+0.8**
KLV	**Kalavryta, Ach**	**3.55**	**331**	P		**Pn**	**05 15 58.6**	**+1.7**
KLV	**Kalavryta, Ach**	**3.55**	**331**	*e*PN		**Pn**	**05 15 58.0**	**+1.1**
KLV	**Kalavryta, Ach**	**3.55**	**331**	*e*Pn		**Pn**	**05 15 58.0**	**+1.1**
KLV	**Kalavryta, Ach**	**3.55**	**331**	P		**Pn**	**05 15 58.6**	**+1.7**
CHOS	**Chios island**	**3.70**	**22**	P		**Pn**	**05 15 59.8**	**+0.8**
CHOS				S		**Sn**	**05 16 39.7**	**-1.7**
CHOS	**Chios island**	**3.70**	**22**	*e*PN		**Pn**	**05 16 00.8**	**+1.8**
CHOS	**Chios island**	**3.70**	**22**	P		**Pn**	**05 15 59.8**	**+0.8**
CHOS	**Chios island**	**3.70**	**22**	*e*Pn		**Pn**	**05 16 00.8**	**+1.8**
CHOS				S		**Sn**	**05 16 39.7**	**-1.7**
DESF	**Desfina**	**3.74**	**338**	*e*PN		**Pn**	**05 16 00.7**	**+1.1**
DESF	**Desfina**	**3.74**	**338**	*e*Pn		**Pn**	**05 16 00.7**	**+1.1**
DSF	**Desfina**	**3.75**	**338**	*e*PN		**Pn**	**05 16 01.2**	**+1.7**
DSF	**Desfina**	**3.75**	**338**	*e*Pn		**Pn**	**05 16 01.2**	**+1.7**
LAKA	**Lakka**	**3.79**	**331**	*e*PN		**Pn**	**05 16 01.6**	**+1.5**
LAKA	**Lakka**	**3.79**	**331**	*e*Pn		**Pn**	**05 16 01.6**	**+1.5**
MRKA	**Markates**	**3.80**	**351**	P		**Pn**	**05 16 01.4**	**+1.2**
MRKA	**Markates**	**3.80**	**351**	*e*PN		**Pn**	**05 16 01.6**	**+1.4**
MRKA	**Markates**	**3.80**	**351**	P		**Pn**	**05 16 01.4**	**+1.2**
LKR	**Lokris**	**3.84**	**344**	*e*PN		**Pn**	**05 16 02.1**	**+1.3**
LKR	**Lokris**	**3.84**	**344**	*e*Pn		**Pn**	**05 16 02.1**	**+1.3**
KALE	**Kalithea**	**3.86**	**334**	P		**Pn**	**05 16 02.8**	**+1.7**
KALE	**Kalithea**	**3.86**	**334**	*e*PN		**Pn**	**05 16 02.2**	**+1.1**
KALE	**Kalithea**	**3.86**	**334**	*e*Pn		**Pn**	**05 16 02.2**	**+1.1**
KALE	**Kalithea**	**3.86**	**334**	P		**Pn**	**05 16 02.8**	**+1.7**
TRIZ	**Trizonia**	**3.86**	**333**	*e*PN		**Pn**	**05 16 02.5**	**+1.5**
TRIZ	**Trizonia**	**3.86**	**333**	*e*Pn		**Pn**	**05 16 02.5**	**+1.5**
RLS	**Riolos of Patr**	**3.86**	**324**	*e*PN		**Pn**	**05 16 02.6**	**+1.5**
RLS	**Riolos of Patr**	**3.86**	**324**	*e*Pn		**Pn**	**05 16 02.6**	**+1.5**
AYDN	**Tasoluk**	**3.95**	**46**	*i* P		**Pn**	**05 16 03.9**	**+1.6**
AYDN	**Tasoluk**	**3.95**	**46**	*i* P		**Pn**	**05 16 03.9**	**+1.6**
TURN	**Turunc**	**3.97**	**60**	*i* P		**Pn**	**05 16 00.1**	**-2.5**
TURN	**Turunc**	**3.97**	**60**	*i* P		**Pn**	**05 16 00.1**	**-2.5**
EFP	**Efpalio**	**3.98**	**331**	*e*PN		**Pn**	**05 16 03.5**	**+0.8**
EFP	**Efpalio**	**3.98**	**331**	*e*Pn		**Pn**	**05 16 03.5**	**+0.8**
SMIA	**Simia**	**4.02**	**348**	P		**Pn**	**05 16 04.4**	**+1.1**
SMIA	**Simia**	**4.02**	**348**	*e*PN		**Pn**	**05 16 04.5**	**+1.1**
SMIA	**Simia**	**4.02**	**348**	*e*Pn		**Pn**	**05 16 04.5**	**+1.1**
AOS	**Alonnisos**	**4.23**	**355**	*e*PN		**Pn**	**05 16 06.8**	**+0.7**
AOS	**Alonnisos**	**4.23**	**355**	*e*Pn		**Pn**	**05 16 06.8**	**+0.7**
SKIA	**Skiathos**	**4.26**	**351**	*e*PN		**Pn**	**05 16 07.6**	**+1.0**
SKIA	**Skiathos**	**4.26**	**351**	*e*Pn		**Pn**	**05 16 07.6**	**+1.0**
AGG	**Agios Georgios**	**4.37**	**339**	*e*PN		**Pn**	**05 16 10.1**	**+2.0**
AGG	**Agios Georgios**	**4.37**	**339**	*e*Pn		**Pn**	**05 16 10.1**	**+2.0**
VLS	**Valsamata**	**4.41**	**318**	*e*PN		**Pn**	**05 16 09.1**	**+0.5**
VLS	**Valsamata**	**4.41**	**318**	*e*Pn		**Pn**	**05 16 09.1**	**+0.5**
MAKR	**Makrakomi, Fth**	**4.42**	**337**	*e*PN		**Pn**	**05 16 10.6**	**+1.8**
MAKR	**Makrakomi, Fth**	**4.42**	**337**	*e*Pn		**Pn**	**05 16 10.6**	**+1.8**
SIGR	**SIGRI**	**4.43**	**16**	*e*PN		**Pn**	**05 16 10.3**	**+1.5**
SIGR	**SIGRI**	**4.43**	**16**	*e*Pn		**Pn**	**05 16 10.3**	**+1.5**
PDO	**Prodromos**	**4.43**	**326**	*e*PN		**Pn**	**05 16 10.7**	**+1.8**
PDO	**Prodromos**	**4.43**	**326**	*e*Pn		**Pn**	**05 16 10.7**	**+1.8**
NEO	**Neokhori**	**4.44**	**349**	*e*PN		**Pn**	**05 16 10.9**	**+1.9**
NEO	**Neokhori**	**4.44**	**349**	*e*Pn		**Pn**	**05 16 10.9**	**+1.9**
EVR	**Evrytania**	**4.44**	**334**	*e*PN		Pn	05 16 11.6	+2.4
EVR	**Evrytania**	**4.44**	**334**	*e*Pn		Pn	05 16 11.6	+2.4
KSL	**Kastellorizon**	**4.45**	**73**	*e*PN		Pn	05 16 11.7	+2.5
KSL	**Kastellorizon**	**4.45**	**73**	*e*Pn		Pn	05 16 11.7	+2.5
AKAS	**Kas**	**4.49**	**72**	*i* P		**Pn**	**05 16 10.9**	**+1.0**
AKAS				*i* S		**Sn**	**05 17 00.8**	**-0.1**
AKAS	**Kas**	**4.49**	**72**	*i* P		**Pn**	**05 16 10.9**	**+1.0**
AKAS				*i* S		**Sn**	**05 17 00.8**	**-0.1**
PRK	**Paraskevi**	**4.56**	**19**	*e*PN		**Pn**	**05 16 12.3**	**+1.6**
PRK	**Paraskevi**	**4.56**	**19**	*e*Pn		**Pn**	**05 16 12.3**	**+1.6**
DNZL	**Cakiroluk**	**4.69**	**53**	*i* P		Pn	05 16 15.2	+2.5
DNZL	**Cakiroluk**	**4.69**	**53**	*i* P		Pn	05 16 15.2	+2.5
GOLH	**Golhisar**	**4.82**	**60**	*i* P		**Pn**	**05 16 16.4**	**+2.1**
GOLH	**Golhisar**	**4.82**	**60**	*i* P		**Pn**	**05 16 16.4**	**+2.1**
LKD2	**Lefkada island**	**4.83**	**324**	*e*PN		**Pn**	**05 16 16.5**	**+2.1**
LKD2	**Lefkada island**	**4.83**	**324**	*e*Pn		**Pn**	**05 16 16.5**	**+2.1**
THL	**Klokotos Trika**	**4.96**	**339**	*e*PN		**Pn**	**05 16 17.5**	**+1.3**
PAIG	**Paliouri**	**5.00**	**354**	*e*PN		**Pn**	**05 16 17.7**	**+1.1**
KORT	**Korkueli**	**5.30**	**66**	*i* P		**Pn**	**05 16 22.7**	**+1.7**
KORT	**Korkueli**	**5.30**	**66**	*i* P		**Pn**	**05 16 22.7**	**+1.7**
KHAL	**Karahalli**	**5.38**	**49**	*i* P		Pn	05 16 24.2	+2.2
KHAL	**Karahalli**	**5.38**	**49**	*i* P		Pn	05 16 24.2	+2.2
IGT	**Igoumenitsa**	**5.57**	**326**	*e*PN		**Pn**	**05 16 26.2**	**+1.6**
SMTH	**Samothraki Isl**	**5.59**	**9**	*e*PN		Pn	05 16 28.3	+3.4
DURS	**Dursunbey**	**5.70**	**34**	*i* P		**Pn**	**05 16 28.3**	**+1.9**
DURS	**Dursunbey**	**5.70**	**34**	*i* P		**Pn**	**05 16 28.3**	**+1.9**
HORT	**Hortiatis**	**5.72**	**351**	*e*PN		Pn	05 16 29.0	+2.3
GDZ	**Gediz**	**5.84**	**43**	*i* P		Pn	05 16 31.0	+2.7
GDZ	**Gediz**	**5.84**	**43**	*i* P		Pn	05 16 31.0	+2.7
KEK	**Kerkira**	**5.97**	**324**	*e*PN		Pn	05 16 32.2	+2.2
NEST	**Nestorio**	**6.04**	**336**	*e*PN		**Pn**	**05 16 32.9**	**+1.8**
FNA	**Florina**	**6.27**	**339**	*e*PN		**Pn**	**05 16 36.4**	**+2.2**
KNT	**Kendrikon**	**6.30**	**350**	*e*PN		Pn	05 16 37.4	+2.8
VAY	**Valandovo**	**6.51**	**348**	*i* Pn		Pn	05 16 41.3	+3.9
BOLV	**Bolvadin**	**6.51**	**53**	*i* P		**Pn**	**05 16 39.6**	**+2.0**
BOLV	**Bolvadin**	**6.51**	**53**	*i* P		**Pn**	**05 16 39.6**	**+2.0**
GAZI	**Gazipasa**	**6.64**	**77**	*i* P		**Pn**	**05 16 38.1**	**-1.1**
GAZI				*i* S		**Sn**	**05 17 48.3**	**-5.3**
MMB	**Musomiste**	**6.65**	**356**	*i* P		**Pn**	**05 16 41.0**	**+1.7**
MMB	**Musomiste**	**6.65**	**356**	*i* P		**Pn**	**05 16 41.0**	**+1.7**

	comp=Z,62nm,19.0s,baz=123,slow=42							
GNI	**Garni**	**16.99**	**66**	P	**P**	**05 19 00.7**	**+0.7**	
GNI	**Garni**	**16.99**	**66**	P	**P**	**05 19 00.6**	**+0.7**	
GNI	**Garni**	**16.99**	**66**	P	**P**	**05 19 00.6**	**+0.7**	
	1.4nm,0.3s,baz=102,slow=5.3,SNR=3.1							
GNI				LR	LR	05 26 41.6		
	comp=Z,126nm,20.0s,baz=99,slow=41							
CABF	**La Chapelle**	**18.02**	**316**	*eP*	**Pn**	**05 19 10.7**	**-0.4**	
CABF	**La Chapelle**	**18.02**	**316**	*eP*	**Pn**	**05 19 10.7**	**-0.4**	
CABF	**La Chapelle**	**18.02**	**316**	*eP*	**Pn**	**05 19 10.7**	**-0.4**	
CLL	**Collm**	**18.28**	**337**	*i* P	**Pn**	**05 19 14.3**	**+0.1**	
	comp=Z,6.0nm,0.9s							
HINF	**Hinteralfeld**	**18.31**	**320**	*eP*	**Pn**	**05 19 15.0**	**+0.4**	
HINF	**Hinteralfeld**	**18.31**	**320**	*eP*	**Pn**	**05 19 15.0**	**+0.4**	
HINF	**Hinteralfeld**	**18.31**	**320**	*eP*	**Pn**	**05 19 15.0**	**+0.4**	
CDF	**Champ du Feu**	**18.46**	**322**	*eP*	**Pn**	**05 19 16.5**	**-0.1**	
	comp=Z,24nm,1.2s							
CDF	**Champ du Feu**	**18.46**	**322**	*eP*	**Pn**	**05 19 16.5**	**-0.1**	
	comp=Z,24nm,1.2s							
CDF	**Champ du Feu**	**18.46**	**322**	*eP*	**Pn**	**05 19 16.5**	**-0.1**	
	comp=Z,12nm,1.2s							
HAU	**Haudompre**	**18.69**	**320**	*eP*	**Pn**	**05 19 19.4**	**+0.2**	
	comp=Z,14nm,0.7s							
HAU				*eR*				
	comp=Z,65nm,19.0s							
HAU	**Haudompre**	**18.69**	**320**	*eP*	**Pn**	**05 19 19.4**	**+0.2**	
	comp=Z,14nm,0.7s							
HAU	**Haudompre**	**18.69**	**320**	*eP*	**Pn**	**05 19 19.4**	**+0.2**	
	comp=Z,7.2nm,0.7s							
SUW	**Suwalki**	**19.08**	**358**	*eP*	**P**	**05 19 22.4**	**-0.2**	
	comp=Z,22nm,1.0s							
SUW	**Suwalki**	**19.08**	**358**	*eP*	**P**	**05 19 22.4**	**-0.2**	
	comp=Z,22nm,1.0s							
SMF	**Signal de Mont**	**19.35**	**313**	*eP*	**P**	**05 19 26.5**	**+0.8**	
SMF	**Signal de Mont**	**19.35**	**313**	*eP*	**P**	**05 19 26.5**	**+0.8**	
SMF	**Signal de Mont**	**19.35**	**313**	*eP*	**P**	**05 19 26.5**	**+0.8**	
PAGF	**Fort de Pagny**	**19.36**	**320**	*eP*	**Pn**	**05 19 27.7**	**+0.6**	
PAGF	**Fort de Pagny**	**19.36**	**320**	*eP*	**Pn**	**05 19 27.7**	**+0.6**	
PAGF	**Fort de Pagny**	**19.36**	**320**	*eP*	**Pn**	**05 19 27.7**	**+0.6**	
SFTF	**Sexfontaines**	**19.51**	**319**	*eP*	**P**	**05 19 28.3**	**+0.9**	
	comp=Z,9.3nm,0.6s							
SFTF	**Sexfontaines**	**19.51**	**319**	*eP*	**P**	**05 19 28.3**	**+0.9**	
	comp=Z,9.3nm,0.6s							
SFTF	**Sexfontaines**	**19.51**	**319**	*eP*	**P**	**05 19 28.3**	**+0.9**	
	comp=Z,4.7nm,0.6s							
LOR	**Lormes**	**19.66**	**315**	*eP*	**Pn**	**05 19 30.6**	**-0.2**	
	comp=Z,11nm,0.8s							
LOR				*eR*				
	comp=Z,70nm,18.2s							
LOR	**Lormes**	**19.66**	**315**	*eP*	**Pn**	**05 19 30.6**	**-0.2**	
	comp=Z,11nm,0.8s							
LOR	**Lormes**	**19.66**	**315**	*eP*	**Pn**	**05 19 30.6**	**-0.2**	
	comp=Z,5.3nm,0.8s							
MEZF	**Maizieres J'vi**	**19.68**	**319**	*eP*	**Pn**	**05 19 31.2**	**+0.2**	
MEZF	**Maizieres J'vi**	**19.68**	**319**	*eP*	**Pn**	**05 19 31.2**	**+0.2**	
MEZF	**Maizieres J'vi**	**19.68**	**319**	*eP*	**Pn**	**05 19 31.2**	**+0.2**	
CAF	**Calviac**	**19.71**	**307**	*eP*	**Pn**	**05 19 30.8**	**-0.6**	
CAF	**Calviac**	**19.71**	**307**	*eP*	**Pn**	**05 19 30.8**	**-0.6**	
CAF	**Calviac**	**19.71**	**307**	*eP*	**Pn**	**05 19 30.8**	**-0.6**	
AVF	**Avril sur Loir**	**19.72**	**313**	*eP*	**Pn**	**05 19 32.3**	**+0.9**	
	comp=Z,8.9nm,0.9s							
AVF	**Avril sur Loir**	**19.72**	**313**	*eP*	**Pn**	**05 19 32.3**	**+0.9**	
	comp=Z,8.9nm,0.9s							
AVF	**Avril sur Loir**	**19.72**	**313**	*eP*	**Pn**	**05 19 32.3**	**+0.9**	
	comp=Z,4.4nm,0.9s							
SSF	**Saint Saulge**	**19.76**	**314**	*eP*	**Pn**	**05 19 32.4**	**+0.5**	
SSF	**Saint Saulge**	**19.76**	**314**	*eP*	**Pn**	**05 19 32.4**	**+0.5**	
SSF	**Saint Saulge**	**19.76**	**314**	*eP*	**Pn**	**05 19 32.4**	**+0.5**	
NACGM	**Naroch**	**20.02**	**4**	*e*	**P**	**05 19 30.0**	**-2.9**	
TCF	**Toulx Ste Croi**	**20.18**	**311**	*eP*	Pn	05 19 37.7	+0.8	
TCF	**Toulx Ste Croi**	**20.18**	**311**	*eP*	Pn	05 19 37.7	+0.8	
TCF	**Toulx Ste Croi**	**20.18**	**311**	*eP*	Pn	05 19 37.7	+0.8	
RJF	**Les Rejaudoux**	**20.21**	**308**	*eP*	Pn	05 19 37.0	-0.3	
	comp=Z,10nm,0.6s							
RJF				*eR*				
	comp=Z,77nm,17.2s							
RJF	**Les Rejaudoux**	**20.21**	**308**	*eP*	Pn	05 19 37.0	-0.3	
	comp=Z,10nm,0.6s							
RJF	**Les Rejaudoux**	**20.21**	**308**	*eP*	Pn	05 19 37.0	-0.3	
	comp=Z,5.1nm,0.6s							
NAY	**Al-Naaiem**	**20.21**	**100**	*eP*	**P**	**05 19 35.7**	**+0.5**	
NAY				AMb	AMB	05 19 41.4		
	comp=Z,32nm,1.5s							
NAY	**Al-Naaiem**	**20.21**	**100**	*eP*	**P**	**05 19 35.7**	**+0.5**	
	comp=Z,32nm,1.5s							
EPF	**Esparros**	**20.27**	**301**	*eP*	Pn	05 19 38.0	0.0	
EPF	**Esparros**	**20.27**	**301**	*eP*	Pn	05 19 38.0	0.0	
EPF	**Esparros**	**20.27**	**301**	*eP*	Pn	05 19 38.0	0.0	
UMR	**Umm Al-Rimmam**	**20.49**	**99**	*eP*	**P**	**05 19 39.0**	**+0.8**	
UMR	**Umm Al-Rimmam**	**20.49**	**99**	*eP*	**P**	**05 19 39.0**	**+0.8**	
LFF	**La Frestale**	**20.59**	**306**	*eP*	Pn	05 19 41.4	-0.3	
	comp=Z,15nm,0.6s							
LFF	**La Frestale**	**20.59**	**306**	*eP*	Pn	05 19 41.4	-0.3	
	comp=Z,15nm,0.6s							
LFF	**La Frestale**	**20.59**	**306**	*eP*	Pn	05 19 41.4	-0.3	
	comp=Z,7.6nm,0.6s							
RDF	**Al-Radifah**	**20.59**	**101**	*eP*	**P**	**05 19 40.5**	**+1.3**	
RDF				AMb	AMB	05 19 45.9		
	comp=Z,68nm,1.5s							
RDF	**Al-Radifah**	**20.59**	**101**	*eP*	**P**	**05 19 40.5**	**+1.3**	
	comp=Z,68nm,1.5s							
GIVF	**Givet**	**20.78**	**323**	*eP*	**P**	**05 19 41.2**	**0.0**	
	comp=Z,12nm,0.5s							
GIVF	**Givet**	**20.78**	**323**	*eP*	**P**	**05 19 41.2**	**0.0**	
	comp=Z,12nm,0.5s							
GIVF	**Givet**	**20.78**	**323**	*eP*	**P**	**05 19 41.2**	**0.0**	
	comp=Z,5.9nm,0.5s							
BAIF	**Baives**	**21.07**	**322**	*eP*	**P**	**05 19 41.4**	**-2.8**	
	comp=Z,24nm,0.8s							
BAIF	**Baives**	**21.07**	**322**	*eP*	**P**	**05 19 41.4**	**-2.8**	
	comp=Z,24nm,0.8s							
BAIF	**Baives**	**21.07**	**322**	*eP*	**P**	**05 19 41.4**	**-2.8**	
	comp=Z,24nm,0.8s							
MFF	**Saint Martin d**	**21.79**	**310**	*eP*	**P**	**05 19 49.4**	**-2.6**	
MFF	**Saint Martin d**	**21.79**	**310**	*eP*	**P**	**05 19 49.4**	**-2.6**	
MFF	**Saint Martin d**	**21.79**	**310**	*eP*	**P**	**05 19 49.4**	**-2.6**	
LDF	**La Druitiere**	**22.64**	**314**	*eP*	**P**	**05 20 00.5**	**-0.6**	
	comp=Z,32nm,1.0s							
LDF	**La Druitiere**	**22.64**	**314**	*eP*	**P**	**05 20 00.5**	**-0.6**	
	comp=Z,32nm,1.0s							
LDF	**La Druitiere**	**22.64**	**314**	*eP*	**P**	**05 20 00.5**	**-0.6**	
	comp=Z,32nm,1.0s							
FLN	**La Foliniere**	**22.93**	**315**	*eP*	**P**	**05 20 01.6**	**-2.5**	
FLN				*eR*				
	comp=Z,53nm,22.2s							
FLN	**La Foliniere**	**22.93**	**315**	*eP*	**P**	**05 20 01.6**	**-2.5**	
FLN	**La Foliniere**	**22.93**	**315**	*eP*	**P**	**05 20 01.6**	**-2.5**	
ESDC	**Sonseca Array**	**22.94**	**290**	P	**P**	**05 20 02.7**	**-1.7**	
ESDC	**Sonseca Array**	**22.94**	**290**	P	**P**	**05 20 02.7**	**-1.7**	
ESDC	**Sonseca Array**	**22.94**	**290**	P	**P**	**05 20 02.7**	**-1.7**	
	comp=Z,3.5nm,0.7s,baz=81,slow=9.3,SNR=20							
GRR	**Gorron**	**22.98**	**313**	*eP*	**P**	**05 20 03.9**	**-0.7**	
GRR	**Gorron**	**22.98**	**313**	*eP*	**P**	**05 20 03.9**	**-0.7**	
GRR	**Gorron**	**22.98**	**313**	*eP*	**P**	**05 20 03.9**	**-0.7**	
SGMF	**Saint Gilles**	**23.95**	**312**	*eP*	**P**	**05 20 14.2**	**+0.3**	
SGMF	**Saint Gilles**	**23.95**	**312**	*eP*	**P**	**05 20 14.2**	**+0.3**	
SGMF	**Saint Gilles**	**23.95**	**312**	*eP*	**P**	**05 20 14.2**	**+0.3**	
QUIF	**Quistinic**	**24.20**	**311**	*eP*	**P**	**05 20 16.8**	**+0.7**	
	comp=Z,56nm,1.1s							
QUIF	**Quistinic**	**24.20**	**311**	*eP*	**P**	**05 20 16.8**	**+0.7**	
	comp=Z,56nm,1.1s							
QUIF	**Quistinic**	**24.20**	**311**	*eP*	**P**	**05 20 16.8**	**+0.7**	
	comp=Z,28nm,1.1s							
HFS	**Hagfors**	**26.13**	**348**	P	**P**	**05 20 32.6**	**-1.0**	
HFS	**Hagfors**	**26.13**	**348**	P	**P**	**05 20 32.6**	**-1.0**	
	comp=Z,1.4nm,0.4s,baz=147,slow=12,SNR=11							
FINES	**FINESS Array B**	**26.54**	**2**	P	**P**	**05 20 35.2**	**-2.0**	
FINES	**FINESS Array B**	**26.54**	**2**	P	**P**	**05 20 35.2**	**-2.0**	
	comp=Z,2.7nm,0.8s,baz=190,slow=14,SNR=4.3							
FINES				LR	LR	05 31 56.0		
	comp=Z,81nm,20.0s,baz=168,slow=38							
NAO01	**NORSAR Array S**	**27.32**	**346**	*eP*	**P**	**05 20 43.6**	**-0.7**	
	comp=Z,3.1nm,0.6s							
NAO01	**NORSAR Array S**	**27.32**	**346**	*eP*	**P**	**05 20 43.6**	**-0.7**	
	comp=Z,3.1nm,0.6s							
NB2	**NORSAR Subarra**	**27.43**	**346**	P	**P**	**05 20 44.1**	**-1.2**	
	comp=Z,2.2nm,1.0s,baz=156,slow=9.3							
NOA	**NORSAR Array B**	**27.43**	**346**	P	**P**	**05 20 43.9**	**-1.4**	
NOA	**NORSAR Array B**	**27.43**	**346**	P	**P**	**05 20 43.9**	**-1.4**	
	comp=Z,1.7nm,0.7s,baz=152,slow=8.7,SNR=6.2							
EKA	**Eskdalemuir Ar**	**27.82**	**326**	P	**P**	**05 20 46.9**	**-1.8**	
EKA	**Eskdalemuir Ar**	**27.82**	**326**	P	**P**	**05 20 46.9**	**-1.8**	
	comp=Z,3.4nm,0.9s,baz=108,slow=8.3,SNR=4.0							
AKTO	**Aktyubinsk**	**28.90**	**47**	P	**P**	**05 20 56.9**	**-1.5**	
AKTO	**Aktyubinsk**	**28.90**	**47**	P	**P**	**05 20 56.9**	**-1.5**	
	comp=Z,2.0nm,0.8s,baz=247,slow=11,SNR=6.2							
AKTO				LR	LR	05 34 33.1		
	comp=Z,16nm,18.4s,baz=99,slow=40							
TOA0	**Torodi Ar. Sit**	**29.83**	**229**	*eP*	**P**	**05 21 09.3**	**+2.3**	
TOA0	**Torodi Ar. Sit**	**29.83**	**229**	*eP*	**P**	**05 21 09.3**	**+2.3**	
TORD	**Torodi Ar. Bea**	**29.83**	**229**	P	**P**	**05 21 06.7**	**-0.3**	
TORD	**Torodi Ar. Bea**	**29.83**	**229**	P	**P**	**05 21 06.7**	**-0.3**	
TORD	**Torodi Ar. Bea**	**29.83**	**229**	P	**P**	**05 21 06.7**	**-0.3**	
	comp=Z,1.5nm,0.6s,baz=39,slow=8.5,SNR=14							
ARCES	**ARCESS Array B**	**34.65**	**1**	P	**P**	**05 21 47.2**	**-1.4**	
ARCES	**ARCESS Array B**	**34.65**	**1**	P	**P**	**05 21 47.2**	**-1.4**	
	comp=Z,1.2nm,0.5s,baz=192,slow=9.0,SNR=11							
ARCES				LR	LR	05 36 22.6		
	comp=Z,97nm,18.5s,baz=177,slow=37							
KKAR	**Karatay Array**	**36.41**	**63**	*eP*	**P**	**05 22 05.5**	**+1.3**	
	comp=Z,0.9nm,0.7s							
KKAR	**Karatay Array**	**36.41**	**63**	*eP*	**P**	**05 22 05.4**	**+1.3**	
	comp=Z,0.9nm,0.7s							
DBIC	**Dimbokro**	**38.90**	**230**	*eP*	**P**	**05 22 26.3**	**+0.9**	
	comp=Z,3.3nm,1.0s							
DBIC	**Dimbokro**	**38.90**	**230**	*eP*	**P**	**05 22 26.3**	**+0.9**	
	comp=Z,3.3nm,1.0s							
DBIC	**Dimbokro**	**38.90**	**230**	P	**P**	**05 22 25.0**	**-0.4**	
	comp=Z,2.7nm,0.6s,baz=37,slow=5.5,SNR=6.7							
TIC	**Toumodi**	**39.02**	**231**	*eP*	**P**	**05 22 26.5**	**+0.1**	
	comp=Z,3.1nm,0.2s							
KIC	**Kosan Boka**	**39.07**	**230**	*eP*	**P**	**05 22 26.0**	**-0.8**	
	comp=Z,63nm,1.8s							
LIC	**Lamto**	**39.35**	**230**	*eP*	**P**	**05 22 30.3**	**+1.2**	
	comp=Z,4.9nm,0.5s							
LIC	**Lamto**	**39.35**	**230**	*eP*	**P**	**05 22 30.1**	**+1.0**	
	comp=Z,13nm,0.8s							
LIC	**Lamto**	**39.35**	**230**	*eP*	**P**	**05 22 30.3**	**+1.2**	
	comp=Z,4.9nm,0.5s							
LIC	**Lamto**	**39.35**	**230**	*eP*	**P**	**05 22 30.3**	**+1.2**	
	comp=Z,2.5nm,0.5s							
AAK	**Ala-Archa**	**39.37**	**63**	*eP*	**P**	**05 22 30.9**	**+1.7**	
	comp=Z,4.0nm,0.9s							
AAK	**Ala-Archa**	**39.37**	**63**	*eP*	**P**	**05 22 31.0**	**+1.7**	
	comp=Z,4.0nm,0.9s							
SPITS	**Spitsbergen Ar**	**43.47**	**358**	P	**P**	**05 23 00.7**	**-1.5**	
SPITS	**Spitsbergen Ar**	**43.47**	**358**	P	**P**	**05 23 00.7**	**-1.5**	
	comp=Z,4.1nm,0.8s,baz=117,slow=5.4,SNR=4.1							
MK31	**Makanchi Array**	**44.46**	**56**	*eP*	**P**	**05 23 11.3**	**+0.7**	
MK31	**Makanchi Array**	**44.46**	**56**	*eP*	**P**	**05 23 11.3**	**+0.7**	
MKAR	**Makanchi Array**	**44.46**	**56**	*eP*	**P**	**05 23 11.7**	**+1.1**	
MKAR	**Makanchi Array**	**44.46**	**56**	*eP*	**P**	**05 23 11.7**	**+1.1**	
MKAR	**Makanchi Array**	**44.46**	**56**	P	**P**	**05 23 11.2**	**+0.6**	
	comp=Z,2.3nm,0.7s,baz=274,slow=6.1,SNR=13							
ZALV	**Zalesovo Beam**	**45.65**	**46**	P	**P**	**05 23 19.6**	**-0.3**	
ZALV	**Zalesovo Beam**	**45.65**	**46**	P	**P**	**05 23 19.5**	**-0.3**	
ZALV	**Zalesovo Beam**	**45.65**	**46**	P	**P**	**05 23 19.6**	**-0.3**	
	comp=Z,2.8nm,0.6s,baz=260,slow=11,SNR=6.8							
ZALV				LR	LR	05 44 51.8		
	comp=Z,30nm,18.1s,baz=269,slow=39							
SONM	**Songino Array**	**60.15**	**50**	P	**P**	**05 25 08.0**	**+1.0**	
SONM	**Songino Array**	**60.15**	**50**	P	**P**	**05 25 08.0**	**+1.0**	
SONM	**Songino Array**	**60.15**	**50**	P	**P**	**05 25 08.0**	**+1.0**	
	comp=Z,3.0nm,0.7s,baz=290,slow=7.5,SNR=21							
SONM				LR	LR	05 53 39.6		
	comp=Z,36nm,18.9s,baz=176,slow=38							
ULN	**Ulaanbaatar**	**60.55**	**50**	*eP*	**P**	**05 25 10.5**	**+0.7**	
	comp=Z,0.9nm,0.6s							
ULN	**Ulaanbaatar**	**60.55**	**50**	*eP*	**P**	**05 25 10.5**	**+0.7**	
	comp=Z,0.9nm,0.6s							
SCHQ	**Schefferville**	**62.90**	**319**	P	**P**	**05 25 25.5**	**+0.2**	
SCHQ	**Schefferville**	**62.90**	**319**	P	**P**	**05 25 25.5**	**+0.2**	
SCHQ	**Schefferville**	**62.90**	**319**	P	**P**	**05 25 25.5**	**+0.2**	
	comp=Z,2.5nm,0.6s,baz=114,slow=3.9,SNR=6.5							
USRK	**Ussuriysk Arra**	**77.47**	**45**	P	**P**	**05 26 55.1**	**+0.5**	
	comp=Z,8.4nm,0.9s,baz=298,slow=5.1,SNR=16							
KSAR	**Wonju Array Be**	**78.94**	**52**	P	**P**	**05 27 03.9**	**+1.0**	
KSAR	**Wonju Array Be**	**78.94**	**52**	P	**P**	**05 27 03.8**	**+1.0**	
KSRS	**Korea Array**	**78.95**	**52**	P	**P**	**05 27 03.9**	**+1.0**	
	comp=Z,1.4nm,0.6s,baz=304,slow=4.9,SNR=4.4							
WRA	**Warramunga Arr**	**117.25**	**96**	PKP	**PKPdf**	**05 33 45.4**	**+0.7**	
WRA	**Warramunga Arr**	**117.25**	**96**	PKIKP	**PKPdf**	**05 33 45.4**	**+0.7**	
WRA	**Warramunga Arr**	**117.25**	**96**	PKP	**PKPdf**	**05 33 45.4**	**+0.7**	
	comp=Z,0.3nm,0.6s,baz=309,slow=1.4,SNR=2.5							
ASAR	**Alice Springs**	**118.69**	**100**	PKP	**PKPdf**	**05 33 48.1**	**+0.7**	
ASAR	**Alice Springs**	**118.69**	**100**	PKIKP	**PKPdf**	**05 33 48.1**	**+0.7**	
ASAR	**Alice Springs**	**118.69**	**100**	PKP	**PKPdf**	**05 33 48.1**	**+0.7**	
	comp=Z,0.2nm,0.3s,baz=298,slow=2.0,SNR=4.8							

*NEIC **23** 05:46:30.3, 15.64N×92.66W, h190km, MD4.1(MEX), After MEX.*

MEX 23 05:46:30.3±0.8, 15.64N×92.66W, h190km±10km, MD4.1, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.54**	**277**	*i* P	Pn	05 46 55.5	-0.9
PCIG				*i* S	Sn	05 47 13.9	-2.5
PCIG		**0.54**	**277**	*i* P	Pn	05 46 55.5	-0.9
PCIG				*i* S	Sn	05 47 13.9	-2.5
CCIG	**Comitan**	**0.81**	**38**	*i* P	Pn	05 46 55.8	-2.2
CCIG				*i* S	Sn	05 47 16.5	-3.1
CCIG	**Comitan**	**0.81**	**38**	*i* P	Pn	05 46 55.8	-2.2
CCIG				*i* S	Sn	05 47 16.5	-3.1
TGIG		**1.21**	**339**	*eP*	Pn	05 46 58.9	-1.8
TGIG				*i* S	Sn	05 47 22.4	-2.1
TGIG		**1.21**	**339**	*eP*	Pn	05 46 58.9	-1.8
TGIG				*i* S	Sn	05 47 22.4	-2.1
HUIG	**Huatulco**	**3.33**	**273**	*i* P	Pn	05 47 21.7	-1.7
HUIG				*i* S	Sn	05 48 02.0	-2.8
HUIG	**Huatulco**	**3.33**	**273**	*i* P	Pn	05 47 21.7	-1.7
HUIG				*i* S	Sn	05 48 02.0	-2.8
VHO	**Vista Hermosa**	**4.16**	**291**	*eP*	Pn	05 47 33.8	-0.2
VHO				*i* S	Sn	05 48 21.8	-2.2
VHO	**Vista Hermosa**	**4.16**	**291**	*eP*	Pn	05 47 33.8	-0.2
VHO				*i* S	Sn	05 48 21.8	-2.2
TPIG	**Tehuac#an**	**5.28**	**302**	*i* P	Pn	05 47 47.5	-0.8
TPIG				*i* S	Sn	05 48 48.3	-1.5
TPIG	**Tehuac#an**	**5.28**	**302**	*i* P	Pn	05 47 47.5	-0.8
TPIG				*i* S	Sn	05 48 48.3	-1.5
PNIG	**Pinotepa**	**5.31**	**279**	*eP*	Pn	05 47 48.2	-0.4
PNIG				*i* S	Sn	05 48 49.1	-1.1
PNIG	**Pinotepa**	**5.31**	**279**	*eP*	Pn	05 47 48.2	-0.4
PNIG				*i* S	Sn	05 48 49.1	-1.1
UTMO	**Huajuapan**	**5.39**	**295**	*i* P	Pn	05 47 49.5	-0.3
UTMO				*i* S	Sn	05 48 50.5	-1.8
UTMO	**Huajuapan**	**5.39**	**295**	*i* P	Pn	05 47 49.5	-0.3
UTMO				*i* S	Sn	05 48 51.5	-0.8

IDC 23 05:55:48.5±1.8, 17.44S×175.36W, h237km±25km, mb3.9/5, mb1 4.0/6, mb1mx3.5/19, mbtmp3.9/6, Error ellipse: s-maj=35.7km s-min=17.3km az=122.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.92**	**45**	P	Pn	05 57 04.9	+1.8
	6.3nm,0.3s,baz=233,slow=20,SNR=7.3						
AFI				S	S	05 58 01.6	-0.6
	29nm,0.3s,baz=270,slow=20,SNR=18						
URZ	**Urewera**	**21.77**	**196**	P	P	06 00 21.3	-0.1
	14nm,0.5s,baz=39,slow=4.0,SNR=16						
STKA	**Stephens Creek**	**41.41**	**241**	P	P	06 03 11.6	-0.4
	1.5nm,0.7s,baz=76,slow=12,SNR=4.2						
WRA	**Warramunga Arr**	**47.58**	**259**	P	P	06 04 00.4	-0.6
	1.5nm,0.7s,baz=96,slow=7.1,SNR=16						
ASAR	**Alice Springs**	**47.72**	**254**	P	P	06 04 02.3	+0.3
	5.8nm,0.6s,baz=89,slow=8.3,SNR=75						
ILAR	**Eielson Array**	**84.80**	**12**	P	P	06 07 56.0	+0.2
	0.3nm,0.6s,baz=230,slow=6.3,SNR=10.0						
BRTR	**Keskin Array B**	**146.46**	**317**	PKPbc	PKPdf	06 15 01.3	+0.9
	0.7nm,0.7s,baz=33,slow=2.9,SNR=3.6						

IDC 23 05:59:09.7±1.8, 15.09S×176.66W, h0km, mb3.8/4, mb1 4.2/4, mb1mx3.8/16, mbtmp3.8/4, MS3.4/1, Ms1 3.3/1, ms1mx2.5/29, Error ellipse: s-maj=109.1km s-min=23.4km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.48**	**239**	LR	LR	06 21 57.9	
	comp=Z,46nm,18.4s,baz=208,slow=33						
WRA	**Warramunga Arr**	**46.85**	**257**	P	P	06 07 41.8	-0.1
	0.4nm,0.4s,baz=92,slow=7.5,SNR=10						
ASAR	**Alice Springs**	**47.22**	**252**	P	P	06 07 44.6	-0.1
	3.3nm,0.5s,baz=88,slow=8.0,SNR=41						
NVAR	**Mina Array Bea**	**76.24**	**44**	P	P	06 11 00.6	+0.1
	0.6nm,0.7s,baz=238,slow=8.4,SNR=4.4						
ILAR	**Eielson Array**	**82.78**	**12**	P	P	06 11 35.0	-0.3
	14nm,0.7s,baz=214,slow=5.5,SNR=18						
TXAR	**Lajitas Array**	**83.07**	**57**	P	P	06 11 38.0	+0.3
	0.2nm,0.7s,baz=203,slow=5.9,SNR=2.7						

IDC 23 06:01:38.8±9.4, 30.42S×177.10W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/16, mbtmp3.8/3, MS4.1/1, Ms1 4.1/1, ms1mx2.7/29, Error ellipse: s-maj=168.4km s-min=28.4km az=86.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.36**	**328**	Pn	Pn	06 02 05.1	0.0
	64nm,0.3s,baz=129,slow=14,SNR=10						
RAO				Sn	Sn	06 02 24.9	+1.0
	169nm,0.3s,baz=90,slow=20,SNR=9.5						
STKA	**Stephens Creek**	**35.23**	**257**	P	P	06 08 35.2	+0.2
	1.3nm,0.8s,baz=101,slow=14,SNR=4.1						
ASAR	**Alice Springs**	**43.88**	**267**	P	P	06 09 47.0	-0.3
	0.4nm,0.5s,baz=107,slow=7.5,SNR=4.8						
WRA	**Warramunga Arr**	**44.88**	**272**	P	P	06 09 55.0	-0.2
	1.0nm,0.5s,baz=113,slow=7.7,SNR=6.7						
H03N3	**Juan Fernandez**	**79.99**	**123**	T	T	07 41 10.9	
	baz=243,slow=0.7,SNR=82						
H03N2	**Juan Fernandez**	**80.00**	**123**	T	T	07 41 11.5	
	baz=243,slow=0.7,SNR=102						
H03N1	**Juan Fernandez**	**80.01**	**123**	T	T	07 41 15.0	
	baz=243,slow=0.7,SNR=83						
PDAR	**Pinedale Array**	**95.61**	**43**	LR	LR	06 55 47.0	
	comp=Z,72nm,18.1s,baz=167,slow=34						

*ISCJB **23** 06:02:54.2±1.9, 21.5S±0.7×179.2W±0.5, h602km, mb3.8/6, Error ellipse: s-maj=111.0km s-min=18.3km az=150.5*

*IDC **23** 06:02:54.6±6.4, 21.47S×179.16W, h592km±72km, mb3.0/5, mb1 3.3/5, mb1mx3.0/15, mbtmp3.0/5, Error ellipse: s-maj=101.1km s-min=29.0km az=150.0*

ISC 23 06:02:55.4±2.0, 21.5S±0.7×179.2W±0.5, h602km, n10, σ0 s70/10, mb3.7/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.35**	**245**	P	**P**	**06 09 09.9**	**-0.5**
	1.2nm,0.5s,baz=113,slow=14,SNR=5.0						
ASAR	**Alice Springs**	**43.20**	**258**	P	**P**	**06 10 05.5**	**+0.3**
	1.4nm,0.5s,baz=98,slow=8.0,SNR=12						
ASAR				PcP	**PcP**	**06 11 41.4**	**+0.9**
	0.4nm,0.5s,baz=118,slow=4.3,SNR=4.5						
WRA	**Warramunga Arr**	**43.35**	**263**	P	**P

SEY Seymchan 19.26 319⇓eP Pn 06 26 26.8 +2.3
PMR Palmer 19.43 46 eP Pn 06 26 27.1 +0.6
PMR pmax pmax
comp=Z,12nm,0.6s
PMR Palmer 19.43 46 eP Pn 06 26 27.1 +0.6
comp=Z,12nm,0.6s
TRF Thorofare Moun 19.64 40 eP P 06 26 27.2 -0.1
comp=Z,61nm,1.0s
BPAW Bear Paw Mtn. 19.65 38 eP P 06 26 27.4 +0.1
comp=Z,44nm,0.7s
IM04 Indian Mountai 19.65 31 eP P 06 26 26.8 -0.6
IMA2 Indian Mountai 19.74 31 eP P 06 26 28.2 -0.2
MCK McKinley 20.30 40 eP P 06 26 33.3 -1.1
MCK pmax pmax
comp=Z,19nm,0.6s
MCK McKinley 20.30 40 eP P 06 26 33.3 -1.1
comp=Z,19nm,0.6s
COLA College 21.21 38 eP P 06 26 44.7 +0.5
COLA pmax pmax
comp=Z,30nm,0.9s
COLA College 21.21 38 eP P 06 26 44.6 +0.5
comp=Z,30nm,0.9s
BMRM Bremner River 21.38 49 eP P 06 26 46.7 +0.7
comp=Z,15nm,0.5s
PAX Paxson 21.49 44 eP P 06 26 47.2 -0.1
PAX pmax pmax
comp=Z,20nm,0.7s
PAX Paxson 21.49 44 eP P 06 26 47.2 -0.1
comp=Z,20nm,0.7s
ILAR Eielson Array 21.54 39 P P 06 26 45.2 -2.5
ILAR PcP PcP 06 30 47.5 -0.5
ILAR ScP ScP 06 34 19.4 -1.3
ILAR Eielson Array 21.54 39 P P 06 26 45.2 -2.5
comp=Z,3.9nm,0.5s,baz=234,slow=9.3,SNR=82
ILAR PcP PcP 06 30 47.5 -0.5
comp=Z,1.3nm,0.6s,baz=288,slow=3.4,SNR=14
ILAR ScP ScP 06 34 19.4 -1.3
comp=Z,0.5nm,0.7s,baz=257,slow=3.3,SNR=5.0
COLD Coldfoot 21.55 31 eP P 06 26 47.8 0.0
comp=Z,19nm,0.9s
MENT Mentasta 22.25 44 eP P 06 26 55.2 -0.1
DOT Dot Lake 22.30 43 eP P 06 26 54.5 -1.4
comp=Z,41nm,0.8s
EGAK Eagle 23.85 41 eP P 06 27 10.1 -1.2
comp=Z,53nm,0.9s
YSS Yuzh-Sakhalins 25.13 275⇓iP P 06 27 24.6 +1.6
YSS pmax pmax
comp=Z,60nm,1.0s
ASAJ Asahikawa 26.49 270 P P 06 27 36.4 +1.0
ASAJ Asahikawa 26.49 270 P P 06 27 36.4 +1.0
comp=Z,23nm,0.9s,baz=49,slow=7.9,SNR=8.3
ASAJ LR LR 06 38 16.3
comp=Z,107nm,18.2s,baz=157,slow=37
INK Inuvik 27.76 35 P P 06 27 45.4 -1.1
INK PcP PcP 06 31 01.7 0.0
INK Inuvik 27.76 35 P P 06 27 45.4 -1.1
comp=Z,4.2nm,0.6s,baz=252,slow=15,SNR=19
INK PcP PcP 06 31 01.7 0.0
comp=Z,4.2nm,0.8s,baz=323,slow=10,SNR=5.6
INK LR LR 06 41 23.8
comp=Z,134nm,18.2s,baz=138,slow=42
TIXI Tiksi 30.72 331⇑eP P 06 28 15.0 +2.3
TIXI pmax pmax
comp=Z,2.0nm,1.0s
KLR Kul'dur 31.03 286 eP P 06 28 11.8 -4.0
KLR pmax pmax
comp=E,32nm,1.2s
KLR pmax pmax
comp=Z,60nm,1.2s
USRK Ussuriysk Arra 33.11 277 P P 06 28 34.0 0.0
comp=Z,2.9nm,0.6s,baz=50,slow=9.6,SNR=8.2
USRK PcP PcP 06 31 17.1 +1.0
comp=Z,3.0nm,0.8s,baz=83,slow=3.0,SNR=4.6
USRK LR LR 06 39 54.3
comp=Z,98nm,21.1s,baz=166,slow=32
H11N2 WAKE ISLAND Hy 33.25 204 T T 07 03 50.0
baz=20,slow=0.7,SNR=502
H11N3 WAKE ISLAND Hy 33.26 204 T T 07 03 48.9
baz=20,slow=0.7,SNR=546
H11N1 WAKE ISLAND Hy 33.27 204 T T 07 03 46.7
baz=20,slow=0.7,SNR=458
MJAR Matsushiro Arr 33.54 261 P P 06 28 38.8 +0.9
MJAR Matsushiro Arr 33.54 261 P P 06 28 38.8 +0.9
comp=Z,2.6nm,0.6s,baz=51,slow=7.1,SNR=7.7
MAJO Matsushiro 33.54 261 eP P 06 28 38.6 +0.7
MAJO pmax pmax
comp=Z,6.0nm,0.7s
MAJO Matsushiro 33.54 261 eP P 06 28 38.6 +0.7
comp=Z,5.6nm,0.7s
MAT Matsushiro 33.54 261 P P 06 28 38.5 +0.6
MAT eS S 06 33 59.1 +2.7
MDJ Mudanjiang 34.40 280 P P 06 28 44.8 -0.4
MDJ pP pP 06 28 57.6 -0.6
MDJ sP sP 06 29 03.9 -0.2
MDJ S S 06 34 09.5 +0.1
MDJ sS sS 06 34 28.4 -2.8
MDJ ScP ScP 06 35 00.0 -0.5
MDJ AMB AMB
comp=Z,10.0nm,1.0s
MDJ AMB AMB
comp=Z,98nm,3.8s
H11S1 WAKE ISLAND Hy 34.47 204 T T 07 05 20.3
baz=21,SNR=185
H11S2 WAKE ISLAND Hy 34.48 204 T T 07 05 21.5
baz=21,SNR=202
H11S3 WAKE ISLAND Hy 34.48 204 T T 07 05 24.0
baz=21,SNR=74
YKA Yellowknife Ar 35.53 46 P P 06 28 54.0 -0.8
YKA Yellowknife Ar 35.53 46 P P 06 28 54.0 -0.8
comp=Z,7.8nm,0.7s,baz=285,slow=7.3,SNR=14
MTMW Mount Mitchell 37.19 75 P P 06 29 11.2 +2.0
WPW White Pass 37.26 74 P P 06 29 11.1 +1.3
CN2 Changchun 37.38 281 eP P 06 29 09.9 -0.8
CN2 eS S 06 34 52.4 -2.6
CN2 AMB AMB
comp=Z,10.0nm,0.6s
CN2 AMB AMB
comp=Z,200nm,4.0s
WTV Waterville 37.75 71 P P 06 29 14.6 +0.7
JCJ Chichijima 37.80 245 LR LR 06 44 34.0
comp=Z,76nm,18.6s,baz=333,slow=36
VFP Flag Point 37.99 76 P P 06 29 17.7 +1.6
HAWA Hanford 38.63 73 eP P 06 29 22.1 +0.9
comp=Z,12nm,0.6s
VIPM Ingram Point 38.92 76 P P 06 29 25.0 +1.1
VIPM Ingram Point 38.92 76 P P 06 29 25.0 +1.1
YBH Yreka Blue Hor 39.12 81 P P 06 29 27.8 +2.3
YBH Yreka Blue Hor 39.12 81 P P 06 29 27.8 +2.3
comp=Z,8.3nm,0.9s,baz=272,slow=6.3,SNR=13
NEW Newport 39.16 69 eP P 06 29 26.0 +0.3
comp=Z,20nm,0.7s
NEW Newport 39.16 69 ⇑P P 06 29 26.0 +0.3
baz=39,SNR=19
KSRS Korea Array 39.43 271 P P 06 29 29.2 +1.3
comp=Z,7.5nm,0.9s,baz=59,slow=8.2,SNR=21
KSRS PcP PcP 06 31 36.1 +1.0
comp=Z,0.8nm,0.4s,baz=59,slow=1.4,SNR=6.0
KSAR Wonju Array Be 39.46 271 P P 06 29 29.2 +1.0
KSAR PcP PcP 06 31 36.1 +0.9
SNY Shenyang 39.60 279 ⇓P P 06 29 30.5 +1.2
SNY AMB AMB
comp=Z,29nm,0.5s
JNU Nakatsue 40.34 263 P P 06 29 36.8 +1.1
JNU Nakatsue 40.34 263 P P 06 29 36.8 +1.1
comp=Z,20nm,0.9s,baz=51,slow=7.2,SNR=10
MOD Modoc 40.52 79 eP P 06 29 38.9 +1.7
comp=Z,9.0nm,0.7s
BSMT Bassoo Peak 40.73 69 P P 06 29 39.2 +0.3
BMO Blue Mountains 40.76 74 eP P 06 29 39.6 +0.6
comp=Z,7.3nm,0.8s
WVOR Wild Horse Val 41.25 78 eP P 06 29 43.7 +0.5
WVOR pmax pmax
comp=Z,9.0nm,0.7s
WVOR Wild Horse Val 41.25 78 eP P 06 29 43.7 +0.5
comp=Z,9.3nm,0.7s
MSO Missoula 41.74 69 ⇓P P 06 29 47.4 +0.3
baz=42
PAHR Pah Rah Range 42.35 82 eP P 06 29 56.0 +3.7
comp=Z,14nm,1.3s
CMB Columbia Colle 42.73 84 eP P 06 29 54.6 -0.6
CMB pmax pmax
comp=Z,4.0nm,1.0s
CMB Columbia Colle 42.73 84 eP P 06 29 54.6 -0.6
comp=Z,3.9nm,1.0s
HLID Hailey 43.20 74 eP P 06 29 59.8 +0.7
comp=Z,12nm,0.8s

HLID Hailey 43.20 74 ⇑P P 06 29 59.6 +0.5
baz=43,SNR=27
BMN Battle Mountai 43.27 79 eP P 06 30 01.4 +1.7
BMN pmax pmax
comp=Z,8.0nm,0.6s
BMN Battle Mountai 43.27 79 eP P 06 30 01.4 +1.7
comp=Z,7.9nm,0.6s
DLMT Dillon 43.31 71 eP P 06 30 00.2 +0.3
comp=Z,11nm,1.2s
MCMT McKenzie Canyo 43.45 71 P P 06 30 01.3 +0.2
EGMT Eagleton 43.56 66 eP P 06 30 01.8 0.0
comp=Z,20nm,0.9s
EGMT Eagleton 43.56 66 ⇓P P 06 30 01.5 -0.3
baz=43,SNR=8.3
A19A Klindworth Far 43.67 64 ⇑P P 06 30 02.3 -0.3
baz=43
BOZ Bozeman (W) 43.73 70 eP P 06 30 03.4 +0.1
BOZ pmax pmax
comp=Z,18nm,0.7s
BOZ Bozeman (W) 43.73 70 eP P 06 30 03.4 +0.1
comp=Z,18nm,0.7s
NVAR Mina Array Bea 43.79 82 P P 06 30 05.3 +1.4
NVAR Mina Array Bea 43.79 82 P P 06 30 05.3 +1.4
comp=Z,5.4nm,0.8s,baz=298,slow=6.8,SNR=25
B19A Brinkman Farms 43.80 65 ⇓P P 06 30 03.6 0.0
baz=44
C19A Slack Wire Ran 44.12 66 ⇓P P 06 30 06.5 +0.2
baz=44,SNR=30
A20A Cobblestone Ra 44.16 64 ⇓P P 06 30 06.0 -0.6
baz=44,SNR=13
ELK Elko 44.31 78 eP P 06 30 08.5 +0.5
comp=Z,10nm,0.7s
D19A Cripps Ranch, 44.52 66 ⇓P P 06 30 09.4 0.0
baz=44,SNR=18
A21A Bergtoll Ranch 44.66 63 ⇓P P 06 30 10.3 -0.3
baz=44,SNR=5.1
TPH Tonopah 44.68 82 eP P 06 30 13.3 +2.3
TPH pmax pmax
comp=Z,9.0nm,0.8s
TPH Tonopah 44.68 82 eP P 06 30 13.3 +2.3
comp=Z,8.9nm,0.8s
C20A Veseth Ranch, 44.73 65 ⇑P P 06 30 10.9 -0.2
baz=44,SNR=14
VES Vestal, Richgr 44.91 86 ⇑P P 06 30 12.5 0.0
baz=45
B21A Ellsworth Farm 44.91 64 ⇓P P 06 30 12.0 -0.5
baz=45,SNR=6.3
E19A Rath Farm, Rou 44.95 67 ⇑P P 06 30 13.2 +0.3
baz=45,SNR=12
D20A Manuel Ranch, 44.98 66 ⇓P P 06 30 13.3 +0.1
baz=45,SNR=9.2
H17A Grant Village 45.04 71 eP P 06 30 15.5 +1.7
H17A Grant Village 45.04 71 ⇓P P 06 30 15.6 +1.7
baz=45,SNR=28
IMW Indian Meadow 45.10 71 eP P 06 30 15.3 +0.9
comp=Z,32nm,1.6s
FLWY Flagg Ranch 45.14 71 eP P 06 30 15.6 +1.0
comp=Z,20nm,0.7s
C21A Desert Coulee 45.19 65 ⇓P P 06 30 14.6 -0.1
baz=45,SNR=15
RRI2 Red Ridge 45.19 72 eP P 06 30 16.4 +1.3
comp=Z,16nm,0.6s
F19A Roth Farm, Mol 45.19 68 ⇓P P 06 30 15.1 +0.2
baz=45,SNR=12
FXWY Fox Creek 45.20 72 eP P 06 30 15.8 +0.7
comp=Z,3.0nm,0.8s
BJI Beijing 45.21 282 P P 06 30 14.8 -0.1
BJI S S 06 36 48.5 -2.6
BJI AMB AMB
comp=Z,15nm,0.7s
BJI AMB AMB
comp=Z,90nm,3.9s
A22A Carney Farms, 45.23 63 ⇑P P 06 30 14.8 -0.3
baz=45,SNR=8.2
MOOW Moose Ponds 45.30 71 eP P 06 30 16.8 +0.9
comp=Z,6.1nm,1.1s
E20A Mer Farm, Mu 45.31 67 ⇓P P 06 30 15.9 +0.2
baz=45,SNR=15
I17A Pilgrim Ck. 45.31 71 ⇓P P 06 30 17.1 +1.1
baz=45
H18A Shoshone NF, C 45.42 70 ⇑P P 06 30 17.1 +0.3
baz=45,SNR=14
REDW Red Top Meadow 45.46 72 eP P 06 30 18.3 +1.1
comp=Z,25nm,1.8s
SNOW Snow King Moun 45.46 72 eP P 06 30 18.9 +1.7
comp=Z,7.3nm,0.7s
LOHW Long Hollow 45.47 71 eP P 06 30 17.9 +0.7
comp=Z,15nm,1.4s
R11A Troy Canyon, C 45.53 81 eP P 06 30 18.6 +0.8
R11A Troy Canyon, C 45.53 81 ⇑P P 06 30 18.7 +1.0
baz=45
B22A Reddig Ranch S 45.55 64 ⇑P P 06 30 17.3 -0.4
baz=45,SNR=8.1
D21A La Casta Ranch 45.65 65 ⇓P P 06 30 18.4 0.0
baz=45,SNR=13
F20A Billings 45.68 68 ⇓P P 06 30 18.7 -0.1
baz=46
A23A Redstone 45.83 62 ⇓P P 06 30 19.2 -0.6
baz=46
H19A Powell 45.83 69 ⇑P P 06 30 20.6 +0.7
baz=46,SNR=25
FURC Furnace Creek, 45.90 83 ⇓P P 06 30 21.3 +0.9
baz=46
C22A Vida 45.92 64 ⇓P P 06 30 20.1 -0.4
baz=46,SNR=8.5
G20A Bridger 45.97 68 ⇑P P 06 30 21.0 0.0
baz=46,SNR=50
LRMC Laurel Mountai 46.01 85 ⇑P P 06 30 24.7 +3.2
baz=46
B23A Brockton 46.03 63 ⇓P P 06 30 21.0 -0.4
baz=46,SNR=6.3
D22A Cohagen 46.07 65 ⇓P P 06 30 22.0 +0.2
baz=46,SNR=23
DUG Dugway 46.12 77 eP P 06 30 23.6 +1.2
DUG pmax pmax
comp=Z,47nm,1.4s
DUG Dugway 46.12 77 eP P 06 30 23.6 +1.2
comp=Z,48nm,1.4s
DUG Dugway 46.12 77 ⇓P P 06 30 23.2 +0.8
baz=46,SNR=31
I19A Meeteetse 46.18 70 ⇑P P 06 30 23.2 +0.4
baz=46,SNR=9.7
F21A Absaloka Mine, 46.27 67 ⇑P P 06 30 23.3 0.0
baz=46,SNR=5.1
C23A Lambert 46.28 64 ⇑P P 06 30 23.1 -0.2
baz=46,SNR=16
A24A Westby 46.33 62 ⇓P P 06 30 23.0 -0.7
baz=46,SNR=6.6
DGMT Dagmar 46.47 62 ⇓P P 06 30 24.2 -0.6
baz=46
H20A Greybull 46.51 69 ⇑P P 06 30 25.0 -0.3
baz=46,SNR=12
SONM Songino Array 46.55 297 P P 06 30 26.1 +0.5
SONM Songino Array 46.55 297 P P 06 30 26.1 +0.5
comp=Z,6.7nm,0.7s,baz=58,slow=8.5,SNR=45
G21A Lodge Grass 46.55 68 ⇓P P 06 30 25.4 -0.3
baz=46,SNR=13
BW06 Boulder Array 46.58 72 eP P 06 30 25.9 0.0
comp=Z,22nm,0.6s
PDAR Pinedale Array 46.58 72 P P 06 30 26.2 +0.3
PDAR Pinedale Array 46.58 72 P P 06 30 26.2 +0.3
comp=Z,22nm,0.6s,baz=302,slow=3.6,SNR=266
PDAR LR LR 06 46 50.8
comp=Z,67nm,20.1s,baz=160,slow=32
J19A Crowheart 46.59 71 ⇑P P 06 30 26.7 +0.7
baz=46,SNR=20
E22A Miles City 46.60 66 ⇑P P 06 30 25.1 -0.8
baz=46
D23A Lindsay 46.62 64 ⇑P P 06 30 26.0 0.0
baz=46,SNR=8.2
SHOC Shoshone 46.63 84 ⇑P P 06 30 27.5 +1.3
baz=46
GSC Goldstone 46.68 85 ⇓P P 06 30 27.7 +1.0
baz=47
I20A Worland 46.74 70 ⇑P P 06 30 27.6 +0.5
baz=46,SNR=21
F22A Rosebud 46.79 67 ⇑P P 06 30 27.2 -0.2
baz=47,SNR=16
A25A Svangstu Ranch 46.82 61 ⇓P P 06 30 26.7 -0.9
baz=47
C24A Savage 46.86 64 ⇑P P 06 30 27.8 -0.1
baz=47,SNR=6.3
ZAK Zakamensk 46.88 301 eP P 06 30 23.7 -4.4
ZAK pmax pmax
comp=Z,8.0nm,1.2s
E23A Ismay 46.94 65 ⇑P P 06 30 28.9 +0.4
baz=47
H21A Big Horn, Sher 46.99 68 ⇓P P 06 30 28.9 -0.2
baz=47,SNR=21
G22A Birney 47.09 67 ⇓P P 06 30 29.5 -0.3
baz=47,SNR=19
J20A Shoshoni 47.11 70 ⇓P P 06 30 30.6 +0.5
baz=47,SNR=14
D24A Glendive 47.15 64 ⇑P P 06 30 30.0 -0.1
baz=47
B25A Knox Farm, Ray 47.16 62 ⇓P P 06 30 30.1 -0.1
baz=47
HEC Hector,Ludlow 47.28 85 ⇓P P 06 30 31.9 +0.5
baz=47
I21A Big Trails, Te 47.31 69 ⇑P P 06 30 31.5 -0.2
baz=47,SNR=28
F23A Volborg 47.32 66 ⇓P P 06 30 31.3 -0.2
baz=47,SNR=24
H22A Clearmont 47.41 68 ⇓P P 06 30 32.3 -0.1
baz=47,SNR=17
C25A Freed Ranch, W 47.41 63 ⇓P P 06 30 31.9 -0.4
baz=47
A26A Wade Farm, Ken 47.43 61 ⇑P P 06 30 31.2 -1.1
baz=47
E24A Baker 47.47 65 ⇑P P 06 30 32.5 -0.2
baz=47,SNR=7.7
J21A Lysite 47.50 70 ⇑P P 06 30 33.0 -0.1
baz=47,SNR=15
MVU Marysvale 47.52 78 eP P 06 30 34.8 +1.4
comp=Z,8.5nm,0.9s
MURC Murrieta 47.54 87 ⇓P P 06 30 33.5 +0.2
baz=47
HHC Hu-ho-hao-te 47.54 286 eP P 06 30 33.3 -0.1
HHC pP pP 06 30 47.1 +0.3
HHC PcP PcP 06 32 03.8 +1.1
HHC PP PP 06 32 25.3 +0.4
HHC S S 06 37 21.3 -3.4
HHC ScS ScS 06 40 18.8 -3.7
HHC AMB AMB
comp=Z,42nm,0.8s
HHC AMB AMB
comp=Z,170nm,7.9s
HHC LR LR
comp=Z,480nm,15.5s
HHC LR LR
comp=Z,350nm,17.8s
HHC LR LR
comp=Z,250nm,15.5s
B26A Jensen Ranch, 47.61 62 ⇓P P 06 30 32.1 -1.6
baz=47
G23A Biddle 47.62 67 ⇑P P 06 30 33.5 -0.4
baz=47,SNR=11
D25A Fairfield 47.69 63 ⇓P P 06 30 35.3 +0.8
baz=48
GMRC Granite Mounta 47.73 84 ⇑P P 06 30 37.3 +2.4
baz=48
I22A 9 Mile Ranch, 47.74 69 ⇑P P 06 30 35.2 +0.2
baz=48,SNR=21
F24A Ekalaka 47.80 66 ⇓P P 06 30 35.0 -0.2
baz=48,SNR=6.2
A27A Ledoux Ranch, 47.84 60 ⇓P P 06 30 35.0 -0.4
baz=48
Q16A Castle Valley 47.91 77 eP P 06 30 37.4 +1.0
Q16A Castle Valley 47.91 77 ⇑P P 06 30 37.7 +1.3
baz=48
C26A Wahner Farm, P 48.00 62 ⇑P P 06 30 36.8 +0.1
baz=48
E25A Miller Ranch, 48.02 64 ⇓P P 06 30 36.6 -0.4
baz=48
J22A Midwest 48.03 69 ⇓P P 06 30 37.3 +0.1
baz=48,SNR=38
BELC Belle Mtn. Jos 48.03 85 ⇓P P 06 30 38.0 +0.7
baz=48
K21A Alcova 48.03 71 ⇑P P 06 30 36.8 -0.4
baz=48,SNR=16
G24A Alzada 48.11 66 ⇑P P 06 30 37.1 -0.6
baz=48,SNR=12
D26A Manning 48.26 63 ⇑P P 06 30 38.4 -0.4
baz=48
I23A Meade Ranch, G 48.30 68 ⇓P P 06 30 38.9 -0.3
baz=48
O19A Miners Draw (B 48.31 74 ⇑P P 06 30 39.8 +0.4
baz=48,SNR=53
F25A Bowman 48.32 65 ⇓P P 06 30 38.9 -0.3
baz=48
H24A Dirks Ranch, A 48.37 67 ⇓P P 06 30 38.9 -0.9
baz=48,SNR=10
K22A Casper 48.45 70 ⇓P P 06 30 40.2 -0.3
baz=48,SNR=8.7
IRM Iron Mountain 48.46 85 ⇑P P 06 30 41.5 +1.1
baz=48
N20A Spence Gulch, 48.51 73 ⇑P P 06 30 41.3 +0.3
baz=48,SNR=11
E26A Carlson Angus 48.57 64 ⇓P P 06 30 40.6 -0.6
baz=48,SNR=11
J23A Dilts Ranch, B 48.58 69 ⇓P P 06 30 41.5 +0.2
baz=48
BC3 Big Chuckawall 48.60 85 ⇑P P 06 30 42.4 +0.8
baz=48
NJ2 Nanjing 48.60 272 eP P 06 30 41.1 -0.4
NJ2 AMB AMB
comp=Z,10.0nm,0.5s
RWWY Rawlins 48.62 72 eP P 06 30 41.8 -0.1
comp=Z,12nm,0.8s
W13A Hualapai Mount 48.64 83 ⇑P P 06 30 42.6 +0.5
baz=48
G25A Newell 48.76 66 ⇑P P 06 30 42.4 -0.3
baz=48
U15A North Rim 48.78 80 ⇑P P 06 30 44.3 +1.1
baz=49
P19A Cripple Cowboy 48.80 75 ⇓P P 06 30 43.5 +0.2
baz=49,SNR=50
DVTC Desert V Tower 48.85 87 ⇑P P 06 30 43.2 -0.4
baz=49
I24A Kuemmerle Ranc 48.85 68 ⇓P P 06 30 43.1 -0.3
baz=49
L22A Ellis Ranch, M 48.88 71 ⇓P P 06 30 44.6 +0.9
baz=49
K23A Bowen Ranch, D 48.92 70 ⇓P P 06 30 43.8 -0.3
baz=49,SNR=7.5
G27A Dupree 48.93 65 ⇓P P 06 30 47.8 +3.8
baz=49,SNR=7.4
O20A White River Ci 48.95 74 eP P 06 30 44.3 0.0
O20A White River Ci 48.95 74 ⇓P P 06 30 44.3 0.0
baz=49,SNR=33
A29A Manning Farm, 48.95 59 ⇑P P 06 30 43.6 -0.4
baz=49
H25A Fruitdale 49.00 66 ⇓P P 06 30 44.1 -0.4
baz=49,SNR=9.9
RSSD Black Hills 49.04 67 eP P 06 30 44.9 -0.1
RSSD pmax pmax
comp=Z,9.0nm,0.7s
RSSD Black Hills 49.04 67 eP P 06 30 44.9 -0.1
comp=Z,9.4nm,0.7s
E27A Carson 49.10 63 ⇓P P 06 30 44.6 -0.6
baz=49
Y12C Blythe 49.12 85 ⇓P P 06 30 46.8 +1.4
baz=49
J24A Dixon Ranch, L 49.14 68 ⇓P P 06 30 45.4 -0.2
baz=49,SNR=5.5
M22A Cedar Creek Ra 49.16 72 ⇑P P 06 30 45.8 -0.2
baz=49,SNR=11
F27A Lemmon 49.16 64 ⇑P P 06 30 45.2 -0.6
baz=49,SNR=6.2
G26A Maurine 49.17 65 ⇑P P 06 30 45.5 -0.3
baz=49,SNR=12
P20A De Beque 49.25 75 ⇓P P 06 30 46.6 0.0
baz=49,SNR=24
L23A Garrett 49.26 70 ⇓P P 06 30 46.4 -0.3
baz=49,SNR=32
I25A Rochford 49.27 67 ⇑P P 06 30 46.0 -0.8
baz=49,SNR=6.5
O21A Pagoda 49.36 73 ⇑P P 06 30 47.4 -0.1
baz=49,SNR=13
MDND Maddock 49.37 61 eP P 06 30 47.0 -0.2
MDND Maddock 49.37 61 ⇑P P 06 30 46.8 -0.4
baz=49
PV09 Paradox Valley 49.42 76 eP P 06 30 48.6 +0.6
A30A Hoffart Farm, 49.44 59 ⇑P P 06 30 46.8 -0.9
baz=49
H26A Fairpoint 49.47 66 ⇑P P 06 30 47.3 -0.8
baz=49
PV10 Paradox Valley 49.55 76 eP P 06 30 49.9 +0.9
comp=Z,632nm,0.7s
J25A Sunshine Ranch 49.61 68 ⇓P P 06 30 48.4 -0.8
baz=49
N22A Wattenberg Ran 49.61 72 ⇑P P 06 30 49.8 +0.4
baz=49,SNR=12
Q20A Ridgley Place, 49.64 75 ⇑P P 06 30 50.6 +1.0
baz=50,SNR=14
PV05 Paradox Valley 49.70 77 eP P 06 30 51.5 +1.4

B30A	Myrvik Farm, E	49.71	59	⇑P		P	06 30 49.6	-0.2		
	baz=49									
L24A	Wheatland	49.76	70	⇓P		P	06 30 50.3	-0.1		
	baz=50,SNR=5.5									
I26A	New Underwood	49.77	67	⇑P		P	06 30 50.3	-0.2		
	baz=50,SNR=6.7									
D29A	Pettibone, Tap	49.83	62	⇑P		P	06 30 51.3	+0.6		
	baz=50									
N23A	Red Feather La	49.86	72	⇓P		P	06 30 51.7	+0.3		
	baz=50,SNR=5.6									
H27A	Howes	49.86	66	⇑P		P	06 30 50.3	-0.8		
	baz=50									
F28A	McLaughlin	49.87	64	⇑P		P	06 30 51.0	-0.1		
	baz=50									
PV15	Paradox Valley	49.91	76	eP		P	06 30 52.0	+0.3		
WUAZ	Wupatki	49.93	81	eP		P	06 30 53.2	+1.4		
	comp=Z,12nm,1.0s									
WUAZ	Wupatki	49.93	81	⇑P		P	06 30 53.1	+1.2		
	baz=50									
O22A	Kremmling	49.95	73	⇓P		P	06 30 52.7	+0.6		
	baz=50									
ULM	Lac du Bonnet	49.98	56	P		P	06 30 50.2	-1.6		
ULM	Lac du Bonnet	49.98	56	P		P	06 30 50.2	-1.6		
	comp=Z,2.2nm,0.6s,baz=342,slow=19,SNR=3.7									
PV01	Paradox Valley	49.99	76	eP		P	06 30 52.6	+0.2		
	comp=Z,2µm,0.7s									
K25A	Mack Ranch, Ha	50.04	69	⇑P		P	06 30 52.2	-0.3		
	baz=50									
C30A	Mose, Pekin	50.07	60	⇓P		P	06 30 52.8	+0.3		
	baz=50									
R20A	Redvale	50.07	76	⇑P		P	06 30 53.0	+0.1		
	baz=50,SNR=15									
Q21A	Lamborn Mesa,	50.16	75	⇓P		P	06 30 53.4	-0.1		
	baz=50,SNR=11									
M24A	Cheyenne	50.17	70	⇓P		P	06 30 53.5	-0.1		
	baz=50									
P22A	Eagle	50.17	74	⇓P		P	06 30 53.4	-0.3		
	baz=50									
I27A	Quinn	50.22	66	⇑P		P	06 30 53.6	-0.2		
	baz=50,SNR=11									
G28A	Parade	50.26	64	⇓P		P	06 30 53.5	-0.6		
	baz=50									
D30A	Buchanan	50.26	61	⇑P		P	06 30 53.1	-0.9		
	baz=50									
O23A	Lake Granby, G	50.30	72	⇑P		P	06 30 55.4	+0.7		
	baz=50,SNR=26									
SMCO	Snowmass	50.31	74	eP		P	06 30 55.2	+0.2		
	comp=Z,5.9nm,0.6s									
S20A	Disappointment	50.31	76	⇓P		P	06 30 54.9	+0.1		
	baz=50,SNR=29									
K26A	Motz Farm, Whi	50.39	68	⇓P		P	06 30 55.1	-0.1		
	baz=50									
F29A	Eureka	50.42	63	⇑P		P	06 30 54.9	-0.4		
	baz=50									
H28A	Mission Ridge	50.44	65	⇑P		P	06 30 55.1	-0.3		
	baz=50,SNR=7.0									
R21A	Cimarron	50.47	75	⇓P		P	06 30 56.3	+0.4		
	baz=50,SNR=13									
N24A	Carr	50.54	71	⇓P		P	06 30 56.3	-0.1		
	baz=50									
E30A	Jud	50.54	62	⇓P		P	06 30 55.5	-0.6		
	baz=50									
Q22A	Crested Butte,	50.54	74	⇓P		P	06 30 56.8	+0.2		
	baz=50,SNR=11									
X16A	Lo Mia Camp, P	50.61	82	⇓P		P	06 30 57.5	+0.5		
	baz=50									
MVCO	Mesa Verde	50.62	77	eP		P	06 30 57.4	+0.3		
	comp=Z,6.5nm,0.6s									
MVCO	Mesa Verde	50.62	77	⇑P		P	06 30 57.7	+0.5		
	baz=50									
M25A	Palm-Egli Farm	50.65	70	⇓P		P	06 30 57.4	+0.2		
	baz=50									
J27A	Elkhorn Farm,	50.74	67	⇓P		P	06 30 57.4	-0.3		
	baz=50,SNR=9.1									
ISCO	Idaho Springs	50.74	73	eP		P	06 30 59.0	+0.9		
ISCO					pmax	pmax				
	comp=Z,7.0nm,0.8s									
ISCO	Idaho Springs	50.74	73	eP		P	06 30 59.0	+0.9		
	comp=Z,6.9nm,0.8s									
ISCO	Idaho Springs	50.74	73	⇑P		P	06 30 59.3	+1.3		
	baz=50									
O24A	Longmont	50.86	72	⇑P		P	06 31 00.2	+1.4		
	baz=51									
P23A	Jefferson	50.87	73	⇓P		P	06 31 00.6	+1.5		
	baz=51									
K27A	Flueckinger Fa	50.94	68	⇑P		P	06 30 59.2	-0.1		
	baz=51									
R22A	Saguache, Gunn	51.04	75	⇓P		P	06 31 01.1	+0.7		
	baz=51,SNR=8.4									
J28A	Allard Ranch,	51.08	66	⇓P		P	06 31 00.3	0.0		
	baz=51,SNR=16									
AGMN	Agassiz Nation	51.13	58	eP		P	06 30 59.2	-1.3		
	comp=Z,11nm,1.1s									
U20A	Newcomb	51.14	78	⇓P		P	06 31 02.6	+1.6		
	baz=51									
Q23A	Hartsel	51.17	74	⇓P		P	06 31 01.9	+0.6		
	baz=51									
M26A	McRoberts Ranc	51.17	69	⇓P		P	06 31 02.2	+1.2		
	baz=51									
W18A	Petrified Fore	51.21	80	⇑P		P	06 31 02.9	+1.4		
	baz=51									
G30A	Faulkton	51.23	63	⇑P		P	06 31 00.4	-0.9		
	baz=51,SNR=5.6									
I29A	Vivian Onida	51.25	65	⇑P		P	06 31 01.4	-0.1		
	baz=51									
S22A	4UR Ranch, Cre	51.30	75	⇑P		P	06 31 03.4	+1.1		
	baz=51									
P24A	Kohler Place,	51.34	72	⇓P		P	06 31 03.9	+1.4		
	baz=51									
T21A	Navajo Lake	51.35	77	⇑P		P	06 31 03.6	+1.0		
	baz=51									
214A	Organ Pipe Nat	51.38	85	⇓P		P	06 31 02.8	+0.1		
	baz=51									
O25A	Wiggins	51.44	71	⇑P		P	06 31 03.1	0.0		
	baz=51									
K28A	Ten Mile Ranch	51.44	67	⇑P		P	06 31 02.8	-0.2		
	baz=51,SNR=6.5									
X18A	Snowflake	51.46	81	⇑P		P	06 31 03.9	+0.5		
	baz=51									
HVS	Khovu-Aksy	51.47	306	⇓/P		P	06 31 04.7	+1.6		
HVS					pmax	pmax				
	comp=Z,37nm,1.1s									
Q24A	Divide	51.54	73	⇑P		P	06 31 04.7	+0.6		
	baz=51									
V20A	Brimhall	51.55	78	⇓P		P	06 31 04.5	+0.4		
	baz=51									
M27A	Reverse DX Ran	51.58	69	⇑P		P	06 31 04.3	+0.2		
	baz=51,SNR=5.6									
J29A	Okreek	51.61	66	⇓P		P	06 31 03.9	-0.4		
	baz=51,SNR=19									
R23A	Moffat	51.62	74	⇑P		P	06 31 05.0	+0.3		
	baz=51,SNR=8.5									
U21A	Nageezi	51.64	77	⇑P		P	06 31 05.1	+0.4		
	baz=52,SNR=23									
T22A	Edith	51.72	76	⇑P		P	06 31 05.9	+0.5		
	baz=52									
BRSD	Miller	51.76	64	eP		P	06 31 04.7	-0.6		
P25A	Willow Gulch B	51.78	72	⇑P		P	06 31 06.7	+0.9		
	baz=52									
O26A	Horse Wrangler	51.84	71	⇑P		P	06 31 06.3	+0.2		
	baz=52									
N27A	Anderson Farm,	51.94	70	⇓P		P	06 31 06.5	-0.3		
	baz=52									
W20A	Ramah	51.97	79	⇓P		P	06 31 08.3	+1.1		
	baz=52									
K29A	Lazy Trails An	52.02	66	⇓P		P	06 31 07.2	-0.1		
	baz=52									
R24A	Sanders Place,	52.03	74	⇑P		P	06 31 08.5	+0.8		
	baz=52,SNR=9.1									
V21A	Milan	52.06	78	⇓P		P	06 31 08.5	+0.6		
	baz=52									
Q25A	Bedland, Calha	52.12	73	⇓P		P	06 31 08.4	+0.1		
	baz=52,SNR=13									
J30A	Dallas	52.14	65	⇓P		P	06 31 07.7	-0.5		
	baz=52,SNR=5.9									
OGNE	Ogallala	52.15	69	⇓P		P	06 31 08.8	+0.5		
	baz=52									
U22A	Llaves	52.16	77	⇑P		P	06 31 09.9	+1.3		
	baz=52									
T23A	Casias Ranch,	52.24	76	⇓P		P	06 31 09.2	0.0		
	baz=52									
P26A	Davis Ranch, A	52.25	71	⇓P		P	06 31 09.7	+0.6		
	baz=52,SNR=9.6									
M28A	Bar X Bar Ranc	52.26	68	⇑P		P	06 31 09.1	0.0		
	baz=52									
S24A	Houchin Ranch,	52.35	74	⇓P		P	06 31 10.6	+0.5		
	baz=52,SNR=10									
X20A	Quemado	52.35	80	⇓P		P	06 31 10.7	+0.6		
	baz=52,SNR=10									
L29A	Maesberg Ranch	52.36	67	⇑P		P	06 31 09.8	-0.1		
	baz=52									
O27A	Beecher Island	52.36	70	⇓P		P	06 31 09.9	0.0		
	baz=52									
TUC	Tucson	52.42	83	eP		P	06 31 11.6	+1.2		
TUC					pmax	pmax				
	comp=Z,11nm,1.4s									
TUC	Tucson	52.42	83	eP		P	06 31 11.6	+1.2		
	comp=Z,11nm,1.4s									
V22A	San Miguel Ran	52.43	77	⇓P		P	06 31 11.2	+0.6		
	baz=52									
WHN	Wuhan	52.46	274	⇑P		P	06 31 10.3	-0.3		
K30A	Basset	52.48	66	⇓P		P	06 31 10.6	0.0		
	baz=52,SNR=9.5									
Q26A	Hugo	52.55	72	⇓P		P	06 31 12.1	+0.7		
	baz=52									
R25A	Fountain Ranch	52.59	73	⇓P		P	06 31 12.0	+0.3		
	baz=52,SNR=6.7									
N28A	Pribbeno Ranch	52.60	69	⇓P		P	06 31 12.4	+0.7		
	baz=52									
U23A	El Rito	52.60	76	⇓P		P	06 31 12.7	+0.8		
	baz=52,SNR=31									
T24B	San Luis	52.62	75	⇓P		P	06 31 12.8	+0.7		
	baz=52									
P27A	Ficken Ranch,	52.71	71	⇑P		P	06 31 13.0	+0.5		
	baz=52									
S25A	Stobets Cordova	52.81	74	⇓P		P	06 31 13.6	+0.2		
	baz=53,SNR=11									
O28A	Krutsinger Ran	52.82	70	⇑P		P	06 31 13.5	+0.3		
	baz=53									
Y20A	Horse Springs,	52.85	80	⇓P		P	06 31 14.2	+0.4		
	baz=53									
X21A	Alamocita Cree	52.86	79	⇓P		P	06 31 14.2	+0.4		
	baz=53									
L30A	Spencer Herefo	52.87	67	⇓P		P	06 31 13.8	+0.2		
	baz=53									
V23A	Ortiz Mt. (NFS	52.99	77	⇓P		P	06 31 16.3	+1.5		
	baz=53									
R26A	Arlington	52.99	73	⇓P		P	06 31 15.9	+1.3		
	baz=53									
KSCO	Kaye Shedlock'	53.02	71	eP		P	06 31 15.5	+0.6		
KSCO	Kaye Shedlock'	53.02	71	⇑P		P	06 31 15.4	+0.5		
	baz=53									
N29A	Votaw Ranch, W	53.06	69	⇑P		P	06 31 14.7	-0.3		
	baz=53									
U24A	Moreno Valley	53.11	76	⇓P		P	06 31 16.4	+0.7		
	baz=53									
T25A	Trinidad	53.16	74	⇓P		P	06 31 16.3	+0.3		
	baz=53,SNR=15									
P28A	Saint Francis	53.18	70	⇓P		P	06 31 16.2	+0.2		
	baz=53,SNR=9.0									
L31A	Butterfield Fa	53.23	66	⇓P		P	06 31 16.3	+0.1		
	baz=53,SNR=9.5									
Z20A	Nine Sixteen R	53.24	81	⇓P		P	06 31 18.4	+1.8		
	baz=53									
X22A	Bernardo	53.30	79	⇑P		P	06 31 18.2	+1.2		
	baz=53									
ANMO	Albuquerque	53.35	78	eP		P	06 31 18.0	+0.7		
	comp=Z,4.7nm,1.1s									
R27A	Eads	53.39	72	⇑P		P	06 31 17.8	+0.2		
	baz=53,SNR=7.7									
W23A	Werner Place,	53.39	77	⇑P		P	06 31 18.3	+0.6		
	baz=53									
O29A	4D Ranch, Culb	53.40	69	⇑P		P	06 31 16.6	-0.9		
	baz=53									
S26A	Kim	53.42	73	⇓P		P	06 31 17.8	+0.1		
	baz=53									
XAN	Xi'an	53.49	281	P		P	06 31 17.9	-0.3		
XAN				pP		pP	06 31 28.1	-3.8		
XAN				sP		sP	06 31 33.1	-4.5		
XAN				AMB		AMB				
	comp=Z,3.0nm,1.1s									
ECSD	EROS Data Cent	53.52	63	eP		P	06 31 16.9	-1.4		
	comp=Z,4.9nm,0.8s									
SUMG	Summit	53.55	14	eP		P	06 31 18.1	-0.5		
SUMG					pmax	pmax				
	comp=Z,22nm,1.1s									
SUMG	Summit	53.55	14	i P		P	06 31 17.8	-0.8		
	comp=Z,13nm,0.9s									
SUMG	Summit	53.55	14	eP		P	06 31 18.1	-0.5		
	comp=Z,22nm,1.1s									
V24A	Rampart Ranch,	53.56	76	⇑P		P	06 31 20.0	+1.0		
	baz=53									
120A	U Bar Ranch, L	53.60	82	⇓P		P	06 31 20.3	+1.1		
	baz=54									
T26A	Comanche Natio	53.63	74	⇓P		P	06 31 19.4	0.0		
	baz=53									
U25A	Circle Dot Ran	53.65	75	⇓P		P	06 31 20.1	+0.5		
	baz=54									
P29A	Atwood	53.65	70	⇓P		P	06 31 19.8	+0.4		
	baz=53,SNR=13									
Z21A	St. Cloud Mine	53.69	80	⇓P		P	06 31 20.6	+0.7		
	baz=54									
O30A	MW Ranch, Wils	53.80	69	⇓P		P	06 31 20.7	+0.3		
	baz=54,SNR=8.5									
W24A	Lazy 6 Ranch,	53.82	77	⇓P		P	06 31 21.4	+0.6		
	baz=54,SNR=13									
V25A	Rancho No Teng	53.89	76	⇓P		P	06 31 21.8	+0.5		
	baz=54,SNR=11									
R28A	Tribune	53.95	72	⇓P		P	06 31 21.4	-0.2		
	baz=54									
319A	Douglas	53.99	83	⇓P		P	06 31 24.2	+2.1		
	baz=54									
ZALV	Zalesovo Beam	54.02	313	PcP		PcP	06 32 26.6	+0.3		
ZALV	Zalesovo Beam	54.02	313	PcP		PcP	06 32 26.6	+0.3		
	comp=Z,7.5nm,0.7s,baz=34,slow=3.8,SNR=18									
ZALV				LR		LR	06 54 59.2			
	comp=Z,73nm,20.2s,baz=339,slow=37									
N31A	Bailey Ranch,	54.03	68	⇑P		P	06 31 22.1	0.0		
	baz=54									
U26A	Atchley Ranch,	54.05	75	⇑P		P	06 31 22.7	+0.2		
	baz=54,SNR=20									
Q29A	Oakley	54.09	71	⇑P		P	06 31 21.9	-0.7		
	baz=54									
P30A	Selden	54.09	70	⇑P		P	06 31 22.8	+0.2		
	baz=54,SNR=9.1									
220A	Playas Peak, P	54.10	82	⇑P		P	06 31 23.2	+0.4		
	baz=54									
BGNE	Belgrade	54.12	66	⇑P		P	06 31 21.7	-1.0		
	baz=54									
121A	Cooks Peak, D	54.14	81	⇑P		P	06 31 23.7	+0.5		
	baz=54									
Z22A	Elephant Butte	54.16	80	⇓P		P	06 31 23.1	-0.2		
	baz=54									
T27A	Campo	54.23	73	⇑P		P	06 31 24.1	+0.3		
	baz=54									
O31A	Woolen Ranch,	54.24	68	⇓P		P	06 31 23.5	-0.1		
	baz=54,SNR=6.0									
Y23A	Lovelace Mesa,	54.27	78	⇑P		P	06 31 24.8	+0.7		
	baz=54									
R29A	Marienthal	54.29	71	⇓P		P	06 31 24.2	+0.1		
	baz=54									
S28A	Manter	54.38	72	⇑P		P	06 31 25.0	+0.2		
	baz=54,SNR=21									
W25A	X Bar L Ranch,	54.39	76	⇓P		P	06 31 25.3	+0.3		
	baz=54,SNR=14									
V26A	Tequesquite Ra	54.42	75	⇑P		P	06 31 25.0	-0.1		
	baz=54,SNR=15									
N32A	Stulken Farm,	54.45	67	⇑P		P	06 31 24.4	-0.7		
	baz=54									
320A	Kipp Ranch, An	54.48	83	⇑P		P	06 31 25.8	+0.2		
	baz=54									
T28A	Walsh	54.56	73	⇑P		P	06 31 26.2	+0.1		
	baz=54,SNR=9.0									
U27A	Thompson Grove	54.59	74	⇑P		P	06 31 26.5	+0.1		
	baz=54,SNR=11									
P31A	Stockton	54.62	69	⇓P		P	06 31 26.7	+0.3		
	baz=54,SNR=5.3									
Y24A	Capitan	54.66	78	⇓P		P	06 31 27.5	+0.6		
	baz=54,SNR=24									
X25A	Clemmons Ranch	54.73	77	⇑P		P	06 31 27.1	-0.3		
	baz=55									
O32A	Brockman Farm,	54.79	68	⇓P		P	06 31 26.9	-0.7		
	baz=55									
S29A	Ulysses	54.83	72	⇓P		P	06 31 28.3	+0.3		
	baz=55									
R30A	Dighton	54.90	71	⇑P		P	06 31 28.6	+0.2		
	baz=55,SNR=10									
U28A	Mallet	54.98	74	⇑P		P	06 31 29.9	+0.7		
	baz=55,SNR=13									
P32A	Huiting Farm,	55.01	68	⇓P		P	06 31 28.8	-0.4		
	baz=55,SNR=5.3									
T29A	Hugoton	55.03	72	⇓P		P	06 31 29.1	-0.4		
	baz=55									
Z24A	Sheeppen Canyo	55.10	79	⇑P		P	06 31 30.6	+0.4		
	baz=55									
Y25A	Mesa, Roswell	55.11	78	⇓P		P	06 31 31.4	+1.2		
	baz=55									
S30A	Montezuma	55.21	71	⇑P		P	06 31 30.7	-0.1		
	baz=55,SNR=5.7									
X26A	CR and CF Fran	55.23	76	⇓P		P	06 31 32.6	+1.6		
	baz=55,SNR=8.8									
LZH	Lanzhou	55.24	286	P		P	06 31 32.3	+1.2		
LZH				PP		PP	06 31 33.6	-1.0		
LZH				eS		S	06 39 09.1	-1.9		
LZH				SS		SS	06 42 50.8	-4.4		
LZH				AMB		AMB				
	comp=Z,30nm,1.2s									
LZH				AMB		AMB				
	comp=Z,140nm,4.2s									
LZH				LR		LR				
	comp=Z,480nm,14.8s									
LZH				LR		LR				
	comp=Z,490nm,15.6s									
LZH				LR		LR				
	comp=Z,530nm,16.0s									
R31A	Burdett	55.34	70	⇑P		P	06 31 31.4	-0.2		
	baz=55									
W27A	Bowe Ranch, En	55.35	75	⇑P		P	06 31 32.5	+0.7		
	baz=55									
V28A	Channing	55.40	74	⇓P		P	06 31 31.8	-0.3		
	baz=55									
GTA	Gaotai	55.45	292	⇑P		P	06 31 33.1	+0.6		
GTA				pP		pP	06 31 47.4	+1.2		
GTA				ScP		ScP	06 36 25.5	-1.0		
GTA				S		S	06 39 13.4	-0.2		
GTA				AMB		AMB				
	comp=Z,23nm,0.8s									
GTA				AMB		AMB				
	comp=Z,72nm,4.3s									
GTA				LR		LR				
	comp=Z,110nm,16.4s									
GTA				LR		LR				
	comp=Z,90nm,17.6s									
GTA				LR		LR				
	comp=Z,130nm,17.3s									
124A	Stringfield Ra	55.47	79	⇓P		P	06 31 32.5	-0.3		
	baz=55									
Z25A	Roswell	55.53	78	⇑P		P	06 31 34.2	+1.0		
	baz=55									
Y26A	Elida	55.65	77	⇓P		P	06 31 33.5	-0.5		
	baz=56,SNR=7.9									
S31A	Mullinville	55.80	71	⇑P		P	06 31 34.1	-0.9		
	baz=56									
U30A	WK&E Inc. Balk	55.83	73	⇑P		P	06 31 34.6	-0.6		
	baz=56,SNR=7.5									
224A	Cornudas Mount	55.85	80	⇑P		P	06 31 34.6	-0.9		
	baz=56,SNR=8.7									
125A	Gardner Draw,	55.99	79	⇓P		P	06 31 36.3	-0.2		
	baz=56,SNR=7.3									
Z26A	Caprock	55.99	78	⇓P		P	06 31 36.0	-0.5		
	baz=56,SNR=8.7									
T31A	Randall Ranch,	56.04	71	⇓P		P	06 31 35.8	-0.8		
	baz=56,SNR=6.2									
Y27A	Causey	56.08	77	⇑P		P	06 31 37.0	0.0		
	baz=56,SNR=29									
X28A	Dimmitt	56.24	75	⇑P		P	06 31 37.9	-0.3		
	baz=56,SNR=5.1									
MSTX	Muleshoe	56.26	76	eP		P	06 31 38.3	0.0		
MSTX	Muleshoe	56.26	76	⇑P		P	06 31 38.1	-0.3		
	baz=56,SNR=9.0									
225A	Deer Hill, Car	56.26	79	⇑P		P	06 31 38.5	0.0		
	baz=56,SNR=5.4									
324A	Moseley Ranch,	56.31	80	⇓P		P	06 31 39.8	+1.1		
	baz=56									
AMTX	Amarillo	56.31	75	⇓P		P	06 31 39.3	+0.7		
	baz=56									
126A	Clayton Basin,	56.39	78	⇓P		P	06 31 39.6	+0.3		
	baz=56									
U31A	Nine Bar Ranch	56.42	72	⇑P		P	06 31 39.5	+0.1		
	baz=56									
Z27A	Tatum	56.43	77	⇓P		P	06 31 40.1	+0.5		
	baz=56,SNR=6.5									
KSU1	Kansas State U	56.52	68	eP		P	06 31 39.0	-1.0		
	comp=Z,43nm,0.9s									
X29A	Tulia	56.59	75	⇓P		P	06 31 41.1	+0.4		
	baz=56									
Y28A	McKinney Farm,	56.62	76	⇑P		P	06 31 40.9	0.0		
	baz=56,SNR=7.5									
325A	Bean Ranch, Si	56.67	80	⇑P		P	06 31 41.0	-0.4		
	baz=56,SNR=8.5									
226B	Tecolote Peak,	56.69	79	⇑P		P	06 31 40.8	-0.6		
	baz=56,SNR=6.8									
127A	Arkansas Junct	56.78	78	⇓P		P	06 31 41.6	-0.5		
	baz=57									
Z28A	Tucker Farm, M	56.96	77	⇑P		P	06 31 42.6	-0.7		
	baz=57									
Y29A	Porterfield Fa	57.01	76	⇑P		P	06 31 43.8	+0.2		
	baz=57,SNR=7.3									
425A	Indio Mountain	57.07	81	⇑P		P	06 31 43.8	-0.4		
	baz=57,SNR=7.8									
X30A	Coker Ranch, T	57.09	75	⇓P		P	06 31 43.9	-0.2		
	baz=57,SNR=11									
W31A	Holland Ranch,	57.16	73	⇑P		P	06 31 44.6	0.0		
	baz=57									
128A	Castleberry Fa	57.35	77	⇓P		P	06 31 45.9	-0.2		
	baz=57,SNR=7.1									
Z29A	Hungry Hill Ra	57.39	76	⇓P		P	06 31 46.9	+0.5		
	baz=57,SNR=5.2									
Y30A	Stafford Cattl	57.47	75	⇑P		P	06 31 46.8	0.0		
	baz=57									
X31A	McDonald Ranch	57.51	74	⇑P		P	06 31 46.9	-0.2		
	baz=57,SNR=6.4									
228A	UT Block 9, Go	57.63	78	⇓P		P	06 31 48.6	+0.6		
	baz=58									
129A	Stewart Farms,	57.73	77	⇓P		P	06

528A	**Cox Ranch, San**	**58.87**	**79**	⇓P		**P**		**06 31 56.8**	**+0.1**
	baz=59,SNR=9.7									
TXAR	**Lajitas Array**	**58.90**	**81**	P		**P**		**06 31 57.0**	**+0.1**
TXAR	**Lajitas Array**	**58.90**	**81**	P		**P**		**06 31 57.0**	**+0.1**
	comp=Z,4.8nm,0.7s,baz=301,slow=4.1,SNR=31									
627A	**Terlingua Ranc**	**58.99**	**81**	⇓P		**P**		**06 31 56.8**	**-0.8**
	baz=59,SNR=6.1									
330A	**Mertzon**	**58.99**	**77**	⇓P		**P**		**06 31 56.7**	**-0.9**
	baz=59,SNR=5.2									
KURK	**Kurchatov**	**59.01**	**314**	P		**P**		**06 31 56.6**	**-0.7**
KURK								06 32 46.2		
KURK					pmax	pmax				
	comp=Z,4.0nm,0.6s									
KURK					pmax	pmax				
	comp=Z,2.0nm,0.6s									
KURK	**Kurchatov**	**59.01**	**314**	P		**P**		**06 31 56.6**	**-0.7**
KURK				PcP		**PcP**		**06 32 46.1**	**+0.4**
ABTX	**Abilene, Hawle**	**59.09**	**75**	*e*P		**P**		**06 31 58.0**	**-0.2**
ABTX	**Abilene, Hawle**	**59.09**	**75**	⇑P		**P**		**06 31 57.7**	**-0.4**
	baz=59,SNR=8.2									
429A	**Davenport Ranc**	**59.09**	**78**	⇑P		**P**		**06 31 59.6**	**+1.4**
	baz=59,SNR=6.1									
KURBB	**Kurchatov Arra**	**59.12**	**314**	P		**P**		**06 31 56.6**	**-1.4**
	comp=Z,3.6nm,0.6s,baz=42,slow=6.6,SNR=19									
KURBB				PcP		**PcP**		**06 32 46.2**	**0.0**
	comp=Z,2.4nm,0.6s,baz=38,slow=3.2,SNR=6.6									
TUL1	**Tulsa**	**59.14**	**70**	*e*P		**P**		**06 31 58.0**	**-0.5**
TUL1	**Tulsa**	**59.14**	**70**	⇓P		**P**		**06 31 56.7**	**-1.8**
	baz=59									
231A	**Bronte**	**59.15**	**76**	⇑P		**P**		**06 31 58.9**	**+0.3**
	baz=59									
529A	**Stev Forest Ra**	**59.24**	**79**	⇑P		**P**		**06 31 59.2**	**-0.1**
	baz=59									
628A	**Black Gap, Mar**	**59.27**	**80**	⇓P		**P**		**06 31 59.7**	**+0.2**
	baz=59,SNR=10.0									
WMQ	**Urumqi**	**59.28**	**303**	P		**P**		**06 32 00.5**	**+1.2**
WMQ				S		**S**		**06 40 01.3**	**-2.4**
WMQ				ScS		**ScS**		**06 41 41.3**	**-3.6**
WMQ				SS		**SS**		**06 43 57.8**	**-0.3**
WMQ				AMB		AMB				
	comp=Z,12nm,0.6s									
WMQ				AMB		AMB				
	comp=Z,120nm,4.6s									
WMQ				LR		LR				
	comp=Z,190nm,20.4s									
WMQ				LR		LR				
	comp=Z,140nm,22.4s									
WMQ				LR		LR				
	comp=Z,110nm,21.0s									
430A	**Baggett Ranch,**	**59.39**	**78**	⇑P		**P**		**06 31 59.9**	**-0.4**
	baz=59,SNR=10									
331A	**San Angelo**	**59.52**	**77**	⇑P		**P**		**06 32 00.3**	**-0.8**
	baz=59,SNR=5.8									
232A	**Coleman**	**59.60**	**76**	⇑P		**P**		**06 32 00.8**	**-0.9**
	baz=59,SNR=12									
530A	**J-C Ranch, Com**	**59.77**	**78**	⇑P		**P**		**06 32 03.3**	**+0.4**
	baz=60									
431A	**Sonora**	**59.85**	**78**	⇑P		**P**		**06 32 02.3**	**-1.1**
	baz=60,SNR=9.2									
332A	**Millersview**	**59.89**	**76**	⇓P		**P**		**06 32 03.1**	**-0.6**
	baz=60,SNR=12									
MK31	**Makanchi Array**	**60.00**	**308**	*e*P		**P**		**06 32 02.5**	**-1.7**
MK31	**Makanchi Array**	**60.00**	**308**	*e*P		**P**		**06 32 02.5**	**-1.7**
MKAR	**Makanchi Array**	**60.00**	**308**	P		**P**		**06 32 02.5**	**-1.7**
MKAR								06 32 50.1		
MKAR					pmax	pmax				
	comp=Z,2.0nm,0.4s									
MKAR					pmax	pmax				
	comp=Z,2.0nm,0.5s									
MKAR					MLR	MLR				
	comp=Z,72nm,18.9s									
MKAR	**Makanchi Array**	**60.00**	**308**	P		**P**		**06 32 02.5**	**-1.7**
MKAR				PcP		**PcP**		**06 32 50.1**	**+0.3**
MKAR	**Makanchi Array**	**60.00**	**308**	P		**P**		**06 32 02.5**	**-1.7**
	comp=Z,2.4nm,0.4s,baz=52,slow=5.9,SNR=45									
MKAR				PcP		**PcP**		**06 32 50.1**	**+0.3**
	comp=Z,2.0nm,0.5s,baz=40,slow=4.0,SNR=6.2									
MKAR				LR		LR		06 59 07.9		
	comp=Z,72nm,18.9s,baz=31,slow=37									
GYA	**Guiyang**	**60.13**	**276**	*e*P		**P**		**06 32 06.8**	**+1.3**
GYA				pP		**pP**		**06 32 20.8**	**+1.5**
GYA				PcP		**PcP**		**06 32 50.0**	**-0.8**
GYA				PP		**PP**		**06 34 21.8**	**+3.5**
GYA				ScP		**ScP**		**06 36 45.8**	**-1.6**
GYA				PcS		**PcS**		**06 36 51.5**	**-1.9**
GYA				S		**S**		**06 40 12.3**	**-2.9**
GYA				SS		**SS**		**06 44 11.0**	**-1.4**
GYA				AMB		AMB				
	comp=Z,20nm,1.0s									
GYA				AMB		AMB				
	comp=Z,110nm,5.5s									
GYA				LR		LR				
	comp=Z,360nm,19.8s									
GYA				LR		LR				
	comp=Z,280nm,20.0s									
GYA				LR		LR				
	comp=Z,310nm,18.5s									
432A	**Menard**	**60.21**	**77**	⇑P		**P**		**06 32 06.0**	**+0.1**
	baz=60									
531A	**Rocksprings**	**60.25**	**78**	⇓P		**P**		**06 32 06.3**	**+0.2**
	baz=60									
SCHQ	**Schefferville**	**60.30**	**38**	*e*P		**P**		**06 32 05.3**	**-0.9**
	comp=Z,23nm,0.9s									
SCHQ	**Schefferville**	**60.30**	**38**	P		**P**		**06 32 05.2**	**-0.9**
	comp=Z,14nm,0.7s,baz=328,slow=7.5,SNR=16									
JCT	**Junction City**	**60.48**	**77**	*e*P		**P**		**06 32 09.8**	**+2.0**
JCT					pmax	pmax				
	comp=Z,10.0nm,0.7s									
JCT	**Junction City**	**60.48**	**77**	*e*P		**P**		**06 32 09.8**	**+2.0**
	comp=Z,10nm,0.7s									
JCT	**Junction City**	**60.48**	**77**	⇓P		**P**		**06 32 07.2**	**-0.6**
	baz=60,SNR=9.2									
SLM	**Saint Louis**	**60.49**	**64**	*e*P		**P**		**06 32 07.1**	**-0.5**
SLM					pmax	pmax				
	comp=Z,19nm,0.7s									
SLM	**Saint Louis**	**60.49**	**64**	*e*P		**P**		**06 32 07.1**	**-0.5**
	comp=Z,19nm,0.7s									
532A	**Rocksprings**	**60.67**	**77**	⇑P		**P**		**06 32 09.7**	**+0.6**
	baz=60									
631A	**Perdido Creek**	**60.76**	**79**	⇑P		**P**		**06 32 09.8**	**+0.2**
	baz=61									
WHTX	**Lake Whitney**	**60.86**	**74**	⇑P		**P**		**06 32 10.6**	**+0.4**
	baz=61									
BVAR	**Borovoye Array**	**60.91**	**320**	P		**P**		**06 32 09.0**	**-1.3**
BVAR								06 32 53.4		
BVAR					pmax	pmax				
	comp=Z,4.0nm,0.6s									
BVAR					pmax	pmax				
	comp=Z,4.0nm,0.6s									
BVAR	**Borovoye Array**	**60.91**	**320**	P		**P**		**06 32 09.0**	**-1.3**
BVAR				PcP		**PcP**		**06 32 53.4**	**+0.1**
BVAR	**Borovoye Array**	**60.91**	**320**	P		**P**		**06 32 09.0**	**-1.3**
	comp=Z,3.6nm,0.6s,baz=55,slow=7.2,SNR=12									
BVAR				PcP		**PcP**		**06 32 53.4**	**+0.1**
	comp=Z,3.9nm,0.6s,baz=62,slow=4.2,SNR=7.5									
BRVK	**Borovoye**	**60.93**	**320**	⇑*e*P		**P**		**06 32 12.3**	**+1.9**
BRVK					pmax	pmax				
	comp=Z,6.0nm,0.8s									
BRVK	**Borovoye**	**60.93**	**320**	*e*P		**P**		**06 32 11.0**	**+0.6**
	comp=Z,5.5nm,0.6s									
SFIN	**Scholer Farm**	**61.04**	**61**	*e*P		**P**		**06 32 10.9**	**-0.4**
SFIN	**Scholer Farm**	**61.04**	**61**	⇑P		**P**		**06 32 10.5**	**-0.8**
	baz=61,SNR=12									
632A	**Uvalde**	**61.18**	**78**	⇑P		**P**		**06 32 12.4**	**0.0**
	baz=61,SNR=6.8									
MIAR	**Mount Ida**	**61.40**	**70**	*e*P		**P**		**06 32 13.9**	**0.0**
MIAR					pmax	pmax				
	comp=Z,12nm,0.9s									
MIAR	**Mount Ida**	**61.40**	**70**	*e*P		**P**		**06 32 13.9**	**0.0**
	comp=Z,12nm,0.9s									
732A	**Laxson Ranch,**	**61.61**	**79**	⇑P		**P**		**06 32 14.9**	**-0.4**
	baz=62,SNR=6.4									
OLIL	**Olney**	**61.63**	**63**	*e*P		**P**		**06 32 15.2**	**-0.1**
	comp=Z,50nm,0.8s									
PBMO	**Poplar Bluff**	**61.67**	**66**	*e*P		**P**		**06 32 15.1**	**-0.5**
SIUC	**Southern Illin**	**61.71**	**64**	*e*P		**P**		**06 32 15.5**	**-0.3**
	comp=Z,26nm,0.8s									
H06N1	**SOCORRO T-PHAS**	**61.87**	**95**	T		T		07 39 43.3		
	SNR=9.0									
H06E1	**SOCORRO T-PHAS**	**61.97**	**95**	T		T		07 39 45.7		
	SNR=50									
BLO	**Bloomington**	**62.20**	**61**	*e*P		**P**		**06 32 18.3**	**-0.9**
BLO					pmax	pmax				
	comp=Z,16nm,0.6s									
BLO	**Bloomington**	**62.20**	**61**	*e*P		**P**		**06 32 18.3**	**-0.9**
	comp=Z,16nm,0.6s									
USIN	**University of**	**62.41**	**63**	*e*P		**P**		**06 32 20.3**	**-0.3**
	comp=Z,73nm,0.6s									
ARU	**Arti**	**62.67**	**328**	*d*iP		**P**		**06 32 23.5**	**+1.5**
ARU								06 34 38.4		
ARU					S	**S**		**06 40 49.8**	**+3.5**
ARU					SS	**SS**		**06 44 51.2**	**+0.7**
ARU					pmax	pmax				
	comp=Z,5.0nm,0.6s									
QIZ	**Qiongzhong**	**63.54**	**268**	P		**P**		**06 32 28.8**	**+0.5**
QIZ					S	**S**		**06 40 57.3**	**-0.9**
QIZ					AMB	AMB				
	comp=Z,320nm,6.0s									
KMI	**Kunming**	**63.54**	**278**	P		**P**		**06 32 27.5**	**-1.1**
KMI					AMB	AMB				
	comp=Z,13nm,0.7s									
JOF	**Joensuu**	**63.75**	**345**	*e*P		**P**		**06 32 27.4**	**-1.6**
JOF					pmax	pmax				
	comp=Z,5.0nm,0.6s									
JOF	**Joensuu**	**63.75**	**345**	*e*p		**P**		**06 32 27.4**	**-1.6**
	comp=Z,5.4nm,0.6s									
OXF	**Oxford**	**63.86**	**67**	*e*P		**P**		**06 32 30.4**	**+0.2**
OXF					pmax	pmax				
	comp=Z,94nm,1.1s									
OXF	**Oxford**	**63.86**	**67**	*e*P		**P**		**06 32 30.4**	**+0.2**
	comp=Z,94nm,1.1s									
KLMR	**Klimovskoe**	**64.10**	**340**	*e*P		**P**		**06 32 29.6**	**-1.8**
KLMR					pmax	pmax				
	comp=Z,15nm,1.4s									
KAF	**Kangasniemi**	**65.27**	**347**	*e*P		**P**		**06 32 37.2**	**-1.8**
KAF					pmax	pmax				
	comp=Z,8.0nm,0.6s									
KAF	**Kangasniemi**	**65.27**	**347**	*e*p		**P**		**06 32 37.2**	**-1.8**
	comp=Z,7.5nm,0.6s									
SSPA	**Standing Stone**	**65.76**	**55**	*e*P		**P**		**06 32 41.5**	**-1.0**
	comp=Z,14nm,0.9s									
FINES	**FINESS Array B**	**65.94**	**347**	P		**P**		**06 32 41.9**	**-1.4**
FINES	**FINESS Array B**	**65.94**	**347**	P		**P**		**06 32 41.9**	**-1.4**
	comp=Z,6.3nm,0.6s,baz=14,slow=6.5,SNR=16									
FINES					LR	LR		07 05 39.2		
	comp=Z,48nm,20.2s,baz=346,slow=40									
TKL	**Tuckaleechee C**	**66.24**	**62**	*e*P		**P**		**06 32 45.0**	**-0.6**
AAK	**Ala-Archa**	**66.84**	**310**	⇓*i*P		**P**		**06 32 50.7**	**+1.1**
AAK					pmax	pmax				
	comp=Z,21nm,0.7s									
AAK	**Ala-Archa**	**66.84**	**310**	*e*P		**P**		**06 32 49.0**	**-0.6**
	comp=Z,9.6nm,0.7s									
LSA	**Lhasa**	**67.31**	**289**	P		**P**		**06 32 54.1**	**+1.0**
LSA	**Lhasa**	**67.31**	**289**	*e*P		**P**		**06 32 54.9**	**+1.7**
LSA					pmax	pmax				
	comp=Z,17nm,0.6s									
LSA	**Lhasa**	**67.31**	**289**	*e*P		**P**		**06 32 54.9**	**+1.7**
	comp=Z,18nm,0.6s									
AKTO	**Aktyubinsk**	**67.73**	**325**	P		**P**		**06 32 54.7**	**-0.3**
AKTO					pmax	pmax				
	comp=Z,4.0nm,0.6s									
AKTO	**Aktyubinsk**	**67.73**	**325**	P		**P**		**06 32 54.6**	**-0.3**
AKTO	**Aktyubinsk**	**67.73**	**325**	P		**P**		**06 32 54.6**	**-0.3**
	comp=Z,3.6nm,0.6s,baz=35,slow=7.3,SNR=7.0									
NB2	**NORSAR Subarra**	**67.84**	**355**	P		**P**		**06 32 54.6**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=8.3,slow=6.2									
NOA	**NORSAR Array B**	**67.84**	**355**	P		**P**		**06 32 54.5**	**-0.9**
NOA	**NORSAR Array B**	**67.84**	**355**	P		**P**		**06 32 54.5**	**-0.9**
	comp=Z,3.8nm,0.6s,baz=6.8,slow=6.3,SNR=18									
NOA					LR	LR		07 05 57.7		
	comp=Z,25nm,18.1s,baz=350,slow=39									
KMSC	**Kings Mountain**	**67.97**	**61**	*e*P		**P**		**06 32 56.5**	**-0.2**
KMSC	**Kings Mountain**	**67.97**	**61**	⇓P		**P**		**06 32 55.9**	**-0.7**
	baz=68									
KSH	**Kashi**	**68.45**	**307**	P		P		06 33 05.0	+5.2
KSH					PP	PP		06 35 37.3	+6.5
KSH					S	**S**		**06 41 58.9**	**+1.2**
KSH					AMB	AMB				
	comp=Z,13nm,0.7s									
KSH					AMB	AMB				
	comp=Z,100nm,5.1s									
KSH					LR	LR				
	comp=Z,99nm,7.6s									
KSH					LR	LR				
	comp=Z,86nm,6.1s									
KSH					LR	LR				
	comp=Z,100nm,5.1s									
TAOE	**Nuku Hiva Isla**	**68.60**	**138**	*e*T		T		07 47 48.4		
	comp=Z,48nm,0.2s									
SHL	**Shillong**	**69.90**	**286**	*e*P		**P**		**06 33 08.5**	**-0.5**
OBN	**Obninsk**	**69.99**	**339**	⇑*i*P		**P**		**06 33 08.8**	**0.0**
OBN					pmax	pmax				
	comp=Z,22nm,1.4s									
OBN					MLR	MLR				
	comp=Z,100nm,18.0s									
TAPN	**Taplejung**	**71.08**	**290**	*e*P		**P**		**06 33 17.0**	**+0.7**
	comp=Z,56nm,0.7s									
PMOR	**Pomariorio Ree**	**71.32**	**148**	*e*T		T		07 51 11.2		
	comp=Z,18nm,0.2s									
ODAN	**Odare**	**71.63**	**290**	*e*P		**P**		**06 33 20.5**	**+0.9**
	comp=Z,23nm,0.6s									
GUN	**Gumba**	**71.74**	**292**	*e*P		**P**		**06 33 21.4**	**+1.1**
	comp=Z,94nm,0.4s									
JIRN	**Jiri**	**71.74**	**291**	*e*P		**P**		**06 33 21.4**	**+1.0**
	comp=Z,48nm,0.6s									
RAMN	**Ramite**	**72.03**	**291**	*e*P		**P**		**06 33 22.7**	**+0.7**
	comp=Z,75nm,0.5s									
KKN	**Kakani**	**72.18**	**292**	*e*P		**P**		**06 33 23.7**	**+0.9**
	comp=Z,42nm,0.5s									
PKI	**Pulchoki**	**72.27**	**292**	*e*P		**P**		**06 33 24.1**	**+0.6**
	comp=Z,28nm,0.5s									
PKIN	**Phulchoki**	**72.27**	**292**	*e*P		**P**		**06 33 24.1**	**+0.7**
	comp=Z,29nm,0.5s									
GKN	**Gorkha**	**72.39**	**293**	*e*P		**P**		**06 33 24.7**	**+0.7**
	comp=Z,45nm,0.5s									
VRHR	**Novokhopersk**	**72.41**	**334**	*e*P		**P**		**06 33 22.0**	**-1.5**
VRHR					pmax	pmax				
	comp=Z,8.0nm,1.0s									
VRHR					pmax	pmax				
	comp=N,3.0nm,0.5s									
VRHR					pmax	pmax				
	comp=E,7.0nm,1.0s									
DMN	**Daman**	**72.42**	**292**	*e*P		**P**		**06 33 25.1**	**+0.8**
	comp=E,8.0nm,0.3s									
DANN	**Dangsing**	**72.64**	**294**	*e*P		**P**		**06 33 26.5**	**+0.9**
	comp=E,35nm,0.7s									
VSR	**Storozhevoye**	**72.95**	**336**	*e*P		**P**		**06 33 25.7**	**-1.0**
VSR					pmax	pmax				
	comp=N,10.0nm,1.1s									
VSR					pmax	pmax				
	comp=E,9.0nm,1.1s									
VSR					pmax	pmax				
	comp=Z,9.0nm,1.1s									
VORD	**Divnogorie**	**73.14**	**336**	*e*P		**P**		**06 33 27.0**	**-0.8**
VORD					pmax	pmax				
	comp=E,30nm,1.2s									
VORD					pmax	pmax				
	comp=Z,8.0nm,1.2s									
KOLN	**Koldanda**	**73.17**	**293**	*e*P		**P**		**06 33 29.4**	**+0.7**
	comp=Z,17nm,0.6s									
PPT	**Papeete**	**73.18**	**151**	LR		LR		06 57 56.9		
	comp=Z,81nm,21.2s,baz=100,slow=29									
PPT2	**Papeete2**	**73.20**	**151**	*e*LR		LR		06 55 46.1		
	comp=Z,111nm,26.5s									
PPT2	**Papeete2**	**73.20**	**151**	*e*T		T		07 53 32.8		
	comp=Z,6.4nm,0.2s									
AKASG	**Malin Array Be**	**75.68**	**342**	P		**P**		**06 33 41.6**	**-1.0**
AKASG					pmax	pmax				
	comp=Z,5.0nm,0.5s									
AKASG					MLR	MLR				
	comp=Z,63nm,19.8s									
AKASG	**Malin Array Be**	**75.68**	**342**	P		**P**		**06 33 41.6**	**-1.0**
AKASG	**Malin Array Be**	**75.68**	**342**	P		**P**		**06 33 41.6**	**-1.0**
	comp=Z,5.0nm,0.5s,baz=20,slow=5.9,SNR=42									
AKASG					LR	LR		07 08 44.5		
	comp=Z,63nm,19.8s,baz=10.0,slow=37									
AKBB	**Malin Array Si**	**75.68**	**342**	*e*P		**P**		**06 33 41.1**	**-1.5**
AKBB	**Malin Array Si**	**75.68**	**342**	*e*P		**P**		**06 33 41.1**	**-1.5**
KIEV	**Kiev**	**75.69**	**342**	*e*P		**P**		**06 33 41.8**	**-0.9**
KIEV					pmax	pmax				
	comp=Z,17nm,0.9s									
KIEV	**Kiev**	**75.69**	**342**	*e*P		**P**		**06 33 41.8**	**-0.9**
	comp=Z,17nm,0.9s									
AK01	**Malin Array Si**	**75.70**	**342**	*e*P		**P**		**06 33 41.3**	**-1.3**
AK02	**Malin Array Si**	**75.73**	**342**	*e*P		**P**		**06 33 41.6**	**-1.3**
KBL	**Kabul**	**75.80**	**308**	*e*P		**P**		**06 33 43.9**	**+0.1**
KBL					pmax	pmax				
	comp=Z,18nm,0.8s									
KBL	**Kabul**	**75.80**	**308**	*e*P		**P**		**06 33 43.9**	**+0.1**
	comp=Z,18nm,0.8s									
CLL	**Collm**	**77.38**	**352**	*e*P		**P**		**06 33 52.0**	**-0.2**
CLL					pmax	pmax				
	comp=Z,5.0nm,0.9s									
CLL	**Collm**	**77.38**	**352**	*e*P		**P**		**06 33 52.0**	**-0.2**
	comp=Z,5.0nm,0.9s									
BRG	**Berggiesshubel**	**77.73**	**352**	*e*P		**P**		**06 33 53.3**	**-0.9**
	comp=Z,4.6nm,0.8s									
BRG	**Berggiesshubel**	**77.73**	**352**	*e*P		**P**		**06 33 53.3**	**-0.9**
BRG					pmax	pmax				
	comp=Z,5.0nm,0.8s									
UPC	**Upice**	**77.89**	**350**	*e*P		**P**		**06 33 54.6**	**-0.5**
UPC	**Upice**	**77.89**	**350**	*e*P		**P**		**06 33 54.6**	**-0.5**
DPC	**Dobruska-Polom**	**78.01**	**350**	*e*P		**P**		**06 33 55.3**	**-0.5**
DPC				*e*				06 34 05.4		
DPC	**Dobruska-Polom**	**78.01**	**350**	*e*P		**P**		**06 33 55.3**	**-0.5**
DPC				*e*PCP		**PcP**		**06 34 05.4**	**0.0**
DPC	**Dobruska-Polom**	**78.01**	**350**	*e*P		**P**		**06 33 55.0**	**-0.8**
STHS	**Stebnicka Huta**	**78.29**	**347**	*e*P		**P**		**06 33 58.1**	**+0.7**
STHS					pmax	pmax				
	comp=Z,10.0nm,1.2s									
STHS	**Stebnicka Huta**	**78.29**	**347**	*e*P		**P**		**06 33 58.1**	**+0.7**
NKC	**Novy Kostel**	**78.50**	**352**	*e*P		**P**		**06 33 58.4**	**-0.1**
NKC	**Novy Kostel**	**78.50**	**352**	*e*P		**P**		**06 33 58.4**	**-0.1**
KIV	**Kislovodsk**	**78.55**	**331**	⇑*e*P		**P**		**06 33 58.4**	**-0.6**
KIV					pmax	pmax				
	comp=Z,6.0nm,1.0s									
KIV					MLR	MLR				
	comp=Z,100nm,21.0s									
PRU	**Pruhonice**	**78.55**	**351**	*e*P		**P**		**06 33 58.4**	**-0.3**
PRU	**Pruhonice**	**78.55**	**351**	*e*P		**P**		**06 33 58.4**	**-0.3**
KOLS	**Kolonicke sedl**	**78.61**	**346**	*e*P		**P**		**06 33 59.1**	**0.0**
KOLS					pmax	pmax				
	comp=Z,11nm,1.2s									
KOLS	**Kolonicke sedl**	**78.61**	**346**	*e*P		**P**		**06 33 59.1**	**0.0**
TBI	**Tubuai**	**78.66**	**152**	*e*LR		LR		06 58 10.5		
	comp=Z,89nm,23.5s									
KBZ	**Khabaz**	**78.69**	**330**	P		**P**		**06 33 59.9**	**+0.3**
KBZ					pmax	pmax				
	comp=Z,4.0nm,1.0s									
KBZ					MLR	MLR				
	comp=Z,84nm,21.9s									
KBZ	**Khabaz**	**78.69**	**330**	P		**P**		**06 33 59.9**	**+0.3**
KBZ	**Khabaz**	**78.69**	**330**	P		**P**		**06 33 59.9**	**+0.3**
	comp=Z,4.2nm,0.9s,baz=45,slow=1.4,SNR=5.0									
KBZ					LR	LR		07 12 07.4		
	comp=Z,84nm,21.9s,baz=13,slow=38									
CRVS	**Cervenica-Dubn**	**78.76**	**346**	*e*P		**P**		**06 34 00.1**	**+0.2**
CRVS					pmax	pmax				
	comp=Z,5.0nm,0.9s									
CRVS	**Cervenica-Dubn**	**78.76**	**346**	*e*P		**P**		**06 34 00.1**	**+0.2**
GIVF	**Givet**	**79.05**	**357**	*e*P		**P**		**06 34 00.9**	**-0.6**
GIVF	**Givet**	**79.05**	**357**	*e*P		**P**		**06 34 00.9**	**-0.6**
GIVF	**Givet**	**79.05**	**357**	*e*P		**P**		**06 34 00.9**	**-0.6**
BAIF	**Baives**	**79.11**	**358**	*e*P		**P**		**06 34 01.5**	**-0.3**
	comp=Z,23nm,1.0s									
BAIF	**Baives**	**79.11**	**358**	*e*P		**P**		**06 34 01.5**	**-0.3**
BAIF					pmax	pmax				
	comp=Z,23nm,1.0s									
BAIF	**Baives**	**79.11**	**358**	*e*P		**P**		**06 34 01.5**	**-0.3**
	comp=Z,23nm,1.0s									
ZEI	**Tsey**	**79.22**	**329**	*e*P		**P**		**06 34 01.2**	**-1.6**
ZEI					pmax	pmax				
	comp=Z,12nm,1.4s									
TRPA	**Tarpa**	**79.35**	**345**	⇑*i*P		**P**		**06 34 03.1**	**0.0**
BUR08	**Bucovina Ar. S**	**79.37**	**344**	*e*P		**P**		**06 34 03.2**	**-0.2**
BURAR	**Bucovina Array**	**79.40**	**344**	⇑P		**P**		**06 34 03.5**	**0.0**
BURAR	**Bucovina Array**	**79.40**	**344**	⇑*i*P		**P**		**06 34 03.5**	**0.0**
KHC	**Kasperske Hory**	**79.49**	**352**	*e*P		**P**		**06 34 03.5**	**-0.5**
KHC	**Kasperske Hory**	**79.49**	**352**	*e*P		**P**		**06 34 03.5**	**-0.5**
KHC	**Kasperske Hory**	**79.49**	**352**	*e*P		**P**		**06 34 03.4**	**-0.5**
	comp=Z,14nm,1.3s									
GERES	**GERESS Array B**	**79.76**	**351**	P		**P**		**06 34 04.8**	**-0.7**
GERES	**GERESS Array B**	**79.76**	**351**	P		**P**		**06 34 04.8**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=23,slow=4.5,SNR=13									
GERES					LR	LR		07 12 19.9		
	comp=Z,50nm,18.4s,baz=192,slow=38									
PSZ	**Piszkesteto**	**79.95**	**347**	*e*P		**P**		**06 34 06.5**	**0.0**
PSZ					pmax	pmax				
	comp=Z,10.0nm,1.0s									
PSZ	**Piszkesteto**	**79.95**	**347**	⇑*i*P		**P**		**06 34 06.0**	**-0.5**
PSZ	**Piszkesteto**	**79.95**	**347**	*e*P		**P**		**06 34 06.

	comp=Z,13nm,1.1s							
LOR	**Lormes**	**81.91**	**358**	*e*P		**P**	**06 34 16.2**	**-0.7**
	comp=Z,18nm,0.9s							
LOR				*e*R				
	comp=Z,62nm,22.2s							
LOR	**Lormes**	**81.91**	**358**	*e*P		**P**	**06 34 16.2**	**-0.7**
	comp=Z,18nm,0.9s							
BZS	**Buzias**	**81.94**	**345**	⇑P		**P**	**06 34 16.6**	**-0.4**
BZS	**Buzias**	**81.94**	**345**	⇑*i*P		**P**	**06 34 16.6**	**-0.4**
GZR	**Gura Zlata**	**81.97**	**345**	⇑P		**P**	**06 34 17.3**	**0.0**
GZR	**Gura Zlata**	**81.97**	**345**	⇑*i*P		**P**	**06 34 17.3**	**0.0**
SSF	**Saint Saulge**	**82.13**	**358**	*e*P		**P**	**06 34 17.4**	**-0.6**
	comp=Z,23nm,1.0s							
SSF	**Saint Saulge**	**82.13**	**358**	*e*P		**P**	**06 34 17.4**	**-0.6**
SSF				pmax	pmax			
	comp=Z,23nm,1.0s							
SSF	**Saint Saulge**	**82.13**	**358**	*e*P		**P**	**06 34 17.4**	**-0.6**
	comp=Z,23nm,1.0s							
AVF	**Avril sur Loir**	**82.40**	**358**	*e*P		**P**	**06 34 18.7**	**-0.7**
	comp=Z,16nm,0.9s							
AVF	**Avril sur Loir**	**82.40**	**358**	*e*P		**P**	**06 34 18.7**	**-0.7**
AVF				pmax	pmax			
	comp=Z,17nm,0.9s							
AVF	**Avril sur Loir**	**82.40**	**358**	*e*P		**P**	**06 34 18.7**	**-0.7**
	comp=Z,16nm,0.9s							
CABF	**La Chapelle**	**82.50**	**356**	*e*P		**P**	**06 34 20.6**	**+0.5**
CABF	**La Chapelle**	**82.50**	**356**	*e*P		**P**	**06 34 20.6**	**+0.5**
CABF	**La Chapelle**	**82.50**	**356**	*e*P		**P**	**06 34 20.6**	**+0.5**
GCIS	**Gornji Cirnik**	**82.51**	**350**	*i* P		**P**	**06 34 19.5**	**-0.5**
SMF	**Signal de Mont**	**82.53**	**358**	*e*P		**P**	**06 34 19.4**	**-0.8**
	comp=Z,37nm,1.0s							
SMF	**Signal de Mont**	**82.53**	**358**	*e*P		**P**	**06 34 19.4**	**-0.8**
SMF				pmax	pmax			
	comp=Z,37nm,1.0s							
SMF	**Signal de Mont**	**82.53**	**358**	*e*P		**P**	**06 34 19.4**	**-0.8**
	comp=Z,37nm,1.0s							
MFF	**Saint Martin d**	**82.61**	**1**	*e*P		**P**	**06 34 20.1**	**-0.4**
	comp=Z,28nm,0.9s							
MFF	**Saint Martin d**	**82.61**	**1**	*e*P		**P**	**06 34 20.1**	**-0.4**
MFF				pmax	pmax			
	comp=Z,28nm,0.9s							
MFF	**Saint Martin d**	**82.61**	**1**	*e*P		**P**	**06 34 20.1**	**-0.4**
	comp=Z,28nm,0.9s							
PSI	**Prapat**	**82.77**	**265**	P		**P**	**06 34 22.2**	**+0.3**
PSI	**Prapat**	**82.77**	**265**	P		**P**	**06 34 22.2**	**+0.3**
	comp=Z,13nm,0.7s,baz=34,slow=3.0,SNR=11							
BOJS	**Bojanci**	**82.91**	**350**	*i* P		**P**	**06 34 21.6**	**-0.5**
BOJS	**Bojanci**	**82.91**	**350**	*i* P		**P**	**06 34 21.6**	**-0.5**
TCF	**Toulx Ste Croi**	**82.92**	**359**	*e*P		**P**	**06 34 21.5**	**-0.7**
	comp=Z,16nm,0.9s							
TCF	**Toulx Ste Croi**	**82.92**	**359**	*e*P		**P**	**06 34 21.5**	**-0.7**
TCF				pmax	pmax			
	comp=Z,16nm,0.9s							
TCF	**Toulx Ste Croi**	**82.92**	**359**	*e*P		**P**	**06 34 21.5**	**-0.7**
	comp=Z,16nm,0.9s							
LPG	**La Plagne**	**83.58**	**356**	*e*P		**P**	**06 34 26.1**	**+0.2**
LPG	**La Plagne**	**83.58**	**356**	*e*P		**P**	**06 34 26.1**	**+0.2**
LPG	**La Plagne**	**83.58**	**356**	*e*P		**P**	**06 34 26.1**	**+0.2**
RJF	**Les Rejaudoux**	**83.91**	**360**	*e*P		**P**	**06 34 27.7**	**+0.4**
RJF				*e*R				
	comp=Z,65nm,20.8s							
RJF	**Les Rejaudoux**	**83.91**	**360**	*e*P		**P**	**06 34 27.7**	**+0.4**
RJF	**Les Rejaudoux**	**83.91**	**360**	*e*P		**P**	**06 34 27.7**	**+0.4**
HYB	**Hyderabad**	**84.09**	**290**	*i* P		**P**	**06 34 28.0**	**-0.6**
FITZ	**Fitzroy Crossi**	**84.17**	**232**	*e*P		**P**	**06 34 29.9**	**+1.2**
	comp=Z,12nm,0.8s							
FITZ	**Fitzroy Crossi**	**84.17**	**232**	P		**P**	**06 34 29.7**	**+1.0**
	comp=Z,13nm,0.8s,baz=24,slow=3.0,SNR=16							
ORIF	**Oris-en-Rattie**	**84.20**	**356**	*e*P		**P**	**06 34 29.0**	**+0.2**
ORIF				*e*R				
	comp=Z,59nm,21.2s							
ORIF	**Oris-en-Rattie**	**84.20**	**356**	*e*P		**P**	**06 34 29.0**	**+0.2**
ORIF	**Oris-en-Rattie**	**84.20**	**356**	*e*P		**P**	**06 34 29.0**	**+0.2**
LFF	**La Frestale**	**84.28**	**0**	*e*P		**P**	**06 34 28.7**	**-0.4**
	comp=Z,24nm,0.6s							
LFF	**La Frestale**	**84.28**	**0**	*e*P		**P**	**06 34 28.7**	**-0.4**
LFF				pmax	pmax			
	comp=Z,24nm,0.6s							
LFF	**La Frestale**	**84.28**	**0**	*e*P		**P**	**06 34 28.7**	**-0.4**
	comp=Z,24nm,0.6s							
CAF	**Calviac**	**84.28**	**359**	*e*P		**P**	**06 34 28.9**	**-0.3**
CAF	**Calviac**	**84.28**	**359**	*e*P		**P**	**06 34 28.9**	**-0.3**
CAF	**Calviac**	**84.28**	**359**	*e*P		**P**	**06 34 28.9**	**-0.3**
MBDF	**Montbardon**	**84.35**	**356**	*e*P		**P**	**06 34 29.0**	**-0.7**
	comp=Z,14nm,0.7s							
MBDF	**Montbardon**	**84.35**	**356**	*e*P		**P**	**06 34 29.0**	**-0.7**
MBDF				pmax	pmax			
	comp=Z,14nm,0.7s							
MBDF	**Montbardon**	**84.35**	**356**	*e*P		**P**	**06 34 29.0**	**-0.7**
	comp=Z,14nm,0.7s							
VTS	**Vitosha**	**84.62**	**344**	⇑P		**P**	**06 34 31.0**	**-0.1**
VTS	**Vitosha**	**84.62**	**344**	⇑*i*P		**P**	**06 34 31.0**	**-0.1**
GSI	**Gunungsitoli**	**84.77**	**266**	*e*P		**P**	**06 34 32.4**	**+0.4**
	comp=Z,13nm,0.5s							
BR131	**Keskin Array S**	**85.05**	**335**	*e*P		**P**	**06 34 32.9**	**-0.4**
	comp=Z,2.7nm,0.6s							
BRTR	**Keskin Array B**	**85.05**	**335**	P		**P**	**06 34 33.0**	**-0.3**
BRTR	**Keskin Array B**	**85.05**	**335**	P		**P**	**06 34 33.0**	**-0.3**
	comp=Z,5.9nm,0.7s,baz=50,slow=2.6,SNR=26							
BRTR				LR		LR	07 13 29.4	
	comp=Z,26nm,21.3s,baz=290,slow=36							
SMRF	**Simiane la Rot**	**85.15**	**357**	*e*P		**P**	**06 34 33.9**	**+0.3**
	comp=Z,45nm,0.9s							
SMRF	**Simiane la Rot**	**85.15**	**357**	*e*P		**P**	**06 34 33.9**	**+0.3**
	comp=Z,45nm,0.9s							
FRF	**La Foret Royal**	**85.52**	**356**	*e*P		**P**	**06 34 34.8**	**-0.6**
	comp=Z,28nm,0.8s							
FRF	**La Foret Royal**	**85.52**	**356**	*e*P		**P**	**06 34 34.8**	**-0.6**
FRF				pmax	pmax			
	comp=Z,28nm,0.8s							
FRF	**La Foret Royal**	**85.52**	**356**	*e*P		**P**	**06 34 34.8**	**-0.6**
	comp=Z,28nm,0.8s							
LMR	**La Mourre**	**85.75**	**356**	*e*P		**P**	**06 34 35.3**	**-1.2**
LMR	**La Mourre**	**85.75**	**356**	*e*P		**P**	**06 34 35.3**	**-1.2**
LMR	**La Mourre**	**85.75**	**356**	*e*P		**P**	**06 34 35.3**	**-1.2**
MTLF	**Montolieu**	**85.87**	**359**	*e*P		**P**	**06 34 36.8**	**-0.3**
	comp=Z,6.0nm,0.5s							
MTLF	**Montolieu**	**85.87**	**359**	*e*P		**P**	**06 34 36.8**	**-0.3**
MTLF				pmax	pmax			
	comp=Z,6.0nm,0.5s							
MTLF	**Montolieu**	**85.87**	**359**	*e*P		**P**	**06 34 36.8**	**-0.3**
	comp=Z,6.0nm,0.5s							
POO	**Poona**	**85.95**	**295**	*ex*		**P**	**06 34 37.0**	**-0.9**
SJPF	**Ste Jean**	**86.08**	**2**	*e*P		**P**	**06 34 38.2**	**0.0**
	comp=Z,12nm,0.7s							
SJPF	**Ste Jean**	**86.08**	**2**	*e*P		**P**	**06 34 38.2**	**0.0**
SJPF				pmax	pmax			
	comp=Z,12nm,0.6s							
SJPF	**Ste Jean**	**86.08**	**2**	*e*P		**P**	**06 34 38.2**	**0.0**
	comp=Z,12nm,0.6s							
EPF	**Esparros**	**86.18**	**0**	*e*P		**P**	**06 34 38.3**	**-0.4**
EPF	**Esparros**	**86.18**	**0**	*e*P		**P**	**06 34 38.3**	**-0.4**
EPF	**Esparros**	**86.18**	**0**	*e*P		**P**	**06 34 38.3**	**-0.4**
ETSF	**Etsaut**	**86.31**	**1**	*e*P		**P**	**06 34 39.3**	**-0.1**
	comp=Z,12nm,0.6s							
ETSF	**Etsaut**	**86.31**	**1**	*e*P		**P**	**06 34 39.3**	**-0.1**
ETSF				pmax	pmax			
	comp=Z,12nm,0.6s							
ETSF	**Etsaut**	**86.31**	**1**	*e*P		**P**	**06 34 39.3**	**-0.1**
	comp=Z,12nm,0.6s							
PGF	**Pioggiola**	**86.40**	**354**	*e*P		**P**	**06 34 39.1**	**-0.8**
	comp=Z,37nm,0.8s							
PGF	**Pioggiola**	**86.40**	**354**	*e*P		**P**	**06 34 39.1**	**-0.8**
PGF				pmax	pmax			
	comp=Z,37nm,0.8s							
PGF	**Pioggiola**	**86.40**	**354**	*e*P		**P**	**06 34 39.1**	**-0.8**
	comp=Z,37nm,0.8s							
LRS	**Lares**	**89.12**	**62**	*e*P		**P**	**06 34 54.2**	**+1.1**
ESDC	**Sonseca Array**	**89.44**	**4**	P		**P**	**06 34 53.4**	**-1.0**
ESDC	**Sonseca Array**	**89.44**	**4**	P		**P**	**06 34 53.4**	**-1.0**
	comp=Z,2.1nm,0.6s,baz=348,slow=4.5,SNR=10							
STKA	**Stephens Creek**	**89.63**	**213**	*e*P		**P**	**06 34 56.3**	**+1.3**
	comp=Z,1.9nm,0.8s							
STKA	**Stephens Creek**	**89.63**	**213**	P		**P**	**06 34 56.6**	**+1.7**
	comp=Z,8.5nm,0.7s,baz=0.6,slow=5.2,SNR=17							
STVI	**Saint Thomas**	**90.11**	**60**	*e*P		**P**	**06 34 58.3**	**+0.6**
	comp=Z,19nm,0.6s							
TORD	**Torodi Ar. Bea**	**115.96**	**359**	PKP		**PKPdf**	**06 40 39.6**	**-0.8**
TORD				PKKPbc		**PKKPbc**	**06 51 09.7**	**+0.4**
TORD	**Torodi Ar. Bea**	**115.96**	**359**	PKP		**PKPdf**	**06 40 39.6**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=346,slow=2.5,SNR=8.6							
TORD				PKKPbc		**PKKPbc**	**06 51 09.7**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=211,slow=1.7,SNR=2.9							
H03N2	**Juan Fernandez**	**121.29**	**106**	T		T	08 54 00.4	
	baz=315,slow=0.7,SNR=35							
H03N1	**Juan Fernandez**	**121.31**	**106**	T		T	08 54 02.5	
	baz=315,slow=0.7,SNR=45							
H03N3	**Juan Fernandez**	**121.31**	**106**	T		T	08 54 02.9	
	baz=315,slow=0.7,SNR=29							
DBIC	**Dimbokro**	**122.19**	**7**	PKP		**PKPdf**	**06 40 51.7**	**-0.7**
DBIC	**Dimbokro**	**122.19**	**7**	PKP		**PKPdf**	**06 40 51.7**	**-0.7**
	comp=Z,2.1nm,0.4s,baz=48,slow=3.4,SNR=9.8							
QSPA	**South Pole Qui**	**140.92**	**180**	*e*PKPdf		**PKPdf**	**06 41 21.4**	**-4.7**
TSUM	**Tsumeb**	**145.47**	**331**	*e*PKPdf		**PKPdf**	**06 41 35.1**	**-0.5**
MAW	**Mawson**	**146.18**	**217**	*e*PKPbc		**PKPbc**	**06 41 36.6**	**+0.3**
MAW	**Mawson**	**146.18**	**217**	PKPbc		**PKPbc**	**06 41 36.4**	**+0.1**
	comp=Z,6.4nm,0.7s,baz=88,slow=4.6,SNR=17							
LBTB	**Lobatse**	**147.73**	**315**	*e*PKPbc		**PKPbc**	**06 41 42.5**	**+0.3**
BOSA	**Boshof**	**150.96**	**312**	*e*PKPbc		**PKPbc**	**06 41 50.2**	**0.0**
BOSA				*e*PKPab		**PKPab**	**06 41 57.6**	**0.0**
BOSA	**Boshof**	**150.96**	**312**	PKPbc		**PKPbc**	**06 41 50.1**	**0.0**
	comp=Z,8.1nm,0.6s,baz=59,slow=3.6,SNR=21							

*IDC **23** 06:23:56.7±0.6, 13°.98N×93°.09E, h0km, mb4.0/14, mb1 4.1/14, mb1mx3.9/28, mbtmp4.0/14, Error ellipse: s-maj=34.3km s-min=14.3km az=55.0*
*ISCJB **23** 06:23:59.7±0.6, 14°.0N±0°.1×93°.2E±0°.2, h32km, mb4.0/14, Error ellipse: s-maj=28.6km s-min=12.5km az=145.1*
ISC 23 06:24:01.7±0.7, 14°.0N±0°.2×93°.1E±0°.2, h32km, n18, σ0s76/15, mb4.0/14, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S3	**Diego Garcia H**	**29.71**	**225**	T	T	07 01 10.0	
	baz=40,slow=0.7,SNR=3.3						
H08S2	**Diego Garcia H**	**29.72**	**225**	T	T	07 01 11.1	
	baz=40,slow=0.7,SNR=5.0						
H08S1	**Diego Carcia H**	**29.73**	**225**	T	T	07 01 09.4	
	baz=40,slow=0.7,SNR=4.2						
MKAR	**Makanchi Array**	**33.91**	**347**	P	**P**	**06 30 41.8**	**0.0**
	1.9nm,0.8s,baz=161,slow=9.2,SNR=15						
KURBB	**Kurchatov Arra**	**38.38**	**345**	P	**P**	**06 31 20.5**	**+0.6**
	1.9nm,0.7s,baz=161,slow=8.0,SNR=21						
ZALV	**Zalesovo Beam**	**40.37**	**352**	P	**P**	**06 31 36.9**	**+0.5**
	1.4nm,0.5s,baz=163,slow=8.4,SNR=7.5						
FITZ	**Fitzroy Crossi**	**45.24**	**134**	P	**P**	**06 32 15.1**	**-1.2**
	0.8nm,0.4s,baz=221,slow=13,SNR=10.0						
WRA	**Warramunga Arr**	**52.75**	**129**	P	**P**	**06 33 13.3**	**-0.6**
	0.9nm,1.0s,baz=315,slow=7.5,SNR=5.6						
ASAR	**Alice Springs**	**54.70**	**133**	P	**P**	**06 33 28.1**	**-0.2**
	0.9nm,0.6s,baz=308,slow=6.9,SNR=12						
BRTR	**Keskin Array B**	**57.78**	**308**	P	**P**	**06 33 49.8**	**-0.4**
	1.2nm,0.8s,baz=92,slow=8.7,SNR=5.9						
STKA	**Stephens Creek**	**65.10**	**135**	P	**P**	**06 34 40.4**	**+0.9**
	1.5nm,0.8s,baz=293,slow=7.7,SNR=3.9						
FINES	**FINESS Array B**	**66.86**	**331**	P	**P**	**06 34 50.0**	**-0.3**
	4.3nm,1.0s,baz=103,slow=6.3,SNR=2.7						
GERES	**GERESS Array B**	**72.64**	**317**	P	**P**	**06 35 26.3**	**-0.1**
	0.7nm,0.6s,baz=86,slow=3.0,SNR=6.9						
NOA	**NORSAR Array B**	**73.94**	**330**	P	**P**	**06 35 32.5**	**-1.2**
	0.8nm,0.7s,baz=94,slow=5.5,SNR=2.5						
BOSA	**Boshof**	**78.08**	**236**	P	**P**	**06 35 58.2**	**+0.3**
	2.0nm,0.7s,baz=48,slow=8.7,SNR=3.6						
TORD	**Torodi Ar. Bea**	**88.25**	**283**	P	**P**	**06 36 50.9**	**+0.2**
	1.2nm,0.9s,baz=81,slow=3.5,SNR=6.1						
ILAR	**Eielson Array**	**89.44**	**22**	P	**P**	**06 36 55.2**	**-0.1**
	0.4nm,0.7s,baz=307,slow=5.1,SNR=5.8						
NVAR	**Mina Array Bea**	**120.09**	**28**	PKP	**PKPdf**	**06 42 51.3**	**+1.3**
	0.3nm,0.5s,baz=259,slow=0.9,SNR=2.6						

*IDC **23** 06:29:32.0±1.6, 2°.96S×139°.76E, h0km, mb3.7/3, mb1 4.1/4, mb1mx3.7/17, mbtmp3.9/4, ML3.8/1, MS3.5/1, Ms1 3.4/1, ms1mx2.6/32, Error ellipse: s-maj=107.5km s-min=26.4km az=114.0*
*AUST **23** 06:29:59.4, 4°.42S×138°.54E, h35km*
ISC 23 06:29:37.8±1.6, 3°.0S±0°.2×139°.1E±0°.2, h46km, n12, σ1s12/6, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**6.83**	**270**	P	**Pn**	**06 31 15.6**	**+0.1**
	baz=6.5,SNR=3.2						
KDU	**Kakadu**	**11.67**	**214**	P	**Pn**	**06 32 20.4**	**-1.4**
	baz=10,SNR=15						
MTN	**Manton Dam**	**12.59**	**218**	P	**Pn**	**06 32 34.8**	**+0.5**
	baz=11,SNR=5.1						
KNRA	**Kununurra**	**16.22**	**218**	P	P	06 33 31.0	+5.9
	baz=15,SNR=4.0						
WRA	**Warramunga Arr**	**17.50**	**195**	P	**P**	**06 33 39.5**	**+0.2**
	0.4nm,0.3s,baz=19,slow=12,SNR=9.2						
FITZ	**Fitzroy Crossi**	**20.01**	**220**	P	Pn	06 34 13.8	+5.0
	baz=19,SNR=6.0						
FITZ	**Fitzroy Crossi**	**20.01**	**220**	P	Pn	06 34 11.2	+2.4
	2.0nm,0.8s,baz=47,slow=8.7,SNR=7.0						
ASAR	**Alice Springs**	**21.19**	**193**	P	**P**	**06 34 20.7**	**+1.2**
	3.0nm,0.8s,baz=16,slow=9.2,SNR=19						
STKA	**Stephens Creek**	**28.86**	**176**	LR	LR	06 48 26.2	
	comp=Z,78nm,18.6s,baz=202,slow=39						
CISI	**Cisompet, Garu**	**31.47**	**260**	P	P	06 36 06.6	+11
	baz=31,SNR=3.6						
PPI	**Padang Panjang**	**38.75**	**273**	P	P	06 37 13.6	+15
	baz=38,SNR=4.0						
ILAR	**Eielson Array**	**85.90**	**24**	P	**P**	**06 42 12.4**	**-0.2**
	0.8nm,0.7s,baz=267,slow=4.2,SNR=10						

*CSEM **23** 06:32:07.6±0.2, 37°.50N×21°.91E, h18km±1km, ML1.9/6, Error ellipse: s-maj=5.2km s-min=2.9km az=76.0*
THE 23 06:32:08.1, 37°.50N×21°.96E, h14km, ML1.9/6, Error ellipse: s-maj=0.7km s-min=0.3km az=258.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AMT	**Artemida-Makis**	**0.20**	**281**	P	Pg	06 32 12.8	0.0
AMT				S	Sg	06 32 16.4	+0.5
AMT	**Artemida-Makis**	**0.20**	**281**	P	Pg	06 32 12.8	0.0
AMT				S	Sg	06 32 16.4	+0.5
ITM	**Ithomi**	**0.32**	**185**	P	Pg	06 32 14.6	-0.1
ITM				S	Sg	06 32 19.4	+0.3
ITM	**Ithomi**	**0.32**	**185**	P	Pg	06 32 14.6	-0.1
ITM				S	Sg	06 32 19.4	+0.3
VLX	**Vlachokerasia**	**0.36**	**110**	P	Pg	06 32 15.4	-0.1
VLX				S	Sg	06 32 21.0	+0.5
VLX	**Vlachokerasia**	**0.36**	**110**	P	Pg	06 32 15.4	-0.1
VLX				S	Sg	06 32 21.0	+0.5
DRO	**Drossia**	**0.50**	**337**	P	Pg	06 32 18.2	+0.2
DRO				S	Sg	06 32 25.0	+0.3
DRO	**Drossia**	**0.50**	**337**	P	Pg	06 32 18.2	+0.2
DRO				S	Sg	06 32 25.0	+0.3
GUR	**Goura**	**0.54**	**34**	P	Pg	06 32 18.4	-0.4
GUR				S	Sg	06 32 26.3	+0.2
GUR	**Goura**	**0.54**	**34**	P	Pg	06 32 18.4	-0.4
GUR				S	Sg	06 32 26.3	+0.2
KLV	**Kalavryta, Ach**	**0.57**	**15**	P	Pg	06 32 18.9	-0.5
KLV				S	Sg	06 32 27.5	+0.4
KLV	**Kalavryta, Ach**	**0.57**	**15**	P	Pg	06 32 18.9	-0.5
KLV				S	Sg	06 32 27.5	+0.4
PYL	**PYLOS**	**0.62**	**196**	P	Pg	06 32 19.8	-0.5
PYL				S	Sb	06 32 29.1	-0.3
PYL	**PYLOS**	**0.62**	**196**	P	Pg	06 32 19.8	-0.5
PYL				S	Sb	06 32 29.1	-0.3
RLS	**Riolos of Patr**	**0.69**	**325**	P	Pg	06 32 21.3	-0.2
RLS	**Riolos of Patr**	**0.69**	**325**	P	Pg	06 32 21.3	-0.2
LAKA	**Lakka**	**0.74**	**1**	P	Pg	06 32 22.1	-0.6
LAKA				S	Sb	06 32 32.8	-0.2
LAKA	**Lakka**	**0.74**	**1**	P	Pg	06 32 22.1	-0.6
LAKA				S	Sb	06 32 32.8	-0.2
DYR	**Agios Nikonas**	**0.79**	**158**	P	Pg	06 32 23.2	-0.3
DYR				S	Sb	06 32 34.6	+0.3
DYR	**Agios Nikonas**	**0.79**	**158**	P	Pg	06 32 23.2	-0.3
DYR				S	Sb	06 32 34.6	+0.3
AXS	**Araxos**	**0.84**	**327**	P	Pg	06 32 23.8	-0.6
AXS	**Araxos**	**0.84**	**327**	P	Pg	06 32 23.8	-0.6
TRIZ	**Trizonia**	**0.87**	**6**	P	Pg	06 32 24.4	-0.6
TRIZ	**Trizonia**	**0.87**	**6**	P	Pg	06 32 24.4	-0.6
KALE	**Kalithea**	**0.91**	**9**	P	Pb	06 32 25.1	-0.6
KALE				S	Sb	06 32 38.4	+0.7
KALE	**Kalithea**	**0.91**	**9**	P	Pb	06 32 25.1	-0.6
KALE				S	Sb	06 32 38.4	+0.7
EFP	**Efpalio**	**0.93**	**357**	P	Pb	06 32 25.3	-0.8
EFP	**Efpalio**	**0.93**	**357**	P	Pb	06 32 25.3	-0.8
VLI	**Veliai**	**1.10**	**135**	P	Pb	06 32 28.6	-0.3
VLI				S	Sn	06 32 44.0	-0.1
VLI	**Veliai**	**1.10**	**135**	P	Pb	06 32 28.6	-0.3
VLI				S	Sn	06 32 44.0	-0.1

*DDA **23** 06:33:00.7, 39°.12N×29°.02E, h7km, MD2.8*
*ISCJB **23** 06:33:01.3±0.4, 39°.12N±0°.02×29°.02E±0°.02, h1km±5km, Error ellipse: s-maj=3.7km s-min=3.1km az=172.2*
*CSEM **23** 06:33:01.6±0.1, 39°.12N×29°.03E, h2km, MD2.8, Error ellipse: s-maj=1.5km s-min=1.3km az=162.0*
*ISK **23** 06:33:01.3, 39°.12N×29°.03E, h5km, MD2.9*
ISC 23 06:33:01.7±0.9, 39°.12N±0°.02×29°.03E±0°.02, h9km±9km, n66, σ0s52/92, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.25**	**253**	*i* P	**Pg**	**06 33 07.1**	**+0.2**
DEMI				*i* S	**Sg**	**06 33 10.6**	**+0.3**
DEMI	**Demirci**	**0.25**	**253**	*i* P	**Pg**	**06 33 07.1**	**+0.2**
DEMI				*i* S	**Sg**	**06 33 10.6**	**+0.3**
GDZ	**Gediz**	**0.35**	**94**	*i* P	**Pg**	**06 33 08.9**	**+0.1**
GDZ				*i* S	**Sg**	**06 33 13.6**	**+0.1**
GDZ	**Gediz**	**0.35**	**94**	*i* P	**Pg**	**06 33 08.9**	**+0.1**
GDZ				*i* S	**Sg**	**06 33 13.6**	**+0.1**
TVSB	**Tavsanli**	**0.47**	**45**	*e*PG	**Pg**	**06 33 10.5**	**-0.5**
TVSB				*e*SG	**Sg**	**06 33 17.3**	**+0.1**
TVSB	**Tavsanli**	**0.47**	**45**	*e*Pg	**Pg**	**06 33 10.5**	**-0.5**
TVSB				*e*Sg	**Sg**	**06 33 17.3**	**+0.1**
DURS	**Dursunbey**	**0.65**	**319**	*i* P	**Pg**	**06 33 14.1**	**-0.2**
DURS				*i* S	**Sg**	**06 33 23.0**	**+0.3**
DURS	**Dursunbey**	**0.65**	**319**	*i* P	**Pg**	**06 33 14.1**	**-0.2**
DURS				*i* S	**Sg**	**06 33 23.0**	**+0.3**
KULA	**Kula-Manisa**	**0.67**	**206**	*e*PG	**Pg**	**06 33 14.4**	**-0.2**
KULA	**Kula-Manisa**	**0.67**	**206**	*e*Pg	**Pg**	**06 33 14.4**	**-0.2**
MANT	**Manisa**	**0.72**	**211**	*i* P	**Pg**	**06 33 15.8**	**+0.1**
MANT				*i* S	**Sg**	**06 33 24.6**	**-0.6**
MANT	**Manisa**	**0.72**	**211**	*i* P	**Pg**	**06 33 15.8**	**+0.1**
MANT				*i* S	**Sg**	**06 33 24.6**	**-0.6**
KHAL	**Karahalli**	**0.83**	**154**	*i* P	**Pb**	**06 33 18.3**	**-0.1**
KHAL				*i* S	**Sg**	**06 33 27.7**	**-0.8**
KHAL	**Karahalli**	**0.83**	**154**	*i* P	**Pb**	**06 33 18.3**	**-0.1**
KHAL				*i* S	**Sg**	**06 33 27.7**	**-0.8**
KHL	**Karahalli**	**0.88**	**154**	*e*PG	**Pg**	**06 33 18.5**	**-0.2**
KHL	**Karahalli**	**0.88**	**154**	*e*Pg	**Pg**	**06 33 18.5**	**-0.2**
AKHS	**Akhisar**	**0.98**	**256**	*i* P	**Pg**	**06 33 20.2**	**-0.2**
AKHS				*i* S	**Sg**	**06 33 32.5**	**-0.7**
AKHS	**Akhisar**	**0.98**	**256**	*i* P	**Pg**	**06 33 20.3**	**-0.2**
AKHS				*i* S	**Sg**	**06 33 32.5**	**-0.7**
AKS	**Akhisar**	**0.98**	**256**	*e*PG	**Pg**	**06 33 20.4**	**-0.1**
AKS	**Akhisar**	**0.98**	**256**	*e*Pg	**Pg**	**06 33 20.4**	**-0.1**
ULDT	**Uludag**	**1.03**	**5**	*i* P	**Pg**	**06 33 21.0**	**-0.5**
ULDT				*i* S	**Sg**	**06 33 34.2**	**-0.7**
ULDT	**Uludag**	**1.03**	**5**	*i* P	**Pg**	**06 33 21.0**	**-0.5**
ULDT				*i* S	**Sg**	**06 33 34.2**	**-0.7**
BALB	**Balikesir**	**1.03**	**301**	*e*PG	**Pb**	**06 33 21.3**	**-0.5**
BALB				*e*SG	**Sb**	**06 33 35.8**	**+0.4**
BALB	**Balikesir**	**1.03**	**301**	*e*Pg	**Pb**	**06 33 21.3**	**-0.5**
BALB				*e*Sg	**Sb**	**06 33 35.8**	**+0.4**
CAVI	**Cavuskoy**	**1.25**	**30**	*e*PN	**Pn**	**06 33 25.8**	**+0.3**
CAVI	**Cavuskoy**	**1.25**	**30**	*e*Pn	**Pn**	**06 33 25.8**	**+0.3**
BALY	**Balya**

*NEIC **23** 06:52:02.8±1.6, 33.22S×178.57W, h43km±13km, mb4.6/5, Error ellipse: s-maj=14.5km s-min=8.3km az=119.0*

ISC 23 06:52:02.4±0.6, 33°32S±0.07×178.7W±0.1, h41km, n47, σ1§36/49, mb4.5/11, MS3.8/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.11**	**10**	Sn	**Sn**	**06 53 46.2**	**-3.4**
RAO	**Raoul Island**	**4.11**	**10**	Sn	**Sn**	**06 53 46.2**	**-3.4**
	52nm,0.3s,baz=72,slow=20,SNR=2.6						
URZ	**Urewera**	**5.98**	**213**	*e*Pn	**Pn**	**06 53 25.9**	**-2.4**
	89nm,0.8s						
URZ				*e*Sn	**Sn**	**06 54 33.7**	**-1.7**
URZ	**Urewera**	**5.98**	**213**	Pn	**Pn**	**06 53 25.8**	**-2.5**
	8.6nm,0.3s,baz=28,slow=5.4,SNR=45						
URZ				Sn	**Sn**	**06 54 33.1**	**-2.3**
	9.9nm,0.3s,baz=90,slow=20,SNR=7.3						
OUZ	**Omahuta**	**6.62**	**251**	*e*Pn	Pn	06 53 40.6	+3.5
	38nm,0.8s						
RPZ	**Rata Peaks**	**13.09**	**215**	Pn	Pn	06 55 00.6	-5.1
RPZ				Sn	Sn	06 57 15.3	-15
RPZ	**Rata Peaks**	**13.09**	**215**	Pn	Pn	06 55 00.6	-5.1
	0.6nm,0.3s,baz=320,slow=17,SNR=2.6						
RPZ				Sn	Sn	06 57 15.3	-15
	0.9nm,0.3s,baz=39,slow=19,SNR=4.2						
EIDS	**Eidsvold**	**27.40**	**279**	*e*P	**P**	**06 57 46.8**	**+2.7**
	8.0nm,0.9s						
STKA	**Stephens Creek**	**33.31**	**261**	LR	LR	07 12 02.6	
	comp=Z,246nm,19.0s,baz=25,slow=36						
CTA	**Charters Tower**	**33.77**	**284**	P	**P**	**06 58 42.1**	**+1.7**
CTA	**Charters Tower**	**33.77**	**284**	P	**P**	**06 58 42.1**	**+1.7**
	3.4nm,0.5s,baz=120,slow=11,SNR=6.0						
CTAO	**Charters Tower**	**33.77**	**284**	*e*P	**P**	**06 58 42.6**	**+2.2**
	22nm,1.3s						
PMG	**Port Moresby**	**39.38**	**299**	LR	LR	07 13 17.3	
	comp=Z,108nm,18.5s,baz=212,slow=32						
AS31	**Alice Springs**	**42.41**	**270**	*e*P	**P**	**06 59 53.9**	**+0.7**
ASAR	**Alice Springs**	**42.41**	**270**	P	**P**	**06 59 54.1**	**+0.9**
ASAR				PcP	**PcP**	**07 01 45.5**	**-0.4**
ASAR				S	**S**	**07 06 12.7**	**+0.6**
ASAR	**Alice Springs**	**42.41**	**270**	P	**P**	**06 59 54.1**	**+0.9**
	7.4nm,0.7s,baz=111,slow=7.5,SNR=86						
ASAR				PcP	**PcP**	**07 01 45.5**	**-0.4**
	1.2nm,0.8s,baz=112,slow=4.2,SNR=4.2						
ASAR				S	**S**	**07 06 12.7**	**+0.6**
	0.6nm,0.8s,baz=114,slow=16,SNR=5.5						
WRAB	**Tennant Creek**	**43.66**	**276**	*e*P	**P**	**07 00 03.8**	**+0.5**
	9.6nm,0.7s						
WRA	**Warramunga Arr**	**43.67**	**276**	P	**P**	**07 00 03.8**	**+0.4**
WRA				PcP	**PcP**	**07 01 48.6**	**-1.4**
WRA	**Warramunga Arr**	**43.67**	**276**	P	**P**	**07 00 03.8**	**+0.4**
	9.6nm,0.8s,baz=117,slow=7.5,SNR=49						
WRA				PcP	**PcP**	**07 01 48.6**	**-1.4**
	0.8nm,0.7s,baz=131,slow=2.5,SNR=2.7						
WRA				LR	LR	07 19 03.2	
	comp=Z,81nm,18.5s,baz=120,slow=37						
VNDA	**Vanda**	**45.14**	**186**	P	**P**	**07 00 15.7**	**+1.3**
VNDA	**Vanda**	**45.14**	**186**	P	**P**	**07 00 15.7**	**+1.3**
	0.3nm,0.7s,baz=22,slow=4.5,SNR=2.7						
FITZ	**Fitzroy Crossi**	**51.79**	**273**	*e*P	**P**	**07 01 06.6**	**+0.3**
	8.8nm,1.1s						
QSPA	**South Pole Qui**	**56.80**	**180**	*e*P	**P**	**07 01 43.3**	**+1.0**
	4.7nm,0.8s						
QSPA	**South Pole Qui**	**56.80**	**180**	P	**P**	**07 01 42.3**	**0.0**
	1.5nm,0.9s						
MAW	**Mawson**	**69.37**	**201**	P	**P**	**07 03 05.2**	**-0.1**
MAW	**Mawson**	**69.37**	**201**	P	**P**	**07 03 05.2**	**-0.1**
	0.4nm,0.3s,baz=72,slow=15,SNR=2.4						
PETK	**Petropavlovsk-**	**88.48**	**346**	P	**P**	**07 04 50.5**	**+0.7**
PETK	**Petropavlovsk-**	**88.48**	**346**	P	**P**	**07 04 50.5**	**+0.7**
	2.2nm,0.7s,baz=153,slow=4.4,SNR=3.7						
NVAR	**Mina Array Bea**	**90.80**	**43**	P	**P**	**07 05 02.6**	**+1.2**
NVAR	**Mina Array Bea**	**90.80**	**43**	P	**P**	**07 05 02.6**	**+1.2**
	0.2nm,0.6s,baz=171,slow=6.4,SNR=3.2						
CPUP	**Villa Florida**	**98.65**	**129**	LR	LR	07 45 45.9	
	comp=Z,74nm,19.3s,baz=4.1,slow=33						
JOF	**Joensuu**	**144.86**	**337**	*e*pkp	**PKPdf**	**07 11 33.8**	**-0.2**
	0.5nm,0.3s						
KBZ	**Khabaz**	**146.12**	**300**	PKPbc	**PKPab**	**07 11 38.6**	**+0.1**
KBZ	**Khabaz**	**146.12**	**300**	PKPbc	**PKPab**	**07 11 38.6**	**+0.1**
	1.2nm,0.5s,baz=162,slow=6.4,SNR=3.5						
KAF	**Kangasniemi**	**147.05**	**339**	*e*pkp	**PKPbc**	**07 11 38.8**	**-1.1**
	2.2nm,0.7s						
FINES	**FINESS Array B**	**147.63**	**338**	PKPbc	**PKPbc**	**07 11 41.7**	**+0.1**
FINES	**FINESS Array B**	**147.63**	**338**	PKPbc	**PKPbc**	**07 11 41.7**	**+0.1**
	2.8nm,0.5s,baz=42,slow=4.7,SNR=16						
NB2	**NORSAR Subarra**	**151.52**	**350**	PKP	**PKPbc**	**07 11 53.4**	**+2.2**
	comp=Z,7.2nm,1.4s,baz=37,slow=3.0						
NOA	**NORSAR Array B**	**151.52**	**350**	PKPbc	**PKPbc**	**07 11 51.6**	**+0.4**
NOA	**NORSAR Array B**	**151.52**	**350**	PKPbc	**PKPbc**	**07 11 51.6**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=16,slow=4.2,SNR=3.1						
AKASG	**Malin Array Be**	**153.15**	**319**	PKPbc	**PKPbc**	**07 11 55.0**	**-0.2**
AKASG	**Malin Array Be**	**153.15**	**319**	PKPbc	**PKPbc**	**07 11 55.0**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=55,slow=2.8,SNR=4.2						
BRTR	**Keskin Array B**	**153.30**	**293**	PKPbc	**PKPbc**	**07 11 56.0**	**-0.1**
BRTR	**Keskin Array B**	**153.30**	**293**	PKPbc	**PKPbc**	**07 11 56.0**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=134,slow=3.6,SNR=7.2						
TORD	**Torodi Ar. Bea**	**159.92**	**181**	PKPab	**PKPab**	**07 12 36.5**	**-0.3**
TORD	**Torodi Ar. Bea**	**159.92**	**181**	PKPab	**PKPab**	**07 12 36.5**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=196,slow=2.7,SNR=4.9						
CLL	**Collm**	**160.08**	**338**	*e*PKPab	**PKPab**	**07 12 36.0**	**-0.6**

IDC 23 07:15:45.5±3.3, 17.20N×122.14W, h0km, mb3.4/5, mb1 3.9/6, mb1mx3.8/21, mbtmp3.6/6, ML3.4/1, MS3.3/1, Ms1 3.3/1, ms1mx2.8/18, Error ellipse: s-maj=62.9km s-min=47.0km az=160.0, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFO	**Pinyon Flat Ob**	**17.12**	**16**	P	Pn	07 19 47.2	+0.7
	0.1nm,0.3s,baz=196,slow=13,SNR=3.3						
TXAR	**Lajitas Array**	**20.80**	**51**	P	P	07 20 28.3	-0.3
	2.1nm,0.9s,baz=216,slow=12,SNR=13						
NVAR	**Mina Array Bea**	**21.42**	**8**	P	P	07 20 36.4	+1.0
	0.5nm,0.6s,baz=196,slow=13,SNR=4.5						
ANMO	**Albuquerque**	**22.55**	**35**	P	P	07 20 47.2	-0.2
	1.9nm,0.9s,baz=222,slow=9.2,SNR=8.1						
YBH	**Yreka Blue Hor**	**24.46**	**359**	LR	LR	07 27 18.8	
	comp=Z,82nm,20.8s,baz=190,slow=28						
PDAR	**Pinedale Array**	**27.65**	**20**	P	P	07 21 34.9	-0.4
	0.7nm,0.8s,baz=198,slow=9.0,SNR=6.5						
PDAR				PcP	PcP	07 24 53.0	+0.4
	0.5nm,0.9s,baz=152,slow=4.1,SNR=4.2						
ILAR	**Eielson Array**	**50.39**	**347**	P	P	07 24 43.4	-0.8
	0.7nm,0.8s,baz=156,slow=10.0,SNR=6.5						
H11N3	**WAKE ISLAND Hy**	**66.89**	**284**	T	T	08 40 00.6	
	baz=75						
H11N2	**WAKE ISLAND Hy**	**66.90**	**285**	T	T	08 40 01.6	
	baz=75						
H11N1	**WAKE ISLAND Hy**	**66.91**	**284**	T	T	08 40 01.9	
	baz=75						

*IDC **23** 07:34:15.6±0.6, 24.50N×141.84E, h0km, mb4.0/13, mb1 4.2/13, mb1mx4.0/27, mbtmp4.0/13, MS2.6/1, Ms1 2.6/1, ms1mx2.3/39, Error ellipse: s-maj=28.2km s-min=15.1km az=92.0*

*ISCJB **23** 07:34:18.9±0.6, 24.38N±0.05×141.7E±0.2, h33km, mb4.0/15, Error ellipse: s-maj=22.0km s-min=6.8km az=8.4*

*NEIC **23** 07:34:20.7±0.5, 24.51N×141.88E, h35km, mb4.5/2, Error ellipse: s-maj=21.5km s-min=9.9km az=93.0*

ISC 23 07:34:20.9±0.6, 24.40N±0.08×141.8E±0.2, h35km, n40, σ0§83/34, mb4.2/15, 3D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.71**	**8**	Pn	Pn	07 34 57.8	-4.3
CBIJ				Sn	**Sn**	**07 35 34.9**	**+1.2**
JCJ	**Chichijima**	**2.71**	**8**	Pn	Pn	07 34 57.8	-4.3
	baz=196,slow=19						
JCJ				Sn	**Sn**	**07 35 34.9**	**+1.2**
	16nm,0.3s,baz=253,slow=10,SNR=1.8						
MJAR	**Matsushiro Arr**	**12.48**	**347**	LR	LR	07 41 36.1	
	comp=Z,32nm,20.7s,baz=95,slow=36						
H11N1	**WAKE ISLAND Hy**	**23.75**	**96**	T	T	08 04 44.3	
	baz=286,slow=0.7,SNR=8.5						
H11N2	**WAKE ISLAND Hy**	**23.75**	**96**	T	T	08 04 44.6	
	baz=286,slow=0.7,SNR=9.5						
H11N3	**WAKE ISLAND Hy**	**23.76**	**96**	T	T	08 04 44.0	
	baz=286,slow=0.7,SNR=9.3						
H11S3	**WAKE ISLAND Hy**	**23.92**	**99**	T	T	08 04 58.3	
	baz=291,slow=0.7,SNR=17						
H11S1	**WAKE ISLAND Hy**	**23.93**	**99**	T	T	08 04 58.3	
	baz=291,slow=0.7,SNR=16						
H11S2	**WAKE ISLAND Hy**	**23.94**	**99**	T	T	08 04 58.7	
	baz=291,slow=0.7,SNR=10						
WRAB	**Tennant Creek**	**44.65**	**190**	*e*P	**P**	**07 42 30.6**	**+0.2**
	4.0nm,0.6s						
WRA	**Warramunga Arr**	**44.66**	**190**	P	**P**	**07 42 30.7**	**+0.3**
WRA				PcP	**PcP**	**07 44 12.9**	**+0.2**
WRA	**Warramunga Arr**	**44.66**	**190**	P	**P**	**07 42 30.7**	**+0.3**
	2.5nm,0.5s,baz=11,slow=8.8,SNR=32						
WRA				PcP	**PcP**	**07 44 12.9**	**+0.2**
	0.6nm,0.6s,baz=2.4,slow=3.3,SNR=5.4						
FITZ	**Fitzroy Crossi**	**45.07**	**202**	P	**P**	**07 42 34.4**	**+0.8**
FITZ	**Fitzroy Crossi**	**45.07**	**202**	P	**P**	**07 42 34.4**	**+0.8**
	1.7nm,0.9s,baz=21,slow=8.6,SNR=4.1						
ASAR	**Alice Springs**	**48.38**	**190**	P	**P**	**07 43 00.3**	**+0.7**
ASAR	**Alice Springs**	**48.38**	**190**	P	**P**	**07 43 00.3**	**+0.7**
	0.6nm,0.7s,baz=6.1,slow=5.3,SNR=10						
MKAR	**Makanchi Array**	**51.92**	**311**	P	**P**	**07 43 27.2**	**+0.9**
MKAR	**Makanchi Array**	**51.92**	**311**	P	**P**	**07 43 27.2**	**+0.9**
	0.2nm,0.3s,baz=88,slow=8.0,SNR=4.6						
KURK	**Kurchatov**	**54.62**	**316**	P	**P**	**07 43 46.7**	**+0.8**
KURBB	**Kurchatov Arra**	**54.67**	**316**	P	**P**	**07 43 46.7**	**+0.4**
	0.5nm,0.5s,baz=93,slow=8.1,SNR=5.2						
STKA	**Stephens Creek**	**55.96**	**180**	*e*P	**P**	**07 43 56.0**	**+0.3**
	8.4nm,2.0s						
STKA	**Stephens Creek**	**55.96**	**180**	P	**P**	**07 43 56.5**	**+0.8**
	1.3nm,0.7s,baz=343,slow=11,SNR=3.2						
BVAR	**Borovoye Array**	**59.78**	**319**	P	**P**	**07 44 22.2**	**-0.2**
BVAR	**Borovoye Array**	**59.78**	**319**	P	**P**	**07 44 22.2**	**-0.2**
	0.7nm,0.5s,baz=85,slow=8.7,SNR=3.7						
ILAR	**Eielson Array**	**60.26**	**28**	P	**P**	**07 44 24.8**	**-0.8**
ILAR	**Eielson Array**	**60.26**	**28**	P	**P**	**07 44 24.8**	**-0.8**
	0.8nm,0.8s,baz=264,slow=5.9,SNR=8.2						
AB31	**Akbulak array**	**66.71**	**315**	⇓Pn	P	07 45 20.5	+12
	1.7nm,0.3s,baz=7.3,slow=14,SNR=159						
AB31				Sn	Px	07 45 45.5	
	3.8nm,0.3s,baz=8.1,slow=24,SNR=21						
AKTO	**Aktyubinsk**	**67.70**	**317**	⇓P	**P**	**07 45 13.2**	**-1.5**
	0.9nm,0.4s						
AKTO				⇓S	Px	07 45 32.9	
	3.1nm,0.6s						
AKTO	**Aktyubinsk**	**67.70**	**317**	P	**P**	**07 45 13.1**	**-1.6**
AKTO	**Aktyubinsk**	**67.70**	**317**	P	**P**	**07 45 13.1**	**-1.6**
	1.6nm,0.3s,baz=72,slow=13,SNR=4.1						
YKA	**Yellowknife Ar**	**74.69**	**28**	P	**P**	**07 45 55.8**	**-0.8**
YKA	**Yellowknife Ar**	**74.69**	**28**	P	**P**	**07 45 55.8**	**-0.8**
	2.6nm,0.7s,baz=295,slow=6.2,SNR=3.7						
ARCES	**ARCESS Array B**	**75.95**	**341**	P	**P**	**07 46 04.3**	**+0.5**
ARCES	**ARCESS Array B**	**75.95**	**341**	P	**P**	**07 46 04.3**	**+0.5**
	2.2nm,0.8s,baz=72,slow=8.6,SNR=4.0						
FINES	**FINESS Array B**	**80.19**	**334**	P	**P**	**07 46 26.6**	**-0.8**
FINES	**FINESS Array B**	**80.19**	**334**	P	**P**	**07 46 26.6**	**-0.8**
	2.3nm,0.8s,baz=64,slow=4.4,SNR=5.6						
NVAR	**Mina Array Bea**	**82.49**	**51**	P	**P**	**07 46 40.9**	**+0.5**
NVAR	**Mina Array Bea**	**82.49**	**51**	P	**P**	**07 46 40.9**	**+0.5**
	0.4nm,0.6s,baz=297,slow=6.0,SNR=3.9						
LPAZ	**La Paz**	**150.89**	**80**	*e*PKPbc	**PKPbc**	**07 54 10.8**	**-0.6**
LPAZ	**La Paz**	**150.89**	**80**	PKPbc	**PKPbc**	**07 54 10.8**	**-0.6**
	0.5nm,0.6s,baz=198,slow=3.2,SNR=3.4						

*ISCJB **23** 07:48:48.4±0.5, 59.82N±0.04×23.04E±0.06, h0km, Error ellipse: s-maj=5.1km s-min=4.5km az=2.2*

*CSEM **23** 07:48:49.1±0.3, 59.80N×23.06E, h2km, ML1.9, Error ellipse: s-maj=7.6km s-min=7.1km az=82.0, Mining explosion.*

*HEL **23** 07:48:49.4±0.1, 59.75N×23.07E, h0km, ML1.9, Explosion*

*IDC **23** 07:48:50.2±2.4, 59.85N×23.08E, h0km, mb1 3.1/3, mb1mx2.9/27, mbtmp3.0/3, ML2.4/3, Error ellipse: s-maj=29.1km s-min=8.7km az=157.0*

ISC 23 07:48:47.8±0.8, 59.78N±0.03×23.01E±0.03, h0km, n20, σ1§04/29, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**0.82**	**57**	*e*P	**Pg**	**07 49 03.7**	**+0.1**
MEF				*e*S	**Sg**	**07 49 14.1**	**-0.2**
MEF	**Metsahovi**	**0.82**	**57**	*e*P	**Pg**	**07 49 03.7**	**+0.1**
	SNR=90						
MEF				S	**Sg**	**07 49 14.0**	**-0.2**
MTSE	**Matsula**	**1.14**	**158**	*e*P	**Pg**	**07 49 09.2**	**-0.4**
MTSE	**Matsula**	**1.14**	**158**	*e*P	**Pg**	**07 49 09.4**	**-0.2**
	SNR=70						
RAF	**Rauma**	**1.40**	**334**	*e*P	**Pb**	**07 49 14.9**	**+0.2**
RAF				*e*S	**Sn**	**07 49 33.6**	**0.0**
RAF	**Rauma**	**1.40**	**334**	*e*P	**Pb**	**07 49 14.9**	**+0.2**
	SNR=70						
RAF				S	**Sn**	**07 49 33.6**	**0.0**
AAL	**Aland**	**1.57**	**286**	*e*P	**Pb**	**07 49 17.7**	**0.0**
AAL				*e*S	**Sg**	**07 49 38.7**	**+0.5**
AAL	**Aland**	**1.57**	**286**	P	**Pb**	**07 49 17.7**	**0.0**
AAL				S	**Sg**	**07 49 38.7**	**+0.5**
PVF	**Pernaja**	**1.62**	**60**	*e*P	**Pn**	**07 49 17.8**	**+0.3**
PVF				*e*S	**Sn**	**07 49 39.0**	**-0.2**
PVF	**Pernaja**	**1.62**	**60**	P	**Pn**	**07 49 17.8**	**+0.3**
PVF				S	**Sn**	**07 49 38.9**	**-0.2**
SLIT	**Slitere, Latvi**	**2.19**	**190**	*e*P	**Pb**	**07 49 27.6**	**-0.5**
	SNR=50						
SLIT				*e*S	**Sb**	**07 49 56.5**	**+0.8**
	58nm,0.2s,SNR=50						
FIA0	**FINESS Array S**	**2.25**	**41**	*e*P	**Pb**	**07 49 28.4**	**-0.9**
FIA0				MSG		07 50 00.7	
	comp=Z,5.1nm,0.2s						
FIA0	**FINESS Array S**	**2.25**	**41**	P	**Pb**	**07 49 28.4**	**-0.9**
FINES	**FINESS Array B**	**2.25**	**41**	Pn	**Pb**	**07 49 28.7**	**-0.6**
	comp=Z,1.1nm,0.3s,baz=223,slow=15,SNR=76						
FINES				Lg	Lg	07 49 57.8	
	comp=Z,2.1nm,0.3s,baz=224,slow=25,SNR=25						
VSU	**Vasula**	**2.33**	**123**	*e*P	**Pn**	**07 49 28.6**	**+1.3**
VSU	**Vasula**	**2.33**	**123**	P	**Pn**	**07 49 28.5**	**+1.3**
VSU				*e*S	**Sb**	**07 49 59.7**	**-0.1**
	comp=Z,23nm,0.2s,SNR=50						
KEF	**Keuruu**	**2.57**	**20**	MSG		07 50 10.2	
	comp=Z,5.0nm,0.2s						
KAF	**Kangasniemi**	**2.84**	**33**	MSG		07 50 19.4	
	comp=Z,2.0nm,0.2s						
NOA	**NORSAR Array B**	**5.98**	**287**	Pn	**Pn**	**07 50 18.2**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=87,slow=12,SNR=3.5						
NOA				Sn	**Sn**	**07 51 22.2**	**-4.5**
	comp=Z,0.1nm,0.3s,baz=304,slow=11,SNR=2.3						
ARCES	**ARCESS Array B**	**9.86**	**5**	Pn	**Pn**	**07 51 10.8**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=182,slow=13,SNR=29						

MEX 23 07:57:49.6±0.6, 16.52N×95.52W, h16km±25km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.94**	**217**	*e*P	Pb	07 58 04.5	-3.1
HUIG				*e*S	Sb	07 58 15.2	-4.6
VHO	**Vista Hermosa**	**1.28**	**295**	*i* P	Pn	07 58 08.9	-4.3
VHO				*i* S	Sb	07 58 25.2	-4.9
PNIG	**Pinotepa**	**2.50**	**267**	*e*P	Pn	07 58 26.9	-2.8
PNIG				*i* S	Sn	07 58 55.7	-4.3
TLIG	**Tlapa**	**3.09**	**290**	*i* P	Pn	07 58 34.9	-3.0
TLIG				*i* S	Sn	07 59 10.8	-3.9

*ISCJB **23** 08:17:33.5±1.3, 53.66N±0.09×91.1E±0.2, h10km, mb3.4/2, Error ellipse: s-maj=18.7km s-min=9.4km az=34.1*

*IDC **23** 08:17:33.1±1.3, 53.71N×91.42E, h0km, mb3.4/3, mb1 3.7/7, mb1mx3.5/33, mbtmp3.6/7, ML3.8/4, Error ellipse: s-maj=19.4km s-min=12.8km az=138.0*

ISC 23 08:17:35.5±1.5, 53.8N±0.1×91.1E±0.1, h10km, n12, σ1§34/14, 3C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.70**	**275**	*i*		08 44 20.0	
	baz=88,slow=333,SNR=1.9						
ZALV	**Zalesovo Beam**	**3.70**	**275**	Pn	**Pn**	**08 18 33.9**	**+1.2**
	3.2nm,0.3s,baz=94,slow=15,SNR=20						
ZALV				Pg	**Pb**	**08 18 39.1**	**-1.8**
	4.7nm,0.3s,baz=94,slow=15,SNR=32						
ZALV				Lg	Lg	08 19 29.5	
	12nm,0.3s,baz=91,slow=28,SNR=10						
KURBB	**Kurchatov Arra**	**8.32**	**253**	⇓Pn	**Pn**	**08 19 36.4**	**+0.2**
	11nm,0.5s						
KURBB				⇑Sn	**Sn**	**08 21 08.5**	**-1.7**
	85nm,0.9s						
KURBB				⇓Lg	Lg	08 21 54.5	
	90nm,0.8s						
KURBB	**Kurchatov Arra**	**8.32**	**253**	Pn	**Pn**	**08 19 36.8**	**+0.7**
	2.3nm,0.3s,baz=66,slow=15,SNR=13						
KURBB				Sn	**Sn**	**08 21 12.8**	**+2.7**
	1.0nm,0.3s,baz=68,slow=27,SNR=7.5						
KURBB				Lg	Lg	08 21 59.1	
	0.9nm,0.3s,baz=69,slow=33,SNR=7.4						
MK31	**Makanchi Array**	**8.97**	**222**	⇓Pn	**Pn**	**08 19 46.7**	**+1.6**
	1.3nm,0.5s,baz=40,slow=13,SNR=15						
MK31				⇑Sn	**Sn**	**08 21 25.7**	**-0.5**
	3.3nm,0.6s,baz=42,slow=21						
MK31				⇑Lg	Lg	08 22 13.0	
	22nm,0.8s,baz=61,slow=33,SNR=5.9						
MKAR	**Makanchi Array**	**8.97**	**222**	Pn	**Pn**	**08 19 45.5**	**+0.4**
	1.1nm,0.3s,baz=38,slow=13,SNR=18						
MKAR				Sn	**Sn**	**08 21 25.7**	**-0.5**
	0.2nm,0.3s,baz=39,slow=21,SNR=3.1						
MKAR				Lg	Lg	08 22 18.4	
	0.7nm,0.3s,baz=64,slow=31,SNR=7.1						
SONM	**Songino Array**	**11.38**	**115**	Pg	Pn	08 20 55.0	+37
	baz=310,slow=21,SNR=3.6						
SONM				Lg	Lg	08 23 28.6	
	0.2nm,0.3s,baz=304,slow=31,SNR=9.8						
BVAR	**Borovoye Array**	**12.36**	**275**	Pn	**Pn**	**08 20 32.2**	**+0.9**
	0.2nm,0.3s,baz=81,slow=13,SNR=3.0						
BVAR				Sn	Sn	08 22 58.3	+9.4
	0.2nm,0.3s,baz=76,slow=26,SNR=3.7						
AAK	**Ala-Archa**	**15.66**	**231**	Lg	Lg	08 25 46.0	
	0.1nm,0.3s,baz=135,slow=7.1,SNR=4.2						
AKTO	**Aktyubinsk**	**20.46**	**274**	P	**P**	**08 22 13.8**	**+0.8**
	1.2nm,0.6s,baz=71,slow=12,SNR=4.0						
ILAR	**Eielson Array**	**53.67**	**27**	P	**P**	**08 26 56.5**	**-0.3**
	0.3nm,0.7s,baz=330,slow=7.2,SNR=5.8						
TORD	**Torodi Ar. Bea**	**79.14**	**277**	P	**P**	**08 29 40.5**	**0.0**
	0.3nm,0.7s,baz=20,slow=6.2,SNR=3.6						

DJA 23 08:34:21.3±0.6, 6°S±11°×10°6E±°, h10km, M3.9/3, MLv3.9/3, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBJI	**Dramaga**	**0.69**	**122**	P	Pn	08 34 37.8	+0.6
DBJI				S	Sg	08 34 41.9	-1.8
CBJI	**Citeko**	**0.72**	**108**	P	Pn	08 34 38.8	+1.2
CBJI				S	Sg	08 34 44.4	-0.4
SKJI	**Sukabumi**	**0.90**	**154**	P	Pg	08 34 38.6	-0.1
LEM	**Lembang**	**1.58**	**114**	P	Pb	08 34 51.2	+0.3
KASI	**Kota Agung**	**1.78**	**292**	P	Pn	08 34 51.5	-0.7
CISI	**Cisompet, Garu**	**2.13**	**130**	P	Pb	08 34 59.0	-1.1

*IDC **23** 08:35:39.2±1.2, 52.82N×167.29W, h0km, mb3.9/12, mb1 4.1/13, mb1mx3.9/30, mbtmp3.9/13, ML3.5/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/37, Error ellipse: s-maj=31.2km s-min=18.1km az=7.0*

*NEIC **23** 08:35:40.4, 52.30N×166.90W, h26km, ML3.3(AEIC), After AEIC.*

ISC 23 08:35:41.6±0.8, 52.51N±0.08×166.99W±0.05, h25km, n45, σ1§26/40, mb4.0/12, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKFG	**Magazine Ridge**	**1.06**	**328**	P	**Pn**	**08 36 00.6**	**-0.3**
OKFG				S	**Sn**	**08 36 18.1**	**+3.2**
OKTU	**Okmok Mt. Tuli**	**1.08**	**324**	P	**Pb**	**08 36 01.6**	**-0.1**
OKCE	**Okmok Cone E**	**1.16**	**323**	P	**Pn**	**08 36 02.2**	**-0.1**
NIKH	**Nikolski High**	**1.23**	**293**	P	**Pn**	**08 36 02.5**	**-0.6**
NIKH				S	**Sb**	**08 36 21.0**	**+1.5**
MGOD	**Makushin Gods**	**1.29**	**3**	P	**Pn**	**08 36 04.0**	**0.0**
MSOM	**Makushin Julie**	**1.31**	**1**	P	**Pn**	**08 36 04.4**	**+0.1**
MREP	**Makushin Rep't**	**1.31**	**6**	P	**Pn**	**08 36 04.7**	**+0.3**
UNV	**Unalaska Valle**	**1.37**	**12**	P	**Pb**	**08 36 05.7**	**-0.8**
UNV				S	**Sb**	**08 36 25.0**	**+1.5**
MSW	**Makushin Switc**	**1.41**	**5**	P	**Pn**	**08 36 06.0**	**+0.3**
MTBL	**Makushin Table**	**1.47**	**7**	P	**Pn**	**08 36 07.0**	**+0.4**
ZRO	**Akutan Zero**	**1.69**	**21**	P	**Pn**	**08 36

s-min=7.5km az=27.1
*NEIC **23** 09:13:50.0, 18.88N× 155.21W, h31km, mb4.4/5, ML4.8(HVO), After HVO.*
NEIC Felt [III] at Mountain View, Papa'ikou, Pepeekeo and Volcano; [II] at Captain Cook, Hilo, Honoka'a, Kea'au, Kurtistown, Laupahoehoe, Na'alehu, Pahoa and Waimea. Also felt at Hawaii National Park, Hawi, Holualoa, Honomu, Kailua, Kapaau, Pa'auilo, Pahala, Papa'aloa and Waikoloa. Felt at Kaaawa and Kane'ohe, Oahu.

ISC 23 09:13:50.2±1.2, 19.1N±0.2×155.5W±0.1, h22km, n32, σ0.59/21, mb4.2/12, MS3.5/3, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HON	**Honolulu**	**3.25**	**314**	*e*Pn	**Pn**	**09 14 40.4**	**+0.5**
HON				Sn	**Sn**	**09 15 17.1**	**-0.8**
KIP	**Kipapa**	**3.32**	**315**	*e*Pn	**Pn**	**09 14 41.2**	**+0.3**
KIP				*e*Sn	**Sn**	**09 15 19.8**	**0.0**
H11N3	**WAKE ISLAND Hy**	**35.42**	**277**	T	T	09 57 52.5	
	baz=87,slow=0.7,SNR=241						
H11N2	**WAKE ISLAND Hy**	**35.43**	**277**	T	T	09 57 53.2	
	baz=87,slow=0.7,SNR=218						
H11N1	**WAKE ISLAND Hy**	**35.44**	**277**	T	T	09 57 53.8	
	baz=87,slow=0.7,SNR=145						
H11S2	**WAKE ISLAND Hy**	**35.74**	**275**	T	T	09 58 24.2	
	baz=84,slow=0.7,SNR=24						
H11S1	**WAKE ISLAND Hy**	**35.75**	**275**	T	T	09 58 26.0	
	baz=84,slow=0.7,SNR=72						
H11S3	**WAKE ISLAND Hy**	**35.76**	**275**	T	T	09 58 25.5	
	baz=84,slow=0.7,SNR=60						
YBH	**Yreka Blue Hor**	**35.85**	**44**	P	P	09 20 45.0	-3.5
	4.4nm,0.9s						
PPT	**Papeete**	**36.87**	**171**	LR	LR	09 30 46.6	
	comp=Z,89nm,20.6s,baz=306,slow=28						
BAR	**Barrett**	**37.26**	**61**	P	P	09 20 56.8	-3.7
	17nm,1.7s						
NVAR	**Mina Array Bea**	**37.55**	**51**	P	**P**	**09 21 03.5**	**+0.3**
NVAR	**Mina Array Bea**	**37.55**	**51**	P	**P**	**09 21 03.5**	**+0.3**
	0.7nm,0.7s,baz=242,slow=10,SNR=6.7						
CRAG	**Craig**	**40.09**	**20**	P	**P**	**09 21 23.0**	**-0.9**
	151nm,1.4s						
FX1	**Attu Island--F**	**41.59**	**332**	LR	LR	09 37 30.6	
	comp=Z,31nm,18.4s,baz=104,slow=34						
HVU	**Hansel Valley**	**42.67**	**48**	*e*P	**P**	**09 21 46.0**	**+0.5**
	7.8nm,0.7s						
SPUT	**South Promonto**	**42.75**	**49**	*e*P	**P**	**09 21 45.6**	**-0.7**
	2.9nm,0.9s						
PV01	**Paradox Valley**	**44.84**	**55**	*e*P	**P**	**09 22 03.0**	**-0.2**
PDAR	**Pinedale Array**	**45.24**	**48**	P	**P**	**09 22 05.9**	**-0.4**
PDAR	**Pinedale Array**	**45.24**	**48**	P	**P**	**09 22 05.9**	**-0.4**
	1.6nm,0.9s,baz=261,slow=7.0,SNR=12						
ILAR	**Eielson Array**	**46.03**	**5**	P	**P**	**09 22 12.7**	**+0.8**
ILAR	**Eielson Array**	**46.03**	**5**	P	**P**	**09 22 12.7**	**+0.8**
	7.1nm,0.6s,baz=191,slow=7.7,SNR=9.3						
TXAR	**Lajitas Array**	**48.03**	**67**	P	**P**	**09 22 28.2**	**0.0**
TXAR	**Lajitas Array**	**48.03**	**67**	P	**P**	**09 22 28.2**	**0.0**
	0.8nm,0.8s,baz=254,slow=8.6,SNR=7.9						
WRAB	**Tennant Creek**	**78.93**	**244**	*e*P	**P**	**09 25 51.4**	**-1.2**
	4.1nm,1.1s						
WRA	**Warramunga Arr**	**78.94**	**244**	P	**P**	**09 25 52.4**	**-0.2**
WRA	**Warramunga Arr**	**78.94**	**244**	P	**P**	**09 25 52.4**	**-0.2**
	0.2nm,0.5s,baz=63,slow=6.0,SNR=3.8						
WRA				LR	LR	09 57 12.0	
	comp=Z,52nm,18.8s,baz=135,slow=33						
ASAR	**Alice Springs**	**80.89**	**241**	P	**P**	**09 26 03.5**	**+0.4**
ASAR	**Alice Springs**	**80.89**	**241**	P	**P**	**09 26 03.5**	**+0.4**
	0.5nm,0.8s,baz=60,slow=6.5,SNR=6.4						
H03N2	**Juan Fernandez**	**89.68**	**126**	T	T	11 05 59.0	
	baz=295,slow=0.7,SNR=60						
H03N3	**Juan Fernandez**	**89.69**	**126**	T	T	11 05 59.5	
	baz=295,slow=0.7,SNR=74						
H03N1	**Juan Fernandez**	**89.70**	**126**	T	T	11 05 58.7	
	baz=295,slow=0.7,SNR=63						

IDC 23 09:15:45.0±1.7, 2.53N×126.06E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/22, mbtmp3.9/3, Error ellipse: s-maj=170.7km s-min=24.4km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.77**	**160**	P	P	09 20 59.1	-0.3
	2.5nm,0.5s,baz=339,slow=10.0,SNR=8.9						
ASAR	**Alice Springs**	**27.14**	**164**	P	P	09 21 30.0	-0.1
	1.7nm,0.5s,baz=345,slow=7.9,SNR=55						
ASAR				PcP	PcP	09 24 51.3	+0.2
	0.5nm,0.6s,baz=346,slow=2.1,SNR=7.1						
MKAR	**Makanchi Array**	**58.16**	**326**	P	P	09 25 40.5	-0.2
	0.1nm,0.3s,baz=110,slow=7.1,SNR=2.4						

*ISCJB **23** 09:28:34.6±0.7, 19.47N±0.10×122.3E±0.1, h33km, mb3.8/10, MS2.9/2, Error ellipse: s-maj=20.1km s-min=13.9km az=178.5*
*IDC **23** 09:28:42.7±7.0, 19.47N×122.32E, h95km±70km, mb3.6/10, mb1 3.7/11, mb1mx3.5/27, mbtmp3.6/11, ML3.5/1, MS3.1/2, Ms1 3.2/2, ms1mx2.5/34, Error ellipse: s-maj=22.5km s-min=14.8km az=72.0*

ISC 23 09:28:36.6±0.9, 19.5N±0.1×122.4E±0.2, h35km, n18, σ1.23/11, mb3.9/10, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**18.58**	**14**	P	**Pn**	**09 32 51.1**	**0.0**
	0.2nm,0.3s,baz=198,slow=12.5,SNR=5.5						
CMAR	**Chiang Mai Arr**	**22.16**	**271**	P	**P**	**09 33 31.6**	**+2.0**
	2.4nm,0.9s,baz=74,slow=8.6,SNR=14						
CMAR				LR	LR	09 41 23.2	
	comp=Z,37nm,19.9s,baz=75,slow=34						
USRK	**Ussuriysk Arra**	**25.95**	**16**	P	**P**	**09 34 07.3**	**+1.6**
	0.6nm,0.5s,baz=168,slow=9.8,SNR=4.1						
SONM	**Songino Array**	**31.14**	**339**	LR	LR	09 46 47.0	
	comp=Z,35nm,18.8s,baz=183,slow=35						
WRA	**Warramunga Arr**	**40.88**	**163**	P	**P**	**09 36 14.9**	**-0.6**
	1.6nm,0.8s,baz=342,slow=9.1,SNR=14						
H11S3	**WAKE ISLAND Hy**	**41.85**	**84**	T	T	10 21 10.9	
	baz=277,slow=0.7,SNR=85						
H11S1	**WAKE ISLAND Hy**	**41.86**	**84**	T	T	10 21 06.6	
	baz=277,slow=0.7,SNR=71						
H11S2	**WAKE ISLAND Hy**	**41.87**	**84**	T	T	10 21 07.8	
	baz=277,slow=0.7,SNR=70						
H11N1	**WAKE ISLAND Hy**	**41.87**	**82**	T	T	10 21 09.0	
	baz=280,slow=0.7,SNR=89						
H11N2	**WAKE ISLAND Hy**	**41.88**	**82**	T	T	10 21 08.3	
	baz=280,slow=0.7,SNR=55						
H11N3	**WAKE ISLAND Hy**	**41.89**	**82**	T	T	10 21 08.2	
	baz=280,slow=0.7,SNR=61						
MKAR	**Makanchi Array**	**42.54**	**319**	P	**P**	**09 36 28.8**	**-0.1**
	1.1nm,0.7s,baz=116,slow=9.8,SNR=11						
PETK	**Petropavlovsk-**	**43.27**	**31**	P	**P**	**09 36 35.0**	**+0.4**
	1.5nm,0.6s,baz=210,slow=8.3,SNR=6.7						
ASAR	**Alice Springs**	**44.32**	**165**	P	**P**	**09 36 43.7**	**+0.3**
	1.2nm,0.7s,baz=342,slow=6.9,SNR=15						
ZALV	**Zalesovo Beam**	**44.81**	**329**	P	**P**	**09 36 45.4**	**-1.6**
	0.8nm,0.5s,baz=120,slow=8.8,SNR=3.7						
KURBB	**Kurchatov Array**	**46.45**	**323**	P	**P**	**09 36 58.8**	**-1.2**
	0.9nm,0.5s,baz=120,slow=8.8,SNR=13						
KBZ	**Khabaz**	**69.31**	**310**	P	**P**	**09 39 39.5**	**-1.0**
	1.3nm,0.5s,baz=323,slow=10,SNR=2.9						
KMBO	**Kilima Mbogo**	**85.75**	**267**	P	**P**	**09 41 13.0**	**-0.2**
	1.0nm,0.5s,baz=45,slow=17,SNR=4.2						

*IDC **23** 09:40:44.4±1.1, 43.57N×127.23W, h0km, mb3.8/6, mb1 4.1/12, mb1mx3.9/32, mbtmp3.9/12, ML3.8/6, MS3.5/15, Ms1 3.5/15, ms1mx3.3/41, Error ellipse: s-maj=22.7km s-min=11.3km az=38.0*
*NEIC **23** 09:40:47.5±0.7, 43.60N×127.24W, h10km, mb4.1/17, Error ellipse: s-maj=9.1km s-min=4.9km az=79.0*
*ISCJB **23** 09:40:48.9±1.0, 43.62N±0.02×126.91W±0.05, h16km±7km, mb4.1/10, MS3.6/11, Error ellipse: s-maj=6.0km s-min=2.9km az=172.7*
*BJI **23** 09:40:48.3, 43.65N×127.41W, h4km, mb4.6/1, Ms4.7/2, Ms7 4.2/1*

ISC 23 09:40:49.8±1.0, 43.55N±0.05×126.98W±0.06, h14km±5km, n461, σ1.02/451, mb4.1/10, MS3.6/11, 153C-142D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEBM	**Edson Butte**	**2.05**	**108**	*e*Pn	Pn	09 41 20.6	-3.4
KEBM				*e*Sn	**Sn**	**09 41 48.4**	**-1.0**
RNO	**Roman Nose**	**2.38**	**80**	P	**Pn**	**09 41 26.8**	**-1.7**
KBO	**Bosley Butte**	**2.43**	**123**	*e*Pn	Pn	09 41 25.2	-4.0
KBO				*e*Sn	**Sn**	**09 41 59.7**	**+0.9**
MPOR	**Mary's Peak**	**2.65**	**68**	P	**Pn**	**09 41 30.6**	**-1.7**
COR	**Corvallis**	**2.85**	**67**	*e*Pn	**Pn**	**09 41 34.2**	**-0.6**
HEBO	**Mount Hebo**	**2.85**	**53**	P	**Pn**	**09 41 33.5**	**-1.4**
EUO	**Eugene**	**2.88**	**79**	P	**Pn**	**09 41 34.0**	**-1.1**
HUMO	**Hull Mountain**	**3.10**	**106**	*e*Pn	**Pn**	**09 41 35.8**	**-2.5**
HUMO				*e*Sn	**Sn**	**09 42 15.8**	**+0.6**
BBOR	**Butler Butte**	**3.22**	**100**	P	**Pn**	**09 41 38.5**	**-1.6**
BROR	**Big Rock Looko**	**3.35**	**76**	P	**Pn**	**09 41 41.1**	**-0.6**
F03A	**Seaside**	**3.41**	**45**	*e*Pn	**Pn**	**09 41 41.7**	**-0.8**
IRO	**Indian Ridge**	**3.46**	**81**	P	**Pn**	**09 41 42.4**	**-0.9**
G04A	**Mulino**	**3.63**	**61**	P	**Pn**	**09 41 45.6**	**+0.1**
H04A	**Detroit Lake**	**3.63**	**70**	P	**Pn**	**09 41 45.4**	**-0.3**
YBH	**Yreka Blue Hor**	**3.64**	**119**	Pn	**Pn**	**09 41 43.9**	**-1.9**
YBH				*e*Pn	Pb	09 41 44.8	-9.2
YBH				Sn	**Sn**	**09 42 29.7**	**+1.1**
YBH				*e*Sn	Sb	09 42 30.8	-7.3
YBH	**Yreka Blue Hor**	**3.64**	**119**	Pn	**Pn**	**09 41 43.9**	**-1.9**
	3.9nm,0.3s,baz=300,slow=11,SNR=83						
YBH				Sn	**Sn**	**09 42 29.7**	**+1.1**
	1.2nm,0.3s,baz=58,slow=17,SNR=3.9						
HUOR	**Husband**	**3.76**	**80**	P	**Pn**	**09 41 47.4**	**-0.1**
E03A	**Lebam**	**3.85**	**38**	P	**Pn**	**09 41 47.4**	**-1.2**
BKCOR	**Black Crater**	**3.89**	**77**	P	**Pn**	**09 41 49.0**	**-0.3**
BMW	**Boistfort Moun**	**3.95**	**41**	P	**Pn**	**09 41 48.9**	**-1.1**
RVW	**Rose Valley**	**3.98**	**48**	P	**Pn**	**09 41 50.0**	**-0.4**
F04A	**Ambush**	**4.03**	**52**	P	**Pn**	**09 41 51.2**	**+0.2**
VLMM	**Larch Mountain**	**4.05**	**59**	P	**Pn**	**09 41 51.9**	**+0.4**
TDH	**Tom, Dick, Har**	**4.11**	**63**	P	**Pn**	**09 41 52.5**	**+0.3**
MTMW	**Mount Mitchell**	**4.20**	**52**	P	**Pn**	**09 41 53.6**	**+0.1**
FL2	**Flat Top 2**	**4.22**	**50**	P	**Pn**	**09 41 53.9**	**+0.1**
VLL	**Laurance Lake**	**4.25**	**61**	P	**Pn**	**09 41 54.7**	**+0.5**
SWFL	**Southwest Flan**	**4.30**	**51**	P	**Pn**	**09 41 55.5**	**+0.5**
HSR	**South Ridge**	**4.30**	**51**	P	**Pn**	**09 41 55.5**	**+0.6**
VALT	**Mount Saint He**	**4.32**	**50**	P	**Pn**	**09 41 55.7**	**+0.4**
CDFW	**Cedar Flats**	**4.35**	**52**	P	**Pn**	**09 41 55.7**	**+0.2**
SOSW	**Source of Smit**	**4.37**	**50**	P	**Pn**	**09 41 56.1**	**+0.2**
NLWA	**Neilton Lookou**	**4.42**	**29**	*e*Pn	**Pn**	**09 41 55.2**	**-1.2**
NLWA				*e*Sn	**Sn**	**09 42 47.8**	**0.0**
WDC	**Whiskeytown Da**	**4.45**	**130**	*e*Pn	**Pn**	**09 41 57.2**	**+0.5**
WDC				*e*Sn	**Sn**	**09 42 47.3**	**-1.0**
KIPM	**Iron Peak**	**4.57**	**144**	*e*Pn	**Pn**	**09 42 00.8**	**+2.2**
KIPM				*e*Sn	**Sn**	**09 42 49.6**	**-2.0**
G06A	**Carlson Farm,**	**4.85**	**68**	*e*Pn	**Pn**	**09 42 02.1**	**-0.3**
LON	**Longmire**	**4.86**	**47**	*e*Pn	**Pn**	**09 42 02.5**	**+0.1**
LON				*e*Sn	**Sn**	**09 43 03.6**	**+5.0**
REMR	**Mount Rainier-**	**4.89**	**46**	P	**Pn**	**09 42 03.2**	**+0.2**
D05A	**Enumclaw**	**5.06**	**42**	*e*Pn	**Pn**	**09 42 05.6**	**+0.4**
MOD	**Modoc**	**5.19**	**106**	*e*Pn	**Pn**	**09 42 05.8**	**-1.3**
MOD				*e*Sn	**Sn**	**09 43 07.5**	**+0.5**
I07A	**Izee**	**5.44**	**82**	*e*Pn	**Pn**	**09 42 10.2**	**-0.3**
PGC	**Sidney**	**5.66**	**24**	*e*Pn	**Pn**	**09 42 12.3**	**-1.0**
	3.7nm,0.3s						
PGC				*e*Sn	**Sn**	**09 43 17.8**	**-0.3**
LTY	**Liberty**	**5.79**	**48**	*e*Pn	**Pn**	**09 42 15.7**	**+0.5**
E07A	**Sunnyside**	**5.88**	**57**	*e*Pn	**Pn**	**09 42 16.8**	**+0.3**
OHCM	**Honcut**	**5.90**	**134**	*e*Pb	**Pn**	**09 42 18.1**	**+1.3**
J08A	**Circle Bar Ran**	**6.20**	**89**	*e*Pn	**Pn**	**09 42 19.6**	**-1.3**
WVOR	**Wild Horse Val**	**6.22**	**98**	*e*Pn	**Pn**	**09 42 19.5**	**-1.8**
	13nm,1.0s						
WVOR				*e*Sn	**Sn**	**09 43 31.4**	**-0.9**
B06A	**Marblemount**	**6.27**	**36**	*e*Pn	**Pn**	**09 42 21.5**	**-0.3**
A05A	**Maple Falls**	**6.42**	**30**	*e*Pn	**Pn**	**09 42 23.6**	**-0.2**
BMO	**Blue Mountains**	**7.08**	**76**	*e*Pn	**Pn**	**09 42 32.5**	**-0.5**
B08A	**Colville Reser**	**7.17**	**45**	*e*Pn	**Pn**	**09 42 33.3**	**-1.0**
F10A	**Beach Ranch, E**	**7.35**	**67**	*e*Pn	**Pn**	**09 42 36.4**	**-0.4**
C09A	**Chrisman Ranch**	**7.43**	**52**	*e*Pn	**Pn**	**09 42 37.8**	**0.0**
CMB	**Columbia Colle**	**7.45**	**136**	*e*Pn	**Pn**	**09 42 39.4**	**+1.4**
	27nm,1.0s						
WAKR	**Walker**	**7.61**	**129**	*e*Pn	Pn	09 42 44.5	+4.0
	14nm,1.1s						
NVAR	**Mina Array Bea**	**8.32**	**125**	Pn	**Pn**	**09 42 50.6**	**+0.4**
NVAR	**Mina Array Bea**	**8.32**	**125**	Pn	**Pn**	**09 42 50.6**	**+0.4**
	0.2nm,0.3s,baz=296,slow=14,SNR=15						
NVAR				LR	LR	09 45 45.0	
	comp=Z,116nm,20.0s,baz=311,slow=35						
NEW	**Newport**	**8.33**	**52**	*e*Pn	**Pn**	**09 42 49.9**	**-0.3**
NEW				Pn	**Pn**	**09 42 50.0**	**-0.2**
NEW	**Newport**	**8.33**	**52**	⇓Pn	**Pn**	**09 42 50.0**	**-0.2**
	baz=8.4,SNR=23						
NEW	**Newport**	**8.33**	**52**	Pn	**Pn**	**09 42 50.0**	**-0.2**
	4.3nm,0.3s,baz=232,slow=11,SNR=50						
NEW				LR	LR	09 46 10.1	
	comp=Z,515nm,21.3s,baz=238,slow=38						
MLAC	**Mammoth Lakes**	**8.57**	**131**	⇓Pn	**Pn**	**09 42 54.8**	**+1.2**
	baz=8.7						
BBB	**Bella Bella**	**8.67**	**355**	Pn	**Pn**	**09 42 54.5**	**-0.1**
BBB	**Bella Bella**	**8.67**	**355**	Pn	**Pn**	**09 42 54.5**	**-0.1**
	0.8nm,0.3s,baz=202,slow=21,SNR=4.2						
BBB				LR	LR	09 45 20.7	
	comp=Z,108nm,20.1s,baz=185,slow=32						
HLID	**Hailey**	**9.13**	**86**	*e*Pn	**Pn**	**09 43 01.6**	**+0.4**
HLID	**Hailey**	**9.13**	**86**	⇓Pn	**Pn**	**09 43 01.0**	**-0.2**
	baz=9.3,SNR=8.1						
ELK	**Elko**	**9.16**	**104**	Pn	**Pn**	**09 43 03.6**	**+1.8**
ELK				*e*Pn	Pn	09 43 04.2	+2.3
ELK	**Elko**	**9.16**	**104**	Pn	**Pn**	**09 43 03.6**	**+1.8**
	0.2nm,0.3s,baz=26,slow=5.6,SNR=16						
RCTC	**Rector, Farmer**	**9.36**	**138**	⇓Pn	**Pn**	**09 43 05.8**	**+1.6**
	baz=9.5						
BSMT	**Bassoo Peak**	**9.55**	**59**	*e*Pn	**Pn**	**09 43 07.6**	**+0.6**
MSO	**Missoula**	**9.77**	**66**	*e*Pn	**Pn**	**09 43 09.7**	**-0.3**
MSO	**Missoula**	**9.77**	**66**	⇑Pn	**Pn**	**09 43 09.4**	**-0.5**
	baz=9.9,SNR=15						
VES	**Vestal, Richgr**	**9.81**	**139**	⇓Pn	**Pn**	**09 43 12.0**	**+1.6**
	baz=10.0						
JTMT	**Jette**	**9.83**	**60**	*e*Pn	**Pn**	**09 43 11.5**	**+0.7**
JTMT				*e*Sn	Sn	09 44 53.8	-7.1
CWC	**Cottonwood Cre**	**9.85**	**133**	⇑Pn	**Pn**	**09 43 12.9**	**+1.7**
	baz=10.0,SNR=6.9						
BLMT	**Blacktail Moun**	**9.88**	**59**	*e*Pn	**Pn**	**09 43 12.3**	**+0.9**
SWMT	**Swartz Lake**	**9.93**	**62**	*e*Pn	**Pn**	**09 43 12.4**	**+0.3**
YBMT	**Yellow Bay**	**10.04**	**60**	*e*Pn	**Pn**	**09 43 14.5**	**+0.8**
	17nm,1.1s						
SLMT	**Seeley Lake**	**10.18**	**64**	*e*Pn	**Pn**	**09 43 15.5**	**-0.1**
MCMT	**McKenzie Canyo**	**10.23**	**78**	*e*Pn	**Pn**	**09 43 17.4**	**+1.0**
	4.3nm,0.7s						
CHMT	**Chamberlain Mo**	**10.25**	**66**	*e*Pn	**Pn**	**09 43 16.5**	**-0.1**
ISA	**Isabella**	**10.25**	**137**	*e*Pn	**Pn**	**09 43 18.4**	**+1.9**
ISA	**Isabella**	**10.25**	**137**	⇓Pn	**Pn**	**09 43 18.1**	**+1.6**
	baz=10,SNR=14						
DLMT	**Dillon**	**10.45**	**75**	*e*Pn	**Pn**	**09 43 19.8**	**+0.6**
MPMC	**Manual Prospec**	**10.45**	**133**	⇑Pn	**Pn**	**09 43 20.5**	**+1.1**
	baz=11						
FURC	**Furnace Creek,**	**10.50**	**129**	⇓Pn	**Pn**	**09 43 21.5**	**+1.7**
	baz=11,SNR=8.2						
ARVC	**Arvin**	**10.52**	**140**	⇓Pn	**Pn**	**09 43 20.7**	**+0.6**
	baz=11						
WALA	**Waterton Lakes**	**10.58**	**54**	*e*Pn	**Pn**	**09 43 21.7**	**+0.7**
	1.2nm,0.8s						
LRM	**Limekiln Ridge**	**10.60**	**73**	*e*Pn	**Pn**	**09 43 21.7**	**+0.4**
BGU	**Big Grassy Mou**	**10.68**	**99**	*e*Pn	**Pn**	**09 43 23.7**	**+1.3**
DUG	**Dugway**	**11.09**	**103**	⇓Pn	**Pn**	**09 43 28.1**	**+0.1**
	baz=11						
EDW2	**Edwards Air Fo**	**11.12**	**138**	⇑Pn	**Pn**	**09 43 29.2**	**+0.8**
	baz=11						
BOZ	**Bozeman (W)**	**11.15**	**74**	*e*Pn	**Pn**	**09 43 29.2**	**+0.4**
HRY	**Holter Researc**	**11.16**	**68**	*e*Pn	**Pn**	**09 43 28.7**	**-0.3**
QLMT	**Earthquake Lak**	**11.24**	**78**	*e*Pn	**Pn**	**09 43 32.1**	**+1.9**
GSC	**Goldstone**	**11.39**	**133**	*e*Pn	**Pn**	**09 43 34.9**	**+2.8**
GSC	**Goldstone**	**11.39**	**133**	⇑Pn	**Pn**	**09 43 33.1**	**+1.1**
	baz=12						
RRI2	**Red Ridge**	**11.39**	**86**	*e*Pn	**Pn**	**09 43 35.0**	**+2.7**
SHPR	**Sheep Range**	**11.47**	**124**	*e*Pn	**Pn**	**09 43 36.0**	**+2.7**
	36nm,1.7s						
YMR	**Madison River**	**11.57**	**79**	*e*Pn	**Pn**	**09 43 36.6**	**+1.9**
	66nm,1.5s						
FXWY	**Fox Creek**	**11.58**	**84**	*e*Pn	**Pn**	**09 43 37.0**	**+2.2**
REDW	**Red Top Meadow**	**11.73**	**85**	*e*Pn	**Pn**	**09 43 39.4**	**+2.6**
TUQ	**Turquoise Moun**	**11.77**	**130**	⇑Pn	**Pn**	**09 43 40.1**	**+2.8**
	baz=12,SNR=14						
YNR	**Norris Junctio**	**11.78**	**79**	*e*Pn	**Pn**	**09 43 39.2**	**+1.7**
	11nm,0.9s						
ARUT	**Antelope Range**	**11.78**	**115**	*e*Pn	**Pn**	**09 43 39.0**	**+1.4**
	83nm,0.8s						
SNOW	**Snow King Moun**	**11.79**	**85**	*e*Pn	**Pn**	**09 43 40.5**	**+2.7**
BFSC	**Mount Baldy Ra**	**11.79**	**139**	⇑Pn	**Pn**	**09 43 38.9**	**+1.2**
	baz=12						
H17A	**Grant Village**	**11.86**	**80**	*e*Pn	Pn	09 43 42.1	+3.5
H17A	**Grant Village**	**11.86**	**80**	⇑Pn	**Pn**	**09 43 40.6**	**+2.0**
	baz=12,SNR=8.1						
I17A	**Pilgrim Ck.**	**11.88**	**83**	⇓Pn	**Pn**	**09 43 40.6**	**+1.7**
	baz=12,SNR=5.2						
LOHW	**Long Hollow**	**11.88**	**84**	*e*Pn	**Pn**	**09 43 41.1**	**+2.1**
JLU	**Jordanelle**	**11.92**	**99**	*e*Pn	**Pn**	**09 43 40.7**	**+1.3**
LKWY	**Lake**	**11.98**	**79**	*e*Pn	**Pn**	**09 43 43.5**	**+3.2**
HEC	**Hector,Ludlow**	**12.00**	**133**	⇓Pn	**Pn**	**09 43 42.6**	**+2.2**
	baz=12,SNR=8.3						
GMRC	**Granite Mounta**	**12.40**	**131**	⇑Pn	**Pn**	**09 43 47.2**	**+1.3**
	baz=13						
LDFC	**Landfair**	**12.49**	**129**	*e*Pn	**Pn**	**09 43 49.3**	**+2.1**
	142nm,1.6s						
GCMT	**Greycliff**	**12.53**	**74**	*e*Pn	**Pn**	**09 43 49.0**	**+1.3**
	21nm,0.9s						
MURC	**Murrieta**	**12.54**	**139**	⇓Pn	**Pn**	**09 43 49.7**	**+2.0**
	baz=13						
BW06	**Boulder Array**	**12.75**	**88**	*e*Pn	**Pn**	**09 43 52.6**	**+1.8**
	17nm,1.6s						
PDAR	**Pinedale Array**	**12.75**	**88**	Pn	**Pn**	**09 43 52.6**	**+1.7**
PDAR	**Pinedale Array**	**12.75**	**88**	Pn	**Pn**	**09 43 52.6**	**+1.7**
	0.1nm,0.3s,baz=276,slow=12,SNR=24						
PDAR				LR	LR	09 49 12.9	
	comp=Z,292nm,21.3s,baz=346,slow=39						
Q16A	**Castle Valley**	**12.77**	**106**	*e*Pn	**Pn**	**09 43 53.2**	**+2.1**
Q16A	**Castle Valley**	**12.77**	**106**	⇑Pn	**Pn**	**09 43 51.6**	**+0.5**
	baz=13						
RLMT	**Red Lodge**	**12.78**	**77**	*e*Pn	**Pn**	**09 43 52.5**	**+1.2**
	7.8nm,0.9s						
BELC	**Belle Mtn. Jos**	**12.81**	**134**	⇓Pn	**Pn**	**09 43 53.2**	**+1.6**
	baz=13						
EGMT	**Eagleton**	**12.82**	**64**	*e*Pn	**Pn**	**09 43 50.4**	**-1.3**
EGMT	**Eagleton**	**12.82**	**64**	⇑Pn	**Pn**	**09 43 51.0**	**-0.6**
	baz=13						
PFO	**Pinyon Flat Ob**	**12.89**	**137**	⇓Pn	**Pn**	**09 43 54.6**	**+2.0**
	baz=13						
PFO	**Pinyon Flat Ob**	**12.89**	**137**	LR	LR	09 48 30.2	
	comp=Z,294nm,20.9s,baz=301,slow=36						
H19A	**Powell**	**12.99**	**79**	⇑Pn	**Pn**	**09 43 54.7**	**+0.8**
	baz=13,SNR=5.4						
I19A	**Meetetse**	**13.01**	**82**	⇓Pn	**Pn**	**09 43 55.5**	**+1.2**
	baz=13,SNR=11						
F19A	**Roth Farm, Mol**	**13.04**	**74**	⇓Pn	**Pn**	**09 43 54.8**	**+0.1**
	baz=13						
J19A	**Crowheart**	**13.05**	**85**	⇑Pn	**Pn**	**09 43 55.2**	**+0.4**
	baz=13						
IRM	**Iron Mountain**	**13.14**	**132**	⇓Pn	**Pn**	**09 43 57.4**	**+1.4**
	baz=13						
W13A	**Hualapai Mount**	**13.18**	**125**	⇑Pn	**Pn**	**09 43 57.9**	**+1.2**
	baz=13						
E19A	**Rath Farm, Rou**	**13.20**	**71**	⇓Pn	**Pn**	**09 43 56.7**	**-0.1**
	baz=13						
C19A	**Slack Wire Ran**	**13.22**	**65**	⇑Pn	**Pn**	**09 43 57.2**	**+0.1**
	baz=13,SNR=7.9						
D19A	**Cripps Ranch,**	**13.23**	**68**	⇓Pn	**Pn**	**09 43 58.0**	**+0.7**
	baz=13,SNR=6.7						
U15A	**North Rim**	**13.31**	**117**	⇑Pn	**Pn**	**09 43 59.9**	**+1.3**
	baz=14						
BC3	**Big Chuckawall**	**13.37**	**134**	⇓Pn	**Pn**	**09 44 01.0**	**+1.

E23A	Ismay baz=16	15.60	72	⇓Pn	Pn	09 44 28.1	-1.1
K23A	Bowen Ranch, D baz=16	15.61	86	⇑Pn	Pn	09 44 28.8	-0.6
L23A	Garrett baz=16	15.68	88	⇑Pn	Pn	09 44 29.7	-0.8
D23A	Lindsay baz=16,SNR=9.9	15.72	69	⇑Pn	Pn	09 44 30.4	-0.4
C23A	Lambert baz=16	15.80	67	⇑Pn	Pn	09 44 31.1	-0.7
N23A	Red Feather La baz=16	15.81	92	⇓Pn	Pn	09 44 31.5	-0.7
Q22A	Crested Butte, baz=16	15.81	100	⇑Pn	Pn	09 44 32.2	0.0
U20A	Newcomb baz=16	15.85	111	⇑Pn	Pn	09 44 32.7	+0.1
X18A	Snowflake baz=16,SNR=7.1	15.99	119	⇑Pn	Pn	09 44 34.9	+0.5
B23A	Brockton baz=16	16.03	65	⇓Pn	Pn	09 44 33.8	-1.0
O23A	Lake Granby, G baz=16,SNR=5.8	16.04	95	⇑Pn	Pn	09 44 34.5	-0.6
214A	Organ Pipe Nat baz=16	16.09	131	⇑Pn	Pn	09 44 36.7	+1.1
H24A	Dirks Ranch, A baz=16,SNR=15	16.14	78	⇑Pn	Pn	09 44 35.8	-0.4
I24A	Kuemmerle Ranc baz=16	16.17	81	⇑Pn	Pn	09 44 36.0	-0.6
F24A	Ekalaka baz=16	16.18	74	⇓Pn	Pn	09 44 36.2	-0.6
R22A	Saguache, Gunn baz=16,SNR=5.8	16.18	102	⇑Pn	Pn	09 44 36.2	-0.8
V20A	Brimhall baz=16	16.20	112	⇓Pn	Pn	09 44 37.4	+0.2
J24A	Dixon Ranch, L baz=16,SNR=6.1	16.21	83	⇓P	P	09 44 40.9	+0.6
C24A	Savage baz=16,SNR=8.4	16.28	68	⇓P	P	09 44 40.4	-0.6
D24A	Glendive baz=16,SNR=7.4	16.31	70	⇑P	P	09 44 41.6	+0.4
P23A	Jefferson baz=16,SNR=12	16.38	98	Pn	Pn	09 44 39.8	+0.2
ISCO	Idaho Springs 13nm,1.0s	16.39	96	*e*Pn	Pn	09 44 38.9	-0.8
ISCO	Idaho Springs baz=16,SNR=16	16.39	96	Pn	Pn	09 44 39.7	0.0
U21A	Nageezi baz=17	16.41	109	⇓Pn	Pn	09 44 40.4	+0.5
M24A	Cheyenne baz=17	16.47	90	⇓Pn	Pn	09 44 40.1	-0.4
DGMT	Dagmar 13nm,0.7s	16.55	65	*e*Pn	Pn	09 44 42.5	+1.1
DGMT	Dagmar baz=17	16.55	65	⇑Pn	Pn	09 44 41.2	-0.2
RSSD	Black Hills 41nm,1.1s	16.56	80	*e*Pn	Pn	09 44 42.0	+0.2
W20A	Ramah baz=17	16.57	114	⇑Pn	Pn	09 44 42.2	+0.3
N24A	Carr baz=17	16.60	92	⇑Pn	Pn	09 44 41.7	-0.5
T22A	Edith baz=17,SNR=13	16.64	106	⇓Pn	Pn	09 44 43.5	+0.7
O24A	Longmont baz=17	16.68	94	⇑Pn	Pn	09 44 42.9	-0.3
A24A	Westby baz=17,SNR=7.9	16.75	63	⇓P	P	09 44 47.1	+0.9
I25A	Rochford baz=17,SNR=7.4	16.79	80	⇓Pn	Pn	09 44 44.6	0.0
H25A	Fruitdale baz=17,SNR=21	16.83	78	⇓P	P	09 44 48.1	+1.0
R23A	Moffat baz=17,SNR=6.5	16.86	101	Pn	Pn	09 44 45.7	+0.1
K25A	Mack Ranch, Ha baz=17	16.91	85	⇓Pn	Pn	09 44 45.4	-0.6
X20A	Quemado baz=17	16.92	116	⇑Pn	Pn	09 44 46.5	+0.2
G25A	Newell baz=17,SNR=14	16.92	76	⇓Pn	Pn	09 44 46.3	+0.2
S23A	Nye Farm, Mont baz=17,SNR=5.1	16.95	103	⇓Pn	Pn	09 44 47.1	+0.4
TUC	Tucson 33nm,1.8s	16.98	126	*e*Pn	P	09 44 47.9	-0.9
U22A	Llaves baz=17,SNR=8.3	16.99	108	⇑Pn	Pn	09 44 47.3	+0.1
Q24A	Divide baz=17,SNR=6.5	17.03	98	⇑Pn	Pn	09 44 47.7	-0.1
C25A	Freed Ranch, W baz=17,SNR=6.8	17.09	68	⇓Pn	Pn	09 44 48.2	+0.1
V22A	San Miguel Ran baz=17,SNR=6.5	17.20	110	⇓Pn	Pn	09 44 49.9	+0.1
B25A	Knox Farm, Ray baz=17	17.21	66	⇓Pn	Pn	09 44 49.1	-0.6
T23A	Casias Ranch, baz=17	17.23	105	⇓Pn	Pn	09 44 50.0	-0.3
G27A	Dupree baz=18,SNR=8.3	17.25	76	⇓Pn	P	09 44 58.0	+6.3
SDCO	Great Sand Dun 7.2nm,0.8s	17.29	102	*e*Pn	Pn	09 44 51.4	+0.4
R24A	Sanders Place, baz=18	17.36	100	⇑Pn	Pn	09 44 50.6	-1.2
Y20A	Horse Springs, baz=18	17.39	117	⇓Pn	Pn	09 44 52.8	+0.6
K26A	Motz Farm, Whi baz=18,SNR=9.5	17.39	85	⇓P	P	09 44 54.7	+1.4
H26A	Fairpoint baz=18	17.41	78	⇓Pn	Pn	09 44 51.7	-0.6
I26A	New Underwood baz=18	17.41	80	⇓Pn	Pn	09 44 51.6	-0.7
X21A	Alamocita Cree baz=18	17.44	115	⇑Pn	Pn	09 44 53.1	+0.2
U23A	El Rito baz=18,SNR=6.8	17.48	107	⇓Pn	Pn	09 44 53.4	+0.2
G26A	Maurine baz=18,SNR=5.8	17.49	76	⇓Pn	Pn	09 44 52.2	-1.0
S24A	Houchin Ranch, baz=18,SNR=6.9	17.54	102	⇓Pn	Pn	09 44 54.4	+0.3
P25A	Willow Gulch B baz=18,SNR=8.0	17.54	95	⇑Pn	Pn	09 44 53.9	-0.1
E26A	Carlson Angus baz=18,SNR=14	17.56	72	⇓Pn	Pn	09 44 53.3	-0.8
D26A	Manning baz=18,SNR=7.3	17.60	70	⇓Pn	Pn	09 44 53.8	-0.7
T24B	San Luis baz=18,SNR=5.2	17.68	104	⇓Pn	Pn	09 44 56.0	+0.1
Q25A	Bedland, Calha baz=18,SNR=7.6	17.70	97	Pn	Pn	09 44 55.8	-0.3
Z20A	Nine Sixteen R baz=18,SNR=6.7	17.76	120	⇓Pn	Pn	09 44 57.2	+0.4
Y21A	Point of Rocks baz=18,SNR=5.4	17.78	116	⇓Pn	Pn	09 44 57.2	+0.1
V23A	Ortiz Mt. (NFS baz=18	17.79	109	⇓Pn	Pn	09 44 57.3	+0.2
N26A	Koester Ranch, baz=18	17.80	91	⇑Pn	Pn	09 44 57.0	-0.2
F27A	Lemmon baz=18	17.88	74	⇓Pn	Pn	09 44 57.2	-0.8
LAZ	Ladron 3.3nm,1.2s	17.90	114	*e*Pn	P	09 45 01.1	+2.0
H27A	Howes baz=18,SNR=13	17.91	78	⇑Pn	Pn	09 44 57.6	-0.8
O26A	Horse Wrangler baz=18	17.92	93	⇓Pn	Pn	09 44 57.4	-1.2
I27A	Quinn baz=18,SNR=7.2	17.99	80	⇑Pn	Pn	09 44 58.4	-1.0
ANMO	Albuquerque	18.04	112	P	Pn	09 45 00.4	+0.2
ANMO	Albuquerque 0.1nm,0.3s,baz=314,slow=12,SNR=11	18.04	112	P	Pn	09 45 00.4	+0.2
S25A	Robets Cordova baz=18,SNR=7.6	18.08	101	⇑Pn	Pn	09 45 00.2	-0.5
120A	U Bar Ranch, L baz=18	18.11	121	⇓Pn	P	09 45 02.0	+0.5
P26A	Davis Ranch, A baz=18	18.12	95	⇓Pn	Pn	09 45 00.1	-1.0
W23A	Werner Place, baz=18,SNR=6.1	18.13	111	⇑Pn	Pn	09 45 01.4	0.0
J27A	Elkhorn Farm, baz=18,SNR=7.2	18.14	82	⇑Pn	Pn	09 45 00.2	-1.1
LENM	Lemitar 6.5nm,1.1s	18.15	114	*e*Pn	P	09 45 03.7	+1.9
E27A	Carson baz=18,SNR=13	18.18	72	⇓Pn	Pn	09 45 01.2	-0.5
Q26A	Hugo baz=18	18.22	97	⇓Pn	Pn	09 45 02.2	-0.2
Z21A	St. Cloud Mine baz=18,SNR=5.7	18.22	118	⇓Pn	P	09 45 02.8	+0.1
LPM	Los Pinos Moun 1.9nm,0.5s	18.29	113	*e*P	P	09 45 12.1	+8.7
T25A	Trinidad baz=18	18.33	103	⇓Pn	Pn	09 45 03.7	-0.1
BNM	Barren Site 6.2nm,1.1s	18.39	114	*e*P	Pn	09 45 06.1	+1.6
V24A	Rampart Ranch, baz=19,SNR=13	18.43	108	⇓Pn	P	09 45 04.4	-0.5
B27A	Peters Farms, baz=19	18.49	66	⇓Pn	P	09 45 04.7	-0.5
R26A	Arlington baz=19	18.52	98	⇑Pn	P	09 45 05.1	-0.7
319A	Douglas baz=19	18.54	125	⇓Pn	Pn	09 45 06.6	+0.4
O27A	Beecher Island baz=19	18.54	92	⇓Pn	P	09 45 05.6	-0.4
A27A	Ledoux Ranch, baz=19	18.56	64	⇑Pn	P	09 45 05.6	-0.5
W24A	Lazy 6 Ranch, baz=19,SNR=8.4	18.61	109	⇑Pn	Pn	09 45 07.3	+0.1
220A	Playas Peak, P baz=19	18.62	123	⇓Pn	Pn	09 45 08.0	+0.7
OGNE	Ogallala baz=19	18.64	89	⇑Pn	P	09 45 06.3	-0.8
121A	Cookes Peak, D baz=19	18.66	120	⇑Pn	Pn	09 45 08.3	+0.5
H28A	Mission Ridge baz=19	18.66	78	⇑Pn	P	09 45 07.0	-0.1
J28A	Allard Ranch, baz=19,SNR=6.3	18.67	81	⇑Pn	P	09 45 06.6	-0.7
P27A	Ficken Ranch, baz=19	18.68	94	⇑Pn	P	09 45 07.1	-0.5
U25A	Circle Dot Ran baz=19,SNR=5.5	18.69	105	⇑Pn	Pn	09 45 08.6	+0.5
G28A	Parade baz=19,SNR=7.8	18.69	76	⇓Pn	P	09 45 06.9	-0.7
K28A	Ten Mile Ranch baz=19,SNR=6.2	18.70	84	⇑Pn	P	09 45 07.1	-0.6
F28A	McLaughlin baz=19,SNR=16	18.73	74	⇑Pn	Pn	09 45 08.6	+0.3
E28A	Huff baz=19,SNR=8.1	18.79	72	⇑Pn	P	09 45 08.1	-0.4
S26A	Kim baz=19	18.79	100	⇑Pn	P	09 45 09.0	+0.2
V25A	Rancho No Teng baz=19,SNR=13	18.82	107	⇑Pn	Pn	09 45 10.2	+0.4
KSCO	Kaye Shedlock'	18.84	96	*e*P	Pn	09 45 09.6	-0.2
KSCO	Kaye Shedlock' baz=19,SNR=5.2	18.84	96	⇓Pn	Pn	09 45 10.2	+0.4
T26A	Comanche Natio baz=19	18.90	102	⇓Pn	P	09 45 10.0	-0.1
Y23A	Lovelace Mesa, baz=19	18.90	114	⇑Pn	Pn	09 45 10.7	0.0
R27A	Eads baz=19	18.99	98	⇓Pn	P	09 45 10.9	-0.1
M28A	Bar X Bar Ranc baz=19	19.00	88	⇓Pn	P	09 45 10.9	-0.1
320A	Kipp Ranch, An baz=19	19.02	124	⇓Pn	Pn	09 45 12.7	+0.7
C28A	Hausauer Farms baz=19,SNR=6.7	19.02	68	⇑Pn	Pn	09 45 12.0	+0.2
N28A	Pribbeno Ranch baz=19	19.07	90	⇓Pn	P	09 45 12.0	+0.2
B28A	Dugan Ranch, T baz=19,SNR=10	19.09	66	⇓Pn	Pn	09 45 12.9	+0.2
U26A	Atchley Ranch, baz=19	19.16	104	⇑Pn	P	09 45 13.4	+0.5
Z23A	Rita Site, Whi baz=19	19.19	115	⇑Pn	Pn	09 45 14.6	+0.5
A28A	Rude Farm, Bot baz=19,SNR=7.0	19.19	64	⇓Pn	Pn	09 45 13.9	-0.1
H29A	Onida baz=19,SNR=9.6	19.23	78	⇓Pn	Pn	09 45 14.4	-0.1
I29A	Vivian Onida baz=19	19.25	79	⇑Pn	Pn	09 45 14.2	-0.4
W25A	X Bar L Ranch, baz=19	19.26	108	⇓Pn	Pn	09 45 14.8	-0.1
Y24A	Capitan baz=20	19.32	113	⇓Pn	Pn	09 45 15.6	-0.1
J29A	Okreek baz=19,SNR=5.1	19.32	81	⇑Pn	P	09 45 14.8	+0.3
F29A	Eureka baz=20	19.41	74	⇓Pn	P	09 45 15.8	+0.4
V26A	Tequesquite Ra baz=20,SNR=14	19.42	106	⇑Pn	Pn	09 45 16.8	-0.1
K29A	Lazy Trails An baz=20,SNR=7.4	19.45	83	⇓Pn	Pn	09 45 16.6	-0.5
L29A	Maesberg Ranch baz=20,SNR=7.0	19.48	85	⇓Pn	P	09 45 16.8	+0.5
X25A	Clemmons Ranch baz=20,SNR=5.9	19.50	110	⇓Pn	Pn	09 45 17.5	-0.3
E29A	Napoleon baz=20	19.51	72	⇑Pn	P	09 45 17.1	+0.5
D29A	Pettibone, Tap baz=20	19.54	70	⇓Pn	Pn	09 45 17.6	-0.5
MDND	Maddock	19.55	68	*e*P	Pn	09 45 18.5	+0.3
MDND	Maddock baz=20	19.55	68	⇓Pn	P	09 45 17.5	+0.5
T27A	Campo baz=20	19.57	101	⇑Pn	P	09 45 17.6	+0.2
R28A	Tribune baz=20,SNR=9.0	19.68	97	Pn	P	09 45 19.1	+0.6
FFC	Flin Flon 34nm,0.8s	19.70	47	*e*P	P	09 45 18.7	+0.2
Z24A	Sheeppen Canyo baz=20,SNR=8.9	19.72	114	⇑P	Pn	09 45 25.0	+4.4
B29A	Wagenman Farm, baz=20,SNR=6.6	19.76	66	⇑Pn	P	09 45 19.4	+0.3
O29A	4D Ranch, Culb baz=20,SNR=8.2	19.78	91	⇑Pn	P	09 45 19.8	+0.3
U27A	Thompson Grove baz=20,SNR=8.3	19.79	103	⇑Pn	P	09 45 20.1	+0.2
W26A	Owens Ranch, T baz=20	19.81	107	⇓Pn	P	09 45 20.4	+0.5
Y25A	Mesa, Roswell baz=20,SNR=8.0	19.82	112	⇑Pn	P	09 45 20.7	+0.6
P29A	Atwood baz=20	19.86	93	⇓Pn	P	09 45 20.7	+0.3
A29A	Manning Farm, baz=20,SNR=9.8	19.87	65	⇓Pn	P	09 45 20.4	0.0
S28A	Manter baz=20	19.93	99	⇓Pn	P	09 45 21.6	+0.4
J30A	Dallas baz=20,SNR=6.4	19.93	81	⇑Pn	P	09 45 21.4	+0.2
G30A	Faulkton baz=20,SNR=5.6	19.94	76	⇓Pn	P	09 45 21.4	+0.2
K30A	Basset baz=20	19.97	83	⇑Pn	P	09 45 22.1	+0.5
T28A	Walsh baz=20	19.98	100	⇑Pn	P	09 45 22.5	+0.7
E30A	Jud baz=20,SNR=7.6	20.02	72	⇓Pn	P	09 45 21.8	-0.2
124A	Stringfield Ra baz=20,SNR=8.6	20.05	116	⇑Pn	P	09 45 23.5	+0.8
L30A	Spencer Herefo baz=20,SNR=6.6	20.06	85	⇓Pn	P	09 45 22.6	0.0
X26A	CR and CF Fran baz=20	20.07	109	⇑Pn	P	09 45 23.3	+0.5
Q29A	Oakley baz=20	20.07	95	⇓Pn	P	09 45 23.0	+0.2
V27A	Dan Oppiter Fa baz=20	20.11	105	⇓Pn	P	09 45 24.2	+0.9
D30A	Buchanan baz=20,SNR=11	20.11	70	⇑Pn	P	09 45 23.3	+0.3
R29A	Marienthal baz=20	20.14	96	⇓Pn	P	09 45 24.3	+0.9
BRSD	Miller	20.15	78	*e*P	P	09 45 24.0	+0.6
BRSD	Miller baz=20	20.15	78	⇓Pn	P	09 45 24.1	+0.6
Z25A	Roswell baz=20,SNR=5.3	20.18	113	⇓Pn	Pn	09 45 25.4	-0.6
O30A	MW Ranch, Wils baz=20,SNR=11	20.30	90	⇑Pn	P	09 45 25.5	+0.3
C30A	Mose, Pekin baz=20,SNR=6.6	20.31	68	⇑Pn	P	09 45 25.6	+0.4
W27A	Bowe Ranch, En baz=20	20.31	107	⇑Pn	P	09 45 26.1	+0.7
YKA	Yellowknife Ar	20.31	17	P	P	09 45 22.5	-2.6
YKA	Yellowknife Ar 1.4nm,0.6s,baz=202,slow=9.6,SNR=2.6	20.31	17	P	P	09 45 22.5	-2.6
224A	Cornudas Mount baz=21,SNR=10	20.40	117	⇓Pn	P	09 45 27.0	+0.6
Y26A	Elida baz=21,SNR=10	20.41	110	⇓Pn	P	09 45 27.1	+0.6
B30A	Myrvik Farm, E baz=20,SNR=7.1	20.44	66	⇑Pn	P	09 45 26.8	+0.2
A30A	Hoffart Farm, baz=21,SNR=8.1	20.49	65	⇑Pn	P	09 45 27.4	+0.2
X27A	F and S Farms, baz=21,SNR=5.1	20.51	108	⇓Pn	P	09 45 27.7	+0.1
V28A	Channing baz=21	20.55	104	⇑Pn	P	09 45 28.7	+0.8
125A	Gardner Draw, baz=21,SNR=10.0	20.60	114	⇑Pn	P	09 45 29.2	+0.6
Z26A	Caprock baz=21,SNR=8.3	20.68	112	⇑Pn	P	09 45 29.6	+0.2
MNTX	Cornudas Mount 6.6nm,1.2s	20.74	118	*e*P	P	09 45 31.2	+1.2
R30A	Dighton baz=21,SNR=5.4	20.81	96	⇑Pn	P	09 45 30.9	+0.1
225A	Deer Hill, Car baz=21	20.84	116	⇑Pn	Pn	09 45 32.5	-1.2
324A	Moseley Ranch, baz=21	20.84	118	⇑Pn	Pn	09 45 33.1	-0.7
Y27A	Causey baz=21	20.88	110	⇑Pn	P	09 45 32.7	+1.1
S30A	Montezuma baz=21	20.94	97	⇓Pn	P	09 45 32.9	+0.8
V29A	Stinnett baz=21	20.98	103	⇑Pn	Pn	09 45 34.4	-0.9
P31A	Stockton baz=21	21.01	92	⇓Pn	P	09 45 33.7	+0.8
126A	Clayton Basin, baz=21	21.03	113	⇑Pn	P	09 45 34.8	+1.6
GDL2	Guadalupe Moun 2.5nm,0.5s	21.08	115	*e*P	P	09 45 34.9	+1.1
MSTX	Muleshoe	21.10	109	*e*P	P	09 45 34.8	+0.8
MSTX	Muleshoe baz=21	21.10	109	⇑Pn	P	09 45 34.8	+0.8
Z27A	Tatum baz=21,SNR=19	21.18	111	Pn	P	09 45 35.5	+0.7
325A	Bean Ranch, Si baz=21,SNR=7.6	21.22	118	⇓Pn	P	09 45 35.2	-0.1
226B	Tecolote Peak, baz=21	21.29	115	⇓Pn	P	09 45 37.0	+1.1
U30A	WK&E Inc. Balk baz=21	21.29	100	⇓Pn	P	09 45 37.1	+1.1
R31A	Burdett baz=22	21.36	95	⇑Pn	P	09 45 37.2	+0.6
AMTX	Amarillo baz=22	21.37	105	⇑Pn	P	09 45 37.7	+0.9
Y28A	McKinney Farm, baz=22,SNR=8.1	21.50	108	⇑Pn	P	09 45 38.2	0.0
P32A	Huiting Farm, baz=22	21.54	91	⇓Pn	P	09 45 38.9	+0.3
X29A	Tulia baz=22,SNR=8.2	21.59	106	⇑Pn	P	09 45 39.2	0.0
425A	Indio Mountain baz=22	21.59	119	⇑Pn	P	09 45 40.2	+0.9
S31A	Mullinville baz=22	21.66	96	⇑Pn	P	09 45 40.0	+0.2
T31A	Randall Ranch, baz=22	21.74	98	⇓Pn	P	09 45 41.2	+0.5
Z28A	Tucker Farm, M baz=22	21.75	110	⇑Pn	P	09 45 41.9	+0.9
ECSD	EROS Data Cent 26nm,1.0s	21.92	79	*e*P	P	09 45 42.7	+0.1
Y29A	Porterfield Fa baz=22,SNR=6.3	21.93	108	⇓Pn	P	09 45 42.6	-0.2
S32A	Newby Ranch, P baz=22	22.02	96	⇑Pn	P	09 45 43.9	+0.1
AGMN	Agassiz Nation 51nm,1.4s	22.07	67	*e*P	P	09 45 42.5	-1.7
128A	Castleberry Fa baz=22	22.08	111	⇑Pn	P	09 45 45.4	+0.9
X30A	Coker Ranch, T baz=22	22.16	105	⇑Pn	P	09 45 45.7	+0.4
ULM	Lac du Bonnet	22.17	62	P	P	09 45 44.2	-1.0
ULM	Lac du Bonnet 3.5nm,0.7s,baz=252,slow=11,SNR=3.5	22.17	62	P	P	09 45 44.2	-1.0
ULM	comp=Z,240nm,19.4s,baz=154,slow=38			LR	LR	09 54 44.2	
Z29A	Hungry Hill Ra baz=22	22.24	109	⇓Pn	P	09 45 45.8	-0.4
426A	McDonald Obser baz=22	22.29	118	⇓Pn	P	09 45 47.0	+0.1
228A	UT Block 9, Go baz=22	22.31	113	⇓Pn	P	09 45 47.2	+0.2
W31A	Holland Ranch, baz=23	22.44	103	⇓Pn	P	09 45 47.4	-0.8
427A	Hayter Ranch, baz=23,SNR=7.7	22.57	116	⇓Pn	P	09 45 50.1	+0.3
328A	Wriesen Ranch, baz=23	22.62	114	⇑Pn	P	09 45 50.3	0.0
526A	Mary Lane Ranc baz=23	22.65	119	⇓Pn	P	09 45 50.6	-0.1
X31A	McDonald Ranch baz=23,SNR=5.5	22.70	104	⇑Pn	P	09 45 51.0	0.0
Y31A	Rekieta Farm, baz=23	22.85	106	⇑Pn	P	09 45 52.5	-0.1
527A	Woodward Ranch baz=23	22.90	118	⇑Pn	P	09 45 53.7	+0.3
229A	Bryant Ranch, baz=23	22.93	112	⇑Pn	P	09 45 53.4	0.0
626A	Big Bend Ranch baz=23	22.97	120	⇓Pn	P	09 45 54.1	+0.1
329A	Wagon Wheel Ra baz=23,SNR=5.6	23.11	113	⇓Pn	P	09 45 55.1	-0.2
428A	Kincaid Ranch, baz=23,SNR=7.2	23.12	116	⇑Pn	P	09 45 55.3	-0.3
130A	Snyder baz=23,SNR=6.6	23.13	109	⇑Pn	P	09 45 55.1	-0.4
TXAR	Lajitas Array	23.42	120	P	P	09 45 58.2	-0.3
TXAR	Lajitas Array 1.2nm,0.6s,baz=297,slow=8.1,SNR=19	23.42	120	P	P	09 45 58.2	-0.3
TXAR	comp=Z,60nm,18.7s,baz=155,slow=38			LR	LR	09 55 29.6	
131A	Roby baz=24	23.48	109	⇓Pn	P	09 45 58.4	-0.6
WMOK	Wichita Mounta 14nm,0.9s	23.49	102	*e*P	P	09 45 59.1	0.0
627A	Terlingua Ranc baz=24,SNR=8.3	23.51	119	⇓Pn	P	09 45 59.4	-0.1
330A	Mertzon baz=24,SNR=6.8	23.70	112	⇓Pn	P	09 46 00.9	-0.3
429A	Davenport Ranc baz=24,SNR=5.2	23.71	115	⇑Pn	P	09 46 00.9	-0.5
Z32A	Haskell baz=24,SNR=6.4	23.75	106	⇑Pn	P	09 46 01.0	-0.7
LPIG	La Paz comp=Z,114nm,19.6s,baz=314,slow=35	23.76	139	LR	LR	09 54 40.6	
628A	Black Gap, Mar baz=24	23.81	118	⇓Pn	P	09 46 02.0	-0.2
529A	Stev Forest Ra baz=24,SNR=8.8	23.82	116	⇓Pn	P	09 46 02.4	0.0
231A	Bronte baz=24	23.96	110	⇓Pn	P	09 46 03.0	-0.7
ILAR	Eielson Array	24.03	339	P	P	09 46 00.9	-3.1
ILAR	Eielson Array 3.0nm,0.8s,baz=152,slow=8.8,SNR=30	24.03	339	P	P	09 46 00.9	-3.1
430A	Baggett Ranch, baz=24,SNR=6.8	24.04	113	⇑Pn	P	09 46 04.1	-0.4
331A	San Angelo baz=24	24.26	111	⇑Pn	P	09 46 06.0	-0.6
SPMN	St. Paul	24.38	74	*e*P	P	09 46 12.3	+4.9
SPMN	St. Paul baz=24,SNR=6.8	24.38	74	⇑Pn	P	09 46 07.1	-0.3
530A	J-C Ranch, Com baz=24	24.38	115	⇓Pn	P	09 46 07.0	-0.6
232A	Coleman baz=25	24.45	109	⇑Pn	P	09 46 07.2	-1.0
431A	Sonora baz=25	24.53	113	⇑Pn	P	09 46 08.0	-0.9
332A	Millersview baz=25,SNR=6.0	24.68	110	⇑Pn	P	09 46 09.5	-0.8
432A	Menard baz=25	24.96	111	⇑Pn	P	09 46 13.0	+0.2
INK	Inuvik comp=Z,183nm,18.3s,baz=144,slow=36	25.05	354	LR	LR	09 55 43.6	
TUL1	Tulsa baz=25	25.07	97	⇑Pn	P	09 46 13.5	-0.2
JCT	Junction City 6.1nm,0.8s	25.20	112	*e*P	P	09 46 14.8	-0.1
631A	Perdido Creek baz=26,SNR=6.5	25.36	115	⇑Pn	P	09 46 16.1	-0.3
SCHQ	Schefferville comp=Z,130nm,20.8s,baz=285,slow=37	39.70	52	LR	LR	10 05 17.3	
PETK	Petropavlovsk-	48.78	309	P	P	09 49 28.8	-5.2
PETK	Petropavlovsk- 1.7nm,0.6s,baz=82,slow=13,SNR=3.5	48.78	309	P	P	09 49 28.8	-5.2
PETK	comp=Z,19nm,19.3s,baz=294,slow=32			LR	LR	10 06 18.9	
H11N3	WAKE ISLAND Hy 59.49 269 baz=52,slow=0.7,SNR=169			T	T	10 54 48.2	
H11N2	WAKE ISLAND Hy 59.49 269 baz=52,slow=0.7,SNR=136			T	T	10 54 51.6	
H11N1	WAKE ISLAND Hy 59.51 269 baz=52,slow=0.7,SNR=102			T	T	10 54 46.8	
H11S1	WAKE ISLAND Hy 60.41 268			T	T	10 55 54.4	

baz=50,slow=0.7,SNR=842
H11S2 WAKE ISLAND Hy 60.42 268 T T 10 55 54.9
baz=50,slow=0.7,SNR=799
H11S3 WAKE ISLAND Hy 60.43 268 T T 10 55 55.7
baz=50,slow=0.7,SNR=736
MDJ Mudanjiang 68.90 312 P **P** **09 51 54.6 +0.7**
MDJ AMB AMB
comp=Z,16nm,3.1s
CN2 Changchun 71.66 313 *e*P **P** **09 52 13.0 +2.1**
SONM Songino Array 77.57 326 P P 09 52 41.1 -4.2
SONM Songino Array 77.57 326 P P 09 52 41.1 -4.2
1.2nm,0.8s,baz=60,slow=6.0,SNR=5.2
SONM LR LR 10 25 39.9
comp=Z,48nm,19.9s,baz=8.3,slow=35
ZALV Zalesovo Beam 79.13 342 LR LR 10 28 03.4
comp=Z,29nm,20.8s,baz=249,slow=36
HHC Hu-ho-hao-te 80.82 319 *e*P **P** **09 53 03.0 -0.1**
HHC sP **sP** **09 53 09.0 -0.3**
HHC PP **PP** **09 56 08.6 +1.9**
HHC S **S** **10 03 08.4 -2.5**
HHC SS **SS** **10 08 24.3 +1.1**
HHC LR LR
comp=N,250nm,16.7s
HHC LR LR
comp=E,300nm,17.8s
HHC LR LR
comp=Z,95nm,16.7s
BVAR Borovoye Array 82.64 350 LR LR 10 30 38.9
comp=Z,29nm,18.6s,baz=252,slow=36
WMQ Urumqi 87.65 336 *e*P **P** **09 53 39.8 +2.0**
WMQ LR LR
comp=N,65nm,23.0s
WMQ LR LR
comp=E,37nm,19.0s
CD2 Chengdu 92.55 318 P **P** **09 54 01.5 +0.6**
GYA Guiyang 94.71 314 *e*P **P** **09 54 12.0 +1.1**

*NEIC **23** 09:42:40.9, 17.16N×94.93W, h136km, MD4.3(MEX), After MEX.*

MEX 23 09:42:40.7±1.4, 17.14N×94.92W, h137km±17km, MD4.3, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXX	**Oaxaca**	**1.72**	**268**	*i* P	Pn	09 43 15.8	+3.6
OXX				*i* S	Sn	09 43 39.5	+3.4
OXX	**Oaxaca**	**1.72**	**268**	*i* P	Pn	09 43 15.8	+3.6
OXX				*i* S	Sn	09 43 39.5	+3.4
VHO	**Vista Hermosa**	**1.73**	**268**	*e*P	Pn	09 43 11.3	-0.9
VHO				*i* S	Sn	09 43 35.4	-0.8
VHO	**Vista Hermosa**	**1.73**	**268**	*e*P	Pn	09 43 11.3	-0.9
VHO				*i* S	Sn	09 43 35.4	-0.8
TGIG		**1.76**	**101**	*e*P	Pn	09 43 10.9	-1.4
TGIG				*i* S	Sn	09 43 34.1	-2.4
TGIG		**1.76**	**101**	*e*P	Pn	09 43 10.9	-1.4
TGIG				*i* S	Sn	09 43 34.1	-2.4
HUIG	**Huatulco**	**1.77**	**220**	*e*P	Pn	09 43 10.2	-2.2
HUIG				*i* S	Sn	09 43 35.5	-1.2
HUIG	**Huatulco**	**1.77**	**220**	*e*P	Pn	09 43 10.2	-2.2
HUIG				*i* S	Sn	09 43 35.5	-1.2
PCIG		**2.17**	**131**	*i* P	Pn	09 43 17.0	-0.1
PCIG				*i* S	Sn	09 43 44.5	-0.6
PCIG		**2.17**	**131**	*i* P	Pn	09 43 17.0	-0.1
PCIG				*i* S	Sn	09 43 44.5	-0.6
TPIG	**Tehuac#an**	**2.65**	**299**	*e*P	Pn	09 43 22.1	-1.2
TPIG				*e*S	Sn	09 43 53.3	-2.9
TPIG	**Tehuac#an**	**2.65**	**299**	*e*P	Pn	09 43 22.1	-1.2
TPIG				*e*S	Sn	09 43 53.3	-2.9
CCIG	**Comitan**	**2.80**	**107**	*e*P	Pn	09 43 24.6	-0.6
CCIG				*i* S	Sn	09 43 57.8	-1.8
CCIG	**Comitan**	**2.80**	**107**	*e*P	Pn	09 43 24.6	-0.6
CCIG				*i* S	Sn	09 43 57.8	-1.8
UTMO	**Huajuapan**	**2.83**	**284**	*e*P	Pn	09 43 24.8	-0.9
UTMO				*i* S	Sn	09 43 57.7	-2.7
UTMO	**Huajuapan**	**2.83**	**284**	*e*P	Pn	09 43 24.8	-0.9
UTMO				*i* S	Sn	09 43 57.7	-2.7
PNIG	**Pinotepa**	**3.16**	**257**	*e*P	Pn	09 43 27.0	-2.7
PNIG				*i* S	Sn	09 44 05.6	-1.9
PNIG	**Pinotepa**	**3.16**	**257**	*e*P	Pn	09 43 27.0	-2.7
PNIG				*i* S	Sn	09 44 05.6	-1.9
THIG		**3.38**	**131**	*i* P	Pn	09 43 26.8	-5.7
THIG				*i* S	Sn	09 44 13.4	+0.7
THIG		**3.38**	**131**	*i* P	Pn	09 43 26.8	-5.7
THIG				*i* S	Sn	09 44 13.4	+0.7
TLIG	**Tlapa**	**3.51**	**277**	*i* P	Pn	09 43 33.6	-0.7
TLIG				*i* S	Sn	09 44 13.1	-2.7
SCIG	**Sabancuy**	**3.99**	**62**	*e*P	Pn	09 43 37.0	-3.5
SCIG	**Sabancuy**	**3.99**	**62**	*e*P	Pn	09 43 37.0	-3.5
PLIG	**Platanillo**	**4.54**	**287**	*e*P	Pn	09 43 47.5	-0.4
PLIG				*i* S	Sn	09 44 38.0	-2.1
PLIG	**Platanillo**	**4.54**	**287**	*e*P	Pn	09 43 47.5	-0.4
PLIG				*i* S	Sn	09 44 38.0	-2.1
MEIG	**Mezcala**	**4.55**	**281**	*e*P	Pn	09 43 47.4	-0.7
MEIG				*i* S	Sn	09 44 38.3	-2.1
MEIG	**Mezcala**	**4.55**	**281**	*e*P	Pn	09 43 47.4	-0.7
MEIG				*i* S	Sn	09 44 38.3	-2.1
ARIG	**Puente Sto Nin**	**5.29**	**283**	*e*P	Pn	09 43 58.1	+0.2
ARIG				*i* S	Sn	09 44 56.0	-2.1
ZIIG	**Zihuatanejo**	**6.26**	**275**	*i* P	Pn	09 44 09.4	-1.4
ZIIG				*i* S	Sn	09 45 18.2	-3.1
ZIIG	**Zihuatanejo**	**6.26**	**275**	*i* P	Pn	09 44 09.4	-1.4
ZIIG				*i* S	Sn	09 45 18.2	-3.1
TEIG	**Tepich** 17nm,0.3s	**7.01**	**63**	*e*Pn	Pn	09 44 16.9	-3.9
TEIG				*e*Sn	Sn	09 45 36.9	-2.4
TGUH	**Tegucigalpa,Un**	**7.98**	**112**	*e*Pn	Pn	09 44 31.6	-2.3

*ISCJB **23** 09:42:55.1±0.9, 56.2S±0.1×27.3W±0.4, h112km, mb3.9/6, Error ellipse: s-maj=36.7km s-min=16.1km az=157.9*
*IDC **23** 09:42:56.0±10.0, 56.21S×27.33W, h106km±96km, mb3.6/6, mb1 3.7/7, mb1mx3.6/17, mbtmp3.6/7, ML4.0/1, Error ellipse: s-maj=37.1km s-min=23.2km az=72.0*

ISC 23 09:42:56.5±1.0, 56.2S±0.2×27.3W±0.3, h112km, n10, σ0s49/10, mb4.0/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	**Neumayer--Watz** baz=314,slow=12	**17.06**	**158**	*e*P	**P**	**09 46 48.0**	**+0.2**
SNAA	**Sanae**	**18.62**	**156**	*e*P	**P**	**09 47 04.3**	**-0.6**
SNAA	**Sanae**	**18.62**	**156**	P	**P**	**09 47 04.5**	**-0.4**
0.4nm,0.3s,baz=301,slow=11,SNR=103							
QSPA	**South Pole Qui** 0.8nm,0.3s	**34.03**	**180**	P	**P**	**09 49 29.9**	**+0.4**
MAW	**Mawson** 0.9nm,0.3s,baz=218,slow=6.9,SNR=4.9	**40.06**	**143**	P	**P**	**09 50 20.2**	**+0.1**
VNDA	**Vanda** 0.5nm,0.5s,baz=181,slow=6.8,SNR=6.3	**46.40**	**183**	P	**P**	**09 51 11.3**	**+0.4**
LPAZ	**La Paz** 0.8nm,0.5s,baz=218,slow=2.8,SNR=5.5	**50.41**	**305**	P	**P**	**09 51 43.0**	**-0.2**
TORD	**Torodi Ar. Bea** 0.6nm,0.5s,baz=198,slow=6.3,SNR=9.6	**73.24**	**30**	P	**P**	**09 54 15.6**	**+0.3**
ASAR	**Alice Springs** 0.3nm,0.7s,baz=186,slow=4.1,SNR=5.0	**98.85**	**163**	P	**P**	**09 56 23.1**	**-0.7**
WRA	**Warramunga Arr** 0.2nm,0.8s,baz=191,slow=3.7,SNR=2.7	**102.57**	**162**	P	**Pdif**	**09 56 40.1**	**-0.3**

IDC 23 09:42:58.5±54.0, 19.20S×177.31W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/17, mbtmp4.2/3, Error ellipse: s-maj=988.5km s-min=159.5km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 0.7nm,0.5s,baz=95,slow=8.8,SNR=4.9	**38.95**	**243**	P	P	**09 50 26.6**	**+0.1**
WRA	**Warramunga Arr** 0.8nm,0.3s,baz=97,slow=7.5,SNR=57	**45.44**	**261**	P	P	09 51 19.6	-0.1
ASAR	**Alice Springs** 3.8nm,0.5s,baz=95,slow=7.6,SNR=104	**45.46**	**255**	P	P	09 51 19.4	-0.4

IDC 23 09:52:23.6±2.8, 19.32S×175.49W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/17, mbtmp3.6/3, Error ellipse: s-maj=288.7km s-min=34.3km az=159.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs** 0.7nm,0.5s,baz=93,slow=8.0,SNR=24	**47.10**	**255**	P	P	10 00 57.6	-0.1
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=97,slow=7.5,SNR=31	**47.12**	**260**	P	P	10 00 57.8	-0.1
TXAR	**Lajitas Array** 0.1nm,0.4s,baz=234,slow=4.3,SNR=3.5	**84.43**	**56**	P	P	10 04 58.6	0.0

KRSC 23 10:02:31.3±7.1, 50.08N×154.12E, h279km±61km, ML4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.41**	**64**	P	Pn	10 03 12.4	+0.7
SKR				S	S	10 03 46.3	+2.5
PAU	**Pauzhetka**	**2.20**	**50**	P	Pn	10 03 18.2	+0.4
PAU				S	S	10 03 55.6	+0.8
MIPR	**Malaya Ipel'ka**	**2.75**	**36**	P	Pn	10 03 23.9	+0.8
ASAK	**Asacha**	**3.31**	**44**	P	Pn	10 03 31.2	+2.3
APC	**Apacha**	**3.42**	**33**	P	Pn	10 03 30.4	+0.5
MTVR	**Mutnovka**	**3.51**	**45**	P	Pn	10 03 32.4	+1.4
MTVR				S	S	10 04 19.8	+1.1
RUS	**Russkaya**	**3.63**	**48**	P	Pn	10 03 33.6	+1.5
RUS				S	S	10 04 18.9	-1.8
KOK	**Koryaka**	**4.27**	**39**	P	Pn	10 03 41.5	+2.0
KOK				S	S	10 04 33.9	-0.2
UGLR	**Uglovaya**	**4.29**	**41**	P	Pn	10 03 42.2	+2.5
AVH	**Avacha**	**4.29**	**40**	P	Pn	10 03 42.0	+2.3
SMAR	**Somma**	**4.32**	**41**	P	Pn	10 03 41.7	+1.5
GNL	**Ganaly**	**4.33**	**32**	P	Pn	10 03 41.5	+1.3
KRX	**Arik**	**4.33**	**39**	P	Pn	10 03 41.7	+1.5
KRER	**Koryakskii**	**4.33**	**40**	P	Pn	10 03 42.4	+2.1
KRER				S	S	10 04 34.5	-1.0
SDLR	**Sedlovina**	**4.36**	**41**	P	Pn	10 03 42.4	+1.8
SDLR				S	S	10 04 35.0	-1.1
KBTR	**Krutoberegovo**	**8.06**	**37**	P	Pn	10 04 26.7	+1.5
KBTR				S	S	10 05 55.5	-1.9
BKI	**Bering**	**8.84**	**50**	S	S	10 06 10.4	-4.9

IDC 23 10:03:07.4±2.0, 2.53S×128.53E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.4/21, mbtmp3.5/3, ML3.5/1, MS3.6/1, Ms1 3.6/1, ms1mx2.5/21, Error ellipse: s-maj=141.7km s-min=25.4km az=68.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=341,slow=11,SNR=16	**18.21**	**162**	P	Pn	10 07 21.7	-0.2
ASAR	**Alice Springs** 0.8nm,0.4s,baz=345,slow=12,SNR=22	**21.65**	**167**	P	P	10 07 59.0	-0.6
HNR	**Honiara** comp=Z,101nm,21.6s,baz=294,slow=35	**31.96**	**104**	LR	LR	10 21 35.2	
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=120,slow=6.1,SNR=3.3	**63.71**	**326**	P	P	10 13 41.2	+0.3

*IDC **23** 10:42:06.0±0.8, 7.63N×126.77E, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.8/26, mbtmp3.8/10, Error ellipse: s-maj=50.2km s-min=15.8km az=78.0*
*MAN **23** 10:42:08, 7.55N×127.27E, h91km, mb4.9, ML3.8, MS3.9*
*ISCJB **23** 10:42:10.6±0.7, 7.70N±0.06×127.21E±0.06, h52km, mb3.9/10, Error ellipse: s-maj=8.9km s-min=7.8km az=37.9*

ISC 23 10:42:12.8±0.9, 7.66N±0.07×127.11E±0.10, h52km, n15, σ1s25/18, mb3.9/10, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.91**	**305**	*e*P	**Pn**	**10 42 28.0**	**-1.4**
BIPH				*i* S	**Sn**	**10 42 39.7**	**-1.8**
MATI	**Mati**	**1.11**	**230**	*e*P	**Pn**	**10 42 30.2**	**-1.9**
MATI				*e*S	**Sn**	**10 42 48.0**	**+1.6**
BUTP	**Butuan**	**1.96**	**311**	*e*P	**Pn**	**10 42 43.7**	**0.0**
BUKP	**Musuan**	**2.04**	**276**	*e*P	**Pn**	**10 42 45.4**	**+0.6**
CGP	**Cagayan de Oro**	**2.52**	**288**	*e*P	**Pn**	**10 42 51.0**	**-0.3**
CGP				*e*S	**Sn**	**10 43 22.8**	**+1.9**
FITZ	**Fitzroy Crossi** 1.6nm,0.5s,baz=9.3,slow=10,SNR=10	**25.64**	**183**	P	**P**	**10 47 37.3**	**-0.4**
WRA	**Warramunga Arr** 1.5nm,0.9s,baz=347,slow=9.8,SNR=8.5	**28.34**	**166**	P	**P**	**10 48 02.7**	**+0.7**
ASAR	**Alice Springs** 0.2nm,0.5s,baz=341,slow=7.5,SNR=10.0	**31.84**	**168**	P	**P**	**10 48 32.6**	**-0.3**
USRK	**Ussuriysk Arra** 0.8nm,0.5s,baz=186,slow=4.2,SNR=3.2	**36.64**	**6**	P	**P**	**10 49 14.9**	**+0.6**
MKAR	**Makanchi Array** 1.2nm,0.7s,baz=125,slow=7.6,SNR=10	**54.60**	**324**	P	**P**	**10 51 35.7**	**-0.4**
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=115,slow=9.7,SNR=2.4	**57.30**	**332**	P	**P**	**10 51 54.5**	**-0.7**
KURBB	**Kurchatov Arra** 0.5nm,0.4s,baz=126,slow=6.0,SNR=6.5	**58.68**	**326**	P	**P**	**10 52 04.2**	**-0.7**
ILAR	**Eielson Array** 0.5nm,0.9s,baz=238,slow=4.9,SNR=6.8	**81.41**	**26**	P	**P**	**10 54 25.9**	**+2.0**
ARCES	**ARCESS Array B** 1.3nm,0.6s,baz=77,slow=5.4,SNR=5.2	**86.91**	**340**	P	**P**	**10 54 51.1**	**-0.7**
FINES	**FINESS Array B** 2.3nm,0.9s,baz=113,slow=11,SNR=3.7	**88.57**	**332**	P	**P**	**10 54 58.6**	**-1.2**

*CSEM **23** 10:48:05.2, 37.09N×30.54E, h6km, MD2.6, After ISK*
*ISK **23** 10:48:05.2, 37.09N×30.54E, h6km, MD2.6*

ISC 23 10:48:05.9±1.2, 37.07N±0.08×30.6E±0.1, h8km±17km, n9, σ0s79/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KORT	**Korkueli**	**0.19**	**248**	*i* P	**Pb**	**10 48 09.5**	**-0.4**
KORT				*i* S	**Sb**	**10 48 14.3**	**+1.7**
BCK	**Bucak**	**0.39**	**2**	*e*PG	**Pg**	**10 48 13.2**	**-0.4**
BCK				*e*SG	**Sg**	**10 48 18.5**	**-0.3**
BCK	**Bucak**	**0.39**	**2**	*e*Pg	**Pg**	**10 48 13.2**	**-0.4**
BCK				*e*Sg	**Sg**	**10 48 18.5**	**-0.3**
SUTC	**Sutluce-Ispart**	**0.53**	**40**	*e*PG	**Pg**	**10 48 15.8**	**-0.4**
SUTC	**Sutluce-Ispart**	**0.53**	**40**	*e*Pg	**Pg**	**10 48 15.8**	**-0.4**
ELL	**Elmali**	**0.62**	**239**	*e*PG	**Pg**	**10 48 17.3**	**-0.7**
ELL	**Elmali**	**0.62**	**239**	*e*Pg	**Pg**	**10 48 17.3**	**-0.7**
KONT	**Konya--Tatoy**	**1.67**	**58**	*e*PN	**Pn**	**10 48 35.9**	**+0.4**
KONT	**Konya--Tatoy**	**1.67**	**58**	*e*Pn	**Pn**	**10 48 35.9**	**+0.4**

*ATH **23** 11:03:39.7, 36.96N×27.97E, h30km±1km, MD3.5/7*
*ISK **23** 11:03:39.0, 37.00N×27.82E, h5km, ML3.4*
*DDA **23** 11:03:39.8, 36.98N×27.92E, h2km, MD3.4*
*ISCJB **23** 11:03:40.4±0.4, 36.97N±0.02×27.85E±0.02, h8km±3km, Error ellipse: s-maj=3.1km s-min=2.6km az=35.7*
*THE **23** 11:03:40.3, 36.94N×27.94E, h3km±1km, ML3.2/4, Error ellipse: s-maj=1.4km s-min=0.5km az=176.0*
*CSEM **23** 11:03:40.4±0.1, 36.96N×27.84E, h5km, MD3.4, Error ellipse: s-maj=3.1km s-min=2.8km az=161.0*

ISC 23 11:03:40.9±1.0, 36.97N±0.02×27.87E±0.02, h8km±8km, n113, σ0s92/150, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.33**	**224**	*e*PG	**Pg**	**11 03 46.8**	**-0.7**
DAT				*e*SG	**Sg**	**11 03 52.5**	**+0.6**
DAT	**Datca**	**0.33**	**224**	*e*Pg	**Pg**	**11 03 46.8**	**-0.7**
DAT				*e*Sg	**Sg**	**11 03 52.5**	**+0.6**
BDRM	**Kayabasi**	**0.35**	**286**	*i* P	**Pg**	**11 03 47.6**	**-0.2**
BDRM				*i* S	**Sg**	**11 03 53.9**	**+1.4**
BDRM	**Kayabasi**	**0.35**	**286**	*i* P	**Pg**	**11 03 47.6**	**-0.2**
BDRM				*i* S	**Sg**	**11 03 53.9**	**+1.4**
YER	**Yerkesik**	**0.37**	**63**	*e*PG	**Pg**	**11 03 47.5**	**-0.7**
YER	**Yerkesik**	**0.37**	**63**	*e*Pg	**Pg**	**11 03 47.5**	**-0.7**
BODT	**Bodrum**	**0.46**	**282**	*e*PG	**Pg**	**11 03 48.6**	**-1.2**
BODT	**Bodrum**	**0.46**	**282**	*e*Pg	**Pg**	**11 03 48.6**	**-1.2**
TURN	**Turunc**	**0.60**	**99**	*i* P	Pg	11 03 46.2	-6.2
TURN				*i* S	Sg	11 03 51.5	-8.7
DALY	**Dalyan (Mu˘la**	**0.65**	**103**	*e*PG	**Pg**	**11 03 52.5**	**-0.8**
DALY	**Dalyan (Mu˘la**	**0.65**	**103**	*e*Pg	**Pg**	**11 03 52.5**	**-0.8**
NIS1	**Nisyros Isl.**	**0.66**	**237**	P	**Pg**	**11 03 53.6**	**-0.1**
NIS1				S	**Sb**	**11 04 04.8**	**+0.7**
NIS1	**Nisyros Isl.**	**0.66**	**237**	*e*PN	**Pg**	**11 03 53.7**	**0.0**
NIS1				*e*SN	**Sb**	**11 04 05.4**	**+1.3**
NIS1	**Nisyros Isl.**	**0.66**	**237**	P	**Pg**	**11 03 53.6**	**-0.1**
NIS1				S	**Sb**	**11 04 04.8**	**+0.7**
NIS1				*e*Sn	**Sb**	**11 04 05.4**	**+1.3**
NIS2	**Nisyros Isl.**	**0.68**	**235**	P	**Pg**	**11 03 54.1**	**+0.2**
AYDN	**Tasoluk**	**0.69**	**1**	*i* P	**Pg**	**11 03 53.5**	**-0.7**
AYDN				*i* S	**Sg**	**11 04 02.8**	**-0.4**
AYDN	**Tasoluk**	**0.69**	**1**	*i* P	**Pg**	**11 03 53.5**	**-0.7**
AYDN				*i* S	**Sg**	**11 04 02.8**	**-0.4**
NIS3	**Nisyros Isl.**	**0.69**	**236**	P	**Pg**	**11 03 54.1**	**-0.2**
NIS3				S	**Sb**	**11 04 05.6**	**+0.6**
ARG	**Arkhangelos**	**0.78**	**164**	P	**Pg**	**11 03 54.5**	**-1.4**
ARG				S	**Sg**	**11 04 05.8**	**-0.2**
ARG	**Arkhangelos**	**0.78**	**164**	*e*PN	**Pg**	**11 03 54.5**	**-1.4**
GCAM	**G?zelcaml?**	**0.89**	**325**	*i* P	**Pg**	**11 03 57.8**	**-0.2**
GCAM				*i* S	**Sg**	**11 04 10.1**	**+0.6**
GCAM	**G?zelcaml?**	**0.89**	**325**	*i* P	**Pg**	**11 03 57.8**	**-0.2**
GCAM				*i* S	**Sg**	**11 04 10.1**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**0.98**	**1**	*e*PG	**Pg**	**11 03 58.5**	**-1.2**
AYDB				*e*SG	**Sg**	**11 04 12.8**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**0.98**	**1**	*e*Pg	**Pg**	**11 03 58.5**	**-1.2**
AYDB				*e*Sg	**Sg**	**11 04 12.8**	**+0.4**
FETY	**Fethiye**	**1.03**	**108**	*e*PG	**Pg**	**11 04 00.5**	**-0.2**
FETY	**Fethiye**	**1.03**	**108**	*e*Pg	**Pg**	**11 04 00.5**	**-0.2**
SMG	**Samos**	**1.10**	**312**	P	**Pg**	**11 04 01.7**	**-0.4**
SMG				S	**Sn**	**11 04 18.1**	**-0.1**
SMG	**Samos**	**1.10**	**312**	*e*PN	**Pg**	**11 04 01.7**	**-0.4**
SMG				*e*SN	**Sb**	**11 04 17.3**	**+0.4**
SMG	**Samos**	**1.10**	**312**	P	**Pg**	**11 04 01.7**	**-0.4**
SMG				*e*Sn	**Sb**	**11 04 17.3**	**+0.4**
SMG				S	**Sn**	**11 04 18.1**	**-0.1**
DNZL	**Cakiroluk**	**1.18**	**52**	*i* P	**Pg**	**11 04 01.9**	**-1.7**
DNZL				*i* S	**Sg**	**11 04 19.1**	**+0.1**
DNZL	**Cakiroluk**	**1.18**	**52**	*i* P	**Pg**	**11 04 01.9**	**-1.7**
DENT	**Denizli**	**1.22**	**49**	*e*PN	**Pb**	**11 04 03.3**	**-0.9**
DENT	**Denizli**	**1.22**	**49**	*e*Pn	**Pb**	**11 04 03.3**	**-0.9**
GLHS	**Gihisar (BURDU**	**1.32**	**81**	*e*PN	**Pg**	**11 04 06.4**	**+0.3**
GLHS	**Gihisar (BURDU**	**1.32**	**81**	*e*Pn	**Pg**	**11 04 06.4**	**+0.3**
GOLH	**Golhisar**	**1.38**	**78**	*i* P	**Pn**	**11 04 05.8**	**-0.8**
GOLH				*i* S	**Sg**	**11 04 27.7**	**+2.4**
IZM	**Izmir**	**1.50**	**342**	*e*PN	**Pn**	**11 04 07.4**	**-0.9**
IZM	**Izmir**	**1.50**	**342**	*e*Pn	**Pn**	**11 04 07.4**	**-0.9**
KARP	**Karpathos**	**1.53**	**202**	P	**Pn**	**11 04 07.2**	**-1.3**
KARP				S	**Sn**	**11 04 27.1**	**-1.6**
KARP	**Karpathos**	**1.53**	**202**	*e*PN	**Pn**	**11 04 07.3**	**-1.3**
KARP				*e*SN	**Sn**	**11 04 27.0**	**-1.6**
KARP	**Karpathos**	**1.53**	**202**	*e*Pn	**Pn**	**11 04 07.3**	**-1.3**
KARP				*e*Sn	**Sn**	**11 04 27.0**	**-1.6**
BLCB	**Balcova**	**1.56**	**335**	*e*PN	**Pn**	**11 04 08.1**	**-0.8**
BLCB	**Balcova**	**1.56**	**335**	*e*Pn	**Pn**	**11 04 08.1**	**-0.8**
AKAS	**Kas**	**1.58**	**117**	*i* P	**Pn**	**11 04 09.6**	**+0.2**
AKAS				*i* S	**Sg**	**11 04 32.4**	**+0.7**
AKAS	**Kas**	**1.58**	**117**	*i* P	**Pn**	**11 04 09.6**	**+0.2**
ELL	**Elmali**	**1.65**	**97**	*e*PN	**Pn**	**11 04 10.8**	**+0.5**
ELL	**Elmali**	**1.65**	**97**	*e*Pn	**Pn**	**11 04 10.8**	**+0.5**
KULA	**Kula-Manisa**	**1.67**	**22**	*e*PN	**Pn**	**11 04 10.3**	**-0.2**
KULA	**Kula-Manisa**	**1.67**	**22**	P	**Pn**	**11 04 09.6**	**-0.9**
KULA				S	**Sn**	**11 04 31.2**	**-0.9**
KULA	**Kula-Manisa**	**1.67**	**22**	P	**Pn**	**11 04 09.6**	**-0.9**
KULA	**Kula-Manisa**	**1.67**	**22**	*e*Pn	**Pn**	**11 04 10.3**	**-0.2**
KULA				S	**Sn**	**11 04 31.2**	**-0.9**
URLA	**Izmir**	**1.72**	**324**	*i* P	**Pg**	**11 04 14.0**	**+0.2**
URLA				*i* S	**Sg**	**11 04 39.1**	**+3.0**
APE	**Apeiranthos**	**1.87**	**274**	*e*PN	**Pn**	**11 04 12.1**	**-1.2**
APE	**Apeiranthos**	**1.87**	**274**	P	**Pn**	**11 04 12.4**	**-0.9**
APE				S	**Sn**	**11 04 38.3**	**+1.1**
APE	**Apeiranthos**	**1.87**	**274**	*e*PN	**Pn**	**11 04 12.4**	**-0.9**
APE	**Apeiranthos**	**1.87**	**274**	*e*Pn	**Pn**	**11 04 12.1**	**-1.2**
APE	**Apeiranthos**	**1.87**	**274**	P	**Pn**	**11 04 12.4**	**-0.9**
APE				S	**Sn**	**11 04 38.3**	**+1.1**
KHL	**Karahalli**	**1.89**	**44**	*e*PN	**Pn**	**11 04 13.9**	**+0.4**
KHL	**Karahalli**	**1.89**	**44**	*e*Pn	**Pn**	**11 04 13.9**	**+0.4**
AKHS	**Akhisar**	**1.91**	**359**	*i* P	**Pn**	**11 04 12.2**	**-1.5**
AKHS				*i* S	**Sn**	**11 04 35.9**	**-2.1**
AKHS	**Akhisar**	**1.91**	**359**	*i* P	**Pn**	**11 04 12.2**	**-1.5**
AKHS				*i* S	**Sn**	**11 04 35.9**	**-2.1**
KORT	**Korkueli**	**1.99**	**88**	*i* P	**Pb**	**11 04 16.9**	**-0.5**
KORT				*i* S	**Sb**	**11 04 43.4**	**+1.1**
CHOS	**Chios island**	**2.02**	**315**	P	**Pn**	**11 04 14.7**	**-0.6**
CHOS				S	**Sn**	**11 04 41.2**	**+0.4**
CHOS	**Chios island**	**2.02**	**315**	*e*PN	**Pn**	**11 04 14.8**	**-0.6**
CHOS	**Chios island**	**2.02**	**315**	P	**Pn**	**11 04 14.7**	**-0.6**
CHOS				S	**Sn**	**11 04 41.2**	**+0.4**
BCK	**Bucak**	**2.23**	**76**	*e*PN	**Pn**	**11 04 18.8**	**+0.6**
BCK	**Bucak**	**2.23**	**76**	*e*Pn	**Pn**	**11 04 18.8**	**+0.6**
ISP	**Isparta**	**2.28**	**67**	*e*PN	**Pn**	**11 04 20.1**	**+1.2**
ISP	**Isparta**	**2.28**	**67**	*e*Pn	**Pn**	**11 04 20.1**	**+1.2**
ZKR	**Zakros**	**2.28**	**216**	*e*PB	**Pn**	**11 04 19.6**	**+0.7**
ZKR	**Zakros**	**2.28**	**216**	*e*Pb	**Pn**	**11 04 19.6**	**+0.7**
SUTC	**Sutluce-Ispart**	**2.55**	**78**	*e*PN	**Pn**	**11 04 23.8**	**+1.1**
SUTC	**Sutluce-Ispart**	**2.55**	**78**	*e*Pn	**Pn**	**11 04 23.8**	**+1.1**
LAST	**Lasithi**	**2.65**	**228**	*e*PN	**Pn**	**11 04 23.9**	**-0.1**
LAST	**Lasithi**	**2.65**	**228**	*e*Pn	**Pn**	**11 04 23.9**	**-0.1**
SHUT	**Suhut-Afyon**	**2.65**	**53**	*e*PN	**Pn**	**11 04 25.0**	**+0.9**
SHUT	**Suhut-Afyon**	**2.65**	**53**	*e*Pn	**Pn**	**11 04 25.0**	**+0.9**
BALB	**Balikesir**	**2.67**	**0**	*e*PN	**Pn**	**11 04 24.5**	**+0.3**
BALB	**Balikesir**	**2.67**

NVAR	Mina Array Bea	75.51	43	P	P	11 16 59.5	-0.6
	2.9nm,0.7s,baz=224,slow=9.3,SNR=29						
TXAR	Lajitas Array	82.04	57	P	P	11 17 34.9	-0.6
	0.5nm,0.8s,baz=222,slow=6.7,SNR=5.7						
ILAR	Eielson Array	82.86	12	P	P	11 17 37.5	-1.3
	7.1nm,0.5s,baz=212,slow=5.5,SNR=71						
PDAR	Pinedale Array	83.44	42	P	P	11 17 41.5	-1.2
	3.0nm,0.8s,baz=204,slow=3.1,SNR=26						
MAW	Mawson	87.18	199	P	P	11 17 60.0	-0.3
	2.0nm,0.6s,baz=117,slow=8.8,SNR=9.3						
CMAR	Chiang Mai Arr	91.08	289	P	P	11 18 20.1	+0.6
	0.7nm,0.4s,baz=111,slow=2.9,SNR=5.9						
MKAR	Makanchi Array	109.71	315	PKiKP	PKiKP	11 23 42.1	-1.6
	0.3nm,0.6s,baz=107,slow=1.3,SNR=3.6						
BVAR	Borovoye Array	116.94	322	PKP	PKPdf	11 23 56.4	-1.0
	1.2nm,0.6s,baz=85,slow=1.8,SNR=5.4						
ARCES	ARCESS Array B	124.46	351	PKP	PKPdf	11 24 10.3	-1.1
	2.6nm,0.6s,baz=349,slow=1.8,SNR=19						
FINES	FINESS Array B	131.66	347	PKP	PKPdf	11 24 25.0	-0.3
	1.1nm,0.4s,baz=3.8,slow=5.7,SNR=9.6						
BURAR	Bucovina Array	143.81	337	⇑*i*P	PKPab	11 24 46.1	+0.3
KMBO	Kilima Mbogo	144.00	246	PKP	PKPbc	11 24 48.7	+0.4
	0.7nm,0.3s,baz=61,slow=24,SNR=4.6						
DPC	Dobruska-Polom	144.02	348	*i* P	PKPbc	11 24 46.8	-0.2
OKC	Ostrava-Krasne	144.08	345	*i* P	PKPab	11 24 46.0	-0.6
TRPA	Tarpa	144.34	340	⇑*i*P	PKPbc	11 24 47.8	-0.1
PRU	Pruhonice	144.71	349	*i* P	PKPbc	11 24 48.1	-0.9
NKC	Novy Kostel	144.81	352	*i* P	PKPbc	11 24 48.9	-0.4
TIRR	Tirgusor	144.91	330	⇑*i*P	PKPbc	11 24 49.4	-0.4
TLB	Topalu	144.99	331	⇑*i*P	PKPab	11 24 50.3	0.0
BRTR	Keskin Array B	145.17	319	PKPbc	PKPdf	11 24 50.6	-0.2
	3.6nm,0.6s,baz=96,slow=3.6,SNR=18						
MLR	Muntele Rosu	145.24	334	⇑*i*P	PKPab	11 24 51.3	-0.1
PSZ	Piszkesteto	145.37	342	⇑*i*P	PKPdf	11 24 50.1	-0.7
DRGR		145.44	338	⇑*i*P	PKPbc	11 24 51.2	-0.2
KHC	Kasperske Hory	145.70	350	*i* P	PKPdf	11 24 51.6	+0.3
GERES	GERESS Array B	145.96	350	PKPbc	PKPdf	11 24 52.3	+0.5
	2.3nm,0.6s,baz=17,slow=3.1,SNR=16						
TORD	Torodi Ar. Bea	176.13	127	PKPab	PKPab	11 27 02.5	-2.6
	0.2nm,0.7s,baz=203,slow=6.2,SNR=2.3						

IDC ***23*** *11:15:22.9±0.3, 0.°80S×134.°10E, h0km, mb5.6/29, mb1 5.6/33, mb1mx5.6/33, mbtmp5.6/33, ML5.5/3, MS5.1/26, Ms1 5.1/26, ms1mx5.0/42, Error ellipse: s-maj=15.3km s-min=8.9km az=72.0*

BJI ***23*** *11:15:23.0, 0.°92S×134.°38E, h23km, mB5.8/61, mb5.7/70, Ms5.4/69, Ms7 5.2/69*

NEIC ***23*** *11:15:25.4±0.1, 0.°84S×134.°13E, h15km, mb5.9/75, ME5.7, MS5.4/145, MW5.7, MW5.8, Error ellipse: s-maj=4.0km s-min=3.0km az=63.0, Moment Tensor Solution. s27 Moment tensor: Scale 10^17^Nm; Mrr3.89; Mθθ-2.42; Mφφ-1.47; Mrθ-0.08; Mθφ1.81; Mφr2.52; Best double couple: M○4.60000×10^17^ NP1:ϕs110.00000°, δ37.00000°, λ56.00000°. NP2:ϕs330.00000°, δ60.00000°, λ112.00000°. Principal axes: T 4.9400, Plg66.0000°, Azm282.0000°; N -0.7600, Plg19.0000°, Azm138.0000°; P -4.1800, Plg12.0000°, Azm43.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt [III] at Manokwari. Also felt at Biak.

AUST ***23*** *11:15:25.9±2.2, 0.°72S×133.°96E, h27km±17km Error ellipse: s-maj=7.6km s-min=5.5km az=132.0*

MOS ***23*** *11:15:27.4±1.3, 0.°67S×134.°07E, h35km, mb6.1/72, MS5.2/55, Error ellipse: s-maj=9.4km s-min=5.0km az=112.2*

ISCJB ***23*** *11:15:27.4±0.4, 0.°83S±0.°02×134.°14E±0.°02, h43km±3km, mb5.8/234, MS5.3/219, Error ellipse: s-maj=3.5km s-min=2.9km az=44.5*

GCMT ***23*** *11:15:29.3±0.1, 0.°78S×134.°12E, h17km, MW5.8, Moment Tensor Solution. s117, c228; s58, c66; Moment tensor: Scale 10^17^Nm; Mrr4.22±.05; Mθθ-3.16±.04; Mφφ-1.07±.04; Mrθ-1.53±.11; Mθφ2.56±.03; Mφr3.84±.14; Best double couple: M○6.20000×10^17^ NP1:ϕs326.00000°, δ67.00000°, λ110.00000°. NP2:ϕs103.00000°, δ30.00000°, λ51.00000°. Principal axes: T 6.2400, Plg63.0000°, Azm268.0000°; N -0.1500, Plg18.0000°, Azm138.0000°; P -6.1000, Plg20.0000°, Azm41.0000°; Data Used: II IU CN IC G. Surface waves: sta=122, comp=262, per= 50.*

DJA ***23*** *11:15:31.0±0.3, 1.°S±2.°×13.°4E±.°, h54km±2km, M5.9/118, mb5.9/118, mB6.2/95, MLv6.2/9, Mw(mB)5.9/95, Mwp6.2/5*

BKK ***23*** *11:15:32.5±0.6, 1.°S±4.°×13.°4E±.°, h67km±5km, M5.9/59, mb5.9/59, mB6.2/48, MLv6.2/2, Mw(mB)5.8/48, Mwp6.0/7*

NEIC ***23*** *11:15:37.7±0.0, 0.°77S×134.°16E, h18km, Moment Tensor Solution. s136 Moment tensor: Scale 10^17^Nm; Mrr3.88; Mθθ-2.76; Mφφ-1.13; Mrθ-2.89; Mθφ2.42; Mφr2.90; Best double couple: M○5.90000×10^17^ NP1:ϕs313.00000°, δ67.00000°, λ96.00000°. NP2:ϕs117.00000°, δ23.00000°, λ75.00000°. Principal axes: T 5.5900, Plg67.0000°, Azm234.0000°; N 0.5400, Plg5.0000°, Azm130.0000°; P -6.1400, Plg22.0000°, Azm37.0000°;*

ISC 23 11:15:28.6±0.2, 0.79S±0.°03×134.°12E±0.°03, h39km±1km, h39km:pP-P, n1235, σ1943/1324, mb5.9/233, MS5.4/220, 193C-179D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BAKI	**Biak**	**2.02**	**102**	P		**Pn**	**11 15 59.3**	**-1.0**
BAKI				S		**Sn**	**11 16 24.3**	**0.0**
SRPI	**Serui, Papua**	**2.38**	**117**	P		**Pn**	**11 16 04.8**	**-0.3**
FAKI	**Fak Fak**	**2.83**	**221**	P		**Pn**	**11 16 11.8**	**+0.5**
FAKI				S		**Sn**	**11 16 44.9**	**+0.7**
FAKI	**Fak Fak**	**2.83**	**221**	⇓P		**Pn**	**11 16 10.9**	**-0.4**
	baz=2.8,SNR=1000							
SWI	**Sorong**	**2.86**	**268**	P		**Pn**	**11 16 12.0**	**+0.2**
SWI	**Sorong**	**2.86**	**268**	P		**Pn**	**11 16 11.2**	**-0.5**
	baz=2.7,SNR=184							
KMPI	**Kaimana, Papua**	**2.89**	**188**	P		**Pn**	**11 16 13.6**	**+1.5**
TLE	**Tual**	**5.01**	**196**	P		**Pn**	**11 16 42.3**	**+0.9**
TLE	**Tual**	**5.01**	**196**	⇑P		**Pn**	**11 16 41.3**	**-0.1**
	baz=5.1,SNR=133							
BNDI	**Bandanaira**	**5.62**	**229**	P		**Pn**	**11 16 50.2**	**+0.6**
	7µm,0.8s,130µm143µm							
BNDI	**Bandanaira**	**5.62**	**229**	⇓P		**Pn**	**11 16 49.4**	**-0.3**
	baz=5.6,SNR=41							
AAI	**Ambon**	**6.59**	**244**	P		**Pn**	**11 17 03.3**	**+0.3**
	3µm,1.5s,29µm134µm12nm							
LBMI	**Labuha**	**6.62**	**271**	P		**Pn**	**11 17 04.3**	**+0.8**
	790nm,1.2s,14µm386µm							
JAY	**Jayapura**	**6.80**	**105**	P		**Pn**	**11 17 06.5**	**+0.5**
	baz=7.0,SNR=5.8							
TNTI	**Ternate**	**6.93**	**283**	P		Pn	11 17 11.8	+4.1
	624nm,1.1s,8µm2.3nm							
TNTI	**Ternate**	**6.93**	**283**	*e*Pn		**Pn**	**11 17 10.7**	**+3.0**
NLAI	**Namlea**	**7.43**	**251**	P		**Pn**	**11 17 14.6**	**0.0**
	1µm,1.5s,12µm66µm4.3nm							
SAUI	**Saumlaki**	**7.68**	**201**	P		Pn	11 17 21.4	+3.3
	2µm,1.1s,18µm13nm							
SGSI	**Sangihe**	**9.67**	**297**	P		**Pn**	**11 17 48.2**	**+2.9**
	630nm,0.8s,5µm							
KMSI	**Cibinong**	**10.23**	**278**	P		Pn	11 17 56.5	+3.5
	2µm,1.0s,24µm							
LUWI	**Luwuk**	**11.35**	**269**	P		**Pn**	**11 18 08.3**	**-0.1**
	632nm,1.3s,9µm							
DAV	**Davao City (W)**	**11.56**	**313**	P		Pn	11 18 15.9	+4.8
	SNR=17							
DAV	**Davao City (W)**	**11.56**	**313**	⇑*i*P		**Pn**	**11 18 14.2**	**+3.0**
DAV	**Davao City (W)**	**11.56**	**313**	P		Pn	11 18 16.8	+5.6
	978nm,1.8s,17µm							
DAV	**Davao City (W)**	**11.56**	**313**	*e*Pn		**Pn**	**11 18 12.5**	**+1.3**
KDU	**Kakadu**	**11.94**	**188**	P		**Pn**	**11 18 14.4**	**-1.9**
	baz=12,SNR=313							
MRSI	**Marisa**	**12.25**	**276**	P		Pn	11 18 24.2	+3.6
	275nm,1.3s,3µm							
MTN	**Manton Dam**	**12.34**	**194**	⇑P		**Pn**	**11 18 19.1**	**-2.8**
	baz=12,SNR=188							
BBSI	**Bau Bau**	**12.44**	**248**	P		P	11 18 29.8	-4.7
	565nm,1.4s,8µm							
APSI	**Ampana**	**12.47**	**269**	P		**Pn**	**11 18 23.6**	**-0.1**
	809nm,1.4s							
BUKP	**Musuan**	**12.48**	**314**	*e*P		Pn	11 18 27.5	+3.7
KKSI	**Kolaka, Sulawe**	**12.90**	**255**	P		**Pn**	**11 18 31.9**	**+2.3**
	281nm,1.2s,4µm							
CGP	**Cagayan de Oro**	**13.14**	**315**	*e*P		**Pn**	**11 18 34.9**	**+2.1**
SOEI	**Soe**	**13.25**	**227**	P		**Pn**	**11 18 34.5**	**+0.1**
	736nm,1.1s,10µm							
SOEI	**Soe**	**13.25**	**227**	⇓P		**Pn**	**11 18 33.7**	**-0.8**
	baz=13,SNR=21							
PAGZ	**Pagadian**	**13.72**	**309**	*e*P		**Pn**	**11 18 42.2**	**+1.4**
BATI	**Baumata**	**13.99**	**228**	P		**Pn**	**11 18 44.7**	**+0.2**
	301nm,1.2s,4µm							
BATI	**Baumata**	**13.99**	**228**	Pn		**Pn**	**11 18 42.9**	**-1.6**
BATI				Sn		**Sn**	**11 21 20.3**	**+1.7**
BATI	**Baumata**	**13.99**	**228**	Pn		**Pn**	**11 18 42.9**	**-1.6**
	13nm,0.3s,baz=61,slow=4.0,SNR=14							
BATI				Sn		**Sn**	**11 21 20.3**	**+1.7**
	8.9nm,0.3s,baz=307,slow=20,SNR=2.8							
BATI				LR		LR	11 23 39.2	
	comp=Z,9µm,21.6s,baz=52,slow=36							
MMRI	**Maumere**	**14.17**	**236**	P		**P**	**11 18 51.6**	**-2.2**
	966nm,1.5s,11µm							
MSLP	**Maasin**	**14.24**	**320**	*e*P		**Pn**	**11 18 49.0**	**+1.2**
BNSI	**Bone**	**14.45**	**255**	P		**P**	**11 18 55.9**	**-1.0**
	2µm,1.2s,15µm							
TTSI	**Tana Toraja**	**14.47**	**261**	P		**P**	**11 18 55.4**	**-1.7**
	587nm,1.1s,5µm							
SPSI	**Sidrap Palu**	**14.68**	**257**	P		**P**	**11 18 58.2**	**-1.2**
	388nm,1.0s,5µm							
BKSI	**Bulukumba**	**14.69**	**252**	P		**Pn**	**11 18 54.3**	**+0.5**
	808nm,1.2s,8µm							
KAPI	**Kappang**	**14.95**	**253**	P		**Pn**	**11 18 59.8**	**+2.4**
	SNR=53							
KAPI	**Kappang**	**14.95**	**253**	P		**P**	**11 19 00.0**	**-2.4**
	284nm,1.4s,7µm							
KAPI	**Kappang**	**14.95**	**253**	*e*Pn		**Pn**	**11 18 58.0**	**+0.6**
KAPI				Sn		**Sn**	**11 21 45.6**	**+3.7**
KAPI	**Kappang**	**14.95**	**253**	P		**Pn**	**11 18 59.1**	**+1.7**
	3µm,1.0s,SNR=19							
KAPI	**Kappang**	**14.95**	**253**	Pn		**Pn**	**11 18 58.0**	**+0.6**
	3.4nm,0.3s,baz=98,slow=5.7,SNR=26							
KAPI				Sn		**Sn**	**11 21 45.6**	**+3.7**
	0.8nm,0.3s,baz=222,slow=16,SNR=1.3							
LLP	**Lapu-Lapu**	**14.96**	**318**	*e*P		**Pn**	**11 18 58.5**	**+1.0**
MMSI	**Mamuju**	**15.32**	**263**	P		**P**	**11 19 07.5**	**+0.9**
	402nm,1.2s,6µm							
MJSI	**Majene**	**15.38**	**259**	P		**P**	**11 19 10.7**	**+3.5**
	1µm,1.0s,9µm							
PMG	**Port Moresby**	**15.54**	**124**	P		**Pn**	**11 19 06.5**	**+1.3**
	282nm,1.3s,8µm							
PMG	**Port Moresby**	**15.54**	**124**	*e*Pn		**Pn**	**11 19 04.7**	**-0.5**
	342nm,1.1s							
PMG				Sn		**Sn**	**11 22 02.1**	**+5.7**
PMG	**Port Moresby**	**15.54**	**124**	Pn		**Pn**	**11 19 05.1**	**-0.1**
	0.7nm,0.3s,baz=319,slow=4.5,SNR=18							
PMG				Sn		**Sn**	**11 22 02.1**	**+5.7**
	0.7nm,0.3s,baz=231,slow=18,SNR=2.0							
KNRA	**Kununurra**	**15.71**	**199**	⇑P		**Pn**	**11 19 03.2**	**-4.2**
	baz=16,SNR=660							
COEN	**Coen**	**15.86**	**146**	*e*Pn		**Pn**	**11 19 05.2**	**-4.1**
	803nm,1.0s							
COEN				*e*Sn		**Sn**	**11 22 02.0**	**-2.0**
COEN	**Coen**	**15.86**	**146**	⇑P		**Pn**	**11 19 06.9**	**-2.4**
	baz=16,SNR=20							
GUIM	**Jordan**	**16.13**	**315**	*e*P		**P**	**11 19 14.8**	**-0.7**
CNP	**Catarman**	**16.21**	**325**	*e*P		**Pn**	**11 19 13.6**	**0.0**
RCP	**Roxas**	**16.68**	**318**	⇓*e*P		**P**	**11 19 24.0**	**+2.4**
MYLDM	**Lahad Datu**	**16.69**	**291**	P		**P**	**11 19 24.6**	**+2.9**
MYLDM	**Lahad Datu**	**16.69**	**291**	P		**P**	**11 19 22.2**	**+0.5**
	840nm,1.4s,14µm							
MYLDM	**Lahad Datu**	**16.69**	**291**	*e*Pn		**P**	**11 19 21.9**	**+0.1**
	1µm,1.3s							
SMKI	**Samarinda**	**16.92**	**271**	P		**P**	**11 19 28.8**	**+4.5**
	808nm,1.2s,30µm							
TSM	**Tawau**	**17.00**	**287**	P		**P**	**11 19 25.4**	**+0.2**
WBSI	**Waikabubak, Su**	**17.09**	**239**	P		P	11 19 34.1	+7.8
BKB	**Balikpapan**	**17.23**	**268**	P		**P**	**11 19 30.8**	**+3.1**
	463nm,1.6s,9µm							
PVCP	**Virac**	**17.37**	**326**	*e*P		**Pn**	**11 19 28.0**	**-0.3**
CUYO	**Cuyo Island**	**17.42**	**312**	*e*P		**P**	**11 19 31.7**	**+1.9**
OTRP	**Odiongan**	**17.75**	**318**	*e*P		**P**	**11 19 35.9**	**+2.5**
GUMO	**Guam**	**17.82**	**36**	*e*Pn		**Pn**	**11 19 33.5**	**-0.3**
	199nm,1.1s							
AUQP	**San Andres**	**18.04**	**321**	*e*P		**Pn**	**11 19 36.1**	**-0.4**
SDKM	**Sandakan**	**18.07**	**291**	P		**P**	**11 19 40.0**	**+2.9**
SJMP	**San Jose**	**18.43**	**316**	*e*P		**Pn**	**11 19 43.1**	**+1.8**
BATP	**Bataraza**	**18.84**	**301**	*e*P		**Pn**	**11 19 48.0**	**+1.7**
ENPP	**El Nido**	**18.85**	**310**	*e*P		**Pn**	**11 19 47.1**	**+0.8**
KDM	**Kudat**	**18.87**	**294**	P		Pn	11 19 53.6	+7.0
WRAB	**Tennant Creek**	**19.03**	**179**	*e*P		**P**	**11 19 45.0**	**-2.5**
WRAB				*e*S		**Sn**	**11 23 18.3**	**-2.5**
WRAB				pmax		pmax		
	comp=Z,163nm,0.6s							
WRAB	**Tennant Creek**	**19.03**	**179**	*e*P		**P**	**11 19 45.0**	**-2.5**
	comp=Z,163nm,0.6s							
WRAB				*e*S		**Sn**	**11 23 18.3**	**-2.5**
WRAB	**Tennant Creek**	**19.03**	**179**	P		**P**	**11 19 44.6**	**-2.9**
	comp=Z,2µm,0.4s							
WRA	**Warramunga Arr**	**19.04**	**179**	P		**P**	**11 19 45.3**	**-2.3**
WRA				S		Sn	11 23 07.6	-13
WRA				PKiKP		**PKiKP**	**11 32 01.4**	**-1.0**
WRA	**Warramunga Arr**	**19.04**	**179**	P		**P**	**11 19 45.3**	**-2.3**
	comp=Z,29nm,0.3s,baz=357,slow=11,SNR=266							
WRA				S		Sn	11 23 07.6	-13
	comp=Z,0.2nm,0.3s,baz=359,slow=23,SNR=5.1							
WRA				LR		LR	11 27 10.2	
	comp=Z,7µm,21.2s,baz=0.0,slow=37							
WRA				PKiKP		**PKiKP**	**11 32 01.4**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=296,slow=1.2,SNR=9.0							
FITZ	**Fitzroy Crossi**	**19.12**	**205**	*e*P		**P**	**11 19 45.9**	**-2.6**
	comp=Z,235nm,0.9s							
FITZ				*e*S		Sn	11 23 08.8	-14
FITZ	**Fitzroy Crossi**	**19.12**	**205**	P		**P**	**11 19 47.1**	**-1.4**
	baz=19,SNR=251							
FITZ	**Fitzroy Crossi**	**19.12**	**205**	P		**P**	**11 19 47.4**	**-1.1**
	comp=Z,8.6nm,0.3s,baz=44,slow=12,SNR=103							
FITZ				S		Sn	11 23 08.6	-14
	comp=Z,7.3nm,0.3s,baz=190,slow=18,SNR=6.7							
KKM	**Kota Kinabalu**	**19.12**	**291**	P		**Pn**	**11 19 50.7**	**+0.9**
KKM	**Kota Kinabalu**	**19.12**	**291**	P		**Pn**	**11 19 50.0**	**+0.2**
	comp=Z,167nm,1.2s,comp=Z,5µm							
KKM	**Kota Kinabalu**	**19.12**	**291**	*e*P		**P**	**11 19 48.8**	**+0.1**
KKM	**Kota Kinabalu**	**19.12**	**291**	P		**P**	**11 19 48.6**	**-0.1**
	baz=19,SNR=18							
MTKI	**Muara Teweh, K**	**19.23**	**269**	P		**Pn**	**11 19 52.5**	**+1.6**
	comp=Z,769nm,1.4s,comp=Z,11µm							
MTNI	**Mataram**	**19.50**	**246**	P		**P**	**11 19 53.3**	**+0.5**
	comp=Z,606nm,1.1s,comp=Z,9µm							
MTSU	**Mount Surprise**	**19.94**	**150**	P		**P**	**11 19 57.5**	**0.0**
	baz=20,SNR=43							
SRBI	**Singaraja**	**20.19**	**248**	P		Pn	11 20 01.6	-0.7
	comp=Z,482nm,1.2s,comp=Z,9µm							
DNP	**Denpasar**	**20.40**	**247**	P		Pn	11 20 07.6	+2.8
	comp=Z,1µm,1.2s							
ABJI	**Asem Bagus**	**21.01**	**250**	P		**P**	**11 20 10.8**	**+1.7**
	comp=Z,976nm,1.2s,comp=Z,13µm							
BYJI	**Banyuwangi**	**21.03**	**249**	P		**P**	**11 20 13.5**	**+4.2**
	comp=Z,2µm,1.0s,comp=Z,34µm							
KMMI	**Kalianget**	**21.04**	**252**	P		**P**	**11 20 13.2**	**+3.8**
	comp=Z,2µm,1.1s,comp=Z,21µm							
PALP	**Palanan**	**21.16**	**327**	*e*P		**P**	**11 20 12.3**	**+1.7**
CAUP	**Cauayan**	**21.39**	**326**	*e*P		**P**	**11 20 15.0**	**+1.9**
BTM	**Bintulu**	**21.40**	**281**	P		**P**	**11 20 16.6**	**+3.3**
BLJI	**Banyuglugur**	**21.59**	**251**	P		**P**	**11 20 16.9**	**+1.5**
	comp=Z,533nm,1.2s,comp=Z,8µm							
SCZP	**Santa Cruz**	**21.63**	**320**	*e*P		**P**	**11 20 15.9**	**+0.2**
GMJI	**Gumukmas**	**21.90**	**250**	P		**P**	**11 20 18.4**	**-0.3**
	comp=Z,294nm,1.2s,comp=Z,5µm							
BOLP	**Bolinao**	**22.08**	**321**	*e*P		**P**	**11 20 19.8**	**-0.7**
SBUM	**Sibu**	**22.13**	**278**	P		**P**	**11 20 24.2**	**+3.0**
SBUM	**Sibu**	**22.13**	**278**	P		**P**	**11 20 22.2**	**+1.0**
	comp=Z,289nm,1.3s,comp=Z,3µm							
SBUM	**Sibu**	**22.13**	**278**	*e*P		**P**	**11 20 22.5**	**+1.3**
	comp=Z,340nm,1.1s							
SGCP	**Mt. Cagua**	**22.33**	**328**	*e*P		**P**	**11 20 23.5**	**+0.2**
GRJI	**Gresik**	**22.43**	**254**	P		**P**	**11 20 26.9**	**+2.6**
	comp=Z,838nm,0.9s,comp=Z,6µm							
APYP	**Conner**	**22.45**	**326**	*e*P		**P**	**11 20 22.9**	**-1.6**
PBKI	**Pangkalan Bun**	**22.52**	**265**	P		**P**	**11 20 26.4**	**+1.0**
	comp=Z,2µm,1.1s,comp=Z,14µm							
CTA	**Charters Tower**	**22.56**	**149**	P		**P**	**11 20 25.5**	**-0.2**
CTA				S		**S**	**11 24 28.5**	**-2.2**
CTA	**Charters Tower**	**22.56**	**149**	P		**P**	**11 20 25.5**	**-0.2**
	comp=Z,314nm,0.8s,baz=319,slow=12,SNR=212							
CTA				S		**S**	**11 24 28.5**	**-2.2**
	comp=Z,7.2nm,0.8s,baz=337,slow=17,SNR=1.7							
CTAO	**Charters Tower**	**22.56**	**149**	*e*P		**P**	**11 20 24.5**	**-1.2**
CTAO				MLR		MLR		
	comp=Z,27µm,20.0s							
CTAO	**Charters Tower**	**22.56**	**149**	*e*P		**P**	**11 20 24.5**	**-1.2**
CTAO				LR		LR		
	comp=Z,27µm,20.0s							
ABRA	**Dolores**	**22.58**	**325**	*e*P		**P**	**11 20 25.5**	**-0.4**
STKI	**Sintang**	**22.66**	**272**	P		**P**	**11 20 27.5**	**+0.7**
	comp=Z,291nm,0.7s,comp=Z,9µm							
AS31	**Alice Springs**	**22.75**	**181**	*e*P		**P**	**11 20 25.4**	**-2.2**
ASAR	**Alice Springs**	**22.75**	**181**	P		**P**	**11 20 25.9**	**-1.8**
ASAR				PcP		**PcP**	**11 24 20.1**	**+1.2**
ASAR				S		**S**	**11 24 31.9**	**-2.1**
ASAR				PKiKP		**PKiKP**	**11 32 03.1**	**-0.9**
ASAR	**Alice Springs**	**22.75**	**181**	P		**P**	**11 20 25.9**	**-1.8**
	comp=Z,200nm,0.6s,baz=360,slow=9.4,SNR=942							
ASAR				PcP		**PcP**	**11 24 20.1**	**+1.2**
	comp=Z,8.7nm,0.7s,baz=27,slow=2.1,SNR=3.4							
ASAR				S		**S**	**11 24 31.9**	**-2.1**
	comp=Z,58nm,0.9s,baz=4.7,slow=23,SNR=6.4							
ASAR				LR		LR	11 30 10.0	
	comp=Z,28µm,20.5s,baz=353,slow=39							
ASAR				PKiKP		**PKiKP**	**11 32 03.1**	**-0.9**
	comp=Z,2.3nm,0.8s,baz=32,slow=0.4,SNR=7.4							
KRKI	**Karangkates**	**22.80**	**251**	P		**P**	**11 20 29.7**	**+1.4**
	comp=Z,696nm,1.3s,comp=Z,17µm							
SJI	**Sawahan**	**23.32**	**252**	P		**P**	**11 20 33.3**	**-0.4**
	comp=Z,339nm,1.5s,comp=Z,7µm							
PWJI	**Pagerwojo**	**23.37**	**251**	P		**P**	**11 20 33.2**	**-0.8**
	comp=Z,186nm,0.9s,comp=Z,3µm							
NGJI	**Ngawi**	**23.52**	**253**	P		**P**	**11 20 36.7**	**+1.2**
	comp=Z,856nm,1.2s,comp=Z,11µm							
KSM	**Kuching**	**23.92**	**275**	P		**P**	**11 20 40.8**	**+1.6**
KSM	**Kuching**	**23.92**	**275**	P		**P**	**11 20 39.6**	**+0.3**
	comp=Z,595nm,1.4s,comp=Z,8µm							
KSM	**Kuching**	**23.92**	**275**	*e*P		**P**	**11 20 39.9**	**+0.7**
	comp=Z,913nm,1.3s							
KSM				LR		LR		
	comp=Z,4µm,22.0s							
PCJI	**Pacitan**	**24.01**	**251**	P		**P**	**11 20 40.0**	**-0.1**
	comp=Z,619nm,1.2s,comp=Z,7µm							
WOJI	**Wonogiri, Jawa**	**24.16**	**253**	P		**P**	**11 20 41.6**	**+0.2**
	comp=Z,469nm,1.4s,comp=Z,11µm							
UGM	**Wanagama**	**24.56**	**253**	P		**P**	**11 20 45.6**	**+0.4**
	comp=Z,874nm,1.2s,comp=Z,11µm							
MBWA	**Marble Bar**	**24.64**	**214**	P		**P**	**11 20 45.9**	**+0.1**
	SNR=66							
MBWA	**Marble Bar**	**24.64**	**214**	*e*P		**P**	**11 20 45.0**	**-0.8**
	comp=Z,780nm,1.1s							
MBWA				LR		LR		
	comp=Z,9µm,20.0s							
YOGI	**Yogyakarta**	**24.75**	**253**	P		**P**	**11 20 47.7**	**+0.8**
	comp=Z,3µm,1.6s,comp=Z,38µm							
BJII	**Banjamegara**	**25.19**	**254**	P		**P**	**11 20 51.9**	**+0.9**
	comp=Z,1µm,1.2s,comp=Z,18µm							
PATS	**Pohnpei**	**25.30**	**72**	P		**P**	**11 20 52.5**	**+0.7**
	baz=26,SNR=4.4							
TGJI	**Tegal**	**25.66**	**256**	P		**P**	**11 20 55.5**	**+0.4**
	comp=Z,853nm,1.1s,comp=Z,9µm							
KPJI	**Karang Pucung**	**25.94**	**255**	P		**P**	**11 20 58.0**	**+0.3**
	comp=Z,1µm,1.1s,comp=Z,9µm							
CLJI	**Cilicap**	**25.95**	**254**	P		**P**	**11 20 58.0**	**+0.2**
	comp=Z,415nm,1.1s,comp=Z,5µm							
CISI	**Cisompet, Garu**	**27.07**	**255**	P		**P**	**11 21 06.6**	**-1.3**
	comp=Z,648nm,1.0s,comp=Z,6µm							
CISI	**Cisompet, Garu**	**27.07**	**255**	P		**P**	**11 21 07.0**	**-1.0**
	baz=27,SNR=22							
YULB	**Yu-li**	**27.08**	**333**	*e*P		**P**	**11 21 07.8**	**0.0**
	comp=Z,66nm,0.8s							
HNR	**Honiara**	**27.09**	**109**	P		**P**	**11 21 07.4**	**-0.7**
HNR	**Honiara**	**27.09**	**109**	P		**P**	**11 21 07.4**	**-0.7**
	comp=Z,44nm,0.6s,baz=309,slow=13,SNR=3.0							
LEM	**Lembang**	**27.11**	**257**	P		**P**	**11 21 08.5**	**+0.1**
	comp=Z,265nm,1.0s,comp=Z,4µm							
TPUB	**Ta-pu**	**27.30**	**332**	*e*P		**P**	**11 21 08.1**	**-1.8**
	comp=Z,186nm,1.3s							
QLP	**Quilpie**	**27.43**	**160**	P		**P**	**11 21 10.1**	**-0.8**
	baz=28,SNR=243						

comp=Z,172nm,1.2s
PDSI Padang 33.66 270 P P 11 22 05.5 -0.7
comp=Z,313nm,0.8s
PPI Padang Panjang 33.73 270 P P 11 22 06.3 -0.4
comp=Z,184nm,1.1s,comp=Z,2µm
ARMA Armidale 33.84 152 eP P 11 22 07.6 0.0
comp=Z,217nm,1.4s
ARMA Armidale 33.84 152 P P 11 22 07.9 +0.3
baz=34,SNR=29
JNU Nakatsue 33.86 355 eP P 11 22 07.5 -0.2
comp=Z,108nm,1.0s
JNU Nakatsue 33.86 355 LR LR 11 32 54.4
comp=Z,2µm,20.8s,baz=306,slow=31
KULM Kulim 33.97 281 P P 11 22 09.6 +0.8
KULM Kulim 33.97 281 P P 11 22 08.7 -0.2
comp=Z,139nm,1.6s,comp=Z,2µm
KULM Kulim 33.97 281 eP P 11 22 08.5 -0.4
comp=Z,232nm,1.4s
KULM eP cP **PcP 11 24 48.1 +1.4**
KULM LR LR
comp=Z,3µm,22.0s
SSE Sheshan 34.01 340 P P 11 22 09.9 +1.0
SSE PP **PP 11 23 28.6 +2.2**
SSE S **S 11 27 36.0 +4.4**
SSE AMB AMB
comp=Z,130nm,1.2s
SSE AMB AMB
comp=Z,690nm,10.0s
SSE LR LR
comp=Z,4µm,20.8s
SSE LR LR
comp=Z,2µm,20.8s
SSE LR LR
comp=Z,5µm,19.3s
SKNT Sakolnakorn 34.56 302 P P 11 22 14.2 +0.3
comp=Z,995nm,1.0s,comp=Z,8µm
PSI Prapat 35.37 276 P P 11 22 20.2 -0.9
comp=Z,206nm,1.3s,comp=Z,3µm
PSI Prapat 35.37 276 LR LR 11 38 37.8
comp=Z,2µm,19.7s,baz=253,slow=40
PATY Pattaya 35.69 294 P P 11 22 24.3 +0.7
comp=Z,18nm,1.1s
NWAO Narrogin (SRO) 35.70 205 eP P 11 22 23.4 -0.2
comp=Z,67nm,1.0s
NWAO LR LR
comp=Z,5µm,19.0s
NWAO Narrogin (SRO) 35.70 205 P P 11 22 22.8 -0.8
comp=Z,44nm,0.8s,baz=26,slow=9.5,SNR=16
NJ2 Nanjing 35.72 337 eP P 11 22 23.8 +0.2
NJ2 pP **pP 11 22 34.6 +0.1**
NJ2 sP **sP 11 22 38.4 -0.7**
NJ2 PP **PP 11 23 47.9 +2.6**
NJ2 S **S 11 28 01.0 +3.0**
NJ2 sS **sS 11 28 18.0 +2.0**
NJ2 AMB AMB
comp=Z,270nm,1.2s
NJ2 AMB AMB
comp=Z,820nm,10.9s
NJ2 LR LR
comp=Z,3µm,17.9s
NJ2 LR LR
comp=Z,7µm,23.7s
NJ2 LR LR
comp=Z,4µm,20.6s
SURA Surathani 35.75 287 P P 11 22 24.8 +0.6
comp=Z,133nm,1.2s
NONG Nongkai 35.77 303 P P 11 22 24.0 -0.3
comp=Z,509nm,1.1s,comp=Z,4µm
CHAI Chaiyaphum 35.80 299 P P 11 22 24.6 0.0
comp=Z,125nm,1.1s,comp=Z,1µm
WHN Wuhan 36.40 331 ⇑P **P 11 22 31.0 +1.5**
WHN PP **PnPn 11 23 51.8 -0.8**
WHN PcP **PcP 11 24 54.0 +0.6**
WHN S **S 11 28 13.4 +4.9**
WHN AMB AMB
comp=Z,340nm,1.1s
WHN AMB AMB
comp=Z,2µm,11.1s
WHN LR LR
comp=Z,4µm,13.1s
WHN LR LR
comp=Z,2µm,6.3s
WHN LR LR
comp=Z,5µm,18.7s
SURT Suratani 36.50 286 P P 11 22 30.4 -0.2
comp=Z,57nm,1.2s,comp=Z,936nm
ARPS Mount Arapiles 36.51 170 P P 11 22 29.7 -0.7
baz=37,SNR=65
KCSI Kotacane, Aceh 36.58 277 P P 11 22 29.8 -1.6
comp=Z,150nm,1.4s,comp=Z,2µm
GSI Gunungsitoli 36.60 273 P P 11 22 29.7 -1.8
comp=Z,184nm,1.3s,comp=Z,3µm
PKDT Phuket 36.71 284 P P 11 22 32.5 +0.1
comp=Z,298nm,1.1s,comp=Z,9µm
PBKT Sadao Pong 36.97 299 P P 11 22 34.6 0.0
comp=Z,226nm,1.1s,comp=Z,3µm
PBKT Sadao Pong 36.97 299 P P 11 22 34.6 0.0
comp=Z,226nm,1.1s,comp=Z,3µm
CAN Canberra 37.05 160 eP P 11 22 34.5 -0.6
CAN pmax pmax
comp=Z,195nm,1.4s
CAN MLR MLR
comp=Z,9µm,20.0s
CAN Canberra 37.05 160 eP P 11 22 34.5 -0.6
comp=Z,195nm,1.4s
CAN LR LR
comp=Z,9µm,20.0s
LOEI Loei 37.11 301 P P 11 22 33.0 -2.8
comp=Z,590nm,1.0s,comp=Z,5µm
CNB Canberra Magne 37.17 159 P P 11 22 36.0 -0.1
baz=38,SNR=13
H11S2 WAKE ISLAND Hy 37.32 57 T T 12 02 23.7
SNR=84
MJAR Matsushiro Arr 37.33 5 P P 11 22 35.9 -1.5
MJAR PcP **PcP 11 24 55.9 -0.3**
MJAR Matsushiro Arr 37.33 5 P P 11 22 35.9 -1.5
comp=Z,17nm,0.7s,baz=184,slow=9.2,SNR=42
MJAR PcP **PcP 11 24 55.9 -0.3**
comp=Z,5.9nm,0.9s,baz=177,slow=3.2,SNR=5.1
MJAR LR LR 11 35 53.8
comp=Z,4µm,18.3s,baz=180,slow=33
MAJO Matsushiro 37.33 5 eP P 11 22 36.0 -1.4
MAJO pmax pmax
comp=Z,25nm,0.6s
MAJO MLR MLR
comp=Z,4µm,20.0s
MAJO Matsushiro 37.33 5 eP P 11 22 36.0 -1.4
comp=Z,25nm,0.6s
MAJO LR LR
comp=Z,4µm,20.0s
MAT Matsushiro 37.33 5 P P 11 22 35.7 -1.7
MAT S **S 11 28 17.0 -5.6**
LHMI Lhok Sumawe 37.61 280 P P 11 22 40.5 +0.5
comp=Z,493nm,1.0s,comp=Z,5µm
WAKE Wake Island 37.64 56 PFAKE 11 22 50.0 +10
WAKE LR LR
comp=Z,4µm,19.0s
GYA Guiyang 37.88 318⇑ *i*P **P 11 22 42.8 +0.5**
GYA pP **pP 11 22 55.0 +1.8**
GYA PP **PnPn 11 24 15.1 +4.3**
GYA PcP **PcP 11 24 59.3 +1.1**
GYA S **S 11 28 28.6 -2.8**
GYA ScP **ScP 11 28 44.0 +1.1**
GYA sS **sS 11 28 52.3 +2.8**
GYA SS **SnSn 11 31 07.3 -7.4**
GYA AMB AMB
comp=Z,100nm,1.0s
GYA AMB AMB
comp=Z,780nm,8.5s
GYA LR LR
comp=Z,2µm,23.2s
GYA LR LR
comp=Z,3µm,22.5s
GYA LR LR
comp=Z,3µm,23.8s
UTHA Uthaitani 37.92 297 P P 11 22 42.8 +0.2
comp=Z,111nm,1.0s,comp=Z,885nm
DZM Mont Dzumac 37.92 126 eS S 11 28 35.3 +3.2
comp=Z,1µm,31.9s
DZM eLR LR 11 33 00.8
comp=Z,2µm,24.6s
DZM Mont Dzumac 37.92 126 P P 11 22 41.9 -0.8
DZM PcP **PcP 11 24 59.2 +0.8**
DZM Mont Dzumac 37.92 126 P P 11 22 41.9 -0.8
comp=Z,15nm,1.1s,baz=284,slow=17,SNR=4.2
DZM PcP **PcP 11 24 59.2 +0.8**
comp=Z,12nm,0.9s,baz=40,slow=9.5,SNR=3.9

SNSI Sinabang, Aceh 37.92 275 P P 11 22 42.1 -0.6
comp=Z,247nm,1.2s,comp=Z,3µm
TOO Toolangi 38.08 165 P P 11 22 44.0 +0.3
baz=38,SNR=59
NANT Nan 38.17 302 P P 11 22 45.2 +0.5
comp=Z,859nm,1.1s,comp=Z,7µm
KSAR Wonju Array Be 38.47 352 P P 11 22 46.8 -0.2
KSAR PcP **PcP 11 25 00.9 +1.4**
KSRS Korea Array 38.48 352 P P 11 22 46.8 -0.2
comp=Z,19nm,0.9s,baz=171,slow=10,SNR=60
KSRS PcP **PcP 11 25 00.9 +1.4**
comp=Z,12nm,0.9s,baz=197,slow=3.5,SNR=12
KSRS LR LR 11 39 43.8
comp=Z,2µm,18.3s,baz=178,slow=38
MILA Mila 38.67 161 P P 11 22 49.4 +0.6
baz=39,SNR=12
COCO West Island 38.68 251 eP P 11 22 48.5 -0.5
COCO pmax pmax
comp=Z,415nm,1.2s
COCO MLR MLR
comp=Z,2µm,20.0s
COCO West Island 38.68 251 P P 11 22 49.8 +0.8
comp=Z,310nm,1.1s
COCO West Island 38.68 251 eP P 11 22 48.5 -0.5
comp=Z,415nm,1.2s
COCO LR LR
comp=Z,2µm,20.0s
INCN Inchon 38.70 350 PFAKE 11 23 00.0 +11
INCN LR LR
comp=Z,3µm,19.0s
ENH Enshi 38.79 325 eP P 11 22 50.3 +0.5
comp=Z,19nm,0.8s
TARA Tarawa 38.86 87 PFAKE 11 23 00.0 +9.4
TARA LR LR
comp=Z,6µm,19.0s
CRAI Chiangrai 39.10 304 P P 11 22 52.5 0.0
comp=Z,578nm,1.1s,comp=Z,11µm
CM31 Chiang Mai Arr 39.51 301 eP P 11 22 56.6 +0.6
comp=Z,385nm,1.0s
CMAR Chiang Mai Arr 39.51 301 P P 11 22 57.0 +0.9
CMAR PcP **PcP 11 25 04.5 +1.2**
CMAR ScP **S 11 28 53.4 -2.7**
CMAR Chiang Mai Arr 39.51 301 P P 11 22 57.0 +0.9
comp=Z,246nm,0.9s,baz=123,slow=6.9,SNR=737
CMAR PcP **PcP 11 25 04.5 +1.2**
comp=Z,14nm,1.0s,baz=138,slow=3.0,SNR=5.3
CMAR ScP **S 11 28 53.4 -2.7**
comp=Z,2.1nm,0.8s,baz=131,slow=1.5,SNR=4.4
CHTO Chiang Mai 39.66 301 eP P 11 22 57.6 +0.3
CHTO pmax pmax
comp=Z,2µm,1.0s
CHTO MLR MLR
comp=Z,1µm,21.0s
CHTO Chiang Mai 39.66 301 P P 11 22 57.9 +0.6
SNR=153
CHTO Chiang Mai 39.66 301 P P 11 22 57.3 0.0
comp=Z,2µm,1.0s,comp=Z,19µm
CHTO Chiang Mai 39.66 301 eP P 11 22 57.6 +0.3
comp=Z,2µm,1.0s
CHTO LR LR
comp=Z,1µm,21.0s
CHTO Chiang Mai 39.66 301 P P 11 22 57.3 0.0
comp=Z,2µm,1.0s,comp=Z,19µm
KMI Kunming 39.82 313 ⇑P **P 11 22 59.8 +1.1**
KMI pP **pP 11 23 10.0 +0.3**
KMI sP **sP 11 23 15.3 +1.0**
KMI PP **PnPn 11 24 34.6 +0.4**
KMI PcS **PcS 11 28 55.3 +0.4**
KMI S **S 11 29 03.4 +2.5**
KMI sS **sS 11 29 20.0 +0.9**
KMI SS **SS 11 31 53.4 -4.7**
KMI ScS **ScS 11 33 02.9 -0.9**
KMI AMB AMB
comp=Z,99nm,1.0s
KMI AMB AMB
comp=Z,930nm,5.0s
KMI LR LR
comp=Z,2µm,11.7s
KMI LR LR
comp=Z,2µm,18.0s
KMI LR LR
comp=Z,4µm,16.5s
TIA Tai'an 40.06 338 ⇑P **P 11 23 02.8 +2.5**
TIA AMB AMB
comp=Z,120nm,1.1s
TIA AMB AMB
comp=Z,1µm,9.5s
TIA LR LR
comp=Z,3µm,21.4s
TIA LR LR
comp=Z,1µm,22.6s
TIA LR LR
comp=Z,4µm,19.9s
CMAI Chiengmai2 40.07 303 P P 11 23 00.8 0.0
comp=Z,180nm,1.5s,comp=Z,3µm
DL2 Dalian 41.13 345 P P 11 23 09.9 +0.8
DL2 S **S 11 29 23.4 +3.8**
DL2 AMB AMB
comp=Z,120nm,1.2s
DL2 AMB AMB
comp=Z,920nm,9.6s
DL2 LR LR
comp=Z,2µm,16.2s
DL2 LR LR
comp=Z,3µm,15.7s
DL2 LR LR
comp=Z,2µm,15.7s
XAN Xi'an 41.95 328 P P 11 23 15.6 -0.4
XAN pP **pP 11 23 25.8 -1.2**
XAN sP **sP 11 23 30.9 -0.7**
XAN PcS **PcS 11 29 01.3 -1.4**
XAN S **S 11 29 27.8 -4.3**
XAN ScS **ScS 11 33 16.3 +0.4**
XAN AMB AMB
comp=Z,39nm,1.3s
XAN AMB AMB
comp=Z,290nm,9.8s
XAN LR LR
comp=Z,1µm,16.3s
XAN LR LR
comp=Z,700nm,20.4s
XAN LR LR
comp=Z,960nm,19.4s
CD2 Chengdu 42.73 320 P P 11 23 22.4 +0.1
CD2 pP **pP 11 23 32.8 -0.6**
CD2 sP **sP 11 23 37.0 -1.0**
CD2 PP **PP 11 25 04.8 +2.8**
CD2 PcS **PcS 11 29 04.3 -1.6**
CD2 S **S 11 29 43.0 -0.6**
CD2 sS **sS 11 30 01.6 -0.3**
CD2 SS **SS 11 32 50.4 -5.0**
CD2 AMB AMB
comp=Z,160nm,1.2s
CD2 AMB AMB
comp=Z,1µm,8.6s
CD2 LR LR
comp=Z,2µm,17.8s
CD2 LR LR
comp=Z,3µm,19.0s
PBA Port Blair 42.92 288 eP P 11 23 22.4 -1.7
PBA AMB AMB 11 23 23.3
comp=Z,84nm,2.0s
MOO Moorlands 43.10 166 P P 11 23 25.3 +0.2
baz=43,SNR=8.5
DGPR DIGLIPUR 43.13 290 eP P 11 23 24.6 -1.1
TIY Taiyuan 43.23 335 eP P 11 23 27.5 +1.2
TIY S **S 11 29 51.8 +0.9**
TIY AMB AMB
comp=Z,62nm,0.9s
TIY AMB AMB
comp=Z,1µm,5.5s
TIY LR LR
comp=Z,1µm,9.7s
TIY LR LR
comp=Z,780nm,9.0s
TIY LR LR
comp=Z,2µm,14.8s
SNY Shenyang 43.48 349 ⇑P **P 11 23 28.1 0.0**
SNY S **S 11 29 56.6 +2.5**
SNY AMB AMB
comp=Z,53nm,1.2s
SNY AMB AMB
comp=Z,160nm,4.9s
SNY LR LR
comp=Z,1µm,17.4s
SNY LR LR

comp=Z,1µm,18.6s
SNY LR LR
comp=Z,2µm,16.3s
TAU Tasmania Unive 43.58 166 PFAKE 11 23 40.0 +11
TAU LR LR
comp=Z,11µm,19.0s
TAU Tasmania Unive 43.58 166 P P 11 23 28.9 0.0
comp=Z,330nm,1.1s,SNR=7.0
BJT Baijiatuau 43.80 340 eP P 11 23 31.2 +0.5
comp=Z,446nm,1.1s
BJT eP cP **PcP 11 25 18.2 +1.3**
BJT LR LR
comp=Z,4µm,19.0s
BJI Beijing 43.82 340 P P 11 23 31.1 +0.2
BJI PP **PP 11 25 12.0 -1.4**
BJI S **S 11 30 00.1 +1.0**
BJI AMB AMB
comp=Z,330nm,1.1s
BJI AMB AMB
comp=Z,1µm,3.7s
BJI LR LR
comp=Z,4µm,18.9s
BJI LR LR
comp=Z,3µm,19.5s
BJI LR LR
comp=Z,3µm,24.5s
USRK Ussuriysk Arra 44.83 358 P P 11 23 38.9 0.0
comp=Z,26nm,0.7s,baz=180,slow=7.1,SNR=68
CN2 Changchun 45.06 351 eP P 11 23 40.6 -0.2
CN2 eS **sP 11 23 54.4 -2.1**
CN2 PcP **PcP 11 25 22.1 +1.0**
CN2 eS **S 11 30 18.6 +1.5**
CN2 SS **ScS 11 33 31.9 -2.9**
CN2 AMB AMB
comp=Z,50nm,1.0s
CN2 AMB AMB
comp=Z,200nm,7.0s
CN2 LR LR
comp=Z,1µm,13.0s
CN2 LR LR
comp=Z,2µm,13.0s
CN2 LR LR
comp=Z,2µm,15.0s
ASAJ Asahikawa 45.34 9 eP P 11 23 43.9 +0.9
comp=Z,65nm,1.3s
ASAJ Asahikawa 45.34 9 LR LR 11 42 05.5
comp=Z,1µm,19.2s,baz=198,slow=35
MDJ Mudanjiang 45.38 355 P P 11 23 43.6 +0.3
MDJ pP **pP 11 23 52.6 -1.8**
MDJ sP **sP 11 23 56.4 -2.6**
MDJ ScP **ScP 11 29 13.3 +1.1**
MDJ PcS **PcS 11 29 17.0 +0.9**
MDJ S **S 11 30 22.3 +0.6**
MDJ AMB AMB
comp=Z,120nm,1.2s
MDJ AMB AMB
comp=Z,220nm,3.9s
MDJ LR LR
comp=Z,2µm,20.7s
MDJ LR LR
comp=Z,850nm,16.1s
MDJ LR LR
comp=Z,2µm,19.5s
MDJ Mudanjiang 45.38 355 eP P 11 23 43.6 +0.3
comp=Z,137nm,1.0s
MDJ LR LR
comp=Z,2µm,20.0s
YUK Yuzh-Kuril'sk 45.84 12 *d i*P **P 11 23 44.8 -2.1**
YUK *i* 11 25 29.5
YUK *i* PPP PPP 11 26 11.1
YUK *i* S **S 11 30 28.0 -0.3**
YUK *i* SSS SSS 11 34 49.6
YUK pmax pmax
comp=E,295nm,1.4s
YUK pmax pmax
comp=N,308nm,1.4s
YUK pmax pmax
comp=Z,466nm,1.4s
YUK pmax pmax
comp=Z,1µm,2.0s
YUK MLR MLR
comp=E,722nm,19.0s
YUK MLR MLR
comp=Z,935nm,19.0s
HHC Hu-ho-hao-te 46.24 336 eP P 11 23 51.0 +0.7
HHC pP **pP 11 24 01.3 -0.2**
HHC sP **sP 11 24 05.4 -0.6**
HHC PcP **PcP 11 25 23.8 -1.7**
HHC PP **PP 11 25 40.5 +1.1**
HHC S **S 11 30 35.4 +0.9**
HHC sS **sS 11 30 53.3 +0.4**
HHC ScS **ScS 11 33 39.8 -3.0**
HHC SS **SS 11 33 56.4 -4.0**
HHC AMB AMB
comp=Z,340nm,1.1s
HHC AMB AMB
comp=Z,2µm,5.2s
HHC LR LR
comp=Z,4µm,17.8s
HHC LR LR
comp=Z,3µm,17.8s
HHC LR LR
comp=Z,5µm,17.8s
LZH Lanzhou 46.25 326 ⇑P **P 11 23 52.1 +1.5**
LZH pP **pP 11 24 00.3 -1.4**
LZH sP **sP 11 24 04.1 -2.2**
LZH PP **PP 11 25 38.0 -1.7**
LZH PcS **PcS 11 29 21.3 +0.9**
LZH S **S 11 30 35.5 +0.6**
LZH sS **sS 11 30 49.1 -4.3**
LZH SS ScS 11 33 52.0 +8.7
LZH AMB AMB
comp=Z,270nm,1.1s
LZH AMB AMB
comp=Z,1µm,4.0s
LZH LR LR
comp=Z,2µm,12.6s
LZH LR LR
comp=Z,2µm,13.4s
LZH LR LR
comp=Z,4µm,16.5s
MSVF Nonsavu 46.33 114 eP P 11 23 52.9 +1.6
MSVF pmax pmax
comp=Z,148nm,1.3s
MSVF MLR MLR
comp=Z,2µm,21.0s
MSVF Nonsavu 46.33 114 eP P 11 23 52.9 +1.6
comp=Z,148nm,1.3s
MSVF LR LR
comp=Z,2µm,21.0s
MSVF Nonsavu 46.33 114 P P 11 23 53.0 +1.6
comp=Z,511nm,0.9s,SNR=5.0
IMP Imphal 46.48 306 *ex P 11 23 51.0 -1.4*
IMP *ex* x 11 25 26.0
BTO Baotou 46.68 335 *eP P 11 23 54.3 +0.6*
YSS Yuzh-Sakhalins 48.14 8 *aeP P 11 24 04.4 -0.4*
YSS *e* 11 24 14.0
YSS *e* 11 25 56.0
YSS eS **S 11 30 57.0 -4.1**
YSS eSS SS 11 34 20.0 -11
YSS pmax pmax
comp=N,110nm,0.7s
YSS pmax pmax
comp=Z,140nm,0.7s
YSS smax smax
comp=N,1.0nm,13.0s
YSS MLR MLR
comp=N,2µm,18.0s
YSS MLR MLR
comp=Z,1µm,18.0s
SHL Shillong 48.49 306 *i* PCN **P 11 24 08.5 +0.4**
SHL eS **S 11 31 12.0 +4.9**
HABR Khabarovsk 49.07 1 *ceP P 11 24 10.1 -1.8*
HABR *e**PP **pP 11 24 19.9 -3.2**
HABR *e**SP **sP 11 24 24.1 -3.6**
HABR *e* 11 25 32.4
HABR *e* 11 26 03.8
HABR PPP PPP 11 26 56.7
HABR *e*S **S 11 31 14.1 0.0**
HABR *e**SS **sS 11 31 30.9 -1.7**
HABR *e* 11 33 59.1
HABR pmax pmax
comp=Z,181nm,1.4s
HABR pmax pmax
comp=Z,324nm,1.8s

HABR MLR MLR
comp=Z,1μm,16.0s
KLR Kul'dur 49.86 358 *e*P P 11 24 14.4 -3.6
KLR *e*S **S** **11 31 19.5 -5.7**
KLR *e* 11 34 04.0
KLR *e*SSS SSS 11 36 21.0
KLR pmax pmax
comp=Z,280nm,1.8s
KLR pmax pmax
comp=Z,2μm,9.0s
KLR MLR MLR
comp=N,1μm,13.5s
KLR MLR MLR
comp=E,1μm,13.5s
KLR MLR MLR
comp=Z,3μm,13.5s
OUZ Omahuta 50.23 137 *e*P **P** **11 24 23.3 +2.3**
comp=Z,218nm,1.6s
GTA Gaotai 50.86 326 ⇑P **P** **11 24 27.3 +1.4**
GTA PcS **PcS** **11 29 38.4 -1.4**
GTA S **S** **11 31 42.3 +2.6**
GTA SS **SS** **11 35 17.3 +2.4**
GTA AMB AMB
comp=Z,240nm,1.1s
GTA AMB AMB
comp=Z,1μm,10.0s
GTA LR LR
comp=Z,1μm,17.6s
GTA LR LR
comp=Z,1μm,22.3s
GTA LR LR
comp=Z,2μm,21.4s
LSA Lhasa 50.96 310 P **P** **11 24 28.1 +0.8**
LSA PP **PP** **11 26 20.4 -3.6**
LSA AMB AMB
comp=Z,110nm,1.1s
LSA AMB AMB
comp=Z,1μm,9.6s
LSA Lhasa 50.96 310 *e*P **P** **11 24 28.3 +1.0**
LSA pmax pmax
comp=Z,163nm,1.1s
LSA MLR MLR
comp=Z,891nm,20.0s
LSA Lhasa 50.96 310 *e*P **P** **11 24 28.3 +1.0**
comp=Z,163nm,1.1s
LSA LR LR
comp=Z,891nm,20.0s
HIA Hailar 51.38 348 *e*P **P** **11 24 30.0 +0.6**
comp=Z,8.7nm,0.6s
HIA LR LR
comp=Z,2μm,22.0s
TAPN Taplejung 52.63 306 *e*P **P** **11 24 39.5 0.0**
comp=Z,643nm,1.2s
ODAN Odare 52.69 305 *e*P **P** **11 24 40.1 +0.2**
comp=Z,523nm,0.9s
BOK Bokaro 52.80 301 *e*P **P** **11 24 41.0 +0.5**
BOK AMB AMB 11 24 41.7
comp=Z,117nm,1.1s
VIS Vishakhapatnam 53.25 293 *e*P **P** **11 24 44.2 +0.3**
VIS AMB AMB 11 24 44.6
comp=Z,120nm,0.9s
RAMN Ramite 53.37 305 *e*P **P** **11 24 45.3 +0.3**
comp=Z,1μm,1.2s
RAO Raoul Island 53.72 126 PFAKE 11 25 00.0 +13
RAO LR LR
comp=Z,2μm,19.0s
ULN Ulaanbaatar 53.88 338 P **P** **11 24 49.6 +1.5**
SNR=40
ULN Ulaanbaatar 53.88 338 P **P** **11 24 49.0 +0.8**
comp=Z,130nm,1.5s,comp=Z,2μm
ULN Ulaanbaatar 53.88 338 *e*P **P** **11 24 48.9 +0.7**
comp=Z,108nm,1.1s
ULN LR LR
comp=Z,3μm,22.0s
PALK Pallekele 53.88 280 P **P** **11 24 48.3 -0.4**
SNR=8.6
PALK Pallekele 53.88 280 P **P** **11 24 48.3 -0.4**
comp=Z,173nm,0.9s,comp=Z,2μm
PALK Pallekele 53.88 280 *e*P **P** **11 24 48.6 0.0**
comp=Z,143nm,1.1s
PALK Pallekele 53.88 280 P **P** **11 24 48.5 -0.2**
comp=Z,588nm,1.1s,SNR=13
RPZ Rata Peaks 53.92 147 *e*P **P** **11 24 48.8 +0.4**
comp=Z,218nm,1.1s
JIRN Jiri 53.99 306 *e*P **P** **11 24 49.8 +0.2**
comp=Z,541nm,1.3s
SONM Songino Array 54.11 337 P **P** **11 24 50.7 +0.9**
SONM PcP **PcP** **11 25 55.3 +1.0**
SONM *e* 12 02 10.2
SONM Songino Array 54.11 337 P **P** **11 24 50.7 +0.9**
comp=Z,33nm,0.9s,baz=148,slow=7.9,SNR=117
SONM PcP **PcP** **11 25 55.3 +1.0**
comp=Z,24nm,0.8s,baz=158,slow=5.0,SNR=9.9
SONM LR LR 11 47 02.9
comp=Z,3μm,19.3s,baz=146,slow=35
SONM P4KPbc 12 02 10.2
comp=Z,0.2nm,0.4s,baz=142,slow=5.1,SNR=4.5
URZ Urewera 54.25 139 *e*P **P** **11 24 51.3 +0.5**
comp=Z,190nm,1.4s
URZ Urewera 54.25 139 P **P** **11 24 50.8 -0.1**
comp=Z,31nm,0.6s,baz=318,slow=3.7,SNR=37
GUN Gumba 54.34 306 *e*P **P** **11 24 52.2 +0.1**
comp=Z,317nm,0.9s
KHZ Kahutara 54.47 145 *e*P **P** **11 24 51.8 -0.6**
comp=Z,136nm,0.9s
SNZO South Karori 54.48 143 *e*P **P** **11 24 51.8 -0.6**
comp=Z,79nm,0.8s
SNZO LR LR
comp=Z,6μm,19.0s
PKI Pulchoki 54.59 305 *e*P **P** **11 24 53.8 -0.2**
comp=Z,439nm,1.5s
ODZ Otahua Downs 54.60 149 *e*P **P** **11 24 53.8 +0.5**
comp=Z,40nm,0.9s
PKIN Phulchoki 54.60 305 *e*P **P** **11 24 53.7 -0.3**
comp=Z,248nm,1.4s
MIDW Midway 54.68 54 PFAKE 11 25 10.0 +16
MIDW LR LR
comp=Z,4μm,19.0s
KKN Kakani 54.78 305 *e*P **P** **11 24 55.3 +0.1**
comp=Z,272nm,1.0s
DMN Daman 54.85 305 *e*P **P** **11 24 55.8 0.0**
comp=Z,381nm,1.0s
AFI Afiamalu 55.07 106 PFAKE 11 25 10.0 +13
AFI LR LR
comp=Z,2μm,22.0s
GKN Gorkha 55.39 305 *e*P **P** **11 24 59.5 0.0**
comp=Z,522nm,1.2s
CIT Chita 55.40 345 *e*P **P** **11 24 59.9 +0.9**
CIT *e* 11 25 10.7
CIT *e* 11 25 59.9
CIT pmax pmax
comp=Z,257nm,1.7s
KOLN Koldanda 56.15 305 *e*P **P** **11 25 05.4 +0.4**
comp=Z,480nm,0.9s
DANN Dangsing 56.23 305 *e*P **P** **11 25 05.8 +0.1**
comp=Z,793nm,1.1s
PEA0B Petropavlovsk- 57.20 17 *e*P **P** **11 25 11.9 +0.1**
PETK Petropavlovsk- 57.20 17 P **P** **11 25 12.6 +0.8**
PETK pmax pmax
comp=Z,32nm,0.8s
PETK Petropavlovsk- 57.20 17 P **P** **11 25 12.6 +0.8**
PETK Petropavlovsk- 57.20 17 P **P** **11 25 12.6 +0.8**
comp=Z,33nm,0.8s,baz=186,slow=6.6,SNR=34
PETK LR LR 11 47 19.7
comp=Z,717nm,19.2s,baz=204,slow=34
MCQ Macquarie Isla 57.29 163 P **P** **11 25 13.8 +1.5**
baz=58,SNR=3.4
ZAK Zakamensk 57.37 337 ⇑*i*P **P** **11 25 13.8 +0.6**
ZAK *e* 11 26 07.3
ZAK pmax pmax
comp=Z,62nm,1.4s
PET Petropavlovsk 57.41 17 *e*P **P** **11 25 12.5 -0.7**
PET *e*S **S** **11 33 03.8 -3.5**
PET *e*SS **SS** **11 36 51.7 -5.8**
PET pmax pmax
comp=Z,79nm,1.3s
PET pmax pmax
comp=Z,600nm,13.3s
PET pmax pmax
comp=Z,1μm,4.7s
HYB Hyderabad 57.61 291 *i*P **P** **11 25 13.0 -2.3**
HYB Hyderabad 57.61 291 *e*P **P** **11 25 14.1 -1.2**
HYB AMB AMB 11 25 15.2
comp=Z,103nm,1.1s
TRD Trivandrum 57.70 281 *e*P **P** **11 25 16.1 +0.1**
TRD AMB AMB 11 25 17.9
comp=Z,336nm,2.3s
comp=Z,2μm,19.0s
BHJ Bhuj 66.98 296 *e*P **P** **11 26 16.4 -1.5**
BHJ AMB AMB 11 26 18.6
comp=Z,69nm,0.0s
AAA Alma-Ata 67.26 318 *i*P **P** **11 26 20.0 +0.6**
AAA *i*S S 11 35 18.3 +6.4
AAA pmax pmax
comp=Z,1μm,1.5s
AAA smax smax
comp=E,1μm,8.5s
AAA MLR MLR
comp=Z,1μm,12.0s
ULHL Ulahol 67.32 317 P **P** **11 26 21.7 +1.7**
SNR=9.6
CASY Casey 67.47 190 *e*P **P** **11 26 20.2 0.0**
CASY LR LR
comp=Z,4μm,22.0s
RAR Rarotonga 67.49 113 LR LR 11 52 23.8
comp=Z,663nm,21.4s,baz=266,slow=33
KZA Kyzart 67.93 317 P **P** **11 26 25.8 +1.7**
SNR=121
ZAA0 Zalesovo Array 68.01 331 *e*P **P** **11 26 23.5 -0.4**
ZALV Zalesovo Beam 68.01 331 P **P** **11 26 23.5 -0.4**
ZALV pmax pmax
comp=Z,80nm,0.9s
ZALV pmax pmax
comp=Z,3.0nm,0.8s
ZALV Zalesovo Beam 68.01 331 P **P** **11 26 23.5 -0.4**
ZALV ⇑*e* 11 54 45.0
ZALV Zalesovo Beam 68.01 331 P **P** **11 26 23.5 -0.4**
comp=Z,80nm,0.9s,baz=109,slow=5.8,SNR=199
ZALV PKP2bc 11 54 45.0
comp=Z,2.8nm,0.8s,baz=309,slow=2.8,SNR=7.2
TKM2 Tokmak 2 68.02 318 *e*P **P** **11 26 25.0 +0.5**
TKM2 pmax pmax
comp=Z,136nm,1.0s
TKM2 MLR MLR
comp=Z,2μm,20.0s
TKM2 Tokmak 2 68.02 318 P **P** **11 26 25.3 +0.8**
SNR=63
TKM2 Tokmak 2 68.02 318 *e*P **P** **11 26 25.0 +0.5**
comp=Z,136nm,1.0s
TKM2 LR LR
comp=Z,2μm,20.0s
KBK Karagaybulak 68.36 317 P **P** **11 26 27.7 +1.1**
SNR=21
XMAS Kiritimati 68.48 88 PFAKE 11 26 40.0 +12
XMAS LR LR
comp=Z,3μm,20.0s
CHMS Chumysh 68.62 317 P **P** **11 26 28.8 +0.8**
SNR=33
FRU Bishkek 68.65 317 ⇑*i*P **P** **11 26 30.0 +1.8**
FRU *e* 11 26 37.0
FRU *e* 11 27 00.0
FRU *e* 11 29 02.0
FRU *e*S **S** **11 35 30.0 +1.5**
FRU *e* 11 36 24.0
FRU pmax pmax
comp=Z,190nm,2.0s
FRU MLR MLR
comp=Z,2μm,21.0s
AAK Ala-Archa 68.66 317 ⇓*i*P **P** **11 26 29.4 +1.0**
AAK pmax pmax
comp=Z,369nm,1.7s
AAK Ala-Archa 68.66 317 P **P** **11 26 29.7 +1.3**
SNR=54
AAK Ala-Archa 68.66 317 P **P** **11 26 29.5 +1.0**
SNR=36
AAK Ala-Archa 68.66 317 *e*P **P** **11 26 29.3 +0.9**
comp=Z,144nm,1.4s
AAK Ala-Archa 68.66 317 P **P** **11 26 29.6 +1.2**
comp=Z,375nm,1.1s,SNR=26
AAK Ala-Archa 68.66 317 LR LR 12 01 23.5
comp=Z,1μm,19.4s,baz=85,slow=40
USP Ospenovka 68.90 318 P **P** **11 26 30.5 +0.8**
SNR=78
AML Almayashu 69.03 316 P **P** **11 26 32.5 +1.5**
SNR=27
EKS2 Erkin-Say 69.16 317 *e*P **P** **11 26 32.5 +1.0**
EKS2 pmax pmax
comp=Z,146nm,1.0s
EKS2 MLR MLR
comp=Z,923nm,19.0s
EKS2 Erkin-Say 69.16 317 P **P** **11 26 32.7 +1.2**
SNR=51
EKS2 Erkin-Say 69.16 317 *e*P **P** **11 26 32.5 +1.0**
comp=Z,146nm,1.0s
EKS2 LR LR
comp=Z,923nm,19.0s
NVS Novosibirsk 69.28 331 ⇑*i*P **P** **11 26 31.5 -0.3**
NVS *e*S **S** **11 35 37.1 +1.7**
NVS pmax pmax
comp=N,112nm,1.4s
NVS pmax pmax
comp=E,171nm,1.4s
NVS pmax pmax
comp=Z,328nm,1.4s
NVS smax smax
comp=N,7.0nm,1.2s
NVS smax smax
comp=E,121nm,3.2s
KURK Kurchatov 69.54 326 P **P** **11 26 33.8 +0.4**
KURK pmax pmax
comp=Z,195nm,0.9s
KURK pmax pmax
comp=Z,1.0nm,0.2s
KURK Kurchatov 69.54 326 P **P** **11 26 33.8 +0.4**
KURK ⇑*e* 11 54 39.1
KURK Kurchatov 69.54 326 P **P** **11 26 34.4 +0.9**
comp=Z,2μm,0.9s,SNR=83
KURBB Kurchatov Arra 69.55 326 P **P** **11 26 33.8 +0.3**
comp=Z,190nm,0.9s,baz=118,slow=5.7,SNR=740
KURBB PKP2bc 11 54 39.1
comp=Z,0.9nm,0.2s,baz=298,slow=4.6,SNR=10
KBL Kabul 70.12 307 *e*P **P** **11 26 37.2 -0.4**
KBL pmax pmax
comp=Z,145nm,1.0s
KBL Kabul 70.12 307 *e*P **P** **11 26 37.2 -0.4**
comp=Z,145nm,1.0s
KK31 Karatay Array 71.56 316 *ce*P **P** **11 26 46.5 +0.5**
KK31 pmax pmax
comp=Z,192nm,0.9s
KKAR Karatay Array 71.56 316 *e*P **P** **11 26 46.5 +0.5**
KKAR pmax pmax
comp=Z,141nm,0.9s
KKAR Karatay Array 71.56 316 *e*P **P** **11 26 46.5 +0.5**
comp=Z,141nm,0.9s
MIR Mirnyy 71.70 196 ⇑*i*P **P** **11 26 48.0 +1.7**
MIR *e* 11 27 03.0
MIR *e* 11 29 28.0
MIR *e*PPP PPP 11 31 18.0
MIR *e*S **S** **11 36 04.0 +0.9**
MIR *e*PS PnS 11 36 48.0 +12
MIR pmax pmax
comp=Z,700nm,2.0s
MIR pmax pmax
comp=Z,239nm,1.5s
TIXI Tiksi 72.39 358 ⇑*i*P **P** **11 26 50.4 +0.1**
TIXI pmax pmax
comp=Z,114nm,1.7s
UNV Unalaska Valle 73.09 32 *e*P **P** **11 26 55.8 +1.0**
comp=Z,60nm,0.7s
VOSK Vostochnaya 74.69 326 P **P** **11 27 04.2 -0.1**
VOSK pmax pmax
comp=Z,142nm,0.9s
BVA0 Borovoye Array 75.14 326 *i*P **P** **11 27 07.2 +0.3**
BVA0 pmax pmax
comp=Z,224nm,1.0s
BVAR Borovoye Array 75.14 326 P **P** **11 27 07.2 +0.3**
BVAR pmax pmax
comp=Z,120nm,0.8s
BVAR MLR MLR
comp=Z,945nm,20.3s
BVAR Borovoye Array 75.14 326 P **P** **11 27 07.2 +0.3**
BVAR Borovoye Array 75.14 326 P **P** **11 27 07.2 +0.3**
comp=Z,120nm,0.8s,baz=111,slow=8.1,SNR=377
BVAR LR LR 12 01 40.7
comp=Z,945nm,20.3s,baz=208,slow=37
FALS False Pass 75.16 32 *e*P **P** **11 27 08.3 +1.5**
comp=Z,228nm,0.8s
BRVK Borovoye 75.21 326 *ce*P **P** **11 27 07.6 +0.3**
BRVK pmax pmax
comp=Z,360nm,1.2s
BRVK Borovoye 75.21 326 P **P** **11 27 08.0 +0.7**
SNR=98
BRVK Borovoye 75.21 326 *e*P **P** **11 27 07.8 +0.5**

JBP Jabalpur 57.74 298 *ex* **P** **11 25 16.0 0.0**
CLNS Chul'man 57.92 354 *e*P **P** **11 25 16.9 +0.1**
CLNS *e**PP pP 11 25 36.1 +7.9
CLNS *e* 11 26 05.4
CLNS *e* 11 27 27.3
CLNS *e*PPP PPP 11 28 47.6
CLNS *e*S **S** **11 33 16.3 +2.2**
CLNS *e* 11 35 00.7
CLNS pmax pmax
comp=N,46nm,0.8s
CLNS pmax pmax
comp=Z,89nm,0.9s
CLNS pmax pmax
comp=E,26nm,0.9s
CLNS pmax pmax
comp=N,5.0nm,0.8s
CLNS pmax pmax
comp=Z,11nm,1.0s
CLNS pmax pmax
comp=E,4.0nm,0.7s
CLNS smax smax
comp=E,448nm,12.8s
CLNS smax smax
comp=N,650nm,15.4s
CLNS MLR MLR
comp=E,309nm,12.0s
CLNS MLR MLR
comp=N,999nm,16.0s
CLNS MLR MLR
comp=Z,1μm,17.0s
NGP Nagpur 58.03 296 *e*P **P** **11 25 16.0 -2.2**
NGP AMB AMB 11 25 16.7
comp=Z,98nm,0.0s
TLY Talaya 58.27 338 *ci*P **P** **11 25 20.2 +0.8**
TLY *e* 11 26 09.8
TLY *e* 11 27 28.8
TLY *e*S **S** **11 33 22.4 +3.6**
TLY pmax pmax
comp=Z,52nm,1.0s
IRK Irkutsk 58.50 339 *e*P **P** **11 25 21.5 +0.6**
IRK pmax pmax
comp=Z,225nm,1.8s
MOY Mondy 59.28 337 *e*P **P** **11 25 27.8 +1.3**
MOY pmax pmax
comp=Z,294nm,2.9s
LGTI Lohaghat 59.50 305 *e*P **P** **11 25 30.1 +1.8**
AKL Akola 59.76 295 ⇑*i*P **P** **11 25 29.3 -0.9**
AKL AMP 11 25 31.2
comp=Z,149nm,1.2s
BHPL Bhopal 60.02 297 *e*P **P** **11 25 31.4 -0.6**
BHPL AMB AMB 11 25 32.2
comp=Z,95nm,1.2s
WMQ Urumqi 60.69 323 P **P** **11 25 37.4 +1.1**
WMQ pP **pP** **11 25 47.5 -0.3**
WMQ sP **sP** **11 25 51.4 -0.8**
WMQ PcP **PcP** **11 26 20.8 +0.7**
WMQ PP **PP** **11 27 53.5 +3.1**
WMQ ScP **ScP** **11 30 18.1 -0.6**
WMQ PcS **PcS** **11 30 22.0 -0.7**
WMQ S **S** **11 33 50.8 +0.4**
WMQ ScS SKKSac 11 35 22.0 -2.2
WMQ SS **SS** **11 37 51.1 +1.4**
WMQ AMB AMB
comp=Z,440nm,0.9s
WMQ AMB AMB
comp=Z,2μm,4.8s
WMQ LR LR
comp=Z,2μm,16.8s
WMQ LR LR
comp=Z,1μm,18.6s
WMQ LR LR
comp=Z,1μm,20.0s
DDI Dehra Dun 61.59 305 *e*P **P** **11 25 43.0 +0.4**
DDI *e*P pP 11 25 43.7 -10
DDI AMB AMB 11 25 44.7
comp=Z,3μm,0.8s
NDI New Delhi 61.76 303 *e*P **P** **11 25 42.0 -1.7**
NDI *ex* x 11 26 05.5
NDI AMB AMB 11 26 06.1
comp=Z,164nm,1.4s
DGAR Diego Garcia 61.81 262 PFAKE 11 26 00.0 +16
DGAR LR LR
comp=Z,10μm,19.0s
DGAR Diego Garcia 61.81 262 P **P** **11 25 44.0 -0.3**
comp=Z,3μm,1.1s,SNR=5.1
HVS Khovu-Aksy 62.03 332 ⇓*i*P **P** **11 25 46.2 +1.0**
HVS pmax pmax
comp=Z,1μm,1.0s
POO Poona 62.22 291 *ex* P 11 25 42.9 -4.1
SMLA Simla 62.58 306 *i*P **P** **11 25 50.1 +1.0**
SMLA AMB AMB 11 25 51.7
comp=Z,559nm,1.2s
FX1 Attu Island--F 62.62 25 *e*P **P** **11 25 50.2 +1.2**
YAK Yakutsk 62.74 358 *ci*P **P** **11 25 49.7 +0.1**
YAK *e**PP **pP** **11 26 01.6 +0.5**
YAK *e* 11 26 23.9
YAK *e* 11 28 05.3
YAK *e*S **S** **11 34 14.6 -0.9**
YAK *e**SS **sS** **11 34 31.2 -3.4**
YAK *e* 11 35 40.6
YAK pmax pmax
comp=Z,375nm,0.9s
YAK pmax pmax
comp=N,113nm,1.1s
YAK pmax pmax
comp=E,16nm,1.0s
YAK pmax pmax
comp=Z,159nm,2.8s
YAK pmax pmax
comp=E,128nm,3.2s
YAK pmax pmax
comp=N,145nm,3.0s
YAK smax smax
comp=N,329nm,3.0s
YAK smax smax
comp=E,226nm,3.3s
YAK MLR MLR
comp=Z,1μm,19.0s
YAK MLR MLR
comp=N,1μm,16.0s
YAK MLR MLR
comp=E,367nm,19.0s
DHRM DHARAMSHALA 63.64 307 *e*P **P** **11 25 56.9 +0.4**
DHRM AMB AMB 11 25 58.5
comp=Z,693nm,1.1s
THN Thein Dam 64.17 307 *ex* P **P** **11 25 56.5 -3.1**
MK31 Makanchi Array 65.50 324 *ce*P **P** **11 26 08.8 +0.7**
MK31 pmax pmax
comp=Z,162nm,0.7s
MK31 Makanchi Array 65.50 324 *e*P **P** **11 26 09.0 +0.9**
MKAR Makanchi Array 65.50 324 P **P** **11 26 09.5 +1.4**
MKAR pmax pmax
comp=Z,102nm,0.6s
MKAR pmax pmax
comp=Z,3.0nm,0.9s
MKAR Makanchi Array 65.50 324 P **P** **11 26 09.5 +1.4**
MKAR P'P'ab **P'P'ab** **11 54 56.6 +0.3**
MKAR Makanchi Array 65.50 324 P **P** **11 26 09.5 +1.4**
comp=Z,102nm,0.6s,baz=113,slow=8.4,SNR=785
MKAR PKP2ab 11 54 56.6
comp=Z,2.6nm,0.9s,baz=316,slow=3.3,SNR=4.6
DRV Dumont d'Urvil 65.88 177 P P 11 26 02.0 -8.0
DRV S S 11 34 40.0 -14
DRV SS **SS** **11 39 11.0 +1.5**
DRV L L 11 42 00.0
DRV R 11 46 00.0
KSH Kashi 66.45 314 ⇑*i*P **P** **11 26 17.5 +3.0**
KSH PcP **PcP** **11 26 47.9 +4.0**
KSH PP PP 11 28 48.8 +7.6
KSH S **S** **11 35 07.3 +4.9**
KSH sS **sS** **11 35 25.8 +4.2**
KSH ScS **ScS** **11 36 10.3 +1.7**
KSH SS SS 11 39 28.8 +9.0
KSH AMB AMB
comp=Z,270nm,1.1s
KSH AMB AMB
comp=Z,690nm,5.6s
KSH LR LR
comp=Z,840nm,15.3s
KSH LR LR
comp=Z,410nm,12.8s
KSH LR LR
comp=Z,400nm,15.2s
ADK Adak 66.78 31 PFAKE 11 26 30.0 +14
ADK LR LR

BRVK LR LR
comp=Z,234nm,0.9s
BRVK Borovoye 75.21 326 P **P** **11 27 07.5 +0.3**
comp=Z,1μm,20.0s
WBK Wadi Bani Khal 76.61 293 P **P** **11 27 17.2 +1.3**
comp=Z,2μm,0.7s,SNR=61
PPT Papeete 76.70 108 P **P** **11 27 18.3 +1.8**
PPT Papeete 76.70 108 P **P** **11 27 18.3 +1.8**
comp=Z,37nm,0.8s,baz=337,slow=1.0,SNR=6.7
PPT LR LR 11 56 08.1
comp=Z,912nm,21.7s,baz=64,slow=32
PPT2 Papeete2 76.71 108 *eP* **P** **11 27 18.5 +1.9**
comp=Z,74nm,1.5s
PPT2 *eS* **S** **11 37 01.2 -0.1**
comp=Z,1μm,24.0s
PPT2 *e*SS **SS** **11 41 58.4 +0.7**
comp=Z,808nm,25.0s
PPT2 *e*LQ LQ 11 47 51.2
comp=Z,4μm,32.5s
PPT2 *e*LR LR 11 51 05.9
comp=Z,2μm,23.5s
PAE Paea 76.71 108 *eP* **P** **11 27 18.0 +1.5**
comp=Z,7.7nm,1.0s
SDPT Sand Point 76.91 32 *eP* **P** **11 27 17.9 +1.1**
comp=Z,199nm,0.7s
TIAR Tiarei 76.92 108 *eP* **P** **11 27 19.6 +1.9**
comp=Z,18nm,1.3s
IDAH Dahanechah 77.21 304 *eP* **P** **11 27 20.0 +0.6**
TBI Tubuai 77.22 114 *e*S **S** **11 37 06.5 -0.1**
comp=Z,479nm,34.0s
TBI *e*SS **SS** **11 42 08.6 +3.4**
comp=Z,623nm,29.5s
TBI *e*LQ LQ 11 48 00.3
comp=Z,1μm,41.0s
TBI *e*LR LR 11 51 19.8
comp=Z,1μm,28.0s
JMDO Jabal Madar 77.38 293 P **P** **11 27 20.6 +0.4**
SNR=28
SMDO Samad 77.50 294 P **P** **11 27 21.4 +0.3**
SNR=31
VNDA Vanda 78.12 174 P **P** **11 27 23.5 +0.2**
VNDA PKKPbc **PKKPbc** **11 46 23.6 -2.6**
VNDA Vanda 78.12 174 P **P** **11 27 23.5 +0.2**
comp=Z,93nm,0.8s,baz=324,slow=6.1,SNR=402
VNDA PKKPbc **PKKPbc** **11 46 23.6 -2.6**
comp=Z,1.0nm,0.8s,baz=258,slow=4.3,SNR=7.3
VNDA LR LR 12 00 34.4
comp=Z,5μm,20.6s,baz=345,slow=35
ITEG Tejag 78.17 304 *eP* **P** **11 27 25.3 +0.7**
PMOR Pomariorio Ree 78.19 105 *eP* **P** **11 27 26.6 +1.8**
comp=Z,147nm,1.4s
HOQ Hoqain 78.23 294 P **P** **11 27 26.1 +1.1**
SNR=32
BSY Bisya 78.25 293 P **P** **11 27 25.5 +0.5**
SNR=24
CHGN Chignik 78.33 32 *eP* **P** **11 27 25.6 +0.9**
VAH Vaihoa 78.46 105 *eP* **P** **11 27 27.7 +1.4**
comp=Z,111nm,1.5s
MSEY Mahe Island 78.62 265 PFAKE 11 27 40.0 +13
MSEY LR LR
comp=Z,1μm,21.0s
IAKL Akhelmad 78.74 307 *eP* **P** **11 27 28.3 +0.4**
ARQ Araqi 78.93 294 P **P** **11 27 29.4 +0.6**
SNR=40
SBA Scott Base 78.95 173 *eP* **P** **11 27 28.9 +1.1**
SBA pmax pmax
comp=Z,126nm,1.0s
SBA MLR MLR
comp=Z,2μm,21.0s
SBA Scott Base 78.95 173 *eP* **P** **11 27 28.9 +1.1**
comp=Z,126nm,1.0s
SBA LR LR
comp=Z,2μm,21.0s
IEMG Emamgholi 78.96 308 *eP* **P** **11 27 29.9 +0.9**
IBND Bandar-abas 79.35 298 *eP* **P** **11 27 32.0 +1.0**
UOSS Wadi Hilu 79.38 295 P **P** **11 27 30.9 -0.3**
comp=Z,279nm,1.2s,SNR=11
BANOM Banah 79.40 296 P **P** **11 27 32.8 +1.4**
SNR=11
ISFR Sfrayin 79.42 308 *eP* **P** **11 27 32.5 +1.0**
HATD Hatta, Dubai 79.43 295 P **P** **11 27 32.0 +0.5**
SNR=11
ASHO Ashiyiah 79.49 295 P **P** **11 27 32.3 +0.5**
SNR=13
NAZ Nazwa, Dubai 79.88 295 P **P** **11 27 34.3 +0.4**
SNR=13
ASUD Al Ashush, Dub 80.14 295 P **P** **11 27 36.2 +0.9**
SNR=8.0
AB31 Akbulak array 80.31 320 *ce*P **P** **11 27 35.6 -0.1**
AB31 pmax pmax
comp=Z,97nm,0.7s
RBK Rabkut 80.62 288 P **P** **11 27 38.1 0.0**
SNR=46
IBAF Bafgh 80.66 302 *eP* **P** **11 27 37.8 -0.4**
OHAK Old Harbor 81.30 32 *eP* **P** **11 27 42.1 +1.3**
comp=Z,232nm,1.6s
ABTO Aybut 81.48 288 P **P** **11 27 42.6 -0.1**
SNR=50
SVE Sverdlovsk 81.67 328 *d iP* **P** **11 27 43.1 +0.3**
SVE *e* 11 30 52.4
SVE *e*S **S** **11 37 50.4 -2.1**
SVE pmax pmax
comp=Z,174nm,1.0s
SVE pmax pmax
comp=Z,722nm,11.8s
SVE MLR MLR
comp=Z,1μm,22.0s
ICHK Chekchek 81.72 303 *eP* **P** **11 27 43.4 -0.5**
AKTO Aktyubinsk 81.77 321 P **P** **11 27 42.2 -1.3**
AKTO pmax pmax
comp=Z,81nm,1.0s
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO MLR MLR
comp=Z,1μm,20.7s
AKTO Aktyubinsk 81.77 321 P **P** **11 27 42.2 -1.3**
AKTO PKKPbc **PKKPbc** **11 46 15.4 -1.6**
AKTO Aktyubinsk 81.77 321 P **P** **11 27 42.2 -1.3**
comp=Z,80nm,1.0s,baz=96,slow=6.2,SNR=108
AKTO PKKPbc **PKKPbc** **11 46 15.4 -1.6**
comp=Z,0.5nm,0.3s,baz=303,slow=3.9,SNR=4.3
AKTO LR LR 12 03 56.4
comp=Z,1μm,20.7s,baz=103,slow=36
KDAK Kodiak Island 81.81 31 *eP* **P** **11 27 44.3 +0.8**
comp=Z,206nm,1.4s
MAW Mawson 82.20 201 *eP* **P** **11 27 46.1 +0.7**
comp=Z,49nm,1.0s
MAW PKKPbc **PKKPbc** **11 46 14.2 -2.4**
MAW Mawson 82.20 201 ⇑P **P** **11 27 45.6 +0.3**
baz=82,SNR=178
MAW Mawson 82.20 201 P **P** **11 27 45.9 +0.6**
comp=Z,187nm,0.9s,baz=72,slow=6.3,SNR=309
MAW PKKPbc **PKKPbc** **11 46 14.2 -2.4**
comp=Z,3.9nm,0.8s,baz=279,slow=4.5,SNR=11
MAW LR LR 12 02 28.5
comp=Z,3μm,19.2s,baz=60,slow=34
IANJ Anjilo 82.47 306 *eP* **P** **11 27 47.6 -0.2**
ISRV Sarvestan 82.55 300 *eP* **P** **11 27 48.4 0.0**
IPAR Pars 82.64 300 *eP* **P** **11 27 48.2 -0.7**
ARU Arti 82.69 327 *c iP* **P** **11 27 47.9 -0.3**
ARU 11 30 56.2
ARU PPP PPP 11 32 50.4
ARU S **S** **11 38 05.4 +2.4**
ARU SS **SS** **11 43 19.2 -6.4**
ARU pmax pmax
comp=Z,229nm,1.7s
ARU MLR MLR
comp=Z,902nm,21.0s
ILAS Lasjerd 83.24 306 *eP* **P** **11 27 51.9 +0.1**
PPLA Purkeypile 83.31 26 *eP* **P** **11 27 51.9 +0.5**
comp=Z,30nm,0.8s
IM04 Indian Mountai 83.49 23 *eP* **P** **11 27 53.4 +1.3**
IZEF Zefreh 83.53 303 *eP* **P** **11 27 52.4 -1.0**
IMA2 Indian Mountai 83.55 23 *eP* **P** **11 27 53.1 +0.5**
ISFB Sefidab 83.73 305 *eP* **P** **11 27 54.3 +0.1**
SEW Seward 83.93 29 *eP* **P** **11 27 55.2 +0.8**
comp=Z,81nm,1.1s
IKLH Kolahrood 84.19 303 *eP* **P** **11 27 56.9 +0.2**
IVRN Varamin 84.21 305 *eP* **P** **11 27 56.8 +0.2**
SOKR Solikamsk 84.27 330 *c iP* **P** **11 27 56.3 +0.2**
SOKR S **S** **11 38 24.1 +5.4**
SOKR pmax pmax
comp=Z,220nm,1.0s
SOKR MLR MLR
comp=Z,2μm,25.0s

TRF Thorofare Moun 84.28 26 *eP* **P** **11 27 56.6 +0.2**
comp=Z,124nm,1.4s
PMR Palmer 84.39 28 *eP* **P** **11 27 57.3 +0.5**
PMR pmax pmax
comp=Z,52nm,0.8s
PMR Palmer 84.39 28 *eP* **P** **11 27 57.2 +0.5**
comp=Z,52nm,0.8s
IR3 Iran Long-Peri 84.83 306 *eP* **P** **11 28 00.3 +0.6**
MCK McKinley 84.93 26 *eP* **P** **11 27 59.9 +0.4**
MCK pmax pmax
comp=Z,205nm,1.3s
MCK McKinley 84.93 26 *eP* **P** **11 27 59.9 +0.4**
comp=Z,205nm,1.3s
IMHD Mahdasht 85.13 306 *eP* **P** **11 28 01.7 +0.5**
COLD Coldfoot 85.19 22 *eP* **P** **11 28 02.2 +1.5**
comp=Z,33nm,1.1s
MUKL Al Mukalla 85.44 284 *eP* **P** **11 28 04.3 +1.3**
COLA College 85.63 25 *eP* **P** **11 28 02.8 -0.1**
COLA pmax pmax
comp=Z,121nm,0.7s
COLA MLR MLR
comp=Z,1μm,22.0s
COLA College 85.63 25 *eP* **P** **11 28 02.8 -0.1**
comp=Z,121nm,0.7s
COLA LR LR
comp=Z,1μm,22.0s
IRAZ Razeghan 85.71 305 *eP* **P** **11 28 04.2 -0.1**
DIV Divide 85.90 29 *eP* **P** **11 28 05.3 +0.9**
comp=Z,117nm,0.8s
ILAR Eielson Array 86.01 25 P **P** **11 28 04.3 -0.5**
ILAR PKKPbc **PKKPbc** **11 46 05.3 -2.3**
ILAR P'P' 11 54 12.1
ILAR Eielson Array 86.01 25 P **P** **11 28 04.3 -0.5**
comp=Z,32nm,0.8s,baz=255,slow=4.3,SNR=303
ILAR PKKPbc **PKKPbc** **11 46 05.3 -2.3**
comp=Z,0.8nm,0.9s,baz=117,slow=3.2,SNR=5.5
ILAR PKPPKP **P'P'df** **11 54 12.1 +0.8**
comp=Z,0.8nm,1.0s,baz=97,slow=2.3,SNR=4.2
ILAR LR LR 12 06 38.1
comp=Z,424nm,19.1s,baz=279,slow=36
PAX Paxson 86.33 27 *eP* **P** **11 28 07.6 +1.0**
PAX pmax pmax
comp=Z,186nm,1.5s
PAX Paxson 86.33 27 *eP* **P** **11 28 07.6 +1.0**
comp=Z,186nm,1.5s
BMRM Bremner River 86.44 29 *eP* **P** **11 28 08.3 +1.2**
comp=Z,404nm,1.6s
ABPO Ambohimpanom 86.81 251 *eP* **P** **11 28 10.5 +0.6**
ABPO pmax pmax
comp=Z,74nm,1.0s
ABPO MLR MLR
comp=Z,773nm,19.0s
ABPO Ambohimpanom 86.81 251 *eP* **P** **11 28 10.5 +0.6**
comp=Z,74nm,1.0s
ABPO LR LR
comp=Z,773nm,19.0s
QRN Al-Qurain 87.04 299 *eP* **P** **11 28 10.2 -0.5**
QRN AMb AMB 11 28 12.6
comp=Z,292nm,1.4s
DOT Dot Lake 87.06 26 *eP* **P** **11 28 10.5 +0.5**
comp=Z,117nm,1.5s
MENT Mentasta 87.12 27 *eP* **P** **11 28 11.0 +0.7**
KBD Kabd 87.26 299 *eP* **P** **11 28 11.4 -0.3**
KBD AMb AMB 11 28 13.8
comp=Z,98nm,1.5s
RDF Al-Radifah 87.37 299 *eP* **P** **11 28 11.5 -0.7**
RDF AMb AMB 11 28 13.3
comp=Z,241nm,1.4s
NAY Al-Naaiem 87.65 299 *eP* **P** **11 28 13.0 -0.6**
NAY AMb AMB 11 28 15.3
comp=Z,224nm,1.4s
RST Umm Al-Ruwaisa 87.88 299 *eP* **P** **11 28 14.0 -0.7**
RST AMb AMB 11 28 15.5
comp=Z,2μm,1.0s
MAK Makhachkala 88.05 313 *eP* P 11 28 11.2 -4.0
MAK *e* 11 31 43.6
MAK *e*S **SKSac** **11 38 36.0 -4.9**
MAK *e*SS **SS** **11 44 43.7 -1.3**
MAK *e*SSS SSS 11 48 20.2
MAK pmax pmax
comp=Z,120nm,1.5s
MAK MLR MLR
comp=Z,736nm,20.0s
EGAK Eagle 88.45 25 *eP* **P** **11 28 17.1 +0.5**
comp=Z,38nm,1.3s
EGAK LR LR
comp=Z,1μm,19.0s
BDHA Al Bayda' 88.78 284 *eP* **P** **11 28 19.9 +0.3**
RAYN Ar Rayn 89.04 293 P **P** **11 28 20.8 +0.4**
comp=Z,312nm,1.1s,SNR=34
QSPA South Pole Qui 89.15 180 *eP* **P** **11 28 20.1 0.0**
comp=Z,296nm,0.9s
QSPA LR LR
comp=Z,8μm,20.0s
DGRG David-gareji 89.57 311 P P 11 28 12.3 -10
HYT Haines Junctio 89.88 29 *eP* **P** **11 28 25.2 +1.6**
SEAG Tbilisi Sea 90.01 312 P P 11 28 20.5 -4.0
GNI Garni 90.03 310 P **P** **11 28 25.5 +0.7**
SNR=9.8
GNI Garni 90.03 310 *eP* **P** **11 28 25.0 +0.2**
comp=Z,19nm,0.8s
GNI Garni 90.03 310 LR LR 12 13 58.3
comp=Z,551nm,20.8s,baz=192,slow=39
TBLG Delisi 90.06 312 P **P** **11 28 24.5 -0.2**
KZR Kazreti 90.29 311 P **P** **11 28 25.9 0.0**
RKT Rikitea 90.53 113 *e*S **S** **11 39 22.0 +1.7**
comp=Z,315nm,27.0s
RKT *e*SS **SS** **11 45 27.7 +5.7**
comp=Z,441nm,28.0s
RKT Rikitea 90.53 113 *e*LR LR 11 57 32.2
comp=Z,2μm,25.5s
ZEI Tsey 90.69 313 *eP* **P** **11 28 25.5 -2.4**
ZEI pmax pmax
comp=Z,41nm,1.3s
SYO Syowa Base 90.90 201 ⇑ *iP* **P** **11 28 27.3 -0.7**
SYO Syowa Base 90.90 201 ⇓ *iP* P 11 28 32.2 +4.2
AKH Akhalkalaki 90.99 311 P **P** **11 28 29.5 +0.2**
KBZ Khabaz 91.42 314 P **P** **11 28 29.9 -1.1**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KBZ pmax pmax
comp=Z,2.0nm,0.9s
KBZ Khabaz 91.42 314 P **P** **11 28 29.9 -1.1**
KBZ PKKPbc **PKKPbc** **11 45 53.5 +0.1**
KBZ Khabaz 91.42 314 P **P** **11 28 29.9 -1.1**
comp=Z,6.2nm,0.9s,baz=43,slow=2.4,SNR=6.9
KBZ PKKPbc **PKKPbc** **11 45 53.5 +0.1**
comp=Z,1.7nm,0.8s,baz=149,slow=3.9,SNR=3.9
KIV Kislovodsk 91.58 314 ⇑ *eP* **P** **11 28 30.9 -0.9**
KIV *i* 11 28 40.1
KIV *e* 11 32 11.4
KIV *e* 11 39 05.3
KIV *e*SS SS 11 45 45.1 +8.8
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,600nm,19.0s
INK Inuvik 91.60 22 *eP* **P** **11 28 30.8 -0.5**
comp=Z,14nm,0.9s
INK Inuvik 91.60 22 P **P** **11 28 30.6 -0.6**
comp=Z,12nm,0.8s,baz=272,slow=4.5,SNR=29
VRHR Novokhopersk 92.18 321 *eP* **P** **11 28 32.1 -2.2**
VRHR pmax pmax
comp=N,40nm,1.1s
VRHR pmax pmax
comp=E,40nm,1.1s
VRHR pmax pmax
comp=Z,70nm,1.1s
VRHR MLR MLR
comp=N,140nm,19.0s
VRHR MLR MLR
comp=Z,830nm,19.0s
VRHR MLR MLR
comp=E,110nm,10.0s
WRAK Wrangell Islan 92.61 34 *eP* **P** **11 28 37.8 +1.7**
comp=E,21nm,0.7s
WRAK LR LR
comp=Z,911nm,20.0s
KLMR Klimovskoe 92.93 331 *d iP* **P** **11 28 35.4 -2.1**
KLMR *e* 11 32 16.1
KLMR pmax pmax
comp=Z,164nm,1.3s
KLMR MLR MLR
comp=Z,1μm,16.0s
TMCR Tamitsa 93.36 334 *eP* **P** **11 28 37.9 -1.5**
TMCR *e* 11 32 25.2
TMCR pmax pmax
comp=Z,99nm,0.7s
VORD Divnogorie 93.66 321 *eP* **P** **11 28 39.4 -1.7**
VORD pmax pmax
comp=Z,40nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.4s
VORD MLR MLR
comp=E,740nm,25.0s
VORD MLR MLR
comp=Z,1μm,25.0s
VSR Storozhevoye 93.72 321 *eP* **P** **11 28 39.7 -1.7**
VSR pmax pmax
comp=Z,60nm,0.9s
VSR pmax pmax
comp=N,8.0nm,0.4s
VSR pmax pmax
comp=E,30nm,0.9s
VSR MLR MLR
comp=N,760nm,24.0s
VSR MLR MLR
comp=Z,1μm,24.0s
VSR MLR MLR
comp=E,220nm,12.0s
SOC Sochi 93.74 313 *eP* P 11 28 35.2 -6.5
SOC *e* 11 32 23.2
SOC *e*S **SKSac** **11 39 06.7 -6.8**
SOC *e*SS **SS** **11 46 03.1 -4.0**
SOC MLR MLR
comp=Z,800nm,20.0s
MOS Moscow 94.31 326 *eP* P 11 28 40.6 -3.4
MOS *e* 11 32 26.1
MOS pmax pmax
comp=Z,95nm,0.9s
MOS pmax pmax
comp=Z,100nm,1.1s
MOS MLR MLR
comp=Z,2μm,21.0s
APA Apatity 94.81 338 ⇓ *iP* **P** **11 28 44.2 -1.9**
APA *i* 11 39 20.0
APA *i*S S 11 39 50.0 -6.7
APA *i*PS PS 11 41 07.0 -11
APA *i*SS **SS** **11 46 19.0 -2.1**
APA pmax pmax
comp=Z,39nm,1.0s
APA MLR MLR
comp=Z,2μm,16.0s
OBN Obninsk 94.97 325 ⇓ *iP* **P** **11 28 45.5 -1.5**
OBN *i* 11 28 53.9
OBN *i* 11 32 37.0
OBN *e* 11 39 19.2
OBN *i*S **S** **11 39 57.8 -0.7**
OBN *e*SS SS 11 46 33.3 +9.4
OBN pmax pmax
comp=Z,76nm,1.0s
OBN MLR MLR
comp=Z,1μm,19.0s
ANN Anapa 95.31 315 *eP* **P** **11 28 46.1 -2.7**
ANN *e* 11 32 38.6
ANN *e* 11 39 20.2
ANN *e*SS SS 11 46 26.5 -2.8
ANN pmax pmax
comp=Z,45nm,0.9s
ANN MLR MLR
comp=Z,707nm,19.0s
ANN MLR MLR
comp=N,718nm,20.0s
ANN MLR MLR
comp=E,529nm,19.0s
SPITS Spitsbergen Ar 96.28 349 P **P** **11 28 52.0 -0.6**
SPITS Spitsbergen Ar 96.28 349 P **P** **11 28 52.0 -0.6**
comp=E,28nm,0.9s,baz=124,slow=10,SNR=9.5
JOF Joensuu 96.52 333 *eP* **P** **11 28 51.6 -2.3**
JOF pmax pmax
comp=Z,14nm,0.7s
JOF Joensuu 96.52 333 *ep* **P** **11 28 51.6 -2.3**
comp=Z,14nm,0.7s
ASF Jabal al Asfar 96.54 302 LR LR 12 16 35.5
comp=Z,370nm,19.8s,baz=246,slow=38
KEV Kevo 96.61 340 *eP* **P** **11 28 52.3 -1.9**
KEV pmax pmax
comp=Z,17nm,0.8s
KEV Kevo 96.61 340 *ep* **P** **11 28 52.3 -1.9**
comp=Z,17nm,0.8s
KEV Kevo 96.61 340 PFAKE 11 29 10.0 +16
KEV LR LR
comp=Z,977nm,20.0s
KBS Kingsbay 96.68 351 PFAKE 11 29 10.0 +16
KBS LR LR
comp=Z,682nm,20.0s
KMBO Kilima Mbogo 96.85 269 P **P** **11 28 57.8 +1.0**
SNR=8.4
KMBO Kilima Mbogo 96.85 269 *eP* **P** **11 28 57.4 +0.6**
comp=Z,21nm,1.1s
KMBO LR LR
comp=Z,552nm,20.0s
KMBO Kilima Mbogo 96.85 269 P **P** **11 28 57.0 +0.2**
comp=Z,14nm,0.9s,baz=42,slow=5.3,SNR=25
ARCES ARCESS Array B 97.18 340 P **P** **11 28 55.8 -1.0**
ARCES ARCESS Array B 97.18 340 P **P** **11 28 55.8 -1.0**
comp=Z,59nm,0.7s,baz=65,slow=3.3,SNR=73
ARCES LR LR 12 22 48.7
comp=Z,1μm,18.0s,baz=86,slow=42
AREO ARCESS Array S 97.18 340 *eP* **P** **11 28 56.2 -0.6**
SIM Simferopol' 97.64 315 *eP* **P** **11 28 57.9 -1.5**
SIM *e* 11 32 57.0
SIM *e*PPP PPP 11 34 59.0
SIM *e*PS **PS** **11 41 47.0 -2.6**
SIM pmax pmax
comp=Z,31nm,0.9s
SIM pmax pmax
comp=Z,140nm,11.0s
MMAI Mount Meron Ar 97.74 303 LR LR 12 18 43.3
comp=Z,361nm,19.1s,baz=125,slow=39
EIL Elat 98.36 300 LR LR 12 12 33.6
comp=Z,534nm,21.2s,baz=92,slow=35
BR131 Keskin Array S 98.57 310 *eP* **P** **11 29 02.2 -1.7**
comp=Z,4.6nm,0.8s
BRTR Keskin Array B 98.57 310 P **P** **11 29 02.2 -1.7**
BRTR PP **PP** **11 33 04.2 -0.7**
BRTR Keskin Array B 98.57 310 P **P** **11 29 02.2 -1.7**
comp=Z,4.6nm,0.8s,baz=104,slow=5.2,SNR=19
BRTR PP **PP** **11 33 04.2 -0.7**
comp=Z,6.3nm,1.1s,baz=101,slow=6.4,SNR=7.0
BRTR LR LR 12 21 54.8
comp=Z,360nm,21.3s,baz=234,slow=40
NLWA Neilton Lookou 98.70 42 PFAKE 11 29 20.0 +16
NLWA LR LR
comp=Z,1μm,19.0s
KAF Kangasniemi 98.97 333 *eP* **P** **11 29 02.2 -2.7**
KAF pmax pmax
comp=Z,11nm,0.7s
KAF Kangasniemi 98.97 333 *ep* **P** **11 29 02.2 -2.7**
comp=Z,10nm,0.7s
ANTO Ankara 99.20 310 PFAKE 11 29 20.0 +13
ANTO LR LR
comp=Z,580nm,20.0s
FIA1 FINESS Array S 99.25 332 *eP* **Pdif** **11 29 05.4 -0.9**
FINES FINESS Array B 99.25 332 P **Pdif** **11 29 05.3 -0.9**
FINES PKiKP **PKiKP** **11 33 36.6 +0.6**
FINES FINESS Array B 99.25 332 P **Pdif** **11 29 05.3 -0.9**
comp=Z,25nm,0.9s,baz=72,slow=6.2,SNR=30
FINES PKiKP **PKiKP** **11 33 36.6 +0.6**
comp=Z,1.0nm,0.5s,baz=101,slow=1.9,SNR=4.8
FINES LR LR 12 15 17.9
comp=Z,1μm,19.5s,baz=72,slow=36
CSS Prodhromos 99.30 305 PFAKE 11 29 20.0 +13
CSS LR LR
comp=Z,402nm,20.0s
MAIT Maitri 99.47 196 *eP* **Pdif** **11 29 05.7 -1.3**
VSU Vasula 99.71 329 ⇓ *iP* **Pdif** **11 29 07.8 -0.5**
VSU pmax pmax
comp=Z,201nm,1.2s
AKASG Malin Array Be 100.02 321 P **Pdif** **11 29 08.1 -1.8**
AKASG 11 33 13.9
AKASG pmax pmax
comp=Z,14nm,0.9s
AKASG pmax pmax
comp=Z,4.0nm,1.0s
AKASG Malin Array Be 100.02 321 P **Pdif** **11 29 08.1 -1.8**
AKASG PP **PP** **11 33 13.9 -1.4**
AKASG Malin Array Be 100.02 321 P **Pdif** **11 29 08.1 -1.8**
comp=Z,14nm,0.9s,baz=66,slow=4.3,SNR=34
AKASG PP **PP** **11 33 13.9 -1.4**
comp=Z,4.3nm,0.9s,baz=67,slow=7.7,SNR=5.0
AKBB Malin Array Si 100.02 321 *eP* **Pdif** **11 29 08.3 -1.6**

AKBB Malin Array Si 100.02 321 ePdif Pdif 11 29 08.3 -1.6
AK01 Malin Array Si 100.03 321 ePdif Pdif 11 29 08.3 -1.6
KIEV Kiev 100.03 321 eP Pdif 11 29 08.1 -1.9
KIEV pmax pmax
comp=Z,28nm,1.3s
KIEV MLR MLR
comp=Z,867nm,20.0s
KIEV Kiev 100.03 321 ePdif Pdif 11 29 08.1 -1.9
comp=Z,28nm,1.3s
KIEV LR LR
comp=Z,867nm,20.0s
MICGM Minsk 100.03 325⇓ eP Pdif 11 29 07.0 -2.9
AK02 Malin Array Si 100.04 321 ePdif Pdif 11 29 07.5 -2.5
MNK Minsk 100.06 325⇓ eP Pdif 11 29 07.0 -3.0
MNK pmax pmax
comp=Z,120nm,1.0s
MNK MLR MLR
comp=Z,2µm,14.0s
MNK MLR MLR
comp=E,3µm,14.0s
YKA Yellowknife Ar 100.40 26 P Pdif 11 29 09.8 -1.5
YKA Yellowknife Ar 100.40 26 P Pdif 11 29 09.8 -1.5
comp=E,5.1nm,0.8s,baz=302,slow=5.5,SNR=6.7
ISP Isparta 101.22 308 PFAKE 11 29 30.0 +14
ISP LR LR
comp=Z,336nm,20.0s
HAWA Hanford 101.81 43 PFAKE 11 29 30.0 +12
HAWA LR LR
comp=Z,1µm,20.0s
SNAA Sanae 102.61 193 eP Pdif 11 29 22.6 +1.5
SNAA Sanae 102.61 193 ePdif Pdif 11 29 21.6 +0.5
comp=Z,13nm,0.9s
SUW Suwalki 102.82 326 eP Pdif 11 29 21.8 -0.5
SUW Suwalki 102.82 326 eP Pdif 11 29 21.7 -0.5
NEW Newport 103.00 40 PFAKE 11 29 40.0 +17
NEW LR LR
comp=Z,987nm,20.0s
WVOR Wild Horse Val 103.21 47 PFAKE 11 29 40.0 +15
WVOR LR LR
comp=Z,1µm,21.0s
BUR08 Bucovina Ar. S 103.25 319 ePdif Pdif 11 29 24.1 -0.5
BMO Blue Mountains 103.66 44 PFAKE 11 29 40.0 +14
BMO LR LR
comp=Z,1µm,19.0s
VNA2 Neumayer--Watz 104.15 192 eP Pdif 11 29 31.5 +3.6
NVAR Mina Array Bea 104.21 51 Pdif Pdif 11 29 30.8 +1.6
NVAR PKiKP PKiKP 11 33 46.8 +0.8
NVAR PKKPbc PKKPbc 11 45 18.2 0.0
NVAR Mina Array Bea 104.21 51 Pdiff Pdif 11 29 30.8 +1.6
comp=Z,3.1nm,0.9s,baz=258,slow=6.8,SNR=17
NVAR PKiKP PKiKP 11 33 46.8 +0.8
comp=Z,0.9nm,0.7s,baz=247,slow=2.3,SNR=5.7
NVAR PKKPbc PKKPbc 11 45 18.2 0.0
comp=Z,0.7nm,0.7s,baz=191,slow=3.3,SNR=4.6
KWP Kalwaria Pacla 104.34 321 eP Pdif 11 29 28.8 -0.5
KWP Kalwaria Pacla 104.34 321 PFAKE 11 29 40.0 +11
KWP LR LR
comp=Z,921nm,21.0s
KWP Kalwaria Pacla 104.34 321 eP Pdif 11 29 28.7 -0.5
BMN Battle Mountai 104.65 48 PFAKE 11 29 40.0 +9.0
BMN LR LR
comp=Z,1µm,20.0s
KOLS Kolonicke sedl 104.81 321 eP Pdif 11 29 31.1 -0.2
KOLS Kolonicke sedl 104.81 321 PDIF Pdif 11 29 31.1 -0.2
UZH Uzhgorod 104.88 320⇑ iP Pdif 11 29 31.4 -0.2
UZH e 11 33 54.6
UZH ePPP PPP 11 36 04.2
UZH e 11 40 04.0
UZH eS Sdif 11 41 18.2 -4.3
UZH ePS PS 11 43 03.0 -3.5
TPH Tonopah 105.12 51 PFAKE 11 34 00.0
TPH LR LR
comp=Z,2µm,19.0s
LSZ Lusaka 105.15 254 ePKPdf PKiKP 11 33 48.9 +0.8
LSZ LR LR
comp=Z,925nm,20.0s
STHS Stebnicka Huta 105.32 321 eP Pdif 11 29 34.2 +0.6
STHS Stebnicka Huta 105.32 321 PDIF Pdif 11 29 34.2 +0.6
CRVS Cervenica-Dubn 105.33 321 eP Pdif 11 29 33.7 +0.1
CRVS Cervenica-Dubn 105.33 321 PDIF Pdif 11 29 33.7 +0.1
HFS Hagfors 105.38 333 Pdif Pdif 11 29 32.9 -0.7
HFS PP PP 11 33 56.7 +1.7
HFS Hagfors 105.38 333 Pdiff Pdif 11 29 32.9 -0.7
comp=Z,14nm,0.8s,baz=95,slow=3.6,SNR=17
HFS PP PP 11 33 56.7 +1.7
comp=Z,3.7nm,0.8s,baz=86,slow=8.8,SNR=3.8
SANT Santorini 105.44 308 PFAKE 11 34 00.0
SANT LR LR
comp=Z,327nm,21.0s
GSC Goldstone 105.97 54 ⇑P PKiKP 11 33 50.3 +1.2
baz=106
HLID Hailey 105.98 45 PFAKE 11 34 00.0
HLID LR LR
comp=Z,1µm,21.0s
HLID Hailey 105.98 45 ⇓P PKiKP 11 33 50.1 +1.1
baz=106
NB2 NORSAR Subarra 106.04 335 P Pdif 11 29 35.0 -1.5
comp=Z,7.7nm,1.0s,baz=63,slow=4.4
NB2 NORSAR Subarra 106.04 335 P Pdif 11 29 35.0 -1.5
baz=63,slow=4.4
NOA NORSAR Array B 106.04 335 Pdif Pdif 11 29 35.4 -1.2
NOA PP PP 11 34 02.8 +2.8
NOA NORSAR Array B 106.04 335 Pdiff Pdif 11 29 35.4 -1.2
comp=Z,4.7nm,0.8s,baz=62,slow=4.5,SNR=13
NOA PP PP 11 34 02.8 +2.8
comp=Z,4.1nm,1.0s,baz=62,slow=6.6,SNR=4.3
KECS Kecovo 106.08 321 eP Pdif 11 29 36.8 -0.1
KECS Kecovo 106.08 321 PDIF Pdif 11 29 36.8 -0.1
BOSA Boshof 106.13 240 Pdif Pdif 11 29 36.9 -0.9
BOSA PKiKP PKiKP 11 33 50.2 +0.5
BOSA Boshof 106.13 240 Pdiff Pdif 11 29 36.9 -0.9
comp=Z,7.9nm,1.1s,baz=124,slow=6.2,SNR=4.3
BOSA PKiKP PKiKP 11 33 50.2 +0.5
comp=Z,2.8nm,0.7s,baz=159,slow=5.0,SNR=4.2
R11A Troy Canyon, C 106.32 50 ⇓P PKiKP 11 33 51.4 +1.5
baz=106
PFO Pinyon Flat Ob 106.56 55 PFAKE 11 34 00.0
PFO LR LR
comp=Z,2µm,19.0s
PFO Pinyon Flat Ob 106.56 55 ⇑P PKiKP 11 33 51.4 +1.1
baz=106
PSZ Piszkesteto 106.62 320 PFAKE 11 34 00.0
PSZ LR LR
comp=Z,779nm,20.0s
MONP Monument Peak 106.72 56 ⇑P PKiKP 11 33 51.9 +1.1
baz=107
BELC Belle Mtn. Jos 106.86 55 ⇑P PKiKP 11 33 52.4 +1.5
baz=107
GMRC Granite Mounta 106.99 54 ⇑P PKiKP 11 33 52.6 +1.5
baz=107
DVTC Desert V Tower 107.02 56 ⇓P PKiKP 11 33 52.2 +1.0
baz=107
OKC Ostrava-Krasne 107.09 322 ePP PP 11 34 03.5 -4.5
OKC eSP SP 11 43 22.4 -1.5
OKC AMS AMS 12 27 40.0
comp=Z,600nm,19.7s
SWSC Sam W. Stewart 107.22 56 ⇑P PKiKP 11 33 51.5 +0.1
baz=107
BOZ Bozeman (W) 107.32 42 PFAKE 11 34 00.0
BOZ LR LR
comp=Z,847nm,19.0s
KONO Kongsberg 107.43 334 PFAKE 11 34 00.0
KONO LR LR
comp=Z,2µm,19.0s
EGMT Eagleton 107.80 39 ePKPdf PKiKP 11 33 51.9 -0.3
EGMT LR LR
comp=Z,799nm,20.0s
EGMT Eagleton 107.80 39 ⇑P PKiKP 11 33 52.7 +0.5
baz=108
KSP Ksiaz 107.85 324 eP Pdif 11 29 44.8 +0.1
KSP e 11 34 16.0
KSP eSP SP 11 43 31.5 -0.1
KSP MLR MLR
comp=Z,2µm,22.0s
KSP Ksiaz 107.85 324 eP Pdif 11 29 45.2 +0.5
DUG Dugway 107.99 48 PFAKE 11 34 00.0
DUG LR LR
comp=Z,956nm,19.0s
DUG Dugway 107.99 48 ⇑P PKiKP 11 33 54.0 +1.1
baz=108
DPC Dobruska-Polom 108.01 323 eP Pdif 11 29 46.1 +0.5
DPC e 11 34 13.2
DPC e 11 43 31.4
DPC e 11 44 30.7
DPC Dobruska-Polom 108.01 323 ePDIFF Pdif 11 29 46.1 +0.5
DPC ePP PP 11 34 13.2 -1.6
DPC eSP SP 11 43 31.4 -2.0
DPC ex x 11 44 30.7
DPC AMS AMS 12 22 50.0
A19A Klindworth Far 108.12 38 ⇑P PKiKP 11 33 53.4 +0.7
baz=108
UPC Upice 108.14 324 eP Pdif 11 29 46.2 +0.1
UPC Upice 108.14 324 ePDIFF Pdif 11 29 46.2 +0.1
UPC ex x 11 34 04.6
SUMG Summit 108.16 358 iP PKKPbc 11 45 03.7 -3.5
comp=Z,7.1nm,0.9s
SUMG i 11 45 17.3
C19A Slack Wire Ran 108.34 39 ⇓P PKiKP 11 33 54.0 +0.8
baz=108
W13A Hualapai Mount 108.35 53 ⇑P PKiKP 11 33 54.8 +1.0
baz=108
LKWY Lake 108.48 43 PFAKE 11 34 10.0
LKWY LR LR
comp=Z,1µm,20.0s
AHID Auburn Hatcher 108.53 45 PFAKE 11 34 10.0
AHID LR LR
comp=Z,1µm,20.0s
I17A Pilgrim Ck. 108.56 44 ⇑P PKiKP 11 33 55.0 +1.1
baz=108
A20A Cobblestone Ra 108.64 38 ⇓P PKiKP 11 33 54.6 +1.0
baz=109
D19A Cripps Ranch, 108.64 40 ⇑P PKiKP 11 33 54.7 +0.9
baz=109
B20A Solberg Farm, 108.74 38 ⇓P PKiKP 11 33 54.8 +1.0
baz=109
MVU Marysvale 108.87 49 PFAKE 11 34 10.0
MVU LR LR
comp=Z,1µm,20.0s
TREC Trest 108.91 323 eP Pdif 11 29 49.9 +0.4
TREC MLR MLR
comp=Z,1µm,19.0s
TREC Trest 108.91 323 ePDIFF Pdif 11 29 49.9 +0.4
TREC AMS AMS 12 20 00.0
comp=Z,1µm,19.0s
E19A Rath Farm, Rou 108.94 41 ⇓P PKiKP 11 33 55.3 +1.0
baz=109
PVCC Panska Ves 108.98 324 eP Pdif 11 29 49.8 0.0
PVCC e 11 34 22.0
PVCC MLR MLR
comp=Z,1µm,21.0s
PVCC Panska Ves 108.98 324 ePDIFF Pdif 11 29 49.8 0.0
PVCC ePP PP 11 34 22.0 +0.3
PVCC AMS AMS 12 23 20.0
comp=Z,1µm,21.0s
C20A Veseth Ranch, 109.01 39 ⇓P PKiKP 11 33 55.2 +0.8
baz=109
RLMT Red Lodge 109.07 42 PFAKE 11 34 10.0
RLMT LR LR
comp=Z,828nm,19.0s
SUR Sutherland 109.12 235 PFAKE 11 34 10.0
SUR LR LR
comp=Z,2µm,20.0s
PRU Pruhonice 109.21 324 eP Pdif 11 29 50.6 -0.2
PRU e 11 43 44.0
PRU MLR MLR
comp=Z,900nm,19.0s
PRU Pruhonice 109.21 324 ePDIFF Pdif 11 29 50.6 -0.2
PRU ePP PP 11 34 17.9 -5.5
PRU eSP SP 11 43 44.0 -1.5
PRU AMS AMS 12 21 10.0
comp=Z,900nm,19.0s
BRG Berggiesshubel 109.21 325 ePDIF Pdif 11 29 50.8 0.0
comp=Z,22nm,1.4s
BRG ePP PP 11 34 20.3 -3.1
comp=Z,42nm,1.6s
BRG SKS SKSac 11 40 26.0 -1.6
BRG SDIF Sdif 11 42 01.0 +2.4
BRG PS PS 11 43 46.0 -4.9
BRG SS SS 11 49 46.0 +5.1
BRG comp=N,523nm,21.6s
BRG comp=E,602nm,24.4s
BRG comp=Z,1µm,21.0s
BRG Berggiesshubel 109.21 325 eP Pdif 11 29 50.8 0.0
BRG e 11 34 20.3
BRG 11 40 26.0
BRG PS PS 11 43 46.0 -4.9
BRG SS SS 11 49 46.0 +5.1
BRG pmax pmax
comp=Z,22nm,1.4s
BRG pmax pmax
comp=Z,42nm,1.6s
BRG MLR MLR
comp=N,523nm,21.6s
BRG MLR MLR
comp=E,602nm,24.4s
BRG MLR MLR
comp=Z,1µm,21.0s
A21A Bergtoll Ranch 109.21 38 ⇑P PKiKP 11 33 55.6 +0.9
baz=109
PRA Prague 109.24 324 PDIFF Pdif 11 29 52.0 +1.1
PRA PP PP 11 34 18.0 -5.6
U15A North Rim 109.31 52 ⇓P PKiKP 11 33 57.1 +1.5
baz=109
C21A Desert Coulee 109.54 39 ⇓P PKiKP 11 33 56.2 +0.8
baz=110,SNR=6.9
FFC Flin Flon 109.55 31 PFAKE 11 34 10.0
FFC LR LR
comp=Z,532nm,21.0s
CLL Collm 109.57 325 iP Pdif 11 29 52.1 -0.3
CLL ePS PS 11 43 54.0 -0.5
CLL pmax pmax
comp=Z,14nm,1.2s
CLL MLR MLR
comp=Z,1µm,19.0s
CLL Collm 109.57 325 iPdif Pdif 11 29 52.1 -0.3
comp=Z,15nm,1.2s
CLL ePKiKP PKiKP 11 33 56.0 +0.8
CLL ePP PP 11 34 28.0 +2.0
comp=Z,30nm,1.4s
CLL ePPlp 11 34 29.0
CLL eSKSac SKSac 11 40 35.0 +5.9
CLL eSdif Sdif 11 42 07.0 +5.5
CLL ePS PS 11 43 54.0 -0.5
CLL ePPS PPS 11 44 53.0
CLL eSS SS 11 49 54.0 +8.3
CLL ePPPrev 11 52 56.0
CLL eSSS SSS 11 54 18.0
CLL LmV 12 22 00.0
comp=Z,1µm,19.0s
BW06 Boulder Array 109.61 44 PFAKE 11 34 10.0
BW06 LR LR
comp=Z,1µm,20.0s
PDAR Pinedale Array 109.61 44 Pdif Pdif 11 29 57.0 +3.8
PDAR PKiKP PKiKP 11 33 56.6 +0.7
PDAR PKKPbc PKKPbc 11 45 00.2 -1.3
PDAR PKKPab PKKPab 11 45 11.6 -0.9
PDAR Pinedale Array 109.61 44 Pdiff Pdif 11 29 57.0 +3.8
comp=Z,0.8nm,0.9s,baz=228,slow=1.8,SNR=6.3
PDAR PKiKP PKiKP 11 33 56.6 +0.7
comp=Z,2.5nm,0.7s,baz=208,slow=1.7,SNR=20
PDAR PKKPbc PKKPbc 11 45 00.2 -1.3
comp=Z,2.3nm,1.0s,baz=102,slow=3.6,SNR=9.4
PDAR PKKPab PKKPab 11 45 11.6 -0.9
comp=Z,4.4nm,0.9s,baz=118,slow=5.3,SNR=16
G20A Bridger 109.74 42 ⇑P PKiKP 11 33 57.1 +1.1
baz=110
J19A Crowheart 109.81 44 ⇑P PKiKP 11 33 57.4 +1.1
baz=110
A22A Carney Farms, 109.83 37 ⇓P PKiKP 11 33 57.1 +1.2
baz=110
D21A La Casta Ranch 109.88 40 ⇑P PKiKP 11 33 57.1 +1.0
baz=110
214A Organ Pipe Nat 109.89 56 ⇑P PKiKP 11 33 57.4 +0.9
baz=110
SRU San Rafael 109.98 48 ePKPdf PKiKP 11 33 57.9 +1.3
B22A Reddig Ranch S 110.05 38 ⇑P PKiKP 11 33 57.3 +0.9
baz=110
KHC Kasperske Hory 110.12 323 eP Pdif 11 29 55.0 0.0
KHC e 11 34 30.5
KHC e 11 43 54.5
KHC e 11 44 52.0
KHC MLR MLR
comp=Z,900nm,17.0s
KHC Kasperske Hory 110.12 323 ePDIFF Pdif 11 29 55.0 0.0
KHC ePP PP 11 34 30.5 +0.4
KHC eSP SP 11 43 54.5 -0.2
KHC ePKKP PKKPbc 11 44 52.0 -7.9
KHC AMS AMS 12 24 50.0
comp=Z,900nm,17.0s
H20A Greybull 110.13 42 ⇓P PKiKP 11 33 57.5 +0.8
baz=110
GERES GERESS Array B 110.16 323 Pdif Pdif 11 29 55.5 +0.3
GERES PKiKP PKiKP 11 33 56.9 +0.3
GERES PKKPbc PKKPbc 11 44 58.5 -1.3
GERES GERESS Array B 110.16 323 Pdiff Pdif 11 29 55.5 +0.3
comp=Z,2.7nm,0.9s,baz=60,slow=6.3,SNR=11
GERES PKiKP PKiKP 11 33 56.9 +0.3
comp=Z,1.0nm,0.5s,baz=80,slow=0.6,SNR=7.5
GERES PKKPbc PKKPbc 11 44 58.5 -1.3
comp=Z,0.4nm,0.6s,baz=232,slow=6.6,SNR=3.4
I20A Worland 110.22 43 ⇓P PKiKP 11 33 58.0 +1.1
baz=110
WUAZ Wupatki 110.25 52 PFAKE 11 34 10.0
WUAZ LR LR
comp=Z,2µm,19.0s
WUAZ Wupatki 110.25 52 ⇓P PKiKP 11 33 58.3 +1.1
baz=110
C22A Vida 110.33 39 ⇓P PKiKP 11 33 57.8 +0.9
baz=110,SNR=5.4
NKC Novy Kostel 110.34 324 eP Pdif 11 29 56.0 +0.1
NKC e 11 34 33.7
NKC e 11 43 52.3
NKC MLR MLR
comp=Z,700nm,19.0s
NKC Novy Kostel 110.34 324 ePDIFF Pdif 11 29 56.0 +0.1
NKC ePP PP 11 34 33.7 +2.1
NKC eSP SP 11 43 52.3 -4.4
NKC AMS AMS 12 22 20.0
comp=Z,700nm,19.0s
D22A Cohagen 110.37 39 ⇓P PKiKP 11 33 58.3 +1.3
baz=110,SNR=12
J20A Shoshoni 110.45 44 ⇑P PKiKP 11 33 58.4 +1.1
baz=110
X16A Lo Mia Camp, P 110.46 53 ⇑P PKiKP 11 33 58.6 +0.9
baz=110
LAO LASA Array 110.52 40 ePKPdf PKiKP 11 33 58.6 +1.3
LAO LR LR
comp=Z,772nm,20.0s
B23A Brockton 110.60 38 ⇑P PKiKP 11 33 58.3 +1.0
baz=111
O19A Miners Draw (B 110.67 47 ⇑P PKiKP 11 33 58.6 +0.7
baz=111
H21A Big Horn, Sher 110.72 42 ⇑P PKiKP 11 33 59.0 +1.1
baz=111
C23A Lambert 110.74 38 ⇑P PKiKP 11 33 59.0 +1.4
baz=111,SNR=7.3
E22A Miles City 110.78 40 ⇓P PKiKP 11 33 58.6 +0.8
baz=111,SNR=5.6
F22A Rosebud 110.83 41 ⇓P PKiKP 11 33 58.1 +0.2
baz=111
I21A Big Trails, Te 110.84 43 ⇓P PKiKP 11 33 58.8 +0.7
baz=111
J21A Lysite 110.89 43 ⇓P PKiKP 11 33 58.9 +0.6
baz=111
D23A Lindsay 110.97 39 ⇑P PKiKP 11 33 59.2 +1.0
baz=111
P19A Cripple Cowboy 110.97 48 ⇑P PKiKP 11 33 59.4 +0.9
baz=111
A24A Westby 111.01 37 ⇓P PKiKP 11 33 59.1 +1.0
baz=111
G22A Birney 111.01 41 ⇓P PKiKP 11 33 58.7 +0.4
baz=111
DGMT Dagmar 111.08 37 PFAKE 11 34 10.0
DGMT LR LR
comp=Z,740nm,19.0s
DGMT Dagmar 111.08 37 ⇑P PKiKP 11 33 59.5 +1.2
baz=111
N20A Spence Gulch, 111.13 46 ⇓P PKiKP 11 33 60.0 +1.1
baz=111
E23A Ismay 111.17 40 ⇑P PKiKP 11 33 59.3 +0.8
baz=111
H22A Clearmont 111.20 42 ⇓P PKiKP 11 33 59.3 +0.6
baz=111
K21A Alcova 111.27 44 ⇓P PKiKP 11 33 60.0 +1.0
baz=111
C24A Savage 111.32 38 ⇓P PKiKP 11 34 00.1 +1.3
baz=111
I22A 9 Mile Ranch, 111.36 43 ⇓P PKiKP 11 33 59.8 +0.7
baz=111
O20A White River Ci 111.37 47 ePKPdf PKiKP 11 34 00.7 +1.3
O20A White River Ci 111.37 47 ⇑P PKiKP 11 34 00.6 +1.3
baz=111
F23A Volborg 111.40 40 ⇓P PKiKP 11 33 59.8 +0.8
baz=111
P20A De Beque 111.45 48 ⇑P PKiKP 11 34 00.5 +1.0
baz=111
TIP Timpagrande 111.46 312 PFAKE 11 34 10.0
TIP LR LR
comp=Z,580nm,19.0s
TUC Tucson 111.49 56 PFAKE 11 34 10.0
TUC LR LR
comp=Z,2µm,21.0s
J22A Midwest 111.53 43 ⇓P PKiKP 11 33 60.0 +0.5
baz=112
A25A Svangsu Ranch 111.53 37 ⇑P PKiKP 11 34 00.5 +1.4
baz=112
D24A Glendive 111.55 39 ⇑P PKiKP 11 33 60.0 +0.8
baz=112
G23A Biddle 111.61 41 ⇓P PKiKP 11 33 59.7 +0.3
baz=112
PV01 Paradox Valley 111.72 49 ePKPdf PKiKP 11 34 01.4 +1.3
K22A Casper 111.77 44 ⇑P PKiKP 11 34 00.3 +0.4
baz=112
E24A Baker 111.78 39 ⇓P PKiKP 11 34 00.4 +0.7
baz=112
B25A Knox Farm, Ray 111.79 37 ⇑P PKiKP 11 34 01.2 +1.6
baz=112
R20A Redvale 111.85 49 ⇓P PKiKP 11 34 01.2 +1.0
baz=112
CUC Castrocucco 111.90 313 PFAKE 11 34 10.0
CUC LR LR
comp=Z,630nm,19.0s
O21A Pagoda 111.90 47 ⇓P PKiKP 11 34 01.1 +0.7
baz=112
S20A Disappointment 111.97 49 ⇓P PKiKP 11 34 01.1 +0.5
baz=112
F24A Ekalaka 111.98 40 ⇓P PKiKP 11 34 00.9 +0.8
baz=112
MVCO Mesa Verde 112.04 50 ePKPdf PKiKP 11 34 02.4 +1.7
MVCO LR LR
comp=Z,2µm,19.0s
MVCO Mesa Verde 112.04 50 ⇑P PKiKP 11 34 01.8 +1.2
baz=112
M22A Cedar Creek Ra 112.14 45 ⇑P PKiKP 11 34 01.8 +1.0
baz=112
D25A Fairfield 112.16 38 ⇓P PKiKP 11 34 01.8 +1.4
baz=112
A26A Wade Farm, Ken 112.19 36 ⇓P PKiKP 11 34 00.9 +0.6
baz=112
G24A Alzada 112.20 41 ⇑P PKiKP 11 34 00.7 +0.2
baz=112
Q21A Lamborn Mesa, 112.26 48 ⇑P PKiKP 11 34 02.3 +1.2
baz=112
H24A Dirks Ranch, A 112.33 41 ⇑P PKiKP 11 34 01.0 +0.2
baz=112,SNR=5.0
K23A Bowen Ranch, D 112.35 43 ⇓P PKiKP 11 34 01.4 +0.4
baz=112
CEL Celeste 112.38 311 PFAKE 11 34 10.0
CEL LR LR
comp=Z,685nm,19.0s
E25A Miller Ranch, 112.38 39 ⇑P PKiKP 11 34 01.8 +1.0
baz=112
R21A Cimarron 112.42 48 ⇑P PKiKP 11 34 02.8 +1.4
baz=112
N22A Wattenberg Ran 112.44 46 ⇓P PKiKP 11 34 02.6 +1.2
baz=112
V20A Brimhall 112.47 51 ⇓P PKiKP 11 34 02.7 +1.2
baz=112
L23A Garrett 112.52 44 ⇓P PKiKP 11 34 01.3 -0.1
baz=112
F25A Bowman 112.58 40 ⇓P PKiKP 11 34 02.1 +0.9
baz=112
O22A Kremmling 112.59 46 ⇓P PKiKP 11 34 02.1 +0.4
baz=113
P22A Eagle 112.62 47 ⇑P PKiKP 11 34 03.1 +1.3
baz=113
I24A Kuemmerle Ranc 112.62 42 ⇑P PKiKP 11 34 01.4 0.0
baz=113
W20A Ramah 112.63 52 ⇓P PKiKP 11 34 03.5 +1.6
baz=113
A27A Ledoux Ranch, 112.64 36 ⇓P PKiKP 11 34 02.2 +1.0
baz=113
FETA Feichten 112.73 322⇑ iPKiKP PKiKP 11 34 01.7 +0.1
comp=Z,12nm,1.0s

FETA				⇑*i*PP		PP	11 34 50.5	+1.5		
	comp=Z,26nm,1.4s									
M23A	Laramie	112.74	45	⇓P		PKiKP	11 34 02.8	+0.9		
	baz=113									
Q22A	Crested Butte,	112.74	48	⇓P		PKiKP	11 34 02.9	+0.8		
	baz=113									
D26A	Manning	112.76	38	⇑P		PKiKP	11 34 02.5	+1.0		
	baz=113									
N23A	Red Feather La	112.78	45	⇑P		PKiKP	11 34 03.0	+0.9		
	baz=113									
X20A	Quemado	112.78	53	⇑P		PKiKP	11 34 03.5	+1.3		
	baz=113									
AQU	L'Aquila	112.82	316	PFAKE						
AQU				LR	LR		11 34 10.0			
	comp=Z,1μm,20.0s									
T21A	Navajo Lake	112.84	50	⇑P		PKiKP	11 34 03.5	+1.3		
	baz=113									
B27A	Peters Farms,	112.87	37	⇓P		PKiKP	11 34 02.6	+1.0		
	baz=113									
G25A	Newell	112.90	40	⇑P		PKiKP	11 34 02.0	+0.1		
	baz=113,SNR=5.9									
RSSD	Black Hills	112.92	42	*e*PKIKP		PKiKP	11 34 01.6	-0.5		
RSSD	Black Hills	112.92	42	*e*PKPdf		PKiKP	11 34 01.6	-0.5		
U21A	Nageezi	112.92	50	⇓P		PKiKP	11 34 03.8	+1.4		
	baz=113									
319A	Douglas	112.95	56	⇓P		PKiKP	11 34 03.6	+1.2		
	baz=113									
E26A	Carlson Angus	112.98	39	⇓P		PKiKP	11 34 03.0	+1.0		
	baz=113									
O23A	Lake Granby, G	113.03	46	⇑P		PKiKP	11 34 04.0	+1.4		
	baz=113									
R22A	Saguache, Gunn	113.06	48	⇑P		PKiKP	11 34 04.4	+1.7		
	baz=113									
Z20A	Nine Sixteen R	113.09	54	⇓P		PKiKP	11 34 03.8	+1.1		
	baz=113									
S22A	4UR Ranch, Cre	113.15	49	⇑P		PKiKP	11 34 04.6	+1.7		
	baz=113									
I25A	Rochford	113.16	42	⇑P		PKiKP	11 34 02.8	+0.3		
	baz=113,SNR=6.6									
120A	U Bar Ranch, L	113.20	55	⇓P		PKiKP	11 34 04.1	+1.1		
	baz=113									
A28A	Rude Farm, Bot	113.23	36	⇓P		PKiKP	11 34 03.3	+1.0		
	baz=113									
PMSA	Palmer Station	113.25	172	PFAKE						
PMSA				LR	LR		11 34 10.0			
	comp=Z,2μm,19.0s									
T22A	Edith	113.32	50	⇓P		PKiKP	11 34 04.5	+1.4		
	baz=113									
J25A	Sunshine Ranch	113.35	42	⇑P		PKiKP	11 34 03.2	+0.4		
	baz=113,SNR=7.6									
X21A	Alamocita Cree	113.38	53	⇑P		PKiKP	11 34 04.4	+1.1		
	baz=113									
B28A	Dugan Ranch, T	113.38	36	⇓P		PKiKP	11 34 03.9	+1.3		
	baz=113									
G26A	Maurine	113.39	40	⇑P		PKiKP	11 34 03.1	+0.3		
	baz=113									
ISCO	Idaho Springs	113.39	46	PFAKE						
ISCO				LR	LR		11 34 20.0			
	comp=Z,1μm,19.0s									
ISCO	Idaho Springs	113.39	46	⇓P		PKiKP	11 34 04.4	+1.1		
	baz=113									
220A	Playas Peak, P	113.45	55	⇓P		PKiKP	11 34 04.8	+1.4		
	baz=113									
F27A	Lemmon	113.51	39	⇓P		PKiKP	11 34 03.6	+0.6		
	baz=114									
H26A	Fairpoint	113.55	41	⇓P		PKiKP	11 34 03.5	+0.4		
	baz=114,SNR=6.5									
U22A	Llaves	113.55	50	⇓P		PKiKP	11 34 05.2	+1.6		
	baz=114									
N24A	Carr	113.55	45	⇑P		PKiKP	11 34 04.1	+0.7		
	baz=114									
E27A	Carson	113.56	39	⇑P		PKiKP	11 34 03.8	+0.8		
	baz=114,SNR=9.2									
320A	Kipp Ranch, An	113.59	56	⇓P		PKiKP	11 34 04.8	+1.1		
	baz=114									
Y21A	Point of Rocks	113.59	53	⇓P		PKiKP	11 34 05.6	+1.8		
	baz=114									
BFO	Black Forest	113.60	324	PFAKE						
BFO				LR	LR		11 34 20.0			
	comp=Z,1μm,19.0s									
V22A	San Miguel Ran	113.64	51	⇑P		PKiKP	11 34 05.5	+1.7		
	baz=114									
O24A	Longmont	113.67	46	⇑P		PKiKP	11 34 04.7	+1.1		
	baz=114									
C28A	Hausauer Farms	113.71	37	⇑P		PKiKP	11 34 03.8	+0.6		
	baz=114									
I26A	New Underwood	113.73	41	⇓P		PKiKP	11 34 03.9	+0.4		
	baz=114									
R23A	Moffat	113.76	48	⇓P		PKiKP	11 34 05.4	+1.4		
	baz=114									
G27A	Dupree	113.78	40	⇓P		PKiKP	11 34 03.9	+0.4		
	baz=114,SNR=22									
Z21A	St. Cloud Mine	113.78	54	⇓P		PKiKP	11 34 05.4	+1.3		
	baz=114									
A29A	Manning Farm,	113.82	35	⇑P		PKiKP	11 34 03.9	+0.5		
	baz=114,SNR=7.2									
TUE	Stuetta	113.83	322	*e*PKPdf		PKiKP	11 34 04.3	+0.6		
TUE				LR	LR					
	comp=Z,1μm,20.0s									
D28A	Regan	113.83	37	⇑P		PKiKP	11 34 04.3	+0.8		
	baz=114									
SFJD	Kangerlussuaq	113.84	2	*i* P		PKKPab	11 44 50.7	-2.4		
	comp=Z,9.3nm,0.9s									
SFJD	Kangerlussuaq	113.84	2	PFAKE						
SFJD				LR	LR		11 34 10.0			
	comp=Z,684nm,21.0s									
121A	Cookes Peak, D	113.89	55	⇑P		PKiKP	11 34 05.3	+1.0		
	baz=114									
LAZ	Ladron	113.90	52	*e*PKPdf		PKiKP	11 34 05.9	+1.6		
B29A	Wagenman Farm,	113.97	36	⇓P		PKiKP	11 34 04.7	+1.0		
	baz=114									
T23A	Casias Ranch,	113.97	49	⇓P		PKiKP	11 34 06.0	+1.6		
	baz=114									
X22A	Bernardo	113.98	52	⇓P		PKiKP	11 34 06.2	+1.8		
	baz=114									
H27A	Howes	114.00	40	⇓P		PKiKP	11 34 04.3	+0.4		
	baz=114,SNR=16									
E28A	Huff	114.04	38	⇑P		PKPdf	11 34 04.4	+0.5		
	baz=114,SNR=6.1									
K26A	Motz Farm, Whi	114.04	43	⇑P		PKPdf	11 34 04.5	+0.3		
	baz=114									
U23A	El Rito	114.07	50	⇑P		PKPdf	11 34 06.1	+1.5		
	baz=114									
SDCO	Great Sand Dun	114.15	49	PFAKE						
SDCO				LR	LR		11 34 20.0	+15		
	comp=Z,2μm,19.0s									
VLC	Villacollemand	114.15	319	PFAKE						
VLC				LR	LR		11 34 20.0	+16		
	comp=Z,1μm,22.0s									
Y22A	Socorro	114.17	53	⇓P		PKPdf	11 34 06.2	+1.4		
	baz=114									
WLF	Walferdange	114.21	326	PFAKE						
WLF				LR	LR		11 34 20.0	+16		
	comp=Z,926nm,20.0s									
I27A	Quinn	114.25	41	⇓P		PKPdf	11 34 04.8	+0.4		
	baz=114,SNR=8.2									
V23A	Ortiz Mt. (NFS	114.26	51	⇓P		PKPdf	11 34 06.6	+1.6		
	baz=114									
ANMO	Albuquerque	114.28	52	PFAKE						
ANMO				LR	LR		11 34 20.0	+15		
	comp=Z,1μm,20.0s									
R24A	Sanders Place,	114.28	48	⇓P		PKPdf	11 34 05.9	+0.9		
	baz=114									
F28A	McLaughlin	114.29	39	⇓P		PKPdf	11 34 05.0	+0.5		
	baz=114,SNR=6.8									
ECH	Echery	114.35	324	PFAKE						
ECH				LR	LR		11 34 20.0	+16		
	comp=Z,889nm,19.0s									
A30A	Hoffart Farm,	114.35	35	⇑P		PKPdf	11 34 04.7	+0.2		
	baz=114									
O25A	Wiggins	114.35	46	⇓P		PKPdf	11 34 05.6	+0.7		
	baz=114									
Z22A	Elephant Butte	114.36	54	⇓P		PKPdf	11 34 06.3	+1.2		
	baz=114									
BNM	Barren Site	114.38	53	*e*PKPdf		PKPdf	11 34 06.7	+1.5		
S24A	Houchin Ranch,	114.40	49	⇑P		PKPdf	11 34 06.3	+1.1		
	baz=114									
T24B	San Luis	114.46	49	⇓P		PKPdf	11 34 06.6	+1.2		
	baz=114									
W23A	Werner Place,	114.46	51	⇓P		PKPdf	11 34 06.5	+1.1		
	baz=114									
D29A	Pettibone, Tap	114.49	37	⇓P		PKPdf	11 34 05.1	+0.3		
	baz=114									
P25A	Willow Gulch B	114.53	46	⇑P		PKPdf	11 34 06.6	+1.3		
	baz=114									
G28A	Parade	114.56	40	⇑P		PKPdf	11 34 05.3	+0.3		
	baz=114,SNR=12									
B30A	Myrvik Farm, E	114.57	35	⇑P		PKPdf	11 34 05.2	+0.3		
	baz=114,SNR=5.1									
H28A	Mission Ridge	114.66	40	⇑P		PKPdf	11 34 05.6	+0.4		
	baz=115,SNR=9.8									
K27A	Flueckinger Fa	114.68	42	⇓P		PKPdf	11 34 05.6	+0.2		
	baz=115									
Q25A	Bedland, Calha	114.68	47	⇓P		PKPdf	11 34 06.6	+1.0		
	baz=115									
TSUM	Tsumeb	114.69	249	*e*PKPdf		PKPdf	11 34 06.6	+0.5		
TSUM				LR	LR					
	comp=Z,1μm,20.0s									
HINF	Hinteralfeld	114.72	324	*e*PKIKP		PKPdf	11 34 05.2	0.0		
	comp=Z,13nm,0.7s									
HINF	Hinteralfeld	114.72	324	*e*PKIKP		PKPdf	11 34 05.2	0.0		
HINF	Hinteralfeld	114.72	324	*e*PKPdf		PKPdf	11 34 05.2	0.0		
GIVF	Givet	114.72	327	*e*PKIKP		PKPdf	11 34 05.8	+0.7		
GIVF	Givet	114.72	327	*e*PKIKP		PKPdf	11 34 05.8	+0.7		
GIVF	Givet	114.72	327	*e*PKPdf		PKPdf	11 34 05.8	+0.7		
C30A	Mose, Pekin	114.85	36	⇑P		PKPdf	11 34 05.8	+0.3		
	baz=115,SNR=7.5									
O26A	Horse Wrangler	114.88	45	⇑P		PKPdf	11 34 06.5	+0.6		
	baz=115									
Y23A	Lovelace Mesa,	114.90	53	⇓P		PKPdf	11 34 06.8	+0.6		
	baz=115									
F29A	Eureka	114.91	39	⇓P		PKPdf	11 34 05.9	+0.2		
	baz=115,SNR=6.3									
HAU	Haudompre	114.92	324	*e*PKIKP		PKPdf	11 34 05.6	0.0		
	comp=Z,8.5nm,0.6s									
HAU				*e*R						
	comp=Z,983nm,19.5s									
HAU	Haudompre	114.92	324	*e*PKIKP		PKPdf	11 34 05.6	0.0		
HAU	Haudompre	114.92	324	*e*PKPdf		PKPdf	11 34 05.6	0.0		
R25A	Fountain Ranch	114.92	48	⇓P		PKPdf	11 34 07.0	+1.0		
	baz=115,SNR=7.8									
Z23A	Rita Site, Whi	114.95	53	⇑P		PKPdf	11 34 07.9	+1.6		
	baz=115,SNR=7.5									
D30A	Buchanan	114.97	37	⇑P		PKPdf	11 34 05.8	+0.2		
	baz=115,SNR=9.9									
V24A	Rampart Ranch,	114.97	51	⇓P		PKPdf	11 34 08.4	+2.0		
	baz=115,SNR=11									
S25A	Robets Cordova	114.98	48	⇓P		PKPdf	11 34 07.4	+1.2		
	baz=115									
W24A	Lazy 6 Ranch,	115.03	51	⇓P		PKPdf	11 34 07.7	+1.3		
	baz=115									
ULM	Lac du Bonnet	115.03	33	PKP		PKPdf	11 34 05.5	-0.1		
ULM				PKKPab		PKKPab	11 44 47.1	-0.9		
ULM	Lac du Bonnet	115.03	33	PKP		PKPdf	11 34 05.5	-0.1		
	comp=Z,7.7nm,0.7s,baz=293,slow=2.5,SNR=8.7									
ULM				PKKPab		PKKPab	11 44 47.1	-0.9		
	comp=Z,9.9nm,0.9s,baz=80,slow=2.9,SNR=6.0									
J28A	Allard Ranch,	115.05	41	⇑P		PKPdf	11 34 06.5	+0.5		
	baz=115,SNR=8.0									
BAIF	Baives	115.08	327	*e*PKIKP		PKPdf	11 34 06.4	+0.6		
	comp=Z,26nm,1.1s									
BAIF	Baives	115.08	327	*e*PKIKP		PKPdf	11 34 06.4	+0.6		
BAIF	Baives	115.08	327	*e*PKPdf		PKPdf	11 34 06.4	+0.6		
P26A	Davis Ranch, A	115.11	46	⇓P		PKPdf	11 34 07.5	+1.1		
	baz=115,SNR=18									
E30A	Jud	115.16	38	⇓P		PKPdf	11 34 06.4	+0.3		
	baz=115,SNR=12									
T25A	Trinidad	115.17	49	⇓P		PKPdf	11 34 08.1	+1.5		
	baz=115,SNR=8.1									
X24A	Lazy VL Ranch,	115.20	52	⇑P		PKPdf	11 34 07.2	+0.5		
	baz=115									
Q26A	Hugo	115.21	47	⇑P		PKPdf	11 34 07.5	+0.9		
	baz=115									
N27A	Anderson Farm,	115.22	45	⇑P		PKPdf	11 34 07.1	+0.6		
	baz=115									
K28A	Ten Mile Ranch	115.26	42	⇓P		PKPdf	11 34 06.8	+0.3		
	baz=115									
Y24A	Capitan	115.39	53	⇑P		PKPdf	11 34 08.0	+0.8		
	baz=115,SNR=14									
F30A	Leola	115.40	38	⇑P		PKPdf	11 34 06.8	+0.2		
	baz=115									
I29A	Vivian Onida	115.41	41	⇓P		PKPdf	11 34 07.0	+0.3		
	baz=115,SNR=5.7									
U25A	Circle Dot Ran	115.42	50	⇓P		PKPdf	11 34 08.0	+0.9		
	baz=115,SNR=5.4									
V25A	Rancho No Teng	115.44	50	⇓P		PKPdf	11 34 08.3	+1.1		
	baz=115,SNR=7.8									
R26A	Arlington	115.49	47	⇑P		PKPdf	11 34 08.3	+1.2		
	baz=116,SNR=7.2									
O27A	Beecher Island	115.49	45	⇓P		PKPdf	11 34 07.8	+0.7		
	baz=116									
OGNE	Ogallala	115.52	44	PFAKE						
OGNE				LR	LR		11 34 20.0	+13		
	comp=Z,1μm,19.0s									
ESK	Eskdalemuir	115.56	335	PFAKE						
ESK				LR	LR		11 34 20.0	+13		
	comp=Z,2μm,20.0s									
Z24A	Sheeppen Canyo	115.62	53	⇓P		PKPdf	11 34 08.8	+1.2		
	baz=116,SNR=12									
G30A	Faulkton	115.66	39	⇑P		PKPdf	11 34 07.4	+0.4		
	baz=116,SNR=8.8									
J29A	Okreek	115.66	41	⇑P		PKPdf	11 34 07.6	+0.4		
	baz=116,SNR=10									
P27A	Ficken Ranch,	115.66	46	⇓P		PKPdf	11 34 08.2	+0.8		
	baz=116,SNR=7.5									
S26A	Kim	115.71	48	⇑P		PKPdf	11 34 08.5	+0.9		
	baz=116,SNR=5.8									
124A	Stringfield Ra	115.74	54	⇑P		PKPdf	11 34 09.0	+1.1		
	baz=116,SNR=7.8									
CABF	La Chapelle	115.76	323	*e*PKIKP		PKPdf	11 34 07.9	+0.6		
	comp=Z,48nm,1.0s									
CABF	La Chapelle	115.76	323	*e*PKIKP		PKPdf	11 34 07.9	+0.6		
CABF	La Chapelle	115.76	323	*e*PKPdf		PKPdf	11 34 07.9	+0.6		
W25A	X Bar L Ranch,	115.76	51	⇓P		PKPdf	11 34 08.6	+0.8		
	baz=116,SNR=5.1									
T26A	Comanche Natio	115.77	49	⇓P		PKPdf	11 34 09.0	+1.2		
	baz=116,SNR=13									
M28A	Bar X Bar Ranc	115.79	44	⇑P		PKPdf	11 34 07.7	+0.2		
	baz=116									
KSCO	Kaye Shedlock'	115.83	46	⇓P		PKPdf	11 34 08.7	+0.9		
	baz=116									
224A	Cornudas Mount	115.86	54	⇑P		PKPdf	11 34 09.4	+1.4		
	baz=116									
LPG	La Plagne	115.88	322	*e*PKIKP		PKPdf	11 34 08.3	+0.4		
	comp=Z,38nm,1.1s									
LPG	La Plagne	115.88	322	*e*PKIKP		PKPdf	11 34 08.3	+0.4		
LPG	La Plagne	115.88	322	*e*PKPdf		PKPdf	11 34 08.3	+0.4		
LPL	La Plagne	115.89	322	*e*PKIKP		PKPdf	11 34 08.1	+0.3		
	comp=Z,18nm,0.8s									
LPL	La Plagne	115.89	322	*e*PKIKP		PKPdf	11 34 08.1	+0.3		
LPL	La Plagne	115.89	322	*e*PKPdf		PKPdf	11 34 08.1	+0.3		
U26A	Atchley Ranch,	115.92	49	⇑P		PKPdf	11 34 08.5	+0.4		
	baz=116									
K29A	Lazy Trails An	115.94	42	⇓P		PKPdf	11 34 08.0	+0.2		
	baz=116,SNR=6.0									
N28A	Pribbeno Ranch	115.96	44	⇓P		PKPdf	11 34 08.0	+0.1		
	baz=116,SNR=6.3									
R27A	Eads	115.97	47	⇑P		PKPdf	11 34 08.7	+0.7		
	baz=116,SNR=6.8									
Y25A	Mesa, Roswell	115.98	52	⇑P		PKPdf	11 34 08.9	+0.7		
	baz=116,SNR=9.5									
O28A	Krutsinger Ran	116.02	45	⇑P		PKPdf	11 34 08.8	+0.8		
	baz=116									
I30A	Oacoma	116.03	40	⇓P		PKPdf	11 34 08.1	+0.3		
	baz=116									
AGMN	Agassiz Nation	116.07	35	PFAKE						
AGMN				LR	LR		11 34 20.0	+12		
	comp=Z,1μm,20.0s									
324A	Moseley Ranch,	116.07	55	⇑P		PKPdf	11 34 09.2	+0.7		
	baz=116									
MNTX	Cornudas Mount	116.08	55	*e*PKPdf		PKPdf	11 34 09.4	+1.1		
MNTX				LR	LR					
	comp=Z,1μm,19.0s									
BRSD	Miller	116.09	40	*e*PKPdf		PKPdf	11 34 07.9	0.0		
BRSD	Miller	116.09	40	⇓P		PKPdf	11 34 08.3	+0.3		
	baz=116									
V26A	Tequesquite Ra	116.09	50	⇓P		PKPdf	11 34 09.3	+1.0		
	baz=116									
BNI	Bardonecchia	116.14	321	PFAKE						
BNI				LR	LR		11 34 20.0	+12		
	comp=Z,1μm,20.0s									
Z25A	Roswell	116.16	53	⇓P		PKPdf	11 34 09.5	+0.9		
	baz=116,SNR=5.2									
SBF	Sospel	116.20	320	*e*PKIKP		PKPdf	11 34 07.4	-0.8		
	comp=Z,86nm,1.1s									
SBF	Sospel	116.20	320	*e*PKIKP		PKPdf	11 34 07.4	-0.8		
SBF	Sospel	116.20	320	*e*PKPdf		PKPdf	11 34 07.4	-0.8		
MBDF	Montbardon	116.23	321	*e*PKIKP		PKPdf	11 34 08.8	+0.4		
MBDF	Montbardon	116.23	321	*e*PKIKP		PKPdf	11 34 08.8	+0.4		
MBDF	Montbardon	116.23	321	*e*PKPdf		PKPdf	11 34 08.8	+0.4		
J30A	Dallas	116.24	41	⇓P		PKPdf	11 34 08.4	+0.1		
	baz=116,SNR=9.3									
P28A	Saint Francis	116.24	46	⇓P		PKPdf	11 34 09.2	+0.7		
	baz=116									
W26A	Owens Ranch, T	116.34	51	⇑P		PKPdf	11 34 09.4	+0.6		
	baz=116									
Q28A	Sharon Springs	116.38	46	⇓P		PKPdf	11 34 09.6	+0.8		
	baz=116,SNR=5.2									
125A	Gardner Draw,	116.39	54	⇑P		PKPdf	11 34 09.5	+0.5		
	baz=116									
225A	Deer Hill, Car	116.42	54	⇓P		PKPdf	11 34 09.6	+0.4		
	baz=116									
K30A	Basset	116.45	42	⇓P		PKPdf	11 34 09.1	+0.4		
	baz=116,SNR=8.9									
T27A	Campo	116.46	48	⇓P		PKPdf	11 34 09.5	+0.5		
	baz=116									
X26A	CR and CF Fran	116.48	51	⇓P		PKPdf	11 34 09.9	+0.8		
	baz=116,SNR=6.6									
325A	Bean Ranch, Si	116.51	55	⇓P		PKPdf	11 34 09.9	+0.5		
	baz=116									
U27A	Thompson Grove	116.61	49	⇓P		PKPdf	11 34 10.2	+0.8		
	baz=117,SNR=5.7									
425A	Indio Mountain	116.66	56	⇓P		PKPdf	11 34 09.9	+0.3		
	baz=117									
Y26A	Elida	116.67	52	⇑P		PKPdf	11 34 10.0	+0.5		
	baz=117									
R28A	Tribune	116.67	47	⇓P		PKPdf	11 34 10.0	+0.7		
	baz=117,SNR=6.9									
L30A	Spencer Herefo	116.69	42	⇑P		PKPdf	11 34 09.5	+0.3		
	baz=117									
ORIF	Oris-en-Rattie	116.70	321	*e*PKIKP		PKPdf	11 34 09.3	+0.1		
	comp=Z,19nm,0.8s									
ORIF				*e*R						
	comp=Z,1μm,23.0s									
ORIF	Oris-en-Rattie	116.70	321	*e*PKIKP		PKPdf	11 34 09.3	+0.1		
ORIF	Oris-en-Rattie	116.70	321	*e*PKPdf		PKPdf	11 34 09.3	+0.1		
O29A	4D Ranch, Culb	116.70	45	⇑P		PKPdf	11 34 10.0	+0.7		
	baz=117,SNR=6.0									
LOR	Lormes	116.75	324	*e*PKIKP		PKPdf	11 34 09.5	+0.4		
	comp=Z,28nm,1.2s									
LOR				*e*R						
	comp=Z,1μm,22.5s									
LOR	Lormes	116.75	324	*e*PKPdf		PKPdf	11 34 09.5	+0.4		
Z26A	Caprock	116.75	53	⇓P		PKPdf	11 34 09.8	+0.2		
	baz=117									
P29A	Atwood	116.82	45	⇑P		PKPdf	11 34 09.9	+0.4		
	baz=117,SNR=5.4									
V27A	Dan Oppiter Fa	116.83	50	⇓P		PKPdf	11 34 10.2	+0.5		
	baz=117									
S28A	Manter	116.89	48	⇑P		PKPdf	11 34 10.3	+0.5		
	baz=117									
W27A	Bowe Ranch, En	116.89	51	⇑P		PKPdf	11 34 10.6	+0.7		
	baz=117									
T28A	Walsh	116.90	48	⇑P		PKPdf	11 34 10.6	+0.8		
	baz=117,SNR=6.9									
126A	Clayton Basin,	116.91	53	⇑P		PKPdf	11 34 10.1	+0.2		
	baz=117									
N30A	Hueftle Ranch,	116.92	44	⇓P		PKPdf	11 34 09.9	+0.2		
	baz=117									
226B	Tecolote Peak,	116.96	54	⇓P		PKPdf	11 34 10.6	+0.5		
	baz=117									
X27A	F and S Farms,	117.00	51	⇑P		PKPdf	11 34 10.7	+0.5		
	baz=117									
SSF	Saint Saulge	117.06	324	*e*PKIKP		PKPdf	11 34 10.2	+0.5		
	comp=Z,22nm,1.0s									
SSF	Saint Saulge	117.06	324	*e*PKIKP		PKPdf	11 34 10.2	+0.5		
SSF	Saint Saulge	117.06	324	*e*PKPdf		PKPdf	11 34 10.2	+0.5		
Q29A	Oakley	117.06	46	⇓P		PKPdf	11 34 10.5	+0.5		
	baz=117,SNR=12									
U28A	Mallet	117.08	49	⇑P		PKPdf	11 34 10.9	+0.7		
	baz=117									
SMF	Signal de Mont	117.08	324	*e*PKIKP		PKPdf	11 34 10.1	+0.3		
SMF	Signal de Mont	117.08	324	*e*PKIKP		PKPdf	11 34 10.1	+0.3		
SMF	Signal de Mont	117.08	324	*e*PKPdf		PKPdf	11 34 10.1	+0.3		
R29A	Marienthal	117.13	46	⇑P		PKPdf	11 34 10.9	+0.7		
	baz=117									
L31A	Butterfield Fa	117.18	42	⇑P		PKPdf	11 34 10.5	+0.3		
	baz=117									
O30A	MW Ranch, Wils	117.20	44	⇓P		PKPdf	11 34 10.9	+0.7		
	baz=117									

baz=118
R31A **Burdett** 118.34 46 ⇓P PKPdf 11 34 13.1 +0.6
baz=118,SNR=12
627A **Terlingua Ranc** 118.37 57 ⇑P PKPdf 11 34 13.3 +0.4
baz=118
LASF **Ste Croix** 118.38 321 *e*PKIKP PKPdf 11 34 12.8 +0.4
LASF **Ste Croix** 118.38 321 *e*PKPdf PKPdf 11 34 12.8 +0.4
Y29A **Porterfield Fa** 118.38 51 ⇑P PKPdf 11 34 13.7 +0.9
baz=118,SNR=10
O32A **Brockman Farm,** 118.40 44 ⇓P PKPdf 11 34 13.2 +0.7
baz=118
P32A **Huiting Farm,** 118.45 44 ⇑P PKPdf 11 34 13.3 +0.7
baz=118
V30A **Spur Ranch, Mi** 118.46 49 ⇓P PKPdf 11 34 13.6 +0.7
baz=118
Z29A **Hungry Hill Ra** 118.56 52 ⇓P PKPdf 11 34 13.4 +0.3
baz=118,SNR=9.4
428A **Kincaid Ranch,** 118.58 55 ⇓P PKPdf 11 34 13.8 +0.6
baz=119
129A **Stewart Farms,** 118.64 53 ⇑P PKPdf 11 34 13.8 +0.5
baz=119
S31A **Mullinville** 118.64 47 ⇓P PKPdf 11 34 13.7 +0.6
baz=119
EYMN **Ely** 118.70 33 PFAKE 11 34 20.0 +7.1
EYMN LR LR
comp=Z,1µm,21.0s
T31A **Randall Ranch,** 118.71 47 ⇑P PKPdf 11 34 13.9 +0.7
baz=119
GRR **Gorron** 118.77 327 *e*PKIKP PKPdf 11 34 13.4 +0.5
GRR **Gorron** 118.77 327 *e*PKIKP PKPdf 11 34 13.4 +0.5
GRR **Gorron** 118.77 327 *e*PKPdf PKPdf 11 34 13.4 +0.5
628A **Black Gap, Mar** 118.77 57 ⇓P PKPdf 11 34 14.1 +0.5
baz=119
X30A **Coker Ranch, T** 118.80 51 ⇓P PKPdf 11 34 14.0 +0.5
baz=119,SNR=6.4
229A **Bryant Ranch,** 118.90 54 ⇑P PKPdf 11 34 13.9 +0.1
baz=119
329A **Wagon Wheel Ra** 118.91 54 ⇑P PKPdf 11 34 14.3 +0.5
baz=119,SNR=8.6
Y30A **Stafford Cattl** 118.98 51 ⇑P PKPdf 11 34 14.2 +0.3
baz=119
Z30A **Sanderson Ranc** 119.00 52 ⇑P PKPdf 11 34 14.0 +0.1
baz=119
S32A **Newby Ranch, P** 119.01 46 ⇓P PKPdf 11 34 14.0 +0.2
baz=119
CAF **Calviac** 119.04 323 *e*PKIKP PKPdf 11 34 14.6 +1.0
comp=Z,40nm,1.1s
CAF **Calviac** 119.04 323 *e*PKIKP PKPdf 11 34 14.6 +1.0
CAF **Calviac** 119.04 323 *e*PKPdf PKPdf 11 34 14.6 +1.0
529A **Stev Forest Ra** 119.14 56 ⇓P PKPdf 11 34 14.7 +0.4
baz=119
RJF **Les Rejaudoux** 119.17 323 *e*PKIKP PKPdf 11 34 14.5 +0.7
RJF *e*R
comp=Z,1µm,21.2s
RJF **Les Rejaudoux** 119.17 323 *e*PKIKP PKPdf 11 34 14.5 +0.7
RJF **Les Rejaudoux** 119.17 323 *e*PKPdf PKPdf 11 34 14.5 +0.7
W31A **Holland Ranch,** 119.24 49 ⇓P PKPdf 11 34 15.2 +0.9
baz=119,SNR=13
429A **Davenport Ranc** 119.25 55 ⇓P PKPdf 11 34 14.9 +0.4
baz=119,SNR=12
130A **Snyder** 119.36 53 ⇑P PKPdf 11 34 14.8 +0.2
baz=119
MFF **Saint Martin d** 119.41 325 *e*PKIKP PKPdf 11 34 14.5 +0.3
comp=Z,39nm,0.9s
MFF **Saint Martin d** 119.41 325 *e*PKIKP PKPdf 11 34 14.5 +0.3
MFF **Saint Martin d** 119.41 325 *e*PKPdf PKPdf 11 34 14.5 +0.3
X31A **McDonald Ranch** 119.42 50 ⇑P PKPdf 11 34 15.0 +0.4
baz=119,SNR=10
Y31A **Rekieta Farm,** 119.44 51 ⇑P PKPdf 11 34 15.2 +0.5
baz=119,SNR=5.7
230A **Sterling City** 119.48 53 ⇑P PKPdf 11 34 15.3 +0.4
baz=120,SNR=6.1
SPMN **St. Paul** 119.49 36 ⇑P PKPdf 11 34 15.0 +0.6
baz=119
330A **Mertzon** 119.59 54 ⇓P PKPdf 11 34 15.0 -0.1
baz=120
430A **Baggett Ranch,** 119.74 55 ⇓P PKPdf 11 34 16.1 +0.6
baz=120,SNR=16
SGMF **Saint Gilles** 119.75 328 *e*PKIKP PKPdf 11 34 15.1 +0.3
SGMF **Saint Gilles** 119.75 328 *e*PKIKP PKPdf 11 34 15.1 +0.3
SGMF **Saint Gilles** 119.75 328 *e*PKPdf PKPdf 11 34 15.1 +0.3
Z31A **Sharp Cattle R** 119.76 52 ⇓P PKPdf 11 34 16.0 +0.6
baz=120
MTLF **Montolieu** 119.77 321 *e*PKIKP PKPdf 11 34 15.4 +0.4
comp=Z,21nm,1.0s
MTLF **Montolieu** 119.77 321 *e*PKIKP PKPdf 11 34 15.4 +0.4
MTLF **Montolieu** 119.77 321 *e*PKPdf PKPdf 11 34 15.4 +0.4
131A **Roby** 119.80 52 ⇑P PKPdf 11 34 16.1 +0.7
baz=120
LFF **La Frestale** 119.83 323 *e*PKIKP PKPdf 11 34 15.8 +0.7
LFF **La Frestale** 119.83 323 *e*PKIKP PKPdf 11 34 15.8 +0.7
LFF **La Frestale** 119.83 323 *e*PKPdf PKPdf 11 34 15.8 +0.7
530A **J-C Ranch, Com** 119.86 55 ⇑P PKPdf 11 34 16.4 +0.8
baz=120,SNR=10
Y32A **R-V Farms, Ver** 120.06 51 ⇓P PKPdf 11 34 16.3 +0.4
baz=120
KSU1 **Kansas State U** 120.07 44 *e*PKPdf PKPdf 11 34 16.1 +0.4
KSU1 LR LR
comp=Z,988nm,20.0s
231A **Bronte** 120.11 53 ⇑P PKPdf 11 34 16.2 +0.2
baz=120,SNR=6.6
331A **San Angelo** 120.23 54 ⇓P PKPdf 11 34 16.3 0.0
baz=120,SNR=7.8
QUIF **Quistinic** 120.28 328 *e*PKIKP PKPdf 11 34 16.0 +0.2
QUIF **Quistinic** 120.28 328 *e*PKIKP PKPdf 11 34 16.0 +0.2
QUIF **Quistinic** 120.28 328 *e*PKPdf PKPdf 11 34 16.0 +0.2
431A **Sonora** 120.29 55 ⇑P PKPdf 11 34 16.7 +0.2
baz=120,SNR=9.4
Z32A **Haskell** 120.29 51 ⇓P PKPdf 11 34 17.1 +0.7
baz=120,SNR=13
WMOK **Wichita Mounta** 120.29 50 *e*PKIKP PKPdf 11 34 16.6 +0.3
WMOK MLR MLR
comp=Z,1µm,19.0s
WMOK **Wichita Mounta** 120.29 50 *e*PKPdf PKPdf 11 34 16.6 +0.3
WMOK LR LR
comp=Z,1µm,19.0s
ABTX **Abilene, Hawle** 120.40 52 *e*PKPdf PKPdf 11 34 17.0 +0.4
ABTX **Abilene, Hawle** 120.40 52 ⇑P PKPdf 11 34 17.1 +0.4
baz=120,SNR=5.3
531A **Rocksprings** 120.50 55 ⇑P PKPdf 11 34 17.6 +0.7
baz=120,SNR=11
232A **Coleman** 120.66 53 ⇑P PKPdf 11 34 17.8 +0.7
baz=121
631A **Perdido Creek** 120.72 56 ⇓P PKPdf 11 34 17.9 +0.6
baz=121
332A **Millersview** 120.75 53 ⇓P PKPdf 11 34 17.7 +0.4
baz=121,SNR=7.6
432A **Menard** 120.88 54 ⇑P PKPdf 11 34 17.6 0.0
baz=121,SNR=5.9
SCIA **State Center** 120.99 40 *e*PKPdf PKPdf 11 34 17.9 +0.5
SCIA LR LR
comp=Z,789nm,20.0s
JCT **Junction City** 121.01 54 *e*PKIKP PKPdf 11 34 18.2 +0.3
JCT MLR MLR
comp=Z,1µm,19.0s
JCT **Junction City** 121.01 54 *e*PKPdf PKPdf 11 34 18.2 +0.3
JCT LR LR
comp=Z,1µm,19.0s
JCT **Junction City** 121.01 54 ⇑P PKPdf 11 34 18.6 +0.8
baz=121,SNR=24
532A **Rocksprings** 121.04 55 ⇑P PKPdf 11 34 18.2 +0.2
baz=121,SNR=8.0
EPF **Esparros** 121.10 322 *e*PKIKP PKPdf 11 34 18.1 +0.4
comp=Z,21nm,0.9s
EPF **Esparros** 121.10 322 *e*PKIKP PKPdf 11 34 18.1 +0.4
EPF **Esparros** 121.10 322 *e*PKPdf PKPdf 11 34 18.1 +0.4
632A **Uvalde** 121.34 56 ⇓P PKPdf 11 34 19.4 +0.9
baz=121,SNR=8.9
732A **Laxson Ranch,** 121.44 56 ⇓P PKPdf 11 34 19.2 +0.5
baz=121,SNR=7.8
ETSF **Etsaut** 121.73 322 *e*PKIKP PKPdf 11 34 20.1 +1.2
comp=Z,41nm,1.0s
ETSF **Etsaut** 121.73 322 *e*PKIKP PKPdf 11 34 20.1 +1.2
ETSF **Etsaut** 121.73 322 *e*PKPdf PKPdf 11 34 20.1 +1.2
SJPF **Ste Jean** 122.02 323 *e*PKIKP PKPdf 11 34 20.5 +1.1
comp=Z,33nm,1.0s
SJPF **Ste Jean** 122.02 323 *e*PKIKP PKPdf 11 34 20.5 +1.1
SJPF **Ste Jean** 122.02 323 *e*PKPdf PKPdf 11 34 20.5 +1.1
TUL1 **Tulsa** 122.05 47 *e*PKPdf PKPdf 11 34 20.3 +0.6
TUL1 **Tulsa** 122.05 47 ⇑P PKPdf 11 34 20.2 +0.6
baz=122
JFWS **Jewell Farm** 122.30 37 PFAKE 11 34 30.0 +10
JFWS LR LR
comp=Z,1µm,20.0s
WHTX **Lake Whitney** 122.36 52 *e*PKPdf PKPdf 11 34 21.0 +0.7
WHTX **Lake Whitney** 122.36 52 ⇑P PKPdf 11 34 20.8 +0.5
baz=122
SCHQ **Schefferville** 123.46 14 PKP PKPdf 11 34 22.4 +0.7
SCHQ PKKPbc PKKPab 11 44 09.3 -1.8
SCHQ **Schefferville** 123.46 14 PKP PKPdf 11 34 22.4 +0.7
comp=Z,16nm,0.8s,baz=318,slow=1.8,SNR=9.6
SCHQ PKKPbc PKKPab 11 44 09.3 -1.8
comp=Z,5.6nm,0.8s,baz=45,slow=6.5,SNR=3.7
KVTX **Kingsville** 123.55 57 PFAKE 11 34 30.0 +7.3
KVTX LR LR
comp=Z,1µm,20.0s
MIAR **Mount Ida** 124.28 48 *e*PKIKP PKPdf 11 34 24.3 +0.4
MIAR MLR MLR
comp=Z,1µm,19.0s
MIAR **Mount Ida** 124.28 48 *e*PKPdf PKPdf 11 34 24.3 +0.4
MIAR LR LR
comp=Z,1µm,19.0s
NATX **Nacogdoches** 124.64 51 PFAKE 11 34 40.0 +15
NATX LR LR
comp=Z,2µm,19.0s
UALR **University of** 125.08 47 *e*PKPdf PKPdf 11 34 25.8 +0.3
TAM **Tamanrasset** 125.52 298 *e*PKIKP PKPdf 11 34 27.9 +1.0
TAM MLR MLR
comp=Z,425nm,21.0s
TAM **Tamanrasset** 125.52 298 *e*PKPdf PKPdf 11 34 27.9 +1.0
TAM LR LR
comp=Z,425nm,21.0s
ESDC **Sonseca Array** 125.66 321 PKP PKPdf 11 34 27.3 +0.7
ESDC **Sonseca Array** 125.66 321 PKP PKPdf 11 34 27.3 +0.7
comp=Z,2.0nm,0.9s,baz=31,slow=3.1,SNR=4.0
SFIN **Scholer Farm** 125.69 38 ⇑P PKPdf 11 34 27.1 +0.6
baz=126
SIUC **Southern Illin** 125.81 42 *e*PKPdf PKPdf 11 34 27.2 +0.5
PAB **San Pablo** 125.97 321 PFAKE 11 34 40.0 +13
PAB LR LR
comp=Z,1µm,19.0s
OLIL **Olney** 125.99 41 *e*PKPdf PKPdf 11 34 27.8 +0.7
PARMO **Parma** 125.99 44 *e*PKPdf PKPdf 11 34 28.0 +0.8
PBRG **Braganca** 126.08 324 *e*PKPdf PKPdf 11 34 27.9 +0.6
MVO **Moncorvo** 126.65 324 *e*PKPdf PKPdf 11 34 29.4 +1.0
BLO **Bloomington** 126.75 39 *e*PKIKP PKPdf 11 34 29.0 +0.4
BLO **Bloomington** 126.75 39 *e*PKPdf PKPdf 11 34 29.0 +0.4
PGAV **Gavieira, Arco** 126.86 325 *e*PKPdf PKPdf 11 34 30.1 +1.3
POLO **Lamas de Olo** 126.96 324 *e*PKPdf PKPdf 11 34 30.3 +1.3
PVRL **Vila Real** 126.98 324 *e*PKPdf PKPdf 11 34 30.4 +1.4
OXF **Oxford** 127.32 46 PFAKE 11 34 40.0 +10
OXF LR LR
comp=Z,1µm,19.0s
MTE **Manteigas** 127.43 323 *e*PKPdf PKPdf 11 34 30.7 +0.8
MTE **Manteigas** 127.43 323 PFAKE 11 34 40.0 +10
MTE LR LR
comp=Z,994nm,19.0s
WCI **Wyandotte Cave** 127.44 40 *e*PKIKP PKPdf 11 34 29.8 -0.1
WCI **Wyandotte Cave** 127.44 40 *e*PKPdf PKPdf 11 34 29.8 -0.1
WVT **Waverly** 127.59 43 *e*PKIKP PKPdf 11 34 30.3 +0.1
WVT **Waverly** 127.59 43 *e*PKPdf PKPdf 11 34 30.3 +0.1
VBMS **Vicksburg** 127.61 49 PFAKE 11 34 40.0 +10
VBMS LR LR
comp=Z,2µm,19.0s
PCBR **Castelo Branco** 127.74 323 *e*PKPdf PKPdf 11 34 31.3 +0.9
PMRV **Marv??o** 127.94 322 *e*PKPdf PKPdf 11 34 31.9 +1.1
PCAS **Casmilo, Conde** 128.22 324 *e*PKPdf PKPdf 11 34 31.4 +0.1
ACSO **Alum Creek Sta** 128.26 36 *e*PKPdf PKPdf 11 34 32.1 +0.7
ACSO LR LR
comp=Z,957nm,22.0s
PESTR **Estremoz** 128.40 322 *e*PKPdf PKPdf 11 34 33.0 +1.3
PBAR **Barrancos** 128.48 321 *e*PKPdf PKPdf 11 34 32.8 +0.9
PMTG **Montargil** 128.67 322 *e*PKPdf PKPdf 11 34 32.1 -0.1
ERPA **Erie** 128.69 32 PFAKE 11 34 40.0 +7.8
ERPA LR LR
comp=Z,1µm,20.0s
EVO **Evora** 128.87 322 *e*PKIKP PKPdf 11 34 33.1 +0.5
comp=Z,157nm,1.6s
EVO *e*R
comp=Z,1µm,22.0s
EVO **Evora** 128.87 322 *e*PKPdf PKPdf 11 34 34.1 +1.5
EVOP **Sao Brissos** 128.94 322 *e*PKIKP PKPdf 11 34 33.1 +0.4
EVOP **Sao Brissos** 128.94 322 *e*PKPdf PKPdf 11 34 33.1 +0.4
PCVE **Castro Verde** 129.44 321 *e*PKPdf PKPdf 11 34 34.3 +0.6
PNCL **Nicolau / Gran** 129.45 322 *e*PKPdf PKPdf 11 34 35.4 +1.7
LONY **Lake Ozonia** 129.48 26 PFAKE 11 34 50.0 +16
LONY LR LR
comp=Z,1µm,20.0s
PBDV **Barranco-do-Ve** 129.60 320 *e*PKPdf PKPdf 11 34 36.1 +2.0
LRAL **Lakeview Retre** 129.80 46 *e*PKPdf PKPdf 11 34 34.9 +0.4
LRAL LR LR
comp=Z,1µm,19.0s
MDT **Midelt** 129.81 314 PKP PKPdf 11 34 35.0 +0.3
MDT **Midelt** 129.81 314 PKP PKPdf 11 34 35.0 +0.3
comp=Z,3.6nm,0.8s,baz=144,slow=3.1,SNR=6.8
MORF **Marmelete** 130.02 321 *e*PKPdf PKPdf 11 34 36.9 +2.0
NCB **Newcomb** 130.15 27 PFAKE 11 34 50.0 +15
NCB LR LR
comp=Z,922nm,20.0s
CPCT **Cooper Cave** 130.20 42 *e*PKPdf PKPdf 11 34 34.8 -0.5
MCWV **Mont Chateau** 130.45 35 PFAKE 11 34 50.0 +14
MCWV LR LR
comp=Z,1µm,20.0s
TKL **Tuckaleechee C** 130.58 41 *e*PKPdf PKPdf 11 34 36.6 +0.6
BINY **Binghamton** 130.68 29 PFAKE 11 34 50.0 +14
BINY LR LR
comp=Z,1µm,20.0s
RTC **Rabat Centre** 130.77 316 PFAKE 11 34 50.0 +14
RTC LR LR
comp=Z,678nm,19.0s
BRAL **Brewton** 130.78 48 PFAKE 11 34 50.0 +14
BRAL LR LR
comp=Z,1µm,19.0s
SSPA **Standing Stone** 130.85 32 *e*PKPdf PKPdf 11 34 37.1 +0.8
LBNH **Lisbon** 130.93 25 PFAKE 11 34 50.0 +14
LBNH LR LR
comp=Z,771nm,20.0s
PKME **Peaks-Kenny Pk** 131.12 22 PFAKE 11 34 50.0 +13
PKME LR LR
comp=Z,637nm,20.0s
TOA0 **Torodi Ar. Sit** 131.32 287 *e*PKPdf PKPdf 11 34 37.7 -0.1
TORD **Torodi Ar. Bea** 131.32 287 PKP PKPdf 11 34 37.5 -0.4
TORD SKPbc SKPab 11 38 03.0 +2.5
TORD **Torodi Ar. Bea** 131.32 287 PKhKP PKPpre 11 34 22.7
comp=Z,0.9nm,0.9s,baz=94,slow=4.5,SNR=4.2
TORD PKP PKPdf 11 34 37.5 -0.4
comp=Z,21nm,1.0s,baz=66,slow=1.4,SNR=50
TORD SKPbc SKPab 11 38 03.0 +2.5
comp=Z,8.7nm,1.2s,baz=64,slow=3.1,SNR=5.3
BLA **Blacksburg** 131.74 37 *e*PKIKP PKPdf 11 34 38.5 +0.3
BLA MLR MLR
comp=Z,870nm,20.0s
BLA **Blacksburg** 131.74 37 *e*PKPdf PKPdf 11 34 38.5 +0.3
BLA LR LR
comp=Z,870nm,20.0s
KMSC **Kings Mountain** 132.48 40 *e*PKPdf PKPdf 11 34 39.9 +0.4
KMSC **Kings Mountain** 132.48 40 ⇑P PKPdf 11 34 40.4 +0.8
baz=132
CBN **Corbin** 132.85 34 PFAKE 11 34 50.0 +10
CBN LR LR
comp=Z,1µm,20.0s
TIGA **Tifton** 133.09 46 ⇑P PKPdf 11 34 41.7 +0.9
baz=133
TEIG **Tepich** 134.28 62 PFAKE 11 35 00.0 +17
TEIG LR LR
comp=Z,924nm,22.0s
CNNC **Cliffs of the** 134.58 38 PFAKE 11 35 00.0 +17
CNNC LR LR
comp=Z,1µm,19.0s
PAYG **Puerto Ayora** 135.57 92 PFAKE 11 35 00.0 +14
PAYG LR LR
comp=Z,2µm,20.0s
TGUH **Tegucigalpa,Un** 136.99 70 *e*PKPdf PKPdf 11 34 49.4 +0.9
TGUH LR LR
comp=Z,846nm,21.0s
SHEL **Horse Pasture** 137.03 245 PFAKE 11 35 00.0 +11
SHEL LR LR
comp=Z,594nm,21.0s
KIC **Kosan Boka** 138.59 279 *e*P PKPpre 11 34 42.6
comp=Z,78nm,1.1s
TRQA **Tornquist** 138.59 161 PFAKE 11 35 00.0 +9.1
TRQA LR LR
comp=Z,2µm,19.0s
DBIC **Dimbokro** 138.67 279 PKP PKPdf 11 34 51.0 -0.6
DBIC *e*PKPdf PKiKP 11 34 52.4 -1.4
DBIC **Dimbokro** 138.67 279 PKhKP PKPpre 11 34 42.1
comp=Z,10nm,0.9s,baz=76,slow=4.1,SNR=9.4
DBIC PKP PKPdf 11 34 51.0 -0.6
comp=Z,20nm,0.8s,baz=83,slow=3.9,SNR=8.6
TIC **Toumodi** 138.84 279 *e*P PKPpre 11 34 44.2
comp=Z,67nm,1.0s
LIC **Lamto** 138.89 279 *e*PKIKP PKPdf 11 34 50.7 -1.4
comp=Z,46nm,0.9s
LIC *e*R
comp=Z,670nm,22.0s
LIC **Lamto** 138.89 279 *e*P PKPpre 11 34 44.6
comp=Z,68nm,0.9s
LIC **Lamto** 138.89 279 *e*PKPdf PKPdf 11 34 50.7 -1.4
JTS **JuntasAbangare** 140.03 75 *e*PKPdf PKPdf 11 34 54.7 +0.5
JTS LR LR
comp=Z,1µm,21.0s
LCO **Las Campanas** 142.03 143 *e*PKPdf PKPdf 11 34 54.3 -3.4
LCO LR LR
comp=Z,1µm,21.0s
BBSR **BB Station** 143.92 28 PFAKE 11 35 10.0 +9.4
BBSR LR LR
comp=Z,768nm,19.0s
MTDJ **Mount Denham** 144.41 59 *e*PKPdf PKPbc 11 35 00.9 +0.5
MTDJ LR LR
comp=Z,415nm,20.0s
BCIP **Isla Barro Col** 145.19 75 *e*PKPbc PKPdf 11 35 03.4 +0.1
BCIP LR LR
comp=Z,1µm,22.0s
GTBY **Guantanamo Bay** 145.65 55 *e*PKPbc PKPab 11 35 04.7 +0.2
GTBY LR LR
comp=Z,806nm,19.0s
CEN1 **Los Morros** 146.28 137 ⇑*i*P PKPab 11 35 07.3 +0.3
CEN1 **Los Morros** 146.28 137 ⇑*i*P PKPab 11 35 07.3 +0.3
ASCN **Ascension** 147.40 254 *e*PKPdf PKPdf 11 35 07.6 +0.5
ASCN *e*PKPbc PKPab 11 35 11.2 -0.3
ASCN *e*PKPab PKiKP 11 35 12.2 +0.5
ASCN LR LR
comp=Z,385nm,22.0s
OTAV **Otavalo** 147.42 91 *e*PKPdf PKPdf 11 35 08.1 +0.5
OTAV *e*PKPbc PKPbc 11 35 11.1 +0.9
OTAV *e*PKPab PKiKP 11 35 13.6 +1.3
OTAV LR LR
comp=Z,962nm,19.0s
LVC **Limon Verde** 147.68 137 *e*PKPbc PKPbc 11 35 09.8 -0.5
LVC LR LR
comp=Z,980nm,20.0s
GRTK **Grand Turk** 147.89 48 *e*PKPdf PKPdf 11 35 08.1 +0.5
GRTK *e*PKPbc PKPbc 11 35 11.5 +0.9
GRTK *e*PKPab PKPab 11 35 13.1 0.0
GRTK LR LR
comp=Z,1µm,20.0s
SDDR **Presa de Saban** 149.21 52 *e*PKPdf PKPdf 11 35 11.0 +1.1
SDDR LR LR
comp=Z,603nm,20.0s
CPUP **Villa Florida** 150.87 159 PKP PKPdf 11 35 13.0 +0.8
CPUP *e*PKPdf PKPdf 11 35 13.0 +0.8
CPUP *e*PKPbc PKiKP 11 35 18.4 -0.2
CPUP PKPbc PKiKP 11 35 18.8 +0.2
CPUP PKPab PKPab 11 35 24.4 -0.6
CPUP *e*PKPab PKPab 11 35 24.5 -0.5
CPUP **Villa Florida** 150.87 159 PKP PKPdf 11 35 13.0 +0.8
comp=Z,40nm,1.1s,baz=264,slow=1.5,SNR=13
CPUP PKPbc PKiKP 11 35 18.8 +0.2
comp=Z,101nm,0.9s,baz=195,slow=1.5,SNR=67
CPUP PKPab PKPab 11 35 24.4 -0.6
comp=Z,45nm,0.8s,baz=248,slow=5.4,SNR=7.2
ROSC **El Rosal** 151.30 81 PKP PKPdf 11 35 14.7 +0.9
ROSC *e*PKPdf PKPbc 11 35 15.2 -4.5
ROSC PKPbc PKiKP 11 35 20.8 +0.5
ROSC *e*PKPdf PKPab 11 35 21.1 -6.8
ROSC PKPab PKPab 11 35 27.3 -0.6
ROSC *e*PKPab PKPab 11 35 27.8 -0.1
ROSC **El Rosal** 151.30 81 PKP PKPdf 11 35 14.7 +0.9
comp=Z,27nm,0.9s,baz=77,slow=22,SNR=13
ROSC PKPbc PKiKP 11 35 20.8 +0.5
comp=Z,101nm,0.7s,baz=95,slow=4.0,SNR=34
ROSC PKPab PKPab 11 35 27.3 -0.5
comp=Z,29nm,0.6s,baz=262,slow=22,SNR=4.6
LPAZ **La Paz** 152.25 129 *e*PKPdf PKPdf 11 35 16.7 +1.3
LPAZ PKP PKPdf 11 35 16.7 +1.3
LPAZ PKPbc PKiKP 11 35 23.2 +0.8
LPAZ *e*PKPbc PKPab 11 35 24.0 -7.9
LPAZ *e*PKPab PKPab 11 35 31.5 -0.5
LPAZ **La Paz** 152.25 129 PKP PKPdf 11 35 16.7 +1.3
comp=Z,16nm,0.9s,baz=13,slow=1.1,SNR=44
LPAZ PKPbc PKiKP 11 35 23.2 +0.8
comp=Z,73nm,0.9s,baz=85,slow=2.0,SNR=77
AGPR **Aguadilla, PR** 152.74 49 *e*PKPdf PKPdf 11 35 16.3 +1.0
AGPR *e*PKPbc PKiKP 11 35 23.4 +0.8
AGPR *e*PKPab PKPab 11 35 33.1 0.0
LSP **Las Mesas** 152.93 49 *e*PKPdf PKPdf 11 35 16.3 +0.7
LSP *e*PKPbc PKiKP 11 35 23.4 +0.3
LSP *e*PKPab PKPab 11 35 33.4 -0.6
CRPR **Cabo Rojo, PR** 153.02 49 *e*PKPdf PKPdf 11 35 16.5 +0.9
CRPR *e*PKPbc PKiKP 11 35 23.3 +0.1
CRPR *e*PKPab PKPab 11 35 35.5 +1.2
LRS **Lares** 153.04 49 *e*PKPdf PKPdf 11 35 16.6 +0.8
LRS *e*PKPbc PKiKP 11 35 23.3 0.0
LRS *e*PKPab PKPab 11 35 35.5 +1.0
CELP **Cerrillos** 153.38 49 *e*PKPdf PKPdf 11 35 16.6 +0.4
CELP *e*PKPbc PKiKP 11 35 24.0 +0.1
CELP *e*PKPab PKPab 11 35 36.3 +0.5
OBIP **Obispado Ponce** 153.38 49 *e*PKPdf PKPdf 11 35 17.0 +0.8
OBIP *e*PKPbc PKiKP 11 35 23.9 0.0
OBIP *e*PKPab PKPab 11 35 36.8 +1.0
SACV **Santiago Islan** 153.87 304 PFAKE 11 35 30.0 +5.0
SACV LR LR
comp=Z,791nm,21.0s
SDV **Santo Domingo** 154.07 71 *e*PKPdf PKPdf 11 35 18.1 +0.5
MTP **Monte Pirata** 154.12 47 *e*PKPdf PKPdf 11 35 17.4 +0.2
MTP *e*PKPbc PKiKP 11 35 26.0 +0.6
MTP *e*PKPab PKPab 11 35 40.0 +1.0
STVI **Saint Thomas** 154.40 46 *e*PKPdf PKPdf 11 35 17.8 +0.2
STVI *e*PKPbc PKPbc 11 35 25.7 -0.3
STVI *e*PKPab PKPab 11 35 40.5 +0.4
SPB **Sao Paulo** 155.72 177 PFAKE 11 35 30.0 +11
SPB LR LR
comp=Z,823nm,19.0s
ANWB **Willy Bob** 157.06 42 PFAKE 11 35 30.0 +8.8
ANWB LR LR
comp=Z,641nm,20.0s
SAML **Samuel** 160.23 120 *e*PKPdf PKPdf 11 35 25.6 +0.5
SAML LR LR
comp=Z,891nm,20.0s
GRGR **Grenville** 160.71 54 PFAKE 11 35 40.0 +14
GRGR LR LR
comp=Z,605nm,20.0s
BBGH **Gun Hill** 161.71 47 PFAKE 11 35 40.0 +13
BBGH LR LR
comp=Z,1µm,22.0s
BDFB **Brasilia** 163.54 173 PKP PKPdf 11 35 29.3 +0.7
BDFB PKPab PKPab 11 36 19.8 +0.1
BDFB **Brasilia** 163.54 173 PKP PKPdf 11 35 29.3 +0.7
comp=Z,14nm,0.8s,baz=353,slow=0.9,SNR=14
BDFB PKPab PKPab 11 36 19.8 +0.1
comp=Z,21nm,1.0s,baz=97,slow=1.6,SNR=9.9
RCBR **Riachuelo** 168.07 236 PFAKE 11 35 40.0 +7.7
RCBR LR LR
comp=Z,1µm,20.0s

IDC ***23*** *11:22:30.6±1.2,0.˚85S×134.˚36E,h0km,mb4.1/7, mb1 4.3/8,mb1mx3.9/22,mbtmp4.1/8,Error ellipse: s-maj=51.2km s-min=21.5km az=78.0*

ISCJB ***23*** *11:22:32.6±0.8,0.˚86S±0.˚08×134.˚4E±0.˚2,h27km,mb4.0/8, Error ellipse: s-maj=26.5km s-min=12.1km az=0.9*

NEIC ***23*** *11:22:32.2±0.7,0.˚87S×134.˚35E,h10km,mb4.3/1,Error ellipse: s-maj=34.1km s-min=10.9km az=78.0*

ISC 23 11:22:34.7±1.1,0.˚9S±0.˚1×134.˚4E±0.˚2,h27km,n20, σ0.˚64/19,mb4.0/8,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.93**	**226**	P		**Pn**	**11 23 19.8**	**+0.2**
	baz=8.4,SNR=18							
PALU	**Palau**	**8.17**	**1**	P		Pb	11 24 47.3	-8.2
	baz=16,SNR=4.5							
WRA	**Warramunga Arr**	**18.95**	**180**	P		**P**	**11 26 53.3**	**-0.6**
WRA	**Warramunga Arr**	**18.95**	**180**	P		**P**	**11 26 53.3**	**-0.6**
	baz=358,slow=11,SNR=2.3							
ASAR	**Alice Springs**	**22.66**	**181**	P		**P**	**11 27 34.4**	**+0.4**
ASAR	**Alice Springs**	**22.66**	**181**	P		**P**	**11 27 34.4**	**+0.4**
	5.9nm,1.0s,baz=358,slow=12,SNR=2.6							
CMAR	**Chiang Mai Arr**	**39.77**	**301**	P		**P**	**11 30 05.5**	**-0.2**
CMAR	**Chiang Mai Arr**	**39.77**	**301**	P		**P**	**11 30 05.5**	**-0.2**
	1.8nm,0.9s,baz=126,slow=6.5,SNR=5.5							
SONM	**Songino Array**	**54.29**	**337**	P		**P**	**11 31 59.0**	**+0.3**
SONM	**Songino Array**	**54.29**	**337**	P		**P**	**11 31 59.0**	**+0.3**

0.5nm,0.5s,baz=155,slow=8.9,SNR=1.9
MK31 Makanchi Array 65.72 324 *e*P **P 11 33 17.4 +0.4**
MKAR Makanchi Array 65.72 324 P **P 11 33 17.6 +0.5**
MKAR Makanchi Array 65.72 324 P **P 11 33 17.6 +0.5**
1.7nm,0.5s,baz=117,slow=8.2,SNR=9.8
KURK Kurchatov 69.75 326 P **P 11 33 40.9 -1.4**
KURBB Kurchatov Arra 69.76 326 P **P 11 33 40.9 -1.5**
0.9nm,0.3s,baz=117,slow=5.7,SNR=4.3
BVAR Borovoye Array 75.35 326 P **P 11 34 16.0 +0.3**
BVAR Borovoye Array 75.35 326 P **P 11 34 16.0 +0.3**
1.0nm,0.6s,baz=116,slow=9.8,SNR=3.6
BRVK Borovoye 75.43 326 *e*P **P 11 34 16.5 +0.4**
2.2nm,0.7s
ILAR Eielson Array 85.99 25 P **P 11 35 12.5 +0.2**
ILAR Eielson Array 85.99 25 P **P 11 35 12.5 +0.2**
0.5nm,0.7s,baz=258,slow=5.0,SNR=3.8

BJI ***23*** *11:32:08.7, 34.85N × 99.42E, h5km, mB4.8/8, mb4.7/11, ML4.2/10, Ms4.5/10, Ms7 4.2/8*
IDC ***23*** *11:32:08.4±0.5, 34.87N × 99.45E, h0km, mb4.4/26, mb1 4.5/28, mb1mx4.4/37, mbtmp4.4/28, ML4.4/2, Error ellipse: s-maj=15.2km s-min=10.7km az=37.0*
ISCJB ***23*** *11:32:08.2±0.2, 34.79N±0.03 × 99.35E±0.03, h10km, mb4.6/60, MS4.5/2, Error ellipse: s-maj=3.9km s-min=3.3km az=26.9*
MOS ***23*** *11:32:11.8±0.8, 34.86N × 99.44E, h33km, mb4.8/42, Error ellipse: s-maj=8.3km s-min=4.7km az=113.3*
NEIC ***23*** *11:32:14.2±0.5, 34.90N × 99.46E, h39km±5km, mb5.1/17, Error ellipse: s-maj=4.7km s-min=3.7km az=50.0*
BKK ***23*** *11:32:24.5±1.1, 35.4 × 10.0E, h133km±16km, M4.5/10, mB5.1/2, mb4.5/10, Mw(mB)4.5/2*
ISC 23 11:32:09.8±0.3, 34.85N±0.04 × 99.49E±0.04, h10km, n251, σ 0.96/242, mb4.7/60, 86C-5D, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**3.76**	**70**	Pn		Pb		11 33 12.1	-4.2
LZH				Pg		**Pg**		**11 33 20.6**	**-1.2**
LZH				Sg		**Sg**		**11 34 10.0**	**-0.5**
LZH				SMN					
	comp=Z,260nm,0.8s								
LZH				SME					
	comp=Z,300nm,0.7s								
LZH				LR		LR			
	comp=N,1μm,5.5s								
LZH				LR		LR			
	comp=E,2μm,5.9s								
LZH				LR		LR			
	comp=Z,2μm,6.5s								
GTA	**Gaotai**	**4.55**	**3**	Pn		Pn		11 33 21.8	+2.9
GTA				Pg		Pg		11 33 33.8	-3.2
GTA				Sn		**Sn**		**11 34 15.5**	**+3.6**
GTA				Sg		**Sg**		**11 34 33.3**	**-2.7**
GTA				SMN					
	comp=Z,230nm,1.3s								
GTA				SME					
	comp=Z,240nm,1.3s								
GTA				LR		LR			
	comp=N,2μm,8.5s								
GTA				LR		LR			
	comp=E,2μm,9.0s								
GTA				LR		LR			
	comp=Z,2μm,10.9s								
CD2	**Chengdu**	**5.32**	**136**	Pg		**Pg**		**11 33 50.6**	**-1.2**
CD2				Sg		Sg		11 35 06.9	+6.2
CD2				SMN					
	90nm,1.3s								
CD2				SME					
	100nm,1.2s								
XAN	**Xi'an**	**7.83**	**93**	P		**Pn**		**11 34 05.0**	**+1.2**
XAN				AMB		AMB			
	comp=Z,8.0nm,0.7s								
LSA	**Lhasa**	**8.73**	**236**	P		Pn		11 34 19.1	+2.5
LSA	**Lhasa**	**8.73**	**236**	P		Pn		11 34 19.6	+3.0
LSA				pmax		pmax			
	comp=Z,15nm,0.6s								
LSA	**Lhasa**	**8.73**	**236**	Pn		Pn		11 34 19.6	+3.0
	comp=Z,15nm,0.6s								
ENH	**Enshi**	**9.59**	**116**	*e*Pn		Pn		11 34 31.2	+3.3
	comp=Z,21nm,0.8s								
ENH				*e*Sn		Sn		11 36 21.8	+6.0
HHC	**Hu-ho-hao-te**	**11.26**	**54**	*e*P		**Pn**		**11 34 50.9**	**+0.1**
HHC				PP		**PnPn**		**11 34 59.0**	**+0.5**
HHC				S		**Sn**		**11 36 56.8**	**0.0**
HHC				SS		**SnSn**		**11 37 10.8**	**+2.2**
HHC				AMB		AMB			
	comp=Z,120nm,1.1s								
HHC				AMB		AMB			
	comp=Z,1μm,6.6s								
HHC				LR		LR			
	comp=Z,880nm,8.2s								
HHC				LR		LR			
	comp=Z,1μm,9.0s								
HHC				LR		LR			
	comp=Z,1μm,13.5s								
TAPN	**Taplejung**	**12.56**	**237**	*e*P		**Pn**		**11 35 07.7**	**-1.1**
	comp=Z,23nm,0.7s								
WMQ	**Urumqi**	**12.78**	**318**	P		**Pn**		**11 35 10.3**	**-1.2**
WMQ				AMB		AMB			
	comp=Z,47nm,0.6s								
WMQ				AMB		AMB			
	comp=Z,270nm,4.6s								
WMQ				LR		LR			
	comp=Z,2μm,15.2s								
WMQ				LR		LR			
	comp=Z,890nm,12.8s								
WMQ				LR		LR			
	comp=Z,850nm,23.8s								
ODAN	**Odare**	**13.09**	**236**	*e*P		**Pn**		**11 35 15.4**	**-0.6**
	comp=Z,91nm,1.0s								
WHN	**Wuhan**	**13.23**	**105**	P		**Pn**		**11 35 18.9**	**+1.2**
JIRN	**Jiri**	**13.44**	**241**	*e*P		**Pn**		**11 35 19.6**	**-1.3**
	comp=Z,27nm,0.8s								
GUN	**Gumba**	**13.53**	**243**	*e*P		**Pn**		**11 35 20.8**	**-1.2**
	comp=Z,42nm,0.6s								
RAMN	**Ramite**	**13.58**	**238**	*e*P		**Pn**		**11 35 21.1**	**-1.6**
	comp=Z,32nm,0.9s								
SONM	**Songino Array**	**13.96**	**20**	Pn		**Pn**		**11 35 28.6**	**+0.9**
SONM				Lg		Lg		11 39 32.3	
SONM	**Songino Array**	**13.96**	**20**	Pn		**Pn**		**11 35 28.6**	**+0.9**
	comp=Z,1.9nm,0.3s,baz=205,slow=15,SNR=52								
SONM				Lg		Lg		11 39 32.3	
	comp=Z,0.2nm,0.3s,baz=198,slow=27,SNR=3.9								
KKN	**Kakani**	**14.03**	**244**	*e*P		**Pn**		**11 35 26.7**	**-2.2**
	comp=Z,32nm,0.5s								
PKI	**Pulchoki**	**14.06**	**243**	*e*P		**Pn**		**11 35 27.1**	**-2.3**
	comp=Z,37nm,0.6s								
PKIN	**Phulchoki**	**14.07**	**243**	*e*P		**Pn**		**11 35 27.6**	**-1.8**
	comp=Z,22nm,0.6s								
ULN	**Ulaanbaatar**	**14.17**	**21**	*e*Pn		Pn		11 35 32.5	+1.9
DMN	**Daman**	**14.26**	**244**	*e*P		**Pn**		**11 35 29.8**	**-2.2**
	comp=Z,37nm,0.7s								
GKN	**Gorkha**	**14.40**	**246**	*e*P		**Pn**		**11 35 31.5**	**-2.3**
	comp=Z,67nm,0.8s								
CRAI	**Chiangrai**	**14.59**	**177**	P		P		11 35 49.5	+6.7
	comp=Z,31nm,0.7s,comp=Z,3μm								
DANN	**Dangsing**	**14.88**	**248**	*e*P		Pn		11 35 37.3	-3.3
	comp=Z,84nm,0.7s								
KOLN	**Koldanda**	**15.30**	**247**	*e*P		**Pn**		**11 35 43.6**	**-2.4**
	comp=Z,42nm,0.7s								
CHTO	**Chiang Mai**	**15.98**	**182**	*e*P		**P**		**11 35 55.0**	**-3.3**
CHTO				pmax		pmax			
	comp=Z,40nm,0.9s								
CHTO	**Chiang Mai**	**15.98**	**182**	*e*Pn		**P**		**11 35 55.0**	**-3.3**
	comp=Z,40nm,0.9s								
CHTO	**Chiang Mai**	**15.98**	**182**	P		P		11 36 02.6	+4.3
	comp=Z,85nm,1.0s								
CMAR	**Chiang Mai Arr**	**16.34**	**182**	Pn		**P**		**11 36 01.2**	**-1.0**
CMAR	**Chiang Mai Arr**	**16.34**	**182**	Pn		**P**		**11 36 01.3**	**-1.0**
	baz=356,slow=10								
HVS	**Khovu-Aksy**	**16.80**	**347**	⇓*e*P		**P**		**11 36 08.0**	**+0.7**
HVS				pmax		pmax			
	comp=Z,67nm,1.2s								
MOY	**Mondy**	**16.84**	**3**	*e*P		**P**		**11 36 08.2**	**+0.4**
TLY	**Talaya**	**17.08**	**9**	*e*P		**P**		**11 36 11.2**	**+0.9**
TLY				pmax		pmax			
	comp=Z,5.0nm,0.8s								
MK31	**Makanchi Array**	**17.61**	**318**	⇑Pg		**P**		**11 36 15.6**	**-0.6**
	comp=Z,9.9nm,0.8s								
MK31				⇓Lg		Lg		11 37 17.0	
	comp=Z,2.9nm,0.7s,baz=213,slow=30,SNR=4.7								
MKAR	**Makanchi Array**	**17.61**	**318**	P		**P**		**11 36 14.2**	**-2.0**
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.3s								
MKAR	**Makanchi Array**	**17.61**	**318**	P		**P**		**11 36 14.2**	**-2.0**
MKAR	**Makanchi Array**	**17.61**	**318**	P		**P**		**11 36 14.2**	**-2.0**
	comp=Z,1.1nm,0.3s,baz=126,slow=14,SNR=16								
IRK	**Irkutsk**	**17.72**	**10**	*e*P		**P**		**11 36 17.1**	**-0.2**
IRK				pmax		pmax			
	comp=Z,42nm,1.8s								
QIZ	**Qiongzhong**	**18.24**	**147**	P		**Pn**		**11 36 21.4**	**-1.7**
QIZ				S		**Sn**		**11 39 46.8**	**-0.1**
QIZ				AMB		AMB			
	comp=Z,19nm,2.4s								
PBKT	**Sadao Pong**	**18.26**	**175**	P		P		11 36 28.0	+4.6
	comp=Z,23nm,1.2s								
CHAI	**Chaiyaphum**	**19.01**	**173**	P		Pn		11 36 36.7	+4.3
	comp=Z,3.0nm,1.1s,comp=Z,609nm								
UTHA	**Uthaitani**	**19.21**	**180**	P		Pn		11 36 41.6	+6.7
	comp=Z,2.9nm,1.0s								
SNY	**Shenyang**	**20.10**	**63**	⇓P		Pn		11 36 45.8	+0.5
SNY				S		**S**		**11 40 26.3**	**-2.9**
SNY				AMB		AMB			
	comp=Z,25nm,0.6s								
SNY				AMB		AMB			
	comp=Z,160nm,4.9s								
SNY				LR		LR			
	comp=Z,1μm,17.4s								
SNY				LR		LR			
	comp=Z,1μm,18.6s								
SNY				LR		LR			
	comp=Z,2μm,16.2s								
JBP	**Jabalpur**	**20.61**	**241**	⇓*i*P		Pn		11 36 52.7	+1.2
AAK	**Ala-Archa**	**20.94**	**299**	⇑*e*P		Pn		11 36 53.7	-1.7
AAK				pmax		pmax			
	comp=Z,22nm,1.2s								
AAK	**Ala-Archa**	**20.94**	**299**	P		Pn		11 36 54.3	-1.1
AAK	**Ala-Archa**	**20.94**	**299**	P		Pn		11 36 54.3	-1.1
	comp=Z,6.8nm,0.7s,baz=183,slow=3.2,SNR=5.5								
ZAA0	**Zalesovo Array**	**21.70**	**336**	*e*P		**P**		**11 37 00.8**	**+0.1**
ZALV	**Zalesovo Beam**	**21.70**	**336**	P		**P**		**11 37 00.2**	**-0.5**
ZALV				pmax		pmax			
	comp=Z,11nm,0.6s								
ZALV	**Zalesovo Beam**	**21.70**	**336**	P		**P**		**11 37 00.2**	**-0.5**
ZALV	**Zalesovo Beam**	**21.70**	**336**	P		**P**		**11 37 00.2**	**-0.5**
	comp=Z,11nm,0.6s,baz=140,slow=12,SNR=28								
CN2	**Changchun**	**21.91**	**58**	*e*P		**P**		**11 37 04.5**	**+1.5**
CN2				*ep*P		**pP**		**11 37 08.8**	**+2.9**
CN2				*es*P		sP		11 37 11.6	+4.4
CN2				*e*S		**S**		**11 41 01.5**	**-3.4**
CN2				AMB		AMB			
	comp=Z,10.0nm,0.7s								
CN2				AMB		AMB			
	comp=Z,200nm,6.0s								
CN2				LR		LR			
	comp=Z,800nm,12.0s								
CN2				LR		LR			
	comp=Z,1μm,12.0s								
CN2				LR		LR			
	comp=Z,1μm,15.0s								
KURBB	**Kurchatov Arra**	**21.91**	**322**	P		**P**		**11 37 02.8**	**-0.2**
	comp=Z,3.1nm,0.3s,baz=126,slow=11,SNR=31								
KURBB				PcP		**PcP**		**11 41 01.1**	**-0.8**
	comp=Z,1.0nm,0.4s,baz=108,slow=1.2,SNR=5.3								
KURK	**Kurchatov**	**21.93**	**323**	P		**P**		**11 37 02.8**	**-0.3**
KURK								11 41 01.1	
KURK				pmax		pmax			
	comp=Z,3.0nm,0.3s								
KURK				pmax		pmax			
	comp=Z,1.0nm,0.4s								
KURK	**Kurchatov**	**21.93**	**323**	P		**P**		**11 37 02.8**	**-0.3**
KURK				PcP		**PcP**		**11 41 01.1**	**-0.8**
KURK	**Kurchatov**	**21.93**	**323**	P		**P**		**11 37 03.1**	**-0.1**
	comp=Z,104nm,0.8s,SNR=8.4								
TJN	**Taejon**	**22.68**	**78**	*e*P		**P**		**11 37 12.1**	**+0.7**
NVS	**Novosibirsk**	**22.96**	**335**	*e*P		**P**		**11 37 14.3**	**+0.2**
KSAR	**Wonju Array Be**	**23.04**	**75**	P		**P**		**11 37 16.4**	**+1.3**
KSRS	**Korea Array**	**23.07**	**75**	P		**P**		**11 37 16.4**	**+1.0**
	comp=Z,7.4nm,0.7s,baz=271,slow=9.0,SNR=39								
KKAR	**Karatay Array**	**23.90**	**299**	*e*P		**P**		**11 37 24.5**	**+0.8**
KKAR				pmax		pmax			
	comp=Z,3.0nm,0.6s								
KKAR	**Karatay Array**	**23.90**	**299**	*e*P		**P**		**11 37 24.5**	**+0.8**
	comp=Z,3.2nm,0.6s								
KBL	**Kabul**	**24.99**	**278**	P		**P**		**11 37 35.5**	**+1.6**
KBL				pmax		pmax			
	comp=Z,15nm,0.8s								
KBL	**Kabul**	**24.99**	**278**	P		**P**		**11 37 35.5**	**+1.6**
	comp=Z,15nm,0.8s								
JNU	**Nakatsue**	**26.03**	**85**	P		**P**		**11 37 45.0**	**+1.9**
JNU	**Nakatsue**	**26.03**	**85**	P		**P**		**11 37 45.0**	**+1.9**
	comp=Z,7.8nm,0.8s,baz=271,slow=0.2,SNR=4.0								
USRK	**Ussuriysk Arra**	**26.60**	**60**	P		**P**		**11 37 49.3**	**+1.1**
	comp=Z,2.1nm,0.7s,baz=260,slow=7.7,SNR=5.4								
BVAR	**Borovoye Array**	**27.45**	**320**	P		**P**		**11 37 56.7**	**+1.0**
BVAR	**Borovoye Array**	**27.45**	**320**	P		**P**		**11 37 56.7**	**+1.0**
BVAR	**Borovoye Array**	**27.45**	**320**	P		**P**		**11 37 56.7**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=118,slow=8.8,SNR=3.2								
BRVK	**Borovoye**	**27.52**	**320**	⇑*e*P		**P**		**11 37 56.9**	**+0.6**
BRVK				pmax		pmax			
	comp=Z,2.0nm,0.7s								
KLR	**Kul'dur**	**27.68**	**49**	*e*P		**P**		**11 37 54.8**	**-3.1**
AKTO	**Aktyubinsk**	**33.76**	**310**	P		**P**		**11 38 51.1**	**-0.3**
AKTO				pmax		pmax			
	comp=Z,3.0nm,0.7s								
AKTO	**Aktyubinsk**	**33.76**	**310**	P		**P**		**11 38 51.1**	**-0.3**
AKTO	**Aktyubinsk**	**33.76**	**310**	P		**P**		**11 38 51.1**	**-0.3**
	comp=Z,2.9nm,0.7s,baz=91,slow=7.7,SNR=8.5								
SVE	**Sverdlovsk**	**34.18**	**322**	*e*P		P		11 38 56.5	+1.5
SVE				pmax		pmax			
	comp=Z,13nm,0.9s								
ASAJ	**Asahikawa**	**34.20**	**61**	*e*P		**P**		**11 38 56.1**	**+0.8**
ASAJ	**Asahikawa**	**34.20**	**61**	P		**P**		**11 38 55.5**	**+0.2**
	comp=Z,19nm,0.7s,baz=274,slow=9.3,SNR=25								
ARU	**Arti**	**35.09**	**321**	*ci*P		**P**		**11 39 03.6**	**+0.7**
ARU				S		**S**		**11 44 37.9**	**+2.6**
ARU				pmax		pmax			
	comp=Z,34nm,1.2s								
TIXI	**Tiksi**	**39.95**	**14**	⇓*i*P		**P**		**11 39 44.1**	**+0.3**
TIXI				pmax		pmax			
	comp=Z,2.0nm,0.8s								
SEY	**Seymchan**	**42.87**	**32**	⇑P		**P**		**11 40 08.7**	**+0.8**
KBZ	**Khabaz**	**43.94**	**299**	P		P		11 40 20.0	+3.3
KBZ				pmax		pmax			
	comp=Z,3.0nm,0.8s								
KBZ	**Khabaz**	**43.94**	**299**	P		P		11 40 20.0	+3.3
KBZ	**Khabaz**	**43.94**	**299**	P		P		11 40 20.0	+3.3
	comp=Z,2.1nm,0.8s,baz=90,slow=9.1,SNR=4.8								
PETK	**Petropavlovsk-**	**44.35**	**47**	P		**P**		**11 40 19.9**	**-0.1**
PETK				pmax		pmax			
	comp=Z,5.0nm,0.9s								
PETK	**Petropavlovsk-**	**44.35**	**47**	P		**P**		**11 40 19.9**	**-0.1**
PETK	**Petropavlovsk-**	**44.35**	**47**	P		**P**		**11 40 19.9**	**-0.1**
	comp=Z,3.6nm,0.9s,baz=232,slow=7.1,SNR=5.6								
VORD	**Divnogorie**	**45.64**	**310**	*e*P		**P**		**11 40 30.8**	**+0.6**
VORD				pmax		pmax			
	comp=E,20nm,0.6s								
VORD				pmax		pmax			
	comp=Z,10.0nm,0.6s								
VSR	**Storozhevoye**	**45.70**	**310**	*e*P		**P**		**11 40 30.8**	**+0.1**
VSR				pmax		pmax			
	comp=N,10.0nm,0.5s								
VSR				pmax		pmax			
	comp=E,4.0nm,0.5s								
VSR				pmax		pmax			
	comp=Z,8.0nm,0.5s								
KLMR	**Klimovskoe**	**45.77**	**324**	*e*P		**P**		**11 40 29.6**	**-1.5**
KLMR				pmax		pmax			
	comp=Z,10.0nm,0.7s								
OBN	**Obninsk**	**47.10**	**316**	⇑*e*P		**P**		**11 40 41.8**	**+0.2**
OBN				pmax		pmax			
	comp=Z,10.0nm,1.0s								
ANN	**Anapa**	**47.63**	**302**	*e*P		P		11 40 42.5	-3.5
ANN				pmax		pmax			
	comp=Z,14nm,1.0s								
JOF	**Joensuu**	**49.78**	**326**	*e*P		**P**		**11 41 01.9**	**-0.3**
JOF				pmax		pmax			
	comp=Z,1.0nm,0.3s								
JOF	**Joensuu**	**49.78**	**326**	*ep*		**P**		**11 41 01.9**	**-0.3**
	comp=Z,1.2nm,0.3s								
BRTR	**Keskin Array B**	**51.57**	**296**	P		**P**		**11 41 16.4**	**+0.1**
BRTR	**Keskin Array B**	**51.57**	**296**	P		**P**		**11 41 16.4**	**+0.1**
	comp=Z,2.7nm,0.7s,baz=109,slow=5.2,SNR=9.7								
KEV	**Kevo**	**51.72**	**335**	*e*P		**P**		**11 41 15.8**	**-0.9**
KEV				pmax		pmax			
	comp=Z,4.0nm,0.7s								
KEV	**Kevo**	**51.72**	**335**	*ep*		**P**		**11 41 15.8**	**-0.9**
	comp=Z,4.0nm,0.7s								
AKASG	**Malin Array Be**	**52.00**	**311**	P		**P**		**11 41 18.7**	**-0.4**
AKASG				pmax		pmax			
	comp=Z,5.0nm,0.7s								
AKASG	**Malin Array Be**	**52.00**	**311**	P		**P**		**11 41 18.7**	**-0.4**
AKASG	**Malin Array Be**	**52.00**	**311**	P		**P**		**11 41 18.7**	**-0.4**
	comp=Z,3.3nm,0.7s,baz=70,slow=7.0,SNR=12								
KIEV	**Kiev**	**52.01**	**311**	*e*P		**P**		**11 41 19.0**	**-0.2**
KIEV				pmax		pmax			
	comp=Z,7.0nm,0.9s								
KIEV	**Kiev**	**52.01**	**311**	*e*P		**P**		**11 41 19.0**	**-0.2**
	comp=Z,6.9nm,0.9s								
AK02	**Malin Array Si**	**52.02**	**311**	*e*P		**P**		**11 41 19.3**	**+0.1**
KAF	**Kangasniemi**	**52.12**	**325**	*e*P		**P**		**11 41 19.2**	**-0.6**
KAF				pmax		pmax			
	comp=Z,4.0nm,0.8s								
KAF	**Kangasniemi**	**52.12**	**325**	*ep*		**P**		**11 41 19.2**	**-0.6**
	comp=Z,3.6nm,0.8s								
ARCES	**ARCESS Array B**	**52.24**	**335**	P		**P**		**11 41 20.9**	**+0.3**
ARCES	**ARCESS Array B**	**52.24**	**335**	P		**P**		**11 41 20.9**	**+0.3**
	comp=Z,6.5nm,0.9s,baz=72,slow=7.9,SNR=14								
FINES	**FINESS Array B**	**52.28**	**324**	P		**P**		**11 41 21.2**	**+0.1**
FINES	**FINESS Array B**	**52.28**	**324**	P		**P**		**11 41 21.2**	**+0.1**
	comp=Z,3.9nm,0.7s,baz=91,slow=7.8,SNR=12								
KOLS	**Kolonicke sedl**	**56.79**	**310**	*e*P		**P**		**11 41 54.4**	**+0.4**
KOLS	**Kolonicke sedl**	**56.79**	**310**	*e*P		**P**		**11 41 54.4**	**+0.4**
UZH	**Uzhgorod**	**56.87**	**309**	*e*P		**P**		**11 41 53.8**	**-0.7**
STHS	**Stebnicka Huta**	**57.30**	**311**	*e*P		**P**		**11 41 58.6**	**+1.0**
STHS	**Stebnicka Huta**	**57.30**	**311**	*e*P		**P**		**11 41 58.6**	**+1.0**
CRVS	**Cervenica-Dubn**	**57.31**	**310**	*e*P		**P**		**11 41 57.9**	**+0.2**
CRVS	**Cervenica-Dubn**	**57.31**	**310**	*e*P		**P**		**11 41 57.9**	**+0.2**
OJC	**Ojcow**	**57.96**	**312**	*e*P		**P**		**11 42 02.7**	**+0.5**
OJC	**Ojcow**	**57.96**	**312**	*e*P		**P**		**11 42 02.7**	**+0.5**
KECS	**Kecovo**	**58.06**	**310**	*e*P		**P**		**11 42 03.4**	**+0.5**
KECS	**Kecovo**	**58.06**	**310**	*e*P		**P**		**11 42 03.4**	**+0.5**
HFS	**Hagfors**	**58.49**	**324**	P		**P**		**11 42 05.4**	**-0.4**
HFS	**Hagfors**	**58.49**	**324**	P		**P**		**11 42 05.4**	**-0.4**
	comp=Z,5.1nm,0.8s,baz=126,slow=7.5,SNR=8.1								
NB2	**NORSAR Subarra**	**59.40**	**326**	P		**P**		**11 42 11.7**	**-0.4**
	comp=Z,2.1nm,0.5s,baz=71,slow=6.9								
NOA	**NORSAR Array B**	**59.40**	**326**	P		**P**		**11 42 12.0**	**-0.2**
NOA	**NORSAR Array B**	**59.40**	**326**	P		**P**		**11 42 12.0**	**-0.2**
	comp=Z,3.3nm,0.7s,baz=73,slow=7.0,SNR=13								
DPC	**Dobruska-Polom**	**60.03**	**313**	*e*P		**P**		**11 42 17.5**	**+0.8**
DPC	**Dobruska-Polom**	**60.03**	**313**	*e*P		**P**		**11 42 17.5**	**+0.8**
UPC	**Upice**	**60.17**	**313**	*e*P		P		11 42 18.8	+1.3
UPC	**Upice**	**60.17**	**313**	*e*P		P		11 42 18.8	+1.3
PRU	**Pruhonice**	**61.23**	**313**	*e*P		**P**		**11 42 25.5**	**+0.7**
PRU	**Pruhonice**	**61.23**	**313**	*e*P		**P**		**11 42 25.5**	**+0.7**
CLL	**Collm**	**61.67**	**315**	*e*P		**P**		**11 42 28.0**	**+0.3**
CLL				pmax		pmax			
	comp=Z,15nm,0.8s								
CLL	**Collm**	**61.67**	**315**	*e*P		**P**		**11 42 28.0**	**+0.3**
	comp=Z,5.0nm,0.8s								
KHC	**Kasperske Hory**	**62.13**	**312**	*e*P		**P**		**11 42 31.4**	**+0.5**
KHC	**Kasperske Hory**	**62.13**	**312**	*e*P		**P**		**11 42 31.4**	**+0.5**
GERES	**GERESS Array B**	**62.16**	**312**	P		**P**		**11 42 31.5**	**+0.3**
GERES	**GERESS Array B**	**62.16**	**312**	P		**P**		**11 42 31.5**	**+0.3**
	comp=Z,3.7nm,0.9s,baz=66,slow=6.4,SNR=19								
JMIC	**Jan Mayen**	**62.99**	**340**	P		**P**		**11 42 34.5**	**-1.7**
JMIC	**Jan Mayen**	**62.99**	**340**	P		**P**		**11 42 34.5**	**-1.7**
	comp=Z,124nm,0.4s,baz=178,slow=3.6,SNR=5.9								
WRAB	**Tennant Creek**	**63.76**	**143**	*e*P		**P**		**11 42 42.5**	**+0.5**
WRAB				pmax		pmax			
	comp=Z,9.0nm,1.1s								
WRAB	**Tennant Creek**	**63.76**	**143**	*e*P		**P**		**11 42 42.5**	**+0.5**
	comp=Z,9.1nm,1.1s								
WRA	**Warramunga Arr**	**63.77**	**143**	P		**P**		**11 42 42.1**	**+0.1**
WRA				PcP		**PcP**		**11 43 18.0**	**0.0**
WRA	**Warramunga Arr**	**63.77**	**143**	P		**P**		**11 42 42.1**	**+0.1**
	comp=Z,5.6nm,0.9s,baz=340,slow=6.1,SNR=4.6								
WRA				PcP		**PcP**		**11 43 18.0**	**0.0**
	comp=Z,1.7nm,1.0s,baz=338,slow=4.3,SNR=5.0								
IMA2	**Indian Mountai**	**65.02**	**26**	*e*P		**P**		**11 42 50.6**	**+0.8**
CDF	**Champ du Feu**	**66.23**	**313**	⇑*i*P		**P**		**11 42 57.7**	**-0.2**
	comp=Z,12nm,0.8s								
CDF	**Champ du Feu**	**66.23**	**313**	⇑*i*P		**P**		**11 42 57.7**	**-0.2**
CDF				pmax		pmax			
	comp=Z,13nm,0.8s								
CDF	**Champ du Feu**	**66.23**	**313**	⇑*i*P		**P**		**11 42 57.7**	**-0.2**
	comp=Z,12nm,0.8s								
AS31	**Alice Springs**	**66.73**	**146**	*e*P		**P**		**11 43 01.9**	**+0.6**
ASAR	**Alice Springs**	**66.73**	**146**	P		**P**		**11 43 01.7**	**+0.5**
ASAR	**Alice Springs**	**66.73**	**146**	P		**P**		**11 43 01.7**	**+0.5**
	comp=Z,3.8nm,0.8s,baz=330,slow=6.7,SNR=41								
HINF	**Hinteralfeld**	**66.75**

comp=Z,7.7nm,0.9s,baz=128,slow=2.9,SNR=3.2
VIVF Saint-Julien-I 69.47 311⇑ iP P 11 43 18.1 -0.2
comp=Z,21nm,1.1s
VIVF Saint-Julien-I 69.47 311⇑ iP P 11 43 18.1 -0.2
VIVF pmax pmax
comp=Z,21nm,1.1s
VIVF Saint-Julien-I 69.47 311⇑ iP P 11 43 18.1 -0.2
comp=Z,21nm,1.1s
TCF Toulx Ste Croi 70.27 313⇑ iP P 11 43 23.4 +0.2
comp=Z,32nm,1.0s
TCF Toulx Ste Croi 70.27 313⇑ iP P 11 43 23.4 +0.2
TCF pmax pmax
comp=Z,32nm,1.0s
TCF Toulx Ste Croi 70.27 313⇑ iP P 11 43 23.4 +0.2
comp=Z,32nm,1.0s
LASF Ste Croix 70.36 310⇑ iP P 11 43 24.1 +0.3
LASF Ste Croix 70.36 310⇑ iP P 11 43 24.1 +0.3
LDF La Druitiere 70.47 316⇑ iP P 11 43 24.1 -0.2
LDF La Druitiere 70.47 316⇑ iP P 11 43 24.1 -0.2
LDF La Druitiere 70.47 316⇑ iP P 11 43 24.1 -0.2
GRR Gorron 71.00 316⇑ iP P 11 43 27.3 -0.2
comp=Z,13nm,0.6s
GRR Gorron 71.00 316⇑ iP P 11 43 27.3 -0.2
GRR pmax pmax
comp=Z,13nm,0.6s
GRR Gorron 71.00 316⇑ iP P 11 43 27.3 -0.2
comp=Z,13nm,0.6s
CAF Calviac 71.04 312⇑ iP P 11 43 27.8 -0.1
comp=Z,11nm,0.8s
CAF Calviac 71.04 312⇑ iP P 11 43 27.8 -0.1
CAF pmax pmax
comp=Z,11nm,0.8s
CAF Calviac 71.04 312⇑ iP P 11 43 27.8 -0.1
comp=Z,11nm,0.8s
RJF Les Rejaudoux 71.18 312⇑ iP P 11 43 29.4 +0.6
RJF Les Rejaudoux 71.18 312⇑ iP P 11 43 29.4 +0.6
RJF Les Rejaudoux 71.18 312⇑ iP P 11 43 29.4 +0.6
MFF Saint Martin d 71.51 314⇑ iP P 11 43 30.7 0.0
comp=Z,22nm,1.0s
MFF Saint Martin d 71.51 314⇑ iP P 11 43 30.7 0.0
MFF pmax pmax
comp=Z,22nm,1.0s
MFF Saint Martin d 71.51 314⇑ iP P 11 43 30.7 0.0
comp=Z,22nm,1.0s
MTLF Montolieu 71.75 310⇑ iP P 11 43 32.4 +0.2
MTLF Montolieu 71.75 310⇑ iP P 11 43 32.4 +0.2
MTLF Montolieu 71.75 310⇑ iP P 11 43 32.4 +0.2
LFF La Frestale 71.84 312⇑ iP P 11 43 33.2 +0.5
LFF La Frestale 71.84 312⇑ iP P 11 43 33.2 +0.5
LFF La Frestale 71.84 312⇑ iP P 11 43 33.2 +0.5
SGMF Saint Gilles 72.03 317⇑ iP P 11 43 33.9 +0.1
SGMF Saint Gilles 72.03 317⇑ iP P 11 43 33.9 +0.1
SGMF Saint Gilles 72.03 317⇑ iP P 11 43 33.9 +0.1
EPF Esparros 73.09 311⇑ iP P 11 43 39.7 -0.6
EPF Esparros 73.09 311⇑ iP P 11 43 39.7 -0.6
EPF Esparros 73.09 311⇑ iP P 11 43 39.7 -0.6
ETSF Etsaut 73.72 311⇑ iP P 11 43 44.6 +0.6
ETSF Etsaut 73.72 311⇑ iP P 11 43 44.6 +0.6
ETSF Etsaut 73.72 311⇑ iP P 11 43 44.6 +0.6
STKA Stephens Creek 77.28 144 P P 11 44 04.7 +0.4
STKA Stephens Creek 77.28 144 P P 11 44 04.7 +0.4
comp=Z,3.9nm,0.9s,baz=338,slow=5.5,SNR=9.3
YKA Yellowknife Ar 79.18 15 P P 11 44 14.1 -0.4
YKA Yellowknife Ar 79.18 15 P P 11 44 14.1 -0.4
comp=Z,3.3nm,0.9s,baz=323,slow=5.3,SNR=4.9
MDT Midelt 82.06 304 P P 11 44 31.8 +1.1
MDT Midelt 82.06 304 P P 11 44 31.8 +1.1
comp=Z,1.6nm,0.8s,baz=350,slow=6.1,SNR=3.0
TORD Torodi Ar. Bea 88.86 285 P P 11 45 03.9 -0.7
TORD Torodi Ar. Bea 88.86 285 P P 11 45 03.9 -0.7
comp=Z,1.2nm,1.1s,baz=65,slow=3.5,SNR=3.3
FFC Flin Flon 88.89 12 *i* P P **11 45 04.9 +0.8**
BDFB Brasilia 145.16 295 PKPbc **PKPdf 11 51 47.9 -0.3**
BDFB Brasilia 145.16 295 PKPbc **PKPdf 11 51 47.9 -0.3**
comp=Z,9.1nm,0.8s,baz=135,slow=2.6,SNR=6.3

IDC 23 11:37:10.0±2.0, 3°27'N×128°47'E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.4/23, mbtmp3.5/4, Error ellipse: s-maj=106.3km s-min=23.2km az=71.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.42**	**187**	P	P	11 42 01.3	+1.5
	3.0nm,1.0s,baz=22,slow=11,SNR=5.3						
WRA	**Warramunga Arr**	**23.77**	**166**	P	P	11 42 23.8	-0.7
	0.3nm,0.3s,baz=344,slow=10,SNR=17						
ASAR	**Alice Springs**	**27.29**	**169**	P	P	11 42 56.0	-0.5
	0.2nm,0.4s,baz=351,slow=6.9,SNR=16						
MKAR	**Makanchi Array**	**58.93**	**325**	P	P	11 47 11.3	+0.2
	0.3nm,0.5s,baz=115,slow=6.8,SNR=4.2						

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*BJI **23** 11:37:46.2, 13°.01S×64°.54E, h10km, mB5.7/27, mb5.1/47, Ms5.3/30, Ms7 5.0/30*
*ISCJB **23** 11:37:51.6±1.3, 12°.42S±0°.03×65°.21E±0°.03, h5km±7km, mb5.2/222, MS4.9/34, Error ellipse: s-maj=5.8km s-min=4.6km az=168.0*
*IDC **23** 11:37:52.2±0.4, 12°.41S×65°.24E, h0km, mb4.9/35, mb1 5.0/36, mb1mx5.0/37, mbtmp4.9/36, ML4.9/1, MS4.8/14, Ms1 4.8/14, ms1mx4.4/46, Error ellipse: s-maj=12.8km s-min=10.3km az=32.0*
*MOS **23** 11:37:52.7±0.9, 12°.30S×65°.22E, h10km, mb5.6/89, MS4.8/11, Error ellipse: s-maj=7.7km s-min=4.1km az=109.5*
*NEIC **23** 11:37:54.1±0.1, 12°.39S×65°.21E, h10km, mb5.4/74, Error ellipse: s-maj=4.8km s-min=3.8km az=196.0*
*GCMT **23** 11:37:56.6±0.2, 12°.41S×65°.20E, h12km, MW5.4, Moment Tensor Solution. s53,c80; s99,c185; Moment tensor: Scale 10^{17}Nm; M_{rr}-1.34±.03; $M_{\theta\theta}$0.99±.03; $M_{\phi\phi}$0.35±.03; $M_{r\theta}$0.16±.07; $M_{\theta\phi}$-0.65±.02; $M_{\phi r}$-0.09±.08; Best double couple: $M_0$1.40000×10^{17} NP1:ϕ_s302.00000°, δ49.00000°, λ-90.00000°. NP2:ϕ_s122.00000°, δ41.00000°, λ-90.00000°. Principal axes: T 1.4000, Plg4.0000°, Azm32.0000°; N -0.0500, Plg0.0000°, Azm302.0000°; P -1.3500, Plg86.0000°, Azm209.0000°; Data Used: II IU IC G CN. Surface waves from 102 sta.*
*DJA **23** 11:37:57.9±3.2, 12°.5S×67°.5E±°, h26km±25km, M5.0/12, mB5.7/2, mb5.0/12, Mw(mB)5.2/2*
*SZGRF **23** 11:38:03.8, 12°.01S×63°.23E, h33km, mb5.5, South Indian Ocean*

ISC 23 11:37:54.7±0.5, 12°.46S±0°.05×65°.17E±0°.04, h14km±2km, h13km:pP-P, n1110, s0f87/1218, mb5.3/222, MS4.9/36, 262C-232D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N3	**Diego Garcia H**	**8.36**	**44**	T	T	11 48 22.8	
	baz=222,slow=0.7,SNR=9404						
H08N1	**Diego Garcia H**	**8.38**	**44**	T	T	11 48 16.2	
	baz=222,slow=0.7						
H08N2	**Diego Garcia H**	**8.38**	**44**	T	T	11 48 18.4	
	baz=222,slow=0.7,SNR=7675						
H08S1	**Diego Garcia H**	**8.64**	**57**	T	T	11 48 39.7	
	baz=237,slow=0.7,SNR=199						
H08S2	**Diego Garcia H**	**8.65**	**57**	T	T	11 48 45.6	
	baz=237,slow=0.7,SNR=186						
H08S3	**Diego Garcia H**	**8.65**	**57**	T	T	11 48 36.8	
	baz=237,slow=0.7,SNR=216						
MSEY	**Mahe Island**	**12.31**	**308**	*e*Pn	**Pn**	**11 40 50.0**	**+0.2**
	96nm,1.2s						
MSEY				*e*Sn	Sn	11 42 59.8	-7.2
KAAM	**Kaadhehdhoo**	**15.03**	**32**	P	**Pn**	**11 41 25.6**	**-1.2**
	148nm,1.5s						
OPO	**Ambohidratompo**	**18.36**	**248**	P	**P**	**11 42 10.7**	**+1.5**
OPO				S	**Sn**	**11 45 28.1**	**-6.2**
OPO	**Ambohidratompo**	**18.36**	**248**	P	**P**	**11 42 10.7**	**+1.5**
	3.6nm,0.3s,baz=73,slow=13,SNR=20						
OPO				S	**Sn**	**11 45 28.1**	**-6.2**
	0.8nm,0.3s,baz=105,slow=20,SNR=2.3						
OPO				LR	LR	11 47 19.5	
	comp=Z,4μm,21.2s,baz=72,slow=31						
ABPO	**Ambohimpanom**	**18.45**	**247**	*e*P	**Pn**	**11 42 13.3**	**+2.9**
ABPO				*e*S	**Sn**	**11 45 34.0**	**-2.7**
ABPO				pmax	pmax		
	comp=Z,509nm,1.9s						
ABPO	**Ambohimpanom**	**18.45**	**247**	*e*P	**Pn**	**11 42 13.3**	**+2.9**
	comp=Z,509nm,1.9s						
ABPO				*e*S	**Sn**	**11 45 34.0**	**-2.7**
MNCY	**Minicoy**	**22.02**	**21**	*i* P	**P**	**11 42 46.0**	**-2.9**
PALK	**Pallekele**	**24.95**	**39**	P	**P**	**11 43 19.2**	**+1.2**
PALK	**Pallekele**	**24.95**	**39**	*e*P	**P**	**11 43 18.9**	**+1.0**
	comp=Z,50nm,1.2s						
KMBO	**Kilima Mbogo**	**29.88**	**290**	P	**P**	**11 44 04.6**	**+2.1**
	SNR=9.7						
KMBO	**Kilima Mbogo**	**29.88**	**290**	*e*P	**P**	**11 44 03.4**	**+1.0**
KMBO	**Kilima Mbogo**	**29.88**	**290**	P	**P**	**11 44 03.2**	**+0.7**
	comp=Z,9.9nm,0.8s,baz=66,slow=8.1,SNR=22						
RBK	**Rabkut**	**31.68**	**340**	P	**P**	**11 44 19.8**	**+1.8**
	SNR=11						
ABTO	**Aybut**	**31.86**	**338**	P	**P**	**11 44 20.8**	**+1.2**
	SNR=16						
GSI	**Gunungsitoli**	**34.95**	**69**	P	**P**	**11 44 47.4**	**+0.7**
	comp=Z,32nm,1.1s						
GSI	**Gunungsitoli**	**34.95**	**69**	*e*P	**P**	**11 44 47.8**	**+1.1**
	comp=Z,37nm,1.1s						
BSY	**Bisya**	**35.85**	**347**	P	**P**	**11 44 54.9**	**+0.7**
	SNR=12						
SMDO	**Samad**	**35.98**	**349**	P	**P**	**11 44 56.3**	**+0.9**
	SNR=7.5						
LSZ	**Lusaka**	**35.99**	**261**	P	**P**	**11 44 57.2**	**+1.5**
	SNR=15						
LSZ	**Lusaka**	**35.99**	**261**	*e*P	**P**	**11 44 56.7**	**+1.0**
	comp=Z,148nm,1.6s						
ARQ	**Araqi**	**36.57**	**347**	P	**P**	**11 45 01.2**	**+0.9**
	SNR=8.9						
HOQ	**Hoqain**	**36.64**	**348**	P	**P**	**11 45 01.5**	**+0.6**
	SNR=6.5						
PSI	**Prapat**	**36.80**	**68**	P	**P**	**11 45 01.5**	**-1.1**
PSI	**Prapat**	**36.80**	**68**	P	**P**	**11 45 01.5**	**-1.1**
	comp=Z,4.7nm,0.8s,baz=140,slow=21,SNR=5.0						
ASHO	**Ashiyiah**	**37.97**	**346**	P	**P**	**11 45 12.6**	**+0.3**
	SNR=10						
HATD	**Hatta, Dubai**	**38.09**	**347**	P	**P**	**11 45 13.9**	**+0.6**
	SNR=7.2						
LBTB	**Lobatse**	**39.36**	**246**	*e*P	**P**	**11 45 24.6**	**+0.5**
	comp=Z,32nm,0.8s						
KULM	**Kulm**	**39.43**	**66**	P	**P**	**11 45 26.3**	**+1.6**
KULM	**Kulm**	**39.43**	**66**	P	**P**	**11 45 24.8**	**+0.1**
	comp=Z,18nm,1.2s						
KULM	**Kulm**	**39.43**	**66**	*e*P	**P**	**11 45 25.1**	**+0.4**
	comp=Z,19nm,1.1s						
KULM				*e*PcP	**PcP**	**11 47 32.9**	**0.0**
BOSA	**Boshof**	**40.47**	**240**	P	**P**	**11 45 33.8**	**+0.4**
BOSA	**Boshof**	**40.47**	**240**	P	**P**	**11 45 33.8**	**+0.4**
	comp=Z,12nm,0.8s,baz=72,slow=9.3,SNR=13						
BOSA				LR	LR	12 00 13.8	
	comp=Z,2μm,19.8s,baz=78,slow=33						
RAYN	**Ar Rayn**	**40.61**	**332**	P	**P**	**11 45 34.2**	**-0.2**
	comp=Z,102nm,1.1s,SNR=10						
MYKOM	**Kota Tinggi**	**40.93**	**72**	P	**P**	**11 45 37.1**	**0.0**
MYKOM	**Kota Tinggi**	**40.93**	**72**	P	**P**	**11 45 37.0**	**-0.2**
	comp=Z,14nm,1.1s						
MYKOM	**Kota Tinggi**	**40.93**	**72**	*e*P	**P**	**11 45 36.9**	**-0.3**
	comp=Z,64nm,2.0s						
ISRV	**Sarvestan**	**43.19**	**345**	*e*P	**P**	**11 45 55.4**	**-0.3**
KOLN	**Koldanda**	**43.80**	**24**	*e*P	**P**	**11 46 00.4**	**-0.1**
	comp=Z,22nm,0.7s						
DMN	**Daman**	**44.27**	**26**	*e*P	**P**	**11 46 05.0**	**+0.6**
	comp=Z,147nm,1.5s						
RAMN	**Ramite**	**44.36**	**28**	*e*P	**P**	**11 46 06.1**	**+1.0**
	comp=Z,275nm,1.5s						
PKI	**Pulchoki**	**44.37**	**26**	*e*P	**P**	**11 46 05.5**	**+0.2**
	comp=Z,89nm,1.4s						
PKIN	**Phulchoki**	**44.37**	**26**	*e*P	**P**	**11 46 05.3**	**+0.1**
	comp=Z,95nm,1.6s						
DANN	**Dangsing**	**44.38**	**24**	*e*P	**P**	**11 46 05.5**	**+0.2**
	comp=Z,110nm,1.2s						
GKN	**Gorkha**	**44.42**	**25**	*e*P	**P**	**11 46 05.9**	**+0.4**
	comp=Z,110nm,1.2s						
KKN	**Kakani**	**44.51**	**26**	*e*P	**P**	**11 46 06.7**	**+0.5**
	comp=Z,116nm,1.4s						
ODAN	**Odare**	**44.65**	**29**	*e*P	**P**	**11 46 08.0**	**+0.6**
	comp=Z,81nm,1.1s						
IBAF	**Bafgh**	**44.76**	**348**	*e*P	**P**	**11 46 06.7**	**-1.4**
JIRN	**Jiri**	**44.79**	**27**	*e*P	**P**	**11 46 08.7**	**+0.1**
	comp=Z,58nm,1.1s						
GUN	**Gumba**	**44.87**	**26**	*e*P	**P**	**11 46 09.9**	**+0.6**
	comp=Z,172nm,1.4s						
SUR	**Sutherland**	**45.16**	**237**	*e*P	**P**	**11 46 12.9**	**+1.5**
	comp=Z,34nm,1.1s						
TAPN	**Taplejung**	**45.21**	**29**	*e*P	**P**	**11 46 12.3**	**+0.3**
	comp=Z,80nm,1.1s						
IDAH	**Dahanechah**	**45.23**	**354**	*e*P	**P**	**11 46 12.6**	**+0.7**
CMAR	**Chiang Mai Arr**	**45.31**	**48**	P	**P**	**11 46 13.2**	**+0.6**
CMAR				PcP	**PcP**	**11 47 52.8**	**+0.5**
CMAR	**Chiang Mai Arr**	**45.31**	**48**	P	**P**	**11 46 13.2**	**+0.6**
	comp=Z,2.4nm,0.4s,baz=240,slow=8.3						
CMAR				PcP	**PcP**	**11 47 52.7**	**+0.5**
	baz=238,slow=4.8						
CHTO	**Chiang Mai**	**45.54**	**48**	*e*P	**P**	**11 46 15.0**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,18nm,1.3s						
CHTO	**Chiang Mai**	**45.54**	**48**	P	**P**	**11 46 15.4**	**+1.0**
	SNR=5.0						
CHTO	**Chiang Mai**	**45.54**	**48**	P	**P**	**11 46 14.8**	**+0.4**
	comp=Z,58nm,1.3s						
CHTO	**Chiang Mai**	**45.54**	**48**	*e*P	**P**	**11 46 15.0**	**+0.6**
	comp=Z,18nm,1.3s						
ICHK	**Chekchek**	**45.63**	**347**	*e*P	**P**	**11 46 14.7**	**-0.4**
PBKT	**Sadao Pong**	**45.66**	**52**	P	**P**	**11 46 16.9**	**+1.7**
	comp=Z,46nm,0.8s						
SHL	**Shillong**	**45.89**	**34**	*e*P	**P**	**11 46 18.5**	**+1.3**
CHAI	**Chaiyaphum**	**46.05**	**53**	P	**P**	**11 46 20.2**	**+1.8**
	comp=Z,6.7nm,1.1s						
TSUM	**Tsumeb**	**46.16**	**255**	*e*P	**P**	**11 46 20.2**	**+0.7**
	comp=Z,9.9nm,0.8s						
IZEF	**Zefreh**	**46.74**	**345**	*e*P	**P**	**11 46 22.9**	**-1.0**
KBL	**Kabul**	**46.88**	**4**	*e*P	**P**	**11 46 26.0**	**+1.1**
KBL				*e*		11 47 58.4	
KBL				pmax	pmax		
	comp=Z,39nm,1.1s						
KBL	**Kabul**	**46.88**	**4**	*e*P	**P**	**11 46 26.0**	**+1.1**
	comp=Z,39nm,1.1s						
KBL				*e*PcP	**PcP**	**11 47 58.4**	**+0.7**
KSM	**Kuching**	**46.90**	**76**	P	**P**	**11 46 25.2**	**+0.1**
KSM	**Kuching**	**46.90**	**76**	*e*P	**P**	**11 46 25.1**	**-0.1**
	comp=Z,71nm,2.0s						
IKLH	**Kolahrood**	**47.33**	**344**	*e*P	**P**	**11 46 28.0**	**-0.5**
CRAI	**Chiangrai**	**47.48**	**47**	P	**P**	**11 46 32.5**	**+2.9**
	comp=Z,135nm,1.3s,comp=Z,8μm						
ISFB	**Sefidab**	**48.15**	**346**	*e*P	**P**	**11 46 34.0**	**-0.6**
NONG	**Nongkai**	**48.21**	**52**	P	**P**	**11 46 36.5**	**+1.3**
	comp=Z,21nm,1.5s						
IMOG	**Moghan**	**48.62**	**354**	*e*P	**P**	**11 46 38.6**	**+0.2**
IMYA	**Miami**	**48.77**	**355**	*e*P	**P**	**11 46 38.3**	**-1.2**
ISRO	**Mashad**	**48.80**	**354**	*e*P	**P**	**11 46 38.7**	**-0.9**
LSA	**Lhasa**	**48.83**	**30**	P	**P**	**11 46 41.0**	**+0.6**
LSA	**Lhasa**	**48.83**	**30**	*e*P	**P**	**11 46 41.8**	**+1.4**
LSA				*e*		11 48 06.0	
LSA				pmax	pmax		
	comp=Z,80nm,1.4s						
LSA	**Lhasa**	**48.83**	**30**	*e*P	**P**	**11 46 41.8**	**+1.4**
	comp=Z,80nm,1.4s						
LSA				*e*PcP	**PcP**	**11 48 06.0**	**+0.9**
IANJ	**Anjilo**	**48.84**	**348**	*e*P	**P**	**11 46 39.9**	**-0.2**
IVRN	**Varamin**	**48.89**	**345**	*e*P	**P**	**11 46 40.2**	**-0.1**
SBUM	**Sibu**	**49.02**	**76**	P	**P**	**11 46 41.8**	**+0.2**
SBUM	**Sibu**	**49.02**	**76**	*e*P	**P**	**11 46 41.4**	**-0.2**
	comp=Z,22nm,1.2s						
IAKL	**Akhelmad**	**49.17**	**353**	*e*P	**P**	**11 46 41.8**	**-0.9**
IKRD	**Kardeh**	**49.37**	**353**	*e*P	**P**	**11 46 43.1**	**-1.0**
IR5	**Iran Long-Peri**	**49.39**	**344**	*e*P	**P**	**11 46 43.5**	**-0.7**
H01W3	**Cape Leeuwin H**	**49.52**	**125**	T	T	12 39 41.2	
	baz=284,slow=0.7,SNR=26						
H01W2	**Cape Leeuwin H**	**49.52**	**125**	T	T	12 39 41.9	
	baz=284,slow=0.7,SNR=41						
IR3	**Iran Long-Peri**	**49.52**	**345**	*e*P	**P**	**11 46 44.8**	**-0.3**
H01W1	**Cape Leeuwin H**	**49.53**	**125**	T	T	12 39 42.7	
	baz=284,slow=0.7,SNR=27						
ISFR	**Sfrayin**	**49.71**	**352**	*e*P	**P**	**11 46 46.8**	**+0.1**
KMI	**Kunming**	**52.32**	**44**	P	**P**	**11 47 09.3**	**+2.8**
KMI				S	**S**	**11 54 36.8**	**+4.8**
KMI				AMB	AMB		
	comp=Z,14nm,0.9s						
KMI				LR	LR		
	comp=Z,470nm,19.3s						
KMI				LR	LR		
	comp=Z,740nm,11.0s						
KMI				LR	LR		
	comp=Z,770nm,23.5s						
KSH	**Kashi**	**52.68**	**11⇓** *i* P		**P**	**11 47 06.5**	**-2.3**
KSH				pP	**pP**	**11 47 12.6**	**-0.6**
KSH				sP	**sP**	**11 47 15.4**	**+0.5**
KSH				PcP	**PcP**	**11 48 18.9**	**+0.3**
KSH				PP	**PP**	**11 49 08.3**	**0.0**
KSH				S	**S**	**11 54 32.8**	**-3.4**
KSH				SS	SS	11 58 07.3	-7.8
KSH				AMB	AMB		
	comp=Z,74nm,0.9s						
KSH				LR	LR		
	comp=Z,670nm,15.4s						
KSH				LR	LR		
	comp=Z,830nm,14.8s						
KSH				LR	LR		
	comp=Z,580nm,16.3s						
MBWA	**Marble Bar**	**52.73**	**107**	*e*P	**P**	**11 47 08.9**	**-0.6**
IBST	**Bostanabad**	**52.76**	**342**	*e*P	**P**	**11 47 08.8**	**-0.8**
IHRS	**Heris**	**53.29**	**342**	*e*P	**P**	**11 47 12.2**	**-1.3**
KKM	**Kota Kinabalu**	**53.96**	**73**	P	**P**	**11 47 18.2**	**-0.5**
QIZ	**Qiongzhong**	**54.01**	**55**	P	**P**	**11 47 18.0**	**-0.9**
QIZ				S	**S**	**11 54 55.3**	**+0.5**
QIZ				AMB	AMB		
	comp=Z,16nm,2.4s						
IMRD	**Marand**	**54.06**	**341**	*e*P	**P**	**11 47 18.9**	**-0.2**
KAPI	**Kappang**	**54.37**	**87**	*e*P	**P**	**11 47 20.0**	**-1.6**
KAPI	**Kappang**	**54.37**	**87**	P	**P**	**11 47 19.8**	**-1.8**
	comp=Z,28nm,0.8s,baz=251,slow=8.8,SNR=8.8						
KAPI				LR	LR	12 07 46.2	
	comp=Z,772nm,18.1s,baz=259,slow=33						
SDKM	**Sandakan**	**54.74**	**74**	P	**P**	**11 47 24.1**	**-0.3**
KZA	**Kyzart**	**55.05**	**9**	P	**P**	**11 47 27.1**	**+0.6**
	SNR=9.7						
MAW	**Mawson**	**55.11**	**181**	P	**P**	**11 47 26.5**	**+0.4**
MAW	**Mawson**	**55.11**	**181**	P	**P**	**11 47 26.5**	**+0.4**
	comp=Z,17nm,0.9s,baz=1.0,slow=8.9,SNR=29						
EKS2	**Erkin-Say**	**55.41**	**8**	*e*P	**P**	**11 47 29.0**	**+0.2**
EKS2				*e*		11 48 29.6	
EKS2				pmax	pmax		
	comp=Z,78nm,1.4s						
EKS2	**Erkin-Say**	**55.41**	**8**	P	**P**	**11 47 29.8**	**+1.1**
	SNR=21						
EKS2	**Erkin-Say**	**55.41**	**8**	*e*P	**P**	**11 47 29.0**	**+0.2**
	comp=Z,78nm,1.4s						
EKS2				*e*PcP	**PcP**	**11 48 29.6**	**+0.6**
AAK	**Ala-Archa**	**55.48**	**8**	*c e*P	**P**	**11 47 29.6**	**+0.3**
AAK				pmax	pmax		
	comp=Z,1μm,17.4s						
AAK				MLR	MLR		
	comp=Z,1μm,19.0s						
AAK	**Ala-Archa**	**55.48**	**8**	P	**P**	**11 47 29.7**	**+0.3**
	SNR=12						
AAK	**Ala-Archa**	**55.48**	**8**	P	**P**	**11 47 30.0**	**+0.7**
	SNR=9.2						
AAK	**Ala-Archa**	**55.48**	**8**	*e*P	**P**	**11 47 29.8**	**+0.5**
AAK				PcP	**PcP**	**11 48 29.6**	**+0.3**
AAK				*e*PcP	**PcP**	**11 48 30.4**	**+1.1**
AAK	**Ala-Archa**	**55.48**	**8**	P	**P**	**11 47 29.2**	**-0.1**
	comp=Z,89nm,1.0s,SNR=9.9						
AAK	**Ala-Archa**	**55.48**	**8**	P	**P**	**11 47 29.4**	**+0.1**
	comp=Z,9.5nm,0.9s,baz=188,slow=7.9,SNR=24						
AAK				PcP	**PcP**	**11 48 29.6**	**+0.3**
	comp=Z,7.4nm,0.7s,baz=191,slow=8.0,SNR=6.4						
KK31	**Karatay Array**	**55.51**	**5**	*c e*P	**P**	**11 47 29.1**	**-0.2**
KK31				pmax	pmax		
	comp=Z,8.0nm,0.7s						
GNI	**Garni**	**55.67**	**341**	P	**P**	**11 47 32.1**	**+1.4**
	SNR=16						
GNI	**Garni**	**55.67**	**341**	*e*P	**P**	**11 47 32.2**	**+1.4**
	comp=Z,47nm,0.9s						
FRU	**Bishkek**	**55.70**	**8**	*i* P	**P**	**11 47 31.0**	**+0.3**
FRU				pmax	pmax		
	comp=Z,90nm,2.2s						
GYA	**Guiyang**	**55.88**	**46**	P	**P**	**11 47 32.4**	**-0.1**
GYA				PP	**PP**	**11 49 40.0**	**+2.7**
GYA				S	**S**	**11 55 21.0**	**+1.0**
GYA				SS	**SS**	**11 59 07.3**	**+1.1**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s						
GYA				AMB	AMB		
	comp=Z,360nm,5.3s						
GYA				LR	LR		
	comp=Z,840nm,18.2s						
GYA				LR	LR		
	comp=Z,700nm,19.5s						
GYA				LR	LR		
	comp=Z,840nm,18.8s						
TKM2	**Tokmak 2**	**55.93**	**9**	*e*P	**P**	**11 47 31.9**	**-0.7**
TKM2				pmax	pmax		
	comp=Z,55nm,1.5s						
TKM2	**Tokmak 2**	**55.93**	**9**	P	**P**	**11 47 32.1**	**-0.5**
	SNR=13						
TKM2	**Tokmak 2**	**55.93**	**9**	*e*P	**P**	**11 47 31.9**	**-0.7**
	comp=Z,55nm,1.5s						
USP	**Ospenovka**	**56.11**	**8**	P	**P**	**11 47 33.3**	**-0.3**
	SNR=8.5						
CD2	**Chengdu**	**56.86**	**40**	P	**P**	**11 47 39.1**	**-0.2**
CD2				PP	**PP**	**11 49 47.3**	**+1.4**
CD2				S	**S**	**11 55 31.8**	**-0.9**
CD2				AMB	AMB		
	comp=Z,40nm,0.5s						
CD2				AMB	AMB		
	comp=Z,1μm,11.6s						
CD2				LR	LR		
	comp=Z,1μm,13.1s						
CD2				LR	LR		
	comp=Z,1μm,20.2s						
MIR	**Mirnyy**	**57.17**	**167⇑** *i* P		**P**	**11 47 43.5**	**+2.6**
MIR				pmax	pmax		
	comp=Z,81nm,1.5s						
BATI	**Baumata**	**57.30**	**94**	P	**P**	**11 47 43.0**	**+0.3**
BATI	**Baumata**	**57.30**	**94**	P	**P**	**11 47 43.0**	**+0.3**
	comp=Z,71nm,0.9s,baz=112,slow=3.5,SNR=7.0						
ZEI	**Tsey**	**58.33**	**342**	*e*P	**P**	**11 47 48.3**	**-1.3**
ZEI				pmax	pmax		
	comp=Z,23nm,1.4s						
FITZ	**Fitzroy Crossi**	**58.39**	**104**	*e*P	**P**	**11 47 50.2**	**0.0**
FITZ				PcP	**PcP**	**11 48 40.1**	**-1.0**
FITZ	**Fitzroy Crossi**	**58.39**	**104**	P	**P**	**11 47 49.7**	**-0.5**
	comp=Z,12nm,0.9s,baz=259,slow=7.5,SNR=15						
FITZ				PcP	**PcP**	**11 48 40.1**	**-1.0**
	comp=Z,7.2nm,0.9s,baz=256,slow=3.9,SNR=5.4						
FITZ				LR	LR	12 09 45.5	
	comp=Z,692nm,18.0s,baz=285,slow=33						
SYO	**Syowa Base**	**58.84**	**190⇑** *e*P		**P**	**11 47 51.2**	**-1.3**
KBZ	**Khabaz**	**59.50**	**341**	P	**P**	**11 47 57.

GTA pP **pP** **11 48 13.0 +1.6**
GTA S **S** **11 56 23.3 -1.2**
GTA AMB AMB
comp=Z,24nm,1.6s
GTA AMB AMB
comp=Z,750nm,5.5s
GTA LR LR
comp=Z,870nm,19.0s
GTA LR LR
comp=Z,1μm,19.0s
GTA LR LR
comp=Z,1μm,19.0s
IDI **Anoyia** **60.90 323** *e*P **P** **11 48 07.7 +0.4**
comp=Z,99nm,1.4s
IDI *e*PcP **PcP** **11 48 51.6 +0.8**
MK31 **Makanchi Array** **60.95 13** *c e*P **P** **11 48 05.8 -1.5**
MK31 pmax pmax
comp=Z,44nm,1.4s
MK31 **Makanchi Array** **60.95 13** *e*P **P** **11 48 06.0 -1.3**
MK31 *e*PcP **PcP** **11 48 50.8 +0.2**
MKAR **Makanchi Array** **60.95 13** P **P** **11 48 06.2 -1.1**
MKAR 11 48 49.8
MKAR **Makanchi Array** **60.95 13** P **P** **11 48 06.2 -1.1**
MKAR PcP **PcP** **11 48 49.8 -0.8**
MKAR ⇑*e* 12 17 33.5
MKAR **Makanchi Array** **60.95 13** P **P** **11 48 06.2 -1.1**
comp=Z,3.9nm,0.8s,baz=206,slow=8.3,SNR=36
MKAR PcP **PcP** **11 48 49.8 -0.8**
comp=Z,12nm,0.8s,baz=230,slow=5.7,SNR=16
MKAR PKP2bc 12 17 33.5
comp=Z,3.2nm,1.2s,baz=29,slow=2.8,SNR=7.6
SANT **Santorini** **61.32 324** *e*P **P** **11 48 09.5 -0.6**
AB31 **Akbulak array** **61.62 356** *c e*P **P** **11 48 10.9 -0.8**
AB31 pmax pmax
comp=Z,77nm,1.1s
CASY **Casey** **61.73 161** *e*P **P** **11 48 12.5 +0.2**
comp=Z,82nm,1.4s
APE **Apeiranthos** **61.77 325** ⇑P **P** **11 48 13.0 -0.1**
APE **Apeiranthos** **61.77 325** ⇑*i*P **P** **11 48 13.0 -0.1**
XAN **Xi'an** **62.20 40** P **P** **11 48 15.3 -0.7**
XAN AMB AMB
comp=Z,9.0nm,1.2s
XAN LR LR
comp=Z,310nm,16.3s
XAN LR LR
comp=Z,210nm,21.4s
ANN **Anapa** **62.29 338** *e*P **P** **11 48 15.9 -0.5**
ANN *e**PP **pP** **11 48 18.2 -2.6**
ANN *e*S **S** **11 56 43.2 +1.1**
ANN *e* 12 00 48.6
ANN pmax pmax
comp=Z,40nm,1.9s
ANN MLR MLR
comp=E,547nm,19.0s
ANN MLR MLR
comp=Z,728nm,19.0s
AKTO **Aktyubinsk** **62.94 355** P **P** **11 48 18.7 -1.9**
AKTO **Aktyubinsk** **62.94 355** P **P** **11 48 18.7 -1.9**
AKTO **Aktyubinsk** **62.94 355** P **P** **11 48 18.7 -1.9**
comp=Z,42nm,1.1s,baz=177,slow=6.9,SNR=56
SIM **Simferopol'** **63.69 336** *e*P **P** **11 48 26.1 +0.4**
SIM pmax pmax
comp=Z,33nm,1.4s
SIM MLR MLR
comp=Z,300nm,18.0s
WHN **Wuhan** **63.74 47** ⇓P **P** **11 48 26.3 0.0**
WHN S **S** **11 56 55.4 -5.4**
WHN LR LR
comp=Z,2μm,15.5s
KURBB **Kurchatov Arra** **63.89 9** P **P** **11 48 26.1 -0.8**
comp=Z,11nm,0.8s,baz=205,slow=7.0,SNR=50
KURBB PcP **PcP** **11 49 02.7 +0.3**
comp=Z,5.3nm,0.7s,baz=205,slow=4.2,SNR=8.8
KURK **Kurchatov** **64.00 9** P **P** **11 48 26.1 -1.5**
KURK 11 49 02.7
KURK **Kurchatov** **64.00 9** P **P** **11 48 26.1 -1.5**
KURK PcP **PcP** **11 49 02.7 -0.2**
KURK **Kurchatov** **64.00 9** P **P** **11 48 27.2 -0.3**
comp=Z,150nm,1.0s,SNR=11
VOSK **Vostochnaya** **65.11 4** P **P** **11 48 33.9 -0.9**
VOSK pmax pmax
comp=Z,30nm,1.6s
BVA0 **Borovoye Array** **65.37 3** *i* P **P** **11 48 35.5 -1.0**
BVA0 pmax pmax
comp=Z,33nm,1.2s
BVAR **Borovoye Array** **65.37 3** P **P** **11 48 35.9 -0.6**
BVAR 11 49 07.7
BVAR **Borovoye Array** **65.37 3** P **P** **11 48 35.9 -0.6**
BVAR PcP **PcP** **11 49 07.7 -0.9**
BVAR **Borovoye Array** **65.37 3** P **P** **11 48 35.9 -0.6**
comp=Z,11nm,0.9s,baz=152,slow=6.7,SNR=37
BVAR PcP **PcP** **11 49 07.7 -0.9**
comp=Z,4.9nm,0.8s,baz=145,slow=5.4,SNR=4.1
BRVK **Borovoye** **65.40 3** *e*P **P** **11 48 36.2 -0.5**
BRVK **Borovoye** **65.40 3** P **P** **11 48 36.5 -0.1**
SNR=16
BRVK **Borovoye** **65.40 3** *e*P **P** **11 48 36.2 -0.5**
BRVK **Borovoye** **65.40 3** P **P** **11 48 36.6 -0.1**
comp=Z,155nm,1.1s,SNR=9.2
TIRR **Tirgusor** **65.75 332** ⇑P **P** **11 48 39.4 +0.3**
TIRR **Tirgusor** **65.75 332** ⇑*i*P **P** **11 48 39.4 +0.3**
ASAR **Alice Springs** **65.77 110** P **P** **11 48 38.7 -1.2**
ASAR **Alice Springs** **65.77 110** P **P** **11 48 38.7 -1.2**
comp=Z,16nm,0.9s,baz=272,slow=6.0,SNR=100
AS31 **Alice Springs** **65.77 110** *e*P **P** **11 48 38.7 -1.2**
TLB **Topalu** **66.02 332** ⇑P **P** **11 48 40.9 +0.1**
TLB **Topalu** **66.02 332** ⇑*i*P **P** **11 48 40.9 +0.1**
CFR **Carcaliu** **66.43 332** ⇓P **P** **11 48 43.7 +0.3**
CFR **Carcaliu** **66.43 332** ⇓*i*P **P** **11 48 43.7 +0.3**
WRA **Warramunga Arr** **66.45 106** P **P** **11 48 43.7 -0.6**
WRA **Warramunga Arr** **66.45 106** P **P** **11 48 43.7 -0.6**
comp=Z,24nm,0.9s,baz=274,slow=5.5,SNR=112
WRA LR LR 12 15 40.2
comp=Z,409nm,18.1s,baz=300,slow=34
WRAB **Tennant Creek** **66.47 106** *e*P **P** **11 48 43.9 -0.5**
WRAB pmax pmax
comp=Z,52nm,1.0s
WRAB **Tennant Creek** **66.47 106** *e*P **P** **11 48 43.9 -0.5**
comp=Z,52nm,1.0s
WRAB **Tennant Creek** **66.47 106** P **P** **11 48 43.6 -0.7**
comp=Z,282nm,0.9s,SNR=16
VRHR **Novokhopersk** **66.53 344** *e*P **P** **11 48 43.8 -0.2**
VRHR pmax pmax
comp=N,50nm,1.2s
VRHR pmax pmax
comp=E,40nm,1.2s
VRHR pmax pmax
comp=Z,70nm,1.2s
VTS **Vitosha** **66.93 328** ⇑P **P** **11 48 46.5 -0.5**
VTS **Vitosha** **66.93 328** ⇑*i*P **P** **11 48 46.5 -0.5**
VORD **Divnogorie** **67.07 343** *e*P **P** **11 48 46.7 -0.7**
VORD pmax pmax
comp=E,60nm,0.8s
VORD pmax pmax
comp=Z,50nm,0.8s
ISR **Istrita** **67.12 331** ⇑P **P** **11 48 48.2 +0.3**
ISR **Istrita** **67.12 331** ⇑*i*P **P** **11 48 48.2 +0.3**
VSR **Storozhevoye** **67.33 343** *e*P **P** **11 48 47.9 -1.2**
VSR pmax pmax
comp=N,30nm,0.9s
VSR pmax pmax
comp=E,20nm,0.9s
VSR pmax pmax
comp=Z,50nm,0.9s
BBOO **Buckleboo** **67.36 120** *e*P **P** **11 48 49.3 -0.5**
comp=Z,698nm,1.1s
KIS **Kishinev** **67.53 334** *e*P **P** **11 48 50.0 -0.4**
KIS LRM MLR 12 22 00.0
comp=Z,600nm,20.0s
KIS **Kishinev** **67.53 334** *e*P **P** **11 48 50.0 -0.4**
KIS *e* 11 51 25.0
KIS *e* 11 58 02.0
KIS MLR MLR
comp=Z,500nm,16.0s
KIS MLR MLR
comp=Z,600nm,20.0s
VRI **Vrincioaia** **67.59 332** ⇑P **P** **11 48 52.1 +1.2**
VRI **Vrincioaia** **67.59 332** ⇑*i*P **P** **11 48 52.1 +1.2**
PLOR **Plostina** **67.62 332** ⇑P **P** **11 48 52.1 +1.0**
PLOR **Plostina** **67.62 332** ⇑*i*P **P** **11 48 52.1 +1.0**
MLR **Muntele Rosu** **67.67 331** ⇑*i*P **P** **11 48 52.1 +0.5**
NJ2 **Nanjing** **67.79 48** *e*P **P** **11 48 51.6 -0.8**
NJ2 PP **PP** **11 51 21.3 -0.8**
NJ2 S **S** **11 57 52.0 +1.8**
NJ2 AMB AMB
comp=Z,160nm,1.0s
NJ2 AMB AMB
comp=Z,510nm,10.2s
NJ2 LR LR
comp=Z,2μm,21.4s
NJ2 LR LR
comp=Z,1μm,20.9s
NJ2 LR LR
comp=Z,2μm,23.3s
TOA0 **Torodi Ar. Sit** **67.89 290** *e*P **P** **11 48 53.2 -0.1**
TORD **Torodi Ar. Bea** **67.89 290** P **P** **11 48 52.7 -0.7**
TORD **Torodi Ar. Bea** **67.89 290** P **P** **11 48 52.7 -0.7**
comp=Z,11nm,1.1s,baz=108,slow=4.3,SNR=30
HVS **Khovu-Aksy** **68.03 19** ⇓*i*P **P** **11 48 53.6 0.0**
HVS pmax pmax
comp=Z,97nm,1.3s
HVS MLR MLR
comp=Z,2μm,20.0s
VOIR **68.06 331** ⇑P **P** **11 48 54.0 +0.1**
VOIR **68.06 331** ⇑*i*P **P** **11 48 54.0 +0.1**
TAM **Tamanrasset** **68.10 301** *e*P **P** **11 48 55.9 +1.1**
TAM pmax pmax
comp=Z,12nm,1.3s
TAM **Tamanrasset** **68.10 301** *e*P **P** **11 48 55.9 +1.1**
comp=Z,12nm,1.3s
TESR **Tescani** **68.11 332** ⇑*i*P **P** **11 48 54.1 -0.1**
HHC **Hu-ho-hao-te** **68.20 36** *e*P **P** **11 48 55.8 +0.8**
HHC PP **PP** **11 51 29.3 +3.6**
HHC PcS 11 53 25.3
HHC S **S** **11 57 55.8 +0.7**
HHC ScS **SKiKP** **11 58 50.6 +0.5**
HHC SS **SS** **12 02 21.1 +2.7**
HHC AMB AMB
comp=Z,69nm,1.4s
HHC LR LR
comp=Z,470nm,15.5s
HHC LR LR
comp=Z,780nm,16.7s
HHC LR LR
comp=Z,730nm,17.8s
ARR **Arges** **68.21 330** ⇑*i*P **P** **11 48 54.8 -0.1**
ZAA0 **Zalesovo Array** **68.23 12** *e*P **P** **11 48 53.6 -1.1**
ZALV **Zalesovo Beam** **68.23 12** P **P** **11 48 53.7 -1.0**
ZALV **Zalesovo Beam** **68.23 12** P **P** **11 48 53.6 -1.0**
ZALV **Zalesovo Beam** **68.23 12** P **P** **11 48 53.6 -1.0**
comp=Z,12nm,0.7s,baz=220,slow=5.8,SNR=41
ZALV LR LR 12 16 03.8
comp=Z,470nm,19.0s,baz=71,slow=34
NVS **Novosibirsk** **68.76 11** ⇓*i*P **P** **11 48 56.9 -1.1**
NVS pmax pmax
comp=N,33nm,1.1s
NVS pmax pmax
comp=Z,44nm,1.1s
NVS pmax pmax
comp=E,14nm,1.2s
ARU **Arti** **68.85 356** *d i*P **P** **11 48 58.0 -0.5**
ARU 11 51 30.4
ARU PPP PPP 11 53 06.3
ARU S **S** **11 58 04.2 +2.2**
ARU SS **SS** **12 02 26.6 -1.0**
ARU pmax pmax
comp=Z,96nm,1.7s
ARU **Arti** **68.85 356** P **P** **11 48 58.3 -0.2**
comp=Z,256nm,1.1s,SNR=8.8
SVE **Sverdlovsk** **69.13 357** *e*P **P** **11 48 59.7 -0.6**
SVE pmax pmax
comp=Z,77nm,1.5s
GZR **Gura Zlata** **69.14 329** ⇑P **P** **11 49 00.5 -0.1**
GZR **Gura Zlata** **69.14 329** ⇑*i*P **P** **11 49 00.5 -0.1**
BURAR **Bucovina Array** **69.59 332** ⇑P **P** **11 49 04.3 +0.8**
BURAR **Bucovina Array** **69.59 332** ⇑*i*P **P** **11 49 04.3 +0.8**
BUR08 **Bucovina Ar. S** **69.62 332** *e*P **P** **11 49 03.8 +0.2**
BZS **Buzias** **69.87 329** ⇑P **P** **11 49 04.9 -0.2**
BZS **Buzias** **69.87 329** ⇑*i*P **P** **11 49 04.9 -0.2**
DRGR **70.16 330** ⇑P **P** **11 49 07.7 +0.7**
DRGR **70.16 330** ⇑*i*P **P** **11 49 07.7 +0.7**
AK02 **Malin Array Si** **70.25 337** *e*P **P** **11 49 06.3 -1.0**
AK01 **Malin Array Si** **70.28 337** *e*P **P** **11 49 06.6 -0.9**
AKASG **Malin Array Be** **70.28 337** P **P** **11 49 06.6 -0.9**
AKASG **Malin Array Be** **70.28 337** P **P** **11 49 06.6 -0.9**
AKASG **Malin Array Be** **70.28 337** P **P** **11 49 06.6 -0.9**
comp=Z,20nm,0.9s,baz=140,slow=5.0,SNR=75
AKASG LR LR 12 19 17.9
comp=Z,524nm,20.2s,baz=50,slow=35
AKBB **Malin Array Si** **70.28 337** *e*P **P** **11 49 06.6 -0.9**
AKBB **Malin Array Si** **70.28 337** *e*P **P** **11 49 06.6 -0.9**
SIRR **Siria** **70.31 330** ⇑*i*P **P** **11 49 08.7 +0.9**
SONM **Songino Array** **70.33 28** P **P** **11 49 07.9 -0.2**
SONM ⇑*e* 12 17 06.2
SONM **Songino Array** **70.33 28** P **P** **11 49 07.9 -0.2**
comp=Z,10nm,0.8s,baz=219,slow=6.2,SNR=57
SONM PKP2bc 12 17 06.2
comp=Z,5.3nm,1.2s,baz=67,slow=1.7,SNR=19
SONM LR LR 12 19 00.4
comp=Z,2μm,19.5s,baz=210,slow=35
BJI **Beijing** **70.46 39** P **P** **11 49 09.3 +0.5**
BJI AMB AMB
comp=Z,20nm,1.3s
BJI AMB AMB
comp=Z,570nm,3.9s
ULN **Ulaanbaatar** **70.66 28** P **P** **11 49 10.4 +0.3**
SNR=8.4
ULN **Ulaanbaatar** **70.66 28** *e*P **P** **11 49 09.6 -0.5**
comp=Z,28nm,1.4s
ZAK **Zakamensk** **70.89 25** *e*P **P** **11 49 09.7 -1.7**
ZAK pmax pmax
comp=Z,6.0nm,1.4s
TRPA **Tarpa** **71.20 331** ⇑*i*P **P** **11 49 13.4 +0.3**
SNAA **Sanae** **71.39 198** *e*P **P** **11 49 14.0 -0.1**
SNAA **Sanae** **71.39 198** *e*P **P** **11 49 14.1 0.0**
comp=Z,12nm,1.0s
OBN **Obninsk** **71.50 343** ⇓*i*P **P** **11 49 14.8 0.0**
OBN *i* 11 49 21.3
OBN *i* 11 49 30.6
OBN pmax pmax
comp=Z,130nm,1.6s
UZH **Uzhgorod** **71.67 332** ⇑*i*P **P** **11 49 15.6 -0.4**
UZH *e* 11 49 24.8
MOS **Moscow** **71.76 344** *e*P **P** **11 49 15.5 -0.8**
MOS pmax pmax
comp=Z,236nm,1.3s
MOS pmax pmax
comp=Z,400nm,1.5s
PKSM **Moragy** **71.80 328** ⇑P **P** **11 49 17.2 +0.4**
PKSM **Moragy** **71.80 328** ⇑*i*P **P** **11 49 17.2 +0.4**
KOLS **Kolonicke sedl** **71.90 332** *e*P **P** **11 49 17.3 -0.1**
KOLS pmax pmax
comp=Z,34nm,1.4s
KOLS **Kolonicke sedl** **71.90 332** *e*P **P** **11 49 17.3 -0.1**
KIC **Kosan Boka** **71.95 281** *e*P **P** **11 49 18.0 -0.4**
comp=Z,133nm,1.1s
TLY **Talaya** **72.04 24** *e*P **P** **11 49 18.8 +0.6**
TLY pmax pmax
comp=Z,28nm,1.4s
TLY MLR MLR
comp=Z,564nm,17.0s
TLY **Talaya** **72.04 24** P **P** **11 49 18.1 -0.1**
comp=Z,72nm,1.7s,SNR=7.0
STKA **Stephens Creek** **72.08 120** *e*P **P** **11 49 18.2 -0.7**
STKA **Stephens Creek** **72.08 120** P **P** **11 49 17.5 -1.5**
comp=Z,13nm,1.0s,baz=284,slow=5.1,SNR=17
SOKR **Solikamsk** **72.12 356** *d i*P **P** **11 49 18.5 +0.1**
SOKR pmax pmax
comp=Z,30nm,0.7s
DBIC **Dimbokro** **72.14 281** *e*P **P** **11 49 19.6 +0.1**
comp=Z,56nm,1.1s
DBIC **Dimbokro** **72.14 281** P **P** **11 49 19.7 +0.1**
comp=Z,33nm,1.0s,baz=86,slow=7.6,SNR=19
LIC **Lamto** **72.19 281** ⇓*i*P **P** **11 49 19.7 -0.2**
comp=Z,63nm,1.0s,baz=107
LIC **Lamto** **72.19 281** *e*P **P** **11 49 19.3 -0.6**
comp=Z,84nm,1.0s
LIC **Lamto** **72.19 281** ⇓*i*P **P** **11 49 19.7 -0.2**
comp=Z,63nm,1.0s
KWP **Kalwaria Pacla** **72.20 333** ⇑P **P** **11 49 19.3 +0.1**
KWP **Kalwaria Pacla** **72.20 333** ⇑*i*P **P** **11 49 19.3 +0.1**
KWP **Kalwaria Pacla** **72.20 333** *e*P **P** **11 49 19.4 +0.1**
comp=Z,46nm,1.0s
CRVS **Cervenica-Dubn** **72.25 331** *e*P **P** **11 49 19.3 -0.2**
CRVS pmax pmax
comp=Z,37nm,1.6s
CRVS **Cervenica-Dubn** **72.25 331** *e*P **P** **11 49 19.3 -0.2**
TIC **Toumodi** **72.29 281** *e*P **P** **11 49 20.1 -0.4**
comp=Z,94nm,1.0s
PSZ **Piszkesteto** **72.32 330** ⇑P **P** **11 49 19.2 -0.8**
PSZ **Piszkesteto** **72.32 330** ⇑*i*P **P** **11 49 19.2 -0.8**
comp=Z,15nm,1.0s
KECS **Kecovo** **72.42 331** *e*P **P** **11 49 20.3 -0.2**
KECS pmax pmax
comp=Z,9.0nm,0.9s
KECS **Kecovo** **72.42 331** *e*P **P** **11 49 20.2 -0.2**
VNA2 **Neumayer--Watz** **72.62 199** *e*P **P** **11 49 22.0 +0.6**
VNA2 **Neumayer--Watz** **72.62 199** *e*pP pP 11 49 32.6 +6.6
STHS **Stebnicka Huta** **72.72 332** *e*P **P** **11 49 22.3 0.0**
STHS pmax pmax
comp=Z,10.0nm,1.0s
STHS **Stebnicka Huta** **72.72 332** *e*P **P** **11 49 22.3 0.0**
IRK **Irkutsk** **72.72 24** *e*P **P** **11 49 20.0 -2.2**
IRK pmax pmax
comp=Z,59nm,1.5s
NIE **Niedzica** **73.15 331** *e*P **P** **11 49 24.9 0.0**
NIE **Niedzica** **73.15 331** *e*P **P** **11 49 24.9 0.0**
GCIS **Gornji Cirnik** **73.17 326** *i*P **P** **11 49 25.4 +0.3**
DOBS **Dobrina** **73.44 326** *e*P **P** **11 49 26.9 +0.3**
MICGM **Minsk** **73.79 338** ⇑*e*P **P** **11 49 27.0 -1.4**
MNK **Minsk** **73.81 338** ⇑*e*P **P** **11 49 27.0 -1.5**
MNK pmax pmax
comp=Z,240nm,2.0s
VNDS **Vrh nad Dolski** **73.82 326** *i*P **P** **11 49 29.1 +0.3**
OJC **Ojcow** **73.95 332** *e*P **P** **11 49 28.8 -0.7**
OJC **Ojcow** **73.95 332** *e*P **P** **11 49 28.8 -0.7**
SOKA **Soboth** **74.00 327** ⇑*i*P **P** **11 49 30.4 +0.4**
comp=Z,30nm,1.5s,SNR=7.0
ARSA **Arzberg** **74.10 327** *i*P **P** **11 49 30.8 +0.3**
comp=Z,28nm,0.9s,SNR=11
CONA **Conrad Observa** **74.36 328** *i*P **P** **11 49 32.1 0.0**
comp=Z,58nm,1.3s,SNR=15
OKC **Ostrava-Krasne** **74.47 331** ⇓*i*P **P** **11 49 32.3 -0.2**
OKC *e* 11 49 38.2
OKC **Ostrava-Krasne** **74.47 331** ⇓*i*P **P** **11 49 32.3 -0.2**
OKC *e*pP **pP** **11 49 38.2 +1.1**
MORC **Moravsky Berou** **74.72 330** *e*P **P** **11 49 33.4 -0.7**
MORC pmax pmax
comp=Z,13nm,1.0s
MORC **Moravsky Berou** **74.72 330** ⇑*i*P **P** **11 49 34.3 +0.2**
MORC **Moravsky Berou** **74.72 330** *e*P **P** **11 49 33.4 -0.7**
comp=Z,13nm,1.0s
VRAC **Vranov** **74.88 329** ⇑*i*P **P** **11 49 35.4 +0.5**
VRAC **Vranov** **74.88 329** LR LR 12 20 26.3
comp=Z,618nm,21.3s,baz=61,slow=34
MOA **Molln** **75.14 327** *i*P **P** **11 49 36.7 +0.1**
comp=Z,63nm,1.4s,SNR=12
SUW **Suwalki** **75.20 336** *e*P **P** **11 49 36.7 0.0**
SUW pmax pmax
comp=Z,81nm,1.1s
SUW **Suwalki** **75.20 336** *e*P **P** **11 49 36.7 0.0**
comp=Z,81nm,1.1s
ABTA **Abfaltersbach** **75.42 326** *i*P **P** **11 49 38.6 +0.4**
comp=Z,59nm,1.3s,SNR=10
TREC **Trest** **75.42 329** ⇓*i*P **P** **11 49 37.6 -0.5**
TREC **Trest** **75.42 329** ⇓*i*P **P** **11 49 37.6 -0.5**
DPC **Dobruska-Polom** **75.69 330** ⇓*i*P **P** **11 49 39.6 0.0**
DPC *e* 11 49 44.5
DPC **Dobruska-Polom** **75.69 330** ⇓*i*P **P** **11 49 39.6 0.0**
DPC *e*pP **pP** **11 49 44.5 +0.3**
RJOB **Jochberg** **75.86 327** *e*P **P** **11 49 39.1 -1.6**
comp=Z,19nm,1.1s
KLMR **Klimovskoe** **75.87 347** *d i*P **P** **11 49 39.9 -0.4**
KLMR pmax pmax
comp=Z,174nm,1.3s
UPC **Upice** **75.94 330** ⇓*i*P **P** **11 49 41.3 +0.3**
UPC *e* 11 49 46.3
UPC **Upice** **75.94 330** ⇓*i*P **P** **11 49 41.3 +0.3**
UPC *e*pP **pP** **11 49 46.3 +0.7**
KSP **Ksiaz** **76.03 331** *e*P **P** **11 49 41.7 +0.2**
GEC2 **GERESS Array S** **76.05 328** *e*P **P** **11 49 41.1 -0.7**
GEC2 pmax pmax
comp=Z,18nm,1.1s
GEC2 **GERESS Array S** **76.05 328** *e*P **P** **11 49 41.1 -0.7**
comp=Z,18nm,1.1s
GERES **GERESS Array B** **76.05 328** P **P** **11 49 40.5 -1.3**
GERES **GERESS Array B** **76.05 328** P **P** **11 49 40.5 -1.3**
comp=Z,6.6nm,0.9s,baz=134,slow=5.8,SNR=32
SNY **Shenyang** **76.11 41** ⇓P **P** **11 49 41.4 -0.7**
SNY AMB AMB
comp=Z,23nm,1.2s
WTTA **Wattenberg** **76.21 326** ⇑*i*P **P** **11 49 42.8 0.0**
comp=Z,65nm,1.2s,SNR=11
WATA **Walderalm** **76.28 326** *i*P **P** **11 49 43.0 -0.2**
comp=Z,41nm,1.1s,SNR=7.5
KHC **Kasperske Hory** **76.29 328** *e*P **P** **11 49 42.3 -0.8**
KHC pmax pmax
comp=Z,30nm,1.3s
KHC **Kasperske Hory** **76.29 328** ⇓*i*P **P** **11 49 42.3 -0.8**
KHC *e*pP **pP** **11 49 48.4 +0.8**
KHC **Kasperske Hory** **76.29 328** *e*P **P** **11 49 42.3 -0.8**
comp=Z,30nm,1.3s
PRU **Pruhonice** **76.34 329** ⇓*i*P **P** **11 49 43.0 -0.3**
PRU **Pruhonice** **76.34 329** ⇓*i*P **P** **11 49 43.0 -0.3**
PRA **Prague** **76.44 329** ⇓P **P** **11 49 44.0 +0.2**
MOTA **Moosalm** **76.55 326** ⇑*i*P **P** **11 49 44.4 -0.3**
comp=Z,38nm,1.0s,SNR=10.0
FETA **Feichten** **76.57 325** *i*P **P** **11 49 44.8 -0.1**
comp=Z,31nm,1.0s,SNR=8.3
PVCC **Panska Ves** **76.67 330** ⇓*i*P **P** **11 49 45.6 +0.5**
PVCC **Panska Ves** **76.67 330** ⇓*i*P **P** **11 49 45.6 +0.5**
WET **Wettzell** **76.67 328** *e*P **P** **11 49 44.3 -0.9**
WET pmax pmax
comp=Z,24nm,1.2s
WET **Wettzell** **76.67 328** *e*P **P** **11 49 44.3 -0.9**
comp=Z,24nm,1.2s
SBF **Sospel** **76.75 321** *e*P **P** **11 49 45.4 -0.5**
comp=Z,56nm,0.9s
SBF **Sospel** **76.75 321** *e*P **P** **11 49 45.4 -0.5**
SBF pmax pmax
comp=Z,56nm,0.9s
SBF **Sospel** **76.75 321** *e*P **P** **11 49 45.4 -0.5**
comp=Z,56nm,0.9s
RETA **Reutte** **76.82 325** ⇓*i*P **P** **11 49 45.9 -0.3**
comp=Z,28nm,1.4s
KSAR **Wonju Array Be** **76.90 47** P **P** **11 49 46.4 -0.3**
FUR **Furstenfeldbru** **76.93 326** *e*P **P** **11 49 46.5 -0.2**
FUR pmax pmax
comp=Z,147nm,1.1s
FUR **Furstenfeldbru** **76.93 326** *e*P **P** **11 49 46.5 -0.2**
comp=Z,147nm,1.1s
KSRS **Korea Array** **76.93 47** P **P** **11 49 46.4 -0.5**
comp=Z,10nm,0.9s,baz=253,slow=6.1,SNR=37
KSRS LR LR 12 23 20.8
comp=Z,446nm,19.6s,baz=244,slow=36
LMR **La Mourre** **77.05 320** *e*P **P** **11 49 47.1 -0.3**
comp=Z,124nm,1.4s
LMR **La Mourre** **77.05 320** *e*P **P** **11 49 47.1 -0.3**
LMR pmax pmax
comp=Z,124nm,1.4s
LMR **La Mourre** **77.05 320** *e*P **P** **11 49 47.1 -0.3**
comp=Z,124nm,1.4s
FRF **La Foret Royal** **77.08 320** *e*P **P** **11 49 47.3 -0.3**
comp=Z,26nm,0.8s
FRF **La Foret Royal** **77.08 320** *e*P **P** **11 49 47.3 -0.3**
FRF pmax pmax
comp=Z,26nm,0.8s
FRF **La Foret Royal** **77.08 320** *e*P **P** **11 49 47.3 -0.3**
comp=Z,26nm,0.8s
BRG **Berggiesshubel** **77.19 330** *i*P **P** **11 49 48.4 +0.4**
comp=Z,54nm,1.3s
BRG **Berggiesshubel** **77.19 330** *i*P **P** **11 49 48.4 +0.4**
BRG pmax pmax
comp=Z,54nm,1.3s
BRG **Berggiesshubel** **77.19 330** *e*P **P** **11 49 48.3 +0.2**
comp=Z,54nm,1.3s
DAVA **Damuels** **77.20 325** *i*P **P** **11 49 48.1 -0.2**
comp=Z,27nm,0.8s,SNR=6.3
JNU **Nakatsue** **77.25 52** *e*P **P** **11 49 48.7 -0.2**
JNU **Nakatsue** **77.25 52** P **P** **11 49 48.5 -0.3**
comp=Z,20nm,0.9s,baz=158,slow=2.0,SNR=7.7
VSU **Vasula** **77.30 340** *d*P **P** **11 49 48.6 +0.1**
VSU pmax pmax
comp=Z,180nm,1.2s
ROTZ **Rotzenmuhle** **77.39 328** *e*P **P** **11 49 49.0 -0.2**
comp=Z,71nm,2.1s
FBE **Freiberg** **77.51 329** *e*P **P** **11 49 50.6 +0.7**
comp=Z,45nm,1.2s
NKC **Novy Kostel** **77.55 328** ⇓*i*P **P** **11 49 50.6 +0.5**
NKC **Novy Kostel** **77.55 328** ⇓*i*P **P** **11 49 50.6 +0.5**
CTA **Charters Tower** **77.56 108** P **P** **11 49 50.7 -0.1**
CTA **Charters Tower** **77.56 108** P **P** **11 49 50.7 -0.1**
comp=Z,19nm,0.9s,baz=269,slow=5.8,SNR=10
CTAO **Charters Tower** **77.56 108** *e*P **P** **11 49 50.8 -0.1**

CTAO pmax pmax
comp=Z,33nm,1.1s
CTAO Charters Tower 77.56 108 *e*P **P 11 49 50.8 -0.1**
comp=Z,33nm,1.1s
MANZ Manzenberg 77.58 328 *e*P **P 11 49 49.9 -0.4**
comp=Z,21nm,1.2s
QSPA South Pole Qui 77.61 180 *e*P **P 11 49 50.3 -0.2**
comp=Z,66nm,1.3s
MBDF Montbardon 77.61 322 *e*P **P 11 49 50.9 +0.1**
comp=Z,34nm,0.8s
MBDF Montbardon 77.61 322 *e*P **P 11 49 50.9 +0.1**
MBDF pmax pmax
comp=Z,34nm,0.8s
MBDF Montbardon 77.61 322 *e*P **P 11 49 50.9 +0.1**
comp=Z,34nm,0.8s
WERN Wernitzgruen 77.62 328 *e*P **P 11 49 51.1 +0.6**
comp=Z,49nm,1.1s
TANN Tannenbergstha 77.65 329 *e*P **P 11 49 51.0 +0.3**
comp=Z,49nm,1.6s
GUNZ Gunzen 77.69 329 *e*P **P 11 49 51.5 +0.6**
comp=Z,48nm,1.0s
WERD Werda 77.75 329 *e*P **P 11 49 51.6 +0.3**
comp=Z,36nm,1.5s
PLN Plauen 77.85 329 *e*P **P 11 49 51.9 +0.1**
comp=Z,153nm,1.4s
GRF Grafenberg Arr 77.86 328 *e*P **P 11 49 51.8 -0.1**
GRF pmax pmax
comp=Z,59nm,1.1s
GRF Grafenberg Arr 77.86 328 *e*P **P 11 49 51.8 -0.1**
comp=Z,59nm,1.1s
GRFO Grafenberg 77.86 328 *e*P **P 11 49 51.4 -0.4**
GRFO pmax pmax
comp=Z,60nm,1.2s
GRFO Grafenberg 77.86 328 *e*P **P 11 49 51.4 -0.4**
comp=Z,60nm,1.2s
CLL Collm 77.93 330 *i*P **P 11 49 52.8 +0.7**
CLL pmax pmax
comp=Z,5.0nm,1.3s
CLL MLR MLR
comp=Z,1µm,20.0s
CLL Collm 77.93 330 *i*P **P 11 49 52.8 +0.7**
comp=Z,40nm,1.3s
CLL LmV 12 30 00.0
comp=Z,1µm,20.0s
LPG La Plagne 78.03 322 *e*P **P 11 49 52.0 -1.3**
comp=Z,33nm,1.1s
LPG La Plagne 78.03 322 *e*P **P 11 49 52.0 -1.3**
LPG pmax pmax
comp=Z,33nm,1.1s
LPG La Plagne 78.03 322 *e*P **P 11 49 52.0 -1.3**
comp=Z,33nm,1.1s
LPL La Plagne 78.05 322 *e*P **P 11 49 52.1 -1.2**
comp=Z,25nm,1.0s
LPL La Plagne 78.05 322 *e*P **P 11 49 52.1 -1.2**
LPL pmax pmax
comp=Z,25nm,1.0s
LPL La Plagne 78.05 322 *e*P **P 11 49 52.1 -1.2**
comp=Z,25nm,1.0s
ORIF Oris-en-Rattie 78.26 321 *e*P **P 11 49 54.0 -0.3**
comp=Z,26nm,0.9s
ORIF Oris-en-Rattie 78.26 321 *e*P **P 11 49 54.0 -0.3**
ORIF pmax pmax
comp=Z,26nm,0.9s
ORIF Oris-en-Rattie 78.26 321 *e*P **P 11 49 54.0 -0.3**
comp=Z,26nm,0.9s
CN2 Changchun 78.30 40 *e*P **P 11 49 53.8 -0.6**
CN2 *e*S **S 11 59 47.8 -1.5**
CN2 AMB AMB
comp=Z,30nm,0.9s
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,300nm,14.0s
CN2 LR LR
comp=Z,300nm,14.0s
CN2 LR LR
comp=Z,400nm,17.0s
STU Stuttgart 78.42 326 *e*P **P 11 49 54.6 -0.3**
comp=Z,63nm,1.5s
NEUB Neuenburg 78.48 329 *e*P **P 11 49 55.8 +0.6**
comp=Z,56nm,1.0s
BFO Black Forest 78.65 325 *e*P **P 11 49 56.0 -0.3**
BFO pmax pmax
comp=Z,33nm,1.2s
BFO Black Forest 78.65 325 *e*P **P 11 49 56.0 -0.3**
comp=Z,33nm,1.2s
VIVF Saint-Julien-l 78.96 321 *e*P **P 11 49 58.0 -0.1**
comp=Z,45nm,1.0s
VIVF Saint-Julien-l 78.96 321 *e*P **P 11 49 58.0 -0.1**
VIVF pmax pmax
comp=Z,45nm,1.0s
VIVF Saint-Julien-l 78.96 321 *e*P **P 11 49 58.0 -0.1**
comp=Z,45nm,1.0s
CABF La Chapelle 79.01 323 *e*P **P 11 49 58.2 -0.2**
comp=Z,41nm,1.0s
CABF La Chapelle 79.01 323 *e*P **P 11 49 58.2 -0.2**
CABF pmax pmax
comp=Z,41nm,1.0s
CABF La Chapelle 79.01 323 *e*P **P 11 49 58.2 -0.2**
comp=Z,41nm,1.0s
LASF Ste Croix 79.09 320 *e*P **P 11 49 58.8 0.0**
comp=Z,105nm,1.4s
LASF Ste Croix 79.09 320 *e*P **P 11 49 58.8 0.0**
comp=Z,105nm,1.4s
TMCR Tamitsa 79.15 348 *e*P **P 11 49 58.7 +0.1**
TMCR *e* 11 52 59.9
TMCR pmax pmax
comp=Z,119nm,1.5s
UBBA Unterbreizbach 79.16 328 *e*P **P 11 49 59.2 +0.4**
comp=Z,42nm,1.5s
HINF Hinteralfeld 79.20 324 *e*P **P 11 49 58.4 -0.9**
comp=Z,37nm,1.1s
HINF Hinteralfeld 79.20 324 *e*P **P 11 49 58.4 -0.9**
HINF pmax pmax
comp=Z,37nm,1.1s
HINF Hinteralfeld 79.20 324 *e*P **P 11 49 58.4 -0.9**
comp=Z,37nm,1.1s
SSB Saint Sauveur 79.26 321 *e*P **P 11 50 00.2 +0.5**
SSB pmax pmax
comp=Z,28nm,0.9s
SSB Saint Sauveur 79.26 321 *e*P **P 11 50 00.2 +0.5**
comp=Z,28nm,0.9s
CDF Champ du Feu 79.28 325 *e*P **P 11 49 59.0 -0.8**
comp=Z,38nm,1.1s
CDF Champ du Feu 79.28 325 *e*P **P 11 49 59.0 -0.8**
CDF pmax pmax
comp=Z,38nm,1.1s
CDF Champ du Feu 79.28 325 *e*P **P 11 49 59.0 -0.8**
comp=Z,38nm,1.1s
VNDA Vanda 79.37 167 P **P 11 49 59.8 0.0**
VNDA Vanda 79.37 167 P **P 11 49 59.8 0.0**
comp=Z,7.3nm,0.9s,baz=266,slow=5.6,SNR=36
VNDA LR LR 12 21 06.5
comp=Z,668nm,18.5s,baz=278,slow=33
CLZ Clausthal 79.56 329 *e*P **P 11 50 02.0 +0.8**
CLZ pmax pmax
comp=Z,63nm,1.0s
CLZ Clausthal 79.56 329 *e*P **P 11 50 02.0 +0.8**
comp=Z,63nm,1.0s
HAU Haudompre 79.59 324 *e*P **P 11 50 00.6 -0.8**
comp=Z,54nm,1.2s
HAU Haudompre 79.59 324 *e*P **P 11 50 00.6 -0.8**
HAU pmax pmax
comp=Z,54nm,1.3s
HAU Haudompre 79.59 324 *e*P **P 11 50 00.6 -0.8**
comp=Z,54nm,1.3s
JOF Joensuu 79.59 345 *e*P **P 11 50 00.2 -0.8**
JOF pmax pmax
comp=Z,42nm,0.7s
JOF Joensuu 79.59 345 *e*p **P 11 50 00.2 -0.8**
comp=Z,42nm,0.7s
TNS Taunus Mts 79.63 327 *e*P **P 11 50 01.9 +0.2**
TNS pmax pmax
comp=Z,31nm,1.2s
TNS Taunus Mts 79.63 327 *e*P **P 11 50 01.9 +0.2**
comp=Z,31nm,1.2s
MTLF Montolieu 79.78 319 *e*P **P 11 50 02.6 0.0**
comp=Z,99nm,1.3s
MTLF Montolieu 79.78 319 *e*P **P 11 50 02.6 0.0**
MTLF pmax pmax
comp=Z,99nm,1.3s
MTLF Montolieu 79.78 319 *e*P **P 11 50 02.6 0.0**
comp=Z,99nm,1.3s
FIA1 FINESS Array S 79.85 342 *e*P **P 11 50 02.8 +0.3**
FINES FINESS Array B 79.85 342 P **P 11 50 02.5 0.0**
FINES FINESS Array B 79.85 342 P **P 11 50 02.5 0.0**
comp=Z,15nm,0.8s,baz=119,slow=7.2,SNR=28

NRDL Niedersach Rie 80.08 329 *e*P **P 11 50 03.9 +0.1**
comp=Z,40nm,1.5s
PAGF Fort de Pagny 80.23 325 *e*P **P 11 50 04.6 -0.3**
comp=Z,22nm,1.1s
PAGF Fort de Pagny 80.23 325 *e*P **P 11 50 04.6 -0.3**
comp=Z,22nm,1.1s
MDT Midelt 80.30 307 LR LR 12 23 45.8
comp=Z,282nm,18.4s,baz=91,slow=34
KAF Kangasniemi 80.31 343 *e*P **P 11 50 03.7 -1.2**
KAF pmax pmax
comp=Z,29nm,0.7s
KAF Kangasniemi 80.31 343 *e*p **P 11 50 03.7 -1.2**
comp=Z,29nm,0.7s
SBA Scott Base 80.33 168 *e*P **P 11 50 06.0 +1.0**
SBA pmax pmax
comp=Z,14nm,1.1s
SBA Scott Base 80.33 168 *e*P **P 11 50 06.0 +1.0**
comp=Z,14nm,1.1s
SMF Signal de Mont 80.36 322 *e*P **P 11 50 04.9 -0.7**
comp=Z,37nm,1.1s
SMF Signal de Mont 80.36 322 *e*P **P 11 50 04.9 -0.7**
SMF pmax pmax
comp=Z,37nm,1.1s
SMF Signal de Mont 80.36 322 *e*P **P 11 50 04.9 -0.7**
comp=Z,37nm,1.1s
SFTF Sexfontaines 80.44 324 *e*P **P 11 50 05.7 -0.3**
comp=Z,174nm,1.2s
SFTF Sexfontaines 80.44 324 *e*P **P 11 50 05.7 -0.3**
comp=Z,174nm,1.2s
WLF Walferdange 80.57 326 P **P 11 50 06.8 +0.2**
WLF Walferdange 80.57 326 *e*P **P 11 50 06.7 0.0**
comp=Z,43nm,1.2s
MEZF Maizieres J'vi 80.59 324 *e*P **P 11 50 06.7 -0.1**
comp=Z,143nm,1.3s
MEZF Maizieres J'vi 80.59 324 *e*P **P 11 50 06.7 -0.1**
comp=Z,143nm,1.3s
CAF Calviac 80.62 320 *e*P **P 11 50 07.1 0.0**
comp=Z,38nm,1.1s
CAF Calviac 80.62 320 *e*P **P 11 50 07.1 0.0**
CAF pmax pmax
comp=Z,38nm,1.1s
CAF Calviac 80.62 320 *e*P **P 11 50 07.1 0.0**
comp=Z,38nm,1.1s
LOR Lormes 80.66 323 *e*P **P 11 50 06.8 -0.4**
comp=Z,53nm,1.2s
LOR Lormes 80.66 323 *e*P **P 11 50 06.8 -0.4**
comp=Z,53nm,1.2s
AVF Avril sur Loir 80.72 322 *e*P **P 11 50 06.9 -0.6**
comp=Z,25nm,1.1s
AVF Avril sur Loir 80.72 322 *e*P **P 11 50 06.9 -0.6**
AVF pmax pmax
comp=Z,25nm,1.0s
AVF Avril sur Loir 80.72 322 *e*P **P 11 50 06.9 -0.6**
comp=Z,25nm,1.0s
SSF Saint Saulge 80.76 322 *e*P **P 11 50 07.3 -0.5**
comp=Z,90nm,1.3s
SSF Saint Saulge 80.76 322 *e*P **P 11 50 07.3 -0.5**
SSF pmax pmax
comp=Z,90nm,1.3s
SSF Saint Saulge 80.76 322 *e*P **P 11 50 07.3 -0.5**
comp=Z,90nm,1.3s
BSEG Bad Segeberg 80.82 331 *e*P **P 11 50 08.0 +0.2**
BSEG pmax pmax
comp=Z,38nm,1.3s
BSEG Bad Segeberg 80.82 331 *e*P **P 11 50 08.0 +0.2**
comp=Z,38nm,1.3s
BGF Bois d'Agland 80.92 322 *e*P **P 11 50 08.7 +0.1**
comp=Z,121nm,1.2s
BGF Bois d'Agland 80.92 322 *e*P **P 11 50 08.7 +0.1**
BGF pmax pmax
comp=Z,121nm,1.2s
BGF Bois d'Agland 80.92 322 *e*P **P 11 50 08.7 +0.1**
comp=Z,121nm,1.2s
BUG Bochum--Univer 80.93 328 *e*P **P 11 50 09.0 +0.5**
comp=Z,54nm,1.2s
RJF Les Rejaudoux 81.14 320 *e*P **P 11 50 09.9 +0.1**
comp=Z,147nm,1.3s
RJF Les Rejaudoux 81.14 320 *e*P **P 11 50 09.9 +0.1**
RJF pmax pmax
comp=Z,147nm,1.3s
RJF Les Rejaudoux 81.14 320 *e*P **P 11 50 09.9 +0.1**
comp=Z,147nm,1.3s
IBBN Ibbenburen 81.15 328 *e*P **P 11 50 10.2 +0.5**
comp=Z,35nm,1.2s
MEM Membach 81.15 326 P **P 11 50 10.5 +0.8**
TCF Toulx Ste Croi 81.17 321 *e*P **P 11 50 09.9 -0.1**
comp=Z,34nm,1.3s
TCF Toulx Ste Croi 81.17 321 *e*P **P 11 50 09.9 -0.1**
TCF pmax pmax
comp=Z,34nm,1.3s
TCF Toulx Ste Croi 81.17 321 *e*P **P 11 50 09.9 -0.1**
comp=Z,34nm,1.3s
MDJ Mudanjiang 81.31 41 P **P 11 50 10.3 -0.4**
MDJ S **S 12 00 22.8 +1.7**
MDJ AMB AMB
comp=Z,26nm,1.2s
MDJ AMB AMB
comp=Z,2µm,13.9s
MDJ LR LR
comp=Z,230nm,15.8s
MDJ LR LR
comp=Z,350nm,19.6s
MDJ LR LR
comp=Z,440nm,17.4s
MDJ Mudanjiang 81.31 41 *e*P **P 11 50 10.7 0.0**
comp=Z,22nm,0.9s
ETSF Etsaut 81.39 317 *e*P **P 11 50 11.5 +0.2**
comp=Z,54nm,1.2s
ETSF Etsaut 81.39 317 *e*P **P 11 50 11.5 +0.2**
ETSF pmax pmax
comp=Z,54nm,1.2s
ETSF Etsaut 81.39 317 *e*P **P 11 50 11.5 +0.2**
comp=Z,54nm,1.2s
BCLA Clavier 81.44 326 P **P 11 50 11.9 +0.7**
comp=Z,16nm,1.4s
LFF La Frestale 81.46 320 *e*P **P 11 50 11.7 +0.2**
comp=Z,59nm,0.9s
LFF La Frestale 81.46 320 *e*P **P 11 50 11.7 +0.2**
LFF pmax pmax
comp=Z,59nm,0.9s
LFF La Frestale 81.46 320 *e*P **P 11 50 11.7 +0.2**
comp=Z,59nm,0.9s
GIVF Givet 81.54 326 *e*P **P 11 50 11.8 0.0**
comp=Z,115nm,1.2s
GIVF Givet 81.54 326 *e*P **P 11 50 11.8 0.0**
GIVF pmax pmax
comp=Z,115nm,1.2s
GIVF Givet 81.54 326 *e*P **P 11 50 11.8 0.0**
comp=Z,115nm,1.2s
DOU Dourbes 81.66 325 P **P 11 50 13.3 +0.8**
BAIF Baives 81.86 325 *e*P **P 11 50 13.6 +0.1**
comp=Z,104nm,1.2s
BAIF Baives 81.86 325 *e*P **P 11 50 13.6 +0.1**
BAIF pmax pmax
comp=Z,104nm,1.2s
BAIF Baives 81.86 325 *e*P **P 11 50 13.6 +0.1**
comp=Z,104nm,1.2s
SJPF Ste Jean 81.93 317 *e*P **P 11 50 14.4 +0.3**
comp=Z,68nm,1.1s
SJPF Ste Jean 81.93 317 *e*P **P 11 50 14.4 +0.3**
SJPF pmax pmax
comp=Z,68nm,1.1s
SJPF Ste Jean 81.93 317 *e*P **P 11 50 14.4 +0.3**
comp=Z,68nm,1.1s
ESDC Sonseca Array 82.40 313 P **P 11 50 16.9 +0.2**
ESDC Sonseca Array 82.40 313 P **P 11 50 16.9 +0.2**
comp=Z,6.7nm,0.8s,baz=103,slow=4.4,SNR=32
ESLA Sonseca Array 82.40 313 *e*P **P 11 50 16.9 +0.2**
comp=Z,17nm,1.6s
USRK Ussuriysk Arra 82.67 42 P **P 11 50 16.7 -1.2**
comp=Z,9.2nm,0.9s,baz=246,slow=5.4,SNR=20
USRK LR LR 12 25 41.2
comp=Z,387nm,20.5s,baz=237,slow=35
MFF Saint Martin d 82.76 321 *e*P **P 11 50 18.2 -0.1**
comp=Z,41nm,1.0s
MFF Saint Martin d 82.76 321 *e*P **P 11 50 18.2 -0.1**
MFF pmax pmax
comp=Z,41nm,1.0s
MFF Saint Martin d 82.76 321 *e*P **P 11 50 18.2 -0.1**
comp=Z,41nm,1.0s
MUD Monsted U'grnd 82.82 332 *i*P **P 11 50 19.8 +1.5**
MUD pmax pmax
comp=Z,25nm,0.9s
MUD Monsted U'grnd 82.82 332 *i*P **P 11 50 19.8 +1.5**
comp=Z,25nm,0.9s
APA Apatity 83.06 348⇓ *i*P **P 11 50 19.4 0.0**
APA MLR MLR
comp=Z,600nm,23.0s
LVZ Lovozero 83.11 349⇑ *i*P **P 11 50 19.9 +0.2**
LVZ pmax pmax
comp=Z,86nm,1.7s
HFS Hagfors 83.17 337 P **P 11 50 20.1 -0.1**
HFS Hagfors 83.17 337 P **P 11 50 20.1 -0.1**
comp=Z,15nm,0.8s,baz=123,slow=5.5,SNR=18
LDF La Druitiere 83.64 323 *e*P **P 11 50 22.5 -0.3**
comp=Z,40nm,1.0s
LDF La Druitiere 83.64 323 *e*P **P 11 50 22.5 -0.3**
LDF pmax pmax
comp=Z,40nm,1.0s
LDF La Druitiere 83.64 323 *e*P **P 11 50 22.5 -0.3**
comp=Z,40nm,1.0s
FLN La Foliniere 83.93 323 *e*P **P 11 50 24.0 -0.3**
comp=Z,69nm,1.1s
FLN La Foliniere 83.93 323 *e*P **P 11 50 24.0 -0.3**
FLN pmax pmax
comp=Z,69nm,1.1s
FLN La Foliniere 83.93 323 *e*P **P 11 50 24.0 -0.3**
comp=Z,69nm,1.1s
GRR Gorron 83.99 322 *e*P **P 11 50 24.2 -0.4**
comp=Z,98nm,1.4s
GRR Gorron 83.99 322 *e*P **P 11 50 24.2 -0.4**
GRR pmax pmax
comp=Z,98nm,1.4s
GRR Gorron 83.99 322 *e*P **P 11 50 24.2 -0.4**
comp=Z,98nm,1.4s
MAJO Matsushiro 84.12 51 *e*P **P 11 50 25.4 -0.2**
MAJO pmax pmax
comp=Z,81nm,1.4s
MAJO Matsushiro 84.12 51 *e*P **P 11 50 25.4 -0.2**
comp=Z,81nm,1.4s
MAT Matsushiro 84.12 51 P **P 11 50 25.2 -0.4**
MJAR Matsushiro Arr 84.12 51 P **P 11 50 24.6 -1.0**
MJAR Matsushiro Arr 84.12 51 P **P 11 50 24.6 -1.0**
comp=Z,21nm,1.0s,baz=245,slow=5.4,SNR=45
MJAR LR LR 12 30 09.5
comp=Z,294nm,18.6s,baz=250,slow=37
PCVE Castro Verde 84.62 310 *e*P **P 11 50 28.4 +0.3**
comp=Z,26nm,2.0s
PBEJ Beja 84.63 311 *e*P **P 11 50 28.3 +0.2**
comp=Z,20nm,1.6s
KLR Kul'dur 84.69 37 *e*P P 11 50 23.2 -4.9
KLR pmax pmax
comp=Z,50nm,1.6s
NB2 NORSAR Subarra 84.69 337 P **P 11 50 27.6 -0.3**
comp=Z,19nm,1.1s,baz=127,slow=5.1
NB2 NORSAR Subarra 84.69 337 P **P 11 50 27.6 -0.3**
baz=127,slow=5.1
NOA NORSAR Array B 84.69 337 P **P 11 50 27.8 -0.1**
NOA NORSAR Array B 84.69 337 P **P 11 50 27.8 -0.1**
comp=Z,5.3nm,0.9s,baz=118,slow=5.0,SNR=12
CLNS Chul'man 84.75 28 *e*P **P 11 50 29.2 +0.9**
CLNS pmax pmax
comp=N,7.0nm,0.9s
CLNS pmax pmax
comp=Z,32nm,1.0s
CLNS pmax pmax
comp=E,16nm,1.1s
PMRV Marv??o 84.77 312 *e*P **P 11 50 29.0 +0.2**
comp=E,18nm,1.3s
EVO Evora 84.92 311 *e*P **P 11 50 29.5 0.0**
comp=E,26nm,1.0s
EVO Evora 84.92 311 *e*P **P 11 50 29.9 +0.4**
comp=E,28nm,2.2s
SGMF Saint Gilles 84.95 322 *e*P **P 11 50 28.9 -0.6**
SGMF Saint Gilles 84.95 322 *e*P **P 11 50 28.9 -0.6**
SGMF Saint Gilles 84.95 322 *e*P **P 11 50 28.9 -0.6**
MORF Marmelete 84.97 310 *e*P **P 11 50 30.8 +0.9**
comp=E,48nm,1.4s
PCBR Castelo Branco 84.98 312 *e*P **P 11 50 30.1 +0.3**
comp=E,25nm,2.0s
EVOP Sao Brissos 85.00 311 *e*P **P 11 50 29.5 -0.4**
EVOP pmax pmax
comp=Z,26nm,1.0s
EVOP Sao Brissos 85.00 311 *e*P **P 11 50 29.5 -0.4**
comp=Z,26nm,1.0s
PFVI Vila Bisbo 85.05 310 *e*P **P 11 50 30.6 +0.4**
comp=Z,106nm,1.9s
PTEO Sao Teotonio 85.11 310 *e*P **P 11 50 31.4 +0.9**
comp=Z,65nm,1.8s
MVO Moncorvo 85.13 314 *e*P **P 11 50 32.0 +1.4**
comp=Z,32nm,1.4s
PNCL Nicolau / Gran 85.15 311 *e*P **P 11 50 31.5 +0.8**
comp=Z,28nm,2.0s
PBRG Braganca 85.16 315 *e*P **P 11 50 31.3 +0.6**
comp=Z,49nm,1.9s
QUIF Quistinic 85.19 321 *e*P **P 11 50 30.0 -0.6**
QUIF Quistinic 85.19 321 *e*P **P 11 50 30.0 -0.6**
QUIF Quistinic 85.19 321 *e*P **P 11 50 30.0 -0.6**
MTE Manteigas 85.22 313 *e*P **P 11 50 31.8 +0.7**
comp=Z,61nm,1.8s
PMTG Montargil 85.25 312 *e*P **P 11 50 31.8 +0.6**
comp=Z,32nm,1.5s
PVRL Vila Real 85.66 314 *e*P **P 11 50 34.2 +1.0**
comp=Z,72nm,1.8s
PCAS Casmilo, Conde 85.79 312 *e*P **P 11 50 34.4 +0.5**
comp=Z,35nm,1.0s
KEV Kevo 86.19 348 *e*P **P 11 50 34.1 -1.1**
KEV Kevo 86.19 348 *e*p **P 11 50 34.1 -1.1**
KEV Kevo 86.19 348 *e*P **P 11 50 35.7 +0.5**
ARCES ARCESS Array B 86.34 347 P **P 11 50 36.1 +0.2**
ARCES ARCESS Array B 86.34 347 P **P 11 50 36.1 +0.2**
comp=Z,26nm,0.7s,baz=145,slow=4.4,SNR=63
ARE0 ARCESS Array S 86.34 347 *e*P **P 11 50 36.1 +0.2**
HABR Khabarovsk 86.35 39*ce*P **P 11 50 34.4 -2.0**
HABR *e**PP **PcP 11 50 37.8 -1.1**
HABR *e**SP **sP 11 50 39.0 -3.6**
HABR *e* 11 53 55.4
HABR *e*PPP PPP 11 55 48.9
HABR *e*S **SKSac 12 01 00.2 -2.2**
HABR *e**SS **SKKSac 12 01 05.8 -4.4**
HABR *e*SS **SS 12 06 51.1 -0.7**
HABR SSS SSS 12 10 22.8
HABR pmax pmax
comp=N,3.0nm,0.6s
HABR pmax pmax
comp=Z,41nm,1.3s
HABR pmax pmax
comp=E,19nm,1.3s
HABR MLR MLR
comp=Z,313nm,16.0s
YAK Yakutsk 89.48 25 *e*P **P 11 50 49.7 -1.3**
YAK pmax pmax
comp=Z,15nm,0.9s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,0.9s
YSS Yuzh-Sakhalins 90.70 42 *e*P **P 11 50 56.0 -1.1**
TIXI Tiksi 93.80 17*d i*P **P 11 51 10.2 -0.7**
TIXI pmax pmax
comp=Z,51nm,1.1s
IMA2 Indian Mountai 120.40 17 *e*PKPdf **PKPdf 11 56 45.8 +0.4**
IM04 Indian Mountai 120.44 17 *e*PKPdf **PKPdf 11 56 45.9 +0.5**
INK Inuvik 122.89 8 *e*PKPdf **PKPdf 11 56 49.6 -0.3**
ILAR Eielson Array 123.26 16 PKP **PKPdf 11 56 48.9 -1.9**
ILAR Eielson Array 123.26 16 PKP **PKPdf 11 56 48.9 -1.9**
comp=Z,6.1nm,0.9s,baz=310,slow=3.1,SNR=38
SAML Samuel 124.45 250 *e*PKPdf **PKPdf 11 56 54.7 +0.1**
EGAK Eagle 124.67 13 *e*PKPdf **PKPdf 11 56 53.6 +0.1**
LPAZ La Paz 125.70 239 PKP **PKPdf 11 56 57.3 -0.4**
LPAZ *e*PKPdf **PKiKP 11 56 57.8 -0.3**
LPAZ La Paz 125.70 239 PKP **PKPdf 11 56 57.3 -0.4**
comp=Z,10nm,0.8s,baz=102,slow=1.9,SNR=36
YKA Yellowknife Ar 130.04 360 PKP **PKPdf 11 57 03.5 -0.3**
YKA Yellowknife Ar 130.04 360 PKP **PKPdf 11 57 03.5 -0.3**
comp=Z,4.0nm,0.8s,baz=349,slow=2.3,SNR=6.3
SDV Santo Domingo 136.46 270 *e*PKPdf **PKPdf 11 57 17.5 -0.1**
ULM Lac du Bonnet 139.24 341 PKP **PKPdf 11 57 22.6 +1.3**
ULM Lac du Bonnet 139.24 341 PKP **PKPdf 11 57 22.6 +1.3**
comp=Z,5.7nm,0.9s,baz=89,slow=2.6,SNR=4.4
ROSC El Rosal 139.30 263 PKP **PKPdf 11 57 23.5 +0.4**
ROSC El Rosal 139.30 263 PKP **PKPdf 11 57 23.5 +0.4**
comp=Z,7.2nm,0.5s,baz=102,slow=12,SNR=5.0
EDM Edmonton 139.32 359 *e*PKiKP **PKPdf 11 57 21.9 +0.4**
EDM Edmonton 139.32 359 *e*PKPdf **PKPdf 11 57 21.9 +0.4**
A29A Manning Farm, 141.41 343⇑PKiKP **PKPdf 11 57 22.8 -2.6**
baz=141
B30A Myrvik Farm, E 141.58 342⇓PKiKP **PKPdf 11 57 23.7 -2.0**
baz=141
A28A Rude Farm, Bot 141.70 344⇓PKiKP **PKPdf 11 57 24.3 -1.7**
baz=142
B29A Wagenman Farm,141.86 343⇓PKiKP **PKPdf 11 57 24.4 -1.8**
baz=142

A27A	Ledoux Ranch, baz=142	141.91	345	⇓PKiKP	PKPdf	11 57 24.1	-2.1
B28A	Dugan Ranch, T baz=142	142.15	344	⇓PKiKP	PKPdf	11 57 24.4	-2.3
A26A	Wade Farm, Ken baz=142	142.15	346	⇓PKiKP	PKPdf	11 57 24.4	-2.3
KMSC	Kings Mountain baz=142	142.22	312	⇓PKiKP	PKPdf	11 57 24.6	-2.6
C30A	Mose, Pekin baz=142	142.29	342	⇑PKiKP	PKPdf	11 57 24.3	-2.7
B27A	Peters Farms, baz=142	142.42	345	⇑PKiKP	PKPdf	11 57 25.0	-2.2
A23A	Redstone baz=142	142.69	349	⇓PKiKP	PKPdf	11 57 25.4	-2.3
B26A	Jensen Ranch, baz=142	142.69	346	⇑PKiKP	PKPdf	11 57 25.9	-1.8
C28A	Hausauer Farms baz=143	142.83	344	⇑PKiKP	PKPdf	11 57 25.3	-2.7
A22A	Carney Farms, baz=143	142.83	350	⇓PKiKP	PKPdf	11 57 25.5	-2.5
D30A	Buchanan baz=143	142.91	342	⇓PKiKP	PKPdf	11 57 24.9	-3.2
A21A	Bergtoll Ranch baz=143	142.99	351	⇓PKiKP	PKPdf	11 57 25.9	-2.4
B25A	Knox Farm, Ray baz=143	143.00	347	⇑PKiKP	PKPdf	11 57 26.0	-2.2
SFIN	Scholer Farm baz=143	143.01	324	⇑PKiKP	PKPbc	11 57 25.6	+0.4
DGMT	Dagmar	143.02	348	ePKPdf	PKPbc	11 57 25.8	+0.8
DGMT	Dagmar baz=143	143.02	348	⇑PKiKP	PKPbc	11 57 25.8	+0.8
B23A	Brockton baz=143	143.18	349	⇓PKiKP	PKPbc	11 57 25.1	-0.4
D29A	Pettibone, Tap baz=143	143.20	343	⇑PKiKP	PKPbc	11 57 25.2	-0.4
A20A	Cobblestone Ra baz=143	143.24	352	⇓PKiKP	PKPab	11 57 24.8	+0.4
A19A	Klindworth Far baz=143	143.29	353	⇑PKiKP	PKPbc	11 57 25.7	-0.1
D28A	Regan baz=143	143.36	344	⇑PKiKP	PKPbc	11 57 25.8	-0.2
E30A	Jud baz=143	143.50	341	⇑PKiKP	PKPbc	11 57 26.1	-0.3
B22A	Reddig Ranch S baz=143	143.52	350	⇓PKiKP	PKPbc	11 57 26.6	+0.1
B21A	Ellsworth Farm baz=143	143.56	351	⇑PKiKP	PKPbc	11 57 26.5	0.0
E29A	Napoleon baz=144	143.66	342	⇑PKiKP	PKPbc	11 57 26.6	-0.3
B20A	Solberg Farm, baz=144	143.68	352	⇑PKiKP	PKPbc	11 57 26.6	-0.3
D27A	Center baz=144	143.69	345	⇓PKiKP	PKPbc	11 57 27.1	+0.2
B19A	Brinkman Farms baz=144	143.78	353	⇑PKiKP	PKPab	11 57 26.4	-0.1
C23A	Lambert baz=144	143.85	349	⇓PKiKP	PKPbc	11 57 27.9	+0.5
WCI	Wyandotte Cave	143.89	320	ePKIKP	PKPab	11 57 27.2	0.0
WCI	Wyandotte Cave	143.89	320	ePKPdf	PKPab	11 57 27.2	0.0
E28A	Huff baz=144	143.96	343	⇑PKiKP	PKPbc	11 57 27.6	-0.2
C24A	Savage baz=144	143.97	348	⇓PKiKP	PKPbc	11 57 28.1	+0.3
D26A	Manning baz=144	143.99	346	⇑PKiKP	PKPbc	11 57 28.1	+0.3
C22A	Vida baz=144	144.03	350	⇑PKiKP	PKPbc	11 57 28.1	+0.1
D25A	Fairfield baz=144	144.09	347	⇓PKiKP	PKPbc	11 57 28.8	+0.6
F30A	Leola baz=144	144.13	341	⇓PKiKP	PKPbc	11 57 28.2	-0.2
C21A	Desert Coulee baz=144	144.15	351	⇑PKiKP	PKPbc	11 57 28.5	+0.2
NLW	Nelson Butte	144.19	6	P	PKPbc	11 57 28.5	-0.1
NEW	Newport	144.25	3	ePKPdf	PKPbc	11 57 28.9	+0.2
NEW	Newport baz=144	144.25	3	⇓PKiKP	PKPbc	11 57 28.7	0.0
EGMT	Eagleton	144.29	354	ePKPdf	PKPdf	11 57 30.7	+0.1
EGMT	Eagleton baz=144	144.29	354	⇑PKiKP	PKPab	11 57 28.0	-0.5
CPCT	Cooper Cave	144.32	315	ePKPdf	PKPbc	11 57 29.2	-0.1
E27A	Carson baz=144	144.33	344	⇓PKiKP	PKPbc	11 57 28.9	-0.1
D24A	Glendive baz=144	144.34	348	⇑PKiKP	PKPbc	11 57 29.2	+0.3
F29A	Eureka baz=144	144.38	342	⇑PKiKP	PKPab	11 57 28.5	-0.4
C20A	Veseth Ranch, baz=144	144.39	352	⇓PKiKP	PKPab	11 57 28.6	-0.3
D23A	Lindsay baz=144	144.46	349	⇓PKiKP	PKPbc	11 57 29.8	+0.4
C19A	Slack Wire Ran baz=144	144.50	353	⇑PKiKP	PKPab	11 57 29.0	-0.3
E26A	Carlson Angus baz=144	144.52	345	⇑PKiKP	PKPbc	11 57 29.8	+0.2
BLMT	Blacktail Moun	144.56	359	ePKPdf	PKPbc	11 57 30.1	+0.3
WTV	Waterville	144.61	6	P	PKPab	11 57 29.5	-0.1
F28A	McLaughlin baz=144	144.65	343	⇓PKiKP	PKPbc	11 57 29.9	-0.1
SAW	Saint Andrews	144.66	5	P	PKPbc	11 57 30.0	+0.1
D22A	Cohagen baz=144	144.66	350	⇓PKiKP	PKPbc	11 57 30.5	+0.5
OLIL	Olney	144.67	323	ePKPdf	PKPbc	11 57 30.2	0.0
YBMT	Yellow Bay	144.70	359	ePKPdf	PKPbc	11 57 30.5	+0.3
BSMT	Bassoo Peak	144.72	360	ePKPdf	PKPbc	11 57 30.4	0.0
E25A	Miller Ranch, baz=145	144.72	346	⇓PKiKP	PKPbc	11 57 30.2	0.0
G30A	Faulkton baz=145	144.79	341	⇑PKiKP	PKPab	11 57 30.2	-0.2
JTMT	Jette	144.82	359	ePKPdf	PKPab	11 57 30.5	0.0
E24A	Baker baz=145	144.87	347	⇓PKiKP	PKPbc	11 57 31.1	+0.4
D21A	La Casta Ranch baz=145	144.88	351	⇑PKiKP	PKPbc	11 57 30.9	+0.1
F27A	Lemmon baz=145	144.97	344	⇑PKiKP	PKPbc	11 57 31.2	+0.2
D20A	Manuel Ranch, baz=145	145.02	352	⇑PKiKP	PKPbc	11 57 31.1	-0.1
D19A	Cripps Ranch, baz=145	145.04	353	⇓PKiKP	PKPbc	11 57 31.1	-0.1
SWMT	Swartz Lake	145.05	359	ePKPbc	PKPbc	11 57 31.1	-0.2
TBM	Table Mountain	145.06	7	P	PKPab	11 57 31.5	+0.2
ECSD	EROS Data Cent	145.11	337	ePKPbc	PKPbc	11 57 31.1	-0.4
LAO	LASA Array	145.12	350	ePKPbc	PKPdf	11 57 32.3	+0.3
E23A	Ismay baz=145	145.13	348	⇓PKiKP	PKPdf	11 57 31.9	-0.1
SCIA	State Center	145.13	331	ePKPbc	PKPbc	11 57 31.4	-0.2
F25A	Bowman baz=145	145.28	346	⇓PKiKP	PKPdf	11 57 32.3	0.0
E22A	Miles City baz=145	145.31	349	⇑PKiKP	PKPbc	11 57 32.0	-0.1
SLMT	Seeley Lake	145.31	358	ePKPbc	PKPbc	11 57 32.1	-0.2
LON	Longmire	145.32	8	ePKIKP	PKPbc	11 57 31.7	-0.4
LON	Longmire	145.32	8	ePKPbc	PKPbc	11 57 31.7	-0.4
BRSD	Miller	145.34	340	ePKPbc	PKPab	11 57 32.3	0.0
BRSD	Miller baz=145	145.34	340	⇑PKiKP	PKPbc	11 57 32.2	0.0
G28A	Parade baz=145	145.39	343	⇑PKiKP	PKPab	11 57 32.6	0.0
E21A	Keefer Ranch, baz=145	145.40	351	⇑PKiKP	PKPab	11 57 32.6	0.0
WPW	White Pass	145.40	8	P	PKPab	11 57 32.7	+0.1
SWET	Sewanee	145.41	316	ePKPbc	PKPbc	11 57 31.9	-0.9
BCIP	Isla Barro Col	145.49	268	ePKPbc	PKPab	11 57 34.2	+0.4
GLK	Glacier Lake	145.53	8	P	PKPab	11 57 33.1	0.0
F24A	Ekalaka baz=145	145.57	347	⇓PKiKP	PKPab	11 57 33.4	+0.1
E20A	Meyer Farm, Mu baz=145	145.60	352	⇓PKiKP	PKPdf	11 57 32.8	-0.1
TIGA	Tifton	145.60	308	ePKPbc	PKPbc	11 57 33.5	0.0
TIGA	Tifton baz=146	145.60	308	⇑PKiKP	PKPdf	11 57 32.7	-0.5
CHMT	Chamberlain Mo	145.63	358	P	PKPdf	11 57 33.1	0.0
CHMT				ePKPdf	PKPbc	11 57 33.2	-0.1
G26A	Maurine baz=146	145.65	345	⇑PKiKP	PKPbc	11 57 33.2	-0.1
G27A	Dupree baz=145	145.66	345	⇓PKiKP	PKPdf	11 57 32.1	-0.9
MXC	Moxie City	145.68	7	P	PKPab	11 57 34.0	+0.4
E19A	Rath Farm, Rou baz=146	145.73	353	⇓PKiKP	PKPbc	11 57 33.6	+0.1
MSO	Missoula baz=146	145.73	359	⇓PKiKP	PKPdf	11 57 33.1	-0.1
HRY	Holter Researc	145.76	356	ePKPbc	PKPab	11 57 34.0	0.0
H28A	Mission Ridge baz=146	145.79	342	⇓PKiKP	PKPbc	11 57 33.5	-0.2
SNIWA	Snively Ranch	145.86	6	P	PKPab	11 57 34.6	+0.5
F23A	Volborg baz=146	145.89	348	⇓PKiKP	PKPbc	11 57 34.0	0.0
TRW	Toppenish Ridg	145.93	7	P	PKPab	11 57 34.4	-0.1
HAWA	Hanford	145.94	6	ePKPbc	PKPab	11 57 34.5	0.0
G25A	Newell baz=146	145.95	346	⇑PKiKP	PKPbc	11 57 34.1	-0.1
I30A	Oacoma baz=146	145.97	340	⇓PKiKP	PKPbc	11 57 34.0	-0.2
F22A	Rosebud baz=146	146.00	349	⇓PKiKP	PKPbc	11 57 34.2	-0.2
SIUC	Southern Illin	146.00	322	ePKPbc	PKPbc	11 57 34.3	-0.2
G24A	Alzada baz=146	146.06	347	⇑PKiKP	PKPdf	11 57 34.0	+0.3
F21A	Absaloka Mine, baz=146	146.11	350	⇓PKiKP	PKPbc	11 57 34.7	0.0
H27A	Howes baz=146	146.13	344	⇑PKiKP	PKPdf	11 57 34.0	+0.2
WVT	Waverly	146.14	319	ePKP2	PKPdf	11 57 34.0	0.0
WVT	Waverly	146.14	319	ePKPbc	PKPdf	11 57 34.0	0.0
I29A	Vivian Onida baz=146	146.16	341	⇑PKiKP	PKPbc	11 57 34.3	-0.5
F20A	Billings baz=146	146.29	352	⇑PKiKP	PKPbc	11 57 35.5	+0.3
H26A	Fairpoint baz=146	146.33	344	⇓PKiKP	PKPdf	11 57 34.7	+0.5
G23A	Biddle baz=146	146.39	348	⇓PKiKP	PKPbc	11 57 35.2	-0.3
GCMT	Greycliff	146.49	353	ePKPbc	PKPbc	11 57 35.8	-0.1
J30A	Dallas baz=146	146.51	340	⇑PKiKP	PKPbc	11 57 35.7	-0.2
H25A	Fruitdale baz=146	146.53	345	⇓PKiKP	PKPbc	11 57 35.7	-0.3
G22A	Birney baz=146	146.55	349	⇓PKiKP	PKPbc	11 57 35.7	-0.3
I27A	Quinn baz=146	146.64	343	⇓PKiKP	PKPbc	11 57 35.9	-0.4
H24A	Dirks Ranch, A baz=146	146.64	347	⇓PKiKP	PKPdf	11 57 35.4	+0.6
LRM	Limekiln Ridge	146.69	357	ePKPbc	PKPbc	11 57 36.1	-0.5
G21A	Lodge Grass baz=146	146.70	350	⇑PKiKP	PKPbc	11 57 36.3	-0.2
J29A	Okreek baz=147	146.72	341	⇓PKiKP	PKPbc	11 57 36.6	+0.1
G04A	Mulino	146.72	10	P	PKPab	11 57 36.9	-0.6
BOZ	Bozeman (W)	146.81	356	ePKP2	PKPdf	11 57 35.9	+0.8
BOZ	Bozeman (W)	146.81	356	ePKPbc	PKPdf	11 57 35.9	+0.8
G20A	Bridger baz=147	146.87	351	⇓PKiKP	PKPbc	11 57 37.3	+0.4
I26A	New Underwood baz=147	146.90	344	⇑PKiKP	PKPbc	11 57 36.9	-0.1
J28A	Allard Ranch, baz=147	146.99	342	⇓PKiKP	PKPbc	11 57 37.3	0.0
H23A	Clabaugh Cattl baz=147	147.00	348	⇓PKiKP	PKPbc	11 57 36.8	-0.5
PARMO	Parma	147.01	321	ePKPbc	PKPbc	11 57 37.1	-0.4
RLMT	Red Lodge	147.10	353	ePKPbc	PKPdf	11 57 36.5	+0.8
RSSD	Black Hills	147.11	346	ePKP2	PKPdf	11 57 36.4	+0.7
RSSD	Black Hills	147.11	346	ePKPbc	PKPdf	11 57 36.4	+0.7
K30A	Basset baz=147	147.13	339	⇓PKiKP	PKPbc	11 57 37.4	-0.2
I25A	Rockford baz=147	147.13	345	⇓PKiKP	PKPbc	11 57 37.9	+0.1
H22A	Clearmont baz=147	147.16	349	⇓PKiKP	PKPbc	11 57 37.8	0.0
H21A	Big Horn, Sher baz=147	147.25	350	⇓PKiKP	PKPbc	11 57 38.1	0.0
L31A	Butterfield Fa baz=147	147.28	338	⇑PKiKP	PKPbc	11 57 37.8	-0.3
K29A	Lazy Trails An baz=147	147.29	340	⇑PKiKP	PKPbc	11 57 37.8	-0.3
LRAL	Lakeview Retre	147.34	313	ePKPbc	PKPdf	11 57 37.0	+0.8
J27A	Elkhorn Farm, baz=147	147.38	342	⇓PKiKP	PKPbc	11 57 38.5	0.0
I24A	Kuemmerle Ranc baz=147	147.50	346	⇓PKiKP	PKPbc	11 57 38.7	-0.1
H19A	Powell baz=147	147.51	352	⇓PKiKP	PKPbc	11 57 39.5	+0.7
H20A	Greybull baz=147	147.55	351	⇓PKiKP	PKPbc	11 57 38.8	0.0
H18A	Shoshone NF, C baz=147	147.59	353	⇑PKiKP	PKPbc	11 57 39.5	+0.4
QLMT	Earthquake Lak	147.61	355	ePKPdf	PKPdf	11 57 36.8	+0.2
QLMT				ePKPbc	PKPbc	11 57 38.5	-0.7
QLMT				ePKPab	PKPab	11 57 40.8	-0.5
BMO	Blue Mountains	147.65	3	ePKIKP	PKPdf	11 57 35.7	-0.7
BMO				e		11 57 38.2	
BMO				e		11 57 40.7	
BMO	Blue Mountains	147.65	3	ePKPdf	PKPdf	11 57 35.7	-0.7
BMO				ePKPbc	PKPbc	11 57 38.2	-0.9
BMO				ePKPab	PKiKP	11 57 40.6	-0.6
YNR	Norris Junctio	147.66	354	ePKPbc	PKPbc	11 57 40.1	+0.7
K28A	Ten Mile Ranch baz=148	147.67	341	⇓PKiKP	PKPbc	11 57 39.3	+0.1
BGNE	Belgrade	147.68	336	ePKPbc	PKPbc	11 57 39.0	-0.3
BGNE	Belgrade baz=148	147.68	336	⇑PKiKP	PKPbc	11 57 38.6	-0.6
MCMT	McKenzie Canyo	147.70	357	ePKPbc	PKPdf	11 57 37.9	+1.1
YMR	Madison River	147.73	355	ePKPdf	PKPdf	11 57 36.9	+0.2
YMR				ePKPbc	PKPbc	11 57 38.8	-0.8
YMR				ePKPab	PKiKP	11 57 41.5	-0.1
J25A	Sunshine Ranch baz=148	147.74	345	⇓PKiKP	PKPbc	11 57 39.8	+0.4
LKWY	Lake	147.78	354	ePKIKP	PKPdf	11 57 34.2	-2.7
LKWY				e		11 57 40.4	
LKWY				e		11 57 42.7	
LKWY	Lake	147.78	354	ePKPdf	PKPdf	11 57 34.2	-2.7
LKWY				ePKPbc	PKPbc	11 57 40.4	+0.7
LKWY				ePKPab	PKPab	11 57 42.7	+0.6
L30A	Spencer Herefo baz=148	147.80	339	⇑PKiKP	PKPbc	11 57 39.6	0.0
I22A	9 Mile Ranch, baz=148	147.86	349	⇓PKiKP	PKPbc	11 57 39.7	-0.1
YFT	Old Faithful	147.94	355	ePKPdf	PKPdf	11 57 37.5	+0.4
YFT				ePKPbc	PKPbc	11 57 39.9	-0.2
YFT				ePKPab	PKPab	11 57 43.0	+0.4
K27A	Flueckinger Fa baz=148	147.94	342	⇓PKiKP	PKPbc	11 57 39.6	-0.4
L29A	Maesberg Ranch baz=148	147.96	340	⇑PKiKP	PKPbc	11 57 40.2	+0.1
H17A	Grant Village	147.97	354	ePKPbc	PKPbc	11 57 39.7	-0.5
H17A				ePKPab	PKPab	11 57 42.9	+0.1
H17A	Grant Village baz=148	147.97	354	⇑PKiKP	PKPbc	11 57 40.1	-0.1
J24A	Dixon Ranch, L baz=148	148.01	346	⇑PKiKP	PKPbc	11 57 40.4	+0.2
I21A	Big Trails, Te baz=148	148.09	350	⇑PKiKP	PKPbc	11 57 40.4	-0.1
I20A	Worland baz=148	148.09	351	⇓PKiKP	PKPbc	11 57 40.7	+0.3
I19A	Meeteetse baz=148	148.14	352	⇓PKiKP	PKPbc	11 57 40.7	+0.1
J23A	Dilts Ranch, B baz=148	148.14	347	⇓PKiKP	PKPbc	11 57 39.8	-0.7
K26A	Motz Farm, Whi baz=148	148.22	344	⇑PKiKP	PKPbc	11 57 40.6	-0.1
M30A	Dale-Ortello V baz=148	148.22	338	⇓PKiKP	PKPbc	11 57 40.0	-0.7
N32A	Stuiken Farm, baz=148	148.28	336	⇓PKiKP	PKPbc	11 57 40.4	-0.5
J22A	Midwest baz=148	148.32	348	⇑PKiKP	PKPbc	11 57 40.4	-0.7
L28A	Connealy Angus baz=148	148.36	341	⇓PKiKP	PKPbc	11 57 41.3	+0.2
I17A	Pilgrim Ck. baz=148	148.44	354	⇓PKiKP	PKPbc	11 57 41.9	+0.5
K25A	Mack Ranch, Ha baz=148	148.49	344	⇓PKiKP	PKPbc	11 57 41.6	+0.1
N31A	Bailey Ranch, baz=148	148.49	337	⇓PKiKP	PKPbc	11 57 41.1	-0.4
L27A	T5 Ranch, Ells baz=148	148.53	342	⇑PKiKP	PKPbc	11 57 41.5	-0.1
J21A	Lysite baz=148	148.57	350	⇓PKiKP	PKPbc	11 57 41.9	+0.1
KEBM	Edson Butte	148.60	13	ePKPbc	PKPbc	11 57 43.2	+1.5
K24A	Anderson Ranch baz=148	148.62	346	⇑PKiKP	PKPbc	11 57 41.6	-0.3
J20A	Shoshoni baz=148	148.67	351	⇑PKiKP	PKPbc	11 57 41.8	-0.2
O32A	Brockman Farm, baz=149	148.70	335	⇓PKiKP	PKPbc	11 57 41.3	-0.7
K23A	Bowen Ranch, D baz=149	148.78	347	⇓PKiKP	PKPbc	11 57 41.6	-0.7
L26A	Underwood Farm baz=149	148.80	343	⇓PKiKP	PKPbc	11 57 42.2	-0.1
M28A	Bar X Bar Ranc baz=149	148.86	340	⇑PKiKP	PKPbc	11 57 42.1	-0.3
J19A	Crowheart baz=149	148.90	352	⇑PKiKP	PKPbc	11 57 42.9	+0.3
KSU1	Kansas State U	148.93	332	ePKPdf	PKPdf	11 57 38.6	0.0
KSU1				ePKPbc	PKPbc	11 57 42.5	-0.1
KSU1				ePKPab	PKPab	11 57 46.8	+0.2
L25A	Engebretsen Ra baz=149	148.94	344	⇑PKiKP	PKPbc	11 57 42.9	+0.2
N30A	Hueftle Ranch, baz=149	148.95	338	⇑PKiKP	PKPbc	11 57 42.2	-0.5
HLID	Hailey	149.01	359	ePKPdf	PKPdf	11 57 39.6	+0.8
HLID				ePKPbc	PKiKP	11 57 43.5	-0.6
HLID				ePKPab	PKPab	11 57 46.7	-0.1
HLID	Hailey baz=149	149.01	359	⇑PKiKP	PKiKP	11 57 43.5	-0.6
M27A	Reverse DX Ran baz=149	149.06	342	⇑PKiKP	PKPbc	11 57 42.7	-0.3
K22A	Casper baz=149	149.07	348	⇑PKiKP	PKPbc	11 57 42.8	-0.2
N29A	Votaw Ranch, W baz=149	149.12	339	⇑PKiKP	PKPbc	11 57 42.6	-0.5
HUMO	Hull Mountain	149.14	12	ePKPbc	PKPbc	11 57 44.2	+1.2
P33A	Williams Farm, baz=149	149.15	334	⇓PKiKP	PKPbc	11 57 42.5	-0.6
O31A	Woolen Ranch, baz=149	149.22	336	⇑PKiKP	PKPbc	11 57 42.3	-1.0
K21A	Alcova baz=149	149.22	349	⇑PKiKP	PKPbc	11 57 43.7	+0.2
L24A	Wheatland baz=149	149.29	345	⇑PKiKP	PKPbc	11 57 43.7	+0.1
M26A	McRoberts Ranc baz=149	149.35	343	⇓PKiKP	PKPbc	11 57 43.8	+0.1
P32A	Huiting Farm, baz=149	149.37	335	⇓PKiKP	PKPbc	11 57 42.9	-0.8
L23A	Garrett baz=149	149.40	347	⇓PKiKP	PKPbc	11 57 43.5	-0.5
BW06	Boulder Array	149.46	352	ePKPdf	PKPdf	11 57 39.4	-0.3
BW06				ePKPbc	PKPbc	11 57 44.2	+0.1
BW06				ePKPab	PKPab	11 57 48.3	-0.5
PDAR	Pinedale Array	149.46	352	PKP	PKPdf	11 57 39.5	-0.1
PDAR				PKPbc	PKPbc	11 57 44.1	0.0
PDAR	Pinedale Array	149.46	352	PKP	PKPdf	11 57 39.5	-0.1
		comp=Z,17nm,1.0s,baz=44,slow=1.3,SNR=40					
PDAR				PKPbc	PKPbc	11 57 44.1	0.0
		comp=Z,21nm,0.8s,baz=75,slow=1.5,SNR=84					
O30A	MW Ranch, Wils baz=149	149.47	337	⇓PKiKP	PKPbc	11 57 43.1	-0.8
OGNE	Ogallala	149.48	341	ePKPdf	PKPdf	11 57 39.3	-0.2
OGNE				ePKPbc	PKPbc	11 57 44.3	+0.3
OGNE				ePKPab	PKPab	11 57 48.6	-0.2
OGNE	Ogallala baz=149	149.48	341	⇓PKiKP	PKPbc	11 57 43.6	-0.4
N28A	Pribbeno Ranch baz=149	149.55	340	⇓PKiKP	PKPbc	11 57 44.1	-0.1
M25A	Palm-Egli Farm baz=150	149.63	344	⇓PKiKP	PKPbc	11 57 44.7	+0.2
L22A	Ellis Ranch, M baz=150	149.64	348	⇑PKiKP	PKPbc	11 57 44.8	+0.3
HOG	Hogback Mounta	149.73	10	P	PKPbc	11 57 45.4	+0.7
N27A	Anderson Farm, baz=150	149.77	341	⇑PKiKP	PKPbc	11 57 44.7	-0.1
P31A	Stockton baz=150	149.78	336	⇑PKiKP	PKPbc	11 57 44.4	-0.4
O29A	4D Ranch, Culb baz=150	149.79	338	⇑PKiKP	PKPbc	11 57 44.6	-0.1
M24A	Cheyenne baz=150	149.81	345	⇑PKiKP	PKPbc	11 57 45.4	+0.4
UALR	University of	149.84	321	ePKPdf	PKPdf	11 57 40.4	+0.3
UALR				ePKPbc	PKPbc	11 57 45.4	+0.5
UALR				ePKPab	PKPab	11 57 49.6	-0.7
WVOR	Wild Horse Val	149.95	6	ePKPdf	PKPdf	11 57 41.0	+0.7
WVOR				ePKPbc	PKPbc	11 57 45.6	+0.4
WVOR				ePKPab	PKPab	11 57 50.6	-0.1
N26A	Koester Ranch, baz=150	149.96	342	⇑PKiKP	PKPbc	11 57 45.2	0.0
KRMB	Red Mountain	149.98	14	ePKPdf	PKPdf	11 57 40.4	0.0
KRMB				ePKPbc	PKiKP	11 57 46.5	+0.4
KRMB				ePKPab	PKPab	11 57 52.0	+1.2
M23A	Laramie baz=150	150.02	346	⇓PKiKP	PKPbc	11 57 45.7	+0.2
YBH	Yreka Blue Hor	150.03	12	ePKPdf	PKPdf	11 57 40.5	+0.1
YBH				PKPbc	PKPbc	11 57 45.5	+0.2
YBH				ePKPbc	PKiKP	11 57 45.7	-0.5
YBH				ePKPab	PKPab	11 57 49.7	-1.3
YBH	Yreka Blue Hor	150.03	12	PKPbc	PKPbc	11 57 45.5	+0.2
		comp=Z,18nm,1.0s,baz=42,slow=4.2,SNR=24					
P30A	Selden baz=150	150.10	337	⇑PKiKP	PKPbc	11 57 45.5	0.0
O28A	Krutsinger Ran baz=150	150.13	340	⇓PKiKP	PKPbc	11 57 45.6	0.0
N25A	Grover baz=150	150.22	343	⇑PKiKP	PKPbc	11 57 45.9	0.0
Q31A	Ellis baz=150	150.22	335	⇑PKiKP	PKPbc	11 57 45.7	-0.1
VBMS	Vicksburg	150.25	315	ePKPdf	PKPdf	11 57 41.4	+0.6
VBMS				ePKPbc	PKiKP	11 57 47.0	+0.2
VBMS				ePKPab	PKPab	11 57 51.0	-1.1
M22A	Cedar Creek Ra baz=150	150.28	347	⇓PKiKP	PKPbc	11 57 45.8	-0.3
MOD	Modoc	150.28	8	ePKPdf	PKPdf	11 57 41.9	+1.0
MOD				ePKPbc	PKiKP	11 57 46.9	+0.1
MOD				ePKPab	PKPab	11 57 53.0	+1.0
P29A	Atwood baz=150	150.30	338	⇑PKiKP	PKPbc	11 57 45.7	-0.4
O27A	Beecher Island baz=150	150.31	341	⇓PKiKP	PKPbc	11 57 45.9	-0.2
N24A	Carr baz=150	150.42	345	⇑PKiKP	PKPbc	11 57 46.7	+0.3
O26A	Horse Wrangler baz=150	150.52	342	⇑PKiKP	PKPbc	11 57 46.9	+0.2
N23A	Red Feather La baz=150	150.62	346	⇑PKiKP	PKPbc	11 57 47.0	0.0
P28A	Saint Francis baz=150	150.62	339	⇑PKiKP	PKPbc	11 57 46.4	-0.4
KHMM	Horse Mountain	150.63	14	ePKPdf	PKPdf	11 57 42.3	+0.8
KHMM				ePKPbc	PKiKP	11 57 48.1	+0.5
KHMM				ePKPab	PKPab	11 57 52.3	-1.3
HVU	Hansel Valley	150.74	357	ePKIKP	PKPdf	11 57 42.2	+0.6
HVU				e		11 57 47.6	
HVU	Hansel Valley	150.74	357	ePKPdf	PKPdf	11 57 42.2	+0.6
HVU				ePKPbc	PKiKP	11 57 47.6	-0.2
HVU				ePKPab	PKPab	11 57 54.3	+0.3
MIAR	Mount Ida	150.74	322	ePKIKP	PKPdf	11 57 42.8	+1.2
MIAR				e		11 57 48.0	
MIAR	Mount Ida	150.74	322	ePKPdf	PKPdf	11 57 42.8	+1.2
MIAR				ePKPbc	PKiKP	11 57 48.0	+0.2
MIAR				ePKPab	PKPab	11 57 55.2	+1.2
N22A	Wattenberg Ran baz=151	150.82	347	⇓PKi

KSCO				*e*PKPbc	**PKiKP**	11 57 49.4	+0.1		
KSCO				*e*PKPab	**PKPab**	11 57 56.7	-0.1		
KSCO	**Kaye Shedlock'** baz=151	151.42	340	⇑PKiKP	**PKiKP**	11 57 49.0	-0.3		
S31A	**Mullinville** baz=151	151.43	334	⇑PKiKP	**PKiKP**	11 57 49.0	-0.2		
P25A	**Willow Gulch B** baz=151	151.45	343	⇑PKiKP	**PKiKP**	11 57 49.1	-0.2		
O22A	**Kremmling** baz=151	151.46	347	⇑PKiKP	**PKPbc**	11 57 49.0	0.0		
ISCO	**Idaho Springs**	151.58	345	*e*PKiKP	**PKPdf**	11 57 43.2	+0.1		
ISCO				*e*		11 57 49.4			
ISCO				*e*		11 57 56.7			
ISCO	**Idaho Springs**	151.58	345	*e*PKPdf	**PKPdf**	11 57 43.2	+0.1		
ISCO				*e*PKPbc	**PKPbc**	11 57 49.4	0.0		
ISCO				*e*PKPab	**PKPab**	11 57 56.7	-1.0		
ISCO	**Idaho Springs** baz=151	151.58	345	⇑PKiKP	**PKPbc**	11 57 49.3	0.0		
BGU	**Big Grassy Mou**	151.60	357	*e*PKPdf	**PKPdf**	11 57 42.7	-0.2		
BGU				*e*PKPbc	**PKiKP**	11 57 49.8	+0.2		
O21A	**Pagoda** baz=151	151.60	348	⇑PKiKP	**PKPbc**	11 57 49.2	-0.1		
P24A	**Kohler Place,** baz=152	151.66	344	⇑PKiKP	**PKPbc**	11 57 49.5	+0.1		
R28A	**Tribune** baz=152	151.73	338	⇑PKiKP	**PKPbc**	11 57 49.1	-0.4		
Q26A	**Hugo** baz=152	151.79	341	⇑PKiKP	**PKPbc**	11 57 49.7	0.0		
KCPM	**Cahto Peak**	151.80	14	*e*PKPbc	**PKPbc**	11 57 50.9	+1.3		
JLU	**Jordanelle**	151.81	355	*e*PKPdf	**PKPdf**	11 57 44.1	+0.7		
JLU				*e*PKPbc	**PKiKP**	11 57 50.3	+0.2		
JLU				*e*PKPab	**PKPab**	11 57 59.5	+0.9		
O19A	**Miners Draw (B** baz=152	151.82	351	⇑PKiKP	**PKPbc**	11 57 49.8	+0.1		
ELK	**Elko**	151.82	1	*e*PKPdf	**PKPdf**	11 57 44.5	+1.1		
ELK				*e*PKPbc	**PKiKP**	11 57 50.3	+0.1		
ELK				*e*PKPab	**PKPab**	11 58 00.1	+1.5		
S30A	**Montezuma** baz=152	151.82	335	⇑PKiKP	**PKPbc**	11 57 49.7	+0.1		
O20A	**White River Ci**	151.83	349	*e*PKPdf	**PKPdf**	11 57 43.3	-0.1		
O20A				*e*PKPbc	**PKPbc**	11 57 49.8	0.0		
O20A				*e*PKPab	**PKPab**	11 57 58.9	+0.2		
O20A	**White River Ci** baz=152	151.83	349	⇓PKiKP	**PKiKP**	11 57 49.9	-0.2		
T31A	**Randall Ranch,** baz=152	151.95	334	⇑PKiKP	**PKiKP**	11 57 50.2	-0.1		
DAU	**Daniels Canyon**	151.98	354	*e*PKiKP	**PKPdf**	11 57 44.4	+0.7		
DAU				*e*		11 57 50.9			
DAU	**Daniels Canyon**	151.98	354	*e*PKPdf	**PKPdf**	11 57 44.4	+0.7		
DAU				*e*PKPbc	**PKiKP**	11 57 50.9	+0.3		
DAU				*e*PKPab	**PKPab**	11 57 58.8	-0.6		
Q25A	**Bedland, Calha** baz=152	152.03	342	⇑PKiKP	**PKPbc**	11 57 50.3	0.0		
P23A	**Jefferson** baz=152	152.03	345	⇓PKiKP	**PKiKP**	11 57 50.8	0.0		
P22A	**Eagle** baz=152	152.04	347	⇓PKiKP	**PKPbc**	11 57 50.4	+0.1		
BMN	**Battle Mountai**	152.06	4	*e*PKiKP	**PKPdf**	11 57 44.6	+1.0		
BMN				*e*		11 57 50.9			
BMN	**Battle Mountai**	152.06	4	*e*PKPdf	**PKPdf**	11 57 44.6	+1.0		
BMN				*e*PKPbc	**PKiKP**	11 57 50.9	+0.4		
BMN				*e*PKPab	**PKPab**	11 58 01.1	+1.6		
S29A	**Ulysses** baz=152	152.10	336	⇑PKiKP	**PKiKP**	11 57 50.5	-0.1		
R27A	**Eads** baz=152	152.13	339	⇓PKiKP	**PKiKP**	11 57 50.7	0.0		
Q24A	**Divide** baz=152	152.24	344	⇓PKiKP	**PKPbc**	11 57 50.7	-0.2		
DUG	**Dugway**	152.32	357	*e*PKiKP	**PKPdf**	11 57 44.9	+0.9		
DUG				*e*		11 57 51.7			
DUG	**Dugway**	152.32	357	*e*PKPdf	**PKPdf**	11 57 44.9	+0.9		
DUG				*e*PKPbc	**PKiKP**	11 57 51.7	+0.6		
DUG				*e*PKPab	**PKPab**	11 58 01.1	+0.5		
DUG	**Dugway** baz=152	152.32	357	⇑PKiKP	**PKiKP**	11 57 51.3	+0.2		
R26A	**Arlington** baz=152	152.34	340	⇓PKiKP	**PKiKP**	11 57 51.0	-0.2		
T30A	**Plains** baz=152	152.35	335	⇑PKiKP	**PKPbc**	11 57 50.9	+0.1		
MPU	**Maple Canyon**	152.41	355	*e*PKPdf	**PKPdf**	11 57 44.7	+0.5		
MPU				*e*PKPbc	**PKiKP**	11 57 51.6	+0.3		
MPU				*e*PKPab	**PKPab**	11 58 02.6	+1.6		
S28A	**Manter** baz=152	152.43	337	⇓PKiKP	**PKPbc**	11 57 51.1	+0.1		
P19A	**Cripple Cowboy** baz=152	152.44	350	⇑PKiKP	**PKiKP**	11 57 51.4	-0.1		
P20A	**De Beque** baz=152	152.47	349	⇓PKiKP	**PKPbc**	11 57 50.8	-0.4		
Q23A	**Hartsel** baz=152	152.48	345	⇓PKiKP	**PKPbc**	11 57 51.2	-0.2		
NLU	**North Lily Min**	152.50	355	*e*PKPdf	**PKPdf**	11 57 43.8	-0.6		
NLU				*e*PKPbc	**PKiKP**	11 57 52.0	+0.5		
NLU				*e*PKPdf	**PKPab**	11 58 02.8	+1.3		
PAHR	**Pah Rah Range**	152.56	8	*e*PKPdf	**PKPdf**	11 57 45.2	+0.8		
PAHR				*e*PKPbc	**PKiKP**	11 57 52.2	+0.6		
PAHR				*e*PKPab	**PKPab**	11 58 02.4	+0.8		
T29A	**Hugoton** baz=152	152.57	336	⇓PKiKP	**PKiKP**	11 57 51.6	0.0		
U31A	**Nine Bar Ranch** baz=152	152.64	333	⇓PKiKP	**PKPbc**	11 57 51.5	0.0		
S27A	**Las Animas** baz=153	152.71	339	⇑PKiKP	**PKPbc**	11 57 51.8	+0.1		
R25A	**Fountain Ranch** baz=153	152.74	342	⇓PKiKP	**PKPbc**	11 57 51.7	-0.1		
Q22A	**Crested Butte,** baz=153	152.78	346	⇓PKiKP	**PKiKP**	11 57 52.2	0.0		
U30A	**WK&E Inc. Balk** baz=153	152.85	334	⇓PKiKP	**PKiKP**	11 57 52.5	+0.3		
R24A	**Sanders Place,** baz=153	152.91	343	⇓PKiKP	**PKPbc**	11 57 52.3	+0.1		
T28A	**Walsh** baz=153	152.92	337	⇑PKiKP	**PKPbc**	11 57 52.0	-0.2		
Q21A	**Lamborn Mesa,** baz=153	152.95	347	⇑PKiKP	**PKPbc**	11 57 52.0	-0.3		
S26A	**Kim** baz=153	152.96	340	⇓PKiKP	**PKiKP**	11 57 52.5	+0.1		
TMUT	**Trail Mountain**	153.08	354	*e*PKPbc	**PKPbc**	11 57 53.4	+0.7		
TMUT				*e*PKPab	**PKPab**	11 58 05.0	+1.0		
TGUH	**Tegucigalpa,Un**	153.14	277	*e*PKPdf	**PKPdf**	11 57 46.9	+1.2		
TGUH				*e*PKPbc	**PKiKP**	11 57 54.1	+0.9		
TGUH				*e*PKPab	**PKPab**	11 58 04.5	-0.1		
R23A	**Moffat** baz=153	153.15	344	⇓PKiKP	**PKiKP**	11 57 53.3	+0.3		
U29A	**Oasis Ranch, S** baz=153	153.17	335	⇓PKiKP	**PKPbc**	11 57 52.7	0.0		
SRU	**San Rafael**	153.18	353	*e*PKiKP	**PKPdf**	11 57 46.1	+0.7		
SRU				*e*		11 57 53.0			
SRU	**San Rafael**	153.18	353	*e*PKPdf	**PKPdf**	11 57 46.1	+0.7		
SRU				*e*PKPbc	**PKiKP**	11 57 53.0	0.0		
SRU				*e*PKPab	**PKPab**	11 58 04.6	+0.3		
T27A	**Campo** baz=153	153.20	338	⇑PKiKP	**PKiKP**	11 57 52.9	-0.1		
S25A	**Robets Cordova** baz=153	153.24	341	⇓PKiKP	**PKiKP**	11 57 53.2	+0.1		
R22A	**Saguache, Gunn** baz=153	153.35	346	⇑PKiKP	**PKiKP**	11 57 53.7	+0.2		
R21A	**Cimarron** baz=153	153.39	347	⇓PKiKP	**PKiKP**	11 57 53.5	0.0		
T26A	**Comanche Natio** baz=153	153.41	340	⇑PKiKP	**PKPbc**	11 57 53.2	-0.2		
Q16A	**Castle Valley**	153.45	354	*e*PKPdf	**PKPdf**	11 57 46.5	+0.7		
Q16A				*e*PKPbc	**PKiKP**	11 57 53.9	+0.3		
Q16A				*e*PKPab	**PKPab**	11 58 05.7	+0.2		
Q16A	**Castle Valley** baz=153	153.45	354	⇓PKiKP	**PKiKP**	11 57 53.6	0.0		
WMOK	**Wichita Mounta**	153.46	329	*e*PKiKP	**PKPdf**	11 57 46.6	+0.9		
WMOK				*e*		11 57 53.2			
WMOK	**Wichita Mounta**	153.46	329	*e*PKPdf	**PKPdf**	11 57 46.6	+0.9		
WMOK				*e*PKPbc	**PKPbc**	11 57 53.2	-0.1		
WMOK				*e*PKPab	**PKPab**	11 58 05.6	+0.1		
SDCO	**Great Sand Dun**	153.47	343	*e*PKPdf	**PKPdf**	11 57 46.4	+0.4		
SDCO				*e*PKPbc	**PKiKP**	11 57 53.9	+0.2		
SDCO				*e*PKPab	**PKPab**	11 58 05.8	+0.1		
S24A	**Houchin Ranch,** baz=153	153.49	343	⇓PKPdf	**PKPdf**	11 57 46.2	+0.2		
V30A	**Spur Ranch, Mi** baz=153	153.52	334	⇓PKPdf	**PKPdf**	11 57 45.7	-0.2		
S23A	**Nye Farm, Mont** baz=154	153.65	344	⇑PKPdf	**PKPdf**	11 57 45.7	-0.5		
W31A	**Holland Ranch,** baz=154	153.66	332	⇑PKPdf	**PKPdf**	11 57 45.9	-0.1		
T25A	**Trinidad** baz=154	153.71	341	⇓PKPdf	**PKPdf**	11 57 46.4	+0.2		
R20A	**Redvale** baz=154	153.74	348	⇑PKPdf	**PKPdf**	11 57 47.2	+0.9		
WAKR	**Walker**	153.74	8	*e*PKPdf	**PKPdf**	11 57 45.9	-0.3		
WAKR				*e*PKPbc	**PKiKP**	11 57 55.6	+1.5		
V29A	**Stinnett** baz=154	153.77	335	⇑PKPdf	**PKPdf**	11 57 45.7	-0.5		
U27A	**Thompson Grove** baz=154	153.81	338	⇑PKPdf	**PKPdf**	11 57 46.6	+0.3		
S22A	**4UR Ranch, Cre** baz=154	153.82	346	⇓PKPdf	**PKPdf**	11 57 46.7	+0.2		
PV01	**Paradox Valley**	153.83	349	*e*PKPdf	**PKPdf**	11 57 46.8	+0.4		
PV01				*e*PKPbc	**PKiKP**	11 57 54.6	+0.3		
PV01				*e*PKPab	**PKPab**	11 58 08.1	+1.0		
NVAR	**Mina Array Bea**	153.95	6	PKP	**PKPdf**	11 57 47.0	+0.4		
NVAR				PKPbc	**PKiKP**	11 57 54.8	+0.2		
NVAR				PKPab	**PKPab**	11 58 07.5	-0.1		
NVAR				PP	**PP**	12 01 41.2	+0.3		
NVAR	**Mina Array Bea** comp=Z,3.4nm,1.0s,baz=322,slow=0.4,SNR=18	153.95	6	PKP	**PKPdf**	11 57 47.0	+0.4		
NVAR				PKPbc	**PKiKP**	11 57 54.8	+0.2		
	comp=Z,16nm,0.8s,baz=293,slow=1.5,SNR=72								
NVAR				PKPab	**PKPab**	11 58 07.5	-0.1		
	comp=Z,11nm,0.9s,baz=12,slow=2.4,SNR=9.1								
NVAR				PP	**PP**	12 01 41.2	+0.3		
	comp=Z,1.1nm,0.9s,baz=321,slow=3.2,SNR=8.8								
W30A	**Crocket Farms** baz=154	153.95	333	⇓PKPdf	**PKPdf**	11 57 45.7	-0.8		
NV11	**Mina Array Sit**	153.96	6	*e*PKPdf	**PKPdf**	11 57 47.2	+0.7		
NV11				*e*PKPbc	**PKiKP**	11 57 55.5	+0.9		
NV11				*e*PKPab	**PKPab**	11 58 08.6	+1.0		
T24B	**San Luis** baz=154	154.07	343	⇓PKPdf	**PKPdf**	11 57 47.5	+0.7		
S20A	**Disappointment** baz=154	154.08	348	⇑PKPdf	**PKPdf**	11 57 47.3	+0.5		
U26A	**Atchley Ranch,** baz=154	154.16	339	⇑PKPdf	**PKPdf**	11 57 46.8	-0.1		
V28A	**Channing** baz=154	154.16	336	⇑PKPdf	**PKPdf**	11 57 46.7	-0.1		
R11A	**Troy Canyon, C** baz=154	154.21	1	⇓PKPdf	**PKPdf**	11 57 47.3	+0.5		
T23A	**Casias Ranch,** baz=154	154.29	344	⇓PKPdf	**PKPdf**	11 57 47.3	+0.2		
Y32A	**R-V Farms, Ver** baz=154	154.38	329	⇓PKPdf	**PKPdf**	11 57 46.7	-0.3		
U25A	**Circle Dot Ran** baz=154	154.38	340	⇑PKPdf	**PKPdf**	11 57 47.7	+0.6		
V27A	**Dan Oppiter Fa** baz=154	154.40	337	⇑PKPdf	**PKPdf**	11 57 47.5	+0.4		
TPH	**Tonopah**	154.40	4	*e*PKiKP	**PKPdf**	11 57 48.2	+1.1		
TPH				*e*		11 57 56.4			
TPH	**Tonopah**	154.40	4	*e*PKPdf	**PKPdf**	11 57 48.2	+1.1		
TPH				*e*PKPbc	**PKiKP**	11 57 56.4	+0.9		
TPH				*e*PKPab	**PKPab**	11 58 10.2	+0.8		
W29A	**Amraillo** baz=154	154.47	334	⇑PKPdf	**PKPdf**	11 57 46.6	-0.6		
T22A	**Edith** baz=154	154.53	345	⇑PKPdf	**PKPdf**	11 57 48.3	+0.9		
W28A	**Vega** baz=154	154.59	335	⇓PKPdf	**PKPdf**	11 57 46.7	-0.7		
U24A	**Moreno Valley** baz=154	154.65	342	⇓PKPdf	**PKPdf**	11 57 48.1	+0.4		
MLAC	**Mammoth Lakes** baz=154	154.68	7	⇑PKPdf	**PKPdf**	11 57 47.1	-0.5		
AMTX	**Amarillo** baz=155	154.69	334	⇑PKPdf	**PKPdf**	11 57 47.8	+0.3		
X30A	**Coker Ranch, T** baz=155	154.70	332	⇓PKPdf	**PKPdf**	11 57 48.7	+1.2		
MVCO	**Mesa Verde** baz=154	154.71	348	⇑PKPdf	**PKPdf**	11 57 48.3	+0.6		
T21A	**Navajo Lake** baz=155	154.71	346	⇓PKPdf	**PKPdf**	11 57 48.4	+0.8		
V26A	**Tequesquite Ra** baz=155	154.71	339	⇑PKPdf	**PKPdf**	11 57 47.8	+0.3		
ARUT	**Antelope Range**	154.75	357	*e*PKiKP	**PKPdf**	11 57 49.2	+1.6		
ARUT				*e*		11 57 56.9			
ARUT	**Antelope Range**	154.75	357	*e*PKPdf	**PKPdf**	11 57 49.2	+1.6		
ARUT				*e*PKPbc	**PKiKP**	11 57 56.9	+0.7		
ARUT				*e*PKPab	**PKPab**	11 58 12.4	+1.4		
Y31A	**Rekieta Farm,** baz=155	154.81	331	⇑PKPdf	**PKPdf**	11 57 48.4	+0.7		
WHTX	**Lake Whitney** baz=155	154.84	323	⇑PKPdf	**PKPdf**	11 57 46.9	-0.7		
Z32A	**Haskell** baz=155	154.95	328	⇑PKPdf	**PKPdf**	11 57 48.1	+0.3		
V25A	**Rancho No Teng** baz=155	154.96	340	⇑PKPdf	**PKPdf**	11 57 48.0	0.0		
U23A	**El Rito** baz=155	154.99	343	⇑PKPdf	**PKPdf**	11 57 48.8	+0.8		
X29A	**Tulia** baz=155	155.07	334	⇑PKPdf	**PKPdf**	11 57 47.3	-0.7		
W27A	**Bowe Ranch, En** baz=155	155.10	337	⇑PKPdf	**PKPdf**	11 57 48.0	-0.1		
Y30A	**Stafford Cattl** baz=155	155.18	331	⇑PKPdf	**PKPdf**	11 57 46.0	-2.2		
X28A	**Dimmitt** baz=155	155.22	334	⇑PKPdf	**PKPdf**	11 57 47.3	-1.0		
U21A	**Nageezi** baz=155	155.28	346	⇑PKPdf	**PKPdf**	11 57 48.7	+0.3		
Z31A	**Sharp Cattle R** baz=155	155.28	330	⇑PKPdf	**PKPdf**	11 57 47.4	-0.9		
V24A	**Rampart Ranch,** baz=155	155.28	341	⇓PKPdf	**PKPdf**	11 57 48.8	+0.4		
TIN	**Tinemaha** baz=155	155.32	7	⇓PKPdf	**PKPdf**	11 57 47.4	-1.0		
W26A	**Owens Ranch, T** baz=155	155.34	338	⇑PKPdf	**PKPdf**	11 57 47.7	-0.7		
W25A	**X Bar L Ranch,** baz=155	155.47	339	⇑PKPdf	**PKPdf**	11 57 48.3	-0.4		
X27A	**F and S Farms,** baz=155	155.47	336	⇑PKPdf	**PKPdf**	11 57 48.5	-0.1		
U20A	**Newcomb** baz=155	155.52	348	⇑PKPdf	**PKPdf**	11 57 49.0	+0.3		
V23A	**Ortiz Mt. (NFS** baz=155	155.53	343	⇓PKPdf	**PKPdf**	11 57 48.1	-0.7		
Y29A	**Porterfield Fa** baz=155	155.55	333	⇓PKPdf	**PKPdf**	11 57 47.6	-1.1		
ABTX	**Abilene, Hawle**	155.57	328	*e*PKPdf	**PKPdf**	11 57 49.4	+0.7		
ABTX	**Abilene, Hawle** baz=156	155.57	328	⇓PKPdf	**PKPdf**	11 57 48.3	-0.4		
V22A	**San Miguel Ran** baz=155	155.58	344	⇑PKPdf	**PKPdf**	11 57 48.8	-0.1		
Y28A	**McKinney Farm,** baz=156	155.76	334	⇓PKPdf	**PKPdf**	11 57 48.0	-1.0		
Z30A	**Sanderson Ranc** baz=156	155.78	331	⇑PKPdf	**PKPdf**	11 57 48.9	0.0		
W24A	**Lazy 6 Ranch,** baz=156	155.79	341	⇓PKPdf	**PKPdf**	11 57 49.3	+0.1		
X26A	**CR and CF Fran** baz=156	155.84	337	⇓PKPdf	**PKPdf**	11 57 49.0	-0.1		
V21A	**Milan** baz=156	155.87	346	⇓PKPdf	**PKPdf**	11 57 48.4	-0.9		
131A	**Roby** baz=156	155.91	329	⇓PKPdf	**PKPdf**	11 57 49.4	+0.2		
MSTX	**Muleshoe** baz=156	155.93	335	⇑PKPdf	**PKPdf**	11 57 48.9	-0.4		
CWC	**Cottonwood Cre** baz=156	155.94	6	⇓PKPdf	**PKPdf**	11 57 49.2	-0.1		
FURC	**Furnace Creek,** baz=156	156.02	4	⇓PKPdf	**PKPdf**	11 57 50.2	+1.1		
U15A	**North Rim** baz=156	156.03	355	⇑PKPdf	**PKPdf**	11 57 50.7	+1.2		
SHPR	**Sheep Range**	156.06	1	*e*PKPdf	**PKPdf**	11 57 49.9	+0.5		
V20A	**Brimhall** baz=156	156.06	347	⇑PKPdf	**PKPdf**	11 57 50.4	+0.9		
W23A	**Werner Place,** baz=156	156.07	342	⇑PKPdf	**PKPdf**	11 57 50.3	+0.7		
Z29A	**Hungry Hill Ra** baz=156	156.07	332	⇑PKPdf	**PKPdf**	11 57 49.6	+0.2		
232A	**Coleman** baz=156	156.15	327	⇑PKPdf	**PKPdf**	11 57 49.2	-0.3		
X25A	**Clemmons Ranch** baz=156	156.17	339	⇓PKPdf	**PKPdf**	11 57 48.9	-0.7		
Y27A	**Causey** baz=156	156.17	335	⇓PKPdf	**PKPdf**	11 57 49.7	+0.1		
130A	**Snyder** baz=156	156.26	330	⇑PKPdf	**PKPdf**	11 57 49.6	-0.1		
Z28A	**Tucker Farm, M** baz=156	156.35	333	⇑PKPdf	**PKPdf**	11 57 49.7	-0.1		
W22A	**Albuquerque** baz=156	156.36	344	⇓PKPdf	**PKPdf**	11 57 50.5	+0.7		
MPMC	**Manual Prospec** baz=156	156.38	5	⇓PKPdf	**PKPdf**	11 57 50.0	+0.1		
Y26A	**Elida** baz=156	156.40	337	⇑PKPdf	**PKPdf**	11 57 49.7	-0.2		
231A	**Bronte** baz=156	156.47	328	⇑PKPdf	**PKPdf**	11 57 49.6	-0.3		
332A	**Millersview** baz=156	156.59	326	⇓PKPdf	**PKPdf**	11 57 50.4	+0.3		
SHOC	**Shoshone**	156.62	3	⇑PKPdf	**PKPdf**	11 57 50.7	+0.8		
ISA	**Isabella** baz=156	156.66	8	⇓PKPdf	**PKPdf**	11 57 50.0	-0.1		
129A	**Stewart Farms,** baz=157	156.67	331	⇓PKPdf	**PKPdf**	11 57 49.7	-0.5		
Z27A	**Tatum** baz=157	156.68	335	⇑PKPdf	**PKPdf**	11 57 50.0	-0.3		
W20A	**Ramah** baz=157	156.72	347	⇑PKPdf	**PKPdf**	11 57 51.1	+0.7		
Y25A	**Mesa, Roswell** baz=157	156.72	338	⇓PKPdf	**PKPdf**	11 57 50.5	+0.2		
SMMC	**Simmler** baz=157	156.77	11	⇑PKPdf	**PKPdf**	11 57 50.5	+0.3		
WUAZ	**Wupatki**	156.83	353	*e*PKPdf	**PKPdf**	11 57 51.8	+1.4		
WUAZ	**Wupatki** baz=157	156.83	353	⇓PKPdf	**PKPdf**	11 57 51.6	+1.2		
230A	**Sterling City** baz=157	156.91	329	⇓PKPdf	**PKPdf**	11 57 50.8	+0.3		
X22A	**Bernardo** baz=157	156.93	343	⇑PKPdf	**PKPdf**	11 57 51.3	+0.7		
LRMC	**Laurel Mountai** baz=157	156.94	6	⇓PKPdf	**PKPdf**	11 57 50.9	+0.4		
128A	**Castleberry Fa** baz=157	156.96	333	⇓PKPdf	**PKPdf**	11 57 50.4	-0.2		
W18A	**Petrified Fore** baz=157	156.97	349	⇓PKPdf	**PKPdf**	11 57 50.7	0.0		
Y24A	**Capitan** baz=157	156.98	340	⇑PKPdf	**PKPdf**	11 57 50.9	+0.1		
432A	**Menard** baz=157	157.00	325	⇑PKPdf	**PKPdf**	11 57 50.1	-0.6		
331A	**San Angelo** baz=157	157.01	327	⇑PKPdf	**PKPdf**	11 57 50.6	-0.1		
Z26A	**Caprock** baz=157	157.03	336	⇓PKPdf	**PKPdf**	11 57 50.7	0.0		
LAZ	**Ladron**	157.06	344	*e*PKPdf	**PKPdf**	11 57 52.1	+1.3		
TUQ	**Turquoise Moun** baz=157	157.10	2	⇓PKPdf	**PKPdf**	11 57 51.3	+0.6		
ARVC	**Arvin** baz=157	157.14	8	⇓PKPdf	**PKPdf**	11 57 50.4	-0.2		
BNM	**Barren Site**	157.15	342	*e*PKPdf	**PKPdf**	11 57 51.7	+0.7		
Y23A	**Lovelace Mesa,** baz=157	157.18	341	⇓PKPdf	**PKPdf**	11 57 51.5	+0.5		
GSC	**Goldstone** baz=157	157.19	4	⇓PKPdf	**PKPdf**	11 57 51.7	+0.9		
229A	**Bryant Ranch,** baz=157	157.19	330	⇓PKPdf	**PKPdf**	11 57 50.5	-0.3		
X21A	**Alamocita Cree** baz=157	157.19	345	⇑PKPdf	**PKPdf**	11 57 52.0	+1.0		
PKM	**Peak Mountain** baz=157	157.21	11	⇓PKPdf	**PKPdf**	11 57 50.5	-0.5		
X20A	**Quemado** baz=157	157.28	346	⇑PKPdf	**PKPdf**	11 57 51.8	+0.7		
127A	**Arkansas Junct** baz=157	157.29	334	⇑PKPdf	**PKPdf**	11 57 50.5	-0.5		
JCT	**Junction City**	157.31	325	*e*PKiKP	**PKPdf**	11 57 51.5	+0.5		
JCT	**Junction City**	157.31	325	*e*PKPdf	**PKPdf**	11 57 51.5	+0.5		
JCT	**Junction City** baz=157	157.31	325	⇓PKPdf	**PKPdf**	11 57 51.0	-0.1		
Z25A	**Roswell** baz=157	157.31	338	⇓PKPdf	**PKPdf**	11 57 51.3	+0.2		
Y22D	**IRIS PASSCAL I** baz=157	157.31	343	⇑PKPdf	**PKPdf**	11 57 51.3	+0.2		
330A	**Mertzon** baz=157	157.33	328	⇑PKPdf	**PKPdf**	11 57 50.0	-1.1		
228A	**UT Block 9, Go** baz=157	157.43	332	⇑PKPdf	**PKPdf**	11 57 50.4	-0.9		
W13A	**Hualapai Mount** baz=157	157.44	358	⇓PKPdf	**PKPdf**	11 57 51.3	0.0		
Y22A	**Socorro** baz=157	157.45	343	⇓PKPdf	**PKPdf**	11 57 51.7	+0.4		
EDW2	**Edwards Air Fo** baz=157	157.50	7	⇑PKPdf	**PKPdf**	11 57 52.6	+1.4		
Z24A	**Sheeppen Canyo** baz=157	157.50	339	⇓PKPdf	**PKPdf**	11 57 52.3	+0.9		
Y21A	**Point of Rocks** baz=157	157.58	344	⇓PKPdf	**PKPdf**	11 57 51.5	0.0		
X18A	**Snowflake** baz=157	157.59	349	⇑PKPdf	**PKPdf**	11 57 51.9	+0.4		
RRX	**Edison Barstow** baz=157	157.59	5	⇓PKPdf	**PKPdf**	11 57 52.1	+0.9		
126A	**Clayton Basin,** baz=158	157.59	335	⇓PKPdf	**PKPdf**	11 57 51.3	-0.1		
431A	**Sonora** baz=158	157.60	326	⇓PKPdf	**PKPdf**	11 57 51.7	+0.3		
532A	**Rocksprings** baz=158	157.63	324	⇑PKPdf	**PKPdf**	11 57 51.0	-0.5		
329A	**Wagon Wheel Ra** baz=158	157.66

MNTX	**Cornudas Mount**	**158.97**	**337**	*e*PKPdf	**PKPdf**	**11 57 53.4**	**+0.4**
121A	**Cookes Peak, D**	**159.00**	**343**	⇓PKPdf	**PKPdf**	**11 57 54.2**	**+1.0**
	baz=159						
223A	**Chaparral, Ant**	**159.07**	**340**	⇑PKPdf	**PKPdf**	**11 57 53.8**	**+0.6**
	baz=159						
325A	**Bean Ranch, Si**	**159.10**	**336**	⇑PKPdf	**PKPdf**	**11 57 53.3**	**-0.1**
	baz=159						
Z14A	**Wintersburg**	**159.12**	**356**	⇓PKPdf	**PKPdf**	**11 57 54.0**	**+0.9**
	baz=159						
222A	**Williams Famil**	**159.20**	**341**	⇓PKPdf	**PKPdf**	**11 57 54.1**	**+0.7**
	baz=159						
120A	**U Bar Ranch, L**	**159.21**	**345**	⇑PKPdf	**PKPdf**	**11 57 54.2**	**+0.8**
	baz=159						
324A	**Moseley Ranch,**	**159.24**	**337**	⇑PKPdf	**PKPdf**	**11 57 53.8**	**+0.3**
	baz=159						
SCI	**San Clemente I**	**159.29**	**9**	⇑PKPdf	**PKPdf**	**11 57 54.3**	**+1.0**
	baz=159						
426A	**McDonald Obser**	**159.31**	**333**	⇑PKPdf	**PKPdf**	**11 57 54.0**	**+0.3**
	baz=159						
GLA	**Glamis**	**159.50**	**360**	⇓PKPdf	**PKPdf**	**11 57 54.9**	**+1.3**
	baz=159						
527A	**Woodward Ranch**	**159.56**	**331**	⇑PKPdf	**PKPdf**	**11 57 54.3**	**+0.4**
	baz=159						
SWSC	**Sam W. Stewart**	**159.59**	**2**	⇓PKPdf	**PKPdf**	**11 57 54.9**	**+1.3**
	baz=159						
MONP	**Monument Peak**	**159.61**	**4**	⇑PKPdf	**PKPdf**	**11 57 55.2**	**+1.2**
	baz=159						
425A	**Indio Mountain**	**159.62**	**335**	⇓PKPdf	**PKPdf**	**11 57 54.0**	**+0.1**
	baz=160						
628A	**Black Gap, Mar**	**159.75**	**329**	⇓PKPdf	**PKPdf**	**11 57 54.4**	**+0.4**
	baz=160						
113A	**Mohawk Valley,**	**159.76**	**357**	⇓PKPdf	**PKPdf**	**11 57 54.8**	**+1.0**
	baz=160						
220A	**Playas Peak, P**	**159.80**	**344**	⇓PKPdf	**PKPdf**	**11 57 54.9**	**+0.8**
	baz=160						
526A	**Mary Lane Ranc**	**159.85**	**332**	⇓PKPdf	**PKPdf**	**11 57 54.8**	**+0.5**
	baz=160						
DVTC	**Desert V Tower**	**159.86**	**3**	⇓PKPdf	**PKPdf**	**11 57 54.6**	**+0.5**
	baz=160						
627A	**Terlingua Ranc**	**160.02**	**330**	⇓PKPdf	**PKPdf**	**11 57 54.9**	**+0.4**
	baz=160						
TXAR	**Lajitas Array**	**160.26**	**330**	PKP	**PKPdf**	**11 57 54.8**	**+0.2**
TXAR				PKPab	**PKPab**	**11 58 34.7**	**-0.2**
TXAR	**Lajitas Array**	**160.26**	**330**	PKP	**PKPdf**	**11 57 54.8**	**+0.2**
	comp=Z,3.7nm,1.0s,baz=107,slow=1.3,SNR=22						
TXAR				PKPab	**PKPab**	**11 58 34.7**	**-0.2**
	comp=Z,7.4nm,0.9s,baz=78,slow=4.2,SNR=26						
626A	**Big Bend Ranch**	**160.30**	**331**	⇓PKPdf	**PKPdf**	**11 57 54.9**	**+0.2**
	baz=160						
320A	**Kipp Ranch, An**	**160.33**	**344**	⇑PKPdf	**PKPdf**	**11 57 55.4**	**+0.7**
	baz=160						
319A	**Douglas**	**160.49**	**346**	⇓PKPdf	**PKPdf**	**11 57 55.2**	**+0.3**
	baz=160						
214A	**Organ Pipe Nat**	**160.51**	**355**	⇑PKPdf	**PKPdf**	**11 57 55.6**	**+0.8**
	baz=160						

NEIC ***23*** *11:40:28.0, 32°.24N×115°.36W, h6km, ML3.4(PAS), ML3.7(ECX), After ECX.*

ECX 23 11:40:28.0±0.5, 32°.24N×115°.36W, h6km, MD3.6, ML3.7, 7C-8D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.19**	**16**	⇓*e*P	Pg	11 40 31.2	-0.6
CPBX				*e*S	Sg	11 40 34.7	+0.3
CPBX				*e*		11 40 51.8	
	comp=E,49μm,0.6s						
CPBX				⇑*e*		11 40 52.4	
	comp=N,27μm,0.7s						
EMX	**El Mayor**	**0.27**	**157**	⇓*e*P	Pg	11 40 31.3	-2.0
EMX				*e*S	Sg	11 40 35.2	-1.6
EMX				⇑*e*		11 40 35.6	
	comp=N,10μm,0.4s						
SGL	**Mount Signal**	**0.51**	**324**	⇓*e*P	Pg	11 40 37.1	-0.8
RDX	**Rancho Dawling**	**0.58**	**238**	⇓*e*P	Pg	11 40 38.2	-1.2
RDX				*e*S	Sg	11 40 46.0	-1.2
RDX				⇓*e*		11 40 49.1	
	comp=N,3μm,0.7s						
YUH	**Yuha Desert**	**0.63**	**311**	⇑*e*P	Pg	11 40 38.9	-1.2
RMX	**La Rumorosa**	**0.71**	**301**	⇑*e*P	Pg	11 40 40.4	-1.5
RMX				*e*S	Sg	11 40 50.2	-1.0
YMD	**Yuma Desert**	**0.76**	**65**	⇑*e*P	Pg	11 40 40.5	-2.2
ECBX	**El Chinero**	**0.81**	**161**	⇓*e*P	Pg	11 40 40.5	-3.0
ECBX				*e*S	Sg	11 40 51.7	-2.3
GLA	**Glamis**	**0.93**	**29**	*e*Pg	Pg	11 40 43.1	-2.9
GLA				*e*Sg	Sg	11 40 56.5	-1.7
ZAX	**El Zacaton**	**1.06**	**227**	⇓*e*P	Pg	11 40 46.3	-2.2
ZAX				*e*S	Sg	11 41 00.9	-1.3
CBX	**Cerro Bola**	**1.10**	**274**	⇑*e*P	Pg	11 40 47.1	-2.3
CBX				*e*S	Sg	11 41 02.2	-1.7
BAR	**Barrett**	**1.19**	**292**	*e*Pg	Pg	11 40 48.3	-2.7
BAR				*e*Sg	Sg	11 41 04.8	-1.7
ECNX	**Esteban Cantu**	**1.20**	**241**	⇓*e*P	Pg	11 40 48.8	-2.3
ECNX				*e*S	Sg	11 41 05.0	-1.8
PBX	**Punta Banda**	**1.26**	**247**	⇓*e*P	Pn	11 40 49.6	-2.6
PBX				*e*S	Sg	11 41 06.6	-2.0
PFO	**Pinyon Flat Ob**	**1.65**	**326**	*e*Pn	Pn	11 40 54.0	-3.7
PFO				*e*Sn	Sn	11 41 19.3	0.0
MWC	**Mount Wilson**	**3.00**	**312**	*e*Pn	Pn	11 41 17.1	+0.7
MWC				*e*Sg	Sg	11 42 02.5	-2.5
PASC	**Pasadena Art C**	**3.05**	**310**	*e*Pn	Pn	11 41 13.8	-3.1
GSC	**Goldstone**	**3.29**	**339**	*e*Pg	Pg	11 41 31.0	-0.1
GSC				*e*Sn	Sn	11 41 59.0	-0.6
TUC	**Tucson**	**3.88**	**88**	*e*Pn	Pn	11 41 28.7	+0.3
TUC				*e*Sg	Sg	11 42 33.6	+0.7
SHPR	**Sheep Range**	**4.26**	**2**	*e*Pn	Pn	11 41 32.6	-1.1
SHPR				*e*Sn	Sn	11 42 25.3	+1.4
ISA	**Isabella**	**4.29**	**324**	*e*Pn	Pn	11 41 33.4	-0.4
ISA				*e*Sg	Sg	11 42 41.9	-3.9
WUAZ	**Wupatki**	**4.66**	**44**	*e*Pn	Pn	11 41 38.1	-1.1
WUAZ				*e*Sg	Sg	11 42 57.6	-0.6
ARUT	**Antelope Range**	**5.76**	**15**	*e*Pn	Pn	11 41 54.5	+0.2
	comp=N,45nm,0.7s						
R11A	**Troy Canyon, C**	**6.10**	**358**	*e*Pg	Pg	11 42 24.9	-0.3
MVU	**Marysvale**	**6.76**	**21**	*e*Pg	Pg	11 42 35.9	-2.0
	comp=N,3.2nm,0.7s						
MVU				*e*Sn	Sn	11 43 26.4	+0.7
WDC	**Whiskeytown Da**	**10.13**	**327**	*e*Pn	Pn	11 42 57.5	+3.4
	comp=N,4.7nm,0.3s						

IDC ***23*** *11:45:20.7±1.6, 11°.49S×165°.38E, h0km, mb4.1/5, mb1 4.3/6, mb1mx3.9/21, mbtmp4.1/6, ML4.0/1, MS4.7/1, Ms1 4.7/1, ms1mx3.6/34, Error ellipse: s-maj=47.6km s-min=28.4km az=128.0*

ISCJB ***23*** *11:45:22.5±1.2, 11°.7S±0°.1×165°.4E±0°.2, h24km, mb4.0/5, MS4.7/1, Error ellipse: s-maj=29.0km s-min=20.7km az=175.6*

ISC 23 11:45:24.3±1.3, 11°.6S±0°.2×165°.4E±0°.2, h24km, n7, σ0§32/6, mb4.0/5, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.49**	**175**	Pn	**Pn**	**11 47 53.5**	**+0.1**
	1.2nm,0.3s,baz=62,slow=17,SNR=11						
WRA	**Warramunga Arr**	**30.98**	**251**	P	**P**	**11 51 40.4**	**+0.3**
	5.3nm,0.9s,baz=80,slow=8.6,SNR=14						
ASAR	**Alice Springs**	**32.25**	**244**	P	**P**	**11 51 50.9**	**-0.4**
	1.2nm,0.9s,baz=70,slow=10,SNR=7.0						
FITZ	**Fitzroy Crossi**	**38.92**	**256**	P	**P**	**11 52 48.7**	**+0.2**
	2.7nm,0.8s,baz=128,slow=11,SNR=3.9						
BATI	**Baumata**	**40.98**	**268**	LR	LR	12 08 44.6	
	comp=Z,1μm,18.7s,baz=124,slow=34						
ILAR	**Eielson Array**	**84.11**	**19**	P	**P**	**11 57 52.8**	**-0.1**
	0.3nm,0.6s,baz=236,slow=4.9,SNR=7.1						
MKAR	**Makanchi Array**	**93.67**	**317**	P	**P**	**11 58 39.1**	**+0.2**
	0.7nm,0.7s,baz=96,slow=4.3,SNR=3.7						

IDC ***23*** *11:51:03.7±1.4, 35°.53N×82°.14E, h0km, mb3.3/2, mb1 3.6/5, mb1mx3.3/28, mbtmp3.5/5, ML3.8/3, Error ellipse: s-maj=46.0km s-min=26.9km az=69.0*

ISCJB ***23*** *11:51:04.2±1.0, 35°.68N±0°.09×82°.1E±0°.2, h10km, mb3.7/3, Error ellipse: s-maj=18.1km s-min=12.1km az=170.4*

BJI ***23*** *11:51:08.3, 35°.57N×81°.58E, h8km, mb4.2/1, ML4.0/4*

ISC 23 11:51:05.5±1.2, 35°.6N±0°.1×82°.0E±0°.1, h10km, n8, σ2§11/10, mb3.5/3, 2C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**6.16**	**311**	Pn	**Pn**	**11 52 39.1**	**+2.4**
KSH				Sn	**Sn**	**11 53 43.1**	**-4.1**
KSH				SMN			
	170nm,0.7s						
KSH				SME			
	160nm,0.7s						
MK31	**Makanchi Array**	**11.16**	**1**	⇑Pn	**Pn**	**11 53 45.7**	**+0.6**
	3.8nm,0.9s,baz=182,slow=12,SNR=4.2						
MK31				⇑Sn	**Sn**	**11 55 50.8**	**+0.9**
	3.7nm,0.9s,baz=187,slow=24						
MK31				⇓Lg	Lg	11 56 56.9	
	3.7nm,1.0s						
MKAR	**Makanchi Array**	**11.16**	**1**	Pn	**Pn**	**11 53 45.3**	**+0.2**
	0.5nm,0.3s,baz=181,slow=13,SNR=15						
ZALV	**Zalesovo Beam**	**18.43**	**5**	P	**Pn**	**11 55 23.0**	**+2.1**
	0.2nm,0.3s,baz=192,slow=13,SNR=2.2						
BVAR	**Borovoye Array**	**19.23**	**338**	P	**Pn**	**11 55 30.0**	**-0.7**
	0.4nm,0.3s,baz=150,slow=10,SNR=3.6						
HHC	**Hu-ho-hao-te**	**23.74**	**68**	*e*P	**P**	**11 56 17.4**	**-0.6**
HHC				AMB	AMB		
	comp=Z,40nm,1.0s						
HHC				AMB	AMB		
	comp=Z,530nm,5.8s						
WRA	**Warramunga Arr**	**74.24**	**129**	P	**P**	**12 02 41.8**	**-1.2**
	comp=Z,0.2nm,0.9s,baz=327,slow=5.5,SNR=2.9						
TORD	**Torodi Ar. Bea**	**74.64**	**275**	P	**P**	**12 02 46.3**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=68,slow=4.5,SNR=4.2						

IDC 23 12:09:40.7±2.7, 0°.84S×134°.48E, h0km, mb3.4/2, mb1 3.5/4, mb1mx3.4/20, mbtmp3.3/4, ML3.3/2, Error ellipse: s-maj=100.2km s-min=26.6km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.99**	**180**	P	P	12 14 03.9	-0.2
	0.1nm,0.3s,baz=0.0,slow=11,SNR=9.0						
FITZ	**Fitzroy Crossi**	**19.23**	**206**	P	P	12 14 06.4	-0.4
	0.1nm,0.3s,baz=27,slow=15,SNR=3.0						
FITZ				S	Sn	12 17 29.1	-15
	0.1nm,0.3s,baz=207,slow=18,SNR=4.0						
ASAR	**Alice Springs**	**22.70**	**181**	P	P	12 14 44.5	+0.2
	0.4nm,0.3s,baz=357,slow=12,SNR=21						
MKAR	**Makanchi Array**	**65.76**	**323**	P	P	12 20 27.7	+0.1
	0.3nm,0.5s,baz=117,slow=7.9,SNR=4.3						

IDC 23 12:11:44.8±2.4, 0°.94S×133°.73E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.4/22, mbtmp3.4/4, ML3.6/2, MS3.0/1, Ms1 3.0/1, ms1mx2.8/20, Error ellipse: s-maj=96.0km s-min=24.7km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.81**	**205**	P	Pn	12 16 07.7	+1.2
	0.1nm,0.3s,baz=32,slow=18,SNR=6.2						
FITZ				S	Sn	12 19 27.2	-11
	0.1nm,0.3s,baz=218,slow=18,SNR=2.6						
WRA	**Warramunga Arr**	**18.89**	**178**	P		12 16 05.8	-1.2
	0.2nm,0.3s,baz=356,slow=11,SNR=12						
TGY	**Tagaytay City**	**19.59**	**320**	LR	LR	12 25 30.9	
	comp=Z,39nm,18.4s,baz=359,slow=42						
ASAR	**Alice Springs**	**22.59**	**180**	P	P	12 16 47.0	-0.1
	0.7nm,0.5s,baz=1.6,slow=11,SNR=14						
MKAR	**Makanchi Array**	**65.39**	**324**	P	P	12 22 29.3	-0.1
	0.1nm,0.5s,baz=113,slow=5.4,SNR=2.1						

IDC ***23*** *12:12:35.4±1.1, 18°.87N×107°.07W, h0km, mb3.8/5, mb1 4.2/9, mb1mx4.0/25, mbtmp4.0/9, ML3.8/3, MS4.2/7, Ms1 4.2/7, ms1mx3.9/38, Error ellipse: s-maj=38.1km s-min=18.5km az=64.0*

NEIC ***23*** *12:12:36.6±0.7, 18°.66N×107°.22W, h10km, mb4.1/19, Error ellipse: s-maj=12.8km s-min=8.5km az=53.0*

GCMT ***23*** *12:12:37.2±0.5, 18°.76N×107°.27W, h26km±1km, MW5.0, Moment Tensor Solution. s20,c24; s67,c89; Moment tensor: Scale 10¹⁶Nm; Mrr-0.10±.27; Mθθ-2.98±.20; Mφφ3.08±.24; Mrθ-0.96±.38; Mθφ-3.49±.17; Mφr0.40±.44; Best double couple: Mo4.70000×10¹⁶ NP1:φ290.00000°, δ90.00000°, λ167.00000°. NP2:φ21.00000°, δ77.00000°, λ0.00000°. Principal axes: T 4.7900, Plg9.0000°, Azm245.0000°; N -0.1100, Plg77.0000°, Azm110.0000°; P -4.6800, Plg9.0000°, Azm336.0000°; Data Used: II IU IC G CN.*

MEX ***23*** *12:12:37.4±0.3, 18°.61N×107°.05W, h20km±25km, MD4.2*

ISC 23 12:12:38.2±1.0, 18°.70N±0°.09×107°.02W±0°.06, h30km, n310, σ1§39/268, mb4.2/15, MS4.1/5, 125C-114D, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CJM	**Chamela**	**2.03**	**67**	*e*P	**Pn**	**12 13 08.5**	**-2.0**
CJM				*i* S	**Sn**	**12 13 33.1**	**-1.7**
ANIG	**Ahuacatlan**	**3.32**	**45**	*i* P	**Pn**	**12 13 27.7**	**-0.5**
ANIG				*i* S	**Sn**	**12 14 06.5**	**-0.3**
MMIG	**Aquila**	**3.51**	**96**	*i* P	**Pn**	**12 13 29.0**	**-1.8**
MMIG				*i* S	**Sn**	**12 14 08.7**	**-2.7**
H06E1	**SOCORRO T-PHAS**	**3.70**	**272**	Pn	Pn	12 13 25.0	-8.4
H06E1				Sn	Sn	12 14 02.0	-14
H06E1				T	T	12 16 57.0	
	SNR=83						
H06S1	**SOCORRO T**	**3.73**	**271**	Pn	Pn	12 13 25.3	-8.5
H06S1				Sn	Sn	12 14 01.3	-16
H06S1				T	T	12 16 54.7	
	SNR=143						
H06N1	**SOCORRO T-PHAS**	**3.76**	**273**	Pn	Pn	12 13 28.2	-6.1
H06N1				Sn	Sn	12 14 02.3	-15
H06N1				T	T	12 16 58.0	
	SNR=26						
ZIIG	**Zihuatanejo**	**5.39**	**101**	*i* P	**Pn**	**12 13 55.0**	**-1.6**
ZAIG	**Zacatecas**	**5.81**	**45**	*i* P	**Pn**	**12 14 02.5**	**-0.1**
LPIG	**La Paz**	**6.19**	**331**	Pn	**Pn**	**12 14 06.5**	**-1.1**
LPIG				Sn	**Sn**	**12 15 14.8**	**-2.6**
LPIG	**La Paz**	**6.19**	**331**	Pn	**Pn**	**12 14 06.5**	**-1.1**
	baz=171,slow=10,SNR=3.3						
LPIG				Sn	**Sn**	**12 15 14.8**	**-2.6**
	baz=286,slow=19,SNR=2.3						
ARIG	**Puente Sto Nin**	**6.34**	**93**	*e*P	**Pn**	**12 14 08.3**	**-1.5**
ARIG				*i* S	**Sn**	**12 15 20.0**	**-1.3**
TXAR	**Lajitas Array**	**11.02**	**15**	Pn	**Pn**	**12 15 15.4**	**+1.4**
TXAR	**Lajitas Array**	**11.02**	**15**	Pn	**Pn**	**12 15 15.4**	**+1.4**
	0.6nm,0.3s,baz=201,slow=13,SNR=36						
626A	**Big Bend Ranch**	**11.12**	**13**	⇑P	**Pn**	**12 15 17.1**	**+1.8**
	baz=11,SNR=14						
627A	**Terlingua Ranc**	**11.21**	**17**	⇓P	**Pn**	**12 15 18.3**	**+1.8**
	baz=11						
628A	**Black Gap, Mar**	**11.38**	**19**	⇓P	**Pn**	**12 15 20.3**	**+1.4**
	baz=11,SNR=10						
526A	**Mary Lane Ranc**	**11.62**	**13**	⇑P	**Pn**	**12 15 24.1**	**+1.8**
	baz=12,SNR=12						
527A	**Woodward Ranch**	**11.81**	**15**	⇑P	**Pn**	**12 15 26.1**	**+1.2**
	baz=12,SNR=7.3						
732A	**Laxson Ranch,**	**11.88**	**32**	⇑P	Pn	12 15 29.4	+3.7
	baz=12,SNR=5.6						
425A	**Indio Mountain**	**12.18**	**8**	⇓P	**Pn**	**12 15 31.6**	**+1.8**
	baz=12,SNR=9.7						
631A	**Perdido Creek**	**12.18**	**28**	⇓P	Pn	12 15 33.3	+3.5
	baz=12,SNR=19						
426A	**McDonald Obser**	**12.22**	**12**	⇓P	**Pn**	**12 15 32.2**	**+1.6**
	baz=12						
530A	**J-C Ranch, Com**	**12.52**	**23**	⇓P	Pn	12 15 37.7	+3.4
	baz=12						
427A	**Hayter Ranch,**	**12.53**	**14**	⇑P	**Pn**	**12 15 36.9**	**+2.2**
	baz=12						
428A	**Kincaid Ranch,**	**12.60**	**17**	⇑P	**Pn**	**12 15 38.3**	**+2.7**
	baz=13						
632A	**Uvalde**	**12.62**	**30**	⇑P	Pn	12 15 40.2	+4.4
	baz=13,SNR=9.7						
320A	**Kipp Ranch, An**	**12.66**	**354**	⇓P	**Pn**	**12 15 38.8**	**+2.4**
	baz=13,SNR=7.3						
429A	**Davenport Ranc**	**12.75**	**20**	⇓P	Pn	12 15 40.8	+3.2
	baz=13,SNR=6.7						
325A	**Bean Ranch, Si**	**12.75**	**8**	⇑P	**Pn**	**12 15 39.7**	**+2.0**
	baz=13						
324A	**Moseley Ranch,**	**12.77**	**6**	⇑P	**Pn**	**12 15 39.5**	**+1.6**
	baz=13						
319A	**Douglas**	**12.79**	**351**	⇓P	**Pn**	**12 15 40.1**	**+2.0**
	baz=13,SNR=17						
531A	**Rocksprings**	**12.84**	**26**	⇑P	Pn	12 15 42.3	+3.5
	baz=13						
MNTX	**Cornudas Mount**	**13.03**	**6**	*e*Pn	**Pn**	**12 15 42.9**	**+1.5**
	3.0nm,0.5s						
532A	**Rocksprings**	**13.09**	**28**	⇑P	Pn	12 15 46.4	+4.2
	baz=13,SNR=20						
430A	**Baggett Ranch,**	**13.13**	**22**	⇓P	Pn	12 15 46.8	+4.0
	baz=13,SNR=15						
328A	**Wristen Ranch,**	**13.19**	**16**	⇓P	**Pn**	**12 15 46.2**	**+2.6**
	baz=13						
220A	**Playas Peak, P**	**13.22**	**354**	⇑P	**Pn**	**12 15 45.9**	**+1.8**
	baz=13,SNR=44						
431A	**Sonora**	**13.27**	**25**	⇑P	Pn	12 15 48.7	+4.0
	baz=13,SNR=6.5						
222A	**Williams Famil**	**13.35**	**360**	⇓P	**Pn**	**12 15 47.7**	**+1.9**
	baz=13						
224A	**Cornudas Mount**	**13.39**	**5**	⇑P	**Pn**	**12 15 48.4**	**+2.0**
	baz=13						
JCT	**Junction City**	**13.43**	**28**	*e*Pn	P	12 15 51.4	-4.6
	70nm,1.3s						
JCT	**Junction City**	**13.43**	**28**	⇑P	Pn	12 15 51.0	+4.0
	baz=14,SNR=7.8						
225A	**Deer Hill, Car**	**13.50**	**8**	⇑P	**Pn**	**12 15 49.8**	**+1.9**
	baz=14						
329A	**Wagon Wheel Ra**	**13.52**	**19**	⇓P	Pn	12 15 52.1	+4.0
	baz=14						
226B	**Tecolote Peak,**	**13.57**	**10**	⇑P	**Pn**	**12 15 51.6**	**+2.8**
	baz=14						
330A	**Mertzon**	**13.71**	**22**	⇓P	Pn	12 15 54.6	+3.8
	baz=14,SNR=5.6						
432A	**Menard**	**13.78**	**27**	⇑P	P	12 15 55.7	-4.0
	baz=14,SNR=21						
121A	**Cookes Peak, D**	**13.79**	**357**	⇑P	**Pn**	**12 15 53.4**	**+1.4**
	baz=14,SNR=11						
120A	**U Bar Ranch, L**	**13.87**	**354**	⇑P	**Pn**	**12 15 54.7**	**+1.8**
	baz=14,SNR=18						
331A	**San Angelo**	**13.90**	**24**	⇓P	P	12 15 57.4	-3.7
	baz=14,SNR=7.3						
122A	**Conniff Cattle**	**13.94**	**0**	⇑P	**Pn**	**12 15 56.3**	**+2.4**
	baz=14						
TUC	**Tucson**	**13.97**	**347**	*e*Pn	**Pn**	**12 15 55.9**	**+1.6**
	20nm,1.0s						
124A	**Stringfield Ra**	**14.01**	**5**	⇓P	**Pn**	**12 15 57.8**	**+2.8**
	baz=14,SNR=17						
229A	**Bryant Ranch,**	**14.02**	**19**	⇓P	Pn	12 15 58.2	+3.2
	baz=14						
125A	**Gardner Draw,**	**14.06**	**8**	⇓P	**Pn**	**12 15 58.3**	**+2.7**
	baz=14						
126A	**Clayton Basin,**	**14.15**	**10**	⇑P	**Pn**	**12 15 59.8**	**+3.0**
	baz=14						
230A	**Sterling City**	**14.17**	**21**	⇑P	**P**	**12 16 01.7**	**-2.5**
	baz=14						
214A	**Organ Pipe Nat**	**14.20**	**340**	⇓P	**Pn**	**12 15 58.2**	**+0.9**
	baz=14,SNR=18						
332A	**Millersview**	**14.24**	**26**	⇓P	P	12 16 01.3	-3.6
	baz=14,SNR=8.9						
Z20A	**Nine Sixteen R**	**14.42**	**355**	⇓P	**Pn**	**12 16 02.0**	**+1.4**
	baz=14						
128A	**Castleberry Fa**	**14.45**	**16**	⇓P	**P**	**12 16 04.3**	**-3.0**
	baz=14						
Z22A	**Elephant Butte**	**14.50**	**0**	⇑P	**Pn**	**12 16 03.8**	**+2.3**
	baz=14,SNR=7.5						
231A	**Bronte**	**14.50**	**23**	⇓P	**P**	**12 16 05.6**	**-2.2**
	baz=14						
Z23A	**Rita Site, Whi**	**14.52**	**3**	⇓P	**Pn**	**12 16 04.5**	**+2.7**
	baz=14						
Z21A	**St. Cloud Mine**	**14.56**	**358**	⇓P	**Pn**	**12 16 04.9**	**+2.5**
	baz=14						
Z24A	**Sheeppen Canyo**	**14.65**	**5**	⇓P	**Pn**	**12 16 06.0**	**+2.4**
	baz=15						
Z25A	**Roswell**	**14.67**	**8**	⇓P	**Pn**	**12 16 05.9**	**+2.1**
	baz=15						
232A	**Coleman**	**14.72**	**25**	⇑P	**Pn**	**12 16 07.2**	**+2.7**
	baz=15						
Z26A	**Caprock**	**14.77**	**10**	⇑P	**Pn**	**12 16 07.2**	**+2.0**
	baz=15						
130A	**Snyder**	**14.87**	**20**	⇑P	**P**	**12 16 09.9**	**-2.0**
	baz=15						
Z27A	**Tatum**	**14.95**	**12**	⇑P	**P**	**12 16 10.5**	**-2.4**
	baz=15						
Z28A	**Tucker Farm, M**	**15.11**	**15**	⇑P	**P**	**12 16 13.6**	**-1.0**
	baz=15						
131A	**Roby**	**15.14**	**22**	⇓P	**P**	**12 16 13.8**	**-1.0**
	baz=15						
Y22A	**Socorro**	**15.18**	**0**	⇑P	**Pn**	**12 16 12.8**	**+2.2**
	baz=15						
Y23A	**Lovelace Mesa,**	**15.20**	**3**	⇓P	**P**	**12 16 13.5**	**-2.1**
	baz=15						
Y20A	**Horse Springs,**	**15.20**	**356**	⇑P	**Pn**	**12 16 12.7**	**+1.7**
	baz=15,SNR=10.0						
Y24A	**Capitan**	**15.23**	**5**	⇑P	**P**	**12 16 13.9**	**-2.2**
	baz=15						
Y21A	**Point of Rocks**	**15.26**	**358**	⇑P	**P**	**12 16 14.1**	**-2.3**
	baz=15						
Z29A	**Hungry Hill Ra**	**15.26**	**17**	⇓P	**P**	**12 16 15.1**	**-1.2**
	baz=15						
113A	**Mohawk Valley,**	**15.27**	**338**	⇑P	**Pn**	**12 16 12.8**	**+1.1**
	baz=15,SNR=19						
Y25A	**Mesa, Roswell**	**15.30**	**7**	⇓P	**P**	**12 16 14.5**	**-2.4**
	baz=15						
ABTX	**Abilene, Hawle**	**15.37**	**24**	⇓P	**P**	**12 16 16.1**	**-1.4**
	baz=15						
BNM	**Barren Site**	**15.39**	**1**	*e*P	**P**	**12 16 16.0**	**-1.9**
	8.6nm,1.1s						
Y26A	**Elida**	**15.43**	**10**	⇑P	**P**	**12 16 17.1**	**-1.1**
	baz=15

W18A	Petrified Fore 21nm,1.2s	16.53	352	*e*P		P	12 16 29.6	-0.8	
W18A	Petrified Fore baz=16	16.53	352	⇓P		P	12 16 30.2	-0.2	
W25A	X Bar L Ranch, baz=17	16.61	7	⇑P		P	12 16 32.0	+0.7	
X30A	Coker Ranch, T baz=17	16.61	18	⇑P		P	12 16 31.8	+0.6	
W27A	Bowe Ranch, En baz=17	16.67	11	⇑P		P	12 16 32.1	+0.1	
BC3	Big Chuckawall baz=17,SNR=9.1	16.70	335	⇓P		P	12 16 31.5	-0.8	
PDMCI	Parker Dam,Lak baz=17	16.78	339	⇑P		P	12 16 32.9	-0.2	
V23A	Ortiz Mt. (NFS baz=17	17.00	2	⇓P		P	12 16 36.6	+1.0	
IRM	Iron Mountain baz=17,SNR=9.5	17.02	336	⇓P		P	12 16 35.6	-0.1	
V24A	Rampart Ranch, baz=17	17.03	5	⇓P		P	12 16 36.9	+0.8	
X31A	McDonald Ranch baz=17	17.06	20	⇑P		P	12 16 37.9	+1.8	
PFO	Pinyon Flat Ob	17.08	332	*e*P		P	12 16 35.6	-0.9	
PFO	Pinyon Flat Ob baz=17,SNR=10.0	17.08	332	⇓P		P	12 16 36.6	+0.1	
PFO	Pinyon Flat Ob 0.1nm,0.3s,baz=159,slow=11,SNR=17	17.08	332	Pn		Pn	12 16 35.2	+0.2	
PFO				LR		LR	12 22 19.9		
	comp=Z,1μm,19.4s,baz=215,slow=35								
V22A	San Miguel Ran baz=17,SNR=8.9	17.15	0	⇑P		P	12 16 38.6	+1.2	
WUAZ	Wupatki 14nm,1.0s	17.19	348	*e*P		P	12 16 37.9	+0.2	
WUAZ	Wupatki baz=17,SNR=14	17.19	348	⇑P		P	12 16 38.2	+0.5	
V25A	Rancho No Teng baz=17,SNR=7.9	17.20	7	⇑P		P	12 16 39.2	+1.2	
BELC	Belle Mtn. Jos baz=17,SNR=13	17.22	334	⇑P		P	12 16 38.4	+0.3	
V26A	Tequesquite Ra baz=17	17.27	9	⇓P		P	12 16 39.6	+1.0	
MURC	Murrieta baz=17	17.41	330	⇑P		P	12 16 40.1	0.0	
W13A	Hualapai Mount baz=17	17.43	341	⇓P		P	12 16 40.7	+0.1	
WMOK	Wichita Mounta 14nm,1.6s	17.57	23	*e*P		P	12 16 42.0	+0.2	
U23A	El Rito baz=18	17.58	2	⇑P		P	12 16 43.8	+1.7	
U22A	Llaves baz=18,SNR=5.3	17.61	0	⇓P		P	12 16 44.0	+1.5	
U20A	Newcomb baz=18	17.66	356	⇑P		P	12 16 44.5	+1.6	
U21A	Nageezi baz=18	17.67	358	⇓P		P	12 16 44.8	+1.6	
GMRC	Granite Mounta baz=18	17.76	336	⇑P		P	12 16 44.4	+0.4	
U25A	Circle Dot Ran baz=18,SNR=5.3	17.78	7	⇓P		P	12 16 46.1	+1.7	
U26A	Atchley Ranch, baz=18	17.86	9	⇓P		P	12 16 47.3	+2.1	
U27A	Thompson Grove baz=18	18.04	11	⇑P		P	12 16 49.1	+2.0	
HEC	Hector,Ludlow baz=18	18.07	335	⇓P		P	12 16 48.1	+0.7	
BFSC	Mount Baldy Ra baz=18	18.15	331	⇑P		P	12 16 48.7	+0.4	
T21A	Navajo Lake baz=18	18.23	359	⇓P		Pn	12 16 50.5	+1.2	
T22A	Edith baz=18,SNR=9.8	18.25	0	⇓P		Pn	12 16 51.3	+1.8	
U15A	North Rim baz=18,SNR=10.0	18.26	346	⇓P		Pn	12 16 50.8	+1.1	
T23A	Casias Ranch, baz=18	18.29	3	⇓P		Pn	12 16 51.9	+1.9	
T24B	San Luis baz=18	18.35	4	⇑P		Pn	12 16 52.9	+2.1	
TUQ	Turquoise Moun baz=18	18.44	336	⇑P		Pn	12 16 52.8	+1.1	
MVCO	Mesa Verde baz=18	18.49	356	⇓P		Pn	12 16 54.5	+2.1	
T26A	Comanche Natio baz=19	18.65	9	⇑P		Pn	12 16 56.4	+2.0	
GSC	Goldstone baz=19	18.68	334	⇑P		Pn	12 16 55.4	+0.8	
BLG	Laguna Peak baz=19	18.73	327	⇑P		Pn	12 16 56.2	+1.0	
S24A	Houchin Ranch, baz=19	18.94	4	⇓P		Pn	12 16 59.8	+1.8	
S22A	4UR Ranch, Cre baz=19	18.98	0	⇓P		Pn	12 16 59.3	+0.9	
SHOC	Shoshone baz=19	18.99	336	⇑P		Pn	12 16 58.7	+0.4	
S20A	Disappointment baz=19	19.10	357	⇑P		Pn	12 17 00.6	+0.8	
S26A	Kim baz=19	19.11	9	⇑P		Pn	12 17 01.2	+1.5	
SHPR	Sheep Range 5.3nm,0.9s	19.13	340	*e*P		Pn	12 16 59.8	-0.4	
LRMC	Laurel Mountai baz=19	19.20	333	⇑P		Pn	12 17 01.7	+0.8	
S28A	Manter baz=19	19.35	12	⇑P		Pn	12 17 03.7	+1.1	
PV01	Paradox Valley 955nm,1.4s	19.41	356	*e*P		Pn	12 17 03.1	-0.5	
R23A	Moffat baz=19	19.45	3	⇑P		Pn	12 17 04.1	0.0	
R20A	Redvale baz=19	19.46	357	⇑P		Pn	12 17 03.8	-0.2	
R22A	Saguache, Gunn baz=19,SNR=5.3	19.46	1	⇓P		Pn	12 17 04.3	+0.1	
R25A	Fountain Ranch baz=20	19.52	6	⇑P		Pn	12 17 05.5	+0.7	
R24A	Sanders Place, baz=20	19.53	5	⇑P		Pn	12 17 05.6	+0.6	
R21A	Cimarron baz=20	19.60	359	⇓P		Pn	12 17 05.9	+0.1	
MPMC	Manual Prospec baz=20,SNR=6.4	19.61	334	⇑P		Pn	12 17 04.7	-1.2	
ISA	Isabella baz=20	19.70	331	⇓P		Pn	12 17 06.1	-0.8	
FURC	Furnace Creek, baz=20	19.71	336	⇑P		Pn	12 17 06.1	-0.7	
R26A	Arlington baz=20	19.78	8	⇓P		Pn	12 17 08.1	+0.3	
ARUT	Antelope Range 16nm,1.2s	19.83	345	*e*P		Pn	12 17 08.2	-0.3	
R27A	Eads baz=20	19.86	10	⇑P		Pn	12 17 09.2	+0.5	
Q21A	Lamborn Mesa, baz=20	20.07	359	⇑P		Pn	12 17 11.5	+0.1	
Q22A	Crested Butte, baz=20	20.09	0	⇓P		Pn	12 17 12.0	+0.2	
VES	Vestal, Richgr baz=20	20.13	330	⇓P		Pn	12 17 11.4	-0.4	
CWC	Cottonwood Cre baz=20	20.18	333	⇑P		Pn	12 17 11.4	-1.3	
MVU	Marysvale 6.5nm,0.9s	20.25	348	*e*P		Pn	12 17 12.9	-0.5	
Q25A	Bedland, Calha baz=20	20.29	6	⇓P		Pn	12 17 14.0	+0.1	
R30A	Dighton baz=20	20.38	15	⇓P		Pn	12 17 15.5	+0.6	
Q16A	Castle Valley	20.47	351	*e*P		Pn	12 17 14.8	-1.2	
Q16A	Castle Valley baz=20	20.47	351	⇑P		Pn	12 17 15.1	-0.8	
KSCO	Kaye Shedlock' baz=21	20.60	10	⇓P		Pn	12 17 17.7	+0.3	
P23A	Jefferson baz=21	20.63	3	⇓P		Pn	12 17 17.6	-0.4	
P20A	De Beque baz=21	20.76	357	⇓P		Pn	12 17 19.1	-0.3	
Q29A	Oakley baz=21	20.79	13	⇓P		Pn	12 17 18.6	-1.0	
P22A	Eagle baz=21	20.82	1	⇓P		P	12 17 18.6	+1.0	
P25A	Willow Gulch B baz=21	20.89	6	⇑P		P	12 17 18.7	+0.5	
P19A	Cripple Cowboy baz=21	20.93	356	⇓P		P	12 17 19.2	+0.4	
R11A	Troy Canyon, C baz=21,SNR=12	20.95	341	⇑P		P	12 17 19.3	+0.4	
P26A	Davis Ranch, A baz=21	21.03	8	⇓P		P	12 17 20.9	+1.1	
ISCO	Idaho Springs 8.6nm,1.1s	21.06	3	*e*P		P	12 17 21.1	+0.8	
ISCO	Idaho Springs baz=21,SNR=8.1	21.06	3	⇑P		P	12 17 21.1	+0.8	
P27A	Ficken Ranch, baz=21	21.14	10	⇑P		P	12 17 22.3	+1.5	
P28A	Saint Francis baz=21	21.30	11	⇑P		P	12 17 24.2	+1.6	
O20A	White River Ci 25nm,1.3s	21.39	357	*e*P		P	12 17 24.8	+1.1	
O20A	White River Ci baz=21	21.39	357	⇑P		P	12 17 24.3	+0.7	
O22A	Kremmling baz=21,SNR=7.0	21.39	1	⇓P		P	12 17 24.7	+0.9	
O23A	Lake Granby, G baz=22,SNR=7.2	21.46	2	⇑P		P	12 17 25.9	+1.4	
MLAC	Mammoth Lakes baz=21	21.51	334	⇓P		P	12 17 24.7	-0.3	
O19A	Miners Draw (B baz=22	21.60	356	⇑P		P	12 17 26.5	+0.7	
O28A	Krutsinger Ran baz=22	21.83	11	⇑P		P	12 17 30.1	+1.9	
DAU	Daniels Canyon 1.1nm,1.1s	21.95	351	*e*P		P	12 17 30.4	+0.6	
NVAR	Mina Array Bea	21.98	336	P		P	12 17 30.1	+0.1	
NVAR	Mina Array Bea 3.1nm,0.9s,baz=156,slow=11,SNR=16	21.98	336	P		P	12 17 30.1	+0.1	
DUG	Dugway 10nm,1.0s	22.00	348	*e*P		P	12 17 30.6	+0.5	
DUG	Dugway baz=22,SNR=10.0	22.00	348	⇓P		P	12 17 31.2	+1.1	
N22A	Wattenberg Ran baz=22	22.04	1	⇑P		P	12 17 31.8	+1.2	
P32A	Huiting Farm, baz=22	22.09	18	⇓P		P	12 17 33.0	+2.1	
N20A	Spence Gulch, baz=22	22.09	357	⇓P		P	12 17 32.2	+1.0	
N23A	Red Feather La baz=22,SNR=5.4	22.14	2	⇑P		P	12 17 32.4	+0.6	
WAKR	Walker 13nm,1.2s	22.50	334	*e*P		P	12 17 36.4	+0.8	
M22A	Cedar Creek Ra baz=23	22.63	1	⇓P		P	12 17 38.8	+1.8	
M23A	Laramie baz=23	22.72	3	⇓P		P	12 17 39.2	+1.3	
M24A	Cheyenne baz=23	22.77	4	⇓P		P	12 17 39.6	+1.2	
LRAL	Lakeview Retre 21nm,1.3s	22.93	48	*e*P		P	12 17 42.1	+2.2	
ELK	Elko	23.08	344	P		P	12 17 41.5	-0.2	
ELK	Elko 4.1nm,1.0s,baz=180,slow=5.8,SNR=10.0	23.08	344	P		P	12 17 41.5	-0.2	
L22A	Ellis Ranch, M baz=23	23.26	1	⇓P		P	12 17 45.3	+1.8	
L23A	Garrett baz=23	23.37	2	⇑P		P	12 17 45.6	+1.1	
K21A	Alcova baz=24	23.86	360	⇓P		P	12 17 50.3	+1.1	
K22A	Casper baz=24	23.88	1	⇓P		P	12 17 50.7	+1.3	
K23A	Bowen Ranch, D baz=24	24.01	3	⇑P		P	12 17 52.1	+1.5	
K24A	Anderson Ranch baz=24	24.02	4	⇑P		P	12 17 51.9	+1.2	
PDAR	Pinedale Array	24.09	355	P		P	12 17 50.8	-0.6	
PDAR	Pinedale Array 1.3nm,1.0s,baz=169,slow=8.2,SNR=8.5	24.09	355	P		P	12 17 50.8	-0.6	
PDAR				LR		LR	12 26 54.2		
	comp=Z,634nm,19.4s,baz=93,slow=36								
J19A	Crowheart baz=24,SNR=5.4	24.55	356	⇑P		P	12 17 55.8	+0.2	
J21A	Lysite baz=25	24.57	359	⇑P		P	12 17 56.2	+0.4	
J20A	Shoshoni baz=25	24.59	358	⇑P		P	12 17 56.2	+0.3	
I21A	Big Trails, Te baz=25,SNR=5.2	25.04	360	⇑P		P	12 18 00.1	+0.2	
I22A	Big Mile Ranch, baz=25,SNR=7.2	25.12	1	⇓P		P	12 18 00.8	+0.1	
J28A	Allard Ranch, baz=25	25.13	10	⇑P		P	12 18 02.0	+1.4	
I20A	Worland baz=25	25.19	358	⇑P		P	12 18 02.1	+0.8	
J29A	Okreek baz=25	25.27	11	⇓P		P	12 18 04.2	+2.4	
I17A	Pilgrim Ck. baz=25	25.32	354	⇓P		P	12 18 03.7	+1.1	
J30A	Dallas baz=25	25.36	13	⇓P		P	12 18 03.9	+1.2	
I25A	Rochford baz=25	25.39	6	⇓P		P	12 18 04.4	+1.2	
HLID	Hailey baz=26,SNR=5.4	25.56	347	⇑P		P	12 18 04.7	0.0	
WVOR	Wild Horse Val 9.7nm,1.2s	25.64	340	*e*P		P	12 18 05.6	+0.3	
I27A	Quinn baz=26	25.64	8	⇑P		P	12 18 07.2	+1.9	
H20A	Greybull baz=26	25.73	358	⇑P		P	12 18 07.5	+1.5	
H22A	Clearmont baz=26	25.82	1	⇑P		P	12 18 08.2	+1.2	
H21A	Big Horn, Sher baz=26	25.85	360	⇓P		P	12 18 08.0	+0.7	
I30A	Oacoma baz=26	25.94	13	⇑P		P	12 18 09.2	+1.3	
H19A	Powell baz=26	25.95	357	⇓P		P	12 18 09.0	+0.9	
H18A	Shoshone NF, C baz=26	26.00	356	⇓P		P	12 18 08.9	+0.2	
H24A	Dirks Ranch, A baz=26	26.05	4	⇓P		P	12 18 10.5	+1.5	
G23A	Biddle baz=26	26.46	3	⇓P		P	12 18 12.9	+0.2	
G20A	Bridger baz=26	26.46	358	⇓P		P	12 18 13.6	+0.8	
MCMT	McKenzie Canyo 2.3nm,1.1s	26.50	351	*e*P		P	12 18 15.3	+2.0	
G24A	Alzada baz=27	26.64	4	⇓P		P	12 18 14.7	+0.4	
G26A	Maurine baz=27	26.77	7	⇑P		P	12 18 16.2	+0.7	
G27A	Dupree baz=27	26.82	6	⇑P		P	12 18 18.0	+2.0	
F23A	Volborg baz=27	26.98	2	⇑P		P	12 18 18.1	+0.7	
F22A	Rosebud baz=27	27.01	1	⇓P		P	12 18 18.4	+0.8	
F20A	Billings baz=27	27.04	358	⇑P		P	12 18 18.3	+0.4	
F21A	Absaloka Mine, baz=27	27.05	360	⇓P		P	12 18 18.3	+0.3	
E22A	Miles City baz=28	27.68	2	⇑P		P	12 18 24.4	+0.8	
E19A	Rath Farm, Rou baz=28	27.73	357	⇑P		P	12 18 23.8	-0.2	
E20A	Meyer Farm, Mu baz=28	27.74	358	⇓P		P	12 18 23.9	-0.3	
KMSC	Kings Mountain baz=28	28.04	49	⇑P		P	12 18 29.6	+2.7	
D21A	La Casta Ranch baz=28	28.29	0	⇓P		P	12 18 29.1	0.0	
D20A	Manuel Ranch, baz=28	28.33	358	⇓P		P	12 18 29.5	+0.1	
D22A	Cohagen baz=28	28.38	1	⇓P		P	12 18 30.2	+0.4	
D24A	Glendive baz=28	28.43	4	⇑P		P	12 18 30.4	+0.1	
D19A	Cripps Ranch, baz=28,SNR=5.6	28.43	357	⇓P		P	12 18 30.0	-0.3	
D23A	Lindsay baz=28	28.44	3	⇑P		P	12 18 30.3	-0.1	
MSO	Missoula baz=29	28.63	350	⇑P		P	12 18 32.1	0.0	
C20A	Veseth Ranch, baz=29,SNR=6.1	28.95	359	⇓P		P	12 18 34.6	-0.3	
SLMT	Seeley Lake 9.5nm,1.3s	28.96	351	*e*P		P	12 18 35.8	+0.6	
C21A	Desert Coulee baz=29	29.05	360	⇑P		P	12 18 35.9	+0.1	
C23A	Lambert baz=29	29.07	3	⇓P		P	12 18 36.1	+0.2	
EGMT	Eagleton baz=29	29.34	356	⇓P		P	12 18 38.5	+0.1	
B22A	Reddig Ranch S baz=30	29.54	1	⇓P		P	12 18 40.4	+0.3	
B20A	Solberg Farm, baz=30,SNR=6.4	29.68	359	⇑P		P	12 18 41.1	-0.2	
A20A	Cobblestone Ra baz=30	30.11	359	⇑P		P	12 18 45.0	-0.2	
A22A	Carney Farms, baz=30	30.23	1	⇑P		P	12 18 46.9	+0.6	
B30A	Myrvik Farm, E baz=30	30.50	11	⇑P		P	12 18 49.8	+1.1	
NEW	Newport comp=Z,277nm,18.3s,baz=168,slow=35	30.61	347	LR		LR	12 30 30.9		
ULM	Lac du Bonnet	32.72	13	P		P	12 19 07.7	-0.3	
ULM	Lac du Bonnet 3.2nm,0.9s,baz=159,slow=14,SNR=2.5	32.72	13	P		P	12 19 07.7	-0.3	
RKT	Rikitea 348nm,29.8s	49.73	214	*e*LR		LR	12 35 16.5		
RKT	Rikitea 5.0nm,0.2s	49.73	214	*e*T		T	13 14 32.6		
LPAZ	La Paz	51.70	130	P		P	12 21 45.6	+2.0	
LPAZ	La Paz 1.2nm,0.8s,baz=342,slow=8.2,SNR=5.5	51.70	130	P		P	12 21 45.6	+2.0	
ILAR	Eielson Array	53.15	340	P		P	12 21 52.2	-0.9	
ILAR	Eielson Array 7.6nm,0.4s,baz=144,slow=6.2,SNR=11	53.15	340	P		P	12 21 52.2	-0.9	
PPT	Papeete	55.22	232	LR		LR	12 39 40.1		
PPT2	Papeete2 584nm,26.0s	55.23	232	*e*LR		LR	12 37 57.5		
H03N2	Juan Fernandez baz=329,slow=0.7,SNR=234	58.37	152	T		T	13 25 51.5		
H03N1	Juan Fernandez baz=329,slow=0.7,SNR=179	58.39	152	T		T	13 25 51.9		
H03N3	Juan Fernandez baz=329,slow=0.7,SNR=292	58.39	152	T		T	13 25 51.7		
TBI	Tubuai 371nm,31.0s	58.85	226	*e*LR		LR	12 39 30.5		
RAR	Rarotonga comp=Z,138nm,18.9s,baz=93,slow=32	65.12	235	LR		LR	12 47 10.4		
NOA	NORSAR Array B comp=Z,74nm,18.1s,baz=290,slow=35	86.55	25	LR		LR	13 03 16.7		
DZM	Mont Dzumac 481nm,28.6s	93.78	248	*e*LR		LR	12 55 43.7		
WRA	Warramunga Arr	122.38	258	PKP		PKPdf	12 31 33.9	+2.6	
WRA	Warramunga Arr 0.2nm,0.6s,baz=79,slow=3.2,SNR=3.5	122.38	258	PKP		PKPdf	12 31 33.9	+2.6	
ASAR	Alice Springs	123.34	254	PKP		PKPdf	12 31 35.5	+2.4	
ASAR	Alice Springs 0.5nm,1.1s,baz=77,slow=2.0,SNR=3.0	123.34	254	PKP		PKPdf	12 31 35.5	+2.4	

BJI ***23*** *12:37:44.3,4.°70S×144.°42E,h124km,mB5.3/31,mb5.2/50*
MOS ***23*** *12:37:48.8±1.0,4.°25S×143.°78E,h120km,mb5.1/11, Error ellipse: s-maj=12.9km s-min=7.5km az=103.4*
ISCJB ***23*** *12:37:49.7±0.7,4.°28S±0.°03×143.°81E±0.°04,h126km±6km, mb5.0/83, Error ellipse: s-maj=5.9km s-min=4.4km az=162.7*
AUST ***23*** *12:37:49.8±0.4,4.°24S×143.°77E,h119km±4km, Error ellipse: s-maj=5.0km s-min=3.7km az=86.0*
IDC ***23*** *12:37:51.0±1.8,4.°28S×143.°74E,h124km±16km,mb4.5/23, mb1 4.6/26,mb1mx4.6/28,mbtmp4.5/26,MS3.9/6, Ms1 3.9/6,ms1mx3.6/27, Error ellipse: s-maj=13.8km s-min=8.8km az=91.0*
NEIC ***23*** *12:37:53.1±1.1,4.°33S×143.°77E,h146km±11km,mb5.0/31, Error ellipse: s-maj=7.5km s-min=5.8km az=71.0*
BKK ***23*** *12:37:53.0±0.9,4.°S±6.°×14.°4E±.°,h136km±11km,M5.1/27, mB5.5/19,mb5.0/27,MLv5.4/1,Mw(mB)5.0/19*
DJA ***23*** *12:37:53.6±0.5,4.°S±4.°×14.°4E±.°,h139km±5km,M5.0/27, mB5.5/19,mb5.2/27,MLv5.1/2,Mw(mB)5.0/19*
GCMT ***23*** *12:37:54.4±0.2,4.°38S×143.°68E,h130km±2km,MW5.1, Moment Tensor Solution. s41,c47; s94,c136; Moment tensor: Scale 10^16^Nm; Mrr6.05±.18; Mθθ-3.10±.23; Mϕϕ-2.95±.29; Mrθ-0.36±.17; Mθϕ1.08±.22; Mϕr3.78±.18; Best double couple: M0:6.20000×10^16^ NP1:ϕ336.00000°, δ63.00000°,λ102.00000°. NP2:ϕ132.00000°,δ29.00000°, λ69.00000°. Principal axes: T 7.4300, Plg70.0000°, Azm271.0000°; N -2.4200, Plg10.0000°, Azm151.0000°; P -5.0100, Plg17.0000°, Azm58.0000°; Data Used: II IU G CN IC.*

ISC 23 12:37:51.4±0.3,4.°30S±0.°03×143.°80E±0.°05,h130km±2km, h130km:pP-P,n249,σ1.942/331,mb5.0/82,26C-12D,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	3.56	300	P	Pn	12 38 45.1	-0.3
JAY	Jayapura baz=3.5,SNR=137	3.56	300	⇑P	Pn	12 38 44.9	-0.5
PMG	Port Moresby 474nm,1.3s,5μm1.9nm	6.07	147	P	Pn	12 39 18.6	-0.3
PMG	Port Moresby	6.07	147	*e*Pn	Pn	12 39 18.3	-0.6
PMG				S	Sn	12 40 24.0	-3.3
PMG				*e*Sn	Sn	12 40 26.6	-0.6
PMG	Port Moresby 21nm,0.3s,baz=351,slow=4.3,SNR=83	6.07	147	P	Pn	12 39 18.3	-0.6
PMG				S	Sn	12 40 24.0	-3.3
	26nm,0.3s,baz=348,slow=19,SNR=4.2						
PMG				LR	LR	12 42 05.8	
	comp=Z,2μm,19.0s,baz=130,slow=42						
COEN	Coen	9.61	184	*e*Pn	Pn	12 40 08.7	+2.1
COEN				*e*Sn	Sn	12 41 52.5	-0.5
COEN	Coen baz=9.7,SNR=16	9.61	184	⇑P	Pn	12 40 08.1	+1.6
TLE	Tual 135nm,0.9s,4μm	11.10	263	P	Pn	12 40 26.0	-0.5
TLE	Tual baz=11,SNR=12	11.10	263	P	Pn	12 40 24.6	-1.8
FAKI	Fak Fak 112nm,1.5s,1μm	11.61	276	P	Pn	12 40 31.7	-1.5
SWI	Sorong 140nm,0.7s	12.98	285	P	Pn	12 40 52.2	+1.1
SWI	Sorong baz=13,SNR=9.3	12.98	285	⇓P	Pn	12 40 50.1	-1.0
MTSU	Mount Surprise baz=14,SNR=8.2	13.76	178	⇑P	Pn	12 41 01.9	+0.8
BNDI	Bandanaira	13.85	269	P	P	12 41 08.6	+2.3
KDU	Kakadu baz=14,SNR=64	13.95	233	⇓P	Pn	12 41 02.6	-1.0
MTN	Manton Dam baz=15,SNR=116	15.12	235	⇓P	Pn	12 41 17.8	-0.5
AAI	Ambon 180nm,0.3s,16μm	15.57	272	P	P	12 41 27.7	+2.2
AAI	Ambon baz=16,SNR=33	15.57	272	⇑P	Pn	12 41 23.0	-1.0
CTA	Charters Tower	15.87	172	P	P	12 41 30.6	+1.9
CTA	Charters Tower 0.5nm,0.3s,baz=338,slow=9.9,SNR=5.1	15.87	172	P	P	12 41 30.6	+1.9
NLAI	Namlea 64nm,0.6s,3μm	16.69	273	P	P	12 41 39.8	+2.0
HNR	Honiara	16.82	108	P	Pn	12 41 40.5	+1.2
HNR	Honiara 36nm,0.3s,baz=192,slow=3.4,SNR=5.7	16.82	108	P	Pn	12 41 40.5	+1.2
WRAB	Tennant Creek	18.06	210	*e*P	P	12 41 52.9	+0.1
WRAB				*e*S	S	12 45 12.6	-0.8
WRAB				pmax	pmax		
	comp=Z,59nm,0.6s						
WRAB	Tennant Creek comp=Z,59nm,0.6s	18.06	210	*e*P	P	12 41 52.9	+0.1
WRAB				*e*S	S	12 45 12.6	-0.8
WRAB	Tennant Creek comp=Z,611nm,0.5s,SNR=64	18.06	210	P	P	12 41 52.3	-0.5
WRA	Warramunga Arr	18.07	210	P	P	12 41 53.0	0.0
WRA				S	S	12 45 10.8	-2.8
WRA				PcP	PcP	12 46 22.5	+0.9
WRA	Warramunga Arr comp=Z,7.1nm,0.3s,baz=37,slow=10,SNR=241	18.07	210	P	P	12 41 53.0	0.0
WRA				S	S	12 45 10.8	-2.8
	baz=28,slow=22,SNR=9.4						
WRA				PcP	PcP	12 46 22.5	+0.9
	comp=Z,1.0nm,0.3s,baz=2.9,slow=1.9,SNR=5.2						
PATS	Pohnpei baz=18,SNR=5.4	18.23	53	⇑P	P	12 41 55.4	+0.6
KNRA	Kununurra baz=19,SNR=44	18.61	232	⇑P	P	12 41 58.4	-0.5
SOEI	Soe comp=Z,404nm,0.9s,comp=Z,5μm	20.12	253	P	P	12 42 16.5	+1.1
KMSI	Cibinong comp=Z,490nm,1.1s,comp=Z,6μm	20.38	283	P	P	12 42 19.1	+1.0
BATI	Baumata	20.81	253	P	P	12 42 23.2	+0.5
BATI				S	S	12 46 09.8	+2.0
BATI	Baumata comp=Z,74nm,0.4s,baz=127,slow=1.1,SNR=25	20.81	253	P	P	12 42 23.2	+0.5
BATI				S	S	12 46 09.8	+2.0
	comp=Z,33nm,0.7s,baz=53,slow=20,SNR=2.7						
LUWI	Luwuk comp=Z,207nm,1.5s,comp=Z,4μm	21.25	278	P	P	12 42 29.9	+2.5
AS31	Alice Springs	21.49	205	*e*P	P	12 42 29.7	-0.2
AS31				*e*S	S	12 46 20.5	0.0
ASAR	Alice Springs	21.49	205	P	P	12 42 29.7	-0.2
ASAR				S	S	12 46 16.8	-3.7
ASAR	Alice Springs	21.49	205	P	P	12 42 29.7	-0.2

comp=Z,12nm,0.6s,baz=37,slow=6.8,SNR=265
ASAR S S 12 46 16.8 -3.7
comp=Z,10nm,0.9s,baz=30,slow=21,SNR=7.5
ASAR LR LR 12 52 01.5
comp=Z,1µm,19.7s,baz=45,slow=40
MMRI Maumere 21.84 258 P P **12 42 32.5 -1.2**
comp=Z,297nm,0.7s,comp=Z,2µm
EIDS Eidsvold 22.08 162 eP P **12 42 37.5 +1.4**
comp=Z,29nm,0.9s
EIDS Eidsvold 22.08 162 ⇓P P **12 42 37.4 +1.3**
baz=22,SNR=14
QLP Quilpie 22.16 179 ⇑P P **12 42 37.6 +0.8**
baz=22,SNR=28
MRSI Marisa 22.35 282 P P **12 42 39.0 +0.2**
comp=Z,88nm,0.6s,comp=Z,1µm
APSI Ampana 22.38 278 P P **12 42 39.6 +0.5**
FITZ Fitzroy Crossi 22.44 231 eP P **12 42 38.6 -1.1**
comp=Z,219nm,1.1s
FITZ eS S **12 46 36.3 -0.6**
FITZ Fitzroy Crossi 22.44 231 ⇑P P **12 42 38.4 -1.3**
baz=22,SNR=130
FITZ Fitzroy Crossi 22.44 231 P P **12 42 39.0 -0.7**
comp=Z,96nm,0.7s,baz=54,slow=8.1,SNR=229
FITZ S S **12 46 35.3 -1.5**
comp=Z,9.9nm,0.9s,baz=160,slow=15,SNR=4.3
FITZ LR LR 12 50 54.8
comp=Z,254nm,21.3s,baz=321,slow=35
RMQ Roma 22.56 168 ⇓P P **12 42 42.7 +1.9**
baz=23,SNR=12
BKSI Bulukumba 23.61 267 P P **12 42 50.6 -0.1**
comp=Z,94nm,1.1s,comp=Z,1µm
BNSI Bone 23.62 269 P P **12 42 52.0 +1.2**
comp=Z,104nm,1.1s,comp=Z,3µm
TTSI Tana Toraja 23.96 272 P P **12 42 56.2 +2.3**
comp=Z,96nm,1.3s,comp=Z,3µm
SPSI Sidrap Palu 23.97 270 P P **12 42 55.0 +1.0**
KAPI Kappang 23.97 267 P P **12 42 54.2 +0.2**
comp=Z,60nm,0.8s,comp=Z,1µm
KAPI Kappang 23.97 267 P P **12 42 53.1 -0.9**
comp=Z,104nm,1.3s
KAPI Kappang 23.97 267 P P **12 42 53.1 -0.9**
comp=Z,27nm,0.6s,baz=106,slow=7.4,SNR=12
MMSI Mamuju 24.89 273 P P **12 43 04.6 +2.2**
MYLDM Lahad Datu 26.96 290 eP P **12 43 22.1 +1.0**
comp=Z,494nm,2.5s
ARMA Armidale 27.01 165 ⇑P P **12 43 22.2 +0.8**
baz=27,SNR=6.3
CMSA Cobar Meteorol 27.15 176 ⇑P P **12 43 23.4 +0.9**
baz=27,SNR=8.8
STKA Stephens Creek 27.51 184 eP P **12 43 25.4 -0.3**
comp=Z,1.9nm,0.8s
STKA Stephens Creek 27.51 184 ⇓P P **12 43 25.7 0.0**
baz=28,SNR=5.6
STKA Stephens Creek 27.51 184 P P **12 43 26.0 +0.3**
comp=Z,5.8nm,0.6s,baz=353,slow=8.1,SNR=26
STKA LR LR 12 56 11.3
comp=Z,479nm,19.2s,baz=19,slow=40
DZM Mont Dzumac 28.17 131 P P **12 43 32.8 +1.0**
DZM Mont Dzumac 28.17 131 P P **12 43 32.8 +1.0**
comp=Z,6.1nm,0.8s,baz=280,slow=11,SNR=4.2
MBWA Marble Bar 28.76 232 eP P **12 43 36.7 -0.3**
comp=Z,16nm,0.6s
TGY Tagaytay City 29.13 309 LR LR 12 54 41.5
comp=Z,58nm,19.7s,baz=0.2,slow=35
BBOO Buckleboo 29.27 193 eP P **12 43 41.5 +0.2**
comp=Z,2µm,2.2s
BBOO Buckleboo 29.27 193 ⇓P P **12 43 41.3 -0.1**
baz=30,SNR=22
FORT Forrest 30.23 208 eP P **12 43 50.5 +0.7**
comp=Z,81nm,0.5s
FORT Forrest 30.23 208 ⇑P P **12 43 49.9 +0.1**
baz=30,SNR=51
JCJ Chichijima 31.25 357 LR LR 12 57 05.4
comp=Z,134nm,18.3s,baz=328,slow=37
SBUM Sibu 32.26 281 eP P **12 44 07.9 0.0**
comp=Z,6.5nm,0.8s
ARPS Mount Arapiles 32.36 183 ⇓P P **12 44 09.6 +1.1**
baz=33,SNR=14
PCJI Pacitan 32.65 262 P P **12 44 08.6 -2.7**
comp=Z,55nm,1.5s
MEEK Meekatharra 32.76 225 ⇓P P **12 44 11.4 -0.7**
baz=33,SNR=12
TOO Toolangi 33.15 178 ⇑P P **12 44 17.0 +1.6**
baz=33,SNR=6.2
KSM Kuching 33.95 279 eP P **12 44 22.1 -0.6**
comp=Z,34nm,1.5s
KSM Kuching 33.95 279 ⇑P P **12 44 21.3 -1.3**
baz=34,SNR=5.4
TPUB Ta-pu 35.55 322 eP P **12 44 35.7 -0.5**
comp=Z,35nm,0.7s
NACB Ninganchiao 35.62 324 eP P **12 44 37.7 +0.9**
comp=Z,115nm,1.0s
CISI Cisompet, Garu 35.92 263 eP P **12 44 37.4 -2.2**
comp=Z,95nm,1.2s
YHNB Yeheng 36.12 324 eP P **12 44 42.8 +1.7**
comp=Z,56nm,0.8s
NWAO Narrogin (SRO) 37.77 218 P P **12 44 55.2 +0.2**
NWAO Narrogin (SRO) 37.77 218 P P **12 44 55.2 +0.2**
comp=Z,11nm,0.5s,baz=44,slow=8.9,SNR=30
RKGY Rocky Gully 39.09 216 ⇑P P **12 45 06.4 +0.5**
baz=39,SNR=9.6
KASI Kota Agung 39.17 267 P P **12 45 04.4 -2.5**
JNU Nakatsue 39.18 343 eP P **12 45 06.9 +0.2**
comp=Z,10.0nm,0.9s
JNU Nakatsue 39.18 343 P P **12 45 06.9 +0.2**
comp=Z,19nm,0.9s,baz=156,slow=6.2,SNR=9.8
MDSI Maura Dua 39.50 268 P P **12 45 08.8 -0.8**
QIZ Qiongzhong 40.68 306 P P **12 45 20.3 +1.0**
QIZ S S **12 51 21.1 +1.2**
MJAR Matsushiro Arr 40.97 353 P P **12 45 20.0 -1.4**
MJAR Matsushiro Arr 40.97 353 P P **12 45 20.0 -1.4**
comp=Z,4.5nm,0.7s,baz=181,slow=8.7,SNR=20
MAJO Matsushiro 40.97 353 eP P **12 45 20.8 -0.6**
MAJO pmax pmax
comp=Z,40nm,1.2s
MAJO Matsushiro 40.97 353 eP P **12 45 20.8 -0.6**
comp=Z,40nm,1.2s
MAT Matsushiro 40.97 353 P P **12 45 20.0 -1.4**
OUZ Omahuta 41.30 142 eP P **12 45 21.6 -2.5**
comp=Z,171nm,1.9s
NJ2 Nanjing 43.24 328 eP P **12 45 40.8 +0.9**
NJ2 AMB AMB
comp=Z,180nm,1.5s
PPI Padang Panjang 43.52 274 ⇓P P **12 45 41.3 -1.2**
baz=44,SNR=3.6
KSRS Korea Array 44.09 342 P P **12 45 47.5 +0.9**
comp=Z,49nm,1.1s,baz=160,slow=9.3,SNR=86
KSAR Wonju Array Be 44.09 342 P P **12 45 47.5 +0.8**
KULM Kulim 44.13 282 eP P **12 45 46.5 -0.9**
INCN Inchon 44.54 340 eP P **12 45 51.5 +1.3**
comp=Z,76nm,1.0s
WHN Wuhan 44.64 323 ⇑iP P **12 45 52.4 +1.3**
WHN AMB AMB
comp=Z,160nm,1.2s
PSI Prapat 45.39 278 ⇑P P **12 45 55.7 -1.8**
baz=45,SNR=18
URZ Urewera 45.41 143 eP P **12 45 58.6 +1.5**
URZ Urewera 45.41 143 P P **12 45 58.2 +1.1**
comp=Z,4.6nm,0.4s,baz=194,slow=2.4,SNR=9.1
NONG Nongkai 45.83 300 P P **12 46 01.2 +0.5**
comp=Z,33nm,0.7s,comp=Z,5µm
CHAI Chaiyaphum 45.98 297 P P **12 46 03.3 +1.4**
comp=Z,4.4nm,1.0s,comp=Z,639nm
GSI Gunungsitoli 46.52 276 P P **12 46 04.2 -2.0**
GSI Gunungsitoli 46.52 276 eP P **12 46 03.9 -2.3**
comp=Z,26nm,0.8s
KCSI Kotacane, Aceh 46.64 279 P P **12 46 05.6 -1.5**
GYA Guiyang 47.18 312 ⇑iP P **12 46 12.8 +1.5**
GYA pP pP **12 46 41.8 +0.6**
GYA sP sP **12 46 57.3 +1.6**
GYA PcP PcP **12 47 42.6 +1.8**
GYA PP PP **12 48 06.3 +2.8**
GYA ScP ScP **12 51 23.4 +0.6**
GYA PcS PcS **12 51 37.3 +0.9**
GYA S S **12 52 57.0 +2.5**
GYA sS sS **12 53 45.6 -0.5**
GYA ScS ScS **12 55 51.1 -1.5**
GYA AMB AMB
comp=Z,30nm,1.0s
GYA AMB AMB
comp=Z,130nm,4.5s
LOEI Loei 47.24 299 P P **12 46 09.3 -2.4**
comp=Z,26nm,1.0s,comp=Z,1µm
ENH Enshi 47.53 319 eP P **12 46 14.6 +0.9**
comp=Z,20nm,0.8s
SRDT SRDT 48.01 294 P P **12 46 18.7 +1.0**
comp=Z,17nm,1.7s,comp=Z,858nm

UTHA Uthaitani 48.13 295 P P **12 46 19.1 +0.5**
comp=Z,3.4nm,1.0s,comp=Z,51nm
ASAJ Asahikawa 48.21 359 P P **12 46 18.4 -0.3**
ASAJ Asahikawa 48.21 359 P P **12 46 18.4 -0.3**
comp=Z,5.4nm,0.9s,baz=239,slow=15,SNR=4.2
NANT Nan 48.24 300 P P **12 46 20.5 +1.0**
comp=Z,70nm,1.2s
CRAI Chiangrai 49.12 301 P P **12 46 27.0 +0.9**
comp=Z,26nm,1.5s,comp=Z,7µm
USRK Ussuriysk Arra 49.44 349 P P **12 46 28.6 +0.5**
comp=Z,14nm,0.8s,baz=171,slow=8.2,SNR=32
KMI Kunming 49.44 308 P P **12 46 30.4 +1.6**
KMI pP pP **12 47 00.0 +1.1**
KMI sP sP **12 47 14.1 +0.7**
KMI PP PP **12 48 26.3 +2.1**
KMI S S **12 53 26.6 +0.1**
KMI SS SS **12 56 57.1 -3.2**
KMI AMB AMB
comp=Z,27nm,1.2s
KMI AMB AMB
comp=Z,280nm,6.5s
KMI LR LR
comp=Z,280nm,12.0s
KMI LR LR
comp=Z,290nm,10.5s
KMI LR LR
comp=Z,150nm,11.7s
SNY Shenyang 49.47 340 ⇑P P **12 46 29.0 +0.6**
CM31 Chiang Mai Arr 49.64 299 eP P **12 46 31.4 +1.3**
comp=Z,15nm,0.7s
CHTO Chiang Mai 49.78 299 eP P **12 46 31.9 +0.7**
CHTO pmax pmax
comp=Z,28nm,1.3s
CHTO Chiang Mai 49.78 299 eP P **12 46 31.9 +0.7**
comp=Z,28nm,1.3s
CHTO Chiang Mai 49.78 299 P P **12 46 31.8 +0.7**
comp=Z,84nm,1.6s,comp=Z,2µm
CMAI Chiengmai2 50.13 300 P P **12 46 34.7 +0.7**
comp=Z,55nm,1.4s,comp=Z,3µm
MDJ Mudanjiang 50.34 347 P P **12 46 35.3 +0.4**
MDJ pP pP **12 47 03.3 -1.8**
MDJ sP sP **12 47 17.0 -2.6**
MDJ ScP ScP **12 51 37.0 +1.3**
MDJ PcS PcS **12 51 50.0 +1.1**
MDJ S S **12 53 38.4 +0.6**
MDJ sS sS **12 54 26.9 -3.2**
MDJ AMB AMB
comp=Z,13nm,1.0s
MDJ AMB AMB
comp=Z,150nm,4.1s
MDJ LR LR
comp=Z,89nm,28.5s
MDJ LR LR
comp=Z,68nm,29.1s
MDJ LR LR
comp=Z,120nm,32.3s
XAN Xi'an 50.37 322 P P **12 46 35.8 +0.4**
XAN pP pP **12 47 00.6 -5.0**
XAN AMB AMB
comp=Z,17nm,1.5s
XAN AMB AMB
comp=Z,75nm,5.7s
BJT Baijiatuau 50.89 333 eP P **12 46 39.9 +0.8**
comp=Z,16nm,0.4s
BJI Beijing 50.91 333 P P **12 46 39.6 +0.4**
BJI sP sP **12 47 23.8 -0.2**
BJI AMB AMB
comp=Z,46nm,1.2s
CD2 Chengdu 51.82 315 P P **12 46 47.3 +1.0**
CD2 pP pP **12 47 16.4 -0.3**
CD2 sP sP **12 47 30.6 -0.6**
CD2 PP PP **12 48 47.8 +2.3**
CD2 S S **12 53 54.8 -4.1**
CD2 sS sS **12 54 49.4 -1.9**
CD2 AMB AMB
comp=Z,60nm,0.5s
CD2 AMB AMB
comp=Z,250nm,5.0s
CD2 LR LR
comp=Z,720nm,6.5s
CD2 LR LR
comp=Z,330nm,8.3s
HABR Khabarovsk 53.11 353 eP P **12 46 53.6 -1.8**
HABR e **12 47 59.2**
HABR e **12 48 55.2**
HABR eS S **12 54 13.1 -2.5**
HABR e **12 56 27.4**
HABR eSS SS **12 57 56.1 -1.0**
HABR pmax pmax
comp=Z,35nm,1.5s
HABR MLR MLR
comp=Z,56nm,17.0s
HHC Hu-ho-hao-te 53.75 330 eP P **12 47 01.4 +1.0**
HHC pP pP **12 47 31.6 +0.7**
HHC sP sP **12 47 45.8 +0.5**
HHC PP PP **12 49 05.5 +2.7**
HHC PcS PcS **12 52 02.8 -1.3**
HHC S S **12 54 24.3 -0.5**
HHC sS sS **12 55 16.6 -1.0**
HHC ScS ScS **12 56 35.1 -1.9**
HHC AMB AMB
comp=Z,66nm,1.2s
HHC AMB AMB
comp=Z,490nm,6.2s
HHC LR LR
comp=Z,320nm,16.7s
HHC LR LR
comp=Z,420nm,16.7s
HHC LR LR
comp=Z,190nm,16.7s
KLR Kul'dur 54.34 350 eP P 12 47 00.0 -4.3
LZH Lanzhou 54.87 321 ⇑P P **12 47 10.3 +1.7**
LZH pP pP **12 47 40.8 +1.5**
LZH sP sP **12 47 52.6 -1.1**
LZH PP PP **12 49 18.1 +5.1**
LZH eS S **12 54 37.6 -2.5**
LZH sS sS **12 55 31.6 -1.4**
LZH AMB AMB
comp=Z,54nm,1.1s
LZH AMB AMB
comp=Z,310nm,4.0s
LZH LR LR
comp=Z,680nm,13.5s
LZH LR LR
comp=Z,750nm,14.8s
LZH LR LR
comp=Z,910nm,16.3s
HIA Hailar 57.30 342 eP P **12 47 26.3 +0.8**
comp=Z,45nm,1.1s
PEA0B Petropavlovsk- 58.39 10 eP P **12 47 33.8 +0.8**
PETK Petropavlovsk- 58.39 10 P P **12 47 33.6 +0.6**
PETK Petropavlovsk- 58.39 10 P P **12 47 33.5 +0.6**
PETK Petropavlovsk- 58.39 10 P P **12 47 33.5 +0.6**
comp=Z,19nm,0.9s,baz=178,slow=5.6,SNR=27
SHL Shillong 58.42 303 eP P **12 47 35.0 +1.0**
GTA Gaotai 59.42 321 ⇑P P **12 47 41.6 +1.0**
GTA pP pP **12 48 12.3 +0.6**
GTA sP sP **12 48 26.8 +0.8**
GTA ScP ScP **12 52 12.9 -2.9**
GTA S S **12 55 40.1 +0.5**
GTA sS sS **12 56 32.4 -0.9**
GTA SS SS **12 59 38.4 +1.4**
GTA AMB AMB
comp=Z,20nm,1.3s
GTA AMB AMB
comp=Z,190nm,5.7s
GTA LR LR
comp=Z,100nm,14.7s
GTA LR LR
comp=Z,120nm,14.5s
GTA LR LR
comp=Z,180nm,14.5s
ULN Ulaanbaatar 61.12 333 eP P **12 47 53.0 +1.0**
comp=Z,12nm,0.9s
SONM Songino Array 61.40 332 P P **12 47 54.4 +0.5**
SONM ⇑e 13 17 15.4
SONM Songino Array 61.40 332 P P **12 47 54.4 +0.5**
comp=Z,4.1nm,0.7s,baz=152,slow=7.0,SNR=28
SONM PKP2bc 13 17 15.4
comp=Z,5.2nm,1.1s,baz=268,slow=4.2,SNR=4.0
FX1 Attu Island--F 62.13 20 P P **12 47 59.0 +0.5**
FX1 Attu Island--F 62.13 20 P P **12 47 59.0 +0.5**
comp=Z,12nm,0.5s,baz=286,slow=6.7,SNR=11
TAPN Taplejung 62.56 304 eP P **12 48 02.6 +0.4**
comp=Z,82nm,1.4s

ODAN Odare 62.65 303 eP P **12 48 03.2 +0.4**
comp=Z,55nm,1.0s
RAMN Ramite 63.34 303 eP P **12 48 07.8 +0.5**
comp=Z,43nm,1.0s
JIRN Jiri 63.93 304 eP P **12 48 11.6 +0.3**
GUN Gumba 64.28 304 eP P **12 48 14.1 +0.5**
comp=Z,82nm,1.0s
PKI Pulchoki 64.55 303 eP P **12 48 15.4 +0.1**
comp=Z,24nm,0.8s
PKIN Phulchoki 64.56 303 eP P **12 48 15.4 0.0**
comp=Z,38nm,1.2s
ZAK Zakamensk 64.65 333 ⇑iP P **12 48 15.9 +0.6**
ZAK e 12 48 48.8
ZAK pmax pmax
comp=Z,26nm,1.1s
KKN Kakani 64.73 303 eP P **12 48 16.8 +0.4**
comp=Z,62nm,1.0s
DMN Daman 64.82 303 eP P **12 48 17.6 +0.6**
comp=Z,84nm,1.0s
GKN Gorkha 65.34 303 eP P **12 48 20.7 +0.5**
comp=Z,44nm,0.6s
TLY Talaya 65.40 334 eP P **12 48 20.7 +0.7**
TLY eS SPn **12 57 15.8 +3.7**
TLY e 13 01 12.2
TLY pmax pmax
comp=Z,22nm,1.2s
TLY Talaya 65.40 334 P P **12 48 20.7 +0.7**
comp=Z,92nm,1.0s,SNR=5.6
CASY Casey 66.08 194 eP P **12 48 24.0 0.0**
KOLN Koldanda 66.13 303 eP P **12 48 25.7 +0.3**
comp=Z,35nm,0.8s
DANN Dangsing 66.18 303 eP P **12 48 26.0 +0.2**
comp=Z,43nm,0.6s
WMQ Urumqi 69.44 320 P P **12 48 45.6 0.0**
WMQ pP pP **12 49 16.6 -1.0**
WMQ sP sP **12 49 30.5 -1.2**
WMQ PP PP **12 51 23.3 +2.4**
WMQ S S **12 57 42.3 -0.3**
WMQ ScS SKSac **12 58 31.5 -2.4**
WMQ SS SS **13 02 14.1 +1.4**
WMQ AMB AMB
comp=Z,25nm,1.0s
WMQ AMB AMB
comp=Z,190nm,4.4s
WMQ LR LR
comp=Z,130nm,23.0s
WMQ LR LR
comp=Z,78nm,19.4s
WMQ LR LR
comp=Z,76nm,22.6s
HVS Khovu-Aksy 69.81 329 c iP P **12 48 48.6 +0.9**
DGAR Diego Garcia 70.98 264 P P **12 48 55.8 +0.3**
MIR Mirnyy 71.30 199 ⇑iP P **12 48 58.5 +2.1**
MIR i 12 49 16.0
VNDA Vanda 73.80 176 P P **12 49 11.6 +0.5**
VNDA Vanda 73.80 176 P P **12 49 11.6 +0.5**
comp=Z,3.6nm,0.6s,baz=327,slow=6.5,SNR=48
MK31 Makanchi Array 74.17 321 eP P **12 49 14.1 +0.3**
MK31 Makanchi Array 74.17 321 eP P **12 49 14.1 +0.3**
MKAR Makanchi Array 74.17 321 P P **12 49 14.3 +0.5**
MKAR Makanchi Array 74.17 321 P P **12 49 14.3 +0.5**
MKAR Makanchi Array 74.17 321 P P **12 49 14.3 +0.5**
comp=Z,3.7nm,0.6s,baz=92,slow=6.4,SNR=45
SBA Scott Base 74.49 175 eP P **12 49 16.7 +1.6**
SBA pmax pmax
comp=Z,96nm,2.3s
SBA Scott Base 74.49 175 eP P **12 49 16.7 +1.6**
comp=Z,96nm,2.3s
KSH Kashi 75.88 312 P P **12 49 26.8 +2.9**
KSH PcP PcP **12 49 38.5 +2.7**
KSH pP pP **12 49 58.8 +2.4**
KSH sP sP **12 50 11.5 +1.2**
KSH PP PP 12 52 21.8 +5.8
KSH S S **12 58 58.0 +1.9**
KSH SKS SKSac **12 59 22.1 -0.6**
KSH sS sS **12 59 53.0 +0.9**
KSH AMB AMB
comp=Z,19nm,1.4s
KSH AMB AMB
comp=Z,69nm,3.4s
KSH LR LR
comp=Z,57nm,4.4s
KSH LR LR
comp=Z,190nm,7.2s
KSH LR LR
comp=Z,65nm,6.8s
ZALV Zalesovo Beam 75.90 329 P P **12 49 22.7 -0.8**
ZALV Zalesovo Beam 75.90 329 P P **12 49 22.7 -0.8**
ZALV Zalesovo Beam 75.90 329 P P **12 49 22.7 -0.8**
comp=Z,8.2nm,0.7s,baz=109,slow=5.4,SNR=32
TIXI Tiksi 76.44 355 ⇓iP P **12 49 25.1 -1.1**
TIXI pmax pmax
comp=Z,8.0nm,1.7s
NVS Novosibirsk 77.13 329 ⇑iP P **12 49 29.7 -0.7**
NVS pmax pmax
comp=N,11nm,1.3s
NVS pmax pmax
comp=E,22nm,1.3s
NVS pmax pmax
comp=Z,45nm,1.3s
KZA Kyzart 77.19 315 P P **12 49 32.8 +1.3**
SNR=10
TKM2 Tokmak 2 77.20 316 eP P **12 49 31.7 +0.3**
TKM2 pmax pmax
comp=Z,6.0nm,1.0s
TKM2 Tokmak 2 77.20 316 P P **12 49 31.5 +0.1**
SNR=7.2
TKM2 Tokmak 2 77.20 316 eP P **12 49 31.7 +0.3**
comp=Z,6.1nm,1.0s
AAK Ala-Archa 77.89 315 i P P **12 49 36.0 +0.9**
AAK Ala-Archa 77.89 315 P P **12 49 36.1 +0.9**
SNR=5.0
AAK Ala-Archa 77.89 315 eP P **12 49 35.5 +0.4**
comp=Z,8.1nm,1.0s
KURK Kurchatov 77.96 324 P P **12 49 34.8 -0.3**
comp=Z,74nm,1.5s,SNR=13
USP Ospenovka 78.08 316 P P **12 49 36.4 +0.4**
SNR=11
AML Almayashu 78.31 314 P P **12 49 38.5 +0.8**
SNR=10
EKS2 Erkin-Say 78.40 315 eP P **12 49 38.6 +0.7**
EKS2 pmax pmax
comp=Z,5.0nm,0.8s
EKS2 Erkin-Say 78.40 315 P P **12 49 38.7 +0.8**
SNR=9.5
EKS2 Erkin-Say 78.40 315 eP P **12 49 38.6 +0.7**
comp=Z,4.7nm,0.8s
KKAR Karatay Array 80.83 315 eP P **12 49 51.0 +0.1**
KKAR Karatay Array 80.83 315 eP P **12 49 51.0 +0.1**
MAW Mawson 82.58 202 eP P **12 50 00.0 +0.5**
comp=Z,3.2nm,0.7s
MAW epP pP **12 50 34.4 +1.9**
MAW Mawson 82.58 202 ⇑P P **12 49 59.5 0.0**
baz=83,SNR=33
MAW Mawson 82.58 202 P P **12 50 00.0 +0.5**
comp=Z,12nm,0.6s,baz=87,slow=6.1,SNR=55
IMA2 Indian Mountai 83.13 21 eP P **12 50 02.9 +0.3**
BRVK Borovoye 83.60 324 eP P **12 50 05.2 +0.1**
BRVK e*PP pP **12 50 38.6 +0.4**
BRVK e*SP sP **12 50 53.0 +1.0**
BRVK pmax pmax
comp=Z,66nm,1.5s
BRVK Borovoye 83.60 324 eP P **12 50 05.2 +0.1**
comp=Z,66nm,1.5s
BRVK epP pP **12 50 38.5 +0.4**
BRVK esP sP **12 50 53.0 +1.0**
BRVK Borovoye 83.60 324 P P **12 50 05.8 +0.7**
comp=Z,137nm,1.4s,SNR=6.3
COLA College 84.86 23 eP P **12 50 10.6 -0.5**
COLA pmax pmax
comp=Z,21nm,1.2s
COLA College 84.86 23 eP P **12 50 10.6 -0.5**
comp=Z,21nm,1.2s
ILAR Eielson Array 85.20 24 P P **12 50 11.5 -1.4**
ILAR Eielson Array 85.20 24 P P **12 50 11.5 -1.4**
comp=Z,9.2nm,0.9s,baz=258,slow=5.0,SNR=61
HYT Haines Junctio 88.24 29 eP P **12 50 28.7 +0.9**
ARU Arti 90.91 326 P P **12 50 39.2 -1.1**
ARU 12 54 17.3
ARU S SKSac **13 00 56.3 -3.6**
ARU SS SS **13 07 25.8 -6.4**
SYO Syowa Base 91.07 200 ⇓eP P **12 50 39.6 -1.2**
OPO Ambohidratompo 94.89 251 P P **12 50 58.5 -1.2**
OPO Ambohidratompo 94.89 251 P P **12 50 58.5 -1.2**
comp=Z,3.5nm,0.7s,baz=0.0,slow=0.0,SNR=2.9

NVAR	**Mina Array Bea**	**98.85**	**52**	P	Pdif	12 51 17.6	+0.3
NVAR	**Mina Array Bea**	**98.85**	**52**	P	Pdif	12 51 17.6	+0.3
	comp=Z,0.4nm,0.7s,baz=250,slow=6.5,SNR=3.6						
ARCES	**ARCESS Array B**	**103.65**	**341**	Pdif	**Pdif**	**12 51 36.3**	**-1.3**
ARCES				PKiKP	**PP**	**12 55 55.8**	**+0.6**
ARCES				PKKPbc	**PKKPbc**	**13 07 29.1**	**-3.3**
ARCES	**ARCESS Array B**	**103.65**	**341**	**Pdif**	**Pdif**	**12 51 36.3**	**-1.3**
	comp=Z,5.2nm,1.0s,baz=69,slow=7.9,SNR=5.1						
ARCES				PKiKP	**PP**	**12 55 55.8**	**+0.6**
	comp=Z,2.4nm,0.9s,baz=89,slow=1.2,SNR=5.1						
ARCES				PKKPbc	**PKKPbc**	**13 07 29.1**	**-3.3**
	comp=Z,1.3nm,0.6s,baz=256,slow=3.6,SNR=5.3						
PDAR	**Pinedale Array**	**105.12**	**47**	Pdif	**Pdif**	**12 51 45.8**	**+0.8**
PDAR	**Pinedale Array**	**105.12**	**47**	**Pdif**	**Pdif**	**12 51 45.8**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=72,slow=2.9,SNR=4.1						
BRTR	**Keskin Array B**	**108.21**	**310**	PP	PP	12 56 31.6	+1.6
BRTR	**Keskin Array B**	**108.21**	**310**	PP	PP	12 56 31.6	+1.6
	comp=Z,0.5nm,0.8s,baz=67,slow=9.5,SNR=3.7						
TXAR	**Lajitas Array**	**111.72**	**60**	PKKPab	PKKPab	13 07 14.8	+0.1
TXAR	**Lajitas Array**	**111.72**	**60**	PKKPab	PKKPab	13 07 14.8	+0.1
	comp=Z,1.3nm,0.9s,baz=101,slow=6.5,SNR=8.6						
LSZ	**Lusaka**	**113.36**	**251**	PKiKP	**PKiKP**	**12 56 15.8**	**+0.8**
LSZ	**Lusaka**	**113.36**	**251**	PKiKP	**PKiKP**	**12 56 15.8**	**+0.8**
	comp=Z,1.8nm,0.4s,baz=127,slow=2.8,SNR=5.3						
GERES	**GERESS Array B**	**118.70**	**325**	PKP	**PKPdf**	**12 56 23.6**	**-0.7**
GERES	**GERESS Array B**	**118.70**	**325**	PKP	**PKPdf**	**12 56 23.6**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=172,slow=2.7,SNR=6.6						
TSUM	**Tsumeb**	**122.17**	**244**	PKP	**PKPdf**	**12 56 31.7**	**-0.2**
TSUM	**Tsumeb**	**122.17**	**244**	PKP	**PKPdf**	**12 56 31.7**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=147,slow=2.8,SNR=3.9						
SCHQ	**Schefferville**	**123.87**	**21**	PKP	**PKPdf**	**12 56 33.6**	**-0.4**
SCHQ	**Schefferville**	**123.87**	**21**	PKP	**PKPdf**	**12 56 33.6**	**-0.4**
	comp=Z,3.4nm,0.8s,baz=218,slow=20,SNR=2.8						
TORD	**Torodi Ar. Bea**	**141.57**	**286**	PKPpre	PKPpre	12 57 02.5	
TORD				PKP	**PKPdf**	**12 57 08.1**	**-0.1**
TORD				SKPbc	**SKPbc**	**13 00 33.6**	**-0.1**
TORD	**Torodi Ar. Bea**	**141.57**	**286**	PKhKP	PKPpre	12 57 02.5	
	comp=Z,1.3nm,0.5s,baz=74,slow=3.3,SNR=14						
TORD				PKP	**PKPdf**	**12 57 08.1**	**-0.1**
	comp=Z,3.0nm,0.6s,baz=90,slow=2.2,SNR=15						
TORD				SKPbc	**SKPbc**	**13 00 33.6**	**-0.1**
	comp=Z,1.3nm,0.9s,baz=99,slow=1.7,SNR=4.4						
LPAZ	**La Paz**	**142.38**	**124**	*e*PKPdf	**PKPdf**	**12 57 07.3**	**-3.1**
LPAZ				PKPpre	PKPpre	12 57 07.3	
LPAZ				SKPbc	**SKPbc**	**13 00 35.6**	**-0.8**
LPAZ	**La Paz**	**142.38**	**124**	PKhKP	PKPpre	12 57 07.3	
	comp=Z,2.3nm,0.5s,baz=274,slow=1.9,SNR=13						
LPAZ				SKPbc	**SKPbc**	**13 00 35.6**	**-0.8**
	comp=Z,2.0nm,0.9s,baz=358,slow=4.3,SNR=4.6						
CPUP	**Villa Florida**	**143.31**	**147**	PKPpre	PKPpre	12 57 08.2	
CPUP	**Villa Florida**	**143.31**	**147**	PKhKP	PKPpre	12 57 08.2	
	comp=Z,2.8nm,0.5s,baz=244,slow=2.1,SNR=8.9						
CELP	**Cerrillos**	**147.29**	**63**	*e*PKPbc	**PKPbc**	**12 57 20.2**	**-0.4**
KIC	**Kosan Boka**	**148.61**	**275**	*e*PKP1	**PKPbc**	**12 57 23.7**	**-0.6**
	comp=Z,86nm,1.1s						
DBIC	**Dimbokro**	**148.71**	**276**	*e*PKPbc	**PKPbc**	**12 57 24.7**	**+0.1**
DBIC	**Dimbokro**	**148.71**	**276**	PKPbc	**PKPbc**	**12 57 24.6**	**+0.1**
	comp=Z,21nm,0.7s,baz=72,slow=2.7,SNR=32						
TIC	**Toumodi**	**148.87**	**276**	*e*PKP1	**PKPbc**	**12 57 24.4**	**-0.6**
	comp=Z,19nm,0.2s						
LIC	**Lamto**	**148.90**	**275**	*e*PKP1	**PKPbc**	**12 57 24.3**	**-0.7**
	comp=Z,99nm,0.8s						
SAML	**Samuel**	**150.06**	**116**	*e*PKPdf	**PKPdf**	**12 57 22.5**	**-0.3**
SAML				*e*PKPbc	**PKPbc**	**12 57 27.7**	**-0.1**
SAML				*e*PKPab	**PKPab**	**12 57 34.7**	**+0.7**
SPB	**Sao Paulo**	**150.19**	**159**	*e*PKPbc	**PKPbc**	**12 57 28.6**	**+0.7**
BDFB	**Brasilia**	**156.99**	**150**	PKP	**PKPdf**	**12 57 32.4**	**-0.3**
BDFB				PKPbc	PKPbc	12 57 42.5	
BDFB	**Brasilia**	**156.99**	**150**	PKP	**PKPdf**	**12 57 32.4**	**-0.3**
	comp=Z,4.3nm,0.7s,baz=130,slow=3.7,SNR=4.2						
BDFB				PKPbc	PKPbc	12 57 42.5	
	comp=Z,2.0nm,0.4s,baz=94,slow=4.0,SNR=3.3						

*IDC **23** 12:51:25.1±2.4, 12°.28S×65°.46E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/24, mbtmp3.7/5, Error ellipse: s-maj=87.0km s-min=28.2km az=58.0*

ISC 23 12:51:26.4±2.9, 12°.4S±0°.4×65°.4E±0°.6, h10km, n16, σ0s89/7, mb4.0/5, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N3	**Diego Garcia H**	**8.16**	**43**	T	T	13 01 46.6	
	baz=222,slow=0.7,SNR=208						
H08N1	**Diego Garcia H**	**8.18**	**44**	T	T	13 01 48.6	
	baz=222,slow=0.7,SNR=271						
H08N2	**Diego Garcia H**	**8.18**	**43**	T	T	13 01 53.1	
	baz=222,slow=0.7,SNR=299						
H08S1	**Diego Garcia H**	**8.43**	**57**	T	T	13 02 05.0	
	baz=236,slow=0.7,SNR=24						
H08S2	**Diego Garcia H**	**8.45**	**57**	T	T	13 02 05.6	
	baz=236,slow=0.7,SNR=25						
H08S3	**Diego Garcia H**	**8.45**	**57**	T	T	13 02 10.0	
	baz=236,slow=0.7,SNR=30						
H01W3	**Cape Leeuwin H**	**49.43**	**126**	T	T	13 53 18.4	
	baz=283						
H01W2	**Cape Leeuwin H**	**49.44**	**126**	T	T	13 53 08.9	
	baz=283						
H01W1	**Cape Leeuwin H**	**49.45**	**126**	T	T	13 53 13.7	
	baz=283						
MKAR	**Makanchi Array**	**60.80**	**13**	P	**P**	**13 01 37.7**	**-0.9**
	0.2nm,0.6s,baz=208,slow=8.0,SNR=3.0						
ASAR	**Alice Springs**	**65.64**	**110**	P	**P**	**13 02 10.7**	**-0.6**
	0.7nm,0.7s,baz=274,slow=6.3,SNR=10						
WRA	**Warramunga Arr**	**66.31**	**106**	P	**P**	**13 02 16.0**	**+0.3**
	1.0nm,0.7s,baz=271,slow=5.7,SNR=12						
ZALV	**Zalesovo Beam**	**68.09**	**12**	P	**P**	**13 02 25.7**	**-0.4**
	0.4nm,0.3s,baz=216,slow=8.6,SNR=2.9						
SONM	**Songino Array**	**70.16**	**28**	P	**P**	**13 02 40.2**	**+0.9**
	0.3nm,0.5s,baz=227,slow=5.6,SNR=3.6						
PDAR	**Pinedale Array**	**149.38**	**353**	PKPbc	**PKPbc**	**13 11 15.9**	**-0.3**
	0.6nm,0.8s,baz=11,slow=3.0,SNR=4.9						
NVAR	**Mina Array Bea**	**153.83**	**7**	PKPbc	**PKPbc**	**13 11 27.5**	**+0.9**
	0.1nm,0.3s,baz=276,slow=2.6,SNR=3.7						

*CSEM **23** 13:35:15.6±0.2, 44°.17N×20°.15E, h5km, ML2.0, Error ellipse: s-maj=3.4km s-min=2.7km az=107.0*

BEO 23 13:35:16.2±0.2, 44°.17N×20°.14E, h1km±2km, ML2.0/1, 5C-8D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIVS	**Divibare**	**0.13**	**236**	*e*Pg	Pg	13 35 18.0	-0.8
DIVS				*e*Sg	Sg	13 35 20.1	-0.5
DIVS	**Divibare**	**0.13**	**236**	*e*Pg	Pg	13 35 18.0	-0.8
DIVS				*e*Sg	Sg	13 35 20.1	-0.5
TRUS	**Trudelj**	**0.20**	**74**	⇓*i*Pg	Pg	13 35 19.2	-0.9
TRUS				*e*Sg	Sg	13 35 22.2	-0.5
TRUS	**Trudelj**	**0.20**	**74**	⇓*i*Pg	Pg	13 35 19.2	-0.9
TRUS				*e*Sg	Sg	13 35 22.2	-0.5
GRUS	**Gruza**	**0.50**	**124**	*e*Pg	Pg	13 35 26.0	+0.2
GRUS				*e*Sg	Sg	13 35 33.4	+1.0
GRUS	**Gruza**	**0.50**	**124**	*e*Pg	Pg	13 35 26.0	+0.2
GRUS				*e*Sg	Sg	13 35 33.4	+1.0
IVAS	**Ivanjica**	**0.59**	**179**	⇑*i*Pg	Pg	13 35 27.2	-0.5
IVAS				*e*Sg	Sg	13 35 35.0	-0.5
IVAS	**Ivanjica**	**0.59**	**179**	⇑*i*Pg	Pg	13 35 27.2	-0.5
IVAS				*e*Sg	Sg	13 35 35.0	-0.5
BBLS	**Lazići**	**0.61**	**240**	⇓*i*Pg	Pg	13 35 27.4	-0.6
BBLS	**Lazići**	**0.61**	**240**	⇓*i*Pg	Pg	13 35 27.4	-0.6
BEO	**Beograd**	**0.68**	**20**	*e*Pg	Pg	13 35 29.3	0.0
SJES	**Sjenica**	**0.92**	**188**	*e*Pg	Pg	13 35 34.1	+0.2
SJES				*e*Sg	Sg	13 35 44.7	-1.2
SJES	**Sjenica**	**0.92**	**188**	*e*Pg	Pg	13 35 34.1	+0.2
SJES				*e*Sg	Sg	13 35 44.7	-1.2
FGSL	**Fruska Gora**	**1.01**	**347**	*e*Pg	Pg	13 35 35.4	-0.3
FGSL				*e*Sg	Sg	13 35 49.0	+0.1
FRGS	**Fruska Gora**	**1.01**	**347**	*e*Pg	Pg	13 35 35.4	-0.3
FRGS				*e*Sg	Sg	13 35 49.0	0.0
SELS	**Selova**	**1.19**	**143**	*e*Pg	Pg	13 35 38.2	-0.8
SELS				*e*Sg	Sg	13 35 54.1	-0.3
BOLS	**Boljevac**	**1.35**	**104**	*e*Pg	Pg	13 35 39.9	-2.2
BOLS				*e*Sg	Sg	13 35 59.2	-0.5
BOLS	**Boljevac**	**1.35**	**104**	*e*Pg	Pg	13 35 39.9	-2.2
BOLS				*e*Sg	Sg	13 35 59.2	-0.5
BZS	**Buzias**	**1.79**	**35**	⇓*i*Pn	Pn	13 35 46.6	-1.6
BZS				*e*Sg	Sb	13 36 13.0	+0.3
BZS	**Buzias**	**1.79**	**35**	⇓*i*P	Pn	13 35 46.8	-1.4
BZS	**Buzias**	**1.79**	**35**	⇓*i*Pn	Pn	13 35 46.6	-1.6
BZS	**Buzias**	**1.79**	**35**	⇓*i*P	Pn	13 35 46.8	-1.4
BZS				*e*Sg	Sb	13 36 13.0	+0.3
ZAPS	**Zavoj**	**2.02**	**116**	*e*Pn	Pn	13 35 51.1	-0.3
GZR	**Gura Zlata**	**2.24**	**56**	*e*Pn	Pn	13 35 53.5	-1.0
GZR	**Gura Zlata**	**2.24**	**56**	⇑*i*P	Pn	13 35 53.7	-0.8
GZR	**Gura Zlata**	**2.24**	**56**	⇑*i*Pn	Pn	13 35 53.5	-1.0
GZR	**Gura Zlata**	**2.24**	**56**	⇑*i*P	Pn	13 35 53.7	-0.8
PKSM	**Moragy**	**2.30**	**333**	⇑*i*P	Pg	13 35 59.8	-0.5

ISC 23 13:38:00.8±1.1, 49°.45N±0°.06×21°.06E±0°.05, h8km±9km, n6, σ0s50/12, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STHS	**Stebnicka Huta**	**0.13**	**104**	*e*PG	**Pg**	**13 38 03.4**	**-0.3**
STHS				*e*SG	**Sg**	**13 38 05.8**	**+0.2**
NIE	**Niedzica**	**0.48**	**267**	*e*Pg	**Pg**	**13 38 10.4**	**+0.2**
NIE				*e*Sg	**Sb**	**13 38 18.1**	**-0.8**
CRVS	**Cervenica-Dubn**	**0.61**	**154**	*e*PG	**Pg**	**13 38 12.8**	**+0.3**
CRVS				*e*SG	**Sb**	**13 38 21.6**	**-0.8**
KOLS	**Kolonicke sedl**	**0.95**	**122**	*e*PG	**Pb**	**13 38 19.7**	**+0.2**
KOLS				*e*SG	**Sn**	**13 38 34.4**	**+0.2**
KECS	**Kecovo**	**1.04**	**201**	*e*PG	**Pg**	**13 38 20.7**	**0.0**
KECS				*e*SG	**Sb**	**13 38 34.3**	**-0.4**
OJC	**Ojcow**	**1.12**	**314**	*e*Pg	**Pn**	**13 38 23.1**	**+0.3**
OJC				*e*Sg	**Sb**	**13 38 36.7**	**-0.5**

IDC 23 14:07:16.6±6.1, 5°.57S×147°.28E, h164km±62km, mb3.2/2, mb1 3.3/4, mb1mx3.0/18, mbtmp3.1/4, Error ellipse: s-maj=87.2km s-min=44.4km az=129.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.81**	**182**	P	Pn	14 08 16.4	+1.5
	8.4nm,0.3s,baz=27,slow=5.2,SNR=53						
PMG				S	Sn	14 09 00.1	-0.3
	2.2nm,0.3s,baz=37,slow=20,SNR=3.4						
WRA	**Warramunga Arr**	**19.04**	**220**	P	P	14 11 26.8	+0.5
	0.2nm,0.3s,baz=45,slow=10,SNR=17						
ASAR	**Alice Springs**	**22.13**	**214**	P	P	14 11 59.7	+0.5
	0.4nm,0.4s,baz=40,slow=11,SNR=18						
FITZ	**Fitzroy Crossi**	**24.54**	**238**	P	P	14 12 21.1	-0.1
	1.4nm,0.5s,baz=52,slow=8.0,SNR=13						
TORD	**Torodi Ar. Bea**	**145.26**	**285**	PKPbc	PKPdf	14 26 34.0	-1.7
	0.6nm,1.1s,baz=62,slow=3.8,SNR=2.5						

*IDC **23** 14:17:50.4±1.1, 35°.94N×28°.39E, h0km, mb3.7/6, mb1 3.8/11, mb1mx3.6/29, mbtmp3.7/11, ML3.7/5, MS2.7/1, Ms1 2.7/1, ms1mx2.1/38, Error ellipse: s-maj=22.4km s-min=18.7km az=52.0*

*NSSC **23** 14:17:54.7±1.9, 35°.78N×28°.83E, h0km±634km, MD2.0, ML2.9*

*HLW **23** 14:17:54.8, 35°.72N×28°.34E, h33km±25km, Md3.8, Ml3.8*

*ISCJB **23** 14:17:54.1±0.2, 35°.56N±0°.02×28°.28E±0°.02, h74km±5km, mb3.6/6, Error ellipse: s-maj=3.0km s-min=2.3km az=12.0*

*ISK **23** 14:17:55.6, 35°.76N×28°.19E, h20km, ML3.4*

*ATH **23** 14:17:55.7, 35°.72N×28°.18E, h68km*

*DDA **23** 14:17:55.9, 35°.72N×28°.11E, h55km, ML4.1*

*CSEM **23** 14:17:55.8±0.1, 35°.59N×28°.27E, h60km, Mw3.3, Error ellipse: s-maj=2.7km s-min=2.3km az=46.0*

*THE **23** 14:17:58.1, 35°.72N×28°.20E, h53km±2km, ML3.4/6, Error ellipse: s-maj=2.5km s-min=0.9km az=60.0*

*NIC **23** 14:18:00.0±0.2, 35°.82N×28°.61E, h35km, mb4.1, ML3.6, MW3.3*

ISC 23 14:17:55.5±0.8, 35°.65N±0°.03×28°.26E±0°.02, h63km±9km, n206, σ1s18/263, mb3.6/6, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.57**	**349**	P	**Pn**	**14 18 09.1**	**+0.6**
ARG				S	**Sn**	**14 18 17.7**	**-0.3**
ARG	**Arkhangelos**	**0.57**	**349**	*e*P	**Pn**	**14 18 09.1**	**+0.6**
ARG				*e*S	**Sn**	**14 18 18.7**	**+0.7**
ARG	**Arkhangelos**	**0.57**	**349**	P	**Pn**	**14 18 09.1**	**+0.6**
ARG				*e*S	**Sn**	**14 18 18.7**	**+0.7**
KARP	**Karpathos**	**0.90**	**264**	P	**Pn**	**14 18 13.2**	**+0.8**
KARP				S	**Sn**	**14 18 25.2**	**+0.3**
KARP	**Karpathos**	**0.90**	**264**	*e*P	**Pn**	**14 18 12.9**	**+0.5**
KARP				*e*S	**Sn**	**14 18 25.4**	**+0.5**
KARP	**Karpathos**	**0.90**	**264**	*e*P	**Pn**	**14 18 12.9**	**+0.5**
KARP				S	**Sn**	**14 18 25.2**	**+0.3**
KSL	**Kastellorizon**	**1.19**	**65**	*e*P	**Pn**	**14 18 17.8**	**+1.7**
FETY	**Fethiye**	**1.19**	**34**	*e*PN	**Pn**	**14 18 16.7**	**+0.5**
FETY				*e*SN	**Sn**	**14 18 32.2**	**+0.6**
FETY	**Fethiye**	**1.19**	**34**	*e*Pn	**Pn**	**14 18 16.7**	**+0.5**
FETY				*e*Sn	**Sn**	**14 18 32.2**	**+0.6**
DALY	**Dalyan (Mu¨la**	**1.21**	**15**	*e*PN	**Pn**	**14 18 17.5**	**+1.1**
DALY	**Dalyan (Mu¨la**	**1.21**	**15**	*e*Pn	**Pn**	**14 18 17.5**	**+1.1**
DAT	**Datca**	**1.21**	**333**	*e*PN	**Pn**	**14 18 16.9**	**+0.4**
DAT				*e*SN	**Sn**	**14 18 31.3**	**-0.9**
DAT	**Datca**	**1.21**	**333**	*e*Pn	**Pn**	**14 18 16.9**	**+0.4**
DAT				*e*Sn	**Sn**	**14 18 31.3**	**-0.9**
AKAS	**Kas**	**1.24**	**62**	*i*P	**Pn**	**14 18 18.4**	**+1.5**
AKAS				*i*S	**Sn**	**14 18 33.3**	**+0.4**
AKAS	**Kas**	**1.24**	**62**	*i*P	**Pn**	**14 18 18.4**	**+1.5**
AKAS				*i*S	**Sn**	**14 18 33.3**	**+0.4**
TURN	**Turunc**	**1.25**	**13**	*i*P	**Pn**	**14 18 16.7**	**-0.3**
TURN				*i*S	**Sn**	**14 18 31.7**	**-1.3**
TURN	**Turunc**	**1.25**	**13**	*i*P	**Pn**	**14 18 16.7**	**-0.3**
TURN				*i*S	**Sn**	**14 18 31.7**	**-1.3**
NIS2	**Nisyros Isl.**	**1.27**	**317**	P	**Pn**	**14 18 17.8**	**+0.6**
NIS3	**Nisyros Isl.**	**1.28**	**316**	P	**Pn**	**14 18 17.9**	**+0.5**
NIS1	**Nisyros Isl.**	**1.29**	**318**	P	**Pn**	**14 18 18.0**	**+0.5**
NIS1				S	**Sn**	**14 18 33.7**	**-0.2**
NIS1	**Nisyros Isl.**	**1.29**	**318**	*e*P	**Pn**	**14 18 18.0**	**+0.5**
NIS1	**Nisyros Isl.**	**1.29**	**318**	P	**Pn**	**14 18 18.0**	**+0.5**
NIS1				S	**Sn**	**14 18 33.7**	**-0.2**
YER	**Yerkesik**	**1.48**	**1**	*e*PN	**Pn**	**14 18 20.6**	**+0.5**
YER	**Yerkesik**	**1.48**	**1**	*e*Pn	**Pn**	**14 18 20.6**	**+0.5**
BDRM	**Kayabasi**	**1.56**	**335**	*i*P	**Pn**	**14 18 21.7**	**+0.6**
BDRM				*i*S	**Sn**	**14 18 39.4**	**-0.9**
BDRM	**Kayabasi**	**1.56**	**335**	*i*P	**Pn**	**14 18 21.7**	**+0.6**
BDRM				*i*S	**Sn**	**14 18 39.4**	**-0.9**
BODT	**Bodrum**	**1.60**	**332**	*e*PN	**Pn**	**14 18 22.2**	**+0.5**
BODT				*e*SN	**Sn**	**14 18 40.7**	**-0.7**
BODT	**Bodrum**	**1.60**	**332**	*e*Pn	**Pn**	**14 18 22.2**	**+0.5**
BODT				*e*Sn	**Sn**	**14 18 40.7**	**-0.7**
ELL	**Elmali**	**1.73**	**50**	*e*PN	**Pn**	**14 18 25.1**	**+1.6**
ELL	**Elmali**	**1.73**	**50**	*e*Pn	**Pn**	**14 18 25.1**	**+1.6**
GLHS	**Glhisar (BURDU**	**1.81**	**33**	*e*PN	**Pn**	**14 18 25.8**	**+1.3**
GLHS	**Glhisar (BURDU**	**1.81**	**33**	*e*Pn	**Pn**	**14 18 25.8**	**+1.3**
GOLH	**Golhisar**	**1.90**	**33**	*i*P	Pn	14 18 28.6	+2.8
GOLH				*i*S	**Sn**	**14 18 51.8**	**+3.0**
GOLH	**Golhisar**	**1.90**	**33**	*i*P	Pn	14 18 28.6	+2.8
GOLH				*i*S	**Sn**	**14 18 51.8**	**+3.0**
AYDN	**Tasoluk**	**2.03**	**352**	*i*P	**Pn**	**14 18 28.0**	**+0.5**
AYDN				*i*S	**Sn**	**14 18 51.4**	**-0.4**
AYDN	**Tasoluk**	**2.03**	**352**	*i*P	**Pn**	**14 18 28.0**	**+0.5**
AYDN				*i*S	**Sn**	**14 18 51.4**	**-0.4**
DNZL	**Cakiroluk**	**2.13**	**17**	*i*P	**Pn**	**14 18 30.4**	**+1.4**
DNZL	**Cakiroluk**	**2.13**	**17**	*i*P	**Pn**	**14 18 30.4**	**+1.4**
KORT	**Korkueli**	**2.16**	**51**	*i*P	Pn	14 18 32.1	+2.8
KORT				*i*S	**Sn**	**14 18 58.3**	**+3.1**
KORT	**Korkueli**	**2.16**	**51**	*i*P	Pn	14 18 32.1	+2.8
KORT				*i*S	**Sn**	**14 18 58.3**	**+3.1**
DENT	**Denizli**	**2.19**	**16**	*e*PN	**Pn**	**14 18 30.6**	**+0.9**
DENT	**Denizli**	**2.19**	**16**	*e*Pn	**Pn**	**14 18 30.6**	**+0.9**
NPS	**Neapolis**	**2.19**	**261**	P	**Pn**	**14 18 31.6**	**+1.9**
NPS				S	**Sn**	**14 18 56.4**	**+0.7**
NPS	**Neapolis**	**2.19**	**261**	P	**Pn**	**14 18 31.6**	**+1.9**
NPS				S	**Sn**	**14 18 56.4**	**+0.7**
GCAM	**G?zelcaml?**	**2.21**	**338**	*i*P	**Pn**	**14 18 30.4**	**+0.6**
GCAM				*i*S	**Sn**	**14 18 54.6**	**-1.4**
GCAM	**G?zelcaml?**	**2.21**	**338**	*i*P	**Pn**	**14 18 30.4**	**+0.6**
GCAM				*i*S	**Sn**	**14 18 54.6**	**-1.4**
ANTB	**Antalya**	**2.30**	**57**	*e*PN	**Pn**	**14 18 33.4**	**+2.3**
ANTB	**Antalya**	**2.30**	**57**	*e*Pn	**Pn**	**14 18 33.4**	**+2.3**
AYDB	**Zeytinkoy-Aydi**	**2.31**	**353**	*e*PN	**Pn**	**14 18 31.8**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**2.31**	**353**	*e*Pn	**Pn**	**14 18 31.8**	**+0.4**
LAST	**Lasithi**	**2.32**	**259**	P	**Pn**	**14 18 33.4**	**+1.9**
LAST				S	**Sn**	**14 18 59.9**	**+1.0**
LAST	**Lasithi**	**2.32**	**259**	P	**Pn**	**14 18 33.4**	**+1.9**
LAST				S	**Sn**	**14 18 59.9**	**+1.0**
SMG	**Samos**	**2.35**	**331**	P	**Pn**	**14 18 32.3**	**+0.5**
SMG				S	**Sn**	**14 18 58.7**	**-0.8**
SMG	**Samos**	**2.35**	**331**	*e*P	**Pn**	**14 18 32.4**	**+0.6**
SMG				*e*S	**Sn**	**14 18 59.0**	**-0.5**
SMG	**Samos**	**2.35**	**331**	*e*P	**Pn**	**14 18 32.4**	**+0.6**
SMG				*e*S	**Sn**	**14 18 59.0**	**-0.5**

SANT	**Santorini**	**2.38**	**288**	P	**Pn**	**14 18 32.6**	**+0.4**
SANT	**Santorini**	**2.38**	**288**	*e*P	**Pn**	**14 18 32.8**	**+0.6**
SANT				*e*S	**Sn**	**14 18 59.7**	**-0.6**
SANT	**Santorini**	**2.38**	**288**	*e*P	**Pn**	**14 18 32.8**	**+0.6**
SANT				*e*S	**Sn**	**14 18 59.7**	**-0.6**
THR1	**Thera Island**	**2.38**	**288**	P	**Pn**	**14 18 32.8**	**+0.6**
THR1	**Thera Island**	**2.38**	**288**	P	**Pn**	**14 18 32.8**	**+0.6**
THR2	**Thira island,**	**2.42**	**290**	P	**Pn**	**14 18 33.4**	**+0.7**
THR2	**Thira island,**	**2.42**	**290**	P	**Pn**	**14 18 33.4**	**+0.7**
THR3	**Thira Island,**	**2.44**	**289**	P	**Pn**	**14 18 33.6**	**+0.7**
THR3	**Thira Island,**	**2.44**	**289**	P	**Pn**	**14 18 33.6**	**+0.7**
BCK	**Bucak**	**2.61**	**45**	*e*PN	Pn	14 18 38.0	+2.6
BCK	**Bucak**	**2.61**	**45**	*e*Pn	Pn	14 18 38.0	+2.6
APE	**Apeiranthos**	**2.62**	**304**	*e*PN	**Pn**	**14 18 36.2**	**+0.8**
APE	**Apeiranthos**	**2.62**	**304**	P	**Pn**	**14 18 36.1**	**+0.6**
APE				S	**Sn**	**14 19 05.2**	**-0.9**
APE	**Apeiranthos**	**2.62**	**304**	*e*P	**Pn**	**14 18 36.0**	**+0.6**
APE				*e*S	**Sn**	**14 19 05.7**	**-0.4**
APE	**Apeiranthos**	**2.62**	**304**	*e*Pn	**Pn**	**14 18 36.3**	**+0.8**
APE				*e*S	**Sn**	**14 19 05.7**	**-0.4**
IDI	**Anoyia**	**2.77**	**263**	*e*PN	**Pn**	**14 18 39.5**	**+1.9**
IDI	**Anoyia**	**2.77**	**263**	P	**Pn**	**14 18 39.0**	**+1.4**
IDI	**Anoyia**	**2.77**	**263**	*e*P	**Pn**	**14 18 38.8**	**+1.2**
IDI				*e*S	**Sn**	**14 19 10.0**	**+0.1**
IDI	**Anoyia**	**2.77**	**263**	*e*P	**Pn**	**14 18 38.8**	**+1.2**
IDI	**Anoyia**	**2.77**	**263**	*e*Pn	**Pn**	**14 18 39.5**	**+1.9**
IDI				*e*S	**Sn**	**14 19 10.0**	**+0.1**
IDI	**Anoyia**	**2.77**	**263**	Pn	**Pn**	**14 18 38.5**	**+0.9**
	4.6nm,0.3s,baz=98,slow=15,SNR=12						
IDI				Sn	**Sn**	**14 19 08.7**	**-1.3**
	26nm,0.3s,baz=346,slow=18,SNR=18						
MANT	**Manisa**	**2.84**	**5**	*i*P	**Pn**	**14 18 39.2**	**+0.5**
MANT				*i*S	**Sn**	**14 19 09.7**	**-2.3**
MANT	**Manisa**	**2.84**	**5**	*i*P	**Pn**	**14 18 39.2**	**+0.5**
MANT				*i*S	**Sn**	**14 19 09.7**	**-2.3**
KHL	**Karahalli**	**2.85**	**20**	*e*PN	**Pn**	**14 18 39.3**	**+0.5**
KHL	**Karahalli**	**2.85**	**20**	*e*Pn	**Pn**	**14 18 39.3**	**+0.5**
IZM	**Izmir**	**2.85**	**344**	*e*PN	**Pn**	**14 18 39.5**	**+0.8**
IZM	**Izmir**	**2.85**	**344**	*e*Pn	**Pn**	**14 18 39.5**	**+0.8**
SUTC	**Sutluce-Ispart**

HHAG	**Hagoal**	**6.54**	**149**	P		**Pn**	**14 19 27.9**	**-1.2**
	baz=150							
HHAG				S		Sn	14 20 34.8	-7.5
	baz=150							
HHAG	**Hagoal**	**6.54**	**149**	P		**Pn**	**14 19 27.9**	**-1.2**
RSH		**6.54**	**134**	P		**Pn**	**14 19 27.9**	**-1.2**
	baz=135							
RSH		**6.54**	**134**	P		**Pn**	**14 19 27.9**	**-1.2**
BIDA	**Albida**	**6.62**	**93**	*eP*		Pn	14 19 26.4	-3.9
BIDA				*eS*		Sn	14 20 35.2	-9.2
BIDA				AML		AML	14 20 37.0	
	comp=E,55nm,0.3s							
BIDA				AML		AML	14 20 39.0	
	comp=N,37nm,0.4s							
HSAF	**As Saff**	**6.63**	**154**	P		**Pn**	**14 19 28.8**	**-1.5**
	baz=155							
HSAF	**As Saff**	**6.63**	**154**	P		**Pn**	**14 19 28.8**	**-1.5**
GLL	**Jalalah**	**6.72**	**153**	P		**Pn**	**14 19 30.8**	**-0.8**
	baz=154							
GLL	**Jalalah**	**6.72**	**153**	P		**Pn**	**14 19 30.8**	**-0.8**
BRBR	**Barbar**	**6.73**	**107**	*eP*		**Pn**	**14 19 29.7**	**-2.2**
BRBR				*eS*		Sn	14 20 38.3	-9.0
BRBR				AML		AML	14 20 45.9	
	comp=E,34nm,0.5s							
BRBR				AML		AML	14 20 47.2	
	comp=N,19nm,0.2s							
BRBR	**Barbar**	**6.73**	**107**	*eP*		**Pn**	**14 19 29.7**	**-2.2**
	SNR=45							
HAWK	**Haweek**	**6.78**	**97**	*eP*		**Pn**	**14 19 31.4**	**-1.0**
HAWK				*eS*		Sn	14 20 39.3	-8.9
HAWK				AML		AML	14 20 45.6	
	comp=E,80nm,0.7s							
HAWK				AML		AML	14 20 45.7	
	comp=N,25nm,0.5s							
HAWK	**Haweek**	**6.78**	**97**	*eP*		**Pn**	**14 19 31.4**	**-1.0**
	SNR=45							
SWA2		**6.81**	**201**	P		**Pn**	**14 19 32.4**	**-0.5**
	baz=202							
SWA2				S		Sn	14 20 42.6	-6.4
	baz=202							
SWA2				AMP			14 21 00.0	
	comp=N,50μm,0.3s,logA/T=5.2,baz=202							
SWA2		**6.81**	**201**	P		**Pn**	**14 19 32.4**	**-0.5**
SUZ		**6.96**	**145**	P		**Pn**	**14 19 33.2**	**-1.6**
	baz=145							
SUZ		**6.96**	**145**	P		**Pn**	**14 19 33.2**	**-1.6**
ZAF		**7.31**	**149**	P		**Pn**	**14 19 38.8**	**-0.9**
	baz=149							
ZAF		**7.31**	**149**	P		**Pn**	**14 19 38.8**	**-0.9**
AWBH		**7.33**	**176**	P		**Pn**	**14 19 38.7**	**-1.2**
	baz=176							
AWBH		**7.33**	**176**	P		**Pn**	**14 19 38.7**	**-1.2**
HNKL	**Nakhl**	**7.47**	**138**	P		**Pn**	**14 19 40.5**	**-1.3**
	baz=139							
HNKL	**Nakhl**	**7.47**	**138**	P		**Pn**	**14 19 40.5**	**-1.3**
SALA	**Sala**	**7.61**	**110**	*eP*		**Pn**	**14 19 43.0**	**-0.9**
SALA				*eS*		Sn	14 21 01.3	-7.5
SALA				AML		AML	14 21 10.5	
	comp=N,15nm,0.9s							
SALA				AML		AML	14 21 15.2	
	comp=E,1.4nm,0.6s							
SALA	**Sala**	**7.61**	**110**	*eP*		**Pn**	**14 19 43.0**	**-0.9**
	SNR=45							
ASF	**Jabal al Asfar**	**7.98**	**113**	Pn		**Pn**	**14 19 48.6**	**-0.3**
	comp=E,0.3nm,0.3s,baz=248,slow=5.4,SNR=3.7							
ASF				Sn		**Sn**	**14 21 15.1**	**-2.5**
	comp=E,0.3nm,0.3s,baz=322,slow=18,SNR=2.5							
EIL	**Elat**	**8.21**	**135**	Pn		**Pn**	**14 19 50.5**	**-1.5**
	comp=E,1.0nm,0.3s,baz=316,slow=6.2,SNR=39							
EIL				Sn		Sn	14 21 16.8	-6.5
	comp=E,4.6nm,0.3s,baz=340,slow=11,SNR=18							
GRB	**Gharib**	**8.30**	**151**	P		**Pn**	**14 19 52.1**	**-1.2**
	baz=151							
GRB	**Gharib**	**8.30**	**151**	P		**Pn**	**14 19 52.1**	**-1.2**
HFRF	**Wahat Farafira**	**8.48**	**180**	P		**Pn**	**14 19 55.0**	**-0.6**
	baz=181							
HFRF	**Wahat Farafira**	**8.48**	**180**	P		**Pn**	**14 19 55.0**	**-0.6**
TR2		**8.60**	**146**	P		**Pn**	**14 19 56.3**	**-1.0**
	baz=146							
TR2		**8.60**	**146**	P		**Pn**	**14 19 56.3**	**-1.0**
TR1		**9.03**	**146**	P		**Pn**	**14 20 01.6**	**-1.6**
	baz=146							
TR1		**9.03**	**146**	P		**Pn**	**14 20 01.6**	**-1.6**
HSFG		**10.27**	**150**	P		**Pn**	**14 20 19.7**	**-0.5**
	baz=150							
HSFG		**10.27**	**150**	P		**Pn**	**14 20 19.7**	**-0.5**
KEST	**Kesra**	**15.37**	**276**	LR		LR	14 28 01.5	
	comp=E,28nm,20.6s,baz=187,slow=40							
GERES	**GERESS Array B**	**16.99**	**325**	Pn		**P**	**14 21 50.0**	**0.0**
	comp=E,0.2nm,0.3s,baz=149,slow=14,SNR=5.3							
ESDC	**Sonseca Array**	**25.74**	**289**	P		**P**	**14 23 21.5**	**+1.2**
	comp=E,0.3nm,0.3s,baz=79,slow=9.8,SNR=2.5							
FINES	**FINESS Array B**	**25.85**	**358**	P		**P**	**14 23 21.3**	**+0.4**
	comp=E,2.2nm,1.0s,baz=169,slow=8.5,SNR=2.5							
HFS	**Hagfors**	**26.25**	**343**	P		**P**	**14 23 24.8**	**+0.3**
	comp=E,4.7nm,1.1s,baz=152,slow=9.8,SNR=3.6							
NOA	**NORSAR Array B**	**27.64**	**342**	P		**P**	**14 23 36.2**	**-0.8**
	comp=E,1.2nm,0.9s,baz=147,slow=5.3,SNR=2.5							
TORD	**Torodi Ar. Bea**	**32.78**	**234**	P		P	14 24 28.5	+5.7
	comp=E,0.2nm,0.5s,baz=33,slow=7.6,SNR=2.6							
ARCES	**ARCESS Array B**	**33.97**	**358**	P		**P**	**14 24 33.1**	**+0.5**
	comp=E,3.9nm,1.1s,baz=166,slow=6.2,SNR=5.5							

IDC 23 14:20:12.9±1.3, 18.67N×145.56E, h0km, mb3.3/5, mb1 3.6/5, mb1mx3.3/25, mbtmp3.3/5, Error ellipse: s-maj=61.5km s-min=22.9km az=102.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**39.92**	**197**	P	P	14 27 48.2	-0.8
	0.2nm,0.5s,baz=13,slow=8.1,SNR=7.6						
FITZ	**Fitzroy Crossi**	**41.46**	**209**	P	P	14 28 01.4	-0.3
	1.4nm,1.0s,baz=21,slow=7.6,SNR=6.9						
ASAR	**Alice Springs**	**43.59**	**196**	P	P	14 28 19.7	+0.6
	0.2nm,0.9s,baz=12,slow=8.1,SNR=4.9						
KURBB	**Kurchatov Arra**	**61.25**	**318**	P	P	14 30 30.2	+0.4
	0.2nm,0.4s,baz=90,slow=7.0,SNR=4.8						
ILAR	**Eielson Array**	**63.72**	**26**	P	P	14 30 45.8	-0.3
	0.2nm,0.5s,baz=254,slow=5.5,SNR=5.4						

*IDC **23** 14:31:04.1±4.7, 36.29N×70.94E, h147km±43km, mb3.5/10, mb1 3.7/13, mb1mx3.4/30, mbtmp3.5/13, Error ellipse: s-maj=32.6km s-min=15.1km az=27.0*
*ISCJB **23** 14:31:07.2±0.3, 36.54N±0.03×71.12E±0.05, h188km, mb3.8/9, Error ellipse: s-maj=6.7km s-min=2.8km az=150.4*
*NNC **23** 14:31:13.1±2.2, 37.01N×70.83E, h197km±18km, mb2.9, mpv3.9, Error ellipse: s-maj=19.0km s-min=11.3km az=25.0*

ISC 23 14:31:07.9±0.6, 36.59N±0.05×71.17E±0.07, h188km, n48, σ1§96/59, mb3.8/9, 11C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.82**	**167**	⇑P	**Pn**	**14 31 55.3**	**+0.3**
CEP				S	**Sn**	**14 32 31.0**	**-0.7**
CHCP	**Chirah Chowk**	**3.39**	**149**	⇑P	**Pn**	**14 32 03.1**	**+1.4**
THW	**Thamme Wali**	**3.81**	**173**	⇑P	**Pn**	**14 32 06.8**	**-0.2**
SARP	**Sargodha**	**4.82**	**165**	P	**Pn**	**14 32 20.2**	**+0.5**
JMU	**Jammu**	**4.94**	**140**	*eS*	**Sn**	**14 33 16.0**	**-2.8**
THN	**Thein Dam**	**5.59**	**136**	*eP*	**Pn**	**14 32 28.3**	**-1.4**
THN				*eS*	**Sn**	**14 33 32.5**	**-1.6**
DHRM	**DHARAMSHALA**	**6.06**	**134**	*eP*	**Pn**	**14 32 37.4**	**+1.4**
DHRM				*eS*	**Sn**	**14 33 44.6**	**-0.8**
DHRM				AML	AML	14 33 46.5	
	comp=N,640nm,0.2s						
DHRM				AML	AML	14 33 46.9	
	comp=E,660nm,0.4s						
KK31	**Karatay Array**	**6.53**	**356**	P	**Pn**	**14 32 41.8**	**0.0**
	comp=E,4.6nm,0.3s,baz=180,slow=15,SNR=92						
KK31				S	**Sn**	**14 33 52.2**	**-3.9**
	comp=E,9.5nm,0.3s,baz=186,slow=20,SNR=12						
AAK	**Ala-Archa**	**6.56**	**22**	P	**Pn**	**14 32 44.0**	**+1.6**
	comp=E,3.6nm,0.3s,baz=175,slow=4.7,SNR=18						
AAK				S	**Sn**	**14 33 58.3**	**+1.2**
	comp=E,2.0nm,0.3s,baz=314,slow=22,SNR=20						
SDNR	**Sundarnagar**	**7.00**	**135**	*eP*	**Pn**	**14 32 48.1**	**+0.1**
SDNR				*eS*	**Sn**	**14 34 04.0**	**-3.3**
TKM2	**Tokmak 2**	**7.19**	**27**	⇑P	**Pn**	**14 32 52.2**	**+1.6**
	comp=E,2.8nm,0.5s						
TKM2				⇑S	**Sn**	**14 34 12.1**	**+0.2**
	comp=E,5.7nm,0.7s						
SMLA	**Simla**	**7.38**	**136**	*i* P	**Pn**	**14 32 53.3**	**+0.2**
SMLA				*i* S	**Sn**	**14 34 12.9**	**-3.5**
SMLA				*i* S	**Sn**	**14 34 13.4**	**-3.0**
SMLA				AML	AML	14 34 16.5	
	comp=E,129nm,0.1s						
SMLA				AML	AML	14 34 17.1	
	comp=N,171nm,0.7s						
DDI	**Dehra Dun**	**8.49**	**135**	*eS*	**Sn**	**14 34 41.0**	**-1.9**
MK31	**Makanchi Array**	**13.14**	**36**	⇓P	**P**	**14 34 09.9**	**-0.9**
	comp=N,17nm,1.1s,baz=205,slow=10,SNR=11						
MKAR	**Manchi Array**	**13.14**	**36**	P	**P**	**14 34 10.0**	**-0.8**
	comp=N,0.1nm,0.3s,baz=236,slow=10,SNR=2.6						
DANN	**Dangsing**	**13.43**	**124**	*eP*	**Pn**	**14 34 11.8**	**+0.4**
	comp=N,27nm,0.3s						
DANN				*eS*	Sn	14 36 32.2	-9.0
KOLN	**Koldanda**	**13.71**	**126**	*eP*	**Pn**	**14 34 15.5**	**+0.6**
	comp=N,17nm,0.3s						
KOLN				*eS*	Sn	14 36 39.7	-8.1
GKN	**Gorkha**	**14.24**	**123**	*eP*	**P**	**14 34 22.9**	**-0.4**
	comp=N,29nm,0.3s						
GKN				*eS*	Sn	14 36 50.7	-10
BHPL	**Bhopal**	**14.36**	**156**	*ex*	**Pn**	**14 34 25.1**	**+2.2**
BHPL				*eS*	Sn	14 36 51.0	-12
DMN	**Daman**	**14.81**	**123**	*eP*	**P**	**14 34 30.0**	**+0.3**
	comp=N,17nm,0.4s						
DMN				*eS*	Sn	14 37 05.1	-9.0
KKN	**Kakani**	**14.81**	**122**	*eP*	**P**	**14 34 29.7**	**0.0**
	comp=N,22nm,0.4s						
KKN				*eS*	Sn	14 37 04.3	-10
KURBB	**Kurchatov Arra**	**15.00**	**18**	⇑P	**P**	**14 34 31.4**	**+0.1**
	comp=N,2.6nm,1.1s						
KURBB	**Kurchatov Arra**	**15.00**	**18**	P	**P**	**14 34 34.1**	**+2.9**
	comp=N,0.2nm,0.3s,baz=210,slow=11,SNR=4.6						
PKIN	**Phulchoki**	**15.03**	**123**	*eP*	**P**	**14 34 32.8**	**+0.7**
	comp=N,48nm,0.6s						
PKI	**Pulchoki**	**15.04**	**123**	*eP*	**P**	**14 34 33.7**	**+1.4**
	comp=N,63nm,0.6s						
AB31	**Akbulak array**	**15.07**	**331**	⇑P	**Pn**	**14 34 29.9**	**-1.4**
	comp=N,1.9nm,0.4s,baz=146,slow=12,SNR=72						
AB31				⇑S	Sn	14 37 11.2	-8.4
	comp=N,6.7nm,0.8s,baz=151,slow=24,SNR=7.8						
GUN	**Gumba**	**15.14**	**121**	*eP*	**P**	**14 34 34.3**	**+0.8**
	comp=N,20nm,0.3s						
JIRN	**Jiri**	**15.52**	**121**	*eP*	**P**	**14 34 39.5**	**+1.8**
	comp=N,34nm,0.3s						
JIRN				*eS*	S	14 37 22.5	-7.9
VOSK	**Vostochnaya**	**16.14**	**360**	⇑P	**Pn**	**14 34 45.2**	**+1.1**
	comp=N,0.3nm,0.2s						
RAMN	**Ramite**	**16.25**	**122**	*eP*	**Pn**	**14 34 48.1**	**+2.1**
	comp=N,34nm,0.6s						
RAMN				*eS*	S	14 37 38.3	-7.6
BVA0	**Borovoye Array**	**16.45**	**358**	⇓P	**Pn**	**14 34 48.2**	**+0.3**
	comp=N,0.4nm,0.5s,baz=0.0,slow=0.1,SNR=6.2						
BVAR	**Borovoye Array**	**16.45**	**358**	P	**Pn**	**14 34 49.7**	**+1.8**
	comp=N,0.5nm,0.3s,baz=167,slow=9.8,SNR=7.3						
BRVK	**Borovoye**	**16.48**	**358**	⇑P	**P**	**14 34 47.8**	**+0.1**
	comp=N,2.4nm,0.5s						
TAPN	**Taplejung**	**16.77**	**119**	*eP*	**Pn**	**14 34 56.0**	**+3.7**
	comp=N,12nm,0.3s						
AKTO	**Aktyubinsk**	**16.77**	**330**	⇓P	**P**	**14 34 49.9**	**-1.0**
	comp=N,13nm,0.8s						
AKTO				⇑S	**S**	**14 37 50.1**	**-5.9**
	comp=N,3.7nm,1.0s						
AKTO	**Aktyubinsk**	**16.77**	**330**	P	**P**	**14 34 50.9**	**0.0**
	comp=N,1.3nm,0.3s,baz=145,slow=11,SNR=32						
ODAN	**Odare**	**16.85**	**121**	*eP*	**Pn**	**14 34 56.4**	**+3.2**
	comp=N,23nm,0.6s						
ODAN				*eS*	**S**	**14 37 52.5**	**-6.0**
ZALV	**Zalesovo Beam**	**19.78**	**24**	P	**Pn**	**14 35 26.4**	**-0.9**
	comp=N,1.5nm,0.3s,baz=217,slow=10,SNR=9.7						
KBZ	**Khabaz**	**22.68**	**297**	P	**P**	**14 35 53.8**	**+0.6**
	comp=N,2.0nm,0.8s,baz=104,slow=6.2,SNR=4.6						
AKASG	**Malin Array Be**	**32.99**	**309**	P	**P**	**14 37 25.3**	**+0.4**
	comp=N,1.4nm,0.6s,baz=80,slow=7.4,SNR=6.7						
FINES	**FINESS Array B**	**37.49**	**326**	P	**P**	**14 38 04.5**	**+1.4**
	comp=N,1.3nm,0.6s,baz=139,slow=8.2,SNR=7.3						
ARCES	**ARCESS Array B**	**41.12**	**338**	P	**P**	**14 38 34.9**	**+2.0**
	comp=N,1.2nm,0.4s,baz=115,slow=8.2,SNR=17						
HFS	**Hagfors**	**43.08**	**322**	P	**P**	**14 38 49.9**	**+1.0**
	comp=N,1.3nm,0.3s,baz=94,slow=12,SNR=9.3						
NB2	**NORSAR Subarra**	**44.39**	**323**	P	**P**	**14 38 59.9**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.39**	**323**	P	**P**	**14 39 00.2**	**+0.8**
	comp=Z,1.6nm,0.6s,baz=97,slow=7.8,SNR=9.1						
TORD	**Torodi Ar. Bea**	**65.85**	**269**	P	**P**	**14 41 32.2**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=49,slow=5.4,SNR=4.0						
WRA	**Warramunga Arr**	**81.92**	**122**	P	**P**	**14 43 07.3**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=324,slow=4.9,SNR=28						
ASAR	**Alice Springs**	**84.19**	**125**	P	**P**	**14 43 19.1**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=310,slow=5.0,SNR=21						

IDC 23 14:43:46.0±16.0, 17.74S×178.04W, h595km±148km, mb3.0/6, mb1 3.1/6, mb1mx2.8/20, mbtmp3.0/6, Error ellipse: s-maj=133.5km s-min=33.2km az=47.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.83**	**260**	P	P	14 49 40.9	+0.3
	2.0nm,0.6s,baz=126,slow=8.7,SNR=2.7						
STKA	**Stephens Creek**	**39.02**	**241**	P	P	14 50 22.9	-0.2
	0.8nm,0.5s,baz=98,slow=11,SNR=5.5						
WRA	**Warramunga Arr**	**45.01**	**259**	P	P	14 51 09.7	-0.5
	1.0nm,0.4s,baz=95,slow=7.0,SNR=51						
WRA				PcP	PcP	14 52 38.2	0.0
	0.2nm,0.4s,baz=90,slow=3.7,SNR=4.9						
ASAR	**Alice Springs**	**45.18**	**254**	P	P	14 51 11.1	-0.3
	2.2nm,0.4s,baz=88,slow=8.1,SNR=34						
ASAR				PcP	PcP	14 52 38.6	-0.1
	0.5nm,0.7s,baz=100,slow=3.7,SNR=4.6						
FITZ	**Fitzroy Crossi**	**53.41**	**260**	P	P	14 52 11.8	+0.1
	1.5nm,0.8s,baz=129,slow=13,SNR=4.7						
QSPA	**South Pole Qui**	**72.31**	**180**	P	P	14 54 12.3	0.0
	1.2nm,1.0s						
BRTR	**Keskin Array B**	**144.91**	**315**	PKP	PKPdf	15 02 15.8	-0.9
	0.5nm,0.6s,baz=149,slow=5.8,SNR=3.5						

IDC 23 14:53:26.5±3.7, 28.23S×178.45W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/16, mbtmp3.6/3, Error ellipse: s-maj=88.4km s-min=19.2km az=45.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.12**	**156**	Pn	Pb	14 53 49.0	+0.2
	161nm,0.3s,baz=71,slow=23,SNR=13						
RAO				Sn	Sn	14 54 08.5	+2.9
	194nm,0.3s,baz=156,slow=21,SNR=6.3						
STKA	**Stephens Creek**	**34.64**	**254**	P	P	15 00 15.7	-2.0
	0.6nm,0.3s,baz=114,slow=13,SNR=5.0						
ASAR	**Alice Springs**	**42.88**	**265**	P	P	15 01 27.2	+0.3
	0.3nm,0.5s,baz=99,slow=7.1,SNR=4.5						
WRA	**Warramunga Arr**	**43.66**	**270**	P	P	15 01 34.4	+1.1
	0.7nm,0.5s,baz=111,slow=8.1,SNR=18						
FINES	**FINESS Array B**	**142.98**	**341**	PKP	PKPdf	15 12 59.5	-2.0
	1.3nm,0.6s,baz=56,slow=3.4,SNR=9.4						

NNC 23 14:54:38.6±3.0, 54.49N×85.77E, h0km, mb3.9, mpv3.6, 7C-2D, Error ellipse: s-maj=23.7km s-min=15.0km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**5.87**	**232**	⇓Pn	Pn	14 56 07.0	+0.2
	5.9nm,0.7s						
KURBB				⇑Sn	Sn	14 57 17.6	+2.8
	13nm,0.7s						
KURBB				⇑Lg	Lg	14 57 47.6	
	21nm,0.7s						
MK31	**Makanchi Array**	**8.01**	**197**	Pn	Pn	14 56 36.2	-0.1
	0.7nm,0.5s,baz=25,slow=15,SNR=9.5						
MK31				⇑Sn	Sn	14 58 07.2	-0.4
	2.2nm,0.7s,baz=27,slow=26,SNR=4.5						
MK31				⇓Lg	Lg	14 58 54.3	
	10nm,1.1s,baz=23,slow=30,SNR=4.7						
VOSK	**Vostochnaya**	**8.97**	**265**	⇑Pn	Pn	14 56 50.0	+0.7
	1.4nm,0.4s						
VOSK				⇑Sn	Sn	14 58 29.4	-1.6
	4.9nm,1.0s						
BVA0	**Borovoye Array**	**9.23**	**267**	Pn	Pn	14 56 53.1	+0.2
	1.7nm,0.7s,baz=68,slow=19,SNR=6.0						
BVA0				Sn	Sn	14 58 37.3	-0.1
	2.0nm,0.7s,baz=61,slow=23,SNR=5.1						
BRVK	**Borovoye**	**9.28**	**267**	⇑Pn	Pn	14 56 54.2	+0.6
	3.3nm,0.9s						
BRVK				⇑Sn	Sn	14 58 40.8	+2.1
	2.4nm,0.7s						

*IDC **23** 14:59:31.7±0.6, 12.16S×166.02E, h0km, mb4.5/18, mb1 4.6/20, mb1mx4.5/26, mbtmp4.6/20, ML4.6/2, Error ellipse: s-maj=19.6km s-min=14.5km az=101.0*
*BJI **23** 14:59:33.7, 11.92S×165.72E, h12km, mB5.2/27, mb4.9/37, Ms5.4/19, Ms7 5.0/19*
*ISCJB **23** 14:59:34.2±0.4, 12.25S±0.04×165.92E±0.06, h30km, mb4.8/44, MS5.1/8, Error ellipse: s-maj=8.7km s-min=5.9km az=165.6*
*NEIC **23** 14:59:36.8±0.4, 12.19S×165.92E, h35km, mb5.0/17, Error ellipse: s-maj=10.7km s-min=8.2km az=106.0*
*BKK **23** 14:59:36.2±0.6, 12°S±9°×16°6E±1°0, h10km, M5.1/11, mB5.5/1, mb5.1/11, Mw(mB)5.0/1*
*AUST **23** 14:59:59.7±0.0, 13.14S×166.20E, h214km, Error ellipse: s-maj=2.5km s-min=1.2km az=29.0*

ISC 23 14:59:36.4±0.4, 12.24S±0.05×165.97E±0.07, h30km, n112, σ1§60/150, mb5.0/44, MS4.9/8, 3C-1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.54**	**295**	Pn	**Pn**	**15 01 09.2**	**-1.4**
HNR				Sn	**Sn**	**15 02 23.9**	**-0.2**
HNR	**Honiara**	**6.54**	**295**	Pn	**Pn**	**15 01 09.1**	**-1.4**
	36nm,0.3s,baz=156,slow=4.1,SNR=9.3						
HNR				Sn	**Sn**	**15 02 23.9**	**-0.2**
	1.5nm,0.3s,baz=218,slow=19,SNR=4.5						
DZM	**Mont Dzumac**	**9.79**	**177**	Pn	**Pn**	**15 01 56.3**	**+1.0**
DZM				Sn	**Sn**	**15 03 43.8**	**-0.4**
DZM	**Mont Dzumac**	**9.79**	**177**	Pn	**Pn**	**15 01 56.3**	**+1.0**
	1.7nm,0.3s,baz=104,slow=21,SNR=15						
DZM				Sn	**Sn**	**15 03 43.8**	**-0.4**
	0.6nm,0.3s,baz=108,slow=19,SNR=1.8						
MSVF	**Nonsavu**	**12.89**	**117**	*ePn*	Pn	15 02 31.9	-5.8
TARA	**Tarawa**	**15.17**	**28**	*ePn*	**Pn**	**15 03 08.7**	**+0.1**
PMG	**Port Moresby**	**18.68**	**277**	*eP*	**P**	**15 03 51.6**	**-0.8**
	30nm,1.0s						
PMG	**Port Moresby**	**18.68**	**277**	P	**Pn**	**15 03 56.1**	**+3.2**
	0.2nm,0.3s,baz=86,slow=17,SNR=2.6						
EIDS	**Eidsvold**	**19.18**	**225**	*ePn*	**Pn**	**15 03 59.9**	**+1.0**
	78nm,1.8s						
CTA	**Charters Tower**	**20.46**	**245**	P	Pn	15 04 13.7	-0.4
CTA	**Charters Tower**	**20.46**	**245**	P	Pn	15 04 13.7	-0.4
	5.3nm,0.9s,baz=90,slow=16,SNR=2.6						
CTAO	**Charters Tower**	**20.46**	**245**	*eP*	**P**	**15 04 11.6**	**-0.2**
	259nm,2.6s						
RMQ	**Roma**	**21.51**	**226**	P	**P**	**15 04 27.4**	**+4.3**
	baz=21,SNR=11						
MTSU	**Mount Surprise**	**21.69**	**252**	P	P	15 04 34.0	+9.0
	baz=22,SNR=5.1						
AFI	**Afiamalu**	**21.74**	**97**	*eP*	P	15 04 18.4	-7.3
	121nm,1.3s						
ARMA	**Armidale**	**22.44**	**214**	*eP*	**P**	**15 04 31.2**	**-1.8**
	200nm,2.3s						
CMSA	**Cobar Meteorol**	**26.79**	**221**	P	**P**	**15 05 18.1**	**+4.2**
	baz=26,SNR=20						
STKA	**Stephens Creek**	**29.74**	**225**	*eP*	**P**	**15 05 40.2**	**0.0**
	11nm,2.1s						
STKA	**Stephens Creek**	**29.74**	**225**	P	**P**	**15 05 41.8**	**+1.6**
	baz=29,SNR=7.6						
STKA	**Stephens Creek**	**29.74**	**225**	P	**P**	**15 05 42.1**	**+1.9**
	3.8nm,0.8s,baz=4.0,slow=8.1,SNR=7.4						
WRA	**Warramunga Arr**	**31.30**	**252**	P	**P**	**15 05 54.1**	**0.0**
WRA				PcP	**PcP**	**15 08 48.3**	**+0.2**
WRA	**Warramunga Arr**	**31.30**	**252**	P	**P**	**15 05 54.1**	**0.0**
	3.9nm,1.0s,baz=83,slow=9.0,SNR=13						
WRA				PcP	**PcP**	**15 08 48.3**	**+0.2**
	2.6nm,1.0s,baz=88,slow=3.8,SNR=7.4						
AS31	**Alice Springs**	**32.47**	**245**	*eP*	**P**	**15 06 03.7**	**-0.7**
ASAR	**Alice Springs**	**32.47**	**245**	P	**P**	**15 06 04.2**	**-0.2**
ASAR				PcP	**PcP**	**15 08 51.2**	**0.0**
ASAR	**Alice Springs**	**32.47**	**245**	P	**P**	**15 06 04.2**	**-0.2**
	4.9nm,0.9s,baz=77,slow=9.4,SNR=25						
ASAR				PcP	**PcP**	**15 08 51.2**	**0.0**
	4.3nm,0.9s,baz=90,slow=2.8,SNR=13						
DCZ	**Deep Cove**	**33.14**	**178**	*eP*	**P**	**15 06 07.7**	**-2.2**
	47nm,1.4s						
KNRA	**Kununurra**	**36.23**	**260**	P	P	15 06 42.9	+5.9
	baz=36,SNR=3.2						
FITZ	**Fitzroy Crossi**	**39.30**	**256**	*eP*	**P**	**15 07 01.8**	**-1.1**
	11nm,1.0s						
FITZ	**Fitzroy Crossi**	**39.30**	**256**	P	**P**	**15 07 04.7**	**+1.8**
	1.9nm,0.7s,baz=127,slow=5.1,SNR=3.7						
NWAO	**Narrogin (SRO)**	**48.99**	**237**	P	**P**	**15 08 19.7**	**-0.7**
NWAO	**Narrogin (SRO)**	**48.99**	**237**	P	**P**	**15 08 19.7**	**-0.7**

	comp=Z,20nm,1.0s							
GYA				AMB	AMB			
	comp=Z,120nm,5.5s							
GYA				LR	LR			
	comp=N,560nm,19.0s							
GYA				LR	LR			
	comp=E,480nm,20.0s							
GYA				LR	LR			
	comp=Z,510nm,18.6s							
BJI	**Beijing**	**69.54**	**321**	P	**P**		**15 10 42.0**	**-0.4**
BJI				AMB	AMB			
	comp=Z,14nm,1.1s							
BJI				AMB	AMB			
	comp=Z,180nm,5.9s							
XAN	**Xi'an**	**71.08**	**313**	P	**P**		**15 10 54.6**	**+2.5**
XAN				AMB	AMB			
	comp=Z,2.0nm,1.4s							
KMI	**Kunming**	**71.92**	**302**	P	**P**		**15 10 57.0**	**-0.6**
KMI				pP	**pP**		**15 11 06.6**	**-0.4**
KMI				PP	**PP**		**15 13 39.8**	**+2.1**
KMI				S	**S**		**15 20 14.0**	**-3.2**
KMI				AMB	AMB			
	comp=Z,8.0nm,1.3s							
KMI				AMB	AMB			
	comp=Z,77nm,3.1s							
KMI				LR	LR			
	comp=N,760nm,15.3s							
KMI				LR	LR			
	comp=E,890nm,18.4s							
KMI				LR	LR			
	comp=Z,770nm,29.2s							
CRAI	**Chiangrai**	**72.12**	**296**	P	**P**		**15 11 00.7**	**+2.1**
	75nm,2.0s							
HHC	**Hu-ho-hao-te**	**72.88**	**320**	*e*P	**P**		**15 11 02.3**	**-0.5**
HHC				pP	**pP**		**15 11 12.5**	**+0.3**
HHC				sP	**sP**		**15 11 16.1**	**+0.4**
HHC				PP	**PP**		**15 13 47.3**	**+1.9**
HHC				S	**S**		**15 20 27.9**	**+0.6**
HHC				ScS	**SKSac**		**15 21 04.8**	**-1.5**
HHC				SS	**SS**		**15 25 08.6**	**+0.3**
HHC				AMB	AMB			
	comp=Z,51nm,0.8s							
HHC				AMB	AMB			
	comp=Z,200nm,7.0s							
HHC				LR	LR			
	comp=N,450nm,17.8s							
HHC				LR	LR			
	comp=E,350nm,17.8s							
HHC				LR	LR			
	comp=Z,320nm,17.8s							
CHTO	**Chiang Mai**	**72.90**	**294**	*e*P	**P**		**15 11 04.6**	**+1.4**
	5.3nm,1.1s							
CHTO	**Chiang Mai**	**72.90**	**294**	P	P		15 11 15.0	+12
CMAI	**Chiengmai2**	**73.19**	**295**	P	**P**		**15 11 07.4**	**+2.3**
	232nm,1.0s							
CD2	**Chengdu**	**73.50**	**308**	P	**P**		**15 11 05.3**	**-1.3**
CD2				pP	**pP**		**15 11 16.1**	**+0.1**
CD2				PP	**PP**		**15 13 51.8**	**+1.0**
CD2				S	**S**		**15 20 32.5**	**-2.1**
CD2				SS	**SS**		**15 25 18.8**	**+0.8**
CD2				AMB	AMB			
	comp=Z,10.0nm,0.6s							
CD2				AMB	AMB			
	comp=Z,350nm,6.7s							
LZH	**Lanzhou**	**75.72**	**312**	*e*P	**P**		**15 11 19.0**	**-0.5**
LZH				pP	**pP**		**15 11 29.8**	**+0.8**
LZH				PP	**PP**		**15 14 12.0**	**+2.3**
LZH				*e*S	**S**		**15 20 57.3**	**-2.2**
LZH				sS	**sS**		**15 21 11.1**	**-4.0**
LZH				AMB	AMB			
	comp=Z,25nm,1.2s							
LZH				AMB	AMB			
	comp=Z,190nm,4.2s							
LZH				LR	LR			
	comp=N,760nm,14.3s							
LZH				LR	LR			
	comp=E,800nm,16.2s							
LZH				LR	LR			
	comp=Z,910nm,17.3s							
QSPA	**South Pole Qui**	**77.77**	**180**	P	**P**		**15 11 30.3**	**-0.2**
QSPA	**South Pole Qui**	**77.77**	**180**	P	**P**		**15 11 30.3**	**-0.2**
	23nm,1.0s							
ULN	**Ulaanbaatar**	**79.39**	**324**	*e*P	**P**		**15 11 37.6**	**-2.2**
	16nm,0.9s							
SONM	**Songino Array**	**79.75**	**324**	P	**P**		**15 11 42.2**	**+0.5**
SONM	**Songino Array**	**79.75**	**324**	P	**P**		**15 11 42.2**	**+0.5**
	7.0nm,1.1s,baz=131,slow=5.3,SNR=22							
GTA	**Gaotai**	**80.04**	**314**	⇑P	**P**		**15 11 44.9**	**+1.5**
GTA				S	**S**		**15 21 51.0**	**+5.1**
GTA				AMB	AMB			
	comp=Z,9.0nm,1.5s							
GTA				AMB	AMB			
	comp=Z,100nm,5.0s							
LSA	**Lhasa**	**83.17**	**302**	P	P		15 11 55.0	-5.6
MAW	**Mawson**	**83.70**	**202**	P	**P**		**15 12 02.3**	**+0.3**
MAW	**Mawson**	**83.70**	**202**	P	**P**		**15 12 02.3**	**+0.3**
	2.6nm,0.9s,baz=91,slow=7.1,SNR=6.5							
ILAR	**Eielson Array**	**84.57**	**18**	P	**P**		**15 12 05.5**	**-0.8**
ILAR	**Eielson Array**	**84.57**	**18**	P	**P**		**15 12 05.5**	**-0.8**
	1.2nm,0.8s,baz=254,slow=4.7,SNR=10							
NVAR	**Mina Array Bea**	**86.63**	**50**	P	**P**		**15 12 18.4**	**+0.8**
NVAR	**Mina Array Bea**	**86.63**	**50**	P	**P**		**15 12 18.4**	**+0.8**
	0.4nm,0.8s,baz=239,slow=6.7,SNR=3.9							
WMQ	**Urumqi**	**90.08**	**315**	P	**P**		**15 12 32.3**	**-1.3**
WMQ				pP	**pP**		**15 12 42.9**	**-0.4**
WMQ				sP	**sP**		**15 12 46.8**	**+0.1**
WMQ				SKS	**SKSac**		**15 22 58.8**	**-3.8**
WMQ				S	**S**		**15 23 21.4**	**-3.7**
WMQ				SS	**SS**		**15 29 24.8**	**+0.3**
WMQ				AMB	AMB			
	comp=Z,15nm,1.0s							
WMQ				AMB	AMB			
	comp=Z,130nm,4.6s							
WMQ				LR	LR			
	comp=N,390nm,13.4s							
WMQ				LR	LR			
	comp=E,530nm,14.2s							
WMQ				LR	LR			
	comp=Z,370nm,22.4s							
SYO	**Syowa Base**	**90.71**	**197**	⇑*e*P	**P**		**15 12 34.2**	**-1.8**
MKAR	**Makanchi Array**	**94.53**	**317**	*e*P	**P**		**15 12 54.5**	**+0.5**
MKAR	**Makanchi Array**	**94.53**	**317**	P	**P**		**15 12 54.7**	**+0.6**
	7.0nm,0.9s,baz=100,slow=6.1,SNR=30							
ZAA0	**Zalesovo Array**	**94.64**	**324**	*e*P	**P**		**15 12 52.4**	**-2.0**
ZALV	**Zalesovo Beam**	**94.64**	**324**	P	**P**		**15 12 53.5**	**-0.9**
ZALV	**Zalesovo Beam**	**94.64**	**324**	P	**P**		**15 12 53.5**	**-0.9**
	7.1nm,0.9s,baz=106,slow=5.3,SNR=24							
SNAA	**Sanae**	**95.94**	**184**	*e*P	**P**		**15 12 58.9**	**-1.3**
SNAA	**Sanae**	**95.94**	**184**	*e*P	**P**		**15 12 59.0**	**-1.1**
VNA2	**Neumayer--Watz**	**96.91**	**182**	*e*P	**P**		**15 13 03.6**	**-0.9**
	baz=168,slow=2.7							
KSH	**Kashi**	**97.67**	**309**	P	Pdif		15 13 10.8	+2.1
KSH				pP	pP		15 13 19.8	+1.5
KSH				PP	**PP**		**15 17 11.1**	**+4.3**
KSH				SKS	**SKSac**		**15 23 44.4**	**+0.1**
KSH				S	**S**		**15 24 30.5**	**-1.8**
KSH				LR	LR			
	comp=N,480nm,13.1s							
KSH				LR	LR			
	comp=E,490nm,13.0s							
KSH				LR	LR			
	comp=Z,500nm,19.8s							
TKM2	**Tokmak 2**	**98.48**	**312**	*e*P	**P**		**15 13 09.5**	**-2.8**
	30nm,0.5s							
KK31	**Karatay Array**	**102.21**	**312**	⇑Pg	**Pdif**		**15 13 30.0**	**+1.3**
	2.9nm,0.6s,baz=131,slow=17,SNR=4.2							
KK31				⇓Lg	Lg		15 14 38.2	
	3.5nm,0.7s,baz=129,slow=29							
KKAR	**Karatay Array**	**102.21**	**312**	*e*Pdif	**Pdif**		**15 13 29.1**	**+0.4**
ARCES	**ARCESS Array B**	**117.54**	**345**	PKP	**PKPdf**		**15 18 17.4**	**-1.4**
ARCES	**ARCESS Array B**	**117.54**	**345**	PKP	**PKPdf**		**15 18 17.4**	**-1.4**
	1.8nm,0.7s,baz=82,slow=1.9,SNR=18							
FINES	**FINESS Array B**	**122.95**	**338**	PKP	**PKPdf**		**15 18 29.3**	**0.0**
FINES	**FINESS Array B**	**122.95**	**338**	PKP	**PKPdf**		**15 18 29.3**	**0.0**
	4.0nm,1.1s,baz=211,slow=1.6,SNR=3.7							
KMBO	**Kilima Mbogo**	**127.38**	**259**	PKP	**PKPdf**		**15 18 40.8**	**+1.1**
KMBO	**Kilima Mbogo**	**127.38**	**259**	PKP	**PKPdf**		**15 18 40.8**	**+1.1**
	0.6nm,0.2s,baz=22,slow=5.4,SNR=4.3							
AKASG	**Malin Array Be**	**127.97**	**326**	PKP	**PKPdf**		**15 18 38.9**	**-0.4**
AKASG	**Malin Array Be**	**127.97**	**326**	PKP	**PKPdf**		**15 18 38.9**	**-0.4**
	0.1nm,0.3s,baz=53,slow=2.2,SNR=7.0							
BRTR	**Keskin Array B**	**129.92**	**312**	PKP	**PKPdf**		**15 18 44.0**	**+0.5**
BRTR	**Keskin Array B**	**129.92**	**312**	PKP	**PKPdf**		**15 18 44.0**	**+0.5**
	1.0nm,0.9s,baz=347,slow=2.8,SNR=4.6							
KOLS	**Kolonicke sedl**	**132.67**	**328**	*e*PKP	**PKPdf**		**15 18 52.0**	**+3.7**
KECS	**Kecovo**	**133.88**	**328**	*e*PKP	**PKPdf**		**15 18 52.3**	**+1.7**
GERES	**GERESS Array B**	**136.86**	**333**	PKP	**PKPdf**		**15 18 57.7**	**+1.4**
GERES	**GERESS Array B**	**136.86**	**333**	PKP	**PKPdf**		**15 18 57.7**	**+1.4**
	0.4nm,0.6s,baz=5.7,slow=1.0,SNR=5.5							
KEST	**Kesra**	**148.49**	**322**	PKPbc	**PKPbc**		**15 19 21.4**	**+0.6**
KEST	**Kesra**	**148.49**	**322**	PKPbc	**PKPbc**		**15 19 21.4**	**+0.6**
	9.0nm,1.1s,baz=216,slow=4.4,SNR=6.0							
ESDC	**Sonseca Array**	**151.26**	**344**	PKPbc	**PKPbc**		**15 19 26.5**	**-0.9**
ESDC	**Sonseca Array**	**151.26**	**344**	PKPbc	**PKPbc**		**15 19 26.5**	**-0.9**
	0.3nm,0.3s,baz=3.0,slow=3.4,SNR=5.2							
TORD	**Torodi Ar. Bea**	**164.62**	**275**	PKP	**PKPdf**		**15 19 38.0**	**-0.3**
TORD				PKPab	**PKPab**		**15 20 33.6**	**-0.1**
TORD	**Torodi Ar. Bea**	**164.62**	**275**	PKP	**PKPdf**		**15 19 38.0**	**-0.3**
	3.4nm,1.1s,baz=46,slow=1.0,SNR=10							
TORD				PKPab	**PKPab**		**15 20 33.6**	**-0.1**
	2.3nm,1.1s,baz=92,slow=4.0,SNR=5.3							

IDC ***23*** *15:05:58.8±14.0, 7.°63S×107.°14E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/23, mbtmp3.7/4, Error ellipse: s-maj=238.6km s-min=157.9km az=147.0*
ISCJB ***23*** *15:06:06.4±0.5, 8.°23S±0.°04×107.°22E±0.°05, h46km, mb3.4/3, Error ellipse: s-maj=7.9km s-min=5.1km az=157.1*
AUST ***23*** *15:06:06.8±2.8, 8.°26S×107.°26E, h31km, Error ellipse: s-maj=1.4km s-min=0.7km az=304.0*
DJA ***23*** *15:06:06.3±0.7, 8.°S±3.°×107.°7E±.°, h19km±9km, M4.3/10, MLv4.3/10*

ISC 23 15:06:07.9±0.9, 8.°17S±0.°05×107.°22E±0.°05, h46km, n28, σ0ˢ98/26, mb3.2/3, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.85**	**44**	P		**Pn**	**15 06 22.1**	**-1.4**
CISI	**Cisompet, Garu**	**0.85**	**44**	P		**Pn**	**15 06 21.3**	**-2.3**
	baz=0.9,SNR=1000							
SKJI	**Sukabumi**	**1.33**	**330**	P		**Pn**	**15 06 28.7**	**-1.4**
SKJI				S		**Sn**	**15 06 45.8**	**-0.8**
LEM	**Lembang**	**1.39**	**16**	P		**Pn**	**15 06 31.0**	**0.0**
LEM				S		**Sn**	**15 06 49.8**	**+1.5**
LEM	**Lembang**	**1.39**	**16**	P		**Pn**	**15 06 31.1**	**0.0**
	baz=1.5,SNR=64							
DBJI	**Dramaga**	**1.67**	**344**	P		**Pn**	**15 06 35.1**	**+0.4**
DBJI				S		**Sn**	**15 06 56.0**	**+1.0**
XMI	**Christmas Isla**	**2.72**	**214**	P		**Pn**	**15 06 48.8**	**-0.3**
	baz=2.7,SNR=12							
XMIS	**Christmas Isla**	**2.77**	**214**	P		**Pn**	**15 06 49.1**	**-0.7**
	baz=2.7,SNR=39							
UGM	**Wanagama**	**3.28**	**86**	P		**Pn**	**15 06 56.6**	**-0.3**
UGM	**Wanagama**	**3.28**	**86**	P		**Pn**	**15 06 56.5**	**-0.3**
	baz=3.3,SNR=29							
KASI	**Kota Agung**	**3.77**	**314**	P		**Pn**	**15 07 04.1**	**+0.5**
PCJI	**Pacitan**	**3.92**	**91**	P		**Pn**	**15 07 06.1**	**+0.6**
PWJI	**Pagerwojo**	**4.54**	**88**	P		**Pn**	**15 07 14.6**	**+0.5**
KSM	**Kuching**	**10.06**	**18**	P		Pn	15 08 34.1	+4.2
	baz=10,SNR=3.9							
GIRL	**Giralia**	**15.89**	**156**	P		**Pn**	**15 09 48.0**	**-0.5**
	baz=16,SNR=4.1							
FITZ	**Fitzroy Crossi**	**20.45**	**121**	P		**P**	**15 10 42.5**	**+0.8**
	baz=20,SNR=3.8							
FITZ	**Fitzroy Crossi**	**20.45**	**121**	P		**P**	**15 10 42.0**	**+0.3**
	3.0nm,0.7s,baz=303,slow=13,SNR=7.0							
MEEK	**Meekatharra**	**21.32**	**151**	P		P	15 11 02.4	+11
	baz=21,SNR=3.4							
KNRA	**Kununurra**	**22.34**	**112**	P		**P**	**15 11 01.5**	**-0.5**
	baz=22,SNR=3.1							
MTN	**Manton Dam**	**23.96**	**103**	P		**P**	**15 11 17.2**	**-1.0**
	baz=24,SNR=4.7							
KDU	**Kakadu**	**25.23**	**102**	P		**P**	**15 11 27.8**	**-1.9**
	baz=25,SNR=4.3							
WRA	**Warramunga Arr**	**28.74**	**117**	P		**P**	**15 12 00.7**	**-0.6**
	0.4nm,0.7s,baz=289,slow=10,SNR=7.2							
ASAR	**Alice Springs**	**29.84**	**124**	P		**P**	**15 12 11.5**	**+0.4**
	0.3nm,0.7s,baz=305,slow=8.9,SNR=4.3							
H08S2	**Diego Garcia H**	**34.40**	**268**	T		T	15 50 13.6	
	baz=92,slow=0.7,SNR=12							
H08S3	**Diego Garcia H**	**34.41**	**268**	T		T	15 50 14.4	
	baz=92,slow=0.7,SNR=11							
H08S1	**Diego Carcia H**	**34.41**	**268**	T		T	15 50 14.9	
	baz=92,slow=0.7,SNR=15							
STKA	**Stephens Creek**	**39.70**	**131**	P		**P**	**15 13 36.8**	**+0.8**
	baz=40,SNR=7.1							
STKA	**Stephens Creek**	**39.70**	**131**	P		**P**	**15 13 36.5**	**+0.6**
	1.3nm,0.5s,baz=308,slow=9.6,SNR=8.4							

IDC ***23*** *15:09:06.2±0.6, 30.°12S×176.°46W, h0km, mb4.2/13, mb1 4.3/13, mb1mx4.3/19, mbtmp4.2/13, Error ellipse: s-maj=20.1km s-min=17.1km az=41.0*
ISCJB ***23*** *15:09:09.8±0.6, 30.°47S±0.°05×176.°72W±0.°10, h33km, mb4.1/13, Error ellipse: s-maj=12.4km s-min=7.7km az=173.6*

ISC 23 15:09:10.6±0.6, 30.°40S±0.°08×176.°7W±0.°1, h35km, n29, σ1ˢ41/30, mb4.1/13, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**1.59**	**316**	Pn		**Pn**	**15 09 36.3**	**0.0**
	703nm,0.3s,baz=34,slow=1.2,SNR=87							
RAO				Sn		**Sn**	**15 09 55.3**	**-0.3**
	2µm,0.3s,baz=97,slow=23,SNR=16							
URZ	**Urewera**	**9.38**	**212**	Pn		**Pn**	**15 11 21.1**	**-2.2**
	1.5nm,0.3s,baz=65,slow=17,SNR=16							
URZ				Sn		**Sn**	**15 13 08.4**	**+0.8**
	18nm,0.3s,baz=137,slow=21,SNR=30							
RPZ	**Rata Peaks**	**16.50**	**213**	Pn		**Pn**	**15 12 56.5**	**-2.8**
	2.3nm,0.3s,baz=55,slow=5.7,SNR=16							
RPZ				Sn		Sn	15 15 51.3	-10
	1.5nm,0.3s,baz=58,slow=22,SNR=11							
CTA	**Charters Tower**	**34.95**	**278**	P		P	15 16 02.3	+2.8
	2.0nm,0.4s,baz=114,slow=9.7,SNR=9.1							
STKA	**Stephens Creek**	**35.61**	**257**	P		P	15 16 08.6	+3.5
	1.9nm,0.8s,baz=109,slow=8.2,SNR=3.5							
ASAR	**Alice Springs**	**44.27**	**266**	P		**P**	**15 17 18.4**	**+1.2**
	1.5nm,0.6s,baz=106,slow=7.9,SNR=28							
ASAR				PcP		**PcP**	**15 19 02.6**	**+1.5**
	1.2nm,0.8s,baz=97,slow=4.2,SNR=5.9							
WRA	**Warramunga Arr**	**45.26**	**271**	P		**P**	**15 17 25.1**	**0.0**
	2.8nm,0.8s,baz=111,slow=7.7,SNR=29							
VNDA	**Vanda**	**48.22**	**186**	P		P	15 17 51.6	+4.3
	1.4nm,0.7s,baz=336,slow=6.9,SNR=12							
VNDA				PcP		**PcP**	**15 19 15.8**	**+1.8**
	0.6nm,0.7s,baz=326,slow=3.6,SNR=2.5							
FITZ	**Fitzroy Crossi**	**53.53**	**269**	P		**P**	**15 18 28.7**	**+0.6**
	1.9nm,0.9s,baz=134,slow=4.2,SNR=4.0							
MAW	**Mawson**	**72.71**	**200**	P		P	15 20 38.1	+3.5
	2.5nm,0.6s,baz=136,slow=7.2,SNR=11							
SNAA	**Sanae**	**78.12**	**178**	*e*P		**P**	**15 21 07.3**	**+1.6**
VNA2	**Neumayer--Watz**	**78.67**	**176**	*e*P		**P**	**15 21 10.6**	**+1.9**
	baz=172,slow=3.6							
VNA1	**Neumayer--Stat**	**78.89**	**176**	*e*P		**P**	**15 21 10.6**	**+0.7**
MJAR	**Matsushiro Arr**	**78.91**	**324**	P		**P**	**15 21 10.2**	**-0.2**
	0.9nm,0.6s,baz=157,slow=6.6,SNR=4.1							
KSRS	**Korea Array**	**85.11**	**319**	P		**P**	**15 21 44.6**	**+1.7**
	0.7nm,0.8s,baz=142,slow=6.2,SNR=4.1							
PETK	**Petropavlovsk-**	**86.11**	**345**	P		**P**	**15 21 47.9**	**+0.4**
	2.3nm,0.7s,baz=117,slow=8.6,SNR=6.2							
NVAR	**Mina Array Bea**	**87.45**	**42**	P		**P**	**15 21 54.1**	**-0.5**
	1.7nm,0.8s,baz=226,slow=8.0,SNR=9.7							
USRK	**Ussuriysk Arra**	**87.81**	**326**	P		**P**	**15 21 57.5**	**+1.6**
	1.6nm,0.7s,baz=109,slow=7.0,SNR=7.7							
TXAR	**Lajitas Array**	**91.41**	**57**	P		**P**	**15 22 12.6**	**-0.8**
	0.4nm,0.7s,baz=193,slow=10,SNR=3.6							
JOF	**Joensuu**	**142.84**	**339**	*e*p		**PKPdf**	**15 28 36.0**	**-3.6**
	1.8nm,0.7s							
KAF	**Kangasniemi**	**144.93**	**341**	*e*p		**PKPab**	**15 28 41.1**	**-1.4**
	7.0nm,0.7s							
FINES	**FINESS Array B**	**145.54**	**341**	PKPbc		**PKPab**	**15 28 44.5**	**-0.3**
	13nm,0.7s,baz=64,slow=4.4,SNR=30							
KBZ	**Khabaz**	**146.08**	**304**	PKPbc		**PKPab**	**15 28 48.0**	**+0.6**
	1.6nm,0.8s,baz=42,slow=2.4,SNR=4.4							
NB2	**NORSAR Subarra**	**148.91**	**353**	PKP		**PKPbc**	**15 28 53.5**	**-0.6**
	comp=Z,7.5nm,0.8s,baz=9.4,slow=2.9							
NOA	**NORSAR Array B**	**148.91**	**353**	PKPbc		**PKPbc**	**15 28 54.1**	**0.0**
	comp=Z,5.9nm,0.8s,baz=15,slow=4.2,SNR=16							
AKASG	**Malin Array Be**	**152.00**	**324**	PKPbc		**PKPbc**	**15 29 01.8**	**+0.1**
	comp=Z,3.0nm,0.6s,baz=47,slow=3.1,SNR=14							
BRTR	**Keskin Array B**	**153.62**	**299**	PKPbc		**PKPbc**	**15 29 04.7**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=114,slow=3.1,SNR=4.1							
GERES	**GERESS Array B**	**159.96**	**340**	PKPab		**PKPab**	**15 29 46.1**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=35,slow=4.9,SNR=3.9							
TORD	**Torodi Ar. Bea**	**162.76**	**175**	PKP		**PKPdf**	**15 29 08.9**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=252,slow=2.9,SNR=2.8							
TORD				PKPab		**PKPab**	**15 29 59.6**	**+1.4**
	comp=Z,3.2nm,1.0s,baz=194,slow=3.5,SNR=12							

ISCJB ***23*** *15:14:08.5±1.4, 12.°23S±0.°03×166.°17E±0.°03, h10km±8km, mb5.5/135, MS5.7/220, Error ellipse: s-maj=5.2km s-min=4.3km az=159.2*
IDC ***23*** *15:14:09.3±0.3, 12.°24S×166.°01E, h0km, mb5.4/23, mb1 5.4/26, mb1mx5.3/28, mbtmp5.4/26, ML4.8/3, MS5.6/21, Ms1 5.6/21, ms1mx5.3/40, Error ellipse: s-maj=10.5km s-min=7.8km az=169.0*
NEIC ***23*** *15:14:13.1±1.7, 12.°20S×166.°05E, h31km±11km, mb5.6/63, MS5.8/160, MW6.0, Error ellipse: s-maj=4.9km s-min=4.8km az=88.0*
MOS ***23*** *15:14:13.0±1.3, 12.°20S×165.°98E, h33km, mb5.9/42, MS5.6/39, Error ellipse: s-maj=8.8km s-min=7.3km az=43.1*
BJI ***23*** *15:14:14.5, 11.°60S×166.°35E, h36km, mB5.9/63, mb5.6/63, Ms5.8/69, Ms7 5.5/65*
AUST ***23*** *15:14:14.8±1.5, 12.°22S×166.°11E, h35km±12km, Error ellipse: s-maj=11.7km s-min=5.9km az=89.0*
GCMT ***23*** *15:14:16.9±0.1, 12.°21S×165.°92E, h18km, MW5.9, Moment Tensor Solution. s129,c289; s90,c115; Moment tensor: Scale 10¹⁷Nm; Mrr7.22±.06; Mθθ-0.59±.05; Mφφ-6.63±.05; Mrθ3.70±.14; Mθφ2.28±.04; Mφr-5.46±.15; Best double couple: M₀9.80000×10¹⁷ NP1:φs151.00000°, δ66.00000°, λ81.00000°. NP2: φs352.00000°, δ25.00000°, λ109.00000°. Principal axes: T 9.8800, Plg68.0000°, Azm45.0000°; N -0.0700, Plg8.0000°, Azm155.0000°; P -9.8100, Plg21.0000°, Azm248.0000°; Data Used: II IU CN IC G. Surface waves: sta=122, comp=272, per= 50.*
DJA ***23*** *15:14:18.0±1.1, 12.°S±4.°×16.°6E±.°, h55km±11km, M5.7/30, mB6.0/24, mb5.5/30, Mw(mB)5.7/24*
NEIC ***23*** *15:14:27.0±0.0, 12.°45S×165.°62E, h28km Best double couple: NP1:φs145.00000°, δ72.00000°, λ78.00000°. NP2:φs359.00000°, δ21.00000°, λ123.00000°. Principal axes: T 1.3800, Plg61.0000°, Azm37.0000°; N -0.1300, Plg11.0000°, Azm148.0000°; P -1.2600, Plg26.0000°, Azm243.0000°;*

ISC 23 15:14:14.0±0.3, 12.°22S±0.°04×166.°08E±0.°04, h31km±1km, h31km:pP-P, n742, σ1ˢ75/711, mb5.6/135, MS5.7/221, 29C-14D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**6.63**	**294**	Pn		**Pn**	**15 15 48.0**	**-1.4**
HNR				Sn		Sn	**15 17 01.5**	**-2.4**
HNR	**Honiara**	**6.63**	**294**	Pn		**Pn**	**15 15 48.0**	**-1.4**
	145nm,0.3s,baz=208,slow=1.0,SNR=21							
HNR				Sn		**Sn**	**15 17 01.5**	**-2.4**
	29nm,0.3s,baz=131,slow=20,SNR=3.2							
DZM	**Mont Dzumac**	**9.80**	**178**	*e*Pn		**Pn**	**15 16 32.7**	**-0.3**
	577nm,1.2s							
DZM				*e*LR		LR	15 18 48.3	
	32µm,23.8s							
DZM	**Mont Dzumac**	**9.80**	**178**	Pn		**Pn**	**15 16 33.1**	**+0.1**
DZM				Sn		**Sn**	**15 18 20.2**	**-1.9**
DZM	**Mont Dzumac**	**9.80**	**178**	Pn		**Pn**	**15 16 33.1**	**+0.1**
	12nm,0.3s,baz=28,slow=18,SNR=63							
DZM				Sn		**Sn**	**15 18 20.2**	**-1.9**
	3.3nm,0.3s,baz=142,slow=19,SNR=3.1							
MSVF	**Nonsavu**	**12.80**	**117**	*e*P		**Pn**	**15 17 15.1**	**+1.1**
MSVF	**Nonsavu**	**12.80**	**117**	*e*Pn		**Pn**	**15 17 15.1**	**+1.1**
MSVF	**Nonsavu**	**12.80**	**117**	Pn		P	15 17 20.0	-4.6
	677nm,1.4s,baz=8.2							
FUNA	**Funafuti**	**13.42**	**75**	*e*Pn		Pn	15 17 19.0	-3.4
	201nm,0.9s							
TARA	**Tarawa**	**15.10**	**27**	*e*Pn		**Pn**	**15 17 45.2**	**-0.1**
	1µm,0.9s							
PMG	**Port Moresby**	**18.79**	**277**	P		**Pn**	**15 18 32.8**	**+1.1**
	282nm,1.3s,8µm							
PMG	**Port Moresby**	**18.79**	**277**	P		**Pn**	**15 18 31.4**	**-0.3**
	16nm,1.0s							
PMG				S		**Sn**	**15 22 03.3**	**0.0**
PMG	**Port Moresby**	**18.79**	**277**	P		**Pn**	**15 18 31.4**	**-0.3**
	1.4nm,0.3s,baz=89,slow=7.0,SNR=23							
PMG				S		**S**	**15 22 03.3**	**0.0**
	0.2nm,0.3s,baz=45,slow=1.4,SNR=1.7							
EIDS	**Eidsvold**	**19.28**	**225**	*e*Pn		**Pn**	**15 18 37.3**	**-0.2**
	396nm,1.4s							
PATS	**Pohnpei**	**20.45**	**337**	⇑P		**P**	**15 18 50.1**	**+1.0**
	baz=21,SNR=8.8							
CTA	**Charters Tower**	**20.57**	**245**	P		**P**	**15 18 51.1**	**+0.7**
CTA				S		**S**	**15 22 39.3**	**+0.2**
CTA	**Charters Tower**	**20.57**	**245**	P		**P**	**15 18 51.1**	**+0.7**
	67nm,0.9s,baz=73,slow=12,SNR=36							
CTA				S		**S**	**15 22 39.3**	**+0.2**
	4.4nm,0.8s,baz=151,slow=19,SNR=2.9

CNB Canberra Magne 27.53 211 P **P** **15 19 58.7 +0.6**
baz=28,SNR=12
CAN Canberra 27.72 211 *e*P **P** **15 19 58.8 -0.9**
CAN pmax pmax
comp=Z,213nm,2.0s
CAN MLR MLR
comp=Z,6μm,19.0s
CAN Canberra 27.72 211 *e*P **P** **15 19 58.8 -0.9**
comp=Z,213nm,2.0s
CAN LR LR
comp=Z,6μm,19.0s
URZ Urewera 27.74 161 *e*P **P** **15 19 59.1 -0.6**
comp=Z,22nm,0.9s
URZ Urewera 27.74 161 P **P** **15 20 02.8 +3.0**
comp=Z,8.7nm,0.8s,baz=7.4,slow=14,SNR=6.7
BKZ Black Stump Fm 28.39 163 *e*P **P** **15 20 04.7 -1.0**
comp=Z,56nm,1.3s
MILA Mila 29.02 209 P **P** **15 20 12.7 +1.4**
baz=29,SNR=5.4
BFZ Birch Farm 29.73 164 *e*P **P** **15 20 16.1 -1.4**
comp=Z,88nm,1.4s
STKA Stephens Creek 29.83 225 P **P** **15 20 18.8 +0.3**
comp=Z,92nm,0.9s
STKA PcP **PcP** **15 23 22.8 +1.3**
STKA S **S** **15 25 14.3 +0.8**
STKA Stephens Creek 29.83 225 P **P** **15 20 18.9 +0.3**
baz=30,SNR=36
STKA Stephens Creek 29.83 225 P **P** **15 20 18.8 +0.3**
comp=Z,28nm,0.8s,baz=24,slow=8.4,SNR=34
STKA PcP **PcP** **15 23 22.8 +1.3**
comp=Z,13nm,0.9s,baz=73,slow=2.2,SNR=2.8
STKA S **S** **15 25 14.3 +0.8**
comp=Z,2.5nm,0.9s,baz=183,slow=18,SNR=1.2
STKA LR LR 15 32 22.1
comp=Z,22μm,18.2s,baz=57,slow=37
SNZO South Karori 29.95 167 *e*P **P** **15 20 18.7 -0.7**
comp=Z,148nm,1.7s
SNZO LR LR
comp=Z,11μm,19.0s
KHZ Kahutara 30.78 169 *e*P **P** **15 20 24.8 -1.9**
comp=Z,58nm,1.1s
TOO Toolangi 31.25 213 P **P** **15 20 32.0 +0.9**
baz=31,SNR=21
SRPI Serui, Papua 31.30 287 P P 15 20 47.0 +15
WAKE Wake Island 31.31 1 PFAKE 15 20 40.0 +8.4
WAKE LR LR
comp=Z,8μm,20.0s
WRAB Tennant Creek 31.39 252 *e*P **P** **15 20 30.7 -1.8**
WRAB pmax pmax
comp=Z,37nm,1.0s
WRAB MLR MLR
comp=Z,12μm,19.0s
WRAB Tennant Creek 31.39 252 *e*P **P** **15 20 30.7 -1.8**
comp=Z,38nm,1.0s
WRAB LR LR
comp=Z,12μm,19.0s
WRAB Tennant Creek 31.39 252 P **P** **15 20 31.6 -0.9**
comp=Z,178nm,0.9s,SNR=15
WRA Warramunga Arr 31.41 252 P **P** **15 20 31.0 -1.6**
WRA PcP **PcP** **15 23 27.1 +1.3**
WRA S **S** **15 25 36.2 -2.3**
WRA ScP **ScP** **15 27 09.8 +2.9**
WRA PKiKP **PKiKP** **15 30 54.5 -1.0**
WRA Warramunga Arr 31.41 252 P **P** **15 20 31.0 -1.6**
comp=Z,26nm,0.9s,baz=83,slow=9.1,SNR=72
WRA PcP **PcP** **15 23 27.1 +1.3**
comp=Z,17nm,1.0s,baz=77,slow=2.6,SNR=7.7
WRA S **S** **15 25 36.2 -2.3**
comp=Z,2.3nm,1.0s,baz=112,slow=25,SNR=5.3
WRA ScP **ScP** **15 27 09.8 +2.9**
comp=Z,3.7nm,1.1s,baz=79,slow=3.1,SNR=4.8
WRA PKiKP **PKiKP** **15 30 54.5 -1.0**
comp=Z,0.7nm,0.7s,baz=66,slow=0.9,SNR=4.5
WRA LR LR 15 32 31.4
comp=Z,7μm,19.0s,baz=80,slow=35
BAKI Biak 31.67 288 P P 15 20 48.3 +13
RPZ Rata Peaks 31.68 173 *e*P **P** **15 20 33.3 -1.4**
comp=Z,89nm,0.8s
RPZ Rata Peaks 31.68 173 P **P** **15 20 35.0 +0.4**
comp=Z,96nm,0.8s,baz=240,slow=1.6,SNR=37
AS31 Alice Springs 32.58 245 *e*P **P** **15 20 40.2 -2.7**
ASAR Alice Springs 32.58 245 P **P** **15 20 41.2 -1.7**
ASAR PcP **PcP** **15 23 29.6 +0.6**
ASAR ScP **ScP** **15 27 16.1 +5.3**
ASAR Alice Springs 32.58 245 P **P** **15 20 41.2 -1.7**
comp=Z,23nm,0.8s,baz=73,slow=9.4,SNR=124
ASAR PcP **PcP** **15 23 29.6 +0.6**
comp=Z,24nm,0.9s,baz=76,slow=3.0,SNR=16
ASAR ScP **ScP** **15 27 16.1 +5.3**
comp=Z,4.0nm,1.0s,baz=92,slow=2.6,SNR=5.8
ASAR LR LR 15 33 42.6
comp=Z,9μm,18.8s,baz=75,slow=36
ARPS Mount Arapiles 32.74 218 P **P** **15 20 44.7 +0.7**
baz=33,SNR=7.3
KDU Kakadu 32.80 266 P **P** **15 20 44.1 -0.8**
baz=33,SNR=50
ODZ Otahua Downs 32.95 174 *e*P **P** **15 20 44.5 -1.3**
comp=Z,51nm,1.3s
DCZ Deep Cove 33.16 179 *e*P **P** **15 20 46.3 -1.3**
comp=Z,155nm,1.1s
GUMO Guam 33.16 320 PFAKE 15 21 00.0 +12
GUMO LR LR
comp=Z,9μm,21.0s
RAR Rarotonga 33.84 110 LR LR 15 32 07.4
comp=Z,4μm,19.2s,baz=273,slow=32
MTN Manton Dam 34.10 265 ⇑P **P** **15 20 55.2 -1.0**
baz=34,SNR=6.8
BBOO Buckleboo 34.28 228 *e*P **P** **15 20 56.3 -1.3**
comp=Z,653nm,0.9s
BBOO Buckleboo 34.28 228 P **P** **15 20 57.3 -0.3**
baz=34,SNR=6.0
MOO Moorlands 34.30 205 ⇓P **P** **15 20 59.0 +1.4**
baz=34,SNR=3.0
TAU Tasmania Unive 34.63 205 PFAKE 15 21 10.0 +10
TAU LR LR
comp=Z,6μm,20.0s
SWI Sorong 36.33 285 P **P** **15 21 16.9 +1.5**
SWI Sorong 36.33 285 ⇑P **P** **15 21 16.2 +0.8**
baz=36,SNR=4.8
KNRA Kununurra 36.35 260 P **P** **15 21 15.1 -0.5**
baz=36,SNR=40
PALU Palau 36.95 300 P **P** **15 21 21.6 +0.9**
baz=37,SNR=11
XMAS Kiritimati 38.91 71 PFAKE 15 21 50.0 +13
XMAS LR LR
comp=Z,11μm,19.0s
FITZ Fitzroy Crossi 39.41 256 *e*P **P** **15 21 39.8 -1.5**
comp=Z,62nm,1.2s
FITZ Fitzroy Crossi 39.41 256 P **P** **15 21 40.8 -0.5**
baz=39,SNR=26
FITZ Fitzroy Crossi 39.41 256 P **P** **15 21 40.6 -0.8**
comp=Z,24nm,1.0s,baz=80,slow=9.6,SNR=24
FITZ LR LR 15 38 13.1
comp=Z,7μm,18.3s,baz=77,slow=37
NLAI Namlea 39.59 280 P **P** **15 21 44.1 +1.2**
FORT Forrest 39.65 236 *e*P **P** **15 21 41.1 -2.2**
comp=Z,70nm,0.8s
FORT Forrest 39.65 236 P **P** **15 21 43.0 -0.3**
baz=40,SNR=7.6
TNTI Ternate 40.54 286 P **P** **15 21 52.5 +1.7**
SOEI Soe 41.09 269 P **P** **15 21 55.8 +0.3**
PPT Papeete 43.11 103 LR LR 15 37 42.7
comp=Z,11μm,18.1s,baz=271,slow=33
PPT2 Papeete2 43.11 103 *e*S **S** **15 28 40.2 +3.7**
comp=Z,5μm,26.2s
PPT2 *e*LQ LQ 15 32 21.9
comp=Z,23μm,26.5s
PPT2 *e*LR LR 15 34 12.7
comp=Z,20μm,26.8s,baz=274
MMRI Maumere 43.23 270 P **P** **15 22 11.8 -1.0**
MIDW Midway 43.27 22 PFAKE 15 22 20.0 +7.2
MIDW LR LR
comp=Z,7μm,19.0s
SGSI Sangihe 43.29 289 P **P** **15 22 14.3 +1.0**
BBSI Bau Bau 43.46 275 P **P** **15 22 17.5 +2.8**
comp=Z,95nm,1.1s,comp=Z,3μm
TBI Tubuai 43.60 111 *e*S S 15 28 49.8 +6.4
comp=Z,4μm,28.0s
TBI *e*LQ LQ 15 32 31.0
comp=Z,11μm,34.5s
TBI *e*LR LR 15 34 25.9
comp=Z,7μm,27.5s
KMSI Cibinong 43.67 284 P **P** **15 22 17.4 +1.0**
LUWI Luwuk 44.35 281 P **P** **15 22 21.8 -0.1**
LUWI Luwuk 44.35 281 ⇓P **P** **15 22 21.7 -0.1**
baz=44,SNR=3.5
DAV Davao City (W) 44.59 293 PFAKE 15 22 30.0 +6.2
DAV LR LR
comp=Z,3μm,22.0s
KKSI Kolaka, Sulawe 44.64 276 P **P** **15 22 26.6 +2.4**
comp=Z,109nm,1.0s
PMOR Pomariorio Ree 44.76 99 *e*P **P** **15 22 26.5 +1.4**
comp=Z,114nm,1.1s
VAH Vaihoa 45.01 99 *e*P **P** **15 22 28.2 +1.1**
comp=Z,107nm,1.2s
MBWA Marble Bar 45.14 252 *e*P **P** **15 22 26.9 -1.1**
comp=Z,72nm,1.2s
MBWA LR LR
comp=Z,4μm,19.0s
CBIJ Chichi jima 45.45 330 P **P** **15 22 29.3 -1.0**
JCJ Chichijima 45.45 330 P **P** **15 22 29.3 -1.0**
comp=Z,81nm,0.7s,baz=286,slow=15,SNR=4.9
APSI Ampana 45.46 281 P **P** **15 22 31.0 +0.3**
MRSI Marisa 45.58 283 P **P** **15 22 30.7 -1.0**
BKSI Bulukumba 45.88 274 P **P** **15 22 33.8 -0.2**
BNSI Bone 46.09 276 P **P** **15 22 36.2 +0.5**
comp=Z,136nm,1.2s,comp=Z,2μm
KAPI Kappang 46.30 275 P **P** **15 22 37.0 -0.4**
comp=Z,87nm,1.1s,comp=Z,2μm
KAPI Kappang 46.30 275 *e*P **P** **15 22 35.1 -2.2**
comp=Z,99nm,1.2s
KAPI LR LR
comp=Z,2μm,20.0s
KAPI Kappang 46.30 275 P **P** **15 22 36.8 -0.6**
comp=Z,359nm,0.9s,SNR=6.2
KAPI Kappang 46.30 275 P **P** **15 22 36.7 -0.7**
comp=Z,37nm,0.9s,baz=122,slow=5.2,SNR=12
SPSI Sidrap Palu 46.51 276 P **P** **15 22 38.4 -0.6**
comp=Z,41nm,1.2s,comp=Z,898nm
TTSI Tana Toraja 46.68 277 P **P** **15 22 42.0 +1.7**
comp=Z,46nm,1.1s,comp=Z,2μm
MEEK Meekatharra 46.74 245 ⇓P **P** **15 22 40.1 -0.6**
baz=47,SNR=34
MJSI Majene 47.37 276 P P 15 23 01.9 +16
MMSI Mamuju 47.64 278 P **P** **15 22 47.7 -0.2**
KIP Kipapa 48.59 47 PFAKE 15 23 10.0 +15
KIP LR LR
comp=Z,7μm,21.0s
NWAO Narrogin (SRO) 49.09 237 *e*P **P** **15 22 57.0 -1.8**
comp=Z,80nm,1.4s
NWAO Narrogin (SRO) 49.09 237 P **P** **15 22 57.7 -1.0**
comp=Z,24nm,0.9s,baz=68,slow=8.5,SNR=7.6
NWAO LR LR 15 44 21.6
comp=Z,21μm,18.3s,baz=246,slow=37
MORW Morawa 49.36 242 P **P** **15 23 00.7 -0.1**
baz=49,SNR=10
SRBI Singaraja 50.18 270 P P 15 23 19.7 +12
MYLDM Lahad Datu 50.36 287 P **P** **15 23 11.7 +3.1**
MYLDM Lahad Datu 50.36 287 *e*P **P** **15 23 07.0 -1.6**
comp=Z,226nm,1.2s
KKM Kota Kinabalu 52.79 287 P **P** **15 23 27.7 +0.8**
comp=Z,246nm,1.2s,comp=Z,2μm
KKM Kota Kinabalu 52.79 287 *e*P **P** **15 23 26.4 -0.5**
comp=Z,315nm,1.2s
KKM LR LR
comp=Z,2μm,21.0s
KKM Kota Kinabalu 52.79 287 ⇓P **P** **15 23 27.0 +0.1**
baz=53,SNR=41
KRKI Karangkates 52.87 269 P P 15 23 43.9 +17
UGM Wanagama 54.79 269 P **P** **15 23 41.7 +0.2**
baz=55,SNR=3.7
MJAR Matsushiro Arr 55.16 333 P **P** **15 23 42.2 -1.5**
MJAR Matsushiro Arr 55.16 333 P **P** **15 23 42.2 -1.5**
comp=Z,66nm,1.1s,baz=162,slow=7.4,SNR=86
MAJO Matsushiro 55.16 333 *e*P **P** **15 23 42.3 -1.4**
MAJO pmax pmax
comp=Z,165nm,1.3s
MAJO MLR MLR
comp=Z,3μm,21.0s
MAJO Matsushiro 55.16 333 *e*P **P** **15 23 42.3 -1.4**
comp=Z,165nm,1.3s
MAJO LR LR
comp=Z,3μm,21.0s
SBUM Sibu 55.45 282 P **P** **15 23 46.9 +0.7**
comp=Z,32nm,1.5s,comp=Z,1μm
SBUM Sibu 55.45 282 *e*P **P** **15 23 44.6 -1.6**
comp=Z,45nm,1.2s
BJII Banjamegara 55.68 269 P P 15 24 01.4 +13
JNU Nakatsue 56.22 324 *e*P **P** **15 23 49.6 -1.8**
comp=Z,77nm,1.3s
JNU Nakatsue 56.22 324 P **P** **15 23 51.9 +0.5**
comp=Z,95nm,1.1s,baz=123,slow=4.3,SNR=20
YULB Yu-li 56.32 309 *e*P **P** **15 23 51.8 -0.5**
comp=Z,54nm,1.0s
TPUB Ta-pu 56.78 308 *e*P **P** **15 23 53.2 -2.3**
comp=Z,109nm,1.0s
RKT Rikitea 56.88 110 *e*S **S** **15 31 53.0 +4.6**
comp=Z,3μm,33.8s
RKT *e*SS **SS** **15 35 40.9 +3.9**
comp=Z,2μm,30.2s
RKT *e*LQ LQ 15 38 13.2
comp=Z,5μm,28.8s
RKT *e*LR LR 15 40 29.6
comp=Z,19μm,29.5s
YHNB Yeheng 56.98 310 *e*P P 15 23 53.1 -4.0
comp=Z,146nm,1.1s
YHNB LR LR
comp=Z,5μm,20.0s
KSM Kuching 57.02 280 P **P** **15 23 57.3 -0.1**
comp=Z,57nm,1.1s,comp=Z,1μm
KSM Kuching 57.02 280 *e*P **P** **15 23 56.6 -0.8**
comp=Z,66nm,1.1s
KSM LR LR
comp=Z,982nm,20.0s
KSM Kuching 57.02 280 P **P** **15 23 57.5 +0.1**
baz=57,SNR=26
TATO Taipei 57.07 311 PFAKE 15 24 10.0 +12
TATO LR LR
comp=Z,8μm,20.0s
DRV Dumont d'Urvil 57.13 192 P P 15 23 51.0 -6.3
DRV SS SKiKP 15 35 34.0 +45
DRV L L 15 38 00.0
CISI Cisompet, Garu 57.50 269 *e*P **P** **15 23 59.5 -1.4**
comp=Z,124nm,1.2s
LEM Lembang 57.81 270 P **P** **15 24 03.7 +0.4**
LEM Lembang 57.81 270 P **P** **15 24 03.9 +0.6**
baz=58,SNR=6.0
YUK Yuzh-Kuril'sk 58.94 343*c* *i*P P 15 24 02.3 -7.9
YUK *i* SSS SSS 15 38 30.7
KUR Kuril'sk 59.51 345 *e*P P 15 24 10.0 -4.2
KUR *e*S **ScS** **15 34 06.0 +3.9**
ASAJ Asahikawa 60.00 341 *e*P **P** **15 24 16.7 -0.9**
comp=Z,192nm,2.6s
ASAJ Asahikawa 60.00 341 P **P** **15 24 18.1 +0.5**
comp=Z,23nm,0.8s,baz=213,slow=9.8,SNR=28
SSE Sheshan 60.92 316 P **P** **15 24 24.3 +0.2**
SSE pP **pP** **15 24 35.8 +2.1**
SSE S **S** **15 32 41.8 +1.5**
SSE AMB AMB
comp=Z,58nm,1.0s
SSE AMB AMB
comp=Z,980nm,7.5s
SSE LR LR
comp=Z,2μm,19.9s
SSE LR LR
comp=Z,2μm,19.9s
SSE LR LR
comp=Z,4μm,18.3s
KSRS Korea Array 61.02 326 P **P** **15 24 24.4 -0.3**
comp=Z,27nm,1.0s,baz=146,slow=6.4,SNR=83
KSRS PcP **PcP** **15 25 09.2 +1.5**
comp=Z,24nm,1.1s,baz=139,slow=4.7,SNR=7.3
KSRS LR LR 15 45 54.1
comp=Z,2μm,21.1s,baz=131,slow=31
KSAR Wonju Array Be 61.04 326 P **P** **15 24 24.4 -0.4**
KSAR PcP **PcP** **15 25 09.2 +1.4**
MDSI Maura Dua 61.61 271 P **P** **15 24 29.5 +0.3**
INCN Inchon 61.76 325 P **P** **15 24 31.0 +1.2**
SNR=9.2
INCN Inchon 61.76 325 *e*P **P** **15 24 28.8 -1.0**
comp=Z,254nm,1.5s
INCN LR LR
comp=Z,2μm,20.0s
GZH Guangzhou 62.41 304 P **P** **15 24 36.1 +1.7**
GZH S **S** **15 33 05.3 +5.8**
GZH LR LR
comp=Z,2μm,16.6s
GZH LR LR
comp=Z,3μm,17.6s
YSS Yuzh-Sakhalins 62.50 342 ⇑*i*P **P** **15 24 34.0 -0.4**
YSS *e**PP **pP** **15 24 43.6 -0.5**
YSS *e* 15 26 56.0
YSS *e*S **S** **15 32 59.0 -0.7**
YSS pmax pmax
comp=N,20nm,1.1s
YSS pmax pmax
comp=E,30nm,1.1s
YSS pmax pmax
comp=Z,70nm,1.1s
YSS pmax pmax
comp=Z,2μm,8.0s
NJ2 Nanjing 63.08 316 *e*P **P** **15 24 39.3 +0.6**
NJ2 pP **pP** **15 24 47.6 -0.7**
NJ2 sP **sP** **15 24 50.1 -1.9**
NJ2 PP **PP** **15 26 56.3 -1.5**
NJ2 S **S** **15 33 06.0 -1.6**
NJ2 AMB AMB
comp=Z,70nm,1.1s
NJ2 AMB AMB
comp=Z,1μm,10.1s
NJ2 LR LR
comp=Z,3μm,18.4s
NJ2 LR LR
comp=Z,3μm,18.2s
NJ2 LR LR
comp=Z,4μm,16.3s
SKR Severo-Kuril's 63.24 353 P P 15 24 32.0 -7.3
SKR *e* 15 24 48.0
SKR *e*S **S** **15 33 10.0 +1.2**
SKR *e* 15 33 30.0
SKR MLR MLR
comp=N,4μm,18.0s
SKR MLR MLR
comp=Z,6μm,18.0s
SKR MLR MLR
comp=E,3μm,14.0s
MYKOM Kota Tinggi 63.33 278 P **P** **15 24 43.3 +2.6**
comp=E,20nm,0.9s,comp=E,1μm
QIZ Qiongzhong 63.52 299 P **P** **15 24 41.5 -0.3**
QIZ S **S** **15 33 11.4 -2.2**
QIZ AMB AMB
comp=E,1μm,9.5s
QIZ LR LR
comp=E,990nm,21.9s
QIZ LR LR
comp=E,410nm,19.1s
QIZ LR LR
comp=E,2μm,31.7s
QIZ Qiongzhong 63.52 299 PFAKE 15 24 50.0 +8.2
QIZ LR LR
comp=Z,1μm,20.0s
USRK Ussuriysk Arra 64.14 333 P **P** **15 24 45.6 +0.2**
comp=Z,151nm,1.0s,baz=135,slow=5.4,SNR=147
PET Petropavlovsk 65.29 355*c* *i*P **P** **15 24 51.8 -0.9**
PET *e*S **S** **15 33 31.0 -3.2**
PET pmax pmax
comp=Z,1μm,12.9s
PET pmax pmax
comp=Z,1μm,12.7s
VNDA Vanda 65.33 181 P **P** **15 24 52.5 -0.2**
VNDA P'P'ab P'P'ab 15 53 36.5 -8.3
VNDA Vanda 65.33 181 P **P** **15 24 52.5 -0.2**
comp=Z,26nm,1.1s,baz=358,slow=7.1,SNR=58
VNDA LR LR 15 51 16.0
comp=Z,4μm,18.2s,baz=8.5,slow=34
VNDA PKP2ab 15 53 36.5
comp=Z,1.2nm,1.1s,baz=198,slow=0.7,SNR=2.7
CASY Casey 65.41 202 *e*P **P** **15 24 52.2 -1.2**
comp=Z,55nm,1.2s
CASY LR LR
comp=Z,3μm,20.0s
WHN Wuhan 65.41 312 ⇑P **P** **15 24 54.8 +0.8**
WHN S **S** **15 33 37.3 +0.7**
WHN LR LR
comp=Z,7μm,16.0s
WHN LR LR
comp=Z,3μm,13.2s
WHN LR LR
comp=Z,8μm,17.9s
PEA0B Petropavlovsk- 65.46 354 *e*P **P** **15 24 52.7 -1.2**
PETK Petropavlovsk- 65.46 354 P **P** **15 24 54.1 +0.3**
PETK Petropavlovsk- 65.46 354 P **P** **15 24 54.1 +0.3**
PETK Petropavlovsk- 65.46 354 P **P** **15 24 54.1 +0.3**
comp=Z,20nm,1.1s,baz=144,slow=7.0,SNR=9.8
PETK LR LR 15 48 13.6
comp=Z,2μm,19.8s,baz=171,slow=31
MDJ Mudanjiang 65.53 332 P **P** **15 24 54.4 -0.1**
MDJ pP **pP** **15 25 03.8 -0.4**
MDJ sP **sP** **15 25 07.6 -0.2**
MDJ S **S** **15 33 41.5 +4.0**
MDJ AMB AMB
comp=Z,43nm,1.5s
MDJ AMB AMB
comp=Z,1μm,5.7s
MDJ LR LR
comp=Z,2μm,17.2s
MDJ LR LR
comp=Z,2μm,16.9s
MDJ LR LR
comp=Z,2μm,15.9s
MDJ Mudanjiang 65.53 332 *e*P **P** **15 24 54.3 -0.1**
comp=Z,189nm,1.2s
MDJ LR LR
comp=Z,3μm,19.0s
ADK Adak 65.56 12 PFAKE 15 25 10.0 +16
ADK LR LR
comp=Z,6μm,20.0s
DL2 Dalian 65.61 323 P **P** **15 24 54.3 -0.8**
DL2 AMB AMB
comp=Z,210nm,1.2s
DL2 AMB AMB
comp=Z,900nm,7.8s
DL2 LR LR
comp=Z,2μm,15.6s
DL2 LR LR
comp=Z,1μm,17.6s
DL2 LR LR
comp=Z,2μm,16.9s
SBA Scott Base 65.63 180 *e*P **P** **15 24 54.4 -0.3**
SBA pmax pmax
comp=Z,77nm,1.0s
SBA MLR MLR
comp=Z,4μm,19.0s
SBA Scott Base 65.63 180 *e*P **P** **15 24 54.4 -0.3**
comp=Z,77nm,1.0s
SBA LR LR
comp=Z,4μm,19.0s
UBPT Khong Chiam 65.92 293 P P 15 25 03.3 +5.7
UBPT Khong Chiam 65.92 293 P P 15 25 03.3 +5.7
comp=Z,81nm,1.2s,comp=Z,2μm
HABR Khabarovsk 66.39 338*d* *i*P **P** **15 24 58.9 -1.0**
HABR *e**PP **pP** **15 25 09.0 -0.6**
HABR *e**SP **sP** **15 25 13.2 0.0**
HABR *e* 15 25 28.5
HABR *e* 15 27 24.8
HABR *e*PPP PPP 15 28 59.8
HABR *e*S **S** **15 33 46.7 -1.0**
HABR *e**SS **sS** **15 34 03.9 +0.2**
HABR *e* 15 34 52.6
HABR *e*SS **SS** **15 38 04.2 -0.9**
HABR pmax pmax
comp=E,32nm,1.1s
HABR pmax pmax
comp=Z,122nm,1.4s
HABR pmax pmax
comp=N,51nm,1.9s
HABR MLR MLR
comp=Z,2μm,19.0s
SNY Shenyang 66.49 327 ⇑P **P** **15 25 00.3 -0.3**
SNY S **S** **15 33 51.3 +2.1**
SNY AMB AMB
comp=Z,160nm,4.9s
SNY LR LR
comp=Z,3μm,19.1s
SNY LR LR
comp=Z,2μm,21.6s
SNY LR LR
comp=Z,3μm,18.0s
TIA Tai'an 66.70 318 ⇑P **P** **15 25 00.9 -1.3**
TIA S **S** **15 33 53.1 +1.0**
TIA AMB AMB
comp=Z,50nm,1.3s
TIA AMB AMB
comp=Z,2μm,7.1s
TIA LR LR
comp=Z,5μm,17.8s
TIA LR LR
comp=Z,4μm,19.0s
TIA LR LR

comp=Z,6µm,17.3s
IPM Ipoh 66.75 280 P **P** **15 25 03.4 +0.4**
comp=Z,72nm,1.3s,comp=Z,2µm
IPM Ipoh 66.75 280 *e*P **P** **15 25 00.4 -2.6**
comp=Z,174nm,1.4s
CN2 Changchun 66.91 329 *e*P **P** **15 25 03.5 +0.2**
CN2 *e*pP **pP** **15 25 13.8 +0.8**
CN2 *e*sP **sP** **15 25 17.6 +0.9**
CN2 *e*S **S** **15 33 54.3 0.0**
CN2 AMB AMB
comp=Z,30nm,1.0s
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=Z,2µm,15.0s
CN2 LR LR
comp=Z,3µm,15.0s
CN2 LR LR
comp=Z,4µm,17.0s
KULM Kulim 67.32 281 P **P** **15 25 08.7 +2.1**
comp=Z,49nm,1.4s,comp=Z,1µm
KULM Kulim 67.32 281 *e*P **P** **15 25 04.0 -2.6**
comp=Z,52nm,1.1s
KULM LR LR
comp=Z,2µm,20.0s
COCO West Island 67.49 262 PFAKE 15 25 20.0 +12
COCO LR LR
comp=Z,2µm,19.0s
SKNT Sakolnakorn 67.86 294 P **P** **15 25 11.4 +1.5**
comp=Z,68nm,1.0s,comp=Z,2µm
KLR Kul'dur 68.26 337 *de*P P 15 25 07.2 -4.5
KLR *e*S **S** **15 34 08.5 -1.7**
KLR pmax pmax
comp=E,100nm,1.6s
KLR pmax pmax
comp=Z,340nm,1.6s
KLR pmax pmax
comp=Z,3µm,9.0s
KLR smax smax
comp=N,1µm,9.0s
KLR smax smax
comp=E,1µm,9.0s
KLR MLR MLR
comp=N,2µm,17.5s
PSI Prapat 68.35 278 P **P** **15 25 13.2 0.0**
comp=N,45nm,1.0s,comp=N,1µm
PSI Prapat 68.35 278 P **P** **15 25 12.1 -1.1**
baz=68,SNR=7.7
PSI Prapat 68.35 278 LR LR 15 59 15.7
comp=N,2µm,18.3s,baz=108,slow=40
ENH Enshi 68.89 309 *e*P **P** **15 25 14.7 -1.5**
comp=N,69nm,1.0s
NONG Nongkai 69.00 295 P **P** **15 25 18.4 +1.4**
comp=N,46nm,0.9s
CHAI Chaiyaphum 69.28 292 P **P** **15 25 19.7 +0.9**
comp=N,6.2nm,1.0s
GSI Gunungsitoli 69.30 276 *e*P **P** **15 25 18.0 -1.1**
comp=N,122nm,1.3s
PATY Pattaya 69.33 289 P **P** **15 25 21.2 +2.1**
comp=N,13nm,0.9s
GYA Guiyang 69.34 304 P **P** **15 25 20.5 +1.3**
GYA pP **pP** **15 25 31.8 +2.9**
GYA sP **sP** **15 25 35.4 +2.9**
GYA PcP **PcP** **15 25 45.5 +2.9**
GYA S **S** **15 34 27.3 +3.0**
GYA SKS **SKiKP** **15 35 11.8 +5.0**
GYA SS **SS** **15 38 51.6 -0.4**
GYA AMB AMB
comp=N,80nm,1.0s
GYA AMB AMB
comp=N,690nm,6.8s
GYA LR LR
comp=N,1µm,18.5s
GYA LR LR
comp=N,1µm,19.7s
GYA LR LR
comp=N,2µm,18.9s
SURA Surathani 69.36 285 P **P** **15 25 22.3 +3.0**
comp=N,166nm,1.0s,comp=N,11µm
BJT Baijiatuau 69.59 321 PFAKE 15 25 30.0 +10
BJT LR LR
comp=Z,3µm,22.0s
BJI Beijing 69.59 321 P **P** **15 25 21.3 +1.1**
BJI S **S** **15 34 28.8 +2.4**
BJI SS **SS** **15 38 55.4 +0.4**
BJI AMB AMB
comp=Z,100nm,1.1s
BJI AMB AMB
comp=Z,2µm,5.3s
BJI LR LR
comp=Z,3µm,19.7s
BJI LR LR
comp=Z,2µm,21.0s
BJI LR LR
comp=Z,3µm,23.6s
SURT Suratani 70.09 284 P **P** **15 25 26.5 +2.7**
comp=Z,17nm,1.2s,comp=Z,610nm
PKDT Phuket 70.24 283 P P 15 25 30.9 +6.2
comp=Z,28nm,1.4s,comp=Z,2µm
PBKT Sadao Pong 70.43 293 P **P** **15 25 27.5 +1.7**
comp=Z,51nm,0.8s,comp=Z,1µm
PBKT Sadao Pong 70.43 293 P **P** **15 25 27.5 +1.7**
comp=Z,51nm,0.8s,comp=Z,1µm
LOEI Loei 70.48 294 P **P** **15 25 25.1 -1.1**
comp=Z,29nm,1.1s
TIY Taiyuan 70.64 317 *e*P **P** **15 25 29.1 +2.3**
TIY S **S** **15 34 38.6 -0.4**
TIY AMB AMB
comp=Z,180nm,1.2s
TIY AMB AMB
comp=Z,1µm,3.9s
TIY LR LR
comp=Z,2µm,13.6s
TIY LR LR
comp=Z,640nm,12.4s
TIY LR LR
comp=Z,3µm,16.8s
XAN Xi'an 71.15 313 P **P** **15 25 30.9 +0.9**
XAN pP **pP** **15 25 41.3 +1.6**
XAN sP **sP** **15 25 46.3 +3.0**
XAN S **S** **15 34 46.6 +1.6**
XAN SKS **SKSac** **15 35 27.4 -3.4**
XAN AMB AMB
comp=Z,10.0nm,1.3s
XAN AMB AMB
comp=Z,380nm,8.4s
XAN LR LR
comp=Z,2µm,18.4s
XAN LR LR
comp=Z,1µm,18.4s
SRDT SRDT 71.39 290 P **P** **15 25 33.8 +2.1**
comp=Z,64nm,1.4s,comp=Z,3µm
SRDT SRDT 71.39 290 P **P** **15 25 33.8 +2.1**
comp=Z,64nm,1.4s,comp=Z,3µm
NANT Nan 71.43 295 P **P** **15 25 33.7 +1.8**
comp=Z,77nm,1.1s,comp=Z,1µm
UTHA Uthaitani 71.48 291 P **P** **15 25 34.1 +1.9**
comp=Z,7.2nm,1.0s,comp=Z,86nm
KMI Kunming 72.01 302 ⇑P **P** **15 25 38.0 +2.5**
KMI pP **pP** **15 25 48.0 +2.7**
KMI sP **sP** **15 25 51.3 +2.4**
KMI PcP **PcP** **15 25 54.3 +0.3**
KMI PP **PP** **15 28 20.3 +4.4**
KMI S **S** **15 34 56.3 +0.7**
KMI sS **sS** **15 35 11.6 -0.1**
KMI SKS **SKSac** **15 35 35.8 -2.2**
KMI SS **SS** **15 39 33.4 +0.2**
KMI AMB AMB
comp=Z,33nm,1.3s
KMI AMB AMB
comp=Z,1µm,6.5s
KMI LR LR
comp=Z,1µm,19.8s
KMI LR LR
comp=Z,1µm,18.4s
KMI LR LR
comp=Z,2µm,17.0s
MIR Mirnyy 72.14 204 *e*P P 15 25 39.0 +3.7
MIR *e*S **S** **15 35 00.0 +4.8**
MIR *e*PS **PnS** **15 35 22.0 -5.9**
MIR pmax pmax
comp=Z,125nm,1.5s
MIR pmax pmax
comp=Z,1µm,4.0s
CRAI Chiangrai 72.22 296 P **P** **15 25 38.0 +1.4**
comp=Z,178nm,1.6s

CM31 Chiang Mai Arr 72.88 294 *e*P **P** **15 25 40.4 -0.2**
comp=Z,31nm,0.9s
CMAR Chiang Mai Arr 72.88 294 P **P** **15 25 41.1 +0.5**
CMAR Chiang Mai Arr 72.88 294 P **P** **15 25 41.1 +0.5**
comp=Z,22nm,0.9s,baz=124,slow=5.5
HHC Hu-ho-hao-te 72.93 320 *e*P **P** **15 25 43.1 +2.5**
HHC pP **pP** **15 25 53.3 +2.9**
HHC PP PP 15 28 29.1 +5.7
HHC S **S** **15 35 07.5 +2.2**
HHC SKS **SKSac** **15 35 42.0 -2.1**
HHC AMB AMB
comp=Z,170nm,1.6s
HHC AMB AMB
comp=Z,3µm,7.9s
HHC LR LR
comp=Z,5µm,17.8s
HHC LR LR
comp=Z,4µm,17.8s
HHC LR LR
comp=Z,6µm,17.8s
CHTO Chiang Mai 73.00 294 *e*P P 15 25 37.5 -3.8
CHTO pmax pmax
comp=Z,116nm,1.1s
CHTO MLR MLR
comp=Z,2µm,19.0s
CHTO Chiang Mai 73.00 294 P **P** **15 25 43.4 +2.1**
SNR=12
CHTO Chiang Mai 73.00 294 P **P** **15 25 42.5 +1.2**
comp=Z,141nm,1.1s,comp=Z,5µm
CHTO Chiang Mai 73.00 294 *e*P P 15 25 37.5 -3.8
comp=Z,116nm,1.1s
CHTO LR LR
comp=Z,2µm,19.0s
CHTO Chiang Mai 73.00 294 P **P** **15 25 42.5 +1.2**
comp=Z,141nm,1.1s,comp=Z,5µm
CMAI Chiengmai2 73.28 295 P **P** **15 25 44.7 +1.5**
comp=Z,115nm,1.0s,comp=Z,4µm
HIA Hailar 73.55 330 *e*P **P** **15 25 42.3 -1.6**
comp=Z,254nm,1.2s
HIA LR LR
comp=Z,3µm,19.0s
CD2 Chengdu 73.57 307 P **P** **15 25 46.0 +1.5**
CD2 pP **pP** **15 25 56.8 +2.5**
CD2 sP **sP** **15 26 00.9 +3.0**
CD2 PP **PP** **15 28 32.3 +3.3**
CD2 S **S** **15 35 12.8 0.0**
CD2 SS **SS** **15 39 58.8 +2.3**
CD2 AMB AMB
comp=Z,80nm,1.1s
CD2 AMB AMB
comp=Z,2µm,7.8s
CD2 LR LR
comp=Z,2µm,19.0s
CD2 LR LR
comp=Z,2µm,18.0s
BTO Baotou 73.78 319 *e*P **P** **15 25 47.1 +1.5**
LZH Lanzhou 75.78 312 ⇑P **P** **15 25 59.3 +1.9**
LZH pP **PcP** **15 26 11.1 +1.2**
LZH S **S** **15 35 38.1 +0.5**
LZH sS **sS** **15 35 52.3 -1.5**
LZH SS **SS** **15 40 28.5 -1.7**
LZH AMB AMB
comp=Z,350nm,1.0s
LZH AMB AMB
comp=Z,1µm,4.1s
LZH LR LR
comp=Z,3µm,15.4s
LZH LR LR
comp=Z,2µm,15.6s
LZH LR LR
comp=Z,4µm,17.8s
PBA Port Blair 76.56 285 *e*P P 15 26 00.2 -1.8
CLNS Chul'man 76.78 338 *e*P **P** **15 26 02.3 -0.1**
CLNS *e**PP **pP** **15 26 11.1 -1.1**
CLNS *e* 15 26 13.9
CLNS *e* 15 28 52.1
CLNS *e*PPP PPP 15 30 39.1
CLNS *e*S **S** **15 35 47.5 +0.1**
CLNS *e* 15 36 41.5
CLNS *e*SSS SSS 15 44 06.5
CLNS pmax pmax
comp=E,13nm,1.2s
CLNS pmax pmax
comp=Z,81nm,1.2s
CLNS pmax pmax
comp=N,38nm,1.2s
CLNS pmax pmax
comp=E,18nm,1.1s
CLNS pmax pmax
comp=Z,8.0nm,1.0s
CLNS pmax pmax
comp=N,6.0nm,0.6s
CLNS smax smax
comp=N,2µm,10.9s
CLNS smax smax
comp=E,3µm,12.1s
DGPR DIGLIPUR 76.80 287 *e*P **P** **15 26 02.2 -1.1**
KDAK Kodiak Island 77.55 21 PFAKE 15 26 20.0 +13
KDAK LR LR
comp=Z,8µm,22.0s
QSPA South Pole Qui 77.79 180 *e*P **P** **15 26 07.5 -0.6**
comp=Z,190nm,1.1s
QSPA LR LR
comp=Z,2µm,19.0s
CIT Chita 78.33 330 *e*P **P** **15 26 11.5 +0.3**
CIT *e* 15 26 19.8
CIT *e* 15 36 07.8
CIT pmax pmax
comp=Z,850nm,1.4s
YAK Yakutsk 79.31 343 *e*P **P** **15 26 16.6 +0.4**
YAK *e* 15 26 23.1
YAK *e**PP **pP** **15 26 27.6 +1.5**
YAK *e* 15 29 19.9
YAK *e*S **S** **15 36 15.9 +1.6**
YAK *e*SS **SKKSac** **15 36 32.1 +0.8**
YAK pmax pmax
comp=Z,51nm,1.0s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK pmax pmax
comp=N,19nm,1.1s
YAK pmax pmax
comp=Z,260nm,3.8s
YAK pmax pmax
comp=N,83nm,3.0s
YAK pmax pmax
comp=E,142nm,3.0s
YAK smax smax
comp=N,264nm,4.5s
YAK smax smax
comp=E,189nm,3.0s
YAK MLR MLR
comp=Z,4µm,21.0s
YAK MLR MLR
comp=N,3µm,21.0s
YAK MLR MLR
comp=E,2µm,23.0s
IMP Imphal 79.35 298 *ex* **P** **15 26 18.0 +0.6**
ULN Ulaanbaatar 79.44 324 P **P** **15 26 18.3 +0.9**
SNR=89
ULN Ulaanbaatar 79.44 324 P **P** **15 26 17.9 +0.4**
comp=E,152nm,1.0s,comp=E,2µm
ULN Ulaanbaatar 79.44 324 *e*P **P** **15 26 16.9 -0.6**
comp=E,205nm,1.1s
ULN LR LR
comp=Z,2µm,20.0s
RPN Rapa Nui 79.77 116 PFAKE 15 26 30.0 +10
RPN LR LR
comp=Z,5µm,20.0s
SONM Songino Array 79.80 324 P **P** **15 26 19.7 +0.3**
SONM Songino Array 79.80 324 P **P** **15 26 19.7 +0.3**
comp=Z,56nm,1.0s,baz=138,slow=4.9,SNR=108
SONM LR LR 16 02 09.4
comp=Z,3µm,20.1s,baz=116,slow=36
GTA Gaotai 80.10 314 ⇑P **P** **15 26 22.1 +0.8**
GTA pP **pP** **15 26 31.9 +0.8**
GTA sP **sP** **15 26 35.8 +1.1**
GTA S **S** **15 36 27.0 +3.0**
GTA SKS **SKSac** **15 36 34.1 -2.7**
GTA AMB AMB
comp=Z,74nm,1.9s
GTA AMB AMB
comp=Z,2µm,7.6s
GTA LR LR
comp=Z,2µm,17.1s
GTA LR LR
comp=Z,2µm,18.5s
GTA LR LR
comp=Z,2µm,19.5s
SHL Shillong 81.36 298 *e*P **P** **15 26 27.0 -1.3**
SHL *ex* x 15 26 42.5
SHL *i* x x 15 36 40.0
ZAK Zakamensk 82.84 325 *e*P **P** **15 26 35.4 -0.1**
ZAK pmax pmax
comp=Z,75nm,1.4s
MCK McKinley 83.15 18 *e*P **P** **15 26 35.6 -1.0**
MCK pmax pmax
comp=Z,63nm,1.4s
MCK McKinley 83.15 18 *e*P **P** **15 26 35.6 -1.0**
comp=Z,63nm,1.4s
IRK Irkutsk 83.21 327 *e*P **P** **15 26 36.9 -0.3**
IRK *e*S **S** **15 36 56.1 +0.8**
IRK pmax pmax
comp=Z,198nm,2.1s
LSA Lhasa 83.25 302 P **P** **15 26 40.4 +1.9**
LSA S **S** **15 36 56.8 -0.8**
LSA AMB AMB
comp=Z,1µm,9.7s
LSA LR LR
comp=Z,720nm,18.8s
LSA LR LR
comp=Z,780nm,18.8s
LSA LR LR
comp=Z,1µm,21.5s
LSA Lhasa 83.25 302 *e*P **P** **15 26 37.8 -0.7**
LSA pmax pmax
comp=Z,49nm,1.1s
LSA MLR MLR
comp=Z,1µm,21.0s
LSA Lhasa 83.25 302 *e*P **P** **15 26 37.8 -0.7**
comp=Z,49nm,1.1s
LSA LR LR
comp=Z,1µm,21.0s
TLY Talaya 83.28 326 *c i*P **P** **15 26 37.3 -0.3**
TLY *e* 15 26 49.5
TLY *e* 15 29 49.3
TLY *e*S **S** **15 36 57.5 +1.5**
TLY *e*PS **PnS** **15 37 54.1 +3.7**
TLY *e* 15 38 02.0
TLY *e*SS **SS** **15 42 24.4 +2.8**
TLY pmax pmax
comp=Z,206nm,1.3s
TLY MLR MLR
comp=Z,2µm,17.0s
MAW Mawson 83.76 202 P **P** **15 26 39.8 0.0**
MAW Mawson 83.76 202 P **P** **15 26 39.9 0.0**
baz=84,SNR=25
MAW Mawson 83.76 202 P **P** **15 26 39.8 0.0**
comp=Z,15nm,0.9s,baz=98,slow=7.7,SNR=22
MAW LR LR 16 03 27.0
comp=Z,2µm,18.2s,baz=95,slow=35
COLA College 84.30 18 *e*P **P** **15 26 41.9 -0.5**
COLA pmax pmax
comp=Z,25nm,1.1s
COLA MLR MLR
comp=Z,4µm,21.0s
COLA College 84.30 18 *e*P **P** **15 26 41.9 -0.5**
comp=Z,25nm,1.1s
COLA LR LR
comp=Z,4µm,21.0s
ILAR Eielson Array 84.52 18 P **P** **15 26 42.4 -1.2**
ILAR PKKP **PKKPdf** **15 44 53.6 +3.6**
ILAR P'P' 15 52 57.6
ILAR Eielson Array 84.52 18 P **P** **15 26 42.4 -1.2**
comp=Z,7.8nm,0.6s,baz=227,slow=5.9,SNR=20
ILAR PKKP **PKKPdf** **15 44 53.6 +3.6**
comp=Z,0.8nm,0.9s,baz=332,slow=1.7,SNR=5.9
ILAR PKPPKP **P'P'df** **15 52 57.6 -0.4**
comp=Z,0.8nm,1.0s,baz=345,slow=3.1,SNR=4.4
ILAR LR LR 16 05 29.1
comp=Z,3µm,18.1s,baz=234,slow=36
HUMO Hull Mountain 84.63 45 *e*P **P** **15 26 43.2 -1.5**
comp=Z,12nm,1.0s
DOT Dot Lake 84.66 20 *e*P **P** **15 26 43.1 -1.3**
comp=Z,135nm,1.8s
MOY Mondy 84.72 325 *e*P **P** **15 26 45.6 +0.5**
MOY pmax pmax
comp=Z,250nm,3.5s
WRAK Wrangell Islan 85.20 29 PFAKE 15 27 00.0 +13
WRAK LR LR
comp=Z,3µm,21.0s
TAPN Taplejung 85.46 299 *e*P **P** **15 26 50.5 +1.0**
comp=Z,177nm,1.2s
ISA Isabella 85.53 52 P **P** **15 26 48.7 -0.8**
baz=86
ODAN Odare 85.59 299 *e*P **P** **15 26 50.4 +0.2**
comp=Z,267nm,1.2s
EDW2 Edwards Air Fo 85.66 53 P **P** **15 26 49.3 -0.8**
baz=86
BFSC Mount Baldy Ra 85.73 54 P **P** **15 26 48.3 -2.3**
baz=86
NLWA Neilton Lookou 85.85 40 PFAKE 15 27 00.0 +9.3
NLWA LR LR
comp=Z,6µm,19.0s
J05D Fort Rock, OR 86.06 44 P **P** **15 26 49.9 -2.1**
baz=86
CWC Cottonwood Cre 86.08 52 P **P** **15 26 50.1 -2.1**
baz=86
LRMC Laurel Mountai 86.08 53 P **P** **15 26 50.3 -2.0**
baz=86
BOK Bokaro 86.09 295 *e*P **P** **15 26 50.6 -1.8**
BOK AMB AMB 15 26 58.4
comp=Z,39nm,8.9s
PAHR Pah Rah Range 86.14 48 *e*P **P** **15 26 50.9 -1.6**
comp=Z,57nm,1.7s
RAMN Ramite 86.30 298 *e*P **P** **15 26 54.3 +0.6**
comp=Z,171nm,1.2s
MONP Monument Peak 86.31 55 P **P** **15 26 50.7 -2.8**
baz=86
EGAK Eagle 86.36 20 *e*P **P** **15 26 52.0 -0.8**
comp=Z,130nm,1.8s
EGAK LR LR
comp=Z,3µm,19.0s
MPMC Manual Prospec 86.41 52 P **P** **15 26 51.8 -2.2**
baz=86
PFO Pinyon Flat Ob 86.49 55 PFAKE 15 27 00.0 +5.7
PFO LR LR
comp=Z,5µm,22.0s
NVAR Mina Array Bea 86.53 50 PKPPKP P'P'df 15 52 50.5 -6.5
comp=Z,0.4nm,0.8s,baz=355,slow=1.1,SNR=4.2
NVAR LR LR 16 01 19.2
comp=Z,9µm,18.1s,baz=85,slow=33
GSC Goldstone 86.72 53 P **P** **15 26 53.7 -1.6**
baz=87
JIRN Jiri 86.84 299 *e*P **P** **15 26 56.9 +0.4**
comp=Z,133nm,1.1s
VIS Vishakhapatnam 86.91 289 *e*P **P** **15 26 54.3 -2.2**
VIS AMB AMB 15 27 02.1
comp=Z,29nm,7.8s
HEC Hector,Ludlow 86.95 54 P **P** **15 26 55.2 -1.2**
baz=87
BELC Belle Mtn. Jos 86.97 54 P **P** **15 26 55.5 -1.2**
baz=87
PALK Pallekele 87.03 278 P **P** **15 27 00.0 +2.7**
PALK Pallekele 87.03 278 *e*P **P** **15 26 54.6 -2.7**
comp=Z,94nm,1.3s
PALK Pallekele 87.03 278 P **P** **15 26 58.6 +1.3**
comp=Z,182nm,0.9s,SNR=7.5
GUN Gumba 87.17 299 *e*P **P** **15 26 58.9 +0.9**
comp=Z,178nm,1.0s
TPH Tonopah 87.23 50 PFAKE 15 27 10.0 +12
TPH LR LR
comp=Z,9µm,19.0s
TIXI Tiksi 87.30 349 ⇓*e*P **P** **15 26 57.3 +0.1**
TIXI pmax pmax
comp=Z,41nm,2.5s
BC3 Big Chuckawall 87.31 55 P **P** **15 26 58.0 -0.3**
baz=87
TUQ Turquoise Moun 87.44 53 P **P** **15 26 57.1 -1.8**
baz=88
GMRC Granite Mounta 87.46 54 P **P** **15 26 57.4 -1.7**
baz=88
PKI Pulchoki 87.48 299 *e*P **P** **15 26 59.5 0.0**
comp=Z,252nm,1.1s
PKIN Phulchoki 87.50 299 *e*P **P** **15 26 59.4 -0.1**
comp=Z,146nm,1.2s
I07A Izee 87.51 44 *e*P **P** **15 26 57.6 -1.4**
comp=Z,18nm,1.3s
WVOR Wild Horse Val 87.57 46 PFAKE 15 27 10.0 +11
WVOR LR LR
comp=Z,6µm,19.0s
KKN Kakani 87.65 299 *e*P **P** **15 27 00.3 +0.1**
comp=Z,148nm,1.1s

IRM Iron Mountain 87.69 54 P P 15 26 58.2 -1.8
baz=88
DMN Daman 87.75 299 eP P 15 27 01.5 +0.8
comp=Z,426nm,1.1s
BMN Battle Mountai 87.95 48 PFAKE 15 27 10.0 +8.7
BMN LR LR
comp=Z,4µm,19.0s
J08A Circle Bar Ran 87.98 45 eP P 15 26 59.9 -1.4
comp=Z,21nm,1.3s
GKN Gorkha 88.26 299 eP P 15 27 02.5 -0.5
comp=Z,213nm,0.9s
HAWA Hanford 88.26 42 PFAKE 15 27 10.0 +7.6
HAWA LR LR
comp=Z,2µm,20.0s
SHPR Sheep Range 88.34 52 eP P 15 27 01.2 -2.0
113A Mohawk Valley, 88.42 56 P P 15 27 02.4 -1.1
baz=88
PDMCI Parker Dam,Lak 88.53 55 P P 15 27 02.7 -1.3
baz=89
R11A Troy Canyon, C 88.54 50 eP P 15 27 01.6 -2.5
R11A Troy Canyon, C 88.54 50 P P 15 27 01.2 -2.9
baz=89
HVS Khovu-Aksy 88.67 323 ⇓iP P 15 27 05.0 +0.7
HVS pmax pmax
comp=Z,439nm,1.2s
MDRS Chennai 88.74 284 eP P 15 27 02.6 -2.7
W13A Hualapai Mount 88.95 54 P P 15 27 04.0 -2.2
baz=89
KOLN Koldanda 89.09 299 eP P 15 27 07.0 0.0
comp=Z,94nm,0.9s
DANN Dangsing 89.09 299 eP P 15 27 07.0 -0.1
comp=Z,166nm,0.9s
BMO Blue Mountains 89.25 44 eP P 15 27 05.6 -1.6
BMO pmax pmax
comp=Z,189nm,2.8s
BMO MLR MLR
comp=Z,4µm,19.0s
BMO Blue Mountains 89.25 44 eP P 15 27 05.6 -1.6
comp=Z,188nm,2.8s
BMO LR LR
comp=Z,4µm,19.0s
ELK Elko 89.48 48 eP P 15 27 07.7 -0.9
comp=Z,16nm,1.5s
CCUT Cedar City 90.01 52 eP P 15 27 09.7 -1.4
comp=Z,123nm,2.4s
WMQ Urumqi 90.15 315 P P 15 27 10.9 -0.5
WMQ pP pP 15 27 21.5 +0.1
WMQ sP sP 15 27 25.4 +0.4
WMQ PP PP 15 30 46.9 +1.5
WMQ SKS SKSac 15 37 37.3 -3.1
WMQ S S 15 37 59.8 -3.3
WMQ sS sS 15 38 17.6 -2.0
WMQ SS SS 15 44 02.5 -0.3
WMQ AMB AMB
comp=Z,75nm,1.2s
WMQ AMB AMB
comp=Z,1µm,5.0s
WMQ LR LR
comp=Z,2µm,16.6s
WMQ LR LR
comp=Z,2µm,17.2s
WMQ LR LR
comp=Z,2µm,20.0s
NEW Newport 90.42 41 PFAKE 15 27 20.0 +7.5
NEW LR LR
comp=Z,3µm,20.0s
NEW Newport 90.42 41 P P 15 27 10.9 -1.6
baz=90
U15A North Rim 90.55 53 P P 15 27 12.3 -1.5
baz=91
X16A Lo Mia Camp, P 90.72 55 P P 15 27 13.8 -0.7
baz=91
TUC Tucson 90.74 57 PFAKE 15 27 20.0 +5.5
TUC LR LR
comp=Z,10µm,19.0s
SYO Syowa Base 90.76 197⇓eP P 15 27 11.4 -2.3
SYO Syowa Base 90.76 197⇓eP P 15 27 20.4 +6.7
HLID Hailey 90.86 46 PFAKE 15 27 30.0 +15
HLID LR LR
comp=Z,3µm,19.0s
HLID Hailey 90.86 46 P P 15 27 14.0 -0.9
baz=91
TRD Trivandrum 90.92 278 eP P 15 27 15.2 -0.3
WUAZ Wupatki 91.04 54 PFAKE 15 27 30.0 +14
WUAZ LR LR
comp=Z,3µm,19.0s
WUAZ Wupatki 91.04 54 P P 15 27 14.7 -1.2
baz=91
DUG Dugway 91.11 49 PFAKE 15 27 30.0 +14
DUG LR LR
comp=Z,7µm,19.0s
DUG Dugway 91.11 49 P P 15 27 15.1 -1.0
baz=91
MVU Marysvale 91.14 51 eP P 15 27 14.6 -1.7
MVU LR LR
comp=Z,11µm,19.0s
BGU Big Grassy Mou 91.14 48 eP P 15 27 14.2 -2.0
comp=Z,16nm,1.4s
JBP Jabalpur 91.20 293 eP P 15 27 16.1 -0.5
HYB Hyderabad 91.28 287 iP P 15 27 17.0 -0.2
HYB e 15 27 29.5
HYB eS S 15 38 14.0 -0.3
HYB Hyderabad 91.28 287 eP P 15 27 16.8 -0.4
HYB AMB AMB 15 27 31.4
comp=Z,37nm,0.9s
NGP Nagpur 91.61 291 eP P 15 27 14.9 -3.7
319A Douglas 91.77 58 P P 15 27 18.2 -1.1
baz=92
BSMT Bassoo Peak 91.80 41 eP P 15 27 17.8 -1.3
X18A Snowflake 91.94 55 P P 15 27 19.2 -0.9
baz=92
DGAR Diego Garcia 91.97 262 PFAKE 15 27 30.0 +10
DGAR LR LR
comp=Z,3µm,19.0s
LGTI Lohaghat 92.34 299 ex P 15 27 23.8 +2.0
220A Playas Peak, P 92.51 58 P P 15 27 21.2 -1.5
baz=93
Z20A Nine Sixteen R 92.73 57 P P 15 27 22.2 -1.5
baz=93
AHID Auburn Hatcher 93.00 47 PFAKE 15 27 40.0 +15
AHID LR LR
comp=Z,3µm,21.0s
Y20A Horse Springs, 93.08 56 P P 15 27 23.9 -1.5
baz=93
121A Cookes Peak, D 93.26 58 P P 15 27 25.0 -1.2
baz=93
BOZ Bozeman (W) 93.32 44 PFAKE 15 27 40.0 +14
BOZ LR LR
comp=Z,2µm,19.0s
AKL Akola 93.38 290 eP P 15 27 25.7 -1.1
AKL AMB AMB 15 27 27.9
comp=Z,28nm,1.1s
BHPL Bhopal 93.52 293 eP P 15 27 25.3 -2.1
Y21A Point of Rocks 93.67 56 P P 15 27 26.5 -1.6
baz=94
MVCO Mesa Verde 93.69 53 PFAKE 15 27 40.0 +12
MVCO LR LR
comp=Z,3µm,19.0s
H17A Grant Village 93.75 46 epP pP 15 27 47.5 +9.2
LKWY Lake 93.91 45 PFAKE 15 27 40.0 +11
LKWY LR LR
comp=Z,6µm,19.0s
Z22A Elephant Butte 94.09 57 P P 15 27 29.2 -0.8
baz=94
BW06 Boulder Array 94.11 47 PFAKE 15 27 40.0 +10
BW06 LR LR
comp=Z,4µm,19.0s
PDAR Pinedale Array 94.11 47 P P 15 27 29.6 -0.3
PDAR PKKPbc PKKPdf 15 44 31.2 -1.3
PDAR Pinedale Array 94.11 47 P P 15 27 29.6 -0.3
comp=Z,0.8nm,0.9s,baz=256,slow=4.1,SNR=4.1
PDAR PKKPbc PKKPdf 15 44 31.2 -1.3
comp=Z,0.7nm,0.8s,baz=37,slow=4.8,SNR=3.2
PDAR LR LR 16 06 20.5
comp=Z,3µm,18.8s,baz=259,slow=33
U21A Nageezi 94.19 54 P P 15 27 28.9 -1.6
baz=94
P20A De Beque 94.26 51 P P 15 27 29.9 -0.8
baz=94
DDI Dehra Dun 94.39 300 eP P 15 27 29.0 -2.3
DDI AMB AMB 15 27 31.4
comp=Z,98nm,2.1s
PMSA Palmer Station 94.51 161 PFAKE 15 27 40.0 +8.9
PMSA LR LR
comp=Z,3µm,20.0s
MKAR Makanchi Array 94.59 317 P P 15 27 31.4 -0.4
MKAR PKKPbc PKKPdf 15 44 27.7 -3.8
MKAR Makanchi Array 94.59 317 P P 15 27 31.4 -0.4
comp=Z,50nm,0.8s,baz=98,slow=5.5,SNR=168
MKAR PKKPbc PKKPdf 15 44 27.7 -3.8
comp=Z,0.4nm,0.6s,baz=274,slow=5.3,SNR=3.9
MKAR LR LR 16 11 35.7
comp=Z,2µm,18.9s,baz=89,slow=36
ZALV Zalesovo Beam 94.69 324 P P 15 27 31.1 -0.9
ZALV Zalesovo Beam 94.69 324 P P 15 27 31.1 -0.9
ZALV Zalesovo Beam 94.69 324 P P 15 27 31.1 -0.9
comp=Z,64nm,1.0s,baz=108,slow=4.8,SNR=138
ZALV LR LR 16 13 19.1
comp=Z,1µm,18.6s,baz=71,slow=38
RLMT Red Lodge 94.82 45 PFAKE 15 27 40.0 +6.8
RLMT LR LR
comp=Z,4µm,19.0s
ANMO Albuquerque 94.84 55 PFAKE 15 27 40.0 +6.5
ANMO LR LR
comp=Z,5µm,19.0s
224A Cornudas Mount 95.05 58 P P 15 27 32.8 -1.6
baz=95
MNTX Cornudas Mount 95.09 59 PFAKE 15 27 40.0 +5.5
MNTX LR LR
comp=Z,4µm,19.0s
S22A 4UR Ranch, Cre 95.10 53 P P 15 27 33.1 -1.7
baz=95
EGMT Eagleton 95.12 42 PFAKE 15 27 40.0 +5.7
EGMT LR LR
comp=Z,2µm,19.0s
SMLA Simla 95.29 301 eP P 15 27 34.3 -1.0
SMLA AMB AMB 15 27 48.6
comp=Z,43nm,0.0s
MAIT Maitri 95.36 188 eP P 15 27 32.8 -2.1
NVS Novosibirsk 95.80 325⇑iP P 15 27 35.2 -1.9
NVS e 15 31 28.0
NVS eS SKSac 15 38 13.1 +2.1
NVS pmax pmax
comp=N,14nm,1.3s
NVS pmax pmax
comp=E,31nm,1.3s
NVS pmax pmax
comp=Z,66nm,1.3s
NVS smax smax
comp=N,65nm,3.9s
NVS smax smax
comp=E,62nm,3.0s
POO Poona 95.88 288 eP P 15 27 37.3 -1.1
POO AMB AMB 15 27 43.3
comp=Z,32nm,8.3s
SNAA Sanae 95.97 184 eP P 15 27 36.3 -1.5
SNAA Sanae 95.97 184 eP P 15 27 36.1 -1.6
TXAR Lajitas Array 96.10 61 P P 15 27 37.7 -1.6
TXAR PKKP PKKPbc 15 44 27.2 +0.2
TXAR Lajitas Array 96.10 61 P P 15 27 37.7 -1.6
comp=Z,0.2nm,0.5s,baz=258,slow=2.7,SNR=2.6
TXAR PKKP PKKPbc 15 44 27.2 +0.2
comp=Z,0.7nm,0.8s,baz=108,slow=4.1,SNR=5.2
TXAR LR LR 16 04 50.2
comp=Z,3µm,19.1s,baz=355,slow=32
SDCO Great Sand Dun 96.13 53 PFAKE 15 27 50.0 +11
SDCO LR LR
comp=Z,3µm,21.0s
DHRM DHARAMSHALA 96.23 302 eP P 15 27 39.6 -0.3
ISCO Idaho Springs 96.42 51 PFAKE 15 27 50.0 +9.3
ISCO LR LR
comp=Z,6µm,19.0s
VNA2 Neumayer--Watz 96.93 182 eP P 15 27 41.4 -0.7
LAO LASA Array 97.21 44 PFAKE 15 27 50.0 +6.1
LAO LR LR
comp=Z,2µm,21.0s
VNA1 Neumayer--Stat 97.24 182 eP Pdif 15 27 43.8 +0.3
AAA Alma-Ata 97.63 313 iP P 15 27 45.3 -0.5
AAA iS SKSac 15 38 23.9 +2.7
AAA pmax pmax
comp=Z,500nm,2.9s
AAA smax smax
comp=E,1µm,6.3s
KSH Kashi 97.74 309 P Pdif 15 27 50.4 +3.9
KSH pP pP 15 27 58.4 +1.9
KSH sP sP 15 28 01.5 +1.5
KSH PP PP 15 31 48.8 +3.9
KSH sS sS 15 39 25.6 -1.4
KSH SS SS 15 45 53.6 +2.1
KSH AMB AMB
comp=E,6.0nm,1.0s
KSH AMB AMB
comp=E,460nm,7.5s
KSH LR LR
comp=E,1µm,17.6s
KSH LR LR
comp=E,880nm,14.8s
KSH LR LR
comp=E,770nm,20.0s
KURK Kurchatov 97.75 320 P P 15 27 45.4 -0.6
comp=E,111nm,1.4s,SNR=13
TKM2 Tokmak 2 98.55 312 PFAKE 15 28 00.0 +10
TKM2 LR LR
comp=Z,1µm,19.0s
DGMT Dagmar 98.85 42 PFAKE 15 28 00.0 +8.9
DGMT LR LR
comp=Z,2µm,19.0s
FRU Bishkek 99.25 312 eP Pdif 15 27 54.0 +1.0
FRU e 15 34 00.0
FRU e 15 38 30.0
OGNE Ogallala 99.31 50 PFAKE 15 28 00.0 +6.6
OGNE LR LR
comp=Z,10µm,19.0s
AAK Ala-Archa 99.31 312⇓iP Pdif 15 27 54.1 +0.6
AAK pmax pmax
comp=Z,7.0nm,1.1s
AAK Ala-Archa 99.31 312 PFAKE 15 28 00.0 +6.5
AAK LR LR
comp=Z,2µm,19.0s
JCT Junction City 99.60 61 PFAKE 15 28 10.0 +15
JCT LR LR
comp=Z,4µm,19.0s
EKS2 Erkin-Say 99.84 312 PFAKE 15 28 10.0 +14
EKS2 LR LR
comp=Z,2µm,19.0s
BHJ Bhuj 100.55 292 eP Pdif 15 27 57.1 -2.1
BHJ AMB AMB 15 28 22.0
comp=Z,30nm,4.6s
KVTX Kingsville 100.83 64 PFAKE 15 28 10.0 +10
KVTX LR LR
comp=Z,2µm,19.0s
FFC Flin Flon 100.98 36 PFAKE 15 28 10.0 +10
FFC LR LR
comp=Z,4µm,19.0s
WMOK Wichita Mounta 101.04 57 PFAKE 15 28 10.0 +8.8
WMOK LR LR
comp=Z,8µm,19.0s
BRVK Borovoye 103.14 322 P Pdif 15 28 09.8 -0.2
SNR=6.7
BRVK Borovoye 103.14 322 PFAKE 15 28 20.0 +10
BRVK LR LR
comp=Z,2µm,20.0s
KSU1 Kansas State U 103.23 52 PFAKE 15 28 20.0 +9.2
KSU1 LR LR
comp=Z,4µm,19.0s
ECSD EROS Data Cent 103.59 48 PFAKE 15 28 20.0 +7.7
ECSD LR LR
comp=Z,2µm,19.0s
NATX Nacogdoches 104.13 60 PFAKE 15 28 30.0 +15
NATX LR LR
comp=Z,4µm,19.0s
AGMN Agassiz Nation 104.36 43 PFAKE 15 28 30.0 +14
AGMN LR LR
comp=Z,3µm,19.0s
MIAR Mount Ida 105.29 57 PFAKE 15 32 40.0
MIAR LR LR
comp=Z,7µm,19.0s
EFI East Falkland 105.80 153 PFAKE 15 32 50.0
EFI LR LR
comp=Z,1µm,20.0s
SCIA State Center 105.99 50 PFAKE 15 32 50.0
SCIA LR LR
comp=Z,7µm,19.0s
EYMN Ely 107.29 43 PFAKE 15 32 50.0
EYMN LR LR
comp=Z,3µm,19.0s
VBMS Vicksburg 107.68 60 PFAKE 15 32 50.0
VBMS LR LR
comp=Z,3µm,19.0s
JFWS Jewell Farm 108.21 49 PFAKE 15 32 50.0
JFWS LR LR
comp=Z,4µm,19.0s
TEIG Tepich 108.66 73 PFAKE 15 32 50.0
TEIG LR LR
comp=Z,3µm,19.0s
OXF Oxford 108.72 58 PFAKE 15 32 50.0
OXF LR LR
comp=Z,4µm,19.0s
TGUH Tegucigalpa,Un 108.82 79 PFAKE 15 32 50.0
TGUH LR LR
comp=Z,2µm,21.0s
MSEY Mahe Island 109.01 261 PFAKE 15 32 50.0
MSEY LR LR
comp=Z,2µm,19.0s
JTS JuntasAbangare 110.49 83 PFAKE 15 33 00.0
JTS LR LR
comp=Z,4µm,19.0s
BRAL Brewton 110.57 61 PFAKE 15 32 50.0
BRAL LR LR
comp=Z,2µm,19.0s
LRAL Lakeview Retre 110.68 59 PFAKE 15 32 50.0
LRAL LR LR
comp=Z,6µm,19.0s
IKOO Kooshah 110.79 300 eP PKiKP 15 32 44.7 -0.1
AKTO Aktyubinsk 110.83 319 PKIKP PKiKP 15 32 42.1 -1.8
AKTO Aktyubinsk 110.83 319 PKiKP PKiKP 15 32 42.1 -1.8
AKTO Aktyubinsk 110.83 319 PKiKP PKiKP 15 32 42.1 -1.8
comp=Z,1.8nm,0.7s,baz=87,slow=3.2,SNR=3.8
IAKL Akhelmad 111.04 305 eP PKiKP 15 32 45.5 +0.3
IKRD Kardeh 111.24 305 eP PKiKP 15 32 44.5 -1.0
LCO Las Campanas 111.57 128 PFAKE 15 33 00.0
LCO LR LR
comp=Z,2µm,20.0s
BSY Bisya 111.89 290 P PKiKP 15 32 46.1 -0.7
SNR=6.7
KBS Kingsbay 112.11 355 PFAKE 15 33 00.0
KBS LR LR
comp=Z,1µm,20.0s
ABPO Ambohimpanom 112.22 244 PFAKE 15 33 00.0
ABPO LR LR
comp=Z,2µm,19.0s
TRQA Tornquist 112.75 140 PFAKE 15 33 00.0
TRQA LR LR
comp=Z,2µm,19.0s
IBAF Bafgh 113.70 299 eP PKiKP 15 32 50.0 -0.2
ACSO Alum Creek Sta 113.75 51 PFAKE 15 33 00.0
ACSO LR LR
comp=Z,7µm,19.0s
RBK Rabkut 114.23 284 P PKPdf 15 32 52.1 +0.7
SNR=13
IMEH Mehriz 114.52 299 eP PKPdf 15 32 51.5 -0.4
ICHK Chekchek 114.68 300 eP PKPdf 15 32 52.3 +0.1
OTAV Otavalo 114.92 95 PFAKE 15 33 00.0 +6.6
OTAV LR LR
comp=Z,4µm,19.0s
BCIP Isla Barro Col 115.29 86 PFAKE 15 33 00.0 +6.5
BCIP LR LR
comp=Z,1µm,19.0s
ISRV Sarvestan 115.82 297 eP PKPdf 15 32 54.3 -0.3
ERPA Erie 115.82 49 PFAKE 15 33 00.0 +6.2
ERPA LR LR
comp=Z,5µm,19.0s
IFIR Firoozkooh 115.93 304 eP PKPdf 15 32 56.3 +1.8
BLA Blacksburg 115.97 55 PFAKE 15 33 10.0 +16
BLA LR LR
comp=Z,6µm,19.0s
LVC Limon Verde 115.97 123 PFAKE 15 33 10.0 +15
LVC LR LR
comp=Z,2µm,19.0s
MCWV Mont Chateau 116.20 52 PFAKE 15 33 10.0 +15
MCWV LR LR
comp=Z,8µm,19.0s
IZEF Zefreh 116.42 301 eP PKPdf 15 32 55.4 -0.1
ISFB Sefidab 116.42 302 eP PKPdf 15 32 55.6 +0.3
APA Apatity 116.65 342⇑iPKIKP PKPdf 15 32 53.0 -1.6
APA i 15 34 10.0
APA MLR MLR
comp=Z,2µm,20.0s
IVRN Varamin 116.81 303 eP PKPdf 15 32 56.5 +0.5
KEV Kevo 117.02 345 ePKIKP PKPdf 15 32 53.3 -1.9
KEV Kevo 117.02 345 PFAKE 15 33 10.0 +15
KEV LR LR
comp=Z,2µm,20.0s
IKLH Kolahrood 117.03 301 eP PKPdf 15 32 56.6 -0.1
ARCES ARCESS Array B 117.55 345 PKP PKPdf 15 32 55.0 -1.3
ARCES PKKPbc PKKPab 15 43 24.6 +2.9
ARCES ARCESS Array B 117.55 345 PKP PKPdf 15 32 55.0 -1.3
comp=Z,4.1nm,0.6s,baz=72,slow=1.9,SNR=60
ARCES PKKPbc PKKPab 15 43 24.6 +2.9
comp=Z,3.9nm,0.8s,baz=180,slow=0.5,SNR=5.4
KLMR Klimovskoe 117.93 334 ePKIKP PKPdf 15 32 54.9 -2.3
KLMR pmax pmax
comp=Z,21nm,1.4s
CNNC Cliffs of the 118.17 57 PFAKE 15 33 10.0 +12
CNNC LR LR
comp=Z,6µm,19.0s
IRAZ Razeghan 118.25 304 eP PKPdf 15 32 58.7 -0.2
CBN Corbin 118.28 53 PFAKE 15 33 10.0 +11
CBN LR LR
comp=Z,7µm,19.0s
MTDJ Mount Denham 118.58 76 PFAKE 15 33 10.0 +10
MTDJ LR LR
comp=Z,1µm,19.0s
BINY Binghamton 118.76 48 PFAKE 15 33 10.0 +11
BINY LR LR
comp=Z,5µm,19.0s
MAK Makhachkala 119.08 312 iPKIKP PKPdf 15 32 58.4 -1.6
MAK e 15 34 18.6
MAK eSS SS 15 50 35.9 -3.0
MAK eSSS SSS 15 55 03.1
MAK pmax pmax
comp=Z,126nm,1.4s
LONY Lake Ozonia 119.30 46 PFAKE 15 33 10.0 +10
LONY LR LR
comp=Z,2µm,19.0s
LPAZ La Paz 119.37 117 PKP PKPdf 15 33 01.4 -0.7
LPAZ PKKPbc PKKPbc 15 43 13.2 -0.8
LPAZ La Paz 119.37 117 PKP PKPdf 15 33 01.4 -0.7
comp=Z,0.4nm,0.5s,baz=27,slow=2.3,SNR=2.5
LPAZ PKKPbc PKKPbc 15 43 13.2 -0.8
comp=Z,1.7nm,0.9s,baz=62,slow=5.9,SNR=4.2
NCB Newcomb 119.69 46 PFAKE 15 33 10.0 +8.8
NCB LR LR
comp=Z,3µm,19.0s
ISRB Sarab 119.79 307 eP PKPdf 15 33 01.5 -0.3
SFJD Kangerlussuaq 120.10 16 PFAKE 15 33 10.0 +8.8
SFJD LR LR
comp=Z,4µm,19.0s
JOF Joensuu 120.14 338 ePKIKP PKPdf 15 32 59.9 -1.5
JOF pmax pmax
comp=Z,5.0nm,0.7s
IHRS Heris 120.20 307 eP PKPdf 15 33 03.1 +0.5
IKOM Komasi 120.34 302 eP PKPdf 15 33 01.6 -1.3
IBST Bostanabad 120.41 307 eP PKPdf 15 32 02.3 -0.7
UMR Umm Al-Rimmam 120.52 297 eP PKPdf 15 33 03.7 +0.6
RDF Al-Radifah 120.70 296 eP PKPdf 15 33 03.9 +0.4
RDF AMb AMB 15 33 09.3
comp=Z,105nm,1.2s
VRHR Novokhopersk 120.80 323 ePKIKP PKPdf 15 33 02.5 -0.5
VRHR e 15 34 30.4
VRHR pmax pmax
comp=N,10.0nm,1.0s
VRHR pmax pmax
comp=E,7.0nm,1.0s
VRHR pmax pmax
comp=Z,40nm,1.0s
VRHR pmax pmax
comp=N,130nm,4.0s
VRHR pmax pmax
comp=Z,220nm,4.0s
VRHR pmax pmax
comp=E,30nm,1.3s
VRHR MLR MLR
comp=N,210nm,23.0s
VRHR MLR MLR
comp=E,880nm,23.0s
VRHR MLR MLR
comp=Z,2µm,23.0s
NAY Al-Naaiem 120.95 297 eP PKPdf 15 33 04.1 +0.1
NAY AMb AMB 15 33 09.2
comp=Z,32nm,1.3s
GTBY Guantanamo Bay 120.97 74 PFAKE 15 33 10.0 +5.7
GTBY LR LR
comp=Z,1µm,21.0s
IGHG Ghaleghazi 121.10 303 eP PKPdf 15 33 03.0 -1.5

RST	**Umm Al-Ruwaisa**	**121.15**	**297**	*e*P		**PKPdf**	**15 33 04.2**	**-0.2**
RST				AMb		AMB	15 33 09.9	
	comp=Z,587nm,0.8s							
MOS	**Moscow**	**121.15**	**329**	*e*PKIKP		PKPdf	15 32 46.6	-17
MOS				*e*			15 34 33.3	
MOS				*e*			15 44 17.7	
MOS				*e*			15 51 15.3	
IMRD	**Marand**	**121.18**	**308**	*e*P		**PKPdf**	**15 33 04.6**	**+0.2**
LBNH	**Lisbon**	**121.23**	**45**	PFAKE			15 33 10.0	+5.9
LBNH				LR	LR			
	comp=Z,3μm,20.0s							
GNI	**Garni**	**121.65**	**310**	*e*PKPdf		**PKPdf**	**15 33 04.9**	**-0.3**
GNI				PKP		**PKPdf**	**15 33 05.1**	**-0.2**
GNI				LR	LR			
	comp=Z,897nm,20.0s							
GNI	**Garni**	**121.65**	**310**	PKP		**PKPdf**	**15 33 05.1**	**-0.2**
	comp=Z,11nm,0.7s,baz=345,slow=8.3,SNR=14							
ZEI	**Tsey**	**121.71**	**313**	*i* PKIKP		**PKPdf**	**15 33 03.9**	**-1.4**
ZEI				pmax	pmax			
	comp=Z,15nm,0.9s							
OBN	**Obninsk**	**121.97**	**328**	⇑*i*PKIKP		**PKPdf**	**15 33 05.0**	**-0.1**
OBN				*i*			15 34 42.0	
OBN				*e*PS	PS		**15 44 35.7**	**+2.1**
OBN				*i* SS	SS		15 51 18.2	+3.4
OBN				pmax	pmax			
	comp=Z,31nm,1.1s							
KBZ	**Khabaz**	**122.19**	**314**	PKIKP		**PKPdf**	**15 33 06.6**	**+0.7**
KBZ	**Khabaz**	**122.19**	**314**	PKP		**PKPdf**	**15 33 06.6**	**+0.7**
KBZ	**Khabaz**	**122.19**	**314**	PKP		**PKPdf**	**15 33 06.6**	**+0.7**
	comp=Z,6.9nm,0.9s,baz=121,slow=2.5,SNR=12							
VSR	**Storozhevoye**	**122.19**	**324**	*e*PKIKP		**PKPdf**	**15 33 04.8**	**-0.9**
VSR				*e*			15 34 39.3	
VSR				*e*PS	PS		**15 44 30.2**	**-5.6**
VSR				*e*SS	SS		15 51 16.8	-1.2
VSR				pmax	pmax			
	comp=Z,50nm,1.5s							
VSR				pmax	pmax			
	comp=N,6.0nm,0.9s							
VSR				pmax	pmax			
	comp=E,10.0nm,1.5s							
VSR				pmax	pmax			
	comp=Z,440nm,4.9s							
VSR				pmax	pmax			
	comp=N,5.0nm,0.8s							
VSR				pmax	pmax			
	comp=E,300nm,4.9s							
VORD	**Divnogorie**	**122.22**	**323**	*e*PKIKP		**PKPdf**	**15 33 05.4**	**-0.3**
VORD				*e*			15 34 39.8	
VORD				*e*SS	SS		15 51 42.7	+24
VORD				pmax	pmax			
	comp=E,40nm,0.9s							
VORD				pmax	pmax			
	comp=Z,20nm,0.9s							
VORD				pmax	pmax			
	comp=Z,310nm,4.4s							
VORD				pmax	pmax			
	comp=E,80nm,4.7s							
KIV	**Kislovodsk**	**122.28**	**315**	⇑*i*PKIKP		**PKPdf**	**15 33 05.7**	**-0.5**
KIV				*e*			15 34 44.8	
KIV				*e*PS	PS		**15 44 35.7**	**-1.5**
KIV				*i* SS	SS		15 51 22.5	+2.5
KIV				pmax	pmax			
	comp=Z,21nm,1.1s							
KAF	**Kangasniemi**	**122.45**	**339**	*e*PKIKP		**PKPdf**	**15 33 04.1**	**-1.8**
KAF				pmax	pmax			
	comp=Z,4.0nm,0.7s							
PKME	**Peaks-Kenny Pk**	**122.77**	**44**	PFAKE			15 33 20.0	+13
PKME				LR	LR			
	comp=Z,4μm,19.0s							
FINES	**FINESS Array B**	**122.98**	**338**	PKP		**PKPdf**	**15 33 06.4**	**-0.5**
FINES	**FINESS Array B**	**122.98**	**338**	PKP		**PKPdf**	**15 33 06.4**	**-0.5**
	comp=Z,23nm,1.1s,baz=103,slow=6.1,SNR=14							
SDV	**Santo Domingo**	**124.23**	**88**	PFAKE			15 33 20.0	+9.0
SDV				LR	LR			
	comp=Z,2μm,19.0s							
SOC	**Sochi**	**124.45**	**315**	*i* PKIKP		**PKPdf**	**15 33 07.8**	**-2.5**
SOC				*e*S		**PP**	**15 34 53.6**	**-2.9**
SOC				*e*PS	PS		15 44 42.2	-14
SOC				*e*SS	SS		15 51 39.0	-8.2
SOC				*e*SSS	SSS		15 56 25.8	
BOSA	**Boshof**	**124.48**	**222**	PKP		**PKPdf**	**15 33 10.1**	**-1.0**
BOSA	**Boshof**	**124.48**	**222**	PKP		**PKPdf**	**15 33 10.1**	**-1.0**
	comp=Z,8.9nm,0.8s,baz=90,slow=2.3,SNR=12							
SDDR	**Presa de Saban**	**124.53**	**75**	PFAKE			15 33 20.0	+8.8
SDDR				LR	LR			
	comp=Z,2μm,20.0s							
SUR	**Sutherland**	**124.59**	**216**	PFAKE			15 33 20.0	+8.7
SUR				LR	LR			
	comp=Z,2μm,20.0s							
GRTK	**Grand Turk**	**124.73**	**72**	PFAKE			15 33 20.0	+8.6
GRTK				LR	LR			
	comp=Z,2μm,19.0s							
ANN	**Anapa**	**125.61**	**317**	*i* PKIKP		**PKPdf**	**15 33 11.5**	**-0.9**
ANN				*e*			15 35 03.5	
ANN				*e*PS	PS		**15 45 01.3**	**-5.0**
ANN				*e*SS	SS		15 52 01.1	-0.6
ANN				pmax	pmax			
	comp=Z,25nm,1.3s							
MZRK	**Al-Mazaregh**	**125.67**	**305**	*e*P		**PKPdf**	**15 33 14.2**	**+1.3**
MZRK	**Al-Mazaregh**	**125.67**	**305**	*e*P		**PKPdf**	**15 33 14.2**	**+1.3**
	SNR=46							
SFNV	**Sufian**	**125.97**	**306**	*e*P		**PKPdf**	**15 33 14.4**	**+0.9**
SFNV	**Sufian**	**125.97**	**306**	*e*P		**PKPdf**	**15 33 14.4**	**+0.9**
	SNR=46							
MNK	**Minsk**	**126.60**	**331**	⇑*e*PKIKP		**PKPdf**	**15 33 13.0**	**-1.0**
MNK				*e*			15 33 18.0	
MNK				pmax	pmax			
	comp=Z,60nm,1.0s							
SAML	**Samuel**	**126.72**	**111**	PFAKE			15 33 30.0	+15
SAML				LR	LR			
	comp=Z,1μm,20.0s							
BORG	**Borgarnes**	**127.29**	**4**	PFAKE			15 33 30.0	+15
BORG				LR	LR			
	comp=Z,3μm,19.0s							
JHLN	**Al Jahlan**	**127.46**	**306**	*e*P		**PKPdf**	**15 33 13.3**	**-3.0**
JHLN	**Al Jahlan**	**127.46**	**306**	*e*P		**PKPdf**	**15 33 13.3**	**-3.0**
	SNR=92							
KMBO	**Kilima Mbogo**	**127.50**	**259**	*e*PKPdf		**PKPdf**	**15 33 16.9**	**-0.5**
KMBO				PKP		**PKPdf**	**15 33 18.3**	**+1.0**
KMBO				LR	LR			
	comp=Z,2μm,20.0s							
KMBO	**Kilima Mbogo**	**127.50**	**259**	PKP		**PKPdf**	**15 33 18.3**	**+1.0**
	comp=Z,14nm,1.0s,baz=24,slow=4.1,SNR=20							
SLMH	**Al Salmeh**	**127.74**	**306**	*e*P		PKPdf	15 33 10.7	-6.2
SLMH	**Al Salmeh**	**127.74**	**306**	*e*P		PKPdf	15 33 10.7	-6.2
	SNR=46							
SIM	**Simferopol'**	**127.75**	**318**	*e*PKIKP		**PKPdf**	**15 33 17.6**	**+1.0**
SIM				*e*			15 35 18.0	
SIM				pmax	pmax			
	comp=Z,18nm,1.0s							
SIM				pmax	pmax			
	comp=Z,100nm,9.1s							
SIM				pmax	pmax			
	comp=Z,400nm,9.0s							
NB2	**NORSAR Subarra**	**127.91**	**345**	PKPdf		**PKPdf**	**15 33 15.3**	**-1.1**
	comp=Z,20nm,1.2s,baz=31,slow=1.9							
NB2	**NORSAR Subarra**	**127.91**	**345**	PKPdf		**PKPdf**	**15 33 15.3**	**-1.1**
	baz=31,slow=1.9							
NOA	**NORSAR Array B**	**127.91**	**345**	PKP		**PKPdf**	**15 33 16.1**	**-0.3**
NOA	**NORSAR Array B**	**127.91**	**345**	PKP		**PKPdf**	**15 33 16.1**	**-0.3**
	comp=Z,6.1nm,1.0s,baz=35,slow=2.0,SNR=10							
AKASG	**Malin Array Be**	**128.02**	**326**	PKIKP		**PKPdf**	**15 33 16.8**	**-0.1**
AKASG							15 35 16.5	
AKASG	**Malin Array Be**	**128.02**	**326**	PKP		**PKPdf**	**15 33 16.8**	**-0.1**
AKASG				PP		**PP**	**15 35 16.5**	**-3.2**
AKASG	**Malin Array Be**	**128.02**	**326**	PKP		**PKPdf**	**15 33 16.8**	**-0.1**
	comp=Z,18nm,1.1s,baz=55,slow=2.0,SNR=36							
AKASG				PP		**PP**	**15 35 16.5**	**-3.2**
	comp=Z,7.9nm,1.1s,baz=49,slow=7.3,SNR=5.9							
AKBB	**Malin Array Si**	**128.02**	**326**	*e*PKIKP		**PKPdf**	**15 33 16.0**	**-0.9**
AKBB	**Malin Array Si**	**128.02**	**326**	*e*P		**PKPdf**	**15 33 16.0**	**-0.9**
KIEV	**Kiev**	**128.03**	**326**	*e*PKIKP		**PKPdf**	**15 33 16.0**	**-0.9**
KIEV				MLR	MLR			
	comp=Z,2μm,20.0s							
KIEV	**Kiev**	**128.03**	**326**	*e*P		**PKPdf**	**15 33 16.0**	**-0.9**
KIEV				LR	LR			
	comp=Z,2μm,20.0s							
ZALF	**Zalf**	**128.93**	**303**	*e*P		**PKPdf**	**15 33 24.1**	**+4.9**
ZALF	**Zalf**	**128.93**	**303**	*e*P		**PKPdf**	**15 33 24.1**	**+4.9**
	SNR=46							
SUW	**Suwalki**	**129.05**	**333**	*e*PKIKP		**PKPdf**	**15 33 19.3**	**+0.6**
HAWK	**Haweek**	**129.34**	**305**	*e*P		**PKPdf**	**15 33 21.5**	**+1.4**
HAWK	**Haweek**	**129.34**	**305**	*e*P		**PKPdf**	**15 33 21.5**	**+1.4**
	SNR=46							
ARNB	**Al Arnab**	**129.36**	**307**	*e*P		PKPdf	15 33 14.8	-5.2
ARNB	**Al Arnab**	**129.36**	**307**	*e*P		PKPdf	15 33 14.8	-5.2
	SNR=46							
ASF	**Jabal al Asfar**	**129.44**	**302**	PKP		**PKPdf**	**15 33 20.0**	**-0.3**
ASF	**Jabal al Asfar**	**129.44**	**302**	PKP		**PKPdf**	**15 33 20.0**	**-0.3**
	comp=Z,4.1nm,0.8s,baz=292,slow=2.1,SNR=8.3							
BBSR	**BB Station**	**129.44**	**58**	PFAKE			15 33 30.0	+10
BBSR				LR	LR			
	comp=Z,2μm,19.0s							
SALA	**Sala**	**129.47**	**302**	*e*P		**PKPdf**	**15 33 20.7**	**+0.2**
SALA	**Sala**	**129.47**	**302**	*e*P		**PKPdf**	**15 33 20.7**	**+0.2**
	SNR=46							
KONO	**Kongsberg**	**129.52**	**345**	PFAKE			15 33 30.0	+11
KONO				LR	LR			
	comp=Z,2μm,20.0s							
TOTH	**TOTAH**	**129.58**	**303**	*e*P		**PKPdf**	**15 33 20.8**	**+0.3**
TOTH	**TOTAH**	**129.58**	**303**	*e*P		**PKPdf**	**15 33 20.8**	**+0.3**
	SNR=46							
BR131	**Keskin Array S**	**129.99**	**312**	*e*PKPdf		**PKPdf**	**15 33 20.3**	**-0.9**
BRTR	**Keskin Array B**	**129.99**	**312**	PKP		**PKPdf**	**15 33 20.7**	**-0.5**
BRTR				PP		**PP**	**15 35 34.9**	**+1.5**
BRTR				SKPab		SKPbc	15 36 47.5	+5.8
BRTR	**Keskin Array B**	**129.99**	**312**	PKP		**PKPdf**	**15 33 20.7**	**-0.5**
	comp=Z,12nm,1.1s,baz=128,slow=2.0,SNR=30							
BRTR				PP		**PP**	**15 35 34.9**	**+1.5**
	comp=Z,3.3nm,1.0s,baz=76,slow=5.2,SNR=4.2							
BRTR				SKPab		SKPbc	15 36 47.5	+5.8
	comp=Z,3.5nm,1.0s,baz=97,slow=4.5,SNR=4.3							
TCHB	**Talchebab**	**130.11**	**302**	*e*P		**PKPdf**	**15 33 20.7**	**-0.8**
TCHB	**Talchebab**	**130.11**	**302**	*e*P		**PKPdf**	**15 33 20.7**	**-0.8**
	SNR=46							
KIS	**Kishinev**	**130.15**	**323**	*e*PKS		**SKPab**	**15 36 42.0**	**+0.4**
KIS				*e*SKS		SKSdf	15 40 40.0	+10
KIS				*e*SKKS		SKKSac	15 42 12.0	-17
KIS				LRM		MLR	16 32 06.0	
	comp=Z,1μm,23.0s							
KIS	**Kishinev**	**130.15**	**323**	*e*PKIKP		**PKPdf**	**15 33 20.0**	**-1.0**
KIS				*e*			15 35 34.0	
KIS				*e*			15 38 22.0	
KIS				*e*			15 47 25.0	
KIS				MLR		MLR		
	comp=N,800nm,20.0s							
KIS				MLR		MLR		
	comp=Z,1μm,20.0s							
KIS				MLR		MLR		
	comp=Z,1μm,23.0s							
LSZ	**Lusaka**	**130.16**	**238**	*e*PKPdf		**PKPdf**	**15 33 21.9**	**-0.3**
LSZ				LR		LR		
	comp=Z,3μm,19.0s							
MMAI	**Mount Meron Ar**	**130.50**	**303**	PKP		**PKPdf**	**15 33 23.4**	**+1.2**
MMAI				SKPbc		**SKPbc**	**15 36 47.4**	**+3.7**
MMAI	**Mount Meron Ar**	**130.50**	**303**	PKP		**PKPdf**	**15 33 23.4**	**+1.2**
	comp=Z,12nm,0.9s,baz=28,slow=8.9,SNR=8.6							
MMAI				SKPbc		**SKPbc**	**15 36 47.4**	**+3.7**
	comp=Z,22nm,1.2s,baz=99,slow=6.3,SNR=6.5							
ANTO	**Ankara**	**130.55**	**312**	*e*PKIKP		**PKPdf**	**15 33 21.2**	**-1.0**
ANTO				MLR		MLR		
	comp=Z,863nm,20.0s							
ANTO	**Ankara**	**130.55**	**312**	*e*PKPdf		**PKPdf**	**15 33 21.2**	**-1.0**
ANTO				LR		LR		
	comp=Z,863nm,20.0s							
EIL	**Elat**	**131.54**	**299**	PKP		**PKPdf**	**15 33 25.5**	**+1.2**
EIL				SKPab		**SKPab**	**15 36 53.3**	**+5.2**
EIL	**Elat**	**131.54**	**299**	PKP		**PKPdf**	**15 33 25.5**	**+1.2**
	comp=Z,12nm,0.9s,baz=20,slow=4.5,SNR=11							
EIL				SKPab		**SKPab**	**15 36 53.3**	**+5.2**
	comp=Z,12nm,1.1s,baz=73,slow=7.6,SNR=5.4							
SPB	**Sao Paulo**	**131.62**	**137**	PFAKE			15 33 40.0	+15
SPB				LR		LR		
	comp=Z,1μm,19.0s							
BSD	**Bornholm Skovb**	**131.62**	**338**	*e*PKIKP		**PKPdf**	**15 33 21.1**	**-2.5**
BSD				*i*			15 35 44.7	
BSD				MLR		MLR		
	comp=Z,2μm,20.0s							
TESR	**Tescani**	**131.68**	**323**	⇑*i*P		**SKPbc**	**15 36 42.5**	**-5.0**
CSS	**Prodhromos**	**131.68**	**306**	*e*PKPdf		**PKPdf**	**15 33 24.4**	**0.0**
CSS				LR		LR		
	comp=Z,895nm,20.0s							
BUR08	**Bucovina Ar. S**	**131.90**	**325**	*e*PKPdf		**PKPdf**	**15 33 24.1**	**-0.5**
BURAR	**Bucovina Array**	**131.90**	**325**	‖*i*P		**SKPbc**	**15 36 47.5**	**-0.9**
VRI	**Vrincioaia**	**131.97**	**322**	⇑*i*P		**SKPbc**	**15 36 50.3**	**+1.8**
COP	**Copenhagen**	**132.02**	**340**	*e*PKIKP		**PKPdf**	**15 33 28.3**	**+4.0**
COP				*i*			15 35 47.8	
COP				MLR		MLR		
	comp=Z,980nm,20.0s							
KWP	**Kalwaria Pacla**	**132.06**	**328**	*e*PKIKP		**PKPdf**	**15 33 26.4**	**+1.8**
KWP	**Kalwaria Pacla**	**132.06**	**328**	PFAKE			15 33 40.0	+15
KWP				LR		LR		
	comp=Z,2μm,19.0s							
MUD	**Monsted U'grnd**	**132.39**	**343**	*e*PKIKP		**PKPdf**	**15 33 29.3**	**+4.3**
MUD				*i*			15 35 49.9	
MUD				MLR		MLR		
	comp=Z,1μm,20.0s							
MLR	**Muntele Rosu**	**132.63**	**322**	⇑*i*P		**SKPab**	**15 36 55.7**	**+3.3**
MLR	**Muntele Rosu**	**132.63**	**322**	PKP		**PKPdf**	**15 33 26.3**	**+0.3**
MLR				SKPbc		**SKPab**	**15 36 55.2**	**+2.8**
MLR	**Muntele Rosu**	**132.63**	**322**	PKP		**PKPdf**	**15 33 26.3**	**+0.3**
	comp=Z,3.0nm,1.1s,baz=66,slow=8.0,SNR=8.7							
MLR				SKPbc		**SKPab**	**15 36 55.2**	**+2.8**
	comp=Z,4.2nm,1.1s,baz=342,slow=6.4,SNR=5.6							
KOLS	**Kolonicke sedl**	**132.72**	**328**	*e*PKIKP		**PKPdf**	**15 33 27.0**	**+1.1**
UZH	**Uzhgorod**	**132.89**	**328**	*i* PKHKP		PKPpre	15 33 16.3	
UZH				*e*			15 35 48.0	
UZH				*e*			15 40 26.1	
UZH				*e*PS		**PS**	**15 46 00.3**	**-8.9**
UZH				*e*SS		SS	15 53 25.7	-5.0
UZH				MLR		MLR		
	comp=N,660nm,18.0s							
UZH				MLR		MLR		
	comp=E,1μm,18.0s							
UZH				MLR		MLR		
	comp=Z,280nm,18.0s							
ISP	**Isparta**	**132.93**	**311**	PFAKE			15 33 40.0	+13
ISP				LR		LR		
	comp=Z,1μm,20.0s							
STHS	**Stebnicka Huta**	**132.94**	**329**	*e*PKIKP		**PKPdf**	**15 33 27.4**	**+1.1**
OJC	**Ojcow**	**133.12**	**331**	*i* PKIKP		**PKPdf**	**15 33 26.9**	**+0.3**
OJC				*e*			15 35 52.9	
OJC				MLR		MLR		
	comp=Z,3μm,18.2s							
CRVS	**Cervenica-Dubn**	**133.15**	**328**	*e*PKIKP		**PKPdf**	**15 33 29.1**	**+2.4**
GRGR	**Grenville**	**133.39**	**85**	PFAKE			15 33 40.0	+12
GRGR				LR		LR		
	comp=Z,1μm,20.0s							
NIE	**Niedzica**	**133.40**	**330**	*i* PKIKP		**PKPdf**	**15 33 27.4**	**+0.2**
NIE				*e*			15 33 38.8	
NIE				*e*			15 35 54.9	
NIE				MLR		MLR		
	comp=Z,2μm,19.7s							
ARR	**Arges**	**133.48**	**323**	⇑*i*P		**SKPdf**	**15 37 00.0**	**-0.6**
ANWB	**Willy Bob**	**133.53**	**77**	PFAKE			15 33 40.0	+12
ANWB				LR		LR		
	comp=Z,2μm,20.0s							
DRGR		**133.78**	**325**	⇑*i*P		**SKPbc**	**15 36 53.3**	**-1.5**
MBAR	**Mbarara**	**133.88**	**257**	PFAKE			15 33 40.0	+11
MBAR				LR		LR		
	comp=Z,1μm,21.0s							
KECS	**Kecovo**	**133.92**	**329**	*e*PKIKP		**PKPdf**	**15 33 31.4**	**+3.2**
OKC	**Ostrava-Krasne**	**134.16**	**331**	*e*PKIKP		**PKPdf**	**15 33 29.5**	**+0.9**
OKC				*e*			15 33 45.3	
OKC				MLR		MLR		
	comp=Z,2μm,17.3s							
OKC	**Ostrava-Krasne**	**134.16**	**331**	*e*PKPdf		**PKPdf**	**15 33 29.5**	**+0.9**
OKC				*ex*		x	15 33 45.3	
OKC				AMS		AMS	16 38 20.0	
	comp=Z,2μm,17.3s							
KSP	**Ksiaz**	**134.29**	**334**	*i* PKIKP		**PKPdf**	**15 33 28.6**	**-0.2**
KSP				MLR		MLR		
	comp=Z,4μm,18.8s							
MORC	**Moravsky Berou**	**134.49**	**332**	*e*PKIKP		**PKPdf**	**15 33 27.4**	**-1.9**
MORC	**Moravsky Berou**	**134.49**	**332**	*e*P		**PKPdf**	**15 33 27.4**	**-1.9**
GZR	**Gura Zlata**	**134.55**	**324**	⇑*i*P		**SKPdf**	**15 37 06.8**	**+4.2**
PSZ	**Piszkesteto**	**134.59**	**328**	*e*PKIKP		**PKPdf**	**15 33 29.6**	**+0.1**
PSZ				MLR		MLR		
	comp=Z,2μm,21.0s							
PSZ	**Piszkesteto**	**134.59**	**328**	‖*i*P		**SKPbc**	**15 36 54.3**	**-3.1**
PSZ	**Piszkesteto**	**134.59**	**328**	*e*PKPdf		**PKPdf**	**15 33 29.6**	**+0.1**
PSZ				LR		LR		
	comp=Z,2μm,21.0s							
DPC	**Dobruska-Polom**	**134.63**	**333**	*e*PKIKP		**PKPdf**	**15 33 29.6**	**+0.1**
DPC				*e*			15 33 45.5	
DPC	**Dobruska-Polom**	**134.63**	**333**	*e*PKPdf		**PKPdf**	**15 33 29.6**	**+0.1**
DPC				*ex*		x	15 33 45.5	
DPC				AMS		AMS	16 38 10.0	
UPC	**Upice**	**134.65**	**333**	*e*PKIKP		**PKPdf**	**15 33 30.0**	**+0.5**
UPC	**Upice**	**134.65**	**333**	*e*PKPdf		**PKPdf**	**15 33 30.0**	**+0.5**
SIRR	**Siria**	**134.67**	**325**	⇑*i*P		**SKPab**	**15 37 02.4**	**+1.3**
VRAC	**Vranov**	**135.25**	**332**	⇑*i*P		**SKPab**	**15 37 03.8**	**+0.3**
VRAC	**Vranov**	**135.25**	**332**	PKP		**PKPdf**	**15 33 31.0**	**+0.3**
VRAC				SKPbc		**SKPab**	**15 37 03.8**	**+0.3**
VRAC	**Vranov**	**135.25**	**332**	PKP		**PKPdf**	**15 33 31.0**	**+0.3**
	comp=Z,15nm,1.2s,baz=42,slow=2.2,SNR=3.5							
VRAC				SKPbc		**SKPab**	**15 37 03.8**	**+0.3**
	comp=Z,8.4nm,1.1s,baz=25,slow=5.5,SNR=4.4							
PVCC	**Panska Ves**	**135.26**	**334**	*e*PKIKP		**PKPdf**	**15 33 30.6**	**0.0**
PVCC				*e*			15 54 01.3	
PVCC				MLR		MLR		
	comp=Z,2μm,19.7s							
PVCC	**Panska Ves**	**135.26**	**334**	*e*PKPdf		**PKPdf**	**15 33 30.6**	**0.0**
PVCC				*e*SS		SS	15 54 01.3	+2.4
PVCC				AMS		AMS	16 37 10.0	
	comp=Z,2μm,19.7s							
BRG	**Berggiesshubel**	**135.26**	**335**	*e*PKIKP		**PKPdf**	**15 33 30.0**	**-0.6**
BRG				*e*			15 36 05.9	
BRG				SS		SS	15 54 03.0	+4.2
BRG				pmax	pmax			
	comp=Z,21nm,1.3s							
BRG				pmax	pmax			
	comp=Z,25nm,1.4s							
BRG				pmax	pmax			
	comp=Z,19nm,1.3s							
BRG				MLR	MLR			
	comp=N,2μm,17.9s							
BRG				MLR	MLR			
	comp=E,597nm,18.6s							
BRG				MLR	MLR			
	comp=Z,2μm,17.9s							
CLL	**Collm**	**135.30**	**336**	*e*PKIKP		**PKPdf**	**15 33 30.0**	**-0.6**
CLL				pmax	pmax			
	comp=Z,3.0nm,1.1s							
CLL				MLR	MLR			
	comp=Z,2μm,19.4s							
BBGH	**Gun Hill**	**135.51**	**84**	PFAKE			15 33 40.0	+7.9
BBGH				LR	LR			
	comp=Z,3μm,20.0s							
PRA	**Prague**	**135.66**	**334**	PKPdf		**PKPdf**	**15 33 32.0**	**+0.7**
PRU	**Pruhonice**	**135.68**	**334**	*e*PKIKP		**PKPdf**	**15 33 31.4**	**0.0**
PRU				MLR		MLR		
	comp=Z,2μm,18.8s							
PRU	**Pruhonice**	**135.68**	**334**	*e*PKPdf		**PKPdf**	**15 33 31.4**	**0.0**
PRU				*e*SS		SS	15 53 56.1	-7.8
PRU				AMS		AMS	16 38 30.0	
	comp=Z,2μm,18.8s							
TREC	**Trest**	**135.77**	**333**	*e*PKIKP		**PKPdf**	**15 33 31.9**	**+0.3**
TREC				*e*			15 33 48.0	
TREC	**Trest**	**135.77**	**333**	*e*PKPdf		**PKPdf**	**15 33 31.9**	**+0.3**
TREC				*ex*		x	15 33 48.0	
TSUM	**Tsumeb**	**135.97**	**225**	PFAKE			15 33 40.0	+7.0
TSUM				LR		LR		
	comp=Z,4μm,19.0s							
EKA	**Eskdalemuir Ar**	**136.17**	**351**	SKPbc		**SKPab**	**15 37 05.7**	**-1.6**
EKA	**Eskdalemuir Ar**	**136.17**	**351**	SKPbc		**SKPab**	**15 37 05.7**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=6.8,slow=1.8,SNR=5.0							
ESK	**Eskdalemuir**	**136.19**	**351**	PFAKE			15 33 40.0	+7.8
ESK				LR		LR		
	comp=Z,2μm,21.0s							
PKSM	**Moragy**	**136.34**	**327**	⇑*i*P		**SKPab**	**15 37 07.2**	**-1.1**
BDFB	**Brasilia**	**136.36**	**129**	PKP		**PKPdf**	**15 33 32.8**	**-1.0**
BDFB	**Brasilia**	**136.36**	**129**	PKP		**PKPdf**	**15 33 32.8**	**-1.0**
	comp=Z,2.5nm,0.4s,baz=256,slow=9.0,SNR=3.5							
NKC	**Novy Kostel**	**136.36**	**336**	*e*PKIKP		**PKPdf**	**15 33 33.8**	**+1.1**
NKC	**Novy Kostel**	**136.36**	**336**	*e*PKPdf		**PKPdf**	**15 33 33.8**	**+1.1**
CONA	**Conrad Observa**	**136.58**	**331**	⇑*i*PKiKP		**PKiKP**	**15 33 35.0**	**0.0**
	comp=Z,17nm,1.3s							
KHC	**Kasperske Hory**	**136.73**	**334**	*e*PKIKP		**PKPdf**	**15 33 33.8**	**+0.4**
KHC				MLR		MLR		
	comp=Z,2μm,18.7s							
KHC	**Kasperske Hory**	**136.73**	**334**	*e*PKPdf		**PKPdf**	**15 33 33.8**	**+0.4**
KHC				*ex*		x	15 33 51.4	
KHC				*ex*		x	15 48 36.6	
KHC				*ex*		x	15 53 54.4	
KHC				AMS		AMS	16 39 00.0	
	comp=Z,2μm,18.7s							
KHC	**Kasperske Hory**	**136.73**	**334**	*e*P		**PKPdf**	**15 33 32.1**	**-1.4**
GERES	**GERESS Array B**	**136.89**	**333**	PKPpre		PKPpre	15 33 23.2	
GERES				PKP		**PKPdf**	**15 33 32.9**	**-0.9**
GERES				SKP			15 37 09.1	
GERES	**GERESS Array B**	**136.89**	**333**	PKhKP		PKPpre	15 33 23.2	
	comp=Z,1.8nm,1.0s,baz=0.0,slow

comp=Z,37nm,1.0s,baz=297,slow=1.5,SNR=28

CMAH	**Djebel Manchou**	**149.03 325**	P		**PKPbc**	**15 34 00.0**	**+0.4**
CAEH	**'Ain El Ouahch**	**149.23 326**	P		**PKPbc**	**15 34 02.1**	**+2.1**
ABSA	**Djebel Ababsia**	**149.25 325**	P		**PKPbc**	**15 34 01.1**	**+0.9**
CKFL	**Kef-Lekhel**	**149.58 326**	P		**PKPbc**	**15 34 01.7**	**+0.7**
CASM	**Ain Smara**	**149.81 326**	P		**PKPbc**	**15 34 02.3**	**+0.8**
PBRG	**Braganca**	**149.87 349**	*e*PKPbc		**PKPbc**	**15 34 01.8**	**+0.3**
PGAV	**Gavieira, Arco**	**149.96 352**	*e*LR		LR	16 35 24.7	

comp=Z,3μm,20.0s

CTEI	**Djebel Teioual**	**150.00 326**	P		**PKPbc**	**15 34 02.5**	**+0.4**
PCAB	**Cabril**	**150.17 351**	*e*PKPbc		**PKPbc**	**15 34 03.3**	**+1.1**
SET	**Setif**	**150.44 327**	P		**PKPbc**	**15 34 04.0**	**+0.9**
POLO	**Lamas de Olo**	**150.47 351**	*e*PKPbc		**PKPbc**	**15 34 03.2**	**+0.2**
CKHR	**Kef el Ahmar**	**150.52 327**	P		**PKPbc**	**15 34 03.0**	**-0.3**
MVO	**Moncorvo**	**150.54 349**	*e*PKPbc		**PKPbc**	**15 34 03.2**	**+0.1**
MVO	**Moncorvo**	**150.54 349**	*e*SS		SS	15 56 57.5	+2.7
MVO	**Moncorvo**	**150.54 349**	*e*LR		LR	16 37 12.4	

comp=Z,3μm,20.0s

PVRL	**Vila Real**	**150.55 350**	*e*PKPbc		**PKPbc**	**15 34 04.2**	**+1.1**
SHEL	**Horse Pasture**	**150.86 196**	PFAKE			15 34 10.0	-1.6
SHEL			LR		LR		

comp=Z,2μm,20.0s

PVIS	**Viseu**	**151.12 350**	*e*PKPbc		**PKPbc**	**15 34 05.1**	**+0.6**
ESDC	**Sonseca Array**	**151.27 344**	PKP		**PKPdf**	**15 33 59.1**	**+0.2**
ESDC			PKPbc		**PKPbc**	**15 34 04.9**	**+0.1**
ESDC			PP		**PP**	**15 37 37.8**	**-4.5**
ESDC	**Sonseca Array**	**151.27 344**	PKP		**PKPdf**	**15 33 59.1**	**+0.2**

comp=Z,0.2nm,0.3s,baz=62,slow=2.7,SNR=5.5

ESDC			PKPbc		**PKPbc**	**15 34 04.9**	**+0.1**

comp=Z,16nm,1.0s,baz=12,slow=2.5,SNR=32

ESDC			PP		**PP**	**15 37 37.8**	**-4.5**

comp=Z,1.5nm,0.7s,baz=17,slow=9.4,SNR=3.1

ESLA	**Sonseca Array**	**151.27 344**	*e*P		**PKPbc**	**15 34 02.2**	**-2.6**
MTE	**Manteigas**	**151.37 350**	*e*PKPbc		**PKPbc**	**15 34 05.2**	**+0.1**
MTE	**Manteigas**	**151.37 350**	*e*SS		SS	15 57 23.0	+19
MTE	**Manteigas**	**151.37 350**	*e*LR		LR	16 33 49.5	

comp=Z,3μm,18.0s

MTE	**Manteigas**	**151.37 350**	*e*PKPdf		**PKPdf**	**15 33 57.8**	**-1.3**
MTE			*e*PKPbc		**PKPbc**	**15 34 04.5**	**-0.6**
MTE			LR		LR		

comp=Z,3μm,19.0s

PAB	**San Pablo**	**151.49 344**	*e*PKIKP		**PKPbc**	**15 34 03.1**	**-2.3**
PAB			MLR		MLR		

comp=Z,4μm,19.0s

PAB	**San Pablo**	**151.49 344**	*e*P		**PKPbc**	**15 34 03.1**	**-2.3**
PAB			LR		LR		

comp=Z,4μm,19.0s

EMHD	**Djebel Mahouad**	**151.69 330**	P		**PKPbc**	**15 34 05.0**	**-1.0**
RCBR	**Riachuelo**	**151.73 128**	PFAKE			15 34 10.0	+3.3
RCBR			LR		LR		

comp=Z,3μm,19.0s

PCAS	**Casmilo, Conde**	**151.87 351**	*e*PKPbc		**PKPbc**	**15 34 06.1**	**-0.1**
PCBR	**Castelo Branco**	**151.91 349**	*e*PKPbc		**PKPbc**	**15 34 04.9**	**-1.3**
PTOM	**Tomar**	**152.28 351**	*e*PKPbc		**PKPbc**	**15 34 08.3**	**+1.2**
EBNR	**Beni Rached**	**152.28 332**	P		**PKPbc**	**15 34 06.5**	**-0.8**
PMRV	**Marv??o**	**152.29 349**	*e*PKPbc		**PKPbc**	**15 34 07.5**	**+0.4**
PMRV	**Marv??o**	**152.29 349**	*e*LR		LR	16 34 33.4	

comp=Z,2μm,20.0s

CMLA	**Cha da Macela**	**152.53 20**	PFAKE			15 34 10.0	+2.3
CMLA			LR		LR		

comp=Z,3μm,20.0s

EANR	**'Ain N'Sour**	**152.76 333**	P		**PKPbc**	**15 34 09.0**	**+0.6**
PMTG	**Montargil**	**152.78 350**	*e*PKPbc		**PKPbc**	**15 34 08.4**	**+0.2**
ETRT	**Tiaret**	**153.13 332**	P		**PKPbc**	**15 34 07.8**	**-1.5**
EVO	**Evora**	**153.27 350**	*e*PKPbc		**PKPbc**	**15 34 08.3**	**-1.0**
LIS	**Lisbon**	**153.27 352**	*e*P		**PKPdf**	**15 33 57.2**	**-4.6**
LIS			AMS		AMS	16 51 38.5	

comp=Z,2μm,21.9s

LIS	**Lisbon**	**153.27 352**	*e*P		**PKPdf**	**15 33 57.2**	**-4.6**
LIS	**Lisbon**	**153.27 352**	A		A	16 51 38.5	

comp=Z,2μm,21.9s

LIS	**Lisbon**	**153.27 352**	*e*PKIKP		**PKPdf**	**15 33 57.2**	**-4.6**
PBEJ	**Beja**	**153.74 349**	*e*PKPbc		**PKPbc**	**15 34 08.9**	**-1.5**
PCVE	**Castro Verde**	**154.15 349**	*e*PKPbc		**PKPbc**	**15 34 08.7**	**-2.6**
PVAQ	**Vaqueiros**	**154.31 349**	*e*PKPbc		**PKPbc**	**15 34 13.0**	**+1.4**
PVAQ	**Vaqueiros**	**154.31 349**	*e*LR		LR	16 33 12.9	

comp=Z,2μm,18.0s

MORF	**Marmelete**	**154.58 350**	*e*PKIKP		**PKPdf**	**15 33 59.5**	**-4.3**
PFVI	**Vila Bisbo**	**154.77 350**	*e*PKPbc		**PKPbc**	**15 34 09.2**	**-3.4**
RTC	**Rabat Centre**	**157.39 345**	PFAKE			15 34 20.0	+12
RTC			LR		LR		

comp=Z,2μm,19.0s

TAM	**Tamanrasset**	**158.71 302**	*e*PKIKP		**PKPdf**	**15 34 09.3**	**-0.4**
TAM			MLR		MLR		

comp=Z,2μm,19.0s

TAM	**Tamanrasset**	**158.71 302**	*e*PKPdf		**PKPdf**	**15 34 09.3**	**-0.4**
TAM			LR		LR		

comp=Z,2μm,19.0s

PMOZ	**Porto Moniz, M**	**159.27 8**	*e*LR		LR	16 34 49.4	

comp=Z,2μm,18.0s

ASCN	**Ascension**	**159.97 179**	PFAKE			15 34 20.0	+8.8
ASCN			LR		LR		

comp=Z,653nm,19.0s

TOA0	**Torodi Ar. Sit**	**164.73 275**	*e*PKPdf		**PKPdf**	**15 34 14.8**	**-1.1**
TORD	**Torodi Ar. Bea**	**164.73 275**	PKP		**PKPdf**	**15 34 14.7**	**-1.2**
TORD			PKPab		**PKPab**	**15 35 13.2**	**+1.5**
TORD	**Torodi Ar. Bea**	**164.73 275**	PKP		**PKPdf**	**15 34 14.7**	**-1.2**

comp=Z,30nm,1.1s,baz=32,slow=0.5,SNR=62

TORD			PKPab		**PKPab**	**15 35 13.2**	**+1.5**

comp=Z,22nm,1.0s,baz=77,slow=2.7,SNR=9.1

KIC	**Kosan Boka**	**169.23 238**	*e*P		PKPdf	15 34 10.5	-8.8

comp=Z,93nm,1.5s

KIC	**Kosan Boka**	**169.23 238**	*e*P		**PKPab**	**15 35 35.8**	**+4.4**

comp=Z,108nm,1.1s

LIC	**Lamto**	**169.39 237**	*e*P		PKPdf	15 34 08.8	-11

comp=Z,31nm,1.2s

LIC	**Lamto**	**169.39 237**	*e*P		**PKPab**	**15 35 33.6**	**+1.5**

comp=Z,54nm,1.0s

DBIC	**Dimbokro**	**169.50 239**	*e*PKPdf		**PKPdf**	**15 34 17.8**	**-1.7**
DBIC			PKP			15 34 17.9	
DBIC			PKPab		**PKPab**	**15 35 34.5**	**+1.9**
DBIC	**Dimbokro**	**169.50 239**	PKP		**PKPdf**	**15 34 17.9**	**-1.5**

comp=Z,12nm,1.2s,baz=97,slow=6.3,SNR=4.7

DBIC			PKPab		**PKPab**	**15 35 34.5**	**+1.9**

comp=Z,7.9nm,1.0s,baz=138,slow=3.9,SNR=4.6

TIC	**Toumodi**	**169.62 239**	*e*P		PKPdf	15 34 10.5	-9.1

comp=Z,7.2nm,0.2s

TIC	**Toumodi**	**169.62 239**	*e*P		**PKPab**	**15 35 36.1**	**+2.9**

comp=Z,106nm,1.1s

SACV	**Santiago Islan**	**170.19 73**	PFAKE			15 34 30.0	+10
SACV			LR		LR		

comp=Z,3μm,20.0s

*CSEM **23** 15:20:15.2, 40.58N×29.33W, h5km, ML3.0, After PDA*
PDA 23 15:20:15.2±1.0, 40.58N×29.33W, h5km, MD3.7, ML3.0, Error ellipse: s-maj=22.5km s-min=7.1km az=79.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**2.01**	**166**	*e*S	Sn	15 21 07.4	-7.9
PCED				A	A	15 21 10.0	

29nm,0.3s

PCED	**Cedros**	**2.01**	**166**	*e*S	Sn	15 21 07.4	-7.9
CALA	**Caldeira**	**2.06**	**166**	*e*S	Sn	15 21 08.4	-8.2
CALA	**Caldeira**	**2.06**	**166**	*e*S	Sn	15 21 08.4	-8.2
PMAN	**Manadas**	**2.17**	**153**	*e*P	Pn	15 20 47.2	-4.8
PMAN				*e*S	Sn	15 21 10.9	-8.3
PMAN				A	A	15 21 13.5	

15nm,0.1s

PMAN	**Manadas**	**2.17**	**153**	*e*P	Pn	15 20 47.2	-4.8
PMAN				*e*S	Sn	15 21 10.9	-8.3
PICO	**Pico**	**2.19**	**161**	*e*P	Pn	15 20 47.3	-5.1
PICO				*e*S	Sn	15 21 11.9	-8.1
PICO	**Pico**	**2.19**	**161**	*e*P	Pn	15 20 47.3	-5.1
PICO				*e*S	Sn	15 21 11.9	-8.1
PCAN	**Candelaria**	**2.21**	**163**	*e*P	Pn	15 20 48.5	-4.1
PCAN				*e*S	Sn	15 21 12.7	-7.7
PCAN	**Candelaria**	**2.21**	**163**	*e*P	Pn	15 20 48.5	-4.1
PCAN				*e*S	Sn	15 21 12.7	-7.7
TOPO	**Topo**	**2.27**	**151**	*e*P	Pn	15 20 48.6	-4.8
TOPO				*e*S	Sn	15 21 14.1	-7.7
TOPO	**Topo**	**2.27**	**151**	*e*P	Pn	15 20 48.6	-4.8
TOPO				*e*S	Sn	15 21 14.1	-7.7

*IDC **23** 15:21:09.1±0.7, 12.19S×166.08E, h0km, mb4.5/19, mb1 4.6/22, mb1mx4.5/28, mbtmp4.6/22, ML4.2/3, Error ellipse: s-maj=20.6km s-min=14.5km az=93.0*
*ISCJB **23** 15:21:13.4±0.6, 12.23S±0.06×165.92E±0.08, h40km, mb4.5/19, Error ellipse: s-maj=11.7km s-min=8.4km az=151.2*
*NEIC **23** 15:21:14.4±0.5, 12.21S×166.03E, h35km, mb4.5/1, Error ellipse: s-maj=12.1km s-min=9.2km az=92.0*
ISC 23 15:21:15.2±0.6, 12.31S±0.07×165.94E±0.09, h40km, n58, σ1§15/63, mb4.5/19, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.55**	**295**	Pn	**Pn**	**15 22 47.4**	**-1.7**
HNR				Sn	**Sn**	**15 24 01.9**	**-0.6**
HNR	**Honiara**	**6.55**	**295**	Pn	**Pn**	**15 22 47.3**	**-1.7**

46nm,0.3s,baz=153,slow=1.1,SNR=9.8

HNR				Sn	**Sn**	**15 24 01.9**	**-0.6**

baz=54,slow=19,SNR=2.2

DZM	**Mont Dzumac**	**9.72**	**177**	Pn	**Pn**	**15 23 32.6**	**0.0**
DZM				Sn	**Sn**	**15 25 18.1**	**-2.6**
DZM	**Mont Dzumac**	**9.72**	**177**	Pn	**Pn**	**15 23 32.6**	**0.0**

2.9nm,0.3s,baz=20,slow=18,SNR=12

DZM				Sn	**Sn**	**15 25 18.1**	**-2.6**

baz=338,slow=19,SNR=1.6

PMG	**Port Moresby**	**18.67**	**277**	P	**Pn**	**15 25 32.1**	**+1.4**
PMG	**Port Moresby**	**18.67**	**277**	P	**Pn**	**15 25 32.1**	**+1.4**

0.4nm,0.3s,baz=94,slow=6.8,SNR=5.6

EIDS	**Eidsvold**	**19.12**	**225**	*e*P	**Pn**	**15 25 36.4**	**+0.3**
CTA	**Charters Tower**	**20.42**	**245**	P	Pn	15 25 50.6	-0.8
CTA	**Charters Tower**	**20.42**	**245**	P	Pn	15 25 50.6	-0.8

24nm,1.0s,baz=82,slow=12,SNR=9.9

CTAO	**Charters Tower**	**20.42**	**245**	*e*P	Pn	15 25 50.6	-0.9
ARMA	**Armidale**	**22.38**	**214**	*e*P	**P**	**15 26 10.9**	**+0.7**
STKA	**Stephens Creek**	**29.68**	**225**	P	**P**	**15 27 19.2**	**+1.9**
STKA	**Stephens Creek**	**29.68**	**225**	P	**P**	**15 27 19.2**	**+1.9**

5.3nm,0.8s,baz=1.2,slow=5.8,SNR=7.3

WRAB	**Tennant Creek**	**31.24**	**252**	*e*P	**P**	**15 27 29.9**	**-1.5**

9.1nm,1.2s

WRA	**Warramunga Arr**	**31.26**	**252**	P	**P**	**15 27 31.7**	**+0.2**
WRA	**Warramunga Arr**	**31.26**	**252**	P	**P**	**15 27 31.7**	**+0.2**

7.2nm,0.8s,baz=82,slow=9.8,SNR=16

RPZ	**Rata Peaks**	**31.61**	**173**	*e*P	**P**	**15 27 35.1**	**+0.8**
RPZ	**Rata Peaks**	**31.61**	**173**	P	**P**	**15 27 35.7**	**+1.4**

16nm,0.8s,baz=277,slow=8.2,SNR=9.6

ASAR	**Alice Springs**	**32.42**	**245**	P	**P**	**15 27 41.6**	**-0.1**
ASAR				PcP	**PcP**	**15 30 29.2**	**+0.7**
ASAR	**Alice Springs**	**32.42**	**245**	P	**P**	**15 27 41.6**	**-0.1**

9.6nm,0.7s,baz=69,slow=9.5,SNR=33

ASAR				PcP	**PcP**	**15 30 29.2**	**+0.7**

2.2nm,0.9s,baz=76,slow=2.3,SNR=7.3

FITZ	**Fitzroy Crossi**	**39.26**	**256**	P	**P**	**15 28 41.0**	**+0.7**
FITZ	**Fitzroy Crossi**	**39.26**	**256**	P	**P**	**15 28 41.0**	**+0.7**

5.5nm,0.8s,baz=147,slow=7.6,SNR=7.1

KAPI	**Kappang**	**46.18**	**275**	P	**P**	**15 29 35.1**	**-1.4**
KAPI	**Kappang**	**46.18**	**275**	P	**P**	**15 29 35.1**	**-1.4**

11nm,0.8s,baz=79,slow=6.8,SNR=4.0

MJAR	**Matsushiro Arr**	**55.17**	**333**	P	**P**	**15 30 43.1**	**-0.8**
MJAR	**Matsushiro Arr**	**55.17**	**333**	P	**P**	**15 30 43.1**	**-0.8**

4.2nm,0.9s,baz=172,slow=8.8,SNR=8.5

KSM	**Kuching**	**56.90**	**280**	*e*P	**P**	**15 30 57.2**	**+0.5**
ASAJ	**Asahikawa**	**60.04**	**341**	P	**P**	**15 31 17.4**	**-0.6**
ASAJ	**Asahikawa**	**60.04**	**341**	P	**P**	**15 31 17.4**	**-0.6**

2.0nm,0.7s,baz=209,slow=14,SNR=4.7

KSRS	**Korea Array**	**61.02**	**326**	P	**P**	**15 31 24.6**	**-0.2**

1.4nm,0.9s,baz=160,slow=4.9,SNR=4.0

KSAR	**Wonju Array Be**	**61.03**	**326**	P	**P**	**15 31 24.6**	**-0.3**
USRK	**Ussuriysk Arra**	**64.15**	**333**	P	**P**	**15 31 45.4**	**-0.1**

4.6nm,0.7s,baz=124,slow=6.6,SNR=14

VNDA	**Vanda**	**65.25**	**181**	P	**P**	**15 31 51.8**	**-0.5**
VNDA	**Vanda**	**65.25**	**181**	P	**P**	**15 31 51.8**	**-0.5**

1.2nm,0.7s,baz=2.9,slow=7.2,SNR=4.8

PSI	**Prapat**	**68.23**	**278**	P	**P**	**15 32 13.1**	**+0.5**
PSI	**Prapat**	**68.23**	**278**	P	**P**	**15 32 13.1**	**+0.5**

6.5nm,0.7s,baz=141,slow=8.5,SNR=4.0

CMAR	**Chiang Mai Arr**	**72.79**	**294**	P	**P**	**15 32 41.7**	**+1.5**
CMAR	**Chiang Mai Arr**	**72.79**	**294**	P	**P**	**15 32 41.7**	**+1.5**

3.5nm,0.9s,baz=124,slow=4.9,SNR=16

SONM	**Songino Array**	**79.79**	**324**	P	**P**	**15 33 19.1**	**-0.3**
SONM	**Songino Array**	**79.79**	**324**	P	**P**	**15 33 19.1**	**-0.3**

2.0nm,0.6s,baz=101,slow=7.7,SNR=4.9

MAW	**Mawson**	**83.63**	**202**	P	**P**	**15 33 39.8**	**+0.7**
MAW	**Mawson**	**83.63**	**202**	P	**P**	**15 33 39.8**	**+0.7**

0.9nm,0.7s,baz=100,slow=12,SNR=2.8

ILAR	**Eielson Array**	**84.64**	**18**	P	**P**	**15 33 44.5**	**+0.2**
ILAR	**Eielson Array**	**84.64**	**18**	P	**P**	**15 33 44.5**	**+0.2**

9.6nm,0.5s,baz=240,slow=4.9,SNR=13

MKAR	**Makanchi Array**	**94.57**	**317**	P	**P**	**15 34 31.9**	**+0.1**
MKAR	**Makanchi Array**	**94.57**	**317**	P	**P**	**15 34 31.9**	**+0.1**

2.0nm,0.7s,baz=89,slow=5.7,SNR=14

ZALV	**Zalesovo Beam**	**94.69**	**324**	P	**P**	**15 34 30.4**	**-1.6**
ZALV	**Zalesovo Beam**	**94.69**	**324**	P	**P**	**15 34 30.4**	**-1.6**

4.2nm,1.0s,baz=108,slow=4.8,SNR=4.9

ARCES	**ARCESS Array B**	**117.59**	**345**	PKP	**PKPdf**	**15 39 54.1**	**-2.2**
ARCES	**ARCESS Array B**	**117.59**	**345**	PKP	**PKPdf**	**15 39 54.1**	**-2.2**

1.5nm,0.7s,baz=88,slow=1.3,SNR=6.6

FINES	**FINESS Array B**	**123.01**	**338**	PKP	**PKPdf**	**15 40 05.0**	**-2.0**
FINES	**FINESS Array B**	**123.01**	**338**	PKP	**PKPdf**	**15 40 05.0**	**-2.0**

0.6nm,0.5s,baz=33,slow=4.5,SNR=4.8

AKASG	**Malin Array Be**	**128.02**	**326**	PKP	**PKPdf**	**15 40 16.7**	**-0.2**
AKASG	**Malin Array Be**	**128.02**	**326**	PKP	**PKPdf**	**15 40 16.7**	**-0.2**

0.7nm,0.7s,baz=65,slow=1.9,SNR=3.2

GERES	**GERESS Array B**	**136.91**	**333**	PKP	**PKPdf**	**15 40 35.1**	**+1.3**
GERES	**GERESS Array B**	**136.91**	**333**	PKP	**PKPdf**	**15 40 35.1**	**+1.3**

0.3nm,0.5s,baz=98,slow=5.1,SNR=2.7

TORD	**Torodi Ar. Bea**	**164.61**	**275**	PKP	**PKPdf**	**15 41 16.6**	**+0.9**
TORD				PKPab	**PKPab**	**15 42 11.8**	**+0.7**
TORD	**Torodi Ar. Bea**	**164.61**	**275**	PKP	**PKPdf**	**15 41 16.6**	**+0.9**

2.6nm,1.1s,baz=347,slow=1.4,SNR=3.3

TORD				PKPab	**PKPab**	**15 42 11.8**	**+0.7**

2.2nm,1.0s,baz=97,slow=3.8,SNR=4.5

*AUST **23** 15:30:24.2±5.8, 23.11S×178.64W, h590km, Error ellipse: s-maj=5.2km s-min=1.7km az=258.0*
*ISCJB **23** 15:30:26.4±0.7, 23.42S±0.10×179.6W±0.1, h536km, mb4.2/10, Error ellipse: s-maj=14.1km s-min=11.7km az=138.5*
*IDC **23** 15:30:26.8±1.8, 23.40S×179.53W, h540km±21km, mb3.7/9, mb1 3.8/12, mb1mx3.5/22, mbtmp3.7/12, Error ellipse: s-maj=21.7km s-min=16.7km az=139.0*
ISC 23 15:30:27.3±0.8, 23.45S±0.1×179.7W±0.1, h536km, n34, σ1§33/34, mb4.4/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.01**	**40**	P	**P**	**15 33 06.8**	**+0.7**

2.6nm,0.3s,baz=57,slow=13,SNR=3.5

DZM	**Mont Dzumac**	**12.90**	**273**	P	**P**	**15 33 16.9**	**+1.5**

0.3nm,0.3s,baz=126,slow=17,SNR=2.8

URZ	**Urewera**	**15.10**	**190**	P	**P**	**15 33 35.6**	**-2.2**

3.2nm,0.3s,baz=282,slow=3.5,SNR=23

RPZ	**Rata Peaks**	**21.69**	**198**	P	**P**	**15 34 38.3**	**-0.8**

9.1nm,0.5s,baz=254,slow=20,SNR=7.3

EIDS	**Eidsvold**	**26.71**	**260**	P	P	15 35 15.3	-8.7

baz=28,SNR=3.8

MGCD	**Mangrove Creek**	**27.47**	**243**	P	**P**	**15 35 32.4**	**+1.8**

baz=28,SNR=7.5

RMQ	**Roma**	**28.78**	**257**	P	**P**	**15 35 43.8**	**+1.7**

baz=30,SNR=7.4

CNB	**Canberra Magne**	**29.40**	**239**	P	**P**	**15 35 49.0**	**+1.6**

baz=30,SNR=4.5

CMSA	**Cobar Meteorol**	**31.71**	**247**	P	**P**	**15 36 07.9**	**+0.7**

baz=33,SNR=33

CTA	**Charters Tower**	**31.80**	**269**	P	**P**	**15 36 09.1**	**+0.9**

30nm,0.3s,baz=98,slow=11,SNR=43

QLP	**Quilpie**	**32.83**	**257**	P	**P**	**15 36 17.2**	**+0.4**

baz=34,SNR=14

TOO	**Toolangi**	**33.01**	**236**	P	**P**	**15 36 19.1**	**+0.9**

baz=34,SNR=11

MTSU	**Mount Surprise**	**34.04**	**272**	P	**P**	**15 36 27.8**	**+0.6**

baz=35,SNR=16

PMG	**Port Moresby**	**34.63**	**288**	P	**P**	**15 36 32.5**	**+0.3**

20nm,0.7s,baz=117,slow=6.3,SNR=7.1

STKA	**Stephens Creek**	**35.22**	**247**	P	**P**	**15 36 37.5**	**+0.6**

baz=36,SNR=18

STKA	**Stephens Creek**	**35.22**	**247**	P	**P**	**15 36 37.5**	**+0.6**

5.4nm,0.6s,baz=94,slow=9.5,SNR=26

ARPS	**Mount Arapiles**	**35.66**	**239**	P	**P**	**15 36 41.0**	**+0.6**

baz=37,SNR=6.4

COEN	**Coen**	**36.36**	**278**	P	**P**	**15 36 47.1**	**+0.7**

baz=37,SNR=4.9

BBOO	**Buckleboo**	**39.95**	**246**	P	**P**	**15 37 14.9**	**-0.5**

baz=41,SNR=15

ASAR	**Alice Springs**	**42.44**	**260**	P	**P**	**15 37 34.0**	**-1.4**

8.2nm,0.6s,baz=97,slow=7.0,SNR=24

ASAR				S	**S**	**15 43 15.1**	**-3.6**

0.4nm,0.6s,baz=95,slow=15,SNR=5.3

WRA	**Warramunga Arr**	**42.77**	**265**	P	**P**	**15 37 37.2**	**-0.7**

12nm,0.6s,baz=92,slow=8.5,SNR=70

WRA				ScP	**ScP**	**15 42 18.1**	**+0.8**

0.4nm,0.9s,baz=93,slow=3.7,SNR=5.2

KDU	**Kakadu**	**46.57**	**275**	P	**P**	**15 38 06.6**	**-0.6**

baz=48,SNR=5.8

FORT	**Forrest**	**46.80**	**249**	P	**P**	**15 38 08.2**	**-0.5**

baz=48,SNR=13

MTN	**Manton Dam**	**47.74**	**274**	P	**P**	**15 38 15.3**	**-0.7**

baz=49,SNR=5.0

KNRA	**Kununurra**	**49.02**	**269**	P	**P**	**15 38 25.4**	**-0.1**

baz=50,SNR=12

TLE	**Tual**	**49.08**	**283**	P	**P**	**15 38 28.1**	**+2.0**

baz=50,SNR=3.3

FITZ	**Fitzroy Crossi**	**51.19**	**265**	P	P	15 38 38.2	-3.3

baz=52,SNR=12

FITZ	**Fitzroy Crossi**	**51.19**	**265**	P	**P**	**15 38 42.2**	**+0.8**

7.1nm,0.6s,baz=63,slow=6.0,SNR=6.6

VNDA	**Vanda**	**54.93**	**185**	P	**P**	**15 39

0.3nm,0.5s,baz=43,slow=7.9,SNR=8.2
STKA Stephens Creek 31.29 194 P P 16 39 30.4 -0.8
1.0nm,0.7s,baz=11,slow=12,SNR=3.9
CMAR Chiang Mai Arr 54.24 294 P P 16 42 37.4 -0.2
0.2nm,0.7s,baz=120,slow=7.1,SNR=4.4

MEX 23 16:34:42.6±0.8, 16°77'N×94°13'W, h140km±11km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGIG		**0.96**	**89**	*eP*	Pn	16 35 05.0	-1.2
TGIG				*eS*	Sn	16 35 21.8	-2.2
PCIG		**1.37**	**140**	*eP*	Pn	16 35 09.2	-0.8
PCIG				*eS*	Sn	16 35 29.1	-1.8
CCIG	**Comitan**	**1.97**	**104**	*eP*	Pn	16 35 15.9	-1.1
CCIG				*i* S	Sn	16 35 40.6	-2.7
HUIG	**Huatulco**	**2.15**	**243**	*i* P	Pn	16 35 16.7	-2.2
HUIG				*i* S	Sn	16 35 44.6	-2.2
VHO	**Vista Hermosa**	**2.51**	**277**	*eP*	Pn	16 35 22.4	-1.2
VHO				*eS*	Sn	16 35 54.1	-1.1
TPIG	**Tehuac#an**	**3.50**	**299**	*i* P	Pn	16 35 34.8	-1.5
TPIG				*i* S	Sn	16 36 15.8	-2.0
UTMO	**Huajuapan**	**3.67**	**287**	*eP*	Pn	16 35 37.1	-1.4
UTMO				*eS*	Sn	16 36 20.4	-1.5
PNIG	**Pinotepa**	**3.85**	**265**	*eP*	Pn	16 35 38.9	-1.8
PNIG				*i* S	Sn	16 36 23.4	-2.4

MOS ***23*** *16:45:42.6±1.8, 38°.05N×72°.89E, h33km, mb4.4/22, Error ellipse: s-maj=10.3km s-min=4.4km az=85.6*
IDC ***23*** *16:45:49.9±4.0, 38°.46N×73°.12E, h69km±35km, mb3.7/18, mb1 3.8/22, mb1mx3.7/36, mbtmp3.7/22, ML4.3/4, Error ellipse: s-maj=27.3km s-min=12.2km az=9.0*
ISCJB ***23*** *16:45:50.9±0.2, 38°.41N±0°.02×73°.40E±0°.05, h107km, mb4.0/29, Error ellipse: s-maj=5.1km s-min=2.6km az=170.4*
BJI ***23*** *16:45:55.2, 38°.63N×73°.42E, h147km, mB4.7/2, mb4.5/11*
NNC ***23*** *16:45:57.5±1.5, 39°.01N×72°.95E, h174km±14km, mb3.9, mpv4.2, Error ellipse: s-maj=14.8km s-min=5.9km az=6.0*
ISC 23 16:45:52.7±0.4, 38°.48N±0°.04×73°.31E±0°.05, h107km, n121, σ2§03/111, mb4.0/29, 13C-9D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**2.32**	**63**	P	**Pn**	**16 46 28.0**	**-1.7**
KSH				SMN			
	comp=Z,7μm,0.3s						
KSH				SME			
	comp=Z,9μm,0.6s						
AML	**Almayashu**	**3.66**	**5**	*i* PN	**Pn**	**16 46 47.4**	**-0.3**
AML	**Almayashu**	**3.66**	**5**	P	**Pn**	**16 46 47.4**	**-0.3**
	SNR=608						
KZA	**Kyzart**	**3.88**	**22**	*i* PN	**Pn**	**16 46 51.4**	**+0.6**
KZA	**Kyzart**	**3.88**	**22**	P	**Pn**	**16 46 51.4**	**+0.6**
	SNR=23						
EKS2	**Erkin-Say**	**4.19**	**5**	*i* PN	**Pn**	**16 46 54.7**	**+0.1**
EKS2	**Erkin-Say**	**4.19**	**5**	P	**Pn**	**16 46 54.6**	**+0.1**
	SNR=73						
AAK	**Ala-Archa**	**4.24**	**12**	PN	**Pn**	**16 46 56.3**	**+1.0**
AAK				pmax	pmax		
	comp=Z,9.0nm,0.3s						
AAK	**Ala-Archa**	**4.24**	**12**	P	**Pn**	**16 46 56.4**	**+1.0**
	SNR=32						
AAK	**Ala-Archa**	**4.24**	**12**	P	**Pn**	**16 46 56.3**	**+1.0**
	comp=Z,9.3nm,0.3s,baz=178,slow=7.5,SNR=131						
AAK				S	**Sn**	**16 47 41.7**	**-2.3**
	comp=Z,51nm,0.3s,baz=338,slow=18,SNR=27						
KBK	**Karagaybulak**	**4.35**	**16**	*i* PN	**Pn**	**16 46 57.9**	**+1.1**
KBK	**Karagaybulak**	**4.35**	**16**	P	**Pn**	**16 46 57.9**	**+1.1**
	SNR=16						
ULHL	**Ulahol**	**4.37**	**30**	P	**Pn**	**16 46 58.3**	**+1.2**
	SNR=69						
FRU	**Bishkek**	**4.46**	**12**	*i* PN	**Pn**	**16 47 00.0**	**+1.9**
FRU				pmax	pmax		
	comp=Z,90nm,1.5s						
CHMS	**Chumysh**	**4.64**	**13**	*i* PN	**Pn**	**16 47 01.3**	**+0.7**
CHMS	**Chumysh**	**4.64**	**13**	P	**Pn**	**16 47 01.4**	**+0.7**
	SNR=25						
TKM2	**Tokmak 2**	**4.76**	**21**	⇑P	**Pn**	**16 47 03.0**	**+0.6**
	comp=Z,12nm,0.8s						
TKM2				⇑S	**Sn**	**16 47 56.3**	**-0.2**
	comp=Z,66nm,0.6s						
TKM2	**Tokmak 2**	**4.76**	**21**	PN	**Pn**	**16 47 03.0**	**+0.6**
TKM2				pmax	pmax		
	comp=Z,12nm,0.7s						
TKM2	**Tokmak 2**	**4.76**	**21**	P	**Pn**	**16 47 03.4**	**+1.0**
	SNR=22						
CEP	**Cherat**	**4.79**	**194**	P	**Pn**	**16 47 05.3**	**+2.6**
CHCP	**Chirah Chowk**	**4.82**	**180**	⇑P	Pn	16 47 06.4	+3.4
USP	**Ospenovka**	**4.86**	**10**	*i* PN	**Pn**	**16 47 04.0**	**+0.4**
USP	**Ospenovka**	**4.86**	**10**	P	**Pn**	**16 47 04.0**	**+0.4**
	SNR=22						
KK31	**Karatay Array**	**5.08**	**336**	P	**Pn**	**16 47 04.8**	**-1.7**
	comp=Z,72nm,0.5s,baz=160,slow=12,SNR=927						
KK31				⇑S	Sn	16 47 57.6	-6.4
	comp=Z,35nm,0.4s,baz=149,slow=22,SNR=3.9						
KK31	**Karatay Array**	**5.08**	**336**	*e*PN	**Pn**	**16 47 04.8**	**-1.7**
KK31				pmax	pmax		
	comp=Z,86nm,0.2s						
KNDC	**Almaty**	**5.48**	**29**	P	**Pn**	**16 47 13.3**	**+1.3**
KNDC				S	**Sn**	**16 48 13.5**	**-0.2**
AAA	**Alma-Ata**	**5.52**	**29**	*i* PN	**Pn**	**16 47 13.9**	**+1.4**
AAA				*i* S	Sn	16 48 26.8	+12
AAA				pmax	pmax		
	comp=Z,85nm,0.1s						
AAA				smax	smax		
	comp=E,99nm,0.3s						
THW	**Thamme Wali**	**5.82**	**193**	P	**Pn**	**16 47 18.0**	**+1.4**
THW				S	**Sn**	**16 48 20.0**	**-2.0**
JMU	**Jammu**	**5.90**	**167**	*e*P	**Pn**	**16 47 20.0**	**+2.4**
JMU				*e*S	**Sn**	**16 48 21.0**	**-2.9**
THN	**Thein Dam**	**6.35**	**161**	*e*P	**Pn**	**16 47 23.3**	**-0.4**
THN				*e*4		16 48 32.0	
SARP	**Sargodha**	**6.57**	**185**	P	**Pn**	**16 47 28.7**	**+2.0**
DHRM	**DHARAMSHALA**	**6.68**	**158**	*e*P	**Pn**	**16 47 29.5**	**+1.0**
DHRM				*e*S	**Sn**	**16 48 42.1**	**-1.2**
DHRM				AML	AML	16 48 51.7	
	comp=E,634nm,0.4s						
DHRM				AML	AML	16 48 51.8	
	comp=N,620nm,0.7s						
BHK	**Bhakra**	**7.50**	**159**	*e*P	**Pn**	**16 47 41.8**	**+2.4**
BHK				*e*S	**Sn**	**16 49 00.0**	**-2.8**
SDNR	**Sundarnagar**	**7.59**	**156**	*e*4	**Pn**	**16 47 42.0**	**+1.4**
SDNR				*e*S	**Sn**	**16 49 01.0**	**-4.0**
SMLA	**Simla**	**7.99**	**155**	*i* P	**Pn**	**16 47 47.5**	**+1.5**
SMLA				*i* S	**Sn**	**16 49 09.6**	**-5.2**
SMLA				*i* S	**Sn**	**16 49 11.8**	**-2.9**
SMLA				AML	AML	16 49 21.1	
	comp=N,297nm,0.2s						
SMLA				AML	AML	16 49 21.9	
	comp=E,325nm,1.2s						
DDI	**Dehra Dun**	**9.04**	**153**	*e*S	**Sn**	**16 49 35.8**	**-4.5**
NDI	**New Delhi**	**10.30**	**160**	*e*P	**Pn**	**16 48 16.0**	**-1.4**
NDI				*e*4		16 50 00.0	
MK31	**Makanchi Array**	**10.61**	**36**	⇑P	**Pn**	**16 48 21.7**	**+0.1**
	comp=E,7.7nm,0.8s,baz=212,slow=14,SNR=26						
MK31	**Makanchi Array**	**10.61**	**36**	*i* P	**Pn**	**16 48 21.6**	**+0.1**
MK31				pmax	pmax		
	comp=Z,17nm,0.9s						
MKAR	**Makanchi Array**	**10.61**	**36**	P	**Pn**	**16 48 21.2**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**10.61**	**36**	P	**Pn**	**16 48 21.2**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=224,slow=14,SNR=26						
LGTI	**Lohaghat**	**10.69**	**145**	*e*P	**Pn**	**16 48 23.6**	**+1.0**
LGTI				*e*4		16 50 14.0	
WMQ	**Urumqi**	**12.08**	**59**	P	**Pn**	**16 48 40.9**	**-0.3**
KURBB	**Kurchatov Arra**	**12.69**	**15**	⇓P	**Pn**	**16 48 46.7**	**-2.3**
	comp=Z,10nm,0.6s						
KURBB	**Kurchatov Arra**	**12.69**	**15**	P	**Pn**	**16 48 46.8**	**-2.3**
	comp=Z,0.8nm,0.3s,baz=205,slow=12,SNR=25						
KURK	**Kurchatov**	**12.80**	**15**	P	Pn	16 48 46.8	-3.7
KURK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
DANN	**Dangsing**	**13.34**	**136**	*e*P	Pn	16 48 54.6	-3.5
	comp=Z,109nm,0.6s						
DANN				*e*S	Sn	16 51 15.0	-10
KOLN	**Koldanda**	**13.72**	**138**	*e*P	**Pn**	**16 49 00.1**	**-2.8**
	comp=Z,34nm,0.5s						
KOLN				*e*S	Sn	16 51 23.3	-11
GKN	**Gorkha**	**14.10**	**135**	*e*P	Pn	16 49 04.2	-3.5
	comp=Z,42nm,0.4s						
GKN				*e*S	Sn	16 51 31.6	-12
VOSK	**Vostochnaya**	**14.33**	**354**	⇓P	Pn	16 49 05.5	-4.9
	comp=Z,21nm,0.8s						
VOSK	**Vostochnaya**	**14.33**	**354**	P	Pn	16 49 06.8	-3.6
VOSK				pmax	pmax		
	comp=Z,21nm,0.9s						
AB31	**Akbulak array**	**14.43**	**323**	⇓P	Pn	16 49 06.8	-4.9
	comp=Z,12nm,0.5s,baz=132,slow=13,SNR=272						
AB31				⇑S	Sn	16 51 38.9	-12
	comp=Z,3.5nm,0.5s,baz=128,slow=28,SNR=7.1						
AB31	**Akbulak array**	**14.43**	**323**	*e*P	Pn	16 49 06.7	-4.9
AB31				pmax	pmax		
	comp=Z,14nm,0.4s						
KKN	**Kakani**	**14.62**	**133**	*e*P	Pn	16 49 10.7	-3.8
	comp=Z,32nm,0.5s						
KKN				*e*S	Sn	16 51 44.9	-11
DMN	**Daman**	**14.66**	**134**	*e*P	Pn	16 49 11.9	-3.2
	comp=Z,18nm,0.4s						
BVA0	**Borovoye Array**	**14.68**	**353**	⇑P	Pn	16 49 10.7	-4.2
	comp=Z,28nm,0.6s,baz=154,slow=12,SNR=161						
BVA0	**Borovoye Array**	**14.68**	**353**	*i* P	**Pn**	**16 49 12.3**	**-2.6**
BVA0				pmax	pmax		
	comp=Z,28nm,0.6s						
BVAR	**Borovoye Array**	**14.68**	**353**	P	**Pn**	**16 49 11.8**	**-3.1**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BVAR	**Borovoye Array**	**14.68**	**353**	P	**Pn**	**16 49 11.8**	**-3.1**
	comp=Z,2.4nm,0.3s,baz=158,slow=13,SNR=30						
BRVK	**Borovoye**	**14.73**	**353**	⇑P	Pn	16 49 10.7	-4.7
	comp=Z,64nm,0.7s						
BRVK	**Borovoye**	**14.73**	**353**	*i* P	**Pn**	**16 49 12.7**	**-2.7**
BRVK				pmax	pmax		
	comp=Z,17nm,1.2s						
PKIN	**Phulchoki**	**14.85**	**134**	*e*P	Pn	16 49 13.8	-3.7
	comp=Z,20nm,0.3s						
PKI	**Pulchoki**	**14.86**	**134**	*e*P	Pn	16 49 14.5	-3.2
	comp=Z,21nm,0.4s						
GUN	**Gumba**	**14.88**	**131**	*e*P	**Pn**	**16 49 15.0**	**-2.9**
	comp=Z,29nm,0.6s						
JIRN	**Jiri**	**15.25**	**131**	*e*P	**Pn**	**16 49 19.8**	**-2.8**
	comp=Z,30nm,0.4s						
BHPL	**Bhopal**	**15.60**	**166**	*e*4	**Pn**	**16 49 22.5**	**-4.1**
BHPL				*ex*	x	16 52 07.7	
RAMN	**Ramite**	**16.02**	**132**	*e*P	**Pn**	**16 49 29.0**	**-3.1**
	comp=Z,31nm,0.5s						
AKTO	**Aktyubinsk**	**16.14**	**323**	⇑P	Pn	16 49 28.2	-5.0
	comp=Z,41nm,0.8s						
AKTO				⇓S	Sn	16 52 18.9	-13
	comp=Z,7.8nm,0.9s						
AKTO	**Aktyubinsk**	**16.14**	**323**	P	**Pn**	**16 49 28.8**	**-4.4**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AKTO	**Aktyubinsk**	**16.14**	**323**	P	**Pn**	**16 49 28.8**	**-4.4**
	comp=Z,2.8nm,0.3s,baz=126,slow=13,SNR=68						
AKTO				S	Sn	16 52 15.8	-16
	comp=Z,0.3nm,0.3s,baz=307,slow=20,SNR=4.1						
JBP	**Jabalpur**	**16.30**	**158**	⇓*ex*	**Pn**	**16 49 30.7**	**-4.5**
JBP				*e*4		16 52 23.2	
TAPN	**Taplejung**	**16.39**	**128**	*e*P	**Pn**	**16 49 34.1**	**-2.6**
	comp=Z,29nm,0.6s						
ODAN	**Odare**	**16.56**	**130**	*e*P	**Pn**	**16 49 35.9**	**-2.8**
	comp=Z,33nm,0.6s						
ODAN				*e*S	Sn	16 52 30.4	-12
LSA	**Lhasa**	**17.16**	**115**	P	**Pn**	**16 49 48.1**	**+1.8**
ZALV	**Zalesovo Beam**	**17.36**	**23**	P	**P**	**16 49 47.5**	**-0.2**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**17.36**	**23**	P	**P**	**16 49 47.5**	**-0.2**
	comp=Z,1.4nm,0.3s,baz=213,slow=11,SNR=31						
ZALV				S	**Sn**	**16 52 54.8**	**-6.4**
	comp=Z,0.1nm,0.3s,baz=234,slow=12,SNR=1.9						
NVS	**Novosibirsk**	**17.69**	**19**	*e*P	**Pn**	**16 49 51.5**	**-0.5**
NVS				*i* *SS	S	16 53 19.7	+10
NVS				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NVS				pmax	pmax		
	comp=N,2.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,2.0nm,0.5s						
HVS	**Khovu-Aksy**	**19.14**	**42**	⇑*e*P	**Pn**	**16 50 09.9**	**+0.6**
HVS				pmax	pmax		
	comp=Z,61nm,1.0s						
ABNR	**Abakan**	**19.67**	**33**	⇓*e*P	**P**	**16 50 13.5**	**+0.6**
KZLR	**Kyzyl**	**19.84**	**41**	⇓*e*P	**Pn**	**16 50 18.3**	**+0.8**
KZLR				pmax	pmax		
	comp=Z,5.0nm,1.2s						
SVE	**Sverdlovsk**	**20.18**	**340**	⇓*e*P	**P**	**16 50 18.4**	**0.0**
SVE				pmax	pmax		
	comp=Z,16nm,0.9s						
SHL	**Shillong**	**20.30**	**124**	*e*P	Pn	16 50 23.1	-0.1
ARU	**Arti**	**20.46**	**336**	*d* *iP*	**P**	**16 50 20.7**	**-0.7**
ARU						16 50 41.1	
ARU				SS	Sn	16 54 24.6	+9.3
ARU				pmax	pmax		
	comp=Z,46nm,1.7s						
GTA	**Gaotai**	**20.62**	**79**	⇑P	Pn	16 50 27.3	+0.5
GTA				AMB	AMB		
	comp=Z,20nm,1.1s						
GTA				AMB	AMB		
	comp=Z,270nm,6.9s						
GTA				LR	LR		
	comp=Z,250nm,18.0s						
GTA				LR	LR		
	comp=Z,370nm,16.6s						
GTA				LR	LR		
	comp=Z,410nm,15.2s						
GNI	**Garni**	**22.13**	**283**	P	**P**	**16 50 39.2**	**-0.4**
	comp=Z,1.6nm,0.3s,baz=117,slow=5.4,SNR=3.1						
ZEI	**Tsey**	**22.67**	**290**	*e*P	**P**	**16 50 46.4**	**+1.2**
ZEI				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NCK	**Nalchik**	**22.91**	**292**	*i* P	P	16 50 53.4	+6.0
SOKR	**Solikamsk**	**23.61**	**339**	*e*P	**P**	**16 50 55.1**	**+1.5**
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ZAK	**Zakamensk**	**24.31**	**51**	*e*P	**P**	**16 51 02.8**	**+2.6**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
SONM	**Songino Array**	**25.71**	**58**	P	**P**	**16 51 15.6**	**+2.7**
	comp=Z,3.7nm,0.8s,baz=262,slow=10.0,SNR=6.9						
ANN	**Anapa**	**27.38**	**295**	*e*P	P	16 51 32.3	+4.5
ANN				*e*S	**S**	**16 56 02.6**	**+2.7**
ANN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**29.39**	**73**	*e*P	**P**	**16 51 43.5**	**-2.3**
HHC				AMB	AMB		
	comp=Z,24nm,1.0s						
OBN	**Obninsk**	**29.71**	**316**	*e*P	**P**	**16 51 48.1**	**-0.2**
OBN				pmax	pmax		
	comp=Z,6.0nm,1.3s						
AKASG	**Malin Array Be**	**33.20**	**306**	P	**P**	**16 52 18.9**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**33.20**	**306**	P	**P**	**16 52 18.9**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=78,slow=7.3,SNR=9.8						
JOF	**Joensuu**	**35.12**	**328**	*e*P	**P**	**16 52 35.2**	**-0.2**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.5s						
JOF	**Joensuu**	**35.12**	**328**	*ep*	**P**	**16 52 35.2**	**-0.2**
	comp=Z,2.4nm,0.5s						
MLR	**Muntele Rosu**	**35.47**	**297**	P	**P**	**16 52 38.5**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=224,slow=4.0,SNR=3.8						
FINES	**FINESS Array B**	**36.91**	**324**	P	**P**	**16 52 51.0**	**+0.3**
	comp=Z,2.5nm,0.5s,baz=111,slow=9.1,SNR=24						
QIZ	**Qiongzhong**	**37.12**	**111**	P	P	16 53 03.3	+10
QIZ				S	S	16 58 40.0	+8.6
QIZ				AMB	AMB		
	comp=Z,390nm,14.7s						
KEV	**Kevo**	**39.67**	**337**	*e*P	P	16 53 20.7	+7.0
KEV	**Kevo**	**39.67**	**337**	*ep*	P	16 53 20.7	+7.0
	comp=Z,0.3nm,0.3s						
ARCES	**ARCESS Array B**	**40.05**	**336**	P	**P**	**16 53 17.6**	**+0.7**
	comp=Z,3.6nm,0.6s,baz=109,slow=8.3,SNR=29						
KSRS	**Korea Array**	**42.53**	**74**	P	**P**	**16 53 40.4**	**+2.8**
	comp=Z,0.7nm,0.7s,baz=291,slow=6.0,SNR=2.9						
HFS	**Hagfors**	**42.67**	**320**	P	**P**	**16 53 38.7**	**+0.3**
	comp=Z,4.8nm,0.5s,baz=103,slow=11,SNR=40						
BRG	**Berggiesshubel**	**42.88**	**307**	*e*P	**P**	**16 53 41.5**	**+1.3**
	comp=Z,4.5nm,0.6s						
BRG	**Berggiesshubel**	**42.88**	**307**	*e*P	**P**	**16 53 41.5**	**+1.3**
BRG				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TIXI	**Tiksi**	**43.25**	**22**	⇑*i* P	**P**	**16 53 44.4**	**+1.6**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GERES	**GERESS Array B**	**43.32**	**304**	P	**P**	**16 53 45.8**	**+1.9**
	comp=Z,0.2nm,0.7s,baz=59,slow=10,SNR=7.0						
CLL	**Collm**	**43.41**	**307**	*i* P	**P**	**16 53 45.0**	**+0.6**
CLL				pmax	pmax		
	comp=Z,15nm,0.6s						
CLL	**Collm**	**43.41**	**307**	*i* P	**P**	**16 53 45.0**	**+0.6**
	comp=Z,4.0nm,0.6s						
NB2	**NORSAR Subarra**	**43.93**	**322**	P	**P**	**16 53 48.4**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=92,slow=8.6						
NOA	**NORSAR Array B**	**43.93**	**322**	P	**P**	**16 53 48.5**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=93,slow=7.9,SNR=9.8						
DAVOX	**Davos/Dischmat**	**46.26**	**302**	P	**P**	**16 54 06.2**	**-1.2**
	comp=Z,3.2nm,0.6s,baz=110,slow=8.7,SNR=5.4						
MJAR	**Matsushiro Arr**	**50.54**	**71**	P	**P**	**16 54 42.1**	**+1.9**
	comp=Z,1.7nm,0.7s,baz=285,slow=9.3,SNR=7.9						
ASAJ	**Asahikawa**	**50.96**	**60**	P	**P**	**16 54 45.8**	**+2.6**
	comp=Z,2.5nm,0.6s,baz=11,slow=5.2,SNR=4.6						
TORD	**Torodi Ar. Bea**	**67.59**	**269**	P	**P**	**16 56 38.0**	**0.0**
	comp=Z,0.5nm,0.5s,baz=49,slow=4.7,SNR=5.0						
ILAR	**Eielson Array**	**72.36**	**17**	P	**P**	**16 57 07.8**	**+1.3**
	comp=Z,0.5nm,0.9s,baz=331,slow=7.2,SNR=4.0						
YKA	**Yellowknife Ar**	**79.17**	**4**	P	**P**	**16 57 46.9**	**+1.7**
	comp=Z,0.8nm,0.5s,baz=346,slow=5.7,SNR=3.7						
WRA	**Warramunga Arr**	**81.52**	**124**	P	**P**	**16 57 59.9**	**+1.4**
	comp=Z,0.6nm,0.8s,baz=325,slow=4.7,SNR=6.9						
ASAR	**Alice Springs**	**83.92**	**127**	P	**P**	**16 58 13.2**	**+2.4**
	comp=Z,0.4nm,0.9s,baz=317,slow=4.2,SNR=4.1						

CSEM ***23*** *17:02:06.7±0.5, 27°.44N×56°.57E, h2km, ML3.6/4, Error ellipse: s-maj=13.3km s-min=9.0km az=71.0*
ISCJB ***23*** *17:02:08.3±1.0, 27°.48N±0°.06×56°.46E±0°.08, h18km, Error ellipse: s-maj=10.8km s-min=8.1km az=161.2*
OMAN ***23*** *17:02:15.5±99.0, 26°.77N×55°.65E, h0km±70km, Error ellipse: s-maj=864.6km s-min=13.0km az=1.0*
ISC 23 17:02:07.1±1.3, 27°.37N±0°.06×56°.53E±0°.09, h18km, n21, σ1§61/21, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**0.32**	**276**	*e*Pg	**Pg**	**17 02 13.8**	**-0.3**
BNDS				*e*Sg	**Sg**	**17 02 18.6**	**-0.3**
BANOM	**Banah**	**1.45**	**188**	P	**Pg**	**17 02 35.2**	**+0.1**
	SNR=308						
BANOM	**Banah**	**1.45**	**188**	P	**Pg**	**17 02 35.2**	**+0.1**
	SNR=308						
BANOM				S	**Sg**	**17 02 56.4**	**+2.4**
NAZ	**Nazwa, Dubai**	**2.49**	**198**	P	**Pb**	**17 02 51.6**	**+0.2**
	SNR=6.7						
NAZ	**Nazwa, Dubai**	**2.49**	**198**	P	**Pb**	**17 02 49.8**	**-1.6**
HATD	**Hatta, Dubai**	**2.55**	**188**	P	**Pg**	**17 02 55.2**	**-0.9**
	SNR=10						
HATD	**Hatta, Dubai**	**2.55**	**188**	P	**Pg**	**17 02 55.2**	**-0.9**
	SNR=10						
KRBR	**Kerman**	**2.62**	**4**	*e*Pn	**Pn**	**17 02 49.4**	**+0.6**
ASHO	**Ashiyiah**	**2.70**	**189**	P	**Pb**	**17 02 52.8**	**-2.2**
	SNR=33						
ASHO	**Ashiyiah**	**2.70**	**189**	P	**Pb**	**17 02 52.8**	**-2.2**
	SNR=33						
FAQ	**Al Faqa, Dubai**	**2.74**	**198**	P	**Pb**	**17 02 53.1**	**-2.5**
ASUD	**Al Ashush, Dub**	**2.93**	**202**	P	**Pb**	**17 02 56.3**	**-2.6**
	SNR=28						
ASUD	**Al Ashush, Dub**	**2.93**	**202**	P	**Pb**	**17 02 56.3**	**-2.6**
	SNR=28						
GHIR	**Ghir-Karzin**	**3.27**	**287**	*e*Pn	**Pn**	**17 02 59.2**	**+1.6**
ARQ	**Araqi**	**4.01**	**180**	P	Pn	17 03 11.1	+3.4
	SNR=6.7						
ARQ	**Araqi**	**4.01**	**180**	P	Pn	17 03 11.1	+3.4
	SNR=6.7						
RBK	**Rabkut**	**10.05**	**193**	P	**Pn**	**17 04 32.1**	**+1.5**
	SNR=12						
RBK	**Rabkut**	**10.05**	**193**	P	**Pn**	**17 04 32.1**	**+1.5**
	SNR=12						
ABTO	**Aybut**	**10.40**	**197**	P	**Pn**	**17 04 35.8**	**+0.3**
	SNR=17						
ABTO	**Aybut**	**10.40**	**197**	P	**Pn**	**17 04 35.8**	**+0.3**
	SNR=11						
ABTO	**Aybut**	**10.40**	**197**	P	**Pn**	**17 04 35.8**	**+0.3**
	SNR=17						

ISCJB ***23*** *17:02:57.6±0.4, 67°.08N±0°.02×20°.96E±0°.08, h0km, Error ellipse: s-maj=4.5km s-min=3.1km az=11.1*
CSEM ***23*** *17:02:58.8±0.1, 67°.08N×20°.80E, h2km, ML2.3, Error ellipse: s-maj=4.0km s-min=2.8km az=96.0, Mining explosion.*
UPP ***23*** *17:02:58.6, 67°.07N×20°.95E, h0km, ML2.3, Mining explosion.*
NAO ***23*** *17:02:59.4±1.0, 67°.09N×21°.16E, ML2.7*
HEL ***23*** *17:02:59.4±0.1, 67°.07N×20°.92E, h0km, ML1.8, ML2.3(UPP), Explosion*
IDC ***23*** *17:02:59.4±1.0, 67°.08N×20°.96E, h0km, mb1 2.9/4, mb1mx2.9/28, mbtmp2.9/4, ML2.2/4, Error ellipse: s-maj=18.9km s-min=8.8km az=111.0*
BER ***23*** *17:03:01.1±4.8, 67°.12N×20°.91E, h0km, ML1.7, ML2.7(NAO), Suspected explosion*
ISC 23 17:02:57.9±0.6, 67°.06N±0°.02×20°.92E±0°.02, h0km, n65, σ1§14/98, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERTU	**Ertsjaerv**	**0.71**	**135**	*i* P	**Pg**	**17 03 12.1**	**+0.6**
ERTU	**Ertsjaerv**	**0.71**	**135**	P	**Pg**	**17 03 12.1**	**+0.6**
HARU	**Harads**	**0.90**	**179**	*e*P	**Pg**	**17 03 15

MOR8				IAML			17 04 26.2
	comp=Z,8.0nm,0.1s						
MOR8	**Moi Rana**	**2.74**	**254**	*e*P		**Pn**	**17 03 43.3 +0.3**
	SNR=50						
MOR8				*e*Sg		**Sb**	**17 04 20.9 -0.8**
	SNR=90						
OUL	**Oulu**	**2.84**	**132**	*e*P		**Pn**	**17 03 47.0 +2.7**
	baz=309						
OUL	**Oulu**	**2.84**	**132**	P		**Pn**	**17 03 47.0 +2.7**
ARA0	**ARCESS Array S**	**3.01**	**32**	Pn		**Pn**	**17 03 47.9 +1.1**
	baz=213,slow=16						
ARA0				Sn		**Sn**	**17 04 24.1 +0.6**
	baz=214,slow=28						
ARA0	**ARCESS Array S**	**3.01**	**32**	Pn		**Pn**	**17 03 47.9 +1.1**
	baz=213,slow=16						
ARA0				Sn		**Sn**	**17 04 24.1 +0.6**
	baz=214,slow=28						
ARA0	**ARCESS Array S**	**3.01**	**32**	*e*P		**Pn**	**17 03 47.5 +0.7**
	baz=212						
ARA0				*e*SB		**Sb**	**17 04 27.1 -2.5**
ARA0				MSG			17 04 27.1
	comp=Z,1.2nm,0.3s						
ARA0	**ARCESS Array S**	**3.01**	**32**	P		**Pn**	**17 03 47.5 +0.7**
ARA0	**ARCESS Array S**	**3.01**	**32**	Pn		**Pn**	**17 03 47.8 +1.1**
	baz=213,slow=14,SNR=50						
ARA0				Sn		**Sn**	**17 04 24.1 +0.6**
	baz=214,slow=26,SNR=50						
ARA0				Sb		**Sb**	**17 04 27.1 -2.5**
	comp=Z,1.2nm,0.3s						
ARCES	**ARCESS Array B**	**3.01**	**32**	Pn		**Pn**	**17 03 47.9 +1.1**
	comp=Z,0.5nm,0.3s,baz=215,slow=14,SNR=94						
ARCES				Sn		**Sn**	**17 04 25.6 +2.1**
	comp=Z,1.1nm,0.3s,baz=208,slow=24,SNR=12						
VRF	**Varrio**	**3.42**	**74**	*e*P		Pn	17 03 55.9 +3.4
VRF	**Varrio**	**3.42**	**74**	P		Pn	17 03 55.8 +3.4
MSF	**Maaselka**	**3.45**	**106**	MSG		**Sg**	**17 04 46.7 -1.9**
	comp=Z,1.3nm,0.2s						
MSF				*e*SG		**Sg**	**17 04 46.7 -1.9**
MSF	**Maaselka**	**3.45**	**106**	Sg		**Sg**	**17 04 46.7 -1.9**
KEV	**Kevo**	**3.52**	**37**	*e*P		**Pn**	**17 03 54.8 +1.1**
	baz=229						
KEV	**Kevo**	**3.52**	**37**	P		**Pn**	**17 03 54.7 +1.1**
KU6	**Riekki**	**3.73**	**102**	*e*P		**Pn**	**17 03 58.1 +1.4**
KU6				*e*SG		**Sg**	**17 04 56.3 -1.4**
KU6				MSG			17 04 56.3
	comp=Z,0.9nm,0.4s						
KU6	**Riekki**	**3.73**	**102**	P		**Pn**	**17 03 58.1 +1.4**
KU6				Sg		**Sg**	**17 04 56.3 -1.4**
	comp=Z,0.9nm,0.4s						
APA0	**Apatity Array**	**4.70**	**78**	Pn		**Pn**	**17 04 11.5 +1.6**
	baz=260,slow=12						
APA0				Sn		**Sn**	**17 05 05.7 +0.6**
	baz=274,slow=37						
APA0				Lg		Lg	17 05 21.5
	baz=300,slow=37						
APA0	**Apatity Array**	**4.70**	**78**	Pn		**Pn**	**17 04 11.5 +1.6**
	baz=260,slow=12						
APA0				Sn		**Sn**	**17 05 05.7 +0.6**
	baz=274,slow=37						
APA0				Lg		Lg	17 05 21.5
	baz=300,slow=37						
APA0	**Apatity Array**	**4.70**	**78**	Pn		**Pn**	**17 04 11.5 +1.6**
	baz=260,slow=12,SNR=50						
APA0				Sn		**Sn**	**17 05 05.7 +0.6**
	baz=274,slow=29,SNR=50						
APA0				Lg		Lg	17 05 21.5
	baz=300,slow=32						
FIA0	**FINESS Array S**	**6.07**	**156**	Pn		**Pn**	**17 04 30.8 +2.1**
	baz=347,slow=14						
FIA0				Sn		**Sn**	**17 05 38.9 +0.1**
	baz=340,slow=28						
FIA0	**FINESS Array S**	**6.07**	**156**	Pn		**Pn**	**17 04 30.8 +2.1**
	baz=347,slow=14						
FIA0				Sn		**Sn**	**17 05 38.9 +0.1**
	baz=340,slow=28						
FIA0	**FINESS Array S**	**6.07**	**156**	Pn		**Pn**	**17 04 30.8 +2.1**
	baz=347,slow=14,SNR=50						
FIA0				Sn		**Sn**	**17 05 38.8 +0.1**
	baz=340,slow=25,SNR=50						
FINES	**FINESS Array B**	**6.07**	**156**	Pn		**Pn**	**17 04 30.8 +2.1**
	comp=Z,0.1nm,0.3s,baz=350,slow=13,SNR=13						
FINES				Sn		**Sn**	**17 05 39.9 +1.1**
	comp=Z,0.2nm,0.3s,baz=341,slow=22,SNR=7.5						
NB2	**NORSAR Subarra**	**7.39**	**220**	Pn		**Pn**	**17 04 47.5 +0.7**
	baz=26,slow=14						
NB2	**NORSAR Subarra**	**7.39**	**220**	Pn		**Pn**	**17 04 47.5 +0.7**
	baz=26,slow=14						
NB2	**NORSAR Subarra**	**7.39**	**220**	Pn		**Pn**	**17 04 47.5 +0.7**
	baz=26,slow=13,SNR=50						
NOA	**NORSAR Array B**	**7.39**	**220**	Pn		**Pn**	**17 04 46.7 -0.1**
	comp=Z,0.1nm,0.3s,baz=78,slow=15,SNR=3.8						
HFS	**Hagfors**	**7.66**	**208**	Pn		**Pn**	**17 04 50.9 +0.3**
	baz=23,slow=14						
HFS				Sn		**Sn**	**17 06 16.2 -1.7**
	baz=11,slow=37						
HFS	**Hagfors**	**7.66**	**208**	Pn		**Pn**	**17 04 50.9 +0.3**
	baz=23,slow=14						
HFS				Sn		**Sn**	**17 06 16.2 -1.7**
	baz=11,slow=37						
HFS	**Hagfors**	**7.66**	**208**	Pn		**Pn**	**17 04 50.9 +0.3**
	baz=23,slow=13,SNR=50						
HFS				Sn		**Sn**	**17 06 16.2 -1.7**
	baz=11,slow=33,SNR=50						
HFS	**Hagfors**	**7.66**	**208**	Pn		**Pn**	**17 04 51.7 +1.2**
	comp=Z,0.1nm,0.3s,baz=20,slow=14,SNR=5.0						

*ISN **23** 17:03:51.2±1.6, 35°.78N×45°.35E, h5km±999km, ML3.8*
*IDC **23** 17:03:53.4±1.2, 35°.05N×45°.27E, h0km, mb3.8/10, mb1 3.8/14, mb1mx3.7/30, mbtmp3.7/14, ML3.6/4, Error ellipse: s-maj=33.9km s-min=14.3km az=159.0*
*CSEM **23** 17:03:55.1±0.3, 34°.95N×45°.27E, h5km, ML3.9, Ms4.3, Error ellipse: s-maj=6.9km s-min=5.1km az=62.0*
*TEH **23** 17:03:55.6, 34°.98N×45°.22E, h6km, ML3.9*
*KISR **23** 17:03:57.2±0.5, 34°.62N×45°.36E, h10km±999km, ML4.0*
ISC 23 17:03:56.2±1.0, **34°.99N**±0°.04×**45°.30E**±0°.03, **h19**km±3km, **n71**, **σ1°14/86**, **mb3.8**/10, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
IKRK	**Kirkuk**	**0.89**	**298**	*e*PG		**Pb**	**17 04 11.9**	**-1.1**
IKRK				*e*sg		**Sg**	**17 04 25.0**	**-0.3**
IDHR	**Dehrash**	**0.94**	**107**	*e*Pg		**Pb**	**17 04 13.0**	**-0.9**
IDHR				*e*Sg		**Sg**	**17 04 27.1**	**+0.2**
IDHR				*e*			17 04 29.3	
	comp=Z,84μm,0.1s							
IDHR	**Dehrash**	**0.94**	**107**	*e*Pg		**Pb**	**17 04 13.0**	**-0.9**
IDHR				*e*Sg		**Sg**	**17 04 27.1**	**+0.2**
IGHG	**Ghaleghazi**	**1.23**	**122**	*e*Pn		**Pg**	**17 04 20.0**	**-0.1**
IGHG				*e*Sn		**Sg**	**17 04 38.4**	**+2.1**
IGHG				*e*			17 04 46.6	
	comp=Z,60μm,0.2s							
IGHG	**Ghaleghazi**	**1.23**	**122**	*e*Pn		**Pg**	**17 04 20.0**	**-0.1**
IGHG				*e*Sn		**Sg**	**17 04 38.4**	**+2.1**
IVIS	**Veis**	**1.35**	**109**	*e*Pn		**Pg**	**17 04 22.0**	**-0.4**
IVIS				*e*			17 04 48.2	
	comp=Z,26μm,0.2s							
IVIS	**Veis**	**1.35**	**109**	*e*Pn		**Pg**	**17 04 22.0**	**-0.4**
ILIN	**Lien**	**1.37**	**92**	*e*Pn		**Pn**	**17 04 20.9**	**+0.5**
ILIN				*e*Sg		**Sb**	**17 04 39.8**	**+1.4**
ILIN				*e*			17 04 44.0	
	comp=Z,28μm,0.2s							
ILIN	**Lien**	**1.37**	**92**	*e*Pn		**Pn**	**17 04 20.9**	**+0.5**
ILIN				*e*Sg		**Sb**	**17 04 39.8**	**+1.4**
IBDR	**Badra**	**1.94**	**164**	*e*PG		**Sn**	**17 04 50.9**	**-1.1**
IKOM	**Komasi**	**1.99**	**113**	*e*Pn		**Pn**	**17 04 30.6**	**+1.6**
IKOM				*e*Sg		**Sg**	**17 05 00.7**	**+0.2**
IKOM				*e*			17 05 02.2	
	comp=Z,48μm,0.2s							
IKOM	**Komasi**	**1.99**	**113**	*e*Pn		**Pn**	**17 04 30.6**	**+1.6**
IKOM				*e*Sg		**Sg**	**17 05 00.7**	**+0.2**
MSL	**Mosul**	**2.27**	**309**	*e*Pg		**Pn**	**17 04 34.0**	**+1.3**
MSL				*e*SG		**Sn**	**17 05 02.0**	**+1.8**
IBST	**Bostanabad**	**3.00**	**25**	*e*Pn		**Pn**	**17 04 44.1**	**+1.2**
IBST				*e*			17 05 43.7	
	comp=Z,1μm,0.4s							
IBST	**Bostanabad**	**3.00**	**25**	*e*Pn		**Pn**	**17 04 44.1**	**+1.2**
ITBZ	**Tabriz**	**3.31**	**12**	*e*Pn		**Pn**	**17 04 48.1**	**+1.0**
ITBZ				*e*			17 05 03.7	
	comp=Z,1μm,0.4s							
ITBZ	**Tabriz**	**3.31**	**12**	*e*Pn		**Pn**	**17 04 48.1**	**+1.0**
ISRB	**Sarab**	**3.42**	**33**	*e*Pn		**Pn**	**17 04 49.9**	**+1.3**
ISRB				*e*			17 05 03.4	
	comp=Z,2μm,0.3s							
ISRB	**Sarab**	**3.42**	**33**	*e*Pn		**Pn**	**17 04 49.9**	**+1.3**
IHRS	**Heris**	**3.61**	**22**	*e*Pn		**Pn**	**17 04 52.3**	**+1.0**
IHRS				*e*			17 05 08.2	
	comp=Z,2μm,0.3s							
IHRS	**Heris**	**3.61**	**22**	*e*Pn		**Pn**	**17 04 52.3**	**+1.0**
IMRD	**Marand**	**3.73**	**5**	*e*Pn		**Pn**	**17 04 54.0**	**+1.1**
IMRD				*e*			17 05 59.8	
	comp=Z,2μm,0.4s							
IMRD	**Marand**	**3.73**	**5**	*e*Pn		**Pn**	**17 04 54.0**	**+1.1**
IR5	**Iran Long-Peri**	**4.33**	**85**	*e*Pn		Pn	17 05 04.6	+3.4
IR5	**Iran Long-Peri**	**4.33**	**85**	*e*Pn		Pn	17 05 04.6	+3.4
GNI	**Garni**	**5.17**	**355**	P		Pb	17 05 30.2	+4.1
GNI	**Garni**	**5.17**	**355**	Pg		Pb	17 05 30.4	+4.2
	comp=Z,0.3nm,0.3s,baz=231,slow=4.7,SNR=9.1							
GNI				Lg		Lg	17 06 45.1	
	comp=Z,0.3nm,0.3s,baz=342,slow=20,SNR=2.5							
IVRN	**Varamin**	**5.28**	**88**	*e*Pn		**Pn**	**17 05 15.5**	**+1.5**
IVRN				*e*			17 05 44.4	
	comp=Z,493nm,0.3s							
IVRN	**Varamin**	**5.28**	**88**	*e*Pn		**Pn**	**17 05 15.5**	**+1.5**
IKLH	**Kolahrood**	**5.46**	**106**	*e*Pn		**Pn**	**17 05 17.9**	**+1.1**
IKLH				*e*			17 06 29.5	
	comp=Z,922nm,0.1s							
IKLH	**Kolahrood**	**5.46**	**106**	*e*Pn		**Pn**	**17 05 17.9**	**+1.1**
RST	**Umm Al-Ruwaisa**	**5.66**	**165**	*e*P		**Pn**	**17 05 20.6**	**+1.4**
RST				*e*S		**Sn**	**17 06 22.8**	**-0.8**
RST				AML		AML	17 06 25.3	
	comp=Z,315nm,0.6s							
RST	**Umm Al-Ruwaisa**	**5.66**	**165**	*e*P		**Pn**	**17 05 20.6**	**+1.4**
RST				*e*S		**Sn**	**17 06 22.8**	**-0.8**
	comp=Z,315nm,0.6s							
ISFB	**Sefidab**	**5.75**	**94**	*e*Pn		**Pn**	**17 05 21.8**	**+1.2**
ISFB	**Sefidab**	**5.75**	**94**	*e*Pn		**Pn**	**17 05 21.8**	**+1.2**
UMR	**Umm Al-Rimmam**	**5.79**	**159**	*e*P		**Pn**	**17 05 22.4**	**+1.4**
UMR				*e*S		**Sn**	**17 06 26.5**	**-0.4**
UMR				AML		AML	17 06 27.8	
	comp=Z,73nm,0.4s							
UMR	**Umm Al-Rimmam**	**5.79**	**159**	*e*P		**Pn**	**17 05 22.5**	**+1.4**
UMR				*e*S		**Sn**	**17 06 26.5**	**-0.4**
NAY	**Al-Naaiem**	**5.95**	**163**	*e*P		**Pn**	**17 05 24.8**	**+1.5**
NAY				*e*S		**Sn**	**17 06 30.5**	**-0.4**
NAY				AML		AML	17 06 31.6	
	comp=Z,23nm,0.5s							
NAY	**Al-Naaiem**	**5.95**	**163**	*e*P		**Pn**	**17 05 24.8**	**+1.5**
NAY				*e*S		**Sn**	**17 06 30.5**	**-0.4**
IFIR	**Firoozkooh**	**6.13**	**82**	*e*Pn		**Pn**	**17 05 27.0**	**+1.1**
IFIR				*e*			17 05 34.3	
	comp=Z,212nm,0.1s							
IFIR	**Firoozkooh**	**6.13**	**82**	*e*Pn		**Pn**	**17 05 27.0**	**+1.1**
KBD	**Kabd**	**6.14**	**160**	*e*P		**Pn**	**17 05 27.4**	**+1.6**
KBD				*e*S		**Sn**	**17 06 35.0**	**-0.5**
KBD				AML		AML	17 06 36.2	
	comp=Z,36nm,0.4s							
KBD	**Kabd**	**6.14**	**160**	*e*P		**Pn**	**17 05 27.4**	**+1.6**
KBD				*e*S		**Sn**	**17 06 35.0**	**-0.5**
IGAR	**Gharneh**	**6.18**	**113**	*e*Pn		**Pn**	**17 05 27.6**	**+1.0**
IGAR				*e*			17 06 42.8	
	comp=Z,930nm,0.1s							
IZEF	**Zefreh**	**6.20**	**108**	*e*Pn		**Pn**	**17 05 27.8**	**+0.9**
IZEF				*e*			17 06 45.4	
	comp=Z,271nm,0.1s							
IZEF	**Zefreh**	**6.20**	**108**	*e*Pn		**Pn**	**17 05 27.8**	**+0.9**
RDF	**Al-Radifah**	**6.34**	**162**	*e*P		**Pn**	**17 05 30.3**	**+1.8**
RDF				*e*S		**Sn**	**17 06 40.4**	**0.0**
RDF				AML		AML	17 06 42.4	
	comp=Z,63nm,0.4s							
RDF	**Al-Radifah**	**6.34**	**162**	*e*P		**Pn**	**17 05 30.3**	**+1.8**
RDF				*e*S		**Sn**	**17 06 40.4**	**0.0**
ASF	**Jabal al Asfar**	**7.55**	**251**	Pn		**Pn**	**17 05 46.2**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=358,slow=11,SNR=5.6							
ASF				Lg		Lg	17 07 52.5	
	comp=Z,0.5nm,0.3s,baz=228,slow=12,SNR=3.2							
MMAI	**Mount Meron Ar**	**8.45**	**259**	Pn		**Pn**	**17 05 58.4**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=70,slow=17,SNR=3.0							
KBZ	**Khabaz**	**8.93**	**349**	Pn		Pn	17 06 09.4	+5.4
	comp=Z,0.0nm,0.3s,baz=128,slow=17,SNR=2.5							
BRTR	**Keskin Array B**	**10.42**	**300**	Pn		**Pn**	**17 06 27.4**	**+2.8**
	baz=108,slow=14,SNR=4.7							
BANOM	**Banah**	**13.09**	**131**	P		**Pn**	**17 06 59.3**	**-1.8**
	SNR=12							
NAZ	**Nazwa, Dubai**	**13.40**	**135**	P		**Pn**	**17 07 05.1**	**-0.2**
ASUD	**Al Ashush, Dub**	**13.49**	**137**	P		**Pn**	**17 07 06.6**	**0.0**
FAQ	**Al Faqa, Dubai**	**13.55**	**136**	P		**Pn**	**17 07 07.3**	**-0.1**
HATD	**Hatta, Dubai**	**13.80**	**134**	P		**Pn**	**17 07 10.1**	**-0.7**
ASHO	**Ashiyiah**	**13.87**	**135**	P		**Pn**	**17 07 10.7**	**-1.0**
	SNR=15							
AKTO	**Aktyubinsk**	**18.00**	**27**	P		**Pn**	**17 08 03.8**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=206,slow=14,SNR=6.1							
AKASG	**Malin Array Be**	**19.57**	**328**	P		**P**	**17 08 21.5**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=135,slow=12,SNR=6.8							
AML	**Almayashu**	**23.25**	**64**	P		**P**	**17 09 04.8**	**+2.0**
	SNR=6.8							
AAK	**Ala-Archa**	**23.91**	**63**	P		**P**	**17 09 09.2**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=239,slow=5.9,SNR=3.7							
BVAR	**Borovoye Array**	**25.30**	**37**	P		**P**	**17 09 21.7**	**+0.4**
	comp=Z,2.3nm,0.9s,baz=219,slow=8.5,SNR=14							
KURBB	**Kurchatov Arra**	**28.66**	**47**	P		**P**	**17 09 52.2**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=254,slow=8.8,SNR=9.3							
FINES	**FINESS Array B**	**29.18**	**341**	P		**P**	**17 09 55.6**	**-0.3**
	comp=Z,2.6nm,1.0s,baz=133,slow=12,SNR=4.0							
MKAR	**Makanchi Array**	**30.08**	**56**	P		**P**	**17 10 05.2**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=253,slow=8.6,SNR=8.9							
HFS	**Hagfors**	**32.42**	**331**	P		**P**	**17 10 24.4**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=128,slow=11,SNR=4.8							
ZALV	**Zalesovo Beam**	**33.40**	**43**	P		**P**	**17 10 32.9**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=251,slow=9.0,SNR=3.4							
TORD	**Torodi Ar. Bea**	**44.91**	**252**	P		**P**	**17 12 09.5**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=54,slow=8.4,SNR=2.1							
KSRS	**Korea Array**	**64.56**	**61**	P		**P**	**17 14 31.1**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=286,slow=7.1,SNR=5.9							
ILAR	**Eielson Array**	**80.11**	**5**	P		**P**	**17 16 03.9**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=319,slow=5.0,SNR=3.5							

FUNV 23 17:19:33.6, 6°.84N×73°.08W, h164km, MW3.5, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CAPV	**Capacho**	**1.27**	**37**	*e*P		Pn	17 20 01.2	-1.1
CAPV				*e*S		Sn	17 20 22.5	-1.8
VIGV	**El Vigia**	**2.61**	**40**	*e*P		Pn	17 20 15.9	-0.9
VIGV				*e*S		Sn	17 20 46.5	-3.8
SOCV	**Socops**	**2.62**	**57**	*e*P		Pn	17 20 15.6	-1.4
SOCV				*e*S		Sn	17 20 47.2	-3.4
ELOV	**Elorza**	**3.57**	**87**	*e*P		Pn	17 20 27.7	-1.0
VIRV	**Villa del Rosa**	**3.70**	**10**	*e*P		Pn	17 20 28.5	-1.9
VIRV				*e*S		Sn	17 21 10.3	-4.3
QARV	**Quebrada Arrib**	**4.19**	**37**	*e*P		Pn	17 20 35.9	-0.9
MONV	**Montecano**	**5.93**	**31**	*e*P		Pn	17 20 57.7	-1.8

*ISCJB **23** 17:22:13.2±0.4, 36°.59N±0°.04×70°.98E±0°.06, h188km, mb3.6/11, Error ellipse: s-maj=7.3km s-min=4.0km az=152.2*
*IDC **23** 17:22:13.5±3.4, 36°.48N×71°.27E, h196km±30km, mb3.3/10, mb1 3.4/16, mb1mx3.3/31, mbtmp3.3/16, Error ellipse: s-maj=24.5km s-min=15.0km az=15.0*
*NNC **23** 17:22:21.4±3.6, 37°.19N×71°.07E, h228km±36km, mb3.0, mpv4.1, Error ellipse: s-maj=34.0km s-min=19.3km az=16.0*
ISC 23 17:22:13.6±0.6, **36°.60N**±0°.06×**71°.05E**±0°.08, **h188**km, **n45, σ2°09/50**, **mb3.8**/11, **5C-1D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
THN	**Thein Dam**	**5.66**	**136**	*e*P		**Pn**	**17 23 37.8**	**+1.4**
THN				*e*S		**Sn**	**17 24 41.6**	**+0.1**
AML	**Almayashu**	**5.89**	**20**	P		**Pn**	**17 23 41.5**	**+1.9**
	SNR=143							
KZA	**Kyzart**	**6.37**	**29**	P		**Pn**	**17 23 47.1**	**+1.3**
	SNR=44							
EKS2	**Erkin-Say**	**6.41**	**18**	P		**Pn**	**17 23 48.0**	**+1.9**
	SNR=120							
KK31	**Karatay Array**	**6.51**	**357**	P		**Pn**	**17 23 48.9**	**+1.5**
	1.3nm,0.3s,baz=177,slow=12,SNR=26							
KK31				S		**Sn**	**17 24 57.0**	**-4.4**
	14nm,0.5s,baz=187,slow=18,SNR=25							
AAK	**Ala-Archa**	**6.59**	**23**	P		**Pn**	**17 23 51.0**	**+2.5**
	SNR=6.3							
AAK	**Ala-Archa**	**6.59**	**23**	P		**Pn**	**17 23 50.4**	**+1.9**
	10nm,0.3s,baz=160,slow=3.4,SNR=119							
AAK				S		**Sn**	**17 25 03.0**	**-0.5**
	1.4nm,0.3s,baz=322,slow=22,SNR=12							
KBK	**Karagaybulak**	**6.76**	**25**	P		**Pn**	**17 23 52.7**	**+2.0**
	SNR=28							
ULHL	**Ulahol**	**6.92**	**34**	P		Pn	17 23 54.1	+1.2
	SNR=28							
CHMS	**Chumysh**	**7.00**	**23**	P		**Pn**	**17 23 55.6**	**+1.9**
	SNR=20							
USP	**Ospenovka**	**7.17**	**21**	P		**Pn**	**17 23 56.8**	**+0.8**
	SNR=12							
TKM2	**Tokmak 2**	**7.22**	**28**	⇑P		**Pn**	**17 23 57.6**	**+0.8**
	31nm,0.5s							
TKM2				⇑S		**Sn**	**17 25 16.5**	**-2.1**
	6.1nm,0.8s							
TKM2	**Tokmak 2**	**7.22**	**28**	P		**Pn**	**17 23 58.2**	**+1.4**
	SNR=73							
SMLA	**Simla**	**7.46**	**135**	*i* P		**Pn**	**17 24 02.8**	**+3.0**
SMLA				*i* S		**Sn**	**17 25 23.1**	**-0.8**
SMLA				*i* S			17 25 23.1	
SMLA				AML		AML	17 25 25.0	
	comp=N,562nm,0.4s							
SMLA				AML		AML	17 25 25.9	
	comp=E,707nm,0.2s							
KKR	**Kurukshetra**	**8.19**	**142**	*e*S		**Sn**	**17 25 38.9**	**-2.5**
KUDL	**Kundal**	**9.60**	**150**	*e*S		**Sn**	**17 26 09.1**	**-5.9**
KUDL				AML		AML	17 26 14.4	
	comp=E,6.8nm,0.5s							
KUDL				AML		AML	17 26 14.9	
	comp=N,4.2nm,0.6s							
SONA	**Sohna**	**9.76**	**147**	*e*S		**Sn**	**17 26 13.2**	**-5.5**
SONA				AML		AML	17 26 22.2	
	comp=E,18nm,0.0s							
SONA				AML		AML	17 26 32.1	
	comp=N,11nm,0.2s							
MK31	**Makanchi Array**	**13.19**	**36**	⇓P		**Pn**	**17 25 14.0**	**+0.3**
	comp=N,4.7nm,0.8s,baz=256,slow=16,SNR=19							
MKAR	**Makanchi Array**	**13.19**	**36**	P		**Pn**	**17 25 13.7**	**0.0**
	comp=N,0.4nm,0.3s,baz=211,slow=15,SNR=16							
DANN	**Dangsing**	**13.51**	**124**	*e*P		P	17 25 24.9	+3.8
	comp=N,3.7nm,0.3s							
KOLN	**Koldanda**	**13.79**	**126**	*e*P		**P**	**17 25 25.5**	**+1.4**
	comp=N,4.5nm,0.4s							
GKN	**Gorkha**	**14.32**	**123**	*e*P		**P**	**17 25 31.9**	**+1.9**
	comp=N,5.2nm,0.3s							
DMN	**Daman**	**14.89**	**123**	*e*P		**P**	**17 25 37.7**	**+1.3**
	comp=N,9.7nm,0.6s							
KKN	**Kakani**	**14.89**	**122**	*e*P		**P**	**17 25 37.9**	**+1.5**
	comp=N,8.5nm,0.6s							
KURBB	**Kurchatov Arra**	**15.02**	**19**	⇑P		**Pn**	**17 25 34.4**	**-1.9**
	comp=N,1.3nm,0.8s							
KURBB	**Kurchatov Arra**	**15.02**	**19**	P		**Pn**	**17 25 35.5**	**-0.8**
	comp=N,0.5nm,0.3s,baz=202,slow=11,SNR=22							
AB31	**Akbulak array**	**15.02**	**331**	P		**Pn**	**17 25 36.3**	**-0.1**
	comp=N,0.9nm,0.5s,baz=138,slow=11,SNR=46							
AB31				⇑S		**Sn**	**17 28 18.7**	**-5.4**
	comp=N,0.4nm,0.4s,baz=143,slow=23,SNR=2.6							
PKIN	**Phulchoki**	**15.11**	**122**	*e*P		**P**	**17 25 40.0**	**+1.2**
	comp=N,2.1nm,0.2s							
JIRN	**Jiri**	**15.60**	**121**	*e*P		**P**	**17 25 45.0**	**+0.6**
	comp=N,5.0nm,0.3s							
BVAR	**Borovoye Array**	**16.43**	**359**	P		**Pn**	**17 25 54.6**	**+1.1**
	comp=N,0.2nm,0.3s,baz=151,slow=13,SNR=4.1							
AKTO	**Aktyubinsk**	**16.72**	**330**	⇑P		**P**	**17 25 46.4**	**+0.3**
	comp=N,5.1nm,0.8s							
AKTO	**Aktyubinsk**	**16.72**	**330**	P		**P**	**17 25 56.5**	**+0.5**
	comp=N,0.8nm,0.3s,baz=145,slow=9.7,SNR=13							
ZALV	**Zalesovo Beam**	**19.81**	**25**	P		**P**	**17 26 29.2**	**-0.3**
	comp=N,0.7nm,0.3s,baz=210,slow=11,SNR=13							
KBZ	**Khabaz**	**22.59**	**297**	P		**P**	**17 26 59.2**	**+1.1**
	comp=N,0.6nm,0.5s,baz=168,slow=5.6,SNR=3.5							
BRTR	**Keskin Array B**	**29.44**	**288**	P		**P**	**17 28 02.0**	**+2.2**
	comp=N,1.0nm,0.5s,baz=80,slow=7.9,SNR=2.7							
AKASG	**Malin Array Be**	**32.92**	**309**	P		**P**	**17 28 31.1**	**+1.2**
	comp=N,1.1nm,0.4s,baz=81,slow=7.4,SNR=9.4							
JOF	**Joensuu**	**35.80**	**330**	*e*p		**P**	**17 28 54.6**	**0.0**
	comp=N,1.8nm,0.4s							
FINES	**FINESS Array B**	**37.42**	**326**	P		**P**	**17 29 09.1**	**+0.8**

	baz=3.0,SNR=10							
FAKI	**Fak Fak**	**4.83**	**30**	P	**Pn**	17 49 18.5	**-0.2**	
	baz=4.6,SNR=4.2							
MTN	**Manton Dam**	**5.79**	**168**	P	Pn	17 49 37.7	+5.9	
	baz=6.0,SNR=26							
KDU	**Kakadu**	**6.07**	**155**	P	Pn	17 49 41.3	+5.8	
	baz=6.2,SNR=132							
SOEI	**Soe**	**6.12**	**245**	P	**Pn**	**17 49 38.3**	**+2.0**	
	baz=6.3,SNR=6.8							
SWI	**Sorong**	**6.40**	**13**	P	**Pn**	**17 49 38.6**	**-1.3**	
	baz=6.2,SNR=15							
BATI	**Baumata**	**6.84**	**243**	P	**Pn**	**17 49 47.5**	**+1.5**	
	baz=116,slow=4.5							
BATI				S	**Sn**	**17 51 00.8**	**-1.8**	
	baz=270,slow=19							
KNRA	**Kununurra**	**8.54**	**187**	P	**Pn**	**17 50 12.1**	**+3.0**	
	baz=8.8,SNR=32							
FITZ	**Fitzroy Crossi**	**11.64**	**200**	P	**Pn**	**17 50 51.1**	**0.0**	
	baz=12,SNR=9.4							
FITZ	**Fitzroy Crossi**	**11.64**	**200**	P	**Pn**	**17 50 50.6**	**-0.5**	
	0.3nm,0.3s,baz=59,slow=8.5,SNR=25							
FITZ				S	Sn	17 52 54.3	-4.8	
	0.3nm,0.3s,baz=283,slow=22,SNR=6.1							
WRA	**Warramunga Arr**	**13.44**	**162**	P	**Pn**	**17 51 15.6**	**+0.8**	
	0.3nm,0.3s,baz=344,slow=13,SNR=34							
WRA				S	**Sn**	**17 53 39.6**	**-3.1**	
	0.4nm,0.3s,baz=345,slow=24,SNR=7.4							
ASAR	**Alice Springs**	**16.87**	**167**	P	**P**	**17 52 00.1**	**+1.6**	
	0.3nm,0.3s,baz=342,slow=9.4,SNR=21							
MKAR	**Makanchi Array**	**68.28**	**327**	P	P	17 58 52.3	-5.7	
	0.8nm,1.0s,baz=113,slow=8.3,SNR=6.3							

IDC 23 17:50:57.9±1.8, 11°18S×165°67E, h0km, mb3.7/3, mb1 4.1/4, mb1mx3.6/19, mbtmp3.9/4, ML4.2/1, Error ellipse: s-maj=57.8km s-min=33.0km az=118.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZM	**Mont Dzumac**	**10.86**	**176**	Pn		Pn	17 53 34.6	-0.3
	1.8nm,0.3s,baz=315,slow=21,SNR=18							
STKA	**Stephens Creek**	**30.30**	**223**	P		P	17 57 11.2	+0.1
	1.5nm,0.8s,baz=54,slow=8.7,SNR=3.4							
WRA	**Warramunga Arr**	**31.37**	**250**	P		P	17 57 20.6	-0.1
	0.7nm,0.8s,baz=80,slow=9.1,SNR=4.8							
ILAR	**Eielson Array**	**83.66**	**19**	P		P	18 03 28.1	0.0
	0.3nm,0.7s,baz=227,slow=5.3,SNR=4.1							

*ISCJB **23** 17:59:47.6±0.7, 37°43N±0°02×26°64E±0°03, h11km±5km, Error ellipse: s-maj=3.6km s-min=2.9km az=178.8*
*ATH **23** 17:59:47.2, 37°49N×26°69E, h26km±1km, MD3.7/20*
*DDA **23** 17:59:47.6, 37°42N×26°68E, h15km, MD3.4*
*CSEM **23** 17:59:48.2±0.1, 37°42N×26°71E, h15km, MD3.7, Error ellipse: s-maj=3.1km s-min=2.6km az=89.0*
*THE **23** 17:59:48.2, 37°44N×26°64E, h6km±1km, ML3.1/8, Error ellipse: s-maj=1.2km s-min=0.4km az=96.0*

ISC 23 17:59:48.0±0.9, 37°44N±0°02×26°70E±0°02, h14km±7km, n106, σ0s74/140, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SMG	**Samos**	**0.29**	**22**	P		**Pg**	**17 59 54.1**	**-0.2**
SMG				S		**Sg**	**17 59 59.1**	**+0.7**
SMG	**Samos**	**0.29**	**22**	*e*PB		**Pg**	**17 59 54.0**	**-0.2**
SMG				*e*SB		**Sg**	**17 59 58.2**	**-0.2**
SMG	**Samos**	**0.29**	**22**	*e*Pb		**Pg**	**17 59 54.0**	**-0.2**
SMG				*e*Sb		**Sg**	**17 59 58.2**	**-0.2**
SMG				S		**Sg**	**17 59 59.1**	**+0.7**
BDRM	**Kayabasi**	**0.70**	**122**	*i* P		**Pg**	**18 00 01.4**	**-0.3**
BDRM				*i* S		**Sb**	**18 00 11.6**	**+0.2**
BDRM	**Kayabasi**	**0.70**	**122**	*i* P		**Pg**	**18 00 01.4**	**-0.3**
BDRM				*i* S		**Sb**	**18 00 11.6**	**+0.2**
NIS1	**Nisyros Isl.**	**0.92**	**155**	*e*Pn		**Pn**	**18 00 06.6**	**+0.1**
NIS1				*e*Sn		**Sn**	**18 00 19.8**	**+0.4**
NIS1	**Nisyros Isl.**	**0.92**	**155**	*e*Pn		**Pn**	**18 00 06.6**	**+0.1**
NIS1				*e*Sn		**Sn**	**18 00 19.8**	**+0.4**
URLA	**Izmir**	**0.93**	**355**	*i* P		**Pb**	**18 00 06.0**	**+0.1**
URLA				*i* S		**Sn**	**18 00 19.6**	**-0.2**
URLA	**Izmir**	**0.93**	**355**	*i* P		**Pb**	**18 00 06.0**	**+0.1**
URLA				*i* S		**Sn**	**18 00 19.6**	**-0.2**
NIS3	**Nisyros Isl.**	**0.93**	**157**	P		**Pn**	**18 00 06.7**	**+0.1**
NIS2	**Nisyros Isl.**	**0.94**	**156**	P		**Pn**	**18 00 06.7**	**-0.1**
AYDN	**Tasoluk**	**0.96**	**76**	*i* P		**Pb**	**18 00 06.4**	**-0.1**
AYDN				*i* S		**Sn**	**18 00 20.7**	**0.0**
AYDN	**Tasoluk**	**0.96**	**76**	*i* P		**Pb**	**18 00 06.4**	**-0.1**
AYDN				*i* S		**Sn**	**18 00 20.7**	**0.0**
APE	**Apeiranthos**	**1.00**	**249**	P		**Pb**	**18 00 06.6**	**-0.6**
APE				S		**Sb**	**18 00 20.6**	**+0.3**
APE	**Apeiranthos**	**1.00**	**249**	*e*PN		**Pb**	**18 00 06.7**	**-0.5**
APE				*e*SN		**Sb**	**18 00 20.4**	**+0.1**
APE	**Apeiranthos**	**1.00**	**249**	P		**Pb**	**18 00 06.6**	**-0.6**
APE				S		**Sb**	**18 00 20.6**	**+0.3**
CHOS	**Chios island**	**1.08**	**332**	P		**Pb**	**18 00 08.1**	**-0.4**
CHOS				S		**Sg**	**18 00 23.1**	**+0.1**
CHOS	**Chios island**	**1.08**	**332**	*e*PN		**Pb**	**18 00 07.9**	**-0.6**
CHOS				*e*SN		**Sb**	**18 00 21.9**	**-0.6**
CHOS	**Chios island**	**1.08**	**332**	P		**Pb**	**18 00 08.1**	**-0.4**
CHOS				*e*Sn		**Sb**	**18 00 21.9**	**-0.6**
CHOS				S		**Sg**	**18 00 23.1**	**+0.1**
THR2	**Thira island,**	**1.42**	**226**	P		**Pn**	**18 00 12.2**	**-1.1**
THR2	**Thira island,**	**1.42**	**226**	P		**Pn**	**18 00 12.2**	**-1.1**
SANT	**Santorini**	**1.46**	**224**	P		**Pn**	**18 00 13.1**	**-0.8**
SANT	**Santorini**	**1.46**	**224**	P		**Pn**	**18 00 13.1**	**-0.8**
THR1	**Thera Island**	**1.46**	**223**	P		**Pn**	**18 00 13.0**	**-0.9**
THR1	**Thera Island**	**1.46**	**223**	P		**Pn**	**18 00 13.0**	**-0.9**
THR3	**Thira Island,**	**1.46**	**226**	P		**Pn**	**18 00 13.1**	**-0.8**
THR3	**Thira Island,**	**1.46**	**226**	P		**Pn**	**18 00 13.1**	**-0.8**
THR6	**Thira Island,**	**1.50**	**225**	P		**Pn**	**18 00 13.6**	**-0.9**
THR6	**Thira Island,**	**1.50**	**225**	P		**Pn**	**18 00 13.6**	**-0.9**
TURN	**Turunc**	**1.62**	**110**	*i* P		Pn	18 00 12.9	-3.2
TURN				*i* S		**Sn**	**18 00 34.3**	**-2.5**
TURN	**Turunc**	**1.62**	**110**	*i* P		Pn	18 00 12.9	-3.2
TURN				*i* S		**Sn**	**18 00 34.3**	**-2.5**
ARG	**Arkhangelos**	**1.67**	**136**	P		**Pn**	**18 00 17.2**	**+0.4**
ARG	**Arkhangelos**	**1.67**	**136**	*e*PN		**Pn**	**18 00 17.1**	**+0.3**
ARG	**Arkhangelos**	**1.67**	**136**	*e*Pn		**Pn**	**18 00 17.1**	**+0.3**
AKHS	**Akhisar**	**1.69**	**31**	*i* P		**Pb**	**18 00 19.5**	**+0.6**
AKHS				*i* S		**Sg**	**18 00 43.4**	**+1.0**
AKHS	**Akhisar**	**1.69**	**31**	*i* P		**Pb**	**18 00 19.5**	**+0.6**
PRK	**Paraskevi**	**1.84**	**350**	P		**Pn**	**18 00 18.1**	**-1.1**
PRK				S		**Sn**	**18 00 42.9**	**+0.7**
PRK	**Paraskevi**	**1.84**	**350**	*e*PB		**Pn**	**18 00 18.1**	**-1.1**
PRK	**Paraskevi**	**1.84**	**350**	P		**Pn**	**18 00 18.1**	**-1.1**
PRK				S		**Sn**	**18 00 42.9**	**+0.7**
AYVA	**Ayvalik**	**1.87**	**360**	*i* P		**Pg**	**18 00 23.1**	**-0.8**
AYVA				*i* S		**Sg**	**18 00 47.7**	**-0.5**
AYVA	**Ayvalik**	**1.87**	**360**	*i* P		**Pg**	**18 00 23.1**	**-0.8**
AYVA				*i* S		**Sg**	**18 00 47.7**	**-0.5**
SIGR	**SIGRI**	**1.89**	**340**	P		**Pn**	**18 00 19.5**	**-0.4**
SIGR				S		**Sn**	**18 00 44.0**	**+0.4**
SIGR	**SIGRI**	**1.89**	**340**	P		**Pn**	**18 00 19.5**	**-0.4**
SIGR				S		**Sn**	**18 00 44.0**	**+0.4**
KARP	**Karpathos**	**1.92**	**169**	P		**Pn**	**18 00 20.2**	**-0.1**
KARP				S		**Sn**	**18 00 45.5**	**+1.2**
KARP	**Karpathos**	**1.92**	**169**	*e*PN		**Pn**	**18 00 20.0**	**-0.3**
KARP	**Karpathos**	**1.92**	**169**	P		**Pn**	**18 00 20.2**	**-0.1**
KARP				S		**Sn**	**18 00 45.5**	**+1.2**
PTL	**Penteli**	**2.33**	**286**	*e*PB		**Pn**	**18 00 26.0**	**0.0**
PTL	**Penteli**	**2.33**	**286**	*e*Pb		**Pn**	**18 00 26.0**	**0.0**
NPS	**Neapolis**	**2.34**	**202**	P		**Pn**	**18 00 25.5**	**-0.5**
NPS	**Neapolis**	**2.34**	**202**	*e*PN		**Pn**	**18 00 25.6**	**-0.5**
NPS	**Neapolis**	**2.34**	**202**	*e*Pn		**Pn**	**18 00 25.6**	**-0.5**
ZKR	**Zakros**	**2.35**	**190**	*e*PN		**Pn**	**18 00 26.8**	**+0.6**
ZKR	**Zakros**	**2.35**	**190**	*e*Pn		**Pn**	**18 00 26.8**	**+0.6**
BALY	**Balya**	**2.41**	**17**	*i* P		**Pn**	**18 00 26.9**	**-0.2**
BALY	**Balya**	**2.41**	**17**	*i* P		**Pn**	**18 00 26.9**	**-0.2**
LAST	**Lasithi**	**2.48**	**204**	*e*PN		**Pn**	**18 00 28.1**	**+0.1**
LAST	**Lasithi**	**2.48**	**204**	*e*Pn		**Pn**	**18 00 28.1**	**+0.1**
NAIG	**Nisos Aigina**	**2.57**	**278**	*e*PN		**Pn**	**18 00 29.0**	**-0.2**
NAIG	**Nisos Aigina**	**2.57**	**278**	*e*Pn		**Pn**	**18 00 29.0**	**-0.2**
IDI	**Anoyia**	**2.59**	**215**	P		**Pn**	**18 00 29.4**	**-0.2**
IDI	**Anoyia**	**2.59**	**215**	*e*PN		**Pn**	**18 00 29.4**	**-0.2**
IDI	**Anoyia**	**2.59**	**215**	P		**Pn**	**18 00 29.4**	**-0.2**
LIA	**Limnos Island**	**2.73**	**335**	P		**Pn**	**18 00 31.2**	**-0.2**
LIA				S		**Sn**	**18 01 04.9**	**+0.7**
LIA	**Limnos Island**	**2.73**	**335**	*e*PN		**Pn**	**18 00 31.7**	**+0.3**
LIA	**Limnos Island**	**2.73**	**335**	P		**Pn**	**18 00 31.2**	**-0.2**
LIA	**Limnos Island**	**2.73**	**335**	*e*Pn		**Pn**	**18 00 31.7**	**+0.3**
LIA				S		**Sn**	**18 01 04.9**	**+0.7**
DID	**Didima**	**2.76**	**273**	P		**Pn**	**18 00 31.5**	**-0.3**
DID				S		**Sn**	**18 01 04.7**	**-0.2**
DID	**Didima**	**2.76**	**273**	*e*PN		**Pn**	**18 00 31.6**	**-0.3**
DID	**Didima**	**2.76**	**273**	*e*Pn		**Pn**	**18 00 31.6**	**-0.3**
DID				S		**Sn**	**18 01 04.7**	**-0.2**
MRKA	**Markates**	**2.77**	**298**	*e*PN		**Pn**	**18 00 32.2**	**+0.3**
MRKA	**Markates**	**2.77**	**298**	*e*Pn		**Pn**	**18 00 32.2**	**+0.3**
VILL	**Villia**	**2.78**	**286**	*e*Pn		**Pn**	**18 00 32.5**	**+0.3**
VIL2	**Platees**	**2.83**	**287**	*e*PN		**Pn**	**18 00 32.5**	**-0.3**
SIVA	**Sivas**	**2.86**	**213**	*e*PB		**Pn**	**18 00 35.2**	**+2.1**
SIVA	**Sivas**	**2.86**	**213**	*e*Pb		**Pn**	**18 00 35.2**	**+2.1**
LTK	**Loutraki**	**3.02**	**282**	*e*PN		**Pn**	**18 00 35.8**	**+0.4**
LTK	**Loutraki**	**3.02**	**282**	*e*Pn		**Pn**	**18 00 35.8**	**+0.4**
KARN	**Karanos**	**3.03**	**229**	*e*PN		**Pn**	**18 00 35.8**	**+0.3**
KARN	**Karanos**	**3.03**	**229**	*e*Pn		**Pn**	**18 00 35.8**	**+0.3**
SKIA	**Skiathos**	**3.08**	**305**	*e*PN		**Pn**	**18 00 36.6**	**+0.4**
SKIA	**Skiathos**	**3.08**	**305**	*e*Pn		**Pn**	**18 00 36.6**	**+0.4**
VLI	**Veliai**	**3.09**	**258**	*e*PN		**Pn**	**18 00 35.9**	**-0.5**
VLI	**Veliai**	**3.09**	**258**	*e*Pn		**Pn**	**18 00 35.9**	**-0.5**
KYTH	**Kithira**	**3.16**	**250**	*e*PN		**Pn**	**18 00 37.8**	**+0.5**
KYTH	**Kithira**	**3.16**	**250**	*e*Pn		**Pn**	**18 00 37.8**	**+0.5**
SMTH	**Samothraki Isl**	**3.17**	**344**	P		**Pn**	**18 00 37.5**	**+0.1**
SMTH	**Samothraki Isl**	**3.17**	**344**	*e*PN		**Pn**	**18 00 37.9**	**+0.5**
SMTH	**Samothraki Isl**	**3.17**	**344**	P		**Pn**	**18 00 37.5**	**+0.1**
SMTH	**Samothraki Isl**	**3.17**	**344**	*e*Pn		**Pn**	**18 00 37.9**	**+0.5**
DSF	**Desfina**	**3.44**	**288**	*e*PN		**Pn**	**18 00 42.0**	**+0.7**
DSF	**Desfina**	**3.44**	**288**	*e*Pn		**Pn**	**18 00 42.0**	**+0.7**
ALN	**Alexandroupoli**	**3.49**	**352**	P		**Pn**	**18 00 42.0**	**+0.1**
ALN				S		**Sn**	**18 01 23.6**	**+0.6**
ALN	**Alexandroupoli**	**3.49**	**352**	*e*PN		**Pn**	**18 00 42.0**	**+0.1**
ALN	**Alexandroupoli**	**3.49**	**352**	P		**Pn**	**18 00 42.0**	**+0.1**
ALN				S		**Sn**	**18 01 23.6**	**+0.6**
GUR	**Goura**	**3.49**	**280**	*e*PN		**Pn**	**18 00 43.2**	**+1.2**
GUR	**Goura**	**3.49**	**280**	*e*Pn		**Pn**	**18 00 43.2**	**+1.2**
OUR	**Ouranopolis**	**3.59**	**325**	*e*PN		**Pn**	**18 00 44.0**	**+0.8**
OUR	**Ouranopolis**	**3.59**	**325**	*e*Pn		**Pn**	**18 00 44.0**	**+0.8**
KLV	**Kalavryta, Ach**	**3.66**	**281**	*e*PN		**Pn**	**18 00 44.8**	**+0.6**
KLV	**Kalavryta, Ach**	**3.66**	**281**	*e*Pn		**Pn**	**18 00 44.8**	**+0.6**
AGG	**Agios Georgios**	**3.79**	**296**	*e*PN		**Pn**	**18 00 47.2**	**+1.2**
AGG	**Agios Georgios**	**3.79**	**296**	*e*Pn		**Pn**	**18 00 47.2**	**+1.2**
LAKA	**Lakka**	**3.82**	**284**	*e*PN		**Pn**	**18 00 48.4**	**+1.9**
LAKA	**Lakka**	**3.82**	**284**	*e*Pn		**Pn**	**18 00 48.4**	**+1.9**
EFP	**Efpalio**	**3.92**	**286**	*e*PN		**Pn**	**18 00 49.3**	**+1.6**
EFP	**Efpalio**	**3.92**	**286**	*e*Pn		**Pn**	**18 00 49.3**	**+1.6**

KRSC 23 18:19:42.5±3.6, 54°71N×162°61E, h5km±5km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MKZ	**Mys Kozlova**	**0.53**	**254**	P		Pg	18 19 53.3	+0.6
MKZ				S		Sg	18 20 00.5	+0.8
KBTR	**Krutoberegovo**	**1.51**	**4**	P		Pn	18 20 09.5	-0.6
KBTR				S		Sn	18 20 29.9	-0.3
TUMR	**Tumrok**	**1.53**	**293**	P		Pn	18 20 09.5	-1.2
TUMR				S		Sn	18 20 29.0	-2.1
BZGR	**Bezymyannyi-Gr**	**1.65**	**319**	P		Pn	18 20 11.1	-1.2
BZGR				S		Sn	18 20 32.1	-1.8
ZLN	**Zelenaya**	**1.67**	**323**	P		Pn	18 20 12.3	-0.2
ZLN				S		Sn	18 20 34.4	0.0
KMNR	**Kamenistaya**	**1.72**	**309**	P		Pn	18 20 12.7	-0.5
KMNR				S		Sn	18 20 35.3	-0.3
BZMR	**Bezymyannaya**	**1.73**	**316**	P		Pn	18 20 12.7	-0.7
BZWR	**Bezymyannyi-We**	**1.74**	**317**	P		Pn	18 20 13.5	-0.1
BZWR				S		Sn	18 20 36.2	-0.2
KPT	**Kopyto**	**1.86**	**314**	P		Pn	18 20 15.2	+0.1
KPT				S		Sn	18 20 39.2	+0.2
KRSR	**Krestovskiy**	**1.91**	**323**	S		Sb	18 20 41.8	-0.3
KLY	**Klyuchi**	**1.96**	**326**	S		Sn	18 20 40.6	-0.6
SMKR	**Semkarok**	**1.98**	**341**	S		Sn	18 20 42.3	+0.2
BKI	**Bering**	**2.00**	**74**	S		Sn	18 20 39.6	-2.7
BDR	**Baidarnaya**	**2.02**	**337**	S		Sn	18 20 43.4	+0.3
KOZ	**Kozyrevsk**	**2.06**	**312**	S		Sb	18 20 45.5	-1.0
SRDR	**Sredinnyy**	**2.30**	**316**	P		Pn	18 20 20.5	-0.7
SRDR				S		Sn	18 20 49.1	-0.8
NLC	**Nalytchevo**	**2.47**	**233**	P		Pn	18 20 23.2	-0.1
NLC				S		Sn	18 20 53.3	-0.5
ESO	**Esso**	**2.54**	**300**	P		Pn	18 20 24.2	-0.3
ESO				S		Sn	18 20 55.2	-0.6
SDLR	**Sedlovina**	**2.63**	**238**	P		Pn	18 20 26.1	+0.4
SDLR				S		Sn	18 20 58.6	+0.6
SMAR	**Somma**	**2.68**	**239**	P		Pn	18 20 26.8	+0.3
SMAR				S		Sn	18 20 58.9	-0.6
KRER	**Koryakskii**	**2.68**	**240**	P		Pn	18 20 26.9	+0.4
KRER				S		Sn	18 20 59.6	+0.1
UGLR	**Uglovaya**	**2.69**	**238**	P		Pn	18 20 27.2	+0.6
UGLR				S		Sn	18 20 59.5	-0.2
KRX	**Arik**	**2.70**	**242**	P		Pn	18 20 26.9	+0.2
KRX				S		Sn	18 20 59.9	0.0
AVH	**Avacha**	**2.71**	**239**	P		Pn	18 20 27.5	+0.8
AVH				S		Sn	18 20 59.9	0.0
KOK	**Koryaka**	**2.74**	**240**	P		Pn	18 20 27.7	-0.6
KOK				S		Sn	18 20 59.3	-1.6
PET	**Petropavlovsk**	**2.89**	**236**	P		Pn	18 20 30.1	+1.0
PET				S		Sn	18 21 05.0	+0.8
GNL	**Ganaly**	**2.92**	**252**	P		Pn	18 20 30.1	+0.3
GNL				S		Sn	18 21 05.4	0.0
RUS	**Russkaya**	**3.34**	**229**	P		Pn	18 20 35.2	-0.1
RUS				S		Sn	18 21 13.5	-1.9
MTVR	**Mutnovka**	**3.46**	**232**	P		Pn	18 20 37.9	+0.8
MTVR				S		Sn	18 21 18.5	0.0
ASAK	**Asacha**	**3.65**	**232**	P		Pn	18 20 40.6	+0.9
ASAK				S		Sn	18 21 23.0	-0.2
APC	**Apacha**	**3.69**	**243**	P		Pn	18 20 41.4	+1.2
MIPR	**Malaya Ipel'ka**	**4.26**	**237**	P		Pn	18 20 49.1	+1.1

*ISCJB **23** 18:21:21.9±0.4, 37°14N±0°02×29°05E±0°02, h8km±4km, Error ellipse: s-maj=3.6km s-min=2.9km az=147.5*
*DDA **23** 18:21:21.5, 37°11N×29°04E, h26km, MD3.2*
*ISK **23** 18:21:21.1, 37°11N×29°04E, h12km, MD3.5*
*CSEM **23** 18:21:22.2±0.1, 37°14N×29°05E, h8km, MD3.5, Error ellipse: s-maj=3.0km s-min=2.5km az=2.0*
*THE **23** 18:21:25.2, 37°24N×29°07E, h15km±3km, ML2.9/4, Error ellipse: s-maj=4.0km s-min=1.1km az=84.0*

ISC 23 18:21:22.1±1.0, 37°14N±0°02×29°03E±0°02, h5km±9km, n111, σ0s97/145, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GLHS	**Glhisar (BURDU**	**0.37**	**87**	*e*PG		**Pg**	**18 21 29.0**	**-0.3**
GLHS				*e*SG		**Sg**	**18 21 35.6**	**+1.3**
GLHS	**Glhisar (BURDU**	**0.37**	**87**	*e*Pg		**Pg**	**18 21 29.0**	**-0.3**
GLHS				*e*Sg		**Sg**	**18 21 35.6**	**+1.3**
GOLH	**Golhisar**	**0.43**	**77**	*i* P		**Pg**	**18 21 30.3**	**-0.2**
GOLH				*i* S		**Sb**	**18 21 38.0**	**-1.2**
GOLH	**Golhisar**	**0.43**	**77**	*i* P		**Pg**	**18 21 30.3**	**-0.2**
GOLH				*i* S		**Sb**	**18 21 38.0**	**-1.2**
TURN	**Turunc**	**0.43**	**232**	*i* P		**Pn**	**18 21 34.9**	**-0.1**
TURN	**Turunc**	**0.43**	**232**	*i* P		**Pn**	**18 21 34.9**	**-0.1**
DALY	**Dalyan (Mu˘la**	**0.44**	**223**	*e*PG		**Pg**	**18 21 29.9**	**-0.7**
DALY				*e*SG		**Sg**	**18 21 36.5**	**+0.2**
DALY	**Dalyan (Mu˘la**	**0.44**	**223**	*e*Pg		**Pg**	**18 21 29.9**	**-0.7**
DALY				*e*Sg		**Sg**	**18 21 36.5**	**+0.2**
FETY	**Fethiye**	**0.50**	**175**	*e*PG		**Pg**	**18 21 30.9**	**-0.9**
FETY				*e*SG		**Sg**	**18 21 37.7**	**-0.6**
FETY	**Fethiye**	**0.50**	**175**	*e*Pg		**Pg**	**18 21 30.9**	**-0.9**
FETY				*e*Sg		**Sg**	**18 21 37.7**	**-0.6**
DNZL	**Cakiroluk**	**0.55**	**1**	*i* P		**Pg**	**18 21 33.1**	**+0.4**
DNZL				*i* S		**Sb**	**18 21 42.6**	**-0.1**
DNZL	**Cakiroluk**	**0.55**	**1**	*i* P		**Pg**	**18 21 33.1**	**+0.4**
DNZL				*i* S		**Sb**	**18 21 42.6**	**-0.1**
YER	**Yerkesik**	**0.60**	**270**	*e*PG		**Pg**	**18 21 33.6**	**0.0**
YER	**Yerkesik**	**0.60**	**270**	*e*Pg		**Pg**	**18 21 33.6**	**0.0**
DENT	**Denizli**	**0.61**	**0**	*e*PG		**Pg**	**18 21 34.0**	**+0.1**
DENT	**Denizli**	**0.61**	**0**	*e*Pg		**Pg**	**18 21 34.0**	**+0.1**
ELL	**Elmali**	**0.80**	**119**	*e*PG		**Pg**	**18 21 36.5**	**-1.0**
ELL	**Elmali**	**0.80**	**119**	*e*Pg		**Pg**	**18 21 36.5**	**-1.0**
AKAS	**Kas**	**1.01**	**153**	*i* P		**Pg**	**18 21 40.8**	**-0.8**
AKAS				*i* S		**Sg**	**18 22 00.4**	**+2.5**
AKAS	**Kas**	**1.01**	**153**	*i* P		**Pg**	**18 21 40.8**	**-0.8**
AYDN	**Tasoluk**	**1.06**	**300**	*i* P		**Pg**	**18 21 42.2**	**-0.2**
AYDN				*i* S		**Sn**	**18 21 57.9**	**-0.9**
AYDN	**Tasoluk**	**1.06**	**300**	*i* P		**Pg**	**18 21 42.2**	**-0.2**
AYDN				*i* S		**Sn**	**18 21 57.9**	**-0.9**
KORT	**Korkueli**	**1.06**	**97**	*i* P		**Pg**	**18 21 42.6**	**+0.1**
KORT				*i* S		**Sn**	**18 22 00.3**	**+1.3**
KORT	**Korkueli**	**1.06**	**97**	*i* P		**Pg**	**18 21 42.6**	**+0.1**

ARG	**Arkhangelos**	**1.17**	**219**	P		**Pn**	**18 21 46.4**	**+1.2**
ARG	**Arkhangelos**	**1.17**	**219**	*e*P		**Pn**	**18 21 44.8**	**-0.4**
ARG	**Arkhangelos**	**1.17**	**219**	P		**Pn**	**18 21 46.4**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**1.21**	**312**	*e*PN		**Pb**	**18 21 44.6**	**-1.0**
AYDB	**Zeytinkoy-Aydi**	**1.21**	**312**	*e*Pn		**Pb**	**18 21 44.7**	**-1.0**
DAT	**Datca**	**1.23**	**251**	*e*PN		**Pn**	**18 21 45.0**	**-1.1**
DAT	**Datca**	**1.23**	**251**	*e*Pn		**Pn**	**18 21 45.0**	**-1.1**
KHL	**Karahalli**	**1.25**	**18**	*e*PN		**Pn**	**18 21 45.0**	**-1.2**
KHL	**Karahalli**	**1.25**	**18**	*e*Pn		**Pn**	**18 21 45.1**	**-1.2**
BDRM	**Kayabasi**	**1.27**	**267**	*i* P		**Pn**	**18 21 46.2**	**-0.3**
BDRM				*i* S		**Sg**	**18 22 03.4**	**+0.5**
BDRM	**Kayabasi**	**1.27**	**267**	*i* P		**Pn**	**18 21 46.2**	**-0.3**
BDRM				*i* S		**Sg**	**18 22 03.4**	**+0.5**
KHAL	**Karahalli**	**1.28**	**16**	*i* P		**Pn**	**18 21 46.1**	**-0.7**
KHAL				*i* S		**Sn**	**18 22 05.5**	**+1.1**
KHAL	**Karahalli**	**1.28**	**16**	*i* P		**Pn**	**18 21 46.1**	**-0.7**
KHAL				*i* S		**Sn**	**18 22 05.5**	**+1.1**
BCK	**Bucak**	**1.28**	**75**	*e*PN		**Pn**	**18 21 45.5**	**-1.3**
BCK	**Bucak**	**1.28**	**75**	*e*Pn		**Pn**	**18 21 45.5**	**-1.3**
ANTB	**Antalya**	**1.32**	**100**	*e*PN		**Pn**	**18 21 45.9**	**-1.3**
ANTB	**Antalya**	**1.32**	**100**	*e*Pn		**Pn**	**18 21 45.9**	**-1.3**
BODT	**Bodrum**	**1.38**	**267**	*e*PN		**Pn**	**18 21 47.4**	**-0.6**
BODT				*e*SN		**Sb**	**18 22 05.2**	**-1.1**
BODT	**Bodrum**	**1.38**	**267**	*e*Pn		**Pn**	**18 21 47.4**	**-0.6**
BODT				*e*Sn		**Sb**	**18 22 05.2**	**-1.1**
MANT	**Manisa**	**1.40**	**345**	*i* P		**Pn**	**18 21 48.1**	**-0.4**
MANT				*i* S		**Sg**	**18 22 08.6**	**+1.4**
MANT	**Manisa**	**1.40**	**345**	*i* P		**Pn**	**18 21 48.1**	**-0.4**
MANT				*i* S		**Sg**	**18 22 08.6**	**+1.4**
GCAM	**G?zelcaml?**	**1.54**	**292**	*i* P		**Pn**	**18 21 50.1**	**-0.1**
GCAM	**G?zelcaml?**	**

	comp=Z,48nm,18.6s,baz=163,slow=40							
KURBB	**Kurchatov Arra**	**45.88**	**309**	P	**P**	**18 35 52.6**	**-0.4**
	0.6nm,0.5s,baz=83,slow=7.6,SNR=8.9							
WRA	**Warramunga Arr**	**55.42**	**186**	P	**P**	**18 37 04.8**	**-0.3**
	0.4nm,0.4s,baz=1.1,slow=7.6,SNR=18							
ASAR	**Alice Springs**	**59.14**	**186**	P	**P**	**18 37 32.4**	**+1.0**
	0.2nm,0.9s,baz=357,slow=5.6,SNR=3.1							

*IDC **23** 18:32:47.2±1.0,6˚.36S×102˚.25E, h0km, mb3.9/10, mb1 4.0/10,mb1mx3.8/22,mbtmp3.9/10,MS3.5/1, Ms1 3.5/1,ms1mx2.6/41,Error ellipse: s-maj=38.2km s-min=17.1km az=59.0*

*ISCJB **23** 18:32:50.7±0.5,6˚.35S±0˚.05×102˚.23E±0˚.04, h33km, mb4.0/14, MS3.4/1, Error ellipse: s-maj=7.8km s-min=5.2km az=7.6*

*BKK **23** 18:32:50.3±1.0,6˚.5S±11˚×10˚.2E±˚, h10km,M4.7/16, mB5.1/2,mb4.5/16,MLv4.8/3,Mw(mB)4.5/2*

*DJA **23** 18:32:54.5±1.5,6˚.5S±4˚×10˚.2E±˚, h20km±15km, M4.5/15, mb4.6/11,mB5.5/3,MLv4.4/15,Mw(mB)5.0/3*

ISC 23 18:32:52.6±0.8,6˚.31S±0˚.07×102˚.24E±0˚.08,h35km,n56, σ1s01/48,mb4.1/14,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**2.06**	**20**	P	**Pn**	**18 33 23.8**	**-1.0**
LWLI	**Liwa**	**2.22**	**55**	P	**Pn**	**18 33 26.2**	**-0.9**
LWLI				S	**Sn**	**18 33 53.7**	**+0.3**
KASI	**Kota Agung**	**2.38**	**71**	P	**Pn**	**18 33 27.8**	**-1.4**
KASI				S	**Sn**	**18 33 54.9**	**-2.2**
MDSI	**Maura Dua**	**2.65**	**47**	P	**Pn**	**18 33 32.5**	**-0.4**
MDSI				S	**Sn**	**18 34 03.1**	**-0.7**
LHSI	**Lahat**	**2.78**	**28**	P	**Pn**	**18 33 33.8**	**-0.9**
KLI	**Kotabumi**	**2.98**	**61**	P	**Pn**	**18 33 37.8**	**+0.4**
BLSI	**Bandar Lampung**	**3.14**	**73**	P	**Pn**	**18 33 39.9**	**+0.3**
PMBI	**Palembang**	**4.21**	**37**	P	**Pn**	**18 33 54.1**	**-0.2**
DBJI	**Dramaga**	**4.49**	**93**	P	**Pn**	**18 33 58.4**	**+0.2**
CBJI	**Citeko**	**4.59**	**92**	P	**Pn**	**18 34 01.5**	**+2.0**
LEM	**Lembang**	**5.37**	**96**	P	**Pn**	**18 34 11.9**	**+1.4**
	122nm,0.7s,0.4nm						
PPBI	**Pangkal Pinang**	**5.67**	**44**	P	**Pn**	**18 34 17.0**	**+2.6**
	15nm,0.8s,0.1nm						
CISI	**Cisompet, Garu**	**5.68**	**103**	P	**Pn**	**18 34 12.9**	**-1.7**
	110nm,0.6s,4µm1.0nm						
PPI	**Padang Panjang**	**6.10**	**342**	P	Pn	18 34 25.7	+5.4
	24nm,0.9s,0.1nm						
KPJI	**Karang Pucung**	**6.73**	**99**	P	**Pn**	**18 34 30.6**	**+1.7**
	37nm,1.0s,0.2nm						
STKI	**Sintang**	**11.19**	**56**	P	Pn	18 35 34.9	+4.7
SBUM	**Sibu**	**13.23**	**49**	P	**Pn**	**18 35 59.9**	**+1.8**
	25nm,1.0s						
PATY	**Pattaya**	**19.16**	**356**	P	**P**	**18 37 13.5**	**+0.4**
	6.3nm,0.8s,418nm						
MYLDM	**Lahad Datu**	**19.85**	**55**	P	**Pn**	**18 37 23.6**	**+1.1**
	31nm,1.2s						
APSI	**Ampana**	**20.10**	**75**	P	Pn	18 37 27.9	+2.5
	30nm,1.1s						
UTHA	**Uthaitani**	**21.90**	**353**	P	**P**	**18 37 43.1**	**+0.2**
	3.5nm,0.9s						
SOEI	**Soe**	**22.08**	**100**	P	P	18 37 50.9	+5.9
PBKT	**Sadao Pong**	**22.77**	**357**	P	**P**	**18 37 52.5**	**+0.4**
	20nm,0.8s,999nm						
LOEI	**Loei**	**23.69**	**358**	P	**P**	**18 38 00.4**	**-0.9**
	11nm,1.9s						
CHTO	**Chiang Mai**	**25.17**	**353**	P	**P**	**18 38 14.8**	**-0.1**
	31nm,1.4s						
CHTO	**Chiang Mai**	**25.17**	**353**	P	**P**	**18 38 14.8**	**-0.1**
	31nm,1.4s						
CRAI	**Chiangrai**	**26.43**	**356**	P	**P**	**18 38 27.8**	**+1.5**
H08S2	**Diego Garcia H**	**29.55**	**266**	T	T	19 10 04.3	
	baz=88,slow=0.7,SNR=43						
H08S3	**Diego Garcia H**	**29.56**	**266**	T	T	19 10 01.8	
	baz=88,slow=0.7,SNR=29						
H08S1	**Diego Carcia H**	**29.57**	**266**	T	T	19 09 58.2	
	baz=88,slow=0.7,SNR=24						
NWAO	**Narrogin (SRO)**	**29.94**	**154**	LR	LR	18 49 32.0	
	comp=Z,81nm,19.7s,baz=74,slow=34						
H01W3	**Cape Leeuwin H**	**30.48**	**160**	T	T	19 11 04.8	
	baz=337,slow=0.7,SNR=6.8						
H01W2	**Cape Leeuwin H**	**30.50**	**160**	T	T	19 11 06.8	
	baz=337,slow=0.7,SNR=11						
H01W1	**Cape Leeuwin H**	**30.50**	**160**	T	T	19 11 24.5	
	baz=337,slow=0.7,SNR=6.3						
WRA	**Warramunga Arr**	**33.99**	**117**	P	**P**	**18 39 32.3**	**-1.0**
	0.6nm,0.8s,baz=290,slow=12,SNR=6.5						
ASAR	**Alice Springs**	**34.99**	**123**	P	**P**	**18 39 41.5**	**-0.4**
	0.2nm,0.5s,baz=296,slow=7.9,SNR=10						
ODAN	**Odare**	**35.97**	**337**	*e*P	**P**	**18 39 50.7**	**+0.2**
	12nm,0.7s						
TAPN	**Taplejung**	**36.29**	**338**	*e*P	**P**	**18 39 53.6**	**+0.3**
	16nm,0.9s						
RAMN	**Ramite**	**36.37**	**336**	*e*P	**P**	**18 39 54.6**	**+0.7**
	7.4nm,0.7s						
JIRN	**Jiri**	**37.16**	**336**	*e*P	**P**	**18 40 01.4**	**+0.6**
	17nm,0.7s						
PKIN	**Phulchoki**	**37.41**	**335**	*e*P	**P**	**18 40 02.9**	**+0.1**
	2.3nm,0.5s						
GUN	**Gumba**	**37.51**	**336**	*e*P	**P**	**18 40 04.4**	**+0.7**
	14nm,0.5s						
DMN	**Daman**	**37.57**	**335**	*e*P	**P**	**18 40 04.9**	**+0.8**
KKN	**Kakani**	**37.65**	**335**	*e*P	**P**	**18 40 05.1**	**+0.3**
	4.5nm,0.5s						
GKN	**Gorkha**	**38.11**	**334**	*e*P	**P**	**18 40 09.2**	**+0.6**
	19nm,1.0s						
KOLN	**Koldanda**	**38.37**	**333**	*e*P	**P**	**18 40 11.4**	**+0.6**
	7.0nm,0.7s						
DANN	**Dangsing**	**38.80**	**334**	*e*P	**P**	**18 40 15.2**	**+0.7**
	16nm,0.6s						
STKA	**Stephens Creek**	**44.66**	**130**	P	**P**	**18 41 00.3**	**-1.9**
	0.8nm,0.7s,baz=259,slow=4.4,SNR=3.3						
KSRS	**Korea Array**	**49.70**	**27**	P	**P**	**18 41 41.4**	**+0.1**
	1.8nm,0.8s,baz=239,slow=7.3,SNR=5.4						
SONM	**Songino Array**	**54.03**	**3**	P	**P**	**18 42 14.2**	**+0.6**
	5.3nm,0.7s,baz=183,slow=7.6,SNR=38						
MKAR	**Makanchi Array**	**55.76**	**344**	P	**P**	**18 42 26.1**	**+0.1**
	3.9nm,0.8s,baz=158,slow=9.1,SNR=17						
USRK	**Ussuriysk Arra**	**56.98**	**25**	P	**P**	**18 42 34.2**	**-0.5**
	2.3nm,0.8s,baz=221,slow=5.7,SNR=8.6						
ZALV	**Zalesovo Beam**	**61.80**	**348**	P	**P**	**18 43 07.2**	**-0.5**
	5.8nm,0.9s,baz=178,slow=4.1,SNR=11						
VNDA	**Vanda**	**77.53**	**169**	P	**P**	**18 44 44.5**	**+0.2**
	0.6nm,0.8s,baz=324,slow=8.7,SNR=4.1						
BRTR	**Keskin Array B**	**77.86**	**313**	P	**P**	**18 44 47.2**	**+0.2**
	0.4nm,0.7s,baz=128,slow=6.2,SNR=2.8						
TXAR	**Lajitas Array**	**146.51**	**44**	PKPbc	**PKPab**	**18 52 32.1**	**0.0**
	1.3nm,0.8s,baz=0.0,slow=0.5,SNR=11						

GUC 23 18:38:47.0±0.6,28˚.36S×70˚.76W,h74km±3km,MD3.6, ML3.9,1C,Central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**0.21**	**181**	*i* P	Pn	18 38 58.5	+0.3
VACH				*i* S	Sn	18 39 06.7	+0.3
LCO	**Las Campanas**	**0.65**	**176**	*i* P	Pn	18 39 02.8	+0.8
LCO				*i* S	Sn	18 39 14.2	+1.1
LCO				AML	AML	18 39 15.6	
	comp=N,3µm,0.3s						
CPCH	**Copiapo**	**1.06**	**20**	*i* P	Pn	18 39 06.6	0.0
CPCH				*i* S	Sn	18 39 21.8	+0.6
TLL	**Tololo Astrono**	**1.80**	**181**	*i* P	Pn	18 39 17.3	+0.9
TLL				*i* S	Sn	18 39 39.9	+1.2
CMCH	**Combarbala**	**2.81**	**184**	*i* P	Pn	18 39 30.2	+0.4
CMCH				*i* S	Sn	18 40 03.1	+0.4
CMCH				AML	AML	18 40 23.1	
	comp=E,872nm,0.7s						
CHNG	**Los Chungos**	**3.57**	**190**	*i* S	Sn	18 40 20.9	0.0
CHNG				AML	AML	18 40 40.2	
	comp=E,144nm,0.6s						

*IDC **23** 18:45:00.9±1.8,32˚.54N×137˚.72E, h0km, mb3.8/3, mb1 4.1/4,mb1mx3.5/26,mbtmp3.7/4,ML3.4/1, Error ellipse: s-maj=120.5km s-min=25.0km az=104.0*

*NIED **23** 18:45:00,33˚.20N×140˚.60E,h140km,Mw4.0 Best double couple: M0 1.16000×10^15 NP1:φs338.00000°, δ65.00000°,λ-50.00000°. NP2:φs95.00000°,δ46.00000°, λ-144.00000°.*

*JMA **23** 18:45:03.4±0.1,33˚.23N±0˚.1×140˚.54E±0˚.07, h31km±19km, mb3.8/3,Error ellipse: s-maj=23.5km s-min=8.8km az=168.1*

ISC 23 18:45:03.7±1.9,33˚.35N±0˚.10×140˚.5E±0˚.1,h13km±13km, n22,σ1s27/25,mb3.9/3,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**0.65**	**249**	P	**Pg**	**18 45 16.8**	**+0.4**
JHJ2				S	**Sb**	**18 45 26.1**	**+0.2**
JHCJ	**Hachijojimakas**	**0.68**	**246**	P	**Pb**	**18 45 16.9**	**-0.5**
JHCJ				S	**Sg**	**18 45 25.7**	**-0.2**
JMY	**Miyakejima3**	**1.12**	**310**	P	**Pn**	**18 45 24.5**	**-0.6**
JMY				S	**Sn**	**18 45 39.8**	**-0.6**
BSO1	**Boso 1**	**1.35**	**16**	P	**Pn**	**18 45 27.4**	**-0.4**
BSO1				*e*S	**Sg**	**18 45 46.8**	**-0.3**
JKO	**Kozu shima**	**1.43**	**306**	P	**Pn**	**18 45 29.0**	**-0.4**
JKO				S	**Sn**	**18 45 47.4**	**-0.7**
BSO4	**Boso 4**	**1.64**	**354**	P	**Pn**	**18 45 32.4**	**+0.2**
BSO4				*e*S	**Sb**	**18 45 53.5**	**-0.9**
JIM2	**Oshima 3**	**1.64**	**326**	P	**Pn**	**18 45 32.0**	**-0.3**
JIM2				*e*S	**Sn**	**18 45 51.8**	**-1.6**
JIZS	**Izushimoda**	**1.94**	**315**	P	**Pn**	**18 45 36.4**	**0.0**
JIZS				*e*S	**Sn**	**18 46 00.5**	**-0.1**
KTJJ	**Kamata 2**	**1.99**	**322**	P	**Pn**	**18 45 37.0**	**-0.1**
KTJJ				S	**Sn**	**18 46 00.8**	**-1.1**
JOD2	**Odawara 2**	**2.25**	**328**	P	**Pn**	**18 45 40.6**	**-0.1**
JOD2				S	**Sn**	**18 46 06.7**	**-1.7**
TK03	**Tokai 3**	**2.29**	**291**	S	**Sn**	**18 46 09.6**	**+0.5**
MJAR	**Matsushiro Arr**	**3.71**	**330**	Pn	**Pn**	**18 46 02.3**	**+1.5**
	2.4nm,0.3s,baz=162,slow=12,SNR=33						
MJAR				Sn	**Sn**	**18 46 47.3**	**+2.9**
	1.1nm,0.3s,baz=292,slow=37,SNR=3.4						
MAT	**Matsushiro**	**3.71**	**330**	P	**Pn**	**18 46 02.5**	**+1.7**
MAT				S	**Sn**	**18 46 47.7**	**+3.2**
H11N2	**WAKE ISLAND Hy**	**27.11**	**113**	T	T	19 19 36.7	
	baz=308,slow=0.7,SNR=68						
H11N1	**WAKE ISLAND Hy**	**27.12**	**113**	T	T	19 19 30.1	
	baz=308,slow=0.7,SNR=62						
H11N3	**WAKE ISLAND Hy**	**27.13**	**113**	T	T	19 19 25.8	
	baz=308,slow=0.7,SNR=77						
H11S3	**WAKE ISLAND Hy**	**27.68**	**116**	T	T	19 20 16.6	
	baz=310,slow=0.7,SNR=14						
H11S1	**WAKE ISLAND Hy**	**27.68**	**116**	T	T	19 20 16.7	
	baz=310,slow=0.7,SNR=9.6						
H11S2	**WAKE ISLAND Hy**	**27.70**	**116**	T	T	19 20 17.1	
	baz=310,slow=0.7,SNR=8.2						
WRA	**Warramunga Arr**	**53.33**	**187**	P	P	18 54 14.0	-8.7
	0.9nm,0.4s,baz=5.4,slow=7.6,SNR=38						
ASAR	**Alice Springs**	**57.05**	**187**	P	P	18 54 41.2	-8.3
	0.6nm,0.5s,baz=3.2,slow=6.4,SNR=14						
NVAR	**Mina Array Bea**	**77.79**	**52**	P	P	18 57 14.1	+13
	0.4nm,0.8s,baz=308,slow=4.4,SNR=4.8						

*IDC **23** 18:45:21.2±1.7, 12˚.42S×167˚.32E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.8/20, mbtmp3.9/8, ML3.5/1, MS3.6/3, Ms1 3.6/3, ms1mx3.0/34, Error ellipse: s-maj=50.7km s-min=24.9km az=117.0*

*ISCJB **23** 18:45:24.5±1.2, 12˚.6S±0˚.1×167˚.3E±0˚.2, h33km, mb3.7/7, MS3.6/3, Error ellipse: s-maj=33.0km s-min=17.0km az=7.5*

ISC 23 18:45:26.4±1.3,12˚.5S±0˚.1×167˚.3E±0˚.3,h35km,n10, σ0s67/8,mb3.6/7,MS3.6/3,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.57**	**185**	Pn	**Pn**	**18 47 41.9**	**+0.1**
	0.5nm,0.3s,baz=32,slow=13,SNR=4.7						
URZ	**Urewera**	**27.11**	**163**	LR	LR	18 59 59.4	
	comp=Z,101nm,19.6s,baz=3.9,slow=32						
STKA	**Stephens Creek**	**30.53**	**227**	P	**P**	**18 51 37.1**	**+0.5**
	1.8nm,0.8s,baz=81,slow=3.9,SNR=4.6						
STKA				LR	LR	19 03 29.1	
	comp=Z,141nm,19.0s,baz=27,slow=36						
WRA	**Warramunga Arr**	**32.50**	**252**	P	**P**	**18 51 53.3**	**-0.8**
	0.7nm,0.9s,baz=86,slow=9.3,SNR=6.6						
ASAR	**Alice Springs**	**33.59**	**246**	P	**P**	**18 52 02.9**	**-0.7**
	0.6nm,0.7s,baz=74,slow=9.1,SNR=8.0						
JNU	**Nakatsue**	**57.16**	**324**	LR	LR	19 20 24.0	
	comp=Z,48nm,18.2s,baz=247,slow=37						
CMAR	**Chiang Mai Arr**	**74.11**	**293**	P	**P**	**18 57 00.2**	**+0.5**
	0.5nm,0.8s,baz=137,slow=5.1,SNR=6.2						
SONM	**Songino Array**	**80.75**	**323**	P	**P**	**18 57 36.8**	**+0.4**
	0.3nm,0.7s,baz=116,slow=3.4,SNR=2.6						
ILAR	**Eielson Array**	**84.38**	**18**	P	**P**	**18 57 54.2**	**-0.6**
	0.6nm,1.0s,baz=248,slow=4.8,SNR=3.9						
MKAR	**Makanchi Array**	**95.63**	**317**	P	**P**	**18 58 48.5**	**+0.1**
	1.1nm,0.8s,baz=93,slow=7.3,SNR=4.2						

IGQ 23 18:50:10.9,2˚.03S×80˚.26W,h12km±139km,Mb4.4,Ms4.2, 1C-18D,Error ellipse: s-maj=6.7km s-min=2.9km az=6.0, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PECV	**Mancha de Ca P**	**1.26**	**10**	P	Pb	18 50 34.6	0.0
IGUA	**Igualata**	**1.70**	**72**	||P	Pb	18 50 42.9	-0.1
JAMA	**Jama**	**1.75**	**2**	P	Pn	18 50 41.1	-0.2
BMAS	**Trigal station**	**1.85**	**74**	||P	Pb	18 50 45.0	-0.2
ARRY	**Arrayan**	**1.88**	**74**	P	Pb	18 50 44.7	-0.9
JUI6	**Juive**	**1.89**	**72**	S	Sb	18 51 09.2	-0.4
JUI6	**Juive**	**1.89**	**72**	P	Pb	18 50 45.3	-0.5
PAT1	**Patacocha**	**1.89**	**74**	||P	Pb	18 50 45.5	-0.5
BPAT	**Tungurahua Vol**	**1.90**	**74**	||S	Sb	18 51 09.5	-0.7
BPAT	**Tungurahua Vol**	**1.90**	**74**	||P	Pb	18 50 45.5	-0.6
RETU	**Refugio**	**1.90**	**73**	P	Pb	18 50 45.9	-0.3
RUN5	**Runtun**	**1.93**	**72**	P	Pb	18 50 46.3	-0.3
ULBA	**Ulba**	**1.94**	**73**	||P	Pb	18 50 46.3	-0.4
BULB	**Ulba Tungurahu**	**1.94**	**72**	||P	Pb	18 50 46.3	-0.4
BRUN	**Tungurahua Vol**	**1.94**	**72**	S	Sb	18 51 11.0	-0.2
BRUN	**Tungurahua Vol**	**1.94**	**72**	P	Pb	18 50 46.3	-0.4
PISA	**Pisayambo**	**2.10**	**63**	P	Pb	18 50 49.0	-0.7
BMOR	**Cotopaxi Volca**	**2.21**	**54**	||P	Pb	18 50 50.5	-1.1
BMOR	**Cotopaxi Volca**	**2.21**	**54**	||S	Sn	18 51 17.7	+1.7
BNAS	**Cotopaxi Volca**	**2.23**	**53**	||P	Pb	18 50 51.0	-0.8
BREF	**Cotopaxi Volca**	**2.26**	**53**	||S	Sb	18 51 21.5	+0.4
BREF	**Cotopaxi Volca**	**2.26**	**53**	||P	Pb	18 50 52.5	-0.3
BVC2	**Cotopaxi Volca**	**2.29**	**54**	||S	Sb	18 51 20.8	-1.0
BVC2	**Cotopaxi Volca**	**2.29**	**54**	||P	Pb	18 50 51.9	-1.1
BTAM	**Cotopaxi Volca**	**2.29**	**54**	||P	Pb	18 50 52.0	-1.0
VC1	**Cotopaxi 1**	**2.31**	**53**	||P	Pb	18 50 52.3	-0.9
PITA	**Cotopaxi Volc**	**2.34**	**51**	||P	Pb	18 50 52.5	-1.1
COV1	**Cotopaxi Volc**	**2.34**	**55**	P	Pn	18 50 51.8	+1.7
JUA2	**San Juan 2**	**2.44**	**43**	P	Pn	18 50 52.5	+1.2
TERV	**Terraza Guagua**	**2.47**	**42**	P	Pn	18 50 52.9	+1.1
GGP	**Refugio Guagua**	**2.48**	**42**	P	Pn	18 50 52.9	+1.0
PINO	**Pino**	**2.48**	**42**	||P	Pn	18 50 52.9	+0.9
ANTI	**Antisana**	**2.62**	**53**	||P	Pb	18 50 56.3	-2.3
OTAV	**Otavalo**	**2.88**	**39**	S	Sn	18 51 32.7	+0.3
OTAV	**Otavalo**	**2.88**	**39**	P	Pn	18 50 58.1	+0.8
CAYA	**Cayambe**	**3.08**	**47**	P	Pn	18 51 02.6	+2.5
CHAR	**Charly**	**3.23**	**53**	P	Pn	18 51 05.3	+3.3
LAV4	**Lava4-Reventad**	**3.25**	**54**	P	Pn	18 51 04.8	+2.6
CONE	**Cono NE Rev Vo**	**3.26**	**53**	P	Pn	18 51 05.2	+2.9

*ATH **23** 18:53:15.5,36˚.37N×20˚.65E,h26km±1km, MD3.7/34*

*CSEM **23** 18:53:17.6±0.3,36˚.48N×20˚.77E, h10km, ML3.1/8, Error ellipse: s-maj=7.0km s-min=3.9km az=46.0*

*THE **23** 18:53:21.8,36˚.52N×20˚.96E, h24km±1km, ML3.1/8, Error ellipse: s-maj=2.1km s-min=1.0km az=214.0*

*IDC **23** 18:53:23.6±7.2, 37˚.47N×21˚.61E, h0km, mb3.8/2, mb1 3.8/3, mb1mx3.3/27, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=136.8km s-min=29.8km az=41.0*

ISC 23 18:53:17.7±1.5,36˚.41N±0˚.05×20˚.74E±0˚.05,h22km±11km, n158,σ1s04/190,1D,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.94**	**59**	P	**Pb**	**18 53 35.1**	**-0.2**
PYL				S	**Sb**	**18 53 46.3**	**-1.0**
PYL	**PYLOS**	**0.94**	**59**	*e*PN	**Pb**	**18 53 35.1**	**-0.2**
PYL				*e*SN	**Sn**	**18 53 49.7**	**+1.4**
PYL	**PYLOS**	**0.94**	**59**	P	**Pb**	**18 53 35.1**	**-0.2**
PYL				S	**Sb**	**18 53 46.3**	**-1.0**
PYL				*e*Sn	**Sn**	**18 53 49.7**	**+1.4**
ITM	**Ithomi**	**1.22**	**51**	P	**Pn**	**18 53 39.5**	**0.0**
ITM	**Ithomi**	**1.22**	**51**	*e*Pn	**Pn**	**18 53 39.5**	**0.0**
ITM	**Ithomi**	**1.22**	**51**	P	**Pn**	**18 53 39.5**	**0.0**
DYR	**Agios Nikonas**	**1.33**	**74**	P	**Pn**	**18 53 41.5**	**+0.6**
DYR				S	**Sn**	**18 53 57.0**	**-0.9**
DYR	**Agios Nikonas**	**1.33**	**74**	*e*PN	**Pn**	**18 53 41.3**	**+0.4**
DYR				*e*SN	**Sb**	**18 53 59.7**	**+1.1**
DYR	**Agios Nikonas**	**1.33**	**74**	P	**Pn**	**18 53 41.5**	**+0.6**
DYR				S	**Sn**	**18 53 57.0**	**-0.9**
DYR				*e*Sn	**Sb**	**18 53 59.7**	**+1.1**
AMT	**Artemida-Makis**	**1.36**	**34**	P	**Pn**	**18 53 42.0**	**+0.6**
AMT				S	**Sn**	**18 53 57.6**	**-1.1**
AMT	**Artemida-Makis**	**1.36**	**34**	*e*PN	**Pn**	**18 53 41.8**	**+0.4**
AMT	**Artemida-Makis**	**1.36**	**34**	P	**Pn**	**18 53 42.0**	**+0.6**
AMT				S	**Sn**	**18 53 57.6**	**-1.1**
VLX	**Vlachokerasia**	**1.62**	**53**	P	**Pn**	**18 53 46.0**	**+0.9**
VLX				S	**Sn**	**18 54 04.2**	**-1.2**
VLX	**Vlachokerasia**	**1.62**	**53**	*e*PN	**Pn**	**18 53 46.4**	**+1.3**
VLX				*e*SN	**Sb**	**18 54 08.4**	**+1.2**
VLX	**Vlachokerasia**	**1.62**	**53**	P	**Pn**	**18 53 46.0**	**+0.9**
VLX	**Vlachokerasia**	**1.62**	**53**	*e*Pn	**Pn**	**18 53 46.4**	**+1.3**
VLX				S	**Sn**	**18 54 04.2**	**-1.2**
VLX				*e*Sn	**Sb**	**18 54 08.4**	**+1.2**
DRO	**Drossia**	**1.72**	**26**	P	**Sn**	**18 53 47.1**	**+0.8**
DRO				S	**Sn**	**18 54 07.3**	**-0.3**
DRO	**Drossia**	**1.72**	**26**	P	**Sn**	**18 53 47.1**	**+0.8**
DRO				S	**Sn**	**18 54 07.3**	**-0.3**
RLS	**Riolos of Patr**	**1.74**	**19**	P	Pn	**18 53 47.4**	**+0.8**
RLS	**Riolos of Patr**	**1.74**	**19**	*e*Pn	**Pn**	**18 53 47.0**	**+0.4**
RLS	**Riolos of Patr**	**1.74**	**19**	*e*Pn	Pn	**18 53 47.0**	**+0.4**
RLS	**Riolos of Patr**	**1.74**	**19**	P	Pn	**18 53 47.4**	**+0.8**
VLS	**Valsamata**	**1.77**	**356**	P	**Pb**	**18 53 49.0**	**-0.4**
VLS				S	**Sn**	**18 54 10.3**	**+1.6**
VLS	**Valsamata**	**1.77**	**356**	*e*PN	**Pn**	**18 53 47.2**	**+0.3**
VLS	**Valsamata**	**1.77**	**356**	*e*Pn	Pn	**18 53 47.2**	**+0.3**
VLS	**Valsamata**	**1.77**	**356**	P	**Pb**	**18 53 49.0**	**-0.4**
VLS				S	**Sn**	**18 54 10.3**	**+1.6**
VLI	**Veliai**	**1.79**	**80**	P	Pn	**18 53 48.8**	**+1.4**
VLI				S	**Sn**	**18 54 08.7**	**-0.7**
VLI	**Veliai**	**1.79**	**80**	*e*PN	Pn	**18 53 48.7**	**+1.4**
VLI	**Veliai**	**1.79**	**80**	*e*Pn	Pn	**18 53 48.7**	**+1.4**
VLI				S	**Sn**	**18 54 08.7**	**-0.7**
KYTH	**Kithira**	**1.86**	**93**	P	Pn	**18 53 50.1**	**+1.9**
KYTH	**Kithira**	**1.86**	**93**	*e*PN	Pn	**18 53 49.7**	**+1.5**
KYTH	**Kithira**	**1.86**	**93**	*e*Pn	Pn	**18 53 49.7**	**+1.5**
KYTH	**Kithira**	**1.86**	**93**	P	Pn	**18 53 50.1**	**+1.9**
KLV	**Kalavryta, Ach**	**1.98**	**34**	P	Pn	**18 53 50.5**	**+0.6**
KLV	**Kalavryta, Ach**	**1.98**	**34**	*e*PB	Pn	**18 53 50.4**	**+0.6**
KLV	**Kalavryta, Ach**	**1.98**	**34**	P	Pn	**18 53 50.5**	**+0.6**
GUR	**Goura**	**1.99**	**40**	P	Pn	**18 53 51.0**	**+0.9**
GUR				S	**Sn**	**18 54 13.1**	**-1.2**
GUR	**Goura**	**1.99**	**40**	*e*PN	Pn	**18 53 50.7**	**+0.6**
GUR				*e*SN	**Sb**	**18 54 17.0**	**-0.6**
GUR	**Goura**	**1.99**	**40**	*e*Pn	Pn	**18 53 50.7**	**+0.6**
GUR	**Goura**	**1.99**	**40**	P	Pn	**18 53 51.0**	**+0.9**
GUR				S	**Sn**	**18 54 13.1**	**-1.2**
GUR				*e*Sn	**Sb**	**18 54 17.0**	**-0.6**
LAKA	**Lakka**	**2.07**	**28**	P	Pn	**18 53 52.5**	**+1.3**
LAKA	**Lakka**	**2.07**	**28**	*e*PB	Pn	**18 53 52.5**	**+1.3**
LAKA	**Lakka**	**2.07**	**28**	P	Pn	**18 53 52.5**	**+1.3**
ANKY	**Antikythira Is**	**2.14**	**104**	*e*PB	Pn	**18 53 52.9**	**+0.8**
ANKY	**Antikythira Is**	**2.14**	**104**	*e*Pb	Pn	**18 53 52.9**	**+0.8**
PDO	**Prodromos**	**2.21**	**9**	P	Pn	**18 53 54.3**	**+1.3**
PDO	**Prodromos**	**2.21**	**9**	*e*PB	Pn	**18 53 54.1**	**+1.1**
PDO	**Prodromos**	**2.21**	**9**	*e*Pb	Pn	**18 53 54.1**	**+1.1**
EFP	**Efpalio**	**2.21**	**24**	P	Pn	**18 53 54.8**	**+1.7**
EFP	**Efpalio**	**2.21**	**24**	*e*PB	Pn	**18 53 54.6**	**+1.5**
EFP				*e*SN	Sn	**18 54 21.4**	**+1.7**
EFP	**Efpalio**	**2.21**	**24**	*e*Pb	Pn	**18 53 54.6**	**+1.5**
EFP				*e*Sn	Sn	**18 54 21.4**	**+1.7**
DIDY	**Didyma**	**2.25**	**61**	P	Pn	**18 53 54.2**	**+0.6**

STON				Sn	Sn	18 56 07.2	-7.1	
STON	**Ston**	**6.86**	**341**	*e*Pn	**Pn**	**18 54 55.2**	**-1.7**	
IVAS	**Ivanjica**	**7.17**	**357**	⇓*i*Pn	**Pn**	**18 55 00.2**	**-1.0**	
BBLS	**Lazići**	**7.51**	**353**	*e*Pn	**Pn**	**18 55 05.3**	**-0.7**	
DIVS	**Divibare**	**7.70**	**356**	*e*Pn	**Pn**	**18 55 07.2**	**-1.3**	
UDBI	**Udbina**	**8.95**	**336**	*e*Pn	**Pn**	**18 55 26.4**	**+0.7**	
UDBI				Sn	Sn	18 56 58.9	-6.8	
UDBI	**Udbina**	**8.95**	**336**	*e*Pn	**Pn**	**18 55 26.3**	**+0.7**	
NVLJ	**Novalja**	**9.29**	**333**	*i* Pn	**Pn**	**18 55 29.3**	**-0.8**	
NVLJ				Sn	Sn	18 57 06.9	-6.9	
NVLJ	**Novalja**	**9.29**	**333**	*i* Pn	**Pn**	**18 55 29.3**	**-0.8**	
BOJS	**Bojanci**	**9.98**	**337**	*i* Pn	**Pn**	**18 55 40.1**	**+0.4**	
BOJS				*i* Sn	Sn	18 57 23.2	-7.8	
BOJS	**Bojanci**	**9.98**	**337**	*i* Pn	**Pn**	**18 55 40.1**	**+0.4**	
CRES	**Cresnjev**	**10.21**	**339**	*i* Pn	**Pn**	**18 55 42.4**	**-0.4**	
CRES				*i* Sn	Sn	18 57 29.7	-6.9	
CRES	**Cresnjev**	**10.21**	**339**	*i* Pn	**Pn**	**18 55 42.4**	**-0.4**	
VISS	**Visnje**	**10.38**	**336**	*i* Pn	**Pn**	**18 55 46.0**	**+0.8**	
VISS				*i* Sn	Sn	18 57 32.5	-8.3	
VISS	**Visnje**	**10.38**	**336**	*i* Pn	**Pn**	**18 55 46.0**	**+0.8**	
GERES	**GERESS Array B**	**13.45**	**340**	Pn	**Pn**	**18 56 26.9**	**-0.4**	
	0.1nm,0.3s,baz=160,slow=15,SNR=4.3							
GERES				Sn	Sn	18 58 46.6	-9.5	
	0.2nm,0.3s,baz=151,slow=24,SNR=4.4							
FINES	**FINESS Array B**	**25.28**	**6**	P	**P**	**18 58 43.0**	**+0.9**	
	7.8nm,1.3s,baz=182,slow=11,SNR=4.8							
MKAR	**Makanchi Array**	**46.09**	**57**	P	**P**	**19 01 39.2**	**-0.7**	
	0.5nm,0.7s,baz=284,slow=6.9,SNR=4.9							

BJI ***23*** *18:55:19.4,6˚.80N×72˚.90W,h143km,mB5.0/3*
ISCJB ***23*** *18:55:21.7±0.4,6˚.84N±0˚.04×72˚.85W±0˚.03,h174km±3km, mb4.4/40,Error ellipse: s-maj=6.0km s-min=5.1km az=178.0*
IDC ***23*** *18:55:22.1±0.6,6˚.76N×73˚.03W,h164km±6km,mb3.9/20, mb1 4.2/24,mb1mx4.0/32,mbtmp4.0/24,Error ellipse: s-maj=10.5km s-min=9.6km az=67.0*
FUNV ***23*** *18:55:22.7,6˚.81N×73˚.08W,h162km,MW4.4*
NEIC ***23*** *18:55:22.1±0.4,6˚.87N×72˚.90W,mb4.8/34,Error ellipse: s-maj=8.7km s-min=7.2km az=131.0*
NEIC Felt at Bogota, Bucaramanga and Medellin.
ISC 23 18:55:22.1±0.5,**6.79N**±0˚.04×**72˚.93W**±0˚.05,**h170**km±4km, **n489,**σ**1§19/527,mb4.4/40,167C-180D,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.23**	**30**	⇑*i*P		**Pn**		**18 55 51.0**	**-0.1**
CAPV					*e*S	**Sn**		**18 56 10.9**	**-2.5**
ROSC	**El Rosal**	**2.37**	**216**	⇑*i*Pn		**Pn**		**18 56 02.6**	**-0.6**
ROSC					*e*Sn	**Sn**		**18 56 30.2**	**-4.8**
ROSC					S	**Sn**		**18 56 32.4**	**-2.7**
ROSC	**El Rosal**	**2.37**	**216**	P		**Pn**		**18 56 03.2**	**0.0**
	386nm,0.3s,baz=101,slow=19,SNR=271								
ROSC					S	**Sn**		**18 56 32.4**	**-2.7**
	571nm,0.3s,baz=91,slow=21,SNR=8.7								
SOCV	**Socops**	**2.53**	**54**	*e*P		**Pn**		**18 56 05.1**	**+0.4**
SOCV					*e*S	**Sn**		**18 56 37.1**	**-0.7**
VIGV	**El Vigia**	**2.56**	**37**	*e*P		**Pn**		**18 56 05.4**	**+0.4**
VIGV					*e*S	**Sn**		**18 56 36.7**	**-1.6**
SDV	**Santo Domingo**	**3.08**	**47**	*e*Pn		**Pn**		**18 56 12.2**	**+0.7**
SDV					*e*Sn	**Sn**		**18 56 49.6**	**-0.4**
VIRV	**Villa del Rosa**	**3.73**	**8**	⇑*i*P		**Pn**		**18 56 17.9**	**-1.6**
QARV	**Quebrada Arrib**	**4.14**	**35**	*e*P		**Pn**		**18 56 25.3**	**+0.4**
QARV					*e*S	**Sn**		**18 57 11.0**	**-3.0**
SANV	**Sanarito**	**4.30**	**51**	*e*P		**Pn**		**18 56 27.1**	**+0.1**
SANV					*e*S	**Sn**		**18 57 15.2**	**-2.5**
CURV	**Curarigua**	**4.34**	**42**	*e*P		**Pn**		**18 56 27.8**	**+0.3**
DABV	**Dabajuro**	**4.69**	**29**	*e*P		**Pn**		**18 56 32.3**	**+0.4**
DABV					*e*S	**Sn**		**18 57 22.3**	**-4.3**
TEPV	**Terepaima**	**4.86**	**49**	*e*P		**Pn**		**18 56 34.4**	**+0.3**
TEPV					*e*S	**Sn**		**18 57 26.5**	**-4.0**
SIQV	**Siquisique**	**4.92**	**39**	*e*P		**Pn**		**18 56 35.0**	**+0.1**
SIQV					*e*S	**Sn**		**18 57 27.9**	**-4.1**
PAYV	**Puerto Ayacuch**	**5.41**	**104**	*e*P		**Pn**		**18 56 41.8**	**+0.4**
PAYV					*e*S	**Sn**		**18 57 40.4**	**-3.1**
IMOV	**Isla Los Monje**	**5.88**	**20**	*e*P		**Pn**		**18 56 46.3**	**-1.2**
IMOV					*e*S	Sn		18 57 47.8	-6.9
JACV	**Jacura**	**5.88**	**43**	*e*P		**Pn**		**18 56 46.5**	**-1.0**
JACV					*e*S	**Sn**		**18 57 50.2**	**-4.5**
MONV	**Montecano**	**5.90**	**29**	*e*P		**Pn**		**18 56 46.4**	**-1.4**
MONV					*e*S	**Sn**		**18 57 49.4**	**-5.7**
TURV	**Turiamo**	**6.21**	**54**	*e*P		**Pn**		**18 56 51.5**	**-0.3**
TURV					*e*S	**Sn**		**18 57 56.8**	**-5.5**
MERV	**Las Mercedes**	**7.00**	**69**	*e*P		**Pn**		**18 57 02.4**	**0.0**
FUNV	**FUNVISIS**	**7.07**	**58**	*e*P		**Pn**		**18 57 03.0**	**-0.2**
BCIP	**Isla Barro Col**	**7.24**	**289**	*e*Pn		Pn		18 57 00.4	-5.1
	62nm,0.7s								
OTAV	**Otavalo**	**8.53**	**220**	*e*Pn		**Pn**		**18 57 19.8**	**-3.2**
GUNV	**Guanoco**	**10.43**	**71**	*e*P		**Pn**		**18 57 47.2**	**-0.3**
YHJ	**Yallahs**	**11.57**	**343**	*i* P		**Pn**		**18 58 04.2**	**+1.7**
PCJ	**Portland Cotta**	**11.64**	**340**	*i* P		**Pn**		**18 58 04.9**	**+1.6**
HOJ	**Hope**	**11.76**	**342**	*i* P		**Pn**		**18 58 07.8**	**+3.0**
GWJ	**Greenwich**	**11.81**	**342**	*i* P		**Pn**		**18 58 06.3**	**+0.6**
STH	**Stony Hill**	**11.84**	**342**	*i* P		**Pn**		**18 58 06.6**	**+0.7**
MCJ	**Malvern**	**12.00**	**338**	*i* P		**Pn**		**18 58 09.1**	**+1.1**
MCJ				*i* S		Sn		19 00 02.8	-19
SDDR	**Presa de Saban**	**12.22**	**7**	*e*Pn		**Pn**		**18 58 11.2**	**+0.4**
	74nm,0.9s								
SDDR					*e*Sn	Sn		19 00 18.8	-7.7
GRGR	**Grenville**	**12.32**	**64**	*e*Pn		**P**		**18 58 15.1**	**-2.2**
	80nm,0.7s								
JTS	**JuntasAbangare**	**12.39**	**287**	*e*Pn		**Pn**		**18 58 12.5**	**-0.5**
	600nm,0.8s								
JTS					*e*			18 58 18.9	
JTS	**JuntasAbangare**	**12.39**	**287**	P		**Pn**		**18 58 12.7**	**-0.3**
	1.5nm,0.3s,baz=254,slow=11,SNR=10								
CRPR	**Cabo Rojo, PR**	**12.51**	**26**	*e*Pn		**Pn**		**18 58 11.4**	**-3.0**
	25nm,0.6s								
LSP	**Las Mesas**	**12.67**	**26**	*e*Pn		Pn		18 58 12.0	-4.5
OBIP	**Obispado Ponce**	**12.77**	**28**	*e*Pn		**Pn**		**18 58 15.9**	**-1.9**
	22nm,0.8s								
CELP	**Cerrillos**	**12.81**	**28**	*e*Pn		Pn		18 58 14.8	-3.6
LRS	**Lares**	**12.88**	**27**	*e*Pn		Pn		18 58 14.1	-5.1
AGPR	**Aguadilla, PR**	**12.92**	**25**	*e*Pn		Pn		18 58 15.4	-4.2
GTBY	**Guantanamo Bay**	**13.23**	**351**	*e*Pn		**Pn**		**18 58 25.5**	**+1.9**
	85nm,0.6s								
MTP	**Monte Pirata**	**13.34**	**32**	*e*Pn		**Pn**		**18 58 22.7**	**-2.4**
	55nm,0.9s								
CDVI	**St. Croix**	**13.49**	**35**	*e*Pn		**Pn**		**18 58 26.4**	**-0.6**
	196nm,0.8s								
STVI	**Saint Thomas**	**13.87**	**33**	*e*Pn		**Pn**		**18 58 30.1**	**-1.6**
	51nm,0.8s								
SEG	**Port Louis**	**14.70**	**48**	*e*P		**P**		**18 58 44.6**	**+0.8**
ATAH	**Atahualpa**	**14.87**	**202**	P		**Pn**		**18 58 44.7**	**+0.1**
ATAH	**Atahualpa**	**14.87**	**202**	P		**Pn**		**18 58 44.7**	**+0.1**
	2.3nm,0.3s,baz=42,slow=5.1,SNR=9.2								
DEG	**La Desirade**	**14.98**	**50**	*e*P		**Pn**		**18 58 45.3**	**-0.3**
ANWB	**Willy Bob**	**15.33**	**44**	Pn		**Pn**		**18 58 49.7**	**-0.1**
TGUH	**Tegucigalpa,Un**	**15.84**	**298**	*e*Pn		**Pn**		**18 58 53.5**	**-2.6**
	211nm,1.4s								
APG	**El Apazote**	**19.05**	**297**	P		**P**		**18 59 29.7**	**-2.1**
APG	**El Apazote**	**19.05**	**297**	P		**P**		**18 59 29.7**	**-2.1**
	0.7nm,0.3s,baz=145,slow=8.6,SNR=28								
TEIG	**Tepich**	**20.00**	**313**	*e*Pn		**P**		**18 59 42.1**	**+0.3**
	65nm,0.7s								
LPAZ	**La Paz**	**23.41**	**168**	*e*P		**P**		**19 00 16.6**	**-0.1**
	16nm,1.0s								
LPAZ	**La Paz**	**23.41**	**168**	P		**P**		**19 00 17.2**	**+0.5**
	3.1nm,0.8s,baz=90,slow=25,SNR=11								
SIV	**San Ignacio**	**25.50**	**153**	P		**P**		**19 00 35.9**	**+0.9**
SIV					pP	**pP**		**19 01 09.9**	**0.0**
SIV	**San Ignacio**	**25.50**	**153**	P		**P**		**19 00 35.9**	**+0.9**
	0.7nm,0.5s,baz=344,slow=13,SNR=2.8								
SIV					pP	**pP**		**19 01 09.9**	**0.0**
	5.7nm,0.7s,baz=336,slow=9.9,SNR=8.0								
732A	**Laxson Ranch,**	**33.60**	**314**	⇓P		**P**		**19 01 46.2**	**-0.2**
	baz=34								
632A	**Uvalde**	**33.92**	**315**	⇑P		**P**		**19 01 49.2**	**-0.1**
	baz=34,SNR=5.7								
532A	**Rocksprings**	**34.37**	**316**	⇓P		**P**		**19 01 53.5**	**+0.3**
	baz=34,SNR=14								
631A	**Perdido Creek**	**34.42**	**314**	⇑P		**P**		**19 01 53.8**	**+0.3**
	baz=34								
JCT	**Junction City**	**34.52**	**316**	⇓P		**P**		**19 01 54.0**	**-0.3**
	baz=34								
432A	**Menard**	**34.75**	**317**	⇓P		**P**		**19 01 56.4**	**0.0**
	baz=35								
531A	**Rocksprings**	**34.84**	**315**	⇑P		**P**		**19 01 57.0**	**-0.2**
	baz=35,SNR=6.5								
332A	**Millersview**	**35.03**	**318**	⇑P		**P**		**19 01 58.6**	**-0.2**
	baz=35,SNR=7.9								
431A	**Sonora**	**35.19**	**316**	⇓P		**P**		**19 02 00.1**	**-0.1**
	baz=35								
232A	**Coleman**	**35.28**	**319**	⇑P		**P**		**19 02 00.9**	**0.0**
	baz=35,SNR=14								
530A	**J-C Ranch, Com**	**35.39**	**315**	⇑P		**P**		**19 02 02.1**	**+0.3**
	baz=35,SNR=22								
331A	**San Angelo**	**35.45**	**317**	⇑P		**P**		**19 02 02.4**	**+0.1**
	baz=36,SNR=5.5								
430A	**Baggett Ranch,**	**35.69**	**316**	⇑P		**P**		**19 02 04.1**	**-0.4**
	baz=36								
ABTX	**Abilene, Hawle**	**35.75**	**320**	*e*P		**P**		**19 02 04.5**	**-0.4**
ABTX	**Abilene, Hawle**	**35.75**	**320**	⇑P		**P**		**19 02 05.1**	**+0.2**
	baz=36,SNR=5.8								
231A	**Bronte**	**35.76**	**318**	⇓P		**P**		**19 02 04.8**	**-0.1**
	baz=36,SNR=5.4								
TUL1	**Tulsa**	**35.77**	**327**	⇑P		**P**		**19 02 05.1**	**+0.1**
	baz=36								
SFIN	**Scholer Farm**	**35.77**	**341**	⇑P		**P**		**19 02 06.3**	**+1.4**
	baz=36								
529A	**Stev Forest Ra**	**36.00**	**314**	⇑P		**P**		**19 02 06.9**	**-0.2**
	baz=36,SNR=5.4								
330A	**Mertzon**	**36.01**	**317**	⇑P		**P**		**19 02 07.0**	**-0.2**
	baz=36								
429A	**Davenport Ranc**	**36.05**	**315**	⇑P		**P**		**19 02 07.2**	**-0.3**
	baz=36								
Z32A	**Haskell**	**36.09**	**321**	⇑P		**P**		**19 02 08.4**	**+0.7**
	baz=36,SNR=14								
628A	**Black Gap, Mar**	**36.13**	**312**	⇓P		**P**		**19 02 08.5**	**+0.2**
	baz=36,SNR=7.8								
230A	**Sterling City**	**36.26**	**317**	⇓P		**P**		**19 02 09.3**	**0.0**
	baz=36,SNR=6.7								
131A	**Roby**	**36.27**	**319**	⇓P		**P**		**19 02 09.4**	**+0.1**
	baz=36								
528A	**Cox Ranch, San**	**36.43**	**313**	⇓P		**P**		**19 02 11.0**	**+0.2**
	baz=36								
627A	**Terlingua Ranc**	**36.48**	**312**	⇓P		**P**		**19 02 11.8**	**+0.6**
	baz=36,SNR=23								
Z31A	**Sharp Cattle R**	**36.52**	**320**	⇓P		**P**		**19 02 11.5**	**+0.1**
	baz=37,SNR=5.4								
Y32A	**R-V Farms, Ver**	**36.53**	**321**	⇑P		**P**		**19 02 11.8**	**+0.3**
	baz=37,SNR=5.4								
130A	**Snyder**	**36.60**	**318**	⇓P		**P**		**19 02 12.4**	**+0.3**
	baz=37,SNR=6.2								
329A	**Wagon Wheel Ra**	**36.62**	**316**	⇑P		**P**		**19 02 12.4**	**+0.1**
	baz=37,SNR=11								
TXAR	**Lajitas Array**	**36.63**	**312**	P		**P**		**19 02 12.6**	**+0.1**
TXAR					PcP	**PcP**		**19 04 33.9**	**+2.0**
TXAR	**Lajitas Array**	**36.63**	**312**	P		**P**		**19 02 12.6**	**+0.1**
	7.4nm,0.7s,baz=127,slow=9.7,SNR=96								
TXAR					PcP	**PcP**		**19 04 33.9**	**+2.0**
	1.6nm,0.6s,baz=134,slow=6.9,SNR=8.9								
428A	**Kincaid Ranch,**	**36.67**	**314**	⇑P		**P**		**19 02 13.5**	**+0.7**
	baz=37,SNR=17								
229A	**Bryant Ranch,**	**36.78**	**317**	⇑P		**P**		**19 02 14.2**	**+0.5**
	baz=37,SNR=12								
Y31A	**Rekieta Farm,**	**37.01**	**321**	⇓P		**P**		**19 02 16.2**	**+0.7**
	baz=37,SNR=17								
527A	**Woodward Ranch**	**37.02**	**313**	⇓P		**P**		**19 02 16.5**	**+0.7**
	baz=37,SNR=18								
626A	**Big Bend Ranch**	**37.09**	**312**	⇑P		**P**		**19 02 16.9**	**+0.5**
	baz=37,SNR=10								
328A	**Wristen Ranch,**	**37.13**	**315**	⇓P		**P**		**19 02 16.6**	**0.0**
	baz=37,SNR=13								
Z30A	**Sanderson Ranc**	**37.13**	**319**	⇓P		**P**		**19 02 17.0**	**+0.4**
	baz=37,SNR=8.3								
129A	**Stewart Farms,**	**37.22**	**318**	⇑P		**P**		**19 02 17.8**	**+0.4**
	baz=37,SNR=7.6								
427A	**Hayter Ranch,**	**37.25**	**314**	⇓P		**P**		**19 02 17.9**	**+0.2**
	baz=37,SNR=24								
X31A	**McDonald Ranch**	**37.28**	**322**	⇑P		**P**		**19 02 18.0**	**+0.2**
	baz=37								
526A	**Mary Lane Ranc**	**37.32**	**312**	⇓P		**P**		**19 02 18.7**	**+0.3**
	baz=37,SNR=16								
Y30A	**Staffa Cattl**	**37.36**	**320**	⇑P		**P**		**19 02 19.0**	**+0.5**
	baz=37,SNR=5.9								
228A	**UT Block 9, Go**	**37.41**	**316**	⇑P		**P**		**19 02 18.7**	**-0.2**
	baz=37								
Z29A	**Hungry Hill Ra**	**37.50**	**318**	⇓P		**P**		**19 02 20.0**	**+0.3**
	baz=38,SNR=14								
426A	**McDonald Obser**	**37.60**	**313**	⇓P		**P**		**19 02 21.3**	**+0.5**
	baz=38,SNR=28								
W31A	**Holland Ranch,**	**37.63**	**322**	⇓P		**P**		**19 02 20.6**	**-0.1**
	baz=38,SNR=5.4								
128A	**Castleberry Fa**	**37.63**	**317**	⇓P		**P**		**19 02 21.5**	**+0.7**
	baz=38,SNR=25								
X30A	**Coker Ranch, T**	**37.71**	**321**	⇑P		**P**		**19 02 22.2**	**+0.7**
	baz=38,SNR=14								
227A	**Bennet, Jal**	**37.83**	**316**	⇑P		**P**		**19 02 23.3**	**+0.8**
	baz=38								
Y29A	**Porterfield Fa**	**37.85**	**319**	⇓P		**P**		**19 02 23.4**	**+0.7**
	baz=38								
326A	**Caldwell Ranch**	**37.92**	**314**	⇓P		**P**		**19 02 24.0**	**+0.7**
	baz=38								
Z28A	**Tucker Farm, M**	**37.96**	**318**	⇓P		**P**		**19 02 24.3**	**+0.6**
	baz=38								
S33A	**Kaszmaul Farm,**	**38.20**	**327**	⇓P		**P**		**19 02 25.9**	**+0.4**
	baz=38								
X29A	**Tulia**	**38.23**	**320**	⇓P		**P**		**19 02 26.5**	**+0.6**
	baz=38,SNR=6.5								
Y28A	**McKinney Farm,**	**38.25**	**319**	⇑P		**P**		**19 02 26.4**	**+0.3**
	baz=38								
127A	**Arkansas Junct**	**38.26**	**316**	⇓P		**P**		**19 02 26.2**	**+0.1**
	baz=38								
425A	**Indio Mountain**	**38.36**	**313**	⇑P		**P**		**19 02 27.5**	**+0.4**
	baz=38,SNR=22								
T32A	**Huddler Ranch,**	**38.41**	**326**	⇓P		**P**		**19 02 27.7**	**+0.4**
	baz=38								
226B	**Tecolote Peak,**	**38.48**	**315**	⇓P		**P**		**19 02 28.3**	**+0.3**
	baz=38,SNR=9.3								
AMTX	**Amarillo**	**38.50**	**321**	⇓P		**P**		**19 02 28.8**	**+0.7**
	baz=38								
Z27A	**Tatum**	**38.53**	**317**	⇓P		**P**		**19 02 28.4**	**0.0**
	baz=39,SNR=57								
X28A	**Dimmitt**	**38.60**	**320**	⇓P		**P**		**19 02 29.0**	**0.0**
	baz=39,SNR=7.8								
KSU1	**Kansas State U**	**38.61**	**330**	*e*P		**P**		**19 02 27.8**	**-1.1**
	21nm,0.7s								
MSTX	**Muleshoe**	**38.63**	**319**	*e*P		**P**		**19 02 29.0**	**-0.2**
MSTX	**Muleshoe**	**38.63**	**319**	⇑P		**P**		**19 02 29.1**	**-0.2**
	baz=39,SNR=12								
325A	**Bean Ranch, Si**	**38.66**	**313**	⇓P		**P**		**19 02 29.7**	**+0.1**
	baz=39,SNR=12								
126A	**Clayton Basin,**	**38.70**	**316**	⇓P		**P**		**19 02 29.8**	**0.0**
	baz=39								
R33A	**Olander Ranch,**	**38.72**	**328**	⇓P		**P**		**19 02 29.7**	**-0.1**
	baz=39								
T31A	**Randall Ranch,**	**38.78**	**325**	⇓P		**P**		**19 02 30.3**	**0.0**
	baz=39								
S32A	**Newby Ranch, P**	**38.79**	**326**	⇑P		**P**		**19 02 30.8**	**+0.4**
	baz=39								
Y27A	**Causey**	**38.84**	**318**	⇓P		**P**		**19 02 30.8**	**-0.2**
	baz=39,SNR=11								
U30A	**WK&E Inc. Balk**	**38.96**	**323**	⇓P		**P**		**19 02 32.1**	**+0.2**
	baz=39								
225A	**Deer Hill, Car**	**38.96**	**315**	⇑P		**P**		**19 02 32.7**	**+0.6**
	baz=39,SNR=14								
Z26A	**Caprock**	**39.03**	**317**	⇑P		**P**		**19 02 32.7**	**+0.1**
	baz=39,SNR=30								
S31A	**Mullinville**	**39.04**	**326**	⇑P		**P**		**19 02 32.8**	**+0.4**
	baz=39								
V29A	**Stinnett**	**39.04**	**322**	⇓P		**P**		**19 02 33.4**	**+0.8**
	baz=39,SNR=6.9								
324A	**Moseley Ranch,**	**39.07**	**313**	⇑P		**P**		**19 02 33.5**	**+0.5**
	baz=39,SNR=27								
MNTX	**Cornudas Mount**	**39.13**	**314**	*e*P		**P**		**19 02 33.4**	**0.0**
	28nm,1.1s								
125A	**Gardner Draw,**	**39.15**	**315**	⇑P		**P**		**19 02 33.9**	**+0.4**
	baz=39,SNR=20								
X27A	**F and S Farms,**	**39.26**	**319**	⇑P		**P**		**19 02 34.5**	**0.0**
	baz=39,SNR=6.6								
Y26A	**Elida**	**39.30**	**318**	⇓P		**P**		**19 02 35.3**	**+0.4**
	baz=39,SNR=20								
V28A	**Channing**	**39.40**	**321**	⇑P		**P**		**19 02 36.3**	**+0.8**
	baz=39								
224A	**Cornudas Mount**	**39.44**	**314**	⇑P		**P**		**19 02 37.1**	**+1.1**
	baz=40,SNR=54								
W27A	**Bowe Ranch, En**	**39.49**	**320**	⇓P		**P**		**19 02 36.9**	**+0.5**
	baz=40,SNR=15								
Z25A	**Roswell**	**39.54**	**316**	⇓P		**P**		**19 02 37.6**	**+0.8**
	baz=40,SNR=16								
R31A	**Burdett**	**39.54**	**326**	⇓P		**P**		**19 02 36.5**	**-0.1**
	baz=40								
S30A	**Montezuma**	**39.61**	**325**	⇓P		**P**		**19 02 37.6**	**+0.4**
	baz=40								
X26A	**CR and CF Fran**	**39.67**	**318**	⇑P		**P**		**19 02 38.4**	**+0.5**
	baz=40,SNR=16								
124A	**Stringfield Ra**	**39.73**	**315**	⇑P		**P**		**19 02 39.9**	**+1.4**
	baz=40,SNR=11								
V27A	**Dan Oppiter Fa**	**39.78**	**321**	⇓P		**P**		**19 02 39.3**	**+0.5**
	baz=40								
U28A	**Mallet**	**39.80**	**322**	⇓P		**P**		**19 02 39.0**	**+0.1**
	baz=40								
Y25A	**Mesa, Roswell**	**39.89**	**317**	⇑P		**P**		**19 02 41.0**	**+1.3**
	baz=40,SNR=14								
R30A	**Dighton**	**39.95**	**326**	⇑P		**P**		**19 02 40.5**	**+0.5**
	baz=40								
W26A	**Owens Ranch, T**	**39.97**	**319**	⇓P		**P**		**19 02 40.9**	**+0.6**
	baz=40,SNR=6.0								
S29A	**Ulysses**	**39.97**	**324**	⇓P		**P**		**19 02 40.8**	**+0.6**
	baz=40								
Z24A	**Sheeppen Canyo**	**40.01**	**316**	⇑P		**P**		**19 02 41.6**	**+0.8**
	baz=40,SNR=10.0								
P32A	**Huiting Farm,**	**40.02**	**329**	⇓P		**P**		**19 02 41.5**	**+1.0**
	baz=40								
U27A	**Thompson Grove**	**40.20**	**321**	⇓P		**P**		**19 02 42.7**	**+0.5**
	baz=40								
X25A	**Clemmons Ranch**	**40.22**	**318**	⇑P		**P**		**19 02 43.2**	**+0.8**
	baz=40								
T28A	**Walsh**	**40.22**	**323**	⇑P		**P**		**19 02 42.9**	**+0.5**
	baz=40								
O32A	**Brockman Farm,**	**40.33**	**330**	⇓P		**P**		**19 02 43.0**	**0.0**
	baz=40								
P31A	**Stockton**	**40.35**	**328**	⇓P		**P**		**19 02 43.0**	**-0.2**
	baz=40								
Y24A	**Capitan**	**40.40**	**316**	⇑P		**P**		**19 02 45.1**	**+1.2**
	baz=40,SNR=37								
S28A	**Manter**	**40.41**	**324**	⇓P		**P**		**19 02 44.5**	**+0.7**
	baz=40,SNR=7.9								
Q30A	**Quinter**	**40.41**	**327**	⇓P		**P**		**19 02 43.9**	**+0.1**
	baz=40								
V26A	**Tequesquite Ra**	**40.41**	**320**	⇓P		**P**		**19 02 44.6**	**+0.6**
	baz=40,SNR=7.2								
W25A	**X Bar L Ranch,**	**40.50**	**319**	⇓P		**P**		**19 02 45.4**	**+0.7**
	baz=40,SNR=16								
R29A	**Marienthal**	**40.53**	**325**	⇑P		**P**		**19 02 45.4**	**+0.5**
	baz=41								
T27A	**Campo**	**40.55**	**322**	⇓P		**P**		**19 02 45.6**	**+0.5**
	baz=41,SNR=5.8								
Z23A	**Rita Site, Whi**	**40.58**	**315**	⇑P		**P**		**19 02 46.5**	**+1.1**
	baz=41,SNR=11								
222A	**Williams Famil**	**40.59**	**313**	⇑P		**P**		**19 02 46.4**	**+0.9**
	baz=41								
U26A	**Atchley Ranch,**	**40.76**	**321**	⇑P		**P**		**19 02 47.6**	**+0.8**
	baz=41								
X24A	**Lazy VL Ranch,**	**40.76**	**317**	⇓P		**P**		**19 02 48.3**	**+1.3**
	baz=41								
O31A	**Woolen Ranch,**	**40.78**	**329**	⇑P		**P**		**19 02 46.9**	**+0.1**
	baz=41								
122A	**Conniff Cattle**	**40.83**	**314**	⇓P		**P**		**19 02 49.0**	**+1.6**
	baz=41								
Y23A	**Lovelace Mesa,**	**40.83**	**316**	⇓P		**P**		**19 02 48.9**	**+1.4**

O26A **Horse Wrangler** 43.01 325 ⇑P P 19 03 06.3 +1.3
baz=43
P25A **Willow Gulch B** 43.01 324 ⇓P P 19 03 06.0 +1.0
baz=43
T22A **Edith** 43.15 319 ⇓P P 19 03 07.3 +1.0
baz=43
W20A **Ramah** 43.17 316 ⇑P P 19 03 07.6 +1.1
baz=43
R23A **Moffat** 43.17 321 ⇓P P 19 03 07.7 +1.1
baz=43,SNR=11
Q24A **Divide** 43.24 323 ⇑P P 19 03 07.6 +0.5
baz=43
J30A **Dallas** 43.24 332 ⇑P P 19 03 06.5 -0.2
baz=43
V20A **Brimhall** 43.51 317 ⇓P P 19 03 10.4 +1.3
baz=44
S22A **4UR Ranch, Cre** 43.53 320 ⇓P P 19 03 10.5 +1.0
baz=44,SNR=15
T21A **Navajo Lake** 43.55 319 ⇑P P 19 03 10.6 +1.1
baz=44
I30A **Oacoma** 43.66 332 ⇓P P 19 03 10.4 +0.4
baz=44
J29A **Okreek** 43.70 331 ⇓P P 19 03 10.2 -0.1
baz=44,SNR=6.2
K28A **Ten Mile Ranch** 43.70 329 ⇑P P 19 03 10.9 +0.5
baz=44
L27A **T5 Ranch, Ells** 43.74 328 ⇓P P 19 03 10.9 +0.2
baz=44
R22A **Saguache, Gunn** 43.78 321 ⇓P P 19 03 12.5 +1.1
baz=44
BRSD **Miller** 43.85 333 *e*P P 19 03 11.2 -0.3
BRSD **Miller** 43.85 333 ⇓P P 19 03 11.6 +0.1
baz=44
U20A **Newcomb** 43.86 317 ⇑P P 19 03 13.4 +1.5
baz=44
X18A **Snowflake** 43.88 314 ⇓P P 19 03 13.2 +1.1
baz=44,SNR=6.3
P23A **Jefferson** 43.91 323 ⇓P P 19 03 13.6 +1.1
baz=44
EYMN **Ely** 43.96 342 *e*P P 19 03 12.6 +0.3
20nm,0.6s
W18A **Petrified Fore** 44.02 315 ⇓P P 19 03 14.8 +1.5
baz=44,SNR=8.3
ISCO **Idaho Springs** 44.05 323 *e*P P 19 03 14.1 +0.6
11nm,0.9s
ISCO **Idaho Springs** 44.05 323 ⇓P P 19 03 14.6 +1.0
baz=44,SNR=11
S21A **Coal Bank Pass** 44.10 319 ⇑P P 19 03 15.0 +1.0
baz=44,SNR=12
I29A **Vivian Onida** 44.15 332 ⇑P P 19 03 13.9 0.0
baz=44
J28A **Allard Ranch,** 44.16 330 ⇓P P 19 03 13.9 -0.1
baz=44,SNR=7.3
Q22A **Crested Butte,** 44.25 321 ⇑P P 19 03 16.6 +1.4
baz=44,SNR=5.0
N24A **Carr** 44.29 325 ⇑P P 19 03 16.3 +1.0
baz=44
MVCO **Mesa Verde** 44.31 318 ⇓P P 19 03 16.4 +0.9
baz=44,SNR=5.3
R21A **Cimarron** 44.36 320 ⇑P P 19 03 17.0 +1.1
baz=44
J27A **Elkhorn Farm,** 44.42 330 ⇓P P 19 03 16.9 +0.8
baz=44
G30A **Faulkton** 44.47 333 ⇓P P 19 03 16.7 +0.3
baz=44,SNR=5.6
O23A **Lake Granby, G** 44.49 323 ⇑P P 19 03 18.0 +0.9
baz=44
I28A **Midland** 44.55 331 ⇓P P 19 03 16.8 -0.3
baz=45
H29A **Onida** 44.57 332 ⇓P P 19 03 16.9 -0.3
baz=45
P22A **Eagle** 44.61 322 ⇑P P 19 03 18.8 +0.9
baz=45
K26A **Motz Farm, Whi** 44.63 328 ⇑P P 19 03 18.7 +0.9
baz=45
L25A **Engebretsen Ra** 44.67 327 ⇑P P 19 03 19.3 +1.1
baz=45
M24A **Cheyenne** 44.68 326 ⇓P P 19 03 19.1 +0.8
baz=45
R20A **Redvale** 44.79 320 ⇑P P 19 03 20.7 +1.4
baz=45,SNR=9.9
214A **Organ Pipe Nat** 44.80 309 ⇓P P 19 03 20.4 +1.1
baz=45,SNR=9.2
O22A **Kremmling** 44.83 323 ⇑P P 19 03 20.4 +0.7
baz=45,SNR=20
X16A **Lo Mia Camp, P** 44.89 313 ⇓P P 19 03 21.2 +1.1
baz=45,SNR=12
K25A **Mack Ranch, Ha** 44.93 327 ⇑P P 19 03 20.9 +0.6
baz=45
N23A **Red Feather La** 44.94 324 ⇓P P 19 03 21.7 +1.1
baz=45,SNR=8.7
F30A **Leola** 44.97 334 ⇓P P 19 03 21.0 +0.7
baz=45
H28A **Mission Ridge** 44.98 332 ⇓P P 19 03 20.9 +0.4
baz=45
I27A **Quinn** 45.03 330 ⇑P P 19 03 20.9 -0.1
baz=45
Q20A **Ridgley Place,** 45.18 320 ⇑P P 19 03 23.8 +1.5
baz=45
N22A **Wattenberg Ran** 45.18 324 ⇓P P 19 03 24.4 +2.0
baz=45
M23A **Laramie** 45.18 325 ⇓P P 19 03 23.1 +0.7
baz=45,SNR=5.9
G28A **Parade** 45.23 332 ⇑P P 19 03 22.6 +0.1
baz=45
F29A **Eureka** 45.32 334 ⇑P P 19 03 23.5 +0.3
baz=45
WUAZ **Wupatki** 45.38 315 ⇓P P 19 03 25.2 +1.2
baz=45,SNR=25
I26A **New Underwood** 45.41 330 ⇓P P 19 03 24.1 +0.2
baz=46
O21A **Pagoda** 45.42 322 ⇑P P 19 03 25.8 +1.5
baz=46,SNR=7.0
J25A **Sunshine Ranch** 45.44 328 ⇑P P 19 03 24.8 +0.6
baz=46
E30A **Jud** 45.45 335 ⇓P P 19 03 24.5 +0.4
baz=46
H27A **Howes** 45.46 331 ⇓P P 19 03 24.4 +0.1
baz=46,SNR=5.9
Z14A **Wintersburg** 45.51 311 ⇑P P 19 03 26.1 +1.3
baz=46
P20A **De Beque** 45.56 321 ⇓P P 19 03 26.6 +1.3
baz=46
L23A **Garrett** 45.60 326 ⇓P P 19 03 26.2 +0.5
baz=46,SNR=6.5
M22A **Cedar Creek Ra** 45.65 324 ⇑P P 19 03 26.9 +0.9
baz=46
AGMN **Agassiz Nation** 45.73 339 *e*P P 19 03 25.9 -0.3
7.6nm,0.6s
H26A **Fairpoint** 45.79 330 ⇑P P 19 03 27.0 +0.2
baz=46
E29A **Napoleon** 45.81 334 ⇑P P 19 03 27.3 +0.3
baz=46
Y14A **Wickenburg** 45.81 312 ⇑P P 19 03 27.9 +0.7
baz=46,SNR=13
I25A **Rochford** 45.84 329 ⇑P P 19 03 27.9 +0.5
baz=46,SNR=7.9
J24A **Dixon Ranch, L** 45.84 328 ⇓P P 19 03 29.4 +1.9
baz=46
D30A **Buchanan** 45.87 336 ⇓P P 19 03 27.7 +0.3
baz=46
113A **Mohawk Valley,** 45.88 310 ⇓P P 19 03 28.4 +0.8
baz=46,SNR=7.5
K23A **Bowen Ranch, D** 45.98 326 ⇑P P 19 03 29.1 +0.6
baz=46,SNR=5.1
P19A **Cripple Cowboy** 46.01 321 ⇑P P 19 03 29.5 +0.6
baz=46
I24A **Kuemmerle Ranc** 46.19 328 ⇓P P 19 03 31.0 +0.9
baz=46
G26A **Maurine** 46.19 331 ⇓P P 19 03 29.7 -0.3
baz=46
H25A **Fruitdale** 46.20 330 ⇓P P 19 03 30.1 0.0
baz=46
C30A **Mose, Pekin** 46.23 336 ⇑P P 19 03 31.1 +0.9
baz=46
E28A **Huff** 46.28 334 ⇑P P 19 03 31.2 +0.6
baz=46
N20A **Spence Gulch,** 46.28 323 ⇓P P 19 03 32.9 +1.9
baz=46,SNR=5.8
F27A **Lemmon** 46.35 332 ⇑P P 19 03 32.0 +0.8
baz=46
K22A **Casper** 46.41 326 ⇓P P 19 03 32.1 +0.3
baz=46
G27A **Dupree** 46.42 331 ⇑P P 19 03 28.1 -3.6
baz=46,SNR=8.1
U15A **North Rim** 46.48 315 ⇑P P 19 03 33.9 +1.2
baz=46,SNR=18
O19A **Miners Draw (B** 46.48 321 ⇑P P 19 03 33.2 +0.7
baz=46
G25A **Newell** 46.52 330 ⇑P P 19 03 32.8 +0.2
baz=47,SNR=5.6
E27A **Carson** 46.55 333 ⇓P P 19 03 33.0 +0.2
baz=47
F26A **Lodgepole** 46.64 332 ⇑P P 19 03 33.5 +0.1
baz=47
D28A **Regan** 46.70 334 ⇓P P 19 03 34.6 +0.7
baz=47
B30A **Myrvik Farm, E** 46.78 337 ⇑P P 19 03 35.5 +1.1
baz=47
GLA **Glamis** 46.80 310 ⇓P P 19 03 36.1 +1.1
baz=47,SNR=5.3
K21A **Alcova** 46.81 325 ⇑P P 19 03 36.1 +1.1
baz=47,SNR=15
Y12C **Blythe** 46.87 311 ⇓P P 19 03 36.5 +1.1
baz=47
J22A **Midwest** 46.88 327 ⇑P P 19 03 36.0 +0.5
baz=47,SNR=13
W13A **Hualapai Mount** 46.99 313 ⇓P P 19 03 37.6 +1.0
baz=47
E26A **Carlson Angus** 47.00 332 ⇑P P 19 03 36.5 +0.2
baz=47,SNR=5.7
Q16A **Castle Valley** 47.01 319 ⇑P P 19 03 37.3 +0.6
baz=47
D27A **Center** 47.05 333 ⇓P P 19 03 37.7 +1.1
baz=47
B29A **Wagenman Farm,** 47.19 336 ⇑P P 19 03 38.7 +1.1
baz=47
I22A **9 Mile Ranch,** 47.20 327 ⇓P P 19 03 38.6 +0.7
baz=47,SNR=6.8
J21A **Lysite** 47.37 326 ⇑P P 19 03 39.9 +0.5
baz=47,SNR=9.2
ULM **Lac du Bonnet** 47.38 340 P P 19 03 38.5 -0.5
ULM **Lac du Bonnet** 47.38 340 P P 19 03 38.5 -0.5
13nm,0.5s,baz=143,slow=8.0,SNR=15
D26A **Manning** 47.40 333 ⇓P P 19 03 39.8 +0.5
baz=47
E25A **Miller Ranch,** 47.46 332 ⇓P P 19 03 40.1 +0.3
baz=48,SNR=5.2
MVU **Marysvale** 47.48 318 *e*P P 19 03 41.4 +1.0
20nm,0.9s
F24A **Ekalaka** 47.49 330 ⇓P P 19 03 40.6 +0.4
baz=48
SWSC **Sam W. Stewart** 47.50 309 ⇑P P 19 03 41.4 +1.1
baz=48,SNR=5.2
C27A **Sayler Ranch,** 47.50 334 ⇓P P 19 03 41.1 +1.0
baz=48
A29A **Manning Farm,** 47.51 337 ⇓P P 19 03 40.6 +0.4
baz=48
IRM **Iron Mountain** 47.51 311 ⇑P P 19 03 41.1 +0.7
baz=48,SNR=8.6
BC3 **Big Chuckawall** 47.53 310 ⇓P P 19 03 41.4 +0.7
baz=48,SNR=5.7
I21A **Big Trails, Te** 47.59 326 ⇑P P 19 03 41.5 +0.5
baz=48,SNR=11
B28A **Dugan Ranch, T** 47.59 335 ⇓P P 19 03 41.9 +1.2
baz=48
H22A **Clearmont** 47.60 328 ⇑P P 19 03 41.5 +0.5
baz=48
J20A **Shoshoni** 47.73 325 ⇑P P 19 03 43.1 +0.9
baz=48,SNR=14
C26A **Wahner Farm, P** 47.85 334 ⇓P P 19 03 43.9 +1.1
baz=48
F23A **Volborg** 47.88 330 ⇓P P 19 03 43.6 +0.5
baz=48
DAU **Daniels Canyon** 47.88 320 *e*P P 19 03 44.4 +0.8
16nm,0.9s
B27A **Peters Farms,** 47.93 335 ⇓P P 19 03 44.8 +1.5
baz=48
E24A **Baker** 47.93 331 ⇑P P 19 03 44.3 +0.8
baz=48
ARUT **Antelope Range** 47.95 316 *e*P P 19 03 44.9 +1.0
157nm,0.6s
MONP **Monument Peak** 47.96 309 ⇓P P 19 03 45.3 +1.2
baz=48
H21A **Big Horn, Sher** 47.99 327 ⇓P P 19 03 44.4 +0.4
baz=48,SNR=5.9
G22A **Birney** 47.99 328 ⇓P P 19 03 44.5 +0.5
baz=48,SNR=12
BELC **Belle Mtn. Jos** 48.09 310 ⇓P P 19 03 45.6 +0.7
baz=48,SNR=5.9
I20A **Worland** 48.14 326 ⇑P P 19 03 46.0 +0.8
baz=48,SNR=9.4
GMRC **Granite Mounta** 48.16 311 ⇓P P 19 03 46.5 +1.0
baz=48
SCHQ **Schefferville** 48.16 5 *e*P P 19 03 46.1 +1.1
18nm,0.7s
SCHQ **Schefferville** 48.16 5 P P 19 03 46.1 +1.1
18nm,0.7s,baz=194,slow=6.6,SNR=21
PDAR **Pinedale Array** 48.22 324 P P 19 03 45.8 -0.2
PDAR PcP PcP 19 05 10.7 +0.3
PDAR ScP ScP 19 08 48.6 -0.6
PDAR **Pinedale Array** 48.22 324 P P 19 03 45.8 -0.2
9.0nm,1.0s,baz=131,slow=8.9,SNR=33
PDAR PcP PcP 19 05 10.7 +0.3
1.0nm,0.6s,baz=133,slow=7.5,SNR=2.9
PDAR ScP ScP 19 08 48.6 -0.6
0.4nm,0.7s,baz=104,slow=3.8,SNR=3.0
J19A **Crowheart** 48.23 325 ⇑P P 19 03 46.0 0.0
baz=48
PFO **Pinyon Flat Ob** 48.27 310 ⇑P P 19 03 47.5 +1.1
baz=48
D24A **Glendive** 48.34 332 ⇑P P 19 03 47.8 +1.2
baz=48,SNR=13
A27A **Ledoux Ranch,** 48.35 335 ⇑P P 19 03 47.7 +1.2
baz=48,SNR=5.3
F22A **Rosebud** 48.35 329 ⇓P P 19 03 47.4 +0.7
baz=48
E23A **Ismay** 48.37 330 ⇓P P 19 03 47.2 +0.4
baz=48
H20A **Greybull** 48.41 327 ⇓P P 19 03 47.7 +0.5
baz=48,SNR=8.6
G21A **Lodge Grass** 48.47 328 ⇓P P 19 03 48.3 +0.6
baz=48,SNR=8.8
TUQ **Turquoise Moun** 48.63 312 ⇑P P 19 03 50.2 +1.1
baz=49,SNR=13
A26A **Wade Farm, Ken** 48.64 335 ⇑P P 19 03 50.2 +1.4
baz=49
E22A **Miles City** 48.65 330 ⇓P P 19 03 49.6 +0.6
baz=49
B25A **Knox Farm, Ray** 48.66 333 ⇑P P 19 03 50.3 +1.3
baz=49,SNR=11
HEC **Hector,Ludlow** 48.68 311 ⇓P P 19 03 50.6 +1.2
baz=49
I19A **Meeteetse** 48.68 326 ⇓P P 19 03 50.1 +0.7
baz=49,SNR=6.3
DUG **Dugway** 48.76 319 ⇓P P 19 03 51.0 +1.0
baz=49,SNR=7.9
D23A **Lindsay** 48.80 331 ⇓P P 19 03 51.5 +1.4
baz=49
F21A **Absaloka Mine,** 48.83 329 ⇓P P 19 03 51.4 +1.0
baz=49
MURC **Murrieta** 48.84 309 ⇓P P 19 03 51.9 +1.3
baz=49
G20A **Bridger** 49.01 327 ⇑P P 19 03 52.4 +0.6
baz=49,SNR=12
SPUT **South Promonto** 49.13 321 *e*P P 19 03 53.3 +0.4
4.2nm,0.8s
A25A **Svangstu Ranch** 49.13 334 ⇓P P 19 03 54.3 +1.7
baz=49
GSC **Goldstone** 49.23 312 ⇓P P 19 03 54.7 +1.1
baz=49,SNR=8.7
C23A **Lambert** 49.24 332 ⇓P P 19 03 54.6 +1.2
baz=49,SNR=7.0
DGMT **Dagmar** 49.27 333 ⇓P P 19 03 55.0 +1.4
baz=49,SNR=9.6
E21A **Keefer Ranch,** 49.29 329 ⇑P P 19 03 54.3 +0.5
baz=49
BGU **Big Grassy Mou** 49.29 320 *e*P P 19 03 54.4 +0.3
17nm,0.8s
F20A **Billings** 49.35 328 ⇑P P 19 03 55.2 +0.9
baz=49,SNR=6.2
BFSC **Mount Baldy Ra** 49.44 310 ⇑P P 19 03 56.4 +1.1
baz=50
H18A **Shoshone NF, C** 49.45 326 ⇑P P 19 03 55.4 0.0
baz=50
A24A **Westby** 49.51 333 ⇑P P 19 03 57.2 +1.7
baz=50
C22A **Vida** 49.53 331 ⇑P P 19 03 56.8 +1.2
baz=50,SNR=8.9
D21A **La Casta Ranch** 49.60 330 ⇑P P 19 03 57.6 +1.4
baz=50,SNR=11
B23A **Brockton** 49.63 332 ⇑P P 19 03 58.2 +1.8
baz=50,SNR=7.9
CIS **Catalina Islan** 49.70 309 ⇓P P 19 03 58.2 +1.1
baz=50
R11A **Troy Canyon, C** 49.70 316 ⇓P P 19 03 58.4 +1.1
baz=50,SNR=18
FURC **Furnace Creek,** 49.76 313 ⇑P P 19 03 58.6 +1.1
baz=50
E20A **Meyer Farm, Mu** 49.80 329 ⇑P P 19 03 59.1 +1.4
baz=50,SNR=26
F19A **Roth Farm, Mol** 49.81 327 ⇓P P 19 03 58.2 +0.4
baz=50
A23A **Redstone** 49.93 333 ⇓P P 19 04 00.2 +1.6
baz=50,SNR=6.6
EDW2 **Edwards Air Fo** 49.95 311 ⇑P P 19 03 59.7 +0.7
baz=50,SNR=5.3
LRMC **Laurel Mountai** 49.96 311 ⇓P P 19 04 00.2 +1.1
baz=50
B22A **Reddig Ranch S** 49.98 332 ⇓P P 19 04 00.6 +1.6
baz=50,SNR=9.6
MPMC **Manual Prospec** 50.05 312 ⇑P P 19 04 00.4 +0.4
baz=50
E19A **Rath Farm, Rou** 50.12 328 ⇓P P 19 04 01.2 +1.1
baz=50,SNR=7.0
C21A **Desert Coulee** 50.18 330 ⇓P P 19 04 01.8 +1.4
baz=50
D20A **Manuel Ranch,** 50.20 329 ⇓P P 19 04 01.8 +1.1
baz=50,SNR=10
A22A **Carney Farms,** 50.43 332 ⇓P P 19 04 04.1 +1.7
baz=50,SNR=22
C20A **Veseth Ranch,** 50.55 330 ⇑P P 19 04 04.6 +1.3
baz=51
ISA **Isabella** 50.62 311 ⇑P P 19 04 05.3 +1.2
baz=51
D19A **Cripps Ranch,** 50.63 329 ⇑P P 19 04 04.8 +0.9
baz=51,SNR=18
ELK **Elko** 50.63 319 P P 19 04 04.8 +0.5
ELK **Elko** 50.63 319 P P 19 04 04.8 +0.5
2.8nm,0.6s,baz=195,slow=0.9,SNR=15
A21A **Bergtoll Ranch** 50.90 332 ⇓P P 19 04 07.2 +1.3
baz=51
B20A **Solberg Farm,** 51.05 331 ⇑P P 19 04 08.4 +1.4
baz=51,SNR=15
C19A **Slack Wire Ran** 51.09 329 ⇑P P 19 04 08.3 +1.0
baz=51,SNR=8.5
SBC **Santa Barbara** 51.09 309 ⇑P P 19 04 09.4 +1.9
baz=51
VES **Vestal, Richgr** 51.15 311 ⇑P P 19 04 09.5 +1.6
baz=51
A20A **Cobblestone Ra** 51.30 331 ⇑P P 19 04 10.5 +1.6
baz=51,SNR=8.0
PKM **Peak Mountain** 51.34 310 ⇓P P 19 04 11.0 +1.4
baz=51
B19A **Brinkman Farms** 51.51 330 ⇑P P 19 04 11.7 +1.2
baz=52
HLID **Hailey** 51.58 322 *e*P P 19 04 11.6 +0.4
18nm,0.1s
HLID **Hailey** 51.58 322 ⇑P P 19 04 11.8 +0.6
baz=52
SMMC **Simmler** 51.63 310 ⇓P P 19 04 12.9 +1.3
baz=52
EGMT **Eagleton** 51.64 329 ⇓P P 19 04 12.2 +0.7
baz=52
NVAR **Mina Array Bea** 51.64 315 P P 19 04 12.5 +0.7
NVAR PcP PcP 19 05 24.4 +1.3
NVAR **Mina Array Bea** 51.64 315 P P 19 04 12.5 +0.7
4.3nm,0.7s,baz=125,slow=7.1,SNR=44
NVAR PcP PcP 19 05 24.4 +1.3
1.4nm,0.6s,baz=133,slow=4.6,SNR=6.3
A19A **Klindworth Far** 51.73 331 ⇑P P 19 04 13.4 +1.3
baz=52
MSO **Missoula** 53.14 326 ⇓P P 19 04 23.3 +0.8
baz=53
WVOR **Wild Horse Val** 53.68 319 *e*P P 19 04 27.0 +0.4
13nm,0.9s
MOD **Modoc** 54.54 318 *e*P P 19 04 31.9 -1.0
15nm,0.6s
NEW **Newport** 55.73 326 P P 19 04 41.3 +0.1
NEW **Newport** 55.73 326 ⇓P P 19 04 41.8 +0.6
baz=56
NEW **Newport** 55.73 326 P P 19 04 41.3 +0.1
1.2nm,0.3s,baz=140,slow=12,SNR=3.5
YBH **Yreka Blue Hor** 56.10 316 P P 19 04 43.0 -0.9
YBH **Yreka Blue Hor** 56.10 316 P P 19 04 43.0 -0.9
4.3nm,0.5s,baz=103,slow=2.5,SNR=21
EDM **Edmonton** 56.74 332 *e*P P 19 04 47.4 -0.8
YKA **Yellowknife Ar** 63.36 340 P P 19 05 33.4 +0.4
YKA **Yellowknife Ar** 63.36 340 P P 19 05 33.4 +0.4
10.0nm,0.6s,baz=133,slow=6.6,SNR=30
DLBC **Dease Lake** 67.44 331 P P 19 06 00.9 +1.5
DLBC **Dease Lake** 67.44 331 P P 19 06 00.9 +1.5
2.1nm,0.7s,baz=106,slow=8.3,SNR=7.9
DBIC **Dimbokro** 67.54 86 *e*P P 19 06 00.8 0.0
3.6nm,0.6s
DBIC pP pP 19 06 42.1 +0.9
DBIC **Dimbokro** 67.54 86 P P 19 06 01.1 +0.3
3.4nm,0.6s,baz=255,slow=8.1,SNR=8.5
DBIC pP pP 19 06 42.1 +0.9
4.1nm,0.7s,baz=258,slow=8.1,SNR=4.0
SUMG **Summit** 68.98 11 *i*P P 19 06 10.2 +1.0
13nm,0.7s
SUMG **Summit** 68.98 11 *e*P P 19 06 10.2 +1.0
9.0nm,0.6s
INK **Inuvik** 73.12 340 P P 19 06 34.5 +0.9
INK **Inuvik** 73.12 340 P P 19 06 34.5 +0.9
5.2nm,0.7s,baz=128,slow=4.8,SNR=15
TOA0 **Torodi Ar. Sit** 73.55 78 P P 19 06 36.8 -0.4
TORD **Torodi Ar. Bea** 73.55 78 P P 19 06 37.5 +0.3
TORD pP pP 19 07 18.0 -0.3
TORD **Torodi Ar. Bea** 73.55 78 P P 19 06 37.5 +0.3
0.3nm,0.3s,baz=286,slow=7.0,SNR=7.6
TORD pP pP 19 07 18.0 -0.3
0.6nm,0.6s,baz=287,slow=5.3,SNR=4.6
ILAR **Eielson Array** 77.07 335 P P 19 06 56.5 +0.2
ILAR PP PP 19 09 51.2 -0.8
ILAR **Eielson Array** 77.07 335 P P 19 06 56.5 +0.2
1.6nm,0.8s,baz=109,slow=4.5,SNR=12
ILAR PP PP 19 09 51.2 -0.8
0.5nm,0.8s,baz=87,slow=6.6,SNR=4.7
NOA **NORSAR Array B** 81.26 29 P P 19 07 20.4 +1.3
NOA **NORSAR Array B** 81.26 29 P P 19 07 20.5 +1.3
0.5nm,0.6s,baz=266,slow=5.3,SNR=3.0
GERES **GERESS Array B** 82.72 42 P P 19 07 27.1 +0.1
GERES **GERESS Array B** 82.72 42 P P 19 07 27.1 +0.1
0.4nm,0.6s,baz=256,slow=3.7,SNR=4.8
ARCES **ARCESS Array B** 86.63 20 P P 19 07 47.1 +1.0
ARCES **ARCESS Array B** 86.63 20 P P 19 07 47.1 +1.0
4.0nm,0.9s,baz=280,slow=3.6,SNR=5.8
SNAA **Sanae** 90.25 163 *e*P P 19 08 02.4 -0.7
8.2nm,1.6s
ZALV **Zalesovo Beam** 116.65 15 PKP PKPdf 19 13 46.1 0.0
ZALV **Zalesovo Beam** 116.65 15 PKP PKPdf 19 13 46.1 0.0
1.5nm,0.6s,baz=278,slow=1.7,SNR=6.9
MK31 **Makanchi Array** 122.29 20 *e*PKPdf PKPdf 19 13 57.1 -0.1
MKAR **Makanchi Array** 122.29 20 PKP PKPdf 19 13 57.5 +0.3
MKAR **Makanchi Array** 122.29 20 PKP PKPdf 19 13 57.5 +0.3
0.8nm,0.4s,baz=301,slow=2.9,SNR=19
MDJ **Mudanjiang** 124.96 341 PKP PKPdf 19 14 01.4 -0.9
MDJ PPMZ
comp=Z,26nm,4.9s
SONM **Songino Array** 125.61 1 PKP PKPdf 19 14 04.3 +0.7
SONM **Songino Array** 125.61 1 PKP PKPdf 19 14 04.3 +0.7
0.8nm,0.6s,baz=273,slow=2.0,SNR=4.9
WMQ **Urumqi** 126.66 17 *e*PKP PKPdf 19 14 03.3 -2.4
WMQ LR LR
comp=N,23nm,18.6s
WMQ LR LR
comp=E,49nm,18.4s
WMQ LR LR
comp=Z,30nm,18.0s
CN2 **Changchun** 126.97 343 *e*PKP PKPdf 19 14 03.3 -2.9
HHC **Hu-ho-hao-te** 132.42 355 *e*PKP PKPdf 19 14 14.1 -2.7
HHC sPKP 19 15 10.8
HHC PP PP 19 16 42.4 +2.0
HHC SKS SKSdf 19 21 07.6 -4.9
HHC SKKS SKKSac 19 23 16.0 -5.1
HHC PPMZ
140nm,9.5s
HHC LR LR
comp=N,320nm,19.0s
HHC LR LR
comp=E,330nm,19.0s
HHC LR LR
comp=Z,250nm,20.2s
GTA **Gaotai** 133.54 8 PKP PKPdf 19 14 16.1 -2.9
GTA sPKP 19 15 15.8
LZH **Lanzhou** 137.25 4 *e*PKP PKPdf 19 14 24.3 -1.7
LZH sPKP 19 15 15.1
LZH LR LR
comp=N,170nm,16.5s
LZH LR LR
comp=E,190nm,18.0s

LZH					LR	LR		
	comp=Z,230nm,20.0s							
STKA	**Stephens Creek**	**139.27**	**228**		PKP	**PKPdf**	**19 14 30.3**	**+0.7**
STKA	**Stephens Creek**	**139.27**	**228**		PKP	**PKPdf**	**19 14 30.3**	**+0.7**
	0.9nm,0.7s,baz=147,slow=3.0,SNR=4.2							
CD2	**Chengdu**	**142.38**		**5**	PKP	**PKPdf**	**19 14 34.0**	**-1.3**
GYA	**Guiyang**	**146.95**		**1**	*e*PKPbc	**PKPdf**	**19 14 41.0**	**-2.4**
GYA					pPKP	pPKPdf	19 15 19.8	-8.4
GYA					PP	**PP**	**19 18 11.5**	**+2.0**
GYA					PPMZ			
	90nm,7.8s							
KMI	**Kunming**	**148.00**		**7**	PKPbc	**PKPdf**	**19 14 42.4**	**-3.0**
AS31	**Alice Springs**	**149.25**	**234**		*e*PKPdf	**PKPdf**	**19 14 47.5**	**+0.3**
AS31					*e*PKPbc	**PKPbc**	**19 14 51.0**	**-0.6**
ASAR	**Alice Springs**	**149.25**	**234**		PKP	**PKPdf**	**19 14 47.6**	**+0.4**
ASAR					PKPbc	**PKPbc**	**19 14 51.4**	**-0.3**
ASAR	**Alice Springs**	**149.25**	**234**		PKP	**PKPdf**	**19 14 47.6**	**+0.4**
	6.7nm,0.6s,baz=119,slow=2.6,SNR=42							
ASAR					PKPbc	**PKPbc**	**19 14 51.4**	**-0.3**
	6.7nm,0.6s,baz=120,slow=3.3,SNR=108							
WRAB	**Tennant Creek**	**150.49**	**241**		*e*PKPdf	**PKPdf**	**19 14 49.3**	**+0.2**
WRAB					*e*PKPbc	**PKPbc**	**19 14 54.3**	**-0.3**
WRA	**Warramunga Arr**	**150.49**	**241**		PKP	**PKPdf**	**19 14 49.7**	**+0.6**
WRA					PKPbc	**PKPbc**	**19 14 54.2**	**-0.5**
WRA	**Warramunga Arr**	**150.49**	**241**		PKP	**PKPdf**	**19 14 49.7**	**+0.6**
	1.0nm,0.8s,baz=98,slow=1.6,SNR=16							
WRA					PKPbc	**PKPbc**	**19 14 54.2**	**-0.5**
	5.9nm,0.5s,baz=109,slow=2.5,SNR=117							
CMAR	**Chiang Mai Arr**	**153.66**		**18**	PKP	**PKPdf**	**19 14 55.3**	**+1.4**
CMAR					PKPbc	**PKiKP**	**19 15 03.2**	**+1.3**
CMAR	**Chiang Mai Arr**	**153.66**		**18**	PKP	**PKPdf**	**19 14 55.3**	**+1.4**
	0.8nm,0.7s,baz=317,slow=2.2							
CMAR					PKPbc	**PKiKP**	**19 15 03.2**	**+1.3**
	baz=319,slow=3.4							

IDC 23 19:02:25.3±1.8, 5°.28S×154°.09E, *h0*km, **mb3.4**/4, **mb1 3.7**/5, **mb1mx3.5**/19, **mbtmp3.6**/5, **ML2.9**/1, **Error ellipse: s-maj=83.3km s-min=28.0km az=127.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.01**	**239**	Pn	Pn	19 04 24.9	+1.9
	0.9nm,0.3s,baz=114,slow=10,SNR=3.8						
PMG				Sn	Sn	19 05 49.7	-4.7
	2.6nm,0.3s,baz=55,slow=20,SNR=7.0						
WRA	**Warramunga Arr**	**24.12**	**231**	P	P	19 07 42.2	-0.9
	0.2nm,0.3s,baz=55,slow=9.9,SNR=3.3						
H11S3	**WAKE ISLAND Hy**	**26.69**	**27**	T	T	19 36 30.2	
	baz=208,slow=0.7,SNR=8.0						
H11S2	**WAKE ISLAND Hy**	**26.69**	**27**	T	T	19 36 41.0	
	baz=208,slow=0.7,SNR=15						
ASAR	**Alice Springs**	**26.69**	**225**	P	P	19 08 06.6	+0.1
	0.3nm,0.9s,baz=56,slow=9.8,SNR=3.7						
ASAR				PcP	PcP	19 11 30.3	-0.1
	0.5nm,0.6s,baz=78,slow=2.2,SNR=5.9						
H11S1	**WAKE ISLAND Hy**	**26.70**	**27**	T	T	19 36 35.5	
	baz=208,slow=0.7,SNR=12						
MKAR	**Makanchi Array**	**81.53**	**319**	P	P	19 14 45.3	+0.4
	0.7nm,0.9s,baz=97,slow=5.7,SNR=3.6						
ILAR	**Eielson Array**	**82.12**	**22**	P	P	19 14 47.5	-0.1
	0.4nm,0.7s,baz=238,slow=5.2,SNR=3.3						
TORD	**Torodi Ar. Bea**	**151.68**	**288**	PKPbc	PKPbc	19 22 22.1	-0.8
	0.4nm,0.6s,baz=58,slow=1.6,SNR=3.5						

*IDC **23** 19:03:27.7±1.8, 7°.57S×129°.34E, h0km, mb3.5/1, mb1 3.5/4, mb1mx3.3/19, mbtmp3.3/4, ML3.2/3, Error ellipse: s-maj=78.5km s-min=26.8km az=81.0*

ISC 23 19:03:33.9±1.5, **7°.7S**±0°.1×**128°.6E**±0°.2, **h35**km, **n8**, σ2§**93**/7, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTN	**Manton Dam**	**5.70**	**155**	P	**Pn**	**19 04 59.2**	**+3.0**
	baz=13,SNR=25						
KDU	**Kakadu**	**6.26**	**143**	P	**Pn**	**19 05 05.2**	**+1.4**
	baz=13,SNR=19						
KNRA	**Kununurra**	**7.97**	**179**	P	Pn	19 05 30.5	+3.2
	baz=15,SNR=3.3						
FITZ	**Fitzroy Crossi**	**10.79**	**195**	P	**Pn**	**19 06 08.0**	**+2.1**
	baz=18,SNR=4.4						
FITZ	**Fitzroy Crossi**	**10.79**	**195**	Pn	**Pn**	**19 06 07.6**	**+1.7**
	0.2nm,0.3s,baz=24,slow=12,SNR=8.1						
FITZ				Sn	**Sn**	**19 08 04.7**	**-0.7**
	0.1nm,0.3s,baz=349,slow=16,SNR=3.3						
WRA	**Warramunga Arr**	**13.40**	**156**	Pn	Pn	19 06 37.0	-4.8
	0.1nm,0.3s,baz=338,slow=13,SNR=12						
ASAR	**Alice Springs**	**16.70**	**163**	Pn	**Pn**	**19 07 21.3**	**-4.0**
	0.1nm,0.3s,baz=339,slow=9.9,SNR=7.9						
SONM	**Songino Array**	**58.65**	**343**	P	**P**	**19 13 27.7**	**-0.1**
	0.3nm,0.5s,baz=145,slow=6.5,SNR=3.0						

DJA 23 19:08:55.2±0.8, **1°.N**±7°×**12°.6E**±°, **h10**km, **M3.5**/3, **MLv3.5**/3, **Northern Moluccа Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.03**	**100**	P	Pg	19 09 13.1	-2.0
TNTI				S	Sn	19 09 29.8	-0.5
LBMI	**Labuha**	**1.96**	**144**	P	Pb	19 09 29.8	-1.2
LBMI				S	Sg	19 10 01.0	+2.7
SGSI	**Sangihe**	**2.83**	**343**	P	Pn	19 09 41.8	+1.3

HEL 23 19:11:48.5±0.8, **67°.21N**×**20°.67E**, **h0**km, **ML1.3, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LANU	**Lannavaara**	**0.98**	**30**	*e*P	Pg	19 12 05.7	-1.7
LANU				*e*S	Sg	19 12 18.1	-2.1
HEF	**Hetta**	**1.65**	**42**	*e*P	Pn	19 12 17.4	-1.4
HEF				*e*S	Sn	19 12 39.8	-0.9
KIF	**Kilpisjarvi**	**1.80**	**1**	*e*P	Pn	19 12 21.3	+0.5
KIF				*e*SN	Sg	19 12 46.3	0.0
KIF				MSG		19 12 48.2	
	comp=Z,1.7nm,0.2s						
RNF	**Rovaniemi**	**2.19**	**104**	*e*SG	Sb	19 12 55.8	-0.8
SGF	**Sodankyl**	**2.28**	**81**	*e*SG	Sb	19 12 59.3	+0.1

MEX 23 19:15:02.2±0.7, **19°.32N**×**104°.67W**, **h63**km±9km, **MD3.6, Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CJM	**Chamela**	**0.39**	**296**	*i* P	Pn	19 15 12.2	-1.2
CJM				*i* S	Sn	19 15 19.7	-1.8
R15V		**0.67**	**103**	*e*P	Pn	19 15 14.5	-1.8
R15V				*e*S	Sn	19 15 24.1	-2.6
EZ5V		**1.02**	**81**	*e*P	Pn	19 15 19.4	-1.5
EZ5V				*i* S	Sn	19 15 33.4	-1.4
MMIG	**Aquila**	**1.62**	**129**	*e*P	Pn	19 15 27.2	-1.4
MMIG				*e*S	Sn	19 15 46.7	-1.8
ANIG	**Ahuacatlan**	**1.73**	**5**	*e*P	Pn	19 15 27.9	-2.3
ANIG				*i* S	Sn	19 15 49.2	-2.2
SFJM	**Santa Fe**	**1.92**	**53**	*i* P	Pn	19 15 37.2	+4.4
SFJM				*i* S	Sn	19 15 59.2	+3.0

*ISCJB **23** 19:19:10.6±0.4, 47°.86N±0°.05×147°.40E±0°.08, h420km±4km, mb4.0/44, Error ellipse: s-maj=9.4km s-min=7.1km az=139.3*
*MOS **23** 19:19:10.8±0.9, 48°.05N×147°.24E, h415km, mb4.0/22, Error ellipse: s-maj=15.0km s-min=8.4km az=92.5*
*IDC **23** 19:19:11.6±1.2, 48°.01N×147°.24E, h411km±13km, mb3.6/30, mb1 3.7/33, mb1mx3.6/39, mbtmp4.3/33, Error ellipse: s-maj=10.3km s-min=8.4km az=122.0*
*JMA **23** 19:19:12.5±0.5, 47°.21N×147°.62E, h461km, M3.9*

ISC 23 19:19:11.6±0.7, **47°.80N**±0°.07×**147°.41E**±0°.07, **h421**km±8km, **n112**, σ1§**39**/126, **mb4.0**/44, **18C-1D, Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.58**	**173**	⇓*i* PN	**P**	**19 20 13.5**	**+0.3**
KUR				*e*S	**S**	**19 21 04.0**	**+0.8**
KUR				pmax	pmax		
	comp=Z,120nm,0.6s						
KUR				smax	smax		
	comp=E,110nm,0.8s						
YSS	**Yuzh-Sakhalins**	**3.27**	**257**	⇑*i* PN	**P**	**19 20 19.7**	**+1.3**
YSS				*i* S	**S**	**19 21 12.9**	**0.0**
YSS				pmax	pmax		
	comp=N,40nm,0.8s						
YSS				pmax	pmax		
	comp=E,60nm,0.8s						
YSS				pmax	pmax		
	comp=Z,100nm,0.8s						
YSS				smax	smax		
	comp=N,120nm,1.0s						
YUK	**Yuzh-Kuril'sk**	**3.91**	**197**	*c i* PN	**P**	**19 20 24.6**	**+0.5**
YUK				*i* S	**S**	**19 21 25.4**	**+2.3**
YUK				pmax	pmax		
	comp=N,20nm,0.4s						
YUK				pmax	pmax		
	comp=Z,90nm,0.4s						
YUK				pmax	pmax		
	comp=E,49nm,0.4s						
YUK				smax	smax		
	comp=N,81nm,0.8s						
YUK				smax	smax		
	comp=E,113nm,0.8s						
JRA	**Rausu**	**4.18**	**203**	P	**P**	**19 20 26.9**	**+0.4**
JSE	**Soyaes**	**4.38**	**231**	P	**P**	**19 20 30.0**	**+1.7**
JWK2	**Keíhoku**	**4.54**	**239**	P	**P**	**19 20 32.1**	**+2.3**
JTKR	**Abashiri--Toko**	**4.54**	**214**	P	**P**	**19 20 30.4**	**+0.5**
JTKR				*e*S	**S**	**19 21 32.6**	**-1.2**
NEM2	**Nemuro 2**	**4.58**	**195**	P	**P**	**19 20 27.6**	**-2.7**
NEM2				*e*S	**S**	**19 21 28.9**	**-5.7**
ASAJ	**Asahikawa**	**4.98**	**224**	P	**P**	**19 20 35.2**	**+0.9**
	comp=E,2.9nm,0.3s,baz=50,slow=7.7,SNR=48						
ASAJ				S	**S**	**19 21 43.1**	**+1.4**
	comp=E,0.5nm,0.3s,baz=270,slow=20,SNR=2.5						
JKK2	**Kamakawa 2**	**5.10**	**221**	P	**P**	**19 20 36.4**	**+1.0**
JAK	**Akkeshi**	**5.17**	**203**	P	**P**	**19 20 34.3**	**-1.8**
JAK				*e*S	**S**	**19 21 39.8**	**-5.4**
JAR	**Ashorobuto**	**5.17**	**211**	P	**P**	**19 20 36.0**	**-0.2**
JAR				*e*S	**S**	**19 21 42.5**	**-2.9**
JFR	**Furan**	**5.74**	**218**	P	**P**	**19 20 42.4**	**+0.4**
JCH	**Churui**	**5.92**	**210**	P	**P**	**19 20 42.0**	**-1.9**
JCH				*e*S	S	19 21 52.6	-6.8
JNBK	**Urakawa-nobuka**	**6.42**	**213**	P	**P**	**19 20 47.2**	**-2.0**
JNBK				*e*S	S	19 22 01.6	-7.8
JEW	**Eniwo**	**6.50**	**222**	P	**P**	**19 20 50.5**	**+0.5**
JEW				*e*S	**S**	**19 22 07.5**	**-3.2**
JSK	**Shakotan**	**6.59**	**230**	P	**P**	**19 20 52.3**	**+0.9**
JKB	**Kayabe**	**7.44**	**220**	P	**P**	**19 20 58.9**	**-1.8**
JKB				*e*S	S	19 22 22.3	-7.4
JOT	**Ohata**	**7.85**	**218**	P	**P**	**19 21 02.9**	**-2.4**
JOT				*e*S	S	19 22 29.8	-8.3
JOSM	**Okushiri--Mats**	**8.02**	**227**	P	**P**	**19 21 06.0**	**-0.9**
JANG	**Nango**	**8.54**	**212**	P	**P**	**19 21 10.8**	**-2.0**
JANG				*e*S	S	19 22 44.3	-8.1
MJAR	**Matsushiro Arr**	**13.14**	**214**	P	**P**	**19 22 05.3**	**+2.0**
	comp=E,0.7nm,0.3s,baz=296,slow=4.6,SNR=7.4						
YAK	**Yakutsk**	**17.43**	**331**	*c i* P	**P**	**19 22 47.5**	**-1.4**
YAK				*e*S	**S**	**19 25 46.0**	**-2.6**
YAK				pmax	pmax		
	comp=Z,64nm,0.8s						
YAK				pmax	pmax		
	comp=N,22nm,1.1s						
YAK				pmax	pmax		
	comp=E,19nm,1.0s						
YAK				smax	smax		
	comp=N,27nm,1.4s						
YAK				smax	smax		
	comp=E,91nm,2.0s						
KSRS	**Korea Array**	**17.63**	**241**	P	**P**	**19 22 53.1**	**+1.8**
	comp=E,2.2nm,0.3s,baz=45,slow=10,SNR=6.8						
JCJ	**Chichijima**	**21.07**	**193**	P	**P**	**19 23 25.6**	**+1.2**
	comp=E,25nm,0.4s,baz=258,slow=19,SNR=3.2						
SONM	**Songino Array**	**27.32**	**286**	P	**P**	**19 24 17.7**	**-2.5**
	comp=E,0.3nm,0.5s,baz=64,slow=9.8,SNR=2.8						
IMA2	**Indian Mountai**	**35.28**	**37**	*e*P	**P**	**19 25 28.1**	**-0.6**
MCK	**McKinley**	**37.39**	**41**	*e*P	**P**	**19 25 46.4**	**+0.3**
MCK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MCK	**McKinley**	**37.39**	**41**	*e*P	**P**	**19 25 46.4**	**+0.2**
	comp=Z,6.2nm,0.7s						
COLA	**College**	**37.75**	**39**	*e*P	**P**	**19 25 49.0**	**0.0**
COLA				pmax	pmax		
	comp=Z,52nm,0.8s						
COLA	**College**	**37.75**	**39**	*e*P	**P**	**19 25 49.0**	**0.0**
	comp=Z,52nm,0.8s						
ILAR	**Eielson Array**	**38.17**	**39**	P	**P**	**19 25 52.5**	**0.0**
	comp=Z,11nm,0.5s,baz=268,slow=8.0,SNR=67						
ZALV	**Zalesovo Beam**	**38.82**	**303**	P	**P**	**19 25 56.5**	**-1.5**
ZALV						19 27 59.4	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**38.82**	**303**	P	**P**	**19 25 56.5**	**-1.5**
	comp=Z,0.7nm,0.4s,baz=64,slow=6.8,SNR=4.1						
ZALV				PcP	**PcP**	**19 27 59.4**	**+0.5**
	comp=Z,2.0nm,0.6s,baz=68,slow=3.5,SNR=8.8						
EGAK	**Eagle**	**40.60**	**39**	*e*P	**P**	**19 26 11.9**	**-0.3**
	comp=Z,4.9nm,0.6s						
INK	**Inuvik**	**42.85**	**32**	*e*P	**P**	**19 26 29.8**	**-0.3**
	comp=Z,9.4nm,0.5s						
INK	**Inuvik**	**42.85**	**32**	P	**P**	**19 26 30.1**	**0.0**
	comp=Z,7.8nm,0.4s,baz=304,slow=6.6,SNR=38						
MKAR	**Makanchi Array**	**42.99**	**294**	P	**P**	**19 26 31.5**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MKAR	**Makanchi Array**	**42.99**	**294**	P	**P**	**19 26 31.5**	**-0.1**
	comp=Z,2.9nm,0.9s,baz=56,slow=5.3,SNR=13						
KURK	**Kurchatov**	**43.52**	**301**	P	**P**	**19 26 35.7**	**+0.1**
KURK						19 28 15.2	
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**43.61**	**301**	P	**P**	**19 26 35.7**	**-0.6**
	comp=Z,2.2nm,0.6s,baz=72,slow=9.3,SNR=14						
KURBB				PcP	**PcP**	**19 28 15.2**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=70,slow=3.3,SNR=10						
BVAR	**Borovoye Array**	**47.16**	**307**	P	**P**	**19 27 03.4**	**-0.3**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**47.16**	**307**	P	**P**	**19 27 03.4**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=60,slow=8.8,SNR=5.1						
DLBC	**Dease Lake**	**47.62**	**45**	P	**P**	**19 27 09.4**	**+2.2**
CMAR	**Chiang Mai Arr**	**48.95**	**250**	P	**P**	**19 27 19.2**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=30,slow=7.3,SNR=6.1						
TAPN	**Taplejung**	**50.20**	**268**	*e*P	**P**	**19 27 28.3**	**+1.0**
	comp=Z,12nm,0.7s						
JIRN	**Jiri**	**51.03**	**270**	*e*P	**P**	**19 27 34.5**	**+1.1**
	comp=Z,17nm,0.5s						
RES	**Resolute Bay**	**51.05**	**18**	P	**P**	**19 27 31.8**	**-0.6**
	comp=Z,8.1nm,0.4s,baz=324,slow=6.3,SNR=56						
RES				PcP	**PcP**	**19 28 41.6**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=84,slow=3.4,SNR=2.1						
GUN	**Gumba**	**51.07**	**270**	*e*P	**P**	**19 27 34.5**	**+0.8**
	comp=Z,9.9nm,0.5s						
RAMN	**Ramite**	**51.21**	**269**	*e*P	**P**	**19 27 35.6**	**+1.0**
	comp=Z,27nm,0.7s						
KKN	**Kakani**	**51.56**	**271**	*e*P	**P**	**19 27 38.1**	**+1.0**
	comp=Z,7.3nm,0.4s						
PKI	**Pulchoki**	**51.61**	**270**	*e*P	**P**	**19 27 38.4**	**+0.8**
	comp=Z,3.4nm,0.3s						
PKIN	**Phulchoki**	**51.62**	**270**	*e*P	**P**	**19 27 38.3**	**+0.7**
	comp=Z,3.6nm,0.4s						
DMN	**Daman**	**51.79**	**270**	*e*P	**P**	**19 27 39.7**	**+0.9**
	comp=Z,15nm,0.7s						
GKN	**Gorkha**	**51.85**	**271**	*e*P	**P**	**19 27 40.2**	**+1.0**
	comp=Z,17nm,0.5s						
DANN	**Dangsing**	**52.22**	**272**	*e*P	**P**	**19 27 43.4**	**+1.4**
	comp=Z,36nm,0.5s						
YKA	**Yellowknife Ar**	**52.37**	**35**	P	**P**	**19 27 42.1**	**0.0**
	comp=Z,1.1nm,0.4s,baz=302,slow=6.9,SNR=5.3						
KOLN	**Koldanda**	**52.70**	**272**	*e*P	**P**	**19 27 46.5**	**+1.1**
	comp=Z,13nm,0.7s						
KEV	**Kevo**	**55.00**	**339**	*e*P	**P**	**19 27 59.2**	**-1.6**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KEV	**Kevo**	**55.00**	**339**	*e*p	**P**	**19 27 59.2**	**-1.6**
	comp=Z,0.5nm,0.3s						
ARCES	**ARCESS Array B**	**55.53**	**339**	P	**P**	**19 28 04.1**	**-0.5**
	comp=Z,5.0nm,0.9s,baz=65,slow=6.8,SNR=5.3						
ARCES				PcP	**PcP**	**19 28 58.1**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=75,slow=4.8,SNR=5.3						
JOF	**Joensuu**	**58.61**	**331**	*e*P	**P**	**19 28 24.2**	**-1.7**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.5s						
JOF	**Joensuu**	**58.61**	**331**	*e*p	**P**	**19 28 24.2**	**-1.7**
	comp=Z,3.3nm,0.5s						
KAF	**Kangasniemi**	**60.79**	**333**	*e*P	**P**	**19 28 38.6**	**-1.9**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KAF	**Kangasniemi**	**60.79**	**333**	*e*p	**P**	**19 28 38.6**	**-1.9**
	comp=Z,3.4nm,0.6s						
FINES	**FINESS Array B**	**61.37**	**332**	P	**P**	**19 28 43.4**	**-1.0**
	comp=Z,7.2nm,0.6s,baz=37,slow=8.3,SNR=46						
SFJD	**Kangerlussuaq**	**64.72**	**8**	P	**P**	**19 29 04.8**	**-1.2**
	comp=Z,8.2nm,1.0s,baz=7.3,slow=5.1,SNR=2.8						
NVAR	**Mina Array Bea**	**65.32**	**60**	P	**P**	**19 29 12.1**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=305,slow=6.5,SNR=4.1						
NB2	**NORSAR Subarra**	**65.90**	**338**	P	**P**	**19 29 12.7**	**-1.0**
	comp=Z,3.0nm,0.5s,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**65.90**	**338**	P	**P**	**19 29 12.9**	**-0.8**
	comp=Z,2.9nm,0.5s,baz=30,slow=6.5,SNR=29						
HFS	**Hagfors**		**66.04**	**337**	P	**P**	**19 29 13.3**	**-1.1**
	comp=Z,3.7nm,0.4s,baz=46,slow=4.7,SNR=39						
PDAR	**Pinedale Array**	**67.19**	**51**	P	**P**	**19 29 23.3**	**+1.0**
	comp=Z,1.5nm,0.5s,baz=351,slow=0.8,SNR=16						
KBZ	**Khabaz**	**67.28**	**310**	P	**P**	**19 29 22.9**	**+0.4**
KBZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KBZ	**Khabaz**	**67.28**	**310**	P	**P**	**19 29 22.9**	**+0.4**
	comp=Z,5.2nm,0.9s,baz=86,slow=3.0,SNR=11						
FITZ	**Fitzroy Crossi**	**68.44**	**202**	P	**P**	**19 29 31.8**	**+2.0**
	comp=Z,1.8nm,0.8s,baz=352,slow=7.1,SNR=3.7						
WRA	**Warramunga Arr**	**68.44**	**193**	P	**P**	**19 29 31.1**	**+1.3**
	comp=Z,1.5nm,0.5s,baz=8.5,slow=6.4,SNR=36						
AKASG	**Malin Array Be**	**68.44**	**323**	P	**P**	**19 29 28.5**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.4s						
AKASG	**Malin Array Be**	**68.44**	**323**	P	**P**	**19 29 28.5**	**-1.0**
	comp=Z,4.0nm,0.4s,baz=37,slow=6.2,SNR=15						
ASAR	**Alice Springs**	**72.16**	**193**	P	**P**	**19 29 54.5**	**+2.4**
	comp=Z,1.1nm,0.4s,baz=11,slow=6.2,SNR=38						
BURAR	**Bucovina Array**	**72.50**	**323**	⇑*i* P	**P**	**19 29 53.9**	**0.0**
BURAR	**Bucovina Array**	**72.50**	**323**	⇑*i* P	**P**	**19 29 53.9**	**0.0**
TESR	**Tescani**	**72.79**	**322**	⇑*i* P	**P**	**19 29 55.2**	**-0.3**
TRPA	**Tarpa**	**73.14**	**325**	⇑*i* P	**P**	**19 29 57.9**	**+0.5**
MORC	**Moravsky Berou**	**73.61**	**329**	⇑P	**P**	**19 30 00.5**	**+0.3**
MORC	**Moravsky Berou**	**73.61**	**329**	⇑*i* P	**P**	**19 30 00.5**	**+0.3**
TLB	**Topalu**	**73.72**	**320**	⇑P	**P**	**19 30 00.2**	**-0.6**
TLB	**Topalu**	**73.72**	**320**	⇑*i* P	**P**	**19 30 00.2**	**-0.6**
CLL	**Collm**	**73.81**	**332**	*i* P	**P**	**19 30 00.3**	**-1.0**
CLL				pmax	pmax		
	comp=Z,4.0nm,0.5s						
CLL	**Collm**	**73.81**	**332**	*i* PKP	**P**	**19 30 00.3**	**-1.0**
	comp=Z,6.0nm,0.5s						
MLR	**Muntele Rosu**	**73.90**	**321**	⇑*i* P	**P**	**19 30 01.5**	**-0.5**
MLR	**Muntele Rosu**	**73.90**	**321**	P	**P**	**19 30 01.7**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=315,slow=22,SNR=5.3						
EKA	**Eskdalemuir Ar**	**74.30**	**343**	P	**P**	**19 30 03.2**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=27,slow=6.1,SNR=5.1						
ARR	**Arges**	**74.55**	**322**	⇑*i* P	**P**	**19 30 05.5**	**-0.1**
UMR	**Umm Al-Rimmam**	**74.72**	**297**	*e*P	**P**	**19 30 06.7**	**-0.1**
UMR				AMb	AMB	19 30 07.8	
	comp=Z,36nm,0.5s						
BRTR	**Keskin Array B**	**74.90**	**313**	P	**P**	**19 30 08.0**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=57,slow=4.6,SNR=5.1						
KBD	**Kabd**		**75.01**	**297**	*e*P	**P**	**19 30 08.5**	**0.0**
RST	**Umm Al-Ruwaisa**	**75.19**	**298**	*e*P	**P**	**19 30 09.3**	**-0.2**
RST				AMb	AMB	19 30 10.3	
	comp=Z,170nm,0.8s						
NAY	**Al-Naaiem**	**75.23**	**297**	*e*P	**P**	**19 30 09.8**	**+0.1**
RDF	**Al-Radifah**	**75.28**	**297**	*e*P	**P**	**19 30 10.9**	**+1.0**
RDF				AMb	AMB	19 30 13.1	
	comp=Z,44nm,1.4s						
GZR	**Gura Zlata**	**75.28**	**323**	⇑P	**P**	**19 30 09.8**	**0.0**
GZR	**Gura Zlata**	**75.28**	**323**	⇑*i* P	**P**	**19 30 09.8**	**0.0**
BZS	**Buzias**	**75.56**	**324**	⇑P	**P**	**19 30 11.4**	**+0.1**
BZS	**Buzias**	**75.56**	**324**	⇑*i* P	**P**	**19 30 11.4**	**+0.1**
GERES	**GERESS Array B**	**75.72**	**330**	P	**P**	**19 30 11.7**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=42,slow=5.9,SNR=14						
VTS	**Vitosha**	**77.40**	**321**	⇑*i* P	**P**	**19 30 22.1**	**+0.4**
CDF	**Champ du Feu**	**78.12**	**334**	*e*P	**P**	**19 30 24.6**	**-0.8**
	comp=Z,3.1nm,0.6s						
MMAI	**Mount Meron Ar**	**79.15**	**308**	P	**P**	**19 30 32.3**	**+1.1**
	comp=Z,2.1nm,0.5s,baz=46,slow=7.2,SNR=8.9						
TXAR	**Lajitas Array**	**80.27**	**57**	P	**P**	**19 30 38.7**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=286,slow=3.8,SNR=9.5						
SGMF	**Saint Gilles**	**80.84**	**340**	*e*P	**P**	**19 30 39.7**	**0.0**
	comp=Z,13nm,0.7s						
EIL	**Elat**	**81.98

MKZ					S		**Sg**	**19 20 47.5 +0.5**
MKZ	**Mys Kozlova**	**1.92**	**20**	*i*	P		**Pb**	**19 20 20.1 +0.3**
MKZ					*i* S		**Sg**	**19 20 47.5 +0.5**
APC	**Apacha**	**2.10**	**276**	*i*	P		**Pb**	**19 20 22.3 -0.6**
APC					*i* S		**Sb**	**19 20 50.0 +1.3**
MIPR	**Malaya Ipel'ka**	**2.40**	**260**	*i*	P		**Pb**	**19 20 26.4 -1.7**
MIPR					*i* S		**Sb**	**19 20 55.9 -1.6**
TUMR	**Tumrok**	**2.54**	**354**	*i*	P		**Pb**	**19 20 30.5 0.0**
TUMR					*i* S		**Sb**	**19 21 02.5 +1.0**
PAU	**Pauzhetka**	**2.68**	**243**		PN		**Pn**	**19 20 28.8 +1.2**
PAU					S		**Sn**	**19 21 00.0 +0.4**
PAU	**Pauzhetka**	**2.68**	**243**	*eP*			**Pn**	**19 20 28.8 +1.2**
PAU					*i* S		**Sn**	**19 21 00.0 +0.4**
KMNR	**Kamenistaya**	**3.01**	**356**	*i*	P		**Pb**	**19 20 37.6 -0.9**
KMNR					*i* S		**Sb**	**19 21 15.6 +0.7**
BZMR	**Bezymyannaya**	**3.18**	**359**	*eP*			**Pb**	**19 20 40.0 -1.4**
BZMR					*i* S		**Sb**	**19 21 20.2 +0.3**
BZGR	**Bezymyannyi-Gr**	**3.19**	**1**	*eP*			**Pb**	**19 20 40.6 -0.9**
BZGR					*i* S		**Sb**	**19 21 20.5 +0.5**
KIRR	**Kirishev**	**3.20**	**357**	*eP*			**Pb**	**19 20 40.3 -1.5**
KIRR					*i* S		**Sb**	**19 21 19.3 -1.2**
BZWR	**Bezymyannyi-We**	**3.21**	**359**	*eP*			**Pb**	**19 20 40.7 -1.2**
BZWR					*i* S		**Sb**	**19 21 21.3 +0.5**
KPT	**Kopyto**	**3.22**	**356**	*eP*			**Pb**	**19 20 40.9 -1.1**
KPT					*i* S		**Sb**	**19 21 20.4 -0.6**
KOZ	**Kozyrevsk**	**3.33**	**353**	*eP*			**Pb**	**19 20 41.2 -2.7**
KOZ					*i* S		**Sb**	**19 21 21.4 -2.7**
KOZR	**Kozyr**	**3.34**	**353**		PN		**Pb**	**19 20 41.2 -2.8**
KOZR					S		**Sb**	**19 21 21.4 -2.9**
ESO	**Esso**	**3.36**	**341**		PN		**Pb**	**19 20 41.5 -2.9**
ESO					S		**Sb**	**19 21 22.1 -2.9**
ESO	**Esso**	**3.36**	**341**	*eP*			**Pb**	**19 20 41.5 -2.9**
ESO					*i* S		**Sb**	**19 21 22.1 -2.9**
KRSR	**Krestovskiy**	**3.46**	**360**	*eP*			**Pb**	**19 20 44.3 -1.9**
KRSR					*i* S		**Sb**	**19 21 26.4 -1.6**
SKR	**Severo-Kuril's**	**3.48**	**235**		PN		**Pn**	**19 20 36.0 -2.7**
SKR	**Severo-Kuril's**	**3.48**	**235**	*eP*			**Pn**	**19 20 38.4 -0.3**
SKR					*i* S		**Sn**	**19 21 17.4 -2.1**
KLY	**Klyuchi**	**3.56**	**0**		PN		**Pb**	**19 20 45.1 -2.7**
KLY					S		**Sb**	**19 21 27.6 -3.0**
KLY	**Klyuchi**	**3.56**	**0**	*eP*			**Pb**	**19 20 45.1 -2.7**
KLY					*i* S		**Sb**	**19 21 27.6 -3.0**
SRDR	**Sredinnyy**	**3.60**	**352**	*eP*			Pn	19 20 44.1 +3.7
SRDR					*i* S		**Sb**	**19 21 29.3 -2.6**
KBTR	**Krutoberegovo**	**3.69**	**20**		PN		Pn	19 20 45.0 +3.5
KBTR					S		**Sb**	**19 21 32.0 -2.3**
KBTR	**Krutoberegovo**	**3.69**	**20**	*i*	P		Pn	19 20 45.0 +3.5
KBTR					*i* S		**Sb**	**19 21 32.0 -2.3**
BDR	**Baidarnaya**	**3.83**	**5**	*eP*			**Pb**	**19 20 50.0 -2.4**
BDR					*i* S		**Sb**	**19 21 36.5 -2.0**
SMKR	**Semkarok**	**3.86**	**7**	*eP*			Pb	19 20 49.4 -3.6
SMKR					*i* S		**Sb**	**19 21 36.1 -3.3**
BKI	**Bering**	**4.00**	**50**		PN		**Pn**	**19 20 48.5 +2.8**
BKI	**Bering**	**4.00**	**50**	*eP*			**Pn**	**19 20 48.5 +2.8**
BKI					*i* S		**Sn**	**19 21 31.9 -0.3**
FX1	**Attu Island--F**	**7.61**	**84**		Pn		**Pn**	**19 21 37.4 +2.1**
	comp=N,7.4nm,0.3s,baz=300,slow=1.1,SNR=37							
FX1					Sn		**Sn**	**19 22 57.4 -3.7**
	comp=N,5.3nm,0.3s,baz=205,slow=22,SNR=8.7							
USRK	**Ussuriysk Arra**	**20.70**	**257**		P		**P**	**19 24 23.6 -0.8**
	comp=N,1.6nm,0.8s,baz=75,slow=14,SNR=2.9							
MJAR	**Matsushiro Arr**	**22.59**	**233**		P		**P**	**19 24 46.2 +1.4**
MJAR	**Matsushiro Arr**	**22.59**	**233**		P		**P**	**19 24 46.2 +1.4**
	comp=N,2.6nm,0.6s,baz=19,slow=12,SNR=10							
MJAR					LR		LR	19 34 09.9
	comp=N,36nm,18.4s,baz=340,slow=38							
MAJO	**Matsushiro**	**22.59**	**233**	*eP*			**P**	**19 24 45.8 +0.9**
MAJO					pmax		pmax	
	comp=Z,5.0nm,0.6s							
MAJO	**Matsushiro**	**22.59**	**233**	*eP*			**P**	**19 24 45.8 +0.9**
	comp=Z,5.4nm,0.6s							
TIXI	**Tiksi**	**23.51**	**335**	⇓*eP*			**P**	**19 24 54.7 +0.7**
TIXI					pmax		pmax	
	comp=Z,2.0nm,1.0s							
H11N2	**WAKE ISLAND Hy**	**33.33**	**169**		T		T	20 02 43.2
	baz=353,slow=0.7,SNR=132							
H11N3	**WAKE ISLAND Hy**	**33.34**	**169**		T		T	20 02 47.5
	baz=353,slow=0.7,SNR=2.9							
H11N1	**WAKE ISLAND Hy**	**33.34**	**169**		T		T	20 02 43.7
	baz=353,slow=0.7,SNR=107							
SONM	**Songino Array**	**34.28**	**284**		P		**P**	**19 26 30.2 -0.3**
SONM	**Songino Array**	**34.28**	**284**		P		**P**	**19 26 30.2 -0.3**
	comp=Z,0.4nm,0.5s,baz=70,slow=8.4,SNR=3.6							
H11S1	**WAKE ISLAND Hy**	**34.51**	**170**		T		T	20 04 12.4
	baz=354,slow=0.7,SNR=20							
H11S3	**WAKE ISLAND Hy**	**34.53**	**170**		T		T	20 04 13.3
	baz=354,slow=0.7,SNR=22							
H11S2	**WAKE ISLAND Hy**	**34.53**	**170**		T		T	20 04 14.0
	baz=354,slow=0.7,SNR=4.4							
ENH	**Enshi**	**43.26**	**259**		P		**P**	**19 27 45.5 -0.2**
RES	**Resolute Bay**	**43.51**	**22**		P		**P**	**19 27 47.6 +0.4**
RES	**Resolute Bay**	**43.51**	**22**		P		**P**	**19 27 47.6 +0.4**
	comp=Z,0.9nm,0.4s,baz=244,slow=22,SNR=9.9							
KIP	**Kipapa**	**44.50**	**119**		P		**P**	**19 27 56.6 +0.9**
KIP					pmax		pmax	
	comp=Z,71nm,1.7s							
KURK	**Kurchatov**	**48.17**	**302**		P		**P**	**19 28 24.0 -0.3**
KURK					pmax		pmax	
	comp=Z,1.0nm,0.4s							
KURK	**Kurchatov**	**48.17**	**302**		P		**P**	**19 28 24.0 -0.3**
KURBB	**Kurchatov Arra**	**48.28**	**302**		P		**P**	**19 28 24.0 -1.1**
	comp=Z,0.9nm,0.5s,baz=57,slow=8.1,SNR=6.4							
MKAR	**Makanchi Array**	**48.58**	**296**		P		**P**	**19 28 26.2 -1.4**
MKAR					pmax		pmax	
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**48.58**	**296**		P		**P**	**19 28 26.1 -1.4**
MKAR	**Makanchi Array**	**48.58**	**296**		P		**P**	**19 28 26.1 -1.4**
	comp=Z,0.8nm,0.5s,baz=54,slow=5.9,SNR=7.0							
BVAR	**Borovoye Array**	**50.84**	**309**		P		**P**	**19 28 44.0 -0.6**
BVAR					pmax		pmax	
	comp=Z,1.0nm,0.5s							
BVAR	**Borovoye Array**	**50.84**	**309**		P		**P**	**19 28 44.0 -0.6**
BVAR	**Borovoye Array**	**50.84**	**309**		P		**P**	**19 28 44.0 -0.6**
	comp=Z,0.6nm,0.5s,baz=57,slow=10,SNR=3.0							
BRVK	**Borovoye**	**50.87**	**309**		P		**P**	**19 28 46.1 +1.3**
BRVK					pmax		pmax	
	comp=Z,1.0nm,0.7s							
ARCES	**ARCESS Array B**	**53.70**	**342**		P		**P**	**19 29 06.3 +0.7**
ARCES	**ARCESS Array B**	**53.70**	**342**		P		**P**	**19 29 06.3 +0.7**
	comp=Z,3.9nm,0.9s,baz=39,slow=7.8,SNR=6.8							
AAK	**Ala-Archa**	**55.51**	**297**		P		**P**	**19 29 18.7 -0.6**
AAK					pmax		pmax	
	comp=Z,3.0nm,1.0s							
JOF	**Joensuu**	**58.00**	**335**	*eP*			**P**	**19 29 37.1 +0.6**
JOF					pmax		pmax	
	comp=Z,3.0nm,0.6s							
JOF	**Joensuu**	**58.00**	**335**	*ep*			**P**	**19 29 37.1 +0.6**
	comp=Z,3.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**58.42**	**259**		P		**P**	**19 29 40.9 +0.8**
CMAR	**Chiang Mai Arr**	**58.42**	**259**		P		**P**	**19 29 40.9 +0.8**
	comp=Z,0.6nm,0.4s,baz=31,slow=6.6,SNR=5.4							
KAF	**Kangasniemi**	**59.91**	**337**	*eP*			**P**	**19 29 50.5 +0.8**
KAF					pmax		pmax	
	comp=Z,3.0nm,0.5s							
KAF	**Kangasniemi**	**59.91**	**337**	*ep*			**P**	**19 29 50.5 +0.8**
	comp=Z,3.0nm,0.5s							
FINES	**FINESS Array B**	**60.55**	**337**		P		**P**	**19 29 55.0 +0.9**
FINES	**FINESS Array B**	**60.55**	**337**		P		**P**	**19 29 55.0 +0.9**
	comp=Z,2.8nm,0.5s,baz=37,slow=7.6,SNR=12							
HFS	**Hagfors**	**64.36**	**342**		P		**P**	**19 30 20.3 +0.7**
HFS	**Hagfors**	**64.36**	**342**		P		**P**	**19 30 20.3 +0.7**
	comp=Z,0.8nm,0.7s,baz=15,slow=7.6,SNR=2.2							
AKASG	**Malin Array Be**	**69.06**	**329**		P		**P**	**19 30 50.0 +0.3**
AKASG					pmax		pmax	
	comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**69.06**	**329**		P		**P**	**19 30 50.0 +0.3**
AKASG	**Malin Array Be**	**69.06**	**329**		P		**P**	**19 30 50.0 +0.3**
	comp=Z,0.6nm,0.3s,baz=28,slow=6.6,SNR=5.0							
KBZ	**Khabaz**	**69.99**	**317**		P		**P**	**19 30 55.2 -0.4**
KBZ					pmax		pmax	
	comp=Z,3.0nm,0.9s							
KBZ	**Khabaz**	**69.99**	**317**		P		**P**	**19 30 55.1 -0.4**
KBZ	**Khabaz**	**69.99**	**317**		P		**P**	**19 30 55.1 -0.4**
	comp=Z,3.2nm,0.9s,baz=241,slow=1.7,SNR=5.8							
WRA	**Warramunga Arr**	**75.91**	**205**		P		**P**	**19 31 30.7 -0.1**
WRA	**Warramunga Arr**	**75.91**	**205**		P		**P**	**19 31 30.7 -0.1**
	comp=Z,0.6nm,0.8s,baz=21,slow=6.2,SNR=4.6							
BRTR	**Keskin Array B**	**77.08**	**321**		P		**P**	**19 31 38.2 +0.6**
BRTR	**Keskin Array B**	**77.08**	**321**		P		**P**	**19 31 38.2 +0.6**
	comp=Z,0.7nm,0.7s,baz=41,slow=6.0,SNR=3.9							
ASAR	**Alice Springs**	**79.59**	**205**		P		**P**	**19 31 51.9 +0.6**
ASAR	**Alice Springs**	**79.59**	**205**		P		**P**	**19 31 51.9 +0.6**
	comp=Z,0.3nm,0.5s,baz=17,slow=5.1,SNR=5.2							

*CSEM **23** 19:20:38.6±0.1, 37.43N×26.66E, h12km, ML2.6/6, Error ellipse: s-maj=2.7km s-min=2.2km az=110.0*
*DDA **23** 19:20:38.5, 37.44N×26.68E, h5km, MD3.2, ML3.5*
*ISK **23** 19:20:38.1, 37.43N×26.68E, h12km, MD3.2*
*ISCJB **23** 19:20:39.4±0.4, 37.43N±0.02×26.66E±0.03, h22km±4km, Error ellipse: s-maj=4.0km s-min=3.1km az=177.1*
*THE **23** 19:20:39.4, 37.46N×26.63E, h11km±1km, ML2.6/6, Error ellipse: s-maj=1.5km s-min=0.5km az=89.0*

ISC 23 19:20:38.7±1.1, 37.42N±0.02×26.68E±0.02, h16km±8km, n84, σ0=81/118, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.31**	**23**	P		**Pg**	**19 20 44.9**	**-0.4**
SMG				S		**Sb**	**19 20 49.9**	**-0.9**
SMG	**Samos**	**0.31**	**23**	P		**Pg**	**19 20 44.9**	**-0.4**
SMG				S		**Sb**	**19 20 49.9**	**-0.9**
GCAM	**G?zelcaml?**	**0.52**	**57**	*i* P		**Pb**	**19 20 48.8**	**-0.6**
GCAM				*i* S		**Sb**	**19 20 56.3**	**-0.4**
GCAM	**G?zelcaml?**	**0.52**	**57**	*i* P		**Pb**	**19 20 48.8**	**-0.6**
GCAM				*i* S		**Sb**	**19 20 56.3**	**-0.4**
BODT	**Bodrum**	**0.62**	**125**	*e*PG		**Pb**	**19 20 50.8**	**-0.3**
BODT				*e*SG		**Sb**	**19 20 59.9**	**+0.4**
BODT	**Bodrum**	**0.62**	**125**	*e*Pg		**Pb**	**19 20 50.8**	**-0.3**
BODT				*e*Sg		**Sb**	**19 20 59.9**	**+0.4**
BDRM	**Kayabasi**	**0.70**	**120**	*i* P		**Pg**	**19 20 52.1**	**-0.4**
BDRM				*i* S		**Sb**	**19 21 02.6**	**+0.6**
BDRM	**Kayabasi**	**0.70**	**120**	*i* P		**Pg**	**19 20 52.1**	**-0.4**
BDRM				*i* S		**Sb**	**19 21 02.6**	**+0.6**
NIS1	**Nisyros Isl.**	**0.91**	**154**	P		**Pn**	**19 20 57.5**	**+0.7**
NIS1				S		**Sn**	**19 21 11.2**	**+1.6**
NIS1	**Nisyros Isl.**	**0.91**	**154**	P		**Pn**	**19 20 57.5**	**+0.7**
NIS3	**Nisyros Isl.**	**0.93**	**156**	P		**Pn**	**19 20 58.2**	**+1.2**
NIS2	**Nisyros Isl.**	**0.93**	**155**	P		**Pn**	**19 20 58.1**	**+1.0**
URLA	**Izmir**	**0.94**	**356**	*i* P		**Pg**	**19 20 56.4**	**-0.5**
URLA				*i* S		**Sn**	**19 21 10.4**	**0.0**
URLA	**Izmir**	**0.94**	**356**	*i* P		**Pg**	**19 20 56.4**	**-0.5**
URLA				*i* S		**Sn**	**19 21 10.4**	**0.0**
AYDN	**Tasoluk**	**0.98**	**76**	*i* P		**Pg**	**19 20 57.3**	**-0.4**
AYDN				*i* S		**Sn**	**19 21 11.7**	**+0.3**
AYDN	**Tasoluk**	**0.98**	**76**	*i* P		**Pg**	**19 20 57.3**	**-0.4**
AYDN				*i* S		**Sn**	**19 21 11.7**	**+0.3**
APE	**Apeiranthos**	**0.98**	**249**	*e*PG		**Pg**	**19 20 57.5**	**-0.2**
APE				*e*SG		**Sn**	**19 21 11.7**	**+0.2**
APE	**Apeiranthos**	**0.98**	**249**	P		**Pb**	**19 20 57.4**	**0.0**
APE				S		**Sn**	**19 21 11.3**	**-0.2**
APE	**Apeiranthos**	**0.98**	**249**	*e*Pg		**Pg**	**19 20 57.6**	**-0.2**
APE				S		**Sn**	**19 21 11.3**	**-0.2**
DAT	**Datca**	**0.99**	**134**	*e*PG		**Pn**	**19 20 58.0**	**-0.1**
DAT	**Datca**	**0.99**	**134**	*e*Pg		**Pn**	**19 20 58.0**	**-0.1**
BLCB	**Balcova**	**1.00**	**16**	*e*PG		**Pg**	**19 20 57.6**	**-0.6**
BLCB				*e*SG		**Sn**	**19 21 12.1**	**+0.2**
BLCB	**Balcova**	**1.00**	**16**	*e*Pg		**Pg**	**19 20 57.6**	**-0.6**
BLCB				*e*Sg		**Sn**	**19 21 12.1**	**+0.2**
IZM	**Izmir**	**1.08**	**25**	*e*PG		**Pb**	**19 20 58.8**	**-0.2**
IZM	**Izmir**	**1.08**	**25**	*e*Pg		**Pb**	**19 20 58.8**	**-0.2**
CHOS	**Chios island**	**1.08**	**333**	P		**Pb**	**19 20 58.6**	**-0.5**
CHOS				S		**Sb**	**19 21 12.9**	**-0.2**
CHOS	**Chios island**	**1.08**	**333**	P		**Pb**	**19 20 58.6**	**-0.5**
CHOS				S		**Sb**	**19 21 12.9**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.09**	**61**	*e*PN		**Pg**	**19 20 59.5**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.09**	**61**	*e*Pn		**Pg**	**19 20 59.5**	**-0.4**
YER	**Yerkesik**	**1.31**	**102**	*e*PN		**Pn**	**19 21 02.0**	**-0.3**
YER	**Yerkesik**	**1.31**	**102**	*e*Pn		**Pn**	**19 21 02.0**	**-0.3**
SANT	**Santorini**	**1.44**	**223**	P		**Pn**	**19 21 03.8**	**-0.3**
SANT	**Santorini**	**1.44**	**223**	P		**Pn**	**19 21 03.8**	**-0.3**
THR1	**Thera Island**	**1.44**	**223**	P		**Pn**	**19 21 03.7**	**-0.4**
THR1	**Thera Island**	**1.44**	**223**	P		**Pn**	**19 21 03.7**	**-0.4**
THR3	**Thira Island,**	**1.44**	**226**	P		**Pn**	**19 21 03.9**	**-0.2**
THR3	**Thira Island,**	**1.44**	**226**	P		**Pn**	**19 21 03.9**	**-0.2**
THR6	**Thira Island,**	**1.48**	**224**	P		**Pn**	**19 21 04.6**	**-0.1**
THR6	**Thira Island,**	**1.48**	**224**	P		**Pn**	**19 21 04.6**	**-0.1**
TURN	**Turunc**	**1.63**	**109**	*i* P		**Pn**	**19 21 03.9**	**-2.8**
TURN				*i* S		**Sn**	**19 21 25.4**	**-1.9**
TURN	**Turunc**	**1.63**	**109**	*i* P		**Pn**	**19 21 03.9**	**-2.8**
TURN				*i* S		**Sn**	**19 21 25.4**	**-1.9**
DALY	**Dalyan (Mu¨la**	**1.69**	**110**	*e*PN		**Pn**	**19 21 07.4**	**0.0**
DALY	**Dalyan (Mu¨la**	**1.69**	**110**	*e*Pn		**Pn**	**19 21 07.4**	**0.0**
AKHS	**Akhisar**	**1.71**	**31**	*i* P		**Pg**	**19 21 10.8**	**-0.7**
AKHS				*i* S		**Sg**	**19 21 34.2**	**+0.5**
AKHS	**Akhisar**	**1.71**	**31**	*i* P		**Pg**	**19 21 10.8**	**-0.7**
AKHS				*i* S		**Sg**	**19 21 34.2**	**+0.5**
AKS	**Akhisar**	**1.71**	**31**	*e*PN		**Pn**	**19 21 08.5**	**+0.7**
AKS	**Akhisar**	**1.71**	**31**	*e*Pn		**Pn**	**19 21 08.5**	**+0.7**
MANT	**Manisa**	**1.83**	**54**	*i* P		**Pg**	**19 21 13.2**	**-0.6**
MANT				*i* S		**Sb**	**19 21 35.3**	**+0.7**
MANT	**Manisa**	**1.83**	**54**	*i* P		**Pg**	**19 21 13.2**	**-0.6**
MANT				*i* S		**Sb**	**19 21 35.3**	**+0.7**
PRK	**Paraskevi**	**1.85**	**350**	P		**Pn**	**19 21 09.5**	**-0.2**
PRK				S		**Sn**	**19 21 32.4**	**-0.4**
PRK	**Paraskevi**	**1.85**	**350**	P		**Pn**	**19 21 09.5**	**-0.2**
PRK				S		**Sn**	**19 21 32.4**	**-0.4**
AYVA	**Ayvalik**	**1.88**	**0**	*i* P		**Pg**	**19 21 14.0**	**-0.9**
AYVA				*i* S		**Sg**	**19 21 40.6**	**+1.2**
AYVA	**Ayvalik**	**1.88**	**0**	*i* P		**Pg**	**19 21 14.0**	**-0.9**
DNZL	**Cakiroluk**	**1.90**	**81**	*i* P		**Pg**	**19 21 15.2**	**0.0**
DNZL	**Cakiroluk**	**1.90**	**81**	*i* P		**Pg**	**19 21 15.2**	**0.0**
SIGR	**SIGRI**	**1.90**	**340**	P		**Pn**	**19 21 10.4**	**0.0**
SIGR				S		**Sn**	**19 21 33.7**	**-0.3**
SIGR	**SIGRI**	**1.90**	**340**	P		**Pn**	**19 21 10.4**	**0.0**
SIGR				S		**Sn**	**19 21 33.7**	**-0.3**
KULA	**Kula-Manisa**	**1.91**	**54**	*e*PN		**Pn**	**19 21 11.5**	**+0.9**
KULA	**Kula-Manisa**	**1.91**	**54**	*e*Pn		**Pn**	**19 21 11.5**	**+0.9**
KARP	**Karpathos**	**1.91**	**168**	P		**Pn**	**19 21 11.2**	**+0.6**
KARP				S		**Sb**	**19 21 36.1**	**-0.7**
KARP	**Karpathos**	**1.91**	**168**	P		**Pn**	**19 21 11.2**	**+0.6**
KARP				S		**Sb**	**19 21 36.1**	**-0.7**
FETY	**Fethiye**	**2.08**	**112**	*e*PN		**Pn**	**19 21 13.3**	**+0.4**
FETY	**Fethiye**	**2.08**	**112**	*e*Pn		**Pn**	**19 21 13.3**	**+0.4**
DEMI	**Demirci**	**2.28**	**44**	*i* P		**Pg**	**19 21 21.4**	**-1.0**
NPS	**Neapolis**	**2.32**	**202**	P		**Pn**	**19 21 16.2**	**-0.1**
NPS	**Neapolis**	**2.32**	**202**	P		**Pn**	**19 21 16.2**	**-0.1**
BALB	**Balikesir**	**2.41**	**23**	*e*PN		**Pn**	**19 21 19.0**	**+1.6**
BALB	**Balikesir**	**2.41**	**23**	*e*Pn		**Pn**	**19 21 19.0**	**+1.6**
KHL	**Karahalli**	**2.42**	**67**	*e*PN		**Pn**	**19 21 18.5**	**+0.8**
KHL	**Karahalli**	**2.42**	**67**	*e*Pn		**Pn**	**19 21 18.5**	**+0.8**
BALY	**Balya**	**2.43**	**17**	*i* P		**Pn**	**19 21 17.8**	**0.0**
BALY				*i* S		**Sb**	**19 21 53.7**	**+2.0**
BALY	**Balya**	**2.43**	**17**	*i* P		**Pn**	**19 21 17.8**	**0.0**
LAST	**Lasithi**	**2.46**	**204**	P		**Pn**	**19 21 18.8**	**+0.6**
LAST	**Lasithi**	**2.46**	**204**	P		**Pn**	**19 21 18.8**	**+0.6**
IDI	**Anoyia**	**2.58**	**215**	*e*PN		**Pn**	**19 21 20.9**	**+1.1**
IDI	**Anoyia**	**2.58**	**215**	*e*Pn		**Pn**	**19 21 20.9**	**+1.1**
DURS	**Dursunbey**	**2.59**	**32**	*i* P		**Pb**	**19 21 24.3**	**-0.5**
DURS	**Dursunbey**	**2.59**	**32**	*i* P		**Pb**	**19 21 24.3**	**-0.5**
DST	**Dursunbey**	**2.66**	**34**	*e*PN		**Pn**	**19 21 21.6**	**+0.7**
DST	**Dursunbey**	**2.66**	**34**	*e*Pn		**Pn**	**19 21 21.6**	**+0.7**
GONE	**Gonen-Balikesi**	**2.74**	**16**	*e*PN		**Pn**	**19 21 23.7**	**+1.8**
GONE	**Gonen-Balikesi**	**2.74**	**16**	*e*Pn		**Pn**	**19 21 23.7**	**+1.8**
TVSB	**Tavsanli**	**2.98**	**46**	*e*PN		**Pn**	**19 21 26.6**	**+1.3**
TVSB	**Tavsanli**	**2.98**	**46**	*e*Pn		**Pn**	**19 21 26.7**	**+1.3**

IDC 23 19:25:29.9±2.1, 19.08S×175.60W, h0km, mb4.0/5, mb1 4.3/6, mb1mx3.9/20, mbtmp4.2/6, ML3.0/1, Error ellipse: s-maj=55.9km s-min=31.3km az=128.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.31**	**36**	Pn		Pn	19 27 04.5	+0.1
	19nm,0.3s,baz=199,slow=23,SNR=9.4							
URZ	**Urewera**	**20.14**	**197**	P		P	19 30 05.5	-0.2
	2.0nm,0.3s,baz=333,slow=18,SNR=6.0							
STKA	**Stephens Creek**	**40.44**	**243**	P		P	19 33 10.2	-0.2
	3.3nm,1.1s,baz=107,slow=11,SNR=2.9							
WRA	**Warramunga Arr**	**47.05**	**260**	P		P	19 34 03.4	-0.4
	1.4nm,0.7s,baz=96,slow=7.4,SNR=28							
ASAR	**Alice Springs**	**47.06**	**255**	P		P	19 34 04.5	+0.8
	2.3nm,0.8s,baz=92,slow=8.3,SNR=33							
FITZ	**Fitzroy Crossi**	**55.47**	**261**	P		P	19 35 06.0	-1.0
	1.1nm,0.8s,baz=100,slow=6.1,SNR=3.1							

*IDC **23** 19:27:31.2±1.3, 15.41S×173.21W, h0km, mb4.3/7, mb1 4.6/7, mb1mx4.2/19, mbtmp4.3/7, MS3.8/10, Ms1 3.8/10, ms1mx3.6/34, Error ellipse: s-maj=76.8km s-min=20.6km az=147.0*

*NEIC **23** 19:27:32.9±0.7, 15.10S×173.28W, h10km, mb4.5/1, Error ellipse: s-maj=37.1km s-min=13.2km az=145.0*
*ISCJB **23** 19:27:33.4±0.7, 15.0S±0.2×173.2W±0.2, h29km, mb4.2/8, MS3.8/9, Error ellipse: s-maj=34.8km s-min=9.1km az=145.7*

ISC 23 19:27:35.6±0.7, 15.1S±0.2×173.1W±0.2, h29km, n39, σ1=76/27, mb4.1/8, MS3.8/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.73**	**49**	Pn		**Pn**	**19 28 02.9**	**-0.9**
AFI				Sn		**Sn**	**19 28 22.3**	**-2.7**
AFI	**Afiamalu**	**1.73**	**49**	Pn		**Pn**	**19 28 02.9**	**-0.9**
	104nm,0.3s,baz=110,slow=0.3,SNR=21							
AFI				Sn		**Sn**	**19 28 22.3**	**-2.7**
	975nm,0.3s,baz=80,slow=17,SNR=20							
RAR	**Rarotonga**	**14.09**	**118**	LR		LR	19 34 35.1	
	comp=Z,242nm,18.0s,baz=272,slow=30							
PPT	**Papeete**	**22.74**	**100**	LR		LR	19 38 46.4	
	comp=Z,177nm,20.6s,baz=201,slow=30							
URZ	**Urewera**	**24.68**	**199**	LR		LR	19 40 59.4	
	comp=Z,335nm,20.7s,baz=134,slow=33							
HNR	**Honiara**	**26.89**	**279**	LR		LR	19 41 41.9	
	comp=Z,130nm,19.7s,baz=115,slow=32							
RPZ	**Rata Peaks**	**31.60**	**202**	LR		LR	19 45 29.0	
	comp=Z,309nm,18.0s,baz=331,slow=34							
H11S2	**WAKE ISLAND Hy**	**38.80**	**329**	T		T	20 16 20.5	
	baz=152,slow=0.7,SNR=45							
H11S3	**WAKE ISLAND Hy**	**38.81**	**329**	T		T	20 16 29.1	
	baz=152,slow=0.7,SNR=13							
H11S1	**WAKE ISLAND Hy**	**38.82**	**329**	T		T	20 16 24.0	
	baz=152,slow=0.7,SNR=20							
H11N3	**WAKE ISLAND Hy**	**39.74**	**330**	T		T	20 17 36.1	
	baz=153,slow=0.7,SNR=25							
H11N1	**WAKE ISLAND Hy**	**39.75**	**330**	T		T	20 17 47.6	
	baz=153,slow=0.7,SNR=17							
H11N2	**WAKE ISLAND Hy**	**39.76**	**330**	T		T	20 17 34.1	
	baz=153,slow=0.7,SNR=28							
STKA	**Stephens Creek**	**44.44**	**240**	P		**P**	**19 35 42.5**	**-1.7**
STKA	**Stephens Creek**	**44.44**	**240**	P		**P**	**19 35 42.5**	**-1.7**
	1.1nm,0.5s

TEOL	**Teolo**	**0.96**	**133**	Pg		**Pg**	19 29 21.8	**+0.1**
TEOL	**Teolo**	**0.96**	**133**	Pg		**Pg**	19 29 21.8	**+0.1**
VDL	**Val di Lei**	**0.97**	**299**	*e*P1			19 29 21.7	
	45nm,0.5s							
VDL	**Val di Lei**	**0.97**	**299**	*e*P		**Pg**	19 29 21.7	**-0.4**
	45nm,0.5s							
AGOR	**Agordo**	**0.99**	**74**⇓	*e*Pg		**Pg**	19 29 22.3	**0.0**
AGOR	**Agordo**	**0.99**	**74**	Pg		**Pg**	19 29 21.9	**-0.5**
AGOR				Sg		**Sg**	19 29 34.6	**-0.6**
VARN	**Col Varnada, M**	**0.99**	**91**	*e*Pg		**Pg**	19 29 21.6	**-0.9**
VARN	**Col Varnada, M**	**0.99**	**91**	*e*Pg		**Pg**	19 29 21.6	**-0.9**
FETA	**Feichten**	**1.00**	**2**⇑	*i*Pg		**Pg**	19 29 22.4	**-0.3**
FETA			⇓	*e*Sg		**Sg**	19 29 35.1	**-0.7**
	4.7nm,0.2s,SNR=5.7							
FETA	**Feichten**	**1.00**	**2**⇑	*i*Pg		**Pg**	19 29 22.4	**-0.3**
FETA				*e*Sg		**Sg**	19 29 35.2	**-0.7**
ROSI	**Rosskopf**	**1.04**	**29**	Pg		**Pg**	19 29 23.6	**+0.1**
ROSI				Sg		**Sg**	19 29 36.7	**-0.4**
ROSI	**Rosskopf**	**1.04**	**29**	*e*Pg		**Pg**	19 29 23.5	**+0.1**
ROSI				Sg		**Sg**	19 29 36.7	**-0.4**
CAE	**Caneva**	**1.23**	**90**	*e*Pg		**Pg**	19 29 27.6	**+0.7**
CAE	**Caneva**	**1.23**	**90**	*e*Pg		**Pg**	19 29 27.6	**+0.7**
CIMO	**Cimolais**	**1.26**	**76**⇑	*e*Pg		**Pg**	19 29 27.6	**+0.1**
CIMO	**Cimolais**	**1.26**	**76**⇑	*e*Pg		**Pg**	19 29 27.6	**+0.1**
MLNI	**Malnisio**	**1.35**	**84**	*e*Pg		**Pg**	19 29 29.8	**+0.5**
MLNI				*e*Sg		**Sg**	19 29 48.7	**+1.9**
MLNI	**Malnisio**	**1.35**	**84**	*e*Pg		**Pg**	19 29 29.8	**+0.5**
MLNI				*e*Sg		**Sg**	19 29 48.7	**+1.9**
MOTA	**Moosalm**	**1.36**	**12**⇓	*i*Pn		**Pn**	19 29 27.8	**-0.6**
DAVA	**Damuels**	**1.38**	**337**⇓	*e*Pg		**Pb**	19 29 29.4	**+0.1**
	SNR=5.3							
DAVA			⇑	*i*Sg		**Sg**	19 29 48.4	**+0.5**
	13nm,0.4s							
DAVA	**Damuels**	**1.38**	**337**⇓	*e*Pg		**Pb**	19 29 29.4	**+0.1**
DAVA				*i*Sg		**Sg**	19 29 48.4	**+0.5**
ABTA	**Abfaltersbach**	**1.47**	**59**⇓	*i*Pn		**Pn**	19 29 29.2	**-0.5**
ABTA			⇓	*e*Pg		**Pb**	19 29 30.5	**-0.1**
	SNR=5.7							
ABTA			⇑	*i*Sn		**Sn**	19 29 49.1	**+0.2**
ABTA	**Abfaltersbach**	**1.47**	**59**⇓	*i*Pn		**Pn**	19 29 29.2	**-0.5**
FUSIO	**Fusio**	**1.47**	**288**	*e*P		**Pb**	19 29 31.0	**+0.3**
	62nm,0.2s							
FUSIO	**Fusio**	**1.47**	**288**	*e*P		**Pb**	19 29 31.0	**+0.3**
	62nm,0.2s							
FUSE	**Fusea**	**1.66**	**75**	*e*Pg		**Pg**	19 29 34.6	**-0.6**
FUSE				*e*Sg		**Sg**	19 29 56.9	**+0.1**
FUSE	**Fusea**	**1.66**	**75**	*e*Pg		**Pg**	19 29 34.6	**-0.6**
FUSE				*e*Sg		**Sg**	19 29 56.8	**+0.1**
VINO	**Villanova**	**1.82**	**82**⇑	*e*Pg		**Pb**	19 29 36.0	**-0.7**
VINO				*e*Sg		**Sb**	19 29 59.6	**0.0**
VINO	**Villanova**	**1.82**	**82**	*e*Pg		**Pb**	19 29 36.0	**-0.7**
VINO				*e*Sg		**Sb**	19 29 59.6	**0.0**
ACOM	**Acomizza, Ital**	**2.04**	**74**⇓	*e*Pg		**Pb**	19 29 41.0	**+0.6**
ACOM				*e*Sg		**Sb**	19 30 06.7	**+0.9**
ACOM	**Acomizza, Ital**	**2.04**	**74**	*e*Pn		**Pb**	19 29 41.0	**+0.6**
ACOM				*e*Sn		**Sb**	19 30 06.7	**+0.9**
SMF	**Signal de Mont**	**4.78**	**280**	*e*P		Pg	19 30 38.7	+3.9
	5.5nm,0.7s							
SSF	**Saint Saulge**	**5.06**	**284**	*e*P		**Pg**	19 30 37.1	**-3.1**
	5.8nm,0.8s							
BGF	**Bois d'Agland**	**5.46**	**279**	*e*P		**Pb**	19 30 41.3	**+2.7**
	9.6nm,0.8s							
CAF	**Calviac**	**6.16**	**263**	*e*P		**Pb**	19 30 51.0	**+0.5**
ETSF	**Etsaut**	**8.62**	**253**	*e*P		Pn	19 31 03.7	-4.3

IDC ***23*** *19:32:33.6±1.3,34˚.72N×23˚.30E, h0km, mb3.7/8, mb1 3.8/13,mb1mx3.6/32, mbtmp3.6/13, ML3.4/5, Error ellipse: s-maj=24.4km s-min=16.9km az=3.0*
ISCJB ***23*** *19:32:40.2±0.8,34˚.78N±0˚.06×23˚.56E±0˚.05, h69km±6km, mb3.5/8, Error ellipse: s-maj=10.7km s-min=5.2km az=28.8*
CSEM ***23*** *19:32:42.7±0.4,34˚.90N×23˚.62E, h30km, ML3.1/4, Error ellipse: s-maj=8.8km s-min=3.0km az=28.0*
THE ***23*** *19:32:43.4,34˚.93N×23˚.64E, h21km±2km, ML3.1/4, Error ellipse: s-maj=3.4km s-min=1.1km az=211.0*
ATH ***23*** *19:32:43.9,35˚.13N×23˚.74E, h75km±2km*

ISC 23 19:32:40.3±1.2, 34˚.77N±0˚.07×23˚.55E±0˚.05, h46km±12km, n107, σ1§51/119, mb3.7/8, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.45**	**81**	P	**Pn**	19 32 50.8	**+0.2**
GVD	**Gavdhos**	**0.45**	**81**	P	**Pn**	19 32 50.8	**+0.2**
KARN	**Karanos**	**0.69**	**26**	P	**Pn**	19 32 54.0	**+0.2**
KARN	**Karanos**	**0.69**	**26**	P	**Pn**	19 32 54.0	**+0.2**
VAM	**Vamos**	**0.83**	**40**	P	**Pn**	19 32 56.2	**+0.6**
VAM	**Vamos**	**0.83**	**40**	*e*P	**Pn**	19 32 57.0	**+1.4**
VAM				*e*S	**Sn**	19 33 07.7	**+1.0**
VAM	**Vamos**	**0.83**	**40**	P	**Pn**	19 32 56.2	**+0.6**
VAM				*e*S	**Sn**	19 33 07.7	**+1.0**
SIVA	**Sivas**	**1.06**	**76**	P	**Pn**	19 33 00.8	**+2.0**
SIVA	**Sivas**	**1.06**	**76**	P	**Pn**	19 33 00.8	**+2.0**
ANKY	**Antikythira Is**	**1.11**	**349**	P	**Pn**	19 33 00.9	**+1.5**
ANKY				S	**Sn**	19 33 13.9	**+0.3**
ANKY	**Antikythira Is**	**1.11**	**349**	P	**Pn**	19 33 00.9	**+1.5**
ANKY				S	**Sn**	19 33 13.9	**+0.3**
IDI	**Anoyia**	**1.21**	**65**	P	**Pn**	19 33 02.9	**+2.1**
IDI	**Anoyia**	**1.21**	**65**	*e*P	**Pn**	19 33 03.0	**+2.1**
IDI	**Anoyia**	**1.21**	**65**	P	**Pn**	19 33 02.9	**+2.1**
IDI	**Anoyia**	**1.21**	**65**	Pn	**Pn**	19 33 02.7	**+1.8**
	35nm,0.3s,baz=242,slow=15,SNR=11.7						
IDI				Sn	Sn	19 33 23.0	+6.8
	60nm,0.3s,baz=331,slow=19,SNR=10.0						
KYTH	**Kithira**	**1.56**	**345**	P	**Pn**	19 33 07.2	**+1.6**
KYTH	**Kithira**	**1.56**	**345**	*e*P	**Pn**	19 33 07.4	**+1.8**
KYTH	**Kithira**	**1.56**	**345**	P	**Pn**	19 33 07.2	**+1.6**
LAST	**Lasithi**	**1.63**	**76**	P	**Pn**	19 33 09.3	**+2.7**
LAST	**Lasithi**	**1.63**	**76**	P	**Pn**	19 33 09.3	**+2.7**
NPS	**Neapolis**	**1.76**	**73**	P	**Pn**	19 33 11.1	**+2.8**
NPS	**Neapolis**	**1.76**	**73**	*e*P	**Pn**	19 33 11.1	**+2.8**
NPS	**Neapolis**	**1.76**	**73**	P	**Pn**	19 33 11.1	**+2.8**
VLI	**Veliai**	**2.00**	**346**	P	**Pn**	19 33 13.5	**+1.9**
VLI	**Veliai**	**2.00**	**346**	*e*P	**Pn**	19 33 14.1	**+2.5**
VLI	**Veliai**	**2.00**	**346**	P	**Pn**	19 33 13.5	**+1.9**
THR6	**Thira Island,**	**2.18**	**43**	P	**Pn**	19 33 15.6	**+1.5**
THR6	**Thira Island,**	**2.18**	**43**	P	**Pn**	19 33 15.6	**+1.5**
ZKR	**Zakros**	**2.22**	**80**	P	**Pn**	19 33 16.4	**+1.8**
ZKR	**Zakros**	**2.22**	**80**	P	**Pn**	19 33 16.4	**+1.8**
THR3	**Thira Island,**	**2.22**	**42**	P	**Pn**	19 33 16.1	**+1.5**
THR3	**Thira Island,**	**2.22**	**42**	P	**Pn**	19 33 16.1	**+1.5**
SANT	**Santorini**	**2.23**	**44**	P	**Pn**	19 33 15.7	**+1.0**
SANT	**Santorini**	**2.23**	**44**	*e*P	**Pn**	19 33 15.6	**+0.9**
SANT	**Santorini**	**2.23**	**44**	P	**Pn**	19 33 15.7	**+1.0**
THR1	**Thera Island**	**2.23**	**44**	P	**Pn**	19 33 15.7	**+1.0**
THR1	**Thera Island**	**2.23**	**44**	P	**Pn**	19 33 15.7	**+1.0**
THR2	**Thira island,**	**2.27**	**42**	P	**Pn**	19 33 16.3	**+1.0**
THR2	**Thira island,**	**2.27**	**42**	P	**Pn**	19 33 16.3	**+1.0**
DIDY	**Didyma**	**2.71**	**354**	*e*P	**Pn**	19 33 22.7	**+1.3**
DIDY	**Didyma**	**2.71**	**354**	*e*P	**Pn**	19 33 22.7	**+1.3**
DID	**Didima**	**2.74**	**355**	P	**Pn**	19 33 22.8	**+1.0**
DID				S	**Sn**	19 33 54.9	**+1.3**
DID	**Didima**	**2.74**	**355**	*e*P	**Pn**	19 33 22.8	**+1.0**
DID	**Didima**	**2.74**	**355**	P	**Pn**	19 33 22.8	**+1.0**
DID				S	**Sn**	19 33 54.9	**+1.3**
APE	**Apeiranthos**	**2.80**	**34**	P	**Pn**	19 33 23.0	**+0.4**
APE				S	**Sn**	19 33 55.5	**+0.4**
APE	**Apeiranthos**	**2.80**	**34**	*e*P	**Pn**	19 33 22.7	**+0.1**
APE	**Apeiranthos**	**2.80**	**34**	P	**Pn**	19 33 23.0	**+0.4**
APE				S	**Sn**	19 33 55.5	**+0.4**
KARP	**Karpathos**	**3.06**	**74**	P	**Pn**	19 33 28.0	**+1.9**
KARP				S	**Sn**	19 34 03.5	**+2.0**
KARP	**Karpathos**	**3.06**	**74**	*e*P	**Pn**	19 33 27.8	**+1.7**
KARP	**Karpathos**	**3.06**	**74**	P	**Pn**	19 33 28.0	**+1.9**
KARP				S	**Sn**	19 34 03.5	**+2.0**
LTK	**Loutraki**	**3.28**	**352**	*e*P	**Pn**	19 33 30.3	**+1.2**
LTK	**Loutraki**	**3.28**	**352**	*e*P	**Pn**	19 33 30.3	**+1.2**
PTL	**Penteli**	**3.28**	**4**	*e*P	**Pn**	19 33 29.7	**+0.5**
PTL	**Penteli**	**3.28**	**4**	*e*P	**Pn**	19 33 29.7	**+0.5**
GUR	**Goura**	**3.30**	**343**	P	**Pn**	19 33 31.9	**+2.4**
GUR	**Goura**	**3.30**	**343**	*e*P	**Pn**	19 33 32.0	**+2.4**
GUR	**Goura**	**3.30**	**343**	P	**Pn**	19 33 31.9	**+2.4**
VILL	**Villia**	**3.39**	**357**	*e*P	**Pn**	19 33 31.7	**+1.0**
VIL2	**Platees**	**3.44**	**356**	*e*P	**Pn**	19 33 31.7	**+0.3**
NIS3	**Nisyros Isl.**	**3.44**	**57**	P	**Pn**	19 33 33.0	**+1.6**
KLV	**Kalavryta, Ach**	**3.45**	**341**	*e*P	**Pn**	19 33 33.2	**+1.6**
KLV	**Kalavryta, Ach**	**3.45**	**341**	*e*P	**Pn**	19 33 33.2	**+1.6**
DESF	**Desfina**	**3.72**	**348**	*e*P	**Pn**	19 33 36.1	**+0.8**
DESF	**Desfina**	**3.72**	**348**	*e*P	**Pn**	19 33 36.1	**+0.8**
DSF	**Desfina**	**3.72**	**348**	*e*P	**Pn**	19 33 36.3	**+1.0**
DSF	**Desfina**	**3.72**	**348**	*e*P	**Pn**	19 33 36.3	**+1.0**
MRKA	**Markates**	**3.92**	**0**	*e*P	**Pn**	19 33 38.6	**+0.6**
MRKA	**Markates**	**3.92**	**0**	*e*P	**Pn**	19 33 38.6	**+0.6**
SMG	**Samos**	**3.95**	**41**	*e*P	**Pn**	19 33 39.1	**+0.7**
SMG	**Samos**	**3.95**	**41**	*e*P	**Pn**	19 33 39.1	**+0.7**
ARG	**Arkhangelos**	**4.00**	**68**	P	**Pn**	19 33 40.6	**+1.6**
ARG	**Arkhangelos**	**4.00**	**68**	*e*P	**Pn**	19 33 40.8	**+1.8**
ARG	**Arkhangelos**	**4.00**	**68**	P	**Pn**	19 33 40.6	**+1.6**
SMIA	**Simia**	**4.11**	**356**	*e*P	**Pn**	19 33 41.7	**+1.2**
SMIA	**Simia**	**4.11**	**356**	*e*P	**Pn**	19 33 41.7	**+1.2**
CHOS	**Chios island**	**4.13**	**28**	P	**Pn**	19 33 41.4	**+0.5**
CHOS	**Chios island**	**4.13**	**28**	*e*P	**Pn**	19 33 41.3	**+0.4**
CHOS	**Chios island**	**4.13**	**28**	P	**Pn**	19 33 41.4	**+0.5**
PDO	**Prodromos**	**4.26**	**334**	*e*P	**Pn**	19 33 45.1	**+2.4**
PDO	**Prodromos**	**4.26**	**334**	*e*P	**Pn**	19 33 45.1	**+2.4**
AGG	**Agios Georgios**	**4.35**	**347**	*e*P	**Pn**	19 33 45.5	**+1.6**
AGG	**Agios Georgios**	**4.35**	**347**	*e*P	**Pn**	19 33 45.5	**+1.6**
EVR	**Evrytania**	**4.37**	**342**	*e*P	**Pn**	19 33 46.9	**+2.8**
EVR	**Evrytania**	**4.37**	**342**	*e*P	**Pn**	19 33 46.9	**+2.8**
SKIA	**Skiathos**	**4.38**	**359**	*e*P	**Pn**	19 33 45.1	**+0.8**
SKIA	**Skiathos**	**4.38**	**359**	*e*P	**Pn**	19 33 45.1	**+0.8**
TURN	**Turunc**	**4.61**	**62**	*i*P	**Pn**	19 33 44.5	**-2.8**
TURN				*i*S	Sn	19 34 27.6	-12
TURN	**Turunc**	**4.61**	**62**	*i*P	**Pn**	19 33 44.5	**-2.8**
AKAS	**Kas**	**5.15**	**72**	*i*P	**Pn**	19 33 55.8	**+0.9**
AKAS				*i*S	**Sn**	19 34 51.7	**-1.4**
AKAS	**Kas**	**5.15**	**72**	*i*P	**Pn**	19 33 55.8	**+0.9**
AKAS				*i*S	**Sn**	19 34 51.7	**-1.4**
GOLH	**Golhisar**	**5.46**	**61**	*i*P	**Pn**	19 34 00.1	**+1.0**
GOLH				*i*S	Sn	19 34 52.0	-8.7
GOLH	**Golhisar**	**5.46**	**61**	*i*P	**Pn**	19 34 00.1	**+1.0**
NEST	**Nestorio**	**5.97**	**341**	*e*P	**Pn**	19 34 07.2	**+1.0**
NEST	**Nestorio**	**5.97**	**341**	*e*P	**Pn**	19 34 07.2	**+1.0**
BRTR	**Keskin Array B**	**9.44**	**55**	Pn	**Pn**	19 34 53.0	**-0.7**
	0.1nm,0.3s,baz=230,slow=15,SNR=2.7						
MMAI	**Mount Meron Ar**	**10.01**	**97**	Pn	**Pn**	19 35 00.4	**-1.1**
	1.8nm,0.3s,baz=278,slow=12,SNR=8.6						
MMAI				Sn	Sn	19 36 44.9	-7.5
	1.8nm,0.3s,baz=261,slow=24,SNR=5.5						
EIL	**Elat**	**10.91**	**115**	Pn	**Pn**	19 35 12.3	**-1.5**
	0.7nm,0.3s,baz=67,slow=18,SNR=15						
EIL				Sn	Sn	19 37 05.5	-9.0
	0.9nm,0.3s,baz=90,slow=19,SNR=6.8						
GERES	**GERESS Array B**	**15.84**	**336**	Pn	**Pn**	19 36 20.7	**+0.6**
	0.0nm,0.3s,baz=164,slow=14,SNR=3.0						
KBZ	**Khabaz**	**17.42**	**53**	P	**P**	19 36 42.4	**+1.8**
	0.1nm,0.3s,baz=220,slow=7.9,SNR=2.9						
HFS	**Hagfors**	**26.18**	**349**	P	**P**	19 38 09.2	**-0.9**
	1.0nm,0.4s,baz=158,slow=12,SNR=7.0						
FINES	**FINESS Array B**	**26.74**	**3**	P	**P**	19 38 14.3	**-0.9**
	2.6nm,0.9s,baz=176,slow=9.8,SNR=2.8						
NOA	**NORSAR Array B**	**27.46**	**347**	P	**P**	19 38 20.9	**-0.8**
	0.3nm,0.7s,baz=152,slow=9.5,SNR=3.1						
EKA	**Eskdalemuir Ar**	**27.61**	**326**	P	**P**	19 38 22.9	**-0.2**
	0.4nm,0.4s,baz=125,slow=8.7,SNR=5.4						
TORD	**Torodi Ar. Bea**	**29.24**	**228**	P	**P**	19 38 36.3	**-1.6**
	0.1nm,0.3s,baz=33,slow=8.9,SNR=4.2						
ARCES	**ARCESS Array B**	**34.83**	**1**	P	**P**	19 39 25.4	**-1.0**
	2.0nm,0.8s,baz=167,slow=7.5,SNR=5.5						
MKAR	**Makanchi Array**	**45.09**	**56**	P	**P**	19 40 52.4	**+0.6**
	0.3nm,0.3s,baz=271,slow=7.8,SNR=17						
ZALV	**Zalesovo Beam**	**46.22**	**46**	P	**P**	19 41 00.4	**-0.2**
	0.8nm,0.4s,baz=270,slow=9.3,SNR=3.5						

ISCJB ***23*** *19:41:49.4±0.9,26˚.60N±0˚.07×108˚.78E±0˚.05, h10km, mb4.0/7, MS2.9/1, Error ellipse: s-maj=10.2km s-min=6.7km az=163.5*
IDC ***23*** *19:41:49.5±4.8,26˚.54N×108˚.83E, h0km, mb4.0/7, mb1 4.0/8,mb1mx3.7/27, mbtmp4.0/8, ML3.6/1, MS3.0/1, Ms1 3.0/1,ms1mx2.5/35, Error ellipse: s-maj=95.8km s-min=31.2km az=179.0*
BJI ***23*** *19:41:51.0,26˚.56N×108˚.81E, h8km, mb3.9/4, ML3.6/12, Ms3.8/2, Ms7 3.6/2*

ISC 23 19:41:50.5±1.3, 26˚.5N±0˚.1×108˚.83E±0˚.0, h10km, n15, σ2§16/21, mb4.0/7, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA	**Guiyang**	**1.94**	**270**	Pg	**Pb**	19 42 26.1	**0.0**
GYA				Sg	**Sg**	19 42 51.9	**-1.1**
GYA				SMN			
	comp=Z,350nm,0.6s						
GYA				SME			
	comp=Z,220nm,0.7s						
KMI	**Kunming**	**5.65**	**258**	Pn	Pn	19 43 18.1	+3.3
KMI				SMN			
	comp=Z,17nm,0.9s						
KMI				SME			
	comp=Z,20nm,0.9s						
CD2	**Chengdu**	**6.27**	**316**	Pn	**Pn**	19 43 24.3	**+1.1**
CD2				Sn	**Sn**	19 44 34.6	**-0.4**
CD2				SMN			
	80nm,0.6s						
CD2				SME			
	110nm,0.7s						
LZH	**Lanzhou**	**10.48**	**337**	*e*P	**Pn**	19 44 22.8	**+1.7**
LZH				pP		19 44 26.3	
LZH				sP		19 44 28.9	
LZH				*e*S	**Sn**	19 46 18.6	**-0.1**
LZH				SS	**SnSn**	19 46 38.1	**+7.2**
LZH				LR	LR		
	comp=N,460nm,10.4s						
LZH				LR	LR		
	comp=E,550nm,11.6s						
LZH				LR	LR		
	comp=Z,630nm,10.6s						
HHC	**Hu-ho-hao-te**	**14.52**	**8**	*e*P	**Pn**	19 45 14.1	**-2.0**
GTA	**Gaotai**	**14.94**	**332**	*e*P	**Pn**	19 45 20.0	**-2.0**
GTA				pP	**P**	19 45 29.0	**+1.4**
GTA				sP		19 45 33.3	
GTA				S	**Sn**	19 48 04.1	**-3.5**
GTA				sS	S	19 48 16.3	-9.4
GTA				SS	**SnSn**	19 48 20.9	**+0.4**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s						
GTA				LR	LR		
	comp=N,99nm,12.8s						
GTA				LR	LR		
	comp=E,130nm,12.6s						
GTA				LR	LR		
	comp=Z,100nm,13.8s						
LSA	**Lhasa**	**15.93**	**286**	P	**Pn**	19 45 34.3	**-1.0**
KSRS	**Korea Array**	**19.51**	**51**	P	**P**	19 46 17.9	**0.0**
	0.2nm,0.3s,baz=242,slow=10.0,SNR=4.9						
SONM	**Songino Array**	**21.41**	**356**	P	**P**	19 46 39.0	**+0.4**
	3.6nm,0.8s,baz=170,slow=11,SNR=20						
USRK	**Ussuriysk Arra**	**25.74**	**41**	P	**P**	19 47 20.7	**-0.4**
	1.8nm,0.7s,baz=232,slow=7.1,SNR=6.1						
MKAR	**Makanchi Array**	**29.18**	**321**	P	**P**	19 47 51.6	**-0.4**
	0.5nm,0.9s,baz=108,slow=12,SNR=2.8						
MKAR				LR	LR	20 01 13.3	
	comp=Z,32nm,19.3s,baz=358,slow=40						
ZALV	**Zalesovo Beam**	**32.69**	**334**	P	**P**	19 48 22.0	**-0.9**
	2.3nm,0.9s,baz=140,slow=9.1,SNR=7.3						
KURBB	**Kurchatov Arra**	**33.41**	**324**	P	**P**	19 48 29.5	**+0.3**
	1.9nm,0.2s,baz=126,slow=9.0,SNR=5.1						
ARCES	**ARCESS Array B**	**63.15**	**337**	P	**P**	19 52 18.9	**+0.7**
	3.3nm,0.9s,baz=84,slow=8.5,SNR=4.4						
NOA	**NORSAR Array B**	**70.76**	**329**	P	**P**	19 53 07.5	**+0.7**
	1.0nm,0.8s,baz=60,slow=8.9,SNR=3.5						

IDC 23 19:54:54.1±36.0, 36˚.72S×46˚.19E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/22, mbtmp3.8/3, MS3.5/1, Ms1 3.5/1, ms1mx2.7/31, Error ellipse: s-maj=934.1km s-min=296.6km az=110.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**37.55**	**46**	T	T	20 41 04.5	
	baz=214						
H08S2	**Diego Garcia H**	**37.56**	**46**	T	T	20 41 00.6	
	baz=214						
H08S3	**Diego Garcia H**	**37.57**	**46**	T	T	20 41 07.5	
	baz=214						
H08N3	**Diego Garcia H**	**37.78**	**43**	T	T	20 38 32.0	
	baz=328,slow=0.7,SNR=28						
H08N1	**Diego Carcia H**	**37.80**	**43**	T	T	20 38 32.6	
	baz=328,slow=0.7,SNR=32						
H08N2	**Diego Garcia H**	**37.80**	**43**	T	T	20 38 31.5	
	baz=328,slow=0.7,SNR=27						
QSPA	**South Pole Qui**	**53.48**	**180**	LR	LR	20 23 43.7	
	comp=Z,49nm,21.8s,baz=277,slow=32						
H01W2	**Cape Leeuwin H**	**54.05**	**110**	T	T	20 59 16.3	
	baz=247,slow=0.7,SNR=4.8						
H01W3	**Cape Leeuwin H**	**54.06**	**110**	T	T	20 59 21.3	
	baz=247,slow=0.7,SNR=4.7						
H01W1	**Cape Leeuwin H**	**54.07**	**110**	T	T	20 59 19.5	
	baz=247,slow=0.7,SNR=5.9						
ASAR	**Alice Springs**	**74.51**	**108**	P	P	20 06 34.5	**-0.3**
	0.3nm,0.5s,baz=228,slow=5.9,SNR=7.0						
STKA	**Stephens Creek**	**75.61**	**119**	P	P	20 06 41.3	**+0.3**
	1.3nm,0.6s,baz=207,slow=4.5,SNR=3.8						
WRA	**Warramunga Arr**	**76.92**	**105**	P	P	20 06 48.8	**+0.2**
	0.9nm,0.9s,baz=231,slow=4.6,SNR=5.0						

BGS ***23*** *19:59:53.6±2.0,52˚.53N×165˚.02E, h33km, mb5.1*
MOS ***23*** *20:00:03.7±0.9,54˚.82N×162˚.31E, h13km, mb5.4/129, MS4.8/46, Error ellipse: s-maj=6.5km s-min=3.6km az=90.3*
IDC ***23*** *20:00:03.6±0.4,54˚.84N×162˚.26E, h0km, mb4.9/35, mb1 5.1/37, mb1mx5.1/38, mbtmp4.9/37, ML4.3/2, MS4.7/28, Ms1 4.7/28, ms1mx4.6/42, Error ellipse: s-maj=13.0km s-min=9.1km az=132.0*
KRSC ***23*** *20:00:03.2±4.5,54˚.72N×162˚.65E, h10km±10km, ML5.2*
GCMT ***23*** *20:00:08.4±0.2,54˚.63N×162˚.44E, h34km±1km, MW5.1, Moment Tensor Solution. s52,c74; s80,c137; Moment tensor: Scale 10^{16}Nm; M_{rr}-1.66±.20; $M_{\theta\theta}$0.90±.15; $M_{\phi\phi}$0.75±.13; $M_{r\theta}$-0.48±.17; $M_{\theta\phi}$-3.70±.11; $M_{r\phi}$3.58±.20; Best double couple: $M_0$5.30000×10^{16} NP1:ϕ_s171.00000°, δ79.00000°,λ-49.00000°. NP2:ϕ_s274.00000°,δ42.00000°, λ-163.00000°. Principal axes: T 5.7200, Plg23.0000°, Azm231.0000°; N -0.8000, Plg40.0000°, Azm341.0000°; P -4.9200, Plg42.0000°, Azm119.0000°; Data Used: II IU IC G CN.*
ISCJB ***23*** *20:00:08.2±0.3,54˚.82N±0˚.02×162˚.32E±0˚.02, h45km±2km, mb5.2/339, MS5.0/69 Error ellipse: s-maj=3.0km s-min=1.8km az=163.6*
NEIC ***23*** *20:00:09.8±0.1,54˚.87N×162˚.22E, h45km, mb5.3/182, Error ellipse: s-maj=4.6km s-min=2.4km az=165.0*
BJI ***23*** *20:00:09.0,55˚.01N×161˚.62E, h45km, mB5.1/39, mb4.9/47, Ms5.3/52, Ms7 5.1/51*
SZGRF ***23*** *20:00:13.5,56˚.00N×162˚.75E, h29km, mb5.3, Near east coast of Kamchatka Peninsula, Russia*
DJA ***23*** *20:00:23.7±4.5,55˚.N±9˚×16˚2E±1˚9, h155km±37km, M5.1/15, mB5.6/6, mb5.1/15, Mw(mB)5.1/6*

ISC 23 20:00:08.0±0.3, 54˚.86N±0˚.03×162˚.30E±0˚.03, h31km±1km, h30km:pP-P, n1332, σ1§25/1439, mb5.3/339, MS5.0/69, 263C-228D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.45**	**228**	PN	Pb	20 00 14.7	-3.0
MKZ	**Mys Kozlova**	**0.45**	**228**	P	Pb	20 00 14.7	-3.0
TUMR	**Tumrok**	**1.31**	**290**	*i* P	**Pb**	20 00 31.7	**-0.4**
KBTR	**Krutoberegovo**	**1.38**	**12**	PN	**Pn**	20 00 31.6	**+0.4**
KBTR	**Krutoberegovo**	**1.38**	**12**	*i* P	**Pn**	20 00 31.6	**+0.4**
BZGR	**Bezymyannyi-Gr**	**1.42**	**320**	*i* P	**Pb**	20 00 33.4	**-0.5**
ZLN	**Zelenaya**	**1.44**	**324**	*i* P	**Pb**	20 00 33.9	**-0.

SKR				pmax	pmax		
	comp=E,90nm,0.5s						
SKR				pmax	pmax		
	comp=N,2µm,2.0s						
SKR				pmax	pmax		
	comp=E,2µm,2.0s						
SKR				pmax	pmax		
	comp=Z,3µm,2.0s						
SKR				MLR	MLR		
	comp=N,7µm,20.0s						
SKR				MLR	MLR		
	comp=E,6µm,20.0s						
SKR				MLR	MLR		
	comp=Z,7µm,20.0s						
SKR	**Severo-Kuril's**	**5.62**	**224**	*i* P	**Pn**	**20 01 30.3**	**+0.9**
SKR				*i* S	**Sn**	**20 02 33.9**	**+1.1**
FX1	**Attu Island--F**	**6.72**	**103**	*e*Pn	Pn	20 01 40.0	-4.6
FX1				*e*Sn	Sn	20 02 49.6	-10
FX1				Sn	Sn	20 02 51.0	-9.0
FX1	**Attu Island--F**	**6.72**	**103**	Pn	Pn	20 01 40.4	-4.1
	comp=Z,52nm,0.3s,baz=323,slow=6.6,SNR=175						
FX1				Sn	Sn	20 02 51.0	-9.0
	comp=Z,150nm,0.3s,baz=19,slow=22,SNR=17						
FX1				LR	LR	20 04 11.6	
	comp=Z,9µm,20.9s,baz=162,slow=37						
KUR	**Kuril'sk**	**13.35**	**230**	*e*PN	Pn	20 03 12.0	-3.2
YSS	**Yuzh-Sakhalins**	**14.62**	**245**α	*i* P	**Pn**	**20 03 34.0**	**+1.6**
YSS				*e*S	**Sn**	**20 06 18.5**	**+5.3**
YSS				pmax	pmax		
	comp=N,120nm,1.2s						
YSS				pmax	pmax		
	comp=E,160nm,1.2s						
YSS				pmax	pmax		
	comp=Z,140nm,1.2s						
YSS				MLR	MLR		
	comp=Z,7µm,16.0s						
YUK	**Yuzh-Kuril'sk**	**15.18**	**231**	*i* P	**Pn**	**20 03 37.4**	**-2.6**
YUK				pmax	pmax		
	comp=E,28nm,0.5s						
YUK				pmax	pmax		
	comp=N,46nm,0.5s						
YUK				pmax	pmax		
	comp=Z,94nm,0.5s						
YUK				pmax	pmax		
	comp=Z,427nm,2.0s						
YUK				MLR	MLR		
	comp=N,300nm,16.0s						
YUK				MLR	MLR		
	comp=E,2µm,16.0s						
YUK				MLR	MLR		
	comp=Z,3µm,16.0s						
ASAJ	**Asahikawa**	**16.66**	**238**	*e*Pn	**Pn**	**20 03 57.7**	**-1.3**
	comp=Z,138nm,1.1s						
ASAJ	**Asahikawa**	**16.66**	**238**	Pn	**Pn**	**20 03 58.4**	**-0.6**
	comp=Z,1.5nm,0.3s,baz=26,slow=6.7,SNR=44						
ASAJ				LR	LR	20 10 20.2	
	comp=Z,2µm,19.5s,baz=54,slow=37						
HABR	**Khabarovsk**	**18.00**	**260***c*	*i* P	**Pn**	**20 04 15.0**	**-0.6**
HABR				pmax	pmax		
	comp=Z,263nm,1.1s						
UNV	**Unalaska Valle**	**18.14**	**80**	*e*Pn	**Pn**	**20 04 16.7**	**-0.5**
	comp=Z,90nm,0.9s						
YAK	**Yakutsk**	**18.35**	**306***c*	*i* P	**Pn**	**20 04 20.0**	**+0.2**
YAK				*e*S	**S**	**20 07 48.4**	**+0.9**
YAK				pmax	pmax		
	comp=Z,56nm,0.9s						
YAK				pmax	pmax		
	comp=E,43nm,1.2s						
YAK				pmax	pmax		
	comp=N,18nm,1.3s						
YAK				smax	smax		
	comp=N,188nm,1.5s						
YAK				smax	smax		
	comp=E,123nm,1.5s						
YAK				MLR	MLR		
	comp=Z,3µm,13.0s						
YAK				MLR	MLR		
	comp=E,3µm,13.0s						
YAK				MLR	MLR		
	comp=N,1µm,12.0s						
AKUT	**Akutan**	**18.48**	**79**	*e*P	**P**	**20 04 21.2**	**+0.1**
	comp=N,336nm,1.2s						
KLR	**Kul'dur**	**19.52**	**266**	*e*P	**P**	**20 04 29.0**	**-3.6**
KLR				*e*S	**S**	**20 08 09.0**	**-2.1**
KLR				pmax	pmax		
	comp=E,120nm,1.6s						
KLR				pmax	pmax		
	comp=Z,240nm,1.6s						
KLR				MLR	MLR		
	comp=Z,12µm,12.0s						
CHGN	**Chignik**	**22.05**	**70**	*e*P	**P**	**20 04 59.6**	**-0.2**
TIXI	**Tiksi**	**22.07**	**332**⇑	*i* P	**P**	**20 05 00.8**	**+0.9**
TIXI				pmax	pmax		
	comp=Z,55nm,1.2s						
USRK	**Ussuriysk Arra**	**22.20**	**254**	P	**P**	**20 05 00.1**	**-1.5**
	comp=Z,15nm,1.0s,baz=53,slow=8.6,SNR=11						
USRK				LR	LR	20 14 26.1	
	comp=Z,3µm,18.4s,baz=45,slow=39						
MDJ	**Mudanjiang**	**23.29**	**257**	P	**P**	**20 05 09.4**	**-3.5**
MDJ				pP	**pP**	**20 05 19.8**	**-1.5**
MDJ				sP	**sP**	**20 05 25.1**	**-0.1**
MDJ				S	**S**	**20 09 16.6**	**-6.5**
MDJ				sS	**sS**	**20 09 34.3**	**-3.4**
MDJ				ScP	**ScP**	**20 12 33.8**	**-1.0**
MDJ				PcS	**PcS**	**20 12 38.5**	**0.0**
MDJ				AMB	AMB		
	comp=Z,21nm,1.7s						
MDJ				AMB	AMB		
	comp=Z,61nm,5.9s						
MDJ				LR	LR		
	comp=N,2µm,15.4s						
MDJ				LR	LR		
	comp=E,3µm,19.1s						
MDJ				LR	LR		
	comp=Z,4µm,17.1s						
MDJ	**Mudanjiang**	**23.29**	**257**	P	P	20 05 06.8	-6.1
MDJ				S	S	20 09 14.1	-9.0
MDJ				sS	sS	20 09 27.9	-10
MDJ				ScP	**ScP**	**20 12 33.8**	**-1.0**
MDJ				PcS	**PcS**	**20 12 37.3**	**-1.2**
MDJ				AMB	AMB		
	comp=Z,39nm,2.9s						
MDJ				LR	LR		
	comp=Z,2µm,14.7s						
MDJ				LR	LR		
	comp=Z,2µm,19.5s						
MDJ				LR	LR		
	comp=Z,4µm,17.0s						
MDJ	**Mudanjiang**	**23.29**	**257**	*e*P	**P**	**20 05 09.9**	**-3.0**
	comp=Z,42nm,1.3s						
IM04	**Indian Mountai**	**23.80**	**45**	*e*P	**P**	**20 05 17.3**	**-0.5**
IMA2	**Indian Mountai**	**23.85**	**44**	*e*P	**P**	**20 05 17.9**	**-0.4**
RSO	**Redoubt South**	**24.29**	**58**	*e*P	**P**	**20 05 22.3**	**-0.2**
	comp=Z,315nm,0.9s						
PPLA	**Purkeypile**	**24.37**	**52**	*e*P	**P**	**20 05 23.9**	**+0.8**
	comp=Z,593nm,1.4s						
OHAK	**Old Harbor**	**24.59**	**66**	*e*P	**P**	**20 05 21.8**	**-3.2**
	comp=Z,343nm,1.4s						
MAJO	**Matsushiro**	**24.67**	**232**⇑	*i* P	**P**	**20 05 26.0**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,440nm,1.3s						
MAJO	**Matsushiro**	**24.67**	**232**⇑	*i* P	**P**	**20 05 26.0**	**+0.1**
	comp=Z,440nm,1.3s						
MAT	**Matsushiro**	**24.67**	**232**	P	**P**	**20 05 26.0**	**+0.1**
MAT				*e*S	**S**	**20 09 46.0**	**+0.6**
MJAR	**Matsushiro Arr**	**24.67**	**232**	P	**P**	**20 05 26.3**	**+0.3**
MJAR	**Matsushiro Arr**	**24.67**	**232**	P	**P**	**20 05 26.3**	**+0.3**
	comp=Z,63nm,0.9s,baz=29,slow=6.7,SNR=93						
MJAR				LR	LR	20 15 24.6	
	comp=Z,1µm,21.2s,baz=30,slow=37						
KDAK	**Kodiak Island**	**24.83**	**65**	*e*P	**P**	**20 05 26.0**	**-1.1**
	comp=Z,169nm,1.1s						
KDAK	**Kodiak Island**	**24.83**	**65**	P	**P**	**20 05 26.9**	**-0.3**
	comp=Z,776nm,0.9s,SNR=7.3						
BPAW	**Bear Paw Mtn.**	**24.89**	**49**	*e*P	**P**	**20 05 27.1**	**-0.6**
	comp=Z,238nm,1.1s						
TRF	**Thorofare Moun**	**25.21**	**51**	*e*P	**P**	**20 05 31.1**	**+0.3**
	comp=Z,249nm,1.0s						
COLD	**Coldfoot**	**25.36**	**42**	*e*P	**P**	**20 05 31.8**	**-0.1**
	comp=Z,95nm,0.9s						
MCK	**McKinley**	**25.80**	**50**	*e*P	**P**	**20 05 35.4**	**-0.6**
MCK				pmax	pmax		
	comp=Z,144nm,1.2s						
MCK	**McKinley**	**25.80**	**50**	*e*P	**P**	**20 05 35.4**	**-0.6**
	comp=Z,144nm,1.2s						
PMR	**Palmer**	**25.90**	**55**	*e*P	**P**	**20 05 36.6**	**-0.2**
PMR				pmax	pmax		
	comp=Z,48nm,1.1s						
PMR	**Palmer**	**25.90**	**55**	*e*P	**P**	**20 05 36.6**	**-0.2**
	comp=Z,48nm,1.1s						
SEW	**Seward**	**25.97**	**59**	*e*P	**P**	**20 05 36.0**	**-1.5**
	comp=Z,186nm,1.0s						
CN2	**Changchun**	**26.14**	**260**	*e*P	**P**	**20 05 38.4**	**-0.8**
CN2				*e*pP	**pP**	**20 05 50.1**	**+2.1**
CN2				*e*sP	**sP**	**20 05 55.6**	**+3.9**
CN2				PcP	**PcP**	**20 09 05.3**	**-0.4**
CN2				*e*S	**S**	**20 10 04.4**	**-4.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,4µm,15.0s						
CN2				LR	LR		
	comp=Z,2µm,15.0s						
CN2				LR	LR		
	comp=Z,5µm,15.0s						
COLA	**College**	**26.23**	**48**	*e*P	**P**	**20 05 39.8**	**0.0**
COLA				pmax	pmax		
	comp=Z,256nm,1.0s						
COLA	**College**	**26.23**	**48**	*e*P	**P**	**20 05 39.8**	**0.0**
	comp=Z,256nm,1.0s						
HIA	**Hailar**	**26.43**	**276**	P	**P**	**20 05 41.0**	**-0.9**
ILAR	**Eielson Array**	**26.65**	**48**	P	**P**	**20 05 43.1**	**-0.5**
ILAR	**Eielson Array**	**26.65**	**48**	P	**P**	**20 05 43.1**	**-0.5**
	comp=Z,25nm,0.8s,baz=274,slow=7.8,SNR=136						
ILAR				LR	LR	20 17 03.8	
	comp=Z,2µm,18.2s,baz=267,slow=38						
DOT	**Dot Lake**	**27.98**	**50**	*e*P	**P**	**20 05 54.5**	**-1.0**
	comp=Z,49nm,1.1s						
BMRM	**Bremner River**	**28.16**	**56**	*e*P	**P**	**20 05 57.4**	**+0.1**
	comp=Z,152nm,1.3s						
MENT	**Mentasta**	**28.23**	**51**	*e*P	**P**	**20 05 56.8**	**-0.9**
SNY	**Shenyang**	**28.45**	**259**	⇑P	**P**	**20 05 58.5**	**-1.4**
SNY				AMB	AMB		
	comp=Z,160nm,4.7s						
SNY				LR	LR		
	comp=Z,1µm,17.4s						
SNY				LR	LR		
	comp=Z,1µm,18.6s						
SNY				LR	LR		
	comp=Z,4µm,15.7s						
EGAK	**Eagle**	**29.09**	**47**	*e*P	**P**	**20 06 04.4**	**-1.0**
	comp=Z,29nm,0.8s						
KSRS	**Korea Array**	**29.10**	**248**	P	**P**	**20 06 06.3**	**+0.7**
	comp=Z,7.4nm,0.8s,baz=42,slow=9.7,SNR=24						
KSRS				PcP	**PcP**	**20 09 14.3**	**+1.4**
	comp=Z,1.8nm,0.8s,baz=4.6,slow=2.7,SNR=5.1						
KSRS				LR	LR	20 17 31.4	
	comp=Z,1µm,20.2s,baz=63,slow=36						
KSAR	**Wonju Array Be**	**29.12**	**248**	P	**P**	**20 06 06.3**	**+0.4**
KSAR				PcP	**PcP**	**20 09 14.3**	**+1.3**
DAWY	**Dawson**	**29.96**	**49**	*e*P	**P**	**20 06 12.4**	**-0.8**
JNU	**Nakatsue**	**30.93**	**238**	P	**P**	**20 06 22.8**	**+0.8**
JNU	**Nakatsue**	**30.93**	**238**	P	**P**	**20 06 22.8**	**+0.8**
	comp=Z,76nm,1.1s,baz=43,slow=7.9						
JNU				LR	LR	20 17 33.6	
	comp=Z,660nm,21.3s,baz=47,slow=34						
CBIJ	**Chichi jima**	**31.39**	**216**	*e*P	**P**	**20 06 26.9**	**+0.8**
	comp=Z,135nm,1.1s						
JCJ	**Chichijima**	**31.39**	**216**	P	**P**	**20 06 26.8**	**+0.8**
	comp=Z,249nm,1.0s,baz=69,slow=6.8,SNR=6.9						
HYT	**Haines Junctio**	**31.56**	**54**	*e*P	**P**	**20 06 27.7**	**+0.3**
INK	**Inuvik**	**31.67**	**40**	*e*P	**P**	**20 06 28.4**	**+0.4**
	comp=Z,118nm,1.6s						
INK	**Inuvik**	**31.67**	**40**	P	**P**	**20 06 28.5**	**+0.4**
	comp=Z,5.8nm,0.7s,baz=266,slow=11,SNR=8.4						
SKAG	**Skagway**	**33.02**	**56**	*e*P	**P**	**20 06 41.4**	**+1.4**
	comp=Z,42nm,1.0s						
BJI	**Beijing**	**33.85**	**263**	P	P	20 06 39.8	-7.7
BJI				PP	**PnPn**	**20 07 57.4**	**-3.0**
BJI				S	**S**	**20 12 12.9**	**+3.4**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.8s						
BJI				LR	LR		
	comp=N,2µm,15.5s						
BJI				LR	LR		
	comp=E,6µm,15.5s						
BJI				LR	LR		
	comp=Z,3µm,18.8s						
TLY	**Talaya**	**34.34**	**289**	*e*P	**P**	**20 06 51.8**	**+0.2**
TLY				*e*		20 08 04.1	
TLY				*e*S	**S**	**20 12 14.6**	**-2.3**
TLY				pmax	pmax		
	comp=Z,9.0nm,0.9s						
TLY				MLR	MLR		
	comp=Z,3µm,17.0s						
ULN	**Ulaanbaatar**	**34.40**	**282**	P	**P**	**20 06 54.1**	**+1.8**
	comp=Z,7.3nm,1.2s						
ULN	**Ulaanbaatar**	**34.40**	**282**	*e*P	**P**	**20 06 50.6**	**-1.8**
	comp=Z,5.8nm,1.1s						
SONM	**Songino Array**	**34.79**	**282**	P	**P**	**20 06 55.4**	**-0.3**
SONM				PcP	**PcP**	**20 09 29.1**	**+0.6**
SONM				ScP	**ScP**	**20 13 15.0**	**+3.8**
SONM	**Songino Array**	**34.79**	**282**	P	**P**	**20 06 55.4**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=56,slow=7.2,SNR=7.4						
SONM				PcP	**PcP**	**20 09 29.1**	**+0.6**
	comp=Z,5.1nm,0.8s,baz=77,slow=1.5,SNR=9.1						
SONM				ScP	**ScP**	**20 13 15.0**	**+3.8**
	comp=Z,2.2nm,1.1s,baz=73,slow=2.0,SNR=5.0						
SONM				LR	LR	20 22 42.3	
	comp=Z,2µm,18.6s,baz=57,slow=39						
ZAK	**Zakamensk**	**35.18**	**288**	*e*P	**P**	**20 06 58.0**	**-1.0**
ZAK				*e*		20 08 24.7	
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**35.24**	**172**	T	T	20 44 21.9	
	baz=358,slow=0.7,SNR=991						
H11N3	**WAKE ISLAND Hy**	**35.26**	**172**	T	T	20 44 16.8	
	baz=358,slow=0.7,SNR=821						
H11N1	**WAKE ISLAND Hy**	**35.26**	**172**	T	T	20 44 17.1	
	baz=358,slow=0.7,SNR=784						
DLBC	**Dease Lake**	**35.95**	**56**	*e*P	**P**	**20 07 07.4**	**+1.9**
H11S1	**WAKE ISLAND Hy**	**36.44**	**173**	T	T	20 45 51.3	
	baz=357,slow=0.2,SNR=15						
H11S3	**WAKE ISLAND Hy**	**36.45**	**173**	T	T	20 46 09.9	
	baz=357,slow=0.2,SNR=20						
H11S2	**WAKE ISLAND Hy**	**36.46**	**173**	T	T	20 46 11.3	
	baz=357,slow=0.2,SNR=16						
SSE	**Sheshan**	**37.54**	**248**	P	**P**	**20 07 19.6**	**+0.5**
SSE				S	**S**	**20 13 05.8**	**-0.3**
SSE				AMB	AMB		
	comp=Z,46nm,1.0s						
SSE				AMB	AMB		
	comp=Z,300nm,6.2s						
SSE				LR	LR		
	comp=Z,1µm,18.8s						
SSE				LR	LR		
	comp=Z,710nm,18.8s						
SSE				LR	LR		
	comp=Z,1µm,14.6s						
NJ2	**Nanjing**	**38.06**	**251**	*e*P	**P**	**20 07 23.4**	**-0.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
NJ2	**Nanjing**	**38.06**	**251**	*e*P	**P**	**20 07 20.8**	**-2.7**
NJ2				S	**S**	**20 13 11.0**	**-3.0**
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,650nm,4.1s						
NJ2				LR	LR		
	comp=Z,7µm,23.8s						
NJ2				LR	LR		
	comp=Z,2µm,22.5s						
NJ2				LR	LR		
	comp=Z,3µm,16.3s						
HVS	**Khovu-Aksy**	**39.96**	**294**⇑	*e*P	**P**	**20 07 40.8**	**+1.5**
HVS				pmax	pmax		
	comp=Z,96nm,1.4s						
YKA	**Yellowknife Ar**	**40.98**	**45**	P	**P**	**20 07 47.9**	**+0.4**
YKA	**Yellowknife Ar**	**40.98**	**45**	P	**P**	**20 07 47.9**	**+0.4**
	comp=Z,7.3nm,0.6s,baz=299,slow=8.1,SNR=13						
ALE	**Alert**	**40.99**	**8**	P	**P**	**20 07 48.7**	**+1.3**
	comp=Z,96nm,0.9s,SNR=7.7						
RES	**Resolute Bay**	**41.19**	**23**	*e*P	**P**	**20 07 49.6**	**+0.6**
	comp=Z,36nm,1.3s						
WHN	**Wuhan**	**41.70**	**254**	⇑P	**P**	**20 07 52.3**	**-1.5**
WHN				S	**S**	**20 14 13.0**	**+4.5**
WHN				LR	LR		
	comp=Z,3µm,7.3s						
WHN				LR	LR		
	comp=Z,4µm,15.8s						
WHN				LR	LR		
	comp=Z,5µm,13.4s						
XAN	**Xi'an**	**42.18**	**263**	P	**P**	**20 07 56.0**	**-1.8**
XAN				pP	**pP**	**20 08 07.3**	**+0.4**
XAN				S	S	20 14 09.6	-6.1
XAN				LR	LR		
	comp=Z,2µm,16.3s						
XAN				LR	LR		
	comp=Z,990nm,17.3s						
XAN				LR	LR		
	comp=Z,930nm,18.4s						
YHNB	**Yeheng**	**42.60**	**242**	P	**P**	**20 08 01.7**	**+0.5**
ZAA0	**Zalesovo Array**	**42.93**	**302**	*e*P	**P**	**20 08 00.8**	**-2.8**
ZAA0				*e*PP	**PcP**	**20 09 52.5**	**-1.1**
ZAA0				*e*ScP	**ScP**	**20 13 45.1**	**+2.9**
ZALV	**Zalesovo Beam**	**42.93**	**302**	P	**P**	**20 08 01.5**	**-2.0**
ZALV						20 09 52.8	
ZALV				MLR	MLR		
	comp=Z,3µm,18.4s						
ZALV	**Zalesovo Beam**	**42.93**	**302**	P	**P**	**20 08 01.5**	**-2.0**
ZALV				PcP	**PcP**	**20 09 52.8**	**-0.8**
ZALV				ScP	**ScP**	**20 13 45.6**	**+3.5**
ZALV	**Zalesovo Beam**	**42.93**	**302**	P	**P**	**20 08 01.5**	**-2.0**
	comp=Z,1.4nm,0.6s,baz=61,slow=7.0,SNR=7.3						
ZALV				PcP	**PcP**	**20 09 52.8**	**-0.8**
	comp=Z,14nm,1.1s,baz=45,slow=4.6,SNR=7.3						
ZALV				ScP	**ScP**	**20 13 45.6**	**+3.5**
	comp=Z,1.9nm,0.9s,baz=45,slow=6.5,SNR=4.8						
ZALV				LR	LR	20 27 39.7	
	comp=Z,3µm,18.4s,baz=68,slow=39						
NVS	**Novosibirsk**	**43.20**	**304**⇑	*i* P	**P**	**20 08 03.7**	**-2.0**
NVS				*i*		20 09 53.9	
NVS				*i* S	**S**	**20 14 28.2**	**-1.8**
NVS				*e*SS	**SnSn**	**20 18 01.0**	**+0.3**
NVS				pmax	pmax		
	comp=N,8.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,31nm,1.1s						
NVS				pmax	pmax		
	comp=E,17nm,1.2s						
NVS				smax	smax		
	comp=N,9.0nm,1.3s						
NVS				smax	smax		
	comp=E,57nm,2.4s						
SSLB	**Suanglung**	**43.55**	**241**	*e*P	**P**	**20 08 08.4**	**-0.5**
	comp=E,90nm,1.3s						
LZH	**Lanzhou**	**43.66**	**269**	P	**P**	**20 08 09.3**	**-0.5**
LZH				pP	**pP**	**20 08 22.3**	**+3.3**
LZH				*e*S	**S**	**20 14 31.8**	**-5.8**
LZH				SS	SS	20 17 42.1	-11
LZH				AMB	AMB		
	comp=E,43nm,1.2s						
LZH				AMB	AMB		
	comp=E,210nm,5.4s						
LZH				LR	LR		
	comp=E,4µm,12.2s						
LZH				LR	LR		
	comp=E,3µm,11.9s						
LZH				LR	LR		
	comp=E,5µm,13.8s						
YULB	**Yu-li**	**43.70**	**241**	*e*P	**P**	**20 08 10.1**	**+0.1**
	comp=E,30nm,0.6s						
GTA	**Gaotai**	**43.71**	**276**	⇓P	**P**	**20 08 09.3**	**-0.9**
GTA				pP	**pP**	**20 08 16.8**	**-2.5**
GTA				PcP	**PcP**	**20 09 58.3**	**+1.6**
GTA				S	**S**	**20 14 37.8**	**-0.4**
GTA				sS	**sS**	**20 14 50.3**	**-3.0**
GTA				AMB	AMB		
	comp=E,15nm,1.1s						
GTA				AMB	AMB		
	comp=E,41nm,5.5s						
GTA				LR	LR		
	comp=E,3µm,12.8s						
GTA				LR	LR		
	comp=E,4µm,14.7s						
GTA				LR	LR		
	comp=E,5µm,16.1s						
TPUB	**Ta-pu**	**44.11**	**241**	*e*P	**P**	**20 08 14.0**	**+0.6**
	comp=E,148nm,1.1s						
ENH	**Enshi**	**44.64**	**259**	*e*P	**P**	**20 08 15.2**	**-2.4**
	comp=E,12nm,0.8s						
KIP	**Kipapa**	**44.70**	**122**⇑	*i* P	**P**	**20 08 19.1**	**+1.1**
KIP				pmax	pmax		
	comp=Z,181nm,2.5s						
SPITS	**Spitsbergen Ar**	**45.60**	**351**	P	**P**	**20 08 24.9**	**+0.3**
SPITS	**Spitsbergen Ar**	**45.60**	**351**	P	**P**	**20 08 24.9**	**+0.3**
	comp=Z,31nm,0.7s,baz=58,slow=5.0,SNR=21						
EDM	**Edmonton**	**46.67**	**55**	*e*P	**P**	**20 08 33.9**	**+0.5**
EDM	**Edmonton**	**46.67**	**55**	*e*P	**P**	**20 08 33.9**	**+0.5**
CD2	**Chengdu**	**47.44**	**265**	P	**P**	**20 08 39.3**	**-0.4**
CD2				pP	**pP**	**20 08 51.6**	**+2.7**
CD2				PP	**PP**	**20 10 30.0**	**-1.0**
CD2				S	**S**	**20 15 28.5**	**-3.4**
CD2				sS	**sS**	**20 15 48.6**	**+1.5**
CD2				SS	SS	20 18 49.8	-10
CD2				AMB	AMB		
	comp=Z,30nm,1.1s						
CD2				AMB	AMB		
	comp=Z,200nm,4.1s						
CD2				LR	LR		
	comp=Z,2µm,14.9s						
CD2				LR	LR		
	comp=Z,2µm,17.8s						
WMQ	**Urumqi**	**47.62**	**289**	P	**P**	**20 08 40.3**	**-0.6**
WMQ				pP	**pP**	**20 08 52.8**	**+2.7**
WMQ				PcP	**PcP**	**20 10 09.9**	**-0.3**
WMQ				PP	**PP**	**20 10 31.5**	**-0.9**
WMQ				PcS	**PcS**	**20 14 07.6**	**+2.0**
WMQ				S	**S**	**20 15 31.5**	**-2.8**
WMQ				sS	**sS**	**20 15 46.1**	**-3.3**
WMQ				ScS	**ScS**	**20 18 27.3**	**-4.6**
WMQ				SS	SS	20 18 53.8	-8.2
WMQ				AMB	AMB		
	comp=Z,36nm,0.7s						
WMQ				AMB	AMB		
	comp=Z,200nm,3.6s						
WMQ				LR	LR		
	comp=Z,3µm,14.0s						
WMQ				LR	LR		
	comp=Z,2µm,14.0s						
WMQ				LR	LR		
	comp=Z,2µm,20.0s						
NEW	**Newport**	**47.91**	**63**	*e*P	**P**	**20 08 43.2**	**+0.1**
	comp=Z,7.3nm,0.8s						
NEW	**Newport**	**47.91**	**63**	⇑P	**P**	**20 08 43.4**	**+0.4**
	baz=48,SNR=5.5						
KURK	**Kurchatov**	**47.91**	**302**	P	**P**	**20 08 41.8**	**-1.2**
	comp=Z,200nm,0.8s,SNR=6.3						
BBOR	**Butler Butte**	**48.46**	**72**	P	**P**	**20 08 49.0**	**+1.4**
HUMO	**Hull Mountain**	**48.49**	**72**	*e*P	**P**	**20 08 48.7**	**+1.1**
	comp=Z,39nm,1.4s						
MK31	**Makanchi Array**	**48.57**	**296**	*i* P	**P**	**20 08 46.6**	**-1.6**
MK31				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MK31	**Makanchi Array**	**48.57**	**296**	*e*P	**P**	**20 08 45.3**	**-2.9**
MKAR	**Makanchi Array**	**48.57**	**296**	P	**P**	**20 08 46.7**	**-1.5**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,689nm,21.8s						
MKAR	**Makanchi Array**	**48.57**	**296**	P	**P**	**20 08 46.7**	**-1.5**
MKAR	**Makanchi Array**	**48.57**	**296**	P	**P**	**20 08 46.7**	**-1.5**
	comp=Z,5.4nm,0.7s,baz=50,slow=5.3,SNR=28						
MKAR				LR	LR	20 28 47.3	
	comp=Z,689nm,21.8s,baz=41,slow=36						
KTRM	**Thompson Ridge**	**48.73**	**73**	P	**P**	**20 08 51.1**	**+1.5**
WALA	**Waterton Lakes**	**49.02**	**60**	*e*P	**P**	**20 08 51.4**	**-0.4**
	comp=Z,1.3nm,1.2s						
BUOR	**Burton Butte**	**49.11**	**72**	P	**P**	**20 08 53.8**	**+1.2**
GYA	**Guiyang**	**49.15**	**258**	P	**P**	**20 08 55.3**	**+2.3**
GYA				pP	**pP**	**20 09 07.3**	**+5.1**
GYA				sP	sP	20 09 13.6	+7.8
GYA				PcP	**PcP**	**20 10 19.0**	**+3.0**
GYA				PP	**PP**	**20 10 48.3**	**+1.7**
GYA				ScP	**ScP**	**20 14 05.3**	**-3.3**
GYA				S	**S**	**20 15 53.8**	**-2.5**
GYA				sS	**sS**	**20 16 16.0**	**+4.5**
GYA	**Guiyang**	**49.15**	**258**	SS	SS	20 19 20.5	-7.0
GYA				AMB	AMB		
	comp=Z,20nm,1.0s						
GYA				AMB	AMB		
	comp=Z,130nm,5.3s						
GYA				LR	LR		
	comp=N,1µm,18.0s						
GYA				LR	LR		

GYA comp=E,2µm,18.4s LR LR
GYA comp=Z,2µm,18.9s
GYA Guiyang 49.15 258 P **P** **20 08 51.8 -1.2**
GYA PcP **PcP** **20 10 15.0 -1.0**
GYA PP **PP** **20 10 45.3 -1.3**
GYA ScP **ScP** **20 14 05.9 -2.7**
GYA S S 20 15 49.0 -7.3
GYA SS SS 20 19 16.8 -11
GYA AMB AMB
GYA comp=Z,20nm,1.0s AMB AMB
GYA comp=Z,130nm,5.3s LR LR
GYA comp=Z,2µm,18.7s LR LR
GYA comp=Z,2µm,18.7s LR LR
GYA comp=Z,3µm,18.0s
YBH Yreka Blue Hor 49.22 73 *e*P **P** **20 08 54.4 +1.1**
comp=Z,29nm,1.2s
BSMT Bassoo Peak 49.37 62 *e*P **P** **20 08 54.6 +0.1**
comp=Z,38nm,1.0s
BLMT Blacktail Moun 49.48 61 *e*P **P** **20 08 56.0 +0.6**
comp=Z,39nm,1.2s
JTMT Jette 49.70 62 *e*P **P** **20 08 57.1 +0.2**
comp=Z,32nm,1.0s
YBMT Yellow Bay 49.76 61 *e*P **P** **20 08 58.0 +0.6**
comp=Z,22nm,1.1s
SWMT Swartz Lake 50.00 62 *e*P **P** **20 08 59.2 0.0**
comp=Z,19nm,1.0s
BMO Blue Mountains 50.05 66 *e*P **P** **20 08 59.5 -0.1**
comp=Z,21nm,1.0s
WDC Whiskeytown Da 50.09 74 *e*P **P** **20 08 59.8 -0.1**
WDC pmax pmax
comp=Z,39nm,1.2s
WDC Whiskeytown Da 50.09 74 *e*P **P** **20 08 59.8 -0.1**
comp=Z,39nm,1.2s
LKVW Lakeview 50.17 71 P **P** **20 09 01.7 +1.1**
LTIM Timbered Crate 50.27 72 P **P** **20 09 02.8 +1.5**
BRVK Borovoye 50.34 308 ⇓*i*P **P** **20 09 01.1 -0.4**
BRVK pmax pmax
comp=Z,29nm,1.0s
BRVK Borovoye 50.34 308 P **P** **20 09 00.9 -0.7**
SNR=9.0
BRVK Borovoye 50.34 308 *e*P **P** **20 08 60.0 -1.6**
comp=Z,22nm,0.8s
BRVK Borovoye 50.34 308 P **P** **20 09 00.7 -0.8**
comp=Z,171nm,0.7s,SNR=13
MOD Modoc 50.42 71 *e*P **P** **20 09 03.1 +0.5**
comp=Z,215nm,1.1s
MOD *e*PcP **PcP** **20 10 19.6 -0.9**
SLMT Seeley Lake 50.43 62 *e*P **P** **20 09 02.3 -0.3**
comp=Z,35nm,1.0s
MSO Missoula 50.48 62 ⇑P **P** **20 09 03.1 +0.3**
baz=50,SNR=10
LBCM Butte Creek Ri 50.58 73 P **P** **20 09 04.8 +1.1**
CHMT Chamberlain Mo 50.77 62 *e*P **P** **20 09 04.8 -0.4**
comp=Z,11nm,0.9s
FFC Flin Flon 50.86 48 *e*P **P** **20 09 05.7 +0.2**
FFC pmax pmax
comp=Z,96nm,1.6s
FFC Flin Flon 50.86 48 *e*P **P** **20 09 05.7 +0.2**
comp=Z,96nm,1.6s
WVOR Wild Horse Val 50.97 69 *e*P **P** **20 09 07.0 +0.4**
WVOR pmax pmax
comp=Z,23nm,1.1s
WVOR Wild Horse Val 50.97 69 *e*P **P** **20 09 07.0 +0.4**
comp=Z,22nm,1.1s
FCC Fort Churchill 51.28 40 *e*P **P** **20 09 08.6 +0.1**
FCC Fort Churchill 51.28 40 *e*P **P** **20 09 08.6 +0.1**
comp=Z,1.7nm,1.0s
SOKR Solikamsk 51.40 321 *e*P **P** **20 09 09.3 -0.1**
SOKR pmax pmax
comp=Z,10.0nm,0.8s
SOKR MLR MLR
comp=Z,2µm,22.0s
KEV Kevo 51.55 342 *e*P **P** **20 09 11.0 +0.6**
KEV Kevo 51.55 342 *e*p **P** **20 09 11.0 +0.6**
comp=Z,0.7nm,0.4s
HRY Holter Researc 51.63 61 *e*P **P** **20 09 12.3 +0.8**
comp=Z,26nm,0.8s
A19A Klindworth Far 51.66 57 ⇓P **P** **20 09 11.5 -0.1**
baz=52
EGMT Eagleton 51.78 59 *e*P **P** **20 09 12.5 0.0**
comp=Z,75nm,1.6s
EGMT *e*PP **PP** **20 11 11.1 +1.1**
EGMT Eagleton 51.78 59 ⇑P **P** **20 09 12.7 +0.1**
baz=52,SNR=6.6
SVE Sverdlovsk 51.88 317 ⇑*e*P **P** **20 09 13.1 +0.1**
SVE pmax pmax
comp=Z,12nm,0.8s
SVE MLR MLR
comp=Z,2µm,19.0s
B19A Brinkman Farms 51.88 58 ⇑P **P** **20 09 13.6 +0.3**
baz=52,SNR=7.4
ARCES ARCESS Array B 52.01 342 P **P** **20 09 13.9 +0.1**
ARCES PcP **PcP** **20 10 26.6 +0.8**
ARCES ARCESS Array B 52.01 342 P **P** **20 09 13.9 +0.1**
comp=Z,6.3nm,0.9s,baz=43,slow=6.8,SNR=11
ARCES PcP **PcP** **20 10 26.5 +0.8**
comp=Z,1.9nm,0.6s,baz=27,slow=4.2,SNR=5.3
ARCES LR LR 20 35 32.1
comp=Z,427nm,18.4s,baz=273,slow=41
ARE0 ARCESS Array S 52.01 342 P **P** **20 09 13.9 0.0**
SUMG Summit 52.04 8 *e*P **P** **20 09 15.0 +0.5**
SUMG pmax pmax
comp=Z,39nm,1.1s
SUMG Summit 52.04 8 *i*P **P** **20 09 15.0 +0.5**
comp=Z,39nm,1.1s
SUMG Summit 52.04 8 *e*P **P** **20 09 14.8 +0.3**
comp=Z,63nm,1.1s
A20A Cobblestone Ra 52.09 57 ⇓P **P** **20 09 15.0 +0.1**
baz=52
APA Apatity 52.11 338 ⇑*i*P P 20 09 18.6 +4.0
APA MLR MLR
comp=Z,800nm,18.0s
C19A Slack Wire Ran 52.33 58 ⇓P **P** **20 09 17.2 +0.6**
baz=52,SNR=20
B20A Solberg Farm, 52.35 57 ⇓P **P** **20 09 16.8 +0.1**
baz=52
MCMT McKenzie Canyo 52.40 63 *e*P **P** **20 09 17.1 -0.3**
comp=Z,7.0nm,0.9s
KMI Kunming 52.41 261 P **P** **20 09 18.8 +1.1**
KMI pP **pP** **20 09 31.5 +4.5**
KMI PcP **PcP** **20 10 30.1 +1.9**
KMI PP **PP** **20 11 18.9 +2.5**
KMI S **S** **20 16 38.1 -3.6**
KMI ScS **ScS** **20 19 00.5 -4.9**
KMI AMB AMB
comp=Z,7.0nm,0.9s
KMI AMB AMB
comp=Z,110nm,3.9s
KMI LR LR
comp=Z,2µm,13.7s
KMI LR LR
comp=Z,1µm,11.1s
KMI LR LR
comp=Z,2µm,14.1s
PAHR Pah Rah Range 52.44 72 *e*P **P** **20 09 18.1 +0.4**
comp=Z,53nm,1.3s
HLID Hailey 52.45 66 *e*P **P** **20 09 18.4 +0.7**
comp=Z,11nm,0.9s
HLID Hailey 52.45 66 ⇑P **P** **20 09 18.3 +0.5**
baz=52
D19A Cripps Ranch, 52.80 59 ⇓P **P** **20 09 20.6 +0.4**
baz=53,SNR=19
B21A Ellsworth Farm 52.84 57 ⇑P **P** **20 09 20.7 +0.3**
baz=53
C20A Veseth Ranch, 52.85 58 ⇑P **P** **20 09 21.1 +0.7**
baz=53,SNR=8.5
ARU Arti 52.98 317 *c*/*i*P **P** **20 09 20.3 -0.9**
ARU 20 10 30.2
ARU PPP PPP 20 12 23.2
ARU S **S** **20 16 47.9 -0.4**
ARU pmax pmax
comp=Z,14nm,0.7s
ARU MLR MLR
comp=Z,1µm,19.0s
ARU Arti 52.98 317 P **P** **20 09 20.7 -0.5**
comp=Z,121nm,0.7s,SNR=12
A22A Carney Farms, 52.98 56 ⇓P **P** **20 09 22.0 +0.6**
baz=53,SNR=8.2
CMB Columbia Colle 53.06 75 *e*P **P** **20 09 22.7 +0.5**
CMB pmax pmax
comp=Z,32nm,1.4s
CMB Columbia Colle 53.06 75 *e*P **P** **20 09 22.7 +0.5**
comp=Z,32nm,1.4s
BMN Battle Mountai 53.12 70 *e*P **P** **20 09 23.9 +1.2**
BMN *e* 20 10 31.1
BMN pmax pmax
comp=Z,32nm,1.1s
BMN Battle Mountai 53.12 70 *e*P **P** **20 09 23.9 +1.2**
comp=Z,32nm,1.1s
BMN *e*PcP **PcP** **20 10 31.1 +0.5**
QLMT Earthquake Lak 53.12 63 *e*P **P** **20 09 23.4 +0.7**
comp=Z,6.5nm,1.2s
C21A Desert Coulee 53.22 57 ⇓P **P** **20 09 23.8 +0.6**
baz=53
D20A Manuel Ranch, 53.22 59 ⇓P **P** **20 09 24.1 +0.9**
baz=53,SNR=5.5
WAKR Walker 53.26 73 *e*P **P** **20 09 24.6 +0.9**
comp=Z,50nm,1.1s
QIZ Qiongzhong 53.29 249 P **P** **20 09 24.5 +0.5**
QIZ S **S** **20 16 52.8 -0.6**
QIZ LR LR
comp=N,710nm,12.7s
QIZ LR LR
comp=E,290nm,14.8s
QIZ LR LR
comp=Z,1µm,13.5s
QIZ Qiongzhong 53.29 249 P P 20 09 20.8 -3.2
QIZ S **S** **20 16 47.8 -5.6**
QIZ AMB AMB
comp=Z,27nm,1.9s
QIZ LR LR
comp=Z,770nm,16.4s
QIZ LR LR
comp=Z,340nm,13.3s
QIZ LR LR
comp=Z,1µm,14.1s
QIZ Qiongzhong 53.29 249 *e*P **P** **20 09 25.2 +1.2**
comp=Z,72nm,1.4s
E19A Rath Farm, Rou 53.33 60 ⇑P **P** **20 09 24.9 +0.8**
baz=53,SNR=7.0
SAO San Andreas Ge 53.37 76 *e*P **P** **20 09 23.9 -0.5**
SAO pmax pmax
comp=Z,23nm,1.1s
SAO San Andreas Ge 53.37 76 *e*P **P** **20 09 23.9 -0.5**
comp=Z,23nm,1.1s
B22A Reddig Ranch S 53.42 56 ⇓P **P** **20 09 25.0 +0.3**
baz=53
YMR Madison River 53.48 62 *e*P **P** **20 09 26.5 +1.1**
comp=Z,36nm,0.9s
A23A Redstone 53.50 55 ⇓P **P** **20 09 25.8 +0.6**
baz=53
YNR Norris Junctio 53.59 62 *e*P **P** **20 09 27.8 +1.6**
comp=Z,30nm,1.2s
E20A Meyer Farm, Mu 53.63 59 ⇓P **P** **20 09 27.0 +0.8**
baz=53,SNR=7.7
YFT Old Faithful 53.69 63 *e*P **P** **20 09 29.2 +2.2**
comp=Z,37nm,0.8s
TMCR Tamitsa 53.79 333 *e*P **P** **20 09 27.3 +0.3**
TMCR pmax pmax
comp=Z,30nm,0.7s
B23A Brockton 53.79 55 ⇓P **P** **20 09 27.8 +0.5**
baz=54,SNR=9.9
D21A La Casta Ranch 53.80 58 ⇑P **P** **20 09 28.2 +0.8**
baz=54
LKWY Lake 53.84 62 *e*P **P** **20 09 29.9 +1.9**
LKWY pmax pmax
comp=Z,31nm,0.9s
LKWY Lake 53.84 62 *e*P **P** **20 09 29.9 +1.9**
comp=Z,31nm,0.9s
ILULI Ilulissat 53.85 14 *e*P **P** **20 09 27.3 -0.1**
ILULI pmax pmax
comp=Z,18nm,0.9s
C22A Vida 53.86 57 ⇓P **P** **20 09 28.3 +0.4**
baz=54,SNR=9.2
H17A Grant Village 53.87 62 *e*P **P** **20 09 30.4 +2.2**
H17A *e* 20 09 39.2
H17A Grant Village 53.87 62 ⇑P **P** **20 09 30.3 +2.1**
baz=54,SNR=8.2
A24A Westby 53.93 55 ⇑P **P** **20 09 28.9 +0.5**
baz=54
NVAR Mina Array Bea 53.94 73 P **P** **20 09 29.6 +0.8**
NVAR Mina Array Bea 53.94 73 P **P** **20 09 29.6 +0.8**
comp=Z,32nm,0.8s,baz=297,slow=8.2,SNR=42
NVAR LR LR 20 30 27.7
comp=Z,960nm,19.9s,baz=242,slow=34
ELK Elko 53.97 69 *e*P **P** **20 09 29.5 +0.5**
comp=Z,24nm,1.0s
ELK *e* 20 09 39.0
NV11 Mina Array Sit 54.02 73 *e*P **P** **20 09 30.0 +0.8**
RLMT Red Lodge 54.02 61 *e*P **P** **20 09 30.2 +0.9**
comp=Z,61nm,0.9s
F20A Billings 54.11 60 ⇓P **P** **20 09 30.7 +0.9**
baz=54,SNR=6.2
E21A Keefer Ranch, 54.12 58 ⇓P **P** **20 09 30.8 +0.9**
baz=54
H18A Shoshone NF, C 54.13 62 ⇑P **P** **20 09 31.0 +0.9**
baz=54,SNR=7.5
C23A Lambert 54.16 56 ⇓P **P** **20 09 30.9 +0.8**
baz=54,SNR=17
DGMT Dagmar 54.16 55 ⇓P **P** **20 09 30.3 +0.3**
baz=54
I17A Pilgrim Ck. 54.20 63 ⇑P **P** **20 09 32.3 +1.6**
baz=54
MLAC Mammoth Lakes 54.21 74 ⇓P **P** **20 09 33.5 +2.7**
baz=54
A25A Svangstu Ranch 54.34 54 ⇑P **P** **20 09 32.1 +0.7**
baz=54,SNR=6.8
LAO LASA Array 54.44 58 *e*P **P** **20 09 33.5 +1.4**
comp=Z,89nm,1.1s
H19A Powell 54.48 61 ⇑P **P** **20 09 33.9 +1.3**
baz=54,SNR=7.9
G20A Bridger 54.48 60 ⇑P **P** **20 09 33.1 +0.6**
baz=54,SNR=26
HVU Hansel Valley 54.56 66 *e*P **P** **20 09 34.5 +1.3**
HVU pmax pmax
comp=Z,21nm,1.0s
HVU Hansel Valley 54.56 66 *e*P **P** **20 09 34.5 +1.3**
comp=Z,21nm,1.0s
D23A Lindsay 54.59 57 ⇓P **P** **20 09 34.0 +0.8**
baz=54,SNR=7.8
F21A Absaloka Mine, 54.60 59 ⇓P **P** **20 09 34.2 +0.8**
baz=54
TKM2 Tokmak 2 54.69 296 *e*P **P** **20 09 32.2 -2.0**
TKM2 pmax pmax
comp=Z,5.0nm,0.8s
TKM2 Tokmak 2 54.69 296 *e*P **P** **20 09 32.2 -2.0**
comp=Z,4.7nm,0.8s
C24A Savage 54.72 56 ⇓P **P** **20 09 35.0 +0.9**
baz=54
E22A Miles City 54.75 58 ⇓P **P** **20 09 35.1 +0.8**
baz=55,SNR=12
TPH Tonopah 54.79 72 *e*P **P** **20 09 35.7 +0.8**
TPH *e* 20 10 37.8
TPH Tonopah 54.79 72 *e*P **P** **20 09 35.7 +0.8**
TPH *e*PcP **PcP** **20 10 37.8 +0.8**
B25A Knox Farm, Ray 54.79 55 ⇓P **P** **20 09 35.3 +0.7**
baz=55
A26A Wade Farm, Ken 54.87 53 ⇑P **P** **20 09 35.6 +0.5**
baz=55
I19A Meeteetse 54.93 62 ⇓P **P** **20 09 36.8 +1.0**
baz=55,SNR=5.3
TIN Tinemaha 54.96 74 ⇑P **P** **20 09 37.7 +1.6**
baz=55,SNR=6.9
G21A Lodge Grass 54.99 60 ⇓P **P** **20 09 36.6 +0.4**
baz=55,SNR=12
E23A Ismay 55.02 57 ⇑P **P** **20 09 37.3 +1.0**
baz=55,SNR=7.2
BGU Big Grassy Mou 55.03 67 *e*P **P** **20 09 37.4 +0.8**
comp=Z,24nm,1.2s
D24A Glendive 55.06 56 ⇓P **P** **20 09 37.6 +1.1**
baz=55,SNR=12
F22A Rosebud 55.06 59 ⇑P **P** **20 09 37.2 +0.5**
baz=55
SPUT South Promonto 55.06 66 *e*P **P** **20 09 37.8 +1.0**
comp=Z,96nm,1.7s
H20A Greybull 55.11 61 ⇓P **P** **20 09 37.3 +0.2**
baz=55,SNR=7.4
C25A Freed Ranch, W 55.14 55 ⇓P **P** **20 09 37.9 +0.8**
baz=55
B26A Jensen Ranch, 55.15 54 ⇑P **P** **20 09 37.7 +0.5**
baz=55
A27A Ledoux Ranch, 55.20 53 ⇑P **P** **20 09 38.0 +0.5**
baz=55
SMMC Simmler 55.23 77 ⇑P **P** **20 09 39.8 +1.8**
baz=55
FRU Bishkek 55.26 297 *e*P **P** **20 09 37.0 -1.1**
FRU pmax pmax
comp=Z,20nm,1.7s
FRU MLR MLR
comp=Z,2µm,17.0s
VES Vestal, Richgr 55.36 75 ⇓P **P** **20 09 39.3 +0.5**
baz=55,SNR=6.4
I20A Worland 55.43 61 ⇓P **P** **20 09 40.4 +1.0**
baz=55,SNR=7.7
J19A Crowheart 55.44 62 ⇓P **P** **20 09 40.4 +0.9**
baz=55
G22A Birney 55.45 59 ⇑P **P** **20 09 40.1 +0.6**
baz=55,SNR=18
E24A Baker 55.46 57 ⇓P **P** **20 09 40.2 +0.6**
baz=55
AAK Ala-Archa 55.46 296 ⇑*i*P **P** **20 09 39.7 0.0**
AAK pmax pmax
comp=Z,47nm,1.2s
AAK Ala-Archa 55.46 296 P **P** **20 09 39.3 -0.4**
SNR=7.8
AAK Ala-Archa 55.46 296 *e*P **P** **20 09 38.4 -1.3**
comp=Z,17nm,1.1s
AAK Ala-Archa 55.46 296 P **P** **20 09 38.0 -1.7**
comp=Z,76nm,1.0s,SNR=8.0
AAK Ala-Archa 55.46 296 P **P** **20 09 38.8 -0.9**
comp=Z,13nm,1.0s,baz=107,slow=4.6,SNR=17
CWC Cottonwood Cre 55.49 74 ⇑P **P** **20 09 40.9 +0.9**
baz=55
R11A Troy Canyon, C 55.49 71 *e*P **P** **20 09 40.5 +0.5**
R11A Troy Canyon, C 55.49 71 ⇓P **P** **20 09 40.8 +0.8**
baz=55,SNR=22
H21A Big Horn, Sher 55.49 60 ⇓P **P** **20 09 40.4 +0.6**
baz=55,SNR=13
D25A Fairfield 55.51 56 ⇓P **P** **20 09 40.8 +1.0**
baz=55,SNR=5.5
F23A Volborg 55.52 58 ⇑P **P** **20 09 40.7 +0.7**
baz=55,SNR=16
BW06 Boulder Array 55.54 63 *e*P **P** **20 09 40.8 +0.4**
comp=Z,45nm,1.1s
PDAR Pinedale Array 55.54 63 P **P** **20 09 41.1 +0.8**
PDAR Pinedale Array 55.54 63 P **P** **20 09 41.1 +0.8**
comp=Z,26nm,0.9s,baz=323,slow=2.9,SNR=130
PDAR LR LR 20 34 32.3
comp=Z,486nm,18.0s,baz=334,slow=37
C26A Wahner Farm, P 55.61 54 ⇓P **P** **20 09 41.4 +0.9**
baz=55
LSA Lhasa 55.62 274 P **P** **20 09 39.3 -2.0**
LSA Lhasa 55.62 274 *e*P **P** **20 09 40.5 -0.8**
LSA pmax pmax
comp=Z,10.0nm,0.8s
LSA Lhasa 55.62 274 *e*P **P** **20 09 40.5 -0.8**
comp=Z,9.6nm,0.8s
PKM Peak Mountain 55.63 77 ⇓P **P** **20 09 42.6 +1.5**
baz=56,SNR=12
DUG Dugway 55.67 68 *e*P **P** **20 09 42.2 +1.0**
DUG pmax pmax
comp=Z,58nm,0.9s
DUG Dugway 55.67 68 *e*P **P** **20 09 42.2 +1.0**
comp=Z,58nm,0.9s
DUG Dugway 55.67 68 ⇑P **P** **20 09 42.5 +1.4**
baz=56,SNR=8.2
A28A Rush Farm, Bot 55.68 52 ⇑P **P** **20 09 41.5 +0.5**
baz=56
EKS2 Erkin-Say 55.81 297 *e*P **P** **20 09 41.3 -0.8**
EKS2 pmax pmax
comp=Z,14nm,0.9s
EKS2 Erkin-Say 55.81 297 *e*P **P** **20 09 41.3 -0.8**
comp=Z,14nm,0.9s
ISA Isabella 55.83 75 *e*P **P** **20 09 42.5 +0.2**
ISA pmax pmax
comp=Z,35nm,1.1s
ISA Isabella 55.83 75 *e*P **P** **20 09 42.5 +0.2**
comp=Z,35nm,1.1s
ISA Isabella 55.83 75 ⇑P **P** **20 09 42.6 +0.2**
baz=56,SNR=27
H22A Clearmont 55.86 60 ⇑P **P** **20 09 43.2 +0.7**
baz=56,SNR=5.5
J20A Shoshoni 55.88 62 ⇓P **P** **20 09 43.8 +1.1**
baz=56,SNR=32
G23A Biddle 55.90 59 ⇑P **P** **20 09 43.3 +0.6**
baz=56,SNR=7.7
F24A Ekalaka 55.91 57 ⇑P **P** **20 09 43.7 +1.0**
baz=56
E25A Miller Ranch, 55.94 56 ⇑P **P** **20 09 43.3 +0.3**
baz=56
I21A Big Trails, Te 55.95 61 ⇓P **P** **20 09 43.8 +0.7**
baz=56,SNR=9.3
B28A Dugan Ranch, T 55.97 53 ⇑P **P** **20 09 44.0 +1.0**
baz=56,SNR=13
SFJD Kangerlussuaq 55.98 15 *i*P **P** **20 09 42.0 -0.8**
comp=Z,9.1nm,0.9s
KLMR Klimovskoe 56.07 330 *e*P **P** **20 09 43.3 -0.2**
KLMR pmax pmax
comp=Z,41nm,0.9s
KLMR MLR MLR
comp=Z,2µm,18.0s
MPMC Manual Prospec 56.09 74 ⇑P **P** **20 09 45.5 +1.1**
baz=56,SNR=17
JLU Jordanelle 56.10 66 *e*P **P** **20 09 45.7 +1.3**
comp=Z,35nm,1.1s
A29A Manning Farm, 56.14 52 ⇑P **P** **20 09 45.1 +0.8**
baz=56,SNR=23
FURC Furnace Creek, 56.15 73 ⇓P **P** **20 09 45.7 +1.3**
baz=56,SNR=18
J21A Lysite 56.21 61 ⇓P **P** **20 09 46.0 +1.0**
baz=56,SNR=12
NLU North Lily Min 56.23 67 *e*P **P** **20 09 46.2 +0.9**
comp=Z,48nm,0.9s
G24A Alzada 56.29 58 ⇓P **P** **20 09 45.6 +0.1**
baz=56
I22A 9 Mile Ranch, 56.30 60 ⇑P **P** **20 09 46.3 +0.7**
baz=56,SNR=17
F25A Bowman 56.33 57 ⇓P **P** **20 09 46.7 +1.0**
baz=56,SNR=6.0
DAU Daniels Canyon 56.34 66 *e*P **P** **20 09 47.7 +1.5**
DAU pmax pmax
comp=Z,29nm,1.1s
DAU Daniels Canyon 56.34 66 *e*P **P** **20 09 47.6 +1.5**
comp=Z,29nm,1.1s
H23A Clabaugh Cattl 56.36 59 ⇑P **P** **20 09 46.0 0.0**
baz=56
D27A Center 56.40 55 ⇑P **P** **20 09 47.0 +0.8**
baz=56
LRMC Laurel Mountai 56.41 75 ⇓P **P** **20 09 47.3 +0.9**
baz=56,SNR=23
E26A Carlson Angus 56.41 56 ⇑P **P** **20 09 47.1 +0.8**
baz=56,SNR=8.9
B29A Wagenman Farm, 56.42 52 ⇓P **P** **20 09 46.8 +0.5**
baz=56
MPU Maple Canyon 56.42 67 *e*P **P** **20 09 47.6 +0.9**
comp=Z,74nm,1.1s
OSI Osito Adit 56.46 76 *e*P **P** **20 09 47.8 +1.0**
comp=Z,37nm,0.9s
OSI Osito Adit 56.46 76 ⇑P **P** **20 09 47.7 +1.0**
baz=56
C28A Hausauer Farms 56.49 53 ⇓P **P** **20 09 48.2 +1.4**
baz=56,SNR=8.1
JOF Joensuu 56.50 336 *e*P **P** **20 09 45.8 -0.8**
JOF pmax pmax
comp=Z,15nm,0.5s
JOF Joensuu 56.50 336 *e*p **P** **20 09 45.8 -0.8**
comp=Z,15nm,0.5s
BLG Laguna Peak 56.63 77 ⇑P **P** **20 09 48.6 +0.6**
baz=56
H24A Dirks Ranch, A 56.64 58 ⇓P **P** **20 09 48.4 +0.3**
baz=56,SNR=10
J22A Midwest 56.65 61 ⇓P **P** **20 09 48.9 +0.8**
baz=56
ULM Lac du Bonnet 56.66 49 *e*P **P** **20 09 48.1 +0.1**
comp=Z,53nm,1.1s
ULM Lac du Bonnet 56.66 49 P **P** **20 09 48.3 +0.4**
comp=Z,48nm,1.1s,baz=310,slow=7.0,SNR=21
ULM LR LR 20 36 32.8
comp=Z,980nm,18.1s,baz=61,slow=39
EDW2 Edwards Air Fo 56.67 75 ⇓P **P** **20 09 49.2 +0.9**
baz=56,SNR=30
D28A Regan 56.78 54 ⇓P **P** **20 09 49.7 +0.8**
baz=57
K21A Alcova 56.82 62 ⇓P **P** **20 09 50.0 +0.6**
baz=57,SNR=18
E27A Carson 56.87 55 ⇑P **P** **20 09 50.4 +0.9**
baz=57,SNR=9.1
G25A Newell 56.88 57 ⇓P **P** **20 09 50.3 +0.7**
baz=57,SNR=11
SHOC Shoshone 56.88 73 ⇓P **P** **20 09 50.8 +1.1**
baz=57
B30A Myrvik Farm, E 56.90 52 ⇓P **P** **20 09 50.8 +1.2**
baz=57,SNR=7.0
KSH Kashi 56.93 293 P **P** **20 09 49.8 -0.3**
KSH pP **pP** **20 09 57.0 -2.5**
KSH sP **sP** **20 10 01.0 -2.1**

KSH PcP **PcP** **20 10 44.1 -1.1**
KSH PP **PP** **20 11 55.3 -1.1**
KSH S S 20 17 32.9 -9.0
KSH sS sS 20 17 49.3 -8.0
KSH ScS **ScS** **20 19 32.8 -4.2**
KSH Kashi 56.93 293 SS SS 20 21 17.3 -13
KSH AMB AMB
comp=Z,58nm,2.7s
KSH LR LR
comp=N,270nm,10.0s
KSH LR LR
comp=E,770nm,13.3s
KSH LR LR
comp=Z,450nm,20.2s
KSH Kashi 56.93 293 P P 20 09 54.4 +4.3
KSH PcP **PcP** **20 10 49.5 +4.3**
KSH PP PP 20 12 03.3 +6.9
KSH ScS ScS 20 19 37.6 +0.6
KSH AMB AMB
comp=Z,7.0nm,0.7s
KSH AMB AMB
comp=Z,120nm,4.4s
KSH LR LR
comp=Z,270nm,10.0s
KSH LR LR
comp=Z,770nm,13.3s
KSH LR LR
comp=Z,450nm,20.2s
DECC Green Verdugo 56.94 76 ⇑P **P** **20 09 51.2 +1.0**
baz=57
G27A Dupree 56.98 57 ⇓P P 20 09 54.2 +3.9
baz=57,SNR=17
GSC Goldstone 57.03 74 *e*P **P** **20 09 51.6 +0.7**
GSC pmax pmax
comp=Z,55nm,1.0s
GSC Goldstone 57.03 74 *e*P **P** **20 09 51.6 +0.7**
comp=Z,56nm,1.0s
GSC Goldstone 57.03 74 ⇑P **P** **20 09 51.9 +1.1**
baz=57,SNR=28
F27A Lemmon 57.06 56 ⇑P **P** **20 09 51.6 +0.7**
baz=57,SNR=7.2
SHPR Sheep Range 57.06 72 *e*P **P** **20 09 51.5 +0.4**
comp=Z,28nm,1.3s
PASC Pasadena Art C 57.08 76 *e*P **P** **20 09 51.2 0.0**
comp=Z,64nm,1.3s
MWC Mount Wilson 57.12 76 *e*P **P** **20 09 52.1 +0.5**
MWC pmax pmax
comp=Z,69nm,1.1s
MWC Mount Wilson 57.12 76 *e*P **P** **20 09 52.1 +0.5**
comp=Z,69nm,1.1s
J23A Dilts Ranch, B 57.12 60 ⇓P **P** **20 09 52.1 +0.6**
baz=57
KK31 Karatay Array 57.16 299 *i*P **P** **20 09 50.5 -1.1**
KK31 pmax pmax
comp=Z,24nm,1.1s
KKAR Karatay Array 57.16 299 *e*P **P** **20 09 50.3 -1.3**
KKAR pmax pmax
comp=Z,6.0nm,0.6s
KKAR Karatay Array 57.16 299 *e*P **P** **20 09 50.3 -1.3**
comp=Z,6.0nm,0.6s
TMUT Trail Mountain 57.17 67 *e*P **P** **20 09 53.0 +0.9**
comp=Z,51nm,1.1s
E28A Huff 57.17 55 ⇑P **P** **20 09 52.4 +0.7**
baz=57,SNR=12
K22A Casper 57.17 61 ⇓P **P** **20 09 52.5 +0.6**
baz=57,SNR=17
G26A Maurine 57.20 57 ⇑P **P** **20 09 52.5 +0.6**
baz=57,SNR=22
H25A Fruitdale 57.20 58 ⇑P **P** **20 09 52.8 +0.9**
baz=57,SNR=6.0
MVU Marysvale 57.21 69 *e*P **P** **20 09 53.7 +1.4**
comp=Z,24nm,1.2s
RRX Edison Barstow 57.23 75 ⇑P **P** **20 09 53.3 +1.2**
baz=57
I24A Kuemmerle Ranc 57.25 59 ⇑P **P** **20 09 52.9 +0.5**
baz=57
CCUT Cedar City 57.28 70 *e*P **P** **20 09 53.6 +0.8**
comp=Z,23nm,0.9s
BFSC Mount Baldy Ra 57.33 76 ⇑P **P** **20 09 54.4 +1.3**
baz=57
D29A Pettibone, Tap 57.33 54 ⇑P **P** **20 09 53.5 +0.7**
baz=57
RSSD Black Hills 57.35 59 *e*P **P** **20 09 53.5 +0.3**
RSSD Black Hills 57.35 59 *e*P **P** **20 09 53.5 +0.3**
comp=Z,303nm,1.1s
C30A Mose, Pekin 57.38 52 ⇓P **P** **20 09 53.5 +0.5**
baz=57
TUQ Turquoise Moun 57.42 74 ⇓P **P** **20 09 54.6 +1.0**
baz=57,SNR=13
Q16A Castle Valley 57.47 67 *e*P **P** **20 09 55.4 +1.3**
Q16A Castle Valley 57.47 67 ⇓P **P** **20 09 55.4 +1.3**
baz=57,SNR=7.0
O19A Miners Draw (B 57.54 65 ⇑P **P** **20 09 55.5 +1.0**
baz=57,SNR=11
K23A Bowen Ranch, D 57.55 61 ⇑P **P** **20 09 54.8 +0.2**
baz=57,SNR=7.4
I25A Rochford 57.58 58 ⇑P **P** **20 09 55.4 +0.6**
baz=57,SNR=27
CRAI Chiangrai 57.59 259 P P **20 09 55.5 +0.6**
comp=Z,248nm,0.9s,comp=Z,7μm
N20A Spence Gulch, 57.60 64 ⇓P **P** **20 09 56.4 +1.3**
baz=57,SNR=45
H26A Fairpoint 57.61 57 ⇑P **P** **20 09 55.4 +0.6**
baz=57,SNR=8.9
J24A Dixon Ranch, L 57.62 60 ⇓P **P** **20 09 55.2 +0.2**
baz=57,SNR=6.3
AB31 Akbulak array 57.63 311 *i*P **P** **20 09 54.0 -0.8**
AB31 pmax pmax
comp=Z,9.0nm,0.6s
HEC Hector,Ludlow 57.64 74 ⇓P **P** **20 09 56.2 +1.0**
baz=58,SNR=20
F28A McLaughlin 57.66 55 ⇓P **P** **20 09 55.9 +0.8**
baz=57,SNR=7.2
SRU San Rafael 57.67 67 *e*P **P** **20 09 56.6 +1.2**
SRU pmax pmax
comp=Z,66nm,1.1s
SRU San Rafael 57.67 67 *e*P **P** **20 09 56.6 +1.2**
comp=Z,66nm,1.1s
L22A Ellis Ranch, M 57.67 62 ⇓P **P** **20 09 57.0 +1.5**
baz=58,SNR=14
E29A Napoleon 57.67 54 ⇑P **P** **20 09 55.7 +0.5**
baz=58
D30A Buchanan 57.69 53 ⇓P **P** **20 09 55.9 +0.7**
baz=58,SNR=12
BBRC Big Bear Solar 57.72 75 ⇑P **P** **20 09 57.2 +1.2**
baz=58
NONG Nongkai 57.76 255 P P **20 09 58.0 +1.9**
comp=Z,38nm,1.6s
H27A Howes 57.94 57 ⇑P **P** **20 09 57.6 +0.5**
baz=58,SNR=11
L23A Garrett 57.98 61 ⇑P **P** **20 09 58.2 +0.5**
baz=58,SNR=19
K24A Anderson Ranch 57.98 60 ⇓P **P** **20 09 57.7 +0.1**
baz=58
I26A New Underwood 58.00 58 ⇓P **P** **20 09 58.3 +0.8**
baz=58,SNR=6.0
J25A Sunshine Ranch 58.00 59 ⇓P **P** **20 09 58.0 +0.4**
baz=58,SNR=20
GMRC Granite Mounta 58.05 74 ⇑P **P** **20 09 59.1 +1.0**
baz=58,SNR=19
MURC Murrieta 58.06 76 ⇑P **P** **20 09 58.9 +0.9**
baz=58,SNR=9.1
E30A Jud 58.06 54 ⇓P **P** **20 09 58.2 +0.3**
baz=58,SNR=7.8
P19A Cripple Cowboy 58.10 65 ⇑P **P** **20 09 59.3 +0.8**
baz=58,SNR=28
AGMN Agassiz Nation 58.12 50 *e*P **P** **20 09 58.8 +0.5**
comp=Z,57nm,1.1s
AGMN *e* 20 10 07.0
O20A White River Ci 58.12 65 *e*P **P** **20 09 59.0 +0.3**
O20A White River Ci 58.12 65 ⇓P **P** **20 09 59.5 +0.8**
baz=58,SNR=22
F29A Eureka 58.13 55 ⇓P **P** **20 09 58.9 +0.5**
baz=58
G28A Parade 58.17 56 ⇓P **P** **20 09 59.3 +0.6**
baz=58,SNR=6.9
SKNT Sakolnakorn 58.18 253 P P **20 10 00.4 +1.4**
comp=Z,53nm,1.2s
SHL Shillong 58.32 270 *ex* **P** **20 10 00.0 -0.1**
KAF Kangasniemi 58.36 337 *e*P **P** **20 09 59.0 -0.7**
KAF pmax pmax
comp=Z,5.0nm,0.5s
KAF Kangasniemi 58.36 337 *ep* **P** **20 09 59.0 -0.7**
comp=Z,5.3nm,0.5s
I27A Quinn 58.36 57 ⇑P **P** **20 10 00.9 +0.8**
baz=58,SNR=26
H28A Mission Ridge 58.41 56 ⇑P **P** **20 10 01.2 +0.8**
baz=58,SNR=11
L24A Wheatland 58.42 61 ⇑P **P** **20 10 01.6 +1.0**
baz=58
BELC Belle Mtn. Jos 58.43 75 ⇑P **P** **20 10 01.1 +0.3**
baz=58,SNR=17
M23A Laramie 58.45 62 ⇑P **P** **20 10 01.6 +0.7**
baz=58,SNR=14
PFO Pinyon Flat Ob 58.47 75 *e*P **P** **20 10 01.1 +0.1**
comp=Z,20nm,1.1s
PFO Pinyon Flat Ob 58.47 75 P **P** **20 10 01.5 +0.5**
comp=Z,111nm,0.9s,SNR=6.7
PFO Pinyon Flat Ob 58.47 75 ⇓P **P** **20 10 01.5 +0.5**
baz=58,SNR=9.6
O21A Pagoda 58.47 64 ⇓P **P** **20 10 02.2 +1.1**
baz=58,SNR=15
F30A Leola 58.50 54 ⇑P **P** **20 10 01.3 +0.3**
baz=58
P20A De Beque 58.51 65 ⇑P **P** **20 10 02.3 +0.9**
baz=58
K25A Mack Ranch, Ha 58.54 60 ⇑P **P** **20 10 02.3 +0.8**
baz=58
N22A Wattenberg Ran 58.56 63 ⇑P **P** **20 10 03.1 +1.3**
baz=58,SNR=27
CMAI Chiengmai2 58.58 260 P **P** **20 10 03.4 +1.4**
comp=Z,330nm,1.5s,comp=Z,14μm
U15A North Rim 58.68 70 ⇑P **P** **20 10 04.1 +1.4**
baz=58,SNR=6.7
UBPT Khong Chiam 58.74 251 P **P** **20 10 04.8 +1.9**
comp=Z,50nm,1.2s
UBPT Khong Chiam 58.74 251 P **P** **20 10 04.8 +1.9**
comp=Z,50nm,1.2s
N23A Red Feather La 58.76 62 ⇑P **P** **20 10 04.2 +1.1**
baz=59,SNR=21
IRM Iron Mountain 58.79 74 ⇓P **P** **20 10 04.2 +1.1**
baz=59,SNR=24
W13A Hualapai Mount 58.79 72 ⇓P **P** **20 10 04.4 +1.0**
baz=59,SNR=12
K26A Motz Farm, Whi 58.82 59 ⇑P **P** **20 10 03.7 +0.4**
baz=59,SNR=6.4
L25A Engebretsen Ra 58.83 60 ⇓P **P** **20 10 04.5 +1.0**
baz=59
M24A Cheyenne 58.90 61 ⇓P **P** **20 10 05.5 +1.5**
baz=59,SNR=12
O22A Kremmling 58.98 63 ⇑P **P** **20 10 05.8 +1.0**
baz=59,SNR=10
J27A Elkhorn Farm, 58.99 58 ⇓P **P** **20 10 05.6 +1.1**
baz=59,SNR=11
BC3 Big Chuckawall 58.99 75 ⇓P **P** **20 10 05.2 +0.5**
baz=59,SNR=14
FIA1 FINESS Array S 59.00 337 *e*P **P** **20 10 04.3 +0.1**
FINES FINESS Array B 59.01 337 P **P** **20 10 04.5 +0.3**
FINES FINESS Array B 59.01 337 P **P** **20 10 04.5 +0.3**
comp=Z,8.3nm,0.4s,baz=34,slow=8.1,SNR=101
FINES LR LR 20 39 34.7
comp=Z,494nm,18.5s,baz=24,slow=40
MONP Monument Peak 59.02 76 ⇑P **P** **20 10 05.8 +0.8**
baz=59
J28A Allard Ranch, 59.24 57 ⇓P **P** **20 10 07.0 +0.9**
baz=59,SNR=18
PDMCI Parker Dam,Lak 59.24 73 ⇓P **P** **20 10 07.1 +0.9**
baz=59,SNR=9.3
I29A Vivian Onida 59.24 56 ⇑P **P** **20 10 06.6 +0.4**
baz=59,SNR=10.0
LOEI Loei 59.26 256 P **P** **20 10 05.4 -1.2**
comp=Z,30nm,0.8s
O23A Lake Granby, G 59.27 63 ⇓P **P** **20 10 08.6 +1.9**
baz=59,SNR=16
K27A Flueckinger Fa 59.28 59 ⇓P **P** **20 10 07.1 +0.5**
baz=59,SNR=7.7
P22A Eagle 59.29 64 ⇑P **P** **20 10 08.0 +1.2**
baz=59,SNR=12
M25A Palm-Egli Farm 59.32 61 ⇓P **P** **20 10 08.3 +1.4**
baz=59,SNR=5.5
SWSC Sam W. Stewart 59.33 75 ⇑P **P** **20 10 07.5 +0.6**
baz=59
N24A Carr 59.35 62 ⇓P **P** **20 10 08.5 +1.4**
baz=59
L26A Underwood Farm 59.36 60 ⇓P **P** **20 10 08.0 +0.9**
baz=59
DVTC Desert V Tower 59.37 76 ⇓P **P** **20 10 08.1 +0.9**
baz=59,SNR=5.1
TAPN Taplejung 59.37 275 *e*P **P** **20 10 06.2 -1.4**
comp=Z,52nm,0.9s
PV01 Paradox Valley 59.42 66 P **P** **20 10 08.3 +0.5**
comp=Z,502nm,0.4s
Q21A Lamborn Mesa, 59.43 65 ⇓P **P** **20 10 08.8 +1.0**
baz=59,SNR=16
Y12C Blythe 59.44 74 ⇓P **P** **20 10 08.6 +1.0**
baz=59,SNR=9.8
R20A Redvale 59.48 66 ⇓P **P** **20 10 09.3 +1.2**
baz=59,SNR=11
CHTO Chiang Mai 59.53 259 *e*P **P** **20 10 07.7 -0.7**
CHTO pmax pmax
comp=Z,65nm,1.0s
CHTO Chiang Mai 59.53 259 P **P** **20 10 09.0 +0.6**
SNR=6.9
CHTO Chiang Mai 59.53 259 P **P** **20 10 08.6 +0.2**
comp=Z,81nm,1.4s
CHTO Chiang Mai 59.53 259 *e*P **P** **20 10 07.7 -0.7**
comp=Z,65nm,1.0s
CHTO Chiang Mai 59.53 259 P **P** **20 10 08.6 +0.2**
comp=Z,81nm,1.4s
BRSD Miller 59.57 55 ⇑P **P** **20 10 08.6 +0.1**
baz=59
J29A Okreek 59.69 57 ⇑P **P** **20 10 09.6 +0.3**
baz=60,SNR=14
L27A T5 Ranch, Ells 59.70 59 ⇑P **P** **20 10 10.3 +0.8**
baz=60
ISCO Idaho Springs 59.73 63 *e*P **P** **20 10 11.0 +1.0**
ISCO pmax pmax
comp=Z,74nm,1.3s
ISCO Idaho Springs 59.73 63 *e*P **P** **20 10 11.0 +1.0**
comp=Z,74nm,1.3s
ISCO Idaho Springs 59.73 63 ⇑P **P** **20 10 11.3 +1.4**
baz=60,SNR=33
I30A Oacoma 59.75 56 ⇑P **P** **20 10 09.8 +0.1**
baz=60,SNR=7.2
M26A McRoberts Ranc 59.75 60 ⇑P **P** **20 10 11.1 +1.3**
baz=60
Q22A Crested Butte, 59.76 65 ⇑P **P** **20 10 11.3 +1.2**
baz=60,SNR=9.4
S20A Disappointment 59.76 66 ⇓P **P** **20 10 11.0 +0.9**
baz=60,SNR=18
N25A Grover 59.76 61 ⇑P **P** **20 10 11.6 +1.6**
baz=60
O24A Longmont 59.77 62 ⇓P **P** **20 10 12.0 +1.9**
baz=60
R21A Cimarron 59.79 65 ⇑P **P** **20 10 11.5 +1.2**
baz=60,SNR=25
GLA Glamis 59.79 75 *e*P **P** **20 10 11.3 +1.2**
GLA pmax pmax
comp=Z,120nm,1.5s
GLA Glamis 59.79 75 *e*P **P** **20 10 11.3 +1.2**
comp=Z,120nm,1.5s
GLA Glamis 59.79 75 ⇓P **P** **20 10 11.0 +0.9**
baz=60,SNR=11
CM31 Chiang Mai Arr 59.81 259 *e*P **P** **20 10 10.5 +0.2**
comp=Z,6.9nm,0.8s
CMAR Chiang Mai Arr 59.81 259 P **P** **20 10 10.5 +0.2**
CMAR Chiang Mai Arr 59.81 259 P **P** **20 10 10.5 +0.2**
comp=Z,10nm,1.0s,baz=38,slow=6.5
WUAZ Wupatki 59.86 70 *e*P **P** **20 10 11.6 +0.9**
comp=Z,67nm,1.3s
WUAZ Wupatki 59.86 70 ⇓P **P** **20 10 12.0 +1.4**
baz=60,SNR=10
ODAN Odare 59.93 275 *e*P **P** **20 10 09.5 -1.8**
comp=Z,14nm,0.7s
P23A Jefferson 59.93 64 ⇓P **P** **20 10 12.9 +1.5**
baz=60,SNR=9.5
KDM Kudat 59.99 235 P **P** **20 10 11.4 -0.2**
GUN Gumba 60.00 277 *e*P **P** **20 10 11.0 -1.0**
comp=Z,35nm,0.7s
JIRN Jiri 60.01 276 *e*P **P** **20 10 11.0 -1.1**
comp=Z,17nm,0.8s
M27A Reverse DX Ran 60.08 60 ⇑P **P** **20 10 13.2 +1.1**
baz=60,SNR=7.0
Y14A Wickenburg 60.14 73 ⇑P **P** **20 10 13.7 +1.2**
baz=60
MVCO Mesa Verde 60.15 67 *e*P **P** **20 10 13.6 +0.8**
comp=Z,34nm,1.2s
MVCO Mesa Verde 60.15 67 ⇓P **P** **20 10 13.7 +1.0**
baz=60,SNR=11
CHAI Chaiyaphum 60.16 255 P **P** **20 10 13.6 +0.9**
comp=Z,16nm,1.0s
L28A Connealy Angus 60.16 59 ⇑P **P** **20 10 13.5 +0.9**
baz=60
J30A Dallas 60.16 56 ⇑P **P** **20 10 12.5 +0.1**
baz=60,SNR=7.1
K29A Lazy Trails An 60.18 57 ⇑P **P** **20 10 13.5 +0.8**
baz=60,SNR=6.0
PBKT Sadao Pong 60.18 256 P **P** **20 10 13.6 +0.7**
comp=Z,26nm,1.1s,comp=Z,948nm
PBKT Sadao Pong 60.18 256 P **P** **20 10 13.6 +0.7**
comp=Z,26nm,1.1s,comp=Z,948nm
S21A Coal Bank Pass 60.19 66 ⇓P **P** **20 10 14.6 +1.5**
baz=60,SNR=46
N26A Koester Ranch, 60.19 61 ⇓P **P** **20 10 14.2 +1.4**
baz=60
O25A Wiggins 60.27 62 ⇓P **P** **20 10 14.1 +0.7**
baz=60
Q23A Hartsel 60.29 64 ⇓P **P** **20 10 15.3 +1.6**
baz=60
EYMN Ely 60.29 48 *e*P **P** **20 10 13.8 +0.5**
comp=Z,73nm,1.1s
R22A Saguache, Gunn 60.31 65 ⇓P **P** **20 10 15.5 +1.6**
baz=60,SNR=16
P24A Kohler Place, 60.31 63 ⇓P **P** **20 10 15.1 +1.3**
baz=60
RAMN Ramite 60.31 275 *e*P **P** **20 10 12.5 -1.5**
comp=Z,61nm,0.9s
KKN Kakani 60.43 277 *e*P **P** **20 10 13.5 -1.3**
comp=Z,13nm,0.6s
PKI Pulchoki 60.53 277 *e*P **P** **20 10 14.1 -1.5**
comp=Z,38nm,1.0s
PKIN Phulchoki 60.53 277 *e*P **P** **20 10 14.0 -1.5**
comp=Z,14nm,0.6s
N27A Anderson Farm, 60.55 60 ⇑P **P** **20 10 16.5 +1.2**
baz=60,SNR=9.3
O26A Horse Wrangler 60.58 61 ⇑P **P** **20 10 16.4 +0.8**
baz=60,SNR=6.7
K30A Basset 60.59 57 ⇑P **P** **20 10 16.2 +0.7**
baz=60,SNR=7.5
113A Mohawk Valley, 60.59 74 ⇓P **P** **20 10 16.3 +0.8**
baz=60,SNR=11
Q24A Divide 60.60 63 ⇓P **P** **20 10 17.0 +1.1**
baz=60,SNR=10
Z14A Wintersburg 60.60 73 ⇓P **P** **20 10 16.8 +1.2**
baz=60
L29A Maesberg Ranch 60.63 58 ⇓P **P** **20 10 15.8 +0.1**
baz=60
S22A 4UR Ranch, Cre 60.63 65 ⇑P **P** **20 10 17.6 +1.5**
baz=60,SNR=32
GKN Gorkha 60.64 278 *e*P **P** **20 10 14.6 -1.5**
comp=Z,39nm,1.0s
X16A Lo Mia Camp, P 60.64 71 ⇓P **P** **20 10 17.5 +1.4**
baz=60,SNR=15
DMN Daman 60.67 277 *e*P **P** **20 10 15.4 -1.1**
comp=Z,33nm,1.0s
M28A Bar X Bar Ranc 60.69 59 ⇑P **P** **20 10 17.2 +1.0**
baz=60
P25A Willow Gulch B 60.69 62 ⇑P **P** **20 10 17.8 +1.5**
baz=60,SNR=16
OGNE Ogallala 60.70 60 *e*P **P** **20 10 18.9 +2.6**
comp=Z,58nm,1.3s
OGNE Ogallala 60.70 60 ⇑P **P** **20 10 17.6 +1.3**
baz=60
MYLDM Lahad Datu 60.74 232 P **P** **20 10 15.4 -1.2**
MYLDM Lahad Datu 60.74 232 P P 20 10 20.1 +3.4
U20A Newcomb 60.76 68 ⇓P **P** **20 10 17.6 +0.8**
baz=61,SNR=5.9
T21A Navajo Lake 60.82 66 ⇓P **P** **20 10 18.8 +1.5**
baz=61,SNR=5.9
R23A Moffat 60.82 64 ⇑P **P** **20 10 18.8 +1.4**
baz=61,SNR=7.6
MOS Moscow 60.87 328 *e*P **P** **20 10 17.8 +0.8**
MOS pmax pmax
comp=Z,58nm,0.7s
MOS pmax pmax
comp=Z,100nm,0.7s
MOS MLR MLR
comp=N,700nm,20.0s
MOS MLR MLR
comp=E,1μm,20.0s
MOS MLR MLR
comp=Z,1μm,20.0s
DANN Dangsing 60.88 279 *e*P **P** **20 10 16.5 -1.4**
comp=Z,49nm,0.8s
SDKM Sandakan 60.94 234 P **P** **20 10 17.7 -0.3**
M29A Burnside Ranch 60.99 59 ⇑P **P** **20 10 19.0 +0.8**
baz=61,SNR=5.8
O27A Beecher Island 61.04 61 ⇓P **P** **20 10 19.6 +1.0**
baz=61,SNR=12
KKM Kota Kinabalu 61.05 235 P **P** **20 10 15.9 -3.0**
KKM Kota Kinabalu 61.05 235 P P 20 10 22.8 +3.9
KKM Kota Kinabalu 61.05 235 *e*P **P** **20 10 20.7 +1.8**
comp=Z,46nm,1.3s
W18A Petrified Fore 61.05 69 ⇓P **P** **20 10 20.7 +1.9**
baz=61
P26A Davis Ranch, A 61.07 62 ⇓P **P** **20 10 20.0 +1.1**
baz=61,SNR=13
S23A Nye Farm, Mont 61.09 65 ⇑P **P** **20 10 20.9 +1.7**
baz=61
Q25A Bedland, Calha 61.10 63 ⇑P **P** **20 10 20.2 +1.0**
baz=61,SNR=10
SWI Sorong 61.11 216 P **P** **20 10 21.0 +1.8**
N28A Pribbeno Ranch 61.14 60 ⇑P **P** **20 10 20.0 +0.7**
baz=61,SNR=5.5
T22A Edith 61.14 66 ⇓P **P** **20 10 21.0 +1.5**
baz=61,SNR=32
R24A Sanders Place, 61.17 64 ⇑P **P** **20 10 21.0 +1.3**
baz=61,SNR=7.5
ECSD EROS Data Cent 61.22 54 *e*P **P** **20 10 19.4 -0.2**
comp=Z,34nm,1.0s
V20A Brimhall 61.22 68 ⇑P **P** **20 10 20.8 +0.8**
baz=61,SNR=8.3
M30A Dale-Ortello V 61.32 58 ⇑P **P** **20 10 21.3 +0.9**
baz=61
SDCO Great Sand Dun 61.33 65 *e*P **P** **20 10 21.4 +0.6**
comp=Z,38nm,1.4s
SDCO *e* 20 10 30.6
L31A Butterfield Fa 61.34 57 ⇑P **P** **20 10 21.1 +0.6**
baz=61,SNR=6.5
X18A Snowflake 61.37 70 ⇓P **P** **20 10 22.5 +1.4**
baz=61,SNR=12
KOLN Koldanda 61.41 278 *e*P **P** **20 10 20.0 -1.4**
comp=Z,15nm,0.6s
O28A Krutsinger Ran 61.44 60 ⇓P **P** **20 10 22.2 +0.9**
baz=61
Q26A Hugo 61.47 62 ⇓P **P** **20 10 22.5 +0.9**
baz=61,SNR=17
P27A Ficken Ranch, 61.47 61 ⇓P **P** **20 10 22.4 +0.8**
baz=61,SNR=8.5
N29A Votaw Ranch, W 61.49 59 ⇑P **P** **20 10 22.2 +0.6**
baz=61,SNR=5.6
VSU Vasula 61.50 335 ⇑*i*P **P** **20 10 22.6 +1.3**
VSU pmax pmax
comp=Z,72nm,1.0s
S24A Houchin Ranch, 61.56 64 ⇑P **P** **20 10 23.9 +1.5**
baz=61,SNR=16
T23A Casias Ranch, 61.58 65 ⇑P **P** **20 10 24.0 +1.4**
baz=61
U22A Llaves 61.64 66 ⇑P **P** **20 10 24.2 +1.3**
baz=62,SNR=16
R25A Fountain Ranch 61.66 63 ⇑P **P** **20 10 23.8 +0.9**
baz=62,SNR=10
V21A Milan 61.66 67 ⇑P **P** **20 10 24.0 +1.0**
baz=62,SNR=9.0
W20A Ramah 61.71 69 ⇑P **P** **20 10 24.3 +0.9**
baz=62,SNR=21
OBN Obninsk 61.72 328 ⇑*i*P **P** **20 10 23.0 +0.2**
OBN *i*S S 20 18 48.7 +5.7
OBN pmax pmax
comp=Z,39nm,0.9s
OBN MLR MLR
comp=Z,1μm,19.0s
OBN Obninsk 61.72 328 P **P** **20 10 23.0 +0.2**
comp=Z,239nm,0.7s,SNR=5.8
214A Organ Pipe Nat 61.73 74 ⇑P **P** **20 10 24.3 +1.0**
baz=62,SNR=20
N30A Hueftle Ranch, 61.77 59 ⇑P **P** **20 10 24.0 +0.5**
baz=62
TSM Tawau 61.81 232 P **P** **20 10 25.2 +1.3**
SPMN St. Paul 61.82 51 *e*P **P** **20 10 23.8 +0.1**
SPMN *e* 20 10 32.3
SPMN St. Paul 61.82 51 ⇓P **P** **20 10 23.8 +0.1**
baz=62
KSCO Kaye Shedlock' 61.85 62 *e*P **P** **20 10 24.7 +0.5**
KSCO Kaye Shedlock' 61.85 62 ⇑P **P** **20 10 25.2 +1.1**
baz=62
UTHA Uthaitani 61.85 257 P **P** **20 10 25.8 +1.6**
comp=Z,19nm,1.1s,comp=Z,142nm
P28A Saint Francis 61.87 61 ⇑P **P** **20 10 24.8 +0.6**
baz=62,SNR=10
T24B San Luis 61.90 65 ⇑P **P** **20 10 26.4 +1.6**
baz=62
S25A Robets Cordova 61.95 64 ⇑P **P** **20 10 25.2 +0.3**

baz=62,SNR=10
V22A San Miguel Ran 61.96 67 ⇓P P 20 10 26.2 +1.2
baz=62,SNR=11
R26A Arlington 61.97 63 ⇑P P 20 10 25.7 +0.7
baz=62,SNR=21
U23A El Rito 62.03 66 ⇑P P 20 10 26.9 +1.4
baz=62,SNR=20
X20A Quemado 62.15 69 ⇓P P 20 10 27.9 +1.6
baz=62,SNR=27
W21A San Fidel 62.17 68 ⇓P P 20 10 27.5 +1.0
baz=62
NB2 NORSAR Subarra 62.20 345 P P 20 10 25.9 -0.1
comp=Z,21nm,0.8s,baz=19,slow=6.9
NB2 NORSAR Subarra 62.20 345 P P 20 10 25.9 -0.1
baz=19,slow=6.9
NOA NORSAR Array B 62.20 345 P P 20 10 25.9 -0.1
NOA NORSAR Array B 62.20 345 P P 20 10 25.9 -0.1
comp=Z,18nm,0.8s,baz=19,slow=6.7,SNR=54
NOA LR LR 20 43 07.1
comp=Z,241nm,18.0s,baz=35,slow=42
Q28A Sharon Springs 62.22 61 ⇑P P 20 10 27.3 +0.7
baz=62
BGNE Belgrade 62.26 57 eP P 20 10 26.6 -0.1
BGNE e 20 10 35.5
BGNE Belgrade 62.26 57 ⇑P P 20 10 26.9 +0.2
baz=62,SNR=11
O30A MW Ranch, Wils 62.26 59 ⇓P P 20 10 27.0 +0.2
baz=62,SNR=5.8
N31A Bailey Ranch, 62.31 58 ⇓P P 20 10 27.4 +0.3
baz=62
R27A Eads 62.32 62 ⇓P P 20 10 27.9 +0.7
baz=62,SNR=9.9
T25A Trinidad 62.35 64 ⇓P P 20 10 28.7 +1.1
baz=62,SNR=12
S26A Kim 62.47 63 ⇑P P 20 10 28.8 +0.5
baz=62,SNR=11
V23A Ortiz Mt. (NFS 62.48 66 ⇑P P 20 10 30.4 +1.9
baz=62,SNR=11
TUC Tucson 62.59 72 eP P 20 10 29.5 +0.4
TUC pmax pmax
comp=Z,26nm,1.3s
TUC Tucson 62.59 72 eP P 20 10 29.5 +0.4
comp=Z,26nm,1.3s
X21A Alamocita Cree 62.60 69 ⇓P P 20 10 31.2 +1.8
baz=62,SNR=44
O31A Woolen Ranch, 62.64 59 ⇑P P 20 10 29.4 +0.1
baz=62
P30A Selden 62.65 60 ⇓P P 20 10 29.7 +0.3
baz=62,SNR=10.0
HFS Hagfors 62.65 343 P P 20 10 28.9 -0.1
HFS Hagfors 62.65 343 P P 20 10 28.9 -0.1
comp=Z,10nm,0.7s,baz=25,slow=4.9,SNR=18
N32A Stulken Farm, 62.68 58 ⇓P P 20 10 29.6 +0.1
baz=62
Y20A Horse Springs, 62.69 69 ⇑P P 20 10 31.7 +1.7
baz=62,SNR=18
S27A Las Animas 62.72 63 ⇓P P 20 10 30.5 +0.5
baz=62
T26A Comanche Natio 62.75 64 ⇑P P 20 10 30.6 +0.4
baz=63,SNR=12
R28A Tribune 62.78 62 ⇓P P 20 10 30.5 +0.2
baz=63,SNR=8.1
Q29A Oakley 62.78 61 ⇓P P 20 10 30.5 +0.2
baz=63,SNR=11
U25A Circle Dot Ran 62.91 65 ⇑P P 20 10 32.0 +0.7
baz=63,SNR=27
ANMO Albuquerque 62.94 67 eP P 20 10 32.1 +0.6
comp=Z,26nm,1.1s
ANMO e 20 10 40.4
W23A Werner Place, 62.94 67 ⇓P P 20 10 33.0 +1.4
baz=63
V24A Rampart Ranch, 62.97 66 ⇓P P 20 10 33.1 +1.2
baz=63,SNR=16
X22A Bernardo 62.98 68 ⇓P P 20 10 33.8 +2.1
baz=63,SNR=10
LAZ Ladron 62.98 68 eP P 20 10 33.5 +1.6
comp=Z,23nm,1.3s
LAZ e 20 10 41.4
Y21A Point of Rocks 62.99 69 ⇓P P 20 10 33.5 +1.5
baz=63,SNR=20
SRDT SRDT 63.02 256 P P 20 10 33.3 +1.3
comp=Z,40nm,1.2s
SRDT SRDT 63.02 256 P P 20 10 33.3 +1.3
comp=Z,40nm,1.2s
R29A Marienthal 63.06 61 ⇑P P 20 10 32.8 +0.7
baz=63
O32A Brockman Farm, 63.08 58 ⇑P P 20 10 32.1 -0.1
baz=63
P31A Stockton 63.10 59 ⇓P P 20 10 32.3 -0.1
baz=63,SNR=7.3
Z20A Nine Sixteen R 63.18 70 ⇑P P 20 10 34.4 +1.3
baz=63,SNR=15
PATY Pattaya 63.20 254 P P 20 10 34.9 +1.7
comp=Z,14nm,1.2s
V25A Rancho No Teng 63.23 65 ⇑P P 20 10 34.4 +0.9
baz=63,SNR=15
LENM Lemitar 63.25 68 eP P 20 10 34.5 +0.9
comp=Z,22nm,1.2s
LENM e 20 10 43.2
U26A Atchley Ranch, 63.27 64 ⇓P P 20 10 34.2 +0.5
baz=63,SNR=10
T27A Campo 63.29 63 ⇑P P 20 10 33.9 +0.2
baz=63,SNR=7.2
W24A Lazy 6 Ranch, 63.29 66 ⇑P P 20 10 35.0 +1.1
baz=63,SNR=15
S28A Manter 63.31 62 ⇓P P 20 10 34.3 +0.5
baz=63,SNR=8.5
LPM Los Pinos Moun 63.33 68 P P 20 10 35.1 +0.9
comp=Z,26nm,1.4s
Y22D IRIS PASSCAL I 63.35 68 ⇑P P 20 10 36.0 +1.8
baz=63
X23A Hourglass Bar 63.36 67 ⇑P P 20 10 35.7 +1.3
baz=63
P32A Huiting Farm, 63.41 59 ⇑P P 20 10 33.9 -0.5
baz=63,SNR=9.2
MRSI Marisa 63.43 226 P P 20 10 36.3 +1.6
Y22A Socorro 63.43 68 ⇑P P 20 10 36.2 +1.3
baz=63,SNR=15
VRHR Novokhopersk 63.43 323 eP P 20 10 33.2 -1.1
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=Z,40nm,0.6s
VRHR pmax pmax
comp=E,2.0nm,0.3s
VRHR MLR MLR
comp=N,60nm,15.0s
VRHR MLR MLR
comp=E,510nm,15.0s
VRHR MLR MLR
comp=Z,630nm,15.0s
BNM Barren Site 63.45 68 eP P 20 10 36.0 +1.0
comp=Z,28nm,1.3s
BNM e 20 10 44.1
SCHQ Schefferville 63.47 29 P P 20 10 34.4 -0.1
SCHQ Schefferville 63.47 29 P P 20 10 34.4 -0.1
comp=Z,11nm,0.7s,baz=354,slow=8.2,SNR=8.4
SCHQ LR LR 20 41 04.3
comp=Z,674nm,19.7s,baz=90,slow=39
Q31A Ellis 63.49 59 ⇓P P 20 10 34.7 -0.2
baz=63
Z21A St. Cloud Mine 63.53 69 ⇑P P 20 10 37.0 +1.4
baz=63,SNR=6.8
T28A Walsh 63.55 63 ⇓P P 20 10 35.5 0.0
baz=63,SNR=12
120A U Bar Ranch, L 63.59 71 ⇑P P 20 10 37.1 +1.2
baz=63,SNR=21
R30A Dighton 63.60 61 ⇑P P 20 10 35.6 -0.1
baz=63,SNR=12
S29A Ulysses 63.68 62 ⇓P P 20 10 36.6 +0.3
baz=64,SNR=5.9
V26A Tequesquite Ra 63.70 65 ⇓P P 20 10 36.7 +0.2
baz=64,SNR=11
U27A Thompson Grove 63.72 64 ⇑P P 20 10 37.0 +0.3
baz=64,SNR=16
KONO Kongsberg 63.77 345 eP P 20 10 36.7 +0.3
KONO pmax pmax
comp=Z,212nm,1.3s
KONO Kongsberg 63.77 345 eP P 20 10 36.7 +0.3
comp=Z,212nm,1.3s
X24A Lazy VL Ranch, 63.77 67 ⇓P P 20 10 38.6 +1.5
baz=64,SNR=6.5
W25A X Bar L Ranch, 63.79 66 ⇓P P 20 10 37.8 +0.7
baz=64,SNR=28
Y23A Lovelace Mesa, 63.92 68 ⇑P P 20 10 39.1 +1.0
baz=64,SNR=27
T29A Hugoton 63.95 62 ⇓P P 20 10 38.0 0.0
baz=64
Z22A Elephant Butte 63.95 69 ⇑P P 20 10 39.5 +1.3
baz=64,SNR=20
R31A Burdett 63.97 60 ⇓P P 20 10 37.7 -0.4
baz=64,SNR=7.9
P33A Williams Farm, 63.99 58 ⇓P P 20 10 38.2 0.0
baz=64
S30A Montezuma 64.00 61 ⇑P P 20 10 38.3 -0.1
baz=64
121A Cookes Peak, D 64.06 70 ⇓P P 20 10 40.3 +1.3
baz=64,SNR=16
U28A Mallet 64.07 63 ⇑P P 20 10 38.8 -0.1
baz=64,SNR=12
319A Douglas 64.13 72 ⇑P P 20 10 40.6 +1.2
baz=64,SNR=16
220A Playas Peak, P 64.14 71 ⇓P P 20 10 40.6 +1.1
baz=64,SNR=21
VSR Storozhevoye 64.18 324 eP P 20 10 39.2 0.0
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR pmax pmax
comp=Z,20nm,0.8s
VSR MLR MLR
comp=N,690nm,20.0s
VSR MLR MLR
comp=E,410nm,20.0s
VSR MLR MLR
comp=Z,1μm,20.0s
X25A Clemmons Ranch 64.21 66 ⇓P P 20 10 41.1 +1.2
baz=64,SNR=8.9
V27A Dan Oppiter Fa 64.23 64 ⇓P P 20 10 40.1 +0.1
baz=64,SNR=9.4
W26A Owens Ranch, T 64.25 65 ⇓P P 20 10 41.0 +0.9
baz=64
Y24A Capitan 64.26 67 ⇓P P 20 10 41.5 +1.2
baz=64,SNR=56
KBL Kabul 64.32 294 eP P 20 10 38.7 -2.0
KBL pmax pmax
comp=Z,22nm,1.0s
KBL Kabul 64.32 294 eP P 20 10 38.7 -2.0
comp=Z,22nm,1.0s
Z23A Rita Site, Whi 64.34 68 ⇓P P 20 10 42.0 +1.3
baz=64,SNR=6.8
VORD Divnogorie 64.35 324 eP P 20 10 40.2 -0.1
VORD pmax pmax
comp=E,60nm,0.4s
VORD pmax pmax
comp=Z,30nm,0.4s
VORD MLR MLR
comp=E,470nm,21.0s
VORD MLR MLR
comp=Z,1μm,21.0s
122A Conniff Cattle 64.36 69 ⇓P P 20 10 42.6 +1.8
baz=64,SNR=6.0
T30A Plains 64.42 62 ⇑P P 20 10 41.2 +0.1
baz=64
S31A Mullinville 64.51 61 ⇓P P 20 10 41.0 -0.6
baz=64
V28A Channing 64.55 64 ⇑P P 20 10 42.0 0.0
baz=64
320A Kipp Ranch, An 64.57 71 ⇑P P 20 10 43.5 +1.2
baz=64
W27A Bowe Ranch, En 64.64 65 ⇑P P 20 10 43.3 +0.7
baz=64,SNR=6.9
X26A CR and CF Fran 64.64 66 ⇑P P 20 10 43.4 +0.7
baz=64,SNR=22
Y25A Mesa, Roswell 64.66 67 ⇓P P 20 10 43.7 +0.9
baz=64,SNR=52
S32A Newby Ranch, P 64.72 60 ⇑P P 20 10 42.4 -0.6
baz=64
R33A Olander Ranch, 64.72 59 ⇓P P 20 10 42.5 -0.5
baz=64
MICGM Minsk 64.74 333⇑eP P 20 10 43.0 +0.2
Z24A Sheeppen Canyo 64.75 68 ⇑P P 20 10 44.5 +1.0
baz=65,SNR=24
MNK Minsk 64.75 333⇑eP P 20 10 43.0 +0.1
MNK pmax pmax
comp=Z,90nm,1.0s
MNK MLR MLR
comp=Z,2μm,12.0s
222A Williams Famil 64.76 70 ⇓P P 20 10 44.7 +1.2
baz=65,SNR=5.5
U30A W&E Inc. Balk 64.76 62 ⇓P P 20 10 43.0 -0.3
baz=65
KSU1 Kansas State U 64.79 58 eP P 20 10 42.5 -0.9
comp=Z,47nm,1.1s
123A Bell Site, Whi 64.81 69 ⇓P P 20 10 44.9 +1.1
baz=65
T31A Randall Ranch, 64.81 61 ⇓P P 20 10 43.1 -0.5
baz=65
V29A Stinnett 64.82 63 ⇑P P 20 10 43.7 0.0
baz=65
W28A Vega 64.94 64 ⇓P P 20 10 44.9 +0.3
baz=65,SNR=6.0
X27A F and S Farms, 64.94 65 ⇑P P 20 10 45.4 +0.7
baz=65,SNR=6.0
BTM Bintulu 65.02 237 P P 20 10 45.9 +0.7
Y26A Elida 65.12 66 ⇑P P 20 10 46.4 +0.6
baz=65,SNR=11
T32A Huddler Ranch, 65.13 60 ⇑P P 20 10 45.1 -0.6
baz=65
Z25A Roswell 65.14 67 ⇓P P 20 10 47.0 +1.0
baz=65,SNR=12
124A Stringfield Ra 65.19 68 ⇓P P 20 10 47.3 +0.9
baz=65,SNR=13
223A Chaparral, Ant 65.20 69 ⇑P P 20 10 47.0 +0.7
baz=65
S33A Kaszmaul Farm, 65.27 60 ⇓P P 20 10 46.2 -0.4
baz=65
PMG Port Moresby 65.28 196 LR LR 20 34 33.0
comp=Z,274nm,20.8s,baz=29,slow=32
V30A Spur Ranch, Mi 65.33 63 ⇓P P 20 10 46.9 -0.2
baz=65
W29A Amraillo 65.33 64 ⇓P P 20 10 47.5 +0.3
baz=65
Y27A Causey 65.50 66 ⇑P P 20 10 48.8 +0.5
baz=65,SNR=25
AMTX Amarillo 65.50 64 ⇓P P 20 10 48.4 +0.2
baz=65
X28A Dimmitt 65.51 65 ⇓P P 20 10 48.4 +0.1
baz=65
Z26A Caprock 65.54 67 ⇓P P 20 10 49.1 +0.6
baz=65,SNR=25
T33A Patterson Ranc 65.55 60 ⇓P P 20 10 47.8 -0.6
baz=65
224A Cornudas Mount 65.63 69 ⇑P P 20 10 50.0 +0.8
baz=66,SNR=25
MSTX Muleshoe 65.64 65 eP P 20 10 49.3 +0.2
MSTX e 20 10 58.1
MSTX Muleshoe 65.64 65 ⇓P P 20 10 49.3 +0.2
baz=66,SNR=19
125A Gardner Draw, 65.65 68 ⇑P P 20 10 50.2 +0.9
baz=66,SNR=29
X29A Tulia 65.83 64 ⇓P P 20 10 50.8 +0.5
baz=66,SNR=7.0
W30A Crocket Farms 65.84 63 ⇓P P 20 10 50.7 +0.3
baz=66
Z27A Tatum 65.91 66 ⇑P P 20 10 51.1 +0.2
baz=66,SNR=23
Y28A McKinney Farm, 65.96 65 ⇑P P 20 10 51.1 -0.1
baz=66
225A Deer Hill, Car 65.98 68 ⇓P P 20 10 52.3 +0.9
baz=66,SNR=18
126A Clayton Basin, 66.00 67 ⇓P P 20 10 52.0 +0.6
baz=66,SNR=8.2
MNTX Cornudas Mount 66.00 69 eP P 20 10 52.0 +0.6
comp=Z,46nm,1.2s
MNTX e 20 11 00.5
SBUM Sibu 66.09 237 P P 20 10 54.1 +2.0
SBUM Sibu 66.09 237 P P 20 10 53.5 +1.4
324A Moseley Ranch, 66.14 69 ⇓P P 20 10 52.9 +0.5
baz=66,SNR=13
GDL2 Guadalupe Moun 66.16 68 eP P 20 10 53.4 +0.8
comp=Z,16nm,1.1s
GDL2 e 20 11 01.9
W31A Holland Ranch, 66.16 63 ⇓P P 20 10 52.8 +0.4
baz=66
X30A Coker Ranch, T 66.26 64 ⇓P P 20 10 53.0 0.0
baz=66,SNR=7.7
Y29A Porterfield Fa 66.30 65 ⇑P P 20 10 53.9 +0.5
baz=66
127A Arkansas Junct 66.33 67 ⇓P P 20 10 54.0 +0.4
baz=66
226B Tecolote Peak, 66.36 68 ⇑P P 20 10 54.3 +0.6
baz=66,SNR=27
Z28A Tucker Farm, M 66.36 66 ⇓P P 20 10 54.0 +0.2
baz=66
SUW Suwalki 66.38 335 eP P 20 10 53.8 +0.3
SUW Suwalki 66.38 335 eP P 20 10 52.5 -0.9
comp=Z,35nm,1.0s
SUW Suwalki 66.38 335 eP P 20 10 53.7 +0.3
325A Bean Ranch, Si 66.47 69 ⇓P P 20 10 55.2 +0.5
baz=66,SNR=18
X31A McDonald Ranch 66.58 63 ⇓P P 20 10 55.5 +0.4
baz=66,SNR=11
Y30A Stafford Cattl 66.69 64 ⇓P P 20 10 56.0 +0.2
baz=66
Z29A Hungry Hill Ra 66.75 65 ⇑P P 20 10 56.5 +0.3
baz=67,SNR=13
128A Castleberry Fa 66.83 66 ⇓P P 20 10 57.2 +0.4
baz=67,SNR=9.4
MUD Monsted U'grnd 66.90 344 eP P 20 10 55.5 -1.2
MUD pmax pmax
comp=Z,19nm,1.0s
MUD Monsted U'grnd 66.90 344 iP P 20 10 55.5 -1.2
comp=Z,19nm,0.9s
425A Indio Mountain 66.92 69 ⇑P P 20 10 58.2 +0.8
baz=67,SNR=31
Y31A Rekieta Farm, 66.95 64 ⇑P P 20 10 57.4 0.0
baz=67,SNR=8.4
SURA Surathani 66.97 252 P P 20 10 59.4 +1.7
comp=Z,535nm,0.8s
Z30A Sanderson Ranc 67.03 65 ⇓P P 20 10 58.1 +0.1
baz=67,SNR=14
326A Caldwell Ranch 67.05 68 ⇑P P 20 10 58.8 +0.6
baz=67,SNR=18
WMOK Wichita Mounta 67.11 62 eP P 20 10 58.8 +0.4
WMOK e 20 11 07.0
WMOK pmax pmax
comp=Z,72nm,1.1s
WMOK Wichita Mounta 67.11 62 eP P 20 10 58.8 +0.4
comp=Z,72nm,1.1s
WMOK e 20 11 07.0
129A Stewart Farms, 67.15 66 ⇓P P 20 10 58.8 0.0
baz=67
228A UT Block 9, Go 67.17 66 ⇑P P 20 10 59.3 +0.3
baz=67,SNR=7.2
327A Balmorhea Ranc 67.27 68 ⇑P P 20 11 00.5 +0.9
baz=67
Y32A R-V Farms, Ver 67.34 63 ⇓P P 20 11 00.1 +0.1
baz=67,SNR=13
Z31A Sharp Cattle R 67.52 64 ⇑P P 20 11 00.8 -0.2
baz=67,SNR=17
426A McDonald Obser 67.53 69 ⇓P P 20 11 01.6 +0.2
baz=67,SNR=12
MDO Dochfour 67.53 352 eP P 20 11 01.3 +0.6
MMSI Mamuju 67.56 228 P P 20 11 03.5 +2.1
SURT Suratani 67.60 253 P P 20 11 02.7 +1.0
comp=Z,25nm,1.2s,comp=Z,257nm
328A Wristen Ranch, 67.62 67 ⇓P P 20 11 02.1 +0.3
baz=68,SNR=21
130A Snyder 67.65 65 ⇓P P 20 11 02.4 +0.5
baz=68
TUL1 Tulsa 67.69 59 eP P 20 11 01.9 -0.2
TUL1 e 20 11 10.0
TUL1 Tulsa 67.69 59 ⇓P P 20 11 01.5 -0.5
baz=68,SNR=5.7
229A Bryant Ranch, 67.70 66 ⇓P P 20 11 02.6 +0.3
baz=68
427A Hayter Ranch, 67.72 68 ⇓P P 20 11 02.9 +0.4
baz=68,SNR=18
AKASG Malin Array Be 67.75 330 P P 20 11 02.4 +0.2
AKASG pmax pmax
comp=Z,15nm,0.5s
AKASG MLR MLR
comp=Z,1μm,18.1s
AKASG Malin Array Be 67.75 330 P P 20 11 02.4 +0.2
AKASG Malin Array Be 67.75 330 P P 20 11 02.4 +0.2
comp=Z,15nm,0.5s,baz=28,slow=6.1,SNR=53
AKASG LR LR 20 45 22.2
comp=Z,1μm,18.1s,baz=20,slow=40
AKBB Malin Array Si 67.75 330 eP P 20 11 01.9 -0.3
AKBB Malin Array Si 67.75 330 eP P 20 11 01.9 -0.3
KIEV Kiev 67.76 330 eP P 20 11 01.8 -0.5
KIEV pmax pmax
comp=Z,29nm,1.0s
KIEV Kiev 67.76 330 eP P 20 11 01.8 -0.5
comp=Z,29nm,1.0s
AK01 Malin Array Si 67.77 330 eP P 20 11 01.8 -0.5
AK02 Malin Array Si 67.80 330 eP P 20 11 02.2 -0.3
Z32A Haskell 67.87 63 ⇓P P 20 11 03.0 -0.3
baz=68,SNR=14
KSM Kuching 67.87 238 P P 20 11 05.2 +1.9
KSM Kuching 67.87 238 P P 20 11 06.1 +2.7
KSM Kuching 67.87 238 eP P 20 11 05.0 +1.6
comp=Z,63nm,1.2s
131A Roby 67.89 65 ⇓P P 20 11 03.7 +0.2
baz=68,SNR=9.3
MAK Makhachkala 67.91 314 eP P 20 11 00.2 -3.1
MAK e 20 11 24.1
MAK eS S **20 19 55.7 -3.9**
MAK e 20 20 56.2
MAK eSSS SSS 20 27 24.0
MAK pmax pmax
comp=Z,64nm,1.1s
MAK MLR MLR
comp=Z,2μm,14.0s
GOF Gofitskoye 67.96 318⇑iP P 20 11 04.3 +0.7
GOF iS S **20 20 03.8 +3.7**
GOF pmax pmax
comp=Z,105nm,1.3s
GOF smax smax
comp=N,20nm,1.3s
GOF smax smax
comp=E,46nm,1.3s
ISFR Sfrayin 67.96 303 eP P 20 11 05.0 +0.9
526A Mary Lane Ranc 67.97 69 ⇓P P 20 11 04.9 +0.9
baz=68,SNR=31
329A Wagon Wheel Ra 67.98 66 ⇓P P 20 11 04.4 +0.3
baz=68,SNR=17
230A Sterling City 68.13 66 ⇑P P 20 11 05.0 +0.1
baz=68
527A Woodward Ranch 68.16 69 ⇓P P 20 11 05.6 +0.3
baz=68,SNR=18
SLM Saint Louis 68.19 54 eP P 20 11 04.2 -0.9
SLM pmax pmax
comp=Z,49nm,0.9s
SLM Saint Louis 68.19 54 eP P 20 11 04.2 -0.9
comp=Z,49nm,0.9s
428A Kincaid Ranch, 68.20 68 ⇑P P 20 11 06.6 +1.1
baz=68,SNR=37
KTGM Kuala Trenggan 68.27 247 P P 20 11 06.7 +0.8
ABTX Abilene, Hawle 68.32 64 eP P 20 11 06.2 +0.1
ABTX e 20 11 14.6
ABTX Abilene, Hawle 68.32 64 ⇑P P 20 11 06.0 -0.1
baz=68,SNR=15
626A Big Bend Ranch 68.34 69 ⇓P P 20 11 07.0 +0.6
baz=68,SNR=23
SPSI Sidrap Palu 68.35 227 P P 20 11 06.8 +0.5
GKP Gorka Klasztor 68.43 338 eP P 20 11 05.8 -0.6
GKP Gorka Klasztor 68.43 338 eP P 20 11 05.8 -0.6
330A Mertzon 68.47 66 ⇓P P 20 11 06.8 -0.3
baz=68,SNR=10
231A Bronte 68.51 65 ⇓P P 20 11 06.8 -0.5
baz=68,SNR=6.4
429A Davenport Ranc 68.70 67 ⇑P P 20 11 08.5 -0.1
baz=68,SNR=18
PKDT Phuket 68.74 253 P P 20 11 10.0 +1.2
comp=Z,71nm,1.2s
TXAR Lajitas Array 68.77 69 P P 20 11 09.7 +0.6
TXAR Lajitas Array 68.77 69 P P 20 11 09.7 +0.6
comp=Z,27nm,1.0s,baz=294,slow=3.5,SNR=150
EAB Aberfoyle 68.78 352 eP P 20 11 08.6 0.0
627A Terlingua Ranc 68.82 69 ⇓P P 20 11 10.0 +0.6
baz=69,SNR=38
ESY Stoneypath 68.89 351 eP P 20 11 09.7 +0.4
232A Coleman 68.90 65 ⇓P P 20 11 09.6 -0.2
baz=69,SNR=19
529A Stev Forest Ra 68.92 68 ⇑P P 20 11 10.4 +0.5
baz=69,SNR=35
430A Baggett Ranch, 68.93 66 ⇑P P 20 11 10.0 +0.1
baz=69,SNR=15
331A San Angelo 68.94 65 ⇑P P 20 11 10.1 +0.1
baz=69,SNR=18
BEL Belsk 68.96 336 eP P 20 11 11.2 +1.5
BEL Belsk 68.96 336 eP P 20 11 11.2 +1.5
KIV Kislovodsk 69.02 318⇑iP P 20 11 10.8 +0.4
KIV eS S 20 20 19.1 +6.1
KIV pmax pmax
comp=Z,38nm,1.3s
KIV MLR MLR
comp=Z,900nm,19.0s
KIV Kislovodsk 69.02 318 P P 20 11 11.8 +1.4

comp=Z,172nm,0.7s,SNR=5.4
628A Black Gap, Mar 69.06 68 ⇓P P 20 11 11.6 +0.8
baz=69,SNR=17
KBZ Khabaz 69.13 317 P P 20 11 12.0 +1.1
KBZ pmax pmax
comp=Z,44nm,0.9s
KBZ MLR MLR
comp=Z,1μm,20.2s
KBZ Khabaz 69.13 317 P P 20 11 12.0 +1.1
KBZ Khabaz 69.13 317 P P 20 11 12.0 +1.1
comp=Z,44nm,0.9s,baz=60,slow=4.9,SNR=86
KBZ LR LR 20 45 18.2
comp=Z,1μm,20.2s,baz=18,slow=39
BSEG Bad Segeberg 69.13 343 *e*P P 20 11 11.6 +0.9
BSEG pmax pmax
comp=Z,18nm,1.0s
BSEG Bad Segeberg 69.13 343 *e*P P 20 11 11.6 +0.9
comp=Z,18nm,1.0s
PGBU Glenifferbraes 69.16 352 *e*P P 20 11 11.6 +0.7
PGBU AMB AMB 20 11 19.6
comp=Z,95nm,3.3s
332A Millersview 69.24 65 ⇓P P 20 11 12.0 +0.2
baz=69,SNR=24
KAPI Kappang 69.30 226 P P 20 11 12.6 +0.3
KAPI Kappang 69.30 226 P P 20 11 12.6 +0.3
comp=Z,9.8nm,0.9s,baz=117,slow=6.8,SNR=4.0
431A Sonora 69.34 66 ⇑P P 20 11 12.4 -0.1
baz=69,SNR=24
530A J-C Ranch, Com 69.37 67 ⇑P P 20 11 13.0 +0.3
baz=69,SNR=29
SIUC Southern Illin 69.41 53 *e*P P 20 11 12.8 +0.1
comp=Z,84nm,1.1s
SIUC *e* 20 11 21.0
ZEI Tsey 69.53 316 *e*P P 20 11 12.2 -1.5
ZEI pmax pmax
comp=Z,31nm,1.0s
ESK Eskdalemuir 69.54 351 *e*P P 20 11 13.7 +0.4
ESK AMB AMB 20 11 14.7
comp=Z,33nm,1.2s
ESK Eskdalemuir 69.54 351 *e*P P 20 11 13.5 +0.2
ESK pmax pmax
comp=Z,36nm,1.2s
ESK Eskdalemuir 69.54 351 *e*P P 20 11 13.5 +0.2
comp=Z,36nm,1.2s
GUDG Gudauri 69.56 316 P P 20 11 15.5 +1.6
432A Menard 69.62 65 ⇓P P 20 11 14.2 -0.1
baz=69,SNR=18
KULM Kulim 69.63 249 P P 20 11 15.3 +1.0
KULM Kulim 69.63 249 P P 20 11 14.1 -0.3
KULM Kulim 69.63 249 *e*P P 20 11 15.6 +1.2
comp=Z,96nm,1.2s
ECK Cauldkaine Hil 69.67 351 *e*P P 20 11 14.6 +0.6
531A Rocksprings 69.78 66 ⇓P P 20 11 15.2 0.0
baz=70,SNR=12
ONI Oni 69.87 316 P P 20 11 17.8 +2.2
MIAR Mount Ida 69.87 58 *e*P P 20 11 15.8 +0.1
MIAR pmax pmax
comp=Z,67nm,1.3s
MIAR Mount Ida 69.87 58 *e*P P 20 11 15.8 +0.1
comp=Z,67nm,1.3s
RUE Ruedersdorf 69.88 340 *e*P P 20 11 16.1 +0.7
comp=Z,32nm,0.9s
JCT Junction City 69.92 66 *e*P P 20 11 16.2 +0.1
JCT pmax pmax
comp=Z,77nm,1.1s
JCT Junction City 69.92 66 *e*P P 20 11 16.2 +0.1
comp=Z,77nm,1.1s
JCT Junction City 69.92 66 ⇓P P 20 11 16.0 -0.1
baz=70,SNR=16
WHTX Lake Whitney 69.95 63 P P 20 11 24.4 +8.2
WHTX Lake Whitney 69.95 63 ⇓P P 20 11 16.2 +0.1
baz=70
LVV L'vov 69.99 333 *e*P P 20 11 17.5 +1.4
LVV *i* 20 11 25.1
LVV MLR MLR
comp=N,500nm,15.0s
LVV MLR MLR
comp=E,400nm,15.0s
LVV MLR MLR
comp=Z,500nm,15.0s
PARMO Parma 70.01 54 *e*P P 20 11 16.6 +0.1
TBLG Delisi 70.07 315 P P 20 11 17.9 +1.0
IPM Ipoh 70.10 248 P P 20 11 17.6 +0.3
IPM Ipoh 70.10 248 P P 20 11 18.0 +0.7
comp=Z,78nm,1.1s,comp=Z,626nm
IPM Ipoh 70.10 248 *e*P P 20 11 17.3 0.0
comp=Z,84nm,1.1s
532A Rocksprings 70.15 66 ⇑P P 20 11 17.3 -0.2
baz=70,SNR=15
KESW Keswick, Cumbr 70.25 351 *e*P P 20 11 17.0 -0.7
KESW AMB AMB 20 11 20.3
comp=Z,48nm,1.1s
ANN Anapa 70.27 322 *e*P P 20 11 15.7 -2.2
ANN *e**PP **pP** 20 11 25.0 -2.4
ANN *e*S **S** 20 20 25.8 -1.6
ANN pmax pmax
comp=Z,24nm,1.3s
631A Perdido Creek 70.36 67 ⇓P P 20 11 18.7 0.0
baz=70,SNR=23
GNAR Gosnell 70.45 55 *e*P P 20 11 20.0 +0.8
comp=Z,2μm,1.3s
GNAR *e* 20 11 27.8
SOC Sochi 70.47 319 *e*P P 20 11 19.5 +0.3
SOC *e**PP **pP** 20 11 28.5 -0.3
SOC *e* 20 13 57.0
SOC *e*S **S** 20 20 28.8 -1.1
SOC *e**SS **SKiKP** 20 21 07.2 +6.7
SOC pmax pmax
comp=Z,25nm,0.9s
SOC MLR MLR
comp=Z,588nm,12.0s
KWP Kalwaria Pacla 70.51 333 ⇑P P 20 11 20.4 +1.1
KWP Kalwaria Pacla 70.51 333 ⇑*i*P P 20 11 20.4 +1.1
KWP Kalwaria Pacla 70.51 333 *e*P P 20 11 20.2 +0.9
comp=Z,91nm,1.1s
KWP Kalwaria Pacla 70.51 333 *e*P P 20 11 20.6 +1.3
NRDL Niedersach Rie 70.55 342 *e*P P 20 11 19.9 +0.5
comp=Z,15nm,1.1s
NRDL *e*pP **pP** 20 11 27.1 -1.9
OJC Ojcow 70.69 336 *e*P P 20 11 20.8 +0.4
OJC Ojcow 70.69 336 *e*P P 20 11 20.8 +0.4
632A Uvalde 70.70 66 ⇓P P 20 11 20.7 -0.2
baz=70,SNR=14
HPK Haverah Park 70.74 350 *e*P P 20 11 21.1 +0.5
HPK AMB AMB 20 11 23.1
comp=Z,54nm,1.3s
HALT Halls 70.81 55 *e*P P 20 11 21.9 +0.6
FRIM Kepong 70.83 247 P P 20 11 22.1 +0.5
GMM Mts of Mourne 70.83 353 *e*P P 20 11 21.3 +0.2
AKH Akhalkalaki 70.85 316 P P 20 11 22.8 +1.1
PBKI Pangkalan Bun 70.85 235 P P 20 11 22.7 +0.9
MYKOM Kota Tinggi 70.87 244 P P 20 11 22.5 +0.5
MYKOM Kota Tinggi 70.87 244 P P 20 11 24.5 +2.6
comp=Z,19nm,1.6s
KSP Ksiaz 70.91 338 *e*P P 20 11 22.4 +0.7
KSP *e*S **S** 20 20 39.0 +4.3
KSP MLR MLR
comp=Z,1μm,18.2s
KSP Ksiaz 70.91 338 *e*P P 20 11 22.5 +0.7
KGM Kluang 70.96 245 P P 20 11 23.7 +1.2
STHS Stebnicka Huta 71.08 334 *e*P P 20 11 24.7 +1.9
STHS pmax pmax
comp=Z,16nm,0.9s
STHS Stebnicka Huta 71.08 334 *e*P P 20 11 24.7 +1.9
IBBN Ibbenburen 71.13 344 *e*P P 20 11 23.6 +0.6
comp=Z,45nm,1.2s
CLZ Clausthal 71.13 342 *e*P P 20 11 24.1 +1.0
CLZ pmax pmax
comp=Z,42nm,1.0s
CLZ Clausthal 71.13 342 *e*P P 20 11 24.1 +1.0
comp=Z,42nm,1.0s
CLL Collm 71.15 340 *i*P P 20 11 23.3 +0.1
CLL *e*S **S** 20 20 40.0 +2.5
CLL pmax pmax
comp=Z,6.0nm,1.1s
CLL MLR MLR
comp=Z,300nm,19.4s
CLL Collm 71.15 340 *e*P P 20 11 23.4 +0.2
comp=Z,43nm,1.1s
CLL *e*pP **pP** 20 11 31.9 -0.8
CLL Collm 71.15 340 *i*P P 20 11 23.3 +0.1
comp=Z,43nm,1.1s
CLL *i*pP **pP** 20 11 31.1 -1.6
comp=Z,44nm,1.3s
CLL *e*PcP **PcP** 20 11 43.0 -0.1
CLL *e*S **S** 20 20 40.0 +2.5
CLL *e*SS **SS** 20 25 12.0 +2.0
CLL LmV 20 46 00.0
comp=Z,300nm,19.4s
IKOO Kooshah 71.16 300 *e*P P 20 11 24.2 +0.3
732A Laxson Ranch, 71.22 67 ⇑P P 20 11 24.6 +0.6
baz=71,SNR=22
KOLS Kolonicke sedl 71.27 333 *e*P P 20 11 24.9 +1.0
KOLS pmax pmax
comp=Z,13nm,1.1s
KOLS Kolonicke sedl 71.27 333 *e*P P 20 11 24.8 +0.9
UPC Upice 71.29 338 *e*P P 20 11 24.9 +0.9
UPC Upice 71.29 338 *e*P P 20 11 24.9 +0.9
SIM Simferopol' 71.30 324 *de*P P 20 11 24.9 +0.7
SIM *e**PP **pP** 20 11 35.0 +1.2
SIM *e*S **S** 20 20 44.0 +4.6
SIM pmax pmax
comp=Z,20nm,1.1s
SIM MLR MLR
comp=Z,300nm,14.0s
NIE Niedzica 71.31 335 *e*P P 20 11 23.4 -0.8
NIE Niedzica 71.31 335 *e*P P 20 11 23.4 -0.8
WVT Waverly 71.34 53 *e*P P 20 11 24.3 -0.3
WVT pmax pmax
comp=Z,67nm,1.4s
WVT Waverly 71.34 53 *e*P P 20 11 24.3 -0.3
comp=Z,67nm,1.4s
DPC Dobruska-Polom 71.37 338 *e*P P 20 11 25.6 +1.0
DPC *e**PP **pP** 20 11 34.1 -0.1
DPC *e*S **S** 20 20 43.1 +2.9
DPC Dobruska-Polom 71.37 338 *e*P P 20 11 25.6 +1.0
DPC *e*pP **pP** 20 11 34.1 -0.1
DPC *e*S **S** 20 20 43.1 +2.9
DPC AMS AMS 20 48 20.0
BRG Berggiesshubel 71.37 339 *i*P P 20 11 25.4 +0.8
comp=Z,30nm,1.2s
BRG
comp=N,975nm,16.5s
BRG
comp=E,435nm,16.8s
BRG
comp=Z,1μm,15.2s
BRG Berggiesshubel 71.37 339 *i*P P 20 11 25.4 +0.8
BRG pmax pmax
comp=Z,30nm,1.2s
BRG MLR MLR
comp=N,975nm,16.5s
BRG MLR MLR
comp=E,435nm,16.8s
BRG MLR MLR
comp=Z,1μm,15.2s
BRG Berggiesshubel 71.37 339 *e*P P 20 11 24.9 +0.4
comp=Z,30nm,1.2s
BRG *e*pP **pP** 20 11 33.2 -0.9
GNI Garni 71.40 314 P P 20 11 27.1 +2.1
SNR=17
GNI Garni 71.40 314 *e*P P 20 11 25.8 +0.7
comp=Z,96nm,1.4s
GNI Garni 71.40 314 P P 20 11 26.2 +1.2
comp=Z,8.5nm,0.6s,baz=312,slow=2.2,SNR=23
KBI1 Birley Grange 71.42 350 *e*P P 20 11 25.3 +0.5
OKC Ostrava-Krasne 71.44 336 *e*P P 20 11 25.3 +0.4
OKC *e* 20 11 30.8
OKC *e*S **S** 20 20 43.6 +2.7
OKC MLR MLR
comp=Z,800nm,13.4s
OKC Ostrava-Krasne 71.44 336 *e*P P 20 11 25.3 +0.4
OKC *ex* x 20 11 30.8
OKC *e*S **S** 20 20 43.6 +2.7
OKC AMS AMS 20 46 50.0
comp=Z,800nm,13.4s
FBE Freiberg 71.45 340 *e*P P 20 11 25.8 +0.8
comp=Z,50nm,1.2s
NEUB Neuenburg 71.48 341 *e*P P 20 11 25.7 +0.6
comp=Z,18nm,0.9s
CRVS Cervenica-Dubn 71.50 334 *e*P P 20 11 26.5 +1.1
CRVS pmax pmax
comp=Z,19nm,1.4s
CRVS Cervenica-Dubn 71.50 334 *e*P P 20 11 26.5 +1.1
UZH Uzhgorod 71.54 333 *e*P P 20 11 22.7 -2.8
UZH *e* 20 11 27.9
UZH *e*PPP PPP 20 15 42.7
UZH *e*S **S** 20 20 36.9 -5.1
UZH *e* 20 21 20.7
UZH *e*SS **SS** 20 25 16.5 +0.4
UZH *e*SSS SSS 20 28 22.3
UZH MLR MLR
comp=N,450nm,15.0s
UZH MLR MLR
comp=E,420nm,15.0s
UZH MLR MLR
comp=Z,260nm,15.0s
PVCC Panska Ves 71.57 339 *e*P P 20 11 26.6 +0.9
PVCC MLR MLR
comp=Z,800nm,16.4s
PVCC Panska Ves 71.57 339 *e*P P 20 11 26.6 +0.9
PVCC AMS AMS 20 47 40.0
comp=Z,800nm,16.4s
MORC Moravsky Berou 71.63 337 ⇑P P 20 11 27.5 +1.3
MORC Moravsky Berou 71.63 337 ⇑*i*P P 20 11 27.5 +1.3
MORC Moravsky Berou 71.63 337 *e*P P 20 11 26.3 +0.1
comp=Z,18nm,0.8s
BUR08 Bucovina Ar. S 71.66 331 *e*P P 20 11 26.8 +0.3
BURAR Bucovina Array 71.68 331 ⇑P P 20 11 27.4 +0.8
BURAR Bucovina Array 71.68 331 ⇑*i*P P 20 11 27.4 +0.8
SSPA Standing Stone 71.91 44 *e*P P 20 11 27.2 -0.7
comp=Z,46nm,1.5s
OXF Oxford 71.92 56 *e*P P 20 11 27.5 -0.6
OXF *e* 20 11 36.5
OXF pmax pmax
comp=Z,138nm,1.3s
OXF Oxford 71.92 56 *e*P P 20 11 27.5 -0.6
comp=Z,138nm,1.3s
OXF *e* 20 11 36.5
TRPA Tarpa 71.94 333 ⇑*i*P P 20 11 29.4 +1.5
AFI Afiamalu 71.94 153 LR LR 20 39 58.9
comp=Z,308nm,18.8s,baz=159,slow=33
PRA Prague 72.03 339 P P 20 11 30.0 +1.5
BUG Bochum--Univer 72.04 344 *e*P P 20 11 28.9 +0.4
comp=Z,19nm,0.9s
PRU Pruhonice 72.09 339 *e*P P 20 11 29.8 +1.0
PRU *e**PP **pP** 20 11 37.6 -0.8
PRU *e*S **S** 20 20 49.8 +1.4
PRU MLR MLR
comp=Z,800nm,16.7s
PRU Pruhonice 72.09 339 *e*P P 20 11 29.8 +1.0
PRU *ex* x 20 11 37.6
PRU *e*S **S** 20 20 49.8 +1.4
PRU AMS AMS 20 47 50.0
comp=Z,800nm,16.7s
PLN Plauen 72.10 340 *e*P P 20 11 29.7 +0.8
comp=Z,148nm,1.2s
WERD Werda 72.10 340 *e*P P 20 11 29.8 +0.8
comp=Z,34nm,1.0s
TANN Tannenbergstha 72.11 340 *e*P P 20 11 29.8 +0.8
comp=Z,18nm,1.1s
KECS Kecovo 72.14 334 *e*P P 20 11 30.2 +1.0
KECS pmax pmax
comp=Z,7.0nm,1.1s
KECS Kecovo 72.14 334 *e*P P 20 11 30.2 +1.0
IGZV Ghazvin 72.15 308 *e*P P 20 11 30.8 +1.0
GUNZ Gunzen 72.18 340 *e*P P 20 11 30.3 +0.9
comp=Z,22nm,0.9s
GUNZ *e*pP **pP** 20 11 38.6 -0.4
UBBA Unterbreizbach 72.18 342 *e*P P 20 11 30.0 +0.8
comp=Z,9.0nm,0.9s
WERN Wernitzgruen 72.24 340 *e*P P 20 11 30.7 +0.9
comp=Z,32nm,0.8s
TESR Tescani 72.27 330 ⇓*i*P P 20 11 30.6 +0.6
NKC Novy Kostel 72.28 340 *e*P P 20 11 31.0 +1.0
NKC MLR MLR
comp=Z,400nm,12.6s
NKC Novy Kostel 72.28 340 *e*P P 20 11 31.0 +1.0
NKC AMS AMS 20 49 40.0
comp=Z,400nm,12.6s
HLM1 Long Mynd 72.28 351 *e*P P 20 11 30.3 +0.3
HLM1 AMB AMB 20 11 32.4
comp=Z,30nm,1.3s
VRAC Vranov 72.29 337 ⇑*i*P P 20 11 31.6 +1.5
VRAC Vranov 72.29 337 P P 20 11 31.4 +1.3
VRAC Vranov 72.29 337 P P 20 11 31.4 +1.3
comp=Z,16nm,0.7s,baz=33,slow=6.3,SNR=30
HYB Hyderabad 72.37 275 *i*P PcP 20 11 50.0 +1.1
HKT Hockley 72.41 63 *e*P P 20 11 31.6 +0.6
HKT *e* 20 11 39.9
HKT pmax pmax
comp=Z,41nm,1.4s
HKT Hockley 72.41 63 *e*P P 20 11 31.6 +0.6
comp=Z,41nm,1.4s
HKT *e* 20 11 39.9
TREC Trest 72.54 338 *e*P P 20 11 32.5 +0.9
TREC *e* 20 11 40.0
TREC MLR MLR
comp=Z,800nm,17.3s
TREC Trest 72.54 338 *e*P P 20 11 32.5 +0.9
TREC *ex* x 20 11 40.0
TREC AMS AMS 20 49 00.0
comp=Z,800nm,17.3s
MANZ Manzenberg 72.58 340 *e*P P 20 11 32.5 +0.7
comp=Z,24nm,1.2s
PSI Prapat 72.64 249 P P 20 11 33.7 +1.0
comp=Z,54nm,1.4s,comp=Z,585nm
ROTZ Rotzenmuhle 72.77 340 *e*P P 20 11 34.1 +1.2
comp=Z,26nm,1.0s
PSZ Piszkesteto 72.81 335 *e*P P 20 11 34.5 +1.2
PSZ pmax pmax
comp=Z,17nm,1.0s
PSZ Piszkesteto 72.81 335 ⇑*i*P P 20 11 34.9 +1.6
PSZ Piszkesteto 72.81 335 *e*P P 20 11 34.5 +1.2
comp=Z,16nm,1.0s
MCH1 Michaelchurch 72.81 351 *e*P P 20 11 32.3 -0.8
MCH1 AMB AMB 20 11 41.8
comp=Z,36nm,1.5s
PETR Petresti 72.81 329 ⇑*i*P P 20 11 35.2 +2.0
TLCR 72.81 328 ⇓P P 20 11 34.4 +1.2
TLCR 72.81 328 ⇓*i*P P 20 11 34.3 +1.1
PLOR Plostina 72.87 329 ⇑P P 20 11 34.3 +0.7
PLOR Plostina 72.87 329 ⇑*i*P P 20 11 34.3 +0.7
CJR Cluj-Napoca 72.95 332 ⇓P P 20 11 36.1 +2.0
CJR Cluj-Napoca 72.95 332 ⇓*i*P P 20 11 36.1 +2.0
SWET Sewanee 72.97 53 *e*P P 20 11 31.3 -3.1
comp=Z,46nm,0.9s
TNS Taunus Mts 73.03 343 *e*P P 20 11 35.1 +0.6
TNS *e**PP **pP** 20 11 43.6 -0.5
TNS pmax pmax
comp=Z,11nm,0.9s
TNS Taunus Mts 73.03 343 *e*P P 20 11 35.1 +0.6
comp=Z,11nm,0.9s
TNS *e*pP **pP** 20 11 43.6 -0.5
CFR Carcaliu 73.03 328 ⇑P P 20 11 35.1 +0.6
CFR Carcaliu 73.03 328 ⇑*i*P P 20 11 35.1 +0.6
GRF Grafenberg Arr 73.03 341 *e*P P 20 11 35.6 +1.1
GRF pmax pmax
comp=Z,44nm,0.9s
GRF Grafenberg Arr 73.03 341 *e*P P 20 11 35.6 +1.1
comp=Z,44nm,0.9s
GRFO Grafenberg 73.03 341 *e*P P 20 11 35.2 +0.7
GRFO pmax pmax
comp=Z,36nm,0.8s
GRFO Grafenberg 73.03 341 *e*P P 20 11 35.1 +0.7
comp=Z,36nm,0.8s
MEM Membach 73.05 344 P P 20 11 35.4 +0.9
comp=Z,29nm,1.0s
IRAZ Razeghan 73.09 308 *e*P P 20 11 36.1 +0.8
KHC Kasperske Hory 73.10 339 *e*P P 20 11 36.1 +1.1
KHC *e**PP **pP** 20 11 44.2 -0.4
KHC *e*S **SKiKP** 20 21 04.8 +0.5
KHC MLR MLR
comp=Z,1μm,16.2s
KHC Kasperske Hory 73.10 339 *e*P P 20 11 36.1 +1.1
KHC *ex* x 20 11 44.2
KHC *e*S **SKiKP** 20 21 04.8 +0.5
KHC AMS AMS 20 48 40.0
comp=Z,1μm,16.2s
KHC Kasperske Hory 73.10 339 *e*P P 20 11 35.9 +1.0
comp=Z,30nm,1.0s
DRGR 73.12 332 ⇑P P 20 11 36.0 +0.9
DRGR 73.12 332 ⇑*i*P P 20 11 36.0 +0.9
WET Wettzell 73.23 340 *e*P P 20 11 36.9 +1.2
WET pmax pmax
comp=Z,34nm,1.2s
WET Wettzell 73.23 340 *e*P P 20 11 36.9 +1.2
comp=Z,34nm,1.2s
BCLA Clavier 73.34 345 P P 20 11 37.8 +1.5
comp=Z,9.7nm,1.2s
GEC2 GERESS Array S 73.35 339 *e*P P 20 11 37.2 +0.7
GEC2 pmax pmax
comp=Z,20nm,1.1s
GEC2 GERESS Array S 73.35 339 *e*P P 20 11 37.2 +0.7
comp=Z,20nm,1.1s
GERES GERESS Array B 73.35 339 P P 20 11 37.5 +1.0
GERES GERESS Array B 73.35 339 P P 20 11 37.5 +1.0
comp=Z,8.7nm,0.8s,baz=35,slow=4.9,SNR=84
GERES LR LR 20 49 55.6
comp=Z,470nm,18.1s,baz=9.3,slow=41
MLR Muntele Rosu 73.40 330 ⇑*i*P P 20 11 38.4 +1.5
MLR Muntele Rosu 73.40 330 P P 20 11 38.0 +1.1
MLR Muntele Rosu 73.40 330 P P 20 11 38.0 +1.1
comp=Z,4.1nm,0.7s,baz=172,slow=5.8,SNR=35
ISR Istrita 73.56 329 ⇑P P 20 11 39.3 +1.5
ISR Istrita 73.56 329 ⇑*i*P P 20 11 39.3 +1.5
TIRR Tirgusor 73.59 327 ⇑P P 20 11 38.0 +0.2
TIRR Tirgusor 73.59 327 ⇑*i*P P 20 11 38.0 +0.2
TLB Topalu 73.59 328 ⇑P P 20 11 39.2 +1.4
TLB Topalu 73.59 328 ⇑*i*P P 20 11 39.2 +1.4
VOIR 73.71 330 ⇓P P 20 11 40.4 +1.3
VOIR 73.71 330 ⇓*i*P P 20 11 40.4 +1.3
GIVF Givet 73.72 345 *e*P P 20 11 38.3 -0.2
comp=Z,29nm,1.0s
GIVF Givet 73.72 345 *e*P P 20 11 38.3 -0.2
GIVF pmax pmax
comp=Z,29nm,1.0s
GIVF Givet 73.72 345 *e*P P 20 11 38.3 -0.2
comp=Z,29nm,1.0s
CONA Conrad Observa 73.75 337 ⇑*i*P P 20 11 40.7 +1.8
comp=Z,31nm,1.3s,SNR=5.1
AMRR Amara 73.79 328 ⇑P P 20 11 40.0 +1.0
AMRR Amara 73.79 328 ⇑*i*P P 20 11 40.0 +1.0
BAIF Baives 73.85 346 *e*P P 20 11 39.4 +0.1
comp=Z,15nm,0.8s
BAIF Baives 73.85 346 *e*P P 20 11 39.4 +0.1
BAIF pmax pmax
comp=Z,15nm,0.8s
BAIF Baives 73.85 346 *e*P P 20 11 39.4 +0.1
comp=Z,15nm,0.8s
SIRR Siria 73.89 333 ⇑*i*P P 20 11 40.7 +1.1
ARR Arges 73.89 330 ⇑*i*P P 20 11 41.4 +1.7
WLF Walferdange 73.94 344 P P 20 11 41.5 +1.7
comp=Z,7.9nm,1.1s
WLF Walferdange 73.94 344 *e*P P 20 11 40.5 +0.7
comp=Z,25nm,1.3s
MSAB Monastry St. A 74.11 328 ⇓*i*P P 20 11 41.7 +0.9
POO Poona 74.19 280 *e*P P 20 11 40.0 -1.7
LRAL Lakeview Retre 74.27 55 *e*P P 20 11 41.1 -0.9
comp=Z,10nm,0.8s
STU Stuttgart 74.29 342 *e*P P 20 11 40.6 -1.3
STU Stuttgart 74.29 342 *e*P P 20 11 42.4 +0.5
comp=Z,23nm,0.9s
STU Stuttgart 74.29 342 *e*P P 20 11 40.6 -1.3
LANF Langenberg 74.33 343 *e*P P 20 11 43.2 +1.1
GZR Gura Zlata 74.39 332 ⇑P P 20 11 43.5 +0.9
GZR Gura Zlata 74.39 332 ⇑*i*P P 20 11 43.5 +0.9
BZS Buzias 74.50 333 ⇑P P 20 11 43.9 +0.8
BZS Buzias 74.50 333 ⇑*i*P P 20 11 43.9 +0.8
RJOB Jochberg 74.59 339 *e*P P 20 11 44.8 +1.1
comp=Z,25nm,0.9s
GSI Gunungsitoli 74.62 250 P P 20 11 45.9 +1.7
PKSM Moragy 74.71 335 ⇓P P 20 11 44.9 +0.6
PKSM Moragy 74.71 335 ⇓*i*P P 20 11 44.9 +0.6
BFO Black Forest 74.87 342 *e*P P 20 11 45.6 +0.3
BFO pmax pmax
comp=Z,16nm,1.0s
BFO Black Forest 74.87 342 *e*P P 20 11 45.7 +0.4
comp=Z,16nm,1.0s
BFO Black Forest 74.87 342 *e*P P 20 11 45.6 +0.4
comp=Z,16nm,1.0s
BFO Black Forest 74.87 342 P P 20 11 45.6 +0.4
comp=Z,90nm,1.0s,SNR=7.7
CDF Champ du Feu 74.97 343 *e*P P 20 11 46.2 +0.2
comp=Z,55nm,1.0s
CDF Champ du Feu 74.97 343 *e*P P 20 11 46.2 +0.2
CDF pmax pmax
comp=Z,55nm,1.0s
CDF Champ du Feu 74.97 343 *e*P P 20 11 46.2 +0.2
comp=Z,55nm,1.0s
PAGF Fort de Pagny 75.09 344 *e*P P 20 11 47.0 +0.5
comp=Z,19nm,0.9s
PAGF Fort de Pagny 75.09 344 *e*P P 20 11 47.0 +0.5
comp=Z,19nm,0.9s

KMSC Kings Mountain 75.10 49 *e*P **P 20 11 46.5 -0.3**
KMSC Kings Mountain 75.10 49 ⇑P **P 20 11 46.4 -0.3**
baz=75
KBA Koelnbreinsper 75.10 339 ⇑*i*P **P 20 11 48.8 +2.0**
comp=Z,76nm,1.2s,SNR=11
ECH Echery 75.18 343 *e*P **P 20 11 46.3 -0.8**
ECH pmax pmax
comp=Z,24nm,1.0s
ECH Echery 75.18 343 *e*P **P 20 11 47.1 0.0**
ECH Echery 75.18 343 *e*P **P 20 11 46.3 -0.8**
comp=Z,24nm,1.0s
IKOM Komasi 75.21 309 *e*P **P 20 11 48.6 +0.9**
IVIS Veis 75.22 310 *e*P **P 20 11 47.5 -0.1**
GROS Grobnik 75.22 337 *i* P **P 20 11 48.6 +1.3**
WATA Walderalm 75.22 340 ⇑*i*P **P 20 11 48.8 +1.4**
comp=Z,26nm,1.0s,SNR=8.8
RETA Reutte 75.23 340 ⇑*i*P **P 20 11 48.5 +1.0**
comp=Z,17nm,0.9s
MEZF Maizieres J'vi 75.25 345 *e*P **P 20 11 47.8 +0.4**
comp=Z,20nm,0.7s
MEZF Maizieres J'vi 75.25 345 *e*P **P 20 11 47.8 +0.4**
comp=Z,20nm,0.7s
IDHR Dehrash 75.28 310 *e*P **P 20 11 48.5 +0.4**
WTTA Wattenberg 75.28 340 ⇑*i*P **P 20 11 49.5 +1.7**
comp=Z,41nm,1.3s,SNR=7.9
MOTA Moosalm 75.31 340 ⇑*i*P **P 20 11 49.1 +1.2**
comp=Z,22nm,0.8s,SNR=14
THEF They Montfort 75.36 344 *e*P **P 20 11 46.9 -1.2**
FELD Feldberg im Sc 75.37 342 *e*P **P 20 11 49.0 +0.7**
OBKA Obir 75.39 338 ⇑*i*P **P 20 11 50.0 +1.6**
comp=Z,44nm,0.9s
PWJI Pagerwojo 75.46 232 P **P 20 11 49.2 +0.3**
MALT Malatya 75.51 318 ⇑P **P 20 11 51.2 +2.0**
MALT Malatya 75.51 318 ⇑*i*P **P 20 11 51.2 +2.0**
HAU Haudompre 75.52 344 *e*P **P 20 11 49.2 +0.2**
comp=Z,23nm,0.8s
HAU *e*R
comp=Z,573nm,20.5s
HAU Haudompre 75.52 344 *e*P **P 20 11 49.2 +0.2**
HAU pmax pmax
comp=Z,23nm,0.8s
HAU Haudompre 75.52 344 *e*P **P 20 11 49.2 +0.2**
comp=Z,23nm,0.8s
SFTF Sexfontaines 75.54 345 *e*P **P 20 11 49.2 +0.1**
comp=Z,38nm,0.8s
SFTF Sexfontaines 75.54 345 *e*P **P 20 11 49.2 +0.1**
comp=Z,38nm,0.8s
MOF Molkenrain 75.54 343 *e*P **P 20 11 48.3 -0.9**
ABTA Abfaltersbach 75.59 339 ⇑*i*P **P 20 11 50.8 +1.3**
comp=Z,43nm,1.1s,SNR=6.0
HINF Hinteralfeld 75.62 343 *e*P **P 20 11 49.5 -0.1**
comp=Z,31nm,1.1s
HINF Hinteralfeld 75.62 343 *e*P **P 20 11 49.5 -0.1**
HINF pmax pmax
comp=Z,31nm,1.1s
HINF Hinteralfeld 75.62 343 *e*P **P 20 11 49.5 -0.1**
comp=Z,31nm,1.1s
FETA Feichten 75.69 340 ⇑*i*P **P 20 11 51.8 +1.6**
comp=Z,45nm,1.0s,SNR=12
FLN La Foliniere 75.74 348 *e*P **P 20 11 49.9 -0.3**
comp=Z,44nm,1.1s
FLN *e*R
comp=Z,402nm,18.8s
FLN La Foliniere 75.74 348 *e*P **P 20 11 49.9 -0.3**
FLN pmax pmax
comp=Z,44nm,1.1s
FLN La Foliniere 75.74 348 *e*P **P 20 11 49.9 -0.3**
comp=Z,44nm,1.1s
KBSD Kabsdagh 75.80 315 *e*P **P 20 11 52.5 +1.7**
CADS Cadrg 75.83 338 *i* P **P 20 11 52.2 +1.4**
LDF La Druitiere 75.86 348 *e*P **P 20 11 50.6 -0.3**
comp=Z,15nm,0.9s
LDF La Druitiere 75.86 348 *e*P **P 20 11 50.6 -0.3**
LDF pmax pmax
comp=Z,15nm,0.9s
LDF La Druitiere 75.86 348 *e*P **P 20 11 50.6 -0.3**
comp=Z,15nm,0.9s
CTA Charters Tower 75.90 196 P **P 20 11 51.0 -0.3**
CTA Charters Tower 75.90 196 P **P 20 11 51.0 -0.3**
comp=Z,5.2nm,0.7s,baz=0.0,slow=12,SNR=5.3
CTAO Charters Tower 75.90 196 P **P 20 11 51.3 0.0**
CTAO Charters Tower 75.90 196 P **P 20 11 51.3 0.0**
BR131 Keskin Array S 76.06 322 *e*P **P 20 11 53.0 +0.6**
comp=Z,14nm,0.7s
BRTR Keskin Array B 76.06 322 P **P 20 11 53.1 +0.7**
BRTR Keskin Array B 76.06 322 P **P 20 11 53.1 +0.7**
comp=Z,15nm,0.7s,baz=64,slow=3.3,SNR=84
BRTR LR LR 20 50 14.6
comp=Z,367nm,18.3s,baz=161,slow=40
GRR Gorron 76.15 349 *e*P **P 20 11 52.6 0.0**
comp=Z,60nm,1.0s
GRR Gorron 76.15 349 *e*P **P 20 11 52.6 0.0**
GRR pmax pmax
comp=Z,60nm,1.0s
GRR Gorron 76.15 349 *e*P **P 20 11 52.6 0.0**
comp=Z,60nm,1.0s
BOJS Bojanci 76.18 337 *i* P **P 20 11 53.9 +1.1**
IPAR Pars 76.21 302 *e*P **P 20 11 55.3 +1.7**
ANTO Ankara 76.24 322 ⇑P **P 20 11 54.6 +1.3**
ANTO Ankara 76.24 322 P **P 20 11 55.3 +1.9**
SNR=12
ANTO Ankara 76.24 322 ⇑*i*P **P 20 11 54.6 +1.3**
ANTO Ankara 76.24 322 *e*P **P 20 11 53.8 +0.4**
comp=Z,36nm,1.0s
ROSF Rostrenen 76.46 350 *e*P **P 20 11 55.3 +1.0**
comp=Z,131nm,1.3s
ROSF Rostrenen 76.46 350 *e*P **P 20 11 55.3 +1.0**
ROSF pmax pmax
comp=Z,131nm,1.3s
ROSF Rostrenen 76.46 350 *e*P **P 20 11 55.3 +1.0**
comp=Z,131nm,1.3s
SGMF Saint Gilles 76.47 350 *e*P **P 20 11 54.6 +0.2**
comp=Z,62nm,1.0s
SGMF Saint Gilles 76.47 350 *e*P **P 20 11 54.6 +0.2**
SGMF pmax pmax
comp=Z,62nm,1.0s
SGMF Saint Gilles 76.47 350 *e*P **P 20 11 54.6 +0.2**
comp=Z,62nm,1.0s
SFNV Sufian 76.48 315 *e*P **P 20 11 56.9 +2.2**
TUE Stuetta 76.48 341 *e*P **P 20 11 55.1 +0.4**
comp=Z,24nm,0.8s
ISRV Sarvestan 76.56 302 *e*P **P 20 11 57.0 +1.4**
LOR Lormes 76.63 345 *e*P **P 20 11 55.3 0.0**
comp=Z,32nm,0.9s
LOR *e*R
comp=Z,439nm,19.0s
LOR Lormes 76.63 345 *e*P **P 20 11 55.3 0.0**
comp=Z,32nm,0.9s
DZM Mont Dzumac 76.70 176 *e*LR LR 20 35 53.8
comp=Z,512nm,21.1s
MZRK Al-Mazaregh 76.77 315 *e*P **P 20 11 57.5 +1.2**
VTS Vitosha 76.85 330 ⇑P **P 20 11 57.3 +0.5**
VTS Vitosha 76.85 330 ⇑*i*P **P 20 11 57.3 +0.5**
QUIF Quistinic 76.86 350 *e*P **P 20 11 56.6 0.0**
comp=Z,75nm,1.2s
QUIF Quistinic 76.86 350 *e*P **P 20 11 56.6 0.0**
QUIF pmax pmax
comp=Z,75nm,1.2s
QUIF Quistinic 76.86 350 *e*P **P 20 11 56.6 0.0**
comp=Z,75nm,1.2s
SSF Saint Saulge 76.88 345 *e*P **P 20 11 56.8 +0.1**
comp=Z,17nm,0.9s
SSF Saint Saulge 76.88 345 *e*P **P 20 11 56.8 +0.1**
SSF pmax pmax
comp=Z,17nm,0.9s
SSF Saint Saulge 76.88 345 *e*P **P 20 11 56.8 +0.1**
comp=Z,17nm,0.9s
CABF La Chapelle 76.92 343 *e*P **P 20 11 57.5 +0.4**
comp=Z,34nm,0.9s
CABF La Chapelle 76.92 343 *e*P **P 20 11 57.5 +0.4**
CABF pmax pmax
comp=Z,34nm,0.9s
CABF La Chapelle 76.92 343 *e*P **P 20 11 57.5 +0.4**
comp=Z,34nm,0.9s
AVF Avril sur Loir 77.17 345 *e*P **P 20 11 58.5 +0.2**
comp=Z,38nm,1.0s
AVF Avril sur Loir 77.17 345 *e*P **P 20 11 58.5 +0.2**
AVF pmax pmax
comp=Z,38nm,1.0s
AVF Avril sur Loir 77.17 345 *e*P **P 20 11 58.5 +0.2**
comp=Z,38nm,1.0s
TIGA Tifton 77.19 53 *e*P **P 20 11 59.0 +0.3**
TIGA Tifton 77.19 53 ⇑P **P 20 11 59.0 +0.3**
baz=77
SMF Signal de Mont 77.24 345 *e*P **P 20 11 58.8 0.0**
comp=Z,28nm,1.1s
SMF Signal de Mont 77.24 345 *e*P **P 20 11 58.8 0.0**
SMF pmax pmax
comp=Z,28nm,1.1s
SMF Signal de Mont 77.24 345 *e*P **P 20 11 58.8 0.0**
comp=Z,28nm,1.1s
RDO Rodhopi 77.48 328 *e*P **P 20 11 59.2 -1.0**
SLMH Al Salmeh 77.53 317 *e*P **P 20 12 01.3 +0.7**
ALN Alexandroupoli 77.56 328 *e*P **P 20 12 01.1 +0.5**
NVR Nevrokopi 77.80 329 *e*P **P 20 12 03.0 +1.0**
MFF Saint Martin d 77.83 348 *e*P **P 20 12 02.3 +0.3**
comp=Z,37nm,1.1s
MFF Saint Martin d 77.83 348 *e*P **P 20 12 02.3 +0.3**
MFF pmax pmax
comp=Z,37nm,1.1s
MFF Saint Martin d 77.83 348 *e*P **P 20 12 02.3 +0.3**
comp=Z,37nm,1.1s
TCF Toulx Ste Croi 77.83 346 *e*P **P 20 12 02.1 0.0**
comp=Z,30nm,1.3s
TCF Toulx Ste Croi 77.83 346 *e*P **P 20 12 02.1 0.0**
TCF pmax pmax
comp=Z,30nm,1.3s
TCF Toulx Ste Croi 77.83 346 *e*P **P 20 12 02.1 0.0**
comp=Z,30nm,1.3s
LPL La Plagne 77.87 343 *e*P **P 20 12 03.8 +1.2**
comp=Z,62nm,1.0s
LPL La Plagne 77.87 343 *e*P **P 20 12 03.8 +1.2**
LPL pmax pmax
comp=Z,62nm,1.0s
LPL La Plagne 77.87 343 *e*P **P 20 12 03.8 +1.2**
comp=Z,62nm,1.0s
LPG La Plagne 77.89 343 *e*P **P 20 12 04.0 +1.2**
comp=Z,111nm,1.1s
LPG La Plagne 77.89 343 *e*P **P 20 12 04.0 +1.2**
LPG pmax pmax
comp=Z,111nm,1.1s
LPG La Plagne 77.89 343 *e*P **P 20 12 04.0 +1.2**
comp=Z,111nm,1.1s
AGO Saint Agoulin 77.92 345 *e*P **P 20 12 04.1 +1.5**
KAVA Kavala 77.93 329 *e*P **P 20 12 02.8 +0.1**
PLDF La Plantade 77.93 345 *e*P **P 20 12 04.0 +1.3**
SRS Serrai 78.10 329 *e*P **P 20 12 04.3 +0.7**
SMTH Samothraki Isl 78.10 328 *e*P **P 20 12 04.0 +0.3**
WRAB Tennant Creek 78.23 207 *e*P **P 20 12 04.0 -0.4**
WRAB pmax pmax
comp=Z,10.0nm,0.9s
WRAB Tennant Creek 78.23 207 *e*P **P 20 12 04.0 -0.4**
comp=Z,10nm,0.9s
WRAB Tennant Creek 78.23 207 P **P 20 12 04.3 -0.1**
comp=Z,60nm,1.1s,SNR=6.9
PYM Petit Puy Mans 78.24 345 *e*P **P 20 12 05.8 +1.4**
WRA Warramunga Arr 78.24 207 P **P 20 12 04.3 -0.2**
WRA Warramunga Arr 78.24 207 P **P 20 12 04.3 -0.2**
comp=Z,5.1nm,0.7s,baz=20,slow=5.9,SNR=24
KNT Kendrikon 78.26 330 *e*P **P 20 12 05.5 +1.0**
BTCH Batrach 78.26 318 *e*P **P 20 12 05.6 +0.9**
BNI Bardonecchia 78.33 343 *e*P **P 20 12 06.5 +1.4**
BNI pmax pmax
comp=Z,32nm,1.3s
BNI Bardonecchia 78.33 343 *e*P **P 20 12 06.5 +1.4**
comp=Z,32nm,1.3s
SSB Saint Sauveur 78.46 344 *e*P **P 20 12 06.6 +1.0**
SSB pmax pmax
comp=Z,16nm,1.0s
SSB Saint Sauveur 78.46 344 *e*P **P 20 12 06.6 +1.0**
comp=Z,16nm,1.0s
ORIF Oris-en-Rattie 78.60 343 *e*P **P 20 12 07.6 +1.1**
comp=Z,59nm,1.0s
ORIF *e*R
comp=Z,311nm,21.0s
ORIF Oris-en-Rattie 78.60 343 *e*P **P 20 12 07.6 +1.1**
ORIF pmax pmax
comp=Z,59nm,1.0s
ORIF Oris-en-Rattie 78.60 343 *e*P **P 20 12 07.6 +1.1**
comp=Z,59nm,1.0s
ARNB Al Arnab 78.60 318 *e*P **P 20 12 07.5 +0.9**
MBDF Montbardon 78.63 342 *e*P **P 20 12 07.6 +0.9**
comp=Z,41nm,1.1s
MBDF Montbardon 78.63 342 *e*P **P 20 12 07.6 +0.9**
MBDF pmax pmax
comp=Z,41nm,1.1s
MBDF Montbardon 78.63 342 *e*P **P 20 12 07.6 +0.9**
comp=Z,41nm,1.1s
HORT Hortiatis 78.72 330 *e*P **P 20 12 07.0 -0.2**
LIA Limnos Island 78.73 328 *e*P **P 20 12 07.8 +0.7**
HATD Hatta, Dubai 78.79 297 P **P 20 12 06.9 -0.8**
SNR=6.1
PLG Polygyros 78.82 329 *e*P **P 20 12 06.0 -1.7**
VIVF Saint-Julien-l 78.86 344 *e*P **P 20 12 08.6 +0.8**
comp=Z,45nm,1.0s
VIVF Saint-Julien-l 78.86 344 *e*P **P 20 12 08.6 +0.8**
VIVF pmax pmax
comp=Z,45nm,1.0s
VIVF Saint-Julien-l 78.86 344 *e*P **P 20 12 08.6 +0.8**
comp=Z,45nm,1.0s
ASHO Ashiyiah 78.95 297 P **P 20 12 09.1 +0.5**
SNR=6.0
UMR Umm Al-Rimmam 79.00 306 *e*P **P 20 12 08.4 -0.4**
FITZ Fitzroy Crossi 79.10 215 P **P 20 12 09.4 +0.2**
FITZ Fitzroy Crossi 79.10 215 P **P 20 12 09.4 +0.2**
comp=Z,8.6nm,1.0s,baz=48,slow=2.1,SNR=6.5
FITZ LR LR 20 43 27.4
comp=Z,94nm,20.2s,baz=30,slow=33
WBK Wadi Bani Khal 79.12 294 P **P 20 12 10.5 +0.9**
SNR=9.0
CAF Calviac 79.18 346 *e*P **P 20 12 10.4 +0.8**
comp=Z,42nm,1.2s
CAF Calviac 79.18 346 *e*P **P 20 12 10.4 +0.8**
CAF pmax pmax
comp=Z,42nm,1.2s
CAF Calviac 79.18 346 *e*P **P 20 12 10.4 +0.8**
comp=Z,42nm,1.2s
HOQ Hoqain 79.20 296 P **P 20 12 09.9 -0.1**
SNR=5.5
SMDO Samad 79.24 295 P **P 20 12 10.4 +0.1**
SNR=7.5
PALK Pallekele 79.26 267 P **P 20 12 10.9 +0.5**
comp=Z,59nm,1.2s
PALK Pallekele 79.26 267 *e*P **P 20 12 10.4 -0.1**
comp=Z,77nm,1.2s
PALK Pallekele 79.26 267 P **P 20 12 10.3 -0.1**
comp=Z,271nm,1.4s,SNR=5.7
LFF La Frestale 79.35 347 *e*P **P 20 12 11.1 +0.7**
comp=Z,89nm,1.4s
LFF La Frestale 79.35 347 *e*P **P 20 12 11.1 +0.7**
LFF pmax pmax
comp=Z,89nm,1.4s
LFF La Frestale 79.35 347 *e*P **P 20 12 11.1 +0.7**
comp=Z,89nm,1.4s
RST Umm Al-Ruwaisa 79.38 307 *e*P **P 20 12 10.7 -0.1**
RST AMb AMB 20 12 11.9
comp=Z,664nm,0.9s
NAY Al-Naaiem 79.48 306 *e*P **P 20 12 11.3 -0.1**
NAY AMb AMB 20 12 13.9
comp=Z,46nm,1.2s
AQU L'Aquila 79.59 337 *e*P **P 20 12 14.0 +2.1**
HAWK Haweek 79.61 317 *e*P **P 20 12 13.5 +1.4**
LASF Ste Croix 79.75 344 *e*P **P 20 12 13.0 +0.4**
comp=Z,22nm,0.9s
LASF Ste Croix 79.75 344 *e*P **P 20 12 13.0 +0.4**
comp=Z,22nm,0.9s
JMDO Jabal Madar 79.78 294 P **P 20 12 13.3 +0.2**
SNR=21
FRF La Foret Royal 79.78 342 *e*P **P 20 12 13.0 +0.2**
FRF La Foret Royal 79.78 342 *e*P **P 20 12 13.0 +0.2**
FRF La Foret Royal 79.78 342 *e*P **P 20 12 13.0 +0.2**
ARQ Araqi 79.81 296 P **P 20 12 13.3 0.0**
SNR=12
XOR Xorichti 79.83 329 *e*P **P 20 12 13.4 +0.2**
CHOS Chios island 79.84 326 *e*P **P 20 12 13.3 0.0**
BSY Bisya 79.94 295 P **P 20 12 14.3 +0.2**
SNR=13
LMR La Mourre 80.03 342 *e*P **P 20 12 14.5 +0.4**
LMR La Mourre 80.03 342 *e*P **P 20 12 14.5 +0.4**
LMR La Mourre 80.03 342 *e*P **P 20 12 14.5 +0.4**
SMG Samos 80.21 326 *e*P **P 20 12 14.8 -0.4**
JAN Janina 80.24 331 *e*P **P 20 12 16.6 +1.2**
MRKA Markates 80.32 328 *e*P **P 20 12 15.4 -0.4**
PGF Pioggiola 80.33 340 *e*P **P 20 12 16.3 +0.4**
comp=Z,53nm,0.9s
PGF Pioggiola 80.33 340 *e*P **P 20 12 16.3 +0.4**
PGF pmax pmax
comp=Z,53nm,0.9s
PGF Pioggiola 80.33 340 *e*P **P 20 12 16.3 +0.4**
comp=Z,53nm,0.9s
AGG Agios Georgios 80.40 329 *e*P **P 20 12 15.5 -0.8**
CSS Prodhromos 80.40 320 *e*P **P 20 12 16.4 +0.1**
comp=Z,87nm,1.2s
MAKR Makrakomi, Fth 80.47 330 *e*P **P 20 12 16.7 +0.1**
IGT Igoumenitsa 80.50 331 *e*P **P 20 12 16.9 +0.1**
TOTH TOTAH 80.62 317 *e*P **P 20 12 18.6 +1.0**
EVR Evrytania 80.65 330 *e*P **P 20 12 17.6 -0.1**
MTLF Montolieu 80.71 345 *e*P **P 20 12 18.7 +0.9**
comp=Z,32nm,1.3s
MTLF Montolieu 80.71 345 *e*P **P 20 12 18.7 +0.9**
MTLF pmax pmax
comp=Z,32nm,1.3s
MTLF Montolieu 80.71 345 *e*P **P 20 12 18.7 +0.9**
comp=Z,32nm,1.3s
BRBR Barbar 80.76 317 *e*P **P 20 12 19.6 +1.1**
PTL Penteli 80.84 328 *e*P **P 20 12 17.3 -1.3**
VIL2 Platees 80.87 328 *e*P **P 20 12 16.6 -2.2**
DESF Desfina 80.90 329 *e*P **P 20 12 17.6 -1.4**
DSF Desfina 80.91 329 *e*P **P 20 12 17.2 -1.8**
KALE Kalithea 81.04 329 *e*P **P 20 12 19.1 -0.6**
SALA Sala 81.06 316 *e*P **P 20 12 20.9 +0.8**
PDO Prodromos 81.13 330 *e*P **P 20 12 19.9 -0.2**
KLV Kalavryta, Ach 81.36 329 *e*P **P 20 12 21.0 -0.4**
GUR Goura 81.40 329 *e*P **P 20 12 20.8 -0.9**
ETSF Etsaut 81.52 347 *e*P **P 20 12 23.5 +1.2**
comp=Z,40nm,1.1s
ETSF Etsaut 81.52 347 *e*P **P 20 12 23.5 +1.2**
ETSF pmax pmax
comp=Z,40nm,1.1s
ETSF Etsaut 81.52 347 *e*P **P 20 12 23.5 +1.2**
comp=Z,40nm,1.1s
DID Didima 81.53 328 *e*P **P 20 12 20.6 -1.7**
RLS Riolos of Patr 81.55 330 *e*P **P 20 12 22.9 +0.6**
DIDY Didyma 81.56 328 *e*P **P 20 12 19.4 -3.2**
AS31 Alice Springs 81.91 206 *e*P **P 20 12 25.0 +0.7**
ASAR Alice Springs 81.92 206 P **P 20 12 24.6 +0.3**
ASAR Alice Springs 81.92 206 P **P 20 12 24.6 +0.3**
comp=Z,9.2nm,0.8s,baz=16,slow=5.4,SNR=56
KARP Karpathos 82.07 324 *e*P **P 20 12 23.8 -1.4**
ITM Ithomi 82.22 329 *e*P **P 20 12 25.3 -0.7**
ZKR Zakros 82.77 325 *e*P **P 20 12 28.3 -0.5**
NPS Neapolis 82.84 326 *e*P **P 20 12 28.0 -1.2**
PPT Papeete 82.91 134 LR LR 20 42 49.5
comp=Z,427nm,19.0s,baz=352,slow=31
PPT2 Papeete2 82.93 134 *e*SS SS 20 28 15.3 +4.7
comp=Z,71nm,23.5s
PPT2 Papeete2 82.93 134 *e*LR LR 20 38 29.7
comp=Z,750nm,25.0s,baz=343
LAST Lasithi 82.97 326 *e*P **P 20 12 29.2 -0.8**
IDI Anoyia 83.05 326 *e*P **P 20 12 28.4 -2.0**
IDI Anoyia 83.05 326 *e*P **P 20 12 28.4 -2.0**
comp=Z,12nm,0.6s
VAM Vamos 83.16 327 *e*P **P 20 12 30.7 -0.1**
KARN Karanos 83.26 327 *e*P **P 20 12 31.3 -0.1**
SIVA Sivas 83.32 326 *e*P **P 20 12 32.0 +0.3**
PVRL Vila Real 83.86 352 *e*P **P 20 12 35.7 +1.3**
comp=Z,62nm,1.8s
MVO Moncorvo 83.91 352 *e*P P 20 12 38.1 +3.4
comp=Z,47nm,1.6s
TEIG Tepich 84.27 63 *e*P **P 20 12 37.0 +0.3**
comp=Z,98nm,1.8s
PVIS Viseu 84.43 353 *e*P **P 20 12 38.7 +1.4**
comp=Z,44nm,1.9s
MTE Manteigas 84.71 352 *e*P **P 20 12 39.3 +0.5**
comp=Z,64nm,1.3s
MTE Manteigas 84.71 352 *e*P **P 20 12 39.2 +0.4**
comp=Z,34nm,1.2s
ESDC Sonseca Array 85.10 349 P **P 20 12 41.5 +0.8**
ESDC Sonseca Array 85.10 349 P **P 20 12 41.5 +0.8**
comp=Z,26nm,1.1s,baz=3.3,slow=4.9,SNR=43
ESLA Sonseca Array 85.10 349 *e*P **P 20 12 41.7 +1.0**
comp=Z,5.2nm,1.0s
PCAS Casmilo, Conde 85.13 353 *e*P **P 20 12 41.9 +1.1**
comp=Z,65nm,1.3s
RAYN Ar Rayn 85.15 305 P **P 20 12 41.8 +0.6**
comp=Z,344nm,1.3s,SNR=52
PCBR Castelo Branco 85.26 352 *e*P **P 20 12 42.0 +0.6**
comp=Z,37nm,1.2s
PAB San Pablo 85.27 350 *e*P **P 20 12 42.5 +0.9**
PAB pmax pmax
comp=Z,64nm,0.9s
PAB San Pablo 85.27 350 *e*P **P 20 12 42.5 +0.9**
comp=Z,64nm,0.9s
PTOM Tomar 85.56 353 *e*P **P 20 12 44.4 +1.5**
comp=Z,59nm,1.3s
PMRV Marv??o 85.67 352 *e*P **P 20 12 45.3 +1.8**
comp=Z,35nm,1.5s
RBK Rabkut 85.84 295 P **P 20 12 44.0 -0.6**
SNR=9.3
PMTG Montargil 86.09 353 *e*P **P 20 12 47.8 +2.3**
PESTR Estremoz 86.24 352 *e*P **P 20 12 48.4 +2.1**
comp=Z,41nm,1.6s
ABTO Aybut 86.44 295 P **P 20 12 47.2 -0.5**
SNR=26
KEST Kesra 86.82 338 P **P 20 12 50.8 +1.5**
KEST Kesra 86.82 338 P **P 20 12 50.8 +1.5**
comp=Z,2.7nm,0.7s,baz=66,slow=0.3,SNR=5.0
KEST LR LR 20 58 15.1
comp=Z,142nm,18.1s,baz=262,slow=40
PBAR Barrancos 86.88 352 *e*P **P 20 12 51.3 +1.8**
comp=Z,35nm,1.5s
PCVE Castro Verde 87.50 352 *e*P **P 20 12 53.5 +1.0**
comp=Z,28nm,1.6s
PVAQ Vaqueiros 87.70 352 *e*P **P 20 12 54.6 +1.2**
comp=Z,21nm,1.6s
MORF Marmelete 87.87 353 *e*P **P 20 12 53.0 -1.3**
comp=Z,55nm,1.7s
PFVI Vila Bisbo 88.06 353 *e*P **P 20 12 52.0 -3.1**
TBI Tubuai 88.14 137 *e*LR LR 20 40 58.6
comp=Z,411nm,26.0s,baz=331
STKA Stephens Creek 88.21 198 *e*P **P 20 12 55.8 +0.2**
STKA Stephens Creek 88.21 198 P **P 20 12 55.7 +0.2**
comp=Z,4.0nm,0.9s,baz=323,slow=11,SNR=5.9
STKA LR LR 20 56 08.8
comp=Z,230nm,18.0s,baz=23,slow=38
RKT Rikitea 94.28 125 *e*LR LR 20 43 38.2
comp=Z,381nm,25.2s
TORD Torodi Ar. Bea 110.29 340 PP PP 20 19 00.8 -10
TORD Torodi Ar. Bea 110.29 340 PP PP 20 19 00.8 -10
comp=Z,0.7nm,0.9s,baz=4.1,slow=5.3,SNR=3.7
DBIC Dimbokro 117.76 346 PKP **PKPdf 20 18 50.8 -0.5**
DBIC Dimbokro 117.76 346 PKP **PKPdf 20 18 50.7 -0.5**
comp=Z,3.3nm,0.9s,baz=115,slow=14,SNR=3.1
LSZ Lusaka 127.02 300 PKP **PKPdf 20 19 09.6 +0.6**
LSZ Lusaka 127.02 300 PKP **PKPdf 20 19 09.6 +0.6**
comp=Z,0.9nm,0.2s,baz=79,slow=6.4,SNR=7.0
VNDA Vanda 132.12 180 PKP **PKPdf 20 19 17.5 +0.8**
VNDA Vanda 132.12 180 PKP **PKPdf 20 19 17.5 +0.8**
comp=Z,0.5nm,0.8s,baz=54,slow=5.3,SNR=3.7
BOSA Boshof 139.53 293 PKP **PKPdf 20 19 32.3 +0.1**
BOSA Boshof 139.53 293 PKP **PKPdf 20 19 32.3 +0.1**
comp=Z,3.1nm,0.9s,baz=102,slow=8.5,SNR=5.7
MAW Mawson 142.18 218 PKP **PKPdf 20 19 35.5 0.0**
MAW Mawson 142.18 218 PKP **PKPdf 20 19 35.5 0.0**
comp=Z,1.6nm,0.5s,baz=33,slow=4.1,SNR=4.5
QSPA South Pole Qui 144.61 180 *e*PKPdf **PKPab 20 19 37.7 -0.9**
QSPA South Pole Qui 144.61 180 PKP **PKPab 20 19 37.8 -0.9**
comp=Z,11nm,0.8s
SUR Sutherland 144.85 294 PKP **PKPdf 20 19 41.6 -0.1**
SUR Sutherland 144.85 294 PKP **PKPdf 20 19 41.6 -0.1**
comp=Z,18nm,1.1s,baz=317,slow=3.1,SNR=4.9
TRQA Tornquist 145.85 79 *e*PKPdf **PKPbc 20 19 43.5 -0.1**
SYO Syowa Base 150.89 219 ⇑*e*X **PKPbc 20 19 54.8 -1.0**
SYO Syowa Base 150.89 219 ⇑*e*X **PKPab 20 20 01.2 -2.1**
SNAA Sanae 161.96 195 PKPab **PKPab 20 20 49.0 -1.9**
SNAA Sanae 161.96 195 PKPab **PKPab 20 20 49.0 -1.9**
comp=Z,0.6nm,0.9s,baz=237,slow=7.4,SNR=4.5

IDC ***23*** *20:02:34.7±0.8, 11°.37S×165°.80E, h0km, mb4.2/13, mb1 4.4/14, mb1mx4.2/23, mbtmp4.2/14, ML4.5/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/32, Error ellipse: s-maj=25.5km s-min=18.4km az=110.0*

ISCJB ***23*** *20:02:38.8±0.8, 11°.5S±0°.1×165°.7E±0°.2, h37km, mb4.2/12, Error ellipse: s-maj=21.1km s-min=14.6km az=177.6*

ISC 23 20:02:40.3±0.8, 11°.4S±0°.1×165°.8E±0°.2, h37km, n20, σ0s80/19, mb4.3/12, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.07**	**288**	LR	LR	20 06 10.5	
	comp=Z,360nm,20.9s,baz=108,slow=36						
DZM	**Mont Dzumac**	**10.65**	**177**	Pn	**Pn**	**20 05 10.7**	**+0.3**
	3.4nm,0.3s,baz=8.7,slow=14,SNR=25						
CTA	**Charters Tower**	**20.68**	**243**	P	**P**	**20 07 17.7**	**+0.3**
	6.6nm,0.8s,baz=62,slow=17,SNR=6.5						
STKA	**Stephens Creek**	**30.23**	**224**	P	**P**	**20 08 48.0**	**+0.4**

3.7nm,0.8s,baz=23,slow=5.2,SNR=11
WRA Warramunga Arr 31.41 250 P **P** **20 08 57.1 -1.1**
5.1nm,0.7s,baz=83,slow=9.2,SNR=40
ASAR Alice Springs 32.69 244 P **P** **20 09 08.1 -1.3**
1.0nm,0.7s,baz=71,slow=9.3,SNR=14
FITZ Fitzroy Crossi 39.34 255 P **P** **20 10 05.7 -0.7**
4.1nm,0.8s,baz=106,slow=5.1,SNR=8.9
VNDA Vanda 66.16 181 P **P** **20 13 23.2 -0.4**
1.3nm,1.2s,baz=3.2,slow=6.8,SNR=5.6
CMAR Chiang Mai Arr 72.29 294 P **P** **20 14 03.5 +1.0**
1.2nm,0.8s,baz=129,slow=5.1
QSPA South Pole Qui 78.62 180 P **P** **20 14 38.3 0.0**
2.2nm,0.8s
SONM Songino Array 78.96 324 P **P** **20 14 40.9 +0.5**
1.0nm,0.8s,baz=151,slow=7.1,SNR=4.0
ILAR Eielson Array 83.81 18 P **P** **20 15 05.2 -0.3**
1.6nm,0.6s,baz=240,slow=5.0,SNR=20
MAW Mawson 84.43 202 P **P** **20 15 09.5 +0.8**
1.7nm,0.7s,baz=81,slow=7.0,SNR=5.0
MKAR Makanchi Array 93.80 317 P **P** **20 15 53.8 +0.2**
2.3nm,0.8s,baz=91,slow=6.0,SNR=9.5
ZALV Zalesovo Beam 93.85 324 P **P** **20 15 52.6 -1.1**
0.8nm,0.6s,baz=104,slow=6.1,SNR=3.2
ARCES ARCESS Array B 116.67 345 PKP **PKPdf** **20 21 20.1 +0.1**
2.8nm,0.8s,baz=57,slow=3.3,SNR=7.6
BDFB Brasilia 137.09 128 PKP **PKPdf** **20 21 59.0 -1.6**
1.5nm,0.6s,baz=204,slow=10.0,SNR=2.1
KEST Kesra 147.71 323 PKPbc **PKPbc** **20 22 21.9 +0.2**
3.2nm,0.7s,baz=269,slow=4.7,SNR=6.2
ESDC Sonseca Array 150.39 344 PKPbc **PKPbc** **20 22 29.1 +0.8**
1.2nm,0.7s,baz=18,slow=2.2,SNR=9.7
TORD Torodi Ar. Bea 164.36 278 PKP **PKPdf** **20 22 41.1 +0.1**
0.8nm,0.9s,baz=323,slow=1.7,SNR=3.8

*IDC **23** 20:16:35.6±1.5,5.77S×151.21E,h0km,mb4.1/6, mb1 4.3/7,mb1mx4.0/18,mbtmp4.2/7,ML3.3/1,MS3.0/1, Ms1 3.0/1,ms1mx2.7/32, Error ellipse: s-maj=51.6km s-min=19.2km az=112.0*
*ISCJB **23** 20:16:41.5±0.9,5.7S±0.1×150.9E±0.1,h43km,mb4.1/7, Error ellipse: s-maj=23.1km s-min=10.1km az=30.0*
*AUST **23** 20:17:10.2, 7.65S×149.68E,h100km*
ISC 23 20:16:42.4±1.3,5.8S±0.2×151.0E±0.2,h43km,n20, σ0.9s95/16,mb4.0/7,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.28**	**226**	Pn		**Pn**		**20 17 59.8**	**+0.9**
	5.9nm,0.3s,baz=39,slow=6.6,SNR=20								
PMG				Sn		**Sn**		**20 18 56.9**	**-1.5**
	17nm,0.3s,baz=112,slow=12,SNR=11								
HNR	**Honiara**	**9.56**	**113**	LR		LR		20 22 08.1	
	comp=Z,90nm,21.7s,baz=258,slow=35								
COEN	**Coen**	**11.23**	**223**	P		**Pn**		**20 19 22.4**	**+1.9**
	baz=9.0,SNR=5.1								
KDU	**Kakadu**	**19.56**	**248**	P		**P**		**20 21 06.1**	**-0.7**
	baz=18,SNR=10								
RMQ	**Roma**	**20.73**	**186**	P		Pn		20 21 22.0	-0.1
	baz=19,SNR=4.4								
MTN	**Manton Dam**	**20.85**	**249**	P		**P**		**20 21 20.3**	**-0.5**
	baz=19,SNR=4.1								
WRA	**Warramunga Arr**	**21.50**	**228**	P		**P**		**20 21 27.1**	**-0.7**
	3.6nm,0.5s,baz=52,slow=10,SNR=58								
KNRA	**Kununurra**	**23.97**	**244**	P		**P**		**20 21 53.6**	**+0.5**
	baz=22,SNR=6.5								
ASAR	**Alice Springs**	**24.27**	**221**	P		**P**		**20 21 56.0**	**+0.2**
	2.4nm,0.6s,baz=54,slow=8.8,SNR=37								
STKA	**Stephens Creek**	**27.45**	**198**	P		**P**		**20 22 24.3**	**-0.1**
	1.0nm,0.5s,baz=27,slow=10,SNR=5.3								
FITZ	**Fitzroy Crossi**	**27.66**	**241**	P		**P**		**20 22 26.0**	**-0.4**
	baz=26,SNR=6.3								
FITZ	**Fitzroy Crossi**	**27.66**	**241**	P		**P**		**20 22 26.0**	**-0.4**
	2.0nm,0.6s,baz=89,slow=10,SNR=9.7								
MEEK	**Meekatharra**	**37.23**	**232**	P		**P**		**20 23 50.0**	**-0.1**
	baz=35,SNR=4.6								
JNU	**Nakatsue**	**43.14**	**335**	P		**P**		**20 24 40.1**	**+1.2**
	11nm,0.8s,baz=89,slow=3.7,SNR=5.5								
SONM	**Songino Array**	**66.21**	**329**	P		**P**		**20 27 25.4**	**-0.6**
	0.5nm,0.6s,baz=140,slow=5.8,SNR=4.2								
ILAR	**Eielson Array**	**83.77**	**22**	P		**P**		**20 29 06.0**	**-0.5**
	5.8nm,0.4s,baz=238,slow=4.8,SNR=6.8								
H03N3	**Juan Fernandez**	**118.72**	**133**	T		T		22 44 49.8	
	baz=240,slow=0.1,SNR=6.9								
H03N2	**Juan Fernandez**	**118.72**	**133**	T		T		22 44 46.9	
	baz=240,slow=0.1,SNR=5.4								
H03N1	**Juan Fernandez**	**118.74**	**133**	T		T		22 44 47.9	
	baz=240,slow=0.1,SNR=3.6								
TORD	**Torodi Ar. Bea**	**148.90**	**286**	PKPbc		**PKPbc**		**20 36 25.6**	**-1.1**
	0.5nm,0.5s,baz=63,slow=2.4,SNR=9.0								

*IDC **23** 20:19:59.8±3.0, 10.07S×112.11E,h0km,mb3.3/4, mb1 3.5/5,mb1mx3.4/21,mbtmp3.4/5,ML3.2/1, Error ellipse: s-maj=158.8km s-min=21.7km az=47.0*
*DJA **23** 20:20:08.9±1.1, 10.5±4.4×11.3E±1.1,h15km±12km,M3.8/14, MLv3.8/14*
*ISCJB **23** 20:20:09.2±1.0,9.63S±0.08×112.82E±0.05,h70km±13km, mb3.2/4,Error ellipse: s-maj=13.5km s-min=7.1km az=11.8*
ISC 23 20:20:10.4±1.4,9.6S±0.1×112.84E±0.05,h64km±19km, n18,σ0.9s97/24,mb3.4/4,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.44**	**25**	P		**Pn**		**20 20 32.7**	**-1.7**
KRKI	**Karangkates**	**1.47**	**345**	P		**Pn**		**20 20 34.1**	**-0.8**
KRKI				S		**Sn**		**20 20 52.9**	**-0.3**
PWJI	**Pagerwojo**	**1.86**	**327**	P		**Pn**		**20 20 39.1**	**-1.0**
PWJI				S		**Sn**		**20 21 03.2**	**+0.5**
BLJI	**Banyuglugur**	**1.98**	**22**	P		**Pn**		**20 20 41.4**	**-0.3**
BLJI				S		**Sn**		**20 21 06.1**	**+0.6**
BYJI	**Banyuwangi**	**2.03**	**48**	P		**Pn**		**20 20 41.4**	**-1.0**
BYJI				S		**Sn**		**20 21 09.1**	**+2.4**
SJI	**Sawahan**	**2.13**	**330**	P		**Pn**		**20 20 43.2**	**-0.6**
SJI				S		**Sn**		**20 21 09.9**	**+0.7**
PCJI	**Pacitan**	**2.15**	**310**	P		**Pn**		**20 20 43.7**	**-0.3**
PCJI				S		**Sn**		**20 21 10.5**	**+0.9**
ABJI	**Asem Bagus**	**2.25**	**38**	P		**Pn**		**20 20 45.7**	**+0.3**
GRJI	**Gresik**	**2.68**	**352**	P		**Pn**		**20 20 52.5**	**+1.2**
KMMI	**Kalianget**	**2.76**	**24**	P		**Pn**		**20 20 52.3**	**0.0**
SRBI	**Singaraja**	**2.78**	**58**	P		**Pn**		**20 20 52.4**	**-0.2**
UGM	**Wanagama**	**2.83**	**306**	P		**Pn**		**20 20 52.8**	**-0.5**
KPJI	**Karang Pucung**	**4.47**	**300**	P		**Pn**		**20 21 16.7**	**+1.0**
FITZ	**Fitzroy Crossi**	**15.03**	**126**	Pn		**Pn**		**20 23 39.2**	**0.0**
	0.1nm,0.3s,baz=270,slow=6.1,SNR=2.9								
WRA	**Warramunga Arr**	**23.17**	**119**	P		**P**		**20 25 11.4**	**-0.4**
	0.2nm,0.7s,baz=288,slow=11,SNR=4.8								
ASAR	**Alice Springs**	**24.51**	**127**	P		**P**		**20 25 24.6**	**+0.6**
	0.7nm,0.8s,baz=306,slow=8.8,SNR=5.8								
MKAR	**Makanchi Array**	**62.40**	**337**	P		**P**		**20 30 26.5**	**-0.1**
	0.4nm,0.5s,baz=150,slow=7.3,SNR=6.0								
ZALV	**Zalesovo Beam**	**67.60**	**343**	P		**P**		**20 30 58.9**	**-1.2**
	0.4nm,0.5s,baz=123,slow=5.3,SNR=3.0								

*IDC **23** 20:23:48.0±0.7, 16.33S×172.40W,h0km,mb4.0/9, mb1 4.3/9,mb1mx4.1/21,mbtmp4.0/9,MS3.6/3,Ms1 3.7/3, ms1mx3.3/37, Error ellipse: s-maj=34.0km s-min=19.0km az=142.0*
*ISCJB **23** 20:23:50.1±0.8, 15.9S±0.1×172.7W±0.2,h24km,mb3.9/9, MS4.2/1,Error ellipse: s-maj=32.0km s-min=9.2km az=33.9*
ISC 23 20:23:51.5±0.7,16.0S±0.1×172.5W±0.2,h24km,n19, σ1.9s50/16,mb3.9/9,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.17**	**18**	Pn		**Pn**		**20 24 24.8**	**-1.6**
	26nm,0.3s,baz=10,slow=18,SNR=12								
AFI				Sn		**Sn**		**20 24 50.4**	**-2.2**
	82nm,0.3s,baz=243,slow=19,SNR=7.9								
AFI				LR		LR		20 25 28.4	
	comp=Z,383nm,20.1s,baz=110,slow=40								
RAR	**Rarotonga**	**13.11**	**115**	LR		LR		20 30 52.6	
	comp=Z,355nm,18.6s,baz=274,slow=33								
DZM	**Mont Dzumac**	**20.82**	**250**	*e*LR		LR		20 34 00.0	
	306nm,26.1s								
PPT2	**Papeete2**	**21.97**	**97**	*e*LR		LR		20 33 37.3	
	220nm,24.0s								
TBI	**Tubuai**	**22.85**	**112**	*e*LR		LR		20 33 53.0	
	278nm,27.0s								
RKT	**Rikitea**	**35.96**	**107**	*e*LR		LR		20 40 07.5	
	227nm,26.8s								
STKA	**Stephens Creek**	**44.52**	**241**	P		**P**		**20 32 00.2**	**-1.2**
	5.9nm,1.1s,baz=88,slow=12,SNR=4.3								
WRA	**Warramunga Arr**	**50.58**	**257**	P		**P**		**20 32 47.8**	**-1.0**
	0.7nm,0.7s,baz=97,slow=6.7,SNR=18								
ASAR	**Alice Springs**	**50.78**	**252**	P		**P**		**20 32 49.9**	**-0.4**
	5.2nm,0.8s,baz=86,slow=8.4,SNR=52								
VNDA	**Vanda**	**62.88**	**186**	P		**P**		**20 34 14.4**	**-0.8**
	0.5nm,0.8s,baz=7.8,slow=5.7,SNR=3.7								
PETK	**Petropavlovsk-**	**73.47**	**342**	P		**P**		**20 35 24.9**	**+3.1**
	0.9nm,0.5s,baz=187,slow=10.0,SNR=2.6								
NVAR	**Mina Array Bea**	**74.17**	**41**	P		**P**		**20 35 27.8**	**+1.3**
	2.0nm,0.9s,baz=225,slow=10,SNR=8.7								
TXAR	**Lajitas Array**	**80.20**	**56**	P		**P**		**20 36 01.4**	**+1.0**
	1.5nm,1.1s,baz=191,slow=3.7,SNR=6.9								
PDAR	**Pinedale Array**	**82.11**	**41**	P		**P**		**20 36 11.4**	**+0.9**
	0.7nm,1.0s,baz=256,slow=3.4,SNR=3.8								
PDAR				LR		LR		21 07 21.5	
	comp=Z,94nm,19.9s,baz=170,slow=32								
ILAR	**Eielson Array**	**82.85**	**11**	P		**P**		**20 36 14.7**	**+1.1**
	0.9nm,0.8s,baz=219,slow=5.3,SNR=6.1								
AKASG	**Malin Array Be**	**141.22**	**338**	PKP		**PKPdf**		**20 43 20.1**	**0.0**
	0.1nm,0.2s,baz=356,slow=2.8,SNR=3.1								
GERES	**GERESS Array B**	**146.85**	**353**	PKPbc		**PKPab**		**20 43 33.2**	**0.0**
	0.5nm,0.7s,baz=24,slow=3.6,SNR=4.6								
BRTR	**Keskin Array B**	**147.18**	**321**	PKPbc		**PKPab**		**20 43 35.9**	**+1.0**
	1.3nm,0.9s,baz=122,slow=1.6,SNR=6.1								
TORD	**Torodi Ar. Bea**	**173.68**	**116**	PKP		**PKPdf**		**20 43 59.1**	**-0.9**
	1.3nm,0.9s,baz=272,slow=2.5,SNR=6.2								
TORD				PKPab		**PKPab**		**20 45 28.0**	**-1.7**
	1.5nm,1.2s,baz=215,slow=4.8,SNR=4.3								

*FUNV **23** 20:37:00.8, 10.39N×60.15W,h35km,MW3.6*
*TRN **23** 20:37:02.8, 10.38N×60.36W,h69km,MD3.6*
ISC 23 20:37:01.9±2.7,10.37N±0.10×60.4W±0.1,h86km±11km, n18,σ1.9s19/29,1C,Trinidad

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TBH	**Brigand Hill**	**0.66**	**280**	*e*P		**Pn**		**20 37 18.3**	**+0.6**
TBH				*e*S		**Sn**		**20 37 28.5**	**-1.0**
BOT	**Bacolet**	**0.85**	**339**	*e*P		**Pn**		**20 37 19.3**	**-0.4**
TPR	**Prospect**	**0.89**	**336**	*e*P		**Pn**		**20 37 19.9**	**-0.2**
TOSP	**Speyside**	**0.93**	**352**	*e*P		**Pn**		**20 37 20.3**	**-0.3**
TOSP				*e*S		**Sn**		**20 37 34.1**	**-0.4**
TRN	**Trinidad (W)**	**1.02**	**286**	*e*P		**Pn**		**20 37 22.2**	**+0.7**
TRN				*e*S		**Sn**		**20 37 36.6**	**+0.3**
TPP	**Pointe-a-Pierr**	**1.03**	**267**	*e*P		**Pn**		**20 37 22.2**	**+0.6**
TCE	**Chacachacare**	**1.36**	**284**	*e*P		**Pn**		**20 37 27.0**	**+1.3**
GUIV	**Guiria**	**1.81**	**279**	*e*P		**Pn**		**20 37 31.4**	**0.0**
GUIV				*e*S		**Sn**		**20 37 55.2**	**+1.3**
GRW	**Mount Saint Ca**	**2.16**	**325**	*e*P		**Pn**		**20 37 36.9**	**+0.6**
GRW				*e*S		**Sn**		**20 38 02.8**	**+0.3**
GUNV	**Guanoco**	**2.50**	**265**	*i*P		**Pn**		**20 37 42.0**	**+1.3**
GUNV				*e*S		**Sn**		**20 38 11.2**	**+0.7**
CRUV	**Carupano**	**2.80**	**276**	*e*P		**Pn**		**20 37 44.1**	**-0.5**
SVB	**Belmont**	**3.00**	**344**	*e*P		**Pn**		**20 37 48.3**	**+0.9**
SVB				*e*S		**Sn**		**20 38 22.1**	**-0.3**
ORIV	**Oritupano**	**3.23**	**247**	*e*P		**Pn**		**20 37 51.6**	**+1.1**
ORIV				*e*S		**Sn**		**20 38 28.0**	**0.0**
MCLT	**Moule a Chique**	**3.36**	**351**	*e*P		**Pn**		**20 37 54.2**	**+2.0**
MCLT				*e*S		**Sn**		**20 38 29.3**	**-1.8**
PCRV	**Puerto La Cruz**	**4.17**	**268**	*e*P		**Pn**		**20 38 02.8**	**-0.4**
CUPV	**Cœpira**	**5.31**	**267**	*e*P		**Pn**		**20 38 19.3**	**+0.5**
CUPV				*e*S		**Sn**		**20 39 18.0**	**-0.7**
BIRV	**Birongo**	**5.77**	**272**	*e*P		**Pn**		**20 38 25.9**	**+0.9**
BAUV	**El Baul**	**7.66**	**260**	*e*P		**Pn**		**20 38 50.8**	**0.0**
BAUV				*e*S		**Sn**		**20 40 12.2**	**-3.9**

*IDC **23** 20:57:44.2±4.7, 16.06S×172.97W,h0km,mb3.7/3, mb1 3.9/4,mb1mx3.6/20,mbtmp3.7/4,ML2.0/1,Error ellipse: s-maj=205.8km s-min=23.1km az=135.0*
ISC 23 20:57:49.3±3.9,15.7S±0.9×173.2W±0.9,h29km,n12, σ1.9s30/7,mb4.0/4,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.23**	**37**	Pn		**Pn**		**20 58 23.8**	**-0.6**
	21nm,0.3s,baz=188,slow=3.2,SNR=12								
AFI				Sn		**Sn**		**20 58 50.5**	**-0.7**
	40nm,0.3s,baz=44,slow=21,SNR=13								
H11S2	**WAKE ISLAND Hy**	**39.34**	**329**	T		T		21 47 35.2	
	baz=149								
H11S3	**WAKE ISLAND Hy**	**39.36**	**329**	T		T		21 47 34.4	
	baz=149								
H11S1	**WAKE ISLAND Hy**	**39.36**	**329**	T		T		21 47 33.7	
	baz=149								
H11N3	**WAKE ISLAND Hy**	**40.29**	**330**	T		T		21 48 47.5	
	baz=154								
H11N1	**WAKE ISLAND Hy**	**40.30**	**330**	T		T		21 48 41.1	
	baz=154								
H11N2	**WAKE ISLAND Hy**	**40.31**	**330**	T		T		21 48 42.0	
	baz=154								
STKA	**Stephens Creek**	**44.08**	**240**	P		**P**		**21 05 54.6**	**-0.5**
	0.8nm,0.6s,baz=83,slow=14,SNR=3.2								
WRA	**Warramunga Arr**	**50.00**	**257**	P		**P**		**21 06 40.7**	**-0.7**
	0.2nm,0.5s,baz=97,slow=6.3,SNR=9.5								
ASAR	**Alice Springs**	**50.23**	**252**	P		**P**		**21 06 43.0**	**-0.2**
	1.4nm,0.5s,baz=89,slow=8.1,SNR=23								
ILAR	**Eielson Array**	**82.70**	**11**	P		**P**		**21 10 12.1**	**+2.2**
	7.7nm,0.4s,baz=205,slow=6.0,SNR=3.3								
BRTR	**Keskin Array B**	**146.54**	**321**	PKPbc		**PKPbc**		**21 17 28.2**	**-0.2**
	0.3nm,0.6s,baz=49,slow=6.5,SNR=2.5								

*IDC **23** 21:38:32.6±1.0, 13.75S×166.29E,h0km,mb4.2/8, mb1 4.3/10,mb1mx4.1/22,mbtmp4.3/10,ML4.2/2,MS3.5/3, Ms1 3.5/3,ms1mx3.1/29, Error ellipse: s-maj=27.9km s-min=20.4km az=110.0*
*ISCJB **23** 21:38:35.8±0.8, 13.83S±0.09×166.2E±0.1,h31km, mb4.3/11,MS3.7/2, Error ellipse: s-maj=18.9km s-min=11.8km az=163.4*
*NEIC **23** 21:38:38.6±1.8, 13.78S×166.22E,h42km±15km,mb4.5/3, Error ellipse: s-maj=18.6km s-min=12.2km az=69.0*
ISC 23 21:38:37.9±0.9,13.8S±0.1×166.2E±0.2,h31km,n31, σ0.9s92/26,mb4.1/11,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.53**	**305**	Pn		**Pn**		**21 40 26.3**	**+0.7**
HNR	**Honiara**	**7.53**	**305**	Pn		**Pn**		**21 40 26.3**	**+0.7**
	8.8nm,0.3s,baz=131,slow=9.3,SNR=2.8								
DZM	**Mont Dzumac**	**8.22**	**179**	*e*Pn		**Pn**		**21 40 35.1**	**0.0**
DZM	**Mont Dzumac**	**8.22**	**179**	Pn		**Pn**		**21 40 35.2**	**0.0**
	1.3nm,0.3s,baz=12,slow=22,SNR=10.0								
PMG	**Port Moresby**	**19.18**	**281**	LR		LR		21 49 27.0	
	comp=Z,74nm,19.0s,baz=296,slow=34								
CTA	**Charters Tower**	**20.08**	**249**	P		**P**		**21 43 10.2**	**+1.2**
CTA	**Charters Tower**	**20.08**	**249**	P		**P**		**21 43 10.2**	**+1.2**
	7.9nm,0.8s,baz=68,slow=12,SNR=5.7								
STKA	**Stephens Creek**	**28.84**	**227**	*e*P		**P**		**21 44 34.2**	**+0.6**
	3.7nm,1.4s								
STKA	**Stephens Creek**	**28.84**	**227**	P		**P**		**21 44 34.6**	**+1.0**
	5.5nm,0.7s,baz=40,slow=7.2,SNR=14								
STKA				LR		LR		21 56 32.3	
	comp=Z,128nm,18.8s,baz=29,slow=37								
RPZ	**Rata Peaks**	**30.09**	**173**	P		**P**		**21 44 45.1**	**+0.6**
RPZ	**Rata Peaks**	**30.09**	**173**	P		**P**		**21 44 45.1**	**+0.6**
	4.0nm,0.5s,baz=177,slow=5.5,SNR=3.9								
WRA	**Warramunga Arr**	**31.08**	**254**	P		**P**		**21 44 52.2**	**-1.3**
WRA	**Warramunga Arr**	**31.08**	**254**	P		**P**		**21 44 52.2**	**-1.3**
	1.4nm,0.9s,baz=84,slow=9.6,SNR=5.7								
ASAR	**Alice Springs**	**32.07**	**247**	P		**P**		**21 45 00.8**	**-1.5**
ASAR	**Alice Springs**	**32.07**	**247**	P		**P**		**21 45 00.8**	**-1.5**
	1.0nm,0.8s,baz=68,slow=9.1,SNR=8.6								
BBOO	**Buckleboo**	**33.36**	**230**	*e*P		**P**		**21 45 12.9**	**-0.6**
	242nm,0.8s								
FITZ	**Fitzroy Crossi**	**39.20**	**258**	*e*P		P		21 46 01.0	-2.5
FITZ	**Fitzroy Crossi**	**39.20**	**258**	P		**P**		**21 46 02.0**	**-1.5**
	2.4nm,0.9s,baz=107,slow=6.3,SNR=4.1								
USRK	**Usuriysk Arra**	**65.62**	**334**	P		**P**		**21 49 20.2**	**+1.4**
	1.4nm,0.8s,baz=143,slow=6.6,SNR=6.2								
CHTO	**Chiang Mai**	**73.78**	**295**	*e*P		**P**		**21 50 09.4**	**-0.3**
	9.9nm,1.0s								
QSPA	**South Pole Qui**	**76.21**	**180**	*e*P		**P**		**21 50 23.2**	**0.0**
	6.8nm,1.0s								
ULN	**Ulaanbaatar**	**80.80**	**324**	*e*P		**P**		**21 50 47.8**	**-0.9**
ILAR	**Eielson Array**	**85.98**	**18**	P		P		21 51 12.2	-2.6
ILAR	**Eielson Array**	**85.98**	**18**	P		P		21 51 12.2	-2.6
	1.0nm,0.6s,baz=236,slow=5.4,SNR=7.3								
MKAR	**Makanchi Array**	**95.84**	**317**	P		**P**		**21 52 01.3**	**-0.1**
MKAR	**Makanchi Array**	**95.84**	**317**	P		**P**		**21 52 01.3**	**-0.1**
	0.7nm,0.9s,baz=90,slow=6.4,SNR=4.4								
TXAR	**Lajitas Array**	**96.74**	**62**	LR		LR		22 29 44.2	
	comp=Z,32nm,18.4s,baz=270,slow=32								
ARCES	**ARCESS Array B**	**119.11**	**345**	PKP		**PKPdf**		**21 57 22.8**	**-0.4**
ARCES	**ARCESS Array B**	**119.11**	**345**	PKP		**PKPdf**		**21 57 22.8**	**-0.4**
	2.8nm,0.9s,baz=26,slow=3.1,SNR=3.5								
ESDC	**Sonseca Array**	**152.83**	**343**	PKPbc		**PKPbc**		**21 58 31.9**	**-0.4**
ESDC	**Sonseca Array**	**152.83**	**343**	PKPbc		**PKPbc**		**21 58 31.9**	**-0.4**
	0.4nm,0.7s,baz=6.9,slow=3.2,SNR=2.9								

IDC 23 21:59:05.7±2.7,25.28S×66.78W,h0km,mb4.3/3, mb1 4.3/5,mb1mx3.9/18,mbtmp4.3/5,ML4.2/2,Error ellipse: s-maj=60.1km s-min=44.8km az=64.0,Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**9.04**	**352**	Pn		Pn		22 01 18.5	+0.2
	0.5nm,0.3s,baz=169,slow=9.2,SNR=16								
SIV	**San Ignacio**	**10.67**	**31**	Pn		Pn		22 01 38.6	-1.5
	2.2nm,0.3s,baz=234,slow=13,SNR=29								
H03N1	**Juan Fernandez**	**13.33**	**230**	T		T		22 14 30.7	
	baz=69,slow=0.7,SNR=45								
H03N2	**Juan Fernandez**	**13.35**	**230**	T		T		22 14 29.4	
	baz=69,slow=0.7,SNR=44								
H03N3	**Juan Fernandez**	**13.35**	**230**	T		T		22 14 32.3	
	baz=69,slow=0.7,SNR=33								
BDFB	**Brasilia**	**20.01**	**65**	P		Pn		22 03 42.1	+0.1
	8.7nm,0.7s,baz=239,slow=12,SNR=15								
DBIC	**Dimbokro**	**68.03**	**71**	P		P		22 10 07.2	-0.2
	2.9nm,0.9s,baz=200,slow=6.9,SNR=7.2								
TORD	**Torodi Ar. Bea**	**76.85**	**69**	P		P		22 10 59.4	-0.6
	1.8nm,0.3s,baz=256,slow=5.9,SNR=65								
MKAR	**Makanchi Array**	**147.37**	**41**	PKPbc		PKPbc		22 18 51.4	0.0
	1.5nm,0.8s,baz=326,slow=3.0,SNR=9.6								

MEX 23 22:27:37.1±0.5,17.12N×102.06W,h9km±9km,MD3.7, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.75**	**49**	*i* P		Pg		22 27 49.7	-1.8
ZIIG				*i* S		Sg		22 27 59.5	-1.8
MMIG	**Aquila**	**1.70**	**314**	*e*P		Pn		22 28 03.4	-3.4
MMIG				*i* S		Sn		22 28 23.9	-4.8
ARIG	**Puente Sto Nin**	**2.00**	**54**	*e*P		Pn		22 28 08.1	-3.1
ARIG				*i* S		Sn		22 28 32.2	-4.1
ACX	**Acapulco**	**2.12**	**96**	*i* P		Pn		22 28 08.1	-4.6
ACX				*i* S		Sn		22 28 32.9	-6.3
PLIG	**Platanillo**	**2.74**	**62**	*e*P		Pn		22 28 18.4	-3.0
PLIG				*i* S		Sn		22 28 51.9	-3.0
TLIG	**Tlapa**	**3.36**	**82**	*e*P		Pn		22 28 27.2	-2.7

*NIED **23** 22:50:00, 33.30N×140.90E,h47km,Mw3.7 Best double couple: Mo3.92000×1014 NP1:ϕ=308.00000°,δ72.00000°, λ46.00000°. NP2:ϕ=201.00000°,δ47.00000°,λ155.00000°.*
*IDC **23** 22:50:47.7±1.6, 32.78N×139.67E,h0km,mb3.6/3, mb1 3.9/5,mb1mx3.6/25,mbtmp3.8/5,ML4.0/2,Error ellipse: s-maj=59.4km s-min=19.8km az=80.0*
*ISCJB **23** 22:50:49.2±1.1, 33.25N±0.05×140.92E±0.09, h59km±10km,mb3.7/3,Error ellipse: s-maj=13.3km s-min=7.2km az=15.2*
*JMA **23** 22:50:49.8±0.2, 33.31N×140.91E,h46km,M3.7*
ISC 23 22:50:49.6±2.1,33.22N±0.08×141.0E±0.1,h44km±20km, n22,σ1.9s02/23,mb3.8/3,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.96**	**264**	P		**Pn**		**22 51 07.1**	**+0.4**
JHJ2				*e*S		**Sn**		**22 51 19.3**	**+0.1**
JHCJ	**Hachijojimakas**	**0.98**	**261**	P		**Pn**		**22 51 07.2**	**+0.2**
JHCJ				*e*S		**Sn**		**22 51 18.7**	**-1.1**
BSO1	**Boso 1**	**1.43**	**1**	P		**Pn**		**22 51 12.5**	**0.0**
BSO1				*e*S		**Sn**		**22 51 28.8**	**0.0**
**JM

KLY	**Klyuchi**	**1.94**	**326**	*e*P		**Pn**	**22 57 06.4**	**-0.4**
KLY				*i* S		**Sn**	**22 57 29.6**	**-1.7**
SMKR	**Semkarok**	**1.97**	**341**	*i* P		**Pn**	**22 57 08.1**	**+0.9**
SMKR				*i* S		**Sn**	**22 57 31.7**	**-0.5**
KII	**Karymskiy**	**1.97**	**251**	*e*P		**Pb**	**22 57 09.0**	**-0.7**
KII				*i* S		**Sn**	**22 57 33.0**	**+0.7**
BKI	**Bering**	**2.00**	**75**	PN		**Pn**	**22 57 07.4**	**-0.1**
BKI				S		**Sn**	**22 57 31.5**	**-1.2**
BKI	**Bering**	**2.00**	**75**	*e*P		**Pn**	**22 57 07.4**	**-0.1**
BKI				*i* S		**Sn**	**22 57 31.5**	**-1.2**
BDR	**Baidarnaya**	**2.01**	**337**	*e*P		**Pn**	**22 57 09.0**	**+1.2**
BDR				*i* S		**Sb**	**22 57 35.3**	**-0.2**
KOZR	**Kozyr**	**2.05**	**312**	PN		**Pn**	**22 57 09.3**	**+1.0**
KOZR				S		**Sn**	**22 57 33.5**	**-0.5**
KOZ	**Kozyrevsk**	**2.05**	**312**	*e*P		**Pn**	**22 57 09.3**	**+1.0**
KOZ				*i* S		**Sn**	**22 57 33.5**	**-0.6**
SRDR	**Sredinnyy**	**2.29**	**315**	*i* P		**Pn**	**22 57 12.3**	**+0.7**
SRDR				*i* S		**Sn**	**22 57 39.3**	**-0.7**
NLC	**Nalytchevo**	**2.48**	**232**	PN		**Pn**	**22 57 14.3**	**+0.1**
NLC				S		**Sn**	**22 57 45.6**	**+1.0**
NLC	**Nalytchevo**	**2.48**	**232**	*i* P		**Pn**	**22 57 14.3**	**+0.1**
NLC				*i* S		**Sn**	**22 57 45.6**	**+1.0**
ESO	**Esso**	**2.54**	**300**	PN		**Pn**	**22 57 15.4**	**+0.4**
ESO				S		**Sn**	**22 57 45.0**	**-1.0**
ESO	**Esso**	**2.54**	**300**	*e*P		**Pn**	**22 57 15.4**	**+0.4**
ESO				*i* S		**Sn**	**22 57 45.0**	**-1.0**
SDLR	**Sedlovina**	**2.63**	**238**	*i* P		**Pn**	**22 57 16.6**	**+0.2**
SDLR				*i* S		**Sn**	**22 57 46.9**	**-1.7**
SMAR	**Somma**	**2.68**	**238**	*i* P		**Pn**	**22 57 17.4**	**+0.2**
SMAR				*i* S		**Sn**	**22 57 48.7**	**-1.3**
KRER	**Koryakskii**	**2.69**	**240**	*e*P		**Pn**	**22 57 18.0**	**+0.8**
KRER				*i* S		**Sn**	**22 57 49.8**	**-0.2**
UGLR	**Uglovaya**	**2.70**	**237**	*i* P		**Pn**	**22 57 17.7**	**+0.3**
UGLR				*i* S		**Sn**	**22 57 49.2**	**-1.1**
KRX	**Arik**	**2.71**	**241**	*e*P		**Pn**	**22 57 17.7**	**+0.3**
KRX				*i* S		**Sn**	**22 57 48.7**	**-1.7**
AVH	**Avacha**	**2.71**	**239**	*e*P		**Pn**	**22 57 17.7**	**+0.2**
AVH				*i* S		**Sn**	**22 57 49.3**	**-1.2**
KOK	**Koryaka**	**2.75**	**240**	*e*P		**Pn**	**22 57 18.8**	**+0.8**
KOK				*i* S		**Sn**	**22 57 51.0**	**-0.4**
PET	**Petropavlovsk**	**2.90**	**236**	PN		**Pn**	**22 57 21.5**	**+1.6**
PET				S		**Sn**	**22 57 55.7**	**+0.8**
PET	**Petropavlovsk**	**2.90**	**236**	*i* P		**Pn**	**22 57 21.5**	**+1.6**
PET				*i* S		**Sn**	**22 57 55.7**	**+0.8**
GNL	**Ganaly**	**2.93**	**251**	*i* P		**Pn**	**22 57 21.2**	**+0.7**
GNL				*i* S		**Sn**	**22 57 55.2**	**-0.7**
PEA0B	**Petropavlovsk-**	**3.33**	**243**	*e*Pn		**Pn**	**22 57 26.5**	**+0.7**
PETK	**Petropavlovsk-**	**3.33**	**243**	PN		**Pn**	**22 57 26.4**	**+0.6**
PETK							22 58 09.7	
PETK				pmax		pmax		
	comp=Z,17nm,0.3s							
PETK				smax		smax		
	comp=N,9.0nm,0.3s							
PETK				MLR		MLR		
	comp=Z,341nm,18.1s							
PETK	**Petropavlovsk-**	**3.33**	**243**	Pn		**Pn**	**22 57 26.4**	**+0.6**
PETK				Sn		**Sb**	**22 58 09.7**	**-3.6**
PETK	**Petropavlovsk-**	**3.33**	**243**	Pn		**Pn**	**22 57 26.4**	**+0.6**
	comp=Z,17nm,0.3s,baz=69,slow=16,SNR=160							
PETK				Sn		**Sb**	**22 58 09.7**	**-3.6**
	comp=Z,9.0nm,0.3s,baz=109,slow=15,SNR=4.5							
PETK				LR		LR	22 58 50.5	
	comp=Z,340nm,18.1s,baz=140,slow=42							
RUS	**Russkaya**	**3.35**	**228**	PN		**Pn**	**22 57 27.1**	**+1.0**
RUS				S		**Sn**	**22 58 05.9**	**-0.2**
RUS	**Russkaya**	**3.35**	**228**	*i* P		**Pn**	**22 57 27.1**	**+1.0**
RUS				*i* S		**Sn**	**22 58 05.9**	**-0.2**
MTVR	**Mutnovka**	**3.46**	**231**	*i* P		**Pn**	**22 57 29.7**	**+1.9**
MTVR				*i* S		**Sn**	**22 58 09.5**	**+0.4**
GRL	**Gorelyy**	**3.47**	**233**	*i* P		**Pn**	**22 57 30.2**	**+2.3**
ASAK	**Asacha**	**3.66**	**232**	*e*P		**Pn**	**22 57 32.5**	**+2.0**
ASAK				*i* S		**Sn**	**22 58 14.9**	**+1.1**
APC	**Apacha**	**3.70**	**243**	*e*P		**Pn**	**22 57 32.1**	**+1.2**
MIPR	**Malaya Ipel'ka**	**4.27**	**237**	*e*P		**Pn**	**22 57 40.4**	**+1.6**
OSSR	**Ossora**	**4.54**	**3**	*i* P		**Pn**	**22 57 43.7**	**+1.2**
PAU	**Pauzhetka**	**4.78**	**229**	PN		**Pn**	**22 57 47.8**	**+2.0**
PAU	**Pauzhetka**	**4.78**	**229**	*i* P		**Pn**	**22 57 47.8**	**+2.0**
SKR	**Severo-Kuril's**	**5.65**	**227**	*e*PN		**Pn**	**22 57 56.5**	**-1.2**
SKR	**Severo-Kuril's**	**5.65**	**227**	*i* P		**Pn**	**22 57 59.4**	**+1.7**
FX1	**Attu Island--F**	**6.52**	**102**	*e*Pn		**Pn**	**22 58 09.3**	**-0.4**
FX1				Sn		**Sn**	**22 59 18.3**	**-5.9**
FX1	**Attu Island--F**	**6.52**	**102**	Pn		**Pn**	**22 58 09.7**	**0.0**
	comp=Z,12nm,0.3s,baz=347,slow=3.7,SNR=16							
FX1				Sn		**Sn**	**22 59 18.3**	**-5.9**
	comp=Z,14nm,0.3s,baz=308,slow=20,SNR=9.2							
ASAJ	**Asahikawa**	**16.74**	**239**	*e*Pn		**Pn**	**23 00 25.9**	**-2.3**
	comp=Z,15nm,1.2s							
ASAJ	**Asahikawa**	**16.74**	**239**	Pn		**Pn**	**23 00 29.0**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=76,slow=8.4,SNR=6.8							
IMA2	**Indian Mountai**	**23.83**	**44**	*e*P		**P**	**23 01 47.2**	**+0.4**
RSO	**Redoubt South**	**24.21**	**58**	*e*P		P	23 01 59.9	+9.4
	comp=Z,333nm,0.9s							
MAJO	**Matsushiro**	**24.73**	**233**	*e*P		**P**	**23 01 55.8**	**+0.6**
MAJO				pmax		pmax		
	comp=Z,14nm,0.7s							
MAJO	**Matsushiro**	**24.73**	**233**	*e*P		**P**	**23 01 55.8**	**+0.6**
	comp=Z,14nm,0.7s							
MAT	**Matsushiro**	**24.73**	**233**	P		**P**	**23 01 55.9**	**+0.7**
MJAR	**Matsushiro Arr**	**24.73**	**233**	P		**P**	**23 01 55.7**	**+0.6**
MJAR	**Matsushiro Arr**	**24.73**	**233**	P		**P**	**23 01 55.7**	**+0.6**
	comp=Z,10nm,0.9s,baz=25,slow=7.0,SNR=14							
COLD	**Coldfoot**	**25.34**	**42**	*e*P		**P**	**23 02 00.8**	**+0.3**
	comp=Z,6.0nm,0.8s							
ILAR	**Eielson Array**	**26.61**	**48**	P		**P**	**23 02 12.6**	**+0.6**
ILAR	**Eielson Array**	**26.61**	**48**	P		**P**	**23 02 12.6**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=264,slow=8.8,SNR=17							
TLY	**Talaya**	**34.55**	**290**	*e*P		**P**	**23 03 19.8**	**-2.4**
TLY				pmax		pmax		
	comp=Z,4.0nm,0.7s							
TLY				MLR		MLR		
	comp=Z,68nm,16.0s							
H11N2	**WAKE ISLAND Hy**	**35.09**	**173**	T		T	23 40 46.2	
	baz=358,slow=0.7,SNR=134							
H11N3	**WAKE ISLAND Hy**	**35.10**	**173**	T		T	23 40 46.3	
	baz=358,slow=0.7,SNR=73							
H11N1	**WAKE ISLAND Hy**	**35.11**	**173**	T		T	23 40 47.5	
	baz=358,slow=0.7,SNR=62							
YKA	**Yellowknife Ar**	**40.95**	**45**	P		**P**	**23 04 17.5**	**+1.5**
YKA	**Yellowknife Ar**	**40.95**	**45**	P		**P**	**23 04 17.5**	**+1.5**
	comp=Z,1.4nm,0.8s,baz=298,slow=7.8,SNR=3.1							
KURK	**Kurchatov**	**48.13**	**302**	P		**P**	**23 05 12.9**	**-0.7**
KURK				pmax		pmax		
	comp=Z,1.0nm,0.6s							
KURK	**Kurchatov**	**48.13**	**302**	P		**P**	**23 05 12.8**	**-0.7**
KURBB	**Kurchatov Arra**	**48.24**	**302**	P		**P**	**23 05 12.8**	**-1.5**
	comp=Z,0.9nm,0.6s,baz=55,slow=8.0,SNR=7.5							
MKAR	**Makanchi Array**	**48.78**	**296**	P		**P**	**23 05 16.2**	**-2.5**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.9s							
MKAR	**Makanchi Array**	**48.78**	**296**	P		**P**	**23 05 16.2**	**-2.5**
MKAR	**Makanchi Array**	**48.78**	**296**	P		**P**	**23 05 16.2**	**-2.5**
	comp=Z,0.7nm,0.9s,baz=44,slow=6.7,SNR=2.5							
BVAR	**Borovoye Array**	**50.54**	**309**	P		**P**	**23 05 30.9**	**-1.1**
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
BVAR	**Borovoye Array**	**50.54**	**309**	P		**P**	**23 05 30.9**	**-1.1**
BVAR	**Borovoye Array**	**50.54**	**309**	P		**P**	**23 05 30.9**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=57,slow=10,SNR=4.3							
NVAR	**Mina Array Bea**	**53.81**	**73**	P		**P**	**23 05 59.6**	**+2.9**
NVAR	**Mina Array Bea**	**53.81**	**73**	P		**P**	**23 05 59.6**	**+2.9**
	comp=Z,1.9nm,0.7s,baz=299,slow=7.5,SNR=13							
PDAR	**Pinedale Array**	**55.44**	**63**	P		**P**	**23 06 10.5**	**+2.0**
PDAR	**Pinedale Array**	**55.44**	**63**	P		**P**	**23 06 10.5**	**+2.0**
	comp=Z,1.3nm,0.7s,baz=331,slow=3.2,SNR=13							
FINES	**FINESS Array B**	**59.20**	**337**	P		**P**	**23 06 34.0**	**-0.5**
FINES	**FINESS Array B**	**59.20**	**337**	P		**P**	**23 06 34.0**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=34,slow=8.0,SNR=15							
NB2	**NORSAR Subarra**	**62.37**	**345**	P		**P**	**23 06 55.4**	**-0.7**
	comp=Z,1.9nm,0.8s,baz=20,slow=6.9							
NOA	**NORSAR Array B**	**62.37**	**345**	P		**P**	**23 06 55.2**	**-0.9**
NOA	**NORSAR Array B**	**62.37**	**345**	P		**P**	**23 06 55.2**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=19,slow=6.8,SNR=4.3							
AKASG	**Malin Array Be**	**67.96**	**330**	P		**P**	**23 07 31.5**	**-1.0**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**67.96**	**330**	P		**P**	**23 07 31.5**	**-1.0**
AKASG	**Malin Array Be**	**67.96**	**330**	P		**P**	**23 07 31.5**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=30,slow=6.4,SNR=2.9							
TXAR	**Lajitas Array**	**68.65**	**69**	P		**P**	**23 07 39.0**	**+1.8**
TXAR	**Lajitas Array**	**68.65**	**69**	P		**P**	**23 07 39.0**	**+1.8**
	comp=Z,1.1nm,0.7s,baz=296,slow=3.6,SNR=13							
KBZ	**Khabaz**	**69.35**	**318**	P		**P**	**23 07 41.4**	**+0.1**
KBZ				pmax		pmax		
	comp=Z,1.0nm,0.7s							
KBZ	**Khabaz**	**69.35**	**318**	P		**P**	**23 07 41.4**	**+0.1**
KBZ	**Khabaz**	**69.35**	**318**	P		**P**	**23 07 41.4**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=128,slow=1.7,SNR=4.4							
GERES	**GERESS Array B**	**73.54**	**339**	P		**P**	**23 08 06.6**	**0.0**
GERES	**GERESS Array B**	**73.54**	**339**	P		**P**	**23 08 06.6**	**0.0**
	comp=Z,0.2nm,0.5s,baz=46,slow=6.1,SNR=4.8							
BRTR	**Keskin Array B**	**76.28**	**322**	P		**P**	**23 08 21.9**	**-0.8**
BRTR	**Keskin Array B**	**76.28**	**322**	P		**P**	**23 08 21.9**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=75,slow=3.8,SNR=4.3							
WRA	**Warramunga Arr**	**78.20**	**207**	P		**P**	**23 08 33.7**	**+0.3**
WRA	**Warramunga Arr**	**78.20**	**207**	P		**P**	**23 08 33.7**	**+0.3**
	comp=Z,0.7nm,0.9s,baz=20,slow=5.9,SNR=5.7							
ASAR	**Alice Springs**	**81.87**	**206**	P		**P**	**23 08 54.0**	**+0.8**
ASAR	**Alice Springs**	**81.87**	**206**	P		**P**	**23 08 54.0**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=23,slow=4.9,SNR=6.4							
ESDC	**Sonseca Array**	**85.27**	**350**	P		**P**	**23 09 11.2**	**+0.6**
ESDC	**Sonseca Array**	**85.27**	**350**	P		**P**	**23 09 11.2**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=353,slow=4.2,SNR=3.8							

IDC ***23*** *23:38:13.0±1.9,* **21°.67N×143°.06E,h282**km±17km,
mb3.2/12,**mb1 3.4**/14,**mb1mx3.3**/29,**mbtmp3.3**/14,**Error ellipse: s-maj=23.5km s-min=12.7km az=80.0,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCJ	**Chichijima**	**5.46**	**352**	P		Pn	23 39 36.4	+1.1
	18nm,0.3s,baz=314,slow=22,SNR=8.0							
JCJ				S		S	23 40 41.1	-0.2
	16nm,0.3s,baz=274,slow=23,SNR=7.0							
MJAR	**Matsushiro Arr**	**15.41**	**345**	P		P	23 41 33.6	-1.8
	0.7nm,0.3s,baz=167,slow=13,SNR=4.4							
KSRS	**Korea Array**	**20.47**	**324**	P		P	23 42 30.1	+0.4
	0.7nm,0.4s,baz=150,slow=9.8,SNR=3.8							
WRA	**Warramunga Arr**	**42.23**	**192**	P		P	23 45 38.7	-0.4
	1.5nm,0.5s,baz=22,slow=7.6,SNR=30							
ASAR	**Alice Springs**	**45.94**	**192**	P		P	23 46 07.8	-0.5
	0.3nm,0.4s,baz=15,slow=11,SNR=5.4							
ZALV	**Zalesovo Beam**	**54.16**	**322**	P		P	23 47 09.7	+0.3
	0.6nm,0.5s,baz=108,slow=9.5,SNR=4.0							
ZALV				PcP		PcP	23 48 08.9	-1.2
	0.4nm,0.4s,baz=131,slow=4.1,SNR=2.7							
MKAR	**Makanchi Array**	**54.63**	**313**	P		P	23 47 13.4	+0.5
	0.3nm,0.6s,baz=82,slow=8.9,SNR=5.3							
MKAR				PcP		PcP	23 48 11.7	-0.4
	0.3nm,0.5s,baz=80,slow=4.3,SNR=5.6							
KURBB	**Kurchatov Arra**	**57.46**	**317**	P		P	23 47 32.8	0.0
	0.8nm,0.4s,baz=95,slow=7.4,SNR=6.7							
BVAR	**Borovoye Array**	**62.62**	**320**	P		P	23 48 08.0	+0.4
	1.2nm,0.4s,baz=95,slow=8.6,SNR=11							
YKA	**Yellowknife Ar**	**76.53**	**28**	P		P	23 49 31.4	-0.7
	0.4nm,0.4s,baz=292,slow=5.7,SNR=2.9							
ARCES	**ARCESS Array B**	**78.91**	**341**	P		P	23 49 45.1	+0.1
	3.3nm,0.9s,baz=63,slow=8.3,SNR=8.0							
KBZ	**Khabaz**	**82.30**	**314**	P		P	23 50 03.6	+0.2
	2.1nm,0.9s,baz=72,slow=5.9,SNR=4.5							
FINES	**FINESS Array B**	**83.16**	**334**	P		P	23 50 06.3	-1.1
	0.8nm,0.5s,baz=67,slow=4.2,SNR=13							
NVAR	**Mina Array Bea**	**83.25**	**51**	P		P	23 50 09.6	+0.9
	0.3nm,0.7s,baz=253,slow=2.7,SNR=3.3							
TORD	**Torodi Ar. Bea**	**128.67**	**309**	PKP		PKPdf	23 56 47.5	0.0
	0.2nm,0.5s,baz=342,slow=2.0,SNR=4.9							
PLCA	**Paso Flores**	**145.83**	**132**	PKPbc		PKPbc	23 57 19.6	+0.1
	2.9nm,0.9s,baz=288,slow=6.4,SNR=2.8							

IDC ***23*** *23:41:20.6±28.0,20°.47S×177°.93W,h505*km±282km,
mb3.1/5,mb1 3.2/5,mb1mx2.9/19,mbtmp3.1/5,Error ellipse: s-maj=175.0km s-min=31.7km az=55.0
ISCJB ***23*** *23:41:21.3±7.4,20°.5S±1°×178°.0W±0°.8,h534*km,*mb3.7/5, Error ellipse: s-maj=179.7km s-min=34.9km az=29.9*
ISC 23 23:41:22.9±1.8,20°.5S±0°.3×178°.0W±0°.3,h534km**,n7,**
σ0s56/7,mb3.7/5,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTA	**Charters Tower**	**33.50**	**264**	P		**P**	**23 47 18.6**	**+0.3**
	1.8nm,0.4s,baz=81,slow=8.0,SNR=3.3							
STKA	**Stephens Creek**	**37.81**	**244**	P		**P**	**23 47 53.8**	**-0.2**
	0.7nm,0.3s,baz=100,slow=12,SNR=3.3							
ASAR	**Alice Springs**	**44.53**	**257**	P		**P**	**23 48 47.8**	**+0.3**
	3.2nm,0.7s,baz=88,slow=8.4,SNR=27							
WRA	**Warramunga Arr**	**44.61**	**262**	P		**P**	**23 48 47.4**	**-0.7**
	0.5nm,0.3s,baz=96,slow=8.0,SNR=37							
QSPA	**South Pole Qui**	**69.61**	**180**	P		**P**	**23 51 38.3**	**0.0**
	0.8nm,0.8s							
AKASG	**Malin Array Be**	**142.98**	**331**	PKP		**PKPdf**	**23 59 55.2**	**-0.5**
	0.2nm,0.3s,baz=41,slow=4.1,SNR=5.2							
BRTR	**Keskin Array B**	**146.82**	**312**	PKPbc		**PKPbc**	**00 00 06.2**	**+0.6**
	0.4nm,0.8s,baz=118,slow=5.2,SNR=3.6							

PRE ***24*** *00:02:46.4±2.3,3°.91S×34°.89E,h10*km,*ML3.5*
ISCJB ***24*** *00:02:49.5±2.0,3°.7S±0°.2×34°.77E±0°.04,h22*km,*Error ellipse: s-maj=25.9km s-min=6.1km az=176.5*
ISC 24 00:02:48.3±2.9,3°.8S±0°.3×34°.88E±0°.06,h22km**,n4,**
σ1s35/8,Lake Victoria region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MAUS	**Longido**	**2.11**	**60**	*i* P		**Pb**	**00 03 24.4**	**-1.5**
MAUS				*i* S		**Sb**	**00 03 51.6**	**-0.1**
KMBO	**Kilima Mbogo**	**3.57**	**42**	*e*P		**Pn**	**00 03 43.3**	**+0.7**
KMBO				*e*S		**Sn**	**00 04 26.0**	**+1.8**
KIG	**Kigali**	**5.15**	**291**	*e*P		**Pn**	**00 04 05.4**	**+1.1**
KIG				*e*S		**Sn**	**00 05 04.2**	**+1.1**
KIG				AML		AML	00 05 34.1	
	comp=Z,27nm,0.5s							
MBAR	**Mbarara**	**5.22**	**308**	*e*P		**Pn**	**00 04 05.0**	**-0.3**
MBAR				*e*S		**Sn**	**00 05 04.2**	**-0.8**

NIED ***24*** *00:21:00,46°.50N×151°.80E,h71*km,*Mw4.1 Best double couple: M0 1.56000×10*^{15} *NP1:φs62.00000°,δ77.00000°, λ-109.00000°. NP2:φs298.00000°,δ23.00000°, λ-36.00000°.*
ISCJB ***24*** *00:21:40.4±0.6,46°.12N±0°.08×152°.0E±0°.1,h100*km,*mb3.8/20,Error ellipse: s-maj=14.9km s-min=4.0km az=137.0*
JMA ***24*** *00:21:40.9±0.6,46°.52N×151°.76E,h30*km,*M4.7*
MOS ***24*** *00:21:42.8±1.1,46°.54N×151°.58E,h103*km,*mb4.1/12, Error ellipse: s-maj=14.6km s-min=8.8km az=62.8*
IDC ***24*** *00:21:47.0±2.4,46°.78N×151°.47E,h111*km±*20*km,*mb3.6/18,mb1 3.7/23,mb1mx3.6/36,mbtmp3.6/23,MS2.5/2, Ms1 2.5/2,ms1mx2.3/33,Error ellipse: s-maj=32.6km s-min=13.7km az=161.0*
ISC 24 00:21:41.2±0.9,46°.1N±0°.1×152°.0E±0°.1,h100km**,n88,**
σ1s71/72,mb4.0/20,2D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**3.02**	**255**	*i*PN		**Pn**	**00 22 29.2**	**+2.0**
KUR				*e*S		**Sn**	**00 23 05.0**	**+2.3**
KUR				pmax		pmax		
	comp=Z,270nm,0.6s							
KUR				pmax		pmax		
	comp=N,120nm,0.3s							
KUR				pmax		pmax		
	comp=E,110nm,0.8s							
KUR				smax		smax		
	comp=N,760nm,0.6s							
KUR				smax		smax		
	comp=E,460nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**4.81**	**247**	*d*iPN		**Pn**	**00 22 53.8**	**+2.6**
YUK				*i* S		**Sn**	**00 23 48.2**	**+2.5**
YUK				pmax		pmax		
	comp=N,40nm,0.2s							
YUK				pmax		pmax		
	comp=E,30nm,0.2s							
YUK				pmax		pmax		
	comp=Z,151nm,0.2s							
YUK				smax		smax		
	comp=N,145nm,0.3s							
YUK				smax		smax		
	comp=E,297nm,0.7s							
NEM2	**Nemuro 2**	**5.22**	**241**	P		**Pn**	**00 22 57.6**	**+0.8**
NEM2				*e*S		**Sn**	**00 23 53.8**	**-2.0**
JRA	**Rausu**	**5.33**	**249**	P		**Pn**	**00 23 00.7**	**+2.4**
SKR	**Severo-Kuril's**	**5.36**	**29**	*e*PN		**Pn**	**00 22 56.0**	**-2.7**
SKR				*e*S		**Sn**	**00 23 56.1**	**-2.9**
SKR				pmax		pmax		
	comp=Z,60nm,0.5s							
SKR				smax		smax		
	comp=N,90nm,0.5s							
SKR				smax		smax		
	comp=E,90nm,0.5s							
JNK	**Nakash**	**5.75**	**247**	P		**Pn**	**00 23 06.0**	**+2.0**
JAK	**Akkeshi**	**6.07**	**242**	P		**Pn**	**00 23 08.9**	**+0.6**
JAK				*e*S		**Sn**	**00 24 14.5**	**-1.7**
JTKR	**Abashiri--Toko**	**6.12**	**253**	P		**Pn**	**00 23 11.0**	**+2.1**
JMP	**Maruseppu**	**6.47**	**254**	P		Pn	00 23 16.5	+2.7
JAR	**Ashorobuto**	**6.50**	**248**	P		**Pn**	**00 23 16.3**	**+2.1**
JOB	**Onbets**	**6.65**	**244**	P		**Pn**	**00 23 17.4**	**+1.2**
JOB				*e*S		**Sn**	**00 24 29.0**	**-1.5**
JKK2	**Kamakawa 2**	**6.93**	**255**	P		Pn	00 23 22.7	+2.7
ASAJ	**Asahikawa**	**6.94**	**257**	P		Pn	00 23 23.3	+3.1
ASAJ	**Asahikawa**	**6.94**	**257**	P		Pn	00 23 23.3	+3.1
	comp=E,2.5nm,0.3s,baz=93,slow=18,SNR=13							
ASAJ				LR		LR	00 25 33.8	
	comp=E,46nm,19.4s,baz=307,slow=33							
JCH	**Churui**	**7.10**	**244**	P		**Pn**	**00 23 22.6**	**+0.3**
JCH				*e*S		**Sn**	**00 24 37.4**	**-4.0**
JFR	**Furan**	**7.32**	**250**	P		Pn	00 23 28.2	+2.8
JAB	**Ashibetsu**	**7.42**	**253**	P		Pn	00 23 29.8	+3.1
JEM	**Erimo**	**7.56**	**241**	P		**Pn**	**00 23 30.1**	**+1.5**
JEM				*e*S		**Sn**	**00 24 50.3**	**-2.3**
JBT2	**Biratori 2**	**7.65**	**248**	P		**Pn**	**00 23 30.7**	**+0.9**
JBT2				*e*S		**Sn**	**00 24 50.6**	**-4.2**
JNBK	**Urakawa-nobuka**	**7.66**	**244**	P		**Pn**	**00 23 30.2**	**+0.3**
JNBK				*e*S		**Sn**	**00 24 50.0**	**-5.0**
PETK	**Petropavlovsk-**	**7.95**	**26**	PN		Pn	00 23 34.1	+0.3
PETK				pmax		pmax		
	comp=Z,1.0nm,0.3s							
PETK	**Petropavlovsk-**	**7.95**	**26**	P		Pn	00 23 34.1	+0.3
	comp=Z,1.3nm,0.3s,baz=190,slow=13,SNR=18							
PETK				S		Sn	00 25 13.0	+11
	comp=Z,0.4nm,0.3s,baz=227,slow=17,SNR=2.9							
JSK	**Shakotan**	**8.65**	**256**	P		Pn	00 23 49.2	+5.8
JNB	**Noboribetsu**	**8.66**	**249**	P		**Pn**	**00 23 44.9**	**+1.4**
JKB	**Kayabe**	**8.95**	**246**	P		**Pn**	**00 23 47.0**	**-0.5**
JKB				*e*S		Sn	00 25 18.7	-7.8
JSH	**Shimam**	**9.23**	**252**	P		**Pn**	**00 23 52.4**	**+1.1**
JYM2	**Yakumo 2**	**9.26**	**249**	P		**Pn**	**00 23 52.4**	**+0.7**
JANG	**Nango**	**9.54**	**237**	P		**Pn**	**00 23 54.0**	**-1.6**
JANG				*e*S		Sn	00 25 32.8	-8.1
JTM	**Tenmabayashi**	**9.55**	**240**	P		**Pn**	**00 23 54.8**	**-0.9**
JTM				*e*S		Sn	00 25 32.6	-8.5
JTH	**Tanohata**	**9.63**	**234**	P		Pn	00 23 55.0	-1.8
JTH				*e*S		Sn	00 25 36.1	-7.0
JOSM	**Okushiri--Mats**	**9.86**	**251**	P		**Pn**	**00 23 59.6**	**-0.3**
OFUJ	**Ofunato**	**10.34**	**231**	P		**Pn**	**00 24 05.2**	**-1.2**
OFUJ				*e*S		Sn	00 25 54.0	-6.3
JRG	**Rokugo**	**10.70**	**235**	P		**Pn**	**00 24 10.8**	**-0.5**
JRG				*e*S		Sn	00 26 02.1	-6.9
JIO	**Ouri**	**10.96**	**230**	P		**Pn**	**00 24 13.8**	**-1.1**
JIO				*e*S		Sn	00 26 08.2	-7.3
JFY	**Yanaizu**	**12.62**	**231**	P		**Pn**	**00 24 37.3**	**+0.4**
MJA0	**Matsu Arr-Jizo**	**14.04**	**232**	*e*P		**Pn**	**00 24 56.7**	**+1.1**
M

TXAR	**Lajitas Array**	**78.49**	**60**	P		P	00 33 35.5	+4.1
	comp=Z,0.3nm,0.4s,baz=299,slow=4.3,SNR=9.2							
GERES	**GERESS Array B**	**78.72**	**333**	P		**P**	**00 33 32.8**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=46,slow=5.6,SNR=4.1							
TORD	**Torodi Ar. Bea**	**115.27**	**328**	PKP		PKPdf	00 40 13.0	+1.7
	comp=Z,0.4nm,1.0s,baz=18,slow=1.7,SNR=3.8							
H03N2	**Juan Fernandez**	**139.51**	**90**	T		T	03 16 53.0	
	baz=304,slow=0.7,SNR=12							
H03N1	**Juan Fernandez**	**139.53**	**90**	T		T	03 16 53.1	
	baz=304,slow=0.7,SNR=7.4							
H03N3	**Juan Fernandez**	**139.53**	**90**	T		T	03 16 54.8	
	baz=304,slow=0.7,SNR=10							

IDC ***24*** *00:22:47.4±2.8, 6°.74N×72°.76W, h144km±25km, mb2.7/2, mb1 3.1/3, mb1mx2.9/22, mbtmp2.9/3, Error ellipse: s-maj=34.1km s-min=28.7km az=13.0*
ISCJB ***24*** *00:22:48.9±0.7, 6°.85N±0°.06×73°.03W±0°.06, h166km±8km, mb2.8/2, Error ellipse: s-maj=12.0km s-min=7.4km az=38.7*
FUNV ***24*** *00:22:50.3, 6°.80N×73°.16W, h161km, MW4.0*

ISC 24 00:22:49.3±1.0, 6°.84N±0°.06×73°.04W±0°.07, h163km±8km, n18, σ1§41/24, 3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.25**	**35**	⇓*iP*		**Pn**	**00 23 18.8**	**+1.0**
CAPV				*eS*		**Sn**	**00 23 40.0**	**+0.4**
ROSC	**El Rosal**	**2.35**	**213**	P		**Pn**	**00 23 29.8**	**0.0**
	31nm,0.3s,baz=275,slow=19,SNR=120							
ROSC				S		**Sn**	**00 23 59.2**	**-1.8**
	54nm,0.3s,baz=109,slow=19,SNR=15							
VIGV	**El Vigia**	**2.59**	**40**	⇓*eP*		**Pn**	**00 23 33.3**	**+1.1**
VIGV				*eS*		**Sn**	**00 24 04.4**	**-1.1**
SOCV	**Socops**	**2.59**	**56**	⇓*eP*		**Pn**	**00 23 33.0**	**+0.7**
ELOV	**Elorza**	**3.53**	**87**	*eP*		**Pn**	**00 23 45.2**	**+1.3**
ELOV				*eS*		**Sn**	**00 24 26.3**	**-0.1**
VIRV	**Villa del Rosa**	**3.69**	**10**	*eP*		**Pn**	**00 23 45.9**	**-0.2**
VIRV				*eS*		**Sn**	**00 24 28.5**	**-1.8**
CURV	**Curarigua**	**4.38**	**44**	*eP*		**Pn**	**00 23 56.4**	**+1.4**
DABV	**Dabajuro**	**4.70**	**30**	*eP*		**Pn**	**00 24 00.3**	**+1.3**
DABV				*eS*		**Sn**	**00 24 50.8**	**-2.8**
TEPV	**Terepaima**	**4.91**	**50**	*eP*		**Pn**	**00 24 02.7**	**+0.8**
SIQV	**Siquisique**	**4.95**	**40**	*eP*		**Pn**	**00 24 03.1**	**+0.7**
BAUV	**El Baul**	**5.37**	**67**	*eP*		**Pn**	**00 24 08.2**	**+0.3**
BAUV				*eS*		**Sn**	**00 25 06.6**	**-2.8**
MAPV	**Macapo**	**5.42**	**56**	*eP*		**Pn**	**00 24 09.2**	**+0.6**
MONV	**Montecano**	**5.92**	**30**	*eP*		**Pn**	**00 24 15.2**	**+0.1**
LPAZ	**La Paz**	**23.48**	**168**	pP		pP	00 28 17.4	+1.2
	1.0nm,0.8s,baz=331,slow=13,SNR=5.3							
TXAR	**Lajitas Array**	**36.52**	**312**	P		**P**	**00 29 41.2**	**+1.9**
	0.1nm,0.6s,baz=146,slow=6.6,SNR=2.9							
TORD	**Torodi Ar. Bea**	**73.65**	**78**	P		**P**	**00 34 04.1**	**-1.6**
	0.2nm,0.8s,baz=289,slow=6.7,SNR=3.5							
ASAR	**Alice Springs**	**149.19**	**234**	PKPbc		**PKPbc**	**00 42 20.0**	**+0.5**
	0.8nm,0.5s,baz=114,slow=3.6,SNR=14							
WRA	**Warramunga Arr**	**150.42**	**241**	PKPbc		**PKPbc**	**00 42 23.3**	**+0.8**
	0.8nm,0.4s,baz=108,slow=2.5,SNR=34							

IDC ***24*** *00:30:32.5±2.7, 38°.78N×48°.59E, h0km, mb3.6/4, mb1 3.7/7, mb1mx3.4/26, mbtmp3.6/7, ML3.2/2, Error ellipse: s-maj=47.0km s-min=14.0km az=180.0*
AZER ***24*** *00:30:35.8±0.1, 39°.17N×48°.37E, h12km, Error ellipse: s-maj=0.5km s-min=0.1km az=252.0*
ISCJB ***24*** *00:30:37.3±0.4, 39°.16N±0°.02×48°.35E±0°.04, h11km±3km, mb3.4/4, Error ellipse: s-maj=4.9km s-min=3.6km az=5.4*
CSEM ***24*** *00:30:37.0±0.2, 39°.18N×48°.33E, h8km, ML3.4, Error ellipse: s-maj=4.3km s-min=3.7km az=111.0*
TEH ***24*** *00:30:37.3, 39°.20N×48°.34E, h6km, ML3.5*

ISC 24 00:30:37.2±0.8, 39°.19N±0°.02×48°.35E±0°.03, h14km±5km, n70, σ1§23/94, mb3.5/4, 14C-11D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GLBA	**Clilabad**	**0.06**	**32**	⇑P		**Pg**	**00 30 39.8**	**-0.2**
	SNR=6767							
GLBA				⇓S		**Sg**	**00 30 42.4**	**+0.5**
GLBA	**Clilabad**	**0.06**	**32**	P		**Pg**	**00 30 39.8**	**-0.2**
	SNR=1000							
GLBA				S		**Sg**	**00 30 42.4**	**+0.5**
GRMI	**Germi**	**0.52**	**223**	*ePg*		**Pg**	**00 30 47.3**	**-0.2**
GRMI				*eSg*		**Sb**	**00 30 55.1**	**-0.5**
LKRN	**Lenkeran, Azer**	**0.58**	**145**	⇑P		**Pg**	**00 30 48.5**	**-0.1**
	SNR=79							
LKRN				⇑S		**Sb**	**00 30 57.5**	**+0.2**
LKRN	**Lenkeran, Azer**	**0.58**	**145**	P		**Pg**	**00 30 48.5**	**-0.1**
	SNR=79							
LKRN				S		**Sb**	**00 30 57.5**	**+0.2**
ALIB	**Äli-Bayra**	**0.92**	**33**	⇑P		**Pn**	**00 30 56.2**	**+0.6**
	SNR=37							
ALIB	**Äli-Bayra**	**0.92**	**33**	P		**Pn**	**00 30 56.2**	**+0.6**
	SNR=37							
IHRS	**Heris**	**1.34**	**230**	*e*			00 31 04.2	
	comp=Z,19μm,0.1s							
IHRS				⇓*ePg*		**Pn**	**00 31 01.1**	**-0.6**
IHRS				*eSg*		**Sb**	**00 31 19.9**	**+0.5**
BRDA	**Brd**	**1.40**	**320**	⇓P		**Pn**	**00 31 02.8**	**+0.5**
	SNR=223							
BRDA				⇑S		**Sg**	**00 31 23.3**	**+0.8**
BRDA	**Brd**	**1.40**	**320**	P		**Pn**	**00 31 02.8**	**+0.5**
	SNR=223							
ISRB	**Sarab**	**1.47**	**202**	*e*			00 31 06.9	
	comp=Z,4μm,0.1s							
ISRB				*ePn*		**Pb**	**00 31 04.2**	**-0.1**
IML	**Ismayilli**	**1.61**	**355**	⇑P		**Pn**	**00 31 05.3**	**+0.1**
	SNR=39							
IML				⇓S		**Sn**	**00 31 26.8**	**+1.1**
IML	**Ismayilli**	**1.61**	**355**	P		**Pn**	**00 31 05.3**	**+0.1**
	SNR=39							
IML				S		**Sn**	**00 31 26.8**	**+1.1**
PQL	**Pirkuli**	**1.61**	**7**	⇓P		**Pn**	**00 31 05.8**	**+0.5**
	SNR=18							
PQL				⇓S		**Sb**	**00 31 28.0**	**+1.0**
PQL	**Pirkuli**	**1.61**	**7**	P		**Pn**	**00 31 05.8**	**+0.5**
	SNR=18							
PQL				S		**Sb**	**00 31 28.0**	**+1.0**
ATGJ	**Altiaghaj**	**1.73**	**15**	⇑P		**Pb**	**00 31 08.5**	**-0.3**
	SNR=13							
ATGJ	**Altiaghaj**	**1.73**	**15**	P		**Pb**	**00 31 08.5**	**-0.3**
	SNR=13							
IBST	**Bostanabad**	**1.88**	**218**	*ePn*		**Pn**	**00 31 10.4**	**+1.3**
IBST				*e*			00 31 11.6	
	comp=Z,9μm,0.2s							
IBST				*eSg*		**Sb**	**00 31 35.8**	**+1.0**
IBST	**Bostanabad**	**1.88**	**218**	*ePn*		**Pn**	**00 31 10.4**	**+1.3**
IBST				*eSg*		**Sb**	**00 31 35.8**	**+1.0**
IFTB	**Fath-abad**	**1.93**	**233**	*ePn*		**Pn**	**00 31 11.1**	**+1.3**
IFTB				*eSg*		**Sb**	**00 31 37.1**	**+0.8**
IFTB	**Fath-abad**	**1.93**	**233**	*ePn*		**Pn**	**00 31 11.1**	**+1.3**
IFTB				*eSg*		**Sb**	**00 31 37.1**	**+0.8**
SIZA	**Siyzn**	**1.93**	**12**	⇑Pn		**Pn**	**00 31 11.2**	**+1.5**
SIZA	**Siyzn**	**1.93**	**12**	Pn		**Pn**	**00 31 11.2**	**+1.5**
ITBZ	**Tabriz**	**1.97**	**242**	*ePn*		**Pn**	**00 31 12.0**	**+1.7**
ITBZ				*e*			00 31 13.7	
	comp=Z,4μm,0.2s							
ITBZ				*eSg*		**Sb**	**00 31 38.6**	**+1.2**
ITBZ	**Tabriz**	**1.97**	**242**	*ePn*		**Pn**	**00 31 12.0**	**+1.7**
ITBZ				*eSg*		**Sb**	**00 31 38.6**	**+1.2**
IMRD	**Marand**	**2.12**	**258**	⇑*ePn*		**Pn**	**00 31 13.4**	**+1.1**
IMRD				*e*			00 31 15.3	
	comp=Z,12μm,0.1s							
IMRD				*eSg*		**Sb**	**00 31 42.6**	**+0.9**
IMRD	**Marand**	**2.12**	**258**	⇑*ePn*		**Pn**	**00 31 13.4**	**+1.1**
IMRD				*eSg*		**Sb**	**00 31 42.6**	**+0.9**
GANJ	**Ganja**	**2.13**	**314**	⇑Pn		**Pn**	**00 31 11.9**	**-0.5**
	SNR=35							
GANJ	**Ganja**	**2.13**	**314**	Pn		**Pn**	**00 31 11.9**	**-0.5**
	SNR=35							
QUBA	**Quba, Azerbaij**	**2.17**	**3**	⇑Pn		**Pn**	**00 31 14.7**	**+1.8**
QUBA				⇑Sg		**Sb**	**00 31 44.6**	**+1.7**
QUBA	**Quba, Azerbaij**	**2.17**	**3**	Pn		**Pn**	**00 31 14.7**	**+1.8**
QUBA				Sg		**Sb**	**00 31 44.6**	**+1.7**
SEKA	**Sheki**	**2.20**	**337**	⇓Pn		**Pn**	**00 31 13.1**	**-0.3**
	SNR=22							
SEKA				⇓S		**Sn**	**00 31 41.7**	**+1.3**
SEKA	**Sheki**	**2.20**	**337**	Pn		**Pn**	**00 31 13.1**	**-0.3**
	SNR=22							
SEKA				S		**Sn**	**00 31 41.7**	**+1.3**
NAX	**Nakhchivan**	**2.22**	**270**	⇓Pg		**Pn**	**00 31 15.1**	**+1.5**
	SNR=18							
NAX				⇓Sg		**Sb**	**00 31 45.3**	**+0.8**
ZNJK	**Zanjan**	**2.53**	**174**	*ePn*		**Pn**	**00 31 19.3**	**+1.3**
GNI	**Garni**	**2.95**	**290**	Pn		**Pb**	**00 31 28.4**	**-1.2**
	comp=Z,10nm,0.3s,baz=112,slow=1.7,SNR=76							
GNI				Sn		**Sb**	**00 32 08.0**	**+2.5**
	comp=Z,6.9nm,0.3s,baz=197,slow=19,SNR=3.0							
DGRG	**David-gareji**	**3.21**	**316**	P		**Pn**	**00 31 28.9**	**+1.7**
DGRG				S		**Sg**	**00 32 17.8**	**-2.4**
SEAG	**Tbilisi Sea**	**3.73**	**315**	P		**Pb**	**00 31 41.7**	**-1.2**
SEAG				S		**Sb**	**00 32 27.2**	**-0.8**
TBLG	**Delisi**	**3.75**	**314**	P		**Pb**	**00 31 42.1**	**-1.0**
TBLG				S		**Sb**	**00 32 28.3**	**-0.1**
CHTH	**Charan**	**3.95**	**145**	*ePn*		Pn	00 31 41.5	+3.9
IMHD	**Mahdasht**	**3.95**	**152**	*ePn*		**Pn**	**00 31 38.3**	**+0.8**
IMHD				*e*			00 32 27.1	
	comp=Z,258nm,0.1s							
IMHD	**Mahdasht**	**3.95**	**152**	*ePn*		**Pn**	**00 31 38.3**	**+0.8**
IRAZ	**Razeghan**	**3.98**	**161**	*ePn*		**Pn**	**00 31 38.2**	**+0.2**
IRAZ				*e*			00 31 52.5	
	comp=Z,237nm,0.2s							
IRAZ	**Razeghan**	**3.98**	**161**	*ePn*		**Pn**	**00 31 38.2**	**+0.2**
AKH	**Akhalkalaki**	**4.33**	**302**	P		**Pb**	**00 31 52.5**	**-0.6**
AKH				S		**Sb**	**00 32 46.2**	**+1.0**
IDMV	**Damavand**	**4.65**	**140**	*ePn*		**Pn**	**00 31 48.2**	**+1.0**
IDMV				*e*			00 31 49.7	
	comp=Z,136nm,0.1s							
IDMV	**Damavand**	**4.65**	**140**	*ePn*		**Pn**	**00 31 48.2**	**+1.0**
IDHR	**Dehrash**	**4.75**	**200**	*ePn*		**Pn**	**00 31 50.7**	**+2.2**
IDHR				*e*			00 31 57.8	
	comp=Z,240nm,0.1s							
IDHR	**Dehrash**	**4.75**	**200**	*ePn*		**Pn**	**00 31 50.7**	**+2.2**
IFIR	**Firoozkooh**	**4.98**	**134**	*ePn*		**Pn**	**00 31 53.1**	**+1.3**
IFIR				*e*			00 31 54.8	
	comp=Z,251nm,0.1s							
IFIR	**Firoozkooh**	**4.98**	**134**	*ePn*		**Pn**	**00 31 53.1**	**+1.3**
ONI	**Oni**	**5.03**	**314**	P		Pn	00 31 57.0	+4.7
ONI				S		**Sb**	**00 33 10.4**	**+5.1**
ISHM	**Shahmirzad**	**5.18**	**129**	*ePn*		**Pn**	**00 31 55.0**	**+0.5**
ISHM				*e*			00 32 59.5	
	comp=Z,614nm,0.2s							
ISHM	**Shahmirzad**	**5.18**	**129**	*ePn*		**Pn**	**00 31 55.0**	**+0.5**
IANJ	**Anjilo**	**5.78**	**128**	*e*		Pn	00 32 08.2	+5.4
	comp=Z,219nm,0.2s							
KBZ	**Khabaz**	**6.11**	**320**	Pn		Pn	00 32 13.5	+6.5
	comp=Z,0.1nm,0.3s,baz=231,slow=6.5,SNR=2.6							
ISFR	**Sfrayin**	**7.90**	**103**	*ePn*		**Pn**	**00 32 31.0**	**-0.8**
ISFR	**Sfrayin**	**7.90**	**103**	*ePn*		**Pn**	**00 32 31.0**	**-0.8**
IKRD	**Kardeh**	**8.38**	**104**	*ePn*		Pn	00 32 48.2	+10
IKRD				*e*			00 32 53.2	
	comp=Z,60nm,0.1s							
IAKL	**Akhelmad**	**8.62**	**104**	*ePn*		**Pn**	**00 32 41.2**	**-0.6**
IPAY	**Payeh**	**8.86**	**105**	*ePn*		**Pn**	**00 32 45.2**	**+0.3**
IPAY				*e*			00 32 46.2	
	comp=Z,265nm,0.2s							
IPAY	**Payeh**	**8.86**	**105**	*ePn*		**Pn**	**00 32 45.2**	**+0.3**
IMOG	**Moghan**	**9.24**	**106**	*ePn*		**Pn**	**00 32 49.6**	**-0.7**
IMOG				*e*			00 32 50.9	
	comp=Z,281nm,0.1s							
IMOG	**Moghan**	**9.24**	**106**	*ePn*		**Pn**	**00 32 49.6**	**-0.7**
AB31	**Akbulak array**	**13.04**	**36**	⇓Pn		P	00 33 49.5	-2.7
	comp=Z,0.2nm,0.3s,baz=205,slow=9.3,SNR=4.7							
AB31				⇑Sn		Sn	00 35 55.5	-11
	comp=Z,0.2nm,0.3s,baz=199,slow=27							
AKTO	**Aktyubinsk**	**13.16**	**28**	Pn		**Pn**	**00 33 41.5**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=202,slow=14,SNR=3.6							
MKAR	**Makanchi Array**	**25.81**	**62**	P		**P**	**00 36 06.0**	**-1.8**
	comp=Z,0.7nm,0.8s,baz=256,slow=7.7,SNR=3.9							
FINES	**FINESS Array B**	**26.17**	**336**	P		**P**	**00 36 12.7**	**+1.9**
	comp=Z,1.1nm,0.8s,baz=128,slow=11,SNR=4.1							
GERES	**GERESS Array B**	**26.52**	**303**	P		**P**	**00 36 13.7**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=96,slow=9.0,SNR=3.7							
ZALV	**Zalesovo Beam**	**28.71**	**47**	P		**P**	**00 36 32.6**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=266,slow=8.1,SNR=3.1							

MEX 24 00:35:20.4±0.5, 18°.40N×100°.45W, h58km±6km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.15**	**140**	*eP*		Pn	00 35 28.1	-1.4
ARIG				*eS*		Sn	00 35 34.1	-1.8
ZIIG	**Zihuatanejo**	**1.25**	**231**	*eP*		Pn	00 35 39.7	-1.9
ZIIG				*i S*		Sn	00 35 56.0	-1.4
YAIG	**Yautepec**	**1.39**	**70**	*eP*		Pn	00 35 42.9	-0.9
YAIG				*eS*		Sn	00 35 58.9	-2.4
MOIG	**Morelia**	**1.45**	**331**	*i P*		Pn	00 35 43.2	-1.6
MOIG				*i S*		Sn	00 36 00.6	-2.4
ACX	**Acapulco**	**1.62**	**160**	*i P*		Pn	00 35 38.4	-8.4
ACX				*i S*		Sn	00 35 58.5	-8.1
TLIG	**Tlapa**	**1.98**	**115**	*eP*		Pn	00 35 51.2	-0.5
TLIG				*eS*		Sn	00 36 12.8	-2.7
MMIG	**Aquila**	**2.75**	**268**	*i P*		Pn	00 36 01.8	-0.3
MMIG				*i S*		Sn	00 36 32.2	-2.1

ISCJB ***24*** *00:39:06.2±0.4, 9°.67S±0°.06×122°.00E±0°.06, h33km, mb4.2/11, MS3.5/1, Error ellipse: s-maj=9.9km s-min=6.2km az=40.6*
AUST ***24*** *00:39:11.8±0.9, 10°.05S×121°.93E, h59km±15km, Error ellipse: s-maj=14.6km s-min=9.6km az=21.0*
DJA ***24*** *00:39:11.7±2.1, 10°.S±4°×12°.2E±°, h31km±26km, M4.4/7, mb4.6/7, mB4.8/1, MLv4.3/7, Mw(mB)4.0/1*
IDC ***24*** *00:39:14.8±2.1, 9°.56S×122°.03E, h90km±19km, mb4.0/11, mb1 4.0/12, mb1mx3.9/19, mbtmp4.0/12, MS3.3/2, Ms1 3.3/2, ms1mx2.7/24, Error ellipse: s-maj=28.1km s-min=13.5km az=64.0*

ISC 24 00:39:09.0±0.5, 9°.78S±0°.06×121°.97E±0°.06, h35km, n46, σ1§81/37, mb4.4/11, Savu Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MMRI	**Maumere**	**1.17**	**13**	P		**Pn**	**00 39 31.8**	**+2.9**
MMRI				S		**Sn**	**00 39 48.3**	**+4.7**
WSI	**Waingapu**	**1.65**	**274**	P		Pn	00 39 39.6	+4.1
WSI				S		**Sn**	**00 39 59.8**	**+4.3**
BATI	**Baumata**	**1.72**	**104**	P		Pn	00 39 41.6	+5.0
BATI	**Baumata**	**1.72**	**104**	P		Pn	00 39 41.5	+5.0
	81nm,0.3s,baz=306,slow=4.0,SNR=35							
BATI				S		Sn	00 40 06.0	+8.7
	197nm,0.3s,baz=8.1,slow=19,SNR=10							
SOEI	**Soe**	**2.27**	**90**	P		Pn	00 39 50.0	+5.9
SOEI	**Soe**	**2.27**	**90**	P		Pn	00 39 49.7	+5.6
	baz=2.3,SNR=23							
BKSI	**Bulukumba**	**4.79**	**337**	P		Pn	00 40 23.7	+5.0
KAPI	**Kappang**	**5.22**	**335**	P		Pn	00 40 29.9	+5.3
	63nm,1.2s,0.3nm							
KAPI	**Kappang**	**5.22**	**335**	P		Pn	00 40 29.3	+4.6
	2.9nm,0.3s,baz=180,slow=9.9,SNR=16							
KAPI				LR		LR	00 42 43.1	
	comp=Z,160nm,19.7s,baz=151,slow=41							
BNSI	**Bone**	**5.66**	**341**	P		Pn	00 40 38.4	+7.8
MTNI	**Mataram**	**5.83**	**281**	P		**Pn**	**00 40 36.0**	**+2.9**
	57nm,0.8s,731nm0.2nm							
KNRA	**Kununurra**	**8.85**	**132**	P		**Pn**	**00 41 15.2**	**+0.8**
	baz=8.7,SNR=11							
MTN	**Manton Dam**	**9.49**	**110**	P		**Pn**	**00 41 25.1**	**+1.9**
	baz=9.4,SNR=7.8							
PWJI	**Pagerwojo**	**10.19**	**279**	P		**Pn**	**00 41 34.8**	**+1.9**
	22nm,1.8s							
KDU	**Kakadu**	**10.70**	**107**	P		**Pn**	**00 41 41.0**	**+1.2**
	baz=11,SNR=11							
PCJI	**Pacitan**	**10.77**	**278**	P		**Pn**	**00 41 41.1**	**+0.2**
	39nm,1.3s							
UGM	**Wanagama**	**11.46**	**278**	P		**Pn**	**00 41 51.1**	**+0.8**
	110nm,1.7s							
UGM	**Wanagama**	**11.46**	**278**	P		Pn	00 41 54.4	+4.1
	baz=12,SNR=3.4							
GIRL	**Giralia**	**14.78**	**209**	P		**Pn**	**00 42 33.8**	**-1.8**
	baz=15,SNR=4.4							
WRA	**Warramunga Arr**	**15.64**	**132**	P		**Pn**	**00 42 45.2**	**-1.8**
	0.4nm,0.3s,baz=306,slow=13,SNR=17							
WRA				S		Sn	00 45 25.6	-14
	0.8nm,0.3s,baz=305,slow=23,SNR=7.9							
MEEK	**Meekatharra**	**17.06**	**190**	P		**Pn**	**00 43 04.4**	**-0.6**
	baz=17,SNR=32							
ASAR	**Alice Springs**	**17.91**	**142**	P		**Pn**	**00 43 15.6**	**+0.2**
	0.4nm,0.3s,baz=320,slow=12,SNR=25							
ASAR				S		Sn	00 46 23.4	-11
	0.3nm,0.3s,baz=316,slow=22,SNR=4.6							
MNAI	**Manna**	**19.61**	**285**	P		**P**	**00 43 34.8**	**+0.2**
	baz=20,SNR=5.6							
MORW	**Morawa**	**19.98**	**195**	P		**Pn**	**00 43 41.9**	**+1.6**
	baz=20,SNR=9.7							
STKA	**Stephens Creek**	**28.53**	**143**	P		P	00 44 56.9	-4.6
	baz=28,SNR=3.9							
STKA	**Stephens Creek**	**28.53**	**143**	P		**P**	**00 45 02.6**	**+1.2**
	1.2nm,0.5s,baz=315,slow=12,SNR=5.7							
STKA				LR		LR	00 56 39.4	
	comp=Z,104nm,19.4s,baz=216,slow=36							
MJAR	**Matsushiro Arr**	**48.54**	**17**	P		**P**	**00 47 46.5**	**-2.3**
	1.8nm,0.5s,baz=197,slow=10.0,SNR=6.2							
TAPN	**Taplejung**	**49.65**	**319**	*eP*		**P**	**00 47 56.7**	**-1.1**
	12nm,0.6s							
RAMN	**Ramite**	**50.11**	**318**	*eP*		**P**	**00 48 00.9**	**-0.3**
	14nm,0.6s							
JIRN	**Jiri**	**50.85**	**318**	*eP*		**P**	**00 48 06.3**	**-0.7**
	11nm,0.7s							
GUN	**Gumba**	**51.22**	**318**	*eP*		**P**	**00 48 09.0**	**-0.7**
	16nm,0.8s							
PKI	**Pulchoki**	**51.31**	**317**	*eP*		**P**	**00 48 09.1**	**-1.3**
	7.7nm,0.6s							
GKN	**Gorkha**	**52.11**	**317**	*eP*		**P**	**00 48 14.8**	**-1.3**
KOLN	**Koldanda**	**52.66**	**316**	*eP*		**P**	**00 48 19.2**	**-1.1**
DANN	**Dangsing**	**52.92**	**317**	*eP*		**P**	**00 48 21.3**	**-1.0**
	18nm,0.6s							
USRK	**Ussuriysk Arra**	**54.49**	**9**	P		**P**	**00 48 30.6**	**-2.5**
	2.4nm,0.6s,baz=185,slow=5.6,SNR=6.0							
SONM	**Songino Array**	**59.00**	**348**	P		**P**	**00 49 03.5**	**-1.8**
	1.4nm,0.5s,baz=161,slow=8.0,SNR=12							
MKAR	**Makanchi Array**	**66.51**	**331**	P		**P**	**00 49 54.4**	**-0.8**
	6.0nm,0.6s,baz=138,slow=7.9,SNR=42							
MAW	**Mawson**	**69.52**	**201**	P		**P**	**00 50 14.5**	**+0.7**
	0.8nm,0.7s,baz=31,slow=5.9,SNR=3.7							
PETK	**Petropavlovsk-**	**69.65**	**22**	P		**P**	**00 50 13.8**	**-1.0**
	1.3nm,0.5s,baz=210,slow=7.2,SNR=2.8							
VNDA	**Vanda**	**70.78**	**172**	P		**P**	**00 50 21.9**	**+0.5**
	0.3nm,0.6s,baz=315,slow=5.4,SNR=4.1							
ZALV	**Zalesovo Beam**	**70.84**	**338**	P		**P**	**00 50 20.0**	**-2.0**
	5.0nm,0.5s,baz=136,slow=4.9,SNR=27							
KURBB	**Kurchatov Arra**	**70.99**	**332**	P		**P**	**00 50 21.7**	**-1.3**
	1.4nm,0.3s,baz=144,slow=5.3,SNR=12							
KBZ	**Khabaz**	**88.90**	**315**	P		**P**	**00 51 58.9**	**-1.0**
	1.8nm,0.8s,baz=112,slow=5.4,SNR=6.1							
TORD	**Torodi Ar. Bea**	**121.48**	**279**	PKP		**PKPdf**	**00 57 59.7**	**-0.1**
	0.9nm,0.6s,baz=48,slow=1.5,SNR=19							
ESDC	**Sonseca Array**	**123.62**	**311**	PKP		**PKPdf**	**00 58 04.3**	**+0.9**
	0.1nm,0.4s,baz=26,slow=3.1,SNR=2.6							

IDC 24 00:41:31.9±3.3, 14°.66S×174°.15W, h0km, mb3.7/4, mb1 4.1/4, mb1mx3.7/18, mbtmp3.7/4, MS3.1/2, Ms1 3.1/2, ms1mx2.8/26, Error ellipse: s-maj=177.2km s-min=28.1km az=146.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.41**	**72**	Pn		Pn	00 42 00.3	-12
	17nm,0.3s,baz=50,slow=8.5,SNR=7.8							
AFI				Sn		Sn	00 42 22.1	-21
	28nm,0.3s,baz=31,slow=22,SNR=9.4							
AFI				LR		LR	00 42 34.3	
	comp=Z,248nm,18.6s,baz=161,slow=26							
PPT2	**Papeete2**	**23.78**	**100**	*e*LR		LR	00 51 47.8	
	93nm,24.2s							
TBI	**Tubuai**	**24.86**	**114**	*e*LR		LR	00 52 24.1	
	114nm,31.5s							
H11S2	**WAKE ISLAND Hy**	**37.96**	**330**	T		T	01 29 46.2	
	baz=152,slow=0.7,SNR=30							
H11S3	**WAKE ISLAND Hy**	**37.97**	**330**	T		T	01 29 51.7	
	baz=152,slow=0.7,SNR=28							
H11S1	**WAKE ISLAND Hy**	**37.98**	**330**	T		T	01 29 49.5	
	baz=152,slow=0.7,SNR=24							
PMG	**Port Moresby**	**38.17**	**273**	LR		LR	01 01 51.4	
	comp=

BCIP Isla Barro Col 14.61 110 ePn Pn 01 10 08.8 +0.8
732A Laxson Ranch, 15.28 339 ⇑P Pn 01 10 16.8 -0.1
baz=15
HKT Hockley 15.49 353 ePn Pn 01 10 18.2 -1.4
39nm,1.5s
632A Uvalde 15.93 340 ⇑P Pn 01 10 25.3 -0.1
baz=16,SNR=6.1
631A Perdido Creek 16.12 338 ⇑P Pn 01 10 26.2 -1.6
baz=16,SNR=9.9
532A Rocksprings 16.55 341 ⇓P Pn 01 10 33.8 +0.5
baz=17,SNR=10
532A ⇓S Sn 01 13 36.1 +0.1
baz=17
531A Rocksprings 16.79 339 ⇓P Pn 01 10 35.9 -0.4
baz=17,SNR=17
531A ⇓S Sn 01 13 42.5 +0.5
baz=17
JCT Junction City 16.84 342 eP P 01 10 38.1 -0.7
32nm,0.9s
JCT Junction City 16.84 342 ⇑P Pn 01 10 37.2 +0.2
baz=17,SNR=13
530A J-C Ranch, Com 17.06 337 ⇑P Pn 01 10 40.0 +0.3
baz=17,SNR=8.9
628A Black Gap, Mar 17.13 332 ⇑P Pn 01 10 41.0 +0.3
baz=17,SNR=15
432A Menard 17.21 342 ⇓P Pn 01 10 42.2 +0.6
baz=17,SNR=16
431A Sonora 17.29 340 ⇑P Pn 01 10 42.3 -0.3
baz=17,SNR=16
431A ⇑S Sn 01 13 55.5 +1.5
baz=17
627A Terlingua Ranc 17.34 331 ⇑P P 01 10 44.1 -0.2
baz=17,SNR=24
TXAR Lajitas Array 17.37 330 P Pn 01 10 43.5 -0.1
TXAR Lajitas Array 17.37 330 P Pn 01 10 43.5 -0.1
0.2nm,0.3s,baz=152,slow=13,SNR=21
TXAR LR LR 01 18 41.7
comp=Z,72nm,18.6s,baz=10.0,slow=42
529A Stev Forest Ra 17.39 335 ⇓P P 01 10 44.9 0.0
baz=18
430A Baggett Ranch, 17.60 338 ⇑P P 01 10 46.8 -0.4
baz=18,SNR=8.5
528A Cox Ranch, San 17.66 333 ⇑P P 01 10 49.0 +1.0
baz=18
332A Millersview 17.67 343 ⇓P Pn 01 10 47.3 0.0
baz=18,SNR=7.8
429A Davenport Ranc 17.70 336 ⇑P P 01 10 48.6 +0.2
baz=18,SNR=15
WHTX Lake Whitney 17.73 350 eP Pn 01 10 47.0 -1.0
WHTX Lake Whitney 17.73 350 ⇓P Pn 01 10 47.7 -0.2
baz=18
626A Big Bend Ranch 17.78 329 ⇓P P 01 10 50.2 +1.0
baz=18,SNR=16
331A San Angelo 17.81 341 ⇓P P 01 10 50.3 +0.9
baz=18,SNR=14
527A Woodward Ranch 18.02 331 ⇑P P 01 10 52.2 +0.2
baz=18,SNR=21
428A Kincaid Ranch, 18.11 334 ⇑P P 01 10 54.2 +1.3
baz=18
232A Coleman 18.12 344 ⇑P P 01 10 53.7 +0.8
baz=18,SNR=13
330A Mertzon 18.14 339 ⇓P Pn 01 10 53.1 0.0
baz=18,SNR=8.6
526A Mary Lane Ranc 18.18 330 ⇓P P 01 10 55.1 +1.5
baz=18,SNR=14
231A Bronte 18.36 342 ⇓P Pn 01 10 55.6 -0.1
baz=18,SNR=12
329A Wagon Wheel Ra 18.51 337 ⇑P Pn 01 10 57.5 -0.1
baz=19,SNR=10
427A Hayter Ranch, 18.52 333 ⇓P Pn 01 10 58.5 +0.7
baz=19,SNR=6.5
230A Sterling City 18.56 340 P P 01 10 57.8 0.0
baz=19,SNR=17
426A McDonald Obser 18.66 331 ⇑P Pn 01 11 00.4 +0.9
baz=19,SNR=23
328A Wristen Ranch, 18.74 335 ⇑P Pn 01 11 00.9 +0.6
baz=19
ABTX Abilene, Hawle 18.82 344 eP P 01 11 00.6 0.0
ABTX Abilene, Hawle 18.82 344 ⇑P Pn 01 11 01.1 -0.2
baz=19,SNR=18
229A Bryant Ranch, 18.88 338 P Pn 01 11 02.5 +0.5
baz=19,SNR=7.6
327A Balmorhea Ranc 19.01 334 ⇑P Pn 01 11 04.3 +0.7
baz=19
131A Roby 19.07 343 ⇓P Pn 01 11 04.1 -0.2
baz=19,SNR=12
130A Snyder 19.17 341 P P 01 11 04.6 +0.1
baz=19,SNR=8.7
326A Caldwell Ranch 19.18 332 ⇓P P 01 11 05.1 +0.5
baz=19,SNR=10
425A Indio Mountain 19.21 329 ⇑P Pn 01 11 05.7 -0.5
baz=19,SNR=19
TIGA Tifton 19.25 27 ⇓P P 01 11 04.3 -1.0
baz=20
228A UT Block 9, Go 19.30 337 ⇑P P 01 11 06.3 +0.3
baz=19
Z32A Haskell 19.42 345 P P 01 11 07.8 +0.6
baz=20,SNR=12
LRAL Lakeview Retre 19.43 17 eP P 01 11 07.5 +0.2
14nm,1.1s
227A Bennet, Jal 19.48 335 ⇓P Pn 01 11 09.2 -0.1
baz=20
129A Stewart Farms, 19.50 339 P P 01 11 08.7 +0.6
baz=20,SNR=12
Z31A Sharp Cattle R 19.61 344 P P 01 11 09.5 +0.3
baz=20,SNR=10.0
325A Bean Ranch, Si 19.68 330 P P 01 11 10.8 +0.6
baz=20,SNR=11
128A Castleberry Fa 19.71 338 ⇓P P 01 11 10.9 +0.5
baz=20,SNR=17
Z30A Sanderson Ranc 19.86 342 P P 01 11 11.7 -0.3
baz=20,SNR=23
226B Tecolote Peak, 19.91 333 ⇓P P 01 11 13.4 +0.8
baz=20,SNR=14
CLNB Carlsbad 19.95 334 eP Pn 01 11 13.9 -0.9
1.6nm,0.6s
MIAR Mount Ida 19.95 0 eP P 01 11 12.6 -0.3
24nm,0.8s
324A Moseley Ranch, 19.99 329 P P 01 11 14.0 +0.4
baz=20,SNR=14
Z29A Hungry Hill Ra 20.02 340 P P 01 11 13.7 -0.1
baz=20,SNR=14
Y32A R-V Farms, Ver 20.08 346 ⇓P P 01 11 14.8 +0.4
baz=20,SNR=6.4
127A Arkansas Junct 20.09 336 ⇑P P 01 11 15.2 +0.6
baz=20
GDL2 Guadalupe Moun 20.10 333 eP Pn 01 11 15.8 -0.9
MNTX Cornudas Mount 20.15 330 eP P 01 11 15.3 +0.1
7.8nm,0.8s
UALR University of 20.22 3 eP P 01 11 14.8 -1.0
16nm,0.7s
225A Deer Hill, Car 20.23 332 ⇑P P 01 11 17.2 +1.0
baz=20,SNR=10
Y31A Rekieta Farm, 20.25 344 P P 01 11 16.5 +0.4
baz=20,SNR=16
Z28A Tucker Farm, M 20.28 339 ⇓P P 01 11 17.3 +0.7
baz=20
126A Clayton Basin, 20.34 334 P P 01 11 17.7 +0.4
baz=20,SNR=7.7
Y30A Stafford Cattl 20.34 343 ⇓P Pn 01 11 18.9 -0.6
baz=20,SNR=8.9
224A Cornudas Mount 20.53 330 P P 01 11 19.7 +0.3
baz=21,SNR=21
Y29A Porterfield Fa 20.56 341 ⇓P P 01 11 20.1 +0.4
baz=21,SNR=14
Z27A Tatum 20.60 337 P P 01 11 20.5 +0.4
baz=21,SNR=30
125A Gardner Draw, 20.62 333 P P 01 11 20.8 +0.4
baz=21,SNR=23
WMOK Wichita Mounta 20.65 348 eP P 01 11 19.5 -1.0
15nm,1.2s
OTAV Otavalo 20.74 132 eP Pn 01 11 24.2 -0.5
8.7nm,1.4s
Y28A McKinney Farm, 20.79 340 P P 01 11 22.5 +0.4
baz=21,SNR=21
X31A McDonald Ranch 20.81 345 ⇓P P 01 11 22.8 +0.5
baz=21,SNR=16
Z26A Caprock 20.86 335 P P 01 11 23.5 +0.6
baz=21,SNR=27
X30A Coker Ranch, T 20.87 343 P P 01 11 23.5 +0.6
baz=21,SNR=18
124A Stringfield Ra 21.02 331 P P 01 11 25.6 +0.8
baz=21,SNR=15
MSTX Muleshoe 21.03 339 eP P 01 11 24.5 -0.2
MSTX Muleshoe 21.03 339 P P 01 11 24.7 -0.1
baz=21,SNR=28
Y27A Causey 21.09 338 P P 01 11 25.5 +0.1
baz=21,SNR=27

X29A Tulia 21.11 341 ⇓P P 01 11 25.4 -0.2
baz=21,SNR=23
Z25A Roswell 21.18 334 ⇓P P 01 11 26.7 +0.3
baz=21,SNR=14
W31A Holland Ranch, 21.33 346 ⇑P P 01 11 30.2 +2.4
baz=22,SNR=5.6
X28A Dimmitt 21.33 341 ⇓P P 01 11 28.9 +0.9
baz=22
222A Williams Famil 21.34 327 ⇑P P 01 11 29.0 +0.8
baz=21,SNR=13
123A Bell Site, Whi 21.34 330 ⇑P P 01 11 29.2 +1.0
baz=21
Y26A Elida 21.38 336 ⇓P P 01 11 29.4 +0.9
baz=22,SNR=18
ROSC El Rosal 21.39 115 eP P 01 11 32.4 +3.3
ROSC El Rosal 21.39 115 P P 01 11 31.5 +2.5
8.3nm,0.8s,baz=306,slow=9.8,SNR=5.9
TUL1 Tulsa 21.39 355 eP P 01 11 29.4 +1.0
TUL1 Tulsa 21.39 355 ⇑P P 01 11 30.0 +1.5
baz=22
W30A Crocket Farms 21.48 345 ⇓P P 01 11 30.2 +0.7
baz=22
Z24A Sheeppen Canyo 21.50 333 P P 01 11 31.5 +1.6
baz=22,SNR=38
AMTX Amarillo 21.51 342 eP P 01 11 29.5 -0.4
47nm,0.9s
AMTX Amarillo 21.51 342 ⇓P P 01 11 30.2 +0.3
baz=22
320A Kipp Ranch, An 21.54 324 P P 01 11 32.5 +2.2
baz=22,SNR=9.1
W29A Amraillo 21.72 342 P P 01 11 32.5 +0.4
baz=22,SNR=8.3
Y25A Mesa, Roswell 21.72 335 P P 01 11 32.7 +0.5
baz=22,SNR=27
X27A F and S Farms, 21.75 339 ⇓P P 01 11 32.5 0.0
baz=22,SNR=18
SWET Seenee 21.78 17 eP P 01 11 32.3 -0.4
9.3nm,0.7s
Z23A Rita Site, Whi 21.84 331 ⇑P P 01 11 34.7 +1.2
baz=22,SNR=27
X26A CR and CF Fran 21.93 337 P P 01 11 35.5 +1.1
baz=22,SNR=12
SDDR Presa de Saban 21.95 75 eP P 01 11 33.7 -1.0
17nm,1.1s
220A Playas Peak, P 21.96 325 P P 01 11 36.5 +1.7
baz=22,SNR=15
319A Douglas 22.01 322 ⇑P P 01 11 36.8 +1.5
baz=22
W28A Vega 22.02 341 ⇓P P 01 11 36.8 +1.5
baz=22,SNR=6.3
121A Cookes Peak, D 22.04 327 eP P 01 11 37.7 +2.1
121A Cookes Peak, D 22.04 327 P P 01 11 37.8 +2.1
baz=22,SNR=28
Y24A Capitan 22.04 333 ⇑P P 01 11 36.3 +0.7
baz=22,SNR=31
W27A Bowe Ranch, En 22.12 339 ⇑P P 01 11 37.5 +1.1
baz=22,SNR=16
WVT Waverly 22.17 13 eP P 01 11 36.3 -0.5
36nm,1.4s
Z22A Elephant Butte 22.19 330 P P 01 11 38.5 +1.2
baz=22,SNR=21
X25A Clemmons Ranch 22.23 336 ⇑P P 01 11 38.3 +0.5
baz=22
Y23A Lovelace Mesa, 22.32 332 P P 01 11 39.5 +0.8
baz=22,SNR=23
PBMO Poplar Bluff 22.37 7 eP P 01 11 37.6 -1.4
36nm,1.2s
V29A Stinnett 22.39 343 ⇑P P 01 11 39.9 +0.6
baz=22
W26A Owens Ranch, T 22.39 338 ⇑P P 01 11 39.9 +0.6
baz=22
V28A Channing 22.48 342 ⇑P P 01 11 41.6 +1.3
baz=23
120A U Bar Ranch, L 22.51 325 P P 01 11 42.5 +1.9
baz=22,SNR=8.6
X24A Lazy VL Ranch, 22.59 334 ⇑P P 01 11 42.6 +1.0
baz=23
Z21A St. Cloud Mine 22.59 328 ⇓P P 01 11 43.1 +1.5
baz=23,SNR=8.7
V27A Dan Oppiter Fa 22.68 341 ⇑P P 01 11 43.3 +0.9
baz=23
Y22A Socorro 22.75 331 P P 01 11 44.5 +1.3
baz=23,SNR=13
W25A X Bar L Ranch, 22.76 337 ⇓P P 01 11 43.7 +0.4
baz=23,SNR=13
BNM Barren Site 22.76 331 eP P 01 11 44.1 +0.6
12nm,1.0s
U30A WK&E Inc. Balk 22.78 346 ⇑P P 01 11 44.4 +0.9
baz=23,SNR=9.6
T33A Patterson Ranc 22.83 351 ⇑P P 01 11 44.0 +0.1
baz=23
Y22D IRIS PASSCAL I 22.84 331 ⇑P P 01 11 45.6 +1.5
baz=23
U29A Oasis Ranch, S 22.86 344 ⇑P P 01 11 45.0 +0.7
baz=23
TKL Tuckaleechee C 22.88 21 P P 01 11 46.6 +2.2
TKL Tuckaleechee C 22.88 21 P P 01 11 46.6 +2.2
5.3nm,1.0s,baz=177,slow=8.0,SNR=3.8
TKL LR LR 01 22 43.5
comp=Z,159nm,19.7s,baz=67,slow=42
LPM Los Pinos Moun 22.90 332 eP P 01 11 45.6 +0.8
Z20A Nine Sixteen R 22.92 326 ⇓P P 01 11 47.0 +2.1
baz=23,SNR=7.3
LENM Lemitar 22.94 331 eP P 01 11 46.4 +1.2
V26A Tequesquite Ra 23.03 339 ⇓P P 01 11 47.1 +0.9
baz=23,SNR=14
U28A Mallet 23.06 342 ⇓P P 01 11 47.1 +0.8
baz=23
W24A Lazy 6 Ranch, 23.13 335 ⇑P P 01 11 48.2 +1.0
baz=23
Y21A Point of Rocks 23.15 329 ⇑P P 01 11 49.1 +1.7
baz=23,SNR=8.5
LAZ Ladron 23.21 331 eP P 01 11 48.3 +0.3
8.6nm,1.3s
X22A Bernardo 23.23 331 ⇓P P 01 11 49.6 +1.4
baz=23
T30A Plains 23.25 346 ⇓P P 01 11 49.3 +1.1
baz=23,SNR=6.1
U27A Thompson Grove 23.28 341 ⇓P P 01 11 49.3 +0.6
baz=23
S33A Kaszmaul Farm, 23.30 351 ⇑P P 01 11 49.7 +1.0
baz=24
SDV Santo Domingo 23.30 101 eP P 01 11 49.8 +0.7
6.0nm,0.8s
ANMO Albuquerque 23.35 333 eP P 01 11 49.5 +0.1
9.3nm,1.0s
ANMO Albuquerque 23.35 333 P P 01 11 49.6 +0.2
3.5nm,0.8s,baz=154,slow=11,SNR=13
V25A Rancho No Teng 23.37 337 P P 01 11 50.5 +1.0
baz=24,SNR=24
KMSC Kings Mountain 23.38 26 ⇓P P 01 11 49.2 -0.3
baz=24
Y20A Horse Springs, 23.42 328 P P 01 11 51.6 +1.5
baz=24,SNR=26
SIUC Southern Illin 23.46 9 eP P 01 11 49.1 -1.1
42nm,0.9s
V24A Rampart Ranch, 23.52 336 ⇑P P 01 11 52.1 +1.0
baz=24,SNR=10
T29A Hugoton 23.54 345 ⇓P P 01 11 51.5 +0.4
baz=24
S32A Newby Ranch, P 23.55 350 P P 01 11 51.5 +0.4
baz=24,SNR=6.1
X21A Alamocita Cree 23.55 330 P P 01 11 52.7 +1.3
baz=24,SNR=25
U26A Atchley Ranch, 23.56 339 P P 01 11 52.5 +1.2
baz=24,SNR=10
TUC Tucson 23.57 322 eP P 01 11 52.8 +1.4
11nm,1.0s
T28A Wash 23.72 343 ⇑P P 01 11 53.3 +0.5
baz=24,SNR=6.8
U25A Circle Dot Ran 23.79 338 ⇑P P 01 11 54.3 +0.7
baz=24,SNR=12
S30A Montezuma 23.80 347 P P 01 11 53.5 0.0
baz=24,SNR=11
T27A Campo 23.84 342 ⇓P P 01 11 54.2 +0.2
baz=24,SNR=10
V23A Ortiz Mt. (NFS 23.91 334 ⇓P P 01 11 56.4 +1.7
baz=24,SNR=22
S29A Ulysses 23.93 345 ⇓P P 01 11 55.1 +0.4
baz=24,SNR=6.7
X20A Quemado 23.98 329 ⇑P P 01 11 57.1 +1.7
baz=24,SNR=26
W21A San Fidel 24.03 331 ⇓P P 01 11 57.2 +1.3
baz=24
S28A Manter 24.10 344 ⇓P P 01 11 56.6 +0.2
baz=24
T26A Comanche Natio 24.22 341 ⇓P P 01 11 58.3 +0.8
baz=24,SNR=7.9

R31A Burdett 24.23 349 ⇓P P 01 11 57.3 -0.2
baz=24,SNR=12
V22A San Miguel Ran 24.36 333 ⇓P P 01 11 59.8 +0.8
baz=24,SNR=5.8
R30A Dighton 24.38 347 P P 01 11 59.5 +0.7
baz=25,SNR=12
U23A El Rito 24.41 335 P P 01 12 00.6 +1.1
baz=24,SNR=11
W20A Ramah 24.45 330 ⇓P P 01 12 01.3 +1.6
baz=24,SNR=16
T25A Trinidad 24.46 339 ⇑P P 01 12 01.6 +1.8
baz=25,SNR=11
S27A Las Animas 24.47 342 ⇓P P 01 12 00.4 +0.6
baz=25,SNR=10
WCI Wyandotte Cave 24.53 14 eP P 01 11 58.5 -1.7
22nm,0.8s
S26A Kim 24.59 341 ⇑P P 01 12 01.9 +1.0
baz=25,SNR=7.3
V21A Milan 24.60 332 ⇓P P 01 12 02.2 +1.2
baz=25,SNR=5.8
214A Organ Pipe Nat 24.60 318 ⇓P P 01 12 02.2 +1.3
baz=25,SNR=5.3
KSU1 Kansas State U 24.62 355 eP P 01 12 00.3 -0.8
22nm,1.0s
OLIL Olney 24.64 11 eP P 01 12 00.1 -1.0
28nm,0.7s
R29A Marienthal 24.70 346 P P 01 12 02.5 +0.7
baz=25,SNR=20
X18A Snowflake 24.72 327 ⇑P P 01 12 02.9 +0.7
baz=25,SNR=6.7
T24B San Luis 24.74 337 ⇓P P 01 12 04.0 +1.6
baz=25
Q32A Meitler Ranch, 24.75 351 ⇓P P 01 12 02.2 0.0
baz=25
R28A Tribune 24.79 345 ⇓P P 01 12 03.1 +0.5
baz=25
Q31A Ellis 24.90 350 ⇓P P 01 12 03.1 -0.4
baz=25
S25A Robets Cordova 24.94 340 ⇑P P 01 12 05.3 +1.3
baz=25,SNR=17
T23A Casias Ranch, 24.97 336 ⇑P P 01 12 05.8 +1.4
baz=25
V20A Brimhall 24.98 331 P P 01 12 05.7 +1.2
baz=25,SNR=5.5
R27A Eads 25.00 343 ⇓P P 01 12 04.8 +0.3
baz=25,SNR=7.7
Q30A Quinter 25.03 348 ⇑P P 01 12 05.6 +0.9
baz=25
Q29A Oakley 25.11 347 ⇓P P 01 12 05.9 +0.4
baz=25,SNR=30
U21A Nageezi 25.12 333 ⇓P P 01 12 06.5 +0.6
baz=25,SNR=9.5
R26A Arlington 25.20 342 ⇓P P 01 12 08.0 +1.6
baz=25,SNR=12
T22A Edith 25.30 335 ⇓P P 01 12 09.1 +1.7
baz=25,SNR=9.4
R25A Fountain Ranch 25.33 340 ⇑P P 01 12 09.1 +1.5
baz=26,SNR=20
BLO Bloomington 25.38 13 eP P 01 12 06.8 -1.0
15nm,0.7s
P32A Huiting Farm, 25.38 351 P P 01 12 07.5 -0.3
baz=26,SNR=7.0
SDCO Great Sand Dun 25.39 338 eP P 01 12 09.5 +1.2
15nm,1.4s
P31A Stockton 25.40 350 ⇑P P 01 12 08.8 +0.7
baz=26,SNR=7.3
X16A Lo Mia Camp, P 25.46 324 P P 01 12 10.5 +1.6
baz=26,SNR=8.8
Q28A Sharon Springs 25.47 345 ⇓P P 01 12 10.2 +1.4
baz=26
S23A Nye Farm, Mont 25.54 337 ⇑P P 01 12 10.7 +1.0
baz=26
P30A Selden 25.58 348 ⇓P P 01 12 10.1 +0.3
baz=26,SNR=17
R24A Sanders Place, 25.68 339 P P 01 12 12.5 +1.7
baz=26,SNR=8.2
P29A Atwood 25.78 347 ⇓P P 01 12 11.8 +0.2
baz=26
Q26A Hugo 25.80 342 ⇓P P 01 12 13.2 +1.3
baz=26,SNR=5.8
R23A Moffat 25.90 338 ⇓P P 01 12 14.3 +1.4
baz=26,SNR=5.7
P28A Saint Francis 25.94 346 P P 01 12 14.6 +1.6
baz=26,SNR=9.3
O32A Brockman Farm, 25.96 352 ⇑P P 01 12 13.0 -0.1
baz=26
O31A Woolen Ranch, 26.01 350 ⇓P P 01 12 13.8 +0.2
baz=26
Q25A Bedland, Calha 26.01 341 P P 01 12 14.9 +1.0
baz=26,SNR=5.5
P27A Ficken Ranch, 26.13 344 ⇑P P 01 12 14.9 +0.1
baz=26
MVCO Mesa Verde 26.15 333 eP P 01 12 16.0 +0.9
9.6nm,0.9s
MVCO Mesa Verde 26.15 333 P P 01 12 16.1 +0.9
baz=26,SNR=6.8
O30A MW Ranch, Wils 26.16 349 ⇓P P 01 12 15.0 0.0
baz=26
S21A Coal Bank Pass 26.22 334 ⇑P P 01 12 16.7 +0.8
baz=26,SNR=7.3
WUAZ Wupatki 26.23 326 eP P 01 12 16.7 +0.9
15nm,1.0s
WUAZ Wupatki 26.23 326 P P 01 12 17.0 +1.1
baz=26,SNR=9.9
O29A 4D Ranch, Culb 26.25 348 ⇓P P 01 12 16.4 +0.5
baz=26
ATAH Atahualpa 26.35 144 LR LR 01 20 32.1
comp=Z,91nm,19.0s,baz=278,slow=32
Q24A Divide 26.35 340 ⇓P P 01 12 18.2 +1.1
baz=26
SFIN Scholer Farm 26.42 11 ⇑P P 01 12 17.6 +0.4
baz=27
O28A Krutsinger Ran 26.47 346 ⇑P P 01 12 19.4 +1.6
baz=27,SNR=6.2
P25A Willow Gulch B 26.54 342 ⇓P P 01 12 19.3 +0.8
baz=27
S20A Disappointment 26.60 333 ⇑P P 01 12 20.5 +1.3
baz=27,SNR=5.9
GLA Glamis 26.61 318 eP P 01 12 20.2 +1.1
8.6nm,1.0s
GLA Glamis 26.61 318 ⇓P P 01 12 20.4 +1.3
baz=27
R21A Cimarron 26.72 335 ⇓P P 01 12 21.3 +1.1
baz=27
Q22A Crested Butte, 26.89 337 ⇓P P 01 12 22.9 +1.0
baz=27
R20A Redvale 26.91 334 ⇓P P 01 12 23.4 +1.4
baz=27
PV01 Paradox Valley 26.95 334 eP P 01 12 23.5 +1.1
1um,0.9s
N28A Pribbeno Ranch 26.95 347 ⇑P P 01 12 23.0 +0.8
baz=27
P23A Jefferson 26.96 339 ⇓P P 01 12 23.9 +1.4
baz=27,SNR=8.4
O25A Wiggins 27.08 342 ⇓P P 01 12 24.7 +1.3
baz=27
PV15 Paradox Valley 27.08 334 eP P 01 12 25.4 +1.8
PV05 Paradox Valley 27.13 333 eP P 01 12 25.1 +1.2
SMCO Snowmass 27.19 337 eP P 01 12 25.8 +1.1
15nm,1.3s
ISCO Idaho Springs 27.26 340 eP P 01 12 26.3 +1.1
8.3nm,0.8s
ISCO Idaho Springs 27.26 340 P P 01 12 26.4 +1.1
baz=27,SNR=12
N27A Anderson Farm, 27.30 345 ⇑P P 01 12 26.4 +1.1
baz=28
O24A Longmont 27.38 341 ⇑P P 01 12 27.4 +1.3
baz=28
BC3 Big Chuckawall 27.39 318 ⇑P P 01 12 27.3 +1.1
baz=27,SNR=6.6
U15A North Rim 27.41 326 ⇓P P 01 12 28.2 +1.6
baz=27,SNR=6.2
IRM Iron Mountain 27.52 319 ⇓P P 01 12 28.2 +0.9
baz=28
O23A Lake Granby, G 27.73 340 ⇓P P 01 12 30.3 +0.9
baz=28
L31A Butterfield Fa 27.92 352 ⇓P P 01 12 31.4 +0.7
baz=28
LDFC Landfair 28.09 321 eP P 01 12 34.5 +2.1
12nm,0.9s
N22A Wattenberg Ran 28.44 339 ⇑P P 01 12 36.0 +0.2
baz=29,SNR=5.9
K30A Basset 28.52 351 ⇑P P 01 12 36.5 +0.4
baz=29
CCUT Cedar City 28.81 326 eP P 01 12 40.9 +1.9
4.8nm,0.9s
ARUT Antelope Range 29.03 327 eP P 01 12 42.5 +1.6
157nm,0.9s

SHPR	Sheep Range	29.08	323	*e*P	P	01 12 41.9	+0.6
	3.5nm,1.0s						
ECSD	EROS Data Cent	29.23	356	*e*P	P	01 12 41.2	-1.2
	13nm,0.7s						
L23A	Garrett	29.39	342	⇑P	P	01 12 44.9	+0.8
	baz=30,SNR=5.5						
K22A	Casper	30.13	341	*e*P	P	01 12 50.8	+0.2
R11A	Troy Canyon, C	30.61	325	*e*P	P	01 12 55.8	+1.0
	31nm,2.6s						
SPMN	St. Paul	30.62	1	*e*P	P	01 12 53.0	-1.7
SBC	Santa Barbara	30.71	315	⇑P	P	01 12 56.9	+1.4
	baz=31						
RSSD	Black Hills	30.79	345	*e*P	P	01 12 56.5	0.0
	3.3nm,0.8s						
H27A	Howes	30.85	348	⇓P	P	01 12 57.0	+0.2
	baz=31						
G30A	Faulkton	30.86	353	⇓P	P	01 12 56.6	-0.1
	baz=31						
J21A	Lysite	31.05	340	⇓P	P	01 13 00.1	+1.4
	baz=31,SNR=11						
H25A	Fruitdale	31.16	346	⇓P	P	01 13 00.3	+0.8
	baz=31,SNR=5.7						
BGU	Big Grassy Mou	31.22	331	*e*P	P	01 13 01.5	+1.3
	7.6nm,1.4s						
I22A	9 Mile Ranch,	31.24	342	⇑P	P	01 13 01.0	+0.7
	baz=31						
PDAR	Pinedale Array	31.28	337	P	P	01 13 00.7	0.0
PDAR	Pinedale Array	31.28	337	P	P	01 13 00.7	0.0
	1.4nm,0.9s,baz=128,slow=9.6,SNR=11						
I21A	Big Trails, Te	31.42	341	⇑P	P	01 13 02.6	+0.7
	baz=32						
H24A	Dirks Ranch, A	31.50	345	⇑P	P	01 13 03.3	+0.7
	baz=32,SNR=6.5						
G25A	Newell	31.66	347	⇓P	P	01 13 04.5	+0.6
	baz=32						
HVU	Hansel Valley	31.78	332	*e*P	P	01 13 06.7	+1.5
	13nm,1.3s						
I20A	Worland	31.81	340	P	P	01 13 06.5	+1.2
	baz=32,SNR=9.1						
G24A	Alzada	32.02	346	⇑P	P	01 13 07.7	+0.7
	baz=32						
F27A	Lemmon	32.03	349	⇑P	P	01 13 07.5	+0.4
	baz=32						
H21A	Big Horn, Sher	32.08	342	⇑P	P	01 13 07.9	+0.3
	baz=32,SNR=9.9						
G23A	Biddle	32.14	344	⇓P	P	01 13 08.5	+0.4
	baz=32,SNR=7.3						
ELK	Elko	32.16	328	*e*P	P	01 13 10.1	+1.5
	6.2nm,1.0s						
I19A	Meeteetse	32.18	339	P	P	01 13 10.6	+1.9
	baz=32,SNR=11						
NVAR	Mina Array Bea	32.22	322	P	P	01 13 10.5	+1.4
NVAR				PcP	PcP	01 15 57.6	+0.3
NVAR	Mina Array Bea	32.22	322	P	P	01 13 10.5	+1.4
	5.3nm,0.8s,baz=139,slow=8.9,SNR=38						
NVAR				PcP	PcP	01 15 57.6	+0.3
	0.9nm,0.8s,baz=127,slow=2.4,SNR=3.8						
H20A	Greybull	32.25	341	⇑P	P	01 13 09.6	+0.5
	baz=32						
REDW	Red Top Meadow	32.28	336	*e*P	P	01 13 10.6	+1.1
	48nm,1.8s						
SNOW	Snow King Moun	32.33	337	*e*P	P	01 13 11.3	+1.3
	25nm,1.3s						
LOHW	Long Hollow	32.40	337	*e*P	P	01 13 11.5	+0.9
	17nm,1.4s						
G22A	Birney	32.40	343	P	P	01 13 10.5	+0.1
	baz=33,SNR=6.7						
RRI2	Red Ridge	32.45	336	*e*P	P	01 13 13.0	+1.9
	15nm,1.4s						
E27A	Carson	32.49	350	⇓P	P	01 13 11.5	+0.3
	baz=33						
E28A	Huff	32.49	351	P	P	01 13 10.9	-0.2
	baz=33,SNR=6.2						
MOOW	Moose Ponds	32.56	337	*e*P	P	01 13 12.9	+0.9
	6.2nm,1.1s						
FXWY	Fox Creek	32.58	336	*e*P	P	01 13 13.1	+0.9
	7.3nm,1.2s						
F23A	Volborg	32.63	345	⇑P	P	01 13 12.5	0.0
	baz=33,SNR=6.4						
G21A	Lodge Grass	32.67	342	⇓P	P	01 13 13.0	+0.2
	baz=33						
E26A	Carlson Angus	32.69	349	⇓P	P	01 13 13.1	+0.2
	baz=33,SNR=11						
H19A	Powell	32.73	340	P	P	01 13 14.8	+1.4
	baz=33,SNR=5.6						
IMW	Indian Meadow	32.77	337	*e*P	P	01 13 14.6	+0.7
	5.6nm,1.1s						
E25A	Miller Ranch,	32.90	348	⇓P	P	01 13 15.3	+0.5
	baz=33						
G20A	Bridger	32.97	341	P	P	01 13 15.7	+0.3
	baz=33,SNR=5.0						
H18A	Shoshone NF, C	32.97	339	⇑P	P	01 13 16.4	+0.8
	baz=33,SNR=15						
D28A	Regan	33.08	351	⇑P	P	01 13 15.9	-0.3
	baz=33						
E24A	Baker	33.16	347	⇑P	P	01 13 17.6	+0.6
	baz=33						
D26A	Manning	33.22	349	⇓P	P	01 13 17.4	-0.1
	baz=33						
C30A	Mose, Pekin	33.33	354	⇑P	P	01 13 17.5	-0.9
	baz=34						
E22A	Miles City	33.44	345	⇓P	P	01 13 19.3	-0.1
	baz=34,SNR=6.1						
F20A	Billings	33.47	342	⇓P	P	01 13 20.4	+0.6
	baz=34,SNR=6.1						
D25A	Fairfield	33.51	348	P	P	01 13 20.6	+0.6
	baz=34,SNR=7.8						
MDND	Maddock	33.59	353	*e*P	P	01 13 19.8	-0.9
	36nm,0.8s						
MDND	Maddock	33.59	353	⇑P	P	01 13 20.1	-0.6
	baz=34,SNR=7.6						
D24A	Glendive	33.69	347	⇓P	P	01 13 22.4	+0.9
	baz=34						
AGMN	Agassiz Nation	33.73	357	*e*P	P	01 13 19.6	-2.3
	18nm,1.1s						
HLID	Hailey	33.93	333	⇓P	P	01 13 24.8	+0.9
	baz=34,SNR=5.8						
D23A	Lindsay	33.94	346	⇑P	P	01 13 24.3	+0.5
	baz=34,SNR=9.4						
E20A	Meyer Farm, Mu	34.10	342	P	P	01 13 25.7	+0.5
	baz=34,SNR=8.4						
B29A	Wagenman Farm,	34.17	353	P	P	01 13 25.5	-0.2
	baz=34,SNR=7.9						
E19A	Rath Farm, Rou	34.26	341	⇓P	P	01 13 26.9	+0.3
	baz=34						
B28A	Dugan Ranch, T	34.28	352	⇓P	P	01 13 26.4	-0.2
	baz=34,SNR=6.5						
MCMT	McKenzie Canyo	34.29	336	*e*P	P	01 13 28.6	+1.4
	5.3nm,1.0s						
C23A	Lambert	34.53	346	⇑P	P	01 13 29.3	+0.4
	baz=35,SNR=7.3						
A30A	Hoffart Farm,	34.53	355	⇓P	P	01 13 28.0	-0.8
	baz=35						
B25A	Knox Farm, Ray	34.55	349	⇓P	P	01 13 29.2	+0.2
	baz=35						
A29A	Manning Farm,	34.61	354	P	P	01 13 28.9	-0.6
	baz=35,SNR=5.2						
D20A	Manuel Ranch,	34.63	343	⇓P	P	01 13 30.4	+0.6
	baz=35						
C22A	Vida	34.64	346	⇓P	P	01 13 30.6	+0.8
	baz=35,SNR=10						
A28A	Rude Farm, Bot	34.72	352	P	P	01 13 30.0	-0.5
	baz=35,SNR=5.6						
D19A	Cripps Ranch,	34.92	342	P	P	01 13 32.6	+0.3
	baz=35,SNR=12						
DGMT	Dagmar	34.95	348	*e*P	P	01 13 32.5	0.0
	8.5nm,0.8s						
A26A	Wade Farm, Ken	34.96	350	P	P	01 13 32.6	+0.1
	baz=35,SNR=11						
B23A	Brockton	35.11	347	P	P	01 13 34.8	+1.0
	baz=35,SNR=5.9						
C20A	Veseth Ranch,	35.16	343	⇓P	P	01 13 35.1	+0.7
	baz=35						
B22A	Reddig Ranch S	35.18	346	⇑P	P	01 13 35.0	+0.5
	baz=35						
A25A	Svangstu Ranch	35.19	349	⇓P	P	01 13 34.9	+0.4
	baz=35						
A24A	Westby	35.34	348	⇑P	P	01 13 36.0	+0.2
	baz=36						
C19A	Slack Wire Ran	35.48	342	⇑P	P	01 13 37.7	+0.6
	baz=36						
HRY	Holter Researc	35.49	338	*e*P	P	01 13 38.2	+0.9
A23A	Redstone	35.55	347	⇑P	P	01 13 38.4	+0.7
	baz=36						
ULM	Lac du Bonnet	35.68	358	P	P	01 13 36.0	-2.7
ULM	Lac du Bonnet	35.68	358	P	P	01 13 36.0	-2.7
	3.7nm,0.7s,baz=180,slow=11,SNR=5.4						
J08A	Circle Bar Ran	35.71	328	*e*P	P	01 13 40.3	+1.1
	9.2nm,0.9s						
A22A	Carney Farms,	35.81	346	⇑P	P	01 13 40.7	+0.8
	baz=36						
B20A	Solberg Farm,	35.83	344	⇓P	P	01 13 40.7	+0.6
	baz=36						
EGMT	Eagleton	35.95	342	*e*P	P	01 13 42.1	+0.9
	11nm,0.9s						
B19A	Brinkman Farms	36.10	343	P	P	01 13 43.1	+0.7
	baz=36,SNR=7.0						
CHMT	Chamberlain Mo	36.19	337	*e*P	P	01 13 43.8	+0.4
MSO	Missoula	36.38	336	*e*P	P	01 13 45.4	+0.6
	7.8nm,1.0s						
MSO	Missoula	36.38	336	P	P	01 13 45.5	+0.6
	baz=36,SNR=5.1						
SLMT	Seeley Lake	36.55	337	*e*P	P	01 13 46.5	+0.1
SWMT	Swartz Lake	36.96	337	*e*P	P	01 13 50.2	+0.4
F10A	Beach Ranch, E	37.06	333	*e*P	P	01 13 51.0	+0.3
	9.0nm,0.8s						
JTMT	Jette	37.27	337	*e*P	P	01 13 52.9	+0.5
SAML	Samuel	38.24	126	*e*P	P	01 14 00.8	-0.1
	2.1nm,0.8s						
C09A	Chrisman Ranch	38.93	334	*e*P	P	01 14 06.8	+0.5
	45nm,1.8s						
LPAZ	La Paz	39.71	139	*e*P	P	01 14 14.1	+0.3
	3.8nm,1.2s						
LPAZ	La Paz	39.71	139	P	P	01 14 12.3	-1.5
	0.2nm,0.4s,baz=324,slow=8.7,SNR=1.8						
FFC	Flin Flon	40.64	353	*e*P	P	01 14 20.2	-0.1
	19nm,1.0s						
EDM	Edmonton	41.62	342	*e*P	P	01 14 28.7	+0.1
LVC	Limon Verde	44.19	146	*e*P	P	01 14 51.6	+1.6
	7.1nm,1.3s						
SIV	San Ignacio	44.28	132	P	P	01 14 48.6	-1.9
SIV				PcP	PcP	01 16 36.6	+2.0
SIV	San Ignacio	44.28	132	P	P	01 14 48.6	-1.9
	0.6nm,0.6s,baz=323,slow=10.0,SNR=1.3						
SIV				PcP	PcP	01 16 36.6	+2.0
	1.2nm,0.7s,baz=268,slow=4.3,SNR=3.0						
SCHQ	Schefferville	45.35	22	LR	LR	01 34 28.3	
	comp=Z,147nm,18.0s,baz=15,slow=37						
LCO	Las Campanas	48.66	153	*e*P	P	01 15 26.4	+1.4
	63nm,1.6s						
YKA	Yellowknife Ar	50.15	348	P	P	01 15 35.4	-0.2
YKA	Yellowknife Ar	50.15	348	P	P	01 15 35.4	-0.2
	10nm,0.7s,baz=153,slow=7.3,SNR=23						
CPUP	Villa Florida	53.87	139	*e*P	P	01 16 03.2	-0.5
	31nm,1.2s						
BDFB	Brasilia	54.22	122	P	P	01 16 05.7	-1.0
BDFB	Brasilia	54.22	122	P	P	01 16 05.7	-1.0
	2.6nm,0.6s,baz=276,slow=8.8,SNR=4.3						
INK	Inuvik	59.48	344	*e*P	P	01 16 42.2	-0.7
	6.6nm,0.7s						
DOT	Dot Lake	60.08	337	*e*P	P	01 16 48.0	+0.7
	9.8nm,1.0s						
RES	Resolute Bay	60.17	360	*e*P	P	01 16 46.2	-1.5
	9.2nm,1.0s						
ILAR	Eielson Array	61.71	337	P	P	01 16 58.0	-0.4
ILAR	Eielson Array	61.71	337	P	P	01 16 58.0	-0.4
	3.5nm,0.9s,baz=145,slow=4.6,SNR=27						
ILAR				LR	LR	01 45 47.6	
	comp=Z,84nm,18.8s,baz=72,slow=38						
MCK	McKinley	62.03	336	*e*P	P	01 16 59.8	-0.7
	16nm,1.1s						
COLA	College	62.12	337	*e*P	P	01 17 00.7	-0.4
	39nm,0.9s						
SUMG	Summit	66.20	16	*i* P	P	01 17 28.2	0.0
	9.3nm,0.7s						
SUMG	Summit	66.20	16	*e*P	P	01 17 28.0	-0.2
	10nm,0.8s						
ESDC	Sonseca Array	80.72	51	P	P	01 18 53.1	-0.8
ESDC	Sonseca Array	80.72	51	P	P	01 18 53.1	-0.8
	1.4nm,0.8s,baz=286,slow=4.9,SNR=7.8						
GRR	Gorron	81.19	42	*e*P	P	01 18 54.5	-1.6
GRR	Gorron	81.19	42	*e*P	P	01 18 54.5	-1.6
LFF	La Frestale	83.02	46	*e*P	P	01 19 04.4	-1.4
LFF	La Frestale	83.02	46	*e*P	P	01 19 04.4	-1.4
RJF	Les Rejaudoux	83.47	45	*e*P	P	01 19 06.8	-1.3
	7.1nm,0.7s						
RJF				*e*R			
	49nm,18.5s						
RJF	Les Rejaudoux	83.47	45	*e*P	P	01 19 06.8	-1.3
	7.1nm,0.7s						
TCF	Toulx Ste Croi	83.70	44	*e*P	P	01 19 07.7	-1.6
	9.9nm,0.9s						
TCF	Toulx Ste Croi	83.70	44	*e*P	P	01 19 07.7	-1.6
	9.9nm,0.9s						
BGF	Bois d'Agland	84.06	44	*e*P	P	01 19 10.4	-0.7
	19nm,0.8s						
BGF	Bois d'Agland	84.06	44	*e*P	P	01 19 10.4	-0.7
	19nm,0.8s						
DOU	Dourbes	84.26	40	P	P	01 19 12.3	+0.3
	comp=Z,11nm,2.1s						
AVF	Avril sur Loir	84.34	43	*e*P	P	01 19 10.6	-1.9
	comp=Z,11nm,0.9s						
AVF	Avril sur Loir	84.34	43	*e*P	P	01 19 10.6	-1.9
	comp=Z,11nm,0.9s						
SSF	Saint Saulge	84.37	43	*e*P	P	01 19 11.7	-1.0
	comp=Z,8.6nm,0.8s						
SSF	Saint Saulge	84.37	43	*e*P	P	01 19 11.7	-1.0
	comp=Z,8.6nm,0.8s						
NB2	NORSAR Subarra	84.50	28	P	P	01 19 13.8	+0.7
	comp=Z,7.7nm,0.8s,baz=293,slow=5.1						
NOA	NORSAR Array B	84.50	28	P	P	01 19 13.7	+0.6
NOA	NORSAR Array B	84.50	28	P	P	01 19 13.7	+0.6
	comp=Z,4.8nm,0.8s,baz=292,slow=4.9,SNR=16						
NOA				LR	LR	01 55 46.2	
	comp=Z,46nm,19.0s,baz=295,slow=35						
LOR	Lormes	84.55	43	*e*P	P	01 19 12.1	-1.5
LOR				*e*R			
	comp=Z,55nm,20.8s						
LOR	Lormes	84.55	43	*e*P	P	01 19 12.1	-1.5
BCLA	Clavier	84.61	39	P	P	01 19 14.1	+0.3
	comp=Z,19nm,2.7s						
SMF	Signal de Mont	84.70	43	*e*P	P	01 19 13.3	-1.1
	comp=Z,11nm,1.0s						
SMF	Signal de Mont	84.70	43	*e*P	P	01 19 13.3	-1.1
	comp=Z,11nm,1.0s						
MEZF	Maizieres J'vi	84.98	41	*e*P	P	01 19 14.6	-1.1
MEZF	Maizieres J'vi	84.98	41	*e*P	P	01 19 14.6	-1.1
WLF	Walferdange	85.35	40	*e*P	P	01 19 18.0	+0.5
	comp=Z,12nm,1.2s						
PAGF	Fort de Pagny	85.40	41	*e*P	P	01 19 16.9	-0.9
	comp=Z,7.2nm,1.1s						
PAGF	Fort de Pagny	85.40	41	*e*P	P	01 19 16.9	-0.9
	comp=Z,7.2nm,1.1s						
HAU	Haudompre	85.95	42	*e*P	P	01 19 19.4	-1.2
	comp=Z,19nm,0.8s						
HAU				*e*R			
	comp=Z,54nm,20.0s						
HAU	Haudompre	85.95	42	*e*P	P	01 19 19.4	-1.2
	comp=Z,19nm,0.8s						
HFS	Hagfors	85.97	29	P	P	01 19 19.9	-0.5
HFS	Hagfors	85.97	29	P	P	01 19 19.9	-0.5
	comp=Z,2.7nm,0.7s,baz=216,slow=4.6,SNR=4.7						
HFS				LR	LR	01 56 29.4	
	comp=Z,50nm,20.3s,baz=75,slow=35						
ARCES	ARCESS Array B	86.18	18	P	P	01 19 20.3	-0.9
ARCES	ARCESS Array B	86.18	18	P	P	01 19 20.3	-0.9
	comp=Z,1.7nm,0.7s,baz=346,slow=3.1,SNR=5.4						
ARCES				LR	LR	02 00 04.9	
	comp=Z,51nm,18.1s,baz=222,slow=37						
HINF	Hinteralfeld	86.34	42	*e*P	P	01 19 21.1	-1.4
	comp=Z,8.3nm,0.8s						
HINF	Hinteralfeld	86.34	42	*e*P	P	01 19 21.1	-1.4
	comp=Z,8.3nm,0.8s						
CDF	Champ du Feu	86.43	41	*e*P	P	01 19 21.8	-1.2
	comp=Z,13nm,0.9s						
CDF	Champ du Feu	86.43	41	*e*P	P	01 19 21.8	-1.2
	comp=Z,13nm,0.9s						
MBDF	Montbardon	87.21	45	*e*P	P	01 19 25.4	-1.6
	comp=Z,21nm,1.1s						
MBDF	Montbardon	87.21	45	*e*P	P	01 19 25.4	-1.6
	comp=Z,21nm,1.1s						
LIC	Lamto	87.23	84	*e*P	P	01 19 26.9	-0.6
	comp=Z,15nm,1.0s						
LIC	Lamto	87.23	84	*e*P	P	01 19 26.9	-0.6
	comp=Z,15nm,1.0s						
GERES	GERESS Array B	90.28	39	P	P	01 19 40.8	-0.6
GERES	GERESS Array B	90.28	39	P	P	01 19 40.8	-0.6
	comp=Z,1.0nm,0.8s,baz=291,slow=3.9,SNR=8.6						
GERES				LR	LR	02 00 17.0	
	comp=Z,31nm,18.2s,baz=98,slow=36						
FINES	FINESS Array B	90.75	25	P	P	01 19 42.7	-0.4
FINES	FINESS Array B	90.75	25	P	P	01 19 42.7	-0.4
	comp=Z,2.8nm,1.1s,baz=46,slow=4.0,SNR=2.9						
FINES				LR	LR	01 59 20.1	
	comp=Z,40nm,18.2s,baz=344,slow=35						
TORD	Torodi Ar. Bea	91.90	76	P	P	01 19 47.7	-1.7
TORD	Torodi Ar. Bea	91.90	76	P	P	01 19 47.7	-1.7
	comp=Z,0.6nm,0.8s,baz=291,slow=3.8,SNR=3.7						
MORC	Moravsky Berou	92.20	37	*e*P	P	01 19 50.0	-0.1
	comp=Z,1.6nm,0.7s						
TAM	Tamanrasset	92.75	66	*e*P	P	01 19 54.0	+0.6
PSZ	Piszkesteto	94.41	38	*e*P	P	01 20 00.4	-0.1
	comp=Z,2.3nm,0.8s						
BUR08	Bucovina Ar. S	97.67	37	*e*P	P	01 20 15.4	+0.1
MLR	Muntele Rosu	99.23	38	LR	LR	02 05 17.4	
	comp=Z,11nm,18.0s,baz=119,slow=36						
HHC	Hu-ho-hao-te	120.13	338	*e*PKP	PKPdf	01 25 31.8	+0.2
HHC				sPKP		01 25 46.3	
HHC				PP	PP	01 26 57.5	+1.9
HHC				PKS	PKSdf	01 29 07.5	-0.9
HHC				SKKS		01 33 48.4	
HHC				SS	SS	01 43 18.3	-1.4
HHC				PPMZ			
	comp=Z,160nm,6.3s						
HHC				LR	LR		
	comp=Z,140nm,19.3s						
HHC				LR	LR		
	comp=Z,180nm,19.3s						
HHC				LR	LR		
	comp=Z,130nm,19.7s						
WMQ	Urumqi	121.94	359	*e*PKP	PKPdf	01 25 36.6	+1.7
WMQ				LR	LR		
	comp=Z,50nm,21.0s						
WMQ				LR	LR		
	comp=Z,58nm,23.0s						
WMQ				LR	LR		
	comp=Z,38nm,20.8s						
BOSA	Boshof	122.10	115	*e*PKPdf	PKPdf	01 25 38.2	+2.5
LZH	Lanzhou	127.00	342	*e*PKP	PKPdf	01 25 46.3	+1.3
LZH				sPKP		01 26 00.6	
LZH				LR	LR		
	comp=Z,180nm,16.2s						
LZH				LR	LR		
	comp=Z,170nm,17.3s						
LZH				LR	LR		
	comp=Z,210nm,19.6s						
CD2	Chengdu	131.81	340	PKP	PKPdf	01 25 53.3	-0.8
WRA	Warramunga Arr	133.88	256	PKP	PKPdf	01 25 57.5	-0.7
WRA	Warramunga Arr	133.88	256	PKP	PKPdf	01 25 57.5	-0.7
	comp=Z,0.7nm,0.7s,baz=90,slow=2.3,SNR=7.4						
ASAR	Alice Springs	134.24	251	PKP	PKPdf	01 25 56.9	-1.9
ASAR	Alice Springs	134.24	251	PKP	PKPdf	01 25 56.9	-1.9
	comp=Z,0.4nm,0.7s,baz=112,slow=1.7,SNR=3.1						
KMI	Kunming	137.45	338	PKP	PKPdf	01 26 07.3	+2.3
KKM	Kota Kinabalu	143.94	302	*e*PKPdf	PKPdf	01 26 18.1	+1.3
CHTO	Chiang Mai	144.60	339	*e*PKPdf	PKPdf	01 26 18.5	+0.7
HYB	Hyderabad	147.38	14	*i* PKP	PKPab	01 26 26.5	-0.2
PALK	Pallekele	157.67	15	*e*PKPdf	PKPdf	01 26 37.8	0.0
PALK				*e*PKPab	PKPab	01 27 08.7	-1.0

DJA 24 01:13:04.7±0.5,1°S±3°×12°2E±°,h13^{km}±8^{km},M3.9/6,
MLv3.9/6,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	Luwuk	0.59	140	P	Pb	01 13 16.6	-0.3
LUWI				S	Sb	01 13 24.8	-0.3
APSI	Ampana	0.81	247	P	Pg	01 13 19.4	-1.0
MRSI	Marisa	1.15	337	P	Pb	01 13 24.5	-2.0
MRSI				S	Sb	01 13 40.8	-0.5
PCI	Palu	2.57	263	P	Pg	01 13 55.9	+1.8
TTSI	Tana Toraja	3.54	226	P	Pn	01 13 59.2	-0.2
MMSI	Mamuju	4.06	239	P	Pn	01 14 05.8	-0.7
SPSI	Sidrap Palu	4.25	218	P	Pn	01 14 09.0	-0.2
BNSI	Bone	4.42	211	P	Pn	01 14 10.8	-0.7
MJSI	Majene	4.50	229	P	Pn	01 14 13.3	+0.7
BKSI	Bulukumba	5.22	206	P	Pn	01 14 22.4	-0.1

IDC 24 01:34:36.5±2.7,5°47N×123°88E,h0^{km},mb3.8/3,
mb1 4.0/3,mb1mx3.5/23,mbtmp3.8/3,Error ellipse:
s-maj=347.1km s-min=24.4km az=63.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	27.27	158	P	P	01 40 23.0	+0.2
	0.7nm,0.4s,baz=337,slow=9.5,SNR=22						
ASAR	Alice Springs	30.57	162	P	P	01 40 51.9	-0.3
	0.3nm,0.4s,baz=340,slow=6.9,SNR=5.6						
MKAR	Makanchi Array	54.52	326	P	P	01 44 06.2	-0.1
	0.4nm,0.3s,baz=123,slow=7.7,SNR=13						

*ISCJB **24** 01:47:35.1±1.4,14°39N±0°06×92°80W±0°05,h26^{km}±11^{km},*
Error ellipse: s-maj=11.0km s-min=6.6km az=40.8
*MEX **24** 01:47:37.7±0.8,14°34N×92°74W,h25^{km}±27^{km},MD3.7*
*CASC **24** 01:47:44.2±4.1,14°27N×92°18W,h29^{km}±30^{km},MD3.6*
ISC 24 01:47:35.5±2.1,14°38N±0°08×92°77W±0°05,h25^{km}±17^{km},
n12,σ1°^{s}17/18,1D,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		0.71	43	*e*P	Pb	01 47 49.2	-0.1
THIG				*i* S	Sb	01 47 58.2	-0.4
JAT	Jato	1.09	93	⇓*e*P	Pn	01 47 56.7	+1.4
PCIG		1.39	342	*e*P	Pn	01 47 59.6	+0.4
PCIG				*i* S	Sn	01 48 15.8	-0.9
FUG	Fuego 3	1.86	88	*e*P	Pn	01 48 06.1	+0.1
FUG				*e*S	Sn	01 48 26.0	-2.9
CCIG	Comitan	1.98	18	*e*P	Pn	01 48 08.7	+1.0
CCIG				*i* S	Sn	01 48 32.1	+0.3
NBG	Las Nubes	2.35	85	*e*P	Pn	01 48 14.9	+2.1
TGIG		2.41	352	*e*P	Pn	01 48 13.4	0.0
TGIG				*i* S	Sn	01 48 42.3	+0.2
RBDL	Robledal	3.00	95	*e*P	Pn	01 48 22.3	+0.7
RTR	El Retiro	3.06	99	*e*P	Pn	01 48 23.3	+0.8
SBLS	San Blas	3.10	100	*e*P	Pn	01 48 23.4	+0.5
HUIG	Huatulco	3.51	294	*i* P	Pn	01 48 28.8	+0.4
HUIG				*i* S	Sn	01 49 09.1	-0.2
LFRS	El Faro	3.67	101	*e*P	Pn	01 48 31.5	+0.7
LFRS				*e*S	Sn	01 49 04

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.41**	**24**	Pn	Pn	01 59 35.0	-0.5
	10nm,0.3s,baz=219,slow=18,SNR=2.6						
AFI				Sn	Sn	02 00 02.4	-3.4
	25nm,0.3s,baz=318,slow=16,SNR=7.1						
RAO	**Raoul Island**	**13.89**	**199**	LR	LR	02 06 25.0	
	comp=Z,304nm,20.7s,baz=152,slow=32						
ASAR	**Alice Springs**	**50.46**	**252**	P	P	02 07 53.9	-0.8
	1.0nm,0.7s,baz=86,slow=8.3,SNR=8.5						
NVAR	**Mina Array Bea**	**74.47**	**42**	P	P	02 10 34.9	-0.4
	0.4nm,0.8s,baz=224,slow=9.9,SNR=3.8						
ILAR	**Eielson Array**	**83.04**	**11**	P	P	02 11 21.4	-0.2
	0.2nm,0.6s,baz=223,slow=5.9,SNR=5.1						
BRTR	**Keskin Array B**	**147.10**	**321**	PKPbc	PKPab	02 18 41.3	-0.3
	0.5nm,0.7s,baz=104,slow=0.6,SNR=4.2						

JMA ***24*** *02:00:06.8±0.4,33.94N×137.07E,h367km±4km,M2.9*
ISCJB ***24*** *02:00:07.6±0.7,34.04N±0.10×137.10E±0.07, h358km±7km,mb2.6/2,Error ellipse: s-maj=16.2km s-min=8.5km az=164.1*
IDC ***24*** *02:00:08.6±1.7,33.90N×136.92E,h342km±32km,mb2.6/2, mb1 2.8/4,mb1mx2.6/27,mbtmp2.6/4,Error ellipse: s-maj=60.8km s-min=25.6km az=50.0*

ISC 24 02:00:08.5±1.1,34.1N±0.1×137.06E±0.07,h350km±9km, n21,σ0s71/26,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO2	**TONANKAI O.B.S**	**0.31**	**185**	P	**Pn**	**02 00 53.3**	**+1.1**
JIE	**Ise**	**0.45**	**320**	P	**Pn**	**02 00 53.4**	**+0.8**
JKN2	**Miekihoku**	**0.68**	**287**	P	**Pn**	**02 00 53.7**	**+0.5**
JWY	**Kouya**	**1.23**	**278**	P	**Pn**	**02 00 55.8**	**+0.4**
JWZ	**Kozaga**	**1.23**	**246**	P	**Pn**	**02 00 55.1**	**-0.3**
JNY	**Yasuok**	**1.47**	**27**	P	**Pn**	**02 00 57.5**	**+1.0**
JWT	**Wachi**	**1.84**	**313**	P	**Pn**	**02 00 59.1**	**+0.4**
JWT				eS	**S**	**02 01 38.9**	**-0.1**
JAI	**Aioi**	**2.18**	**264**	P	**Pn**	**02 01 01.1**	**-0.1**
JRY	**Ryogami san**	**2.48**	**37**	P	**Pn**	**02 01 04.5**	**+1.1**
MAT	**Matsushiro**	**2.66**	**20**	P	**Pn**	**02 01 05.3**	**+0.4**
MAT				eS	**S**	**02 01 49.0**	**-1.3**
MJAR	**Matsushiro Arr**	**2.66**	**20**	P	**Pn**	**02 01 05.7**	**+0.8**
	1.4nm,0.3s,baz=198,slow=10,SNR=24						
JMN	**Monobe**	**2.67**	**264**	P	**Pn**	**02 01 05.1**	**+0.1**
BSO4	**Boso 4**	**2.87**	**70**	P	**Pn**	**02 01 06.9**	**+0.4**
BSO4				S	**S**	**02 01 53.8**	**+0.6**
JAG	**Ashikaga**	**3.08**	**39**	P	**Pn**	**02 01 08.1**	**-0.4**
BSO1	**Boso 1**	**3.30**	**78**	P	**Pn**	**02 01 09.3**	**-0.7**
BSO1				eS	**S**	**02 01 59.1**	**-0.4**
JYT	**Yasato**	**3.37**	**49**	P	**Pn**	**02 01 10.4**	**-0.8**
JHO	**Hitachi**	**3.84**	**47**	P	**Pn**	**02 01 15.5**	**-0.4**
JHO				eS	**S**	**02 02 09.0**	**-1.2**
JFK	**Kawauchi**	**4.54**	**42**	P	**Pn**	**02 01 22.6**	**-0.5**
KSRS	**Korea Array**	**8.17**	**297**	P	**Pn**	**02 02 04.8**	**+0.2**
	0.1nm,0.3s,baz=111,slow=12,SNR=4.8						
MKAR	**Makanchi Array**	**42.78**	**304**	P	**P**	**02 07 33.2**	**+0.4**
	0.4nm,0.8s,baz=96,slow=9.7,SNR=4.2						
WRA	**Warramunga Arr**	**53.75**	**183**	P	**P**	**02 08 55.6**	**-0.4**
	0.2nm,0.8s,baz=0.1,slow=7.6,SNR=2.9						

WEL 24 02:09:19.3±0.5,46.12S×165.80E,h12km,ML4.0/12, Error ellipse: s-maj=4.7km s-min=2.8km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.62**	**95**	P*	Pg	02 09 31.1	-0.2
PYZ				S*	Sg	02 09 39.0	-0.6
DCZ	**Deep Cove**	**1.14**	**57**	P*	Pb	02 09 38.7	-2.3
DCZ				AML	AML	02 09 54.4	
DCZ				AML	AML	02 09 54.4	
DCZ				AML	AML	02 10 00.3	
DCZ				AML	AML	02 10 00.3	
WHZ	**Wether Hill Ro**	**1.52**	**82**	PN	Pn	02 09 45.0	-1.3
WHZ				AML	AML	02 10 08.0	
WHZ				AML	AML	02 10 12.7	
APZ	**The Paps**	**1.68**	**116**	PN	Pn	02 09 47.3	-1.3
MLZ	**Mavora Lakes**	**1.83**	**66**	PN	Pn	02 09 49.8	-0.9
MLZ				AML	AML	02 10 19.6	
MLZ				AML	AML	02 10 21.8	
MSZ	**Milford Sound**	**2.08**	**47**	ePN	Pn	02 09 52.8	-1.3
MSZ				AML	AML	02 10 27.9	
MSZ				AML	AML	02 10 36.4	
SYZ	**Scrubby Hill**	**2.35**	**102**	PN	Pn	02 09 56.9	-0.8
WKZ	**Wanaka**	**2.61**	**62**	ePN	Pn	02 10 01.4	+0.1
WKZ				SN	Sn	02 10 31.9	-1.0
WKZ				AML	AML	02 10 42.0	
WKZ				AML	AML	02 10 42.4	
EAZ	**Earnscleugh**	**2.62**	**72**	PN	Pn	02 10 01.6	+0.2
EAZ				AML	AML	02 10 37.1	
EAZ				AML	AML	02 10 37.1	
EAZ				AML	AML	02 10 41.6	
EAZ				AML	AML	02 10 41.6	
TUZ	**Tuapeka**	**2.68**	**88**	PN	Pn	02 10 02.1	-0.1
TUZ				AML	AML	02 10 37.7	
TUZ				AML	AML	02 10 38.3	
JCZ	**Jackson Bay**	**2.93**	**47**	PN	Pn	02 10 05.6	-0.2
JCZ				SN	Sn	02 10 40.8	-0.2
JCZ				AML	AML	02 10 56.8	
HHSZ	**Highcliff Hill**	**3.35**	**88**	ePN	Pn	02 10 10.7	-0.8
LBZ	**Lake Benmore**	**3.55**	**62**	PN	Pn	02 10 13.1	-1.1
LBZ				SN	Sn	02 10 52.7	-3.4
LBZ				AML	AML	02 10 54.1	
ODZ	**Otahua Downs**	**3.57**	**74**	PN	Pn	02 10 12.6	-1.9
RPZ	**Rata Peaks**	**4.44**	**59**	PN	Pn	02 10 24.7	-1.8
RPZ				SN	Sn	02 11 14.1	-4.0
RPZ				AML	AML	02 11 16.9	
WVZ	**Waitaha Valley**	**4.66**	**51**	PN	Pn	02 10 28.1	-1.3
WVZ				SN	Sn	02 11 19.0	-4.3
OXZ	**Oxford**	**5.25**	**60**	PN	Pn	02 10 34.9	-2.7
OXZ				SN	Sn	02 11 31.7	-6.4
MQZ	**McQueen's Vall**	**5.43**	**66**	PN	Pn	02 10 37.9	-2.1
LTZ	**Lake Taylor**	**5.71**	**57**	ePN	Pn	02 10 41.6	-2.3
LTZ				SN	Sn	02 11 44.0	-5.4
DSZ	**Denniston Nort**	**6.15**	**47**	ePN	Pn	02 10 46.5	-3.6
DSZ				SN	Sn	02 11 54.3	-6.1
THZ	**Tophouse**	**6.73**	**52**	ePN	Pn	02 10 56.9	-1.0
NNZ	**Nelson**	**7.36**	**51**	PN	Pn	02 11 06.9	+0.3

IDC ***24*** *02:18:39.8±17.0,36.07N×70.97E,h266km±228km, mb3.0/3,mb1 2.9/4,mb1mx2.6/26,mbtmp2.9/4,ML3.3/1, Error ellipse: s-maj=160.4km s-min=56.0km az=108.0*
NNC ***24*** *02:18:42.7±6.0,37.38N×70.20E,h0km,mb4.2,mpv3.4, Error ellipse: s-maj=47.8km s-min=46.6km az=88.0*

ISC 24 02:18:42.7±2.7,36.9N±0.2×70.5E±0.1,h200km,n13, σ0s80/14,1C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.74**	**25**	P	**Pn**	**02 20 07.5**	**+0.6**
	SNR=53						
KK31	**Karatay Array**	**6.16**	**0**	⇓Pn	**Pn**	**02 20 12.1**	**+0.2**
	0.1nm,0.1s,baz=174,slow=12,SNR=70						
KK31				⇑Sn	**Sn**	**02 21 21.9**	**-0.7**
	1.3nm,0.4s,baz=184,slow=25,SNR=3.6						
EKS2	**Erkin-Say**	**6.25**	**23**	P	**Pn**	**02 20 14.1**	**+0.9**
	SNR=6.8						
KZA	**Kyzart**	**6.31**	**34**	P	**Pn**	**02 20 14.7**	**+0.4**
	SNR=9.2						
AAK	**Ala-Archa**	**6.47**	**27**	P	**Pn**	**02 20 16.9**	**+0.8**
	SNR=7.5						
USP	**Ospenovka**	**7.03**	**25**	P	**Pn**	**02 20 23.7**	**+0.5**
	SNR=6.5						
TKM2	**Tokmak 2**	**7.14**	**32**	⇓Pn	**Pn**	**02 20 25.1**	**+0.2**
	8.7nm,0.5s						
TKM2				⇓Sn	**Sn**	**02 21 45.7**	**-0.4**
	3.5nm,0.9s						
TKM2	**Tokmak 2**	**7.14**	**32**	P	**Pn**	**02 20 25.5**	**+0.6**
	SNR=6.9						
MKAR	**Makanchi Array**	**13.18**	**38**	P	**Pn**	**02 21 42.8**	**+0.4**
	0.1nm,0.3s,baz=220,slow=15,SNR=5.8						
AB31	**Akbulak array**	**14.50**	**331**	Pn	**Pn**	**02 21 59.8**	**+1.2**
	0.6nm,0.4s,baz=146,slow=12,SNR=32						
ZALV	**Zalesovo Beam**	**19.69**	**26**	P	**P**	**02 22 56.1**	**-0.3**
	0.9nm,0.4s,baz=218,slow=9.1,SNR=5.2						
ARCES	**ARCESS Array B**	**40.58**	**338**	P	**P**	**02 26 00.9**	**-1.4**
	2.3nm,0.9s,baz=104,slow=7.6,SNR=4.4						
TORD	**Torodi Ar. Bea**	**65.33**	**268**	P	P	02 28 56.4	-7.3
	0.1nm,0.3s,baz=50,slow=5.3,SNR=6.1						

DJA 24 02:22:08.0±0.9,5.5S×104.4E±,h4km±7km,M3.5/4, MLv3.5/4,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**0.34**	**106**	P	Pg	02 22 15.2	+0.7
KASI				S	Sg	02 22 19.6	+0.6
LWLI	**Liwa**	**0.42**	**345**	P	Pg	02 22 16.2	-0.2
MDSI	**Maura Dua**	**0.94**	**1**	P	Pg	02 22 25.1	-0.9
MNAI	**Manna**	**1.61**	**311**	P	Pn	02 22 35.2	-2.0
MNAI				S	Sb	02 22 59.2	+0.1

IDC ***24*** *02:27:25.9±1.0,0.95N×97.14E,h0km,mb4.1/12, mb1 4.1/13,mb1mx4.0/26,mbtmp4.1/13,ML3.4/1,MS3.4/3, Ms1 3.4/3,ms1mx2.9/44,Error ellipse: s-maj=30.4km s-min=16.9km az=54.0*
ISCJB ***24*** *02:27:28.1±0.5,0.98N±0.05×97.17E±0.05,h25km, mb4.2/20,MS3.7/2,Error ellipse: s-maj=9.8km s-min=5.1km az=135.4*
DJA ***24*** *02:27:28.2±0.6,1.1N±6.9×9.7E±,h10km,M4.4/3,mb4.6/3, mB4.8/3,MLv4.4/3,Mw(mB)4.1/3*
NEIC ***24*** *02:27:31.3±0.4,1.02N×97.24E,h35km,mb4.3/10,Error ellipse: s-maj=8.9km s-min=6.0km az=49.0*
BKK ***24*** *02:27:33.9±1.5,1.1N±10.×9.7E±1.3,h10km,M4.2/8, mB4.4/2,mb4.3/8,MLv4.2/3,Mw(mB)3.5/2*

ISC 24 02:27:30.0±0.6,1.05N±0.07×97.19E±0.07,h25km,n68, σ0s74/62,mb4.3/20,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**1.60**	**327**	P	**Pn**	**02 27 57.3**	**+0.5**
SNSI				S	**Sn**	**02 28 16.7**	**0.0**
MNSI	**Mandailing Nat**	**2.40**	**96**	P	**Pn**	**02 28 08.3**	**+0.6**
PSI	**Prapat**	**2.45**	**45**	P	**Pn**	**02 28 08.4**	**-0.2**
PSI	**Prapat**	**2.45**	**45**	Pn	**Pn**	**02 28 07.8**	**-0.8**
PSI	**Prapat**	**2.45**	**45**	Pn	**Pn**	**02 28 07.8**	**-0.8**
	8.3nm,0.3s,baz=206,slow=9.9,SNR=32						
PSI				LR	LR	02 29 09.4	
	comp=Z,240nm,20.1s,baz=306,slow=42						
KCSI	**Kotacane, Aceh**	**2.52**	**13**	P	**Pn**	**02 28 09.6**	**+0.1**
PPI	**Padang Panjang**	**3.54**	**115**	P	**Pn**	**02 28 24.1**	**+0.7**
PDSI	**Padang**	**3.81**	**121**	P	**Pn**	**02 28 27.0**	**-0.1**
IPM	**Ipoh**	**5.12**	**48**	P	**Pn**	**02 28 46.5**	**+1.2**
IPM	**Ipoh**	**5.12**	**48**	P	**Pn**	**02 28 46.4**	**+1.2**
	54nm,0.8s,496nm0.2nm						
IPM	**Ipoh**	**5.12**	**48**	ePn	**Pn**	**02 28 45.9**	**+0.7**
	56nm,0.8s						
KULM	**Kulim**	**5.44**	**39**	P	**Pn**	**02 28 50.1**	**+0.5**
KULM	**Kulim**	**5.44**	**39**	P	**Pn**	**02 28 49.8**	**+0.1**
	76nm,1.0s,715nm0.2nm						
KULM	**Kulim**	**5.44**	**39**	ePn	**Pn**	**02 28 49.3**	**-0.4**
	70nm,0.9s						
KGM	**Kluang**	**6.20**	**81**	P	**Pn**	**02 29 01.2**	**+1.2**
KTGM	**Kuala Trenggan**	**7.29**	**54**	P	**Pn**	**02 29 15.8**	**+0.7**
MDSI	**Maura Dua**	**8.89**	**128**	P	**Pn**	**02 29 39.2**	**+2.3**
UTHA	**Uthaitani**	**14.59**	**9**	P	**P**	**02 31 02.1**	**+0.9**
	3.3nm,0.8s,76nm						
SBUM	**Sibu**	**15.08**	**85**	P	**Pn**	**02 31 02.8**	**+1.1**
CHAI	**Chaiyaphum**	**15.49**	**18**	P	**P**	**02 31 11.3**	**0.0**
	5.1nm,1.0s						
PBKT	**Sadao Pong**	**15.86**	**13**	P	**P**	**02 31 15.3**	**0.0**
	15nm,1.0s						
LOEI	**Loei**	**16.84**	**14**	P	**P**	**02 31 27.4**	**+1.2**
	45nm,1.2s						
CHTO	**Chiang Mai**	**17.74**	**5**	eP	**Pn**	**02 31 34.8**	**-0.7**
	25nm,1.1s						
KKM	**Kota Kinabalu**	**19.62**	**75**	eP	**Pn**	**02 31 58.3**	**-0.1**
	20nm,1.0s						
SDKM	**Sandakan**	**20.48**	**77**	P	**P**	**02 32 04.9**	**-1.4**
KAPI	**Kappang**	**23.33**	**105**	eP	**P**	**02 32 36.5**	**-0.1**
	13nm,1.0s						
SHL	**Shillong**	**24.91**	**349**	eP	**P**	**02 32 51.5**	**+0.1**
H08S2	**Diego Garcia H**	**26.11**	**250**	T	T	03 00 01.2	
	baz=71,slow=0.7,SNR=1701						
H08S3	**Diego Garcia H**	**26.11**	**250**	T	T	03 00 01.5	
	baz=71,slow=0.7,SNR=2723						
H08S1	**Diego Garcia H**	**26.12**	**250**	T	T	03 00 02.6	
	baz=71,slow=0.7,SNR=1324						
H08N1	**Diego Garcia H**	**27.15**	**254**	T	T	03 02 13.1	
	baz=145,slow=0.6,SNR=30						
H08N2	**Diego Garcia H**	**27.16**	**254**	T	T	03 02 13.8	
	baz=145,slow=0.6,SNR=27						
H08N3	**Diego Garcia H**	**27.17**	**254**	T	T	03 02 18.6	
	baz=145,slow=0.6,SNR=19						
MBWA	**Marble Bar**	**31.19**	**136**	eP	**P**	**02 33 45.9**	**-1.6**
	15nm,1.3s						
H01W3	**Cape Leeuwin H**	**39.11**	**158**	T	T	03 16 14.3	
	baz=333,slow=0.7,SNR=105						
H01W2	**Cape Leeuwin H**	**39.12**	**158**	T	T	03 16 15.9	
	baz=333,slow=0.7,SNR=109						
H01W1	**Cape Leeuwin H**	**39.13**	**158**	T	T	03 16 15.4	
	baz=333,slow=0.7,SNR=105						
WRA	**Warramunga Arr**	**41.96**	**122**	P	**P**	**02 35 18.5**	**-0.9**
WRA	**Warramunga Arr**	**41.96**	**122**	P	**P**	**02 35 18.5**	**-0.9**
	1.0nm,0.7s,baz=300,slow=9.0,SNR=7.2						
WRAB	**Tennant Creek**	**41.97**	**122**	eP	**P**	**02 35 18.2**	**-1.2**
	5.3nm,1.0s						
ASAR	**Alice Springs**	**43.31**	**127**	P	**P**	**02 35 29.7**	**-0.6**
ASAR	**Alice Springs**	**43.31**	**127**	P	**P**	**02 35 29.7**	**-0.6**
	1.6nm,0.8s,baz=298,slow=7.5,SNR=12						
KSAR	**Wonju Array Be**	**45.94**	**34**	P	**P**	**02 35 51.5**	**+0.5**
TKM2	**Tokmak 2**	**45.95**	**338**	eP	**P**	**02 35 51.8**	**+0.6**
	3.6nm,1.2s						
KSRS	**Korea Array**	**45.97**	**34**	P	**P**	**02 35 51.5**	**+0.2**
	4.8nm,0.9s,baz=220,slow=8.8,SNR=14						
EKS2	**Erkin-Say**	**46.44**	**336**	eP	**P**	**02 35 54.9**	**-0.2**
	4.8nm,1.2s						
SONM	**Songino Array**	**47.28**	**8**	P	**P**	**02 36 01.8**	**+0.3**
SONM				PcP	**PcP**	**02 37 32.7**	**+0.3**
SONM	**Songino Array**	**47.28**	**8**	P	**P**	**02 36 01.8**	**+0.3**
	2.8nm,0.8s,baz=191,slow=9.7,SNR=16						
SONM				PcP	**PcP**	**02 37 32.7**	**+0.3**
	1.3nm,0.8s,baz=191,slow=2.4,SNR=4.6						
SONM				LR	LR	02 58 39.1	
	comp=Z,144nm,18.8s,baz=161,slow=40						
MK31	**Makanchi Array**	**47.38**	**346**	eP	**P**	**02 36 03.2**	**+1.0**
MKAR	**Makanchi Array**	**47.38**	**346**	P	**P**	**02 36 02.9**	**+0.8**
MKAR	**Makanchi Array**	**47.38**	**346**	P	**P**	**02 36 02.9**	**+0.8**
	3.0nm,0.8s,baz=165,slow=8.0,SNR=14						
MKAR				LR	LR	03 00 05.1	
	comp=Z,46nm,18.3s,baz=170,slow=41						
PMG	**Port Moresby**	**50.83**	**103**	eP	**P**	**02 36 28.5**	**-0.6**
	11nm,0.9s						
KURBB	**Kurchatov Arra**	**51.87**	**345**	P	**P**	**02 36 36.9**	**+0.6**
	1.8nm,0.8s,baz=166,slow=7.0,SNR=18						
KURK	**Kurchatov**	**51.93**	**345**	eP	**P**	**02 36 37.1**	**+0.4**
	2.4nm,1.0s						
USRK	**Ussuriysk Arra**	**52.90**	**31**	P	**P**	**02 36 44.5**	**+0.4**
	4.6nm,0.8s,baz=227,slow=5.7,SNR=12						
STKA	**Stephens Creek**	**53.26**	**132**	P	**P**	**02 36 47.0**	**+0.1**
STKA	**Stephens Creek**	**53.26**	**132**	P	**P**	**02 36 47.0**	**+0.1**
	2.3nm,0.8s,baz=299,slow=11,SNR=4.6						
ZAA0	**Zalesovo Array**	**53.70**	**351**	eP	**P**	**02 36 49.9**	**+0.2**
ZALV	**Zalesovo Beam**	**53.70**	**351**	P	**P**	**02 36 50.1**	**+0.4**
ZALV	**Zalesovo Beam**	**53.70**	**351**	P	**P**	**02 36 50.1**	**+0.4**
	2.9nm,0.4s,baz=177,slow=5.9,SNR=19						
BRVK	**Borovoye**	**56.45**	**341**	eP	**P**	**02 37 09.6**	**0.0**
	3.2nm,0.8s						
BRTR	**Keskin Array B**	**69.21**	**312**	P	**P**	**02 38 35.4**	**+0.3**
BRTR	**Keskin Array B**	**69.21**	**312**	P	**P**	**02 38 35.4**	**+0.3**
	0.5nm,0.9s,baz=108,slow=4.7,SNR=2.9						
BUR08	**Bucovina Ar. S**	**77.15**	**319**	eP	**P**	**02 39 22.8**	**+1.0**
GERES	**GERESS Array B**	**84.92**	**319**	P	**P**	**02 40 02.2**	**-0.9**
GERES	**GERESS Array B**	**84.92**	**319**	P	**P**	**02 40 02.2**	**-0.9**
	0.7nm,0.8s,baz=76,slow=5.9,SNR=5.7						
NOA	**NORSAR Array B**	**87.13**	**331**	P	**P**	**02 40 14.1**	**+0.3**
NOA	**NORSAR Array B**	**87.13**	**331**	P	**P**	**02 40 14.1**	**+0.3**
	1.0nm,0.8s,baz=99,slow=5.7,SNR=3.3						

IDC 24 02:34:27.1±7.9,4.31N×95.10E,h0km,mb3.6/4,mb1 3.7/4, mb1mx3.4/26,mbtmp3.6/4,Error ellipse: s-maj=373.5km s-min=27.0km az=56.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**25.49**	**242**	T	T	03 05 51.4	
	baz=63,slow=0.7,SNR=8.0						
H08S3	**Diego Garcia H**	**25.49**	**242**	T	T	03 05 50.4	
	baz=63,slow=0.7,SNR=8.6						
H08S1	**Diego Garcia H**	**25.51**	**242**	T	T	03 05 54.2	
	baz=63,slow=0.7,SNR=6.3						
MKAR	**Makanchi Array**	**43.75**	**347**	P	P	02 42 34.2	-0.1
	0.9nm,0.6s,baz=157,slow=7.9,SNR=7.1						
WRA	**Warramunga Arr**	**45.47**	**123**	P	P	02 42 48.3	-0.1
	0.4nm,0.8s,baz=301,slow=9.1,SNR=5.2						
KURBB	**Kurchatov Arra**	**48.21**	**346**	P	P	02 43 09.2	-0.2
	0.3nm,0.5s,baz=166,slow=7.2,SNR=4.8						
ZALV	**Zalesovo Beam**	**50.19**	**352**	P	P	02 43 24.3	-0.1
	0.7nm,0.4s,baz=181,slow=7.2,SNR=3.3						

DJA 24 02:43:00.5±1.4,8.3S×104.7E±,h10km,M4.0/8,MLv4.0/8, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.84**	**32**	P	Pb	02 43 17.1	-0.1
CISI				S	Sg	02 43 27.1	-0.6
LEM	**Lembang**	**1.46**	**10**	P	Pn	02 43 27.0	-0.1
SKJI	**Sukabumi**	**1.49**	**327**	P	Pn	02 43 26.8	-0.6
KPJI	**Karang Pucung**	**1.81**	**59**	P	Pn	02 43 32.4	+0.7
DBJI	**Dramaga**	**1.81**	**340**	P	Pn	02 43 31.9	+0.1
TGJI	**Tegal**	**2.23**	**51**	P	Pn	02 43 37.8	+0.3

IDC ***24*** *03:04:35.2±0.8,27.99N×56.74E,h0km,mb4.2/25, mb1 4.2/29,mb1mx4.1/39,mbtmp4.2/29,ML3.9/2,MS3.6/16, Ms1 3.7/16,ms1mx3.4/43,Error ellipse: s-maj=17.8km s-min=11.9km az=148.0*
ISCJB ***24*** *03:04:38.6±0.2,28.09N±0.02×56.73E±0.03,h28km, mb4.2/53,MS3.8/15,Error ellipse: s-maj=4.0km s-min=3.1km az=178.0*
MOS ***24*** *03:04:38.1±0.8,27.95N×56.76E,h33km,mb4.5/37,Error ellipse: s-maj=9.3km s-min=5.3km az=104.8*
OMAN ***24*** *03:04:39.4±99.0,28.07N×57.07E,h12km±115km,Error ellipse: s-maj=24.8km s-min=5.4km az=6.0*
THR ***24*** *03:04:39.8±0.8,28.07N×56.67E,h18km±6km,ML4.3*
CSEM ***24*** *03:04:39.6±0.1,28.10N×56.73E,h20km,mb4.3/34,Error ellipse: s-maj=6.3km s-min=3.9km az=88.0*
TEH ***24*** *03:04:41.7,27.98N×56.76E,h18km,ML4.2*

ISC 24 03:04:40.0±0.3,27.98N±0.02×56.68E±0.04,h28km,n279, σ1s16/259,mb4.3/53,MS3.7/15,9C-4D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.54**	**193**	ePg	**Pn**	**03 04 52.2**	**+0.3**
IBND				eSg	**Sb**	**03 05 00.0**	**+1.5**
IBND				*e*		03 05 19.0	
	comp=Z,68μm,0.3s						
IBND	**Bandar-abas**	**0.54**	**193**	ePg	**Pn**	**03 04 52.2**	**+0.3**
IBND				eSg	**Sb**	**03 05 00.0**	**+1.5**
BNDS	**Bandar-Abbas**	**0.73**	**218**	ePg	**Pn**	**03 04 55.4**	**+0.7**
BNDS	**Bandar-Abbas**	**0.73**	**218**	ePg	**Pn**	**03 04 55.4**	**+0.7**
KRBR	**Kerman**	**2.00**	**2**	ePg	**Pb**	**03 05 14.4**	**-1.5**
KRBR				eSg	**Sb**	**03 05 40.4**	**-0.1**
KRBR				AML	AML	03 05 44.4	
	comp=E,7μm,0.5s						
KRBR				AML	AML	03 05 45.4	
	comp=N,5μm,0.4s						
KRBR	**Kerman**	**2.00**	**2**	ePg	**Pb**	**03 05 14.4**	**-1.5**
KRBR				eSg	**Sb**	**03 05 40.4**	**-0.1**
BANOM	**Banah**	**2.07**	**189**	P	**Pn**	**03 05 14.8**	**+1.8**
	SNR=134						
BANOM	**Banah**	**2.07**	**189**	P	**Pn**	**03 05 15.2**	**+2.2**
	SNR=80						
BANOM	**Banah**	**2.07**	**189**	Pn	**Pn**	**03 05 14.9**	**+1.9**
	SNR=134						
BANOM	**Banah**	**2.07**	**189**	P	**Pn**	**03 05 15.2**	**+2.2**
	SNR=80						
BANOM				Sn	**Sb**	**03 05 43.1**	**+0.7**
NAZ	**Nazwa, Dubai**	**3.11**	**197**	P	Pn	03 05 30.9	+3.6
	SNR=21						
NAZ	**Nazwa, Dubai**	**3.11**	**197**	P	Pn	03 05 30.7	+3.4
	SNR=24						
NAZ	**Nazwa, Dubai**	**3.11**	**197**	Pn	Pn	03 05 30.4	+3.1
NAZ	**Nazwa, Dubai**	**3.11**	**197**	P	Pn	03 05 30.7	+3.4
	SNR=24						
HATD	**Hatta, Dubai**	**3.18**	**189**	P	**Pb**	**03 05 33.8**	**-2.1**
	SNR=38						
HATD	**Hatta, Dubai**	**3.18**	**189**	P	**Pb**	**03 05 33.6**	**-2.2**
	SNR=14						
HATD	**Hatta, Dubai**	**3.18**	**189**	Pn	Pn	03 05 31.1	+2.9
HATD	**Hatta, Dubai**	**3.18**	**189**	P	**Pb**	**03 05 33.6**	**-2.2**
	SNR=14						
GHIR	**Ghir-Karzin**	**3.27**	**276**	ePn	**Pn**	**03 05 32.2**	**+2.6**
GHIR				AML	AML	03 06 54.0	
	comp=E,425nm,0.7s						
GHIR				AML	AML	03 07 05.2	
	comp=N,415nm,0.6s						
GHIR	**Ghir-Karzin**	**3.27**	**276**	ePn	**Pn**	**03 05 32.2**	**+2.6**
ASHO	**Ashiyiah**	**3.33**	**190**	P	**Pn**	**03 05 32.7**	**+2.4**
	SNR=43						
ASHO	**Ashiyiah**	**3.33**	**190**	P	**Pn**	**03 05 33.1**	**+2.8**
	SNR=54						
ASHO	**Ashiyiah**	**3.33**	**190**	Pn	**Pn**	**03 05 32.7**	**+2.4**
	SNR=43						
ASHO

SNR=24
JMDO Jabal Madar 5.73 167 P Pn 03 06 05.2 +1.9
SNR=28
WBK Wadi Bani Khal 5.73 158 P Pn 03 06 04.5 +1.1
SNR=15
WBK Wadi Bani Khal 5.73 158 P Pn 03 06 04.0 +0.6
SNR=16
WBK Wadi Bani Khal 5.73 158 P Pn 03 06 04.5 +1.1
SNR=15
IMON Monand 5.80 26 *e* 03 06 36.6
IMON *e*Pn **Pn 03 06 06.3 +1.8**
comp=Z,994nm,0.2s
NASN Na'in 5.85 326 *e*Pn **Pn 03 06 07.1 +1.8**
NASN Na'in 5.85 326 *e*Pn **Pn 03 06 07.1 +1.8**
UMR Umm Al-Rimmam 8.02 283 *e*P **Pn 03 06 35.8 +1.1**
UMR AML AML 03 08 06.0
comp=Z,96nm,0.4s
UMR Umm Al-Rimmam 8.02 283 *e*P **Pn 03 06 35.8 +1.1**
RDF Al-Radifah 8.09 279 *e*P **Pn 03 06 37.5 +1.8**
RDF AML AML 03 08 06.2
comp=Z,47nm,0.4s
RDF Al-Radifah 8.09 279 *e*P **Pn 03 06 37.5 +1.8**
NAY Al-Naaiem 8.39 281 *e*P **Pn 03 06 41.2 +1.4**
NAY AML AML 03 08 15.0
comp=Z,27nm,0.4s
NAY Al-Naaiem 8.39 281 *e*P **Pn 03 06 41.2 +1.4**
ABTO Aybut 11.02 197 P **Pn 03 07 15.7 -0.3**
SNR=7.7
ABTO Aybut 11.02 197 P **Pn 03 07 16.6 +0.6**
SNR=8.4
ABTO Aybut 11.02 197 P **Pn 03 07 16.6 +0.6**
SNR=8.4
GNI Garni 15.64 324 *i* P **P 03 08 23.7 +1.2**
comp=Z,12nm,1.0s
GNI Garni 15.64 324 Pn **Pn 03 08 18.4 -0.2**
comp=Z,0.2nm,0.3s,baz=18,slow=20,SNR=1.8
GNI LR LR 03 15 02.9
comp=Z,205nm,21.0s,baz=88,slow=40
ASF Jabal al Asfar 17.62 289 P **Pn 03 08 41.5 -2.2**
comp=Z,0.4nm,0.3s,baz=47,slow=8.0,SNR=6.3
ASF S Sn 03 11 48.3 -11
comp=Z,0.1nm,0.3s,baz=50,slow=18,SNR=2.5
ASF LR LR 03 17 19.7
comp=Z,63nm,19.0s,baz=57,slow=43
ZEI Tsey 18.05 328 *e*P **P 03 08 49.6 +0.4**
ZEI pmax pmax
comp=Z,5.0nm,0.7s
ZEI Tsey 18.05 328 *e*P **P 03 08 49.6 +0.4**
comp=Z,5.0nm,0.7s
NCK Nalchik 18.74 329 *i* P **Pn 03 08 59.5 +2.3**
MMAI Mount Meron Ar 19.00 291 P **Pn 03 08 59.7 -0.7**
comp=Z,0.8nm,0.3s,baz=97,slow=14,SNR=5.1
EIL Elat 19.11 280 P **Pn 03 09 01.7 -0.1**
comp=Z,0.3nm,0.3s,baz=113,slow=8.5,SNR=4.3
EIL S S 03 12 46.8 +11
comp=Z,0.2nm,0.3s,baz=29,slow=19,SNR=2.4
EIL LR LR 03 18 00.2
comp=Z,76nm,20.0s,baz=276,slow=42
KBZ Khabaz 19.24 328 P **Pn 03 09 03.7 +0.6**
KBZ Khabaz 19.24 328 P **Pn 03 09 03.7 +0.6**
KBZ Khabaz 19.24 328 P **Pn 03 09 03.7 +0.6**
comp=Z,0.1nm,0.3s,baz=134,slow=6.9,SNR=5.1
KIV Kislovodsk 19.51 328 P **Pn 03 09 06.0 -0.5**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 19.51 328 P **Pn 03 09 06.0 -0.5**
comp=Z,7.0nm,1.0s
AML Almayashu 19.78 40 P **P 03 09 07.9 -0.6**
SNR=15
AAK Ala-Archa 20.56 40 P **P 03 09 16.7 0.0**
AAK pmax pmax
comp=Z,7.0nm,0.7s
AAK MLR MLR
comp=Z,239nm,19.2s
AAK Ala-Archa 20.56 40 P **P 03 09 16.8 +0.1**
SNR=8.1
AAK Ala-Archa 20.56 40 P **P 03 09 16.7 0.0**
comp=Z,239nm,19.2s
AAK Ala-Archa 20.56 40 P **P 03 09 16.7 0.0**
comp=Z,6.6nm,0.7s,baz=244,slow=8.6,SNR=12
AAK LR LR 03 18 12.8
comp=Z,239nm,19.2s,baz=232,slow=40
SOC Sochi 20.72 323 *e*P Pn 03 09 18.5 -2.1
SOC *e**PP pP 03 09 40.8 +15
SOC *e*S **S 03 13 06.7 -1.3**
SOC pmax pmax
comp=Z,12nm,0.8s
SOC MLR MLR
comp=Z,162nm,13.0s
SOC Sochi 20.72 323 *e*P Pn 03 09 18.5 -2.1
comp=Z,12nm,0.8s
SOC *e*S **S 03 13 06.7 -1.3**
FRU Bishkek 20.76 40 *e*P Pn 03 09 26.0 +4.8
ATD Arta Tunnel 20.87 221 LR LR 03 18 31.0
comp=Z,123nm,21.7s,baz=46,slow=40
TKM2 Tokmak 2 21.37 41 P **P 03 09 24.3 -1.2**
TKM2 pmax pmax
comp=Z,10.0nm,1.1s
TKM2 Tokmak 2 21.37 41 P **P 03 09 24.3 -1.2**
comp=Z,10.0nm,1.1s
AB31 Akbulak array 21.39 6 P **P 03 09 24.8 -0.6**
AB31 pmax pmax
comp=Z,2.0nm,0.4s
AB31 Akbulak array 21.39 6 P **P 03 09 24.8 -0.6**
comp=Z,2.0nm,0.4s
BRTR Keskin Array B 22.37 308 P **P 03 09 36.0 -0.1**
comp=Z,5.0nm,0.8s
BRTR Keskin Array B 22.37 308 P **P 03 09 36.0 -0.1**
comp=Z,5.1nm,0.8s,baz=129,slow=11,SNR=28
AKTK Aktyubinsk 22.45 2 P **P 03 09 35.5 -1.2**
comp=Z,358nm,19.0s
AKTO Aktyubinsk 22.45 2 P **P 03 09 35.5 -1.2**
AKTO pmax pmax
comp=Z,13nm,0.9s
AKTO MLR MLR
comp=Z,358nm,19.0s
AKTO Aktyubinsk 22.45 2 P **P 03 09 35.5 -1.2**
comp=Z,13nm,0.9s,baz=181,slow=9.4,SNR=22
AKTO LR LR 03 19 57.5
comp=Z,358nm,19.0s,baz=173,slow=41
KOLN Koldanda 23.79 84 *e*P **P 03 09 50.7 0.0**
DANN Dangsing 23.87 83 *e*P **P 03 09 51.9 +0.3**
GKN Gorkha 24.67 83 *e*P **P 03 09 58.4 -0.4**
DMN Daman 25.13 84 *e*P **P 03 10 02.0 -1.1**
PKIN Phulchoki 25.39 84 *e*P **P 03 10 04.7 -0.8**
comp=Z,9.0nm,0.6s
PKI Pulchoki 25.41 84 *e*P **P 03 10 04.8 -0.8**
comp=Z,24nm,0.8s
VRHR Novokhopersk 25.74 338 *e*P **P 03 10 08.2 +0.2**
VRHR pmax pmax
comp=N,60nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,20nm,0.9s
VRHR Novokhopersk 25.74 338 *e*P **P 03 10 08.2 +0.2**
GUN Gumba 25.77 83 *e*P **P 03 10 08.2 -0.8**
comp=Z,40nm,0.8s
JIRN Jiri 26.08 84 *e*P **P 03 10 10.8 -1.0**
comp=Z,19nm,0.7s
VORD Divnogorie 26.46 335 *e*P **P 03 10 14.5 0.0**
VORD pmax pmax
comp=E,20nm,0.9s
VORD pmax pmax
comp=Z,5.0nm,0.9s
VORD Divnogorie 26.46 335 *e*P **P 03 10 14.5 0.0**
RAMN Ramite 26.54 85 *e*P **P 03 10 12.9 -3.0**
VSR Storozhevoye 26.71 335 *e*P **P 03 10 15.9 -0.9**
VSR pmax pmax
comp=N,2.0nm,0.5s
VSR pmax pmax
comp=E,2.0nm,0.5s
VSR pmax pmax
comp=Z,4.0nm,0.5s
VSR Storozhevoye 26.71 335 *e*P **P 03 10 15.9 -0.9**
VOSK Vostochnaya 26.91 19 P **P 03 10 17.1 -1.6**
VOSK pmax pmax
comp=Z,11nm,1.1s
VOSK Vostochnaya 26.91 19 P **P 03 10 17.1 -1.6**
comp=Z,11nm,1.1s
BRVK Borovoye 27.01 18⇑ *i* P **P 03 10 19.1 -0.4**
BRVK pmax pmax
comp=Z,13nm,1.2s
BRVK Borovoye 27.01 18 *i* P **P 03 10 19.1 -0.4**
comp=Z,13nm,1.2s
BVA0 Borovoye Array 27.01 18 *i* P **P 03 10 18.9 -0.6**
BVA0 pmax pmax
comp=Z,14nm,1.0s
BVA0 Borovoye Array 27.01 18 *i* P **P 03 10 18.9 -0.6**
comp=Z,14nm,1.0s
BVAR Borovoye Array 27.01 18 P **P 03 10 18.8 -0.7**
BVAR pmax pmax
comp=Z,9.0nm,0.8s
BVAR MLR MLR
comp=Z,265nm,18.1s
BVAR Borovoye Array 27.01 18 P **P 03 10 18.8 -0.7**
comp=Z,265nm,18.1s
BVAR Borovoye Array 27.01 18 P **P 03 10 18.8 -0.7**
comp=Z,9.3nm,0.8s,baz=190,slow=7.5,SNR=34
BVAR LR LR 03 22 26.7
comp=Z,265nm,18.1s,baz=217,slow=40
MK31 Makanchi Array 27.50 40 P **P 03 10 23.4 -0.6**
MK31 pmax pmax
comp=Z,1.0nm,0.5s
MK31 Makanchi Array 27.50 40 P **P 03 10 23.4 -0.6**
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 27.50 40 P **P 03 10 23.2 -0.8**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MKAR MLR MLR
comp=Z,138nm,19.6s
MKAR Makanchi Array 27.50 40 P **P 03 10 23.2 -0.8**
comp=Z,138nm,19.6s
MKAR Makanchi Array 27.50 40 P **P 03 10 23.2 -0.8**
comp=Z,3.5nm,0.8s,baz=227,slow=8.8,SNR=17
MKAR LR LR 03 22 33.3
comp=Z,138nm,19.6s,baz=119,slow=39
APE Apeiranthos 27.68 297 *i* P **P 03 10 27.4 +1.6**
APE Apeiranthos 27.68 297 *i* P **P 03 10 27.4 +1.6**
IDI Anoyia 27.94 293 P **P 03 10 28.3 +0.2**
comp=Z,3.1nm,0.5s,baz=36,slow=14,SNR=4.8
KURBB Kurchatov Arra 28.04 30 P **P 03 10 28.2 -0.5**
comp=Z,3.9nm,0.9s,baz=229,slow=8.7,SNR=42
KURK Kurchatov 28.15 30 P **P 03 10 28.2 -1.5**
KURK pmax pmax
comp=Z,4.0nm,0.9s
KURK Kurchatov 28.15 30 P **P 03 10 28.2 -1.5**
comp=Z,4.0nm,0.9s
ARU Arti 28.46 2*d* *i* P **P 03 10 32.0 -0.5**
ARU 03 11 24.0
ARU S S 03 15 09.4 -8.6
ARU SS SnSn 03 16 49.4 +12
ARU pmax pmax
comp=Z,10.0nm,2.5s
ARU Arti 28.46 2 *i* P **P 03 10 32.0 -0.5**
comp=Z,10.0nm,2.5s
MLR Muntele Rosu 29.95 314⇑ *i* P P 03 10 53.0 +7.1
MLR Muntele Rosu 29.95 314 P **P 03 10 45.6 -0.3**
MLR Muntele Rosu 29.95 314 P **P 03 10 45.6 -0.3**
comp=Z,0.3nm,0.9s,baz=30,slow=20,SNR=2.4
ARR Arges 30.74 313⇑ *i* P **P 03 10 53.9 +1.0**
AKASG Malin Array Be 30.77 325 P **P 03 10 52.5 -0.4**
AKASG Malin Array Be 30.77 325 P **P 03 10 52.5 -0.4**
AKASG Malin Array Be 30.77 325 P **P 03 10 52.5 -0.4**
comp=Z,0.4nm,0.3s,baz=135,slow=8.8,SNR=3.6
OBN Obninsk 30.78 337⇓ *e*P **P 03 10 53.1 +0.2**
OBN *e* 03 10 58.9
OBN 03 12 01.0
OBN pmax pmax
comp=Z,12nm,1.2s
OBN Obninsk 30.78 337 *e*P **P 03 10 53.1 +0.2**
comp=Z,12nm,1.2s
BURAR Bucovina Array 31.34 317⇑ *i* P **P 03 10 57.3 -0.9**
GZR Gura Zlata 31.96 312⇑ *i* P P 03 11 06.3 +2.7
NVS Novosibirsk 33.04 28 *e*P **P 03 11 12.3 -0.5**
ZALV Zalesovo Beam 33.13 31 P **P 03 11 12.7 -0.9**
ZALV pmax pmax
comp=Z,8.0nm,0.6s
ZALV MLR MLR
comp=Z,92nm,20.7s
ZALV Zalesovo Beam 33.13 31 P **P 03 11 12.7 -0.9**
comp=Z,7.6nm,0.6s,baz=241,slow=9.2,SNR=41
ZALV LR LR 03 26 13.8
comp=Z,92nm,20.7s,baz=340,slow=39
TRPA Tarpa 33.19 317⇑ *i* P P 03 11 22.9 +8.7
KOLS Kolonicke sedl 33.69 318 *e*P **P 03 11 20.0 +1.4**
KOLS *e* 03 11 26.1
KOLS pmax pmax
comp=Z,9.0nm,1.3s
KOLS Kolonicke sedl 33.69 318 *e*P **P 03 11 20.0 +1.4**
KOLS *e* 03 11 26.1
KWP Kalwaria Pacla 33.75 319 *e*P **P 03 11 19.5 +0.4**
KWP Kalwaria Pacla 33.75 319⇑ *i* P **P 03 11 18.9 -0.2**
KWP Kalwaria Pacla 33.75 319 *e*P **P 03 11 19.5 +0.4**
KWP Kalwaria Pacla 33.75 319⇑ *i* P **P 03 11 18.9 -0.2**
KECS Kecovo 34.58 316 *e*P **P 03 11 27.7 +1.3**
KECS Kecovo 34.58 316 *e*P **P 03 11 27.7 +1.3**
KECS Kecovo 34.58 316 *e*P **P 03 11 27.7 +1.3**
KLMR Klimovskoe 34.85 345 *e*P **P 03 11 26.8 -1.7**
KLMR pmax pmax
comp=Z,18nm,1.3s
PKSM Moragy 34.96 312⇑ *i* P P 03 11 36.6 +7.0
OJC Ojcow 35.70 319 *e*P **P 03 11 34.3 -1.6**
OJC Ojcow 35.70 319 *e*P **P 03 11 34.3 -1.6**
OJC Ojcow 35.70 319 *e*P **P 03 11 34.3 -1.6**
HVS Khovu-Aksy 36.17 40⇓ *i* P **P 03 11 40.4 +0.3**
HVS pmax pmax
comp=Z,25nm,1.1s
VRAC Vranov 37.27 316 P **P 03 11 48.7 -0.7**
comp=Z,1.7nm,0.7s,baz=90,slow=9.1,SNR=2.9
GTA Gaotai 37.34 61 *e*P **P 03 11 49.8 -0.4**
GTA pP **pP 03 11 58.4 -0.2**
GTA sP **sP 03 12 02.6 +0.6**
GTA AMB AMB
comp=Z,5.0nm,1.0s
MBAR Mbarara 37.77 226 P **P 03 11 53.6 -0.6**
comp=Z,1.2nm,0.2s,baz=90,slow=11,SNR=3.4
DPC Dobruska-Polom 37.80 317 *e*P **P 03 11 53.8 -0.1**
DPC *e* 03 12 00.0
DPC Dobruska-Polom 37.80 317 *e*P **P 03 11 53.8 -0.1**
DPC *ex* x 03 12 00.0
DPC Dobruska-Polom 37.80 317 P **P 03 11 53.8 -0.1**
JOF Joensuu 38.67 342 *e*P P 03 11 57.4 -3.6
JOF pmax pmax
comp=Z,3.0nm,0.4s
JOF Joensuu 38.67 342 *e*p P 03 11 57.4 -3.6
comp=Z,2.6nm,0.4s
GERES GERESS Array B 38.94 314 P **P 03 12 03.1 -0.4**
comp=Z,0.9nm,0.8s,baz=120,slow=7.8,SNR=7.5
KHC Kasperske Hory 39.10 315 *e*P **P 03 12 04.6 -0.2**
KHC *e* 03 12 10.7
KHC Kasperske Hory 39.10 315 *e*P **P 03 12 04.6 -0.2**
KHC *ex* x 03 12 10.7
KHC Kasperske Hory 39.10 315 P **P 03 12 04.6 -0.2**
FINES FINESS Array B 39.19 337 P **P 03 12 04.7 -0.7**
comp=Z,2.6nm,0.5s,baz=141,slow=6.8,SNR=34
KAF Kangasniemi 39.59 338 *e*P **P 03 12 08.6 0.0**
KAF pmax pmax
comp=Z,3.0nm,0.6s
KAF Kangasniemi 39.59 338 *e*p **P 03 12 08.6 0.0**
comp=Z,2.7nm,0.6s
KAF Kangasniemi 39.59 338 *e*P **P 03 12 08.6 0.0**
comp=Z,2.7nm,0.6s
CLL Collm 40.11 318 *e*P **P 03 12 13.0 -0.1**
CLL Collm 40.11 318 *e*P **P 03 12 13.0 -0.1**
CLL *es*P **sP 03 12 20.0 -4.9**
CLL Collm 40.11 318 *e*P **P 03 12 13.0 -0.1**
DAVOX Davos/Dischmat 40.97 310 P **P 03 12 20.1 -0.4**
comp=Z,3.0nm,0.4s
DAVOX Davos/Dischmat 40.97 310 P **P 03 12 20.1 -0.4**
comp=Z,2.7nm,0.4s,baz=121,slow=8.7,SNR=14
SBF Sospel 42.28 305 *e*P **P 03 12 30.2 -0.9**
SBF Sospel 42.28 305 *e*P **P 03 12 30.2 -0.9**
FRF La Foret Royal 42.82 305 *e*P **P 03 12 34.7 -0.8**
FRF La Foret Royal 42.82 305 *e*P **P 03 12 34.7 -0.8**
MBDF Montbardon 42.83 307 *e*P **P 03 12 35.8 0.0**
comp=Z,8.2nm,0.7s
MBDF Montbardon 42.83 307 *e*P **P 03 12 35.8 0.0**
comp=Z,4.1nm,0.7s
LPG La Plagne 42.93 308 *e*P **P 03 12 36.0 -0.7**
comp=Z,9.9nm,0.8s
LPG La Plagne 42.93 308 *e*P **P 03 12 36.0 -0.7**
comp=Z,4.9nm,0.8s
LPL La Plagne 42.94 308 *e*P **P 03 12 35.9 -0.8**
comp=Z,4.8nm,0.5s
LPL La Plagne 42.94 308 *e*P **P 03 12 35.9 -0.8**
comp=Z,2.4nm,0.5s
CDF Champ du Feu 42.99 312 *e*P **P 03 12 35.7 -1.2**
CDF Champ du Feu 42.99 312 *e*P **P 03 12 35.7 -1.2**
SONM Songino Array 43.10 49 P **P 03 12 36.5 -1.4**
comp=Z,1.0nm,0.8s
SONM Songino Array 43.10 49 P **P 03 12 36.5 -1.4**
comp=Z,1.1nm,0.8s,baz=260,slow=8.9,SNR=5.5
HINF Hinteralfeld 43.17 311 *e*P **P 03 12 38.0 -0.3**
HINF Hinteralfeld 43.17 311 *e*P **P 03 12 38.0 -0.3**
HFS Hagfors 43.29 330 P **P 03 12 38.5 -0.5**
comp=Z,1.0nm,0.3s
HFS Hagfors 43.29 330 P **P 03 12 38.5 -0.5**
comp=Z,1.3nm,0.3s,baz=127,slow=8.4,SNR=27
CABF La Chapelle 43.52 309 *e*P **P 03 12 41.1 -0.1**
CABF La Chapelle 43.52 309 *e*P **P 03 12 41.1 -0.1**
HAU Haudompre 43.53 311 *e*P **P 03 12 40.8 -0.4**
HAU *e*R
comp=Z,48nm,18.8s
HAU Haudompre 43.53 311 *e*P **P 03 12 40.8 -0.4**
ULN Ulaanbaatar 43.55 49 *i* P **P 03 12 41.1 -0.4**
PAGF Fort de Pagny 44.03 312 *e*P **P 03 12 44.6 -0.6**
PAGF Fort de Pagny 44.03 312 *e*P **P 03 12 44.6 -0.6**
SFTF Sexfontaines 44.43 311 *e*P **P 03 12 48.2 -0.2**
SFTF Sexfontaines 44.43 311 *e*P **P 03 12 48.2 -0.2**
MEZF Maizieres J'vi 44.47 312 *e*P **P 03 12 48.8 +0.2**
MEZF Maizieres J'vi 44.47 312 *e*P **P 03 12 48.8 +0.2**
NB2 NORSAR Subarra 44.80 331 P **P 03 12 50.0 -1.2**
comp=Z,2.3nm,1.0s,baz=117,slow=8.6
NB2 NORSAR Subarra 44.80 331 P **P 03 12 50.0 -1.2**
comp=Z,2.3nm,1.0s,SNR=4.7
NOA NORSAR Array B 44.80 331 P **P 03 12 50.3 -0.9**
comp=Z,61nm,19.6s
NOA NORSAR Array B 44.80 331 P **P 03 12 50.3 -0.9**
comp=Z,1.6nm,0.9s,baz=116,slow=7.9,SNR=5.4
NOA LR LR 03 34 49.7
comp=Z,60nm,19.6s,baz=125,slow=40
SMF Signal de Mont 45.06 309 *e*P **P 03 12 53.0 -0.5**
comp=Z,18nm,0.9s
SMF Signal de Mont 45.06 309 *e*P **P 03 12 53.0 -0.5**
comp=Z,8.9nm,0.9s
LOR Lormes 45.11 310 *e*P **P 03 12 53.2 -0.6**
comp=Z,9.1nm,0.8s
LOR *e*R
comp=Z,59nm,21.0s
LOR Lormes 45.11 310 *e*P **P 03 12 53.2 -0.6**
comp=Z,4.6nm,0.8s
BAIF Baives 45.24 314 *e*P **P 03 12 54.8 0.0**
BAIF Baives 45.24 314 *e*P **P 03 12 54.8 0.0**
SSF Saint Saulge 45.33 310 *e*P **P 03 12 55.3 -0.3**
comp=Z,15nm,0.8s
SSF Saint Saulge 45.33 310 *e*P **P 03 12 55.3 -0.3**
comp=Z,7.3nm,0.8s
ARCES ARCESS Array B 45.33 345 P **P 03 12 54.6 -0.7**
comp=Z,44nm,21.7s
ARCES ARCESS Array B 45.33 345 P **P 03 12 54.6 -0.7**
comp=Z,4.0nm,0.9s,baz=142,slow=8.2,SNR=8.9
ARCES LR LR 03 32 42.4
comp=Z,44nm,21.7s,baz=116,slow=37
AVF Avril sur Loir 45.41 309 *e*P **P 03 12 55.5 -0.7**
AVF Avril sur Loir 45.41 309 *e*P **P 03 12 55.5 -0.7**
BGF Bois d'Agland 45.74 309 *e*P **P 03 12 58.5 -0.3**
comp=Z,16nm,1.0s
BGF Bois d'Agland 45.74 309 *e*P **P 03 12 58.5 -0.3**
comp=Z,8.2nm,1.0s
TCF Toulx Ste Croi 46.16 309 *e*P **P 03 13 01.9 -0.2**
TCF Toulx Ste Croi 46.16 309 *e*P **P 03 13 01.9 -0.2**
CAF Calviac 46.19 307 *e*P **P 03 13 02.4 0.0**
CAF Calviac 46.19 307 *e*P **P 03 13 02.4 0.0**
RJF Les Rejaudoux 46.59 307 *e*P **P 03 13 05.8 +0.3**
RJF *e*R
comp=Z,58nm,20.5s
RJF Les Rejaudoux 46.59 307 *e*P **P 03 13 05.8 +0.3**
LFF La Frestale 47.13 307 *e*P **P 03 13 10.0 +0.3**
LFF La Frestale 47.13 307 *e*P **P 03 13 10.0 +0.3**
LDF La Druitiere 47.89 312 *e*P **P 03 13 14.6 -1.0**
LDF La Druitiere 47.89 312 *e*P **P 03 13 14.6 -1.0**
FLN La Foliniere 48.14 312 *e*P **P 03 13 17.5 0.0**
FLN *e*R
comp=Z,69nm,21.2s
FLN La Foliniere 48.14 312 *e*P **P 03 13 17.5 0.0**
SJPF Ste Jean 48.55 304 *e*P **P 03 13 20.5 -0.3**
SJPF Ste Jean 48.55 304 *e*P **P 03 13 20.5 -0.3**
SGMF Saint-Gilles 49.49 311 *e*P **P 03 13 28.4 +0.5**
SGMF Saint Gilles 49.49 311 *e*P **P 03 13 28.4 +0.5**
EKA Eskdalemuir Ar 50.44 320 P **P 03 13 34.0 -1.0**
comp=Z,1.0nm,0.3s
EKA Eskdalemuir Ar 50.44 320 P **P 03 13 34.0 -1.0**
comp=Z,0.6nm,0.3s,baz=97,slow=7.6,SNR=19
ESDC Sonseca Array 50.84 300 P **P 03 13 38.3 -0.1**
comp=Z,0.3nm,0.4s,baz=65,slow=7.2,SNR=7.7
TORD Torodi Ar. Bea 53.14 266 P **P 03 13 55.5 -0.2**
comp=Z,4.4nm,0.6s,baz=62,slow=7.3,SNR=56
TORD LR LR 03 39 38.6
comp=Z,105nm,19.5s,baz=125,slow=40
SPITS Spitsbergen Ar 53.44 350 P **P 03 13 56.8 -0.2**
comp=Z,9.0nm,0.8s
SPITS Spitsbergen Ar 53.44 350 P **P 03 13 56.8 -0.2**
comp=Z,9.2nm,0.8s,baz=105,slow=11,SNR=3.1
TIXI Tiksi 58.11 21⇓ *i* P **P 03 14 29.5 -1.0**
TIXI pmax pmax
comp=Z,2.0nm,1.2s
TIXI Tiksi 58.11 21 *i* P **P 03 14 29.5 -1.0**
comp=Z,2.0nm,1.2s
KSRS Korea Array 59.41 61 P **P 03 14 38.3 -1.8**
comp=Z,2.0nm,0.7s
KSRS Korea Array 59.41 61 P **P 03 14 38.3 -1.8**
comp=Z,1.6nm,0.7s,baz=269,slow=6.1,SNR=4.3
SCO Scoresbysund 60.12 338 *i* P **PcP 03 15 29.1 -0.9**
comp=Z,9.5nm,1.0s
DBIC Dimbokro 61.80 262 P **P 03 14 56.9 +0.2**
comp=Z,80nm,18.7s
DBIC Dimbokro 61.80 262 P **P 03 14 56.9 +0.2**
comp=Z,2.1nm,0.7s,baz=40,slow=7.9,SNR=4.0
DBIC LR LR 03 45 06.5
comp=Z,80nm,18.7s,baz=309,slow=39
BOSA Boshof 63.82 211 P **P 03 15 10.1 +0.1**
comp=Z,50nm,18.5s
BOSA Boshof 63.82 211 P **P 03 15 10.1 +0.1**
comp=Z,2.3nm,0.6s,baz=15,slow=7.0,SNR=12
BOSA LR LR 03 44 36.7
comp=Z,50nm,18.5s,baz=117,slow=38
SUMG Summit 65.09 341 *e*P **P 03 15 19.0 +0.9**
SUMG *e* 03 15 55.4
SUMG pmax pmax
comp=Z,6.0nm,0.9s
SUMG Summit 65.09 341 *i* P **P 03 15 19.0 +0.9**
comp=Z,5.5nm,0.9s
SUMG *e* 03 15 55.4
SUMG Summit 65.09 341 *e*P **P 03 15 19.0 +0.9**
comp=Z,6.0nm,0.9s
ASAJ Asahikawa 68.34 51 LR LR 03 48 35.0
comp=Z,70nm,18.4s,baz=354,slow=39
ILAR Eielson Array 85.75 10 P **P 03 17 14.6 -1.7**
comp=Z,7.6nm,0.4s,baz=324,slow=4.5,SNR=3.3
ILAR LR LR 04 01 20.0
comp=Z,60nm,18.1s,baz=302,slow=40
DLBC Dease Lake 93.73 4 LR LR 04 02 23.1
comp=Z,472nm,21.4s,baz=326,slow=37

NEIC ***24*** *03:09:46.7±3.2, 7.06S×106.50E, h15km±19km, mb4.7/15, Error ellipse: s-maj=9.6km s-min=5.9km az=52.0*
NEIC Felt [III] at Sukabumi. Also felt at Bandung, Depok and Jakarta.
BJI ***24*** *03:09:49.0, 7.20S×106.40E, h29km, mB5.0/13, mb4.9/19, Ms5.0/10, Ms7.4/7*
AUST ***24*** *03:09:51.1, 7.37S×106.40E, h35km*
IDC ***24*** *03:09:52.1±1.6, 6.94S×106.66E, h57km±13km, mb4.1/20, mb1 4.2/21, mb1mx4.2/26, mbtmp4.1/21, MS3.4/11, Ms1 3.4/11, ms1mx3.3/30, Error ellipse: s-maj=18.9km s-min=10.4km az=61.0*
ISCJB ***24*** *03:09:53.0±0.4, 7.42S±0.03×106.41E±0.03, h75km±3km, mb4.5/41, Error ellipse: s-maj=6.6km s-min=3.9km az=138.2*
DJA ***24*** *03:09:53.4±0.5, 7.3S±2.3×10.6E±.3, h15km±4km, M5.0/28, mb5.1/14, mB5.5/9, MLv5.1/28, Mw(mB)5.0/9*
ISC 24 03:09:51.1±0.5, 7.34S±0.04×106.32E±0.05, h50km±3km, n277, σ1ş76/265, mb4.6/41, MS3.7/15, 35C-42D, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKJI	**Sukabumi**	**0.40**	**35**	P	**Pn**	**03 10 03.6**	**+2.3**
SKJI				S	**Sn**	**03 10 11.8**	**+3.2**
DBJI	**Dramaga**	**0.89**	**29**	P	**Pn**	**03 10 10.5**	**+3.2**
DBJI				S	**Sn**	**03 10 23.2**	**+4.0**
TNG	**Tangerang**	**1.20**	**16**	P	Pn	03 10 15.4	+3.8
TNG				S	**Sn**	**03 10 32.2**	**+5.4**
SBJI	**Serang**	**1.22**	**351**	P	Pn	03 10 16.7	+4.8

LEM **Lembang** 1.38 69 P **Pn** **03 10 16.6 +2.4**
LEM **Lembang** 1.38 69 P **Pn** **03 10 15.9 +1.7**
baz=1.3,SNR=368
CISI **Cisompet, Garu** 1.50 98 P **Pn** **03 10 16.2 +0.6**
CISI **Cisompet, Garu** 1.50 98 P **Pn** **03 10 15.4 -0.3**
baz=1.4,SNR=699
BLSI **Bandar Lampung** 2.23 331 P Pn 03 10 31.1 +5.5
KASI **Kota Agung** 2.56 315 P Pn 03 10 35.7 +5.6
KPJI **Karang Pucung** 2.59 90 P **Pn** **03 10 33.3 +2.8**
CLJI **Ciliicap** 2.77 98 P Pn 03 10 35.7 +3.7
TGJI **Tegal** 2.82 81 P **Pn** **03 10 36.1 +2.5**
KLJ **Kotabumi** 2.86 329 P Pn 03 10 41.5 +7.3
XMI **Christmas Isla** 3.15 191 P **Pn** **03 10 38.8 +0.4**
baz=3.2,SNR=47
XMIS **Christmas Isla** 3.19 192 *e*Pn **Pn** **03 10 38.8 0.0**
XMIS *e*Sn Sn 03 11 09.2 -6.5
XMIS **Christmas Isla** 3.19 192 P **Pn** **03 10 38.9 0.0**
baz=3.2,SNR=38
LWLI **Liwa** 3.22 316 P Pn 03 10 46.8 +7.5
BJII **Banjamegara** 3.36 90 P **Pn** **03 10 44.2 +3.0**
MDSI **Maura Dua** 3.54 323 P Pn 03 10 50.1 +6.4
YOGI **Yogyakarta** 3.97 97 P **Pn** **03 10 52.3 +2.8**
UGM **Wanagama** 4.20 98 P **Pn** **03 10 53.4 +0.7**
UGM **Wanagama** 4.20 98 P **Pn** **03 10 52.9 +0.1**
baz=4.1,SNR=51
LHSI **Lahat** 4.46 321 P Pn 03 11 03.2 +6.9
MNAI **Manna** 4.47 311 P Pn 03 11 02.3 +6.0
MNAI **Manna** 4.47 311 P Pn 03 11 02.4 +6.0
baz=4.6,SNR=20
WOJI **Wonogiri, Jawa** 4.59 97 P Pn 03 11 04.7 +6.7
PCJI **Pacitan** 4.89 100 P **Pn** **03 11 02.8 +0.7**
NGJI **Ngawi** 5.10 91 P Pn 03 11 19.0 +14
PPBI **Pangkal Pinang** 5.14 358 P Pn 03 11 10.6 +5.0
89nm,0.8s,0.5nm
SJI **Sawahan** 5.41 95 P **Pn** **03 11 12.1 +2.7**
155nm,0.7s,9μm2.0nm
PWJI **Pagerwojo** 5.48 98 P **Pn** **03 11 12.2 +2.0**
232nm,0.7s,7μm2.7nm
GRJI **Gresik** 6.12 86 P Pn 03 11 25.0 +5.9
119nm,0.6s,1μm0.4nm
KRKI **Karangkates** 6.13 98 P Pn 03 11 31.8 +13
GMJI **Gumukmas** 7.12 98 P Pn 03 11 36.1 +3.4
85nm,0.7s,2μm0.4nm
BLJI **Banyuglugur** 7.22 94 P Pn 03 11 41.3 +7.2
ABJI **Asem Bagus** 7.86 94 P Pn 03 11 47.8 +5.0
330nm,0.5s,4μm1.4nm
SRBI **Singaraja** 8.84 95 P **Pn** **03 11 58.2 +1.9**
138nm,0.7s,3μm
STKI **Sintang** 8.97 35 P Pn 03 12 04.0 +5.9
44nm,0.5s
PPI **Padang Panjang** 9.03 319 P Pn 03 12 12.6 +14
MYKOM **Kota Tinggi** 9.40 345 P Pn 03 12 11.3 +7.4
MYKOM **Kota Tinggi** 9.40 345 P Pn 03 12 11.9 +8.0
23nm,1.0s
KSM **Kuching** 9.61 25 P **Pn** **03 12 08.4 +1.5**
KGM **Kluang** 9.76 342 P Pn 03 12 16.3 +7.3
MTNI **Mataram** 9.84 98 P **Pn** **03 12 12.0 +2.0**
38nm,0.5s,993nm
SBUM **Sibu** 11.37 31 P Pn 03 12 35.2 +4.3
SBUM **Sibu** 11.37 31 P Pn 03 12 37.3 +6.4
15nm,1.0s
PSI **Prapat** 12.49 324 LR LR 03 18 26.0
comp=Z,154nm,18.9s,baz=102,slow=42
IPM **Ipoh** 12.87 336 P **P** **03 12 58.5 -2.4**
KTGM **Kuala Trenggan** 12.98 346 P **P** **03 13 00.8 -1.2**
KAPI **Kappang** 13.55 81 LR LR 03 17 58.2
comp=Z,46nm,21.0s,baz=62,slow=37
KULM **Kulim** 13.76 336 *e*Pn Pn 03 13 01.0 -2.6
TTSI **Tana Toraja** 14.10 73 P P 03 13 24.7 +10
MMRI **Maumere** 15.81 96 P **P** **03 13 35.1 +1.5**
77nm,0.6s,2μm
KKM **Kota Kinabalu** 16.56 37 P **P** **03 13 43.6 +1.7**
KKM **Kota Kinabalu** 16.56 37 *e*Pn **Pn** **03 13 38.4 -1.6**
38nm,1.0s
SDKM **Sandakan** 16.85 40 P **P** **03 13 46.1 +1.0**
GIRL **Giralia** 17.02 154 P **Pn** **03 13 45.2 -0.4**
baz=17,SNR=4.6
BATI **Baumata** 17.37 101 P **Pn** **03 13 47.6 -2.6**
BATI S **Sn** **03 17 02.7 -0.1**
BATI **Baumata** 17.37 101 P **Pn** **03 13 47.6 -2.6**
baz=270,slow=13,SNR=2.1
BATI S **Sn** **03 17 02.7 -0.1**
7.4nm,0.3s,baz=323,slow=20,SNR=3.4
MYLDM **Lahad Datu** 17.39 45 P **P** **03 13 53.6 +2.6**
SOEI **Soe** 17.91 99 P **P** **03 13 58.8 +1.9**
SOEI **Soe** 17.91 99 P **P** **03 13 57.5 +0.6**
baz=18,SNR=6.1
MBWA **Marble Bar** 18.89 138 *e*P **Pn** **03 14 08.4 -0.1**
8.5nm,0.4s
FITZ **Fitzroy Crossi** 21.64 121 P **P** **03 14 37.0 -0.4**
FITZ **Fitzroy Crossi** 21.64 121 P **P** **03 14 37.1 -0.3**
baz=22,SNR=17
FITZ **Fitzroy Crossi** 21.64 121 P **P** **03 14 37.0 -0.4**
13nm,0.8s,baz=305,slow=8.3,SNR=33
FITZ LR LR 03 21 40.0
comp=Z,35nm,21.2s,baz=301,slow=33
MEEK **Meekatharra** 22.47 150 P **P** **03 14 47.9 +1.6**
baz=22,SNR=6.1
MORW **Morawa** 23.48 158 P **P** **03 14 58.0 +1.7**
baz=24,SNR=4.4
KNRA **Kununurra** 23.48 113 P **P** **03 14 55.6 -0.9**
baz=23,SNR=22
MTN **Manton Dam** 25.02 105 P **P** **03 15 09.1 -1.5**
baz=25,SNR=26
SWI **Sorong** 25.68 77 P pP 03 15 33.2 +3.7
baz=26,SNR=3.9
KDU **Kakadu** 26.28 104 P **P** **03 15 20.3 -1.8**
baz=26,SNR=3.1
QIZ **Qiongzhong** 26.43 8 P **P** **03 15 24.6 +1.3**
QIZ S **S** **03 19 57.4 +3.8**
CHTO **Chiang Mai** 26.98 344 *e*P **P** **03 15 26.8 -1.6**
9.3nm,0.5s
NWAO **Narrogin (SRO)** 27.41 160 P **P** **03 15 33.2 +1.2**
15nm,1.0s,baz=345,slow=12,SNR=4.4
NWAO LR LR 03 26 53.1
comp=Z,101nm,19.6s,baz=190,slow=37
H01W3 **Cape Leeuwin H** 28.34 166 T T 03 45 19.7
baz=345,slow=0.7,SNR=134
H01W1 **Cape Leeuwin H** 28.36 166 T T 03 45 27.7
baz=345,slow=0.7,SNR=117
H01W2 **Cape Leeuwin H** 28.36 166 T T 03 45 22.7
baz=345,slow=0.7,SNR=130
PALK **Pallekele** 29.39 299 *e*P **P** **03 15 47.9 -2.0**
20nm,1.3s
WRA **Warramunga Arr** 29.91 118 P **P** **03 15 53.8 -0.7**
WRA PcP **PcP** **03 18 56.8 +0.2**
WRA S S 03 20 40.7 -7.9
WRA ScP **ScP** **03 22 32.9 -1.8**
WRA **Warramunga Arr** 29.91 118 P **P** **03 15 53.8 -0.7**
3.4nm,0.4s,baz=293,slow=11,SNR=57
WRA PcP **PcP** **03 18 56.8 +0.2**
0.4nm,0.3s,baz=313,slow=2.0,SNR=3.1
WRA S S 03 20 40.7 -7.9
0.7nm,0.6s,baz=288,slow=16,SNR=3.1
WRA ScP **ScP** **03 22 32.9 -1.8**
2.6nm,0.7s,baz=308,slow=2.6,SNR=8.7
WRAB **Tennant Creek** 29.91 118 *e*P **P** **03 15 54.1 -0.5**
12nm,0.5s
ASAR **Alice Springs** 31.05 125 P **P** **03 16 04.3 -0.2**
ASAR S **S** **03 21 01.4 -5.0**
ASAR ScP **ScP** **03 22 36.8 -1.6**
ASAR **Alice Springs** 31.05 125 P **P** **03 16 04.3 -0.2**
2.8nm,0.4s,baz=300,slow=7.6,SNR=45
ASAR S **S** **03 21 01.4 -5.0**
0.5nm,0.8s,baz=291,slow=16,SNR=5.5
ASAR ScP **ScP** **03 22 36.8 -1.6**
2.7nm,0.7s,baz=306,slow=3.1,SNR=16
AS31 **Alice Springs** 31.05 125 *e*P **P** **03 16 04.0 -0.5**
KMI **Kunming** 32.45 354 P **P** **03 16 19.3 +2.3**
KMI S **S** **03 21 30.6 +2.1**
H08S2 **Diego Garcia H** 33.54 267 T T 03 52 02.4
baz=91,slow=0.7,SNR=165
H08S3 **Diego Garcia H** 33.55 267 T T 03 51 56.1
baz=91,slow=0.7,SNR=81
H08S1 **Diego Garcia H** 33.55 267 T T 03 52 03.8
baz=91,slow=0.7,SNR=112
GYA **Guiyang** 33.59 1 *e*P **P** **03 16 26.9 +0.1**
GYA pP **pP** **03 16 37.3 -2.6**
GYA PP **PnPn** **03 17 40.6 +0.7**
GYA S **S** **03 21 47.3 +1.3**
GYA sS sS 03 22 01.8 -6.3
GYA ScP **ScP** **03 22 49.6 +2.6**
GYA SS **SnSn** **03 23 52.0 -1.1**
GYA AMB AMB
comp=Z,10.0nm,0.8s
GYA AMB AMB
comp=Z,90nm,4.8s
GYA LR LR
comp=N,470nm,18.0s
GYA LR LR
comp=E,390nm,18.4s
H08N1 **Diego Garcia H** 35.06 269 T T 03 54 22.6
baz=153,slow=0.7,SNR=20
H08N2 **Diego Garcia H** 35.08 269 T T 03 54 22.0
baz=153,slow=0.7,SNR=28
H08N3 **Diego Garcia H** 35.09 269 T T 03 54 28.5
baz=153,slow=0.7,SNR=27
COEN **Coen** 36.78 103 *e*P **P** **03 16 52.9 -1.3**
COEN **Coen** 36.78 103 P **P** **03 16 53.2 -1.1**
baz=37,SNR=6.7
BBOO **Buckleboo** 37.46 137 P **P** **03 16 59.8 -0.1**
baz=38,SNR=6.3
CD2 **Chengdu** 38.11 356 P **P** **03 17 07.3 +2.0**
CD2 AMB AMB
comp=Z,10.0nm,0.5s
MTSU **Mount Surprise** 38.50 110 P **P** **03 17 09.1 +0.2**
baz=38,SNR=22
ODAN **Odare** 38.63 332 *e*P **P** **03 17 08.4 -1.6**
10nm,0.5s
TAPN **Taplejung** 38.91 333 *e*P **P** **03 17 10.8 -1.6**
11nm,0.7s
RAMN **Ramite** 39.08 331 *e*P **P** **03 17 12.4 -1.4**
9.0nm,0.5s
JIRN **Jiri** 39.87 332 *e*P **P** **03 17 19.0 -1.5**
9.0nm,0.4s
GUN **Gumba** 40.23 331 *e*P **P** **03 17 22.0 -1.5**
16nm,0.4s
DMN **Daman** 40.35 330 *e*P **P** **03 17 22.7 -1.7**
PMG **Port Moresby** 40.44 96 *e*P **P** **03 17 24.1 -0.9**
23nm,1.0s
CTAO **Charters Tower** 40.69 112 *e*P **P** **03 17 27.0 -0.1**
22nm,1.3s
QLP **Quilpie** 40.78 123 P **P** **03 17 28.8 +1.2**
baz=41,SNR=11
GKN **Gorkha** 40.91 330 *e*P **P** **03 17 27.1 -1.7**
7.1nm,0.3s
STKA **Stephens Creek** 40.92 131 *e*P **P** **03 17 29.4 +0.6**
14nm,0.6s
STKA **Stephens Creek** 40.92 131 P **P** **03 17 29.4 +0.6**
baz=41,SNR=4.7
STKA **Stephens Creek** 40.92 131 P **P** **03 17 29.5 +0.6**
76nm,0.6s,baz=306,slow=7.8,SNR=262
STKA LR LR 03 32 53.4
comp=Z,100nm,20.5s,baz=346,slow=34
NJ2 **Nanjing** 40.95 16 *e*P **P** **03 17 30.4 +1.5**
NJ2 AMB AMB
comp=Z,90nm,1.0s
KOLN **Koldanda** 41.24 329 *e*P **P** **03 17 29.9 -1.7**
12nm,0.6s
DANN **Dangsing** 41.63 329 *e*P **P** **03 17 33.2 -1.7**
12nm,0.5s
LZH **Lanzhou** 43.26 357 *e*P **P** **03 17 50.9 +3.1**
LZH pP **pP** **03 17 59.1 -2.2**
LZH sP **sP** **03 18 04.0 -3.2**
LZH PP **PcP** **03 19 33.8 -2.5**
LZH *e*S **S** **03 24 15.3 +3.7**
LZH sS sS 03 24 28.8 -5.4
LZH SS **SS** **03 27 22.0 -4.5**
LZH AMB AMB
comp=Z,17nm,1.0s
LZH AMB AMB
comp=Z,89nm,4.2s
LZH LR LR
comp=N,630nm,13.5s
LZH LR LR
comp=E,550nm,12.3s
LZH LR LR
comp=Z,860nm,14.3s
CMSA **Cobar Meteorol** 43.88 129 P **P** **03 17 53.8 +0.9**
baz=44,SNR=21
RMQ **Roma** 44.57 120 P **P** **03 18 00.0 +1.5**
baz=44,SNR=5.6
EIDS **Eidsvold** 46.27 118 P **P** **03 18 12.9 +0.9**
baz=46,SNR=3.9
GTA **Gaotai** 46.90 353 *e*P **P** **03 18 18.4 +1.7**
GTA pP **pP** **03 18 28.3 -2.0**
GTA sP sP 03 18 32.3 -3.8
GTA S **S** **03 25 09.3 +5.1**
GTA sS **sS** **03 25 25.8 -1.1**
GTA AMB AMB
comp=Z,4.0nm,0.8s
GTA AMB AMB
comp=Z,50nm,5.2s
GTA LR LR
comp=N,220nm,14.7s
GTA LR LR
comp=E,110nm,15.2s
BJI **Beijing** 48.01 10 P **P** **03 18 26.1 +1.0**
BJI S **S** **03 25 17.8 -1.8**
BJI AMB AMB
comp=Z,12nm,0.5s
HHC **Hu-ho-hao-te** 48.19 5 *e*P **P** **03 18 27.5 +0.8**
HHC pP **pP** **03 18 36.9 -3.4**
HHC PP **PP** **03 20 21.3 +1.8**
HHC PcS **PcS** **03 23 50.5 +1.3**
HHC S **S** **03 25 25.6 +3.2**
HHC sS sS 03 25 39.8 -5.4
HHC ScS **ScS** **03 28 10.8 -4.6**
HHC SS **SS** **03 28 47.8 -4.7**
HHC AMB AMB
comp=Z,29nm,1.1s
HHC AMB AMB
comp=Z,180nm,5.3s
HHC LR LR
comp=N,480nm,11.3s
HHC LR LR
comp=E,350nm,12.4s
HHC LR LR
comp=Z,260nm,13.0s
ARMA **Armidale** 48.20 125 P **P** **03 18 28.9 +1.9**
baz=48,SNR=6.4
WMQ **Urumqi** 53.64 343 *e*P **P** **03 19 09.0 +1.4**
WMQ AMB AMB
comp=Z,9.0nm,0.6s
WMQ AMB AMB
comp=Z,76nm,5.0s
WMQ LR LR
comp=N,110nm,21.6s
WMQ LR LR
comp=E,95nm,22.2s
SONM **Songino Array** 54.93 0 P P 03 19 13.9 -3.0
SONM PcP **PcP** **03 20 17.3 -1.1**
SONM **Songino Array** 54.93 0 P P 03 19 13.9 -3.0
0.8nm,0.5s,baz=181,slow=7.9,SNR=4.1
SONM PcP **PcP** **03 20 17.3 -1.1**
1.6nm,0.4s,baz=183,slow=4.0,SNR=9.3
USRK **Ussuriysk Arra** 56.30 22 P P 03 19 23.4 -3.2
1.9nm,0.5s,baz=185,slow=4.5,SNR=7.3
AAK **Ala-Archa** 57.57 333 P **P** **03 19 38.3 +2.5**
AAK PcP **PcP** **03 20 28.2 -0.6**
AAK **Ala-Archa** 57.57 333 P **P** **03 19 38.3 +2.5**
0.6nm,0.3s,baz=63,slow=4.5,SNR=1.6
AAK PcP **PcP** **03 20 28.2 -0.6**
2.2nm,0.6s,baz=76,slow=4.2,SNR=3.9
MK31 **Makanchi Array** 57.98 341 *e*P **P** **03 19 36.6 -1.9**
MKAR **Makanchi Array** 57.98 341 P **P** **03 19 36.5 -2.1**
MKAR PcP **PcP** **03 20 30.6 +0.4**
MKAR **Makanchi Array** 57.98 341 P **P** **03 19 36.5 -2.1**
1.6nm,0.5s,baz=146,slow=8.8,SNR=19
MKAR PcP **PcP** **03 20 30.5 +0.4**
0.6nm,0.5s,baz=172,slow=5.0,SNR=2.5
KURBB **Kurchatov Arra** 62.54 340 P **P** **03 20 07.5 -2.0**
1.1nm,0.5s,baz=150,slow=6.2,SNR=16
KURK **Kurchatov** 62.59 341 P **P** **03 20 07.5 -2.3**
ZALV **Zalesovo Beam** 63.69 346 P **P** **03 20 14.5 -2.6**
ZALV **Zalesovo Beam** 63.69 346 P **P** **03 20 14.5 -2.6**
1.6nm,0.3s,baz=174,slow=4.9,SNR=7.9
ZALV LR LR 03 50 36.2
comp=Z,36nm,19.2s,baz=73,slow=39
RPZ **Rata Peaks** 66.77 134 LR LR 03 48 44.4
comp=Z,98nm,20.0s,baz=33,slow=35
MAW **Mawson** 66.85 197 *e*P **P** **03 20 40.1 +2.7**
0.8nm,0.5s
MAW **Mawson** 66.85 197 P **P** **03 20 40.5 +3.0**
baz=67,SNR=15
MAW **Mawson** 66.85 197 P **P** **03 20 40.4 +3.0**
6.9nm,0.5s,baz=50,slow=5.0,SNR=33
MAW LR LR 03 46 34.7
comp=Z,2.0nm,18.2s,baz=193,slow=33
RDF **Al-Radifah** 67.06 306 *e*P **P** **03 20 41.0 +1.5**
RDF AMb AMB 03 20 49.0
comp=Z,36nm,1.1s
BVAR **Borovoye Array** 67.42 337 P **P** **03 20 39.7 -1.5**
BVAR **Borovoye Array** 67.42 337 P **P** **03 20 39.7 -1.5**
comp=Z,1.2nm,0.5s,baz=137,slow=12,SNR=7.4
NAY **Al-Naaiem** 67.43 306 *e*P **P** **03 20 42.8 +0.9**
NAY AMb AMB 03 20 44.0
comp=Z,9.1nm,0.6s
RST **Umm Al-Ruwaisa** 67.73 306 *e*P **P** **03 20 44.5 +0.8**
RST AMb AMB 03 20 50.5
comp=Z,148nm,0.8s
AKTO **Aktyubinsk** 71.07 330 P **P** **03 21 02.5 -1.4**
AKTO **Aktyubinsk** 71.07 330 P **P** **03 21 02.5 -1.4**
comp=Z,1.3nm,0.4s,baz=117,slow=4.5,SNR=6.2
PETK **Petropavlovsk-** 74.21 29 P **P** **03 21 20.6 -2.0**
PETK **Petropavlovsk-** 74.21 29 P **P** **03 21 20.6 -2.0**
comp=Z,0.6nm,0.4s,baz=204,slow=5.0,SNR=3.1
PETK LR LR 03 51 53.9
comp=Z,25nm,21.5s,baz=20,slow=34
SYO **Syowa Base** 74.96 200⇓ *e*P **P** **03 21 27.8 +1.2**
SYO **Syowa Base** 74.96 200⇑ *e*PcP **PcP** **03 21 41.4 +1.2**
VNDA **Vanda** 75.76 169 *e*P **P** **03 21 32.8 +1.7**
comp=Z,7.2nm,1.0s
VNDA **Vanda** 75.76 169 P **P** **03 21 32.9 +1.8**
comp=Z,2.1nm,0.3s,baz=310,slow=5.8,SNR=33
VNDA LR LR 03 50 07.3
comp=Z,35nm,21.0s,baz=278,slow=32
KBZ **Khabaz** 76.45 318 P **P** **03 21 35.8 +0.2**
KBZ **Khabaz** 76.45 318 P **P** **03 21 35.8 +0.2**
comp=Z,2.4nm,0.7s,baz=163,slow=6.5,SNR=5.8
LBTB **Lobatse** 78.56 246 *e*P **P** **03 21 50.6 +2.7**
comp=Z,11nm,1.2s
BOSA **Boshof** 78.70 242 *e*P **P** **03 21 51.0 +2.3**
comp=Z,12nm,1.2s
BOSA **Boshof** 78.70 242 P P 03 21 51.9 +3.2
comp=Z,1.9nm,0.4s,baz=79,slow=5.1,SNR=10.0
BR131 **Keskin Array S** 81.55 312 *e*P **P** **03 22 04.2 +0.5**
comp=Z,2.3nm,0.7s
BRTR **Keskin Array B** 81.55 312 P **P** **03 22 04.6 +0.8**
BRTR **Keskin Array B** 81.55 312 P **P** **03 22 04.6 +0.8**
comp=Z,2.3nm,0.7s,baz=138,slow=6.1,SNR=10
SUR **Sutherland** 82.34 238 *e*P P 03 22 12.0 +3.8
comp=Z,19nm,1.2s
CFR **Carcaliu** 86.91 316⇓ *i*P **P** **03 22 31.3 +0.7**
AKASG **Malin Array Be** 87.54 322 P **P** **03 22 33.5 0.0**
AKASG **Malin Array Be** 87.54 322 P **P** **03 22 33.5 0.0**
comp=Z,2.0nm,0.7s,baz=84,slow=5.0,SNR=14
VRI **Vrincioaia** 88.03 317⇑ *i*P **P** **03 22 37.5 +1.4**
PLOR **Plostina** 88.08 317⇑ *i*P **P** **03 22 37.6 +1.3**
MLR **Muntele Rosu** 88.48 316⇑ *i*P **P** **03 22 40.1 +1.7**
SNAA **Sanae** 89.01 197 *e*P **P** **03 22 43.1 +2.8**
SNAA **Sanae** 89.01 197 *e*P **P** **03 22 43.1 +2.8**
comp=Z,11nm,1.3s
BURAR **Bucovina Array** 89.41 318⇑ *i*P **P** **03 22 45.6 +3.0**
BUR08 **Bucovina Ar. S** 89.42 318 *e*P **P** **03 22 44.2 +1.5**
VNA2 **Neumayer--Watz** 90.65 198 *e*P P 03 22 51.1 +3.2
VNA1 **Neumayer--Stat** 91.03 198 *e*P P 03 22 53.5 +3.9
KOLS **Kolonicke sedl** 91.58 319 *e*P P 03 22 57.5 +4.9
FINES **FINESS Array B** 91.75 332 P **P** **03 22 53.1 0.0**
FINES **FINESS Array B** 91.75 332 P **P** **03 22 53.1 0.0**
comp=Z,2.7nm,0.9s,baz=126,slow=2.6,SNR=7.8
ARCES **ARCESS Array B** 93.62 340 P **P** **03 23 00.7 -0.9**
ARCES **ARCESS Array B** 93.62 340 P **P** **03 23 00.7 -0.9**
comp=Z,0.7nm,0.5s,baz=105,slow=5.4,SNR=12
ARCES LR LR 04 06 10.2
comp=Z,30nm,21.1s,baz=89,slow=36
NOA **NORSAR Array B** 98.85 331 LR LR 04 16 22.7
comp=Z,14nm,20.0s,baz=225,slow=40
NVAR **Mina Array Bea** 129.27 45 PKP **PKPdf** **03 28 55.2 +0.6**
NVAR SKPbc SKPab 03 32 09.0 -2.2
NVAR **Mina Array Bea** 129.27 45 PKP **PKPdf** **03 28 55.2 +0.6**
comp=Z,0.2nm,0.6s,baz=278,slow=0.6,SNR=3.1
NVAR SKPbc SKPab 03 32 09.0 -2.2
comp=Z,0.5nm,0.7s,baz=272,slow=4.3,SNR=4.7
ELK **Elko** 130.27 41 *e*PKPdf **PKPdf** **03 28 57.3 +0.8**
DUG **Dugway** 132.14 41 *e*PKPdf **PKPdf** **03 29 00.3 +0.4**
SCHQ **Schefferville** 132.32 355 SKPbc **SKPbc** **03 32 18.9 -3.3**
comp=Z,4.8nm,0.6s,baz=44,slow=8.8,SNR=8.4
BW06 **Boulder Array** 132.66 36 *e*PKPdf **PKPdf** **03 29 00.6 -0.3**
PDAR **Pinedale Array** 132.66 36 PKP **PKPdf** **03 29 01.3 +0.3**
PDAR SKPbc **SKPbc** **03 32 20.2 -3.9**
PDAR **Pinedale Array** 132.66 36 PKP **PKPdf** **03 29 01.3 +0.3**
comp=Z,0.3nm,0.5s,baz=103,slow=2.9,SNR=3.6
PDAR SKPbc **SKPbc** **03 32 20.2 -3.9**
comp=Z,2.4nm,1.0s,baz=9.1,slow=0.5,SNR=10.0
H21A **Big Horn, Sher** 132.87 32 ⇑P **PKPdf** **03 29 01.4 +0.3**
baz=132
ULM **Lac du Bonnet** 133.38 19 SKPbc **SKPbc** **03 32 21.9 -4.1**
comp=Z,3.1nm,0.7s,baz=14,slow=4.6,SNR=3.8
B29A **Wagenman Farm,** 133.60 23 ⇓P **PKPdf** **03 29 02.3 +0.1**
baz=133
A30A **Hoffart Farm,** 133.62 22 ⇑P **PKPdf** **03 29 01.3 -0.9**
baz=133
I22A **9 Mile Ranch,** 133.66 33 ⇓P **PKPdf** **03 29 01.5 -1.2**
baz=133
W13A **Hualapai Mount** 133.93 47 ⇓P **PKPdf** **03 29 02.6 -0.9**
baz=134
B30A **Myrvik Farm, E** 134.02 23 ⇑P **PKPdf** **03 29 02.8 -0.2**
baz=134
H24A **Dirks Ranch, A** 134.08 31 ⇓P **PKPdf** **03 29 02.6 -0.8**
baz=134
GLA **Glamis** 134.12 50 ⇑P **PKPdf** **03 29 03.0 -0.7**
baz=134
O19A **Miners Draw (B** 134.41 38 ⇓P **PKPdf** **03 29 03.0 -1.2**
baz=134
U15A **North Rim** 134.43 45 ⇓P **PKPdf** **03 29 05.1 +0.6**
baz=134
H25A **Fruitdale** 134.65 30 ⇑P **PKPdf** **03 29 04.7 +0.4**
baz=134
E29A **Napoleon** 135.00 25 ⇑P **PKPdf** **03 29 05.4 +0.4**
baz=135
I25A **Rochford** 135.01 31 ⇑P **PKPdf** **03 29 05.9 +0.7**
baz=135
J24A **Dixon Ranch, L** 135.01 32 ⇑P **PKPdf** **03 29 04.8 -0.4**
baz=135
O20A **White River Ci** 135.05 38 ⇓P **PKPdf** **03 29 06.8 +1.4**
baz=135
I27A **Quinn** 135.81 29 ⇓P **PKPdf** **03 29 05.7 -0.9**
baz=135
N23A **Red Feather La** 135.94 36 ⇑P **PKPdf** **03 29 07.9 +0.7**
baz=136
K26A **Motz Farm, Whi** 136.23 32 ⇓P **PKPdf** **03 29 06.6 -0.9**
baz=136
P22A **Eagle** 136.28 38 ⇑P **PKPdf** **03 29 06.7 -1.1**
baz=136
S20A **Disappointment** 136.33 41 ⇓P **PKPdf** **03 29 06.5 -1.5**
baz=136
N24A **Carr** 136.59 35 ⇓P **PKPdf** **03 29 06.8 -1.5**
baz=136
MVCO **Mesa Verde** 136.59 42 ⇓P **PKPdf** **03 29 07.1 -1.3**
baz=136
J28A **Allard Ranch,** 136.69 29 ⇑P **PKPdf** **03 29 07.0 -1.2**
baz=136
ISCO **Idaho Springs** 136.84 37 ⇑P **PKPdf** **03 29 08.0 -0.9**
baz=136
O24A **Longmont** 136.94 36 ⇓P **PKPdf** **03 29 08.6 -0.3**
baz=136
X18A **Snowflake** 137.04 46 ⇓P **PKPdf** **03 29 08.1 -1.2**
baz=137
I30A **Oacoma** 137.17 28 ⇓P **PKPdf** **03 29 07.4 -1.6**
baz=137
P24A **Kohler Place,** 137.44 36 ⇑P **PKPdf** **03 29 07.8 -2.1**
baz=137
K29A **Lazy Trails An** 137.63 29 ⇑P **PKPdf** **03 29 10.8 +0.8**
baz=137
SDCO **Great Sand Dun** 138.20 39 *e*PKPdf **PKPdf** **03 29 11.9 +0.4**
220A **Playas Peak, P** 139.38 48 ⇑P **PKPdf** **03 29 15.2 +1.5**
baz=139
320A **Kipp Ranch, An** 139.66 49 ⇑P **PKPdf** **03 29 14.4 +0.2**
baz=139
BGNE **Belgrade** 139.70 29 ⇑P **PKPdf** **03 29 13.6 -0.1**
baz=139
T26A **Comanche Natio** 139.73 38 ⇑P **PKPdf** **03 29 13.9 -0.3**
baz=139
CPUP **Villa Florida** 142.96 205 *e*PKPdf **PKPdf** **03 29 18.4 -1.6**
CPUP **Villa Florida** 142.96 205 PKP **PKPdf** **03 29 18.6 -1.4**
comp=Z,1.8nm,0.4s,baz=270,slow=2.0,SNR=10.0
426A **McDonald Obser** 143.31 47 ⇓P PKPbc 03 29 19.4 +1.4
baz=143
X31A **McDonald Ranch** 143.61 38 ⇓P **PKPdf** **03 29 21.1 +0.1**
baz=143
427A **Hayter Ranch,** 143.66 46 ⇓P **PKPdf** **03 29 20.8 -0.5**
baz=143
Z30A **Sanderson Ranc** 143.77 41 ⇓P PKPbc 03 29 20.2 +1.2
baz=143
626A **Big Bend Ranch** 143.83 48 ⇓P **PKPdf** **03 29 20.7 -0.9**
baz=144

527A	**Woodward Ranch** baz=144	**143.90**	**47**	⇓P		**PKPdf**	**03 29 21.3**	**-0.4**
428A	**Kincaid Ranch,** baz=144	**144.24**	**46**	⇓P		**PKPdf**	**03 29 22.3**	**+0.1**
WMOK	**Wichita Mounta**	**144.26**	**37**	*e*PKPdf	PKPbc		03 29 20.5	+0.1
TXAR	**Lajitas Array**	**144.29**	**48**	PKP		**PKPab**	**03 29 20.3**	**-0.1**
TXAR				SKPbc		**SKPbc**	**03 32 55.4**	**-2.1**
TXAR	**Lajitas Array** comp=Z,0.5nm,0.4s,baz=357,slow=0.8,SNR=9.8	**144.29**	**48**	PKP		**PKPab**	**03 29 20.3**	**-0.1**
TXAR				SKPbc		**SKPbc**	**03 32 55.4**	**-2.1**
	comp=Z,1.3nm,0.8s,baz=224,slow=1.1,SNR=6.2							
329A	**Wagon Wheel Ra** baz=144	**144.30**	**44**	⇑P		PKPbc	03 29 21.3	+0.7
Y32A	**R-V Farms, Ver** baz=144	**144.36**	**38**	⇓P		PKPbc	03 29 21.3	+0.6
Z31A	**Sharp Cattle R** baz=144	**144.38**	**40**	⇑P		PKPbc	03 29 21.3	+0.4
627A	**Terlingua Ranc** baz=144	**144.44**	**48**	⇓P		**PKPdf**	**03 29 22.4**	**-0.3**
528A	**Cox Ranch, San** baz=144	**144.49**	**46**	⇑P		**PKPdf**	**03 29 22.3**	**-0.5**
131A	**Roby** baz=144	**144.63**	**41**	⇓P		**PKPdf**	**03 29 23.2**	**+0.3**
230A	**Sterling City** baz=144	**144.65**	**43**	⇑P		**PKPdf**	**03 29 22.7**	**-0.2**
628A	**Black Gap, Mar** baz=144	**144.78**	**48**	⇑P		**PKPdf**	**03 29 23.5**	**+0.3**
Z32A	**Haskell** baz=144	**144.81**	**39**	⇑P		PKPbc	03 29 22.6	+0.4
429A	**Davenport Ranc** baz=144	**144.86**	**45**	⇓P		**PKPdf**	**03 29 23.7**	**+0.4**
330A	**Mertzon** baz=144	**144.90**	**43**	⇓P		**PKPdf**	**03 29 23.3**	**0.0**
529A	**Stev Forest Ra** baz=144	**144.91**	**46**	⇑P		**PKPdf**	**03 29 23.3**	**-0.1**
SFIN	**Scholer Farm** baz=144	**144.98**	**18**	⇑P		**PKPab**	**03 29 21.4**	**-1.0**
TUL1	**Tulsa** baz=145	**145.09**	**32**	⇓P		**PKPdf**	**03 29 23.8**	**+0.3**
231A	**Bronte** baz=145,SNR=6.9	**145.15**	**42**	⇑P		**PKPdf**	**03 29 23.8**	**+0.1**
ABTX	**Abilene, Hawle** baz=145	**145.15**	**40**	⇓P		**PKPdf**	**03 29 23.8**	**+0.1**
430A	**Baggett Ranch,** baz=145	**145.22**	**44**	⇓P		**PKPdf**	**03 29 24.3**	**+0.3**
331A	**San Angelo** baz=145,SNR=14	**145.46**	**43**	⇓P		**PKPdf**	**03 29 24.4**	**+0.1**
530A	**J-C Ranch, Com** baz=145	**145.53**	**45**	⇓P		**PKPab**	**03 29 25.0**	**+0.2**
232A	**Coleman** baz=145	**145.62**	**41**	⇓P		**PKPdf**	**03 29 24.6**	**+0.1**
431A	**Sonora** baz=145,SNR=8.4	**145.72**	**44**	⇓P		**PKPdf**	**03 29 25.0**	**+0.3**
BDFB	**Brasilia**	**145.83**	**228**	PKPbc		**PKPab**	**03 29 27.8**	**+1.3**
BDFB	**Brasilia** comp=Z,3.6nm,0.4s,baz=90,slow=2.2,SNR=11	**145.83**	**228**	PKPbc		**PKPab**	**03 29 27.8**	**+1.3**
332A	**Millersview** baz=146,SNR=31	**145.87**	**42**	⇑P		**PKPbc**	**03 29 26.0**	**+0.4**
531A	**Rocksprings** baz=146,SNR=16	**146.07**	**45**	⇓P		**PKPbc**	**03 29 26.7**	**+0.4**
432A	**Menard** baz=146	**146.16**	**43**	⇑P		**PKPab**	**03 29 27.1**	**-0.1**
JCT	**Junction City**	**146.39**	**43**	*e*PKPbc		**PKPbc**	**03 29 27.2**	**0.0**
JCT	**Junction City** baz=146,SNR=13	**146.39**	**43**	⇓P		**PKPbc**	**03 29 27.3**	**0.0**
532A	**Rocksprings** baz=146	**146.54**	**44**	⇓P		**PKPab**	**03 29 29.4**	**+0.7**
WHTX	**Lake Whitney**	**146.95**	**39**	*e*PKPbc		**PKPbc**	**03 29 29.5**	**+0.8**
WHTX	**Lake Whitney** baz=146	**146.95**	**39**	⇑P		**PKPab**	**03 29 29.7**	**-0.5**
632A	**Uvalde** baz=147	**146.99**	**45**	⇓P		**PKPbc**	**03 29 28.9**	**-0.1**
WCI	**Wyandotte Cave**	**147.19**	**19**	*e*PKPbc		**PKPbc**	**03 29 29.4**	**+0.1**
MIAR	**Mount Ida**	**147.30**	**31**	*e*PKPbc		**PKPbc**	**03 29 28.8**	**-0.8**
732A	**Laxson Ranch,** baz=147	**147.32**	**46**	⇓P		**PKPbc**	**03 29 30.1**	**+0.3**
WVT	**Waverly**	**148.55**	**22**	*e*PKPbc		**PKPbc**	**03 29 32.2**	**-0.7**
LVC	**Limon Verde**	**149.87**	**189**	*e*PKPbc		**PKPbc**	**03 29 39.3**	**+2.4**
TKL	**Tuckaleechee C**	**150.33**	**17**	*e*PKPbc		**PKPbc**	**03 29 37.5**	**+0.2**
KMSC	**Kings Mountain** baz=151	**151.45**	**13**	⇓P		**PKPbc**	**03 29 38.3**	**-1.7**
LPAZ	**La Paz**	**155.89**	**193**	PKPab		**PKPab**	**03 30 10.8**	**+2.7**
LPAZ	**La Paz** comp=Z,1.1nm,0.5s,baz=222,slow=3.9,SNR=7.1	**155.89**	**193**	PKPab		**PKPab**	**03 30 10.8**	**+2.7**

*ISK **24** 03:19:52.9, 34˚.96N×30˚.35E, h26km, MD4.0*
*IDC **24** 03:19:53.1±1.4, 35˚.22N×30˚.36E, h0km, mb3.4/3, mb1 3.6/8, mb1mx3.4/27, mbtmp3.5/8, ML3.3/5, MS3.2/2, Ms1 3.2/2, ms1mx2.4/17, Error ellipse: s-maj=30.4km s-min=20.3km az=26.0*
*ISCJB **24** 03:19:55.5±0.2, 35˚.11N±0˚.02×30˚.42E±0˚.02, h72km±11km, mb3.4/3, Error ellipse: s-maj=3.8km s-min=2.2km az=17.9*
*DDA **24** 03:19:56.4, 35˚.38N×30˚.53E, h37km, ML3.9*
*NSSC **24** 03:19:56.4±0.9, 35˚.38N×30˚.78E, h2km±999km, ML2.6*
*CSEM **24** 03:19:57.0±0.1, 35˚.12N×30˚.43E, h40km, Mw3.2, Error ellipse: s-maj=3.2km s-min=2.2km az=26.0*
*NIC **24** 03:19:57.4±0.2, 35˚.19N×30˚.54E, h23km, ML3.4, MW3.2*
*THE **24** 03:19:58.2, 35˚.25N×30˚.46E, h43km±4km, ML3.4/4, Error ellipse: s-maj=4.6km s-min=0.8km az=139.0*
ISC 24 03:19:58.8±0.3, 35˚.10N±0˚.02×30˚.421E±0˚.009, h46km±13km, n177, σ2℘10/177, mb3.4/3, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	**Kas**	**1.31**	**330**	*i* P	Pn	03 20 17.4	-3.5
AKAS	**Kas**	**1.31**	**330**	*i* P	Pn	03 20 17.4	-3.5
AKMC	**Akamas**	**1.57**	**92**	P	**Pn**	**03 20 22.4**	**-1.8**
AKMC	**Akamas**	**1.57**	**92**	P	**Pn**	**03 20 22.4**	**-1.8**
PPCY	**Paphos**	**1.59**	**97**	P	**Pn**	**03 20 22.8**	**-1.8**
PPCY	**Paphos**	**1.59**	**97**	P	**Pn**	**03 20 22.8**	**-1.8**
ELL	**Elmali**	**1.70**	**346**	*e*PN	Pn	03 20 23.4	-2.8
ELL				*e*SN	**Sn**	**03 20 45.4**	**-1.4**
ELL	**Elmali**	**1.70**	**346**	*e*Pn	Pn	03 20 23.4	-2.8
ELL				*e*Sn	**Sn**	**03 20 45.4**	**-1.4**
ALFC	**Alevga** 6.8nm,0.3s	**1.79**	**87**	P	**Pn**	**03 20 25.3**	**-2.0**
ALFC				S	**Sn**	**03 20 47.0**	**-1.8**
ALFC	**Alevga** 6.8nm,0.3s	**1.79**	**87**	P	**Pn**	**03 20 25.3**	**-2.0**
ALFC				S	**Sn**	**03 20 47.0**	**-1.8**
ANTB	**Antalya**	**1.81**	**6**	*e*PN	**Pn**	**03 20 25.1**	**-2.4**
ANTB				*e*SN	**Sn**	**03 20 48.8**	**-0.5**
ANTB	**Antalya**	**1.81**	**6**	*e*Pn	**Pn**	**03 20 25.1**	**-2.4**
ANTB				*e*Sn	**Sn**	**03 20 48.8**	**-0.5**
FETY	**Fethiye**	**1.88**	**325**	*e*PN	Pn	03 20 25.1	-3.5
FETY	**Fethiye**	**1.88**	**325**	*e*Pn	Pn	03 20 25.1	-3.5
GAZI	**Gazipasa**	**1.92**	**53**	*i* P	Pn	03 20 25.9	-3.1
GAZI				*i* S	**Sn**	**03 20 48.0**	**-4.0**
GAZI	**Gazipasa**	**1.92**	**53**	*i* P	Pn	03 20 25.9	-3.1
GAZI				*i* S	**Sn**	**03 20 48.0**	**-4.0**
LEF	**Lefka**	**2.02**	**89**	*e*PN	Pn	03 20 27.0	-3.5
LEF	**Lefka**	**2.02**	**89**	*e*Pn	Pn	03 20 27.0	-3.5
SZAC	**Souni-Zanaja** 10nm,0.2s	**2.05**	**99**	P	**Pn**	**03 20 29.6**	**-1.3**
SZAC				S	**Sn**	**03 20 54.3**	**-1.0**
SZAC	**Souni-Zanaja** 10nm,0.2s	**2.05**	**99**	P	**Pn**	**03 20 29.6**	**-1.3**
SZAC				S	**Sn**	**03 20 54.3**	**-1.0**
AKDN	**Akdeniz- K¯–br**	**2.10**	**84**	*e*PN	Pn	03 20 28.1	-3.3
AKDN	**Akdeniz- K¯–br**	**2.10**	**84**	*e*Pn	Pn	03 20 28.2	-3.3
ARG	**Arkhangelos**	**2.18**	**302**	P	Pn	03 20 30.2	-2.4
ARG				S	**Sn**	**03 20 55.5**	**-2.8**
ARG	**Arkhangelos**	**2.18**	**302**	*e*P	Pn	03 20 30.1	-2.5
ARG	**Arkhangelos**	**2.18**	**302**	P	Pn	03 20 30.2	-2.4
ARG				S	**Sn**	**03 20 55.5**	**-2.8**
GLHS	**Glhisar (BURDU**	**2.19**	**340**	*e*PN	Pn	03 20 29.9	-2.9
GLHS	**Glhisar (BURDU**	**2.19**	**340**	*e*Pn	Pn	03 20 29.9	-2.9
DALY	**Dalyan (Mu¯la**	**2.24**	**321**	*e*PN	Pn	03 20 30.3	-3.1
DALY	**Dalyan (Mu¯la**	**2.24**	**321**	*e*Pn	Pn	03 20 30.3	-3.1
GOLH	**Golhisar**	**2.25**	**342**	*i* P	**Pn**	**03 20 31.8**	**-1.9**
GOLH				*i* S	**Sn**	**03 20 56.0**	**-4.2**
GOLH	**Golhisar**	**2.25**	**342**	*i* P	**Pn**	**03 20 31.8**	**-1.9**
GOLH				*i* S	**Sn**	**03 20 56.0**	**-4.2**
MAMC	**Mammari**	**2.29**	**87**	P	**Pn**	**03 20 32.8**	**-1.4**
MAMC	**Mammari**	**2.29**	**87**	P	**Pn**	**03 20 32.8**	**-1.4**
TURN	**Turunc**	**2.31**	**321**	*i* P	**Pn**	**03 20 34.1**	**-0.2**
TURN				*i* S	**Sn**	**03 21 00.2**	**-1.3**
TURN	**Turunc**	**2.31**	**321**	*i* P	**Pn**	**03 20 34.1**	**-0.2**
TURN				*i* S	**Sn**	**03 21 00.2**	**-1.3**
BCK	**Bucak**	**2.37**	**3**	*e*PN	**Pn**	**03 20 33.3**	**-1.9**
BCK	**Bucak**	**2.37**	**3**	*e*Pn	**Pn**	**03 20 33.3**	**-1.9**
CSS	**Prodhromos** 2.1nm,0.5s	**2.39**	**92**	P	**Pn**	**03 20 33.7**	**-1.8**
CSS				S	**Sn**	**03 21 02.5**	**-1.1**
CSS	**Prodhromos**	**2.39**	**92**	P	**Pn**	**03 20 33.5**	**-2.0**
CSS				S	**Sn**	**03 21 01.6**	**-2.0**
CSS	**Prodhromos** 2.1nm,0.5s	**2.39**	**92**	P	**Pn**	**03 20 33.7**	**-1.8**
CSS				S	**Sn**	**03 21 01.6**	**-2.0**
SUTC	**Sutluce-Ispart**	**2.42**	**11**	*e*PN	**Pn**	**03 20 34.2**	**-1.9**
SUTC	**Sutluce-Ispart**	**2.42**	**11**	*e*Pn	**Pn**	**03 20 34.2**	**-1.9**
HDMB	**Hadim**	**2.51**	**41**	*e*PN	**Pn**	**03 20 35.2**	**-2.1**
HDMB	**Hadim**	**2.51**	**41**	*e*Pn	**Pn**	**03 20 35.2**	**-2.1**
ERMK	**Ermenek**	**2.55**	**52**	*i* P	**Pn**	**03 20 36.5**	**-1.3**
ERMK				*i* S	**Sn**	**03 21 04.8**	**-2.9**
ERMK	**Ermenek**	**2.55**	**52**	*i* P	**Pn**	**03 20 36.5**	**-1.3**
ERMK				*i* S	**Sn**	**03 21 04.8**	**-2.9**
LFK	**Lefkose**	**2.56**	**85**	*e*PN	Pn	03 20 34.9	-2.9
LFK	**Lefkose**	**2.56**	**85**	*e*Pn	Pn	03 20 34.9	-2.9
YER	**Yerkesik**	**2.67**	**320**	*e*PN	Pn	03 20 36.6	-2.8
YER	**Yerkesik**	**2.67**	**320**	*e*Pn	Pn	03 20 36.6	-2.8
KARP	**Karpathos**	**2.70**	**281**	P	**Pn**	**03 20 38.8**	**-1.0**
KARP				S	**Sn**	**03 21 10.3**	**-1.0**
KARP	**Karpathos**	**2.70**	**281**	*e*P	**Pn**	**03 20 38.8**	**-1.0**
KARP	**Karpathos**	**2.70**	**281**	P	**Pn**	**03 20 38.8**	**-1.0**
KARP				S	**Sn**	**03 21 10.3**	**-1.0**
ISP	**Isparta**	**2.72**	**2**	*e*PN	**Pn**	**03 20 38.6**	**-1.6**
ISP	**Isparta**	**2.72**	**2**	*e*Pn	**Pn**	**03 20 38.6**	**-1.6**
DAT	**Datca**	**2.83**	**306**	*e*PN	Pn	03 20 38.6	-3.0
DAT	**Datca**	**2.83**	**306**	*e*Pn	Pn	03 20 38.6	-3.0
IKL	**Isikli**	**2.89**	**66**	*e*PN	Pn	03 20 39.8	-2.6
IKL	**Isikli**	**2.89**	**66**	*e*Pn	Pn	03 20 39.8	-2.6
NIS1	**Nisyros Isl.**	**3.03**	**301**	P	**Pn**	**03 20 42.6**	**-1.7**
NIS1				S	**Sn**	**03 21 17.0**	**-2.4**
NIS1	**Nisyros Isl.**	**3.03**	**301**	*e*P	**Pn**	**03 20 42.8**	**-1.5**
NIS1	**Nisyros Isl.**	**3.03**	**301**	P	**Pn**	**03 20 42.6**	**-1.7**
NIS1				S	**Sn**	**03 21 17.0**	**-2.4**
BDRM	**Kayabasi**	**3.11**	**310**	*i* P	**Pn**	**03 20 43.4**	**-2.0**
BDRM				*i* S	Sn	03 21 15.4	-5.9
BDRM	**Kayabasi**	**3.11**	**310**	*i* P	**Pn**	**03 20 43.4**	**-2.0**
BODT	**Bodrum**	**3.19**	**309**	*e*PN	Pn	03 20 43.7	-2.8
BODT	**Bodrum**	**3.19**	**309**	*e*Pn	Pn	03 20 43.7	-2.8
KONT	**Konya--Tatoy**	**3.25**	**28**	*e*PN	**Pn**	**03 20 46.0**	**-1.3**
KONT	**Konya--Tatoy**	**3.25**	**28**	*e*Pn	**Pn**	**03 20 46.0**	**-1.3**
AYDN	**Tasoluk**	**3.28**	**322**	*i* P	**Pn**	**03 20 45.6**	**-2.2**
AYDN	**Tasoluk**	**3.28**	**322**	*i* P	**Pn**	**03 20 45.6**	**-2.2**
KHL	**Karahalli**	**3.30**	**348**	*e*PN	Pn	03 20 45.7	-2.4
KHL	**Karahalli**	**3.30**	**348**	*e*Pn	Pn	03 20 45.7	-2.4
KIZK	**Mersin**	**3.33**	**64**	*i* P	**Pn**	**03 20 46.3**	**-2.1**
KIZK				*i* S	**Sn**	**03 21 24.1**	**-2.5**
KIZK	**Mersin**	**3.33**	**64**	*i* P	**Pn**	**03 20 46.3**	**-2.1**
KIZK				*i* S	**Sn**	**03 21 24.1**	**-2.5**
KHAL	**Karahalli**	**3.35**	**347**	*i* P	Pn	03 20 46.2	-2.6
KHAL				*i* S	Sn	03 21 21.7	-5.7
KHAL	**Karahalli**	**3.35**	**347**	*i* P	Pn	03 20 46.2	-2.6
ZKR	**Zakros**	**3.45**	**272**	P	**Pn**	**03 20 48.7**	**-1.3**
ZKR	**Zakros**	**3.45**	**272**	*e*P	**Pn**	**03 20 48.8**	**-1.3**
ZKR	**Zakros**	**3.45**	**272**	P	**Pn**	**03 20 48.7**	**-1.3**
SHUT	**Suhut-Afyon**	**3.45**	**2**	*e*PN	**Pn**	**03 20 48.5**	**-1.7**
SHUT	**Suhut-Afyon**	**3.45**	**2**	*e*Pn	**Pn**	**03 20 48.5**	**-1.7**
LADK	**Ladik-KONYA**	**3.47**	**26**	*e*PN	**Pn**	**03 20 49.0**	**-1.4**
LADK	**Ladik-KONYA**	**3.47**	**26**	*e*Pn	**Pn**	**03 20 49.0**	**-1.4**
AYDB	**Zeytinkoy-Aydi**	**3.50**	**325**	*e*PN	Pn	03 20 48.4	-2.4
AYDB	**Zeytinkoy-Aydi**	**3.50**	**325**	*e*Pn	Pn	03 20 48.4	-2.4
GCAM	**G?zelcaml?**	**3.66**	**316**	*i* P	**Pn**	**03 20 50.7**	**-2.1**
GCAM				*i* S	Sn	03 21 28.5	-6.2
GCAM	**G?zelcaml?**	**3.66**	**316**	*i* P	**Pn**	**03 20 50.7**	**-2.1**
KDHN	**Kadinhani**	**3.68**	**21**	*i* P	**Pn**	**03 20 51.2**	**-2.1**
KDHN				*i* S	**Sn**	**03 21 31.2**	**-4.3**
KDHN	**Kadinhani**	**3.68**	**21**	*i* P	**Pn**	**03 20 51.2**	**-2.1**
KDHN				*i* S	**Sn**	**03 21 31.2**	**-4.3**
KULA	**Kula-Manisa**	**3.69**	**338**	*e*PN	**Pn**	**03 20 51.4**	**-2.1**
KULA	**Kula-Manisa**	**3.69**	**338**	P	Pn	03 20 50.4	-3.1
KULA				S	Sn	03 21 30.3	-5.5
KULA	**Kula-Manisa**	**3.69**	**338**	P	Pn	03 20 50.4	-3.1
KULA	**Kula-Manisa**	**3.69**	**338**	*e*Pn	**Pn**	**03 20 51.4**	**-2.1**
KULA				S	Sn	03 21 30.3	-5.5
SMG	**Samos**	**3.89**	**313**	P	Pn	03 20 53.7	-2.4
SMG				S	**Sn**	**03 21 36.1**	**-4.5**
SMG	**Samos**	**3.89**	**313**	*e*P	Pn	03 20 54.0	-2.1
SMG	**Samos**	**3.89**	**313**	P	Pn	03 20 53.7	-2.4
SMG				S	**Sn**	**03 21 36.1**	**-4.5**
NPS	**Neapolis**	**3.94**	**274**	P	**Pn**	**03 20 56.1**	**-0.7**
NPS	**Neapolis**	**3.94**	**274**	*e*P	**Pn**	**03 20 56.5**	**-0.3**
NPS	**Neapolis**	**3.94**	**274**	P	**Pn**	**03 20 56.1**	**-0.7**
KIZT	**Kizilcal**	**3.96**	**17**	*e*PN	**Pn**	**03 20 55.9**	**-1.2**
KIZT	**Kizilcal**	**3.96**	**17**	*e*Pn	**Pn**	**03 20 55.9**	**-1.2**
LAST	**Lasithi**	**4.05**	**272**	P	**Pn**	**03 20 57.6**	**-0.8**
LAST	**Lasithi**	**4.05**	**272**	*e*P	**Pn**	**03 20 57.7**	**-0.7**
LAST	**Lasithi**	**4.05**	**272**	P	**Pn**	**03 20 57.6**	**-0.8**
GULE	**Gulek**	**4.14**	**57**	*i* P	**Pn**	**03 20 59.4**	**-0.3**
GULE				*i* S	**Sn**	**03 21 45.2**	**-1.8**
GULE	**Gulek**	**4.14**	**57**	*i* P	**Pn**	**03 20 59.4**	**-0.3**
GULE				*i* S	**Sn**	**03 21 45.2**	**-1.8**
SANT	**Santorini**	**4.23**	**289**	P	**Pn**	**03 20 59.1**	**-1.7**
SANT				S	**Sn**	**03 21 46.9**	**-2.1**
SANT	**Santorini**	**4.23**	**289**	*e*P	**Pn**	**03 20 59.2**	**-1.6**
SANT	**Santorini**	**4.23**	**289**	P	**Pn**	**03 20 59.1**	**-1.7**
SANT				S	**Sn**	**03 21 46.9**	**-2.1**
THR1	**Thera Island**	**4.23**	**289**	P	**Pn**	**03 20 59.0**	**-1.8**
THR1	**Thera Island**	**4.23**	**289**	P	**Pn**	**03 20 59.0**	**-1.8**
THR2	**Thira island,**	**4.27**	**290**	P	**Pn**	**03 20 59.6**	**-1.7**
THR2	**Thira island,**	**4.27**	**290**	P	**Pn**	**03 20 59.6**	**-1.7**
THR3	**Thira Island,**	**4.29**	**289**	P	**Pn**	**03 20 59.9**	**-1.6**
THR3	**Thira Island,**	**4.29**	**289**	P	**Pn**	**03 20 59.9**	**-1.6**
AKS	**Akhisar**	**4.32**	**332**	*e*PN	**Pn**	**03 21 00.3**	**-1.6**
AKS	**Akhisar**	**4.32**	**332**	*e*Pn	**Pn**	**03 21 00.3**	**-1.6**
TVSB	**Tavsanli**	**4.41**	**350**	*e*PN	**Pn**	**03 21 02.0**	**-1.3**
TVSB	**Tavsanli**	**4.41**	**350**	*e*Pn	**Pn**	**03 21 02.0**	**-1.3**
APE	**Apeiranthos**	**4.42**	**298**	*e*PN	Pn	03 21 00.5	-2.9
APE	**Apeiranthos**	**4.42**	**298**	P	**Pn**	**03 21 01.9**	**-1.5**
APE				S	**Sn**	**03 21 50.5**	**-3.2**
APE	**Apeiranthos**	**4.42**	**298**	*e*P	**Pn**	**03 21 01.9**	**-1.5**
APE	**Apeiranthos**	**4.42**	**298**	*e*Pn	Pn	03 21 00.5	-2.9
APE	**Apeiranthos**	**4.42**	**298**	P	**Pn**	**03 21 01.9**	**-1.5**
APE				S	**Sn**	**03 21 50.5**	**-3.2**
SVRH	**Sivrihisar-ESK**	**4.43**	**11**	*e*PN	**Pn**	**03 21 02.7**	**-0.9**
SVRH	**Sivrihisar-ESK**	**4.43**	**11**	*e*Pn	**Pn**	**03 21 02.7**	**-0.9**
IDI	**Anoyia**	**4.53**	**274**	*e*PN	Pn	03 21 01.6	-3.4
IDI	**Anoyia**	**4.53**	**274**	S	**Sn**	**03 21 54.0**	**-2.4**
IDI	**Anoyia**	**4.53**	**274**	*e*P	**Pn**	**03 21 03.8**	**-1.2**
IDI	**Anoyia**	**4.53**	**274**	*e*Pn	Pn	03 21 01.6	-3.4
IDI				S	**Sn**	**03 21 54.0**	**-2.4**
IDI	**Anoyia** 4.0nm,0.3s,baz=309,slow=10,SNR=38	**4.53**	**274**	Pn	**Pn**	**03 21 03.5**	**-1.4**
IDI				Sn	**Sn**	**03 21 52.5**	**-3.9**
	11nm,0.3s,baz=323,slow=19,SNR=15						
MATC	**Matruh**	**4.60**	**216**	P	**Pn**	**03 21 04.6**	**-1.2**
SIVA	**Sivas**	**4.60**	**271**	*e*P	**Pn**	**03 21 05.2**	**-0.7**
MMAI	**Mount Meron Ar** 6.1nm,0.3s,baz=310,slow=12,SNR=41	**4.63**	**115**	Pn	**Pn**	**03 21 05.2**	**-1.1**
MMAI				Sn	**Sn**	**03 21 55.9**	**-2.9**
	17nm,0.3s,baz=296,slow=18,SNR=16						
YAYL	**Yayladag**	**4.73**	**77**	*i* P	Pn	03 21 05.3	-2.4
YAYL				*i* S	**Sn**	**03 21 57.6**	**-3.8**
YAYL	**Yayladag**	**4.73**	**77**	*i* P	Pn	03 21 05.3	-2.4
YAYL				*i* S	**Sn**	**03 21 57.6**	**-3.8**
CHOS	**Chios island**	**4.80**	**314**	P	Pn	03 21 06.5	-2.2
CHOS				S	**Sn**	**03 21 59.5**	**-3.6**
CHOS	**Chios island**	**4.80**	**314**	*e*P	Pn	03 21 06.6	-2.2
CHOS	**Chios island**	**4.80**	**314**	P	Pn	03 21 06.5	-2.2
CHOS				S	**Sn**	**03 21 59.5**	**-3.6**
AFSR	**Af¯ar-Bala (A**	**4.83**	**25**	*e*PN	**Pn**	**03 21 08.4**	**-0.7**
AFSR	**Af¯ar-Bala (A**	**4.83**	**25**	*e*Pn	**Pn**	**03 21 08.4**	**-0.7**
HMAT	**Matruh**	**4.87**	**216**	P	Pn	03 21 09.0	-0.5
HMAT				S	**Sn**	**03 22 01.5**	**-3.1**
BRBR	**Barbar**	**4.88**	**109**	*e*P	**Pn**	**03 21 08.7**	**-1.2**
BRBR				*e*S	**Sn**	**03 22 01.5**	**-3.6**
BRBR	comp=Z,54nm,0.6s			AML	AML	03 22 05.4	
BRBR	comp=E,54nm,0.5s			AML	AML	03 22 05.5	
BRBR	comp=N,29nm,0.4s			AML	AML	03 22 07.2	
BRBR	**Barbar** SNR=90	**4.88**	**109**	*e*P	**Pn**	**03 21 08.7**	**-1.2**
BRBR	comp=N,29nm,0.4s,SNR=90			*e*S	**Sn**	**03 22 01.5**	**-3.6**
HAWK	**Haweek**	**4.96**	**95**	*e*P	**Pn**	**03 21 08.8**	**-2.0**
HAWK				*e*S	Sn	03 22 01.0	-5.9
HAWK	comp=E,33nm,0.3s			AML	AML	03 22 05.2	
HAWK	comp=N,34nm,0.2s			AML	AML	03 22 05.9	
HAWK	comp=Z,29nm,0.4s			AML	AML	03 22 08.4	
HAWK	**Haweek** SNR=90	**4.96**	**95**	*e*P	**Pn**	**03 21 08.8**	**-2.0**
HAWK				*e*S	Sn	03 22 01.0	-5.9
	comp=Z,29nm,0.4s,SNR=90						
RSH		**4.97**	**145**	P	Pn	03 21 09.2	-1.7
VAM	**Vamos**	**5.10**	**275**	*e*P	**Pn**	**03 21 11.7**	**-1.0**
TCHB	**Talchebab**	**5.21**	**116**	*e*P	**Pn**	**03 21 13.7**	**-0.6**
TCHB				*e*S	**Sn**	**03 22 10.0**	**-3.1**
TCHB	comp=N,66nm,0.5s			AML	AML	03 22 16.6	
TCHB	comp=Z,19nm,0.7s			AML	AML	03 22 18.1	
TCHB	comp=E,45nm,0.4s			AML	AML	03 22 22.6	
TCHB	**Talchebab** SNR=90	**5.21**	**116**	*e*P	**Pn**	**03 21 13.7**	**-0.6**
TCHB				*e*S	**Sn**	**03 22 10.0**	**-3.1**
	comp=E,45nm,0.4s,SNR=90						
TOTH	**TOTAH**	**5.27**	**107**	*e*P	**Pn**	**03 21 14.9**	**-0.1**
TOTH				*e*S	**Sn**	**03 22 10.8**	**-3.7**
TOTH	comp=Z,15nm,0.3s			AML	AML	03 22 14.8	
TOTH	comp=E,26nm,0.5s			AML	AML	03 22 16.7	
TOTH	comp=N,20nm,0.2s			AML	AML	03 22 18.0	
TOTH	**TOTAH** SNR=90	**5.27**	**107**	*e*P	**Pn**	**03 21 14.9**	**-0.1**
TOTH				*e*S	**Sn**	**03 22 10.8**	**-3.7**
	comp=N,20nm,0.2s,SNR=90						
BRTR	**Keskin Array B** comp=N,0.1nm,0.3s,baz=196,slow=17,SNR=6.8	**5.28**	**28**	Pn	**Pn**	**03 21 13.2**	**-2.1**
HHAG	**Hagoal**	**5.32**	**164**	P	**Pn**	**03 21 15.1**	**-0.7**
GULT	**Gulveren**	**5.33**	**1**	*e*PN	**Pn**	**03 21 15.3**	**-0.6**
GULT	**Gulveren**	**5.33**	**1**	*e*Pn	**Pn**	**03 21 15.3**	**-0.6**
KARN	**Karanos**	**5.33**	**275**	*e*P	**Pn**	**03 21 15.0**	**-0.9**
GONE	**Gonen-Balikesi**	**5.40**	**337**	*e*PN	**Pn**	**03 21 14.8**	**-1.9**
GONE	**Gonen-Balikesi**	**5.40**	**337**	*e*Pn	**Pn**	**03 21 14.8**	**-1.9**
SLUM		**5.65**	**232**	P	Pn	03 21 18.7	-1.5
SALA	**Sala**	**5.76**	**113**	*e*P	**Pn**	**03 21 22.1**	**+0.1**
SALA				*e*S	**Sn**	**03 22 23.7**	**-3.2**
SALA	comp=N,23nm,0.4s			AML	AML	03 22 30.2	
SALA	comp=E,1.7nm,0.4s			AML	AML	03 22 30.3	
SALA	comp=Z,15nm,0.4s			AML	AML	03 22 30.9	
SALA	**Sala** SNR=90	**5.76**	**113**	*e*P	**Pn**	**03 21 22.1**	**+0.1**
SALA				*e*S	**Sn**	**03 22 23.7**	**-3.2**
	comp=Z,15nm,0.4s,SNR=90						
HNKL	**Nakhl**	**5.96**	**149**	P	Pn	03 21 22.6	-2.0
KYTH	**Kithira**	**6.12**	**283**	*e*P	**Pn**	**03 21 25.4**	**-1.4**
ZALF	**Zalf**

0.2nm,0.3s,baz=176,slow=13,SNR=6.5
MJAR Matsushiro Arr 8.46 48 P **Pn 03 45 00.2 +2.7**
0.5nm,0.3s,baz=239,slow=15,SNR=6.2
MJAR S **Sn 03 46 31.2 -0.5**
0.4nm,0.3s,baz=252,slow=20,SNR=5.7
SONM Songino Array 24.75 319 P **P 03 48 05.2 +0.1**
0.7nm,0.5s,baz=145,slow=11,SNR=4.0
MKAR Makanchi Array 39.86 307 P **P 03 50 16.4 +0.1**
0.2nm,0.5s,baz=90,slow=9.8,SNR=4.1
MKAR PcP **PcP 03 52 18.7 -0.2**
0.2nm,0.6s,baz=75,slow=5.9,SNR=2.9
KURBB Kurchatov Arra 42.76 312 P **P 03 50 39.2 -0.6**
0.4nm,0.4s,baz=93,slow=8.6,SNR=6.6
FITZ Fitzroy Crossi 49.17 186 P **P 03 51 30.8 +0.6**
1.5nm,0.6s,baz=20,slow=3.4,SNR=7.6
WRA Warramunga Arr 50.93 175 P **P 03 51 43.7 +0.2**
0.5nm,0.4s,baz=355,slow=7.9,SNR=3.1
ASAR Alice Springs 54.60 176 P **P 03 52 10.5 +0.1**
0.3nm,0.3s,baz=358,slow=6.1,SNR=11
ARCES ARCESS Array B 66.15 338 P **P 03 53 27.7 -0.5**
2.5nm,0.9s,baz=46,slow=8.8,SNR=6.3
JOF Joensuu 66.68 331 *ep* **P 03 53 30.3 -1.3**
3.8nm,0.5s
KBZ Khabaz 67.54 308 P **P 03 53 38.6 +1.2**
3.0nm,0.8s,baz=30,slow=2.1,SNR=7.7
FINES FINESS Array B 69.53 330 P **P 03 53 48.9 -0.5**
2.1nm,0.5s,baz=63,slow=6.3,SNR=29
AKASG Malin Array Be 73.03 319 P **P 03 54 10.2 -0.4**
1.1nm,0.4s,baz=57,slow=6.3,SNR=12
BRTR Keskin Array B 75.51 308 P **P 03 54 25.9 +0.6**
2.4nm,0.8s,baz=105,slow=4.8,SNR=14
NOA NORSAR Array B 75.74 334 P **P 03 54 25.3 -0.8**
0.8nm,0.8s,baz=50,slow=5.6,SNR=3.4
GERES GERESS Array B 82.40 323 P **P 03 55 03.0 +0.3**
0.4nm,0.6s,baz=40,slow=4.4,SNR=4.5
TORD Torodi Ar. Bea 113.92 304 PKP **PKiKP 04 01 18.1 -0.9**
0.5nm,1.1s,baz=21,slow=1.2,SNR=4.7

*AUST **24** 03:47:43.0,26°.14S×179°.96W,h300km*
*ISCJB **24** 03:47:55.7±0.8,24°.68S±0°.09×179°.9E±0°.1,h501km, mb3.7/10, Error ellipse: s-maj=15.1km s-min=11.9km az=177.6*
*IDC **24** 03:47:55.2±2.8,24°.68S×179°.89E,h485km±29km, mb3.3/10,mb1 3.5/11,mb1mx3.4/18,mbtmp3.3/11, Error ellipse: s-maj=21.7km s-min=19.3km az=13.0*
ISC 24 03:47:56.5±0.8,24°.8S±0°.1×180°.0E±0°.1,h501km,n21, σ0$88/23,mb3.7/10,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.70**	**280**	P			**P**	**03 50 44.5**	**+1.8**
	0.7nm,0.3s,baz=113,slow=21,SNR=6.2								
URZ	**Urewera**	**13.66**	**190**	P			**P**	**03 50 51.2**	**-1.2**
	0.7nm,0.3s,baz=311,slow=4.1,SNR=5.0								
URZ				S			**S**	**03 53 17.9**	**+0.4**
	0.4nm,0.3s,baz=45,slow=23,SNR=3.0								
CMSA	**Cobar Meteorol**	**30.87**	**250**	P			**P**	**03 53 31.6**	**+0.3**
	baz=30,SNR=5.9								
CTA	**Charters Tower**	**31.46**	**272**	P			**P**	**03 53 36.5**	**0.0**
	11nm,0.4s,baz=98,slow=12,SNR=25								
QLP	**Quilpie**	**32.19**	**259**	P			**P**	**03 53 42.2**	**-0.5**
	baz=32,SNR=4.6								
MTSU	**Mount Surprise**	**33.76**	**274**	P			**P**	**03 53 56.2**	**0.0**
	baz=34,SNR=13								
STKA	**Stephens Creek**	**34.37**	**249**	P			**P**	**03 54 00.6**	**-0.5**
	1.9nm,0.5s,baz=118,slow=17,SNR=4.7								
ASAR	**Alice Springs**	**41.87**	**262**	P			**P**	**03 55 01.5**	**-1.0**
	2.0nm,0.6s,baz=96,slow=8.5,SNR=29								
WRA	**Warramunga Arr**	**42.32**	**267**	P			**P**	**03 55 04.7**	**-1.4**
	5.9nm,0.5s,baz=104,slow=8.0,SNR=28								
WRA				ScP			**ScP**	**03 59 52.4**	**+1.3**
	1.4nm,0.8s,baz=105,slow=3.8,SNR=5.3								
KNRA	**Kununurra**	**48.66**	**271**	P			**P**	**03 55 53.8**	**-0.8**
	baz=49,SNR=4.1								
FITZ	**Fitzroy Crossi**	**50.73**	**266**	P			**P**	**03 56 09.9**	**0.0**
	baz=51,SNR=4.3								
FITZ	**Fitzroy Crossi**	**50.73**	**266**	P			**P**	**03 56 09.2**	**-0.7**
	4.2nm,0.7s,baz=122,slow=8.3,SNR=13								
VNDA	**Vanda**	**51.85**	**185**	P			**P**	**03 56 30.1**	**+1.2**
	0.3nm,0.5s,baz=4.7,slow=6.4,SNR=3.1								
MAW	**Mawson**	**76.92**	**201**	P			**P**	**03 58 56.9**	**+0.6**
	0.5nm,0.5s,baz=102,slow=9.3,SNR=3.5								
PETK	**Petropavlovsk-**	**79.94**	**347**	P			**P**	**03 59 12.1**	**-0.6**
	0.6nm,0.5s,baz=146,slow=8.2,SNR=3.9								
NVAR	**Mina Array Bea**	**85.40**	**44**	P			**P**	**03 59 41.1**	**+0.3**
	0.6nm,0.8s,baz=221,slow=7.9,SNR=4.9								
TXAR	**Lajitas Array**	**90.92**	**58**	P			**P**	**04 00 07.2**	**+0.4**
	0.6nm,0.8s,baz=221,slow=5.0,SNR=4.3								
ARCES	**ARCESS Array B**	**132.74**	**348**	PKP			**PKPdf**	**04 06 12.7**	**-0.6**
	0.8nm,0.7s,baz=45,slow=1.4,SNR=3.5								
AKASG	**Malin Array Be**	**145.69**	**327**	PKPbc			**PKPdf**	**04 06 37.5**	**+0.3**
	0.2nm,0.3s,baz=40,slow=3.3,SNR=3.8								
BRTR	**Keskin Array B**	**148.07**	**306**	PKPbc			**PKPbc**	**04 06 44.5**	**-1.2**
	0.2nm,0.4s,baz=106,slow=3.1,SNR=2.9								
TORD	**Torodi Ar. Bea**	**168.32**	**188**	PKPab			**PKPab**	**04 08 17.9**	**-0.1**
	0.3nm,0.7s,baz=177,slow=5.1,SNR=4.6								

*IDC **24** 03:57:10.4±5.6,23°.52S×68°.16W,h104km±49km,mb3.8/3, mb1 3.9/4,mb1mx3.5/17,mbtmp3.9/4, Error ellipse: s-maj=54.9km s-min=46.6km az=133.0*
*GUC **24** 03:57:11.3±0.4,23°.33S×68°.90W,h139km±11km,ML4.2*
ISC 24 03:57:10.5±0.9,23°.46S±0°.09×68°.6W±0°.1,h122km±10km, n13,σ1$17/17,3C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**1.46**	**272**	⇑*i*P			**Pn**	**03 57 39.0**	**+1.2**
CEN1				*i* S			**Sn**	**03 57 59.7**	**+1.3**
CEN1				AML			AML	03 58 00.8	
	comp=N,2μm,0.6s								
MACH	**Maria Elena**	**1.64**	**320**	⇑*i*P			**Pn**	**03 57 39.8**	**-0.3**
MACH				*i* S			**Sn**	**03 58 01.5**	**-0.9**
ANCH	**Antofagasta**	**1.66**	**262**	*i* P			**Pn**	**03 57 39.8**	**-0.2**
ANCH				*i* S			**Sn**	**03 58 01.4**	**-1.1**
ANCH				AML			AML	03 58 03.4	
	comp=N,3μm,0.5s								
PB09	**Plate Boundary**	**1.75**	**341**	⇑*i*P			**Pn**	**03 57 41.6**	**+0.3**
PB09				*i* S			**Sn**	**03 58 04.9**	**+0.2**
PB09				AML			AML	03 58 06.4	
	comp=E,8μm,0.6s								
PB10	**Plate Boundary**	**1.78**	**268**	⇓*i*P			**Pn**	**03 57 40.9**	**-0.5**
PB10				*i* S			**Sn**	**03 58 03.6**	**-1.5**
PB10				AML			AML	03 58 08.8	
	comp=N,4μm,0.3s								
LPAZ	**La Paz**	**7.15**	**4**	P			**Pn**	**03 58 53.5**	**+0.5**
	comp=N,5.1nm,0.3s,baz=202,slow=5.6,SNR=150								
H03N1	**Juan Fernandez**	**13.45**	**220**	T			T	04 12 49.9	
	baz=42,slow=0.7,SNR=14								
H03N2	**Juan Fernandez**	**13.46**	**220**	T			T	04 12 24.4	
	baz=42,slow=0.7,SNR=12								
H03N3	**Juan Fernandez**	**13.46**	**220**	T			T	04 12 20.4	
	baz=42,slow=0.7,SNR=2.8								
BDFB	**Brasilia**	**20.89**	**72**	P			**P**	**04 01 40.8**	**-2.6**
	comp=N,1.0nm,0.6s,baz=252,slow=14,SNR=3.6								
TORD	**Torodi Ar. Bea**	**77.76**	**70**	P			**P**	**04 08 54.5**	**-0.1**
	comp=N,2.9nm,0.6s,baz=262,slow=5.7,SNR=61								
TORD				pP			**pP**	**04 09 25.5**	**+0.1**
	comp=N,0.3nm,0.4s,baz=259,slow=5.9,SNR=4.5								
MAW	**Mawson**	**82.39**	**163**	P			**P**	**04 09 19.6**	**+1.1**
	comp=N,1.0nm,0.3s,baz=216,slow=8.7,SNR=4.2								
MKAR	**Makanchi Array**	**147.03**	**38**	PKPbc			**PKPbc**	**04 16 39.8**	**+0.8**
	comp=N,1.1nm,0.7s,baz=330,slow=4.2,SNR=7.2								
MKAR				pPKPbc			**pPKPbc**	**04 17 12.5**	**+0.9**
	comp=N,0.6nm,0.6s,baz=306,slow=4.2,SNR=3.9								

NNC 24 03:57:36.0±1.6,50°.57N×73°.45E,h0km,mb3.5,mpv3.2, 10C-4D,Error ellipse: s-maj=22.3km s-min=11.4km az=34.0,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VOSK	**Vostochnaya**	**2.65**	**325**	⇑Pn			Pn	03 58 18.1	-1.8
	5.2nm,0.6s								
VOSK				⇓Sn			Sn	03 58 49.6	-3.1
	50nm,0.7s								
BVA0	**Borovoye Array**	**3.10**	**323**	Pn			Pn	03 58 28.3	+2.0
	3.3nm,0.5s,baz=121,slow=16,SNR=18								
BVA0				⇑Sn			Sb	03 59 08.3	-2.2
	30nm,0.8s,baz=120,slow=28,SNR=14								
BRVK	**Borovoye**	**3.17**	**323**	⇓Pn			Pn	03 58 28.4	+1.3
	7.4nm,0.7s								
BRVK				⇑Sn			Sn	03 59 07.7	+2.0
	70nm,0.7s								

KURBB	**Kurchatov Arra**	**3.24**	**87**	⇑Pn			Pn	03 58 26.5	-1.6
	6.3nm,0.8s								
KURBB				⇓Pg			Pb	03 58 31.1	-3.3
	9.5nm,0.6s								
KURBB				⇑Sn			Sn	03 59 10.5	+3.2
	50nm,1.1s								
KURBB				⇑Lg			Lg	03 59 19.1	
	55nm,0.7s								
MK31	**Makanchi Array**	**6.97**	**119**	⇓Lg			Lg	04 01 16.0	
	7.1nm,0.8s,baz=317,slow=26,SNR=5.5								
KK31	**Karatay Array**	**7.74**	**196**	⇑Pn			Pn	03 59 32.3	+2.4
	1.0nm,0.9s,baz=12,slow=14,SNR=4.5								
KK31				⇑Lg			Lg	04 01 41.7	
	3.9nm,0.8s,baz=5.7,slow=27,SNR=4.1								
TKM2	**Tokmak 2**	**7.80**	**168**	⇑Lg			Lg	04 01 46.0	
	10nm,0.9s								
AB31	**Akbulak array**	**8.82**	**267**	⇑Lg			Lg	04 02 16.7	
	2.5nm,1.0s								

*ISCJB **24** 04:08:13.5±1.3,16°.51N±0°.05×99°.75W±0°.04,h16km±10km, mb3.6/4, Error ellipse: s-maj=9.1km s-min=5.5km az=22.4*
*MEX **24** 04:08:15.6±0.9,16°.47N×99°.81W,h9km±13km,MD3.9*
*IDC **24** 04:08:16.8±3.0,16°.91N×99°.56W,h0km,mb3.8/4, mb1 4.0/8,mb1mx3.8/27,mbtmp3.7/8,ML3.5/4,MS3.0/2, Ms1 3.0/2,ms1mx2.7/32, Error ellipse: s-maj=68.5km s-min=25.6km az=32.0*
ISC 24 04:08:13.8±1.8,16°.59N±0°.07×99°.71W±0°.04,h1km±11km, n22,σ1$52/27,mb3.9/4,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.70**	**311**	*e*P			**Pg**	**04 08 27.6**	**+0.2**
CAIG				*e*S			**Sg**	**04 08 36.8**	**+0.3**
MEIG	**Mezcala**	**1.34**	**4**	*e*P			**Pg**	**04 08 38.0**	**-1.5**
MEIG				*e*S			**Sg**	**04 08 57.1**	**+0.2**
TLIG	**Tlapa**	**1.47**	**48**	*e*P			**Pn**	**04 08 40.4**	**-1.2**
TLIG				*i* S			**Sg**	**04 09 00.4**	**-0.6**
PNIG	**Pinotepa**	**1.53**	**97**	*e*P			**Pn**	**04 08 40.9**	**-1.5**
PNIG				*i* S			**Sn**	**04 09 00.8**	**-2.2**
ARIG	**Puente Sto Nin**	**1.79**	**340**	*e*P			**Pn**	**04 08 45.1**	**-0.9**
ARIG				*i* S			**Sn**	**04 09 07.1**	**-2.3**
PLIG	**Platanillo**	**1.81**	**6**	*e*P			**Pn**	**04 08 45.6**	**-0.7**
PLIG				*i* S			**Sn**	**04 09 09.3**	**-0.6**
ZIIG	**Zihuatanejo**	**1.96**	**302**	*e*P			**Pn**	**04 08 46.3**	**-1.9**
ZIIG				*i* S			**Sn**	**04 09 09.7**	**-3.8**
UTMO	**Huajuapan**	**2.21**	**56**	*e*P			**Pn**	**04 08 50.8**	**-1.0**
UTMO				*i* S			**Sn**	**04 09 18.9**	**-1.0**
YAIG	**Yautepec**	**2.35**	**15**	*e*P			**Pn**	**04 08 52.4**	**-1.3**
YAIG				*i* S			**Sn**	**04 09 23.1**	**-0.2**
APG	**El Apazote**	**9.04**	**99**	Pn			**Pn**	**04 10 26.7**	**+0.9**
	0.7nm,0.3s,baz=282,slow=19,SNR=8.6								
APG				Sn			**Sn**	**04 12 07.4**	**-1.0**
	0.2nm,0.3s,baz=233,slow=20,SNR=2.4								
APG				Lg			Lg	04 13 07.0	
	0.2nm,0.3s,baz=28,slow=17,SNR=3.7								
APG				LR			LR	04 14 16.1	
	comp=Z,79nm,18.5s,baz=301,slow=40								
H06E1	**SOCORRO T-PHAS**	**10.91**	**283**	T			T	04 21 51.5	
	SNR=36								
H06S1	**SOCORRO T**	**10.93**	**283**	T			T	04 21 51.6	
	SNR=8.8								
TXAR	**Lajitas Array**	**13.20**	**345**	Pn			**Pn**	**04 11 25.3**	**+2.7**
	0.0nm,0.3s,baz=163,slow=13,SNR=3.8								
TXAR				Lg			Lg	04 15 15.6	
	0.0nm,0.3s,baz=161,slow=34,SNR=3.8								
JTS	**JuntasAbangare**	**15.66**	**112**	Pn			**P**	**04 12 01.0**	**+0.8**
	0.8nm,0.3s,baz=299,slow=13,SNR=4.9								
ANMO	**Albuquerque**	**19.26**	**343**	P			**P**	**04 12 40.0**	**-0.1**
	0.1nm,0.3s,baz=158,slow=14,SNR=4.1								
ANMO				LR			LR	04 21 26.3	
	comp=Z,61nm,20.1s,baz=36,slow=42								
TKL	**Tuckaleechee C**	**23.72**	**34**	P			**P**	**04 13 27.2**	**-0.2**
	4.3nm,1.1s,baz=196,slow=14,SNR=3.6								
NVAR	**Mina Array Bea**	**27.20**	**327**	P			**P**	**04 14 01.1**	**+1.8**
	2.0nm,0.7s,baz=142,slow=11,SNR=14								
PDAR	**Pinedale Array**	**27.42**	**344**	P			**P**	**04 14 01.9**	**+0.5**
	1.6nm,0.8s,baz=146,slow=10,SNR=13								
H03N2	**Juan Fernandez**	**53.55**	**158**	T			T	05 15 14.9	
	baz=337,slow=0.7,SNR=75								
H03N1	**Juan Fernandez**	**53.56**	**158**	T			T	05 15 18.4	
	baz=337,slow=0.7,SNR=108								
H03N3	**Juan Fernandez**	**53.57**	**158**	T			T	05 15 17.4	
	baz=337,slow=0.7,SNR=80								
ILAR	**Eielson Array**	**57.61**	**338**	P			**P**	**04 18 06.1**	**+0.8**
	0.2nm,0.6s,baz=148,slow=6.5,SNR=3.7								

*ISCJB **24** 04:08:17.6±0.7,23°.05±0°.2×175°.1W±0°.2,h30km,mb4.0/11, Error ellipse: s-maj=27.7km s-min=15.9km az=147.3*
*IDC **24** 04:08:21.0±0.8,22°.99S×175°.03W,h45km±6km,mb3.8/11, mb1 4.0/11,mb1mx3.9/19,mbtmp3.8/11,MS3.2/1, Ms1 3.2/1,ms1mx2.7/23, Error ellipse: s-maj=27.9km s-min=15.2km az=149.0*
ISC 24 04:08:19.8±0.7,23°.1S±0°.2×175°.0W±0°.2,h30km,n18, σ1$87/18,mb4.0/11,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.62**	**19**	S			Sn	04 12 05.6	-18
	3.6nm,0.3s,baz=66,slow=20,SNR=2.5								
URZ	**Urewera**	**16.57**	**202**	S			Sn	04 14 56.8	-16
	0.3nm,0.3s,baz=323,slow=20,SNR=2.4								
DZM	**Mont Dzumac**	**17.14**	**270**	LR			LR	04 16 24.1	
	comp=Z,87nm,21.4s,baz=136,slow=28								
TBI	**Tubuai**	**23.50**	**96**	*e*LR			LR	04 18 48.3	
	99nm,25.8s								
PPT2	**Papeete2**	**24.47**	**82**	*e*LR			LR	04 19 09.5	
	100nm,26.5s								
CTA	**Charters Tower**	**36.05**	**267**	P			**P**	**04 15 18.2**	**-0.7**
	2.5nm,0.4s,baz=95,slow=11,SNR=5.8								
STKA	**Stephens Creek**	**39.26**	**247**	P			**P**	**04 15 45.1**	**-0.7**
	1.3nm,0.6s,baz=86,slow=10,SNR=3.6								
ASAR	**Alice Springs**	**46.67**	**259**	P			**P**	**04 16 44.9**	**-1.2**
	1.0nm,0.8s,baz=94,slow=7.5,SNR=9.2								
ASAR				pP			**pP**	**04 16 59.0**	**+3.9**
	1.0nm,0.7s,baz=96,slow=7.0,SNR=4.8								
WRA	**Warramunga Arr**	**47.02**	**264**	P			**P**	**04 16 47.6**	**-1.2**
	1.7nm,0.5s,baz=103,slow=8.3,SNR=18								
WRA				pP			**pP**	**04 17 00.8**	**+3.0**
	1.6nm,0.5s,baz=96,slow=8.6,SNR=7.0								
QSPA	**South Pole Qui**	**67.01**	**180**	P			**P**	**04 19 09.7**	**-0.1**
	0.5nm,0.8s								
PETK	**Petropavlovsk-**	**79.48**	**344**	P			**P**	**04 20 22.8**	**-0.3**
	0.7nm,0.4s,baz=117,slow=5.5,SNR=4.9								
MAW	**Mawson**	**80.07**	**199**	P			**P**	**04 20 26.4**	**+0.1**
	1.2nm,0.6s,baz=132,slow=7.1,SNR=7.0								
NVAR	**Mina Array Bea**	**81.05**	**42**	P			**P**	**04 20 31.2**	**-1.1**
	1.4nm,0.8s,baz=225,slow=9.0,SNR=9.4								
NVAR				pP			**pP**	**04 20 44.3**	**+2.5**
	1.3nm,1.0s,baz=223,slow=9.2,SNR=3.4								
TXAR	**Lajitas Array**	**86.16**	**56**	P			**P**	**04 20 57.0**	**-1.5**
	0.6nm,0.9s,baz=207,slow=7.9,SNR=5.2								
TXAR				pP			**pP**	**04 21 10.6**	**+2.5**
	1.2nm,1.1s,baz=186,slow=3.8,SNR=3.7								
PDAR	**Pinedale Array**	**88.98**	**42**	P			**P**	**04 21 10.6**	**-1.3**
	0.3nm,0.7s,baz=246,slow=6.8,SNR=3.2								
ILAR	**Eielson Array**	**90.23**	**12**	P			**P**	**04 21 15.8**	**-1.2**
	0.9nm,0.9s,baz=218,slow=6.2,SNR=6.6								
ILAR				pP			**pP**	**04 21 29.1**	**+2.4**
	0.9nm,1.0s,baz=206,slow=7.3,SNR=3.8								
AKASG	**Malin Array Be**	**146.58**	**332**	PKPbc			**PKPdf**	**04 27 56.6**	**0.0**
	0.2nm,0.3s,baz=36,slow=3.5,SNR=4.5								
BRTR	**Keskin Array B**	**150.60**	**311**	PKPbc			**PKPbc**	**04 28 08.7**	**-0.5**
	0.7nm,0.9s,baz=77,slow=3.1,SNR=3.4								

*LDG **24** 04:10:27.9±0.1,46°.38N×13°.12E,h5km,Ml2.7/5,Error ellipse: s-maj=5.7km s-min=2.7km az=10.0*
*ROM **24** 04:10:27.9±0.1,46°.41N×13°.07E,h3km,Md2.6/18, Ml2.7/18,Error ellipse: s-maj=1.4km s-min=1.0km az=20.0*
*CSEM **24** 04:10:27.8±0.1,46°.41N×13°.06E,h8km,MD3.1,Error ellipse: s-maj=1.6km s-min=1.1km az=14.0*
*VIE **24** 04:10:27.5±0.1,46°.40N×13°.06E,h10km,mb2.2/12, ML2.7/16,Error ellipse: s-maj=1.0km s-min=0.6km az=7.0 4 km E of Tolmezzo*
*STR **24** 04:10:27.7±0.2,46°.53N×13°.38E,h5km,Ml2.6,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*PRU **24** 04:10:30.2,46°.49N×13°.12E,h8km*
ISC 24 04:10:28.2±0.7,46°.41N±0°.01×13°.09E±0°.01,h14km±3km, n165,σ1$12/279,34C-42D,Austria

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

FUSE	**Fusea**	**0.06**	**274**	⇓*e*Pg			**Pg**	**04 10 30.3**	**-0.8**
FUSE				*e*Sg			**Sg**	**04 10 32.0**	**-0.9**
FUSE	**Fusea**	**0.06**	**274**	⇓*e*Pg			**Pg**	**04 10 30.3**	**-0.8**
FUSE				*e*Sg			**Sg**	**04 10 32.0**	**-0.9**
BOO	**Bordano**	**0.09**	**177**	⇓*i*Pg			**Pg**	**04 10 30.6**	**-0.7**
BOO	**Bordano**	**0.09**	**177**	⇓*i*Pg			**Pg**	**04 10 30.6**	**-0.7**
GEPF	**Gemona**	**0.14**	**167**	Pg			**Pg**	**04 10 31.2**	**-0.6**
GEPF				*e*Sg			**Sg**	**04 10 33.6**	**-0.6**
PLRO	**Paularo**	**0.14**	**15**	⇑*e*Pg			**Pg**	**04 10 31.7**	**-0.4**
PLRO				*e*Sg			**Sg**	**04 10 34.8**	**0.0**
PLRO	**Paularo**	**0.14**	**15**	⇑*e*Pg			**Pg**	**04 10 31.7**	**-0.4**
PLRO				*e*Sg			**Sg**	**04 10 34.8**	**0.0**
ZOU	**Zoufplan**	**0.17**	**331**	⇑*e*Pg			**Pg**	**04 10 32.1**	**-0.4**
ZOU				*e*Sg			**Sg**	**04 10 35.3**	**-0.1**
ZOU	**Zoufplan**	**0.17**	**331**	⇑*i*Pg			**Pg**	**04 10 32.1**	**-0.4**
ZOU				*i* Sg			**Sg**	**04 10 35.3**	**-0.1**
ZOU	**Zoufplan**	**0.17**	**331**	⇑*e*Pg			**Pg**	**04 10 32.1**	**-0.4**
ZOU				*e*Sg			**Sg**	**04 10 35.3**	**-0.1**
PTCC	**Patocco-Chiusa**	**0.18**	**91**	Pg			**Pg**	**04 10 32.2**	**-0.3**
PTCC				Sg			**Sg**	**04 10 35.6**	**+0.2**
	1μm,0.2s								
PTCC	**Patocco-Chiusa**	**0.18**	**91**	Pg			**Pg**	**04 10 32.2**	**-0.3**
PTCC				*e*Sg			**Sg**	**04 10 35.6**	**+0.2**
MPRI	**Monte Prat**	**0.18**	**203**	⇓*e*Pg			**Pg**	**04 10 31.7**	**-0.9**
MPRI				*e*Sg			**Sg**	**04 10 34.9**	**-0.7**
MPRI	**Monte Prat**	**0.18**	**203**	⇓*e*Pg			**Pg**	**04 10 31.7**	**-0.9**
MPRI				*e*Sg			**Sg**	**04 10 34.8**	**-0.7**
BUA	**Buia**	**0.19**	**174**	⇑*e*Pg			**Pg**	**04 10 31.9**	**-0.8**
BUA	**Buia**	**0.19**	**174**	⇑*e*Pg			**Pg**	**04 10 31.9**	**-0.8**
VINO	**Villanova**	**0.20**	**140**	⇑*e*Pg			**Pg**	**04 10 32.1**	**-0.7**
VINO				*e*Sg			**Sg**	**04 10 35.2**	**-0.7**
VINO	**Villanova**	**0.20**	**140**	Pg			**Pg**	**04 10 32.1**	**-0.7**
VINO				Sg			**Sg**	**04 10 35.5**	**-0.4**
	226nm,0.3s								
VINO	**Villanova**	**0.20**	**140**	⇑*e*Pg			**Pg**	**04 10 32.1**	**-0.7**
VINO				*e*Sg			**Sg**	**04 10 35.2**	**-0.7**
BAD	**Bernadia**	**0.20**	**149**	⇑*e*Pg			**Pg**	**04 10 32.0**	**-0.8**
BAD				*e*Sg			**Sg**	**04 10 35.6**	**-0.4**
BAD	**Bernadia**	**0.20**	**149**	⇑*e*Pg			**Pg**	**04 10 32.0**	**-0.8**
BAD				*e*Sg			**Sg**	**04 10 35.6**	**-0.4**
FVI	**Forni Avoltri**	**0.29**	**311**	Pg			**Pg**	**04 10 33.8**	**-0.5**
FVI				Sg			**Sg**	**04 10 38.1**	**-0.3**
	739nm,0.1s								
FVI	**Forni Avoltri**	**0.29**	**311**	Pg			**Pg**	**04 10 33.8**	**-0.5**
FVI				*e*Sg			**Sg**	**04 10 38.1**	**-0.3**
LSR	**Lussari**	**0.31**	**77**	⇓*e*Pg			**Pg**	**04 10 34.4**	**-0.3**
LSR				*e*Sg			**Sb**	**04 10 39.6**	**-1.0**
LSR	**Lussari**	**0.31**	**77**	⇓*e*Pg			**Pg**	**04 10 34.4**	**-0.3**
LSR				*e*Sg			**Sb**	**04 10 39.6**	**-1.0**
ACOM	**Acomizza, Ital**	**0.32**	**64**	⇓*e*Pg			**Pg**	**04 10 34.7**	**-0.2**
ACOM				*e*Sg			**Sb**	**04 10 40.4**	**-0.6**
ACOM	**Acomizza, Ital**	**0.32**	**64**	Pg			**Pg**	**04 10 34.8**	**-0.2**
ACOM				Sg			**Sb**	**04 10 40.4**	**-0.6**
	2μm,0.2s								
ACOM	**Acomizza, Ital**	**0.32**	**64**	Pg			**Pg**	**04 10 34.8**	**-0.2**
ACOM				*e*Sg			**Sb**	**04 10 40.4**	**-0.6**
CSMI	**Casera Mimoias**	**0.32**	**289**	⇓*e*Pg			**Pg**	**04 10 34.1**	**-0.8**
CSMI				*e*Sg			**Sg**	**04 10 39.1**	**-0.4**
CSMI	**Casera Mimoias**	**0.32**	**289**	⇓*e*Pg			**Pg**	**04 10 34.1**	**-0.8**
CSMI				*e*Sg			**Sg**	**04 10 39.1**	**-0.4**
ROBS	**Robic**	**0.33**	**120**	*i* Pg			**Pg**	**04 10 34.2**	**-0.8**
ROBS				*i* Sg			**Sg**	**04 10 39.3**	**-0.4**
ROBS									
	comp=Z,38

SNR=7.2
OBKA ⇓*i*Sg **Sb** **04 11 01.7 +1.0**
comp=Z,23nm,0.2s
OBKA Obir 1.01 84⇓*e*Pg **Pg** **04 10 47.2 -0.5**
OBKA *i* Sg **Sb** **04 11 01.7 +1.0**
CGRP Cima Grappa 1.04 240⇑*e*Pg **Pg** **04 10 47.8 -0.6**
CGRP *e*Sg **Sg** **04 11 01.8 -0.2**
CGRP Cima Grappa 1.04 240 Pg **Pg** **04 10 47.8 -0.6**
CGRP Sg **Sb** **04 11 02.7 +1.0**
comp=Z,174nm,0.8s
CGRP Cima Grappa 1.04 240⇑*e*Pg **Pg** **04 10 47.8 -0.6**
CGRP *e*Sg **Sg** **04 11 01.8 -0.2**
KOSI Kohlern 1.19 273 Sg **Pb** **04 10 50.3 -0.3**
KOSI Sg **Sg** **04 11 06.2 -0.4**
comp=Z,119nm,0.4s
KOSI Kohlern 1.19 273 *e*Pg **Pb** **04 10 50.4 -0.2**
KOSI Sg **Sg** **04 11 06.2 -0.4**
comp=Z,119nm,0.4s
ABSI Aberstueckl 1.26 285 Pg **Pn** **04 10 51.7 +0.1**
ABSI Sg **Sb** **04 11 08.5 +0.4**
comp=Z,167nm,0.5s
ABSI Aberstueckl 1.26 285⇑*e*Pg **Pn** **04 10 51.7 +0.1**
ABSI Sg **Sb** **04 11 08.5 +0.4**
comp=Z,167nm,0.5s
ROSI Rosskopf 1.27 295 Pg **Pn** **04 10 52.0 +0.3**
ROSI Sg **Sn** **04 11 10.2 +1.6**
comp=Z,52nm,0.3s
ROSI Rosskopf 1.27 295 Pg **Pn** **04 10 52.0 +0.3**
ROSI Sg **Sn** **04 11 10.2 +1.6**
comp=Z,52nm,0.3s
PANI Panarotta 1.29 254 *e*Pg **Pn** **04 10 52.0 0.0**
PANI Panarotta 1.29 254 *e*Pg **Pn** **04 10 52.0 0.0**
APPI Appiano 1.29 274 Pg **Pn** **04 10 52.6 +0.7**
APPI Sg **Sb** **04 11 09.8 +1.0**
comp=Z,121nm,0.3s
APPI Appiano 1.29 274 Pg **Pn** **04 10 52.6 +0.7**
APPI Sg **Sb** **04 11 09.8 +1.0**
comp=Z,121nm,0.3s
WTTA Wattenberg 1.31 311 Pg **Pb** **04 10 53.2 +0.4**
comp=Z,30nm,0.4s
WTTA Wattenberg 1.31 311⇓*e*Pg **Pn** **04 10 53.1 +0.8**
SNR=16
WTTA ⇑*i*Sg **Sb** **04 11 10.6 +1.0**
comp=Z,18nm,0.3s
WTTA Wattenberg 1.31 311⇓*e*Pg **Pn** **04 10 53.1 +0.8**
WTTA *i* Sg **Sb** **04 11 10.6 +1.0**
SOKA Soboth 1.36 78 *e*Pn **Pn** **04 10 53.1 +0.2**
SNR=12
SOKA ⇑*i*Sn **Sg** **04 11 12.2 -0.1**
SOKA Soboth 1.36 78 *e*Pn **Pn** **04 10 53.1 +0.2**
SOKA *i* Sn **Sg** **04 11 12.2 -0.1**
WATA Walderalm 1.39 312⇑*i*Pn **Pn** **04 10 53.0 -0.3**
WATA ⇑*e*Pg **Pb** **04 10 54.6 +0.5**
SNR=12
WATA ⇓*i*Sn **Sb** **04 11 12.3 +0.5**
WATA Walderalm 1.39 312⇑*i*Pn **Pn** **04 10 53.0 -0.3**
DDS Dosso del Somm 1.43 249 *e*Pg **Pn** **04 10 54.2 +0.4**
DDS Dosso del Somm 1.43 249 *e*Pg **Pn** **04 10 54.2 +0.4**
TEOL Teolo 1.45 224 Pg **Pn** **04 10 54.7 +0.8**
TEOL Sg **Sn** **04 11 12.7 0.0**
comp=Z,299nm,0.5s
TEOL Teolo 1.45 224 Pg **Pn** **04 10 54.7 +0.8**
TEOL Sg **Sn** **04 11 12.7 0.0**
ROVR Rover¯¤ Verone 1.60 242 Pg **Pb** **04 10 57.6 0.0**
ROVR Sg **Sn** **04 11 18.3 +1.6**
comp=Z,352nm,0.3s
ROVR Rover¯¤ Verone 1.60 242 Pg **Pb** **04 10 57.6 0.0**
ROVR Sg **Sn** **04 11 18.3 +1.6**
MOA Molln 1.65 29⇓*e*Pn **Pn** **04 10 57.0 +0.2**
SNR=21
MOA ⇓*i*Pg **Pg** **04 10 59.1 -0.7**
MOA ⇑*i*Sg **Sg** **04 11 22.4 +1.1**
comp=Z,13nm,0.4s
MOA Molln 1.65 29⇓*e*Pn **Pn** **04 10 57.0 +0.2**
MOTA Moosalm 1.66 305⇑*i*Pn **Pn** **04 10 56.7 -0.2**
MOTA ⇑*e*Pg **Pb** **04 10 59.3 +0.8**
SNR=23
MOTA ⇓*i*Sn **Sn** **04 11 18.6 +0.5**
MOTA Moosalm 1.66 305⇑*i*Pn **Pn** **04 10 56.7 -0.2**
FETA Feichten 1.74 291⇓*i*Pg **Pb** **04 11 00.8 +0.8**
FETA Feichten 1.74 291⇓*i*Pg **Pb** **04 11 00.8 +0.8**
MOSI Grossmontoni 1.77 278 Pg **Pb** **04 11 00.4 -0.1**
MOSI Sg **Sb** **04 11 24.1 +1.5**
comp=Z,121nm,0.4s
MOSI Grossmontoni 1.77 278 *e*Pn **Pn** **04 11 00.0 +1.4**
MOSI Grossmontoni 1.77 278 Pg **Pb** **04 11 00.4 -0.1**
MOSI Sg **Sb** **04 11 24.1 +1.5**
comp=Z,121nm,0.4s
MAGA Magasa 1.83 251 Pg **Pb** **04 11 01.8 +0.3**
MAGA Sg **Sb** **04 11 25.8 +1.5**
comp=Z,421nm,0.5s
MAGA Magasa 1.83 251 Pg **Pb** **04 11 01.8 +0.3**
MAGA Sg **Sb** **04 11 25.8 +1.5**
ARSA Arzberg 1.87 62⇓*e*Pn **Pn** **04 11 00.8 +1.0**
SNR=6.1
ARSA Arzberg 1.87 62⇓*e*Pn **Pn** **04 11 00.8 +1.0**
BRMO Bormio 1.88 273 Pg **Pb** **04 11 02.8 +0.4**
comp=Z,30nm,0.5s
BRMO Bormio 1.88 273 Pg **Pb** **04 11 02.8 +0.4**
comp=Z,30nm,0.5s
RETA Reutte 1.93 305⇑*i*Pn **Pn** **04 11 00.4 -0.2**
RETA ⇑*e*Pg **Pb** **04 11 04.2 +1.1**
SNR=5.0
RETA ⇑*i*Sn **Sn** **04 11 25.0 +0.4**
RETA ⇑*e*Sg **Sg** **04 11 30.8 +0.6**
comp=Z,20nm,0.3s,SNR=6.1
RETA Reutte 1.93 305⇑*i*Pn **Pn** **04 11 00.4 -0.2**
FUORN Ofenpass-Fuorn 1.97 277 Pg **Pb** **04 11 03.8 -0.1**
FUORN Sg **Sb** **04 11 29.1 +0.8**
FUORN Ofenpass-Fuorn 1.97 277 Pg **Pb** **04 11 03.8 -0.1**
FUORN Sg **Sb** **04 11 29.1 +0.8**
KOGS Kog 2.18 88 *i* Sn **Sb** **04 11 33.2 -1.1**
KOGS Kog 2.18 88 *i* Sn **Sb** **04 11 33.2 -1.1**
NVLJ Novalja 2.23 145 *e*Pn **Pn** **04 11 05.0 +0.3**
NVLJ Sn **Sn** **04 11 33.2 +1.2**
NVLJ Novalja 2.23 145 *e*Pn **Pn** **04 11 05.0 +0.3**
NVLJ Sn **Sn** **04 11 33.2 +1.2**
CONA Conrad Observa 2.42 50⇓*e*Pn **Pn** **04 11 09.2 +1.7**
SNR=4.9
CONA Conrad Observa 2.42 50⇓*e*Pn **Pn** **04 11 09.2 +1.7**
UDBI Udbina 2.66 134 *i* Pn **Pn** **04 11 12.1 +1.4**
UDBI Sn **Sb** **04 11 46.4 -1.7**
UDBI Udbina 2.66 134 *i* Pn **Pn** **04 11 12.0 +1.4**
UDBI Sn **Sb** **04 11 46.4 -1.7**
KHC Kasperske Hory 2.74 7 *e*PN **Pn** **04 11 12.6 +0.8**
KHC *e*PG **Pg** **04 11 20.0 -0.8**
KHC *e*SN **Sn** **04 11 46.2 +1.5**
KHC *e*SG **Sg** **04 11 54.3 -2.0**
comp=Z,6.6nm,0.5s
KHC Kasperske Hory 2.74 7 Pn **Pn** **04 11 12.6 +0.8**
SPAK Spaichingen-Ko 3.39 302 Pn **Pn** **04 11 21.1 +0.4**
PRU Pruhonice 3.71 15 *e*SG **Sg** **04 12 24.5 -2.8**
comp=Z,8.2nm,1.0s
PRU Pruhonice 3.71 15 Sg **Sg** **04 12 24.5 -2.8**
comp=Z,8.2nm,1.0s
FELD Feldberg im Sc 3.77 295 Pn **Pn** **04 11 26.9 +0.9**
FELD Feldberg im Sc 3.77 295 Pn **Pn** **04 11 26.9 +0.9**
NKC Novy Kostel 3.85 354 *e*SN **Sn** **04 12 13.0 +1.0**
NKC *e*SG **Sg** **04 12 29.3 -2.5**
comp=Z,2.6nm,0.4s
NKC Novy Kostel 3.85 354 Sn **Sn** **04 12 13.0 +1.0**
NKC Sg **Sg** **04 12 29.3 -2.5**
comp=Z,2.6nm,0.4s
BBS Basel-Blauen 3.97 287 Pn **Pn** **04 11 29.6 +1.0**
MOF Molkenrain 4.32 292 Pn **Pn** **04 11 34.2 +0.7**
MOF Molkenrain 4.32 292 Pn **Pn** **04 11 34.2 +0.7**
LOMF Lomont 4.40 285 Pn **Pn** **04 11 35.6 +1.0**
LOMF Lomont 4.40 285 Pn **Pn** **04 11 35.6 +1.0**
CDF Champ du Feu 4.43 299 *e*Pn **Pn** **04 11 35.8 +0.8**
CDF *e*Sn **Sn** **04 12 22.5 -3.9**
comp=Z,2.2nm,0.4s
CDF Champ du Feu 4.43 299 *e*Pn **Pn** **04 11 35.8 +0.8**
CDF *e*Sn **Sn** **04 12 22.5 -3.9**
comp=Z,1.1nm,0.4s
HINF Hinteralfeld 4.49 291 *e*Pn **Pn** **04 11 36.1 +0.3**
HINF *e*Sn **Sn** **04 12 24.1 -3.6**
comp=Z,3.5nm,0.3s
HINF Hinteralfeld 4.49 291 *e*Pn **Pn** **04 11 36.1 +0.3**
HINF *e*Sn **Sn** **04 12 24.1 -3.6**
comp=Z,1.8nm,0.3s
DPC Dobruska-Polom 4.49 27 *e*SG **Sg** **04 12 48.7 -3.6**
comp=Z,12nm,0.6s
DPC Dobruska-Polom 4.49 27 Sg **Sg** **04 12 48.7 -3.6**
comp=Z,12nm,0.6s
BRG Berggiesshubel 4.50 7 SG **Sg** **04 12 51.8 -0.9**
comp=Z,4.2nm,0.9s
MBDF Montbardon 4.75 252 *e*Pn **Pn** **04 11 38.4 -1.1**
MBDF Montbardon 4.75 252 *e*Pn **Pn** **04 11 38.4 -1.1**
STON Ston 4.83 135 *i* Pn **Pn** **04 11 42.4 +2.0**
STON Sn **Sn** **04 12 37.3 +1.3**
STON Ston 4.83 135 *i* Pn **Pn** **04 11 42.3 +2.0**
STON Sn **Sn** **04 12 37.3 +1.3**
CABF La Chapelle 4.84 275 *e*Pn **Pn** **04 11 41.2 +0.5**
CABF La Chapelle 4.84 275 *e*Pn **Pn** **04 11 41.2 +0.5**
HAU Haudompre 4.87 292 *e*Pn **Pn** **04 11 41.5 +0.5**
HAU *e*Sn **Sn** **04 12 33.3 -3.8**
comp=Z,6.3nm,0.5s
HAU Haudompre 4.87 292 *e*Pn **Pn** **04 11 41.5 +0.5**
HAU *e*Sn **Sn** **04 12 33.3 -3.8**
comp=Z,3.2nm,0.5s
CLL Collm 4.90 359 *e*Pn **Pn** **04 11 43.0 +1.6**
CLL *e*Sn **Sn** **04 12 38.0 +0.1**
CLL *e*Sg **Sg** **04 13 03.0 -2.5**
THEF They Montfort 5.16 293 Pn **Pn** **04 11 45.3 +0.3**
THEF They Montfort 5.16 293 Pn **Pn** **04 11 45.3 +0.3**
ORIF Oris-en-Rattie 5.27 256 *e*P **Pn** **04 11 49.3 +2.7**
ORIF Oris-en-Rattie 5.27 256 *e*P **Pn** **04 11 49.3 +2.7**
PAGF Fort de Pagny 5.44 296 *e*Pn Pn 04 11 45.2 -3.6
baz=115
PAGF *e*Sn **Sn** **04 12 47.0 -4.1**
comp=Z,0.6nm,0.3s

IDC ***24*** *04:17:14.6±1.4,33°.42S×178°.58W,h0km,mb4.0/2, mb1 4.3/3,mb1mx3.8/16,mbtmp4.0/3,ML4.0/1,MS3.5/1, Ms1 3.6/1,ms1mx2.8/21,Error ellipse: s-maj=43.8km s-min=38.7km az=149.0*
ISCJB ***24*** *04:17:19.6±5.3,33°.5S±0°.2×178°.8W±0°.8,h41km,mb3.9/2, MS3.5/1,Error ellipse: s-maj=98.8km s-min=16.0km az=13.4*
ISC 24 04:17:20.7±1.6,33°.5S±0°.2×178°.7W±0°.3,h41km,n8, σ1§46/8,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
URZ	**Urewera**	**5.87**	**215**	Pn		**Pn**	**04**	**18**	**45.1**	**0.0**
	3.9nm,0.3s,baz=286,slow=4.5,SNR=19									
URZ				Sn		**Sn**	**04**	**19**	**51.1**	**+0.1**
	2.0nm,0.3s,baz=194,slow=22,SNR=8.1									
ASAR	**Alice Springs**	**42.48**	**271**	P		**P**	**04**	**25**	**12.1**	**0.0**
	1.6nm,0.7s,baz=111,slow=7.2,SNR=21									
WRA	**Warramunga Arr**	**43.75**	**276**	P		**P**	**04**	**25**	**21.7**	**-0.6**
	1.4nm,0.5s,baz=117,slow=7.5,SNR=6.5									
VNDA	**Vanda**	**44.97**	**186**	LR		LR	04	42	14.1	
	comp=Z,58nm,19.3s,baz=159,slow=33									
FINES	**FINESS Array B**	**147.82**	**338**	PKPbc		**PKPbc**	**04**	**36**	**59.2**	**-1.2**
	3.1nm,1.1s,baz=25,slow=5.0,SNR=7.7									
AKASG	**Malin Array Be**	**153.33**	**319**	PKPbc		**PKPbc**	**04**	**37**	**13.7**	**-0.2**
	0.1nm,0.3s,baz=48,slow=2.8,SNR=2.6									
BRTR	**Keskin Array B**	**153.43**	**293**	PKPbc		**PKPbc**	**04**	**37**	**17.5**	**+2.8**
	0.6nm,0.9s,baz=340,slow=3.4,SNR=3.0									
TORD	**Torodi Ar. Bea**	**159.75**	**181**	PKPab		**PKPab**	**04**	**37**	**53.5**	**-0.9**
	0.4nm,1.0s,baz=180,slow=3.4,SNR=2.6									

IDC 24 04:23:01.3±3.0,33°.43S×178°.62W,h0km,mb3.8/2, mb1 4.0/3,mb1mx3.7/16,mbtmp3.8/3,ML3.6/1,Error ellipse: s-maj=71.5km s-min=36.0km az=119.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
URZ	**Urewera**	**5.94**	**215**	Pn		Pn	04	24	31.4	+0.9
	1.5nm,0.3s,baz=310,slow=3.6,SNR=9.7									
URZ				Sn		Sn	04	25	37.9	-1.2
	0.7nm,0.3s,baz=150,slow=20,SNR=4.4									
ASAR	**Alice Springs**	**42.52**	**271**	P		P	04	30	58.6	-0.1
	0.8nm,0.7s,baz=107,slow=7.3,SNR=10									
WRA	**Warramunga Arr**	**43.78**	**276**	P		P	04	31	08.7	-0.2
	0.8nm,0.6s,baz=122,slow=6.8,SNR=6.1									
FINES	**FINESS Array B**	**147.78**	**338**	PKPbc		PKPbc	04	42	46.5	-0.8
	2.0nm,0.9s,baz=48,slow=2.1,SNR=2.6									

IDC 24 04:24:54.7±3.2,33°.34S×178°.55W,h0km,mb3.8/2, mb1 4.0/3,mb1mx3.7/16,mbtmp3.8/3,ML3.7/1,MS3.2/1, Ms1 3.2/1,ms1mx2.7/21,Error ellipse: s-maj=75.8km s-min=47.6km az=123.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
URZ	**Urewera**	**6.04**	**214**	Pn		Pn	04	26	25.4	+0.2
	1.9nm,0.3s,baz=276,slow=5.0,SNR=6.3									
URZ				Sn		Sn	04	27	32.3	-2.7
	1.7nm,0.3s,baz=166,slow=19,SNR=4.5									
DZM	**Mont Dzumac**	**17.37**	**306**	LR		LR	04	33	44.2	
	comp=Z,80nm,18.2s,baz=318,slow=30									
ASAR	**Alice Springs**	**42.57**	**270**	P		P	04	32	52.4	-0.1
	0.8nm,0.6s,baz=109,slow=7.3,SNR=9.6									
WRA	**Warramunga Arr**	**43.82**	**276**	P		P	04	33	02.4	-0.3
	0.8nm,0.4s,baz=119,slow=7.4,SNR=3.5									
FINES	**FINESS Array B**	**147.72**	**338**	PKPbc		PKPbc	04	44	39.8	-0.7
	1.6nm,0.9s,baz=36,slow=3.5,SNR=4.4									

IDC ***24*** *04:38:38.7±0.6, 12°.70S×166°.37E,h0km,mb4.3/14, mb1 4.4/16,mb1mx4.3/21,mbtmp4.3/16,ML4.2/2,MS4.0/1, Ms1 4.1/1,ms1mx3.2/23,Error ellipse: s-maj=22.7km s-min=16.6km az=100.0*
ISCJB ***24*** *04:38:43.1±0.3, 12°.68S±0°.05×166°.23E±0°.06,h40km, mb4.5/28,MS4.1/1,Error ellipse: s-maj=7.8km s-min=6.6km az=164.6*
NEIC ***24*** *04:38:44.1±0.2, 12°.68S×166°.29E,h35km,mb4.7/18,Error ellipse: s-maj=6.7km s-min=6.1km az=118.0*
AUST ***24*** *04:39:13.8±8.6, 14°.28S×165°.01E,h108km±3km,Error ellipse: s-maj=5.3km s-min=1.6km az=283.0*
ISC 24 04:38:44.8±0.4, 12°.66S±0°.06×166°.30E±0°.07,h40km,n80, σ0§96/81,mb4.7/28,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
HNR	**Honiara**	**7.01**	**297**	Pn		**Pn**	**04**	**40**	**24.6**	**-0.4**
HNR				Sn		**Sn**	**04**	**41**	**42.1**	**-1.3**
HNR	**Honiara**	**7.01**	**297**	Pn		**Pn**	**04**	**40**	**24.5**	**-0.4**
	30nm,0.3s,baz=204,slow=6.2,SNR=12									
HNR				Sn		**Sn**	**04**	**41**	**42.1**	**-1.3**
	baz=49,slow=19,SNR=3.2									
DZM	**Mont Dzumac**	**9.36**	**179**	*e*Pn		**Pn**	**04**	**40**	**56.7**	**-0.7**
DZM				Sn		**Sn**	**04**	**42**	**40.8**	**-0.6**
DZM	**Mont Dzumac**	**9.36**	**179**	Sn		**Sn**	**04**	**42**	**40.8**	**-0.6**
	1.3nm,0.3s,baz=324,slow=19,SNR=3.8									
MSVF	**Nonsavu**	**12.42**	**115**	*e*Pn		P	04	41	45.2	-5.0
TARA	**Tarawa**	**15.40**	**26**	*e*Pn		**Pn**	**04**	**42**	**18.5**	**-0.8**
PMG	**Port Moresby**	**19.06**	**278**	*e*P		**P**	**04**	**43**	**04.3**	**+0.4**
	29nm,1.0s									
PMG	**Port Moresby**	**19.06**	**278**	P		**P**	**04**	**43**	**04.5**	**+0.6**
	0.7nm,0.3s,baz=120,slow=7.6,SNR=3.8									
EIDS	**Eidsvold**	**19.13**	**226**	P		**Pn**	**04**	**43**	**06.3**	**+0.6**
	baz=17,SNR=5.7									
AFI	**Afiamalu**	**21.38**	**96**	*e*P		**P**	**04**	**43**	**29.4**	**+0.2**
	40nm,0.9s									
RMQ	**Roma**	**21.46**	**228**	P		**P**	**04**	**43**	**31.9**	**+1.9**
	baz=20,SNR=13									
MTSU	**Mount Surprise**	**21.87**	**253**	P		P	04	43	40.3	+5.9
	baz=20,SNR=4.9									
COEN	**Coen**	**22.54**	**264**	*e*P		**P**	**04**	**43**	**40.8**	**-0.7**
	166nm,1.1s									
QLP	**Quilpie**	**24.92**	**233**	P		P	04	44	16.1	+12
	baz=23,SNR=4.1									
CMSA	**Cobar Meteorol**	**26.70**	**222**	P		**P**	**04**	**44**	**23.1**	**+2.8**
	baz=25,SNR=6.2									
STKA	**Stephens Creek**	**29.68**	**226**	*e*P		**P**	**04**	**44**	**47.1**	**+0.1**
	1.8nm,1.0s									
STKA	**Stephens Creek**	**29.68**	**226**	P		**P**	**04**	**44**	**49.7**	**+2.8**
	baz=28,SNR=3.7									
STKA	**Stephens Creek**	**29.68**	**226**	P		**P**	**04**	**44**	**47.5**	**+0.5**
	5.6nm,1.0s,baz=42,slow=6.7,SNR=7.2									
RPZ	**Rata Peaks**	**31.22**	**173**	P		**P**	**04**	**45**	**00.2**	**-0.2**
RPZ	**Rata Peaks**	**31.22**	**173**	P		**P**	**04**	**45**	**00.2**	**-0.2**
	7.0nm,0.7s,baz=245,slow=3.5,SNR=5.5									
WRAB	**Tennant Creek**	**31.46**	**252**	*e*P		**P**	**04**	**45**	**02.2**	**-0.6**
	6.2nm,1.0s									
WRA	**Warramunga Arr**	**31.47**	**252**	P		**P**	**04**	**45**	**01.3**	**-1.7**
WRA	**Warramunga Arr**	**31.47**	**252**	P		**P**	**04**	**45**	**01.3**	**-1.7**
	1.5nm,0.7s,baz=81,slow=9.2,SNR=5.3									
AS31	**Alice Springs**	**32.59**	**246**	*e*P		**P**	**04**	**45**	**11.6**	**-1.1**
ASAR	**Alice Springs**	**32.59**	**246**	P		**P**	**04**	**45**	**11.2**	**-1.6**
ASAR	**Alice Springs**	**32.59**	**246**	P		**P**	**04**	**45**	**11.2**	**-1.6**
	2.7nm,0.8s,baz=74,slow=9.5,SNR=18									
MBWA	**Marble Bar**	**45.21**	**253**	*e*P		**P**	**04**	**46**	**58.7**	**+0.3**
	14nm,1.1s									
MEEK	**Meekatharra**	**46.74**	**245**	P		P	04	47	14.3	+3.9
	baz=45,SNR=3.3									
MAJO	**Matsushiro**	**55.64**	**333**	*e*P		**P**	**04**	**48**	**16.8**	**-0.1**
	6.3nm,0.6s									
JNU	**Nakatsue**	**56.70**	**324**	*e*P		**P**	**04**	**48**	**25.2**	**+0.8**
	8.9nm,1.0s									
CISI	**Cisompet, Garu**	**57.70**	**269**	P		P	04	48	42.7	+11
	baz=56,SNR=4.0									
ASAJ	**Asahikawa**	**60.48**	**341**	P		**P**	**04**	**48**	**51.8**	**+1.2**
ASAJ	**Asahikawa**	**60.48**	**341**	P		**P**	**04**	**48**	**51.8**	**+1.2**
	8.6nm,0.6s,baz=211,slow=12,SNR=7.4									
KSRS	**Korea Array**	**61.50**	**326**	P		**P**	**04**	**48**	**58.3**	**+0.7**
	0.5nm,0.3s,baz=131,slow=6.8,SNR=4.4									
KSAR	**Wonju Array Be**	**61.52**	**326**	P		**P**	**04**	**48**	**58.3**	**+0.6**
USRK	**Ussuriysk Arra**	**64.62**	**333**	P		**P**	**04**	**49**	**19.7**	**+1.5**
	8.1nm,1.0s,baz=143,slow=6.2,SNR=10									
VNDA	**Vanda**	**64.90**	**181**	*e*P		**P**	**04**	**49**	**19.6**	**0.0**
	1.3nm,0.8s									
VNDA	**Vanda**	**64.90**	**181**	P		**P**	**04**	**49**	**19.3**	**-0.3**
	0.7nm,0.7s,baz=340,slow=9.1,SNR=5.3									
SBA	**Scott Base**	**65.20**	**180**	*e*P		**P**	**04**	**49**	**22.3**	**+0.8**
	40nm,1.9s									
CHTO	**Chiang Mai**	**73.37**	**294**	*e*P		**P**	**04**	**50**	**13.3**	**+0.3**
	17nm,0.7s									
QSPA	**South Pole Qui**	**77.36**	**180**	*e*P		**P**	**04**	**50**	**35.3**	**-0.1**
	8.0nm,0.8s									
ULN	**Ulaanbaatar**	**79.91**	**324**	*e*P		**P**	**04**	**50**	**50.9**	**+1.2**
	9.4nm,0.9s									
SONM	**Songino Array**	**80.28**	**324**	P		**P**	**04**	**50**	**52.3**	**+0.7**
SONM	**Songino Array**	**80.28**	**324**	P		**P**	**04**	**50**	**52.3**	**+0.7**
	2.4nm,0.9s,baz=116,slow=3.4,SNR=9.6									
MAW	**Mawson**	**83.44**	**202**	*e*P		**P**	**04**	**51**	**07.6**	**-0.2**
	0.8nm,1.0s									
MAW	**Mawson**	**83.44**	**202**	P		**P**	**04**	**51**	**08.9**	**+1.1**
	0.8nm,0.6s,baz=90,slow=9.1,SNR=2.7									
YBH	**Yreka Blue Mtn**	**84.63**	**45**	*e*P		**P**	**04**	**51**	**14.5**	**0.0**
	13nm,1.6s									
ILAR	**Eielson Array**	**84.86**	**18**	P		P	04	51	13.7	**-1.3**
ILAR	**Eielson Array**	**84.86**	**18**	P		P	04	51	13.7	**-1.3**
	1.4nm,0.8s,baz=239,slow=5.3,SNR=13									
ILAR					LR	LR	05	22	07.6	
	comp=Z,76nm,20.6s,baz=162,slow=31									
CMB	**Columbia Colle**	**84.97**	**49**	*e*P		**P**	**04**	**51**	**16.5**	**+0.3**
	5.2nm,1.0s									
NVAR	**Mina Array Bea**	**86.65**	**50**	P		**P**	**04**	**51**	**24.8**	**+0.1**
NVAR	**Mina Array Bea**	**86.65**	**50**	P		**P**	**04**	**51**	**24.8**	**+0.1**
	0.4nm,0.8s,baz=270,slow=4.3,SNR=2.3									
TMUT	**Trail Mountain**	**92.20**	**50**	*e*P		**P**	**04**	**51**	**49.6**	**-1.3**
	5.9nm,1.0s									
MKAR	**Makanchi Array**	**95.06**	**317**	P		**P**	**04**	**52**	**04.1**	**+0.6**
MKAR	**Makanchi Array**	**95.06**	**317**	P		**P**	**04**	**52**	**04.1**	**+0.6**
	0.9nm,0.6s,baz=87,slow=7.9,SNR=5.7									
ZAA0	**Zalesovo Array**	**95.17**	**324**	P		**P**	**04**	**52**	**03.2**	**-0.6**
ZALV	**Zalesovo Beam**	**95.17**	**324**	P		**P**	**04**	**52**	**03.5**	**-0.3**
ZALV	**Zalesovo Beam**	**95.17**	**324**	P		**P**	**04**	**52**	**03.5**	**-0.3**
	1.9nm,0.8s,baz=130,slow=4.4,SNR=8.8									
SNAA	**Sanae**	**95.55**	**183**	*e*P		**P**	**04**	**52**	**05.2**	**-0.3**
	3.4nm,1.2s									
ARCES	**ARCESS Array B**	**118.02**	**345**	PKP		**PKPdf**	**04**	**57**	**26.5**	**-0.3**
ARCES	**ARCESS Array B**	**118.02**	**345**	PKP		**PKPdf**	**04**	**57**	**26.5**	**-0.3**
	3.0nm,0.8s,baz=82,slow=1.6,SNR=9.7									
FINES	**FINESS Array B**	**123.46**	**338**	PKP		**PKPdf**	**04**	**57**	**37.4**	**+0.1**
FINES	**FINESS Array B**	**123.46**	**338**	PKP		**PKPdf**	**04**	**57**	**37.4**	**+0.1**
	1.5nm,0.9s,baz=76,slow=5.9,SNR=3.6									
AKASG	**Malin Array Be**	**128.50**	**326**	PKP		**PKPdf**	**04**	**57**	**47.6**	**+0.3**
AKASG	**Malin Array Be**	**128.50**	**326**	PKP		**PKPdf**	**04**	**57**	**47.6**	**+0.3**
	0.5nm,0.5s,baz=50,slow=2.2,SNR=5.8									
BRTR	**Keskin Array B**	**130.44**	**312**	PKP		**PKPdf**	**04**	**57**	**51.9**	**+0.3**
BRTR	**Keskin Array B**	**130.44**	**312**	PKP		**PKPdf**	**04**	**57**	**51.9**	**+0.3**
	0.5nm,0.7s,baz=180,slow=1.4,SNR=2.9									
MORC	**Moravsky Berou**	**134.97**	**332**	*e*PKPdf		**PKPdf**	**04**	**57**	**59.3**	**-0.4**
GERES	**GERESS Array B**	**137.38**	**333**	PKP		**PKPdf**	**04**	**58**	**05.4**	**+1.1**
GERES	**GERESS Array B**	**137.38**	**333**	PKP		**PKPdf**	**04**	**58**	**05.4**	**+1.1**
	0.3nm,0.6s,baz=48,slow=2.0,SNR=3.8									
TUE	**Stuetta**	**141.08**	**334**	*e*PKPdf		**PKPdf**	**04**	**58**	**11.1**	**-0.2**
BNI	**Bardonecchia**	**143.33**	**336**	*e*PKPdf		**PKPdf**	**04**	**58**	**15.3**	**+0.1**
CEL	**Celeste**	**143.35**	**319**	*e*PKPdf		**PKPdf**	**04**	**58**	**15.8**	**+0.4**
SSB	**Saint Sauveur**	**143.96**	**338**	*e*PKPdf		PKPbc	04	58	15.1	+1.1
KEST	**Kesra**	**149.01**	**322**	*e*PKPbc		**PKPbc**	**04**	**58**	**30.1**	**+0.9**
KEST	**Kesra**	**149.01**	**322**	PKPbc		**PKPbc**	**04**	**58**	**29.2**	**+0.1**
	5.1nm,0.8s,baz=357,slow=0.6,SNR=8.9									
ESDC	**Sonseca Array**	**151.75**	**344**	PKPbc		**PKPbc**	**04**	**58**	**35.5**	**0.0**
ESDC				PKPab		**PKPab**	**04**	**58**	**43.5**	**-0.8**
ESDC	**Sonseca Array**	**151.75**	**344**	PKPbc		**PKPbc**	**04**	**58**	**35.5**	**0.0**
	1.4nm,0.8

MAJO	**Matsushiro**	**55.65**	**333**	*eP*	**P**	**04**	**49**	**49.4 -0.7**
	15nm,1.3s							
ASAJ	**Asahikawa**	**60.50**	**341**	P	**P**	**04**	**50**	**24.7 +0.8**
ASAJ	**Asahikawa**	**60.50**	**341**	P	**P**	**04**	**50**	**24.7 +0.8**
	6.0nm,0.5s,baz=188,slow=7.1,SNR=5.6							
USRK	**Ussuriysk Arra**	**64.63**	**333**	P	**P**	**04**	**50**	**51.7 +0.2**
	6.3nm,1.0s,baz=123,slow=7.0,SNR=6.9							
VNDA	**Vanda**	**64.87**	**181**	*eP*	**P**	**04**	**50**	**52.3 -0.3**
	4.8nm,1.5s							
VNDA	**Vanda**	**64.87**	**181**	LR	LR	05	15	43.5
	comp=Z,86nm,21.0s,baz=184,slow=33							
SBA	**Scott Base**	**65.16**	**180**	*eP*	**P**	**04**	**50**	**53.8 -0.7**
	4.8nm,1.2s							
CMAR	**Chiang Mai Arr**	**73.22**	**294**	P	**P**	**04**	**51**	**48.1 +2.6**
CMAR	**Chiang Mai Arr**	**73.22**	**294**	P	**P**	**04**	**51**	**48.1 +2.6**
	1.8nm,0.3s,baz=111,slow=4.9							
QSPA	**South Pole Qui**	**77.32**	**180**	*eP*	**P**	**04**	**52**	**08.6 +0.2**
	15nm,1.0s							
ULN	**Ulaanbaatar**	**79.91**	**324**	*eP*	**P**	**04**	**52**	**22.8 -0.1**
SONM	**Songino Array**	**80.27**	**324**	P	**P**	**04**	**52**	**25.1 +0.3**
SONM	**Songino Array**	**80.27**	**324**	P	**P**	**04**	**52**	**25.1 +0.3**
	1.5nm,0.9s,baz=139,slow=3.4,SNR=4.9							
MAW	**Mawson**	**83.39**	**202**	P	**P**	**04**	**52**	**41.5 +0.8**
MAW	**Mawson**	**83.39**	**202**	P	**P**	**04**	**52**	**41.5 +0.8**
	1.1nm,0.9s,baz=93,slow=9.9,SNR=2.0							
MAW				LR	LR	05	23	30.7
	comp=Z,71nm,20.3s,baz=226,slow=31							
ILAR	**Eielson Array**	**84.91**	**18**	P	P	04	52	47.2 -1.2
ILAR	**Eielson Array**	**84.91**	**18**	P	P	04	52	47.2 -1.2
	1.6nm,1.0s,baz=235,slow=4.2,SNR=3.1							
H06S1	**SOCORRO T**	**87.35**	**70**	T	T	06	30	47.6
	SNR=5.5							
WVOR	**Wild Horse Val**	**87.78**	**46**	*eP*	**P**	**04**	**53**	**03.1 0.0**
	1.4nm,0.7s							
TMUT	**Trail Mountain**	**92.26**	**50**	*eP*	**P**	**04**	**53**	**24.0 -0.4**
	8.9nm,1.1s							
MK31	**Makanchi Array**	**95.05**	**317**	*eP*	**P**	**04**	**53**	**35.5 -1.2**
MKAR	**Makanchi Array**	**95.05**	**317**	P	**P**	**04**	**53**	**36.7 0.0**
MKAR	**Makanchi Array**	**95.05**	**317**	P	**P**	**04**	**53**	**36.7 0.0**
	0.5nm,0.5s,baz=87,slow=6.3,SNR=3.7							
ZALV	**Zalesovo Beam**	**95.17**	**324**	P	**P**	**04**	**53**	**36.3 -0.7**
ZALV	**Zalesovo Beam**	**95.17**	**324**	P	**P**	**04**	**53**	**36.3 -0.7**
	2.4nm,0.9s,baz=94,slow=4.5,SNR=6.2							
ARCES	**ARCESS Array B**	**118.04**	**345**	PKP	**PKPdf**	**04**	**58**	**58.8 -1.2**
ARCES	**ARCESS Array B**	**118.04**	**345**	PKP	**PKPdf**	**04**	**58**	**58.8 -1.2**
	1.4nm,0.8s,baz=71,slow=2.6,SNR=7.8							
FINES	**FINESS Array B**	**123.47**	**338**	PKP	**PKPdf**	**04**	**59**	**10.6 0.0**
FINES	**FINESS Array B**	**123.47**	**338**	PKP	**PKPdf**	**04**	**59**	**10.6 0.0**
	1.8nm,0.9s,baz=264,slow=4.1,SNR=2.7							
AKASG	**Malin Array Be**	**128.50**	**326**	PKP	**PKPdf**	**04**	**59**	**20.1 -0.4**
AKASG	**Malin Array Be**	**128.50**	**326**	PKP	**PKPdf**	**04**	**59**	**20.1 -0.4**
	0.1nm,0.3s,baz=61,slow=2.4,SNR=4.8							
BRTR	**Keskin Array B**	**130.42**	**312**	PKP	**PKPdf**	**04**	**59**	**25.1 +0.4**
BRTR	**Keskin Array B**	**130.42**	**312**	PKP	**PKPdf**	**04**	**59**	**25.1 +0.4**
	0.4nm,0.6s,baz=328,slow=5.1,SNR=2.9							
BUR08	**Bucovina Ar. S**	**132.37**	**325**	*e*PKPdf	**PKPdf**	**04**	**59**	**27.9 -0.3**
MORC	**Moravsky Berou**	**134.97**	**332**	*e*PKPdf	**PKPdf**	**04**	**59**	**32.9 -0.1**
GERES	**GERESS Array B**	**137.38**	**333**	PKP	**PKPdf**	**04**	**59**	**38.6 +1.1**
GERES	**GERESS Array B**	**137.38**	**333**	PKP	**PKPdf**	**04**	**59**	**38.6 +1.1**
	0.4nm,0.8s,baz=95,slow=8.6,SNR=4.1							
GRFO	**Grafenberg**	**137.77**	**336**	*e*PKPdf	**PKPdf**	**04**	**59**	**39.2 +1.1**
TUE	**Stuetta**	**141.09**	**334**	*e*PKPdf	**PKPdf**	**04**	**59**	**44.5 +0.1**
CEL	**Celeste**	**143.35**	**319**	*e*PKPdf	**PKPdf**	**04**	**59**	**49.6 +1.0**
SSB	**Saint Sauveur**	**143.97**	**338**	*e*PKPdf	PKPbc	04	59	50.0 +2.7
KEST	**Kesra**	**149.01**	**322**	*e*PKPdf	**PKPdf**	**04**	**59**	**58.2 0.0**
KEST				PKPbc	**PKPbc**	**05**	**00**	**03.1 +0.8**
KEST	**Kesra**	**149.01**	**322**	PKPbc	**PKPbc**	**05**	**00**	**03.1 +0.8**
	2.4nm,0.9s,baz=313,slow=8.0,SNR=2.3							
ESDC	**Sonseca Array**	**151.76**	**344**	PKPbc	**PKPbc**	**05**	**00**	**08.8 0.0**
ESDC	**Sonseca Array**	**151.76**	**344**	PKPbc	**PKPbc**	**05**	**00**	**08.8 0.0**
	1.7nm,0.9s,baz=19,slow=3.5,SNR=4.5							
TORD	**Torodi Ar. Bea**	**164.93**	**273**	PKPab	**PKPab**	**05**	**01**	**15.7 +0.4**
TORD	**Torodi Ar. Bea**	**164.93**	**273**	PKPab	**PKPab**	**05**	**01**	**15.7 +0.4**
	0.7nm,0.9s,baz=72,slow=4.7,SNR=2.6							

*IDC **24** 05:19:32.1±5.8, 7.°30S×128.°77E, h124km±50km, mb3.4/3, mb1 3.7/7, mb1mx3.4/19, mbtmp3.5/7, Error ellipse: s-maj=67.1km s-min=23.1km az=56.0*
*ISCJB **24** 05:19:34.3±1.1, 7.°50S±0.°10×128.°48E±0.°07, h151km, mb3.4/3, Error ellipse: s-maj=14.3km s-min=9.7km az=17.2*
*AUST **24** 05:19:55.5, 8.°98S×129.°06E, h300km*
ISC 24 05:19:36.6±1.3, 7.°7S±0.°1×128.°51E±0.°09, h151km, n14, σ2°05/15, mb3.3/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.41**	**242**	P		**Pn**	**05 20 57.0**	**+1.4**
	29nm,0.3s,baz=84,slow=7.4,SNR=9.6							
BATI				S		**Sn**	**05 21 56.3**	**-0.9**
	33nm,0.3s,baz=147,slow=24,SNR=8.9							
MTN	**Manton Dam**	**5.76**	**154**	P		**Pn**	**05 21 01.5**	**+1.3**
	baz=4.4,SNR=40							
KDU	**Kakadu**	**6.34**	**142**	P		**Pn**	**05 21 08.7**	**+0.9**
	baz=5.0,SNR=41							
KNRA	**Kununurra**	**7.97**	**178**	P		**Pn**	**05 21 30.4**	**+0.8**
	baz=6.7,SNR=19							
FITZ	**Fitzroy Crossi**	**10.74**	**195**	P		**Pn**	**05 22 06.6**	**+0.1**
	baz=9.7,SNR=32							
FITZ	**Fitzroy Crossi**	**10.74**	**195**	P		**Pn**	**05 22 06.4**	**-0.1**
	0.8nm,0.3s,baz=10,slow=12,SNR=33							
FITZ				S		Sn	05 23 57.2	-8.1
	2.2nm,0.3s,baz=30,slow=9.9,SNR=5.2							
WRA	**Warramunga Arr**	**13.45**	**156**	P		**Pn**	**05 22 40.2**	**-1.4**
	0.4nm,0.3s,baz=336,slow=13,SNR=5.2							
WRA				S		Sn	05 25 00.5	-10
	1.3nm,0.3s,baz=329,slow=22,SNR=9.8							
ASAR	**Alice Springs**	**16.73**	**163**	P		**Pn**	**05 23 24.3**	**+2.0**
	0.9nm,0.3s,baz=340,slow=11,SNR=69							
ASAR				S		**S**	**05 26 23.8**	**-4.6**
	0.5nm,0.3s,baz=316,slow=18,SNR=7.8							
MEEK	**Meekatharra**	**21.08**	**205**	P		**P**	**05 24 10.1**	**+0.9**
	baz=20,SNR=4.5							
QLP	**Quilpie**	**24.03**	**143**	P		**P**	**05 24 40.8**	**+3.1**
	baz=23,SNR=4.3							
STKA	**Stephens Creek**	**27.00**	**155**	P		**P**	**05 25 05.0**	**+0.5**
	1.6nm,0.6s,baz=332,slow=12,SNR=4.5							
PATS	**Pohnpei**	**33.03**	**65**	P		P	05 25 48.6	-9.4
	baz=33,SNR=3.4							
MKAR	**Makanchi Array**	**67.98**	**328**	P		**P**	**05 30 16.9**	**-2.6**
	0.3nm,0.5s,baz=123,slow=5.3,SNR=4.5							
VNDA	**Vanda**	**71.97**	**173**	P		**P**	**05 30 43.3**	**0.0**
	0.4nm,0.7s,baz=315,slow=8.8,SNR=4.0							

*NEIC **24** 05:49:49.4, 15.°37N×93.°39W, h90km, MD4.0(MEX), After MEX.*
MEX 24 05:49:49.4±0.3, 15.°37N×93.°39W, h90km±3km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PCIG		**0.37**	**27**	*eP*		Pn	05 50 01.9	-1.3
PCIG				*eS*		Sn	05 50 11.7	-1.7
PCIG		**0.37**	**27**	*eP*		Pn	05 50 01.9	-1.3
PCIG				*eS*		Sn	05 50 11.7	-1.7
THIG		**1.18**	**113**	*eP*		Pn	05 50 10.1	-1.1
THIG				*eS*		Sn	05 50 25.9	-1.8
THIG		**1.18**	**113**	*eP*		Pn	05 50 10.1	-1.1
THIG				*eS*		Sn	05 50 25.9	-1.8
TGIG		**1.42**	**11**	*eP*		Pn	05 50 12.8	-1.5
TGIG				*i* S		Sn	05 50 31.8	-1.2
TGIG		**1.42**	**11**	*eP*		Pn	05 50 12.8	-1.5
TGIG				*i* S		Sn	05 50 31.8	-1.2
CCIG	**Comitan**	**1.51**	**53**	*eP*		Pn	05 50 14.4	-1.1
CCIG				*eS*		Sn	05 50 33.9	-1.4
CCIG	**Comitan**	**1.51**	**53**	*eP*		Pn	05 50 14.4	-1.1
CCIG				*eS*		Sn	05 50 33.9	-1.4
HUIG	**Huatulco**	**2.65**	**279**	*eP*		Pn	05 50 29.9	-0.3
HUIG				*eS*		Sn	05 51 00.3	-1.2
HUIG	**Huatulco**	**2.65**	**279**	*eP*		Pn	05 50 29.9	-0.3
HUIG				*eS*		Sn	05 51 00.3	-1.2
TUIG	**Tuzandepetl**	**2.82**	**340**	*i* P		Pn	05 50 31.6	-1.0
TUIG	**Tuzandepetl**	**2.82**	**340**	*i* P		Pn	05 50 31.6	-1.0
VHO	**Vista Hermosa**	**3.63**	**298**	*i* P		Pn	05 50 42.0	-1.7
VHO				*i* S		Sn	05 51 23.8	-1.9
VHO	**Vista Hermosa**	**3.63**	**298**	*i* P		Pn	05 50 42.0	-1.7
VHO				*i* S		Sn	05 51 23.8	-1.9
PNIG	**Pinotepa**	**4.67**	**283**	*eP*		Pn	05 50 57.0	-0.6
PNIG				*i* S		Sn	05 51 49.6	-1.0
PNIG	**Pinotepa**	**4.67**	**283**	*eP*		Pn	05 50 57.0	-0.6
PNIG				*i* S		Sn	05 51 49.6	-1.0

*IDC **24** 06:12:33.4±1.6, 54.°68N×162.°66E, h0km, mb3.5/4, mb1 3.9/6, mb1mx3.5/27, mbtmp3.5/6, ML3.5/2, Error ellipse: s-maj=40.7km s-min=24.1km az=1.0*
*KRSC **24** 06:12:34.5±3.3, 54.°72N×162.°56E, h26km±25km, ML3.8*
*ISCJB **24** 06:12:35.1±0.8, 54.°70N±0.°02×162.°54E±0.°05, h28km±6km, mb3.4/4, Error ellipse: s-maj=4.9km s-min=3.2km az=26.7*
ISC 24 06:12:34.1±1.5, 54.°71N±0.°03×162.°62E±0.°04, h12km±10km, n41, σ1°52/62, mb3.5/4, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.54**	**254**	*i* P		**Pg**	**06 12 44.5**	**-0.1**
MKZ				*i* S		**Sg**	**06 12 51.1**	**-0.6**
KBTR	**Krutoberegovo**	**1.50**	**4**	*i* P		**Pn**	**06 13 00.7**	**-0.1**
KBTR				*i* S		**Sn**	**06 13 19.6**	**-0.8**
TUMR	**Tumrok**	**1.53**	**293**	*i* P		**Pn**	**06 13 01.3**	**0.0**
TUMR				*i* S		**Sn**	**06 13 19.7**	**-1.5**
BZGR	**Bezymyannyi-Gr**	**1.65**	**319**	*e*P		**Pn**	**06 13 01.6**	**-1.3**
BZGR				*i* S		**Sn**	**06 13 22.5**	**-1.6**
ZLN	**Zelenaya**	**1.67**	**322**	*e*P		**Pn**	**06 13 03.1**	**-0.1**
ZLN				*i* S		**Sn**	**06 13 22.4**	**-2.1**
KMNR	**Kamenistaya**	**1.72**	**309**	*i* P		**Pn**	**06 13 03.5**	**-0.4**
KMNR				*i* S		**Sn**	**06 13 22.6**	**-3.2**
BZMR	**Bezymyannaya**	**1.73**	**316**	*e*P		**Pn**	**06 13 03.5**	**-0.5**
BZMR				*i* S		**Sn**	**06 13 25.3**	**-0.7**
BZWR	**Bezymyannyi-We**	**1.74**	**317**	*e*P		**Pn**	**06 13 02.5**	**-1.8**
KIRR	**Kirishev**	**1.80**	**315**	*e*P		**Pn**	**06 13 05.9**	**+0.9**
KPT	**Kopyto**	**1.86**	**314**	*e*P		**Pn**	**06 13 05.5**	**-0.3**
KRSR	**Krestovskiy**	**1.91**	**323**	*e*P		**Pn**	**06 13 07.0**	**+0.5**
KRSR				*i* S		**Sn**	**06 13 29.5**	**-1.0**
KLY	**Klyuchi**	**1.96**	**326**	*e*P		Pn	06 13 04.7	-2.3
SMKR	**Semkarok**	**1.98**	**341**	*e*P		**Pn**	**06 13 08.6**	**+1.1**
SMKR				*i* S		**Sn**	**06 13 32.3**	**0.0**
BKI	**Bering**	**2.00**	**74**	*e*P		**Pn**	**06 13 07.2**	**-0.4**
BKI				*i* S		**Sn**	**06 13 32.1**	**-0.4**
BDR	**Baidarnaya**	**2.02**	**337**	*e*P		**Pn**	**06 13 08.6**	**+0.5**
BDR				*i* S		**Sn**	**06 13 32.0**	**-1.3**
KOZ	**Kozyrevsk**	**2.07**	**312**	*e*P		**Pn**	**06 13 07.6**	**-1.0**
SRDR	**Sredinnyy**	**2.30**	**316**	*e*P		**Pn**	**06 13 12.4**	**+0.5**
SRDR				*i* S		**Sn**	**06 13 37.6**	**-2.5**
NLC	**Nalytchevo**	**2.47**	**233**	*e*P		**Pn**	**06 13 14.4**	**+0.3**
NLC				*i* S		**Sn**	**06 13 42.3**	**-1.9**
ESO	**Esso**	**2.55**	**300**	*e*P		**Pn**	**06 13 15.8**	**+0.6**
ESO				*i* S		**Sn**	**06 13 46.3**	**+0.2**
SDLR	**Sedlovina**	**2.63**	**238**	*e*P		**Pn**	**06 13 16.4**	**0.0**
SDLR				*i* S		**Sn**	**06 13 46.0**	**-2.3**
SMAR	**Somma**	**2.68**	**239**	*e*P		**Pn**	**06 13 16.5**	**-0.7**
SMAR				*i* S		**Sn**	**06 13 46.4**	**-3.2**
KRER	**Koryakskii**	**2.68**	**240**	*e*P		**Pn**	**06 13 17.6**	**+0.4**
KRER				*i* S		**Sn**	**06 13 47.3**	**-2.4**
UGLR	**Uglovaya**	**2.70**	**238**	*e*P		**Pn**	**06 13 18.1**	**+0.8**
UGLR				*i* S		**Sn**	**06 13 48.1**	**-1.8**
KRX	**Arik**	**2.70**	**242**	*e*P		**Pn**	**06 13 17.4**	**0.0**
KRX				*i* S		**Sn**	**06 13 47.6**	**-2.5**
AVH	**Avacha**	**2.71**	**239**	*e*P		**Pn**	**06 13 17.5**	**0.0**
AVH				*i* S		**Sn**	**06 13 47.9**	**-2.3**
KOK	**Koryaka**	**2.75**	**240**	*e*P		**Pn**	**06 13 17.8**	**-0.2**
PET	**Petropavlovsk**	**2.89**	**236**	*i* P		**Pn**	**06 13 21.4**	**+1.5**
PET				*i* S		**Sn**	**06 13 53.0**	**-1.5**
GNL	**Ganaly**	**2.93**	**252**	*e*P		**Pn**	**06 13 21.6**	**+1.1**
PETK	**Petropavlovsk-**	**3.32**	**243**	Pn		**Pn**	**06 13 26.2**	**+0.4**
	5.9nm,0.3s,baz=82,slow=17,SNR=48							
PETK				Sn		**Sn**	**06 14 08.8**	**+3.6**
	1.1nm,0.3s,baz=102,slow=28,SNR=4.7							
RUS	**Russkaya**	**3.34**	**229**	*i* P		**Pn**	**06 13 26.3**	**+0.2**
RUS				*i* S		**Sn**	**06 14 04.8**	**-0.9**
MTVR	**Mutnovka**	**3.46**	**232**	*e*P		**Pn**	**06 13 29.7**	**+1.9**
MTVR				*i* S		**Sn**	**06 14 09.1**	**+0.4**
ASAK	**Asacha**	**3.65**	**232**	*e*P		**Pn**	**06 13 32.7**	**+2.3**
ASAK				*i* S		**Sn**	**06 14 14.0**	**+0.5**
APC	**Apacha**	**3.70**	**243**	*e*P		**Pn**	**06 13 32.8**	**+1.9**
FX1	**Attu Island--F**	**6.51**	**102**	Pn		**Pn**	**06 14 09.3**	**-0.3**
	3.1nm,0.3s,baz=224,slow=18,SNR=11							
FX1				Sn		**Sn**	**06 15 19.5**	**-4.3**
	3.2nm,0.3s,baz=301,slow=24,SNR=8.2							
ILAR	**Eielson Array**	**26.62**	**48**	P		**P**	**06 18 12.0**	**0.0**
	0.5nm,0.8s,baz=258,slow=8.6,SNR=5.0							
H11N2	**WAKE ISLAND Hy**	**35.07**	**173**	T		T	06 56 46.7	
	baz=358,slow=0.7,SNR=26							
H11N3	**WAKE ISLAND Hy**	**35.09**	**173**	T		T	06 56 46.4	
	baz=358,slow=0.7,SNR=20							
H11N1	**WAKE ISLAND Hy**	**35.09**	**173**	T		T	06 56 46.6	
	baz=358,slow=0.7,SNR=24							
NVAR	**Mina Array Bea**	**53.81**	**73**	P		P	06 21 59.2	+2.6
	0.5nm,0.8s,baz=298,slow=7.8,SNR=4.8							
PDAR	**Pinedale Array**	**55.45**	**63**	P		**P**	**06 22 09.1**	**+0.6**
	0.3nm,0.6s,baz=315,slow=11,SNR=3.9							
TXAR	**Lajitas Array**	**68.65**	**69**	P		**P**	**06 23 38.8**	**+1.7**
	0.2nm,0.6s,baz=297,slow=4.0,SNR=4.1							

*ISCJB **24** 06:15:22.4±0.4, 62.°51N±0.°03×23.°73E±0.°06, h0km, Error ellipse: s-maj=5.4km s-min=3.1km az=41.4*
*IDC **24** 06:15:23.2±0.8, 62.°59N×23.°75E, h0km, mb1 2.9/3, mb1mx2.8/26, mbtmp2.8/3, ML2.4/3, Error ellipse: s-maj=9.8km s-min=5.9km az=40.0*
*CSEM **24** 06:15:23.4±0.2, 62.°51N×23.°79E, h0km±1km, ML1.7, Error ellipse: s-maj=7.6km s-min=3.9km az=41.0, Mining explosion.*
*HEL **24** 06:15:24.1±0.1, 62.°55N×23.°75E, h0km, ML1.7, ML1.6(UPP), Explosion*
*UPP **24** 06:15:26.2, 62.°79N×23.°63E, h0km, ML1.6, Suspected Mining explosion.*
ISC 24 06:15:22.5±0.7, 62.°53N±0.°03×23.°70E±0.°03, h0km, n34, σ1°39/52, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KEF	**Keuruu**	**0.66**	**123**	*e*P		**Pg**	**06 15 35.1**	**0.0**
KEF				*e*S		**Sg**	**06 15 44.1**	**+0.5**
KEF	**Keuruu**	**0.66**	**123**	P		**Pg**	**06 15 35.0**	**0.0**
KEF				S		**Sg**	**06 15 44.0**	**+0.5**
VAF	**Ylistaro**	**0.70**	**318**	*e*P		**Pg**	**06 15 34.3**	**-1.5**
VAF				*e*PB		**Pb**	**06 15 38.6**	**+1.2**
VAF				*e*RG		Rg	06 15 42.7	
KAF	**Kangasniemi**	**1.29**	**108**	*e*P		**Pg**	**06 15 46.5**	**-0.6**
KAF				*e*SB		**Sg**	**06 16 03.9**	**+0.1**
KAF				MSG			06 16 03.9	
	comp=Z,4.9nm,0.2s							
KAF	**Kangasniemi**	**1.29**	**108**	P		**Pg**	**06 15 46.5**	**-0.6**
KAF				Sb		**Sg**	**06 16 03.9**	**+0.1**
	comp=Z,4.9nm,0.2s							
FIA0	**FINESS Array S**	**1.57**	**133**	*e*P		**Pn**	**06 15 51.6**	**+0.1**
	baz=325							
FIA0				MSG			06 16 19.0	
	comp=Z,6.8nm,0.7s							
FIA0				*e*RG		Rg	06 16 22.1	
FIA0	**FINESS Array S**	**1.57**	**133**	P		**Pn**	**06 15 51.6**	**+0.1**
FINES	**FINESS Array B**	**1.57**	**133**	Pg		**Pn**	**06 15 51.8**	**+0.3**
	comp=Z,1.9nm,0.3s,baz=322,slow=15,SNR=70							
FINES				Lg		Lg	06 16 12.7	
	comp=Z,4.0nm,0.3s,baz=317,slow=28,SNR=19							
FINES				Rg		Rg	06 16 21.8	
	comp=Z,30nm,0.8s,baz=327,slow=35,SNR=28							
RAF	**Rauma**	**1.77**	**212**	*e*P		**Pn**	**06 15 55.4**	**+1.2**
RAF				*e*S		**Sb**	**06 16 19.3**	**+0.9**
RAF				MSG			06 16 19.3	
	comp=Z,4.4nm,0.2s							
RAF	**Rauma**	**1.77**	**212**	P		**Pn**	**06 15 55.4**	**+1.2**
RAF				S		**Sb**	**06 16 19.3**	**+0.9**
	comp=Z,4.4nm,0.2s							
UMAU	**Umeaa**	**1.93**	**316**	*e*P		**Pn**	**06 15 56.9**	**+0.5**
UMAU				*e*S		**Sn**	**06 16 21.4**	**+0.2**
UMAU	**Umeaa**	**1.93**	**316**	P		**Pn**	**06 15 56.9**	**+0.5**
UMAU				S		**Sn**	**06 16 21.5**	**+0.2**
HUSU	**Husum**	**2.20**	**294**	*e*P		**Pn**	**06 16 01.7**	**+1.5**
HUSU				*e*S		**Sn**	**06 16 29.8**	**+1.7**
HUSU	**Husum**	**2.20**	**294**	P		**Pn**	**06 16 01.7**	**+1.5**
	baz=121							
HUSU				S		**Sn**	**06 16 29.8**	**+1.7**
PVF	**Pernaja**	**2.25**	**152**	*e*PB		**Pb**	**06 16 03.6**	**-0.2**
PVF				*e*SG		**Sg**	**06 16 33.8**	**-0.7**
PVF	**Pernaja**	**2.25**	**152**	Pb		**Pb**	**06 16 03.6**	**-0.2**
PVF				Sg		**Sg**	**06 16 33.8**	**-0.7**
BURU	**Burvik**	**2.31**	**334**	*e*P		**Pn**	**06 16 02.3**	**+0.7**
BURU	**Burvik**	**2.31**	**334**	P		**Pn**	**06 16 02.3**	**+0.7**
MEF	**Metsahovi**	**2.35**	**171**	*e*PB		**Pb**	**06 16 05.2**	**-0.4**
MEF				MSG		**Sg**	**06 16 36.7**	**-1.0**
	comp=Z,1.1nm,0.1s							
MEF				*e*SG		**Sg**	**06 16 36.7**	**-1.0**
BREU	**Bredtraesk**	**2.69**	**303**	*e*P		**Pn**	**06 16 09.3**	**+2.4**
BREU	**Bredtraesk**	**2.69**	**303**	P		**Pn**	**06 16 09.3**	**+2.4**
SVAU	**Svanoeiden**	**2.70**	**319**	*e*P		**Pn**	**06 16 09.0**	**+1.9**
SVAU	**Svanoeiden**	**2.70**	**319**	P		**Pn**	**06 16 09.0**	**+1.9**
VJF	**Virojoki**	**2.72**	**136**	MSG		**Sb**	**06 16 45.8**	**0.0**
	comp=Z,4.3nm,0.4s							
VJF				*e*SB		**Sb**	**06 16 45.8**	**0.0**
OUL	**Oulu**	**2.75**	**20**	MSG		**S**	**06 16 42.6**	**+1.1**
	comp=Z,1.2nm,0.4s							
OUL				*e*S		**S**	**06 16 42.6**	**+1.1**
OUL	**Oulu**	**2.75**	**20**	S		**S**	**06 16 42.6**	**+1.1**
SOLU	**Sollefteaa**	**3.03**	**287**	*e*P		**Pb**	**06 16 15.2**	**-2.0**
SOLU	**Sollefteaa**	**3.03**	**287**	P		**Pb**	**06 16 15.2**	**-2.0**
JOF	**Joensuu**	**3.53**	**80**	*e*P		**Pn**	**06 16 20.6**	**+2.2**
	baz=274							
JOF	**Joensuu**	**3.53**	**80**	P		**Pn**	**06 16 20.6**	**+2.2**
RNF	**Rovaniemi**	**4.22**	**13**	MSG			06 17 31.4	
	comp=Z,8nm,0.4s							
HFS	**Hagfors**	**5.38**	**248**	Pn		**Pn**	**06 16 44.6**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=65,slow=13,SNR=2.5							
HFS				Sn		**Sn**	**06 17 46.5**	**0.0**
	comp=Z,0.1nm,0.3s,baz=57,slow=22,SNR=3.1							
HFS				Lg		Lg	06 18 08.2	
	comp=Z,0.3nm,0.3s,baz=67,slow=30,SNR=6.0							
NOA	**NORSAR Array B**	**6.11**	**261**	Pn		**Pn**	**06 16 52.5**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=68,slow=16,SNR=2.4							
NOA				Lg		Lg	06 18 27.5	
	comp=Z,0.2nm,0.3s,baz=42,slow=20,SNR=2.8							
ARCES	**ARCESS Array B**	**7.07**	**5**	Pn		**Pn**	**06 17 06.1**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=181,slow=14,SNR=9.6							
ARCES				Sn		**Sn**	**06 18 22.9**	**-5.1**
	comp=Z,0.3nm,0.3s,baz=184,slow=24,SNR=6.1							

*IDC **24** 06:16:21.0±0.8, 11.°72S×166.°25E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.9/18, mbtmp4.0/8, ML3.9/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/25, Error ellipse: s-maj=29.8km s-min=26.2km az=105.0*
*ISCJB **24** 06:16:25.2±0.8, 11.°88S±0.°08×165.°97E±0.°10, h30km, mb4.0/10, MS3.3/1, Error ellipse: s-maj=16.0km s-min=8.4km az=145.4*
*NEIC **24** 06:16:26.6±0.6, 11.°76S×166.°22E, h35km, mb4.3/5, Error ellipse: s-maj=17.2km s-min=9.6km az=76.0*
ISC 24 06:16:26.1±0.7, 11.°76S±0.°09×166.°1E±0.°1, h30km, n27, σ1°15/31, mb4.0/10, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.50**	**290**	Pn		**Pn**	**06 18 01.5**	**+1.8**
HNR				Sn		**Sn**	**06 19 11.1**	**-1.9**
HNR	**Honiara**	**6.50**	**290**	Pn		**Pn**	**06 18 01.5**	**+1.8**
	2.6nm,0.3s,baz=72,slow=20,SNR=3.3							
HNR				Sn		**Sn**	**06 19 11.1**	**-1.9**
	18nm,0.3s,baz=193,slow=17,SNR=2.7							
DZM	**Mont Dzumac**	**10.26**	**178**	Sn		**Sn**

VNDA	**Vanda**	**65.79**	**181**	P		**P**	**06 27 08.6**	**+0.7**
	1.1nm,0.8s,baz=358,slow=6.0,SNR=11							
SBA	**Scott Base**	**66.09**	**180**	*eP*		**P**	**06 27 11.6**	**+1.8**
	5.0nm,1.0s							
QSPA	**South Pole Qui**	**78.25**	**180**	*eP*		**P**	**06 28 22.7**	**-0.2**
	4.0nm,1.0s							
SONM	**Songino Array**	**79.46**	**324**	P		**P**	**06 28 30.1**	**+0.3**
SONM	**Songino Array**	**79.46**	**324**	P		**P**	**06 28 30.1**	**+0.3**
	0.5nm,0.7s,baz=120,slow=8.7,SNR=3.8							
ILAR	**Eielson Array**	**84.07**	**18**	P		**P**	**06 28 53.0**	**-0.5**
ILAR	**Eielson Array**	**84.07**	**18**	P		**P**	**06 28 53.0**	**-0.5**
	0.2nm,0.5s,baz=237,slow=6.1,SNR=3.1							
MAW	**Mawson**	**84.20**	**202**	*eP*		**P**	**06 28 55.6**	**+1.3**
	0.8nm,1.3s							
MAW	**Mawson**	**84.20**	**202**	P		**P**	**06 28 54.2**	**-0.1**
	1.3nm,1.0s,baz=196,slow=7.4,SNR=3.7							
MKAR	**Makanchi Array**	**94.30**	**317**	P		**P**	**06 29 43.2**	**+0.5**
MKAR	**Makanchi Array**	**94.30**	**317**	P		**P**	**06 29 43.2**	**+0.5**
	2.7nm,0.7s,baz=97,slow=6.7,SNR=2.1							
ARCES	**ARCESS Array B**	**117.12**	**345**	PKP		**PKPdf**	**06 35 05.3**	**-2.4**
ARCES	**ARCESS Array B**	**117.12**	**345**	PKP		**PKPdf**	**06 35 05.3**	**-2.4**
	1.8nm,0.9s,baz=69,slow=4.9,SNR=3.4							
LPAZ	**La Paz**	**119.53**	**116**	PKP		**PKPdf**	**06 35 14.0**	**-0.7**
LPAZ	**La Paz**	**119.53**	**116**	PKP		**PKPdf**	**06 35 14.0**	**-0.7**
	0.6nm,0.8s,baz=243,slow=6.8,SNR=3.3							
BOSA	**Boshof**	**124.85**	**223**	PKP		**PKPdf**	**06 35 24.5**	**+0.6**
BOSA	**Boshof**	**124.85**	**223**	PKP		**PKPdf**	**06 35 24.5**	**+0.6**
	1.7nm,1.0s,baz=124,slow=3.6,SNR=3.0							

NNC 24 06:23:40.5±5.5, 36°.99N×69°.42E, h0km, mb3.9, mpv3.5, 2C-2D, Error ellipse: s-maj=45.2km s-min=42.7km az=121.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.16**	**7**	Pn	Pn	06 25 15.9	+3.0
	1.3nm,0.5s,baz=192,slow=14,SNR=19						
KK31				Sn	Sn	06 26 31.1	+7.0
	6.9nm,0.8s,baz=191,slow=23,SNR=9.1						
TKM2	**Tokmak 2**	**7.59**	**37**	⇓Pn	Pn	06 25 32.0	-0.6
	3.1nm,0.6s						
TKM2				⇑Sn	Sn	06 26 57.4	-2.1
	2.2nm,0.6s						
AB31	**Akbulak array**	**14.06**	**334**	⇑Pn	Pn	06 27 00.1	-0.8
	0.9nm,0.3s						
AB31				⇓Sn	Sn	06 29 37.0	-0.6
	0.4nm,0.5s,baz=152,slow=23,SNR=3.9						

*IDC **24** 06:37:53.7±0.9, 33°.28S×178°.47W, h0km, mb4.3/4, mb1 4.6/5, mb1mx4.1/17, mbtmp4.4/5, ML4.7/1, MS3.8/9, Ms1 3.8/9, ms1mx3.5/27, Error ellipse: s-maj=33.6km s-min=26.5km az=91.0*

*ISCJB **24** 06:37:56.9±0.8, 33°.20S±0°.07×178°.5W±0°.1, h32km, mb4.5/7, MS3.9/8, Error ellipse: s-maj=17.2km s-min=8.5km az=18.2*

*NEIC **24** 06:37:58.3±0.9, 33°.33S×178°.33W, h35km, mb4.6/4, Error ellipse: s-maj=21.7km s-min=15.9km az=117.0*

ISC 24 06:37:58.4±0.7, 33°.23S±0°.08×178°.3W±0°.1, h32km, n51, σ1ᵍ13/39, mb4.6/7, MS3.9/8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.97**	**5**	*e*Pn	**Pn**	**06 38 56.0**	**-1.1**
RAO				*e*Sn	**Sn**	**06 39 43.6**	**+1.0**
RAO	**Raoul Island**	**3.97**	**5**	Pn	**Pn**	**06 38 56.7**	**-0.4**
	50nm,0.3s,baz=106,slow=20,SNR=6.6						
RAO				Sn	**Sn**	**06 39 42.4**	**-0.2**
	31nm,0.3s,baz=108,slow=20,SNR=2.9						
URZ	**Urewera**	**6.26**	**215**	*e*Pn	Pn	06 39 23.6	-4.9
	46nm,0.5s						
URZ				*e*Sn	Sn	06 40 29.9	-9.1
URZ	**Urewera**	**6.26**	**215**	Pn	Pn	06 39 22.3	-6.2
	9.1nm,0.3s,baz=43,slow=3.9,SNR=40						
URZ				Sn	Sn	06 40 31.7	-7.3
	11nm,0.3s,baz=171,slow=21,SNR=10						
OUZ	**Omahuta**	**7.01**	**251**	*e*Pn	**Pn**	**06 39 39.0**	**+0.1**
	44nm,0.8s						
RPZ	**Rata Peaks**	**13.38**	**215**	*e*Pn	Pn	06 40 59.0	-7.0
RPZ				Sn	Sn	06 43 14.3	-19
RPZ	**Rata Peaks**	**13.38**	**215**	Pn	Pn	06 40 59.1	-7.0
	1.3nm,0.3s,baz=348,slow=0.6,SNR=6.8						
RPZ				Sn	Sn	06 43 14.3	-19
	0.9nm,0.3s,baz=357,slow=17,SNR=5.6						
DZM	**Mont Dzumac**	**17.48**	**306**	*e*LR	LR	06 46 17.5	
	434nm,24.9s						
DZM	**Mont Dzumac**	**17.48**	**306**	P	**P**	**06 42 02.1**	**+1.3**
DZM	**Mont Dzumac**	**17.48**	**306**	P	**P**	**06 42 02.1**	**+1.3**
	0.3nm,0.3s,baz=129,slow=16,SNR=4.9						
DZM				LR	LR	06 47 19.4	
	comp=Z,267nm,20.7s,baz=347,slow=32						
TBI	**Tubuai**	**27.15**	**76**	*e*LR	LR	06 50 25.3	
	101nm,21.5s						
PPT2	**Papeete2**	**30.12**	**66**	*e*LR	LR	06 51 46.1	
	89nm,21.2s						
STKA	**Stephens Creek**	**33.70**	**261**	LR	LR	06 58 10.6	
	comp=Z,302nm,18.2s,baz=188,slow=36						
CTAO	**Charters Tower**	**34.11**	**284**	*e*P	**P**	**06 44 41.2**	**+0.8**
	5.1nm,0.6s						
RKT	**Rikitea**	**39.25**	**87**	*e*LR	LR	06 56 15.6	
	134nm,30.2s						
PMG	**Port Moresby**	**39.67**	**299**	LR	LR	06 59 35.9	
	comp=Z,94nm,19.8s,baz=197,slow=33						
AS31	**Alice Springs**	**42.79**	**270**	*e*P	**P**	**06 45 51.9**	**-1.4**
ASAR	**Alice Springs**	**42.79**	**270**	P	**P**	**06 45 52.0**	**-1.3**
ASAR				PcP	**PcP**	**06 47 44.1**	**-0.2**
ASAR	**Alice Springs**	**42.79**	**270**	P	**P**	**06 45 52.0**	**-1.3**
	4.2nm,0.7s,baz=109,slow=7.0,SNR=40						
ASAR				PcP	**PcP**	**06 47 44.1**	**-0.2**
	1.5nm,0.8s,baz=116,slow=3.9,SNR=6.1						
ASAR				LR	LR	07 04 38.1	
	comp=Z,139nm,18.6s,baz=102,slow=38						
WRAB	**Tennant Creek**	**44.03**	**275**	*e*P	**P**	**06 46 01.7**	**-1.6**
	9.2nm,0.9s						
WRA	**Warramunga Arr**	**44.03**	**275**	P	**P**	**06 46 02.1**	**-1.2**
WRA	**Warramunga Arr**	**44.03**	**275**	P	**P**	**06 46 02.1**	**-1.2**
	4.2nm,0.5s,baz=116,slow=7.6,SNR=35						
WRA				LR	LR	07 05 03.3	
	comp=Z,79nm,19.7s,baz=165,slow=37						
FITZ	**Fitzroy Crossi**	**52.16**	**272**	*e*P	**P**	**06 47 04.3**	**-1.9**
	11nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.16**	**272**	LR	LR	07 09 04.7	
	comp=Z,130nm,18.3s,baz=120,slow=36						
QSPA	**South Pole Qui**	**56.89**	**180**	*e*P	**P**	**06 47 41.2**	**+1.2**
	3.0nm,0.8s						
QSPA	**South Pole Qui**	**56.89**	**180**	P	**P**	**06 47 40.0**	**0.0**
	1.6nm,0.9s						
SNAA	**Sanae**	**75.35**	**179**	*e*P	**P**	**06 49 38.7**	**+0.5**
SNAA	**Sanae**	**75.35**	**179**	*e*I	pP	06 49 48.3	0.0
VNA2	**Neumayer--Watz**	**75.94**	**177**	*e*P	**P**	**06 49 41.8**	**+0.3**
	baz=178,slow=5.3						
VNA2	**Neumayer--Watz**	**75.94**	**177**	*e*I	pP	06 49 52.4	+0.8
	baz=178,slow=5.3						
KSRS	**Korea Array**	**86.34**	**320**	LR	LR	07 27 52.6	
	comp=Z,16nm,19.0s,baz=285,slow=35						
PETK	**Petropavlovsk-**	**88.48**	**346**	P	**P**	**06 50 48.4**	**+1.4**
PETK	**Petropavlovsk-**	**88.48**	**346**	P	**P**	**06 50 48.4**	**+1.4**
	2.9nm,0.7s,baz=153,slow=3.2,SNR=2.7						
TXAR	**Lajitas Array**	**94.11**	**58**	LR	LR	07 28 55.4	
	comp=Z,59nm,19.0s,baz=0.0,slow=32						
CPUP	**Villa Florida**	**98.42**	**129**	LR	LR	07 31 54.3	
	comp=Z,81nm,19.3s,baz=351,slow=33						
ARCES	**ARCESS Array B**	**141.28**	**347**	PKP		**PKPdf**	**06 57 22.5**	**-2.3**
ARCES	**ARCESS Array B**	**141.28**	**347**	PKP		**PKPdf**	**06 57 22.5**	**-2.3**
	3.6nm,0.9s,baz=43,slow=5.4,SNR=3.6							
JOF	**Joensuu**	**144.93**	**337**	*ep*		**PKPab**	**06 57 30.9**	**+0.3**
	2.3nm,0.6s							
KBZ	**Khabaz**	**146.40**	**300**	PKPbc		**PKPbc**	**06 57 36.4**	**+0.5**
KBZ	**Khabaz**	**146.40**	**300**	PKPbc		**PKPbc**	**06 57 36.4**	**+0.5**
	4.8nm,1.0s,baz=272,slow=2.7,SNR=6.0							
KAF	**Kangasniemi**	**147.11**	**339**	*ep*		**PKPdf**	**06 57 36.0**	**+0.9**
	3.0nm,0.7s							
FINES	**FINESS Array B**	**147.69**	**338**	PKPbc		**PKPbc**	**06 57 39.1**	**+0.2**
FINES	**FINESS Array B**	**147.69**	**338**	PKPbc		**PKPbc**	**06 57 39.1**	**+0.2**
	2.2nm,0.5s,baz=42,slow=3.9,SNR=22							
NOA	**NORSAR Array B**	**151.49**	**350**	PKPbc		**PKPbc**	**06 57 49.3**	**+0.9**
NOA	**NORSAR Array B**	**151.49**	**350**	PKPbc		**PKPbc**	**06 57 49.3**	**+0.9**
	0.5nm,0.5s,baz=14,slow=4.1,SNR=3.2							
AKASG	**Malin Array Be**	**153.33**	**319**	PKPbc		**PKPbc**	**06 57 51.0**	**-1.8**
AKASG	**Malin Array Be**	**153.33**	**319**	PKPbc		**PKPbc**	**06 57 51.0**	**-1.8**
	0.5nm,0.4s,baz=50,slow=3.0,SNR=3.8							
BRTR	**Keskin Array B**	**153.61**	**293**	PKPbc		**PKPbc**	**06 57 53.6**	**-0.4**
BRTR	**Keskin Array B**	**153.61**	**293**	PKPbc		**PKPbc**	**06 57 53.6**	**-0.4**
	0.7nm,0.4s,baz=215,slow=1.5,SNR=5.8							
TORD	**Torodi Ar. Bea**	**160.01**	**180**	PKPab		**PKPab**	**06 58 34.4**	**0.0**
TORD	**Torodi Ar. Bea**	**160.01**	**180**	PKPab		**PKPab**	**06 58 34.4**	**0.0**
	0.9nm,0.8s,baz=178,slow=4.3,SNR=5.5							

*NEIC **24** 06:52:19.8, 15°.96N×96°.96W, h5km, MD4.2(MEX), After MEX.*

MEX 24 06:52:19.8±0.8, 15°.96N×96°.96W, h5km, MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.84**	**103**	*e*P	Pg	06 52 33.8	-2.2
HUIG				*e*S	Sg	06 52 46.5	-0.4
HUIG	**Huatulco**	**0.84**	**103**	*e*P	Pg	06 52 33.8	-2.2
HUIG				*e*S	Sg	06 52 46.5	-0.4
VHO	**Vista Hermosa**	**1.13**	**11**	*e*P	Pg	06 52 38.4	-3.3
VHO				*i* S	Sg	06 52 52.6	-3.9
VHO	**Vista Hermosa**	**1.13**	**11**	*e*P	Pg	06 52 38.4	-3.3
VHO				*i* S	Sg	06 52 52.6	-3.9
PNIG	**Pinotepa**	**1.20**	**291**	*e*P	Pg	06 52 38.7	-4.2
PNIG				*i* S	Sg	06 52 55.6	-3.0
PNIG	**Pinotepa**	**1.20**	**291**	*e*P	Pg	06 52 38.7	-4.2
PNIG				*i* S	Sg	06 52 55.6	-3.0
UTMO	**Huajuapan**	**2.03**	**337**	*e*P	Pn	06 52 52.3	-2.6
UTMO				*i* S	Sn	06 53 17.1	-3.8
UTMO	**Huajuapan**	**2.03**	**337**	*e*P	Pn	06 52 52.3	-2.6
UTMO				*i* S	Sn	06 53 17.1	-3.8
TLIG	**Tlapa**	**2.22**	**316**	*i* P	Pn	06 52 54.8	-2.6
TLIG				*i* S	Sn	06 53 21.8	-3.6
TPIG	**Tehuac#an**	**2.48**	**351**	*i* P	Pn	06 52 57.5	-3.5
TPIG				*i* S	Sn	06 53 27.6	-4.3
TPIG	**Tehuac#an**	**2.48**	**351**	*i* P	Pn	06 52 57.5	-3.5
TPIG				*i* S	Sn	06 53 27.6	-4.3
MEIG	**Mezcala**	**3.21**	**308**	*i* P	Pn	06 53 09.0	-2.1
MEIG				*i* S	Sn	06 53 45.9	-3.9
MEIG	**Mezcala**	**3.21**	**308**	*i* P	Pn	06 53 09.0	-2.1
MEIG				*i* S	Sn	06 53 45.9	-3.9
PLIG	**Platanillo**	**3.43**	**315**	*i* P	Pn	06 53 11.7	-2.4
PLIG				*i* S	Sn	06 53 52.4	-2.9
PLIG	**Platanillo**	**3.43**	**315**	*i* P	Pn	06 53 11.7	-2.4
PLIG				*i* S	Sn	06 53 52.4	-2.9
PCIG		**3.61**	**94**	*e*P	Pn	06 53 13.0	-3.4
PCIG				*i* S	Sn	06 53 55.8	-3.6
PCIG		**3.61**	**94**	*e*P	Pn	06 53 13.0	-3.4
PCIG				*i* S	Sn	06 53 55.8	-3.6
TGIG		**3.77**	**77**	*i* P	Pn	06 53 16.4	-2.4
TGIG				*i* S	Sn	06 54 00.0	-3.6
TGIG		**3.77**	**77**	*i* P	Pn	06 53 16.4	-2.4
TGIG				*i* S	Sn	06 54 00.0	-3.6
CCIG	**Comitan**	**4.64**	**85**	*i* P	Pn	06 53 29.5	-1.4
CCIG				*i* S	Sn	06 54 22.1	-3.4
CCIG	**Comitan**	**4.64**	**85**	*i* P	Pn	06 53 29.5	-1.4
CCIG				*i* S	Sn	06 54 22.1	-3.4

*ISCJB **24** 07:33:09.6±0.8, 39°.69N±0°.08×95°.22E±0°.06, h10km, mb3.7/1, MS3.5/3, Error ellipse: s-maj=11.8km s-min=6.6km az=12.4*

*BJI **24** 07:33:09.9, 39°.42N×95°.02E, h6km, ML3.9/8, Ms3.6/2, Ms7 3.4/2*

*IDC **24** 07:33:12.4±2.1, 39°.44N×95°.09E, h0km, mb3.7/1, mb1 3.8/4, mb1mx3.4/28, mbtmp3.6/4, ML3.3/3, MS3.4/4, Ms1 3.4/4, ms1mx2.9/31, Error ellipse: s-maj=43.4km s-min=23.4km az=59.0*

ISC 24 07:33:12.8±1.1, 39°.5N±0°.1×95°.26E±0°.06, h10km, n12, σ2ᵍ16/13, MS3.6/3, 2C-1D, Gansu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**3.53**	**91**	Pg	**Pb**	**07 34 13.9**	**-1.5**
GTA				Sn	**Sb**	**07 34 57.3**	**-1.1**
GTA				Sg	**Sg**	**07 35 08.3**	**+2.1**
GTA				SMN			
	170nm,1.1s						
GTA				SME			
	130nm,0.7s						
GTA				LR	LR		
	comp=N,270nm,6.4s						
GTA				LR	LR		
	comp=E,360nm,7.8s						
GTA				LR	LR		
	comp=Z,410nm,9.5s						
WMQ	**Urumqi**	**7.09**	**310**	*e*Pn	**Pn**	**07 34 56.0**	**-0.7**
WMQ				Sg	**Sb**	**07 36 44.0**	**+3.1**
WMQ				SMN			
	comp=Z,420nm,0.6s						
WMQ				SME			
	comp=Z,450nm,1.0s						
LZH	**Lanzhou**	**7.62**	**114**	*e*Pn	**Pn**	**07 35 05.4**	**+1.4**
SONM	**Songino Array**	**11.56**	**41**	Pn	**Pn**	**07 36 00.8**	**+2.9**
	0.1nm,0.3s,baz=222,slow=14,SNR=5.5						
SONM				Sn	**Sn**	**07 38 05.4**	**-1.7**
	0.2nm,0.3s,baz=225,slow=18,SNR=3.9						
SONM				Lg	Lg	07 39 15.8	
	0.2nm,0.3s,baz=227,slow=32,SNR=3.6						
SONM				LR	LR	07 40 46.0	
	comp=Z,63nm,20.4s,baz=0.8,slow=39						
MK31	**Makanchi Array**	**11.92**	**312**	⇑Pn	**Pn**	**07 36 00.2**	**-2.6**
	1.7nm,0.8s,baz=124,slow=14,SNR=32						
MK31				⇑Sn	Sn	07 38 07.4	-8.3
	2.5nm,0.6s,baz=127,slow=21						
MK31				⇓Lg	Lg	07 39 04.3	
	6.3nm,0.8s						
MKAR	**Makanchi Array**	**11.92**	**312**	Pn	**Pn**	**07 36 00.2**	**-2.5**
	0.4nm,0.3s,baz=123,slow=14,SNR=20						
MKAR				Sn	Sn	07 38 06.1	-10
	0.3nm,0.3s,baz=124,slow=25,SNR=3.2						
MKAR				Lg	Lg	07 39 28.2	
	0.3nm,0.3s,baz=119,slow=27,SNR=3.9						
HHC	**Hu-ho-hao-te**	**12.54**	**79**	*e*P	**Pn**	**07 36 10.8**	**-0.6**
ZALV	**Zalesovo Beam**	**16.07**	**337**	Pn	**P**	**07 37 00.7**	**-1.4**
	0.1nm,0.3s,baz=154,slow=11,SNR=2.6						
ZALV				Lg	Lg	07 41 35.8	
	0.1nm,0.3s,baz=156,slow=29,SNR=3.0						
CMAR	**Chiang Mai Arr**	**21.25**	**170**	P	**P**	**07 37 59.1**	**0.0**
	1.4nm,0.3s,baz=342,slow=10.0						
KSRS	**Korea Array**	**25.58**	**84**	LR	LR	07 49 55.2	
	comp=Z,41nm,18.3s,baz=230,slow=39						
PMG	**Port Moresby**	**68.42**	**123**	LR	LR	08 12 38.2	
	comp=Z,87nm,18.5s,baz=177,slow=35						
WRA	**Warramunga Arr**	**69.53**	**141**	LR	LR	08 15 46.1	
	comp=Z,38nm,21.8s,baz=135,slow=37						

*IDC **24** 07:40:25.2±1.5, 11°.79S×166°.30E, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.7/19, mbtmp3.8/7, ML3.6/2, MS3.7/1, Ms1 3.7/1, ms1mx2.7/27, Error ellipse: s-maj=40.3km s-min=26.7km az=121.0*

*ISCJB **24** 07:40:33.5±1.2, 12°.20S±0°.09×166°.4E±0°.2, h83km, mb3.5/5, Error ellipse: s-maj=30.2km s-min=11.8km az=173.3*

ISC 24 07:40:34.8±1.4, 12°.1S±0°.1×166°.5E±0°.2, h83km, n8, σ1ᵍ10/7, mb3.6/5, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.96**	**292**	Pn	Pn	07 42 06.2	-8.1
	4.7nm,0.3s,baz=151,slow=19,SNR=2.9						
DZM	**Mont Dzumac**	**9.87**	**180**	Pn	**Pn**	**07 42 54.0**	**+0.1**
	0.1nm,0.3s,baz=305,slow=19,SNR=3.3						
DZM				Sn	**Sn**	**07 44 42.4**	**-0.7**
	0.1nm,0.3s,baz=86,slow=19,SNR=2.0						
URZ	**Urewera**	**27.68**	**162**	LR	LR	07 54 23.8	
	comp=Z,179nm,21.1s,baz=211,slow=30						
STKA	**Stephens Creek**	**30.17**	**225**	P	**P**	**07 46 38.9**	**+1.7**
	1.1nm,0.6s,baz=49,slow=9.9,SNR=5.1						
WRA	**Warramunga Arr**	**31.81**	**252**	P	**P**	**07 46 50.9**	**-0.9**
	0.4nm,0.6s,baz=84,slow=9.1,SNR=3.2						
ASAR	**Alice Springs**	**32.97**	**245**	P	**P**	**07 47 01.4**	**-0.5**
	0.6nm,0.6s,baz=69,slow=9.8,SNR=10.0						
ILAR	**Eielson Array**	**84.32**	**18**	P	**P**	**07 52 57.5**	**+0.3**
	0.2nm,0.6s,baz=238,slow=5.1,SNR=4.1						
MKAR	**Makanchi Array**	**94.81**	**317**	P	**P**	**07 53 46.8**	**-0.6**
	0.3nm,0.5s,baz=94,slow=7.9,SNR=3.1						

IDC 24 07:44:31.1±6.7, 28°.92N×139°.30E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.4/22, mbtmp3.7/3, ML2.6/1, Error ellipse: s-maj=442.5km s-min=41.4km az=80.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
USRK	**Ussuriysk Arra**	**16.33**	**341**	Pn	Pn	07 48 21.8	+0.1
	0.2nm,0.3s,baz=156,slow=11,SNR=4.8						
WRA	**Warramunga Arr**	**48.81**	**186**	P	P	07 53 18.8	+0.5
	0.5nm,0.6s,baz=4.9,slow=7.8,SNR=3.4						
ASAR	**Alice Springs**	**52.54**	**186**	P	P	07 53 45.6	-0.8
	0.4nm,0.5s,baz=1.5,slow=6.6,SNR=5.4						

*IDC **24** 07:50:36.5±0.8, 33°.31S×178°.46W, h0km, mb4.5/8, mb1 4.7/10, mb1mx4.4/19, mbtmp4.5/10, ML4.5/2, MS3.9/3, Ms1 3.9/3, ms1mx3.2/29, Error ellipse: s-maj=24.8km s-min=20.7km az=105.0*

*ISCJB **24** 07:50:42.2±0.7, 33°.59S±0°.07×178°.7W±0°.1, h41km, mb4.6/14, MS3.8/3, Error ellipse: s-maj=12.1km s-min=9.4km az=9.5*

*NEIC **24** 07:50:43.4±2.5, 33°.57S×178°.52W, h46km±19km, mb4.8/9, Error ellipse: s-maj=22.4km s-min=13.1km az=58.0*

*AUST **24** 07:50:57.0±1.1, 34°.21S×179°.40W, h101km±1km, Error ellipse: s-maj=2.2km s-min=1.4km az=307.0*

ISC 24 07:50:43.2±0.6, 33°.56S±0°.08×178°.55W±0°.09, h41km, n66, σ1ᵍ26/62, mb4.8/14, MS3.9/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.33**	**7**	*e*Pn	Pn	07 51 38.9	-7.6
RAO				*e*Sn	Sn	07 52 24.6	-11
RAO	**Raoul Island**	**4.33**	**7**	Pn	Pn	07 51 38.9	-7.6
	38nm,0.3s,baz=142,slow=19,SNR=4.4						
RAO				Sn	Sn	07 52 26.1	-10
	64nm,0.3s,baz=54,slow=23,SNR=5.9						
URZ	**Urewera**	**5.87**	**216**	*e*Pn	**Pn**	**07 52 06.8**	**-0.8**
	82nm,0.6s						
URZ				Sn	**Sn**	**07 53 13.8**	**+0.2**
URZ				*e*Sn	Sn	07 53 14.4	+0.9
URZ	**Urewera**	**5.87**	**216**	Pn	**Pn**	**07 52 06.8**	**-0.8**
	9.3nm,0.3s,baz=27,slow=3.8,SNR=68						
URZ				Sn	**Sn**	**07 53 13.8**	**+0.2**
	19nm,0.3s,baz=158,slow=18,SNR=9.9						
OUZ	**Omahuta**	**6.70**	**253**	*e*Pn	**Pn**	**07 52 21.1**	**+2.1**
	63nm,0.8s						
KHZ	**Kahutara**	**10.82**	**213**	*e*Pn	**Pn**	**07 53 13.4**	**-2.1**
KHZ				*e*Sn	Sn	07 55 07.8	-7.3
RPZ	**Rata Peaks**	**12.98**	**216**	Pn	Pn	07 53 41.6	-3.4
RPZ				Sn	Sn	07 55 55.8	-12
RPZ	**Rata Peaks**	**12.98**	**216**	Pn	Pn	07 53 41.6	-3.4
	0.7nm,0.3s,baz=14,slow=19,SNR=3.5						
RPZ				Sn	Sn	07 55 55.8	-12
	1.4nm,0.3s,baz=344,slow=19,SNR=9.5						
DZM	**Mont Dzumac**	**17.50**	**307**	*e*P	**P**	**07 54 47.2**	**+2.1**
	78nm,1.0s						
DZM				*e*LR	LR	07 58 48.3	
	316nm,24.9s						
DZM	**Mont Dzumac**	**17.50**	**307**	*e*P	**P**	**07 54 46.3**	**+1.2**
	27nm,0.8s						
DZM	**Mont Dzumac**	**17.50**	**307**	P	**P**	**07 54 46.7**	**+1.7**
	0.3nm,0.3s,baz=135,slow=14,SNR=7.3						
TBI	**Tubuai**	**27.44**	**76**	*e*LR	LR	08 03 11.7	
	100nm,22.2s						
EIDS	**Eidsvold**	**27.59**	**279**	*e*P	**P**	**07 56 27.1**	**+0.3**
	6.2nm,0.7s						
RMQ	**Roma**	**29.08**	**275**	P	P	07 56 43.4	+3.4
	baz=28,SNR=7.3						
PPT2	**Papeete2**	**30.45**	**66**	*e*LR	LR	08 04 46.7	
	85nm,20.5s						
PPT	**Papeete**	**30.47**	**66**	LR	LR	08 06 32.7	
	comp=Z,168nm,18.9s,baz=212,slow=32						
QLP	**Quilpie**	**32.82**	**272**	P	**P**	**07 57 14.3**	**+1.4**
	baz=32,SNR=6.9						
STKA	**Stephens Creek**	**33.43**	**262**	*e*P	**P**	**07 57 18.9**	**+0.7**
	0.5nm,0.7s						
STKA	**Stephens Creek**	**33.43**	**262**	P	**P**	**07 57 18.7**	**+0.5**
	2.9nm,0.8s,baz=118,slow=15,SNR=4.6						
STKA				LR	LR	08 10 36.1	
	comp=Z,221nm,18.4s,baz=26,slow=36						
CTA	**Charters Tower**	**33.98**	**284**	P	**P**	**07 57 23.7**	**+0.7**
CTA	**Charters Tower**	**33.98**	**284**	P	**P**	**07 57 23.7**	**+0.7**
	7.7nm,0.6s,baz=120,slow=11,SNR=11						
CTAO	**Charters Tower**	**33.98**	**284**	*e*P	**P**	**07 57 23.3**	**+0.3**
	10nm,0.7s						
RKT	**Rikitea**	**39.49**	**86**	*e*LR	LR	08 08 35.0	
	130nm,28.5s						
COEN	**Coen**	**39.80**	**290**	*e*P	**P**	**07 58 12.4**	**-0.1**
	32nm,0.8s						
AS31	**Alice Springs**	**42.57**	**271**	*e*P	**P**	**07 58 34.5**	**-0.9**
ASAR	**Alice Springs**	**42.57**	**271**	P	**P**	**07 58 34.7**	**-0.6**
ASAR				PcP	**PcP**	**08 00 26.2**	**-1.0**
ASAR				S	**S**	**08 04 53.4**	**-1.9**
ASAR	**Alice Springs**	**42.57**	**271**	P	**P**	**07 58 34.7**	**-0.6**
	14nm,0.

IDC 24 08:01:50.4±8.6, 23°09N×108°63W, h0km, mb3.1/1, mb1 3.7/4, mb1mx3.5/24, mbtmp3.2/4, ML3.3/2, Error ellipse: s-maj=130.7km s-min=37.1km az=169.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.84**	**303**	Pn	Pn	08 02 21.3	-2.0
	36nm,0.3s,baz=122,slow=7.8,SNR=56						
LPIG				Sn	Sn	08 02 38.5	-8.8
	140nm,0.3s,baz=10.0,slow=17,SNR=22						
TXAR	**Lajitas Array**	**7.64**	**35**	Pn	Pn	08 03 42.5	-0.8
	0.1nm,0.3s,baz=206,slow=15,SNR=6.4						
NVAR	**Mina Array Bea**	**17.38**	**334**	Pn	P	08 05 58.5	+2.4
	0.1nm,0.3s,baz=151,slow=12,SNR=3.6						
PDAR	**Pinedale Array**	**19.64**	**358**	P	P	08 06 21.2	+0.3
	0.1nm,0.3s,baz=165,slow=12,SNR=9.7						
ILAR	**Eielson Array**	**48.53**	**339**	P	P	08 10 36.1	+1.2
	0.2nm,0.7s,baz=147,slow=8.5,SNR=4.5						

*BJI **24** 08:02:21.5, 19°.10N×108°.50W, h10km, Ms5.2/1, Ms7 4.8/1*
*MEX **24** 08:02:23.8±0.6, 19°.25N×108°.52W, h6km±9km, MD4.5*
*IDC **24** 08:02:23.1±1.4, 19°.26N×108°.55W, h0km, mb4.1/11, mb1 4.4/14, mb1mx4.2/26, mbtmp4.2/14, ML4.0/3, MS3.9/24, Ms1 3.9/24, ms1mx3.8/44, Error ellipse: s-maj=50.5km s-min=13.8km az=55.0*
*ISCJB **24** 08:02:24.3±0.4, 18°.99N±0°.03×108°.45W±0°.02, h33km, mb4.4/52, MS3.9/21, Error ellipse: s-maj=5.2km s-min=2.7km az=19.5*
*NEIC **24** 08:02:24.5±0.5, 19°.15N×108°.46W, h10km, mb4.5/70, Error ellipse: s-maj=8.5km s-min=3.9km az=222.0*
*GCMT **24** 08:02:25.5±0.4, 19°.35N×108°.52W, h23km±1km, MW4.9, Moment Tensor Solution. s23,c25; s71,c106; Moment tensor: Scale 10^{16}Nm; M_{rr}-0.08±.15; $M_{\theta\theta}$-2.52±.12; $M_{\phi\phi}$2.60±.12; $M_{r\theta}$-0.43±.17; $M_{\theta\phi}$-1.69±.10; $M_{\phi r}$0.51±.18; Best double couple: $M_0$3.10000×10^{16} NP1:ϕ_s298.00000°, δ86.00000°, λ169.00000°. NP2:ϕ_s29.00000°, δ79.00000°, λ4.00000°. Principal axes: T 3.2200, Plg11.0000°, Azm253.0000°; N -0.1800, Plg78.0000°, Azm100.0000°; P -3.0500, Plg5.0000°, Azm344.0000°; Data Used: II IU CN G IC.*

ISC 24 08:02:28.1±0.6, 19°25N±0°.05×108°37W±0°.04, h35km, n330, σ1°35/250, mb4.5/49, MS3.9/21, 73C-63D, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E1	**SOCORRO T-PHAS**	**2.46**	**260**	Pn	Pn	08 02 58.5	-7.3
H06E1				T	T	08 05 30.5	
	SNR=246						
H06S1	**SOCORRO T**	**2.50**	**259**	Pn	Pn	08 02 59.7	-6.7
H06S1				T	T	08 05 28.2	
	SNR=1524						
H06N1	**SOCORRO T-PHAS**	**2.51**	**262**	Pn	Pn	08 02 59.1	-7.3
H06N1				T	T	08 05 32.2	
	SNR=29						
H06S		**2.51**	**259**	*i* P	Pn	08 02 59.6	-6.8
H06N	**Isla Socorro**	**2.51**	**262**	*i* S	Sn	08 03 28.8	-7.1
CJM	**Chamela**	**3.15**	**85**	*e*P	Pn	08 03 12.4	-2.8
CJM				*i* S	**Sn**	**08 03 51.1**	**-0.5**
CJM	**Chamela**	**3.15**	**85**	*e*P	Pn	08 03 12.4	-2.8
CJM				*i* S	**Sn**	**08 03 51.1**	**-0.5**
ANIG	**Ahuacatlan**	**4.04**	**63**	*e*P	**Pn**	**08 03 26.0**	**-1.6**
ANIG				*i* S	**Sn**	**08 04 14.4**	**+0.7**
ANIG	**Ahuacatlan**	**4.04**	**63**	*e*P	**Pn**	**08 03 26.0**	**-1.6**
ANIG				*i* S	**Sn**	**08 04 14.4**	**+0.7**
R15V		**4.14**	**90**	*i* P	**Pn**	**08 03 27.5**	**-1.5**
R15V				*i* S	**Sn**	**08 04 16.1**	**-0.2**
EZ5V		**4.50**	**86**	*e*P	**Pn**	**08 03 33.4**	**-0.8**
EZ5V				*i* S	**Sn**	**08 04 26.5**	**+1.0**
MMIG	**Aquila**	**4.85**	**101**	*e*P	**Pn**	**08 03 37.1**	**-1.6**
MMIG				*i* S	**Sn**	**08 04 33.8**	**+0.1**
MMIG	**Aquila**	**4.85**	**101**	*e*P	**Pn**	**08 03 37.1**	**-1.6**
MMIG				*i* S	**Sn**	**08 04 33.8**	**+0.1**
LPIG	**La Paz**	**5.16**	**340**	LR	LR	08 05 27.7	
	comp=Z,2μm,20.3s,baz=105,slow=36						
ZIIG	**Zihuatanejo**	**6.75**	**103**	*e*P	**Pn**	**08 04 03.9**	**-0.9**
ZIIG				*i* S	**Sn**	**08 05 21.1**	**+0.6**
ZIIG	**Zihuatanejo**	**6.75**	**103**	*e*P	**Pn**	**08 04 03.9**	**-0.9**
ZIIG				*i* S	**Sn**	**08 05 21.1**	**+0.6**
CAIG	**El Cayaco**	**8.01**	**105**	*i* P	**Pn**	**08 04 20.9**	**-1.1**
CAIG				*i* S	**Sn**	**08 05 52.6**	**+1.2**
CAIG	**El Cayaco**	**8.01**	**105**	*i* P	**Pn**	**08 04 20.9**	**-1.1**
CAIG				*i* S	**Sn**	**08 05 52.6**	**+1.2**
TXAR	**Lajitas Array**	**10.92**	**22**	Pn	**Pn**	**08 05 01.9**	**-0.2**
TXAR	**Lajitas Array**	**10.92**	**22**	Pn	**Pn**	**08 05 01.9**	**-0.2**
	0.4nm,0.3s,baz=197,slow=15,SNR=11						
626A	**Big Bend Ranch**	**10.96**	**20**	⇑P	**Pn**	**08 05 03.1**	**+0.5**
	baz=11						
627A	**Terlingua Ranc**	**11.13**	**23**	⇓P	**Pn**	**08 05 04.8**	**0.0**
	baz=11						
628A	**Black Gap, Mar**	**11.35**	**25**	⇑P	**Pn**	**08 05 07.9**	**0.0**
	baz=12						
526A	**Mary Lane Ranc**	**11.45**	**19**	⇑P	**Pn**	**08 05 09.6**	**+0.3**
	baz=12,SNR=5.5						
527A	**Woodward Ranch**	**11.68**	**21**	⇑P	**Pn**	**08 05 13.2**	**+0.7**
	baz=12,SNR=16						
425A	**Indio Mountain**	**11.89**	**14**	⇓P	Pn	08 05 17.2	+1.9
	baz=12,SNR=14						
426A	**McDonald Obser**	**12.03**	**18**	P	**Pn**	**08 05 18.5**	**+1.2**
	baz=12,SNR=15						
320A	**Kipp Ranch, An**	**12.04**	**359**	⇓P	Pn	08 05 19.0	+1.6
	baz=12,SNR=7.8						
319A	**Douglas**	**12.11**	**356**	⇑P	Pn	08 05 20.0	+1.7
	baz=12,SNR=13						
732A	**Laxson Ranch,**	**12.16**	**38**	⇑P	**Pn**	**08 05 19.6**	**+0.7**
	baz=12						
631A	**Perdido Creek**	**12.36**	**34**	⇑P	**Pn**	**08 05 22.3**	**+0.6**
	baz=12,SNR=16						
427A	**Hayter Ranch,**	**12.40**	**20**	⇑P	**Pn**	**08 05 23.9**	**+1.7**
	baz=13,SNR=6.9						
324A	**Moseley Ranch,**	**12.42**	**12**	⇑P	**Pn**	**08 05 24.2**	**+1.6**
	baz=13						
325A	**Bean Ranch, Si**	**12.46**	**14**	⇓P	Pn	08 05 25.0	+1.9
	baz=13,SNR=5.9						
530A	**J-C Ranch, Com**	**12.59**	**29**	⇓P	**Pn**	**08 05 26.1**	**+1.3**
	baz=13,SNR=6.3						
220A	**Playas Peak, P**	**12.61**	**359**	⇑P	Pn	08 05 27.1	+2.0
	baz=13,SNR=16						
326A	**Caldwell Ranch**	**12.66**	**17**	⇑P	**Pn**	**08 05 26.4**	**+0.6**
	baz=13,SNR=12						
MNTX	**Cornudas Mount**	**12.69**	**12**	*e*Pn	**Pn**	**08 05 27.3**	**+1.2**
	16nm,1.4s						
429A	**Davenport Ranc**	**12.76**	**26**	⇓P	Pn	08 05 29.3	+2.1
	baz=13						
222A	**Williams Famil**	**12.86**	**5**	⇓P	Pn	08 05 31.3	+2.8
	baz=13,SNR=7.7						
632A	**Uvalde**	**12.86**	**36**	⇑P	**Pn**	**08 05 30.2**	**+1.8**
	baz=13						
531A	**Rocksprings**	**12.98**	**32**	⇑P	**Pn**	**08 05 32.1**	**+1.9**
	baz=13,SNR=7.9						
224A	**Cornudas Mount**	**13.03**	**11**	P	**Pn**	**08 05 32.5**	**+1.6**
	baz=13,SNR=16						
430A	**Baggett Ranch,**	**13.18**	**28**	⇑P	Pn	08 05 35.5	+2.6
	baz=13,SNR=5.7						
TUC	**Tucson**	**13.19**	**351**	*e*Pn	**Pn**	**08 05 33.9**	**+0.9**
	8.6nm,1.0s						
121A	**Cookes Peak, D**	**13.24**	**2**	*e*Pn	Pn	08 05 36.5	+2.6
121A	**Cookes Peak, D**	**13.24**	**2**	⇓P	Pn	08 05 36.3	+2.4
	baz=13,SNR=5.9						
120A	**U Bar Ranch, L**	**13.25**	**359**	⇓P	Pn	08 05 35.9	+2.0
	baz=13,SNR=14						
532A	**Rocksprings**	**13.28**	**34**	P	**Pn**	**08 05 35.7**	**+1.4**
	baz=13,SNR=24						
226B	**Tecolote Peak,**	**13.33**	**16**	⇑P	Pn	08 05 37.8	+2.8
	baz=14						
431A	**Sonora**	**13.38**	**30**	⇑P	Pn	08 05 38.4	+2.7
	baz=14,SNR=9.2						
122A	**Conniff Cattle**	**13.46**	**5**	⇑P	Pn	08 05 39.2	+2.5
	baz=14,SNR=6.7						
123A	**Bell Site, Whi**	**13.47**	**8**	⇓P	Pn	08 05 39.1	+2.2
	baz=14						
123A				⇓S	S	08 08 16.4	-12
	baz=14						
JCT	**Junction City**	**13.61**	**33**	*e*Pn	Pn	08 05 41.0	+2.1
JCT	**Junction City**	**13.61**	**33**	P	Pn	08 05 40.9	+2.1
	baz=14,SNR=9.9						
124A	**Stringfield Ra**	**13.65**	**10**	⇑P	P	08 05 42.3	-5.6
	baz=14,SNR=18						
330A	**Mertzon**	**13.74**	**27**	⇑P	Pn	08 05 42.5	+2.0
	baz=14						
125A	**Gardner Draw,**	**13.77**	**13**	P	P	08 05 43.6	-5.4
	baz=14,SNR=8.0						
Z20A	**Nine Sixteen R**	**13.81**	**359**	P	Pn	08 05 43.7	+2.1
	baz=14,SNR=15						
228A	**UT Block 9, Go**	**13.83**	**21**	⇓P	Pn	08 05 44.1	+2.3
	baz=14						
432A	**Menard**	**13.94**	**32**	⇓P	**Pn**	**08 05 45.2**	**+2.0**
	baz=14,SNR=11						
331A	**San Angelo**	**13.99**	**29**	⇑P	P	08 05 46.5	-4.9
	baz=14,SNR=5.3						
Z22A	**Elephant Butte**	**14.01**	**5**	⇓P	Pn	08 05 46.2	+1.9
	baz=14,SNR=18						
Z21A	**St. Cloud Mine**	**14.02**	**2**	⇓P	Pn	08 05 46.3	+1.8
	baz=14,SNR=11						
Z23A	**Rita Site, Whi**	**14.09**	**7**	⇑P	P	08 05 48.1	-4.5
	baz=14,SNR=6.3						
230A	**Sterling City**	**14.18**	**26**	⇑P	P	08 05 48.8	-4.8
	baz=14						
Z24A	**Sheeppen Canyo**	**14.28**	**10**	⇓P	P	08 05 50.2	-4.6
	baz=14,SNR=7.6						
128A	**Castleberry Fa**	**14.33**	**20**	⇓P	**Pn**	**08 05 50.2**	**+1.6**
	baz=14						
Z25A	**Roswell**	**14.35**	**12**	⇑P	P	08 05 51.4	-4.1
	baz=14						
332A	**Millersview**	**14.37**	**31**	⇑P	**Pn**	**08 05 50.9**	**+1.7**
	baz=14,SNR=7.3						
Z26A	**Caprock**	**14.51**	**15**	⇓P	P	08 05 52.8	-4.4
	baz=15,SNR=6.1						
Y20A	**Horse Springs,**	**14.60**	**360**	⇑P	P	08 05 54.2	-4.3
	baz=15,SNR=8.3						
Z14A	**Wintersburg**	**14.64**	**345**	⇓P	P	08 05 54.8	-3.9
	baz=15						
Y22A	**Socorro**	**14.69**	**5**	⇓P	P	08 05 55.2	-4.1
	baz=15,SNR=16						
Y21A	**Point of Rocks**	**14.72**	**2**	⇓P	P	08 05 56.0	-3.7
	baz=15,SNR=19						
Z27A	**Tatum**	**14.75**	**17**	⇓P	P	08 05 56.2	-3.8
	baz=15,SNR=12						
Y23A	**Lovelace Mesa,**	**14.77**	**8**	⇓P	**P**	**08 05 57.6**	**-2.7**
	baz=15,SNR=12						
232A	**Coleman**	**14.84**	**30**	P	**Pn**	**08 05 56.6**	**+1.2**
	baz=15,SNR=8.2						
LENM	**Lemitar**	**14.91**	**4**	*e*P	P	08 05 57.9	-3.9
GLA	**Glamis**	**14.92**	**338**	*e*P	**Pn**	**08 05 56.6**	**+0.1**
	50nm,1.3s						
GLA	**Glamis**	**14.92**	**338**	⇓P	P	08 05 57.4	-4.3
	baz=15						
BNM	**Barren Site**	**14.93**	**6**	*e*P	P	08 05 58.0	-4.0
	23nm,1.4s						
Z28A	**Tucker Farm, M**	**14.97**	**20**	⇓P	**P**	**08 05 59.6**	**-2.8**
	baz=15						
Y25A	**Mesa, Roswell**	**14.98**	**12**	⇑P	**P**	**08 05 59.4**	**-3.1**
	baz=15,SNR=7.5						
LPM	**Los Pinos Moun**	**15.09**	**6**	*e*P	**P**	**08 06 00.4**	**-3.4**
LAZ	**Ladron**	**15.14**	**4**	*e*P	**P**	**08 06 00.9**	**-3.4**
	13nm,1.4s						
X21A	**Alamocita Cree**	**15.15**	**2**	P	**P**	**08 06 01.5**	**-3.0**
	baz=15,SNR=24						
131A	**Roby**	**15.17**	**27**	⇑P	**P**	**08 06 02.3**	**-2.2**
	baz=15						
Z29A	**Hungry Hill Ra**	**15.18**	**22**	⇓P	**P**	**08 06 02.4**	**-2.3**
	baz=15						
X20A	**Quemado**	**15.24**	**360**	P	**P**	**08 06 02.5**	**-2.9**
	baz=15,SNR=13						
X18A	**Snowflake**	**15.29**	**355**	P	**P**	**08 06 02.8**	**-3.2**
	baz=15,SNR=17						
Y27A	**Causey**	**15.30**	**17**	⇓P	**P**	**08 06 03.5**	**-2.6**
	baz=16,SNR=8.1						
X16A	**Lo Mia Camp, P**	**15.36**	**350**	P	**P**	**08 06 03.5**	**-3.2**
	baz=16,SNR=13						
ABTX	**Abilene, Hawle**	**15.45**	**29**	*e*P	**P**	**08 06 07.0**	**-0.6**
ABTX	**Abilene, Hawle**	**15.45**	**29**	⇓P	**P**	**08 06 04.3**	**-3.3**
	baz=16,SNR=8.0						
Y12C	**Blythe**	**15.46**	**340**	⇑P	**P**	**08 06 04.7**	**-2.9**
	baz=16,SNR=6.8						
MSTX	**Muleshoe**	**15.49**	**18**	*e*P	**P**	**08 06 05.8**	**-2.3**
Y28A	**McKinney Farm,**	**15.59**	**19**	⇓P	**P**	**08 06 07.4**	**-1.9**
	baz=16						
HKT	**Hockley**	**15.59**	**44**	*e*P	**Pn**	**08 06 04.9**	**-0.4**
	68nm,1.6s						
BC3	**Big Chuckawall**	**15.68**	**338**	⇓P	**P**	**08 06 08.0**	**-2.3**
	baz=16,SNR=6.1						
ANMO	**Albuquerque**	**15.73**	**6**	*e*P	**P**	**08 06 08.3**	**-2.6**
	11nm,1.0s						
ANMO	**Albuquerque**	**15.73**	**6**	Pn	**P**	**08 06 11.5**	**+0.6**
	0.1nm,0.3s,baz=200,slow=9.7,SNR=7.5						
ANMO				LR	LR	08 13 04.7	
	comp=Z,90nm,19.2s,baz=20,slow=41						
Y29A	**Porterfield Fa**	**15.73**	**21**	⇓P	**P**	**08 06 09.7**	**-1.1**
	baz=16						
W20A	**Ramah**	**15.82**	**360**	P	**P**	**08 06 10.5**	**-1.4**
	baz=16,SNR=22						
W18A	**Petrified Fore**	**15.86**	**356**	*e*P	**P**	**08 06 09.5**	**-2.8**
W23A	**Werrie Place,**	**15.97**	**7**	P	**P**	**08 06 12.5**	**-1.1**
	baz=16,SNR=17						
PFO	**Pinyon Flat Ob**	**16.02**	**335**	*e*P	**P**	**08 06 10.4**	**-3.7**
	13nm,1.2s						
PFO	**Pinyon Flat Ob**	**16.02**	**335**	⇓P	**P**	**08 06 12.2**	**-1.9**
	baz=16						
PFO	**Pinyon Flat Ob**	**16.02**	**335**	Pn	**P**	**08 06 10.6**	**-3.5**
	0.1nm,0.3s,baz=175,slow=13,SNR=4.5						
PFO				LR	LR	08 12 03.3	
	comp=Z,623nm,19.0s,baz=53,slow=36						
IRM	**Iron Mountain**	**16.04**	**339**	P	**P**	**08 06 11.6**	**-2.5**
	baz=16,SNR=9.6						
WHTX	**Lake Whitney**	**16.04**	**36**	*e*P	**Pn**	**08 06 11.2**	**+0.1**
WHTX	**Lake Whitney**	**16.04**	**36**	⇓P	**P**	**08 06 12.0**	**-2.1**
	baz=16						
Z32A	**Haskell**	**16.10**	**28**	⇑P	**P**	**08 06 14.4**	**-0.5**
	baz=16,SNR=14						
W24A	**Lazy 6 Ranch,**	**16.12**	**9**	⇓P	**P**	**08 06 16.3**	**+1.1**
	baz=16,SNR=14						
BELC	**Belle Mtn. Jos**	**16.19**	**337**	⇓P	**P**	**08 06 14.3**	**-1.7**
	baz=16,SNR=16						
X29A	**Tulia**	**16.26**	**20**	⇑P	**P**	**08 06 16.7**	**+0.1**
	baz=16						
W25A	**X Bar L Ranch,**	**16.28**	**11**	⇓P	**P**	**08 06 17.1**	**+0.1**
	baz=16,SNR=6.0						
WUAZ	**Wupatki**	**16.43**	**351**	*e*P	**P**	**08 06 17.3**	**-1.3**
	53nm,1.3s						
WUAZ	**Wupatki**	**16.43**	**351**	⇓P	**P**	**08 06 17.7**	**-0.9**
	baz=17,SNR=22						
V20A	**Brimhall**	**16.49**	**360**	⇓P	**P**	**08 06 18.9**	**-0.4**
	baz=17,SNR=8.4						
V21A	**Milan**	**16.51**	**2**	⇓P	**P**	**08 06 19.7**	**+0.1**
	baz=17						
W13A	**Hualapai Mount**	**16.53**	**344**	P	**P**	**08 06 18.6**	**-1.2**
	baz=17,SNR=16						
X30A	**Coker Ranch, T**	**16.54**	**22**	⇓P	**P**	**08 06 20.1**	**+0.3**
	baz=17						
V24A	**Rampart Ranch,**	**16.64**	**9**	⇓P	**P**	**08 06 22.0**	**+0.9**
	baz=17,SNR=7.5						
V22A	**San Miguel Ran**	**16.66**	**4**	⇑P	**P**	**08 06 22.3**	**+1.1**
	baz=17,SNR=12						
AMTX	**Amarillo**	**16.67**	**19**	*e*Pn	**P**	**08 06 19.6**	**-1.6**
	14nm,1.0s						
GMRC	**Granite Mounta**	**16.77**	**339**	P	**P**	**08 06 21.0**	**-1.4**
	baz=17,SNR=11						
V25A	**Rancho No Teng**	**16.86**	**11**	⇑P	**P**	**08 06 23.0**	**-0.4**
	baz=17,SNR=15						
LDFC	**Landfair**	**16.86**	**341**	*e*P	**P**	**08 06 23.0**	**-0.4**
	61nm,1.4s						
HEC	**Hector,Ludlow**	**17.05**	**337**	P	**P**	**08 06 25.0**	**-0.5**
	baz=17,SNR=14						
BFSC	**Mount Baldy Ra**	**17.07**	**333**	P	**P**	**08 06 24.9**	**-0.8**
	baz=17,SNR=8.3						
U23A	**El Rito**	**17.13**	**6**	⇑P	**P**	**08 06 26.7**	**+0.3**
	baz=17,SNR=7.5						
U21A	**Nageezi**	**17.13**	**2**	P	**P**	**08 06 27.1**	**+0.7**
	baz=17,SNR=11						
MWC	**Mount Wilson**	**17.23**	**332**	*e*P	**P**	**08 06 25.8**	**-1.7**
	17nm,1.2s						
U25A	**Circle Dot Ran**	**17.44**	**11**	⇑P	**P**	**08 06 29.9**	**+0.1**
	baz=18,SNR=8.5						
TUQ	**Turquoise Moun**	**17.46**	**339**	P	**P**	**08 06 29.9**	**0.0**
	baz=18,SNR=13						
U15A	**North Rim**	**17.46**	**349**	⇑P	**P**	**08 06 30.9**	**+0.7**
	baz=18						
APG	**El Apazote**	**17.62**	**101**	P	**P**	**08 06 33.8**	**+1.7**
APG	**El Apazote**	**17.62**	**101**	P	**P**	**08 06 33.8**	**+1.7**
	0.8nm,0.3s,baz=291,slow=11,SNR=9.9						
WMOK	**Wichita Mounta**	**17.62**	**27**	*e*P	**P**	**08 06 30.6**	**-1.0**
	15nm,1.3s						
GSC	**Goldstone**	**17.65**	**337**	*e*P	**P**	**08 06 31.8**	**-0.3**
	91nm,2.0s						
T22A	**Edith**	**17.75**	**4**	P	**P**	**08 06 34.6**	**+1.3**
	baz=18,SNR=13						
EDW2	**Edwards Air Fo**	**17.76**	**333**	⇓P	**P**	**08 06 33.2**	**0.0**
	baz=18						
MVCO	**Mesa Verde**	**17.90**	**360**	*e*P	**P**	**08 06 34.0**	**-0.9**
	50nm,1.5s						
MVCO	**Mesa Verde**	**17.90**	**360**	⇓P	**P**	**08 06 36.1**	**+1.2**
	baz=18,SNR=9.1						
T24B	**San Luis**	**17.94**	**8**	⇑P	**P**	**08 06 37.0**	**+1.5**
	baz=18,SNR=10						
T25A	**Trinidad**	**18.16**	**10**	⇑P	**Pn**	**08 06 39.0**	**+1.2**
	baz=18,SNR=5.3						
SHPR	**Sheep Range**	**18.20**	**342**	*e*P	**Pn**	**08 06 38.6**	**+0.4**
S21A	**Coal Bank Pass**	**18.36**	**1**	⇑P	**Pn**	**08 06 41.2**	**+1.0**
	baz=18,SNR=11						
S22A	**4UR Ranch, Cre**	**18.48**	**4**	⇑P	**Pn**	**08 06 43.8**	**+2.1**
	baz=19,SNR=5.1						
S23A	**Nye Farm, Mont**	**18.51**	**6**	⇓P	**Pn**	**08 06 44.4**	**+2.3**
	baz=19						
MPMC	**Manual Prospec**	**18.58**	**336**	⇑P	**Pn**	**08 06 42.5**	**-0.3**
	baz=19,SNR=14						
SDCO	**Great Sand Dun**	**18.60**	**7**	*e*P	**Pn**	**08 06 43.2**	**+0.1**
	32nm,1.6s						
ISA	**Isabella**	**18.63**	**333**	*e*P	**Pn**	**08 06 43.8**	**+0.4**
	4.2nm,0.9s						
ISA	**Isabella**	**18.63**	**333**	⇓P	**Pn**	**08 06 44.1**	**+0.8**
	baz=19						
S25A	**Robets Cordova**	**18.67**	**10**	⇑P	**Pn**	**08 06 44.5**	**+0.6**
	baz=19						
CCUT	**Cedar City**	**18.75**	**348**	*e*P	**Pn**	**08 06 45.1**	**+0.1**
	43nm,1.7s						
PV05	**Paradox Valley**	**18.78**	**358**	*e*Pn	**Pn**	**08 06 45.6**	**+0.4**
S26A	**Kim**	**18.80**	**12**	⇑P	**Pn**	**08 06 46.5**	**+1.0**
	baz=19						
PV01	**Paradox Valley**	**18.82**	**360**	*e*P	**Pn**	**08 06 45.5**	**-0.3**
	908nm,1.3s						
R20A	**Redvale**	**18.88**	**360**	⇑P	**Pn**	**08 06 47.2**	**+0.8**
	baz=19,SNR=6.5						
TEIG	**Tepich**	**18.94**	**84**	*e*P	**Pn**	**08 06 47.3**	**+0.2**
	56nm,1.5s						
R22A	**Saguache, Gunn**	**18.97**	**4**	⇑P	**Pn**	**08 06 49.0**	**+1.4**
	baz=19,SNR=5.6						
ARUT	**Antelope Range**	**19.00**	**348**	*e*P	**Pn**	**08 06 47.8**	**0.0**
	169nm,1.1s						
R23A	**Moffat**	**19.01**	**6**	⇑P	**Pn**	**08 06 48.8**	**+0.7**
	baz=19						
SMMC	**Simmler**	**19.02**	**330**	⇓P	**Pn**	**08 06 47.7**	**-0.4**
	baz=19						
PV15	**Paradox Valley**	**19.03**	**360**	*e*P	**Pn**	**08 06 48.5**	**+0.2**
VES	**Vestal, Richgr**	**19.04**	**332**	⇓P	**Pn**	**08 06 48.9**	**+0.7**
	baz=19,SNR=6.4						
R21A	**Cimarron**	**19.07**	**2**	⇑P	**Pn**	**08 06 49.3**	**+0.6**
	baz=19,SNR=9.2						
PV10	**Paradox Valley**	**19.07**	**358**	*e*P	**Pn**	**08 06 46.6**	**-2.2**
	203nm,1.1s						
R24A	**Sanders Place,**	**19.13**	**8**	⇑P	**Pn**	**08 06 50.5**	**+1.0**
	baz=19						
S28A	**Manter**	**19.13**	**16**	⇑P	**Pn**	**08 06 49.9**	**+0.6**
	baz=19						
R25A	**Fountain Ranch**	**19.17**	**10**	⇓P	**Pn**	**08 06 51.2**	**+1.4**
	baz=19,SNR=14						
PV09	**Paradox Valley**	**19.20**	**358**	*e*Pn	**Pn**	**08 06 50.8**	**+0.4**
R26A	**Arlington**	**19.46**	**12**	⇑P	**Pn**	**08 06 54.4**	**+1.0**
	baz=20,SNR=5.2						
MVU	**Marysvale**	**19.48**	**351**	*e*P	**Pn**	**08 06 53.0**	**-0.7**
	13nm,1.4s						
Q21A	**Lamborn Mesa,**	**19.53**	**2**	⇑P	**Pn**	**08 06 56.4**	**+2.1**
	baz=20,SNR=7.0						
R27A	**Eads**	**19.58**	**13**	⇑P	**Pn**	**08 06 54.5**	**-0.3**
	baz=20						
Q22A	**Crested Butte,**	**19.59**	**3**	⇑P	**Pn**	**08 06 54.8**	**-0.2**
	baz=20						
Q20A	**Ridgley Place,**	**19.64**	**0**	⇑P	**Pn**	**08 06 55.4**	**-0.2**
	baz=20,SNR=10						
Q16A	**Castle Valley**	**19.75**	**354**	*e*P	**Pn**	**08 06 56.3**	**-0.6**
Q16A	**Castle Valley**	**19.75**	**354**	⇓P	**Pn**	**08 06 56.4**	**-0.6**
	baz=20						
R28A	**Tribune**	**19.86**	**15**	⇑P	**Pn**	**08 06 58.6**	**+0.5**
	baz=20						
SRU	**San Rafael**	**19.88**	**355**	*e*P	**Pn**	**08 06 56.9**	**-1.6**
	15nm,1.2s						
SMCO	**Snowmass**	**19.90**	**3**	*e*P	**Pn**	**08 06 58.3**	**-0.5**
	15nm,1.3s						
Q25A	**Bedland, Calha**	**19.92**	**9**	⇓P	**Pn**	**08 06 58.3**	**-0.6**
	baz=20						
TUL1	**Tulsa**	**19.96**	**31**	*e*P	Pn	08 06 57.1	-2.1
TUL1	**Tulsa**	**19.96**	**31**	⇑P	Pn	08 06 57.9	-1.3
	baz=20						
R11A	**Troy Canyon, C**	**20.04**	**343**	*e*P	Pn	08 06 58.5	-1.8
R11A	**Troy Canyon, C**	**20.04**	**343**	⇓P	Pn	08 06 58.9	-1.4
	baz=20,SNR=23						
MIAR	**Mount Ida**	**20.12**	**38**	*e*P	**Pn**	**08 06 59.1**	**-

2.8nm,0.9s,baz=160,slow=9.7,SNR=13
LRAL Lakeview Retre 23.53 50 *e*P **P 08 07 35.9 +0.7**
38nm,1.3s
HALT Halls 23.59 41 *e*P **P 08 07 36.5 +0.8**
K26A Motz Farm, Whi 23.79 10 ⇑P **P 08 07 38.0 +0.3**
baz=24
K27A Flueckinger Fa 23.95 11 ⇑P **P 08 07 39.7 +0.4**
baz=24
REDW Red Top Meadow 24.14 356 *e*P **P 08 07 41.2 +0.2**
27nm,1.2s
J22A Midwest 24.15 3 ⇓P **P 08 07 41.5 +0.4**
baz=24
RRI2 Red Ridge 24.16 355 *e*P **P 08 07 42.4 +1.1**
38nm,1.4s
SNOW Snow King Moun 24.23 356 *e*P **P 08 07 42.2 +0.3**
23nm,1.1s
KIPM Iron Peak 24.28 331 *e*P **P 08 07 42.7 +0.4**
54nm,1.6s
LOHW Long Hollow 24.37 356 *e*P **P 08 07 43.1 0.0**
25nm,1.3s
FXWY Fox Creek 24.42 355 *e*P **P 08 07 43.5 -0.2**
24nm,1.4s
I21A Big Trails, Te 24.51 2 ⇑P **P 08 07 45.6 +1.2**
baz=25,SNR=6.7
MOOW Moose Ponds 24.51 356 *e*P **P 08 07 44.5 0.0**
9.7nm,1.0s
I20A Worland 24.63 0 ⇑P **P 08 07 46.0 +0.6**
baz=25,SNR=10
IMW Indian Meadow 24.67 356 *e*P **P 08 07 46.0 -0.1**
19nm,1.4s
WVT Waverly 24.69 43 *e*P **P 08 07 46.3 +0.4**
38nm,1.9s
WVOR Wild Horse Val 24.70 342 *e*P **P 08 07 45.6 -0.5**
30nm,1.2s
MOD Modoc 24.76 338 *e*P **P 08 07 46.4 -0.3**
35nm,1.2s
HLID Hailey 24.77 349 *e*P **P 08 07 47.3 +0.5**
6.8nm,0.9s
HLID Hailey 24.77 349 ⇓P **P 08 07 47.2 +0.4**
baz=25,SNR=13
RSSD Black Hills 25.07 7 *e*P **P 08 07 50.8 +1.3**
5.9nm,0.9s
H20A Greybull 25.17 1 ⇑P **P 08 07 51.5 +1.2**
baz=25
I27A Quinn 25.31 11 ⇑P **P 08 07 52.3 +0.8**
baz=26
H22A Clearmont 25.33 3 ⇑P **P 08 07 53.5 +1.7**
baz=26,SNR=6.2
SWET Sewanee 25.43 47 *e*P **P 08 07 53.7 +1.1**
32nm,1.5s
J08A Circle Bar Ran 25.50 343 *e*P **P 08 07 53.6 +0.3**
7.4nm,0.8s
YBH Yreka Blue Hor 25.52 335 P **P 08 07 52.5 -1.0**
YBH Yreka Blue Hor 25.52 335 P **P 08 07 52.5 -1.0**
2.0nm,0.8s,baz=108,slow=6.4,SNR=5.8
YBH LR LR 08 17 12.2
comp=Z,242nm,20.4s,baz=157,slow=35
MCMT McKenzie Canyo 25.78 353 *e*P **P 08 07 56.4 +0.4**
3.7nm,1.1s
G20A Bridger 25.90 0 ⇑P **P 08 07 58.7 +1.8**
baz=26
G21A Lodge Grass 25.92 2 ⇓P **P 08 07 59.4 +2.3**
baz=26
G22A Birney 25.96 3 ⇓P **P 08 07 59.9 +2.4**
baz=26
DLMT Dillon 26.28 353 *e*P **P 08 08 00.9 +0.5**
44nm,2.2s
G27A Dupree 26.45 9 ⇓P **P 08 08 03.7 +1.9**
baz=27
BOZ Bozeman (W) 26.47 355 *e*P **P 08 08 02.0 -0.1**
15nm,1.7s
F20A Billings 26.48 0 ⇑P P 08 08 05.2 +3.0
baz=27,SNR=5.8
BMO Blue Mountains 26.60 346 *e*P **P 08 08 06.0 +2.8**
3.4nm,1.3s
E20A Meyer Farm, Mu 27.19 0 ⇑P **P 08 08 08.5 +0.1**
baz=27
HRY Holter Researc 27.54 355 *e*P **P 08 08 11.2 -0.5**
9.1nm,0.9s
D21A La Casta Ranch 27.77 2 ⇓P **P 08 08 13.9 +0.3**
baz=28
D20A Manuel Ranch, 27.77 0 P **P 08 08 13.7 0.0**
baz=28,SNR=5.5
D19A Cripps Ranch, 27.85 359 ⇓P **P 08 08 14.4 0.0**
baz=28,SNR=5.1
H04A Detroit Lake 27.86 339 *e*P **P 08 08 14.5 0.0**
15nm,1.1s
CHMT Chamberlain Mo 27.89 353 *e*P **P 08 08 15.0 +0.1**
MSO Missoula 27.89 352 *e*P **P 08 08 14.8 0.0**
17nm,1.4s
MSO Missoula 27.89 352 ⇑P **P 08 08 14.8 0.0**
baz=28
D23A Lindsay 27.98 5 ⇑P **P 08 08 16.0 +0.5**
baz=28
D26A Manning 28.14 9 ⇑P **P 08 08 17.2 +0.3**
baz=28
SLMT Seeley Lake 28.24 353 *e*P **P 08 08 17.5 -0.4**
C20A Veseth Ranch, 28.40 1 P **P 08 08 19.6 +0.4**
baz=29,SNR=8.6
B20A Solberg Farm, 29.12 0 ⇑P **P 08 08 25.9 +0.2**
baz=29,SNR=7.4
A22A Carney Farms, 29.74 3 ⇓P **P 08 08 31.4 +0.3**
baz=30
NEW Newport 29.81 348 P **P 08 08 31.2 -0.6**
NEW Newport 29.81 348 P **P 08 08 31.2 -0.6**
1.3nm,0.7s,baz=169,slow=16,SNR=3.5
NEW LR LR 08 21 09.6
comp=Z,164nm,18.5s,baz=164,slow=38
ULM Lac du Bonnet 32.50 15 LR LR 08 22 31.2
comp=Z,108nm,19.2s,baz=208,slow=37
EDM Edmonton 34.13 355 *e*P **P 08 09 08.8 -0.8**
OTAV Otavalo 34.89 119 *e*P P 08 09 20.0 +2.9
7.9nm,1.1s
SDDR Presa de Saban 34.99 84 *e*P **P 08 09 18.2 +0.7**
8.2nm,0.8s
ROSC El Rosal 36.13 109 P P 08 09 29.7 +2.0
ROSC El Rosal 36.13 109 P P 08 09 29.7 +2.0
1.9nm,0.4s,baz=260,slow=19,SNR=2.8
ATAH Atahualpa 39.49 129 LR LR 08 21 21.4
comp=Z,93nm,21.4s,baz=309,slow=29
CELP Cerrillos 39.54 85 *e*P **P 08 09 56.5 +0.5**
MTP Monte Pirata 40.50 84 *e*P **P 08 10 05.3 +1.3**
58nm,1.3s
RKT Rikitea 49.48 213 *e*T T 09 03 59.9
6.6nm,0.3s
INK Inuvik 51.53 348 LR LR 08 35 43.2
comp=Z,107nm,18.0s,baz=140,slow=39
ILAR Eielson Array 52.20 340 P **P 08 11 34.6 -0.6**
ILAR Eielson Array 52.20 340 P **P 08 11 34.6 -0.6**
1.9nm,0.7s,baz=148,slow=6.8,SNR=31
ILAR LR LR 08 33 48.8
comp=Z,92nm,18.5s,baz=302,slow=36
SAML Samuel 52.61 118 *e*P **P 08 11 38.1 -0.9**
8.7nm,1.4s
LPAZ La Paz 53.03 129 *e*P **P 08 11 44.2 +1.5**
5.0nm,1.0s
LPAZ La Paz 53.03 129 P **P 08 11 44.0 +1.3**
3.9nm,0.8s,baz=314,slow=6.9,SNR=18
LPAZ LR LR 08 30 26.8
comp=Z,90nm,21.9s,baz=134,slow=32
PPT Papeete 54.57 230 LR LR 08 29 15.3
comp=Z,185nm,19.8s,baz=173,slow=30
PPT2 Papeete2 54.58 230 *e*LR LR 08 27 31.9
356nm,27.2s,baz=49
TBI Tubuai 58.31 225 *e*LR LR 08 29 12.5
270nm,27.2s,baz=42
TBI Tubuai 58.31 225 *e*T T 09 15 06.2
4.7nm,0.3s
H03N2 Juan Fernandez 59.45 152 T T 09 17 03.3
baz=328,slow=0.7,SNR=114
H03N1 Juan Fernandez 59.46 151 T T 09 17 01.9
baz=328,slow=0.7,SNR=119
H03N3 Juan Fernandez 59.47 152 T T 09 17 04.6
baz=328,slow=0.7,SNR=112
CPUP Villa Florida 67.13 131 *e*P **P 08 13 19.4 +0.9**
12nm,0.7s
CPUP Villa Florida 67.13 131 P **P 08 13 19.9 +1.3**
3.0nm,0.7s,baz=263,slow=8.7,SNR=3.8
CPUP LR LR 08 41 50.9
comp=Z,79nm,18.6s,baz=142,slow=35
BDFB Brasilia 68.75 116 P **P 08 13 30.4 +1.3**
BDFB Brasilia 68.75 116 P **P 08 13 30.4 +1.3**
3.3nm,0.6s,baz=309,slow=13,SNR=5.6
PLCA Paso Flores 69.25 150 LR LR 08 36 42.8
comp=Z,187nm,21.6s,baz=94,slow=30
PETK Petropavlovsk- 77.15 322 LR LR 08 40 46.5
comp=Z,43nm,20.8s,baz=281,slow=30
ARCES ARCESS Array B 85.62 15 P **P 08 15 01.9 -0.8**
1.8nm,0.8s,baz=302,slow=4.1,SNR=3.8
ARCES LR LR 08 55 19.5
comp=Z,77nm,19.3s,baz=191,slow=37
NOA NORSAR Array B 86.61 25 LR LR 08 53 09.9
comp=Z,54nm,18.7s,baz=295,slow=35
ESDC Sonseca Array 88.46 48 LR LR 08 53 59.7
comp=Z,55nm,21.3s,baz=105,slow=35
MDT Midelt 90.71 55 LR LR 08 52 10.1
comp=Z,54nm,20.6s,baz=347,slow=33
DZM Mont Dzumac 92.80 248 *e*LR LR 08 45 16.1
335nm,30.8s
DAVOX Davos/Dischmat 93.97 37 LR LR 08 56 18.7
comp=Z,95nm,18.4s,baz=84,slow=34
GERES GERESS Array B 94.90 34 LR LR 08 57 35.2
comp=Z,68nm,20.9s,baz=304,slow=35
VRAC Vranov 96.12 33 LR LR 08 58 54.2
comp=Z,67nm,18.6s,baz=75,slow=35
RPZ Rata Peaks 96.52 226 LR LR 08 50 52.2
comp=Z,98nm,18.1s,baz=64,slow=30
HHC Hu-ho-hao-te 109.64 329 Pdif **Pdif 08 16 46.8 -6.2**
HHC SKS SKSdf 08 27 55.9 -9.4
HHC S SKKSac 08 28 52.4 +25
LZH Lanzhou 117.09 331 *e*PKP **PKPdf 08 21 07.1 -3.0**
CD2 Chengdu 121.35 328 PKP **PKPdf 08 21 17.3 -1.0**
KMI Kunming 126.51 324 PKP **PKPdf 08 21 28.6 0.0**

*IDC **24** 08:09:18.3±0.8, 15°.85S×172°.06W, h0km, mb4.0/8, mb1 4.3/8, mb1mx4.0/20, mbtmp4.0/8, MS3.5/1, Ms1 3.5/1, ms1mx2.8/29, Error ellipse: s-maj=39.0km s-min=18.1km az=128.0*
*NEIC **24** 08:09:19.9±0.6, 15°.80S×172°.09W, h10km, mb4.6/1, Error ellipse: s-maj=24.0km s-min=11.1km az=124.0*
*ISCJB **24** 08:09:22.7±0.7, 15°.73S±0°.09×172°.2W±0°.2, h41km, mb4.0/9, MS3.4/1, Error ellipse: s-maj=25.6km s-min=8.8km az=23.7*
ISC 24 08:09:24.1±0.8, 15°.7S±0°.1×172°.2W±0°.2, h41km, n25, σ1ᵗ15/23, mb3.9/9, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.82**	**12**	*e*Pn	**Pn**	**08 09 51.0**	**-2.0**
AFI				Sn	**Sn**	**08 10 15.1**	**+0.1**
AFI	**Afiamalu**	**1.82**	**12**	Pn	**Pn**	**08 09 50.8**	**-2.2**
	18nm,0.3s,baz=65,slow=23,SNR=15						
AFI				Sn	**Sn**	**08 10 15.1**	**+0.1**
	98nm,0.3s,baz=0.0,slow=20,SNR=16						
DZM	**Mont Dzumac**	**21.18**	**249**	*e*LR	LR	08 19 33.6	
	178nm,26.1s						
PPT2	**Papeete2**	**21.74**	**98**	*e*LR	LR	08 18 46.6	
	151nm,25.5s						
TBI	**Tubuai**	**22.70**	**113**	*e*LR	LR	08 19 17.0	
	138nm,27.5s						
URZ	**Urewera**	**24.38**	**201**	P	**P**	**08 14 36.6**	**-1.7**
URZ	**Urewera**	**24.38**	**201**	P	**P**	**08 14 36.7**	**-1.7**
	12nm,1.2s,baz=29,slow=10,SNR=1.8						
HNR	**Honiara**	**27.89**	**280**	LR	LR	08 24 21.4	
	comp=Z,101nm,19.4s,baz=67,slow=32						
WRAB	**Tennant Creek**	**50.91**	**257**	*e*P	**P**	**08 18 22.8**	**+1.1**
	12nm,1.6s						
WRA	**Warramunga Arr**	**50.92**	**257**	P	**P**	**08 18 22.4**	**+0.7**
WRA	**Warramunga Arr**	**50.92**	**257**	P	**P**	**08 18 22.4**	**+0.7**
	0.9nm,0.7s,baz=93,slow=7.4,SNR=7.4						
ASAR	**Alice Springs**	**51.14**	**252**	P	**P**	**08 18 23.6**	**+0.3**
ASAR	**Alice Springs**	**51.14**	**252**	P	**P**	**08 18 23.6**	**+0.3**
	2.0nm,0.7s,baz=87,slow=7.8,SNR=17						
NVAR	**Mina Array Bea**	**73.77**	**41**	P	**P**	**08 20 55.5**	**+1.1**
NVAR	**Mina Array Bea**	**73.77**	**41**	P	**P**	**08 20 55.5**	**+1.1**
	0.2nm,0.3s,baz=260,slow=8.9,SNR=4.5						
TXAR	**Lajitas Array**	**79.81**	**56**	P	**P**	**08 21 28.8**	**+0.2**
TXAR	**Lajitas Array**	**79.81**	**56**	P	**P**	**08 21 28.8**	**+0.2**
	1.2nm,1.0s,baz=202,slow=6.5,SNR=6.2						
PDAR	**Pinedale Array**	**81.71**	**41**	P	**P**	**08 21 39.4**	**+0.7**
PDAR	**Pinedale Array**	**81.71**	**41**	P	**P**	**08 21 39.4**	**+0.7**
	0.4nm,0.8s,baz=149,slow=0.9,SNR=4.3						
ILAR	**Eielson Array**	**82.52**	**11**	P	**P**	**08 21 43.6**	**+1.6**
ILAR	**Eielson Array**	**82.52**	**11**	P	**P**	**08 21 43.6**	**+1.6**
	0.9nm,0.8s,baz=222,slow=6.6,SNR=16						
MAW	**Mawson**	**87.88**	**198**	P	**P**	**08 22 08.6**	**-0.4**
MAW	**Mawson**	**87.88**	**198**	P	**P**	**08 22 08.6**	**-0.4**
	4.2nm,1.2s,baz=80,slow=10,SNR=4.1						
BRTR	**Keskin Array B**	**147.12**	**322**	PKPbc	**PKPab**	**08 29 04.9**	**+0.1**
BRTR	**Keskin Array B**	**147.12**	**322**	PKPbc	**PKPab**	**08 29 04.9**	**+0.1**
	0.9nm,0.7s,baz=92,slow=3.7,SNR=5.0						

IDC 24 08:12:18.6±3.4, 4°.82S×151°.99E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, Error ellipse: s-maj=104.7km s-min=28.6km az=110.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.62**	**226**	Sn	Sn	08 15 18.1	+4.6
	2.3nm,0.3s,baz=226,slow=23,SNR=6.2						
WRA	**Warramunga Arr**	**22.84**	**227**	P	P	08 17 24.1	+0.5
	1.0nm,0.5s,baz=52,slow=9.8,SNR=6.8						
ASAR	**Alice Springs**	**25.60**	**221**	P	P	08 17 50.4	+0.5
	0.3nm,0.4s,baz=52,slow=9.2,SNR=7.3						
FITZ	**Fitzroy Crossi**	**28.95**	**241**	P	P	08 18 19.2	-0.7
	0.6nm,0.5s,baz=55,slow=12,SNR=3.3						
SONM	**Songino Array**	**65.91**	**328**	P	P	08 23 07.2	+0.7
	0.3nm,0.5s,baz=116,slow=3.4,SNR=2.5						
TORD	**Torodi Ar. Bea**	**149.54**	**288**	PKPbc	**PKPab**	**08 32 09.5**	**-1.6**
	0.2nm,0.3s,baz=102,slow=2.1,SNR=6.2						

*NIED **24** 08:17:00, 46°.70N×153°.00E, h5km, Mw3.9 Best double couple: M₀8.27000×10¹⁴ NP1:φs206.00000°, δ89.00000°, λ-71.00000°. NP2:φs300.00000°, δ19.00000°, λ-177.00000°.*
*JMA **24** 08:17:22.2±0.7, 46°.70N×153°.00E, h30km, M4.4*
*ISCJB **24** 08:17:24.0±0.8, 46°.7N±0°.1×152°.7E±0°.2, h50km, mb3.6/7, Error ellipse: s-maj=25.7km s-min=5.8km az=143.4*
*MOS **24** 08:17:24.9±1.6, 46°.86N×152°.67E, h58km, mb4.2/5, Error ellipse: s-maj=23.3km s-min=12.4km az=62.3*
*IDC **24** 08:17:29.3±3.4, 46°.90N×152°.56E, h73km±27km, mb3.3/7, mb1 3.5/9, mb1mx3.4/25, mbtmp3.4/9, Error ellipse: s-maj=48.2km s-min=20.8km az=166.0*
ISC 24 08:17:25.2±1.1, 46°.8N±0°.2×152°.7E±0°.1, h50km, n36, σ2ᵖ24/26, mb3.7/7, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.70**	**247**	⇓*i*PN	**Pn**	**08 18 21.2**	**+1.4**
KUR				*e*S	**Sn**	**08 19 06.0**	**+3.9**
KUR				pmax	pmax		
	comp=Z,100nm,0.5s						
KUR				smax	smax		
	comp=N,230nm,0.5s						
KUR				smax	smax		
	comp=E,310nm,0.8s						
SKR	**Severo-Kuril's**	**4.52**	**29**	*e*PN	**Pn**	**08 18 29.5**	**-1.6**
SKR				*e*S	**Sn**	**08 19 19.5**	**-2.8**
SKR				pmax	pmax		
	comp=N,80nm,0.4s						
SKR				pmax	pmax		
	comp=E,50nm,0.4s						
SKR				pmax	pmax		
	comp=Z,80nm,0.4s						
SKR				smax	smax		
	comp=E,90nm,0.5s						
SKR				smax	smax		
	comp=N,80nm,0.6s						
NEM2	**Nemuro 2**	**5.98**	**238**	P	**Pn**	**08 18 50.0**	**-1.2**
NEM2				*e*S	**Sn**	**08 19 54.8**	**-3.5**
JRA	**Rausu**	**6.04**	**245**	P	**Pn**	**08 18 53.6**	**+1.7**
JNK	**Nakash**	**6.47**	**243**	P	**Pn**	**08 18 59.1**	**+1.2**
PETK	**Petropavlovsk-**	**7.11**	**25**	*e*PN	Pn	08 19 09.3	+2.7
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**7.11**	**25**	P	Pn	08 19 09.3	+2.7
	comp=Z,1.1nm,0.3s,baz=184,slow=14,SNR=13						
PETK				S	Sn	08 20 35.4	+9.4
	baz=198,slow=19,SNR=2.0						
JMP	**Maruseppu**	**7.13**	**251**	P	Pn	08 19 10.0	+3.1
JAR	**Ashorobuto**	**7.21**	**244**	P	**Pn**	**08 19 09.3**	**+1.3**
JAR				*e*S	**Sn**	**08 20 29.2**	**+0.7**
JOB	**Onbets**	**7.39**	**242**	*e*S	**Sn**	**08 20 30.4**	**-2.4**
ASAJ	**Asahikawa**	**7.58**	**253**	P	Pn	08 19 16.6	+3.6
	comp=Z,0.6nm,0.3s,baz=73,slow=16,SNR=5.0						
ASAJ				S	Sn	08 20 48.1	+11
	baz=90,slow=9.1,SNR=2.3						
JKK2	**Kamakawa 2**	**7.58**	**251**	P	Pn	08 19 16.1	+3.0
JCH	**Churui**	**7.84**	**241**	P	**Pn**	**08 19 15.5**	**-1.1**
JCH				*e*S	**Sn**	**08 20 38.9**	**-5.0**
JNBK	**Urakawa-nobuka**	**8.40**	**241**	*e*S	**Sn**	**08 20 52.6**	**-5.0**
JNB	**Noboribetsu**	**9.36**	**247**	*e*S	**Sn**	**08 21 18.7**	**-2.3**
JKB	**Kayabe**	**9.67**	**244**	*e*S	Sn	08 21 21.9	-6.9
FX1	**Attu Island--F**	**14.53**	**58**	P	**Pn**	**08 20 47.6**	**-0.1**
	comp=Z,3.4nm,0.3s,baz=331,slow=6.1,SNR=9.9						
FX1				S	Sn	08 23 17.3	-10
	comp=Z,0.4nm,0.3s,baz=195,slow=20,SNR=3.5						
H11N2	**WAKE ISLAND Hy**	**29.38**	**152**	T	T	08 54 56.9	
	baz=342,slow=0.7,SNR=301						
H11N1	**WAKE ISLAND Hy**	**29.39**	**152**	T	T	08 54 51.3	
	baz=342,slow=0.7,SNR=183						
H11N3	**WAKE ISLAND Hy**	**29.39**	**152**	T	T	08 54 51.6	
	baz=342,slow=0.7,SNR=150						
H11S1	**WAKE ISLAND Hy**	**30.46**	**153**	T	T	08 56 08.5	
	baz=343,slow=0.7,SNR=293						
H11S3	**WAKE ISLAND Hy**	**30.47**	**153**	T	T	08 56 08.9	
	baz=343,slow=0.7,SNR=224						
H11S2	**WAKE ISLAND Hy**	**30.48**	**153**	T	T	08 56 11.4	
	baz=343,slow=0.7,SNR=176						
ILAR	**Eielson Array**	**36.71**	**39**	P	**P**	**08 24 28.4**	**+1.4**
	comp=Z,0.3nm,0.8s,baz=237,slow=8.3,SNR=5.1						
ZALV	**Zalesovo Beam**	**42.36**	**306**	P	**P**	**08 25 14.3**	**+0.2**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**42.36**	**306**	P	**P**	**08 25 14.3**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=61,slow=6.8,SNR=3.0						
MKAR	**Makanchi Array**	**46.67**	**297**	P	**P**	**08 25 48.9**	**+0.2**
MKAR	**Makanchi Array**	**46.67**	**297**	P	**P**	**08 25 48.9**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=68,slow=8.4,SNR=2.4						
FINES	**FINESS Array B**	**63.89**	**335**	P	**P**	**08 27 52.9**	**+0.7**
	comp=Z,1.0nm,0.4s,baz=31,slow=6.8,SNR=8.6						
NOA	**NORSAR Array B**	**68.11**	**341**	P	**P**	**08 28 20.2**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=28,slow=6.3,SNR=4.4						
AKASG	**Malin Array Be**	**71.36**	**326**	P	**P**	**08 28 39.9**	**+0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**71.36**	**326**	P	**P**	**08 28 39.9**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=34,slow=6.2,SNR=2.6						
TXAR	**Lajitas Array**	**77.73**	**60**	P	**P**	**08 29 18.4**	**+1.4**
	comp=Z,0.1nm,0.5s,baz=298,slow=3.9,SNR=3.4						
H03N2	**Juan Fernandez**	**139.04**	**90**	T	T	11 12 08.3	
	baz=305,slow=0.7,SNR=7.5						
H03N1	**Juan Fernandez**	**139.06**	**90**	T	T	11 12 09.1	
	baz=305,slow=0.7,SNR=7.7						
H03N3	**Juan Fernandez**	**139.06**	**90**	T	T	11 12 09.6	
	baz=305,slow=0.7,SNR=8.2						

IDC 24 08:19:00.1±2.1, 14°.99S×172°.27W, h0km, mb3.4/4, mb1 3.8/4, mb1mx3.6/20, mbtmp3.4/4, Error ellipse: s-maj=84.8km s-min=18.0km az=132.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.17**	**24**	Pn	Pn	08 19 23.7	-0.2
	45nm,0.3s,baz=183,slow=1.4,SNR=85						
AFI				Sn	Sn	08 19 40.8	+0.1
	81nm,0.3s,baz=184,slow=23,SNR=12						
WRA	**Warramunga Arr**	**51.00**	**256**	P	P	08 28 03.6	-0.6
	0.5nm,1.1s,baz=92,slow=6.7,SNR=2.4						
ASAR	**Alice Springs**	**51.28**	**252**	P	P	08 28 05.7	-0.6
	0.5nm,0.7s,baz=88,slow=7.9,SNR=7.7						
NVAR	**Mina Array Bea**	**73.30**	**42**	P	P	08 30 33.2	-0.6
	0.1nm,0.3s,baz=220,slow=8.3,SNR=3.6						
ILAR	**Eielson Array**	**81.84**	**11**	P	P	08 31 21.3	+0.6
	0.7nm,1.1s,baz=210,slow=5.7,SNR=4.2						
BRTR	**Keskin Array B**	**146.51**	**322**	PKPbc	PKPab	08 38 44.5	-0.3
	0.3nm,0.4s,baz=323,slow=4.5,SNR=3.3						

*NIED **24** 08:20:00, 28°.50N×139°.20E, h600km, Mw4.6 Best double couple: M₀8.58000×10¹⁵ NP1:φs347.00000°, δ79.00000°, λ132.00000°. NP2:φs89.00000°, δ44.00000°, λ16.00000°.*
*BJI **24** 08:20:21.7, 27°.69N×139°.26E, h556km, mB4.9/7, mb4.6/11*
*ISCJB **24** 08:20:26.8±0.4, 28°.31N±0°.05×138°.71E±0°.10, h538km±5km, mb4.0/33, Error ellipse: s-maj=13.8km s-min=7.0km az=163.6*
*JMA **24** 08:20:28.3±0.2, 28°.50N×139°.16E, h547km, M4.1*
*MOS **24** 08:20:28.4±0.8, 28°.33N×138°.54E, h558km, mb4.2/23, Error ellipse: s-maj=20.3km s-min=7.9km az=112.5*
*IDC **24** 08:20:28.6±1.0, 28°.35N×138°.59E, h537km±10km, mb3.5/18, mb1 3.6/23, mb1mx3.5/30, mbtmp3.5/23, Error ellipse: s-maj=15.0km s-min=8.8km az=80.0*
ISC 24 08:20:27.6±0.6, 28°.39N±0°.06×138°.71E±0°.09, h533km±5km, h533km:pP-P, n64, σ1ᵗ35/83, mb4.0/33, 1C-1D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.34**	**112**	P	**P**	**08 21 43.7**	**+0.2**
JCJ	**Chichijima**	**3.34**	**112**	P	**P**	**08 21 43.4**	**-0.1**
	17nm,0.3s,baz=295,slow=20,SNR=5.9						
JCJ				S	**S**	**08 22 42.8**	**-2.5**
	87nm,0.3s,baz=294,slow=23,SNR=15						
JHHJ	**Haha-jima-NKT**	**3.54**	**119**	*e*S	**S**	**08 22 46.5**	**-1.4**
JWZ	**Kozaga**	**5.74**	**334**	P	**P**	**08 22 05.5**	**+2.7**
BSO4	**Boso 4**	**6.73**	**12**	P	**P**	**08 22 13.6**	**+1.6**
BSO4				S	**S**	**08 23 37.7**	**0.0**
JOD2	**Odawara 2**	**6.87**	**3**	*e*S	**S**	**08 23 39.6**	**-0.7**
JNY	**Yasuok**	**6.99**	**354**	P	**P**	**08 22 16.6**	**+1.8**
JRY	**Ryogami san**	**7.61**	**1**	P	**P**	**08 22 21.8**	**+1.0**
JRY				S	**S**	**08 23 52.6**	**-1.1**
JAG	**Ashikaga**	**8.04**	**4**	P	**P**	**08 22 24.9**	**-0.2**
JAG				*e*S	**S**	**08 23 55.7**	**-5.9**
MAJO	**Matsushiro**	**8.14**	**357**	*i* P	**P**	**08 22 28.8**	**+2.6**
MAT	**Matsushiro**	**8.14**	**357**	P	**P**	**08 22 26.5**	**+0.3**
MAT				S	**S**	**08 23 59.0**	**-4.5**
JNU	**Nakatsue**	**8.22**	**307**	P	**P**	**08 22 28.8**	**+1.7**
	1.1nm,0.3s,baz=67,slow=5.5,SNR=8.8						
KSRS	**Korea Array**	**12.79**	**318**	P	**P**	**08 23 13.8**	**-0.4**
	0.2nm,0.3s,baz=124,slow=10,SNR=7.1						
ASAJ	**Asahikawa**	**16.01**	**10**	P	**P**	**08 23 48.9**	**+1.5**
	0.5nm,0.3s,baz=192,slow=9.3,SNR=3.7						
USRK	**Ussuriysk Arra**	**16.68**	**343**	P	**P**	**08 23 55.3**	**+1.4**
	2.2nm,0.3s,baz=167,slow=9.9,SNR=86						
SNY	**Shenyang**	**18.21**	**321**	⇓P	**P**	**08 24 09.1**	**+1.0**
SNY				AMB	AMB		
	comp=Z,34nm,0.9s						
CN2	**Changchun**	**18.71**	**329**	*e*P	**P**	**08 24 14.4**	**+1.8**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s						
HABR	**Khabarovsk**	**20.26**	**353**	*e*P	**P**	**08 24 26.9**	**+0.4**
HABR				*e**SP	**sP**	**08 26 47.3**	**+2.1**
HABR				*e*S	**S**	**08 27 40.9**	**+0.6**
HABR				*e*		08 28 14.1	
HABR				pmax	pmax		
	comp=Z,23nm,1.5s						
HABR				MLR	MLR		
	comp=Z,35nm,19.0s						
KLR	**Kul'dur**	**21.49**	**347**	*e*P	**P**	**08 24 34.8**	**-2.9**
SONM	**Songino Array**	**31.66**	**317**	P	**P**	**08 26 07.7**	**+0.5**
	comp=Z,3.0nm,0.6s,baz=124,slow=8.4,SNR=21						
SONM				ScP	**ScP**	**08 31 34.7**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=158,slow=0.8,SNR=3.1						
GTA	**Gaotai**	**33.87**	**299**	*e*P	**P**	**08 26 26.6**	**+0.5**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s						
YAK	**Yakutsk**	**34.17**	**352**	*e*P	**P**	**08 26 27.9**	**-0.2**
YAK				pmax	pmax		
	comp=Z,12nm,0.9s						
ZAK	**Zakamensk**	**34.62**	**319**	*e*P	**P**	**08 26 32.1**	**0.0**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
TLY	**Talaya**	**35.01**	**321**	*e*P	**P**	**08 26 36.7**	**+1.4**
HVS	**Khovu-Aksy**	**40.56**	**317**	*e*P	**P**	**08 27 19.7**	**-0.9**
HVS				pmax	pmax		
	comp=Z,18nm,1.0s						
TIXI	**Tiksi**	**43.65**	**356**	*e*P	**P**	**08 27 43.7**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,

comp=Z,1.2nm,0.5s,baz=107,slow=3.9,SNR=6.2
ZALV ScP **ScP** **08 32 30.9 -1.9**
comp=Z,0.2nm,0.3s,baz=96,slow=2.9,SNR=3.9
MKAR Makanchi Array 47.27 309 P **P** **08 28 13.1 +0.4**
MKAR pmax pmax
comp=Z,2.0nm,0.4s
MKAR pmax pmax
comp=N,1.0nm,0.6s
MKAR Makanchi Array 47.27 309 P **P** **08 28 13.1 +0.4**
comp=N,2.7nm,0.6s,baz=95,slow=9.5,SNR=26
MKAR ScP **ScP** **08 32 35.0 -1.4**
comp=N,0.6nm,0.6s,baz=81,slow=3.7,SNR=4.6
FITZ Fitzroy Crossi 47.91 197 P **P** **08 28 18.1 +0.4**
comp=N,5.1nm,0.6s,baz=13,slow=7.3,SNR=29
WRA Warramunga Arr 48.23 186 P **P** **08 28 20.1 0.0**
comp=N,3.9nm,0.4s,baz=0.7,slow=7.6,SNR=107
WRA pP **pP** **08 29 58.8 -0.7**
comp=N,0.6nm,0.7s,baz=5.6,slow=8.8,SNR=2.7
WRA ScP **ScP** **08 32 40.6 0.0**
comp=N,1.2nm,0.9s,baz=355,slow=3.5,SNR=5.8
KURK Kurchatov 49.88 314 P **P** **08 28 32.4 +0.5**
KURK *PP **pP** **08 30 12.0 -0.1**
KURK pmax pmax
comp=Z,9.0nm,0.6s
KURBB Kurchatov Arra 49.93 314 P **P** **08 28 32.4 +0.1**
comp=Z,8.9nm,0.6s,baz=91,slow=8.3,SNR=100
KURBB pP **pP** **08 30 12.0 -0.5**
comp=Z,0.3nm,0.5s,baz=102,slow=4.3,SNR=1.9
ASAR Alice Springs 51.96 186 P **P** **08 28 47.5 +0.2**
comp=Z,1.2nm,0.5s,baz=3.6,slow=6.0,SNR=22
ASAR ScP **ScP** **08 32 56.7 0.0**
comp=Z,0.5nm,0.8s,baz=0.0,slow=4.6,SNR=3.8
AAK Ala-Archa 52.99 304 *eP* **P** **08 28 53.8 -0.9**
AAK pmax pmax
comp=Z,3.0nm,0.7s
BVA0 Borovoye Array 55.00 317 P **P** **08 29 08.7 +0.1**
BVA0 pmax pmax
comp=Z,1.5nm,0.6s
BVAR Borovoye Array 55.00 317 P **P** **08 29 09.2 +0.7**
BVAR pmax pmax
comp=Z,2.1nm,0.5s
BVAR Borovoye Array 55.00 317 P **P** **08 29 09.2 +0.7**
comp=Z,20nm,0.5s,baz=95,slow=9.2,SNR=49
BRVK Borovoye 55.07 317 *eP* **P** **08 29 08.0 -1.0**
BRVK pmax pmax
comp=Z,25nm,0.9s
KK31 Karatay Array 55.83 305 *i* P **P** **08 29 14.8 +0.3**
KK31 pmax pmax
comp=Z,4.0nm,0.4s
ILAR Eielson Array 58.08 29 P **P** **08 29 30.6 +1.1**
comp=Z,0.3nm,0.4s,baz=249,slow=6.0,SNR=18
STKA Stephens Creek 59.99 177 P **P** **08 29 42.9 +0.2**
comp=Z,2.3nm,0.7s,baz=0.0,slow=8.1,SNR=4.3
ARU Arti 61.51 321 *c i* P **P** **08 29 51.7 -0.7**
ARU *PP **pP** **08 31 39.7 +0.9**
ARU 08 32 17.0
ARU S **S** **08 37 32.0 -0.6**
ARU SS **SS** **08 41 43.7 -1.7**
ARU pmax pmax
comp=Z,11nm,1.0s
AB31 Akbulak array 61.98 313 P **P** **08 29 55.9 +0.3**
AB31 pmax pmax
comp=Z,9.0nm,0.5s
INK Inuvik 63.14 25 P **P** **08 30 04.0 +1.2**
comp=Z,5.5nm,1.1s,baz=277,slow=3.3,SNR=3.3
KEV Kevo 70.73 340 *eP* **P** **08 30 49.5 0.0**
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 70.73 340 *ep* **P** **08 30 49.5 0.0**
comp=Z,0.7nm,0.4s
ARCES ARCESS Array B 71.30 340 P **P** **08 30 53.9 +1.0**
comp=Z,2.8nm,0.5s,baz=68,slow=8.1,SNR=26
YKA Yellowknife Ar 72.46 28 P **P** **08 31 01.0 +1.4**
comp=Z,1.0nm,0.5s,baz=300,slow=5.8,SNR=6.9
JOF Joensuu 72.55 333 *eP* **P** **08 30 59.9 -0.3**
JOF pmax pmax
comp=Z,6.0nm,0.4s
JOF Joensuu 72.55 333 *ep* **P** **08 30 59.9 -0.3**
comp=Z,6.0nm,0.4s
KAF Kangasniemi 74.96 333 *eP* **P** **08 31 13.8 -0.1**
KAF pmax pmax
comp=Z,4.0nm,0.5s
KAF Kangasniemi 74.96 333 *ep* **P** **08 31 13.8 -0.1**
comp=Z,4.3nm,0.5s
FINES FINESS Array B 75.41 333 P **P** **08 31 16.8 +0.4**
comp=Z,7.1nm,0.3s,baz=68,slow=5.0,SNR=101
AKASG Malin Array Be 79.74 322 P **P** **08 31 39.8 -0.3**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 79.74 322 P **P** **08 31 39.8 -0.3**
comp=Z,2.2nm,0.5s,baz=48,slow=6.6,SNR=8.1
NB2 NORSAR Subarra 81.25 337 P **P** **08 31 47.5 -0.3**
comp=Z,1.6nm,0.6s,baz=46,slow=5.1
NOA NORSAR Array B 81.25 337 P **P** **08 31 47.4 -0.3**
comp=Z,1.8nm,0.6s,baz=46,slow=5.1,SNR=9.6
NVAR Mina Array Bea 82.11 51 P **P** **08 31 55.2 +2.2**
comp=Z,0.9nm,0.9s,baz=267,slow=5.3,SNR=4.8
GERES GERESS Array B 88.79 327 P **P** **08 32 23.5 -1.3**
comp=Z,0.3nm,0.3s,baz=114,slow=4.7,SNR=4.1
TORD Torodi Ar. Bea 121.40 309 PKP **PKPdf** **08 38 21.1 -0.1**
comp=Z,0.2nm,0.4s,baz=123,slow=1.5,SNR=5.1
SNAA Sanae 131.83 195 *eP* **SKPbc** **08 41 15.3 -0.3**
VNA2 Neumayer--Watz 133.40 195 *eP* **SKPbc** **08 41 20.9 +0.1**

*ISCJB **24** 08:56:38.1±0.8,24.8S±0.1×179.8E±0.1, h501km, mb3.5/10, Error ellipse: s-maj=16.5km s-min=13.3km az=172.2*

*IDC **24** 08:56:43.3±4.5,24.85S×179.65E,h552km±49km, mb3.0/10,mb1 3.2/11,mb1mx3.1/20,mbtmp3.1/11, Error ellipse: s-maj=27.7km s-min=18.8km az=64.0*

ISC 24 08:56:39.1±0.9,24.9S±0.1×179.8E±0.1,h501km,n16, σ0.69/14,mb3.5/10,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac 12.61 280**			P	**P**	**08 59 25.6**	**+1.4**
DZM	0.5nm,0.3s,baz=82,slow=15,SNR=5.3			S	S	09 01 27.4	-13
URZ	**Urewera 13.49 189**			S	**S**	**09 01 56.7**	**-0.2**
PPT2	0.5nm,0.3s,baz=203,slow=20,SNR=5.7 **Papeete2 29.38 82**			*e*LR	LR	09 02 00.0	
PPT2	77nm,24.2s			*e*LR	LR	09 07 12.8	
CTA	46nm,23.2s **Charters Tower 31.34 272**			P	**P**	**09 02 18.4**	**+0.2**
STKA	9.3nm,0.6s,baz=103,slow=11,SNR=15 **Stephens Creek 34.21 249**			P	**P**	**09 02 42.3**	**-0.1**
ASAR	0.7nm,0.4s,baz=84,slow=15,SNR=7.0 **Alice Springs 41.73 262**			P	**P**	**09 03 43.3**	**-0.6**
WRA	2.4nm,0.8s,baz=86,slow=9.9,SNR=28 **Warramunga Arr 42.19 267**			P	**P**	**09 03 46.5**	**-1.1**
FITZ	1.9nm,0.5s,baz=104,slow=8.0,SNR=24 **Fitzroy Crossi 50.60 266**			P	**P**	**09 04 50.8**	**-0.7**
VNDA	1.4nm,0.9s,baz=108,slow=11,SNR=6.3 **Vanda 53.35 185**			P	**P**	**09 05 11.0**	**+0.6**
QSPA	0.4nm,0.8s,baz=0.0,slow=7.1,SNR=3.1 **South Pole Qui 65.16 180**			P	**P**	**09 06 30.5**	**+0.5**
MAW	1.4nm,0.7s **Mawson 76.74 201**			P	**P**	**09 07 37.6**	**-0.3**
NVAR	0.4nm,0.6s,baz=126,slow=8.7,SNR=4.7 **Mina Array Bea 85.59 44**			P	**P**	**09 08 24.2**	**-0.1**
TXAR	0.3nm,0.5s,baz=219,slow=7.0,SNR=3.5 **Lajitas Array 91.10 58**			P	**P**	**09 08 50.4**	**+0.2**
HFS	0.3nm,0.7s,baz=205,slow=7.7,SNR=4.1 **Hagfors 143.51 348**			PKP	PKPab	09 15 12.9	-1.2
AKASG	1.4nm,0.4s,baz=72,slow=4.7,SNR=15 **Malin Array Be 145.74 326**			PKPbc	**PKPdf**	**09 15 19.4**	**-0.5**
TORD	0.2nm,0.2s,baz=48,slow=3.7,SNR=2.5 **Torodi Ar. Bea 168.15 189**			PKPab	**PKPab**	**09 16 59.5**	**-0.3**
	0.6nm,0.9s,baz=220,slow=3.6,SNR=2.3						

*ISCJB **24** 08:56:44.5±1.0, 15.7S±0.2×173.0W±0.2, h26km, mb3.9/5, MS3.5/1, Error ellipse: s-maj=42.2km s-min=9.2km az=39.6*

*IDC **24** 08:56:44.2±1.3, 16.16S×173.07W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/21, mbtmp3.9/5, MS3.5/1, Ms1 3.5/1, ms1mx2.6/37, Error ellipse: s-maj=44.3km s-min=32.0km az=132.0*

ISC 24 08:56:46.0±1.2,15.8S±0.2×172.9W±0.3,h26km,n13, σ1.9,27/7,mb3.9/5,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu 2.13 30**			Pn	**Pn**	**08 57 19.8**	**-0.3**
AFI	18nm,0.3s,baz=357,slow=3.9,SNR=22			Sn	**Sn**	**08 57 45.5**	**-0.3**
H11S2	45nm,0.3s,baz=132,slow=20,SNR=11 **WAKE ISLAND Hy 39.55 329**			T	T	09 46 31.5	
H11S3	baz=148 **WAKE ISLAND Hy 39.56 329**			T	T	09 46 37.0	
H11S1	baz=148 **WAKE ISLAND Hy 39.56 329**			T	T	09 46 24.4	
H11N3	baz=148 **WAKE ISLAND Hy 40.49 330**			T	T	09 47 33.9	
H11N1	baz=152 **WAKE ISLAND Hy 40.49 330**			T	T	09 47 46.9	
H11N2	baz=152 **WAKE ISLAND Hy 40.50 330**			T	T	09 47 35.2	
STKA	baz=152 **Stephens Creek 44.29 240**			P	**P**	**09 04 53.4**	**-0.5**
WRA	1.7nm,0.6s,baz=90,slow=9.1,SNR=6.7 **Warramunga Arr 50.25 257**			P	**P**	**09 05 39.8**	**-0.7**
WRA	0.4nm,0.3s,baz=94,slow=6.6,SNR=7.2			LR	LR	09 24 32.5	
ASAR	comp=Z,46nm,18.1s,baz=210,slow=33 **Alice Springs 50.48 252**			P	**P**	**09 05 42.0**	**-0.2**
QSPA	3.2nm,0.6s,baz=87,slow=8.5,SNR=31 **South Pole Qui 74.27 180**			P	**P**	**09 08 20.9**	**0.0**
ILAR	1.1nm,1.0s **Eielson Array 82.71 11**			P	P	09 09 10.8	+3.8
BRTR	0.2nm,0.7s,baz=224,slow=6.5,SNR=5.1 **Keskin Array B 146.77 321**			PKPbc	**PKPab**	**09 16 29.8**	**+2.4**
	1.4nm,0.8s,baz=147,slow=2.5,SNR=7.4						

NNC 24 09:35:41.2±6.6,53.85N×86.50E,h0km,mb3.6,mpv3.2, 5C-2D,Error ellipse: s-maj=54.0km s-min=37.2km az=58.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra 5.87 240**			⇑Pn	Pn	09 37 08.4	-1.0
KURBB	3.7nm,0.5s			⇓Sn	Sn	09 38 22.3	+5.1
KURBB	3.6nm,0.5s			⇑Lg	Lg	09 38 49.8	
MK31	5.3nm,0.7s **Makanchi Array 7.56 203**			Pn	Pn	09 37 36.7	+4.0
MK31	0.2nm,0.5s,baz=29,slow=13,SNR=5.3			⇑Sn	Sn	09 39 03.9	+4.8
MK31	1.8nm,1.1s,baz=24,slow=25,SNR=2.9			⇑Lg	Lg	09 39 38.8	
VOSK	1.4nm,0.8s **Vostochnaya 9.37 269**			⇑Pn	Pn	09 37 53.6	-3.8
VOSK	2.1nm,0.9s			⇓Sn	Sn	09 39 41.2	-2.2
	1.8nm,0.7s						

IDC 24 09:45:47.2±1.6,3.24S×145.21E,h0km,mb3.7/3, mb1 3.9/4,mb1mx3.6/17,mbtmp3.7/4,ML3.8/1,Error ellipse: s-maj=90.0km s-min=26.2km az=121.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr 19.70 212**			P	P	09 50 17.3	-1.0
ASAR	0.3nm,0.3s,baz=33,slow=11,SNR=22 **Alice Springs 23.06 207**			P	P	09 50 54.6	+0.1
FITZ	0.7nm,0.6s,baz=32,slow=11,SNR=14 **Fitzroy Crossi 24.20 231**			P	P	09 51 06.5	+0.8
ILAR	1.9nm,0.6s,baz=48,slow=8.8,SNR=7.7 **Eielson Array 83.67 24**			P	P	09 58 17.4	-0.2
	0.6nm,0.7s,baz=258,slow=4.3,SNR=3.9						

IDC 24 09:48:42.3±1.8,3.35S×145.30E,h0km,mb3.6/3, mb1 4.0/4,mb1mx3.6/17,mbtmp3.8/4,ML3.8/1,Error ellipse: s-maj=128.6km s-min=27.7km az=121.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr 19.66 212**			P	P	09 53 13.3	+0.3
ASAR	0.3nm,0.3s,baz=41,slow=12,SNR=19 **Alice Springs 23.01 208**			P	P	09 53 49.1	+0.1
FITZ	2.6nm,1.1s,baz=35,slow=11,SNR=10 **Fitzroy Crossi 24.21 231**			P	P	09 54 00.9	0.0
ILAR	2.8nm,0.9s,baz=57,slow=12,SNR=6.3 **Eielson Array 83.73 24**			P	P	10 01 12.8	-0.2
	0.4nm,0.7s,baz=256,slow=5.5,SNR=5.3						

*NEIC **24** 09:55:49.5,3.77S×35.85E,h10km,ML4.5(PRE),After PRE.*

PRE 24 09:55:49.2±1.8,3.81S×35.86E,h10km,ML4.5,Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo 3.00 28**			*e*P	Pn	09 56 38.4	+1.2
KMBO				*e*S	Sn	09 57 12.0	-1.5
KMBO	**Kilima Mbogo 3.00 28**			*e*P	Pn	09 56 38.4	+1.2
KMBO				*e*S	Sn	09 57 12.0	-1.5
MBAR	**Mbarara 6.03 302**			*e*P	Pn	09 57 21.0	+2.3
MBAR				*e*S	Sn	09 58 25.5	-2.5
MBAR	**Mbarara 6.03 302**			*e*P	Pn	09 57 21.0	+2.3
MBAR				*e*S	Sn	09 58 25.5	-2.5
KIG	**Kigali 6.07 287**			*e*P	Pn	09 57 20.3	+0.9
KIG				*e*S	Sn	09 58 25.5	-3.6
KIG	comp=Z,163nm,0.6s			AML	AML	09 59 00.7	
KIG	**Kigali 6.07 287**			*e*P	Pn	09 57 20.3	+0.9
KIG				*e*S	Sn	09 58 25.5	-3.6
LSZ	**Lusaka 13.68 213**			*e*Pn	Pn	09 58 53.4	-10
LSZ				*e*S	Sn	10 01 28.1	-7.7

IDC 24 10:00:02.7±10.0,6.37S×144.57E,h0km,mb2.8/2, mb1 3.3/3,mb1mx3.2/15,mbtmp3.1/3,ML3.5/1,Error ellipse: s-maj=335.4km s-min=39.3km az=100.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr 16.76 215**			Pn	Pn	10 03 59.2	+0.1
ASAR	0.2nm,0.3s,baz=37,slow=11,SNR=19 **Alice Springs 20.03 210**			P	P	10 04 37.3	-0.1
MKAR	0.2nm,0.8s,baz=34,slow=13,SNR=3.0 **Makanchi Array 76.26 321**			P	P	10 11 53.4	+0.1
	0.1nm,0.5s,baz=123,slow=7.3,SNR=2.2						

IDC 24 10:22:46.7±1.9,15.56S×176.60W,h0km,mb3.6/5, mb1 4.0/5,mb1mx3.7/18,mbtmp3.6/5,Error ellipse: s-maj=122.9km s-min=23.5km az=151.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr 46.80 257**			P	P	10 31 18.5	0.0
ASAR	0.2nm,0.5s,baz=96,slow=8.1,SNR=11 **Alice Springs 47.12 252**			P	P	10 31 21.1	0.0
NVAR	1.7nm,0.5s,baz=87,slow=8.1,SNR=32 **Mina Array Bea 76.54 43**			P	P	10 34 39.9	+0.7
ILAR	0.4nm,0.8s,baz=243,slow=10.0,SNR=2.6 **Eielson Array 83.23 12**			P	P	10 35 13.4	-1.1
TXAR	0.4nm,1.0s,baz=221,slow=5.3,SNR=6.2 **Lajitas Array 83.28 57**			P	P	10 35 16.0	+0.2
	0.4nm,0.8s,baz=231,slow=5.7,SNR=4.4						

IDC 24 10:33:39.8±2.7,8.12S×156.18E,h0km,mb3.4/3, mb1 3.7/3,mb1mx3.4/17,mbtmp3.4/3,Error ellipse: s-maj=180.0km s-min=29.3km az=134.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr 24.19 239**			P	P	10 38 57.9	-0.3
ASAR	1.0nm,0.9s,baz=64,slow=9.6,SNR=6.0 **Alice Springs 26.35 232**			P	P	10 39 18.3	+0.5
ILAR	0.2nm,0.7s,baz=61,slow=10,SNR=5.5 **Eielson Array 83.99 21**			P	P	10 46 11.6	-0.1
TORD	0.5nm,0.6s,baz=244,slow=5.9,SNR=8.6 **Torodi Ar. Bea 154.44 283**			PKPbc	PKPbc	10 53 43.4	0.0
	0.5nm,0.9s,baz=56,slow=3.6,SNR=2.4						

*IDC **24** 10:41:33.0±1.6,33.24S×178.38W,h0km,mb4.2/3, mb1 4.3/4,mb1mx3.9/18,mbtmp4.1/4,ML3.8/1,Error ellipse: s-maj=43.4km s-min=37.9km az=30.0*

ISC 24 10:41:39.1±1.9,33.5S±0.2×178.4W±0.3,h41km,n6, σ0.96/8,mb4.1/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera 6.01 216**			Pn	**Pn**	**10 43 05.4**	**-0.1**
CTA	2.5nm,0.3s,baz=287,slow=1.7,SNR=14 **Charters Tower 34.05 284**			P	**P**	**10 48 20.8**	**+1.2**
ASAR	3.8nm,0.9s,baz=130,slow=13,SNR=5.2 **Alice Springs 42.67 270**			P	**P**	**10 49 31.6**	**-0.4**
ASAR	1.8nm,0.7s,baz=108,slow=6.9,SNR=31			PcP	**PcP**	**10 51 22.9**	**-0.5**
WRA	0.3nm,0.5s,baz=113,slow=4.0,SNR=4.3 **Warramunga Arr 43.93 276**			P	**P**	**10 49 41.4**	**-0.9**
WRA	1.8nm,0.5s,baz=114,slow=7.9,SNR=42			PcP	**PcP**	**10 51 26.8**	**-1.0**
FINES	0.3nm,0.8s,baz=109,slow=3.1,SNR=2.3 **FINESS Array B 147.85 338**			PKPbc	**PKPbc**	**11 01 18.6**	**-0.2**
TORD	1.2nm,0.7s,baz=56,slow=3.5,SNR=7.4 **Torodi Ar. Bea 159.79 180**			PKPab	**PKPab**	**11 02 13.9**	**+1.0**
	0.5nm,0.8s,baz=145,slow=2.3,SNR=2.8						

*IDC **24** 10:56:39.4±0.7, 16.22S×173.32W, h0km, mb4.2/8, mb1 4.5/8,mb1mx4.2/20,mbtmp4.2/8,MS3.8/15, Ms1 3.8/15,ms1mx3.5/40,Error ellipse: s-maj=42.5km s-min=18.2km az=145.0*

*NEIC **24** 10:56:41.1±0.3, 16.27S×173.28W, h10km, mb4.6/15, Error ellipse: s-maj=20.3km s-min=5.6km az=154.0*

*ISCJB **24** 10:56:48.2±0.3,16.2S±0.1×173.44W±0.08, h79km, mb4.3/24, Error ellipse: s-maj=21.3km s-min=6.8km az=156.2*

ISC 24 10:56:49.3±0.6,16.2S±0.2×173.42W±0.09,h79km,n213, σ0.75/190,mb4.4/24,21C-20D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu 2.81 35**			*e*Pn	Pn	10 57 20.8	-11
AFI	**Afiamalu 2.81 35**			Pn	Pn	10 57 20.2	-12
AFI	18nm,0.3s,baz=179,slow=6.0,SNR=16			Sn	Sn	10 57 48.7	-16
AFI	62nm,0.3s,baz=65,slow=22,SNR=12			T	T	11 00 06.1	
MSVF	12nm,0.3s,baz=32,slow=21,SNR=2.6 **Nonsavu 8.29 258**			Pn	**Pn**	**10 58 44.9**	**-2.0**
RAR	**Rarotonga 13.84 113**			LR	LR	11 03 39.6	
DZM	comp=Z,420nm,20.8s,baz=271,slow=30 **Mont Dzumac 19.88 250**			*e*LR	LR	11 06 33.0	
DZM	691nm,25.1s **Mont Dzumac 19.88 250**			LR	LR	11 06 23.0	
PPT	comp=Z,70nm,19.9s,baz=184,slow=29 **Papeete 22.85 97**			LR	LR	11 07 34.7	
PPT2	comp=Z,296nm,20.9s,baz=304,slow=29 **Papeete2 22.85 97**			*e*LR	LR	11 06 52.4	
TBI	461nm,26.5s **Tubuai 23.61 111**			*e*S	**S**	**11 05 57.3**	**-4.6**
TBI	77nm,27.0s			*e*LR	LR	11 07 21.4	
HNR	526nm,26.8s **Honiara 26.82 281**			*e*P	**P**	**11 02 18.3**	**-4.1**
HNR	2.3nm,0.6s **Honiara 26.82 281**			LR	LR	11 11 23.4	
EIDS	comp=Z,697nm,21.7s,baz=78,slow=33 **Eidsvold 34.31 249**			P	**P**	**11 03 29.8**	**+1.3**
RKT	**Rikitea 36.76 107**			*e*LR	LR	11 13 23.3	
PMG	331nm,27.2s **Port Moresby 38.98 275**			P	**P**	**11 04 07.2**	**-1.0**
H11S2	11nm,0.8s **WAKE ISLAND Hy 39.67 330**			T	T	11 46 14.5	
H11S3	baz=147 **WAKE ISLAND Hy 39.69 330**			T	T	11 46 16.9	
H11S1	baz=147 **WAKE ISLAND Hy 39.69 330**			T	T	11 45 53.8	
H11N3	baz=147 **WAKE ISLAND Hy 40.63 331**			T	T	11 47 07.9	
H11N1	baz=152,slow=0.7,SNR=8.4 **WAKE ISLAND Hy 40.64 331**			T	T	11 47 08.1	
H11N2	baz=152,slow=0.7,SNR=26 **WAKE ISLAND Hy 40.65 331**			T	T	11 47 09.3	
COEN	baz=152,slow=0.7,SNR=30 **Coen 41.91 267**			P	**P**	**11 04 34.0**	**+1.6**
STKA	23nm,1.1s **Stephens Creek 43.60 241**			P	**P**	**11 04 46.0**	**0.0**
STKA	**Stephens Creek 43.60 241**			P	**P**	**11 04 46.0**	**0.0**
STKA	2.0nm,0.6s,baz=108,slow=9.6,SNR=4.4			LR	LR	11 21 23.4	
WRAB	comp=Z,72nm,20.3s,baz=25,slow=34 **Tennant Creek 49.63 257**			*e*P	**P**	**11 05 35.2**	**+2.0**
WRA	4.8nm,1.1s **Warramunga Arr 49.64 257**			P	**P**	**11 05 33.0**	**-0.2**
WRA	**Warramunga Arr 49.64 257**			P	**P**	**11 05 33.0**	**-0.2**
WRA	0.5nm,0.4s,baz=96,slow=6.5,SNR=24			LR	LR	11 25 40.0	
AS31	comp=Z,183nm,18.3s,baz=100,slow=35 **Alice Springs 49.84 253**			*e*P	**P**	**11 05 36.0**	**+1.2**
ASAR	**Alice Springs 49.84 253**			P	**P**	**11 05 34.8**	**0.0**
ASAR	**Alice Springs 49.84 253**			P	**P**	**11 05 34.8**	**0.0**
ASAR	7.9nm,0.7s,baz=88,slow=8.3,SNR=47			LR	LR	11 24 04.2	
FITZ	comp=Z,178nm,18.6s,baz=91,slow=33 **Fitzroy Crossi 58.02 259**			LR	LR	11 29 29.1	
NWAO	comp=Z,102nm,18.7s,baz=113,slow=34 **Narrogin (SRO) 64.19 241**			LR	LR	11 34 23.4	
MJAR	comp=Z,56nm,21.4s,baz=338,slow=35 **Matsushiro Arr 69.57 320**			LR	LR	11 32 13.3	
EDW2	comp=Z,66nm,19.5s,baz=155,slow=31 **Edwards Air Fo 73.15 45**			P	**P**	**11 08 12.2**	**+0.5**
ISA	baz=73 **Isabella 73.27 44**			P	**P**	**11 08 12.5**	**+0.1**
CMB	baz=73 **Columbia Colle 73.41 41**			*e*P	**P**	**11 08 13.4**	**+0.3**
LRMC	**Laurel Mountai 73.69 45**			P	**P**	**11 08 15.5**	**+0.6**
QSPA	baz=74 **South Pole Qui 73.81 180**			LR	LR	11 37 15.7	
BELC	comp=Z,29nm,20.0s,baz=21,slow=33 **Belle Mtn. Jos 74.04 47**			P	**P**	**11 08 17.1**	**+0.1**
MPMC	baz=74 **Manual Prospec 74.15 44**			P	**P**	**11 08 17.9**	**+0.3**
GSC	baz=74 **Goldstone 74.19 45**			*e*P	**P**	**11 08 18.0**	**+0.2**
GSC	4.4nm,1.0s **Goldstone 74.19 45**			P	**P**	**11 08 18.0**	**+0.2**
HEC	baz=74 **Hector,Ludlow 74.26 46**			P	**P**	**11 08 17.8**	**-0.4**
IRM	baz=74 **Iron Mountain 74.72 47**			P	**P**	**11 08 21.0**	**+0.2**
FURC	baz=75 **Furnace Creek, 74.80 44**			P	**P**	**11 08 21.4**	**+0.4**
TUQ	baz=75 **Turquoise Moun 74.87 46**			P	**P**	**11 08 21.5**	**-0.2**
SHOC	baz=75 **Shoshone 74.88 45**			P	**P**	**11 08 21.8**	**+0.2**
Y12C	baz=75 **Blythe 74.95 48**			P	**P**	**11 08 22.1**	**+0.1**
NVAR	baz=75 **Mina Array Bea 74.97 42**			P	**P**	**11 08 22.4**	**+0.1**
NVAR	**Mina Array Bea 74.97 42**			P	**P**	**11 08 22.4**	**+0.1**
113A	3.3nm,0.8s,baz=228,slow=8.8,SNR=27 **Mohawk Valley, 74.98 49**			P	**P**	**11 08 22.2**	**0.0**
PDMCI	baz=75 **Parker Dam,Lak 75.50 47**			P	**P**	**11 08 25.4**	**+0.2**
J04D	baz=76 **Umpqua Nationa 75.58 36**			P	**P**	**11 08 26.3**	**+0.6**
MOD	baz=76 **Modoc 75.79 38**			*e*P	**P**	**11 08 27.5**	**+0.6**
SHPR	4.9nm,0.8s **Sheep Range 75.97 45**			*e*P	**P**	**11 08 28.6**	**+0.6**
J05D	**Fort Rock, OR 76.10 36**			P	**P**	**11 08 29.5**	**+0.8**
Y14A	baz=76 **Wickenburg 76.13 48**			P	**P**	**11 08 29.1**	**+0.2**
R11A	baz=76 **Troy Canyon, C 76.68 43**			*e*P	**P**	**11 08 32.4**	**+0.3**
R11A	16nm,2.1s **Troy Canyon, C 76.68 43**			P	**P**	**11 08 31.9**	**-0.1**
KSRS	baz=77 **Korea Array 76.74 316**			LR	LR	11 39 31.5	
X16A	comp=Z,27nm,18.0s,baz=140,slow=34 **Lo Mia Camp, P 77.49 48**			P	**P**	**11 08 37.0**	**+0.3**
319A	baz=78 **Douglas 77.62 52**			⇓P	**P**	**11 08 37.6**	**+0.2**
J08A	baz=78 **Circle Bar Ran 77.75 38**			*e*P	**P**	**11 08 38.5**	**+0.6**

	9.1nm,1.4s						
ARUT	Antelope Range	77.81	45	*e*P	P	11 08 39.1	+0.7
	84nm,1.2s						
U15A	North Rim	77.89	46	P	P	11 08 39.6	+0.6
	baz=78						
320A	Kipp Ranch, An	78.18	52	⇓P	P	11 08 41.7	+1.2
	baz=78						
220A	Playas Peak, P	78.44	52	⇓P	P	11 08 42.9	+1.0
	baz=78						
Z20A	Nine Sixteen R	78.94	51	⇓P	P	11 08 45.0	+0.2
	baz=79						
MVU	Marysvale	79.01	44	*e*P	P	11 08 46.2	+1.1
121A	Cookes Peak, D	79.28	52	⇓P	P	11 08 46.9	+0.3
	baz=79						
Y20A	Horse Springs,	79.47	50	⇑P	P	11 08 48.1	+0.4
	baz=80						
DUG	Dugway	79.49	43	*e*P	P	11 08 48.0	+0.4
	3.9nm,1.2s						
X20A	Quemado	79.68	49	⇑P	P	11 08 48.9	+0.1
	baz=80						
Z21A	St. Cloud Mine	79.72	51	P	P	11 08 49.8	+0.7
	baz=80,SNR=5.5						
Q16A	Castle Valley	79.92	45	P	P	11 08 50.9	+0.9
	baz=80						
W20A	Ramah	79.95	49	⇓P	P	11 08 51.1	+0.9
	baz=80,SNR=7.4						
Y21A	Point of Rocks	80.04	50	⇓P	P	11 08 51.7	+0.9
	baz=80						
Z22A	Elephant Butte	80.22	51	P	P	11 08 51.8	+0.1
	baz=80						
V20A	Brimhall	80.29	48	⇓P	P	11 08 52.1	+0.1
	baz=80						
HLID	Hailey	80.29	39	*e*P	P	11 08 52.6	+0.8
	7.4nm,1.3s						
HLID	Hailey	80.29	39	P	P	11 08 52.4	+0.6
	baz=80						
SRU	San Rafael	80.45	45	*e*P	P	11 08 53.7	+0.9
Y22A	Socorro	80.53	51	P	P	11 08 53.6	+0.3
	baz=81						
324A	Moseley Ranch,	80.56	53	P	P	11 08 53.4	-0.1
	baz=81						
425A	Indio Mountain	80.66	54	P	P	11 08 54.5	+0.4
	baz=81						
224A	Cornudas Mount	80.80	53	P	P	11 08 54.8	+0.1
	baz=81						
626A	Big Bend Ranch	80.82	56	P	P	11 08 55.3	+0.4
	baz=81						
V21A	Milan	80.89	49	⇓P	P	11 08 56.1	+0.8
	baz=81						
325A	Bean Ranch, Si	80.92	54	P	P	11 08 55.5	0.0
	baz=81						
PV05	Paradox Valley	80.92	46	*e*P	P	11 08 56.5	+1.1
526A	Mary Lane Ranc	81.06	55	P	P	11 08 56.3	+0.1
	baz=81						
TXAR	Lajitas Array	81.10	56	P	P	11 08 56.5	+0.2
TXAR	Lajitas Array	81.10	56	P	P	11 08 56.6	+0.2
	1.0nm,0.9s,baz=216,slow=7.5,SNR=10						
124A	Stringfield Ra	81.12	52	P	P	11 08 56.3	-0.3
	baz=81						
U21A	Nageezi	81.16	48	P	P	11 08 57.5	+0.8
	baz=81,SNR=6.8						
Y23A	Lovelace Mesa,	81.20	51	P	P	11 08 56.9	-0.1
	baz=81						
S20A	Disappointment	81.32	47	⇑P	P	11 08 58.0	+0.5
	baz=81						
225A	Deer Hill, Car	81.35	53	P	P	11 08 57.7	0.0
	baz=81						
ANMO	Albuquerque	81.36	50	*e*P	P	11 08 58.0	+0.3
	33nm,2.8s						
426A	McDonald Obser	81.36	55	P	P	11 08 57.9	+0.1
	baz=81						
627A	Terlingua Ranc	81.37	56	P	P	11 08 57.9	+0.1
	baz=81						
527A	Woodward Ranch	81.47	55	P	P	11 08 58.5	+0.1
	baz=82						
R20A	Redvale	81.47	46	⇓P	P	11 08 58.6	+0.3
	baz=82						
T21A	Navajo Lake	81.51	48	⇑P	P	11 08 59.1	+0.6
	baz=82						
S21A	Coal Bank Pass	81.64	47	⇑P	P	11 09 00.1	+0.8
	baz=82,SNR=6.9						
Y24A	Capitan	81.66	51	P	P	11 08 60.0	+0.6
	baz=82						
W23A	Werner Place,	81.68	50	P	P	11 08 59.9	+0.4
	baz=82						
U22A	Llaves	81.71	48	⇑P	P	11 09 00.2	+0.6
	baz=82						
P19A	Cripple Cowboy	81.75	45	⇑P	P	11 08 60.0	+0.2
	baz=82						
226B	Tecolote Peak,	81.84	53	P	P	11 09 00.5	+0.2
	baz=82						
Q20A	Ridgley Place,	81.89	46	⇓P	P	11 09 01.2	+0.8
	baz=82,SNR=6.5						
V23A	Ortiz Mt. (NFS	81.91	49	⇑P	P	11 09 01.7	+1.0
	baz=82						
427A	Hayter Ranch,	81.93	55	P	P	11 09 01.1	+0.4
	baz=82						
Z25A	Roswell	81.93	52	P	P	11 09 01.1	+0.5
	baz=82						
T22A	Edith	81.97	48	⇑P	P	11 09 01.4	+0.4
	baz=82						
O19A	Miners Draw (B	81.98	44	P	P	11 09 01.1	+0.2
	baz=82						
P20A	De Beque	82.09	45	P	P	11 09 02.0	+0.6
	baz=82						
528A	Cox Ranch, San	82.13	56	P	P	11 09 02.0	+0.2
	baz=82						
R21A	Cimarron	82.14	46	⇑P	P	11 09 02.7	+0.9
	baz=82,SNR=5.6						
U23A	El Rito	82.17	49	⇑P	P	11 09 02.5	+0.5
	baz=82,SNR=5.2						
126A	Clayton Basin,	82.19	53	P	P	11 09 02.1	0.0
	baz=82						
Y25A	Mesa, Roswell	82.22	51	P	P	11 09 02.4	+0.2
	baz=82						
Q21A	Lamborn Mesa,	82.33	46	⇑P	P	11 09 03.5	+0.7
	baz=82						
S22A	4UR Ranch, Cre	82.35	47	⇓P	P	11 09 04.0	+0.9
	baz=82,SNR=11						
MSO	Missoula	82.36	37	*e*P	P	11 09 02.4	-0.3
	54nm,2.6s						
Z26A	Caprock	82.48	52	P	P	11 09 03.7	+0.2
	baz=82						
T23A	Casias Ranch,	82.59	48	⇑P	P	11 09 04.9	+0.6
	baz=83						
328A	Wristen Ranch,	82.61	54	P	P	11 09 04.2	0.0
	baz=83						
R22A	Saguache, Gunn	82.62	47	P	P	11 09 05.2	+0.8
	baz=83,SNR=6.1						
Q22A	Crested Butte,	82.81	46	P	P	11 09 06.0	+0.6
	baz=83,SNR=5.6						
N20A	Spence Gulch,	82.81	44	P	P	11 09 05.7	+0.4
	baz=83						
BW06	Boulder Array	82.90	42	*e*P	P	11 09 05.7	0.0
	5.7nm,1.0s						
PDAR	Pinedale Array	82.90	42	P	P	11 09 05.4	-0.3
PDAR	Pinedale Array	82.90	42	P	P	11 09 05.4	-0.3
	3.2nm,0.8s,baz=213,slow=3.1,SNR=26						
SMCO	Snowmass	82.91	46	*e*P	P	11 09 06.6	+0.5
	4.6nm,1.0s						
W25A	X Bar L Ranch,	82.95	50	P	P	11 09 05.7	-0.3
	baz=83						
429A	Davenport Ranc	83.02	55	P	P	11 09 06.1	-0.2
	baz=83						
BOZ	Bozeman (W)	83.08	39	*e*P	P	11 09 06.9	+0.5
	7.7nm,1.3s						
V25A	Rancho No Teng	83.10	50	P	P	11 09 06.9	0.0
	baz=83						
P22A	Eagle	83.25	46	⇑P	P	11 09 08.0	+0.5
	baz=83						
R23A	Moffat	83.26	47	P	P	11 09 07.9	+0.2
	baz=83						
ILAR	Eielson Array	83.27	11	P	P	11 09 06.5	-0.3
ILAR	Eielson Array	83.27	11	P	P	11 09 06.5	-0.3
	1.2nm,0.6s,baz=228,slow=6.7,SNR=32						
329A	Wagon Wheel Ra	83.30	55	P	P	11 09 07.5	-0.3
	baz=83						
Y27A	Causey	83.36	52	P	P	11 09 08.2	+0.1
	baz=83						
128A	Castleberry Fa	83.36	53	P	P	11 09 08.3	+0.2
	baz=83						
S24A	Houchin Ranch,	83.45	48	P	P	11 09 09.3	+0.6
	baz=84						
J19A	Crowheart	83.47	42	⇓P	P	11 09 08.6	+0.1
	baz=84						
U25A	Circle Dot Ran	83.49	49	P	P	11 09 08.5	-0.4
	baz=84						
631A	Perdido Creek	83.60	57	P	P	11 09 09.4	+0.1
	baz=84						
O22A	Kremmling	83.65	45	⇓P	P	11 09 10.1	+0.4
	baz=84,SNR=6.8						
MSTX	Muleshoe	83.69	52	P	P	11 09 09.4	-0.3
	baz=84						
V26A	Tequesquite Ra	83.69	50	P	P	11 09 09.4	-0.4
	baz=84						
I19A	Meeteetse	83.89	41	⇑P	P	11 09 10.5	-0.2
	baz=84						
531A	Rocksprings	83.92	56	P	P	11 09 10.9	-0.1
	baz=84						
W27A	Bowe Ranch, En	83.92	51	P	P	11 09 10.7	-0.2
	baz=84						
U26A	Atchley Ranch,	83.97	50	P	P	11 09 10.9	-0.4
	baz=84						
N22A	Wattenberg Ran	84.01	45	⇓P	P	11 09 12.4	+0.9
	baz=84						
Y28A	McKinney Farm,	84.06	52	P	P	11 09 11.3	-0.4
	baz=84						
J20A	Shoshoni	84.13	42	⇓P	P	11 09 12.2	+0.4
	baz=84,SNR=6.4						
M22A	Cedar Creek Ra	84.19	44	⇓P	P	11 09 12.6	+0.3
	baz=84						
H19A	Powell	84.20	40	⇓P	P	11 09 12.9	+0.7
	baz=84,SNR=5.1						
K21A	Alcova	84.33	43	⇑P	P	11 09 12.4	-0.5
	baz=84						
R25A	Fountain Ranch	84.33	48	P	P	11 09 13.0	0.0
	baz=84						
X28A	Dimmitt	84.35	52	P	P	11 09 13.0	-0.1
	baz=84						
I20A	Worland	84.39	41	⇓P	P	11 09 13.6	+0.5
	baz=84,SNR=6.4						
N23A	Red Feather La	84.39	45	⇑P	P	11 09 13.4	0.0
	baz=84						
T26A	Comanche Natio	84.41	49	P	P	11 09 12.8	-0.7
	baz=84						
Y29A	Porterfield Fa	84.48	53	P	P	11 09 13.6	-0.2
	baz=84						
J21A	Lysite	84.54	42	⇑P	P	11 09 14.6	+0.6
	baz=85,SNR=8.5						
L22A	Ellis Ranch, M	84.59	44	⇑P	P	11 09 14.9	+0.6
	baz=85						
U27A	Thompson Grove	84.66	50	P	P	11 09 13.9	-0.7
	baz=85						
Z30A	Sanderson Ranc	84.67	53	P	P	11 09 14.2	-0.5
	baz=85						
S26A	Kim	84.69	49	P	P	11 09 14.9	+0.1
	baz=85						
X29A	Tulia	84.69	52	P	P	11 09 14.4	-0.5
	baz=85						
H20A	Greybull	84.73	41	⇑P	P	11 09 15.0	+0.2
	baz=85						
M23A	Laramie	84.80	44	P	P	11 09 15.7	+0.3
	baz=85						
F19A	Roth Farm, Mol	84.81	39	⇓P	P	11 09 15.5	+0.3
	baz=85						
K22A	Casper	84.81	43	P	P	11 09 15.5	+0.2
	baz=85						
I21A	Big Trails, Te	84.86	42	⇑P	P	11 09 15.6	+0.1
	baz=85						
R26A	Arlington	85.00	48	P	P	11 09 16.7	+0.4
	baz=85						
T27A	Campo	85.00	49	P	P	11 09 16.4	0.0
	baz=85						
W29A	Amraillo	85.00	51	P	P	11 09 16.5	+0.1
	baz=85						
332A	Millersview	85.02	55	P	P	11 09 16.5	0.0
	baz=85						
L23A	Garrett	85.11	44	P	P	11 09 16.9	0.0
	baz=85						
E19A	Rath Farm, Rou	85.20	39	P	P	11 09 17.5	+0.4
	baz=85						
H21A	Big Horn, Sher	85.40	41	P	P	11 09 18.3	+0.1
	baz=86						
I22A	9 Mile Ranch,	85.41	42	P	P	11 09 18.1	-0.1
	baz=86						
Z31A	Sharp Cattle R	85.44	54	P	P	11 09 18.3	-0.2
	baz=86						
D19A	Cripps Ranch,	85.50	38	P	P	11 09 19.3	+0.7
	baz=86						
ABTX	Abilene, Hawle	85.57	54	*e*P	P	11 09 19.3	+0.2
E20A	Meyer Farm, Mu	85.62	39	P	P	11 09 20.0	+0.9
	baz=86						
D20A	Manuel Ranch,	85.90	38	P	P	11 09 20.9	+0.4
	baz=86						
Z32A	Haskell	85.95	54	P	P	11 09 21.3	+0.2
	baz=86						
R28A	Tribune	86.18	48	P	P	11 09 22.0	-0.1
	baz=86						
Y32A	R-V Farms, Ver	86.24	53	P	P	11 09 22.8	+0.4
	baz=86						
MAW	Mawson	86.99	199	P	P	11 09 27.6	+2.1
MAW	Mawson	86.99	199	P	P	11 09 27.6	+2.1
	2.2nm,0.7s,baz=145,slow=6.5,SNR=12						
ATAH	Atahualpa	92.82	98	LR	LR	11 41 26.7	
	comp=Z,91nm,18.5s,baz=193,slow=29						
CFAA	Coronel Fontan	94.00	124	LR	LR	11 42 22.5	
	comp=Z,15nm,19.2s,baz=278,slow=29						
SONM	Songino Array	95.46	318	LR	LR	11 52 52.1	
	comp=Z,26nm,19.9s,baz=176,slow=35						
ARCES	ARCESS Array B	125.44	352	PKP	PKPdf	11 15 41.5	+0.9
ARCES	ARCESS Array B	125.44	352	PKP	PKPdf	11 15 41.5	+0.9
	1.8nm,0.7s,baz=3.8,slow=2.7,SNR=5.7						
MLR	Muntele Rosu	146.62	335	PKPbc	PKPab	11 16 23.9	+0.6
MLR	Muntele Rosu	146.62	335	PKPbc	PKPab	11 16 23.9	+0.6
	0.4nm,0.6s,baz=117,slow=2.3,SNR=5.4						
BR131	Keskin Array S	146.79	320	*e*PKPbc	PKPab	11 16 24.2	+0.1
BRTR	Keskin Array B	146.79	320	PKPbc	PKPab	11 16 24.1	-0.1
BRTR	Keskin Array B	146.79	320	PKPbc	PKPab	11 16 24.1	-0.1
	3.7nm,0.7s,baz=93,slow=2.5,SNR=18						
GERES	GERESS Array B	146.97	351	PKPbc	PKPab	11 16 24.0	-0.5
GERES	GERESS Array B	146.97	351	PKPbc	PKPab	11 16 24.0	-0.5
	1.5nm,0.7s,baz=29,slow=2.2,SNR=12						
DAVOX	Davos/Dischmat	149.43	356	PKPbc	PKPbc	11 16 31.1	+1.5
DAVOX	Davos/Dischmat	149.43	356	PKPbc	PKPbc	11 16 31.1	+1.5
	3.4nm,0.7s,baz=170,slow=6.1,SNR=3.8						
TORD	Torodi Ar. Bea	174.36	122	PKPab	PKPab	11 18 22.5	-1.0
TORD	Torodi Ar. Bea	174.36	122	PKPab	PKPab	11 18 22.5	-1.0
	0.2nm,0.6s,baz=246,slow=4.4,SNR=3.8						

JMA 24 11:04:07.7±0.2, 43.99N×148.10E, h0km, M3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	Nemuro 2	1.82	251	P	Pn	11 04 40.8	+0.6
NEM2				*e*S	Sb	11 05 04.7	-0.5
JRA	Rausu	2.15	270	P	Pn	11 04 45.6	+0.8
JRA				*e*S	Sb	11 05 13.6	-1.1
JNK	Nakash	2.48	262	P	Pn	11 04 50.3	+0.9
JNK				*e*S	Sn	11 05 21.4	+1.0
JAK	Akkeshi	2.67	249	P	Pn	11 04 53.0	+1.1
JAK				*e*S	Sn	11 05 26.1	+1.2
JAR	Ashorobuto	3.22	259	P	Pn	11 05 01.2	+1.7
JAR				*e*S	Sn	11 05 40.4	+1.9
JCH	Churui	3.72	250	P	Pn	11 05 08.0	+1.6
JCH				*e*S	Sn	11 05 51.8	+0.9
JNBK	Urakawa-nobuka	4.27	248	P	Pn	11 05 15.5	+1.6
JNBK				*e*S	Sn	11 06 05.8	+1.4
JKB	Kayabe	5.60	250	P	Pn	11 05 34.0	+1.9
JKB				*e*S	Sn	11 06 38.8	+1.7
JOT	Ohata	5.81	246	P	Pn	11 05 36.6	+1.5
JOT				*e*S	Sn	11 06 42.5	0.0

*ISCJB **24** 11:04:35.2±0.6, 36.34N±0.06×140.02E±0.07, h86km±4km, mb3.5/4, Error ellipse: s-maj=10.8km s-min=8.9km az=161.1*
*IDC **24** 11:04:35.8±2.8, 36.26N×140.07E, h75km±28km, mb3.2/5, mb1 3.5/6, mb1mx3.3/24, mbtmp3.3/6, Error ellipse: s-maj=32.4km s-min=18.6km az=136.0*
*JMA **24** 11:04:36.8±0.1, 36.33N×139.96E, h76km±1km, M3.2 Broadband fault plane solution: P waves. NP1: ϕs182.00000°, δ72.00000°, λ-114.00000°. NP2: ϕs56.00000°, δ30.00000°, λ-40.00000°. Principal axes: T Plg23.0000°, Azm290.0000°; N Plg22.0000°, Azm190.0000°; P Plg57.0000°, Azm61.0000°; JMA Felt II J1.*
ISC 24 11:04:36.3±0.9, 36.33N±0.07×140.00E±0.06, h79km±7km, n21, σ0.54/24, mb3.6/4, 2C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYT	Yasato	0.19	124	⇓P	Pn	11 04 48.3	+0.4
JYT				S	Sn	11 04 56.5	+0.1
JAG	Ashikaga	0.45	282	⇓P	Pn	11 04 49.5	0.0
JAG				S	Sn	11 04 58.9	-0.4
JKT	Katashina	0.74	306	⇓P	Pn	11 04 52.6	+0.2
JKT				S	Sn	11 05 04.6	+0.2
JRY	Ryogami san	0.94	251	⇓P	Pn	11 04 54.9	+0.3
JRY				S	Sn	11 05 08.5	+0.2
JFY	Yanaizu	1.10	348	⇑P	Pn	11 04 56.8	+0.3
JHK	Hiroka	1.21	319	⇑P	Pn	11 04 58.1	+0.3
JOD2	Odawara 2	1.30	215	⇓P	Pn	11 04 59.0	0.0
JYN	Shimoh	1.45	235	⇓P	Pn	11 05 01.7	+0.8
MJAR	Matsushiro Arr	1.46	279	P	Pn	11 05 01.0	0.0
	18nm,0.3s,baz=92,slow=12,SNR=183						
MJAR				S	Sn	11 05 19.9	+0.1
	18nm,0.3s,baz=70,slow=21,SNR=13						
MAT	Matsushiro	1.46	279	P	Pn	11 05 01.4	+0.3
MAT				*e*S	Sn	11 05 19.4	-0.4
MAT	Matsushiro	1.46	279	P	Pn	11 05 01.6	+0.5
JNS	Sasagawa	1.58	340	P	Pn	11 05 03.0	+0.4
ASAJ	Asahikawa	8.02	14	P	Pn	11 06 29.0	-0.9
	0.6nm,0.3s,baz=245,slow=17,SNR=2.6						
PETK	Petropavlovsk-	20.86	31	P	P	11 09 10.8	-0.8
	1.7nm,0.9s,baz=209,slow=14,SNR=2.8						
H11N2	WAKE ISLAND Hy	28.80	118	T	T	11 40 53.1	
	baz=314,slow=0.7						
H11N1	WAKE ISLAND Hy	28.80	118	T	T	11 40 51.1	
	baz=314,slow=0.7						
H11N3	WAKE ISLAND Hy	28.81	118	T	T	11 40 53.8	
	baz=314,slow=0.7						
MKAR	Makanchi Array	43.53	303	P	P	11 12 31.9	-0.1
	0.4nm,0.7s,baz=92,slow=8.8,SNR=4.3						
ILAR	Eielson Array	50.69	32	P	P	11 13 27.6	+0.3
	0.3nm,0.8s,baz=267,slow=5.8,SNR=8.7						
WRA	Warramunga Arr	56.23	186	P	P	11 14 07.2	-1.0
	0.2nm,0.3s,baz=1.4,slow=7.5,SNR=8.6						
NVAR	Mina Array Bea	76.31	52	P	P	11 16 18.0	+1.1
	0.3nm,0.5s,baz=274,slow=5.3,SNR=2.7						

*ISCJB **24** 11:09:49.8±0.5, 23.26S±0.08×179.76W±0.08, h526km, mb3.8/14, Error ellipse: s-maj=11.5km s-min=9.3km az=142.3*
*AUST **24** 11:09:51.5±10.0, 23.10S×179.22W, h586km, Error ellipse: s-maj=7.3km s-min=3.2km az=275.0*
*IDC **24** 11:09:52.2±2.6, 23.16S×179.87W, h541km±29km, mb3.3/13, mb1 3.5/14, mb1mx3.4/21, mbtmp3.3/14, Error ellipse: s-maj=17.5km s-min=16.7km az=176.0*
ISC 24 11:09:50.5±0.6, 23.1S±0.1×179.8W±0.1, h526km, n37, σ1.9/07/35, mb3.9/14, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	12.80	272	P	P	11 12 42.4	+4.8
	0.7nm,0.3s,baz=241,slow=19,SNR=7.4						
URZ	Urewera	15.31	189	P	P	11 13 02.7	-0.6
	0.8nm,0.3s,baz=150,slow=18,SNR=6.6						
URZ				S	S	11 15 34.3	-7.8
	0.5nm,0.3s,baz=77,slow=21,SNR=6.8						
RAR	Rarotonga	18.60	88	P	P	11 13 33.3	-1.7
	1.9nm,0.3s,baz=90,slow=18,SNR=4.9						
RPZ	Rata Peaks	21.88	198	P	P	11 14 04.2	-0.3
	1.9nm,0.3s,baz=90,slow=3.0,SNR=3.9						
EIDS	Eidsvold	26.67	259	P	P	11 14 48.3	+1.0
	baz=27,SNR=3.9						
MGCD	Mangrove Creek	27.50	242	P	P	11 14 56.2	+1.7
	baz=28,SNR=6.7						
RMQ	Roma	28.74	257	P	P	11 15 07.5	+1.9
	baz=29,SNR=5.7						
CNB	Canberra Magne	29.44	239	P	P	11 15 12.8	+1.4
	baz=30,SNR=6.3						
CTA	Charters Tower	31.71	269	P	P	11 15 32.1	+0.9
	22nm,0.3s,baz=94,slow=12,SNR=61						
CMSA	Cobar Meteorol	31.72	247	P	P	11 15 31.8	+0.7
	baz=32,SNR=17						
QLP	Quilpie	32.79	256	P	P	11 15 40.9	+0.6
	baz=33,SNR=9.9						
TOO	Toolangi	33.06	236	P	P	11 15 43.2	+0.8
	baz=34,SNR=9.4						
MTSU	Mount Surprise	33.94	272	P	P	11 15 50.9	+0.8
	baz=34,SNR=18						
STKA	Stephens Creek	35.22	247	P	P	11 16 01.3	+0.6
	4.4nm,0.5s,baz=104,slow=8.8,SNR=6.6						
BBOO	Buckleboo	39.96	246	P	P	11 16 38.9	-0.4
	baz=40,SNR=9.9						
ASAR	Alice Springs	42.39	260	P	P	11 16 58.5	-0.3
	6.5nm,0.8s,baz=101,slow=7.8,SNR=49						
WRA	Warramunga Arr	42.70	265	P	P	11 17 00.3	-0.9
	3.1nm,0.4s,baz=94,slow=8.3,SNR=36						
WRA				ScP	ScP	11 21 40.6	-1.4
	0.2nm,0.6s,baz=96,slow=3.6,SNR=4.6						
KDU	Kakadu	46.46	274	P	P	11 17 29.6	-0.7
	baz=47,SNR=4.4						
FORT	Forrest	46.80	249	P	P	11 17 31.9	-0.7
	baz=47,SNR=13						
KNRA	Kununurra	48.93	269	P	P	11 17 48.6	-0.2
	baz=49,SNR=4.9						
FITZ	Fitzroy Crossi	51.12	265	P	P	11 18 04.9	+0.1
	baz=52,SNR=10.0						
FITZ	Fitzroy Crossi	51.12	265	P	P	11 18 04.4	-0.5
	3.0nm,0.4s,baz=95,slow=7.3,SNR=22						
VNDA	Vanda	55.15	185	P	P	11 18 34.0	+1.5
	0.8nm,0.9s,baz=7.3,slow=7.9,SNR=7.8						
MEEK	Meekatharra	55.55	253	P	P	11 18 35.2	-1.1
	baz=56,SNR=5.5						
NWAO	Narrogin (SRO)	55.76	245	P	P	11 18 36.5	-1.1
	8.8nm,1.0s,baz=119,slow=7.9,SNR=6.0						
MORW	Morawa	57.35	249	P	P	11 18 48.1	-0.5
	baz=58,SNR=4.1						
PETK	Petropavlovsk-	78.42	346	P	P	11 20 56.5	+0.1
	1.8nm,0.7s,baz=158,slow=6.1,SNR=6.3						
MAW	Mawson	78.54	200	P	P	11 20 56.7	-0.1
	1.0nm,0.7s,baz=124,slow=7.3,SNR=6.1						
NVAR	Mina Array Bea	84.05	44	P	P	11 21 27.4	+1.4
	0.4nm,0.7s,baz=230,slow=7.0,SNR=3.8						
TXAR	Lajitas Array	89.83	58	P	P	11 21 54.8	+1.4
	0.3nm,0.7s,baz=248,slow=4.8,SNR=5.7						
ILAR	Eielson Array	91.25	13	P	P	11 21 59.9	+0.9
	0.6nm,1.0s,baz=224,slow=6.2,SNR=4.2						
PDAR	Pinedale Array	91.99	44	P	P	11 22 03.7	+0.5
	0.5nm,0.7s,baz=204,slow=4.0,SNR=4.1						
ARCES	ARCESS Array B	131.20	348	PKP	PKPdf	11 28 00.6	-1.3
	1.7nm,0.8s,baz=20,slow=2.9,SNR=3.6						
NOA	NORSAR Array B	141.37	351	PKhKP	PKPpre	11 28 15.5	
	1.0nm,0.8s,baz=16,slow=4.6,SNR=3.4						
HFS	Hagfors	141.85	349	PKhKP	PKPpre	11 28 16.8	
	2.6nm,0.3s,baz=62,slow=3.7,SNR=39						
AKASG	Malin Array Be	144.46	328	PKP	PKPdf	11 28 25.4	-1.2
	0.8nm,0.4s,baz=45,slow=4.0,SNR=5.4						
EKA	Eskdalemuir Ar	147.75	4	PKPbc	PKPbc	11 28 33.8	-1.8
	0.6nm,0.4s,baz=340,slow=1.9,SNR=3.7						

**IDC 24 11:23:34.3±0.9

0.5nm,0.8s,baz=288,slow=1.4,SNR=5.0
ILAR Eielson Array 83.06 11 P P 11 36 01.2 -0.1
0.2nm,0.5s,baz=232,slow=5.6,SNR=5.1
BRTR Keskin Array B 146.75 320 PKPbc PKPab 11 43 19.4 -0.5
0.7nm,0.7s,baz=43,slow=2.8,SNR=4.0

IDC ***24*** *11:29:46.7±0.5, 15°05S×173°65W, h0km, mb4.4/19, mb1 4.6/20, mb1mx4.5/24, mbtmp4.4/20, ML4.6/1, MS4.0/18, Ms1 4.0/18, ms1mx3.8/33, Error ellipse: s-maj=19.3km s-min=14.1km az=125.0*
NEIC ***24*** *11:29:48.5±0.2, 15°06S×173°73W, h10km, mb4.9/43, Error ellipse: s-maj=9.4km s-min=5.4km az=144.0*
BJI ***24*** *11:29:49.9, 14°10S×174°40W, h10km, mB5.4/13, mb5.0/22, Ms5.1/6, Ms7 4.8/6*
ISCJB ***24*** *11:29:55.1±0.2, 14°96S±0°07×174°00W±0°05, h73km, mb4.6/69, Error ellipse: s-maj=11.6km s-min=5.3km az=152.5*
ISC 24 11:29:56.2±0.4, 14°98S±0°08×173°98W±0°07, h73km, n384, σ1°02/370, mb4.6/69, 110C-106D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.38**	**64**	Pn	Pn	11 30 16.4	-17
AFI				Sn	Sn	11 30 36.0	-26
AFI	**Afiamalu**	**2.38**	**64**	Pn	Pn	11 30 16.4	-17
	132nm,0.3s,baz=177,slow=1.3,SNR=55						
AFI				Sn	Sn	11 30 36.0	-26
	411nm,0.3s,baz=29,slow=20,SNR=16						
AFI				LR	LR	11 30 56.6	
	comp=Z,2μm,20.4s,baz=347,slow=33						
MSVF	**Nonsavu**	**8.12**	**249**	Pn	**Pn**	**11 31 52.9**	**+1.3**
MSVF				eSn	**Sn**	**11 33 20.3**	**-1.7**
RAR	**Rarotonga**	**14.86**	**117**	Pn	Pn	11 33 14.1	-8.3
RAR	**Rarotonga**	**14.86**	**117**	Pn	Pn	11 33 14.1	-8.3
	2.6nm,0.3s,baz=270,slow=3.8,SNR=4.1						
DZM	**Mont Dzumac**	**19.84**	**246**	*e*P	Pn	11 34 29.7	+6.0
	98nm,1.1s						
DZM				*e*LR	LR	11 39 19.8	
	784nm,26.8s						
DZM	**Mont Dzumac**	**19.84**	**246**	P	**Pn**	**11 34 23.2**	**-0.5**
DZM	**Mont Dzumac**	**19.84**	**246**	P	**Pn**	**11 34 23.2**	**-0.5**
	7.3nm,1.0s,baz=85,slow=19,SNR=2.1						
PPT2	**Papeete2**	**23.57**	**100**	*e*S	**S**	**11 39 02.9**	**-6.6**
	742nm,31.5s						
PPT2				*e*LR	LR	11 40 24.9	
	235nm,27.5s						
PPT2	**Papeete2**	**23.57**	**100**	*e*LR	LR	11 33 58.0	
	64nm,23.8s						
URZ	**Urewera**	**24.49**	**197**	P	**P**	**11 35 07.9**	**-0.7**
URZ	**Urewera**	**24.49**	**197**	P	**P**	**11 35 07.9**	**-0.7**
	12nm,0.8s,baz=79,slow=5.1,SNR=3.8						
URZ				LR	LR	11 43 29.1	
	comp=Z,440nm,18.6s,baz=20,slow=34						
TBI	**Tubuai**	**24.59**	**114**	*e*LQ	LQ	11 39 52.7	
	491nm,27.5s						
TBI				*e*LR	LR	11 41 00.9	
	108nm,26.0s						
TBI	**Tubuai**	**24.59**	**114**	*e*LR	LR	11 34 12.9	
	68nm,27.0s						
HNR	**Honiara**	**26.06**	**279**	LR	LR	11 43 52.0	
	comp=Z,200nm,18.1s,baz=86,slow=32						
RPZ	**Rata Peaks**	**31.37**	**201**	LR	LR	11 47 38.6	
	comp=Z,329nm,18.9s,baz=0.4,slow=34						
H11S2	**WAKE ISLAND Hy**	**38.31**	**330**	T	T	12 18 00.1	
	baz=152,slow=0.7,SNR=56						
H11S3	**WAKE ISLAND Hy**	**38.33**	**330**	T	T	12 18 03.8	
	baz=152,slow=0.7,SNR=48						
H11S1	**WAKE ISLAND Hy**	**38.33**	**330**	T	T	12 18 01.1	
	baz=152,slow=0.7,SNR=64						
PMG	**Port Moresby**	**38.34**	**274**	LR	LR	11 50 54.0	
	comp=Z,60nm,19.8s,baz=56,slow=33						
H11N3	**WAKE ISLAND Hy**	**39.27**	**331**	T	T	12 19 24.5	
	baz=152,slow=0.7,SNR=58						
H11N1	**WAKE ISLAND Hy**	**39.27**	**331**	T	T	12 19 11.4	
	baz=152,slow=0.7,SNR=57						
H11N2	**WAKE ISLAND Hy**	**39.28**	**331**	T	T	12 19 25.9	
	baz=152,slow=0.7,SNR=48						
STKA	**Stephens Creek**	**43.76**	**239**	P	**P**	**11 37 56.0**	**+1.3**
STKA	**Stephens Creek**	**43.76**	**239**	P	**P**	**11 37 56.0**	**+1.3**
	2.6nm,0.8s,baz=90,slow=9.9,SNR=4.4						
STKA				LR	LR	11 54 07.3	
	comp=Z,167nm,19.8s,baz=26,slow=33						
WRAB	**Tennant Creek**	**49.38**	**256**	*e*P	**P**	**11 38 40.0**	**+1.1**
	18nm,1.4s						
WRA	**Warramunga Arr**	**49.39**	**256**	P	**P**	**11 38 39.7**	**+0.7**
WRA				ScP	ScP	11 43 58.1	+8.5
WRA	**Warramunga Arr**	**49.39**	**256**	P	**P**	**11 38 39.7**	**+0.7**
	2.6nm,0.6s,baz=90,slow=7.4,SNR=88						
WRA				ScP	ScP	11 43 58.1	+8.5
	0.3nm,0.8s,baz=96,slow=7.5,SNR=6.0						
WRA				LR	LR	11 58 26.2	
	comp=Z,74nm,19.6s,baz=105,slow=35						
AS01	**Alice Springs**	**49.66**	**252**	*e*P	**P**	**11 38 41.2**	**+0.2**
AS31	**Alice Springs**	**49.71**	**252**	*e*P	**P**	**11 38 41.9**	**+0.5**
ASAR	**Alice Springs**	**49.71**	**252**	P	**P**	**11 38 41.8**	**+0.4**
ASAR	**Alice Springs**	**49.71**	**252**	P	**P**	**11 38 41.8**	**+0.4**
	21nm,0.8s,baz=87,slow=7.9,SNR=230						
ASAR				LR	LR	11 57 08.8	
	comp=Z,232nm,21.5s,baz=94,slow=33						
FITZ	**Fitzroy Crossi**	**57.75**	**258**	LR	LR	12 01 56.8	
	comp=Z,124nm,18.6s,baz=83,slow=33						
VNDA	**Vanda**	**63.74**	**186**	P	**P**	**11 40 20.2**	**+0.4**
VNDA				*e*pwP	**pP**	**11 40 36.7**	**-2.2**
VNDA	**Vanda**	**63.74**	**186**	P	**P**	**11 40 20.2**	**+0.4**
	1.7nm,0.9s,baz=356,slow=6.9,SNR=6.5						
NWAO	**Narrogin (SRO)**	**64.34**	**240**	LR	LR	12 08 28.8	
	comp=Z,94nm,18.8s,baz=263,slow=36						
MJAR	**Matsushiro Arr**	**68.25**	**320**	P	**P**	**11 40 50.6**	**+1.2**
MJAR	**Matsushiro Arr**	**68.25**	**320**	P	**P**	**11 40 50.6**	**+1.2**
	2.8nm,1.0s,baz=155,slow=6.7,SNR=4.7						
ASAJ	**Asahikawa**	**70.89**	**328**	P	**P**	**11 41 06.6**	**+1.2**
ASAJ	**Asahikawa**	**70.89**	**328**	P	**P**	**11 41 06.6**	**+1.2**
	3.4nm,0.8s,baz=141,slow=6.5,SNR=4.9						
PEA0	**Petropavlovsk-**	**72.06**	**343**	*e*P	P	11 41 06.3	-6.0
PETK	**Petropavlovsk-**	**72.06**	**343**	P	**P**	**11 41 13.2**	**+0.9**
PETK	**Petropavlovsk-**	**72.06**	**343**	P	**P**	**11 41 13.2**	**+0.9**
	4.3nm,0.9s,baz=140,slow=7.6,SNR=4.7						
EDW2	**Edwards Air Fo**	**72.65**	**46**	⇓P	**P**	**11 41 15.6**	**-0.7**
	baz=73						
MONP	**Monument Peak**	**72.70**	**48**	⇓P	**P**	**11 41 16.0**	**-0.8**
	baz=73						
CMB	**Columbia Colle**	**72.82**	**42**	*e*P	**P**	**11 41 16.3**	**-1.0**
	6.9nm,1.1s						
PFO	**Pinyon Flat Ob**	**73.05**	**47**	LR	LR	12 05 29.1	
	comp=Z,218nm,19.4s,baz=287,slow=29						
BBRC	**Big Bear Solar**	**73.06**	**47**	⇑P	**P**	**11 41 18.4**	**-0.6**
	baz=73						
LPIG	**La Paz**	**73.30**	**59**	LR	LR	12 05 09.8	
	comp=Z,122nm,21.1s,baz=254,slow=29						
CWC	**Cottonwood Cre**	**73.44**	**44**	⇑P	**P**	**11 41 20.2**	**-0.9**
	baz=74						
BELC	**Belle Mtn. Jos**	**73.58**	**47**	⇓P	**P**	**11 41 21.2**	**-0.7**
	baz=74						
YBH	**Yreka Blue Hor**	**73.61**	**37**	*e*P	**P**	**11 41 23.0**	**+1.1**
	8.7nm,1.1s						
MPMC	**Manual Prospec**	**73.63**	**45**	⇑P	**P**	**11 41 22.0**	**-0.3**
	baz=74						
GSC	**Goldstone**	**73.69**	**46**	⇑P	**P**	**11 41 21.7**	**-0.8**
	baz=74						
HEC	**Hector,Ludlow**	**73.78**	**46**	⇓P	**P**	**11 41 22.9**	**-0.1**
	baz=74						
BC3	**Big Chuckawall**	**73.79**	**48**	⇑P	**P**	**11 41 22.7**	**-0.4**
	baz=74						
GLA	**Glamis**	**73.93**	**49**	*e*P	**P**	**11 41 24.0**	**+0.1**
GLA				*e*PP	PP	11 44 03.6	-6.4
GLA	**Glamis**	**73.93**	**49**	⇑P	**P**	**11 41 24.5**	**+0.6**
	baz=74						
GMRC	**Granite Mounta**	**74.22**	**47**	⇓P	**P**	**11 41 25.7**	**+0.1**
	baz=74						
IRM	**Iron Mountain**	**74.26**	**47**	⇑P	**P**	**11 41 25.9**	**+0.1**
	baz=74						
FURC	**Furnace Creek,**	**74.28**	**45**	⇓P	**P**	**11 41 25.1**	**-0.7**
	baz=74						
SHOC	**Shoshone**	**74.38**	**45**	⇑P	**P**	**11 41 26.6**	**+0.2**
	baz=74						
NV01	**Mina Array Sit**	**74.39**	**42**	*e*P	**P**	**11 41 25.7**	**-1.0**
NVAR	**Mina Array Bea**	**74.39**	**42**	P	**P**	**11 41 25.4**	**-1.3**
NVAR	**Mina Array Bea**	**74.39**	**42**	P	**P**	**11 41 25.4**	**-1.3**
	4.5nm,0.8s,baz=230,slow=8.6,SNR=24						
NVAR				LR	LR	12 06 47.8	
	comp=Z,173nm,19.6s,baz=279,slow=30						
Y12C	**Blythe**	**74.50**	**48**	⇓P	**P**	**11 41 28.6**	**+1.5**
	baz=74						
J04D	**Umpqua Nationa**	**74.89**	**37**	⇑P	**P**	**11 41 29.9**	**+0.5**
	baz=75						
TPH	**Tonopah**	**74.91**	**43**	*e*P	**P**	**11 41 29.0**	**-0.6**
	7.7nm,0.9s						
PDMCI	**Parker Dam,Lak**	**75.06**	**48**	⇓P	**P**	**11 41 30.7**	**+0.4**
	baz=75						
QSPA	**South Pole Qui**	**75.06**	**180**	P	**P**	**11 41 30.5**	**+0.4**
QSPA	**South Pole Qui**	**75.06**	**180**	P	**P**	**11 41 30.5**	**+0.4**
	6.3nm,0.8s						
MOD	**Modoc**	**75.14**	**38**	*e*P	**P**	**11 41 29.9**	**-0.9**
	9.5nm,1.0s						
K05A	**Summer Lake**	**75.28**	**38**	*e*P	**P**	**11 41 30.4**	**-1.2**
	31nm,1.3s						
J05D	**Fort Rock, OR**	**75.42**	**37**	⇓P	**P**	**11 41 33.6**	**+1.2**
	baz=76						
SHPR	**Sheep Range**	**75.46**	**45**	*e*P	**P**	**11 41 32.6**	**-0.2**
	2.9nm,1.0s						
KSRS	**Korea Array**	**75.46**	**316**	P	P	11 41 36.0	+3.5
	2.5nm,0.9s,baz=124,slow=5.8,SNR=7.1						
KSAR	**Wonju Array Be**	**75.48**	**316**	P	P	11 41 36.0	+3.4
W13A	**Hualapai Mount**	**75.64**	**47**	⇓P	**P**	**11 41 34.3**	**+0.4**
	baz=76						
Y14A	**Wickenburg**	**75.69**	**49**	⇑P	**P**	**11 41 34.6**	**+0.5**
	baz=76						
R11A	**Troy Canyon, C**	**76.14**	**44**	*e*P	**P**	**11 41 36.1**	**-0.6**
	3.4nm,1.1s						
R11A	**Troy Canyon, C**	**76.14**	**44**	⇓P	**P**	**11 41 36.1**	**-0.6**
	baz=76						
WVOR	**Wild Horse Val**	**76.45**	**39**	*e*P	**P**	**11 41 37.6**	**-0.7**
	7.1nm,1.1s						
TUC	**Tucson**	**76.56**	**51**	*e*P	**P**	**11 41 39.0**	**-0.1**
	4.7nm,0.9s						
KSM	**Kuching**	**76.59**	**275**	*e*P	P	11 41 44.6	+5.0
	7.9nm,1.3s						
I07A	**Izee**	**76.90**	**37**	*e*P	**P**	**11 41 40.3**	**-0.4**
	86nm,2.7s						
X16A	**Lo Lia Camp, P**	**77.06**	**49**	⇓P	**P**	**11 41 43.0**	**+1.0**
	baz=77						
J08A	**Circle Bar Ran**	**77.08**	**38**	*e*P	**P**	**11 41 41.1**	**-0.7**
	41nm,2.0s						
CCUT	**Cedar City**	**77.23**	**45**	*e*P	**P**	**11 41 42.2**	**-0.7**
	3.6nm,1.1s						
319A	**Douglas**	**77.28**	**52**	⇓P	**P**	**11 41 43.7**	**+0.5**
	baz=77						
ARUT	**Antelope Range**	**77.30**	**45**	*e*P	**P**	**11 41 42.8**	**-0.4**
	70nm,1.0s						
U15A	**North Rim**	**77.42**	**47**	⇑P	**P**	**11 41 46.0**	**+1.9**
	baz=78						
WUAZ	**Wupatki**	**77.63**	**48**	⇑P	**P**	**11 41 46.9**	**+1.8**
	baz=78						
ELK	**Elko**	**77.64**	**42**	*e*P	**P**	**11 41 45.0**	**-0.2**
	3.5nm,1.0s						
320A	**Kipp Ranch, An**	**77.84**	**53**	⇓P	**P**	**11 41 46.8**	**+0.5**
	baz=78						
220A	**Playas Peak, P**	**78.09**	**52**	⇑P	**P**	**11 41 47.9**	**+0.2**
	baz=78						
120A	**U Bar Ranch, L**	**78.29**	**52**	⇑P	**P**	**11 41 50.8**	**+2.0**
	baz=78						
MVU	**Marysvale**	**78.50**	**45**	*e*P	**P**	**11 41 50.1**	**+0.2**
	27nm,2.1s						
Z20A	**Nine Sixteen R**	**78.57**	**51**	⇓P	**P**	**11 41 50.7**	**+0.4**
	baz=79						
121A	**Cookes Peak, D**	**78.93**	**52**	*e*P	**P**	**11 41 52.8**	**+0.4**
121A	**Cookes Peak, D**	**78.93**	**52**	⇑P	**P**	**11 41 52.5**	**+0.1**
	baz=79						
DUG	**Dugway**	**78.94**	**43**	*e*P	**P**	**11 41 52.1**	**0.0**
	6.2nm,1.0s						
DUG	**Dugway**	**78.94**	**43**	⇓P	**P**	**11 41 52.3**	**+0.1**
	baz=79						
Y20A	**Horse Springs,**	**79.08**	**50**	⇓P	**P**	**11 41 53.5**	**+0.2**
	baz=79						
X20A	**Quemado**	**79.28**	**50**	⇑P	**P**	**11 41 54.7**	**+0.4**
	baz=79						
Z21A	**St. Cloud Mine**	**79.35**	**51**	⇓P	**P**	**11 41 54.9**	**+0.2**
	baz=79						
Q16A	**Castle Valley**	**79.41**	**45**	*e*P	**P**	**11 41 56.1**	**+1.3**
	63nm,2.5s						
Q16A	**Castle Valley**	**79.41**	**45**	⇓P	**P**	**11 41 55.2**	**+0.3**
	baz=80						
NJ2	**Nanjing**	**79.46**	**307**	*e*P	**P**	**11 41 53.8**	**-1.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
SNUT	**Stansbury Nort**	**79.48**	**43**	*e*P	**P**	**11 41 57.1**	**+2.0**
W20A	**Rarah**	**79.53**	**49**	⇑P	**P**	**11 41 55.8**	**+0.1**
	baz=80						
TMUT	**Trail Mountain**	**79.57**	**45**	*e*P	**P**	**11 41 56.2**	**+0.4**
	12nm,0.9s						
122A	**Conniff Cattle**	**79.60**	**52**	⇑P	**P**	**11 41 56.9**	**+0.9**
	baz=80						
MPU	**Maple Canyon**	**79.63**	**44**	*e*P	**P**	**11 41 55.9**	**-0.1**
	5.5nm,1.0s						
Y21A	**Point of Rocks**	**79.65**	**51**	⇓P	**P**	**11 41 57.5**	**+1.1**
	baz=80						
HLID	**Hailey**	**79.66**	**40**	*e*P	**P**	**11 41 55.8**	**-0.3**
	4.3nm,0.9s						
HLID	**Hailey**	**79.66**	**40**	⇑P	**P**	**11 41 56.0**	**-0.1**
	baz=80						
NAIU	**Northern Antel**	**79.73**	**43**	*e*P	**P**	**11 41 57.0**	**+0.5**
X21A	**Alamocita Cree**	**79.76**	**50**	⇓P	**P**	**11 41 57.4**	**+0.5**
	baz=80						
Z22A	**Elephant Butte**	**79.86**	**52**	⇑P	**P**	**11 41 57.8**	**+0.4**
	baz=80						
CAST	**Castle Rocks**	**79.98**	**10**	*e*P	**P**	**11 41 56.0**	**-1.1**
CAST				*e*PP	PP	11 44 53.7	-6.3
JLU	**Jordanelle**	**80.04**	**43**	*e*P	**P**	**11 41 58.3**	**0.0**
	4.9nm,1.0s						
Y22A	**Socorro**	**80.15**	**51**	⇑P	**P**	**11 41 59.4**	**+0.5**
	baz=80						
324A	**Moseley Ranch,**	**80.24**	**54**	⇑P	**P**	**11 41 59.1**	**-0.4**
	baz=80,SNR=6.6						
425A	**Indio Mountain**	**80.37**	**55**	⇓P	**P**	**11 42 00.7**	**+0.6**
	baz=80,SNR=11						
CN2	**Changchun**	**80.40**	**320**	*e*P	**P**	**11 42 02.6**	**+2.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
Z23A	**Rita Site, Whi**	**80.42**	**52**	⇓P	**P**	**11 42 00.4**	**0.0**
	baz=80						
MNTX	**Cornudas Mount**	**80.43**	**54**	*e*P	**P**	**11 42 00.9**	**+0.6**
	60nm,2.8s						
PV05	**Paradox Valley**	**80.44**	**46**	*e*P	**P**	**11 42 00.5**	**0.0**
V21A	**Milan**	**80.47**	**49**	⇓P	**P**	**11 42 00.8**	**+0.1**
	baz=80						
224A	**Cornudas Mount**	**80.47**	**53**	⇑P	**P**	**11 42 02.2**	**+1.5**
	baz=80,SNR=7.3						
MVCO	**Mesa Verde**	**80.47**	**47**	⇓P	**P**	**11 42 00.9**	**+0.2**
	baz=80						
626A	**Big Bend Ranch**	**80.56**	**56**	⇑P	**P**	**11 42 01.4**	**+0.2**
	baz=80						
PV09	**Paradox Valley**	**80.61**	**46**	*e*P	**P**	**11 42 01.8**	**+0.3**
325A	**Bean Ranch, Si**	**80.61**	**54**	⇑P	**P**	**11 42 02.2**	**+0.6**
	baz=81,SNR=10						
PV10	**Paradox Valley**	**80.62**	**46**	*e*P	**P**	**11 42 01.3**	**-0.2**
U21A	**Nageezi**	**80.72**	**48**	⇑P	**P**	**11 42 02.5**	**+0.4**
	baz=81						
124A	**Stringfield Ra**	**80.78**	**53**	⇓P	**P**	**11 42 02.7**	**+0.3**
	baz=81						
526A	**Mary Lane Ranc**	**80.79**	**56**	⇓P	**P**	**11 42 03.7**	**+1.2**
	baz=81						
MCK	**McKinley**	**80.81**	**11**	*e*P	**P**	**11 42 01.8**	**+0.2**
	21nm,1.0s						
Y23A	**Lovelace Mesa,**	**80.83**	**51**	⇓P	**P**	**11 42 02.9**	**+0.3**
	baz=81						
PV01	**Paradox Valley**	**80.84**	**47**	*e*P	**P**	**11 42 02.5**	**-0.1**
TX31	**Lajitas Ar. Si**	**80.84**	**56**	*e*P	**P**	**11 42 02.2**	**-0.5**
TXAR	**Lajitas Array**	**80.85**	**56**	P	**P**	**11 42 02.0**	**-0.6**
TXAR	**Lajitas Array**	**80.85**	**56**	P	**P**	**11 42 02.0**	**-0.6**
	1.8nm,0.9s,baz=238,slow=3.1,SNR=12						
TXAR				LR	LR	12 10 58.9	
	comp=Z,98nm,18.9s,baz=280,slow=31						
S20A	**Disappointment**	**80.85**	**47**	⇓P	**P**	**11 42 02.8**	**+0.1**
	baz=81						
ANMO	**Albuquerque**	**80.96**	**50**	*e*P	**P**	**11 42 03.0**	**-0.3**
	66nm,2.6s						
PV15	**Paradox Valley**	**81.00**	**46**	*e*P	**P**	**11 42 03.4**	**-0.1**
R20A	**Redvale**	**81.00**	**47**	⇓P	**P**	**11 42 03.2**	**-0.2**
	baz=81						
225A	**Deer Hill, Car**	**81.03**	**53**	⇓P	**P**	**11 42 03.7**	**0.0**
	baz=81,SNR=7.1						
T21A	**Navajo Lake**	**81.06**	**48**	⇑P	**P**	**11 42 03.9**	**+0.1**
	baz=81						
426A	**McDonald Obser**	**81.08**	**55**	⇑P	**P**	**11 42 04.4**	**+0.4**
	baz=81						
Z24A	**Sheeppen Canyo**	**81.11**	**52**	⇑P	**P**	**11 42 03.3**	**-0.8**
	baz=81						
627A	**Terlingua Ranc**	**81.12**	**56**	⇑P	**P**	**11 42 05.1**	**+1.0**
	baz=81,SNR=8.8						
S21A	**Coal Bank Pass**	**81.18**	**47**	⇓P	**P**	**11 42 05.2**	**+0.7**
	baz=81						
527A	**Woodward Ranch**	**81.20**	**56**	⇓P	**P**	**11 42 04.4**	**-0.2**
	baz=81						
MCMT	**McKenzie Canyo**	**81.28**	**39**	*e*P	**P**	**11 42 04.3**	**-0.6**
W23A	**Werner Place,**	**81.28**	**50**	⇑P	**P**	**11 42 05.1**	**+0.1**
	baz=81						
U22A	**Llaves**	**81.29**	**49**	⇑P	**P**	**11 42 05.2**	**+0.1**
	baz=81						
Y24A	**Capitan**	**81.30**	**52**	⇓P	**P**	**11 42 04.7**	**-0.5**
	baz=81,SNR=7.1						
125A	**Gardner Draw,**	**81.38**	**53**	⇑P	**P**	**11 42 07.0**	**+1.6**
	baz=81						
Q20A	**Ridgley Place,**	**81.40**	**46**	⇓P	**P**	**11 42 06.1**	**+0.5**
	baz=81						
O19A	**Miners Draw (B**	**81.45**	**44**	⇑P	**P**	**11 42 05.0**	**-0.7**
	baz=82						
RRI2	**Red Ridge**	**81.48**	**41**	*e*P	**P**	**11 42 05.8**	**-0.2**
	5.2nm,0.8s						
V23A	**Ortiz Mt. (NFS**	**81.51**	**50**	⇓P	**P**	**11 42 06.5**	**+0.3**
	baz=82						
226B	**Tecolote Peak,**	**81.53**	**54**	⇑P	**P**	**11 42 06.3**	**+0.1**
	baz=82						
T22A	**Edith**	**81.53**	**48**	⇓P	**P**	**11 42 06.0**	**-0.3**
	baz=82						
628A	**Black Gap, Mar**	**81.53**	**57**	⇑P	**P**	**11 42 06.6**	**+0.3**
	baz=82						
Z25A	**Roswell**	**81.58**	**52**	⇑P	**P**	**11 42 06.7**	**+0.1**
	baz=82						
P20A	**De Beque**	**81.59**	**45**	⇓P	**P**	**11 42 06.4**	**0.0**
	baz=82						
427A	**Hayter Ranch,**	**81.64**	**55**	⇑P	**P**	**11 42 06.9**	**0.0**
	baz=82,SNR=6.9						
R21A	**Cimarron**	**81.66**	**47**	⇓P	**P**	**11 42 07.0**	**0.0**
	baz=82						
DOT	**Dot Lake**	**81.72**	**13**	*e*P	**P**	**11 42 04.2**	**-2.3**
	16nm,1.2s						
U23A	**El Rito**	**81.75**	**49**	⇑P	**P**	**11 42 09.2**	**+1.7**
	baz=82						
REDW	**Red Top Meadow**	**81.79**	**41**	*e*P	**P**	**11 42 07.7**	**+0.1**
	27nm,1.7s						
TPAW	**Teton Pass**	**81.79**	**41**	*e*P	**P**	**11 42 07.4**	**-0.2**
	5.8nm,1.0s						
FXWY	**Fox Creek**	**81.81**	**41**	*e*P	**P**	**11 42 07.5**	**-0.1**
	16nm,1.6s						
Q21A	**Lamborn Mesa,**	**81.85**	**46**	⇑P	**P**	**11 42 07.7**	**-0.2**
	baz=82						
W24A	**Lazy 6 Ranch,**	**81.86**	**50**	⇓P	**P**	**11 42 08.2**	**+0.1**
	baz=82						
Y25A	**Mesa, Roswell**	**81.86**	**52**	⇓P	**P**	**11 42 07.8**	**-0.2**
	baz=82,SNR=6.4						
126A	**Clayton Basin,**	**81.86**	**53**	⇓P	**P**	**11 42 08.2**	**+0.2**
	baz=82						
528A	**Cox Ranch, San**	**81.87**	**56**	⇓P	**P**	**11 42 08.1**	**0.0**
	baz=82						
SNOW	**Snow King Moun**	**81.90**	**41**	*e*P	**P**	**11 42 08.1**	**0.0**
	7.8nm,1.0s						
S22A	**4UR Ranch, Cre**	**81.90**	**48**	⇑P	**P**	**11 42 09.5**	**+1.2**
	baz=82,SNR=11						
O20A	**White River Ci**	**81.98**	**45**	⇓P	**P**	**11 42 08.4**	**-0.2**
	baz=82						
COLA	**College**	**82.05**	**11**	*e*P	**P**	**11 42 09.4**	**+1.4**
	35nm,0.9s						
LOHW	**Long Hollow**	**82.07**	**41**	*e*P	**P**	**11 42 08.8**	**-0.2**
	22nm,2.0s						
IL1	**Eielson Array**	**82.14**	**11**	*e*P	**P**	**11 42 07.9**	**-0.7**
ILAR	**Eielson Array**	**82.14**	**11**	P	**P**	**11 42 08.6**	**0.0**
ILAR	**Eielson Array**	**82.14**	**11**	P	**P**	**11 42 08.6**	**0.0**
	2.9nm,0.9s,baz=200,slow=5.8,SNR=23						
ILAR				LR	LR	12 10 29.5	
	comp=Z,69nm,21.6s,baz=199,slow=30						
Z26A	**Caprock**	**82.14**	**53**	⇓P	**P**	**11 42 10.4**	**+0.9**
	baz=82,SNR=7.2						
R22A	**Saguache, Gunn**	**82.16**	**47**	⇑P	**P**	**11 42 11.1**	**+1.4**
	baz=82						
T23A	**Casias Ranch,**	**82.16**	**48**	⇓P	**P**	**11 42 09.8**	**+0.1**
	baz=82						
428A	**Kincaid Ranch,**	**82.17**	**55**	⇓P	**P**	**11 42 10.0**	**+0.4**
	baz=82						
V24A	**Rampart Ranch,**	**82.17**	**50**	⇓P	**P**	**11 42 09.7**	**0.0**
	baz=82						
IMA2	**Indian Mountai**	**82.22**	**8**	*e*P	**P**	**11 42 10.1**	**+1.0**
N20A	**Spence Gulch,**	**82.28**	**44**	⇑P	**P**	**11 42 10.1**	**-0.1**
	baz=82						
529A	**Stev Forest Ra**	**82.31**	**56**	⇑P	**P**	**11 42 10.3**	**-0.1**
	baz=82						
328A	**Wristen Ranch,**	**82.32**	**55**	⇓P	**P**	**11 42 09.8**	**-0.6**
	baz=82						
BW06	**Boulder Array**	**82.33**	**42**	*e*P	**P**	**11 42 09.7**	**-0.6**
PDAR	**Pinedale Array**	**82.33**	**42**	P	**P**	**11 42 09.2**	**-1.1**
PDAR	**Pinedale Array**	**82.33**	**42**	P	**P**	**11 42 09.2**	**-1.1**
	1.8nm,0.7s,baz=206,slow=3.9,SNR=16						
PDAR				LR	LR	12 12 32.1	
	comp=Z,117nm,18.9s,baz=72,slow=31						
Q22A	**Cr

Q24A	**Divide** baz=84	83.61	47	⇑P		P	11 42 17.4	+0.2
732A	**Laxson Ranch,** baz=84	83.63	58	⇑P		P	11 42 17.8	+0.7
ISCO	**Idaho Springs** baz=84	83.64	46	⇑P		P	11 42 17.2	-0.2
M22A	**Cedar Creek Ra** baz=84	83.66	44	⇑P		P	11 42 17.6	+0.3
531A	**Rocksprings** baz=84	83.67	57	⇓P		P	11 42 17.8	+0.5
Y28A	**McKinney Farm,** baz=84	83.72	53	⇑P		P	11 42 18.0	+0.4
K21A	**Alcova** baz=84	83.77	43	⇓P		P	11 42 17.6	-0.1
I20A	**Worland** baz=84,SNR=7.3	83.80	42	⇑P		P	11 42 18.2	+0.4
COLD	**Coldfoot** 13nm,1.0s	83.81	9	*e*P		P	11 42 19.8	+2.6
N23A	**Red Feather La** baz=84,SNR=6.2	83.89	45	⇓P		P	11 42 19.3	+0.8
R25A	**Fountain Ranch** baz=84	83.89	48	⇑P		P	11 42 18.5	0.0
Z29A	**Hungry Hill Ra** baz=84	83.90	53	⇑P		P	11 42 18.8	+0.4
J21A	**Lysite** baz=84,SNR=22	83.97	42	⇑P		P	11 42 19.3	+0.6
V27A	**Dan Oppiter Fa** baz=84	83.99	51	⇑P		P	11 42 19.5	+0.5
T26A	**Comanche Natio** baz=84	84.00	49	⇑P		P	11 42 19.8	+0.8
X28A	**Dimmitt** baz=84	84.00	52	⇓P		P	11 42 19.3	+0.3
L22A	**Ellis Ranch, M** baz=84	84.05	44	⇓P		P	11 42 18.5	-0.7
632A	**Uvalde** baz=84	84.05	57	⇑P		P	11 42 19.6	+0.3
H20A	**Greybull** baz=84	84.13	41	⇑P		P	11 42 19.2	-0.3
Y29A	**Porterfield Fa** baz=84	84.15	53	⇑P		P	11 42 20.6	+0.8
O24A	**Longmont** baz=84	84.16	46	⇑P		P	11 42 20.4	+0.6
532A	**Rocksprings** baz=84	84.18	57	⇑P		P	11 42 20.8	+0.8
F19A	**Roth Farm, Mol** baz=84	84.18	40	⇓P		P	11 42 19.9	+0.2
Q25A	**Bedland, Calha** baz=84	84.23	47	⇓P		P	11 42 20.6	+0.4
K22A	**Casper** baz=84	84.26	43	⇑P		P	11 42 20.2	0.0
U27A	**Thompson Grove** baz=84	84.26	50	⇑P		P	11 42 20.7	+0.3
S26A	**Kim** baz=84	84.27	49	⇑P		P	11 42 20.2	-0.1
I21A	**Big Trails, Te** baz=84,SNR=9.3	84.28	42	⇑P		P	11 42 20.0	-0.3
M23A	**Laramie** baz=84	84.28	45	⇑P		P	11 42 20.8	+0.4
G20A	**Bridger** baz=84	84.34	40	⇑P		P	11 42 20.3	-0.2
X29A	**Tulia** baz=84	84.35	52	⇑P		P	11 42 21.1	+0.3
Z30A	**Sanderson Ranc** baz=84	84.35	54	⇑P		P	11 42 21.3	+0.5
JCT	**Junction City** 60nm,2.5s	84.39	57	*e*P		P	11 42 21.9	+0.9
JCT	**Junction City** baz=84	84.39	57	⇓P		P	11 42 21.0	0.0
231A	**Bronte** baz=84	84.50	55	⇓P		P	11 42 21.0	-0.5
AMTX	**Amarillo** baz=84	84.53	52	⇓P		P	11 42 22.4	+0.7
432A	**Menard** baz=84	84.53	56	⇓P		P	11 42 21.9	+0.2
P25A	**Willow Gulch B** baz=85,SNR=7.9	84.53	47	⇓P		P	11 42 22.4	+0.7
R26A	**Arlington** baz=85,SNR=8.0	84.56	48	⇓P		P	11 42 21.5	-0.3
E19A	**Rath Farm, Rou** baz=85	84.57	39	⇓P		P	11 42 21.5	0.0
L23A	**Garrett** baz=85	84.58	44	⇓P		P	11 42 21.4	-0.5
N24A	**Carr** baz=85,SNR=5.4	84.58	45	⇑P		P	11 42 21.9	0.0
J22A	**Midwest** baz=85,SNR=10	84.63	43	⇓P		P	11 42 22.1	0.0
W29A	**Amraillo** baz=85	84.64	52	⇓P		P	11 42 22.4	+0.2
131A	**Roby** baz=85	84.71	54	⇓P		P	11 42 22.5	0.0
332A	**Millersview** baz=85	84.75	56	⇑P		P	11 42 23.5	+0.7
Q26A	**Hugo** baz=85	84.75	48	⇑P		P	11 42 22.9	+0.1
BJI	**Beijing**	84.77	314	P		P	11 42 19.1	-3.5
BJI	comp=Z,12nm,1.8s			AMB		AMB		
H21A	**Big Horn, Sher** baz=85	84.81	41	⇑P		P	11 42 23.0	+0.1
I22A	**9 Mile Ranch,** baz=85,SNR=6.2	84.84	42	⇓P		P	11 42 22.9	-0.2
D19A	**Cripps Ranch,** baz=85	84.84	38	⇑P		P	11 42 22.9	-0.1
M24A	**Cheyenne** baz=85	84.89	45	⇑P		P	11 42 23.9	+0.4
K23A	**Bowen Ranch, D** baz=85	84.90	43	⇓P		P	11 42 24.0	+0.5
E20A	**Meyer Farm, Mu** baz=85	84.99	39	⇓P		P	11 42 23.7	+0.1
232A	**Coleman** baz=85	85.01	55	⇑P		P	11 42 23.9	-0.2
C19A	**Slack Wire Ran** baz=85	85.01	38	⇑P		P	11 42 22.8	-1.0
T28A	**Walsh** baz=85	85.06	50	⇑P		P	11 42 23.8	-0.5
L24A	**Wheatland** baz=85,SNR=5.3	85.06	44	⇓P		P	11 42 24.2	-0.1
Z31A	**Sharp Cattle R** baz=85	85.13	54	⇑P		P	11 42 24.6	-0.1
D20A	**Manuel Ranch,** baz=85	85.26	39	⇓P		P	11 42 25.6	+0.6
Y31A	**Rekieta Farm,** baz=85	85.28	53	⇓P		P	11 42 25.6	+0.2
ABTX	**Abilene, Hawle**	85.28	55	*e*P		P	11 42 24.7	-0.7
ABTX	**Abilene, Hawle** baz=85	85.28	55	⇑P		P	11 42 25.4	0.0
S28A	**Manter** baz=85	85.40	49	⇓P		P	11 42 25.8	-0.2
B19A	**Brinkman Farms** baz=86	85.42	37	⇑P		P	11 42 24.8	-0.9
KSCO	**Kaye Shedlock'** 17nm,0.6s	85.43	48	*e*P		P	11 42 33.1	+7.0
K24A	**Anderson Ranch** baz=86	85.43	44	⇑P		P	11 42 26.0	0.0
G22A	**Birney** baz=86	85.55	41	⇑P		P	11 42 26.6	0.0
C20A	**Veseth Ranch,** baz=86	85.62	38	⇑P		P	11 42 27.5	+0.7
Z32A	**Haskell** baz=86	85.65	54	⇑P		P	11 42 27.4	+0.2
R28A	**Tribune** baz=86	85.75	49	⇑P		P	11 42 27.5	-0.2
Y32A	**R-V Farms, Ver** baz=86	85.92	53	⇓P		P	11 42 28.5	-0.1
D21A	**La Casta Ranch** baz=86	85.94	39	⇓P		P	11 42 28.4	0.0
W31A	**Holland Ranch,** baz=86	85.97	52	⇓P		P	11 42 29.0	+0.2
G23A	**Biddle** baz=86	86.11	41	⇓P		P	11 42 29.3	0.0
A20A	**Cobblestone Ra** baz=86	86.21	37	⇑P		P	11 42 29.7	0.0
LAO	**LASA Array** 146nm,2.7s	86.24	40	*e*P		P	11 42 30.9	+1.1
V31A	**Spring Creek L** baz=86	86.25	52	⇓P		P	11 42 30.7	+0.5
F23A	**Volborg** baz=86	86.33	41	⇑P		P	11 42 30.3	0.0
H24A	**Dirks Ranch, A** baz=86,SNR=8.3	86.46	42	⇑P		P	11 42 31.0	0.0
RSSD	**Black Hills** 74nm,2.8s	86.53	43	*e*P		P	11 42 31.2	-0.4
I25A	**Rochford** baz=87	86.69	43	⇑P		P	11 42 31.8	-0.5
WHTX	**Lake Whitney** baz=87	86.79	56	⇑P		P	11 42 32.9	0.0
F24A	**Ekalaka** baz=87	86.99	41	⇓P		P	11 42 33.5	-0.1
D23A	**Lindsay** baz=87	87.08	40	⇓P		P	11 42 34.3	+0.3
B22A	**Reddig Ranch S** baz=87	87.09	38	⇓P		P	11 42 34.0	0.0
Q30A	**Quinter** baz=87	87.15	49	⇓P		P	11 42 34.1	-0.3
P30A	**Selden** baz=87	87.34	48	⇓P		P	11 42 35.8	+0.4
GYA	**Guiyang**	87.35	298	*e*P		P	11 42 34.8	-1.0
GYA				PP		PP	11 45 58.6	-2.7
GYA				SKS		SKSac	11 52 59.0	+1.5
GYA				S		S	11 53 10.4	-0.5
GYA				SS		SS	11 58 54.3	-3.1
GYA				AMB		AMB		
	comp=Z,10.0nm,1.0s							
GYA				AMB		AMB		
	comp=Z,90nm,5.0s							
GYA				LR		LR		
	comp=N,450nm,20.5s							
GYA				LR		LR		
	comp=E,410nm,21.0s							
GYA				LR		LR		
	comp=Z,390nm,20.2s							
C23A	**Lambert** baz=87	87.36	39	⇓P		P	11 42 34.9	-0.4
J27A	**Elkhorn Farm,** baz=88	87.53	44	⇓P		P	11 42 36.4	+0.2
D24A	**Glendive** baz=88	87.60	40	⇓P		P	11 42 36.7	+0.3
B23A	**Brockton** baz=88	87.77	38	⇓P		P	11 42 37.5	+0.3
INK	**Inuvik**	88.00	14	LR		LR	12 18 15.9	
	comp=Z,56nm,18.9s,baz=189,slow=33							
MAW	**Mawson**	88.01	199	P		P	11 42 38.8	+0.7
MAW	**Mawson**	88.01	199	P		P	11 42 38.8	+0.7
	6.6nm,0.8s,baz=126,slow=5.4,SNR=21							
HHC	**Hu-ho-hao-te**	88.33	313	*e*P		P	11 42 35.4	-4.7
HHC				PP		PP	11 46 04.3	-4.5
HHC				SKS		SKSac	11 53 00.5	-2.3
HHC				S		S	11 53 14.5	-5.1
HHC				AMB		AMB		
	comp=Z,49nm,1.2s							
HHC				AMB		AMB		
	comp=Z,240nm,5.7s							
HHC				LR		LR		
	comp=N,180nm,16.1s							
HHC				LR		LR		
	comp=E,270nm,17.0s							
HHC				LR		LR		
	comp=Z,180nm,16.7s							
E26A	**Carlson Angus** baz=89	88.50	41	⇓P		P	11 42 40.8	0.0
B25A	**Knox Farm, Ray** baz=89	88.80	39	⇑P		P	11 42 42.8	+0.7
YKA	**Yellowknife Ar**	89.94	24	P		P	11 42 46.9	-0.1
YKA	**Yellowknife Ar**	89.94	24	P		P	11 42 46.9	-0.1
	2.7nm,0.8s,baz=232,slow=4.2,SNR=7.2							
KMI	**Kunming**	90.34	296	P		P	11 42 49.5	-0.5
KMI				AMB		AMB		
	comp=Z,9.0nm,0.8s							
CD2	**Chengdu**	91.11	302	P		P	11 42 52.0	-1.3
CD2				AMB		AMB		
	comp=Z,20nm,0.5s							
A29A	**Manning Farm,** baz=92	91.45	40	⇓P		P	11 42 54.7	+0.3
LZH	**Lanzhou**	92.52	307	*e*P		P	11 42 57.6	-2.3
LZH				AMB		AMB		
	comp=Z,14nm,1.0s							
SNAA	**Sanae**	93.36	177	P		P	11 43 02.7	-0.2
SNAA	**Sanae**	93.36	177	P		P	11 43 02.7	-0.2
	0.9nm,1.1s,baz=214,slow=7.3,SNR=4.3							
ULM	**Lac du Bonnet**	93.96	39	P		P	11 43 04.4	-1.5
ULM	**Lac du Bonnet**	93.96	39	P		P	11 43 04.4	-1.5
	1.9nm,0.8s,baz=239,slow=5.9,SNR=3.1							
ULM				LR		LR	12 20 20.5	
	comp=Z,194nm,18.5s,baz=253,slow=32							
MKAR	**Makanchi Array**	110.13	315	PKiKP		PKiKP	11 48 19.5	-0.1
MKAR	**Makanchi Array**	110.13	315	PKiKP		PKiKP	11 48 19.5	-0.1
	0.4nm,0.7s,baz=177,slow=2.9,SNR=4.5							
KSH	**Kashi**	114.77	307	*e*PKP		PKPdf	11 48 32.9	+4.0
KSH				PP		PP	11 49 35.5	+7.5
ARCES	**ARCESS Array B**	124.11	352	PKP		PKPdf	11 48 47.2	+1.4
ARCES	**ARCESS Array B**	124.11	352	PKP		PKPdf	11 48 47.2	+1.4
	2.0nm,0.7s,baz=90,slow=4.5,SNR=4.9							
AKASG	**Malin Array Be**	139.73	337	PKP		PKPdf	11 49 16.9	+1.2
AKASG	**Malin Array Be**	139.73	337	PKP		PKPdf	11 49 16.9	+1.2
	1.4nm,0.7s,baz=24,slow=2.0,SNR=6.3							
CLL	**Collm**	143.33	353	*e*PKPpre		PKPpre	11 49 20.0	
	comp=Z,3.0nm,0.7s							
CLL				*e*PKPdf		PKiKP	11 49 24.0	-1.4
CLL				*e*PKiKP		PKPdf	11 49 26.0	+3.9
	comp=Z,11nm,1.3s							
KOLS	**Kolonicke sedl**	143.60	342	*e*PKP		PKPdf	11 49 24.1	+1.4
BRG	**Berggiesshubel**	143.63	352	*e*PKP		PKPdf	11 49 25.1	+2.4
	comp=Z,3.6nm,0.9s							
DPC	**Dobruska-Polom**	143.74	349	*e*PKP		PKPdf	11 49 23.3	+0.3
DPC	**Dobruska-Polom**	143.74	349	*e*PKPdf		PKPdf	11 49 23.3	+0.3
BUR04	**Bucovina Ar. S**	143.77	338	*e*PKPdf		PKPdf	11 49 25.1	+1.9
PRU	**Pruhonice**	144.40	351	*e*PKP		PKPdf	11 49 25.5	+1.5
PRU				*ep*PKP		PKiKP	11 49 29.0	+1.3
KECS	**Kecovo**	144.52	343	*e*PKP		PKPdf	11 49 24.8	+0.5
PSZ	**Piszkesteto**	145.20	344	*e*PKPdf		PKPdf	11 49 27.7	+2.1
KHC	**Kasperske Hory**	145.38	351	*e*PKP		PKPab	11 49 27.4	+1.4
KHC				*ep*PKP		PKiKP	11 49 30.3	+0.5
KHC	**Kasperske Hory**	145.38	351	*e*PKPdf		PKPab	11 49 27.6	+1.5
BRTR	**Keskin Array B**	145.47	321	PKPbc		PKPab	11 49 28.9	+2.0
BRTR	**Keskin Array B**	145.47	321	PKPbc		PKPab	11 49 28.9	+2.0
	comp=Z,5.3nm,0.8s,baz=102,slow=2.0,SNR=27							
GEC2	**GERESS Array S**	145.64	351	*e*PKPdf		PKPab	11 49 28.3	+1.2
GERES	**GERESS Array B**	145.64	351	PKPbc		PKPab	11 49 28.5	+1.4
GERES	**GERESS Array B**	145.64	351	PKPbc		PKPab	11 49 28.5	+1.4
	comp=Z,4.1nm,0.8s,baz=29,slow=3.0,SNR=29							
ANTO	**Ankara**	145.90	322	*e*PKPdf		PKPab	11 49 31.2	+2.8
BR231	**Keskin MP Arra**	145.92	322	*e*PKPbc		PKPab	11 49 30.0	+1.5
MOA	**Molln**	146.52	350	*i* pPKPdf		PKPab	11 49 31.4	+1.1
	comp=Z,13nm,1.3s,SNR=4.7							
BFO	**Black Forest**	146.69	357	*e*PKPdf		PKPab	11 49 33.0	+2.0
DAVA	**Damuels**	147.62	355	⇓*i*sPKPdf		PKPbc	11 49 34.2	+1.6
	comp=Z,16nm,1.2s							
ABTA	**Abfaltersbach**	147.86	352	⇑*i*pPKPdf		PKPbc	11 49 33.9	+0.7
	comp=Z,8.4nm,0.8s,SNR=4.5							
FUORN	**Ofenpass-Fuorn**	148.25	354	*e*PKPdf		PKPab	11 49 36.5	-1.0
SENIN	**Lac Senin/Sane**	148.69	358	*e*PKPdf		PKPab	11 49 37.8	-1.5
ESDC	**Sonseca Array**	153.88	18	PKPbc		PKPbc	11 49 49.4	+1.8
ESDC				PKPab		PKPab	11 50 02.2	+1.4
ESDC	**Sonseca Array**	153.88	18	PKPbc		PKPbc	11 49 49.4	+1.8
	comp=Z,0.2nm,0.3s,baz=354,slow=1.9,SNR=5.5							
ESDC				PKPab		PKPab	11 50 02.2	+1.4
	comp=Z,2.4nm,0.9s,baz=328,slow=3.0,SNR=8.2							
TORD	**Torodi Ar. Bea**	175.43	113	PKP		PKPdf	11 49 58.2	-0.6
TORD				PKPab		PKPab	11 51 33.8	-2.2
TORD	**Torodi Ar. Bea**	175.43	113	PKP		PKPdf	11 49 58.2	-0.6
	comp=Z,1.9nm,0.9s,baz=348,slow=1.7,SNR=8.2							
TORD				PKPab		PKPab	11 51 33.8	-2.2
	comp=Z,0.4nm,0.6s,baz=252,slow=3.6,SNR=3.0							

*ISCJB **24** 11:40:25.8±1.3, 17°.2S±0°.6×179°.0W±0°.4, h539km, mb3.4/7, Error ellipse: s-maj=89.5km s-min=15.1km az=149.6*
*IDC **24** 11:40:25.4±6.2, 17°.27S×178°.93W, h523km±76km, mb3.0/7, mb1 3.3/8, mb1mx3.1/19, mbtmp3.0/8, Error ellipse: s-maj=80.8km s-min=25.6km az=154.0*

ISC 24 11:40:26.5±1.5, 17°.3S±0°.6×179°.0W±0°.4, h539km, n9, σ0§40/9, mb3.2/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	14.54	248	P	P	11 43 31.5	0.0
	0.3nm,0.3s,baz=270,slow=20,SNR=2.7						
STKA	**Stephens Creek**	38.48	240	P	P	11 47 02.5	-0.1
	1.8nm,0.5s,baz=89,slow=13,SNR=10.0						
WRA	**Warramunga Arr**	44.22	259	P	P	11 47 48.1	-0.1
	0.4nm,0.5s,baz=96,slow=6.9,SNR=21						
ASAR	**Alice Springs**	44.45	254	P	P	11 47 50.4	+0.4
	5.9nm,0.6s,baz=89,slow=8.2,SNR=104						
NVAR	**Mina Array Bea**	79.33	44	P	P	11 51 37.3	+0.6
	0.4nm,0.7s,baz=226,slow=6.2,SNR=3.0						
ILAR	**Eielson Array**	85.38	13	P	P	11 52 06.3	-0.1
	0.2nm,0.3s,baz=224,slow=5.3,SNR=11						
TXAR	**Lajitas Array**	86.11	58	P	P	11 52 10.9	0.0
	0.4nm,0.8s,baz=226,slow=6.1,SNR=5.6						
PDAR	**Pinedale Array**	87.26	44	P	P	11 52 15.5	-0.7
	0.4nm,0.7s,baz=239,slow=4.9,SNR=3.6						
GERES	**GERESS Array B**	146.85	345	PKPbc	PKPbc	11 59 08.7	+0.2
	0.6nm,0.4s,baz=22,slow=3.4,SNR=6.2						

*ISCJB **24** 11:44:31.7±0.8, 37°.2S±0°.1×94°.8W±0°.3, h10km, mb3.7/6, MS4.0/6, Error ellipse: s-maj=37.0km s-min=20.4km az=8.7*
*IDC **24** 11:44:31.6±1.0, 37°.16S×94°.87W, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.9/15, mbtmp3.7/6, MS4.0/7, Ms1 4.0/7, ms1mx3.7/23, Error ellipse: s-maj=44.0km s-min=26.1km az=93.0*

ISC 24 11:44:33.3±0.9, 37°.2S±0°.2×94°.8W±0°.3, h10km, n18, σ1§47/7, mb3.8/6, MS4.0/6, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H03N2	**Juan Fernandez**	13.52	79	T	T	12 01 42.7	
	baz=247,slow=0.6,SNR=169						
H03N3	**Juan Fernandez**	13.52	79	T	T	12 01 35.6	
	baz=247,slow=0.6,SNR=124						
H03N1	**Juan Fernandez**	13.53	79	T	T	12 01 36.9	
	baz=247,slow=0.6,SNR=188						
PLCA	**Paso Flores**	19.21	108	LR	LR	11 54 24.4	
	comp=Z,321nm,18.7s,baz=88,slow=31						
LPAZ	**La Paz**	31.46	56	P	P	11 50 55.6	-0.3
	1.4nm,0.8s,baz=214,slow=9.6,SNR=5.8						
LPAZ				LR	LR	12 00 46.8	
	comp=Z,125nm,18.4s,baz=223,slow=31						
ROSC	**El Rosal**	45.97	29	LR	LR	12 10 15.5	
	comp=Z,150nm,18.1s,baz=200,slow=34						
BDFB	**Brasilia**	46.55	75	LR	LR	12 11 29.0	
	comp=Z,171nm,21.4s,baz=32,slow=35						
PPT	**Papeete**	51.65	277	LR	LR	12 08 59.6	
	comp=Z,185nm,19.4s,baz=140,slow=28						
VNDA	**Vanda**	56.83	195	P	P	11 54 18.3	+0.9
	0.6nm,0.7s,baz=115,slow=7.5,SNR=2.7						
VNDA				LR	LR	12 13 34.0	
	comp=Z,98nm,20.5s,baz=238,slow=31						
TXAR	**Lajitas Array**	66.66	352	P	P	11 55 25.8	+1.5
	0.3nm,0.8s,baz=170,slow=7.6,SNR=4.2						
URZ	**Urewera**	66.90	239	LR	LR	12 17 35.5	
	comp=Z,212nm,18.2s,baz=118,slow=30						
MAW	**Mawson**	74.20	171	P	P	11 56 09.2	-0.5
	1.2nm,0.9s,baz=158,slow=13,SNR=3.4						
NVAR	**Mina Array Bea**	78.27	341	P	P	11 56 32.8	-0.6
	0.4nm,0.7s,baz=157,slow=7.4,SNR=3.5						
PDAR	**Pinedale Array**	80.67	349	P	P	11 56 46.6	+0.2
	0.8nm,0.8s,baz=150,slow=6.2,SNR=5.7						
H11S2	**WAKE ISLAND Hyl**	107.52	280	T	T	13 59 02.0	
	baz=130						
H11S1	**WAKE ISLAND Hyl**	107.53	280	T	T	13 59 11.0	
	baz=130						
H11S3	**WAKE ISLAND Hyl**	107.54	280	T	T	13 59 08.3	
	baz=130						
SONM	**Songino Array**	161.12	311	PKPab	PKPab	12 05 14.9	-2.2
	0.3nm,0.8s,baz=38,slow=2.6,SNR=3.7						

NNC 24 11:44:59.2±3.2, 37°.29N×70°.48E, h0km, mb3.5, mpv3.4, 3C-2D, Error ellipse: s-maj=27.9km s-min=25.7km az=98.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	5.81	0	⇓Pn	Pn	11 46 29.5	+2.8
	1.1nm,0.3s,baz=179,slow=13,SNR=54						
KK31				⇑Sn	Sn	11 47 40.7	+6.6
	2.5nm,0.5s,baz=183,slow=19,SNR=5.1						
TKM2	**Tokmak 2**	6.86	33	⇑Pn	Pn	11 46 41.2	-0.1
	1.5nm,0.6s						
TKM2				⇑Sn	Sn	11 48 00.4	+0.1
	4.6nm,1.2s						
AB31	**Akbulak array**	14.19	331	⇓Pn	Pn	11 48 20.4	-1.0
	0.1nm,0.3s,baz=228,slow=46,SNR=10						

IDC 24 11:50:36.5±2.2, 6°.55S×129°.60E, h0km, mb4.0/1, mb1 3.9/4, mb1mx3.5/18, mbtmp3.8/4, ML3.8/3, Error ellipse: s-maj=105.7km s-min=27.1km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	12.11	198	Pn	Pn	11 53 31.0	+0.5
	0.4nm,0.3s,baz=22,slow=13,SNR=18						
FITZ				Sn	Sn	11 55 34.9	-12
	0.6nm,0.3s,baz=216,slow=19,SNR=5.6						
WRA	**Warramunga Arr**	14.09	161	Pn	Pn	11 53 56.8	-0.7
	0.4nm,0.3s,baz=336,slow=14,SNR=22						
WRA				Sn	Sn	11 56 18.9	-16
	1.2nm,0.3s,baz=339,slow=22,SNR=10						
ASAR	**Alice Springs**	17.52	167	P	Pn	11 54 42.4	0.0
	0.4nm,0.3s,baz=345,slow=10,SNR=57						
ASAR				S	Sn	11 57 39.7	-19
	0.2nm,0.3s,baz=354,slow=30,SNR=5.5						
MKAR	**Makanchi Array**	67.63	327	P	P	12 01 35.4	0.0
	0.7nm,0.4s,baz=120,slow=7.8,SNR=9.8						

*IDC **24** 11:53:48.5±1.7, 0°.04S×97°.30E, h34km±6km, mb3.9/6, mb1 3.9/7, mb1mx3.5/24, mbtmp3.8/7, ML3.0/1, Error ellipse: s-maj=48.6km s-min=21.3km az=58.0*
*DJA **24** 11:53:53.3±0.9, 0°N±5°×9°8E±°, h61km±12km, M4.0/6, MLv4.0/6*

ISC 24 11:53:49.6±1.1, 0°.20N±0°.07×97°.51E±0°.09, h25km, n21, σ1§57/23, mb4.3/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	1.10	4	P	Pn	11 54 09.3	-0.2
GSI				S	Sb	11 54 26.3	+2.3
MNSI	**Mandailing Nat**	2.16	74	P	Pb	11 54 27.9	-0.1
MNSI				S	Sn	11 54 47.5	-2.5
SNSI	**Sinabang, Aceh**	2.50	332	P	Pn	11 54 19.2	-9.5
PSI	**Prapat**	2.95	29	P	Pn	11 54 36.0	+1.0
PSI	**Prapat**	2.95	29	Pn	Pn	11 54 35.7	+0.6
	1.7nm,0.3s,baz=46,slow=13,SNR=6.0						
PSI				Sn	Sn	11 55 07.3	-2.4
	2.4nm,0.3s,baz=287,slow=19,SNR=7.8						
PPI	**Padang Panjang**	2.96	103	P	Pn	11 54 36.5	+1.4
PDSI	**Padang**	3.15	110	P	Pn	11 54 38.9	+1.2
PDSI				S	Sn	11 55 14.7	+0.1
KCSI	**Kotacane, Aceh**	3.31	5	P	Pn	11 54 39.1	-0.9
KCSI				S	Sn	11 55 19.2	+0.6
H08S2	**Diego Garcia H**	26.13	252	T	T	12 26 09.4	
	baz=72,slow=0.7,SNR=150						
H08S3	**Diego Garcia H**	26.15	252	T	T	12 26 11.7	
	baz=72,slow=0.7,SNR=119						
H08S1	**Diego Garcia H**	26.15	252	T	T	12 26 12.1	
	baz=72,slow=0.7,SNR=157						
H01W3	**Cape Leeuwin H**	38.20	158	T	T	12 41 27.1	
	baz=333,slow=0.7,SNR=18						
H01W2	**Cape Leeuwin H**	38.22	158	T	T	12 41 28.0	
	baz=333,slow=0.7,SNR=22						
H01W1	**Cape Leeuwin H**	38.22	158	T	T	12 41 33.1	
	baz=333,slow=0.7,SNR=16						
WRA	**Warramunga Arr**	41.25	121	P	P	12 01 31.4	-1.6
	0.8nm,0.7s,baz=300,slow=8.9,SNR=4.8						
ASAR	**

*DJA **24** 12:15:17.6±0.7,3°S±1°×12°2E±°, h14km±5km, M4.8/22, mb5.1/7, mB5.2/5, MLv4.8/22, Mw(mB)4.6/5*
*BJI **24** 12:15:18.6,2.70S×121.80E, h35km, mB5.2/4, mb4.7/10, Ms5.1/2, Ms7 4.7/2*
*AUST **24** 12:15:19.9±3.0,2.81S×121.61E, h31km, Error ellipse: s-maj=1.0km s-min=0.9km az=267.0*
*BKK **24** 12:15:19.7±0.3,3°S±4°×12°2E±°, h10km, M5.0/10, mB5.3/1, mb4.4/10, MLv5.2/4, Mw(mB)4.7/1*
*NEIC **24** 12:15:20.1±0.8,2.75S×121.68E, h52km±9km, mb4.3/5, Error ellipse: s-maj=10.1km s-min=6.6km az=64.0*
NEIC Felt [III] at Morowali and Soroako.

ISC 24 12:15:19.1±0.4,2.76S±0.03×121.63E±0.04,h35km, h35km:pP-P,n81,σ1§58/92,mb4.4/19,MS4.0/5,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKSI	**Kolaka, Sulawe**	**1.41**	**179**	P	**Pn**	**12 15 42.4**	**+0.1**
TTSI	**Tana Toraja**	**1.83**	**261**	P	**Pn**	**12 15 46.2**	**-1.9**
TTSI				S	**Sn**	**12 16 11.4**	**+1.4**
APSI	**Ampana**	**1.83**	**1**	P	**Pn**	**12 15 47.8**	**-0.4**
APSI				S	**Sn**	**12 16 11.8**	**+1.6**
LUWI	**Luwuk**	**2.05**	**34**	P	**Pn**	**12 15 51.2**	**0.0**
LUWI				S	**Sn**	**12 16 18.1**	**+2.5**
LUWI	**Luwuk**	**2.05**	**34**	P	**Pn**	**12 15 50.7**	**-0.5**
	baz=2.1,SNR=92						
SPSI	**Sidrap Palu**	**2.21**	**237**	P	**Pn**	**12 15 53.3**	**0.0**
BNSI	**Bone**	**2.23**	**223**	P	**Pn**	**12 15 53.4**	**-0.2**
BNSI				S	**Sn**	**12 16 22.1**	**+2.2**
MMSI	**Mamuju**	**2.71**	**271**	P	**Pn**	**12 16 00.9**	**+0.6**
MJSI	**Majene**	**2.76**	**253**	P	**Pn**	**12 16 02.4**	**+1.5**
MJSI				S	**Sn**	**12 16 36.5**	**+3.5**
BBSI	**Bau Bau**	**2.87**	**161**	P	**Pn**	**12 16 04.0**	**+1.5**
BBSI				S	**Sn**	**12 16 39.1**	**+3.3**
KAPI	**Kappang**	**2.92**	**220**	P	**Pn**	**12 16 02.5**	**-0.6**
KAPI	**Kappang**	**2.92**	**220**	*e*Pn	**Pn**	**12 16 02.0**	**-1.1**
KAPI				*e*Sn	**Sn**	**12 16 39.5**	**+2.5**
KAPI	**Kappang**	**2.92**	**220**	Pn	**Pn**	**12 16 02.0**	**-1.1**
	30nm,0.3s,baz=66,slow=10.0,SNR=28						
KAPI				Sn	**Sn**	**12 16 39.5**	**+2.5**
	50nm,0.3s,baz=44,slow=23,SNR=14						
KAPI				LR	LR	12 17 15.5	
	comp=Z,903nm,18.4s,baz=59,slow=40						
BKSI	**Bulukumba**	**2.96**	**210**	P	**Pn**	**12 16 03.4**	**-0.2**
BKSI				S	**Sn**	**12 16 40.8**	**+2.9**
MRSI	**Marisa**	**3.23**	**6**	P	**Pn**	**12 16 06.9**	**-0.5**
MRSI				S	**Sn**	**12 16 45.6**	**+1.0**
TOLI	**Toli-Toli**	**3.94**	**348**	P	**Pn**	**12 16 17.7**	**+0.5**
TOLI				S	**Sn**	**12 17 06.6**	**+4.4**
TOLI	**Toli-Toli**	**3.94**	**348**	*e*Sn	**Pn**	**12 16 18.9**	**+1.8**
KMSI	**Cibinong**	**4.06**	**35**	P	**Pn**	**12 16 19.6**	**+0.8**
KMSI				S	**Sn**	**12 17 08.1**	**+2.9**
SGKI	**Sangatta, Kali**	**4.59**	**299**	P	**Pn**	**12 16 25.6**	**-0.5**
BKB	**Balikpapan**	**4.95**	**287**	P	**Pn**	**12 16 32.4**	**+1.3**
NLAI	**Namlea**	**5.49**	**95**	P	**Pn**	**12 16 39.9**	**+1.5**
	69nm,0.6s,822nm0.3nm						
MMRI	**Maumere**	**5.87**	**174**	P	**Pn**	**12 16 45.0**	**+1.3**
	84nm,1.0s,1μm0.4nm						
MMRI	**Maumere**	**5.87**	**174**	*e*Pn	**Pn**	**12 16 43.8**	**0.0**
LBMI	**Labuha**	**6.24**	**70**	P	**Pn**	**12 16 48.3**	**-0.5**
	727nm,0.8s,7μm2.2nm						
AAI	**Ambon**	**6.62**	**98**	P	**Pn**	**12 16 54.6**	**+0.5**
	63nm,1.0s,0.3nm						
TNTI	**Ternate**	**6.73**	**59**	P	**Pn**	**12 16 54.9**	**-0.6**
	290nm,0.8s,2μm0.8nm						
TNTI	**Ternate**	**6.73**	**59**	*e*Pn	**Pn**	**12 16 54.7**	**-0.8**
TNTI				*e*Sn	**Sn**	**12 18 11.6**	**+0.7**
SOEI	**Soe**	**7.43**	**159**	P	Pn	12 17 07.8	+2.5
SOEI	**Soe**	**7.43**	**159**	P	Pn	12 17 08.2	+3.0
	baz=7.4,SNR=26						
MYLDM	**Lahad Datu**	**8.48**	**338**	*e*Pn	**Pn**	**12 17 21.7**	**+2.2**
FAKI	**Fak Fak**	**10.61**	**91**	P	Pn	12 17 51.5	+2.7
	baz=11,SNR=4.1						
SBUM	**Sibu**	**10.73**	**299**	*e*Pn	**Pn**	**12 17 51.7**	**+1.2**
SBUM				*es*Pn	sPn	12 18 04.4	+1.5
MTN	**Manton Dam**	**13.74**	**137**	P	**Pn**	**12 18 32.1**	**+0.4**
	baz=14,SNR=4.4						
KNRA	**Kununurra**	**14.64**	**152**	P	**Pn**	**12 18 41.3**	**-2.5**
	baz=15,SNR=6.1						
FITZ	**Fitzroy Crossi**	**15.75**	**166**	*e*Pn	**P**	**12 19 00.6**	**-1.4**
	14nm,0.8s						
FITZ	**Fitzroy Crossi**	**15.75**	**166**	P	**P**	**12 19 00.3**	**-1.7**
	baz=16,SNR=11						
FITZ	**Fitzroy Crossi**	**15.75**	**166**	Pn	**Pn**	**12 18 58.7**	**+0.3**
	0.4nm,0.3s,baz=15,slow=8.1,SNR=13						
FITZ				LR	LR	12 26 41.3	
	comp=Z,175nm,19.7s,baz=329,slow=43						
MYKOM	**Kota Tinggi**	**18.34**	**284**	*e*P	**Pn**	**12 19 31.8**	**+0.9**
	20nm,1.2s						
WRA	**Warramunga Arr**	**21.12**	**145**	*e*P	**P**	**12 20 01.0**	**0.0**
WRA	**Warramunga Arr**	**21.12**	**145**	P	**P**	**12 20 01.0**	**0.0**
	6.7nm,0.8s,baz=322,slow=11,SNR=32						
IPM	**Ipoh**	**21.80**	**289**	*e*P	**P**	**12 20 09.8**	**+1.4**
	21nm,1.1s						
KULM	**Kulim**	**22.43**	**291**	*e*P	**P**	**12 20 15.3**	**+0.2**
KULM				*ep*P	**pP**	**12 20 24.6**	**+0.1**
PSI	**Prapat**	**23.35**	**283**	*e*P	**P**	**12 20 24.3**	**-0.5**
PSI	**Prapat**	**23.35**	**283**	P	**P**	**12 20 25.5**	**+0.7**
	baz=23,SNR=7.1						
PSI	**Prapat**	**23.35**	**283**	P	**P**	**12 20 24.3**	**-0.5**
	14nm,0.9s,baz=126,slow=4.9,SNR=12						
AS12	**Alice Springs**	**23.94**	**151**	*e*P	**P**	**12 20 29.4**	**-0.8**
ASAR	**Alice Springs**	**23.94**	**151**	P	**P**	**12 20 29.4**	**-0.8**
	3.6nm,0.8s,baz=324,slow=5.6,SNR=39						
ASAR				LR	LR	12 30 06.7	
	comp=Z,164nm,19.3s,baz=60,slow=37						
AS01	**Alice Springs**	**23.96**	**151**	*e*P	**P**	**12 20 29.9**	**-0.5**
SKNT	**Sakolnakorn**	**26.23**	**319**	P	P	12 20 55.5	+4.5
	21nm,1.0s						
CHAI	**Chaiyaphum**	**26.85**	**314**	P	**P**	**12 20 58.6**	**+1.9**
CM01	**Chiang Mai Arr**	**30.68**	**314**	*e*P	**P**	**12 21 30.5**	**-0.2**
CHTO	**Chiang Mai**	**30.95**	**315**	*e*P	**P**	**12 21 32.5**	**-0.7**
	2.8nm,0.8s						
QLP	**Quilpie**	**32.11**	**140**	P	P	12 21 46.5	+3.2
	baz=32,SNR=5.4						
GYA	**Guiyang**	**32.45**	**334**	*e*P	**P**	**12 21 48.0**	**+1.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
KMI	**Kunming**	**33.23**	**328**	P	**P**	**12 21 55.1**	**+1.8**
KMI				sP	**sP**	**12 22 08.8**	**+1.2**
KMI				AMB	AMB		
	comp=Z,9.0nm,0.8s						
STKA	**Stephens Creek**	**34.53**	**149**	*e*P	**P**	**12 22 05.0**	**+0.6**
STKA	**Stephens Creek**	**34.53**	**149**	P	P	12 22 08.1	+3.7
	baz=35,SNR=4.0						
STKA	**Stephens Creek**	**34.53**	**149**	P	**P**	**12 22 05.0**	**+0.6**
	3.5nm,0.8s,baz=295,slow=7.7,SNR=6.3						
NJ2	**Nanjing**	**34.72**	**356**	*e*P	P	12 22 18.3	+12
NJ2				AMB	AMB		
	comp=Z,30nm,1.1s						
KSRS	**Korea Array**	**40.43**	**8**	LR	LR	12 41 44.5	
	comp=Z,53nm,18.2s,baz=165,slow=40						
MAJO	**Matsushiro**	**42.05**	**20**	*e*P	**P**	**12 23 05.2**	**-2.2**
	comp=Z,19nm,1.4s						
MJAR	**Matsushiro Arr**	**42.05**	**20**	P	**P**	**12 23 05.2**	**-2.2**
	comp=Z,2.2nm,1.0s,baz=198,slow=9.1,SNR=3.8						
LSA	**Lhasa**	**43.49**	**320**	P	**P**	**12 23 20.6**	**+0.7**
HHC	**Hu-ho-hao-te**	**44.36**	**349**	*e*P	**P**	**12 23 27.1**	**+0.9**
HHC				pP	**pP**	**12 23 37.0**	**+0.4**
HHC				sP	**sP**	**12 23 40.9**	**+0.1**
HHC				PP	**PP**	**12 25 12.5**	**+2.3**
HHC				S	**S**	**12 29 59.3**	**+0.9**
HHC				sS	**sS**	**12 30 16.4**	**+0.9**
HHC				SS	**SS**	**12 33 12.4**	**-5.8**
HHC				AMB	AMB		
	comp=Z,36nm,1.0s						
HHC				AMB	AMB		
	comp=Z,320nm,6.0s						
HHC				LR	LR		
	comp=Z,390nm,13.2s						
HHC				LR	LR		
	comp=Z,510nm,13.7s						
HHC				LR	LR		
	comp=Z,360nm,13.3s						
GTA	**Gaotai**	**46.51**	**337**	*e*P	**P**	**12 23 43.9**	**+0.6**
GTA				pP	**pP**	**12 23 53.3**	**-0.4**
GTA				sP	**sP**	**12 23 57.8**	**-0.1**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s						
DZM	**Mont Dzumac**	**47.54**	**118**	*e*LR	LR	12 23 03.7	
	comp=Z,225nm,30.3s						
USRK	**Ussuriysk Arra**	**47.66**	**10**	P	**P**	**12 23 50.2**	**-1.8**
	comp=Z,1.4nm,0.5s,baz=196,slow=9.0,SNR=6.5						
ULN	**Ulaanbaatar**	**52.00**	**348**	*e*PP	PP	12 26 29.7	+6.0
SONA0	**Songino Array**	**52.12**	**347**	*e*P	**P**	**12 24 25.2**	**-0.8**
SONM	**Songino Array**	**52.12**	**347**	P	**P**	**12 24 25.2**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=149,slow=6.9,SNR=5.1						
SONA1	**Songino Array**	**52.13**	**347**	*e*P	**P**	**12 24 24.9**	**-1.2**
SONA1				*e*PP	PP	12 26 31.1	+6.4
RPZ	**Rata Peaks**	**59.74**	**140**	LR	LR	12 49 02.0	
	comp=Z,119nm,19.2s,baz=201,slow=34						
MK01	**Makanchi Array**	**60.24**	**330**	*e*P	**P**	**12 25 23.0**	**-0.9**
MK32	**Makanchi Array**	**60.26**	**330**	*e*P	**P**	**12 25 23.5**	**-0.6**
MKAR	**Makanchi Array**	**60.26**	**330**	*e*P	**P**	**12 25 23.7**	**-0.3**
MKAR	**Makanchi Array**	**60.26**	**330**	P	**P**	**12 25 23.5**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=126,slow=8.0,SNR=8.7						
PEA0	**Petropavlovsk-**	**63.35**	**23**	*e*P	**P**	**12 25 42.2**	**-2.4**
PETK	**Petropavlovsk-**	**63.35**	**23**	P	**P**	**12 25 43.3**	**-1.4**
	comp=Z,4.5nm,0.8s,baz=206,slow=3.0,SNR=16						
ZAA0	**Zalesovo Array**	**64.27**	**337**	*e*P	**P**	**12 25 49.0**	**-1.6**
ZALV	**Zalesovo Beam**	**64.27**	**337**	P	**P**	**12 25 48.7**	**-2.0**
	comp=Z,2.4nm,0.8s,baz=134,slow=4.3,SNR=10.0						
VNDA	**Vanda**	**77.73**	**172**	LR	LR	13 01 35.9	
	comp=Z,76nm,20.0s,baz=300,slow=36						

*ISCJB **24** 12:20:44.3±0.5,53°95S±0°06×140°8E±0°3, h10km, mb4.4/19, MS3.9/11, Error ellipse: s-maj=21.4km s-min=8.2km az=0.5*
*IDC **24** 12:20:44.1±0.8,53°92S×141°43E, h0km, mb4.1/10, mb1 4.2/10, mb1mx4.1/17, mbtmp4.1/10, MS3.9/10, Ms1 3.8/10, ms1mx3.6/22, Error ellipse: s-maj=54.6km s-min=16.0km az=80.0*
*NEIC **24** 12:20:46.4±0.4,53°95S×140°81E, h10km, mb4.6/11, Error ellipse: s-maj=19.4km s-min=7.8km az=89.0*
*BJI **24** 12:20:46.4,54°00S×140°60E, h9km, mB4.8/1, mb5.0/4, Ms5.0/1, Ms7 4.7/1*

ISC 24 12:20:46.1±0.6,54°00S±0°07×141°2E±0°2,h10km,n67, σ1§44/53,mb4.6/20,MS4.0/11,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CASY	**Casey**	**19.32**	**219**	*e*P	**P**	**12 25 10.9**	**-0.1**
	8.4nm,0.9s						
CAN	**Canberra**	**19.47**	**20**	*e*P	**Pn**	**12 25 14.5**	**+0.4**
	14nm,1.1s						
RPZ	**Rata Peaks**	**22.04**	**74**	LR	LR	12 32 40.2	
	comp=Z,553nm,18.4s,baz=348,slow=33						
STKA	**Stephens Creek**	**22.12**	**1**	*e*P	**P**	**12 25 41.9**	**+0.4**
STKA	**Stephens Creek**	**22.12**	**1**	P	**P**	**12 25 39.6**	**-1.9**
	6.6nm,0.7s,baz=173,slow=11,SNR=14						
VNDA	**Vanda**	**24.77**	**169**	*e*P	**P**	**12 26 07.5**	**+0.1**
VNDA	**Vanda**	**24.77**	**169**	P	**P**	**12 26 07.0**	**-0.5**
	0.8nm,0.6s,baz=328,slow=10,SNR=12						
VNDA				LR	LR	12 33 51.6	
	comp=Z,49nm,18.4s,baz=160,slow=32						
SBA	**Scott Base**	**25.63**	**168**	*e*P	**P**	**12 26 17.9**	**+2.8**
	119nm,3.0s						
H01W1	**Cape Leeuwin H**	**26.87**	**304**	T	T	12 54 11.4	
	baz=143,slow=0.7,SNR=85						
H01W2	**Cape Leeuwin H**	**26.88**	**304**	T	T	12 54 12.0	
	baz=143,slow=0.7,SNR=96						
H01W3	**Cape Leeuwin H**	**26.89**	**304**	T	T	12 54 12.7	
	baz=143,slow=0.7,SNR=95						
NWAO	**Narrogin (SRO)**	**27.06**	**311**	LR	LR	12 34 34.8	
	comp=Z,407nm,21.9s,baz=217,slow=31						
URZ	**Urewera**	**29.08**	**72**	LR	LR	12 36 48.2	
	comp=Z,267nm,20.6s,baz=17,slow=33						
EIDS	**Eidsvold**	**29.54**	**18**	*e*P	**P**	**12 26 51.2**	**+0.6**
	79nm,2.3s						
AS01	**Alice Springs**	**30.78**	**347**	*e*P	**P**	**12 26 59.8**	**-1.9**
ASAR	**Alice Springs**	**30.78**	**347**	P	**P**	**12 27 00.0**	**-1.7**
ASAR	**Alice Springs**	**30.78**	**347**	P	**P**	**12 27 00.0**	**-1.7**
	1.2nm,0.9s,baz=166,slow=9.7,SNR=11						
WRA	**Warramunga Arr**	**34.40**	**349**	P	**P**	**12 27 31.4**	**-2.0**
WRA				PcP	**PcP**	**12 30 06.8**	**-2.0**
WRA	**Warramunga Arr**	**34.40**	**349**	P	**P**	**12 27 31.4**	**-2.0**
	1.9nm,0.8s,baz=172,slow=7.2,SNR=26						
WRA				PcP	**PcP**	**12 30 06.8**	**-2.0**
	0.3nm,0.8s,baz=179,slow=2.4,SNR=3.1						
WRAB	**Tennant Creek**	**34.41**	**349**	*e*P	**P**	**12 27 32.4**	**-1.0**
	19nm,1.1s						
QSPA	**South Pole Qui**	**36.11**	**180**	P	**P**	**12 27 47.3**	**-0.6**
QSPA	**South Pole Qui**	**36.11**	**180**	P	**P**	**12 27 47.3**	**-0.6**
	1.9nm,0.8s						
MBWA	**Marble Bar**	**36.62**	**325**	*e*P	**P**	**12 27 50.8**	**-1.7**
	11nm,1.0s						
DZM	**Mont Dzumac**	**37.19**	**41**	*e*LR	LR	12 38 17.3	
	425nm,25.7s						
MAW	**Mawson**	**37.67**	**218**	LR	LR	12 41 40.6	
	comp=Z,257nm,19.2s,baz=74,slow=33						
FITZ	**Fitzroy Crossi**	**37.79**	**335**	P	**P**	**12 28 01.1**	**-1.3**
	9.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**37.79**	**335**	P	**P**	**12 28 01.1**	**-1.3**
	4.8nm,0.9s,baz=170,slow=8.5,SNR=10						
FITZ				LR	LR	12 42 04.0	
	comp=Z,262nm,21.7s,baz=168,slow=34						
RAO	**Raoul Island**	**38.54**	**67**	LR	LR	12 41 38.9	
	comp=Z,140nm,18.6s,baz=26,slow=33						
PMG	**Port Moresby**	**44.74**	**8**	LR	LR	12 45 50.1	
	comp=Z,104nm,20.2s,baz=214,slow=34						
HNR	**Honiara**	**46.94**	**26**	LR	LR	12 47 20.5	
	comp=Z,34nm,21.0s,baz=233,slow=34						
KAPI	**Kappang**	**51.86**	**332**	P	**P**	**12 29 55.7**	**+1.3**
KAPI	**Kappang**	**51.86**	**332**	P	**P**	**12 29 55.7**	**+1.3**
	4.0nm,0.4s,baz=174,slow=17,SNR=3.9						
SNAA	**Sanae**	**52.08**	**194**	*e*P	**P**	**12 29 54.9**	**-0.6**
SNAA	**Sanae**	**52.08**	**194**	*e*P	**P**	**12 29 54.9**	**-0.6**
	10nm,1.4s						
VNA2	**Neumayer--Watz**	**53.36**	**192**	*e*P	**P**	**12 30 04.2**	**-0.8**
TBI	**Tubuai**	**59.40**	**88**	*e*LR	LR	12 48 19.8	
	64nm,21.5s						
KSM	**Kuching**	**60.92**	**324**	*e*P	**P**	**12 30 58.6**	**-0.4**
	6.9nm,0.8s						
SBUM	**Sibu**	**61.19**	**327**	*e*P	**P**	**12 30 59.7**	**-1.2**
	3.3nm,0.7s						
PPT2	**Papeete2**	**63.78**	**84**	*e*LR	LR	12 50 25.2	
	79nm,23.5s						
PSI	**Prapat**	**66.58**	**313**	P	**P**	**12 31 36.9**	**+0.4**
PSI	**Prapat**	**66.58**	**313**	P	**P**	**12 31 36.9**	**+0.4**
	3.4nm,0.5s,baz=160,slow=9.7,SNR=3.6						
RKT	**Rikitea**	**68.09**	**99**	*e*LR	LR	12 52 32.3	
	152nm,36.2s						
H08S2	**Diego Garcia H**	**71.36**	**283**	T	T	13 49 46.8	
	baz=144,slow=0.7,SNR=15						
H08S1	**Diego Carcia H**	**71.37**	**283**	T	T	13 49 49.3	
	baz=144,slow=0.7,SNR=11						
H08S3	**Diego Garcia H**	**71.38**	**283**	T	T	13 49 48.3	
	baz=144,slow=0.7,SNR=17						
CM01	**Chiang Mai Arr**	**80.69**	**320**	*e*P	**P**	**12 32 58.9**	**-0.2**
CMAR	**Chiang Mai Arr**	**80.73**	**320**	P	**P**	**12 32 58.9**	**-0.5**
CMAR	**Chiang Mai Arr**	**80.73**	**320**	P	**P**	**12 32 58.9**	**-0.5**
	0.3nm,0.3s,baz=179,slow=3.6						
BOSA	**Boshof**	**80.92**	**233**	LR	LR	13 01 56.0	
	comp=Z,98nm,18.3s,baz=166,slow=30						
CHTO	**Chiang Mai**	**81.06**	**320**	*e*P	**P**	**12 33 00.5**	**-0.6**
	5.2nm,1.0s						
GYA	**Guiyang**	**85.50**	**329**	*e*P	**P**	**12 33 25.8**	**+1.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
NJ2	**Nanjing**	**87.85**	**341**	*e*P	P	12 33 38.8	+3.7
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
MJAR	**Matsushiro Arr**	**90.21**	**358**	P	**P**	**12 33 46.2**	**0.0**
MJAR	**Matsushiro Arr**	**90.21**	**358**	P	**P**	**12 33 46.2**	**0.0**
	0.8nm,1.0s,baz=186,slow=9.8,SNR=3.0						
HHC	**Hu-ho-hao-te**	**97.84**	**338**	*e*P	Pdif	12 34 21.4	+0.1
HHC				pP	pP	12 34 26.1	+1.5
HHC				sP	sP	12 34 28.3	+2.5
HHC				PP	**PP**	**12 38 23.8**	**+3.6**
HHC				SKS	**SKSac**	**12 44 57.8**	**-0.6**
HHC				S	**S**	**12 45 44.4**	**-2.5**
HHC				sS	sS	12 45 53.1	+0.6
HHC				SS	**SS**	**12 52 32.4**	**+3.3**
HHC				LR	LR		
	comp=N,170nm,17.9s						
HHC				LR	LR		
	comp=E,220nm,17.8s						
HHC				LR	LR		
	comp=Z,230nm,17.6s						
NVAR	**Mina Array Bea**	**125.77**	**72**	PKP	**PKPdf**	**12 39 48.4**	**+0.9**
NVAR	**Mina Array Bea**	**125.77**	**72**	PKP	**PKPdf**	**12 39 48.4**	**+0.9**
	0.1nm,0.4s,baz=142,slow=4.6,SNR=2.4						
MORC	**Moravsky Berou**	**145.73**	**286**	*e*PKPdf	**PKPdf**	**12 40 23.6**	**-0.2**
FINES	**FINESS Array B**	**145.90**	**309**	PKPbc	**PKPdf**	**12 40 22.7**	**-0.9**
FINES	**FINESS Array B**	**145.90**	**309**	PKPbc	**PKPdf**	**12 40 22.7**	**-0.9**
	1.3nm,0.9s,baz=141,slow=9.0,SNR=2.5						
GERES	**GERESS Array B**	**147.47**	**283**	PKPbc	**PKPbc**	**12 40 28.8**	**-0.6**
GERES	**GERESS Array B**	**147.47**	**283**	PKPbc	**PKPbc**	**12 40 28.8**	**-0.6**
	1.0nm,0.8s,baz=132,slow=2.0,SNR=5.4						
ARCES	**ARCESS Array B**	**147.72**	**324**	PKPbc	**PKPbc**	**12 40 30.3**	**+0.9**
ARCES	**ARCESS Array B**	**147.72**	**324**	PKPbc	**PKPbc**	**12 40 30.3**	**+0.9**
	1.5nm,0.6s,baz=103,slow=2.6,SNR=5.7						
BRG	**Berggiesshuber**	**148.28**	**286**	*e*(P)	**PKPab**	**12 40 37.8**	**+3.2**
	4.8nm,1.1s						
ESDC	**Sonseca Array**	**152.50**	**253**	PKPbc	**PKPbc**	**12 40 42.5**	**+0.6**
ESDC	**Sonseca Array**	**152.50**	**253**	PKPbc	**PKPbc**	**12 40 42.5**	**+0.6**
	0.2nm,0.3s,baz=222,slow=1.5,SNR=2.5						

*ISCJB **24** 12:33:59.0±0.5,32°26N±0°02×115°31W±0°04, h10km±5km, Error ellipse: s-maj=5.2km s-min=3.8km az=10.1*
*NEIC **24** 12:34:01.0,32°21N×115°32W, h5km, ML3.4(PAS), ML3.7(ECX), After ECX.*
*ECX **24** 12:34:01.0±0.9,32°21N×115°32W, h5km, MD3.6, ML3.7*

ISC 24 12:33:59.7±0.8,32°21N±0°02×115°35W±0°03,h16km±6km, n32,σ0§83/44,7C-12D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.21**	**10**	*e*P	**Pg**	**12 34 04.7**	**0.0**
CPBX				*e*S	**Sg**	**12 34 08.3**	**+0.3**
CPBX				⇓*e*		12 34 24.8	
	comp=E,40μm,0.3s						
CPBX	**Cerro Prieto**	**0.21**	**10**	*e*P	**Pg**	**12 34 04.7**	**0.0**
CPBX				*e*S	**Sg**	**12 34 08.3**	**+0.3**
EMX	**El Mayor**	**0.24**	**158**	⇓*i*P	**Pg**	**12 34 04.8**	**-0.4**
EMX				*i*S	**Sg**	**12 34 08.5**	**-0.3**
EMX				⇓*e*		12 34 09.4	
	comp=E,6μm,0.5s						
EMX	**El Mayor**	**0.24**	**158**	⇓*i*P	**Pg**	**12 34 04.8**	**-0.4**
EMX				*e*S	**Sg**	**12 34 08.5**	**-0.3**
SGL	**Mount Signal**	**0.54**	**324**	⇓*i*P	**Pg**	**12 34 10.6**	**+0.1**
RDX	**Rancho Dawling**	**0.58**	**241**	⇑*i*P	**Pg**	**12 34 11.6**	**+0.3**
RDX				⇓*e*		12 34 22.0	
	comp=E,6μm,0.4s						
RDX				⇓*e*		12 34 22.5	
	comp=N,2μm,0.7s						
RDX	**Rancho Dawling**	**0.58**	**241**	⇑*i*P	**Pg**	**12 34 11.6**	**+0.3**
YUH	**Yuha Desert**	**0.65**	**312**	⇑*i*P	**Pg**	**12 34 12.3**	**-0.3**
YUH	**Yuha Desert**	**0.65**	**312**	⇑*i*P	**Pg**	**12 34 12.3**	**-0.3**
COA	**Coachella**	**0.68**	**16**	⇓*i*P	**Pg**	**12 34 12.8**	**-0.2**
COK	**Cook Ranch**	**0.71**	**333**	⇓*i*P	**Pg**	**12 34 13.7**	**0.0**
RMX	**La Rumorosa**	**0.73**	**302**	⇑*i*P	**Pg**	**12 34 13.8**	**-0.3**
RMX				⇓*e*		12 34 24.7	
	comp=N,2μm,0.2s						
YMD	**Yuma Desert**	**0.76**	**63**	⇑*i*P	**Pg**	**12 34 13.9**	**-0.7**
ECBX	**El Chinero**	**0.78**	**161**	*e*P	**Pb**	**12 34 14.2**	**-0.7**
ECBX				⇓*e*		12 34 26.2	
	comp=E,3μm,0.6s						
GLA	**Glamis**	**0.94**	**27**	*e*Pg	**Pb**	**12 34 16.6**	**-1.2**
GLA				*e*Sg	**Sb**	**12 34 28.2**	**-1.8**
ZAX	**El Zacaton**	**1.05**	**229**	*e*P	**Pb**	**12 34 19.7**	**+0.1**
ZAX				*i*S	**Sn**	**12 34 34.4**	**+0.2**
CBX	**Cerro Bola**	**1.12**	**275**	⇑*e*P	**Pb**	**12 34 20.5**	**-0.3**
CBX				*e*S	**Sn**	**12 34 36.0**	**-0.1**
SPX	**San Pedro Mart**	**1.17**	**185**	⇓*e*P	**Pn**	**12 34 21.2**	**-0.5**
SPX				*e*S	**Sg**	**12 34 38.4**	**+0.7**
ECNX	**Esteban Cantu**	**1.20**	**243**	*e*P	**Pb**	**12 34 22.2**	**0.0**
BAR	**Barrett**	**1.21**	**293**	*e*P	**Pn**	**12 34 21.6**	**-0.5**
BAR				*e*S	**Sb**	**12 34 37.5**	**-0.3**
PBX	**Punta Banda**	**1.26**	**249**	*e*P	**Pn**	**12 34 22.9**	**+0.1**
PFO	**Pinyon Flat Ob**	**1.68**	**326**	*e*Pn	**Pn**	**12 34 27.3**	**-1.3**
LDFC	**Landfair**	**2.87**	**4**	Pn	**Pn**	**12 34 45.5**	**+0.6**
MWC	**Mount Wilson**	**3.03**	**312**	*e*Pn	**Pn**	**12 34 47.8**	**+0.6**
PASC	**Pasadena Art C**	**3.08**	**310**	*e*Pg	**Pb**	**12 34 55.0**	**+0.8**
GSC	**Goldstone**	**3.31**	**339**	*e*Pg	**Pg**	**12 35 02.8**	**-0.4**
TUC	**Tucson**	**3.87**	**87**	*e*Pn	**Pn**	**12 35 01.2**	**+2.6**
TUC				*e*P

T Plg21.0000°, Azm188.0000°; N Plg69.0000°, Azm20.0000°; P Plg4.0000°, Azm280.0000°; **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.38**	**316**	⇑P	Pg	12 53 45.4	0.0
JNT	**Takato**	**0.41**	**100**	⇓P	Pg	12 53 45.7	-0.3
JTT	**Ttatey**	**0.70**	**339**	⇑P	Pg	12 53 51.7	+0.4
MAT	**Matsushiro**	**0.75**	**38**	P	Pg	12 53 51.8	-0.5
MAT				S	Sg	12 54 01.5	-0.6
MAT	**Matsushiro**	**0.75**	**38**	P	Pg	12 53 51.9	-0.4
JGM	**Miyama**	**0.79**	**252**	⇓P	Pg	12 53 53.0	-0.1
JYN	**Shimob**	**0.86**	**121**	P	Pg	12 53 54.4	-0.1
SHZ3	**Shizuoka 3**	**1.00**	**152**	⇑P	Pg	12 53 56.3	-0.8
JRY	**Ryogami san**	**1.02**	**86**	⇓P	Pg	12 53 56.8	-0.8

*IDC **24** 13:10:28.7±0.6, 8.°62S×157.°61E, h0km, mb4.1/14, mb1 4.3/16, mb1mx4.2/20, mbtmp4.1/16, ML4.1/2, MS3.8/9, Ms1 3.7/9, ms1mx3.4/31 Error ellipse: s-maj=19.3km s-min=15.6km az=108.0*

*ISCJB **24** 13:10:29.7±0.5, 8.°57S±0.°07×157.°54E±0.°06, h16km, mb4.1/14, MS3.8/8, Error ellipse: s-maj=10.0km s-min=8.5km az=10.4*

*AUST **24** 13:10:59.0±2.0, 6.°53S×158.°05E, h612km, Error ellipse: s-maj=3.2km s-min=1.7km az=0.0*

ISC 24 13:10:31.1±0.6, 8.°7S±0.°1×157.°68E±0.°08, h16km, n33, σ1$07/22, mb4.2/13, MS3.7/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.36**	**109**	Pn	**Pn**	**13 11 08.7**	**-0.6**
	58nm,0.3s,baz=220,slow=4.4,SNR=27						
HNR				Sn	**Sb**	13 11 42.1	-0.2
	170nm,0.3s,baz=94,slow=17,SNR=9.5						
PMG	**Port Moresby**	**10.42**	**265**	LR	LR	13 16 46.7	
	comp=Z,350nm,18.6s,baz=70,slow=36						
CTA	**Charters Tower**	**15.86**	**223**	Pn	**Pn**	**13 14 13.7**	**-0.1**
	0.5nm,0.3s,baz=53,slow=12,SNR=7.4						
RMQ	**Roma**	**19.65**	**204**	P	Pn	13 15 06.6	+5.8
	baz=22,SNR=5.1						
QLP	**Quilpie**	**21.92**	**214**	P	**P**	**13 15 23.9**	**0.0**
	baz=24,SNR=8.4						
LHI	**Lord Howe Isla**	**22.79**	**177**	P	P	13 15 40.7	+7.6
	baz=25,SNR=3.2						
WRA	**Warramunga Arr**	**25.21**	**241**	P	**P**	**13 15 55.6**	**-0.7**
	3.6nm,0.6s,baz=66,slow=9.3,SNR=18						
WRA				PcP	**PcP**	**13 19 29.6**	**-0.5**
	1.1nm,0.7s,baz=69,slow=2.6,SNR=9.1						
WRA				LR	LR	13 24 57.1	
	comp=Z,172nm,21.2s,baz=225,slow=34						
CMSA	**Cobar Meteorol**	**25.36**	**204**	P	**P**	**13 15 58.4**	**+0.9**
	baz=28,SNR=8.4						
ASAR	**Alice Springs**	**27.22**	**234**	P	**P**	**13 16 12.8**	**-1.7**
	1.2nm,0.9s,baz=72,slow=8.6,SNR=9.9						
ASAR				PcP	**PcP**	**13 19 34.3**	**-0.3**
	0.5nm,0.6s,baz=68,slow=2.6,SNR=7.5						
STKA	**Stephens Creek**	**27.52**	**211**	P	**P**	**13 16 18.9**	**+1.9**
	baz=30,SNR=6.3						
STKA	**Stephens Creek**	**27.52**	**211**	P	**P**	**13 16 19.0**	**+1.9**
	5.0nm,0.8s,baz=33,slow=13,SNR=8.4						
STKA				LR	LR	13 26 29.7	
	comp=Z,103nm,19.0s,baz=30,slow=35						
H11S3	**WAKE ISLAND Hy**	**28.40**	**18**	T	T	13 44 53.4	
	baz=199,slow=0.7,SNR=106						
H11S2	**WAKE ISLAND Hy**	**28.40**	**18**	T	T	13 45 09.4	
	baz=199,slow=0.7,SNR=134						
H11S1	**WAKE ISLAND Hy**	**28.42**	**18**	T	T	13 44 57.9	
	baz=199,slow=0.7,SNR=72						
H11N1	**WAKE ISLAND Hy**	**29.61**	**18**	T	T	13 46 39.6	
	baz=198,slow=0.7,SNR=12						
H11N3	**WAKE ISLAND Hy**	**29.62**	**18**	T	T	13 46 35.1	
	baz=198,slow=0.7,SNR=26						
H11N2	**WAKE ISLAND Hy**	**29.63**	**18**	T	T	13 46 47.5	
	baz=198,slow=0.7,SNR=14						
MJAR	**Matsushiro Arr**	**48.54**	**339**	P	**P**	**13 19 11.7**	**-1.9**
	2.1nm,0.8s,baz=174,slow=9.3,SNR=8.2						
PPT	**Papeete**	**51.98**	**105**	LR	LR	13 35 42.3	
	comp=Z,134nm,20.1s,baz=246,slow=29						
KSRS	**Korea Array**	**53.66**	**331**	P	**P**	**13 19 52.2**	**+0.2**
	1.4nm,0.5s,baz=146,slow=7.0,SNR=9.7						
KSRS				LR	LR	13 40 31.9	
	comp=Z,38nm,18.6s,baz=209,slow=34						
ASAJ	**Asahikawa**	**54.27**	**347**	P	**P**	**13 19 56.4**	**0.0**
	1.6nm,0.5s,baz=117,slow=9.0,SNR=4.7						
USRK	**Ussuriysk Arra**	**57.52**	**338**	P	**P**	**13 20 19.0**	**-0.7**
	1.2nm,0.7s,baz=148,slow=11,SNR=5.9						
USRK				LR	LR	13 41 49.7	
	comp=Z,38nm,18.6s,baz=339,slow=33						
PETK	**Petropavlovsk-**	**61.52**	**0**	P	**P**	**13 20 48.7**	**+1.6**
	1.8nm,0.9s,baz=174,slow=8.9,SNR=4.3						
FX1	**Attu Island--F**	**62.71**	**10**	LR	LR	13 45 33.8	
	comp=Z,67nm,18.9s,baz=20,slow=34						
SONM	**Songino Array**	**72.17**	**326**	P	**P**	**13 21 56.0**	**+0.7**
	1.0nm,0.8s,baz=134,slow=2.7,SNR=6.8						
MAW	**Mawson**	**83.90**	**203**	P	**P**	**13 23 00.3**	**+0.4**
	1.9nm,0.9s,baz=89,slow=12,SNR=6.3						
ILAR	**Eielson Array**	**83.95**	**21**	P	**P**	**13 22 59.2**	**-0.9**
	1.2nm,0.6s,baz=257,slow=4.9,SNR=29						
MKAR	**Makanchi Array**	**86.41**	**318**	P	**P**	**13 23 12.1**	**-0.8**
	0.9nm,0.6s,baz=98,slow=6.0,SNR=14						
YBH	**Yreka Blue Hor**	**88.03**	**47**	LR	LR	14 00 56.7	
	comp=Z,76nm,18.7s,baz=340,slow=34						
DLBC	**Dease Lake**	**88.22**	**30**	LR	LR	13 57 39.1	
	comp=Z,142nm,19.0s,baz=206,slow=32						
NVAR	**Mina Array Bea**	**90.66**	**51**	P	**P**	**13 23 34.6**	**+1.1**
	0.9nm,0.7s,baz=257,slow=6.5,SNR=8.5						
PDAR	**Pinedale Array**	**97.83**	**48**	P	Pdif	13 24 06.4	0.0
	0.4nm,0.6s,baz=239,slow=3.7,SNR=3.8						
BDFB	**Brasilia**	**144.92**	**133**	PKPbc	**PKPab**	**13 30 07.8**	**0.0**
	3.1nm,0.6s,baz=182,slow=11,SNR=4.1						

IDC 24 13:22:08.5±4.5, 29.°99S×178.°66W, h0km, mb3.3/2, mb1 3.5/2, mb1mx3.4/16, mbtmp3.3/2, Error ellipse: s-maj=153.6km s-min=17.8km az=146.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.98**	**41**	Pn	Pb	13 22 28.4	0.0
	46nm,0.3s,baz=96,slow=19,SNR=4.6						
RAO				Sn	Sn	13 22 46.8	+2.7
	30nm,0.3s,baz=66,slow=20,SNR=4.5						
ASAR	**Alice Springs**	**42.56**	**267**	P	P	13 30 05.9	-0.5
	0.3nm,0.9s,baz=107,slow=7.3,SNR=3.1						
WRA	**Warramunga Arr**	**43.51**	**272**	P	P	13 30 14.1	0.0
	0.3nm,0.6s,baz=111,slow=8.2,SNR=7.0						
FINES	**FINESS Array B**	**144.57**	**340**	PKP	PKPdf	13 41 47.5	+1.3
	2.6nm,1.0s,baz=98,slow=2.9,SNR=3.8						

*ISCJB **24** 13:32:49.8±0.8, 53.°5N±0.°2×168.°3W±0.°2, h155km±8km, mb3.7/10, Error ellipse: s-maj=43.8km s-min=6.7km az=154.8*

*NEIC **24** 13:32:52.7, 53.°29N×168.°06W, h141km, MG3.6(AEIC), After AEIC.*

*IDC **24** 13:32:54.5±5.7, 53.°85N×168.°43W, h169km±31km, mb3.3/9, mb1 3.4/11, mb1mx3.2/29, mbtmp3.3/11, MS3.3/2, Ms1 3.3/2, ms1mx2.8/19, Error ellipse: s-maj=99.8km s-min=18.3km az=156.0*

ISC 24 13:32:50.2±1.3, 53.°4N±0.°3×168.°2W±0.°1, h153km±8km, n38, σ1$00/44, mb3.9/10, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCE	**Okmok Cone E**	**0.05**	**347**	P	**Pn**	**13 33 11.0**	**+0.3**
OKTU	**Okmok Mt. Tuli**	**0.06**	**87**	P	**Pn**	**13 33 11.4**	**+0.8**
OKFG	**Magazine Ridge**	**0.14**	**78**	P	**Pn**	**13 33 10.9**	**+0.2**
OKFG				S	**Sn**	**13 33 25.5**	**-0.8**
NIKH	**Nikolski High**	**0.59**	**226**	P	**Pn**	**13 33 12.8**	**+0.4**
NIKH				S	**Sn**	**13 33 28.6**	**-0.5**
MSOM	**Makushin Julie**	**0.84**	**58**	P	**Pn**	**13 33 14.2**	**+0.3**
MGOD	**Makushin Gods**	**0.86**	**61**	P	**Pn**	**13 33 14.5**	**+0.3**
MGOD				S	**Sn**	**13 33 31.8**	**-0.7**
MCIR	**Makushin Cirqu**	**0.94**	**52**	P	**Pn**	**13 33 15.0**	**+0.3**
MSW	**Makushin Switc**	**0.97**	**56**	P	**Pn**	**13 33 15.1**	**+0.1**
MSW				S	**Sn**	**13 33 34.6**	**+0.7**
MTBL	**Makushin Table**	**1.05**	**55**	P	**Pn**	**13 33 16.1**	**+0.4**
UNV	**Unalaska Valle**	**1.08**	**64**	P	**Pn**	**13 33 16.2**	**+0.3**
UNV				S	**Sn**	**13 33 34.7**	**-0.8**
AKRB	**Akutan Reef Bi**	**1.44**	**58**	P	**Pn**	**13 33 20.2**	**+0.9**
ZRO	**Akutan Zero**	**1.47**	**60**	P	**Pn**	**13 33 20.7**	**+1.0**
AKUT	**Akutan**	**1.60**	**61**	P	**Pn**	**13 33 21.9**	**+1.0**
AKUT				S	**Sn**	**13 33 44.6**	**+0.1**
WESE	**West Dahl East**	**2.37**	**61**	P	**Pn**	**13 33 30.4**	**+0.5**
WESN	**West Dahl Nort**	**2.42**	**59**	P	**Pn**	**13 33 31.3**	**+0.9**
SSLW	**Shishaldin Wes**	**2.75**	**58**	P	**Pn**	**13 33 35.3**	**+0.8**
SSLN	**Shishaldin Nor**	**2.83**	**58**	P	**Pn**	**13 33 36.7**	**+1.2**
FALS	**False Pass**	**3.15**	**60**	P	**Pn**	**13 33 40.9**	**+1.4**
DRIA	**Deer Island**	**3.81**	**63**	P	**Pn**	**13 33 48.7**	**+0.8**
DT1	**Dutton Round H**	**3.85**	**61**	P	**Pn**	**13 33 49.4**	**+0.9**
PS4A	**Pavlof South-4**	**4.17**	**59**	P	**Pn**	**13 33 54.3**	**+1.6**
SDPT	**Sand Point**	**4.90**	**63**	P	**Pn**	**13 34 02.9**	**+0.7**
GSMY	**Great Sitkin M**	**4.99**	**258**	P	**Pn**	**13 34 04.9**	**+1.4**
ADK	**Adak**	**5.41**	**257**	P	**Pn**	**13 34 10.2**	**+1.2**
FX1	**Attu Island--F**	**11.24**	**275**	P	**Pn**	**13 35 28.7**	**+2.4**
	1.0nm,0.3s,baz=162,slow=23,SNR=13						
ILAR	**Eielson Array**	**15.70**	**35**	P	**Pn**	**13 36 22.4**	**-0.3**
	0.2nm,0.3s,baz=231,slow=11,SNR=15						
PETK	**Petropavlovsk-**	**20.33**	**283**	P	**P**	**13 37 15.1**	**+0.8**
	0.4nm,0.3s,baz=90,slow=10,SNR=14						
PETK				LR	LR	13 43 25.3	
	comp=Z,60nm,20.8s,baz=276,slow=31						
INK	**Inuvik**	**22.09**	**34**	P	**P**	**13 37 31.7**	**-0.9**
	2.2nm,0.5s,baz=238,slow=5.0,SNR=17						
SONM	**Songino Array**	**51.42**	**301**	P	**P**	**13 41 37.4**	**-1.9**
	0.2nm,0.4s,baz=56,slow=5.2,SNR=2.9						
SONM				PcP	**PcP**	**13 42 53.7**	**+2.1**
	0.4nm,0.4s,baz=80,slow=2.3,SNR=5.1						
TXAR	**Lajitas Array**	**52.00**	**91**	LR	LR	14 01 53.5	
	comp=Z,34nm,19.1s,baz=180,slow=33						
ARCES	**ARCESS Array B**	**56.99**	**354**	P	**P**	**13 42 19.1**	**0.0**
	1.8nm,0.7s,baz=14,slow=10,SNR=3.6						
JOF	**Joensuu**	**63.04**	**350**	*ep*	**P**	**13 43 00.8**	**+0.4**
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**63.64**	**314**	P	**P**	**13 43 03.7**	**-1.0**
	0.2nm,0.6s,baz=35,slow=3.5,SNR=3.9						
KAF	**Kangasniemi**	**64.28**	**353**	*ep*	**P**	**13 43 08.1**	**-0.4**
	1.3nm,0.4s						
FINES	**FINESS Array B**	**64.97**	**353**	P	**P**	**13 43 13.3**	**+0.3**
	1.0nm,0.3s,baz=12,slow=6.2,SNR=20						
NOA	**NORSAR Array B**	**65.93**	**0**	P	**P**	**13 43 19.4**	**+0.2**
	0.9nm,0.9s,baz=227,slow=23,SNR=2.6						
AKASG	**Malin Array Be**	**75.26**	**349**	P	**P**	**13 44 15.9**	**+0.2**
	1.6nm,0.6s,baz=15,slow=5.9,SNR=5.8						
BRTR	**Keskin Array B**	**85.37**	**343**	P	**P**	**13 45 08.4**	**-1.8**
	0.7nm,0.7s,baz=37,slow=7.4,SNR=2.6						

MEX 24 13:39:56.6±0.8, 17.°05N×100.°16W, h5km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.10**	**267**	*eP*	Pg	13 39 57.6	-1.1
CAIG				*eS*	Sg	13 40 00.6	+0.5
ARIG	**Puente Sto Nin**	**1.23**	**352**	*i P*	Pg	13 40 16.3	-4.0
ARIG				*i S*	Sg	13 40 32.1	-4.3
ZIIG	**Zihuatanejo**	**1.36**	**294**	*i P*	Pn	13 40 18.6	-3.7
ZIIG				*i S*	Sb	13 40 36.1	-4.2
PLIG	**Platanillo**	**1.47**	**25**	*eP*	Pn	13 40 20.7	-3.3
PLIG				*i S*	Sn	13 40 39.2	-4.5
TLIG	**Tlapa**	**1.61**	**71**	*i P*	Pn	13 40 21.4	-4.4
TLIG				*i S*	Sn	13 40 41.4	-5.7
PNIG	**Pinotepa**	**2.06**	**108**	*i P*	Pn	13 40 29.4	-2.6
PNIG				*i S*	Sn	13 40 53.0	-5.0

*AUST **24** 13:40:56.6, 2.°50N×120.°50E, h100km*

*ISCJB **24** 13:41:23.5±0.3, 0.°17N±0.°04×121.°07E±0.°04, h167km±4km, mb4.0/17, Error ellipse: s-maj=7.2km s-min=5.9km az=170.1*

*DJA **24** 13:41:24.7±0.8, 0.°N±5.°×12.°1E±.°, h140km±7km, M4.2/11, mb4.2/2, mB4.2/1, MLv4.2/11, Mw(mB)3.3/1*

*BKK **24** 13:41:25.0±0.4, 0.°N±6.°×12.°1E±.°, h148km±5km, M4.3/9, mb4.5/9, MLv4.2/3*

*IDC **24** 13:41:25.7±2.0, 0.°09N×120.°95E, h179km±20km, mb3.6/15, mb1 3.8/17, mb1mx3.7/26, mbtmp3.7/17, Error ellipse: s-maj=22.8km s-min=10.2km az=68.0*

ISC 24 13:41:24.1±0.7, 0.°21N±0.°05×121.°00E±0.°05, h160km±6km, n52, σ1$19/58, mb4.0/17, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI	**Toli-Toli**	**0.93**	**347**	P	**Pn**	**13 41 48.8**	**-0.6**
TOLI				S	**Sn**	**13 42 06.7**	**-2.1**
MRSI	**Marisa**	**0.98**	**74**	P	**Pn**	**13 41 49.1**	**-0.6**
MRSI				S	**Sn**	**13 42 07.4**	**-1.8**
LUWI	**Luwuk**	**2.16**	**125**	P	**Pn**	**13 42 02.7**	**+1.0**
LUWI				S	**Sn**	**13 42 31.1**	**+0.4**
LUWI	**Luwuk**	**2.16**	**125**	P	**Pn**	**13 42 02.7**	**+1.0**
	baz=4.2,SNR=136						
KMSI	**Cibinong**	**3.00**	**83**	P	**Pn**	**13 42 13.0**	**+1.1**
KMSI				S	**Sn**	**13 42 49.1**	**+0.2**
TTSI	**Tana Toraja**	**3.44**	**200**	P	**Pn**	**13 42 17.5**	**+0.1**
TTSI				S	**Sn**	**13 43 00.7**	**+1.8**
MMSI	**Mamuju**	**3.56**	**216**	P	**Pn**	**13 42 17.8**	**-1.2**
MJSI	**Majene**	**4.24**	**208**	P	**Pn**	**13 42 27.7**	**-0.1**
SPSI	**Sidrap Palu**	**4.32**	**197**	P	**Pn**	**13 42 28.3**	**-0.5**
BNSI	**Bone**	**4.66**	**191**	P	**Pn**	**13 42 35.3**	**+2.0**
BNSI				S	Sn	13 42 54.5	-33
KAPI	**Kappang**	**5.33**	**194**	P	**Pn**	**13 42 41.3**	**-0.8**
	26nm,0.7s,0.1nm						
KAPI	**Kappang**	**5.33**	**194**	P	**Pn**	**13 42 40.9**	**-1.2**
	3.1nm,0.3s,baz=351,slow=5.4,SNR=15						
MYLDM	**Lahad Datu**	**5.54**	**333**	P	**Pn**	**13 42 46.9**	**+2.1**
BKSI	**Bukukumba**	**5.56**	**189**	P	**Pn**	**13 42 45.7**	**+0.6**
SBUM	**Sibu**	**9.06**	**284**	P	**Pn**	**13 43 32.7**	**+1.1**
MTN	**Manton Dam**	**16.40**	**143**	P	**Pn**	**13 45 05.5**	**+0.2**
	baz=19,SNR=12						
KDU	**Kakadu**	**17.13**	**139**	P	**P**	**13 45 13.2**	**-0.1**
	baz=19,SNR=3.7						
KNRA	**Kununurra**	**17.54**	**154**	P	**Pn**	**13 45 18.8**	**-0.2**
	baz=20,SNR=5.8						
FITZ	**Fitzroy Crossi**	**18.75**	**166**	P	**P**	**13 45 31.2**	**+0.2**
	baz=21,SNR=20						
FITZ	**Fitzroy Crossi**	**18.75**	**166**	P	**P**	**13 45 31.1**	**+0.2**
	1.7nm,0.3s,baz=6.4,slow=7.4,SNR=72						
PSI	**Prapat**	**22.22**	**277**	P	**P**	**13 46 08.5**	**+0.4**
	5.6nm,0.8s,baz=146,slow=2.3,SNR=4.1						
SKNT	**Sakolnakorn**	**23.64**	**316**	P	**P**	**13 46 23.4**	**+2.4**
	9.3nm,1.0s						
WRA	**Warramunga Arr**	**23.91**	**148**	P	**P**	**13 46 22.4**	**-1.0**
	4.4nm,0.7s,baz=324,slow=11,SNR=89						
LOEI	**Loei**	**25.94**	**313**	P	**P**	**13 46 43.3**	**+1.5**
	44nm,1.8s						
MEEK	**Meekatharra**	**26.79**	**185**	P	**P**	**13 46 48.7**	**-0.6**
	baz=29,SNR=4.0						
ASAR	**Alice Springs**	**26.83**	**153**	P	**P**	**13 46 49.7**	**-0.1**
	1.8nm,0.5s,baz=343,slow=13,SNR=35						
ASAR				PcP	**PcP**	**13 50 06.6**	**-1.9**
	0.3nm,0.5s,baz=355,slow=2.1,SNR=5.8						
ASAR				ScP	**ScP**	**13 53 31.4**	**-2.3**
	0.3nm,0.7s,baz=358,slow=3.0,SNR=5.3						
MORW	**Morawa**	**29.49**	**189**	P	**P**	**13 47 12.9**	**-0.4**
	baz=32,SNR=3.2						
STKA	**Stephens Creek**	**37.39**	**150**	P	**P**	**13 48 21.8**	**+0.3**
	baz=40,SNR=7.4						
STKA	**Stephens Creek**	**37.39**	**150**	P	**P**	**13 48 21.1**	**-0.5**
	3.1nm,0.9s,baz=280,slow=7.2,SNR=7.1						
KSRS	**Korea Array**	**37.61**	**9**	P	**P**	**13 48 24.4**	**+1.1**
	1.7nm,0.7s,baz=190,slow=9.5,SNR=8.0						
ODAN	**Odare**	**41.79**	**312**	*eP*	**P**	**13 48 59.9**	**+1.5**
TAPN	**Taplejung**	**41.83**	**313**	*eP*	**P**	**13 49 00.3**	**+1.5**
	5.1nm,0.4s						
RAMN	**Ramite**	**42.43**	**312**	*eP*	**P**	**13 49 05.2**	**+1.6**
	20nm,0.9s						
JIRN	**Jiri**	**43.12**	**312**	*eP*	**P**	**13 49 10.5**	**+1.2**
	19nm,0.7s						
GUN	**Gumba**	**43.49**	**312**	*eP*	**P**	**13 49 13.6**	**+1.4**
	24nm,0.7s						
PKI	**Pulchoki**	**43.66**	**312**	*eP*	**P**	**13 49 14.2**	**+0.7**
KKN	**Kakani**	**43.87**	**312**	*eP*	**P**	**13 49 16.0**	**+0.9**
DMN	**Daman**	**43.91**	**311**	*eP*	**P**	**13 49 16.3**	**+0.9**
	24nm,0.9s						
GKN	**Gorkha**	**44.47**	**312**	*eP*	**P**	**13 49 20.6**	**+0.9**
	24nm,0.9s						
USRK	**Ussuriysk Arra**	**44.88**	**11**	P	**P**	**13 49 23.0**	**+0.4**
	2.4nm,0.5s,baz=200,slow=7.1,SNR=8.1						
KOLN	**Koldanda**	**45.13**	**311**	*eP*	**P**	**13 49 26.1**	**+1.1**
	12nm,0.7s						
DANN	**Dangsing**	**45.31**	**311**	*eP*	**P**	**13 49 27.5**	**+1.0**
	27nm,0.7s						
LHI	**Lord Howe Isla**	**47.89**	**135**	P	P	13 49 55.0	+8.8
	baz=50,SNR=3.4						
SONM	**Songino Array**	**49.11**	**347**	P	**P**	**13 49 56.6**	**+1.2**
	3.1nm,0.7s,baz=169,slow=8.5,SNR=27						
MKAR	**Makanchi Array**	**57.41**	**329**	P	**P**	**13 50 56.9**	**+1.0**
	1.9nm,0.6s,baz=123,slow=9.7,SNR=19						
AAK	**Ala-Archa**	**59.32**	**321**	P	**P**	**13 51 09.7**	**+0.3**
	1.3nm,0.5s,baz=128,slow=5.1,SNR=4.9						
PETK	**Petropavlovsk-**	**60.91**	**24**	P	**P**	**13 51 20.6**	**+0.8**
	2.4nm,0.8s,baz=194,slow=11,SNR=4.2						
ZALV	**Zalesovo Beam**	**61.32**	**337**	P	**P**	**13 51 22.1**	**-0.5**
	1.8nm,0.8s,baz=116,slow=6.8,SNR=5.0						
KURBB	**Kurchatov Arra**	**61.80**	**331**	P	**P**	**13 51 25.4**	**-0.4**
	0.9nm,0.5s,baz=141,slow=6.4,SNR=7.8						
BRTR	**Keskin Array B**	**87.84**	**310**	P	**P**	**13 53 54.6**	**-1.1**
	1.1nm,0.8s,baz=137,slow=6.3,SNR=5.4						
ILAR	**Eielson Array**	**90.72**	**25**	P	**P**	**13 54 06.5**	**-2.0**
	0.5nm,1.0s,baz=219,slow=7.0,SNR=2.9						
AKASG	**Malin Array Be**	**90.97**	**321**	P	**P**	**13 54 08.1**	**-1.9**
	0.5nm,0.5s,baz=73,slow=4.5,SNR=6.6						

CASC 24 14:29:09.1±1.7, 13.°80N×91.°43W, h35km±13km, MD3.7, 2C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.55**	**339**	⇓*eP*	Pn	14 29 20.4	-0.1
FUG	**Fuego 3**	**0.86**	**42**	⇓*eP*	Pn	14 29 24.5	-0.5
PCG	**Pacaya**	**1.00**	**53**	*eP*	Pb	14 29 27.8	-0.5
NBG	**Las Nubes**	**1.31**	**53**	*eP*	Pn	14 29 32.5	+1.1
NBG				*eS*	Sb	14 29 50.2	-0.3
RBDL	**Robledal**	**1.73**	**79**	⇑*eP*	Pn	14 29 37.2	+0.3
RBDL				*eS*	Sn	14 29 58.5	+0.6
RTR	**El Retiro**	**1.74**	**87**	*eP*	Pn	14 29 37.5	+0.4
RTR				⇑*eS*	Sn	14 29 58.2	-0.1
SBLS	**San Blas**	**1.76**	**88**	*eP*	Pn	14 29 37.5	+0.1
SBLS				*eS*	Sn	14 29 59.9	+1.0
SNJE	**San Jose**	**1.78**	**88**	*eP*	Pn	14 29 37.4	-0.2
SNJE				*eS*	Sn	14 30 00.1	+0.8
BOQS	**Boqueron**	**2.09**	**91**	*eP*	Pn	14 29 42.5	+0.5
MRL	**Marmol**	**2.11**	**53**	*eP*	Pn	14 29 42.7	+0.5
LFU	**La Fuente**	**2.25**	**91**	*eP*	Pn	14 29 44.2	+0.2
LFRS	**El Faro**	**2.31**	**94**	*eP*	Pn	14 29 45.5	+0.5
LFRS				*eS*	Sn	14 30 12.6	+0.3
SNVI	**San Vicente**	**2.53**	**94**	*eP*	Pn	14 29 48.7	+0.7
CNCH	**Conchagua**	**3.54**	**98**	*eP*	Pn	14 30 02.2	+0.4

IDC 24 14:30:28.7±1.9, 15.°27S×173.°36W, h0km, mb3.6/6, mb1 4.0/6, mb1mx3.8/19, mbtmp3.6/6, Error ellipse: s-maj=121.8km s-min=22.9km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.04**	**49**	Pn	Pn	14 30 59.5	-5.0
	31nm,0.3s,baz=313,slow=22,SNR=55						
AFI				Sn	Sn	14 31 18.4	-12
	431nm,0.3s,baz=66,slow=20,SNR=35						
DZM	**Mont Dzumac**	**20.29**	**247**	*eLR*	LR	14 40 32.8	
	115nm,24.6s						
PPT2	**Papeete2**	**22.92**	**99**	*eLR*	LR	14 40 48.3	
	77nm,26.2s						
TBI	**Tubuai**	**23.91**	**113**	*eLR*	LR	14 41 23.1	
	66nm,26.0s						
H11S2	**WAKE ISLAND Hy**	**38.88**	**329**	T	T	15 19 19.3	
	baz=152,slow=0.7,SNR=8.9						
H11S3	**WAKE ISLAND Hy**	**38.89**	**329**	T	T	15 19 02.4	
	baz=152,slow=0.7,SNR=17						
H11S1	**WAKE ISLAND Hy**	**38.89**	**329**	T	T	15 19 16.3	
	baz=152,slow=0.7,SNR=17						
H11N3	**WAKE ISLAND Hy**	**39.82**	**330**	T	T	15 20 36.0	
	baz=153,slow=0.7,SNR=8.6						
H11N1	**WAKE ISLAND Hy**	**39.83**	**330**	T	T	15 20 33.0	
	baz=153,slow=0.7,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**39.84**	**330**	T	T	15 20 37.4	
	baz=153,slow=0.7,SNR=8.3						
WRA	**Warramunga Arr**	**49.91**	**257**	P	**P**	**14 39 24.6**	**0.0**
	0.3nm,0.6s,baz=97,slow=6.5,SNR=9.7						
ASAR	**Alice Springs**	**50.19**	**252**	P	P	14 39 26.1	-0.6
	0.5nm,0.4s,baz=91,slow=7.5,SNR=24						
NVAR	**Mina Array Bea**	**74.20**	**42**	P	P	14 42 08.0	+0.1
	0.3nm,0.

solution: P waves. NP1:φ≈332.00000°, δ51.00000°, λ167.00000°. NP2:φ≈70.00000°, δ80.00000°, λ40.00000°. Principal axes: T Plg35.0000°, Azm299.0000°; N Plg0.0000°, Azm0.0000°; P Plg19.0000°, Azm195.0000°; Depth from broadband displacement seismograms. Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.

NEIC Felt [V] at Saumlaki; [IV] in the Kepulauan Aru and at Ambon, Fakfak, Sorong and Tual; [III] at Bintuni, Kaimana, Manokwari, Merauke and Nabire; [II] at Serui, Indonesia. Felt [IV] at Nguiu; [III] at Darwin, Howard Springs, Humpty Doo-MacMinns Lagoon, Katherine, Kununurra and Palmerston; [II] at Jabiru and Nhulunbuy, Australia. Also felt at Alyangula, Coonawarra, Maningrida, Milingimbi and as far as Alice Springs. Felt [III] at Dili, Timor-Leste.

ISCJB 24 14:40:45.3±0.3, 6.16S±0.02×130.48E±0.02, h157km±2km, mb6.5/226 Error ellipse: s-maj=3.0km s-min=2.5km az=143.3

BKK 24 14:40:46.4±0.4, 6.3°S±3°×13.0°E±°, h149km±4km, M7.3/68, mb6.7/68, mB7.2/66, MLv7.3/3, Mw(mB)7.1/66, Mwp7.2/51

AUST 24 14:40:47.0±0.5, 6.30S×130.42E, h155km±5km, Error ellipse: s-maj=4.6km s-min=3.9km az=50.0

IDC 24 14:40:46.2±0.9, 6.06S×130.42E, h151km±7km, mb6.2/31, mb1 6.2/34, mb1mx6.2/34, mbtmp6.2/34, MS6.2/12, Ms1 6.3/12, ms1mx6.0/27, Error ellipse: s-maj=9.4km s-min=6.3km az=74.0

DJA 24 14:40:47.1±0.2, 6.3°S±2.3°×13.1°E±°, h156km±2km, M7.2/21, mb6.9/21, mB7.2/20, Mw(mB)7.2/20

GCMT 24 14:40:51.5±0.0, 6.10S×130.57E, h155km, MW6.9, Moment Tensor Solution. s135,c376; s99,c306; Moment tensor: Scale 10¹⁹Nm; Mrr0.53±.01; Mθθ-2.10±.01; Mφφ 1.58±.01; Mrθ 1.08±.01; Mθφ 0.61±.01; Mrφ 2.05±.01; Best double couple: M₀3.00000×10¹⁹ NP1:φs55.00000°, δ80.00000°, λ45.00000°. NP2: φs315.00000°, δ46.00000°, λ166.00000°. Principal axes: T 3.4100, Plg38.0000°, Azm285.0000°; N -0.9100, Plg44.0000°, Azm65.0000°; P -2.4900, Plg21.0000°, Azm177.0000°; Data Used: II IU CN IC G. LP body wave period 50 sec. Mantle waves from 128 sta. Surface waves: sta=136, comp=372, per= 50.

BGS 24 14:40:52.5±1.3, 1.07S×130.02E, h130km, MS6.2

NEIC 24 14:40:58.2±0.0, 6.22S×130.41E, h169km, Moment Tensor Solution. s163 Moment tensor: Scale 10¹⁹Nm; Mrr0.43; Mθθ-2.11; Mφφ 1.68; Mrθ 0.84; Mθφ 0.68; Mrr 1.82; Best double couple: M₀2.80000×10¹⁹ NP1:φs317.00000°, δ53.00000°, λ164.00000°. NP2:φs57.00000°, δ77.00000°, λ38.00000°. Principal axes: T 3.1800, Plg35.0000°, Azm283.0000°; N -0.8200, Plg50.0000°, Azm73.0000°; P -2.3700, Plg15.0000°, Azm182.0000°;

ISC 24 14:40:44.8±0.2, 6.12S±0.02×130.43E±0.03, h140km±1km, h140km; pP-P, n2289, σ1s53/2705, mb6.7/221, 399C-257D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
BNDI	**Bandanaira**	**1.67**	**342**	P		Pn	14	41 19.5	+4.0
BNDI	**Bandanaira**	**1.67**	**342**	⇑P		Pn	14	41 18.8	+3.3
	baz=1.8,SNR=1000								
SAUI	**Saumlaki**	**2.04**	**155**	P		**Pn**	**14**	**41 22.0**	**+2.1**
TLE	**Tual**	**2.34**	**78**	P		**Pn**	**14**	**41 26.0**	**+2.4**
TLE	**Tual**	**2.34**	**78**	⇓P		**Pn**	**14**	**41 25.9**	**+2.4**
	baz=2.4,SNR=1000								
AAI	**Ambon**	**3.28**	**317**	P		Pn	14	41 39.4	+3.9
AAI	**Ambon**	**3.28**	**317**	⇓P		Pn	14	41 39.0	+3.5
	baz=3.4,SNR=1000								
FAKI	**Fak Fak**	**3.66**	**30**	P		**Pn**	**14**	**41 40.6**	**+0.3**
KMPI	**Kaimana, Papua**	**4.07**	**53**	P		**Pn**	**14**	**41 46.8**	**+1.0**
NLAI	**Namlea**	**4.38**	**311**	P		Pn	14	41 54.6	+4.8
SWI	**Sorong**	**5.28**	**9**	P		**Pn**	**14**	**42 02.4**	**+0.5**
LBMI	**Labuha**	**6.18**	**332**	P		**Pn**	**14**	**42 15.7**	**+1.9**
MTN	**Manton Dam**	**6.72**	**174**	⇑P		**Pn**	**14**	**42 21.0**	**0.0**
	baz=6.6,SNR=1000								
KDU	**Kakadu**	**6.83**	**163**	⇑P		**Pn**	**14**	**42 20.7**	**-1.9**
	baz=6.7,SNR=1000								
SOEI	**Soe**	**7.09**	**239**	P		**Pn**	**14**	**42 27.7**	**+1.5**
SOEI	**Soe**	**7.09**	**239**	⇓P		**Pn**	**14**	**42 28.0**	**+1.8**
	baz=7.0,SNR=1000								
SRPI	**Serui, Papua**	**7.17**	**54**	P		**Pn**	**14**	**42 27.3**	**+0.2**
BAKI	**Biak**	**7.49**	**49**	P		**Pn**	**14**	**42 32.4**	**+1.0**
TNTI	**Ternate**	**7.49**	**336**	P		**Pn**	**14**	**42 33.5**	**+2.0**
	22μm,1.0s								
BBSI	**Bau Bau**	**7.84**	**274**	P		Pn	14	42 40.3	+4.1
MMRI	**Maumere**	**8.50**	**252**	P		Pn	14	42 48.3	+3.3
KKSI	**Kolaka, Sulawe**	**8.95**	**282**	P		Pn	14	42 55.3	+4.3
LUWI	**Luwuk**	**9.15**	**303**	P		Pn	14	42 57.4	+3.7
LUWI	**Luwuk**	**9.15**	**303**	⇑P		**Pn**	**14**	**42 56.9**	**+3.2**
	baz=9.3,SNR=144								
KMSI	**Cibinong**	**9.25**	**316**	P		**Pn**	**14**	**42 57.3**	**+2.3**
KNRA	**Kununurra**	**9.64**	**190**	⇑P		**Pn**	**14**	**42 59.3**	**-0.9**
	baz=9.5,SNR=1000								
MMPI	**Merauke**	**10.15**	**104**	P		**Pn**	**14**	**43 06.2**	**-0.8**
	67μm,0.7s								
MMPI	**Merauke**	**10.15**	**104**	⇓P		**Pn**	**14**	**43 06.4**	**-0.5**
	baz=10,SNR=503								
APSI	**Ampana**	**10.17**	**300**	P		Pn	14	43 11.1	+3.8
	13μm,1.4s,181μm								
BKSI	**Bulukumba**	**10.29**	**274**	P		**Pn**	**14**	**43 11.7**	**+2.9**
BNSI	**Bone**	**10.42**	**279**	P		Pn	14	43 14.2	+3.6
	8μm,0.9s,148μm								
WSI	**Waingapu**	**10.64**	**250**	P		**Pn**	**14**	**43 13.9**	**+0.4**
WSI	**Waingapu**	**10.64**	**250**	⇓P		**Pn**	**14**	**43 13.9**	**+0.4**
	baz=11,SNR=147								
KAPI	**Kappang**	**10.68**	**275**	P		**Pn**	**14**	**43 16.7**	**+2.5**
	SNR=670								
KAPI	**Kappang**	**10.68**	**275**	P		**Pn**	**14**	**43 17.1**	**+3.0**
KAPI	**Kappang**	**10.68**	**275**	*e*Pn		**Pn**	**14**	**43 13.0**	**-1.1**
KAPI				*e*Sn		Sn	14	45 19.3	+7.1
KAPI	**Kappang**	**10.68**	**275**	Pn		**Pn**	**14**	**43 17.2**	**+3.1**
	22μm,0.9s								
KAPI	**Kappang**	**10.68**	**275**	P		**Pn**	**14**	**43 16.1**	**+2.0**
	3.9nm,0.3s,baz=99,slow=5.6,SNR=60								
MRSI	**Marisa**	**10.71**	**307**	P		**Pn**	**14**	**43 17.3**	**+2.8**
SPSI	**Sidrap Palu**	**10.83**	**281**	P		Pn	14	43 19.9	+3.8
JAY	**Jayapura**	**10.85**	**71**	P		**Pn**	**14**	**43 16.0**	**-0.4**
JAY	**Jayapura**	**10.85**	**71**	⇓P		**Pn**	**14**	**43 16.5**	**+0.1**
	baz=11,SNR=361								
SGSI	**Sangihe**	**10.90**	**333**	P		**Pn**	**14**	**43 17.6**	**+0.6**
TTSI	**Tana Toraja**	**11.01**	**286**	P		P	14	43 22.9	-4.4
WBSI	**Waikabubak, Su**	**11.48**	**252**	P		**Pn**	**14**	**43 25.9**	**+1.2**
MJSI	**Majene**	**11.69**	**282**	P		**P**	**14**	**43 32.8**	**-2.1**
MMSI	**Mamuju**	**11.98**	**286**	P		**P**	**14**	**43 36.1**	**-2.1**
TOLI	**Toli-Toli**	**12.01**	**306**	P		P	14	43 35.1	-3.4
FITZ	**Fitzroy Crossi**	**12.80**	**201**	P		Pn	14	43 38.0	-3.8
FITZ				*e*Pn		Pn	14	43 38.3	-3.4
FITZ				S		Sn	14	45 52.0	-11
FITZ				PKKKP			15	20 09.8	
FITZ				P4KP			15	28 01.8	
FITZ	**Fitzroy Crossi**	**12.80**	**201**	P		Pn	14	43 38.0	-3.8
	252nm,0.3s,baz=30,slow=10,SNR=1048								
FITZ				S		Sn	14	45 52.0	-11
	554nm,0.3s,baz=343,slow=23,SNR=4.5								
FITZ				LR		LR	14	49 30.5	
	comp=Z,87μm,18.3s,baz=108,slow=41								
FITZ				P3KP			15	20 09.8	
	0.2nm,0.3s,baz=167,slow=3.0,SNR=7.5								
FITZ				P4KP			15	28 01.8	
	0.1nm,0.3s,baz=267,slow=1.3,SNR=3.5								
GSPH	**General Santos**	**13.30**	**336**	*e*P		**Pn**	**14**	**43 48.3**	**-0.1**
MATI	**Mati**	**13.63**	**342**	*e*P		**P**	**14**	**43 56.0**	**-0.5**
SGKI	**Sangatta, Kali**	**13.95**	**293**	P		P	14	44 06.2	+6.1
DAV	**Davao City (W)**	**13.96**	**340**	P		**P**	**14**	**43 59.7**	**-0.6**
	SNR=789								
DAV	**Davao City (W)**	**13.96**	**340**	⇑*i*P		**P**	**14**	**44 00.6**	**+0.3**
DAV	**Davao City (W)**	**13.96**	**340**	P		**P**	**14**	**44 00.8**	**+0.5**
DAV	**Davao City (W)**	**13.96**	**340**	*e*Pn		**P**	**14**	**43 59.3**	**-0.9**
PALU	**Palau**	**13.97**	**17**	⇓P		**Pn**	**14**	**43 58.1**	**+1.4**
	baz=14,SNR=307								
KCP	**Kidapawan**	**14.09**	**338**	⇑*i*P		**P**	**14**	**44 00.4**	**-1.3**
I39PW	**PALAU INFRASON**	**14.17**	**17**	P		P	14	44 06.0	+3.4
	baz=176,slow=22,SNR=0.9								
I07AU	**WARRAMUNGA INF**	**14.25**	**165**	P		Pn	14	43 55.9	-4.4
	baz=339,slow=21,SNR=4.0								
I07AU				S		Sn	14	46 26.6	-12
I07AU				*i*			16	00 30.0	
	baz=345,slow=307,SNR=1.2								
WRAB	**Tennant Creek**	**14.25**	**165**	*e*P		Pn	14	43 56.8	-3.6
WRAB	**Tennant Creek**	**14.25**	**165**	*e*Pn		Pn	14	43 56.8	-3.6
	113μm,0.6s								
WRA	**Warramunga Arr**	**14.26**	**165**	P		Pn	14	43 55.6	-4.9
WRA	**Warramunga Arr**	**14.26**	**165**	P		Pn	14	43 55.6	-4.9
	151nm,0.3s,baz=339,slow=13,SNR=1480								
WRA				S		Sn	14	46 27.6	-11
	1μm,0.3s,baz=349,slow=22,SNR=9.4								
WRA				P3KPbc			15	19 31.4	
	0.3nm,0.3s,baz=164,slow=3.0,SNR=11								
WRA				P4KP			15	28 09.1	
	0.2nm,0.3s,baz=339,slow=4.9,SNR=11								
BKB	**Balikpapan**	**14.34**	**289**	P		**P**	**14**	**44 07.3**	**+2.9**
SMKI	**Samarinda**	**14.35**	**293**	P		**P**	**14**	**44 06.9**	**+2.4**
MTNI	**Mataram**	**14.36**	**259**	P		**P**	**14**	**44 03.7**	**-1.0**
CTBH	**Cotabato--PC H**	**14.62**	**335**	*e*P		**P**	**14**	**44 07.0**	**-0.5**
COEN	**Coen**	**14.77**	**123**	*e*Pn		**Pn**	**14**	**44 04.7**	**-2.2**
COEN	**Coen**	**14.77**	**123**	⇓P		**Pn**	**14**	**44 05.2**	**-1.7**
	baz=15,SNR=902								
BIPH	**Bislig**	**14.77**	**344**	⇑*i*P		**Pn**	**14**	**44 07.8**	**+0.8**
BUKP	**Musuan**	**14.90**	**339**	*e*P		P	14	44 10.7	+0.1
SRBI	**Singaraja**	**15.23**	**262**	P		P	14	44 13.5	-0.8
	9μm,0.9s,119μm								
DNP	**Denpasar**	**15.30**	**260**	P		**Pn**	**14**	**44 13.8**	**+0.2**
ZMPH	**Zamboanga City**	**15.44**	**327**	⇑*e*P		P	14	44 17.0	+0.4
PAGZ	**Pagadian**	**15.55**	**333**	*e*P		P	14	44 19.1	+1.2
CGP	**Cagayan de Oro**	**15.56**	**338**	*e*P		P	14	44 18.4	+0.4
IPIL	**Ipil**	**15.88**	**330**	*e*P		P	14	44 23.5	+2.0
BYJI	**Banyuwangi**	**16.08**	**262**	P		P	14	44 25.3	+1.5
	20μm,0.8s,176μm								
ABJI	**Asem Bagus**	**16.16**	**263**	P		**P**	**14**	**44 26.2**	**+1.6**
	14μm,1.3s,290μm								
DCPH	**Dipolog City**	**16.22**	**334**	⇑*e*P		**P**	**14**	**44 29.6**	**+4.4**
TSM	**Tawau**	**16.25**	**309**	P		P	14	44 30.1	+4.5
MTKI	**Muara Teweh, K**	**16.33**	**288**	P		**P**	**14**	**44 28.7**	**+2.2**
	8μm,0.9s,245μm								
MYLDM	**Lahad Datu**	**16.36**	**313**	P		P	14	44 32.1	+5.3
MYLDM	**Lahad Datu**	**16.36**	**313**	P		**P**	**14**	**44 30.2**	**+3.3**
MYLDM	**Lahad Datu**	**16.36**	**313**	*e*P		**P**	**14**	**44 29.6**	**+2.7**
	11μm,1.1s								
KMMI	**Kalianget**	**16.38**	**266**	P		**P**	**14**	**44 30.3**	**+3.2**
BLJI	**Banyuglugur**	**16.79**	**263**	P		**Pn**	**14**	**44 32.7**	**+0.9**
PMG	**Port Moresby**	**16.89**	**102**	P		**Pn**	**14**	**44 33.9**	**+0.9**
PMG	**Port Moresby**	**16.89**	**102**	P		**Pn**	**14**	**44 33.0**	**0.0**
PMG				*e*Pn		P	14	44 34.2	+1.4
PMG	**Port Moresby**	**16.89**	**102**	P		**Pn**	**14**	**44 33.0**	**0.0**
	407nm,0.3s,baz=287,slow=5.6,SNR=266								
GMJI	**Gumukmas**	**16.99**	**262**	P		**P**	**14**	**44 33.1**	**-0.6**
TBP	**Tagbilaran**	**17.01**	**337**	*e*P		**Pn**	**14**	**44 37.8**	**+3.3**
TBP				*e*S		**Sn**	**14**	**47 48.7**	**+4.1**
MSLP	**Maasin**	**17.07**	**341**	*e*P		**Pn**	**14**	**44 37.7**	**+2.6**
LLP	**Lapu-Lapu**	**17.55**	**338**	⇑*e*P		**Pn**	**14**	**44 42.5**	**+1.7**
LLP				*e*S		**Sn**	**14**	**48 03.4**	**+6.0**
SDKM	**Sandakan**	**17.63**	**311**	P		**Pn**	**14**	**44 46.5**	**+4.6**
AS31	**Alice Springs**	**17.77**	**170**	*e*P		**P**	**14**	**44 42.1**	**-0.2**
AS31				*e*S		**S**	**14**	**47 53.0**	**-6.7**
ASAR	**Alice Springs**	**17.77**	**170**	P		**Pn**	**14**	**44 43.0**	**-0.5**
ASAR				S		**S**	**14**	**47 57.1**	**-2.6**
ASAR				*e*			15	19 17.1	
ASAR				P4KP			15	28 15.8	
ASAR	**Alice Springs**	**17.77**	**170**	P		**Pn**	**14**	**44 43.0**	**-0.5**
	795nm,0.3s,baz=347,slow=7.3,SNR=3831								
ASAR				S		**S**	**14**	**47 57.1**	**-2.6**
	411nm,0.3s,baz=355,slow=26,SNR=6.7								
ASAR				P3KPbc			15	19 17.1	
	0.1nm,0.3s,baz=160,slow=2.2,SNR=4.2								
ASAR				P4KP			15	28 15.8	
	0.1nm,0.3s,baz=1.0,slow=3.5,SNR=4.0								
GRJI	**Gresik**	**17.85**	**266**	P		**Pn**	**14**	**44 45.8**	**+1.3**
KRKI	**Karangkates**	**17.95**	**262**	P		**Pn**	**14**	**44 45.4**	**-0.3**
	14μm,1.5s,269μm								
OCLP	**Ormoc**	**18.01**	**341**	*e*P		**Pn**	**14**	**44 48.5**	**+2.1**
MTSU	**Mount Surprise**	**18.07**	**133**	⇑P		**Pn**	**14**	**44 46.7**	**-0.4**
	baz=18,SNR=1000								
MBWA	**Marble Bar**	**18.19**	**214**	P		**Pn**	**14**	**44 47.9**	**-0.6**
	SNR=570								
MBWA	**Marble Bar**	**18.19**	**214**	*e*Pn		**P**	**14**	**44 47.6**	**+0.6**
	30μm,2.0s								
BESP	**Borongan**	**18.29**	**344**	*e*P		**Pn**	**14**	**44 52.5**	**+2.8**
GUIM	**Jordan**	**18.37**	**335**	*e*P		**Pn**	**14**	**44 51.2**	**+0.5**
PWJI	**Pagerwojo**	**18.58**	**263**	P		**P**	**14**	**44 50.8**	**-0.4**
SJI	**Sawahan**	**18.60**	**264**	P		**Pn**	**14**	**44 52.9**	**-0.5**
KKM	**Kota Kinabalu**	**18.63**	**310**	P		**Pn**	**14**	**44 55.8**	**+1.9**
KKM	**Kota Kinabalu**	**18.63**	**310**	P		**Pn**	**14**	**44 54.1**	**+0.2**
KKM	**Kota Kinabalu**	**18.63**	**310**	*e*Pn		**Pn**	**14**	**44 53.1**	**-0.8**
	9μm,0.7s								
KKM				*e*pP		**pP**	**14**	**45 15.4**	**-1.2**
KKM	**Kota Kinabalu**	**18.63**	**310**	⇑P		**Pn**	**14**	**44 53.8**	**-0.1**
	baz=19,SNR=1000								
KDM	**Kudat**	**18.75**	**313**	P		**Pn**	**14**	**44 56.5**	**+1.4**
NGJI	**Ngawi**	**18.88**	**265**	P		**Pn**	**14**	**44 56.8**	**+0.2**
	8μm,1.0s,138μm								
PBKI	**Pangkalan Bun**	**19.01**	**279**	P		**Pn**	**14**	**44 57.5**	**-0.6**
	23μm,1.1s,277μm								
RCP	**Roxas**	**19.15**	**336**	⇑*e*P		**Pn**	**14**	**44 60.0**	**+0.1**
PCJI	**Pacitan**	**19.21**	**263**	P		**P**	**14**	**44 57.3**	**-0.8**
CUYO	**Cuyo Island**	**19.28**	**331**	*e*P		**Pn**	**14**	**45 01.9**	**+0.6**
CNP	**Catarman**	**19.37**	**343**	*e*P		**P**	**14**	**45 01.1**	**+1.3**
KALP	**Kalibo**	**19.42**	**336**	⇓*i*P		**Pn**	**14**	**45 05.3**	**+2.4**
WOJI	**Wonogiri, Jawa**	**19.44**	**264**	P		**P**	**14**	**45 00.4**	**-0.1**
PPR	**Puerto Princes**	**19.62**	**323**	⇓*e*P		**Pn**	**14**	**45 06.4**	**+1.1**
BTM	**Bintulu**	**19.64**	**298**	P		**Pn**	**14**	**45 06.4**	**+0.9**
UGM	**Wanagama**	**19.84**	**264**	P		**P**	**14**	**45 06.3**	**+1.4**
UGM	**Wanagama**	**19.84**	**264**	⇓P		**P**	**14**	**45 04.6**	**-0.3**
	baz=20,SNR=260								
STKI	**Sintang**	**19.89**	**287**	P		**P**	**14**	**45 06.4**	**+1.0**
YOGI	**Yogyakarta**	**20.06**	**264**	P		**P**	**14**	**45 08.4**	**+1.2**
SBUM	**Sibu**	**20.08**	**295**	P		Pn	14	45 10.7	+0.1
SBUM	**Sibu**	**20.08**	**295**	P		Pn	14	45 09.1	-1.6
SBUM	**Sibu**	**20.08**	**295**	*e*P		**P**	**14**	**45 09.0**	**+1.5**
	4μm,0.9s								
ENPP	**El Nido**	**20.40**	**327**	*e*P		Pn	14	45 13.6	-0.9
PVCP	**Virac**	**20.55**	**342**	*e*P		**P**	**14**	**45 14.0**	**+1.5**
BJII	**Banjamegara**	**20.61**	**265**	P		**P**	**14**	**45 13.2**	**-0.1**
SJMP	**San Jose**	**20.65**	**333**	*e*P		Pn	14	45 16.2	-1.1
BUSP	**Coron**	**20.68**	**331**	*e*P		Pn	14	45 16.8	-1.0
CTA	**Charters Tower**	**20.72**	**134**	P		**P**	**14**	**45 15.1**	**+0.8**
CTA	**Charters Tower**	**20.72**	**134**	P		**P**	**14**	**45 15.1**	**+0.8**
	2μm,0.7s,baz=311,slow=14,SNR=1055								
CTAO	**Charters Tower**	**20.72**	**134**	*e*P		**P**	**14**	**45 15.5**	**+1.2**
CTAO				*e*S		**S**	**14**	**49 04.2**	**+6.1**
CTAO				pmax		pmax			
	comp=Z,10μm,1.4s								
CTAO	**Charters Tower**	**20.72**	**134**	*e*P		**P**	**14**	**45 15.5**	**+1.2**
	comp=Z,12μm,1.4s								
CTAO				*e*S		**S**	**14**	**49 04.2**	**+6.1**
AUQP	**San Andres**	**20.79**	**338**	*e*P		Pn	14	45 18.8	-0.3
TGJI	**Tegal**	**21.18**	**267**	P		P	14	45 17.6	-1.7
BOAC	**Boac**	**21.23**	**336**	*e*P		**P**	**14**	**45 22.6**	**+2.8**
CLJI	**Cilicap**	**21.32**	**264**	P		P	14	45 17.1	-3.7
KPJI	**Karang Pucung**	**21.38**	**266**	P		**P**	**14**	**45 21.2**	**-0.3**
KSM	**Kuching**	**21.46**	**290**	P		**P**	**14**	**45 25.1**	**+2.9**
KSM	**Kuching**	**21.46**	**290**	P		**P**	**14**	**45 22.6**	**+0.3**
KSM	**Kuching**	**21.46**	**290**	*e*P		**P**	**14**	**45 22.4**	**+0.1**
	comp=Z,2μm,0.8s								
KSM				LR		LR			
	comp=Z,73μm,21.0s								
KSM	**Kuching**	**21.46**	**290**	⇑P		**P**	**14**	**45 22.6**	**+0.3**
	baz=22,SNR=155								
RABL	**Rabaul**	**21.73**	**86**	⇓P		**P**	**14**	**45 25.3**	**+0.1**
	baz=22,SNR=343								
TGY	**Tagaytay City**	**22.19**	**335**	P		**P**	**14**	**45 33.7**	**+3.9**
TGY	**Tagaytay City**	**22.19**	**335**	P		**P**	**14**	**45 33.7**	**+3.9**
	comp=Z,45nm,0.8s,baz=0.0,slow=24,SNR=129								
TGY	**Tagaytay City**	**22.19**	**335**	⇓*e*P		**P**	**14**	**45 32.6**	**+2.8**
CISI	**Cisompet, Garu**	**22.50**	**265**	P		**P**	**14**	**45 30.9**	**-2.1**
CISI	**Cisompet, Garu**	**22.50**	**265**	*e*P		**P**	**14**	**45 32.6**	**-0.4**
	comp=Z,11μm,0.8s								
GIRL	**Giralia**	**22.68**	**222**	⇑P		**P**	**14**	**45 34.8**	**+0.4**
	baz=23,SNR=296								
LEM	**Lembang**	**22.68**	**267**	P		**P**	**14**	**45 34.1**	**-0.7**
LEM	**Lembang**	**22.68**	**267**	P		**P**	**14**	**45 35.1**	**+0.3**
	baz=23,SNR=81								
MEEK	**Meekatharra**	**23.31**	**208**	⇓P		**P**	**14**	**45 41.1**	**+0.7**
	baz=23,SNR=996								
BALP	**Baler**	**23.42**	**338**	*e*P		**P**	**14**	**45 41.6**	**+0.2**
PCPH	**Palayan**	**23.44**	**337**	⇑*e*P		**P**	**14**	**45 42.0**	**+0.4**
CBJI	**Citeko**	**23.44**	**268**	P		**P**	**14**	**45 40.2**	**-1.5**
DBJI	**Dramaga**	**23.54**	**268**	P		**P**	**14**	**45 41.7**	**-0.9**
TNG	**Tangerang**	**23.65**	**269**	P		**P**	**14**	**45 44.7**	**+1.2**
SKJI	**Sukabumi**	**23.73**	**267**	P		**P**	**14**	**45 43.6**	**-0.7**
QLP	**Quilpie**	**24.24**	**149**	⇓P		**P**	**14**	**45 48.9**	**+0.1**
	baz=24,SNR=1000								
GUMO	**Guam**	**24.27**	**36**	*e*P		**P**	**14**	**45 49.6**	**+0.5**
	comp=Z,3μm,0.9s								
GUMO				*e*pP		**pP**	**14**	**46 17.0**	**-0.8**
GUMO				LR		LR			
	comp=Z,57μm,22.0s								
PALP	**Palanan**	**24.35**	**341**	⇑*e*P		**P**	**14**	**45 50.7**	**+0.9**
CAUP	**Cauayan**	**24.44**	**340**	*e*P		**P**	**14**	**45 52.3**	**+1.6**
PPBI	**Pangkal Pinang**	**24.54**	**278**	P		**P**	**14**	**45 52.3**	**+0.6**
FORT	**Forrest**	**24.64**	**185**	*e*P		**P**	**14**	**45 52.0**	**-0.3**
	comp=Z,10μm,0.8s								
FORT	**Forrest**	**24.64**	**185**	⇓P		**P**	**14**	**45 52.3**	**0.0**
	baz=25,SNR=289								
XMI	**Christmas Isla**	**24.85**	**258**	⇑P		**P**	**14**	**45 53.6**	**-0.9**
	baz=25,SNR=51								
XMIS	**Christmas Isla**	**24.89**	**258**	*e*P		**P**	**14**	**45 54.3**	**-0.5**
	comp=Z,7μm,0.7s								
XMIS				*e*pP		**pP**	**14**	**46 23.2**	**-1.1**
XMIS				*e*PcP		**PcP**	**14**	**49 27.7**	**+0.5**
XMIS	**Christmas Isla**	**24.89**	**258**	⇑P		**P**	**14**	**45 54.5**	**-0.4**
	baz=25,SNR=43								
BLSI	**Bandar Lampung**	**25.07**	**270**	P		**P**	**14**	**45 58.3**	**+1.8**
KLI	**Kotabumi**	**25.48**	**272**	P		**P**	**14**	**46 02.3**	**+2.1**
ABRA	**Dolores**	**25.49**	**338**	*e*P		**P**	**14**	**45 59.5**	**-0.6**
APYP	**Conner**	**25.49**	**339**	*e*P		**P**	**14**	**45 59.8**	**-0.4**
PMBI	**Palembang**	**25.77**	**276**	P		**P**	**14**	**46 04.8**	**+2.0**
PMBI	**Palembang**	**25.77**	**276**	*e*P		**P**	**14**	**46 02.7**	**-0.1**
	comp=Z,4μm,0.9s								
KASI	**Kota Agung**	**25.80**	**270**	P		**P**	**14**	**46 03.2**	**+0.1**
PIP	**Pasuquin**	**26.14**	**338**	⇓*e*P		**P**	**14**	**46 05.3**	**-0.8**
MDSI	**Maura Dua**	**26.19**	**272**	P		**P**	**14**	**46 07.6**	**+1.0**
LWLI	**Liwa**	**26.27**	**271**	P		**P**	**14**	**46 08.5**	**+1.1**
MORW	**Morawa**	**26.57**	**209**	⇓P		**P**	**14**	**46 10.1**	**+0.3**
	baz=26,SNR=508								
RMQ	**Roma**	**26.75**	**141**	⇑P		**P**	**14**	**46 11.6**	**+0.1**
	baz=27,SNR=335								
LHSI	**Lahat**	**26.90**	**274**	P		P	14	**46 14.2**	**+1.3**
BBOO	**Buckleboo**	**27.07**	**170**	*e*P		**P**	**14**	**46 13.4**	**-0.8**
BBOO				*e*pP		**pP**	**14**	**46 43.6**	**-0.4**
BBOO	**Buckleboo**	**27.07**	**170**	⇓P		**P**	**14**	**46 14.0**	**-0.3**
	baz=27,SNR=666								
MNAI	**Manna**	**27.41**	**272**	P		**P**	**14**	**46 17.4**	**-0.2**
MNAI	**Manna**	**27.41**	**272**	*e*P		**P**	**14**	**46 17.1**	**-0.5**
	comp=Z,2μm,0.8s								
EIDS	**Eidsvold**	**27.52**	**136**	*e*P		**P**	**14**	**46 17.9**	**-0.4**
	comp=Z,3μm,1.1s								
EIDS				*e*PP		**PP**	**14**	**47 23.6**	**+0.3**
EIDS	**Eidsvold**	**27.52**	**136**	⇑P

QIZ AMB AMB
comp=Z,20µm,12.0s
QIZ LR LR
comp=Z,56µm,15.8s
QIZ LR LR
comp=Z,58µm,21.3s
QIZ Qiongzhong 32.19 321 *e*P **P 14 47 00.1 +0.5**
comp=Z,1µm,1.2s
QIZ *e*S **S 14 51 59.5 -2.8**
QIZ *e*ScP **ScP 14 53 15.0 -1.0**
QIZ LR LR
comp=Z,60µm,21.0s
ARPS Mount Arapiles 32.25 163 ⇑P **P 14 46 59.9 0.0**
baz=32,SNR=1000
HKC Hong Kong Obse 32.42 331 *i*P **P 14 47 02.0 +0.4**
UBPT Khong Chiam 32.61 311 P **P 14 47 04.0 +0.6**
UBPT Khong Chiam 32.61 311 P **P 14 47 03.8 +0.4**
comp=Z,3µm,1.3s,comp=Z,35µm
PSI Prapat 32.68 285 P **P 14 47 03.2 -1.0**
PSI Prapat 32.68 285 P **P 14 47 02.5 -1.7**
PSI Prapat 32.68 285 P **P 14 47 02.5 -1.7**
comp=Z,638nm,0.8s,baz=122,slow=4.2,SNR=276
JOW Kunigami 32.82 356 *e*P **P 14 47 05.0 0.0**
comp=Z,668nm,0.9s
JOW *e*pP **pP 14 47 34.7 -0.5**
QZH Quanzhou 32.95 340 ⇑*i*P **P 14 47 03.4 -2.8**
QZH pP **pP 14 47 33.9 -2.5**
QZH S **S 14 52 10.8 -3.2**
QZH AMB AMB
comp=Z,2µm,0.7s
QZH AMB AMB
comp=Z,19µm,4.8s
QZH LR LR
comp=Z,73µm,19.8s
QZH LR LR
comp=Z,100µm,19.1s
QZH LR LR
comp=Z,120µm,20.6s
MGCD Mangrove Creek 33.11 147 ⇓P **P 14 47 07.9 +0.4**
baz=33,SNR=372
GZH Guangzhou 33.49 331 P **P 14 47 14.0 +3.2**
GZH S **S 14 52 23.8 +1.4**
GZH AMB AMB
comp=Z,33µm,10.7s
GZH LR LR
comp=Z,45µm,15.5s
GZH LR LR
comp=Z,132µm,16.8s
GSI Gunungsitoli 33.62 282 P **P 14 47 10.2 -2.0**
GSI Gunungsitoli 33.62 282 *e*P **P 14 47 10.6 -1.6**
comp=Z,5µm,0.9s
COCO West Island 33.69 257 *e*P **P 14 47 11.2 -1.5**
COCO *e* 14 48 31.4
COCO pmax pmax
comp=Z,519nm,0.9s
COCO MLR MLR
comp=Z,15µm,21.0s
COCO West Island 33.69 257 P P 14 47 16.9 +4.2
comp=Z,433nm,1.5s,comp=Z,19µm
COCO West Island 33.69 257 *e*P **P 14 47 11.2 -1.5**
comp=Z,519nm,0.9s
COCO *e*PP **PP 14 48 31.4 -0.4**
COCO *e*ScP **ScP 14 53 19.9 -1.4**
COCO LR LR
comp=Z,15µm,21.0s
COCO West Island 33.69 257 P **P 14 47 14.6 +1.9**
comp=Z,2µm,1.1s,SNR=5.8
CAN Canberra 33.72 152 *e*P **P 14 47 13.6 +0.8**
CAN pmax pmax
comp=Z,2µm,0.7s
CAN MLR MLR
comp=Z,58µm,20.0s
CAN Canberra 33.72 152 *e*P **P 14 47 13.6 +0.8**
comp=Z,2µm,0.7s
CAN LR LR
comp=Z,58µm,20.0s
CNB Canberra Magne 33.89 152 ⇑P **P 14 47 14.8 +0.5**
baz=34,SNR=989
KCSI Kotacane, Aceh 33.99 286 P **P 14 47 12.9 -2.5**
TOO Toolangi 34.19 158 ⇑P **P 14 47 17.6 +0.8**
baz=34,SNR=1000
SURA Surathani 34.25 296 P **P 14 47 18.0 +0.4**
comp=Z,731nm,1.5s
SKNT Sakolnakorn 34.78 312 P **P 14 47 22.3 +0.1**
comp=Z,2µm,0.9s,comp=Z,48µm
PKDT Phuket 34.91 293 P **P 14 47 22.9 -0.3**
comp=Z,833nm,1.1s,comp=Z,23µm
SURT Suratani 34.91 295 P **P 14 47 23.2 -0.1**
comp=Z,392nm,1.4s,comp=Z,11µm
JCJ Chichijima 34.92 18 P **P 14 47 23.0 -0.2**
comp=Z,735nm,0.4s,baz=207,slow=2.7,SNR=30
JCJ S **S 14 52 40.9 -3.5**
comp=Z,789nm,0.8s,baz=102,slow=23,SNR=10
CBIJ Chichi jima 34.92 18 *e*P **P 14 47 22.9 -0.3**
comp=Z,842nm,0.6s
CBIJ *e*PP **PnPn 14 48 45.1 -0.1**
CBIJ S **S 14 52 40.9 -3.5**
SNSI Sinabang, Aceh 35.09 283 P **P 14 47 26.2 +1.3**
MILA Mila 35.22 154 ⇓P **P 14 47 26.3 +0.6**
baz=35,SNR=294
LHMI Lhok Sumawe 35.27 288 P **P 14 47 25.6 -0.8**
comp=Z,8µm,0.8s,comp=Z,81µm
CHAI Chaiyaphum 35.66 308 P **P 14 47 29.7 0.0**
comp=Z,1µm,0.8s,comp=Z,15µm
NONG Nongkai 36.09 312 P **P 14 47 33.2 -0.1**
comp=Z,2µm,2.1s,comp=Z,25µm
LHI Lord Howe Isla 36.83 137 ⇓P **P 14 47 40.0 +0.6**
baz=37,SNR=7.4
PBKT Sadao Pong 36.84 308 P **P 14 47 40.0 +0.3**
PBKT Sadao Pong 36.84 308 P **P 14 47 39.7 0.0**
comp=Z,991nm,0.9s,comp=Z,25µm
LOEI Loei 37.16 310 P **P 14 47 40.2 -2.2**
comp=Z,2µm,1.4s,comp=Z,25µm
UTHA Uthaitani 37.49 305 P **P 14 47 45.4 +0.2**
comp=Z,1µm,0.8s,comp=Z,7µm
SSE Sheshan 38.04 347 ⇑P **P 14 47 51.5 +1.9**
SSE pP **pP 14 48 21.5 +1.1**
SSE sP **sP 14 48 38.8 +2.4**
SSE S **S 14 53 33.3 +1.6**
SSE sS **sS 14 54 26.5 +1.1**
SSE AMB AMB
comp=Z,850nm,1.1s
SSE AMB AMB
comp=Z,12µm,9.8s
SSE LR LR
comp=Z,22µm,17.7s
SSE LR LR
comp=Z,8µm,17.6s
SSE LR LR
comp=Z,27µm,19.4s
DZM Mont Dzumac 38.22 118 *e*P **P 14 47 51.3 -0.1**
comp=Z,3µm,1.3s
DZM Mont Dzumac 38.22 118 *e*P **P 14 47 52.0 +0.5**
comp=Z,1µm,0.9s
DZM *e*pP **pP 14 48 21.6 -0.7**
DZM *e*PP **PP 14 49 21.6 -0.2**
DZM *e*S **S 14 53 31.7 -3.3**
DZM S **S 14 53 32.9 -2.1**
DZM Mont Dzumac 38.22 118 P **P 14 47 52.4 +1.0**
comp=Z,575nm,0.7s,baz=271,slow=8.2,SNR=195
DZM S **S 14 53 32.9 -2.1**
comp=Z,87nm,1.1s,baz=78,slow=20,SNR=3.6
JNU Nakatsue 39.02 1 *e*P **P 14 47 58.4 +0.6**
JNU *e*pP **pP 14 48 28.9 +0.1**
JNU *e*PP **PP 14 49 30.0 -0.3**
JNU S **S 14 53 45.0 -1.5**
JNU Nakatsue 39.02 1 P **P 14 47 58.3 +0.4**
comp=Z,636nm,1.0s,baz=187,slow=3.2,SNR=92
JNU S **S 14 53 45.0 -1.5**
comp=Z,144nm,1.1s,baz=122,slow=19,SNR=18
MOO Moorlands 39.11 160 ⇓P **P 14 48 00.0 +1.6**
baz=39,SNR=296
CRAI Chiangrai 39.48 312 P **P 14 48 02.2 +0.4**
comp=Z,654nm,1.9s,comp=Z,17µm
CM31 Chiang Mai Arr 39.50 309 *e*P **P 14 48 03.0 +1.0**
comp=Z,0.3nm,0.6s
CM31 *e*pP **pP 14 48 31.8 -1.2**
CM31 *e*sP **sP 14 48 47.5 -1.4**
CMAR Chiang Mai Arr 39.50 309 LR LR 15 04 16.9
comp=Z,53µm,18.3s,baz=145,slow=36
NJ2 Nanjing 39.53 344 *e*P **P 14 48 01.4 -0.5**
NJ2 pP **pP 14 48 32.0 -0.9**
NJ2 sP **sP 14 48 45.5 -3.4**
NJ2 ScP **ScP 14 53 41.3 -1.3**
NJ2 S **S 14 53 53.3 -0.7**
NJ2 ScS **ScS 14 57 56.6 +1.3**
NJ2 AMB AMB
comp=Z,1µm,0.8s
NJ2 AMB AMB
comp=Z,15µm,10.8s
NJ2 LR LR
comp=Z,15µm,14.9s
NJ2 LR LR
comp=Z,18µm,16.0s
NJ2 LR LR
comp=Z,32µm,28.2s
TAU Tasmania Unive 39.57 160 *e*P **P 14 48 01.7 -0.5**
TAU *e**PP **pP 14 48 31.6 -1.6**
TAU *e* 14 49 36.1
TAU MLR MLR
comp=Z,93µm,21.0s
TAU Tasmania Unive 39.57 160 *e*P **P 14 48 01.7 -0.5**
TAU *e*pP **pP 14 48 31.6 -1.6**
TAU *e*PP **PP 14 49 36.1 +0.1**
TAU *e*ScP **ScP 14 53 45.8 +3.2**
TAU LR LR
comp=Z,93µm,21.0s
TAU Tasmania Unive 39.57 160 P **P 14 48 04.7 +2.5**
comp=Z,7µm,0.8s,SNR=20
WHN Wuhan 39.57 338 ⇑*i*P **P 14 48 03.8 +1.4**
WHN pP **pP 14 48 36.1 +2.7**
WHN PP **PnPn 14 49 42.4 +1.7**
WHN S **S 14 53 57.6 +2.9**
WHN SS **SS 14 56 53.5 -2.2**
WHN AMB AMB
comp=Z,5µm,0.9s
WHN LR LR
comp=Z,49µm,12.2s
WHN LR LR
comp=Z,37µm,12.7s
WHN LR LR
comp=Z,86µm,22.5s
CHTO Chiang Mai 39.71 309 *e*P **P 14 48 03.6 -0.1**
CHTO MLR MLR
comp=Z,51µm,19.0s
CHTO Chiang Mai 39.71 309 P **P 14 48 05.0 +1.3**
SNR=1451
CHTO Chiang Mai 39.71 309 P **P 14 48 04.6 +0.9**
CHTO Chiang Mai 39.71 309 *e*P **P 14 48 03.6 -0.1**
CHTO *e*ScP **ScP 14 53 44.0 +0.4**
CHTO LR LR
comp=Z,51µm,19.0s
CHTO Chiang Mai 39.71 309 P **P 14 48 04.2 +0.5**
comp=Z,13µm,1.0s,comp=Z,171µm
GYA Guiyang 39.74 326 ⇑*i*P **P 14 48 04.8 +0.8**
GYA pP pP 14 48 40.3 +5.3
GYA sP **sP 14 48 53.1 +2.2**
GYA PP **PnPn 14 49 47.8 +4.9**
GYA ScP **ScP 14 53 41.8 -2.0**
GYA S **S 14 54 01.4 +3.7**
GYA sS **sS 14 54 52.0 +0.4**
GYA SS **SS 14 56 55.3 -4.1**
GYA AMB AMB
comp=Z,2µm,0.8s
GYA LR LR
comp=Z,22µm,17.5s
GYA LR LR
comp=Z,20µm,18.0s
GYA LR LR
comp=Z,27µm,17.2s
KWAJ Kwajalein Atol 39.92 69 *e*P **P 14 48 05.7 +0.2**
KWAJ pmax pmax
comp=Z,1µm,1.0s
KWAJ Kwajalein Atol 39.92 69 *e*P **P 14 48 05.7 +0.2**
comp=Z,1µm,1.0s
CMAI Chiengmai2 40.29 311 P **P 14 48 08.9 +0.2**
comp=Z,1µm,1.3s,comp=Z,23µm
KMI Kunming 41.11 320 ⇑P **P 14 48 17.0 +1.6**
KMI pP **pP 14 48 49.5 +3.0**
KMI sP **sP 14 49 06.8 +4.4**
KMI PP **PnPn 14 49 58.3 -0.7**
KMI ScP **ScP 14 53 50.1 +0.8**
KMI PcS **PcS 14 54 03.3 -0.7**
KMI S **S 14 54 20.8 +2.6**
KMI sS **sS 14 55 14.6 +2.2**
KMI SS **SS 14 57 22.4 -4.2**
KMI AMB AMB
comp=Z,2µm,1.3s
KMI AMB AMB
comp=Z,18µm,8.0s
KMI LR LR
comp=Z,70µm,14.4s
KMI LR LR
comp=Z,57µm,17.4s
KMI LR LR
comp=Z,59µm,24.4s
ENH Enshi 41.38 332 *e*P **P 14 48 17.6 +0.3**
comp=Z,682nm,0.6s
ENH *e*pP **pP 14 48 47.5 -1.0**
ENH *e*PP **PP 14 49 54.8 -1.1**
ENH *e*ScP **ScP 14 53 50.5 +0.6**
ENH LR LR
comp=Z,226nm,19.0s
PBA Port Blair 41.44 295 *e*P P 14 48 17.6 -0.3
DGPR DIGLIPUR 41.89 297 *e*P **P 14 48 21.0 -0.6**
TJN Taejon 42.37 356 *i*P **P 14 48 26.5 +1.4**
MJAR Matsushiro Arr 43.06 9 P **P 14 48 29.8 -0.9**
MJAR S **S 14 54 43.9 -2.2**
MJAR Matsushiro Arr 43.06 9 P **P 14 48 29.8 -0.9**
comp=Z,416nm,1.0s,baz=193,slow=10,SNR=200
MJAR S **S 14 54 43.9 -2.2**
comp=Z,56nm,1.1s,baz=197,slow=18,SNR=4.9
MJAR LR LR 15 05 18.6
comp=Z,42µm,19.8s,baz=230,slow=34
MJAR PKPPKP P'P'df 15 20 08.6 -14
comp=Z,6.6nm,0.9s,baz=77,slow=0.4,SNR=5.7
MAJO Matsushiro 43.06 9 *e*P **P 14 48 30.3 -0.4**
MAJO *e**PP **pP 14 49 01.9 -0.3**
MAJO *e* 14 50 13.1
MAJO pmax pmax
comp=Z,827nm,0.8s
MAJO MLR MLR
comp=Z,60µm,20.0s
MAJO Matsushiro 43.06 9 *e*P **P 14 48 30.3 -0.4**
comp=Z,827nm,0.8s
MAJO *e*pP **pP 14 49 01.9 -0.3**
MAJO *e*PP **PP 14 50 13.1 -0.6**
MAJO *e*ScP **ScP 14 53 57.9 +1.3**
MAJO LR LR
comp=Z,60µm,20.0s
MAT Matsushiro 43.06 9 P **P 14 48 29.4 -1.3**
MAT S **S 14 54 40.6 -5.5**
TARA Tarawa 43.07 81 *e*P **P 14 48 31.2 0.0**
comp=Z,2µm,1.1s
TARA *e*pP **pP 14 49 02.6 0.0**
TARA *e*sP **sP 14 49 18.0 -0.5**
TARA LR LR
comp=Z,58µm,21.0s
KSAR Wonju Array Be 43.40 357 P **P 14 48 34.5 +1.1**
KSAR ScP **ScP 14 53 58.2 +0.3**
KSAR S **S 14 54 53.5 +2.6**
KSAR P'P'ab P'P'ab 15 21 37.2 +5.7
KSAR *e* 15 26 29.9
KSRS Korea Array 43.41 357 P **P 14 48 34.5 +1.1**
comp=Z,107nm,0.5s,baz=175,slow=9.1,SNR=146
KSRS ScP **ScP 14 53 58.2 +0.3**
comp=Z,87nm,0.9s,baz=174,slow=4.7,SNR=6.4
KSRS S **S 14 54 53.5 +2.5**
comp=Z,17nm,1.0s,baz=173,slow=6.5,SNR=2.8
KSRS PKPPKP P'P'df 15 20 06.3 -16
comp=Z,7.5nm,1.0s,baz=48,slow=2.1,SNR=6.5
KSRS PKP2ab 15 21 37.2
comp=Z,6.9nm,1.0s,baz=1.2,slow=4.4,SNR=4.1
KSRS P4KPbc 15 26 29.9
comp=Z,1.2nm,0.7s,baz=183,slow=4.2,SNR=5.2
INCN Inchon 43.52 356 P **P 14 48 36.9 +2.4**
SNR=39
INCN Inchon 43.52 356 *e*P **P 14 48 35.7 +1.3**
comp=Z,543nm,0.8s
INCN *e*pP **pP 14 49 06.0 +0.1**
INCN *e*PP **PP 14 50 18.4 -0.2**
INCN LR LR
comp=Z,47µm,22.0s
WAKE Wake Island 43.70 54 *e*P **P 14 48 36.3 +0.1**
comp=Z,2µm,1.1s
WAKE *e*ScP **ScP 14 54 00.8 +1.3**
WAKE LR LR
comp=Z,31µm,20.0s
TIA Tai'an 43.92 344 ⇑P **P 14 48 37.9 +0.3**
TIA pP **pP 14 49 09.0 -0.2**
TIA sP **sP 14 49 22.8 -2.1**
TIA S **S 14 54 55.0 -3.6**
TIA AMB AMB
comp=Z,15µm,11.0s
TIA LR LR
comp=Z,20µm,18.4s
TIA LR LR
comp=Z,25µm,17.2s
TIA LR LR
comp=Z,33µm,22.0s
CD2 Chengdu 44.80 327 P **P 14 48 44.6 -0.2**
CD2 pP **pP 14 49 17.3 +0.9**
CD2 sP **sP 14 49 31.3 -0.9**
CD2 PP **PP 14 50 32.4 +0.1**
CD2 PcS **PcS 14 54 16.5 -1.8**
CD2 S **S 14 55 06.8 -4.8**
CD2 sS **sS 14 56 06.5 0.0**
CD2 SS **ScS 14 58 28.6 +0.7**
CD2 AMB AMB
comp=Z,3µm,0.9s
CD2 AMB AMB
comp=Z,25µm,11.3s
CD2 LR LR
comp=Z,43µm,17.8s
CD2 LR LR
comp=Z,59µm,22.6s
XAN Xi'an 44.83 334 P **P 14 48 45.1 +0.1**
XAN pP **pP 14 49 16.8 +0.2**
XAN sP **sP 14 49 32.5 +0.2**
XAN PP **PP 14 50 33.4 +0.8**
XAN S **S 14 55 07.9 -4.0**
XAN AMB AMB
comp=Z,580nm,0.8s
XAN LR LR
comp=Z,43µm,24.5s
XAN LR LR
comp=Z,24µm,22.4s
XAN LR LR
comp=Z,15µm,32.7s
DL2 Dalian 45.53 350 ⇑*i*P **P 14 48 51.3 +1.0**
DL2 pP **pP 14 49 22.6 +0.5**
DL2 S **S 14 55 19.9 -1.9**
DL2 ScS **ScS 14 58 30.6 -1.6**
DL2 AMB AMB
comp=Z,680nm,1.1s
DL2 AMB AMB
comp=Z,8µm,6.9s
DL2 LR LR
comp=Z,69µm,12.4s
DL2 LR LR
comp=Z,22µm,21.6s
TIY Taiyuan 46.72 340 ⇓*i*P **P 14 49 00.8 +1.0**
TIY pP **pP 14 49 30.5 -1.2**
TIY S **S 14 55 35.9 -3.1**
TIY AMB AMB
comp=Z,2µm,0.8s
TIY AMB AMB
comp=Z,11µm,6.7s
IMP Imphal 46.96 312 *e*P **P 14 49 01.0 -0.9**
BJT Baijiatuau 47.75 345 *e*P **P 14 49 08.5 +0.8**
comp=Z,3µm,0.8s
BJT *e*pP **pP 14 49 38.0 -1.6**
BJT LR LR
comp=Z,34µm,21.0s
BJI Beijing 47.77 345 P **P 14 49 08.6 +0.8**
BJI pP **pP 14 49 42.3 +2.5**
BJI sP **sP 14 49 54.4 -1.0**
BJI ScP **ScP 14 54 13.4 -2.6**
BJI S **S 14 55 51.5 -2.1**
BJI AMB AMB
comp=Z,2µm,0.8s
BJI AMB AMB
comp=Z,15µm,5.8s
MSVF Nonsavu 47.87 108 *e*P **P 14 49 10.7 +1.7**
MSVF pmax pmax
comp=Z,1µm,1.3s
MSVF MLR MLR
comp=Z,37µm,21.0s
MSVF Nonsavu 47.87 108 *e*P **P 14 49 10.7 +1.7**
comp=Z,1µm,1.3s
MSVF LR LR
comp=Z,37µm,21.0s
MSVF Nonsavu 47.87 108 P **P 14 49 10.8 +1.7**
comp=Z,3µm,0.9s,SNR=14
SNY Shenyang 48.12 353 ⇑P **P 14 49 11.1 +0.7**
SNY pP **pP 14 49 45.9 +3.4**
SNY sP **sP 14 49 56.9 -1.2**
SNY S **S 14 55 53.0 -5.5**
SNY ScS **ScS 14 58 43.8 -5.3**
SNY SS **SS 14 59 27.8 -1.9**
SNY AMB AMB
comp=Z,380nm,1.1s
SNY LR LR
comp=Z,24µm,24.3s
SNY LR LR
comp=Z,8µm,22.5s
SNY LR LR
comp=Z,46µm,18.3s
FUNA Funafuti 48.41 96 *e*P **P 14 49 13.0 -0.1**
comp=Z,2µm,1.0s
LZH Lanzhou 48.84 331 ⇑P **P 14 49 17.8 +1.6**
LZH pP **pP 14 49 52.1 +3.7**
LZH sP **sP 14 50 04.3 +0.3**
LZH PP **PP 14 51 12.0 +1.1**
LZH ScP **ScP 14 54 21.0 +0.2**
LZH S **S 14 56 09.4 +0.3**
LZH sS **sS 14 57 05.4 +0.7**
LZH AMB AMB
comp=Z,1µm,1.0s
LZH AMB AMB
comp=Z,7µm,5.8s
LZH LR LR
comp=Z,40µm,13.5s
LZH LR LR
comp=Z,46µm,14.8s
LZH LR LR
comp=Z,65µm,19.0s
SHL Shillong 48.93 312 *i* PCN **P 14 49 17.5 +0.3**
SHL *ex* x 14 54 26.0
SHL *e*S **S 14 56 12.3 +1.5**
SHL *e*SCS **ScS 14 58 56.2 +0.6**
OUZ Omahuta 49.11 132 *e*P **P 14 49 20.1 +1.9**
comp=Z,2µm,1.3s
OUZ *e*pP **pP 14 49 50.1 -0.2**
HHC Hu-ho-hao-te 49.84 341 *i* P **P 14 49 24.6 +0.8**
HHC pP **pP 14 49 53.6 -2.4**
HHC PP **PP 14 51 21.6 +1.6**
HHC S **S 14 56 21.8 -1.1**
HHC sS **sS 14 57 19.9 +1.2**
HHC ScS **ScS 14 59 00.8 -0.3**
HHC SS **SS 14 59 59.0 +1.3**
HHC AMB AMB
comp=Z,1µm,1.0s
HHC AMB AMB
comp=Z,28µm,9.4s
HHC LR LR
comp=Z,53µm,15.5s
HHC LR LR
comp=Z,38µm,15.7s
HHC LR LR
comp=Z,47µm,16.2s
CN2 Changchun 49.89 355 ⇑P **P 14 49 24.1 +0.2**
CN2 *e*pP **pP 14 49 56.5 +0.4**
CN2 *e*S **S 14 56 23.8 +0.6**
CN2 ScS **ScS 14 58 57.6 -3.4**
CN2 LR LR
comp=Z,22µm,17.0s
CN2 LR LR
comp=Z,30µm,17.0s
CN2 LR LR
comp=Z,23µm,21.0s
USRK Ussuriysk Arra 50.10 1 P **P 14 49 26.2 +0.7**
comp=Z,105nm,0.4s,baz=183,slow=6.8,SNR=255
USRK S **S 14 56 25.1 -1.0**
comp=Z,38nm,1.1s,baz=223,slow=7.9,SNR=2.4
USRK PKPPKP P'P'df 15 19 52.5 -21
comp=Z,4.6nm,0.9s,baz=34,slow=3.2,SNR=5.2
USRK P4KPbc 15 26 58.4
comp=Z,3.7nm,0.8s,baz=205,slow=2.9,SNR=5.5
BTO Baotou 50.14 340 *e*P **P 14 49 27.3 +1.3**
MDJ Mudanjiang 50.51 359 P **P 14 49 29.5 +1.0**
MDJ pP **pP 14 50 02.3 +1.5**
MDJ sP **sP 14 50 12.8 -3.6**
MDJ S **S 14 56 28.9 -2.8**
MDJ ScS **ScS 14 59 02.6 -2.6**
MDJ AMB AMB

	comp=Z,490nm,1.0s								
MDJ					AMB	AMB			
	comp=Z,7μm,5.9s								
MDJ					LR	LR			
	comp=Z,20μm,20.1s								
MDJ					LR	LR			
	comp=Z,7μm,18.3s								
MDJ					LR	LR			
	comp=Z,37μm,23.8s								
MDJ	**Mudanjiang**	**50.51**	**359**	*eP*	**P**		**14 49 29.4**	**+0.9**	
	comp=Z,323nm,0.7s								
MDJ					LR	LR			
	comp=Z,24μm,19.0s								
DCZ	**Deep Cove**	**50.51**	**147**	*eP*	**P**		**14 49 29.3**	**+0.8**	
	comp=Z,466nm,0.9s								
ASAJ	**Asahikawa**	**51.19**	**11**	*eP*	**P**		**14 49 34.2**	**+0.6**	
	comp=Z,356nm,1.1s								
ASAJ				*ep*P	**pP**		**14 50 04.9**	**-1.2**	
ASAJ				*es*P	**sP**		**14 50 21.1**	**-0.5**	
ASAJ	**Asahikawa**	**51.19**	**11**	P	**P**		**14 49 34.2**	**+0.6**	
	comp=Z,526nm,0.9s,baz=228,slow=12,SNR=106								
ASAJ				LR	LR		15 10 25.8		
	comp=Z,52μm,21.8s,baz=208,slow=35								
PALK	**Pallekele**	**51.36**	**284**	P	**P**		**14 49 35.4**	**-0.1**	
	SNR=244								
PALK	**Pallekele**	**51.36**	**284**	P	**P**		**14 49 35.5**	**-0.1**	
PALK	**Pallekele**	**51.36**	**284**	*eP*	**P**		**14 49 34.9**	**-0.6**	
	comp=Z,15μm,2.8s								
PALK				*ep*P	**pP**		**14 50 06.5**	**-1.5**	
PALK				*es*ScP	**ScP**		**14 54 31.9**	**-0.1**	
PALK	**Pallekele**	**51.36**	**284**	P	**P**		**14 49 34.9**	**-0.6**	
	comp=Z,5μm,1.2s,SNR=89								
RPZ	**Rata Peaks**	**51.67**	**143**	*eP*	**P**		**14 49 37.8**	**+0.4**	
	comp=Z,3μm,1.7s								
RPZ				*e*			15 27 09.8		
RPZ	**Rata Peaks**	**51.67**	**143**	LR	LR		15 14 06.6		
	comp=Z,62μm,18.5s,baz=309,slow=39								
RPZ				P4KPbc			15 27 09.8		
	comp=Z,17nm,0.8s,baz=9.4,slow=4.7,SNR=7.7								
YUK	**Yuzh-Kuril'sk**	**51.83**	**14**	⇓*iP*	**P**		**14 49 35.6**	**-2.7**	
YUK				*i* *PP	pP		14 50 02.1	-8.7	
YUK				*i* *SP	sP		14 50 18.0	-8.3	
YUK				*i*			14 50 45.2		
YUK				*i*			14 51 35.5		
YUK				*i* S	**S**		**14 56 47.8**	**-2.0**	
YUK				*i* *SS	sS		14 57 39.5	-6.5	
YUK				*i* SS	**SS**		**15 00 27.3**	**-1.3**	
YUK				pmax	pmax				
	comp=N,916nm,1.1s								
YUK				pmax	pmax				
	comp=Z,2μm,1.1s								
YUK				pmax	pmax				
	comp=E,344nm,1.1s								
LSA	**Lhasa**	**51.86**	**316**	P	**P**		**14 49 40.4**	**+0.9**	
LSA				pP	**pP**		**14 50 09.4**	**-2.6**	
LSA				sP	**sP**		**14 50 27.4**	**-0.1**	
LSA				S	S		14 56 44.0	-7.8	
LSA				LR	LR				
	comp=E,67μm,48.9s								
LSA	**Lhasa**	**51.86**	**316**	*eP*	**P**		**14 49 40.7**	**+1.2**	
LSA				*e**PP	**pP**		**14 50 11.3**	**-0.7**	
LSA				pmax	pmax				
	comp=Z,1μm,0.9s								
LSA				MLR	MLR				
	comp=Z,30μm,22.0s								
LSA	**Lhasa**	**51.86**	**316**	*eP*	**P**		**14 49 40.7**	**+1.2**	
	comp=Z,1μm,0.9s								
LSA				*ep*P	**pP**		**14 50 11.3**	**-0.7**	
LSA				LR	LR				
	comp=Z,30μm,22.0s								
SLGI	**Shiliguri**	**52.15**	**311**	*ex*	**P**		**14 49 42.2**	**+1.1**	
VIS	**Vishakhapatnam**	**52.18**	**298**	*iP*	**P**		**14 49 41.2**	**-0.3**	
VIS				AMB	AMB		14 49 49.3		
	comp=Z,3μm,2.2s								
VIS				*i* x	x		14 56 53.1		
VIS				*ex*	x		14 57 00.8		
ODZ	**Otahua Downs**	**52.20**	**145**	*eP*	**P**		**14 49 41.3**	**+0.1**	
	comp=Z,622nm,1.4s								
ODZ				*ep*P	**pP**		**14 50 12.6**	**-1.1**	
KHZ	**Kahutara**	**52.51**	**140**	*eP*	**P**		**14 49 43.4**	**-0.1**	
	comp=Z,1μm,0.8s								
BOK	**Bokaro**	**52.65**	**306**	*eP*	**P**		**14 49 46.0**	**+1.2**	
BOK				AMB	AMB		14 49 52.4		
	comp=Z,1μm,1.4s								
SNZO	**South Karori**	**52.70**	**139**	*eP*	**P**		**14 49 44.5**	**-0.4**	
	comp=Z,938nm,0.9s								
SNZO				*ep*P	**pP**		**14 50 15.7**	**-1.8**	
SNZO				*es*P	**sP**		**14 50 31.6**	**-1.4**	
SNZO				LR	LR				
	comp=Z,43μm,20.0s								
BKZ	**Black Stump Fm**	**52.92**	**135**	*eP*	**P**		**14 49 46.3**	**-0.4**	
	comp=Z,684nm,0.8s								
URZ	**Urewera**	**52.96**	**134**	*eP*	**P**		**14 49 46.9**	**0.0**	
URZ	**Urewera**	**52.96**	**134**	P	**P**		**14 49 46.7**	**-0.2**	
	comp=Z,215nm,0.6s,baz=314,slow=3.0,SNR=124								
ODAN	**Odare**	**53.01**	**310**	*eP*	**P**		**14 49 48.3**	**+0.6**	
	comp=Z,5μm,0.5s								
TAPN	**Taplejung**	**53.03**	**311**	*eP*	**P**		**14 49 48.7**	**+0.8**	
	comp=Z,7μm,0.8s								
MDRS	**Chennai**	**53.37**	**291**	*eP*	**P**		**14 49 50.8**	**+0.6**	
MDRS				AMB	AMB		14 49 53.8		
	comp=Z,3μm,0.7s								
GTA	**Gaotai**	**53.41**	**331**	⇑P	**P**		**14 49 51.8**	**+1.5**	
GTA				pP	**pP**		**14 50 22.9**	**0.0**	
GTA				sP	**sP**		**14 50 38.3**	**-0.1**	
GTA				ScP	**ScP**		**14 54 39.8**	**-0.7**	
GTA				S	**S**		**14 57 12.8**	**+0.9**	
GTA				sS	**sS**		**14 58 09.8**	**+1.5**	
GTA				ScS	**ScS**		**14 59 23.9**	**-2.1**	
GTA				SS	**SS**		**15 00 54.3**	**+0.1**	
GTA				AMB	AMB				
	comp=Z,1μm,1.1s								
GTA				AMB	AMB				
	comp=Z,20μm,8.5s								
GTA				LR	LR				
	comp=Z,37μm,21.4s								
GTA				LR	LR				
	comp=Z,24μm,20.0s								
GTA				LR	LR				
	comp=Z,38μm,18.5s								
BFZ	**Birch Farm**	**53.43**	**137**	*eP*	**P**		**14 49 49.9**	**-0.4**	
	comp=Z,6μm,2.6s								
MCQ	**Macquarie Isla**	**53.45**	**160**	*eP*	**P**		**14 49 50.5**	**+0.4**	
MCQ	**Macquarie Isla**	**53.45**	**160**	*eP*	**P**		**14 49 50.5**	**+0.4**	
MCQ	**Macquarie Isla**	**53.45**	**160**	⇓P	**P**		**14 49 51.3**	**+1.2**	
	baz=53,SNR=69								
KUR	**Kuril'sk**	**53.46**	**15**	*eP*	**P**		**14 49 50.0**	**-0.3**	
KUR				*i* S	**S**		**14 57 12.0**	**+0.1**	
KUR				pmax	pmax				
	comp=Z,220nm,0.8s								
KUR				pmax	pmax				
	comp=Z,18μm,6.0s								
KUR				smax	smax				
	comp=E,38μm,8.0s								
KUR				MLR	MLR				
	comp=Z,5μm,10.0s								
RAMN	**Ramite**	**53.66**	**310**	*eP*	**P**		**14 49 53.5**	**+1.0**	
	comp=Z,13μm,0.6s								
RAO	**Raoul Island**	**53.80**	**122**	*eP*	**P**		**14 49 53.8**	**+0.6**	
RAO				*ep*P	**pP**		**14 50 25.8**	**0.0**	
RAO				LR	LR				
	comp=Z,22μm,21.0s								
RAO	**Raoul Island**	**53.80**	**122**	P	**P**		**14 49 53.0**	**-0.2**	
	comp=Z,391nm,0.6s,baz=312,slow=15,SNR=6.5								
YSS	**Yuzh-Sakhalins**	**53.96**	**10**	*ceP*	**P**		**14 49 54.0**	**+0.1**	
YSS				*e**PP	**pP**		**14 50 26.0**	**-0.6**	
YSS				*e**SP	**sP**		**14 50 39.0**	**-3.1**	
YSS				*i* S	**S**		**14 57 14.0**	**-4.7**	
YSS				*ePS	PKiKP		14 57 38.0	+5.5	
YSS				pmax	pmax				
	comp=Z,6μm,9.0s								
YSS				pmax	pmax				
	comp=N,4μm,4.0s								
YSS				pmax	pmax				
	comp=E,2μm,8.0s								
YSS				smax	smax				
	comp=E,29μm,8.0s								
YSS				smax	smax				
	comp=N,18μm,16.0s								
JIRN	**Jiri**	**54.34**	**310**	*eP*	**P**		**14 49 58.2**	**+0.7**	
	comp=N,5μm,0.7s								
HABR	**Khabarovsk**	**54.51**	**4**	*ciP*	**P**		**14 49 59.0**	**+1.1**	
HABR				*e**PP	**pP**		**14 50 28.9**	**-1.7**	
HABR				*e**SP	**sP**		**14 50 45.5**	**-0.6**	
HABR				*e*			14 50 57.8		
HABR				*e*			14 52 00.2		
HABR				*ePPP	PPP		14 53 13.9		
HABR				*eS	**S**		**14 57 27.9**	**+1.9**	
HABR				*e*			14 57 31.3		
HABR				*e*			14 59 32.5		
HABR				*eSS	**SS**		**15 01 12.2**	**+1.4**	
HABR				pmax	pmax				
	comp=E,140nm,1.3s								
HABR				pmax	pmax				
	comp=Z,882nm,1.3s								
HABR				pmax	pmax				
	comp=N,262nm,1.3s								
HABR				pmax	pmax				
	comp=Z,5μm,3.8s								
HABR				MLR	MLR				
	comp=Z,14μm,22.0s								
GUN	**Gumba**	**54.70**	**310**	*eP*	**P**		**14 50 00.9**	**+0.8**	
	comp=Z,9μm,0.6s								
KKN	**Kakani**	**55.09**	**310**	*eP*	**P**		**14 50 03.3**	**+0.5**	
	comp=Z,6μm,0.9s								
KLR	**Kul'dur**	**55.13**	**1**	⇓*iP*	**P**		**14 50 00.0**	**-2.4**	
KLR				*eS	**S**		**14 57 29.5**	**-4.8**	
DMN	**Daman**	**55.13**	**310**	*eP*	**P**		**14 50 03.6**	**+0.4**	
	comp=Z,5μm,0.8s								
TRD	**Trivandrum**	**55.26**	**285**	*eP*	**P**		**14 50 04.9**	**+1.0**	
TRD				AMB	AMB		14 50 11.2		
	comp=Z,2μm,0.3s								
GKN	**Gorkha**	**55.69**	**310**	*eP*	**P**		**14 50 07.7**	**+0.7**	
	comp=Z,10μm,0.6s								
HIA	**Hailar**	**55.94**	**352**	*eP*	**P**		**14 50 07.8**	**-0.4**	
	comp=Z,154nm,0.8s								
HIA				LR	LR				
	comp=Z,27μm,19.0s								
HYB	**Hyderabad**	**56.32**	**295**	⇑*iP*	**P**		**14 50 10.0**	**-1.5**	
	comp=Z,860nm,1.0s								
HYB				*es*P	**sP**		**14 50 58.0**	**-1.8**	
HYB				*eP*	**P**		**14 52 20.0**	**+1.5**	
HYB				*ePPP	PPP		14 53 28.0		
HYB				*eS	**S**		**14 57 52.0**	**+0.8**	
HYB				*e*			14 58 56.0		
HYB				*eScS	**ScS**		**14 59 44.0**	**-3.4**	
HYB	**Hyderabad**	**56.32**	**295**	*eP*	**P**		**14 50 11.2**	**-0.3**	
HYB				AMB	AMB		14 50 18.2		
	comp=Z,2μm,0.8s								
KOLN	**Koldanda**	**56.37**	**309**	*eP*	**P**		**14 50 12.8**	**+0.9**	
	comp=Z,5μm,0.9s								
DANN	**Dangsing**	**56.53**	**310**	*eP*	**P**		**14 50 13.9**	**+0.7**	
	comp=Z,4μm,0.7s								
JBP	**Jabalpur**	**57.22**	**302**	⇑*eP*	**P**		**14 50 18.4**	**+0.7**	
AFI	**Afiamalu**	**57.32**	**103**	P	**P**		**14 50 19.5**	**+0.8**	
	comp=Z,90nm,1.4s								
AFI				S	**S**		**14 58 05.1**	**+0.5**	
AFI				LR	LR				
	comp=Z,22μm,21.0s								
AFI	**Afiamalu**	**57.32**	**103**	P	**P**		**14 50 19.5**	**+0.8**	
	comp=Z,632nm,0.9s,baz=322,slow=2.3,SNR=35								
AFI				S	**S**		**14 58 05.1**	**+0.5**	
	comp=Z,38nm,1.0s,baz=196,slow=20,SNR=2.0								
DGAR	**Diego Garcia**	**57.55**	**265**	*eP*	**P**		**14 50 20.5**	**+0.3**	
DGAR				*e**PP	**pP**		**14 50 52.0**	**-1.3**	
DGAR				*e**SP	**sP**		**14 51 07.2**	**-1.5**	
DGAR				pmax	pmax				
	comp=Z,2μm,0.6s								
DGAR				MLR	MLR				
	comp=Z,17μm,20.0s								
DGAR	**Diego Garcia**	**57.55**	**265**	P	**P**		**14 50 21.5**	**+1.3**	
	SNR=41								
DGAR	**Diego Garcia**	**57.55**	**265**	*eP*	**P**		**14 50 20.5**	**+0.3**	
	comp=Z,2μm,0.6s								
DGAR				*ep*P	**pP**		**14 50 52.0**	**-1.3**	
DGAR				*es*P	**sP**		**14 51 07.2**	**-1.5**	
DGAR				LR	LR				
	comp=Z,17μm,20.0s								
DGAR	**Diego Garcia**	**57.55**	**265**	P	**P**		**14 50 21.0**	**+0.8**	
	comp=Z,23μm,0.7s,SNR=47								
ULN	**Ulaanbaatar**	**57.56**	**342**	P	**P**		**14 50 21.8**	**+1.9**	
	SNR=672								
ULN	**Ulaanbaatar**	**57.56**	**342**	P	**P**		**14 50 21.9**	**+2.0**	
ULN	**Ulaanbaatar**	**57.56**	**342**	*eP*	**P**		**14 50 21.6**	**+1.7**	
	comp=Z,2μm,0.8s								
ULN				*ep*P	**pP**		**14 50 51.4**	**-1.5**	
ULN				*es*P	**sP**		**14 51 06.6**	**-1.7**	
ULN				*eScP	**ScP**		**14 54 59.1**	**+0.6**	
ULN				LR	LR				
	comp=Z,25μm,20.0s								
KAAM	**Kaadhehdhoo**	**57.70**	**274**	P	**P**		**14 50 22.3**	**+1.0**	
SONM	**Songino Array**	**57.75**	**341**	P	**P**		**14 50 21.4**	**+0.2**	
SONM				S	**S**		**14 58 09.7**	**+0.5**	
SONM				⇑*e*			15 20 12.7		
SONM				*e*			15 27 32.1		
SONM	**Songino Array**	**57.75**	**341**	P	**P**		**14 50 21.4**	**+0.2**	
	comp=Z,368nm,0.7s,baz=150,slow=7.3,SNR=936								
SONM				S	**S**		**14 58 09.7**	**+0.5**	
	comp=Z,45nm,1.3s,baz=140,slow=9.4,SNR=3.1								
SONM				PKPPKP	P'P'df		15 19 53.0	-10	
	comp=Z,8.0nm,0.9s,baz=320,slow=2.7,SNR=7.4								
SONM				PKP2bc			15 20 12.7		
	comp=Z,9.3nm,0.8s,baz=276,slow=1.3,SNR=6.9								
SONM				P4KPbc			15 27 32.1		
	comp=Z,10.0nm,0.8s,baz=161,slow=4.7,SNR=13								
KNTN	**Kanton**	**57.75**	**89**	*eP*	**P**		**14 50 20.4**	**-1.2**	
	comp=Z,5μm,1.9s								
LATR	**Latur**	**58.44**	**296**	*ex*	P		14 50 20.6	-5.7	
	comp=Z,1μm,0.9s								
AKL	**Akola**	**58.82**	**299**	*eP*	**P**		**14 50 28.8**	**-0.1**	
AKL				AMP			14 50 30.9		
	comp=Z,2μm,0.8s								
AKL				*i* x	x		14 58 19.6		
MNCY	**Minicoy**	**58.99**	**283**	*i* x	**P**		**14 50 28.0**	**-2.2**	
NIUE	**Niue**	**59.36**	**108**	⇑P	**P**		**14 50 32.8**	**+0.2**	
	baz=59,SNR=16								
JHNI	**Jhansi**	**59.37**	**304**	*i* x	**P**		**14 50 31.0**	**-1.6**	
JHNI				*ex*	x		14 53 09.0		
BHPL	**Bhopal**	**59.41**	**301**	*eP*	**P**		**14 50 32.8**	**-0.2**	
BHPL				AMB	AMB		14 50 38.6		
	comp=Z,2μm,4.2s								
CIT	**Chita**	**59.68**	**348**	*eP*	**P**		**14 50 36.6**	**+2.3**	
CIT				*e*			14 51 08.3		
CIT				*eS	**S**		**14 58 36.0**	**+2.1**	
CIT				pmax	pmax				
	comp=Z,2μm,2.7s								
LGTI	**Lohaghat**	**59.76**	**309**	*eP*	**P**		**14 50 36.5**	**+1.3**	
LGTI				*ex*	x		14 53 39.1		
GOA	**Goa**	**60.03**	**292**	*eP*	**P**		**14 50 37.8**	**+0.5**	
GOA				AMB	AMB		14 50 44.4		
	comp=Z,2μm,1.7s								
SKR	**Severo-Kuril's**	**60.77**	**18**	*iP*	**P**		**14 50 39.0**	**-2.6**	
SKR				*e*			14 51 22.0		
SKR				*e*			14 52 54.0		
SKR				*eS	**S**		**14 58 42.0**	**-5.5**	
SKR				pmax	pmax				
	comp=Z,190nm,0.7s								
SKR				pmax	pmax				
	comp=N,5μm,4.0s								
SKR				pmax	pmax				
	comp=E,6μm,4.0s								
SKR				pmax	pmax				
	comp=Z,8μm,4.0s								
SKR				smax	smax				
	comp=N,27μm,12.0s								
SKR				smax	smax				
	comp=E,39μm,12.0s								
SKR				MLR	MLR				
	comp=N,9μm,18.0s								
SKR				MLR	MLR				
	comp=E,4μm,18.0s								
SKR				MLR	MLR				
	comp=Z,12μm,18.0s								
MIDW	**Midway**	**60.79**	**53**	*eP*	**P**		**14 50 40.4**	**-1.8**	
	comp=Z,2μm,1.5s								
MIDW				*ep*P	**pP**		**14 51 15.1**	**-0.5**	
MIDW				*eScP	**ScP**		**14 55 11.5**	**-1.6**	
MIDW				LR	LR				
	comp=Z,21μm,20.0s								
DRV	**Dumont d'Urvil**	**60.81**	**176**	P	P		14 50 31.0	-11	
DRV	**Dumont d'Urvil**	**60.81**	**176**	PP	PP		14 52 40.0	-17	
DRV				S	S		14 58 34.0	-14	
DRV				SS	SS		15 02 34.0	-15	
DRV				L	L		15 05 00.0		
DRV				R			15 09 00.0		
POO	**Poona**	**60.91**	**295**	⇑*iP*	**P**		**14 50 41.0**	**-2.3**	
	comp=Z,2μm,1.2s								
POO				*eP*	**P**		**14 50 42.8**	**-0.5**	
POO				AMB	AMB		14 50 49.8		
	comp=Z,1μm,0.7s								
ZAK	**Zakamensk**	**60.98**	**340**	*eP*	**P**		**14 50 44.3**	**+1.1**	
ZAK				*e*			14 51 29.2		
ZAK				*e*			14 58 52.2		
ZAK				*e*			15 00 21.7		
ZAK				pmax	pmax				
	comp=Z,392nm,1.3s								
CASY	**Casey**	**61.64**	**189**	*eP*	**P**		**14 50 47.2**	**0.0**	
NDI	**New Delhi**	**61.79**	**307**	*ex*	**P**		**14 50 46.0**	**-3.0**	
NDI				*ex*	x		14 59 52.0		
DDI	**Dehra Dun**	**61.85**	**309**	*eP*	**P**		**14 50 50.6**	**+1.2**	
DDI				AMB	AMB		14 50 56.5		
	comp=Z,6μm,1.1s								
DDI				*eS	**S**		**14 59 02.5**	**+0.3**	
TLY	**Talaya**	**61.98**	**341**	*ciP*	**P**		**14 50 51.2**	**+1.4**	
TLY				*e*			14 51 25.8		
TLY				*e*			14 51 34.8		
TLY				*eS	**S**		**14 59 06.6**	**+3.7**	
TLY				*e*			14 59 40.1		
TLY				pmax	pmax				
	comp=Z,552nm,1.0s								
TLY				MLR	MLR				
	comp=Z,17μm,18.0s								
IRK	**Irkutsk**	**62.27**	**342**	⇑*iP*	**P**		**14 50 52.6**	**+0.9**	
IRK				*e*			14 51 27.0		
IRK				*eS	**S**		**14 59 01.2**	**-5.4**	
IRK				pmax	pmax				
	comp=Z,2μm,1.2s								
MOY	**Mondy**	**62.84**	**340**	*eP*	**P**		**14 50 57.3**	**+1.7**	
MOY				*e*			14 59 16.4		
MOY				pmax	pmax				
	comp=Z,3μm,2.8s								
WMQ	**Urumqi**	**62.89**	**327**	P	**P**		**14 50 57.4**	**+1.3**	
WMQ				PcP	**PcP**		**14 51 35.1**	**+2.0**	
WMQ				PP	**PP**		**14 53 17.8**	**+1.5**	
WMQ				S	**S**		**14 59 20.8**	**+6.0**	
WMQ				SS	**SS**		**15 03 28.9**	**+6.0**	
WMQ				AMB	AMB				
	comp=Z,5μm,1.0s								
WMQ				AMB	AMB				
	comp=Z,24μm,5.2s								
WMQ				LR	LR				
	comp=Z,48μm,21.6s								
WMQ				LR	LR				
	comp=Z,29μm,17.0s								
WMQ				LR	LR				
	comp=Z,33μm,22.8s								
SMLA	**Simla**	**62.90**	**309**	*iP*	**P**		**14 50 57.4**	**+1.1**	
SMLA				AMB	AMB		14 51 01.9		
	comp=Z,5μm,0.0s								
SMLA				*i* x	x		14 59 13.6		
CLNS	**Chul'man**	**62.90**	**357**	*eP*	**P**		**14 50 56.9**	**+1.1**	
CLNS				*e*			14 51 31.3		
CLNS				*e**PP	**PcP**		**14 51 37.6**	**+4.9**	
CLNS				*e*			14 53 15.5		
CLNS				*ePPP	PPP		14 54 48.1		
CLNS				*eS	**S**		**14 59 13.0**	**-1.4**	
CLNS				*e*			14 59 48.9		
CLNS				pmax	pmax				
	comp=N,156nm,1.0s								
CLNS				pmax	pmax				
	comp=Z,268nm,1.1s								
CLNS				pmax	pmax				
	comp=E,111nm,1.0s								
CLNS				pmax	pmax				
	comp=N,295nm,0.9s								
CLNS				pmax	pmax				
	comp=Z,86nm,0.9s								
CLNS				pmax	pmax				
	comp=E,63nm,1.0s								
CLNS				smax	smax				
	comp=E,27μm,12.3s								
CLNS				smax	smax				
	comp=N,11μm,11.8s								
AJM	**Ajmer**	**62.99**	**304**	*i* x	pP		14 51 32.0	+1.3	
SDNR	**Sundarnagar**	**63.21**	**310**	*ex*	**P**		**14 50 59.0**	**+0.6**	
SDNR				*ex*	x		14 59 19.0		
PEA0B	**Petropavlovsk-**	**63.36**	**18**	*eP*	**P**		**14 50 59.7**	**+0.8**	
PETK	**Petropavlovsk-**	**63.36**	**18**	P	**P**		**14 50 59.3**	**+0.4**	
PETK				pmax	pmax				
	comp=Z,405nm,0.5s								
PETK	**Petropavlovsk-**	**63.36**	**18**	P	**P**		**14 50 59.3**	**+0.4**	
PETK	**Petropavlovsk-**	**63.36**	**18**	P	**P**		**14 50 59.3**	**+0.4**	
	comp=Z,395nm,0.6s,baz=188,slow=5.1,SNR=400								
PETK				LR	LR		15 13 19.1		
	comp=Z,13μm,20.9s,baz=206,slow=31								
PETK				PKPPKP	P'P'df		15 19 46.8	-7.3	
	comp=Z,7.4nm,0.8s,baz=89,slow=3.1,SNR=6.0								
PET	**Petropavlovsk**	**63.58**	**19**	*ciP*	**P**		**14 51 01.4**	**+1.1**	
PET				*i* S	**S**		**14 59 20.9**	**-1.9**	
PET				pmax	pmax				
	comp=Z,7μm,3.6s								
PET				pmax	pmax				
	comp=Z,2μm,1.1s								
PET				pmax	pmax				
	comp=Z,4μm,12.6s								
PET				smax	smax				
	comp=N,23μm,12.5s								
PET				smax	smax				
	comp=E,29μm,6.7s								
PET				smax	smax				
	comp=N,29μm,19.0s								
PET				smax	smax				
	comp=E,30μm,20.2s								
PET				MLR	MLR				
	comp=Z,12μm,19.0s								
PET				MLR	MLR				
	comp=Z,11μm,19.0s								
BHK	**Bhakra**	**63.60**	**309**	*eP*	**P**		**14 51 02.0**	**+1.0**	
BHK				*ex*	x		14 52 30.0		
DHRM	**DHARAMSHALA**	**64.06**	**310**	*eP*	**P**		**14 51 04.7**	**+0.5**	
DHRM				AMB	AMB		14 51 11.9		
	comp=Z,4μm,0.4s								
THN	**Thein Dam**	**64.58**	**310**	*eP*	**P**		**14 51 04.7**	**-2.6**	
THN				*ex*	x		14 59 35.0		
JMU	**Jammu**	**65.32**	**310**	*eP*	**P**		**14 51 13.0**	**+0.9**	
MIR	**Mirnyy**	**65.60**	**195**	⇑*iP*	**P**		**14 51 16.0**	**+2.7**	
MIR				*eS	**S**		**14 59 46.0**	**-1.3**	
MIR				*ePS	PnS		15 00 06.0	-23	
MIR				*eSS	**SS**		**15 04 05.0**	**+1.2**	
MIR				*eSSS	SSS		15 07 06.0		
MIR				pmax	pmax				
	comp=Z,21μm,7.0s								
MIR				pmax	pmax				
	comp=Z,2μm,1.0s								
BHJ	**Bhuj**	**66.11**	**299**	*eP*	**P**		**14 51 18.1**	**+0.8**	
BHJ				AMB	AMB		14 51 22.2		
	comp=Z,745nm,1.5s								
PAF	**Port-aux-Franc**	**66.23**	**218**	*eP*	**P**		**14 51 17.6**	**0.0**	
PAF				*e*			14 51 46.1		
PAF				*e**PP	**pP**		**14 51 50.9**	**-0.6**	
PAF				pmax	pmax				
	comp=Z,1μm,1.1s								
PAF				MLR	MLR				
	comp=Z,26μm,19.0s								
PAF	**Port-aux-Franc**	**66.23**	**218**	*eP*	**P**		**14 51 17.6**	**0.0**	
	comp=Z,1μm,1.1s								
PAF				*ePcP	**PcP**		**14 51 46.0**	**-0.6**	
PAF				*epP	**pP**		**14 51 50.9**	**-

MKAR S **S** **15 00 13.7 +0.1**
MKAR Makanchi Array 67.73 326 P **P** **14 51 27.2 0.0**
comp=N,1µm,0.5s,baz=121,slow=6.9,SNR=1877
MKAR S **S** **15 00 13.7 +0.1**
comp=N,53nm,1.0s,baz=123,slow=8.8,SNR=4.3
MKAR PKPPKP P'P'df 15 19 32.1 -16
comp=N,3.5nm,1.0s,baz=264,slow=2.4,SNR=3.8
YAK Yakutsk 67.95 360*c i*P **P** **14 51 29.5 +1.4**
YAK *e* 14 51 55.7
YAK *e* 14 54 00.3
YAK *e*S **S** **15 00 17.4 +1.9**
YAK *e* 15 01 11.3
YAK *e*SS **SS** **15 04 46.3 +5.8**
YAK pmax pmax
comp=Z,2µm,1.0s
YAK pmax pmax
comp=N,563nm,1.0s
YAK pmax pmax
comp=E,65nm,0.9s
YAK pmax pmax
comp=Z,2µm,3.8s
YAK pmax pmax
comp=N,796nm,2.8s
YAK pmax pmax
comp=E,153nm,1.6s
YAK smax smax
comp=N,6µm,1.8s
YAK smax smax
comp=E,2µm,1.4s
ULHL Ulahol 68.83 320 *i*P **P** **14 51 35.8 +1.5**
ULHL Ulahol 68.83 320 P **P** **14 51 35.8 +1.5**
SNR=155
AAA Alma-Ata 68.91 321 *i*P **P** **14 51 36.7 +2.1**
AAA *e*S **S** **15 00 28.4 +0.7**
AAA pmax pmax
comp=Z,22µm,11.1s
AAA smax smax
comp=E,64µm,9.4s
RAR Rarotonga 68.99 110 *e*P **P** **14 51 36.5 +0.9**
comp=E,648nm,1.2s
RAR *e*PcP **PcP** **14 51 58.4 -0.4**
RAR *e*pP **pP** **14 52 08.8 -0.9**
RAR LR LR
comp=Z,9µm,19.0s
FX1 Attu Island--F 69.00 26 *e*P **P** **14 51 35.9 +1.1**
KRAR Krasnoyarsk 69.20 339*c i*P P 14 51 42.5 +6.5
KRAR pmax pmax
comp=Z,357nm,1.2s
SMY Shemya 69.31 27 *e*P **P** **14 51 36.4 -0.3**
SMY *e* 14 51 59.2
SMY pmax pmax
comp=Z,4µm,1.3s
SMY Shemya 69.31 27 *e*P **P** **14 51 36.4 -0.3**
comp=Z,4µm,1.3s
SMY *e*PcP **PcP** **14 51 59.2 -0.1**
KZA Kyzart 69.39 319 *i*P **P** **14 51 39.9 +1.9**
KZA Kyzart 69.39 319 P **P** **14 51 39.9 +1.9**
SNR=199
TKM2 Tokmak 2 69.58 320 *e*P **P** **14 51 40.3 +1.3**
TKM2 *e**PP **pP** **14 52 12.9 -0.3**
TKM2 *e**SP **sP** **14 52 27.1 -1.2**
TKM2 MLR MLR
comp=Z,14µm,19.0s
TKM2 Tokmak 2 69.58 320 P **P** **14 51 40.3 +1.3**
SNR=117
TKM2 Tokmak 2 69.58 320 *e*P **P** **14 51 40.3 +1.3**
comp=Z,4.9nm,1.3s
TKM2 *e*pP **pP** **14 52 12.9 -0.3**
TKM2 *e*sP **sP** **14 52 27.1 -1.2**
TKM2 LR LR
comp=Z,14µm,19.0s
KBK Karagaybulak 69.86 320 *i*P **P** **14 51 42.3 +1.6**
KBK Karagaybulak 69.86 320 P **P** **14 51 42.3 +1.6**
SNR=614
AAK Ala-Archa 70.15 319 P **P** **14 51 44.0 +1.6**
AAK S **S** **15 00 45.5 +2.9**
AAK smax smax
comp=N,62nm,1.1s
AAK Ala-Archa 70.15 319 P **P** **14 51 44.2 +1.8**
SNR=1826
AAK Ala-Archa 70.15 319 P **P** **14 51 43.9 +1.6**
SNR=1186
AAK Ala-Archa 70.15 319 *e*P **P** **14 51 44.0 +1.6**
comp=N,2µm,0.9s
AAK *e*PcP **PcP** **14 52 02.8 -0.7**
AAK *e*pP **pP** **14 52 16.1 -0.6**
AAK *e*sP **sP** **14 52 30.7 -1.0**
AAK S **S** **15 00 45.5 +2.9**
AAK LR LR
comp=Z,17µm,20.0s
AAK Ala-Archa 70.15 319 P **P** **14 51 44.0 +1.6**
comp=Z,18µm,0.9s
AAK Ala-Archa 70.15 319 P **P** **14 51 44.0 +1.6**
comp=Z,2µm,1.0s,baz=118,slow=5.2,SNR=742
AAK S **S** **15 00 45.5 +2.9**
comp=Z,62nm,1.1s,baz=283,slow=19,SNR=12
CHMS Chumysh 70.16 320 *i*P **P** **14 51 44.2 +1.9**
CHMS Chumysh 70.16 320 P **P** **14 51 44.2 +1.9**
SNR=28
FRU Bishkek 70.17 320⇑*i*P **P** **14 51 43.8 +1.5**
FRU *e*S **S** **15 00 47.0 +4.5**
FRU pmax pmax
comp=Z,2µm,2.0s
FRU smax smax
comp=E,4µm,3.0s
FRU MLR MLR
comp=Z,18µm,23.0s
AML Almayashu 70.43 319 *i*P **P** **14 51 46.2 +1.8**
AML Almayashu 70.43 319 P **P** **14 51 46.2 +1.8**
SNR=76
USP Ospenovka 70.45 320 *i*P **P** **14 51 45.5 +1.4**
USP Ospenovka 70.45 320 P **P** **14 51 45.5 +1.4**
SNR=1879
KBL Kabul 70.53 310 *e*P **P** **14 51 45.7 +0.8**
KBL pmax pmax
comp=Z,2µm,1.0s
KBL Kabul 70.53 310 *e*P **P** **14 51 45.6 +0.8**
comp=Z,2µm,1.0s
KBL Kabul 70.53 310⇑P **P** **14 51 45.8 +0.9**
baz=71,SNR=317
EKS2 Erkin-Say 70.62 319 *e*P **P** **14 51 47.0 +1.7**
EKS2 pmax pmax
comp=Z,3µm,1.0s
EKS2 MLR MLR
comp=Z,19µm,22.0s
EKS2 Erkin-Say 70.62 319 P **P** **14 51 47.2 +2.0**
SNR=110
EKS2 Erkin-Say 70.62 319 *e*P **P** **14 51 47.0 +1.7**
comp=Z,3µm,1.0s
EKS2 LR LR
comp=Z,19µm,22.0s
AMKA Amchitka 70.89 30 *e*P **P** **14 51 46.9 +0.5**
comp=Z,422nm,0.7s
AMKA *e*pP **pP** **14 52 20.0 -0.8**
ZAA0 Zalesovo Array 70.99 333 *e*P **P** **14 51 47.0 0.0**
ZAA0 *e*PcP **PcP** **14 52 04.6 -1.9**
ZALV Zalesovo Beam 70.99 333 P **P** **14 51 47.0 0.0**
ZALV S **S** **15 00 49.5 -2.0**
ZALV smax smax
comp=N,132nm,1.1s
ZALV MLR MLR
comp=Z,13µm,20.2s
ZALV Zalesovo Beam 70.99 333 P **P** **14 51 47.0 0.0**
ZALV S **S** **15 00 49.5 -2.0**
ZALV PKKP **PKKPdf** **15 11 27.9 -0.4**
ZALV *e* 15 28 32.6
ZALV Zalesovo Beam 70.99 333 P **P** **14 51 47.0 0.0**
comp=Z,1µm,0.8s,baz=116,slow=4.5,SNR=990
ZALV S **S** **15 00 49.5 -2.0**
comp=Z,132nm,1.1s,baz=115,slow=6.5,SNR=7.7
ZALV PKKP **PKKPdf** **15 11 27.9 -0.4**
comp=Z,3.6nm,0.8s,baz=256,slow=3.0,SNR=3.5
ZALV PKP2bc 15 19 31.9
comp=Z,4.5nm,0.8s,baz=312,slow=2.5,SNR=3.5
ZALV LR LR 15 23 02.7
comp=Z,13µm,20.2s,baz=146,slow=36
ZALV P4KPbc 15 28 32.6
comp=Z,9.7nm,1.0s,baz=139,slow=3.2,SNR=9.7
MRIV Mauritius Mete 71.91 251 *e*P **P** **14 51 53.2 -0.2**
MRIV *e*pP **pP** **14 52 26.8 -1.0**
KURK Kurchatov 71.99 328 *e*P **P** **14 51 53.7 +0.6**
KURK Kurchatov 71.99 328 *e*P **P** **14 51 53.6 +0.6**
comp=Z,28nm,0.9s
KURK Kurchatov 71.99 328 P **P** **14 51 53.0 -0.1**
comp=Z,20µm,1.0s
NVS Novosibirsk 72.27 334⇑*i*P **P** **14 51 54.3 -0.3**

NVS *e* 14 52 33.6
NVS *e*S **S** **15 01 04.1 -2.0**
NVS *e* 15 01 40.9
NVS pmax pmax
comp=Z,2µm,1.2s
NVS pmax pmax
comp=N,365nm,0.7s
NVS pmax pmax
comp=E,723nm,0.7s
NVS smax smax
comp=N,2µm,2.1s
NVS smax smax
comp=E,4µm,2.5s
XMAS Kiritimati 72.47 86 *e*P **P** **14 51 58.7 +2.0**
comp=E,1µm,1.1s
XMAS *e*PcP **PcP** **14 52 14.1 +0.4**
XMAS LR LR
comp=Z,32µm,20.0s
KK31 Karatay Array 72.96 318 *i*P **P** **14 51 59.7 +0.6**
KK31 pmax pmax
comp=Z,2µm,1.2s
KKAR Karatay Array 72.96 318 *e*P **P** **14 51 59.9 +0.9**
KKAR Karatay Array 72.96 318 *e*P **P** **14 51 59.9 +0.9**
ADK Adak 73.21 31 *e*P **P** **14 52 01.1 +0.8**
ADK *e* 14 52 16.3
ADK MLR MLR
comp=Z,19µm,20.0s
ADK Adak 73.21 31 *e*P **P** **14 52 01.1 +0.8**
ADK *e*PcP **PcP** **14 52 16.3 +0.3**
ADK LR LR
comp=Z,19µm,20.0s
VNDA Vanda 73.27 173 *e*P **P** **14 52 00.6 +0.4**
VNDA *e*PcP **PcP** **14 52 15.3 -0.6**
VNDA *e*PcP **PcP** **14 52 15.6 -0.3**
VNDA S **SKiKP** **15 01 17.7 +0.2**
VNDA Vanda 73.27 173 P **P** **14 52 00.1 -0.1**
comp=Z,361nm,1.0s,baz=325,slow=6.5,SNR=375
VNDA S **SKiKP** **15 01 17.7 +0.2**
comp=Z,6.9nm,0.9s,baz=57,slow=22,SNR=10
VNDA LR LR 15 24 27.0
comp=Z,23µm,21.7s,baz=348,slow=36
GSTR Great Sitkin T 73.65 31 *e*P **P** **14 52 04.7 +1.8**
SBA Scott Base 74.15 173 *e*P **P** **14 52 06.7 +1.4**
SBA pmax pmax
comp=Z,1µm,1.0s
SBA MLR MLR
comp=Z,21µm,20.0s
SBA Scott Base 74.15 173 *e*P **P** **14 52 06.7 +1.4**
comp=Z,1µm,1.0s
SBA LR LR
comp=Z,21µm,20.0s
MSEY Mahe Island 74.58 267 P **P** **14 52 10.7 +1.6**
SNR=100
MSEY Mahe Island 74.58 267 *e*P **P** **14 52 09.3 +0.1**
comp=Z,849nm,0.9s
MSEY LR LR
comp=Z,18µm,21.0s
MSEY Mahe Island 74.58 267 P **P** **14 52 10.8 +1.7**
comp=Z,5µm,1.0s,SNR=76
HON Honolulu 75.24 66 *e*P **P** **14 52 13.6 +0.9**
HON Honolulu 75.24 66 *e*P **P** **14 52 13.6 +0.9**
KIP Kipapa 75.25 66*c i*P **P** **14 52 13.3 +0.6**
KIP pmax pmax
comp=Z,2µm,1.2s
KIP Kipapa 75.25 66 *e*P **P** **14 52 14.8 +2.1**
comp=Z,3µm,1.4s
KIP LR LR
comp=Z,13µm,20.0s
WBK Wadi Bani Khal 75.42 295 P **P** **14 52 14.8 +1.0**
SNR=411
MAW Mawson 75.92 201 P **P** **14 52 16.1 +0.4**
MAW S **S** **15 01 49.0 +2.5**
MAW *e* 15 28 53.2
MAW Mawson 75.92 201⇓P **P** **14 52 16.5 +0.8**
baz=76,SNR=1000
MAW Mawson 75.92 201 P **P** **14 52 16.1 +0.4**
comp=Z,570nm,0.8s,baz=75,slow=5.8,SNR=380
MAW S **S** **15 01 49.0 +2.5**
comp=Z,61nm,1.2s,baz=157,slow=23,SNR=4.9
MAW PKP2bc 15 19 12.0
comp=Z,2.7nm,0.9s,baz=244,slow=6.4,SNR=3.7
MAW LR LR 15 25 47.7
comp=Z,12µm,18.6s,baz=71,slow=36
MAW P4KPbc 15 28 53.2
comp=Z,4.0nm,1.0s,baz=80,slow=4.1,SNR=4.8
JMDO Jabal Madar 76.15 295 P **P** **14 52 18.5 +0.7**
SNR=436
SMDO Samad 76.35 295 P **P** **14 52 19.9 +0.8**
SNR=914
HKL Haleakala 76.70 67 *e*P **P** **14 52 23.8 +2.4**
HKL Haleakala 76.70 67 *e*P **P** **14 52 23.8 +2.4**
KKH Kailua Kona 76.71 68 *e*P **P** **14 52 23.4 +2.4**
KKH Kailua Kona 76.71 68 *e*P **P** **14 52 23.4 +2.4**
BSY Bisya 77.05 295 P **P** **14 52 23.6 +0.7**
SNR=352
VOSK Vostochnaya 77.09 327 P **P** **14 52 22.5 0.0**
VOSK pmax pmax
comp=Z,1µm,0.7s
HOQ Hoqain 77.12 296 P **P** **14 52 24.3 +1.0**
SNR=396
POHA Pohakuloa 77.17 68 *e*P **P** **14 52 24.8 +0.8**
comp=Z,4µm,1.6s
IDAH Dahanechah 77.18 305 *e*P **P** **14 52 25.6 +1.8**
IMON Monand 77.46 306 *e*P **P** **14 52 26.8 +1.5**
BVA0 Borovoye Array 77.55 328 *i*P **P** **14 52 25.2 +0.1**
BVA0 pmax pmax
comp=Z,2µm,1.0s
BVAR Borovoye Array 77.55 328 PKKPbc PKKPbc 15 11 29.4 -1.3
BVAR ⇑*e* 15 19 25.2
BVAR Borovoye Array 77.55 328 PKKPbc PKKPbc 15 11 29.4 -1.3
comp=Z,8.0nm,0.8s,baz=278,slow=2.1,SNR=5.6
BVAR PKP2bc 15 19 25.2
comp=Z,2.4nm,0.7s,baz=311,slow=3.4,SNR=5.3
TIXI Tiksi 77.62 359*c i*P **P** **14 52 24.3 -0.7**
TIXI pmax pmax
comp=Z,650nm,1.0s
BRVK Borovoye 77.62 328*c i*P **P** **14 52 25.8 +0.4**
BRVK pmax pmax
comp=Z,2µm,1.2s
BRVK Borovoye 77.62 328 P **P** **14 52 26.2 +0.8**
SNR=856
BRVK Borovoye 77.62 328 *e*P **P** **14 52 25.9 +0.4**
comp=Z,3µm,1.2s
BRVK *e*PcP **PcP** **14 52 35.1 0.0**
BRVK LR LR
comp=Z,13µm,19.0s
BRVK Borovoye 77.62 328 P **P** **14 52 26.2 +0.8**
comp=Z,11µm,1.0s
ARQ Araqi 77.78 295 P **P** **14 52 27.7 +0.7**
SNR=224
IKOO Kooshah 77.80 305 *e*P **P** **14 52 28.3 +1.1**
ITEG Tejag 78.13 305 *e*P **P** **14 52 30.2 +1.2**
UOSS Wadi Hilu 78.40 297 P **P** **14 52 30.3 -0.1**
comp=Z,5µm,0.6s
HATD Hatta, Dubai 78.44 297 P **P** **14 52 31.6 +1.0**
SNR=286
ASHO Ashiyiah 78.48 297 P **P** **14 52 31.7 +0.9**
SNR=249
BANOM Banah 78.53 298 P **P** **14 52 32.5 +1.4**
SNR=470
TBI Tubuai 78.54 113 *e*P **P** **14 52 32.6 +1.4**
comp=Z,453nm,0.8s
TBI *e*pP **pP** **14 53 10.4 +4.3**
comp=Z,892nm,1.0s
TBI Tubuai 78.54 113 *e*PP PP 14 55 31.5 +0.7
comp=Z,10µm,30.2s
TBI *e*S **S** **15 02 18.1 +1.6**
comp=Z,31µm,28.5s
TBI Tubuai 78.54 113 *e*LQ LQ 15 13 58.7
comp=Z,43µm,31.2s
TBI *e*LR LR 15 17 36.5
comp=Z,34µm,29.2s
PAE Paea 78.66 107 *e*P **P** **14 52 34.0 +2.1**
comp=Z,159nm,1.2s
PAE *e*pP **pP** **14 53 11.2 +4.4**
comp=Z,253nm,1.3s
IBND Bandar-abas 78.66 299 *e*P **P** **14 52 33.3 +1.6**
IBND *e*P PcP 14 52 33.4 -6.7
PPT2 Papeete2 78.66 107 *e*P **P** **14 52 34.5 +2.5**
comp=Z,786nm,1.2s
PPT2 *e*pP **pP** **14 53 11.4 +4.4**
comp=Z,548nm,1.0s
PPT2 Papeete2 78.66 107 *e*PP PP 14 55 33.3 +1.3
comp=Z,13µm,28.2s
PPT2 *e*S **S** **15 02 17.3 -0.9**
comp=Z,45µm,29.5s

PPT2 Papeete2 78.66 107 *e*LQ LQ 15 14 02.3
comp=Z,29µm,28.5s
PPT2 *e*LR LR 15 17 09.3
comp=Z,39µm,26.8s
PPT Papeete 78.66 107 P **P** **14 52 33.5 +1.5**
PPT Papeete 78.66 107 P **P** **14 52 33.5 +1.5**
comp=Z,594nm,0.9s,baz=306,slow=4.1,SNR=34
RBK Rabkut 78.80 289 P **P** **14 52 33.0 +0.3**
SNR=615
NAZ Nazwa, Dubai 78.89 297 P **P** **14 52 33.8 +0.7**
SNR=249
ASUD Al Ashush, Dub 79.11 296 P **P** **14 52 35.5 +1.3**
SNR=187
IAKL Akhelmad 79.12 309 *e*P **P** **14 52 35.3 +0.9**
IEMG Emamgholi 79.42 310 *e*P **P** **14 52 37.1 +1.0**
UNV Unalaska Valle 79.54 32 *e*P **P** **14 52 36.0 +0.2**
comp=Z,3µm,1.5s
UNV *e*PcP **PcP** **14 52 42.8 -0.5**
ABTO Aybut 79.62 289 P **P** **14 52 37.8 +0.6**
SNR=796
ISFR Sfrayin 79.83 309 *e*P **P** **14 52 39.6 +1.4**
AKUT Akutan 80.05 32 *e*P **P** **14 52 39.5 +0.8**
comp=Z,8µm,1.7s
ISHV Shirvan 80.18 310 *e*P **P** **14 52 41.5 +1.4**
PMOR Pomariorio Ree 80.43 104 *e*P **P** **14 52 43.6 +2.1**
comp=Z,1µm,1.2s
PMOR *e*pP **pP** **14 53 20.9 +4.3**
comp=Z,974nm,1.2s
VAH Vaihoa 80.67 104 *e*P **P** **14 52 44.7 +1.9**
comp=Z,522nm,1.1s
VAH *e*pP **pP** **14 53 22.0 +4.1**
comp=Z,645nm,1.2s
FALS False Pass 81.60 32 *e*P **P** **14 52 47.7 +0.9**
comp=Z,6µm,1.7s
ABPO Ambohimpanom 81.62 252 *e*P **P** **14 52 46.9 -1.1**
ABPO pmax pmax
comp=Z,257nm,0.8s
ABPO MLR MLR
comp=Z,10µm,19.0s
ABPO Ambohimpanom 81.62 252 *e*P **P** **14 52 46.9 -1.1**
comp=Z,257nm,0.8s
ABPO *e*PcP **PcP** **14 52 53.4 -0.1**
ABPO LR LR
comp=Z,10µm,19.0s
ABPO Ambohimpanom 81.62 252 P **P** **14 52 49.0 +0.9**
comp=Z,564nm,0.6s,SNR=7.7
OPO Ambohidratompo 81.69 252 P **P** **14 52 49.2 +0.8**
OPO Ambohidratompo 81.69 252 P **P** **14 52 49.2 +0.8**
comp=Z,349nm,0.7s,baz=87,slow=4.2,SNR=126
IMND Minoodasht 81.88 309 *e*P **P** **14 52 50.3 +1.5**
GAMB Gambell 81.94 22 *e*P **P** **14 52 50.1 +1.7**
comp=Z,3µm,1.5s
ISRV Sarvestan 82.02 301 *e*P **P** **14 52 50.8 +0.7**
AB31 Akbulak array 82.09 321 P **P** **14 52 49.9 +0.3**
AB31 pmax pmax
comp=Z,2µm,1.2s
ABKAR Akbulak array 82.09 321 *e*P **P** **14 52 49.6 0.0**
IPAR Pars 82.16 301 *e*P **P** **14 52 51.2 +0.4**
IANJ Anjilo 82.64 307 *e*P **P** **14 52 53.1 0.0**
ISHM Shahmirzad 83.21 307 *e*P **P** **14 52 57.2 +1.1**
MUKL Al Mukalla 83.23 285⇑*e*P **P** **14 52 57.2 +1.1**
SDPT Sand Point 83.35 32 *e*P **P** **14 52 56.1 +0.2**
comp=Z,28µm,2.2s
IZEF Zefreh 83.38 304 *e*P **P** **14 52 56.9 -0.1**
ILAS Lasjerd 83.38 307 *e*P **P** **14 52 57.3 +0.4**
IGAR Gharneh 83.52 303 *e*P **P** **14 52 58.5 +0.8**
IFIR Firoozkooh 83.60 307 *e*P **P** **14 52 58.7 +0.6**
AKTO Aktyubinsk 83.64 322 P **P** **14 52 56.4 -1.2**
AKTO S **S** **15 03 03.8 -4.4**
AKTO pmax pmax
comp=Z,249nm,0.6s
AKTO smax smax
comp=N,29nm,0.9s
AKTO Aktyubinsk 83.64 322 P **P** **14 52 56.4 -1.2**
AKTO S **S** **15 03 03.8 -4.4**
AKTO Aktyubinsk 83.64 322 P **P** **14 52 56.4 -1.2**
comp=N,249nm,0.6s,baz=105,slow=6.8,SNR=474
AKTO S **S** **15 03 03.8 -4.4**
comp=N,29nm,0.9s,baz=203,slow=23,SNR=12
ISFB Sefidab 83.75 305 *e*P **P** **14 52 59.7 +1.1**
QSPA South Pole Qui 83.85 180 P **P** **14 52 58.1 -0.4**
QSPA S **S** **15 03 04.3 -5.8**
QSPA South Pole Qui 83.85 180 P **P** **14 52 58.1 -0.4**
comp=N,1µm,1.0s
QSPA S **S** **15 03 04.3 -5.8**
IKLH Kolahrood 84.08 304 *e*P **P** **14 53 01.7 +1.2**
IDMV Damavand 84.16 307 *e*P **P** **14 53 01.1 +0.2**
SVE Sverdlovsk 84.24 329*d i*P **P** **14 53 00.9 +0.5**
SVE *i*S S 15 03 06.5 -7.4
SVE pmax pmax
comp=Z,4µm,1.1s
SVE pmax pmax
comp=Z,9µm,15.2s
SVE smax smax
comp=E,10µm,9.5s
SVE smax smax
comp=N,32µm,12.4s
TNA Tin City 84.25 22 *e*P **P** **14 53 00.8 +0.5**
comp=N,2µm,1.6s
TNA *e*PcP **PcP** **14 53 05.0 +1.3**
IVRN Varamin 84.29 306 *e*P **P** **14 53 02.1 +0.8**
SYO Syowa Base 84.64 201⇑*e*P **P** **14 53 00.8 -1.4**
SYO Syowa Base 84.64 201⇓*i*P **P** **14 53 01.4 -0.8**
CHGN Chignik 84.77 32 *e*P **P** **14 53 03.4 +0.3**
IR3 Iran Long-Peri 84.95 306 *e*P **P** **14 53 05.5 +0.9**
ARU Arti 85.19 328*c i*P **P** **14 53 04.6 -0.6**
ARU 14 56 22.1
ARU S S 15 03 15.7 -7.6
ARU *SS sS 15 04 15.1 -10
ARU pmax pmax
comp=Z,658nm,1.0s
IMHD Mahdasht 85.27 306 *e*P **P** **14 53 07.3 +1.0**
IGZV Ghazvin 85.76 307 *e*P **P** **14 53 10.0 +1.2**
IRAZ Razeghan 85.81 306 *e*P **P** **14 53 10.1 +1.0**
BDHA Al Bayda' 86.50 284⇑*e*P **P** **14 53 13.9 +1.0**
BDHA AMb AMB 14 53 16.2
comp=Z,1µm,1.0s
KBD Kabd 86.64 300 *e*P **P** **14 53 13.5 +0.5**
KBD AMb AMB 14 53 17.9
comp=Z,821nm,1.4s
UMR Umm Al-Rimmam 86.68 300 *e*P **P** **14 53 13.3 +0.2**
UMR AMb AMB 14 53 18.7
comp=Z,2µm,1.6s
LBOS 86.79 284⇑*e*P **P** **14 53 15.4 +1.0**
LBOS AMb AMB 14 53 17.9
comp=Z,5µm,1.2s
MIB Mutribah 87.04 300 *e*P **P** **14 53 15.5 +0.6**
MIB AMb AMB 14 53 20.3
comp=Z,3µm,1.3s
NAY Al-Naaiem 87.04 300 *e*P **P** **14 53 14.8 -0.1**
NAY AMb AMB 14 53 20.2
comp=Z,1µm,1.2s
IKOM Komasi 87.57 305 *e*P **P** **14 53 16.9 -0.7**
SVW2 Sparrevohn 87.67 28 *e*P **P** **14 53 18.4 +1.2**
comp=Z,877nm,1.0s
OHAK Old Harbor 87.74 32 *e*P **P** **14 53 18.5 +0.9**
comp=Z,2µm,0.9s
RAYN Ar Rayn 87.78 294 P **P** **14 53 19.1 +0.4**
comp=Z,7µm,0.9s
TRBA At Turbah 87.81 283⇑*e*P **P** **14 53 20.1 +1.0**
UDYN Al 'Udayn 88.04 284⇑*e*P **P** **14 53 21.0 +0.9**
ILIN Lien 88.13 305 *e*P **P** **14 53 19.8 -0.5**
IVIS Veis 88.16 305 *e*P **P** **14 53 20.2 -0.1**
KDAK Kodiak Island 88.25 31 *e*P **P** **14 53 20.6 +0.7**
comp=Z,2µm,1.1s
KDAK LR LR
comp=Z,18µm,20.0s
KDAK Kodiak Island 88.25 31 P **P** **14 53 21.7 +1.7**
comp=Z,4µm,1.0s,SNR=47
IGHG Ghaleghazi 88.36 305 *e*P **P** **14 53 20.4 -1.0**
IDHR Dehrash 88.56 305 *e*P **P** **14 53 21.4 -0.9**
HAJJ Hajjah 88.60 286⇑*e*P **P** **14 53 23.8 +1.0**
RSO Redoubt South 88.83 29 *e*P **P** **14 53 23.8 +0.8**
MAK Makhachkala 88.97 313 *e*P **P** **14 53 18.8 -4.9**
SPU Mount Spurr 89.34 28 *e*P **P** **14 53 24.8 -0.3**
PPLA Purkeypile 89.69 27 *e*P **P** **14 53 27.6 +0.7**
comp=Z,4µm,2.0s
IM04 Indian Mountai 89.81 23 *e*P **P** **14 53 26.6 -0.6**
IM04 *e*PP **PP** **14 56 57.6 -3.9**
CAST Castle Rocks 89.86 26 *e*P **P** **14 53 27.9 +0.3**
comp=Z,246nm,1.0s
IMA2 Indian Mountai 89.87 23 *e*P **P** **14 53 26.4 -1.2**
SEW Seward 90.35 30 *e*P **P** **14 53 30.3 +0.5**
BPAW Bear Paw Mtn. 90.50 26 *e*P **P** **14 53 30.2 -0.2**

GNI	**Garni**	**90.61**	**310**	*e*P		**P**	**14 53 32.6**	**+0.9**
GNI	**Garni**	**90.61**	**310**	P		**P**	**14 53 32.7**	**+0.9**
	SNR=100								
GNI	**Garni**	**90.61**	**310**	*e*P		**P**	**14 53 32.9**	**+1.2**
	comp=Z,708nm,1.1s								
GNI				*e*PP		**PP**	**14 57 06.1**	**-2.7**
GNI				LR		LR			
	comp=Z,8μm,22.0s								
TRF	**Thorofare Moun**	**90.66**	**26**	*e*P		P	14 53 27.6	-3.8	
	comp=Z,13nm,1.1s								
SEAG	**Tbilisi Sea**	**90.77**	**312**	P		**P**	**14 53 34.0**	**+1.7**
PMR	**Palmer**	**90.80**	**28**	*e*P		**P**	**14 53 31.3**	**-0.5**
PMR				*e*			14 57 08.6		
PMR				pmax		pmax			
	comp=Z,3μm,2.3s								
PMR	**Palmer**	**90.80**	**28**	*e*P		**P**	**14 53 31.3**	**-0.5**
	comp=Z,3μm,2.3s								
PMR				*e*PP		**PP**	**14 57 08.6**	**-0.8**
TBLG	**Delisi**	**90.82**	**312**	P		**P**	**14 53 33.5**	**+1.0**
KZR	**Kazreti**	**91.01**	**311**	P		**P**	**14 53 34.7**	**+1.3**
HAKT	**HAKKARI**	**91.09**	**307**	*i* P		**P**	**14 53 34.5**	**+0.4**
GUDG	**Gudauri**	**91.10**	**312**	P		**P**	**14 53 35.4**	**+1.3**
CLDR	**Caldiran**	**91.12**	**309**	*e*P		**P**	**14 53 35.5**	**+1.3**
CUKT	**Cukurca**	**91.13**	**307**	*e*P		**P**	**14 53 34.9**	**+0.7**
MCK	**McKinley**	**91.31**	**26**	*e*P		**P**	**14 53 33.6**	**-0.6**
MCK				pmax		pmax			
	comp=Z,312nm,1.0s								
MCK	**McKinley**	**91.31**	**26**	*e*P		**P**	**14 53 33.6**	**-0.6**
	comp=Z,312nm,1.0s								
DYDN	**Diyadin**	**91.34**	**309**	*i* P		**P**	**14 53 37.1**	**+1.9**
COLD	**Coldfoot**	**91.50**	**23**	*e*P		**P**	**14 53 35.1**	**+0.1**
ZEI	**Tsey**	**91.56**	**313**	*e*P		**P**	**14 53 37.0**	**+0.9**
ZEI				pmax		pmax			
	comp=Z,437nm,1.3s								
DIGO	**Kars**	**91.68**	**310**	*i* P		**P**	**14 53 37.0**	**+0.2**
AKH	**Akhalkalaki**	**91.71**	**311**	P		**P**	**14 53 38.6**	**+1.8**
RKT	**Rikitea**	**91.84**	**113**	*e*P		**P**	**14 53 39.8**	**+2.2**
	comp=Z,288nm,1.3s								
RKT				*e*pP		**pP**	**14 54 16.5**	**+3.1**
	comp=Z,198nm,1.2s								
RKT	**Rikitea**	**91.84**	**113**	*e*PP		PP	14 57 19.2	+0.7	
	comp=Z,6μm,30.5s								
RKT				*e*SKSac		**SKSac**	**15 03 54.0**	**-3.8**	
	comp=Z,42μm,28.2s								
RKT	**Rikitea**	**91.84**	**113**	*e*PS		PS	15 06 02.0	+6.7	
	comp=Z,14μm,35.2s								
RKT	**Rikitea**	**91.84**	**113**	*e*LQ		LQ	15 19 30.7		
	comp=Z,18μm,33.8s								
RKT				*e*LR		LR	15 23 38.8		
	comp=Z,25μm,35.2s								
ONI	**Oni**	**91.87**	**312**	P		**P**	**14 53 38.2**	**+0.8**
AGRB	**Hanur-Agry**	**91.88**	**309**	*e*P		**P**	**14 53 38.8**	**+1.2**
KARS	**Kars**	**91.93**	**310**	*e*P		**P**	**14 53 39.3**	**+1.6**
DESE	**Dese**	**91.94**	**281**	*e*P		**P**	**14 53 40.5**	**+1.9**
COLA	**College**	**91.98**	**25**	*e*P		**P**	**14 53 36.3**	**-0.9**
COLA				pmax		pmax			
	comp=Z,297nm,1.0s								
COLA				MLR		MLR			
	comp=Z,10μm,22.0s								
COLA	**College**	**91.98**	**25**	*e*P		**P**	**14 53 36.3**	**-0.9**
	comp=Z,297nm,1.0s								
COLA				LR		LR			
	comp=Z,10μm,22.0s								
SIRT	**Sirnak**	**92.09**	**307**	*e*P		**P**	**14 53 38.9**	**+0.4**
DIV	**Divide**	**92.32**	**29**	*e*P		**P**	**14 53 39.6**	**+0.7**
TATV	**Tatvan**	**92.33**	**308**	*i* P		**P**	**14 53 41.0**	**+1.3**
ILAR	**Eielson Array**	**92.37**	**25**	P		**P**	**14 53 37.6**	**-1.4**
ILAR				PKKPbc		**PKKPdf**	**15 10 50.6**	**-2.3**
ILAR				PKKKP			15 17 42.0		
ILAR				P'P'			15 19 00.8		
ILAR	**Eielson Array**	**92.37**	**25**	P		**P**	**14 53 37.6**	**-1.4**
	comp=Z,84nm,0.7s,baz=274,slow=4.2,SNR=382								
ILAR				PKKPbc		**PKKPdf**	**15 10 50.6**	**-2.3**
	comp=Z,6.8nm,0.9s,baz=163,slow=2.0,SNR=6.9								
ILAR				P3KP			15 17 42.0		
	comp=Z,3.6nm,1.1s,baz=79,slow=2.9,SNR=5.0								
ILAR				PKPPKP		**P'P'df**	**15 19 00.8**	**-1.8**	
	comp=Z,4.3nm,0.9s,baz=124,slow=2.3,SNR=5.5								
ILAR				LR		LR	15 35 49.3		
	comp=Z,9μm,20.3s,baz=78,slow=36								
GOF	**Gofitskoye**	**92.44**	**315**	*e*P		**P**	**14 53 40.7**	**+0.9**
GOF				*i* S		**SKSac**	**15 03 59.8**	**-0.4**	
GOF				pmax		pmax			
	comp=Z,200nm,1.3s								
KIV	**Kislovodsk**	**92.58**	**314**α	*i* P		**P**	**14 53 38.9**	**-1.7**
KIV				*i* *PP		**pP**	**14 54 18.5**	**+2.1**
KIV				*i*			14 57 26.0		
KIV				*i*			15 03 58.1		
KIV				*i* S		**S**	**15 04 32.2**	**-1.0**
KIV				*i*			15 05 42.3		
KIV				*i*			15 06 24.6		
KIV				SS		SS	15 10 58.0	+9.4	
KIV				pmax		pmax			
	comp=Z,1μm,2.3s								
KIV				pmax		pmax			
	comp=Z,103nm,1.2s								
KIV				MLR		MLR			
	comp=Z,11μm,24.0s								
KIV	**Kislovodsk**	**92.58**	**314**	P		**P**	**14 53 41.3**	**+0.7**
	comp=Z,568nm,1.3s,SNR=37								
AAE	**Adis Abeba**	**92.58**	**279**	*i* P		**P**	**14 53 43.0**	**+1.5**
AAE							15 04 20.0		
AAE							15 25 02.0		
FURI	**Furi**	**92.65**	**279**	*i* P		**P**	**14 53 44.7**	**+2.8**
FURI				S		**SKSac**	**15 04 10.2**	**+6.8**	
PAX	**Paxson**	**92.72**	**27**	*e*P		**P**	**14 53 40.7**	**-0.1**
PAX				pmax		pmax			
	comp=Z,898nm,1.5s								
PAX	**Paxson**	**92.72**	**27**	*e*P		**P**	**14 53 40.7**	**-0.1**
	comp=Z,898nm,1.5s								
HOMI	**Horasan**	**92.76**	**310**	*i* P		**P**	**14 53 42.3**	**+0.5**
ARTV	**Artvin**	**92.85**	**311**	*i* P		**P**	**14 53 41.8**	**-0.3**
DAGI	**Agillar**	**92.85**	**311**	*i* P		**P**	**14 53 41.8**	**-0.2**
DDEM	**Demirkent**	**92.96**	**311**	*i* P		**P**	**14 53 42.0**	**-0.4**
VRTB	**Varto-Mus**	**93.02**	**309**	*e*P		**P**	**14 53 44.9**	**+2.0**
KMBO	**Kilima Mbogo**	**93.04**	**269**	*e*P		**P**	**14 53 44.4**	**+0.8**
KMBO	**Kilima Mbogo**	**93.04**	**269**	P		**P**	**14 53 44.7**	**+1.1**
	SNR=209								
KMBO	**Kilima Mbogo**	**93.04**	**269**	*e*P		**P**	**14 53 44.2**	**+0.6**
KMBO				PP		**PP**	**14 57 30.2**	**+1.6**
KMBO	**Kilima Mbogo**	**93.04**	**269**	P		**P**	**14 53 42.9**	**-0.7**
	comp=Z,162nm,0.9s,baz=60,slow=6.2,SNR=104								
KMBO				PP		**PP**	**14 57 30.2**	**+1.6**
	comp=Z,18nm,1.0s,baz=76,slow=8.3,SNR=3.1								
KMBO				LR		LR	15 31 10.3		
	comp=Z,11μm,21.4s,baz=100,slow=32								
BCA	**Borcka**	**93.11**	**311**	*e*P		**P**	**14 53 42.6**	**-0.4**
ERZM	**Erzurum**	**93.16**	**310**	*i* P		**P**	**14 53 44.3**	**+0.7**
EZM	**Erzurum**	**93.16**	**310**	*e*P		**P**	**14 53 45.3**	**+1.6**
BNGL	**BINGOL**	**93.24**	**309**	*i* P		**P**	**14 53 45.2**	**+1.2**
MAIT	**Maitri**	**93.34**	**197**	*e*P		**P**	**14 53 42.4**	**-1.1**
MARD	**Mardin**	**93.39**	**307**	*i* P		**P**	**14 53 45.4**	**+0.8**
DOT	**Dot Lake**	**93.44**	**26**	*e*P		**P**	**14 53 44.1**	**0.0**
	comp=Z,1μm,2.0s								
MENT	**Mentasta**	**93.51**	**27**	*e*P		**P**	**14 53 44.4**	**-0.1**
BNGB	**Bing¶ll**	**93.61**	**309**	*e*P		**P**	**14 53 45.7**	**+0.2**
PZAR	**Pazar-Rize**	**93.63**	**311**	*e*P		**P**	**14 53 46.3**	**+1.0**
MAZI	**Mazidag**	**93.66**	**307**	*e*P		**P**	**14 53 45.9**	**+0.1**
DIY	**Diyarbakir**	**93.87**	**308**	*e*P		**P**	**14 53 47.8**	**+1.1**
DIYA	**Diyarbakir**	**93.96**	**308**	*i* P		**P**	**14 53 47.0**	**-0.1**
VRHR	**Novokhopersk**	**93.96**	**321**	*e*P		**P**	**14 53 45.4**	**-1.3**
VRHR				*e*			14 57 37.3		
VRHR				*e*			15 04 05.3		
VRHR				*e*S		**S**	**15 04 43.6**	**-1.2**
VRHR				*e*SS		**SS**	**15 11 08.2**	**+0.5**
VRHR				pmax		pmax			
	comp=Z,740nm,1.1s								
VRHR				pmax		pmax			
	comp=N,60nm,0.6s								
VRHR				pmax		pmax			
	comp=E,120nm,0.6s								
VRHR				pmax		pmax			
	comp=N,90nm,0.8s								
VRHR				pmax		pmax			
	comp=E,130nm,0.8s								
VRHR				pmax		pmax			
	comp=Z,520nm,0.8s								
VRHR				pmax		pmax			
	comp=E,880nm,2.3s								
VRHR				pmax		pmax			
	comp=Z,810nm,2.3s								
VRHR				pmax		pmax			
	comp=N,160nm,1.1s								
VRHR				smax		smax			
	comp=N,4μm,2.7s								
VRHR				smax		smax			
	comp=E,4μm,2.7s								
VRHR				smax		smax			
	comp=Z,930nm,2.7s								
DODT	**Dodoma, Tanzan**	**93.97**	**263**	*i* P		**P**	**14 53 48.2**	**+0.4**
DODT							15 04 11.0		
DODT							15 25 41.9		
ERZN	**Erzincan**	**94.40**	**309**	*e*P		**P**	**14 53 47.5**	**-1.7**
PTK	**Pertek**	**94.60**	**308**	*e*P		**P**	**14 53 49.9**	**-0.3**
GUMT	**Gumushane**	**94.64**	**310**	*e*P		**P**	**14 53 52.1**	**+1.9**
SOC	**Sochi**	**94.69**	**313**	*e*P		**P**	**14 53 49.2**	**-1.0**
SOC				*e**PP		**pP**	**14 54 25.3**	**-0.7**
SOC				*e*			14 57 37.7		
SOC				*e*S		**SKSac**	**15 04 09.4**	**-3.2**	
SOC				*e*			15 04 45.3		
SOC				pmax		pmax			
	comp=Z,68nm,0.7s								
EZC	**Erzincan**	**94.69**	**309**	*e*P		**P**	**14 53 51.2**	**+0.7**
EGAK	**Eagle**	**94.81**	**25**	*e*P		**P**	**14 53 50.6**	**+0.4**
	comp=Z,2μm,2.2s								
EGAK				LR		LR			
	comp=Z,12μm,21.0s								
URFA	**Urfa**	**94.95**	**307**	*e*P		**P**	**14 53 52.0**	**+0.3**
ILIC	**ilic-Erzincan**	**95.28**	**309**	*e*P		**P**	**14 53 52.0**	**-1.2**
MALT	**Malatya**	**95.32**	**308**	*e*P		**P**	**14 53 52.7**	**-0.7**
MALT	**Malatya**	**95.32**	**308**	⇑P		**P**	**14 53 53.6**	**+0.2**
MALT	**Malatya**	**95.32**	**308**	⇑*i*P		**P**	**14 53 53.6**	**+0.2**
MALT	**Malatya**	**95.32**	**308**	⇑*i*P		**PKKPbc**	**15 10 48.3**	**+1.2**
KEMA	**Kemaliye**	**95.33**	**309**	*i* P		**P**	**14 53 52.9**	**-0.4**
ATAB	**Bozova**	**95.37**	**307**	*i* P		**P**	**14 53 54.4**	**+0.9**
VSR	**Storozhevoye**	**95.51**	**321**	*e*P		**P**	**14 53 52.4**	**-1.4**
VSR				*e**PP		**pP**	**14 54 28.2**	**-1.4**
VSR				*e*			14 57 45.4		
VSR				*e*			15 04 13.0		
VSR				*e*S		S	15 04 51.9	-6.4	
VSR				*e*SS		**SS**	**15 11 26.1**	**-3.6**	
VSR				*e*SSS		SSS	15 15 13.7		
VSR				pmax		pmax			
	comp=N,30nm,0.8s								
VSR				pmax		pmax			
	comp=E,90nm,0.8s								
VSR				pmax		pmax			
	comp=Z,210nm,0.8s								
VSR				pmax		pmax			
	comp=E,660nm,2.2s								
VSR				pmax		pmax			
	comp=Z,1μm,2.2s								
VSR				pmax		pmax			
	comp=N,90nm,1.1s								
VSR				pmax		pmax			
	comp=Z,2μm,2.0s								
VSR				pmax		pmax			
	comp=N,110nm,0.7s								
VSR				pmax		pmax			
	comp=E,550nm,1.4s								
VSR				smax		smax			
	comp=N,5μm,4.8s								
VSR				smax		smax			
	comp=Z,1μm,4.8s								
VSR				smax		smax			
	comp=E,1μm,2.4s								
VOR	**Voronezh**	**95.52**	**321**	*e*P		**P**	**14 53 54.0**	**+0.2**
VOR				pmax		pmax			
	comp=Z,630nm,1.2s								
DAWY	**Dawson**	**95.53**	**26**	*e*P		**P**	**14 53 54.2**	**+0.5**
GRSN	**GIRESUNGRSN**	**95.59**	**310**	*i* P		**P**	**14 53 53.3**	**-1.2**
SUSE	**Susehri**	**95.60**	**310**	*i* P		**P**	**14 53 53.5**	**-1.2**
AKCD	**Akcadag**	**95.71**	**308**	*i* P		**P**	**14 53 55.5**	**+0.3**
KLMR	**Klimovskoe**	**95.74**	**331**c	*i*P		**P**	**14 53 52.6**	**-2.0**
KLMR				*e**PP		**pP**	**14 54 27.7**	**-2.7**
KLMR				*e*			14 57 44.7		
KLMR				*e*S		**SKSac**	**15 04 14.0**	**-3.4**	
KLMR				*i*			15 04 51.3		
KLMR				pmax		pmax			
	comp=Z,1μm,1.2s								
GZT	**Gaziantep**	**95.94**	**307**	*i* P		**P**	**14 53 56.4**	**+0.1**
DARE	**Darende-Malaty**	**96.07**	**308**	*e*P		**P**	**14 53 56.5**	**-0.3**
HYT	**Haines Junctio**	**96.31**	**30**	*e*P		**P**	**14 53 57.9**	**+0.6**
KSD	**Kokstad**	**96.34**	**238**	*e*P		**P**	**14 53 57.2**	**-1.0**
KSD				AMB		AMB	14 54 05.2		
	comp=Z,457nm,2.1s								
KSD	**Kokstad**	**96.34**	**238**	P		**P**	**14 53 57.2**	**-1.0**
	comp=Z,457nm,2.1s								
ANN	**Anapa**	**96.39**	**314**c	*i*P		**P**	**14 53 57.0**	**-0.9**
ANN				*i* *PP		**pP**	**14 54 33.1**	**-0.7**
ANN				*e*			14 57 53.0		
ANN				*i*			15 04 18.7		
ANN				*i*			15 04 55.5		
ANN				*e*SS		SS	15 11 43.5	+1.0	
ANN				pmax		pmax			
	comp=N,80nm,1.2s								
ANN				pmax		pmax			
	comp=E,72nm,1.2s								
ANN				pmax		pmax			
	comp=Z,368nm,1.2s								
ANN				pmax		pmax			
	comp=N,730nm,18.0s								
ANN				pmax		pmax			
	comp=E,933nm,18.0s								
ANN				pmax		pmax			
	comp=Z,4μm,18.0s								
SCER	**sogukcermik**	**96.41**	**309**	*i* P		**P**	**14 53 58.7**	**+0.4**
TMCR	**Tamitsa**	**96.51**	**334**	*e*P		**P**	**14 53 55.0**	**-3.0**
TMCR				*e*			14 57 51.0		
TMCR				*e*S		**SKSac**	**15 04 16.7**	**-4.5**	
TMCR				pmax		pmax			
	comp=Z,541nm,1.1s								
AYKD	**Aykdinkavak**	**96.55**	**307**	*i* P		**P**	**14 53 58.9**	**0.0**
MOS	**Moscow**	**96.59**	**325**	*e*P		**P**	**14 53 57.4**	**-1.1**
MOS				*e*			14 57 54.0		
MOS				pmax		pmax			
	comp=Z,827nm,1.1s								
MOS				pmax		pmax			
	comp=N,278nm,1.0s								
MOS				pmax		pmax			
	comp=Z,1μm,1.4s								
SNAA	**Sanae**	**96.62**	**193**	*e*P		**P**	**14 53 59.1**	**+0.6**
SNAA	**Sanae**	**96.62**	**193**	⇓*i*P		**P**	**14 53 58.7**	**+0.2**
SNAA	**Sanae**	**96.62**	**193**	*e*P		**P**	**14 53 58.7**	**+0.2**
SNAA				*e*PP		**PP**	**14 57 55.6**	**+1.4**
SNAA				PP		**PP**	**14 57 57.7**	**+3.5**
SNAA				S		**SKSac**	**15 04 21.3**	**-0.6**
SNAA				PKKPbc		**PKKPbc**	**15 10 42.5**	**-2.0**
SNAA				P'P'			15 18 52.3		
SNAA	**Sanae**	**96.62**	**193**	P		**P**	**14 53 57.9**	**-0.7**
	comp=Z,87nm,1.0s,baz=158,slow=3.8,SNR=145								
SNAA				PP		**PP**	**14 57 57.7**	**+3.5**
	comp=Z,31nm,1.0s,baz=96,slow=3.2,SNR=3.0								
SNAA				S		**SKSac**	**15 04 21.3**	**-0.6**	
	comp=Z,8.7nm,1.0s,baz=334,slow=21,SNR=14								
SNAA				PKKPbc		**PKKPbc**	**15 10 42.5**	**-2.0**	
	comp=Z,11nm,1.0s,baz=356,slow=2.6,SNR=12								
SNAA				PKPPKP		**P'P'df**	**15 18 52.3**	**-2.7**	
	comp=Z,3.2nm,1.1s,baz=33,slow=3.1,SNR=5.3								
TOKT	**Tokat**	**96.88**	**310**	*e*P		**P**	**14 54 00.3**	**-0.1**
PINB	**Pinarbasi**	**96.92**	**308**	*i* P		**P**	**14 54 00.4**	**-0.5**
ANDN	**Andirin**	**96.92**	**307**	*i* P		**P**	**14 54 01.3**	**+0.6**
TOKA	**Tokat**	**96.93**	**310**	*i* P		**P**	**14 53 59.8**	**-0.7**
COBT	**Iskenderun**	**96.95**	**306**	*i* P		**P**	**14 54 01.4**	**+0.5**
TAHT	**Tahtakopru-Hat**	**97.00**	**306**	*e*P		Pdif	14 54 01.1	+0.1	
HTY	**Hatay**	**97.03**	**306**	*e*P		**P**	**14 54 00.6**	**-0.4**
YAYL	**Yayladag**	**97.05**	**305**	*i* P		**P**	**14 54 00.3**	**-1.0**
HWQ	**Hawqa**	**97.11**	**304**	*e*P		Pdif	14 54 02.0	+0.3	
RCY	**Rachaya**	**97.16**	**303**	*e*P		**P**	**14 54 01.4**	**-0.5**
OBN	**Obninsk**	**97.19**	**325***j*	*i*P		**P**	**14 53 59.8**	**-1.4**
OBN				*i*			15 04 24.0		
OBN				*i* *SS		S	15 05 04.3	-8.1	
OBN				*i*			15 06 35.7		
OBN				*i*			15 07 19.2		
OBN				*i* SS		**SS**	**15 11 56.9**	**+3.8**	
OBN				pmax		pmax			
	comp=Z,1μm,1.4s								
OBN				pmax		pmax			
	comp=Z,862nm,1.2s								
OBN				MLR		MLR			
	comp=Z,11μm,21.0s								
OBN	**Obninsk**	**97.19**	**325**	P		**P**	**14 54 00.8**	**-0.4**
	comp=Z,4μm,0.8s,SNR=35								
MSNA	**Messina**	**97.25**	**247**	*e*P		**P**	**14 54 02.2**	**-0.2**
MSNA				AMB		AMB	14 54 09.2		
	comp=Z,386nm,2.4s								
MSNA	**Messina**	**97.25**	**247**	P		**P**	**14 54 02.2**	**-0.2**
	comp=Z,386nm,2.4s								
KVT	**Kavak**	**97.28**	**311**	*e*P		**P**	**14 54 01.1**	**-1.0**
KOZT	**Kozan**	**97.33**	**307**	*e*P		**P**	**14 54 00.2**	**-2.2**
BHL	**Bhannes**	**97.33**	**303**	*e*P		Pdif	14 54 02.9	+0.3	
BNN	**Bunyan**	**97.36**	**308**	*e*P		**P**	**14 54 01.1**	**-1.6**
CEYT	**Ceyhan**	**97.38**	**306**	*e*P		**P**	**14 54 02.4**	**-0.2**
SKAG	**Skagway**	**97.39**	**31**	*e*P		Pdif	14 54 03.3	+1.2	
MMLI	**Mount Malkishu**	**97.46**	**302**	*e*P		**P**	**14 54 02.4**	**-0.8**
KRTS	**Karatas**	**97.66**	**306**	*e*P		**P**	**14 54 02.4**	**-1.4**
YOZ	**Yozgat**	**97.80**	**309**	*e*P		P	14 54 00.6	-4.0	
LVZ	**Lovozero**	**97.81**	**338**c	*i*P		**P**	**14 54 02.4**	**-1.5**
LVZ				pmax		pmax			
	comp=Z,457nm,1.1s								
LVZ	**Lovozero**	**97.81**	**338**	P		**P**	**14 54 02.4**	**-1.5**
	comp=Z,3μm,0.9s,SNR=18								
INK	**Inuvik**	**97.89**	**22**	*e*P		**P**	**14 54 02.9**	**-1.2**
	comp=Z,6.3nm,1.1s								
INK				PKKPbc		**PKKPbc**	**15 10 37.5**	**-3.5**	
INK				P'P'			15 18 53.0		
INK	**Inuvik**	**97.89**	**22**	PKKPbc		PKKPbc	15 10 37.5	-3.5	
	comp=Z,22nm,0.6s,baz=215,slow=2.0,SNR=7.4								
INK				PKPPKP		**P'P'df**	**15 18 53.0**	**+1.0**	
	comp=Z,12nm,1.0s,baz=161,slow=4.1,SNR=6.0								
DIKM	**Dikmen**	**97.89**	**311**	*e*P		P	14 54 01.1	-3.7	
KARA	**Karaisali**	**97.94**	**307**	*e*P		**P**	**14 54 04.0**	**-1.2**
AVNT	**Avonos**	**98.14**	**308**	*i* P		**P**	**14 54 06.1**	**0.0**
ERPM	**east rand prop**	**98.14**	**242**⇓	*i*P		**P**	**14 54 06.5**	**-0.1**
ERPM				AMB		AMB	14 54 12.9		
	comp=Z,330nm,2.1s								
ERPM	**east rand prop**	**98.14**	**242**	P		**P**	**14 54 06.5**	**-0.1**
	comp=Z,330nm,2.1s								
GULE	**Gulek**	**98.16**	**307**	*i* P		**P**	**14 54 05.4**	**-0.9**
VNA2	**Neumayer--Watz**	**98.18**	**193**	*e*P		Pdif	14 54 06.4	+0.9	
	baz=127,slow=3.9								
GRM	**Grahamstown**	**98.19**	**235**	*e*P		Pdif	14 54 07.5	+1.0	
GRM				AMB		AMB	14 54 13.9		
	comp=Z,482nm,1.7s								
GRM	**Grahamstown**	**98.19**	**235**	P		Pdif	14 54 07.5	+1.0	
GRM				pmax		pmax			
	comp=Z,482nm,1.7s								
GRM	**Grahamstown**	**98.19**	**235**	P		Pdif	14 54 07.5	+1.0	
	comp=Z,482nm,1.7s								
GRM	**Grahamstown**	**98.19**	**235**	*i* P		Pdif	14 54 09.4	+3.0	
CTKT	**Corum**	**98.22**	**310**	*i* P		**P**	**14 54 05.2**	**-1.3**
SLR	**Silverton**	**98.22**	**243**⇓	*i*P		**P**	**14 54 06.4**	**-0.5**
SLR				AMB		AMB	14 54 13.4		
	comp=Z,286nm,1.3s								
SLR	**Silverton**	**98.22**	**243**	P		**P**	**14 54 06.4**	**-0.5**
SLR				pmax		pmax			
	comp=Z,286nm,1.3s								
SLR	**Silverton**	**98.22**	**243**	P		**P**	**14 54 06.4**	**-0.5**
	comp=Z,286nm,1.3s								
SEK	**Senekal**	**98.30**	**240**	*e*P		**P**	**14 54 06.9**	**-0.2**
SEK				AMB		AMB	14 54 13.3		
	comp=Z,214nm,2.1s								
SEK	**Senekal**	**98.30**	**240**	P		**P**	**14 54 06.9**	**-0.2**
	comp=Z,214nm,2.1s								
APA	**Apatity**	**98.30**	**337**⇓	*i*P		**P**	**14 54 05.4**	**-0.6**
APA				*i* *PP		**pP**	**14 54 41.0**	**-0.9**
APA				*i*			14 58 08.0		
APA				*i* PPP		PPP	15 00 14.0		
APA				*i*			15 04 24.0		
APA				*i* S		**S**	**15 05 16.0**	**-5.5**
APA				*i* PS		PS	15 07 34.0	+30	
APA				pmax		pmax			
	comp=Z,114nm,1.0s								
APA				MLR		MLR			
	comp=Z,17μm,19.0s								
NIG	**Nigde**	**98.31**	**308**	*e*P		**P**	**14 54 06.5**	**-0.6**
CORM	**Corum**	**98.34**	**310**	*e*P		**P**	**14 54 05.1**	**-1.9**
MERS	**Mersin**	**98.35**	**306**	*e*P		Pdif	14 54 07.3	+0.2	
VNA1	**Neumayer--Stat**	**98.58**	**193**	*e*P		Pdif	14 54 08.0	+0.8	
PHNC	**Paralimni**	**98.71**	**304**	P		Pdif	14 54 10.6	+2.0	
	comp=Z,1.9nm,0.7s								
SIM	**Simferopol'**	**98.75**	**314**c	*e*P		**P**	**14 54 08.3**	**-0.3**
SIM							14 58 09.3		
SIM				PPP		PPP	15 00 15.5		
SIM				*e*			15 04 33.4		
SIM				S		**S**	**15 05 23.3**	**-3.0**
SIM				*e*PS		PS	15 06 56.8	-13	
SIM				SS		**SS**	**15 12 15.6**	**-0.1**
SIM				pmax		pmax			
	comp=Z,123nm,0.9s								
PRYS	**Parys**	**98.81**	**242**⇓	*i*P		**P**	**14 54 08.4**	**-1.1**
PRYS				AMB		AMB	14 54 14.9		
	comp=Z,163nm,2.8s								
PRYS	**Parys**	**98.81**	**242**	P		**P**	**14 54 08.4**	**-1.1**
	comp=Z,163nm,2.8s								
TOS	**Tosya**	**98.81**	**310**	*e*P		Pdif	14 54 09.3	+0.3	
BZK	**Bozkurt**	**98.83**	**311**	*e*P		**P**	**14 54 06.0**	**-2.9**
IKL	**Isikli**	**99.02**	**306**	*e*P		**Pdif**	**14 54 07.4**	**-2.6**
ILGA	**Ilgaz**	**99.04**	**310**	*i* P		**Pdif**	**14 54 09.4**	**-0.8**
WRAK	**Wrangell Islan**	**99.06**	**34**	*e*Pdif		**Pdif**	**14 54 09.0**	**-0.6

ANTO Ankara 99.75 309 ⇑*iP* **PKKPbc 15 10 34.2 -0.7**
ANTO Ankara 99.75 309 PFAKE 14 54 20.0 +6.8
ANTO LR LR
comp=Z,7µm,22.0s
LOD Lodumlu 99.77 309 *eP* **Pdif 14 54 12.3 -1.0**
SAFT Safranbolu 99.82 311 *eP* **Pdif 14 54 12.3 -1.1**
ALFC Alevga 99.89 305 P **Pdif 14 54 13.6 -0.3**
comp=Z,2.2nm,0.7s
HDMB Hadim 99.99 306 *eP* **Pdif 14 54 13.2 -1.3**
LADK Ladik-KONYA 100.08 308 *eP* **Pdif 14 54 11.0 -3.8**
KONT Konya--Tatoy 100.09 307 *eP* **Pdif 14 54 13.2 -1.5**
KIG Kigali 100.09 267 *eP* **Pdif 14 54 16.4 +1.0**
KIG AMB AMB 14 54 22.0
comp=Z,54nm,3.5s
KIG Kigali 100.09 267 P **Pdif 14 54 16.4 +1.0**
comp=Z,54nm,3.5s
PPCY Paphos 100.09 304 P **Pdif 14 54 14.5 -0.2**
AKMC Akamas 100.11 304 P **Pdif 14 54 14.1 -0.7**
LSZ Lusaka 100.12 253 ⇓*iP* **Pdif 14 54 15.3 -0.1**
LSZ Lusaka 100.12 253 *e*Pdif **Pdif 14 54 15.6 +0.1**
comp=Z,119nm,0.8s
LSZ PP **PP 14 58 26.2 +3.3**
LSZ Lusaka 100.12 253 P **Pdif 14 54 15.7 +0.3**
comp=Z,94nm,0.7s,baz=71,slow=6.5,SNR=70
LSZ PP **PP 14 58 26.2 +3.3**
comp=Z,16nm,0.9s,baz=87,slow=12,SNR=5.3
DLBC Dease Lake 100.18 32 *e*Pdif **Pdif 14 54 15.0 +0.3**
DLBC *e*PP **PP 14 58 23.4 +1.3**
BOSA Boshof 100.28 240 *e*P **Pdif 14 54 15.2 -0.7**
BOSA AMB AMB 14 54 22.2
comp=Z,222nm,2.4s
BOSA Boshof 100.28 240 *e*Pdif **Pdif 14 54 15.8 -0.1**
BOSA *e*PP **PP 14 58 19.9 -3.7**
BOSA PP PKiKP 14 58 28.6 -14
BOSA *e*PKPdf 14 58 41.9
BOSA PKKPbc **PKKPbc 15 10 32.9 0.0**
BOSA Boshof 100.28 240 P **Pdif 14 54 16.1 +0.2**
comp=Z,57nm,0.9s,baz=110,slow=5.1,SNR=27
BOSA PP **PP 14 58 28.6 +5.0**
comp=Z,77nm,1.2s,baz=103,slow=6.2,SNR=3.7
BOSA PKKPbc **PKKPbc 15 10 32.9 0.0**
comp=Z,14nm,0.6s,baz=259,slow=1.0,SNR=10
KDHN Kadinhani 100.28 308 *iP* **Pdif 14 54 14.4 -1.3**
KEV Kevo 100.34 340 *eP* **Pdif 14 54 15.0 -0.1**
KEV MLR MLR
comp=Z,20µm,22.0s
KEV Kevo 100.34 340 *ep* **Pdif 14 54 13.6 -1.4**
comp=Z,130nm,0.8s
KEV Kevo 100.34 340 *ep* PKKPbc 15 10 28.8 -5.3
comp=Z,31nm,1.1s
KEV Kevo 100.34 340 *e*Pdif **Pdif 14 54 15.0 -0.1**
KEV LR LR
comp=Z,20µm,22.0s
KIZT Kizilcal 100.46 308 *eP* **Pdif 14 54 15.1 -1.4**
SWZ Schweizer 100.52 241 *eP* **Pdif 14 54 17.0 -0.1**
SWZ AMB AMB 14 54 23.2
comp=Z,333nm,2.6s
SWZ Schweizer 100.52 241 P **Pdif 14 54 17.0 -0.1**
comp=Z,333nm,2.6s
SVRH Sivrihisar-ESK 100.73 309 *eP* **Pdif 14 54 15.5 -2.1**
LBTB Lobatse 100.75 243 *eP* **Pdif 14 54 17.5 -0.6**
LBTB AMB AMB 14 54 24.9
comp=Z,236nm,1.4s
LBTB Lobatse 100.75 243 *e*Pdif **Pdif 14 54 18.2 +0.2**
LBTB *e*PP **PP 14 58 25.4 -1.8**
LBTB PP PKiKP 14 58 32.2 -11
LBTB PKKPbc **PKKPbc 15 10 29.1 -2.3**
LBTB Lobatse 100.75 243 PP PP 14 58 32.2 +4.9
comp=Z,40nm,1.1s,baz=124,slow=6.7,SNR=7.1
LBTB PKKPbc **PKKPbc 15 10 29.1 -2.3**
comp=Z,16nm,0.9s,baz=266,slow=4.7,SNR=6.9
KDZE Karadeniz Ereo 100.75 311 *eP* **Pdif 14 54 15.9 -1.6**
SPA0 Spitsbergen Ar 100.79 349 *e*PP PP 14 58 28.0 +1.9
SPA0 *e*SKS **SKSac 15 04 42.4 +0.1**
SPA0 *e* 15 10 31.9
SPA0 *e*SS **SS 15 12 43.5 +1.2**
SPITS Spitsbergen Ar 100.79 349 PKKPbc PKKPbc 15 10 30.3 -2.8
comp=Z,17nm,0.7s,baz=146,slow=6.1,SNR=6.3
ARCES ARCESS Array B 100.90 340 P **Pdif 14 54 17.4 -0.2**
ARCES PP **PP 14 58 32.2 +5.0**
ARCES PKKPbc PKKPbc 15 10 25.9 -6.7
ARCES ARCESS Array B 100.90 340 P **Pdif 14 54 17.4 -0.2**
comp=Z,109nm,0.8s,baz=76,slow=5.1,SNR=111
ARCES PP **PP 14 58 32.2 +5.0**
comp=Z,43nm,0.8s,baz=95,slow=7.4,SNR=4.0
ARCES PKKPbc PKKPbc 15 10 25.9 -6.7
comp=Z,7.8nm,0.8s,baz=279,slow=1.7,SNR=4.4
ARE0 ARCESS Array S 100.90 340 ⇑*iP* **Pdif 14 54 17.3 -0.3**
ARE0 ARCESS Array S 100.90 340 *e*Pdif **Pdif 14 54 16.6 -1.0**
MDUB Mudurnu 100.96 310 *eP* **Pdif 14 54 16.9 -1.8**
SUTC Sutluce-Ispart 101.17 307 *eP* **Pdif 14 54 18.2 -1.5**
BOLV Bolvadin 101.19 308 *iP* **Pdif 14 54 18.9 -0.8**
ESKT Eskisehir 101.25 309 *eP* **Pdif 14 54 19.1 -0.9**
KBS Kingsbay 101.28 350 *eP* **Pdif 14 54 20.0 +0.9**
KBS *e*PP **PP 14 58 31.6 +1.8**
KBS *e*SKS **SKSac 15 04 43.5 -1.2**
KBS *e* 15 10 33.6
KBS *e*SS **SS 15 12 50.8 +1.7**
KBS Kingsbay 101.28 350 *eP* **Pdif 14 54 19.2 +0.1**
KBS MLR MLR
comp=Z,12µm,21.0s
KBS Kingsbay 101.28 350 *e*Pdif **Pdif 14 54 19.2 +0.1**
KBS LR LR
comp=Z,12µm,21.0s
BJO Bjornoya 101.47 345 *eP* **Pdif 14 54 21.7 +1.8**
BJO *e*PP **PP 14 58 32.1 +0.9**
BJO *e*SKS **SKSac 15 04 45.3 -0.3**
BJO *e*SS **SS 15 12 53.7 +1.9**
GULT Gulveren 101.48 310 *eP* **Pdif 14 54 18.7 -2.3**
BCK Bucak 101.50 307 *eP* **Pdif 14 54 19.6 -1.5**
ISP Isparta 101.54 307 *eP* **Pdif 14 54 19.5 -1.8**
ISP Isparta 101.54 307 ⇑*iP* **Pdif 14 54 20.3 -1.0**
ISP Isparta 101.54 307 ⇑*i*P **Pdif 14 54 20.3 -1.0**
ISP Isparta 101.54 307 *e*Pdif **Pdif 14 54 19.6 -1.8**
ISP LR LR
comp=Z,9µm,22.0s
KORT Korkueli 101.70 306 *i* P **Pdif 14 54 18.4 -3.7**
AKASG Malin Array Be 101.80 320 P **Pdif 14 54 21.1 -0.9**
AKASG 14 58 34.2
AKASG pmax pmax
comp=Z,25nm,0.6s
AKASG pmax pmax
comp=Z,71nm,1.0s
AKASG Malin Array Be 101.80 320 P **Pdif 14 54 21.1 -0.9**
AKASG PP **PP 14 58 34.2 -0.3**
AKASG PKKPbc **PKKPbc 15 10 24.3 -5.0**
AKASG P'P' 15 18 46.9
AKASG Malin Array Be 101.80 320 P **Pdif 14 54 21.1 -0.9**
comp=Z,25nm,0.6s,baz=70,slow=4.3,SNR=59
AKASG PP **PP 14 58 34.2 -0.3**
comp=Z,71nm,1.0s,baz=74,slow=7.0,SNR=5.3
AKASG PKKPbc **PKKPbc 15 10 24.3 -5.0**
comp=Z,1.2nm,0.4s,baz=262,slow=3.2,SNR=4.7
AKASG PKPPKP **P'P'df 15 18 46.9 +1.2**
comp=Z,1.9nm,0.6s,baz=268,slow=2.8,SNR=5.2
AKBB Malin Array Si 101.80 320 *eP* **Pdif 14 54 21.1 -0.9**
AKBB Malin Array Si 101.80 320 *e*Pdif **Pdif 14 54 21.1 -0.9**
KTK1 Kautokeino 101.81 339 *e*PP PP 14 58 33.2 -0.8
KTK1 *e* 14 58 35.8
KTK1 *e*SKS **SKSac 15 04 45.4 -2.1**
AK01 Malin Array Si 101.81 320 *e*Pdif **Pdif 14 54 20.8 -1.2**
AK01 *e*PP **PP 14 58 34.1 -0.4**
KIEV Kiev 101.81 320 *eP* **Pdif 14 54 20.8 -1.2**
KIEV MLR MLR
comp=Z,11µm,20.0s
KIEV Kiev 101.81 320 *e*Pdif **Pdif 14 54 20.8 -1.2**
KIEV LR LR
comp=Z,11µm,20.0s
AK02 Malin Array Si 101.82 320 *e*Pdif **Pdif 14 54 21.0 -1.1**
KAF Kangasniemi 101.98 332 *eP* **Pdif 14 54 19.1 -3.4**
KAF pmax pmax
comp=Z,232nm,0.7s
KAF Kangasniemi 101.98 332 *ep* **Pdif 14 54 19.1 -3.4**
comp=Z,232nm,0.7s
KAF Kangasniemi 101.98 332 *ep* **PKKPbc 15 10 26.0 -3.2**
comp=Z,90nm,0.7s
CAVI Cavuskoy 102.00 310 *eP* **Pdif 14 54 21.8 -1.3**
ADVT Abdulvahap 102.08 310 *eP* **Pdif 14 54 21.4 -2.1**
HRT Hereke 102.11 310 *eP* **Pdif 14 54 20.9 -2.8**
SILT Sile 102.12 311 *eP* **Pdif 14 54 21.8 -1.8**
PKA Prieska 102.16 238 *eP* **Pdif 14 54 23.7 -0.6**
PKA AMB AMB 14 54 30.9
comp=Z,38nm,2.7s
PKA Prieska 102.16 238 P **Pdif 14 54 23.7 -0.6**
comp=Z,38nm,2.7s
FIA1 FINESS Array S 102.19 332 *e*Pdif **Pdif 14 54 22.4 -1.0**
FIA1 *e*PP **PP 14 58 36.8 -0.2**
FINES FINESS Array B 102.20 332 P **Pdif 14 54 22.3 -1.2**
FINES PP **PP 14 58 37.9 +0.9**
FINES PKKPbc **PKKPbc 15 10 28.2 -0.3**
FINES P'P' 15 18 47.5
FINES FINESS Array B 102.20 332 P **Pdif 14 54 22.3 -1.2**
comp=Z,73nm,0.7s,baz=94,slow=5.9,SNR=115
FINES PP **PP 14 58 37.9 +0.9**
comp=Z,77nm,0.9s,baz=96,slow=7.7,SNR=4.6
FINES PKKPbc **PKKPbc 15 10 28.2 -0.3**
comp=Z,57nm,0.9s,baz=230,slow=1.1,SNR=12
FINES PKPPKP **P'P'df 15 18 47.5 +3.3**
comp=Z,3.5nm,0.9s,baz=317,slow=10,SNR=3.8
MICGM Minsk 102.24 324 ⇑*iP* **Pdif 14 54 22.0 -1.8**
MNK Minsk 102.27 324 ⇑*iP* **Pdif 14 54 22.0 -1.9**
MNK *e* 14 58 40.0
MNK *e* 15 04 47.0
MNK *e*S **Sdif 15 05 48.0 -7.2**
MNK *e*PS PS 15 07 25.0 -22
MNK pmax pmax
comp=N,240nm,1.0s
MNK pmax pmax
comp=Z,640nm,1.0s
MNK pmax pmax
comp=Z,13µm,10.0s
MNK smax smax
comp=E,13µm,10.0s
AKAS Kas 102.31 306 *i* P **Pdif 14 54 22.7 -2.1**
KHL Karahalli 102.32 308 *eP* **Pdif 14 54 22.7 -2.0**
TVSB Tavsanli 102.33 309 *eP* **Pdif 14 54 23.2 -1.5**
KHAL Karahalli 102.34 308 *iP* **Pdif 14 54 24.6 -0.3**
KIS Kishinev 102.37 317 ⇑*iP* **Pdif 14 54 23.0 -1.6**
comp=E,2µm,16.0s
KIS *i* pP 14 55 02.0
KIS Kishinev 102.37 317 PPM **PKiKP 14 58 44.0 -1.6**
comp=E,7µm,19.0s
KIS Kishinev 102.37 317 *i* PP PP 14 58 48.0 +9.2
KIS Kishinev 102.37 317 *i* PS SP 15 07 20.0 -11
GEMT Gemlik 102.49 310 *eP* **Pdif 14 54 23.6 -1.7**
DNZL Cakiroluk 102.72 307 *iP* **Pdif 14 54 25.9 -0.7**
FETY Fethiye 102.72 306 *eP* **Pdif 14 54 24.3 -2.1**
LEOM Leova 102.80 316 ⇓*iP* **Pdif 14 54 26.2 -0.3**
LEOM Leova 102.80 316 ⇓*iP* **Pdif 14 54 26.2 -0.3**
NACGM Naroch 102.82 325 *eP* **Pdif 14 54 26.0 -2.4**
TIRR Tirgusor 102.83 314 ⇑*iP* **Pdif 14 54 26.6 -0.1**
TIRR Tirgusor 102.83 314 ⇑*iP* **Pdif 14 54 26.6 -0.1**
TIRR Tirgusor 102.83 314 ⇑*iP* PKKPbc 15 10 19.9 -6.1
TIRR Tirgusor 102.83 314 *ePP* PP 14 58 40.3 -2.0
comp=E,58nm,0.9s
DEMI Demirci 102.92 309 *iP* **Pdif 14 54 26.4 -0.9**
CFR Carcaliu 102.98 315 ⇑*iP* **Pdif 14 54 27.3 0.0**
CFR Carcaliu 102.98 315 ⇑*iP* **Pdif 14 54 27.3 0.0**
CFR Carcaliu 102.98 315 ⇑*iP* PKKPbc 15 10 15.2 -10
SUR Sutherland 103.07 235 P **Pdif 14 54 33.9 +5.5**
SNR=11
SUR Sutherland 103.07 235 P PP 14 58 50.2 +5.7
SNR=5.6
SUR Sutherland 103.07 235 *e*Pdif **Pdif 14 54 28.1 -0.3**
SUR PKKPbc **PKKPbc 15 10 25.5 +0.4**
SUR LR LR
comp=Z,10µm,21.0s
SUR Sutherland 103.07 235 Pdiff **Pdif 14 54 28.6 +0.2**
comp=Z,32nm,1.0s,baz=83,slow=3.0,SNR=13
SUR PKKPbc **PKKPbc 15 10 25.5 +0.4**
comp=Z,11nm,0.6s,baz=61,slow=0.4,SNR=12
IIGN Ignalina 103.08 325 *eP* **Pdif 14 54 26.9 -0.6**
IIGN AMB AMB 14 54 33.3
comp=Z,70nm,1.1s
TLB Topalu 103.09 314 ⇑*iP* **Pdif 14 54 27.9 +0.1**
TLB Topalu 103.09 314 ⇑*iP* **Pdif 14 54 27.9 +0.1**
TLB Topalu 103.09 314 ⇑*iP* PKKPbc 15 10 20.0 -5.2
ISAL Salakas 103.10 326 *eP* **Pdif 14 54 27.4 -0.2**
ISAL AMB AMB 14 54 33.8
comp=Z,51nm,1.2s
TURN Turunc 103.10 306 *iP* **Pdif 14 54 28.8 +0.7**
TRO Tromso 103.11 340 *eP* **Pdif 14 54 26.0 -1.3**
TRO *ePP* **PP 14 58 43.5 -0.1**
TRO *e*SKS 15 04 50.1
TRO *e* 15 07 25.8
TRO *e*SS **SS 15 13 18.2 +3.7**
TRO AMS AMS 15 44 00.8
comp=Z,13µm,19.5s
IAS Iasi 103.20 317 ⇑*iP* **Pdif 14 54 29.6 +1.3**
IAS Iasi 103.20 317 ⇑*iP* **Pdif 14 54 29.6 +1.3**
MSAB Monastry St. A 103.28 314 ⇑*iP* **Pdif 14 54 29.0 +0.3**
MSAB Monastry St. A 103.28 314 ⇑*iP* **PKKPbc 15 10 29.3 +4.6**
YER Yerkesik 103.35 307 *eP* **Pdif 14 54 30.0 +0.7**
AYDB Zeytinkoy-Aydi 103.62 307 *eP* **Pdif 14 54 29.5 -1.1**
AKHS Akhisar 103.63 308 *iP* **Pdif 14 54 29.9 -0.6**
AYDN Tasoluk 103.64 307 *iP* **Pdif 14 54 30.2 -0.4**
PRD Provadia 103.66 313 *iP* **Pdif 14 54 30.9 +0.5**
BALY Balya 103.73 309 *iP* **Pdif 14 54 27.6 -3.3**
GRER 103.78 315 ⇑*iP* **Pdif 14 54 29.7 -1.2**
TESR Tescani 103.89 316 ⇑*iP* **Pdif 14 54 31.4 0.0**
TESR Tescani 103.89 316 ⇑*iP* **PKKPbc 15 10 20.6 -2.4**
VRI Vrincioaia 103.90 316 ⇓*iP* **Pdif 14 54 32.1 +0.6**
VRI Vrincioaia 103.90 316 ⇓*iP* **Pdif 14 54 32.0 +0.6**
VRI Vrincioaia 103.90 316 ⇓*iP* PKKPbc 15 10 16.5 -6.4
PLOR Plostina 103.96 316 ⇑*iP* **Pdif 14 54 32.0 +0.2**
PLOR Plostina 103.96 316 ⇑*iP* **Pdif 14 54 32.0 +0.2**
PLOR Plostina 103.96 316 ⇑*iP* **PKKPbc 15 10 22.8 0.0**
SART Tekirdag 104.01 310 *iP* **Pdif 14 54 28.1 -4.0**
CER Ceres 104.01 234 *eP* **Pdif 14 54 34.9 +2.6**
CER AMB AMB 14 54 40.6
comp=Z,88nm,2.3s
CER Ceres 104.01 234 P **Pdif 14 54 34.9 +2.6**
comp=Z,88nm,2.3s
BDRM Kayabasi 104.02 307 *iP* **Pdif 14 54 30.2 -2.0**
PRAR RASCA 104.09 317 ⇓*iP* **Pdif 14 54 33.4 +1.1**
CVNA Calvinia 104.17 236 *eP* **Pdif 14 54 34.0 +0.9**
CVNA AMB AMB 14 54 41.2
comp=Z,160nm,2.4s
CVNA Calvinia 104.17 236 P **Pdif 14 54 34.0 +0.9**
comp=Z,160nm,2.4s
NIS1 Nisyros Isl. 104.26 306 *eP* **Pdif 14 54 35.6 +2.3**
JMB Yambol 104.32 312 *iP* **Pdif 14 54 30.9 -2.5**
SULR 104.35 314 ⇓*iP* **PKKPbc 15 10 19.9 -1.6**
SMG Samos 104.47 307 *eP* **Pdif 14 54 33.6 -0.6**
SMG Samos 104.47 307 *eP* **PKiKP 14 58 45.6 -4.2**
MLR Muntele Rosu 104.49 315 ⇑*iP* **Pdif 14 54 34.2 0.0**
MLR Muntele Rosu 104.49 315 ⇑*iP* PKKPbc 15 10 03.4 -18
SZH Strazhica 104.72 313 *iP* **Pdif 14 54 36.0 +0.8**
BURAR Bucovina Array 104.74 318 ⇑*iP* **Pdif 14 54 36.0 +0.7**
BURAR Bucovina Array 104.74 318 ⇑*iP* **Pdif 14 54 36.0 +0.7**
BURAR Bucovina Array 104.74 318 ⇓*iP* PKKPbc 15 10 13.4 -7.2
BUR08 Bucovina Ar. S 104.75 318 *e*Pdif **Pdif 14 54 35.7 +0.4**
BUR08 *e*PKPdf **PKiKP 14 58 51.2 +1.1**
ALN Alexandroupoli 104.85 311 *eP* PKKPbc 15 10 11.4 -8.4
ALN Alexandroupoli 104.85 311 *eP* **PKiKP 14 58 46.6 -3.7**
STEI Steigen 104.95 339 *eP* **Pdif 14 54 34.9 -0.7**
STEI *e*SKS **SKSac 15 05 01.1 -0.9**
CHOS Chios island 105.04 308 *eP* **PKKPbc 15 10 19.8 +0.5**
CHOS Chios island 105.04 308 *eP* **Pdif 14 54 31.2 -5.6**
CHOS Chios island 105.04 308 *eP* **PKiKP 14 58 48.9 -2.0**
SUW Suwalki 105.04 324 *eP* **Pdif 14 54 36.0 -0.3**
SUW *e* 15 05 02.7
SUW *e* 15 05 49.1
SUW *e*SS SS 15 13 40.9 -0.9
SUW Suwalki 105.04 324 *e*Pdif **Pdif 14 54 36.0 -0.3**
SUW Suwalki 105.04 324 *e*Pdiff **Pdif 14 54 36.0 -0.3**
SUW *e*SKSac **SKSac 15 05 02.7 -0.3**
SUW *e*SKSdf **SKKSac 15 05 49.0 -0.1**
SUW *e*SS **SS 15 13 40.8 -1.0**
ZIMR 105.09 313 ⇓*iP* **PKKPbc 15 10 19.6 +0.4**
NLWA Neilton Lookou 105.10 43 *e*Pdif **Pdif 14 54 39.4 +2.6**
VOIR 105.12 315 ⇓*iP* **Pdif 14 54 36.3 -0.7**
VOIR 105.12 315 ⇓*iP* **Pdif 14 54 36.3 -0.7**
VOIR 105.12 315 ⇓*iP* PKKPbc 15 10 13.4 -5.9
SIGR SIGRI 105.13 309 *eP* **PKiKP 14 58 46.3 -4.6**
PVL Pavlikeni 105.16 313 *iP* **Pdif 14 54 38.6 +1.5**
PGC Sidney 105.21 41 *e*Pdif **Pdif 14 54 38.1 +0.9**
comp=Z,1.4nm,0.8s
PGC *ePP* **PP 14 59 01.0 +1.3**
LVV L'vov 105.22 320 *eP* **Pdif 14 54 40.3 +3.1**
LVV *e* 14 59 05.3
LVV *i* 15 05 04.5
LVV *e*S **Sdif 15 06 20.3 +0.3**
LVV *e*SS **SKKPbc 15 13 53.1 +4.0**
KDZ Kurdzhali 105.25 311 *iP* **Pdif 14 54 38.6 +1.0**
SMTH Samothraki Isl 105.28 310 *eP* **PKKPbc 15 10 20.5 +1.9**
SMTH Samothraki Isl 105.28 310 *eP* **Pdif 14 54 33.8 -3.9**
SMTH Samothraki Isl 105.28 310 *eP* **PKiKP 14 58 50.5 -0.7**
E03A Lebam 105.42 43 *e*Pdif **Pdif 14 54 41.0 +2.9**
ARR Arges 105.42 315 ⇓*iP* **Pdif 14 54 38.5 +0.2**
ARR Arges 105.42 315 ⇑*iP* **PKKPbc 15 10 15.7 -2.7**
LOF Lofoten 105.46 340 *eP* **Pdif 14 54 39.0 +1.1**
LOF *ePP* **PP 14 59 02.2 +1.1**
LOF *e*SKS **SKSac 15 05 01.4 -2.9**
LOF *e*SS **SKKPbc 15 13 48.1 -1.1**
APE Apeiranthos 105.55 307 *eP* **PKKPbc 15 10 19.4 +1.7**
LIA Limnos Island 105.59 310 *eP* **Pdif 14 54 40.1 +1.0**
LIA Limnos Island 105.59 310 *eP* **PKiKP 14 58 49.2 -2.5**
HDW Hoodsport 105.61 42 P **Pdif 14 54 41.2 +2.1**
SANT Santorini 105.65 306 PFAKE 14 59 00.0
SANT LR LR
comp=Z,8µm,22.0s
RZN Rozhen 105.77 311 *i* P **Pdif 14 54 40.3 +0.2**
COR Corvallis 105.85 45 *e*PKPdf **PKiKP 14 58 51.4 -0.7**
MOR8 Moi Rana 105.89 338 *eP* **Pdif 14 54 38.0 -1.8**
MOR8 AMB AMB 14 54 44.5
comp=Z,119nm,0.7s
MOR8 *e* 15 10 15.0
KHMM Horse Mountain 105.95 49 *e*Pdif **Pdif 14 54 41.5 +0.6**
comp=Z,129nm,1.1s
KHMM *e*PKPdf **PKiKP 14 58 53.6 +1.0**
CJR Cluj-Napoca 105.96 317 ⇑*iP* **Pdif 14 54 41.5 +0.9**
CJR Cluj-Napoca 105.96 317 ⇑*iP* **Pdif 14 54 41.5 +0.9**
KAVA Kavala 106.00 311 *eP* **Pdif 14 54 38.7 -2.2**
KAVA Kavala 106.00 311 *eP* **PKiKP 14 58 52.0 -0.4**
LOT Lotru 106.01 315 ⇓*iP* **Pdif 14 54 40.7 -0.3**
LOT Lotru 106.01 315 ⇑*iP* **PKKPbc 15 10 18.3 +1.6**
A05A Maple Falls 106.05 41 *e*Pdif **Pdif 14 54 42.4 +1.5**
PGB Panagyurishte 106.09 312 *iP* **Pdif 14 54 41.5 +0.2**
KWP Kalwaria Pacla 106.09 320 *eP* **Pdif 14 54 42.0 +0.9**
KWP *e* 15 05 07.9
KWP *e*SS SS 15 13 52.4 -4.1
KWP Kalwaria Pacla 106.09 320 *e*Pdiff **Pdif 14 54 42.0 +0.9**
KWP *e*SKSac **SKSac 15 05 07.9 -0.1**
KWP *e*SS **SS 15 13 52.4 -4.1**
IDI Anoyia 106.19 305 *e*Pdif **Pdif 14 54 42.8 +0.8**
IDI *e*PKPdf **PKiKP 14 58 53.7 +0.6**
MBW Mount Baker 106.20 41 P **Pdif 14 54 42.0 +0.2**
JCW Jim Creek 106.28 42 P **Pdif 14 54 43.3 +1.3**
MPEP Malo Peshtene 106.30 313 *iP* **Pdif 14 54 40.3 -1.9**
HUMO Hull Mountain 106.34 47 *e*Pdif **Pdif 14 54 47.7 +5.3**
STOK Stokkvaagen 106.36 338 *e* **SKSac 15 05 05.6 -2.7**
TDL Tradedollar La 106.37 44 P **Pdif 14 54 44.2 +1.6**
NVR Nevrokopi 106.45 311 *eP* **Pdif 14 54 42.9 0.0**
NVR Nevrokopi 106.45 311 *eP* PKiKP 14 58 48.1 -5.2
TRPA Tarpa 106.45 318 ⇑*iP* **Pdif 14 54 43.1 +0.4**
TRPA Tarpa 106.45 318 ⇓*iP* **PKKPbc 15 10 16.7 +1.5**
TRPA Tarpa 106.45 318 *e* **Pdif 14 54 47.3 +4.6**
KOLS Kolonicke sedl 106.49 319 *eP* **Pdif 14 54 43.5 +0.6**
KOLS Kolonicke sedl 106.49 319 PDIF **Pdif 14 54 43.5 +0.6**
B06A Marblemount 106.52 41 *e*Pdif **Pdif 14 54 48.0 +5.1**
MMB Musomiste 106.52 311 *iP* **Pdif 14 54 43.6 +0.4**
UZH Uzhgorod 106.53 319 ⇓*iP* **Pdif 14 54 43.8 +0.8**
UZH *e*PPP PPP 15 01 29.0
UZH *i* 15 05 56.0
UZH *i* 15 09 16.0
DRGR 106.55 317 ⇓*iP* **Pdif 14 54 43.0 -0.3**
DRGR 106.55 317 ⇓*iP* **Pdif 14 54 43.0 -0.3**
DRGR 106.55 317 ⇓*iP* **PKKPbc 15 10 13.8 -1.2**
DRGR 106.55 317 ⇓*iP* **PKKPbc 15 10 17.7 +2.7**
DEV Deva 106.55 316 ⇑*iP* **Pdif 14 54 46.3 +3.1**
LON Longmire 106.58 43 *eP* **Pdif 14 54 48.3 +4.8**
LON Longmire 106.58 43 *e*Pdif **Pdif 14 54 48.3 +4.8**
YBH Yreka Blue Hor 106.62 48 *e*Pdif **Pdif 14 54 44.8 +1.0**
comp=Z,85nm,1.1s
H04A Detroit Lake 106.63 45 *e*Pdif **Pdif 14 54 46.3 +2.7**
HOPS Hopland 106.64 51 *e*Pdif **Pdif 14 54 45.4 +1.5**
comp=Z,170nm,1.5s
HOPS *ePP* **PP 14 59 11.8 +1.1**
SRS Serrai 106.68 311 *eP* **PKKPbc 15 10 13.9 -0.4**
SRS Serrai 106.68 311 *eP* **Pdif 14 54 37.5 -6.4**
SRS Serrai 106.68 311 *eP* **PKiKP 14 58 52.3 -1.4**
GZR Gura Zlata 106.71 315 ⇓*iP* **Pdif 14 54 45.1 +1.0**
GZR Gura Zlata 106.71 315 ⇓*iP* **Pdif 14 54 45.0 +1.0**
GZR Gura Zlata 106.71 315 ⇑*iP* **PKKPbc 15 10 10.2 -4.2**
RES Resolute Bay 106.73 11 *e*Pdif **Pdif 14 54 43.5 +0.2**
comp=Z,371nm,1.5s
RES *e*PKPdf **PKiKP 14 58 53.1 +0.3**
RES *e*PP **PP 14 59 09.0 -1.1**
RES PKKPbc PKKPbc 15 10 10.0 -5.2
RES Resolute Bay 106.73 11 PKKPbc PKKPbc 15 10 10.0 -5.2
comp=Z,17nm,0.7s,baz=203,slow=4.1,SNR=6.9
PAIG Paliouri 106.74 310 *eP* **Pdif 14 54 39.0 -5.2**
PAIG Paliouri 106.74 310 *eP* **PKiKP 14 58 50.2 -3.6**
YKA Yellowknife Ar 106.78 26 Pdif **Pdif 14 54 43.6 -0.2**
YKA PKiKP **PKiKP 14 58 53.3 +0.1**
YKA PKKPbc **PKKPbc 15 10 11.0 -3.8**
YKA P'P' 15 18 38.4
YKA Yellowknife Ar 106.78 26 Pdiff **Pdif 14 54 43.6 -0.2**
comp=Z,12nm,0.7s,baz=292,slow=4.6,SNR=14
YKA PKiKP **PKiKP 14 58 53.3 +0.1**
comp=Z,11nm,0.6s,baz=289,slow=1.9,SNR=21
YKA PKKPbc **PKKPbc 15 10 11.0 -3.8**
comp=Z,4.9nm,0.3s,baz=112,slow=3.4,SNR=12
YKA PKPPKP **P'P'df 15 18 38.3 +3.0**
comp=Z,2.2nm,0.8s,baz=125,slow=1.9,SNR=4.1
VTS Vitosha 106.78 313 ⇑*iP* **Pdif 14 54 44.1 -0.4**
VTS Vitosha 106.78 313 ⇑*iP* **Pdif 14 54 44.1 -0.4**
VTS Vitosha 106.78 313 ⇑*iP* **PKKPbc 15 10 14.7 +0.5**
VTS Vitosha 106.78 313 *iP* **Pdif 14 54 44.5 0.0**
PLG Polygyros 106.87 310 *eP* **Pdif 14 54 48.2 +3.4**
PLG Polygyros 106.87 310 *eP* **PKiKP 14 58 50.5 -3.7**
BEL Belsk 106.88 322 *eP* **Pdif 14 54 45.2 +0.7**
BEL *e* 14 59 16.9
BEL *e* 15 05 11.1
BEL *e*SS SS 15 14 13.1 +6.2
BEL Belsk 106.88 322 *e*Pdiff **Pdif 14 54 45.2 +0.7**
BEL *ePP* **PP 14 59 16.9 +4.9**
BEL *e*SKSac **SKSac 15 05 11.0 -0.2**
BEL *e*SS **SS 15 14 13.0 +6.1**
WDC Whiskeytown Da 106.88 50 *eP* **Pdif 14 54 44.5 -0.3**
WDC pmax pmax
comp=Z,140nm,1.5s
WDC Whiskeytown Da 106.88 50 *e*Pdif **Pdif 14 54 44.5 -0.3**
comp=Z,140nm,1.5s
SOH Sokhos 106.89 311 *eP* **Pdif 14 54 41.0 -3.9**
KKB Krupnik 106.97 312 *iP* **Pdif 14 54 45.0 -0.2**
CRVS Cervenica-Dubn 107.03 319 *eP* **Pdif 14 54 46.4 +1.1**
CRVS Cervenica-Dubn 107.03 319 PDIF **Pdif 14 54 46.4 +1.1**
STHS Stebnicka Huta 107.07 320 *eP* **Pdif 14 54 46.7 +1.2**
STHS Stebnicka Huta 107.07 320 PDIF **Pdif 14 54 46.7 +1.2**
STHS *e* 15 31 51.3
STHS *e* 15 32 12.9
HORT Hortiatis 107.11 310 *eP* **Pdif 14 54 45.0 -0.9**
HORT Hortiatis 107.11 310 *eP* **PKiKP 14 58 53.8 -0.8**
XOR Xorichti 107.17 309 *eP* Pdif 14 54 35.5 -11
XOR Xorichti 107.17 309 *eP* **PKiKP 14 58 54.2 -0.5**
KNT Kendrikon 107.19 311 *eP* PKiKP 14 58 46.0 -8.7
VIL2 Platees 107.24 308 *eP* **PKKPbc 15 10 12.1 -0.4**
LTY Liberty 107.27 42 *e*Pdif **Pdif 14 54 47.7 +1.2**
DID Didima 107.33 307 *eP* **PKKPbc 15 10 11.9 -0.3**
SIRR Siria 107.35 317 ⇓*iP* **Pdif 14 54 47.3 +0.5**
SIRR Siria 107.35 317 ⇓*iP* PKKPbc 15 10 05.6 -6.8
DAG Danmarks Havn 107.43 353 *eP* **Pdif 14 54 52.0 +5.6**
DAG pmax pmax
comp=Z,110nm,1.0s
DAG Danmarks Havn 107.43 353 *i* P **Pdif 14 54 43.3 -3.1**
comp=Z,33nm,0.8s
DAG *i* 14 59 13.6
DAG
comp=Z,5µm,19.0s
DAG Danmarks Havn 107.43 353 *i* P **PKiKP 14 58 55.9 +1.8**
DAG *e* 14 59 13.6
DAG *i* 15 00 01.2
DAG Danmarks Havn 107.43 353 *i* P **PKKPbc 15 10 11.4 -1.6**
comp=Z,30nm,0.8s
NSS Namsos 107.48 337 *e* **PP 14 59 15.5 -0.4**
BZS Buzias 107.48 316 ⇑*iP* **Pdif 14 54 47.2 -0.2**
BZS Buzias 107.48 316 ⇑*iP* **Pdif 14 54 47.2 -0.2**
BZS Buzias 107.48 316 ⇑*iP* **PKKPbc 15 10 12.6 +0.7**
LTK Loutraki 107.49 308 *eP* **PKKPbc 15 10 08.9 -2.8**
GRG Griva 107.59 311 *eP* **PKKPbc 15 10 12.4 +0.9**
GRG Griva 107.59 311 *eP* **Pdif 14 54 44.7 -3.3**
GRG Griva 107.59 311 *eP* **PKiKP 14 58 54.5 -1.0**

comp=Z,74nm,2.7s
RUDU RUNDU 107.60 249 P **Pdif** 14 54 50.5 +1.8
comp=Z,74nm,2.7s
LIT Litokhoron 107.63 310 *e*P **Pdif** 14 54 45.3 -2.9
LIT Litokhoron 107.63 310 *e*P **PKiKP** 14 58 52.7 -2.9
VLI Veliai 107.65 306 *e*P **PKKPbc** 15 10 09.2 -1.9
NIE Niedzica 107.67 320 *e*P **Pdif** 14 54 48.2 0.0
NIE *e* 14 59 19.4
NIE *e* 15 05 15.0
NIE *e*SP SP 15 08 26.5 +1.0
NIE *e*SS **SS** **15 14 18.0 +0.1**
NIE MLR MLR
comp=Z,10μm,19.8s
NIE Niedzica 107.67 320 *e*Pdiff **Pdif** **14 54 48.2 0.0**
NIE *e*PP **PP** **14 59 19.4 +1.5**
NIE *e*SKSac **SKSac** **15 05 15.0 +0.1**
NIE *e*SP **SP** **15 08 26.5 +1.0**
NIE *e*SS **SS** **15 14 18.0 +0.1**
NIE L L 15 42 18.0
comp=Z,10μm,19.8s
KECS Kecovo 107.74 319 *e*P **Pdif** **14 54 49.2 +0.7**
KECS Kecovo 107.74 319 PDIF **Pdif** **14 54 49.2 +0.7**
OJC Ojcow 107.83 321 *e*P **Pdif** **14 54 49.1 +0.3**
OJC *e* 14 59 20.2
OJC *e* 15 05 11.9
OJC *e*SP SP 15 08 25.1 -2.0
OJC *e*SS **SS** **15 14 23.1 +3.2**
OJC Ojcow 107.83 321 *e*Pdiff **Pdif** **14 54 49.1 +0.3**
OJC *e*PP **PP** **14 59 20.2 +1.2**
OJC *e*SKSac **SKSac** **15 05 11.9 -3.6**
OJC *e*SP **SP** **15 08 25.1 -2.0**
OJC *e*SS **SS** **15 14 23.1 +3.2**
OJC L L 15 47 25.0
comp=Z,12μm,21.0s
OHCM Honcut 107.83 51 *e*Pdif **Pdif** **14 54 53.9 +4.9**
AGG Agios Georgios 107.88 309 *e*P **PKKPbc** **15 10 12.8 +2.3**
AGG Agios Georgios 107.88 309 *e*P **Pdif** **14 54 47.2 -2.1**
AGG Agios Georgios 107.88 309 *e*P **PKiKP** **14 58 55.8 -0.3**
B08A Colville Reser 107.96 41 *e*Pdif **Pdif** **14 54 50.5 +1.0**
GUR Goura 107.99 308 *e*P **PKKPbc** **15 10 09.0 -1.2**
VLX Vlachokerasia 108.03 307 *e*P **PKKPbc** **15 10 11.7 +1.6**
THL Klokotos Trika 108.06 310 *e*P **PKKPbc** **15 10 14.3 +4.4**
KALE Kalithea 108.10 308 *e*P **PKKPbc** **15 10 11.1 +1.3**
KLV Kalavryta, Ach 108.13 308 *e*P **PKKPbc** **15 10 11.6 +1.9**
HAWA Hanford 108.19 43 *e*Pdif **Pdif** **14 54 51.6 +1.1**
comp=Z,18nm,0.9s
HAWA *e*PKPdf **PKiKP** **14 58 57.6 +1.3**
HAWA *e*PP **PP** **14 59 22.6 +0.8**
HAWA LR LR
comp=Z,11μm,20.0s
PSZ Piszkesteto 108.24 318 *e*P **Pdif** **14 54 50.8 0.0**
PSZ MLR MLR
comp=Z,9μm,21.0s
PSZ Piszkesteto 108.24 318 ⇓*i*P **Pdif** **14 54 50.9 +0.1**
PSZ Piszkesteto 108.24 318 ⇓*i*P **PKKPbc** **15 10 10.6 +0.8**
PSZ Piszkesteto 108.24 318 *e*Pdif **Pdif** **14 54 50.8 0.0**
PSZ *e*PKPdf **PKiKP** **14 58 56.2 -0.3**
PSZ LR LR
comp=Z,9μm,21.0s
PSZ Piszkesteto 108.24 318 *e*Pdiff **Pdif** **14 54 54.6 +3.8**
LAKA Lakka 108.24 308 *e*P PKKPbc 15 10 04.1 -5.2
EVR Evrytania 108.30 309 *e*P **PKKPbc** **15 10 11.5 +2.2**
FNA Florina 108.38 311 *e*P **PKKPbc** **15 10 09.7 +0.7**
FNA Florina 108.38 311 *e*P **PKiKP** **14 58 57.1 +0.1**
MOD Modoc 108.38 48 *e*Pdif **Pdif** **14 54 56.4 +4.7**
PKSN Nyarlorinc 108.45 317 *e*Pdiff **Pdif** **14 54 56.5 +4.9**
I07A Izee 108.62 46 *e*Pdif **Pdif** **14 54 56.7 +4.0**
GKP Gorka Klasztor 108.65 324 *e*P **Pdif** **14 54 52.9 +0.5**
GKP *e* 14 59 31.7
GKP *e* 15 05 18.4
GKP *e*SS SS 15 14 34.5 +3.8
GKP Gorka Klasztor 108.65 324 *e*Pdiff **Pdif** **14 54 52.9 +0.5**
GKP *e*PP PP 14 59 31.7 +6.9
GKP *e*SKSac **SKSac** **15 05 18.3 -0.5**
GKP *e*SKSdf **SKKSac** **15 06 11.7 -2.7**
GKP *e*Sdiff **Sdif** **15 06 51.2 +2.7**
GKP *e*SS **SS** **15 14 34.4 +3.7**
NEST Nestorio 108.68 311 *e*P **PKKPbc** **15 10 03.0 -5.1**
NEST Nestorio 108.68 311 *e*P **Pdif** **14 54 55.2 +2.2**
NEST Nestorio 108.68 311 *e*P **PKiKP** **14 58 58.3 +0.7**
TBLU Trondheim 108.69 336 *e*P **Pdif** **14 54 52.0 -0.4**
C09A Chrisman Ranch 108.76 42 *e*Pdif **Pdif** **14 54 54.5 +1.4**
PDO Prodromos 108.82 309 *e*P **PKKPbc** **15 10 09.1 +1.6**
CMB Columbia Colle 108.84 52 *e*P **Pdif** **14 54 57.0 +3.3**
CMB Columbia Colle 108.84 52 *e*Pdif **Pdif** **14 54 57.0 +3.3**
RAC Raciborz 108.87 321 *e*P **Pdif** **14 54 54.6 +1.2**
RAC *e* 14 59 26.9
PKS7 Kunszentmiklos 108.90 318 ⇓*e*Pdiff **Pdif** **14 55 00.1 +6.5**
BUD Budapest 108.90 318 ⇑*e*Pdiff **Pdif** **14 54 59.1 +5.5**
OKC Ostrava-Krasne 108.95 321 *e*P **Pdif** **14 54 55.0 +1.2**
OKC *e* 14 59 30.3
OKC *e* 15 05 21.4
OKC *e*SP SP 15 08 35.8 -2.7
OKC MLR MLR
comp=Z,8μm,17.3s
OKC Ostrava-Krasne 108.95 321 *e*PDIFF **Pdif** **14 54 55.0 +1.2**
OKC *e*pP 14 55 30.2
OKC *e*PP **PP** **14 59 30.3 +3.2**
OKC *e*SKS **SKSac** **15 05 21.4 +1.1**
OKC *e*SDIF **Sdif** **15 06 50.2 -1.0**
OKC *e*SP **SP** **15 08 35.8 -2.7**
OKC *ex* x 15 25 31.8
OKC AMS AMS 15 45 10.0
comp=Z,8μm,17.3s
PKS2 Kecel 108.97 317 ⇓*e*Pdiff **Pdif** **14 54 59.0 +5.0**
NC602 NORSAR Array S 109.16 333 *e*P **Pdif** **14 54 53.6 -0.8**
NC602 *e* 15 08 40.1
NB2 NORSAR Subarra 109.19 333 P **Pdif** **14 54 53.7 -1.0**
comp=Z,90nm,0.8s,baz=69,slow=4.6
NB2 NORSAR Subarra 109.19 333 P **Pdif** **14 54 53.7 -1.0**
baz=69,slow=4.6
NOA NORSAR Array B 109.19 333 Pdif **Pdif** **14 54 53.9 -0.8**
NOA PKiKP **PKiKP** **14 58 58.2 +0.3**
NOA SKP 15 02 18.1
NOA PKKPbc **PKKPbc** **15 10 05.7 -1.5**
NOA NORSAR Array B 109.19 333 Pdiff **Pdif** **14 54 53.9 -0.8**
comp=Z,44nm,0.8s,baz=68,slow=4.5,SNR=56
NOA PKiKP **PKiKP** **14 58 58.2 +0.3**
comp=Z,43nm,0.8s,baz=262,slow=3.3,SNR=10
NOA SKP 15 02 18.1
comp=Z,3.3nm,0.7s,baz=150,slow=1.0,SNR=3.7
NOA PKKPbc **PKKPbc** **15 10 05.7 -1.5**
comp=Z,20nm,0.8s,baz=67,slow=3.2,SNR=28
TSUM Tsumeb 109.28 247 *e*P **Pdif** **14 54 57.0 +0.8**
TSUM Tsumeb 109.28 247 Pdif **Pdif** **14 54 56.4 +0.3**
TSUM PKiKP **PKiKP** **14 58 59.7 +0.4**
TSUM Tsumeb 109.28 247 Pdiff **Pdif** **14 54 56.4 +0.3**
comp=Z,4.5nm,0.7s,baz=104,slow=4.2,SNR=9.6
TSUM PKiKP **PKiKP** **14 58 59.7 +0.4**
comp=Z,34nm,0.8s,baz=125,slow=1.4,SNR=9.8
PKSG 109.34 318 *e*Pdiff **Pdif** **14 54 56.7 +1.1**
MORC Moravsky Berou 109.35 321 *e*P **Pdif** **14 54 55.9 +0.3**
MORC *e* 14 59 30.8
MORC Moravsky Berou 109.35 321 ⇑*i*P **Pdif** **14 54 56.0 +0.3**
MORC Moravsky Berou 109.35 321 ⇑*i*P **PKKPbc** **15 10 03.0 -3.3**
MORC Moravsky Berou 109.35 321 *e*Pdif **Pdif** **14 54 55.9 +0.3**
MORC *e*PKPdf **PKiKP** **14 58 57.5 -1.1**
MORC *e*PP **PP** **14 59 30.8 +0.7**
IGT Igoumenitsa 109.35 310 *e*P PKKPbc 15 09 57.1 -8.7
IGT Igoumenitsa 109.35 310 *e*P **Pdif** **14 54 54.9 -0.9**
IGT Igoumenitsa 109.35 310 *e*P **PKiKP** **14 58 59.3 +0.5**
PAHR Pah Rah Range 109.39 50 *e*Pdif **Pdif** **14 54 57.6 +1.3**
PAHR *e*PKPdf **PKiKP** **14 58 59.9 +0.9**
NAO01 NORSAR Array S 109.41 333 *e*Pdif **Pdif** **14 54 55.0 -0.6**
NAO01 *e*PP **PP** **14 59 30.3 +0.3**
NEW Newport 109.42 41 *e*Pdif **Pdif** **14 54 56.9 +0.9**
NEW LR LR
comp=Z,9μm,20.0s
NEW Newport 109.42 41 ⇑PKiKP **PKiKP** **14 58 58.1 -0.6**
baz=109
PKSM Moragy 109.42 317 ⇑P **Pdif** **14 54 55.5 -0.4**
PKSM Moragy 109.42 317 ⇑P **Pdif** **14 54 55.5 -0.4**
PKSM Moragy 109.42 317 ⇓*i*P **PKKPbc** **15 10 06.0 +0.2**
PKSM Moragy 109.42 317 *e*P **Pdif** **14 54 59.7 +3.8**
TIR Tirane 109.43 312 PFAKE 14 59 10.0
TIR LR LR
comp=Z,9μm,22.0s
BSD Bornholm Skovb 109.43 327 *e*P **Pdif** **14 54 52.0 -3.8**
BSD pmax pmax
comp=Z,110nm,1.0s
BSD Bornholm Skovb 109.43 327 *i* P **Pdif** **14 54 52.0 -3.8**
comp=Z,109nm,1.0s
BSD Bornholm Skovb 109.43 327 *i* P **PKiKP** **14 59 00.3 +1.9**
comp=Z,63nm,0.7s
SMMC Simmler 109.47 55 ⇓PKiKP **PKiKP** **14 58 58.7 -0.5**
baz=110
J08A Circle Bar Ran 109.48 46 *e*Pdif **Pdif** **14 54 59.5 +3.1**
WAKR Walker 109.52 51 *e*Pdif **Pdif** **14 54 57.9 +1.1**
WAKR *e*PP **PP** **14 59 30.4 -1.6**
WVOR Wild Horse Val 109.52 47 *e*P **Pdif** **14 54 57.3 +0.6**
WVOR MLR MLR
comp=Z,14μm,22.0s
WVOR Wild Horse Val 109.52 47 *e*Pdif **Pdif** **14 54 57.3 +0.6**
WVOR *e*PKPdf **PKiKP** **14 58 59.2 0.0**
WVOR LR LR
comp=Z,14μm,22.0s
PKS9 Tamasi 109.59 317 *e*Pdiff **Pdif** **14 55 00.3 +3.6**
PKST T"s 109.61 318 *e* **Pdif** **14 54 57.6 +0.8**
PKM Peak Mountain 109.66 55 ⇓PKiKP **PKiKP** **14 58 58.9 -0.8**
baz=110
KEK Kerkira 109.73 310 *e*P **PKKPbc** **15 10 04.2 -0.4**
OSL Oslo 109.85 332 *e*P **Pdif** **14 54 56.5 -1.0**
KSP Ksiaz 109.86 322 *e*P **Pdif** **14 54 58.1 +0.3**
KSP Ksiaz 109.86 322 *e*Pdiff **Pdif** **14 54 58.5 +0.7**
KSP *e*PP **PP** **14 59 36.6 +3.0**
KSP *e*SKSac **SKSac** **15 05 23.6 -0.4**
KSP *e*SKSdf **SKKSac** **15 06 22.1 -0.8**
KSP *e*Sdiff **Sdif** **15 06 55.4 -3.3**
KSP *e*SS SS 15 14 58.9 +12
DPC Dobruska-Polom 109.97 322 *e*P **Pdif** **14 54 58.9 +0.5**
DPC *e* 14 59 31.4
DPC *e* 15 05 23.3
DPC *e*SP SP 15 08 48.6 +0.2
DPC *e* 15 09 52.6
DPC Dobruska-Polom 109.97 322 *e*PDIFF **Pdif** **14 54 58.9 +0.5**
DPC *e*pP 14 55 34.8
DPC *e*PP **PP** **14 59 31.4 -3.1**
DPC *e*SKS **SKSac** **15 05 23.3 -1.3**
DPC *e*SDIF **Sdif** **15 07 00.6 +0.8**
DPC *e*SP **SP** **15 08 48.6 +0.2**
DPC *e*PKKP PKKPbc 15 09 52.6 -12
DPC *ex* x 15 25 42.8
DPC AMS AMS 15 47 00.0
DPC Dobruska-Polom 109.97 322 *e*Pdif **Pdif** **14 54 59.1 +0.7**
BMO Blue Mountains 110.02 44 *e*P **Pdif** **14 55 00.2 +1.4**
BMO MLR MLR
comp=Z,10μm,21.0s
BMO Blue Mountains 110.02 44 *e*Pdif **Pdif** **14 55 00.2 +1.4**
BMO LR LR
comp=Z,10μm,21.0s
VRAC Vranov 110.06 320 ⇑*i*P **Pdif** **14 54 59.8 +1.0**
VRAC Vranov 110.06 320 ⇓*i*P **PKKPbc** **15 10 04.9 +1.0**
MOL Molde 110.11 336 *e* PKKPbc 15 09 45.9 -18
UPC Upice 110.12 322 *e*P **Pdif** **14 55 00.1 +1.1**
UPC *e* 15 05 28.8
UPC *e* 15 10 07.8
UPC Upice 110.12 322 *e*PDIFF **Pdif** **14 55 00.1 +1.1**
UPC *e*SKS **SKSac** **15 05 28.8 +3.6**
UPC *e*PKKP **PKKPbc** **15 10 07.8 +4.0**
JMIC Jan Mayen 110.23 347 *e* **Pdif** **14 55 02.0 +3.0**
JMIC *e*PP **PP** **14 59 37.5 +2.0**
JMIC *e*SKS **SKSac** **15 05 22.5 -2.2**
JMIC *e*SS **SS** **15 14 54.3 +3.6**
BLG Laguna Peak 110.37 56 ⇑PKiKP **PKiKP** **14 59 00.2 -0.7**
baz=110
EDM Edmonton 110.41 35 *e*P **Pdif** **14 55 00.7 +0.4**
EDM *e* 14 59 00.6
EDM Edmonton 110.41 35 *e*Pdif **Pdif** **14 55 00.7 +0.4**
EDM *e*PKPdf **PKiKP** **14 59 00.6 +0.2**
NVAR Mina Array Bea 110.41 51 Pdif **Pdif** **14 55 04.2 +3.4**
NVAR Mina Array Bea 110.41 51 Pdiff **Pdif** **14 55 04.2 +3.4**
comp=Z,4.9nm,0.8s,baz=263,slow=6.1,SNR=25
NVAR PP PP 14 59 47.1 +8.7
comp=Z,33nm,0.9s,baz=281,slow=4.0,SNR=5.0
NVAR PKKPbc **PKKPbc** **15 10 03.3 +0.6**
comp=Z,24nm,0.7s,baz=108,slow=3.0,SNR=18
NVAR PKKP **PKKPdf** **15 10 17.9 -1.6**
comp=Z,26nm,0.7s,baz=114,slow=4.5,SNR=7.9
NVAR SKKPbc SKKPbc 15 13 37.2 +3.1
comp=Z,8.3nm,1.1s,baz=134,slow=2.2,SNR=3.9
ARVC Arvin 110.44 55 ⇓PKiKP **PKiKP** **14 59 00.5 -0.4**
baz=110
SOP Sopron 110.48 319 *e* **Pdif** **14 54 55.6 -5.1**
KONO Kongsberg 110.49 332 *e*PP PP 14 59 36.0 -1.8
KONO *e*SKS **SKSac** **15 05 27.7 +1.4**
KONO *e* 15 08 45.3
KONO *e*SS **SS** **15 14 54.9 +0.1**
KONO Kongsberg 110.49 332 *e*P **Pdif** **14 54 59.7 -0.7**
KONO Kongsberg 110.49 332 *e*Pdif **Pdif** **14 54 59.7 -0.7**
RGN Rugen 110.49 326 *e*Pdiff **Pdif** **14 55 01.5 +1.0**
NV11 Mina Array Sit 110.53 51 *e*Pdif **Pdif** **14 55 04.3 +3.0**
NV11 *e*PKPdf **PKiKP** **14 58 59.5 -1.7**
COP Copenhagen 110.58 328 *e*P **Pdif** **14 55 01.2 +0.3**
COP MLR MLR
comp=Z,4μm,20.0s
COP Copenhagen 110.58 328 *i* P **Pdif** **14 55 01.2 +0.3**
COP *i* 14 59 30.4
COP
comp=Z,4μm,20.0s
COP Copenhagen 110.58 328 *i* P PKiKP 14 59 06.3 +5.8
comp=Z,39nm,0.8s
OSI Osito Adit 110.59 55 ⇑PKiKP **PKiKP** **14 59 00.7 -0.7**
baz=111
BEHE Becsehely 110.62 317 ⇑*e* **Pdif** **14 55 01.9 +0.6**
ISA Isabella 110.67 54 ⇑PKiKP **PKiKP** **14 59 02.6 +1.1**
baz=111
TIN Tinemaha 110.67 53 ⇑PKiKP **PKiKP** **14 59 01.6 +0.1**
baz=111
STON Ston 110.75 314 P **PKiKP** **14 59 00.8 -0.5**
TREC Trest 110.77 321 *e*pP **pPdif** **14 55 38.4 +0.6**
TREC *e*PP **PP** **14 59 37.1 -3.1**
TREC *e*SKS **SKSac** **15 05 32.6 +4.7**
TREC *e*SDIF **Sdif** **15 07 05.7 -0.7**
TREC *e*SP **SP** **15 08 54.4 -1.4**
TREC AMS AMS 15 50 00.0
comp=Z,11μm,18.0s
LLD Lille Linde 110.82 327 *e*PKIKP **PKiKP** **14 59 01.4 +0.4**
LLD *e* 14 59 46.0
LLD pmax pmax
comp=Z,110nm,0.8s
LLD Lille Linde 110.82 327 *i* P **PKiKP** **14 59 01.4 +0.4**
comp=Z,111nm,0.7s
LLD *e* 14 59 46.0
RUE Ruedersdorf 110.89 324 *e*Pdiff **Pdif** **14 55 03.4 +1.1**
RUE Ruedersdorf 110.89 324 *e*Pdif **Pdif** **14 55 02.8 +0.5**
BMN Battle Mountai 110.92 49 *e*P **Pdif** **14 55 02.1 -0.9**
BMN *e* 14 59 39.1
BMN MLR MLR
comp=Z,9μm,20.0s
BMN Battle Mountai 110.92 49 *e*Pdif **Pdif** **14 55 02.1 -0.9**
BMN *e*PP **PP** **14 59 39.1 -2.7**
BMN LR LR
comp=Z,9μm,20.0s
SCI San Clemente I 110.93 57 ⇓PKiKP **PKiKP** **14 59 02.8 +0.8**
baz=111
DECC Green Verdugo 110.96 56 ⇑PKiKP **PKiKP** **14 59 01.2 -0.8**
baz=111
PVCC Panska Ves 111.00 322 *e*P **Pdif** **14 55 04.2 +1.3**
PVCC *e* 14 59 46.1
PVCC *e* 15 05 29.1
PVCC *e*SP SP 15 08 54.2 -3.6
PVCC MLR MLR
comp=Z,12μm,17.8s
PVCC Panska Ves 111.00 322 *e*PDIFF **Pdif** **14 55 04.2 +1.3**
PVCC *e*pP 14 55 40.1
PVCC *e*PP **PP** **14 59 46.1 +4.3**
PVCC *e*SKS **SKSac** **15 05 29.1 +0.3**
PVCC *e*SP **SP** **15 08 54.2 -3.6**
PVCC *ex* x 15 26 06.7
PVCC AMS AMS 15 49 30.0
comp=Z,12μm,17.8s
BSMT Bassoo Peak 111.04 41 *e*Pdif **Pdif** **14 55 05.7 +2.3**
PASC Pasadena Art C 111.09 56 *e*PKPdf **PKiKP** **14 59 03.1 +0.9**
EDW2 Edwards Air Fo 111.16 55 ⇑PKiKP **PKiKP** **14 59 03.2 +0.8**
baz=111
PRU Pruhonice 111.17 321 *e*P **Pdif** **14 55 04.7 +1.1**
PRU *e* 14 59 43.0
PRU *e* 15 05 29.6
PRU *e* 15 10 07.9
PRU *e*SS SS 15 15 15.2 +11
PRU MLR MLR
comp=Z,9μm,17.8s
PRU Pruhonice 111.17 321 *e*PDIFF **Pdif** **14 55 04.7 +1.1**
PRU *e*pP 14 55 41.2
PRU *e*PP **PP** **14 59 43.0 0.0**
PRU *e*SKS **SKSac** **15 05 29.6 +0.1**
PRU *e*SDIF **Sdif** **15 07 05.0 -4.7**
PRU *ex* x 15 08 49.5
PRU *e*PKKP **PKKPab** **15 10 07.9 -0.9**
PRU *e*SS SS 15 15 15.2 +11
PRU *ex* x 15 26 11.8
PRU AMS AMS 15 47 50.0
comp=Z,9μm,17.8s
MWC Mount Wilson 111.19 56 *e*P **Pdif** **14 55 08.5 +4.1**
MWC *e* 14 59 03.5
MWC Mount Wilson 111.19 56 *e*Pdif **Pdif** **14 55 08.5 +4.1**
MWC *e*PKPdf **PKiKP** **14 59 03.5 +0.8**
PRA Prague 111.21 322 ⇑PDIFF **Pdif** **14 55 06.0 +2.2**
PRA pP 14 55 42.0
PRA PP **PP** **14 59 44.0 +0.7**
PRA SKS **SKSac** **15 05 30.0 +0.4**
BRG Berggiesshubel 111.28 323 *e*PDIF **Pdif** **14 55 04.8 +0.7**
comp=Z,45nm,1.2s
BRG *i* PP PP 14 59 31.9 -12
comp=Z,255nm,1.5s
BRG SKS **SKSac** **15 05 31.0 +1.1**
BRG SDIFF **Sdif** **15 07 06.0 -4.5**
BRG PS PS 15 09 01.0 -16
BRG SS **SS** **15 15 11.0 +5.0**
BRG
comp=N,13μm,25.0s
BRG *e*SP SP 15 09 08.9 +1.6
comp=E,16μm,24.9s
BRG *e* 15 19 22.4
BRG MLR MLR
comp=Z,12μm,19.9s
BRG Berggiesshubel 111.28 323 *e*P **Pdif** **14 55 04.8 +0.7**
BRG 15 05 31.0
BRG PS PS 15 09 01.0 -16
BRG SS SS 15 15 11.0 +5.0
BRG pmax pmax
comp=Z,255nm,1.5s
BRG MLR MLR
comp=N,13μm,25.0s
BRG MLR MLR
comp=E,16μm,24.9s
BRG MLR MLR
comp=Z,12μm,19.9s
BRG Berggiesshubel 111.28 323 *e*Pdiff **Pdif** **14 55 05.0 +0.9**
WALA Waterton Lakes 111.28 40 *e*Pdif **Pdif** **14 55 05.7 +1.4**
TPH Tonopah 111.31 52 *e*P **Pdif** **14 55 05.9 +1.0**
TPH *e* 14 59 02.1
TPH Tonopah 111.31 52 *e*Pdif **Pdif** **14 55 05.9 +1.0**
TPH *e*PKPdf **PKiKP** **14 59 02.1 -0.7**
HYA Hoyanger 111.33 335 *e*PP PP 14 59 41.8 -1.9
HYA *e* 15 08 56.7
JTMT Jette 111.39 41 *e*PKPdf **PKiKP** **14 59 03.4 +0.8**
MPMC Manual Prospec 111.40 54 ⇓PKiKP **PKiKP** **14 59 03.4 +0.4**
baz=111
KULLO Kullorsuaq 111.45 2 *i* PKIKP **PKiKP** **14 59 01.4 -0.3**
KULLO *i* 14 59 42.3
KULLO pmax pmax
comp=Z,81nm,1.0s
BFSC Mount Baldy Ra 111.51 56 ⇓PKiKP **PKiKP** **14 59 04.3 +1.1**
baz=112
HOMB Homborsund 111.58 331 *e* **PP** **14 59 50.1 +4.5**
FBE Freiberg 111.62 323 *e*Pdiff **Pdif** **14 55 06.6 +1.0**
SWMT Swartz Lake 111.64 41 *e*PKPdf **PKiKP** **14 59 03.2 +0.2**
PERS Pernice 111.69 318 *e*Pdiff **Pdif** **14 55 05.2 -1.0**
PERS *e*PP **PP** **14 59 44.7 -2.3**
PERS *e* 14 59 54.6
PERS *e*SKSac **SKSac** **15 05 31.4 -0.5**
PERS *e* 15 26 00.5
CLL Collm 111.71 323 *e*P **Pdif** **14 55 06.0 0.0**
CLL *i* 14 59 44.8
CLL *e* 15 05 35.0
CLL pmax pmax
comp=Z,100nm,1.0s
CLL Collm 111.71 323 *e*Pdiff **Pdif** **14 55 06.6 +0.6**
CLL Collm 111.71 323 *e*Pdif **Pdif** **14 55 06.0 0.0**
comp=Z,28nm,1.2s
CLL *e*pPdif **pPdif** **14 55 40.0 -1.9**
CLL *e*sPdif sPdif 14 55 54.0 -2.6
CLL *e* 14 56 06.0
CLL *e*PKiKPmax 14 59 06.0
comp=Z,100nm,1.0s
CLL *i* PP **PP** **14 59 44.8 -2.1**
CLL *e*PPmax 14 59 49.0
comp=Z,154nm,1.1s
CLL *e*(pPP) 15 00 23.0
CLL *e*SPP 15 00 36.0
CLL *e*SKPdf **SKPdf** **15 02 25.0 -0.4**
CLL *e* 15 03 04.0
CLL *e*SKSac **SKSac** **15 05 35.0 +3.4**
CLL *e*Sdif **Sdif** **15 07 12.0 -2.1**
CLL *e*PS **PS** **15 09 16.0 -5.4**
CLL *e* 15 09 51.0
CLL *e*PKKPbc **PKKPbc** **15 10 00.0 +1.4**
CLL *e*PKKPdf **PKKPdf** **15 10 14.0 -3.0**
comp=Z,55nm,1.2s
CLL *e* 15 11 16.0
CLL *e*(PKKSdf) 15 14 00.0
CLL *e*SS SS 15 15 24.0 +12
CLL *e*SSS SSS 15 19 18.0
CLL *e* 15 21 30.0
CLL *e*SSSS 15 22 54.0
CLL *e* 15 26 18.0
ODD1 Odda 111.72 333 *e*PP PP 14 59 46.9 +0.2
ODD1 *e*SKS **SKSac** **15 05 34.0 +2.6**
ODD1 *e* 15 09 01.6
SOKA Soboth 111.74 318 P **PKiKP** **14 59 02.9 -0.2**
comp=Z,94nm,1.0s
UDBI Udbina 111.76 316 P **PKiKP** **14 59 03.5 +0.2**
FURC Furnace Creek, 111.84 53 ⇓PKiKP **PKiKP** **14 59 04.6 +1.1**
baz=112
MSO Missoula 111.86 42 ⇓PKiKP **PKiKP** **14 59 03.8 +0.3**
baz=112,SNR=6.8
BOJS Bojanci 111.89 317 *e*Pdiff **Pdif** **14 55 12.6 +5.7**
BOJS *e*PP **PP** **14 59 44.8 -3.5**
BOJS *e* 14 59 58.2
BOJS *e*SKSac **SKSac** **15 05 31.3 -1.3**
BOJS *e*Sdiff **Sdif** **15 07 17.3 +1.4**
BOJS *e* 15 26 19.4
MOA Molln 111.94 319 P **PKiKP** **14 59 04.3 +0.8**
comp=Z,60nm,0.7s
MURC Murrieta 111.97 56 ⇓PKiKP **PKiKP** **14 59 04.7 +0.7**
baz=112
MUD Monsted U'grnd 111.99 329 *e*PKIKP **PKiKP** **14 59 04.4 +1.2**
MUD *i* 14 59 48.5
MUD pmax pmax
comp=Z,46nm,1.1s
MUD Monsted U'grnd 111.99 329 *i* P **Pdif** **14 55 03.9 -3.2**
MUD
comp=Z,11μm,19.0s
MUD Monsted U'grnd 111.99 329 *i* P **PKiKP** **14 59 04.4 +1.2**
comp=Z,46nm,1.0s
MUD *i* 14 59 48.5
MUD Monsted U'grnd 111.99 329 *i* P **PKKPab** **15 10 02.3 -2.7**
comp=Z,43nm,0.9s
SUE Sulen 112.00 335 *e*P **Pdif** **14 55 07.2 +0.2**
KHC Kasperske Hory 112.01 321 *e*P **Pdif** **14 55 07.7 +0.2**
KHC *e* 14 59 48.8
KHC *e* 15 05 31.0
KHC *e*SP SP 15 09 08.9 +1.6
KHC *e* 15 19 22.4
KHC MLR MLR
comp=Z,10μm,18.6s
KHC Kasperske Hory 112.01 321 *e*PDIFF **Pdif** **14 55 07.7 +0.2**
KHC *e*pP 14 55 43.5
KHC *e*PP **PP** **14 59 48.8 -0.4**
KHC *e*SKS **SKSac** **15 05 31.0 -2.0**
KHC *e*SDIF **Sdif** **15 07 20.5 +3.6**
KHC *e*SP **SP** **15 09 08.9 +1.6**
KHC *e*PKKP **PKKPbc** **15 10 00.0 +2.4**
KHC *ex* x 15 19 22.4
KHC *ex* x 15 26 14.1
KHC AMS AMS 15 52 10.0
comp=Z,10μm,18.6s
KHC Kasperske Hory 112.01 321 *e*Pdif **Pdif** **14 55 07.1 -0.4**
KHC *e*PKPdf **PKiKP** **14 59 03.5 -0.1**
GEC2 GERESS Array S 112.02 320 *e*P **Pdif** **14 55 08.2 +0.6**
GEC2 GERESS Array S 112.02 320 *e*Pdiff **Pdif** **14 55 08.2 +0.6**
GERES GERESS Array B 112.02 320 Pdif **Pdif** **14 55 08.1 +0.5**
GERES PKiKP **PKiKP** **14 59 03.9 +0.2**
GERES PP PP 14 59 55.5 +6.2
GERES SKP 15 02 23.6
GERES PKKPbc **PKKPbc** **15 10 00.0 +2.4**
GERES P'P' 15 18 29.0

GERES **GERESS Array B 112.02 320** Pdiff **Pdif** **14 55 08.1 +0.5**
comp=Z,4,4nm,0.8s,baz=76,slow=5.6,SNR=18
GERES PKiKP **PKiKP** **14 59 03.9 +0.2**
comp=Z,37nm,0.6s,baz=85,slow=1.6,SNR=56
GERES PP PP 14 59 55.5 +6.2
comp=Z,51nm,0.8s,baz=72,slow=4.3,SNR=4.6
GERES SKP 15 02 23.6
comp=Z,21nm,0.5s,baz=84,slow=1.7,SNR=8.1
GERES PKKPbc **PKKPbc** **15 10 00.0 +2.4**
comp=Z,5.9nm,0.7s,baz=252,slow=2.5,SNR=5.5
GERES PKPPKP **P'P'df** **15 18 29.0 +2.7**
comp=Z,2.5nm,1.0s,baz=207,slow=2.0,SNR=4.3
BLS5 Blasjo 112.03 333 *e* **PKKPbc** **15 09 58.8 +1.0**
SLMT Seeley Lake 112.04 41 *e*PKPdf **PKiKP** **14 59 04.0 +0.1**
RUND Rundenannen 112.05 334 *e* **PKKPbc** **15 09 57.2 -0.7**
GSC Goldstone 112.06 54 *e*PKiKP **PKiKP** **14 59 03.5 -0.7**
GSC Goldstone 112.06 54 *e*PKPdf 14 59 03.5
GSC Goldstone 112.06 54 ⇓PKiKP **PKiKP** **14 59 05.9 +1.7**
baz=112
BER Bergen 112.08 334 *e*P **Pdif** **14 55 07.7 +0.3**
BER *e*PP **PP** **14 59 50.3 +1.2**
BER *e*SKS **SKSac** **15 05 32.5 -0.1**
BER *e* 15 09 03.2
BER *e*SS **SS** **15 15 19.0 +3.2**
ASK Askoy 112.09 334 *e* **PKKPbc** **15 09 55.6 -2.0**
BBRC Big Bear Solar 112.12 56 ⇑PKiKP **PKiKP** **14 59 04.0 -0.5**
baz=112
TIP Timpagrande 112.14 310 *e*PKPdf **PKiKP** **14 59 05.3 +1.1**
TIP LR LR
comp=Z,6μm,22.0s
109C Camp Elliot, M 112.14 57 ⇑PKiKP **PKiKP** **14 59 02.7 -1.5**
baz=112
SNART Snartemo 112.16 332 *e*PP PP 14 59 49.3 -0.5
SNART *e* 15 09 03.5
EGD Espegrend 112.18 334 *e* **PKKPbc** **15 09 57.0 -0.3**
LJU Ljubljana 112.24 317 *e*Pdiff **Pdif** **14 55 15.1 +6.5**
LJU *e*PP **PP** **14 59 48.0 -2.8**
LJU *e* 14 59 58.3
LJU *e*SKSac **SKSac** **15 05 34.2 +0.2**
LJU *e*Sdiff **Sdif** **15 07 18.4 -0.4**
LJU *e*SP **SP** **15 09 13.0 +3.4**
LJU *e*SS **SS** **15 15 15.1 -4.1**
LJU *e* 15 26 29.3
LJU *e* 16 22 33.6
LJU *e* 16 25 07.2
CHMT Chamberlain Mo 112.29 42 *e*PKPdf **PKiKP** **14 59 04.6 +0.2**
TANN Tannenbergstha 112.31 322 *e*Pdiff **Pdif** **14 55 09.5 +0.7**
HLID Hailey 112.33 45 *e*Pdif **Pdif** **14 55 09.4 +0.1**
HLID *e*PKPdf **PKiKP** **14 59 05.8 +1.3**
HLID *e*PP **PP** **14 59 54.2 +2.3**
HLID LR LR
comp=Z,10μm,20.0s
HLID Hailey 112.33 45 ⇓PKiKP **PKiKP** **14 59 04.8 +0.3**
baz=112,SNR=12
ELK Elko 112.34 48 *e*PKPdf **PKiKP** **14 59 05.1 +0.3**
BSEG Bad Segeberg 112.36 326 *e*P **Pdif** **14 55 09.9 +1.1**
BSEG Bad Segeberg 112.36 326 *e*Pdiff **Pdif** **14 55 09.9 +1.1**
NVLJ Novalja 112.38 316 P **PKiKP** **14 59 05.3 +1.0**
NKC Novy Kostel 112.38 322 *e*P **Pdif** **14 55 07.7 -1.4**
NKC *e* 14 59 55.2
NKC *e* 15 05 34.8
NKC *e*SP SP 15 09 11.6 +1.0
NKC MLR MLR
comp=Z,7μm,17.2s
NKC Novy Kostel 112.38 322 *e*PDIFF **Pdif** **14 55 07.7 -1.4**
NKC *e*pP 14 55 47.2
NKC *e*PP **PP** **14 59 55.2 +3.5**
NKC *e*SKS **SKSac** **15 05 34.8 +0.4**
NKC *e*SDIF **Sdif** **15 07 23.8 +3.9**
NKC *e*SP **SP** **15 09 11.6 +1.0**
NKC *ex* x 15 19 15.1
NKC AMS AMS 15 47 40.0
comp=Z,7μm,17.2s
SHOC Shoshone 112.40 54 ⇑PKiKP **PKiKP** **14 59 04.2 -0.5**
baz=112
WERD Werda 112.40 322 *e*Pdiff **Pdif** **14 55 09.8 +0.6**
WERN Wernitzgruen 112.41 322 *e*Pdiff **Pdif** **14 55 10.1 +0.9**
GUNZ Gunzen 112.41 322 *e*Pdiff **Pdif** **14 55 10.0 +0.8**
NEUB Neuenburg 112.47 323 *e*Pdiff **Pdif** **14 55 10.2 +0.8**
PLN Plauen 112.48 322 *e*Pdiff **Pdif** **14 55 10.4 +0.9**
HEC Hector,Ludlow 112.52 55 ⇑PKiKP **PKiKP** **14 59 04.2 -0.8**
baz=113
BAR Barrett 112.53 57 *e*PKPdf **PKiKP** **14 59 06.0 +1.0**
R11A Troy Canyon, C 112.53 51 *e*Pdif **Pdif** **14 55 11.9 +1.6**
R11A *e*PKPdf **PKiKP** **14 59 06.2 +1.1**
R11A Troy Canyon, C 112.53 51 ⇓PKiKP **PKiKP** **14 59 03.1 -2.0**
baz=113
PFO Pinyon Flat Ob 112.59 56 *e*Pdif **Pdif** **14 55 11.4 +0.9**
PFO *e*PKPdf **PKiKP** **14 59 05.7 +0.5**
PFO LR LR
comp=Z,14μm,20.0s
PFO Pinyon Flat Ob 112.59 56 ⇑PKiKP **PKiKP** **14 59 05.6 +0.3**
baz=113,SNR=22
JAVS Javornik 112.59 317 *i* Pdiff Pdif 14 55 00.1 -10
JAVS *e*PP **PP** **14 59 49.9 -3.6**
JAVS *e* 15 00 00.3
JAVS *e*SKSac **SKSac** **15 05 37.3 +1.7**
JAVS *e* 15 26 39.3
MANZ Manzenberg 112.67 322 *e*Pdiff **Pdif** **14 55 11.5 +1.1**
VOY Vojsko 112.67 318 *e*PKiKP **PKiKP** **14 59 04.7 -0.3**
VOY *e* 14 59 08.5
VOY *e* 14 59 18.1
VOY *e*PP **PP** **14 59 49.9 -4.2**
KMY Karmoy 112.67 333 *e* PP 14 59 46.6 -6.8
KMY *i* 15 09 03.0
ROTZ Rotzenmuhle 112.67 322 *e*Pdiff **Pdif** **14 55 11.6 +1.2**
CUC Castrocucco 112.70 311 *e*PKPdf **PKiKP** **14 59 04.7 -0.5**
CUC LR LR
comp=Z,8μm,22.0s
MONP Monument Peak 112.71 57 ⇓PKiKP **PKiKP** **14 59 07.2 +1.6**
baz=113
SKDS Skadanscina 112.72 317 *e*PKiKP **PKiKP** **14 59 05.7 +0.7**
SKDS *e*SP SP 15 09 12.3 -1.6
TUQ Turquoise Moun 112.75 54 ⇓PKiKP **PKiKP** **14 59 05.3 -0.2**
baz=113
TRI Trieste 112.84 317 *e*PKiKP **PKiKP** **14 59 05.2 0.0**
TRI Trieste 112.84 317 *e*PKPdf **PKiKP** **14 59 05.2 0.0**
BELC Belle Mtn. Jos 112.91 56 ⇑PKiKP **PKiKP** **14 59 06.9 +1.0**
baz=113,SNR=20
CEL Celeste 112.97 309 *e*PKPdf **PKiKP** **14 59 04.8 -0.9**
CEL LR LR
comp=Z,8μm,22.0s
NRDL Niedersach Rie 113.00 325 *e*Pdiff **Pdif** **14 55 13.2 +1.6**
DVTC Desert V Tower 113.01 57 ⇑PKiKP **PKiKP** **14 59 06.1 +0.1**
baz=113
GMRC Granite Mounta 113.07 55 ⇓PKiKP **PKiKP** **14 59 06.5 +0.3**
baz=113,SNR=18
CLZ Clausthal 113.08 324 *e*P **Pdif** **14 55 13.5 +1.3**
CLZ Clausthal 113.08 324 *e*Pdiff **Pdif** **14 55 13.5 +1.3**
MCMT McKenzie Canyo 113.11 44 *e*PKPdf **PKiKP** **14 59 06.3 +0.3**
LRM Limekiln Ridge 113.12 43 *e*Pdif **Pdif** **14 55 12.9 +0.1**
LRM *e*PKPdf **PKiKP** **14 59 06.6 +0.5**
SHPR Sheep Range 113.19 53 *e*Pdif **Pdif** **14 55 13.0 -0.2**
SHPR *e*PKPdf **PKiKP** **14 59 07.2 +0.8**
SWSC Sam W. Stewart 113.23 57 ⇑PKiKP **PKiKP** **14 59 07.2 +0.9**
baz=113,SNR=6.2
SUMG Summit 113.26 356 *i* PKIKP **PKiKP** **14 59 06.0 +0.2**
SUMG *i* 15 00 00.4
SUMG pmax pmax
comp=Z,89nm,0.9s
SUMG Summit 113.26 356 *i* P **Pdif** **14 55 10.1 -2.9**
SUMG Summit 113.26 356 *i* P **PKiKP** **14 59 06.0 +0.2**
comp=Z,89nm,0.9s
SUMG *i* 15 00 00.4
SUMG Summit 113.26 356 *i* P **PKKPbc** **15 09 51.6 -3.0**
comp=Z,105nm,0.8s
SUMG Summit 113.26 356 *e*Pdif **Pdif** **14 55 13.1 +0.1**
SUMG *e*PKPdf **PKiKP** **14 59 05.8 0.0**
GRF Grafenberg Arr 113.30 322 *e*P **Pdif** **14 55 14.1 +0.9**
GRF Grafenberg Arr 113.30 322 *e*Pdiff **Pdif** **14 55 14.1 +0.9**
GRFO Grafenberg 113.31 322 *e*PKiKP **PKiKP** **14 59 06.0 0.0**
GRFO Grafenberg 113.31 322 *e*PKPdf **PKiKP** **14 59 06.0 0.0**
SCO Scoresbysund 113.32 350 *i* PKIKP **PKiKP** **14 59 05.0 -0.4**
SCO *i* 15 00 02.3
SCO pmax pmax
comp=Z,36nm,0.9s
SCO Scoresbysund 113.32 350 *i* P **Pdif** **14 55 10.6 -2.1**
SCO Scoresbysund 113.32 350 *i* P **PKiKP** **14 59 05.0 -0.4**
comp=Z,36nm,0.9s
SCO *i* 15 00 02.3
SCO Scoresbysund 113.32 350 *i* P **PKKPbc** **15 09 54.8 +1.0**
comp=Z,26nm,1.0s
ABTA Abfaltersbach 113.39 319 *i* PKiKP **PKiKP** **14 59 06.1 -0.2**
comp=Z,225nm,0.8s,SNR=24
BC3 Big Chuckawall 113.41 56 ⇑PKiKP **PKiKP** **14 59 07.3 +0.5**
baz=114,SNR=24
LDFC Landfair 113.47 54 *e*PKPdf **PKiKP** **14 59 07.3 +0.4**
RPN Rapa Nui 113.47 123 PFAKE 14 59 20.0
RPN LR LR
comp=Z,10μm,19.0s
IRM Iron Mountain 113.58 55 ⇓PKiKP **PKiKP** **14 59 07.5 +0.4**
baz=114
UBBA Unterbreizbach 113.66 323 *e*Pdiff **Pdif** **14 55 15.7 +1.1**
BOZ Bozeman (W) 113.72 43 *e*P **Pdif** **14 55 16.5 +1.2**
BOZ *e* 14 59 07.4
BOZ MLR MLR
comp=Z,9μm,20.0s
BOZ Bozeman (W) 113.72 43 *e*Pdif **Pdif** **14 55 16.5 +1.2**
BOZ *e*PKPdf **PKiKP** **14 59 07.4 +0.3**
BOZ LR LR
comp=Z,9μm,20.0s
WTTA Wattenberg 113.81 319 ⇓*i*PKiKP **PKiKP** **14 59 07.0 -0.3**
comp=Z,270nm,0.4s,SNR=25
WATA Walderalm 113.83 319 ⇓*i*PKiKP **PKiKP** **14 59 07.2 -0.1**
comp=Z,111nm,0.5s,SNR=16
HVU Hansel Valley 113.92 47 *e*P **Pdif** **14 55 17.2 +0.9**
HVU *e* 14 59 08.4
HVU Hansel Valley 113.92 47 *e*Pdif **Pdif** **14 55 17.2 +0.9**
HVU *e*PKPdf **PKiKP** **14 59 08.4 +0.8**
BGU Big Grassy Mou 113.94 48 *e*PKPdf **PKiKP** **14 59 08.5 +0.9**
AQU L'Aquila 113.95 314 *e*PKPdf **PKiKP** **14 59 07.6 +0.1**
AQU LR LR
comp=Z,13μm,22.0s
GLA Glamis 114.02 57 *e*PKIKP PKPdf 14 59 07.3 -0.6
GLA *e* 15 00 04.1
GLA Glamis 114.02 57 *e*PKPdf PKPdf 14 59 07.3 -0.6
GLA *e*PP **PP** **15 00 04.1 0.0**
GLA Glamis 114.02 57 ⇑PKiKP **PKiKP** **14 59 08.1 +0.2**
baz=114
QLMT Earthquake Lak 114.08 43 *e*Pdif **Pdif** **14 55 18.3 +1.2**
QLMT *e*PKPdf **PKiKP** **14 59 08.6 +0.7**
MOTA Moosalm 114.13 319 *i* PKiKP PKPdf 14 59 07.8 0.0
comp=Z,80nm,0.5s,SNR=23
Y12C Blythe 114.16 56 ⇑PKiKP **PKiKP** **14 59 09.5 +1.4**
baz=114
EGMT Eagleton 114.23 40 *e*PKPdf PKPdf 14 59 08.1 +0.2
EGMT LR LR
comp=Z,9μm,20.0s
EGMT Eagleton 114.23 40 ⇑PKiKP **PKiKP** **14 59 07.9 0.0**
baz=114,SNR=29
DUG Dugway 114.27 49 *e*P **Pdif** **14 55 17.2 -0.7**
DUG *e* 14 59 09.0
DUG MLR MLR
comp=Z,12μm,19.0s
DUG Dugway 114.27 49 *e*Pdif **Pdif** **14 55 17.2 -0.7**
DUG *e*PKPdf **PKiKP** **14 59 09.0 +0.7**
DUG LR LR
comp=Z,12μm,19.0s
DUG Dugway 114.27 49 ⇑PKiKP PKPdf 14 59 08.1 -0.2
baz=114
SPUT South Promonto 114.28 47 *e*PKPdf PKPdf 14 59 10.3 +2.0
PDMCI Parker Dam,Lak 114.39 55 ⇑PKiKP PKPdf 14 59 07.8 -0.7
baz=114,SNR=6.6
IBBN Ibbenburen 114.40 325 *e*Pdiff **Pdif** **14 55 19.3 +1.3**
YMR Madison River 114.45 43 *e*Pdif **Pdif** **14 55 21.3 +2.6**
YMR *e*PKPdf **PKiKP** **14 59 09.6 +1.0**
W13A Hualapai Mount 114.46 54 ⇑PKiKP PKPdf 14 59 08.2 -0.7
baz=114,SNR=16
FETA Feichten 114.47 319 P PKPdf 14 59 08.9 +0.4
comp=Z,172nm,1.1s
WDD Wield Dalam 114.50 307 PFAKE 14 59 20.0 +11
WDD LR LR
comp=Z,6μm,22.0s
A19A Klindworth Far 114.56 39 ⇓PKiKP **PKiKP** **14 59 08.7 +0.2**
baz=115,SNR=9.1
B19A Brinkman Farms 114.60 39 ⇑PKiKP **PKiKP** **14 59 09.0 +0.4**
baz=115,SNR=7.7
YFT Old Faithful 114.60 44 *e*PKPdf PKPdf 14 59 09.4 +0.5
YNR Norris Junctio 114.63 43 *e*PKPdf PKPdf 14 59 09.4 +0.4
C19A Slack Wire Ran 114.77 40 ⇑PKiKP PKPdf 14 59 09.3 +0.4
baz=115,SNR=7.8
H17A Grant Village 114.79 44 *e*PKPdf PKPdf 14 59 09.2 -0.1
H17A Grant Village 114.79 44 ⇑PKiKP **PKiKP** **14 59 08.6 -0.7**
baz=115
TNS Taunus Mts 114.80 323 *e*P **Pdif** **14 55 21.0 +1.1**
TNS Taunus Mts 114.80 323 *e*Pdiff **Pdif** **14 55 21.0 +1.1**
LKWY Lake 114.86 43 PFAKE 14 59 20.0 +11
LKWY LR LR
comp=Z,16μm,20.0s
STU Stuttgart 114.86 321 *e*PKIKP PKPdf 14 59 06.8 -2.2
STU Stuttgart 114.86 321 *e*PKPdf PKPdf 14 59 06.8 -2.1
NLU North Lily Min 114.87 49 *e*PKPdf PKPdf 14 59 06.7 -2.9
AHID Auburn Hatcher 114.88 46 *e*PKPdf PKPdf 14 59 10.3 +0.9
AHID LR LR
comp=Z,11μm,20.0s
I17A Pilgrim Ck. 114.93 44 ⇓PKiKP PKPdf 14 59 10.1 +0.5
baz=115
DAVA Damuels 114.94 320 *i* PKiKP PKPdf 14 59 09.7 +0.3
comp=Z,170nm,0.5s,SNR=24
113A Mohawk Valley, 114.94 57 ⇓PKiKP PKPdf 14 59 10.2 +0.6
baz=115
LRW Lerwick 114.97 336 *e*P PKPdf 14 59 08.9 +0.1
LRW AMS AMS 15 36 55.9
comp=Z,9μm,71.5s
GCMT Greycliff 114.99 42 *e*PKPdf PKPdf 14 59 10.3 +0.8
BUG Bochum--Univer 115.02 325 *e*Pdiff **Pdif** **14 55 21.9 +1.2**
D19A Cripps Ranch, 115.07 40 ⇑PKiKP **PKPdf** **14 59 09.7 +0.2**
baz=115,SNR=6.8
WTSB Winterswijk 115.08 325 *e*Pdiff **Pdif** **14 55 22.4 +1.4**
WTSB *e*PKPdf **PKPdf** **14 59 09.7 +0.4**
WTSB Winterswijk 115.08 325 *e*SKSP **SP** **15 09 33.1 -1.9**
A20A Cobblestone Ra 115.08 38 ⇑PKiKP **PKPdf** **14 59 09.8 +0.3**
baz=115
MVU Marysvale 115.10 50 *e*PKPdf **PKPdf** **14 59 10.7 +0.6**
B20A Solberg Farm, 115.18 39 ⇓PKiKP **PKPdf** **14 59 10.2 +0.5**
baz=115,SNR=34
JLU Jordanelle 115.18 48 *e*Pdif **Pdif** **14 55 22.4 +0.4**
JLU *e*PKPdf **PKPdf** **14 59 10.9 +0.8**
MPU Maple Canyon 115.19 49 *e*PKPdf **PKPdf** **14 59 10.3 +0.1**
H18A Shoshone NF, C 115.33 43 ⇑PKiKP **PKPdf** **14 59 10.9 +0.6**
baz=115
E19A Rath Farm, Rou 115.36 41 ⇓PKiKP **PKPdf** **14 59 10.5 +0.4**
baz=115,SNR=9.2
DAU Daniels Canyon 115.37 48 *e*PKPdf **PKPdf** **14 59 11.3 +0.7**
Y14A Wickenburg 115.38 55 ⇓PKiKP **PKPdf** **14 59 11.6 +1.1**
baz=115,SNR=9.6
C20A Veseth Ranch, 115.44 40 ⇓PKiKP **PKPdf** **14 59 10.9 +0.7**
baz=115
F19A Roth Farm, Mol 115.45 42 ⇑PKiKP **PKPdf** **14 59 11.2 +0.9**
baz=116
RLMT Red Lodge 115.47 43 *e*Pdif **Pdif** **14 55 23.6 +0.4**
RLMT *e*PKPdf **PKiKP** **14 59 10.5 0.0**
RLMT LR LR
comp=Z,9μm,20.0s
U15A North Rim 115.48 53 ⇓PKiKP **PKPdf** **14 59 11.3 +0.4**
baz=116
Z14A Wintersburg 115.52 56 ⇓PKiKP **PKiKP** **14 59 11.4 +0.7**
baz=116
TUE Stuetta 115.55 319 *e*PKPdf **PKPdf** **14 59 10.3 -0.4**
BFO Black Forest 115.56 321 *e*PKIKP **PKPdf** **14 59 09.4 -1.0**
BFO MLR MLR
comp=Z,13μm,20.0s
BFO Black Forest 115.56 321 *e*PKPdf **PKPdf** **14 59 09.4 -1.0**
BFO LR LR
comp=Z,13μm,20.0s
D20A Manuel Ranch, 115.57 40 ⇑PKiKP **PKPdf** **14 59 11.2 +0.7**
baz=116
VLC Villacollemand 115.58 316 *e*PKPdf **PKPdf** **14 59 11.3 +0.8**
VLC LR LR
comp=Z,15μm,21.0s
LANF Langenberg 115.65 322 *e*P **PKPdf** **14 59 11.1 +0.6**
A21A Bergtoll Ranch 115.66 38 ⇑PKiKP **PKPdf** **14 59 11.7 +1.1**
baz=116
TMUT Trail Mountain 115.68 49 *e*PKPdf **PKPdf** **14 59 12.2 +0.9**
E20A Meyer Farm, Mu 115.77 41 ⇓PKiKP **PKiKP** **14 59 11.5 +0.6**
baz=116
H19A Powell 115.80 43 ⇑PKiKP **PKiKP** **14 59 11.7 +0.6**
baz=116
Q16A Castle Valley 115.80 50 *e*Pdif **Pdif** **14 55 25.0 +0.2**
Q16A *e*PKPdf **PKiKP** **14 59 12.7 +1.3**
Q16A Castle Valley 115.80 50 ⇓PKiKP **PKPdf** **14 59 10.9 -0.5**
baz=116
214A Organ Pipe Nat 115.87 58 ⇑PKiKP **PKiKP** **14 59 11.6 +0.2**
baz=116
FELD Feldberg im Sc 115.93 321 *e*P **PKPdf** **14 59 11.1 -0.1**
BW06 Boulder Array 115.97 45 *e*PKPdf **PKPdf** **14 59 12.0 +0.4**
BW06 LR LR
comp=Z,8μm,19.0s
PDAR Pinedale Array 115.97 45 PKP **PKPdf** **14 59 12.2 +0.5**
PDAR SKP 15 02 32.5
PDAR PKKPbc **PKKPbc** **15 09 43.3 -0.9**
PDAR SKKPbc SKKPbc 15 13 14.8 -3.0
PDAR Pinedale Array 115.97 45 Pdiff **Pdif** **14 55 31.0 +5.5**
comp=Z,2.3nm,0.9s,baz=277,slow=2.5,SNR=9.5
PDAR PKP **PKPdf** **14 59 12.2 +0.5**
comp=Z,24nm,0.7s,baz=242,slow=0.6,SNR=20
PDAR SKP 15 02 32.5
comp=Z,11nm,0.7s,baz=197,slow=1.5,SNR=2.7
PDAR PKKPbc **PKKPbc** **15 09 43.3 -0.9**
comp=Z,36nm,0.9s,baz=100,slow=4.2,SNR=16
PDAR SKKPbc SKKPbc 15 13 14.8 -3.0
comp=Z,23nm,1.1s,baz=115,slow=4.9,SNR=4.6
C21A Desert Coulee 115.97 39 ⇓PKiKP **PKiKP** **14 59 11.3 +0.1**
baz=116
FFC Flin Flon 115.98 31 *e*PKPdf **PKPdf** **14 59 11.2 +0.3**
FFC LR LR
comp=Z,5μm,20.0s
I19A Meeteetse 115.98 44 ⇑PKiKP **PKPdf** **14 59 11.3 -0.2**
baz=116
F20A Billings 116.00 42 ⇓PKiKP **PKiKP** **14 59 12.1 +0.7**
baz=116
HGN Heimansgroeve 116.07 324 *e*Pdiff **Pdif** **14 55 27.2 +1.8**
HGN *e*PKPdf **PKiKP** **14 59 11.7 +0.5**
HGN Heimansgroeve 116.07 324 *e*SKSP 15 09 33.9
MEM Membach 116.09 324 PKP **PKPdf** **14 59 11.7 +0.4**
MEM Membach 116.09 324 PP PP 15 00 24.2 +6.5
MEM Membach 116.09 324 SKiKP **SKiKP** **15 02 34.0 0.0**
MEM Membach 116.09 324 PKKPab PKKPab 15 09 46.2 -0.8
G20A Bridger 116.14 42 ⇑PKiKP **PKiKP** **14 59 12.6 +0.9**
baz=116
J19A Crowheart 116.18 45 ⇑PKiKP **PKiKP** **14 59 12.7 +0.7**
baz=116
CDF Champ du Feu 116.18 322 *e*PKIKP **PKPdf** **14 59 11.2 -0.5**
comp=Z,49nm,0.7s
CDF Champ du Feu 116.18 322 *e*PKPdf **PKPdf** **14 59 11.2 -0.5**
BEBN Eben Emael 116.20 324 PKP **PKPdf** **14 59 11.7 +0.3**
BEBN SKiKP **SKiKP** **15 02 37.7 +3.6**
SRU San Rafael 116.24 49 *e*P **Pdif** **14 55 26.8 +0.1**
SRU *e* 14 59 12.1
SRU San Rafael 116.24 49 *e*Pdif **Pdif** **14 55 26.8 +0.1**
SRU *e*PKPdf **PKPdf** **14 59 12.1 -0.1**
A22A Carney Farms, 116.27 38 ⇓PKiKP **PKiKP** **14 59 12.5 +0.7**
baz=116
D21A La Casta Ranch 116.31 40 ⇑PKiKP **PKiKP** **14 59 12.6 +0.7**
baz=116
ECH Echery 116.33 321 *e*P **PKPdf** **14 59 11.5 -0.4**
ECH Echery 116.33 321 *e*PKPdf **PKPdf** **14 59 11.7 -0.2**
ECH LR LR
comp=Z,11μm,19.0s
WLF Walferdange 116.38 323 PKP **PKPdf** **14 59 12.7 +0.8**
WLF SKiKP **SKiKP** **15 02 38.2 +3.7**
WLF Walferdange 116.38 323 PKKPab PKKPab 15 09 43.9 -1.8
WLF Walferdange 116.38 323 *e*Pdif **Pdif** **14 55 28.4 +1.5**
WLF Walferdange 116.38 323 *e*PKPdf **PKPdf** **14 59 12.5 +0.6**
WLF LR LR
comp=Z,13μm,20.0s
WUAZ Wupatki 116.39 53 *e*Pdif **Pdif** **14 55 27.1 -0.3**
WUAZ *e*PKPdf **PKiKP** **14 59 13.9 +1.4**
WUAZ LR LR
comp=Z,14μm,21.0s
WUAZ Wupatki 116.39 53 ⇑PKiKP **PKPdf** **14 59 12.5 0.0**
baz=116
E21A Keefer Ranch, 116.44 41 ⇓PKiKP **PKiKP** **14 59 13.1 +0.9**
baz=116
MOF Molkenrain 116.48 321 *e*P **PKPdf** **14 59 11.8 -0.4**
B22A Reddig Ranch S 116.49 38 ⇓PKiKP **PKiKP** **14 59 13.2 +1.0**
baz=116
H20A Greybull 116.52 43 ⇑PKiKP **PKiKP** **14 59 13.0 +0.5**
baz=116
X16A Lo Mia Camp, P 116.56 55 ⇑PKiKP **PKiKP** **14 59 14.5 +1.6**
baz=117
BCLA Clavier 116.57 324 PKP **PKPdf** **14 59 12.7 +0.5**
BCLA PP PP 15 00 28.1 +6.9
BCLA SKiKP **SKiKP** **15 02 35.1 +0.1**
BCLA Clavier 116.57 324 PKKPab PKKPab 15 09 46.1 +1.2
I20A Worland 116.61 44 ⇓PKiKP **PKiKP** **14 59 13.4 +0.7**
baz=117
F21A Absaloka Mine, 116.66 41 ⇑PKiKP **PKiKP** **14 59 13.3 +0.6**
baz=117
HINF Hinteralfeld 116.67 321 *e*PKIKP **PKPdf** **14 59 12.3 -0.2**
comp=Z,333nm,0.7s
HINF Hinteralfeld 116.67 321 *e*PKPdf **PKPdf** **14 59 12.3 -0.2**
C22A Vida 116.77 39 ⇓PKiKP **PKiKP** **14 59 13.5 +0.7**
baz=117
G21A Lodge Grass 116.81 42 ⇑PKiKP **PKiKP** **14 59 13.6 +0.6**
baz=117
J20A Shosoni 116.82 44 ⇑PKiKP **PKiKP** **14 59 13.4 +0.3**
baz=117
LOMF Lomont 116.86 321 *e*P **PKPdf** **14 59 12.8 -0.2**
HAU Haudompre 116.91 321 *e*PKIKP **PKPdf** **14 59 13.0 0.0**
comp=Z,276nm,0.8s
HAU *e*R
comp=Z,16μm,22.0s
HAU Haudompre 116.91 321 *e*PKPdf **PKPdf** **14 59 13.0 0.0**
A23A Redstone 116.91 37 ⇑PKiKP **PKiKP** **14 59 13.6 +0.7**
baz=117
LAO LASA Array 116.94 40 *e*PKPdf **PKPdf** **14 59 14.1 +1.0**
LAO LR LR
comp=Z,9μm,21.0s
O19A Miners Draw (B 116.97 48 ⇑PKiKP **PKiKP** **14 59 13.8 +0.2**
baz=117
GIVF Givet 116.99 324 *e*PKIKP **PKPdf** **14 59 13.6 +0.6**
comp=Z,311nm,0.9s
GIVF Givet 116.99 324 *e*PKPdf **PKPdf** **14 59 13.6 +0.6**
PGF Pioggiola 117.03 315 *e*PKIKP **PKPdf** **14 59 13.6 +0.1**
comp=Z,292nm,0.8s
PGF Pioggiola 117.03 315 *e*PKPdf **PKPdf** **14 59 13.6 +0.1**
THEF They Montfort 117.05 322 *e*P **PKPdf** **14 59 13.5 +0.3**
PAGF Fort de Pagny 117.08 322 *e*PKIKP **PKPdf** **14 59 13.5 +0.2**
comp=Z,42nm,0.8s
PAGF Fort de Pagny 117.08 322 *e*PKPdf **PKPdf** **14 59 13.5 +0.2**
DOU Dourbes 117.12 324 PKP **PKPdf** **14 59 13.9 +0.6**
DOU SKiKP **SKiKP** **15 02 35.8 -0.2**
DOU Dourbes 117.12 324 PKKPab PKKPab 15 09 41.1 -1.3
H21A Big Horn, Sher 117.12 43 ⇑PKiKP **PKiKP** **14 59 14.2 +0.5**
baz=117
SNF Seneffe 117.13 325 PKP **PKPdf** **14 59 13.8 +0.6**
SNF SKiKP **SKiKP** **15 02 34.5 -1.5**
SNF Seneffe 117.13 325 PKKPab PKKPab 15 09 43.7 +1.3
OSPF L'Ospedale 117.16 314 *e*P **PKPdf** **14 59 13.6 -0.1**
C23A Lambert 117.18 39 ⇓PKiKP **PKiKP** **14 59 14.4 +0.9**
baz=117
C23A ⇓SKSac **SKSac** **15 05 54.0 +1.0**
baz=117
E22A Miles City 117.21 40 ⇑PKiKP **PKiKP** **14 59 13.9 +0.3**
baz=117
I21A Big Trails, Te 117.22 43 ⇑PKiKP **PKiKP** **14 59 14.2 +0.3**
baz=117,SNR=34
F22A Rosebud 117.25 41 ⇑PKiKP **PKiKP** **14 59 14.3 +0.5**
baz=117,SNR=14
USHA Ushuaia 117.26 168 PKP **PKPdf** **14 59 14.5 +1.1**
USHA SKP 15 02 37.1
USHA Ushuaia 117.26 168 PKP **PKPdf** **14 59 14.5 +1.1**
comp=Z,62nm,0.7s,baz=204,slow=1.2,SNR=24
USHA SKP 15 02 37.1
comp=Z,35nm,0.7s,baz=120,slow=2.6,SNR=6.0
J21A Lysite 117.27 44 ⇑PKiKP **PKiKP** **14 59 14.1 0.0**
baz=117,SNR=19
MCD Coleburn Disti 117.33 334 *e*P **PKPdf** **14 59 13.2 -0.2**
MME1 Meikle Cairn 117.36 334 *e*P **PKPdf** **14 59 12.5 -1.0**
BAIF Baives 117.36 324 *e*PKIKP **PKPdf** **14 59 14.3 +0.6**
comp=Z,307nm,0.9s
BAIF Baives 117.36 324 *e*PKPdf **PKPdf** **14 59 14.3 +0.6**
FCC Fort Churchill 117.38 24 *e*PKPdf **PKPdf** **14 59 13.0 -0.4**
DRUM Mains of Drumt 117.38 333 AMS AMS 15 48 20.9
comp=Z,11μm,20.8s
D23A Lindsay 117.41 39 ⇑PKiKP **PKiKP** **14 59 14.5 +0.4**
baz=117
G22A Birney 117.42 42 ⇑PKiKP **PKiKP** **14 59 14.4 +0.3**
baz=117
N20A Spence Gulch, 117.45 47 ⇑PKiKP **PKPdf** **14 59 14.5 -0.1**
baz=118,SNR=38
A24A Westby 117.46 37 PKiKP **PKiKP** **14 59 15.0 +0.9**
baz=117,SNR=17
TUC Tucson 117.50 57 *e*PKPdf **PKPdf** **14 59 14.9 +0.3**
TUC LR LR
comp=Z,11μm,19.0s
MEZF Maizieres J'vi 117.51 322 *e*PKIKP **PKPdf** **14 59 14.4 +0.3**
comp=Z,106nm,0.7s
MEZF Maizieres J'vi 117.51 322 *e*PKPdf **PKPdf** **14 59 14.4 +0.3**
DGMT Dagmar 117.52 38 *e*PKPdf **PKPdf** **14 59 14.4 +0.3**
DGMT LR LR
comp=Z,16μm,22.0s

DGMT	Dagmar	117.52	38	⇓PKiKP	PKiKP	14 59 14.6	+0.4		
	baz=118,SNR=25								
MVH1	Achvaich	117.53	335	*e*P	PKPdf	14 59 13.7	-0.1		
SAOF	Saorge	117.57	317	*e*P	PKPdf	14 59 13.9	-0.5		
LPG	La Plagne	117.58	319	*e*PKIKP	PKPdf	14 59 14.8	+0.1		
	comp=Z,356nm,0.8s								
LPG	La Plagne	117.58	319	*e*PKPdf	PKPdf	14 59 14.8	+0.1		
LPL	La Plagne	117.59	319	*e*PKIKP	PKPdf	14 59 14.9	+0.3		
	comp=Z,372nm,0.6s								
LPL	La Plagne	117.59	319	*e*PKPdf	PKPdf	14 59 14.9	+0.3		
H22A	Clearmont	117.60	42	⇓PKiKP	PKiKP	14 59 14.7	+0.1		
	baz=118,SNR=22								
E23A	Ismay	117.60	40	⇑PKiKP	PKiKP	14 59 15.1	+0.7		
	baz=118,SNR=37								
RSL	Roselend	117.60	319	*e*P	PKPdf	14 59 14.5	-0.1		
CABF	La Chapelle	117.61	320	*e*PKIKP	PKPdf	14 59 14.8	+0.4		
	comp=Z,644nm,0.8s								
CABF	La Chapelle	117.61	320	*e*PKPdf	PKPdf	14 59 14.8	+0.4		
K21A	Alcova	117.63	45	⇓PKiKP	PKiKP	14 59 15.1	+0.3		
	baz=118,SNR=47								
SFTF	Sexfontaines	117.64	322	*e*PKIKP	PKPdf	14 59 14.5	+0.2		
	comp=Z,61nm,0.7s								
SFTF	Sexfontaines	117.64	322	*e*PKPdf	PKPdf	14 59 14.5	+0.2		
VSL	Villasalto	117.64	312	*e*PKPdf	PKPdf	14 59 14.0	-0.6		
VSL				LR	LR				
	comp=Z,6μm,20.0s								
AUTN	L'Aution	117.66	317	*e*P	PKPdf	14 59 15.0	+0.2		
O20A	White River Ci	117.67	48	*e*PKPdf	PKPdf	14 59 15.9	+0.9		
O20A	White River Ci	117.67	48	⇑PKiKP	PKPdf	14 59 15.9	+0.9		
	baz=118,SNR=37								
SBF	Sospel	117.69	317	*e*PKIKP	PKPdf	14 59 14.6	-0.1		
	comp=Z,369nm,0.8s								
SBF	Sospel	117.69	317	*e*PKPdf	PKPdf	14 59 14.6	-0.1		
OG22	Abries	117.70	318	*e*P	PKPdf	14 59 14.3	-0.5		
P20A	De Beque	117.73	48	⇑PKiKP	PKiKP	14 59 15.3	+0.2		
	baz=118,SNR=39								
X18A	Snowflake	117.74	54	⇓PKiKP	PKiKP	14 59 15.4	+0.2		
	baz=118								
LUCF	Luceram	117.75	317	*e*P	PKPdf	14 59 14.8	0.0		
I22A	9 Mile Ranch,	117.75	43	⇑PKiKP	PKiKP	14 59 15.2	+0.3		
	baz=118,SNR=8.6								
C24A	Savage	117.76	39	⇑PKiKP	PKiKP	14 59 16.2	+1.6		
	baz=118								
TOUF	Mont Tournerai	117.77	317	*e*P	PKPdf	14 59 15.0	0.0		
REVF	Revere	117.78	317	*e*P	PKPdf	14 59 15.0	+0.2		
W18A	Petrified Fore	117.79	53	*e*PKPdf	PKPdf	14 59 16.1	+0.8		
W18A	Petrified Fore	117.79	53	⇑PKiKP	PKiKP	14 59 15.7	+0.4		
	baz=118								
BNI	Bardonecchia	117.79	318	*e*PKPdf	PKPdf	14 59 15.2	+0.3		
BNI				LR	LR				
	comp=Z,12μm,21.0s								
F23A	Volborg	117.82	41	⇑PKiKP	PKiKP	14 59 15.2	+0.3		
	baz=118,SNR=31								
MBDF	Montbardon	117.84	318	*e*PKIKP	PKPdf	14 59 14.7	-0.3		
	comp=Z,232nm,0.7s								
MBDF	Montbardon	117.84	318	*e*PKPdf	PKPdf	14 59 14.7	-0.3		
MVIF	Mont Vial	117.88	317	*e*P	PKPdf	14 59 15.2	+0.1		
MDO	Dochfour	117.90	334	⇑*e*P	PKPdf	14 59 14.3	-0.2		
SURF	Saint Ours	117.90	318	*e*P	PKPdf	14 59 15.8	+0.6		
J22A	Midwest	117.91	44	⇓PKiKP	PKiKP	14 59 15.4	+0.1		
	baz=118,SNR=54								
Q20A	Ridgley Place,	117.96	49	⇓PKiKP	PKiKP	14 59 16.1	+0.6		
	baz=118,SNR=33								
PV01	Paradox Valley	117.97	50	*e*PKPdf	PKPdf	14 59 16.3	+0.7		
A25A	Svangstu Ranch	117.98	37	⇓PKiKP	PKiKP	14 59 15.8	+0.7		
	baz=118,SNR=23								
D24A	Glendive	117.98	39	⇑PKiKP	PKiKP	14 59 15.8	+0.7		
	baz=118,SNR=15								
ESY	Stoneypath	118.01	332	⇑*e*P	PKPdf	14 59 14.8	+0.1		
G23A	Biddle	118.02	41	⇓PKiKP	PKiKP	14 59 15.4	+0.1		
	baz=118,SNR=30								
R20A	Redvale	118.10	50	⇓PKiKP	PKiKP	14 59 16.7	+0.8		
	baz=118,SNR=30								
CALN	Calern	118.10	317	*e*P	PKPdf	14 59 15.7	+0.1		
GDM	Grand'Maison	118.11	319	*e*P	PKPdf	14 59 15.9	+0.4		
BORG	Borgarnes	118.12	347	PFAKE		14 59 30.0	+15		
BORG				LR	LR				
	comp=Z,6μm,21.0s								
K22A	Casper	118.13	45	*e*Pdif	Pdif	14 56 29.3	+54		
K22A	Casper	118.13	45	⇓PKiKP	PKiKP	14 59 15.7	0.0		
	baz=118,SNR=26								
S20A	Disappointment	118.21	50	⇓PKiKP	PKiKP	14 59 17.4	+1.3		
	baz=118,SNR=20								
O21A	Pagoda	118.21	47	⇓PKiKP	PKiKP	14 59 17.0	+0.9		
	baz=118,SNR=30								
E24A	Baker	118.21	40	⇑PKiKP	PKiKP	14 59 16.3	+0.7		
	baz=118,SNR=31								
LMK	Market Rasen	118.23	329	AMS	AMS	15 53 29.2			
	comp=Z,11μm,20.4s								
B25A	Knox Farm, Ray	118.23	38	⇑PKiKP	PKiKP	14 59 16.5	+1.0		
	baz=118,SNR=8.1								
H23A	Clabaugh Cattl	118.25	42	⇑PKiKP	PKiKP	14 59 15.9	+0.1		
	baz=118,SNR=6.4								
MVCO	Mesa Verde	118.26	51	*e*PKPdf	PKPdf	14 59 17.3	+1.1		
MVCO				LR	LR				
	comp=Z,12μm,22.0s								
MVCO	Mesa Verde	118.26	51	⇑PKiKP	PKiKP	14 59 17.0	+0.8		
	baz=118,SNR=41								
KAC	Achnashellach	118.26	335	⇑*e*P	PKPdf	14 59 15.3	0.0		
EBL	Broad Law	118.29	332	⇑*e*P	PKPdf	14 59 15.5	+0.2		
MENF	Mencas	118.32	325	*e*P	PKPdf	14 59 16.1	+0.6		
FRF	La Foret Royal	118.33	317	*e*PKIKP	PKPdf	14 59 16.0	+0.2		
	comp=Z,269nm,0.8s								
FRF	La Foret Royal	118.33	317	*e*PKPdf	PKPdf	14 59 16.0	+0.2		
GRN	Grenoble	118.34	319	*e*P	PKPdf	14 59 16.4	+0.5		
ORIF	Oris-en-Rattie	118.37	318	*e*PKIKP	PKPdf	14 59 16.1	+0.1		
	comp=Z,302nm,0.7s								
ORIF				*e*R					
	comp=Z,17μm,22.8s								
ORIF	Oris-en-Rattie	118.37	318	*e*PKPdf	PKPdf	14 59 16.1	+0.1		
L22A	Ellis Ranch, M	118.40	45	⇑PKiKP	PKiKP	14 59 17.0	+0.6		
	baz=118,SNR=12								
F24A	Ekalaka	118.40	41	⇓PKiKP	PKiKP	14 59 16.4	+0.4		
	baz=118,SNR=20								
C25A	Freed Ranch, W	118.41	38	⇑PKiKP	PKiKP	14 59 17.3	+1.4		
	baz=118								
XAL	Allendale	118.41	331	*e*P	PKPdf	14 59 16.0	+0.4		
XAL				*e*Pg	PKPdf	14 59 16.0	+0.4		
I23A	Meade Ranch, G	118.42	43	⇑PKiKP	PKPdf	14 59 16.0	-0.2		
	baz=118								
U20A	Newcomb	118.45	52	⇑PKiKP	PKiKP	14 59 16.6	+0.1		
	baz=118,SNR=13								
M22A	Cedar Creek Ra	118.48	46	⇑PKiKP	PKiKP	14 59 16.8	+0.2		
	baz=118								
KSB	Sheil Bridge	118.49	334	⇑*e*P	PKPdf	14 59 15.6	-0.1		
LMR	La Mourre	118.51	316	*e*PKIKP	PKPdf	14 59 16.3	+0.2		
	comp=Z,203nm,1.0s								
LMR	La Mourre	118.51	316	*e*PKPdf	PKPdf	14 59 16.3	+0.2		
KPL	Plockton	118.51	335	⇑*e*P	PKPdf	14 59 15.3	-0.4		
KPL				AMS	AMS	15 39 03.3			
	comp=Z,8μm,61.6s								
Q21A	Lamborn Mesa,	118.53	49	⇓PKiKP	PKiKP	14 59 17.6	+0.9		
	baz=118,SNR=22								
J23A	Dilts Ranch, B	118.55	43	⇓PKiKP	PKPdf	14 59 16.4	0.0		
	baz=119								
D25A	Fairfield	118.60	39	⇑PKiKP	PKiKP	14 59 17.3	+1.0		
	baz=119,SNR=30								
G24A	Alzada	118.61	41	⇑PKiKP	PKiKP	14 59 16.5	+0.1		
	baz=119,SNR=22								
HPK	Haverah Park	118.62	330	*e*P	PKPdf	14 59 15.6	-0.4		
HPK				AMS	AMS	15 56 48.6			
	comp=Z,9μm,20.6s								
ESK	Eskdalemuir	118.62	332	*e*P	PKPdf	14 59 15.6	-0.4		
ESK				AMS	AMS	15 40 39.1			
	comp=Z,7μm,22.6s								
ESK	Eskdalemuir	118.62	332	*e*PKPdf	PKPdf	14 59 16.4	+0.5		
ESK				LR	LR				
	comp=Z,10μm,22.0s								
KEST	Kesra	118.64	307	*e*PKPdf	PKPdf	14 59 17.1	+0.4		
KEST				PKP	PKPdf	14 59 17.7	+1.0		
KEST				PP	PP	15 00 35.4	-0.8		
KEST				PKKPbc	PKKPab	15 09 35.4	-0.8		
KEST	Kesra	118.64	307	PKP	PKPdf	14 59 17.7	+1.0		
	comp=Z,26nm,0.9s,baz=295,slow=2.7,SNR=10								
KEST				PP	PP	15 00 35.4	-0.8		
	comp=Z,116nm,1.1s,baz=323,slow=3.3,SNR=8.3								
KEST				PKKPbc	PKKPab	15 09 35.4	-0.8		
	comp=Z,30nm,0.8s,baz=164,slow=4.1,SNR=7.6								
V20A	Brimhall	118.64	52	⇑PKiKP	PKPdf	14 59 15.5	-1.4		
	baz=119								
EAB	Aberfoyle	118.64	333	⇑*e*P	PKPdf	14 59 15.8	-0.2		
ECK	Cauldkaine Hil	118.67	332	⇑*e*P	PKPdf	14 59 16.1	0.0		
R21A	Cimarron	118.68	49	⇑PKiKP	PKPdf	14 59 15.7	-1.3		
	baz=119,SNR=11								
S21A	Coal Bank Pass	118.69	50	⇓PKiKP	PKiKP	14 59 17.4	+0.2		
	baz=119,SNR=62								
K23A	Bowen Ranch, D	118.72	44	⇑PKiKP	PKiKP	14 59 16.9	+0.1		
	baz=119,SNR=5.2								
H24A	Dirks Ranch, A	118.74	42	⇑PKiKP	PKiKP	14 59 16.9	+0.1		
	baz=119,SNR=49								
B26A	Jensen Ranch,	118.75	37	⇓PKiKP	PKiKP	14 59 17.3	+0.8		
	baz=119								
LOR	Lormes	118.75	321	*e*PKIKP	PKPdf	14 59 16.7	+0.2		
	comp=Z,220nm,0.8s								
LOR				*e*R					
	comp=Z,15μm,20.5s								
LOR	Lormes	118.75	321	*e*PKPdf	PKPdf	14 59 16.7	+0.2		
W20A	Ramah	118.77	53	⇓PKiKP	PKiKP	14 59 17.8	+0.5		
	baz=119,SNR=41								
N22A	Wattenberg Ran	118.77	46	⇓PKiKP	PKiKP	14 59 17.5	+0.3		
	baz=119,SNR=30								
OG26	St.-Nazaire-De	118.88	318	*e*P	PKPdf	14 59 17.3	+0.4		
L23A	Garrett	118.89	45	⇑PKiKP	PKPdf	14 59 17.1	-0.2		
	baz=119								
O22A	Kremmling	118.90	47	⇓PKiKP	PKiKP	14 59 17.9	+0.4		
	baz=119,SNR=13								
X20A	Quemado	118.91	54	⇓PKiKP	PKPdf	14 59 17.3	-0.2		
	baz=119								
SMRF	Simiane la Rot	118.92	317	*e*PKIKP	PKPdf	14 59 17.6	+0.6		
	comp=Z,395nm,0.8s								
SMRF	Simiane la Rot	118.92	317	*e*PKPdf	PKPdf	14 59 17.6	+0.6		
P22A	Eagle	118.92	48	⇑PKiKP	PKPdf	14 59 16.0	-1.4		
	baz=119,SNR=39								
PGBU	Glenifferbraes	118.93	333	AMS	AMS	15 38 51.4			
	comp=Z,9μm,44.5s								
319A	Douglas	118.94	58	⇑PKiKP	PKPdf	14 59 16.0	-1.5		
	baz=119								
KBI1	Birley Grange	118.95	329	*e*P	PKPdf	14 59 16.4	-0.3		
KESW	Keswick, Cumbr	118.99	331	*e*P	PKPdf	14 59 16.6	-0.1		
KESW				AMS	AMS	15 49 47.8			
	comp=Z,7μm,22.8s								
SMF	Signal de Mont	119.02	321	*e*PKIKP	PKPdf	14 59 17.1	0.0		
	comp=Z,191nm,0.8s								
SMF	Signal de Mont	119.02	321	*e*PKPdf	PKPdf	14 59 17.1	0.0		
I24A	Guenerie Ranc	119.02	43	⇓PKiKP	PKPdf	14 59 16.9	-0.4		
	baz=119,SNR=22								
Q22A	Crested Butte,	119.02	49	⇑PKiKP	PKPdf	14 59 17.7	0.0		
	baz=119,SNR=46								
SSF	Saint Saulge	119.06	321	*e*PKIKP	PKPdf	14 59 17.5	+0.4		
	comp=Z,412nm,0.7s								
SSF	Saint Saulge	119.06	321	*e*PKPdf	PKPdf	14 59 17.5	+0.4		
C26A	Wahner Farm, P	119.07	38	⇓PKiKP	PKiKP	14 59 17.8	+0.5		
	baz=119,SNR=6.5								
M23A	Laramie	119.08	46	⇑PKiKP	PKiKP	14 59 17.7	0.0		
	baz=119								
A27A	Ledoux Ranch,	119.09	36	⇑PKiKP	PKiKP	14 59 17.8	+0.6		
	baz=119,SNR=12								
N23A	Red Feather La	119.11	46	⇓PKiKP	PKPdf	14 59 17.8	0.0		
	baz=119,SNR=9.4								
SSB	Saint Sauveur	119.11	319	*e*P	PKPdf	14 59 17.2	-0.1		
SSB	Saint Sauveur	119.11	319	*e*PKPdf	PKPdf	14 59 16.8	-0.5		
SSB				LR	LR				
	comp=Z,7μm,20.0s								
U21A	Nageezi	119.11	52	⇑PKiKP	PKiKP	14 59 18.3	+0.4		
	baz=119,SNR=54								
Y20A	Horse Springs,	119.15	55	⇑PKiKP	PKiKP	14 59 18.6	+0.6		
	baz=119								
Z20A	Nine Sixteen R	119.15	55	⇑PKiKP	PKiKP	14 59 18.1	+0.1		
	baz=119,SNR=27								
J24A	Dixon Ranch, L	119.19	43	⇓PKiKP	PKiKP	14 59 17.9	+0.2		
	baz=119,SNR=22								
VIVF	Saint-Julien-l	119.19	319	*e*PKIKP	PKPdf	14 59 17.7	+0.2		
	comp=Z,249nm,0.8s								
VIVF	Saint-Julien-l	119.19	319	*e*PKPdf	PKPdf	14 59 17.7	+0.2		
HMNX	Herstmonceux	119.19	326	AMS	AMS	15 49 56.6			
	comp=Z,9μm,19.8s								
D26A	Manning	119.20	39	⇑PKiKP	PKiKP	14 59 18.0	+0.5		
	baz=119,SNR=21								
SFJD	Kangerlussuaq	119.21	0	*i* P	PKPdf	14 59 16.4	-0.4		
	comp=Z,96nm,0.9s								
SFJD	Kangerlussuaq	119.21	0	*i* P	PKKPbc	15 09 31.9	-1.2		
	comp=Z,39nm,0.8s								
SFJD	Kangerlussuaq	119.21	0	*e*PKPdf	PKPdf	14 59 16.4	-0.4		
SFJD				PKKPbc	PKKPab	15 09 32.2	-0.7		
SFJD				LR	LR				
	comp=Z,6μm,22.0s								
SFJD	Kangerlussuaq	119.21	0	PKKPbc	PKKPbc	15 09 32.2	-0.9		
	comp=Z,35nm,0.7s,baz=270,slow=2.1,SNR=14								
GCD	Castle Douglas	119.23	332	⇑*e*P	PKPdf	14 59 16.8	-0.3		
120A	U Bar Ranch, L	119.24	56	⇓PKiKP	PKiKP	14 59 19.6	+1.4		
	baz=119,SNR=43								
AVF	Avril sur Loir	119.26	321	*e*PKIKP	PKPdf	14 59 17.4	-0.1		
	comp=Z,274nm,0.7s								
AVF	Avril sur Loir	119.26	321	*e*PKPdf	PKPdf	14 59 17.4	-0.1		
V21A	Milan	119.29	52	⇑PKiKP	PKiKP	14 59 18.3	0.0		
	baz=119,SNR=24								
K24A	Anderson Ranch	119.29	44	⇑PKiKP	PKiKP	14 59 18.1	+0.1		
	baz=119								
R22A	Saguache, Gunn	119.32	49	⇓PKiKP	PKiKP	14 59 18.8	+0.4		
	baz=119,SNR=39								
G25A	Newell	119.32	41	⇓PKiKP	PKiKP	14 59 18.1	+0.2		
	baz=119,SNR=41								
RSSD	Black Hills	119.32	42	*e*PKPdf	PKPdf	14 59 17.6	-0.4		
B27A	Peters Farms,	119.32	37	⇓PKiKP	PKiKP	14 59 18.2	+0.6		
	baz=119								
O23A	Lake Granby, G	119.34	47	⇓PKiKP	PKiKP	14 59 18.9	+0.5		
	baz=119,SNR=37								
STNC	Stoke	119.38	329	AMS	AMS	15 49 03.2			
	comp=Z,10μm,25.0s								
S22A	4UR Ranch, Cre	119.40	50	⇑PKiKP	PKiKP	14 59 18.8	+0.3		
	baz=119,SNR=29								
E26A	Carlson Angus	119.42	39	⇓PKiKP	PKiKP	14 59 18.2	+0.3		
	baz=119,SNR=48								
H25A	Fruitdale	119.42	42	⇓PKiKP	PKiKP	14 59 18.5	+0.5		
	baz=119,SNR=7.1								
L24A	Wheatland	119.45	45	⇓PKiKP	PKiKP	14 59 19.2	+0.9		
	baz=120								
W21A	San Fidel	119.45	53	⇑PKiKP	PKiKP	14 59 18.9	+0.3		
	baz=120,SNR=37								
220A	Playas Peak, P	119.46	57	⇑PKiKP	PKiKP	14 59 19.0	+0.4		
	baz=120,SNR=53								
C27A	Sayler Ranch,	119.48	38	⇓PKiKP	PKiKP	14 59 19.0	+1.0		
	baz=120,SNR=33								
X21A	Alamocita Cree	119.50	54	⇑PKiKP	PKiKP	14 59 19.0	+0.3		
	baz=120,SNR=81								
HYF	Humbligny	119.50	322	*e*PKIKP	PKPdf	14 59 18.6	+0.6		
HYF	Humbligny	119.50	322	*e*PKPdf	PKPdf	14 59 18.6	+0.6		
F26A	Lodgepole	119.54	40	⇑PKiKP	PKiKP	14 59 18.9	+0.7		
	baz=120,SNR=33								
T22A	Edith	119.54	51	⇓PKiKP	PKiKP	14 59 19.6	+0.9		
	baz=120,SNR=36								
I25A	Rochford	119.56	42	⇓PKiKP	PKiKP	14 59 18.6	+0.1		
	baz=120,SNR=55								
320A	Kipp Ranch, An	119.57	57	⇑PKiKP	PKiKP	14 59 19.6	+0.8		
	baz=120,SNR=64								
GAL1	Galloway	119.59	332	AMS	AMS	15 38 57.0			
	comp=Z,9μm,67.1s								
P23A	Jefferson	119.66	48	⇓PKiKP	PKiKP	14 59 19.4	+0.4		
	baz=120,SNR=8.7								
A28A	Rude Farm, Bot	119.68	36	⇑PKiKP	PKiKP	14 59 19.0	+0.6		
	baz=120,SNR=20								
BGF	Bois d'Agland	119.68	321	*e*PKIKP	PKPdf	14 59 18.8	+0.5		
	comp=Z,770nm,0.7s								
BGF	Bois d'Agland	119.68	321	*e*PKPdf	PKPdf	14 59 18.8	+0.5		
ISCO	Idaho Springs	119.70	47	*e*PKPdf	PKPdf	14 59 19.9	+0.9		
ISCO				LR	LR				
	comp=Z,12μm,19.0s								
ISCO	Idaho Springs	119.70	47	⇑PKiKP	PKiKP	14 59 19.7	+0.7		
	baz=120,SNR=46								
Y21A	Point of Rocks	119.70	54	⇑PKiKP	PKiKP	14 59 20.1	+0.9		
	baz=120,SNR=32								
AGO	Saint Agoulin	119.71	320	*e*P	PKPdf	14 59 18.6	+0.2		
M24A	Cheyenne	119.72	45	⇑PKiKP	PKiKP	14 59 20.0	+1.2		
	baz=120								
D27A	Center	119.73	38	⇓PKiKP	PKiKP	14 59 19.4	+0.9		
	baz=120,SNR=17								
J25A	Sunshine Ranch	119.75	43	⇑PKiKP	PKiKP	14 59 19.2	+0.4		
	baz=120,SNR=51								
U22A	Llaves	119.75	51	⇑PKiKP	PKPdf	14 59 18.9	-0.2		
	baz=120,SNR=54								
SSW	Stow on the Wo	119.80	328	⇑*e*P	PKPdf	14 59 18.5	+0.2		
Q23A	Kirtland	119.81	48	⇓PKiKP	PKiKP	14 59 19.9	+0.6		
	baz=120,SNR=30								
WOL	Wolverton	119.81	327	*e*P	PKPdf	14 59 18.6	+0.2		
WOL				AMS	AMS	15 58 44.3			
	comp=Z,8μm,19.0s								
V22A	San Miguel Ran	119.83	52	⇓PKiKP	PKiKP	14 59 19.6	+0.2		
	baz=120,SNR=52								
B28A	Dugan Ranch, T	119.83	36	⇑PKiKP	PKiKP	14 59 19.0	+0.3		
	baz=120								
Z21A	St. Cloud Mine	119.86	55	⇓PKiKP	PKiKP	14 59 19.6	+0.2		
	baz=120,SNR=7.6								
N24A	Carr	119.89	46	⇓PKiKP	PKiKP	14 59 20.4	+1.1		
	baz=120,SNR=9.5								
PYM	Petit Puy Mans	119.91	320	*e*P	PKPdf	14 59 19.3	+0.4		
121A	Cookes Peak, D	119.94	56	⇑PKiKP	PKiKP	14 59 20.4	+0.8		
	baz=120,SNR=40								
F27A	Lemmon	119.94	40	⇑PKiKP	PKiKP	14 59 19.6	+0.6		
	baz=120,SNR=32								
ABSA	Djebel Ababsia	119.96	308	P	PKPdf	14 59 19.9	+0.6		
H26A	Fairpoint	119.97	41	⇑PKiKP	PKiKP	14 59 19.4	+0.3		
	baz=120,SNR=56								
LBL	Lubilhac	119.97	319	*e*P	PKPdf	14 59 19.1	+0.1		
K25A	Mack Ranch, Ha	119.98	44	⇑PKiKP	PKiKP	14 59 20.9	+1.6		
	baz=120,SNR=5.8								
O24A	Longmont	119.99	47	⇓PKiKP	PKiKP	14 59 20.1	+0.7		
	baz=120								
FOEL	Foel Wylfa	120.00	330	⇑*e*P	PKPdf	14 59 18.9	+0.2		
FOEL				AMS	AMS	15 49 08.2			
	comp=Z,7μm,24.5s								
E27A	Carson	120.00	39	⇓PKiKP	PKiKP	14 59 19.8	+0.7		
	baz=120,SNR=39								
SWN1	Swindon	120.02	328	*e*P	PKPdf	14 59 19.0	+0.2		
SWN1				AMS	AMS	15 40 32.6			
	comp=Z,7μm,62.2s								
LASF	Ste Croix	120.03	318	*e*PKIKP	PKPdf	14 59 19.4	+0.3		
	comp=Z,281nm,1.0s								
LASF	Ste Croix	120.03	318	*e*PKPdf	PKPdf	14 59 19.4	+0.3		
R23A	Moffat	120.03	49	⇑PKiKP	PKiKP	14 59 19.9	+0.2		
	baz=120,SNR=46								
LAZ	Ladron	120.03	54	*e*PKPdf	PKPdf	14 59 20.1	+0.5		
S23A	Nye Farm, Mont	120.04	50	⇑PKiKP	PKPdf	14 59 19.6	0.0		
	baz=120								
HLM1	Long Mynd	120.04	329	*e*P	PKPdf	14 59 18.8	-0.1		
STRD	Stroud	120.07	328	*e*P	PKPdf	14 59 18.1	-0.7		
W22A	Albuquerque	120.08	53	⇓PKiKP	PKiKP	14 59 20.2	+0.5		
	baz=120,SNR=6.7								
L25A	Engebretsen Ra	120.08	44	⇓PKiKP	PKiKP	14 59 20.2	+0.7		
	baz=120,SNR=8.7								
X22A	Bernardo	120.11	54	⇑PKiKP	PKiKP	14 59 19.9	+0.1		
	baz=120,SNR=36								
I26A	New Underwood	120.14	42	⇑PKiKP	PKiKP	14 59 19.5	+0.1		
	baz=120								
WPM1	Penmaenmawr	120.14	330	*e*P	PKPdf	14 59 19.2	+0.2		
C28A	Hausauer Farms	120.15	37	⇓PKiKP	PKiKP	14 59 19.8	+0.5		
	baz=120								
TCF	Toulx Ste Croi	120.19	321	*e*PKIKP	PKPdf	14 59 19.8	+0.5		
	comp=Z,430nm,0.8s								
TCF	Toulx Ste Croi	120.19	321	*e*PKPdf	PKPdf	14 59 19.8	+0.5		
T23A	Casias Ranch,	120.20	51	⇑PKiKP	PKiKP	14 59 21.6	+1.5		
	baz=120,SNR=33								
G27A	Dupree	120.20	40	⇓PKiKP	PKiKP	14 59 19.6	0.0		

	comp=Z,11µm,23.0s										
RJF	Les Rejaudoux	121.05	320	ePKPdf	PKPdf	14 59 21.6	+0.6				
K27A	Flueckinger Fa	121.07	43	⇓PKiKP	PKiKP	14 59 21.3	-0.1				
	baz=121										
N26A	Koester Ranch,	121.08	46	⇑PKiKP	PKiKP	14 59 21.8	+0.3				
	baz=121										
GRR	Gorron	121.08	324	ePKIKP	PKPdf	14 59 21.3	+0.4				
	comp=Z,500nm,1.1s										
GRR	Gorron	121.08	324	ePKPdf	PKPdf	14 59 21.3	+0.4				
H28A	Mission Ridge	121.08	41	⇑PKiKP	PKPdf	14 59 21.2	0.0				
	baz=121,SNR=63										
DFRA	Djebel Bou Aff	121.13	309	P	PKPdf	14 59 22.0	+0.4				
E29A	Napoleon	121.13	38	⇑PKiKP	PKiKP	14 59 22.6	+1.3				
	baz=121										
V24A	Rampart Ranch,	121.16	52	⇑PKiKP	PKiKP	14 59 23.4	+1.4				
	baz=121,SNR=44										
123A	Bell Site, Whi	121.17	55	⇑PKiKP	PKiKP	14 59 23.2	+1.3				
	baz=121,SNR=23										
223A	Chaparral, Ant	121.18	56	⇑PKiKP	PKiKP	14 59 22.7	+0.7				
	baz=121										
R25A	Fountain Ranch	121.20	49	⇓PKiKP	PKiKP	14 59 22.4	+0.6				
	baz=121,SNR=85										
W24A	Lazy 6 Ranch,	121.20	52	⇑PKiKP	PKiKP	14 59 23.1	+1.1				
	baz=121,SNR=86										
O26A	Horse Wrangler	121.22	46	⇓PKiKP	PKiKP	14 59 22.3	+0.5				
	baz=121,SNR=17										
S25A	Robets Cordova	121.24	49	⇓PKiKP	PKiKP	14 59 22.7	+0.7				
	baz=121,SNR=34										
L27A	T5 Ranch, Ells	121.25	44	⇑PKiKP	PKiKP	14 59 21.8	0.0				
	baz=121										
I28A	Midland	121.27	41	⇑PKiKP	PKiKP	14 59 21.7	0.0				
	baz=121										
SJAF	Saint Jean de	121.30	317	eP	PKPdf	14 59 21.3	-0.3				
C30A	Mose, Pekin	121.30	37	⇓PKiKP	PKiKP	14 59 21.5	0.0				
	baz=121,SNR=23										
HEX	Exmoor	121.32	328	eP	PKPdf	14 59 21.6	+0.3				
F29A	Eureka	121.34	39	⇑PKiKP	PKPdf	14 59 21.4	-0.2				
	baz=121,SNR=42										
DSB	Dublin	121.35	331	ePKPdf	PKPdf	14 59 21.5	+0.2				
X24A	Lazy VL Ranch,	121.35	53	⇑PKiKP	PKiKP	14 59 22.8	+0.5				
	baz=121,SNR=29										
LRDF	Laroque-de-Fa	121.35	317	eP	PKPdf	14 59 22.0	+0.3				
M27A	Reverse DX Ran	121.41	44	⇑PKiKP	PKiKP	14 59 22.2	+0.1				
	baz=121,SNR=8.4										
MTLF	Montolieu	121.41	318	ePKIKP	PKPdf	14 59 22.0	+0.2				
	comp=Z,282nm,0.8s										
MTLF	Montolieu	121.41	318	ePKPdf	PKPdf	14 59 22.0	+0.2				
T25A	Trinidad	121.42	50	⇓PKiKP	PKiKP	14 59 22.8	+0.5				
	baz=121,SNR=58										
D30A	Buchanan	121.42	37	⇑PKiKP	PKPdf	14 59 21.7	0.0				
	baz=121,SNR=45										
P26A	Davis Ranch, A	121.43	47	⇓PKiKP	PKiKP	14 59 22.6	+0.3				
	baz=121,SNR=38										
JSA	Saint Aubin	121.43	326	eP	PKPdf	14 59 21.4	-0.1				
JSA				AMS	AMS	15 52 28.0					
	comp=Z,8µm,19.8s										
J28A	Allard Ranch,	121.46	42	⇑PKiKP	PKiKP	14 59 22.3	+0.3				
	baz=122,SNR=63										
ULM	Lac du Bonnet	121.48	33	PKP	PKPdf	14 59 20.6	-1.0				
ULM				ePKPdf	PKiKP	14 59 21.2	-0.6				
ULM				PKKPbc	PKKPab	15 09 22.9	-0.4				
ULM				SKKPbc	SKKPbc	15 13 00.4	+0.1				
ULM	Lac du Bonnet	121.48	33	PKP	PKPdf	14 59 20.6	-1.0				
	comp=Z,94nm,0.8s,baz=315,slow=3.1,SNR=22										
ULM				PKKPbc	PKKPab	15 09 22.9	-0.4				
	comp=Z,57nm,0.9s,baz=132,slow=5.5,SNR=12										
ULM				SKKPbc	SKKPbc	15 13 00.4	+0.1				
	comp=Z,24nm,1.0s,baz=179,slow=5.2,SNR=3.7										
MFF	Saint Martin d	121.51	322	ePKIKP	PKPdf	14 59 22.1	+0.3				
	comp=Z,792nm,0.8s										
MFF	Saint Martin d	121.51	322	ePKPdf	PKPdf	14 59 22.1	+0.3				
Q26A	Hugo	121.52	48	⇑PKiKP	PKiKP	14 59 23.0	+0.6				
	baz=122,SNR=15										
Y24A	Capitan	121.52	54	⇓PKiKP	PKiKP	14 59 23.4	+0.8				
	baz=122,SNR=138										
CKHR	Kef el Ahmar	121.56	309	P	PKPdf	14 59 24.7	+2.3				
G29A	Hoven	121.57	40	⇑PKiKP	PKiKP	14 59 22.2	+0.1				
	baz=122										
N27A	Anderson Farm,	121.57	45	⇑PKiKP	PKPdf	14 59 22.3	0.0				
	baz=122,SNR=33										
SET	Setif	121.59	309	P	PKPdf	14 59 24.0	+1.6				
E30A	Jud	121.61	38	⇓PKiKP	PKiKP	14 59 22.2	0.0				
	baz=122,SNR=44										
H29A	Onida	121.63	40	⇑PKiKP	PKiKP	14 59 22.4	+0.1				
	baz=122,SNR=6.3										
U25A	Circle Dot Ran	121.64	51	⇑PKiKP	PKiKP	14 59 23.1	+0.3				
	baz=122,SNR=40										
V25A	Rancho No Teng	121.64	51	⇑PKiKP	PKiKP	14 59 23.1	+0.2				
	baz=122,SNR=71										
K28A	Ten Mile Ranch	121.66	43	⇑PKiKP	PKPdf	14 59 22.2	-0.2				
	baz=122,SNR=18										
LFF	La Frestale	121.70	320	ePKIKP	PKPdf	14 59 23.0	+0.8				
	comp=Z,427nm,0.9s										
LFF	La Frestale	121.70	320	ePKPdf	PKPdf	14 59 23.0	+0.8				
HTL	Hartland	121.72	328	⇑eP	PKPdf	14 59 22.5	+0.5				
HTL				eP	PKiKP	14 59 22.7	+0.5				
HTL				AMS	AMS	15 48 48.5					
	comp=Z,9µm,36.7s										
Z24A	Sheeppen Canyo	121.73	54	⇑PKiKP	PKiKP	14 59 23.2	+0.1				
	baz=122,SNR=109										
CARF	Carcanieres	121.73	317	eP	PKPdf	14 59 22.4	-0.1				
DYA	Yadsworthy	121.73	327	eP	PKPdf	14 59 21.8	-0.3				
DYA				AMS	AMS	15 58 06.2					
	comp=Z,7µm,18.2s										
R26A	Arlington	121.77	48	⇑PKiKP	PKPdf	14 59 22.8	0.0				
	baz=122,SNR=65										
124A	Stringfield Ra	121.81	55	⇓PKiKP	PKiKP	14 59 24.0	+0.7				
	baz=122,SNR=38										
I29A	Vivian Onida	121.83	41	⇓PKiKP	PKPdf	14 59 22.2	-0.4				
	baz=122,SNR=61										
L28A	Connealy Angus	121.83	44	⇑PKiKP	PKPdf	14 59 22.8	+0.1				
	baz=122										
O27A	Beecher Island	121.83	46	⇓PKiKP	PKiKP	14 59 23.3	+0.4				
	baz=122,SNR=56										
F30A	Leola	121.84	39	⇓PKiKP	PKPdf	14 59 22.4	-0.1				
	baz=122,SNR=5.6										
OGNE	Ogallala	121.87	45	ePKPdf	PKPdf	14 59 23.2	+0.3				
OGNE				LR	LR						
	comp=Z,10µm,22.0s										
OGNE	Ogallala	121.87	45	⇓PKiKP	PKPdf	14 59 23.1	+0.3				
	baz=122,SNR=25										
224A	Cornudas Mount	121.91	56	⇓PKiKP	PKiKP	14 59 23.6	+0.2				
	baz=122,SNR=50										
VALF	Valcebollere	121.92	317	eP	PKPdf	14 59 23.4	+0.4				
W25A	X Bar L Ranch,	121.94	52	⇑PKiKP	PKiKP	14 59 23.6	+0.2				
	baz=122,SNR=58										
S26A	Kim	121.97	49	⇓PKiKP	PKiKP	14 59 24.0	+0.6				
	baz=122,SNR=48										
X25A	Clemmons Ranch	121.97	53	⇑PKiKP	PKPdf	14 59 23.3	0.0				
	baz=122										
EFI	East Falkland	121.98	174	ePKPdf	PKPdf	14 59 24.4	+1.8				
EFI				LR	LR						
	comp=Z,7µm,22.0s										
P27A	Ficken Ranch,	121.99	47	⇓PKiKP	PKPdf	14 59 23.1	0.0				
	baz=122,SNR=23										
T26A	Comanche Natio	122.03	50	⇓PKiKP	PKiKP	14 59 24.0	+0.5				
	baz=122,SNR=91										
J29A	Okreek	122.07	42	⇑PKiKP	PKiKP	14 59 23.4	+0.2				
	baz=122,SNR=73										
G30A	Faulkton	122.09	39	⇑PKiKP	PKPdf	14 59 22.9	-0.1				
	baz=122										
324A	Moseley Ranch,	122.09	57	⇑PKiKP	PKiKP	14 59 23.8	0.0				
	baz=122,SNR=93										
Y25A	Mesa, Roswell	122.11	54	⇑PKiKP	PKiKP	14 59 23.9	+0.2				
	baz=122,SNR=79										
MNTX	Cornudas Mount	122.12	56	ePKPdf	PKPdf	14 59 24.5	+1.0				
MNTX				LR	LR						
	comp=Z,10µm,20.0s										
SGMF	Saint Gilles	122.13	325	ePKIKP	PKPdf	14 59 23.1	+0.1				
	comp=Z,382nm,0.8s										
SGMF	Saint Gilles	122.13	325	ePKPdf	PKPdf	14 59 23.1	+0.1				
KSCO	Kaye Shedlock'	122.14	47	ePKPdf	PKPdf	14 59 24.2	+0.8				
KSCO	Kaye Shedlock'	122.14	47	⇓PKiKP	PKiKP	14 59 23.8	+0.2				
	baz=122,SNR=21										
U26A	Atchley Ranch,	122.15	51	⇑PKiKP	PKiKP	14 59 24.0	+0.1				
	baz=122,SNR=25										
M28A	Bar X Bar Ranc	122.17	44	⇓PKiKP	PKPdf	14 59 22.7	-0.7				
	baz=122										
R27A	Eads	122.26	48	⇓PKiKP	PKiKP	14 59 24.4	+0.6				
	baz=122,SNR=62										
V26A	Tequesquite Ra	122.30	51	⇑PKiKP	PKiKP	14 59 24.2	+0.2				
	baz=122,SNR=37										
MLS	Moulis	122.32	318	eP	PKPdf	14 59 23.4	-0.1				
N28A	Pribbeno Ranch	122.32	45	⇑PKiKP	PKiKP	14 59 24.1	+0.2				
	baz=122,SNR=33										
K29A	Lazy Trails An	122.34	42	⇓PKiKP	PKPdf	14 59 23.0	-0.6				
	baz=122,SNR=39										
O28A	Krutsinger Ran	122.36	46	⇓PKiKP	PKPdf	14 59 23.7	-0.1				
	baz=122,SNR=11										
S27A	Las Animas	122.39	49	⇑PKiKP	PKiKP	14 59 24.2	0.0				
	baz=122										
I30A	Oacoma	122.44	41	⇑PKiKP	PKiKP	14 59 24.1	+0.2				
	baz=122,SNR=24										
ROSF	Rostrenen	122.50	325	ePKIKP	PKPdf	14 59 23.7	0.0				
	comp=Z,205nm,0.8s										
ROSF	Rostrenen	122.50	325	ePKPdf	PKPdf	14 59 23.7	0.0				
BRSD	Miller	122.52	40	ePKPdf	PKPdf	14 59 24.4	+0.5				
BRSD	Miller	122.52	40	⇓PKiKP	PKPdf	14 59 22.3	-1.6				
	baz=122										
L29A	Maesberg Ranch	122.52	43	⇓PKiKP	PKPdf	14 59 23.3	-0.7				
	baz=122										
AGMN	Agassiz Nation	122.52	35	ePKPdf	PKPdf	14 59 23.0	-0.7				
W26A	Owens Ranch, T	122.52	52	⇑PKiKP	PKPdf	14 59 24.2	-0.2				
	baz=122										
325A	Bean Ranch, Si	122.53	57	⇑PKiKP	PKPdf	14 59 23.9	-0.6				
	baz=123,SNR=30										
CCA1	Carmenellis	122.56	328	eP	PKPdf	14 59 23.8	0.0				
CCA1				AMS	AMS	15 55 59.6					
	comp=Z,8µm,17.9s										
P28A	Saint Francis	122.57	46	⇑PKiKP	PKPdf	14 59 24.2	0.0				
	baz=123,SNR=37										
M29A	Burnside Ranch	122.62	44	⇓PKiKP	PKPdf	14 59 23.3	-1.0				
	baz=123										
X26A	CR and CF Fran	122.64	53	⇓PKiKP	PKPdf	14 59 24.4	-0.2				
	baz=123,SNR=47										
QUIF	Quistinic	122.65	325	ePKIKP	PKPdf	14 59 24.1	+0.1				
	comp=Z,279nm,0.8s										
QUIF	Quistinic	122.65	325	ePKPdf	PKPdf	14 59 24.1	+0.1				
J30A	Dallas	122.66	42	⇓PKiKP	PKPdf	14 59 23.3	-0.9				
	baz=123,SNR=43										
425A	Indio Mountain	122.66	57	⇓PKiKP	PKPdf	14 59 24.7	-0.1				
	baz=123,SNR=41										
Q28A	Sharon Springs	122.70	47	⇑PKiKP	PKiKP	14 59 25.4	+0.7				
	baz=123,SNR=54										
T27A	Campo	122.72	50	⇑PKiKP	PKiKP	14 59 25.3	+0.5				
	baz=123,SNR=41										
EPF	Esparros	122.79	318	ePKIKP	PKPdf	14 59 24.8	+0.3				
	comp=Z,278nm,0.8s										
EPF	Esparros	122.79	318	ePKPdf	PKPdf	14 59 24.8	+0.3				
Y26A	Elida	122.81	53	⇑PKiKP	PKiKP	14 59 25.4	+0.3				
	baz=123,SNR=10										
GDL2	Guadalupe Moun	122.83	56	ePKPdf	PKPdf	14 59 25.6	+0.7				
U27A	Thompson Grove	122.85	50	⇑PKiKP	PKiKP	14 59 25.8	+0.7				
	baz=123,SNR=32										
K30A	Basset	122.85	42	⇑PKiKP	PKiKP	14 59 25.0	+0.2				
	baz=123,SNR=58										
Z26A	Caprock	122.86	54	⇑PKiKP	PKiKP	14 59 25.8	+0.6				
	baz=123,SNR=18										
RESF	Ens	122.88	318	eP	PKPdf	14 59 25.7	+0.9				
N29A	Votaw Ranch, W	122.91	45	⇑PKiKP	PKiKP	14 59 25.5	+0.4				
	baz=123,SNR=7.9										
BST	Brest	122.96	325	eP	PKPdf	14 59 25.0	+0.4				
R28A	Tribune	122.97	48	⇑PKiKP	PKiKP	14 59 26.1	+0.8				
	baz=123,SNR=61										
126A	Clayton Basin,	123.00	55	⇓PKiKP	PKiKP	14 59 26.3	+0.9				
	baz=123,SNR=6.1										
226B	Tecolote Peak,	123.03	56	⇑PKiKP	PKiKP	14 59 26.2	+0.7				
	baz=123,SNR=35										
V27A	Dan Oppiter Fa	123.05	51	⇑PKiKP	PKiKP	14 59 25.8	+0.3				
	baz=123										
O29A	4D Ranch, Culb	123.05	45	⇓PKiKP	PKiKP	14 59 25.6	+0.2				
	baz=123										
VIEF	Viey	123.06	318	eP	PKPdf	14 59 26.0	+1.0				
L30A	Spencer Herefo	123.08	43	⇓PKiKP	PKPdf	14 59 24.7	-0.4				
	baz=123										
W27A	Bowe Ranch, En	123.08	52	⇓PKiKP	PKiKP	14 59 25.9	+0.3				
	baz=123,SNR=35										
M30A	Dale-Ortello V	123.14	44	⇓PKiKP	PKiKP	14 59 25.5	0.0				
	baz=123,SNR=7.8										
P29A	Atwood	123.16	46	⇓PKiKP	PKiKP	14 59 25.9	+0.4				
	baz=123,SNR=28										
T28A	Walsh	123.16	49	⇓PKiKP	PKiKP	14 59 26.0	+0.3				
	baz=123,SNR=65										
S28A	Manter	123.17	49	⇑PKiKP	PKiKP	14 59 26.2	+0.5				
	baz=123,SNR=32										
X27A	F and S Farms,	123.18	52	⇑PKiKP	PKiKP	14 59 26.2	+0.4				
	baz=123										
REYF	Montagne du Re	123.25	318	eP	PKPdf	14 59 26.2	+0.8				
N30A	Hueftle Ranch,	123.28	45	⇑PKiKP	PKiKP	14 59 25.9	+0.2				
	baz=123,SNR=43										
U28A	Mallet	123.32	50	⇑PKiKP	PKiKP	14 59 26.6	+0.6				
	baz=123,SNR=9.3										
Y27A	Causey	123.35	53	⇑PKiKP	PKiKP	14 59 26.5	+0.4				
	baz=123,SNR=64										
326A	Caldwell Ranch	123.37	56	⇑PKiKP	PKiKP	14 59 26.2	0.0				
	baz=123,SNR=30										
Q29A	Oakley	123.38	47	⇑PKiKP	PKiKP	14 59 26.4	+0.4				
	baz=123,SNR=69										
R29A	Marienthal	123.44	48	⇓PKiKP	PKiKP	14 59 26.5	+0.3				
	baz=123,SNR=38										
ETSF	Etsaut	123.44	318	ePKIKP	PKPdf	14 59 26.8	+1.0				
	comp=Z,535nm,0.9s										
ETSF	Etsaut	123.44	318	ePKPdf	PKPdf	14 59 26.8	+1.0				
Z27A	Tatum	123.47	54	⇑PKiKP	PKiKP	14 59 26.4	0.0				
	baz=124,SNR=72										
EMHD	Djebel Mahouad	123.48	310	P	PKPdf	14 59 25.5	-0.6				
426A	McDonald Obser	123.49	57	⇑PKiKP	PKPdf	14 59 26.4	-0.1				
	baz=124										
V28A	Channing	123.52	51	⇑PKiKP	PKiKP	14 59 26.9	+0.5				
	baz=124										
127A	Arkansas Junct	123.53	55	⇑PKiKP	PKiKP	14 59 27.1	+0.5				
	baz=124,SNR=30										
ORDF	Orlarp	123.55	319	eP	PKPdf	14 59 26.2	+0.4				
O30A	MW Ranch, Wils	123.56	45	⇓PKiKP	PKiKP	14 59 26.4	+0.1				
	baz=124,SNR=49										
L31A	Butterfield Fa	123.58	43	⇓PKiKP	PKPdf	14 59 26.1	+0.1				
	baz=124										
526A	Mary Lane Ranc	123.58	58	⇓PKiKP	PKPdf	14 59 26.6	+0.1				
	baz=124,SNR=91										
MSTX	Muleshoe	123.63	53	ePKPdf	PKPdf	14 59 26.7	+0.2				
MSTX	Muleshoe	123.63	53	⇓PKiKP	PKPdf	14 59 26.7	+0.2				
	baz=124,SNR=64										
LARF	Larrau	123.66	319	eP	PKPdf	14 59 27.4	+1.3				
626A	Big Bend Ranch	123.66	59	⇑PKiKP	PKiKP	14 59 26.9	0.0				
	baz=124,SNR=22										
P30A	Selden	123.67	46	⇓PKiKP	PKPdf	14 59 26.3	0.0				
	baz=124,SNR=35										
W28A	Vega	123.69	51	⇑PKiKP	PKiKP	14 59 27.1	+0.3				
	baz=124,SNR=6.1										
S29A	Ulysses	123.74	48	⇓PKiKP	PKiKP	14 59 26.7	-0.1				
	baz=124,SNR=25										
OSSF	Osses	123.74	319	eP	PKPdf	14 59 26.2	0.0				
327A	Balmorhea Ranc	123.76	56	⇓PKiKP	PKiKP	14 59 26.9	-0.1				
	baz=124										
T29A	Hugoton	123.77	49	⇑PKiKP	PKiKP	14 59 27.2	+0.4				
	baz=124,SNR=23										
SJPF	Ste Jean	123.78	319	ePKPdf	PKPdf	14 59 27.3	+1.0				
	comp=Z,267nm,0.9s										
SJPF	Ste Jean	123.78	319	ePKPdf	PKPdf	14 59 27.3	+1.0				
M31A	Lambtecht Ranc	123.84	43	⇓PKiKP	PKiKP	14 59 26.7	-0.1				
	baz=124,SNR=25										
Q30A	Quinter	123.90	47	⇓PKiKP	PKiKP	14 59 27.7	+0.7				
	baz=124,SNR=18										
X28A	Dimmitt	123.92	52	⇓PKiKP	PKiKP	14 59 27.5	+0.3				
	baz=124,SNR=62										
527A	Woodward Ranch	123.96	58	⇑PKiKP	PKiKP	14 59 27.9	+0.4				
	baz=124										
427A	Hayter Ranch,	123.97	57	⇓PKiKP	PKiKP	14 59 28.1	+0.6				
	baz=124,SNR=67										
VAL	Valentia	124.01	332	eP	pPKPdf	15 00 02.1	-1.7				
VAL				ePP	PP	15 01 09.1	-2.5				
U29A	Oasis Ranch, S	124.02	50	⇓PKiKP	PKiKP	14 59 28.0	+0.6				
	baz=124										
V29A	Stinnett	124.02	51	⇓PKiKP	PKiKP	14 59 28.0	+0.6				
	baz=124,SNR=48										
Y28A	McKinney Farm,	124.07	53	⇓PKiKP	PKiKP	14 59 28.0	+0.4				
	baz=124,SNR=12										
N31A	Bailey Ranch,	124.07	44	⇑PKiKP	PKiKP	14 59 28.1	+0.8				
	baz=124										
O31A	Woolen Ranch,	124.08	45	⇓PKiKP	PKiKP	14 59 27.2	-0.1				
	baz=124,SNR=10										
TXAR	Lajitas Array	124.11	59	PKP	PKPdf	14 59 26.9	-0.6				
TXAR				PKKPbc	PKKPbc	15 09 13.1	-0.4				
TXAR				SKKPbc	SKKPbc	15 13 06.5	+16				
TXAR	Lajitas Array	124.11	59	Pdiff	Pdif	14 56 13.2	+11				
	comp=Z,0.3nm,0.7s,baz=245,slow=2.6,SNR=4.1										
TXAR				PKhKP	PKPpre	14 59 18.5					
	comp=Z,1.5nm,0.7s,baz=165,slow=2.2,SNR=3.7										
TXAR				PKP	PKPdf	14 59 26.9	-0.6				
	comp=Z,46nm,0.9s,baz=219,slow=1.4,SNR=18										
TXAR				PKKPbc	PKKPbc	15 09 13.1	-0.4				
	comp=Z,15nm,0.8s,baz=112,slow=5.8,SNR=14										
TXAR				SKKPbc	SKKPbc	15 13 06.5	+16				
	comp=Z,10.0nm,0.9s,baz=119,slow=4.6,SNR=3.6										
R30A	Dighton	124.12	47	⇑PKiKP	PKiKP	14 59 28.1	+0.6				
	baz=124,SNR=52										
Z28A	Tucker Farm, M	124.14	54	⇓PKiKP	PKiKP	14 59 27.9	+0.1				
	baz=124,SNR=11										
W29A	Amraillo	124.17	51	⇓PKiKP	PKiKP	14 59 28.4	+0.6				
	baz=124,SNR=24										
S30A	Montezuma	124.21	48	⇓PKiKP	PKiKP	14 59 28.5	+0.8				
	baz=124,SNR=25										
AMTX	Amarillo	124.22	52	⇑PKiKP	PKiKP	14 59 28.6	+0.8				
	baz=124										
128A	Castleberry Fa	124.25	55	⇑PKiKP	PKiKP	14 59 28.0	0.0				
	baz=124,SNR=25										
P31A	Stockton	124.30	46	⇑PKiKP	PKiKP	14 59 27.8	+0.1				
	baz=124,SNR=62										
228A	UT Block 9, Go	124.30	55	⇓PKiKP	PKPdf	14 59 27.8	0.0				
	baz=124,SNR=27										
627A	Terlingua Ranc	124.32	58	⇑PKiKP	PKiKP	14 59 28.2	0.0				
	baz=124,SNR=56										
328A	Wristen Ranch,	124.32	56	⇑PKiKP	PKiKP	14 59 28.2	+0.1				
	baz=124,SNR=86										
X29A	Tulia	124.34	52	⇑PKiKP	PKiKP	14 59 28.3	+0.2				
	baz=124,SNR=42										
ECSD	EROS Data Cent	124.34	40	ePKPdf	PKPdf	14 59 27.2	-0.2				
ECSD				LR	LR						
	comp=Z,11µm,20.0s										
BGNE	Belgrade	124.38	43	ePKPdf	PKPdf	14 59 27.4	-0.1				
BGNE	Belgrade	124.38	43	⇓PKiKP	PKPdf	14 59 27.5	-0.1				
	baz=124,SNR=65										
T30A	Plains	124.38	49	⇓PKiKP	PKiKP	14 59 28.6	+0.5				
	baz=124,SNR=22										
TAM	Tamanrasset	124.46	293	ePKPdf	PKPdf	14 59 28.5	+0.2				
TAM				LR	LR						
	comp=Z,6µm,20.0s										
U30A	WK&E Inc. Balk	124.47	49	⇓PKiKP	PKiKP	14 59 28.9	+0.7				
	baz=124,SNR=27										
Q31A	Ellis	124.48	46	⇓PKiKP	PKiKP	14 59 28

	comp=Z,0.5nm,0.7s,baz=67,slow=4.3,SNR=3.1								
ESDC					PKP	**PKPdf**	**14 59 31.8**	**-1.2**
	comp=Z,5.0nm,0.4s,baz=18,slow=3.2,SNR=18								
ESDC					PP	**PP**	**15 01 35.8**	**+2.4**
	comp=Z,61nm,1.0s,baz=56,slow=6.3,SNR=5.7								
ESDC					PKKPbc	PKKPdf	15 09 03.6	-44
	comp=Z,3.1nm,0.8s,baz=252,slow=2.9,SNR=5.1								
ESDC					PKKP		15 09 48.6		
	comp=Z,2.5nm,0.5s,baz=258,slow=2.0,SNR=7.6								
ESDC					SKKPbc	SKKPbc	15 12 25.9	-15	
	comp=Z,7.1nm,0.9s,baz=246,slow=3.5,SNR=4.0								
ESLA	**Sonseca Array**	**127.17**	**316**	*e*PKPdf	**PKPdf**	**14 59 32.5**	**-0.4**		
632A	**Uvalde**	**127.34**	**57**	⇑PKiKP	**PKiKP**	**14 59 34.5**	**+0.4**		
	baz=127,SNR=80								
732A	**Laxson Ranch,**	**127.39**	**58**	⇑PKiKP	**PKiKP**	**14 59 34.0**	**-0.1**		
	baz=127,SNR=58								
PAB	**San Pablo**	**127.49**	**316**	*e*PKPdf	**PKPdf**	**14 59 33.8**	**+0.1**		
PBRG	**Braganca**	**127.99**	**320**	*e*PKPdf	**PKPdf**	**14 59 35.3**	**+0.8**		
PBRG	**Braganca**	**127.99**	**320**	*e*PP	PP	15 01 41.9	+3.3		
TUL1	**Tulsa**	**128.34**	**48**	*e*PKPdf	**PKPdf**	**14 59 34.7**	**-0.5**		
TUL1	**Tulsa**	**128.34**	**48**	⇓PKiKP	**PKiKP**	**14 59 35.6**	**-0.3**		
	baz=128								
WHTX	**Lake Whitney**	**128.50**	**54**	*e*PKPdf	**PKPdf**	**14 59 36.3**	**+0.6**		
WHTX	**Lake Whitney**	**128.50**	**54**	⇓PKiKP	**PKPdf**	**14 59 35.6**	**0.0**		
	baz=128,SNR=30								
MVO	**Moncorvo**	**128.50**	**319**	*e*PKPdf	**PKPdf**	**14 59 36.5**	**+1.0**		
MVO	**Moncorvo**	**128.50**	**319**	*e*PP	PP	15 01 41.3	-0.7		
MVO				*i* P	x	15 02 42.0			
MVO	**Moncorvo**	**128.50**	**319**	*e*SS	SS	15 18 54.1	+6.8		
JFWS	**Jewell Farm**	**128.74**	**38**	*e*PKPdf	**PKPdf**	**14 59 35.9**	**+0.1**		
JFWS				LR	LR				
	comp=Z,14µm,22.0s								
PCAB	**Cabril**	**128.86**	**320**	*e*PKPdf	**PKPdf**	**14 59 37.0**	**+0.9**		
PCAB	**Cabril**	**128.86**	**320**	*e*PP	PP	15 01 44.9	+0.7		
PCAB				*i* P	x	15 02 46.4			
PGAV	**Gavieira, Arco**	**128.88**	**321**	*e*PKPdf	**PKPdf**	**14 59 36.7**	**+0.5**		
PGAV	**Gavieira, Arco**	**128.88**	**321**	*e*PP	PP	15 01 44.8	+0.4		
PGAV				*i* P	x	15 02 43.3			
PGAV	**Gavieira, Arco**	**128.88**	**321**	*e*SS	SS	15 18 54.7	+2.8		
POLO	**Lamas de Olo**	**128.89**	**320**	*e*PKPdf	**PKPdf**	**14 59 36.1**	**-0.2**		
POLO	**Lamas de Olo**	**128.89**	**320**	*e*PP	PP	15 01 47.7	+3.2		
POLO				*i* P	x	15 02 42.7			
PVRL	**Vila Real**	**128.89**	**320**	*e*PKPdf	**PKPdf**	**14 59 37.6**	**+1.4**		
PVRL	**Vila Real**	**128.89**	**320**	*e*PP	PP	15 01 45.3	+0.9		
PVRL				*i* P	x	15 02 45.8			
TOA0	**Torodi Ar. Sit**	**129.05**	**282**	*e*PKPdf	**PKPdf**	**14 59 36.9**	**-0.2**		
TORD	**Torodi Ar. Bea**	**129.05**	**282**	PKP	**PKPdf**	**14 59 36.8**	**-0.3**		
TORD				SKPbc	SKPab	15 02 44.5	0.0		
TORD				SKKPbc	SKKPbc	15 12 14.3	-19		
TORD	**Torodi Ar. Bea**	**129.05**	**282**	Pdiff	Pdif	14 56 35.1	+11		
	comp=Z,0.4nm,0.7s,baz=88,slow=5.1,SNR=2.7								
TORD				PKhKP	PKPpre	14 59 21.5			
	comp=Z,7.1nm,0.8s,baz=84,slow=2.7,SNR=7.9								
TORD				PKP	**PKPdf**	**14 59 36.8**	**-0.3**		
	comp=Z,82nm,0.7s,baz=65,slow=1.6,SNR=46								
TORD				SKPbc	SKPab	15 02 44.5	0.0		
	comp=Z,214nm,0.7s,baz=73,slow=4.0,SNR=11								
TORD				SKKPbc	SKKPbc	15 12 14.3	-19		
	comp=Z,35nm,1.1s,baz=254,slow=5.0,SNR=5.7								
MTE	**Manteigas**	**129.23**	**319**	*e*PKPdf	**PKPdf**	**14 59 37.7**	**+0.8**		
MTE	**Manteigas**	**129.23**	**319**	*e*PP	PP	15 01 49.4	+2.7		
MTE				*i* P	x	15 02 47.5			
MTE	**Manteigas**	**129.23**	**319**	*e*SS	SS	15 19 06.6	+10		
MTE	**Manteigas**	**129.23**	**319**	*e*PKPdf	**PKPdf**	**14 59 37.3**	**+0.4**		
MTE				LR	LR				
	comp=Z,7µm,21.0s								
PVIS	**Viseu**	**129.30**	**319**	*e*PKPdf	**PKPdf**	**14 59 37.6**	**+0.6**		
PVIS	**Viseu**	**129.30**	**319**	*e*PP	PP	15 01 54.3	+7.2		
PVIS				*i* P	x	15 02 49.0			
PCBR	**Castelo Branco**	**129.47**	**318**	*e*PKPdf	**PKPdf**	**14 59 37.4**	**+0.1**		
PCBR	**Castelo Branco**	**129.47**	**318**	*e*PP	PP	15 01 50.7	+2.5		
PCBR				*i* P	x	15 02 48.9			
SCHQ	**Schefferville**	**129.47**	**13**	PKP	**PKPdf**	**14 59 35.9**	**-1.0**		
SCHQ				*e*PKPdf	**PKiKP**	**14 59 37.1**	**-0.5**		
SCHQ				SKPbc	SKPab	15 02 43.4	-1.8		
SCHQ				PKKP	**PKKPdf**	**15 09 42.5**	**-0.6**		
SCHQ				SKKPbc	**SKKPbc**	**15 12 31.8**	**-1.7**		
SCHQ	**Schefferville**	**129.47**	**13**	PKhKP	PKPpre	14 59 24.2			
	comp=Z,5.6nm,0.7s,baz=29,slow=2.7,SNR=6.0								
SCHQ				PKP	**PKPdf**	**14 59 35.9**	**-1.0**		
	comp=Z,9.9nm,0.5s,baz=39,slow=6.9,SNR=10								
SCHQ				SKPbc	SKPab	15 02 43.4	-1.8		
	comp=Z,56nm,1.0s,baz=349,slow=5.2,SNR=2.5								
SCHQ				PKKP	**PKKPdf**	**15 09 42.5**	**-0.6**		
	comp=Z,27nm,0.6s,baz=201,slow=3.0,SNR=6.9								
SCHQ				SKKPbc	**SKKPbc**	**15 12 31.8**	**-1.7**		
	comp=Z,22nm,0.8s,baz=161,slow=6.6,SNR=4.6								
KVTX	**Kingsville**	**129.48**	**59**	PFAKE		14 59 50.0	+12		
KVTX				LR	LR				
	comp=Z,7µm,20.0s								
PMRV	**Marv??o**	**129.62**	**318**	*e*PKPdf	**PKPdf**	**14 59 37.7**	**+0.1**		
PMRV	**Marv??o**	**129.62**	**318**	*e*PP	PP	15 01 48.6	-0.6		
PMRV				*i* P	x	15 02 46.0			
PMRV	**Marv??o**	**129.62**	**318**	*e*SS	SS	15 19 03.6	+2.6		
PBAR	**Barrancos**	**129.99**	**316**	*e*PKPdf	**PKPdf**	**14 59 38.4**	**+0.1**		
PBAR	**Barrancos**	**129.99**	**316**	*e*PP	PP	15 01 52.4	+0.7		
PBAR				*i* P	x	15 02 47.7			
PESTR	**Estremoz**	**130.03**	**317**	*e*PKPdf	**PKPdf**	**14 59 38.7**	**+0.3**		
PESTR	**Estremoz**	**130.03**	**317**	*e*PP	PP	15 01 51.8	-0.1		
PESTR				*i* P	x	15 02 47.8			
PCAS	**Casmilo, Conde**	**130.03**	**319**	*e*PKPdf	**PKPdf**	**14 59 35.7**	**-2.7**		
PCAS	**Casmilo, Conde**	**130.03**	**319**	*e*PP	PP	15 01 51.3	-0.6		
PCAS				*i* P	x	15 02 47.2			
PTOM	**Tomar**	**130.20**	**318**	*e*PKPdf	**PKPdf**	**14 59 40.0**	**+1.3**		
PTOM	**Tomar**	**130.20**	**318**	*e*PP	PP	15 01 56.5	+3.5		
PTOM				*i* P	x	15 02 48.5			
PMTG	**Montargil**	**130.36**	**318**	*e*PKPdf	**PKPdf**	**14 59 38.9**	**-0.1**		
PMTG	**Montargil**	**130.36**	**318**	*e*PP	PP	15 01 53.9	-0.1		
PMTG				*i* P	x	15 02 48.8			
HKT	**Hockley**	**130.48**	**56**	*e*PKPdf	**PKPdf**	**14 59 41.3**	**+2.0**		
EVO	**Evora**	**130.49**	**317**	*e*PKIKP	**PKPdf**	**14 59 39.9**	**+0.7**		
	comp=Z,404nm,1.0s								
EVO				*e*R					
	comp=Z,10µm,22.5s								
EVO	**Evora**	**130.49**	**317**	*e*PKPdf	**PKPdf**	**14 59 39.1**	**-0.1**		
EVO	**Evora**	**130.49**	**317**	*e*PP	PP	15 01 54.8	-0.1		
EVO				*i* P	x	15 02 49.6			
MDT	**Midelt**	**130.51**	**309**	SKPbc	**SKPbc**	**15 02 48.8**	**-1.7**		
MDT				PKKP	**PKKPdf**	**15 09 42.2**	**+1.2**		
MDT	**Midelt**	**130.51**	**309**	SKPbc	**SKPbc**	**15 02 48.8**	**-1.7**		
	baz=75,slow=7.6								
MDT				PKKP	**PKKPdf**	**15 09 42.2**	**+1.2**		
	comp=Z,5.1nm,0.8s,baz=176,slow=4.2,SNR=4.2								
ALMR	**Almeirim**	**130.55**	**318**	*e*PP	PP	15 01 55.3	0.0		
ALMR	**Almeirim**	**130.55**	**318**	*e*PP	PP	15 01 55.3	+0.1		
MIAR	**Mount Ida**	**130.55**	**49**	*e*PKPdf	**PKPdf**	**14 59 40.6**	**+1.1**		
MIAR				LR	LR				
	comp=Z,12µm,20.0s								
EVOP	**Sao Brissos**	**130.56**	**317**	*e*PKPdf	**PKPdf**	**14 59 39.9**	**+0.5**		
PBEJ	**Beja**	**130.63**	**316**	*e*PKPdf	**PKPdf**	**14 59 40.5**	**+1.0**		
PBEJ	**Beja**	**130.63**	**316**	*e*PP	PP	15 01 58.7	+2.8		
PBEJ				*i* P	x	15 02 50.3			
HDIL	**Hopedale**	**130.64**	**40**	*e*PKPdf	**PKPdf**	**14 59 39.5**	**+0.1**		
NATX	**Nacogdoches**	**130.80**	**53**	*e*PKPdf	**PKPdf**	**14 59 40.2**	**+0.2**		
NATX				LR	LR				
	comp=Z,13µm,22.0s								
PVAQ	**Vaqueiros**	**130.83**	**315**	*e*PKPdf	**PKPdf**	**14 59 40.7**	**+0.8**		
PVAQ	**Vaqueiros**	**130.83**	**315**	*e*PP	PP	15 01 56.9	-0.3		
PVAQ				*i* P	x	15 02 51.1			
PVAQ	**Vaqueiros**	**130.83**	**315**	*e*SS	SS	15 19 21.0	+5.0		
PACT	**Alcochete**	**130.92**	**318**	*e*PKPdf	**PKPdf**	**14 59 40.6**	**+0.6**		
PACT	**Alcochete**	**130.92**	**318**	*e*PP	PP	15 02 00.2	+2.6		
PACT				*i* P	x	15 02 51.7			
PCVE	**Castro Verde**	**130.94**	**316**	*e*PKPdf	**PKPdf**	**14 59 40.3**	**+0.2**		
PCVE	**Castro Verde**	**130.94**	**316**	*e*PP	PP	15 01 58.0	+0.1		
PCVE				*i* P	x	15 02 49.3			
PNCL	**Nicolau / Gran**	**131.05**	**317**	*e*PKPdf	**PKPdf**	**14 59 40.4**	**+0.1**		
PNCL	**Nicolau / Gran**	**131.05**	**317**	*e*PP	PP	15 01 59.3	+0.8		
PNCL				*i* P	x	15 02 51.5			
PBDV	**Barranco-do-Ve**	**131.06**	**315**	*e*PKPdf	**PKPdf**	**14 59 40.6**	**+0.2**		
PBDV	**Barranco-do-Ve**	**131.06**	**315**	*e*PP	PP	15 02 01.2	+2.5		
PBDV				*i* P	x	15 02 52.4			
PMAFR	**Mafra**	**131.12**	**318**	*e*PKPdf	**PKPdf**	**14 59 40.8**	**+0.3**		
PMAFR	**Mafra**	**131.12**	**318**	*e*PP	PP	15 01 58.3	-0.7		
PMAFR				*i* P	x	15 02 52.0			
LIS	**Lisbon**	**131.16**	**318**	*e*P	**PKPdf**	**14 59 39.6**	**-0.9**		
LIS				*e*PP	**PP**	**15 01 59.1**	**0.0**		
LIS				AMS	AMS	15 56 23.0			
	comp=E,7µm,19.3s								
LIS	**Lisbon**	**131.16**	**318**	*e*P	**PKPdf**	**14 59 39.6**	**-0.9**		
PMST	**Lisbon--Monsan**	**131.17**	**318**	*e*PKPdf	**PKPdf**	**14 59 41.6**	**+1.1**		
PMST	**Lisbon--Monsan**	**131.17**	**318**	*e*PP	PP	15 01 59.9	+0.7		
PMST				*i* P	x	15 02 52.6			
UALR	**University of**	**131.37**	**48**	*e*PKPdf	**PKPdf**	**14 59 40.4**	**-0.6**		
PTEO	**Sao Teotonio**	**131.46**	**316**	*e*PKPdf	**PKPdf**	**14 59 42.6**	**+1.5**		
PTEO	**Sao Teotonio**	**131.46**	**316**	*e*PP	PP	15 02 09.0	+7.8		
PTEO				*i* P	x	15 02 53.9			
MORF	**Marmelete**	**131.53**	**316**	*e*PKPdf	**PKPdf**	**14 59 42.2**	**+0.9**		
MORF	**Marmelete**	**131.53**	**316**	*e*PP	PP	15 02 01.0	-0.7		
MORF				*i* P	x	15 02 54.0			
PFVI	**Vila Bisbo**	**131.74**	**316**	*e*PKPdf	**PKPdf**	**14 59 42.3**	**+0.7**		
PFVI	**Vila Bisbo**	**131.74**	**316**	*e*PP	PP	15 02 03.8	+0.8		
PFVI				*i* P	x	15 02 54.7			
RTC	**Rabat Centre**	**131.76**	**311**	PFAKE		14 59 50.0	+8.2		
RTC				LR	LR				
	comp=Z,5µm,22.0s								
SFIN	**Scholer Farm**	**132.12**	**39**	*e*PKPdf	**PKPdf**	**14 59 42.9**	**+0.7**		
SFIN	**Scholer Farm**	**132.12**	**39**	⇓PKiKP	**PKPdf**	**14 59 42.2**	**0.0**		
	baz=132								
SIUC	**Southern Illin**	**132.20**	**43**	*e*PKPdf	**PKPdf**	**14 59 41.9**	**-0.6**		
PARMO	**Parma**	**132.36**	**45**	*e*PKPdf	**PKPdf**	**14 59 43.8**	**+1.0**		
OLIL	**Olney**	**132.41**	**41**	*e*PKPdf	**PKPdf**	**14 59 42.3**	**-0.6**		
GNAR	**Gosnell**	**132.51**	**46**	*e*PKPdf	**PKPdf**	**14 59 43.8**	**+0.6**		
PVMO	**Portageville**	**132.52**	**45**	*e*PKPdf	**PKPdf**	**14 59 43.6**	**+0.4**		
GLAT	**Glass**	**132.88**	**45**	*e*PKPdf	**PKPdf**	**14 59 44.0**	**+0.2**		
HALT	**Halls**	**133.02**	**45**	*e*PKPdf	**PKPdf**	**14 59 44.6**	**+0.5**		
USIN	**University of**	**133.11**	**42**	*e*PKPdf	**PKPdf**	**14 59 43.1**	**-1.1**		
USIN				*e*PP	**PP**	**15 02 09.7**	**-1.9**		
OXF	**Oxford**	**133.65**	**47**	*e*PKPdf	**PKPdf**	**14 59 45.3**	**0.0**		
OXF				LR	LR				
	comp=Z,9µm,19.0s								
VBMS	**Vicksburg**	**133.85**	**50**	*e*PKPdf	**PKPdf**	**14 59 45.7**	**0.0**		
WVT	**Waverly**	**133.97**	**44**	*e*PKPdf	**PKPdf**	**14 59 46.0**	**+0.1**		
TRQA	**Tornquist**	**134.56**	**166**	*e*PKPdf	**PKPdf**	**14 59 47.8**	**+0.8**		
ERPA	**Erie**	**135.13**	**32**	*e*PKPdf	**PKPdf**	**14 59 48.0**	**+0.1**		
ERPA				LR	LR				
	comp=Z,10µm,20.0s								
CACH	**El Canelo**	**135.31**	**155**	*i* P	PKPdf	14 59 36.6	-12		
ALLY	**Alegheny Colle**	**135.37**	**33**	*e*PKPdf	**PKPdf**	**14 59 47.3**	**-1.1**		
KIC	**Kosan Boka**	**135.45**	**273**	*e*PKP1	PKPdf	14 59 35.6	-14		
	comp=Z,585nm,0.8s								
DBIC	**Dimbokro**	**135.57**	**273**	*e*PKPdf	**PKPdf**	**14 59 49.4**	**-0.1**		
DBIC				PKP	**PKPdf**	**14 59 49.7**	**+0.3**		
DBIC				*e*PP	**PP**	**15 02 26.9**	**-1.7**		
DBIC				SKPbc	**SKPbc**	**15 03 06.0**	**-2.1**		
DBIC	**Dimbokro**	**135.57**	**273**	PKhKP	PKPpre	14 59 36.6			
	comp=Z,21nm,0.5s,baz=68,slow=4.1,SNR=20								
DBIC				PKP	**PKPdf**	**14 59 49.7**	**+0.3**		
	comp=Z,181nm,0.8s,baz=68,slow=2.3,SNR=20								
DBIC				SKPbc	**SKPbc**	**15 03 06.0**	**-2.1**		
	comp=Z,279nm,0.8s,baz=88,slow=3.8,SNR=9.4								
LMEL	**Las Melosas**	**135.71**	**155**	*e*P	PKPdf	14 59 42.7	-6.7		
LIC	**Lamto**	**135.72**	**273**	*e*PKIKP	**PKPdf**	**14 59 51.3**	**+1.5**		
	comp=Z,351nm,0.7s								
LIC				*e*R					
	comp=Z,9µm,21.5s								
LIC	**Lamto**	**135.72**	**273**	*e*PKP1	PKPdf	14 59 36.2	-14		
	comp=Z,587nm,0.7s								
LIC	**Lamto**	**135.72**	**273**	*e*PKPdf	**PKPdf**	**14 59 51.3**	**+1.5**		
TIC	**Toumodi**	**135.73**	**273**	*e*PKP1	PKPdf	14 59 36.7	-13		
	comp=Z,746nm,0.9s								
SWET	**Sewanee**	**135.76**	**44**	*e*PKPdf	**PKPdf**	**14 59 49.1**	**-0.2**		
LONY	**Lake Ozonia**	**135.86**	**26**	*e*PKPdf	**PKPdf**	**14 59 48.8**	**-0.4**		
FRNY	**Flat Rock**	**136.11**	**25**	*e*PKPdf	**PKPdf**	**14 59 50.0**	**+0.4**		
PEL	**Peldehue**	**136.11**	**154**	*e*P	PKPdf	14 59 39.9	-10		
ROCH	**El Roble**	**136.11**	**154**	*e*P	PKPdf	14 59 40.8	-10		
LRAL	**Lakeview Retre**	**136.12**	**47**	*e*PKPdf	**PKPdf**	**14 59 49.4**	**-0.6**		
CPCT	**Cooper Cave**	**136.60**	**43**	*e*PKPdf	**PKPdf**	**14 59 49.6**	**-1.2**		
MCWV	**Mont Chateau**	**136.91**	**35**	*e*PKPdf	**PKPdf**	**14 59 51.3**	**+0.1**		
MDV	**Middlebury**	**136.96**	**25**	*e*PKPdf	**PKPdf**	**14 59 50.5**	**-0.7**		
TKL	**Tuckaleechee C**	**136.98**	**42**	*e*PKPdf	**PKPdf**	**14 59 51.2**	**-0.3**		
TKL				SKPbc	**SKPbc**	**15 03 11.1**	**-0.6**		
BRAL	**Brewton**	**137.03**	**50**	*e*PKPdf	**PKPdf**	**14 59 50.8**	**-0.9**		
BINY	**Binghamton**	**137.10**	**29**	*e*PKPdf	**PKPdf**	**14 59 51.0**	**-0.6**		
ACCN	**Adirondack Com**	**137.24**	**26**	*e*PKPdf	**PKPdf**	**14 59 52.1**	**+0.3**		
LBNH	**Lisbon**	**137.27**	**24**	*e*PKPdf	**PKPdf**	**14 59 51.4**	**-0.5**		
LBNH				LR	LR				
	comp=Z,12µm,21.0s								
SSPA	**Standing Stone**	**137.29**	**32**	*e*PKPdf	**PKPdf**	**14 59 52.1**	**+0.1**		
PKME	**Peaks-Kenny Pk**	**137.39**	**21**	*e*PKPdf	**PKPdf**	**14 59 51.8**	**-0.2**		
PKME				LR	LR				
	comp=Z,10µm,20.0s								
CMCH	**Combarbala**	**137.64**	**152**⇑	*e*P	PKPdf	14 59 44.1	-8.9		
BLA	**Blacksburg**	**138.18**	**38**	PFAKE		15 00 10.0	+16		
BLA				LR	LR				
	comp=Z,12µm,20.0s								
VWCC	**Virginia Weste**	**138.43**	**37**	*e*PKPdf	**PKPdf**	**14 59 54.4**	**+0.3**		
LPA	**La Plata**	**138.44**	**170**	PKIKP	**PKPdf**	**14 59 51.5**	**-2.7**		
LPA				PKIKP	**PKiKP**	**14 59 55.0**	**-1.4**		
LPA				PP	**PP**	**15 02 44.0**	**0.0**		
LPA				SKIKP		15 03 16.0			
LPA				PPS	PPS	15 15 03.0			
LPA				PPP	PPP	15 15 17.0			
CFAA	**Coronel Fontan**	**138.47**	**156**	PKhKP	PKPpre	14 59 46.2			
	comp=Z,7.7nm,0.5s,baz=225,slow=2.2,SNR=51								
CFAA				SKPbc	**SKPbc**	**15 03 16.7**	**+0.5**		
	comp=Z,15nm,0.7s,baz=200,slow=4.3,SNR=7.1								
CFAA				SKKPbc	SKKPbc	15 11 42.4	-16		
	comp=Z,4.7nm,1.1s,baz=294,slow=3.0,SNR=3.7								
TLL	**Tololo Astrono**	**138.57**	**152**⇑	*e*P	PKPdf	14 59 47.3	-7.7		
SDMD	**Soldier's Deli**	**138.74**	**33**	*e*PKPdf	**PKPdf**	**14 59 54.9**	**+0.3**		
PAYG	**Puerto Ayora**	**138.80**	**98**	*e*PKPdf	**PKPdf**	**14 59 55.3**	**-0.2**		
PAYG				LR	LR				
	comp=Z,7µm,19.0s								
HRV	**Adam Dziewonsk**	**138.86**	**25**	*e*PKPdf	**PKPdf**	**14 59 54.6**	**-0.1**		
KMSC	**Kings Mountain**	**138.90**	**41**	⇓PKiKP	**PKPdf**	**14 59 54.5**	**-0.5**		
	baz=139								
APG	**El Apazote**	**138.90**	**74**	SKPbc	**SKPbc**	**15 03 16.1**	**-1.9**		
APG	**El Apazote**	**138.90**	**74**	SKPbc	**SKPbc**	**15 03 16.1**	**-1.9**		
	comp=Z,494nm,1.2s,baz=18,slow=2.4,SNR=6.0								
PMPS	**Porto Santo**	**139.11**	**315**	*e*PKPdf	**PKPdf**	**14 59 58.9**	**+3.4**		
CPNY	**Central Park**	**139.16**	**29**	*e*PKPdf	**PKPdf**	**14 59 55.7**	**+0.4**		
CBN	**Corbin**	**139.30**	**34**	*e*PKPdf	**PKPdf**	**14 59 56.6**	**+0.9**		
CBN				LR	LR				
	comp=Z,10µm,21.0s								
JSRW	**J. Sargeant Re**	**139.37**	**35**	*e*PKPdf	**PKPdf**	**14 59 55.8**	**-0.1**		
TIGA	**Tifton**	**139.41**	**47**	*e*PKPdf	**PKPdf**	**14 59 56.1**	**0.0**		
LCO	**Las Campanas**	**139.58**	**151**	*e*PKPdf	**PKPdf**	**14 59 57.1**	**+0.2**		
LCO				LR	LR				
	comp=Z,8µm,20.0s								
LCO	**Las Campanas**	**139.58**	**151**⇑	*e*P	PKPdf	14 59 50.6	-6.3		
PMAR	**Madeira**	**139.70**	**315**	*e*PKPdf	**PKPdf**	**14 59 57.0**	**+0.2**		
PMOZ	**Porto Moniz, M**	**139.84**	**316**	*e*PKPdf	**PKPdf**	**14 59 57.9**	**+0.9**		
PMOZ	**Porto Moniz, M**	**139.84**	**316**	*e*SS	SS	15 21 15.2	+11		
TEIG	**Tepich**	**139.91**	**66**	*e*PKPdf	**PKPdf**	**14 59 57.5**	**+0.3**		
TEIG				LR	LR				
	comp=Z,9µm,22.0s								
CNNC	**Cliffs of the**	**141.02**	**38**	*e*PKPdf	**PKPdf**	**14 59 58.6**	**-0.3**		
CNNC				LR	LR				
	comp=Z,9µm,20.0s								
BART	**Pico Bartolome**	**141.46**	**328**	*e*PKP	**PKPdf**	**14 59 57.3**	**-2.4**		
CMLA	**Cha da Macela**	**141.65**	**329**	*e*PKP	**PKPdf**	**14 59 59.1**	**-0.9**		
CMLA	**Cha da Macela**	**141.65**	**329**	*e*PKPdf	**PKPdf**	**14 59 59.4**	**-0.6**		
CMLA				LR	LR				
	comp=Z,5µm,20.0s								
PSET	**Sete Cidades**	**141.71**	**329**	*e*PKP	**PKPdf**	**15 00 03.2**	**+3.1**		
PDA	**Ponta Delgada**	**141.73**	**329**	*e*PKP	**PKPdf**	**14 59 56.8**	**-3.3**		
ADH	**Angra Heroismo**	**141.81**	**331**	*e*PKP	**PKPdf**	**14 59 56.7**	**-3.5**		
PGRA	**Graciosa**	**141.87**	**332**	*e*PKP	**PKPdf**	**14 59 58.5**	**-1.8**		
PSMN	**Pico do Norte,**	**141.98**	**327**	*e*PKP	**PKPdf**	**14 59 59.3**	**-1.3**		
PSMA	**Santa Maria**	**142.02**	**327**	*e*PKP	**PKPdf**	**15 00 01.6**	**+1.0**		
TGUH	**Tegucigalpa,Un**	**142.10**	**75**	*e*PKPdf	**PKPdf**	**15 00 02.1**	**+0.8**		
TGUH				LR	LR				
	comp=Z,7µm,20.0s								
TOPO	**Topo**	**142.19**	**332**	*e*PKP	**PKPdf**	**14 59 58.6**	**-2.4**		
ASCN	**Ascension**	**142.21**	**249**	*e*PKPdf	**PKPdf**	**15 00 01.7**	**+0.1**		
ASCN				LR	LR				
	comp=Z,2µm,22.0s								
PMAN	**Manadas**	**142.23**	**332**	*e*PKP	**PKPdf**	**14 59 58.1**	**-2.9**		
PPNO	**Prainha do Nor**	**142.44**	**332**	*e*PKP	**PKPdf**	**15 00 00.3**	**-1.1**		
PICO	**Pico**	**142.50**	**332**	*e*PKP	**PKPdf**	**15 00 03.2**	**+1.7**		
PCED	**Cedros**	**142.52**	**333**	*e*PKP	**PKPdf**	**14 59 59.1**	**-2.4**		
PCAN	**Candelaria**	**142.55**	**332**	*e*PKP	**PKPdf**	**15 00 01.7**	**+0.1**		
CALA	**Caldeira**	**142.56**	**333**	*e*PKP	**PKPdf**	**15 00 00.5**	**-1.2**		
ANCH	**Antofagasta**	**144.07**	**146**⇑	*e*P	**PKPdf**	**15 00 04.4**	**-0.2**		
ANCH	**Antofagasta**	**144.07**	**146**⇑	*e*P	**PKPdf**	**15 00 04.4**	**-0.2**		
VCR	**Vista de Mar**	**144.09**	**81**	*e*P	**PKPdf**	**15 00 04.9**	**-0.2**		
PB10	**Plate Boundary**	**144.12**	**146**⇑	*i* P	**PKPdf**	**15 00 04.4**	**-0.3**		
CEN1	**Los Morros**	**144.42**	**146**	*e*P	PKPbc	15 00 04.4	+0.3		
CEN1	**Los Morros**	**144.42**	**146**	*e*P	PKPbc	15 00 04.4	+0.3		
JCR	**Jicaral**	**144.62**	**82**	*e*P	**PKPdf**	**15 00 07.0**	**+1.1**		
JTS	**JuntasAbangare**	**144.75**	**81**	PKP	**PKPdf**	**15 00 05.7**	**-0.3**		
JTS				SKPbc	**SKiKP**	**15 03 33.0**	**-0.2**		
JTS	**JuntasAbangare**	**144.75**	**81**	PKP	**PKPdf**	**15 00 05.7**	**-0.3**		
	comp=Z,564nm,0.5s,baz=235,slow=6.8								
JTS				SKPbc	**SKiKP**	**15 03 33.0**	**-0.2**		
	comp=Z,186nm,0.9s,baz=266,slow=2.4,SNR=3.9								
QCR	**Quepos**	**145.58**	**82**⇑	*e*P	**PKPab**	**15 00 09.8**	**+1.5**		
MACH	**Maria Elena**	**145.61**	**146**	*i* P	**PKPab**	**15 00 09.4**	**+0.9**		
MACH	**Maria Elena**	**145.61**	**146**	*i* P	**PKPab**	**15 00

n36,σ0°971/60, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.60**	**257**	PN	**Pg**	**14 58 48.8**	**+0.3**
MKZ				S	**Sg**	**14 58 55.9**	**-0.3**
MKZ	**Mys Kozlova**	**0.60**	**257**	P	**Pg**	**14 58 48.8**	**+0.3**
MKZ				S	**Sg**	**14 58 55.9**	**-0.3**
KBTR	**Krutoberegovo**	**1.52**	**2**	PN	**Pn**	**14 59 04.9**	**-0.2**
KBTR	**Krutoberegovo**	**1.52**	**2**	P	**Pn**	**14 59 04.9**	**-0.2**
TUMR	**Tumrok**	**1.60**	**293**	P	**Pn**	**14 59 06.1**	**-0.3**
TUMR				S	**Sn**	**14 59 26.2**	**-1.4**
ZLN	**Zelenaya**	**1.73**	**321**	S	**Sb**	**14 59 31.8**	**+0.3**
KMNR	**Kamenistaya**	**1.78**	**308**	S	**Sn**	**14 59 32.0**	**0.0**
KIRR	**Kirishev**	**1.86**	**314**	S	**Sn**	**14 59 34.3**	**+0.3**
KPT	**Kopyto**	**1.92**	**313**	P	**Pb**	**14 59 12.0**	**-0.8**
KPT				S	**Sb**	**14 59 36.9**	**-0.2**
BKI	**Bering**	**1.94**	**73**	PN	**Pn**	**14 59 11.2**	**+0.4**
BKI				S	**Sn**	**14 59 35.5**	**-0.2**
BKI	**Bering**	**1.94**	**73**	P	**Pn**	**14 59 11.2**	**+0.4**
BKI				S	**Sn**	**14 59 35.5**	**-0.2**
KRSR	**Krestovskiy**	**1.97**	**322**	S	**Sn**	**14 59 36.1**	**-0.4**
KLY	**Klyuchi**	**2.01**	**325**	PN	**Pn**	**14 59 12.6**	**+0.8**
KLY				S	**Sn**	**14 59 37.7**	**+0.3**
KLY	**Klyuchi**	**2.01**	**325**	P	**Pn**	**14 59 12.6**	**+0.8**
KLY				S	**Sn**	**14 59 37.7**	**+0.3**
SMKR	**Semkarok**	**2.03**	**340**	P	**Pn**	**14 59 13.1**	**+0.9**
SMKR				S	**Sn**	**14 59 38.7**	**+0.7**
BDR	**Baidarnaya**	**2.07**	**336**	P	**Pn**	**14 59 13.8**	**+1.0**
SRDR	**Sredinnyy**	**2.37**	**315**	P	**Pn**	**14 59 16.5**	**-0.3**
NLC	**Nalytchevo**	**2.51**	**234**	PN	**Pn**	**14 59 18.7**	**0.0**
NLC				S	**Sn**	**14 59 48.9**	**-0.9**
NLC	**Nalytchevo**	**2.51**	**234**	P	**Pn**	**14 59 18.7**	**0.0**
NLC				S	**Sn**	**14 59 48.9**	**-0.9**
ESO	**Esso**	**2.62**	**300**	PN	**Pn**	**14 59 20.9**	**+0.7**
ESO				S	**Sn**	**14 59 52.0**	**-0.4**
ESO	**Esso**	**2.62**	**300**	P	**Pn**	**14 59 20.9**	**+0.7**
ESO				S	**Sn**	**14 59 52.0**	**-0.4**
SDLR	**Sedlovina**	**2.67**	**240**	P	**Pn**	**14 59 21.9**	**+0.8**
SDLR				S	**Sn**	**14 59 54.3**	**+0.3**
SMAR	**Somma**	**2.73**	**240**	P	**Pn**	**14 59 22.6**	**+0.8**
SMAR				S	**Sn**	**14 59 55.5**	**+0.2**
KRER	**Koryakskii**	**2.73**	**241**	P	**Pn**	**14 59 22.2**	**+0.3**
UGLR	**Uglovaya**	**2.74**	**239**	P	**Pn**	**14 59 22.6**	**+0.6**
UGLR				S	**Sn**	**14 59 55.1**	**-0.6**
KRX	**Arik**	**2.75**	**243**	P	**Pn**	**14 59 22.8**	**+0.7**
KRX				S	**Sn**	**14 59 55.5**	**-0.4**
AVH	**Avacha**	**2.75**	**240**	P	**Pn**	**14 59 23.5**	**+1.4**
AVH				S	**Sn**	**14 59 56.6**	**+0.7**
KOK	**Koryaka**	**2.79**	**242**	P	**Pn**	**14 59 23.5**	**+0.8**
PET	**Petropavlovsk**	**2.94**	**237**	*e*PN	**Pn**	**14 59 24.5**	**0.0**
PET				*e*S	**Sn**	**15 00 00.1**	**-0.1**
PET				pmax	pmax		
	comp=Z,65nm,0.6s						
PET				smax	smax		
	comp=N,175nm,0.7s						
PET	**Petropavlovsk**	**2.94**	**237**	P	**Pn**	**14 59 25.4**	**+0.9**
PET				S	**Sn**	**15 00 00.0**	**-0.1**
GNL	**Ganaly**	**2.98**	**252**	P	**Pn**	**14 59 26.4**	**+1.1**
RUS	**Russkaya**	**3.38**	**230**	PN	**Pn**	**14 59 31.2**	**+0.6**
RUS				S	**Sn**	**15 00 10.1**	**-1.1**
RUS	**Russkaya**	**3.38**	**230**	P	**Pn**	**14 59 31.2**	**+0.6**
RUS				S	**Sn**	**15 00 10.1**	**-1.1**
MTVR	**Mutnovka**	**3.50**	**233**	P	**Pn**	**14 59 33.3**	**+0.9**
MTVR				S	**Sn**	**15 00 13.3**	**-1.0**
ASAK	**Asacha**	**3.69**	**233**	P	**Pn**	**14 59 36.7**	**+1.7**
ASAK				S	**Sn**	**15 00 19.6**	**+0.6**
APC	**Apacha**	**3.75**	**244**	P	**Pn**	**14 59 37.1**	**+1.4**

GUC ***24*** *15:33:12.3±0.5, 20°.86S×69°.23W, h108km±3km, ML4.1*
ISCJB ***24*** *15:33:13.0±0.8, 20°.87S±0°.05×69°.2W±0°.2, h106km±11km, mb4.1/1, Error ellipse: s-maj=23.9km s-min=7.4km az=171.3*
IDC ***24*** *15:33:30.5±8.1, 19°.69S×67°.95W, h150km±48km, mb4.0/1, mb1 3.5/4, mb1mx3.3/19, mbtmp3.5/4, MS4.3/1, Ms1 4.5/1, ms1mx4.3/23, Error ellipse: s-maj=96.4km s-min=34.1km az=38.0*

ISC 24 15:33:13.2±1.5, 20°.89S±0°.06×69°.3W±0°.1, h108km±15km, n11, σ0°60/14, 5C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**Plate Boundary**	**0.26**	**233**	⇑*i*P	**Pn**	**15 33 28.4**	**-0.2**
PB01				*i* S	**Sn**	**15 33 40.1**	**-0.1**
PB01				AML	AML	15 33 41.2	
	comp=N,17μm,0.1s						
HMBC	**Humberstone**	**0.84**	**316**	⇑*i*P	**Pn**	**15 33 32.7**	**-0.1**
HMBC				*i* S	**Sn**	**15 33 47.9**	**+0.4**
HMBC				AML	AML	15 33 48.9	
	comp=N,6μm,0.3s						
PB09	**Plate Boundary**	**0.90**	**178**	*e*P	**Pn**	**15 33 33.0**	**-0.4**
PB09				*i* S	**Sn**	**15 33 49.2**	**+0.5**
PB09				AML	AML	15 33 51.2	
	comp=N,12μm,0.6s						
PB07	**Plate Boundary**	**1.01**	**215**	⇑*i*P	**Pn**	**15 33 34.6**	**+0.1**
PB07				AML	AML	15 33 51.4	
	comp=N,3μm,0.2s						
PB07				*i* S	**Sn**	**15 33 51.7**	**+1.1**
PSGC	**Pisagua**	**1.52**	**328**	⇑*i*P	**Pn**	**15 33 39.7**	**-0.5**
PSGC				*i* S	**Sn**	**15 34 00.7**	**0.0**
MNMC	**Minimini**	**1.78**	**350**	⇑*i*P	**Pn**	**15 33 43.4**	**-0.2**
MNMC				*i* S	**Sn**	**15 34 06.7**	**+0.1**
MNMC				AML	AML	15 34 12.3	
	comp=N,2μm,0.5s						
PB10	**Plate Boundary**	**2.87**	**204**	AML	AML	15 35 00.9	
	comp=E,424nm,0.4s						
LPAZ	**La Paz**	**4.70**	**13**	P	**Pn**	**15 34 23.5**	**+1.0**
	comp=E,1.8nm,0.3s,baz=198,slow=7.0,SNR=19						
LPAZ				S	Sn	15 35 04.9	-11
	comp=E,0.9nm,0.3s,baz=218,slow=14,SNR=3.6						
LPAZ				LR	LR	15 35 56.0	
	comp=E,5μm,20.9s,baz=124,slow=43						
SIV	**San Ignacio**	**9.18**	**59**	P	Pn	15 35 17.0	-5.7
	comp=E,2.6nm,0.3s,baz=259,slow=13,SNR=22						
BDFB	**Brasilia**	**20.84**	**79**	P	**P**	**15 37 45.8**	**-0.7**
	comp=E,0.5nm,0.3s,baz=239,slow=5.9,SNR=3.0						
TORD	**Torodi Ar. Bea**	**77.47**	**71**	P	P	15 45 01.1	+3.8
	comp=E,1.7nm,0.4s,baz=253,slow=5.5,SNR=22						

ISCJB ***24*** *15:40:23.8±1.8, 8°.62S±0°.05×157°.56E±0°.04, h12km±11km, mb4.9/62, MS5.2/7, Error ellipse: s-maj=7.7km s-min=6.5km az=0.3*
IDC ***24*** *15:40:23.4±0.5, 8°.62S×157°.61E, h0km, mb4.4/16, mb1 4.5/19, mb1mx4.5/23, mbtmp4.4/19, ML4.1/3, MS4.1/1, Ms1 4.1/1, ms1mx3.8/23, Error ellipse: s-maj=16.5km s-min=13.6km az=98.0*
MOS ***24*** *15:40:26.5±1.0, 8°.63S×157°.56E, h33km, mb5.3/11, Error ellipse: s-maj=11.6km s-min=9.9km az=57.4*
BJI ***24*** *15:40:26.8, 8°.53S×157°.74E, h35km, mB5.7/17, mb4.9/38, Ms5.5/17, Ms7 5.2/18*
NEIC ***24*** *15:40:28.1±0.2, 8°.70S×157°.59E, h35km, mb5.1/29, Error ellipse: s-maj=6.5km s-min=5.0km az=129.0*
AUST ***24*** *15:40:43.2±1.1, 9°.22S×157°.04E, h119km, Error ellipse: s-maj=2.2km s-min=1.1km az=248.0*
DJA ***24*** *15:40:48.2±3.0, 9°.S±10°.×15°.8E±1°.7, h205km±26km, M4.6/14, mB5.7/2, mb4.6/14, Mw(mB)5.2/2*

ISC 24 15:40:28.0±0.6, 8°.61S±0°.05×157°.64E±0°.06, h32km±4km, h32km:pP-P, n147, σ1°925/169, mb5.0/62, MS5.3/8, 1C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.42**	**110**	Pn	**Pn**	**15 41 03.1**	**-2.3**
HNR				Sn	**Sn**	**15 41 36.6**	**+2.6**
HNR	**Honiara**	**2.42**	**110**	Pn	**Pn**	**15 41 03.1**	**-2.3**
	202nm,0.3s,baz=214,slow=4.2,SNR=69						
HNR				Sn	**Sn**	**15 41 36.6**	**+2.6**
	1μm,0.3s,baz=293,slow=23,SNR=15						
HNR				LR	LR	15 41 59.2	
	comp=Z,4μm,21.0s,baz=149,slow=39						
RABL	**Rabaul**	**6.99**	**309**	P	Pb	15 42 20.8	-7.9
	baz=7.0,SNR=4.5						
DZM	**Mont Dzumac**	**15.84**	**149**	Pn	**Pn**	**15 44 06.5**	**-2.4**
DZM	**Mont Dzumac**	**15.84**	**149**	Pn	**Pn**	**15 44 06.5**	**-2.4**
	0.2nm,0.3s,baz=5.8,slow=18,SNR=3.6						
CTA	**Charters Tower**	**15.86**	**223**	Pn	**Pn**	**15 44 08.0**	**-1.0**
CTA	**Charters Tower**	**15.86**	**223**	Pn	**Pn**	**15 44 08.0**	**-1.0**
	0.4nm,0.3s,baz=57,slow=16,SNR=11						

CTAO	**Charters Tower**	**15.86**	**223**	*e*P	**Pn**	**15 44 07.8**	**-1.2**
CTAO				pmax	pmax		
	comp=Z,46nm,1.3s						
CTAO	**Charters Tower**	**15.86**	**223**	*e*Pn	**Pn**	**15 44 07.8**	**-1.2**
	comp=Z,46nm,1.3s						
MTSU	**Mount Surprise**	**16.04**	**232**	P	**P**	**15 44 15.1**	**+0.6**
	baz=15,SNR=6.4						
EIDS	**Eidsvold**	**17.80**	**200**	*e*Pn	**Pn**	**15 44 32.9**	**-0.4**
	comp=Z,88nm,1.4s						
EIDS	**Eidsvold**	**17.80**	**200**	P	**P**	**15 44 35.5**	**+1.6**
	baz=17,SNR=7.3						
RMQ	**Roma**	**19.67**	**204**	P	**Pn**	**15 44 55.8**	**-0.3**
	baz=19,SNR=17						
MSVF	**Nonsavu**	**21.83**	**117**	*e*P	**P**	**15 45 18.5**	**+0.5**
MSVF	**Nonsavu**	**21.83**	**117**	*e*P	**P**	**15 45 18.5**	**+0.5**
QLP	**Quilpie**	**21.93**	**214**	P	**P**	**15 45 19.1**	**+0.2**
	baz=21,SNR=15						
ARMA	**Armidale**	**22.41**	**194**	*e*P	**P**	**15 45 22.7**	**-1.4**
	comp=Z,35nm,1.1s						
ARMA	**Armidale**	**22.41**	**194**	P	**P**	**15 45 24.7**	**+0.6**
	baz=22,SNR=11						
KDU	**Kakadu**	**25.05**	**258**	P	**P**	**15 45 49.7**	**0.0**
	baz=24,SNR=4.2						
WRAB	**Tennant Creek**	**25.18**	**241**	*e*P	**P**	**15 45 48.4**	**-2.4**
WRAB				pmax	pmax		
	comp=Z,43nm,0.9s						
WRAB	**Tennant Creek**	**25.18**	**241**	*e*P	**P**	**15 45 48.4**	**-2.4**
	comp=Z,43nm,0.9s						
WRA	**Warramunga Arr**	**25.19**	**241**	P	**P**	**15 45 50.8**	**-0.1**
WRA				PcP	**PcP**	**15 49 24.6**	**+0.3**
WRA	**Warramunga Arr**	**25.19**	**241**	P	**P**	**15 45 50.8**	**-0.1**
	comp=Z,4.8nm,0.5s,baz=67,slow=9.4,SNR=48						
WRA				PcP	**PcP**	**15 49 24.6**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=71,slow=2.7,SNR=7.1						
CMSA	**Cobar Meteorol**	**25.38**	**204**	P	**P**	**15 45 52.3**	**-0.2**
	baz=25,SNR=11						
AS31	**Alice Springs**	**27.20**	**234**	*e*P	**P**	**15 46 07.2**	**-1.9**
ASAR	**Alice Springs**	**27.20**	**234**	P	**P**	**15 46 08.5**	**-0.6**
ASAR				PcP	**PcP**	**15 49 29.4**	**+0.4**
ASAR	**Alice Springs**	**27.20**	**234**	P	**P**	**15 46 08.5**	**-0.6**
	comp=Z,2.2nm,0.9s,baz=62,slow=9.8,SNR=12						
ASAR				PcP	**PcP**	**15 49 29.4**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=80,slow=2.6,SNR=8.0						
STKA	**Stephens Creek**	**27.54**	**211**	*e*P	**P**	**15 46 11.1**	**-0.9**
	comp=Z,30nm,2.0s						
STKA	**Stephens Creek**	**27.54**	**211**	P	**P**	**15 46 13.2**	**+1.2**
	baz=27,SNR=4.6						
STKA	**Stephens Creek**	**27.54**	**211**	P	**P**	**15 46 13.1**	**+1.1**
	comp=Z,9.5nm,0.7s,baz=23,slow=9.5,SNR=8.9						
CNB	**Canra Magne**	**27.64**	**195**	P	P	15 46 17.7	+4.8
	baz=27,SNR=5.4						
H11S3	**WAKE ISLAND Hy**	**28.38**	**18**	T	T	16 14 44.9	
	baz=199,slow=0.7,SNR=106						
H11S2	**WAKE ISLAND Hy**	**28.38**	**18**	T	T	16 14 46.7	
	baz=199,slow=0.7,SNR=98						
H11S1	**WAKE ISLAND Hy**	**28.39**	**18**	T	T	16 14 45.9	
	baz=199,slow=0.7,SNR=44						
KNRA	**Kununurra**	**29.06**	**253**	P	**P**	**15 46 26.4**	**+0.7**
	baz=28,SNR=7.6						
H11N1	**WAKE ISLAND Hy**	**29.59**	**18**	T	T	16 16 55.3	
	baz=198,slow=0.7,SNR=7.3						
H11N3	**WAKE ISLAND Hy**	**29.59**	**18**	T	T	16 16 38.5	
	baz=198,slow=0.7,SNR=9.6						
H11N2	**WAKE ISLAND Hy**	**29.60**	**18**	T	T	16 16 48.2	
	baz=198,slow=0.7,SNR=7.6						
FITZ	**Fitzroy Crossi**	**32.48**	**250**	P	**P**	**15 46 55.4**	**-0.5**
FITZ	**Fitzroy Crossi**	**32.48**	**250**	P	**P**	**15 46 56.3**	**+0.5**
	baz=250,SNR=6.5						
FITZ	**Fitzroy Crossi**	**32.48**	**250**	P	**P**	**15 46 55.4**	**-0.5**
	comp=Z,3.4nm,1.1s,baz=70,slow=12,SNR=3.8						
KAPI	**Kappang**	**37.77**	**273**	P	**P**	**15 47 39.8**	**-1.7**
KAPI	**Kappang**	**37.77**	**273**	P	**P**	**15 47 39.8**	**-1.7**
	comp=Z,7.8nm,0.8s,baz=152,slow=5.4,SNR=3.7						
MEEK	**Meekatharra**	**41.06**	**239**	P	**P**	**15 48 09.4**	**+0.5**
	baz=40,SNR=4.3						
SBUM	**Sibu**	**46.59**	**282**	P	**P**	**15 48 56.3**	**+2.8**
	comp=Z,40nm,1.1s						
SBUM	**Sibu**	**46.59**	**282**	*e*P	**P**	**15 48 52.6**	**-0.8**
	comp=Z,35nm,1.9s						
KSM	**Kuching**	**48.22**	**280**	P	**P**	**15 49 07.1**	**+0.9**
	comp=Z,16nm,1.6s,comp=Z,1μm						
KSM	**Kuching**	**48.22**	**280**	*e*P	**P**	**15 49 04.6**	**-1.6**
	comp=Z,28nm,1.4s						
KSM	**Kuching**	**48.22**	**280**	P	**P**	**15 49 06.9**	**+0.8**
	baz=48,SNR=6.8						
MJAR	**Matsushiro Arr**	**48.48**	**339**	P	**P**	**15 49 06.8**	**-0.9**
MJAR	**Matsushiro Arr**	**48.48**	**339**	P	**P**	**15 49 06.8**	**-0.9**
	comp=Z,2.3nm,0.7s,baz=173,slow=9.0,SNR=9.5						
TJN	**Taejon**	**53.03**	**329**	*e*P	**P**	**15 49 41.1**	**-0.9**
KSRS	**Korea Array**	**53.60**	**331**	P	**P**	**15 49 47.1**	**+0.9**
	comp=Z,2.6nm,0.6s,baz=146,slow=7.0,SNR=19						
KSAR	**Wonju Array Be**	**53.61**	**331**	P	**P**	**15 49 47.1**	**+0.8**
ASAJ	**Asahikawa**	**54.22**	**347**	P	**P**	**15 49 51.4**	**+0.8**
ASAJ	**Asahikawa**	**54.22**	**347**	P	**P**	**15 49 51.4**	**+0.8**
	comp=Z,1.9nm,0.5s,baz=315,slow=13,SNR=7.4						
QIZ	**Qiongzhong**	**54.53**	**301**	P	**P**	**15 49 53.1**	**-0.2**
NJ2	**Nanjing**	**54.83**	**319**	*e*P	**P**	**15 49 55.6**	**+0.4**
NJ2				AMB	AMB		
	comp=Z,30nm,1.2s						
USRK	**Ussuriysk Arra**	**57.46**	**338**	P	**P**	**15 50 14.8**	**+1.0**
	comp=Z,8.5nm,1.1s,baz=142,slow=7.1,SNR=10						
MDJ	**Mudanjiang**	**58.72**	**337**	P	**P**	**15 50 24.0**	**+1.3**
MDJ				pP	**pP**	**15 50 33.1**	**+0.6**
MDJ				sP	sP	15 50 36.8	+0.6
MDJ				AMB	AMB		
	comp=Z,11nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,1μm,10.1s						
MDJ				LR	LR		
	comp=Z,2μm,21.6s						
MDJ				LR	LR		
	comp=Z,3μm,30.2s						
MDJ				LR	LR		
	comp=Z,2μm,15.8s						
MDJ	**Mudanjiang**	**58.72**	**337**	*e*P	**P**	**15 50 21.8**	**-0.8**
	comp=Z,26nm,1.3s						
SKNT	**Sakolnakorn**	**58.82**	**296**	P	**P**	**15 50 25.4**	**+1.5**
	comp=Z,44nm,1.1s						
CN2	**Changchun**	**59.78**	**333**	*e*P	P	15 50 33.8	+3.8
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
HABR	**Khabarovsk**	**60.23**	**343**	*e*P	**P**	**15 50 30.5**	**-2.4**
HABR				*e*		15 51 16.2	
HABR				*e*S	**S**	**15 58 41.2**	**-3.4**
HABR				*e**SS	**sS**	**15 58 58.8**	**-2.0**
HABR						16 00 16.5	
HABR				*e*SS	**SS**	**16 02 39.1**	**-3.5**
HABR				pmax	pmax		
	comp=Z,20nm,1.3s						
HABR				MLR	MLR		
	comp=Z,566nm,16.0s						
GYA	**Guiyang**	**60.51**	**307**	P	**P**	**15 50 37.6**	**+2.1**
GYA				pP	pP	15 50 47.0	+1.7
GYA				sP	sP	15 50 52.4	+3.3
GYA				PcP	**PcP**	**15 51 20.8**	**+0.8**
GYA				PP	**PP**	**15 52 51.8**	**+2.6**
GYA				ScP	**ScP**	**15 55 18.0**	**-1.1**
GYA				S	**S**	**15 58 48.5**	**-0.9**
GYA				SS	**SS**	**16 02 48.0**	**-0.1**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s						
GYA				AMB	AMB		
	comp=Z,120nm,5.0s						
GYA				LR	LR		
	comp=Z,540nm,19.2s						
GYA				LR	LR		
	comp=Z,490nm,20.3s						
GYA				LR	LR		
	comp=Z,510nm,18.9s						
GSI	**Gunungsitoli**	**60.66**	**276**	*e*P	**P**	**15 50 35.2**	**-1.4**
	comp=Z,31nm,1.1s						
PBKT	**Sadao Pong**	**61.38**	**294**	P	**P**	**15 50 42.7**	**+1.3**
	comp=Z,17nm,0.9s						
PBKT	**Sadao Pong**	**61.38**	**294**	P	**P**	**15 50 42.7**	**+1.3**
	comp=Z,17nm,0.9s						
LOEI	**Loei**	**61.44**	**295**	P	**P**	**15 50 40.5**	**-1.3**
	comp=Z,52nm,0.8s						
PETK	**Petropavlovsk-**	**61.48**	**0**	P	**P**	**15 50 41.8**	**+0.4**
PETK	**Petropavlovsk-**	**61.48**	**0**	P	**P**	**15 50 41.8**	**+0.4**
PETK	**Petropavlovsk-**	**61.48**	**0**	P	**P**	**15 50 41.8**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=164,slow=7.6,SNR=13						
BJI	**Beijing**	**61.73**	**325**	P	**P**	**15 50 44.6**	**+1.3**
BJI				AMB	AMB		
	comp=Z,24nm,0.4s						
UTHA	**Uthaitani**	**62.44**	**292**	P	**P**	**15 50 50.0**	**+1.4**
	comp=Z,3.7nm,1.0s						

XAN	**Xi'an**	**62.68**	**315**	P	**P**	**15 50 49.9**	**0.0**
XAN				pP	**pP**	**15 51 00.3**	**+0.5**
XAN				AMB	AMB		
	comp=Z,3.0nm,1.3s						
KMI	**Kunming**	**63.08**	**304**	⇑P	**P**	**15 50 54.8**	**+1.8**
KMI				pP	pP	15 51 04.9	+2.0
KMI				S	**S**	**15 59 19.6**	**-2.6**
KMI				AMB	AMB		
	comp=Z,16nm,1.5s						
KMI				LR	LR		
	comp=Z,2μm,37.3s						
CM31	**Chiang Mai Arr**	**63.84**	**295**	*e*P	**P**	**15 50 57.5**	**-0.3**
	comp=Z,6.0nm,0.8s						
CHTO	**Chiang Mai**	**63.95**	**296**	*e*P	**P**	**15 50 57.9**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,16nm,1.2s						
CHTO	**Chiang Mai**	**63.95**	**296**	P	**P**	**15 50 59.7**	**+1.1**
	comp=Z,265nm,0.8s						
CHTO	**Chiang Mai**	**63.95**	**296**	*e*P	**P**	**15 50 57.9**	**-0.7**
	comp=Z,16nm,1.2s						
CHTO	**Chiang Mai**	**63.95**	**296**	P	**P**	**15 50 59.7**	**+1.1**
CD2	**Chengdu**	**64.85**	**310**	P	**P**	**15 51 05.5**	**+1.2**
CD2				pP	pP	15 51 16.3	+2.1
CD2				sP	sP	15 51 20.4	+2.4
CD2				PP	**PP**	**15 53 30.5**	**+3.2**
CD2				S	**S**	**15 59 42.8**	**-0.8**
CD2				sS	sS	16 00 00.6	+0.7
CD2				SS	**SS**	**16 03 56.4**	**+0.7**
CD2				AMB	AMB		
	comp=Z,50nm,0.5s						
CD2				AMB	AMB		
	comp=Z,2μm,10.8s						
CD2				LR	LR		
	comp=Z,2μm,14.9s						
CD2				LR	LR		
	comp=Z,3μm,16.7s						
HHC	**Hu-ho-hao-te**	**64.94**	**323**	*e*P	**P**	**15 51 05.3**	**+0.5**
HHC				pP	pP	15 51 15.9	+1.2
HHC				PP	**PP**	**15 53 29.3**	**+1.3**
HHC				S	**S**	**15 59 45.4**	**+0.9**
HHC				sS	sS	16 00 00.3	-0.6
HHC				ScS	**SKSac**	**16 00 53.5**	**-4.0**
HHC				SS	**SS**	**16 03 55.6**	**-1.4**
HHC				AMB	AMB		
	comp=Z,35nm,1.1s						
HHC				AMB	AMB		
	comp=Z,2μm,7.1s						
HHC				LR	LR		
	comp=Z,1μm,15.5s						
HHC				LR	LR		
	comp=Z,1μm,15.2s						
LZH	**Lanzhou**	**67.30**	**315**	*e*P	**P**	**15 51 21.5**	**+1.4**
LZH				pP	**pP**	**15 51 29.3**	**-0.7**
LZH				sP	sP	15 51 34.3	+0.5
LZH				PP	**PP**	**15 53 51.0**	**+2.2**
LZH				*e*S	S	16 00 03.6	-10
LZH				sS	sS	16 00 30.5	+0.6
LZH				SS	**SS**	**16 04 35.8**	**+2.0**
LZH				AMB	AMB		
	comp=Z,34nm,1.1s						
LZH				AMB	AMB		
	comp=Z,360nm,5.7s						
LZH				LR	LR		
	comp=Z,2μm,16.0s						
LZH				LR	LR		
	comp=Z,2μm,13.6s						
LZH				LR	LR		
	comp=Z,2μm,17.5s						
VNDA	**Vanda**	**68.92**	**179**	P	**P**	**15 51 29.7**	**+0.4**
VNDA	**Vanda**	**68.92**	**179**	P	**P**	**15 51 29.7**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=327,slow=7.9,SNR=7.0						
GTA	**Gaotai**	**71.70**	**316**	P	**P**	**15 51 48.8**	**+1.6**
GTA				pP	pP	15 51 59.3	+2.1
GTA				sP	sP	15 52 03.5	+2.6
GTA				AMB	AMB		
	comp=Z,7.0nm,0.9s						
ULN	**Ulaanbaatar**	**71.77**	**327**	P	**P**	**15 51 49.4**	**+2.0**
SONM	**Songino Array**	**72.11**	**326**	P	**P**	**15 51 50.7**	**+1.3**
SONM	**Songino Array**	**72.11**	**326**	P	**P**	**15 51 50.7**	**+1.3**
	comp=Z,2.8nm,0.8s,baz=142,slow=4.9,SNR=18						
YAK	**Yakutsk**	**73.70**	**347**	*e*P	**P**	**15 51 58.1**	**-0.3**
YAK				pmax	pmax		
	comp=Z,13nm,1.2s						
LSA	**Lhasa**	**74.34**	**304**	P	**P**	**15 52 04.6**	**+1.2**
ZAK	**Zakamensk**	**75.25**	**327**	*e*P	**P**	**15 52 08.0**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
SVW2	**Sparrevohn**	**78.52**	**21**	*e*P	**P**	**15 52 25.3**	**-0.6**
	comp=Z,25nm,1.0s						
HVS	**Khovu-Aksy**	**80.89**	**325**	*e*P	**P**	**15 52 38.9**	**-0.2**
HVS				pmax	pmax		
	comp=Z,18nm,1.3s						
PMR	**Palmer**	**81.23**	**23**	*e*P	**P**	**15 52 40.2**	**-0.3**
PMR				pmax	pmax		
	comp=Z,25nm,1.0s						
PMR	**Palmer**	**81.23**	**23**	*e*P	**P**	**15 52 40.2**	**-0.3**
	comp=Z,25nm,1.0s						
CAST	**Castle Rocks**	**81.29**	**20**	*e*P	**P**	**15 52 40.6**	**-0.2**
	comp=Z,24nm,0.8s						
QSPA	**South Pole Qui**	**81.38**	**180**	*e*P	**P**	**15 52 40.2**	**-1.3**
	comp=Z,23nm,1.3s						
WMQ	**Urumqi**	**81.78**	**317**	P	**P**	**15 52 43.9**	**0.0**
WMQ				pP	**pP**	**15 52 54.3**	**+0.2**
WMQ				sP	sP	15 52 58.3	+0.5
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s						
WMQ				AMB	AMB		
	comp

NVAR	**Mina Array Bea**	**90.67**	**51**	P		**P**	**15 53 30.1**	**+2.0**
	comp=Z,6.7nm,1.0s,baz=244,slow=6.6,SNR=26							
I07A	**Izee**	**90.83**	**46**	*e*P		**P**	**15 53 28.8**	**+0.3**
	comp=Z,72nm,2.6s							
BMO	**Blue Mountains**	**92.52**	**45**	*e*P		**P**	**15 53 36.6**	**+0.3**
BMO				pmax	pmax			
	comp=Z,27nm,2.0s							
BMO	**Blue Mountains**	**92.52**	**45**	*e*P		**P**	**15 53 36.6**	**+0.3**
	comp=Z,27nm,2.0s							
LDFC	**Landfair**	**92.65**	**55**	*e*P		**P**	**15 53 37.0**	**-0.2**
	comp=Z,21nm,1.2s							
R11A	**Troy Canyon, C**	**92.76**	**52**	*e*P		**P**	**15 53 38.2**	**+0.5**
	comp=Z,7.4nm,1.1s							
SHPR	**Sheep Range**	**92.82**	**54**	*e*P		**P**	**15 53 38.3**	**+0.3**
H06E1	**SOCORRO T-PHAS**	**94.08**	**72**	T		T	17 38 04.5	
	SNR=7.3							
CCUT	**Cedar City**	**94.39**	**53**	*e*P		**P**	**15 53 44.7**	**-0.6**
	comp=Z,3.2nm,1.0s							
JLU	**Jordanelle**	**96.23**	**50**	*e*P		**P**	**15 53 52.5**	**-1.1**
	comp=Z,9.6nm,1.1s							
BRTR	**Keskin Array B**	**121.41**	**311**	PKP		**PKPdf**	**15 59 18.6**	**0.0**
BRTR	**Keskin Array B**	**121.41**	**311**	PKP		**PKPdf**	**15 59 18.6**	**0.0**
	comp=Z,0.7nm,1.0s,baz=22,slow=4.0,SNR=3.8							
LPAZ	**La Paz**	**128.39**	**119**	PKP		**PKPdf**	**15 59 33.1**	**-0.2**
LPAZ	**La Paz**	**128.39**	**119**	PKP		**PKPdf**	**15 59 33.1**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=18,slow=2.4,SNR=4.0							
ESDC	**Sonseca Array**	**144.96**	**335**	PKP		**PKPab**	**16 00 01.1**	**-0.6**
ESDC	**Sonseca Array**	**144.96**	**335**	PKP		**PKPab**	**16 00 01.1**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=16,slow=3.5,SNR=8.9							
BDFB	**Brasilia**	**144.98**	**133**	PKPbc		**PKPab**	**16 00 02.7**	**+0.2**
BDFB	**Brasilia**	**144.98**	**133**	PKPbc		**PKPab**	**16 00 02.7**	**+0.2**
	comp=Z,12nm,0.9s,baz=222,slow=2.2,SNR=11							
TORD	**Torodi Ar. Bea**	**155.95**	**283**	PKP		**PKPdf**	**16 00 19.4**	**-0.7**
TORD				PKPab		**PKPab**	**16 00 46.6**	**-0.6**
TORD				PP		**PP**	**16 04 23.9**	**-0.8**
TORD	**Torodi Ar. Bea**	**155.95**	**283**	PKP		**PKPdf**	**16 00 19.4**	**-0.7**
	comp=Z,1.0nm,1.1s,baz=321,slow=3.8,SNR=4.1							
TORD				PKPab		**PKPab**	**16 00 46.6**	**-0.6**
	comp=Z,2.0nm,1.1s,baz=71,slow=2.0,SNR=4.1							
TORD				PP		**PP**	**16 04 23.9**	**-0.8**
	comp=Z,0.8nm,1.0s,baz=112,slow=4.0,SNR=4.3							

*PRE **24** 16:01:14.4±2.7,4°.20S×34°.94E,h10km,ML4.1*
ISC 24 16:01:18.8±3.1,4°.0S±0°.3×34°.89E±0°.07,h22km,n4,
σ1°.64/8,Lake Victoria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAUS	**Longido**	**2.18**	**56**	*i* P		**Pb**	**16 01 58.9**	**+1.2**
MAUS				*i* S		**Sb**	**16 02 22.8**	**-1.4**
KMBO	**Kilima Mbogo**	**3.67**	**40**	*e*P		**Pn**	**16 02 13.1**	**-1.5**
KMBO				*e*S		**Sn**	**16 02 59.0**	**+1.6**
KIG	**Kigali**	**5.22**	**292**	*e*P		**Pn**	**16 02 34.7**	**-1.0**
KIG				*e*S		**Sn**	**16 03 36.1**	**+0.7**
KIG				AML	AML		16 04 12.5	
	comp=Z,95nm,0.5s							
MBAR	**Mbarara**	**5.33**	**309**	*e*P		**Pn**	**16 02 38.4**	**+1.1**
MBAR				*e*S		**Sn**	**16 03 36.6**	**-1.5**

IDC 24 16:09:50.2±7.7,5°.21N×94°.05E,h0km,mb3.5/3,mb1 3.7/3,
mb1mx3.3/25,mbtmp3.5/3,Error ellipse:
s-maj=379.3km s-min=28.3km az=57.0,Northern
Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S3	**Diego Garcia H**	**25.01**	**240**	T	T	16 41 23.3	
	baz=64,slow=0.7,SNR=3.1						
H08S2	**Diego Garcia H**	**25.01**	**239**	T	T	16 41 20.0	
	baz=64,slow=0.7,SNR=3.0						
H08S1	**Diego Garcia H**	**25.03**	**240**	T	T	16 41 21.5	
	baz=64						
MKAR	**Makanchi Array**	**42.66**	**348**	P	P	16 17 48.4	-0.2
	0.6nm,0.6s,baz=159,slow=7.1,SNR=7.5						
WRA	**Warramunga Arr**	**46.83**	**123**	P	P	16 18 22.5	+0.2
	1.0nm,1.1s,baz=305,slow=9.1,SNR=4.5						
ASAR	**Alice Springs**	**48.31**	**128**	P	P	16 18 33.4	-0.5
	0.2nm,0.5s,baz=297,slow=8.1,SNR=5.0						

IDC 24 16:12:12.2±8.0,15°.52S×172°.80W,h0km,mb3.6/2,
mb1 3.8/2,mb1mx3.5/19,mbtmp3.6/2,Error ellipse:
s-maj=341.4km s-min=26.9km az=137.0,Samoa Islands
region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.88**	**32**	Pn	Pn	16 12 44.8	-0.9
	4.5nm,0.3s,baz=6.6,slow=15,SNR=8.1						
AFI				Sn	Sn	16 13 04.6	-5.6
	35nm,0.3s,baz=56,slow=22,SNR=16						
WRA	**Warramunga Arr**	**50.38**	**257**	P	P	16 21 10.9	-0.8
	0.2nm,0.5s,baz=96,slow=7.4,SNR=4.9						
ASAR	**Alice Springs**	**50.62**	**252**	P	P	16 21 13.3	-0.2
	0.7nm,0.5s,baz=87,slow=8.1,SNR=21						
BRTR	**Keskin Array B**	**146.61**	**321**	PKPbc	PKPbc	16 31 56.6	+0.3
	0.6nm,0.8s,baz=48,slow=2.1,SNR=3.3						

*IDC **24** 16:17:20.6±1.8,10°.20S×118°.52E,h0km,mb3.5/2,*
mb1 3.5/6,mb1mx3.4/19,mbtmp3.4/6,ML3.3/4,MS4.2/1,
Ms1 4.2/1,ms1mx3.6/24,Error ellipse: s-maj=57.1km
s-min=21.4km az=63.0
*AUST **24** 16:17:22.0±6.0,10°.18S×118°.54E,h0km,Error ellipse:*
s-maj=1.6km s-min=0.9km az=294.0
ISC 24 16:17:25.6±1.1,10°.23S±0°.08×118°.6E±0°.1,h37km,n13,
σ0°.83/11,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**1.81**	**72**	P	**Pn**	**16 17 55.0**	**+0.8**
	baz=1.8,SNR=6.3						
KAPI	**Kappang**	**5.31**	**13**	Pn	**Pn**	**16 18 42.5**	**+0.1**
	2.6nm,0.3s,baz=165,slow=5.6,SNR=20						
KAPI				Sn	**Sn**	**16 19 42.1**	**-0.3**
	5.0nm,0.3s,baz=20,slow=22,SNR=10.0						
SOEI	**Soe**	**5.65**	**86**	P	Pn	16 18 52.9	+5.7
	baz=5.7,SNR=5.1						
LUWI	**Luwuk**	**10.04**	**25**	P	Pn	16 20 04.5	+17
	baz=10,SNR=5.9						
FITZ	**Fitzroy Crossi**	**10.42**	**140**	P	**Pn**	**16 19 52.2**	**-0.3**
	baz=10,SNR=6.2						
FITZ	**Fitzroy Crossi**	**10.42**	**140**	Pn	**Pn**	**16 19 52.2**	**-0.3**
	0.3nm,0.3s,baz=330,slow=14,SNR=10						
FITZ				Sn	Sn	16 21 40.1	-7.9
	0.2nm,0.3s,baz=115,slow=17,SNR=4.3						
FITZ				LR	LR	16 23 39.3	
	comp=Z,1μm,21.1s,baz=15,slow=36						
KNRA	**Kununurra**	**11.33**	**120**	P	**Pn**	**16 20 04.4**	**-0.6**
	baz=11,SNR=3.6						
MEEK	**Meekatharra**	**16.33**	**180**	P	**P**	**16 21 14.8**	**+0.1**
	baz=16,SNR=10.0						
WRA	**Warramunga Arr**	**18.03**	**124**	P	**Pn**	**16 21 31.5**	**-2.0**
	0.1nm,0.3s,baz=298,slow=13,SNR=4.9						
MORW	**Morawa**	**18.89**	**187**	P	Pn	16 21 48.2	+4.4
	baz=19,SNR=6.9						
ASAR	**Alice Springs**	**19.83**	**134**	P	**Pn**	**16 21 54.8**	**-0.4**
	0.1nm,0.3s,baz=313,slow=10,SNR=5.3						
SONM	**Songino Array**	**58.80**	**350**	P	**P**	**16 27 20.7**	**+0.4**
	0.4nm,0.8s,baz=171,slow=7.3,SNR=3.6						
MKAR	**Makanchi Array**	**65.34**	**333**	P	**P**	**16 28 04.1**	**0.0**
	0.3nm,0.5s,baz=143,slow=5.5,SNR=4.1						

*PRE **24** 16:21:44.9±1.5,3°.83S×34°.75E,h10km,ML4.3*
ISC 24 16:21:42.1±1.3,4°.0S±0°.1×34°.77E±0°.06,h10km,n5,
σ1°.33/9,Lake Victoria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAUS	**Longido**	**2.29**	**57**	*i* P	**Pb**	**16 22 22.9**	**-0.9**
MAUS				*i* S	**Sb**	**16 22 51.8**	**-0.5**
KMBO	**Kilima Mbogo**	**3.78**	**41**	*e*P	**Pn**	**16 22 42.1**	**+1.5**
KMBO				*e*S	**Sn**	**16 23 25.5**	**+0.1**
KIG	**Kigali**	**5.12**	**293**	*e*P	**Pn**	**16 23 01.1**	**+2.1**
KIG				*e*S	**Sn**	**16 23 57.7**	**-0.6**
KIG				AML	AML	16 24 37.0	
	comp=Z,184nm,0.5s						
MBAR	**Mbarara**	**5.25**	**310**	*e*P	**Pn**	**16 23 01.5**	**+0.6**
MBAR				*e*S	**Sn**	**16 24 00.2**	**-1.4**
LSZ	**Lusaka**	**12.95**	**210**	*e*S	**Sn**	**16 27 10.1**	**-0.7**

*NNC **24** 16:26:06.8±2.9,39°.09N×70°.16E,h0km,mb3.6,mpv3.2,*
Error ellipse: s-maj=22.4km s-min=16.2km az=5.0
ISC 24 16:26:10.0±2.8,39°.2N±0°.2×70°.20E±0°.10,h13km,n9,
σ2°.00/14,7C-3D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**3.95**	**3**	Pn	**Pn**	**16 27 12.7**	**+2.4**
	1.1nm,0.3s,baz=178,slow=12,SNR=55						
KK31				⇑Pg	**Pb**	**16 27 21.8**	**+2.3**
	1.0nm,0.3s,baz=22,slow=28,SNR=8.4						
KK31				⇓Sn	**Sb**	**16 28 03.5**	**-3.7**
	5.7nm,0.7s,baz=202,slow=34,SNR=4.1						
KK31				⇑Lg	Lg	16 28 16.1	
	12nm,0.7s,baz=175,slow=27,SNR=8.5						
AML	**Almayashu**	**3.99**	**41**	P	**Pn**	**16 27 11.0**	**-0.1**
	SNR=12						
AAK	**Ala-Archa**	**4.76**	**42**	P	**Pn**	**16 27 21.5**	**-0.1**
	SNR=5.5						
KBK	**Karagaybulak**	**5.02**	**44**	P	**Pn**	**16 27 24.9**	**-0.2**
	SNR=16						
USP	**Ospenovka**	**5.23**	**37**	P	**Pn**	**16 27 27.9**	**0.0**
	SNR=7.5						
TKM2	**Tokmak 2**	**5.55**	**46**	⇑Pn	**Pn**	**16 27 30.6**	**-1.8**
	3.5nm,0.5s						
TKM2				⇑Sn	**Sn**	**16 28 38.9**	**+2.7**
	4.5nm,0.7s						
TKM2				⇑Lg	Lg	16 29 00.9	
	2.8nm,0.7s						
TKM2	**Tokmak 2**	**5.55**	**46**	P	**Pn**	**16 27 31.0**	**-1.5**
	SNR=9.0						
AB31	**Akbulak array**	**12.48**	**327**	⇑Pn	**Pn**	**16 29 05.9**	**-1.3**
	0.3nm,0.3s,baz=153,slow=8.7,SNR=29						
AB31				⇑Sn	**Sn**	**16 31 24.1**	**-2.0**
	2.6nm,0.7s,baz=153,slow=23,SNR=8.5						
AKTO	**Aktyubinsk**	**14.19**	**327**	⇓Pn	**Pn**	**16 29 30.1**	**-0.4**
	1.2nm,0.9s						
AKTO				⇓Sn	**Sn**	**16 32 08.1**	**+0.3**
	1.4nm,0.7s						

IDC 24 16:28:04.7±6.8,16°.59S×173°.79W,h0km,mb4.1/2,
mb1 4.2/3,mb1mx3.7/19,mbtmp4.0/3,ML1.6/1,Error
ellipse: s-maj=289.6km s-min=25.3km az=138.0,Tonga
Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.29**	**36**	Pn	Pn	16 28 56.1	-1.5
	4.1nm,0.3s,baz=270,slow=9.2,SNR=4.1						
AFI				Sn	Sn	16 29 36.8	-0.8
	30nm,0.3s,baz=42,slow=20,SNR=7.7						
WRA	**Warramunga Arr**	**49.22**	**258**	P	P	16 36 54.9	-0.4
	0.7nm,0.6s,baz=96,slow=8.2,SNR=6.7						
ASAR	**Alice Springs**	**49.40**	**253**	P	P	16 36 55.8	-0.9
	3.3nm,0.7s,baz=86,slow=8.5,SNR=21						
BRTR	**Keskin Array B**	**146.83**	**320**	PKPbc	PKPab	16 47 50.9	+0.3
	0.7nm,0.9s,baz=36,slow=2.7,SNR=3.9						

*NEIC **24** 16:36:29.2,40°.95S×175°.52E,h26km,ML3.8(WEL),After*
WEL.
NEIC Felt in Carterton.
WEL 24 16:36:29.3±0.1,40°.91S×175°.51E,h25km±1km,ML3.8/39,
21C-13D,Error ellipse: s-maj=1.3km s-min=0.9km
az=90.0,MM 4.,North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOWZ	**Holdsworth Sta**	**0.01**	**28**	P*	Pb	16 36 33.5	-0.1
HOWZ				S*	Sb	16 36 36.7	+0.2
HOWZ	**Holdsworth Sta**	**0.01**	**28**	P*	Pb	16 36 33.5	-0.1
HOWZ				S*	Sb	16 36 36.7	+0.2
MTW	**Mount Morrison**	**0.25**	**181**	⇑P*	Pb	16 36 35.8	+0.2
MTW				AML	AML	16 36 42.0	
MTW				AML	AML	16 36 42.1	
MTW	**Mount Morrison**	**0.25**	**181**	P*	Pb	16 36 35.9	+0.2
MRZ	**Mangatainoka R**	**0.26**	**13**	⇓P*	Pb	16 36 35.4	-0.3
MRZ				S*	Sb	16 36 40.0	-0.1
MRZ				AML	AML	16 36 40.5	
MRZ				AML	AML	16 36 40.6	
MRZ				AML	AML	16 36 40.6	
MRZ	**Mangatainoka R**	**0.26**	**13**	P*	Pb	16 36 35.4	-0.3
OGWZ	**Otaki Gorge**	**0.27**	**290**	⇓P*	Pb	16 36 35.5	-0.4
OGWZ				S*	Sb	16 36 40.2	-0.3
OGWZ	**Otaki Gorge**	**0.27**	**290**	P*	Pb	16 36 35.5	-0.4
OGWZ				S*	Sb	16 36 40.2	-0.3
TIWZ	**Tintock**	**0.32**	**65**	⇑P*	Pb	16 36 36.8	+0.1
TIWZ	**Tintock**	**0.32**	**65**	P*	Pb	16 36 36.8	+0.1
TMWZ	**Te Maipa**	**0.35**	**124**	⇑P*	Pb	16 36 37.9	+0.7
TMWZ				S*	Sn	16 36 44.7	-0.5
TMWZ	**Te Maipa**	**0.35**	**124**	P*	Pb	16 36 37.9	+0.7
TMWZ				S*	Sn	16 36 44.8	-0.4
CAW	**Cannon Point**	**0.39**	**239**	⇑P*	Pb	16 36 37.4	-0.2
CAW				AML	AML	16 36 44.0	
CAW				AML	AML	16 36 44.7	
CAW	**Cannon Point**	**0.39**	**239**	P*	Pb	16 36 37.4	-0.2
KIW	**Kapiti Island**	**0.46**	**276**	P*	Pb	16 36 38.5	-0.3
KIW				AML	AML	16 36 45.4	
KIW				AML	AML	16 36 45.5	
KIW	**Kapiti Island**	**0.46**	**276**	P*	Pb	16 36 38.5	-0.3
PAWZ	**Paruwai Farm**	**0.47**	**187**	⇑P*	Pb	16 36 39.4	+0.2
PAWZ				AML	AML	16 36 48.4	
PAWZ				AML	AML	16 36 48.8	
PAWZ	**Paruwai Farm**	**0.47**	**187**	P*	Pb	16 36 39.4	+0.2
PRWZ	**Pori Road**	**0.50**	**45**	⇓P*	Pb	16 36 39.7	+0.2
TRWZ	**Traveller**	**0.51**	**164**	P*	Pb	16 36 39.9	+0.2
TRWZ				AML	AML	16 36 50.6	
TRWZ				AML	AML	16 36 50.9	
TRWZ	**Traveller**	**0.51**	**164**	P*	Pb	16 36 39.9	+0.3
CPWZ	**Castlepoint**	**0.53**	**90**	P*	Pn	16 36 40.7	-0.5
MSWZ	**Moikau Station**	**0.54**	**201**	⇑P*	Pb	16 36 40.3	+0.1
MSWZ				AML	AML	16 36 49.0	
MSWZ				AML	AML	16 36 49.9	
MSWZ	**Moikau Station**	**0.54**	**201**	P*	Pb	16 36 40.3	+0.1
POWZ	**Post Office Ro**	**0.56**	**21**	P*	Pb	16 36 40.1	-0.4
POWZ	**Post Office Ro**	**0.56**	**21**	P*	Pb	16 36 40.1	-0.4
BFZ	**Birch Farm**	**0.61**	**68**	⇑P*	Pb	16 36 41.3	-0.1
BFZ	**Birch Farm**	**0.61**	**68**	P*	Pb	16 36 41.3	-0.1
WEL	**Wellington**	**0.67**	**236**	P*	Pb	16 36 42.0	-0.4
WEL	**Wellington**	**0.67**	**236**	P*	Pb	16 36 42.0	-0.4
PLWZ	**Palliser**	**0.68**	**196**	⇓P*	Pb	16 36 42.1	-0.6
PLWZ	**Palliser**	**0.68**	**196**	P*	Pb	16 36 42.1	-0.6
BHW	**Baring Head**	**0.69**	**224**	⇑P*	Pb	16 36 42.3	-0.4
BHW				AML	AML	16 36 53.2	
BHW				AML	AML	16 36 53.6	
BHW	**Baring Head**	**0.69**	**224**	P*	Pb	16 36 42.3	-0.4
SNZO	**South Karori**	**0.72**	**236**	P*	Pb	16 36 42.8	-0.4
SNZO				AML	AML	16 36 53.8	
SNZO				AML	AML	16 36 53.8	
SNZO				AML	AML	16 36 54.0	
SNZO				AML	AML	16 36 54.0	
SNZO	**South Karori**	**0.72**	**236**	P*	Pb	16 36 42.8	-0.4
DVHZ	**Dannevirke**	**0.79**	**40**	⇓P*	Pb	16 36 44.0	-0.5
DVHZ	**Dannevirke**	**0.79**	**40**	P*	Pb	16 36 44.0	-0.5
ANWZ	**Angora Road**	**0.86**	**59**	⇓P*	Pb	16 36 44.8	-0.8
TSZ	**Takapari Road**	**0.92**	**22**	⇑P*	Pb	16 36 45.9	-0.8
TSZ				AML	AML	16 36 59.8	
TSZ				AML	AML	16 36 59.9	
TSZ	**Takapari Road**	**0.92**	**22**	P*	Pb	16 36 45.6	-1.1
TCW	**Tory Channel**	**0.98**	**252**	⇓P*	Pn	16 36 46.6	-0.8
TCW				AML	AML	16 37 01.1	
TCW				AML	AML	16 37 01.1	
TCW	**Tory Channel**	**0.98**	**252**	P*	Pn	16 36 46.6	-0.8
PRHZ	**Porangahau**	**1.07**	**54**	⇑P*	Pn	16 36 47.6	-1.2
PRHZ	**Porangahau**	**1.07**	**54**	P*	Pn	16 36 47.6	-1.2
WPHZ	**Waipukurau**	**1.11**	**40**	P*	Pn	16 36 48.5	-0.7
WPHZ	**Waipukurau**	**1.11**	**40**	P*	Pn	16 36 48.5	-0.7
PNHZ	**Pukenui**	**1.13**	**28**	⇑P*	Pn	16 36 48.8	-0.8
PNHZ	**Pukenui**	**1.13**	**28**	P*	Pn	16 36 48.8	-0.8
DUWZ	**D'Urville Isla**	**1.21**	**275**	P*	Pn	16 36 50.2	-0.4
DUWZ				AML	AML	16 37 07.5	
DUWZ				AML	AML	16 37 07.9	
DUWZ	**D'Urville Isla**	**1.21**	**275**	P*	Pn	16 36 50.2	-0.4
WAZ	**Wanganui**	**1.22**	**341**	⇑PN	Pb	16 36 51.5	-0.3
WAZ				AML	AML	16 37 09.8	
WAZ				AML	AML	16 37 12.1	
WAZ	**Wanganui**	**1.22**	**341**	Pn	Pb	16 36 51.5	-0.3
CMWZ	**Cape Campbell**	**1.28**	**229**	P*	Pn	16 36 50.8	-0.8
CMWZ				AML	AML	16 37 14.3	
CMWZ				AML	AML	16 37 17.9	
CMWZ	**Cape Campbell**	**1.28**	**229**	P*	Pn	16 36 50.8	-0.8
TUWZ	**Tuamarina**	**1.29**	**246**	⇓P*	Pn	16 36 50.3	-1.3
TUWZ				AML	AML	16 37 10.8	
TUWZ				AML	AML	16 37 12.5	
TUWZ	**Tuamarina**	**1.29**	**246**	P*	Pn	16 36 50.4	-1.3
PXZ	**Pawanui**	**1.36**	**50**	P*	Pn	16 36 51.0	-1.6
PXZ				AML	AML	16 37 20.2	
PXZ				AML	AML	16 37 20.2	
PXZ				AML	AML	16 37 21.2	
PXZ				AML	AML	16 37 21.2	
PXZ	**Pawanui**	**1.36**	**50**	Pn	Pn	16 36 51.3	-1.4
BSWZ	**Blackbirch Sta**	**1.47**	**236**	⇓PN	Pn	16 36 53.0	-1.2
BSWZ				AML	AML	16 37 20.3	
BSWZ				AML	AML	16 37 29.5	
BSWZ	**Blackbirch Sta**	**1.47**	**236**	Pn	Pn	16 36 53.0	-1.2
BHHZ	**Black Hill Sta**	**1.48**	**17**	PN	Pn	16 36 53.9	-0.6
BHHZ	**Black Hill Sta**	**1.48**	**17**	Pn	Pn	16 36 53.9	-0.6
MOVZ	**Moawhango**	**1.51**	**7**	⇑PN	Pn	16 36 54.5	-0.4
MOVZ				AML	AML	16 37 17.9	
MOVZ				AML	AML	16 37 20.8	
MOVZ	**Moawhango**	**1.51**	**7**	Pn	Pn	16 36 54.5	-0.4
MTVZ	**Mangateitei**	**1.52**	**359**	⇓PN	Pn	16 36 55.4	+0.4
MTVZ				AML	AML	16 37 21.1	
MTVZ				AML	AML	16 37 24.2	
MTVZ	**Mangateitei**	**1.52**	**359**	Pn	Pn	16 36 55.5	+0.4
KAHZ	**Kahuranaki**	**1.53**	**44**	PN	Pn	16 36 53.7	-1.4
KAHZ	**Kahuranaki**	**1.53**	**44**	Pn	Pn	16 36 53.7	-1.4
WNVZ	**Wahianoa**	**1.58**	**3**	⇑PN	Pn	16 36 56.0	0.0
WNVZ				AML	AML	16 37 21.7	
WNVZ				AML	AML	16 37 24.2	
WNVZ	**Wahianoa**	**1.58**	**3**	Pn	Pn	16 36 56.0	0.0
TRVZ	**Turoa**	**1.61**	**1**	PN	Pn	16 36 56.6	+0.1
TRVZ				AML	AML	16 37 23.9	
TRVZ				AML	AML	16 37 24.2	
TRVZ	**Turoa**	**1.61**	**1**	Pn	Pn	16 36 56.6	+0.2
PKVZ	**Pokaka**	**1.62**	**356**	PN	Pn	16 36 56.6	+0.2
PKVZ				AML	AML	16 37 20.3	
PKVZ				AML	AML	16 37 30.2	
PKVZ	**Pokaka**	**1.62**	**356**	Pn	Pn	16 36 56.7	+0.3
WHVZ	**Whangaehu Hut**	**1.63**	**2**	⇑PN	Pn	16 36 56.8	0.0
DRZ	**Dome Shelter**	**1.64**	**2**	⇑PN	Pn	16 36 57.1	+0.3
DRZ				AML	AML	16 37 22.2	
DRZ				AML	AML	16 37 26.7	
DRZ	**Dome Shelter**	**1.64**	**2**	Pn	Pn	16 36 57.1	+0.3
NNZ	**Nelson**	**1.64**	**259**	PN	Pn	16 36 55.7	-0.8
NNZ				AML	AML	16 37 20.3	
NNZ				AML	AML	16 37 21.9	
NNZ	**Nelson**	**1.64**	**259**	Pn	Pn	16 36 55.7	-0.8
TUVZ	**Tukino**	**1.65**	**4**	PN	Pn	16 36 57.0	+0.2
TUVZ				AML	AML	16 37 23.3	
TUVZ				AML	AML	16 37 29.9	
TUVZ	**Tukino**	**1.65**	**4**	Pn	Pn	16 36 57.0	+0.2
FWVZ	**Far West T-bar**	**1.66**	**1**	⇑PN	Pn	16 36 57.2	+0.1
FWVZ				AML	AML	16 37 22.8	
FWVZ				AML	AML	16 37 23.0	
FWVZ	**Far West T-bar**	**1.66**	**1**	Pn	Pn	16 36 57.2	+0.1
WPVZ	**Whakapapa**	**1.71**	**1**	⇑PN	Pn	16 36 57.9	+0.3
WPVZ				AML	AML	16 37 23.6	
WPVZ				AML	AML	16 37 27.7	
WPVZ	**Whakapapa**	**1.71**	**1**	Pn	Pn	16 36 57.9	+0.3
MCHZ	**McNeill Hill**	**1.73**	**32**	PN	Pn	16 36 56.5	-1.2
MCHZ	**McNeill Hill**	**1.73**	**32**	Pn	Pn	16 36 56.7	-1.0
NGZ	**Ngauruhoe**	**1.73**	**2**	PN	Pn	16 36 58.3	+0.3
NGZ				AML	AML	16 37 27.1	
NGZ				AML	AML	16 37 30.2	
NGZ	**Ngauruhoe**	**1.73**	**2**	Pn	Pn	16 36 58.3	+0.3
OTVZ	**Oturere**	**1.75**	**4**	PN	Pn	16 36 58.4	+0.1
OTVZ				AML	AML	16 37 26.9	
OTVZ				AML	AML	16 37 30.6	
OTVZ	**Oturere**	**1.75**	**4**	Pn	Pn	16 36 58.4	+0.1
WTVZ	**West Tongariro**	**1.79**	**2**	PN	Pn	16 36 59.1	+0.2
WTVZ				AML	AML	16 37 32.3	
WTVZ				AML	AML	16 37 32.3	
WTVZ	**West Tongariro**	**1.79**	**2**	Pn	Pn	16 36 59.1	+0.2
KRVZ	**Karewarewa**	**1.82**	**3**	PN	Pn	16 36 59.3	+0.2
KRVZ				AML	AML	16 37 27.5	
KRVZ				AML	AML	16 37 30.6	
KRVZ	**Karewarewa**	**1.82**	**3**	Pn	Pn	16 36 59.3	+0.2
TWVZ	**Taurewa**	**1.84**	**358**	PN	Pn	16 36 59.4	0.0
TWVZ				AML	AML	16 37 27.8	
TWVZ				AML	AML	16 37 28.1	
TWVZ	**Taurewa**	**1.84**	**358**	Pn	Pn	16 36 59.4	0.0
VRZ	**Vera Road**	**1.87**	**342**	PN	Pn	16 37 00.4	+0.6
VRZ				AML	AML	16 37 30.1	
VRZ				AML	AML	16 37 37.9	
VRZ	**Vera Road**	**1.87**	**342**	Pn	Pn	16 37 00.4	+0.6
BKZ	**Black Stump Fm**	**1.90**

KMBO	**Kilima Mbogo**	**3.58**	**43**	*eP*	**Pn**	**16 43 25.7**	**+0.5**
KMBO				*eS*	**Sn**	**16 44 08.3**	**+1.4**
KIG	**Kigali**	**5.07**	**291**	*eP*	**Pn**	**16 43 46.3**	**+0.7**
KIG				*eS*	**Sn**	**16 44 43.3**	**-0.3**
KIG				AML	AML	16 45 16.4	
	comp=Z,58nm,0.4s						
MBAR	**Mbarara**	**5.14**	**308**	*eP*	**Pn**	**16 43 47.2**	**+0.6**
MBAR				*eS*	**Sn**	**16 44 44.7**	**-0.7**

DJA 24 16:46:25.4±0.7, 8°S±3°×107°E±°, h20km±11km, M3.6/6, MLv3.6/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.87**	**45**	P	Pb	16 46 40.1	-1.8
CISI				S	Sb	16 46 50.2	-3.0
SKJI	**Sukabumi**	**1.32**	**331**	P	Pn	16 46 48.3	-0.4
SKJI				S	Sn	16 47 04.3	-1.4
LEM	**Lembang**	**1.40**	**18**	P	Pn	16 46 49.9	-0.1
LEM				S	Sn	16 47 07.5	-0.6
DBJI	**Dramaga**	**1.66**	**345**	P	Pn	16 46 53.7	+0.2
DBJI				S	Sn	16 47 11.5	-2.8
KPJI	**Karang Pucung**	**1.92**	**64**	P	Pn	16 46 56.8	-0.1

*IDC **24** 16:53:41.4±2.4, 6.96S×130.88E, h0km, mb3.4/1, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, ML3.5/3, Error ellipse: s-maj=85.8km s-min=29.9km az=79.0*
*AUST **24** 16:53:43.1±0.9, 6.51S×130.60E, h281km, Error ellipse: s-maj=2.2km s-min=0.9km az=292.0*
*ISCJB **24** 16:53:46.0±0.9, 7.18S±0.06×131.0E±0.1, h47km, mb3.4/1, Error ellipse: s-maj=17.9km s-min=9.0km az=5.0*
ISC 24 16:53:47.3±1.0, 7.24S±0.07×130.9E±0.1, h47km, n11, σ1°61/10, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TLE	**Tual**	**2.46**	**50**	P	Pn	16 54 28.7	+3.8
	baz=2.3,SNR=3.2						
FAKI	**Fak Fak**	**4.51**	**18**	P	**Pn**	**16 54 52.6**	**-0.5**
	baz=3.9,SNR=5.2						
MTN	**Manton Dam**	**5.58**	**177**	P	Pn	16 55 13.8	+6.0
	baz=6.4,SNR=13						
KDU	**Kakadu**	**5.65**	**164**	P	Pn	16 55 13.9	+5.2
	baz=6.4,SNR=73						
KNRA	**Kununurra**	**8.63**	**194**	P	Pn	16 55 53.6	+3.9
	baz=9.3,SNR=6.4						
MMPI	**Merauke**	**9.53**	**98**	P	**Pn**	**16 56 01.8**	**-0.1**
	baz=9.9,SNR=4.0						
FITZ	**Fitzroy Crossi**	**11.93**	**205**	P	**Pn**	**16 56 37.0**	**+2.1**
	baz=13,SNR=5.8						
FITZ	**Fitzroy Crossi**	**11.93**	**205**	Pn	**Pn**	**16 56 36.1**	**+1.3**
	0.2nm,0.3s,baz=28,slow=17,SNR=8.7						
FITZ				Sn	**Sn**	**16 58 44.6**	**-2.0**
	0.1nm,0.3s,baz=252,slow=19,SNR=3.9						
WRA	**Warramunga Arr**	**13.08**	**165**	Pn	**Pn**	**16 56 52.3**	**+1.8**
	0.2nm,0.3s,baz=349,slow=13,SNR=18						
WRA				Sn	**Sn**	**16 59 13.5**	**-1.1**
	0.3nm,0.3s,baz=340,slow=23,SNR=6.3						
ASAR	**Alice Springs**	**16.60**	**170**	Pn	**P**	**16 57 39.5**	**+0.7**
	0.2nm,0.3s,baz=356,slow=11,SNR=13						
ASAR				Sn	**Sn**	**17 00 38.6**	**-1.6**
	0.1nm,0.3s,baz=355,slow=26,SNR=5.1						
MKAR	**Makanchi Array**	**68.89**	**326**	P	**P**	**17 04 46.8**	**-0.4**
	0.3nm,0.6s,baz=111,slow=7.7,SNR=4.0						

*IDC **24** 17:01:13.1±0.6, 54.83N×162.45E, h0km, mb3.8/14, mb1 4.1/17, mb1mx3.9/30, mbtmp3.9/17, ML3.8/3, MS4.1/2, Ms1 4.1/2, ms1mx3.6/34, Error ellipse: s-maj=17.5km s-min=11.7km az=178.0*
*MOS **24** 17:01:14.6±1.1, 54.72N×162.62E, h22km, mb4.1/8, Error ellipse: s-maj=12.2km s-min=7.9km az=73.0*
*ISCJB **24** 17:01:15.8±0.7, 54.70N±0.02×162.59E±0.04, h29km±5km, mb3.9/16, MS4.8/1, Error ellipse: s-maj=4.1km s-min=2.7km az=27.5*
*KRSC **24** 17:01:15.2±3.5, 54.71N×162.55E, h26km±25km, ML4.4*
ISC 24 17:01:15.5±1.1, 54.77N±0.03×162.54E±0.03, h16km±7km, n79, σ1°06/117, mb4.0/16, 1C-1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.52**	**245**	PN	**Pg**	**17 01 25.7**	**-0.1**
MKZ				S	**Sg**	**17 01 32.7**	**0.0**
MKZ	**Mys Kozlova**	**0.52**	**245**	*i* P	**Pg**	**17 01 25.7**	**-0.1**
MKZ				*i* S	**Sg**	**17 01 32.7**	**0.0**
KBTR	**Krutoberegovo**	**1.45**	**6**	PN	**Pb**	**17 01 41.7**	**-0.4**
KBTR				S	**Sg**	**17 02 02.1**	**-0.1**
KBTR	**Krutoberegovo**	**1.45**	**6**	*i* P	**Pb**	**17 01 41.7**	**-0.4**
KBTR				*i* S	**Sg**	**17 02 02.1**	**-0.1**
TUMR	**Tumrok**	**1.47**	**291**	*i* P	**Pn**	**17 01 41.0**	**-0.5**
TUMR				*i* S	**Sb**	**17 02 01.5**	**+0.5**
BZGR	**Bezymyannyi-Gr**	**1.57**	**319**	*i* P	**Pn**	**17 01 43.5**	**+0.6**
BZGR				*i* S	**Sn**	**17 02 03.2**	**+0.2**
ZLN	**Zelenaya**	**1.59**	**322**	*eP*	**Pb**	**17 01 44.9**	**+0.3**
ZLN				*eS*	**Sb**	**17 02 04.3**	**-0.2**
KMNR	**Kamenistaya**	**1.64**	**308**	*i* P	**Pn**	**17 01 44.3**	**+0.4**
KMNR				*i* S	**Sb**	**17 02 05.7**	**-0.4**
BZMR	**Bezymyannaya**	**1.65**	**316**	*eP*	**Pn**	**17 01 44.5**	**+0.5**
BZMR				*i* S	**Sn**	**17 02 04.1**	**-0.9**
BZWR	**Bezymyannyi-We**	**1.67**	**317**	*eP*	**Pb**	**17 01 45.1**	**-0.9**
BZWR				*i* S	**Sn**	**17 02 04.5**	**-1.0**
CIRR	**Tsirk**	**1.69**	**324**	*eP*	**Pn**	**17 01 44.7**	**+0.2**
KIRR	**Kirishev**	**1.72**	**314**	*eP*	**Pb**	**17 01 46.2**	**-0.7**
KIRR				*i* S	**Sb**	**17 02 07.5**	**-0.9**
KPT	**Kopyto**	**1.78**	**313**	*eP*	**Pb**	**17 01 46.8**	**-1.1**
KRSR	**Krestovskiy**	**1.83**	**323**	*eP*	**Pn**	**17 01 46.9**	**+0.4**
KLY	**Klyuchi**	**1.88**	**326**	PN	**Pn**	**17 01 47.6**	**+0.6**
KLY				S	**Sn**	**17 02 10.9**	**+0.5**
KLY	**Klyuchi**	**1.88**	**326**	*eP*	**Pn**	**17 01 47.6**	**+0.6**
KLY				*i* S	**Sn**	**17 02 10.9**	**+0.5**
SMKR	**Semkarok**	**1.91**	**342**	*eP*	**Pb**	**17 01 50.2**	**+0.1**
SMKR				*i* S	**Sb**	**17 02 14.1**	**+0.4**
KII	**Karymskiy**	**1.95**	**249**	*eP*	**Pn**	**17 01 47.4**	**-0.7**
KII				*i* S	**Sn**	**17 02 10.4**	**-1.9**
BDR	**Baidarnaya**	**1.95**	**338**	*eP*	**Pb**	**17 01 50.0**	**-0.7**
KOZR	**Kozyr**	**1.99**	**312**	PN	**Pn**	**17 01 47.7**	**-0.8**
KOZR				S	**Sb**	**17 02 14.7**	**-1.1**
KOZ	**Kozyrevsk**	**1.99**	**311**	*eP*	**Pn**	**17 01 47.7**	**-0.9**
KOZ				*i* S	**Sb**	**17 02 14.7**	**-1.3**
BKI	**Bering**	**2.03**	**76**	PN	**Pn**	**17 01 48.1**	**-0.9**
BKI				S	**Sn**	**17 02 12.4**	**-1.6**
BKI	**Bering**	**2.03**	**76**	*i* P	**Pn**	**17 01 48.1**	**-0.9**
BKI				*i* S	**Sn**	**17 02 12.4**	**-1.6**
SRDR	**Sredinnyy**	**2.23**	**315**	*eP*	**Pn**	**17 01 52.5**	**+0.6**
NLC	**Nalytchevo**	**2.48**	**231**	PN	**Pn**	**17 01 55.0**	**-0.2**
NLC				S	**Sn**	**17 02 23.6**	**-1.5**
NLC	**Nalytchevo**	**2.48**	**231**	*eP*	**Pn**	**17 01 55.0**	**-0.2**
NLC				*i* S	**Sn**	**17 02 23.6**	**-1.5**
ESO	**Esso**	**2.48**	**299**	PN	**Pn**	**17 01 56.1**	**+0.8**
ESO				S	**Sb**	**17 02 27.4**	**-2.5**
ESO	**Esso**	**2.48**	**299**	*i* P	**Pn**	**17 01 56.1**	**+0.8**
ESO				*i* S	**Sb**	**17 02 27.4**	**-2.5**
SDLR	**Sedlovina**	**2.62**	**237**	*eP*	**Pn**	**17 01 57.2**	**-0.2**
SDLR				*i* S	**Sn**	**17 02 29.2**	**+0.3**
SMAR	**Somma**	**2.67**	**237**	*eP*	**Pn**	**17 01 57.6**	**-0.5**
SMAR				*i* S	**Sn**	**17 02 29.2**	**-1.1**
KRER	**Koryakskii**	**2.67**	**238**	*eP*	**Pn**	**17 01 58.4**	**+0.3**
KRER				*i* S	**Sn**	**17 02 27.5**	**-2.8**
KRX	**Arik**	**2.69**	**240**	*eP*	**Pn**	**17 01 58.5**	**+0.2**
KRX				*i* S	**Sn**	**17 02 30.0**	**-0.7**
UGLR	**Uglovaya**	**2.69**	**236**	*eP*	**Pn**	**17 01 58.2**	**-0.1**
UGLR				*i* S	**Sn**	**17 02 30.8**	**+0.1**
AVH	**Avacha**	**2.70**	**238**	*i* P	**Pn**	**17 01 57.6**	**-0.8**
AVH				*i* S	**Sn**	**17 02 29.5**	**-1.3**
KOK	**Koryaka**	**2.74**	**239**	*eP*	**Pn**	**17 01 59.2**	**+0.3**
KOK				*i* S	**Sn**	**17 02 31.0**	**-0.7**
PET	**Petropavlovsk**	**2.89**	**234**	*i* PN	**Pn**	**17 02 01.6**	**+0.7**
PET				*eS*	**Sn**	**17 02 36.1**	**+0.8**
PET				pmax	pmax		
	comp=Z,400nm,1.4s						
PET				pmax	pmax		
	comp=Z,272nm,0.6s						
PET				smax	smax		
	comp=E,800nm,1.7s						
PET				smax	smax		
	comp=N,1μm,0.5s						
PET				smax	smax		
	comp=E,711nm,0.5s						
PET				MLR	MLR		
	comp=Z,1μm,15.0s						
PET				MLR	MLR		
	comp=Z,1μm,12.0s						
PET	**Petropavlovsk**	**2.89**	**234**	*i* P	**Pn**	**17 02 01.3**	**+0.4**
PET				*i* S	**Sn**	**17 02 35.9**	**+0.6**
GNL	**Ganaly**	**2.91**	**250**	*eP*	**Pn**	**17 02 01.6**	**+0.4**
GNL				*i* S	**Sn**	**17 02 34.3**	**-1.6**
PETK	**Petropavlovsk-**	**3.31**	**242**	PN	**Pn**	**17 02 07.2**	**+0.5**
PETK						17 02 48.1	
PETK				pmax	pmax		
	comp=Z,9.0nm,0.3s						
PETK				smax	smax		
	comp=N,8.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,530nm,19.1s						
PETK	**Petropavlovsk-**	**3.31**	**242**	Pn	**Pn**	**17 02 07.2**	**+0.5**
	comp=Z,8.6nm,0.3s,baz=72,slow=18,SNR=68						
PETK				Sn	**Sn**	**17 02 48.1**	**+2.4**
	comp=Z,8.0nm,0.3s,baz=54,slow=15,SNR=5.4						
PETK				LR	LR	17 03 32.5	
	comp=Z,530nm,19.1s,baz=202,slow=42						
RUS	**Russkaya**	**3.35**	**227**	PN	**Pn**	**17 02 07.0**	**-0.2**
RUS				S	**Sn**	**17 02 45.8**	**-0.9**
RUS	**Russkaya**	**3.35**	**227**	*i* P	**Pn**	**17 02 07.0**	**-0.2**
RUS				*i* S	**Sn**	**17 02 45.8**	**-0.9**
MTVR	**Mutnovka**	**3.46**	**230**	*eP*	**Pn**	**17 02 09.7**	**+0.8**
MTVR				*i* S	**Sn**	**17 02 49.2**	**-0.4**
GRL	**Gorelyy**	**3.46**	**232**	*eP*	**Pn**	**17 02 10.6**	**+1.7**
ASAK	**Asacha**	**3.66**	**231**	*i* P	**Pn**	**17 02 13.2**	**+1.7**
ASAK				*i* S	**Sn**	**17 02 55.0**	**+0.7**
APC	**Apacha**	**3.68**	**242**	*i* P	**Pn**	**17 02 12.8**	**+1.0**
APC				*i* S	**Sn**	**17 02 52.5**	**-2.4**
MIPR	**Malaya Ipel'ka**	**4.26**	**236**	*eP*	**Pn**	**17 02 21.1**	**+1.4**
OSSR	**Ossora**	**4.50**	**3**	*eP*	**Pn**	**17 02 24.2**	**+1.2**
OSSR				*i* S	**Sn**	**17 03 16.4**	**+1.5**
PAU	**Pauzhetka**	**4.78**	**228**	PN	**Pn**	**17 02 28.6**	**+1.7**
PAU	**Pauzhetka**	**4.78**	**228**	*eP*	**Pn**	**17 02 28.6**	**+1.7**
PAU				*i* S	**Sn**	**17 03 22.3**	**+0.4**
SKR	**Severo-Kuril's**	**5.66**	**226**	*e*PN	**Pn**	**17 02 37.6**	**-1.3**
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR	**Severo-Kuril's**	**5.66**	**226**	*eP*	**Pn**	**17 02 40.0**	**+1.1**
SKR				*i* S	**Sn**	**17 03 43.5**	**+0.1**
FX1	**Attu Island--F**	**6.57**	**102**	Pn	**Pn**	**17 02 50.5**	**-0.9**
	comp=Z,7.6nm,0.3s,baz=189,slow=4.2,SNR=31						
FX1				Sn	Sn	17 03 59.0	-7.0
	comp=Z,14nm,0.3s,baz=231,slow=22,SNR=14						
ASAJ	**Asahikawa**	**16.72**	**239**	Pn	**Pn**	**17 05 10.0**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=36,slow=4.7,SNR=9.0						
TIXI	**Tiksi**	**22.21**	**332**	*eP*	**P**	**17 06 12.6**	**+1.8**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MJA0	**Matsu Arr-Jizo**	**24.70**	**232**	*eP*	**P**	**17 06 37.8**	**+2.0**
MJA0				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MAT	**Matsushiro**	**24.72**	**233**	P	**P**	**17 06 37.9**	**+1.9**
MJAR	**Matsushiro Arr**	**24.72**	**232**	P	**P**	**17 06 35.7**	**-0.3**
	comp=Z,2.9nm,0.6s,baz=16,slow=7.2,SNR=20						
ILAR	**Eielson Array**	**26.61**	**48**	P	**P**	**17 06 53.6**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=270,slow=8.4,SNR=11						
H11N2	**WAKE ISLAND Hy**	**35.14**	**173**	T	T	17 45 25.4	
	baz=358,slow=0.7,SNR=117						
H11N3	**WAKE ISLAND Hy**	**35.15**	**173**	T	T	17 45 26.6	
	baz=358,slow=0.7,SNR=153						
H11N1	**WAKE ISLAND Hy**	**35.16**	**173**	T	T	17 45 26.8	
	baz=358,slow=0.7,SNR=187						
KURK	**Kurchatov**	**48.07**	**302**	P	**P**	**17 09 52.3**	**-1.6**
KURBB	**Kurchatov Arra**	**48.18**	**302**	P	**P**	**17 09 52.2**	**-2.4**
	comp=Z,0.3nm,0.5s,baz=72,slow=5.9,SNR=3.6						
MKAR	**Makanchi Array**	**48.73**	**296**	P	**P**	**17 09 59.2**	**+0.1**
MKAR	**Makanchi Array**	**48.73**	**296**	P	**P**	**17 09 59.2**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=55,slow=7.7,SNR=5.0						
NVAR	**Mina Array Bea**	**53.84**	**73**	P	**P**	**17 10 38.2**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=292,slow=7.6,SNR=8.1						
PDAR	**Pinedale Array**	**55.46**	**63**	P	**P**	**17 10 51.2**	**+1.8**
	comp=Z,1.4nm,0.8s,baz=320,slow=4.2,SNR=9.9						
FINES	**FINESS Array B**	**59.14**	**337**	P	**P**	**17 11 14.6**	**-0.2**
	comp=Z,2.2nm,1.0s,baz=25,slow=6.3,SNR=7.8						
OBN	**Obninsk**	**61.86**	**328**	*e*P	**P**	**17 11 34.4**	**+0.9**
OBN				pmax	pmax		
	comp=Z,15nm,1.3s						
NOA	**NORSAR Array B**	**62.32**	**345**	P	**P**	**17 11 35.5**	**-1.1**
	comp=Z,1.2nm,0.9s,baz=39,slow=8.1,SNR=3.8						
PMG	**Port Moresby**	**65.23**	**197**	LR	LR	17 38 11.5	
	comp=Z,545nm,18.0s,baz=183,slow=34						
AKASG	**Malin Array Be**	**67.90**	**330**	P	**P**	**17 12 11.8**	**-1.0**
AKASG	**Malin Array Be**	**67.90**	**330**	P	**P**	**17 12 11.8**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=25,slow=6.0,SNR=5.9						
TXAR	**Lajitas Array**	**68.67**	**69**	P	**P**	**17 12 18.4**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=306,slow=4.2,SNR=6.9						
GERES	**GERESS Array B**	**73.48**	**339**	P	**P**	**17 12 46.1**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=298,slow=2.9,SNR=3.5						
BRTR	**Keskin Array B**	**76.22**	**322**	P	**P**	**17 13 03.1**	**0.0**
	comp=Z,0.6nm,0.9s,baz=66,slow=1.5,SNR=4.3						
WRA	**Warramunga Arr**	**78.23**	**207**	P	**P**	**17 13 13.7**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=22,slow=6.1,SNR=7.0						
ASAR	**Alice Springs**	**81.90**	**206**	P	**P**	**17 13 34.9**	**+0.9**
	comp=Z,1.4nm,0.9s,baz=18,slow=5.0,SNR=16						

KRSC 24 17:06:58.1±3.5, 54.71N×162.61E, h10km±10km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.53**	**254**	*i* P	Pg	17 07 08.8	+0.3
MKZ				*i* S	Sg	17 07 15.9	+0.4
KBTR	**Krutoberegovo**	**1.51**	**4**	*eP*	Pn	17 07 24.9	-0.2
KBTR				*eS*	Sn	17 07 44.6	-0.2
TUMR	**Tumrok**	**1.53**	**293**	*eP*	Pn	17 07 25.3	-0.4
TUMR				*eS*	Sn	17 07 44.5	-1.2
BZGR	**Bezymyannyi-Gr**	**1.65**	**319**	*eP*	Pn	17 07 26.7	-0.5
BZGR				*eS*	Sn	17 07 48.5	-0.1
KMNR	**Kamenistaya**	**1.72**	**309**	*eP*	Pn	17 07 27.7	-0.5
KMNR				*eS*	Sn	17 07 49.3	-1.0
BZWR	**Bezymyannyi-We**	**1.74**	**317**	*eP*	Pb	17 07 30.2	-0.2
KIRR	**Kirishev**	**1.80**	**315**	*eP*	Pn	17 07 28.6	-0.8
KIRR				*eS*	Sn	17 07 51.3	-1.1
KPT	**Kopyto**	**1.86**	**314**	*eP*	Pb	17 07 31.7	-0.5
KLY	**Klyuchi**	**1.96**	**326**	*eP*	Pn	17 07 30.4	-0.9
KLY				*eS*	Sn	17 07 52.9	-3.0
SMKR	**Semkarok**	**1.98**	**341**	*eP*	Pn	17 07 33.0	+1.2
SMKR				*eS*	Sn	17 07 57.4	+0.6
BKI	**Bering**	**2.00**	**74**	*eS*	Sn	17 07 56.9	-0.1
KOZ	**Kozyrevsk**	**2.06**	**312**	*eP*	Pn	17 07 31.7	-1.2
SRDR	**Sredinnyy**	**2.30**	**316**	*eP*	Pn	17 07 36.3	+0.1
NLC	**Nalytchevo**	**2.47**	**233**	*eP*	Pn	17 07 38.7	+0.4
NLC				*eS*	Sn	17 08 08.6	+0.1
ESO	**Esso**	**2.54**	**300**	*eP*	Pn	17 07 39.0	-0.5
ESO				*eS*	Sn	17 08 10.8	+0.3
SDLR	**Sedlovina**	**2.63**	**238**	*eP*	Pn	17 07 41.0	+0.3
SDLR				*eS*	Sn	17 08 12.6	-0.1
SMAR	**Somma**	**2.68**	**239**	*eP*	Pn	17 07 41.3	-0.2
SMAR				*eS*	Sn	17 08 12.7	-1.4
KRER	**Koryakskii**	**2.68**	**240**	*eP*	Pn	17 07 41.9	+0.4
KRER				*eS*	Sn	17 08 14.5	+0.3
UGLR	**Uglovaya**	**2.69**	**238**	*eP*	Pn	17 07 41.7	+0.1
KRX	**Arik**	**2.70**	**242**	*eP*	Pn	17 07 42.2	+0.5
KRX				*eS*	Sn	17 08 16.4	+1.8
AVH	**Avacha**	**2.71**	**239**	*eP*	Pn	17 07 42.0	+0.3
AVH				*eS*	Sn	17 08 14.4	-0.2
KOK	**Koryaka**	**2.74**	**240**	*eP*	Pn	17 07 43.2	+0.9
PET	**Petropavlovsk**	**2.89**	**236**	*eP*	Pn	17 07 44.5	+0.4
PET				*eS*	Sn	17 08 19.3	+0.5
GNL	**Ganaly**	**2.92**	**252**	*eP*	Pn	17 07 46.3	+1.5
RUS	**Russkaya**	**3.34**	**229**	*eP*	Pn	17 07 50.7	+0.4
RUS				*eS*	Sn	17 08 29.7	-0.3
MTVR	**Mutnovka**	**3.46**	**232**	*eP*	Pn	17 07 52.7	+0.6
MTVR				*eS*	Sn	17 08 32.2	-1.0
ASAK	**Asacha**	**3.65**	**232**	*eP*	Pn	17 07 55.4	+0.7
ASAK				*eS*	Sn	17 08 38.4	+0.5
APC	**Apacha**	**3.69**	**243**	*eP*	Pn	17 07 55.7	+0.5

IDC 24 17:07:01.8±44.0, 23.21S×178.69W, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.6/16, mbtmp3.7/3, Error ellipse: s-maj=806.2km s-min=149.6km az=86.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.10**	**247**	P	P	17 14 04.7	-0.9
	0.6nm,0.4s,baz=90,slow=13,SNR=5.2						

ASAR	**Alice Springs**	**43.34**	**260**	P	P	17 15 06.2	+0.1
	0.4nm,0.5s,baz=102,slow=7.4,SNR=20						
WRA	**Warramunga Arr**	**43.66**	**265**	P	P	17 15 08.8	+0.2
	0.5nm,0.5s,baz=100,slow=8.0,SNR=16						

IDC 24 17:24:13.7±1.9, 14.71S×174.04W, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/18, mbtmp3.6/4, ML1.0/1, Error ellipse: s-maj=187.6km s-min=23.5km az=158.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.34**	**70**	Pn	Pn	17 24 53.5	0.0
	2.2nm,0.3s,baz=234,slow=19,SNR=2.8						
AFI				Sn	Sn	17 25 19.9	-3.1
	13nm,0.3s,baz=43,slow=22,SNR=7.3						
WRA	**Warramunga Arr**	**49.40**	**256**	P	P	17 33 05.5	-0.2
	0.3nm,0.7s,baz=91,slow=6.9,SNR=3.9						
ASAR	**Alice Springs**	**49.74**	**251**	P	P	17 33 08.2	-0.1
	1.3nm,0.7s,baz=87,slow=8.0,SNR=13						
PDAR	**Pinedale Array**	**82.17**	**42**	P	P	17 36 37.0	0.0
	0.5nm,0.8s,baz=218,slow=5.7,SNR=4.4						

IDC 24 17:47:21.9±3.2, 16.79S×173.67W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.6/19, mbtmp3.8/3, ML1.8/1, Error ellipse: s-maj=173.6km s-min=29.4km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.39**	**33**	Pn	Pn	17 48 16.3	+0.1
	5.3nm,0.3s,baz=235,slow=23,SNR=5.0						
AFI				Sn	Sn	17 48 49.5	-7.8
	24nm,0.3s,baz=218,slow=22,SNR=12						
ASAR	**Alice Springs**	**49.45**	**253**	P	P	17 56 14.2	-0.1
	0.7nm,0.6s,baz=87,slow=8.3,SNR=25						
PDAR	**Pinedale Array**	**83.46**	**42**	P	P	17 59 51.8	0.0
	0.8nm,0.9s,baz=234,slow=7.7,SNR=3.8						
BRTR	**Keskin Array B**	**147.05**	**319**	PKPbc	PKPbc	18 07 06.3	-0.9
	0.5nm,0.6s,baz=51,slow=3.3,SNR=4.6						

*IDC **24** 17:51:12.4±1.6, 13.66S×165.97E, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.9/19, mbtmp4.0/6, ML3.7/1, Error ellipse: s-maj=48.2km s-min=27.0km az=123.0*
*ISCJB **24** 17:51:15.0±1.3, 13.93S±0.09×166.1E±0.2, h31km, mb3.9/5, Error ellipse: s-maj=29.9km s-min=11.8km az=170.4*
ISC 24 17:51:16.7±1.3, 13.38S±0.1×166.1E±0.2, h31km, n6, σ1°02/7, mb4.0/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.20**	**178**	Pn	**Pn**	**17 53 14.0**	**+0.3**
	0.9nm,0.3s,baz=49,slow=14,SNR=8.6						
DZM				Sn	**Sn**	**17 54 44.4**	**-0.9**
	baz=126,slow=19,SNR=1.7						
STKA	**Stephens Creek**	**28.73**	**227**	P	**P**	**17 57 12.6**	**+1.2**
	3.2nm,0.8s,baz=45,slow=4.3,SNR=6.1						
WRA	**Warramunga Arr**	**30.95**	**254**	P	**P**	**17 57 30.6**	**-0.7**
	0.8nm,0.8s,baz=83,slow=9.5,SNR=3.8						
ASAR	**Alice Springs**	**31.95**	**247**	P	**P**	**17 57 40.0**	**0.0**
	1.1nm,0.7s,baz=73,slow=10.0,SNR=9.4						
ILAR	**Eielson Array**	**86.03**	**18**	P	**P**	**18 03 54.3**	**+0.5**
	0.7nm,0.6s,baz=240,slow=5.6,SNR=9.1						
MKAR	**Makanchi Array**	**95.77**	**317**	P	**P**	**18 04 38.8**	**-1.0**
	0.6nm,0.8s,baz=100,slow=5.4,SNR=3.6						

RSPR 24 18:11:19.9, 19.19N×68.87W, h127km±6km, MD4.0/15, 14C-3D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DR12	**Loma Pena Alta**	**0.63**	**231**	*e*P	Pn	18 11 36.5	-3.0
IDE	**Isla Desecheo**	**1.54**	**121**	*e*P	Pn	18 11 47.2	-1.1
IDE	**Isla Desecheo**	**1.54**	**121**	*eS*	Sn	18 12 09.5	-0.4
AGPR	**Aguadilla, PR**	**1.81**	**113**	*e*P	Pn	18 11 51.8	+0.4
AGPR	**Aguadilla, PR**	**1.81**	**113**	*eS*	Sn	18 12 16.3	+0.8
LSP	**Las Mesas**	**1.97**	**121**	*e*P	Pn	18 11 53.4	+0.1
CRPR	**Cabo Rojo, PR**	**2.04**	**125**	*e*P	Pn	18 11 53.1	-1.1
LRS	**Lares**	**2.11**	**115**	*e*P	P

SKI				eS	Sn	19 09 09.2	-0.4
IDE	**Isla Desecheo**	**2.50**	**262**	eP	Pn	19 08 40.5	-0.1
IDE	**Isla Desecheo**	**2.50**	**262**	eP	Pn	19 08 40.5	-0.1
IDE				eS	Sn	19 09 09.7	-0.6
LZG	**Guadaloupe-1**	**3.93**	**131**	eP	Pn	19 08 59.6	-0.6
SEG	**Port Louis**	**3.97**	**126**	eP	Pn	19 09 00.9	+0.1
SSG	**Sans Toucher**	**4.04**	**131**	eP	Pn	19 09 01.4	-0.5
FNG	**Fond-Bernard**	**4.05**	**131**	iP	Pn	19 09 01.4	-0.5
SCG	**Saint Claude**	**4.07**	**131**	eP	Pn	19 09 01.8	-0.5
SCG				eS	Sn	19 09 47.8	-1.4
BCG	**Bois Riant Cap**	**4.08**	**130**	eP	Pn	19 09 02.1	-0.2
ECG	**Echelle**	**4.08**	**131**	eP	Pn	19 09 01.9	-0.6
HMG	**Houelmont**	**4.09**	**132**	eP	Pn	19 09 01.8	-0.7
PHG	**Guadaloupe-2**	**4.11**	**131**	eP	Pn	19 09 02.2	-0.6
DOG	**Dongo Capester**	**4.12**	**131**	eP	Pn	19 09 02.9	0.0
DR12	**Loma Pena Alta**	**4.28**	**271**	eP	Pn	19 09 05.4	+0.3
DR12	**Loma Pena Alta**	**4.28**	**271**	eP	Pn	19 09 05.4	+0.3
DEG	**La Desirade**	**4.37**	**123**	eP	Pn	19 09 05.6	-0.7
MGG	**Marie-Galante**	**4.41**	**129**	eP	Pn	19 09 06.8	-0.1
SDDR	**Presa de Saban**	**6.08**	**273**	eP	Pn	19 09 31.3	+1.4
SDDR	**Presa de Saban**	**6.08**	**273**	eP	Pn	19 09 31.3	+1.4

BJI ***24*** *19:27:15.6, 18.°24N×146.°36E, h284km, mB4.7/8, mb4.3/12*
ISCJB ***24*** *19:27:23.9±0.3, 18.°64N±0.°04×145.°32E±0.°06, h300km, mb4.2/40, Error ellipse: s-maj=8.4km s-min=5.6km az=177.9*
NEIC ***24*** *19:27:26.9±0.3, 18.°65N×145.°32E, mb4.4/20, Error ellipse: s-maj=8.6km s-min=6.6km az=85.0*
IDC ***24*** *19:27:27.2±1.8, 18.°67N×145.°32E, h322km±18km, mb3.9/20, mb1 4.0/22, mb1mx3.8/30, mbtmp3.9/22, Error ellipse: s-maj=15.1km s-min=8.2km az=89.0*

ISC 24 19:27:25.1±0.4, 18.°56N±0.°06×145.°39E±0.°10, h300km, n90, σ1ᵽ23/97, mb4.2/40, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.97**	**186**		eP	Pn	Pn	19 28 40.4	-2.0
	376nm,1.1s								
GUMO					eS	**S**		**19 29 44.0**	**-0.5**
MJAR	**Matsushiro Arr**	**19.00**	**342**	P		**P**		**19 31 23.0**	**-2.4**
MJAR	**Matsushiro Arr**	**19.00**	**342**	P		**P**		**19 31 23.0**	**-2.4**
	1.6nm,0.3s,baz=171,slow=9.0,SNR=44								
MAJO	**Matsushiro**	**19.00**	**342**	eP		**P**		**19 31 23.3**	**-2.1**
	24nm,0.6s								
MAT	**Matsushiro**	**19.00**	**342**	P		**P**		**19 31 23.6**	**-1.8**
MAT					eS	**S**		**19 34 48.6**	**+3.9**
JNU	**Nakatsue**	**19.48**	**321**	P		**P**		**19 31 30.3**	**-0.3**
JNU	**Nakatsue**	**19.48**	**321**	P		**P**		**19 31 30.3**	**-0.3**
	0.9nm,0.3s,baz=130,slow=4.5,SNR=8.5								
NACB	**Ninganchiao**	**22.84**	**288**	P		**P**		**19 32 01.9**	**-0.9**
YULB	**Yu-li**	**23.00**	**286**	eP		**P**		**19 32 06.1**	**+1.8**
	29nm,1.2s								
YHNB	**Yeheng**	**23.12**	**289**	eP		**P**		**19 32 05.3**	**-0.2**
	94nm,1.3s								
KSRS	**Korea Array**	**24.26**	**324**	P		**P**		**19 32 14.0**	**-1.5**
	7.4nm,0.7s,baz=147,slow=9.1,SNR=31								
KSAR	**Wonju Array Be**	**24.27**	**324**	P		**P**		**19 32 14.0**	**-1.6**
ASAJ	**Asahikawa**	**25.59**	**355**	P		**P**		**19 32 28.2**	**+0.9**
ASAJ	**Asahikawa**	**25.59**	**355**	P		**P**		**19 32 28.2**	**+0.9**
	20nm,0.8s,baz=190,slow=9.1,SNR=26								
PMG	**Port Moresby**	**27.85**	**176**	eP		**P**		**19 32 47.8**	**+0.1**
	63nm,1.3s								
PMG	**Port Moresby**	**27.85**	**176**	P		**P**		**19 32 48.7**	**+0.9**
	13nm,0.7s,baz=31,slow=5.7,SNR=7.5								
USRK	**Ussuriysk Arra**	**27.93**	**339**	P		**P**		**19 32 47.6**	**-0.5**
	2.4nm,0.7s,baz=175,slow=10,SNR=6.0								
PETK	**Petropavlovsk-**	**35.78**	**13**	P		**P**		**19 33 56.3**	**+0.1**
PETK	**Petropavlovsk-**	**35.78**	**13**	P		**P**		**19 33 56.3**	**+0.1**
	3.0nm,0.8s,baz=144,slow=8.6,SNR=7.7								
HIA	**Hailar**	**36.94**	**332**	eP		**P**		**19 34 05.8**	**-0.2**
	8.6nm,0.5s								
CTAO	**Charters Tower**	**38.42**	**179**	eP		**P**		**19 34 19.7**	**+1.1**
	24nm,1.1s								
WRAB	**Tennant Creek**	**39.76**	**196**	eP		**P**		**19 34 30.9**	**+1.3**
	12nm,0.6s								
WRAB					pP	**pP**		**19 35 27.5**	**-2.3**
WRA	**Warramunga Arr**	**39.77**	**196**	P		**P**		**19 34 30.8**	**+1.0**
WRA	**Warramunga Arr**	**39.77**	**196**	P		**P**		**19 34 30.8**	**+1.0**
	8.5nm,0.6s,baz=14,slow=8.3,SNR=92								
FX1	**Attu Island--F**	**40.50**	**26**	P		**P**		**19 34 35.9**	**+0.6**
FX1	**Attu Island--F**	**40.50**	**26**	P		**P**		**19 34 35.9**	**+0.6**
	10nm,0.5s,baz=273,slow=6.0,SNR=10.0								
ULN	**Ulaanbaatar**	**42.70**	**322**	eP		**P**		**19 34 53.2**	**0.0**
	2.1nm,0.6s								
SONM	**Songino Array**	**43.07**	**322**	P		**P**		**19 34 56.3**	**+0.1**
SONM					ScP	**ScP**		**19 39 59.4**	**-2.9**
SONM	**Songino Array**	**43.07**	**322**	P		**P**		**19 34 56.3**	**+0.1**
	3.8nm,0.6s,baz=137,slow=7.6,SNR=33								
SONM					ScP	**ScP**		**19 39 59.4**	**-2.9**
	1.5nm,1.3s,baz=70,slow=1.7,SNR=3.7								
AS31	**Alice Springs**	**43.44**	**195**	eP		**P**		**19 35 00.2**	**+0.9**
ASAR	**Alice Springs**	**43.44**	**195**	P		**P**		**19 35 00.6**	**+1.2**
ASAR					ScP	**ScP**		**19 40 02.8**	**-1.3**
ASAR	**Alice Springs**	**43.44**	**195**	P		**P**		**19 35 00.6**	**+1.2**
	2.6nm,0.4s,baz=19,slow=6.8,SNR=236								
ASAR					ScP	**ScP**		**19 40 02.8**	**-1.3**
	0.5nm,0.8s,baz=47,slow=3.1,SNR=4.0								
STKA	**Stephens Creek**	**50.28**	**184**	eP		**P**		**19 35 51.8**	**+0.1**
	1.4nm,0.9s								
STKA	**Stephens Creek**	**50.28**	**184**	P		**P**		**19 35 52.1**	**+0.4**
	9.4nm,0.8s,baz=348,slow=8.4,SNR=20								
LSA	**Lhasa**	**50.34**	**293**	P		**P**		**19 35 53.6**	**+0.7**
LSA	**Lhasa**	**50.34**	**293**	eP		**P**		**19 35 54.3**	**+1.4**
	4.7nm,0.5s								
UNV	**Unalaska Valle**	**50.93**	**35**	P		**P**		**19 35 56.8**	**+0.6**
TAPN	**Taplejung**	**53.44**	**291**	eP		**P**		**19 36 14.6**	**-0.9**
	8.9nm,0.6s								
ODAN	**Odare**	**53.76**	**290**	eP		**P**		**19 36 16.8**	**-0.9**
	16nm,0.7s								
WMQ	**Urumqi**	**54.18**	**311**	P		**P**		**19 36 21.3**	**+1.0**
WMQ					AMB	AMB			
	comp=Z,10.0nm,1.4s								
WMQ					AMB	AMB			
	comp=Z,120nm,4.0s								
RAMN	**Ramite**	**54.45**	**290**	eP		**P**		**19 36 22.3**	**-0.4**
	8.3nm,0.6s								
JIRN	**Jiri**	**54.77**	**291**	eP		**P**		**19 36 24.7**	**-0.4**
	24nm,0.6s								
PKIN	**Phulchoki**	**55.47**	**291**	eP		**P**		**19 36 29.8**	**-0.2**
	5.5nm,0.6s								
KKN	**Kakani**	**55.56**	**291**	eP		**P**		**19 36 30.5**	**0.0**
	9.7nm,0.8s								
DMN	**Daman**	**55.73**	**291**	eP		**P**		**19 36 31.7**	**-0.1**
	5.7nm,0.4s								
GKN	**Gorkha**	**56.11**	**292**	eP		**P**		**19 36 34.0**	**-0.4**
DANN	**Dangsing**	**56.86**	**292**	eP		**P**		**19 36 40.1**	**+0.4**
	51nm,0.6s								
KOLN	**Koldanda**	**57.05**	**291**	eP		**P**		**19 36 40.8**	**-0.2**
	7.9nm,0.6s								
NWAO	**Narrogin (SRO)**	**57.85**	**208**	eP		**P**		**19 36 46.7**	**+0.7**
	27nm,1.1s								
ZAA0	**Zalesovo Array**	**57.95**	**323**	eP		**P**		**19 36 44.8**	**-1.6**
ZAA0					epP	**pP**		**19 37 54.1**	**+2.5**
ZALV	**Zalesovo Beam**	**57.95**	**323**	P		**P**		**19 36 44.7**	**-1.8**
ZALV	**Zalesovo Beam**	**57.95**	**323**	P		**P**		**19 36 44.7**	**-1.8**
	4.3nm,0.8s,baz=104,slow=6.8,SNR=10								
MK31	**Makanchi Array**	**58.35**	**314**	eP		**P**		**19 36 49.2**	**-0.2**
MKAR	**Makanchi Array**	**58.35**	**314**	P		**P**		**19 36 49.8**	**+0.3**
MKAR	**Makanchi Array**	**58.35**	**314**	P		**P**		**19 36 49.8**	**+0.3**
	2.7nm,0.5s,baz=89,slow=8.0,SNR=48								
KURK	**Kurchatov**	**61.18**	**318**	eP		**P**		**19 37 07.7**	**-0.7**
	5.6nm,0.9s								
MCK	**McKinley**	**62.79**	**27**	P		**P**		**19 37 19.1**	**+0.1**
	8.8nm,1.1s								
TKM2	**Tokmak 2**	**62.91**	**309**	eP		**P**		**19 37 20.6**	**+0.2**
	5.4nm,0.8s								
COLA	**College**	**63.51**	**26**	P		**P**		**19 37 24.9**	**+1.4**
	16nm,0.7s								
AAK	**Ala-Archa**	**63.73**	**309**	eP		**P**		**19 37 25.5**	**-0.1**
	3.3nm,0.9s								
ILAR	**Eielson Array**	**63.89**	**26**	P		**P**		**19 37 25.0**	**-1.1**
ILAR	**Eielson Array**	**63.89**	**26**	P		**P**		**19 37 25.0**	**-1.1**
	3.2nm,0.7s,baz=256,slow=4.9,SNR=37								
KKAR	**Karatay Array**	**66.63**	**310**	eP		**P**		**19 37 44.1**	**+0.1**
	6.7nm,0.8s								
KKAR					epP	**pP**		**19 38 50.2**	**-0.9**
HYT	**Haines Junctio**	**67.69**	**31**	eP		**P**		**19 37 51.5**	**+1.1**
KBL	**Kabul**	**68.69**	**301**	eP		**P**		**19 37 57.0**	**-0.2**
	15nm,1.1s								
INK	**Inuvik**	**69.61**	**23**	P		**P**		**19 38 01.1**	**-0.8**
INK	**Inuvik**	**69.61**	**23**	P		**P**		**19 38 01.1**	**-0.8**
	6.2nm,0.7s,baz=282,slow=8.5,SNR=12								
DLBC	**Dease Lake**	**71.56**	**34**	eP		**P**		**19 38 14.9**	**+1.0**

ABKAR	**Akbulak array**	**73.24**	**317**	eP		**P**	**19 38 22.9**	**-0.9**
	2.4nm,0.4s							
ABKAR				ePcP		**PcP**	**19 38 38.2**	**-0.3**
ABKAR				epP		**pP**	**19 39 34.6**	**+2.3**
AKTO	**Aktyubinsk**	**74.27**	**318**	P		P	19 38 27.4	-2.4
AKTO	**Aktyubinsk**	**74.27**	**318**	P		P	19 38 27.4	-2.4
	1.1nm,0.4s,baz=92,slow=11,SNR=6.0							
YKA	**Yellowknife Ar**	**78.24**	**28**	P		**P**	**19 38 50.1**	**-1.6**
YKA	**Yellowknife Ar**	**78.24**	**28**	P		**P**	**19 38 50.1**	**-1.6**
	3.6nm,0.6s,baz=290,slow=5.5,SNR=11							
KEV	**Kevo**	**81.97**	**342**	ep		P	19 39 09.4	-2.0
	3.2nm,0.5s							
CMB	**Columbia Colle**	**82.01**	**53**	eP		**P**	**19 39 12.7**	**+0.4**
ARCES	**ARCESS Array B**	**82.53**	**342**	P		**P**	**19 39 13.3**	**-1.0**
ARCES	**ARCESS Array B**	**82.53**	**342**	P		**P**	**19 39 13.3**	**-1.0**
	2.3nm,0.6s,baz=72,slow=7.4,SNR=16							
WAKR	**Walker**	**82.58**	**52**	eP		**P**	**19 39 16.2**	**+0.8**
NVAR	**Mina Array Bea**	**83.45**	**52**	P		**P**	**19 39 20.6**	**+0.7**
NVAR	**Mina Array Bea**	**83.45**	**52**	P		**P**	**19 39 20.6**	**+0.7**
	2.2nm,0.6s,baz=265,slow=5.9,SNR=13							
JOF	**Joensuu**	**84.02**	**335**	ep		P	19 39 19.8	-2.1
	5.7nm,0.6s							
HLID	**Hailey**	**84.53**	**46**	eP		**P**	**19 39 25.7**	**+0.5**
	1.5nm,0.9s							
ELK	**Elko**	**84.93**	**49**	P		**P**	**19 39 27.3**	**0.0**
ELK	**Elko**	**84.93**	**49**	P		**P**	**19 39 27.3**	**0.0**
	0.8nm,0.5s,baz=328,slow=5.6,SNR=4.1							
FINES	**FINESS Array B**	**86.89**	**335**	P		P	19 39 33.7	-2.3
FINES	**FINESS Array B**	**86.89**	**335**	P		P	19 39 33.7	-2.3
	3.2nm,0.5s,baz=64,slow=5.0,SNR=38							
LVC	**Limon Verde**	**147.68**	**103**	ePKPbc		**PKPbc**	**19 46 35.5**	**0.0**
LPAZ	**La Paz**	**147.96**	**91**	ePKPdf		**PKPdf**	**19 46 32.9**	**-0.4**
LPAZ				PKPbc		**PKPdf**	**19 46 35.8**	**+2.4**
LPAZ				ePKPbc		**PKiKP**	**19 46 37.2**	**-1.2**
LPAZ	**La Paz**	**147.96**	**91**	PKPbc		**PKPdf**	**19 46 35.8**	**+2.4**
	1.7nm,0.7s,baz=270,slow=2.2,SNR=7.9							
SAML	**Samuel**	**150.69**	**75**	ePKPbc		**PKPbc**	**19 46 42.2**	**-0.6**
SAML				ePKPab		**PKPab**	**19 46 50.0**	**-0.9**

KRSC 24 20:09:19.8±3.7, 54.°67N×162.°68E, h13km±16km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.56**	**259**	eP		P	Pg	20 09 30.9	+0.1
MKZ						eS	Sg	20 09 38.3	0.0
KBTR	**Krutoberegovo**	**1.54**	**3**	eP		P	Pn	20 09 47.2	+0.2
KBTR						eS	Sb	20 10 08.5	+0.8
TUMR	**Tumrok**	**1.58**	**294**	eP		P	Pn	20 09 47.1	-0.6
TUMR						eS	Sn	20 10 06.2	-2.0
BZGR	**Bezymyannyi-Gr**	**1.71**	**319**	eP		P	Pn	20 09 49.9	+0.5
BZGR						eS	Sb	20 10 12.6	0.0
KMNR	**Kamenistaya**	**1.77**	**309**	eP		P	Pn	20 09 49.7	-0.6
KMNR						eS	Sb	20 10 14.1	-0.4
BZMR	**Bezymyannaya**	**1.78**	**316**	eP		P	Pb	20 09 51.8	-0.7
BZMR						eS	Sb	20 10 15.5	+0.6
KIRR	**Kirishev**	**1.85**	**315**	eP		P	Pn	20 09 52.4	+0.9
KIRR						eS	Sb	20 10 16.3	-0.7
KPT	**Kopyto**	**1.91**	**314**	eP		P	Pb	20 09 54.0	-0.7
KPT						eS	Sb	20 10 18.4	-0.2
BKI	**Bering**	**1.97**	**73**	eS		S	Sn	20 10 17.6	+0.2
KLY	**Klyuchi**	**2.01**	**326**	eP		P	Pn	20 09 53.1	-0.3
SMKR	**Semkarok**	**2.04**	**341**	eP		P	Pn	20 09 54.5	+0.6
SMKR						eS	Sb	20 10 20.8	-1.2
KOZ	**Kozyrevsk**	**2.12**	**312**	eP		P	Pn	20 09 55.8	+0.8
KOZ						eS	Sn	20 10 22.0	+0.8
SRDR	**Sredinnyy**	**2.36**	**316**	eP		P	Pn	20 09 59.4	+1.1
SRDR						eS	Sn	20 10 28.4	+1.2
NLC	**Nalytchevo**	**2.48**	**234**	eP		P	Pn	20 10 00.1	+0.3
NLC						eS	Sn	20 10 31.5	+1.6
ESO	**Esso**	**2.60**	**301**	eP		P	Pn	20 10 02.8	+1.2
ESO						eS	Sn	20 10 34.5	+1.5
SDLR	**Sedlovina**	**2.64**	**240**	eP		P	Pn	20 10 03.1	+0.9
SDLR						eS	Sn	20 10 33.7	-0.5
SMAR	**Somma**	**2.69**	**240**	eP		P	Pn	20 10 04.1	+1.1
SMAR						eS	Sn	20 10 33.9	-1.8
KRER	**Koryakskii**	**2.69**	**241**	eP		P	Pn	20 10 05.4	+2.3
UGLR	**Uglovaya**	**2.71**	**239**	eP		P	Pn	20 10 04.8	+1.6
KRX	**Arik**	**2.72**	**243**	eP		P	Pn	20 10 05.0	+1.7
KRX						eS	Sn	20 10 37.1	+0.9
AVH	**Avacha**	**2.72**	**240**	eP		P	Pn	20 10 04.5	+1.2
AVH						eS	Sb	20 10 40.0	-1.7
KOK	**Koryaka**	**2.76**	**242**	eP		P	Pn	20 10 04.6	+0.8
PET	**Petropavlovsk**	**2.90**	**237**	eP		P	Pn	20 10 07.6	+2.0
PET						eS	Sn	20 10 41.6	+1.3
GNL	**Ganaly**	**2.95**	**253**	eP		P	Pn	20 10 07.8	+1.3
RUS	**Russkaya**	**3.35**	**230**	eP		P	Pn	20 10 12.9	+1.2
RUS						eS	Sn	20 10 50.6	-0.7
MTVR	**Mutnovka**	**3.46**	**233**	eP		P	Pn	20 10 15.7	+2.2
MTVR						eS	Sn	20 10 56.9	+2.4
ASAK	**Asacha**	**3.66**	**233**	eP		P	Pn	20 10 18.4	+2.2
ASAK						eS	Sn	20 11 00.4	+1.2
APC	**Apacha**	**3.71**	**244**	eP		P	Pb	20 10 21.3	-3.9

ISCJB ***24*** *20:16:54.4±0.4, 10.°21S±0.°03×118.°96E±0.°03, h33km, mb4.2/4, Error ellipse: s-maj=5.1km s-min=4.1km az=37.6*
IDC ***24*** *20:16:56.5±4.7, 10.°17S×118.°72E, h58km±41km, mb3.8/4, mb1 3.8/8, mb1mx3.6/19, mbtmp3.7/8, ML3.7/3, Error ellipse: s-maj=60.5km s-min=15.4km az=73.0*
AUST ***24*** *20:16:57.1, 10.°49S×118.°95E, h35km*
DJA ***24*** *20:16:58.9±0.6, 10.°5S±4.°1×11.°9E±.°, h25km±6km, M4.3/8, mb4.4/3, mB4.9/1, MLv4.2/8, Mw(mB)4.2/1*

ISC 24 20:16:55.3±0.7, 10.°20S±0.°06×118.°98E±0.°04, h33km, n31, σ1ᵽ77/33, mb4.2/4, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.69**	**36**	P		P	**Pn**	**20 17 09.1**	**+0.3**
MTNI	**Mataram**	**3.17**	**299**	P		P	**Pn**	**20 17 45.2**	**+2.2**
MTNI				S		S	**Sn**	**20 18 21.9**	**+3.2**
MMRI	**Maumere**	**3.57**	**64**	P		P	Pn	20 17 53.1	+4.6
MMRI				S		S	**Sn**	**20 18 28.8**	**+3.2**
DNP	**Denpasar**	**4.01**	**292**	P		P	**Pn**	**20 17 55.8**	**+1.3**
SRBI	**Singaraja**	**4.27**	**299**	P		P	**Pn**	**20 17 58.7**	**+0.7**
SRBI				S		S	**Sn**	**20 18 47.2**	**+0.4**
BKSI	**Bulukumba**	**4.98**	**13**	P		P	**Pn**	**20 18 09.0**	**+1.2**
BKSI				S		S	**Sn**	**20 19 04.6**	**+0.4**
KAPI	**Kappang**	**5.21**	**9**	P		P	**Pn**	**20 18 12.0**	**+1.0**
KAPI	**Kappang**	**5.21**	**9**	P		P	**Pn**	**20 18 12.9**	**+1.9**
	7.0nm,0.3s,baz=191,slow=7.3,SNR=35								
KAPI						S	**Sn**	**20 19 11.7**	**+1.7**
	9.7nm,0.3s,baz=17,slow=21,SNR=14								
SOEI	**Soe**	**5.23**	**86**	P		P	Pn	20 18 18.3	+6.9
	40nm,1.1s,0.2nm								
SOEI						S	Sn	20 19 18.9	+8.2
	40nm,1.1s,0.2nm								
SOEI	**Soe**	**5.23**	**86**	P		P	Pn	20 18 18.4	+7.0
	baz=5.3,SNR=5.9								
GMJI	**Gumukmas**	**5.79**	**289**	P		P	Pn	20 18 23.1	+4.2
	48nm,1.0s,0.2nm								
GMJI						S	**Sn**	**20 19 26.0**	**+1.8**
	48nm,1.0s,0.2nm								
BLJI	**Banyuglugur**	**5.85**	**294**	P		P	**Pn**	**20 18 21.1**	**+1.3**
BNSI	**Bone**	**5.87**	**11**	P		P	**Pn**	**20 18 21.8**	**+1.7**
SPSI	**Sidrap Palu**	**6.24**	**7**	P		P	**Pn**	**20 18 25.7**	**+0.5**
KKSI	**Kolaka, Sulawe**	**6.55**	**24**	P		P	**Pn**	**20 18 30.9**	**+1.5**
TTSI	**Tana Toraja**	**7.16**	**7**	P		P	Pn	20 18 42.1	+4.3
GRJI	**Gresik**	**7.21**	**296**	P		P	**Pn**	**20 18 40.1**	**+1.7**
MMSI	**Mamuju**	**7.46**	**359**	P		P	**Pn**	**20 18 41.8**	**-0.2**
UGM	**Wanagama**	**8.65**	**285**	P		P	**Pn**	**20 18 57.3**	**-1.0**
	baz=8.7,SNR=3.1								
FITZ	**Fitzroy Crossi**	**10.17**	**141**	P		P	**Pn**	**20 19 20.9**	**+1.8**
FITZ				S		S	**Sn**	**20 21 10.8**	**-1.2**
KNRA	**Kununurra**	**10.98**	**121**	P		P	**Pn**	**20 19 32.7**	**+2.5**
	baz=11,SNR=11								
MTN	**Manton Dam**	**12.20**	**104**	P		P	**Pn**	**20 19 48.1**	**+1.2**
	baz=12,SNR=6.3								
GIRL	**Giralia**	**13.18**	**200**	P		P	**Pn**	**20 19 59.8**	**-0.4**
	baz=13,SNR=7.1								
MEEK	**Meekatharra**	**16.36**	**181**	P		P	**Pn**	**20 20 42.1**	**-0.4**
	baz=16,SNR=20								
WRA	**Warramunga Arr**	**17.70**	**125**	P		P	**P**	**20 21 00.4**	**+0.3**
	0.2nm,0.3s,baz=300,slow=13,SNR=21								
WRA						S	Sn	20 24 05.8	-10
	0.1nm,0.3s,baz=294,slow=21,SNR=3.5								
MORW	**Morawa**	**18.97**	**188**	P		P	**Pn**	**20 21 16.9**	**+2.0**
	baz=19,SNR=18								
ASAR	**Alice Springs**	**19.55**	**135**	P		P	**Pn**	**20 21 23.5**	**+1.6**
	0.2nm,0.3s,baz=318,slow=11,SNR=27								
ASAR						S	**S**	**20 24 55.5**	**-4.1**

	0.0nm,0.3s,baz=313,slow=24,SNR=3.0						
USRK	**Ussuriysk Arra**	**55.41**	**11**	P		**P**	**20 26 24.8**	**-1.6**
	1.1nm,0.5s,baz=193,slow=8.1,SNR=5.5						
SONM	**Songino Array**	**58.85**	**350**	P		**P**	**20 26 48.7**	**-2.1**
	0.6nm,0.4s,baz=168,slow=7.7,SNR=8.9						
MKAR	**Makanchi Array**	**65.51**	**333**	P		**P**	**20 27 33.0**	**-2.4**
	1.0nm,0.5s,baz=159,slow=6.8,SNR=18						
ZALV	**Zalesovo Beam**	**70.15**	**339**	P		P	20 28 01.7	-2.7
	1.9nm,0.4s,baz=147,slow=4.7,SNR=8.4						

IDC 24 20:29:60.0±21.0, 11.°07N×138.°82E, h159km±201km, mb3.3/7, mb1 3.4/7, mb1mx3.2/23, mbtmp3.3/7, Error ellipse: s-maj=80.8km s-min=22.2km az=66.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.13**	**188**	P		P	P	20 36 03.7	-0.2
	0.3nm,0.9s,baz=3.7,slow=9.9,SNR=2.7								
ASAR	**Alice Springs**	**34.86**	**188**	P		P	P	20 36 36.3	+0.1
	0.5nm,0.7s,baz=17,slow=12,SNR=7.9								
CMAR	**Chiang Mai Arr**	**39.19**	**286**	P		P	P	20 37 12.6	-0.3
	1.3nm,0.8s,baz=91,slow=6.4								
SONM	**Songino Array**	**45.63**	**330**	P		P	P	20 38 04.6	-0.1
	0.2nm,0.5s,baz=142,slow=7.3,SNR=4.3								
MKAR	**Makanchi Array**	**59.30**	**318**	P		P	P	20 39 45.4	+0.3
	1.6nm,0.7s,baz=98,slow=8.6,SNR=15								
ZALV	**Zalesovo Beam**	**60.34**	**327**	P		P	P	20 39 51.5	-0.5
	0.5nm,0.3s,baz=126,slow=7.7,SNR=3.7								
FINES	**FINESS Array B**	**90.86**	**334**	P		P	P	20 42 45.0	-0.3
	1.2nm,0.8s,baz=60,slow=3.1,SNR=3.5								

KRSC 24 20:46:12.1±3.3, 54.°75N×162.°59E, h10km±10km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.54**	**249**	eP		P	Pg	20 46 22.8	+0.3
MKZ						eS	Sg	20 46 29.8	+0.3
KBTR	**Krutoberegovo**	**1.47**	**5**	eP		P	Pn	20 46 38.3	-0.3
KBTR						eS	Sg	20 47 00.0	+0.7
TUMR	**Tumrok**	**1.50**	**292**	eP		P	Pn	20 46 38.1	-1.2
TUMR						eS	Sn	20 46 57.2	-1.9
BZGR	**Bezymyannyi-Gr**	**1.61**	**319**	eP		P	Pn	20 46 40.3	-0.4
BZGR						eS	Sn	20 47 01.2	-0.5
KMNR	**Kamenistaya**	**1.68**	**308**	eP		P	Pn	20 46 40.5	-1.2
KMNR						eS	Sb	20 47 04.3	-0.3
BZMR	**Bezymyannaya**	**1.69**	**316**	eP		P	Pn	20 46 41.3	-0.5
KIRR	**Kirishev**	**1.76**	**314**	eP		P	Pn	20 46 40.9	-2.0
KLY	**Klyuchi**	**1.92**	**326**	eP		P	Pn	20 46 44.1	-0.6
KLY					

tensor: Scale 10^{17}Nm; M_{rr}2.19±.08; $M_{\theta\theta}$-2.51±.05; $M_{\phi\phi}$0.32±.06; $M_{r\theta}$2.05±.07; $M_{r\phi}$-0.58±.04; $M_{\theta r}$0.65±.09; Best double couple: $M_0$3.20000×10^{17} NP1:ϕ_{b}74.00000°, δ66.00000°,λ85.00000°. NP2:ϕ_{p}265.00000°,δ24.00000°, λ100.00000°. Principal axes: T 3.0200, Plg69.0000°, Azm335.0000°; N 0.4200, Plg4.0000°, Azm76.0000°; P -3.4400, Plg21.0000°, Azm167.0000°; Data Used: II IU IC G CN. Surface waves: sta= 93, comp=180, per= 50.

*BKK **24** 20:54:53.8±0.4, 10°S±3°×11°9E±°, h59km±4km, M5.6/49, mb5.5/49, mB5.9/38, MLv6.3/3, Mw(mB)5.5/38, Mwp6.3/1*

*DJA **24** 20:54:53.6±0.2, 10°S±2°×11°9E±°, h45km±3km, M5.8/23, mB6.1/21, mb5.8/23, MLv6.2/5, Mw(mB)5.7/21, Mwp5.8/1*

ISC 24 20:54:48.8±0.3, 9°98S±0.0°3×118°78E±0.0°3, h22km±2km**, h21**km**:pP-P, n1048, σ1°79/982, mb5.6**/162,**MS5.2**/197,
72C-30D, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**0.69**	**61**	P	**Pn**	**20 55 03.5**	**+0.2**
WSI	**Waingapu**	**1.53**	**78**	P	**Pb**	**20 55 16.4**	**0.0**
WSI	**Waingapu**	**1.53**	**78**	P	**Pb**	**20 55 16.6**	**+0.2**
	baz=1.6,SNR=766						
MTNI	**Mataram**	**2.90**	**297**	P	**Pb**	**20 55 39.3**	**-0.6**
KHKI	**Kahang-Kahang**	**3.52**	**297**	P	**Pn**	**20 55 44.8**	**+2.5**
MMRI	**Maumere**	**3.67**	**69**	P	Pn	20 55 48.1	+3.9
DNP	**Denpasar**	**3.75**	**290**	P	**Pn**	**20 55 47.3**	**+1.8**
SRBI	**Singaraja**	**4.00**	**298**	P	**Pn**	**20 55 51.1**	**+2.3**
BKSI	**Bulukumba**	**4.82**	**16**	P	Pn	20 56 03.6	+3.5
	6μm,0.8s,80μm61μm34nm						
ABJI	**Asem Bagus**	**4.99**	**295**	P	**Pn**	**20 56 04.6**	**+2.1**
KAPI	**Kappang**	**5.03**	**11**	P	Pn	20 56 06.3	+3.3
	SNR=260						
KAPI	**Kappang**	**5.03**	**11**	P	**Pn**	**20 56 05.8**	**+2.8**
	2μm,0.8s,63μm26nm						
KAPI	**Kappang**	**5.03**	**11**	⇓*e*Pn	**Pn**	**20 56 05.3**	**+2.3**
KAPI				*e*Sn	**Sn**	**20 57 04.3**	**+3.8**
KAPI				Sn	Sn	**20 57 06.4**	**+5.9**
KAPI	**Kappang**	**5.03**	**11**	Pn	Pn	20 56 06.6	+3.6
	13μm,0.7s						
KAPI	**Kappang**	**5.03**	**11**	Pn	**Pn**	**20 56 06.1**	**+3.1**
	191nm,0.3s,baz=206,slow=11,SNR=346						
KAPI				Sn	**Sn**	**20 57 06.4**	**+5.9**
	505nm,0.3s,baz=288,slow=23,SNR=19						
KAPI				LR	LR	20 58 18.7	
	comp=Z,44μm,20.5s,baz=218,slow=43						
SOEI	**Soe**	**5.41**	**88**	P	**Pn**	**20 56 11.4**	**+3.0**
SOEI	**Soe**	**5.41**	**88**	⇓P	**Pn**	**20 56 11.4**	**+3.0**
	baz=5.5,SNR=108						
GMJI	**Gumukmas**	**5.54**	**287**	P	**Pn**	**20 56 10.5**	**+0.5**
KMMI	**Kalianget**	**5.58**	**301**	P	Pn	20 56 14.6	+4.0
BLJI	**Banyuglugur**	**5.59**	**293**	P	**Pn**	**20 56 11.9**	**+1.2**
BNSI	**Bone**	**5.70**	**13**	P	Pn	20 56 18.8	+6.6
BBSI	**Bau Bau**	**5.83**	**40**	P	Pn	20 56 18.9	+4.8
	2μm,0.9s,16μm6.5nm						
SPSI	**Sidrap Palu**	**6.06**	**9**	P	Pn	20 56 21.5	+4.3
MJSI	**Majene**	**6.39**	**2**	P	Pn	20 56 27.1	+5.3
KKSI	**Kolaka, Sulawe**	**6.44**	**26**	P	Pn	20 56 28.4	+6.0
KRKI	**Karangkates**	**6.51**	**286**	P	**Pn**	**20 56 23.4**	**+0.1**
GRJI	**Gresik**	**6.94**	**296**	P	Pn	20 56 34.0	+4.7
TTSI	**Tana Toraja**	**6.97**	**36**	P	Pn	20 56 36.2	+6.3
PWJI	**Pagerwojo**	**7.16**	**285**	P	**Pn**	**20 56 34.6**	**+2.3**
MMSI	**Mamuju**	**7.25**	**1**	P	Pn	20 56 37.8	+4.3
	813nm,0.8s,12μm4.2nm						
SJI	**Sawahan**	**7.28**	**287**	P	**Pn**	**20 56 36.7**	**+2.6**
NGJI	**Ngawi**	**7.69**	**289**	P	Pn	20 56 47.2	+7.6
PCJI	**Pacitan**	**7.72**	**283**	P	**Pn**	**20 56 41.2**	**+1.3**
WOJI	**Wonogiri, Jawa**	**8.05**	**285**	P	**Pn**	**20 56 46.0**	**+1.5**
UGM	**Wanagama**	**8.41**	**283**	P	**Pn**	**20 56 51.9**	**+2.3**
UGM	**Wanagama**	**8.41**	**283**	⇑P	**Pn**	**20 56 50.2**	**+0.6**
	baz=8.4,SNR=16						
YOGI	**Yogyakarta**	**8.66**	**284**	P	Pn	20 57 03.1	+10
BJII	**Banjamegara**	**9.35**	**286**	P	**Pn**	**20 57 04.7**	**+2.3**
APSI	**Ampana**	**9.45**	**18**	P	Pn	20 57 11.3	+7.5
SGKI	**Sangatta, Kali**	**9.46**	**353**	P	Pn	20 57 08.1	+4.2
LUWI	**Luwuk**	**9.73**	**24**	P	Pn	20 57 14.3	+6.7
	1μm,1.3s,9μm						
MTKI	**Muara Teweh, K**	**9.78**	**336**	P	Pn	20 57 14.3	+6.1
	821nm,1.0s,10μm						
CLJI	**Cilicap**	**9.91**	**282**	P	**Pn**	**20 57 12.6**	**+2.6**
TGJI	**Tegal**	**10.04**	**287**	P	**Pn**	**20 57 14.4**	**+2.5**
KPJI	**Karang Pucung**	**10.09**	**284**	P	**Pn**	**20 57 13.4**	**+0.9**
	365nm,1.3s,6μm						
PBKI	**Pangkalan Bun**	**10.11**	**315**	P	Pn	20 57 17.7	+4.9
	3μm,1.1s,30μm						
FITZ	**Fitzroy Crossi**	**10.46**	**141**	Pn	**Pn**	**20 57 16.5**	**-1.1**
FITZ	**Fitzroy Crossi**	**10.46**	**141**	Pn	**Pn**	**20 57 16.5**	**-1.1**
NLAI	**Namlea**	**10.63**	**52**	P	Pn	20 57 26.9	+6.9
MRSI	**Marisa**	**10.86**	**17**	P	Pn	20 57 28.9	+5.9
CISI	**Cisompet, Garu**	**11.10**	**282**	P	**Pn**	**20 57 27.5**	**+1.0**
CISI	**Cisompet, Garu**	**11.10**	**282**	P	**Pn**	**20 57 24.3**	**-2.2**
	baz=11,SNR=24						
CISI				⇑P	**Pn**	**20 57 25.3**	**-1.2**
	baz=11						
MBWA	**Marble Bar**	**11.15**	**175**	P	**Pn**	**20 57 24.6**	**-2.4**
	SNR=28						
MBWA	**Marble Bar**	**11.15**	**175**	⇓*i*Pn	Pn	20 57 22.8	-4.2
	227nm,0.5s						
MBWA				*e*Sn	Sn	20 59 14.3	-17
TOLI	**Toli-Toli**	**11.21**	**10**	P	Pn	20 57 38.0	+10
AAI	**Ambon**	**11.24**	**57**	P	Pn	20 57 38.2	+10
KNRA	**Kununurra**	**11.26**	**121**	⇓P	**Pn**	**20 57 27.2**	**-1.3**
	baz=11,SNR=226						
LEM	**Lembang**	**11.48**	**285**	P	**Pn**	**20 57 31.9**	**+0.2**
LEM	**Lembang**	**11.48**	**285**	⇑P	**Pn**	**20 57 31.9**	**+0.2**
	baz=12,SNR=6.5						
KMSI	**Cibinong**	**11.70**	**27**	P	Pn	20 57 43.4	+8.9
	1μm,1.4s,15μm						
BNDI	**Bandanaira**	**12.29**	**65**	P	P	20 57 49.2	-5.6
CBJI	**Citeko**	**12.33**	**286**	P	**Pn**	**20 57 40.4**	**-2.8**
STKI	**Sintang**	**12.35**	**324**	P	Pn	20 57 48.3	+4.9
DBJI	**Dramaga**	**12.38**	**285**	P	**Pn**	**20 57 43.1**	**-0.9**
MTN	**Manton Dam**	**12.44**	**104**	⇓P	**Pn**	**20 57 42.9**	**-1.8**
	baz=12,SNR=206						
SKJI	**Sukabumi**	**12.45**	**283**	P	P	20 57 52.0	-4.5
SAUI	**Saumlaki**	**12.53**	**82**	P	Pn	20 57 51.0	+5.1
	2μm,1.4s,13μm						
LBMI	**Labuha**	**12.70**	**44**	P	P	20 57 54.6	-4.8
	467nm,0.8s,5μm						
XMIS	**Christmas Isla**	**12.93**	**267**	*e*Pn	Pn	20 57 47.6	-3.8
	968nm,1.1s						
XMIS				*e*Sn	Sn	20 59 60.0	-15
XMIS	**Christmas Isla**	**12.93**	**267**	⇑P	**Pn**	**20 57 51.9**	**+0.4**
	baz=13,SNR=3.5						
GIRL	**Giralia**	**13.32**	**199**	P	**Pn**	**20 57 54.4**	**-2.3**
	baz=13,SNR=153						
TNTI	**Ternate**	**13.68**	**39**	P	P	20 58 06.6	-3.7
KDU	**Kakadu**	**13.69**	**103**	P	**Pn**	**20 58 00.6**	**-1.2**
	baz=14,SNR=53						
SBUM	**Sibu**	**13.97**	**332**	P	**P**	**20 58 12.6**	**-0.9**
SBUM	**Sibu**	**13.97**	**332**	P	**P**	**20 58 10.9**	**-2.6**
	312nm,1.3s,5μm						
KSM	**Kuching**	**14.17**	**323**	P	**P**	**20 58 16.3**	**+0.7**
KSM	**Kuching**	**14.17**	**323**	P	**P**	**20 58 13.9**	**-1.8**
KSM	**Kuching**	**14.17**	**323**	*e*Pn	**Pn**	**20 58 10.1**	**+1.8**
	588nm,1.2s						
KSM	**Kuching**	**14.17**	**323**	P	Pn	20 58 11.8	+3.5
	baz=14,SNR=12						
BLSI	**Bandar Lampung**	**14.17**	**288**	P	**P**	**20 58 16.6**	**+0.8**
TSM	**Tawau**	**14.21**	**356**	P	**P**	**20 58 18.8**	**+2.6**
BTM	**Bintulu**	**14.27**	**336**	P	**P**	**20 58 16.3**	**-0.5**
TLE	**Tual**	**14.48**	**74**	P	**P**	**20 58 18.6**	**-0.6**
TLE	**Tual**	**14.48**	**74**	P	**Pn**	**20 58 12.4**	**-0.3**
	baz=15,SNR=5.6						
KLI	**Kotabumi**	**14.71**	**289**	P	**P**	**20 58 22.2**	**+0.5**
PPBI	**Pangkal Pinang**	**14.77**	**301**	P	**Pn**	**20 58 19.0**	**+2.4**
KASI	**Kota Agung**	**14.83**	**286**	P	**P**	**20 58 22.4**	**-0.6**
MYLDM	**Lahad Datu**	**15.06**	**359**	P	**P**	**20 58 30.1**	**+4.4**
MYLDM	**Lahad Datu**	**15.06**	**359**	P	**P**	**20 58 29.2**	**+3.6**
FAKI	**Fak Fak**	**15.10**	**63**	P	**Pn**	**20 58 20.5**	**-0.5**
SGSI	**Sangihe**	**15.15**	**27**	P	**P**	**20 58 27.8**	**+1.2**
SWI	**Sorong**	**15.37**	**55**	P	**Pn**	**20 58 25.6**	**+1.1**
SWI	**Sorong**	**15.37**	**55**	P	**Pn**	**20 58 25.2**	**+0.7**
	baz=16,SNR=24						
LWLI	**Liwa**	**15.40**	**288**	P	**P**	**20 58 30.1**	**+0.5**
MDSI	**Maura Dua**	**15.48**	**290**	P	**Pn**	**20 58 23.7**	**-2.2**
	184nm,1.9s,3μm						
PMBI	**Palembang**	**15.58**	**296**	P	**P**	**20 58 32.5**	**+1.1**
SDKM	**Sandakan**	**15.60**	**354**	P	P	20 58 36.5	+4.9
KMPI	**Kaimana, Papua**	**16.09**	**68**	P	**Pn**	**20 58 33.8**	**0.0**
KKM	**Kota Kinabalu**	**16.12**	**351**	P	**P**	**20 58 40.5**	**+2.9**
KKM	**Kota Kinabalu**	**16.12**	**351**	P	**P**	**20 58 39.7**	**+2.2**
KKM	**Kota Kinabalu**	**16.12**	**351**	⇑*i*Pn	**P**	**20 58 37.1**	**-0.4**
	391nm,0.9s						
KKM	**Kota Kinabalu**	**16.12**	**351**	P	**P**	**20 58 37.7**	**+0.1**
	baz=16,SNR=39						
LHSI	**Lahat**	**16.33**	**291**	P	**P**	**20 58 39.3**	**-0.4**
	404nm,1.4s,6μm						
MEEK	**Meekatharra**	**16.57**	**181**	P	**Pn**	**20 58 36.4**	**-3.5**
	baz=16,SNR=336						
MEEK				⇑P	**P**	**20 58 39.0**	**-3.4**
	baz=16						
MNAI	**Manna**	**16.66**	**288**	P	**P**	**20 58 44.0**	**+0.6**
KDM	**Kudat**	**16.90**	**353**	P	**P**	**20 58 50.2**	**+4.2**
CTBH	**Cotabato--PC H**	**17.94**	**18**	*e*P	P	20 59 02.4	+5.0
WRA	**Warramunga Arr**	**17.98**	**125**	P	**Pn**	**20 58 54.1**	**-3.5**
WRA				S	Sn	21 02 07.0	-11
WRA	**Warramunga Arr**	**17.98**	**125**	P	**Pn**	**20 58 54.1**	**-3.5**
	4.1nm,0.3s,baz=300,slow=14,SNR=99						
WRA				S	Sn	21 02 07.0	-11
	5.1nm,0.3s,baz=298,slow=20,SNR=6.2						
WRA				LR	LR	21 06 11.8	
	comp=Z,15μm,21.6s,baz=305,slow=38						
WRAB	**Tennant Creek**	**17.99**	**125**	*e*P	**Pn**	**20 58 54.3**	**-3.4**
WRAB				pmax	pmax		
	comp=Z,122nm,0.8s						
WRAB	**Tennant Creek**	**17.99**	**125**	*e*Pn	**Pn**	**20 58 54.3**	**-3.4**
	comp=Z,122nm,0.8s						
WRAB				*e*Sn	Sn	21 02 04.2	-14
WRAB	**Tennant Creek**	**17.99**	**125**	Pn	**Pn**	**20 58 54.3**	**-3.4**
	comp=Z,375nm,0.7s,SNR=26						
DAV	**Davao City (W)**	**18.24**	**22**	P	P	20 59 09.1	+8.3
	SNR=21						
DAV	**Davao City (W)**	**18.24**	**22**	⇑*i*P	**Pn**	**20 59 00.6**	**-0.2**
DAV	**Davao City (W)**	**18.24**	**22**	P	P	20 59 15.4	+15
PAGZ	**Pagadian**	**18.30**	**15**	*e*P	**P**	**20 59 05.4**	**+4.0**
MATI	**Mati**	**18.39**	**24**	*e*P	**Pn**	**20 59 04.7**	**+2.1**
BATP	**Bataraza**	**18.68**	**357**	*e*P	**Pn**	**20 59 08.1**	**+1.9**
BUKP	**Musuan**	**18.81**	**20**	*e*P	**Pn**	**20 59 12.3**	**+4.5**
MYKOM	**Kota Tinggi**	**18.91**	**307**	P	**Pn**	**20 59 09.7**	**+0.7**
MYKOM	**Kota Tinggi**	**18.91**	**307**	P	**Pn**	**20 59 09.4**	**+0.4**
RGRI	**Rengat**	**18.95**	**299**	P	**Pn**	**20 59 09.3**	**-0.2**
DCPH	**Dipolog City**	**19.00**	**14**	⇓*e*P	**Pn**	**20 59 13.5**	**+3.6**
SRPI	**Serui, Papua**	**19.13**	**66**	P	**Pn**	**20 59 11.7**	**+0.1**
MORW	**Morawa**	**19.16**	**187**	P	**P**	**20 59 10.0**	**-0.9**
	baz=19,SNR=410						
CGP	**Cagayan de Oro**	**19.24**	**18**	*e*P	**Pn**	**20 59 14.2**	**+1.4**
BAKI	**Biak**	**19.31**	**64**	P	**Pn**	**20 59 15.0**	**+1.2**
KGM	**Kluang**	**19.47**	**307**	P	**Pn**	**20 59 15.5**	**-0.2**
AS31	**Alice Springs**	**19.84**	**135**	⇓*e*P	**P**	**20 59 18.4**	**-0.1**
ASAR	**Alice Springs**	**19.84**	**135**	P	**P**	**20 59 18.6**	**+0.1**
ASAR				S	S	21 02 46.0	-15
ASAR	**Alice Springs**	**19.84**	**135**	P	**P**	**20 59 18.6**	**+0.1**
	comp=Z,7.2nm,0.3s,baz=316,slow=11,SNR=387						
ASAR				S	S	21 02 46.0	-15
	comp=Z,0.8nm,0.3s,baz=310,slow=24,SNR=3.2						
ASAR				LR	LR	21 07 19.1	
	comp=Z,9μm,19.1s,baz=306,slow=38						
TBP	**Tagbilaran**	**20.19**	**15**	⇑*e*P	Pn	20 59 24.8	+0.7
PDSI	**Padang**	**20.32**	**295**	P	**P**	**20 59 22.1**	**-1.6**
PPI	**Padang Panjang**	**20.59**	**296**	P	**P**	**20 59 24.5**	**-2.1**
PPI	**Padang Panjang**	**20.59**	**296**	P	**P**	**20 59 27.2**	**+0.6**
	baz=21,SNR=11						
WAMI	**Wamena**	**20.68**	**74**	P	Pn	20 59 34.5	+4.5
CUYO	**Cuyo Island**	**20.82**	**6**	*e*P	Pn	20 59 31.8	+0.3
LLP	**Lapu-Lapu**	**20.82**	**14**	*e*P	**P**	**20 59 30.1**	**+1.1**
GUIM	**Jordan**	**20.82**	**11**	*e*P	Pn	20 59 31.2	-0.3
MSLP	**Maasin**	**20.88**	**17**	*e*P	Pn	20 59 31.9	-0.3
ENPP	**El Nido**	**21.06**	**2**	*e*P	**P**	**20 59 34.4**	**+2.8**
MMPI	**Merauke**	**21.38**	**88**	P	P	20 59 40.8	+5.7
FRIM	**Kepong**	**21.55**	**307**	P	**P**	**20 59 37.9**	**+1.0**
COCO	**West Island**	**21.65**	**262**	*e*P	**P**	**20 59 38.8**	**+0.9**
COCO				pmax	pmax		
	comp=Z,482nm,1.3s						
COCO				MLR	MLR		
	comp=Z,4μm,20.0s						
COCO	**West Island**	**21.65**	**262**	P	P	20 59 43.2	+5.2
COCO	**West Island**	**21.65**	**262**	*e*P	**P**	**20 59 38.8**	**+0.9**
	comp=Z,482nm,1.3s						
COCO				LR	LR		
	comp=Z,4μm,20.0s						
RCP	**Roxas**	**21.76**	**11**	⇑*e*P	P	20 59 44.1	+4.9
KTGM	**Kuala Trenggan**	**21.78**	**314**	P	**P**	**20 59 40.7**	**+1.3**
BUSP	**Coron**	**21.89**	**4**	*e*P	**P**	**20 59 43.1**	**+2.6**
SJMP	**San Jose**	**22.42**	**6**	*e*P	**P**	**20 59 48.1**	**+2.0**
FORT	**Forrest**	**22.42**	**159**	⇓*e*P	**P**	**20 59 45.4**	**-0.7**
	comp=Z,227nm,0.6s						
FORT				*e*S	**S**	**21 03 44.6**	**-6.8**
FORT	**Forrest**	**22.42**	**159**	P	**P**	**20 59 46.3**	**+0.1**
	baz=22,SNR=18						
OTRP	**Odiongan**	**22.43**	**8**	*e*P	**P**	**20 59 48.0**	**+1.6**
IPM	**Ipoh**	**22.79**	**308**	P	**P**	**20 59 51.1**	**+1.0**
IPM	**Ipoh**	**22.79**	**308**	P	**P**	**20 59 51.2**	**+1.0**
IPM	**Ipoh**	**22.79**	**308**	⇑*i*P	**P**	**20 59 48.5**	**-1.8**
	comp=Z,165nm,1.1s						
NWAO	**Narrogin (SRO)**	**22.88**	**183**	P	**P**	**20 59 50.9**	**0.0**
	SNR=5.2						
NWAO	**Narrogin (SRO)**	**22.88**	**183**	⇓*i*P	**P**	**20 59 49.6**	**-1.3**
	comp=Z,129nm,0.6s						
NWAO				PP	**PnPn**	**21 00 21.0**	**+5.2**
NWAO				*e*S	S	21 03 48.5	-11
NWAO				S	S	21 03 50.9	-8.7
NWAO	**Narrogin (SRO)**	**22.88**	**183**	P	**P**	**20 59 50.5**	**-0.5**
	comp=Z,128nm,1.0s,baz=0.4,slow=11,SNR=46						
NWAO				PP	**PnPn**	**21 00 21.0**	**+5.2**
	comp=Z,120nm,0.6s,baz=353,slow=7.9,SNR=5.3						
NWAO				S	S	21 03 50.9	-8.7
	comp=Z,108nm,0.6s,baz=244,slow=7.4,SNR=7.9						
NWAO				LR	LR	21 08 42.8	
	comp=Z,7μm,20.9s,baz=355,slow=36						
JAY	**Jayapura**	**23.01**	**73**	P	**P**	**20 59 57.3**	**+4.8**
JAY	**Jayapura**	**23.01**	**73**	P	**P**	**20 59 52.7**	**+0.2**
	baz=23,SNR=8.7						
CNP	**Catarman**	**23.10**	**15**	*e*P	**P**	**20 59 54.1**	**+0.8**
AUQP	**San Andres**	**23.47**	**10**	*e*P	**P**	**21 00 00.1**	**+3.0**
BOAC	**Boac**	**23.49**	**7**	*e*P	**P**	**20 59 58.4**	**+1.2**
PSI	**Prapat**	**23.50**	**302**	P	**P**	**20 59 56.8**	**-0.8**
PSI	**Prapat**	**23.50**	**302**	P	**P**	**20 59 56.0**	**-1.6**
PSI				S	**S**	**21 04 04.1**	**-6.5**
PSI	**Prapat**	**23.50**	**302**	P	**P**	**20 59 56.2**	**-1.4**
	baz=24,SNR=293						
PSI	**Prapat**	**23.50**	**302**	P	**P**	**20 59 56.0**	**-1.6**
	comp=Z,209nm,0.9s,baz=142,slow=8.5,SNR=124						
PSI				S	**S**	**21 04 04.1**	**-6.5**
	comp=Z,11nm,0.8s,baz=266,slow=17,SNR=4.2						
PSI				LR	LR	21 11 23.0	
	comp=Z,8μm,18.1s,baz=125,slow=43						
KULM	**Kulim**	**23.59**	**309**	P	**P**	**20 59 57.5**	**-0.7**
KULM	**Kulim**	**23.59**	**309**	P	**P**	**20 59 57.9**	**-0.4**
KULM	**Kulim**	**23.59**	**309**	P	**P**	**20 59 57.7**	**-0.6**
KULM	**Kulim**	**23.59**	**309**	⇑*i*P	**P**	**20 59 56.1**	**-2.2**
	comp=Z,169nm,1.2s						
KULM				*e*PcP	**PcP**	**21 03 44.3**	**+1.0**
KULM				LR	LR		
	comp=Z,10μm,19.0s						
GSI	**Gunungsitoli**	**23.90**	**297**	P	**P**	**21 00 00.7**	**-0.6**
	comp=Z,138nm,1.6s,comp=Z,2μm						
PVCP	**Virac**	**24.02**	**13**	⇓*e*P	**P**	**21 00 02.4**	**+0.1**
COEN	**Coen**	**24.18**	**102**	⇓*e*P	**P**	**21 00 03.6**	**-0.4**
	comp=Z,994nm,0.9s						
COEN	**Coen**	**24.18**	**102**	⇑P	**P**	**21 00 05.3**	**+1.3**
	baz=24,SNR=4.4						
RKGY	**Rocky Gully**	**24.57**	**184**	P	**P**	**21 00 08.7**	**+1.5**
	baz=24,SNR=8.1						
KCSI	**Kotacane, Aceh**	**24.86**	**302**	P	**P**	**21 00 09.7**	**-0.4**
SNSI	**Sinabang, Aceh**	**25.53**	**298**	P	**P**	**21 00 16.7**	**+0.6**
SCZP	**Santa Cruz**	**25.62**	**3**	*e*P	**P**	**21 00 17.0**	**+0.2**
BALP	**Baler**	**25.71**	**6**	*e*P	**P**	**21 00 19.1**	**+1.4**
MTSU	**Mount Surprise**	**26.04**	**111**	P	**P**	**21 00 21.9**	**+1.2**
	baz=26,SNR=27						
BOLP	**Bolinao**	**26.22**	**2**	*e*P	**P**	**21 00 23.6**	**+1.3**
LHMI	**Lhok Sumawe**	**26.48**	**304**	P	**P**	**21 00 24.0**	**-0.8**
LHMI	**Lhok Sumawe**	**26.48**	**304**	P	**P**	**21 00 24.8**	**0.0**
	baz=27,SNR=7.3						
CAUP	**Cauayan**	**26.92**	**6**	*e*P	**P**	**21 00 29.4**	**+0.8**
SURA	**Surathani**	**26.93**	**314**	P	**P**	**21 00 29.1**	**+0.3**
	comp=Z,63nm,1.2s						
PKDT	**Phuket**	**27.02**	**310**	P	**P**	**21 00 29.6**	**0.0**
	comp=Z,68nm,0.9s,comp=Z,1μm						
PALP	**Palanan**	**27.11**	**8**	*e*P	**P**	**21 00 30.8**	**+0.4**
SURT	**Suratani**	**27.38**	**313**	P	**P**	**21 00 33.1**	**+0.2**
	comp=Z,11nm,1.6s,comp=Z,327nm						
ABRA	**Dolores**	**27.52**	**4**	*e*P	**P**	**21 00 34.1**	**+0.1**
BBOO	**Buckleboo**	**27.75**	**148**	*e*P	**P**	**21 00 35.4**	**-0.6**
	comp=Z,665nm,0.7s						
BBOO	**Buckleboo**	**27.75**	**148**	P	**P**	**21 00 35.9**	**-0.1**
	baz=28,SNR=12						
APYP	**Conner**	**27.77**	**5**	*e*P	**P**	**21 00 35.9**	**-0.4**
PMG	**Port Moresby**	**27.98**	**91**	P	**P**	**21 00 41.2**	**+3.0**
PMG	**Port Moresby**	**27.98**	**91**	P	**P**	**21 00 37.9**	**-0.4**
PMG				LR	LR		
	comp=Z,4μm,20.0s						
PMG	**Port Moresby**	**27.98**	**91**	P	**P**	**21 00 37.9**	**-0.4**
	comp=Z,10nm,0.7s,baz=268,slow=4.0,SNR=3.4						
CTA	**Charters Tower**	**28.33**	**114**	P	**P**	**21 00 41.5**	**+0.2**
CTA	**Charters Tower**	**28.33**	**114**	P	**P**	**21 00 41.5**	**+0.2**
	comp=Z,8.1nm,0.8s,baz=282,slow=13,SNR=7.9						
CTA				LR	LR	21 13 00.2	
	comp=Z,5μm,20.8s,baz=293,slow=39						
CTAO	**Charters Tower**	**28.33**	**114**	*e*P	**P**	**21 00 42.3**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,83nm,1.2s						
CTAO				MLR	MLR		
	comp=Z,5μm,19.0s						
CTAO	**Charters Tower**	**28.33**	**114**	*e*P	**P**	**21 00 42.3**	**+1.0**
CTAO				LR	LR		
	comp=Z,83nm,1.2s						
	comp=Z,5μm,19.0s						
UBPT	**Khong Chiam**	**28.35**	**332**	P	**P**	**21 00 42.7**	**+1.2**
	comp=Z,50nm,0.9s,comp=Z,2μm						
UBPT	**Khong Chiam**	**28.35**	**332**	P	**P**	**21 00 42.7**	**+1.2**
	comp=Z,50nm,0.9s,comp=Z,2μm						
QLP	**Quilpie**	**29.18**	**128**	P	**P**	**21 00 49.7**	**+1.0**
	baz=29,SNR=23						
QIZ	**Qiongzhong**	**30.14**	**343**	P	**P**	**21 00 56.9**	**-0.5**
QIZ				S	S	21 06 02.6	+7.2
QIZ				AMB	AMB		
	comp=Z,55nm,1.7s						
QIZ				LR	LR		
	comp=Z,2μm,23.7s						
QIZ				LR	LR		
	comp=Z,4μm,25.0s						
QIZ	**Qiongzhong**	**30.14**	**343**	PFAKE		21 01 10.0	+13
QIZ				LR	LR		
	comp=Z,4μm,22.0s						
STKA	**Stephens Creek**	**30.34**	**139**	*e*P	**P**	**21 00 59.0**	**-0.1**
	comp=Z,0.1nm,0.3s						
STKA	**Stephens Creek**	**30.34**	**139**	P	**P**	**21 00 59.2**	**+0.1**
	baz=30,SNR=8.4						
STKA	**Stephens Creek**	**30.34**	**139**	P	**P**	**21 00 59.1**	**0.0**
	comp=Z,10nm,0.7s,baz=312,slow=9.0,SNR=24						
STKA				LR	LR	21 13 46.8	
	comp=Z,6μm,21.6s,baz=302,slow=38						
SKNT	**Sakolnakorn**	**30.52**	**331**	P	**P**	**21 01 00.6**	**-0.1**
	comp=Z,126nm,0.9s,comp=Z,2μm						
PBKT	**Sadao Pong**	**31.73**	**326**	P	**P**	**21 01 11.3**	**0.0**
PBKT	**Sadao Pong**	**31.73**	**326**	P	**P**	**21 01 11.1**	**-0.2**
	comp=Z,126nm,0.9s						
UTHA	**Uthaitani**	**31.79**	**323**	P	**P**	**21 01 12.2**	**+0.2**
	comp=Z,36nm,1.1s,comp=Z,268nm						
NONG	**Nongkai**	**31.86**	**331**	P	**P**	**21 01 12.4**	**-0.1**
	comp=Z,83nm,1.1s						
LOEI	**Loei**	**32.34**	**328**	P	**P**	**21 01 14.6**	**-2.2**
	comp=Z,66nm,1.3s						
RMQ	**Roma**	**32.74**	**124**	P	**P**	**21 01 22.1**	**+1.9**
	baz=33,SNR=11						
CMSA	**Cobar Meteorol**

comp=Z,5μm,18.4s
HNR Honiara 40.56 93 P **P** **21 02 25.7 -1.4**
HNR Honiara 40.56 93 P **P** **21 02 25.7 -1.4**
comp=Z,57nm,0.5s,baz=235,slow=5.5,SNR=5.3
HNR LR LR 21 20 01.3
comp=Z,1μm,19.7s,baz=268,slow=37
SSE Sheshan 40.91 3 *eP* **P** **21 02 31.3 +1.7**
SSE S **S** **21 08 41.1 +1.0**
SSE AMB AMB
comp=Z,74nm,0.8s
SSE AMB AMB
comp=Z,300nm,3.5s
SSE LR LR
comp=Z,1μm,19.1s
SSE LR LR
comp=Z,430nm,19.2s
SSE LR LR
comp=Z,1μm,18.7s
ENH Enshi 41.01 348 PFAKE 21 02 40.0 +10
ENH LR LR
comp=Z,20nm,19.0s
TAU Tasmania Unive 41.18 148 PFAKE
TAU LR LR 21 02 40.0 +8.2
comp=Z,11μm,19.0s
PALK Pallekele 41.62 293 P **P** **21 02 36.0 +0.2**
SNR=15
PALK Pallekele 41.62 293 P **P** **21 02 36.2 +0.4**
PALK Pallekele 41.62 293 *eP* **P** **21 02 35.0 -0.8**
comp=Z,259nm,1.4s
PALK Pallekele 41.62 293 P **P** **21 02 35.8 0.0**
comp=Z,511nm,1.3s,SNR=27
NJ2 Nanjing 41.80 0 *eP* **P** **21 02 36.8 -0.1**
NJ2 S S 21 09 01.0 +7.7
NJ2 AMB AMB
comp=Z,230nm,0.9s
NJ2 AMB AMB
comp=Z,730nm,7.3s
NJ2 LR LR
comp=Z,2μm,22.2s
NJ2 LR LR
comp=Z,1μm,18.9s
NJ2 LR LR
comp=Z,22μm,16.4s
IMP Imphal 42.21 325 *ex* **P** **21 02 39.0 -1.5**
CD2 Chengdu 43.14 341 P **P** **21 02 47.5 -0.4**
CD2 pP **pP** **21 02 52.0 -2.6**
CD2 sP **sP** **21 02 54.5 -2.8**
CD2 PP **PP** **21 04 30.8 +2.4**
CD2 S **S** **21 09 16.5 +3.2**
CD2 sS **sS** **21 09 22.8 -1.5**
CD2 SS **SS** **21 12 23.3 -3.3**
CD2 AMB AMB
comp=Z,180nm,1.1s
CD2 AMB AMB
comp=Z,530nm,4.5s
CD2 LR LR
comp=Z,4μm,17.2s
CD2 LR LR
comp=Z,4μm,17.2s
CBIJ Chichi jima 43.29 31 P **P** **21 02 47.7 -1.5**
JCJ Chichijima 43.29 31 P **P** **21 02 47.7 -1.5**
comp=Z,123nm,0.6s,baz=72,slow=5.5,SNR=4.8
JCJ LR LR 21 20 39.9
comp=Z,420nm,19.2s,baz=130,slow=36
SHL Shillong 43.98 324 *eP* **P** **21 02 53.1 -1.9**
SHL AMB AMB 21 02 54.7
comp=Z,109nm,1.2s
SHL *ex* x 21 08 34.0
JNU Nakatsue 44.39 15 *eP* **P** **21 02 56.4 -1.5**
comp=Z,22nm,0.9s
JNU Nakatsue 44.39 15 P **P** **21 02 57.2 -0.7**
comp=Z,19nm,0.8s,baz=32,slow=5.1,SNR=9.6
JNU LR LR 21 21 10.4
comp=Z,1μm,22.0s,baz=192,slow=36
VIS Vishakhapatnam 44.54 308 *eP* **P** **21 02 58.9 -0.5**
VIS AMB AMB 21 02 60.0
comp=Z,95nm,1.0s
MDRS Chennai 44.59 300 *eP* **P** **21 02 57.7 -2.0**
MDRS AMB AMB 21 02 58.7
comp=Z,75nm,0.7s
XAN Xi'an 44.77 348 P **P** **21 03 00.3 -0.7**
XAN pP **pP** **21 03 03.5 -4.2**
XAN AMB AMB
comp=Z,42nm,1.0s
XAN AMB AMB
comp=Z,86nm,4.0s
XAN LR LR
comp=Z,3μm,19.4s
XAN LR LR
comp=Z,2μm,22.4s
TRD Trivandrum 45.51 292 *eP* **P** **21 03 06.5 -0.6**
TRD AMB AMB 21 03 06.8
comp=Z,166nm,1.8s
H08S2 Diego Garcia H 45.77 269 T T 21 52 27.8
baz=96,slow=0.7,SNR=45
H08S3 Diego Garcia H 45.78 269 T T 21 52 28.1
baz=96,slow=0.7,SNR=55
H08S1 Diego Garcia H 45.79 269 T T 21 52 29.2
baz=96,slow=0.7,SNR=33
DGAR Diego Garcia 45.84 269 PFAKE 21 03 20.0 +10
DGAR LR LR
comp=Z,2μm,21.0s
BOK Bokaro 46.48 317 *eP* **P** **21 03 12.5 -2.2**
BOK AMB AMB 21 03 14.4
comp=Z,52nm,0.0s
KAAM Kaadhehdhoo 46.73 280 P **P** **21 03 18.4 +1.6**
DZM Mont Dzumac 47.18 111 *eP* **P** **21 03 20.6 +0.3**
comp=Z,85nm,1.4s
DZM *eS* **S** **21 10 07.8 -4.4**
comp=Z,1μm,33.3s
DZM *e*LR LR 21 16 30.9
comp=Z,3μm,21.1s
DZM Mont Dzumac 47.18 111 P **P** **21 03 21.0 +0.7**
DZM Mont Dzumac 47.18 111 P **P** **21 03 21.0 +0.7**
comp=Z,11nm,0.9s,baz=172,slow=11,SNR=5.1
DZM LR LR 21 24 35.9
comp=Z,4μm,18.4s,baz=229,slow=38
H08N1 Diego Carcia H 47.39 271 T T 21 54 50.3
baz=134,slow=0.7,SNR=12
H08N2 Diego Garcia H 47.41 271 T T 21 54 54.6
baz=134,slow=0.7,SNR=14
H08N3 Diego Garcia H 47.41 271 T T 21 54 54.1
baz=134,slow=0.7,SNR=16
LSA Lhasa 47.59 327 P **P** **21 03 23.5 -0.3**
LSA AMB AMB
comp=Z,120nm,1.2s
LSA LR LR
comp=Z,2μm,20.1s
LSA LR LR
comp=Z,2μm,23.8s
LSA Lhasa 47.59 327 PFAKE 21 03 40.0 +16
LSA LR LR
comp=Z,2μm,20.0s
ODAN Odare 47.64 321 *eP* **P** **21 03 22.8 -1.1**
comp=Z,152nm,0.8s
INCN Inchon 47.78 8 PFAKE 21 03 40.0 +15
INCN LR LR
comp=Z,989nm,22.0s
TAPN Taplejung 47.80 322 *eP* **P** **21 03 24.3 -0.9**
comp=Z,452nm,1.2s
LZH Lanzhou 47.94 344 ⇑P **P** **21 03 26.6 +0.6**
LZH pP **pP** **21 03 29.6 -3.1**
LZH sP **sP** **21 03 32.8 -2.6**
LZH PP **PP** **21 05 21.0 +2.8**
LZH ScP **ScP** **21 08 47.3 -0.2**
LZH S **S** **21 10 22.0 -0.6**
LZH sS sS 21 10 28.1 -5.6
LZH ScS **ScS** **21 13 17.3 -1.1**
LZH AMB AMB
comp=Z,130nm,1.2s
LZH AMB AMB
comp=Z,1μm,5.4s
LZH LR LR
comp=Z,3μm,17.6s
LZH LR LR
comp=Z,2μm,15.4s
LZH LR LR
comp=Z,5μm,18.5s
KSAR Wonju Array Be 47.94 10 P **P** **21 03 26.0 +0.3**
KSAR PcP **PcP** **21 04 55.7 +1.8**
KSRS Korea Array 47.96 10 P **P** **21 03 26.0 +0.1**
comp=Z,28nm,0.8s,baz=187,slow=8.6,SNR=49
KSRS PcP **PcP** **21 04 55.7 +1.7**
comp=Z,9.2nm,0.8s,baz=186,slow=3.4,SNR=4.1
KSRS LR LR 21 24 13.7
comp=Z,1μm,20.0s,baz=199,slow=37

HYB Hyderabad 48.18 304 *i* P **P** **21 03 25.0 -3.0**
HYB *e* 21 10 16.0
HYB *eS* **S** **21 10 24.0 -2.4**
HYB Hyderabad 48.18 304 *eP* **P** **21 03 27.3 -0.7**
HYB AMB AMB 21 03 28.1
comp=Z,82nm,0.6s
RAMN Ramite 48.20 320 *eP* **P** **21 03 27.1 -1.1**
comp=Z,302nm,1.1s
DL2 Dalian 48.71 3 P **P** **21 03 31.3 -0.3**
DL2 S **S** **21 10 34.9 +1.9**
DL2 AMB AMB
comp=Z,130nm,1.2s
DL2 AMB AMB
comp=Z,330nm,6.5s
DL2 LR LR
comp=Z,1μm,17.5s
JIRN Jiri 48.96 321 *eP* **P** **21 03 33.1 -1.1**
comp=Z,163nm,0.7s
MNCY Minicoy 49.02 290 *i* x **P** **21 03 32.0 -2.5**
GUN Gumba 49.33 321 *eP* **P** **21 03 35.8 -1.2**
comp=Z,415nm,0.9s
PKI Pulchoki 49.38 320 *eP* **P** **21 03 35.9 -1.6**
comp=Z,82nm,0.8s
PKIN Phulchoki 49.40 320 *eP* **P** **21 03 36.5 -1.0**
comp=Z,19nm,0.4s
DMN Daman 49.60 320 *eP* **P** **21 03 37.6 -1.5**
KKN Kakani 49.62 320 *eP* **P** **21 03 37.6 -1.5**
MAJO Matsushiro 49.76 21 *eP* **P** **21 03 38.1 -1.7**
MAJO pmax pmax
comp=Z,156nm,1.3s
MAJO MLR MLR
comp=Z,1μm,20.0s
MAJO Matsushiro 49.76 21 *eP* **P** **21 03 38.1 -1.7**
comp=Z,156nm,1.3s
MAJO LR LR
comp=Z,1μm,20.0s
MAT Matsushiro 49.76 21 P **P** **21 03 37.8 -2.0**
MAT S **S** **21 10 45.4 -2.5**
MJAR Matsushiro Arr 49.76 21 P **P** **21 03 38.1 -1.7**
MJAR Matsushiro Arr 49.76 21 P **P** **21 03 38.1 -1.7**
comp=Z,21nm,0.9s,baz=200,slow=9.5,SNR=61
MJAR LR LR 21 24 46.8
comp=Z,611nm,20.2s,baz=170,slow=36
BJT Baijiatuan 49.80 357 PFAKE
BJT LR LR 21 03 50.0 +10
comp=Z,2μm,20.0s
NGP Nagpur 49.81 309 *eP* P 21 03 36.1 -4.3
NGP AMB AMB 21 03 38.4
comp=Z,132nm,0.7s
BJI Beijing 49.83 357 P **P** **21 03 39.8 -0.4**
BJI S **S** **21 10 52.1 +3.4**
BJI AMB AMB
comp=Z,210nm,1.2s
BJI LR LR
comp=Z,2μm,20.3s
BJI LR LR
comp=Z,1μm,22.4s
BJI LR LR
comp=Z,2μm,21.7s
GKN Gorkha 50.17 320 *eP* **P** **21 03 41.7 -1.6**
comp=Z,92nm,0.4s
JBP Jabalpur 50.27 311 ⇑*i*P **P** **21 03 42.5 -1.4**
JBP *ex* x 21 10 49.3
KOLN Koldanda 50.68 319 *eP* **P** **21 03 45.5 -1.7**
comp=Z,122nm,0.8s
DANN Dangsing 50.97 319 *eP* **P** **21 03 47.9 -1.6**
comp=Z,303nm,0.9s
BTO Baotou 50.98 351 *eP* **P** **21 03 48.3 -0.8**
HHC Hu-ho-hao-te 51.01 353 *i* P **P** **21 03 48.8 -0.5**
HHC PP **PP** **21 05 45.3 -0.8**
HHC PcS **PcS** **21 09 02.8 0.0**
HHC S **S** **21 11 08.0 +2.5**
HHC ScS **ScS** **21 13 37.8 -1.1**
HHC AMB AMB
comp=Z,120nm,1.1s
HHC AMB AMB
comp=Z,1μm,6.3s
HHC LR LR
comp=Z,3μm,16.1s
HHC LR LR
comp=Z,1μm,15.7s
HHC LR LR
comp=Z,3μm,16.7s
AKL Akola 51.15 307 *i* P **P** **21 03 49.4 -1.1**
AKL AMP 21 03 51.6
comp=Z,134nm,1.5s
AKL *i* x x 21 11 00.3
GOA Goa 51.22 299 *eP* **P** **21 03 49.3 -1.8**
GOA AMB AMB 21 03 51.8
comp=Z,250nm,0.6s
SNY Shenyang 51.74 5 ⇑P **P** **21 03 53.8 -0.8**
SNY S S 21 11 08.8 -6.4
SNY AMB AMB
comp=Z,92nm,1.5s
SNY LR LR
comp=Z,650nm,21.0s
SNY LR LR
comp=Z,890nm,20.1s
SNY LR LR
comp=Z,1μm,18.9s
GTA Gaotai 52.21 341 ⇑P **P** **21 03 58.8 +0.5**
GTA pP **pP** **21 04 02.8 -2.3**
GTA sP **sP** **21 04 04.8 -2.9**
GTA ScP **ScP** **21 09 05.5 -0.2**
GTA S **S** **21 11 26.3 +4.3**
GTA sS **sS** **21 11 34.3 +1.1**
GTA ScS **ScS** **21 13 43.4 -3.9**
GTA AMB AMB
comp=Z,83nm,1.3s
GTA AMB AMB
comp=Z,760nm,5.6s
GTA LR LR
comp=Z,2μm,22.8s
GTA LR LR
comp=Z,2μm,18.5s
GTA LR LR
comp=Z,2μm,22.3s
BHPL Bhopal 52.23 310 AMB AMB 21 03 57.1
comp=Z,76nm,1.3s
BHPL *eP* **P** **21 03 58.2 -0.4**
POO Poona 52.61 302 *eP* **P** **21 04 00.6 -0.9**
POO AMB AMB 21 04 02.0
comp=Z,107nm,2.1s
BOM Bombay 53.65 302 *ex* PP 21 06 03.7 -6.4
BOM AMB AMB 21 06 05.4
comp=Z,120nm,2.0s
CN2 Changchun 53.87 6 *eP* **P** **21 04 09.1 -1.2**
CN2 *eS* **S** **21 11 44.3 +0.1**
CN2 AMB AMB
comp=Z,30nm,1.6s
CN2 LR LR
comp=Z,700nm,19.0s
CN2 LR LR
comp=Z,900nm,19.0s
CN2 LR LR
comp=Z,700nm,20.0s
MDJ Mudanjiang 55.22 9 P **P** **21 04 19.6 -0.5**
MDJ PcP **PcP** **21 05 20.8 -0.1**
MDJ PP **PP** **21 06 22.5 -1.3**
MDJ ScP **ScP** **21 09 19.9 +1.4**
MDJ S **S** **21 12 01.0 -1.3**
MDJ ScS **ScS** **21 14 08.1 +0.1**
MDJ AMB AMB
comp=Z,96nm,0.9s
MDJ AMB AMB
comp=Z,510nm,5.2s
MDJ LR LR
comp=Z,950nm,20.4s
MDJ LR LR
comp=Z,690nm,17.8s
MDJ LR LR
comp=Z,1μm,20.4s
MDJ Mudanjiang 55.22 9 PFAKE 21 04 30.0 +10
MDJ LR LR
comp=Z,1μm,20.0s
USRK Ussuriysk Arra 55.24 12 P **P** **21 04 19.7 -0.5**
comp=Z,40nm,0.6s,baz=192,slow=6.8,SNR=94
USRK LR LR 21 27 29.2
comp=Z,1μm,21.3s,baz=187,slow=36
DDI Dehra Dun 56.01 317 *eP* **P** **21 04 23.8 -2.4**
DDI AMB AMB 21 04 24.4
comp=Z,92nm,1.7s
RPZ Rata Peaks 56.24 136 P **P** **21 04 27.5 -0.1**
RPZ Rata Peaks 56.24 136 P **P** **21 04 27.5 -0.1**
comp=Z,20nm,1.1s,baz=315,slow=6.5,SNR=5.4

RPZ LR LR 21 29 34.2
comp=Z,4μm,18.6s,baz=296,slow=37
CASY Casey 56.50 184 *eP* **P** **21 04 28.8 -0.2**
comp=Z,12nm,0.9s
CASY LR LR
comp=Z,2μm,19.0s
SMLA Simla 57.12 317 *eP* **P** **21 04 32.4 -1.5**
SMLA AMB AMB 21 04 34.2
comp=Z,101nm,1.5s
MSVF Nonsavu 57.87 105 PFAKE 21 04 50.0 +10
MSVF LR LR
comp=Z,2μm,20.0s
ASAJ Asahikawa 58.02 20 *eP* **P** **21 04 39.6 -0.4**
comp=Z,20nm,0.8s
ASAJ Asahikawa 58.02 20 P **P** **21 04 40.0 0.0**
comp=Z,37nm,0.7s,baz=236,slow=11,SNR=40
SNZO South Karori 58.06 133 PFAKE 21 04 50.0 +10
SNZO LR LR
comp=Z,4μm,19.0s
BHJ Bhuj 58.31 305 *eP* **P** **21 04 40.4 -2.1**
BHJ AMB AMB 21 04 42.0
comp=Z,121nm,1.8s
DHRM DHARAMSHALA 58.39 318 *eP* **P** **21 04 41.6 -1.6**
DHRM AMB AMB 21 04 42.5
comp=Z,134nm,0.9s
DRV Dumont d'Urvil 58.42 170 P P 21 04 35.0 -7.5
DRV S S 21 12 33.0 -11
DRV SS SS 21 16 23.0 -13
DRV L L 21 19 00.0
DRV R 21 22 00.0
ULN Ulaanbaatar 58.52 351 P **P** **21 04 43.7 +0.1**
SNR=42
ULN Ulaanbaatar 58.52 351 P **P** **21 04 43.9 +0.2**
ULN Ulaanbaatar 58.52 351 *eP* **P** **21 04 43.2 -0.5**
comp=Z,54nm,1.0s
ULN LR LR
comp=Z,1μm,19.0s
SONM Songino Array 58.60 350 P **P** **21 04 43.9 -0.3**
SONM ScP **ScP** **21 09 33.8 +0.2**
SONM ⇑*e* 21 34 39.2
SONM P'P'ab **P'P'ab** **21 34 45.6 +2.3**
SONM Songino Array 58.60 350 P **P** **21 04 43.9 -0.3**
comp=Z,38nm,0.7s,baz=168,slow=8.0,SNR=172
SONM ScP **ScP** **21 09 33.8 +0.2**
comp=Z,1.8nm,0.9s,baz=165,slow=6.1,SNR=3.0
SONM PKP2bc 21 34 39.2
comp=Z,0.7nm,0.8s,baz=210,slow=1.2,SNR=3.9
SONM PKP2ab 21 34 45.6
comp=Z,1.2nm,1.1s,baz=26,slow=3.8,SNR=4.2
SONM LR LR 21 34 58.7
comp=Z,1μm,18.1s,baz=194,slow=41
THN Thein Dam 58.89 318 *ex* P 21 04 41.8 -4.5
THN *ex* x 21 14 33.3
HIA Hailar 59.00 1 PFAKE 21 05 00.0 +13
HIA LR LR
comp=Z,2μm,20.0s
URZ Urewera 59.11 129 *eP* P 21 04 44.2 -3.7
URZ Urewera 59.11 129 P **P** **21 04 48.1 +0.2**
comp=Z,5.3nm,0.7s,baz=60,slow=1.8,SNR=3.0
URZ LR LR 21 33 11.5
comp=Z,4μm,19.3s,baz=300,slow=39
YUK Yuzh-Kuril'sk 59.12 22 *eP* **P** **21 04 45.6 -2.0**
YUK *eS* **S** **21 12 49.4 -4.3**
YUK *i* SS **SS** **21 16 43.3 -5.1**
YUK pmax pmax
comp=N,45nm,0.7s
YUK pmax pmax
comp=Z,207nm,1.5s
YUK pmax pmax
comp=E,59nm,0.7s
YUK pmax pmax
comp=Z,349nm,1.4s
MIR Mirnyy 59.15 192 *eP* **P** **21 04 50.0 +2.5**
MIR *eS* **S** **21 12 58.0 +4.5**
MIR pmax pmax
comp=Z,45nm,2.0s
HABR Khabarovsk 59.95 12 *ceP* **P** **21 04 52.2 -1.1**
HABR *e**SP **sP** **21 05 03.8 +1.0**
HABR *e* 21 05 36.0
HABR *e* 21 07 02.1
HABR *eS* **S** **21 13 01.3 -3.0**
HABR *e**SS **sS** **21 13 16.4 +0.7**
HABR *e* 21 14 37.7
HABR *eSS* **SS** **21 16 56.8 -4.5**
HABR pmax pmax
comp=E,134nm,2.3s
HABR pmax pmax
comp=Z,326nm,2.3s
HABR pmax pmax
comp=N,91nm,2.3s
HABR MLR MLR
comp=Z,649nm,18.0s
KLR Kul'dur 60.05 10 *eP* P 21 04 48.8 -5.2
KLR pmax pmax
comp=Z,160nm,1.6s
WMQ Urumqi 60.54 335 P **P** **21 04 57.3 -0.3**
WMQ pP **pP** **21 05 01.9 -2.6**
WMQ sP **sP** **21 05 04.3 -2.8**
WMQ PcP **PcP** **21 05 41.1 -0.9**
WMQ PP **PP** **21 07 13.1 +1.8**
WMQ PcS **PcS** **21 09 42.3 -2.2**
WMQ S **S** **21 13 11.9 -0.4**
WMQ sS **sS** **21 13 19.6 -4.1**
WMQ ScS SKKSac 21 14 44.0 -3.2
WMQ SS **SS** **21 17 11.8 +0.8**
WMQ AMB AMB
comp=Z,67nm,1.0s
WMQ AMB AMB
comp=Z,820nm,3.8s
WMQ LR LR
comp=Z,2μm,16.0s
WMQ LR LR
comp=Z,1μm,15.2s
WMQ LR LR
comp=Z,2μm,26.6s
YSS Yuzh-Sakhalins 60.59 19 *ceP* **P** **21 04 57.0 -0.7**
YSS *e* 21 05 06.0
YSS pmax pmax
comp=Z,60nm,1.0s
ZAK Zakamensk 61.61 349 *eP* **P** **21 05 04.4 -0.4**
ZAK pmax pmax
comp=Z,24nm,1.4s
CIT Chita 61.92 356 *eP* **P** **21 05 07.2 +0.5**
CIT *e* 21 05 17.4
CIT *e* 21 05 48.2
CIT pmax pmax
comp=Z,333nm,1.6s
RAO Raoul Island 61.93 118 LR LR 21 32 58.6
comp=Z,2μm,19.0s,baz=4.9,slow=37
TLY Talaya 62.79 349 *c iP* **P** **21 05 12.5 0.0**
TLY *e* 21 07 24.6
TLY *eS* **S** **21 13 45.6 +5.2**
TLY *e* 21 14 09.3
TLY pmax pmax
comp=Z,71nm,1.5s
TLY MLR MLR
comp=Z,1μm,19.0s
TLY Talaya 62.79 349 P **P** **21 05 12.0 -0.5**
comp=Z,197nm,1.2s,SNR=10
MSEY Mahe Island 62.93 270 PFAKE 21 05 30.0 +16
MSEY LR LR
comp=Z,2μm,21.0s
IRK Irkutsk 63.22 350 *eP* P 21 05 10.6 -4.8
IRK *e* 21 07 29.8
IRK pmax pmax
comp=Z,109nm,1.9s
KSH Kashi 63.27 324 P **P** **21 05 15.9 -0.2**
KSH PcP **PcP** **21 05 48.8 -4.4**
KSH PP PP 21 07 41.8 +6.3
KSH S **S** **21 13 41.8 -5.2**
KSH ScS **SKSac** **21 15 07.3 -0.9**
KSH AMB AMB
comp=Z,71nm,1.3s
KSH LR LR
comp=Z,120nm,6.9s
KSH LR LR
comp=Z,110nm,5.5s
KSH LR LR
comp=Z,1μm,23.1s
MOY Mondy 63.29 348 *eP* **P** **21 05 15.5 -0.5**
MOY pmax pmax
comp=Z,111nm,2.3s
HVS Khovu-Aksy 64.64 343 *c iP* **P** **21 05 24.0 -0.8**
HVS pmax pmax
comp=Z,382nm,1.6s

KBL **Kabul** 64.64 316⇑ *i*P **P** 21 05 23.4 -1.9
KBL pmax pmax
comp=Z,87nm,1.0s
KBL Kabul 64.64 316⇑ *i*P **P** 21 05 23.4 -1.9
comp=Z,87nm,1.0s
MK31 Makanchi Array 65.23 333⇑ *i*P **P** 21 05 27.5 -1.2
MK31 Makanchi Array 65.23 333⇑ *i*P **P** 21 05 27.4 -1.2
MKAR Makanchi Array 65.23 333 P **P** 21 05 28.3 -0.4
MKAR pmax pmax
comp=Z,109nm,1.1s
MKAR MLR MLR
comp=Z,1μm,19.4s
MKAR Makanchi Array 65.23 333 P **P** 21 05 28.3 -0.4
MKAR Makanchi Array 65.23 333 P **P** 21 05 28.3 -0.4
comp=Z,108nm,1.1s,baz=146,slow=7.7,SNR=292
MKAR LR LR 21 37 27.2
comp=Z,1μm,19.4s,baz=156,slow=39
AAA Alma-Ata 65.26 328 *e*P **P** 21 05 28.4 -0.6
AAA *e*S **S** 21 14 06.7 -4.8
AAA pmax pmax
comp=Z,600nm,4.6s
AAA smax smax
comp=E,600nm,12.6s
AAA MLR MLR
comp=Z,2μm,19.0s
KZA Kyzart 65.37 326 P **P** 21 05 30.8 +0.6
SNR=12
TKM2 Tokmak 2 65.75 327⇑ *i*P **P** 21 05 31.3 -1.1
TKM2 pmax pmax
comp=Z,220nm,1.8s
TKM2 MLR MLR
comp=Z,2μm,22.0s
TKM2 Tokmak 2 65.75 327 P **P** 21 05 31.5 -0.8
SNR=41
TKM2 Tokmak 2 65.75 327⇑ *i*P **P** 21 05 31.2 -1.1
comp=Z,220nm,1.8s
TKM2 LR LR
comp=Z,2μm,22.0s
KBK Karagaybulak 65.93 326 P **P** 21 05 33.0 -0.4
SNR=52
AAK Ala-Archa 66.16 326⇑ *i*P **P** 21 05 34.3 -0.7
AAK pmax pmax
comp=Z,46nm,0.8s
AAK Ala-Archa 66.16 326 P **P** 21 05 34.9 -0.1
SNR=61
AAK Ala-Archa 66.16 326 P **P** 21 05 34.7 -0.3
SNR=52
AAK Ala-Archa 66.16 326⇑ *i*P **P** 21 05 34.3 -0.7
comp=Z,46nm,0.8s
AAK Ala-Archa 66.16 326 P **P** 21 05 34.9 -0.1
comp=Z,370nm,1.2s,SNR=32
AAK Ala-Archa 66.16 326 P **P** 21 05 34.7 -0.3
comp=Z,32nm,0.9s,baz=128,slow=5.1,SNR=94
AAK LR LR 21 38 53.0
comp=Z,2μm,21.6s,baz=129,slow=40
FRU Bishkek 66.22 326 *i* P **P** 21 05 35.0 -0.2
FRU *i* 21 05 41.0
FRU pmax pmax
comp=Z,209nm,1.8s
FRU MLR MLR
comp=Z,2μm,22.0s
CHMS Chumysh 66.26 326 P **P** 21 05 34.4 -1.1
SNR=10
AML Almayashu 66.28 325 P **P** 21 05 36.5 +0.4
SNR=12
USP Ospenovka 66.58 326 P **P** 21 05 36.5 -1.0
SNR=49
EKS2 Erkin-Say 66.58 325⇑ *i*P **P** 21 05 37.2 -0.4
EKS2 pmax pmax
comp=Z,52nm,0.8s
EKS2 MLR MLR
comp=Z,2μm,21.0s
EKS2 Erkin-Say 66.58 325 P **P** 21 05 37.4 -0.2
SNR=62
EKS2 Erkin-Say 66.58 325⇑ *i*P **P** 21 05 37.2 -0.4
comp=Z,52nm,0.8s
EKS2 LR LR
comp=Z,2μm,21.0s
WBK Wadi Bani Khal 66.93 300 P **P** 21 05 40.0 0.0
SNR=23
JMDO Jabal Madar 67.58 299 P **P** 21 05 44.2 0.0
SNR=41
AFI Afiamalu 67.85 101 PFAKE 21 06 00.0 +14
AFI LR LR
comp=Z,1μm,21.0s
SMDO Samad 67.88 300 P **P** 21 05 45.9 -0.3
SNR=38
MAW Mawson 68.25 200 P **P** 21 05 49.2 +1.7
MAW Mawson 68.25 200 P **P** 21 05 49.2 +1.7
comp=Z,10nm,1.1s,baz=68,slow=9.5,SNR=14
MAW LR LR 21 30 53.4
comp=Z,2μm,19.6s,baz=54,slow=32
BSY Bisya 68.50 299 P **P** 21 05 49.6 -0.4
SNR=38
SKR Severo-Kuril's 68.57 24 *e*P P 21 05 43.9 -5.9
SKR pmax pmax
comp=Z,180nm,1.0s
HOQ Hoqain 68.71 300 P **P** 21 05 51.0 -0.2
SNR=43
KKAR Karatay Array 68.72 324⇑ *i*P **P** 21 05 49.3 -1.6
KKAR pmax pmax
comp=Z,22nm,0.8s
KKAR Karatay Array 68.72 324⇑ *i*P **P** 21 05 49.3 -1.6
comp=Z,22nm,0.8s
ARQ Araqi 69.29 300 P **P** 21 05 54.4 -0.5
SNR=17
RBK Rabkut 69.39 293 P **P** 21 05 55.9 +0.2
SNR=30
ABPO Ambohimpanom 69.47 253 PFAKE 21 06 10.0 +14
ABPO LR LR
comp=Z,2μm,21.0s
OPO Ambohidratompo 69.54 254 P **P** 21 05 56.4 -0.4
OPO Ambohidratompo 69.54 254 P **P** 21 05 56.4 -0.4
comp=Z,5.4nm,0.9s,baz=100,slow=4.5,SNR=4.2
KURBB Kurchatov Arra 69.75 334 P **P** 21 05 56.3 -0.8
comp=Z,27nm,0.8s,baz=152,slow=5.7,SNR=274
KURK Kurchatov 69.78 334 P **P** 21 05 56.3 -1.0
KURK pmax pmax
comp=Z,28nm,0.8s
KURK Kurchatov 69.78 334 P **P** 21 05 56.3 -1.0
KURK LR LR
comp=Z,1μm,20.0s
KURK Kurchatov 69.78 334 P **P** 21 05 56.9 -0.4
comp=Z,693nm,1.0s,SNR=69
ZAA0 Zalesovo Array 69.88 339⇑ *i*P **P** 21 05 56.1 -1.7
ZALV Zalesovo Beam 69.88 339 P **P** 21 05 56.4 -1.5
ZALV pmax pmax
comp=Z,66nm,0.7s
ZALV Zalesovo Beam 69.88 339 P **P** 21 05 56.4 -1.5
ZALV ⇑ *e* 21 34 12.5
ZALV Zalesovo Beam 69.88 339 P **P** 21 05 56.4 -1.5
comp=Z,66nm,0.7s,baz=140,slow=4.3,SNR=262
ZALV PKP2bc 21 34 12.5
comp=Z,0.3nm,0.3s,baz=335,slow=6.4,SNR=3.8
ZALV LR LR 21 40 20.3
comp=Z,2μm,18.1s,baz=255,slow=39
UOSS Wadi Hilu 70.15 301 P **P** 21 05 59.9 -0.3
comp=Z,470nm,1.2s,SNR=24
ABTO Aybut 70.17 293 P **P** 21 06 00.0 -0.4
SNR=59
ASHO Ashiyiah 70.17 301 P **P** 21 06 00.2 -0.2
SNR=59
BANOM Banah 70.43 302 P **P** 21 06 02.5 +0.6
SNR=16
IBND Bandar-abas 70.81 304 *e*P **P** 21 06 03.9 -0.2
IKOO Kooshah 70.89 309 *e*P **P** 21 06 03.5 -1.3
PEA0B Petropavlovsk- 71.06 24⇑ *i*P **P** 21 06 05.3 +0.3
PETK Petropavlovsk- 71.06 24 P **P** 21 06 05.7 +0.6
PETK pmax pmax
comp=Z,37nm,0.7s
PETK MLR MLR
comp=Z,193nm,18.3s
PETK Petropavlovsk- 71.06 24 P **P** 21 06 05.7 +0.6
PETK Petropavlovsk- 71.06 24 P **P** 21 06 05.7 +0.6
comp=Z,37nm,0.7s,baz=198,slow=7.2,SNR=68
PETK LR LR 21 41 17.9
comp=Z,193nm,18.2s,baz=218,slow=39
VNDA Vanda 71.06 171⇓ *e*P **P** 21 06 05.2 +0.4
comp=Z,28nm,1.1s
VNDA Vanda 71.06 171 P **P** 21 06 05.7 +0.9
comp=Z,9.6nm,1.1s,baz=316,slow=6.5,SNR=29
VNDA LR LR 21 35 40.3
comp=Z,2μm,20.1s,baz=349,slow=34
NVS Novosibirsk 71.15 339⇑ *i*P **P** 21 06 03.5 -2.1
NVS *e*S S 21 15 12.9 -8.2
NVS pmax pmax
comp=Z,121nm,1.4s
NVS pmax pmax
comp=N,52nm,1.4s
NVS pmax pmax
comp=E,56nm,1.4s
NVS smax smax
comp=N,17nm,1.8s
NVS smax smax
comp=E,38nm,1.7s
ITEG Tejag 71.28 310 *e*P **P** 21 06 06.4 -0.8
PET Petropavlovsk 71.37 24 *ce*P **P** 21 06 06.0 -0.9
PET *e**PP **pP** 21 06 18.1 +4.1
PET *e*S **S** 21 15 23.9 +0.2
PET pmax pmax
comp=Z,93nm,1.6s
PET pmax pmax
comp=Z,600nm,5.4s
PET pmax pmax
comp=Z,300nm,7.8s
PET MLR MLR
comp=Z,400nm,17.0s
PET MLR MLR
comp=Z,400nm,16.0s
IMYA Miami 71.83 313 *e*P **P** 21 06 09.8 -0.6
SBA Scott Base 72.06 170 *e*P **P** 21 06 12.2 +1.4
SBA pmax pmax
comp=Z,29nm,1.1s
SBA MLR MLR
comp=Z,922nm,19.0s
SBA Scott Base 72.06 170 *e*P **P** 21 06 12.2 +1.4
comp=Z,29nm,1.1s
SBA LR LR
comp=Z,922nm,19.0s
ISRO Mashad 72.27 313 *e*P **P** 21 06 12.7 -0.2
IMOG Moghan 72.27 313 *e*P **P** 21 06 13.5 +0.3
YAK Yakutsk 72.29 5 *ci*P **P** 21 06 11.5 -0.8
YAK *e* 21 06 30.9
YAK *e* 21 08 54.0
YAK *e*PPP PPP 21 10 38.9
YAK *e*S S 21 15 27.8 -6.2
YAK *e* 21 16 07.9
YAK *e**SS **ScS** 21 16 16.8 -0.5
YAK *e*SS **SS** 21 20 09.2 -3.3
YAK pmax pmax
comp=Z,48nm,0.8s
YAK pmax pmax
comp=N,30nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK pmax pmax
comp=Z,141nm,3.9s
YAK pmax pmax
comp=N,176nm,2.8s
YAK pmax pmax
comp=E,91nm,2.5s
YAK smax smax
comp=N,30nm,1.6s
YAK smax smax
comp=E,112nm,1.8s
IPAY Payeh 72.67 313 *e*P **P** 21 06 15.6 +0.1
IKRD Kardeh 73.17 313 *e*P P 21 06 14.7 -3.7
ISRV Sarvestan 74.33 304 *e*P **P** 21 06 25.1 -0.4
IPAR Pars 74.54 305 *e*P **P** 21 06 26.6 -0.1
BVAR Borovoye Array 75.06 332 P **P** 21 06 27.9 -0.9
BVAR pmax pmax
comp=Z,34nm,1.0s
BVAR MLR MLR
comp=Z,1μm,20.3s
BVAR Borovoye Array 75.06 332 P **P** 21 06 27.9 -0.9
BVAR Borovoye Array 75.06 332 P **P** 21 06 27.9 -0.9
comp=Z,33nm,0.9s,baz=141,slow=7.6,SNR=145
BVAR LR LR 21 43 03.8
comp=Z,1μm,20.3s,baz=136,slow=39
BRVK Borovoye 75.13 332 *ci*P **P** 21 06 27.6 -1.6
BRVK pmax pmax
comp=Z,147nm,1.7s
BRVK Borovoye 75.13 332 P **P** 21 06 28.8 -0.4
SNR=43
BRVK Borovoye 75.13 332⇑ *i*P **P** 21 06 28.1 -1.1
comp=Z,153nm,1.4s
BRVK LR LR
comp=Z,2μm,21.0s
BRVK Borovoye 75.13 332 P **P** 21 06 28.0 -1.1
comp=Z,373nm,1.2s,SNR=43
IMND Minoodasht 75.62 313 *e*P **P** 21 06 34.3 +2.0
IANJ Anjilo 75.99 310 *e*P **P** 21 06 34.2 -0.7
IZEF Zefreh 76.23 307 *e*P **P** 21 06 34.7 -1.6
IGAR Gharneh 76.28 307 *e*P **P** 21 06 36.2 -0.3
IKIA Kiasar 76.46 311 *e*P **SKSac** 21 16 50.5 +2.3
IGLO Ghaloghah 76.46 311 *e*P **SKSac** 21 16 50.8 +2.6
ISHM Shahmirzad 76.59 311 *e*P **P** 21 06 38.1 -0.2
ILAS Lasjerd 76.68 310 *e*P **P** 21 06 38.3 -0.5
ISFB Sefidab 76.84 309 *e*P **P** 21 06 39.5 0.0
SYO Syowa Base 76.87 201⇓ *e*P **P** 21 06 39.8 +0.9
IFIR Firoozkooh 76.93 310 *e*P **P** 21 06 39.8 -0.4
IKLH Kolahrood 76.97 308 *e*P **P** 21 06 40.3 -0.2
IDMV Damavand 77.45 310 *e*P **P** 21 06 42.9 -0.3
IVRN Varamin 77.47 309 *e*P **P** 21 06 42.8 -0.2
FX1 Attu Island--F 77.84 30 *e*P **P** 21 06 44.9 +0.3
FX1 Attu Island--F 77.84 30 P **P** 21 06 45.4 +0.9
comp=Z,18nm,0.8s,baz=19,slow=18,SNR=4.9
IR3 Iran Long-Peri 78.18 309 *e*P **P** 21 06 47.4 +0.4
ABKAR Akbulak array 78.24 325⇑ *i*P **P** 21 06 46.0 -0.9
comp=Z,126nm,1.1s
ATD Arta Tunnel 78.44 284 P **P** 21 06 50.7 +1.9
ATD Arta Tunnel 78.44 284 P **P** 21 06 50.7 +1.9
comp=Z,20nm,1.0s,baz=98,slow=22,SNR=4.9
IMHD Mahdasht 78.53 310 *e*P **P** 21 06 48.9 0.0
KBD Kabd 78.72 302 *e*P **P** 21 06 49.6 -0.3
KBD AMb AMB 21 06 51.2
comp=Z,178nm,1.2s
RDF Al-Radifah 78.76 302 *e*P **P** 21 06 50.3 +0.2
RDF AMb AMB 21 06 52.1
comp=Z,399nm,1.1s
UMR Umm Al-Rimmam 78.81 303 *e*P **P** 21 06 50.2 -0.2
UMR AMb AMB 21 06 51.7
comp=Z,372nm,1.3s
RAYN Ar Rayn 78.94 296 P **P** 21 06 51.9 +0.5
comp=Z,233nm,1.0s,SNR=27
IRAZ Razeghan 78.99 309 *e*P **P** 21 06 51.8 +0.2
NAY Al-Naaiem 79.11 302 *e*P **P** 21 06 51.4 -0.7
NAY AMb AMB 21 06 53.2
comp=Z,179nm,1.3s
IGZV Ghazvin 79.12 310 *e*P **P** 21 06 51.8 -0.5
RST Umm Al-Ruwaisa 79.39 303 *e*P **P** 21 06 53.1 -0.6
RST AMb AMB 21 06 55.1
comp=Z,3μm,1.0s
AKTO Aktyubinsk 79.91 325 P **P** 21 06 54.4 -1.6
AKTO pmax pmax
comp=Z,45nm,0.9s
AKTO MLR MLR
comp=Z,1μm,20.4s
AKTO Aktyubinsk 79.91 325 P **P** 21 06 54.4 -1.6
AKTO Aktyubinsk 79.91 325 P **P** 21 06 54.4 -1.6
comp=Z,45nm,0.9s,baz=116,slow=6.1,SNR=108
AKTO LR LR 21 46 57.8
comp=Z,1μm,20.4s,baz=320,slow=39
QSPA South Pole Qui 80.02 180 *e*P **P** 21 06 56.8 +0.3
comp=Z,52nm,1.3s
QSPA LR LR
comp=Z,2μm,20.0s
IVIS Veis 81.08 307 *e*P **P** 21 07 01.3 -1.5
ILIN Lien 81.11 308 *e*P **P** 21 07 01.8 -1.3
IGHG Ghaleghazi 81.24 307 *e*P **P** 21 07 02.6 -1.2
KMBO Kilima Mbogo 81.46 270 *e*P **P** 21 07 07.0 +1.6
KMBO Kilima Mbogo 81.46 270 P **P** 21 07 07.3 +1.8
SNR=14
KMBO Kilima Mbogo 81.46 270 P **P** 21 07 06.1 +0.6
KMBO Kilima Mbogo 81.46 270 P **P** 21 07 06.1 +0.6
comp=Z,17nm,1.0s,baz=54,slow=5.4,SNR=29
KMBO LR LR 21 37 53.0
comp=Z,1μm,21.8s,baz=275,slow=32
IDHR Dehrash 81.50 307 *e*P **P** 21 07 03.5 -1.6
ISRB Sarab 81.53 311 *e*P **P** 21 07 05.3 +0.1
TIXI Tiksi 81.73 3 *ci*P **P** 21 07 03.9 -1.3
TIXI pmax pmax
comp=Z,125nm,1.7s
SVE Sverdlovsk 81.84 332 *de*P **P** 21 07 05.3 -0.8
SVE *e* 21 10 11.1
SVE pmax pmax
comp=Z,58nm,1.3s
SVE MLR MLR
comp=Z,1μm,19.0s
FURI Furi 81.90 281 *i* P **P** 21 07 08.7 +0.9
FURI S S 21 17 27.3 +6.1
IBST Bostanabad 82.07 310 *e*P **P** 21 07 07.3 -0.8
IHRS Heris 82.16 311 *e*P **P** 21 07 08.2 -0.3
ARU Arti 82.61 331 *ci*P **P** 21 07 08.7 -1.5
ARU 21 10 18.6
ARU PPP PPP 21 12 07.3
ARU S **S** 21 17 24.8 -1.3
ARU pmax pmax
comp=Z,60nm,1.5s
ARU Arti 82.61 331 P **P** 21 07 08.5 -1.7
comp=Z,158nm,1.3s,SNR=10
ADK Adak 82.68 34 PFAKE 21 07 20.0 +9.4
ADK LR LR
comp=Z,949nm,21.0s
ITBZ Tabriz 82.80 311 *e*P **P** 21 07 11.9 +0.1
IMRD Marand 83.28 311 *e*P **P** 21 07 14.5 +0.2
MAK Makhachkala 83.39 316 *e*P **P** 21 07 11.3 -3.2
MAK *e* 21 10 28.2
MAK *e*PPP PPP 21 12 20.6
MAK *e*S S 21 17 26.7 -7.8
MAK pmax pmax
comp=Z,195nm,1.5s
DGRG David-gareji 84.38 314 P **P** 21 07 21.4 +1.7
HAKT HAKKARI 84.43 310 *i* P **P** 21 07 20.4 +0.1
GNI Garni 84.43 312 P **P** 21 07 21.3 +1.2
SNR=23
GNI Garni 84.43 312 *e*P **P** 21 07 20.7 +0.5
comp=Z,98nm,1.2s
GNI LR LR
comp=Z,689nm,21.0s
SEAG Tbilisi Sea 84.89 314 P **P** 21 07 23.9 +1.7
TBLG Delisi 84.92 314 P **P** 21 07 23.7 +1.2
DYDN Diyadin 85.02 311 *i* P **P** 21 07 24.6 +1.3
KZR Kazreti 85.05 313 P **P** 21 07 24.5 +1.4
MSNA Messina 85.13 248 *e*P **P** 21 07 25.4 +1.4
MSNA AMb AMB 21 07 43.0
comp=Z,39nm,2.2s
MSNA Messina 85.13 248 P **P** 21 07 25.4 +1.4
comp=Z,39nm,2.2s
GUDG Gudauri 85.33 314 P **P** 21 07 26.4 +1.7
DIGO Kars 85.51 312 *i* P **P** 21 07 26.3 +0.6
AKH Akhalkalaki 85.72 313 P **P** 21 07 28.0 +1.4
ZEI Tsey 85.84 315 *e*P **P** 21 07 28.2 +1.0
ZEI pmax pmax
comp=Z,125nm,1.4s
ONI Oni 86.09 314 P **P** 21 07 29.4 +1.1
ERPM east rand prop 86.12 244 *e*P **P** 21 07 30.0 +1.0
ERPM AMb AMB 21 07 43.9
comp=Z,64nm,1.4s
ERPM east rand prop 86.12 244 P **P** 21 07 30.0 +1.0
comp=Z,64nm,1.4s
MAIT Maitri 86.17 199 *e*P **P** 21 07 28.6 +0.5
MAIT Maitri 86.17 199 *e*P **P** 21 07 28.5 +0.5
SLR Silverton 86.18 245 *e*P **P** 21 07 30.2 +0.9
SLR AMb AMB 21 07 47.9
comp=Z,85nm,2.4s
SLR Silverton 86.18 245 P **P** 21 07 30.2 +0.9
SLR pmax pmax
comp=Z,85nm,2.4s
SLR Silverton 86.18 245 P **P** 21 07 30.2 +0.9
comp=Z,85nm,2.4s
MZRK Al-Mazaregh 86.31 307 *e*P **P** 21 07 31.3 +1.9
SEK Senekal 86.34 242 *e*P **P** 21 07 30.4 +0.4
SEK AMb AMB 21 07 37.7
comp=Z,40nm,3.3s
SEK Senekal 86.34 242 P **P** 21 07 30.4 +0.4
comp=Z,40nm,3.3s
GRM Grahamstown 86.48 237 *e*P **P** 21 07 30.5 +0.1
GRM AMb AMB 21 07 45.5
comp=Z,97nm,1.5s
GRM Grahamstown 86.48 237 P **P** 21 07 30.5 +0.1
GRM pmax pmax
comp=Z,97nm,1.5s
GRM Grahamstown 86.48 237 P **P** 21 07 30.5 +0.1
comp=Z,97nm,1.5s
HOMI Horasan 86.48 311 *i* P **P** 21 07 31.3 +0.8
MARD Mardin 86.60 309 *i* P **P** 21 07 31.6 +0.6
BNGL BINGOL 86.75 310 *i* P **P** 21 07 33.1 +1.3
DAGI Agillar 86.76 312 *i* P **P** 21 07 32.5 +0.8
ARTV Artvin 86.78 313 *i* P **P** 21 07 32.3 +0.4
PRYS Parys 86.80 243 *e*P **P** 21 07 33.2 +0.9
PRYS AMb AMB 21 07 46.6
comp=Z,37nm,1.1s
PRYS Parys 86.80 243 P **P** 21 07 33.2 +0.9
comp=Z,37nm,1.1s
DDEM Demirkent 86.83 312 *i* P **P** 21 07 32.2 +0.2
ERZM Erzurum 86.84 311 *i* P **P** 21 07 34.0 +1.7
SFNV Sufian 86.89 308 *e*P **P** 21 07 31.8 -0.5
DBAD Bademkaya 86.91 312 *i* P **P** 21 07 33.1 +0.7
KIV Kislovodsk 87.03 315 *αi*P **P** 21 07 31.8 -1.1
KIV *i* 21 07 40.5
KIV *i* 21 07 45.1
KIV 21 10 57.0
KIV 21 18 02.0
KIV pmax pmax
comp=Z,57nm,2.2s
KIV Kislovodsk 87.03 315 P **P** 21 07 33.9 +1.0
comp=Z,117nm,1.2s,SNR=6.9
GOF Gofitskoye 87.11 317 *e*P **P** 21 07 34.0 +0.9
DIYA Diyarbakir 87.26 309 *i* P **P** 21 07 35.3 +1.1
SOE Somerset East 87.36 237 *e*P **P** 21 07 35.4 +0.6
SOE AMb AMB 21 07 52.9
comp=Z,71nm,4.8s
SOE Somerset East 87.36 237 P **P** 21 07 35.4 +0.6
comp=Z,71nm,4.8s
KSR Koster 87.39 244 *e*P **P** 21 07 36.4 +1.1
KSR AMb AMB 21 07 49.8
comp=Z,21nm,1.1s
KSR Koster 87.39 244 P **P** 21 07 36.4 +1.1
comp=Z,21nm,1.1s
TBI Tubuai 87.70 113 *e*S S 21 18 07.4 -11
comp=Z,1μm,28.2s
TBI *e*SS **SS** 21 23 58.3 -6.2
comp=Z,381nm,32.8s
TBI *e*LQ LQ 21 31 43.1
comp=Z,965nm,42.8s
TBI *e*LR LR 21 35 12.9
comp=Z,1μm,29.0s
HVD Gariep Dam 87.79 239 *e*P **P** 21 07 38.1 +1.1
HVD AMb AMB 21 07 39.8
comp=Z,41nm,5.8s
HVD Gariep Dam 87.79 239 P **P** 21 07 38.1 +1.1
HVD pmax pmax
comp=Z,41nm,5.8s
HVD Gariep Dam 87.79 239 P **P** 21 07 38.1 +1.1
comp=Z,41nm,5.8s
MBAR Mbarara 87.97 270 *e*P **P** 21 07 37.8 -0.4
MBAR Mbarara 87.97 270 P **P** 21 07 37.8 -0.4
MBAR S SS 21 24 20.3 +11
MBAR LR LR
comp=Z,502nm,20.0s
MBAR Mbarara 87.97 270 P **P** 21 07 39.5 +1.3
comp=Z,67nm,1.0s,SNR=7.6
LSZ Lusaka 87.98 255 *e*P **P** 21 07 38.9 +0.8
LSZ Lusaka 87.98 255 P **P** 21 07 38.9 +0.8
LSZ LR LR
comp=Z,993nm,21.0s
BOSA Boshof 88.35 241 *e*P **P** 21 07 39.7 +0.1
BOSA AMb AMB 21 07 59.0
comp=Z,47nm,3.1s
BOSA Boshof 88.35 241 P **P** 21 07 40.4 +0.7
BOSA Boshof 88.35 241 P **P** 21 07 40.4 +0.7
comp=Z,14nm,1.1s,baz=122,slow=7.5,SNR=8.3
BOSA LR LR 21 42 11.3
comp=Z,633nm,19.6s,baz=100,slow=32
KIG Kigali 88.40 268 *e*P **P** 21 07 41.5 +1.3
KIG AMb AMB 21 07 42.4
comp=Z,17nm,1.4s
KIG Kigali 88.40 268 P **P** 21 07 41.5 +1.3
comp=Z,17nm,1.4s
PAE Paea 88.56 108 *e*P P 21 07 36.8 -3.9
comp=Z,5.4nm,1.0s
PPT2 Papeete2 88.58 107 *e*P P 21 07 37.0 -3.9
comp=Z,26nm,1.3s
PPT2 Papeete2 88.58 107 *e*S S 21 18 15.7 -11
comp=Z,1μm,27.8s
PPT2 *e*SS **SS** 21 24 11.1 -6.6
comp=Z,278nm,29.5s
PPT2 Papeete2 88.58 107 *e*LR LR 21 35 50.8
comp=Z,2μm,28.0s
PPT Papeete 88.58 107 LR LR 21 46 02.3
comp=Z,546nm,18.3s,baz=220,slow=35
MALT Malatya 88.65 309 ⇓ *i*P **P** 21 07 41.0 +0.2
MALT Malatya 88.65 309 ⇓ *i*P **P** 21 07 41.0 +0.2
LBTB Lobatse 88.69 245 *e*P **P** 21 07 43.0 +1.7
LBTB AMb AMB 21 08 00.1
comp=Z,44nm,2.5s

LBTB	**Lobatse**	**88.69**	**245**	*e*P		**P**	**21 07 42.3**	**+0.9**
	comp=Z,46nm,1.2s							
SALA	**Sala**	**88.72**	**303**	*e*P		**P**	**21 07 43.1**	**+1.7**
KEMA	**Kemaliye**	**88.83**	**310**	*i* P		**P**	**21 07 42.4**	**+0.9**
SOC	**Sochi**	**89.00**	**314**	*e*P		**P**	**21 07 41.2**	**-0.9**
SOC				*e**PP		**pP**	**21 07 50.2**	**+0.9**
SOC				*e*S		**SKSac**	**21 18 06.5**	**-4.2**
SOC				*e**SS		**SKKSac**	**21 18 25.2**	**+2.8**
SOC				*e*SS		**SS**	**21 24 26.5**	**+3.7**
SOC				*e*SSS		SSS	21 27 46.5	
SOC				pmax	pmax			
	comp=Z,26nm,1.0s							
GZT	**Gaziantep**	**89.09**	**308**	*i* P		**P**	**21 07 43.7**	**+0.7**
SUSE	**Susehri**	**89.27**	**311**	*i* P		**P**	**21 07 44.3**	**+0.6**
HAWK	**Haweek**	**89.38**	**305**	*e*P		**P**	**21 07 43.2**	**-1.1**
GRSN	**GIRESUNGRSN**	**89.39**	**312**	*i* P		**P**	**21 07 44.0**	**0.0**
EIL	**Elat**	**89.58**	**300**	P		**P**	**21 07 46.6**	**+1.5**
	baz=90,SNR=6.6							
VRHR	**Novokhopersk**	**89.75**	**322**	*e*P		**P**	**21 07 44.5**	**-0.9**
VRHR				*e*			21 18 11.0	
VRHR				*e*S		**S**	**21 18 30.2**	**-5.8**
VRHR				pmax	pmax			
	comp=Z,80nm,1.3s							
VRHR				pmax	pmax			
	comp=N,10.0nm,0.6s							
VRHR				pmax	pmax			
	comp=E,60nm,1.3s							
VRHR				smax	smax			
	comp=E,200nm,2.6s							
VRHR				smax	smax			
	comp=Z,60nm,2.6s							
VRHR				smax	smax			
	comp=N,130nm,1.3s							
VRHR				MLR	MLR			
	comp=Z,1µm,25.0s							
VRHR				MLR	MLR			
	comp=N,30nm,13.0s							
VRHR				MLR	MLR			
	comp=E,1µm,25.0s							
YAYL	**Yayladag**	**89.95**	**306**	*i* P		**P**	**21 07 47.4**	**+0.4**
SCER	**sogukcermik**	**89.99**	**310**	*i* P		**P**	**21 07 47.8**	**+0.8**
SNAA	**Sanae**	**90.00**	**196**	*e*P		**P**	**21 07 47.6**	**+1.1**
SNAA	**Sanae**	**90.00**	**196**	*e*P		**P**	**21 07 47.6**	**+1.1**
SNAA	**Sanae**	**90.00**	**196**	*e*P		**P**	**21 07 47.5**	**+1.1**
	comp=E,18nm,1.0s							
ANDN	**Andirin**	**90.09**	**308**	*i* P		**P**	**21 07 47.9**	**+0.3**
PMOR	**Pomariorio Ree**	**90.62**	**105**	*e*P		P	21 07 46.9	-3.4
	comp=E,83nm,1.3s							
ANN	**Anapa**	**90.89**	**315**	*e*P		**P**	**21 07 49.2**	**-1.7**
ANN				*e*			21 18 18.3	
ANN				*e*			21 18 39.0	
ANN				pmax	pmax			
	comp=Z,53nm,1.4s							
VORD	**Divnogorie**	**91.13**	**322**	*e*P		**P**	**21 07 50.5**	**-1.4**
VORD				*e*			21 18 20.6	
VORD				pmax	pmax			
	comp=E,20nm,0.8s							
VORD				pmax	pmax			
	comp=Z,10.0nm,0.8s							
VSR	**Storozhevoye**	**91.27**	**322**	*e*P		**P**	**21 07 51.4**	**-1.1**
VSR				*e*			21 18 20.5	
VSR				*e*S		S	21 18 43.6	-6.4
VSR				pmax	pmax			
	comp=Z,20nm,0.9s							
VSR				pmax	pmax			
	comp=N,4.0nm,0.4s							
VSR				pmax	pmax			
	comp=E,5.0nm,0.4s							
VSR				smax	smax			
	comp=N,210nm,2.0s							
VSR				smax	smax			
	comp=Z,20nm,2.0s							
VSR				smax	smax			
	comp=E,70nm,1.0s							
SUR	**Sutherland**	**91.36**	**237**	P		**P**	**21 07 55.7**	**+1.9**
SUR				LR	LR			
	comp=Z,913nm,21.0s							
VNA2	**Neumayer--Watz**	**91.63**	**195**	*e*P		**P**	**21 07 55.2**	**+1.2**
	baz=134,slow=4.2							
CSS	**Prodhromos**	**91.95**	**305**	*e*P		**P**	**21 07 56.4**	**+0.3**
	comp=Z,31nm,0.9s							
CSS				LR	LR			
	comp=Z,1µm,21.0s							
VNA1	**Neumayer--Stat**	**92.03**	**195**	*e*P		**P**	**21 07 56.9**	**+1.1**
CVNA	**Calvinia**	**92.43**	**238**	*e*P		**P**	**21 08 01.1**	**+2.5**
CVNA				AMB	AMB		21 08 07.8	
	comp=Z,45nm,5.6s							
CVNA	**Calvinia**	**92.43**	**238**	P		**P**	**21 08 01.1**	**+2.5**
	comp=Z,45nm,5.6s							
BR131	**Keskin Array S**	**92.60**	**310**	*e*P		**P**	**21 07 58.6**	**-0.6**
	comp=Z,9.2nm,0.8s							
BRTR	**Keskin Array B**	**92.60**	**310**	P		**P**	**21 07 58.4**	**-0.8**
BRTR	**Keskin Array B**	**92.60**	**310**	P		**P**	**21 07 58.4**	**-0.8**
	comp=Z,4.2nm,0.7s,baz=116,slow=5.6,SNR=26							
BRTR				LR	LR		21 53 45.4	
	comp=Z,479nm,21.7s,baz=309,slow=38							
SIM	**Simferopol'**	**93.22**	**315**	*de*P		**P**	**21 08 00.5**	**-1.2**
SIM							21 18 33.8	
SIM				S		**S**	**21 19 09.8**	**+2.0**
SIM				pmax	pmax			
	comp=Z,19nm,1.2s							
MOS	**Moscow**	**93.23**	**326**	*e*P		**P**	**21 07 59.6**	**-1.9**
MOS				*e*			21 11 45.6	
MOS				*e*S		**SKSac**	**21 18 32.2**	**-2.1**
MOS				pmax	pmax			
	comp=Z,37nm,0.9s							
ANTO	**Ankara**	**93.26**	**310**	PFAKE			21 08 10.0	+7.8
ANTO				LR	LR			
	comp=Z,642nm,22.0s							
KLMR	**Klimovskoe**	**93.46**	**331**	*e*P		**P**	**21 07 59.5**	**-2.9**
KLMR				pmax	pmax			
	comp=Z,51nm,1.4s							
OBN	**Obninsk**	**93.69**	**325**	*ce*P		**P**	**21 08 02.5**	**-1.1**
OBN				*i*			21 08 12.1	
OBN				*i*			21 08 20.9	
OBN							21 11 51.0	
OBN				PS		**PS**	**21 20 26.0**	**-1.8**
OBN				pmax	pmax			
	comp=Z,57nm,1.6s							
OBN				MLR	MLR			
	comp=Z,2µm,22.0s							
ISP	**Isparta**	**94.67**	**307**	PFAKE			21 08 20.0	+11
ISP				LR	LR			
	comp=Z,612nm,21.0s							
TMCR	**Tamitsa**	**94.90**	**334**	*e*P		**P**	**21 08 07.2**	**-1.7**
TMCR				*e*			21 12 01.3	
TMCR				pmax	pmax			
	comp=Z,20nm,1.0s							
TSUM	**Tsumeb**	**97.15**	**249**	PFAKE			21 08 30.0	+9.4
TSUM				LR	LR			
	comp=Z,764nm,20.0s							
AKASG	**Malin Array Be**	**97.36**	**320**	P		**P**	**21 08 18.8**	**-1.6**
AKASG							21 12 15.5	
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.6s							
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.8s							
AKASG				MLR	MLR			
	comp=Z,689nm,20.3s							
AKASG	**Malin Array Be**	**97.36**	**320**	P		**P**	**21 08 18.8**	**-1.6**
AKASG				PP		**PP**	**21 12 15.4**	**-2.0**
AKASG	**Malin Array Be**	**97.36**	**320**	P		**P**	**21 08 18.8**	**-1.6**
	comp=Z,2.1nm,0.6s,baz=84,slow=4.5,SNR=15							
AKASG				PP		**PP**	**21 12 15.4**	**-2.0**
	comp=Z,1.8nm,0.8s,baz=82,slow=6.9,SNR=5.2							
AKASG				LR	LR		21 59 49.7	
	comp=Z,689nm,20.2s,baz=95,slow=40							
AK01	**Malin Array Si**	**97.36**	**320**	*e*P		**P**	**21 08 19.2**	**-1.3**
KIEV	**Kiev**	**97.37**	**320**	PFAKE			21 08 30.0	+9.4
KIEV				LR	LR			
	comp=Z,699nm,20.0s							
APA	**Apatity**	**97.39**	**337**	*e*P		**P**	**21 08 19.0**	**-1.2**
APA				MLR	MLR			
	comp=Z,1µm,26.0s							
TLB	**Topalu**	**97.44**	**314**	⇓P		**P**	**21 08 20.3**	**-0.7**
TLB	**Topalu**	**97.44**	**314**	⇓*i*P		**P**	**21 08 20.3**	**-0.7**
CFR	**Carcaliu**	**97.45**	**314**	⇑P		**P**	**21 08 20.2**	**-0.8**
CFR	**Carcaliu**	**97.45**	**314**	⇑*i*P		**P**	**21 08 20.2**	**-0.8**
KDAK	**Kodiak Island**	**97.64**	**33**	PFAKE			21 08 30.0	+8.4
KDAK				LR	LR			
	comp=Z,1µm,22.0s							
JOF	**Joensuu**	**97.66**	**333**	*e*P		**P**	**21 08 19.4**	**-2.1**
JOF				pmax	pmax			
	comp=Z,6.0nm,0.8s							
JOF	**Joensuu**	**97.66**	**333**	*ep*		**P**	**21 08 19.4**	**-2.1**
	comp=Z,6.4nm,0.8s							
IM04	**Indian Mountai**	**97.99**	**24**	*e*P		**P**	**21 08 23.1**	**0.0**
IMA2	**Indian Mountai**	**98.04**	**24**	*e*P		**P**	**21 08 23.3**	**-0.1**
SANT	**Santorini**	**98.50**	**305**	PFAKE			21 08 40.0	+14
SANT				LR	LR			
	comp=Z,477nm,22.0s							
VRI	**Vrincioaia**	**98.50**	**315**	⇓P		**P**	**21 08 25.4**	**-0.4**
VRI	**Vrincioaia**	**98.50**	**315**	⇓*i*P		**P**	**21 08 25.4**	**-0.4**
VRI	**Vrincioaia**	**98.50**	**315**	⇓*i*P		**SKSac**	**21 19 07.4**	**+4.7**
PLOR	**Plostina**	**98.56**	**315**	⇓P		**P**	**21 08 25.6**	**-0.5**
PLOR	**Plostina**	**98.56**	**315**	⇓*i*P		**P**	**21 08 25.6**	**-0.5**
TESR	**Tescani**	**98.62**	**316**	⇓*i*P		**P**	**21 08 25.5**	**-0.8**
PRAR	**RASCA**	**98.98**	**317**	⇓*i*P		**P**	**21 08 26.8**	**-1.1**
BPAW	**Bear Paw Mtn.**	**99.00**	**26**	*e*Pdif		**Pdif**	**21 08 26.8**	**-0.8**
	comp=Z,44nm,1.8s							
MLR	**Muntele Rosu**	**99.02**	**315**	⇓*i*P		**Pdif**	**21 08 26.9**	**-1.4**
COLD	**Coldfoot**	**99.52**	**23**	*e*Pdif		**Pdif**	**21 08 30.4**	**+0.6**
	comp=Z,18nm,1.1s							
BURAR	**Bucovina Array**	**99.69**	**317**	⇑P		**Pdif**	**21 08 30.9**	**-0.2**
BURAR	**Bucovina Array**	**99.69**	**317**	⇑*i*P		**Pdif**	**21 08 30.9**	**-0.2**
BUR08	**Bucovina Ar. S**	**99.70**	**317**	*e*Pdif		**Pdif**	**21 08 31.2**	**0.0**
MCK	**McKinley**	**99.89**	**27**	*e*P		**Pdif**	**21 08 31.0**	**-0.6**
MCK				pmax	pmax			
	comp=Z,28nm,1.2s							
MCK	**McKinley**	**99.89**	**27**	*e*Pdif		**Pdif**	**21 08 31.0**	**-0.6**
	comp=Z,28nm,1.2s							
KAF	**Kangasniemi**	**99.90**	**332**	*e*P		**Pdif**	**21 08 29.4**	**-2.2**
KAF				pmax	pmax			
	comp=Z,18nm,1.3s							
KAF	**Kangasniemi**	**99.90**	**332**	*ep*		**Pdif**	**21 08 29.4**	**-2.2**
	comp=Z,18nm,1.3s							
KEV	**Kevo**	**99.91**	**339**	PFAKE			21 08 40.0	+8.5
KEV				LR	LR			
	comp=Z,1µm,22.0s							
FINES	**FINESS Array B**	**99.98**	**331**	P		**Pdif**	**21 08 31.4**	**-0.6**
FINES	**FINESS Array B**	**99.98**	**331**	P		**Pdif**	**21 08 31.4**	**-0.6**
	comp=Z,7.8nm,0.9s,baz=116,slow=8.7,SNR=13							
FINES				LR	LR		21 58 30.2	
	comp=Z,924nm,20.6s,baz=97,slow=38							
COLA	**College**	**100.39**	**26**	PFAKE			21 08 40.0	+6.3
COLA				LR	LR			
	comp=Z,275nm,19.0s							
ARCES	**ARCESS Array B**	**100.43**	**339**	P		**Pdif**	**21 08 32.7**	**-1.2**
ARCES	**ARCESS Array B**	**100.43**	**339**	P		**Pdif**	**21 08 32.7**	**-1.2**
	comp=Z,5.7nm,0.9s,baz=45,slow=11,SNR=6.9							
RKT	**Rikitea**	**100.75**	**116**	*e*SKSac		**SKSac**	**21 19 07.7**	**-7.1**
	comp=Z,571nm,33.7s							
RKT				*e*SP		**SP**	**21 21 33.7**	**-9.2**
	comp=Z,438nm,29.5s							
RKT				*e*SS		**SS**	**21 27 10.4**	**-0.1**
	comp=Z,445nm,26.5s							
RKT				*e*LQ		LQ	21 37 05.1	
	comp=Z,935nm,40.2s							
RKT				*e*LR		LR	21 41 15.7	
	comp=Z,1µm,27.2s							
VTS	**Vitosha**	**100.76**	**312**	⇑P		**Pdif**	**21 08 34.8**	**-1.3**
VTS	**Vitosha**	**100.76**	**312**	⇑*i*P		**Pdif**	**21 08 34.8**	**-1.3**
VTS	**Vitosha**	**100.76**	**312**	⇑*i*P		**SKSac**	**21 19 17.8**	**+3.5**
ILAR	**Eielson Array**	**100.81**	**26**	P		**Pdif**	**21 08 34.3**	**-1.3**
ILAR				PP		**PP**	**21 12 45.0**	**+1.6**
ILAR				PKKPbc		**PKKPdf**	**21 25 01.6**	**+4.8**
ILAR	**Eielson Array**	**100.81**	**26**	P		**Pdif**	**21 08 34.3**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=232,slow=5.7,SNR=15							
ILAR				PP		**PP**	**21 12 45.0**	**+1.6**
	comp=Z,3.0nm,1.3s,baz=271,slow=6.4,SNR=4.7							
ILAR				PKKPbc		**PKKPdf**	**21 25 01.6**	**+4.8**
	comp=Z,1.2nm,1.1s,baz=50,slow=2.2,SNR=5.3							
GZR	**Gura Zlata**	**101.23**	**314**	⇑P		**Pdif**	**21 08 44.0**	**+6.0**
GZR	**Gura Zlata**	**101.23**	**314**	⇑*i*P		**Pdif**	**21 08 44.0**	**+6.0**
DRGR		**101.34**	**316**	⇑P		**Pdif**	**21 08 38.5**	**0.0**
DRGR		**101.34**	**316**	⇑*i*P		**Pdif**	**21 08 38.5**	**0.0**
KWP	**Kalwaria Pacla**	**101.46**	**319**	⇑P		**Pdif**	**21 08 39.4**	**+0.6**
KWP	**Kalwaria Pacla**	**101.46**	**319**	⇑*i*P		**Pdif**	**21 08 39.4**	**+0.6**
KWP	**Kalwaria Pacla**	**101.46**	**319**	PFAKE			21 08 50.0	+11
KWP				LR	LR			
	comp=Z,694nm,20.0s							
UZH	**Uzhgorod**	**101.69**	**318**	*e*P		**Pdif**	**21 08 37.2**	**-2.7**
KOLS	**Kolonicke sedl**	**101.72**	**318**	*e*P		**Pdif**	**21 08 39.9**	**-0.1**
KOLS	**Kolonicke sedl**	**101.72**	**318**	PDIF		**Pdif**	**21 08 39.9**	**-0.1**
SIRR	**Siria**	**102.05**	**315**	⇓*i*P		**Pdif**	**21 08 40.8**	**-0.8**
BZS	**Buzias**	**102.06**	**315**	⇓P		**Pdif**	**21 08 35.9**	**-5.7**
BZS	**Buzias**	**102.06**	**315**	⇓*i*P		**Pdif**	**21 08 35.9**	**-5.7**
SPITS	**Spitsbergen Ar**	**102.25**	**348**	P		**Pdif**	**21 08 41.1**	**-0.7**
SPITS	**Spitsbergen Ar**	**102.25**	**348**	P		**Pdif**	**21 08 41.1**	**-0.7**
	comp=Z,12nm,1.0s,baz=105,slow=12,SNR=3.5							
CRVS	**Cervenica-Dubn**	**102.25**	**318**	*e*P		**Pdif**	**21 08 43.6**	**+1.2**
CRVS	**Cervenica-Dubn**	**102.25**	**318**	PDIF		**Pdif**	**21 08 43.6**	**+1.2**
CRVS				*e*			21 11 58.7	
STHS	**Stebnicka Huta**	**102.40**	**318**	*e*P		**Pdif**	**21 08 43.7**	**+0.6**
STHS	**Stebnicka Huta**	**102.40**	**318**	PDIF		**Pdif**	**21 08 43.7**	**+0.6**
KECS	**Kecovo**	**102.89**	**318**	*e*P		**Pdif**	**21 08 45.2**	**-0.1**
KECS	**Kecovo**	**102.89**	**318**	PDIF		**Pdif**	**21 08 45.2**	**-0.1**
KBS	**Kingsbay**	**102.95**	**349**	PFAKE			21 09 00.0	+15
KBS				LR	LR			
	comp=Z,1µm,21.0s							
TIR	**Tirane**	**103.20**	**310**	PFAKE			21 09 00.0	+13
TIR				LR	LR			
	comp=Z,1µm,22.0s							
EGAK	**Eagle**	**103.26**	**26**	PFAKE			21 09 00.0	+14
EGAK				LR	LR			
	comp=Z,514nm,19.0s							
PSZ	**Piszkesteto**	**103.28**	**317**	PFAKE			21 09 00.0	+13
PSZ				LR	LR			
	comp=Z,619nm,20.0s							
OKC	**Ostrava-Krasne**	**104.42**	**319**	*e*PP		PP	21 13 13.6	+2.7
OKC				*ex*	x		21 19 45.1	
OKC				*ex*	x		21 22 47.1	
OKC				AMS	AMS		22 00 10.0	
	comp=Z,600nm,24.2s							
HYT	**Haines Junctio**	**105.34**	**30**	*e*PKPdf		**PKiKP**	**21 13 12.6**	**+2.8**
PMSA	**Palmer Station**	**105.43**	**179**	PFAKE			21 13 20.0	
PMSA				LR	LR			
	comp=Z,2µm,22.0s							
TIP	**Timpagrande**	**105.54**	**308**	PFAKE			21 13 20.0	
TIP				LR	LR			
	comp=Z,343nm,21.0s							
DPC	**Dobruska-Polom**	**105.57**	**320**	*e*SKS		**SKSac**	**21 19 36.8**	**+0.7**
DPC				AMS	AMS		22 01 10.0	
INK	**Inuvik**	**105.74**	**22**	Pdif		**Pdif**	**21 08 58.0**	**+0.6**
INK	**Inuvik**	**105.74**	**22**	Pdiff		**Pdif**	**21 08 58.0**	**+0.6**
	comp=Z,3.5nm,0.9s,baz=297,slow=2.3,SNR=4.0							
CONA	**Conrad Observa**	**106.00**	**317**	⇑*i*PP		PP	21 13 20.6	-2.2
	comp=Z,16nm,1.4s							
TREC	**Trest**	**106.17**	**318**	AMS	AMS		22 01 20.0	
	comp=Z,1µm,23.8s							
CEL	**Celeste**	**106.21**	**307**	PFAKE			21 13 20.0	
CEL				LR	LR			
	comp=Z,483nm,20.0s							
ARSA	**Arzberg**	**106.26**	**316**	⇑*i*pPKiKP		**PP**	**21 13 23.0**	**-1.6**
	comp=Z,17nm,1.7s							
CUC	**Castrocucco**	**106.26**	**309**	PFAKE			21 13 20.0	
CUC				LR	LR			
	comp=Z,566nm,19.0s							
SOKA	**Soboth**	**106.62**	**316**	⇑*i*pPKiKP		**PP**	**21 13 23.7**	**-3.7**
	comp=Z,23nm,2.0s							
PVCC	**Panska Ves**	**106.67**	**320**	AMS	AMS		22 03 20.0	
	comp=Z,700nm,20.1s							
PRU	**Pruhonice**	**106.73**	**319**	*ex*	x		21 15 42.5	
PRU				*e*SKS		**SKSac**	**21 19 40.5**	**-0.7**
PRU				*e*PS		**PS**	**21 22 48.2**	**+0.3**
PRU				AMS	AMS		21 59 00.0	
	comp=Z,800nm,24.9s							
BRG	**Berggiesshubel**	**107.04**	**320**	*e*P		**PP**	**21 13 26.4**	**-3.8**
	comp=Z,8.4nm,1.2s							
BRG				S	PS		21 23 02.0	+11
BRG								
	comp=N,774nm,19.8s							
BRG								
	comp=E,402nm,23.2s							
BRG								
	comp=Z,577nm,23.2s							
GERES	**GERESS Array B**	**107.37**	**318**	Pdif		**Pdif**	**21 09 08.7**	**+3.4**
GERES				PKiKP		**PKiKP**	**21 13 15.2**	**+1.3**
GERES				PP		PP	21 13 27.6	-5.2
GERES	**GERESS Array B**	**107.37**	**318**	Pdiff		**Pdif**	**21 09 08.7**	**+3.4**
	comp=Z,0.4nm,0.8s,baz=102,slow=4.1,SNR=3.1							
GERES				PKiKP		**PKiKP**	**21 13 15.2**	**+1.3**
	comp=Z,1.2nm,0.9s,baz=98,slow=4.3,SNR=5.1							
GERES				PP		PP	21 13 27.6	-5.2
	comp=Z,2.1nm,1.0s,baz=86,slow=7.6,SNR=5.2							
KHC	**Kasperske Hory**	**107.43**	**318**	*ex*	x		21 13 21.5	
KHC				*e*SKS		**SKSac**	**21 19 46.1**	**+1.7**
KHC				*e*PS		**PS**	**21 22 59.9**	**+4.7**
KHC				*ex*	x		21 24 17.5	
KHC				AMS	AMS		22 02 00.0	
	comp=Z,900nm,23.1s							
CLL	**Collm**	**107.59**	**321**	*e*PKiKP		**PKiKP**	**21 13 13.0**	**-1.1**
	comp=Z,10.0nm,1.4s							
CLL				*i* pPKiKP		**pPKiKP**	**21 13 26.0**	**+4.6**
	comp=Z,35nm,1.8s							
CLL				*e*SKSac		**SKSac**	**21 19 42.0**	**-2.9**
CLL				*e*Sdif		**Sdif**	**21 21 06.0**	**-3.1**
CLL				*e*PS		**PS**	**21 23 00.0**	**+3.4**
CLL				*e*PPS		PPS	21 23 54.0	
CLL				*e*			21 27 54.0	
CLL				*e*SS		SS	21 28 30.0	-13
CLL				*e*			21 33 54.0	
CLL				*e*			21 35 06.0	
CLL				Lm		MLR	22 07 00.0	
	comp=Z,600nm,21.2s							
AQU	**L'Aquila**	**108.01**	**311**	PFAKE			21 13 30.0	
AQU				LR	LR			
	comp=Z,1µm,22.0s							
NKC	**Novy Kostel**	**108.05**	**320**	AMS	AMS		22 04 40.0	
	comp=Z,400nm,23.3s							
KONO	**Kongsberg**	**108.22**	**330**	PFAKE			21 13 30.0	
KONO				LR	LR			
	comp=Z,1µm,19.0s							
VLC	**Villacollemand**	**110.08**	**313**	PFAKE			21 13 30.0	
VLC				LR	LR			
	comp=Z,620nm,22.0s							
TUE	**Stuetta**	**110.55**	**316**	PFAKE			21 13 30.0	
TUE				LR	LR			
	comp=Z,663nm,20.0s							
BFO	**Black Forest**	**110.97**	**318**	PFAKE			21 13 30.0	
BFO				LR	LR			
	comp=Z,496nm,19.0s							
PGF	**Pioggiola**	**111.25**	**312**	*e*PKiKP		**PKiKP**	**21 13 19.7**	**-1.7**
PGF	**Pioggiola**	**111.25**	**312**	*e*PKiKP		**PKiKP**	**21 13 19.7**	**-1.7**
PGF	**Pioggiola**	**111.25**	**312**	*e*PKPdf		**PKiKP**	**21 13 19.7**	**-1.7**
ECH	**Echery**	**111.77**	**318**	PFAKE			21 13 30.0	
ECH				LR	LR			
	comp=Z,713nm,20.0s							
WLF	**Walferdange**	**112.16**	**320**	PFAKE			21 13 30.0	
WLF				LR	LR			
	comp=Z,936nm,20.0s							
SBF	**Sospel**	**112.23**	**313**	*e*PKiKP		**PKiKP**	**21 13 21.6**	**-1.6**
	comp=Z,65nm,1.2s							
SBF	**Sospel**	**112.23**	**313**	*e*PKiKP		**PKiKP**	**21 13 21.6**	**-1.6**
SBF	**Sospel**	**112.23**	**313**	*e*PKPdf		**PKiKP**	**21 13 21.6**	**-1.6**
BNI	**Bardonecchia**	**112.59**	**315**	PFAKE			21 13 40.0	
BNI				LR	LR			
	comp=Z,934nm,22.0s							
ORIF	**Oris-en-Rattie**	**113.17**	**315**	*e*PKiKP		**PKiKP**	**21 13 23.1**	**-1.9**
ORIF	**Oris-en-Rattie**	**113.17**	**315**	*e*PKiKP		**PKiKP**	**21 13 23.1**	**-1.9**
ORIF	**Oris-en-Rattie**	**113.17**	**315**	*e*PKPdf		**PKiKP**	**21 13 23.1**	**-1.9**
VIVF	**Saint-Julien-l**	**114.03**	**315**	*e*PKiKP		PKPdf	21 13 24.6	-1.9
	comp=Z,14nm,1.1s							
VIVF	**Saint-Julien-l**	**114.03**	**315**	*e*PKiKP		PKPdf	21 13 24.6	-1.9
VIVF	**Saint-Julien-l**	**114.03**	**315**	*e*PKPdf		PKPdf	21 13 24.6	-1.9
SSB	**Saint Sauveur**	**114.05**	**315**	PFAKE			21 13 40.0	+13
SSB				LR	LR			
	comp=Z,471nm,19.0s							
LOR	**Lormes**	**114.13**	**317**	*e*PKiKP		PKPdf	21 13 25.0	-1.6
	comp=Z,19nm,1.1s							
LOR	**Lormes**	**114.13**	**317**	*e*PKPdf		PKPdf	21 13 25.0	-1.6
SSF	**Saint Saulge**	**114.41**	**317**	*e*PKiKP		PKPdf	21 13 26.7	-0.4
	comp=Z,20nm,1.0s							
SSF	**Saint Saulge**	**114.41**	**317**	*e*PKiKP		PKPdf	21 13 26.7	-0.4
SSF	**Saint Saulge**	**114.41**	**317**	*e*PKPdf		PKPdf	21 13 26.7	-0.4
BGF	**Bois d'Agland**	**114.96**	**317**	*e*PKiKP		PKPdf	21 13 26.7	-1.5
	comp=Z,68nm,1.4s							
BGF	**Bois d'Agland**	**114.96**	**317**	*e*PKiKP		PKPdf	21 13 26.7	-1.5
BGF	**Bois d'Agland**	**114.96**	**317**	*e*PKPdf		PKPdf	21 13 26.7	-1.5
TAM	**Tamanrasset**	**115.17**	**290**	*e*PKiKP		**PKPdf**	**21 13 31.2**	**+1.7**
TAM				MLR	MLR			
	comp=Z,520nm,19.0s							
TAM	**Tamanrasset**	**115.17**	**290**	*e*PKPdf		**PKPdf**	**21 13 31.2**	**+1.7**
TAM				LR	LR			
	comp=Z,520nm,19.0s							
YKA	**Yellowknife Ar**	**115.17**	**24**	PKP		**PKPdf**	**21 13 29.1**	**+1.0**
YKA	**Yellowknife Ar**	**115.17**	**24**	PKP		**PKPdf**	**21 13 29.1**	**+1.0**
	comp=Z,1.3nm,0.6s,baz=304,slow=1.7,SNR=6.2							
NLWA	**Neilton Lookou**	**115.71**	**42**	PFAKE			21 13 40.0	+10
NLWA				LR	LR			
	comp=Z,374nm,20.0s							
CAF	**Calviac**	**115.84**	**315**	*e*PKiKP		**PKPdf**	**21 13 28.4**	**-1.6**
	comp=Z,19nm,1.1s							
CAF	**Calviac**	**115.84**	**315**	*e*PKiKP		**PKPdf**	**21 13 28.4**	**-1.6**
CAF	**Calviac**	**115.84**	**315**	*e*PKPdf		**PKPdf**	**21 13 28.4**	**-1.6**
ESK	**Eskdalemuir**	**116.08**	**327**	PFAKE			21 13 40.0	+10
ESK			

SFJD LR LR
comp=Z,961nm,20.0s
TPH Tonopah 122.71 51 PFAKE 21 14 00.0 +16
TPH LR LR
comp=Z,363nm,20.0s
CHMT Chamberlain Mo 122.74 40 *e*PKPdf **PKPdf 21 13 43.9 +0.5**
EDW2 Edwards Air Fo 122.81 55 P **PKPdf 21 13 44.5 +0.7**
baz=123
MPMC Manual Prospec 122.97 53 P **PKPdf 21 13 45.3 +1.1**
baz=123
HLID Hailey 123.18 44 *e*PKPdf **PKPdf 21 13 45.4 +1.0**
HLID LR LR
comp=Z,314nm,20.0s
HLID Hailey 123.18 44 P **PKPdf 21 13 45.5 +1.1**
baz=123
MVO Moncorvo 123.23 313 *e*PKPdf **PKPdf 21 13 43.6 -0.8**
MVO Moncorvo 123.23 313 *e*LR LR 22 01 35.5
comp=Z,321nm,18.0s
MDT Midelt 123.33 303 PKP **PKPdf 21 13 46.2 +1.3**
MDT Midelt 123.33 303 PKP **PKPdf 21 13 46.2 +1.3**
comp=Z,3.3nm,0.9s,baz=20,slow=4.8,SNR=5.6
ELK Elko 123.48 47 *e*PKPdf **PKPdf 21 13 46.4 +1.2**
ELK *e*PP **PP 21 15 30.2 +3.7**
GSC Goldstone 123.67 54 *e*PKIKP **PKPdf 21 13 47.5 +2.0**
GSC Goldstone 123.67 54 *e*PKPdf **PKPdf 21 13 47.5 +2.0**
GSC Goldstone 123.67 54 P **PKPdf 21 13 46.3 +0.9**
baz=124
MTE Manteigas 123.83 312 *e*LR LR 22 03 35.6
comp=Z,414nm,20.0s
MTE Manteigas 123.83 312 PFAKE 21 14 00.0 +14
MTE LR LR
comp=Z,650nm,22.0s
PGAV Gavieira, Arco 123.87 314 *e*LR LR 22 03 49.0
comp=Z,398nm,20.0s
R11A Troy Canyon, C 123.89 50 P **PKPdf 21 13 47.1 +1.2**
baz=124
PCBR Castelo Branco 123.95 312 *e*PKPdf **PKPdf 21 13 47.3 +1.6**
PVIS Viseu 124.00 313 *e*PKPdf **PKPdf 21 13 44.4 -1.5**
PMRV Marv??o 124.00 311 *e*PKPdf **PKPdf 21 13 47.5 +1.6**
PMRV Marv??o 124.00 311 *e*LR LR 22 03 56.5
comp=Z,315nm,20.0s
KIC Kosan Boka 124.03 271 *e*PKIKP **PKPdf 21 13 47.0 +0.4**
comp=Z,38nm,1.1s
PBAR Barrancos 124.08 310 *e*PKPdf **PKPdf 21 13 47.8 +1.8**
DBIC Dimbokro 124.19 271 *e*PKPdf **PKPdf 21 13 46.8 0.0**
DBIC PKP **PKPdf 21 13 47.5 +0.6**
DBIC Dimbokro 124.19 271 PKP **PKPdf 21 13 47.5 +0.6**
comp=Z,7.4nm,0.8s,baz=20,slow=2.7,SNR=6.9
LIC Lamto 124.30 271 *e*PKIKP **PKPdf 21 13 47.2 +0.1**
comp=Z,13nm,0.6s
LIC Lamto 124.30 271 *e*PKIKP **PKPdf 21 13 47.5 +0.4**
comp=Z,35nm,1.0s
LIC Lamto 124.30 271 *e*PKPdf **PKPdf 21 13 47.2 +0.1**
PFO Pinyon Flat Ob 124.31 56 PKPdf **PKPdf 21 13 48.7 +1.9**
PFO LR LR
comp=Z,308nm,19.0s
PFO Pinyon Flat Ob 124.31 56 P **PKPdf 21 13 48.6 +1.8**
baz=124
PESTR Estremoz 124.31 310 *e*PKPdf **PKPdf 21 13 47.8 +1.3**
TIC Toumodi 124.34 271 *e*PKIKP **PKPdf 21 13 47.0 -0.2**
comp=Z,49nm,1.1s
EGMT Eagleton 124.44 38 PFAKE 21 14 00.0 +13
EGMT LR LR
comp=Z,476nm,20.0s
EGMT Eagleton 124.44 38 P **PKPdf 21 13 47.7 +1.2**
baz=124
BELC Belle Mtn. Jos 124.60 56 P **PKPdf 21 13 49.4 +2.1**
baz=125
SHPR Sheep Range 124.69 52 *e*PKPdf **PKPdf 21 13 49.6 +2.1**
GMRC Granite Mounta 124.70 55 P **PKPdf 21 13 48.0 +0.5**
baz=125
EVO Evora 124.72 310 ⇑*i*PKIKP **PKPdf 21 13 48.5 +1.3**
comp=Z,46nm,1.4s
EVO Evora 124.72 310 *e*PKPdf **PKPdf 21 13 48.9 +1.7**
PMTG Montargil 124.73 311 *e*PKPdf **PKPdf 21 13 48.3 +1.1**
PBEJ Beja 124.75 310 *e*PKPdf **PKPdf 21 13 49.0 +1.7**
PVAQ Vaqueiros 124.80 309 *e*PKPdf PKPdf 21 13 54.3 +6.9
PVAQ Vaqueiros 124.80 309 *e*LR LR 22 05 49.8
comp=Z,300nm,22.0s
EVOP Sao Brissos 124.80 310 ⇑*i*PKIKP **PKPdf 21 13 48.5 +1.1**
EVOP Sao Brissos 124.80 310 ⇑*i*PKPdf **PKPdf 21 13 48.5 +1.1**
HVU Hansel Valley 124.92 46 *e*PKIKP **PKPdf 21 13 49.5 +1.8**
HVU Hansel Valley 124.92 46 *e*PKPdf **PKPdf 21 13 49.5 +1.8**
RTC Rabat Centre 124.94 305 PFAKE 21 14 00.0 +12
RTC LR LR
comp=Z,340nm,20.0s
FFC Flin Flon 124.97 28 *i* PKIKP **PKPdf 21 13 49.2 +2.0**
FFC Flin Flon 124.97 28 PFAKE 21 14 00.0 +13
FFC LR LR
comp=Z,263nm,20.0s
PCVE Castro Verde 124.99 309 *e*PKPdf **PKPdf 21 13 49.8 +2.0**
C19A Slack Wire Ran 124.99 38 P **PKPdf 21 13 48.4 +0.8**
baz=125
PBDV Barranco-do-Ve 125.01 309 *e*PKPdf **PKPdf 21 13 50.0 +2.1**
BGU Big Grassy Mou 125.02 47 *e*PKPdf **PKPdf 21 13 46.8 -1.2**
LDFC Landfair 125.08 54 *e*PKPdf **PKPdf 21 13 47.8 -0.4**
BC3 Big Chuckawall 125.11 56 P **PKPdf 21 13 47.7 -0.6**
baz=125
A20A Cobblestone Ra 125.12 36 P **PKPdf 21 13 48.9 +1.1**
baz=125
PNCL Nicolau / Gran 125.23 310 *e*PKPdf **PKPdf 21 13 49.9 +1.7**
IRM Iron Mountain 125.25 55 P **PKPdf 21 13 49.2 +0.7**
baz=125
B20A Solberg Farm, 125.28 36 P **PKPdf 21 13 48.3 +0.2**
baz=125
D19A Cripps Ranch, 125.35 38 P **PKPdf 21 13 48.4 +0.1**
baz=125
DUG Dugway 125.41 47 *e*PKIKP **PKPdf 21 13 50.9 +2.2**
DUG MLR MLR
comp=Z,404nm,19.0s
DUG Dugway 125.41 47 *e*PKPdf **PKPdf 21 13 50.9 +2.2**
DUG LR LR
comp=Z,404nm,19.0s
DUG Dugway 125.41 47 P **PKPdf 21 13 49.7 +1.0**
baz=125
LKWY Lake 125.50 42 PFAKE 21 14 00.0 +11
LKWY LR LR
comp=Z,581nm,20.0s
MORF Marmelete 125.55 309 *e*PKPdf **PKPdf 21 13 49.6 +0.7**
C20A Veseth Ranch, 125.63 37 P **PKPdf 21 13 49.6 +0.9**
baz=126
AHID Auburn Hatcher 125.73 44 PFAKE 21 14 00.0 +11
AHID LR LR
comp=Z,595nm,19.0s
GLA Glamis 125.75 56 P **PKPdf 21 13 49.5 0.0**
baz=126
B21A Ellsworth Farm 125.87 36 P **PKPdf 21 13 49.8 +0.6**
baz=126
RLMT Red Lodge 126.00 41 PFAKE 21 14 00.0 +10
RLMT LR LR
comp=Z,441nm,20.0s
W13A Hualapai Mount 126.05 54 P **PKPdf 21 13 52.1 +1.9**
baz=126
C21A Desert Coulee 126.11 37 P **PKPdf 21 13 51.5 +1.8**
baz=126
A22A Carney Farms, 126.21 35 P **PKPdf 21 13 49.8 -0.1**
baz=126
MPU Maple Canyon 126.33 47 *e*PKPdf **PKPdf 21 13 51.8 +1.2**
MVU Marysvale 126.39 49 PFAKE 21 14 00.0 +9.2
MVU LR LR
comp=Z,443nm,21.0s
B22A Reddig Ranch S 126.52 36 P **PKPdf 21 13 51.9 +1.4**
baz=126
D21A La Casta Ranch 126.54 38 P **PKPdf 21 13 51.9 +1.4**
baz=126
BW06 Boulder Array 126.78 43 PFAKE 21 14 00.0 +8.6
BW06 LR LR
comp=Z,370nm,20.0s
PDAR Pinedale Array 126.78 43 PKP **PKPdf 21 13 52.0 +0.6**
PDAR Pinedale Array 126.78 43 PKP **PKPdf 21 13 52.0 +0.6**
comp=Z,1.6nm,0.8s,baz=285,slow=2.0,SNR=11
C22A Vida 126.86 36 P **PKPdf 21 13 52.4 +1.3**
baz=127
TMUT Trail Mountain 126.88 48 PKPdf **PKPdf 21 13 53.8 +2.0**
TMUT *e*SKP 21 17 32.0
J19A Crowheart 126.92 43 P **PKPdf 21 13 52.6 +1.0**
baz=127
U15A North Rim 126.94 52 P **PKPdf 21 13 53.5 +1.6**
baz=127
B23A Brockton 127.01 35 P **PKPdf 21 13 53.7 +2.3**
baz=127
LAO LASA Array 127.18 38 *e*PKPdf **PKPdf 21 13 52.9 +1.1**
LAO LR LR
comp=Z,355nm,19.0s
C23A Lambert 127.24 36 P **PKPdf 21 13 53.8 +2.0**
baz=127

SRU San Rafael 127.44 48 *e*PKIKP **PKPdf 21 13 53.7 +1.0**
SRU San Rafael 127.44 48 *e*PKPdf **PKPdf 21 13 53.7 +1.0**
DGMT Dagmar 127.46 35 PFAKE 21 14 00.0 +7.8
DGMT LR LR
comp=Z,441nm,21.0s
D23A Lindsay 127.55 37 P **PKPdf 21 13 53.2 +0.7**
baz=128
WUAZ Wupatki 127.91 53 PFAKE 21 14 10.0 +16
WUAZ LR LR
comp=Z,466nm,19.0s
O20A White River Ci 128.71 46 P **PKPdf 21 13 55.0 -0.1**
baz=129
P20A De Beque 128.84 47 P **PKPdf 21 13 57.6 +2.3**
baz=129
Q20A Ridgley Place, 129.12 47 P **PKPdf 21 13 57.3 +1.4**
baz=129
PV01 Paradox Valley 129.21 48 *e*PKPdf **PKPdf 21 13 57.3 +1.1**
TUC Tucson 129.24 56 *e*PKIKP **PKPdf 21 13 57.2 +1.0**
TUC MLR MLR
comp=Z,441nm,21.0s
TUC Tucson 129.24 56 *e*PKPdf **PKPdf 21 13 57.2 +1.0**
TUC LR LR
comp=Z,441nm,21.0s
R20A Redvale 129.33 48 P **PKPdf 21 13 58.2 +1.9**
baz=129
A28A Rude Farm, Bot 129.36 33 P **PKPdf 21 13 58.2 +2.4**
baz=129
S20A Disappointment 129.47 49 P **PKPdf 21 13 58.0 +1.3**
baz=129
E26A Carlson Angus 129.52 36 P **PKPdf 21 13 57.8 +1.5**
baz=129
MVCO Mesa Verde 129.59 50 *e*PKPdf **PKPdf 21 13 58.0 +1.1**
MVCO LR LR
comp=Z,490nm,19.0s
H25A Fruitdale 129.81 39 P **PKPdf 21 13 57.8 +0.9**
baz=130
R21A Cimarron 129.88 48 P **PKPdf 21 13 58.6 +1.2**
baz=130
A29A Manning Farm, 129.89 32 P **PKPdf 21 13 58.0 +1.2**
baz=130
S21A Coal Bank Pass 129.96 49 P **PKPdf 21 13 59.9 +2.2**
baz=130
ASCN Ascension 130.06 251 PFAKE 21 14 10.0 +12
ASCN LR LR
comp=Z,376nm,20.0s
Q22A Crested Butte, 130.15 47 P **PKPdf 21 13 59.8 +1.8**
baz=130
D28A Regan 130.20 34 P **PKPdf 21 13 59.6 +2.1**
baz=130
W20A Ramah 130.27 52 P **PKPdf 21 14 00.7 +2.4**
baz=130
H26A Fairpoint 130.31 38 P **PKPdf 21 13 59.8 +2.0**
baz=130
T21A Navajo Lake 130.38 49 P **PKPdf 21 13 59.5 +1.1**
baz=130
G27A Dupree 130.42 37 P **PKPdf 21 13 59.4 +1.4**
baz=130
U21A Nageezi 130.49 50 P **PKPdf 21 14 01.5 +2.9**
baz=130
S22A 4UR Ranch, Cre 130.63 48 P **PKPdf 21 14 01.6 +2.6**
baz=131
ISCO Idaho Springs 130.70 45 *e*PKIKP **PKPdf 21 14 01.2 +2.2**
ISCO MLR MLR
comp=Z,377nm,21.0s
ISCO Idaho Springs 130.70 45 *e*PKPdf **PKPdf 21 14 01.2 +2.2**
ISCO *e*SKP 21 17 21.2
ISCO LR LR
comp=Z,377nm,21.0s
ISCO Idaho Springs 130.70 45 P **PKPdf 21 14 01.0 +2.0**
baz=131
ULM Lac du Bonnet 130.71 29 *e*PKPdf **PKPdf 21 13 57.7 -0.6**
ULM PKP **PKPdf 21 13 59.8 +1.5**
ULM *e*SKP 21 17 16.4
ULM SKPbc **SKPbc 21 17 20.1 -0.9**
ULM Lac du Bonnet 130.71 29 PKP **PKPdf 21 13 59.8 +1.5**
comp=Z,1.8nm,0.6s,baz=278,slow=3.5,SNR=4.6
ULM SKPbc **SKPbc 21 17 20.1 -0.9**
comp=Z,6.4nm,0.9s,baz=303,slow=6.2,SNR=5.8
319A Douglas 130.72 57 P **PKPdf 21 14 01.8 +2.7**
baz=131
Z20A Nine Sixteen R 130.81 55 P **PKPdf 21 14 02.0 +2.8**
baz=131
T22A Edith 130.85 49 P **PKPdf 21 14 02.2 +2.9**
baz=131
C30A Mose, Pekin 131.04 33 P **PKPdf 21 14 00.4 +1.4**
baz=131
X21A Alamocita Cree 131.04 53 P **PKPdf 21 14 01.8 +2.1**
baz=131
U22A Llaves 131.11 50 P **PKPdf 21 14 02.5 +2.6**
baz=131
R23A Moffat 131.20 47 P **PKPdf 21 14 02.6 +2.6**
baz=131
220A Playas Peak, P 131.20 56 P **PKPdf 21 14 02.6 +2.6**
baz=131
V22A San Miguel Ran 131.24 51 P **PKPdf 21 14 01.6 +1.5**
baz=131
D30A Buchanan 131.25 34 P **PKPdf 21 14 02.0 +2.5**
baz=131
Y21A Mint of Rocks 131.27 53 P **PKPdf 21 14 01.2 +1.0**
baz=131
SDCO Great Sand Dun 131.61 48 *e*PKPdf **PKPdf 21 14 02.6 +1.8**
SDCO *e*SKP 21 17 25.0
SDCO LR LR
comp=Z,370nm,21.0s
V23A Ortiz Mt. (NFS 131.85 51 P **PKPdf 21 14 03.0 +1.8**
baz=132
H29A Onida 131.85 37 P **PKPdf 21 14 02.7 +2.0**
baz=132
J28A Allard Ranch, 131.88 39 P **PKPdf 21 14 03.0 +2.1**
baz=132
ANMO Albuquerque 131.91 52 PKPdf **PKPdf 21 13 59.3 -2.0**
ANMO *e*SKP 21 17 26.2
ANMO LR LR
comp=Z,349nm,20.0s
AGMN Agassiz Nation 132.02 31 PFAKE 21 14 10.0 +9.2
AGMN LR LR
comp=Z,415nm,20.0s
BNM Barren Site 132.05 53 PKPdf **PKPdf 21 14 04.3 +2.7**
BNM *e*SKP 21 17 26.6
Z22A Elephant Butte 132.07 54 P **PKPdf 21 14 02.9 +1.3**
baz=132
G30A Faulkton 132.20 36 P **PKPdf 21 14 03.1 +1.8**
baz=132
TRQA Tornquist 132.21 179 PFAKE 21 14 10.0 +8.4
TRQA LR LR
comp=Z,937nm,19.0s
P26A Davis Ranch, A 132.38 45 P **PKPdf 21 14 03.4 +1.4**
baz=132
S25A Robets Cordova 132.42 47 P **PKPdf 21 14 03.6 +1.4**
baz=132
OGNE Ogallala 132.62 42 PFAKE 21 14 10.0 +7.7
OGNE LR LR
comp=Z,501nm,20.0s
Z23A Rita Site, Whi 132.65 54 P **PKPdf 21 14 04.9 +2.3**
baz=133
U25A Circle Dot Ran 132.94 49 P **PKPdf 21 14 04.6 +1.4**
baz=133
V25A Rancho No Teng 133.00 50 P **PKPdf 21 14 03.6 +0.3**
baz=133
Y24A Capitan 133.06 53 P **PKPdf 21 14 03.7 +0.2**
baz=133
S26A Kim 133.13 47 P **PKPdf 21 14 03.8 +0.4**
baz=133
T26A Comanche Natio 133.23 48 P **PKPdf 21 14 04.5 +0.7**
baz=133
Z24A Sheeppen Canyo 133.31 53 P **PKPdf 21 14 04.5 +0.5**
baz=133
R27A Eads 133.32 46 P **PKPdf 21 14 04.5 +0.7**
baz=133
W25A X Bar L Ranch, 133.35 50 P **PKPdf 21 14 04.7 +0.7**
baz=133
124A Stringfield Ra 133.45 54 P **PKPdf 21 14 05.1 +0.8**
baz=133
S27A Las Animas 133.51 47 P **PKPdf 21 14 05.4 +1.2**
baz=133
224A Cornudas Mount 133.59 55 P **PKPdf 21 14 05.5 +1.0**
baz=134
V26A Tequesquite Ra 133.64 49 P **PKPdf 21 14 05.6 +1.1**
baz=134
Y25A Mesa, Roswell 133.64 52 P **PKPdf 21 14 05.8 +1.3**
baz=134
Q28A Sharon Springs 133.65 44 P **PKPdf 21 14 05.4 +1.1**
baz=134
324A Moseley Ranch, 133.82 56 P **PKPdf 21 14 06.6 +1.6**
baz=134
MNTX Cornudas Mount 133.82 55 *e*PKPdf **PKPdf 21 14 07.8 +3.0**
MNTX *e*SKP 21 17 32.0

MNTX LR LR
comp=Z,409nm,21.0s
Z25A Roswell 133.84 53 P **PKPdf 21 14 06.8 +1.9**
baz=134
T27A Campo 133.91 47 P **PKPdf 21 14 06.6 +1.6**
baz=134
R28A Tribune 134.00 45 P **PKPdf 21 14 06.7 +1.7**
baz=134
X26A CR and CF Fran 134.09 51 P **PKPdf 21 14 06.6 +1.3**
baz=134
125A Gardner Draw, 134.09 54 P **PKPdf 21 14 06.3 +0.9**
baz=134
S28A Manter 134.27 46 P **PKPdf 21 14 07.9 +2.3**
baz=134
T28A Walsh 134.32 47 P **PKPdf 21 14 07.1 +1.5**
baz=134
425A Indio Mountain 134.42 56 P **PKPdf 21 14 06.1 0.0**
baz=134
W27A Bowe Ranch, En 134.47 50 P **PKPdf 21 14 06.5 +0.4**
baz=134
ECSD EROS Data Cent 134.48 36 *e*PKPpre PKPpre 21 14 02.0
ECSD *e*SKP 21 17 36.0
ECSD LR LR
comp=Z,619nm,20.0s
226B Tecolote Peak, 134.68 54 P **PKPdf 21 14 07.1 +0.6**
baz=135
Y27A Causey 134.84 52 P **PKPdf 21 14 08.0 +1.2**
baz=135
BGNE Belgrade 134.89 40 P **PKPdf 21 14 07.6 +1.1**
baz=135
Z27A Tatum 135.00 52 P **PKPdf 21 14 08.8 +1.7**
baz=135
SCHQ Schefferville 135.04 5 PKP **PKPdf 21 14 08.2 +1.8**
SCHQ SKPbc **SKPbc 21 17 37.4 +1.5**
SCHQ Schefferville 135.04 5 PKP **PKPdf 21 14 08.2 +1.8**
comp=Z,3.0nm,0.9s,baz=0.2,slow=3.9,SNR=3.4
SCHQ SKPbc **SKPbc 21 17 37.4 +1.5**
comp=Z,5.1nm,1.0s,baz=207,slow=4.5,SNR=2.5
326A Caldwell Ranch 135.08 55 P **PKPdf 21 14 08.2 +0.9**
baz=135
R30A Dighton 135.09 45 P **PKPdf 21 14 07.9 +0.9**
baz=135
P31A Stockton 135.09 43 P **PKPdf 21 14 08.6 +1.7**
baz=135
MSTX Muleshoe 135.11 51 P **PKPdf 21 14 08.3 +1.0**
baz=135
526A Mary Lane Ranc 135.38 57 P **PKPdf 21 14 09.3 +1.3**
baz=135
626A Big Bend Ranch 135.49 58 P **PKPdf 21 14 08.6 +0.5**
baz=135
AMTX Amarillo 135.58 50 P **PKPdf 21 14 08.7 +0.6**
baz=136
427A Hayter Ranch, 135.69 56 P **PKPdf 21 14 09.5 +1.1**
baz=136
527A Woodward Ranch 135.74 57 P **PKPdf 21 14 09.3 +0.7**
baz=136
Q32A Meitler Ranch, 135.91 43 P **PKPdf 21 14 09.2 +0.7**
baz=136
TXAR Lajitas Array 135.94 58 PKPpre PKPpre 21 14 04.6
TXAR PKP **PKiKP 21 14 10.9 +0.3**
TXAR SKPbc **SKPbc 21 17 39.9 +0.3**
TXAR Lajitas Array 135.94 58 PKhKP PKPpre 21 14 04.6
comp=Z,0.7nm,0.7s,baz=276,slow=2.4,SNR=6.1
TXAR PKP **PKiKP 21 14 10.9 +0.3**
comp=Z,0.8nm,0.7s,baz=333,slow=0.4,SNR=7.8
TXAR SKPbc **SKPbc 21 17 39.9 +0.3**
comp=Z,2.7nm,1.1s,baz=299,slow=2.6,SNR=5.8
Y29A Porterfield Fa 135.99 51 P **PKPdf 21 14 09.0 +0.1**
baz=136
428A Kincaid Ranch, 136.32 56 P **PKPdf 21 14 07.0 -2.6**
baz=136
Z30A Sanderson Ranc 136.63 52 P **PKPdf 21 14 09.5 -0.6**
baz=137
R33A Olander Ranch, 136.65 43 P **PKPdf 21 14 09.4 -0.5**
baz=137
COWI Conover 136.83 28 PFAKE 21 14 20.0 +10
COWI LR LR
comp=Z,740nm,19.0s
529A Stev Forest Ra 136.89 56 P **PKPdf 21 14 11.2 +0.6**
baz=137
X31A McDonald Ranch 136.96 49 P **PKPdf 21 14 11.2 +0.7**
baz=137
429A Davenport Ranc 137.00 55 P **PKPdf 21 14 08.4 -2.4**
baz=137
KSU1 Kansas State U 137.14 41 *e*PKPdf **PKPdf 21 14 11.7 +0.9**
KSU1 LR LR
comp=Z,510nm,21.0s
WMOK Wichita Mounta 137.80 48 PFAKE 21 14 20.0 +7.9
WMOK LR LR
comp=Z,420nm,21.0s
332A Millersview 138.45 53 P **PKPdf 21 14 13.2 -0.2**
baz=138
631A Perdido Creek 138.48 57 P **PKPdf 21 14 14.0 +0.5**
baz=138
JFWS Jewell Farm 138.56 33 PFAKE 21 14 20.0 +6.8
JFWS LR LR
comp=Z,592nm,20.0s
JCT Junction City 138.74 55 *e*PKPpre PKPpre 21 14 08.5
JCT LR LR
comp=Z,436nm,21.0s
LCO Las Campanas 140.17 167 PFAKE 21 14 30.0 +13
LCO LR LR
comp=Z,2µm,21.0s
HDIL Hopedale 140.69 34 PFAKE 21 14 30.0 +13
HDIL LR LR
comp=Z,604nm,21.0s
KVTX Kingsville 141.33 58 PFAKE 21 14 30.0 +11
KVTX LR LR
comp=Z,509nm,19.0s
MIAR Mount Ida 141.64 45 *e*PKIKP PKPdf 21 14 13.7 -5.3
MIAR MLR MLR
comp=Z,415nm,20.0s
MIAR Mount Ida 141.64 45 *e*PKPdf PKPdf 21 14 13.7 -5.3
MIAR *e*SKP 21 17 52.9
MIAR LR LR
comp=Z,415nm,20.0s
HKT Hockley 142.11 53 *e*PKIKP **PKPdf 21 14 18.0 -1.9**
HKT Hockley 142.11 53 *e*PKPdf **PKPdf 21 14 18.0 -1.9**
HKT *e*SKP 21 17 52.8
NATX Nacogdoches 142.22 50 PFAKE 21 14 30.0 +10
NATX LR LR
comp=Z,864nm,19.0s
OLIL Olney 142.61 36 *e*PKPdf **PKPdf 21 14 17.3 -3.3**
SIUC Southern Illin 142.62 38 *e*PKPpre PKPpre 21 14 14.7
SACV Santiago Islan 142.98 282 PFAKE 21 14 30.0 +8.0
SACV LR LR
comp=Z,796nm,19.0s
USIN University of 143.38 36 *e*PKPdf PKPbc 21 14 19.5 +0.4
GLAT Glass 143.50 40 *e*PKPdf PKPbc 21 14 20.2 +0.6
LONY Lake Ozonia 143.61 16 PFAKE 21 14 30.0 +7.7
LONY LR LR
comp=Z,820nm,20.0s
CPUP Villa Florida 143.71 186 PKP **PKPdf 21 14 23.5 +0.5**
CPUP Villa Florida 143.71 186 PKP **PKPdf 21 14 23.5 +0.5**
comp=Z,2.1nm,0.6s,baz=126,slow=2.0,SNR=4.7
WCI Wyandotte Cave 143.98 35 *e*PKIKP PKPab 21 14 20.7 +0.3
WCI Wyandotte Cave 143.98 35 *e*PKPdf PKPab 21 14 20.7 +0.3
ERPA Erie 144.00 24 PFAKE 21 14 30.0 +7.0
ERPA LR LR
comp=Z,640nm,20.0s
SPB Sao Paulo 144.01 202 PFAKE 21 14 40.0 +16
SPB LR LR
comp=Z,569nm,19.0s
PKME Peaks-Kenny Pk 144.16 10 PFAKE 21 14 30.0 +6.8
PKME LR LR
comp=Z,562nm,20.0s
ACSO Alum Creek Sta 144.21 29 *e*PKPdf **PKPab 21 14 21.2 0.0**
ACSO LR LR
comp=Z,617nm,20.0s
NCB Newcomb 144.31 16 PFAKE 21 14 40.0 +16
NCB LR LR
comp=Z,700nm,19.0s
OXF Oxford 144.50 42 *e*PKIKP PKPbc 21 14 23.1 +0.5
OXF MLR MLR
comp=Z,561nm,22.0s
OXF Oxford 144.50 42 *e*PKPdf PKPbc 21 14 23.1 +0.5
OXF LR LR
comp=Z,561nm,22.0s
WVT Waverly 144.50 39 *e*PKIKP PKPbc 21 14 22.9 +0.3
WVT Waverly 144.50 39 *e*PKPdf PKPbc 21 14 22.9 +0.3
WVT *e*SKP 21 17 58.6
LBNH Lisbon 144.63 13 *e*PKIKP **PKPdf 21 14 23.6 -0.4**
LBNH MLR MLR
comp=Z,549nm,22.0s
LBNH Lisbon 144.63 13 *e*PKPdf **PKPdf 21 14 23.6 -0.4**
LBNH LR LR

	comp=Z,549nm,22.0s							
ACCN	**Adirondack Com**	**145.00**	**16**	*e*PKPdf	**PKPbc**	**21 14 24.2**	**+0.2**
VBMS	**Vicksburg**	**145.04**	**46**	*e*PKPdf	**PKPdf**	**21 14 26.1**	**+1.0**
VBMS				LR	LR			
	comp=Z,628nm,20.0s							
BINY	**Binghamton**	**145.39**	**19**	*e*PKPdf	**PKPab**	**21 14 25.5**	**+0.1**
BINY				*e*PP	**PP**	**21 17 49.2**	**+5.1**
BINY				LR	LR			
	comp=Z,599nm,20.0s							
SSPA	**Standing Stone**	**146.09**	**23**	*e*PKPdf	**PKPbc**	**21 14 27.7**	**+0.2**
MCWV	**Mont Chateau**	**146.11**	**26**	*e*PKPbc	**PKPab**	**21 14 28.4**	**+0.2**
MCWV				LR	LR			
	comp=Z,842nm,19.0s							
SWET	**Sewanee**	**146.26**	**38**	*e*PKPdf	**PKPdf**	**21 14 27.2**	**0.0**
HRV	**Adam Dziewonsk**	**146.36**	**14**	*e*PKP2	**PKPab**	**21 14 29.1**	**+0.1**
HRV	**Adam Dziewonsk**	**146.36**	**14**	*e*PKPbc	**PKPab**	**21 14 29.1**	**+0.1**
LVC	**Limon Verde**	**146.74**	**167**	*e*PKPbc	**PKPab**	**21 14 32.4**	**+1.0**
LVC				LR	LR			
	comp=Z,815nm,20.0s							
CPCT	**Cooper Cave**	**146.94**	**36**	*e*PKPbc	**PKPbc**	**21 14 30.4**	**+0.2**
LRAL	**Lakeview Retre**	**146.99**	**42**	*e*PKPdf	**PKPdf**	**21 14 29.3**	**+0.9**
LRAL				*e*PKPbc	**PKPab**	**21 14 31.5**	**-0.3**
LRAL				LR	LR			
	comp=Z,798nm,22.0s							
TKL	**Tuckaleechee C**	**147.22**	**35**	*e*PKPbc	**PKPab**	**21 14 31.9**	**-0.8**
TKL	**Tuckaleechee C**	**147.22**	**35**	PKPbc	**PKPab**	**21 14 31.9**	**-0.8**
CPNY	**Central Park**	**147.31**	**18**	*e*PKPbc	**PKPab**	**21 14 31.9**	**-0.8**
SDMD	**Soldier's Deli**	**147.55**	**23**	*e*PKPbc	**PKPbc**	**21 14 31.6**	**-0.1**
BLA	**Blacksburg**	**147.82**	**30**	*e*PKP2	**PKPdf**	**21 14 30.9**	**+1.2**
BLA				MLR	MLR			
	comp=Z,701nm,21.0s							
BLA	**Blacksburg**	**147.82**	**30**	*e*PKPdf	**PKPdf**	**21 14 30.9**	**+1.2**
BLA				*e*PKPbc	**PKPbc**	**21 14 33.2**	**+0.6**
BLA				LR	LR			
	comp=Z,701nm,21.0s							
VWCC	**Virginia Weste**	**148.01**	**29**	*e*PKPbc	**PKPbc**	**21 14 33.0**	**-0.1**
BRAL	**Brewton**	**148.16**	**45**	PFAKE		21 14 40.0	+3.5
BRAL				LR	LR			
	comp=Z,648nm,21.0s							
CBN	**Corbin**	**148.37**	**25**	*e*PKPbc	**PKPbc**	**21 14 34.6**	**+0.7**
CBN				LR	LR			
	comp=Z,826nm,20.0s							
JSRW	**J. Sargeant Re**	**148.59**	**26**	*e*PKPdf	**PKPdf**	**21 14 31.7**	**+0.8**
JSRW				*e*PKPbc	**PKPbc**	**21 14 35.0**	**+0.5**
PAYG	**Puerto Ayora**	**149.20**	**108**	PFAKE		21 14 40.0	-1.2
PAYG				LR	LR			
	comp=Z,522nm,20.0s							
RCBR	**Riachuelo**	**150.29**	**239**	PKPdf	**PKPdf**	**21 14 36.5**	**+2.1**
RCBR				*e*PKPab	**PKPab**	**21 14 45.9**	**+0.2**
RCBR				LR	LR			
	comp=Z,803nm,21.0s							
CNNC	**Cliffs of the**	**150.62**	**29**	PFAKE		21 14 50.0	+3.7
CNNC				LR	LR			
	comp=Z,744nm,20.0s							
TEIG	**Tepich**	**152.01**	**66**	*e*PKPab	**PKPab**	**21 14 52.6**	**-0.1**
TEIG				LR	LR			
	comp=Z,561nm,22.0s							
LPAZ	**La Paz**	**153.02**	**165**	*e*PKPdf	**PKPdf**	**21 14 38.2**	**-0.9**
LPAZ				PKPbc	**PKPbc**	**21 14 44.7**	**-1.7**
LPAZ				PKPab	**PKPab**	**21 14 57.5**	**0.0**
LPAZ	**La Paz**	**153.02**	**165**	PKPbc	**PKPbc**	**21 14 44.7**	**-1.7**
	comp=Z,3.2nm,0.6s,baz=189,slow=2.3,SNR=8.4							
LPAZ				PKPab	**PKPab**	**21 14 57.5**	**0.0**
	comp=Z,4.4nm,0.8s,baz=283,slow=3.7,SNR=6.8							
TGUH	**Tegucigalpa,Un**	**154.21**	**78**	PFAKE		21 14 50.0	+1.8
TGUH				LR	LR			
	comp=Z,421nm,21.0s							
JTS	**JuntasAbangare**	**156.63**	**87**	PFAKE		21 14 50.0	+6.6
JTS				LR	LR			
	comp=Z,783nm,21.0s							
BBSR	**BB Station**	**157.49**	**8**	PFAKE		21 14 50.0	+6.1
BBSR				LR	LR			
	comp=Z,601nm,20.0s							
OTAV	**Otavalo**	**160.31**	**118**	*e*PKPdf	**PKPdf**	**21 14 49.4**	**+1.0**
OTAV				LR	LR			
	comp=Z,446nm,20.0s							
SAML	**Samuel**	**161.09**	**174**	*e*PKPdf	**PKPdf**	**21 14 50.0**	**+1.4**
SAML				LR	LR			
	comp=Z,776nm,20.0s							
BCIP	**Isla Barro Col**	**161.62**	**91**	PFAKE		21 15 00.0	+11
BCIP				LR	LR			
	comp=Z,498nm,20.0s							
MTDJ	**Mount Denham**	**162.19**	**61**	PFAKE		21 15 00.0	+10
MTDJ				LR	LR			
	comp=Z,619nm,22.0s							
GTBY	**Guantanamo Bay**	**163.34**	**52**	PFAKE		21 15 00.0	+9.3
GTBY				LR	LR			
	comp=Z,677nm,21.0s							
GRTK	**Grand Turk**	**165.09**	**39**	PFAKE		21 15 00.0	+7.7
GRTK				LR	LR			
	comp=Z,748nm,20.0s							
SDDR	**Presa de Saban**	**166.77**	**46**	PFAKE		21 15 00.0	+6.2
SDDR				LR	LR			
	comp=Z,774nm,22.0s							
SDV	**Santo Domingo**	**170.65**	**96**	*e*PKPdf	**PKPdf**	**21 14 57.4**	**+0.7**
SDV				LR	LR			
	comp=Z,403nm,22.0s							
ANWB	**Willy Bob**	**172.34**	**4**	PFAKE		21 15 10.0	+13
ANWB				LR	LR			
	comp=Z,659nm,20.0s							
BBGH	**Gun Hill**	**176.46**	**333**	PFAKE		21 15 10.0	+12
BBGH				LR	LR			
	comp=Z,2μm,21.0s							
GRGR	**Grenville**	**177.82**	**11**	PFAKE		21 15 10.0	+11
GRGR				LR	LR			
	comp=Z,579nm,22.0s							

MEX 24 21:04:18.5±0.7, 16°64N×98°76W, h29km±13km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.65**	**112**	*e*P	Pb	21 04 29.7	-1.8
PNIG				*i* S	Sb	21 04 37.2	-3.1
TLIG	**Tlapa**	**0.93**	**11**	*e*P	Pn	21 04 32.9	-3.0
TLIG				*i* S	Sn	21 04 45.1	-3.2
UTMO	**Huajuapan**	**1.49**	**38**	*e*P	Pn	21 04 42.1	-1.5
UTMO				*i* S	Sn	21 04 59.7	-2.6
CAIG	**El Cayaco**	**1.50**	**286**	*e*P	Pn	21 04 40.5	-3.0
CAIG				*e*S	Sn	21 04 59.8	-2.2
MEIG	**Mezcala**	**1.52**	**327**	*e*P	Pn	21 04 41.1	-2.7
MEIG				*i* S	Sn	21 04 60.0	-2.7
PLIG	**Platanillo**	**1.88**	**338**	*e*P	Pn	21 04 47.4	-1.4
PLIG				*i* S	Sn	21 05 08.4	-3.2
TPIG	**Tehuac#an**	**2.21**	**37**	*i* P	Pn	21 04 51.2	-2.3
TPIG				*i* S	Sn	21 05 17.6	-2.5
ARIG	**Puente Sto Nin**	**2.23**	**317**	*e*P	Pn	21 04 52.1	-1.4
ARIG				*i* S	Sn	21 05 17.4	-2.7
YAIG	**Yautepec**	**2.23**	**352**	*e*P	Pn	21 04 52.4	-1.3
YAIG				*i* S	Sn	21 05 17.9	-2.4
HUIG	**Huatulco**	**2.69**	**109**	*i* P	Pn	21 04 57.4	-2.4
HUIG				*e*S	Sn	21 05 28.6	-2.9
ZIIG	**Zihuatanejo**	**2.76**	**291**	*e*P	Pn	21 04 58.5	-2.3
ZIIG				*i* S	Sn	21 05 31.0	-2.2

*BJI **24** 21:04:17.6, 11°.03S×118°.93E, h10km, mB5.3/24, mb4.9/37, Ms5.2/27, Ms7 4.9/27*
*NEIC **24** 21:04:27.7±3.1, 10°.04S×118°.69E, h17km±3km, mb5.0/30, Error ellipse: s-maj=12.4km s-min=10.1km az=206.0*
NEIC Felt [III] at Waingapu, Sumba. Also felt at Kuta, Bali.
*ISCJB **24** 21:04:27.7±0.2, 10°.22S±0°.03×118°.61E±0°.03, h33km, mb4.9/67, MS4.8/12, Error ellipse: s-maj=4.2km s-min=3.6km az=10.3*
*MOS **24** 21:04:28.0±1.1, 9°.88S×119°.05E, h33km, mb5.2/22, Error ellipse: s-maj=15.7km s-min=7.6km az=122.0*
*IDC **24** 21:04:29.6±6.0, 9°.88S×118°.85E, h25km±38km, mb4.4/24, mb1 4.5/25, mb1mx4.5/26, mbtmp4.4/25, MS4.7/6, Ms1 4.6/6, ms1mx4.2/33, Error ellipse: s-maj=17.5km s-min=10.8km az=69.0*
*AUST **24** 21:04:31.3±0.6, 10°.25S×118°.71E, h35km, Error ellipse: s-maj=9.7km s-min=8.3km az=118.0*
*DJA **24** 21:04:34.5±0.4, 10°.S±4°×11°.9E±°, h23km, M5.5/18, mB5.9/5, mb5.5/18, MLv5.5/15, Mw(mB)5.5/5*
ISC 24 21:04:28.1±0.4, 10°.19S±0°.04×118°.63E±0°.03, h18km±1km, n253, σ1°65/260, mb4.9/67, MS4.9/12, 5C-1D, South of Sumbawa

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

WBSI	**Waikabubak, Su**	**0.92**	**54**	P	**Pb**	**21 04 44.2**	**-1.4**
WSI	**Waingapu**	**1.72**	**73**	P	**Pb**	**21 04 58.9**	**-0.2**
WSI	**Waingapu**	**1.72**	**73**	P	**Pb**	**21 04 58.2**	**-0.9**
	baz=1.7,SNR=40							
MTNI	**Mataram**	**2.88**	**302**	P	**Pb**	**21 05 19.3**	**+0.4**
KHKI	**Kahang-Kahang**	**3.49**	**301**	P	Pn	21 05 25.0	+3.5
DNP	**Denpasar**	**3.69**	**294**	P	Pn	21 05 27.8	+3.5
DNP				S	**Sb**	**21 06 14.4**	**-2.9**
MMRI	**Maumere**	**3.88**	**67**	P	**Pn**	**21 05 28.0**	**+1.1**
MMRI				S	**Sn**	**21 06 10.7**	**-1.2**
MMRI	**Maumere**	**3.88**	**67**	*e*Pn	**Pn**	**21 05 27.9**	**+1.1**
MMRI				*e*Sn	**Sn**	**21 06 11.1**	**-0.8**
SRBI	**Singaraja**	**3.97**	**301**	P	Pb	21 05 33.6	-4.0
SRBI				S	**Sb**	**21 06 21.9**	**-3.4**
BKSI	**Bulukumba**	**5.05**	**17**	P	**Pn**	**21 05 45.2**	**+2.2**
BKSI				S	**Sn**	**21 06 42.6**	**+1.7**
KAPI	**Kappang**	**5.26**	**12**	P	**Pn**	**21 05 47.8**	**+2.0**
	422nm,0.8s,16μm5.7nm							
KAPI	**Kappang**	**5.26**	**12**	*e*Pn	**Pn**	**21 05 46.7**	**+0.9**
KAPI				*e*Sn	**Sn**	**21 06 43.7**	**-2.3**
KAPI	**Kappang**	**5.26**	**12**	Pn	**Pn**	**21 05 48.3**	**+2.5**
	44nm,0.3s,baz=190,slow=7.2,SNR=83							
KAPI				Sn	**Sn**	**21 06 47.9**	**+1.9**
	90nm,0.3s,baz=12,slow=21,SNR=15							
KAPI				LR	LR	21 07 59.4		
	comp=Z,8μm,18.8s,baz=12,slow=43							
GMJI	**Gumukmas**	**5.46**	**290**	P	**Pb**	**21 06 03.5**	**+0.5**
BLJI	**Banyuglugur**	**5.54**	**296**	P	Pb	21 05 58.0	-6.3
	292nm,0.6s,8μm1.8nm							
SOEI	**Soe**	**5.57**	**86**	P	Pb	21 05 58.0	-6.9
	784nm,1.3s,18μm7.3nm							
SOEI	**Soe**	**5.57**	**86**	P	**Pn**	**21 05 51.5**	**+1.3**
	baz=5.5,SNR=56							
BNSI	**Bone**	**5.93**	**14**	P	Pn	21 06 01.8	+6.7
	530nm,0.8s,3.8nm							
BBSI	**Bau Bau**	**6.08**	**40**	P	Pn	21 06 00.8	+3.6
	526nm,1.0s,1.8nm							
SPSI	**Sidrap Palu**	**6.28**	**10**	P	Pn	21 06 04.9	+5.0
	308nm,0.9s,1.8nm							
MJSI	**Majene**	**6.60**	**3**	P	Pn	21 06 10.0	+5.7
	323nm,1.1s,1.4nm							
KKSI	**Kolaka, Sulawe**	**6.68**	**27**	P	Pn	21 06 11.0	+5.6
	453nm,1.3s,6μm1.9nm							
TTSI	**Tana Toraja**	**7.19**	**10**	P	Pn	21 06 18.7	+6.3
	284nm,1.1s,1.3nm							
MMSI	**Mamuju**	**7.45**	**2**	P	Pn	21 06 20.8	+4.8
	182nm,0.9s,0.9nm							
PCJI	**Pacitan**	**7.62**	**284**	P	Pb	21 06 34.3	-5.5
UGM	**Wanagama**	**8.32**	**285**	*e*Pn	**Pn**	**21 06 28.4**	**+0.4**
UGM				*e*Sn	**Sn**	**21 08 01.4**	**-0.1**
UGM	**Wanagama**	**8.32**	**285**	P	Pn	21 06 32.7	+4.8
	baz=8.4,SNR=5.5							
PCI	**Palu**	**9.30**	**7**	P	Pn	21 06 49.8	+8.5
	233nm,0.6s,7μm							
APSI	**Ampana**	**9.69**	**18**	P	Pn	21 06 53.9	+7.2
	204nm,1.2s							
MTKI	**Muara Teweh, K**	**9.91**	**338**	P	Pn	21 07 01.8	+12
	98nm,1.1s							
LUWI	**Luwuk**	**9.97**	**25**	P	Pn	21 06 57.0	+6.4
	268nm,1.3s							
PBKI	**Pangkalan Bun**	**10.15**	**317**	P	Pn	21 07 04.2	+11
	292nm,1.2s							
FITZ	**Fitzroy Crossi**	**10.39**	**140**	*e*Pn	**Pn**	**21 06 55.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**10.39**	**140**	Pn	**Pn**	**21 06 55.8**	**-0.5**
FITZ				LR	LR	21 10 55.2		
	comp=Z,3μm,19.0s,baz=346,slow=37							
NLAI	**Namlea**	**10.88**	**51**	P	Pn	21 07 08.7	+5.8
	150nm,1.0s							
MBWA	**Marble Bar**	**10.96**	**175**	*e*Pn	**Pn**	**21 07 03.8**	**-0.3**
CISI	**Cisompet, Garu**	**11.00**	**283**	*e*Pn	**Pn**	**21 07 04.2**	**-0.6**
CISI				*e*Sn	**Sn**	**21 09 05.1**	**-2.4**
MRSI	**Marisa**	**11.09**	**17**	P	Pn	21 07 10.9	+5.0
	155nm,1.4s							
MTN	**Manton Dam**	**12.53**	**103**	P	**Pn**	**21 07 23.3**	**-2.3**
	baz=12,SNR=7.2							
LBMI	**Labuha**	**12.95**	**43**	P	P	21 07 45.9	+4.0
GIRL	**Giralia**	**13.08**	**198**	⇑P	**Pn**	**21 07 34.2**	**+1.1**
	baz=13,SNR=31							
KDU	**Kakadu**	**13.79**	**102**	P	**Pn**	**21 07 43.2**	**+0.4**
	baz=14,SNR=4.8							
TNTI	**Ternate**	**13.93**	**39**	*e*Pn	**Pn**	**21 07 43.4**	**-1.3**
SBUM	**Sibu**	**14.08**	**333**	P	**P**	**21 07 52.8**	**-1.7**
SBUM	**Sibu**	**14.08**	**333**	*e*P	Pn	21 07 50.6	+3.8
KSM	**Kuching**	**14.24**	**324**	*e*P	**P**	**21 07 53.6**	**-2.6**
TLE	**Tual**	**14.68**	**73**	⇑P	**Pn**	**21 07 57.6**	**+2.6**
	baz=15,SNR=4.6							
FAKI	**Fak Fak**	**15.32**	**63**	P	**Pn**	**21 08 05.2**	**+1.5**
	baz=15,SNR=4.4							
SWI	**Sorong**	**15.60**	**54**	P	**Pn**	**21 08 08.8**	**+1.6**
	baz=16,SNR=6.8							
SDKM	**Sandakan**	**15.79**	**355**	P	**P**	**21 08 16.5**	**+3.1**
KKM	**Kota Kinabalu**	**16.30**	**351**	P	**P**	**21 08 20.3**	**+1.1**
KKM	**Kota Kinabalu**	**16.30**	**351**	P	**P**	**21 08 20.5**	**+1.2**
KKM	**Kota Kinabalu**	**16.30**	**351**	*e*Pn	**P**	**21 08 19.1**	**-0.1**
	87nm,1.1s							
KKM	**Kota Kinabalu**	**16.30**	**351**	P	**P**	**21 08 20.4**	**+1.1**
	baz=16,SNR=17							
MEEK	**Meekatharra**	**16.36**	**180**	P	**Pn**	**21 08 17.2**	**+0.2**
	baz=16,SNR=47							
MEEK				P	**P**	**21 08 18.3**	**-1.5**
	baz=16,SNR=9.3							
WRA	**Warramunga Arr**	**17.99**	**124**	*e*Pn	**Pn**	**21 08 34.7**	**-2.7**
WRA				*e*Sn	Sn	21 11 44.7	-13
WRA	**Warramunga Arr**	**17.99**	**124**	P	**Pn**	**21 08 34.7**	**-2.7**
	2.0nm,0.3s,baz=299,slow=13,SNR=14							
WRA				S	Sn	21 11 44.7	-13
	1.0nm,0.3s,baz=301,slow=25,SNR=5.1							
WRA				LR	LR	21 16 01.5		
	comp=Z,3μm,18.9s,baz=305,slow=38							
WRAB	**Tennant Creek**	**17.99**	**124**	*e*P	**Pn**	**21 08 35.5**	**-1.9**
WRAB				pmax	pmax			
	comp=Z,33nm,0.8s							
WRAB	**Tennant Creek**	**17.99**	**124**	*e*Pn	**Pn**	**21 08 35.5**	**-1.9**
	comp=Z,33nm,0.8s							
MYKOM	**Kota Tinggi**	**18.92**	**308**	*e*P	**P**	**21 08 47.8**	**-0.3**
	comp=Z,24nm,1.2s							
MORW	**Morawa**	**18.94**	**187**	P	**Pn**	**21 08 52.4**	**+3.5**
	baz=19,SNR=12							
AS12	**Alice Springs**	**19.80**	**135**	*e*P	**Pn**	**21 08 58.8**	**-0.6**
AS12				*e*S	**S**	**21 12 40.2**	**-0.1**
ASAR	**Alice Springs**	**19.80**	**135**	P	**Pn**	**21 08 58.8**	**-0.6**
	comp=Z,3.0nm,0.3s,baz=318,slow=11,SNR=24							
ASAR				S	**S**	**21 12 40.2**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=309,slow=23,SNR=6.1							
ASAR				LR	LR	21 16 14.5		
	comp=Z,2μm,21.2s,baz=133,slow=36							
AS01	**Alice Springs**	**19.83**	**134**	*e*P	**P**	**21 08 56.9**	**-1.2**
FORT	**Forrest**	**22.29**	**158**	*e*P	**P**	**21 09 23.5**	**-0.9**
	comp=Z,76nm,0.8s							
NWAO	**Narrogin (SRO)**	**22.67**	**183**	*e*P	**P**	**21 09 30.2**	**+1.7**
	comp=Z,210nm,1.9s							
NWAO				*e*S	**S**	**21 13 31.5**	**-4.4**
NWAO	**Narrogin (SRO)**	**22.67**	**183**	P	**P**	**21 09 31.2**	**+2.6**
	comp=Z,18nm,0.8s,baz=346,slow=11,SNR=6.2							
NWAO				S	**S**	**21 13 31.5**	**-4.4**
	comp=Z,18nm,0.6s,baz=82,slow=20,SNR=5.4							
NWAO				LR	LR	21 19 00.8		
	comp=Z,966nm,18.1s,baz=3.6,slow=38							
IPM	**Ipoh**	**22.80**	**309**	*e*P	**P**	**21 09 28.4**	**-1.7**
	comp=Z,70nm,1.9s							
PSI	**Prapat**	**23.49**	**302**	*e*P	**P**	**21 09 35.7**	**-1.5**
PSI	**Prapat**	**23.49**	**302**	P	**P**	**21 09 37.3**	**+0.1**
	baz=24,SNR=21							
PSI	**Prapat**	**23.49**	**302**	P	**P**	**21 09 35.7**	**-1.5**
	comp=Z,12nm,0.4s,baz=148,slow=6.8,SNR=18							
PALU	**Palau**	**23.50**	**43**	P	**P**	**21 09 39.8**	**+2.7**
	baz=24,SNR=5.7							
KULM	**Kulim**	**23.61**	**310**	*e*P	**P**	**21 09 36.7**	**-1.5**
	comp=Z,31nm,1.3s							
GSI	**Gunungsitoli**	**23.86**	**297**	*e*P	**P**	**21 09 40.6**	**-0.1**
	comp=Z,35nm,1.1s							
COEN	**Coen**	**24.28**	**101**	*e*P	**P**	**21 09 45.1**	**+0.5**
	comp=Z,425nm,1.1s							
STKA	**Stephens Creek**	**30.29**	**139**	*e*P	**P**	**21 10 38.9**	**+0.5**
	comp=Z,31nm,2.3s							
STKA	**Stephens Creek**	**30.29**	**139**	P	**P**	**21 10 39.1**	**+0.8**
	comp=Z,12nm,0.9s,baz=244,slow=11,SNR=4.9							
STKA				LR	LR	21 23 26.5		
	comp=Z,2μm,19.4s,baz=285,slow=37							
QIZ	**Qiongzhong**	**30.30**	**343**	P	**P**	**21 10 40.9**	**+2.4**
QIZ	**Qiongzhong**	**30.30**	**343**	*e*P	**P**	**21 10 36.5**	**-2.0**
	comp=Z,52nm,1.8s							
CM01	**Chiang Mai Arr**	**34.42**	**326**	*e*P	**P**	**21 11 13.5**	**-1.2**
CHTO	**Chiang Mai**	**34.75**	**326**	*e*P	**P**	**21 11 16.3**	**-1.2**
CHTO				pmax	pmax			
	comp=Z,12nm,1.3s							

CHTO	**Chiang Mai**	**34.75**	**326**	*e*P	**P**	**21 11 16.3**	**-1.2**
	comp=Z,12nm,1.3s							
ARMA	**Armidale**	**36.70**	**128**	*e*P	**P**	**21 11 33.8**	**-0.6**
	comp=Z,45nm,1.7s							
GYA	**Guiyang**	**38.24**	**343**	*e*P	**P**	**21 11 47.1**	**-0.3**
GYA				PP	**PnPn**	**21 13 20.0**	**+3.3**
GYA				S	**S**	**21 17 45.8**	**+5.2**
GYA				AMB	AMB			
	comp=Z,20nm,0.9s							
GYA				AMB	AMB			
	comp=Z,120nm,5.0s							
GYA				LR	LR			
	comp=Z,970nm,17.1s							
GYA				LR	LR			
	comp=Z,730nm,18.9s							
GYA				LR	LR			
	comp=Z,860nm,17.2s							
KMI	**Kunming**	**38.36**	**336**	P	**P**	**21 11 49.8**	**+1.2**
KMI				S	S	21 17 49.3	+6.6
KMI				AMB	AMB			
	comp=Z,10.0nm,1.3s							
KMI				LR	LR			
	comp=Z,1μm,17.9s							
KMI				LR	LR			
	comp=Z,1μm,15.7s							
KMI				LR	LR			
	comp=Z,1μm,20.1s							
HNR	**Honiara**	**40.70**	**93**	*e*P	**P**	**21 12 10.5**	**+2.5**
HNR	**Honiara**	**40.70**	**93**	P	**P**	**21 12 10.5**	**+2.5**
	comp=Z,23nm,0.3s,baz=243,slow=9.0,SNR=3.0							
ENH	**Enshi**	**41.17**	**348**	*e*P	**P**	**21 12 10.9**	**-0.7**
	comp=Z,21nm,0.8s							
PALK	**Pallekele**	**41.56**	**293**	*e*P	**P**	**21 12 15.2**	**0.0**
NJ2	**Nanjing**	**42.00**	**0**	*e*P	**P**	**21 12 18.3**	**0.0**
NJ2				AMB	AMB			
	comp=Z,40nm,0.9s							
CD2	**Chengdu**	**43.28**	**341**	P	**P**	**21 12 28.3**	**-0.6**
CD2				pP	**pP**	**21 12 32.8**	**-1.8**
CD2				sP	**sP**	**21 12 35.8**	**-1.0**
CD2				PP	**PP**	**21 14 11.5**	**+1.8**
CD2				S	**S**	**21 18 56.5**	**+1.0**
CD2				AMB	AMB			
	comp=Z,40nm,0.5s							
CD2				AMB	AMB			
	comp=Z,320nm,5.5s							
CD2				LR	LR			
	comp=Z,1μm,14.9s							
CD2				LR	LR			
	comp=Z,2μm,15.5s							
XAN	**Xi'an**	**44.94**	**349**	P	**P**	**21 12 40.9**	**-1.2**
XAN				pP	**pP**	**21 12 47.6**	**-0.2**
XAN				AMB	AMB			
	comp=Z,7.0nm,0.8s							
H08S2	**Diego Garcia H**	**45.62**	**269**	T	T	22 02 06.2		
	baz=95,slow=0.7,SNR=19							
H08S3	**Diego Garcia H**	**45.64**	**269**	T	T	22 02 16.7		
	baz=95,slow=0.7,SNR=16							
H08S1	**Diego Garcia H**	**45.64**	**269**	T	T	22 02 11.4		
	baz=95,slow=0.7,SNR=15							
H08N1	**Diego Garcia H**	**47.25**	**271**	T	T	22 04 35.8		
	baz=220,SNR=9.3							
H08N2	**Diego Garcia H**	**47.26**	**271**	T	T	22 04 37.1		
	baz=220,SNR=8.7							
H08N3	**Diego Garcia H**	**47.27**	**271**	T	T	22 04 36.5		
	baz=220,SNR=9.4							
LSA	**Lhasa**	**47.68**	**327**	P	**P**	**21 13 02.3**	**-2.0**
LSA	**Lhasa**	**47.68**	**327**	*e*P	**P**	**21 13 03.9**	**-0.4**
LSA				pmax	pmax			
	comp=Z,36nm,1.6s							
LSA	**Lhasa**	**47.68**	**327**	*e*P	**P**	**21 13 03.9**	**-0.4**
	comp=Z,36nm,1.6s							
ODAN	**Odare**	**47.71**	**321**	*e*P	**P**	**21 13 03.4**	**-0.8**
	comp=Z,39nm,0.9s							
TAPN	**Taplejung**	**47.87**	**322**	*e*P	**P**	**21 13 05.0**	**-0.5**
	comp=Z,46nm,0.9s							
LZH	**Lanzhou**	**48.09**	**344**	*e*P	**P**	**21 13 09.6**	**+2.6**
LZH				pP	**pP**	**21 13 14.6**	**+1.9**
LZH				PP	**PP**	**21 15 01.3**	**+1.9**
LZH				*e*S	**S**	**21 20 09.0**	**+4.1**
LZH				AMB	AMB			
	comp=Z,32nm,1.2s							
LZH				AMB	AMB			
	comp=Z,130nm,4.6s							
LZH				LR	LR			
	comp=Z,1μm,14.6s							
LZH				LR	LR			
	comp=Z,1μm,13.4s							
LZH				LR	LR			
	comp=Z,2μm,16.4s							
KS15	**Wonju Array Si**	**48.16**	**10**	*e*P	**P**	**21 13 05.2**	**-2.1**
HYB	**Hyderabad**	**48.17**	**304**	*i* P	**P**	**21 13 06.0**	**-1.8**
KSRS	**Korea Array**	**48.18**	**10**	P	**P**	**21 13 05.2**	**-2.2**
	comp=Z,3.2nm,0.6s,baz=190,slow=9.1,SNR=14							
KS01	**Wonju Array Si**	**48.20**	**10**	*e*P	**P**	**21 13 05.7**	**-1.9**
RAMN	**Ramite**	**48.26**	**321**	*e*P	**P**	**21 13 08.0**	**-0.5**
	comp=Z,77nm,1.2s							
JIRN	**Jiri**	**49.02**	**321**	*e*P	**P**	**21 13 13.3**	**-1.2**
	comp=Z,28nm,0.5s				

MDJ					AMB	AMB			
	comp=Z,100nm,4.5s								
USRK	**Ussuriysk Arra**	**55.47**	**12**	P		**P**	**21 14 00.0**	**-1.7**	
	comp=Z,5.0nm,0.4s,baz=196,slow=6.9,SNR=48								
ASAJ	**Asahikawa**	**58.26**	**20**	*e*P		**P**	**21 14 19.8**	**-1.7**	
	comp=Z,81nm,1.9s								
ASAJ	**Asahikawa**	**58.26**	**20**	P		**P**	**21 14 19.8**	**-1.7**	
	comp=Z,6.7nm,0.7s,baz=14,slow=23,SNR=7.9								
SONM	**Songino Array**	**58.78**	**350**	P		**P**	**21 14 24.3**	**-0.9**	
	comp=Z,5.7nm,0.4s,baz=171,slow=8.5,SNR=50								
SONA1	**Songino Array**	**58.79**	**350**	*e*P		**P**	**21 14 24.1**	**-1.2**	
HABR	**Khabarovsk**	**60.18**	**13**	*e*P		P	21 14 30.1	-4.6	
HABR				*e**PP		pP	21 14 40.2	-0.3	
HABR				*e**SP		sP	21 14 44.3	+1.6	
HABR				*e*			21 15 16.3		
HABR							21 16 42.8		
HABR				*e*S		S	21 22 39.9	-7.5	
HABR				*e*S		S	21 22 52.3	+4.9	
HABR				*e**SS		sS	21 22 57.0	0.0	
HABR				*e*			21 24 17.5		
HABR					pmax	pmax			
	comp=Z,27nm,2.0s								
HABR					MLR	MLR			
	comp=Z,315nm,15.0s								
KLR	**Kul'dur**	**60.28**	**10**	*e*P		P	21 14 28.7	-6.7	
WMQ	**Urumqi**	**60.66**	**335**	P		**P**	**21 14 37.8**	**-0.4**	
WMQ				pP		**pP**	**21 14 42.3**	**-1.8**	
WMQ				sP		**sP**	**21 14 44.8**	**-1.5**	
WMQ				AMB		AMB			
	comp=Z,12nm,1.0s								
WMQ				AMB		AMB			
	comp=Z,71nm,4.8s								
WMQ				LR		LR			
	comp=Z,700nm,19.0s								
WMQ				LR		LR			
	comp=Z,650nm,15.4s								
WMQ				LR		LR			
	comp=Z,850nm,23.2s								
ZAK	**Zakamensk**	**61.78**	**349**	*e*P		**P**	**21 14 43.9**	**-1.8**	
ZAK				pmax		pmax			
	comp=Z,5.0nm,1.1s								
CIT	**Chita**	**62.11**	**356**	*e*P		**P**	**21 14 47.2**	**-0.6**	
CIT				*e*			21 14 55.5		
TLY	**Talaya**	**62.96**	**350**	*e*P		P	21 15 04.1	+11	
TLY				pmax		pmax			
	comp=Z,10.0nm,0.9s								
KSH	**Kashi**	**63.34**	**324**	*e*P		**P**	**21 14 57.3**	**+0.9**	
KSH				pP		**pP**	**21 15 03.8**	**+1.5**	
KSH				sP		**sP**	**21 15 05.8**	**+1.3**	
KSH				PP		**PP**	**21 17 20.6**	**+4.6**	
KSH				S		**S**	**21 23 30.0**	**+1.8**	
KSH				sS		**sS**	**21 23 37.6**	**-0.2**	
KSH				ScS		**SKSac**	**21 24 47.8**	**-1.2**	
KSH				SS		**SS**	**21 27 37.8**	**+2.5**	
KSH				AMB		AMB			
	comp=Z,8.0nm,0.9s								
KSH				AMB		AMB			
	comp=Z,150nm,5.3s								
KSH				LR		LR			
	comp=Z,370nm,13.9s								
KSH				LR		LR			
	comp=Z,730nm,15.8s								
KSH				LR		LR			
	comp=Z,1μm,19.4s								
KBL	**Kabul**	**64.68**	**316**	*e*P		**P**	**21 15 03.3**	**-2.1**	
KBL				pmax		pmax			
	comp=Z,10.0nm,0.8s								
KBL	**Kabul**	**64.68**	**316**	*e*P		**P**	**21 15 03.3**	**-2.1**	
	comp=Z,10.0nm,0.8s								
MK01	**Makanchi Array**	**65.32**	**333**	*e*P		**P**	**21 15 08.2**	**-0.9**	
MK32	**Makanchi Array**	**65.34**	**333**	*e*P		**P**	**21 15 08.4**	**-0.8**	
MKAR	**Makanchi Array**	**65.34**	**333**	*e*P		**P**	**21 15 08.4**	**-0.8**	
MKAR	**Makanchi Array**	**65.34**	**333**	*e*P		**P**	**21 15 08.4**	**-0.8**	
MKAR	**Makanchi Array**	**65.34**	**333**	P		**P**	**21 15 08.4**	**-0.8**	
	comp=Z,4.8nm,0.5s,baz=143,slow=7.8,SNR=117								
KZA	**Kyzart**	**65.46**	**326**	*i* P		**P**	**21 15 10.9**	**+0.3**	
KZA	**Kyzart**	**65.46**	**326**	P		**P**	**21 15 10.9**	**+0.3**	
	SNR=6.3								
TKM2	**Tokmak 2**	**65.84**	**327**	*i* P		**P**	**21 15 12.4**	**-0.3**	
TKM2	**Tokmak 2**	**65.84**	**327**	P		**P**	**21 15 12.5**	**-0.3**	
	SNR=6.6								
TKM2	**Tokmak 2**	**65.84**	**327**	*e*P		**P**	**21 15 12.0**	**-0.7**	
	comp=Z,61nm,2.3s								
AAK	**Ala-Archa**	**66.25**	**326**	*i* P		**P**	**21 15 15.5**	**+0.2**	
AAK				pmax		pmax			
	comp=Z,28nm,1.5s								
AAK	**Ala-Archa**	**66.25**	**326**	P		**P**	**21 15 15.6**	**+0.2**	
	SNR=6.0								
AAK	**Ala-Archa**	**66.25**	**326**	*e*P		**P**	**21 15 15.0**	**-0.3**	
	comp=Z,7.6nm,0.8s								
AAK	**Ala-Archa**	**66.25**	**326**	P		**P**	**21 15 14.3**	**-1.1**	
	comp=Z,3.4nm,0.6s,baz=120,slow=5.3,SNR=12								
AML	**Almayashu**	**66.36**	**325**	*i* P		**P**	**21 15 16.4**	**0.0**	
AML	**Almayashu**	**66.36**	**325**	P		**P**	**21 15 16.4**	**0.0**	
	SNR=10.0								
EKS2	**Erkin-Say**	**66.66**	**325**	*e*P		**P**	**21 15 17.8**	**-0.2**	
EKS2				pmax		pmax			
	comp=Z,10.0nm,1.0s								
EKS2	**Erkin-Say**	**66.66**	**325**	P		**P**	**21 15 18.2**	**+0.3**	
	SNR=5.4								
EKS2	**Erkin-Say**	**66.66**	**325**	*e*P		**P**	**21 15 17.8**	**-0.2**	
	comp=Z,9.9nm,1.0s								
USP	**Ospenovka**	**66.66**	**326**	*i* P		**P**	**21 15 17.5**	**-0.3**	
USP	**Ospenovka**	**66.66**	**326**	P		**P**	**21 15 17.5**	**-0.3**	
	SNR=5.7								
MAW	**Mawson**	**68.00**	**200**	*e*P		**P**	**21 15 28.6**	**+2.7**	
	comp=Z,8.5nm,2.2s								
MAW	**Mawson**	**68.00**	**200**	P		P	21 15 30.6	+4.7	
	comp=Z,0.7nm,0.6s,baz=69,slow=13,SNR=3.6								
KURBB	**Kurchatov Arra**	**69.87**	**334**	P		**P**	**21 15 36.9**	**-0.7**	
	comp=Z,3.3nm,0.5s,baz=140,slow=5.6,SNR=47								
KURK	**Kurchatov**	**69.90**	**334**	*e*P		**P**	**21 15 36.9**	**-0.9**	
KURK	**Kurchatov**	**69.90**	**334**	*e*P		**P**	**21 15 36.9**	**-0.9**	
ZAA0	**Zalesovo Array**	**70.02**	**340**	*e*P		**P**	**21 15 36.7**	**-1.8**	
ZALV	**Zalesovo Beam**	**70.02**	**340**	P		**P**	**21 15 37.0**	**-1.5**	
	comp=Z,12nm,0.5s,baz=138,slow=4.9,SNR=30								
VNDA	**Vanda**	**70.88**	**171**	*e*P		**P**	**21 15 43.1**	**-0.5**	
	comp=Z,19nm,1.4s								
VNDA	**Vanda**	**70.88**	**171**	P		**P**	**21 15 45.8**	**+2.2**	
	comp=Z,1.7nm,0.9s,baz=327,slow=5.4,SNR=5.6								
PEA0	**Petropavlovsk-**	**71.30**	**24**	*e*P		**P**	**21 15 44.6**	**-1.8**	
PETK	**Petropavlovsk-**	**71.30**	**24**	P		**P**	**21 15 45.5**	**-0.9**	
	comp=Z,14nm,0.9s,baz=193,slow=5.8,SNR=12								
ITEG	**Tejag**	**71.30**	**310**	*e*P		**P**	**21 15 46.1**	**-1.0**	
SBA	**Scott Base**	**71.89**	**170**	*e*P		**P**	**21 15 49.6**	**0.0**	
SBA				pmax		pmax			
	comp=Z,16nm,1.2s								
SBA	**Scott Base**	**71.89**	**170**	*e*P		**P**	**21 15 49.6**	**0.0**	
	comp=Z,16nm,1.2s								
IMOG	**Moghan**	**72.30**	**313**	*e*P		**P**	**21 15 53.1**	**-0.1**	
YAK	**Yakutsk**	**72.51**	**5**	*i* P		**P**	**21 15 51.3**	**-2.1**	
IPAY	**Payeh**	**72.70**	**313**	*e*P		**P**	**21 15 56.5**	**+1.0**	
IKRD	**Kardeh**	**73.20**	**313**	*e*P		P	21 15 54.6	-3.8	
IBAF	**Bafgh**	**73.20**	**307**	*e*P		**P**	**21 15 57.7**	**-0.8**	
IMEH	**Mehriz**	**73.88**	**307**	*e*P		**P**	**21 16 01.5**	**-1.0**	
ISAD	**Sadrabad**	**74.81**	**307**	*e*P		P	21 15 58.4	-10	
BVAR	**Borovoye Array**	**75.17**	**332**	P		**P**	**21 16 07.5**	**-1.8**	
	comp=Z,2.6nm,0.6s,baz=189,slow=28,SNR=8.1								
BRVK	**Borovoye**	**75.24**	**332**⇑	*e*P		**P**	**21 16 07.6**	**-2.0**	
BRVK				pmax		pmax			
	comp=Z,17nm,1.1s								
BRVK	**Borovoye**	**75.24**	**332**	*e*P		**P**	**21 16 07.6**	**-2.0**	
	comp=Z,25nm,1.4s								
IZEF	**Zefreh**	**76.24**	**308**	*e*P		**P**	**21 16 14.2**	**-2.0**	
SYO	**Syowa Base**	**76.62**	**201**⇑	*e*P		**P**	**21 16 19.6**	**+2.3**	
IKLH	**Kolahrood**	**76.98**	**308**	*e*P		**P**	**21 16 21.8**	**+1.5**	
ABKAR	**Akbulak array**	**78.32**	**325**	*e*P		**P**	**21 16 25.6**	**-1.5**	
RDF	**Al-Radifah**	**78.74**	**302**	*e*P		**P**	**21 16 28.8**	**-1.1**	
RDF				AMb		AMB	21 16 35.6		
	comp=Z,68nm,1.4s								
RAYN	**Ar Rayn**	**78.90**	**296**	*e*P		**P**	**21 16 30.1**	**-0.8**	
	comp=Z,18nm,1.3s								
NAY	**Al-Naaiem**	**79.10**	**302**	*e*P		**P**	**21 16 31.2**	**-0.7**	
NAY				AMb		AMB	21 16 40.0		
	comp=Z,33nm,1.6s								
RST	**Umm Al-Ruwaisa**	**79.38**	**303**	*e*P		**P**	**21 16 33.0**	**-0.4**	
RST				AMb		AMB	21 16 41.9		
	comp=Z,258nm,1.1s								
AKTO	**Aktyubinsk**	**79.99**	**326**	P		**P**	**21 16 34.2**	**-2.0**	
	comp=Z,5.2nm,0.6s,baz=115,slow=6.0,SNR=16								
IVIS	**Veis**	**81.08**	**307**	*e*P		**P**	**21 16 41.7**	**-0.9**	
KMBO	**Kilima Mbogo**	**81.32**	**270**	*e*P		**P**	**21 16 46.4**	**+1.9**	
	comp=Z,7.0nm,1.2s								
KMBO	**Kilima Mbogo**	**81.32**	**270**	P		**P**	**21 16 46.4**	**+1.9**	
	comp=Z,1.4nm,0.8s,baz=20,slow=7.7,SNR=3.7								
IDHR	**Dehrash**	**81.50**	**307**	*e*P		**P**	**21 16 43.6**	**-1.4**	
ISRB	**Sarab**	**81.55**	**311**	*e*P		**P**	**21 16 45.2**	**0.0**	
TIXI	**Tiksi**	**81.94**	**3**⇑	*i*P		**P**	**21 16 44.2**	**-2.0**	
TIXI				pmax		pmax			
	comp=Z,15nm,1.0s								
ARU	**Arti**	**82.72**	**331**	*d* iP		**P**	**21 16 50.2**	**-0.4**	
ARU				S		**S**	**21 27 06.1**	**-1.3**	
ARU				SS		**SS**	**21 32 28.3**	**-1.8**	
ARU				pmax		pmax			
	comp=Z,6.0nm,1.2s								
ZEI	**Tsey**	**85.88**	**315**	*e*P		**P**	**21 17 06.7**	**-0.5**	
ZEI				pmax		pmax			
	comp=Z,17nm,1.2s								
NCK	**Nalchik**	**86.30**	**315**	*i* P		**P**	**21 17 06.7**	**-2.4**	
LSZ	**Lusaka**	**87.79**	**255**	*e*P		**P**	**21 17 19.2**	**+2.2**	
	comp=Z,19nm,1.6s								
LSZ	**Lusaka**	**87.79**	**255**	P		**P**	**21 17 19.2**	**+2.2**	
	comp=Z,1.7nm,0.8s,baz=75,slow=6.0,SNR=5.9								
MBAR	**Mbarara**	**87.82**	**270**	*e*P		**P**	**21 17 19.2**	**+1.9**	
	comp=Z,12nm,1.1s								
BOSA	**Boshof**	**88.12**	**241**	*e*P		**P**	**21 17 20.3**	**+1.9**	
BOSA	**Boshof**	**88.12**	**241**	P		**P**	**21 17 20.3**	**+1.9**	
	comp=Z,3.5nm,1.0s,baz=118,slow=12,SNR=3.6								
ASF	**Jabal al Asfar**	**88.46**	**303**	*e*P		**P**	**21 17 21.0**	**+1.1**	
ASF	**Jabal al Asfar**	**88.46**	**303**	P		**P**	**21 17 21.0**	**+1.1**	
	comp=Z,0.9nm,0.3s,baz=70,slow=6.5,SNR=3.0								
SNAA	**Sanae**	**89.77**	**196**	*e*P		P	21 17 28.6	+3.4	
MMAI	**Mount Meron Ar**	**89.87**	**303**	P		**P**	**21 17 27.6**	**+1.2**	
	comp=Z,0.5nm,0.4s,baz=103,slow=4.6,SNR=2.4								
VNA2	**Neumayer--Watz**	**91.40**	**195**	*e*P		**P**	**21 17 35.6**	**+2.9**	
BR101	**Keskin Array S**	**92.61**	**310**	*e*P		**P**	**21 17 39.2**	**+0.1**	
BRTR	**Keskin Array B**	**92.61**	**310**	P		**P**	**21 17 39.2**	**+0.1**	
	comp=Z,0.8nm,0.8s,baz=139,slow=3.4,SNR=4.9								
OBN	**Obninsk**	**93.77**	**325**	P		**P**	**21 17 44.0**	**+0.2**	
OBN				pmax		pmax			
	comp=Z,9.0nm,0.6s								
AKASG	**Malin Array Be**	**97.42**	**320**	P		**P**	**21 17 57.5**	**-3.1**	
	comp=Z,0.3nm,0.4s,baz=139,slow=5.3,SNR=3.1								
AKBB	**Malin Array Si**	**97.42**	**320**	*e*P		**P**	**21 17 57.5**	**-3.1**	
AKBB	**Malin Array Si**	**97.42**	**320**	*e*P		**P**	**21 17 57.5**	**-3.1**	
FIA0	**FINESS Array S**	**100.09**	**331**	*e*P		**Pdif**	**21 18 11.6**	**-0.7**	
FIA0	**FINESS Array S**	**100.09**	**331**	*e*Pdif		**Pdif**	**21 18 11.6**	**-0.7**	
FINES	**FINESS Array B**	**100.09**	**331**	P		**Pdif**	**21 18 11.6**	**-0.7**	
	comp=Z,6.2nm,1.2s,baz=99,slow=4.5,SNR=3.4								
ARA0	**ARCESS Array S**	**100.56**	**339**	*e*Pdif		**Pdif**	**21 18 12.4**	**-1.9**	
ARCES	**ARCESS Array B**	**100.56**	**339**	P		**Pdif**	**21 18 12.4**	**-1.9**	
	comp=Z,2.1nm,0.9s,baz=79,slow=4.8,SNR=2.4								
YKA	**Yellowknife Ar**	**115.41**	**24**	PKP		**PKPdf**	**21 23 08.8**	**+0.4**	
	comp=Z,0.6nm,0.5s,baz=314,slow=1.8,SNR=5.4								
YKB5	**Yellowknife Ar**	**115.41**	**24**	*e*PKiKP		**PKPdf**	**21 23 08.8**	**+0.4**	
TOA0	**Torodi Ar. Sit**	**118.30**	**279**	*e*PKPdf		**PKPdf**	**21 23 16.4**	**+1.0**	
TORD	**Torodi Ar. Bea**	**118.30**	**279**	PKP		**PKPdf**	**21 23 15.9**	**+0.5**	
	comp=Z,2.0nm,0.7s,baz=61,slow=1.8,SNR=21								
ESDC	**Sonseca Array**	**121.40**	**310**	*e*PKPdf		**PKPdf**	**21 23 22.2**	**+1.5**	
ESDC	**Sonseca Array**	**121.40**	**310**	PKP		**PKPdf**	**21 23 22.2**	**+1.5**	
	comp=Z,0.3nm,0.5s,baz=23,slow=3.2,SNR=4.5								
NV01	**Mina Array Sit**	**122.04**	**51**	*e*PKPdf		**PKPdf**	**21 23 21.8**	**-0.4**	
NVAR	**Mina Array Bea**	**122.04**	**51**	PKP		**PKPdf**	**21 23 24.1**	**+1.9**	
	comp=Z,0.5nm,0.7s,baz=262,slow=1.8,SNR=2.5								
DBIC	**Dimbokro**	**124.05**	**271**	*e*PKPdf		**PKPdf**	**21 23 26.4**	**-0.1**	
DBIC	**Dimbokro**	**124.05**	**271**	PKP		**PKPdf**	**21 23 27.4**	**+1.0**	
	comp=Z,2.3nm,0.6s,baz=163,slow=5.4,SNR=6.2								
R11A	**Troy Canyon, C**	**124.13**	**50**	*e*PKPdf		**PKPdf**	**21 23 26.2**	**0.0**	
PD31	**Pinedale Array**	**127.02**	**43**	*e*PKPdf		**PKPdf**	**21 23 31.4**	**-0.3**	
PDAR	**Pinedale Array**	**127.02**	**43**	PKP		**PKPdf**	**21 23 31.4**	**-0.3**	
	comp=Z,0.3nm,0.4s,baz=242,slow=1.9,SNR=3.5								
LTX	**Lajitas**	**136.17**	**58**	*e*PKiKP		**PKPdf**	**21 23 45.5**	**-3.7**	
LTX	**Lajitas**	**136.17**	**58**	*e*PKPdf		**PKPdf**	**21 23 45.5**	**-3.7**	
TXAR	**Lajitas Array**	**136.17**	**58**	PKhKP		PKPpre	21 23 45.5		
	comp=Z,1.1nm,1.0s,baz=129,slow=0.8,SNR=4.0								
WVT	**Waverly**	**144.75**	**39**	*e*PKiKP		**PKPab**	**21 24 02.6**	**-0.5**	
WVT	**Waverly**	**144.75**	**39**	*e*PKPdf		**PKPab**	**21 24 02.6**	**-0.5**	
BINY	**Binghamton**	**145.63**	**19**	*e*PKPdf		**PKPdf**	**21 24 04.5**	**-1.2**	
MCWV	**Mont Chateau**	**146.35**	**26**	*e*PKPdf		**PKPab**	**21 24 08.8**	**-0.2**	
SWET	**Sewanee**	**146.51**	**38**	*e*PKPdf		**PKPbc**	**21 24 08.6**	**-0.2**	
TZTN	**Tazewell**	**146.96**	**34**	*e*PKPdf		**PKPbc**	**21 24 10.6**	**+0.5**	
CPCT	**Cooper Cave**	**147.19**	**36**	*e*PKPdf		**PKPbc**	**21 24 09.8**	**-0.9**	
LRAL	**Lakeview Retre**	**147.24**	**42**	*e*PKPdf		**PKPbc**	**21 24 10.3**	**-0.6**	
TKL	**Tuckaleechee C**	**147.47**	**35**	*e*PKPdf		**PKPbc**	**21 24 10.8**	**-0.7**	
TKL	**Tuckaleechee C**	**147.47**	**35**	PKPbc		**PKPbc**	**21 24 11.6**	**0.0**	
	comp=Z,12nm,0.7s,baz=156,slow=3.1,SNR=19								
LPAZ	**La Paz**	**152.86**	**166**	*e*PKPbc		**PKPbc**	**21 24 27.8**	**+1.8**	
LPAZ	**La Paz**	**152.86**	**166**	PKPbc		**PKPbc**	**21 24 27.8**	**+1.8**	
	comp=Z,2.0nm,0.9s,baz=110,slow=4.5,SNR=4.0								

*IDC **24** 21:04:35.0±1.3, 15°.04S×173°.25W, h0km, mb4.3/5, mb1 4.5/5, mb1mx4.1/21, mbtmp4.3/5, Error ellipse: s-maj=42.5km s-min=23.5km az=146.0*
*ISCJB **24** 21:04:36.9±0.8, 15°.0S±0°.2×173°.3W±0°.2, h29km, mb4.4/4, Error ellipse: s-maj=33.9km s-min=8.6km az=143.5*

ISC 24 21:04:38.7±1.0, 14°.9S±0°.2×173°.2W±0°.2, h29km, n9, σ1°.3 31°/7, mb4.5/4, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.72**	**54**	Pn		**Pn**	**21 05 07.2**	**+0.5**
	74nm,0.3s,baz=205,slow=14,SNR=64							
AFI				Sn		**Sn**	**21 05 26.9**	**-0.9**
	199nm,0.3s,baz=231,slow=14,SNR=15							
DZM	**Mont Dzumac**	**20.54**	**247**	P		**P**	**21 09 14.4**	**-0.7**
	6.8nm,0.8s,baz=94,slow=18,SNR=2.2							
PPT2	**Papeete2**	**22.85**	**100**	eLQ		LQ	21 14 04.2	
	410nm,26.8s							
PPT2				eLR		LR	21 15 04.5	
	349nm,25.0s							
TBI	**Tubuai**	**23.93**	**114**	eLQ		LQ	21 14 31.9	
	356nm,28.2s							
TBI				eLR		LR	21 15 40.2	
	443nm,25.5s							
URZ	**Urewera**	**24.77**	**198**	P		**P**	**21 09 56.1**	**-1.8**
	12nm,1.1s,baz=275,slow=11,SNR=3.4							
RKT	**Rikitea**	**36.98**	**109**	eLR		LR	21 21 32.2	
	438nm,29.5s							
WRA	**Warramunga Arr**	**50.12**	**256**	P		**P**	**21 13 32.4**	**+0.7**
	6.1nm,0.8s,baz=90,slow=7.8,SNR=3.6							
ASAR	**Alice Springs**	**50.43**	**252**	P		**P**	**21 13 33.9**	**-0.1**
	3.7nm,0.5s,baz=87,slow=7.5,SNR=6.3							
VNDA	**Vanda**	**63.86**	**186**	P		**P**	**21 15 09.5**	**+1.4**
	1.0nm,0.8s,baz=12,slow=5.6,SNR=4.7							

MAN 24 21:06:45, 12°.48N×123°.73E, h50km, mb5.1, ML4.0, MS4.2, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.91**	**88**	*e*P		Pn	21 07 02.3	+0.7
CNP				*e*S		Sn	21 07 16.3	+2.6
PVCP	**Virac**	**1.19**	**20**⇓	*i*P		Pn	21 07 07.5	+2.2
RCP	**Roxas**	**1.32**	**227**⇓	*e*P		Pn	21 07 07.8	+0.6
RCP				*e*S		Sn	21 07 25.7	+2.0
OCLP	**Ormoc**	**1.66**	**149**	*e*P		Pn	21 07 13.3	+1.6
GUIM	**Jordan**	**2.15**	**211**	*e*P		Pn	21 07 20.2	+1.7
LLP	**Lapu-Lapu**	**2.16**	**174**	*e*P		Pn	21 07 19.2	+0.6
LLP				*e*S		Sn	21 07 46.4	+2.3
MSLP	**Maasin**	**2.58**	**154**	*e*P		Pn	21 07 26.0	+1.7
TBP	**Tagbilaran**	**2.77**	**177**	*e*P		Pn	21 07 28.0	+1.1
TBP				*e*S		Sn	21 08 02.3	+3.1

*IDC **24** 21:17:25.4±0.6, 15°.17S×173°.48W, h0km, mb4.2/10, mb1 4.4/10, mb1mx4.2/18, mbtmp4.2/10, MS4.2/2, Ms1 4.2/2, ms1mx3.7/28, Error ellipse: s-maj=32.2km s-min=16.9km az=130.0*
*NEIC **24** 21:17:26.3±0.5, 15°.14S×173°.39W, h10km, mb4.6/2, Error ellipse: s-maj=25.9km s-min=12.4km az=138.0*
*ISCJB **24** 21:17:28.1±0.6, 15°.1S±0°.1×173°.6W±0°.1, h30km, mb4.1/13, MS4.3/2, Error ellipse: s-maj=21.9km s-min=12.9km az=44.3*

ISC 24 21:17:29.9±0.6, 15°.2S±0°.1×173°.6W±0°.2, h30km, n57, σ0°.9 73°/49, mb4.4/13, 5C-3D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.14**	**54**	*e*Pn		Pn	21 17 55.5	-8.2
AFI				Sn		Sn	21 18 14.9	-15
AFI	**Afiamalu**	**2.14**	**54**	Pn		Pn	21 17 55.5	-8.2
	76nm,0.3s,baz=265,slow=1.0,SNR=24							
AFI				Sn		Sn	21 18 14.9	-14
	320nm,0.3s,baz=68,slow=22,SNR=18							
DZM	**Mont Dzumac**	**20.14**	**247**	*e*P		**P**	**21 22 00.6**	**-1.3**
DZM	**Mont Dzumac**	**20.14**	**247**	P		Pn	21 22 06.1	+2.2
	18nm,1.0s,baz=62,slow=22,SNR=4.1							
URZ	**Urewera**	**24.41**	**198**	P		**P**	**21 22 47.2**	**+1.4**
URZ	**Urewera**	**24.41**	**198**	P		**P**	**21 22 47.2**	**+1.4**
	2.9nm,0.4s,baz=241,slow=2.5,SNR=4.0							
H11S2	**WAKE ISLAND Hy**	**38.71**	**329**	T		T	22 06 11.8	
	baz=152,slow=0.7,SNR=13							
H11S3	**WAKE ISLAND Hy**	**38.72**	**329**	T		T	22 05 58.6	
	baz=152,slow=0.7,SNR=19							
H11S1	**WAKE ISLAND Hy**	**38.73**	**329**	T		T	22 06 13.0	
	baz=152,slow=0.7,SNR=11							
H11N3	**WAKE ISLAND Hy**	**39.66**	**330**	T		T	22 07 45.5	
	baz=152,slow=0.7,SNR=12							
H11N1	**WAKE ISLAND Hy**	**39.66**	**330**	T		T	22 07 23.8	
	baz=152,slow=0.7,SNR=16							
H11N2	**WAKE ISLAND Hy**	**39.68**	**330**	T		T	22 07 39.4	
	baz=152,slow=0.7,SNR=16							
STKA	**Stephens Creek**	**44.01**	**240**	*e*P		**P**	**21 25 34.5**	**-0.5**
STKA	**Stephens Creek**	**44.01**	**240**	P		**P**	**21 25 34.3**	**-0.7**
	5.2nm,0.8s,baz=91,slow=7.7,SNR=6.1							
WRAB	**Tennant Creek**	**49.74**	**257**	*e*P		**P**	**21 26 19.4**	**-0.5**
	7.8nm,1.0s							
WRA	**Warramunga Arr**	**49.75**	**257**	P		**P**	**21 26 20.0**	**0.0**
WRA				PcP		**PcP**	**21 27 41.4**	**+0.5**
WRA	**Warramunga Arr**	**49.75**	**257**	P		**P**	**21 26 20.0**	**0.0**
	3.0nm,0.6s,baz=92,slow=6.7,SNR=79							
WRA				PcP		**PcP**	**21 27 41.4**	**+0.5**
	0.9nm,0.6s,baz=92,slow=3.4,SNR=4.5							
AS31	**Alice Springs**	**50.03**	**252**	*e*P		**P**	**21 26 22.1**	**0.0**
ASAR	**Alice Springs**	**50.03**	**252**	P		**P**	**21 26 22.4**	**+0.3**
ASAR	**Alice Springs**	**50.03**	**252**	P		**P**	**21 26 22.4**	**+0.3**
	5.3nm,0.5s,baz=86,slow=8.3,SNR=50							
FITZ	**Fitzroy Crossi**	**58.11**	**258**	LR		LR	21 47 43.7	
	comp=Z,131nm,21.1s,baz=276,slow=31							
VNDA	**Vanda**	**63.57**	**186**	P		**P**	**21 27 57.7**	**+0.4**
VNDA	**Vanda**	**63.57**	**186**	P		**P**	**21 27 57.7**	**+0.4**
	0.7nm,0.8s,baz=27,slow=6.4,SNR=5.1							
PETK	**Petropavlovsk-**	**72.39**	**342**	P		**P**	**21 28 53.0**	**+0.1**
PETK	**Petropavlovsk-**	**72.39**	**342**	P		**P**	**21 28 53.0**	**+0.1**
	2.7nm,1.1s,baz=185,slow=8.1,SNR=3.6							
NVAR	**Mina Array Bea**	**74.28**	**42**	P		**P**	**21 29 04.6**	**-0.1**
NVAR	**Mina Array Bea**	**74.28**	**42**	P		**P**	**21 29 04.6**	**-0.1**
	0.3nm,0.6s,baz=230,slow=7.0,SNR=2.1							
QSPA	**South Pole Qui**	**74.85**	**180**	*e*P		**P**	**21 29 06.5**	**-1.0**
	9.3nm,1.3s							
TXAR	**Lajitas Array**	**80.62**	**56**	P		**P**	**21 29 39.7**	**-0.6**
TXAR	**Lajitas Array**	**80.62**	**56**	P		**P**	**21 29 39.7**	**-0.6**
	0.5nm,0.9s,baz=236,slow=6.4,SNR=1.8							
PDAR	**P

Error ellipse: s-maj=19.0km s-min=8.4km az=90.0
ISC 24 22:19:57.4±1.7,**35°S**±0.1×**179°0E**±0.2,**h247**km±12km,
n38,σ1°44/48, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.92**	**196**	PN	**Pn**	**22 20 36.7**	**-2.1**
MXZ				SN	**S**	**22 21 09.4**	**-2.1**
MXZ				AML	AML	22 21 11.5	
MXZ				AML	AML	22 21 12.2	
MXZ				AML	AML	22 21 13.4	
PUZ	**Puketiti**	**2.42**	**193**	PN	**Pn**	**22 20 42.7**	**-0.9**
PUZ				SN	**S**	**22 21 19.2**	**-1.0**
PUZ				AML	AML	22 21 22.7	
CNGZ	**Carnagh Statio**	**2.83**	**192**	PN	**Pn**	**22 20 48.1**	**+0.3**
MWZ	**Matawai**	**2.86**	**203**	PN	**Pn**	**22 20 47.5**	**-0.6**
MWZ				SN	**S**	**22 21 30.4**	**+2.1**
URZ	**Urewera**	**2.94**	**210**	PN	**Pn**	**22 20 47.5**	**-1.5**
URZ				*e*SN	**S**	**22 21 28.3**	**-1.6**
URZ				AML	AML	22 21 43.5	
URZ	**Urewera**	**2.94**	**210**	P	**Pn**	**22 20 48.2**	**-0.8**
	2.5nm,0.3s,baz=158,slow=22,SNR=7.3						
URZ				S	**S**	**22 21 30.9**	**+1.1**
	13nm,0.3s,baz=307,slow=20,SNR=10						
RIGZ	**Rimuhau**	**3.14**	**197**	*e*PN	**Pn**	**22 20 50.8**	**-0.3**
RIGZ				*e*SN	**S**	**22 21 34.0**	**+0.2**
SNGZ	**Shannon Statio**	**3.33**	**202**	PN	**Pn**	**22 20 53.0**	**-0.2**
KNZ	**Kokohu**	**3.46**	**197**	PN	**Pn**	**22 20 54.2**	**-0.5**
RAHZ	**Arahi**	**3.53**	**204**	PN	**Pn**	**22 20 55.5**	**-0.1**
MHGZ	**Mahia Peninsul**	**3.54**	**193**	PN	**Pn**	**22 20 55.9**	**+0.3**
NMHZ	**Naumai**	**3.79**	**206**	*e*PN	**Pn**	**22 20 58.3**	**-0.3**
BKZ	**Black Stump Fm**	**3.97**	**209**	PN	**Pn**	**22 21 00.5**	**-0.1**
MCHZ	**McNeill Hill**	**4.14**	**205**	*e*PN	**Pn**	**22 21 02.3**	**-0.3**
CKHZ	**Cape Kidnapper**	**4.21**	**200**	PN	**Pn**	**22 21 03.2**	**-0.3**
CKHZ				SN	**S**	**22 21 58.9**	**+2.9**
KAHZ	**Kahuranaki**	**4.40**	**201**	PN	**Pn**	**22 21 05.6**	**-0.2**
BHHZ	**Black Hill Sta**	**4.42**	**210**	PN	**Pn**	**22 21 05.6**	**-0.3**
PXZ	**Pawanui**	**4.62**	**200**	PN	**Pn**	**22 21 07.0**	**-1.3**
PXZ				SN	**S**	**22 22 06.6**	**+1.8**
PNHZ	**Pukenui**	**4.73**	**207**	PN	**Pn**	**22 21 08.5**	**-1.2**
PRHZ	**Porangahau**	**4.91**	**201**	PN	**Pn**	**22 21 11.1**	**-0.7**
BFZ	**Birch Farm**	**5.40**	**202**	SN	**S**	**22 22 23.6**	**+1.3**
TIWZ	**Tintock**	**5.61**	**205**	PN	**Pn**	**22 21 20.0**	**-0.4**
MRZ	**Mangatainoka R**	**5.61**	**207**	PN	**Pn**	**22 21 19.6**	**-0.9**
MRZ				SN	**S**	**22 22 27.8**	**+0.8**
HOWZ	**Holdsworth Sta**	**5.84**	**207**	PN	**Pn**	**22 21 22.1**	**-1.3**
TMWZ	**Te Maipa**	**5.90**	**203**	PN	**Pn**	**22 21 23.3**	**-0.9**
OGWZ	**Otaki Gorge**	**5.91**	**209**	PN	**Pn**	**22 21 22.9**	**-1.3**
KIW	**Kapiti Island**	**6.05**	**211**	PN	**Pn**	**22 21 24.9**	**-1.0**
MTW	**Mount Morrison**	**6.08**	**205**	PN	**Pn**	**22 21 25.3**	**-1.0**
PLWZ	**Palliser**	**6.53**	**205**	*e*PN	**Pn**	**22 21 29.9**	**-2.1**
TCW	**Tory Channel**	**6.61**	**212**	PN	**Pn**	**22 21 31.0**	**-1.9**
NNZ	**Nelson**	**7.03**	**217**	PN	**Pn**	**22 21 36.7**	**-1.5**
THZ	**Tophouse**	**7.67**	**216**	PN	**Pn**	**22 21 45.4**	**-1.1**
KHZ	**Kahutara**	**7.91**	**211**	PN	**Pn**	**22 21 48.2**	**-1.2**
MQZ	**McQueen's Vall**	**9.35**	**209**	PN	**Pn**	**22 22 05.6**	**-1.9**
MQZ				SN	**S**	**22 23 50.0**	**-2.9**
ODZ	**Otahua Downs**	**11.27**	**212**	*e*PN	**Pn**	**22 22 30.6**	**-1.2**
ASAR	**Alice Springs**	**40.61**	**275**	P	**P**	**22 27 16.4**	**+2.8**
	3.4nm,0.5s,baz=115,slow=7.8,SNR=78						
WRA	**Warramunga Arr**	**42.10**	**280**	P	**P**	**22 27 27.5**	**+1.9**
	4.6nm,0.6s,baz=118,slow=7.7,SNR=99						
FINES	**FINESS Array B**	**149.06**	**335**	PKPbc	**PKPab**	**22 39 18.1**	**-2.4**
	1.8nm,0.8s,baz=42,slow=2.3,SNR=8.0						

*ROM **24** 22:43:41.7±0.3,44.71N×6.84E, h6km±2km, Md2.4/8, Ml1.9/6, Error ellipse: s-maj=3.6km s-min=1.7km az=68.0*
*GEN **24** 22:43:42.6,44.69N×6.81E, h7km, ML2.0*
*CSEM **24** 22:43:42.6±0.1,44.72N×6.85E, h2km, ML2.5/20, Error ellipse: s-maj=2.9km s-min=2.0km az=54.0*
*LDG **24** 22:43:42.8±0.1,44.76N×6.86E, h2km, Md2.7/2, Ml2.5/16, Error ellipse: s-maj=1.8km s-min=0.9km az=64.0*
*STR **24** 22:43:43.2±0.2,44.72N×6.84E, h5km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 24 22:43:42.7±0.8,**44.72N**±0.01×**6.84E**±0.02,**h11**km±4km,
n90,σ1°30/157, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.05**	**279**	*e*Pg	**Pg**	**22 43 44.5**	**-0.5**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**22 43 45.4**	**-1.2**
	3µm,0.2s						
MBDF	**Montbardon**	**0.05**	**279**	*e*Pg	**Pg**	**22 43 44.5**	**-0.5**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**22 43 45.4**	**-1.2**
	2µm,0.2s						
SURF	**Saint Ours**	**0.24**	**185**	Pg	**Pg**	**22 43 47.7**	**0.0**
SURF				Sg	**Sg**	**22 43 51.6**	**+0.5**
SURF	**Saint Ours**	**0.24**	**185**	Pg	**Pg**	**22 43 47.7**	**0.0**
SURF				Sg	**Sg**	**22 43 51.6**	**+0.5**
PZZ	**Stroppo**	**0.29**	**137**	Pg	**Pg**	**22 43 48.3**	**-0.3**
PZZ				Sg	**Sg**	**22 43 52.5**	**0.0**
	399nm,0.3s						
PZZ	**Stroppo**	**0.29**	**137**	P	**Pg**	**22 43 48.3**	**-0.3**
PZZ				S	**Sg**	**22 43 52.2**	**-0.3**
PZZ				Sg	**Sg**	**22 43 52.5**	**0.0**
	399nm,0.3s						
BNI	**Bardonecchia**	**0.35**	**341**	Pg	**Pg**	**22 43 50.1**	**+0.4**
BNI				Sg	**Sg**	**22 43 55.1**	**+0.6**
	25nm,0.3s						
BNI	**Bardonecchia**	**0.35**	**341**	Pg	**Pg**	**22 43 50.1**	**+0.4**
BNI				Sg	**Sg**	**22 43 55.1**	**+0.6**
	25nm,0.3s						
DOI	**San Damiano**	**0.36**	**126**	Pg	**Pg**	**22 43 49.8**	**-0.1**
DOI				Sg	**Sg**	**22 43 55.0**	**+0.3**
	254nm,0.2s						
DOI	**San Damiano**	**0.36**	**126**	Pg	**Pg**	**22 43 49.8**	**-0.1**
DOI				Sg	**Sg**	**22 43 55.0**	**+0.3**
	254nm,0.2s						
RSP	**Reno Superiore**	**0.52**	**35**	Pg	**Pg**	**22 43 53.5**	**+0.5**
RSP				Sg	**Sg**	**22 44 00.5**	**+0.6**
	89nm,0.2s						
RSP	**Reno Superiore**	**0.52**	**35**	P	**Pg**	**22 43 53.4**	**+0.5**
RSP				Sg	**Sg**	**22 44 00.5**	**+0.6**
	89nm,0.2s						
STV	**Sant Anna di V**	**0.59**	**144**	Pg	**Pg**	**22 43 53.8**	**-0.3**
STV				Sg	**Sg**	**22 44 02.0**	**+0.2**
	48nm,0.6s						
STV	**Sant Anna di V**	**0.59**	**144**	Pg	**Pg**	**22 43 53.8**	**-0.3**
STV				Sg	**Sg**	**22 44 02.0**	**+0.2**
	48nm,0.6s						
ENR	**Entracque**	**0.65**	**140**	P	**Pg**	**22 43 54.6**	**-0.6**
GDM	**Grand'Maison**	**0.71**	**314**	Pg	**Pg**	**22 43 56.7**	**+0.3**
GDM				Sg	**Sg**	**22 44 06.0**	**+0.4**
GDM	**Grand'Maison**	**0.71**	**314**	Pg	**Pg**	**22 43 56.7**	**+0.3**
GDM				Sg	**Sg**	**22 44 06.0**	**+0.4**
ORIF	**Oris-en-Rattie**	**0.71**	**287**	*e*Pg	**Pg**	**22 43 56.5**	**+0.1**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**22 44 05.3**	**-0.5**
	81nm,0.2s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**0.71**	**287**	*e*Pg	**Pg**	**22 43 56.5**	**+0.1**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**22 44 05.3**	**-0.5**
	40nm,0.2s,SNR=1.0						
TOUF	**Mont Tournerai**	**0.76**	**157**	Pg	**Pg**	**22 43 57.5**	**+0.1**
TOUF				Sg	**Sb**	**22 44 08.5**	**-0.1**
TOUF	**Mont Tournerai**	**0.76**	**157**	Pg	**Pg**	**22 43 57.5**	**+0.1**
TOUF				Sg	**Sb**	**22 44 08.5**	**-0.1**
LPG	**La Plagne**	**0.78**	**355**	*e*Pg	**Pg**	**22 43 58.0**	**+0.2**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**22 44 06.6**	**-1.4**
	16nm,0.2s						
LPG	**La Plagne**	**0.78**	**355**	*e*Pg	**Pg**	**22 43 58.0**	**+0.2**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**22 44 06.6**	**-1.4**
	7.8nm,0.2s						
LPL	**La Plagne**	**0.80**	**355**	*e*Pg	**Pg**	**22 43 58.3**	**+0.1**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**22 44 06.7**	**-2.0**
	17nm,0.3s						
LPL	**La Plagne**	**0.80**	**355**	*e*Pg	**Pg**	**22 43 58.3**	**+0.1**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**22 44 06.7**	**-2.0**
	8.4nm,0.3s						
AUTN	**L'Aution**	**0.84**	**150**	Pg	**Pg**	**22 43 58.8**	**0.0**
AUTN				Sg	**Sg**	**22 44 10.5**	**+0.7**
MONC	**Moncucco Torin**	**0.85**	**65**	Pg	**Pb**	**22 43 59.7**	**+0.2**
MVIF	**Mont Vial**	**0.85**	**165**	Pg	**Pb**	**22 43 59.9**	**+0.3**
MVIF				Sg	**Sb**	**22 44 11.5**	**+0.4**
SAOF	**Saorge**	**0.90**	**145**	Pg	**Pg**	**22 43 59.4**	**-0.5**
SAOF				Sg	**Sg**	**22 44 12.0**	**+0.4**
LUCF	**Luceram**	**0.90**	**156**	Pg	**Pb**	**22 44 00.5**	**+0.1**
LUCF				Sg	**Sb**	**22 44 12.8**	**+0.3**
GRN	**Grenoble**	**0.94**	**304**	Pg	**Pb**	**22 44 01.5**	**+0.5**
GRN				Sg	**Sb**	**22 44 14.1**	**+0.6**
GRN	**Grenoble**	**0.94**	**304**	Pg	**Pb**	**22 44 01.5**	**+0.5**
GRN				Sg	**Sb**	**22 44 14.1**	**+0.6**
SBF	**Sospel**	**0.96**	**153**	*e*Pg	**Pg**	**22 44 01.2**	**+0.1**
	SNR=1.0						
SBF				*e*Sg	**Sb**	**22 44 14.4**	**+0.4**
	57nm,0.5s,SNR=1.0						
SBF	**Sospel**	**0.96**	**153**	*e*Pg	**Pg**	**22 44 01.2**	**+0.1**
	SNR=1.0						
SBF				*e*Sg	**Sb**	**22 44 14.4**	**+0.4**
	28nm,0.5s,SNR=1.0						
CALN	**Calern**	**0.97**	**178**	Pg	**Pb**	**22 44 01.9**	**+0.3**
CALN				Sg	**Sg**	**22 44 14.4**	**+0.5**
TRAV	**Traversella**	**1.02**	**39**	Pg	**Pg**	**22 44 02.0**	**-0.3**
TRAV				Sg	**Sg**	**22 44 15.2**	**-0.4**
REVF	**Revere**	**1.05**	**159**	Pg	**Pb**	**22 44 03.1**	**+0.2**
REVF				Sg	**Sb**	**22 44 17.3**	**+0.6**
REVF	**Revere**	**1.05**	**159**	Pg	**Pb**	**22 44 03.1**	**+0.2**
REVF				Sg	**Sb**	**22 44 17.3**	**+0.6**
RORO	**Rocca Rossa**	**1.07**	**124**	P	**Pg**	**22 44 01.7**	**-1.5**
RORO				S	**Sg**	**22 44 14.6**	**-2.5**
NEGI	**Seborga**	**1.07**	**144**	P	**Pg**	**22 44 02.1**	**-1.1**
NEGI				S	**Sg**	**22 44 14.9**	**-2.2**
ROTM	**Rocchetta Tana**	**1.08**	**83**	P	**Pb**	**22 44 03.7**	**+0.2**
ROTM				S	**Sg**	**22 44 17.8**	**+0.2**
FRF	**La Foret Royal**	**1.17**	**187**	*e*Pn	**Pg**	**22 44 04.8**	**-0.3**
	SNR=1.0						
FRF				*e*Sn	**Sb**	**22 44 21.0**	**+1.0**
	14nm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	**1.17**	**187**	*e*Pn	**Pg**	**22 44 04.8**	**-0.3**
	SNR=1.0						
FRF				*e*Sn	**Sb**	**22 44 21.0**	**+1.0**
	7.0nm,0.2s,SNR=1.0						
SMRF	**Simiane la Rot**	**1.17**	**231**	*e*Pg	**Pn**	**22 44 05.9**	**+0.8**
	SNR=1.0						
SMRF				*e*Sn	**Sb**	**22 44 21.0**	**+0.8**
	43nm,0.4s,SNR=1.0						
SMRF	**Simiane la Rot**	**1.17**	**231**	*e*Pg	**Pn**	**22 44 05.9**	**+0.8**
	SNR=1.0						
SMRF				*e*Sn	**Sb**	**22 44 21.0**	**+0.8**
	22nm,0.4s,SNR=1.0						
PCP	**Piancastagn**	**1.23**	**98**	P	**Pg**	**22 44 05.4**	**-0.9**
PCP				S	**Sg**	**22 44 20.9**	**-1.4**
LMR	**La Mourre**	**1.41**	**190**	*e*Pn	**Pn**	**22 44 08.8**	**+0.6**
	SNR=1.0						
LMR	**La Mourre**	**1.41**	**190**	*e*Pg	**Pg**	**22 44 09.8**	**+0.2**
	SNR=1.0						
LMR				*e*Sn	**Sb**	**22 44 27.2**	**+0.3**
	20nm,0.3s,SNR=1.0						
LMR	**La Mourre**	**1.41**	**190**	*e*Pn	**Pn**	**22 44 08.8**	**+0.6**
	SNR=1.0						
LMR	**La Mourre**	**1.41**	**190**	*e*Pg	**Pg**	**22 44 09.8**	**+0.2**
	SNR=1.0						
LMR				*e*Sn	**Sb**	**22 44 27.2**	**+0.3**
	9.8nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**1.55**	**276**	*e*Pn	**Pn**	**22 44 10.1**	**-0.2**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**1.55**	**276**	*e*Pg	**Pb**	**22 44 11.9**	**+0.5**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**22 44 29.6**	**-0.8**
	SNR=1.0						
VIVF				*e*Sg	**Sb**	**22 44 32.1**	**+1.0**
	14nm,0.2s,SNR=1.0						
VIVF	**Saint-Julien-l**	**1.55**	**276**	*e*Pn	**Pn**	**22 44 10.1**	**-0.2**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**1.55**	**276**	*e*Pg	**Pb**	**22 44 11.9**	**+0.5**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**22 44 29.6**	**-0.8**
	SNR=1.0						
VIVF				*e*Sg	**Sb**	**22 44 32.1**	**+1.0**
	6.8nm,0.2s,SNR=1.0						
CABF	**La Chapelle**	**1.96**	**345**	*e*Pg	**Pb**	**22 44 18.5**	**0.0**
CABF				*e*Sn	**Sn**	**22 44 37.4**	**-3.3**
CABF				*e*Sg	**Sb**	**22 44 43.5**	**+0.4**
	5.6nm,0.5s,SNR=1.0						
CABF	**La Chapelle**	**1.96**	**345**	*e*Pg	**Pb**	**22 44 18.5**	**0.0**
CABF				*e*Sg	**Sb**	**22 44 43.5**	**+0.4**
	2.8nm,0.5s,SNR=1.0						
LASF	**Ste Croix**	**2.23**	**254**	*e*Pn	**Pn**	**22 44 20.2**	**+0.5**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**22 44 46.6**	**-0.7**
	4.4nm,0.2s,SNR=1.0						
LASF	**Ste Croix**	**2.23**	**254**	*e*Pn	**Pn**	**22 44 20.2**	**+0.5**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**22 44 46.6**	**-0.7**
	2.2nm,0.2s,SNR=1.0						
PGF	**Pioggiola**	**2.68**	**143**	*e*Sn	**Sn**	**22 44 57.5**	**-0.8**
	3.2nm,0.3s						
PGF	**Pioggiola**	**2.68**	**143**	*e*Sn	**Sn**	**22 44 57.5**	**-0.8**
	1.6nm,0.3s						
SMF	**Signal de Mont**	**2.85**	**314**	*e*P	**Pn**	**22 44 30.0**	**+1.9**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**22 44 59.8**	**-2.7**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**22 45 11.9**	**-2.3**
	4.9nm,0.4s,SNR=1.0						
SMF	**Signal de Mont**	**2.85**	**314**	*e*P	**Pn**	**22 44 30.0**	**+1.9**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**22 45 11.9**	**-2.3**
	2.5nm,0.4s,SNR=1.0						
HINF	**Hinteralfeld**	**3.10**	**0**	*e*Pn	**Pn**	**22 44 30.6**	**-1.0**
	SNR=1.0						
HINF	**Hinteralfeld**	**3.10**	**0**	*e*P	**Pn**	**22 44 33.3**	**+1.7**
HINF	**Hinteralfeld**	**3.10**	**0**	*e*Pn	**Pn**	**22 44 30.6**	**-1.0**
	SNR=1.0						
HINF	**Hinteralfeld**	**3.10**	**0**	*e*P	**Pn**	**22 44 33.3**	**+1.7**
AVF	**Avril sur Loir**	**3.20**	**312**	*e*Pn	**Pn**	**22 44 31.8**	**-1.1**
	SNR=1.0						
AVF	**Avril sur Loir**	**3.20**	**312**	*e*P	**Pn**	**22 44 35.2**	**+2.3**
AVF				*e*Sg	**Sg**	**22 45 22.7**	**-2.7**
	2.1nm,0.4s,SNR=1.0						
AVF	**Avril sur Loir**	**3.20**	**312**	*e*Pn	**Pn**	**22 44 31.8**	**-1.1**
	SNR=1.0						
AVF	**Avril sur Loir**	**3.20**	**312**	*e*P	**Pn**	**22 44 35.2**	**+2.3**
LOR	**Lormes**	**3.29**	**322**	*e*P	**Pn**	**22 44 36.0**	**+1.8**
	baz=145,SNR=1.0						
LOR				*e*Sn	**Sn**	**22 45 10.3**	**-3.0**
	2.3nm,0.4s,SNR=1.0						
LOR	**Lormes**	**3.29**	**322**	*e*P	**Pn**	**22 44 36.0**	**+1.8**
	baz=145,SNR=1.0						
SSF	**Saint Saulge**	**3.30**	**316**	*e*P	**Pn**	**22 44 36.7**	**+2.4**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**22 45 25.8**	**-2.9**
	1.4nm,0.2s,SNR=1.0						
SSF	**Saint Saulge**	**3.30**	**316**	*e*P	**Pn**	**22 44 36.7**	**+2.4**
	SNR=1.0						
HAU	**Haudompre**	**3.31**	**354**	*e*P	**Pn**	**22 44 36.2**	**+1.8**
	SNR=1.0						
HAU	**Haudompre**	**3.31**	**354**	*e*P	**Pn**	**22 44 36.2**	**+1.8**
	SNR=1.0						
BGF	**Bois d'Agland**	**3.35**	**305**	*e*P	**Pn**	**22 44 37.2**	**+2.2**
	SNR=1.0						
BGF				*e*Sg	**Sb**	**22 45 26.9**	**+4.0**
	4.1nm,0.3s						
BGF	**Bois d'Agland**	**3.35**	**305**	*e*P	**Pn**	**22 44 37.2**	**+2.2**
	SNR=1.0						
CAF	**Calviac**	**3.40**	**275**	*e*P	**Pn**	**22 44 37.7**	**+1.9**
	SNR=1.0						
CAF				*e*Sg	**Sg**	**22 45 29.7**	**-2.3**
	1.2nm,0.3s						
CAF	**Calviac**	**3.40**	**275**	*e*P	**Pn**	**22 44 37.7**	**+1.9**
	SNR=1.0						
CAF				*e*Sg	**Sg**	**22 45 29.7**	**-2.3**
	0.6nm,0.3s						
MTLF	**Montolieu**	**3.61**	**249**	*e*Pn	**Pn**	**22 44 39.2**	**+0.7**
MTLF				*e*Sn	**Sn**	**22 45 19.3**	**-1.8**
	0.5nm,0.2s						
MTLF	**Montolieu**	**3.61**	**249**	*e*Pn	**Pn**	**22 44 39.2**	**+0.7**
TCF	**Toulx Ste Croi**	**3.61**	**297**	*e*P	**Pn**	**22 44 40.9**	**+2.3**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**22 45 36.1**	**-2.6**
	2.0nm,0.4s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.61**	**297**	*e*P	**Pn**	**22 44 40.9**	**+2.3**
	SNR=1.0						
CDF	**Champ du Feu**	**3.71**	**4**	*e*P	**Pn**	**22 44 41.7**	**+1.7**
	SNR=1.0						
CDF	**Champ du Feu**	**3.71**	**4**	*e*P	**Pn**	**22 44 41.7**	**+1.7**
	SNR=1.0						
RJF	**Les Rejaudoux**	**3.82**	**281**	*e*P	**Pn**	**22 44 44.4**	**+2.9**
RJF	**Les Rejaudoux**	**3.82**	**281**	*e*P	**Pn**	**22 44 44.4**	**+2.9**
BAIF	**Baives**	**5.63**	**342**	*e*P	**Pn**	**22 45 08.8**	**+2.5**
	SNR=1.0						
BAIF	**Baives**	**5.63**	**342**	*e*P	**Pn**	**22 45 08.8**	**+2.5**
	SNR=1.0						

*IDC **24** 22:43:45.3±1.6,0.70S×132.80E, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.7/19, mbtmp4.0/5, ML4.0/1, Error ellipse: s-maj=64.6km s-min=19.6km az=75.0*
*ISCJB **24** 22:43:47.6±1.3,0.6S±0.1×133.2E±0.1, h33km, mb3.9/4, Error ellipse: s-maj=19.9km s-min=13.5km az=139.0*
*AUST **24** 22:43:55.7,0.98S×133.00E, h60km*
ISC 24 22:43:50.1±1.5,**0.6S**±0.1×**133.1E**±0.2,**h35**km,**n17,**
σ1°68/14, mb3.9/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.86**	**262**	P	**Pn**	**22 44 19.9**	**+0.3**
	baz=1.7,SNR=67						
FAKI	**Fak Fak**	**2.46**	**200**	P	**Pn**	**22 44 28.2**	**+0.5**
	baz=2.1,SNR=299						
TLE	**Tual**	**5.02**	**184**	P	Pn	22 45 04.6	+1.6
	baz=4.7,SNR=12						
AAI	**Ambon**	**5.79**	**238**	P	**Pn**	**22 45 15.0**	**+1.5**
	baz=5.5,SNR=6.2						
KDU	**Kakadu**	**12.03**	**183**	P	**Pn**	**22 46 37.6**	**-1.5**
	baz=12,SNR=12						
MTN	**Manton Dam**	**12.32**	**189**	P	**Pn**	**22 46 41.7**	**-1.4**
	baz=12,SNR=12						
KNRA	**Kununurra**	**15.58**	**196**	P	**Pn**	**22 47 24.0**	**-3.3**
	baz=15,SNR=10.0						
WRA	**Warramunga Arr**	**19.26**	**176**	P	**Pn**	**22 48 11.3**	**-1.7**
	0.5nm,0.3s,baz=356,slow=11,SNR=29						
WRA				S	Sn	22 51 36.7	-11
	0.2nm,0.3s,baz=2.8,slow=20,SNR=4.9						
ASAR	**Alice Springs**	**22.94**	**178**	P	**P**	**22 48 51.1**	**-0.3**
	4.4nm,0.7s,baz=355,slow=11,SNR=46						
ASAR				S	**S**	**22 53 02.1**	**+2.7**
	1.4nm,1.1s,baz=357,slow=18,SNR=4.7						
CTA	**Charters Tower**	**23.25**	**147**	P	**P**	**22 48 56.1**	**+1.5**
	1.1nm,0.4s,baz=310,slow=12,SNR=4.4						
STKA	**Stephens Creek**	**32.13**	**166**	P	**P**	**22 50 14.1**	**-0.3**
	baz=32,SNR=9.6						
STKA	**Stephens Creek**	**32.13**	**166**	P	**P**	**22 50 13.8**	**-0.5**
	3.1nm,0.6s,baz=344,slow=8.5,SNR=12						
ARPS	**Mount Arapiles**	**36.89**	**168**	P	**P**	**22 50 56.0**	**+0.6**
	baz=37,SNR=4.5						
H11N1	**WAKE ISLAND Hy**	**38.79**	**57**	T	T	23 32 25.1	
	baz=245,slow=0.7,SNR=64						
H11N2	**WAKE ISLAND Hy**	**38.80**	**57**	T	T	23 32 26.0	
	baz=245,slow=0.7,SNR=68						
H11N3	**WAKE ISLAND Hy**	**38.80**	**57**	T	T	23 32 26.4	
	baz=245,slow=0.7,SNR=41						
MKAR	**Makanchi Array**	**64.75**	**324**	P	**P**	**22 54 24.8**	**-0.2**
	0.4nm,0.6s,baz=117,slow=8.1,SNR=4.7						

IDC 24 23:16:14.0±1.8,**14.45S×172.82W, h0km, mb3.8/3,**
mb1 4.1/3, mb1mx3.7/18, mbtmp3.8/3, Error ellipse:
s-maj=103.1km s-min=17.1km az=154.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.14**	**62**	Pn	Pb	23 16 36.6	-0.2
	56nm,0.3s,baz=105,slow=6.9,SNR=10						
AFI				Sn	Sn	23 16 56.3	+2.4
	230nm,0.3s,baz=181,slow=23,SNR=20						
WRA	**Warramunga Arr**	**50.61**	**256**	P	P	23 25 14.1	-1.2
	0.6nm,0.6s,baz=91,slow=6.9,SNR=5.5						
ASAR	**Alice Springs**	**50.94**	**251**	P	P	23 25 18.1	+0.4
	1.9nm,0.7s,baz=88,slow=7.6,SNR=14						
ILAR	**Eielson Array**	**81.41**	**11**	P	P	23 28 31.8	-0.6
	0.4nm,0.8s,baz=225,slow=6.4,SNR=5.0						
GERES	**GERESS Array B**	**145.28**	**352**	PKPbc	PKPbc	23 35 53.1	-0.6
	0.2nm,0.4s,baz=35,slow=3.6,SNR=4.7						
BRTR	**Keskin Array B**	**145.77**	**322**	PKPbc	PKPab	23 35 56.0	+0.1
	0.7nm,0.7s,baz=77,slow=3.1,SNR=4.9						

*IDC **24** 23:18:29.9±2.0,0.32S×133.59E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.6/18, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=97.6km s-min=19.3km az=77.0*
*ISCJB **24** 23:18:32.1±0.9,0.54S±0.07×133.0E±0.1, h33km, mb3.8/3, Error ellipse: s-maj=16.3km s-min=9.3km az=176.1*
*AUST **24** 23:18:32.4,0.49S×133.00E, h60km*
ISC 24 23:18:34.3±1.1,**0.60S**±0.08×**133.0E**±0.2,**h35**km,**n15,**
σ2°37/12, mb4.1/3, Irian Jaya region

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

MAW	**Mawson**	**79.18 200**	P		**P**	**23 42 16.5**	**+0.1**
	0.8nm,0.7s,baz=148,slow=2.8,SNR=4.5							
USRK	**Ussuriysk Arra**	**79.78 327**	P		P	23 42 22.9	+3.1
	1.6nm,0.6s,baz=145,slow=42,SNR=4.3							
NVAR	**Mina Array Bea**	**83.50 44**	P		P	23 42 40.2	+1.0
	0.2nm,0.3s,baz=226,slow=7.5,SNR=1.9							
ILAR	**Eielson Array**	**90.59 13**	P		**P**	**23 43 12.2**	**+0.5**
	0.5nm,0.7s,baz=229,slow=8.5,SNR=6.0							
PDAR	**Pinedale Array**	**91.44 44**	P		**P**	**23 43 16.1**	**-0.4**
	0.5nm,0.8s,baz=289,slow=4.5,SNR=3.7							
MKAR	**Makanchi Array**	**111.46 313**	PKiKP		**PKiKP**	**23 48 40.5**	**+0.4**
	0.2nm,0.8s,baz=94,slow=1.0,SNR=4.4							
ARCES	**ARCESS Array B**	**130.59 349**	PKP		**PKPdf**	**23 49 16.5**	**+0.4**
	3.1nm,0.9s,baz=336,slow=2.0,SNR=4.2							
FINES	**FINESS Array B**	**137.23 342**	PKP		**PKPdf**	**23 49 29.9**	**+1.2**
	0.7nm,0.7s,baz=116,slow=4.4,SNR=5.5							
NOA	**NORSAR Array B**	**140.75 352**	PKhKP		PKPpre	23 49 31.0		
	0.5nm,0.6s,baz=14,slow=4.5,SNR=2.7							
AKASG	**Malin Array Be**	**143.97 329**	PKP		**PKPab**	**23 49 41.4**	**+0.6**
	3.7nm,0.6s,baz=42,slow=4.1,SNR=20							
BRTR	**Keskin Array B**	**146.99 309**	PKPbc		**PKPab**	**23 49 51.2**	**-2.1**
	1.7nm,0.7s,baz=139,slow=5.4,SNR=10.0							
KWP	**Kalwaria Pacla**	**147.70 332** ⇓*i*P			**PKPab**	**23 49 52.8**	**-2.8**
CFR	**Carcaliu**	**147.97 322** ⇓*i*P			**PKPab**	**23 49 53.4**	**-3.4**
BURAR	**Bucovina Array**	**147.99 328** ⇓*i*P			**PKPab**	**23 49 54.3**	**-2.7**
TLB	**Topalu**	**148.37 321** ⇓*i*P			**PKPab**	**23 49 54.7**	**-3.8**
MLR	**Muntele Rosu**	**149.01 324** ⇑*i*P			**PKPbc**	**23 49 55.8**	**+1.1**
DPC	**Dobruska-Polom**	**149.52 340** *e*PKP			**PKPbc**	**23 49 57.5**	**+1.8**
ARR	**Arges**	**149.79 325** ⇓*i*P			PKPab	23 49 59.1	-5.4
PVCC	**Panska Ves**	**149.89 345** *e*PKP			**PKPbc**	**23 49 57.4**	**+0.9**
PRU	**Pruhonice**	**150.38 341** *e*PKP			**PKPbc**	**23 49 59.1**	**+1.5**
SIRR	**Siria**	**150.67 329** ⇑*i*P			**PKPbc**	**23 50 00.1**	**+1.6**
BZS	**Buzias**	**151.16 328** ⇑*i*P			**PKPbc**	**23 50 00.9**	**+1.3**
GERES	**GERESS Array B**	**151.65 341**	PKPbc		**PKPab**	**23 50 01.5**	**+0.8**
	0.5nm,0.7s,baz=5.4,slow=2.8,SNR=5.5							
GERES			PKPab		**PKPab**	**23 50 13.3**	**+1.1**
	0.3nm,0.5s,baz=225,slow=0.8,SNR=3.9							
TORD	**Torodi Ar. Bea**	**170.62 188**	PKP		**PKPdf**	**23 50 13.4**	**-0.8**
	0.4nm,0.8s,baz=114,slow=1.7,SNR=3.3							
TORD			PKPab		**PKPab**	**23 51 34.9**	**-0.8**
	0.3nm,0.7s,baz=169,slow=3.8,SNR=2.8							

WEL 24 23:36:04.6±0.5,36.30S×178.06E,h164km±3km,ML4.1/10, 1C-4D,Error ellipse: s-maj=4.3km s-min=3.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.28**	**171**	PN	Pn	23 36 33.3	+0.2
MXZ				SN	Sn	23 36 54.4	-0.7
MXZ				AML	AML	23 36 54.8	
MXZ				AML	AML	23 37 03.0	
MXZ				AML	AML	23 37 06.1	
PUZ	**Puketiti**	**1.78**	**175**	PN	Pn	23 36 38.4	+0.3
PUZ				SN	Sn	23 37 03.2	-0.9
PUZ				AML	AML	23 37 21.1	
KUZ	**Kuaotunu**	**1.93**	**256**	PN	Pn	23 36 39.4	-0.4
OPRZ	**Ohinepanea**	**1.95**	**217** ⇑	PN	Pn	23 36 40.5	+0.5
MWZ	**Matawai**	**2.07**	**192**	PN	Pn	23 36 41.9	+0.4
MWZ				AML	AML	23 37 16.3	
MWZ				AML	AML	23 37 16.3	
MWZ				AML	AML	23 37 16.4	
URZ	**Urewera**	**2.10**	**201**	PN	Pn	23 36 41.5	-0.1
URZ				AML	AML	23 37 16.3	
URZ				AML	AML	23 37 16.5	
CNGZ	**Carnagh Statio**	**2.18**	**177**	PN	Pn	23 36 43.5	+0.8
TARZ	**Mount Tarawera**	**2.29**	**212**	PN	Pn	23 36 45.3	+1.2
RIGZ	**Rimuhau**	**2.41**	**185**	PN	Pn	23 36 45.5	+0.1
RIGZ				SN	Sn	23 37 16.2	-0.9
TOZ	**Tahuroa Road**	**2.49**	**234**	PN	Pn	23 36 47.3	+1.0
SNGZ	**Shannon Statio**	**2.54**	**193** ⇓	PN	Pn	23 36 47.0	+0.1
PRRZ	**Plateau Road**	**2.56**	**211**	PN	Pn	23 36 48.0	+0.9
PRGZ	**Paritu Road**	**2.62**	**183**	PN	Pn	23 36 47.7	-0.2
RAHZ	**Arahi**	**2.72**	**196**	PN	Pn	23 36 49.2	0.0
RAHZ				SN	Sn	23 37 23.6	-0.2
KNZ	**Kokohu**	**2.73**	**186**	PN	Pn	23 36 48.7	-0.4
WHHZ	**Waihua**	**2.85**	**193**	PN	Pn	23 36 50.5	-0.1
WHHZ				SN	Sn	23 37 26.3	-0.1
MHGZ	**Mahia Peninsul**	**2.85**	**182**	PN	Pn	23 36 50.5	-0.1
NMHZ	**Naumai**	**2.96**	**199**	PN	Pn	23 36 52.2	+0.1
BKZ	**Black Stump Fm**	**3.12**	**203**	PN	Pn	23 36 53.3	-0.8
BKZ				AML	AML	23 37 42.6	
BKZ				AML	AML	23 37 45.2	
MCHZ	**McNeill Hill**	**3.32**	**198** ⇓	PN	Pn	23 36 56.1	-0.4
OTVZ	**Oturere**	**3.43**	**213**	PN	Pn	23 36 58.1	0.0
CKHZ	**Cape Kidnapper**	**3.44**	**193**	PN	Pn	23 36 57.0	-1.1
NGZ	**Ngauruhoe**	**3.47**	**213**	PN	Pn	23 36 58.7	+0.1
TUVZ	**Tukino**	**3.52**	**212**	PN	Pn	23 36 59.1	-0.2
BHHZ	**Black Hill Sta**	**3.55**	**206**	PN	Pn	23 36 58.8	-0.8
WHVZ	**Whangaehu Hut**	**3.56**	**213**	PN	Pn	23 36 59.3	-0.6
WNVZ	**Wahianoa**	**3.59**	**212**	PN	Pn	23 36 59.9	-0.3
MOVZ	**Moawhango**	**3.60**	**210**	PN	Pn	23 36 59.0	-1.1
KAHZ	**Kahuranaki**	**3.61**	**195**	PN	Pn	23 36 59.2	-1.1
PXZ	**Pawanui**	**3.84**	**194** ⇓	PN	Pn	23 37 01.4	-1.7
PXZ				AML	AML	23 37 47.6	
PXZ				AML	AML	23 37 47.6	
PXZ				AML	AML	23 37 48.7	
PXZ				AML	AML	23 37 48.7	
PNHZ	**Pukenui**	**3.89**	**202**	PN	Pn	23 37 02.1	-1.8
WPHZ	**Waipukurau**	**3.97**	**198**	PN	Pn	23 37 02.9	-1.9
TSZ	**Takapari Road**	**4.10**	**203**	PN	Pn	23 37 04.3	-2.3
TSZ				AML	AML	23 38 10.8	
PRHZ	**Porangahau**	**4.12**	**195** ⇓	PN	Pn	23 37 04.8	-1.9
WAZ	**Wanganui**	**4.21**	**214** *e*	PN	Pn	23 37 07.6	-0.4
DVHZ	**Dannevirke**	**4.26**	**200**	PN	Pn	23 37 06.2	-2.3
ANWZ	**Angora Road**	**4.33**	**196**	PN	Pn	23 37 06.8	-2.7
POWZ	**Post Office Ro**	**4.46**	**203**	PN	Pn	23 37 09.5	-1.7
PRWZ	**Pori Road**	**4.55**	**200**	PN	Pn	23 37 10.0	-2.3
MRZ	**Mangatainoka R**	**4.77**	**203**	PN	Pn	23 37 12.1	-3.1
MRZ				AML	AML	23 38 08.4	
MRZ				AML	AML	23 38 08.6	
TIWZ	**Tintock**	**4.78**	**200**	PN	Pn	23 37 12.5	-2.9
CPWZ	**Castlepoint**	**4.83**	**197**	PN	Pn	23 37 14.0	-1.9
HOWZ	**Holdsworth Sta**	**5.00**	**203**	SN	Sn	23 38 10.3	-5.7
TCW	**Tory Channel**	**5.72**	**210**	AML	AML	23 38 32.4	
TCW				AML	AML	23 38 32.5	
TUWZ	**Tuamarina**	**6.04**	**211**	AML	AML	23 38 38.2	
NNZ	**Nelson**	**6.12**	**215**	PN	Pn	23 37 29.7	-3.3
BSWZ	**Blackbirch Sta**	**6.31**	**210**	PN	Pn	23 37 32.4	-3.0
THZ	**Tophouse**	**6.77**	**215**	PN	Pn	23 37 38.3	-3.3
KHZ	**Kahutara**	**7.04**	**208**	PN	Pn	23 37 41.8	-3.3
OXZ	**Oxford**	**8.40**	**212** *e*	PN	Pn	23 37 57.9	-5.3
OXZ				SN	Sn	23 39 26.3	-11
CTZ	**Chatham Island**	**8.47**	**153**	SN	Sn	23 39 33.4	-5.1
MQZ	**McQueen's Vall**	**8.48**	**208**	PN	Pn	23 37 59.1	-5.0
ODZ	**Otahua Downs**	**10.38**	**210**	PN	Pn	23 38 24.9	-4.4

IDC 25 00:10:24.7±11.0,7.48S×131.53E,h129km±131km, mb3.4/3,mb1 3.2/6,mb1mx3.1/15,mbtmp3.1/6,ML3.3/2, MS3.7/1,Ms1 3.7/1,ms1mx2.9/14,Error ellipse: s-maj=72.6km s-min=50.0km az=21.0,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.02**	**208**	P	Pn	00 13 12.3	+0.4
FITZ				S	Sn	00 15 25.7	+1.4
FITZ				LR	LR	00 17 17.0	
	comp=Z,328nm,19.4s,slow=34						
WRA	**Warramunga Arr**	**12.69**	**168**	P	Pn	00 13 19.3	-1.4
	0.2nm,0.3s,baz=350,slow=13,SNR=12						
WRA				S	Sn	00 15 40.7	+0.2
	0.4nm,0.3s,baz=334,slow=22,SNR=8.1						
ASAR	**Alice Springs**	**16.25**	**172**	P	P	00 14 07.3	+0.9
	0.1nm,0.3s,baz=5.3,slow=13,SNR=4.8						
ASAR				S	Sn	00 17 06.6	0.0
	0.1nm,0.3s,baz=357,slow=29,SNR=3.9						
SONM	**Songino Array**	**59.38**	**341**	P	P	00 20 13.9	+0.3
	0.5nm,0.9s,baz=134,slow=4.2,SNR=3.0						
MKAR	**Makanchi Array**	**69.46**	**326**	P	P	00 21 19.5	+0.4
	0.9nm,0.4s,baz=130,slow=7.8,SNR=24						
ZALV	**Zalesovo Beam**	**72.69**	**333**	P	P	00 21 37.3	-1.0
	0.3nm,0.3s,baz=126,slow=7.3,SNR=2.9						

*BJI **25** 00:34:59.4, 7.17S×131.97E,h28km,mB5.2/29,mb5.0/40, Ms4.8/24,Ms7 4.5/24*

*IDC **25** 00:35:00.3±0.4, 6.87S×131.69E,h0km,mb4.7/20, mb1 4.8/24,mb1mx4.8/25,mbtmp4.7/24,MS4.2/9, Ms1 4.2/9,ms1mx3.9/26,Error ellipse: s-maj=20.0km s-min=10.9km az=72.0*

*BKK **25** 00:35:02.9±0.3, 6.35S×131.25E±0.3°,h10km,M5.1/26,mB5.6/9, mb5.1/26,Mw(mB)5.2/9*

*ISCJB **25** 00:35:03.8±0.5, 6.71S±0.03×131.85E±0.03,h33km±4km, mb5.0/84,MS4.3/18,Error ellipse: s-maj=5.7km s-min=4.2km az=159.4*

*AUST **25** 00:35:03.7±0.8, 6.79S×131.89E,h15km,Error ellipse: s-maj=0.6km s-min=0.5km az=260.0*

*MOS **25** 00:35:03.9±1.2, 6.74S×131.71E,h33km,mb5.2/26,Error ellipse: s-maj=16.2km s-min=7.6km az=126.2*

*NEIC **25** 00:35:04.5±2.6, 6.82S×131.62E,h23km±4km,mb5.0/34, Error ellipse: s-maj=12.3km s-min=9.0km az=105.0*

NEIC Felt [III] at Darwin, Australia.

*GCMT **25** 00:35:06.5±0.3, 6.67S×131.95E,h30km,MW5.0,Moment Tensor Solution. s24,c28; s54,c75; Moment tensor: Scale 10^{16}Nm; M_{rr}4.03±.32; $M_{\theta\theta}$0.18±.18; $M_{\phi\phi}$-4.21±.19; $M_{r\theta}$0.13±.26; $M_{\theta\phi}$-0.48±.15; $M_{\phi r}$1.39±.21; Best double couple: $M_0$4.40000×10^{16} NP1:ϕ_s6.00000°, δ54.00000°, λ90.00000°. NP2:ϕ_s187.00000°, δ36.00000°, λ91.00000°. Principal axes: T 4.2600, Plg81.0000°, Azm274.0000°; N 0.2300, Plg0.0000°, Azm6.0000°; P -4.4900, Plg9.0000°, Azm96.0000°; Data Used: II IU G IC CN. Surface wave period40 sec.*

*DJA **25** 00:35:08.9±0.3, 6.35S±2.2×13.25E±1.4°,h47km±4km,M5.2/36, mB5.6/18,mb5.1/36,MLv5.4/6,Mw(mB)5.1/18*

ISC 25 00:35:06.1±0.3,6.75S±0.03×131.80E±0.05,h35km±1km, h35km:pP-P,n314,σ1§57/355,mb5.0/84,MS4.3/18,6C-1D, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.32**	**202**	P	**Pb**	**00 35 30.5**	**+0.1**
TLE	**Tual**	**1.45**	**40**	P	**Pn**	**00 35 30.9**	**+1.0**
TLE	**Tual**	**1.45**	**40**	P	**Pn**	**00 35 30.9**	**+1.0**
	baz=1.4,SNR=145						
BNDI	**Bandanaira**	**2.91**	**320**	P	**Pn**	**00 35 50.7**	**+0.8**
BNDI	**Bandanaira**	**2.91**	**320**	P	**Pn**	**00 35 50.9**	**+1.0**
	baz=3.0,SNR=12						
KMPI	**Kaimana, Papua**	**3.61**	**32**	P	**Pn**	**00 35 58.7**	**-0.9**
FAKI	**Fak Fak**	**3.83**	**7**	P	**Pn**	**00 36 01.7**	**-1.0**
FAKI				S	**Sn**	**00 36 45.3**	**-1.2**
FAKI	**Fak Fak**	**3.83**	**7**	P	**Pn**	**00 36 01.3**	**-1.4**
	baz=3.9,SNR=94						
AAI	**Ambon**	**4.70**	**310**	P	**Pn**	**00 36 14.4**	**-0.2**
AAI	**Ambon**	**4.70**	**310**	P	**Pn**	**00 36 15.6**	**+0.9**
	baz=4.8,SNR=4.2						
NLAI	**Namlea**	**5.83**	**306**	P	Pn	00 36 33.5	+3.3
	345nm,1.1s,5μm						
SWI	**Sorong**	**5.87**	**355**	P	**Pn**	**00 36 29.7**	**-1.1**
	197nm,0.7s,15μm						
SWI				S	**Sn**	**00 37 32.4**	**-4.5**
	197nm,0.7s,15μm						
SWI	**Sorong**	**5.87**	**355**	P	**Pn**	**00 36 29.6**	**-1.1**
	baz=6.0,SNR=25						
KDU	**Kakadu**	**5.94**	**174**	P	**Pn**	**00 36 30.4**	**-1.2**
	baz=5.9,SNR=269						
MTN	**Manton Dam**	**6.09**	**186**	P	**Pn**	**00 36 33.1**	**-0.6**
	baz=6.1,SNR=33						
SRPI	**Serui, Papua**	**6.57**	**43**	P	Pb	00 36 51.0	-8.6
BAKI	**Biak**	**7.00**	**38**	P	Pn	00 36 51.4	+5.2
LBMI	**Labuha**	**7.43**	**325**	P	**Pn**	**00 36 53.5**	**+1.4**
	268nm,1.0s,3μm						
SOEI	**Soe**	**8.03**	**248**	P	**Pn**	**00 37 01.3**	**+0.8**
	195nm,0.7s,3μm1.7nm						
SOEI	**Soe**	**8.03**	**248**	P	**Pn**	**00 37 01.2**	**+0.8**
	baz=8.1,SNR=20						
BBSI	**Bau Bau**	**9.26**	**277**	P	Pn	00 37 22.4	+5.2
	173nm,1.1s,2μm						
KNRA	**Kununurra**	**9.36**	**198**	P	**Pn**	**00 37 16.3**	**-2.2**
	baz=9.4,SNR=58						
MMRI	**Maumere**	**9.66**	**258**	P	Pn	00 37 26.0	+3.3
	93nm,0.8s,2μm						
MMRI	**Maumere**	**9.66**	**258**	*e*Pn	**Pn**	**00 37 20.5**	**-2.2**
JAY	**Jayapura**	**9.82**	**65**	P	**Pn**	**00 37 25.7**	**+0.6**
	133nm,0.9s						
JAY	**Jayapura**	**9.82**	**65**	P	**Pn**	**00 37 24.9**	**-0.1**
	baz=9.8,SNR=24						
LUWI	**Luwuk**	**10.64**	**302**	P	Pn	00 37 46.1	+10
APSI	**Ampana**	**11.66**	**299**	P	Pn	00 37 58.6	+8.4
BKSI	**Bulukumba**	**11.70**	**276**	P	Pn	00 37 55.2	+4.6
	40nm,1.1s,600nm						
BNSI	**Bone**	**11.87**	**281**	P	Pn	00 38 06.4	+13
KAPI	**Kappang**	**12.10**	**278**	P	P	00 38 04.2	-4.3
KAPI	**Kappang**	**12.10**	**278**	*e*Pn	**Pn**	**00 37 58.4**	**+2.2**
KAPI	**Kappang**	**12.10**	**278**	Pn	**Pn**	**00 37 56.9**	**+0.7**
	0.3nm,0.3s,baz=102,slow=20,SNR=2.0						
MRSI	**Marisa**	**12.18**	**306**	P	**Pn**	**00 37 57.5**	**+0.3**
	82nm,0.9s,1μm						
SPSI	**Sidrap Palu**	**12.29**	**282**	P	P	00 38 05.6	-4.9
TTSI	**Tana Toraja**	**12.49**	**287**	P	**P**	**00 38 11.7**	**-1.0**
FITZ	**Fitzroy Crossi**	**12.78**	**207**	*e*Pn	Pn	00 38 01.2	-4.3
FITZ				*e*Sn	Sn	00 40 15.9	-11
FITZ	**Fitzroy Crossi**	**12.78**	**207**	Pn	Pn	00 38 01.2	-4.3
FITZ				Sn	Sn	00 40 15.9	-11
COEN	**Coen**	**13.29**	**124**	*e*Pn	Pn	00 38 09.2	-3.1
COEN	**Coen**	**13.29**	**124**	P	Pn	00 38 09.1	-3.3
	baz=13,SNR=10.0						
WRAB	**Tennant Creek**	**13.34**	**170**	*e*P	Pn	00 38 08.0	-5.1
WRAB	**Tennant Creek**	**13.34**	**170**	*e*Pn	Pn	00 38 08.0	-5.1
WRAB	**Tennant Creek**	**13.34**	**170**	Pn	Pn	00 38 07.3	-5.8
	214nm,0.6s,SNR=32						
WRA	**Warramunga Arr**	**13.35**	**170**	*e*Pn	Pn	00 38 08.2	-5.0
WRA				*e*Sn	Sn	00 40 32.4	-8.0
WRA	**Warramunga Arr**	**13.35**	**170**	Pn	Pn	00 38 08.2	-5.0
	4.1nm,0.3s,baz=351,slow=14,SNR=118						
WRA				Sn	Sn	00 40 32.4	-8.0
	6.5nm,0.3s,baz=349,slow=23,SNR=9.0						
MMSI	**Mamuju**	**13.46**	**287**	P	P	00 38 27.7	+4.1
PALU	**Palau**	**14.25**	**11**	P	**P**	**00 38 29.9**	**-2.5**
	baz=14,SNR=11						
PMG	**Port Moresby**	**15.44**	**101**	P	**Pn**	**00 38 41.1**	**-0.3**
	130nm,1.8s,2μm						
PMG	**Port Moresby**	**15.44**	**101**	*e*Pn	**Pn**	**00 38 40.5**	**-1.0**
	135nm,0.9s						
PMG	**Port Moresby**	**15.44**	**101**	Pn	**Pn**	**00 38 40.7**	**-0.8**
	5.4nm,0.3s,baz=302,slow=7.9,SNR=12						
BKB	**Balikpapan**	**15.83**	**290**	P	**P**	**00 38 54.7**	**+4.8**
AS12	**Alice Springs**	**16.94**	**173**	*e*Pn	Pn	00 38 55.5	-5.1
AS12				*e*Sn	Sn	00 42 00.4	-7.5
ASAR	**Alice Springs**	**16.94**	**173**	Pn	Pn	00 38 55.5	-5.1
	3.7nm,0.3s,baz=354,slow=8.5,SNR=126						
ASAR				Sn	Sn	00 42 00.4	-7.5
	2.1nm,0.3s,baz=354,slow=28,SNR=5.6						
ASAR				LR	LR	00 44 43.7	
	comp=Z,261nm,20.2s,baz=345,slow=35						
AS01	**Alice Springs**	**16.95**	**173**	*e*Pn	**Pn**	**00 38 57.1**	**-3.5**
ABJI	**Asem Bagus**	**17.45**	**266**	P	**P**	**00 39 10.0**	**+2.1**
	72nm,1.0s						
TSM	**Tawau**	**17.71**	**308**	P	**Pn**	**00 39 09.2**	**-1.0**
MYLDM	**Lahad Datu**	**17.79**	**311**	P	**P**	**00 39 14.1**	**+2.4**
MYLDM	**Lahad Datu**	**17.79**	**311**	P	P	00 39 23.5	+12
MYLDM	**Lahad Datu**	**17.79**	**311**	*e*P	**Pn**	**00 39 10.6**	**-0.5**
	104nm,1.1s						
MTKI	**Muara Teweh, K**	**17.81**	**288**	P	**P**	**00 39 12.8**	**+0.8**
	154nm,1.0s,7μm						
BLJI	**Banyuglugur**	**18.08**	**266**	P	**P**	**00 39 15.3**	**+0.4**
	99nm,0.9s						
MBWA	**Marble Bar**	**18.48**	**218**	*e*P	**P**	**00 39 18.1**	**-1.1**
	28nm,1.0s						
SDKM	**Sandakan**	**19.07**	**310**	P	**P**	**00 39 25.9**	**0.0**
CTA	**Charters Tower**	**19.30**	**135**	*e*P	**Pn**	**00 39 29.7**	**+0.2**
CTA	**Charters Tower**	**19.30**	**135**	P	**Pn**	**00 39 29.7**	**+0.2**
	1.0nm,0.3s,baz=316,slow=12,SNR=12						
CTAO	**Charters Tower**	**19.30**	**135**	*e*P	**Pn**	**00 39 29.4**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,30nm,0.9s						
CTAO	**Charters Tower**	**19.30**	**135**	*e*P	**Pn**	**00 39 29.4**	**-0.1**
	comp=Z,30nm,0.9s						
SJI	**Sawahan**	**19.89**	**266**	P	**Pn**	**00 39 36.3**	**-0.4**
	comp=Z,51nm,1.1s,comp=Z,3μm						
KKM	**Kota Kinabalu**	**20.08**	**309**	P	**P**	**00 39 36.8**	**-0.1**
KKM	**Kota Kinabalu**	**20.08**	**309**	P	**P**	**00 39 36.1**	**-0.8**
	comp=Z,146nm,1.0s,comp=Z,1μm						
KKM	**Kota Kinabalu**	**20.08**	**309**	*e*P	**P**	**00 39 35.4**	**-1.5**
	comp=Z,122nm,1.0s						
KKM	**Kota Kinabalu**	**20.08**	**309**	P	**P**	**00 39 36.1**	**-0.8**
	baz=20,SNR=14						
PBKI	**Pangkalan Bun**	**20.45**	**280**	P	Pn	00 39 48.2	+5.1
BTM	**Bintulu**	**21.13**	**297**	P	**P**	**00 39 49.7**	**+1.5**
STKI	**Sintang**	**21.37**	**288**	P	**P**	**00 39 50.3**	**-0.5**
	comp=Z,50nm,0.8s						
SBUM	**Sibu**	**21.57**	**294**	P	**P**	**00 39 52.9**	**0.0**

SBUM	**Sibu**	**21.57**	**294**	P	**P**	**00 39 51.8**	**-1.1**
	comp=Z,70nm,1.0s,comp=Z,535nm						
SBUM	**Sibu**	**21.57**	**294**	*e*P	**P**	**00 39 50.6**	**-2.3**
	comp=Z,68nm,1.0s						
BJII	**Banjamegara**	**21.93**	**267**	P	P	00 40 04.9	+8.1
KPJI	**Karang Pucung**	**22.70**	**267**	P	**P**	**00 40 06.3**	**+1.3**
	comp=Z,39nm,0.8s						
KSM	**Kuching**	**22.95**	**290**	P	**P**	**00 40 06.3**	**-1.4**
KSM	**Kuching**	**22.95**	**290**	P	**P**	**00 40 06.0**	**-1.6**
	comp=Z,33nm,1.0s						
KSM	**Kuching**	**22.95**	**290**	*e*P	**P**	**00 40 04.3**	**-3.3**
	comp=Z,28nm,0.9s						
KSM	**Kuching**	**22.95**	**290**	P	**P**	**00 40 06.1**	**-1.6**
	baz=23,SNR=9.4						
QLP	**Quilpie**	**23.01**	**150**	P	**P**	**00 40 09.1**	**+1.1**
	baz=23,SNR=52						
GIRL	**Giralia**	**23.15**	**225**	P	**P**	**00 40 11.9**	**+2.3**
	baz=23,SNR=3.0						
MEEK	**Meekatharra**	**23.42**	**211**	P	**P**	**00 40 11.8**	**-0.5**
	baz=24,SNR=14						
CISI	**Cisompet, Garu**	**23.81**	**267**	P	**P**	**00 40 16.1**	**0.0**
	comp=Z,88nm,1.2s,comp=Z,1μm						
CISI	**Cisompet, Garu**	**23.81**	**267**	*e*P	**P**	**00 40 14.6**	**-1.5**
	comp=Z,90nm,0.9s						
CISI	**Cisompet, Garu**	**23.81**	**267**	P	**P**	**00 40 16.4**	**+0.3**
	baz=24,SNR=4.2						
LEM	**Lembang**	**24.01**	**268**	P	P	00 40 19.4	+1.3
	comp=Z,93nm,1.0s						
FORT	**Forrest**	**24.16**	**188**	*e*P	**P**	**00 40 19.6**	**+0.4**
	comp=Z,92nm,0.7s						
CBJI	**Citeko**	**24.78**	**269**	P	**P**	**00 40 26.1**	**+1.1**
	comp=Z,342nm,0.9s,comp=Z,23μm						
RMQ	**Roma**	**25.42**	**142**	P	**P**	**00 40 31.9**	**+1.2**
	baz=25,SNR=7.7						
PPBI	**Pangkal Pinang**	**25.98**	**279**	P	**P**	**00 40 37.1**	**+1.3**
	comp=Z,27nm,1.0s						
BBOO	**Buckleboo**	**26.23**	**172**	*e*P	**P**	**00 40 37.6**	**-0.3**
	comp=Z,1μm,2.1s						
BBOO	**Buckleboo**	**26.23**	**172**	P	**P**	**00 40 37.9**	**0.0**
	baz=26,SNR=14						
STKA	**Stephens Creek**	**26.62**	**161**	*e*P	**P**	**00 40 41.6**	**+0.1**
	comp=Z,7.8nm,1.3s						
STKA	**Stephens Creek**	**26.62**	**161**	P	**P**	**00 40 41.9**	**+0.4**
	baz=27,SNR=11						
STKA	**Stephens Creek**	**26.62**	**161**	P	**P**	**00 40 38.9**	**-2.6**
	comp=Z,2.8nm,0.3s,baz=335,slow=9.0,SNR=13						
STKA				LR	LR	00 52 20.5	
	comp=Z,2μm,18.9s,baz=225,slow=39						
MORW	**Morawa**	**26.72**	**212**	P	**P**	**00 40 45.3**	**+2.9**
	baz=27,SNR=8.9						
CMSA	**Cobar Meteorol**	**27.88**	**154**	P	**P**	**00 40 53.6**	**+0.9**
	baz=28,SNR=16						
NWAO	**Narrogin (SRO)**	**29.35**	**206**	*e*P	**P**	**00 41 03.9**	**-2.0**
	comp=Z,66nm,1.6s						
NWAO				*e*		00 54 58.4	
NWAO	**Narrogin (SRO)**	**29.35**	**206**	P	**P**	**00 41 03.5**	**-2.4**
	comp=Z,9.5nm,0.8s,baz=48,slow=11,SNR=3.2						
NWAO				LR	LR	00 54 58.4	
	comp=Z,1μm,18.9s,baz=206,slow=41						
ARMA	**Armidale**	**30.02**	**144**	*e*P	**P**	**00 41 13.7**	**+1.8**
	comp=Z,120nm,2.4s						
ARMA	**Armidale**	**30.02**	**144**	P	**P**	**00 41 14.7**	**+2.8**
	baz=30,SNR=5.9						
RKGY	**Rocky Gully**	**30.91**	**204**	P	**P**	**00 41 21.6**	**+2.0**
	baz=31,SNR=5.2						
PPI	**Padang Panjang**	**31.94**	**280**	P	**P**	**00 41

KSRS **Korea Array** 44.12 356 P P 00 43 11.9 +0.7
comp=Z,2.7nm,0.9s,baz=180,slow=9.3,SNR=11
KSRS PcP PcP 00 44 56.6 +0.7
comp=Z,2.5nm,0.9s,baz=188,slow=5.6,SNR=4.6
KS01 **Wonju Array Si** 44.15 356 *e*P P 00 43 10.9 -0.5
CD2 **Chengdu** 46.07 326 P P 00 43 25.6 -1.3
CD2 pP pP 00 43 36.0 -1.3
CD2 sP sP 00 43 40.1 -1.3
CD2 PP PP 00 45 14.3 -1.2
CD2 S S 00 50 08.3 -2.0
CD2 sS sS 00 50 25.4 -2.0
CD2 SS ScS 00 53 25.8 +5.6
CD2 AMB AMB
comp=Z,20nm,1.0s
CD2 AMB AMB
comp=Z,380nm,6.1s
CD2 LR LR
comp=Z,790nm,5.1s
CD2 LR LR
comp=Z,590nm,7.1s
OUZ **Omahuta** 47.69 132 *e*P P 00 43 41.6 +2.2
comp=Z,22nm,1.2s
BJT **Baijiatuau** 48.72 344 *e*P P 00 43 46.3 -1.0
LZH **Lanzhou** 50.05 330 *e*P P 00 43 58.4 +0.7
LZH pP pP 00 44 06.9 -1.2
LZH sP sP 00 44 11.6 -0.7
LZH AMB AMB
comp=Z,21nm,1.0s
LZH AMB AMB
comp=Z,160nm,4.2s
RPZ **Rata Peaks** 50.36 143 *e*P P 00 43 57.4 -2.4
RPZ **Rata Peaks** 50.36 143 P P 00 43 57.4 -2.4
comp=Z,6.4nm,0.6s,baz=313,slow=3.1,SNR=2.6
SHL **Shillong** 50.36 311 *e*P P 00 44 00.0 -0.3
CN2 **Changchun** 50.64 354 *e*P P 00 44 03.8 +2.0
CN2 AMB AMB
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,200nm,16.0s
USRK **Ussuriysk Arra** 50.71 0 P P 00 44 02.6 +0.3
comp=Z,4.3nm,0.7s,baz=176,slow=6.9,SNR=8.3
USRK LR LR 01 03 15.4
comp=Z,96nm,21.7s,baz=62,slow=33
HHC **Hu-ho-hao-te** 50.89 340 *e*P P 00 44 06.6 +2.7
HHC pP pP 00 44 16.1 +1.8
HHC sP sP 00 44 20.9 +2.4
HHC PcP PcP 00 45 23.9 +3.8
HHC PP PP 00 46 05.5 +4.9
HHC ScP ScP 00 49 14.6 +0.7
HHC S S 00 51 20.8 +2.7
HHC sS sS 00 51 37.3 +2.0
HHC ScS ScS 00 53 50.5 -1.6
HHC SS SS 00 54 52.4 -1.0
HHC AMB AMB
comp=Z,34nm,1.0s
HHC AMB AMB
comp=Z,640nm,6.0s
HHC LR LR
comp=Z,600nm,17.8s
HHC LR LR
comp=Z,390nm,15.5s
HHC LR LR
comp=Z,500nm,17.8s
MDJ **Mudanjiang** 51.17 358 P P 00 44 08.3 +2.5
MDJ pP pP 00 44 17.3 +1.1
MDJ sP sP 00 44 21.1 +0.7
MDJ PP PP 00 46 05.6 +2.7
MDJ ScP ScP 00 49 16.6 +1.7
MDJ PcS PcS 00 49 20.3 +1.9
MDJ S S 00 51 26.9 +5.3
MDJ AMB AMB
comp=Z,9.0nm,1.0s
MDJ AMB AMB
comp=Z,130nm,6.2s
MDJ LR LR
comp=Z,140nm,25.4s
MDJ LR LR
comp=Z,52nm,17.7s
MDJ LR LR
comp=Z,160nm,27.0s
BKZ **Black Stump Fm** 51.52 136 *e*P P 00 44 09.2 +0.5
comp=Z,11nm,0.9s
URZ **Urewera** 51.55 134 *e*P P 00 44 07.1 -1.8
URZ **Urewera** 51.55 134 P P 00 44 07.1 -1.8
comp=Z,1.9nm,0.3s,baz=247,slow=7.7,SNR=4.4
ASAJ **Asahikawa** 51.56 10 *e*P P 00 44 09.5 +0.8
comp=Z,22nm,1.2s
ASAJ **Asahikawa** 51.56 10 P P 00 44 09.5 +0.8
comp=Z,2.0nm,0.4s,baz=233,slow=18,SNR=2.5
ASAJ LR LR 01 05 40.8
comp=Z,108nm,21.2s,baz=181,slow=36
LSA **Lhasa** 53.27 315 P P 00 44 21.5 -0.8
LSA **Lhasa** 53.27 315 *e*P P 00 44 21.4 -0.8
LSA pmax pmax
comp=Z,10.0nm,0.8s
LSA **Lhasa** 53.27 315 *e*P P 00 44 21.4 -0.8
comp=Z,10nm,0.8s
ODAN **Odare** 54.45 310 *e*P P 00 44 29.6 -1.1
comp=Z,35nm,0.6s
TAPN **Taplejung** 54.47 310 *e*P P 00 44 29.8 -1.1
comp=Z,69nm,0.9s
GTA **Gaotai** 54.63 330 ⇑P P 00 44 31.8 +0.2
GTA pP pP 00 44 42.4 +0.2
GTA sP sP 00 44 46.1 -0.2
GTA PcP PcP 00 45 36.0 +1.7
GTA ScP ScP 00 49 32.4 +2.1
GTA S S 00 52 09.0 -0.3
GTA sS sS 00 52 26.1 -0.6
GTA SS SS 00 55 52.0 -0.7
GTA AMB AMB
comp=Z,25nm,1.1s
GTA AMB AMB
comp=Z,220nm,5.7s
GTA LR LR
comp=Z,110nm,17.8s
GTA LR LR
comp=Z,150nm,17.1s
GTA LR LR
comp=Z,260nm,19.0s
HABR **Khabarovsk** 55.06 3 *e*P P 00 44 32.0 -2.3
HABR *e**PP pP 00 44 42.0 -2.9
HABR *e**SP sP 00 44 46.0 -3.0
HABR *e* 00 45 32.3
HABR *e* 00 46 35.7
HABR *e*PPP PPP 00 47 47.9
HABR S S 00 52 14.1 -0.3
HABR *e**SS sS 00 52 31.1 -0.7
HABR *e* 00 54 18.4
HABR *e*SS SS 00 55 59.9 +1.1
HABR pmax pmax
comp=Z,31nm,1.5s
HABR MLR MLR
comp=Z,1μm,20.0s
RAMN **Ramite** 55.10 309 *e*P P 00 44 34.7 -0.7
comp=Z,67nm,0.5s
KLR **Kul'dur** 55.74 360 *e*P P 00 44 34.7 -4.6
JIRN **Jiri** 55.78 310 *e*P P 00 44 39.5 -0.9
comp=Z,23nm,0.5s
GUN **Gumba** 56.14 310 *e*P P 00 44 42.0 -1.0
comp=Z,60nm,0.7s
PKI **Pulchoki** 56.33 309 *e*P P 00 44 42.8 -1.5
comp=Z,16nm,0.6s
PKIN **Phulchoki** 56.34 309 *e*P P 00 44 42.8 -1.5
comp=Z,12nm,0.6s
KKN **Kakani** 56.54 310 *e*P P 00 44 44.7 -1.0
comp=Z,56nm,1.1s
DMN **Daman** 56.58 309 *e*P P 00 44 44.9 -1.1
comp=Z,45nm,0.9s
GKN **Gorkha** 57.14 309 *e*P P 00 44 48.8 -1.0
comp=Z,72nm,1.0s
HYB **Hyderabad** 57.81 295 *i*P P 00 44 52.0 -2.6
KOLN **Koldanda** 57.82 309 *e*P P 00 44 53.9 -0.8
comp=Z,37nm,0.8s
NIUE **Niue** 57.87 108 P P 00 44 53.6 -1.4
baz=58,SNR=3.6
DANN **Dangsing** 57.98 309 *e*P P 00 44 54.7 -1.2
comp=Z,26nm,0.6s
ULN **Ulaanbaatar** 58.60 341 P P 00 45 00.3 +0.6
SNR=6.5
ULN **Ulaanbaatar** 58.60 341 *e*P P 00 44 59.3 -0.4
comp=Z,18nm,1.0s
SONM **Songino Array** 58.79 340 P P 00 45 01.2 +0.2
comp=Z,11nm,1.0s,baz=148,slow=5.0,SNR=37
SONA1 **Songino Array** 58.80 340 *e*P P 00 45 00.1 -0.9
CASY **Casey** 61.23 190 *e*P P 00 45 16.7 -0.6
comp=Z,241nm,2.8s
ZAK **Zakamensk** 62.03 340 *e*P P 00 45 19.0 -4.1
ZAK pmax pmax
comp=Z,7.0nm,1.2s
POO **Poona** 62.41 295 *e*P P 00 45 23.0 -3.1
TLY **Talaya** 63.01 341 *e*S S 00 53 58.9 +1.5
TLY pmax pmax
comp=Z,10.0nm,0.8s
TLY MLR MLR
comp=Z,116nm,18.0s
PEA0 **Petropavlovsk-** 63.55 17 *e*P P 00 45 32.5 -0.4
PETK **Petropavlovsk-** 63.55 17 P P 00 45 33.6 +0.6
comp=Z,9.5nm,0.9s,baz=160,slow=4.7,SNR=9.3
MOY **Mondy** 63.90 339 *e*P P 00 45 36.1 +0.6
WMQ **Urumqi** 64.17 326 P P 00 45 37.3 -0.1
WMQ pP pP 00 45 47.6 -0.5
WMQ sP sP 00 45 51.5 -0.7
WMQ PcP PcP 00 46 12.3 +0.1
WMQ PP PP 00 48 00.1 +1.2
WMQ S S 00 54 10.3 -2.0
WMQ sS sS 00 54 27.1 -2.9
WMQ ScS SKSac 00 55 24.8 -4.0
WMQ SS SS 00 58 20.8 -1.4
WMQ AMB AMB
comp=Z,58nm,0.8s
WMQ AMB AMB
comp=Z,220nm,5.0s
WMQ LR LR
comp=Z,300nm,25.2s
WMQ LR LR
comp=Z,140nm,24.4s
WMQ LR LR
comp=Z,200nm,28.8s
HVS **Khovu-Aksy** 66.31 335*c* *i*P P 00 45 51.4 +0.3
HVS pmax pmax
comp=Z,150nm,0.9s
YAK **Yakutsk** 68.60 359 *e*P P 00 46 04.6 -0.6
YAK *e* 00 46 22.3
YAK *e**PP PcP 00 46 30.7 +0.7
YAK *e* 00 48 35.5
YAK *e*S S 00 55 00.7 -4.4
YAK *e**SS sS 00 55 25.1 +2.2
YAK *e* 00 55 59.0
YAK pmax pmax
comp=Z,47nm,0.9s
YAK pmax pmax
comp=N,14nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.4s
YAK pmax pmax
comp=Z,25nm,1.9s
YAK pmax pmax
comp=N,48nm,1.6s
YAK pmax pmax
comp=E,67nm,3.0s
YAK smax smax
comp=N,61nm,2.5s
YAK smax smax
comp=E,103nm,2.8s
MK01 **Makanchi Array** 68.99 326 *e*P P 00 46 08.3 +0.3
MK01 *e*PcP PcP 00 46 31.9 -0.1
MK31 **Makanchi Array** 69.00 326 P P 00 46 07.9 -0.2
MK31 pmax pmax
comp=Z,7.0nm,0.4s
MK32 **Makanchi Array** 69.00 326 *e*P P 00 46 08.2 +0.1
MKAR **Makanchi Array** 69.00 326 *e*P P 00 46 08.6 +0.5
MKAR *e* 00 46 32.7
MKAR **Makanchi Array** 69.00 326 *e*P P 00 46 08.6 +0.5
MKAR *e*PcP PcP 00 46 32.7 +0.5
MKAR **Makanchi Array** 69.00 326 P P 00 46 08.2 +0.1
comp=Z,15nm,0.5s,baz=113,slow=8.1,SNR=228
KSH **Kashi** 69.05 317 P P 00 46 10.5 +1.8
KSH pP pP 00 46 20.6 +1.1
KSH sP sP 00 46 26.8 +3.3
KSH PcP PcP 00 46 35.8 +3.2
KSH PP PP 00 48 48.0 +6.4
KSH S S 00 55 14.0 +2.3
KSH sS sS 00 55 32.1 +2.6
KSH ScS SKSac 00 56 04.3 -1.9
KSH SS SS 00 59 43.4 +5.2
KSH AMB AMB
comp=Z,17nm,0.9s
KSH AMB AMB
comp=Z,150nm,5.7s
KSH LR LR
comp=Z,130nm,7.8s
KSH LR LR
comp=Z,120nm,6.4s
KSH LR LR
comp=Z,120nm,8.4s
KZA **Kyzart** 70.75 319 *i*P P 00 46 20.5 +1.0
KZA **Kyzart** 70.75 319 P P 00 46 20.5 +1.0
SNR=17
TKM2 **Tokmak 2** 70.94 320 *e*P P 00 46 20.3 0.0
TKM2 pmax pmax
comp=Z,14nm,0.9s
TKM2 **Tokmak 2** 70.94 320 P P 00 46 19.8 -0.5
SNR=18
TKM2 **Tokmak 2** 70.94 320 *e*P P 00 46 20.3 0.0
comp=Z,14nm,0.9s
KBK **Karagaybulak** 71.23 319 *i*P P 00 46 23.0 +1.0
KBK **Karagaybulak** 71.23 319 P P 00 46 23.0 +1.0
SNR=6.0
AAK **Ala-Archa** 71.51 319 *e*P P 00 46 24.1 +0.4
AAK pmax pmax
comp=Z,16nm,1.1s
AAK **Ala-Archa** 71.51 319 P P 00 46 25.1 +1.4
SNR=6.5
AAK **Ala-Archa** 71.51 319 P P 00 46 24.4 +0.7
SNR=13
AAK **Ala-Archa** 71.51 319 *e*P P 00 46 24.1 +0.4
comp=Z,16nm,1.1s
AAK **Ala-Archa** 71.51 319 P P 00 46 24.2 +0.4
comp=Z,76nm,1.1s,SNR=9.1
AAK **Ala-Archa** 71.51 319 P P 00 46 23.9 +0.1
comp=Z,10nm,0.9s,baz=114,slow=5.7,SNR=24
AML **Almayashu** 71.80 318 *i*P P 00 46 26.3 +0.5
AML **Almayashu** 71.80 318 P P 00 46 26.3 +0.5
SNR=25
USP **Ospenovka** 71.81 320 *i*P P 00 46 23.6 -1.8
USP **Ospenovka** 71.81 320 P P 00 46 25.6 +0.3
SNR=22
KBL **Kabul** 71.97 309 *e*P P 00 46 26.3 -0.5
KBL pmax pmax
comp=Z,12nm,0.8s
KBL **Kabul** 71.97 309 *e*P P 00 46 26.2 -0.5
comp=Z,12nm,0.8s
EKS2 **Erkin-Say** 71.99 319 *e*P P 00 46 26.5 -0.1
EKS2 pmax pmax
comp=Z,17nm,1.0s
EKS2 **Erkin-Say** 71.99 319 P P 00 46 27.2 +0.6
SNR=9.7
EKS2 **Erkin-Say** 71.99 319 *e*P P 00 46 26.5 -0.1
comp=Z,17nm,1.0s
ZAA0 **Zalesovo Array** 72.16 333 *e*P P 00 46 26.5 -0.6
ZALV **Zalesovo Beam** 72.16 333 P P 00 46 26.3 -0.9
comp=Z,13nm,0.7s,baz=108,slow=4.8,SNR=60
VNDA **Vanda** 72.48 173 *e*P P 00 46 29.4 +0.6
comp=Z,6.4nm,0.8s
VNDA **Vanda** 72.48 173 P P 00 46 29.3 +0.6
comp=Z,4.9nm,0.8s,baz=324,slow=6.6,SNR=49
VNDA LR LR 01 16 23.9
comp=Z,164nm,18.4s,baz=332,slow=34
KURBB **Kurchatov Arra** 73.24 328 P P 00 46 33.3 -0.3
comp=Z,6.8nm,0.7s,baz=126,slow=4.7,SNR=86
KURK **Kurchatov** 73.24 328 *e*P P 00 46 33.3 -0.4
KURK **Kurchatov** 73.24 328 *e*P P 00 46 33.3 -0.4
KURK **Kurchatov** 73.24 328 P P 00 46 33.9 +0.2
comp=Z,140nm,1.2s,SNR=23
SBA **Scott Base** 73.35 173 *e*P P 00 46 35.7 +1.8
SBA pmax pmax
comp=Z,98nm,2.6s
SBA **Scott Base** 73.35 173 *e*P P 00 46 35.7 +1.8
comp=Z,98nm,2.6s
KK31 **Karatay Array** 74.34 318 *i*P P 00 46 40.1 -0.2
KK31 pmax pmax
comp=Z,5.0nm,0.7s
KKAR **Karatay Array** 74.34 318 *e*P P 00 46 40.0 -0.3
KKAR **Karatay Array** 74.34 318 *e*P P 00 46 40.0 -0.3
MAW **Mawson** 75.84 202 *e*P P 00 46 49.3 +0.9
comp=Z,2.1nm,0.9s
MAW **Mawson** 75.84 202 P P 00 46 50.1 +1.7
baz=76,SNR=12
MAW **Mawson** 75.84 202 P P 00 46 50.0 +1.6
comp=Z,9.6nm,0.9s,baz=62,slow=7.3,SNR=20
MAW LR LR 01 17 48.9
comp=Z,183nm,21.2s,baz=201,slow=34
TBI **Tubuai** 77.05 112 *e*LR LR 01 11 03.8
comp=Z,184nm,33.5s
PPT2 **Papeete2** 77.18 106 *e*SS SS 01 02 02.8 +20
comp=Z,130nm,30.5s
PPT2 *e*LR LR 01 10 59.8
comp=Z,181nm,21.8s
PPT **Papeete** 77.18 106 LR LR 01 13 10.2
comp=Z,142nm,21.2s,baz=211,slow=30
TIXI **Tiksi** 78.26 359 *i*P P 00 47 01.3 -0.6
TIXI pmax pmax
comp=Z,9.0nm,0.9s
VOSK **Vostochnaya** 78.35 327 *e*P P 00 47 01.4 -1.5
VOSK pmax pmax
comp=Z,12nm,0.8s
VOSK **Vostochnaya** 78.35 327 *e*P P 00 47 01.4 -1.5
comp=Z,12nm,0.8s
HOQ **Hoqain** 78.62 296 P P 00 47 04.8 -0.1
SNR=5.4
IDAH **Dahanechah** 78.65 305 *e*P P 00 47 05.4 +0.1
BVA0 **Borovoye Array** 78.81 327 *i*P P 00 47 04.5 -0.9
BVA0 pmax pmax
comp=Z,29nm,1.2s
BVAR **Borovoye Array** 78.81 327 P P 00 47 05.0 -0.3
comp=Z,14nm,0.8s,baz=122,slow=5.6,SNR=71
BRVK **Borovoye** 78.88 327*ce*P P 00 47 05.7 0.0
BRVK pmax pmax
comp=Z,32nm,1.2s
BRVK **Borovoye** 78.88 327 P P 00 47 05.9 +0.1
SNR=8.0
BRVK **Borovoye** 78.88 327 *e*P P 00 47 05.2 -0.6
comp=Z,22nm,1.0s
BRVK **Borovoye** 78.88 327 P P 00 47 05.3 -0.4
comp=Z,123nm,1.0s,SNR=9.0
ITEG **Tejag** 79.60 305 *e*P P 00 47 10.2 -0.2
ITEG *e* 00 47 11.4
comp=Z,210nm,0.5s
RBK **Rabkut** 80.28 289 P P 00 47 14.4 +0.2
SNR=7.8
ABTO **Aybut** 81.11 289 P P 00 47 18.9 +0.3
SNR=8.6
QSPA **South Pole Qui** 83.22 180 *e*P P 00 47 29.3 +0.5
comp=Z,7.1nm,0.9s
AB31 **Akbulak array** 83.43 321 *i*P P 00 47 29.2 -0.8
AB31 pmax pmax
comp=Z,5.0nm,0.9s
ABKAR **Akbulak array** 83.43 321 *e*P P 00 47 28.2 -1.7
SYO **Syowa Base** 84.54 201⇑*e*P P 00 47 35.3 0.0
SYO **Syowa Base** 84.54 201⇑*e*pP pP 00 47 43.2 -3.1
AKTO **Aktyubinsk** 84.97 322 P P 00 47 36.0 -1.8
comp=Z,8.6nm,1.0s,baz=106,slow=4.8,SNR=20
IFIR **Firoozkooh** 85.06 307 *e*P P 00 47 39.3 +0.3
ISFB **Sefidab** 85.22 305 *e*P P 00 47 39.4 -0.1
SVE **Sverdlovsk** 85.48 329 *e*P P 00 47 39.7 -0.5
SVE pmax pmax
comp=Z,24nm,0.9s
IKLH **Kolahrood** 85.56 304 *e*P P 00 47 41.7 +0.2
IVRN **Varamin** 85.76 306 *e*P P 00 47 41.4 -0.8
IR3 **Iran Long-Peri** 86.41 306 *e*P P 00 47 45.3 -0.2
ARU **Arti** 86.44 328*d* *i*P P 00 47 43.9 -1.1
ARU 00 51 02.2
ARU S SKSac 00 58 07.4 -1.3
ARU pmax pmax
comp=Z,19nm,1.0s
ARU **Arti** 86.44 328 P P 00 47 43.4 -1.6
comp=Z,96nm,0.9s,SNR=7.1
IRAZ **Razeghan** 87.28 306 *e*P P 00 47 49.7 -0.2
UMR **Umm Al-Rimmam** 88.17 300 *e*P P 00 47 52.9 -1.0
RDF **Al-Radifah** 88.22 299 *e*P P 00 47 53.5 -0.7
RDF AMb AMB 00 47 57.2
comp=Z,48nm,1.2s
NAY **Al-Naaiem** 88.53 300 *e*P P 00 47 54.8 -0.9
NAY AMb AMB 00 47 56.0
comp=Z,26nm,0.8s
RAYN **Ar Rayn** 89.28 294 *e*P P 00 47 58.3 -1.0
comp=Z,27nm,1.1s
RAYN **Ar Rayn** 89.28 294 P P 00 47 59.4 0.0
comp=Z,130nm,1.1s,SNR=12
ISRB **Sarab** 89.48 308 *e*P P 00 48 00.0 -0.2
IHRS **Heris** 90.04 308 *e*P P 00 48 02.7 -0.1
RKT **Rikitea** 90.34 113 *e*LR LR 01 17 05.5
comp=Z,213nm,25.2s
IL1 **Eielson Array** 92.36 25 *e*P P 00 48 10.9 -1.9
ILAR **Eielson Array** 92.36 25 P P 00 48 11.2 -1.6
comp=Z,1.0nm,0.9s,baz=277,slow=4.3,SNR=7.6
ILB **Eielson Array** 92.36 25 *e*P P 00 48 11.2 -1.6
ZEI **Tsey** 92.99 313 *e*P P 00 48 15.9 -0.5
ZEI pmax pmax
comp=Z,4.0nm,1.0s
KMBO **Kilima Mbogo** 94.38 268 *e*P P 00 48 19.3 -4.2
comp=Z,7.3nm,1.1s
KMBO **Kilima Mbogo** 94.38 268 P P 00 48 24.0 +0.6
comp=Z,5.0nm,0.9s,baz=57,slow=24,SNR=12
KLMR **Klimovskoe** 96.96 330 *e*P P 00 48 31.0 -2.8
KLMR pmax pmax
comp=Z,14nm,1.1s
OBN **Obninsk** 98.48 325⇑*e*P P 00 48 38.5 -2.3
OBN *e**PP pP 00 48 49.5 -2.4
OBN *e* 00 52 40.1
OBN *e*PS PS 01 01 39.6 +3.5
OBN pmax pmax
comp=Z,10.0nm,1.1s
BR101 **Keskin Array S** 100.54 309 *e*Pdif Pdif 00 48 49.5 -1.1
BRTR **Keskin Array B** 100.54 309 P Pdif 00 48 49.5 -1.1
comp=Z,1.1nm,0.9s,baz=140,slow=6.5,SNR=7.6
BR231 **Keskin MP Arra** 101.21 309 *e*Pdif Pdif 00 48 50.1 -3.4
ARA0 **ARCESS Array S** 101.96 340 *e*Pdif Pdif 00 48 56.3 +0.3
ARCES **ARCESS Array B** 101.96 340 P Pdif 00 48 56.3 +0.3
comp=Z,1.9nm,0.8s,baz=74,slow=5.2,SNR=4.4
BUR04 **Bucovina Ar. S** 106.13 318 *e*Pdif Pdif 00 49 14.5 -0.7
CRVS **Cervenica-Dubn** 108.39 319 *e*P Pdif 00 49 25.6 +0.5
CRVS **Cervenica-Dubn** 108.39 319 PDIF Pdif 00 49 25.5 +0.5
KECS **Kecovo** 109.11 319 *e*P Pdif 00 49 30.2 +1.9
KECS **Kecovo** 109.11 319 PDIF Pdif 00 49 30.2 +1.9
NOA **NORSAR Array B** 110.36 333 Pdiff Pdif 00 49 31.9 -1.7
comp=Z,1.4nm,0.8s,baz=71,slow=4.5,SNR=3.5
GERES **GERESS Array B** 113.37 321 PKiKP PKiKP 00 53 39.8 -0.7
comp=Z,0.4nm,0.5s,baz=90,slow=1.7,SNR=6.1
PD31 **Pinedale Array** 115.44 46 PKPdf PKPdf 00 53 43.1 -1.8
PDAR **Pinedale Array** 115.44 46 PKP PKPdf 00 53 43.2 -1.8
comp=Z,0.2nm,0.3s,baz=282,slow=4.3,SNR=2.6
LPG **La Plagne** 118.95 319 *e*PKiKP PKPdf 00 53 50.7 -1.0
LPL **La Plagne** 118.96 319 *e*PKiKP PKPdf 00 53 50.7 -0.9
comp=Z,3.7nm,0.7s
SSF **Saint Saulge** 120.39 322 *e*PKiKP PKPdf 00 53 54.2 +0.2
comp=Z,7.9nm,0.9s
LTX **Lajitas** 123.27 59 *e*PKiKP PKPdf 00 54 01.8 +1.6
LTX **Lajitas** 123.27 59 *e*PKPdf PKPdf 00 54 01.8 +1.6
TXAR **Lajitas Array** 123.27 59 PKP PKPdf 00 54 01.8 +1.6
comp=Z,0.5nm,0.6s,baz=165,slow=3.3,SNR=6.7
JCT **Junction City** 126.27 57 *e*PKiKP PKPdf 00 54 06.6 +0.7
JCT **Junction City** 126.27 57 *e*PKPdf PKPdf 00 54 06.5 +0.7
TOA0 **Torodi Ar. Sit** 130.51 281 *e*PKPdf PKPdf 00 54 15.6 +1.3
TOA0 *e*SKPbc SKPbc 00 57 36.7 +1.3
TORD **Torodi Ar. Bea** 130.51 281 PKP PKPdf 00 54 15.4 +1.1
comp=Z,1.0nm,0.7s,baz=81,slow=2.5,SNR=7.7
TORD SKPbc SKPbc 00 57 36.7 +1.4
comp=Z,5.8nm,1.0s,baz=75,slow=3.7,SNR=16
LVC **Limon Verde** 144.47 146 *e*PKPdf PKPdf 00 54 41.0 +1.0
CPUP **Villa Florida** 145.94 165 *e*PKPdf PKPab 00 54 43.7 +0.5
CPUP **Villa Florida** 145.94 165 PKPbc PKPab 00 54 43.7 +0.5
comp=Z,1.1nm,0.4s,baz=196,slow=4.0,SNR=3.9
OTAV **Otavalo** 149.14 101 *e*PKPbc PKPbc 00 54 52.6 0.0
LPAZ **La Paz** 149.79 139 *e*PKPbc PKPbc 00 54 54.8 +0.5
LPAZ **La Paz** 149.79 139 PKPbc PKPbc 00 54 55.7 +1.4
comp=Z,2.6nm,0.4s,baz=48,slow=3.8,SNR=14

BJI ***25*** *00:39:56.4,24.4°40N×121.7°96E,h8km,mB4.3/2,mb4.4/3, ML3.8/4*
NIED ***25*** *00:40:00,24.5°30N×121.5°90E,h32km,Mw4.0 Best double couple: M0 1.19000×10^15 NP1:φ≈355.00000°,δ73.00000°, λ54.00000°. NP2:φ≈244.00000°,δ40.00000°,λ153.00000°.*
JMA ***25*** *00:40:01.8±0.4,24.5°30N×121.7°87E,h49km,M4.0*
ISCJB ***25*** *00:40:03.0±0.3,24.5°40N±0.0°02×122.5°00E±0.0°02,h25km±3km, Error ellipse: s-maj=3.4km s-min=2.5km az=141.5*
TAP ***25*** *00:40:02.4,24.5°40N×121.7°94E,h30km,ML4.4,B*
ISC 25 00:40:02.8±0.9,24.5°40N±0.0°02×121.7°95E±0.0°02,h33km±3km, n62,σ1§16/104,9C-13D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.19**	**278**	⇓*i*P		**Pn**	**00 40 08.6**	**-0.1**

	baz=277							
ENA				S		Sb	00 40 13.1	-0.7
	baz=277							
EHP	**Heping Village**	**0.21**	**244**	⇓	*i*P	**Pn**	**00 40 09.0**	**-0.2**
	baz=241							
EHP				S		Sb	00 40 14.1	0.0
	baz=241							
TWC	**Suao**	**0.23**	**337**	⇓	*i*P	**Pn**	**00 40 09.1**	**-0.5**
	baz=339							
ILA	**Ilan**	**0.41**	**334**		P	**Pb**	**00 40 12.0**	**0.0**
	baz=331							
ILA				S		Sb	00 40 18.6	+0.3
	baz=331							
ENTT	**Nioudou**	**0.42**	**305**	⇑	*i*P	**Pb**	**00 40 12.1**	**-0.2**
	baz=304							
ENTT				*e*S		Sb	00 40 18.6	-0.2
	baz=304							
TWD	**Chiawan**	**0.45**	**225**	⇓	*i*P	**Pb**	**00 40 12.2**	**-0.5**
	baz=232							
TWD				S		Sn	00 40 20.1	+0.2
	baz=232							
NNS	**Nan Shan**	**0.52**	**274**	⇑	*i*P	**Pn**	**00 40 13.7**	**-0.5**
	baz=276							
NNS				S		Sb	00 40 21.3	-0.2
	baz=276							
HWA	**Hwalien**	**0.53**	**217**	⇓	*i*P	**Pn**	**00 40 13.8**	**-0.1**
	baz=216							
HWA				*e*S		Sn	00 40 23.1	+1.4
	baz=216							
NSK	**Sanguang**	**0.60**	**297**	⇑	*i*P	**Pn**	**00 40 14.9**	**-0.2**
	baz=296							
NSK				*i* S		Sn	00 40 23.5	-0.2
	baz=296							
TWB1	**Santiao Chiao**	**0.61**	**4**	⇓	*i*P	**Pn**	**00 40 15.1**	**0.0**
	baz=359							
TWB1				*i* S		Sn	00 40 23.9	+0.1
	baz=359							
ESF	**Shoufeng Towns**	**0.66**	**217**		*e*P	**Pn**	**00 40 15.8**	**-0.1**
	baz=217							
ESF				*e*S		Sb	00 40 26.5	+1.4
	baz=217							
TWA	**Mucha**	**0.66**	**330**	⇑	*i*P	**Pb**	**00 40 16.4**	**+0.3**
	baz=324							
TWA				S		Sn	00 40 25.4	+0.1
	baz=324							
WHF	**Hehuan Shan**	**0.67**	**248**	⇓	*i*P	**Pn**	**00 40 16.3**	**-0.1**
	baz=247							
WHF				*e*S		Sn	00 40 24.8	-1.2
	baz=247							
NWF	**Wu-fen Shan**	**0.68**	**347**	⇓	*i*P	**Pb**	**00 40 16.8**	**+0.3**
	baz=340							
NWF				*i* S		Sb	00 40 26.6	+0.8
	baz=340							
TWT	**Tachien**	**0.72**	**258**	⇑	*i*P	**Pb**	**00 40 17.3**	**+0.2**
	baz=257							
TWT				S		Sb	00 40 27.8	+1.0
	baz=257							
TAP1	**Taipei**	**0.74**	**329**	⇑	*i*P	**Pb**	**00 40 18.1**	**+0.7**
	baz=327							
TAP1				*i* S		Sb	00 40 28.7	+1.4
	baz=327							
ESL	**Shilin**	**0.75**	**219**	⇓	*i*P	**Pn**	**00 40 16.4**	**-0.7**
	baz=230							
TAP	**Taipei**	**0.75**	**328**		P	**Pb**	**00 40 18.0**	**+0.5**
	baz=327							
TAP				S		Sb	00 40 28.6	+1.0
	baz=327							
TEGC	**Jichi Village**	**0.78**	**208**		*e*P	**Pb**	**00 40 18.3**	**+0.3**
	baz=208							
TEGC				*e*S		Sb	00 40 29.8	+1.4
	baz=208							
TWS1	**Kuangyinshan**	**0.85**	**325**		*e*P	**Pb**	**00 40 19.4**	**+0.2**
	baz=335							
TWS1				S		Sb	00 40 32.1	+1.8
	baz=335							
NSTT	**Nanjuang**	**0.89**	**285**	⇑	*i*P	**Pb**	**00 40 20.2**	**+0.3**
	baz=283							
NSTT				*i* S		Sb	00 40 32.1	+0.6
	baz=283							
NCU	**National Centr**	**0.89**	**309**	⇑	*e*P	**Pb**	**00 40 20.4**	**+0.5**
	baz=309							
NCU				S		Sb	00 40 34.0	+2.4
	baz=309							
TWY	**Chenhua**	**0.93**	**340**		*e*P	**Pn**	**00 40 18.4**	**-1.2**
	baz=340							
YOJ	**Yonaguni jima**	**0.97**	**86**		P	**Pn**	**00 40 20.5**	**+0.4**
YOJ					S	**Sb**	**00 40 34.0**	**+0.2**
YOJ	**Yonaguni jima**	**0.97**	**86**		*i* P	**Pn**	**00 40 20.3**	**+0.2**
	baz=82							
YOJ				*i* S		Sb	00 40 34.2	+0.4
	baz=82							
HSN	**Hsinchu**	**0.97**	**294**		*e*P	**Pb**	**00 40 21.4**	**+0.2**
	baz=296							
HSN				S		Sb	00 40 36.0	+2.2
	baz=296							
EHY	**Hungye**	**1.06**	**213**		*e*P	**Pn**	**00 40 20.4**	**-0.9**
	baz=212							
TWQ1	**Liyutan**	**1.07**	**267**	⇓	*i*P	**Pb**	**00 40 23.6**	**+0.7**
	baz=266							
TWQ1				*e*S		Sb	00 40 38.7	+2.0
	baz=266							
NSY	**Sanyi**	**1.08**	**271**		P	**Pb**	**00 40 24.0**	**+0.9**
	baz=269							
NSY				*e*S		Sb	00 40 39.4	+2.5
	baz=269							
SMLT	**Sun Moon Lake**	**1.09**	**242**	⇓	*i*P	**Pb**	**00 40 22.7**	**-0.5**
	baz=234							
SMLT				*e*S		Sb	00 40 38.0	+0.9
	baz=234							
TYC	**Yuchr**	**1.11**	**244**	⇓	*i*P	**Pn**	**00 40 22.9**	**+0.8**
	baz=243							
TYC				*e*S		Sb	00 40 38.7	+1.0
	baz=243							
TCU	**Taichung**	**1.19**	**258**		P	**Pb**	**00 40 25.3**	**+0.5**
	baz=257							
TWF1	**Yuli**	**1.20**	**210**	⇓	*i*P	**Pn**	**00 40 22.6**	**-0.7**
	baz=221							
PCYT	**Pengchaiyu**	**1.23**	**5**		*e*P	**Pn**	**00 40 22.4**	**-1.3**
	baz=5.0							
WNT	**Mingjian**	**1.27**	**246**		*e*P	**Pb**	**00 40 26.2**	**+0.1**
	baz=245							
WNT				*e*S		Sb	00 40 44.7	+2.6
	baz=245							
CHKT	**Chengkung**	**1.40**	**202**		*e*P	**Pn**	**00 40 25.1**	**-1.0**
	baz=187							
CHN5	**Tsauling**	**1.41**	**236**		P	**Pb**	**00 40 28.3**	**-0.3**
	baz=235							
CHN5				*e*S		Sb	00 40 47.9	+1.5
	baz=235							
WGK	**Gukeng**	**1.45**	**241**		*e*P	**Pb**	**00 40 28.9**	**-0.3**
	baz=240							
WTCT	**Ta-ch'eng**	**1.61**	**251**		*e*P	**Pn**	**00 40 29.3**	**+0.3**
	baz=250							
CHN4	**Tsaushan**	**1.62**	**230**		P	**Pb**	**00 40 31.4**	**-0.7**
	baz=217							
CHN4				*e*S		Sb	00 40 53.8	+1.5
	baz=217							
IRIF	**Iriomote-Funau**	**1.63**	**92**		P	**Pn**	**00 40 29.5**	**+0.3**
IRIF					S	**Sb**	**00 40 50.9**	**-1.5**
CHY	**Chiayi**	**1.66**	**237**		*e*P	**Pb**	**00 40 31.3**	**-1.5**
	baz=237							
CHY				*e*S		Sb	00 40 55.0	+1.7
	baz=237							
WTP	**Ta-pu**	**1.68**	**227**		*e*P	**Pb**	**00 40 32.3**	**-0.9**
	baz=227							
WTP				*e*S		Sb	00 40 55.6	+1.7
	baz=227							
TWK	**Hsinying**	**1.75**	**230**		*e*P	**Pb**	**00 40 33.1**	**-1.3**
	baz=230							
TWK				*e*S		Sb	00 40 57.6	+1.6
	baz=230							
WSF	**Szhu**	**1.75**	**245**		*e*P	**Pn**	**00 40 32.4**	**+1.5**
	baz=258							
TWG	**Pinlang**	**1.77**	**207**		*e*P	**Pn**	**00 40 30.0**	**-1.1**
	baz=194							
CHN1	**Nanshi**	**1.78**	**227**		*e*P	**Pn**	**00 40 32.8**	**+1.5**
	baz=227							
CHN1				*e*S		Sb	00 40 56.8	+0.1
	baz=227							
SGST	**Jiashian**	**1.81**	**224**		*e*P	**Pb**	**00 40 33.8**	**-1.7**
	baz=212							
SGST				*e*S		Sb	00 40 57.9	+0.2
	baz=212							
JKRS	**Kuro-shima**	**1.89**	**95**		P	**Pn**	**00 40 33.7**	**+0.9**
JKRS					S	**Sn**	**00 40 57.3**	**+1.9**
JIJ	**Ishigaki jima**	**2.00**	**91**		P	**Pn**	**00 40 34.4**	**+0.1**
JIJ					S	**Sn**	**00 40 59.2**	**+0.9**
SCLT	**Jiali**	**2.02**	**233**		*e*P	**Pn**	**00 40 36.3**	**+1.8**
	baz=219							
SCLT				*e*S		**Sb**	**00 41 03.9**	**+0.3**
	baz=219							
TWM1	**Shoushan**	**2.10**	**222**		*e*P	**Pb**	**00 40 39.2**	**-1.1**
	baz=222							
EAST	**Anshuo**	**2.25**	**207**		*e*P	**Pn**	**00 40 37.3**	**-0.5**
	baz=198							
TAW	**Tawu**	**2.25**	**206**		*e*P	**Pn**	**00 40 39.4**	**+1.6**
	baz=207							
PNG	**Penghu**	**2.34**	**250**		*e*P	**Pn**	**00 40 38.9**	**-0.1**
	baz=249							
PNG				*e*S		Sn	00 41 07.2	+0.6
	baz=249							
WDGT	**Dungji**	**2.38**	**242**		*e*P	**Pn**	**00 40 40.1**	**+0.6**
	baz=241							
WDGT				*e*S		Sn	00 41 09.2	+1.5
	baz=241							
JTJ	**Tarama**	**2.52**	**84**		P	**Pn**	**00 40 42.5**	**+1.0**
JTJ					*e*S	**Sn**	**00 41 13.4**	**+2.3**
TWK1	**Hengchun**	**2.66**	**203**		*e*P	**Pn**	**00 40 45.0**	**+1.6**
	baz=189							
QZH	**Quanzhou**	**3.10**	**281**	⇑	*i*Pn	Pn	00 40 46.1	-3.3
QZH					Sn	**Sn**	**00 41 21.5**	**-3.8**
QZH					SMN			
	comp=Z,680nm,1.0s							
QZH					SME			
	comp=Z,380nm,0.8s							
KNM	**Kinmen**	**3.20**	**271**		*e*P	**Pn**	**00 40 52.7**	**+1.8**
	baz=268							
XAN	**Xi'an**	**14.87**	**313**		P	Pn	00 43 24.5	-6.3
XAN					pP	**P**	**00 43 33.5**	**-2.6**
XAN					AMB	AMB		
	comp=Z,8.0nm,0.9s							
HHC	**Hu-ho-hao-te**	**18.56**	**335**		*e*P	**Pn**	**00 44 17.8**	**+0.4**
HHC					AMB	AMB		
	comp=Z,48nm,1.1s							
HHC					AMB	AMB		
	comp=Z,490nm,5.9s							

TAP 25 00:40:34.0, 24°40N×121°95E, h31km, ML4.0, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.20**	**279**	*i* P	Pb	00 40 40.3	+0.1
	baz=279						
EHP	**Heping Village**	**0.21**	**246**	*i* P	Pn	00 40 40.8	-0.3
	baz=243						
EHP				*i* S	Sn	00 40 45.9	+0.5
	baz=243						
TWC	**Suao**	**0.23**	**336**	*i* P	Pb	00 40 40.9	+0.2
	baz=338						
TWC				S	Sb	00 40 44.9	-0.3
	baz=338						
ILA	**Ilan**	**0.41**	**333**	*e*P	Pn	00 40 43.8	+0.1
	baz=330						
ILA				S	Sn	00 40 50.9	+0.5
	baz=330						
ENTT	**Nioudou**	**0.43**	**305**	*i* P	Pn	00 40 43.8	-0.2
	baz=304						
ENTT				S	Sn	00 40 50.9	0.0
	baz=304						
TWD	**Chiawan**	**0.45**	**226**	P	Pb	00 40 43.9	+0.2
	baz=224						
TWD				S	Sn	00 40 51.7	+0.3
	baz=224						
NNS	**Nan Shan**	**0.53**	**275**	P	Pb	00 40 45.3	+0.2
	baz=274						
NNS				*e*S	Sb	00 40 52.7	-0.1
	baz=274						
NSK	**Sanguang**	**0.61**	**297**	*e*P	Pn	00 40 46.6	+0.1
	baz=296						
NSK				S	Sb	00 40 55.0	+0.2
	baz=296						
TWB1	**Santiao Chiao**	**0.61**	**3**	*e*P	Pn	00 40 47.5	+1.0
	baz=5.0						
TWB1				*e*S	Sn	00 40 55.5	+0.2
	baz=5.0						
WHF	**Hehuan Shan**	**0.68**	**248**	*e*P	Pn	00 40 48.3	+0.3
	baz=247						
WHF				S	Sn	00 40 58.0	+0.2
	baz=247						
NWF	**Wu-fen Shan**	**0.69**	**347**	*e*P	Pn	00 40 48.7	+1.0
	baz=341						
NWF				S	Sn	00 40 58.8	+1.3
	baz=341						
TWT	**Tachien**	**0.72**	**259**	*e*P	Pb	00 40 49.0	+0.7
	baz=258						
TWT				*e*S	Sn	00 40 59.9	+1.4
	baz=258						
TAP1	**Taipei**	**0.75**	**329**	*e*P	Pb	00 40 49.9	+1.4
	baz=328						
ESL	**Shilin**	**0.75**	**219**	*e*P	Pn	00 40 48.0	-0.4
	baz=230						
TAP	**Taipei**	**0.76**	**328**	*e*P	Pb	00 40 50.0	+1.3
	baz=328						
TWS1	**Kuangyinshan**	**0.85**	**325**	*e*P	Pb	00 40 51.6	+1.3
	baz=335						
TWS1				*e*S	Sb	00 41 04.2	+2.7
	baz=335						
NSTT	**Nanjuang**	**0.90**	**285**	*e*P	Pb	00 40 52.3	+1.3
	baz=285						
YOJ	**Yonaguni jima**	**0.97**	**86**	*e*P	Pb	00 40 53.1	+0.9
	baz=81						
YOJ				*e*S	Sb	00 41 05.7	+1.0
	baz=81						
NSY	**Sanyi**	**1.09**	**271**	*e*P	Pb	00 40 55.9	+1.6
	baz=280						
SMLT	**Sun Moon Lake**	**1.09**	**242**	*e*P	Pb	00 40 56.5	+2.1
	baz=235						
TYC	**Yuchr**	**1.11**	**244**	*e*P	Pb	00 40 56.8	+2.1
	baz=237						
TCU	**Taichung**	**1.19**	**258**	*e*P	Pb	00 40 56.5	+0.6
	baz=258						

ISCJB ***25*** *00:49:53.5±0.2, 24°.63N±0°.03×122°.55E±0°.02, h105km±2km, mb3.7/10, Error ellipse: s-maj=4.4km s-min=2.6km az=170.5*
TAP ***25*** *00:49:54.3, 24°.61N×122°.55E, h99km, ML4.5, B*
JMA ***25*** *00:49:55.0±0.1, 24°.67N×122°.59E, h95km±2km, M3.5*
IDC ***25*** *00:49:57.1±4.1, 24°.65N×122°.52E, h130km±40km, mb3.5/11, mb1 3.7/13, mb1mx3.5/29, mbtmp3.5/13, Error ellipse: s-maj=27.1km s-min=12.5km az=73.0*

ISC 25 00:49:54.2±0.7, **24°60N**±0°04×**122°55E**±0°02, **h100**km±5km, **n82**,σ0**s83**/123, **mb3.8**/11, **3C-24D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.44**	**108**	P	**Pn**	**00 50 09.8**	**+0.2**
YOJ				S	**Sn**	**00 50 21.0**	**-0.1**
YOJ	**Yonaguni jima**	**0.44**	**108**	*i* P	**Pn**	**00 50 09.8**	**+0.2**
	baz=115						
YOJ				*i* S	**Sn**	**00 50 21.1**	**0.0**
	baz=115						
TWC	**Suao**	**0.64**	**271**	⇓ *i*P	**Pn**	**00 50 11.0**	**-0.1**
	baz=270						
TWC				S	**Sn**	**00 50 22.7**	**-1.0**
	baz=270						
TWB1	**Santiao Chiao**	**0.65**	**309**	⇑ *i*P	**Pn**	**00 50 11.3**	**+0.1**
	baz=307						
TWB1				*i* S	**Sn**	**00 50 23.3**	**-0.7**
	baz=307						
ILA	**Ilan**	**0.75**	**283**	*e*P	**Pn**	**00 50 12.3**	**+0.2**
	baz=280						
ILA				S	**Sn**	**00 50 25.4**	**0.0**
	baz=280						
ENA	**Nanau**	**0.76**	**257**	P	**Pn**	**00 50 12.5**	**+0.4**
	baz=252						
ENA				*e*S	**Sn**	**00 50 25.6**	**0.0**
	baz=252						
EHP	**Heping Village**	**0.79**	**249**	*e*P	**Pn**	**00 50 12.4**	**-0.1**
	baz=244						
EHP				*e*S	**Sn**	**00 50 26.7**	**+0.4**
	baz=244						
NWF	**Wu-fen Shan**	**0.84**	**304**	⇑ *i*P	**Pn**	**00 50 13.5**	**+0.4**
	baz=297						
NWF				S	**Sn**	**00 50 26.9**	**-0.3**
	baz=297						
ENTT	**Nioudou**	**0.90**	**273**	⇓ *i*P	**Pn**	**00 50 14.2**	**+0.6**
	baz=270						
TWA	**Mucha**	**0.96**	**294**	⇓ *i*P	**Pn**	**00 50 14.4**	**+0.2**
	baz=286						
TWA				S	**Sn**	**00 50 28.5**	**-0.7**
	baz=286						
TWD	**Chiawan**	**1.01**	**240**	⇓ *i*P	**Pn**	**00 50 14.6**	**-0.1**
	baz=233						
TWD				S	**Sn**	**00 50 29.8**	**-0.4**
	baz=233						
TAP1	**Taipei**	**1.03**	**295**	*e*P	**Pn**	**00 50 15.0**	**0.0**
	baz=287						
TAP1				*e*S	**Sn**	**00 50 29.6**	**-1.0**
	baz=287						
TAP	**Taipei**	**1.04**	**295**	*e*P	**Pn**	**00 50 15.2**	**+0.1**
	baz=287						
TAP				*e*S	**Sn**	**00 50 29.8**	**-1.1**
	baz=287						
HWA	**Hwalien**	**1.06**	**235**	⇓ *i*P	**Pn**	**00 50 15.4**	**+0.1**
	baz=229						
HWA				*e*S	**Sn**	**00 50 31.3**	**+0.1**
	baz=229						
NNS	**Nan Shan**	**1.08**	**262**	⇓ *i*P	**Pn**	**00 50 16.0**	**+0.3**
	baz=255						
NNS				*e*S	**Sn**	**00 50 31.3**	**-0.6**
	baz=255						
NSK	**Sanguang**	**1.09**	**274**	⇓ *i*P	**Pn**	**00 50 16.3**	**+0.6**
	baz=267						
NSK				S	**Sn**	**00 50 31.5**	**-0.4**
	baz=267						
TWY	**Chenhua**	**1.09**	**308**	*e*P	**Pn**	**00 50 15.5**	**-0.2**
	baz=299						
TWY				*e*S	**Sn**	**00 50 31.8**	**-0.1**
	baz=299						
IRIF	**Iriomote-Funau**	**1.11**	**103**		P	**Pn**	**00 50 16.1**	**+0.3**
IRIF					S	**Sn**	**00 50 32.0**	**-0.1**
PCYT	**Pengchaiyu**	**1.11**	**337**		P	**Pn**	**00 50 16.9**	**+1.0**
	baz=340							
TWS1	**Kuangyinshan**	**1.14**	**296**		*e*P	**Pn**	**00 50 16.4**	**+0.2**
	baz=291							
TWS1				*e*S		**Sn**	**00 50 32.5**	**-0.3**
	baz=291							
ESF	**Shoufeng Towns**	**1.20**	**233**		*e*P	**Pn**	**00 50 16.6**	**-0.2**
	baz=227							
WHF	**Hehuan Shan**	**1.26**	**249**	⇓	*i*P	**Pn**	**00 50 18.3**	**+0.3**
	baz=248							
WHF				S		**Sn**	**00 50 35.0**	**-0.8**
	baz=248							
HATJ	**Hateruma jima**	**1.27**	**115**		*e*S	**Sn**	**00 50 36.4**	**+1.1**
TEGC	**Jichi Village**	**1.28**	**226**		*e*P	**Pn**	**00 50 18.0**	**+0.2**
	baz=231							
ESL	**Shilin**	**1.28**	**233**	⇓	*i*P	**Pn**	**00 50 17.6**	**-0.3**
	baz=227							
ESL				*e*S		**Sn**	**00 50 34.3**	**-1.5**
	baz=227							
NCU	**National Centr**	**1.29**	**287**	⇓	*e*P	**Pn**	**00 50 18.6**	**+0.7**
	baz=294							
NCU				*e*S		**Sn**	**00 50 36.1**	**+0.2**
	baz=294							
TWT	**Tachien**	**1.30**	**255**	⇓	*i*P	**Pn**	**00 50 19.3**	**+1.1**
	baz=254							
TWT				S		**Sn**	**00 50 36.9**	**+0.5**
	baz=254							
JKRS	**Kuro-shima**	**1.38**	**105**		P	**Pn**	**00 50 19.7**	**+0.7**
JKRS					S	**Sn**	**00 50 38.1**	**+0.4**
NSTT	**Nanjuang**	**1.41**	**272**	⇓		**Pn**	**00 50 19.9**	**+0.5**
	baz=271							
NSTT				*e*S		**Sn**	**00 50 38.1**	**-0.3**
	baz=271							
HSN	**Hsinchu**	**1.45**	**278**	⇓	*i*P	**Pn**	**00 50 20.2**	**+0.3**
	baz=279							
HSN				S		**Sn**	**00 50 38.7**	**-0.6**
	baz=279							
JIJ	**Ishigaki jima**	**1.47**	**99**		P	**Pn**	**00 50 20.3**	**+0.2**
JIJ					S	**Sn**	**00 50 39.2**	**-0.5**
EHY	**Hungye**	**1.56**	**226**	⇓	*i*P	**Pn**	**00 50 20.7**	**-0.6**
	baz=234							
TWQ1	**Liyutan**	**1.64**	**262**	⇓	*i*P	**Pn**	**00 50 23.0**	**+0.8**
	baz=261							
TWQ1				*e*S		**Sn**	**00 50 43.5**	**+0.1**
	baz=261							
NSY	**Sanyi**	**1.64**	**264**	⇓	*i*P	**Pn**	**00 50 23.2**	**+1.0**
	baz=263							
NSY				S		**Sn**	**00 50 44.2**	**+0.7**
	baz=263							
SMLT	**Sun Moon Lake**	**1.67**	**245**	⇓	*i*P	**Pn**	**00 50 23.6**	**+0.9**
	baz=239							
SMLT				*e*S		**Sn**	**00 50 45.5**	**+1.2**
	baz=239							
TWF1	**Yuli**	**1.69**	**223**	⇓	*i*P	**Pn**	**00 50 22.5**	**-0.3**
	baz=230							
TYC	**Yuchr**	**1.69**	**246**	⇓	*i*P	**Pn**	**00 50 23.7**	**+0.9**
	baz=241							
TYC				*e*S		**Sn**	**00 50 44.3**	**-0.3**
	baz=241							
TCU	**Taichung**	**1.77**	**256**		*e*P	**Pn**	**00 50 23.8**	**0.0**
	baz=255							
CHKT	**Chengkung**	**1.84**	**216**		*e*P	**Pn**	**00 50 24.0**	**-0.8**
	baz=211							
CHKT				*e*S		**Sn**	**00 50 46.0**	**-2.1**
	baz=211							
WNT	**Mingjian**	**1.85**	**248**	⇓		**Pn**	**00 50 26.1**	**+1.2**
	baz=247							
WNT				*e*S		**Sn**	**00 50 50.4**	**+2.2**
	baz=247							
JTJ	**Tarama**	**1.96**	**88**		P	**Pn**	**00 50 27.0**	**+0.8**
JTJ					S	**Sn**	**00 50 51.6**	**+0.9**
CHN5	**Tsauling**	**1.98**	**240**	⇓	*i*P	**Pn**	**00 50 27.9**	**+1.2**
	baz=250							
CHN5				*e*S		**Sn**	**00 50 53.3**	**+2.0**
	baz=250							
WGK	**Gukeng**	**2.03**	**244**		*e*P	**Pn**	**00 50 27.8**	**+0.6**
	baz=254							
CHN4	**Tsaushan**	**2.18**	**236**	⇓	*i*P	**Pn**	**00 50 30.3**	**+1.2**
	baz=236							
CHN4				*e*S		**Sn**	**00 50 56.2**	**+0.3**
	baz=236							
WTCT	**Ta-ch'eng**	**2.20**	**251**		*e*P	**Pn**	**00 50 29.6**	**+0.3**
	baz=251							
WTP	**Ta-pu**	**2.23**	**233**		*e*P	**Pn**	**00 50 30.7**	**+0.9**
	baz=233							
TWG	**Pinlang**	**2.23**	**218**		*e*P	**Pn**	**00 50 29.1**	**-0.6**
	baz=223							
TWG				*e*S		**Sn**	**00 50 55.2**	**-1.8**
	baz=223							
CHY	**Chiayi**	**2.23**	**241**		*e*P	**Pn**	**00 50 30.8**	**+1.0**
	baz=252							
TTN	**Taitung**	**2.24**	**215**		*e*P	**Pn**	**00 50 30.2**	**+0.3**
	baz=222							
TWK	**Hsinying**	**2.31**	**235**	⇓	*i*P	**Pn**	**00 50 31.7**	**+0.9**
	baz=235							
TWK				*e*S		**Sn**	**00 51 00.3**	**+1.4**
	baz=235							
CHN1	**Nanshi**	**2.33**	**233**		P	**Pn**	**00 50 32.0**	**+0.9**
	baz=233							
WSF	**Szhu**	**2.33**	**246**		*e*P	**Pn**	**00 50 31.2**	**+0.1**
	baz=246							
WSF				*e*S		**Sn**	**00 51 00.1**	**+0.7**
	baz=246							
SGST	**Jiashian**	**2.35**	**230**		*e*P	**Pn**	**00 50 32.7**	**+1.3**
	baz=239							
SGST				*e*S		**Sn**	**00 51 02.0**	**+2.2**
	baz=239							
JMJ	**Miyako jima 2**	**2.50**	**84**		P	**Pn**	**00 50 34.1**	**+0.7**
JMJ					*e*S	**Sn**	**00 51 03.2**	**-0.2**
JMJ	**Miyako jima 2**	**2.50**	**84**		*e*P	**Pn**	**00 50 33.1**	**-0.2**
	baz=86							
JMJ				*e*S		**Sn**	**00 51 03.1**	**-0.4**
	baz=86							
SCLT	**Jiali**	**2.58**	**237**		*e*P	**Pn**	**00 50 35.3**	**+0.9**
	baz=237							
JOGS	**Gusukube**	**2.60**	**86**		*e*S	**Sn**	**00 51 05.9**	**+0.1**
TWM1	**Shoushan**	**2.63**	**228**		*e*P	**Pn**	**00 50 36.8**	**+1.7**
	baz=228							
EAST	**Anshuo**	**2.70**	**216**	⇓	P	**Pn**	**00 50 35.6**	**-0.5**
	baz=211							
PNG	**Penghu**	**2.92**	**250**		*e*P	**Pn**	**00 50 38.0**	**-0.9**
	baz=250							
WDGT	**Dungji**	**2.96**	**244**		*e*P	**Pn**	**00 50 39.4**	**-0.1**
	baz=244							
TWK1	**Hengchun**	**3.09**	**212**		*e*P	**Pn**	**00 50 40.9**	**-0.3**
	baz=212							
QZH	**Quanzhou**	**3.61**	**276**	⇑	*i*Pn	Pn	00 50 44.4	-3.8
QZH					Sn	Sn	00 51

JIH	**Iheya**	**5.45**	**62**	P		**Pn**	**00 51 12.5**	**-0.5**
JOW	**Kunigami**	**5.62**	**65**	*e*P		**Pn**	**00 51 14.5**	**-0.9**
	baz=67							
JNU	**Nakatsue**	**11.19**	**39**	P		**Pn**	**00 52 32.9**	**+1.8**
	0.5nm,0.3s,baz=193,slow=14,SNR=4.3							
KSRS	**Korea Array**	**13.61**	**18**	P		**Pn**	**00 53 05.2**	**+2.2**
	0.6nm,0.3s,baz=195,slow=12,SNR=13							
USRK	**Ussuriysk Arra**	**21.02**	**19**	P		**P**	**00 54 29.5**	**-0.3**
	3.5nm,0.7s,baz=207,slow=11,SNR=9.0							
SONM	**Songino Array**	**26.49**	**335**	P		**P**	**00 55 21.7**	**-0.6**
	0.6nm,0.6s,baz=154,slow=10,SNR=4.3							
MKAR	**Makanchi Array**	**38.92**	**315**	P		**P**	**00 57 10.8**	**+0.7**
	0.2nm,0.5s,baz=105,slow=9.7,SNR=3.8							
ZALV	**Zalesovo Beam**	**40.58**	**326**	P		**P**	**00 57 22.3**	**-1.5**
	0.5nm,0.4s,baz=120,slow=8.5,SNR=3.4							
FITZ	**Fitzroy Crossi**	**42.55**	**176**	P		**P**	**00 57 39.7**	**-0.5**
	4.2nm,0.9s							
KURBB	**Kurchatov Arra**	**42.60**	**319**	P		**P**	**00 57 39.3**	**-1.0**
	0.1nm,0.4s,baz=108,slow=25,SNR=4.3							
WRA	**Warramunga Arr**	**45.74**	**164**	P		**P**	**00 58 05.5**	**-0.1**
	2.9nm,0.7s,baz=347,slow=8.6,SNR=35							
ASAR	**Alice Springs**	**49.23**	**166**	P		**P**	**00 58 33.5**	**+0.9**
	0.6nm,0.5s,baz=348,slow=13,SNR=13							
FINES	**FINESS Array B**	**71.72**	**330**	P		**P**	**01 01 03.9**	**-1.2**
	1.1nm,0.7s,baz=54,slow=7.8,SNR=5.8							
INK	**Inuvik**	**72.37**	**22**	P		**P**	**01 01 07.8**	**-1.1**
	5.6nm,1.2s,baz=297,slow=6.8,SNR=2.9							
NVAR	**Mina Array Bea**	**95.28**	**44**	P		**P**	**01 03 07.8**	**+0.4**
	0.2nm,0.4s,baz=310,slow=3.4,SNR=2.5							

AUST ***25*** *00:59:49.9±1.1,5˚.25S×129˚.34E,h277km, Error ellipse: s-maj=1.6km s-min=1.2km az=295.0*

ISCJB ***25*** *00:59:50.2±0.5,5˚.35S±0˚.04×129˚.22E±0˚.05,h250km, mb3.5/6, Error ellipse: s-maj=7.6km s-min=5.6km az=12.3*

DJA ***25*** *00:59:53.5±1.0,5˚.5S±5˚×12˚.9E±˚,h246km±12km, M3.6/3, MLv3.6/3*

IDC ***25*** *00:59:54.3±3.5,5˚.36S×129˚.24E,h297km±36km, mb3.2/6, mb1 3.5/9, mb1mx3.3/18, mbtmp3.4/9, Error ellipse: s-maj=59.3km s-min=10.5km az=73.0*

ISC 25 00:59:50.4±0.7,5˚.30S±0˚.06×129˚.25E±0˚.07,h250km,n25, σ1§60/29,mb3.4/6,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.01**	**40**	P	**Pn**	**01 00 27.8**	**+2.2**
BNDI	**Bandanaira**	**1.01**	**40**	P	**Pn**	**01 00 28.6**	**+3.0**
	baz=0.9,SNR=5.7						
AAI	**Ambon**	**1.92**	**327**	P	**Pn**	**01 00 33.9**	**+1.7**
NLAI	**Namlea**	**2.96**	**314**	P	Pn	01 00 46.1	+3.5
NLAI				S	**S**	**01 01 25.8**	**+2.0**
SAUI	**Saumlaki**	**3.35**	**143**	P	**Pn**	**01 00 49.4**	**+2.6**
TLE	**Tual**	**3.49**	**96**	P	**Pn**	**01 00 50.9**	**+2.5**
TLE				S	**S**	**01 01 36.5**	**+2.2**
TLE	**Tual**	**3.49**	**96**	P	**Pn**	**01 00 50.7**	**+2.3**
	baz=3.4,SNR=44						
FAKI	**Fak Fak**	**3.82**	**52**	P	**Pn**	**01 00 53.3**	**+1.1**
FAKI				S	**S**	**01 01 39.7**	**-1.4**
FAKI	**Fak Fak**	**3.82**	**52**	P	**Pn**	**01 00 53.1**	**+0.9**
	baz=3.7,SNR=46						
KMPI	**Kaimana, Papua**	**4.73**	**70**	P	**Pn**	**01 01 04.0**	**+1.0**
SWI	**Sorong**	**4.85**	**25**	P	**Pn**	**01 01 04.4**	**0.0**
SWI	**Sorong**	**4.85**	**25**	P	**Pn**	**01 01 04.4**	**0.0**
	baz=4.8,SNR=20						
SOEI	**Soe**	**6.63**	**228**	P	**Pn**	**01 01 27.8**	**+1.2**
	baz=6.7,SNR=4.2						
MTN	**Manton Dam**	**7.72**	**166**	P	**Pn**	**01 01 40.5**	**+0.3**
	baz=7.8,SNR=30						
KDU	**Kakadu**	**8.00**	**157**	P	**Pn**	**01 01 44.1**	**+0.3**
	baz=8.1,SNR=46						
KNRA	**Kununurra**	**10.32**	**183**	P	**Pn**	**01 02 12.3**	**-0.8**
	baz=10,SNR=5.5						
FITZ	**Fitzroy Crossi**	**13.20**	**195**	P	**Pn**	**01 02 50.4**	**+1.5**
FITZ				S	S	01 05 09.9	-5.6
WRA	**Warramunga Arr**	**15.37**	**162**	P	**P**	**01 03 14.5**	**0.0**
	1.0nm,0.3s,baz=340,slow=12,SNR=31						
WRA				S	**S**	**01 06 04.6**	**+0.5**
	0.8nm,0.3s,baz=344,slow=22,SNR=8.1						
ASAR	**Alice Springs**	**18.80**	**167**	P	**P**	**01 03 52.2**	**+0.4**
	2.1nm,0.3s,baz=350,slow=12,SNR=112						
ASAR				S	**S**	**01 07 09.3**	**-2.9**
	0.1nm,0.3s,baz=349,slow=23,SNR=7.9						
STKA	**Stephens Creek**	**28.86**	**158**	P	**P**	**01 05 26.0**	**0.0**
	3.4nm,0.9s,baz=328,slow=14,SNR=2.5						
SONM	**Songino Array**	**56.61**	**342**	P	**P**	**01 09 07.6**	**0.0**
	0.4nm,0.5s,baz=149,slow=8.8,SNR=3.9						
MKAR	**Makanchi Array**	**66.41**	**327**	P	**P**	**01 10 11.7**	**-1.2**
	1.1nm,0.4s,baz=116,slow=7.8,SNR=24						
ZALV	**Zalesovo Beam**	**69.74**	**334**	P	**P**	**01 10 31.9**	**-1.5**
	0.4nm,0.3s,baz=131,slow=6.8,SNR=3.8						
VNDA	**Vanda**	**74.21**	**173**	P	**P**	**01 10 58.5**	**-0.9**
	0.2nm,0.3s,baz=304,slow=5.9,SNR=3.5						
MAW	**Mawson**	**76.25**	**201**	P	**P**	**01 11 10.6**	**-0.6**
	0.2nm,0.3s,baz=63,slow=4.5,SNR=2.4						

MEX 25 01:06:50.9±0.5,16.89N×99.35W,h30km±9km,MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.49**	**267**	*e*P	Pb	01 06 60.0	-1.3
ACX				*e*S	Sb	01 07 07.4	-0.8
CAIG	**El Cayaco**	**0.89**	**280**	*e*P	Pn	01 07 04.9	-2.6
CAIG				*e*S	Sn	01 07 17.1	-2.3
TLIG	**Tlapa**	**1.00**	**48**	*e*P	Pn	01 07 06.5	-2.6
TLIG				*e*S	Sn	01 07 19.7	-2.6
MEIG	**Mezcala**	**1.06**	**346**	*e*P	Pn	01 07 07.1	-2.8
MEIG				*e*S	Sn	01 07 20.2	-3.5
PNIG	**Pinotepa**	**1.27**	**113**	*i* P	Pn	01 07 10.3	-2.4
PNIG				*e*S	Sn	01 07 25.4	-3.5
PLIG	**Platanillo**	**1.50**	**354**	*e*P	Pn	01 07 14.0	-1.9
PLIG				*i* S	Sn	01 07 32.5	-2.1
ARIG	**Puente Sto Nin**	**1.68**	**325**	*e*P	Pn	01 07 16.9	-1.4
ARIG				*e*S	Sn	01 07 35.6	-3.2
UTMO	**Huajuapan**	**1.74**	**57**	*i* P	Pn	01 07 17.4	-2.1
UTMO				*i* S	Sn	01 07 38.5	-2.5
YAIG	**Yautepec**	**1.98**	**8**	*i* P	Pn	01 07 20.4	-2.2
YAIG				*i* S	Sn	01 07 43.7	-2.9

IDC ***25*** *01:23:56.4±0.8,32˚.25N×105˚.01E,h0km,mb3.8/12, mb1 3.9/14,mb1mx3.7/29,mbtmp3.7/14,ML3.7/3, Error ellipse: s-maj=30.6km s-min=15.3km az=53.0*

ISCJB ***25*** *01:23:57.3±0.4,32˚.35N±0˚.05×105˚.10E±0˚.06,h15km, mb3.9/18, Error ellipse: s-maj=7.6km s-min=5.9km az=43.8*

BJI ***25*** *01:23:58.1,32˚.30N×104˚.91E,h19km,mb4.2/3,ML3.5/13, Ms3.5/5,Ms7 3.4/3*

NEIC ***25*** *01:23:58.4±0.3,32˚.30N×105˚.01E,h10km,mb4.3/7, Error ellipse: s-maj=8.5km s-min=6.1km az=53.0*

ISC 25 01:23:59.1±0.5,32.35N±0˚.04×104.88E±0˚.04,h15km,n44, σ1§11/52,mb4.0/18,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.73**	**214**	P	**Pn**	**01 24 28.6**	**-0.1**
CD2				Pg	**Pb**	**01 24 29.6**	**-1.0**
CD2				Sn	**Sn**	**01 24 52.6**	**+0.5**
CD2				Sg	**Sg**	**01 24 54.1**	**-0.7**
XAN	**Xi'an**	**3.78**	**63**	Pn	**Pn**	**01 24 56.0**	**-0.9**
XAN				Pg	**Pb**	**01 25 07.3**	**+1.7**
XAN				Sn	Sn	01 25 33.0	-8.2
XAN				Sg	**Sb**	**01 25 51.6**	**+0.4**
XAN				SMN			
	comp=Z,250nm,0.4s						
XAN				SME			
	comp=Z,130nm,0.7s						
XAN				LR	LR		
	comp=N,320nm,6.4s						
XAN				LR	LR		
	comp=E,92nm,5.8s						
XAN				LR	LR		
	comp=Z,85nm,8.4s						
LZH	**Lanzhou**	**3.82**	**347**	Pg	**Pg**	**01 25 10.9**	**-1.4**
LZH				Sg	**Sg**	**01 26 00.5**	**-1.4**
LZH				SMN			
	comp=Z,220nm,1.0s						
LZH				SME			
	comp=Z,310nm,0.8s						
LZH				LR	LR		
	comp=N,430nm,7.5s						
LZH				LR	LR		
	comp=E,390nm,6.5s						
LZH				LR	LR		
	comp=Z,330nm,6.7s						
ENH	**Enshi**	**4.46**	**117**	*e*Pn	**Pn**	**01 25 04.8**	**-1.4**
ENH				*e*Pg	**Pb**	**01 25 17.1**	**0.0**
ENH				*e*Sg	**Sb**	**01 26 11.8**	**+1.2**
GTA	**Gaotai**	**8.15**	**331**	*e*P	**Pn**	**01 25 55.0**	**-2.0**
GTA				AMB	AMB		
	comp=Z,2.0nm,1.1s						
HHC	**Hu-ho-hao-te**	**10.03**	**30**	*e*P	**Pn**	**01 26 22.0**	**-0.8**
HHC				AMB	AMB		
	comp=Z,25nm,1.0s						
CMAR	**Chiang Mai Arr**	**14.84**	**203**	Pn	**Pn**	**01 27 28.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**14.84**	**203**	Pn	**Pn**	**01 27 28.8**	**+0.3**
	0.4nm,0.3s,baz=11,slow=9.6,SNR=2.5						
SONM	**Songino Array**	**15.51**	**4**	Pn	**Pn**	**01 27 38.2**	**+1.0**
SONM	**Songino Array**	**15.51**	**4**	Pn	**Pn**	**01 27 38.2**	**+1.0**
	0.1nm,0.3s,baz=182,slow=13,SNR=6.3						
KSAR	**Wonju Array Be**	**19.52**	**69**	P	**Pn**	**01 28 26.4**	**-0.7**
KSRS	**Korea Array**	**19.55**	**69**	P	**P**	**01 28 26.5**	**+0.2**
	0.2nm,0.3s,baz=245,slow=12,SNR=5.4						
MKAR	**Makanchi Array**	**22.50**	**316**	P	**P**	**01 28 59.9**	**+1.9**
MKAR	**Makanchi Array**	**22.50**	**316**	P	**P**	**01 28 59.9**	**+1.9**
	0.9nm,0.9s,baz=109,slow=12,SNR=3.5						
TKM2	**Tokmak 2**	**25.36**	**303**	*e*P	**P**	**01 29 26.8**	**+1.0**
	5.7nm,1.4s						
ZALV	**Zalesovo Beam**	**25.91**	**332**	P	**P**	**01 29 31.5**	**+1.2**
ZALV	**Zalesovo Beam**	**25.91**	**332**	P	**P**	**01 29 31.5**	**+1.2**
	0.7nm,0.5s,baz=128,slow=9.3,SNR=3.5						
AAK	**Ala-Archa**	**26.08**	**302**	*e*P	**P**	**01 29 32.9**	**+0.6**
	1.6nm,0.8s						
EKS2	**Erkin-Say**	**26.60**	**302**	*e*P	**P**	**01 29 38.1**	**+1.2**
	13nm,1.6s						
KURBB	**Kurchatov Arra**	**26.66**	**321**	P	**P**	**01 29 38.2**	**+1.0**
	0.3nm,0.3s,baz=110,slow=10.0,SNR=5.0						
KURK	**Kurchatov**	**26.67**	**321**	P	**P**	**01 29 38.2**	**+1.0**
BVAR	**Borovoye Array**	**32.24**	**320**	P	**P**	**01 30 28.6**	**+1.8**
BVAR	**Borovoye Array**	**32.24**	**320**	P	**P**	**01 30 28.5**	**+1.8**
	1.0nm,0.7s,baz=242,slow=40,SNR=3.3						
PALK	**Pallekele**	**33.59**	**227**	*e*P	**P**	**01 30 40.7**	**+1.8**
	25nm,1.6s						
AKTO	**Aktyubinsk**	**38.78**	**312**	P	**P**	**01 31 24.2**	**+1.3**
AKTO	**Aktyubinsk**	**38.78**	**312**	P	**P**	**01 31 24.2**	**+1.3**
	0.8nm,0.5s,baz=121,slow=12,SNR=2.8						
ARCES	**ARCESS Array B**	**56.40**	**335**	P	**P**	**01 33 40.1**	**+0.7**
ARCES	**ARCESS Array B**	**56.40**	**335**	P	**P**	**01 33 40.1**	**+0.7**
	4.0nm,1.0s,baz=88,slow=7.3,SNR=4.8						
BR131	**Keskin Array S**	**56.71**	**299**	*e*P	**P**	**01 33 43.6**	**+1.3**
	0.8nm,0.8s						
BRTR	**Keskin Array B**	**56.71**	**299**	P	**P**	**01 33 42.5**	**+0.2**
BRTR	**Keskin Array B**	**56.71**	**299**	P	**P**	**01 33 42.5**	**+0.2**
	0.3nm,0.7s,baz=101,slow=7.6,SNR=2.9						
FINES	**FINESS Array B**	**56.91**	**326**	P	**P**	**01 33 43.9**	**+0.7**
FINES	**FINESS Array B**	**56.91**	**326**	P	**P**	**01 33 43.9**	**+0.7**
	2.1nm,0.8s,baz=83,slow=11,SNR=5.1						
WRAB	**Tennant Creek**	**59.15**	**147**	*e*P	**P**	**01 33 58.4**	**-0.9**
	6.3nm,1.0s						
WRA	**Warramunga Arr**	**59.15**	**147**	P	**P**	**01 33 57.9**	**-1.5**
WRA	**Warramunga Arr**	**59.15**	**147**	P	**P**	**01 33 57.9**	**-1.5**
	1.0nm,0.8s,baz=340,slow=7.4,SNR=12						
ASAR	**Alice Springs**	**62.23**	**150**	P	**P**	**01 34 19.1**	**-1.2**
ASAR	**Alice Springs**	**62.23**	**150**	P	**P**	**01 34 19.1**	**-1.2**
	0.4nm,0.5s,baz=330,slow=6.8,SNR=8.6						
NOA	**NORSAR Array B**	**63.97**	**327**	P	**P**	**01 34 31.0**	**-0.5**
NOA	**NORSAR Array B**	**63.97**	**327**	P	**P**	**01 34 31.0**	**-0.5**
	0.8nm,0.7s,baz=72,slow=6.7,SNR=3.5						
RES	**Resolute Bay**	**72.44**	**5**	*e*P	**P**	**01 35 24.1**	**-0.2**
	4.5nm,0.9s						
YKW3	**Yellowknife Ar**	**80.25**	**17**	*e*P	**P**	**01 36 08.8**	**0.0**
YKA	**Yellowknife Ar**	**80.31**	**17**	P	**P**	**01 36 08.5**	**-0.6**
YKA	**Yellowknife Ar**	**80.31**	**17**	P	**P**	**01 36 08.5**	**-0.6**
	1.5nm,0.8s,baz=72,slow=24,SNR=4.0						

GUC 25 01:26:59.1±0.8,32.77S×71.88W,h10km±2km,MD3.5, ML3.3,8C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.32**	**142**	↑*i*P	Pg	01 27 05.8	+0.2
IHA				*i* S	Sg	01 27 11.0	+1.1
ROCH	**El Roble**	**0.76**	**106**	↓*i*P	Pg	01 27 13.7	-0.3
ROCH				*i* S	Sb	01 27 24.7	-0.6
ROCH				AML	AML	01 27 27.1	
	comp=N,2μm,0.5s						
CHNG	**Los Chungos**	**0.94**	**20**	↑*i*P	Pg	01 27 16.2	-1.0
CHNG				*i* S	Sg	01 27 29.4	0.0
PEL	**Peldehue**	**1.07**	**111**	↑*i*P	Pg	01 27 19.0	-0.8
PEL				*i* S	Sg	01 27 33.4	-0.4
PEL				AML	AML	01 27 43.3	
	comp=E,1μm,0.4s						
JACH	**Jahuel**	**1.08**	**86**	↓*i*P	Pg	01 27 19.1	-1.0
JACH				*i* S	Sg	01 27 34.4	0.0
TACH	**Talagante**	**1.18**	**139**	↑*i*P	Pb	01 27 20.2	-1.5
TACH				*i* S	Sb	01 27 36.0	-1.2
SAN	**Santiago**	**1.23**	**124**	↑*i*P	Pn	01 27 21.1	-1.3
SAN				*i* S	Sb	01 27 37.9	-0.6
SAN				AML	AML	01 27 47.1	
	comp=N,778nm,0.8s						
LNV	**Longovilo**	**1.25**	**162**	↓*i*P	Pn	01 27 21.3	-1.3
LNV				*i* S	Sb	01 27 37.9	-1.0
ANTU	**Antumapu**	**1.31**	**128**	AML	AML	01 27 48.0	
	comp=E,622nm,0.5s						
PCH	**Pirque**	**1.42**	**127**	↑*i*P	Pn	01 27 24.5	-0.7
PCH				*i* S	Sn	01 27 43.6	-0.5
CHCH	**Chadas Angostu**	**1.55**	**139**	↑*i*P	Pn	01 27 26.4	-0.4
CHCH				*i* S	Sn	01 27 46.7	-0.4
CACH	**El Canelo**	**1.72**	**142**	*e*P	Pn	01 27 29.8	+0.5
CACH				*i* S	Sb	01 27 53.1	+0.4
CMCH	**Combarbala**	**1.76**	**25**	↑*i*P	Pn	01 27 29.0	-0.8
CMCH				*i* S	Sn	01 27 52.8	+0.5
CMCH				AML	AML	01 28 00.2	
	comp=E,1μm,0.6s						
LMEL	**Las Melosas**	**1.77**	**128**	↓*i*P	Pn	01 27 30.1	+0.1
LMEL				*i* S	Sn	01 27 53.1	+0.4
LMEL				AML	AML	01 27 59.0	
	comp=N,329nm,0.5s						
TLL	**Tololo Astrono**	**2.75**	**20**	AML	AML	01 28 34.9	
	comp=E,96nm,0.4s						
LCO	**Las Campanas**	**3.88**	**15**	AML	AML	01 29 08.6	
	comp=E,30nm,0.6s						

BJI ***25*** *01:49:59.2,1˚.60S×99˚.30E,h10km,mB5.0/23,mb4.7/32, Ms4.7/19,Ms7 4.3/19*

ISCJB ***25*** *01:50:00.1±1.1,1˚.61S±0˚.03×99˚.31E±0˚.03,h12km±6km, mb4.7/73,MS3.8/17, Error ellipse: s-maj=5.5km s-min=3.4km az=40.9*

NEIC ***25*** *01:50:01.3±0.2,1˚.57S×99˚.35E,h10km,mb4.7/31, Error ellipse: s-maj=6.4km s-min=4.2km az=52.0*

NEIC Felt [III] at Padangpanjang.

DJA ***25*** *01:50:02.7±0.4,2˚.5S±2˚×9˚.9E±˚,h10km,M4.9/12,mB5.3/7, mb5.0/12,MLv5.0/9,Mw(mB)4.8/7*

AUST ***25*** *01:50:03.1±1.9,1˚.55S×99˚.53E,h15km, Error ellipse: s-maj=1.4km s-min=0.7km az=231.0*

IDC ***25*** *01:50:03.4±0.4,1˚.46S×99˚.55E,h21km±2km,mb4.4/26, mb1 4.5/27,mb1mx4.5/28,mbtmp4.4/27,ML3.6/1,MS3.7/10, Ms1 3.7/10,ms1mx3.4/32, Error ellipse: s-maj=12.5km s-min=8.1km az=53.0*

BKK ***25*** *01:50:13.9±0.6,1˚.5S±4˚×9˚.9E±˚,h105km±7km,M4.7/20, mB5.1/7,mb4.5/20,MLv4.9/4,Mw(mB)4.5/7*

ISC 25 01:50:03.0±0.3,1.58S±0˚.04×99.37E±0˚.04,h18km±1km, h18km:pP-P,n260,σ1§31/312,mb4.8/73,MS3.9/18,10C-9D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**1.27**	**59**	P	**Pn**	**01 50 24.5**	**-1.4**
PDSI				S	**Sb**	**01 50 41.5**	**-1.0**
PPI	**Padang Panjang**	**1.51**	**43**	P	**Pn**	**01 50 27.8**	**-1.3**
PPI	**Padang Panjang**	**1.51**	**43**	P	**Pn**	**01 50 27.4**	**-1.7**
	baz=1.4,SNR=122						
RGRI	**Rengat**	**3.20**	**68**	P	**Pn**	**01 50 53.9**	**+1.5**
RGRI				S	**Sn**	**01 51 33.1**	**+3.0**
MASI	**Maura Aman, Be**	**3.26**	**119**	P	**Pn**	**01 50 51.7**	**-1.5**
GSI	**Gunungsitoli**	**3.38**	**328**	P	**Pn**	**01 50 56.1**	**+1.2**
GSI	**Gunungsitoli**	**3.38**	**328**	*e*Pn	**Pn**	**01 50 52.9**	**-2.0**
PSI	**Prapat**	**4.37**	**354**	P	**Pn**	**01 51 06.4**	**-2.2**
PSI	**Prapat**	**4.37**	**354**	Pn	**Pn**	**01 51 06.3**	**-2.4**
PSI				Pg	**Pb**	**01 51 21.0**	**+1.6**
PSI				Lg	Lg	01 52 15.4	
	baz=156,slow=24,SNR=1.5						
MNAI	**Manna**	**4.52**	**128**	P	**Pn**	**01 51 09.3**	**-1.3**
MNAI				S	**Sn**	**01 52 03.1**	**+0.3**
MNAI	**Manna**	**4.52**	**128**	*e*Pn	**Pn**	**01 51 11.1**	**+0.5**
MNAI	**Manna**	**4.52**	**128**	P	**Pn**	**01 51 10.8**	**+0.2**
	baz=4.4,SNR=33						
LHSI	**Lahat**	**4.71**	**118**	P	**Pn**	**01 51 15.2**	**+2.0**
BTDF	**Bukit Timah Da**	**5.28**	**56**	P	Pn	01 51 25.5	+4.5
	baz=5.1,SNR=3.4						
BTDF				P	Pn	01 51 25.5	+4.5
	baz=5.1,SNR=3.4						
FRIM	**Kepong**	**5.28**	**25**	P	**Pn**	**01 51 22.3**	**+1.2**
KCSI	**Kotacane, Aceh**	**5.31**	**342**	P	**Pn**	**01 51 24.0**	**+2.5**
	58nm,1.1s,1μm0.6nm						
KGM	**Kluang**	**5.32**	**48**	P	**Pn**	**01 51 23.9**	**+2.3**
MYKOM	**Kota Tinggi**	**5.59**	**53**	P	Pn	01 51 29.0	+3.8
MYKOM	**Kota Tinggi**	**5.59**	**53**	P	Pn	01 51 31.9	+6.7
MYKOM	**Kota Tinggi**	**5.59**	**53**	*e*Pn	**Pn**	**01 51 27.6**	**+2.4**
MDSI	**Maura Dua**	**5.60**	**121**	P	**Pn**	**01 51 26.5**	**+1.1**
MDSI				S	**Sn**	**01 52 31.8**	**+2.4**
LWLI	**Liwa**	**5.79**	**126**	P	**Pn**	**01 51 29.2**	**+1.0**
	424nm,0.6s,8μm2.8nm						
IPM	**Ipoh**	**6.24**	**15**	P	**Pn**	**01 51 35.8**	**+1.5**
IPM	**Ipoh**	**6.24**	**15**	P	**Pn**	**01 51 36.1**	**+1.9**
	92nm,1.1s,768nm0.4nm						
IPM	**Ipoh**	**6.24**	**15**	*e*Pn	**Pn**	**01 51 35.7**	**+1.5**
KLI	**Kotabumi**	**6.37**	**121**	P	**Pn**	**01 51 35.5**	**-0.6**
	144nm,0.8s,1.0nm						
KASI	**Kota Agung**	**6.44**	**128**	P	**Pn**	**01 51 37.1**	**+0.1**
	129nm,0.8s,3μm1.0nm						
KULM	**Kulim**	**6.94**	**11**	P	**Pn**	**01 51 44.5**	**+0.7**
KULM	**Kulim**	**6.94**	**11**	P	Pn	01 51 47.6	+3.8
	57nm,1.3s,541nm0.3nm						
KULM	**Kulim**	**6.94**	**11**	*e*Pn	**Pn**	**01 51 45.2**	**+1.4**
KTGM	**Kuala Trenggan**	**7.82**	**29**	P	**Pn**	**01 51 57.5**	**+1.6**
LEM	**Lembang**	**9.73**	**123**	P	Pn	01 52 29.5	+7.1
CISI	**Cisompet, Garu**	**10.30**	**125**	P	**Pn**	**01 52 27.3**	**-2.7**
	128nm,1.1s,3μm						
CISI	**Cisompet, Garu**	**10.30**	**125**	*e*Pn	**Pn**	**01 52 27.4**	**-2.7**
CISI	**Cisompet, Garu**	**10.30**	**125**	P	**Pn**	**01 52 27.4**	**-2.6**
	baz=10,SNR=9.6						
XMIS	**Christmas Isla**	**10.82**	**145**	P	Pn	01 52 34.0	-3.2
	baz=11,SNR=4.2						
KPJI	**Karang Pucung**	**11.11**	**121**	P	**Pn**	**01 52 41.1**	**0.0**
	46nm,0.7s						
KSM	**Kuching**	**11.35**	**75**	P	Pn	01 52 50.8	+6.5
KSM	**Kuching**	**11.35**	**75**	*e*Pn	**Pn**	**01 52 45.1**	**+0.8**
UGM	**Wanagama**	**12.77**	**120**	P	**Pn**	**01 53 03.0**	**-0.8**
	baz=13,SNR=7.6						
NGJI	**Ngawi**	**13.35**	**116**	P	Pn	01 53 15.2	+3.5
	51nm,2.6s						
SBUM	**Sibu**	**13.45**	**73**	P	P	01 53 18.5	-3.8
SBUM	**Sibu**	**13.45**	**73**	P	**P**	**01 53 22.0**	**-0.3**
SJI	**Sawahan**	**13.78**	**117**	P	Pn	01 53 21.5	+3.8
	46nm,0.7s,7μm						
PWJI	**Pagerwojo**	**13.94**	**118**	P	**Pn**	**01 53 21.3**	**+1.5**
PBA	**Port Blair**	**14.71**	**334**	*e*P	Pn	01 53 26.6	-3.7
PBA				AMB	AMB	01 53 31.6	
	comp=Z,30nm,0.5s						
DGPR	**DIGLIPUR**	**15.99**	**337**	*e*P	**Pn**	**01 53 47.7**	**+0.6**
DGPR				AMB	AMB	01 53 50.7	
	comp=Z,22nm,2.6s						
KKM	**Kota Kinabalu**	**18.44**	**66**	P	**Pn**	**01 54 21.3**	**+3.4**
KKM	**Kota Kinabalu**	**18.44**	**66**	*e*P	**Pn**	**01 54 18.5**	**+0.5**
	comp=Z,27nm,0.9s						
SDKM	**Sandakan**	**19.19**	**68**	P	**Pn**	**01 54 27.4**	**+0.4**
KDM	**Kudat**	**19.36**	**64**	P	Pn	01 54 35.6	+6.6
TSM	**Tawau**	**19.38**	**72**	P	Pn	01 54 35.8	+6.6
MMSI	**Mamuju**	**19.55**	**94**	P	**Pn**	**01 54 32.5**	**+1.2**
MYLDM	**Lahad Datu**	**20.25**	**71**	P	Pn	01 54 45.8	+6.2
CHTO	**Chiang Mai**	**20.27**	**359**	P	Pn	01 54 41.2	+1.5
CHTO	**Chiang Mai**	**20.27**	**359**	*e*P	**P**	**01 54 37.3**	**-0.4**
	comp=Z,11nm,0.9s						
CHTO	**Chiang Mai**	**20.27**	**359**	P	Pn	01 54 41.2	+1.5
	comp=Z,59nm,1.1s						
TTSI	**Tana Toraja**	**20.48**	**94**	P	Pn	01 54 43.3	+1.0
SPSI	**Sidrap Palu**	**20.51**	**97**	P	Pn	01 54 49.8	+7.2
PALK	**Pallekele**	**20.60**	**295**	P	Pn	01 54 44.0	+0.3
PALK	**Pallekele**	**20.60**	**295**	*e*P	**P**	**01 54 40.5**	**-0.9**
	comp=Z,29nm,1.1s						

RAMN **Ramite** 30.92 337 *eP* **P** 01 56 19.8 +0.6
comp=Z,25nm,0.9s
JIRN **Jiri** 31.71 337 *eP* **P** 01 56 26.7 +0.4
comp=Z,39nm,0.8s
PKI **Pulchoki** 31.94 336 *eP* **P** 01 56 27.9 -0.4
comp=Z,29nm,1.2s
PKIN **Phulchoki** 31.95 336 *eP* **P** 01 56 28.1 -0.2
comp=Z,8.4nm,0.7s
GUN **Gumba** 32.06 337 *eP* **P** 01 56 29.2 -0.1
comp=Z,58nm,0.7s
LSA **Lhasa** 32.08 346 P **P** 01 56 29.1 -0.5
LSA **Lhasa** 32.08 346 *eP* **P** 01 56 29.4 -0.2
comp=Z,14nm,0.8s
DMN **Daman** 32.10 336 *eP* **P** 01 56 29.7 +0.1
comp=Z,26nm,1.0s
KKN **Kakani** 32.19 336 *eP* **P** 01 56 30.3 0.0
comp=Z,32nm,0.9s
CD2 **Chengdu** 32.57 7 P P 01 56 36.8 +3.4
CD2 pP pP 01 56 41.3 +2.3
CD2 sP sP 01 56 43.8 +2.5
CD2 PP **PP** 01 57 46.5 -0.8
CD2 S **S** 02 01 53.0 +4.7
CD2 sS sS 02 01 59.8 +2.3
CD2 AMB AMB
comp=Z,20nm,0.5s
CD2 AMB AMB
comp=Z,230nm,5.3s
CD2 LR LR
comp=Z,690nm,5.4s
CD2 LR LR
comp=Z,460nm,6.5s
GKN **Gorkha** 32.64 335 *eP* **P** 01 56 34.2 0.0
comp=Z,39nm,1.1s
FAKI **Fak Fak** 32.88 93 P **P** 01 56 36.7 +0.4
baz=33,SNR=3.7
KOLN **Koldanda** 32.88 334 *eP* **P** 01 56 36.6 +0.2
comp=Z,34nm,0.8s
DANN **Dangsing** 33.32 334 *eP* **P** 01 56 40.0 -0.3
comp=Z,59nm,1.1s
NWAO **Narrogin (SRO)** 35.42 154 P **P** 01 56 59.1 +1.0
NWAO **Narrogin (SRO)** 35.42 154 P **P** 01 56 59.1 +1.0
comp=Z,6.7nm,0.8s,baz=340,slow=19,SNR=2.9
H01W3 **Cape Leeuwin H** 35.88 159 T T 02 34 47.5
baz=335,slow=0.7,SNR=88
H01W2 **Cape Leeuwin H** 35.90 159 T T 02 34 48.5
baz=335,slow=0.7,SNR=120
H01W1 **Cape Leeuwin H** 35.90 159 T T 02 34 48.6
baz=335,slow=0.7,SNR=98
XAN **Xi'an** 36.55 13 P **P** 01 57 04.9 -2.9
XAN pP **pP** 01 57 12.1 -1.3
XAN AMB AMB
comp=Z,2.0nm,0.7s
XAN AMB AMB
comp=Z,41nm,5.1s
XAN LR LR
comp=Z,170nm,16.0s
XAN LR LR
comp=Z,98nm,9.1s
DDI **Dehra Dun** 37.67 329 *eP* **P** 01 57 16.4 -1.0
DDI AMB AMB 01 57 24.6
comp=Z,68nm,1.4s
NJ2 **Nanjing** 38.20 27 *eP* **P** 01 57 22.3 +0.5
NJ2 AMB AMB
comp=Z,20nm,0.8s
WRA **Warramunga Arr** 38.75 121 P **P** 01 57 25.1 -1.5
WRA pP **pP** 01 57 32.4 +0.2
WRA PcP **PcP** 01 59 38.2 0.0
WRA S **S** 02 03 20.3 -3.0
WRA **Warramunga Arr** 38.75 121 P **P** 01 57 25.1 -1.5
comp=Z,12nm,0.8s,baz=302,slow=9.1,SNR=95
WRA pP **pP** 01 57 32.4 +0.2
comp=Z,14nm,0.7s,baz=303,slow=9.0,SNR=17
WRA PcP **PcP** 01 59 38.2 0.0
comp=Z,2.4nm,0.7s,baz=312,slow=2.6,SNR=5.0
WRA S **S** 02 03 20.3 -3.0
comp=Z,0.2nm,0.3s,baz=299,slow=15,SNR=5.3
WRA LR LR 02 13 24.1
comp=Z,82nm,20.8s,baz=225,slow=36
WRAB **Tennant Creek** 38.75 121 *eP* **P** 01 57 25.0 -1.7
comp=Z,16nm,0.6s
SMLA **Simla** 38.78 329 *eP* **P** 01 57 25.5 -1.1
SMLA AMB AMB 01 57 28.0
comp=Z,15nm,2.4s
FORT **Forrest** 39.77 140 *eP* **P** 01 57 35.5 +0.6
comp=Z,42nm,0.9s
ASAR **Alice Springs** 40.01 126 P **P** 01 57 36.4 -0.8
ASAR PcP **PcP** 01 59 42.5 +0.4
ASAR S **S** 02 03 40.1 -2.1
ASAR **Alice Springs** 40.01 126 P **P** 01 57 36.4 -0.8
comp=Z,6.2nm,1.0s,baz=306,slow=8.2,SNR=34
ASAR PcP **PcP** 01 59 42.5 +0.4
comp=Z,3.8nm,0.9s,baz=297,slow=2.9,SNR=9.9
ASAR S **S** 02 03 40.2 -2.1
comp=Z,2.1nm,1.0s,baz=299,slow=16,SNR=9.1
AS31 **Alice Springs** 40.01 126 *eP* **P** 01 57 36.1 -1.0
DHRM **DHARAMSHALA** 40.11 329 *eP* **P** 01 57 37.6 -0.4
DHRM AMB AMB 01 57 59.4
comp=Z,18nm,0.0s
GTA **Gaotai** 40.79 1 *eP* **P** 01 57 42.4 -1.0
GTA pP **pP** 01 57 47.1 -2.0
GTA sP **sP** 01 57 49.1 -2.2
GTA S **S** 02 03 52.8 -0.8
GTA sS sS 02 04 08.9 +6.0
GTA SS **SS** 02 06 52.1 -2.9
GTA AMB AMB
comp=Z,7.0nm,1.6s
GTA AMB AMB
comp=Z,52nm,4.5s
GTA LR LR
comp=Z,89nm,15.2s
GTA LR LR
comp=Z,240nm,15.7s
GTA LR LR
comp=Z,85nm,14.2s
HHC **Hu-ho-hao-te** 43.66 13 *eP* **P** 01 58 08.4 +1.6
HHC pP **pP** 01 58 12.0 -0.5
HHC sP **sP** 01 58 14.4 -0.3
HHC PP **PcP** 01 59 53.1 -0.8
HHC PcP PP 01 59 55.5 +6.9
HHC ScP **ScP** 02 03 45.0 +0.2
HHC S **S** 02 04 39.8 +3.9
HHC sS **sS** 02 04 46.8 +1.5
HHC SS **SS** 02 07 47.6 -3.9
HHC ScS **ScS** 02 08 04.3 -1.5
HHC AMB AMB
comp=Z,29nm,1.2s
HHC AMB AMB
comp=Z,280nm,4.8s
HHC LR LR
comp=Z,400nm,11.9s
HHC LR LR
comp=Z,580nm,13.1s
HHC LR LR
comp=Z,420nm,14.3s
BJI **Beijing** 44.18 19 P **P** 01 58 12.0 +1.2
BJI S **S** 02 04 47.8 +4.6
BJI AMB AMB
comp=Z,18nm,0.6s
BJI AMB AMB
comp=Z,110nm,6.5s
BJI LR LR
comp=Z,250nm,26.1s
BJI LR LR
comp=Z,290nm,25.7s
BJI LR LR
comp=Z,60nm,21.6s
JNU **Nakatsue** 45.54 38 P **P** 01 58 20.7 -1.2
JNU **Nakatsue** 45.54 38 P **P** 01 58 20.7 -1.2
comp=Z,12nm,0.8s,baz=168,slow=9.2,SNR=3.9
KSH **Kashi** 46.19 335 *eP* **P** 01 58 25.8 -1.2
KSH pP **pP** 01 58 32.5 -0.2
KSH sP **sP** 01 58 35.0 +0.1
KSH PcP **PcP** 02 00 03.6 +0.9
KSH PP **PP** 02 00 16.8 +1.3
KSH S **S** 02 05 12.5 -0.1
KSH sS **sS** 02 05 20.9 -1.1
KSH ScS **ScS** 02 08 20.5 -1.5
KSH SS SS 02 08 30.8 -7.4
KSH AMB AMB
comp=Z,4.0nm,0.8s
KSH AMB AMB
comp=Z,150nm,6.1s
KSH LR LR
comp=Z,120nm,5.3s
KSH LR LR
comp=Z,110nm,6.4s
KSH LR LR
comp=Z,78nm,5.7s
WMQ **Urumqi** 46.39 348 P **P** 01 58 28.9 +0.5
WMQ pP **pP** 01 58 33.4 -0.8
WMQ sP **sP** 01 58 35.9 -0.5
WMQ PP **PP** 02 00 17.9 +0.3
WMQ S **S** 02 05 15.3 0.0
WMQ ScS **ScS** 02 08 21.1 -1.9
WMQ AMB AMB
comp=Z,36nm,0.9s
WMQ AMB AMB
comp=Z,160nm,4.0s
WMQ LR LR
comp=Z,74nm,24.8s
WMQ LR LR
comp=Z,71nm,23.6s
WMQ LR LR
comp=Z,35nm,20.6s
KSAR **Wonju Array Be** 46.95 31 P **P** 01 58 31.3 -1.5
KSAR pP **pP** 01 58 38.1 -0.5
KSAR sP **sP** 01 58 39.8 -1.0
KSRS **Korea Array** 46.98 31 P **P** 01 58 31.3 -1.7
comp=Z,2.3nm,0.8s,baz=230,slow=8.1,SNR=8.5
KSRS pP **pP** 01 58 38.1 -0.7
comp=Z,3.8nm,0.7s,baz=229,slow=8.7,SNR=9.0
KSRS sP **sP** 01 58 39.8 -1.2
comp=Z,3.9nm,0.7s,baz=225,slow=8.5,SNR=9.1
KSRS LR LR 02 19 57.4
comp=Z,50nm,18.7s,baz=43,slow=38
PMG **Port Moresby** 48.15 101 *eP* **P** 01 58 42.4 -0.1
comp=Z,23nm,1.2s
TKM2 **Tokmak 2** 49.20 337 *eP* **P** 01 58 50.0 -0.4
comp=Z,14nm,1.0s
CTAO **Charters Tower** 49.34 115 *eP* **P** 01 58 50.4 -1.2
comp=Z,13nm,0.9s
AAK **Ala-Archa** 49.40 336 *eP* **P** 01 58 52.0 +0.2
comp=Z,13nm,1.5s
SONM **Songino Array** 49.59 6 P **P** 01 58 52.7 -0.5
SONM pP **pP** 01 58 58.7 -0.3
SONM PcP **PcP** 02 00 14.2 -0.4
SONM **Songino Array** 49.59 6 P **P** 01 58 52.7 -0.5
comp=Z,3.4nm,0.8s,baz=189,slow=8.5,SNR=26
SONM pP **pP** 01 58 58.7 -0.3
comp=Z,3.0nm,0.6s,baz=189,slow=8.8,SNR=13
SONM PcP **PcP** 02 00 14.2 -0.4
comp=Z,2.7nm,0.6s,baz=186,slow=5.1,SNR=6.0
ULN **Ulaanbaatar** 49.69 7 *eP* **P** 01 58 53.3 -0.7
QLP **Quilpie** 49.71 124 P **P** 01 58 54.4 0.0
baz=50,SNR=4.9
EKS2 **Erkin-Say** 49.72 335 *eP* **P** 01 58 54.5 +0.3
comp=Z,11nm,0.8s
STKA **Stephens Creek** 49.90 132 *eP* **P** 01 58 56.2 +0.4
comp=Z,3.1nm,0.8s
STKA **Stephens Creek** 49.90 132 P **P** 01 58 56.1 +0.4
baz=50,SNR=8.6
STKA **Stephens Creek** 49.90 132 P **P** 01 58 56.1 +0.4
comp=Z,14nm,0.8s,baz=319,slow=7.4,SNR=21
STKA LR LR 02 19 57.3
comp=Z,146nm,18.0s,baz=11,slow=36
MK31 **Makanchi Array** 50.46 345 *eP* **P** 01 58 59.2 -0.5
MKAR **Makanchi Array** 50.46 345 P **P** 01 58 59.8 +0.1
MKAR pP **pP** 01 59 06.4 +1.0
MKAR **Makanchi Array** 50.46 345 P **P** 01 58 59.8 +0.1
comp=Z,12nm,0.7s,baz=148,slow=8.0,SNR=71
MKAR pP **pP** 01 59 06.4 +1.0
comp=Z,16nm,0.7s,baz=148,slow=8.0,SNR=28
MKAR LR LR 02 25 59.8
comp=Z,46nm,19.5s,baz=353,slow=43
CN2 **Changchun** 50.85 24 *eP* **P** 01 59 03.1 +0.4
KKAR **Karatay Array** 51.49 333 *eP* **P** 01 59 06.8 -0.7
comp=Z,1.7nm,0.7s
MAJO **Maushiro** 52.34 40 *eP* **P** 01 59 14.2 +0.2
comp=Z,12nm,1.1s
CMSA **Cobar Meteorol** 52.86 129 P **P** 01 59 18.5 +0.6
baz=53,SNR=10
USRK **Ussuriysk Arra** 54.08 29 P **P** 01 59 25.4 -1.3
comp=Z,4.3nm,0.7s,baz=224,slow=7.4,SNR=11
USRK pP **pP** 01 59 32.3 -0.1
comp=Z,8.0nm,0.8s,baz=237,slow=6.7,SNR=9.4
USRK sP **sP** 01 59 34.3 -0.4
comp=Z,5.2nm,0.8s,baz=236,slow=7.0,SNR=9.3
USRK LR LR 02 25 21.4
comp=Z,82nm,19.7s,baz=322,slow=39
IPAR **Pars** 54.11 309 *eP* **P** 01 59 26.6 -0.9
KURBB **Kurchatov Arra** 54.97 344 P **P** 01 59 32.7 -0.3
comp=Z,3.4nm,0.2s,baz=159,slow=6.2,SNR=21
KURK **Kurchatov** 55.03 344 P **P** 01 59 32.7 -0.7
ZAA0 **Zalesovo Array** 56.64 350 *eP* **P** 01 59 43.5 -1.3
ZALV **Zalesovo Beam** 56.64 350 P **P** 01 59 43.9 -1.0
ZALV pP **pP** 01 59 51.2 +0.5
ZALV **Zalesovo Beam** 56.64 350 P **P** 01 59 43.9 -1.0
comp=Z,19nm,0.8s,baz=178,slow=5.7,SNR=75
ZALV pP **pP** 01 59 51.2 +0.5
comp=Z,20nm,0.8s,baz=169,slow=6.1,SNR=18
ARMA **Armidale** 57.16 126 P **P** 01 59 50.4 +1.3
baz=57,SNR=5.2
RDF **Al-Radifah** 58.10 306 *eP* **P** 01 59 54.7 -0.9
RDF AMb AMB 02 00 03.3
comp=Z,50nm,1.2s
UMR **Umm Al-Rimmam** 58.20 306 *eP* **P** 01 59 55.2 -1.1
UMR AMb AMB 02 00 00.6
comp=Z,39nm,1.2s
NAY **Al-Naaiem** 58.47 306 *eP* **P** 01 59 56.6 -1.7
NAY AMb AMB 01 59 58.0
comp=Z,19nm,0.9s
RST **Umm Al-Ruwaisa** 58.76 306 *eP* **P** 01 59 58.7 -1.6
RST AMb AMB 02 00 00.3
comp=Z,180nm,0.8s
BVAR **Borovoye Array** 59.57 340 LR LR 02 28 25.0
comp=Z,50nm,20.0s,baz=92,slow=39
BRVK **Borovoye** 59.64 340 *eP* **P** 02 00 04.0 -1.8
comp=Z,5.3nm,0.8s
ABKAR **Abkulak array** 60.97 332 *eP* **P** 02 00 13.8 -1.2
comp=Z,8.2nm,0.9s
KMBO **Kilima Mbogo** 62.10 270 *eP* **P** 02 00 25.2 +1.5
comp=Z,6.9nm,0.9s
KMBO pP **pP** 02 00 32.0 +2.4
KMBO **Kilima Mbogo** 62.10 270 P **P** 02 00 25.3 +1.5
comp=Z,4.9nm,0.7s,baz=59,slow=10,SNR=19
KMBO pP **pP** 02 00 32.0 +2.4
comp=Z,4.2nm,0.8s,baz=55,slow=12,SNR=5.4
GNI **Garni** 64.79 316 *eP* **P** 02 00 40.1 -0.8
comp=Z,5.4nm,1.1s
EIL **Elat** 68.77 303 P **P** 02 01 06.5 +0.2
baz=69,SNR=7.0
MAW **Mawson** 70.54 194 P **P** 02 01 17.7 +1.3
MAW **Mawson** 70.54 194 P **P** 02 01 18.1 +1.6
baz=71,SNR=7.9
MAW **Mawson** 70.54 194 P **P** 02 01 17.7 +1.3
comp=Z,4.9nm,0.9s,baz=51,slow=7.9,SNR=11
MAW LR LR 02 26 07.4
comp=Z,92nm,20.6s,baz=166,slow=31
CSS **Prodhromos** 71.47 308 *eP* **P** 02 01 22.2 -0.6
BR131 **Keskin Array S** 72.58 313 *eP* **P** 02 01 27.7 -1.8
comp=Z,2.8nm,0.9s
BRTR **Keskin Array B** 72.58 313 P **P** 02 01 28.0 -1.5
BRTR **Keskin Array B** 72.58 313 P **P** 02 01 28.0 -1.5
comp=Z,1.8nm,0.6s,baz=122,slow=7.0,SNR=14
PETK **Petropavlovsk-** 72.86 32 P **P** 02 01 29.4 -1.3
PETK pP **pP** 02 01 35.4 -1.3
PETK **Petropavlovsk-** 72.86 32 P **P** 02 01 29.4 -1.3
comp=Z,1.3nm,0.8s,baz=312,slow=44,SNR=3.8
PETK pP **pP** 02 01 35.4 -1.3
comp=Z,2.0nm,0.8s,baz=188,slow=9.0,SNR=2.3
PETK LR LR 02 36 30.2
comp=Z,24nm,19.1s,baz=60,slow=38
BOSA **Boshof** 75.31 241 P **P** 02 01 46.0 +0.3
BOSA **Boshof** 75.31 241 P **P** 02 01 46.0 +0.3
comp=Z,3.2nm,0.9s,baz=88,slow=9.0,SNR=4.7
BOSA LR LR 02 28 14.5
comp=Z,71nm,21.1s,baz=165,slow=30
RPZ **Rata Peaks** 75.72 135 *eP* **P** 02 01 47.3 -0.3
comp=Z,12nm,0.6s
AKASG **Malin Array Be** 78.77 322 P **P** 02 02 03.5 -1.1
AKASG pP **pP** 02 02 10.2 -0.3
AKASG **Malin Array Be** 78.77 322 P **P** 02 02 03.5 -1.1
comp=Z,1.2nm,0.6s,baz=89,slow=4.7,SNR=13
AKASG pP **pP** 02 02 10.2 -0.3
comp=Z,0.3nm,0.4s,baz=84,slow=4.3,SNR=2.2
GVD **Gavdhos** 78.85 306 *eP* **P** 02 02 05.4 0.0
comp=Z,107nm,0.7s
BKZ **Black Stump Fm** 79.02 129 *eP* **P** 02 02 06.4 +0.1
comp=Z,30nm,0.7s
VRI **Vrincioaia** 79.12 317 *iP* **P** 02 02 06.7 +0.1
PLOR **Plostina** 79.17 317 *iP* **P** 02 02 07.3 +0.4
TESR **Tescani** 79.32 318 *iP* **P** 02 02 06.8 -0.9
MLR **Muntele Rosu** 79.56 317 *iP* **P** 02 02 09.0 -0.2
PRAR **RASCA** 79.81 319 *iP* **P** 02 02 10.1 -0.2
ARR **Arges** 80.44 316 *iP* **P** 02 02 12.9 -1.0
BURAR **Bucovina Array** 80.53 319 *iP* **P** 02 02 14.8 +0.5
BUR08 **Bucovina Ar. S** 80.55 319 *eP* **P** 02 02 14.5 +0.1
VTS **Vitosha** 80.90 313 *iP* **P** 02 02 15.5 -1.0
JOF **Joensuu** 81.57 335 *ep* P 02 02 23.9 +4.5
comp=Z,0.4nm,0.3s
DRGR 82.03 318 *iP* **P** 02 02 22.3 0.0
TRPA **Tarpa** 82.40 319 *iP* **P** 02 02 23.9 -0.2
BZS **Buzias** 82.57 316 *iP* **P** 02 02 24.6 -0.4
KWP **Kalwaria Pacla** 82.58 320 *iP* **P** 02 02 25.0 0.0
SIRR **Siria** 82.65 317 *iP* **P** 02 02 25.6 +0.1
VNDA **Vanda** 82.70 169 *eP* **P** 02 02 25.3 +0.2
comp=Z,2.0nm,0.8s
VNDA **Vanda** 82.70 169 P **P** 02 02 25.9 +0.8
comp=Z,1.9nm,0.7s,baz=304,slow=5.3,SNR=14
KOLS **Kolonicke sedl** 82.72 320 *eP* **P** 02 02 26.0 +0.2
SUW **Suwalki** 83.18 325 *eP* **P** 02 02 27.3 -0.7
comp=Z,22nm,0.9s
CRVS **Cervenica-Dubn** 83.25 319 *eP* **P** 02 02 28.8 +0.3
FINES **FINESS Array B** 83.45 332 P **P** 02 02 28.6 -0.6
FINES pP **pP** 02 02 35.5 +0.2
FINES sP **sP** 02 02 38.8 +1.4
FINES **FINESS Array B** 83.45 332 P **P** 02 02 28.6 -0.6
comp=Z,3.6nm,0.5s,baz=102,slow=5.8,SNR=34
FINES pP **pP** 02 02 35.4 +0.2
comp=Z,2.1nm,0.6s,baz=104,slow=5.1,SNR=2.9
FINES sP **sP** 02 02 38.8 +1.4
comp=Z,1.5nm,0.5s,baz=103,slow=5.0,SNR=2.1
STHS **Stebnicka Huta** 83.48 320 *eP* **P** 02 02 30.1 +0.4
KAF **Kangasniemi** 83.52 333 *ep* **P** 02 02 28.7 -0.9
comp=Z,1.1nm,0.4s
SBA **Scott Base** 83.79 169 *eP* **P** 02 02 32.5 +1.8
comp=Z,6.9nm,0.8s
KECS **Kecovo** 83.81 319 *eP* **P** 02 02 30.9 -0.5
PSZ **Piszkesteto** 84.11 318 *eP* **P** 02 02 32.3 -0.7
comp=Z,4.9nm,0.9s
PKSM **Moragy** 84.71 317 *iP* **P** 02 02 35.6 -0.4
ARCES **ARCESS Array B** 85.86 340 P **P** 02 02 41.8 +0.5
ARCES **ARCESS Array B** 85.86 340 P **P** 02 02 41.8 +0.5
comp=Z,2.4nm,0.7s,baz=97,slow=9.0,SNR=6.3
MORC **Moravsky Berou** 85.91 320 *iP* **P** 02 02 42.0 0.0
MORC **Moravsky Berou** 85.91 320 *eP* **P** 02 02 41.1 -0.9
comp=Z,3.5nm,1.4s
DPC **Dobruska-Polom** 86.76 320 *eP* **P** 02 02 44.3 -1.9
DPC **Dobruska-Polom** 86.76 320 *eP* **P** 02 02 46.7 +0.5
ARSA **Arzberg** 86.96 317 *iP* **P** 02 02 47.6 +0.3
comp=Z,9.0nm,1.3s
AQU **L'Aquila** 88.07 312 *eP* **P** 02 02 52.3 -0.3
comp=Z,116nm,1.6s
GEC2 **GERESS Array S** 88.32 319 *eP* **P** 02 02 54.0 +0.2
GERES **GERESS Array B** 88.32 319 P **P** 02 02 53.7 -0.1
GERES pP **pP** 02 03 00.8 +0.9
GERES sP **sP** 02 03 04.3 +2.3
GERES **GERESS Array B** 88.32 319 P **P** 02 02 53.7 -0.1
comp=Z,1.5nm,0.7s,baz=85,slow=4.4,SNR=17
GERES pP **pP** 02 03 00.8 +0.9
comp=Z,0.9nm,0.8s,baz=94,slow=5.5,SNR=4.9
GERES sP **sP** 02 03 04.3 +2.3
comp=Z,0.9nm,0.9s,baz=112,slow=1.4,SNR=3.6
QSPA **South Pole Qui** 88.38 180 *eP* **P** 02 02 53.8 +0.1
comp=Z,13nm,1.0s
QSPA **South Pole Qui** 88.38 180 P **P** 02 02 54.5 +0.7
comp=Z,5.3nm,0.7s
KHC **Kasperske Hory** 88.42 319 *eP* **P** 02 02 53.7 -0.5
MOTA **Moosalm** 89.97 317 *iP* **P** 02 03 00.7 -1.0
comp=Z,6.3nm,1.1s,SNR=5.3
SPITS **Spitsbergen Ar** 90.09 348 P **P** 02 03 00.4 -1.0
SPITS pP **pP** 02 03 07.4 -0.1
SPITS **Spitsbergen Ar** 90.09 348 P **P** 02 03 00.4 -1.0
comp=Z,9.6nm,0.7s,baz=112,slow=6.6,SNR=9.4
SPITS pP **pP** 02 03 07.4 -0.1
comp=Z,6.1nm,0.7s,baz=128,slow=7.8,SNR=1.8
FUORN **Ofenpass-Fuorn** 90.52 316 *eP* **P** 02 03 04.8 +0.5
DAVA **Damuels** 90.80 317 *iPcP* **PcP** 02 03 06.1 -0.5
comp=Z,13nm,1.1s
KEST **Kesra** 90.93 306 P **P** 02 03 08.0 +1.7
KEST **Kesra** 90.93 306 P **P** 02 03 08.0 +1.7
comp=Z,5.4nm,1.1s,baz=12,slow=4.1,SNR=3.6
SNAA **Sanae** 92.35 198 *eP* **P** 02 03 12.9 +0.9
comp=Z,1.3nm,0.7s
TORD **Torodi Ar. Bea** 97.83 283 P **P** 02 03 37.9 -0.3
TORD **Torodi Ar. Bea** 97.83 283 P **P** 02 03 37.9 -0.3
comp=Z,0.4nm,0.9s,baz=76,slow=3.5,SNR=2.7
ILAR **Eielson Array** 101.37 24 P **Pdif** 02 03 52.4 -0.5
ILAR **Eielson Array** 101.37 24 P **Pdif** 02 03 52.4 -0.5
comp=Z,1.0nm,1.3s,baz=220,slow=6.7,SNR=3.5
NEW **Newport** 123.87 29 *ePKPdf* **PKPdf** 02 08 59.8 -0.4
BOZ **Bozeman (W)** 128.35 27 *ePKPdf* **PKPdf** 02 09 09.1 +0.1
NVAR **Mina Array Bea** 129.66 39 PKP **PKPdf** 02 09 12.0 +0.2
NVAR **Mina Array Bea** 129.66 39 PKP **PKPdf** 02 09 12.0 +0.2
comp=Z,0.8nm,0.7s,baz=305,slow=3.2,SNR=5.4
ULM **Lac du Bonnet** 129.80 13 PKP **PKPdf** 02 09 11.0 -0.4
ULM **Lac du Bonnet** 129.80 13 PKP **PKPdf** 02 09 11.0 -0.4
comp=Z,1.9nm,0.8s,baz=104,slow=4.2,SNR=3.4
ELK **Elko** 130.00 34 *ePKPdf* **PKPdf** 02 09 12.3 -0.1
PDAR **Pinedale Array** 131.51 28 PKP **PKPdf** 02 09 14.3 -0.9
PDAR **Pinedale Array** 131.51 28 PKP **PKPdf** 02 09 14.3 -0.9
comp=Z,0.4nm,0.6s,baz=310,slow=4.2,SNR=2.9
DUG **Dugway** 131.73 33 *ePKPdf* **PKPdf** 02 09 16.3 +0.7
RSSD **Black Hills** 132.81 23 *ePKPdf* **PKPdf** 02 09 16.9 -0.7
TUC **Tucson** 138.28 40 *ePKPdf* **PKPdf** 02 09 28.7 +0.7
ANMO **Albuquerque** 139.00 33 *ePKPdf* **PKPdf** 02 09 28.7 -0.7
MNTX **Cornudas Mount** 142.00 35 *ePKPdf* **PKPdf** 02 09 34.8 +0.2
CPUP **Villa Florida** 144.28 217 *ePKPdf* PKPbc 02 09 36.9 -0.1
CPUP **Villa Florida** 144.28 217 PKP PKPbc 02 09 37.2 +0.2
comp=Z,12nm,0.7s,baz=104,slow=2.4,SNR=17
TXAR **Lajitas Array** 144.74 36 PKP PKPbc 02 09 38.7 +0.2
TXAR pPKP pPKPdf 02 09 45.5 -0.4
TXAR **Lajitas Array** 144.74 36 PKP PKPbc 02 09 38.7 +0.2
comp=Z,11nm,0.7s,baz=232,slow=0.9,SNR=164
TXAR pPKP pPKPdf 02 09 45.5 -0.4
comp=Z,7.9nm,0.7s,baz=273,slow=0.9,SNR=22
WVT **Waverly** 144.97 10 *ePKPdf* **PKPab** 02 09 37.6 -1.3
MIAR **Mount Ida** 145.04 19 *ePKPbc* **PKPbc** 02 09 38.6 -0.6
JCT **Junction City** 145.98 30 *ePKPbc* **PKPdf** 02 09 41.8 +0.1
CPCT **Cooper Cave** 146.10 6 *ePKPbc* **PKPdf** 02 09 41.4 -0.2
SWET **Sewanee** 146.17 8 *ePKPbc* **PKPdf** 02 09 41.0 -0.8
OXF **Oxford** 146.22 13 *ePKPbc* **PKPdf** 02 09 41.8 -0.1
NATX **Nacogdoches** 147.18 22 *ePKPbc* **PKPbc** 02 09 45.0 -0.8
HKT **Hockley** 148.29 26 *ePKPbc* **PKPbc** 02 09 48.2 -0.5
LVC **Limon Verde** 153.38 205 *ePKPbc* **PKPbc** 02 10 01.7 +0.3
LPAZ **La Paz** 158.38 214 *ePKPdf* **PKPdf** 02 10 01.3 +0.2

IDC 25 01:59:32.6±1.1, 4°50S×67°77E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/23, mbtmp3.6/3, Error ellipse: s-maj=42.5km s-min=33.0km az=145.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**46.91**	**234**	P	P	02 08 05.3	0.0
	2.7nm,1.1s,baz=53,slow=12,SNR=2.3						
MKAR	**Makanchi Array**	**52.66**	**13**	P	P	02 08 48.5	-0.2
	0.2nm,0.5s,baz=151,slow=7.4,SNR=4.5						
WRA	**Warramunga Arr**	**66.46**	**110**	P	P	02 10 24.6	0.0
	0.5nm,0.9s,baz=266,slow=6.6,SNR=3.3						
TXAR	**Lajitas Array**	**154.00**	**343**	PKP	PKPdf	02 19 27.6	+0.5
	0.2nm,0.5s,baz=124,slow=1.0,SNR=5.5						
TXAR				PKPbc	PKPbc	02 19 34.4	-0.8
	0.1nm,0.5s,baz=0.0,slow=1.9,SNR=3.2						

*ISCJB **25** 02:22:38.9±0.7, 14°0N±0°1×93°0E±0°1, h32km, mb3.8/16, MS3.0/1, Error ellipse: s-maj=16.2km s-min=14.6km az=136.0*

*IDC **25** 02:22:40.1±0.7, 13°94N×92°94E, h27km±3km, mb3.7/16, mb1 3.8/16, mb1mx3.7/26, mbtmp3.7/16, MS3.0/1, Ms1 3.0/1, ms1mx2.6/33, Error ellipse: s-maj=23.1km s-min=14.0km az=57.0*

ISC 25 02:22:40.2±0.7, 13°9N±0°1×92°9E±0°1, h32km, n17, σ1§20/25, mb3.8/16, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.34**	**51**	Pn	**Pn**	**02 24 25.5**	**+0.3**
	baz=240,slow=15						
MKAR	**Makanchi Array**	**33.95**	**347**	P	**P**	**02 29 21.0**	**+0.4**
	1.7nm,0.8s,baz=154,slow=8.7,SNR=7.5						
MKAR				pP	**pP**	**02 29 30.3**	**+0.4**
	1.1nm,0.7s,baz=150,slow=8.4,SNR=5.4						
SONM	**Songino Array**	**35.62**	**16**	P	**P**	**02 29 35.8**	**+0.7**
	0.7nm,0.6s,baz=198,slow=8.9,SNR=5.5						

KURBB	**Kurchatov Arra**	**38.41**	**345**	P		**P**	**02 29 59.1**	**+0.5**
	1.4nm,0.7s,baz=162,slow=8.0,SNR=10								
KURBB				pP		**pP**	**02 30 07.6**	**-0.5**
	0.8nm,0.7s,baz=160,slow=7.8,SNR=5.9								
ZALV	**Zalesovo Beam**	**40.43**	**353**	P		**P**	**02 30 15.6**	**+0.2**
	1.6nm,0.6s,baz=172,slow=9.3,SNR=7.8								
BVAR	**Borovoye Array**	**42.91**	**340**	P		**P**	**02 30 36.8**	**+1.1**
	0.4nm,0.4s,baz=145,slow=7.9,SNR=3.0								
BVAR				LR		LR	02 50 57.8		
	comp=Z,18nm,18.0s,baz=349,slow=40								
WRA	**Warramunga Arr**	**52.86**	**129**	P		**P**	**02 31 54.2**	**+0.9**
	0.4nm,0.8s,baz=319,slow=8.8,SNR=4.6								
WRA				PcP		**PcP**	**02 33 02.8**	**+0.5**
	0.2nm,0.4s,baz=301,slow=5.2,SNR=4.7								
ASAR	**Alice Springs**	**54.80**	**133**	P		**P**	**02 32 07.5**	**+0.1**
	0.3nm,0.4s,baz=310,slow=7.1,SNR=9.2								
ASAR				pP		**pP**	**02 32 15.5**	**-1.7**
	0.4nm,0.4s,baz=307,slow=6.9,SNR=4.8								
BRTR	**Keskin Array B**	**57.66**	**308**	P		**P**	**02 32 27.8**	**0.0**
	0.8nm,0.8s,baz=115,slow=8.4,SNR=6.2								
BRTR				pP		**pP**	**02 32 36.8**	**-0.8**
	0.6nm,0.7s,baz=118,slow=6.1,SNR=4.0								
FINES	**FINESS Array B**	**66.83**	**331**	P		**P**	**02 33 28.8**	**+0.1**
	1.6nm,0.6s,baz=120,slow=7.5,SNR=7.1								
ARCES	**ARCESS Array B**	**69.19**	**340**	P		**P**	**02 33 43.4**	**-0.1**
	3.4nm,1.0s,baz=87,slow=6.2,SNR=4.6								
GERES	**GERESS Array B**	**72.56**	**317**	P		**P**	**02 34 04.5**	**+0.2**
	0.5nm,0.7s,baz=77,slow=5.8,SNR=7.2								
GERES				pP		**pP**	**02 34 14.2**	**-0.2**
	0.7nm,0.9s,baz=96,slow=7.0,SNR=3.9								
NOA	**NORSAR Array B**	**73.90**	**330**	P		**P**	**02 34 12.0**	**0.0**
	1.4nm,0.8s,baz=276,slow=9.9,SNR=2.8								
BOSA	**Boshof**	**77.84**	**236**	P		**P**	**02 34 37.1**	**+2.0**
	3.0nm,1.1s,baz=97,slow=8.1,SNR=4.7								
ESDC	**Sonseca Array**	**86.42**	**310**	P		**P**	**02 35 19.7**	**-0.2**
	0.2nm,0.6s,baz=76,slow=4.7,SNR=3.6								
TORD	**Torodi Ar. Bea**	**88.05**	**283**	P		**P**	**02 35 29.1**	**+1.0**
	0.4nm,0.8s,baz=74,slow=3.7,SNR=3.4								
TORD				sP		**sP**	**02 35 38.2**	**-3.9**
	0.4nm,0.8s,baz=79,slow=3.0,SNR=2.4								
ILAR	**Eielson Array**	**89.61**	**22**	P		**P**	**02 35 34.4**	**-0.1**
	0.3nm,0.8s,baz=299,slow=3.7,SNR=3.6								
ILAR				sP		**sP**	**02 35 46.4**	**-2.1**
	0.2nm,0.8s,baz=295,slow=4.8,SNR=1.6								

*IDC **25** 02:26:16.7±1.0,35.68N×70.93E,h0km,mb3.6/7,*
mb1 3.8/9,mb1mx3.5/26,mbtmp3.7/9,ML3.8/2,Error
ellipse: s-maj=32.7km s-min=20.9km az=52.0
*ISCJB **25** 02:26:29.7±0.5,36.13N±0.04×71.43E±0.08,h119km,*
mb3.5/6,Error ellipse: s-maj=10.1km s-min=4.6km
az=156.6
*NNC **25** 02:26:35.1±9.0,36.55N×70.59E,h82km±172km,mb3.6,*
mpv3.7,Error ellipse: s-maj=68.5km s-min=57.8km
az=179.0

ISC 25 02:26:30.4±0.7,36.15N±0.06×71.3E±0.1,h119km,n29,
σ1°61/30,mb3.5/6,6C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.37**	**168**	⇑P		**Pn**	**Sn**	**02 27 08.7**	**+0.1**
CEP				S		**Sn**		**02 27 38.0**	**+0.1**
CHCP	**Chirah Chowk**	**2.94**	**147**	⇑P		**Pn**		**02 27 17.4**	**+1.4**
SARP	**Sargodha**	**4.36**	**165**	P		**Pn**		**02 27 35.2**	**+0.4**
THN	**Thein Dam**	**5.18**	**134**	*e*P		Pn		02 27 42.0	-3.8
THN				*e*S		**Sn**		**02 28 42.5**	**-2.0**
KK31	**Karatay Array**	**6.97**	**355**	⇑P		**Pn**		**02 28 09.8**	**-0.2**
	2.3nm,0.3s,baz=181,slow=13,SNR=185								
KK31				⇑S		**Sn**		**02 29 23.6**	**-4.2**
	1.8nm,0.3s,baz=185,slow=24,SNR=8.0								
TKM2	**Tokmak 2**	**7.52**	**25**	⇑P		Pn		02 28 19.9	+2.4
	2.0nm,0.6s								
TKM2				⇓S		**Sn**		**02 29 42.7**	**+1.4**
	1.5nm,0.5s								
DANN	**Dangsing**	**13.07**	**123**	*e*P		**Pn**		**02 29 30.2**	**-1.7**
	8.6nm,0.3s								
KOLN	**Koldanda**	**13.34**	**125**	*e*P		**Pn**		**02 29 34.2**	**-1.1**
	7.0nm,0.4s								
GKN	**Gorkha**	**13.88**	**122**	*e*P		**Pn**		**02 29 40.3**	**-2.0**
	12nm,0.3s								
DMN	**Daman**	**14.45**	**122**	*e*P		**Pn**		**02 29 48.4**	**-1.3**
	7.4nm,0.4s								
KKN	**Kakani**	**14.46**	**121**	*e*P		**Pn**		**02 29 48.1**	**-1.6**
	13nm,0.5s								
PKIN	**Phulchoki**	**14.67**	**122**	*e*P		**Pn**		**02 29 50.8**	**-1.7**
	8.9nm,0.5s								
PKI	**Pulchoki**	**14.69**	**122**	*e*P		**Pn**		**02 29 50.8**	**-1.9**
	5.0nm,0.2s								
GUN	**Gumba**	**14.80**	**120**	*e*P		**Pn**		**02 29 52.6**	**-1.6**
	12nm,0.4s								
JIRN	**Jiri**	**15.18**	**120**	*e*P		**Pn**		**02 29 58.0**	**-0.9**
	27nm,0.4s								
AB31	**Akbulak array**	**15.52**	**331**	⇑P		**Pn**		**02 30 01.2**	**-1.5**
	1.0nm,0.2s,baz=160,slow=9.3,SNR=118								
AB31				S		Sn		02 32 43.0	-11
	1.5nm,0.4s,baz=159,slow=24,SNR=6.3								
RAMN	**Ramite**	**15.90**	**121**	*e*P		**Pn**		**02 30 06.8**	**-1.0**
	8.3nm,0.3s								
TAPN	**Taplejung**	**16.44**	**118**	*e*P		**Pn**		**02 30 13.2**	**-1.3**
	10nm,0.4s								
ODAN	**Odare**	**16.51**	**120**	*e*P		**Pn**		**02 30 14.5**	**-0.7**
	10nm,0.5s								
BVAR	**Borovoye Array**	**16.89**	**358**	P		**P**		**02 30 20.8**	**+1.3**
	0.2nm,0.3s,baz=134,slow=8.2,SNR=3.5								
AKTO	**Aktyubinsk**	**17.22**	**330**	⇓P		**Pn**		**02 30 23.2**	**-0.3**
	5.0nm,0.8s								
AKTO	**Aktyubinsk**	**17.22**	**330**	P		**Pn**		**02 30 23.4**	**-0.1**
	0.5nm,0.3s,baz=141,slow=12,SNR=8.3								
AKTO				S		Sn		02 33 21.8	-14
	0.2nm,0.3s,baz=150,slow=20,SNR=5.1								
ZALV	**Zalesovo Beam**	**20.12**	**24**	P		Pn		02 30 57.3	-0.4
	0.6nm,0.3s,baz=214,slow=9.5,SNR=3.2								
FINES	**FINESS Array B**	**37.93**	**326**	P		**P**		**02 33 37.6**	**+1.8**
	1.2nm,0.9s,baz=117,slow=8.1,SNR=1.0								
ARCES	**ARCESS Array B**	**41.57**	**338**	P		**P**		**02 34 08.0**	**+2.1**
	2.1nm,0.9s,baz=112,slow=9.3,SNR=4.0								
NOA	**NORSAR Array B**	**44.83**	**323**	P		**P**		**02 34 33.1**	**+0.9**
	0.6nm,0.9s,baz=98,slow=7.2,SNR=3.0								
TORD	**Torodi Ar. Bea**	**65.98**	**269**	P		**P**		**02 37 02.8**	**-1.6**
	0.3nm,0.4s,baz=51,slow=6.4,SNR=10								
WRA	**Warramunga Arr**	**81.57**	**122**	P		**P**		**02 38 36.8**	**+1.6**
	0.3nm,0.4s,baz=324,slow=4.9,SNR=14								
ASAR	**Alice Springs**	**83.83**	**125**	P		**P**		**02 38 48.6**	**+1.8**
	0.2nm,0.5s,baz=324,slow=4.6,SNR=3.7								

*NNC **25** 02:51:41.4±12.0,37.86N×74.22E,h0km,mb3.7,mpv3.6,*
Error ellipse: s-maj=105.9km s-min=72.2km az=151.0
*ISCJB **25** 02:51:45.6±0.7,38.08N±0.08×75.1E±0.2,h135km,Error*
ellipse: s-maj=22.8km s-min=5.3km az=151.8

ISC 25 02:51:46.1±1.2,38.1N±0.1×75.1E±0.1,h135km,n19,
σ1°25/20,5C-1D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**3.94**	**2**	P		**Pn**		**02 52 46.2**	**+0.7**
	SNR=39								
AML	**Almayashu**	**4.12**	**346**	P		**Pn**		**02 52 49.0**	**+1.1**
	SNR=17								
ULHL	**Ulahol**	**4.20**	**12**	P		**Pn**		**02 52 49.5**	**+0.7**
	SNR=9.4								
AAK	**Ala-Archa**	**4.51**	**355**	P		**Pn**		**02 52 54.4**	**+1.6**
	SNR=8.5								
EKS2	**Erkin-Say**	**4.62**	**348**	P		**Pn**		**02 52 56.0**	**+1.8**
	SNR=8.0								
TKM2	**Tokmak 2**	**4.79**	**5**	⇑Pn		**Pn**		**02 52 57.4**	**+0.8**
	3.2nm,0.3s								
TKM2				⇑Sn		Sn		02 54 04.8	+13
	3.5nm,0.5s								
TKM2	**Tokmak 2**	**4.79**	**5**	P		**Pn**		**02 52 57.8**	**+1.1**
	SNR=10								
KK31	**Karatay Array**	**6.04**	**327**	⇓Pn		**Pn**		**02 53 14.3**	**+1.1**
	2.0nm,0.3s,baz=142,slow=13,SNR=64								
KK31				⇑Sn		**Sn**		**02 54 18.1**	**-3.1**
	5.0nm,0.4s,baz=143,slow=23,SNR=4.5								
DANN	**Dangsing**	**12.18**	**141**	*e*P		**Pn**		**02 54 35.0**	**-0.4**
	5.7nm,0.2s								
KOLN	**Koldanda**	**12.58**	**143**	*e*P		**Pn**		**02 54 41.3**	**+0.7**
	6.9nm,0.3s								
GKN	**Gorkha**	**12.90**	**139**	*e*P		**Pn**		**02 54 43.8**	**-0.9**
	5.5nm,0.3s								
KKN	**Kakani**	**13.41**	**137**	*e*P		**Pn**		**02 54 50.1**	**-1.3**
DMN	**Daman**	**13.47**	**138**	*e*P		**Pn**		**02 54 51.7**	**-0.4**
	5.4nm,0.4s								
GUN	**Gumba**	**13.65**	**135**	*e*P		**Pn**		**02 54 53.8**	**-0.7**
	4.7nm,0.4s								
PKIN	**Phulchoki**	**13.65**	**138**	*e*P		**Pn**		**02 54 53.7**	**-0.7**
	5.3nm,0.5s								
PKI	**Pulchoki**	**13.66**	**137**	*e*P		**Pn**		**02 54 55.0**	**+0.4**
JIRN	**Jiri**	**14.01**	**135**	*e*P		**Pn**		**02 54 58.2**	**-1.0**
	5.9nm,0.3s								
AB31	**Akbulak array**	**15.55**	**320**	⇑P		**P**		**02 55 19.6**	**+0.3**
	0.6nm,0.6s,baz=134,slow=12,SNR=6.7								
AKTO	**Aktyubinsk**	**17.26**	**321**	⇑P		**P**		**02 55 38.8**	**+0.7**
	0.4nm,0.7s								

*IDC **25** 02:52:43.2±1.6,4.57S×69.19E,h0km,mb3.5/7,mb1 3.6/7,*
mb1mx3.4/24,mbtmp3.5/7,MS3.7/8,Ms1 3.7/8,
ms1mx3.3/37,Error ellipse: s-maj=56.3km s-min=23.5km
az=54.0

ISC 25 02:52:44.9±1.6,4.6S±0.3×69.3E±0.3,h10km,n19,
σ1°28/10,mb3.6/7,MS3.8/8,Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**4.44**	**134**	T		T	T	02 58 51.8	
	baz=311,slow=0.7,SNR=76								
H08S1	**Diego Carcia H**	**4.44**	**134**	T		T	T	02 58 46.8	
	baz=311,slow=0.7,SNR=73								
H08S2	**Diego Garcia H**	**4.46**	**134**	T		T	T	02 58 53.1	
	baz=311,slow=0.7,SNR=74								
AAK	**Ala-Archa**	**47.21**	**5**	LR		LR		03 19 08.8	
	comp=Z,37nm,18.4s,baz=265,slow=34								
BOSA	**Boshof**	**48.08**	**235**	LR		LR		03 18 27.7	
	comp=Z,94nm,19.5s,baz=250,slow=32								
KAPI	**Kappang**	**50.32**	**93**	LR		LR		03 21 53.3	
	comp=Z,91nm,18.1s,baz=58,slow=35								
MKAR	**Makanchi Array**	**52.41**	**11**	P		**P**		**03 01 56.1**	**-1.4**
	0.1nm,0.4s,baz=198,slow=8.1,SNR=4.2								
BRTR	**Keskin Array B**	**54.91**	**327**	P		**P**		**03 02 17.6**	**+1.5**
	0.6nm,0.9s,baz=134,slow=7.2,SNR=4.5								
KURBB	**Kurchatov Arra**	**55.54**	**7**	P		**P**		**03 02 20.7**	**+0.5**
	0.2nm,0.5s,baz=200,slow=7.9,SNR=3.6								
FITZ	**Fitzroy Crossi**	**56.69**	**109**	LR		LR		03 22 29.2	
	comp=Z,102nm,18.3s,baz=48,slow=32								
BVAR	**Borovoye Array**	**57.37**	**1**	LR		LR		03 23 53.4	
	comp=Z,16nm,20.0s,baz=338,slow=33								
ZALV	**Zalesovo Beam**	**59.73**	**11**	P		**P**		**03 02 49.5**	**-0.2**
	0.2nm,0.3s,baz=210,slow=8.3,SNR=2.4								
SONM	**Songino Array**	**61.51**	**28**	P		**P**		**03 03 02.9**	**+0.7**
	0.7nm,0.7s,baz=217,slow=6.4,SNR=5.9								
ASAR	**Alice Springs**	**64.99**	**114**	P		**P**		**03 03 26.1**	**+0.5**
	0.2nm,0.7s,baz=139,slow=25,SNR=3.2								
ASAR				LR		LR		03 26 18.1	
	comp=Z,108nm,21.8s,baz=97,slow=31								
WRA	**Warramunga Arr**	**65.06**	**110**	P		**P**		**03 03 26.5**	**+0.4**
	1.1nm,1.1s,baz=282,slow=6.2,SNR=4.0								
KSRS	**Korea Array**	**68.61**	**47**	LR		LR		03 33 17.3	
	comp=Z,46nm,20.3s,baz=180,slow=36								
DBIC	**Dimbokro**	**74.81**	**278**	LR		LR		03 36 08.7	
	comp=Z,66nm,20.4s,baz=249,slow=35								
NVAR	**Mina Array Bea**	**145.59**	**11**	PKPbc		**PKPdf**		**03 12 24.1**	**-0.2**
	0.4nm,0.8s,baz=150,slow=1.2,SNR=3.6								
TXAR	**Lajitas Array**	**154.46**	**346**	PKPbc		**PKPbc**		**03 12 45.4**	**-1.3**
	0.1nm,0.4s,baz=46,slow=8.9,SNR=3.6								
TXAR				PKPab		**PKPab**		**03 12 58.7**	**-2.0**
	0.1nm,0.5s,baz=52,slow=3.5,SNR=3.0								

*CSEM **25** 02:54:38.8±0.3,38.24N×20.37E,h2km,ML3.2/7,Error*
ellipse: s-maj=7.2km s-min=3.5km az=44.0
*ATH **25** 02:54:38.5,38.24N×20.39E,h8km±1km,MD3.6/28*
*THE **25** 02:54:39.5,38.25N×20.43E,h0km±1km,ML3.2/7,Error*
ellipse: s-maj=1.1km s-min=0.5km az=245.0
*SKO **25** 02:54:41.6,38.25N×20.33E,h13km*

ISC 25 02:54:38.3±1.2,38.22N±0.03×20.33E±0.03,h6km±8km,
n125,σ1°21/171,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.21**	**102**	P		**Pg**		**02 54 42.8**	**+0.4**
VLS				S		**Sg**		**02 54 45.1**	**-0.1**
VLS	**Valsamata**	**0.21**	**102**	*e*PG		**Pg**		**02 54 42.9**	**+0.5**
VLS				*e*SG		**Sg**		**02 54 45.1**	**-0.1**
VLS	**Valsamata**	**0.21**	**102**	P		**Pg**		**02 54 42.8**	**+0.4**
VLS				S		**Sg**		**02 54 45.1**	**-0.1**
KFL	**Anninata**	**0.38**	**107**	P		**Pg**		**02 54 45.8**	**+0.2**
KFL				S		**Sg**		**02 54 50.2**	**-0.4**
KFL	**Anninata**	**0.38**	**107**	P		**Pg**		**02 54 45.8**	**+0.2**
KFL				S		**Sg**		**02 54 50.2**	**-0.4**
VTN	**Vitineika**	**0.74**	**114**	P		**Pg**		**02 54 52.7**	**+0.2**
VTN				S		**Sg**		**02 55 02.4**	**+0.3**
VTN	**Vitineika**	**0.74**	**114**	P		**Pg**		**02 54 52.7**	**+0.2**
VTN				S		**Sg**		**02 54 57.4**	**+0.3**
PDO	**Prodromos**	**0.77**	**60**	P		**Pg**		**02 54 52.0**	**-1.1**
PDO				S		**Sg**		**02 55 02.9**	**-0.1**
PDO	**Prodromos**	**0.77**	**60**	*e*PB		**Pg**		**02 54 52.3**	**-0.8**
PDO				*e*SB		**Sg**		**02 55 03.0**	**-0.1**
PDO	**Prodromos**	**0.77**	**60**	P		**Pg**		**02 54 52.0**	**-1.1**
PDO	**Prodromos**	**0.77**	**60**	*e*Pb		**Pg**		**02 54 52.3**	**-0.8**
PDO				S		**Sg**		**02 55 02.9**	**-0.1**
AXS	**Araxos**	**0.82**	**92**	P		**Pg**		**02 54 53.5**	**-0.6**
AXS				S		**Sg**		**02 55 04.9**	**+0.1**
AXS	**Araxos**	**0.82**	**92**	P		**Pg**		**02 54 53.5**	**-0.6**
AXS				S		**Sg**		**02 55 04.9**	**+0.1**
RLS	**Riolos of Patr**	**0.91**	**100**	P		**Pg**		**02 54 55.1**	**-0.7**
RLS				S		**Sg**		**02 55 07.7**	**+0.1**
RLS	**Riolos of Patr**	**0.91**	**100**	*e*PB		**Pg**		**02 54 55.0**	**-0.7**
RLS				*e*SB		**Sg**		**02 55 07.1**	**-0.5**
RLS	**Riolos of Patr**	**0.91**	**100**	P		**Pg**		**02 54 55.1**	**-0.7**
RLS				*e*Sb		**Sg**		**02 55 07.1**	**-0.5**
PVO	**Paravola**	**1.02**	**67**	P		**Pg**		**02 54 57.2**	**-0.6**
PVO				S		**Sg**		**02 55 11.0**	**-0.1**
PVO	**Paravola**	**1.02**	**67**	P		**Pg**		**02 54 57.2**	**-0.6**
PVO				S		**Sg**		**02 55 11.0**	**-0.1**
DRO	**Drossia**	**1.12**	**103**	P		**Pg**		**02 54 58.9**	**-0.9**
DRO				S		**Sg**		**02 55 14.2**	**-0.2**
DRO	**Drossia**	**1.12**	**103**	P		**Pg**		**02 54 58.9**	**-0.9**
DRO				S		**Sg**		**02 55 14.2**	**-0.2**
PSA1	**Psathopyrgos**	**1.23**	**85**	*e*PB		**Pg**		**02 55 00.9**	**-0.9**
PSA1				*e*SB		**Sg**		**02 55 17.3**	**-0.4**
EFP	**Efpalio**	**1.26**	**80**	P		**Pg**		**02 55 00.8**	**-1.6**
EFP				S		**Sb**		**02 55 18.8**	**0.0**
EFP	**Efpalio**	**1.26**	**80**	*e*PN		**Pg**		**02 55 00.9**	**-1.5**
EFP	**Efpalio**	**1.26**	**80**	P		**Pg**		**02 55 00.8**	**-1.6**
EFP				S		**Sb**		**02 55 18.8**	**0.0**
AMT	**Artemida-Makis**	**1.29**	**122**	P		**Pg**		**02 55 02.9**	**-0.1**
AMT	**Artemida-Makis**	**1.29**	**122**	*e*PB		**Pg**		**02 55 03.0**	**-0.1**
AMT	**Artemida-Makis**	**1.29**	**122**	P		**Pg**		**02 55 02.9**	**-0.1**
LAKA	**Lakka**	**1.30**	**89**	P		**Pg**		**02 55 01.7**	**-1.5**
LAKA				S		**Sb**		**02 55 20.2**	**+0.1**
LAKA	**Lakka**	**1.30**	**89**	*e*PN		**Pg**		**02 55 01.6**	**-1.6**
LAKA	**Lakka**	**1.30**	**89**	P		**Pg**		**02 55 01.7**	**-1.5**
LAKA				S		**Sb**		**02 55 20.2**	**+0.1**
IGT	**Igoumenitsa**	**1.31**	**0**	P		**Pg**		**02 55 03.4**	**0.0**
IGT				S		**Sn**		**02 55 22.0**	**+1.1**
IGT	**Igoumenitsa**	**1.31**	**0**	*e*PB		**Pg**		**02 55 03.0**	**-0.4**
IGT				*e*SB		**Sg**		**02 55 20.8**	**+0.4**
IGT	**Igoumenitsa**	**1.31**	**0**	*e*Pb		**Pg**		**02 55 03.0**	**-0.4**
IGT	**Igoumenitsa**	**1.31**	**0**	P		**Pg**		**02 55 03.4**	**0.0**
IGT				*e*Sb		**Sg**		**02 55 20.8**	**+0.4**
IGT				S		**Sn**		**02 55 22.0**	**+1.1**
EVR	**Evrytania**	**1.35**	**59**	P		**Pg**		**02 55 02.5**	**-1.7**
EVR				S		**Sn**		**02 55 22.6**	**+0.5**
EVR	**Evrytania**	**1.35**	**59**	*e*PN		**Pg**		**02 55 02.5**	**-1.7**
EVR	**Evrytania**	**1.35**	**59**	P		**Pg**		**02 55 02.5**	**-1.7**
EVR				S		**Sn**		**02 55 22.6**	**+0.5**
KALE	**Kalithea**	**1.43**	**83**	*e*PN		**Pn**		**02 55 03.7**	**-1.2**
KALE	**Kalithea**	**1.43**	**83**	*e*Pn		**Pn**		**02 55 03.7**	**-1.2**
KLV	**Kalavryta, Ach**	**1.45**	**97**	P		**Pn**		**02 55 04.6**	**-0.5**
KLV				S		**Sn**		**02 55 24.8**	**+0.4**
KLV	**Kalavryta, Ach**	**1.45**	**97**	*e*PB		**Pn**		**02 55 04.3**	**-0.8**
KLV	**Kalavryta, Ach**	**1.45**	**97**	*e*Pg		**Pn**		**02 55 04.3**	**-0.8**
KLV	**Kalavryta, Ach**	**1.45**	**97**	P		**Pn**		**02 55 04.6**	**-0.5**
KLV				S		**Sn**		**02 55 24.8**	**+0.4**
JAN	**Janina**	**1.49**	**16**	P		**Pn**		**02 55 06.4**	**+0.8**
JAN				S		**Sg**		**02 55 26.9**	**+0.7**
JAN	**Janina**	**1.49**	**16**	*e*PB		**Pn**		**02 55 06.6**	**+1.0**
JAN	**Janina**	**1.49**	**16**	*e*Pb		**Pn**		**02 55 06.6**	**+1.0**
JAN				S		**Sg**		**02 55 26.9**	**+0.7**
KEK	**Kerkira**	**1.54**	**345**	P		**Pn**		**02 55 07.6**	**+1.1**
KEK	**Kerkira**	**1.54**	**345**	*e*PB		**Pn**		**02 55 07.5**	**+1.1**
KEK	**Kerkira**	**1.54**	**345**	*e*Pb		**Pn**		**02 55 07.5**	**+1.1**
GUR	**Goura**	**1.61**	**100**	P		**Pn**		**02 55 07.0**	**-0.4**
GUR				S		**Sb**		**02 55 29.7**	**+0.5**
GUR	**Goura**	**1.61**	**100**	*e*PG		**Pn**		**02 55 07.1**	**-0.4**
GUR				S		**Sb**		**02 55 29.7**	**+0.5**
ITM	**Ithomi**	**1.64**	**129**	P		**Pn**		**02 55 08.4**	**+0.7**
ITM				S		**Sb**		**02 55 30.4**	**+0.5**
ITM	**Ithomi**	**1.64**	**129**	*e*PG		**Pn**		**02 55 08.5**	**+0.7**
ITM	**Ithomi**	**1.64**	**129**	P		**Pn**		**02 55 08.4**	**+0.7**
ITM				S		**Sb**		**02 55 30.4**	**+0.5**
PYL	**PYLOS**	**1.74**	**139**	P		**Pn**		**02 55 10.2**	**+1.2**
PYL				S		**Sb**		**02 55 33.2**	**+0.6**
PYL	**PYLOS**	**1.74**	**139**	*e*PG		**Pn**		**02 55 10.2**	**+1.2**
PYL	**PYLOS**	**1.74**	**139**	P		**Pn**		**02 55 10.2**	**+1.2**
PYL				S		**Sb**		**02 55 33.2**	**+0.6**
DSF	**Desfina**	**1.74**	**83**	*e*PG		**Pn**		**02 55 09.8**	**+0.7**
DSF	**Desfina**	**1.74**	**83**	*e*Pg		**Pn**		**02 55 09.8**	**+0.7**
DESF	**Desfina**	**1.74**	**83**	*e*PN		**Pb**		**02 55 10.8**	**+0.1**
DESF	**Desfina**	**1.74**	**83**	*e*Pn		**Pb**		**02 55 10.8**	**+0.1**
AGG	**Agios Georgios**	**1.76**	**62**	*e*PG		**Pn**		**02 55 10.1**	**+0.7**
AGG	**Agios Georgios**	**1.76**	**62**	*e*Pg		**Pn**		**02 55 10.1**	**+0.7**
VLX	**Vlachokerasia**	**1.83**	**117**	*e*PN		**Pn**		**02 55 11.8**	**+1.4**
VLX	**Vlachokerasia**	**1.83**	**117**	*e*Pg		**Pn**		**02 55 11.8**	**+1.4**
THL	**Klokotos Trika**	**1.88**	**44**	P		**Pn**		**02 55 11.2**	**+0.3**
THL				S		**Sn**		**02 55 35.9**	**+1.0**
THL	**Klokotos Trika**	**1.88**	**44**	*e*PN		**Pn**		**02 55 11.5**	**+0.6**
THL	**Klokotos Trika**	**1.88**	**44**	P		**Pn**		**02 55 11.2**	**+0.3**
THL	**Klokotos Trika**	**1.88**	**44**	*e*Pn		**Pn**		**02 55 11.5**	**+0.6**
THL				S		**Sn**		**02 55 35.9**	**+1.0**
LTK	**Loutraki**	**2.09**	**95**	*e*PN		**Pb**		**02 55 15.9**	**-0.7**
LTK	**Loutraki**	**2.09**	**95**	*e*Pn		**Pb**		**02 55 15.9**	**-0.7**
LKR	**Lokris**	**2.14**	**78**	*e*PN		**Pn**		**02 55 15.9**	**+1.4**
LKR	**Lokris**	**2.14**	**78**	*e*Pn		**Pn**		**02 55 15.9**	**+1.4**
NEST	**Nestorio**	**2.26**	**14**	*e*PN		**Pb**		**02 55 19.0**	**-0.6**
NEST	**Nestorio**	**2.26**	**14**	*e*Pn		**Pb**		**02 55 19.0**	**-0.6**
VIL2	**Platees**	**2.31**	**89**	*e*PN		**Pn**		**02 55 19.0**	**+2.0**
SMIA	**Simia**	**2.35**	**73**	*e*PN		**Pb**		**02 55 19.9**	**-1.2**
SMIA	**Simia**	**2.35**	**73**	*e*Pn		**Pb**		**02 55 19.9**	**-1.2**
VILL	**Villia**	**2.35**	**91**	*e*Pn		**Pn**		**02 55 19.0**	**+1.5**
KZN	**Kozani**	**2.36**	**28**	*e*PB		**Pn**		**02 55 18.7**	**+1.0**
KZN	**Kozani**	**2.36**	**28**	*e*Pb		**Pn**		**02 55 18.7**	**+1.0**
DID	**Didima**	**2.41**	**106**	*e*PN		**Pn**		**02 55 20.6**	**+2.3**
DID	**Didima**	**2.41**	**106**	*e*Pn		**Pn**		**02 55 20.6**	**+2.3**
XOR	**Xorichti**	**2.51**	**62**	*e*PN		**Pn**		**02 55 21.9**	**+2.2**
XOR	**Xorichti**	**2.51**	**62**	*e*Pn		**Pn**		**

WRA	**Warramunga Arr**	**40.83**	**162**	P		P	03 43 25.5	-0.3	
	0.5nm,0.8s,baz=342,slow=9.1,SNR=5.2								
MKAR	**Makanchi Array**	**42.53**	**319**	P		P	03 43 39.4	-0.2	
	1.0nm,1.0s,baz=116,slow=8.7,SNR=5.1								
ASAR	**Alice Springs**	**44.26**	**165**	P		P	03 43 53.8	+0.1	
	0.3nm,0.5s,baz=351,slow=7.5,SNR=4.7								

DJA 25 03:36:04.8±0.7, 8°S±5°×107°E±°, h47km±23km, M3.7/4, MLv3.7/4, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.91**	**25**	P	Pn	03 36 22.3	+1.1
SKJI				S	Sn	03 36 34.2	+1.0
DBJI	**Dramaga**	**1.39**	**24**	P	Pn	03 36 29.8	+1.9
DBJI				S	Sn	03 36 43.2	-1.9
CBJI	**Citeko**	**1.56**	**26**	P	Pn	03 36 28.9	-1.1
CBJI				S	Sn	03 36 43.7	-5.3
CISI	**Cisompet, Garu**	**1.65**	**81**	P	Pn	03 36 31.1	-0.4
LEM	**Lembang**	**1.75**	**55**	P	Pn	03 36 32.9	0.0
LEM				S	Sn	03 36 51.1	-3.1
KPJI	**Karang Pucung**	**2.78**	**80**	P	Pn	03 36 47.2	+0.3
KPJI				S	Sn	03 37 11.2	-8.0

*ISCJB **25** 03:46:45.5±0.9, 31°.77S±0°.09×179°.5E±0°.2, h300km, mb3.8/3, Error ellipse: s-maj=20.3km s-min=9.1km az=27.1*
*IDC **25** 03:46:45.9±5.0, 31°.87S×179°.86E, h314km±44km, mb3.6/3, mb1 3.8/5, mb1mx3.4/18, mbtmp3.7/5, Error ellipse: s-maj=48.4km s-min=26.6km az=29.0*

ISC 25 03:46:45.3±0.9, 31°.85S±0°.1×179°.7E±0°.2, h300km, n13, σ1§80/13, mb3.8/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.26**	**39**	S	**S**	**03 48 31.5**	**+1.0**
	73nm,0.3s,baz=221,slow=20,SNR=3.7						
URZ	**Urewera**	**6.78**	**198**	P	**Pn**	**03 48 25.7**	**+1.8**
	5.7nm,0.3s,baz=332,slow=2.9,SNR=60						
URZ				S	**S**	**03 49 42.8**	**-0.8**
	22nm,0.3s,baz=84,slow=19,SNR=26						
RPZ	**Rata Peaks**	**13.71**	**208**	P	**P**	**03 49 47.4**	**-0.6**
	1.0nm,0.3s,baz=296,slow=15,SNR=5.6						
DZM	**Mont Dzumac**	**15.31**	**306**	P	Pn	03 50 15.4	+7.8
	0.9nm,0.3s,baz=124,slow=15,SNR=8.8						
STKA	**Stephens Creek**	**32.29**	**260**	P	**P**	**03 52 48.3**	**+1.5**
	1.2nm,0.4s,baz=98,slow=11,SNR=6.3						
ASAR	**Alice Springs**	**41.13**	**270**	P	**P**	**03 54 00.7**	**-0.3**
	3.0nm,0.7s,baz=103,slow=7.5,SNR=48						
WRA	**Warramunga Arr**	**42.25**	**275**	P	**P**	**03 54 09.8**	**-0.3**
	3.7nm,0.4s,baz=112,slow=8.0,SNR=21						
KEV	**Kevo**	**139.05**	**346**	*ep*	**PKPdf**	**04 05 38.8**	**+3.5**
	0.3nm,0.4s						
KAF	**Kangasniemi**	**145.19**	**338**	*ep*	**PKPdf**	**04 05 44.4**	**-2.0**
	0.5nm,0.4s						
FINES	**FINESS Array B**	**145.76**	**338**	PKPbc	**PKPdf**	**04 05 47.0**	**-0.4**
	2.2nm,0.5s,baz=23,slow=3.3,SNR=21						
NB2	**NORSAR Subarra**	**149.81**	**349**	PKP	**PKPbc**	**04 05 57.9**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=17,slow=2.6						
BRTR	**Keskin Array B**	**151.51**	**296**	PKPbc	**PKPbc**	**04 06 01.8**	**-2.3**
	comp=Z,0.5nm,0.6s,baz=124,slow=2.6,SNR=3.7						
TORD	**Torodi Ar. Bea**	**161.33**	**186**	PKPab	**PKPab**	**04 06 55.3**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=196,slow=2.5,SNR=7.7						

*IDC **25** 03:46:52.6±3.3, 1°.64S×100°.24E, h0km, mb4.0/6, mb1 4.0/6, mb1mx3.6/23, mbtmp4.0/6, Error ellipse: s-maj=72.2km s-min=67.1km az=41.0*
*ISCJB **25** 03:46:59.1±0.5, 1°.44S±0°.07×100°.46E±0°.10, h58km, mb4.3/18, Error ellipse: s-maj=14.6km s-min=8.8km az=153.5*
*NEIC **25** 03:46:59.1±2.2, 1°.53S×100°.41E, h43km±19km, mb4.4/12, Error ellipse: s-maj=21.4km s-min=8.7km az=51.0*

ISC 25 03:47:00.9±0.6, 1°.46S±0°.09×100°.5E±0°.1, h58km, n38, σ1§01/35, mb4.2/18, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.92**	**5**	*e*Pn	**Pn**	**03 48 25.5**	**-0.7**
KULM	**Kulim**	**6.71**	**2**	*e*Pn	**Pn**	**03 48 37.1**	**+0.3**
KKM	**Kota Kinabalu**	**17.41**	**65**	*e*Pn	**P**	**03 51 01.2**	**+0.6**
CMAR	**Chiang Mai Arr**	**19.85**	**356**	P	**Pn**	**03 51 27.9**	**-1.4**
CMAR	**Chiang Mai Arr**	**19.85**	**356**	P	**Pn**	**03 51 27.9**	**-1.4**
	baz=168,slow=13						
MBWA	**Marble Bar**	**27.14**	**138**	*e*P	**P**	**03 52 36.7**	**-2.2**
	10.0nm,1.0s						
H08S2	**Diego Garcia H**	**28.54**	**257**	T	T	04 21 13.6	
	baz=78						
H08S3	**Diego Garcia H**	**28.54**	**257**	T	T	04 21 14.1	
	baz=78						
H08S1	**Diego Carcia H**	**28.55**	**257**	T	T	04 21 19.1	
	baz=78						
FORT	**Forrest**	**39.16**	**141**	*e*P	**P**	**03 54 23.1**	**-0.2**
	17nm,0.8s						
COEN	**Coen**	**44.02**	**109**	*e*P	**P**	**03 55 05.1**	**+1.9**
PMG	**Port Moresby**	**47.11**	**101**	*e*P	**P**	**03 55 25.9**	**-1.8**
	13nm,1.0s						
CTAO	**Charters Tower**	**48.41**	**116**	*e*P	**P**	**03 55 35.9**	**-1.9**
	16nm,1.5s						
SONM	**Songino Array**	**49.36**	**5**	P	**P**	**03 55 45.1**	**+0.4**
SONM	**Songino Array**	**49.36**	**5**	P	**P**	**03 55 45.1**	**+0.4**
	0.9nm,0.7s,baz=178,slow=8.5,SNR=4.4						
TKM2	**Tokmak 2**	**49.52**	**336**	*e*P	**P**	**03 55 45.2**	**-0.9**
	1.5nm,0.7s						
AAK	**Ala-Archa**	**49.74**	**335**	*e*P	**P**	**03 55 47.3**	**-0.4**
	1.5nm,0.7s						
EKS2	**Erkin-Say**	**50.07**	**334**	*e*P	**P**	**03 55 51.1**	**+0.9**
	2.0nm,0.7s						
MK31	**Makanchi Array**	**50.64**	**344**	*e*P	**P**	**03 55 54.1**	**-0.1**
MKAR	**Makanchi Array**	**50.64**	**344**	P	**P**	**03 55 54.6**	**+0.3**
MKAR	**Makanchi Array**	**50.64**	**344**	P	**P**	**03 55 54.6**	**+0.3**
	1.1nm,0.6s,baz=161,slow=8.3,SNR=12						
USRK	**Ussuriysk Arra**	**53.46**	**28**	P	**P**	**03 56 16.4**	**+1.1**
	1.7nm,0.7s,baz=218,slow=6.8,SNR=4.4						
KURK	**Kurchatov**	**55.22**	**343**	*e*P	**P**	**03 56 27.6**	**-0.3**
	0.9nm,0.7s						
ZALV	**Zalesovo Beam**	**56.73**	**349**	P	**P**	**03 56 38.4**	**-0.2**
ZALV	**Zalesovo Beam**	**56.73**	**349**	P	**P**	**03 56 38.4**	**-0.2**
	0.5nm,0.3s,baz=175,slow=8.3,SNR=3.9						
BVAR	**Borovoye Array**	**59.84**	**340**	P	**P**	**03 56 59.7**	**-0.6**
BVAR	**Borovoye Array**	**59.84**	**340**	P	**P**	**03 56 59.7**	**-0.6**
	0.7nm,0.4s,baz=139,slow=9.9,SNR=4.5						
ABKAR	**Akbulak array**	**61.39**	**331**	*e*P	**P**	**03 57 09.9**	**-1.0**
DZM	**Mont Dzumac**	**67.24**	**113**	*e*P	**P**	**03 57 50.2**	**+0.3**
	12nm,1.0s						
BUR08	**Bucovina Ar. S**	**81.18**	**319**	*e*P	**P**	**03 59 11.6**	**+0.9**
VNDA	**Vanda**	**82.60**	**169**	*e*P	**P**	**03 59 18.0**	**+0.6**
	2.5nm,1.3s						
TSUM	**Tsumeb**	**82.80**	**251**	*e*P	**P**	**03 59 18.5**	**-1.2**
	4.0nm,1.0s						
ARCES	**ARCESS Array B**	**86.12**	**340**	P	**P**	**03 59 36.2**	**+0.9**
ARCES	**ARCESS Array B**	**86.12**	**340**	P	**P**	**03 59 36.2**	**+0.9**
	1.7nm,0.8s,baz=104,slow=3.9,SNR=5.2						
KEST	**Kesra**	**91.75**	**306**	*e*P	**P**	**04 00 02.5**	**-0.3**
SNAA	**Sanae**	**92.80**	**198**	*e*P	**P**	**04 00 08.1**	**+1.3**
	3.1nm,1.2s						
TXAR	**Lajitas Array**	**143.99**	**37**	PKP	**PKPdf**	**04 06 31.3**	**+0.5**
TXAR	**Lajitas Array**	**143.99**	**37**	PKP	**PKPdf**	**04 06 31.3**	**+0.5**
	0.3nm,0.5s,baz=354,slow=0.2,SNR=6.1						

*NIED **25** 04:10:00, 42°.80N×143°.90E, h92km, Mw3.9 Best double couple: M₀8.17000×10¹⁴ NP1:ϕs61.00000°, δ80.00000°, λ114.00000°. NP2:ϕs173.00000°, δ26.00000°, λ25.00000°.*
*ISCJB **25** 04:10:35.2±0.3, 42°.81N±0°.04×143°.89E±0°.04, h118km±2km, mb4.0/24, Error ellipse: s-maj=6.7km s-min=4.1km az=140.9*
*MOS **25** 04:10:35.3±1.1, 42°.81N×143°.85E, h123km, mb4.2/15, Error ellipse: s-maj=15.3km s-min=9.0km az=83.4*
*JMA **25** 04:10:36.3±0.1, 42°.81N×143°.87E, h11km±1km, M4.0 Broadband fault plane solution: P waves. NP1: ϕs72.00000°, δ84.00000°, λ110.00000°. NP2: ϕs178.00000°, δ21.00000°, λ17.00000°. Principal axes: T Plg47.0000°, Azm3.0000°; N Plg20.0000°, Azm250.0000°; P Plg36.0000°, Azm145.0000°;*
JMA Felt II J1.
*IDC **25** 04:10:37.1±1.2, 42°.84N×143°.87E, h120km±9km, mb3.7/19, mb1 3.8/22, mb1mx3.8/27, mbtmp3.6/22 Error ellipse: s-maj=14.0km s-min=11.1km az=122.0*

ISC 25 04:10:36.0±0.6, 42°.81N±0°.04×143°.89E±0°.04, h114km±5km, n65, σ1§12/76, mb4.1/24, 5C-9D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOB	**Onbets**	**0.10**	**334**	↓P	**Pn**	**04 10 52.2**	**+0.6**
JOB				*e*S	**Sn**	**04 11 03.7**	**+0.4**
JCH	**Churui**	**0.44**	**243**	↑P	**Pn**	**04 10 52.7**	**-0.1**
JCH				*e*S	**Sn**	**04 11 04.4**	**-1.1**
JAR	**Ashorobuto**	**0.49**	**349**	↓P	**Pn**	**04 10 53.4**	**+0.3**
JAR				*e*S	**Sn**	**04 11 05.9**	**-0.2**
JAK	**Akkeshi**	**0.62**	**73**	↑P	**Pn**	**04 10 54.2**	**+0.2**
JAK				*e*S	**Sn**	**04 11 07.3**	**-0.2**
JEM	**Erimo**	**0.97**	**215**	↑P	**Pn**	**04 10 57.1**	**0.0**
JNK	**Nakash**	**0.98**	**38**	P	**Pn**	**04 10 57.3**	**+0.1**
JNK				*e*S	**Sn**	**04 11 12.7**	**-0.6**
JNBK	**Urakawa-nobuka**	**1.00**	**238**	↑P	**Pn**	**04 10 57.5**	**+0.1**
JNBK				*e*S	**Sn**	**04 11 12.9**	**-0.7**
JFR	**Furan**	**1.02**	**291**	↓P	**Pn**	**04 10 57.3**	**-0.3**
JFR				*e*S	**Sn**	**04 11 13.5**	**-0.5**
JBT2	**Biratori 2**	**1.13**	**269**	↓P	**Pn**	**04 10 58.8**	**+0.1**
JTKR	**Abashiri--Toko**	**1.16**	**0**	↓P	**Pn**	**04 10 59.7**	**+0.7**
JTKR				*e*S	**Sn**	**04 11 17.0**	**+0.5**
JMP	**Maruseppu**	**1.25**	**342**	↓P	**Pn**	**04 11 00.5**	**+0.3**
JMP				*e*S	**Sn**	**04 11 18.3**	**-0.2**
JKK2	**Kamakawa 2**	**1.35**	**322**	↓P	**Pn**	**04 11 01.7**	**+0.5**
JRA	**Rausu**	**1.44**	**38**	P	**Pn**	**04 11 02.8**	**+0.6**
JRA				*e*S	**Sn**	**04 11 23.3**	**+1.2**
NEM2	**Nemuro 2**	**1.46**	**67**	P	**Pn**	**04 11 02.2**	**-0.3**
NEM2				*e*S	**Sn**	**04 11 20.6**	**-2.0**
ASAJ	**Asahikawa**	**1.61**	**324**	P	**Pn**	**04 11 05.2**	**+1.0**
	66nm,0.3s,baz=196,slow=14,SNR=388						
ASAJ				S	**Sn**	**04 11 27.0**	**+1.2**
	28nm,0.3s,baz=279,slow=32,SNR=6.2						
JEW	**Eniwo**	**1.80**	**272**	↓P	**Pn**	**04 11 07.2**	**+0.6**
JEW				*e*S	**Sn**	**04 11 30.1**	**+0.2**
JHR	**Hokuryu**	**1.84**	**301**	↓P	**Pn**	**04 11 08.1**	**+1.1**
YUK	**Yuzh-Kuril'sk**	**1.88**	**49**	*e*PN	**Pn**	**04 11 08.5**	**+0.9**
YUK				*i* S	**Sn**	**04 11 32.1**	**+0.4**
YUK				pmax	pmax		
	comp=Z,103nm,0.3s						
YUK				pmax	pmax		
	comp=N,35nm,0.2s						
YUK				pmax	pmax		
	comp=E,30nm,0.1s						
YUK				smax	smax		
	comp=N,57nm,0.5s						
YUK				smax	smax		
	comp=E,148nm,0.5s						
KUR	**Kuril'sk**	**3.75**	**48**	*e*PN	**Pn**	**04 11 31.1**	**-0.8**
KUR				*e*S	**Sn**	**04 12 18.1**	**+2.8**
KUR				smax	smax		
	comp=E,150nm,0.4s						
YSS	**Yuzh-Sakhalins**	**4.22**	**349**	*e*PN	**Pn**	**04 11 40.2**	**+2.0**
YSS				*e*S	**Sn**	**04 12 24.2**	**-2.3**
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS				smax	smax		
	comp=E,110nm,1.1s						
MAT	**Matsushiro**	**7.64**	**217**	P	**Pn**	**04 12 23.9**	**-0.7**
MAT				*e*S	**Sn**	**04 13 51.7**	**+2.1**
MJAR	**Matsushiro Arr**	**7.64**	**217**	P	**Pn**	**04 12 24.1**	**-0.5**
	comp=E,1.6nm,0.3s,baz=22,slow=12,SNR=22						
MJAR				S	**Sn**	**04 13 53.1**	**+3.5**
	comp=E,0.4nm,0.3s,baz=35,slow=27,SNR=3.1						
USRK	**Ussuriysk Arra**	**8.76**	**283**	P	**Pn**	**04 12 40.6**	**+0.9**
	comp=E,0.5nm,0.3s,baz=95,slow=14,SNR=6.4						
PETK	**Petropavlovsk-**	**13.82**	**37**	P	**Pn**	**04 13 46.2**	**-0.6**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**13.82**	**37**	P	**Pn**	**04 13 46.2**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=201,slow=7.9,SNR=7.1						
YAK	**Yakutsk**	**21.02**	**341**	*e*P	**P**	**04 15 05.7**	**-4.4**
YAK				pmax	pmax		
	comp=Z,23nm,0.9s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.1s						
FX1	**Attu Island--F**	**21.93**	**53**	P	**P**	**04 15 21.4**	**+1.4**
	comp=N,9.7nm,0.8s,baz=279,slow=19,SNR=3.0						
SONM	**Songino Array**	**26.66**	**294**	P	**P**	**04 16 05.7**	**+1.6**
	comp=N,3.7nm,0.7s,baz=82,slow=8.6,SNR=23						
ZAK	**Zakamensk**	**28.62**	**300**	*e*P	**P**	**04 16 19.9**	**-1.6**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**30.08**	**133**	T	T	04 48 08.1	
	baz=328,slow=0.7,SNR=100						
H11N1	**WAKE ISLAND Hy**	**30.09**	**133**	T	T	04 48 03.3	
	baz=328,slow=0.7,SNR=111						
H11N3	**WAKE ISLAND Hy**	**30.10**	**133**	T	T	04 48 14.7	
	baz=328,slow=0.7,SNR=96						
H11S1	**WAKE ISLAND Hy**	**30.98**	**134**	T	T	04 49 19.3	
	baz=331,slow=0.7,SNR=199						
H11S3	**WAKE ISLAND Hy**	**30.99**	**134**	T	T	04 49 11.3	
	baz=331,slow=0.7,SNR=112						
H11S2	**WAKE ISLAND Hy**	**31.00**	**134**	T	T	04 49 16.5	
	baz=331,slow=0.7,SNR=96						
ZALV	**Zalesovo Beam**	**39.67**	**307**	P	**P**	**04 17 56.8**	**+0.3**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZALV	**Zalesovo Beam**	**39.67**	**307**	P	**P**	**04 17 56.8**	**+0.3**
	comp=Z,1.7nm,0.4s,baz=92,slow=7.8,SNR=12						
MKAR	**Makanchi Array**	**42.91**	**297**	P	**P**	**04 18 23.6**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**42.91**	**297**	P	**P**	**04 18 23.6**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=82,slow=9.2,SNR=8.5						
ILAR	**Eielson Array**	**43.64**	**35**	P	**P**	**04 18 29.4**	**+0.7**
	comp=Z,1.8nm,0.8s,baz=256,slow=5.3,SNR=25						
INK	**Inuvik**	**48.40**	**30**	P	**P**	**04 19 06.6**	**+0.7**
	comp=Z,1.7nm,0.3s,baz=306,slow=8.9,SNR=34						
YKA	**Yellowknife Ar**	**57.88**	**32**	P	**P**	**04 20 14.9**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=297,slow=6.5,SNR=4.5						
KEV	**Kevo**	**58.74**	**339**	*e*P	**P**	**04 20 21.0**	**-0.3**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KEV	**Kevo**	**58.74**	**339**	*ep*	**P**	**04 20 21.0**	**-0.3**
	comp=Z,0.7nm,0.3s						
ARCES	**ARCESS Array B**	**59.28**	**339**	P	**P**	**04 20 25.0**	**0.0**
	comp=Z,4.3nm,1.0s,baz=48,slow=7.8,SNR=6.7						
JOF	**Joensuu**	**61.79**	**331**	*e*P	**P**	**04 20 41.5**	**-0.6**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JOF	**Joensuu**	**61.79**	**331**	*ep*	**P**	**04 20 41.5**	**-0.6**
	comp=Z,1.2nm,0.3s						
WRA	**Warramunga Arr**	**63.06**	**190**	P	**P**	**04 20 51.3**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=11,slow=6.8,SNR=3.2						
KAF	**Kangasniemi**	**64.06**	**332**	*e*P	**P**	**04 20 56.4**	**-0.8**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KAF	**Kangasniemi**	**64.06**	**332**	*ep*	**P**	**04 20 56.4**	**-0.8**
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**64.60**	**332**	P	**P**	**04 21 00.7**	**-0.1**
	comp=Z,5.0nm,0.5s,baz=46,slow=7.7,SNR=68						
ASAR	**Alice Springs**	**66.79**	**190**	P	**P**	**04 21 16.1**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=3.8,slow=6.4,SNR=4.9						
NB2	**NORSAR Subarra**	**69.59**	**338**	P	**P**	**04 21 32.1**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=34,slow=6.5						
NOA	**NORSAR Array B**	**69.59**	**338**	P	**P**	**04 21 32.0**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=35,slow=6.3,SNR=7.6						
NVAR	**Mina Array Bea**	**70.08**	**56**	P	**P**	**04 21 37.4**	**+1.4**
	comp=Z,0.7nm,0.6s,baz=284,slow=6.5,SNR=3.9						
AKASG	**Malin Array Be**	**70.89**	**322**	P	**P**	**04 21 39.9**	**-0.5**
AKASG	**Malin Array Be**	**70.89**	**322**	P	**P**	**04 21 39.9**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=40,slow=6.7,SNR=4.8						
PDAR	**Pinedale Array**	**72.31**	**48**	P	**P**	**04 21 49.8**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=27,slow=1.4,SNR=8.4						
BRTR	**Keskin Array B**	**76.43**	**312**	P	**P**	**04 22 13.8**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=75,slow=6.3,SNR=3.1						
GERES	**GERESS Array B**	**78.78**	**329**	P	**P**	**04 22 26.0**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=46,slow=5.8,SNR=5.3						
SCHQ	**Schefferville**	**79.26**	**18**	P	**P**	**04 22 28.7**	**+0.3**
	comp=Z,3.0nm,0.7s,baz=30,slow=20,SNR=3.9						
TXAR	**Lajitas Array**	**85.14**	**54**	P	**P**	**04 23 00.4**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=281,slow=2.4,SNR=7.8						
TORD	**Torodi Ar. Bea**	**114.41**	**319**	PKiKP	PKPdf	04 29 02.4	-0.3
	comp=Z,0.6nm,1.2s,baz=22,slow=3.3,SNR=2.9						
ROSC	**El Rosal**	**121.27**	**46**	PKP	**PKPdf**	**04 29 15.5**	**-1.0**
	comp=Z,2.4nm,0.4s,baz=90,slow=19,SNR=3.9						
DBIC	**Dimbokro**	**123.14**	**322**	PKP	**PKPdf**	**04 29 18.8**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=184,slow=13,SNR=2.6						

MEX 25 04:17:35.4±0.5, 16°.00N×97°.72W, h9km±8km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.55**	**315**	*e*P	Pg	04 17 45.1	-1.0
PNIG				*i* S	Sg	04 17 52.8	-0.6
VHO	**Vista Hermosa**	**1.43**	**42**	*e*P	Pn	04 17 57.6	-4.2
VHO				*e*S	Sn	04 18 15.2	-5.7
HUIG	**Huatulco**	**1.57**	**98**	*e*P	Pn	04 17 59.9	-3.6
HUIG				*e*S	Sn	04 18 19.4	-4.6
TLIG	**Tlapa**	**1.75**	**333**	*e*P	Pn	04 18 03.3	-2.8
TLIG				*i* S	Sn	04 18 24.2	-4.5
UTMO	**Huajuapan**	**1.82**	**358**	*i* P	Pn	04 18 04.3	-2.9
UTMO				*i* S	Sn	04 18 26.6	-4.0
TPIG	**Tehuac#an**	**2.43**	**8**	*i* P	Pn	04 18 13.1	-2.4
TPIG				*i* S	Sn	04 18 41.4	-4.1
PLIG	**Platanillo**	**2.92**	**325**	*e*P	Pn	04 18 20.3	-1.9
PLIG				*i* S	Sn	04 18 53.9	-3.6

*CSEM **25** 04:35:42.5, 11°.98N×43°.43E, h4km, ML3.5, After DHMR*

DHMR 25 04:35:42.5±1.3, 11°.98N×43°.43E, h4km±11km, ML3.5, 1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.41**	**28**	↓*i*P	Pb	04 36 09.6	-0.2
TRBA				*i* S	Sn	04 36 29.2	+0.6
TRBA				AML	AML	04 36 30.3	
	comp=N,922nm,0.3s						
UDYN	**Al 'Udayn**	**2.04**	**15**	*i* P	Pn	04 36 19.1	+1.2
UDYN				*i* S	Sb	04 36 47.5	+1.0
UDYN				AML	AML	04 36 59.0	
	comp=E,356nm,0.6s						
UDYN	**Al 'Udayn**	**2.04**	**15**	*i* P	Pn	04 36 19.1	+1.2
UDYN				*i* S	Sb	04 36 47.5	+1.1
	comp=E,178nm,0.6s						
LBOS		**2.59**	**43**	*i* P	Pn	04 36 27.3	+1.7
LBOS				*i* S	Sb	04 37 02.8	+0.5
BDHA	**Al Bayda'**	**2.88**	**46**	*i* P	Pn	04 36 31.9	+2.3
BDHA				*i* S	Sb	04 37 11.5	+0.8
BDHA				AML	AML	04 37 25.7	
	comp=E,259nm,0.7s						
BDHA	**Al Bayda'**	**2.88**	**46**	*i* P	Pn	04 36 31.9	+2.4
BDHA				*i* S	Sb	04 37 11.5	+0.9
	comp=E,129nm,0.7s						

*ISCJB **25** 04:36:00.4±0.6, 4°.90N±0°.09×127°.4E±0°.1, h108km, mb3.8/12, Error ellipse: s-maj=23.1km s-min=7.4km az=150.7*
*IDC **25** 04:36:02.4±8.6, 4°.85N×127°.63E, h111km±80km, mb3.5/12, mb1 3.7/12, mb1mx3.5/25, mbtmp3.5/12, Error ellipse: s-maj=46.1km s-min=13.2km az=65.0*

ISC 25 04:36:01.9±0.7, 4°.9N±0°.1×127°.4E±0°.1, h108km, n23, σ1§27/24, mb3.8/12, 1C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.71**	**296**	↓*i*P	**Pn**	**04 36 41.4**	**-2.8**
BIPH	**Bislig**	**3.42**	**343**	↑*e*P	**Pn**	**04 36 50.6**	**-2.9**
BIPH				*e*S	Sn	04 37 26.9	-6.5
CGP	**Cagayan de Oro**	**4.44**	**323**	*e*P	**Pn**	**04 37 06.4**	**-0.8**
CGP				*i* S	**Sn**	**04 37 56.8**	**-1.1**
FITZ	**Fitzroy Crossi**	**22.92**	**184**	P	**P**	**04 40 56.6**	**-0.3**
	1.2nm,0.5s,baz=359,slow=10,SNR=9.1						
WRA	**Warramunga Arr**	**25.61**	**165**	P	**P**	**04 41 20.3**	**-1.2**
	1.7nm,0.5s,baz=343,slow=10,SNR=11						
ASAR	**Alice Springs**	**29.09**	**168**	P	**P**	**04 41 52.2**	**-0.3**
	0.4nm,0.4s,baz=351,slow=6.9,SNR=10						
CMAR	**Chiang Mai Arr**	**30.89**	**298**	P	**P**	**04 42 10.2**	**+1.8**
	0.6nm,0.3s,baz=117,slow=7.3						
STKA	**Stephens Creek**	**38.99**	**161**	P	**P**	**04 43 17.3**	**-0.6**
	3.7nm,0.7s,baz=316,slow=10.0,SNR=6.5						
TAPN	**Taplejung**	**43.88**	**305**	*e*P	**P**	**04 43 58.4**	**+0.1**
	8.7nm,0.5s						
ODAN	**Odare**	**43.95**	**304**	*e*P	**P**	**04 43 59.1**	**+0.2**
	9.8nm,0.6s						
RAMN	**Ramite**	**44.64**	**304**	*e*P	**P**	**04 44 04.8**	**+0.5**
	13nm,0.7s						
JIRN	**Jiri**	**45.25**	**305**	*e*P	**P**	**04 44 09.5**	**+0.2**
	14nm,0.6s						
GUN	**Gumba**	**45.60**	**305**	*e*P	**P**	**04 44 11.3**	**-0.7**
	17nm,0.6s						
SONM	**Songino Array**	**46.42**	**341**	P	**P**	**04 44 19.5**	**+1.6**
	0.7nm,0.5s,baz=152,slow=7.3,SNR=4.3						
KOLN	**Koldanda**	**47.42**	**304**	*e*P	**P**	**04 44 26.4**	**+0.3**
	15nm,0.6s						
DANN	**Dangsing**	**47.50**	**304**	*e

SOEI	**Soe** 465nm,1.1s,13µm	5.38	245	P	Pn	05 02 10.7	-1.0
SOEI	**Soe** baz=5.3,SNR=77	5.38	245	P	Pn	05 02 10.8	-0.9
FAKI	**Fak Fak** 136nm,0.7s,3µm	5.44	34	P	Pn	05 02 09.3	-3.1
FAKI	**Fak Fak** baz=5.5,SNR=103	5.44	34	P	Pn	05 02 09.1	-3.4
MTN	**Manton Dam** baz=5.6,SNR=821	5.68	161	P	Pn	05 02 13.8	-1.8
KMPI	**Kaimana, Papua** 264nm,0.8s,10µm	5.86	50	P	Pn	05 02 15.1	-3.0
KDU	**Kakadu** baz=6.1,SNR=150	6.12	148	P	Pn	05 02 19.1	-2.3
SWI	**Sorong** 91nm,1.0s,2µm	6.87	18	P	Pn	05 02 29.7	-1.9
SWI	**Sorong** baz=7.0,SNR=17	6.87	18	P	Pn	05 02 29.8	-1.9
MMRI	**Maumere**	6.99	260	*e*Pn	Pn	05 02 28.8	-4.4
KNRA	**Kununurra** baz=8.1,SNR=230	8.18	183	P	Pn	05 02 46.2	-3.0
BKSI	**Bulukumba** 19nm,0.8s	9.26	283	P	Pn	05 03 05.1	+1.2
BAKI	**Biak** 214nm,0.8s,3µm	9.29	48	P	Pn	05 03 03.2	-1.0
MRSI	**Marisa**	10.70	317	P	Pn	05 03 25.6	+2.5
FITZ	**Fitzroy Crossi**	11.13	198	*e*Pn	Pn	05 03 24.2	-4.7
FITZ				S	Sn	05 05 18.5	-13
FITZ				*e*Sn	Sn	05 05 22.5	-9.1
FITZ	**Fitzroy Crossi** baz=11,SNR=74	11.13	198	P	Pn	05 03 24.0	-4.9
FITZ	**Fitzroy Crossi** 8.2nm,0.3s,baz=29,slow=11,SNR=190	11.13	198	P	Pn	05 03 24.1	-4.7
FITZ	8.8nm,0.3s,baz=68,slow=17,SNR=4.3			S	Sn	05 05 18.5	-13
WRAB	**Tennant Creek**	13.37	159	*e*Pn	Pn	05 03 53.5	-4.5
WRA	**Warramunga Arr**	13.38	159	P	Pn	05 03 53.5	-4.7
WRA				S	Sn	05 06 12.9	-13
WRA	**Warramunga Arr** 7.4nm,0.3s,baz=341,slow=13,SNR=68	13.38	159	P	Pn	05 03 53.5	-4.7
WRA	15nm,0.3s,baz=330,slow=23,SNR=11			S	Sn	05 06 12.9	-13
COEN	**Coen** 132nm,0.9s	15.17	116	*e*Pn	Pn	05 04 19.4	-1.5
COEN	**Coen** baz=15,SNR=11	15.17	116	P	Pn	05 04 20.7	-0.2
MBWA	**Marble Bar** 70nm,1.8s	16.41	213	*e*Pn	Pn	05 04 34.0	-2.2
MBWA				*e*Sn	Sn	05 07 28.7	-10
AS31	**Alice Springs**	16.74	165	*e*Pn	Pn	05 04 38.0	-2.2
AS31				*e*Sn	Sn	05 07 31.9	-15
ASAR	**Alice Springs**	16.74	165	P	Pn	05 04 39.0	-1.2
ASAR				S	Sn	05 07 32.7	-14
ASAR	**Alice Springs** 6.6nm,0.3s,baz=336,slow=8.4,SNR=110	16.74	165	P	Pn	05 04 39.0	-1.2
ASAR	3.7nm,0.3s,baz=327,slow=15,SNR=6.8			S	Sn	05 07 32.7	-14
AS01	**Alice Springs**	16.75	165	*e*Pn	Pn	05 04 38.5	-1.9
PMG	**Port Moresby**	17.88	97	P	Pn	05 04 54.8	+0.9
PMG				S	S	05 08 02.1	-10
PMG	**Port Moresby** 1.6nm,0.3s,baz=325,slow=8.9,SNR=5.6	17.88	97	P	Pn	05 04 54.8	+0.9
PMG	0.7nm,0.3s,baz=174,slow=19,SNR=2.8			S	S	05 08 02.1	-10
SBUM	**Sibu**	19.59	300	P	P	05 05 11.9	+0.4
SBUM	**Sibu** 22nm,0.9s	19.59	300	*e*P	P	05 05 11.3	-0.2
CTA	**Charters Tower**	20.76	129	P	Pn	05 05 25.4	-2.4
CTA	**Charters Tower** 3.9nm,0.7s,baz=304,slow=14,SNR=6.5	20.76	129	P	Pn	05 05 25.4	-2.4
KSM	**Kuching**	20.83	294	P	P	05 05 24.6	-0.2
KSM	**Kuching** 36nm,0.7s	20.83	294	*e*P	P	05 05 23.4	-1.3
KSM	**Kuching** baz=21,SNR=17	20.83	294	P	P	05 05 25.3	+0.5
GIRL	**Giralia** baz=21,SNR=3.8	20.86	222	P	Pn	05 05 27.1	-1.9
MEEK	**Meekatharra** baz=22,SNR=26	21.56	207	P	P	05 05 32.9	+0.3
FORT	**Forrest** 52nm,0.7s	23.23	182	*e*P	P	05 05 47.8	-1.2
FORT	**Forrest** baz=23,SNR=14	23.23	182	P	P	05 05 50.3	+1.4
QLP	**Quilpie** baz=24,SNR=19	23.80	145	P	P	05 05 55.3	+1.1
MORW	**Morawa** baz=25,SNR=15	24.82	208	P	P	05 06 03.8	+0.4
STKA	**Stephens Creek** 41nm,2.6s	26.91	156	*e*P	P	05 06 22.5	+0.2
STKA	**Stephens Creek** baz=27,SNR=7.2	26.91	156	P	P	05 06 23.2	+0.9
STKA	**Stephens Creek** 6.1nm,0.7s,baz=321,slow=8.9,SNR=14	26.91	156	P	P	05 06 23.2	+0.9
NWAO	**Narrogin (SRO)**	27.67	202	P	P	05 06 29.7	+0.7
NWAO	**Narrogin (SRO)** 7.6nm,0.6s,baz=22,slow=10,SNR=11	27.67	202	P	P	05 06 29.7	+0.7
CMSA	**Cobar Meteorol** baz=28,SNR=24	28.48	149	P	P	05 06 37.5	+1.3
RKGY	**Rocky Gully** baz=29,SNR=6.7	29.27	201	P	P	05 06 46.0	+2.8
ARPS	**Mount Arapiles** baz=31,SNR=7.4	31.37	160	P	P	05 07 03.5	+1.8
PSI	**Prapat**	31.88	288	P	P	05 07 04.9	-1.7
PSI	**Prapat**	31.88	288	P	P	05 07 04.4	-2.2
PSI	**Prapat** baz=32,SNR=5.2	31.88	288	P	P	05 07 05.2	-1.5
PSI	**Prapat** 4.9nm,0.5s,baz=155,slow=6.4,SNR=9.1	31.88	288	P	P	05 07 04.4	-2.2
QIZ	**Qiongzhong**	32.51	324	P	P	05 07 12.6	+0.7
QIZ				pP	pP	05 07 38.5	-1.8
QIZ				sP	sP	05 07 49.1	-6.2
QIZ				S	S	05 12 08.8	+3.3
QIZ				sS	sS	05 13 04.5	-2.7
QIZ	comp=Z,5.0nm,1.6s			AMB	AMB		
SKNT	**Sakolnakorn** 16nm,1.0s,3µm	34.80	314	P	P	05 07 31.5	-0.3
UTHA	**Uthaitani** 3.4nm,0.9s	37.30	308	P	P	05 07 52.8	-0.3
CM01	**Chiang Mai Arr**	39.39	311	*e*P	P	05 08 02.7	-7.8
CMAR	**Chiang Mai Arr**	39.42	311	P	P	05 08 10.3	-0.5
CMAR	**Chiang Mai Arr** 2.0nm,0.5s,baz=123,slow=6.6	39.42	311	P	P	05 08 10.3	-0.5
CRAI	**Chiangrai** 8.3nm,0.8s	39.51	315	P	P	05 08 11.6	+0.1
CHTO	**Chiang Mai**	39.64	312	P	P	05 08 11.9	-0.7
CHTO	**Chiang Mai** 5.5nm,0.8s	39.64	312	*e*P	P	05 08 11.5	-1.2
CHTO	**Chiang Mai** 35nm,1.0s	39.64	312	P	P	05 08 12.3	-0.3
GYA	**Guiyang**	40.19	328	*e*P	P	05 08 18.0	+0.8
GYA				pP	pP	05 08 46.3	-0.1
GYA				sP	sP	05 09 01.3	+0.1
GYA				PP	PnPn	05 09 57.4	+0.2
GYA				PcP	PcP	05 10 19.4	+0.5
GYA				ScP	ScP	05 13 56.8	+0.7
GYA				PcS	PcS	05 14 08.3	-1.4
GYA				S	S	05 14 17.0	+2.5
GYA				sS	sS	05 15 04.3	-1.0
GYA	comp=Z,10.0nm,0.8s			AMB	AMB		
NJ2	**Nanjing**	40.51	346	*e*P	P	05 08 20.9	+1.3
NJ2	comp=Z,10.0nm,0.7s			AMB	AMB		
KMI	**Kunming**	41.38	322	P	P	05 08 27.9	+0.8
KMI	comp=Z,6.0nm,0.8s			AMB	AMB		
MJAR	**Matsushiro Arr**	44.58	10	P	P	05 08 49.8	-2.6
MJAR	**Matsushiro Arr** 1.8nm,0.5s,baz=196,slow=10,SNR=11	44.58	10	P	P	05 08 49.8	-2.6
KSAR	**Wonju Array Be**	44.68	359	P	P	05 08 51.8	-1.4
KSRS	**Korea Array** 1.5nm,0.6s,baz=176,slow=9.6,SNR=6.7	44.69	359	P	P	05 08 51.8	-1.5
CD2	**Chengdu**	45.27	329	P	P	05 09 00.3	+2.3
CD2	comp=Z,20nm,0.5s			AMB	AMB		
CD2	comp=Z,230nm,4.5s			AMB	AMB		
SHL	**Shillong**	48.93	313	*i*P	P	05 09 25.0	-1.7
HHC	**Hu-ho-hao-te**	50.73	343	*e*P	P	05 09 42.1	+2.1
HHC				pP	pP	05 10 09.1	-1.3
HHC				sP	sP	05 10 21.0	-4.0
HHC				PcP	PcP	05 10 56.8	+1.5
HHC				PP	PP	05 11 41.8	+4.3
HHC				ScP	ScP	05 14 40.3	+0.9
HHC				S	S	05 16 49.9	+4.4
HHC				sS	sS	05 17 33.9	-4.2
HHC				ScS	ScS	05 19 18.5	+0.8
HHC				SS	SS	05 20 22.8	+0.9
HHC				AMB	AMB		
HHC	comp=Z,62nm,1.2s			AMB	AMB		
HHC	comp=Z,170nm,6.0s			LR	LR		
HHC	comp=N,340nm,14.3s			LR	LR		
HHC	comp=E,500nm,15.5s			LR	LR		
HHC	comp=Z,320nm,15.5s			LR	LR		
CN2	**Changchun**	51.13	357	*e*P	P	05 09 43.8	+1.1
RPZ	**Rata Peaks**	51.37	142	P	P	05 09 46.6	+1.9
RPZ	**Rata Peaks** 6.4nm,0.7s,baz=13,slow=4.5,SNR=3.5	51.37	142	P	P	05 09 46.6	+1.9
USRK	**Ussuriysk Arra** 3.0nm,0.6s,baz=184,slow=7.7,SNR=8.8	51.48	3	P	P	05 09 44.0	-1.3
LSA	**Lhasa**	51.98	317	P	P	05 09 49.6	-0.3
LSA	**Lhasa**	51.98	317	*e*P	P	05 09 50.6	+0.7
ASAJ	**Asahikawa**	52.75	12	P	P	05 09 53.7	-1.0
ASAJ	**Asahikawa** 4.1nm,0.4s,baz=102,slow=4.2,SNR=4.9	52.75	12	P	P	05 09 53.7	-1.0
URZ	**Urewera** 5.3nm,0.9s	52.93	133	*e*P	P	05 09 57.0	+0.8
ODAN	**Odare** 21nm,0.6s	52.96	312	*e*P	P	05 09 56.0	-0.9
TAPN	**Taplejung** 48nm,0.9s	53.00	312	*e*P	P	05 09 56.3	-1.0
RAMN	**Ramite** 55nm,0.8s	53.59	311	*e*P	P	05 10 00.8	-0.8
GTA	**Gaotai**	53.99	332	*e*P	P	05 10 04.3	+0.2
GTA	comp=Z,6.0nm,0.8s			AMB	AMB		
JIRN	**Jiri** 23nm,0.7s	54.29	312	*e*P	P	05 10 05.6	-1.2
GUN	**Gumba** 46nm,0.8s	54.66	312	*e*P	P	05 10 08.4	-1.0
PKI	**Pulchoki** 12nm,0.6s	54.82	311	*e*P	P	05 10 09.1	-1.4
PKIN	**Phulchoki** 8.3nm,0.5s	54.83	311	*e*P	P	05 10 09.2	-1.4
KKN	**Kakani** 14nm,0.5s	55.03	311	*e*P	P	05 10 10.7	-1.3
DMN	**Daman** 30nm,0.9s	55.07	311	*e*P	P	05 10 11.1	-1.1
GKN	**Gorkha** 16nm,0.4s	55.63	311	*e*P	P	05 10 15.0	-1.1
HYB	**Hyderabad**	55.80	297	*i*P	P	05 10 16.0	-1.4
KOLN	**Koldanda** 36nm,0.8s	56.28	310	*e*P	P	05 10 19.8	-1.1
DANN	**Dangsing** 22nm,0.8s	56.47	311	*e*P	P	05 10 21.0	-1.3
ULN	**Ulaanbaatar** 36nm,2.7s	58.46	343	*e*P	P	05 10 35.3	-0.4
ULN				*e*S	S	05 18 31.7	+3.0
SONM	**Songino Array**	58.63	342	P	P	05 10 37.1	+0.3
SONM	**Songino Array** 0.9nm,0.6s,baz=164,slow=8.2,SNR=6.5	58.63	342	P	P	05 10 37.1	+0.3
WMQ	**Urumqi**	63.35	328	*e*P	P	05 11 10.3	+1.6
PETK	**Petropavlovsk-**	65.01	19	P	P	05 11 19.3	+0.1
PETK	**Petropavlovsk-** 3.2nm,0.8s,baz=211,slow=8.2,SNR=3.7	65.01	19	P	P	05 11 19.3	+0.1
MK01	**Makanchi Array**	68.15	327	*e*P	P	05 11 38.7	-0.7
MK31	**Makanchi Array**	68.17	327	*e*P	P	05 11 39.0	-0.6
MKAR	**Makanchi Array**	68.17	327	P	P	05 11 39.0	-0.5
MKAR	**Makanchi Array** 3.0nm,0.6s,baz=114,slow=8.9,SNR=28	68.17	327	P	P	05 11 39.0	-0.5
TKM2	**Tokmak 2** 5.3nm,0.8s	69.83	321	*e*P	P	05 11 49.7	-0.4
AAK	**Ala-Archa**	70.38	320	P	P	05 11 53.3	0.0
AAK	**Ala-Archa** 3.0nm,0.6s,baz=138,slow=5.9,SNR=10	70.38	320	P	P	05 11 53.3	0.0
ZAA0	**Zalesovo Array**	71.64	334	*e*P	P	05 11 58.9	-1.6
ZALV	**Zalesovo Beam**	71.64	334	P	P	05 11 58.8	-1.7
ZALV	**Zalesovo Beam** 1.0nm,0.4s,baz=134,slow=4.6,SNR=7.7	71.64	334	P	P	05 11 58.8	-1.7
VNDA	**Vanda** 14nm,2.0s	72.09	173	P	P	05 12 03.7	+0.8
VNDA	**Vanda** 1.4nm,0.7s,baz=311,slow=5.8,SNR=11	72.09	173	P	P	05 12 03.7	+0.8
KURBB	**Kurchatov Arra** 3.9nm,0.7s,baz=130,slow=4.9,SNR=44	72.48	329	P	P	05 12 04.7	-0.9
KURK	**Kurchatov**	72.49	329	P	P	05 12 04.7	-0.9
KKAR	**Karatay Array**	73.16	319	*e*P	P	05 12 09.4	-0.4
MAW	**Mawson** 22nm,3.0s	74.23	201	*e*P	P	05 12 16.5	+0.9
MAW	**Mawson** baz=74,SNR=6.9	74.23	201	P	P	05 12 17.2	+1.6
MAW	**Mawson** 2.2nm,0.7s,baz=66,slow=8.7,SNR=8.2	74.23	201	P	P	05 12 17.1	+1.5
IDAH	**Dahanechah**	76.96	306	*e*P	P	05 12 32.7	+0.5
VOSK	**Vostochnaya** 17nm,2.1s	77.56	328	*e*P	P	05 12 32.9	-1.9
IMYA	**Miami**	77.90	310	*e*P	P	05 12 36.1	-1.1
ITEG	**Tejag**	77.91	306	*e*P	P	05 12 36.9	-0.5
BVAR	**Borovoye Array**	78.03	328	P	P	05 12 36.3	-1.0
BVAR	**Borovoye Array** 0.4nm,0.4s,baz=90,slow=4.3,SNR=5.0	78.03	328	P	P	05 12 36.3	-1.0
ABKAR	**Akbulak array** 8.7nm,0.7s	82.37	322	*e*P	P	05 12 59.6	-1.0
QSPA	**South Pole Qui** 88nm,2.8s	82.52	180	*e*P	P	05 13 01.9	+0.5
RAYN	**Ar Rayn** 6.5nm,1.0s	87.20	294	*e*P	P	05 13 24.6	-0.9
ILAR	**Eielson Array**	94.10	25	P	P	05 13 55.0	-1.7
ILAR	**Eielson Array** 0.2nm,0.6s,baz=276,slow=4.4,SNR=3.9	94.10	25	P	P	05 13 55.0	-1.7
GERES	**GERESS Array B**	112.26	320	PKiKP	PKiKP	05 19 13.2	-0.7
GERES	**GERESS Array B** 0.4nm,0.7s,baz=100,slow=1.5,SNR=4.8	112.26	320	PKiKP	PKiKP	05 19 13.2	-0.7
TORD	**Torodi Ar. Bea**	128.11	281	PKP	PKPdf	05 19 45.3	+0.3
TORD	**Torodi Ar. Bea** 0.7nm,0.5s,baz=26,slow=2.2,SNR=8.0	128.11	281	PKP	PKPdf	05 19 45.3	+0.3
PLCA	**Paso Flores**	128.72	161	PKP	PKPdf	05 19 47.5	+1.8
PLCA	**Paso Flores** 2.7nm,1.0s,baz=101,slow=8.8,SNR=3.0	128.72	161	PKP	PKPdf	05 19 47.5	+1.8
DBIC	**Dimbokro**	134.41	272	PKP	PKPdf	05 19 58.6	+1.6
DBIC	**Dimbokro** 1.2nm,0.6s,baz=140,slow=7.9,SNR=3.6	134.41	272	PKP	PKPdf	05 19 58.6	+1.6
CFAA	**Coronel Fontan**	137.73	158	PKP	PKPdf	05 20 04.1	+1.2
CFAA	**Coronel Fontan** 0.3nm,0.6s,baz=281,slow=6.9,SNR=3.5	137.73	158	PKP	PKPdf	05 20 04.1	+1.2
CPUP	**Villa Florida**	145.82	170	PKPbc	PKPbc	05 20 17.4	-0.6
CPUP	**Villa Florida** 0.8nm,0.3s,baz=245,slow=1.0,SNR=5.3	145.82	170	PKPbc	PKPbc	05 20 17.4	-0.6
LPAZ	**La Paz**	150.83	144	PKPbc	PKPbc	05 20 33.6	+1.4
LPAZ	**La Paz** 1.6nm,0.4s,baz=40,slow=1.2,SNR=20	150.83	144	PKPbc	PKPbc	05 20 33.6	+1.4

MEX 25 05:23:58.3±0.7, 17°.13N×100°.15W, h40km±9km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	0.14	234	*e*P	Pn	05 24 03.1	-2.9
CAIG				*e*S	Sn	05 24 08.5	-3.6
MEIG	**Mezcala**	0.94	33	*e*P	Pn	05 24 13.4	-1.8
MEIG				*e*S	Sn	05 24 25.0	-2.6
ARIG	**Puente Sto Nin**	1.16	351	*e*P	Pn	05 24 16.9	-1.2
ARIG				*i*S	Sn	05 24 30.5	-2.3
ZIIG	**Zihuatanejo**	1.34	291	*i*P	Pn	05 24 18.9	-1.6
ZIIG				*i*S	Sn	05 24 35.6	-1.5
PLIG	**Platanillo**	1.40	26	*i*P	Pn	05 24 20.8	-0.7
PLIG				*i*S	Sn	05 24 36.1	-2.7
TLIG	**Tlapa**	1.57	74	*i*P	Pn	05 24 22.4	-1.5
TLIG				*i*S	Sn	05 24 41.5	-1.7
YAIG	**Yautepec**	2.01	31	*i*P	Pn	05 24 29.3	-0.7
YAIG				*i*S	Sn	05 24 51.9	-2.2
PNIG	**Pinotepa**	2.08	110	*i*P	Pn	05 24 29.4	-1.3
PNIG				*i*S	Sn	05 24 54.1	-1.2
PPM	**Popocatepetl**	2.41	37	*i*P	Pn	05 24 34.6	-1.3
PPM				*i*S	Sn	05 25 02.7	-2.0

*IDC **25** 05:52:04.0±1.4, 24°.32S×116°.00W, h0km, mb3.9/5, mb1 4.3/5, mb1mx4.0/17, mbtmp3.9/5, MS3.8/6, Ms1 3.8/6, ms1mx3.6/22, Error ellipse: s-maj=44.6km s-min=36.2km az=38.0*

ISC 25 05:52:05.5±1.4, 24°.4S±0°.3×116°.1W±0°.3, h12km, n18, σ1§06/9, mb4.1/5, MS3.8/6, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPT	**Papeete** comp=Z,249nm,21.1s,baz=122,slow=28	31.97	276	LR	LR	06 07 17.8	
H03N2	**Juan Fernandez** baz=277,slow=0.7,SNR=86	33.57	114	T	T	06 34 11.3	
H03N3	**Juan Fernandez** baz=277,slow=0.7,SNR=103	33.58	114	T	T	06 34 15.3	
H03N1	**Juan Fernandez** baz=277,slow=0.7,SNR=94	33.59	114	T	T	06 34 20.0	
PLCA	**Paso Flores** comp=Z,209nm,19.8s,baz=193,slow=30	41.18	125	LR	LR	06 12 31.5	
LPAZ	**La Paz** 2.1nm,0.8s,baz=290,slow=5.6,SNR=8.8	45.48	89	P	P	06 00 26.1	+0.5
LPAZ	comp=Z,77nm,18.5s,baz=78,slow=31			LR	LR	06 15 34.1	
CPUP	**Villa Florida** comp=Z,88nm,20.0s,baz=68,slow=30	52.70	105	LR	LR	06 18 33.7	
TXAR	**Lajitas Array** 0.3nm,0.8s,baz=173,slow=10.0,SNR=3.0	54.75	13	P	P	06 01 34.9	-0.2
TXAR	comp=Z,45nm,20.6s,baz=150,slow=29			LR	LR	06 18 04.1	
NVAR	**Mina Array Bea** 1.5nm,1.0s,baz=193,slow=7.4,SNR=7.4	62.55	358	P	P	06 02 30.3	+0.9
NVAR	comp=Z,96nm,21.5s,baz=277,slow=30			LR	LR	06 23 14.8	
PDAR	**Pinedale Array** 1.1nm,0.4s,baz=178,slow=8.5,SNR=7.0	67.11	5	P	P	06 02 58.2	-0.9
H11S2	**WAKE ISLAND Hy** baz=121,slow=0.7,SNR=49	86.47	292	T	T	07 40 17.5	
H11S1	**WAKE ISLAND Hy** baz=121,slow=0.7,SNR=50	86.48	292	T	T	07 40 19.2	
H11S3	**WAKE ISLAND Hy** baz=121,slow=0.7,SNR=28	86.49	292	T	T	07 40 18.8	
YKA	**Yellowknife Ar** 1.6nm,0.8s,baz=186,slow=5.0,SNR=4.8	86.61	1	P	P	06 04 49.0	+0.7
ZALV	**Zalesovo Beam** 0.9nm,0.6s,baz=202,slow=0.8,SNR=6.0	146.62	337	PKPbc	PKPdf	06 11 45.7	+0.5
CMAR	**Chiang Mai Arr** 1.3nm,0.4s,baz=118,slow=1.5,SNR=5.7	146.95	267	PKPbc	PKPab	06 11 50.8	+0.6
BRTR	**Keskin Array B** 1.9nm,0.9s,baz=0.0,slow=0.2,SNR=7.7	150.30	52	PKPbc	PKPbc	06 11 55.9	-1.1
MKAR	**Makanchi Array** 0.5nm,0.8s,baz=29,slow=3.3,SNR=2.8	153.27	331	PKPbc	PKPbc	06 12 01.9	-1.5

*IDC **25** 06:03:35.1±1.0, 8°.26S×121°.48E, h0km, mb3.9/4, mb1 4.0/8, mb1mx3.8/24, mbtmp3.8/8, ML3.7/4, MS3.0/1, Ms1 3.0/1, ms1mx2.7/35, Error ellipse: s-maj=85.8km s-min=17.1km az=64.0*

ISC 25 06:03:39.5±0.8, 8°.1S±0°.1×121°.9E±0°.2, h35km, n8, σ2§58/11, mb3.8/4, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang** 2.2nm,0.3s,baz=173,slow=12,SNR=8.0	3.77	325	Pn	Pn	06 04 34.9	-0.2
KAPI	3.2nm,0.3s,baz=91,slow=3.9,SNR=3.5			Sn	Sn	06 05 15.4	-2.8
KAPI	comp=Z,212nm,18.2s,baz=165,slow=42			LR	LR	06 06 10.3	
FITZ	**Fitzroy Crossi** 0.7nm,0.3s,baz=358,slow=9.4,SNR=22	10.55	160	Pn	Pn	06 06 08.6	+0.4
FITZ	0.3nm,0.3s,baz=80,slow=18,SNR=3.7			Sn	Sn	06 08 02.1	-3.2
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=308,slow=13,SNR=12	16.82	136	P	Pn	06 07 33.0	+0.6
WRA	0.2nm,0.3s,baz=310,slow=23,SNR=4.5			S	Sn	06 10 33.3	-5.1
WRA	comp=Z,19nm,19.5s,baz=170,slow=41			LR	LR	06 15 20.0	
ASAR	**Alice Springs** 0.5nm,0.3s,baz=318,slow=11,SNR=21	19.26	145	P	Pn	06 08 03.9	+1.6
STKA	**Stephens Creek** 1.9nm,0.5s,baz=331,slow=8.2,SNR=8.2	29.90	145	P	P	06 09 46.1	+2.1
SONM	**Songino Array** 0.4nm,0.4s,baz=159,slow=9.0,SNR=3.5	57.40	348	P	P	06 13 25.8	+1.3
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=142,slow=7.3,SNR=4.5	65.05	331	P	P	06 14 15.7	-0.6
VNDA	**Vanda** 0.5nm,0.5s,baz=317,slow=7.4,SNR=9.2	72.40	172	P	P	06 15 02.2	+0.7

*MOS **25** 06:16:57.2±1.0, 29°.13N×130°.15E, h33km, mb5.2/45, MS4.6/12, Error ellipse: s-maj=8.2km s-min=4.8km az=108.0*

*SZGRF **25** 06:16:59.5, 29°.64N×131°.13E, h33km, mb5.0, Southeast of Ryukyu Islands, Japan*

*JMA **25** 06:16:59.4±0.1, 29°.18N×130°.06E, h66km±3km, M4.9*

JMA Felt II J1.

*ISCJB **25** 06:17:00.3±0.3, 29°.20N±0°.02×129°.99E±0°.03, h50km±2km, mb4.9/119, MS4.7/44, Error ellipse: s-maj=4.2km s-min=2.8km az=37.2*

*BJI **25** 06:17:00.5, 29°.10N×130°.10E, h50km, mB5.0/39, mb4.8/47, Ms4.7/49, Ms7 4.6/47*

*NIED **25** 06:17:00, 29°.26N×130°.10E, h38km, Mw5.2 Best double couple: M0 7.01000×10^16 NP1:φs43.00000°, δ69.00000°, λ90.00000°. NP2:φs222.00000°, δ21.00000°, λ89.00000°.*

*IDC **25** 06:17:01.7±2.2, 29°.20N×130°.09E, h58km±18km, mb4.3/28, mb1 4.5/32, mb1mx4.4/36, mbtmp4.3/32, ML4.3/4, MS4.5/25, Ms1 4.5/25, ms1mx4.3/50, Error ellipse: s-maj=13.8km s-min=12.1km az=123.0*

*NEIC **25** 06:17:02.0±0.5, 29°.17N×130°.05E, h60km±4km, mb5.0/56, MW5.2(NIED), Error ellipse: s-maj=5.4km s-min=3.7km az=144.0*

NEIC Felt at Naha, Okinawa.

*GCMT **25** 06:17:02.7±0.2, 29°.01N×130°.28E, h39km, MW5.1, Moment Tensor Solution. s67,c95; s78,c121; Moment tensor: Scale 10^16 Nm; Mrr 6.07±.23; Mθθ -2.16±.15; Mφφ -3.92±.17; Mrθ 2.04±.13; Mrφ -3.04±.09; Mθφ 0.95±.13; Best double couple: M0 6.50000×10^16 NP1:φs46.00000°, δ55.00000°, λ101.00000°. NP2:φs208.00000°, δ37.00000°, λ75.00000°. Principal axes: T 6.5500, Plg77.0000°, Azm354.0000°; N -0.0400, Plg9.0000°, Azm220.0000°; P -6.5200, Plg9.0000°, Azm128.0000°; Data Used: II IU IC G CN.*

ISC 25 06:17:00.6±0.4, 29°.13N±0°.03×130°.15E±0°.03, h48km±2km, n535, σ1§27/587, mb4.9/121, MS4.7/44, 82C-67D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	0.74	341	P	Pn	06 17 13.7	-1.2
JNN				*e*S	Sn	06 17 25.5	+0.2
JZK	**Kikaishima**	0.83	191	P	Pn	06 17 16.0	-0.1
JZK				*e*S	Sn	06 17 29.8	+2.5
JAM	**Amami Oshima**	0.86	214	P	Pn	06 17 15.6	-0.9
JAM				*e*S	Sn	06 17 28.1	+0.1
JAMN	**Amaminishikomi**	1.23	224	P	Pn	06 17 21.3	-0.2
JAMN				*e*S	Sn	06 17 36.6	-0.4
JKC	**Kuchinoerabu**	1.32	2	P	Pn	06 17 21.7	-1.0
JKC				*e*S	Sn	06 17 38.3	-0.9
JTN	**Tanegashima 3**	1.68	25	P	Pn	06 17 27.0	-0.6
JTN				*e*S	Sn	06 17 47.8	-0.1
JTK	**Tokunoshima**	1.71	218	P	Pn	06 17 28.3	+0.3
JTK				*e*S	Sn	06 17 48.6	0.0
JTSR	**Tashiro 2**	2.13	18	P	Pn	06 17 33.4	-0.4

KSRS **Korea Array** 8.50 348 P **Pn** 06 19 02.8 +1.7
2.0nm,0.3s,baz=173,slow=14,SNR=45
KSRS LR LR 06 22 31.9
comp=Z,4μm,19.4s,baz=161,slow=39
INCN **Inchon** 8.83 341 *e*Pn **Pn** 06 19 08.0 +2.4
YHNB **Yeheng** 9.00 242 *e*Pn **Pn** 06 19 09.0 +0.9
SSLB **Suanglung** 9.81 239 *e*Pn **Pn** 06 19 18.3 -0.8
38nm,0.9s
SSLB *e*Sn **Sn** 06 21 05.5 -2.3
MAJO **Matsushiro** 10.02 40 *e*P **Pn** 06 19 21.9 -0.1
MAJO **Matsushiro** 10.02 40 *e*Pn **Pn** 06 19 21.9 -0.1
MAT **Matsushiro** 10.02 40 P **Pn** 06 19 21.9 -0.1
MAT *e*S **Sn** 06 21 15.4 +2.4
MJAR **Matsushiro Arr** 10.02 40 P **Pn** 06 19 21.7 -0.3
MJAR **Matsushiro Arr** 10.02 40 P **Pn** 06 19 21.7 -0.3
2.1nm,0.3s,baz=232,slow=15,SNR=27
CBIJ **Chichi jima** 10.82 98 P **Pn** 06 19 30.9 -2.0
JCJ **Chichijima** 10.82 98 P **Pn** 06 19 30.9 -2.0
24nm,0.3s,baz=307,slow=6.5,SNR=7.3
JCJ LR LR 06 23 09.8
comp=Z,2μm,21.0s,baz=250,slow=34
DL2 **Dalian** 12.03 326 *e*P Pn 06 19 43.6 -5.8
DL2 S Sn 06 21 50.4 -12
DL2 AMB AMB
comp=Z,32nm,1.6s
DL2 AMB AMB
comp=Z,400nm,3.9s
DL2 LR LR
comp=N,2μm,14.9s
DL2 LR LR
comp=E,3μm,13.1s
DL2 LR LR
comp=Z,3μm,14.7s
SNY **Shenyang** 13.74 339 ⇑P **P** 06 20 22.0 +2.0
SNY S **S** 06 22 59.4 -4.8
SNY AMB AMB
comp=Z,20nm,0.6s
SNY AMB AMB
comp=Z,640nm,7.7s
SNY LR LR
comp=N,4μm,14.3s
SNY LR LR
comp=E,2μm,12.3s
SNY LR LR
comp=Z,4μm,16.3s
WHN **Wuhan** 13.79 280 P **P** 06 20 18.3 -2.3
WHN LR LR
comp=Z,2μm,9.7s
WHN LR LR
comp=Z,6μm,18.8s
WHN LR LR
comp=Z,5μm,18.6s
USRK **Ussuriysk Arra** 15.11 5 P **P** 06 20 33.7 -1.5
comp=Z,0.5nm,0.3s,baz=185,slow=10.0,SNR=12
USRK LR LR 06 26 29.4
comp=Z,1μm,19.6s,baz=346,slow=38
CN2 **Changchun** 15.11 347 ⇓P **P** 06 20 36.4 +1.1
CN2 AMB AMB
comp=Z,80nm,0.9s
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,4μm,17.0s
CN2 LR LR
comp=Z,2μm,17.0s
CN2 LR LR
comp=Z,5μm,16.0s
MDJ **Mudanjiang** 15.46 359 P **Pn** 06 20 35.6 +0.2
MDJ S **Sn** 06 23 26.3 +0.8
MDJ PcP **PcP** 06 25 36.8 +0.6
MDJ ScP **ScP** 06 29 08.0 +1.6
MDJ PcS **PcS** 06 29 12.8 +1.3
MDJ ScS **ScS** 06 32 46.3 +1.6
MDJ AMB AMB
comp=Z,9.0nm,0.9s
MDJ AMB AMB
comp=Z,200nm,6.0s
MDJ LR LR
comp=Z,1μm,22.1s
MDJ LR LR
comp=Z,730nm,16.6s
MDJ LR LR
comp=Z,1μm,17.9s
BJT **Baijiatuan** 15.80 317 *e*Pn **Pn** 06 20 40.9 +1.0
comp=Z,73nm,0.9s
BJI **Beijing** 15.81 317 P **Pn** 06 20 39.8 -0.2
BJI S **Sn** 06 23 34.8 +0.6
BJI AMB AMB
comp=Z,43nm,1.4s
BJI AMB AMB
comp=Z,250nm,3.6s
BJI LR LR
comp=Z,3μm,18.2s
BJI LR LR
comp=Z,2μm,19.5s
BJI LR LR
comp=Z,2μm,22.1s
ASAJ **Asahikawa** 17.95 30 P **Pn** 06 21 06.2 -0.4
comp=Z,2.6nm,0.8s
ASAJ **Asahikawa** 17.95 30 P **Pn** 06 21 06.2 -0.4
comp=Z,1.7nm,0.3s,baz=228,slow=8.3,SNR=13
ASAJ LR LR 06 28 10.1
comp=Z,2μm,21.2s,baz=217,slow=37
ENH **Enshi** 17.99 279 *e*Pn **P** 06 21 08.3 +1.1
comp=Z,24nm,0.6s
XAN **Xi'an** 18.72 291 P **P** 06 21 15.5 +0.1
XAN pP **pP** 06 21 24.6 -1.9
XAN AMB AMB
comp=Z,10.0nm,0.8s
XAN AMB AMB
comp=Z,120nm,6.5s
XAN LR LR
comp=Z,910nm,19.4s
XAN LR LR
comp=Z,460nm,18.4s
HHC **Hu-ho-hao-te** 19.15 313 *e*P **Pn** 06 21 21.4 +0.1
HHC pP **pP** 06 21 32.1 +0.9
HHC sP **sP** 06 21 38.0 +0.7
HHC PP **PnPn** 06 21 39.8 +4.8
HHC S **S** 06 24 53.3 -1.3
HHC sS **sS** 06 25 08.3 -4.3
HHC SS SnSn 06 25 20.0 +10
HHC PcP **PcP** 06 25 41.9 -0.5
HHC AMB AMB
comp=Z,45nm,1.0s
HHC AMB AMB
comp=Z,2μm,7.9s
HHC LR LR
comp=Z,3μm,14.7s
HHC LR LR
comp=Z,4μm,16.7s
HHC LR LR
comp=Z,4μm,16.9s
YUK **Yuzh-Kuril'sk** 19.45 36*c* *i*P P 06 21 18.2 -4.9
YUK *i* S **S** 06 24 59.2 -1.2
YUK MLR MLR
comp=N,418nm,20.0s
YUK MLR MLR
comp=E,374nm,20.0s
YUK MLR MLR
comp=Z,819nm,20.0s
HABR **Khabarovsk** 19.68 10 P **P** 06 21 24.4 -1.1
HABR *e*S **S** 06 25 04.1 -0.7
HABR pmax pmax
comp=Z,32nm,1.1s
HABR MLR MLR
comp=Z,1μm,18.0s
KLR **Kul'dur** 20.11 3 *e*P P 06 21 23.0 -7.2
KLR *e* 06 25 37.0
KLR MLR MLR
comp=Z,2μm,12.0s
YSS **Yuzh-Sakhalins** 20.33 25 *e*P **P** 06 21 31.0 -1.6
YSS *e* 06 21 41.3
YSS pmax pmax
comp=Z,80nm,1.1s
YSS MLR MLR
comp=Z,1μm,15.0s
YSS MLR MLR
comp=N,900nm,17.0s
YSS MLR MLR
comp=E,500nm,17.0s
GYA **Guiyang** 20.94 268 P **P** 06 21 38.9 -0.7
GYA pP **pP** 06 21 51.8 +0.9
GYA sP **sP** 06 21 58.0 +1.1
GYA PP **PnPn** 06 22 02.6 +3.0
GYA S **S** 06 25 24.3 -6.1
GYA sS **sS** 06 25 44.0 -4.7
GYA SS **SnSn** 06 25 58.8 +5.2
GYA ScP **ScP** 06 29 18.0 -0.7
GYA PcS **PcS** 06 29 25.4 +1.2
GYA AMB AMB
comp=E,20nm,0.8s
GYA AMB AMB
comp=E,120nm,4.5s
GYA LR LR
comp=E,740nm,15.8s
GYA LR LR
comp=E,690nm,16.0s
GYA LR LR
comp=E,720nm,15.6s
QIZ **Qiongzhong** 21.06 246 P **P** 06 21 40.8 0.0
QIZ S **S** 06 25 33.3 +0.6
QIZ AMB AMB
comp=E,160nm,6.1s
QIZ LR LR
comp=E,850nm,18.0s
QIZ LR LR
comp=E,600nm,20.5s
QIZ LR LR
comp=E,1μm,23.9s
QIZ **Qiongzhong** 21.06 246 *e*P **P** 06 21 40.9 +0.1
comp=E,17nm,0.8s
HIA **Hailar** 21.62 341 *e*P **P** 06 21 47.2 +0.6
CD2 **Chengdu** 22.90 281 P **P** 06 22 00.3 -0.2
CD2 pP **pP** 06 22 12.3 +0.4
CD2 sP **sP** 06 22 18.1 +0.2
CD2 PP **PnPn** 06 22 30.6 +4.2
CD2 S **S** 06 26 01.5 -5.4
CD2 sS Sn 06 26 21.3 -3.9
CD2 SS **SnSn** 06 26 47.0 +5.5
CD2 AMB AMB
comp=E,70nm,0.8s
CD2 AMB AMB
comp=E,260nm,7.1s
CD2 LR LR
comp=E,3μm,17.8s
CD2 LR LR
comp=E,2μm,14.9s
LZH **Lanzhou** 23.17 294 ⇑P **P** 06 22 05.0 +1.7
LZH pP **pP** 06 22 16.6 +1.7
LZH sP **sP** 06 22 22.0 +1.2
LZH S **S** 06 26 10.0 -1.5
LZH sS Sn 06 26 31.0 -0.8
LZH SS **SnSn** 06 26 55.4 +7.1
LZH AMB AMB
comp=E,48nm,1.0s
LZH AMB AMB
comp=E,330nm,5.1s
LZH LR LR
comp=E,1μm,13.7s
LZH LR LR
comp=E,1μm,12.5s
LZH LR LR
comp=E,2μm,15.7s
KMI **Kunming** 24.69 267 P **P** 06 22 18.8 +1.3
KMI pP **pP** 06 22 30.0 0.0
KMI sP **sP** 06 22 35.5 -0.3
KMI PP **PnPn** 06 22 54.8 +3.7
KMI S **S** 06 26 33.5 -2.8
KMI sS **sS** 06 26 56.1 -1.1
KMI SS **SnSn** 06 27 28.1 +2.4
KMI AMB AMB
comp=E,36nm,0.7s
KMI AMB AMB
comp=E,160nm,5.0s
KMI LR LR
comp=E,690nm,17.2s
KMI LR LR
comp=E,1μm,18.0s
KMI LR LR
comp=E,2μm,15.5s
ULN **Ulaanbaatar** 25.84 323 *e*P **P** 06 22 27.3 -0.4
comp=E,11nm,0.7s
SONM **Songino Array** 26.18 322 P **P** 06 22 29.9 -0.8
SONM **Songino Array** 26.18 322 P **P** 06 22 29.9 -0.8
comp=E,12nm,0.6s,baz=142,slow=9.7,SNR=42
SONM LR LR 06 34 13.5
comp=E,3μm,19.3s,baz=125,slow=40
GTA **Gaotai** 26.97 300 ⇓P **P** 06 22 39.3 +1.4
GTA pP **pP** 06 22 51.8 +1.4
GTA sP **sP** 06 22 56.8 +0.7
GTA S **S** 06 27 14.0 +2.1
GTA sS **sS** 06 27 33.8 +0.8
GTA SS SnSn 06 28 31.0 +10
GTA AMB AMB
comp=E,14nm,0.7s
GTA AMB AMB
comp=E,250nm,5.2s
GTA LR LR
comp=E,1μm,17.1s
GTA LR LR
comp=E,2μm,18.5s
GTA LR LR
comp=E,2μm,19.0s
CLNS **Chul'man** 27.94 354 *e*P **sP** 06 23 02.4 -2.1
CLNS *e**PP x 06 23 11.4
CLNS *e* 06 23 43.9
CLNS *e*PPP PPP 06 23 52.5
CLNS *e*SS **SnSn** 06 28 50.3 +6.2
CLNS pmax pmax
comp=Z,14nm,0.8s
CLNS pmax pmax
comp=N,9.0nm,0.8s
CLNS pmax pmax
comp=E,12nm,0.8s
CLNS pmax pmax
comp=Z,4.0nm,0.7s
CLNS pmax pmax
comp=N,5.0nm,1.0s
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS MLR MLR
comp=E,195nm,10.0s
CLNS MLR MLR
comp=Z,476nm,12.0s
CLNS MLR MLR
comp=N,406nm,13.0s
ZAK **Zakamensk** 29.34 324 *e*P P 06 22 53.5 -5.4
ZAK pmax pmax
comp=Z,4.0nm,1.4s
TLY **Talaya** 29.95 326 *e*P **P** 06 23 06.4 +2.3
TLY *e* 06 24 12.5
TLY *e*SS SS 06 29 53.0 -14
TLY pmax pmax
comp=Z,16nm,1.5s
TLY MLR MLR
comp=Z,2μm,17.0s
CHTO **Chiang Mai** 30.22 257 *e*P **P** 06 23 07.2 +0.3
CHTO pmax pmax
comp=Z,4.0nm,0.6s
CHTO **Chiang Mai** 30.22 257 *e*P **P** 06 23 07.2 +0.3
comp=Z,4.2nm,0.6s
CMAR **Chiang Mai Arr** 30.38 257 P **P** 06 23 08.6 +0.3
CMAR PcP **PcP** 06 26 08.6 +1.2
CMAR **Chiang Mai Arr** 30.38 257 P **P** 06 23 08.6 +0.3
comp=Z,1.3nm,0.7s,baz=56,slow=7.1,SNR=4.9
CMAR PcP **PcP** 06 26 08.6 +1.2
comp=Z,1.7nm,0.7s,baz=28,slow=1.5,SNR=8.1
CMAR LR LR 06 36 07.7
comp=Z,921nm,19.4s,baz=194,slow=38
PETK **Petropavlovsk-** 31.34 32 P **P** 06 23 15.3 -1.1
PETK **Petropavlovsk-** 31.34 32 P **P** 06 23 15.3 -1.1
PETK **Petropavlovsk-** 31.34 32 P **P** 06 23 15.3 -1.1
comp=Z,2.1nm,0.6s,baz=186,slow=1.5,SNR=6.2
PETK LR LR 06 35 56.3
comp=Z,576nm,20.5s,baz=227,slow=36
YAK **Yakutsk** 32.90 360 *e*P P 06 23 25.0 -4.9
YAK *e**PP pP 06 23 36.0 -6.5
YAK *e*PPP PPP 06 24 44.0
YAK *e* 06 26 12.7
YAK *e*S S 06 28 34.8 -9.3
YAK *e*SSS SSS 06 30 48.3
YAK *e* 06 33 52.8
YAK pmax pmax
comp=Z,5.0nm,0.8s
YAK pmax pmax
comp=E,3.0nm,1.4s
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=Z,17nm,0.9s
YAK pmax pmax
comp=N,37nm,1.8s
YAK pmax pmax
comp=E,40nm,2.0s
YAK smax smax
comp=N,54nm,2.3s
YAK smax smax
comp=E,94nm,3.7s
YAK MLR MLR
comp=Z,387nm,13.0s
YAK MLR MLR
comp=N,327nm,14.0s
YAK MLR MLR
comp=E,180nm,17.0s
LSA **Lhasa** 33.87 281 P **P** 06 23 38.8 -0.5
LSA **Lhasa** 33.87 281 *e*P **P** 06 23 40.3 +1.0
LSA pmax pmax
comp=Z,5.0nm,0.4s
LSA **Lhasa** 33.87 281 *e*P **P** 06 23 40.3 +1.0
comp=Z,4.6nm,0.4s
SHL **Shillong** 34.07 273 ⇑*i*P **P** 06 23 40.5 -0.3
H11N2 **WAKE ISLAND Hy** 34.62 97 T T 07 00 28.6
baz=298,slow=0.7
H11N1 **WAKE ISLAND Hy** 34.63 97 T T 07 00 29.5
baz=298,slow=0.7
H11N3 **WAKE ISLAND Hy** 34.64 97 T T 07 00 36.1
baz=298,slow=0.7
HVS **Khovu-Aksy** 34.96 319 ⇓*i*P **P** 06 23 48.4 +0.3
HVS pmax pmax
comp=Z,31nm,0.8s
KAPI **Kappang** 35.39 198 LR LR 06 39 45.4
comp=Z,270nm,18.5s,baz=28,slow=38
WMQ **Urumqi** 36.73 305 P P 06 24 06.8 +3.5
WMQ pP pP 06 24 19.0 +2.9
WMQ sP sP 06 24 24.3 +2.5
WMQ PcP **PcP** 06 26 23.3 -1.7
WMQ S **S** 06 29 47.3 +3.6
WMQ SS **SnSn** 06 32 16.8 -1.0
WMQ ScS **ScS** 06 34 16.0 +1.3
WMQ AMB AMB
comp=Z,13nm,0.4s
WMQ AMB AMB
comp=Z,84nm,4.0s
WMQ LR LR
comp=Z,930nm,19.8s
WMQ LR LR
comp=Z,1μm,16.6s
WMQ LR LR
comp=Z,1μm,21.0s
TAPN **Taplejung** 37.28 278 *e*P **P** 06 24 08.6 +0.1
comp=Z,13nm,0.7s
ODAN **Odare** 37.67 277 *e*P **P** 06 24 11.5 -0.2
comp=Z,55nm,0.7s
RAMN **Ramite** 38.34 278 *e*P **P** 06 24 16.8 -0.5
comp=Z,17nm,0.6s
JIRN **Jiri** 38.53 279 *e*P **P** 06 24 18.7 -0.4
comp=Z,38nm,0.6s
GUN **Gumba** 38.74 279 *e*P **P** 06 24 21.2 +0.4
comp=Z,104nm,0.7s
PKI **Pulchoki** 39.23 279 *e*P **P** 06 24 24.8 0.0
comp=Z,61nm,0.7s
PKIN **Phulchoki** 39.23 279 *e*P **P** 06 24 24.6 -0.2
comp=Z,45nm,0.7s
KKN **Kakani** 39.29 279 *e*P **P** 06 24 25.3 +0.1
comp=Z,48nm,0.6s
FX1 **Attu Island--F** 39.38 41 *e*P **P** 06 24 26.2 +0.8
DMN **Daman** 39.48 279 *e*P **P** 06 24 27.0 +0.1
comp=Z,33nm,0.7s
PSI **Prapat** 39.58 234 P **P** 06 24 28.3 +0.7
PSI **Prapat** 39.58 234 P **P** 06 24 28.3 +0.7
comp=Z,2.8nm,0.4s,baz=30,slow=5.7,SNR=5.9
PSI LR LR 06 40 28.9
comp=Z,275nm,21.7s,baz=272,slow=36
GKN **Gorkha** 39.80 280 *e*P **P** 06 24 29.1 -0.3
comp=Z,39nm,0.7s
PMBI **Palembang** 40.10 222 *e*P **P** 06 24 30.2 -1.6
comp=Z,430nm,0.4s
DANN **Dangsing** 40.48 281 *e*P **P** 06 24 35.5 +0.3
comp=Z,126nm,0.8s
KOLN **Koldanda** 40.74 280 *e*P **P** 06 24 37.2 -0.1
comp=Z,37nm,0.7s
MK31 **Makanchi Array** 40.95 309 *e*P **P** 06 24 37.4 -1.2
MK31 **Makanchi Array** 40.95 309 *e*P **P** 06 24 37.4 -1.2
MKAR **Makanchi Array** 40.95 309 P **P** 06 24 38.0 -0.6
MKAR 06 26 38.1
MKAR **Makanchi Array** 40.95 309 P **P** 06 24 38.0 -0.6
MKAR PcP **PcP** 06 26 38.1 0.0
MKAR **Makanchi Array** 40.95 309 P **P** 06 24 38.0 -0.6
comp=Z,4.8nm,0.7s,baz=96,slow=9.5,SNR=32
MKAR PcP **PcP** 06 26 38.1 0.0
comp=Z,5.8nm,0.7s,baz=72,slow=3.0,SNR=13
ZAA0 **Zalesovo Array** 41.04 320 *e*P **P** 06 24 38.3 -0.8
ZALV **Zalesovo Beam** 41.04 320 P **P** 06 24 38.7 -0.4
ZALV 06 26 37.3
ZALV **Zalesovo Beam** 41.04 320 P **P** 06 24 38.7 -0.4
ZALV PcP **PcP** 06 26 37.3 -0.8
ZALV **Zalesovo Beam** 41.04 320 P **P** 06 24 38.7 -0.4
comp=Z,6.0nm,0.6s,baz=105,slow=8.9,SNR=25
ZALV PcP **PcP** 06 26 37.3 -0.8
comp=Z,6.0nm,0.8s,baz=108,slow=4.8,SNR=9.3
ZALV LR LR 06 43 16.6
comp=Z,1μm,18.1s,baz=250,slow=38
TIXI **Tiksi** 42.57 359*c* *e*P **P** 06 24 49.7 -1.6
TIXI pmax pmax
comp=Z,19nm,1.5s
KURK **Kurchatov** 43.95 314 P **P** 06 25 02.9 +0.1
KURK 06 26 47.1
KURK **Kurchatov** 43.95 314 P **P** 06 25 02.9 +0.1
KURK PcP **PcP** 06 26 47.1 -0.8
KURK **Kurchatov** 43.95 314 P **P** 06 25 02.8 0.0
comp=Z,160nm,0.7s,SNR=12
KURBB **Kurchatov Arra** 43.99 314 P **P** 06 25 02.9 -0.2
comp=Z,12nm,0.6s,baz=98,slow=8.7,SNR=88
KURBB PcP **PcP** 06 26 47.1 -1.0
comp=Z,3.2nm,0.7s,baz=104,slow=3.5,SNR=7.8
KSH **Kashi** 45.33 298 *e*P P 06 25 18.6 +4.5
KSH *es*P sP 06 25 35.5 +2.8
TKM2 **Tokmak 2** 45.46 303 *e*P **P** 06 25 15.7 +0.5
TKM2 *e* 06 26 53.7
TKM2 pmax pmax
comp=Z,4.0nm,0.6s
TKM2 **Tokmak 2** 45.46 303 *e*P **P** 06 25 15.7 +0.5
comp=Z,4.4nm,0.6s
TKM2 *e*PcP **PcP** 06 26 53.7 +0.1
AAK **Ala-Archa** 46.28 303 ⇓*i*P **P** 06 25 21.7 +0.1
AAK pmax pmax
comp=Z,6.0nm,1.5s
AAK **Ala-Archa** 46.28 303 P **P** 06 25 22.0 +0.4
AAK **Ala-Archa** 46.28 303 P **P** 06 25 22.0 +0.4
comp=Z,1.4nm,0.5s,baz=127,slow=7.0,SNR=3.7
FITZ **Fitzroy Crossi** 47.16 186 LR LR 06 44 28.6
comp=Z,212nm,19.6s,baz=14,slow=35
HYB **Hyderabad** 48.47 268 *i* P **P** 06 25 38.0 -0.8
WRAB **Tennant Creek** 48.95 175 *e*P **P** 06 25 42.5 +0.3
WRAB pmax pmax
comp=Z,9.0nm,0.8s
WRAB **Tennant Creek** 48.95 175 *e*P **P** 06 25 42.5 +0.3
comp=Z,8.7nm,0.8s
WRAB **Tennant Creek** 48.95 175 P **P** 06 25 42.9 +0.7
comp=Z,55nm,0.8s,SNR=5.5
WRA **Warramunga Arr** 48.96 175 P **P** 06 25 41.8 -0.5
WRA **Warramunga Arr** 48.96 175 P **P** 06 25 41.8 -0.5
comp=Z,6.6nm,0.8s,baz=354,slow=8.3,SNR=25
KKAR **Karatay Array** 49.18 303 *e*P **P** 06 25 44.2 +0.3
KKAR **Karatay Array** 49.18 303 *e*P **P** 06 25 44.2 +0.3
BVAR **Borovoye Array** 49.30 316 P **P** 06 25 44.8 +0.2
BVAR 06 27 06.4
BVAR **Borovoye Array** 49.30 316 P **P** 06 25 44.8 +0.2
BVAR PcP **PcP** 06 27 06.4 -0.4
BVAR **Borovoye Array** 49.30 316 P **P** 06 25 44.8 +0.2
comp=Z,38nm,0.6s,baz=92,slow=9.4,SNR=182
BVAR PcP **PcP** 06 27 06.4 -0.4
comp=Z,14nm,0.7s,baz=98,slow=3.9,SNR=11
BRVK **Borovoye** 49.36 317*c* *i*P **P** 06 25 45.0 -0.1
BRVK pmax pmax
comp=Z,46nm,0.6s
BRVK **Borovoye** 49.36 317 *e*P **P** 06 25 45.5 +0.4
comp=Z,59nm,0.6s
BRVK **Borovoye** 49.36 317 P **P** 06 25 45.5 +0.4
comp=Z,597nm,0.6s,SNR=26
KBL **Kabul** 51.51 293 *e*P **P** 06 26 02.5 +0.6
KBL pmax pmax
comp=Z,14nm,0.7s
KBL **Kabul** 51.51 293 *e*P **P** 06 26 02.5 +0.6
comp=Z,14nm,0.7s
POO **Poona** 52.15 272 *ex* **P** 06 26 04.0 -2.6

AS31 Alice Springs 52.62 176 *e*P **P 06 26 12.2 +2.3**
ASAR Alice Springs 52.62 176 P **P 06 26 10.8 +1.0**
ASAR Alice Springs 52.62 176 P **P 06 26 10.8 +1.0**
comp=Z,2.6nm,0.8s,baz=8.3,slow=14,SNR=23
ASAR LR LR 06 46 10.7
comp=Z,269nm,20.2s,baz=346,slow=33
SVE Sverdlovsk 55.04 321 *e*P **P 06 26 27.5 +0.3**
SVE pmax pmax
comp=Z,20nm,0.9s
SVE MLR MLR
comp=Z,3μm,16.0s
ABKAR Akbulak array 55.94 312 *e*P **P 06 26 33.7 -0.1**
comp=Z,26nm,0.6s
ABKAR *e*PcP **PcP 06 27 31.3 -0.5**
ARU Arti 56.20 321 *c i*P **P 06 26 34.9 -0.6**
ARU S **S 06 34 22.5 +1.1**
ARU pmax pmax
comp=Z,26nm,1.2s
ARU MLR MLR
comp=Z,1μm,16.0s
ARU Arti 56.20 321 P **P 06 26 35.2 -0.3**
comp=Z,118nm,0.6s,SNR=5.7
AKTO Aktyubinsk 57.04 313 P **P 06 26 40.3 -1.3**
AKTO Aktyubinsk 57.04 313 P **P 06 26 40.2 -1.3**
AKTO Aktyubinsk 57.04 313 P **P 06 26 40.2 -1.3**
comp=Z,13nm,0.7s,baz=53,slow=14,SNR=30
AKTO LR LR 06 53 16.7
comp=Z,1μm,19.4s,baz=259,slow=38
IMA2 Indian Mountai 58.16 28 *e*P **P 06 26 47.4 -1.9**
IMA2 *e*PcP **PcP 06 27 42.0 +1.6**
RSO Redoubt South 58.84 34 *e*P **P 06 26 54.8 +0.5**
comp=Z,43nm,0.8s
PPLA Purkeypile 58.92 31 *e*P **P 06 26 55.6 +0.8**
comp=Z,41nm,1.4s
KDAK Kodiak Island 59.18 37 P **P 06 26 56.6 +0.2**
comp=Z,198nm,0.7s,SNR=11
IKOO Kooshah 60.16 293 *e*P **P 06 27 04.3 +0.4**
ITEG Tejag 60.23 293 *e*P **P 06 27 05.0 +0.7**
SEW Seward 60.51 35 *e*P **P 06 27 05.5 +0.1**
comp=Z,18nm,0.7s
COLA College 60.66 29 *e*P **P 06 27 07.4 +1.0**
COLA pmax pmax
comp=Z,27nm,0.6s
COLA College 60.66 29 *e*P **P 06 27 07.4 +1.0**
comp=Z,27nm,0.6s
ILAR Eielson Array 61.08 29 P **P 06 27 08.9 -0.4**
ILAR Eielson Array 61.08 29 P **P 06 27 08.9 -0.4**
comp=Z,2.5nm,0.6s,baz=268,slow=5.5,SNR=29
ILAR LR LR 06 54 10.7
comp=Z,258nm,21.2s,baz=98,slow=36
STKA Stephens Creek 61.64 169 LR LR 06 50 59.4
comp=Z,398nm,20.3s,baz=7.3,slow=33
DZM Mont Dzumac 61.76 141 *e*S **S 06 35 33.1 -1.2**
comp=Z,308nm,26.3s
DZM Mont Dzumac 61.76 141 *e*LR LR 06 45 44.0
comp=Z,448nm,24.8s
PAX Paxson 61.97 31 *e*P **P 06 27 15.5 0.0**
PAX pmax pmax
comp=Z,4.0nm,0.6s
PAX Paxson 61.97 31 *e*P **P 06 27 15.5 0.0**
comp=Z,4.4nm,0.6s
DOT Dot Lake 62.48 30 *e*P **P 06 27 18.6 -0.2**
comp=Z,9.3nm,0.6s
NWAO Narrogin (SRO) 62.93 192 LR LR 06 55 44.8
comp=Z,95nm,18.1s,baz=268,slow=37
EGAK Eagle 63.50 29 *e*P **P 06 27 25.1 -0.4**
comp=Z,3.3nm,0.8s
TMCR Tamitsa 65.09 331 *e*P **P 06 27 35.1 -0.7**
TMCR *e* 06 29 59.8
TMCR pmax pmax
comp=Z,21nm,0.8s
KLMR Klimovskoe 65.31 327 *e*P **P 06 27 34.8 -2.6**
KLMR pmax pmax
comp=Z,15nm,1.4s
INK Inuvik 65.56 24 P **P 06 27 38.5 -0.3**
INK Inuvik 65.56 24 P **P 06 27 38.5 -0.3**
comp=Z,2.6nm,0.6s,baz=319,slow=10,SNR=14
IPAR Pars 65.83 292 *e*P **P 06 27 42.3 +0.7**
ISRV Sarvestan 65.94 291 *e*P **P 06 27 42.0 -0.4**
VRHR Novokhopersk 67.04 317 *e*P **P 06 27 46.3 -2.3**
VRHR pmax pmax
comp=N,7.0nm,0.8s
VRHR pmax pmax
comp=E,7.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
KEV Kevo 67.37 338 *e*P **P 06 27 47.9 -2.5**
KEV pmax pmax
comp=Z,2.0nm,0.4s
KEV Kevo 67.37 338 *ep* **P 06 27 47.9 -2.5**
comp=Z,1.5nm,0.4s
ARCES ARCESS Array B 67.94 338 P **P 06 27 52.9 -1.2**
ARCES ARCESS Array B 67.94 338 P **P 06 27 52.9 -1.2**
comp=Z,3.5nm,0.6s,baz=61,slow=9.9,SNR=18
ARCES LR LR 07 02 54.1
comp=Z,626nm,18.4s,baz=59,slow=41
ZEI Tsey 68.28 308 *e*P **P 06 27 55.2 -1.7**
ZEI pmax pmax
comp=Z,13nm,0.6s
JOF Joensuu 68.34 331 *e*P **P 06 27 54.6 -2.0**
JOF pmax pmax
comp=Z,1.0nm,0.3s
JOF Joensuu 68.34 331 *ep* **P 06 27 54.6 -2.0**
comp=Z,1.1nm,0.3s
ALE Alert 68.41 2 P **P 06 27 56.6 -0.2**
comp=Z,62nm,0.7s,SNR=5.1
VSR Storozhevoye 68.46 317 *e*P **P 06 27 56.1 -1.5**
VSR pmax pmax
comp=N,6.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR pmax pmax
comp=E,2.0nm,0.3s
VORD Divnogorie 68.47 317 *e*P **P 06 27 56.1 -1.5**
VORD pmax pmax
comp=Z,4.0nm,0.9s
VORD pmax pmax
comp=E,6.0nm,0.5s
OBN Obninsk 68.59 322 *e*P **P 06 27 57.3 -1.0**
OBN *e* 06 28 24.6
OBN pmax pmax
comp=Z,4.0nm,0.6s
OBN MLR MLR
comp=Z,1μm,18.0s
KBZ Khabaz 68.65 309 P **P 06 27 59.3 +0.4**
KBZ Khabaz 68.65 309 P **P 06 27 59.3 +0.4**
KBZ Khabaz 68.65 309 P **P 06 27 59.3 +0.4**
comp=Z,14nm,0.8s,baz=76,slow=5.3,SNR=38
KBZ LR LR 07 01 39.6
comp=Z,224nm,19.3s,baz=273,slow=39
KIV Kislovodsk 68.72 309 *e*P **P 06 27 59.9 +0.5**
KIV *e*S **S 06 37 00.4 +1.2**
KIV pmax pmax
comp=Z,18nm,0.9s
KIV MLR MLR
comp=Z,299nm,18.0s
UMR Umm Al-Rimmam 70.24 293 *e*P **P 06 28 08.8 -0.2**
DLBC Dease Lake 70.52 33 P **P 06 28 11.6 +1.3**
DLBC Dease Lake 70.52 33 P **P 06 28 11.6 +1.3**
comp=Z,3.0nm,0.9s,baz=263,slow=7.7,SNR=5.1
RDF Al-Radifah 70.62 293 *e*P **P 06 28 11.1 -0.2**
RDF AMb AMB 06 28 13.2
comp=Z,32nm,0.9s
NAY Al-Naaiem 70.74 293 *e*P **P 06 28 11.7 -0.3**
NAY AMb AMB 06 28 12.8
comp=Z,17nm,0.8s
KAF Kangasniemi 70.79 331 *e*P **P 06 28 09.0 -2.7**
KAF pmax pmax
comp=Z,1.0nm,0.4s
KAF Kangasniemi 70.79 331 *ep* **P 06 28 09.0 -2.7**
comp=Z,1.0nm,0.4s
FINES FINESS Array B 71.18 331 P **P 06 28 12.2 -1.9**
FINES FINESS Array B 71.18 331 P **P 06 28 12.2 -1.9**
comp=Z,10nm,0.6s,baz=72,slow=5.5,SNR=59
FINES LR LR 07 04 16.0
comp=Z,653nm,18.1s,baz=28,slow=40
ANN Anapa 71.90 312 *e*P **P 06 28 17.8 -0.9**
ANN pmax pmax
comp=Z,23nm,0.6s
ANN MLR MLR
comp=Z,751nm,20.0s
RES Resolute Bay 72.38 11 *e*P **P 06 28 21.4 +0.3**
comp=Z,24nm,0.6s
AKASG Malin Array Be 74.43 320 P **P 06 28 32.5 -1.1**
AKASG Malin Array Be 74.43 320 P **P 06 28 32.5 -1.1**
AKASG Malin Array Be 74.43 320 P **P 06 28 32.5 -1.1**
comp=Z,5.1nm,0.5s,baz=57,slow=6.4,SNR=23
AKASG LR LR 07 04 15.1
comp=Z,1μm,18.2s,baz=55,slow=38
KIEV Kiev 74.44 320 *e*P **P 06 28 32.4 -1.3**
KIEV pmax pmax
comp=Z,6.0nm,0.6s
KIEV Kiev 74.44 320 *e*P **P 06 28 32.4 -1.3**
comp=Z,5.7nm,0.6s
YKA Yellowknife Ar 75.18 26 P **P 06 28 38.2 +0.5**
YKA Yellowknife Ar 75.18 26 P **P 06 28 38.2 +0.5**
comp=Z,6.2nm,0.7s,baz=301,slow=5.7,SNR=13
BR131 Keskin Array S 76.59 308 *e*P **P 06 28 46.5 +0.1**
comp=Z,6.5nm,0.7s
BRTR Keskin Array B 76.59 308 P **P 06 28 46.0 -0.4**
BRTR Keskin Array B 76.59 308 P **P 06 28 46.0 -0.4**
comp=Z,9.8nm,0.9s,baz=100,slow=3.6,SNR=39
NB2 NORSAR Subarra 77.46 334 P **P 06 28 49.3 -1.4**
comp=Z,2.1nm,0.6s,baz=50,slow=5.9
NOA NORSAR Array B 77.46 334 P **P 06 28 49.5 -1.2**
NOA NORSAR Array B 77.46 334 P **P 06 28 49.5 -1.2**
comp=Z,2.3nm,0.6s,baz=49,slow=5.4,SNR=11
BUR08 Bucovina Ar. S 78.22 318 *e*P **P 06 28 54.7 -0.5**
SUMG Summit 78.26 357 *i*P **P 06 28 55.6 +0.2**
SUMG pmax pmax
comp=Z,13nm,0.6s
SUMG Summit 78.26 357 *i*P **P 06 28 55.6 +0.2**
comp=Z,13nm,0.6s
SUMG Summit 78.26 357 *e*P **P 06 28 55.5 +0.1**
comp=Z,13nm,0.6s
SCO Scoresbysund 78.68 351 *e*P **P 06 28 57.4 +0.2**
SCO pmax pmax
comp=Z,6.0nm,0.8s
SCO Scoresbysund 78.68 351 *i*P **P 06 28 57.4 +0.2**
comp=Z,6.3nm,0.8s
KOLS Kolonicke sedl 79.22 320 *e*P **P 06 29 00.9 +0.3**
KOLS Kolonicke sedl 79.22 320 *e*P **P 06 29 00.9 +0.3**
CMW Cultus Mountai 79.41 40 P **P 06 29 03.1 +1.4**
STHS Stebnicka Huta 79.53 321 *e*P **P 06 29 03.0 +0.7**
STHS Stebnicka Huta 79.53 321 *e*P **P 06 29 03.0 +0.7**
STHS *e* 06 51 19.7
JCW Jim Creek 79.64 40 P **P 06 29 04.1 +1.2**
CRVS Cervenica-Dubn 79.69 321 *e*P **P 06 29 03.8 +0.6**
CRVS Cervenica-Dubn 79.69 321 *e*P **P 06 29 03.8 +0.6**
OJC Ojcow 79.88 322 *e*P **P 06 29 04.4 +0.2**
OJC Ojcow 79.88 322 *e*P **P 06 29 04.4 +0.2**
HTW Haystack Looko 79.94 41 P **P 06 29 05.6 +1.0**
NIE Niedzica 80.04 321 *e*P **P 06 29 06.8 +1.7**
NIE Niedzica 80.04 321 *e*P **P 06 29 06.8 +1.7**
TDL Tradedollar La 80.46 42 P **P 06 29 08.8 +1.3**
KECS Kecovo 80.46 321 *e*P **P 06 29 07.5 +0.2**
KECS Kecovo 80.46 321 *e*P **P 06 29 07.5 +0.2**
ETW Entiat 80.86 40 P **P 06 29 10.1 +0.4**
OKC Ostrava-Krasne 80.97 323 AMS AMS 07 08 20.0
comp=Z,600nm,16.9s
WTV Waterville 81.03 40 P **P 06 29 11.1 +0.7**
EBG Ellensburg 81.11 41 P **P 06 29 11.8 +0.9**
EDM Edmonton 81.24 33 *e*P **P 06 29 11.9 +0.5**
EDM Edmonton 81.24 33 *e*P **P 06 29 11.9 +0.5**
VLL Laurance Lake 81.25 43 P **P 06 29 13.1 +1.3**
MORC Moravsky Berou 81.33 323 *e*P **P 06 29 12.5 +0.5**
MORC pmax pmax
comp=Z,4.0nm,0.8s
MORC Moravsky Berou 81.33 323 *e*P **P 06 29 12.5 +0.5**
comp=Z,4.4nm,0.8s
KSP Ksiaz 81.36 324 *e*P **P 06 29 11.9 -0.2**
G05D Wamic, OR 81.59 43 ⇑P **P 06 29 14.4 +0.9**
baz=81
DPC Dobruska-Polom 81.63 324 *e*P **P 06 29 14.0 +0.4**
DPC Dobruska-Polom 81.63 324 *e*P **P 06 29 14.0 +0.4**
DPC AMS AMS 07 08 40.0
UPC Upice 81.70 324 *e*P P 06 29 07.2 -6.7
GBB Gable Butte 81.82 41 P **P 06 29 15.6 +1.1**
HAWA Hanford 81.99 41 *e*P **P 06 29 16.2 +0.7**
comp=Z,5.1nm,0.6s
H2OWA Water 82.05 41 P **P 06 29 17.0 +1.2**
I05D Terrebonne, OR 82.07 43 ⇑P **P 06 29 16.8 +0.8**
baz=82
REDWA Red Mountain 82.10 41 P **P 06 29 17.4 +1.3**
J04D Umpqua Nationa 82.20 45 ⇓P **P 06 29 17.6 +0.7**
baz=82
NEW Newport 82.27 38 ⇑P **P 06 29 17.6 +0.6**
baz=82
VIPM Ingram Point 82.41 43 P **P 06 29 18.8 +0.9**
VIPM Ingram Point 82.41 43 P **P 06 29 18.8 +0.9**
PVCC Panska Ves 82.43 324 AMS AMS 07 10 30.0
comp=Z,1μm,17.6s
BRG Berggiesshubel 82.53 325 *e*P **P 06 29 19.2 +0.9**
comp=Z,5.4nm,1.0s
BRG Berggiesshubel 82.53 325 *e*P **P 06 29 19.1 +0.9**
BRG pmax pmax
comp=Z,5.0nm,1.0s
TREC Trest 82.69 323 *e*P **P 06 29 18.9 -0.2**
TREC MLR MLR
comp=Z,800nm,18.7s
TREC Trest 82.69 323 *e*P **P 06 29 18.9 -0.2**
TREC AMS AMS 07 09 30.0
comp=Z,800nm,18.7s
J05D Fort Rock, OR 82.71 44 ⇑P **P 06 29 20.2 +0.7**
baz=82
CLL Collm 82.73 326 ⇓*i*P **P 06 29 19.8 +0.6**
CLL *i* 06 29 29.3
CLL pmax pmax
comp=Z,13nm,0.8s
CLL MLR MLR
comp=Z,2μm,18.3s
CLL Collm 82.73 326 ⇓*i*P **P 06 29 19.8 +0.6**
comp=Z,13nm,0.8s
CLL *i* 06 29 29.3
CLL *e*PPS PPS 06 40 48.0
CLL *e* 06 46 12.0
CLL Lm MLR 07 09 00.0
comp=Z,2μm,18.3s
K04D Chiloquin, OR 82.75 45 ⇑P **P 06 29 20.9 +1.2**
baz=83
PRU Pruhonice 82.77 324 *e*P **P 06 29 18.5 -1.0**
PRU MLR MLR
comp=Z,1μm,16.9s
PRU Pruhonice 82.77 324 *e*P **P 06 29 18.5 -1.0**
PRU *e*PCP **PcP 06 29 22.8 -1.5**
PRU AMS AMS 07 09 30.0
comp=Z,1μm,16.9s
CONA Conrad Observa 83.31 322 ⇑*i*PcP **P 06 29 23.4 +1.0**
comp=Z,15nm,0.9s
NKC Novy Kostel 83.68 325 *e*P **P 06 29 24.5 +0.3**
NKC *e* 06 29 33.4
NKC Novy Kostel 83.68 325 *e*P **P 06 29 24.5 +0.3**
NKC *ex* x 06 29 33.4
NKC AMS AMS 07 11 00.0
LTIM Timbered Crate 83.71 46 P **P 06 29 25.8 +1.1**
BSMT Bassoo Peak 83.78 38 P **P 06 29 26.4 +1.4**
KHC Kasperske Hory 83.79 324 *e*P **P 06 29 24.5 -0.3**
KHC *e* 06 29 33.9
KHC MLR MLR
comp=Z,1μm,19.4s
KHC Kasperske Hory 83.79 324 *e*P **P 06 29 24.5 -0.3**
KHC *ex* x 06 29 33.9
KHC AMS AMS 07 10 10.0
comp=Z,1μm,19.4s
KHC Kasperske Hory 83.79 324 *e*P **P 06 29 24.6 -0.2**
comp=Z,9.9nm,1.3s
GERES GERESS Array B 83.90 323 P **P 06 29 25.4 -0.1**
GERES GERESS Array B 83.90 323 P **P 06 29 25.4 -0.1**
comp=Z,2.3nm,0.7s,baz=41,slow=5.0,SNR=26
LBCM Butte Creek Ri 83.98 46 P **P 06 29 27.0 +0.9**
MOD Modoc 84.05 45 *e*P **P 06 29 27.2 +0.8**
comp=Z,16nm,0.7s
JTMT Jette 84.11 38 *e*P **P 06 29 27.0 +0.4**
comp=Z,2.9nm,0.8s
BMO Blue Mountains 84.15 41 *e*P **P 06 29 27.5 +0.6**
BMO pmax pmax
comp=Z,6.0nm,1.0s
BMO Blue Mountains 84.15 41 *e*P **P 06 29 27.5 +0.6**
comp=Z,5.9nm,1.0s
SFJD Kangerlussuaq 84.17 0 *i*P **P 06 29 26.1 -0.2**
comp=Z,13nm,0.7s
MOA Molln 84.22 322 ⇑*i*P **P 06 29 27.1 +0.1**
comp=Z,6.5nm,0.8s,SNR=5.6
SWMT Swartz Lake 84.41 38 *e*P **P 06 29 28.2 +0.1**
comp=Z,3.7nm,0.9s
SOKA Soboth 84.52 321 *i* PcP **P 06 29 29.4 +0.8**
comp=Z,28nm,1.5s,SNR=8.4
GRF Grafenberg Arr 84.63 325 *e*P **P 06 29 29.2 +0.1**
GRF pmax pmax
comp=Z,9.0nm,0.9s
GRF Grafenberg Arr 84.63 325 *e*P **P 06 29 29.2 +0.1**
comp=Z,9.0nm,0.9s
WVOR Wild Horse Val 84.77 44 *e*P **P 06 29 30.9 +0.9**
WVOR pmax pmax
comp=Z,31nm,1.7s
WVOR Wild Horse Val 84.77 44 *e*P **P 06 29 30.9 +0.9**
comp=Z,31nm,1.7s
SLMT Seeley Lake 84.84 38 *e*P **P 06 29 30.8 +0.4**
comp=Z,7.0nm,0.7s
MSO Missoula 84.86 38 ⇑P **P 06 29 31.3 +0.9**
baz=85
FFC Flin Flon 85.24 27 *i*P **P 06 29 32.9 +0.9**
FFC Flin Flon 85.24 27 *e*P **P 06 29 31.9 0.0**
comp=Z,19nm,0.6s
ABTA Abfaltersbach 85.84 322 ⇑*e*P **P 06 29 32.4 -2.8**
comp=Z,11nm,0.9s,SNR=4.7
PAHR Pah Rah Range 85.86 46 *e*P **P 06 29 36.2 +0.7**
comp=Z,10nm,0.9s
HRY Holter Researc 86.06 38 *e*P **P 06 29 36.8 +0.4**
comp=Z,7.0nm,0.7s
CMB Columbia Colle 86.16 48 *e*P **P 06 29 37.4 +0.5**
CMB pmax pmax
comp=Z,7.0nm,0.6s
CMB Columbia Colle 86.16 48 *e*P **P 06 29 37.4 +0.5**
comp=Z,7.4nm,0.6s
MOTA Moosalm 86.20 323 *i*P **P 06 29 36.4 -0.7**
comp=Z,3.3nm,0.6s,SNR=6.3
A19A Klindworth Far 86.22 34 ⇓P **P 06 29 37.8 +0.8**
baz=86
FRB Frobisher Bay 86.26 8 LR LR 07 10 39.4
comp=Z,310nm,18.1s,baz=5.6,slow=37
LRM Limekiln Ridge 86.29 38 *e*P **P 06 29 38.7 +1.0**
comp=Z,106nm,1.4s
EGMT Eagleton 86.30 36 *e*P **P 06 29 37.8 +0.3**
comp=Z,14nm,1.1s
EGMT Eagleton 86.30 36 ⇑P **P 06 29 37.6 +0.1**
baz=86,SNR=6.3
WAKR Walker 86.51 47 *e*P **P 06 29 39.9 +1.0**
comp=Z,3.5nm,0.6s
HLID Hailey 86.59 41 *e*P **P 06 29 40.3 +1.1**
comp=Z,4.1nm,0.7s
HLID Hailey 86.59 41 ⇓P **P 06 29 39.8 +0.6**
baz=86
C19A Slack Wire Ran 86.85 35 ⇑P **P 06 29 40.6 +0.5**
baz=87
DAVA Damuels 86.87 324 ⇑*i*P **P 06 29 39.4 -1.0**
comp=Z,4.9nm,0.7s,SNR=4.8
WLF Walferdange 87.12 327 P **P 06 29 42.3 +1.0**
NVAR Mina Array Bea 87.28 47 P **P 06 29 43.4 +0.7**
NVAR Mina Array Bea 87.28 47 P **P 06 29 43.4 +0.7**
comp=Z,1.3nm,0.5s,baz=288,slow=5.8,SNR=16
D19A Cripps Ranch, 87.31 36 ⇓P **P 06 29 43.5 +1.0**
baz=87,SNR=8.8
CDF Champ du Feu 87.43 326 *e*P **P 06 29 42.2 -0.8**
comp=Z,5.8nm,0.7s
CDF Champ du Feu 87.43 326 *e*P **P 06 29 42.2 -0.8**
CDF pmax pmax
comp=Z,6.0nm,0.7s
CDF Champ du Feu 87.43 326 *e*P **P 06 29 42.2 -0.8**
comp=Z,5.8nm,0.7s
GIVF Givet 87.43 328 *e*P **P 06 29 42.1 -0.7**
GIVF Givet 87.43 328 *e*P **P 06 29 42.1 -0.7**
GIVF Givet 87.43 328 *e*P **P 06 29 42.1 -0.7**
A22A Carney Farms, 87.55 33 ⇑P **P 06 29 44.1 +0.6**
baz=87
D20A Manuel Ranch, 87.74 36 ⇑P **P 06 29 45.2 +0.8**
baz=88,SNR=6.6
BAIF Baives 87.74 329 *e*P **P 06 29 43.6 -0.7**
BAIF Baives 87.74 329 *e*P **P 06 29 43.6 -0.7**
BAIF Baives 87.74 329 *e*P **P 06 29 43.6 -0.7**
E19A Rath Farm, Rou 87.83 36 ⇑P **P 06 29 45.9 +0.9**
baz=88,SNR=8.9
YMR Madison River 87.83 39 *e*P **P 06 29 45.9 +0.7**
comp=Z,2.1nm,0.7s
B22A Reddig Ranch S 87.99 34 ⇑P **P 06 29 46.4 +0.8**
baz=88
HINF Hinteralfeld 88.04 326 *e*P **P 06 29 44.6 -1.3**
comp=Z,5.7nm,0.7s
HINF Hinteralfeld 88.04 326 *e*P **P 06 29 44.6 -1.3**
HINF pmax pmax
comp=Z,6.0nm,0.7s
HINF Hinteralfeld 88.04 326 *e*P **P 06 29 44.6 -1.3**
comp=Z,5.7nm,0.7s
PAGF Fort de Pagny 88.08 327 *e*P **P 06 29 45.6 -0.4**
comp=Z,5.9nm,0.7s
PAGF Fort de Pagny 88.08 327 *e*P **P 06 29 45.6 -0.4**
comp=Z,5.9nm,0.7s
E20A Meyer Farm, Mu 88.14 36 ⇓P **P 06 29 47.4 +1.0**
baz=88,SNR=6.1
F19A Roth Farm, Mol 88.15 37 ⇑P **P 06 29 46.8 +0.3**
baz=88
D21A La Casta Ranch 88.34 35 ⇓P **P 06 29 48.5 +1.2**
baz=88,SNR=5.0
B23A Brockton 88.36 33 ⇓P **P 06 29 48.2 +0.9**
baz=88
MEZF Maizieres J'vi 88.44 327 *e*P **P 06 29 47.3 -0.4**
comp=Z,9.4nm,0.7s
MEZF Maizieres J'vi 88.44 327 *e*P **P 06 29 47.3 -0.4**
comp=Z,9.4nm,0.7s
RLMT Red Lodge 88.46 38 *e*P **P 06 29 49.6 +1.5**
comp=Z,16nm,1.4s
H18A Shoshone NF, C 88.54 38 ⇓P **P 06 29 49.6 +1.1**
baz=88
SBC Santa Barbara 88.64 51 ⇓P **P 06 29 48.6 -0.2**
baz=88
SFTF Sexfontaines 88.66 327 *e*P **P 06 29 48.0 -0.7**
comp=Z,12nm,0.7s
SFTF Sexfontaines 88.66 327 *e*P **P 06 29 48.0 -0.7**
comp=Z,12nm,0.6s
DGMT Dagmar 88.73 33 ⇓P **P 06 29 49.8 +0.7**
baz=88
H19A Powell 88.91 38 ⇓P **P 06 29 51.4 +1.2**
baz=89,SNR=5.2
G20A Bridger 88.95 37 ⇓P **P 06 29 50.6 +0.2**
baz=89
R11A Troy Canyon, C 89.05 46 ⇓P **P 06 29 51.7 +0.7**
baz=89
D23A Lindsay 89.15 34 ⇑P **P 06 29 52.3 +1.2**
baz=89
MPMC Manual Prospec 89.19 49 ⇑P **P 06 29 52.7 +1.0**
baz=89
CABF La Chapelle 89.25 325 *e*P **P 06 29 50.6 -1.0**
CABF La Chapelle 89.25 325 *e*P **P 06 29 50.6 -1.0**
CABF La Chapelle 89.25 325 *e*P **P 06 29 50.6 -1.0**
C24A Savage 89.28 34 ⇓P **P 06 29 52.3 +0.6**
baz=89
E22A Miles City 89.29 35 ⇓P **P 06 29 52.7 +0.9**
baz=89,SNR=5.8
I19A Meeteetse 89.32 38 ⇓P **P 06 29 54.0 +1.8**
baz=89
FURC Furnace Creek, 89.36 48 ⇑P **P 06 29 53.8 +1.7**
baz=89
LRMC Laurel Mountai 89.40 49 ⇓P **P 06 29 54.1 +1.5**
baz=89
A26A Wade Farm, Ken 89.43 31 ⇑P **P 06 29 53.4 +1.1**
baz=89
G21A Lodge Grass 89.47 37 ⇓P **P 06 29 53.3 +0.6**
baz=89
H20A Greybull 89.56 37 ⇓P **P 06 29 54.3 +1.2**
baz=89
E23A Ismay 89.57 35 ⇓P **P 06 29 54.0 +0.9**
baz=89
DUG Dugway 89.61 43 ⇑P **P 06 29 55.1 +1.5**
baz=89
D24A Glendive 89.62 34 ⇑P **P 06 29 54.5 +1.2**
baz=89
LPL La Plagne 89.67 324 *e*P **P 06 29 52.8 -1.0**
LPL La Plagne 89.67 324 *e*P **P 06 29 52.8 -1.0**
LPL La Plagne 89.67 324 *e*P **P 06 29 52.8 -1.0**
LPG La Plagne 89.68 324 *e*P **P 06 29 53.0 -0.9**
LPG La Plagne 89.68 324 *e*P **P 06 29 53.0 -0.9**
LPG La Plagne 89.68 324 *e*P **P 06 29 53.0 -0.9**
C25A Freed Ranch, W 89.71 33 ⇓P **P 06 29 55.1 +1.4**
baz=90
A27A Ledoux Ranch, 89.75 31 ⇑P **P 06 29 54.2 +0.4**
baz=90
J19A Crowheart 89.80 39 ⇓P **P 06 29 54.5 +0.2**
baz=90
I20A Worland 89.84 38 ⇓P **P 06 29 55.7 +1.2**
baz=90
PDAR Pinedale Array 89.84 39 P **P 06 29 55.4 +0.7**
PDAR Pinedale Array 89.84 39 P **P 06 29 55.4 +0.7**
comp=Z,2.8nm,0.8s,baz=323,slow=1.0,SNR=18
LOR Lormes 89.88 327 *e*P **P 06 29 54.0 -0.5**
LOR *e*R
comp=Z,1μm,17.5s
LOR Lormes 89.88 327 *e*P **P 06 29 54.0 -0.5**
G22A Birney 89.95 36 ⇓P **P 06 29 54.9 0.0**

	baz=90								
F23A	**Volborg**	90.06	35	⇓P		P	06 29 56.4	+1.0	
	baz=90								
C26A	**Wahner Farm, P**	90.18	32	⇑P		P	06 29 56.8	+0.9	
	baz=90								
MBDF	**Montbardon**	90.19	323	*eP*		P	06 29 55.7	-0.5	
MBDF	**Montbardon**	90.19	323	*eP*		P	06 29 55.7	-0.5	
MBDF	**Montbardon**	90.19	323	*eP*		P	06 29 55.7	-0.5	
SSF	**Saint Saulge**	90.20	327	*eP*		P	06 29 55.6	-0.3	
SSF	**Saint Saulge**	90.20	327	*eP*		P	06 29 55.6	-0.3	
SSF	**Saint Saulge**	90.20	327	*eP*		P	06 29 55.6	-0.3	
A28A	**Rude Farm, Bot**	90.22	31	⇓P		P	06 29 57.3	+1.3	
	baz=90								
PPT	**Papeete**	90.25	110	LR		LR	07 05 03.8		
	comp=Z,151nm,19.2s,baz=318,slow=32								
PPT2	**Papeete2**	90.26	110	*eS*		S	06 40 46.6	-0.9	
	comp=Z,112nm,28.8s								
PPT2	**Papeete2**	90.26	110	*e*LR		LR	06 58 51.6		
	comp=Z,208nm,22.8s								
SMF	**Signal de Mont**	90.33	326	*eP*		P	06 29 55.6	-1.0	
SMF	**Signal de Mont**	90.33	326	*eP*		P	06 29 55.6	-1.0	
SMF	**Signal de Mont**	90.33	326	*eP*		P	06 29 55.6	-1.0	
I21A	**Big Trails, Te**	90.39	38	⇓P		P	06 29 57.5	+0.4	
	baz=90								
G23A	**Biddle**	90.43	36	⇑P		P	06 29 57.0	-0.1	
	baz=90								
SBF	**Sospel**	90.43	323	*eP*		P	06 29 56.4	-0.8	
	comp=Z,16nm,0.8s								
SBF	**Sospel**	90.43	323	*eP*		P	06 29 56.4	-0.8	
SBF					pmax	pmax			
	comp=Z,16nm,0.8s								
SBF	**Sospel**	90.43	323	*eP*		P	06 29 56.4	-0.8	
	comp=Z,16nm,0.8s								
F24A	**Ekalaka**	90.45	35	⇑P		P	06 29 57.9	+0.7	
	baz=90								
HYF	**Humbligny**	90.46	327	*eP*		P	06 29 56.9	-0.3	
HYF	**Humbligny**	90.46	327	*eP*		P	06 29 56.9	-0.3	
AVF	**Avril sur Loir**	90.47	327	*eP*		P	06 29 56.1	-1.1	
AVF	**Avril sur Loir**	90.47	327	*eP*		P	06 29 56.1	-1.1	
AVF	**Avril sur Loir**	90.47	327	*eP*		P	06 29 56.1	-1.1	
B28A	**Dugan Ranch, T**	90.52	31	⇓P		P	06 29 58.5	+1.1	
	baz=90								
D26A	**Manning**	90.59	33	⇑P		P	06 29 59.0	+1.2	
	baz=90								
J21A	**Lysite**	90.62	38	⇑P		P	06 29 59.0	+0.8	
	baz=90								
A29A	**Manning Farm,**	90.67	30	⇓P		P	06 29 58.5	+0.5	
	baz=90								
LDF	**La Druitiere**	90.76	330	*eP*		P	06 29 57.5	-1.0	
	comp=Z,14nm,0.8s								
LDF	**La Druitiere**	90.76	330	*eP*		P	06 29 57.5	-1.0	
LDF					pmax	pmax			
	comp=Z,15nm,0.8s								
LDF	**La Druitiere**	90.76	330	*eP*		P	06 29 57.5	-1.0	
	comp=Z,14nm,0.8s								
I22A	**9 Mile Ranch,**	90.76	37	⇑P		P	06 29 59.7	+0.9	
	baz=90								
FLN	**La Foliniere**	90.79	330	*eP*		P	06 29 57.5	-1.1	
	comp=Z,13nm,0.8s								
FLN				*e*R					
	comp=Z,882nm,22.5s								
FLN	**La Foliniere**	90.79	330	*eP*		P	06 29 57.5	-1.1	
FLN					pmax	pmax			
	comp=Z,13nm,0.8s								
FLN	**La Foliniere**	90.79	330	*eP*		P	06 29 57.5	-1.1	
	comp=Z,13nm,0.8s								
BGF	**Bois d'Agland**	90.88	327	*eP*		P	06 29 58.9	-0.2	
BGF	**Bois d'Agland**	90.88	327	*eP*		P	06 29 58.9	-0.2	
BGF	**Bois d'Agland**	90.88	327	*eP*		P	06 29 58.9	-0.2	
F25A	**Bowman**	90.89	34	⇓P		P	06 30 00.0	+0.8	
	baz=91								
B29A	**Wagenman Farm,**	90.95	30	⇓P		P	06 30 00.3	+0.8	
	baz=91								
E26A	**Carlson Angus**	90.98	33	⇑P		P	06 30 00.7	+1.0	
	baz=91								
FRF	**La Foret Royal**	91.06	323	*eP*		P	06 29 59.4	-0.6	
FRF	**La Foret Royal**	91.06	323	*eP*		P	06 29 59.4	-0.6	
FRF	**La Foret Royal**	91.06	323	*eP*		P	06 29 59.4	-0.6	
A30A	**Hoffart Farm,**	91.06	30	⇓P		P	06 30 00.4	+0.4	
	baz=91								
ULM	**Lac du Bonnet**	91.07	28	P		P	06 29 59.8	-0.1	
ULM	**Lac du Bonnet**	91.07	28	P		P	06 29 59.8	-0.1	
	comp=Z,7.3nm,0.7s,baz=326,slow=6.6,SNR=12								
J22A	**Midwest**	91.09	37	⇓P		P	06 30 01.0	+0.6	
	baz=91								
H24A	**Dirks Ranch, A**	91.17	36	⇓P		P	06 30 01.2	+0.6	
	baz=91								
VIVF	**Saint-Julien-l**	91.18	325	*eP*		P	06 29 59.9	-0.7	
	comp=Z,5.5nm,0.7s								
VIVF	**Saint-Julien-l**	91.18	325	*eP*		P	06 29 59.9	-0.7	
VIVF					pmax	pmax			
	comp=Z,6.0nm,0.7s								
VIVF	**Saint-Julien-l**	91.18	325	*eP*		P	06 29 59.9	-0.7	
	comp=Z,5.5nm,0.7s								
K21A	**Alcova**	91.20	38	⇑P		P	06 30 01.9	+0.9	
	baz=91								
GRR	**Gorron**	91.24	330	*eP*		P	06 30 00.0	-0.7	
	comp=Z,15nm,0.8s								
GRR	**Gorron**	91.24	330	*eP*		P	06 30 00.0	-0.7	
GRR					pmax	pmax			
	comp=Z,15nm,0.8s								
GRR	**Gorron**	91.24	330	*eP*		P	06 30 00.0	-0.7	
	comp=Z,15nm,0.8s								
PFO	**Pinyon Flat Ob**	91.32	50	⇑P		P	06 30 02.1	+0.5	
	baz=91								
D28A	**Regan**	91.35	32	⇑P		P	06 30 02.7	+1.4	
	baz=91								
TCF	**Toulx Ste Croi**	91.38	327	*eP*		P	06 30 00.8	-0.7	
	comp=Z,7.3nm,0.7s								
TCF	**Toulx Ste Croi**	91.38	327	*eP*		P	06 30 00.8	-0.7	
TCF					pmax	pmax			
	comp=Z,7.0nm,0.7s								
TCF	**Toulx Ste Croi**	91.38	327	*eP*		P	06 30 00.8	-0.7	
	comp=Z,7.3nm,0.7s								
Q16A	**Castle Valley**	91.41	43	⇑P		P	06 30 03.7	+1.7	
	baz=91								
B30A	**Myrvik Farm, E**	91.42	30	⇑P		P	06 30 02.2	+0.6	
	baz=91								
E27A	**Carson**	91.44	33	⇑P		P	06 30 03.0	+1.3	
	baz=91								
G27A	**Dupree**	91.54	34	⇑P		P	06 30 05.7	+3.4	
	baz=92								
K22A	**Casper**	91.58	38	⇑P		P	06 30 03.0	+0.3	
	baz=91								
F27A	**Lemmon**	91.63	34	⇓P		P	06 30 03.6	+1.0	
	baz=91								
O19A	**Miners Draw (B**	91.71	41	⇓P		P	06 30 04.1	+0.8	
	baz=92								
H25A	**Fruitdale**	91.74	35	⇓P		P	06 30 04.0	+0.7	
	baz=92								
G26A	**Maurine**	91.76	34	⇑P		P	06 30 04.4	+1.1	
	baz=92								
N20A	**Spence Gulch,**	91.85	40	⇓P		P	06 30 04.3	+0.3	
	baz=92								
RSSD	**Black Hills**	91.87	36	*eP*		P	06 30 04.8	+0.7	
RSSD					pmax	pmax			
	comp=Z,23nm,0.7s								
RSSD	**Black Hills**	91.87	36	*eP*		P	06 30 04.8	+0.7	
	comp=Z,23nm,0.7s								
BC3	**Big Chuckawall**	91.96	49	⇓P		P	06 30 05.1	+0.6	
	baz=92								
L22A	**Ellis Ranch, M**	92.06	38	⇓P		P	06 30 05.8	+0.9	
	baz=92								
I25A	**Rochford**	92.10	36	⇑P		P	06 30 05.8	+0.7	
	baz=92								
W13A	**Hualapai Mount**	92.11	48	⇑P		P	06 30 06.6	+1.3	
	baz=92								
H26A	**Fairpoint**	92.16	35	⇓P		P	06 30 06.5	+1.3	
	baz=92								
F28A	**McLaughlin**	92.23	33	⇓P		P	06 30 06.8	+1.4	
	baz=92								
P19A	**Cripple Cowboy**	92.23	42	⇑P		P	06 30 07.1	+1.2	
	baz=92								
D30A	**Buchanan**	92.24	31	⇑P		P	06 30 06.2	+0.8	
	baz=92								
E29A	**Napoleon**	92.24	32	⇑P		P	06 30 06.3	+0.9	
	baz=92								
MFF	**Saint Martin d**	92.25	328	*eP*		P	06 30 04.9	-0.6	
	comp=Z,7.0nm,0.6s								
MFF	**Saint Martin d**	92.25	328	*eP*		P	06 30 04.9	-0.6	
MFF					pmax	pmax			
	comp=Z,7.0nm,0.6s								
MFF	**Saint Martin d**	92.25	328	*eP*		P	06 30 04.9	-0.6	
	comp=Z,7.0nm,0.6s								
U15A	**North Rim**	92.30	46	⇑P		P	06 30 07.9	+1.6	
	baz=92,SNR=6.8								
ROSF	**Rostrenen**	92.32	331	*eP*		P	06 30 05.1	-0.6	
ROSF	**Rostrenen**	92.32	331	*eP*		P	06 30 05.1	-0.6	
O20A	**White River Ci**	92.33	41	⇓P		P	06 30 07.3	+1.1	
	baz=92								
L23A	**Garrett**	92.40	38	⇓P		P	06 30 07.0	+0.5	
	baz=92,SNR=6.3								
M22A	**Cedar Creek Ra**	92.40	39	⇓P		P	06 30 06.6	0.0	
	baz=92								
RJF	**Les Rejaudoux**	92.42	327	*eP*		P	06 30 05.7	-0.6	
RJF				*e*R					
	comp=Z,774nm,18.0s								
RJF	**Les Rejaudoux**	92.42	327	*eP*		P	06 30 05.7	-0.6	
RJF	**Les Rejaudoux**	92.42	327	*eP*		P	06 30 05.7	-0.6	
CAF	**Calviac**	92.43	326	*eP*		P	06 30 05.9	-0.5	
	comp=Z,5.3nm,0.7s								
CAF	**Calviac**	92.43	326	*eP*		P	06 30 05.9	-0.5	
CAF					pmax	pmax			
	comp=Z,5.0nm,0.7s								
CAF	**Calviac**	92.43	326	*eP*		P	06 30 05.9	-0.5	
	comp=Z,5.3nm,0.7s								
PDMCI	**Parker Dam,Lak**	92.44	48	⇓P		P	06 30 07.6	+1.1	
	baz=92								
K24A	**Anderson Ranch**	92.45	37	⇑P		P	06 30 06.9	+0.2	
	baz=92								
H27A	**Howes**	92.49	34	⇓P		P	06 30 07.8	+1.1	
	baz=92								
J25A	**Sunshine Ranch**	92.51	36	⇓P		P	06 30 07.2	+0.3	
	baz=92								
Y12C	**Blythe**	92.52	49	⇑P		P	06 30 08.3	+1.4	
	baz=92								
E30A	**Jud**	92.62	31	⇑P		P	06 30 08.3	+1.1	
	baz=92								
G28A	**Parade**	92.74	33	⇓P		P	06 30 08.8	+1.0	
	baz=92								
I27A	**Quinn**	92.91	35	⇑P		P	06 30 09.8	+1.1	
	baz=93								
J26A	**Sides Ranch, S**	92.94	36	⇑P		P	06 30 09.8	+1.0	
	baz=93								
KMBO	**Kilima Mbogo**	93.08	270	P		P	06 30 10.1	-0.1	
KMBO	**Kilima Mbogo**	93.08	270	P		P	06 30 10.1	-0.1	
	comp=Z,0.5nm,0.3s,baz=57,slow=23,SNR=4.3								
KMBO					LR	LR	07 17 04.5		
	comp=Z,151nm,18.6s,baz=275,slow=39								
Q20A	**Ridgley Place,**	93.08	42	⇑P		P	06 30 11.0	+1.3	
	baz=93,SNR=5.1								
N23A	**Red Feather La**	93.10	39	⇑P		P	06 30 11.1	+1.2	
	baz=93								
TBI	**Tubuai**	93.25	115	*eS*		S	06 41 11.7	-2.4	
	comp=Z,88nm,29.8s								
TBI	**Tubuai**	93.25	115	*e*LR		LR	07 00 06.7		
	comp=Z,156nm,22.8s								
O22A	**Kremmling**	93.27	40	⇑P		P	06 30 11.3	+0.6	
	baz=93								
I28A	**Midland**	93.40	34	⇑P		P	06 30 11.4	+0.5	
	baz=93								
Y14A	**Wickenburg**	93.40	48	⇑P		P	06 30 12.3	+1.2	
	baz=93,SNR=8.6								
WUAZ	**Wupatki**	93.45	46	⇓P		P	06 30 12.9	+1.5	
	baz=93								
J27A	**Elkhorn Farm,**	93.52	35	⇓P		P	06 30 12.8	+1.2	
	baz=93								
P22A	**Eagle**	93.53	40	⇓P		P	06 30 13.0	+1.2	
	baz=93,SNR=5.5								
R20A	**Redvale**	93.54	42	⇑P		P	06 30 13.1	+1.3	
	baz=93,SNR=5.9								
G30A	**Faulkton**	93.54	33	⇓P		P	06 30 12.0	+0.5	
	baz=93								
Q21A	**Lamborn Mesa,**	93.58	41	⇑P		P	06 30 13.6	+1.6	
	baz=93								
O23A	**Lake Granby, G**	93.59	40	⇑P		P	06 30 13.6	+1.5	
	baz=93								
113A	**Mohawk Valley,**	93.62	49	⇑P		P	06 30 13.0	+1.0	
	baz=94,SNR=7.5								
I29A	**Vivian Onida**	93.81	34	⇑P		P	06 30 12.9	+0.1	
	baz=94								
R21A	**Cimarron**	93.90	42	⇓P		P	06 30 15.4	+1.8	
	baz=94								
Q22A	**Crested Butte,**	93.94	41	⇑P		P	06 30 15.6	+1.8	
	baz=94,SNR=5.0								
ISCO	**Idaho Springs**	94.04	40	⇑P		P	06 30 15.5	+1.3	
	baz=94								
X16A	**Lo Mia Camp, P**	94.11	47	⇑P		P	06 30 16.1	+1.6	
	baz=94,SNR=6.2								
S21A	**Coal Bank Pass**	94.23	42	⇓P		P	06 30 16.3	+1.1	
	baz=94								
J29A	**Okreek**	94.25	34	⇓P		P	06 30 15.8	+1.0	
	baz=94								
J30A	**Dallas**	94.72	34	⇑P		P	06 30 17.3	+0.4	
	baz=94								
K29A	**Lazy Trails An**	94.73	35	⇓P		P	06 30 18.1	+1.0	
	baz=94								
S22A	**4UR Ranch, Cre**	94.74	42	⇑P		P	06 30 19.0	+1.5	
	baz=94								
KEST	**Kesra**	94.75	315	LR		LR	07 18 02.2		
	comp=Z,142nm,19.8s,baz=340,slow=39								
214A	**Organ Pipe Nat**	94.76	49	⇑P		P	06 30 18.8	+1.4	
	baz=95,SNR=5.7								
SCHQ	**Schefferville**	95.11	10	LR		LR	07 15 29.2		
	comp=Z,300nm,19.2s,baz=9.8,slow=37								
K30A	**Basset**	95.14	34	⇑P		P	06 30 19.7	+0.8	
	baz=95								
T22A	**Edith**	95.19	42	⇑P		P	06 30 21.0	+1.5	
	baz=95								
Q26A	**Hugo**	95.81	39	⇑P		P	06 30 23.2	+1.0	
	baz=96								
R25A	**Fountain Ranch**	95.93	40	⇑P		P	06 30 23.3	+0.6	
	baz=96								
V22A	**San Miguel Ran**	95.93	43	⇑P		P	06 30 24.5	+1.6	
	baz=96								
U23A	**El Rito**	96.08	43	⇓P		P	06 30 24.6	+1.1	
	baz=96								
R26A	**Arlington**	96.29	40	⇑P		P	06 30 24.9	+0.5	
	baz=96								
SPMN	**St. Paul**	96.31	29	⇓P		P	06 30 25.0	+1.0	
	baz=96								
Y20A	**Horse Springs,**	96.37	46	⇓P		P	06 30 25.7	+0.8	
	baz=96								
X21A	**Alamocita Cree**	96.38	45	⇓P		P	06 30 24.7	-0.3	
	baz=96								
S26A	**Kim**	96.75	40	⇑P		P	06 30 26.5	0.0	
	baz=96								
Z20A	**Nine Sixteen R**	96.76	46	⇑P		P	06 30 28.1	+1.5	
	baz=97								
ESDC	**Sonseca Array**	99.32	326	P		Pdif	06 30 36.4	-1.4	
ESDC	**Sonseca Array**	99.32	326	P		Pdif	06 30 36.4	-1.4	
	comp=Z,0.5nm,0.7s,baz=26,slow=5.0,SNR=5.9								
TXAR	**Lajitas Array**	102.41	46	P		Pdif	06 30 52.2	+0.4	
TXAR	**Lajitas Array**	102.41	46	P		Pdif	06 30 52.2	+0.4	
	comp=Z,0.5nm,0.9s,baz=249,slow=3.5,SNR=3.8								
TORD	**Torodi Ar. Bea**	114.87	303	PKP		PKPdf	06 35 35.8	-1.0	
TORD	**Torodi Ar. Bea**	114.87	303	PKP		PKPdf	06 35 35.8	-1.0	
	comp=Z,1.0nm,0.8s,baz=123,slow=2.4,SNR=6.4								
BOSA	**Boshof**	115.37	250	PKP		PKPdf	06 35 34.9	-2.5	
BOSA	**Boshof**	115.37	250	PKP		PKPdf	06 35 34.9	-2.5	
	comp=Z,3.5nm,0.9s,baz=141,slow=14,SNR=3.0								
DBIC	**Dimbokro**	123.96	302	PKP		PKPdf	06 35 52.8	-1.5	
DBIC	**Dimbokro**	123.96	302	PKP		PKPdf	06 35 52.8	-1.5	
	comp=Z,3.3nm,0.8s,baz=140,slow=4.7,SNR=5.1								
LIC	**Lamto**	124.38	302	*e*PKIKP		PKPdf	06 35 53.9	-1.2	
	comp=Z,12nm,0.8s								
LIC	**Lamto**	124.38	302	*e*PKPdf		PKPdf	06 35 53.9	-1.2	

*ISCJB **25** 06:19:18.6±0.8, 15°.0S±0°.1×172°.2W±0°.2, h18km, mb3.9/6, Error ellipse: s-maj=36.6km s-min=8.7km az=25.2*
*IDC **25** 06:19:18.0±0.9, 14°.99S×172°.16W, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/22, mbtmp3.9/6, Error ellipse: s-maj=42.4km s-min=17.7km az=115.0*
ISC 25 06:19:20.4±0.8**, 14°.9S**±0°.1×**172°.1W**±0°.3**, h18**km**, n19,**
σ1§**24**/14**, mb4.0/6, Samoa Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.08**	**19**	Pn	**Pb**	**06 19 39.1**	**-1.5**
	241nm,0.3s,baz=40,slow=0.9,SNR=130						
AFI				Sn	**Sb**	**06 19 54.0**	**-0.3**
	412nm,0.3s,baz=197,slow=19,SNR=25						
URZ	**Urewera**	**25.11**	**200**	P	**P**	**06 24 44.7**	**+0.5**
	4.3nm,0.6s,baz=66,slow=10.0,SNR=4.3						
H11S2	**WAKE ISLAND Hy**	**39.22**	**327**	T	T	07 07 26.3	
	baz=150,slow=0.7,SNR=22						
H11S3	**WAKE ISLAND Hy**	**39.23**	**327**	T	T	07 07 28.3	
	baz=150,slow=0.7,SNR=20						
H11S1	**WAKE ISLAND Hy**	**39.23**	**327**	T	T	07 07 25.2	
	baz=150,slow=0.7,SNR=20						
H11N3	**WAKE ISLAND Hy**	**40.13**	**328**	T	T	07 08 34.1	
	baz=149,slow=0.7,SNR=5.2						
H11N1	**WAKE ISLAND Hy**	**40.14**	**328**	T	T	07 08 34.8	
	baz=149,slow=0.7,SNR=6.7						
H11N2	**WAKE ISLAND Hy**	**40.15**	**328**	T	T	07 08 35.5	
	baz=149,slow=0.7,SNR=4.3						
WRA	**Warramunga Arr**	**51.14**	**256**	P	**P**	**06 28 22.2**	**-0.5**
	0.5nm,0.6s,baz=96,slow=6.6,SNR=3.2						
ASAR	**Alice Springs**	**51.42**	**252**	P	**P**	**06 28 24.0**	**-0.8**
	1.1nm,0.4s,baz=89,slow=7.6,SNR=12						
VNDA	**Vanda**	**63.96**	**186**	P	**P**	**06 29 51.3**	**-0.8**
	1.1nm,0.9s,baz=3.3,slow=5.1,SNR=4.7						
ILAR	**Eielson Array**	**81.76**	**11**	P	**P**	**06 31 40.3**	**+2.6**
	0.2nm,0.6s,baz=244,slow=7.1,SNR=4.1						
MAW	**Mawson**	**88.62**	**198**	P	**P**	**06 32 11.0**	**-1.1**
	1.8nm,0.9s,baz=234,slow=1.6,SNR=4.1						
DPC	**Dobruska-Polom**	**144.02**	**351**	*eP*	PKPbc	06 38 52.6	-0.2
KHC	**Kasperske Hory**	**145.58**	**353**	*eP*	**PKPab**	**06 38 59.8**	**+1.7**
GERES	**GERESS Array B**	**145.85**	**353**	PKPbc	**PKPab**	**06 38 59.9**	**+0.7**
	1.2nm,0.9s,baz=345,slow=1.5,SNR=5.8						
BRTR	**Keskin Array B**	**146.55**	**323**	PKPbc	**PKPab**	**06 39 02.7**	**+0.4**
	0.9nm,0.6s,baz=116,slow=1.3,SNR=6.2						
KMBO	**Kilima Mbogo**	**146.84**	**244**	PKPbc	**PKPab**	**06 39 04.0**	**-0.2**
	0.6nm,0.3s,baz=35,slow=22,SNR=3.7						
ESDC	**Sonseca Array**	**153.26**	**21**	PKP	**PKPdf**	**06 39 09.8**	**-0.5**
	0.1nm,0.3s,baz=315,slow=1.3,SNR=3.4						
ESDC				PKPbc	**PKiKP**	**06 39 18.9**	**+1.0**
	0.2nm,0.5s,baz=324,slow=1.5,SNR=4.0						

*DJA **25** 06:31:01.0±2.2, 8°.S±12°×11°.3E±°, h125km±24km, M3.3/6, MLv3.3/6*
*IDC **25** 06:31:09.9±15.0, 8°.30S×112°.93E, h250km±157km, mb3.0/5, mb1 3.1/6, mb1mx2.9/22, mbtmp2.9/6, Error ellipse: s-maj=101.3km s-min=29.2km az=59.0*
ISC 25 06:31:00.3±1.0**, 8°.3S**±0°.1×**112°.85E**±0°.0**7, h136**km**, n14,**
σ1§**50**/13**, mb3.4/5, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRKI	**Karangkates**	**0.43**	**293**	P	**Pn**	**06 31 21.2**	**+1.6**
GMJI	**Gumukmas**	**0.59**	**84**	P	**Pn**	**06 31 20.6**	**+0.1**
BLJI	**Banyuglugur**	**0.94**	**52**	P	**Pn**	**06 31 24.3**	**+1.1**
PWJI	**Pagerwojo**	**1.08**	**286**	P	**Pn**	**06 31 25.0**	**+0.6**
SJI	**Sawahan**	**1.23**	**299**	P	**Pn**	**06 31 27.1**	**+1.1**
GRJI	**Gresik**	**1.46**	**345**	P	**Pn**	**06 31 29.8**	**+1.5**
ABJI	**Asem Bagus**	**1.47**	**69**	P	**Pn**	**06 31 29.8**	**+1.4**
PCJI	**Pacitan**	**1.66**	**275**	P	**Pn**	**06 31 31.6**	**+1.0**
FITZ	**Fitzroy Crossi**	**15.78**	**129**	P	**P**	**06 34 38.5**	**+2.4**
	0.1nm,0.3s,baz=288,slow=9.6,SNR=3.3						
FITZ				S	Sn	06 37 18.5	-12
	0.1nm,0.3s,baz=210,slow=18,SNR=7.6						
WRA	**Warramunga Arr**	**23.79**	**121**	P	**P**	**06 35 59.5**	**-1.2**
	0.3nm,0.4s,baz=296,slow=11,SNR=9.8						
ASAR	**Alice Springs**	**25.28**	**130**	P	**P**	**06 36 13.4**	**-0.9**
	0.5nm,0.4s,baz=302,slow=9.5,SNR=7.7						
STKA	**Stephens Creek**	**35.53**	**135**	P	**P**	**06 37 44.0**	**-0.3**
	1.2nm,0.6s,baz=310,slow=7.0,SNR=3.1						
SONM	**Songino Array**	**56.21**	**355**	P	**P**	**06 40 24.2**	**-2.0**
	0.2nm,0.3s,baz=161,slow=9.2,SNR=3.7						
MKAR	**Makanchi Array**	**61.26**	**337**	P	P	06 40 58.6	-2.4
	0.2nm,0.5s,baz=150,slow=7.4,SNR=4.0						

*SZGRF **25** 06:45:43.4, 71°.30N×10°.80W, h33km, mb4.4, Jan Mayen Island region*
*IDC **25** 06:45:46.9±0.6, 71°.69N×2°.00W, h0km, mb4.0/19, mb1 4.2/24, mb1mx4.2/34, mbtmp4.1/24, ML4.0/5, MS3.8/20, Ms1 3.9/20, ms1mx3.7/42, Error ellipse: s-maj=15.2km s-min=12.2km az=51.0*
*ISCJB **25** 06:45:47.9±0.2, 71°.74N±0°.02×1°.48W±0°.08, h10km, mb4.5/105, MS4.0/22, Error ellipse: s-maj=3.8km s-min=3.6km az=178.8*
*CSEM **25** 06:45:47.3±0.1, 71°.69N×2°.06W, h2km, mb4.8/65, Ms3.5, Error ellipse: s-maj=4.2km s-min=3.6km az=161.0, Suspected Mining explosion.*
*NAO **25** 06:45:47.3±5.0, 71°.60N×1°.76W, ML4.5*
*MOS **25** 06:45:47.7±1.3, 71°.75N×1°.86W, h10km, mb5.0/47, MS4.0/6, Error ellipse: s-maj=15.9km s-min=3.7km az=96.7*
*BJI **25** 06:45:48.2, 71°.80N×1°.90W, h10km, mB5.0/15, mb4.8/22, Ms4.8/7, Ms7 4.6/7*
*NEIC **25** 06:45:49.3±0.2, 71°.70N×1°.88W, h10km, mb4.8/36, Error ellipse: s-maj=5.4km s-min=4.0km az=67.0*
*BER **25** 06:45:50.3±3.5, 71°.70N×2°.01W, h4km, ML2.8, ML4.5(NAO)*
*REY **25** 06:45:54.8, 71°.65N×5°.36W, h5km, ML3.4, ML3.1*
*UPP **25** 06:46:02.0, 71°.71N±0°.78E, h0km, ML3.0, Suspected Mining explosion.*
ISC 25 06:45:50.3±0.5**, 71°.65N**±0°.04×**1°.90W**±0°.04**, h19**km±1km**, h19**km**:pP-P, n526,** σ1§**48**/539**, mb4.

ARA0 ARCESS Array S 9.32 90 *e*Pn **Pn 06 48 02.0 -1.3**
ARA0 ARCESS Array S 9.32 90 Pn **Pn 06 48 02.3 -1.0**
baz=292,slow=12,SNR=50
ARCES ARCESS Array B 9.32 90 Pn **Pn 06 48 02.0 -1.3**
ARCES ARCESS Array B 9.32 90 P **Pn 06 48 02.1 -1.3**
ARCES ARCESS Array B 9.32 90 Pn **Pn 06 48 02.0 -1.3**
comp=Z,2.5nm,0.3s,baz=293,slow=12,SNR=166
ARCES LR LR 06 51 17.7
comp=Z,329nm,19.9s,baz=59,slow=35
ARE0 ARCESS Array S 9.32 90 *e*P **Pn 06 48 01.7 -1.6**
ARE0 ARCESS Array S 9.32 90 *e*P **Pn 06 48 01.7 -1.6**
SNR=47
TBLU Trondheim 9.62 145 *e*P Pn 06 48 03.7 -3.7
KEV Kevo 9.70 87 *e*P **Pn 06 48 06.5 -2.0**
KEV pmax pmax
comp=Z,2.0nm,0.3s
KEV Kevo 9.70 87 *ep* **Pn 06 48 06.5 -2.0**
comp=Z,1.7nm,0.3s
KEV Kevo 9.70 87 *e*P **Pn 06 48 06.5 -2.0**
comp=Z,2.0nm,0.3s
ERTU Ertsjaerv 9.95 109 P **Pn 06 48 10.9 -1.0**
BORG Borgarnes 9.96 236 LR LR 06 50 58.3
comp=Z,205nm,18.1s,baz=360,slow=31
LILU Lilltraesk 10.17 118 P **Pn 06 48 15.0 +0.1**
NOD Norderasen 10.39 134 P **Pn 06 48 18.3 +0.3**
SJUU Sjulsmark 10.51 114 P **Pn 06 48 18.8 -0.7**
SVAU Svanoeiden 10.70 121 P **Pn 06 48 22.0 -0.2**
KALU Kalix 10.77 110 P **Pn 06 48 22.3 -0.8**
BREU Bredtraesk 10.92 125 P **Pn 06 48 25.3 +0.1**
SUE Sulen 10.96 163 *e*P **Pn 06 48 24.1 -1.7**
SUE Sulen 10.96 163 *e*P **Pn 06 48 24.1 -1.7**
SNR=47
HYA Hoyanger 11.00 159 *e*P **Pn 06 48 26.5 +0.2**
BURU Burvik 11.13 118 P **Pn 06 48 28.2 +0.1**
SUMG Summit 11.15 292 *e*P **Pn 06 48 27.0 -1.8**
SUMG Summit 11.15 292 *e*Pn **Pn 06 48 27.0 -1.8**
SUMG Summit 11.15 292 *e*P **Pn 06 48 27.0 -1.8**
RUND Rundenannen 11.65 162 *e*P Pn 06 48 30.9 -4.4
BER Bergen 11.68 162 *e*P **Pn 06 48 33.0 -2.6**
BER Bergen 11.68 162 *e*P **Pn 06 48 33.0 -2.6**
SNR=47
NB2 NORSAR Subarra 11.84 147 Pn **Pn 06 48 36.1 -1.8**
baz=335,slow=14
NB2 NORSAR Subarra 11.84 147 Pn **Pn 06 48 37.4 -0.5**
comp=Z,17nm,1.2s,baz=340,slow=14
NB2 NORSAR Subarra 11.84 147 Pn **Pn 06 48 36.1 -1.8**
baz=335,slow=14
NB2 NORSAR Subarra 11.84 147 Pn **Pn 06 48 36.1 -1.8**
SNR=0.6
NOA NORSAR Array B 11.84 147 Pn **Pn 06 48 37.2 -0.7**
NOA NORSAR Array B 11.84 147 P **Pn 06 48 37.2 -0.7**
NOA NORSAR Array B 11.84 147 Pn **Pn 06 48 37.2 -0.7**
comp=Z,0.5nm,0.3s,baz=337,slow=13,SNR=13
NOA LR LR 06 53 01.7
comp=Z,707nm,20.9s,baz=335,slow=37
KONO Kongsberg 12.91 153 *e*P **Pn 06 48 52.4 -0.1**
KONO Kongsberg 12.91 153 *e*Pn **Pn 06 48 52.4 -0.1**
KONO Kongsberg 12.91 153 *e*P **Pn 06 48 52.4 -0.1**
LVZ Lovozero 13.03 89 *e*P Pn 06 48 58.0 +4.0
LVZ pmax pmax
comp=Z,43nm,1.7s
HFS Hagfors 13.13 144 Pn **Pn 06 48 54.7 -0.8**
baz=335,slow=12
HFS Hagfors 13.13 144 Pn **Pn 06 48 54.7 -0.8**
baz=335,slow=12
HFS Hagfors 13.13 144 Pn **Pn 06 48 55.0 -0.5**
HFS Hagfors 13.13 144 Pn **Pn 06 48 54.7 -0.8**
baz=335,slow=12,SNR=50
HFS Hagfors 13.13 144 P **Pn 06 48 55.0 -0.5**
HFS Hagfors 13.13 144 Pn **Pn 06 48 55.0 -0.5**
comp=Z,2.0nm,0.3s,baz=348,slow=14,SNR=56
HFS LR LR 06 53 42.0
comp=Z,814nm,20.5s,baz=253,slow=36
KAF Kangasniemi 14.45 117 *e*P **Pn 06 49 11.6 -1.8**
KAF pmax pmax
comp=Z,2.0nm,0.3s
KAF Kangasniemi 14.45 117 *ep* **Pn 06 49 11.6 -1.8**
comp=Z,1.9nm,0.3s
FIA0 FINESS Array S 14.93 119 Pn **Pn 06 49 18.5 -1.4**
baz=333,slow=12
FIA0 FINESS Array S 14.93 119 Pn **Pn 06 49 18.5 -1.4**
baz=333,slow=12
FIA0 FINESS Array S 14.93 119 Pn **Pn 06 49 18.5 -1.4**
baz=333,slow=12,SNR=50
FINES FINESS Array B 14.93 119 Pn **Pn 06 49 18.4 -1.4**
FINES FINESS Array B 14.93 119 Pn **Pn 06 49 18.5 -1.4**
FINES FINESS Array B 14.93 119 Pn **Pn 06 49 18.4 -1.4**
comp=Z,0.8nm,0.3s,baz=332,slow=11,SNR=36
FINES LR LR 06 54 34.4
comp=Z,706nm,19.7s,baz=24,slow=35
JOF Joensuu 15.29 108 *e*P **Pn 06 49 22.4 -2.3**
JOF pmax pmax
comp=Z,2.0nm,0.3s
JOF Joensuu 15.29 108 *ep* **Pn 06 49 22.4 -2.3**
comp=Z,1.9nm,0.3s
EKA Eskdalemuir Ar 16.39 183 Pn **Pn 06 49 36.9 -2.0**
EKA Eskdalemuir Ar 16.39 183 Pn **Pn 06 49 36.9 -2.0**
EKA Eskdalemuir Ar 16.39 183 Pn **Pn 06 49 36.9 -2.0**
baz=255,slow=9.4,SNR=4.7
TMCR Tamitsa 16.46 97 *e*P **Pn 06 49 37.4 -2.3**
TMCR *e* 06 52 37.8
TMCR pmax pmax
comp=Z,22nm,0.9s
SFJD Kangerlussuaq 17.39 279 LR LR 06 55 30.0
comp=Z,270nm,21.9s,baz=16,slow=34
VSU Vasula 17.63 124 *d i*P **Pn 06 49 53.4 -1.0**
VSU pmax pmax
comp=Z,105nm,0.9s
VSU Vasula 17.63 124 *i* P **Pn 06 49 53.4 -1.0**
comp=Z,105nm,0.9s
KLMR Klimovskoe 19.38 103 *e*P **P 06 50 13.9 -0.6**
KLMR pmax pmax
comp=Z,43nm,1.1s
KLMR Klimovskoe 19.38 103 *e*P **P 06 50 13.9 -0.6**
comp=Z,43nm,1.1s
SUW Suwalki 20.77 135 *e*P Pn 06 50 31.6 -0.5
SUW pmax pmax
comp=Z,85nm,0.9s
SUW Suwalki 20.77 135 *e*P Pn 06 50 31.6 -0.6
comp=Z,85nm,0.9s
SUW Suwalki 20.77 135 *e*P **P 06 50 30.0 +0.3**
SUW Suwalki 20.77 135 *e*P **P 06 50 30.0 +0.3**
NACGM Naroch 20.81 129 *e* **P 06 50 27.0 -3.0**
BEBN Eben Emael 21.21 167 P **P 06 50 35.2 +0.8**
SNF Seneffe 21.40 169 P **P 06 50 38.5 +2.0**
MEM Membach 21.42 166 P **P 06 50 37.6 +1.0**
comp=Z,16nm,1.2s
MEM Membach 21.42 166 *e*P **P 06 50 37.5 +0.8**
MEM pmax pmax
comp=Z,38nm,1.1s
MEM Membach 21.42 166 *e*P **P 06 50 37.5 +0.8**
comp=Z,38nm,1.1s
MEM Membach 21.42 166 *e*P **P 06 50 37.5 +0.8**
comp=Z,38nm,1.1s
MNK Minsk 21.43 128 *e*P **P 06 50 36.0 -0.8**
MNK Minsk 21.43 128 *e*P **P 06 50 36.0 -0.8**
MICGM Minsk 21.44 128 *e*P **P 06 50 36.0 -0.9**
CLL Collm 21.49 154 *e*P **P 06 50 38.0 +0.6**
CLL pmax pmax
comp=Z,12nm,1.1s
CLL MLR MLR
comp=Z,400nm,18.9s
CLL Collm 21.49 154 *e*P **P 06 50 38.0 +0.6**
comp=Z,12nm,1.1s
CLL *e* 06 50 49.0
CLL LmV 06 59 00.0
comp=Z,400nm,18.9s
CLL Collm 21.49 154 *e*P **P 06 50 38.0 +0.6**
comp=Z,400nm,18.9s
BCLA Clavier 21.56 167 P **P 06 50 38.9 +0.7**
comp=Z,9.0nm,1.1s
DOU Dourbes 21.83 169 P **P 06 50 41.8 +0.7**
comp=Z,9.7nm,1.5s
GIVF Givet 21.84 168 *e*P **P 06 50 41.3 +0.1**
GIVF Givet 21.84 168 *e*P **P 06 50 41.3 +0.1**
GIVF Givet 21.84 168 *e*P **P 06 50 41.3 +0.1**
GIVF Givet 21.84 168 *e*P **P 06 50 41.3 +0.1**
BAIF Baives 21.85 169 *e*P **P 06 50 41.6 +0.3**
comp=Z,97nm,1.3s
BAIF Baives 21.85 169 *e*P **P 06 50 41.6 +0.3**
BAIF pmax pmax
comp=Z,97nm,1.3s
BAIF Baives 21.85 169 *e*P **P 06 50 41.6 +0.3**
comp=Z,97nm,1.3s
BAIF Baives 21.85 169 *e*P **P 06 50 41.6 +0.3**
comp=Z,49nm,1.3s
BRG Berggiesshubel 22.05 153 *e*P **P 06 50 44.5 +1.1**
comp=Z,25nm,1.6s
BRG
comp=N,633nm,16.2s
BRG
comp=E,845nm,19.8s
BRG
comp=Z,1μm,15.5s
BRG Berggiesshubel 22.05 153 *e*P **P 06 50 44.5 +1.1**
BRG pmax pmax
comp=Z,25nm,1.6s
BRG MLR MLR
comp=N,633nm,16.2s
BRG MLR MLR
comp=E,845nm,19.8s
BRG MLR MLR
comp=Z,1μm,15.5s
BRG Berggiesshubel 22.05 153 *e*P **P 06 50 44.5 +1.1**
comp=Z,1μm,15.5s
ABH Alteburg 22.27 164 *e*P **P 06 50 46.9 +1.1**
BEL Belsk 22.31 141 *e*P **P 06 50 49.3 +3.1**
BEL Belsk 22.31 141 *e*P **P 06 50 49.3 +3.1**
WLF Walferdange 22.37 166 P **P 06 50 47.9 +1.0**
comp=Z,21nm,2.3s
RUP Ruppelstein 22.41 165 *e*P **P 06 50 47.4 +0.1**
KSP Ksiaz 22.44 149 *e*P **P 06 50 48.7 +1.1**
KSP *e**PP **pP 06 50 50.7 -2.4**
KSP Ksiaz 22.44 149 *e*P **P 06 50 48.9 +1.3**
KSP Ksiaz 22.44 149 *e*P **P 06 50 48.7 +1.1**
NKC Novy Kostel 22.47 155 *e*P **P 06 50 50.3 +2.4**
NKC *e* 06 50 58.0
NKC Novy Kostel 22.47 155 *e*P **P 06 50 50.3 +2.4**
NKC *ex* x 06 50 58.0
PVCC Panska Ves 22.48 152 *e*P **P 06 50 50.1 +2.1**
PVCC Panska Ves 22.48 152 *e*P **P 06 50 50.1 +2.1**
PVCC Panska Ves 22.48 152 *e*P **P 06 50 50.1 +2.1**
UPC Upice 22.72 149 *e*P **P 06 50 51.3 +0.7**
UPC Upice 22.72 149 *e*P **P 06 50 51.3 +0.7**
UPC Upice 22.72 149 P **P 06 50 51.3 +0.7**
GRF Grafenberg Arr 22.84 158 *e*P **P 06 50 54.3 +2.4**
GRF pmax pmax
comp=Z,19nm,1.3s
GRF Grafenberg Arr 22.84 158 *e*P **P 06 50 54.3 +2.4**
comp=Z,19nm,1.3s
GRFO Grafenberg 22.84 158 *e*P **P 06 50 53.5 +1.6**
GRFO *e**SP **sP 06 50 59.3 -0.5**
GRFO Grafenberg 22.84 158 *e*P **P 06 50 53.5 +1.6**
GRFO *es*P **sP 06 50 59.3 -0.5**
GRFO Grafenberg 22.84 158 *e*P **P 06 50 53.5 +1.6**
DPC Dobruska-Polom 22.92 149 *e*P **P 06 50 53.6 +0.8**
DPC Dobruska-Polom 22.92 149 *e*P **P 06 50 53.6 +0.8**
DPC Dobruska-Polom 22.92 149 *e*P **P 06 50 54.3 +1.5**
comp=Z,197nm,1.2s
DPC Dobruska-Polom 22.92 149 P **P 06 50 53.6 +0.8**
FLN La Foliniere 22.98 178 *e*P **P 06 50 52.6 -0.7**
comp=Z,210nm,1.8s
FLN *e*R
comp=Z,269nm,19.5s
FLN La Foliniere 22.98 178 *e*P **P 06 50 52.6 -0.7**
FLN pmax pmax
comp=Z,210nm,1.8s
FLN La Foliniere 22.98 178 *e*P **P 06 50 52.6 -0.7**
comp=Z,210nm,1.8s
FLN La Foliniere 22.98 178 *e*P **P 06 50 52.6 -0.7**
comp=Z,210nm,1.8s
PRU Pruhonice 23.00 152 *e*P **P 06 50 55.5 +2.0**
PRU Pruhonice 23.00 152 *e*P **P 06 50 55.5 +2.0**
PRU Pruhonice 23.00 152 P **P 06 50 55.5 +2.0**
MOS Moscow 23.02 113 *e*P P 06 50 58.9 +5.3
MOS pmax pmax
comp=Z,31nm,0.7s
MOS MLR MLR
comp=Z,1μm,15.0s
LDF La Druitiere 23.15 177 *e*P **P 06 50 55.8 +0.8**
comp=Z,120nm,1.7s
LDF La Druitiere 23.15 177 *e*P **P 06 50 55.8 +0.8**
LDF pmax pmax
comp=Z,121nm,1.7s
LDF La Druitiere 23.15 177 *e*P **P 06 50 55.8 +0.8**
comp=Z,120nm,1.7s
LDF La Druitiere 23.15 177 *e*P **P 06 50 55.8 +0.8**
comp=Z,120nm,1.7s
OBN Obninsk 23.25 115 *e*P **P 06 50 57.4 +1.4**
OBN pmax pmax
comp=Z,37nm,1.0s
OBN MLR MLR
comp=Z,500nm,18.0s
GRR Gorron 23.35 178 *e*P **P 06 50 57.0 0.0**
comp=Z,107nm,1.6s
GRR Gorron 23.35 178 *e*P **P 06 50 57.0 0.0**
GRR pmax pmax
comp=Z,107nm,1.6s
GRR Gorron 23.35 178 *e*P **P 06 50 57.0 0.0**
comp=Z,107nm,1.6s
GRR Gorron 23.35 178 *e*P **P 06 50 57.0 0.0**
comp=Z,107nm,1.6s
ROSF Rostrenen 23.40 182 *e*P **P 06 50 58.2 +0.6**
comp=Z,175nm,1.6s
ROSF Rostrenen 23.40 182 *e*P **P 06 50 58.2 +0.6**
ROSF pmax pmax
comp=Z,175nm,1.6s
ROSF Rostrenen 23.40 182 *e*P **P 06 50 58.2 +0.6**
comp=Z,175nm,1.6s
ROSF Rostrenen 23.40 182 *e*P **P 06 50 58.2 +0.6**
comp=Z,175nm,1.6s
PAGF Fort de Pagny 23.44 167 *e*P **P 06 50 58.5 +0.5**
comp=Z,15nm,1.3s
PAGF Fort de Pagny 23.44 167 *e*P **P 06 50 58.5 +0.5**
comp=Z,15nm,1.3s
PAGF Fort de Pagny 23.44 167 *e*P **P 06 50 58.5 +0.5**
comp=Z,15nm,1.3s
MEZF Maizieres J'vi 23.45 168 *e*P **P 06 50 58.5 +0.4**
comp=Z,97nm,1.6s
MEZF Maizieres J'vi 23.45 168 *e*P **P 06 50 58.5 +0.4**
comp=Z,97nm,1.6s
MEZF Maizieres J'vi 23.45 168 *e*P **P 06 50 58.5 +0.4**
comp=Z,97nm,1.6s
SGMF Saint Gilles 23.48 181 *e*P **P 06 50 58.6 +0.3**
comp=Z,76nm,1.3s
SGMF Saint Gilles 23.48 181 *e*P **P 06 50 58.6 +0.3**
SGMF pmax pmax
comp=Z,76nm,1.3s
SGMF Saint Gilles 23.48 181 *e*P **P 06 50 58.6 +0.3**
comp=Z,76nm,1.3s
SGMF Saint Gilles 23.48 181 *e*P **P 06 50 58.6 +0.3**
comp=Z,76nm,1.3s
OJC Ojcow 23.66 144 *e*P **P 06 51 01.8 +1.7**
OJC pmax pmax
comp=Z,86nm,2.0s
OJC Ojcow 23.66 144 *e*P **P 06 51 01.8 +1.7**
comp=Z,86nm,2.0s
OJC Ojcow 23.66 144 *e*P **P 06 51 01.8 +1.7**
comp=Z,86nm,2.0s
MORC Moravsky Berou 23.68 147 *e*P **P 06 51 02.2 +1.8**
MORC pmax pmax
comp=Z,12nm,1.3s
MORC Moravsky Berou 23.68 147 *e*P **P 06 51 02.2 +1.8**
comp=Z,12nm,1.3s
MORC Moravsky Berou 23.68 147 *e*P **P 06 51 02.2 +1.8**
comp=Z,12nm,1.3s
KHC Kasperske Hory 23.70 154 *e*P **P 06 51 02.6 +2.1**
KHC Kasperske Hory 23.70 154 *e*P **P 06 51 02.6 +2.1**
KHC Kasperske Hory 23.70 154 *e*P **P 06 51 02.6 +2.1**
comp=Z,28nm,1.6s
KHC Kasperske Hory 23.70 154 *e*P **P 06 51 02.7 +2.2**
comp=Z,28nm,1.6s
CDF Champ du Feu 23.70 165 *e*P **P 06 51 01.6 +1.0**
comp=Z,34nm,1.3s
CDF Champ du Feu 23.70 165 *e*P **P 06 51 01.6 +1.0**
CDF pmax pmax
comp=Z,34nm,1.3s
CDF Champ du Feu 23.70 165 *e*P **P 06 51 01.6 +1.0**
comp=Z,34nm,1.3s
CDF Champ du Feu 23.70 165 *e*P **P 06 51 01.6 +1.0**
comp=Z,34nm,1.3s
OKC Ostrava-Krasne 23.73 147 *e*P **P 06 51 02.2 +1.5**
OKC *e* 06 51 08.2
OKC Ostrava-Krasne 23.73 147 *e*P **P 06 51 02.2 +1.5**
OKC *ep*P **pP 06 51 08.2 +1.8**
OKC Ostrava-Krasne 23.73 147 P **P 06 51 02.2 +1.5**
SFTF Sexfontaines 23.75 168 *e*P **P 06 51 01.1 +0.2**
comp=Z,36nm,1.0s
SFTF Sexfontaines 23.75 168 *e*P **P 06 51 01.1 +0.2**
comp=Z,36nm,1.0s
SFTF Sexfontaines 23.75 168 *e*P **P 06 51 01.1 +0.2**
comp=Z,36nm,1.0s
THEF They Montfort 23.79 167 *e*P **P 06 51 02.9 +1.5**
THEF They Montfort 23.79 167 *e*P **P 06 51 02.9 +1.5**
TREC Trest 23.82 151 *e*P **P 06 51 02.5 +0.9**
TREC *e* 06 51 09.5
TREC Trest 23.82 151 *e*P **P 06 51 02.5 +0.9**
TREC *ep*P **pP 06 51 09.5 +2.2**
TREC Trest 23.82 151 P **P 06 51 02.5 +0.9**
BFO Black Forest 23.88 163 *e*P **P 06 51 04.0 +1.8**
BFO pmax pmax
comp=Z,27nm,1.2s
BFO Black Forest 23.88 163 *e*P **P 06 51 04.0 +1.8**
comp=Z,27nm,1.2s
BFO Black Forest 23.88 163 *e*P **P 06 51 04.0 +1.8**
comp=Z,27nm,1.2s
ECH Echery 23.89 165 *e*P **P 06 51 04.2 +1.9**
ECH Echery 23.89 165 *e*P **P 06 51 04.2 +1.9**
VRAC Vranov 23.98 149 P **P 06 51 03.9 +0.8**
VRAC Vranov 23.98 149 P **P 06 51 03.9 +0.8**
VRAC Vranov 23.98 149 P **P 06 51 03.9 +0.8**
comp=Z,4.4nm,0.7s,baz=346,slow=8.8,SNR=6.7
VRAC LR LR 07 01 14.2
comp=Z,329nm,18.3s,baz=47,slow=39
LIBD Limburg 23.99 164 *e*P **P 06 51 02.6 -0.6**
GEC2 GERESS Array S 24.00 154 *e*P **P 06 51 04.9 +1.5**
GEC2 GERESS Array S 24.00 154 *e*P **P 06 51 04.8 +1.5**
GEC2 GERESS Array S 24.00 154 *e*P **P 06 51 04.8 +1.4**
GERES GERESS Array B 24.00 154 P **P 06 51 04.4 +1.0**
GERES GERESS Array B 24.00 154 P **P 06 51 04.4 +1.0**
GERES GERESS Array B 24.00 154 P **P 06 51 04.4 +1.0**
comp=Z,1.1nm,0.8s,baz=355,slow=9.4,SNR=8.9
GERES LR LR 07 00 32.2
comp=Z,315nm,20.4s,baz=157,slow=37
SPAK Spaichingen-Ko 24.15 162 *e*P **P 06 51 05.7 +0.9**
MOF Molkenrain 24.25 165 *e*P **P 06 51 05.5 -0.3**
MOF Molkenrain 24.25 165 *e*P **P 06 51 05.5 +0.3**
HINF Hinteralfeld 24.26 166 *e*P **P 06 51 06.2 +0.4**
comp=Z,60nm,1.8s
HINF Hinteralfeld 24.26 166 *e*P **P 06 51 06.2 +0.4**
HINF pmax pmax
comp=Z,60nm,1.8s
HINF Hinteralfeld 24.26 166 *e*P **P 06 51 06.2 +0.4**
comp=Z,60nm,1.8s
HINF Hinteralfeld 24.26 166 *e*P **P 06 51 06.2 +0.4**
comp=Z,60nm,1.8s
FELD Feldberg im Sc 24.30 164 *e*P **P 06 51 06.9 +0.6**
FELD Feldberg im Sc 24.30 164 *e*P **P 06 51 06.9 +0.6**
RES Resolute Bay 24.49 320 LR LR 07 00 14.7
comp=Z,323nm,21.4s,baz=256,slow=36
LOR Lormes 24.61 171 *e*P **P 06 51 09.8 +0.8**
comp=Z,47nm,1.0s
LOR *e*R
comp=Z,290nm,22.8s
LOR Lormes 24.61 171 *e*P **P 06 51 09.8 +0.8**
comp=Z,47nm,1.0s
LOR Lormes 24.61 171 *e*P **P 06 51 09.8 +0.8**
comp=Z,47nm,1.0s
KWP Kalwaria Pacla 24.79 140 *e*P **P 06 51 12.7 +2.1**
KWP Kalwaria Pacla 24.79 140 *e*P **P 06 51 12.7 +2.1**
SSF Saint Saulge 24.80 171 *e*P **P 06 51 10.7 +0.1**
comp=Z,37nm,0.9s
SSF Saint Saulge 24.80 171 *e*P **P 06 51 10.7 +0.1**
SSF pmax pmax
comp=Z,37nm,0.9s
SSF Saint Saulge 24.80 171 *e*P **P 06 51 10.7 +0.1**
comp=Z,37nm,0.9s
SSF Saint Saulge 24.80 171 *e*P **P 06 51 10.7 +0.1**
comp=Z,37nm,0.9s
MOA Molln 25.05 154⇑ *i*pP pP 06 51 18.3 -0.4
comp=Z,16nm,1.5s
AVF Avril sur Loir 25.06 171 *e*P **P 06 51 13.4 +0.4**
comp=Z,36nm,1.0s
AVF Avril sur Loir 25.06 171 *e*P **P 06 51 13.4 +0.4**
AVF pmax pmax
comp=Z,36nm,1.0s
AVF Avril sur Loir 25.06 171 *e*P **P 06 51 13.4 +0.4**
comp=Z,36nm,1.0s
AVF Avril sur Loir 25.06 171 *e*P **P 06 51 13.4 +0.4**
comp=Z,36nm,1.0s
DAVA Damuels 25.07 161⇑ *i*P **P 06 51 15.7 +2.5**
comp=Z,20nm,0.9s
MOTA Moosalm 25.14 159⇑ *i*P **P 06 51 15.8 +1.9**
comp=Z,12nm,1.1s
MOTA Moosalm 25.14 159 P **P 06 51 15.8 +1.9**
comp=Z,12nm,1.1s
MFF Saint Martin d 25.14 177 *e*P **P 06 51 14.6 +0.9**
comp=Z,46nm,1.3s
MFF Saint Martin d 25.14 177 *e*P **P 06 51 14.6 +0.9**
MFF pmax pmax
comp=Z,46nm,1.3s
MFF Saint Martin d 25.14 177 *e*P **P 06 51 14.6 +0.9**
comp=Z,46nm,1.3s
MFF Saint Martin d 25.14 177 *e*P **P 06 51 14.6 +0.9**
comp=Z,46nm,1.3s
SMF Signal de Mont 25.23 171 *e*P **P 06 51 16.2 +1.6**
comp=Z,54nm,1.0s
SMF Signal de Mont 25.23 171 *e*P **P 06 51 16.2 +1.6**
SMF pmax pmax
comp=Z,55nm,1.0s
SMF Signal de Mont 25.23 171 *e*P **P 06 51 16.2 +1.6**
comp=Z,54nm,1.0s
SMF Signal de Mont 25.23 171 *e*P **P 06 51 16.2 +1.6**
comp=Z,54nm,1.0s
CRVS Cervenica-Dubn 25.24 142 *e*P **P 06 51 18.1 +3.5**
CRVS Cervenica-Dubn 25.24 142 *e*P **P 06 51 18.1 +3.5**
AKASG Malin Array Be 25.25 130 P **P 06 51 14.3 -0.4**
AKASG Malin Array Be 25.25 130 P **P 06 51 14.3 -0.4**
AKASG Malin Array Be 25.25 130 P **P 06 51 14.3 -0.4**
AKASG Malin Array Be 25.25 130 P **P 06 51 14.3 -0.4**
comp=Z,5.4nm,0.9s,baz=334,slow=10,SNR=11
KIEV Kiev 25.26 130 *e*P **P 06 51 14.9 +0.2**
KIEV pmax pmax
comp=Z,16nm,1.0s
KIEV Kiev 25.26 130 *e*P **P 06 51 14.8 +0.2**
comp=Z,16nm,1.0s
KIEV Kiev 25.26 130 *e*P **P 06 51 14.9 +0.2**
comp=Z,16nm,1.0s
AK11 Malin Array Si 25.26 130 *e*P **P 06 51 14.0 -0.8**
AK11 Malin Array Si 25.26 130 *e*P **P 06 51 14.0 -0.8**
BGF Bois d'Agland 25.27 172 *e*P **P 06 51 15.6 +0.7**
comp=Z,32nm,0.9s
BGF Bois d'Agland 25.27 172 *e*P **P 06 51 15.6 +0.7**
BGF pmax pmax
comp=Z,32nm,0.9s
BGF Bois d'Agland 25.27 172 *e*P **P 06 51 15.6 +0.7**
comp=Z,32nm,0.9s
BGF Bois d'Agland 25.27 172 *e*P **P 06 51 15.6 +0.7**
comp=Z,32nm,0.9s
KOLS Kolonicke sedl 25.37 141 *e*P **P 06 51 16.4 +0.6**
KOLS Kolonicke sedl 25.37 141 *e*P **P 06 51 16.4 +0.6**
CABF La Chapelle 25.40 167 *e*P **P 06 51 16.8 +0.6**
comp=Z,92nm,1.4s
CABF La Chapelle 25.40 167 *e*P **P 06 51 16.8 +0.6**
CABF pmax pmax
comp=Z,92nm,1.4s
CABF La Chapelle 25.40 167 *e*P **P 06 51 16.8 +0.6**
comp=Z,92nm,1.4s
CABF La Chapelle 25.40 167 *e*P **P 06 51 16.8 +0.6**
comp=Z,92nm,1.4s
KECS Kecovo 25.45 144 *e*P **P 06 51 17.5 +1.0**
KECS Kecovo 25.45 144 *e*P **P 06 51 17.5 +1.0**
TCF Toulx Ste Croi 25.52 173 *e*P **P 06 51 18.0 +0.8**
comp=Z,85nm,1.5s
TCF Toulx Ste Croi 25.52 173 *e*P **P 06 51 18.0 +0.8**
TCF pmax pmax
comp=Z,85nm,1.5s
TCF Toulx Ste Croi 25.52 173 *e*P **P 06 51 18.0 +0.8**
comp=Z,85nm,1.5s
TCF Toulx Ste Croi 25.52 173 *e*P **P 06 51 18.0 +0.8**
comp=Z,85nm,1.5s
DAVOX Davos/Dischmat 25.57 161 LR LR 07 02 25.7
comp=Z,120nm,18.4s,baz=47,slow=39
UZH Uzhgorod 25.66 141 *e*P **P 06 51 22.2 +3.8**
SENIN Lac Senin/Sane 25.74 165 *e*P **P 06 51 21.0 +1.6**
comp=Z,15nm,1.1s
SENIN Lac Senin/Sane 25.74 165 *e*P **P 06 51 21.0 +1.6**
comp=Z,15nm,1.1s
AGO Saint Agoulin 25.79 172 *e*P **P 06 51 23.0 +3.4**
TUE Stuetta 25.82 162 *e*P **P 06 51 22.1 +2.0**
comp=Z,39nm,1.8s
TUE Stuetta 25.82 162 *e*P **P 06 51 22.1 +2.0**
comp=Z,39nm,1.8s
PLDF La Plantade 25.90 171 *e*P **P 06 51 23.0 +2.3**
PLDF La Plantade 25.90 171 *e*P **P 06 51 23.0 +2.3**
PYM Petit Puy Mans 26.09 172 *e*P **P 06 51 24.1 +1.7**
PYM Petit Puy Mans 26.09 172 *e*P **P 06 51 24.1 +1.7**

RJF	**Les Rejaudoux**	**26.48**	**175**	*e*P		**P**	**06 51 25.7**	**-0.1**
	comp=Z,78nm,1.6s								
RJF				*e*R					
	comp=Z,300nm,20.5s								
RJF	**Les Rejaudoux**	**26.48**	**175**	*e*P		**P**	**06 51 25.7**	**-0.1**
RJF					pmax	pmax			
	comp=Z,78nm,1.6s								
RJF	**Les Rejaudoux**	**26.48**	**175**	*e*P		**P**	**06 51 25.7**	**-0.1**
	comp=Z,78nm,1.6s								
RJF	**Les Rejaudoux**	**26.48**	**175**	*e*P		**P**	**06 51 25.7**	**-0.1**
	comp=Z,78nm,1.6s								
LPL	**La Plagne**	**26.54**	**166**	*e*P		**P**	**06 51 27.5**	**+0.8**
	comp=Z,10.0nm,1.0s								
LPL	**La Plagne**	**26.54**	**166**	*e*P		**P**	**06 51 27.5**	**+0.8**
LPL					pmax	pmax			
	comp=Z,10.0nm,1.0s								
LPL	**La Plagne**	**26.54**	**166**	*e*P		**P**	**06 51 27.5**	**+0.8**
	comp=Z,10.0nm,1.0s								
LPL	**La Plagne**	**26.54**	**166**	*e*P		**P**	**06 51 27.5**	**+0.8**
	comp=Z,10.0nm,1.0s								
LPG	**La Plagne**	**26.56**	**166**	*e*P		**P**	**06 51 27.5**	**+0.6**
	comp=Z,25nm,1.1s								
LPG	**La Plagne**	**26.56**	**166**	*e*P		**P**	**06 51 27.5**	**+0.6**
LPG					pmax	pmax			
	comp=Z,25nm,1.1s								
LPG	**La Plagne**	**26.56**	**166**	*e*P		**P**	**06 51 27.5**	**+0.6**
	comp=Z,25nm,1.1s								
LPG	**La Plagne**	**26.56**	**166**	*e*P		**P**	**06 51 27.5**	**+0.6**
	comp=Z,25nm,1.1s								
LFF	**La Frestale**	**26.82**	**176**	*e*P		**P**	**06 51 31.5**	**+2.6**
LFF	**La Frestale**	**26.82**	**176**	*e*P		**P**	**06 51 31.5**	**+2.6**
LFF	**La Frestale**	**26.82**	**176**	*e*P		**P**	**06 51 31.5**	**+2.6**
LFF	**La Frestale**	**26.82**	**176**	*e*P		**P**	**06 51 31.5**	**+2.6**
CAF	**Calviac**	**26.87**	**174**	*e*P		**P**	**06 51 30.6**	**+1.1**
	comp=Z,36nm,1.5s								
CAF	**Calviac**	**26.87**	**174**	*e*P		**P**	**06 51 30.6**	**+1.1**
CAF					pmax	pmax			
	comp=Z,36nm,1.5s								
CAF	**Calviac**	**26.87**	**174**	*e*P		**P**	**06 51 30.6**	**+1.1**
	comp=Z,36nm,1.5s								
CAF	**Calviac**	**26.87**	**174**	*e*P		**P**	**06 51 30.6**	**+1.1**
	comp=Z,36nm,1.5s								
BNI	**Bardonecchia**	**27.00**	**167**	*e*P		**P**	**06 51 33.2**	**+2.5**
BNI					pmax	pmax			
	comp=Z,40nm,1.9s								
BNI	**Bardonecchia**	**27.00**	**167**	*e*P		**P**	**06 51 33.2**	**+2.5**
	comp=Z,40nm,1.9s								
BNI	**Bardonecchia**	**27.00**	**167**	*e*P		**P**	**06 51 33.2**	**+2.5**
	comp=Z,40nm,1.9s								
VIVF	**Saint-Julien-l**	**27.06**	**170**	*e*P		**P**	**06 51 34.3**	**+3.2**
	comp=Z,25nm,1.0s								
VIVF	**Saint-Julien-l**	**27.06**	**170**	*e*P		**P**	**06 51 34.3**	**+3.2**
VIVF					pmax	pmax			
	comp=Z,25nm,1.0s								
VIVF	**Saint-Julien-l**	**27.06**	**170**	*e*P		**P**	**06 51 34.3**	**+3.2**
	comp=Z,25nm,1.0s								
VIVF	**Saint-Julien-l**	**27.06**	**170**	*e*P		**P**	**06 51 34.3**	**+3.2**
	comp=Z,25nm,1.0s								
ORIF	**Oris-en-Rattie**	**27.07**	**168**	*e*P		**P**	**06 51 32.5**	**+1.2**
	comp=Z,21nm,1.0s								
ORIF				*e*R					
	comp=Z,362nm,21.5s								
ORIF	**Oris-en-Rattie**	**27.07**	**168**	*e*P		**P**	**06 51 32.5**	**+1.2**
ORIF					pmax	pmax			
	comp=Z,21nm,1.0s								
ORIF	**Oris-en-Rattie**	**27.07**	**168**	*e*P		**P**	**06 51 32.5**	**+1.2**
	comp=Z,21nm,1.0s								
ORIF	**Oris-en-Rattie**	**27.07**	**168**	*e*P		**P**	**06 51 32.5**	**+1.2**
	comp=Z,21nm,1.0s								
BUR04	**Bucovina Ar. S**	**27.23**	**138**	*e*P		**P**	**06 51 33.5**	**+0.8**
BUR04	**Bucovina Ar. S**	**27.23**	**138**	*e*P		**P**	**06 51 33.5**	**+0.8**
MBDF	**Montbardon**	**27.33**	**166**	*e*P		**P**	**06 51 35.2**	**+1.5**
	comp=Z,29nm,1.2s								
MBDF	**Montbardon**	**27.33**	**166**	*e*P		**P**	**06 51 35.2**	**+1.5**
MBDF					pmax	pmax			
	comp=Z,29nm,1.2s								
MBDF	**Montbardon**	**27.33**	**166**	*e*P		**P**	**06 51 35.2**	**+1.5**
	comp=Z,29nm,1.2s								
MBDF	**Montbardon**	**27.33**	**166**	*e*P		**P**	**06 51 35.2**	**+1.5**
	comp=Z,29nm,1.2s								
VSR	**Storozhevoye**	**27.43**	**116**	*e*P		**P**	**06 51 35.9**	**+1.6**
VSR					pmax	pmax			
	comp=Z,30nm,1.0s								
VSR					pmax	pmax			
	comp=N,20nm,1.1s								
VSR					pmax	pmax			
	comp=E,9.0nm,0.6s								
LASF	**Ste Croix**	**27.80**	**171**	*e*P		**P**	**06 51 38.5**	**+0.8**
	comp=E,45nm,1.5s								
LASF	**Ste Croix**	**27.80**	**171**	*e*P		**P**	**06 51 38.5**	**+0.8**
	comp=E,45nm,1.5s								
LASF	**Ste Croix**	**27.80**	**171**	*e*P		**P**	**06 51 38.5**	**+0.8**
	comp=E,45nm,1.5s								
VRHR	**Novokhopersk**	**28.24**	**113**	*e*P		**P**	**06 51 42.9**	**+1.3**
VRHR					pmax	pmax			
	comp=N,10.0nm,0.9s								
VRHR					pmax	pmax			
	comp=E,7.0nm,0.9s								
VRHR					pmax	pmax			
	comp=Z,20nm,0.9s								
MTLF	**Montolieu**	**28.46**	**174**	*e*P		**P**	**06 51 45.2**	**+1.6**
MTLF	**Montolieu**	**28.46**	**174**	*e*P		**P**	**06 51 45.2**	**+1.6**
MTLF	**Montolieu**	**28.46**	**174**	*e*P		**P**	**06 51 45.2**	**+1.6**
MTLF	**Montolieu**	**28.46**	**174**	*e*P		**P**	**06 51 45.2**	**+1.6**
SJPF	**Ste Jean**	**28.62**	**179**	*e*P		**P**	**06 51 47.5**	**+2.5**
	comp=Z,68nm,1.8s								
SJPF	**Ste Jean**	**28.62**	**179**	*e*P		**P**	**06 51 47.5**	**+2.5**
SJPF					pmax	pmax			
	comp=Z,68nm,1.8s								
SJPF	**Ste Jean**	**28.62**	**179**	*e*P		**P**	**06 51 47.5**	**+2.5**
	comp=Z,68nm,1.8s								
SJPF	**Ste Jean**	**28.62**	**179**	*e*P		**P**	**06 51 47.5**	**+2.5**
	comp=Z,68nm,1.8s								
EPF	**Esparros**	**28.72**	**177**	*e*P		**P**	**06 51 46.8**	**+0.8**
	comp=Z,27nm,1.2s								
EPF	**Esparros**	**28.72**	**177**	*e*P		**P**	**06 51 46.8**	**+0.8**
EPF					pmax	pmax			
	comp=Z,27nm,1.2s								
EPF	**Esparros**	**28.72**	**177**	*e*P		**P**	**06 51 46.8**	**+0.8**
	comp=Z,27nm,1.2s								
EPF	**Esparros**	**28.72**	**177**	*e*P		**P**	**06 51 46.8**	**+0.8**
	comp=Z,27nm,1.2s								
ETSF	**Etsaut**	**28.84**	**178**	*e*P		**P**	**06 51 49.3**	**+2.2**
ETSF	**Etsaut**	**28.84**	**178**	*e*P		**P**	**06 51 49.3**	**+2.2**
ETSF	**Etsaut**	**28.84**	**178**	*e*P		**P**	**06 51 49.3**	**+2.2**
ETSF	**Etsaut**	**28.84**	**178**	*e*P		**P**	**06 51 49.3**	**+2.2**
ARU	**Arti**	**28.91**	**90***d*	*i*P		**P**	**06 51 48.9**	**+1.5**
ARU							06 52 38.0		
ARU					S	**S**	**06 56 41.0**	**+4.5**
ARU					SS	**SnSn**	**06 57 58.2**	**-0.7**
ARU					pmax	pmax			
	comp=Z,8.0nm,1.0s								
PGAV	**Gavieira, Arco**	**29.93**	**190**	*e*LR		LR	07 17 14.8		
	comp=Z,572nm,18.0s								
MVO	**Moncorvo**	**30.67**	**188**	*e*P		**P**	**06 52 05.0**	**+1.7**
	comp=Z,21nm,2.1s								
MVO	**Moncorvo**	**30.67**	**188**	*e*LR		LR	07 16 37.1		
	comp=Z,502nm,18.0s								
MVO	**Moncorvo**	**30.67**	**188**	*e*P		**P**	**06 52 05.0**	**+1.7**
	comp=Z,21nm,2.1s								
MTE	**Manteigas**	**31.46**	**188**	*e*LR		LR	07 14 50.9		
	comp=Z,659nm,16.0s								
PCBR	**Castelo Branco**	**32.01**	**188**	*e*P		**P**	**06 52 17.8**	**+2.8**
ES19	**SONSECA Array**	**32.04**	**183**	*e*P		**P**	**06 52 17.0**	**+1.7**
ES19	**SONSECA Array**	**32.04**	**183**	*e*P		**P**	**06 52 17.0**	**+1.7**
ESDC	**Sonseca Array**	**32.07**	**183**	P		**P**	**06 52 15.1**	**-0.5**
ESDC	**Sonseca Array**	**32.07**	**183**	P		**P**	**06 52 15.1**	**-0.5**
ESDC	**Sonseca Array**	**32.07**	**183**	P		**P**	**06 52 15.1**	**-0.5**
	comp=Z,2.3nm,0.9s,baz=360,slow=9.5,SNR=9.3								
PAB	**San Pablo**	**32.20**	**184**	*e*P		**P**	**06 52 18.3**	**+1.5**
PAB					pmax	pmax			
	comp=Z,8.0nm,1.0s								
PAB	**San Pablo**	**32.20**	**184**	*e*P		**P**	**06 52 18.3**	**+1.5**
	comp=Z,8.3nm,1.0s								
PAB	**San Pablo**	**32.20**	**184**	*e*P		**P**	**06 52 18.3**	**+1.5**
	comp=Z,8.3nm,1.0s								
PMRV	**Marv??o**	**32.42**	**188**	*e*P		**P**	**06 52 20.3**	**+1.7**
	comp=Z,13nm,1.5s								
PMRV	**Marv??o**	**32.42**	**188**	*e*LR		LR	07 16 55.6		
	comp=Z,604nm,20.0s								
PMRV	**Marv??o**	**32.42**	**188**	*e*P		**P**	**06 52 20.3**	**+1.7**
	comp=Z,13nm,1.5s								
PMTG	**Montargil**	**32.82**	**189**	*e*P		**P**	**06 52 23.3**	**+1.3**
	comp=Z,19nm,1.5s								
PMTG	**Montargil**	**32.82**	**189**	*e*P		**P**	**06 52 23.3**	**+1.3**
	comp=Z,19nm,1.5s								
PESTR	**Estremoz**	**32.99**	**188**	*e*P		**P**	**06 52 24.9**	**+1.3**
	comp=Z,12nm,1.4s								
PESTR	**Estremoz**	**32.99**	**188**	*e*P		**P**	**06 52 24.9**	**+1.3**
	comp=Z,12nm,1.4s								
TIXI	**Tiksi**	**33.47**	**26**[1]	*e*P		**P**	**06 52 28.7**	**+1.3**
TIXI					pmax	pmax			
	comp=Z,4.0nm,1.0s								
TIXI					MLR	MLR			
	comp=Z,437nm,29.0s								
AKTO	**Aktyubinsk**	**33.83**	**96**	P		**P**	**06 52 29.3**	**-1.5**
AKTO	**Aktyubinsk**	**33.83**	**96**	P		**P**	**06 52 29.3**	**-1.5**
AKTO	**Aktyubinsk**	**33.83**	**96**	P		**P**	**06 52 29.3**	**-1.5**
AKTO	**Aktyubinsk**	**33.83**	**96**	P		**P**	**06 52 29.3**	**-1.5**
	comp=Z,3.5nm,0.9s,baz=315,slow=6.5,SNR=8.9								
AKTO					LR	LR	07 06 09.9		
	comp=Z,197nm,18.2s,baz=240,slow=36								
PBEJ	**Beja**	**33.84**	**188**	*e*P		**P**	**06 52 33.6**	**+2.6**
	comp=Z,12nm,1.8s								
GOF	**Gofitskoye**	**34.11**	**117**	*e*P		P	06 52 36.6	+3.4	
PVAQ	**Vaqueiros**	**34.45**	**188**	*e*LR		LR	07 16 58.5		
	comp=Z,372nm,22.0s								
KIV	**Kislovodsk**	**35.02**	**118**	*e*P		**P**	**06 52 44.4**	**+3.1**
KIV					pmax	pmax			
	comp=Z,12nm,1.1s								
BRVK	**Borovoye**	**35.44**	**82**	*e*P		**P**	**06 52 46.0**	**+1.3**
BRVK					pmax	pmax			
	comp=Z,14nm,1.7s								
BRVK	**Borovoye**	**35.44**	**82**	*e*P		**P**	**06 52 46.0**	**+1.3**
	comp=Z,14nm,1.7s								
AB31	**Akbulak array**	**35.47**	**95**	*i*P		**P**	**06 52 45.3**	**+0.4**
AB31					pmax	pmax			
	comp=Z,7.0nm,0.8s								
AB31	**Akbulak array**	**35.47**	**95**	*i*P		**P**	**06 52 45.3**	**+0.4**
	comp=Z,7.0nm,0.8s								
ABKAR	**Akbulak array**	**35.47**	**95**	*e*P		**P**	**06 52 45.8**	**+0.9**
ABKAR	**Akbulak array**	**35.47**	**95**	*e*P		**P**	**06 52 45.8**	**+0.9**
BVA0	**Borovoye Array**	**35.50**	**82**	*i*P		**P**	**06 52 45.6**	**+0.4**
BVA0					pmax	pmax			
	comp=Z,6.0nm,0.8s								
BVA0	**Borovoye Array**	**35.50**	**82**	*i*P		**P**	**06 52 45.6**	**+0.4**
	comp=Z,6.0nm,0.8s								
BVAR	**Borovoye Array**	**35.50**	**82**	P		**P**	**06 52 45.7**	**+0.5**
BVAR	**Borovoye Array**	**35.50**	**82**	P		**P**	**06 52 45.6**	**+0.5**
BVAR	**Borovoye Array**	**35.50**	**82**	P		**P**	**06 52 45.7**	**+0.5**
BVAR	**Borovoye Array**	**35.50**	**82**	P		**P**	**06 52 45.7**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=325,slow=7.4,SNR=11								
BVAR					LR	LR	07 09 09.3		
	comp=Z,96nm,18.1s,baz=88,slow=40								
VOSK	**Vostochnaya**	**35.94**	**82**	P		**P**	**06 52 49.0**	**0.0**
VOSK					pmax	pmax			
	comp=Z,73nm,3.0s								
VOSK	**Vostochnaya**	**35.94**	**82**	*e*P		**P**	**06 52 49.9**	**+0.9**
	comp=Z,9.6nm,0.9s								
VOSK	**Vostochnaya**	**35.94**	**82**	P		**P**	**06 52 49.0**	**0.0**
	comp=Z,73nm,3.0s								
BR231	**Keskin MP Arra**	**36.31**	**132**	*e*P		**P**	**06 52 55.6**	**+3.2**
BR231	**Keskin MP Arra**	**36.31**	**132**	*e*P		**P**	**06 52 55.6**	**+3.2**
ZEI	**Tsey**	**36.44**	**117**	*e*P		**P**	**06 52 54.7**	**+1.1**
ZEI					pmax	pmax			
	comp=Z,3.0nm,0.8s								
ZEI	**Tsey**	**36.44**	**117**	*e*P		**P**	**06 52 54.7**	**+1.1**
	comp=Z,3.0nm,0.8s								
BRTR	**Keskin Array B**	**36.63**	**131**	P		**P**	**06 52 56.2**	**+1.1**
BRTR	**Keskin Array B**	**36.63**	**131**	P		**P**	**06 52 56.2**	**+1.1**
BRTR	**Keskin Array B**	**36.63**	**131**	P		**P**	**06 52 56.2**	**+1.1**
	comp=Z,3.8nm,0.8s,baz=342,slow=7.8,SNR=8.2								
BRTR					LR	LR	07 08 06.5		
	comp=Z,168nm,18.6s,baz=154,slow=36								
NVS	**Novosibirsk**	**37.88**	**70**	*e*P		P	06 53 12.2	+6.8	
ZAA0	**Zalesovo Array**	**39.12**	**69**	*e*P		**P**	**06 53 16.6**	**+0.8**
ZAA0				*e*PP		**PnPn**	**06 54 50.5**	**+2.5**
ZAA0	**Zalesovo Array**	**39.12**	**69**	*e*P		**P**	**06 53 16.6**	**+0.8**
ZALV	**Zalesovo Beam**	**39.12**	**69**	P		**P**	**06 53 15.0**	**-0.9**
ZALV							06 54 49.9		
ZALV	**Zalesovo Beam**	**39.12**	**69**	P		**P**	**06 53 15.0**	**-0.9**
ZALV					PP	**PnPn**	**06 54 49.9**	**+1.9**
ZALV	**Zalesovo Beam**	**39.12**	**69**	P		**P**	**06 53 15.0**	**-0.9**
ZALV	**Zalesovo Beam**	**39.12**	**69**	P		**P**	**06 53 15.0**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=323,slow=9.6,SNR=3.6								
ZALV					PP	**PnPn**	**06 54 49.9**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=312,slow=12,SNR=3.9								
ZALV					LR	LR	07 10 57.5		
	comp=Z,75nm,20.3s,baz=78,slow=39								
CSS	**Prodhromos**	**41.10**	**134**	*e*P		**P**	**06 53 34.3**	**+1.8**
	comp=Z,20nm,1.1s								
CSS	**Prodhromos**	**41.10**	**134**	*e*P		**P**	**06 53 34.3**	**+1.8**
	comp=Z,20nm,1.1s								
IL1	**Eielson Array**	**41.77**	**338**	*e*P		**P**	**06 53 38.2**	**+0.6**
IL1	**Eielson Array**	**41.77**	**338**	*e*P		**P**	**06 53 38.2**	**+0.6**
ILAR	**Eielson Array**	**41.77**	**338**	P		**P**	**06 53 37.9**	**+0.3**
ILAR	**Eielson Array**	**41.77**	**338**	P		**P**	**06 53 37.9**	**+0.3**
ILAR	**Eielson Array**	**41.77**	**338**	P		**P**	**06 53 37.9**	**+0.3**
	comp=Z,0.3nm,0.9s,baz=4.8,slow=6.6,SNR=4.1								
ILAR					LR	LR	07 11 09.0		
	comp=Z,150nm,18.7s,baz=128,slow=36								
FFC	**Flin Flon**	**42.23**	**302**	*i*P		**P**	**06 53 43.3**	**+1.8**
KK31	**Karatay Array**	**44.28**	**90**	*i*P		**P**	**06 53 59.1**	**+0.9**
KK31					pmax	pmax			
	comp=Z,2.0nm,0.6s								
KK31	**Karatay Array**	**44.28**	**90**	*i*P		**P**	**06 53 59.1**	**+0.9**
	comp=Z,2.0nm,0.6s								
KKAR	**Karatay Array**	**44.28**	**90**	*e*P		**P**	**06 54 00.0**	**+1.7**
KKAR	**Karatay Array**	**44.28**	**90**	*e*P		**P**	**06 53 60.0**	**+1.7**
KKAR	**Karatay Array**	**44.28**	**90**	*e*P		**P**	**06 54 00.0**	**+1.7**
MKAR	**Makanchi Array**	**44.67**	**76**	P		**P**	**06 54 01.8**	**+0.5**
MKAR	**Makanchi Array**	**44.67**	**76**	P		**P**	**06 54 01.8**	**+0.5**
MKAR	**Makanchi Array**	**44.67**	**76**	P		**P**	**06 54 01.8**	**+0.5**
MKAR	**Makanchi Array**	**44.67**	**76**	P		**P**	**06 54 01.8**	**+0.5**
	comp=Z,2.1nm,0.9s,baz=356,slow=5.6,SNR=9.2								
MKAR					LR	LR	07 13 28.1		
	comp=Z,53nm,19.1s,baz=253,slow=37								
MK01	**Makanchi Array**	**44.69**	**77**	*e*P		**P**	**06 54 01.8**	**+0.4**
MK01	**Makanchi Array**	**44.69**	**77**	*e*P		**P**	**06 54 01.8**	**+0.4**
AAK	**Ala-Archa**	**45.97**	**86**[1]	*i*P		**P**	**06 54 13.7**	**+1.9**
AAK					pmax	pmax			
	comp=Z,13nm,1.7s								
AAK	**Ala-Archa**	**45.97**	**86**	*e*P		**P**	**06 54 13.7**	**+1.9**
	comp=Z,6.0nm,1.1s								
AAK	**Ala-Archa**	**45.97**	**86**	*i*P		**P**	**06 54 13.7**	**+1.9**
	comp=Z,13nm,1.7s								
TKM2	**Tokmak 2**	**46.06**	**85**	*e*P		**P**	**06 54 14.7**	**+2.2**
TKM2					pmax	pmax			
	comp=Z,5.0nm,0.9s								
TKM2	**Tokmak 2**	**46.06**	**85**	*e*P		**P**	**06 54 14.7**	**+2.2**
	comp=Z,4.5nm,0.9s								
TKM2	**Tokmak 2**	**46.06**	**85**	*e*P		**P**	**06 54 14.7**	**+2.2**
	comp=Z,5.0nm,0.9s								
ZAK	**Zakamensk**	**47.50**	**57**	*e*P		**P**	**06 54 24.1**	**+0.5**
ZAK					pmax	pmax			
	comp=Z,2.0nm,1.4s								
ZAK	**Zakamensk**	**47.50**	**57**	*e*P		**P**	**06 54 24.1**	**+0.5**
	comp=Z,2.0nm,1.4s								
WMQ	**Urumqi**	**49.00**	**74**	P		**P**	**06 54 37.8**	**+2.6**
WMQ					pP	**pP**	**06 54 42.3**	**+1.1**
WMQ					sP	**sP**	**06 54 44.8**	**+1.3**
WMQ					S	**S**	**07 01 40.8**	**+2.5**
WMQ					ScS	**ScS**	**07 04 26.8**	**+1.0**
WMQ					SS	**SS**	**07 05 07.0**	**-1.5**
WMQ					AMB	AMB			
	comp=Z,12nm,0.8s								
WMQ					AMB	AMB			
	comp=Z,94nm,4.0s								
WMQ					LR	LR			
	comp=Z,110nm,19.2s								
WMQ					LR	LR			
	comp=Z,65nm,17.2s								
WMQ					LR	LR			
	comp=Z,82nm,17.2s								
KSH	**Kashi**	**49.26**	**86**	*e*P		P	06 54 43.3	+5.9	
KSH					pP	pP	06 54 45.8	+2.5	
KSH					sP	sP	06 54 53.0	+7.3	
KSH					S	**S**	**07 01 37.5**	**-4.7**
KSH					sS	sS	07 01 57.3	+5.3	
KSH					AMB	AMB			
	comp=Z,7.0nm,1.5s								
KSH					AMB	AMB			
	comp=Z,39nm,3.8s								
KSH					LR	LR			
	comp=Z,160nm,6.3s								
KSH					LR	LR			
	comp=Z,110nm,6.0s								
KSH					LR	LR			
	comp=Z,87nm,9.3s								
SONM	**Songino Array**	**50.66**	**56**	P		**P**	**06 54 48.4**	**+0.5**
SONM	**Songino Array**	**50.66**	**56**	P		**P**	**06 54 48.4**	**+0.5**
SONM	**Songino Array**	**50.66**	**56**	P		**P**	**06 54 48.4**	**+0.5**
	comp=Z,1.5nm,0.9s,baz=322,slow=5.8,SNR=6.9								
IMW	**Indian Meadow**	**54.50**	**303**	*e*P		**P**	**06 55 17.3**	**+0.8**
	comp=Z,37nm,2.5s								
IMW	**Indian Meadow**	**54.50**	**303**	*e*P		**P**	**06 55 17.3**	**+0.8**
	comp=Z,37nm,2.5s								
PDAR	**Pinedale Array**	**55.18**	**301**	P		**P**	**06 55 20.6**	**-0.9**
PDAR	**Pinedale Array**	**55.18**	**301**	P		**P**	**06 55 20.5**	**-0.9**
PDAR	**Pinedale Array**	**55.18**	**301**	P		**P**	**06 55 20.6**	**-0.9**
	comp=Z,0.8nm,0.9s,baz=34,slow=5.6,SNR=4.6								
G08A	**Pilot Rock**	**55.24**	**310**	*e*P		**P**	**06 55 23.4**	**+1.8**
	comp=Z,35nm,2.3s								
G08A				*e*ScP		**ScP**	**07 00 18.4**	**-1.2**
G08A	**Pilot Rock**	**55.24**	**310**	*e*P		**P**	**06 55 23.4**	**+1.8**
	comp=Z,35nm,2.3s								
GTA	**Gaotai**	**56.64**	**65**	*e*P		P	06 55 39.3	+7.6	
GTA					pP	pP	06 55 44.5	+6.7	
GTA					sP	sP	06 55 47.8	+7.7	
GTA					AMB	AMB			
	comp=Z,4.0nm,0.9s								
HHC	**Hu-ho-hao-te**	**58.51**	**55**	*e*P		**P**	**06 55 45.8**	**+0.9**
HHC					pP	**pP**	**06 55 49.8**	**-1.2**
HHC					sP	**sP**	**06 55 52.5**	**-0.8**
HHC					PcP	**PcP**	**06 56 36.3**	**+1.2**
HHC					PP	**PP**	**06 57 57.3**	**+3.4**
HHC					ScP	**ScP**	**07 00 34.0**	**0.0**
HHC					S	**S**	**07 03 48.0**	**+0.9**
HHC					ScS	**ScS**	**07 05 30.3**	**-2.9**
HHC					SS	**SS**	**07 07 39.5**	**+0.7**
HHC					AMB	AMB			
	comp=Z,35nm,1.2s								
HHC					AMB	AMB			
	comp=Z,210nm,7.1s								
HHC					LR	LR			
	comp=Z,320nm,16.7s								
HHC					LR	LR			
	comp=Z,900nm,17.8s								
HHC					LR	LR			
	comp=Z,230nm,16.7s								
TOA0	**Torodi Ar. Sit**	**58.52**	**176**	*e*P		**P**	**06 55 45.2**	**+0.2**
TOA0	**Torodi Ar. Sit**	**58.52**	**176**	*e*P		**P**	**06 55 45.2**	**+0.2**
TORD	**Torodi Ar. Bea**	**58.52**	**176**	P		**P**	**06 55 45.0**	**0.0**
TORD	**Torodi Ar. Bea**	**58.52**	**176**	P		**P**	**06 55 45.0**	**0.0**
TORD	**Torodi Ar. Bea**	**58.52**	**176**	P		**P**	**06 55 45.0**	**0.0**
	comp=Z,3.0nm,0.9s,baz=353,slow=7.2,SNR=13								
CN2	**Changchun**	**58.99**	**42**	*e*P		**P**	**06 55 45.8**	**-2.2**
PV01	**Paradox Valley**	**59.22**	**298**	*e*P		**P**	**06 55 50.0**	**0.0**
PV01	**Paradox Valley**	**59.22**	**298**	*e*P		**P**	**06 55 50.0**	**0.0**
YBH	**Yreka Blue Hor**	**59.49**	**312**	LR		LR	07 21 40.8		
	comp=Z,217nm,18.6s,baz=360,slow=36								
USRK	**Ussuriysk Arra**	**59.93**	**37**	P		**P**	**06 55 52.3**	**-2.1**
	comp=Z,2.4nm,0.9s,baz=339,slow=3.6,SNR=4.3								
MVCO	**Mesa Verde**	**60.07**	**298**	*e*P		**P**	**06 55 56.2**	**+0.4**
	comp=Z,13nm,1.1s								
MVCO	**Mesa Verde**	**60.07**	**298**	*e*P		**P**	**06 55 56.2**	**+0.4**
	comp=Z,13nm,1.1s								
LZH	**Lanzhou**	**60.88**	**63**	*e*P		**P**	**06 56 02.0**	**+0.7**
LZH					AMB	AMB			
	comp=Z,15nm,1.0s								
R11A	**Troy Canyon, C**	**60.92**	**305**	*e*P		**P**	**06 56 02.1**	**+0.5**
	comp=Z,10nm,1.6s								
R11A	**Troy Canyon, C**	**60.92**	**305**	*e*P		**P**	**06 56 02.1**	**+0.5**
	comp=Z,10nm,1.6s								
MSTX	**Muleshoe**	**61.45**	**292**	*e*P		**P**	**06 56 06.7**	**+1.6**
	comp=Z,82nm,2.8s								
MSTX	**Muleshoe**	**61.45**	**292**	*e*P		**P**	**06 56 06.7**	**+1.6**
	comp=Z,82nm,2.8s								
NV01	**Mina Array Sit**	**61.54**	**307**	*e*P		**P**	**06 56 05.8**	**0.0**
NV01	**Mina Array Sit**	**61.54**	**307**	*e*P		**P**	**06 56 05.8**	**0.0**
NVAR	**Mina Array Bea**	**61.54**	**307**	P		**P**	**06 56 06.0**	**+0.2**
NVAR	**Mina Array

Error ellipse: s-maj=7.5km s-min=5.6km az=146.0
AUST ***25*** *07:01:54.5±0.0,23°.26S×179°.83W,h571km,Error ellipse: s-maj=1.8km s-min=1.3km az=262.0*

ISC 25 07:01:52.8±0.4,23°.52S±0'.05×179°.78W±0'.06,
h555km±3km,h555km;pP-P,n268,σ1s19/304,mb4.5/50,
25C-20D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
RAO	**Raoul Island**	**5.95**	**164**	*eP*	**P**		**07 03 31.9**	**+0.8**
RAO				S	**S**		**07 04 52.0**	**+0.4**
RAO	**Raoul Island**	**5.95**	**164**	P	**P**		**07 03 31.2**	**+0.2**
	136nm,0.3s,baz=280,slow=22,SNR=10							
RAO				S	**S**		**07 04 52.0**	**+0.4**
	45nm,0.3s,baz=73,slow=20,SNR=3.3							
MSVF	**Nonsavu**	**6.10**	**340**	*eP*	**P**		**07 03 32.0**	**-0.7**
NIUE	**Niue**	**10.19**	**66**	P	**P**		**07 04 11.4**	**-1.4**
	baz=10,SNR=7.4							
DZM	**Mont Dzumac**	**12.79**	**274**	P	**P**		**07 04 39.8**	**+0.1**
DZM	**Mont Dzumac**	**12.79**	**274**	P	**P**		**07 04 39.8**	**+0.1**
	0.4nm,0.3s,baz=120,slow=17,SNR=4.0							
OUZ	**Omahuta**	**13.01**	**205**	*eP*	**P**		**07 04 43.2**	**+1.6**
URZ	**Urewera**	**14.94**	**190**	*eP*	**P**		**07 05 01.4**	**+0.1**
URZ				S	**S**		**07 07 32.4**	**-4.1**
URZ				*eS*	S		07 07 39.3	+2.8
URZ	**Urewera**	**14.94**	**190**	P	**P**		**07 05 00.3**	**-1.0**
	6.0nm,0.3s,baz=272,slow=3.0,SNR=32							
URZ				S	**S**		**07 07 32.4**	**-4.1**
	0.7nm,0.3s,baz=53,slow=20,SNR=7.6							
BKZ	**Black Stump Fm**	**15.92**	**191**	*eP*	**P**		**07 05 09.2**	**-2.0**
	49nm,1.8s							
BKZ				*eS*	**S**		**07 07 53.0**	**-0.4**
KHZ	**Kahutara**	**19.65**	**195**	*eP*	**P**		**07 05 45.5**	**+0.2**
	22nm,0.6s							
LHI	**Lord Howe Isla**	**20.37**	**242**	P	**P**		**07 05 54.8**	**+2.9**
	baz=20,SNR=3.5							
RPZ	**Rata Peaks**	**21.52**	**198**	*eP*	**P**		**07 06 01.7**	**-0.4**
	29nm,0.5s							
RPZ	**Rata Peaks**	**21.52**	**198**	P	**P**		**07 06 05.0**	**+2.9**
	25nm,0.5s,baz=340,slow=2.5,SNR=15							
WHZ	**Wether Hill Ro**	**24.44**	**201**	*eP*	**P**		**07 06 29.9**	**+1.8**
	53nm,0.8s							
ARMA	**Armidale**	**26.35**	**249**	*eP*	**P**		**07 06 46.5**	**+1.2**
	211nm,2.7s							
ARMA	**Armidale**	**26.35**	**249**	P	**P**		**07 06 47.1**	**+1.7**
	baz=26,SNR=6.8							
EIDS	**Eidsvold**	**26.57**	**260**	*eP*	**P**		**07 06 47.6**	**+0.3**
	21nm,1.1s							
EIDS	**Eidsvold**	**26.57**	**260**	P	**P**		**07 06 47.7**	**+0.5**
	baz=26,SNR=7.9							
MGCD	**Mangrove Creek**	**27.30**	**243**	P	**P**		**07 06 55.4**	**+1.8**
	baz=27,SNR=26							
RMQ	**Roma**	**28.63**	**257**	P	**P**		**07 07 06.8**	**+1.5**
	baz=29,SNR=6.2							
CNB	**Canberra Magne**	**29.22**	**239**	P	**P**		**07 07 12.1**	**+1.8**
	baz=29,SNR=14							
MILA	**Mila**	**29.88**	**236**	P	**P**		**07 07 17.6**	**+1.6**
	baz=30,SNR=9.2							
CMSA	**Cobar Meteorol**	**31.55**	**248**	P	**P**		**07 07 31.0**	**+0.8**
	baz=32,SNR=69							
CTA	**Charters Tower**	**31.68**	**270**	P	**P**		**07 07 32.0**	**+0.4**
CTA	**Charters Tower**	**31.68**	**270**	P	**P**		**07 07 32.0**	**+0.4**
	44nm,0.3s,baz=96,slow=11,SNR=63							
CTAO	**Charters Tower**	**31.68**	**270**	*eP*	**P**		**07 07 32.0**	**+0.4**
	43nm,0.6s							
QLP	**Quilpie**	**32.68**	**257**	P	**P**		**07 07 40.4**	**+0.5**
	baz=33,SNR=8.7							
TOO	**Toolangi**	**32.83**	**237**	P	**P**		**07 07 42.3**	**+1.2**
	baz=33,SNR=26							
RABL	**Rabaul**	**33.21**	**301**	P	P		07 07 54.0	+9.5
	baz=33,SNR=5.2							
PMG	**Port Moresby**	**34.56**	**288**	P	**P**		**07 07 55.1**	**-0.8**
PMG	**Port Moresby**	**34.56**	**288**	P	**P**		**07 07 55.1**	**-0.8**
	10nm,0.6s,baz=101,slow=10,SNR=4.1							
STKA	**Stephens Creek**	**35.06**	**248**	P	**P**		**07 08 00.2**	**+0.5**
STKA	**Stephens Creek**	**35.06**	**248**	P	**P**		**07 08 00.7**	**+0.9**
	baz=35,SNR=21							
STKA	**Stephens Creek**	**35.06**	**248**	P	**P**		**07 08 00.2**	**+0.5**
	16nm,0.6s,baz=94,slow=9.7,SNR=35							
ARPS	**Mount Arapiles**	**35.49**	**239**	P	**P**		**07 08 04.2**	**+0.9**
	baz=36,SNR=8.2							
COEN	**Coen**	**36.26**	**278**	P	**P**		**07 08 10.0**	**0.0**
	baz=36,SNR=4.0							
BBOO	**Buckleboo**	**39.78**	**246**	P	**P**		**07 08 38.3**	**-0.1**
	baz=40,SNR=20							
AS01	**Alice Springs**	**42.26**	**260**	*eP*	**P**		**07 08 58.0**	**-0.2**
AS01				*eS*cP	**ScP**		**07 13 39.5**	**+2.3**
ASAR	**Alice Springs**	**42.30**	**260**	P	**P**		**07 08 58.4**	**-0.1**
ASAR				ScP	**ScP**		**07 13 40.0**	**+2.6**
ASAR				S	**S**		**07 14 36.8**	**-3.0**
ASAR	**Alice Springs**	**42.30**	**260**	P	**P**		**07 08 58.4**	**-0.1**
	14nm,0.5s,baz=100,slow=6.9,SNR=173							
ASAR				ScP	**ScP**		**07 13 40.0**	**+2.6**
	1.6nm,0.8s,baz=109,slow=3.6,SNR=6.7							
ASAR				S	**S**		**07 14 36.8**	**-3.0**
	1.5nm,0.7s,baz=96,slow=14,SNR=13							
WRAB	**Tennant Creek**	**42.63**	**266**	*eP*	**P**		**07 09 00.2**	**-0.9**
	16nm,0.8s							
WRA	**Warramunga Arr**	**42.64**	**266**	P	**P**		**07 09 00.4**	**-0.8**
WRA				ScP	**ScP**		**07 13 41.7**	**+2.9**
WRA				S	**S**		**07 14 40.5**	**-4.1**
WRA	**Warramunga Arr**	**42.64**	**266**	P	**P**		**07 09 00.4**	**-0.8**
	17nm,0.6s,baz=90,slow=8.5,SNR=50							
WRA				ScP	**ScP**		**07 13 41.7**	**+2.9**
	1.9nm,0.6s,baz=98,slow=3.7,SNR=9.8							
WRA				S	**S**		**07 14 40.5**	**-4.1**
	1.3nm,0.7s,baz=95,slow=12,SNR=6.8							
KDU	**Kakadu**	**46.46**	**275**	P	**P**		**07 09 29.6**	**-1.0**
	baz=46,SNR=8.0							
FORT	**Forrest**	**46.64**	**249**	*eP*	**P**		**07 09 31.2**	**-0.5**
	66nm,0.7s							
FORT	**Forrest**	**46.64**	**249**	P	**P**		**07 09 31.4**	**-0.3**
	baz=47,SNR=15							
KNRA	**Kununurra**	**48.89**	**269**	P	**P**		**07 09 48.5**	**-0.2**
	baz=49,SNR=18							
FITZ	**Fitzroy Crossi**	**51.06**	**265**	*eP*	**P**		**07 10 04.4**	**-0.2**
	7.2nm,0.8s							
FITZ	**Fitzroy Crossi**	**51.06**	**265**	P	**P**		**07 10 04.7**	**+0.1**
	baz=51,SNR=23							
VNDA	**Vanda**	**54.78**	**185**	P	**P**		**07 10 32.8**	**+2.7**
VNDA				ScP	**ScP**		**07 14 30.6**	**+1.2**
VNDA	**Vanda**	**54.78**	**185**	P	**P**		**07 10 32.8**	**+2.7**
	1.3nm,0.5s,baz=356,slow=7.1,SNR=20							
VNDA				ScP	**ScP**		**07 14 30.6**	**+1.2**
	0.4nm,0.9s,baz=306,slow=1.8,SNR=4.5							
MEEK	**Meekatharra**	**55.42**	**253**	P	**P**		**07 10 34.8**	**-0.7**
	baz=55,SNR=4.6							
MORW	**Morawa**	**57.20**	**250**	P	**P**		**07 10 47.4**	**-0.2**
	baz=57,SNR=6.2							
MJAR	**Matsushiro Arr**	**71.70**	**325**	P	**P**		**07 12 17.8**	**-1.3**
MJAR	**Matsushiro Arr**	**71.70**	**325**	P	**P**		**07 12 17.8**	**-1.3**
	1.9nm,0.7s,baz=168,slow=6.4,SNR=6.8							
KSRS	**Korea Array**	**78.08**	**320**	P	**P**		**07 12 54.3**	**-0.3**
	1.6nm,0.7s,baz=133,slow=5.2,SNR=7.6							
KSAR	**Wonju Array Be**	**78.10**	**320**	P	**P**		**07 12 54.4**	**-0.4**
PETK	**Petropavlovsk-**	**78.78**	**346**	P	**P**		**07 12 57.4**	**-0.6**
PETK	**Petropavlovsk-**	**78.78**	**346**	P	**P**		**07 12 57.4**	**-0.6**
	7.4nm,0.7s,baz=121,slow=8.1,SNR=15							
USRK	**Ussuriysk Arra**	**80.55**	**327**	P	**P**		**07 13 08.3**	**+0.8**
	2.4nm,0.6s,baz=143,slow=5.0,SNR=5.5							
QIZ	**Qiongzhong**	**80.62**	**295**	P	**P**		**07 13 08.8**	**+0.4**
QIZ				pP	**pP**		**07 15 06.0**	**-0.7**
QIZ				sP	**sP**		**07 16 02.5**	**-0.8**
QIZ				S	**S**		**07 22 30.8**	**+0.1**
QIZ				sS	**sS**		**07 26 00.8**	**-0.7**
QIZ				AMB	AMB			
	comp=Z,7.0nm,2.1s							
MONP	**Monument Peak**	**82.42**	**49**	P	**P**		**07 13 18.1**	**+0.5**
	baz=83							
EDW2	**Edwards Air Fo**	**82.48**	**47**	P	**P**		**07 13 18.4**	**+0.7**
	baz=83							
DVTC	**Desert V Tower**	**82.51**	**50**	P	**P**		**07 13 19.0**	**+1.1**
	baz=83							
ISA	**Isabella**	**82.61**	**46**	*eP*	**P**		**07 13 18.8**	**+0.4**
	6.2nm,0.8s							
ISA	**Isabella**	**82.61**	**46**	⇓P	**P**		**07 13 19.0**	**+0.7**
	baz=83,SNR=5.0							
CMB	**Columbia Colle**	**82.78**	**43**	*eP*	**P**		**07 13 19.6**	**+0.5**
	7.2nm,0.8s							
SWSC	**Sam W. Stewart**	**82.88**	**50**	P	**P**		**07 13 20.8**	**+1.1**
	baz=83							
CWC	**Cottonwood Cre**	**83.32**	**46**	P	**P**		**07 13 22.5**	**+0.5**
	baz=84							
BELC	**Belle Mtn. Jos**	**83.33**	**49**	P	**P**		**07 13 23.0**	**+0.9**
	baz=84							
MPMC	**Manual Prospec**	**83.49**	**46**	P	**P**		**07 13 23.5**	**+0.6**
	baz=84							
GSC	**Goldstone**	**83.51**	**47**	*eP*	**P**		**07 13 23.0**	**+0.1**
	4.6nm,0.9s							
GSC	**Goldstone**	**83.51**	**47**	P	**P**		**07 13 23.5**	**+0.5**
	baz=84							
BC3	**Big Chuckawall**	**83.52**	**49**	P	**P**		**07 13 24.0**	**+1.0**
	baz=84							
HEC	**Hector,Ludlow**	**83.57**	**48**	P	**P**		**07 13 23.9**	**+0.7**
	baz=84							
GLA	**Glamis**	**83.62**	**50**	*eP*	**P**		**07 13 24.6**	**+1.1**
	7.8nm,0.8s							
GLA	**Glamis**	**83.62**	**50**	P	**P**		**07 13 24.9**	**+1.4**
	baz=84							
YBH	**Yreka Blue Hor**	**83.66**	**39**	P	**P**		**07 13 24.4**	**+0.9**
YBH	**Yreka Blue Hor**	**83.66**	**39**	P	**P**		**07 13 24.4**	**+0.9**
	2.9nm,0.8s,baz=172,slow=5.3,SNR=6.6							
GMRC	**Granite Mounta**	**84.00**	**48**	P	**P**		**07 13 25.9**	**+0.5**
	baz=84							
IRM	**Iron Mountain**	**84.01**	**49**	P	**P**		**07 13 26.3**	**+1.0**
	baz=84							
Y12C	**Blythe**	**84.22**	**50**	P	**P**		**07 13 26.8**	**+0.5**
	baz=84							
113A	**Mohawk Valley,**	**84.22**	**51**	P	**P**		**07 13 27.3**	**+1.0**
	baz=84							
NV01	**Mina Array Sit**	**84.33**	**44**	*eP*	**P**		**07 13 26.9**	**-0.1**
NVAR	**Mina Array Bea**	**84.33**	**44**	P	**P**		**07 13 27.1**	**+0.1**
NVAR	**Mina Array Bea**	**84.33**	**44**	P	**P**		**07 13 27.1**	**+0.1**
	2.4nm,1.0s,baz=225,slow=7.4,SNR=11							
214A	**Organ Pipe Nat**	**84.47**	**52**	P	**P**		**07 13 28.1**	**+0.4**
	baz=85							
LDFC	**Landfair**	**84.54**	**48**	*eP*	**P**		**07 13 28.9**	**+0.9**
	11nm,0.8s							
PDMCI	**Parker Dam,Lak**	**84.78**	**49**	P	**P**		**07 13 29.8**	**+0.8**
	baz=85							
TPH	**Tonopah**	**84.82**	**45**	*eP*	**P**		**07 13 28.9**	**-0.5**
	3.0nm,0.8s							
J04D	**Umpqua Nationa**	**84.95**	**38**	P	**P**		**07 13 30.9**	**+0.9**
	baz=85							
Z14A	**Wintersburg**	**85.12**	**51**	P	**P**		**07 13 31.7**	**+1.0**
	baz=85							
MOD	**Modoc**	**85.18**	**40**	*eP*	**P**		**07 13 31.5**	**+0.5**
	18nm,1.8s							
Y14A	**Wickenburg**	**85.38**	**50**	P	**P**		**07 13 32.8**	**+0.7**
	baz=86							
W13A	**Hualapai Mount**	**85.39**	**49**	P	**P**		**07 13 32.9**	**+0.7**
	baz=86							
J05D	**Fort Rock, OR**	**85.48**	**39**	P	**P**		**07 13 33.4**	**+1.0**
	baz=86							
I05D	**Terrebonne, OR**	**86.08**	**38**	P	**P**		**07 13 35.9**	**+0.9**
	baz=86							
TUC	**Tucson**	**86.12**	**52**	*eP*	**P**		**07 13 36.8**	**+1.2**
	5.2nm,0.9s							
G05D	**Wamic, OR**	**86.65**	**37**	P	**P**		**07 13 38.1**	**+0.3**
	baz=87							
GYA	**Guiyang**	**86.73**	**301**	*eP*	**P**		**07 13 38.8**	**+0.1**
GYA				pP	**pP**		**07 15 40.5**	**+1.2**
GYA				sP	**sP**		**07 16 35.0**	**-0.3**
GYA				PP	**PP**		**07 17 13.3**	**+1.6**
GYA				SKS	**SKSac**		**07 23 12.0**	**-1.1**
GYA				S	**S**		**07 23 30.5**	**+0.1**
GYA				AMB	AMB			
	comp=Z,10.0nm,1.0s							
X16A	**Lo Mia Camp, P**	**86.74**	**50**	⇓P	**P**		**07 13 39.2**	**+0.6**
	baz=87							
319A	**Douglas**	**86.76**	**54**	P	**P**		**07 13 40.1**	**+1.4**
	baz=87							
I07A	**Izee**	**86.96**	**39**	*eP*	**P**		**07 13 40.0**	**+0.6**
	8.7nm,1.0s							
CCUT	**Cedar City**	**87.07**	**47**	*eP*	**P**		**07 13 40.3**	**+0.2**
	29nm,2.4s							
J08A	**Circle Bar Ran**	**87.13**	**40**	*eP*	**P**		**07 13 40.5**	**+0.4**
	14nm,1.3s							
U15A	**North Rim**	**87.20**	**48**	⇑P	**P**		**07 13 41.6**	**+0.7**
	baz=87,SNR=9.2							
320A	**Kipp Ranch, An**	**87.30**	**54**	P	**P**		**07 13 42.7**	**+1.4**
	baz=88							
D05A	**Enumclaw**	**87.50**	**35**	*eP*	**P**		**07 13 42.9**	**+1.3**
	26nm,1.2s							
220A	**Playas Peak, P**	**87.58**	**54**	P	**P**		**07 13 43.8**	**+1.2**
	baz=88							
X18A	**Snowflake**	**87.85**	**51**	⇓P	**P**		**07 13 44.6**	**+0.8**
	baz=88							
G08A	**Pilot Rock**	**88.00**	**38**	*eP*	**P**		**07 13 44.5**	**+0.3**
	5.9nm,0.9s							
121A	**Cookes Peak, D**	**88.43**	**53**	P	**P**		**07 13 47.4**	**+0.8**
	baz=89							
XAN	**Xi'an**	**88.67**	**308**	P	**P**		**07 13 48.3**	**+0.8**
XAN				AMB	AMB			
	comp=Z,2.0nm,0.7s							
Y20A	**Horse Springs,**	**88.67**	**52**	⇓P	**P**		**07 13 48.9**	**+1.1**
	baz=89							
222A	**Williams Famil**	**88.73**	**54**	P	**P**		**07 13 49.3**	**+1.3**
	baz=89							
Z21A	**St. Cloud Mine**	**88.89**	**53**	⇓P	**P**		**07 13 49.9**	**+1.1**
	baz=89,SNR=5.9							
X20A	**Quemado**	**88.90**	**51**	⇑P	**P**		**07 13 49.2**	**+0.4**
	baz=89							
D08A	**Wollman Farm,**	**89.08**	**37**	*eP*	**P**		**07 13 49.1**	**+0.1**
	52nm,2.3s							
W20A	**Ramah**	**89.18**	**51**	P	**P**		**07 13 50.8**	**+0.8**
	baz=89							
Y21A	**Point of Rocks**	**89.23**	**52**	⇑P	**P**		**07 13 51.5**	**+1.2**
	baz=89,SNR=7.5							
KMI	**Kunming**	**89.27**	**298**	P	**P**		**07 13 50.0**	**-0.7**
KMI				AMB	AMB			
	comp=Z,7.0nm,0.9s							
X21A	**Alamocita Cree**	**89.36**	**52**	⇓P	**P**		**07 13 51.7**	**+0.8**
	baz=90							
F10A	**Beach Ranch, E**	**89.38**	**38**	*eP*	**P**		**07 13 50.5**	**-0.1**
	76nm,2.8s							
Z22A	**Elephant Butte**	**89.39**	**53**	⇓P	**P**		**07 13 52.0**	**+1.0**
	baz=90,SNR=5.6							
CMAR	**Chiang Mai Arr**	**89.59**	**290**	P	**P**		**07 13 51.9**	**-0.2**
CMAR	**Chiang Mai Arr**	**89.59**	**290**	P	**P**		**07 13 51.9**	**-0.2**
	1.4nm,0.6s,baz=132,slow=3.2,SNR=9.4							
324A	**Moseley Ranch,**	**89.63**	**55**	P	**P**		**07 13 52.6**	**+0.4**
	baz=90							
HLID	**Hailey**	**89.67**	**41**	*eP*	**P**		**07 13 52.1**	**+0.1**
	2.6nm,0.8s							
HLID	**Hailey**	**89.67**	**41**	P	**P**		**07 13 52.6**	**+0.5**
	baz=90							
425A	**Indio Mountain**	**89.70**	**56**	P	**P**		**07 13 53.3**	**+0.8**
	baz=90							
Y22A	**Socorro**	**89.71**	**53**	⇑P	**P**		**07 13 53.1**	**+0.6**
	baz=90							
TRF	**Thorofare Moun**	**89.73**	**13**	*eP*	**P**		**07 13 50.6**	**-1.3**
	116nm,2.4s							
SRU	**San Rafael**	**89.79**	**47**	*eP*	**P**		**07 13 52.9**	**+0.2**
	7.7nm,0.8s							
626A	**Big Bend Ranch**	**89.79**	**58**	P	**P**		**07 13 53.9**	**+1.0**
	baz=90							
MNTX	**Cornudas Mount**	**89.83**	**55**	*eP*	**P**		**07 13 53.1**	**+0.2**
224A	**Cornudas Mount**	**89.90**	**55**	⇑P	**P**		**07 13 54.2**	**+0.8**
	baz=90							
Z23A	**Rita Site, Whi**	**89.93**	**53**	P	**P**		**07 13 54.4**	**+1.0**
	baz=90							
325A	**Bean Ranch, Si**	**89.98**	**56**	P	**P**		**07 13 54.2**	**+0.4**
	baz=90							
TXAR	**Lajitas Array**	**90.06**	**58**	P	**P**		**07 13 55.2**	**+1.1**
TXAR	**Lajitas Array**	**90.06**	**58**	P	**P**		**07 13 55.2**	**+1.1**
	2.2nm,0.7s,baz=206,slow=6.6,SNR=32							
526A	**Mary Lane Ranc**	**90.06**	**57**	P	**P**		**07 13 55.2**	**+1.1**
	baz=90							
V21A	**Milan**	**90.13**	**51**	P	**P**		**07 13 54.9**	**+0.4**
	baz=90							
124A	**Stringfield Ra**	**90.24**	**54**	⇓P	**P**		**07 13 55.7**	**+0.6**
	baz=90							
HHC	**Hu-ho-hao-te**	**90.29**	**315**	*eP*	P		07 13 58.3	+3.4
HHC				pP	pP		07 15 56.3	-0.2
HHC				sP	sP		07 16 49.3	-2.8
HHC				PP	**PP**		**07 17 43.3**	**+3.8**
HHC				SKS	**SKSac**		**07 23 36.5**	**+3.3**
HHC				S	**ScS**		**07 24 04.5**	**0.0**
HHC				sS	sS		07 27 36.5	-3.1
HHC				SS	**SS**		**07 30 24.8**	**+4.9**
HHC				AMB	AMB			
	comp=Z,23nm,1.0s							
HHC				AMB	AMB			
	comp=Z,450nm,8.3s							
627A	**Terlingua Ranc**	**90.33**	**58**	P	**P**		**07 13 56.0**	**+0.6**
	baz=90							
Y23A	**Lovelace Mesa,**	**90.37**	**53**	P	**P**		**07 13 56.3**	**+0.7**
	baz=91							
426A	**McDonald Obser**	**90.38**	**57**	⇓P	**P**		**07 13 56.0**	**+0.3**
	baz=91							
PV09	**Paradox Valley**	**90.41**	**48**	*e*PKiKP	**PKiKP**		**07 18 49.7**	**+3.0**
U21A	**Nageezi**	**90.42**	**50**	P	**P**		**07 13 56.3**	**+0.5**
	baz=91							
225A	**Deer Hill, Car**	**90.44**	**55**	P	**P**		**07 13 56.8**	**+0.8**
	baz=91							
527A	**Woodward Ranch**	**90.46**	**57**	⇑P	**P**		**07 13 56.4**	**+0.4**
	baz=91							
ANMO	**Albuquerque**	**90.56**	**52**	*eP*	**P**		**07 13 56.7**	**+0.2**
	38nm,2.7s							
628A	**Black Gap, Mar**	**90.73**	**58**	P	**P**		**07 13 57.7**	**+0.6**
	baz=91							
Y24A	**Capitan**	**90.82**	**53**	⇓P	**P**		**07 13 57.9**	**+0.2**
	baz=91,SNR=6.5							
226B	**Tecolote Peak,**	**90.92**	**55**	⇑P	**P**		**07 13 58.5**	**+0.5**
	baz=91							
S21A	**Coal Bank Pass**	**90.92**	**49**	P	**P**		**07 13 58.5**	**+0.4**
	baz=91							
427A	**Hayter Ranch,**	**90.94**	**57**	⇓P	**P**		**07 13 58.7**	**+0.6**
	baz=91,SNR=5.6							
CD2	**Chengdu**	**91.04**	**303**	P	**P**		**07 13 59.8**	**+1.2**
CD2				AMB	AMB			
	comp=Z,10.0nm,0.5s							
P19A	**Cripple Cowboy**	**91.08**	**47**	P	**P**		**07 13 59.1**	**+0.4**
	baz=91							
528A	**Cox Ranch, San**	**91.11**	**58**	⇓P	**P**		**07 13 59.2**	**+0.2**
	baz=91							
O19A	**Miners Draw (B**	**91.32**	**46**	P	**P**		**07 13 59.7**	**-0.1**
	baz=92							
Y25A	**Mesa, Roswell**	**91.37**	**53**	P	**P**		**07 14 00.2**	**+0.1**
	baz=92							
P20A	**De Beque**	**91.41**	**47**	P	**P**		**07 14 00.5**	**+0.3**
	baz=92							
R21A	**Cimarron**	**91.43**	**48**	P	**P**		**07 14 00.9**	**+0.4**
	baz=92							
W24A	**Lazy 6 Ranch,**	**91.44**	**52**	P	**P**		**07 14 00.6**	**+0.1**
	baz=92							
529A	**Stev Forest Ra**	**91.53**	**58**	P	**P**		**07 14 00.8**	**0.0**
	baz=92							
Z26A	**Caprock**	**91.60**	**54**	P	**P**		**07 14 01.3**	**+0.1**
	baz=92							
ILAR	**Eielson Array**	**91.61**	**13**	P	**P**		**07 13 58.6**	**-1.6**
ILAR	**Eielson Array**	**91.61**	**13**	P	**P**		**07 13 58.6**	**-1.6**
	0.9nm,0.8s,baz=218,slow=6.0,SNR=11							
S22A	**4UR Ranch, Cre**	**91.63**	**49**	P	**P**		**07 14 01.9**	**+0.5**
	baz=92							
V24A	**Rampart Ranch,**	**91.78**	**52**	P	**P**		**07 14 02.3**	**+0.2**
	baz=92							
R22A	**Saguache, Gunn**	**91.91**	**49**	P	**P**		**07 14 03.1**	**+0.3**
	baz=92							
429A	**Davenport Ranc**	**92.01**	**57**	⇑P	**P**		**07 14 03.1**	**+0.1**
	baz=92,SNR=6.2							
Q22A	**Crested Butte,**	**92.11**	**48**	P	**P**		**07 14 03.8**	**+0.2**
	baz=92							
BW06	**Boulder Array**	**92.27**	**44**	*eP*	**P**		**07 14 04.1**	**0.0**
PDAR	**Pinedale Array**	**92.27**	**44**	P	**P**		**07 14 03.8**	**-0.4**
PDAR	**Pinedale Array**	**92.27**	**44**	P	**P**		**07 14 03.8**	**-0.4**
	1.6nm,0.8s,baz=220,slow=3.9,SNR=13							
631A	**Perdido Creek**	**92.51**	**59**	⇑P	**P**		**07 14 05.6**	**+0.3**
	baz=93,SNR=5.4							
SDCO	**Great Sand Dun**	**92.56**	**50**	*eP*	**P**		**07 14 05.5**	**-0.1**
	3.0nm,1.0s							
531A	**Rocksprings**	**92.86**	**58**	P	**P**		**07 14 07.3**	**+0.4**
	baz=93							
V26A	**Tequesquite Ra**	**92.89**	**52**	P	**P**		**07 14 06.9**	**-0.2**
	baz=93							
O22A	**Kremmling**	**92.97**	**47**	P	**P**		**07 14 07.6**	**0.0**
	baz=93							
R24A	**Sanders Place,**	**93.06**	**50**	P	**P**		**07 14 08.2**	**+0.4**
	baz=93							
632A	**Uvalde**	**93.17**	**59**	P	**P**		**07 14 08.8**	**+0.5**
	baz=93							
S25A	**Robets Cordova**	**93.27**	**50**	P	**P**		**07 14 08.9**	**+0.1**
	baz=94							
LZH	**Lanzhou**	**93.30**	**308**	*eP*	**P**		**07 14 09.3**	**+0.3**
LZH				pP	**pP**		**07 16 10.0**	**-0.8**
LZH				sP	**sP**		**07 17 03.5**	**-2.8**
LZH				AMB	AMB			
	comp=Z,16nm,1.0s							
532A	**Rocksprings**	**93.34**	**59**	P	**P**		**07 14 08.9**	**-0.3**
	baz=94							
R25A	**Fountain Ranch**	**93.60**	**50**	P	**P**		**07 14 10.0**	**-0.2**
	baz=94							
P25A	**Willow Gulch B**	**94.30**	**49**	P	**P**		**07 14 13.7**	**+0.3**
	baz=94							
Q26A	**Hugo**	**94.48**	**49**	P	**P**		**07 14 13.9**	**-0.4**
	baz=95							
MKAR	**Makanchi Array**	**112.04**	**313**	PKiKP	**PKiKP**		**07 19 23.9**	**-1.4**
MKAR	**Makanchi Array**	**112.04**	**313**	PKiKP	**PKiKP**		**07 19 23.9**	**-1.4**
	0.8nm,0.6s,baz=144,slow=0.4,SNR=5.8							
KKAR	**Karatay Array**	**119.79**	**307**	*e*PKPdf	**PKPdf**		**07 19 39.5**	**-0.8**
**V

PVCC	**Panska Ves**	**150.81**	**341**⇑	*e*PKP	**PKPbc**	**07 20 42.6**	**0.0**
PVCC				*ex*	x	07 20 45.6	
PVCC				*e*PKPAB	**PKPab**	**07 20 51.3**	**-1.0**
VRAC	**Vranov**	**151.21**	**337**⇑	*i*P	**PKPab**	**07 20 54.2**	**+0.1**
VRAC	**Vranov**	**151.21**	**337**	PKPbc	**PKPbc**	**07 20 42.9**	**-0.6**
VRAC				PKPab	**PKPab**	**07 20 53.7**	**-0.4**
VRAC	**Vranov**	**151.21**	**337**	PKPbc	**PKPbc**	**07 20 42.9**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=135,slow=2.9,SNR=2.8						
VRAC				PKPab	**PKPab**	**07 20 53.7**	**-0.4**
	comp=Z,3.6nm,0.6s,baz=63,slow=4.1,SNR=5.4						
PRU	**Pruhonice**	**151.30**	**341**⇑	*e*PKP	**PKPbc**	**07 20 43.4**	**-0.3**
SIRR	**Siria**	**151.46**	**328**	*i*P	**PKPbc**	**07 20 44.0**	**-0.2**
TREC	**Trest**	**151.60**	**339**⇑	*e*PKP	**PKPbc**	**07 20 43.9**	**-0.6**
NKC	**Novy Kostel**	**151.67**	**343**⇑	*e*PKP	**PKPbc**	**07 20 44.5**	**-0.1**
NKC				*e*PKPAB	**PKPab**	**07 20 55.1**	**-0.9**
BZS	**Buzias**	**151.94**	**327**⇑	*i*P	**PKPbc**	**07 20 44.5**	**-0.8**
KHC	**Kasperske Hory**	**152.35**	**341**⇑	*e*PKP	**PKPbc**	**07 20 45.8**	**-0.3**
KHC				*e*PKPAB	**PKPab**	**07 20 58.9**	**0.0**
KHC				*ep*PKP	**pPKPdf**	**07 22 55.2**	**+6.2**
GERES	**GERESS Array B**	**152.56**	**340**	PKPbc	**PKPbc**	**07 20 46.0**	**-0.6**
GERES				PKPab	**PKPab**	**07 20 59.1**	**-0.8**
GERES	**GERESS Array B**	**152.56**	**340**	PKPbc	**PKPbc**	**07 20 46.0**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=40,slow=2.3,SNR=9.3						
GERES				PKPab	**PKPab**	**07 20 59.1**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=35,slow=5.1,SNR=4.5						
VTS	**Vitosha**	**153.07**	**320**⇓	*i*P	**PKPab**	**07 21 02.9**	**+0.5**
DAVOX	**Davos/Dischmat**	**155.52**	**344**	PKPab	**PKPab**	**07 21 12.2**	**-0.5**
DAVOX	**Davos/Dischmat**	**155.52**	**344**	PKPab	**PKPab**	**07 21 12.2**	**-0.5**
	comp=Z,5.1nm,0.6s,baz=5.5,slow=4.8,SNR=12						
FUORN	**Ofenpass-Fuorn**	**155.57**	**343**	*e*PKPdf	**PKPdf**	**07 20 43.4**	**-0.2**
FUORN				*e*PKPab	**PKPab**	**07 21 13.2**	**+0.1**
ES19	**SONSECA Array**	**163.49**	**11**	*e*PKPab	**PKPab**	**07 21 46.8**	**-0.7**
ESDC	**Sonseca Array**	**163.50**	**11**	PKPab	**PKPab**	**07 21 46.7**	**-0.9**
ESDC	**Sonseca Array**	**163.50**	**11**	PKPab	**PKPab**	**07 21 46.7**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=351,slow=4.2,SNR=7.2						
TORD	**Torodi Ar. Bea**	**169.59**	**188**	PKP	**PKPdf**	**07 20 56.6**	**-1.0**
TORD				PKPab	**PKPab**	**07 22 15.5**	**+0.5**
TORD	**Torodi Ar. Bea**	**169.59**	**188**	PKP	**PKPdf**	**07 20 56.7**	**-1.0**
	comp=Z,0.8nm,0.9s,baz=353,slow=1.3,SNR=3.6						
TORD				PKPab	**PKPab**	**07 22 15.5**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=214,slow=5.2,SNR=3.0						

*ISCJB **25** 07:06:40.3±0.6,24°.49N±0°.04×122°.59E±0°.02,h77km±7km, Error ellipse: s-maj=6.6km s-min=3.1km az=175.9*
*TAP **25** 07:06:40.1,24°.52N×122°.56E,h88km,ML3.6,C*
*JMA **25** 07:06:40.2±0.2,24°.64N×122°.63E,h83km±2km,M2.8*

ISC 25 07:06:40.7±1.5,24°.49N±0°.05×122°.59E±0°.03,h77km±12km, n32,σ0§85/63,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.39**	**94**	P	**Pn**	**07 06 53.4**	**+0.3**
YOJ				S	**Sn**	**07 07 03.2**	**+0.8**
TWC	**Suao**	**0.68**	**280**	P	**Pn**	**07 06 55.5**	**-0.4**
	baz=282						
TWC				S	**Sn**	**07 07 06.9**	**-0.2**
	baz=282						
ENA	**Nanau**	**0.77**	**266**	P	**Pn**	**07 06 56.9**	**+0.1**
	baz=259						
ENA				*e*S	**Sn**	**07 07 09.2**	**+0.3**
	baz=259						
NWF	**Wu-fen Shan**	**0.94**	**309**	*i*P	**Pn**	**07 06 58.9**	**+0.1**
	baz=302						
NWF				*i*S	**Sn**	**07 07 12.1**	**-0.2**
	baz=302						
ENTT	**Nioudou**	**0.94**	**279**	*e*P	**Pn**	**07 06 59.0**	**+0.1**
	baz=281						
ENTT				*e*S	**Sn**	**07 07 12.8**	**+0.4**
	baz=281						
TWD	**Chiawan**	**0.99**	**246**	*e*P	**Pn**	**07 06 59.0**	**-0.4**
	baz=237						
TWD				S	**Sn**	**07 07 13.2**	**-0.2**
	baz=237						
HWA	**Hwalien**	**1.03**	**241**	*e*P	**Pn**	**07 06 59.4**	**-0.5**
	baz=238						
HWA				*e*S	**Sn**	**07 07 14.7**	**+0.4**
	baz=238						
TWA	**Mucha**	**1.04**	**298**	P	**Pn**	**07 06 59.9**	**-0.1**
	baz=291						
TWA				S	**Sn**	**07 07 13.8**	**-0.7**
	baz=291						
IRIF	**Iriomote-Funau**	**1.05**	**98**	P	**Pn**	**07 07 00.1**	**0.0**
IRIF				S	**Sn**	**07 07 15.3**	**+0.6**
NNS	**Nan Shan**	**1.11**	**268**	*e*P	**Pn**	**07 07 00.9**	**-0.1**
	baz=259						
NNS				*e*S	**Sn**	**07 07 16.0**	**-0.1**
	baz=259						
NSK	**Sanguang**	**1.14**	**280**	P	**Pn**	**07 07 01.4**	**+0.2**
	baz=278						
NSK				*i*S	**Sn**	**07 07 16.4**	**-0.3**
	baz=278						
HATJ	**Hateruma jima**	**1.19**	**111**	*e*S	**Sn**	**07 07 18.5**	**+0.7**
TWS1	**Kuangyinshan**	**1.23**	**300**	*e*P	**Pn**	**07 07 01.1**	**-1.3**
	baz=299						
TWS1				*e*S	**Sn**	**07 07 18.5**	**-0.1**
	baz=299						
ESL	**Shilin**	**1.25**	**238**	*e*P	**Pn**	**07 07 02.1**	**-0.6**
	baz=236						
ESL				*e*S	**Sn**	**07 07 18.2**	**-0.9**
	baz=236						
WHF	**Hehuan Shan**	**1.25**	**254**⇓	*i*P	**Pn**	**07 07 02.9**	**-0.2**
	baz=258						
WHF				S	**Sn**	**07 07 19.3**	**-0.6**
	baz=258						
TWT	**Tachien**	**1.31**	**260**	*e*P	**Pn**	**07 07 04.3**	**+0.7**
	baz=256						
TWT				*e*S	**Sn**	**07 07 20.8**	**+0.1**
	baz=256						
JKRS	**Kuro-shima**	**1.32**	**101**	P	**Pn**	**07 07 03.7**	**+0.2**
JKRS				S	**Sn**	**07 07 21.3**	**+0.6**
JIJ	**Ishigaki jima**	**1.42**	**95**	P	**Pn**	**07 07 04.4**	**-0.4**
JIJ				S	**Sn**	**07 07 22.2**	**-0.9**
NSTT	**Nanjuang**	**1.45**	**276**	*e*P	**Pn**	**07 07 05.4**	**+0.2**
	baz=274						
NSTT				*e*S	**Sn**	**07 07 23.5**	**-0.3**
	baz=274						
EHY	**Hungye**	**1.52**	**230**	*e*P	**Pn**	**07 07 06.2**	**+0.1**
	baz=228						
EHY				*e*S	**Sn**	**07 07 24.0**	**-1.3**
	baz=228						
TWF1	**Yuli**	**1.64**	**227**	*e*P	**Pn**	**07 07 07.2**	**-0.4**
	baz=233						
TWF1				*e*S	**Sn**	**07 07 27.0**	**-1.1**
	baz=233						
SMLT	**Sun Moon Lake**	**1.66**	**249**	*e*P	**Pn**	**07 07 08.9**	**+0.9**
	baz=243						
SMLT				*e*S	**Sn**	**07 07 29.1**	**+0.4**
	baz=243						
TWQ1	**Liyutan**	**1.66**	**266**	*e*P	**Pn**	**07 07 06.5**	**-1.4**
	baz=264						
TWQ1				*e*S	**Sn**	**07 07 28.9**	**+0.2**
	baz=264						
TYC	**Yuchr**	**1.68**	**250**	*i*P	**Pn**	**07 07 09.2**	**+1.0**
	baz=243						
TYC				S	**Sn**	**07 07 29.9**	**+0.7**
	baz=243						
JTJ	**Tarama**	**1.93**	**85**	P	**Pn**	**07 07 11.5**	**0.0**
JTJ				S	**Sn**	**07 07 34.4**	**-0.6**
CHN5	**Tsauling**	**1.96**	**243**	P	**Pn**	**07 07 13.1**	**+1.1**
	baz=235						
CHN5				*e*S	**Sn**	**07 07 37.1**	**+1.3**
	baz=235						
CHN4	**Tsaushan**	**2.15**	**239**	P	**Pn**	**07 07 15.5**	**+1.0**
	baz=238						
CHN4				S	**Sn**	**07 07 41.9**	**+1.7**
	baz=238						
TWG	**Pinlang**	**2.17**	**220**	*e*P	**Pn**	**07 07 13.9**	**-0.8**
	baz=225						
TWG				*e*S	**Sn**	**07 07 38.5**	**-2.2**
	baz=225						
CHY	**Chiayi**	**2.21**	**244**	*e*P	**Pn**	**07 07 16.5**	**+1.2**
	baz=255						
CHY				*e*S	**Sn**	**07 07 43.2**	**+1.4**
	baz=255						
TWK	**Hsinying**	**2.27**	**238**	*e*P	**Pn**	**07 07 17.2**	**+1.0**
	baz=237						
TWK				*e*S	**Sn**	**07 07 44.3**	**+0.9**
	baz=237						
CHN1	**Nanshi**	**2.29**	**236**	*e*P	**Pn**	**07 07 17.3**	**+0.9**
	baz=235						
CHN1				*e*S	**Sn**	**07 07 44.9**	**+1.1**
	baz=235						
EAST	**Anshuo**	**2.63**	**218**	*e*P	**Pn**	**07 07 21.2**	**+0.1**
	baz=217						
EAST				*e*S	**Sn**	**07 07 49.6**	**-2.5**
	baz=217						

*IDC **25** 07:20:12.4±2.0,6°.85S×131°.28E,h0km,mb3.6/2, mb1 3.8/5,mb1mx3.6/18,mbtmp3.6/5,ML3.5/3,Error ellipse: s-maj=97.9km s-min=25.7km az=82.0*
*ISCJB **25** 07:20:16.3±0.8,7°.01S±0°.06×131°.1E±0°.2,h36km,mb3.7/2, Error ellipse: s-maj=29.3km s-min=8.7km az=178.6*
*AUST **25** 07:20:19.2,6°.96S×132°.05E,h35km*

ISC 25 07:20:17.9±0.9,7°.04S±0°.07×131°.3E±0°.2,h36km,n10, σ2§10/10,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**4.21**	**14**	P	**Pn**	**07 21 20.6**	**+1.0**
	baz=4.0,SNR=12						
KDU	**Kakadu**	**5.74**	**168**	P	Pn	07 21 46.0	+5.4
	baz=5.7,SNR=47						
MTN	**Manton Dam**	**5.77**	**181**	P	Pn	07 21 46.4	+5.3
	baz=6.0,SNR=17						
KNRA	**Kununurra**	**8.93**	**196**	P	**Pn**	**07 22 27.4**	**+2.9**
	baz=9.3,SNR=6.7						
FITZ	**Fitzroy Crossi**	**12.29**	**206**	P	**Pn**	**07 23 13.0**	**+2.6**
	baz=13,SNR=6.6						
FITZ	**Fitzroy Crossi**	**12.29**	**206**	Pn	**Pn**	**07 23 09.3**	**-1.1**
	0.2nm,0.3s,baz=29,slow=10,SNR=9.0						
FITZ				Sn	Sn	07 25 18.4	-7.8
	0.9nm,0.3s,baz=201,slow=18,SNR=11						
WRA	**Warramunga Arr**	**13.17**	**167**	Pn	**Pn**	**07 23 24.2**	**+1.6**
	0.2nm,0.3s,baz=353,slow=13,SNR=4.5						
WRA				Sn	**Sn**	**07 25 46.0**	**-1.9**
	0.7nm,0.3s,baz=330,slow=23,SNR=10.0						
ASAR	**Alice Springs**	**16.73**	**172**	Pn	**P**	**07 24 11.4**	**-0.2**
	0.2nm,0.3s,baz=357,slow=13,SNR=11						
ASAR				Sn	**Sn**	**07 27 12.6**	**-1.9**
	0.2nm,0.3s,baz=356,slow=24,SNR=5.8						
SONM	**Songino Array**	**58.88**	**341**	P	**P**	**07 30 11.5**	**-1.8**
	0.2nm,0.3s,baz=154,slow=7.5,SNR=2.2						
MKAR	**Makanchi Array**	**68.95**	**326**	P	**P**	**07 31 19.2**	**-0.2**
	0.8nm,0.6s,baz=120,slow=8.0,SNR=5.9						

*ISCJB **25** 07:34:32.9±0.9,53°.1S±0°.1×23°.1E±0°.4,h10km,mb3.6/7, MS3.2/2,Error ellipse: s-maj=33.5km s-min=16.2km az=173.3*
*IDC **25** 07:34:32.6±0.8,53°.07S×23°.20E,h0km,mb3.7/7, mb1 3.8/7,mb1mx3.7/19,mbtmp3.7/7,MS3.3/2,Ms1 3.3/2, ms1mx3.0/37,Error ellipse: s-maj=36.4km s-min=20.4km az=74.0*

ISC 25 07:34:34.1±0.9,53°.1S±0°.1×23°.2E±0°.3,h10km,n9,σ1§06/9, mb3.8/7,South of Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**21.88**	**202**	P	**P**	**07 39 27.1**	**+0.3**
	1.8nm,0.8s,baz=50,slow=9.5,SNR=15						
SNAA				LR	LR	07 45 35.2	
	comp=Z,53nm,19.2s,baz=205,slow=30						
MAW	**Mawson**	**23.86**	**143**	P	**P**	**07 39 46.5**	**-0.7**
	1.6nm,0.8s,baz=278,slow=18,SNR=8.6						
BOSA	**Boshof**	**24.48**	**4**	P	**P**	**07 39 53.1**	**-0.3**
	3.7nm,1.0s,baz=186,slow=13,SNR=3.6						
BOSA				LR	LR	07 47 16.0	
	comp=Z,108nm,18.8s,baz=349,slow=31						
VNDA	**Vanda**	**47.17**	**169**	P	**P**	**07 43 06.7**	**+0.6**
	0.7nm,0.6s,baz=249,slow=7.5,SNR=8.1						
TORD	**Torodi Ar. Bea**	**68.49**	**337**	P	**P**	**07 45 37.4**	**+0.9**
	0.2nm,0.4s,baz=184,slow=5.9,SNR=2.6						
ASAR	**Alice Springs**	**82.95**	**120**	P	**P**	**07 47 00.3**	**+1.0**
	0.7nm,0.9s,baz=201,slow=5.0,SNR=3.9						
WRA	**Warramunga Arr**	**86.23**	**118**	P	**P**	**07 47 15.4**	**-0.6**
	0.5nm,0.7s,baz=204,slow=3.7,SNR=5.1						
PDAR	**Pinedale Array**	**147.27**	**271**	PKPbc	**PKPbc**	**07 54 16.1**	**-1.3**
	1.1nm,0.8s,baz=132,slow=6.2,SNR=6.2						
NVAR	**Mina Array Bea**	**149.83**	**257**	PKPbc	**PKPbc**	**07 54 22.7**	**-1.4**
	0.6nm,0.7s,baz=122,slow=2.2,SNR=6.7						

*ISCJB **25** 07:38:05.0±0.6,13°.00S±0°.08×166°.86E±0°.09,h10km, mb4.2/13,Error ellipse: s-maj=12.2km s-min=11.0km az=170.4*
*IDC **25** 07:38:04.3±0.8,13°.19S×167°.00E,h0km,mb4.2/14, mb1 4.3/14,mb1mx4.2/21,mbtmp4.2/14,MS3.5/1, Ms1 3.5/1,ms1mx3.0/29,Error ellipse: s-maj=27.1km s-min=17.6km az=115.0*

ISC 25 07:38:06.2±0.7,13°.1S±0°.1×166°.9E±0°.1,h10km,n25, σ1§05/29,mb4.2/14,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.74**	**297**	Pn	Pn	07 40 02.6	+3.6
	78nm,0.3s,baz=156,slow=4.6,SNR=14						
HNR				Sn	**Sn**	**07 41 25.6**	**-1.2**
	28nm,0.3s,baz=162,slow=20,SNR=5.8						
HNR				LR	LR	07 42 44.6	
	comp=Z,313nm,20.2s,baz=274,slow=36						
EIDS	**Eidsvold**	**19.32**	**228**	P	**Pn**	**07 42 34.1**	**+1.4**
	baz=7.7,SNR=3.3						
CTA	**Charters Tower**	**21.01**	**248**	P	**P**	**07 42 51.5**	**+1.3**
	4.8nm,0.7s,baz=92,slow=12,SNR=5.7						
RMQ	**Roma**	**21.67**	**229**	P	**P**	**07 42 59.1**	**+1.9**
	baz=9.9,SNR=8.2						
ARMA	**Armidale**	**22.34**	**217**	P	**P**	**07 43 06.0**	**+1.6**
	baz=12,SNR=3.8						
STKA	**Stephens Creek**	**29.86**	**227**	P	**P**	**07 44 13.4**	**-0.6**
	1.7nm,0.8s,baz=92,slow=9.4,SNR=3.9						
STKA				PcP	**PcP**	**07 47 15.8**	**-1.4**
	2.3nm,0.7s,baz=153,slow=11,SNR=5.0						
WRA	**Warramunga Arr**	**31.96**	**253**	P	**P**	**07 44 31.1**	**-1.5**
	2.9nm,0.6s,baz=86,slow=9.3,SNR=49						
WRA				PcP	**PcP**	**07 47 22.5**	**-0.4**
	0.6nm,0.8s,baz=81,slow=3.1,SNR=4.8						
ASAR	**Alice Springs**	**33.01**	**247**	P	**P**	**07 44 40.4**	**-1.4**
	3.4nm,0.6s,baz=74,slow=9.4,SNR=72						
ASAR				PcP	**PcP**	**07 47 24.9**	**-0.8**
	1.1nm,0.7s,baz=90,slow=2.3,SNR=7.5						
FITZ	**Fitzroy Crossi**	**40.04**	**257**	P	**P**	**07 45 41.7**	**-0.1**
	baz=29,SNR=3.6						
MEEK	**Meekatharra**	**47.16**	**246**	P	**P**	**07 46 39.1**	**-0.1**
	baz=35,SNR=12						
MORW	**Morawa**	**49.72**	**243**	P	**P**	**07 46 58.7**	**-0.2**
	baz=38,SNR=4.2						
MJAR	**Matsushiro Arr**	**56.28**	**332**	P	**P**	**07 47 47.4**	**+0.3**
	0.8nm,0.6s,baz=176,slow=8.8,SNR=3.9						
JNU	**Natsuse**	**57.38**	**324**	P	**P**	**07 47 55.2**	**+0.3**
	14nm,0.9s,baz=49,slow=7.2,SNR=5.3						
KSRS	**Korea Array**	**62.18**	**325**	P	**P**	**07 48 29.5**	**+1.6**
	1.3nm,0.7s,baz=133,slow=8.0,SNR=4.6						
VNDA	**Vanda**	**64.52**	**181**	P	**P**	**07 48 42.3**	**-0.6**
	0.4nm,0.7s,baz=292,slow=7.2,SNR=5.2						
CMAR	**Chiang Mai Arr**	**73.98**	**294**	P	**P**	**07 49 44.0**	**+1.5**
	2.1nm,0.4s,baz=125,slow=4.4,SNR=21						
SONM	**Songino Array**	**80.96**	**324**	P	**P**	**07 50 22.2**	**+1.0**
	0.8nm,0.6s,baz=128,slow=5.3,SNR=4.5						
MAW	**Mawson**	**83.31**	**202**	P	**P**	**07 50 32.5**	**-0.4**
	0.8nm,0.6s,baz=114,slow=6.3,SNR=6.4						
ILAR	**Eielson Array**	**85.04**	**18**	P	**P**	**07 50 41.8**	**+0.1**
	0.7nm,0.6s,baz=241,slow=5.0,SNR=26						
BBB	**Bella Bella**	**85.57**	**34**	P	**P**	**07 50 44.2**	**-0.4**
	baz=274,slow=15						
MKAR	**Makanchi Array**	**95.77**	**317**	P	**P**	**07 51 32.7**	**0.0**
	1.5nm,0.7s,baz=97,slow=7.0,SNR=12						
ZALV	**Zalesovo Beam**	**95.85**	**324**	P	**P**	**07 51 31.6**	**-1.3**
	0.4nm,0.3s,baz=131,slow=4.1,SNR=3.9						
ARCES	**ARCESS Array B**	**118.56**	**346**	PKP	**PKPdf**	**07 56 53.3**	**-0.5**
	2.2nm,0.9s,baz=108,slow=2.9,SNR=3.8						
ESDC	**Sonseca Array**	**152.29**	**345**	PKPbc	**PKPbc**	**07 58 03.5**	**+0.7**
	0.1nm,0.3s,baz=351,slow=4.2,SNR=2.7						
ESDC				PKPab	**PKPab**	**07 58 13.3**	**+0.8**
	0.7nm,0.6s,baz=11,slow=3.8,SNR=8.3						
TORD	**Torodi Ar. Bea**	**165.62**	**272**	PKPab	**PKPab**	**07 59 11.0**	**0.0**
	0.8nm,0.7s,baz=89,slow=5.2,SNR=4.9						

*IDC **25** 07:45:05.2±0.6,15°.43S×173°.21W,h0km,mb4.2/14, mb1 4.5/14,mb1mx4.3/24,mbtmp4.3/14,Error ellipse: s-maj=28.4km s-min=15.1km az=132.0*
*ISCJB **25** 07:45:07.7±0.5,15°.60S±0°.09×173°.02W±0°.10,h29km, mb4.2/14,Error ellipse: s-maj=13.8km s-min=12.8km az=174.3*

ISC 25 07:45:09.3±0.5,15°.6S±0°.1×173°.0W±0°.1,h29km,n29, σ1§14/24,mb4.1/14,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.06**	**36**	Pn	Pn	07 45 36.3	-5.8
	32nm,0.3s,baz=185,slow=3.7,SNR=33						
AFI				Sn	Sn	07 45 55.6	-11
	192nm,0.3s,baz=60,slow=20,SNR=28						
NIUE	**Niue**	**4.55**	**140**	P	**Pn**	**07 46 16.1**	**-0.2**
	baz=32,SNR=12						
RAR	**Rarotonga**	**13.75**	**116**	Pn	**Pn**	**07 48 20.7**	**-1.7**
	1.3nm,0.3s,baz=270,slow=7.6,SNR=3.3						
URZ	**Urewera**	**24.20**	**199**	P	**P**	**07 50 23.9**	**+0.5**
	6.5nm,0.7s,baz=14,slow=4.2,SNR=3.7						
H11S2	**WAKE ISLAND Hy**	**39.32**	**329**	T	T	08 34 02.4	
	baz=155,slow=0.7						
H11S3	**WAKE ISLAND Hy**	**39.33**	**329**	T	T	08 34 25.0	
	baz=155						
H11S1	**WAKE ISLAND Hy**	**39.34**	**329**	T	T	08 34 36.6	
	baz=155,slow=0.7						
H11N3	**WAKE ISLAND Hy**	**40.26**	**330**	T	T	08 35 23.6	
	baz=152,slow=0.7,SNR=7.5						
H11N1	**WAKE ISLAND Hy**	**40.27**	**330**	T	T	08 35 23.5	
	baz=152,slow=0.7,SNR=7.7						
H11N2	**WAKE ISLAND Hy**	**40.28**	**330**	T	T	08 35 24.2	
	baz=152,slow=0.7,SNR=7.5						
STKA	**Stephens Creek**	**44.26**	**240**	P	**P**	**07 53 15.3**	**-1.2**
	20nm,1.3s,baz=0.7,slow=4.6,SNR=8.0						
WRA	**Warramunga Arr**	**50.16**	**257**	P	**P**	**07 54 00.2**	**-2.5**
	3.6nm,0.6s,baz=91,slow=6.8,SNR=96						
WRA				PcP	**PcP**	**07 55 22.2**	**+0.3**
	0.7nm,0.9s,baz=89,slow=3.5,SNR=7.5						
ASAR	**Alice Springs**	**50.40**	**252**	P	**P**	**07 54 03.0**	**-1.5**
	6.8nm,0.5s,baz=86,slow=8.1,SNR=127						
ASAR				PcP	**PcP**	**07 55 23.0**	**+0.2**
	1.2nm,0.8s,baz=97,slow=4.4,SNR=4.6						
VNDA	**Vanda**	**63.22**	**186**	P	**P**	**07 55 37.1**	**+2.5**
	1.4nm,0.8s,baz=18,slow=6.2,SNR=6.1						
PETK	**Petropavlovsk-**	**72.93**	**342**	P	**P**	**07 56 36.0**	**+0.3**
	3.0nm,0.8s,baz=136,slow=9.0,SNR=3.8						
YBH	**Yreka Blue Hor**	**73.53**	**37**	P	**P**	**07 56 39.8**	**+0.1**
	1.6nm,0.8s,baz=22,slow=1.4,SNR=4.2						
NVAR	**Mina Array Bea**	**74.23**	**42**	P	**P**	**07 56 44.7**	**+0.7**
	0.7nm,0.7s,baz=232,slow=8.7,SNR=4.9						
USRK	**Ussuriysk Arra**	**77.76**	**323**	P	**P**	**07 57 03.7**	**0.0**
	0.3nm,0.3s,baz=100,slow=6.4,SNR=4.3						
TXAR	**Lajitas Array**	**80.41**	**56**	P	**P**	**07 57 19.0**	**+0.3**
	1.5nm,1.0s,baz=224,slow=3.5,SNR=11						
ANMO	**Albuquerque**	**80.64**	**50**	P	**P**	**07 57 19.6**	**-0.4**
	1.6nm,0.9s,baz=225,slow=5.1,SNR=6.4						
PDAR	**Pinedale Array**	**82.16**	**42**	P	**P**	**07 57 28.6**	**+0.7**
	1.5nm,1.0s,baz=222,slow=2.0,SNR=9.9						
ILAR	**Eielson Array**	**82.56**	**11**	P	**P**	**07 57 28.9**	**-0.2**
	1.4nm,1.1s,baz=238,slow=5.3,SNR=6.2						
MAW	**Mawson**	**87.73**	**199**	P	**P**	**07 57 56.8**	**+1.7**
	4.3nm,1.1s,baz=90,slow=10,SNR=5.0						
KMBO	**Kilima Mbogo**	**145.78**	**244**	PKPbc	**PKPbc**	**08 04 47.0**	**-0.1**
	2.3nm,0.8s,baz=54,slow=23,SNR=4.0						
MLR	**Muntele Rosu**	**146.20**	**336**	PKPbc	**PKPbc**	**08 04 46.6**	**-0.6**
	1.6nm,0.9s,baz=43,slow=2.1,SNR=8.3						
GERES	**GERESS Array B**	**146.38**	**352**	PKPbc	**PKPbc**	**08 04 47.5**	**-0.1**
	1.6nm,1.0s,baz=28,slow=3.2,SNR=7.7						
BRTR	**Keskin Array B**	**146.54**	**321**	PKPbc	**PKPbc**	**08 04 48.8**	**+0.4**
	3.8nm,0.8s,baz=111,slow=2.8,SNR=17						
DAVOX	**Davos/Dischmat**	**148.81**	**356**	PKPbc	**PKPdf**	**08 04 52.1**	**+1.5**
	2.4nm,0.9s,baz=135,slow=1.4,SNR=2.3						
TORD	**Torodi Ar. Bea**	**174.33**	**115**	PKP	**PKPdf**	**08 05 16.2**	**-1.0**
	1.0nm,1.1s,baz=242,slow=3.2,SNR=3.7						

*ISCJB **25** 07:51:24.9±0.7,53°.0N±0°.1×168°.25W±0°.09,h68km±4km, mb3.8/9,Error ellipse: s-maj=19.6km s-min=4.4km az=155.7*
*NEIC **25** 07:51:24.1,52°.73N×168°.02W,h26km,ML3.6(AEIC),After AEIC.*
*IDC **25** 07:51:27.3±3.8,53°.40N×168°.23W,h56km±35km,mb3.6/10, mb1 3.8/12,mb1mx3.5/33,mbtmp3.6/12,ML3.7/2,Error ellipse: s-maj=32.4km s-min=16.5km az=0.0*

ISC 25 07:51:25.9±1.1,53°.0N±0°.1×168°.28W±0°.07,h59km±7km, n49,σ1§41/46,mb3.9/9,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKSP	**Okmok Steeple**	**0.24**	**358**	P	**Pn**	**07 51 35.7**	**+0.1**
NIKH	**Nikolski High**	**0.35**	**264**	P	**Pn**	**07 51 35.2**	**-1.1**
NIKH				S	**Sn**	**07 51 43.3**	**-0.5**
OKSO	**Okmok South**	**0.36**	**11**	P	**Pn**	**07 51 36.3**	**-0.1**
OKSO				S	**Sn**	**07 51 45.5**	**+1.5**
OKTU	**Okmok Mt. Tuli**	**0.40**	**21**	P	**Pn**	**07 51 37.5**	**+0.6**
OKCE	**Okmok Cone E**	**0.42**	**9**	P	**Pn**	**07 51 37.5**	**+0.4**
OKFG	**Magazine Ridge**	**0.46**	**29**	P	**Pn**	**07 51 37.1**	**-0.2**
OKFG				S	**Sn**	**07 51 46.9**	**+1.3**
MREP	**Makushin Rep't**	**1.22**	**48**	P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAUS	**Longido**	**2.31**	**54**	*i* P	**Pb**	**07 54 27.2**	**+1.1**
MAUS				*i* S	**Sn**	**07 54 48.9**	**-0.9**
KMBO	**Kilima Mbogo**	**3.83**	**40**	*e*P	**Pn**	**07 54 42.9**	**+0.1**
KMBO				*e*S	**Sn**	**07 55 25.7**	**-1.6**
KIG	**Kigali**	**5.20**	**294**	*e*P	**Pn**	**07 55 03.8**	**+2.2**
KIG				*e*S	**Sn**	**07 55 60.0**	**-1.1**
KIG	comp=Z,147nm,0.5s			AML	AML	07 56 37.1	
MBAR	**Mbarara**	**5.36**	**310**	*e*P	**Pn**	**07 55 04.1**	**+0.3**
MBAR				*e*S	**Sn**	**07 56 02.9**	**-2.0**
LSZ	**Lusaka**	**12.88**	**210**	*e*S	**Sn**	**07 59 08.3**	**-1.4**

ISCJB ***25*** *07:53:49.0±0.7,22.97S±0.03×179.25W±0.02, h388km±7km, mb5.5/242, Error ellipse: s-maj=5.4km s-min=2.8km az=163.7*

MOS ***25*** *07:53:50.1±0.9,22.89S×179.22W, h398km, mb5.8/48, Error ellipse: s-maj=8.3km s-min=6.6km az=64.5*

IDC ***25*** *07:53:51.4±0.4,23.02S×179.15W, h402km±3km, mb5.1/38, mb1 5.2/40, mb1mx5.2/40, mbtmp5.8/40, Error ellipse: s-maj=7.9km s-min=7.0km az=152.0*

BJI ***25*** *07:53:51.5,22.63S×179.03W, h410km, mB5.6/36, mb5.4/54*

NEIC ***25*** *07:53:52.1±0.5,23.09S×179.21W, h418km±5km, mb5.6/165, MW5.9, MW5.9, Error ellipse: s-maj=4.4km s-min=3.1km az=141.0, Moment Tensor Solution. s48 Moment tensor: Scale 10¹⁷Nm; Mrr5.59; Mθθ3.36; Mϕϕ-8.95; Mrθ3.07; Mrϕ-3.86; Mθϕ3.11; Best double couple: Mw8.80000×10¹⁷ NP1:ϕs164.00000°, δ41.00000°, λ40.00000°. NP2:ϕs42.00000°, δ65.00000°, λ124.00000°. Principal axes: T 7.8000, Plg56.0000°, Azm357.0000°; N 3.2000, Plg30.0000°, Azm205.0000°; P -11.0000, Plg13.0000°, Azm107.0000°;*

NEIC Felt at Nuku'alofa, Tonga.

AUST ***25*** *07:53:53.2±0.5,22.97S×179.04W, h428km±6km Error ellipse: s-maj=5.8km s-min=4.3km az=151.0*

GCMT ***25*** *07:53:55.4±0.1,23.00S×178.97W, h419km, MW6.0, Moment Tensor Solution. s120,c255; s61,c82; Moment tensor: Scale 10¹⁸Nm; Mrr0.42±.01; Mθθ0.78±.01; Mϕϕ-1.20±.01; Mrθ0.27±.01; Mθϕ-0.14±.01; Mrϕ0.30±.01; Best double couple: Mo1.10000×10¹⁸ NP1:ϕs45.00000°, δ78.00000°, λ151.00000°. NP2:ϕs141.00000°, δ62.00000°, λ13.00000°. Principal axes: T 0.9300, Plg28.0000°, Azm359.0000°; N 0.3400, Plg59.0000°, Azm204.0000°; P -1.2700, Plg11.0000°, Azm95.0000°; Data Used: II IU IC G CN.*

DJA ***25*** *07:53:56.1±2.7,23.3S×8.7×17.7W±2.2, h493km±37km, M5.8/6, mB6.0/6, mb6.0/6, Mw(mB)5.7/6*

BGS ***25*** *07:53:56.2±4.9,23.09S×179.21W, h418km, mb5.6(NEIC)*

NEIC ***25*** *07:54:04.0±0.0,23.20S×178.77W, h398km, Moment Tensor Solution. s134 Moment tensor: Scale 10¹⁸Nm; Mrr0.46; Mθθ0.55; Mϕϕ-1.01; Mrθ0.17; Mθϕ-0.16; Mrϕ0.23; Best double couple: Mo0.87000×10¹⁸ NP1:ϕs145.00000°, δ56.00000°, λ23.00000°. NP2:ϕs42.00000°, δ71.00000°, λ144.00000°. Principal axes: T 0.6800, Plg38.0000°, Azm359.0000°; N 0.3900, Plg50.0000°, Azm197.0000°; P -1.0700, Plg9.0000°, Azm96.0000°;*

ISC 25 07:53:51.9±0.2,23.04S±0.03×179.10W±0.03, h413km±1km, h413km:pP-P,n1760,σ1ˢ27/2115, mb5.6/240, 317C-252D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.91**	**333**	*e*P	**P**	**07 55 25.6**	**+1.6**
MSVF	**Nonsavu**	**5.91**	**333**	*e*Pn	**P**	**07 55 25.6**	**+1.6**
MSVF	**Nonsavu**	**5.91**	**333**	P	**P**	**07 55 26.4**	**+2.4**
	163µm,0.5s						
RAO	**Raoul Island**	**6.28**	**171**	*e*P	**P**	**07 55 27.4**	**-0.2**
	14µm,0.4s						
RAO				*e*S	S	07 56 32.8	-13
RAO				S	S	07 56 39.8	-6.5
RAO	**Raoul Island**	**6.28**	**171**	P	**P**	**07 55 27.4**	**-0.2**
	6µm,0.3s,baz=142,slow=2.5,SNR=305						
RAO				S	S	07 56 39.8	-6.5
	3µm,0.3s,baz=97,slow=23,SNR=6.4						
NIUE	**Niue**	**9.43**	**67**	⇑P	**P**	**07 56 01.5**	**-1.5**
	baz=9.3,SNR=55						
AFI	**Afiamalu**	**11.43**	**39**	P	P	07 56 21.8	-3.4
AFI				*e*S	S	07 58 16.7	-15
AFI				S	S	07 58 17.9	-14
AFI	**Afiamalu**	**11.43**	**39**	P	P	07 56 21.8	-3.4
	213nm,0.3s,baz=338,slow=0.6,SNR=173						
AFI				S	S	07 58 17.9	-14
	437nm,0.3s,baz=337,slow=20,SNR=9.4						
NFK	**Norfolk Island**	**13.09**	**240**	⇓P	P	07 56 47.0	+3.7
	baz=13						
DZM	**Mont Dzumac**	**13.39**	**271**	*e*P	**P**	**07 56 49.2**	**+2.5**
	2µm,1.1s						
DZM	**Mont Dzumac**	**13.39**	**271**	*e*P	**P**	**07 56 49.1**	**+2.5**
	422nm,0.7s						
DZM				S	S	**07 59 11.5**	**+0.3**
DZM				*e*S	S	07 59 14.9	+3.6
DZM				ScP	**ScP**	**08 04 37.6**	**+1.7**
DZM	**Mont Dzumac**	**13.39**	**271**	P	**P**	**07 56 49.0**	**+2.3**
	60nm,0.3s,baz=104,slow=8.1,SNR=223						
DZM				S	**S**	**07 59 11.5**	**+0.3**
	4.0nm,0.3s,baz=69,slow=18,SNR=2.0						
DZM				ScP	**ScP**	**08 04 37.6**	**+1.7**
	1.0nm,0.3s,baz=115,slow=5.5,SNR=7.7						
OUZ	**Omahuta**	**13.71**	**206**	*e*P	**P**	**07 56 52.8**	**+2.9**
OUZ				*e*S	**S**	**07 59 21.8**	**+4.8**
URZ	**Urewera**	**15.52**	**191**	P	**P**	**07 57 07.7**	**-1.7**
	16nm,0.3s						
URZ				*e*S	S	07 59 44.6	-8.2
URZ				S	S	07 59 53.5	+0.7
URZ	**Urewera**	**15.52**	**191**	P	**P**	**07 57 07.7**	**-1.7**
	45nm,0.3s,baz=20,slow=4.6,SNR=155						
URZ				S	**S**	**07 59 53.5**	**+0.7**
	186nm,0.3s,baz=167,slow=23,SNR=15						
BKZ	**Black Stump Fm**	**16.51**	**192**	*e*P	**P**	**07 57 16.8**	**-3.3**
	424nm,0.6s						
RAR	**Rarotonga**	**18.00**	**88**	P	**P**	**07 57 36.5**	**+0.5**
	90nm,2.0s						
RAR	**Rarotonga**	**18.00**	**88**	P	**P**	**07 57 36.5**	**+0.5**
	8.9nm,0.3s,baz=270,slow=5.8,SNR=32						
BFZ	**Birch Farm**	**18.03**	**191**	*e*P	**P**	**07 57 33.3**	**-2.8**
	602nm,0.5s						
SNZO	**South Karori**	**18.95**	**194**	*e*P	**P**	**07 57 42.6**	**-2.9**
	812nm,0.6s						
SNZO				*e*S	S	08 00 44.3	-13
KHZ	**Kahutara**	**20.28**	**196**	*e*P	**P**	**07 57 55.7**	**-2.2**
	765nm,0.5s						
LHI	**Lord Howe Isla**	**21.14**	**242**	⇓P	**P**	**07 58 08.3**	**+2.4**
	baz=21,SNR=69						
KNTN	**Kanton**	**21.37**	**21**	*e*P	**P**	**07 58 06.8**	**-1.4**
	1µm,0.9s						
RPZ	**Rata Peaks**	**22.17**	**199**	P	**P**	**07 58 13.7**	**-1.4**
	356nm,0.6s						
RPZ				S	**S**	**08 01 50.2**	**+1.1**
RPZ				ScP	**ScP**	**08 04 55.4**	**+1.3**
RPZ	**Rata Peaks**	**22.17**	**199**	P	**P**	**07 58 13.7**	**-1.4**
	745nm,0.5s,baz=321,slow=1.8,SNR=175						
RPZ				S	**S**	**08 01 50.2**	**+1.1**
	72nm,0.6s,baz=165,slow=9.2,SNR=5.2						
RPZ				ScP	**ScP**	**08 04 55.4**	**+1.3**
	29nm,0.7s,baz=7.9,slow=3.2,SNR=3.4						
ODZ	**Otahua Downs**	**23.50**	**198**	*e*P	**P**	**07 58 26.1**	**-1.0**
	84nm,0.6s						
HNR	**Honiara**	**24.19**	**301**	P	**P**	**07 58 32.4**	**-1.3**
HNR	**Honiara**	**24.19**	**301**	P	**P**	**07 58 32.4**	**-1.3**
	362nm,0.7s,baz=174,slow=2.5,SNR=14						
DCZ	**Deep Cove**	**25.03**	**203**	*e*P	**P**	**07 58 40.2**	**-0.6**
	170nm,1.0s						
TARA	**Tarawa**	**25.46**	**341**	*e*P	**P**	**07 58 45.0**	**+0.1**
	474nm,0.8s						
ARMA	**Armidale**	**27.10**	**248**	*e*P	**P**	**07 59 00.8**	**+1.3**
	158nm,0.6s						
ARMA				*e*ScP	**ScP**	**08 05 12.7**	**+4.3**
ARMA	**Armidale**	**27.10**	**248**	⇑P	**P**	**07 59 01.2**	**+1.7**
	baz=27,SNR=162						
TBI	**Tubuai**	**27.23**	**97**	*e*P	**P**	**07 59 01.0**	**+0.5**
	420nm,1.3s						
TBI				*e*pP	**PP**	**08 00 09.1**	**-3.7**
	1µm,1.1s						
EIDS	**Eidsvold**	**27.27**	**259**	*e*P	**P**	**07 59 01.3**	**+0.3**
	136nm,0.8s						
EIDS				*e*		08 00 14.2	
EIDS				*e*S	**S**	**08 03 09.2**	**-0.6**
EIDS				*e*ScP	**SS**	**08 05 18.1**	**-8.8**
EIDS	**Eidsvold**	**27.27**	**259**	⇓P	**P**	**07 59 01.6**	**+0.7**
	baz=27,SNR=56						
MGCD	**Mangrove Creek**	**28.07**	**242**	P	**P**	**07 59 09.4**	**+1.6**
	baz=28,SNR=46						
PAE	**Paea**	**28.16**	**85**	*e*P	**P**	**07 59 09.0**	**+0.2**
	56nm,1.1s						
PAE				*e*pP	**pP**	**08 00 20.8**	**-2.1**
	82nm,1.3s						
PPT2	**Papeete2**	**28.18**	**84**	*e*P	**P**	**07 59 09.6**	**+0.5**
	331nm,1.2s						
PPT2				*e*pP	**pP**	**08 00 21.4**	**-1.8**
	427nm,1.5s						
RIV	**Riverview**	**28.18**	**241**	⇑P	**P**	**07 59 10.1**	**+1.2**
	baz=28						
PPT	**Papeete**	**28.19**	**84**	P	**P**	**07 59 09.5**	**+0.4**
PPT				pP	**pP**	**08 00 21.5**	**-1.6**
PPT	**Papeete**	**28.19**	**84**	P	**P**	**07 59 09.5**	**+0.4**
	238nm,1.0s,baz=269,slow=3.1,SNR=27						
PPT				pP	**pP**	**08 00 21.5**	**-1.6**
	205nm,1.1s,baz=32,slow=15,SNR=3.7						
RMQ	**Roma**	**29.35**	**257**	⇓P	**P**	**07 59 20.8**	**+1.6**
	baz=29,SNR=188						
CNB	**Canberra Magne**	**30.00**	**239**	⇓P	**P**	**07 59 26.0**	**+1.2**
	baz=30,SNR=77						
CAN	**Canberra**	**30.29**	**239**	*e*P	**P**	**07 59 27.7**	**+0.4**
CAN				pmax	pmax		
	comp=Z,188nm,0.8s						
CAN	**Canberra**	**30.29**	**239**	*e*P	**P**	**07 59 27.7**	**+0.4**
	comp=Z,188nm,0.8s						
CAN	**Canberra**	**30.29**	**239**	⇑P	**P**	**07 59 28.6**	**+1.2**
	baz=30						
PMOR	**Pomariorio Ree**	**30.52**	**80**	*e*P	**P**	**07 59 29.7**	**+0.3**
	comp=Z,467nm,1.1s						
MILA	**Mila**	**30.66**	**236**	P	**P**	**07 59 31.5**	**+0.9**
	baz=31,SNR=42						
VAH	**Vaihoa**	**30.68**	**81**	*e*P	**P**	**07 59 30.8**	**-0.1**
	comp=Z,296nm,1.1s						
VAH				*e*pP	**pP**	**08 00 44.0**	**-1.7**
	comp=Z,170nm,1.1s						
CMSA	**Cobar Meteorol**	**32.31**	**247**	P	**P**	**07 59 45.1**	**+0.4**
	baz=32,SNR=220						
CTA	**Charters Tower**	**32.31**	**269**	P	**P**	**07 59 45.5**	**+0.5**
CTA				PcP	**PcP**	**08 02 21.5**	**-0.1**
CTA				S	**S**	**08 04 26.9**	**-1.3**
CTA				ScP	**ScP**	**08 05 29.0**	**+3.6**
CTA	**Charters Tower**	**32.31**	**269**	⇓P	**P**	**07 59 45.8**	**+0.8**
	baz=32						
CTA	**Charters Tower**	**32.31**	**269**	P	**P**	**07 59 45.5**	**+0.5**
	comp=Z,554nm,0.5s,baz=96,slow=11,SNR=956						
CTA				PcP	**PcP**	**08 02 21.5**	**-0.1**
	comp=Z,57nm,0.8s,baz=119,slow=6.4,SNR=5.4						
CTA				S	**S**	**08 04 26.9**	**-1.3**
	comp=Z,99nm,1.3s,baz=249,slow=19,SNR=16						
CTA				ScP	**ScP**	**08 05 29.0**	**+3.6**
	comp=Z,25nm,1.0s,baz=154,slow=3.8,SNR=3.1						
CTAO	**Charters Tower**	**32.31**	**269**	*e*P	**P**	**07 59 45.3**	**+0.4**
CTAO	**Charters Tower**	**32.31**	**269**	*e*P	**P**	**07 59 45.3**	**+0.4**
XMAS	**Kiritimati**	**32.66**	**43**	*e*P	**P**	**07 59 48.1**	**+0.1**
	comp=Z,511nm,0.9s						
XMAS				*e*ScP	**ScP**	**08 05 28.6**	**+2.0**
QLP	**Quilpie**	**33.40**	**256**	P	**P**	**07 59 54.4**	**+0.2**
	baz=33,SNR=113						
RABL	**Rabaul**	**33.50**	**300**	⇑P	**P**	**07 59 56.1**	**+0.9**
	baz=34						
TOO	**Toolangi**	**33.61**	**236**	⇑P	**P**	**07 59 56.6**	**+0.7**
	baz=34,SNR=92						
MOO	**Moorlands**	**34.02**	**227**	⇑P	**P**	**07 59 60.0**	**+0.8**
	baz=34,SNR=14						
TAU	**Tasmania Unive**	**34.12**	**226**	*e*P	**P**	**07 59 59.2**	**-0.9**
TAU				pmax	pmax		
	comp=Z,108nm,0.7s						
TAU	**Tasmania Unive**	**34.12**	**226**	*e*P	**P**	**07 59 59.2**	**-0.9**
	comp=Z,108nm,0.7s						
TAU	**Tasmania Unive**	**34.12**	**226**	P	**P**	**08 00 00.2**	**+0.1**
	comp=Z,920nm,0.6s,SNR=22						
MTSU	**Mount Surprise**	**34.53**	**271**	⇑P	**P**	**08 00 04.4**	**+0.4**
	baz=35						
PMG	**Port Moresby**	**35.01**	**287**	P	**P**	**08 00 08.0**	**+0.1**
	comp=Z,1µm,0.8s,comp=Z,9µm						
PMG	**Port Moresby**	**35.01**	**287**	*e*P	**P**	**08 00 08.0**	**+0.1**
	comp=Z,772nm,0.8s						
PMG				PcP	**PcP**	**08 02 29.4**	**0.0**
PMG				*e*PcP	**PcP**	**08 02 29.9**	**+0.5**
PMG				S	**S**	**08 05 07.8**	**-1.6**
PMG				ScP	**ScP**	**08 05 38.1**	**+3.1**
PMG	**Port Moresby**	**35.01**	**287**	P	**P**	**08 00 08.0**	**+0.1**
	comp=Z,714nm,0.8s,baz=96,slow=5.3,SNR=176						
PMG				PcP	**PcP**	**08 02 29.4**	**0.0**
	comp=Z,74nm,1.0s,baz=31,slow=2.6,SNR=3.4						
PMG				S	**S**	**08 05 07.8**	**-1.6**
	comp=Z,14nm,1.0s,baz=311,slow=20,SNR=8.6						
PMG				ScP	**ScP**	**08 05 38.1**	**+3.1**
	comp=Z,47nm,1.0s,baz=21,slow=5.6,SNR=4.5						
MCQ	**Macquarie Isla**	**35.47**	**202**	⇑P	**P**	**08 00 12.5**	**+1.3**
	baz=36,SNR=3.4						
STKA	**Stephens Creek**	**35.81**	**247**	*e*P	**P**	**08 00 14.8**	**+0.3**
	comp=Z,39nm,0.8s						
STKA				S	**S**	**08 05 21.2**	**0.0**
STKA				ScP	**ScP**	**08 05 41.6**	**+3.9**
STKA	**Stephens Creek**	**35.81**	**247**	⇑P	**P**	**08 00 14.9**	**+0.3**
	baz=36,SNR=201						
STKA	**Stephens Creek**	**35.81**	**247**	P	**P**	**08 00 14.8**	**+0.3**
	comp=Z,162nm,0.8s,baz=91,slow=9.3,SNR=235						
STKA				S	**S**	**08 05 21.2**	**0.0**
	comp=Z,39nm,1.0s,baz=264,slow=17,SNR=4.5						
STKA				ScP	**ScP**	**08 05 41.6**	**+3.9**
	comp=Z,56nm,0.9s,baz=63,slow=3.9,SNR=5.9						
ARPS	**Mount Arapiles**	**36.27**	**239**	P	**P**	**08 00 18.4**	**+0.1**
	baz=36,SNR=53						
COEN	**Coen**	**36.81**	**277**	*e*P	**P**	**08 00 23.1**	**+0.1**
	comp=Z,1µm,0.9s						
COEN	**Coen**	**36.81**	**277**	⇑P	**P**	**08 00 23.7**	**+0.7**
	baz=37,SNR=94						
PATS	**Pohnpei**	**37.01**	**321**	⇓P	**P**	**08 00 25.0**	**+0.5**
	baz=37						
HTT	**Hallett**	**38.18**	**245**	⇓P	**P**	**08 00 34.3**	**+0.1**
	baz=38						
MANU	**Manus Island**	**38.63**	**298**	⇑P	**P**	**08 00 37.8**	**-0.3**
	baz=39						
RKT	**Rikitea**	**40.48**	**99**	*e*P	**P**	**08 00 52.7**	**-0.3**
	comp=Z,168nm,1.3s						
BBOO	**Buckleboo**	**40.54**	**246**	*e*P	**P**	**08 00 52.6**	**-0.8**
	comp=Z,3µm,0.7s						
BBOO				*e*		08 06 29.1	
BBOO	**Buckleboo**	**40.54**	**246**	P	**P**	**08 00 52.7**	**-0.8**
	baz=41,SNR=78						
AS17	**Alice Springs**	**42.92**	**260**	⇓P	**P**	**08 01 12.2**	**-0.3**
	baz=43						
AS07	**Alice Springs**	**42.94**	**260**	⇑P	**P**	**08 01 12.7**	**0.0**
	baz=43						
AS09	**Alice Springs**	**42.96**	**259**	⇑P	**P**	**08 01 12.6**	**-0.3**
	baz=43						
AS14	**Alice Springs**	**42.99**	**260**	⇑P	**P**	**08 01 13.0**	**-0.1**
	baz=43						
AS31	**Alice Springs**	**42.99**	**259**	*e*P	**P**	**08 01 12.6**	**-0.6**
AS31				*e*ScP	**ScP**	**08 06 09.1**	**+3.1**
AS31				*e*S	**S**	**08 07 03.0**	**-4.4**
ASAR	**Alice Springs**	**43.00**	**259**	P	**P**	**08 01 13.0**	**-0.2**
ASAR				PcP	**PcP**	**08 02 54.9**	**0.0**
ASAR				ScP	**ScP**	**08 06 09.5**	**+3.6**
ASAR				S	**S**	**08 07 03.9**	**-3.6**
ASAR				PKiKP	**PKiKP**	**08 09 56.0**	**-1.1**
ASAR				*e*		08 39 07.0	
ASAR	**Alice Springs**	**43.00**	**259**	P	**P**	**08 01 13.0**	**-0.2**
	comp=Z,109nm,0.7s,baz=95,slow=7.6,SNR=811						
ASAR				PcP	**PcP**	**08 02 54.9**	**0.0**
	comp=Z,58nm,0.9s,baz=96,slow=4.5,SNR=9.3						
ASAR				ScP	**ScP**	**08 06 09.5**	**+3.6**
	comp=Z,18nm,0.8s,baz=108,slow=4.9,SNR=5.6						
ASAR				S	**S**	**08 07 03.9**	**-3.6**
	comp=Z,35nm,1.1s,baz=94,slow=15,SNR=12						
ASAR				PKiKP	**PKiKP**	**08 09 56.0**	**-1.1**
	comp=Z,2.2nm,0.9s,baz=78,slow=1.2,SNR=3.8						
ASAR				P4KPbc		08 39 07.0	
	comp=Z,1.7nm,0.8s,baz=110,slow=3.7,SNR=14						
WRAB	**Tennant Creek**	**43.29**	**265**	*e*P	**P**	**08 01 14.4**	**-1.1**
WRAB				*e*S	**S**	**08 07 07.6**	**-4.0**
WRAB				pmax	pmax		
	comp=Z,214nm,0.7s						
WRAB	**Tennant Creek**	**43.29**	**265**	*e*P	**P**	**08 01 14.4**	**-1.1**
	comp=Z,214nm,0.7s						
WRAB				*e*ScP	**ScP**	**08 06 10.0**	**+2.8**
WRAB				*e*S	**S**	**08 07 07.6**	**-4.0**
WRAB	**Tennant Creek**	**43.29**	**265**	P	**P**	**08 01 14.0**	**-1.5**
	comp=Z,2µm,0.8s						
WRA	**Warramunga Arr**	**43.30**	**265**	P	**P**	**08 01 14.6**	**-0.9**
WRA				pP	**pP**	**08 02 33.5**	**-1.8**
WRA				PcP	**PcP**	**08 02 56.1**	**+0.2**
WRA				ScP	**ScP**	**08 06 10.2**	**+3.1**
WRA				S	**S**	**08 07 07.9**	**-3.9**
WRA				PKiKP	**PKiKP**	**08 09 55.9**	**-1.5**
WRA				*e*		08 39 10.2	
WRA	**Warramunga Arr**	**43.30**	**265**	P	**P**	**08 01 14.6**	**-0.9**
	comp=Z,212nm,0.8s,baz=90,slow=5.8,SNR=734						
WRA				pP	**pP**	**08 02 33.5**	**-1.8**
	comp=Z,11nm,0.6s,baz=102,slow=8.3,SNR=0.9						
WRA				PcP	**PcP**	**08 02 56.1**	**+0.2**
	comp=Z,69nm,1.0s,baz=101,slow=3.9,SNR=11						
WRA				ScP	**ScP**	**08 06 10.3**	**+3.1**
	comp=Z,37nm,0.9s,baz=99,slow=4.3,SNR=13						
WRA				S	**S**	**08 07 07.9**	**-3.9**
	comp=Z,64nm,1.1s,baz=100,slow=14,SNR=17						
WRA				PKiKP	**PKiKP**	**08 09 55.9**	**-1.5**
	comp=Z,1.7nm,0.6s,baz=81,slow=0.7,SNR=5.7						
WRA				P4KPbc		08 39 10.2	
	comp=Z,0.7nm,0.7s,baz=98,slow=4.1,SNR=8.0						
JAY	**Jayapura**	**43.95**	**292**	P	**P**	**08 01 20.2**	**-0.6**
JAY	**Jayapura**	**43.95**	**292**	P	**P**	**08 01 20.2**	**-0.6**
	baz=44,SNR=12						
WAKE	**Wake Island**	**44.30**	**341**	*e*P	**P**	**08 01 23.2**	**-0.1**
	comp=Z,401nm,1.1s						
KDU	**Kakadu**	**47.04**	**274**	⇑P	**P**	**08 01 43.6**	**-0.9**
	baz=47,SNR=96						
FORT	**Forrest**	**47.39**	**249**	*e*P	**P**	**08 01 45.9**	**-1.1**
	comp=Z,1µm,0.7s						
FORT				*e*ScP	**ScP**	**08 06 24.2**	**+0.2**
FORT	**Forrest**	**47.39**	**249**	P	**P**	**08 01 46.0**	**-1.0**
	baz=47,SNR=116						
MTN	**Manton Dam**	**48.22**	**273**	⇑P	**P**	**08 01 52.3**	**-1.2**
	baz=48,SNR=16						
BAKI	**Biak**	**48.57**	**290**	P	**P**	**08 01 56.0**	**-0.2**
HON	**Honolulu**	**48.65**	**27**	*e*P	**P**	**08 01 56.1**	**-0.4**
HON	**Honolulu**	**48.65**	**27**	*e*P	**P**	**08 01 56.1**	**-0.4**
KIP	**Kipapa**	**48.73**	**26**	*ce*P	**P**	**08 01 57.9**	**+0.8**
KIP				pmax	pmax		
	comp=Z,706nm,1.3s						
KIP	**Kipapa**	**48.73**	**26**	*e*P	**P**	**08 01 57.9**	**+0.8**
	comp=Z,635nm,1.1s						
TLE	**Tual**	**49.50**	**283**	P	**P**	**08 02 03.0**	**-0.1**
TLE	**Tual**	**49.50**	**283**	⇑P	**P**	**08 02 03.0**	**-0.1**
	baz=50,SNR=10.0						
KNRA	**Kununurra**	**49.52**	**269**	⇑P	**P**	**08 02 02.7**	**-0.5**
	baz=50,SNR=192						
DRV	**Dumont d'Urvil**	**50.63**	**200**	P	P	08 01 55.0	-16
DRV				S	S	08 08 28.0	-25
DRV				SS	**ScS**	**08 11 14.0**	**-2.4**
DRV				L	L	08 14 00.0	
DRV				R		08 19 00.0	
MIDW	**Midway**	**50.98**	**2**	*e*P	**P**	**08 02 13.6**	**-0.1**
	comp=Z,446nm,1.3s						
FAKI	**Fak Fak**	**51.13**	**286**	P	**P**	**08 02 14.2**	**-0.9**
	baz=51,SNR=15						
FITZ	**Fitzroy Crossi**	**51.72**	**265**	*e*P	**P**	**08 02 18.9**	**-0.4**
	comp=Z,1µm,1.8s						
FITZ				*e*PcP	**PcP**	**08 03 27.5**	**+1.3**
FITZ				S	**S**	**08 09 07.5**	**-1.6**
FITZ				*e*S	S	08 09 08.0	-1.1
FITZ	**Fitzroy Crossi**	**51.72**	**265**	P	**P**	**08 02 19.0**	**-0.4**
	baz=52,SNR=260						
FITZ	**Fitzroy Crossi**	**51.72**	**265**	P	**P**	**08 02 19.1**	**-0.3**
	comp=Z,110nm,0.7s,baz=104,slow=3.3,SNR=244						
FITZ				S	**S**	**08 09 07.5**	**-1.6**
	comp=Z,8.0nm,1.0s,baz=300,slow=17,SNR=4.7						
BNDI	**Bandanaira**	**52.52**	**283**	P	**P**	**08 02 24.6**	**-0.7**
	baz=53,SNR=4.2						
SWI	**Sorong**	**52.96**	**287**	P	**P**	**08 02 28.2**	**-0.2**
	comp=Z,812nm,0.8s						
SWI	**Sorong**	**52.96**	**287**	P	**P**	**08 02 28.0**	**-0.5**
	baz=53,SNR=31						
AAI	**Ambon**	**54.42**	**283**	P	**P**	**08 02 38.0**	**-0.8**
	baz=54,SNR=7.0						
PALU	**Palau**	**54.52**	**298**	⇓P	**P**	**08 02 39.3**	**-0.2**
	baz=55,SNR=11						
SBA	**Scott Base**	**55.29**	**184**	*e*P	**P**	**08 02 46.8**	**+2.8**
SBA				pmax	pmax		
	comp=Z,792nm,1.6s						
SBA	**Scott Base**	**55.29**	**184**	*e*P	**P**	**08 02 46.8**	**+2.8**
	comp=Z,792nm,1.6s						
VNDA	**Vanda**	**55.31**	**185**	P	**P**	**08 02 45.7**	**+1.6**
VNDA				*e*		08 39 57.5	
VNDA	**Vanda**	**55.31**	**185**	P	**P**	**08 02 45.7**	**+1.6**
	comp=Z,46nm,0.7s,baz=0.4,slow=8.1,SNR=224						
VNDA				P4KPbc		08 39 57.5	
	comp=Z,1.1nm,0.9s,baz=321,slow=3.9,SNR=5.3						
SOEI	**Soe**	**55.60**	**274**	P	**P**	**08 02 48.2**	**+0.8**
	comp=Z,978nm,0.9s,comp=Z,8µm						
SOEI	**Soe**	**55.60**	**274**	⇑P	**P**	**08 02 48.4**	**+1.1**
	baz=56,SNR=79						
MEEK	**Meekatharra**	**56.15**	**253**	P	**P**	**08 02 49.5**	**-1.5**
	baz=56,SNR=84						
MBWA	**Marble Bar**	**56.34**	**259**	P	**P**	**08 02 51.6**	**-0.6**
	SNR=32						
MBWA	**Marble Bar**	**56.34**	**259**	*e*P	**P**	**08 02 51.2**	**-1.1**
	comp=Z,383nm,1.0s						
MBWA				*e*PcP	**PcP**	**08 03 45.2**	**+1.2**
NWAO	**Narrogin (SRO)**	**56.34**	**245**	P	**P**	**08 02 51.9**	**-0.2**
	SNR=7.8						
NWAO	**Narrogin (SRO)**	**56.34**	**245**	*e*P	**P**	**08 02 51.2**	**-0.9**
	comp=Z,110nm,0.8s						

KKM	Kota Kinabalu	69.45	286	P		P	08 04 17.5	-0.2	
	baz=70,SNR=16								
BTM	Bintulu	70.99	282	P		P	08 04 26.9	0.0	
SBUM	Sibu	71.45	281	P		P	08 04 29.4	-0.2	
SBUM	Sibu	71.45	281	P		P	08 04 29.6	0.0	
CISI	Cisompet, Garu	71.54	270	P		P	08 04 28.9	-1.3	
	baz=72,SNR=3.4								
MJAR	Matsushiro Arr	71.66	325	P		P	08 04 29.7	-0.6	
MJAR				pP		pP	08 05 59.8	-0.8	
MJAR	Matsushiro Arr	71.66	325	P		P	08 04 29.7	-0.6	
	comp=Z,36nm,0.9s,baz=170,slow=6.3,SNR=84								
MJAR				pP		pP	08 05 59.8	-0.8	
	comp=Z,0.7nm,0.5s,baz=226,slow=56,SNR=1.2								
MAJO	Matsushiro	71.66	325	eP		P	08 04 29.6	-0.7	
MAJO				pmax		pmax			
	comp=Z,56nm,0.8s								
MAJO	Matsushiro	71.66	325	eP		P	08 04 29.6	-0.7	
	comp=Z,56nm,0.8s								
MAT	Matsushiro	71.66	325	P		P	08 04 29.5	-0.8	
MAT				S		S	08 13 12.2	-3.6	
LEM	Lembang	72.00	270	⇓P		P	08 04 32.9	-0.1	
	baz=72,SNR=13								
XMI	Christmas Isla	72.46	266	⇑P		P	08 04 35.1	-0.4	
	baz=72,SNR=5.0								
XMIS	Christmas Isla	72.48	266	eP		P	08 04 35.0	-0.6	
	comp=Z,680nm,0.8s								
XMIS	Christmas Isla	72.48	266	⇓P		P	08 04 35.5	-0.2	
	baz=72,SNR=8.8								
KSM	Kuching	72.78	279	P		P	08 04 37.2	-0.2	
KSM	Kuching	72.78	279	eP		P	08 04 36.7	-0.7	
	comp=Z,198nm,0.9s								
KSM				eS		SKiKP	08 13 22.9	-3.9	
KSM	Kuching	72.78	279	⇓P		P	08 04 37.2	-0.2	
	baz=73,SNR=37								
JNU	Nakatsue	73.44	318	eP		P	08 04 40.6	-0.1	
	comp=Z,38nm,1.0s								
JNU	Nakatsue	73.44	318	P		P	08 04 40.9	+0.1	
	comp=Z,57nm,0.8s,baz=89,slow=2.2,SNR=12								
TWG	Pinlang	73.91	304	eP		P	08 04 41.8	-1.9	
	comp=Z,288nm,0.6s								
YULB	Yu-li	74.06	304	eP		P	08 04 42.4	-2.1	
	comp=Z,86nm,1.2s								
YUK	Yuzh-Kuril'sk	74.07	334	c iP		P	08 04 37.7	-6.3	
YUK				i	*PP	pP	08 06 09.9	-5.1	
YUK				i			08 07 37.5		
YUK				i	S	S	08 13 38.9	-3.3	
YUK				eSS		SS	08 18 42.4	+4.2	
YUK				pmax		pmax			
	comp=Z,692nm,1.3s								
YUK				pmax		pmax			
	comp=N,192nm,0.7s								
YUK				pmax		pmax			
	comp=E,13nm,0.7s								
YUK				pmax		pmax			
	comp=Z,1μm,1.8s								
AMKA	Amchitka	74.10	359	eP		P	08 04 43.1	-0.9	
	comp=Z,328nm,1.1s								
NACB	Ninganchiao	74.27	305	eP		P	08 04 44.9	-0.8	
	comp=Z,296nm,1.0s								
KUR	Kuril'sk	74.31	336	eP		P	08 04 45.1	-0.3	
KUR				eS		S	08 13 48.0	+3.1	
KUR				smax		smax			
	comp=N,3μm,5.0s								
TPUB	Ta-pu	74.51	304	eP		P	08 04 45.8	-1.3	
	comp=N,194nm,0.8s								
SSLB	Suanglung	74.54	305	eP		P	08 04 45.8	-1.4	
	comp=N,136nm,0.9s								
ADK	Adak	74.62	2	eP		P	08 04 46.7	-0.3	
ADK				pmax		pmax			
	comp=Z,4μm,1.3s								
ADK	Adak	74.62	2	eP		P	08 04 46.7	-0.3	
	comp=Z,4μm,1.3s								
YHNB	Yeheng	74.72	306	eP		P	08 04 47.5	-0.9	
	comp=Z,146nm,0.8s								
TATO	Taipei	74.81	306	eP		P	08 04 48.1	-0.6	
	comp=Z,3μm,1.4s								
ASAJ	Asahikawa	75.48	333	eP		P	08 04 53.0	+1.0	
	comp=Z,69nm,1.0s								
ASAJ				pP		pP	08 06 22.9	-0.4	
ASAJ				epP		pwP	08 06 24.2	+0.8	
ASAJ	Asahikawa	75.48	333	P		P	08 04 53.5	+1.5	
	comp=Z,96nm,0.8s,baz=182,slow=4.7,SNR=43								
ASAJ				pP		pP	08 06 22.9	-0.4	
	comp=Z,9.5nm,0.9s,baz=217,slow=29,SNR=1.0								
FX1	Attu Island--F	75.89	355	eP		P	08 04 53.6	-0.5	
FX1	Attu Island--F	75.89	355	P		P	08 04 53.7	-0.5	
	comp=Z,258nm,1.0s,baz=163,slow=5.7,SNR=19								
SKR	Severo-Kuril's	76.59	344	eP		P	08 04 52.0	-6.0	
SKR				e			08 05 11.0		
SKR				pmax		pmax			
	comp=Z,2μm,4.0s								
SKR				pmax		pmax			
	comp=N,510nm,1.3s								
SKR				pmax		pmax			
	comp=E,510nm,1.3s								
SKR				pmax		pmax			
	comp=Z,920nm,1.3s								
QZH	Quanzhou	76.97	304	⇑iP		P	08 04 57.8	-3.0	
QZH				AMB		AMB			
	comp=Z,270nm,0.8s								
UNV	Unalaska Valle	77.33	8	eP		P	08 05 01.6	-0.4	
	comp=Z,351nm,1.2s								
UNV				ePP		PP	08 08 04.1	+0.5	
AKUT	Akutan	77.71	8	eP		P	08 05 03.2	-0.9	
	comp=Z,265nm,1.1s								
YSS	Yuzh-Sakhalins	77.71	334	ceP		P	08 05 04.0	-0.3	
YSS				e*PP		pP	08 06 37.2	+0.9	
YSS				e*SP		sP	08 07 15.7	-3.8	
YSS				ePPP		PPP	08 10 03.0		
YSS				eS		S	08 14 21.0	-0.5	
YSS				eSS		SS	08 19 39.0	+6.1	
YSS				pmax		pmax			
	comp=Z,230nm,1.2s								
YSS				pmax		pmax			
	comp=Z,1μm,4.0s								
YSS				smax		smax			
	comp=E,700nm,6.0s								
KSRS	Korea Array	78.12	320	P		P	08 05 07.7	+0.9	
	comp=E,22nm,0.8s,baz=133,slow=5.8,SNR=52								
KSAR	Wonju Array Be	78.14	319	P		P	08 05 07.7	+0.8	
PET	Petropavlovsk	78.17	346	c iP		P	08 05 05.9	-0.7	
PET				e*PP		pP	08 06 36.5	-2.2	
PET				e*SP		sP	08 07 15.6	-6.4	
PET				eS		S	08 14 25.9	-0.2	
PET				eSP		SPn	08 15 06.6	-3.4	
PET				eSS		SS	08 19 35.8	-3.7	
PET				pmax		pmax			
	comp=Z,150nm,1.0s								
PET				pmax		pmax			
	comp=Z,700nm,14.1s								
PET				pmax		pmax			
	comp=Z,300nm,13.7s								
PEA0B	Petropavlovsk-	78.46	346	eP		P	08 05 08.0	-0.2	
PEA0B				ePP		PP	08 08 11.8	-1.2	
PETK	Petropavlovsk-	78.46	346	P		P	08 05 08.0	-0.3	
PETK	Petropavlovsk-	78.46	346	P		P	08 05 08.0	-0.3	
PETK	Petropavlovsk-	78.46	346	P		P	08 05 08.0	-0.3	
	comp=Z,369nm,1.1s,baz=126,slow=7.5,SNR=115								
SSE	Sheshan	78.55	311	eP		P	08 05 08.3	-0.9	
SSE				pP		pP	08 06 39.3	-2.1	
SSE				S		S	08 14 29.5	-1.5	
SSE				sS		sS	08 17 14.3	-0.7	
SSE				AMB		AMB			
	comp=Z,21nm,0.7s								
SSE				AMB		AMB			
	comp=Z,540nm,8.7s								
BTDF	Bukit Timah Da	78.70	276	⇓P		P	08 05 10.7	+0.2	
	baz=79,SNR=6.4								
BTDF				⇓P		P	08 05 10.7	+0.2	
	baz=79,SNR=6.4								
FALS	False Pass	78.73	9	eP		P	08 05 08.7	-0.9	
	comp=Z,168nm,0.7s								
MYKOM	Kota Tinggi	78.80	277	P		P	08 05 10.6	-0.4	
MAW	Mawson	78.84	200	P		P	08 05 11.0	+0.7	
MAW	Mawson	78.84	200	⇓P		P	08 05 11.0	+0.7	
	baz=79								
MAW	Mawson	78.84	200	P		P	08 05 11.0	+0.7	
	comp=Z,142nm,0.7s,baz=126,slow=6.3,SNR=367								
INCN	Inchon	78.92	319	P		P	08 05 12.4	+1.2	
	SNR=6.4								
INCN	Inchon	78.92	319	eP		P	08 05 11.8	+0.6	
	comp=Z,100nm,1.0s								
KGM	Kluang	79.37	277	P		P	08 05 13.8	-0.3	
PMSA	Palmer Station	79.38	157	P		P	08 05 13.7	+0.6	
PMSA	Palmer Station	79.38	157	P		P	08 05 13.7	+0.6	
	comp=Z,29nm,0.7s,baz=239,slow=2.3,SNR=8.0								
SDPT	Sand Point	79.67	11	eP		P	08 05 14.6	0.0	
	comp=Z,371nm,1.0s								
SDPT				ePP		PP	08 08 21.4	-1.5	
SCI	San Clemente I	80.22	48	⇑P		P	08 05 19.6	+1.5	
	baz=80,SNR=11								
SBC	Santa Barbara	80.29	46	⇓P		P	08 05 20.4	+1.9	
	baz=81								
PKM	Peak Mountain	80.49	46	⇓P		P	08 05 21.3	+1.6	
	baz=81,SNR=12								
USRK	Ussuriysk Arra	80.49	327	P		P	08 05 20.4	+1.1	
	comp=Z,26nm,0.7s,baz=127,slow=3.2,SNR=47								
USRK				pP		pP	08 06 50.7	-1.2	
	comp=Z,1.9nm,0.8s,baz=134,slow=46,SNR=1.2								
BLG	Laguna Peak	80.53	47	⇑P		P	08 05 21.4	+1.6	
	baz=81,SNR=5.3								
SAO	San Andreas Ge	80.56	43	eP		P	08 05 21.1	+1.2	
SAO				e*PP		pP	08 06 55.5	+3.0	
SAO				pmax		pmax			
	comp=Z,134nm,1.1s								
SAO	San Andreas Ge	80.56	43	eP		P	08 05 21.1	+1.2	
	comp=Z,134nm,1.1s								
SAO				epP		pP	08 06 55.5	+3.0	
CIS	Catalina Islan	80.57	48	⇑P		P	08 05 20.8	+0.8	
	baz=81,SNR=11								
SMMC	Simmler	80.62	45	⇑P		P	08 05 21.8	+1.6	
	baz=81,SNR=12								
NJ2	Nanjing	80.72	311	eP		P	08 05 20.5	-0.2	
NJ2				S		S	08 14 53.5	0.0	
NJ2				AMB		AMB			
	comp=Z,70nm,1.0s								
FMP	Fort Macarthur	80.82	47	⇑P		P	08 05 22.1	+0.9	
	baz=81								
KTGM	Kuala Trenggan	80.88	280	P		P	08 05 22.3	+0.3	
CHGN	Chignik	80.95	12	eP		P	08 05 21.3	0.0	
CHGN				ePcP		PcP	08 05 26.4	0.0	
HOPS	Hopland	80.95	41	eP		P	08 05 22.9	+1.0	
	comp=Z,194nm,1.2s								
QIZ	Qiongzhong	80.98	295	P		P	08 05 22.5	+0.1	
QIZ				sP		sP	08 07 39.5	+1.2	
QIZ				S		S	08 14 56.5	-0.2	
QIZ				AMB		AMB			
	comp=Z,370nm,12.0s								
QIZ	Qiongzhong	80.98	295	eP		P	08 05 22.4	+0.1	
	comp=Z,78nm,1.5s								
OSI	Osito Adit	81.05	47	eP		P	08 05 23.1	+0.6	
	comp=Z,129nm,1.2s								
OSI				epP		pP	08 06 58.8	+3.4	
OSI	Osito Adit	81.05	47	⇑P		P	08 05 23.9	+1.3	
	baz=81,SNR=14								
KCPM	Cahto Peak	81.08	40	eP		P	08 05 24.4	+1.7	
	comp=Z,119nm,1.2s								
DECC	Green Verdugo	81.10	47	⇓P		P	08 05 23.7	+1.0	
	baz=81,SNR=8.8								
PASC	Pasadena Art C	81.16	47	eP		P	08 05 23.5	+0.5	
	comp=Z,118nm,1.1s								
109C	Camp Elliot, M	81.16	49	⇓P		P	08 05 24.2	+1.2	
	baz=82,SNR=34								
KIPM	Iron Peak	81.22	40	eP		P	08 05 25.0	+1.7	
	comp=Z,248nm,1.2s								
MWC	Mount Wilson	81.27	47	eP		P	08 05 24.9	+1.0	
MWC				e			08 08 38.8		
MWC				pmax		pmax			
	comp=Z,129nm,1.2s								
MWC	Mount Wilson	81.27	47	eP		P	08 05 24.9	+1.0	
	comp=Z,129nm,1.2s								
MWC				ePP		PP	08 08 38.8	+2.1	
ARVC	Arvin	81.28	46	⇑P		P	08 05 24.8	+1.2	
	baz=82,SNR=29								
BAR	Barrett	81.34	49	eP		P	08 05 24.6	+0.5	
	comp=Z,75nm,1.3s								
FRIM	Kepong	81.41	277	P		P	08 05 24.2	-0.6	
MURC	Murrieta	81.50	48	⇑P		P	08 05 26.1	+1.3	
	baz=82,SNR=60								
VES	Vestal, Richgr	81.53	45	⇑P		P	08 05 25.8	+0.9	
	baz=82,SNR=35								
BFSC	Mount Baldy Ra	81.55	47	⇓P		P	08 05 25.9	+0.7	
	baz=82,SNR=40								
LPIG	La Paz	81.57	59	P		P	08 05 26.9	+1.5	
LPIG	La Paz	81.57	59	P		P	08 05 26.9	+1.5	
	comp=Z,68nm,1.1s,baz=39,slow=4.4,SNR=6.2								
MONP	Monument Peak	81.64	49	⇑P		P	08 05 27.0	+1.2	
	baz=82,SNR=114								
EDW2	Edwards Air Fo	81.70	47	⇓P		P	08 05 26.9	+1.1	
	baz=82,SNR=70								
RCTC	Rector, Farmer	81.71	45	⇑P		P	08 05 26.3	+0.5	
	baz=82,SNR=15								
DVTC	Desert V Tower	81.73	49	⇓P		P	08 05 27.6	+1.4	
	baz=82,SNR=6.3								
KHMM	Horse Mountain	81.76	39	eP		P	08 05 27.6	+1.5	
	comp=Z,237nm,1.2s								
ISA	Isabella	81.83	46	eP		P	08 05 27.4	+0.9	
ISA				e*PP		pP	08 07 01.0	+1.4	
ISA				pmax		pmax			
	comp=Z,183nm,1.3s								
ISA	Isabella	81.83	46	eP		P	08 05 27.4	+0.9	
	comp=Z,183nm,1.3s								
ISA				epP		pP	08 07 01.0	+1.4	
ISA	Isabella	81.83	46	⇓P		P	08 05 27.9	+1.4	
	baz=82,SNR=78								
CMB	Columbia Colle	82.01	43	eP		P	08 05 26.9	-0.5	
CMB				pmax		pmax			
	comp=Z,199nm,1.2s								
CMB	Columbia Colle	82.01	43	eP		P	08 05 26.9	-0.5	
	comp=Z,199nm,1.2s								
CMB				epP		pP	08 07 05.2	+4.7	
MDJ	Mudanjiang	82.01	326	P		P	08 05 28.0	+0.8	
MDJ				sP		sP	08 07 44.3	+1.0	
MDJ				PP		PP	08 08 40.5	-1.8	
MDJ				S		SKSac	08 15 07.5	+0.4	
MDJ				SS		SS	08 20 38.3	+1.4	
MDJ				AMB		AMB			
	comp=Z,86nm,0.8s								
MDJ				AMB		AMB			
	comp=Z,670nm,6.9s								
MDJ	Mudanjiang	82.01	326	eP		P	08 05 27.3	+0.2	
	comp=Z,74nm,0.9s								
PFO	Pinyon Flat Ob	82.02	48	P		P	08 05 28.4	+0.7	
PFO	Pinyon Flat Ob	82.02	48	P		P	08 05 28.9	+1.3	
	comp=Z,347nm,1.1s,SNR=33								
PFO	Pinyon Flat Ob	82.02	48	⇓P		P	08 05 28.8	+1.1	
	baz=82,SNR=41								
PFO	Pinyon Flat Ob	82.02	48	P		P	08 05 28.4	+0.7	
	comp=Z,56nm,1.1s,baz=253,slow=3.2,SNR=39								
BBRC	Big Bear Solar	82.07	48	⇓P		P	08 05 29.0	+1.0	
	baz=82,SNR=14								
KRMB	Red Mountain	82.07	38	eP		P	08 05 27.8	+0.1	
	comp=Z,128nm,1.2s								
SWSC	Sam W. Stewart	82.10	49	⇓P		P	08 05 29.6	+1.7	
	baz=82,SNR=36								
HABR	Khabarovsk	82.15	331	ceP		P	08 05 28.3	+0.6	
HABR				*PP		pP	08 07 01.0	+0.2	
HABR				S		S	08 15 05.8	-1.5	
HABR				eS		pS	08 17 03.7	+4.1	
HABR				SS		SS	08 20 37.3	-1.4	
HABR				eSSS		SSS	08 24 08.5		
HABR				pmax		pmax			
	comp=Z,201nm,2.2s								
HABR				pmax		pmax			
	comp=Z,758nm,1.7s								
HABR				pmax		pmax			
	comp=E,36nm,1.1s								
HABR				pmax		pmax			
	comp=N,48nm,1.1s								
HABR				pmax		pmax			
	comp=Z,908nm,2.3s								
HABR				MLR		MLR			
	comp=Z,206nm,22.0s								
LRMC	Laurel Mountai	82.24	46	⇑P		P	08 05 29.8	+1.1	
	baz=83								
WDC	Whiskeytown Da	82.27	40	eP		P	08 05 28.7	+0.1	
WDC				pmax		pmax			
	comp=Z,228nm,1.3s								
WDC	Whiskeytown Da	82.27	40	eP		P	08 05 28.7	+0.1	
	comp=Z,228nm,1.3s								
WDC				epP		pP	08 07 05.8	+4.0	
KBO	Bosley Butte	82.34	38	eP		P	08 05 30.9	+1.8	
	comp=Z,277nm,1.2s								
RRX	Edison Barstow	82.36	47	⇓P		P	08 05 30.4	+1.2	
	baz=83								
IPM	Ipoh	82.46	278	P		P	08 05 28.4	-1.8	
IPM	Ipoh	82.46	278	eP		P	08 05 29.8	-0.4	
	comp=Z,165nm,0.6s								
CWC	Cottonwood Cre	82.54	45	⇑P		P	08 05 31.5	+1.2	
	baz=83,SNR=37								
BELC	Belle Mtn. Jos	82.55	48	⇓P		P	08 05 31.7	+1.3	
	baz=83,SNR=61								
USHA	Ushuaia	82.58	147	P		P	08 05 30.5	+0.5	
USHA	Ushuaia	82.58	147	P		P	08 05 30.5	+0.5	
	comp=Z,23nm,0.8s,baz=208,slow=0.7,SNR=6.5								
KEBM	Edson Butte	82.71	37	eP		P	08 05 32.7	+1.8	
	comp=Z,451nm,1.4s								
MPMC	Manual Prospec	82.71	46	⇑P		P	08 05 32.0	+0.8	
	baz=83,SNR=93								
GSC	Goldstone	82.73	47	eP		P	08 05 32.0	+0.8	
GSC				pmax		pmax			
	comp=Z,133nm,1.2s								
GSC	Goldstone	82.73	47	eP		P	08 05 32.0	+0.8	
	comp=Z,133nm,1.2s								
GSC				epP		pP	08 07 09.4	+5.0	
GSC	Goldstone	82.73	47	⇓P		P	08 05 32.4	+1.2	
	baz=83,SNR=62								
BC3	Big Chuckawall	82.73	49	⇓P		P	08 05 32.7	+1.4	
	baz=83,SNR=101								
MLAC	Mammoth Lakes	82.75	44	⇑P		P	08 05 32.4	+1.0	
	baz=83,SNR=19								
HEC	Hector,Ludlow	82.79	48	⇑P		P	08 05 32.5	+1.0	
	baz=83,SNR=33								
TIN	Tinemaha	82.80	45	⇓P		P	08 05 33.0	+1.5	
	baz=83,SNR=11								
GLA	Glamis	82.84	50	eP		P	08 05 32.2	+0.4	
GLA				pmax		pmax			
	comp=Z,324nm,1.2s								
GLA	Glamis	82.84	50	eP		P	08 05 32.2	+0.4	
	comp=Z,324nm,1.2s								
GLA	Glamis	82.84	50	⇓P		P	08 05 33.1	+1.4	
	baz=83,SNR=103								
OHAK	Old Harbor	82.84	14	eP		P	08 05 31.3	+0.3	
	comp=Z,145nm,1.0s								
DL2	Dalian	82.88	317	P		P	08 05 35.0	+3.3	
DL2				S		S	08 15 18.8	+3.8	
DL2				AMB		AMB			
	comp=Z,73nm,0.9s								
DL2				AMB		AMB			
	comp=Z,360nm,5.7s								
WAKR	Walker	82.89	43	eP		P	08 05 33.0	+1.0	
	comp=Z,270nm,1.2s								
YBH	Yreka Blue Hor	82.90	39	eP		P	08 05 32.7	+0.9	
	comp=Z,112nm,1.2s								
YBH				epP		pP	08 07 09.4	+4.2	
YBH	Yreka Blue Hor	82.90	39	P		P	08 05 33.2	+1.4	
	comp=Z,56nm,0.9s,baz=178,slow=2.1,SNR=101								
UBPT	Khong Chiam	83.01	290	P		P	08 05 33.5	+0.7	
	comp=Z,59nm,0.9s,comp=Z,900nm								
KULM	Kulim	83.12	279	P		P	08 05 32.2	-1.3	
KULM	Kulim	83.12	279	eP		P	08 05 33.2	-0.4	
	comp=Z,97nm,0.8s								
KULM				ePcP		PcP	08 05 36.4	-0.7	
KULM				ePP		PP	08 08 50.7	-1.0	
WHN	Wuhan	83.13	307	P		P	08 05 34.0	+0.8	
GMRC	Granite Mounta	83.22	48	⇓P		P	08 05 34.9	+1.1	
	baz=84,SNR=58								
IRM	Iron Mountain	83.22	49	⇑P		P	08 05 34.6	+0.9	
	baz=84,SNR=153								
HUMO	Hull Mountain	83.31	38	eP		P	08 05 35.0	+1.1	
	comp=Z,245nm,1.2s								
HUMO				epP		pP	08 07 11.4	+4.2	
HUMO				ePP		PP	08 08 52.6	-0.3	
FURC	Furnace Creek,	83.36	46	⇑P		P	08 05 35.6	+1.4	
	baz=84,SNR=40								
TUQ	Turquoise Moun	83.40	47	⇓P		P	08 05 35.9	+1.3	
	baz=84,SNR=11								
SHOC	Shoshone	83.42	47	⇓P		P	08 05 36.0	+1.4	
	baz=84								
Y12C	Blythe	83.43	49	⇑P		P	08 05 36.1	+1.5	
	baz=84,SNR=78								
113A	Mohawk Valley,	83.44	50	⇑P		P	08 05 36.1	+1.4	
	baz=84,SNR=83								
KDAK	Kodiak Island	83.51	14	eP		P	08 05 34.3	0.0	
	comp=Z,234nm,1.4s								
KDAK	Kodiak Island	83.51	14	P		P	08 05 34.4	0.0	
	comp=Z,573nm,0.8s,SNR=7.8								
NVAR	Mina Array Bea	83.56	44	P		P	08 05 36.0	+0.6	
NVAR				pP		pP	08 07 08.8	-0.1	
NVAR				PKKPbc		PKKPbc	08 23 52.7	+0.8	
NVAR				P'P'			08 31 53.5		
NVAR	Mina Array Bea	83.56	44	P		P	08 05 36.0	+0.6	
	comp=Z,122nm,1.0s,baz=224,slow=6.7,SNR=255								
NVAR				pP		pP	08 07 08.8	-0.1	
	comp=Z,3.9nm,0.7s,baz=230,slow=6.7,SNR=2.4								
NVAR				PKKPbc		PKKPbc	08 23 52.7	+0.8	
	comp=Z,2.0nm,0.7s,baz=95,slow=2.8,SNR=11								
NVAR				PKPPKP		P'P'df	08 31 53.5	-1.9	
	comp=Z,1.8nm,0.8s,baz=109,slow=1.5,SNR=10.0								
PAHR	Pah Rah Range	83.64	42	eP		P	08 05 36.2	+0.5	
	comp=Z,225nm,1.2s								
PAHR				epP		pP	08 07 12.8	+3.6	
NV11	Mina Array Sit	83.66	44	eP		P	08 05 36.2	+0.4	
NV11				epP		pP	08 07 10.6	+1.2	
214A	Organ Pipe Nat	83.69	52	⇓P		P	08 05 37.5	+1.5	
	baz=84								
CN2	Changchun	83.69	323	eP		P	08 05 35.8	+0.1	
CN2				epP		pP	08 07 09.0	-0.2	
CN2				esP		sP	08 07 52.0	-0.1	
CN2				PP		PP	08 08 58.0	+2.1	
CN2				eS		SKSac	08 15 20.3	+2.2	
CN2				AMB		AMB			
	comp=Z,20nm,1.3s								
CN2				AMB		AMB			
	comp=Z,200nm,5.0s								
PSI	Prapat	83.71	276	⇑P		P	08 05 35.5	-1.1	
	baz=84,SNR=20								
LDFC	Landfair	83.76	48	eP		P	08 05 34.9	-1.5	
	comp=Z,346nm,1.2s								
LDFC				epP		pP	08 07 10.2	+0.2	
PDMCI	Parker Dam,Lak	84.00	49	⇓P		P	08 05 39.2	+1.7	
	baz=84,SNR=71								
K04D	Chiloquin, OR	84.01	39	⇓P		P	08 05 38.9	+1.4	
	baz=84								
SYO	Syowa Base	84.04	193	⇓iP		P	08 05 35.1	-2.0	
SYO	Syowa Base	84.04	193	⇓iPcP		PcP	08 05 40.0	-0.1	
TPH	Tonopah	84.05	44	eP		P	08 05 38.3	+0.4	
TPH				e*PP		pP	08 07 13.4	+1.9	
TPH				pmax		pmax			
	com

TUC pmax pmax
comp=Z,194nm,1.2s
TUC Tucson 85.34 52 *eP* **P 08 05 45.1 +0.9**
comp=Z,194nm,1.2s
TUC *epP* **pP 08 07 20.0 +1.9**
BMN Battle Mountai 85.41 42 *eP* **P 08 05 44.2 -0.3**
BMN pmax pmax
comp=Z,105nm,1.2s
BMN Battle Mountai 85.41 42 *eP* **P 08 05 44.2 -0.3**
comp=Z,105nm,1.2s
SNAA Sanae 85.51 179 *eP* **P 08 05 43.7 -0.7**
SNAA Sanae 85.51 179 *ePcP* **PcP 08 05 45.9 -0.7**
SNAA Sanae 85.51 179 *epP* pP 08 07 22.0 +3.7
SNAA Sanae 85.51 179 *eP* **P 08 05 43.7 -0.7**
comp=Z,21nm,0.6s
SNAA *epP* **pP 08 07 20.9 +2.5**
SNAA *esP* **sP 08 08 06.3 +5.0**
SNAA *eS* **SKSac 08 15 23.6 -5.5**
WVOR Wild Horse Val 85.72 40 *eP* **P 08 05 46.4 +0.5**
WVOR pmax pmax
comp=Z,93nm,1.1s
WVOR Wild Horse Val 85.72 40 *eP* **P 08 05 46.4 +0.5**
comp=Z,93nm,1.1s
WVOR *epP* **pP 08 07 23.5 +3.6**
LVP Lakeview Peak 85.82 36 P **P 08 05 47.1 +0.9**
VIPM Ingram Point 85.83 38 P **P 08 05 47.1 +0.6**
VIPM Ingram Point 85.83 38 P **P 08 05 47.0 +0.6**
VFP Flag Point 85.86 37 P **P 08 05 47.0 +0.4**
G05D Wamic, OR 85.89 37 ⇓P **P 08 05 48.0 +1.5**
baz=86
NLWA Neilton Lookou 85.90 34 *eP* **P 08 05 47.0 +0.4**
comp=Z,128nm,1.2s
RSO Redoubt South 85.92 13 *eP* **P 08 05 45.6 -0.9**
comp=Z,348nm,1.1s
FL2 Flat Top 2 85.93 36 P **P 08 05 47.7 +0.9**
X16A Lo Mia Camp, P 85.95 50 ⇑P **P 08 05 48.7 +1.3**
baz=86,SNR=117
319A Douglas 85.97 54 ⇑P **P 08 05 49.2 +1.8**
baz=86,SNR=150
SWFL Southwest Flan 86.01 36 P **P 08 05 48.4 +1.1**
STD Studebaker Rid 86.03 36 P **P 08 05 48.3 +1.0**
TDL Tradedollar La 86.10 36 P **P 08 05 48.6 +0.9**
VNA2 Neumayer--Watz 86.11 177 *eP* **P 08 05 46.2 -1.1**
VNA2 Neumayer--Watz 86.11 177 *ePcP* **PcP 08 05 49.6 +0.4**
VNA2 Neumayer--Watz 86.11 177 *epP* pP 08 07 26.1 +4.8
MAIT Maitri 86.13 184 *eP* **P 08 05 44.9 -2.4**
PKDT Phuket 86.27 280 P P 08 05 53.2 +4.2
comp=Z,94nm,1.2s,comp=Z,3µm
SURT Suratani 86.28 281 P **P 08 05 50.5 +1.4**
comp=Z,36nm,1.2s,comp=Z,504nm
CHAI Chaiyaphum 86.30 289 P **P 08 05 49.6 +0.5**
comp=Z,17nm,0.9s,comp=Z,264nm
SEW Seward 86.31 14 *eP* **P 08 05 47.7 -0.4**
comp=Z,121nm,1.1s
VNA1 Neumayer--Stat 86.35 177 *eP* **P 08 05 47.3 -1.0**
VNA1 Neumayer--Stat 86.35 177 *ePcP* **PcP 08 05 49.3 -0.9**
VNA1 Neumayer--Stat 86.35 177 *epP* pP 08 07 24.6 +2.2
ARUT Antelope Range 86.37 46 *eP* **P 08 05 50.2 +1.0**
ARUT *e*PP **pP 08 07 23.4 0.0**
ARUT *e*SP sP 08 07 59.8 -6.3
ARUT pmax pmax
comp=Z,731nm,1.0s
ARUT Antelope Range 86.37 46 *eP* **P 08 05 50.2 +1.0**
comp=Z,731nm,1.0s
ARUT *epP* **pP 08 07 23.4 0.0**
ARUT *esP* sP 08 07 59.8 -6.3
U15A North Rim 86.42 48 ⇑P **P 08 05 50.8 +1.2**
baz=87,SNR=122
320A Kipp Ranch, An 86.51 54 ⇑P **P 08 05 50.1 +0.1**
baz=87,SNR=220
WUAZ Wupatki 86.57 49 *eP* **P 08 05 51.2 +1.0**
comp=Z,104nm,1.3s
WUAZ Wupatki 86.57 49 ⇓P **P 08 05 51.5 +1.3**
baz=87,SNR=26
LON Longmire 86.57 35 *eP* **P 08 05 49.4 -0.4**
LON pmax pmax
comp=Z,85nm,1.3s
LON Longmire 86.57 35 *eP* **P 08 05 49.4 -0.4**
comp=Z,85nm,1.3s
LON *epP* pP 08 07 31.8 +7.8
ENH Enshi 86.62 305 *eP* **P 08 05 50.7 +0.3**
comp=Z,67nm,0.8s
ENH *epP* pP 08 07 31.1 +6.4
ENH *esP* **sP 08 08 08.5 +1.1**
WPW White Pass 86.68 36 P **P 08 05 50.8 +0.5**
GAMB Gambell 86.72 3 *eP* **P 08 05 50.5 +0.6**
comp=Z,200nm,1.3s
220A Playas Peak, P 86.79 53 ⇓P **P 08 05 52.9 +1.6**
baz=87,SNR=194
ELK Elko 86.83 43 *eP* **P 08 05 51.4 0.0**
comp=Z,38nm,1.1s
ELK *epP* **pP 08 07 28.5 +2.8**
PGC Sidney 86.93 33 *eP* **P 08 05 52.3 +1.0**
comp=Z,14nm,1.2s
BJT Baijiatuau 86.97 316 *eP* **P 08 05 50.8 -1.0**
comp=Z,88nm,0.8s
BJI Beijing 86.98 316 P **P 08 05 52.5 +0.7**
BJI AMB AMB
comp=Z,67nm,1.0s
BJI AMB AMB
comp=Z,870nm,3.5s
RMW Rattlesnake Mo 87.02 35 P **P 08 05 53.1 +1.2**
RMW Rattlesnake Mo 87.02 35 P **P 08 05 53.1 +1.2**
GYA Guiyang 87.02 300 ⇑*iP* **P 08 05 53.0 +0.5**
GYA pP **pP 08 07 27.8 +1.0**
GYA sP **sP 08 08 08.5 -1.1**
GYA PP **PP 08 09 25.5 +2.4**
GYA SKS **SKSac 08 15 39.0 -0.9**
GYA S **S 08 15 54.0 -2.1**
GYA sS **sS 08 18 41.0 -2.9**
GYA SS **SS 08 21 54.3 +3.3**
GYA AMB AMB
comp=Z,90nm,1.0s
GYA AMB AMB
comp=Z,8µm,6.9s
120A U Bar Ranch, L 87.03 53 ⇑P **P 08 05 54.0 +1.5**
baz=87,SNR=88
X18A Snowflake 87.07 51 ⇑P **P 08 05 53.9 +1.3**
baz=87,SNR=41
BBB Bella Bella 87.11 29 P **P 08 05 53.4 +1.4**
BBB Bella Bella 87.11 29 P **P 08 05 53.4 +1.4**
comp=Z,242nm,1.2s,baz=257,slow=6.4,SNR=12
Z20A Nine Sixteen R 87.34 52 ⇑P **P 08 05 55.6 +1.7**
baz=88,SNR=122
PBKT Sadao Pong 87.47 289 P **P 08 05 55.7 +1.1**
comp=Z,71nm,1.6s,comp=Z,2µm
E07A Sunnyside 87.51 36 P **P 08 05 55.0 +0.8**
W18A Petrified Fore 87.52 50 ⇑P **P 08 05 56.0 +1.3**
baz=88,SNR=11
MVU Marysvale 87.57 46 *eP* **P 08 05 56.3 +1.3**
comp=Z,52nm,1.2s
HAWA Hanford 87.58 37 *eP* **P 08 05 55.3 +0.8**
comp=Z,366nm,1.3s
HAWA pP **pP 08 07 28.2 -0.8**
LOEI Loei 87.60 290 P **P 08 05 54.4 -0.9**
comp=Z,61nm,1.5s,comp=Z,1µm
121A Cookes Peak, D 87.65 53 ⇑P **P 08 05 56.6 +1.2**
baz=88,SNR=90
PMR Palmer 87.71 14 *eP* **P 08 05 54.3 -0.4**
PMR pmax pmax
comp=Z,163nm,0.9s
PMR Palmer 87.71 14 *eP* **P 08 05 54.3 -0.4**
comp=Z,163nm,0.9s
SIT Sitka 87.85 22 *eP* **P 08 05 55.0 -0.4**
SIT pmax pmax
comp=Z,115nm,1.1s
SIT Sitka 87.85 22 *eP* **P 08 05 55.0 -0.4**
comp=Z,115nm,1.1s
Y20A Horse Springs, 87.89 52 ⇑P **P 08 05 58.3 +1.7**
baz=88,SNR=166
ETW Entiat 87.89 35 P **P 08 05 56.5 +0.4**
BMO Blue Mountains 87.92 39 *eP* **P 08 05 56.4 +0.1**
BMO *e*PP **pP 08 07 32.1 +1.2**
BMO pmax pmax
comp=Z,115nm,1.3s
BMO Blue Mountains 87.92 39 *eP* **P 08 05 56.4 +0.1**
comp=Z,115nm,1.3s
BMO *epP* **pP 08 07 32.1 +1.2**
222A Williams Famil 87.95 54 ⇑P **P 08 05 58.6 +1.8**
baz=88,SNR=15
DUG Dugway 88.07 45 *eP* **P 08 05 57.2 +0.1**
DUG pmax pmax
comp=Z,50nm,1.3s
DUG Dugway 88.07 45 *eP* **P 08 05 57.2 +0.1**
comp=Z,50nm,1.3s
baz=88
DUG Dugway 88.07 45 ⇑P **P 08 05 57.8 +0.7**
baz=88
DIV Divide 88.09 15 *eP* **P 08 05 55.9 -0.7**
comp=Z,220nm,1.0s
Z21A St. Cloud Mine 88.11 53 ⇓P **P 08 05 59.1 +1.5**
baz=88,SNR=136
X20A Quemado 88.11 51 ⇑P **P 08 05 58.7 +1.1**
baz=88,SNR=73
WTV Waterville 88.15 35 P **P 08 05 57.5 +0.3**
TIY Taiyuan 88.21 312 *eP* **P 08 05 59.3 +1.5**
TIY AMB AMB
comp=Z,190nm,1.2s
BMRM Bremner River 88.24 16 *eP* **P 08 05 57.5 +0.2**
comp=Z,156nm,0.8s
PPLA Purkeypile 88.26 12 *eP* **P 08 05 55.6 -1.9**
comp=Z,66nm,1.1s
PLCA Paso Flores 88.27 134 P **P 08 05 59.5 +1.3**
PLCA pP **pP 08 07 30.5 -2.3**
PLCA Paso Flores 88.27 134 P **P 08 05 59.5 +1.3**
comp=Z,7.7nm,0.8s,baz=46,slow=4.6,SNR=8.1
PLCA pP **pP 08 07 30.5 -2.3**
comp=Z,8.5nm,1.1s,baz=261,slow=22,SNR=3.0
122A Conniff Cattle 88.31 53 ⇓P **P 08 05 59.9 +1.5**
baz=89,SNR=49
BGU Big Grassy Mou 88.33 44 *eP* **P 08 05 58.9 +0.6**
comp=Z,51nm,1.4s
BGU *epP* **pP 08 07 35.8 +2.8**
BGU *ePP* **PP 08 09 33.4 +0.2**
UTHA Uthaitani 88.38 288 P **P 08 06 00.1 +1.2**
comp=Z,45nm,0.8s,comp=Z,339nm
W20A Ramah 88.40 51 ⇑P **P 08 06 00.4 +1.5**
baz=89,SNR=119
223A Chaparral, Ant 88.40 54 ⇑P **P 08 06 00.5 +1.6**
baz=89,SNR=37
NLU North Lily Min 88.42 45 *eP* **P 08 05 59.4 +0.5**
comp=Z,71nm,1.5s
NLU *epP* pP 08 07 40.6 +7.0
WRAK Wrangell Islan 88.44 24 *eP* **P 08 05 59.5 +1.3**
comp=Z,242nm,1.1s
Y21A Point of Rocks 88.45 52 ⇓P **P 08 06 00.7 +1.5**
baz=89,SNR=98
Q16A Castle Valley 88.48 46 ⇑P **P 08 06 00.6 +1.4**
baz=89,SNR=39
X21A Alamocita Cree 88.58 52 ⇑P **P 08 06 01.2 +1.4**
baz=89,SNR=94
Z22A Elephant Butte 88.60 53 ⇓P **P 08 06 01.4 +1.6**
baz=89,SNR=160
F10A Beach Ranch, E 88.62 38 P **P 08 05 59.5 0.0**
TMUT Trail Mountain 88.65 46 *eP* **P 08 06 01.6 +1.5**
comp=Z,175nm,1.2s
TMUT *epP* pP 08 07 41.4 +6.5
TNA Tin City 88.73 5 *eP* **P 08 05 58.0 -1.3**
comp=Z,173nm,1.3s
TNA *epP* **pP 08 07 37.2 +3.0**
MPU Maple Canyon 88.74 45 *eP* **P 08 06 01.0 +0.6**
comp=Z,81nm,1.3s
V20A Brimhall 88.75 50 ⇓P **P 08 06 01.4 +0.9**
baz=89,SNR=23
123A Bell Site, Whi 88.82 54 ⇓P **P 08 06 02.5 +1.7**
baz=89,SNR=40
324A Moseley Ranch, 88.85 55 ⇑P **P 08 06 01.9 +1.0**
baz=89,SNR=226
XAN Xi'an 88.86 308 P **P 08 06 01.5 +0.7**
XAN pP **pP 08 07 35.5 -0.1**
XAN sP **sP 08 08 16.0 -2.2**
XAN SKS **SKSac 08 15 47.8 -2.5**
XAN S **ScS 08 16 15.3 -1.2**
XAN AMB AMB
comp=Z,28nm,1.0s
XAN AMB AMB
comp=Z,170nm,7.7s
SPUT South Promonto 88.90 44 *eP* **P 08 06 01.2 +0.2**
comp=Z,112nm,1.2s
SPUT *epP* **pP 08 07 40.0 +4.2**
HLID Hailey 88.90 41 *eP* **P 08 06 01.8 +0.8**
comp=Z,148nm,1.1s
HLID *epP* pP 08 07 41.3 +5.5
HLID Hailey 88.90 41 ⇓P **P 08 06 01.9 +0.8**
baz=89,SNR=209
425A Indio Mountain 88.92 56 ⇑P **P 08 06 02.5 +1.2**
baz=89,SNR=172
Y22A Socorro 88.93 52 ⇓P **P 08 06 02.6 +1.2**
baz=89,SNR=137
HVU Hansel Valley 88.95 43 *eP* **P 08 06 01.9 +0.7**
HVU pmax pmax
comp=Z,175nm,1.2s
HVU Hansel Valley 88.95 43 *eP* **P 08 06 01.9 +0.7**
comp=Z,176nm,1.2s
U20A Newcomb 89.00 50 ⇑P **P 08 06 02.3 +0.7**
baz=89,SNR=21
W21A San Fidel 89.00 51 ⇑P **P 08 06 03.2 +1.5**
baz=89,SNR=20
SRU San Rafael 89.01 46 *eP* **P 08 06 02.0 +0.4**
SRU *e*PP **pP 08 07 37.4 +1.0**
SRU pmax pmax
comp=Z,195nm,1.3s
SRU San Rafael 89.01 46 *eP* **P 08 06 02.0 +0.4**
comp=Z,195nm,1.3s
SRU *epP* **pP 08 07 37.4 +1.0**
626A Big Bend Ranch 89.01 57 ⇑P **P 08 06 02.9 +1.2**
baz=89,SNR=169
LAZ Ladron 89.02 52 *eP* **P 08 06 03.0 +1.2**
comp=Z,48nm,1.2s
LAZ *epP* pP 08 07 42.5 +5.9
Y22D IRIS PASSCAL I 89.03 52 ⇓P **P 08 06 03.5 +1.7**
baz=89,SNR=23
LENM Lemitar 89.03 52 *eP* **P 08 06 03.0 +1.2**
comp=Z,88nm,1.1s
MNTX Cornudas Mount 89.04 55 *eP* **P 08 06 02.8 +1.0**
comp=Z,172nm,1.3s
MNTX *epP* **pP 08 07 38.4 +1.8**
224A Cornudas Mount 89.11 55 ⇑P **P 08 06 03.4 +1.2**
baz=89,SNR=132
TRF Thorofare Moun 89.13 13 *eP* **P 08 06 01.0 -0.6**
comp=Z,196nm,0.8s
TRF *epP* **pP 08 07 38.8 +2.4**
Z23A Rita Site, Whi 89.14 53 ⇓P **P 08 06 03.3 +1.1**
baz=89,SNR=32
X22A Bernardo 89.17 52 ⇑P **P 08 06 03.8 +1.4**
baz=89,SNR=42
JLU Jordanelle 89.17 45 *eP* **P 08 06 03.0 +0.6**
comp=Z,122nm,1.5s
DAU Daniels Canyon 89.20 45 *eP* **P 08 06 03.0 +0.4**
DAU *e* 08 09 41.0
DAU pmax pmax
comp=Z,137nm,1.3s
DAU Daniels Canyon 89.20 45 *eP* **P 08 06 03.0 +0.4**
comp=Z,137nm,1.3s
DAU *ePP* **PP 08 09 41.0 +0.6**
325A Bean Ranch, Si 89.20 55 ⇑P **P 08 06 03.6 +0.9**
baz=90,SNR=175
BNM Barren Site 89.27 52 *eP* **P 08 06 03.9 +0.9**
comp=Z,85nm,1.2s
BNM *epP* **pP 08 07 42.8 +4.9**
TXAR Lajitas Array 89.28 58 P **P 08 06 04.2 +1.2**
TXAR pP **pP 08 07 36.9 -0.9**
TXAR PKKPbc **PKKPbc 08 23 38.4 +0.9**
TXAR P'P' 08 31 47.8
TXAR Lajitas Array 89.28 58 P **P 08 06 04.2 +1.2**
comp=Z,94nm,1.1s,baz=209,slow=4.5,SNR=278
TXAR pP **pP 08 07 36.9 -0.9**
comp=Z,6.7nm,0.9s,baz=207,slow=8.5,SNR=3.7
TXAR PKKPbc **PKKPbc 08 23 38.4 +0.9**
comp=Z,3.2nm,0.7s,baz=98,slow=4.0,SNR=18
TXAR PKPPKP **P'P'df 08 31 47.8 +2.6**
comp=Z,1.0nm,0.8s,baz=64,slow=4.2,SNR=6.0
526A Mary Lane Ranc 89.28 57 ⇑P **P 08 06 04.1 +1.1**
baz=90,SNR=130
V21A Milan 89.34 50 ⇓P **P 08 06 04.0 +0.7**
baz=90,SNR=22
LPM Los Pinos Moun 89.35 52 *eP* **P 08 06 04.0 +0.7**
comp=Z,100nm,1.2s
MVCO Mesa Verde 89.43 49 *eP* **P 08 06 03.8 +0.2**
comp=Z,31nm,1.2s
MVCO Mesa Verde 89.43 49 ⇓P **P 08 06 04.4 +0.7**
baz=90,SNR=12
124A Stringfield Ra 89.46 54 ⇓P **P 08 06 04.9 +1.0**
baz=90,SNR=65
CRAI Chiangrai 89.50 292 P **P 08 06 04.9 +0.8**
comp=Z,49nm,1.4s,comp=Z,2µm
W22A Albuquerque 89.54 51 ⇓P **P 08 06 05.6 +1.4**
baz=90,SNR=12
627A Terlingua Ranc 89.55 58 ⇑P **P 08 06 05.5 +1.2**
baz=90,SNR=132
BPAW Bear Paw Mtn. 89.58 12 *eP* **P 08 06 01.9 -1.6**
comp=Z,30nm,0.9s
Y23A Lovelace Mesa, 89.59 53 ⇑P **P 08 06 05.2 +0.8**
baz=90,SNR=119
KMI Kunming 89.59 297 P **P 08 06 05.5 +0.8**
KMI pP **pP 08 07 38.8 -0.8**
KMI sP **sP 08 08 22.5 +0.4**
KMI SKS **SKSac 08 15 56.5 +1.2**
KMI S **S 08 16 20.5 +0.3**
KMI SS **SS 08 22 30.3 +1.9**
KMI AMB AMB
comp=Z,72nm,1.5s
KMI AMB AMB
comp=Z,510nm,3.2s
426A McDonald Obser 89.60 56 ⇑P **P 08 06 05.7 +1.1**
baz=90,SNR=156
U21A Nageezi 89.63 50 ⇓P **P 08 06 05.5 +0.8**
baz=90,SNR=158
225A Deer Hill, Car 89.66 55 ⇑P **P 08 06 05.8 +1.0**
baz=90,SNR=104
MCK McKinley 89.66 13 *eP* **P 08 06 02.9 -0.9**
MCK *e*PP **pP 08 07 39.0 +0.3**
MCK *e* 08 09 39.5
MCK pmax pmax
comp=Z,108nm,0.9s
MCK McKinley 89.66 13 *eP* **P 08 06 02.9 -0.9**
comp=Z,108nm,0.9s
MCK *epP* **pP 08 07 39.0 +0.3**
MCK *ePP* **PP 08 09 39.5 -3.6**
527A Woodward Ranch 89.68 57 ⇑P **P 08 06 05.7 +0.8**
baz=90,SNR=110
SKAG Skagway 89.70 21 *eP* **P 08 06 05.3 +1.2**
comp=Z,67nm,1.2s
PAX Paxson 89.75 15 *eP* **P 08 06 04.0 -0.3**
PAX pmax pmax
comp=Z,72nm,1.1s
PAX Paxson 89.75 15 *eP* **P 08 06 04.0 -0.3**
comp=Z,72nm,1.1s
ANMO Albuquerque 89.78 52 *eP* **P 08 06 06.0 +0.7**
comp=Z,144nm,1.2s
ANMO pP **pP 08 07 39.7 -0.5**
ANMO *epP* **pwP 08 07 41.6 +1.4**
ANMO Albuquerque 89.78 52 P **P 08 06 06.0 +0.7**
comp=Z,106nm,1.1s,baz=220,slow=5.0,SNR=111
ANMO pP **pP 08 07 39.7 -0.5**
comp=Z,14nm,1.2s,baz=224,slow=5.3,SNR=3.2
X23A Hourglass Bar 89.80 52 ⇓P **P 08 06 06.1 +0.7**
baz=90,SNR=66
Z24A Sheeppen Canyo 89.82 53 ⇑P **P 08 06 06.4 +0.9**
baz=90,SNR=82
S20A Disappointment 89.83 48 ⇓P **P 08 06 06.3 +0.7**
baz=90,SNR=37
PV01 Paradox Valley 89.84 48 *eP* **P 08 06 05.5 0.0**
comp=Z,4µm,1.2s
V22A San Miguel Ran 89.92 51 ⇓P **P 08 06 06.7 +0.7**
baz=90,SNR=36
326A Caldwell Ranch 89.93 56 ⇑P **P 08 06 06.4 +0.5**
baz=90,SNR=17
628A Black Gap, Mar 89.95 58 ⇑P **P 08 06 06.9 +0.8**
baz=90,SNR=85
T21A Navajo Lake 89.99 49 ⇓P **P 08 06 07.2 +1.0**
baz=90
R20A Redvale 89.99 48 ⇑P **P 08 06 06.7 +0.5**
baz=90,SNR=21
CM31 Chiang Mai Arr 90.00 290 *eP* **P 08 06 08.1 +1.6**
comp=Z,71nm,0.8s
CMAR Chiang Mai Arr 90.00 290 P **P 08 06 08.2 +1.8**
CMAR PKKPbc **PKKPbc 08 23 36.0 +0.9**
CMAR Chiang Mai Arr 90.00 290 P **P 08 06 08.2 +1.8**
comp=Z,61nm,0.8s,baz=134,slow=3.3,SNR=149
CMAR PKKPbc **PKKPbc 08 23 36.0 +0.9**
comp=Z,2.6nm,0.6s,baz=287,slow=4.4,SNR=10
NEW Newport 90.02 36 P **P 08 06 06.0 +0.1**
comp=Z,3.3nm,1.1s
NEW *epP* **pP 08 07 44.2 +3.4**
NEW *ePP* **PP 08 09 45.1 -1.2**
NEW Newport 90.02 36 ⇑P **P 08 06 06.1 +0.2**
baz=90,SNR=18
NEW Newport 90.02 36 P **P 08 06 06.0 +0.1**
comp=Z,17nm,1.1s,baz=238,slow=4.0,SNR=23
125A Gardner Draw, 90.03 54 ⇑P **P 08 06 07.7 +1.3**
baz=90,SNR=61
Y24A Capitan 90.04 53 ⇑P **P 08 06 07.8 +1.2**
baz=90,SNR=181
GDL2 Guadalupe Moun 90.04 55 *eP* **P 08 06 07.5 +1.1**
comp=Z,106nm,1.2s
HYT Haines Junctio 90.09 19 *eP* **P 08 06 06.8 +0.7**
W23A Werner Place, 90.10 52 ⇓P **P 08 06 07.7 +0.9**
baz=90,SNR=41
226B Tecolote Peak, 90.14 55 ⇑P **P 08 06 07.9 +1.1**
baz=90
S21A Coal Bank Pass 90.14 49 ⇓P **P 08 06 08.0 +0.9**
baz=90,SNR=65
MENT Mentasta 90.14 15 *eP* **P 08 06 06.0 -0.1**
MENT *ePP* **PP 08 09 44.2 -2.7**
CHTO Chiang Mai 90.15 290 *eP* **P 08 06 07.3 +0.2**
CHTO *e*PP **pP 08 07 41.5 -0.5**
CHTO pmax pmax
comp=Z,567nm,0.8s
CHTO Chiang Mai 90.15 290 P **P 08 06 08.5 +1.4**
SNR=82
CHTO Chiang Mai 90.15 290 *eP* **P 08 06 07.3 +0.2**
comp=Z,567nm,0.8s
CHTO *epP* **pP 08 07 41.5 -0.5**
CHTO Chiang Mai 90.15 290 P **P 08 06 07.9 +0.8**
comp=Z,990nm,0.8s,comp=Z,10µm
427A Hayter Ranch, 90.16 56 ⇑P **P 08 06 08.2 +1.1**
baz=90,SNR=139
HIA Hailar 90.17 325 *eP* **P 08 06 06.5 0.0**
comp=Z,26nm,0.7s
U22A Llaves 90.18 50 ⇑P **P 08 06 08.2 +1.1**
baz=90,SNR=28
Z25A Roswell 90.27 54 ⇓P **P 08 06 09.0 +1.4**
baz=90,SNR=94
P19A Cripple Cowboy 90.30 47 ⇑P **P 08 06 08.5 +0.9**
baz=91,SNR=27
327A Balmorhea Ranc 90.33 56 ⇓P **P 08 06 09.4 +1.7**
baz=91
528A Cox Ranch, San 90.33 57 ⇑P **P 08 06 09.2 +1.3**
baz=91,SNR=64
X24A Lazy VL Ranch, 90.34 52 ⇑P **P 08 06 08.7 +0.8**
baz=91,SNR=9.0
V23A Ortiz Mt. (NFS 90.35 51 ⇑P **P 08 06 09.5 +1.6**
baz=91,SNR=62
HHC Hu-ho-hao-te 90.39 315 ⇑P **P 08 06 08.0 +0.1**
HHC pP **pP 08 07 44.0 +1.2**
HHC PP **PP 08 09 51.5 +2.0**
HHC SKS **SKSac 08 15 59.0 0.0**
HHC S **S 08 16 24.3 -2.3**
HHC SS **SS 08 22 40.8 +1.7**
HHC AMB AMB
comp=Z,180nm,1.6s
HHC AMB AMB
comp=Z,890nm,6.0s
Q20A Ridgley Place, 90.43 47 ⇓P **P 08 06 08.6 +0.5**
baz=91,SNR=65
CLNB Carlsbad 90.44 55 *eP* **P 08 06 09.2 +0.9**
comp=Z,3.5nm,0.6s
T22A Edith 90.45 50 ⇑P **P 08 06 08.8 +0.4**
baz=91,SNR=24
126A Clayton Basin, 90.50 55 ⇑P **P 08 06 09.5 +0.9**
baz=91,SNR=21
CMAI Chiengmai2 90.52 291 P **P 08 06 10.1 +1.1**
comp=Z,161nm,0.8s,comp=Z,2µm
AHID Auburn Hatcher 90.52 43 *eP* **P 08 06 08.6 +0.1**
comp=Z,152nm,1.1s
MCMT McKenzie Canyo 90.54 41 *eP* **P 08 06 09.5 +0.8**
comp=Z,72nm,1.2s
O19A Miners Draw (B 90.54 46 ⇓P **P 08 06 09.4 +0.8**
baz=91,SNR=77
Y25A Mesa, Roswell 90.59 53 ⇓P **P 08 06 10.0 +1.0**
baz=91,SNR=68
U23A El Rito 90.62 51 ⇓P **P 08 06 10.1 +0.9**
baz=91,SNR=75
P20A De Beque 90.63 47 ⇓P **P 08 06 10.0 +0.9**
baz=91,SNR=51
R21A Cimarron 90.65 48 ⇑P **P 08 06 10.2 +0.9**
baz=91,SNR=83
428A Kincaid Ranch, 90.66 57 ⇓P **P 08 06 10.6 +1.3**
baz=91
W24A Lazy 6 Ranch, 90.66 52 ⇓P **P 08 06 10.0 +0.6**
baz=91,SNR=84
DOT Dot Lake 90.66 15 *eP* **P 08 06 08.1 -0.4**
comp=Z,100nm,1.0s
529A Stev Forest Ra 90.75 58 ⇑P **P 08 06 10.6 +0.8**
baz=91,SNR=11
227A Bennet, Jal 90.77 55 ⇑P **P 08 06 10.6 +0.8**
baz=91,SNR=7.5
DLBC Dease Lake 90.77 23 *eP* **P 08 06 10.0 +0.8**
DLBC PP **PP 08 09 51.7 -0.3**

DLBC	**Dease Lake**	90.77	23	P		P		08 06 09.9	+0.8
	comp=Z,58nm,1.1s,baz=216,slow=7.2,SNR=29								
DLBC				PP		PP		08 09 51.7	-0.3
	comp=Z,28nm,1.0s,baz=230,slow=7.9,SNR=6.3								
IM04	**Indian Mountai**	90.80	10	*e*P		P		08 06 08.4	-0.6
Z26A	**Caprock**	90.82	54	⇓P		P		08 06 10.8	+0.8
	baz=91,SNR=85								
S22A	**4UR Ranch, Cre**	90.85	49	⇑P		P		08 06 11.2	+0.9
	baz=91,SNR=109								
328A	**Wristen Ranch,**	90.85	56	⇑P		P		08 06 11.0	+0.8
	baz=91,SNR=27								
Q21A	**Lamborn Mesa,**	90.86	48	⇓P		P		08 06 11.0	+0.8
	baz=91,SNR=22								
X25A	**Clemmons Ranch**	90.89	53	⇓P		P		08 06 11.2	+0.8
	baz=91,SNR=13								
COLA	**College**	90.89	13	*e*P		P		08 06 07.9	-1.5
COLA				pmax		pmax			
	comp=Z,732nm,1.2s								
COLA	**College**	90.89	13	*e*P		P		08 06 07.9	-1.5
	comp=Z,732nm,1.2s								
IMA2	**Indian Mountai**	90.91	10	*e*P		P		08 06 09.3	-0.3
IMA2				*e*PP		PP		08 09 58.0	+5.1
MSO	**Missoula**	90.98	39	⇑P		P		08 06 10.8	+0.3
	baz=91,SNR=22								
V24A	**Rampart Ranch,**	91.00	51	⇓P		P		08 06 12.0	+1.0
	baz=91,SNR=34								
ILAR	**Eielson Array**	91.00	13	P		P		08 06 09.4	-0.6
ILAR				pP		pP		08 07 44.4	-0.6
ILAR				PP		PP		08 09 54.4	+0.8
ILAR				PKKPbc		PKKPdf		08 23 31.6	+0.4
ILAR				P'P'				08 31 44.9	
ILAR	**Eielson Array**	91.00	13	P		P		08 06 09.4	-0.6
	comp=Z,22nm,0.7s,baz=232,slow=5.1,SNR=76								
ILAR				pP		pP		08 07 44.4	-0.6
	comp=Z,4.7nm,1.0s,baz=239,slow=8.3,SNR=1.5								
ILAR				PP		PP		08 09 54.4	+0.8
	comp=Z,19nm,1.1s,baz=226,slow=6.5,SNR=4.4								
ILAR				PKKPbc		PKKPdf		08 23 31.6	+0.4
	comp=Z,1.3nm,0.4s,baz=320,slow=2.1,SNR=19								
ILAR				PKPPKP		P'P'df		08 31 44.9	+4.5
	comp=Z,0.8nm,1.0s,baz=2.4,slow=2.5,SNR=4.3								
127A	**Arkansas Junct**	91.02	55	⇑P		P		08 06 11.8	+0.8
	baz=91,SNR=46								
O20A	**White River Ci**	91.05	46	⇓P		P		08 06 11.3	+0.2
	baz=91,SNR=27								
T23A	**Casias Ranch,**	91.07	50	⇓P		P		08 06 12.2	+0.8
	baz=91,SNR=26								
BSMT	**Bassoo Peak**	91.07	37	*e*P		P		08 06 11.0	0.0
	comp=Z,19nm,1.0s								
BSMT				*e*PP		PP		08 09 54.1	-0.6
R22A	**Saguache, Gunn**	91.13	49	⇑P		P		08 06 12.8	+1.1
	baz=91,SNR=35								
429A	**Davenport Ranc**	91.22	57	⇓P		P		08 06 12.8	+0.8
	baz=92,SNR=198								
Y26A	**Elida**	91.23	54	⇑P		P		08 06 12.8	+0.9
	baz=92,SNR=15								
JTMT	**Jette**	91.29	38	*e*P		P		08 06 11.2	-0.7
	comp=Z,14nm,1.2s								
CD2	**Chengdu**	91.30	303	P		P		08 06 13.3	+1.1
CD2				pP		pP		08 07 47.0	-0.2
CD2				sP		sP		08 08 27.5	-2.3
CD2				PP		PP		08 09 59.8	+3.1
CD2				SKS		SKSac		08 16 05.5	+1.1
CD2				S		S		08 16 35.0	0.0
CD2				sS		sS		08 19 20.3	-4.4
CD2				SS		SS		08 22 55.8	+3.5
CD2				AMB		AMB			
	comp=Z,100nm,1.7s								
CD2				AMB		AMB			
	comp=Z,570nm,5.0s								
LRM	**Limekiln Ridge**	91.31	40	*e*P		P		08 06 12.3	+0.1
	comp=Z,273nm,1.2s								
LRM				*e*pP		pP		08 07 47.3	+0.1
U24A	**Moreno Valley**	91.31	51	⇓P		P		08 06 13.8	+1.3
	baz=92,SNR=17								
SWMT	**Swartz Lake**	91.32	38	*e*P		P		08 06 11.4	-0.6
	comp=Z,8.9nm,1.1s								
Q22A	**Crested Butte,**	91.33	48	⇑P		P		08 06 13.5	+0.9
	baz=92,SNR=35								
228A	**UT Block 9, Go**	91.35	56	⇓P		P		08 06 13.0	+0.6
	baz=92,SNR=18								
W25A	**X Bar L Ranch,**	91.35	52	⇑P		P		08 06 13.0	+0.5
	baz=92,SNR=83								
N20A	**Spence Gulch,**	91.38	46	⇑P		P		08 06 13.5	+0.9
	baz=92,SNR=38								
BLMT	**Blacktail Moun**	91.39	37	*e*P		P		08 06 11.4	-1.1
	comp=Z,5.5nm,0.5s								
QLMT	**Earthquake Lak**	91.39	41	*e*P		P		08 06 13.6	+1.1
	comp=Z,18nm,1.2s								
S23A	**Nye Farm, Mont**	91.41	49	⇑P		P		08 06 14.0	+1.2
	baz=92,SNR=16								
Z27A	**Tatum**	91.41	54	⇓P		P		08 06 13.0	+0.3
	baz=92,SNR=42								
CHMT	**Chamberlain Mo**	91.43	39	*e*P		P		08 06 12.6	0.0
	comp=Z,28nm,1.3s								
CHMT				*e*pP		pP		08 07 48.8	+1.1
CHMT				*e*PP		PP		08 09 58.0	+0.5
I17A	**Pilgrim Ck.**	91.45	42	⇑P		P		08 06 14.0	+1.2
	baz=92,SNR=31								
530A	**J-C Ranch, Com**	91.45	58	⇑P		P		08 06 13.8	+0.8
	baz=92,SNR=36								
SLMT	**Seeley Lake**	91.47	38	*e*P		P		08 06 11.7	-1.0
	comp=Z,32nm,1.2s								
SLMT				*e*pP		pP		08 07 49.6	+1.8
SLMT				*e*PP		PP		08 09 55.2	-2.5
BW06	**Boulder Array**	91.50	44	*e*P		P		08 06 12.9	-0.2
	comp=Z,89nm,1.1s								
PDAR	**Pinedale Array**	91.50	44	P		P		08 06 13.2	+0.1
PDAR				pP		pP		08 07 48.0	-0.2
PDAR				PKKPbc		PKKPbc		08 23 32.4	-0.4
PDAR				P'P'				08 31 38.0	
PDAR	**Pinedale Array**	91.50	44	P		P		08 06 13.2	+0.1
	comp=Z,71nm,1.1s,baz=205,slow=3.1,SNR=157								
PDAR				pP		pP		08 07 48.0	-0.2
	comp=Z,4.5nm,1.0s,baz=119,slow=1.9,SNR=1.6								
PDAR				PKKPbc		PKKPbc		08 23 32.4	-0.4
	comp=Z,3.4nm,0.7s,baz=84,slow=4.3,SNR=12								
PDAR				PKPPKP		P'P'df		08 31 38.0	-2.6
	comp=Z,1.2nm,0.8s,baz=102,slow=2.2,SNR=6.1								
V25A	**Rancho No Teng**	91.52	52	⇓P		P		08 06 14.1	+0.8
	baz=92,SNR=52								
X26A	**CR and CF Fran**	91.52	53	⇑P		P		08 06 13.8	+0.5
	baz=92,SNR=13								
329A	**Wagon Wheel Ra**	91.54	56	⇓P		P		08 06 14.2	+0.9
	baz=92,SNR=64								
T24B	**San Luis**	91.54	50	⇑P		P		08 06 14.6	+1.1
	baz=92,SNR=37								
YFT	**Old Faithful**	91.56	42	*e*P		P		08 06 15.2	+1.9
	comp=Z,103nm,1.2s								
YFT				*e*pP		pP		08 07 51.5	+3.1
YFT				*e*PP		PP		08 09 58.8	+0.1
YMR	**Madison River**	91.59	41	*e*P		P		08 06 14.6	+1.1
	comp=Z,149nm,1.4s								
YMR				*e*PP		PP		08 09 56.8	-2.1
128A	**Castleberry Fa**	91.65	55	⇑P		P		08 06 14.5	+0.6
	baz=92,SNR=25								
BOZ	**Bozeman (W)**	91.70	40	*e*P		P		08 06 14.2	+0.3
BOZ				*e**PP		pP		08 07 49.9	+1.0
BOZ				*e*				08 10 00.1	
BOZ				pmax		pmax			
	comp=Z,76nm,1.4s								
BOZ	**Bozeman (W)**	91.70	40	*e*P		P		08 06 14.2	+0.3
	comp=Z,76nm,1.4s								
BOZ				*e*pP		pP		08 07 49.9	+1.0
BOZ				*e*PP		PP		08 10 00.1	+0.4
Y27A	**Causey**	91.70	54	⇑P		P		08 06 14.4	+0.3
	baz=92,SNR=50								
631A	**Perdido Creek**	91.73	59	⇓P		P		08 06 14.8	+0.6
	baz=92,SNR=74								
R23A	**Moffat**	91.76	49	⇓P		P		08 06 15.3	+0.8
	baz=92,SNR=37								
SDCO	**Great Sand Dun**	91.78	50	*e*P		P		08 06 14.8	+0.2
	comp=Z,60nm,1.2s								
YNR	**Norris Junctio**	91.79	42	*e*P		P		08 06 17.0	+2.6
	comp=Z,91nm,1.5s								
YNR				*e*pP		pP		08 07 55.9	+6.4
W26A	**Owens Ranch, T**	91.80	53	⇑P		P		08 06 14.9	+0.3
	baz=92,SNR=18								
430A	**Baggett Ranch,**	91.81	57	⇓P		P		08 06 15.1	+0.5
	baz=92,SNR=27								
LKWY	**Lake**	91.89	42	*e*P		P		08 06 17.1	+2.2
LKWY				*e*				08 07 48.4	
LKWY				pmax		pmax			
	comp=Z,79nm,1.3s								
LKWY	**Lake**	91.89	42	*e*P		P		08 06 17.1	+2.2
	comp=Z,79nm,1.3s								
LKWY				*e*PP		pP		08 07 48.4	-1.5
732A	**Laxson Ranch,**	91.92	60	⇑P		P		08 06 15.7	+0.7
	baz=92,SNR=42								
S24A	**Houchin Ranch,**	91.93	50	⇓P		P		08 06 16.4	+1.1
	baz=92,SNR=41								
U25A	**Circle Dot Ran**	91.93	51	⇑P		P		08 06 15.8	+0.6
	baz=92,SNR=47								
Z28A	**Tucker Farm, M**	92.02	55	⇑P		P		08 06 15.9	+0.3
	baz=92,SNR=32								
MSTX	**Muleshoe**	92.03	54	⇓P		P		08 06 16.2	+0.6
	baz=92,SNR=33								
J19A	**Crowheart**	92.07	43	⇑P		P		08 06 16.1	+0.5
	baz=92,SNR=64								
531A	**Rocksprings**	92.08	58	⇑P		P		08 06 16.6	+0.8
	baz=92,SNR=87								
X27A	**F and S Farms,**	92.09	53	⇑P		P		08 06 16.5	+0.6
	baz=92,SNR=23								
V26A	**Tequesquite Ra**	92.10	52	⇑P		P		08 06 16.4	+0.5
	baz=92,SNR=34								
330A	**Mertzon**	92.12	57	⇓P		P		08 06 16.3	+0.2
	baz=92,SNR=26								
129A	**Stewart Farms,**	92.12	55	⇓P		P		08 06 16.8	+0.8
	baz=92,SNR=19								
HRY	**Holter Researc**	92.14	39	*e*P		P		08 06 16.3	+0.5
	comp=Z,48nm,1.2s								
HRY				*e*pP		pP		08 07 51.1	+0.2
DAWY	**Dawson**	92.17	16	*e*P		P		08 06 15.3	-0.1
DAWY				*e*PP		PP		08 10 01.2	-1.5
O22A	**Kremmling**	92.19	47	⇑P		P		08 06 16.8	+0.3
	baz=92,SNR=27								
WALA	**Waterton Lakes**	92.22	37	*e*P		P		08 06 15.9	-0.2
	comp=Z,1.9nm,1.3s								
WALA				*e*pP		pP		08 07 55.6	+4.3
WALA				*e*PP		PP		08 10 02.6	-1.0
431A	**Sonora**	92.25	58	⇑P		P		08 06 16.8	+0.1
	baz=92,SNR=13								
T25A	**Trinidad**	92.27	50	⇑P		P		08 06 17.3	+0.5
	baz=92,SNR=17								
R24A	**Sars Place,**	92.28	49	⇓P		P		08 06 17.6	+0.8
	baz=93,SNR=27								
W27A	**Bowe Ranch, En**	92.30	53	⇑P		P		08 06 17.1	+0.2
	baz=93,SNR=24								
P23A	**Jefferson**	92.30	48	⇑P		P		08 06 18.2	+1.2
	baz=93,SNR=11								
EGAK	**Eagle**	92.31	15	*e*P		P		08 06 15.7	-0.3
	comp=Z,46nm,0.8s								
EGAK				*e*pP		pP		08 07 52.2	+1.2
230A	**Sterling City**	92.38	56	⇑P		P		08 06 17.6	+0.4
	baz=93,SNR=7.9								
632A	**Uvalde**	92.39	59	⇑P		P		08 06 18.4	+1.1
	baz=93,SNR=84								
H18A	**Shoshone NF, C**	92.39	42	⇓P		P		08 06 17.8	+0.6
	baz=93,SNR=14								
Y28A	**McKinney Farm,**	92.39	54	⇓P		P		08 06 17.3	0.0
	baz=93,SNR=11								
U26A	**Atchley Ranch,**	92.41	51	⇑P		P		08 06 17.5	+0.1
	baz=93,SNR=29								
CLNS	**Chul'man**	92.41	333	*e*P		P		08 06 16.4	-0.3
CLNS				*e*				08 09 58.5	
CLNS				*e*S		S		08 16 42.6	-0.9
CLNS				pmax		pmax			
	comp=Z,67nm,1.2s								
CLNS				pmax		pmax			
	comp=N,38nm,1.4s								
CLNS				pmax		pmax			
	comp=E,17nm,1.0s								
CLNS				pmax		pmax			
	comp=E,10.0nm,1.0s								
CLNS				pmax		pmax			
	comp=Z,8.0nm,1.0s								
CLNS				pmax		pmax			
	comp=N,10.0nm,1.2s								
CLNS				smax		smax			
	comp=N,190nm,13.5s								
CLNS				smax		smax			
	comp=E,253nm,15.2s								
CLNS				MLR		MLR			
	comp=N,81nm,15.0s								
CLNS				MLR		MLR			
	comp=E,140nm,11.0s								
CLNS				MLR		MLR			
	comp=Z,97nm,18.0s								
S25A	**Robets Cordova**	92.49	50	⇑P		P		08 06 18.1	+0.4
	baz=93,SNR=54								
I19A	**Meeteetse**	92.49	43	⇓P		P		08 06 18.2	+0.6
	baz=93,SNR=32								
Z29A	**Hungry Hill Ra**	92.52	55	⇓P		P		08 06 18.0	+0.1
	baz=93,SNR=27								
COLD	**Coldfoot**	92.55	11	*e*P		P		08 06 17.3	+0.3
	comp=Z,60nm,1.1s								
N22A	**Wattenberg Ran**	92.56	46	⇑P		P		08 06 19.0	+0.9
	baz=93,SNR=45								
532A	**Rocksprings**	92.56	58	⇓P		P		08 06 18.8	+0.7
	baz=93,SNR=93								
Q24A	**Divide**	92.59	49	⇓P		P		08 06 19.0	+0.7
	baz=93,SNR=22								
O23A	**Lake Granby, G**	92.64	47	⇑P		P		08 06 19.3	+0.7
	baz=93,SNR=8.7								
331A	**San Angelo**	92.66	57	⇓P		P		08 06 18.7	+0.2
	baz=93,SNR=24								
ISCO	**Idaho Springs**	92.66	48	*e*P		P		08 06 18.7	+0.1
ISCO				pmax		pmax			
	comp=Z,14nm,1.1s								
ISCO	**Idaho Springs**	92.66	48	*e*P		P		08 06 18.7	+0.1
	comp=Z,14nm,1.1s								
ISCO	**Idaho Springs**	92.66	48	⇑P		P		08 06 18.9	+0.3
	baz=93,SNR=16								
X28A	**Dimmitt**	92.70	54	⇑P		P		08 06 18.9	+0.2
	baz=93,SNR=23								
M22A	**Cedar Creek Ra**	92.75	46	⇓P		P		08 06 19.3	+0.4
	baz=93,SNR=48								
V27A	**Dan Oppiter Fa**	92.78	52	⇓P		P		08 06 19.4	+0.4
	baz=93,SNR=15								
JCT	**Junction City**	92.79	58	*e*P		P		08 06 19.2	+0.1
JCT				pmax		pmax			
	comp=Z,39nm,0.8s								
JCT	**Junction City**	92.79	58	*e*P		P		08 06 19.2	+0.1
	comp=Z,39nm,0.8s								
JCT				*e*pP		pP		08 07 58.5	+4.3
JCT	**Junction City**	92.79	58	⇓P		P		08 06 19.4	+0.3
	baz=93,SNR=30								
130A	**Snyder**	92.79	56	⇓P		P		08 06 19.4	+0.3
	baz=93,SNR=12								
Y29A	**Porterfield Fa**	92.81	54	⇓P		P		08 06 19.7	+0.5
	baz=93,SNR=6.4								
H19A	**Powell**	92.81	42	⇓P		P		08 06 19.8	+0.9
	baz=93,SNR=20								
R25A	**Fountain Ranch**	92.81	50	⇑P		P		08 06 19.5	+0.3
	baz=93,SNR=15								
T26A	**Comanche Natio**	92.86	51	⇓P		P		08 06 19.6	+0.1
	baz=93,SNR=16								
K21A	**Alcova**	92.91	45	⇑P		P		08 06 20.1	+0.5
	baz=93,SNR=62								
N23A	**Red Feather La**	92.95	47	⇓P		P		08 06 20.6	+0.8
	baz=93,SNR=19								
432A	**Menard**	92.97	58	⇓P		P		08 06 20.2	+0.3
	baz=93,SNR=99								
Z30A	**Sanderson Ranc**	92.97	55	⇓P		P		08 06 19.8	0.0
	baz=93,SNR=21								
I20A	**Worland**	92.99	43	⇓P		P		08 06 20.3	+0.5
	baz=93,SNR=21								
P24A	**Kohler Place,**	93.01	48	⇓P		P		08 06 20.5	+0.4
	baz=93,SNR=7.8								
231A	**Bronte**	93.01	57	⇑P		P		08 06 20.4	+0.3
	baz=93,SNR=46								
X29A	**Tulia**	93.04	54	⇑P		P		08 06 20.6	+0.3
	baz=93,SNR=6.6								
U27A	**Thompson Grove**	93.08	52	⇑P		P		08 06 20.5	+0.1
	baz=93,SNR=17								
J21A	**Lysite**	93.13	44	⇓P		P		08 06 21.3	+0.7
	baz=93,SNR=54								
S26A	**Kim**	93.15	50	⇑P		P		08 06 20.8	+0.1
	baz=93,SNR=53								
L22A	**Ellis Ranch, M**	93.16	45	⇓P		P		08 06 21.8	+1.1
	baz=94,SNR=27								
O24A	**Longmont**	93.17	48	⇑P		P		08 06 21.8	+1.0
	baz=94,SNR=18								
Q25A	**Bedland, Calha**	93.19	49	⇓P		P		08 06 21.9	+0.9
	baz=94,SNR=18								
332A	**Millersview**	93.22	57	⇑P		P		08 06 21.5	+0.5
	baz=94,SNR=64								
V28A	**Channing**	93.22	53	⇑P		P		08 06 21.4	+0.4
	baz=94,SNR=8.4								
AMTX	**Amarillo**	93.24	53	⇑P		P		08 06 21.6	+0.4
	baz=94								
131A	**Roby**	93.27	56	⇓P		P		08 06 21.4	+0.2
	baz=94,SNR=14								
H20A	**Greybull**	93.33	43	⇓P		P		08 06 21.5	+0.1
	baz=94,SNR=11								
M23A	**Laramie**	93.36	46	⇓P		P		08 06 22.4	+0.7
	baz=94								
W29A	**Amarillo**	93.37	53	⇓P		P		08 06 22.1	+0.4
	baz=94,SNR=21								
K22A	**Casper**	93.39	45	⇑P		P		08 06 22.1	+0.3
	baz=94,SNR=17								
Y30A	**Stafford Cattl**	93.39	55	⇑P		P		08 06 22.1	+0.3
	baz=94,SNR=5.5								
F19A	**Roth Farm, Mol**	93.42	41	⇑P		P		08 06 22.3	+0.5
	baz=94,SNR=12								
T27A	**Campo**	93.44	51	⇑P		P		08 06 22.3	+0.2
	baz=94,SNR=19								
I21A	**Big Trails, Te**	93.45	44	⇑P		P		08 06 22.1	+0.2
	baz=94,SNR=37								
R26A	**Arlington**	93.47	50	⇑P		P		08 06 22.5	+0.3
	baz=94,SNR=60								
U28A	**Mallet**	93.50	52	⇑P		P		08 06 22.5	+0.2
	baz=94,SNR=15								
LZH	**Lanzhou**	93.50	308	⇑P		P		08 06 24.0	+1.6
LZH				S		S		08 16 54.3	0.0
LZH				SS		SS		08 23 27.0	+3.4
LZH				AMB		AMB			
	comp=Z,100nm,1.2s								
LZH				AMB		AMB			
	comp=Z,290nm,4.6s								
232A	**Coleman**	93.50	57	⇓P		P		08 06 22.9	+0.6
	baz=94,SNR=18								
P25A	**Willow Gulch B**	93.52	48	⇑P		P		08 06 23.0	+0.6
	baz=94,SNR=18								
G20A	**Bridger**	93.56	42	⇑P		P		08 06 22.6	+0.2
	baz=94								
N24A	**Carr**	93.63	47	⇓P		P		08 06 23.9	+1.0
	baz=94,SNR=7.1								
X30A	**Coker Ranch, T**	93.65	54	⇑P		P		08 06 23.1	+0.1
	baz=94								
L23A	**Garrett**	93.68	46	⇓P		P		08 06 23.4	+0.3
	baz=94,SNR=49								
Q26A	**Hugo**	93.70	49	⇓P		P		08 06 23.7	+0.5
	baz=94,SNR=29								
Z31A	**Sharp Cattle R**	93.72	55	⇑P		P		08 06 23.7	+0.3
	baz=94,SNR=23								
J22A	**Midwest**	93.78	44	⇓P		P		08 06 23.8	+0.3
	baz=94								
ABTX	**Abilene, Hawle**	93.81	56	⇑P		P		08 06 24.4	+0.6
	baz=94,SNR=21								
O25A	**Wiggins**	93.82	48	⇑P		P		08 06 24.2	+0.5
	baz=94,SNR=5.4								
E19A	**Rath Farm, Rou**	93.82	41	⇑P		P		08 06 24.3	+0.8
	baz=94,SNR=18								
F20A	**Billings**	93.88	42	⇓P		P		08 06 24.5	+0.7
	baz=94,SNR=5.7								
T28A	**Walsh**	93.90	51	⇑P		P		08 06 24.4	+0.2
	baz=94,SNR=25								
Y31A	**Rekieta Farm,**	93.91	55	⇑P		P		08 06 24.6	+0.4
	baz=94,SNR=11								
R27A	**Eads**	93.92	50	⇑P		P		08 06 24.3	+0.1
	baz=94,SNR=26								
M24A	**Cheyenne**	93.96	46	⇓P		P		08 06 25.1	+0.7
	baz=94,SNR=9.6								
H21A	**Big Horn, Sher**	94.00	43	⇓P		P		08 06 25.0	+0.5
	baz=94								
I22A	**9 Mile Ranch,**	94.00	44	⇑P		P		08 06 24.9	+0.5
	baz=94,SNR=12								
K23A	**Bowen Ranch, D**	94.03	45	⇓P		P		08 06 25.0	+0.4
	baz=94								
EGMT	**Eagleton**	94.03	39	*e*P		P		08 06 24.2	-0.2
	comp=Z,34nm,1.3s								
EGMT				*e*PP		PP		08 10 18.2	+0.6
EGMT	**Eagleton**	94.03	39	⇓P		P		08 06 24.7	+0.3
	baz=94,SNR=9.3								
YAK	**Yakutsk**	94.08	338	*e*P		P		08 06 21.9	-2.2
YAK				*e*				08 10 14.2	
YAK				*e*S		SKSac		08 16 15.8	-2.2
YAK				*e*				08 16 50.5	
YAK				*e**SS		pS		08 19 07.0	+6.9
YAK				pmax		pmax			
	comp=Z,188nm,1.5s								
YAK				pmax		pmax			
	comp=E,48nm,1.5s								
YAK				pmax		pmax			
	comp=N,42nm,1.5s								
YAK				pmax		pmax			
	comp=Z,213nm,3.5s								
YAK				pmax		pmax			
	comp=N,164nm,4.1s								
YAK				pmax		pmax			
	comp=E,76nm,3.4s								
YAK				smax		smax			
	comp=N,59nm,2.3s								
YAK				smax		smax			
	comp=E,80nm,2.1s								
P26A	**Davis Ranch, A**	94.10	49	⇑P		P		08 06 25.6	+0.5
	baz=94,SNR=18								
D19A	**Cripps Ranch,**	94.11	40	⇑P		P		08 06 25.6	+0.8
	baz=94,SNR=33								
L24A	**Wheatland**	94.15	46	⇓P		P		08 06 26.3	+1.1
	baz=94,SNR=16								
G21A	**Lodge Grass**	94.18	42	⇓P		P		08 06 25.8	+0.6
	baz=94								
U29A	**Oasis Ranch, S**	94.22	52	⇓P		P		08 06 26.0	+0.5
	baz=94								
Z32A	**Haskell**	94.23	56	⇑P		P		08 06 26.3	+0.7
	baz=94,SNR=33								
E20A	**Meyer Farm, Mu**	94.24	41	⇓P		P		08 06 26.2	+0.9
	baz=94,SNR=9.6								
S28A	**Manter**	94.26

A19A Klindworth Far 95.06 39 ⇓P P 08 06 29.5 +0.4
baz=95,SNR=9.8
M26A McRoberts Ranc 95.09 47 ⇓P P 08 06 29.9 +0.5
baz=95
K25A Mack Ranch, Ha 95.11 46 ⇑P P 08 06 30.7 +1.1
baz=95
R29A Marienthal 95.16 50 ⇓P P 08 06 30.6 +0.8
baz=95,SNR=18
D21A La Casta Ranch 95.19 41 ⇑P P 08 06 30.8 +1.1
baz=96,SNR=10
N27A Anderson Farm, 95.21 48 ⇓P P 08 06 30.5 +0.5
baz=96,SNR=8.5
P28A Saint Francis 95.22 49 ⇑P P 08 06 30.9 +0.8
baz=96,SNR=38
U31A Nine Bar Ranch 95.22 53 ⇓P P 08 06 31.3 +1.2
baz=96
WHTX Lake Whitney 95.24 58 ⇓P P 08 06 31.2 +1.0
baz=96
G23A Biddle 95.31 43 ⇓P P 08 06 30.8 +0.5
baz=96,SNR=12
S30A Montezuma 95.31 51 ⇑P P 08 06 31.4 +0.9
baz=96
L26A Underwood Farm 95.38 47 ⇑P P 08 06 31.7 +1.0
baz=96
O28A Krutsinger Ran 95.44 49 ⇑P P 08 06 31.6 +0.6
baz=96,SNR=25
Q29A Oakley 95.47 50 ⇑P P 08 06 32.1 +1.0
baz=96,SNR=20
X33A Lawton 95.47 55 ⇓P P 08 06 31.3 +0.1
baz=96
LAO LASA Array 95.48 41 *e*P P 08 06 31.3 +0.3
comp=E,63nm,1.2s
C21A Desert Coulee 95.49 40 ⇑P P 08 06 31.7 +0.7
baz=96
J25A Sunshine Ranch 95.50 45 ⇓P P 08 06 31.5 +0.2
baz=96
A20A Cobblestone Ra 95.51 39 ⇑P P 08 06 31.7 +0.6
baz=96,SNR=22
E22A Miles City 95.53 42 ⇑P P 08 06 32.4 +1.2
baz=96,SNR=6.9
F23A Volborg 95.54 42 ⇑P P 08 06 32.5 +1.2
baz=96,SNR=23
K26A Motz Farm, Whi 95.61 46 ⇓P P 08 06 32.6 +0.8
baz=96,SNR=10
OGNE Ogallala 95.61 48 ⇑P P 08 06 31.8 0.0
baz=96
M27A Reverse DX Ran 95.62 47 ⇓P P 08 06 32.2 +0.4
baz=96
H24A Dirks Ranch, A 95.63 44 ⇓P P 08 06 32.4 +0.6
baz=96,SNR=17
T31A Randall Ranch, 95.65 52 ⇑P P 08 06 32.5 +0.5
baz=96
RSSD Black Hills 95.68 44 *e*P P 08 06 32.2 0.0
RSSD pmax pmax
comp=Z,118nm,1.3s
RSSD Black Hills 95.68 44 *e*P P 08 06 32.2 0.0
comp=Z,118nm,1.3s
R30A Dighton 95.71 51 ⇑P P 08 06 33.0 +0.8
baz=96,SNR=16
B21A Ellsworth Farm 95.82 40 ⇑P P 08 06 34.0 +1.5
baz=96,SNR=8.3
I25A Rochford 95.83 45 ⇑P P 08 06 33.0 +0.2
baz=96,SNR=14
N28A Pribbeno Ranch 95.84 48 ⇑P P 08 06 33.5 +0.7
baz=96,SNR=13
U32A Winter Ranch, 95.85 53 ⇑P P 08 06 33.5 +0.6
baz=96
J26A Sides Ranch, S 95.94 45 ⇑P P 08 06 33.7 +0.5
baz=96
E23A Ismay 95.95 42 ⇓P P 08 06 34.1 +0.9
baz=96,SNR=10
G24A Alzada 95.98 43 ⇑P P 08 06 33.7 +0.4
baz=96
S31A Mullinville 96.01 52 ⇓P P 08 06 34.7 +1.1
baz=96
Q30A Quinter 96.04 50 ⇑P P 08 06 34.7 +0.9
baz=96,SNR=44
O29A 4D Ranch, Culb 96.12 49 ⇑P P 08 06 35.1 +1.1
baz=96,SNR=5.4
H25A Fruitdale 96.18 44 ⇑P P 08 06 34.9 +0.7
baz=96,SNR=6.8
F24A Ekalaka 96.19 43 ⇑P P 08 06 34.8 +0.5
baz=96,SNR=14
T32A Huddler Ranch, 96.23 52 ⇓P P 08 06 35.6 +1.0
baz=96
K27A Flueckinger Fa 96.23 46 ⇓P P 08 06 35.5 +0.9
baz=96,SNR=7.6
R31A Burdett 96.25 51 ⇑P P 08 06 36.0 +1.3
baz=96,SNR=7.1
M28A Bar X Bar Ranc 96.26 48 ⇑P P 08 06 36.1 +1.4
baz=96
P30A Selden 96.26 50 ⇓P P 08 06 35.9 +1.2
baz=96,SNR=25
D23A Lindsay 96.32 41 ⇓P P 08 06 35.8 +1.0
baz=97
B22A Reddig Ranch S 96.37 40 ⇓P P 08 06 35.8 +0.8
baz=97,SNR=15
I26A New Underwood 96.40 45 ⇑P P 08 06 36.6 +1.3
baz=97
S32A Newby Ranch, P 96.44 52 ⇓P P 08 06 35.9 +0.4
baz=97
N29A Votaw Ranch, W 96.53 48 ⇓P P 08 06 37.3 +1.4
baz=97
G25A Newell 96.55 44 ⇑P P 08 06 36.6 +0.7
baz=97,SNR=7.2
E24A Baker 96.60 42 ⇓P P 08 06 37.6 +1.5
baz=97
ULN Ulaanbaatar 96.61 319 P P 08 06 36.5 +0.3
SNR=10
ULN Ulaanbaatar 96.61 319 *e*P P 08 06 35.9 -0.3
comp=Z,19nm,1.0s
C23A Lambert 96.62 41 ⇑P P 08 06 37.1 +1.0
baz=97,SNR=16
J27A Elkhorn Farm, 96.62 46 ⇑P P 08 06 37.3 +1.0
baz=97,SNR=18
Q31A Ellis 96.64 51 ⇑P P 08 06 37.2 +0.8
baz=97
O30A MW Ranch, Wils 96.66 49 ⇓P P 08 06 37.4 +0.9
baz=97,SNR=7.9
H26A Fairpoint 96.71 44 ⇓P P 08 06 37.1 +0.5
baz=97,SNR=5.5
A22A Carney Farms, 96.73 39 ⇓P P 08 06 37.2 +0.6
baz=97,SNR=9.7
M29A Burnside Ranch 96.74 48 ⇓P P 08 06 38.5 +1.6
baz=97,SNR=5.6
K28A Ten Mile Ranch 96.82 46 ⇓P P 08 06 39.1 +1.9
baz=97
D24A Glendive 96.83 42 P P 08 06 38.1 +1.0
baz=97,SNR=12
F25A Bowman 96.84 43 ⇓P P 08 06 38.7 +1.5
baz=97,SNR=6.7
P31A Stockton 96.86 50 ⇓P P 08 06 38.9 +1.5
baz=97,SNR=6.3
N30A Hueftle Ranch, 96.88 49 ⇑P P 08 06 39.0 +1.5
baz=97,SNR=7.5
I27A Quinn 96.94 45 ⇓P P 08 06 38.3 +0.6
baz=97
U34A Anderson Ranch 96.96 53 ⇓P P 08 06 38.2 +0.3
baz=97
C24A Savage 96.96 41 ⇑P P 08 06 38.7 +1.1
baz=97,SNR=11
INK Inuvik 96.98 16 *e*P P 08 06 36.4 -0.7
INK PP PP 08 10 40.0 +0.4
INK Inuvik 96.98 16 P P 08 06 36.2 -0.9
comp=Z,18nm,0.9s,baz=233,slow=5.4,SNR=24
INK PP PP 08 10 40.0 +0.4
comp=Z,32nm,1.0s,baz=194,slow=6.5,SNR=7.3
SONM Songino Array 96.99 319 P P 08 06 37.6 -0.3
SONM PP PP 08 10 37.3 -3.0
SONM PKKPbc PKKPbc 08 23 17.3 -1.1
SONM Songino Array 96.99 319 P P 08 06 37.6 -0.3
comp=Z,11nm,1.2s,baz=121,slow=2.5,SNR=31
SONM PP PP 08 10 37.3 -3.0
comp=Z,13nm,1.3s,baz=124,slow=5.7,SNR=7.8
SONM PKKPbc PKKPbc 08 23 17.3 -1.1
comp=Z,2.7nm,0.9s,baz=259,slow=2.3,SNR=8.7
B23A Brockton 97.04 40 ⇓P Pdif 08 06 39.1 +1.1
baz=97,SNR=8.5
G26A Maurine 97.11 44 ⇑P Pdif 08 06 38.7 +0.3
baz=97,SNR=8.8
E25A Miller Ranch, 97.13 42 ⇓P Pdif 08 06 40.0 +1.5
baz=97,SNR=7.3
O31A Woolen Ranch, 97.16 49 ⇓P Pdif 08 06 39.9 +1.2
baz=97,SNR=9.8
H27A Howes 97.17 45 ⇓P Pdif 08 06 38.7 +0.1
baz=98
J28A Allard Ranch, 97.20 46 ⇓P Pdif 08 06 40.1 +1.2
baz=98,SNR=6.9

Q32A Meitler Ranch, 97.23 51 ⇑P Pdif 08 06 40.4 +1.3
baz=98
F26A Lodgepole 97.31 43 ⇓P Pdif 08 06 40.5 +1.2
baz=98,SNR=6.8
A23A Redstone 97.33 40 ⇑P Pdif 08 06 40.5 +1.2
baz=98
M30A Dale-Ortello V 97.34 48 ⇓P Pdif 08 06 40.4 +0.8
baz=98
D25A Fairfield 97.47 42 ⇓P Pdif 08 06 41.2 +1.2
baz=98,SNR=7.9
I28A Midland 97.49 45 ⇑P Pdif 08 06 41.2 +1.1
baz=98,SNR=6.5
DGMT Dagmar 97.51 40 *e*P Pdif 08 06 40.4 +0.3
comp=Z,70nm,1.2s
DGMT Dagmar 97.51 40 ⇓P Pdif 08 06 40.9 +0.8
baz=98,SNR=15
K29A Lazy Trails An 97.54 47 ⇑P Pdif 08 06 41.1 +0.6
baz=98
G27A Dupree 97.58 44 ⇓P Pdif 08 06 40.6 +0.1
baz=98,SNR=17
E26A Carlson Angus 97.70 43 ⇑P Pdif 08 06 41.6 +0.6
baz=98,SNR=11
F27A Lemmon 97.73 43 ⇓P Pdif 08 06 42.2 +1.1
baz=98,SNR=9.3
C25A Freed Ranch, W 97.75 41 ⇑P Pdif 08 06 42.7 +1.5
baz=98,SNR=7.0
GTA Gaotai 97.78 309 ⇓P Pdif 08 06 42.5 +0.8
GTA pP pP 08 08 20.3 +3.2
GTA sP sP 08 09 01.5 +2.0
GTA PP PP **08 10 50.3 +3.8**
GTA SKS SKSac **08 16 39.0 +0.3**
GTA S S **08 17 28.8 -2.0**
GTA sS sS 08 20 19.5 -2.8
GTA SS SS **08 24 26.0 +2.4**
GTA AMB AMB
comp=Z,22nm,1.5s
GTA AMB AMB
comp=Z,200nm,6.2s
M31A Lambtecht Ranc 97.88 48 ⇑P Pdif 08 06 43.3 +1.4
baz=98,SNR=14
O32A Brockman Farm, 97.94 50 ⇑P Pdif 08 06 43.5 +1.3
baz=98,SNR=7.4
D26A Manning 97.96 42 ⇑P Pdif 08 06 42.7 +0.6
baz=98
K30A Basset 97.98 47 ⇑P Pdif 08 06 43.0 +0.7
baz=98
B25A Knox Farm, Ray 98.05 41 ⇓P Pdif 08 06 43.7 +1.2
baz=98
I29A Vivian Onida 98.07 46 ⇑P Pdif 08 06 43.7 +1.1
baz=98,SNR=6.2
G28A Parade 98.10 44 ⇓P Pdif 08 06 42.8 0.0
baz=98
E27A Carson 98.25 43 ⇓P P 08 06 44.9 +1.5
baz=98,SNR=10
L31A Butterfield Fa 98.31 48 ⇑P P 08 06 45.3 +1.5
baz=99,SNR=5.0
J30A Dallas 98.32 47 ⇑P P 08 06 44.1 +0.2
baz=99,SNR=6.1
H29A Onida 98.37 45 ⇑P P 08 06 44.9 +0.9
baz=99,SNR=6.8
BGNE Belgrade 98.47 49 ⇓P P 08 06 44.8 +0.3
baz=99,SNR=6.6
F28A McLaughlin 98.49 44 ⇓P P 08 06 45.5 +0.9
baz=99,SNR=5.7
C26A Wahner Farm, P 98.50 42 ⇓P P 08 06 45.2 +0.6
baz=99
D27A Center 98.56 42 ⇑P P 08 06 46.4 +1.6
baz=99
G29A Hoven 98.79 45 ⇓P P 08 06 45.9 +0.1
baz=99
C27A Sayler Ranch, 98.82 42 ⇑P P 08 06 46.6 +0.7
baz=99
E28A Huff 98.86 43 ⇓P P 08 06 46.4 +0.2
baz=99
A26A Wade Farm, Ken 98.99 41 ⇓P P 08 06 47.2 +0.6
baz=99
F29A Eureka 99.11 44 ⇓P Pdif 08 06 48.1 +0.9
baz=99
BRSD Miller 99.12 46 ⇑P Pdif 08 06 47.3 0.0
baz=99
D28A Regan 99.19 43 ⇑P Pdif 08 06 47.7 +0.1
baz=100
YKA Yellowknife Ar 99.23 25 P Pdif 08 06 47.5 +0.2
YKA PP PP 08 10 55.1 -1.6
YKA PKKPbc PKKPbc 08 23 05.2 -7.3
YKA Yellowknife Ar 99.23 25 P Pdif 08 06 47.5 +0.2
comp=Z,5.8nm,0.8s,baz=241,slow=4.2,SNR=14
YKA PP PP 08 10 55.1 -1.6
comp=Z,17nm,1.0s,baz=240,slow=7.7,SNR=9.0
YKA PKKPbc PKKPbc 08 23 05.2 -7.3
comp=Z,1.1nm,0.7s,baz=44,slow=3.8,SNR=4.3
B27A Peters Farms, 99.25 41 ⇑P Pdif 08 06 48.9 +1.1
baz=100
G30A Faulkton 99.27 45 ⇓P Pdif 08 06 48.4 +0.4
baz=100
A27A Ledoux Ranch, 99.49 41 ⇓P Pdif 08 06 50.0 +1.1
baz=100
E29A Napoleon 99.52 43 ⇑P Pdif 08 06 48.8 -0.2
baz=100
D29A Pettibone, Tap 99.74 43 ⇑P Pdif 08 06 50.0 -0.1
baz=100
ZAK Zakamensk 99.93 321 *e*P Pdif 08 06 49.9 -1.0
ZAK pmax pmax
comp=Z,9.0nm,1.4s
E30A Jud 99.96 44 ⇑P Pdif 08 06 51.1 +0.1
baz=100
MDND Maddock 100.05 42 ⇑P Pdif 08 06 52.3 +0.9
baz=100,SNR=5.7
A28A Rude Farm, Bot 100.06 41 ⇑P Pdif 08 06 52.8 +1.4
baz=100
TLY Talaya 100.25 322 *e*P Pdif 08 07 00.0 +7.8
TLY *e* 08 17 44.7
D30A Buchanan 100.29 43 ⇑P Pdif 08 06 53.0 +0.5
baz=101
ECSD EROS Data Cent 100.41 47 *e*Pdif Pdif 08 06 52.6 -0.5
comp=Z,19nm,1.1s
C30A Mose, Pekin 100.69 43 ⇓P Pdif 08 06 54.7 +0.4
baz=101
A29A Manning Farm, 100.69 41 ⇑P Pdif 08 06 55.0 +0.8
baz=101
TIXI Tiksi 100.92 345 ⇓*e*P Pdif 08 06 53.7 -0.9
TIXI pmax pmax
comp=Z,21nm,1.5s
A30A Hoffart Farm, 101.27 42 ⇓P Pdif 08 06 56.8 +0.1
baz=102
LPAZ La Paz 102.02 114 P Pdif 08 07 03.5 +1.8
LPAZ PKKPbc PKKPbc 08 23 02.8 -0.8
LPAZ La Paz 102.02 114 P Pdif 08 07 03.5 +1.8
comp=Z,0.9nm,0.7s,baz=15,slow=1.8,SNR=3.8
LPAZ PKKPbc PKKPbc 08 23 02.8 -0.8
comp=Z,4.2nm,0.9s,baz=50,slow=4.4,SNR=12
PALK Pallekele 102.16 273 *e*Pdif Pdif 08 07 00.8 -0.8
comp=Z,8.3nm,0.9s
TAPN Taplejung 102.91 294 *e*P PKiKP 08 11 23.0 +0.1
comp=Z,18nm,0.7s
ODAN Odare 103.02 294 *e*P Pdif 08 07 05.2 -0.1
comp=Z,23nm,0.9s
ODAN Odare 103.02 294 *e*P PKiKP 08 11 22.7 -0.3
comp=Z,33nm,0.7s
ULM Lac du Bonnet 103.21 41 PP PP 08 11 23.9 -2.8
ULM PKKPbc PKKPbc 08 22 58.4 -2.1
ULM Lac du Bonnet 103.21 41 PP PP 08 11 23.9 -2.8
comp=Z,6.7nm,0.9s,baz=277,slow=7.7,SNR=4.3
ULM PKKPbc PKKPbc 08 22 58.4 -2.1
comp=Z,6.0nm,0.7s,baz=61,slow=3.6,SNR=9.3
RAMN Ramite 103.71 294 *e*P PKiKP 08 11 23.2 -1.1
comp=Z,21nm,0.6s
JIRN Jiri 104.28 294 *e*P Pdif 08 07 11.1 0.0
JIRN Jiri 104.28 294 *e*P PKiKP 08 11 25.1 -0.4
comp=Z,37nm,0.6s
GUN Gumba 104.63 294 *e*P Pdif 08 07 12.2 -0.4
comp=Z,31nm,0.7s
GUN Gumba 104.63 294 *e*P PKiKP 08 11 25.5 -0.6
PKI Pulchoki 104.91 294 *e*P PKiKP 08 11 26.0 -0.6
comp=Z,15nm,0.5s
PKIN Phulchoki 104.93 294 *e*P Pdif 08 07 15.3 +1.4
comp=Z,24nm,0.8s
PKIN Phulchoki 104.93 294 *e*P PKiKP 08 11 25.6 -0.9
comp=Z,12nm,0.6s
KKN Kakani 105.09 294 *e*P Pdif 08 07 15.4 +0.9
comp=Z,30nm,0.8s
DMN Daman 105.18 294 *e*P Pdif 08 07 16.7 +1.7
comp=Z,23nm,0.8s
DMN Daman 105.18 294 *e*P PKiKP 08 11 26.7 -0.3
comp=Z,18nm,0.6s
ROSC El Rosal 105.47 91 PKKPbc PKKPbc 08 22 53.8 +0.8
ROSC PKKPab **PKKPab** **08 23 12.3 +0.1**

ROSC El Rosal 105.47 91 PKKPbc PKKPbc 08 22 53.8 +0.8
comp=Z,4.7nm,0.6s,baz=102,slow=17,SNR=5.0
ROSC PKKPab **PKKPab** **08 23 12.3 +0.1**
comp=Z,5.1nm,0.7s,baz=85,slow=12,SNR=5.0
GKN Gorkha 105.70 294 *e*P Pdif 08 07 17.9 +0.7
comp=Z,27nm,0.8s
HVS Khovu-Aksy 105.89 319 *c i*P Pdif 08 07 18.3 +1.0
KOLN Koldanda 106.50 294 *e*P Pdif 08 07 23.6 +2.8
comp=Z,13nm,0.7s
KOLN Koldanda 106.50 294 *e*P PKiKP 08 11 28.1 -1.2
comp=Z,7.9nm,0.5s
DANN Dangsing 106.54 294 *e*P Pdif 08 07 21.9 +0.8
comp=Z,16nm,0.8s
DANN Dangsing 106.54 294 *e*P PKiKP 08 11 28.5 -1.0
comp=Z,26nm,0.6s
TKL Tuckaleechee C 107.19 58 PKKPbc PKKPbc 08 22 47.7 -0.3
TKL PKKPab **PKKPab** **08 23 04.8 +2.2**
TKL Tuckaleechee C 107.19 58 PKKPbc PKKPbc 08 22 47.7 -0.3
comp=Z,3.1nm,0.8s,baz=127,slow=7.8,SNR=2.9
TKL PKKPab **PKKPab** **08 23 04.8 +2.2**
comp=Z,7.1nm,0.8s,baz=64,slow=1.3,SNR=6.0
WMQ Urumqi 107.80 311 *e*Pdif Pdif 08 07 25.8 -0.2
WMQ PP PP 08 12 02.8 +2.3
WMQ S Sdif 08 18 51.0 -3.1
WMQ SS SS 08 26 40.5 +0.3
SAML Samuel 109.73 109 *e*PKPdf PKiKP 08 11 34.6 -0.9
SAML *e*PP PP 08 12 14.1 -0.4
ZAA0 Zalesovo Array 111.81 321 *e*PKPdf PKiKP 08 11 37.5 -0.8
ZALV Zalesovo Beam 111.81 321 PKiKP PKiKP 08 11 36.8 -1.4
ZALV 08 22 32.8
ZALV Zalesovo Beam 111.81 321 PKiKP PKiKP 08 11 36.8 -1.4
ZALV SKP 08 14 34.3
ZALV PKKPbc **PKKPbc** **08 22 32.8 -1.1**
comp=Z,0.8nm,0.6s,baz=286,slow=5.4,SNR=2.9
MK31 Makanchi Array 112.17 313 *e*PKiKP PKiKP 08 11 38.2 -1.0
MK31 Makanchi Array 112.17 313 *e*PKPdf PKiKP 08 11 38.2 -1.0
MK31 *e*SKPdf SKiKP 08 14 35.2 +0.4
MKAR Makanchi Array 112.17 313 *i* PKiKP PKiKP 08 11 38.8 -0.5
MKAR pmax pmax
comp=Z,9.0nm,0.7s
MKAR pmax pmax
comp=N,5.0nm,0.8s
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 112.17 313 Pdif Pdif 08 07 47.9 +2.6
MKAR PKiKP PKiKP 08 11 38.8 -0.5
MKAR SKP 08 14 35.9
MKAR PKKPbc **PKKPbc** **08 22 32.0 -0.4**
MKAR Makanchi Array 112.17 313 Pdiff Pdif 08 07 47.9 +2.6
comp=Z,1.3nm,0.6s,baz=94,slow=5.4,SNR=8.9
MKAR PKiKP PKiKP 08 11 38.8 -0.5
comp=Z,9.4nm,0.7s,baz=193,slow=0.6,SNR=55
MKAR SKP 08 14 35.9
comp=Z,5.0nm,0.8s,baz=64,slow=1.9,SNR=5.0
MKAR PKKPbc **PKKPbc** **08 22 32.0 -0.4**
comp=Z,1.8nm,0.7s,baz=267,slow=2.8,SNR=8.2
POO Poona 112.28 281 *e*P PKiKP 08 11 38.0 -2.3
NVS Novosibirsk 112.86 322 *e*PKiKP PKiKP 08 11 37.0 -3.2
NVS *e*S SKSac 08 17 43.5 -1.3
NVS pmax pmax
comp=N,5.0nm,1.0s
NVS pmax pmax
comp=E,11nm,1.0s
NVS pmax pmax
comp=Z,15nm,1.0s
NVS smax smax
comp=N,10.0nm,1.1s
NVS smax smax
comp=E,29nm,1.9s
KSH Kashi 115.47 304 PKP PKPdf 08 11 47.0 +1.1
KSH PP PP 08 12 58.3 +3.2
KSH sPKP 08 14 06.0
KSH PKS PKSdf 08 15 24.5 +1.8
KSH SKS SKSdf 08 18 19.8 +1.6
KSH SKKS SKKSac 08 19 09.5 -3.0
KSH SS SS 08 28 28.0 +6.2
KSH PPMZ
comp=E,180nm,7.3s
ULHL Ulahol 115.70 307 P PKPdf 08 11 45.8 -0.6
SNR=14
TKM2 Tokmak 2 116.27 308 *e*PKiKP PKPdf 08 11 46.3 -1.2
TKM2 Tokmak 2 116.27 308 P PKPdf 08 11 46.5 -0.9
SNR=20
TKM2 Tokmak 2 116.27 308 *e*PKPdf PKPdf 08 11 46.2 -1.2
KBK Karagaybulak 116.71 307 P PKPdf 08 11 47.3 -0.9
SNR=7.3
CHMS Chumysh 116.89 308 P PKPdf 08 11 47.7 -0.7
SNR=11
FRU Bishkek 116.97 308 *e*PKiKP PKPdf 08 11 50.0 +1.4
AAK Ala-Archa 117.04 307 *e*PKiKP PKPdf 08 11 47.9 -1.0
AAK Ala-Archa 117.04 307 P PKPdf 08 11 48.7 -0.2
SNR=6.0
AAK Ala-Archa 117.04 307 P PKPdf 08 11 48.4 -0.5
SNR=10.0
AAK Ala-Archa 117.04 307 *e*PKPdf PKPdf 08 11 47.9 -1.0
AAK PKKPbc **PKKPbc** **08 22 15.6 -0.4**
AAK Ala-Archa 117.04 307 PKKPbc PKKPbc 08 22 15.6 -0.4
comp=E,5.7nm,0.7s,baz=203,slow=3.9,SNR=11
USP Ospenovka 117.11 308 P PKPdf 08 11 48.1 -0.7
SNR=16
AML Almayashu 117.56 307 P PKPdf 08 11 50.0 -0.2
SNR=28
EKS2 Erkin-Say 117.56 307 *e*PKiKP PKPdf 08 11 49.2 -0.6
EKS2 Erkin-Say 117.56 307 P PKPdf 08 11 49.5 -0.3
SNR=13
EKS2 Erkin-Say 117.56 307 *e*PKPdf PKPdf 08 11 49.2 -0.6
EKS2 *e*SKPdf SKiKP 08 14 46.1 +0.5
ABPO Ambohimpanom 118.41 231 *e*PKiKP PKPdf 08 11 52.1 -0.2
ABPO Ambohimpanom 118.41 231 *e*PKPdf PKPdf 08 11 52.1 -0.2
OPO Ambohidratompo 118.73 231 PKP PKPdf 08 11 53.5 +0.6
OPO SKP 08 14 52.1
OPO Ambohidratompo 118.73 231 PKP PKPdf 08 11 53.5 +0.6
comp=E,39nm,0.8s,baz=158,slow=1.8,SNR=32
OPO SKP 08 14 52.1
comp=E,4.5nm,0.7s,baz=108,slow=3.9,SNR=3.4
PKME Peaks-Kenny Pk 119.73 50 *e*PKPdf PKPdf 08 11 52.7 -1.0
VOSK Vostochnaya 119.98 319 PKiKP PKPdf 08 11 52.3 -1.7
VOSK pmax pmax
comp=Z,47nm,1.1s
KK31 Karatay Array 120.00 308 *i* PKiKP PKPdf 08 11 52.7 -1.7
KK31 pmax pmax
comp=Z,16nm,0.7s
KKAR Karatay Array 120.00 308 *e*PKiKP PKPdf 08 11 53.6 -0.7
KKAR Karatay Array 120.00 308 *e*PKPdf PKPdf 08 11 53.6 -0.7
KKAR *e*SKPdf SKiKP 08 14 51.2 +1.0
KBL Kabul 120.18 298 *e*PKiKP PKPdf 08 11 55.2 0.0
KBL Kabul 120.18 298 *e*PKPdf PKPdf 08 11 55.2 0.0
BVA0 Borovoye Array 120.33 319 *i* PKiKP PKPdf 08 11 52.8 -1.9
BVA0 pmax pmax
comp=Z,74nm,1.3s
BRVK Borovoye 120.40 319 *e*PKiKP PKPdf 08 11 53.8 -0.9
BRVK Borovoye 120.40 319 P PKPdf 08 11 54.4 -0.4
SNR=16
BRVK Borovoye 120.40 319 *e*PKPdf PKPdf 08 11 53.8 -0.9
BRVK *e*SKPdf SKiKP 08 14 50.9 +0.2
SCHQ Schefferville 121.29 39 PKP PKPdf 08 11 55.7 -0.7
SCHQ PKKPbc **PKKPab** **08 21 58.7 -1.1**
SCHQ Schefferville 121.29 39 PKP PKPdf 08 11 55.7 -0.7
comp=Z,14nm,0.8s,baz=54,slow=4.5,SNR=7.8
SCHQ PKKPbc **PKKPab** **08 21 58.7 -1.1**
comp=Z,7.5nm,0.8s,baz=88,slow=4.9,SNR=7.5
SUR Sutherland 121.70 200 *e*PKPdf PKPdf 08 11 58.2 -0.1
BOSA Boshof 123.54 206 *e*PKPdf PKPdf 08 12 01.6 -0.3
BOSA PKKPbc **PKKPbc** **08 21 52.0 -0.4**
BOSA Boshof 123.54 206 PKP PKPdf 08 12 01.6 -0.3
comp=Z,22nm,0.7s,baz=139,slow=1.9,SNR=27
BOSA PKKPbc **PKKPbc** **08 21 52.0 -0.4**
comp=Z,15nm,1.1s,baz=303,slow=5.0,SNR=8.3
KBS Kingsbay 123.82 357 *e*P PKPdf 08 12 01.5 +0.8
SPITS Spitsbergen Ar 124.32 356 PKP PKPdf 08 12 01.2 -0.5
SPITS PP PP 08 13 56.2 +2.6
SPITS Spitsbergen Ar 124.32 356 PKP PKPdf 08 12 01.2 -0.5
comp=Z,40nm,0.6s,baz=76,slow=5.2,SNR=33
SPITS PP PP 08 13 56.2 +2.6
comp=Z,44nm,1.0s,baz=119,slow=6.8,SNR=4.8
ILULI Ilulissat 124.46 20 *i* PKiKP PKPdf 08 12 00.9 -1.2
ILULI pmax pmax
comp=Z,41nm,1.0s
SVE Sverdlovsk 125.47 324 *e*PKiKP PKPdf 08 12 04.0 -0.4

SVE pmax pmax
comp=Z,83nm,1.4s
SFJD Kangerlussuaq 125.67 22 *i* P **PKPdf 08 12 03.7 -0.7**
comp=Z,14nm,1.3s
SFJD Kangerlussuaq 125.67 22 PKP **PKPdf 08 12 04.6 +0.2**
SFJD PKKPbc **PKKPab 08 21 42.1 +1.6**
SFJD Kangerlussuaq 125.67 22 PKP **PKPdf 08 12 04.6 +0.2**
comp=Z,9.4nm,0.6s,baz=264,slow=3.7,SNR=5.9
SFJD PKKPbc **PKKPab 08 21 42.1 +1.6**
comp=Z,8.8nm,0.7s,baz=64,slow=2.3,SNR=4.1
SUMG Summit 125.85 14 *i* PKIKP **PKPdf 08 12 04.5 -0.7**
SUMG pmax pmax
comp=Z,30nm,1.0s
SUMG Summit 125.85 14 *i* P **PKPdf 08 12 04.5 -0.7**
comp=Z,30nm,1.0s
SUMG Summit 125.85 14 *e*PKPdf **PKPdf 08 12 04.1 -1.1**
LBTB Lobatse 126.56 208 *e*PKPdf **PKPdf 08 12 07.3 -0.4**
LBTB PKP **PKPdf 08 12 08.3 +0.6**
LBTB Lobatse 126.56 208 PKP **PKPdf 08 12 08.3 +0.6**
comp=Z,19nm,0.5s,baz=183,slow=3.8
ARU Arti 126.67 324 *i* PKIKP **PKPdf 08 12 06.3 -0.4**
ARU 08 14 08.8
ARU 08 18 30.5
WBK Wadi Bani Khal 126.79 282 P **PKPdf 08 12 08.7 +0.7**
SNR=7.7
AB31 Akbulak array 127.19 315 *i* PKIKP **PKPdf 08 12 04.7 -3.2**
AB31 pmax pmax
comp=Z,44nm,1.1s
ABKAR Akbulak array 127.19 315 *e*PKPdf **PKPdf 08 12 07.2 -0.7**
JMDO Jabal Madar 127.52 281 P **PKPdf 08 12 08.5 -0.9**
SNR=20
SMDO Samad 127.72 282 P **PKPdf 08 12 10.4 +0.5**
SNR=22
AKTO Aktyubinsk 128.24 317 PKIKP **PKPdf 08 12 07.0 -2.9**
AKTO pmax pmax
comp=Z,62nm,1.3s
BSY Bisya 128.42 281 P **PKPdf 08 12 11.2 +0.1**
SNR=19
HOQ Hoqain 128.49 282 P **PKPdf 08 12 11.3 +0.1**
SNR=11
ARQ Araqi 129.15 282 P **PKPdf 08 12 12.6 +0.2**
SNR=12
BANOM Banah 129.81 285 P SKPab 08 14 58.7 +1.9
SNR=12
ASHO Ashiyiah 129.82 284 P **PKPdf 08 12 13.4 -0.3**
SNR=13
ASHO Ashiyiah 129.82 284 P SKPab 08 14 58.6 +1.7
SNR=6.6
RBK Rabkut 129.91 274 P **PKPdf 08 12 14.9 +0.8**
SNR=18
RBK Rabkut 129.91 274 P SKPab 08 15 00.5 +3.1
SNR=17
NRS Narsarsuaq 130.45 27 *i* PKIKP **PKPdf 08 12 12.7 -1.0**
NRS pmax pmax
comp=Z,49nm,0.9s
LVZ Lovozero 130.54 344 *i* PKIKP **PKPdf 08 12 15.4 +1.6**
SCO Scoresbysund 130.67 10 *i* PKIKP **PKPdf 08 12 13.4 -0.5**
SCO pmax pmax
comp=Z,10.0nm,0.8s
SCO Scoresbysund 130.67 10 *i* P **PKPdf 08 12 13.4 -0.5**
comp=Z,10nm,0.8s
ABTO Aybut 130.71 274 P **PKPdf 08 12 15.6 0.0**
SNR=17
ABTO Aybut 130.71 274 P **SKPab 08 15 01.9 +1.1**
SNR=22
KEV Kevo 130.74 348 *e*PKIKP **PKPdf 08 12 13.7 -0.4**
KEV Kevo 130.74 348 *ep* PKPdf 08 12 06.7 -7.3
comp=Z,3.2nm,0.3s
KEV Kevo 130.74 348 *e*PKPdf **PKPdf 08 12 13.7 -0.4**
APA Apatity 131.10 344 ⇓*i*PKIKP **PKPdf 08 12 13.6 -1.2**
APA *i* *PP pPKPdf 08 13 48.0 -7.3
APA *i* 08 18 38.0
APA *i* SS SS 08 31 36.0 +0.7
ARCES ARCESS Array B 131.21 349 PKP **PKPdf 08 12 14.1 -0.9**
ARCES SKPbc **SKPab 08 15 01.9 +0.6**
ARCES PKKP **PKKPdf 08 22 13.9 -1.2**
ARCES ARCESS Array B 131.21 349 PKP **PKPdf 08 12 14.1 -0.9**
comp=Z,43nm,0.7s,baz=43,slow=1.1,SNR=49
ARCES SKPbc **SKPab 08 15 01.9 +0.6**
comp=Z,34nm,1.0s,baz=25,slow=3.2,SNR=7.8
ARCES PKKP **PKKPdf 08 22 13.9 -1.2**
comp=Z,2.8nm,0.8s,baz=259,slow=1.2,SNR=5.7
ARE0 ARCESS Array S 131.21 349 *e*PKPdf **PKPdf 08 12 14.1 -0.9**
TRO Tromso 132.15 352 *eP* **PKPdf 08 12 15.4 -1.3**
TMCR Tamitsa 132.19 339 *e*PKIKP **PKPdf 08 12 17.4 +0.5**
TMCR *e* 08 14 40.7
TMCR pmax pmax
comp=Z,64nm,1.3s
LSZ Lusaka 133.49 218 PKPpre PKPpre 08 12 08.4
LSZ PKPdf **PKPdf 08 12 17.5 -3.5**
LSZ PKP **PKiKP 08 12 22.8 +0.4**
LSZ SKPbc **SKPab 08 15 11.7 -1.2**
LSZ Lusaka 133.49 218 PKhKP PKPpre 08 12 08.4
comp=Z,1.8nm,0.5s,baz=66,slow=3.8,SNR=5.0
LSZ PKP **PKiKP 08 12 22.8 +0.4**
comp=Z,40nm,0.7s,baz=73,slow=1.6,SNR=28
LSZ SKPbc **SKPab 08 15 11.7 -1.2**
comp=Z,10nm,0.6s,baz=142,slow=2.2,SNR=7.0
KLMR Klimovskoe 133.76 335 *e*PKHKP PKPpre 08 12 11.8
KLMR pmax pmax
comp=Z,57nm,1.3s
STEI Steigen 134.23 352 *eP* PKPpre 08 12 13.9
TSUM Tsumeb 134.97 203 *e*PKPdf **PKPdf 08 12 20.3 -3.5**
JOF Joensuu 135.20 341 *e*PKIKP PKPdf 08 12 16.8 -5.8
JOF pmax pmax
comp=Z,6.0nm,0.4s
JOF Joensuu 135.20 341 *ep* PKPdf 08 12 16.8 -5.8
comp=Z,5.6nm,0.4s
MAK Makhachkala 136.78 309 *e*PKIKP **PKPdf 08 12 23.9 -2.3**
MAK *e* 08 15 12.1
MAK *e*PPP PPP 08 18 14.5
MAK *e* 08 18 55.6
MAK *e*SP SP 08 25 02.1 +3.6
MAK *e* 08 25 41.2
MAK *e*SSS SSS 08 37 54.0
MAK pmax pmax
comp=Z,108nm,1.0s
KMBO Kilima Mbogo 137.24 241 P PKPdf 08 12 18.8 -9.5
SNR=22
KMBO Kilima Mbogo 137.24 241 P **SKPdf 08 15 24.5 +1.1**
SNR=16
KMBO Kilima Mbogo 137.24 241 PKPpre PKPpre 08 12 18.5
KMBO PKP **PKiKP 08 12 29.5 -0.7**
KMBO *e*PKPdf **PKPdf 08 12 29.9 +1.7**
KMBO SKPbc **SKPbc 08 15 23.6 +1.6**
KMBO Kilima Mbogo 137.24 241 PKhKP PKPpre 08 12 18.5
comp=Z,7.7nm,0.8s,baz=89,slow=2.3,SNR=26
KMBO PKP **PKiKP 08 12 29.5 -0.7**
comp=Z,36nm,0.8s,baz=52,slow=3.8,SNR=29
KMBO SKPbc **SKPbc 08 15 23.6 +1.6**
comp=Z,85nm,1.0s,baz=52,slow=2.4,SNR=27
KAF Kangasniemi 137.28 343 *e*PKHKP PKPpre 08 12 14.4
KAF pmax pmax
comp=Z,5.0nm,0.4s
KAF Kangasniemi 137.28 343 *ep* PKPpre 08 12 14.4
comp=Z,5.2nm,0.4s
MOS Moscow 137.60 330 *e*PKIKP **PKPdf 08 12 25.1 -2.2**
MOS *e* 08 15 22.9
MOS pmax pmax
comp=Z,94nm,1.4s
RDF Al-Radifah 137.86 288 *eP* PKPpre 08 12 20.4
RDF AMb AMB 08 12 30.7
comp=Z,138nm,1.2s
NSS Namsos 137.88 353 *eP* PKPpre 08 12 18.1
FIA1 FINESS Array S 137.88 342 *e*PKPdf **PKPdf 08 12 27.5 -0.1**
FINES FINESS Array B 137.88 342 PKPpre PKPpre 08 12 17.6
FINES PKP **PKiKP 08 12 29.4 -0.3**
FINES SKPbc **SKPbc 08 15 22.9 +0.9**
FINES FINESS Array B 137.88 342 PKhKP PKPpre 08 12 17.6
comp=Z,7.9nm,0.6s,baz=64,slow=2.6,SNR=28
FINES PKP **PKiKP 08 12 29.4 -0.3**
comp=Z,9.7nm,0.4s,baz=68,slow=1.7,SNR=13
FINES SKPbc **SKPbc 08 15 22.9 +0.9**
comp=Z,33nm,0.8s,baz=52,slow=3.4,SNR=8.8
VRHR Novokhopersk 137.92 322 *e*PKHKP PKPpre 08 12 18.5
VRHR *e* 08 15 22.4
VRHR pmax pmax
comp=Z,60nm,1.0s
VRHR pmax pmax
comp=N,8.0nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,0.5s
VRHR pmax pmax
comp=N,10.0nm,1.1s
VRHR pmax pmax
comp=E,30nm,1.1s
VRHR pmax pmax
comp=Z,30nm,1.1s
NAY Al-Naaiem 138.15 289 *eP* PKPpre 08 12 20.4
NAY AMb AMB 08 12 33.5
comp=Z,73nm,1.4s
RST Umm Al-Ruwaisa 138.37 289 *eP* PKPpre 08 12 20.5
OBN Obninsk 138.45 330 *ce*PKHKP PKPpre 08 12 19.5
OBN *i* 08 12 28.1
OBN *e* 08 15 25.2
OBN *e* 08 18 53.9
OBN *e*SS SS 08 33 04.1 +0.8
OBN pmax pmax
comp=Z,26nm,0.8s
OBN pmax pmax
comp=Z,71nm,1.3s
OBN MLR MLR
comp=Z,200nm,22.0s
DGRG David-gareji 138.65 307 P **PKPdf 08 12 30.8 +1.1**
TBLG Delisi 139.06 308 P **PKPdf 08 12 30.9 +0.5**
VSR Storozhevoye 139.23 323 *e*PKHKP PKPpre 08 12 22.9
VSR *e* 08 15 27.9
VSR pmax pmax
comp=Z,60nm,1.6s
VSR pmax pmax
comp=N,6.0nm,0.4s
VSR pmax pmax
comp=E,20nm,1.6s
VSR pmax pmax
comp=Z,30nm,1.1s
VSR pmax pmax
comp=N,10.0nm,0.6s
VSR pmax pmax
comp=E,30nm,1.1s
VORD Divnogorie 139.28 323 *e*PKHKP PKPpre 08 12 22.8
VORD pmax pmax
comp=Z,50nm,0.9s
VORD pmax pmax
comp=E,40nm,0.5s
GOF Gofitskoye 139.34 313 *e*PKHKP PKPpre 08 12 22.6
GOF pmax pmax
comp=Z,40nm,1.2s
GNI Garni 139.39 305 *eP* **PKPdf 08 12 31.4 +0.1**
GNI Garni 139.39 305 P **PKPdf 08 12 32.2 +0.9**
SNR=16
GNI Garni 139.39 305 *e*PKPdf **PKPdf 08 12 31.7 +0.4**
GNI *e* 08 15 28.6
ZEI Tsey 139.40 310 *i* PKHKP PKPpre 08 12 21.4
ZEI pmax pmax
comp=Z,34nm,1.3s
ONI Oni 139.77 309 P **PKPdf 08 12 33.0 +1.3**
KBZ Khabaz 139.84 311 PKHKP PKPpre 08 12 23.0
KBZ 08 12 32.9
KBZ Khabaz 139.84 311 PKPpre PKPpre 08 12 23.0
KBZ PKP **PKPdf 08 12 32.9 +1.1**
KBZ Khabaz 139.84 311 PKhKP PKPpre 08 12 23.0
comp=Z,4.4nm,0.7s,baz=156,slow=5.8,SNR=6.1
KBZ PKP **PKPdf 08 12 32.9 +1.1**
comp=Z,7.0nm,0.8s,baz=91,slow=7.3,SNR=8.1
KIV Kislovodsk 139.92 312 *i* PKIKP **PKPdf 08 12 31.0 -1.0**
KIV *e* 08 15 29.9
KIV *e*SS SS 08 33 17.6 -4.2
KIV pmax pmax
comp=Z,38nm,1.1s
AKH Akhalkalaki 140.04 308 P PKPdf 08 12 27.1 -5.3
VSU Vasula 140.07 339 *i* PKIKP **PKPdf 08 12 30.7 -1.0**
CLDR Caldiran 140.21 304 *eP* PKPdf 08 12 26.6 -6.3
HAKT HAKKARI 140.65 302 *i* P PKPdf 08 12 28.2 -5.6
AGRB Hanur-Agry 140.82 305 *eP* **PKPdf 08 12 29.1 -4.8**
FURI Furi 141.19 255 *eP* PKPdf 08 12 30.2 -5.2
ARTV Artvin 141.24 308 *i* P **PKPdf 08 12 29.6 -5.1**
DAGI Agillar 141.28 308 *i* P **PKPdf 08 12 29.7 -4.9**
NB2 NORSAR Subarra 141.35 352 PKP PKPpre 08 12 28.5
comp=Z,19nm,0.7s,baz=10,slow=3.2
NB2 NORSAR Subarra 141.35 352 PKP PKPpre 08 12 28.5
baz=10,slow=3.2
NOA NORSAR Array B 141.35 352 PKPpre PKPpre 08 12 27.8
NOA PKP **PKPdf 08 12 32.0 -2.0**
NOA NORSAR Array B 141.35 352 PKhKP PKPpre 08 12 27.8
comp=Z,9.9nm,0.5s,baz=14,slow=4.8,SNR=82
NOA PKP **PKPdf 08 12 32.0 -2.0**
comp=Z,4.7nm,0.6s,baz=11,slow=2.7,SNR=38
DDEM Demirkent 141.44 307 *i* P **PKPdf 08 12 30.3 -4.6**
HOMI Horasan 141.54 306 *i* P **PKPdf 08 12 31.5 -3.7**
NAO01 NORSAR Array S 141.58 352 *e*PKPpre PKPpre 08 12 26.8
SIRT Sirnak 141.65 302 *eP* **PKPdf 08 12 31.2 -4.2**
SUE Sulen 141.91 357 *eP* **PKPdf 08 12 30.9 -4.0**
ERZM Erzurum 141.97 306 *i* P **PKPdf 08 12 33.7 -2.4**
EZM Erzurum 141.97 306 *eP* **PKPdf 08 12 33.2 -2.8**
VRTB Varto-Mus 142.08 305 *eP* **PKPdf 08 12 33.4 -2.8**
SOC Sochi 142.08 312 *e*PKIKP **PKPdf 08 12 32.9 -2.9**
SOC *e* 08 15 40.4
SOC *e* 08 19 04.2
SOC *e*SSS SSS 08 39 08.9
SOC pmax pmax
comp=Z,37nm,1.0s
SOC pmax pmax
comp=Z,84nm,1.4s
BNGL BINGOL 142.36 304 *i* P **PKPdf 08 12 34.1 -2.6**
RUND Rundenannen 142.52 356 *eP* **PKPdf 08 12 32.2 -3.9**
BER Bergen 142.55 356 *eP* **PKPdf 08 12 33.5 -2.5**
KOPT Kop Dagi 142.59 306 *i* P **PKPdf 08 12 35.2 -2.0**
MICGM Minsk 142.64 334 ⇓*i*P **PKPdf 08 12 32.0 -4.4**
MBAR Mbarara 142.65 235 PKPpre PKPpre 08 12 35.3
MBAR SKPbc **SKiKP 08 15 37.4 -0.1**
MBAR Mbarara 142.65 235 PKhKP PKPpre 08 12 35.3
comp=Z,29nm,0.5s,baz=128,slow=3.3,SNR=42
MBAR SKPbc **SKiKP 08 15 37.4 -0.1**
comp=Z,24nm,0.9s,baz=103,slow=5.4,SNR=4.6
MNK Minsk 142.66 334 ⇓*i*PKHKP PKPpre 08 12 32.0
MNK pmax pmax
comp=Z,430nm,1.1s
BNGB Bing¶ll 142.71 305 *eP* **PKPdf 08 12 34.2 -3.0**
NACGM Naroch 142.78 335 *e* PKPdf 08 12 31.0 -5.6
KTUT Trabzon 142.86 308 *eP* **PKPdf 08 12 34.7 -2.5**
KONO Kongsberg 142.90 353 *eP* PKPpre 08 12 33.7
KONO AMB AMB 08 12 36.0
comp=Z,245nm,2.4s
KONO Kongsberg 142.90 353 *e*PKHKP PKPpre 08 12 33.2
KONO Kongsberg 142.90 353 *e*PKPdf PKPpre 08 12 33.1
ODD1 Odda 142.93 355 *eP* PKPpre 08 12 33.8
ODD1 AMB AMB 08 12 37.9
comp=Z,142nm,1.7s
MARD Mardin 142.98 302 *i* P **PKPdf 08 12 34.9 -2.8**
ANN Anapa 143.15 315 *c i*PKHKP PKPpre 08 12 34.2
ANN *i* 08 12 38.5
ANN *e* 08 19 10.8
ANN pmax pmax
comp=Z,677nm,1.2s
MAZI Mazidag 143.22 302 *eP* PKPab 08 12 35.4 -0.1
GUMT Gumushane 143.22 307 *eP* PKPbc 08 12 36.6 +0.7
KBSD Kabsdagh 143.23 301 *eP* PKPbc 08 12 36.0 +0.2
KBSD Kabsdagh 143.23 301 *eP* **PKPdf 08 12 37.2 -0.9**
DIY Diyarbakir 143.29 303 *eP* PKPbc 08 12 36.2 +0.1
MZRK Al-Mazaregh 143.35 299 *eP* PKPbc 08 12 36.9 +0.7
MZRK Al-Mazaregh 143.35 299 *eP* PKPbc 08 12 37.1 +0.9
EZC Erzincan 143.51 306 *eP* **PKPdf 08 12 37.8 -0.8**
ESPY Espiye-Giresun 143.64 308 *eP* PKPab 08 12 36.1 -0.8
SFNV Sufian 143.68 301 *eP* PKPbc 08 12 37.5 +0.1
SFNV Sufian 143.68 301 *eP* PKPbc 08 12 37.3 0.0
PTK Pertek 143.70 305 *eP* PKPbc 08 12 38.2 +0.7
KMY Karmoy 143.72 356 *eP* PKPab 08 12 36.5 0.0
KMY AMB AMB 08 12 39.5
comp=Z,440nm,1.4s
GRSN GIRESUNGRSN 143.97 309 *i* P PKPbc 08 12 37.5 -0.6
ILIC ilic-Erzincan 144.18 306 *eP* **PKPab 08 12 39.0 0.0**
SUSE Susehri 144.23 307 *i* P PKPbc 08 12 38.9 -0.2
KEMA Kemaliye 144.28 306 *i* P **PKPdf 08 12 39.9 0.0**
HOMB Homborsund 144.38 353 *eP* PKPbc 08 12 38.3 -0.4
URFA Urfa 144.48 303 *eP* **PKPdf 08 12 40.6 +0.3**
MALT Malatya 144.58 304 *eP* **PKPdf 08 12 40.5 0.0**
MALT Malatya 144.58 304 ⇑PKIKP **PKPab 08 12 40.9 +0.3**
MALT Malatya 144.58 304 ⇑*i*P **PKPab 08 12 40.9 +0.3**
AKASG Malin Array Be 144.68 329 PKIKP PKPbc 08 12 38.8 -1.2
AKASG 08 14 19.1
AKASG Malin Array Be 144.68 329 PKP PKPbc 08 12 38.8 -1.2
AKASG *e*PKP pPKPdf 08 14 19.1 -1.7
AKASG SKPbc **SKiKP 08 15 40.4 +0.2**
AKASG Malin Array Be 144.68 329 PKP PKPbc 08 12 38.8 -1.2
comp=Z,91nm,0.7s,baz=43,slow=3.1,SNR=410
AKASG *e*PKP pPKPdf 08 14 19.1 -1.7
comp=Z,18nm,0.7s,baz=42,slow=4.6,SNR=3.0
AKASG SKPbc **SKiKP 08 15 40.4 +0.2**
comp=Z,24nm,0.7s,baz=42,slow=3.3,SNR=4.7
AKBB Malin Array Si 144.68 329 *e*PKIKP PKPbc 08 12 38.7 -1.3
AKBB Malin Array Si 144.68 329 *e*PKPdf PKPbc 08 12 38.7 -1.3
AK01 Malin Array Si 144.69 329 *e*PKPdf PKPbc 08 12 39.0 -1.0
KIEV Kiev 144.69 329 *e*PKIKP PKPbc 08 12 38.9 -1.1
KIEV Kiev 144.69 329 *e*PKPdf PKPbc 08 12 38.9 -1.2
KIEV *e*PKPbc **PKPdf 08 12 39.3 -0.8**
AK02 Malin Array Si 144.72 328 *e*PKPdf PKPbc 08 12 39.2 -0.9
SUW Suwalki 144.80 337 *e*PKIKP **PKPdf 08 12 39.9 -0.3**
SUW Suwalki 144.80 337 *e*PKPdf **PKPdf 08 12 39.9 -0.3**
SUW Suwalki 144.80 337 *e*PKP **PKPdf 08 12 39.8 -0.4**
RSDY Resadiye-TOKAT 144.81 308 *eP* **PKPdf 08 12 41.7 +0.5**
ATAB Bozova 144.88 303 *i* P PKPbc 08 12 41.3 +0.2
MVH1 Achvaich 144.95 5 *eP* **PKPdf 08 12 39.8 -0.5**
AKCD Akcadag 144.97 304 *i* P **PKPab 08 12 42.0 -0.1**
SCER sogukcermik 145.12 307 *i* P **PKPab 08 12 42.6 -0.1**
SVSK Karacayir 145.20 307 *eP* **PKPab 08 12 43.0 +0.3**
SIM Simferopol' 145.21 317 *c i*PKP2 **PKPbc 08 12 41.9 +0.1**
SIM pmax pmax
comp=Z,480nm,0.8s
DARE Darende-Malaty 145.23 305 *eP* **PKPab 08 12 42.8 -0.2**
KAC Achnashellach 145.28 6 *eP* **PKPdf 08 12 40.8 -0.1**
MCD Coleburn Disti 145.36 4 *eP* **PKPdf 08 12 39.5 -1.6**
TOKT Tokat 145.40 308 *eP* **PKPbc 08 12 42.8 +0.1**
KPL Plockton 145.40 6 *eP* **PKPbc 08 12 41.9 -0.1**
MDO Dochfour 145.42 5 *eP* **PKPdf 08 12 40.2 -1.0**
SLMH Al Salmeh 145.45 301 *eP* **PKPab 08 12 46.0 +2.2**
SLMH Al Salmeh 145.45 301 *eP* **PKPab 08 12 46.6 +2.7**
GZT Gaziantep 145.48 303 *i* P **PKPbc 08 12 43.3 +0.2**
KVT Kavak 145.50 310 *eP* **PKPab 08 12 43.6 -0.3**
ASCN Ascension 145.79 152 *e*PKPbc **PKPbc 08 12 44.8 +0.4**
DIKM Dikmen 145.84 311 *eP* **PKPbc 08 12 44.1 +0.3**
PINB Pinarbasi 146.01 306 *i* P **PKPbc 08 12 45.1 +0.3**
AYKD Aykdinkavak 146.05 303 *i* P **PKPbc 08 12 44.8 +0.2**
MUD Monsted U'grnd 146.07 352 *i* PKP2 **PKPbc 08 12 44.2 +0.3**
MUD pmax pmax
comp=Z,160nm,1.1s
MUD Monsted U'grnd 146.07 352 *i* P **PKPbc 08 12 44.2 +0.3**
comp=Z,165nm,1.0s
DRUM Mains of Drumt 146.07 3 *eP* **PKPdf 08 12 42.4 +0.1**
BOYT Boyabat 146.18 311 *i* P **PKPab 08 12 46.3 -0.3**
BYBT Boyabat 146.25 311 *eP* **PKPab 08 12 46.0 -0.7**
COP Copenhagen 146.29 348 *i* PKP2 **PKPbc 08 12 44.7 +0.1**
COP pmax pmax
comp=Z,100nm,1.1s
COP Copenhagen 146.29 348 *i* P **PKPbc 08 12 44.7 +0.1**
comp=Z,104nm,1.0s
BSD Bornholm Skovb 146.30 345 ⇑*i*PKIKP **PKPbc 08 12 43.9 -0.7**
BSD pmax pmax
comp=Z,200nm,0.9s
BSD Bornholm Skovb 146.30 345 ⇑*i*P **PKPbc 08 12 43.9 -0.7**
comp=Z,205nm,0.9s
DRWC Darcuich 146.35 302 *eP* PKPab 08 12 52.8 +5.3
ANDN Andirin 146.36 304 *i* P **PKPbc 08 12 45.9 +0.3**
BNN Bunyan 146.37 306 *eP* **PKPbc 08 12 45.7 +0.1**
ZALF Zalf 146.49 295 *eP* **PKPab 08 12 47.3 -0.7**
ZALF Zalf 146.49 295 *eP* **PKPab 08 12 47.8 -0.3**
KFRA Kufra 146.55 299 *eP* **PKPbc 08 12 46.4 +0.3**
KFRA Kufra 146.55 299 *eP* **PKPbc 08 12 46.6 +0.5**
CTKT Corum 146.55 310 *i* P **PKPbc 08 12 46.9 +0.8**
BZK Bozkurt 146.59 312 *eP* **PKPbc 08 12 45.7 -0.2**
BTCH Batrach 146.65 301 *eP* **PKPbc 08 12 46.6 +0.2**
BTCH Batrach 146.65 301 *eP* **PKPbc 08 12 46.6 +0.2**
EAB Aberfoyle 146.66 5 *eP* **PKPbc 08 12 44.7 -0.9**
LLD Lille Linde 146.66 348 *i* PKIKP **PKPdf 08 12 44.0 +0.7**
LLD pmax pmax
comp=Z,220nm,1.1s
LLD Lille Linde 146.66 348 *i* P **PKPdf 08 12 44.0 +0.7**
comp=Z,220nm,1.1s
COBT Iskenderun 146.69 302 *i* P **PKPbc 08 12 47.5 +0.9**
KOZT Kozan 146.78 304 *eP* **PKPbc 08 12 45.4 -1.2**
TAHT Tahtakopru-Hat 146.78 302 *eP* **PKPbc 08 12 46.0 -0.7**
CORM Corum 146.83 309 *eP* **PKPbc 08 12 46.8 0.0**
HTY Hatay 146.88 301 *eP* **PKPbc 08 12 46.8 -0.1**
YAYL Yayladag 146.93 301 *i* P **PKPbc 08 12 47.4 +0.2**
TOS Tosya 146.94 311 *eP* **PKPbc 08 12 47.9 +0.9**
CEYT Ceyhan 146.97 303 *eP* **PKPbc 08 12 47.3 +0.2**
HAWK Haweek 147.00 298 *eP* **PKPbc 08 12 47.1 -0.3**
HAWK Haweek 147.00 298 *eP* **PKPbc 08 12 47.9 +0.5**
SALA Sala 147.02 295 *eP* **PKPbc 08 12 47.7 0.0**
SALA Sala 147.02 295 *eP* **PKPbc 08 12 47.5 -0.2**
PGBU Glenifferbraes 147.02 6 *eP* **PKPdf 08 12 45.2 +1.3**
FKH Fakeheh 147.05 298 *eP* **PKPbc 08 12 47.6 +0.1**
ARNB Al Arnab 147.07 301 *eP* **PKPbc 08 12 47.6 0.0**
ARNB Al Arnab 147.07 301 *eP* **PKPbc 08 12 47.6 0.0**
YURE YUREGIR 147.10 303 *i* P x 08 12 06.6
ILGA Ilgaz 147.15 311 *i* P **PKPbc 08 12 46.9 -0.8**
EBL Broad Law 147.17 4 *eP* **PKPbc 08 12 46.5 -0.5**
TOTH TOTAH 147.18 296 *eP* **PKPbc 08 12 49.1 +1.2**
TOTH TOTAH 147.18 296 *eP* **PKPbc 08 12 48.8 +0.9**
KIS Kishinev 147.22 324 ⇑*i*PKP **PKPbc 08 12 46.0 -1.5**
KIS M 08 12 47.0
comp=Z,500nm,1.8s
KIS Kishinev 147.22 324 α *i*PKIKP **PKPbc 08 12 46.0 -1.5**
KIS *e* 08 19 40.0
KIS pmax pmax
comp=Z,700nm,1.5s
KIS pmax pmax
comp=Z,500nm,1.8s
GKP Gorka Klasztor 147.36 342 *e*PKIKP **PKPdf 08 12 45.6 +1.1**
GKP Gorka Klasztor 147.36 342 *e*PKPdf **PKPdf 08 12 45.6 +1.1**
GKP *e*PKPbc **PKPbc 08 12 47.4 -0.2**
KRTS Karatas 147.37 302 *eP* **PKPbc 08 12 48.1 -0.1**
CANT Cankiri 147.39 310 *eP* **PKPbc 08 12 48.4 +0.1**
BEL Belsk 147.41 337 *e*PKIKP **PKPdf 08 12 45.7 +1.0**
BEL Belsk 147.41 337 *e*PKPdf **PKPdf 08 12 45.7 +1.0**
BEL *e*PKPbc **PKPbc 08 12 47.9 +0.1**
BEL *e*PKPab **PKiKP 08 12 49.9 +0.3**
HWQ Hawqa 147.42 298 *eP* **PKPbc 08 12 48.3 -0.3**
KARA Karaisali 147.43 304 *eP* **PKPdf 08 12 45.4 +0.2**
NIG Nigde 147.52 305 *eP* **PKPbc 08 12 49.2 +0.3**
BRBR Barbar 147.57 296 *eP* **PKPbc 08 12 49.8 +0.7**
BRBR Barbar 147.57 296 *eP* **PKPbc 08 12 49.6 +0.5**
ESK Eskdalemuir 147.62 4 *eP* **PKPbc 08 12 47.3 -0.9**
ESK Eskdalemuir 147.62 4 *e*PKIKP **PKPdf 08 12 44.9 0.0**
ESK Eskdalemuir 147.62 4 *e*PKPdf **PKPdf 08 12 44.9 0.0**
ESK *e*PKPbc **PKPbc 08 12 47.7 -0.5**
GULE Gulek 147.64 304 *i* P **PKPdf 08 12 45.4 -0.4**
RCY Rachaya 147.65 297 *eP* **PKPbc 08 12 49.1 -0.1**
TCHB Talchebab 147.67 295 *eP* **PKPbc 08 12 50.5 +1.4**
TCHB Talchebab 147.67 295 *eP* **PKPbc 08 12 50.8 +1.7**
LVV L'vov 147.69 332 ⇓*i*PKP2 **PKPbc 08 12 48.0 -0.6**
BR131 Keskin Array S 147.70 309 *e*PKPdf **PKPdf 08 12 44.2 -1.6**
BR131 *e*PKPbc **PKPbc 08 12 48.7 -0.5**
BRTR Keskin Array B 147.70 309 PKPbc **PKPbc 08 12 48.3 -0.9**
BRTR Keskin Array B 147.70 309 PKPbc **PKPbc 08 12 48.3 -0.9**
comp=Z,46nm,1.0s,baz=110,slow=1.8,SNR=56
BHL Bhannes 147.73 297 *eP* **PKPbc 08 12 49.2 -0.2**
ECK Cauldkaine Hil 147.75 4 *eP* **PKPbc 08 12 48.4 -0.2**
SAFT Safranbolu 147.78 312 *eP* **PKPbc 08 12 48.6 -0.5**
LEOM Leova 147.86 323 ⇑*i*PKP2 **PKPbc 08 12 49.4 +0.3**
LEOM Leova 147.86 323 ⇑*i*P **PKPbc 08 12 49.3 +0.2**
MERS Mersin 147.95 303 *eP* **PKPbc 08 12 49.7 -0.1**
MMAI Mount Meron Ar 148.08 296 PKPbc **PKPbc 08 12 51.0 +0.7**
MMAI Mount Meron Ar 148.08 296 PKPbc **PKPbc 08 12 51.0 +0.7**
comp=Z,185nm,0.7s,baz=67,slow=4.8,SNR=12
XAL Allendale 148.13 3 *eP* **PKPbc 08 12 48.6 -1.0**
BBAL Bala 148.14 309 *i* P **PKPbc 08 12 49.9 -0.4**
AFSR Af'ar-Bala (A 148.21 308 *eP* **PKPbc 08 12 50.5 +0.1**
ANTO Ankara 148.25 309 *eP* **PKPbc 08 12 50.1 -0.3**
ANTO Ankara 148.25 309 *e*PKHKP **PKPdf 08 12 45.5 -1.1**
ANTO Ankara 148.25 309 P **PKPdf 08 12 46.5 0.0**
SNR=93
ANTO Ankara 148.25 309 ⇑*i*P **PKPdf 08 12 45.9 -0.7**
ANTO Ankara 148.25 309 *e*PKPdf **PKPdf 08 12 45.5 -1.1**
ANTO *e*PKPbc **PKPbc 08 12 50.2 -0.3**
LOD Lodumlu 148.26 309 *eP* **PKPbc 08 12 50.0 -0.6**
TLCR 148.29 321 ⇓PKP2 **PKPbc 08 12 51.2 +0.9**
TLCR 148.29 321 ⇓*i*P **PKPbc 08 12 51.2 +0.9**
SULT Sultanhani-AKS 148.31 306 *eP* **PKPdf 08 12 48.1 +1.4**
BSEG Bad Segeberg 148.34 349 *e*PKP2 **PKPab 08 12 54.4 -0.3**
BSEG Bad Segeberg 148.34 349 *e*PKPbc **PKPbc 08 12 49.9 -0.2**
BSEG *e*PKPab **PKPab 08 12 54.4 -0.3**
PRAR RASCA 148.36 326 ⇓*i*P **PKPbc 08 12 49.5 -0.9**
KWP Kalwaria Pacla 148.40 333 *e*PKHKP **PKPdf 08 12 46.0 -0.4**
KWP Kalwaria Pacla 148.40 333 ⇑*i*P **PKPbc 08 12 50.4 -0.1**
KWP Kalwaria Pacla 148.40 333 *e*PKPdf **PKPdf 08 12 46.0 -0.4**
KWP *e*PKPbc **PKPbc 08 12 50.7 +0.2**
KWP Kalwaria Pacla 148.40 333 *e*PKPdf **PKPdf 08 12 47.1 +0.7**
KWP *e*PKPbc **PKPbc 08 12 50.2 -0.2**
KWP *e*PKPab **PKPab 08 12 53.9 -1.3**

HLG	**Helgoland**	**148.45 352**	*e*PKPbc	**PKPbc**	**08 12 50.4**	**0.0**		
HLG			*e*PKPab	**PKPab**	**08 12 55.2**	**+0.1**		
GHRR		**148.57 323**	⇓*i*P	**PKPbc**	**08 12 51.9**	**+0.9**		
EREN	**Erenkoy**	**148.57 301**	*e*P	**PKPbc**	**08 12 51.5**	**+0.2**		
CFR	**Carcaliu**	**148.69 321**	⇑PKHKP	**PKPdf**	**08 12 47.4**	**+0.5**		
CFR	**Carcaliu**	**148.69 321**	⇑*i*P	**PKPdf**	**08 12 47.4**	**+0.5**		
TESR	**Tescani**	**148.70 325**	⇑*i*P	**PKPbc**	**08 12 51.5**	**+0.2**		
BURAR	**Bucovina Array**	**148.70 328**	⇓PKHKP	**PKPdf**	**08 12 49.8**	**+2.7**		
BURAR	**Bucovina Array**	**148.70 328**	⇓*i*P	**PKPdf**	**08 12 49.8**	**+2.7**		
IKL	**Isikli**	**148.77 302**	*e*P	**PKPbc**	**08 12 51.6**	**-0.2**		
EIL	**Elat**	**148.86 290**	PKPbc	**PKPbc**	**08 12 52.4**	**+0.2**		
EIL	**Elat**	**148.86 290**	PKPbc	**PKPbc**	**08 12 52.4**	**+0.2**		
	comp=Z,354nm,1.1s,baz=49,slow=0.9,SNR=16							
PETR	**Petresti**	**148.87 323**	⇓*i*P	**PKPbc**	**08 12 52.8**	**+1.1**		
TIRR	**Tirgusor**	**148.94 320**	*e*PKHKP	**PKPbc**	**08 12 51.1**	**-0.8**		
TIRR			*e*		08 12 58.2			
TIRR	**Tirgusor**	**148.94 320**	⇑*i*P	**PKPbc**	**08 12 52.2**	**+0.3**		
TIRR	**Tirgusor**	**148.94 320**	*e*PKPbc	**PKPbc**	**08 12 51.1**	**-0.8**		
TIRR			*e*PKPab	**PKPab**	**08 12 58.1**	**+0.6**		
RUE	**Ruedersdorf**	**148.99 345**	*e*PKPdf	**PKPdf**	**08 12 47.1**	**-0.1**		
RUE			*e*PKPbc	**PKPbc**	**08 12 51.9**	**+0.2**		
RUE			*e*PKPab	**PKPab**	**08 12 57.4**	**0.0**		
VRI	**Vrincioaia**	**149.06 324**	⇑PKHKP	**PKPbc**	**08 12 51.6**	**-0.6**		
VRI	**Vrincioaia**	**149.06 324**	⇑*i*P	**PKPbc**	**08 12 51.6**	**-0.6**		
HPK	**Haverah Park**	**149.06 3**	*e*P	**PKPbc**	**08 12 51.2**	**-0.7**		
TLB	**Topalu**	**149.09 321**	⇑PKP2	**PKPbc**	**08 12 53.0**	**+0.7**		
TLB	**Topalu**	**149.09 321**	⇑*i*P	**PKPbc**	**08 12 53.0**	**+0.7**		
OJC	**Ojcow**	**149.10 336**	*e*PKHKP	**PKPbc**	**08 12 51.7**	**-0.4**		
OJC	**Ojcow**	**149.10 336**	*e*PKPbc	**PKPbc**	**08 12 51.7**	**-0.4**		
PLOR	**Plostina**	**149.11 324**	⇑PKP2	**PKPbc**	**08 12 52.4**	**0.0**		
PLOR	**Plostina**	**149.11 324**	⇑*i*P	**PKPbc**	**08 12 52.4**	**0.0**		
KOLS	**Kolonicke sedl**	**149.11 332**	*e*PKHKP	**PKPdf**	**08 12 47.4**	**-0.2**		
KOLS	**Kolonicke sedl**	**149.11 332**	*e*PKP	**PKPdf**	**08 12 47.4**	**-0.2**		
KOLS			*e*		08 12 52.6			
MDUB	**Mudurnu**	**149.13 311**	*e*P	**PKPbc**	**08 12 51.8**	**-0.9**		
LFK	**Lefkose**	**149.14 301**	*e*P	**PKPbc**	**08 12 52.1**	**-0.7**		
LADK	**Ladik-KONYA**	**149.17 307**	*e*P	**PKPbc**	**08 12 52.1**	**-0.8**		
STHS	**Stebnicka Huta**	**149.17 334**	*e*PKIKP	**PKPdf**	**08 12 47.2**	**-0.5**		
STHS	**Stebnicka Huta**	**149.17 334**	*e*PKP	**PKPdf**	**08 12 47.2**	**-0.5**		
STHS			*e*		08 12 53.3			
MANR	**Mangalia**	**149.19 319**	⇓*i*P	**PKPbc**	**08 12 53.7**	**+1.2**		
GRER		**149.23 323**	⇓*i*P	**PKPbc**	**08 12 54.3**	**+1.7**		
KDHN	**Kadinhani**	**149.24 307**	*i* P	**PKPbc**	**08 12 52.2**	**-0.8**		
CVD	**Cernavoda**	**149.25 320**	⇑PKP2	**PKPbc**	**08 12 54.1**	**+1.4**		
CVD	**Cernavoda**	**149.25 320**	⇑*i*P	**PKPbc**	**08 12 54.0**	**+1.4**		
ERMK	**Ermenek**	**149.25 303**	*i* P	**PKPbc**	**08 12 54.3**	**+1.1**		
KONT	**Konya--Tatoy**	**149.26 306**	*e*P	**PKPbc**	**08 12 51.6**	**-1.4**		
KIZT	**Kizilcal**	**149.28 308**	*e*P	**PKPbc**	**08 12 53.3**	**+0.2**		
SVRH	**Sivrihisar-ESK**	**149.32 309**	*e*P	**PKPbc**	**08 12 51.6**	**-1.6**		
DSB	**Dublin**	**149.33 9**	*e*PKPdf	**PKPdf**	**08 12 47.6**	**-0.1**		
DSB			*e*PKPbc	**PKPbc**	**08 12 52.0**	**-0.6**		
DSB			*e*PKPab	**PKPab**	**08 12 59.3**	**+0.5**		
UZH	**Uzhgorod**	**149.33 332**	⇓*i*PKHKP	**PKPbc**	**08 12 52.0**	**-0.7**		
CSS	**Prodhromos**	**149.38 300**	P	**PKPbc**	**08 12 52.7**	**-0.6**		
	comp=Z,5.3nm,1.4s							
CSS	**Prodhromos**	**149.38 300**	P	**PKPbc**	**08 12 53.6**	**+0.3**		
CSS	**Prodhromos**	**149.38 300**	*e*PKPdf	**PKPdf**	**08 12 48.5**	**0.0**		
CSS			*e*PKPbc	**PKPbc**	**08 12 52.8**	**-0.5**		
MAMC	**Mammari**	**149.42 301**	P	**PKPbc**	**08 12 53.1**	**-0.3**		
WME	**Myndd Eilian**	**149.43 6**	*e*P	**PKPbc**	**08 12 51.6**	**-1.2**		
HDMB	**Hadim**	**149.48 304**	*e*P	**PKPbc**	**08 12 53.2**	**-0.6**		
CRVS	**Cervenica-Dubn**	**149.48 333**	*e*PKHKP	**PKPdf**	**08 12 48.3**	**+0.1**		
CRVS	**Cervenica-Dubn**	**149.48 333**	*e*PKP	**PKPdf**	**08 12 48.3**	**+0.1**		
CRVS			*e*		08 12 53.7			
MSAB	**Monastry St. A**	**149.50 320**	⇓*i*P	**PKPbc**	**08 12 53.7**	**+0.4**		
PSN	**Preselentsi**	**149.51 319**	P	**PKPbc**	**08 12 53.6**	**+0.3**		
WLF1	**Llynfaes**	**149.53 6**	*e*P	**PKPbc**	**08 12 51.8**	**-1.2**		
YRC	**Rhoscolyn**	**149.54 6**	*e*P	**PKPbc**	**08 12 51.6**	**-1.4**		
NIE	**Niedzica**	**149.55 335**	*e*PKP2	**PKPbc**	**08 12 53.7**	**+0.4**		
NIE	**Niedzica**	**149.55 335**	*e*PKPbc	**PKPbc**	**08 12 53.7**	**+0.4**		
TRPA	**Tarpa**	**149.60 331**	⇑*i*P	**PKPbc**	**08 12 54.0**	**+0.6**		
TRPA	**Tarpa**	**149.60 331**	⇑*e*	**PKPbc**	**08 12 52.9**	**-0.5**		
WPM1	**Penmaenmawr**	**149.60 6**	*e*P	**PKPbc**	**08 12 51.1**	**-2.1**		
GULT	**Gulveren**	**149.62 312**	*e*P	**PKPbc**	**08 12 52.9**	**-0.9**		
ISR	**Istrita**	**149.63 323**	⇑PKHKP	**PKPbc**	**08 12 53.9**	**+0.2**		
ISR	**Istrita**	**149.63 323**	⇑*i*P	**PKPbc**	**08 12 53.9**	**+0.2**		
SPNC	**Sapanca-Adapaz**	**149.65 312**	*e*P	**PKPbc**	**08 12 53.4**	**-0.3**		
LEF	**Lefka**	**149.69 301**	*e*P	**PKPbc**	**08 12 53.7**	**-0.3**		
YLL	**Llanberis**	**149.69 6**	*e*P	**PKPbc**	**08 12 53.2**	**-0.3**		
DOPR	**Dopca**	**149.72 325**	⇓*i*P	**PKPbc**	**08 12 53.9**	**+0.1**		
MLR	**Muntele Rosu**	**149.72 324**	PKP	**PKPbc**	**08 12 48.1**	**-0.7**		
MLR			PKPbc	**PKPbc**	**08 12 53.9**	**-0.1**		
MLR	**Muntele Rosu**	**149.72 324**	PKP	**PKPdf**	**08 12 48.1**	**-0.7**		
	comp=Z,2.4nm,0.9s,baz=340,slow=1.2,SNR=15							
MLR			PKPbc	**PKPbc**	**08 12 53.9**	**-0.1**		
	comp=Z,70nm,1.3s,baz=340,slow=6.6,SNR=58							
NRDL	**Niedersach Rie**	**149.75 349**	*e*PKPdf	**PKPdf**	**08 12 47.8**	**-0.5**		
NRDL			*e*PKPbc	**PKPbc**	**08 12 53.2**	**-0.3**		
NRDL			*e*PKPab	**PKPab**	**08 13 00.0**	**-0.5**		
KSP	**Ksiaz**	**149.77 340**	*e*PKIKP	**PKPdf**	**08 12 48.2**	**-0.3**		
KSP	**Ksiaz**	**149.77 340**	*e*PKPdf	**PKPdf**	**08 12 49.6**	**+1.1**		
KSP			*e*PKPbc	**PKPbc**	**08 12 54.0**	**+0.3**		
KSP			*e*PKPab	**PKPab**	**08 13 01.1**	**+0.4**		
KSP			*ep*PKPab	**pPKPab**	**08 14 36.7**	**-0.6**		
SEYT	**Eskypehyr**	**149.77 310**	*i* P	**PKPbc**	**08 12 52.7**	**-1.5**		
KBI1	**Birley Grange**	**149.77 3**	*e*P	**PKPbc**	**08 12 52.0**	**-1.6**		
SZAC	**Souni-Zanaja**	**149.79 300**	P	**PKPbc**	**08 12 53.8**	**-0.6**		
	comp=Z,13nm,1.6s							
RAC	**Raciborz**	**149.79 338**	*e*PKHKP	**PKPdf**	**08 12 49.6**	**+1.0**		
YRE	**Yr Eifl**	**149.83 6**	*e*P	**PKPbc**	**08 12 52.2**	**-1.5**		
SILT	**Sile**	**149.88 314**	*e*P	**PKPbc**	**08 12 54.0**	**-0.3**		
VAL	**Valentia**	**149.89 14**	⇓*i*P	**PKPbc**	**08 12 54.6**	**+0.7**		
BORA	**Eskisehir**	**149.90 311**	*i* P	**PKPbc**	**08 12 54.3**	**-0.2**		
STNC	**Stoke**	**149.90 4**	*e*P	**PKPbc**	**08 12 53.6**	**-0.4**		
ALFC	**Alevga**	**149.91 301**	P	**PKPbc**	**08 12 53.9**	**-0.7**		
	comp=Z,3.1nm,0.6s							
BOLV	**Bolvadin**	**150.01 308**	*i* P	**PKPbc**	**08 12 54.9**	**0.0**		
OKC	**Ostrava-Krasne**	**150.01 337**	*e*PKHKP	**PKPdf**	**08 12 49.8**	**+0.9**		
OKC			*e*		08 13 02.4			
OKC			*e*		08 16 28.4			
OKC	**Ostrava-Krasne**	**150.01 337**	*e*PKPDF	**PKPdf**	**08 12 49.8**	**+0.9**		
OKC			⇑*e*PKP	**PKPbc**	**08 12 54.2**	**-0.1**		
OKC			*e*PKPAB	**PKPab**	**08 13 02.4**	**+0.6**		
OKC			*ex*	x	08 14 47.5			
OKC			*ex*	x	08 14 56.7			
OKC			*es*PKP		08 15 22.8			
OKC			*e*PP	**PP**	**08 16 28.4**	**-3.9**		
HRT	**Hereke**	**150.02 313**	*e*P	**PKPbc**	**08 12 54.5**	**-0.2**		
FOEL	**Foel Wylfa**	**150.03 5**	*e*P	**PKPbc**	**08 12 53.5**	**-0.8**		
CJR	**Cluj-Napoca**	**150.12 328**	⇓PKHKP	**PKPbc**	**08 12 54.7**	**-0.1**		
CJR	**Cluj-Napoca**	**150.12 328**	⇓*i*P	**PKPbc**	**08 12 54.7**	**-0.1**		
UPC	**Upice**	**150.15 340**	*e*PKIKP	**PKPdf**	**08 12 49.3**	**+0.2**		
UPC			*e*		08 13 02.4			
UPC	**Upice**	**150.15 340**	*e*PKPDF	**PKPdf**	**08 12 49.3**	**+0.2**		
UPC			⇑*e*PKP	**PKPbc**	**08 12 54.5**	**-0.2**		
UPC			*e*PKPAB	**PKPab**	**08 13 02.4**	**+0.1**		
UPC			*ep*PKP	pPKPdf	08 14 41.1	+11		
UPC			*ex*	x	08 14 44.8			
UPC			*ex*	x	08 14 55.0			
ADVT	**Abdulvahap**	**150.15 312**	*e*P	**PKPbc**	**08 12 53.7**	**-1.3**		
AKMC	**Akamas**	**150.16 301**	P	**PKPbc**	**08 12 54.0**	**-1.2**		
CAVI	**Cavuskoy**	**150.18 312**	*e*P	**PKPbc**	**08 12 54.5**	**-0.6**		
PPCY	**Paphos**	**150.18 300**	P	**PKPbc**	**08 12 54.2**	**-1.0**		
DPC	**Dobruska-Polom**	**150.19 340**	*e*PKIKP	**PKPdf**	**08 12 49.2**	**-0.1**		
DPC	**Dobruska-Polom**	**150.19 340**	*e*PKPDF	**PKPdf**	**08 12 49.2**	**-0.1**		
DPC			⇑*e*PKP	**PKPbc**	**08 12 54.9**	**+0.1**		
DPC			*e*PKPAB	**PKPab**	**08 13 03.6**	**+1.1**		
DPC			*ep*PKP	pPKPdf	08 14 39.5	+9.4		
DPC			*ex*	x	08 14 45.3			
DPC			*ex*	x	08 14 56.7			
DPC			*es*PKP		08 15 22.5			
KECS	**Kecovo**	**150.22 333**	*e*PKIKP	**PKPdf**	**08 12 48.6**	**-0.7**		
KECS			*e*		08 13 03.4			
KECS	**Kecovo**	**150.22 333**	*e*PKP	**PKPdf**	**08 12 48.6**	**-0.7**		
KECS			*e*		08 12 55.3			
KECS			*e*		08 13 03.3			
VOIR		**150.24 325**	⇑PKIKP	**PKPbc**	**08 12 57.0**	**+1.9**		
VOIR		**150.24 325**	⇑*i*P	**PKPbc**	**08 12 57.0**	**+1.9**		
PRD	**Provadia**	**150.26 319**	P	**PKPbc**	**08 12 54.9**	**-0.2**		
CLL	**Collm**	**150.26 345**	⇑*e*PKIKP	**PKPdf**	**08 12 51.0**	**+1.8**		
CLL			*i*		08 13 02.7			
CLL			pmax	pmax				
	comp=Z,271nm,0.8s							
CLL			pmax	pmax				
	comp=Z,337nm,1.3s							
CLL	**Collm**	**150.26 345**	*e*PKPdf	**PKPdf**	**08 12 48.6**	**-0.6**		
CLL			*e*PKPbc	**PKPbc**	**08 12 54.6**	**-0.3**		
CLL			*e*PKPab	**PKPab**	**08 13 02.2**	**-0.5**		
CLL	**Collm**	**150.26 345**	*e*PKPdf	**PKPdf**	**08 12 51.0**	**+1.8**		
CLL			⇑*i*PKPbc	**PKPbc**	**08 12 54.7**	**-0.2**		
	comp=Z,271nm,0.8s							
CLL			⇓*i*PKPab	**PKPab**	**08 13 02.7**	**0.0**		
	comp=Z,337nm,1.3s							
CLL			*ep*PKPbc	**pPKPbc**	**08 14 37.0**	**+2.3**		
CLL			*e*		08 14 48.0			
CLL			*es*PKPab	**sPKPab**	**08 15 22.0**	**+0.7**		
CLL			*e*SKPdf	**SKPdf**	**08 15 38.0**	**-4.9**		
CLL			*e*PP	**PP**	**08 16 31.0**	**-2.5**		
CLL			*es*PP		08 19 02.0			
CLL			*e*		08 19 52.0			
CLL			*e*PPPP		08 22 13.0			
CLL			*e*PSKS		08 26 46.0			
CLL			*es*PSKS		08 29 10.0			
CLL			*e*PPS	PPS	08 29 38.0			
CLL			*e*		08 31 06.0			
CLL			*e*SS	SS	08 35 48.0	+31		
CLL			*e*(sSS)		08 37 47.0			
CLL			*e*SSS	SSS	08 41 00.0			
CLL			*e*SSSS		08 45 36.0			
MORC	**Moravsky Berou**	**150.28 338**	*e*PKIKP	**PKPdf**	**08 12 48.8**	**-0.6**		
MORC			*e*		08 13 03.0			
MORC	**Moravsky Berou**	**150.28 338**	⇑*i*P	**PKPdf**	**08 12 49.7**	**+0.3**		
MORC	**Moravsky Berou**	**150.28 338**	*e*PKPdf	**PKPdf**	**08 12 48.8**	**-0.6**		
MORC			*e*PKPbc	**PKPbc**	**08 12 54.6**	**-0.5**		
MORC			*e*PKPab	**PKPab**	**08 13 03.0**	**+0.1**		
IBBN	**Ibbenburen**	**150.31 351**	*e*PKPdf	**PKPdf**	**08 12 48.8**	**-0.5**		
IBBN			*e*PKPbc	**PKPbc**	**08 12 54.7**	**-0.2**		
IBBN			*e*PKPab	**PKPab**	**08 13 02.5**	**-0.3**		
CLZ	**Clausthal**	**150.33 348**	*e*PKIKP	**PKPdf**	**08 12 49.0**	**-0.4**		
CLZ	**Clausthal**	**150.33 348**	*e*PKPdf	**PKPdf**	**08 12 49.0**	**-0.4**		
CLZ			*e*PKPbc	**PKPbc**	**08 12 55.1**	**0.0**		
CLZ			*e*PKPab	**PKPab**	**08 13 02.9**	**-0.2**		
SHUT	**Suhut-Afyon**	**150.37 308**	*e*P	**PKPbc**	**08 12 55.0**	**-0.7**		
BRG	**Berggiesshubel**	**150.41 343**	*i* PKP	**PKPdf**	**08 12 50.0**	**+0.5**		
	comp=Z,60nm,1.9s							
BRG			*i*		08 12 55.0			
	comp=Z,205nm,0.7s							
BRG			*i*		08 13 02.9			
	comp=Z,256nm,1.1s							
BRG			*i* PKP	PKPdf	08 14 38.2	+7.8		
	comp=Z,61nm,1.1s							
BRG			*i* SKP		08 15 06.2			
	comp=Z,50nm,1.4s							
BRG			PP	**PP**	**08 16 31.0**	**-3.5**		
BRG	**Berggiesshubel**	**150.41 343**	*i* PKIKP	**PKPdf**	**08 12 50.0**	**+0.5**		
BRG			*i*		08 13 02.9			
BRG			*i*		08 15 06.2			
BRG					08 16 31.0			
BRG			pmax	pmax				
	comp=Z,60nm,1.9s							
BRG			pmax	pmax				
	comp=Z,205nm,0.7s							
BRG			pmax	pmax				
	comp=Z,256nm,1.2s							
BRG			pmax	pmax				
	comp=Z,61nm,1.0s							
BRG			pmax	pmax				
	comp=N,50nm,1.4s							
BRG	**Berggiesshubel**	**150.41 343**	*e*PKPdf	**PKPdf**	**08 12 49.0**	**-0.5**		
BRG			*e*PKPbc	**PKPbc**	**08 12 55.1**	**-0.1**		
BRG			*e*PKPab	**PKPab**	**08 13 03.2**	**-0.2**		
SUTC	**Sutluce-Ispart**	**150.43 306**	*e*P	**PKPdf**	**08 12 52.6**	**+2.5**		
BGKT	**Bogazkoy**	**150.44 314**	*e*P	**PKPbc**	**08 12 54.8**	**-0.9**		
DRGR		**150.50 329**	⇑PKIKP	**PKPbc**	**08 12 55.2**	**-0.5**		
DRGR		**150.50 329**	⇑*i*P	**PKPbc**	**08 12 55.2**	**-0.5**		
ARR	**Arges**	**150.51 325**	⇓*i*P	**PKPdf**	**08 12 50.0**	**+0.1**		
GEMT	**Gemlik**	**150.52 313**	*e*P	**PKPbc**	**08 12 55.0**	**-0.8**		
FBE	**Freiberg**	**150.53 344**	*e*PKPdf	**PKPdf**	**08 12 49.4**	**-0.3**		
FBE			*e*PKPbc	**PKPbc**	**08 12 55.7**	**+0.2**		
FBE			*e*PKPab	**PKPab**	**08 13 04.0**	**+0.2**		
PVCC	**Panska Ves**	**150.55 342**	*e*PKIKP	**PKPdf**	**08 12 49.8**	**+0.1**		
PVCC	**Panska Ves**	**150.55 342**	*e*PKPDF	**PKPdf**	**08 12 49.8**	**+0.1**		
PVCC			⇑*e*PKP	**PKPbc**	**08 12 55.7**	**+0.1**		
PVCC			*e*PKPAB	**PKPab**	**08 13 05.2**	**+1.2**		
PVCC			*ex*	x	08 14 48.8			
NEUB	**Neuenburg**	**150.64 346**	*e*PKPdf	**PKPdf**	**08 12 49.3**	**-0.5**		
NEUB			*e*PKPbc	**PKPbc**	**08 12 55.6**	**-0.1**		
NEUB			*e*PKPab	**PKPab**	**08 13 04.0**	**-0.3**		
ISP	**Isparta**	**150.66 307**	*e*P	**PKPbc**	**08 12 55.0**	**-1.4**		
ISP	**Isparta**	**150.66 307**	*i* P	**PKPbc**	**08 12 55.0**	**-1.4**		
ISP	**Isparta**	**150.66 307**	*e*PKIKP	**PKPdf**	**08 12 49.4**	**-1.1**		
ISP			*e*		08 12 54.7			
ISP			*e*		08 13 04.0			
ISP	**Isparta**	**150.66 307**	⇑*i*P	**PKPbc**	**08 12 55.0**	**-1.4**		
ISP	**Isparta**	**150.66 307**	*e*PKPdf	**PKPdf**	**08 12 49.4**	**-1.1**		
ISP			*e*PKPbc	**PKPbc**	**08 12 54.7**	**-1.7**		
ISP			*e*PKPab	**PKPab**	**08 13 04.0**	**-1.1**		
ARMT	**Armutlu**	**150.68 313**	*e*P	**PKPbc**	**08 12 55.7**	**-0.5**		
ULDT	**Uludag**	**150.69 312**	*i* P	**PKPbc**	**08 12 55.8**	**-0.7**		
LPW	**Lampeter**	**150.72 6**	*e*P	**PKPbc**	**08 12 54.4**	**-1.5**		
BCK	**Bucak**	**150.74 306**	*e*P	**PKPbc**	**08 12 54.5**	**-2.1**		
MDNY	**Mudanya-Bursa**	**150.76 313**	*e*P	**PKPbc**	**08 12 55.6**	**-0.8**		
WTSB	**Winterswijk**	**150.76 353**	*e*PKPdf	**PKPdf**	**08 12 49.8**	**-0.1**		
WTSB			*e*PKPbc	**PKPbc**	**08 12 55.8**	**-0.2**		
WTSB			*e*PKPab	**PKPab**	**08 13 03.9**	**-0.8**		
TVSB	**Tavsanli**	**150.77 311**	*e*P	**PKPbc**	**08 12 56.6**	**0.0**		
SLVT	**Silivri**	**150.79 315**	*e*P	**PKPbc**	**08 12 55.3**	**-1.1**		
PSZ	**Piszkesteto**	**150.91 333**	*e*PKIKP	**PKPdf**	**08 12 50.0**	**-0.5**		
PSZ			*e*		08 13 05.7			
PSZ	**Piszkesteto**	**150.91 333**	⇑*i*P	**PKPbc**	**08 12 56.0**	**-0.5**		
PSZ	**Piszkesteto**	**150.91 333**	*e*PKPdf	**PKPdf**	**08 12 50.0**	**-0.5**		
PSZ			*e*PKPbc	**PKPbc**	**08 12 56.2**	**-0.3**		
PSZ			*e*PKPab	**PKPab**	**08 13 05.7**	**0.0**		
PSZ	**Piszkesteto**	**150.91 333**	⇑*e*	**PKPbc**	**08 12 56.1**	**-0.5**		
LOT	**Lotru**	**150.91 326**	⇑*i*P	**PKPbc**	**08 12 57.3**	**+0.6**		
GDZ	**Gediz**	**150.91 310**	*i* P	**PKPbc**	**08 12 56.1**	**-0.9**		
MCH1	**Michaelchurch**	**150.93 5**	*e*P	**PKPbc**	**08 12 55.2**	**-1.2**		
VRAC	**Vranov**	**151.00 339**	⇑*i*P	**PKPbc**	**08 12 56.6**	**-0.1**		
PRA	**Prague**	**151.00 342**	PKPDF	**PKPdf**	**08 12 51.0**	**+0.6**		
PRA			⇑PKP	**PKiKP**	**08 12 57.0**	**-0.1**		
PRA			PKPAB	**pPKPab**	**08 14 40.0**	**-2.3**		
PRA			PP	**PP**	**08 16 34.0**	**-3.8**		
SSW	**Stow on the Wo**	**151.04 4**	*e*P	**PKPbc**	**08 12 55.7**	**-0.9**		
PRU	**Pruhonice**	**151.05 342**	*e*PKIKP	**PKPdf**	**08 12 50.0**	**-0.5**		
PRU			*e*		08 13 06.5			
PRU			*e*		08 16 33.2			
PRU	**Pruhonice**	**151.05 342**	*e*PKPDF	**PKPdf**	**08 12 50.0**	**-0.5**		
PRU			⇑*e*PKP	**PKPbc**	**08 12 56.5**	**-0.2**		
PRU			*e*PKPAB	**PKPab**	**08 13 06.5**	**+0.4**		
PRU			*ep*PKP	pPKPdf	08 14 39.9	+8.5		
PRU			*ex*	x	08 14 47.6			
PRU			*es*PKP		08 15 25.8			
PRU			*e*PP	**PP**	**08 16 33.2**	**-4.9**		
DEV	**Deva**	**151.05 327**	⇓PKIKP	**PKPbc**	**08 12 57.7**	**+0.8**		
DEV	**Deva**	**151.05 327**	⇓*i*P	**PKPbc**	**08 12 57.7**	**+0.8**		
KORT	**Korkueli**	**151.09 306**	*i* P	**PKPdf**	**08 12 50.7**	**-0.5**		
SZH	**Strazhica**	**151.09 320**	P	**PKPbc**	**08 12 56.9**	**-0.2**		
MONM	**Monmouth**	**151.10 5**	*e*P	**PKPbc**	**08 12 55.2**	**-1.6**		
KCTX	**Karacabey (Bur**	**151.16 313**	*e*P	**PKPbc**	**08 12 55.8**	**-1.5**		
JMB	**Yambol**	**151.16 318**	P	**PKPbc**	**08 12 58.3**	**+1.0**		
JMB	**Yambol**	**151.16 318**	PKIKP	**PKPbc**	**08 12 58.3**	**+1.0**		
JMB	**Yambol**	**151.16 318**	P	**PKPbc**	**08 12 57.9**	**+0.6**		
JMB	**Yambol**	**151.16 318**	*i* P	**PKPbc**	**08 12 58.3**	**+1.0**		
KHAL	**Karahalli**	**151.20 309**	*i* P	**PKPbc**	**08 12 57.3**	**-0.3**		
STRD	**Stroud**	**151.21 4**	*e*P	**PKPbc**	**08 12 55.6**	**-1.5**		
TANN	**Tannenbergstha**	**151.21 345**	*e*PKPdf	**PKPdf**	**08 12 50.3**	**-0.5**		
TANN			*e*PKPbc	**PKPbc**	**08 12 56.9**	**-0.3**		
TANN			*e*PKPab	**PKPab**	**08 13 06.8**	**0.0**		
BUG	**Bochum--Univer**	**151.22 352**	*e*PKPbc	**PKPbc**	**08 12 56.5**	**-0.5**		
BUG			*e*PKPab	**PKPab**	**08 13 05.9**	**-0.8**		
WERD	**Werda**	**151.22 345**	*e*PKPdf	**PKPdf**	**08 12 50.2**	**-0.6**		
WERD			*e*PKPbc	**PKPbc**	**08 12 56.8**	**-0.4**		
WERD			*e*PKPab	**PKPab**	**08 13 06.8**	**0.0**		
PLN	**Plauen**	**151.22 345**	*e*PKPdf	**PKPdf**	**08 12 50.2**	**-0.6**		
PLN			*e*PKPbc	**PKPbc**	**08 12 56.9**	**-0.2**		
PLN			*e*PKPab	**PKPab**	**08 13 06.6**	**-0.2**		
GUNZ	**Gunzen**	**151.29 345**	*e*PKPdf	**PKPdf**	**08 12 50.4**	**-0.5**		
GUNZ			*e*PKPbc	**PKPbc**	**08 12 57.3**	**-0.1**		
GUNZ			*e*PKPab	**PKPab**	**08 13 07.1**	**0.0**		
SKP1	**Kophill**	**151.33 2**	*e*P	**PKPbc**	**08 12 56.1**	**-1.2**		
WERN	**Wernitzgruen**	**151.35 345**	*e*PKPdf	**PKPdf**	**08 12 50.5**	**-0.5**		
WERN			*e*PKPbc	**PKPbc**	**08 12 57.5**	**0.0**		
WERN			*e*PKPab	**PKPab**	**08 13 07.5**	**+0.1**		
TREC	**Trest**	**151.37 340**	*e*PKIKP	**PKPdf**	**08 12 50.5**	**-0.6**		
TREC			*e*		08 13 07.8			
TREC			*e*		08 16 40.4			
TREC	**Trest**	**151.37 340**	*e*PKPDF	**PKPdf**	**08 12 50.5**	**-0.6**		
TREC			⇑*e*PKP	**PKPbc**	**08 12 57.3**	**-0.2**		
TREC			*e*PKPAB	**PKPab**	**08 13 07.8**	**+0.3**		
TREC			*ep*PKP	pPKPdf	08 14 48.3	+16		
TREC			*es*PKP		08 15 29.3			
TREC			*e*PP	**PP**	**08 16 40.4**	**+0.4**		
UBBA	**Unterbreizbach**	**151.37 348**	*e*PKPdf	**PKPdf**	**08 12 50.1**	**-0.7**		
UBBA			*e*PKPbc	**PKPbc**	**08 12 57.3**	**0.0**		
UBBA			*e*PKPab	**PKPab**	**08 13 06.9**	**-0.4**		
SIRR	**Siria**	**151.38 329**	⇓*i*P	**PKPbc**	**08 12 57.2**	**-0.5**		
NKC	**Novy Kostel**	**151.39 344**	*e*PKIKP	**PKPdf**	**08 12 50.9**	**-0.2**		
NKC			*e*		08 13 07.8			
NKC			*e*		08 16 37.5			
NKC	**Novy Kostel**	**151.39 344**	*e*PKPDF	**PKPdf**	**08 12 50.9**	**-0.2**		
NKC			⇑*e*PKP	**PKPbc**	**08 12 57.4**	**-0.1**		
NKC			*e*PKPAB	**PKPab**	**08 13 07.8**	**+0.3**		
NKC			*e*PP	**PP**	**08 16 37.5**	**-2.5**		
DURS	**Dursunbey**	**151.39 312**	*i* P	**PKPbc**	**08

STU	**Stuttgart**	**153.49 348**	*e*PKIKP	**PKPdf**	**08 12 53.7**	**-0.5**
STU			*e*		08 13 16.1	
STU	**Stuttgart**	**153.49 348**	*e*PKPdf	**PKPdf**	**08 12 53.5**	**-0.6**
STU			*e*PKPbc	**PKPbc**	**08 13 01.7**	**-0.5**
STU			*e*PKPab	**PKPab**	**08 13 15.8**	**-0.6**
STU	**Stuttgart**	**153.49 348**	*e*PKPdf	**PKPdf**	**08 12 53.6**	**-0.5**
STU			*e*PKPbc	**PKiKP**	**08 13 03.3**	**+1.1**
STU			*e*PKPab	**PKPab**	**08 13 16.1**	**-0.3**
KOGS	**Kog**	**153.55 336**	*e*PKPbc	**PKPbc**	**08 13 01.2**	**-1.1**
KOGS			*e*PKPab	**PKPab**	**08 13 16.6**	**-0.1**
RJOB	**Jochberg**	**153.58 342**	*e*PKPab	**PKPab**	**08 13 17.3**	**+0.4**
FUR	**Furstenfeldbru**	**153.59 344**	*e*PKP2	**PKPab**	**08 13 17.0**	**+0.1**
FUR	**Furstenfeldbru**	**153.59 344**	*e*PKPab	**PKPab**	**08 13 17.0**	**+0.1**
KKB	**Krupnik**	**153.62 321**	P	**PKPbc**	**08 13 03.4**	**+0.7**
CHOS	**Chios island**	**153.62 311**	P	**PKPbc**	**08 13 02.5**	**-0.4**
CHOS	**Chios island**	**153.62 311**	P	**PKPbc**	**08 13 02.5**	**-0.4**
SRS	**Serrai**	**153.77 319**	P	**PKPbc**	**08 13 02.9**	**-0.2**
SRS	**Serrai**	**153.77 319**	PKIKP	**PKPbc**	**08 13 02.9**	**-0.2**
SRS	**Serrai**	**153.77 319**	P	**PKPbc**	**08 13 02.9**	**-0.2**
SOKA	**Soboth**	**153.80 338** ⇓	*i*PKPdf	**PKPdf**	**08 12 53.6**	**-1.2**
	comp=N,18nm,1.2s,SNR=5.5					
SOKA			*i* PKPab	**PKPab**	**08 13 18.7**	**+0.7**
	comp=N,164nm,1.3s,SNR=6.9					
PERS	**Pernice**	**153.80 337**	*i* PKPbc	**PKPbc**	**08 13 02.1**	**-0.9**
BFO	**Black Forest**	**154.07 349**	*e*PKIKP	**PKPdf**	**08 12 54.4**	**-0.6**
BFO			*e*		08 13 18.8	
BFO	**Black Forest**	**154.07 349**	*e*PKP2	**PKPab**	**08 13 18.3**	**-0.7**
BFO	**Black Forest**	**154.07 349**	*e*PKPdf	**PKPdf**	**08 12 54.4**	**-0.6**
BFO			*e*PKPbc	**PKiKP**	**08 13 03.5**	**0.0**
BFO			*e*PKPab	**PKPab**	**08 13 18.8**	**-0.2**
CDF	**Champ du Feu**	**154.17 350**	*e*PKIKP	**PKPdf**	**08 12 54.4**	**-0.8**
	comp=N,13nm,0.9s					
CDF	**Champ du Feu**	**154.17 350**	*e*PKIKP	**PKPdf**	**08 12 54.4**	**-0.8**
CDF	**Champ du Feu**	**154.17 350**	*e*PKPdf	**PKPdf**	**08 12 54.4**	**-0.8**
PAGF	**Fort de Pagny**	**154.25 353**	*e*PKIKP	**PKPdf**	**08 12 54.6**	**-0.6**
	comp=N,7.4nm,0.9s					
PAGF	**Fort de Pagny**	**154.25 353**	*e*PKPdf	**PKPdf**	**08 12 54.6**	**-0.6**
PLG	**Polygyros**	**154.29 318**	P	**PKPab**	**08 13 21.0**	**+0.7**
FLN	**La Foliniere**	**154.30 2**	*e*PKIKP	**PKPdf**	**08 12 54.3**	**-1.0**
	comp=N,48nm,0.9s					
FLN			*e*R			
	comp=N,364nm,22.5s					
FLN	**La Foliniere**	**154.30 2**	*e*PKIKP	**PKPdf**	**08 12 54.3**	**-1.0**
FLN	**La Foliniere**	**154.30 2**	*e*PKPdf	**PKPdf**	**08 12 54.3**	**-1.0**
MYKA	**Terra Mystica**	**154.31 339**	*i* PKPab	**PKPab**	**08 13 19.8**	**-0.3**
	comp=N,127nm,1.0s,SNR=8.1					
WTTA	**Wattenberg**	**154.33 343** ⇑	*i*PKPdf	**PKPdf**	**08 12 54.6**	**-1.0**
	comp=N,19nm,1.0s,SNR=7.5					
WTTA			⇑ *i* PKPab	**PKPab**	**08 13 21.2**	**+0.9**
	comp=N,309nm,1.3s					
RETA	**Reutte**	**154.35 344**	*i* PKPab	**PKPab**	**08 13 20.6**	**+0.3**
	comp=N,226nm,1.2s,SNR=20					
MEZF	**Maizieres J'vi**	**154.37 354**	*e*PKIKP	**PKPdf**	**08 12 55.0**	**-0.4**
	comp=N,30nm,0.9s					
MEZF	**Maizieres J'vi**	**154.37 354**	*e*PKPdf	**PKPdf**	**08 12 55.0**	**-0.4**
ECH	**Echery**	**154.38 350**	*e*PKIKP	**PKPdf**	**08 12 56.1**	**+0.7**
ECH			*e*		08 13 19.6	
ECH			*e*		08 16 52.2	
ECH	**Echery**	**154.38 350**	*e*PKPdf	**PKPdf**	**08 12 56.1**	**+0.7**
ECH			*e*PKPab	**PKPab**	**08 13 19.6**	**-0.7**
ECH			*e*PP	**PP**	**08 16 52.2**	**-4.5**
MOTA	**Moosalm**	**154.40 344** ⇓	*i*PKPdf	**PKPdf**	**08 12 54.2**	**-1.4**
	comp=N,7.2nm,0.8s,SNR=11					
MOTA			⇓ *i* PKPab	**PKPab**	**08 13 20.6**	**+0.1**
	comp=N,208nm,1.1s,SNR=10					
LDF	**La Druitiere**	**154.48 2**	*e*PKIKP	**PKPdf**	**08 12 54.5**	**-1.0**
	comp=N,24nm,0.8s					
LDF	**La Druitiere**	**154.48 2**	*e*PKIKP	**PKPdf**	**08 12 54.5**	**-1.0**
LDF	**La Druitiere**	**154.48 2**	*e*PKPdf	**PKPdf**	**08 12 54.5**	**-1.0**
LJU	**Ljubljana**	**154.52 338**	*i* PKPdf	**PKPdf**	**08 12 54.8**	**-0.9**
LJU			*i* PKPbc	**PKiKP**	**08 13 03.7**	**-0.8**
LJU			*e*PKPab	**PKPab**	**08 13 19.5**	**-1.4**
ROSF	**Rostrenen**	**154.53 6**	*e*PKIKP	**PKPdf**	**08 12 54.9**	**-0.7**
ROSF	**Rostrenen**	**154.53 6**	*e*PKIKP	**PKPdf**	**08 12 54.9**	**-0.7**
ROSF	**Rostrenen**	**154.53 6**	*e*PKPdf	**PKPdf**	**08 12 54.9**	**-0.7**
THEF	**They Montfort**	**154.54 352**	PKP	**PKPdf**	**08 12 55.3**	**-0.4**
ABTA	**Abfaltersbach**	**154.55 341** ⇑	*i*PKPdf	**PKPdf**	**08 12 54.1**	**-1.7**
	comp=N,21nm,1.0s,SNR=5.6					
ABTA			*i* PKPab	**PKPab**	**08 13 21.3**	**+0.2**
	comp=N,125nm,1.0s,SNR=7.0					
FELD	**Feldberg im Sc**	**154.57 349**	PKP	**PKPdf**	**08 12 54.6**	**-1.3**
GRR	**Gorron**	**154.66 3**	*e*PKIKP	**PKPdf**	**08 12 55.0**	**-0.8**
GRR	**Gorron**	**154.66 3**	*e*PKIKP	**PKPdf**	**08 12 55.0**	**-0.8**
GRR	**Gorron**	**154.66 3**	*e*PKPdf	**PKPdf**	**08 12 55.0**	**-0.8**
SFTF	**Sexfontaines**	**154.67 354**	*e*PKIKP	**PKPdf**	**08 12 55.1**	**-0.7**
	comp=N,20nm,0.9s					
SFTF	**Sexfontaines**	**154.67 354**	*e*PKPdf	**PKPdf**	**08 12 55.1**	**-0.7**
SGMF	**Saint Gilles**	**154.68 5**	*e*PKIKP	**PKPdf**	**08 12 55.7**	**-0.1**
SGMF	**Saint Gilles**	**154.68 5**	*e*PKIKP	**PKPdf**	**08 12 55.7**	**-0.1**
SGMF	**Saint Gilles**	**154.68 5**	*e*PKPdf	**PKPdf**	**08 12 55.7**	**-0.1**
BOJS	**Bojanci**	**154.72 336**	*i* PKPdf	**PKPdf**	**08 12 55.2**	**-0.7**
BOJS			*e*PKPbc	**PKiKP**	**08 13 04.7**	**-0.2**
BOJS			*e*PKPab	**PKPab**	**08 13 20.7**	**-1.1**
MOF	**Molkenrain**	**154.74 350**	PKP	**PKPdf**	**08 12 55.1**	**-0.9**
DAVA	**Damuels**	**154.75 346** ⇑	*i*PKPab	**PKPab**	**08 13 21.9**	**-0.2**
	comp=N,109nm,0.9s,SNR=8.7					
VOY	**Vojsko**	**154.75 338**	*e*PKPdf	**PKPdf**	**08 12 56.6**	**+0.5**
VOY			*e*PKPbc	**PKiKP**	**08 13 05.0**	**-0.1**
VOY			*e*PKPab	**PKPab**	**08 13 21.2**	**-0.8**
VOY			*e*		08 13 46.6	
FETA	**Feichten**	**154.79 344**	*i* PKPdf	**PKPdf**	**08 12 55.1**	**-1.1**
	comp=N,20nm,0.9s,SNR=11					
FETA			⇓ *i* PKPab	**PKPab**	**08 13 22.4**	**+0.1**
	comp=N,152nm,1.2s					
HINF	**Hinteralfeld**	**154.82 351**	*e*PKIKP	**PKPdf**	**08 12 55.1**	**-1.0**
	comp=N,27nm,1.0s					
HINF	**Hinteralfeld**	**154.82 351**	*e*PKIKP	**PKPdf**	**08 12 55.1**	**-1.0**
HINF	**Hinteralfeld**	**154.82 351**	*e*PKPdf	**PKPdf**	**08 12 55.1**	**-1.0**
TRI	**Trieste**	**155.08 338**	*e*PKP2	**PKPab**	**08 13 23.1**	**-0.2**
TRI	**Trieste**	**155.08 338**	*e*PKPab	**PKPab**	**08 13 23.1**	**-0.2**
LOMF	**Lomont**	**155.28 350**	PKP	**PKPdf**	**08 12 56.2**	**-0.6**
FNA	**Florina**	**155.30 321**	P	PKPdf	08 13 06.0	+9.0
KZN	**Kozani**	**155.36 319**	P	PKPdf	08 13 07.3	+10
TUE	**Stuetta**	**155.64 346**	*e*PKPdf	**PKPdf**	**08 12 56.6**	**-0.8**
TUE			*e*PKPab	**PKPab**	**08 13 26.5**	**+0.5**
LOR	**Lormes**	**155.70 355**	*e*PKIKP	**PKPdf**	**08 12 56.5**	**-0.8**
	comp=N,32nm,1.1s					
LOR			*e*R			
	comp=N,145nm,19.2s					
LOR	**Lormes**	**155.70 355**	*e*PKPdf	**PKPdf**	**08 12 56.5**	**-0.8**
NEST	**Nestorio**	**155.72 320**	P	PKPdf	08 13 08.2	+11
AGG	**Agios Georgios**	**155.78 316**	P	PKPdf	08 13 07.1	+9.5
HYF	**Humbligny**	**155.78 357**	*e*PKIKP	**PKPdf**	**08 12 57.0**	**-0.3**
HYF	**Humbligny**	**155.78 357**	*e*PKPdf	**PKPdf**	**08 12 57.0**	**-0.3**
SSF	**Saint Saulge**	**155.94 356**	*e*PKIKP	**PKPdf**	**08 12 56.9**	**-0.6**
	comp=N,24nm,0.9s					
SSF	**Saint Saulge**	**155.94 356**	*e*PKIKP	**PKPdf**	**08 12 56.9**	**-0.6**
SSF	**Saint Saulge**	**155.94 356**	*e*PKPdf	**PKPdf**	**08 12 56.9**	**-0.6**
CABF	**La Chapelle**	**156.11 351**	*e*PKIKP	**PKPdf**	**08 12 57.6**	**-0.3**
CABF	**La Chapelle**	**156.11 351**	*e*PKIKP	**PKPdf**	**08 12 57.6**	**-0.3**
CABF	**La Chapelle**	**156.11 351**	*e*PKPdf	**PKPdf**	**08 12 57.6**	**-0.3**
AVF	**Avril sur Loir**	**156.22 356**	*e*PKIKP	**PKPdf**	**08 12 56.9**	**-1.0**
	comp=N,13nm,1.0s					
AVF	**Avril sur Loir**	**156.22 356**	*e*PKIKP	**PKPdf**	**08 12 56.9**	**-1.0**
AVF	**Avril sur Loir**	**156.22 356**	*e*PKPdf	**PKPdf**	**08 12 56.9**	**-1.0**
SMF	**Signal de Mont**	**156.32 355**	*e*PKIKP	**PKPdf**	**08 12 57.1**	**-1.0**
	comp=N,27nm,1.1s					
SMF	**Signal de Mont**	**156.32 355**	*e*PKIKP	**PKPdf**	**08 12 57.1**	**-1.0**
SMF	**Signal de Mont**	**156.32 355**	*e*PKPdf	**PKPdf**	**08 12 57.1**	**-1.0**
GUR	**Goura**	**156.37 314**	P	PKPdf	08 13 08.6	+10
MFF	**Saint Martin d**	**156.47 2**	*e*PKIKP	**PKPdf**	**08 12 57.5**	**-0.7**
	comp=N,80nm,1.4s					
MFF	**Saint Martin d**	**156.47 2**	*e*PKIKP	**PKPdf**	**08 12 57.5**	**-0.7**
MFF	**Saint Martin d**	**156.47 2**	*e*PKPdf	**PKPdf**	**08 12 57.5**	**-0.7**
BGF	**Bois d'Agland**	**156.48 357**	*e*PKIKP	**PKPdf**	**08 12 57.5**	**-0.8**
	comp=N,28nm,0.8s					
BGF	**Bois d'Agland**	**156.48 357**	*e*PKIKP	**PKPdf**	**08 12 57.5**	**-0.8**
BGF	**Bois d'Agland**	**156.48 357**	*e*PKPdf	**PKPdf**	**08 12 57.5**	**-0.8**
IGT	**Igoumenitsa**	**156.71 319**	P	PKPdf	08 13 13.1	+14
PDO	**Prodromos**	**156.75 317**	P	PKPdf	08 13 13.5	+15
TCF	**Toulx Ste Croi**	**156.78 358**	*e*PKIKP	**PKPdf**	**08 12 57.9**	**-0.8**
	comp=N,35nm,1.1s					
TCF	**Toulx Ste Croi**	**156.78 358**	*e*PKIKP	**PKPdf**	**08 12 57.9**	**-0.8**
TCF	**Toulx Ste Croi**	**156.78 358**	*e*PKPdf	**PKPdf**	**08 12 57.9**	**-0.8**
AGO	**Saint Agoulin**	**156.97 356**	PKP	**PKPdf**	**08 12 59.1**	**+0.2**
PLDF	**La Plantade**	**157.01 355**	PKP	**PKPdf**	**08 13 00.3**	**+1.2**
LPL	**La Plagne**	**157.07 349**	*e*PKIKP	**PKPdf**	**08 12 58.9**	**-0.5**
	comp=N,12nm,0.8s					
LPL	**La Plagne**	**157.07 349**	*e*PKIKP	**PKPdf**	**08 12 58.9**	**-0.5**
LPL	**La Plagne**	**157.07 349**	*e*PKPdf	**PKPdf**	**08 12 58.9**	**-0.5**
LPG	**La Plagne**	**157.09 349**	*e*PKIKP	**PKPdf**	**08 12 58.9**	**-0.6**
	comp=N,14nm,0.8s					
LPG	**La Plagne**	**157.09 349**	*e*PKIKP	**PKPdf**	**08 12 58.9**	**-0.6**
LPG	**La Plagne**	**157.09 349**	*e*PKPdf	**PKPdf**	**08 12 58.9**	**-0.6**
PYM	**Petit Puy Mans**	**157.27 356**	PKP	**PKPdf**	**08 12 59.4**	**0.0**
BNI	**Bardonecchia**	**157.53 349**	*e*PKIKP	**PKPdf**	**08 12 58.0**	**-1.8**
BNI	**Bardonecchia**	**157.53 349**	*e*PKPdf	**PKPdf**	**08 12 58.0**	**-1.8**
BNI			*e*PKPab	**PKPab**	**08 13 34.0**	**0.0**
SSB	**Saint Sauveur**	**157.61 353**	*e*PKIKP	**PKPdf**	**08 12 59.9**	**+0.1**
SSB	**Saint Sauveur**	**157.61 353**	*e*PKPdf	**PKPdf**	**08 12 59.9**	**+0.1**
LBL	**Lubilhac**	**157.77 356**	PKP	**PKPdf**	**08 12 59.6**	**-0.4**
RJF	**Les Rejaudoux**	**157.78 359**	*e*PKIKP	**PKPdf**	**08 12 59.2**	**-0.7**
	comp=N,92nm,1.6s					
RJF			*e*R			
	comp=N,250nm,21.0s					
RJF	**Les Rejaudoux**	**157.78 359**	*e*PKIKP	**PKPdf**	**08 12 59.2**	**-0.7**
RJF	**Les Rejaudoux**	**157.78 359**	*e*PKPdf	**PKPdf**	**08 12 59.2**	**-0.7**
ORIF	**Oris-en-Rattie**	**157.79 351**	*e*PKIKP	**PKPdf**	**08 12 59.5**	**-0.6**
	comp=N,32nm,1.1s					
ORIF			*e*R			
	comp=N,169nm,20.5s					
ORIF	**Oris-en-Rattie**	**157.79 351**	*e*PKIKP	**PKPdf**	**08 12 59.5**	**-0.6**
ORIF	**Oris-en-Rattie**	**157.79 351**	*e*PKPdf	**PKPdf**	**08 12 59.5**	**-0.6**
MBDF	**Montbardon**	**157.83 349**	*e*PKIKP	**PKPdf**	**08 12 59.4**	**-0.8**
MBDF	**Montbardon**	**157.83 349**	*e*PKIKP	**PKPdf**	**08 12 59.4**	**-0.8**
MBDF	**Montbardon**	**157.83 349**	*e*PKPdf	**PKPdf**	**08 12 59.4**	**-0.8**
VIVF	**Saint-Julien-l**	**158.01 353**	*e*PKIKP	**PKPdf**	**08 12 59.6**	**-0.7**
VIVF	**Saint-Julien-l**	**158.01 353**	*e*PKIKP	**PKPdf**	**08 12 59.6**	**-0.7**
VIVF	**Saint-Julien-l**	**158.01 353**	*e*PKPdf	**PKPdf**	**08 12 59.6**	**-0.7**
CAF	**Calviac**	**158.14 358**	*e*PKIKP	**PKPdf**	**08 13 00.0**	**-0.4**
	comp=N,28nm,1.2s					
CAF	**Calviac**	**158.14 358**	*e*PKIKP	**PKPdf**	**08 13 00.0**	**-0.4**
CAF	**Calviac**	**158.14 358**	*e*PKPdf	**PKPdf**	**08 13 00.0**	**-0.4**
LFF	**La Frestale**	**158.15 0**	*e*PKIKP	**PKPdf**	**08 13 00.0**	**-0.4**
	comp=N,92nm,1.3s					
LFF	**La Frestale**	**158.15 0**	*e*PKIKP	**PKPdf**	**08 13 00.0**	**-0.4**
LFF	**La Frestale**	**158.15 0**	*e*PKPdf	**PKPdf**	**08 13 00.0**	**-0.4**
SAOF	**Saorge**	**158.40 347**	PKP	**PKPdf**	**08 13 03.0**	**+2.2**
AUTN	**L'Aution**	**158.41 347**	PKP	**PKPdf**	**08 13 02.1**	**+1.1**
LUCF	**Luceram**	**158.53 347**	PKP	**PKPdf**	**08 13 03.2**	**+2.2**
SBF	**Sospel**	**158.54 347**	*e*PKIKP	**PKPdf**	**08 13 00.1**	**-0.9**
SBF	**Sospel**	**158.54 347**	*e*PKIKP	**PKPdf**	**08 13 00.1**	**-0.9**
SBF	**Sospel**	**158.54 347**	*e*PKPdf	**PKPdf**	**08 13 00.1**	**-0.9**
CALN	**Calern**	**158.75 348**	PKP	**PKPdf**	**08 13 02.8**	**+1.5**
SMRF	**Simiane la Rot**	**158.76 351**	*e*PKIKP	**PKPdf**	**08 13 01.1**	**-0.1**
	comp=N,24nm,1.1s					
SMRF	**Simiane la Rot**	**158.76 351**	*e*PKPdf	**PKPdf**	**08 13 01.1**	**-0.1**
LASF	**Ste Croix**	**158.87 354**	*e*PKIKP	**PKPdf**	**08 13 01.0**	**-0.3**
	comp=N,16nm,0.9s					
LASF	**Ste Croix**	**158.87 354**	*e*PKPdf	**PKPdf**	**08 13 01.0**	**-0.3**
FRF	**La Foret Royal**	**158.98 348**	*e*PKIKP	**PKPdf**	**08 13 00.4**	**-1.0**
	comp=N,29nm,1.1s					
FRF	**La Foret Royal**	**158.98 348**	*e*PKIKP	**PKPdf**	**08 13 00.4**	**-1.0**
FRF	**La Foret Royal**	**158.98 348**	*e*PKPdf	**PKPdf**	**08 13 00.4**	**-1.0**
LMR	**La Mourre**	**159.23 348**	*e*PKIKP	**PKPdf**	**08 13 00.7**	**-1.0**
LMR	**La Mourre**	**159.23 348**	*e*PKIKP	**PKPdf**	**08 13 00.7**	**-1.0**
LMR	**La Mourre**	**159.23 348**	*e*PKPdf	**PKPdf**	**08 13 00.7**	**-1.0**
MTLF	**Montolieu**	**159.72 357**	*e*PKIKP	**PKPdf**	**08 13 01.7**	**-0.6**
	comp=N,24nm,1.1s					
MTLF	**Montolieu**	**159.72 357**	*e*PKIKP	**PKPdf**	**08 13 01.7**	**-0.6**
MTLF	**Montolieu**	**159.72 357**	*e*PKPdf	**PKPdf**	**08 13 01.7**	**-0.6**
SJPF	**Ste Jean**	**159.90 5**	*e*PKIKP	**PKPdf**	**08 13 02.2**	**-0.3**
SJPF	**Ste Jean**	**159.90 5**	*e*PKIKP	**PKPdf**	**08 13 02.2**	**-0.3**
SJPF	**Ste Jean**	**159.90 5**	*e*PKPdf	**PKPdf**	**08 13 02.2**	**-0.3**
PCAB	**Cabril**	**159.93 20**	*e*PKPdf	**PKPdf**	**08 13 03.0**	**+0.4**
PCAB	**Cabril**	**159.93 20**	*e*PKPab	**PKPab**	**08 13 45.8**	**+1.3**
EPF	**Esparros**	**160.05 1**	*e*PKIKP	**PKPdf**	**08 13 02.1**	**-0.6**
	comp=N,41nm,1.2s					
EPF	**Esparros**	**160.05 1**	*e*PKIKP	**PKPdf**	**08 13 02.1**	**-0.6**
EPF	**Esparros**	**160.05 1**	*e*PKPdf	**PKPdf**	**08 13 02.1**	**-0.6**
ETSF	**Etsaut**	**160.15 3**	*e*PKIKP	**PKPdf**	**08 13 02.6**	**-0.3**
	comp=N,22nm,0.9s					
ETSF	**Etsaut**	**160.15 3**	*e*PKIKP	**PKPdf**	**08 13 02.6**	**-0.3**
ETSF	**Etsaut**	**160.15 3**	*e*PKPdf	**PKPdf**	**08 13 02.6**	**-0.3**
PBRG	**Braganca**	**160.22 17**	*e*PKPdf	**PKPdf**	**08 13 02.3**	**-0.6**
PBRG	**Braganca**	**160.22 17**	*e*PKPab	**PKPab**	**08 13 46.3**	**+0.5**
POLO	**Lamas de Olo**	**160.31 20**	*e*PKPdf	**PKPdf**	**08 13 04.0**	**+0.9**
POLO	**Lamas de Olo**	**160.31 20**	*e*PKPab	**PKPab**	**08 13 47.0**	**+0.7**
PVRL	**Vila Real**	**160.43 20**	*e*PKPdf	**PKPdf**	**08 13 03.6**	**+0.4**
PVRL	**Vila Real**	**160.43 20**	*e*PKPab	**PKPab**	**08 13 47.6**	**+0.9**
MVO	**Moncorvo**	**160.73 18**	*e*PKPdf	**PKPdf**	**08 13 03.3**	**-0.3**
MVO	**Moncorvo**	**160.73 18**	*e*PKPab	**PKPab**	**08 13 48.7**	**+0.6**
PVIS	**Viseu**	**160.88 21**	*e*PKPdf	**PKPdf**	**08 13 03.9**	**+0.2**
PVIS	**Viseu**	**160.88 21**	*e*PKPab	**PKPab**	**08 13 48.6**	**+0.1**
PCAS	**Casmilo, Conde**	**161.26 23**	*e*PKPdf	**PKPdf**	**08 13 03.6**	**-0.5**
PCAS	**Casmilo, Conde**	**161.26 23**	*e*PKPab	**PKPab**	**08 13 50.3**	**0.0**
MTE	**Manteigas**	**161.28 20**	*e*PKPdf	**PKPdf**	**08 13 04.2**	**+0.1**
MTE	**Manteigas**	**161.28 20**	*e*PKPab	**PKPab**	**08 13 50.5**	**0.0**
MTE	**Manteigas**	**161.28 20**	*e*PKPdf	**PKPdf**	**08 13 03.5**	**-0.7**
BBTS	**Babate**	**161.53 114**	PKP	**PKPdf**	**08 13 05.8**	**+0.9**
BBTS	**Babate**	**161.53 114**	PKP	**PKPdf**	**08 13 05.8**	**+0.9**
	comp=N,15nm,0.4s,baz=354,slow=1.2					
PTOM	**Tomar**	**161.68 23**	*e*PKPdf	**PKPdf**	**08 13 04.3**	**-0.2**
PTOM	**Tomar**	**161.68 23**	*e*PKPab	**PKPab**	**08 13 51.8**	**-0.4**
PCBR	**Castelo Branco**	**161.80 21**	*e*PKPdf	**PKPdf**	**08 13 04.6**	**0.0**
PCBR	**Castelo Branco**	**161.80 21**	*e*PKPab	**PKPab**	**08 13 52.4**	**-0.3**
PMAFR	**Mafra**	**161.91 26**	*e*PKPab	**PKPab**	**08 13 53.5**	**+0.3**
PMRV	**Marv??o**	**162.20 21**	*e*PKPdf	**PKPdf**	**08 13 05.7**	**+0.6**
PMRV	**Marv??o**	**162.20 21**	*e*PKPab	**PKPab**	**08 13 54.4**	**-0.1**
PMTG	**Montargil**	**162.23 24**	*e*PKPdf	**PKPdf**	**08 13 04.5**	**-0.5**
PMTG	**Montargil**	**162.23 24**	*e*PKPab	**PKPab**	**08 13 53.4**	**-1.2**
LIC	**Lamto**	**162.34 160**	*e*PKIKP	**PKPdf**	**08 13 04.9**	**-1.0**
	comp=N,78nm,1.0s					
LIC	**Lamto**	**162.34 160**	*e*PKIKP	**PKPdf**	**08 13 04.9**	**-1.0**
	comp=N,106nm,1.0s					
LIC	**Lamto**	**162.34 160**	*e*PKPdf	**PKPdf**	**08 13 04.9**	**-1.0**
KIC	**Kosan Boka**	**162.55 161**	*e*PKIKP	**PKPdf**	**08 13 05.0**	**-1.1**
	comp=N,238nm,1.2s					
PESTR	**Estremoz**	**162.63 23**	*e*PKPdf	**PKPdf**	**08 13 05.2**	**-0.3**
PESTR	**Estremoz**	**162.63 23**	*e*PKPab	**PKPab**	**08 13 56.4**	**0.0**
TIC	**Toumodi**	**162.74 160**	*e*PKIKP	**PKPdf**	**08 13 05.2**	**-1.1**
	comp=N,176nm,1.1s					
EVOP	**Sao Brissos**	**162.74 24**	*e*PKIKP	**PKPdf**	**08 13 05.5**	**0.0**
EVOP	**Sao Brissos**	**162.74 24**	*e*PKPdf	**PKPdf**	**08 13 05.5**	**0.0**
EVO	**Evora**	**162.78 24**	*e*PKIKP	**PKPdf**	**08 13 05.5**	**-0.1**
	comp=N,104nm,1.2s					
EVO			*e*R			
	comp=N,176nm,18.2s					
EVO	**Evora**	**162.78 24**	*e*PKPdf	**PKPdf**	**08 13 05.7**	**+0.1**
EVO	**Evora**	**162.78 24**	*e*PKPab	**PKPab**	**08 13 57.1**	**+0.1**
DBIC	**Dimbokro**	**162.81 160**	PKP	**PKPdf**	**08 13 05.4**	**-1.0**
DBIC			*e*PKPdf	**PKPdf**	**08 13 05.8**	**-0.6**
DBIC			PKPab	**PKPab**	**08 13 58.4**	**+0.8**
DBIC	**Dimbokro**	**162.81 160**	PKP	**PKPdf**	**08 13 05.4**	**-1.0**
	comp=N,43nm,0.9s,baz=141,slow=1.9,SNR=22					
DBIC			PKPab	**PKPab**	**08 13 58.4**	**+0.8**
	comp=N,15nm,0.7s,baz=169,slow=5.0,SNR=7.7					
ESDC	**Sonseca Array**	**162.91 13**	PKP	**PKPdf**	**08 13 05.1**	**-0.7**
ESDC			PKPab	**PKPab**	**08 13 57.9**	**+0.2**
ESDC			PP	**PP**	**08 17 45.7**	**+2.9**
ESDC	**Sonseca Array**	**162.91 13**	PKP	**PKPdf**	**08 13 05.1**	**-0.7**
	comp=N,1.9nm,0.9s,baz=356,slow=2.0,SNR=12					
ESDC			PKPab	**PKPab**	**08 13 57.9**	**+0.2**
	comp=N,23nm,0.8s,baz=344,slow=4.3,SNR=40					
ESDC			PP	**PP**	**08 17 45.7**	**+2.9**
	comp=N,6.2nm,1.1s,baz=352,slow=5.1,SNR=6.1					
ESLA	**Sonseca Array**	**162.91 13**	*e*PKPdf	**PKPdf**	**08 13 05.0**	**-0.8**
PNCL	**Nicolau / Gran**	**162.94 26**	*e*PKPdf	**PKPdf**	**08 13 05.2**	**-0.6**
PNCL	**Nicolau / Gran**	**162.94 26**	*e*PKPab	**PKPab**	**08 13 56.8**	**-0.9**
PAB	**San Pablo**	**162.95 14**	*e*PKIKP	**PKPdf**	**08 13 06.1**	**+0.2**
PAB			*e*		08 13 58.1	
PAB	**San Pablo**	**162.95 14**	*e*PKPdf	**PKPdf**	**08 13 06.1**	**+0.2**
PAB			*e*PKPab	**PKPab**	**08 13 58.0**	**+0.2**
PBEJ	**Beja**	**163.27 25**	*e*PKPdf	**PKPdf**	**08 13 06.9**	**+0.8**
PBEJ	**Beja**	**163.27 25**	*e*PKPab	**PKPab**	**08 13 59.5**	**+0.3**
PTEO	**Sao Teotonio**	**163.34 28**	*e*PKPdf	**PKPdf**	**08 13 06.5**	**+0.3**
PTEO	**Sao Teotonio**	**163.34 28**	*e*PKPab	**PKPab**	**08 13 59.7**	**+0.2**
PBAR	**Barrancos**	**163.45 22**	*e*PKPdf	**PKPdf**	**08 13 06.1**	**-0.1**
PBAR	**Barrancos**	**163.45 22**	*e*PKPab	**PKPab**	**08 14 00.3**	**+0.3**
PCVE	**Castro Verde**	**163.55 26**	*e*PKPdf	**PKPdf**	**08 13 06.4**	**0.0**
PCVE	**Castro Verde**	**163.55 26**	*e*PKPab	**PKPab**	**08 14 00.9**	**+0.5**
MORF	**Marmelete**	**163.57 28**	*e*PKPdf	**PKPdf**	**08 13 06.9**	**+0.4**
MORF	**Marmelete**	**163.57 28**	*e*PKPab	**PKPab**	**08 13 59.2**	**-1.4**
PFVI	**Vila Bisbo**	**163.64 29**	*e*PKPdf	**PKPdf**	**08 13 07.0**	**+0.5**
PFVI	**Vila Bisbo**	**163.64 29**	*e*PKPab	**PKPab**	**08 14 01.3**	**+0.4**
PVAQ	**Vaqueiros**	**163.87 25**	*e*PKPdf	**PKPdf**	**08 13 07.0**	**+0.3**
PVAQ	**Vaqueiros**	**163.87 25**	*e*PKPab	**PKPab**	**08 14 01.4**	**-0.5**
PBDV	**Barranco-do-Ve**	**163.93 26**	*e*PKPdf	**PKPdf**	**08 13 07.3**	**+0.5**
PBDV	**Barranco-do-Ve**	**163.93 26**	*e*PKPab	**PKPab**	**08 14 03.0**	**+0.8**
CMAH	**Djebel Manchou**	**165.33 339**	P	**PKPab**	**08 14 07.1**	**-1.3**
KEST	**Kesra**	**165.37 332**	PKP	**PKPdf**	**08 13 08.5**

ZIIG	**Zihuatanejo**	**2.84**	**285**	*i* P	Pn	09 03 25.2	-2.3
ZIIG				*i* S	Sn	09 03 57.8	-3.1

*CSEM **25** 09:03:43.3, 38°.16N × 26°.68W, h5km, ML2.6, After PDA*
PDA 25 09:03:43.3±0.8, 38°.16N×26°.68W, h5km±8km, MD3.7, ML2.6, Error ellipse: s-maj=14.3km s-min=2.0km az=46.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ADH	**Angra Heroismo**	**0.66**	**319**	*e*P	Pg	09 03 54.0	-2.0
ADH				*e*S	Sg	09 04 02.7	-2.0
ADH				A	A	09 04 03.4	
	72nm,0.4s						
ADH	**Angra Heroismo**	**0.66**	**319**	*e*P	Pg	09 03 54.0	-2.0
ADH				*e*S	Sg	09 04 02.7	-2.0
PSET	**Sete Cidades**	**0.83**	**113**	*e*P	Pg	09 03 56.8	-2.5
PSET				*e*S	Sg	09 04 06.5	-3.5
PSET				A	A	09 04 08.4	
	86nm,0.3s						
PSET	**Sete Cidades**	**0.83**	**113**	*e*P	Pg	09 03 56.8	-2.5
PSET				*e*S	Sg	09 04 06.5	-3.5
PDA	**Ponta Delgada**	**0.90**	**117**	*e*P	Pg	09 03 57.8	-2.8
PDA				*e*S	Sg	09 04 08.6	-3.7
PDA				A	A	09 04 11.0	
	52nm,0.3s						
PDA	**Ponta Delgada**	**0.90**	**117**	*e*P	Pg	09 03 57.8	-2.8
PDA				*e*S	Sg	09 04 08.6	-3.7
CMLA	**Cha da Macela**	**0.99**	**113**	*e*S	Sg	09 04 10.7	-4.6
CMLA				A	A	09 04 15.1	
	199nm,0.3s						
CMLA	**Cha da Macela**	**0.99**	**113**	*e*S	Sg	09 04 10.7	-4.6
PSMA	**Santa Maria**	**1.69**	**133**	*e*S	Sn	09 04 27.6	-7.9
PSMA				A	A	09 04 29.6	
	11nm,0.1s						

TRN 25 09:17:22.9, 15°.06N×60°.37W, h35km, MD3.9, M3.7(FDF), 9C-3D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FDF	**Fort de France**	**0.82**	**247**	⇓*i*P	Pb	09 17 39.1	+0.2
FDF				*e*S	Sb	09 17 50.6	+0.8
DBCT	**Belle View Cho**	**0.96**	**283**	*e*P	Pb	09 17 42.3	+1.1
DBCT				*e*S	Sb	09 17 55.3	+1.5
DSHT	**Scott's Head**	**0.98**	**279**	⇑*i*P	Pb	09 17 42.6	+1.2
DSHT				*e*S	Sb	09 17 55.7	+1.5
MDN	**Morne-Daniel**	**1.02**	**285**	*e*P	Pb	09 17 43.1	+1.0
MDN				*e*S	Sb	09 17 56.9	+1.6
DWS	**Wesley**	**1.04**	**299**	*e*P	Pb	09 17 43.0	+0.6
DWS				*e*S	Sb	09 17 56.6	+0.8
DVCT	**Vielle Casse P**	**1.14**	**299**	*e*P	Pb	09 17 44.3	+0.2
DVCT				*e*S	Sb	09 17 59.2	+0.5
MGG	**Marie-Galante**	**1.25**	**313**	*e*P	Pn	09 17 44.8	+0.9
DEG	**La Desirade**	**1.41**	**332**	*e*P	Pn	09 17 46.6	+0.4
MCLT	**Moule a Chique**	**1.45**	**202**	⇓*e*P	Pn	09 17 47.3	+0.5
MCLT				*e*S	Sb	09 18 06.3	-1.3
DOG	**Dongo Capester**	**1.54**	**309**	⇑*i*P	Pn	09 17 49.3	+1.3
PHG	**Guadaloupe-2**	**1.55**	**308**	⇑*i*P	Pn	09 17 49.5	+1.3
ECG	**Echelle**	**1.57**	**308**	*e*P	Pn	09 17 49.9	+1.3
HMG	**Houelmont**	**1.57**	**306**	⇑*i*P	Pn	09 17 49.9	+1.4
BCG	**Bois Riant Cap**	**1.58**	**310**	⇑*i*P	Pn	09 17 49.7	+1.3
LKG	**Breislack**	**1.58**	**308**	*e*P	Pn	09 17 49.9	+1.2
TAG	**Tarade**	**1.58**	**308**	⇑*i*P	Pn	09 17 50.0	+1.3
CRG	**Carmichael**	**1.59**	**309**	*e*P	Pn	09 17 50.1	+1.3
SCG	**Saint Claude**	**1.59**	**307**	*e*P	Pn	09 17 50.0	+1.3
SCG				*e*S	Sn	09 18 09.4	+1.4
FNG	**Fond-Bernard**	**1.61**	**308**	⇑*i*P	Pn	09 17 50.1	+1.1
SSG	**Sans Toucher**	**1.62**	**309**	⇑*i*P	Pn	09 17 50.3	+1.1
MLG	**Mont-d'or**	**1.63**	**308**	*e*P	Pn	09 17 50.6	+1.4
SEG	**Port Louis**	**1.72**	**321**	*e*P	Pn	09 17 52.0	+1.6
LZG	**Guadaloupe-1**	**1.73**	**309**	*e*P	Pn	09 17 52.2	+1.7
SSV	**Crater Summit**	**1.90**	**205**	*e*P	Pb	09 17 55.2	-1.9
SSV				*e*S	Sn	09 18 17.7	+1.9
BHS	**Barnard House**	**1.90**	**203**	*e*P	Pn	09 17 54.5	+1.6
BHS				*e*S	Sn	09 18 17.1	+1.4
SVV	**Soufriere Volc**	**1.92**	**205**	*e*P	Pb	09 17 55.6	-1.6
SVV				*e*S	Sn	09 18 17.8	+1.7
SVB	**Belmont**	**1.97**	**206**	⇓*i*P	Pn	09 17 55.5	+1.5
SVB				*e*S	Sb	09 18 20.2	-2.4
FCV	**Fort Charlotte**	**2.08**	**204**	⇑*e*P	Pn	09 17 57.4	+2.1
FCV				*e*S	Sn	09 18 21.3	+1.3
GRW	**Mount Saint Ca**	**3.15**	**204**	*e*P	Pn	09 18 11.8	+1.7
GRW				*e*S	Sn	09 18 48.3	+1.7
SKI	**Saint Kitts**	**3.21**	**315**	*e*P	Pn	09 18 13.6	+2.8
SKI				*e*S	Sn	09 18 51.0	+3.1
TOSP	**Speyside**	**3.74**	**182**	*e*P	Pn	09 18 21.1	+2.9
TOSP				*e*S	Sn	09 19 01.7	+0.6
BOT	**Bacolet**	**3.89**	**185**	*e*P	Pn	09 18 22.1	+1.9
TRN	**Trinidad (W)**	**4.50**	**193**	*e*P	Pn	09 18 30.3	+1.6
TCE	**Chacachacare**	**4.54**	**197**	*e*P	Pn	09 18 31.9	+2.7
TBH	**Brigand Hill**	**4.60**	**189**	*e*P	Pn	09 18 32.8	+2.8

*IDC **25** 09:18:54.7±1.8, 2°.76N×125°.88E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/22, mbtmp3.4/4, Error ellipse: s-maj=191.3km s-min=21.2km az=66.0*
*ISCJB **25** 09:18:55.2±1.2, 3°.9N±0°.1×128°.6E±0°.1, h46km, mb3.4/4, Error ellipse: s-maj=19.9km s-min=17.4km az=15.7*
*DJA **25** 09:20:04.5±1.8, 0°.N±11°×12°.5E±1°.7, h71km±13km, M4.1/4, MLv4.1/4*
ISC 25 09:18:57.3±1.6, 3°.9N±0°.2×128°.6E±0°.2, h46km, n9, σ1f59/8, mb3.5/4, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**5.62**	**234**	P	**Pn**	**09 20 19.2**	**+0.8**
MRSI	**Marisa**	**7.41**	**243**	P	**Pn**	**09 20 44.0**	**+1.0**
LUWI	**Luwuk**	**7.56**	**230**	P	Pn	09 20 39.4	-5.6
APSI	**Ampana**	**8.38**	**236**	P	**Pn**	**09 20 53.1**	**-3.1**
TTSI	**Tana Toraja**	**11.11**	**232**	P	**Pn**	**09 21 34.6**	**+1.0**
WRA	**Warramunga Arr**	**24.35**	**167**	P	**P**	**09 24 11.4**	**+0.3**
	0.5nm,0.5s,baz=339,slow=11,SNR=9.7						
ASAR	**Alice Springs**	**27.87**	**169**	P	**P**	**09 24 42.8**	**-0.1**
	0.1nm,0.5s,baz=354,slow=7.6,SNR=3.0						
MKAR	**Makanchi Array**	**58.48**	**324**	P	**P**	**09 28 48.3**	**-0.5**
	0.3nm,0.5s,baz=125,slow=6.9,SNR=4.2						
KURBB	**Kurchatov Arra**	**62.60**	**327**	P	**P**	**09 29 17.1**	**+0.3**
	0.8nm,0.8s,baz=126,slow=6.0,SNR=9.9						

IDC 25 09:22:03.6±2.0, 15°.26S×173°.67W, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.9/18, mbtmp3.9/5, MS3.5/3, Ms1 3.5/3, ms1mx3.1/27, Error ellipse: s-maj=121.0km s-min=24.5km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.27**	**54**	Pn	Pn	09 22 35.9	-6.6
	30nm,0.3s,baz=7.0,slow=3.5,SNR=25						
AFI				Sn	Sn	09 22 56.0	-15
	135nm,0.3s,baz=216,slow=22,SNR=11						
RAR	**Rarotonga**	**14.47**	**116**	LR	LR	09 29 17.1	
	comp=Z,156nm,20.3s,baz=270,slow=30						
H11S2	**WAKE ISLAND Hy**	**38.71**	**329**	T	T	10 10 23.6	
	baz=152,slow=0.7,SNR=60						
H11S3	**WAKE ISLAND Hy**	**38.72**	**329**	T	T	10 10 24.5	
	baz=152,slow=0.7,SNR=52						
H11S1	**WAKE ISLAND Hy**	**38.72**	**329**	T	T	10 10 24.8	
	baz=152,slow=0.7,SNR=40						
H11N3	**WAKE ISLAND Hy**	**39.66**	**331**	T	T	10 11 34.7	
	baz=152,slow=0.7,SNR=40						
H11N1	**WAKE ISLAND Hy**	**39.66**	**331**	T	T	10 11 32.9	
	baz=152,slow=0.7,SNR=50						
H11N2	**WAKE ISLAND Hy**	**39.67**	**331**	T	T	10 11 33.7	
	baz=152,slow=0.7,SNR=50						
WRA	**Warramunga Arr**	**49.62**	**257**	P	P	09 30 56.7	-0.5
	0.5nm,0.5s,baz=90,slow=7.3,SNR=20						
ASAR	**Alice Springs**	**49.90**	**252**	P	P	09 30 59.4	0.0
	2.9nm,0.6s,baz=87,slow=8.0,SNR=60						
FX1	**Attu Island--F**	**68.80**	**351**	LR	LR	09 55 54.0	
	comp=Z,48nm,20.8s,baz=262,slow=30						
KSRS	**Korea Array**	**75.87**	**316**	LR	LR	10 03 19.4	
	comp=Z,18nm,19.2s,baz=335,slow=33						
TXAR	**Lajitas Array**	**80.75**	**56**	P	P	09 34 19.7	+0.2
	0.4nm,0.9s,baz=243,slow=4.1,SNR=4.4						
PDAR	**Pinedale Array**	**82.34**	**42**	P	P	09 34 27.2	-0.5
	0.6nm,0.9s,baz=204,slow=3.3,SNR=4.4						
ILAR	**Eielson Array**	**82.36**	**11**	P	P	09 34 26.6	-0.3
	2.0nm,1.2s,baz=213,slow=6.5,SNR=5.5						
BRTR	**Keskin Array B**	**145.88**	**321**	PKPbc	PKPab	09 41 45.8	-0.2
	1.0nm,0.8s,baz=116,slow=2.9,SNR=6.2						

*NEIC **25** 09:49:17.1, 21°.33S×33°.50E, h10km, mb4.0/1, ML4.0(PRE), After PRE.*
PRE 25 09:49:17.1±2.8, 21°.33S×33°.50E, h10km, ML4.0, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSNA	**Messina**	**3.38**	**252**	*e*P	Pn	09 50 11.2	+1.1
MSNA				*e*S	Sn	09 50 51.0	+0.7
MSNA				AML	AML	09 51 02.5	
	comp=Z,93nm,0.4s						
MSNA	**Messina**	**3.38**	**252**	*e*P	Pn	09 50 11.2	+1.1
MSNA				*e*S	Sn	09 50 51.0	+0.7
SLR	**Silverton**	**6.49**	**227**	*e*P	Pn	09 50 55.2	+2.2
SLR				*e*S	Sn	09 52 04.9	-2.3
SLR				AML	AML	09 52 42.2	
	comp=Z,38nm,0.5s						
SLR	**Silverton**	**6.49**	**227**	*e*P	Pn	09 50 55.2	+2.2
SLR				*e*S	Sn	09 52 04.9	-2.3
ERPM	**east rand prop**	**6.93**	**223**	AML	AML	09 53 03.4	
	comp=Z,16nm,0.5s						
LSZ	**Lusaka**	**7.86**	**319**	*e*Pn	Pn	09 51 14.2	+2.5
	comp=Z,100nm,2.3s						
LSZ				*e*Sn	Sn	09 52 34.3	-6.6
PRYS	**Parys**	**7.90**	**224**	*e*P	Pn	09 51 13.3	+1.0
PRYS				*e*S	Sn	09 52 37.6	-4.3
PRYS				AML	AML	09 53 29.7	
	comp=Z,8.6nm,0.5s						
PRYS	**Parys**	**7.90**	**224**	*e*P	Pn	09 51 13.3	+1.0
PRYS				*e*S	Sn	09 52 37.6	-4.3
LBTB	**Lobatse**	**8.14**	**242**	*e*P	Pn	09 51 16.4	+0.9
LBTB				*e*S	Sn	09 52 43.3	-4.5
LBTB				AML	AML	09 53 28.8	
	comp=Z,19nm,0.6s						
LBTB	**Lobatse**	**8.14**	**242**	*e*Pn	Pn	09 51 16.1	+0.5
LBTB				*e*Sn	Sn	09 52 43.9	-3.9
SEK	**Senekal**	**8.77**	**216**	*e*P	Pn	09 51 24.9	+0.7
SEK				*e*S	Sn	09 53 00.9	-2.4
SEK				AML	AML	09 54 06.8	
	comp=Z,14nm,0.7s						
SEK	**Senekal**	**8.77**	**216**	*e*P	Pn	09 51 24.9	+0.7
SEK				*e*S	Sn	09 53 00.9	-2.4
BOSA	**Boshof**	**10.41**	**224**	*e*P	Pn	09 51 46.4	-0.3
BOSA				*e*S	Sn	09 53 35.3	-8.3
BOSA				AML	AML	09 54 49.0	
	comp=Z,8.3nm,0.7s						
BOSA	**Boshof**	**10.41**	**224**	*e*Pn	Pn	09 51 46.6	-0.1
BOSA				*e*Sn	Sn	09 53 35.8	-7.8
TSUM	**Tsumeb**	**15.09**	**275**	*e*P	Pn	09 52 48.7	-1.9
	comp=Z,9.2nm,1.3s						

*IDC **25** 09:58:46.6±0.7, 16°.44S×173°.08W, h0km, mb4.0/8, mb1 4.3/8, mb1mx4.0/21, mbtmp4.0/8, MS3.6/2, Ms1 3.6/2, ms1mx3.1/31, Error ellipse: s-maj=38.5km s-min=18.0km az=142.0*
*NEIC **25** 09:58:48.1±0.5, 16°.27S×173°.18W, h10km, mb4.6/7, Error ellipse: s-maj=24.6km s-min=10.0km az=132.0*
*ISCJB **25** 09:58:49.0±0.5, 16°.1S±0°.1×173°.3W±0°.1, h26km, mb4.2/14, MS3.7/1, Error ellipse: s-maj=25.1km s-min=8.5km az=40.4*
ISC 25 09:58:50.5±0.6, 16°.1S±0°.1×173°.1W±0°.2, h26km, n43, σ1f42/43, mb4.3/14, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.55**	**30**	*e*Pn	**Pn**	**09 59 29.0**	**-1.2**
AFI				*e*Sn	**Sn**	**09 59 59.8**	**-0.6**
AFI	**Afiamalu**	**2.55**	**30**	Pn	**Pn**	**09 59 29.2**	**-1.0**
	15nm,0.3s,baz=219,slow=11,SNR=13						
AFI				Sn	**Sn**	**09 59 57.9**	**-2.6**
	72nm,0.3s,baz=222,slow=16,SNR=7.9						
RAO	**Raoul Island**	**13.79**	**198**	LR	LR	10 06 24.1	
	comp=Z,146nm,21.7s,baz=14,slow=34						
URZ	**Urewera**	**23.67**	**200**	*e*P	**P**	**10 03 57.9**	**-2.1**
	8.4nm,0.7s						
URZ	**Urewera**	**23.67**	**200**	P	**P**	**10 03 57.9**	**-2.1**
	4.5nm,0.5s,baz=81,slow=8.5,SNR=6.3						
HNR	**Honiara**	**27.11**	**281**	LR	LR	10 13 51.7	
	comp=Z,195nm,20.2s,baz=82,slow=33						
RPZ	**Rata Peaks**	**30.62**	**203**	*e*P	**P**	**10 05 05.0**	**+2.5**
	14nm,1.0s						
RPZ	**Rata Peaks**	**30.62**	**203**	P	**P**	**10 05 04.5**	**+2.0**
	5.2nm,0.6s,baz=14,slow=3.4,SNR=5.9						
H11S2	**WAKE ISLAND Hy**	**39.75**	**329**	T	T	10 48 51.9	
	baz=151						
H11S3	**WAKE ISLAND Hy**	**39.76**	**329**	T	T	10 48 53.4	
	baz=151						
H11S1	**WAKE ISLAND Hy**	**39.77**	**329**	T	T	10 48 56.0	
	baz=151						
H11N3	**WAKE ISLAND Hy**	**40.70**	**330**	T	T	10 50 02.8	
	baz=152						
H11N1	**WAKE ISLAND Hy**	**40.70**	**330**	T	T	10 49 56.3	
	baz=152						
H11N2	**WAKE ISLAND Hy**	**40.72**	**330**	T	T	10 50 00.3	
	baz=152						
STKA	**Stephens Creek**	**43.94**	**241**	P	**P**	**10 06 54.5**	**-1.0**
STKA	**Stephens Creek**	**43.94**	**241**	P	**P**	**10 06 54.5**	**-1.0**
	2.8nm,0.9s,baz=66,slow=10.0,SNR=3.8						
WRAB	**Tennant Creek**	**49.97**	**257**	*e*P	**P**	**10 07 41.3**	**-1.5**
	14nm,1.5s						
WRA	**Warramunga Arr**	**49.98**	**257**	P	**P**	**10 07 41.7**	**-1.2**
WRA				PcP	**PcP**	**10 09 03.5**	**+0.7**
WRA	**Warramunga Arr**	**49.98**	**257**	P	**P**	**10 07 41.7**	**-1.2**
	0.4nm,0.6s,baz=92,slow=6.6,SNR=13						
WRA				PcP	**PcP**	**10 09 03.5**	**+0.7**
	0.7nm,1.0s,baz=89,slow=3.8,SNR=5.5						
AS31	**Alice Springs**	**50.18**	**252**	*e*P	**P**	**10 07 42.5**	**-1.9**
ASAR	**Alice Springs**	**50.18**	**252**	P	**P**	**10 07 42.6**	**-1.7**
ASAR				PcP	**PcP**	**10 09 04.0**	**+0.5**
ASAR	**Alice Springs**	**50.18**	**252**	P	**P**	**10 07 42.6**	**-1.7**
	2.7nm,0.6s,baz=88,slow=8.1,SNR=81						
ASAR				PcP	**PcP**	**10 09 04.0**	**+0.5**
	1.0nm,0.9s,baz=94,slow=3.2,SNR=5.5						
QSPA	**South Pole Qui**	**73.91**	**180**	*e*P	**P**	**10 10 21.8**	**-1.4**
	5.1nm,1.1s						
NVAR	**Mina Array Bea**	**74.67**	**42**	P	**P**	**10 10 29.6**	**+1.5**
NVAR	**Mina Array Bea**	**74.67**	**42**	P	**P**	**10 10 29.6**	**+1.5**
	0.9nm,0.7s,baz=223,slow=11,SNR=8.2						
TPH	**Tonopah**	**75.16**	**43**	*e*P	**P**	**10 10 32.4**	**+1.4**
	3.4nm,1.3s						
TXAR	**Lajitas Array**	**80.77**	**56**	P	**P**	**10 11 03.0**	**+0.9**
TXAR	**Lajitas Array**	**80.77**	**56**	P	**P**	**10 11 03.0**	**+0.9**
	0.5nm,0.9s,baz=205,slow=5.1,SNR=4.7						
MCK	**McKinley**	**81.79**	**11**	*e*P	**P**	**10 11 08.5**	**+1.8**
	10nm,1.0s						
PDAR	**Pinedale Array**	**82.61**	**42**	P	**P**	**10 11 12.9**	**+1.2**
PDAR	**Pinedale Array**	**82.61**	**42**	P	**P**	**10 11 12.9**	**+1.2**
	0.8nm,0.8s,baz=220,slow=3.9,SNR=6.2						
COLA	**College**	**83.03**	**11**	*e*P	**P**	**10 11 14.1**	**+1.1**
	33nm,1.0s						
ILAR	**Eielson Array**	**83.11**	**11**	P	**P**	**10 11 14.9**	**+1.5**
ILAR	**Eielson Array**	**83.11**	**11**	P	**P**	**10 11 14.9**	**+1.5**
	0.8nm,0.6s,baz=230,slow=5.9,SNR=25						
ARCES	**ARCESS Array B**	**125.38**	**352**	PKP	**PKPdf**	**10 17 49.9**	**+1.4**
ARCES	**ARCESS Array B**	**125.38**	**352**	PKP	**PKPdf**	**10 17 49.9**	**+1.4**
	1.8nm,0.8s,baz=29,slow=2.1,SNR=3.8						
KMBO	**Kilima Mbogo**	**145.48**	**243**	*e*PKPdf	**PKPab**	**10 18 29.5**	**+1.7**
GERES	**GERESS Array B**	**146.91**	**352**	PKPbc	**PKPab**	**10 18 32.2**	**+0.2**
GERES	**GERESS Array B**	**146.91**	**352**	PKPbc	**PKPab**	**10 18 32.2**	**+0.2**
	1.8nm,0.9s,baz=72,slow=2.1,SNR=8.1						
BRTR	**Keskin Array B**	**146.92**	**321**	PKPbc	**PKPab**	**10 18 32.7**	**+0.2**
BRTR	**Keskin Array B**	**146.92**	**321**	PKPbc	**PKPab**	**10 18 32.7**	**+0.2**
	1.1nm,0.7s,baz=92,slow=1.6,SNR=5.6						
TORD	**Torodi Ar. Bea**	**174.14**	**120**	PKP	**PKPdf**	**10 18 58.0**	**-0.8**
TORD				PKPab	**PKPab**	**10 20 28.8**	**-1.5**
TORD	**Torodi Ar. Bea**	**174.14**	**120**	PKP	**PKPdf**	**10 18 58.0**	**-0.8**
	1.0nm,1.0s,baz=309,slow=1.8,SNR=4.3						
TORD				PKPab	**PKPab**	**10 20 28.8**	**-1.5**
	0.4nm,0.9s,baz=247,slow=5.1,SNR=2.8						

IDC 25 10:13:49.7±1.3, 7°.31N×123°.85E, h616km±18km, mb3.1/15, mb1 3.2/15, mb1mx3.1/26, mbtmp3.1/15, Error ellipse: s-maj=26.4km s-min=7.3km az=70.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**25.31**	**176**	P	P	10 18 30.0	0.0
	0.7nm,0.2s,baz=11,slow=13,SNR=13						
CMAR	**Chiang Mai Arr**	**26.65**	**297**	P	P	10 18 42.4	+0.7
	1.2nm,0.6s,baz=108,slow=7.3,SNR=7.8						
WRA	**Warramunga Arr**	**28.98**	**159**	P	P	10 19 01.5	-0.5
	3.0nm,0.5s,baz=332,slow=11,SNR=87						
WRA				S	S	10 23 09.3	-2.3
	1.3nm,1.1s,baz=344,slow=16,SNR=4.0						
WRA				ScP	ScP	10 24 35.4	+1.0
	0.3nm,0.6s,baz=342,slow=3.2,SNR=3.7						
KSRS	**Korea Array**	**30.23**	**6**	P	P	10 19 11.8	-0.7
	0.4nm,0.4s,baz=187,slow=9.8,SNR=3.0						
ASAR	**Alice Springs**	**32.32**	**163**	P	P	10 19 31.1	+0.6
	2.8nm,0.3s,baz=342,slow=7.1,SNR=248						
ASAR				PcP	PcP	10 21 59.8	+0.6
	0.3nm,0.5s,baz=337,slow=2.7,SNR=4.4						
ASAR				S	S	10 24 03.8	+1.3
	0.7nm,0.8s,baz=348,slow=19,SNR=6.2						
ASAR				ScP	ScP	10 24 46.8	+1.2
	0.2nm,0.5s,baz=346,slow=3.1,SNR=5.9						
USRK	**Ussuriysk Arra**	**37.43**	**10**	P	P	10 20 12.8	+0.5
	0.5nm,0.4s,baz=194,slow=5.2,SNR=3.6						
STKA	**Stephens Creek**	**42.49**	**157**	P	P	10 20 53.6	+0.9
	2.4nm,0.4s,baz=351,slow=7.7,SNR=10						
SONM	**Songino Array**	**43.03**	**343**	P	P	10 20 57.3	+0.4
	1.4nm,0.8s,baz=148,slow=7.6,SNR=7.5						
MKAR	**Makanchi Array**	**53.00**	**325**	P	P	10 22 11.1	+0.5
	3.8nm,0.4s,baz=119,slow=7.5,SNR=88						
ZALV	**Zalesovo Beam**	**56.12**	**333**	P	P	10 22 31.9	-0.2
	0.4nm,0.3s,baz=144,slow=13,SNR=3.6						
BVAR	**Borovoye Array**	**62.77**	**327**	P	P	10 23 16.0	-0.4
	1.7nm,0.8s,baz=148,slow=8.5,SNR=7.0						
AKTO	**Aktyubinsk**	**69.09**	**321**	P	P	10 23 53.8	-1.7
	1.0nm,0.3s,baz=82,slow=8.3,SNR=6.9						
ARCES	**ARCESS Array B**	**86.12**	**340**	P	P	10 25 25.9	-0.5
	1.4nm,0.7s,baz=94,slow=4.0,SNR=3.3						
VNDA	**Vanda**	**87.33**	**172**	P	P	10 25 32.1	+0.2
	0.7nm,1.0s,baz=6.0,slow=0.6,SNR=6.4						
FINES	**FINESS Array B**	**87.34**	**332**	P	P	10 25 31.6	-0.7
	1.1nm,0.7s,baz=101,slow=9.9,SNR=4.1						

IDC 25 10:26:28.8±9.2, 14°.43S×172°.64W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/20, mbtmp3.4/3, Error ellipse: s-maj=410.2km s-min=37.4km az=138.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H11S2	**WAKE ISLAND Hy**	**38.53**	**327**	T	T	11 14 52.6	
	baz=152,slow=0.7,SNR=8.5						
H11S3	**WAKE ISLAND Hy**	**38.54**	**327**	T	T	11 14 57.0	
	baz=152,slow=0.7,SNR=6.9						
H11S1	**WAKE ISLAND Hy**	**38.54**	**327**	T	T	11 14 54.1	
	baz=152,slow=0.7,SNR=6.7						
H11N3	**WAKE ISLAND Hy**	**39.45**	**329**	T	T	11 16 12.5	
	baz=153,slow=0.7,SNR=7.5						
H11N1	**WAKE ISLAND Hy**	**39.45**	**329**	T	T	11 16 05.7	
	baz=153,slow=0.7,SNR=8.2						
H11N2	**WAKE ISLAND Hy**	**39.47**	**329**	T	T	11 16 08.0	
	baz=153,slow=0.7,SNR=6.7						
WRA	**Warramunga Arr**	**50.79**	**256**	P	P	10 35 30.7	-0.7
	0.2nm,0.8s,baz=93,slow=7.3,SNR=3.8						
ASAR	**Alice Springs**	**51.12**	**251**	P	P	10 35 34.1	+0.3
	0.7nm,0.5s,baz=87,slow=8.1,SNR=11						
ILAR	**Eielson Array**	**81.35**	**11**	P	P	10 38 47.0	0.0
	0.2nm,0.6s,baz=234,slow=4.3,SNR=5.1						

*IDC **25** 10:39:13.5±0.5, 15°.96S×173°.29W, h0km, mb4.3/14, mb1 4.5/14, mb1mx4.3/23, mbtmp4.2/14, MS3.8/12, Ms1 3.8/12, ms1mx3.6/32, Error ellipse: s-maj=26.0km s-min=14.5km az=128.0*
*BJI **25** 10:39:14.0, 15°.90S×173°.40W, h10km, mB5.6/6, mb4.9/14, Ms7 4.7/1*
*NEIC **25** 10:39:15.1±0.2, 15°.91S×173°.35W, h10km, mb4.7/36, Error ellipse: s-maj=11.6km s-min=5.1km az=135.0*
*ISCJB **25** 10:39:16.0±0.3, 15°.97S±0°.08×173°.33W±0°.07, h26km, mb4.6/54, MS4.0/10, Error ellipse: s-maj=13.4km s-min=6.5km az=140.3*
ISC 25 10:39:17.5±0.5, 15°.94S±0°.10×173°.3W±0°.1, h26km, n120, σ1f13/116, mb4.6/54, MS3.9/10, 4C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.50**	**36**	*e*Pn	Pn	10 39 49.4	-7.1
AFI				*e*Sn	Sn	10 40 17.0	-9.2
AFI	**Afiamalu**	**2.50**	**36**	Pn	Pn	10 39 49.3	-7.3
	52nm,0.3s,baz=195,slow=11,SNR=52						
AFI				Sn	Sn	10 40 15.2	-11
	182nm,0.3s,baz=231,slow=20,SNR=14						
AFI				LR	LR	10 40 34.5	
	comp=Z,

3.1nm,0.7s,baz=134,slow=10,SNR=2.9
GSC Goldstone 73.90 45 *e*P **P 10 50 51.6 +1.1**
5.6nm,1.1s
WAKR Walker 73.98 41 *e*P **P 10 50 51.0 0.0**
7.1nm,1.1s
HUMO Hull Mountain 74.38 36 *e*P **P 10 50 53.8 +0.7**
26nm,1.5s
NVAR Mina Array Bea 74.66 42 P **P 10 50 55.3 +0.3**
NVAR Mina Array Bea 74.66 42 P **P 10 50 55.3 +0.3**
3.3nm,0.7s,baz=226,slow=10,SNR=34
NV11 Mina Array Sit 74.76 42 *e*P **P 10 50 55.3 -0.2**
TPH Tonopah 75.16 43 *e*P **P 10 50 57.8 -0.1**
10nm,1.2s
MOD Modoc 75.48 38 *e*P **P 10 50 60.0 +0.3**
7.0nm,0.9s
SHPR Sheep Range 75.67 45 *e*P **P 10 51 01.6 +0.7**
H04A Detroit Lake 76.14 35 *e*P **P 10 51 03.5 +0.4**
11nm,1.1s
R11A Troy Canyon, C 76.38 43 *e*P **P 10 51 05.2 +0.3**
4.4nm,1.3s
WVOR Wild Horse Val 76.79 38 *e*P **P 10 51 07.2 +0.1**
4.6nm,0.8s
I07A Izee 77.27 37 *e*P **P 10 51 10.5 +0.8**
J08A Circle Bar Ran 77.44 38 *e*P **P 10 51 11.2 +0.6**
9.6nm,1.2s
CCUT Cedar City 77.44 45 *e*P **P 10 51 11.2 +0.2**
4.6nm,1.1s
BMO Blue Mountains 79.00 37 *e*P **P 10 51 19.0 -0.2**
4.2nm,1.1s
PMR Palmer 79.63 11 *e*P **P 10 51 24.3 +2.2**
31nm,1.6s
F10A Beach Ranch, E 79.69 36 *e*P **P 10 51 23.0 0.0**
5.4nm,0.9s
HLID Hailey 79.98 39 *e*P **P 10 51 25.5 +0.8**
7.3nm,1.2s
NJ2 Nanjing 80.56 307 *e*P **P 10 51 27.8 0.0**
NJ2 AMB AMB
comp=Z,20nm,1.0s
PV05 Paradox Valley 80.63 46 *e*P **P 10 51 29.6 +1.2**
PV10 Paradox Valley 80.81 46 *e*P **P 10 51 29.6 +0.2**
74nm,0.8s
TXAR Lajitas Array 80.83 56 P **P 10 51 29.7 +0.2**
TXAR Lajitas Array 80.83 56 P **P 10 51 29.7 +0.2**
0.7nm,0.8s,baz=208,slow=7.0,SNR=8.7
TXAR LR LR 11 18 00.2
comp=Z,111nm,20.9s,baz=5.0,slow=29
PV01 Paradox Valley 81.02 46 *e*P **P 10 51 30.1 -0.5**
422nm,1.0s
ANMO Albuquerque 81.07 50 *e*P **P 10 51 30.9 +0.2**
3.3nm,1.2s
ANMO Albuquerque 81.07 50 P **P 10 51 31.1 +0.4**
0.8nm,0.5s,baz=231,slow=4.9
CN2 Changchun 81.56 320 *e*P **P 10 51 31.5 -1.4**
MCK McKinley 81.63 11 *e*P **P 10 51 33.1 +0.2**
12nm,1.0s
MSO Missoula 82.05 37 *e*P **P 10 51 35.8 +0.2**
11nm,1.4s
FXWY Fox Creek 82.11 40 *e*P **P 10 51 36.6 +0.5**
11nm,1.6s
BSMT Bassoo Peak 82.14 35 *e*P **P 10 51 35.3 -0.9**
SNOW Snow King Moun 82.19 41 *e*P **P 10 51 37.1 +0.5**
69nm,2.6s
IMW Indian Meadow 82.30 40 *e*P **P 10 51 37.4 +0.3**
8.1nm,1.3s
PDAR Pinedale Array 82.60 42 P **P 10 51 38.3 -0.4**
PDAR Pinedale Array 82.60 42 P **P 10 51 38.3 -0.4**
1.8nm,0.8s,baz=219,slow=3.2,SNR=17
PDAR LR LR 11 24 53.2
comp=Z,50nm,18.8s,baz=40,slow=33
SMCO Snowmass 82.61 46 *e*P **P 10 51 39.7 +0.6**
8.0nm,1.3s
BOZ Bozeman (W) 82.78 38 *e*P **P 10 51 39.5 0.0**
6.6nm,1.4s
COLA College 82.87 11 *e*P **P 10 51 38.4 -0.8**
13nm,0.9s
ILAR Eielson Array 82.95 11 P **P 10 51 39.4 -0.4**
ILAR Eielson Array 82.95 11 P **P 10 51 39.4 -0.4**
0.8nm,0.6s,baz=232,slow=6.0,SNR=13
SDCO Great Sand Dun 83.00 48 *e*P **P 10 51 40.5 -0.5**
2.1nm,1.0s
QIZ Qiongzhong 83.19 292 P **P 10 51 41.5 -0.5**
QIZ S **S 11 02 02.0 +1.0**
QIZ AMB AMB
comp=Z,5.0nm,2.1s
HRY Holter Researc 83.21 38 *e*P **P 10 51 42.0 +0.3**
MSTX Muleshoe 83.41 52 *e*P **P 10 51 43.0 +0.1**
21nm,1.7s
AMTX Amarillo 84.61 52 *e*P **P 10 51 48.9 -0.1**
56nm,2.1s
MAW Mawson 87.32 199 P **P 10 52 02.4 +0.7**
MAW Mawson 87.32 199 P **P 10 52 02.4 +0.7**
2.1nm,0.6s,baz=122,slow=9.3,SNR=12
MAW LR LR 11 26 17.3
comp=Z,93nm,20.9s,baz=7.1,slow=32
GYA Guiyang 88.38 298 *e*P **P 10 52 08.3 +0.6**
GYA AMB AMB
comp=Z,10.0nm,1.0s
HHC Hu-ho-hao-te 89.46 313 *e*P **P 10 52 13.5 +1.0**
HHC pP **pP 10 52 17.0 -3.9**
HHC sP **sP 10 52 20.5 -3.5**
HHC PP **PP 10 55 48.5 +4.4**
HHC SKS **SKSac 11 02 43.0 +1.8**
HHC S **ScS 11 03 03.8 -2.3**
HHC sS **sS 11 03 14.0 -1.5**
HHC AMB AMB
comp=Z,37nm,1.2s
HHC AMB AMB
comp=Z,400nm,7.1s
HHC LR LR
comp=Z,220nm,14.3s
KMI Kunming 91.34 296 P **P 10 52 21.5 -0.2**
KMI AMB AMB
comp=Z,5.0nm,0.8s
SYO Syowa Base 92.09 191⇑ *e*P **P 10 52 22.9 -1.2**
CD2 Chengdu 92.17 301 P **P 10 52 26.5 +1.3**
CD2 AMB AMB
comp=Z,10.0nm,0.5s
CMAR Chiang Mai Arr 92.87 288 P **P 10 52 29.9 +1.2**
CMAR Chiang Mai Arr 92.87 288 P **P 10 52 29.9 +1.2**
0.5nm,0.3s,baz=116,slow=2.1,SNR=5.4
ULM Lac du Bonnet 94.29 39 LR LR 11 27 51.6
comp=Z,104nm,18.5s,baz=330,slow=31
ARCES ARCESS Array B 125.15 352 PKP **PKPdf 10 58 15.2 +0.1**
ARCES ARCESS Array B 125.15 352 PKP **PKPdf 10 58 15.2 +0.1**
2.0nm,0.8s,baz=29,slow=2.1,SNR=5.9
FINES FINESS Array B 132.49 348 PKP **PKPdf 10 58 29.9 +0.8**
FINES FINESS Array B 132.49 348 PKP **PKPdf 10 58 29.9 +0.8**
1.3nm,0.7s,baz=345,slow=4.9,SNR=4.2
CLL Collm 144.36 353 *e*PKPdf **PKPdf 10 58 51.0 -0.2**
DPC Dobruska-Polom 144.81 349 *e*PKP **PKPdf 10 58 51.3 -0.8**
DPC *ep*PKP **PKiKP 10 58 57.5 +1.6**
OKC Ostrava-Krasne 144.93 347 *ep*PKP **PKPdf 10 58 55.4 +3.1**
OKC *ex* x 10 58 57.2
MORC Moravsky Berou 145.12 348 *e*PKPdf **PKPab 10 58 51.7 -0.5**
KMBO Kilima Mbogo 145.38 243 *e*PKPdf **PKPab 10 58 55.0 +0.5**
PRU Pruhonice 145.45 351 *e*PKP **PKPab 10 58 52.8 -0.5**
PRU *ep*PKP **PKiKP 10 58 58.6 +1.5**
NKC Novy Kostel 145.48 353 *e*PKP **PKPbc 10 58 52.6 -0.7**
TREC Trest 145.97 350 *e*PKP **PKPab 10 58 55.2 -0.1**
TREC *ep*PKP **pPKPdf 10 59 00.0 -2.8**
KHC Kasperske Hory 146.42 352 *e*PKP **PKPdf 10 58 54.7 -0.2**
KHC *ep*PKP **PKiKP 10 58 59.7 +0.5**
KHC Kasperske Hory 146.42 352 *e*PKPdf **PKPdf 10 58 53.8 -1.2**
BR131 Keskin Array S 146.63 321 *e*PKPbc **PKPab 10 58 57.8 -0.5**
BRTR Keskin Array B 146.63 321 PKPbc **PKPab 10 58 57.9 -0.5**
BRTR Keskin Array B 146.63 321 PKPbc **PKPab 10 58 57.9 -0.5**
3.1nm,1.0s,baz=103,slow=2.7,SNR=11
GERES GERESS Array B 146.69 352 PKPbc **PKPab 10 58 57.5 -0.7**
GERES GERESS Array B 146.69 352 PKPbc **PKPab 10 58 57.5 -0.7**
0.7nm,0.6s,baz=31,slow=3.1,SNR=7.8
CONA Conrad Observa 147.22 349⇑ *i*PKPab **PKPab 10 58 59.3 -0.9**
5.5nm,0.9s
BFO Black Forest 147.67 358 *e*PKPbc **PKPbc 10 58 59.2 -0.6**
SOKA Soboth 148.57 349⇑ *is*PKPdf **PKPbc 10 59 02.6 +0.4**
8.8nm,1.2s
ABTA Abfaltersbach 148.90 352⇑ *is*PKPdf **PKPbc 10 59 03.4 +0.3**
5.7nm,0.9s
CSS Prodhromos 149.54 313 *e*PKPbc **PKPbc 10 59 04.9 -0.1**
TORD Torodi Ar. Bea 174.42 119 PKP **PKPdf 10 59 24.9 -1.0**
TORD PKPab **PKPab 11 00 57.5 -1.1**
TORD Torodi Ar. Bea 174.42 119 PKP **PKPdf 10 59 24.9 -1.0**
1.1nm,1.1s,baz=205,slow=6.2,SNR=3.5
TORD PKPab **PKPab 11 00 57.5 -1.1**
1.0nm,0.9s,baz=249,slow=3.9,SNR=4.0

BJI ***25*** *10:55:01.0,27.°70N×111.°90W,h10km,mb4.6/2,Ms7.4/1*
IDC ***25*** *10:55:02.1±1.1,27.°92N×111.°82W,h0km,mb4.4/7,*
mb1 4.4/14,mb1mx4.1/30,mbtmp4.2/14,ML3.2/6,MS4.1/16,
Ms1 4.1/16,ms1mx3.9/38,Error ellipse: s-maj=18.8km
s-min=9.9km az=20.0
ISCJB ***25*** *10:55:03.0±0.8,27.°77N±0.°03×111.°85W±0.°03,h20km±7km,*
mb4.4/24,MS4.1/10,Error ellipse: s-maj=5.4km
s-min=4.6km az=35.7
NEIC ***25*** *10:55:03.7±0.6,27.°74N×111.°89W,h10km,mb4.4/60,*
Error ellipse: s-maj=8.0km s-min=4.6km az=205.0
NEIC Felt [II] at Guaymas, Sonora.
MEX ***25*** *10:55:03.2±0.4,27.°85N×111.°84W,h10km,MD4.4*
ISC 25 10:55:04.6±1.6,27.°88N±0.°04×111.°91W±0.°05,h18km±9km,
n166,σ1§70/157,mb4.5/24,MS4.2/10,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.63**	**208**	*e*P		Pg		10 55 13.8	-3.3
SRIG				*e*S		**Sg**		**10 55 23.2**	**-2.3**
HSIG		**1.42**	**36**	*e*P		Pn		10 55 25.4	-4.2
HSIG				*i* S		**Sn**		**10 55 43.5**	**-4.3**
LPIG	**La Paz**	**4.02**	**159**	*i* P		Pn		10 56 02.0	-3.3
LPIG				*i* S		**Sn**		**10 56 47.3**	**-4.8**
LPIG	**La Paz**	**4.02**	**159**	Pn		**Pn**		**10 56 05.2**	**-0.2**
LPIG	**La Paz**	**4.02**	**159**	Pn		**Pn**		**10 56 05.2**	**-0.2**
	3.5nm,0.3s,baz=351,slow=4.9,SNR=5.5								
LPIG				LR		LR		10 57 41.7	
	comp=Z,3μm,18.3s,baz=349,slow=40								
CGIG		**4.24**	**53**	*e*P		**Pn**		**10 56 06.0**	**-2.5**
CGIG				*i* S		**Sn**		**10 56 53.2**	**-4.4**
SPIG	**San Pedro Mart**	**4.43**	**316**	*i* P		**Pn**		**10 56 09.5**	**-1.8**
SPIG				*i* S		**Sn**		**10 57 00.3**	**-2.3**
TUC	**Tucson**	**4.53**	**12**	*e*Pn		Pn		10 56 09.1	-3.3
TUC				*e*Pg		Pg		10 56 35.5	+4.2
TUC				*e*Sn		**Sb**		**10 57 20.6**	**+2.7**
HPIG		**5.62**	**98**	*i* P		Pn		10 56 23.4	-4.2
HPIG				*i* S		**Sn**		**10 57 27.2**	**-4.7**
GLA	**Glamis**	**5.74**	**335**	*e*Pn		Pn		10 56 25.7	-3.4
121A	**Cookes Peak, D**	**5.85**	**37**	*e*Pn		**Pn**		**10 56 28.0**	**-2.7**
BAR	**Barrett**	**6.32**	**320**	*e*Pn		**Pn**		**10 56 36.8**	**-0.2**
BAR				*e*Sg		**Sg**		**10 58 24.9**	**-2.5**
MNTX	**Cornudas Mount**	**6.83**	**55**	*e*Pn		**Pn**		**10 56 42.4**	**-1.6**
	24nm,0.8s								
MNTX				*e*Sg		Sg		10 58 35.2	-8.6
PFO	**Pinyon Flat Ob**	**6.93**	**327**	*e*Pn		**Pn**		**10 56 46.2**	**+0.8**
PFO				*e*Sg		**Sg**		**10 58 44.1**	**-2.8**
PFO	**Pinyon Flat Ob**	**6.93**	**327**	Pn		**Pn**		**10 56 46.0**	**+0.6**
	0.1nm,0.3s,baz=147,slow=8.9,SNR=9.8								
PFO				Lg		Lg		10 58 44.0	
	0.6nm,0.3s,baz=212,slow=6.4,SNR=8.5								
PFO				LR		LR		10 59 39.2	
	comp=Z,2μm,18.5s,baz=242,slow=40								
TXAR	**Lajitas Array**	**7.39**	**77**	Pn		**Pn**		**10 56 50.6**	**-1.1**
TXAR				Sn		**Sn**		**10 58 13.7**	**-1.5**
TXAR				Lg		Lg		10 58 53.7	
TXAR	**Lajitas Array**	**7.39**	**77**	Pn		**Pn**		**10 56 50.6**	**-1.1**
	4.1nm,0.3s,baz=246,slow=12,SNR=260								
TXAR				Sn		**Sn**		**10 58 13.7**	**-1.5**
	1.6nm,0.3s,baz=230,slow=24,SNR=4.4								
TXAR				Lg		Lg		10 58 53.7	
	4.4nm,0.3s,baz=254,slow=29,SNR=5.4								
TXAR				LR		LR		10 59 53.0	
	comp=Z,3μm,20.4s,baz=325,slow=40								
LENM	**Lemitar**	**7.56**	**33**	*e*Pn		**Pn**		**10 56 54.3**	**+0.1**
LENM				*e*Pg		Pb		10 57 34.2	+19
WUAZ	**Wupatki**	**7.63**	**3**	*e*Pn		**Pn**		**10 56 54.2**	**-0.9**
	38nm,0.9s								
LAZ	**Ladron**	**7.68**	**31**	*e*Pn		**Pn**		**10 56 55.3**	**-0.5**
	27nm,1.0s								
LDFC	**Landfair**	**7.68**	**340**	*e*Pn		**Pn**		**10 56 58.2**	**+2.4**
BNM	**Barren Site**	**7.72**	**35**	*e*Pn		**Pn**		**10 56 58.0**	**+1.6**
	35nm,1.1s								
GDL2	**Guadalupe Mount**	**7.83**	**55**	*e*Pn		**Pn**		**10 56 58.2**	**+0.4**
LPM	**Los Pinos Moun**	**7.85**	**34**	*e*Pn		**Pn**		**10 56 58.2**	**+0.1**
MWC	**Mount Wilson**	**8.24**	**322**	*e*Pn		**Pn**		**10 57 05.1**	**+1.6**
MWC				*e*				10 59 12.2	
ANMO	**Albuquerque**	**8.45**	**32**	*e*Pn		**Pn**		**10 57 06.0**	**-0.3**
ANMO				Sn		**Sn**		**10 58 37.5**	**-3.8**
ANMO				Lg		Lg		10 59 27.6	
ANMO	**Albuquerque**	**8.45**	**32**	Pn		**Pn**		**10 57 05.0**	**-1.3**
	0.4nm,0.3s,baz=212,slow=10,SNR=17								
ANMO				Sn		**Sn**		**10 58 37.5**	**-3.8**
	0.7nm,0.3s,baz=211,slow=17,SNR=4.2								
ANMO				Lg		Lg		10 59 27.6	
	1.9nm,0.3s,baz=240,slow=18,SNR=3.5								
ANMO				LR		LR		11 00 33.0	
	comp=Z,362nm,21.4s,baz=210,slow=40								
GSC	**Goldstone**	**8.50**	**332**	*e*Pn		**Pn**		**10 57 07.5**	**+0.5**
OSI	**Osito Adit**	**8.90**	**321**	*e*Pn		**Pn**		**10 57 13.2**	**+0.8**
	19nm,1.0s								
SHPR	**Sheep Range**	**9.04**	**343**	*e*Pn		**Pn**		**10 57 13.1**	**-1.3**
ISA	**Isabella**	**9.56**	**326**	*e*Pn		Pn		10 57 25.1	+3.5
CCUT	**Cedar City**	**9.73**	**353**	*e*Pn		**Pn**		**10 57 24.3**	**+0.4**
MVCO	**Mesa Verde**	**9.74**	**16**	*e*Pn		**Pn**		**10 57 24.5**	**+0.4**
MSTX	**Muleshoe**	**9.92**	**50**	*e*Pn		**Pn**		**10 57 27.6**	**+1.2**
ARUT	**Antelope Range**	**9.97**	**353**	*e*Pn		**Pn**		**10 57 28.1**	**+0.9**
	220nm,0.4s								
PV05	**Paradox Valley**	**10.44**	**12**	*e*Pn		**Pn**		**10 57 36.0**	**+2.2**
MVU	**Marysvale**	**10.60**	**359**	*e*Pn		Pn		10 57 39.2	+3.3
	39nm,1.5s								
PV01	**Paradox Valley**	**10.61**	**14**	*e*Pn		**Pn**		**10 57 36.5**	**+0.6**
	51nm,1.2s								
PV10	**Paradox Valley**	**10.74**	**12**	*e*Pn		**Pn**		**10 57 39.8**	**+1.9**
	310nm,0.7s								
PV15	**Paradox Valley**	**10.82**	**14**	*e*Pn		**Pn**		**10 57 41.3**	**+2.3**
PV09	**Paradox Valley**	**10.85**	**12**	*e*Pn		Pn		10 57 43.4	+4.1
R11A	**Troy Canyon, C**	**10.89**	**345**	*e*Pn		**Pn**		**10 57 39.1**	**-0.7**
JCT	**Junction City**	**10.89**	**73**	*e*Pn		**Pn**		**10 57 41.6**	**+1.9**
MTUM	**Tungsten Hills**	**10.99**	**331**	*e*Pn		Pn		10 57 45.2	+4.1
Q16A	**Castle Valley**	**11.03**	**3**	*e*Pn		**Pn**		**10 57 44.4**	**+2.6**
TPH	**Tonopah**	**11.11**	**338**	*e*Pn		**Pn**		**10 57 45.0**	**+2.2**
	27nm,1.4s								
AMTX	**Amarillo**	**11.18**	**49**	*e*Pn		**Pn**		**10 57 45.7**	**+2.0**
SDCO	**Great Sand Dun**	**11.22**	**27**	*e*Pn		Pn		10 57 48.2	+3.8
SRU	**San Rafael**	**11.27**	**6**	*e*Pn		**Pn**		**10 57 48.0**	**+3.1**
ABTX	**Abilene, Hawle**	**11.61**	**63**	*e*Pn		**Pn**		**10 57 51.6**	**+2.1**
NV11	**Mina Array Sit**	**11.75**	**335**	*e*Pn		**Pn**		**10 57 53.3**	**+1.7**
NVAR	**Mina Array Bea**	**11.81**	**335**	Pn		**Pn**		**10 57 54.3**	**+1.9**
NVAR				Lg		Lg		11 01 24.5	
NVAR	**Mina Array Bea**	**11.81**	**335**	Pn		**Pn**		**10 57 54.3**	**+1.9**
	0.1nm,0.3s,baz=158,slow=13,SNR=14								
NVAR				Lg		Lg		11 01 24.5	
	0.1nm,0.3s,baz=137,slow=16,SNR=2.9								
NVAR				LR		LR		11 02 15.3	
	comp=Z,644nm,18.7s,baz=335,slow=37								
SMCO	**Snowmass**	**12.00**	**19**	*e*Pn		Pn		10 57 59.5	+4.4
MPU	**Maple Canyon**	**12.11**	**1**	*e*Pn		Pn		10 57 59.9	+3.3
DUG	**Dugway**	**12.31**	**357**	*e*Pn		**Pn**		**10 58 01.8**	**+2.6**
WAKR	**Walker**	**12.33**	**331**	*e*Pn		**Pn**		**10 58 00.9**	**+1.4**
	39nm,1.5s								
CMB	**Columbia Colle**	**12.38**	**327**	*e*Pn		**Pn**		**10 58 02.2**	**+2.2**
	16nm,1.5s								
O20A	**White River Ci**	**12.60**	**13**	*e*Pn		**Pn**		**10 58 04.8**	**+1.6**
JLU	**Jordanelle**	**12.70**	**2**	*e*Pn		**Pn**		**10 58 07.4**	**+2.7**
	9.4nm,1.1s								
ISCO	**Idaho Springs**	**12.99**	**22**	*e*Pn		**Pn**		**10 58 10.8**	**+2.2**
ELK	**Elko**	**13.13**	**349**	*e*Pn		**Pn**		**10 58 12.3**	**+1.9**
ELK				Lg		Lg		11 01 55.0	
ELK	**Elko**	**13.13**	**349**	Pn		**Pn**		**10 58 11.4**	**+1.0**
	0.2nm,0.3s,baz=183,slow=11,SNR=24								
ELK				Lg		Lg		11 01 55.0	
	0.0nm,0.3s,baz=183,slow=6.6,SNR=4.7								
ELK				LR		LR		11 03 22.8	
	comp=Z,1μm,19.0s,baz=360,slow=38								
WMOK	**Wichita Mounta**	**13.13**	**55**	*e*Pn		**Pn**		**10 58 10.6**	**+0.2**
	6.7nm,0.8s								
BMN	**Battle Mountai**	**13.27**	**342**	*e*Pn		**Pn**		**10 58 14.6**	**+2.3**
	20nm,1.5s								
PAHR	**Pah Rah Range**	**13.33**	**334**	*e*Pn		**Pn**		**10 58 16.2**	**+3.1**
	28nm,1.6s								
BW06	**Boulder Array**	**14.98**	**7**	*e*Pn		**P**		**10 58 39.9**	**-1.3**
	86nm,2.3s								
PDAR	**Pinedale Array**	**14.98**	**7**	Pn		**Pn**		**10 58 35.5**	**-0.2**
PDAR				Lg		Lg		11 02 55.2	
PDAR	**Pinedale Array**	**14.98**	**7**	Pn		**Pn**		**10 58 35.5**	**-0.2**
	0.0nm,0.3s,baz=172,slow=12,SNR=6.7								
PDAR				Lg		Lg		11 02 55.2	
	0.1nm,0.3s,baz=165,slow=24,SNR=8.5								
WDC	**Whiskeytown Da**	**15.41**	**328**	*e*P		**Pn**		**10 58 43.2**	**+2.1**
	12nm,1.1s								
RRI2	**Red Ridge**	**15.45**	**2**	*e*Pn		**Pn**		**10 58 43.3**	**+1.4**
	56nm,1.5s								
REDW	**Red Top Meadow**	**15.48**	**3**	*e*Pn		**Pn**		**10 58 44.5**	**+2.3**
	23nm,1.1s								
WVOR	**Wild Horse Val**	**15.53**	**341**	*e*P		**P**		**10 58 44.2**	**+1.4**
	27nm,1.3s								
SNOW	**Snow King Moun**	**15.58**	**3**	*e*Pn		**Pn**		**10 58 45.8**	**+2.2**
	22nm,1.3s								
MOD	**Modoc**	**15.59**	**336**	*e*P		**Pn**		**10 58 45.0**	**+1.4**
	33nm,1.0s								
LOHW	**Long Hollow**	**15.74**	**3**	*e*Pn		**Pn**		**10 58 46.6**	**+0.9**
	22nm,1.1s								
FXWY	**Fox Creek**	**15.75**	**2**	*e*Pn		**P**		**10 58 48.7**	**-0.9**
	30nm,1.1s								
HLID	**Hailey**	**15.79**	**353**	*e*P		**Pn**		**10 58 47.8**	**+1.7**
	6.7nm,1.1s								
MOOW	**Moose Ponds**	**15.87**	**3**	*e*Pn		**P**		**10 58 50.4**	**-0.6**
	57nm,1.8s								
IMW	**Indian Meadow**	**16.01**	**3**	*e*Pn		**P**		**10 58 51.6**	**-1.0**
	58nm,1.1s								
FLWY	**Flagg Ranch**	**16.20**	**3**	*e*Pn		**Pn**		**10 58 52.5**	**+0.9**
	86nm,1.7s								
KHMM	**Horse Mountain**	**16.21**	**326**	*e*P		**P**		**10 58 55.3**	**+0.6**
	43nm,1.2s								
J08A	**Circle Bar Ran**	**16.34**	**343**	*e*Pn		**P**		**10 58 55.1**	**-0.9**
	71nm,1.8s								
YBH	**Yreka Blue Hor**	**16.41**	**330**	Pn		**Pn**		**10 58 55.1**	**+1.0**
YBH	**Yreka Blue Hor**	**16.41**	**330**	Pn		**Pn**		**10 58 55.1**	**+1.0**
	0.0nm,0.3s,baz=82,slow=7.1,SNR=3.4								
YBH				LR		LR		11 04 58.2	
	comp=Z,750nm,18.8s,baz=156,slow=36								
H17A	**Grant Village**	**16.52**	**3**	*e*Pn		**P**		**10 58 58.9**	**+0.7**
	9.9nm,1.1s								
YMR	**Madison River**	**16.78**	**2**	*e*P		**P**		**10 59 00.2**	**-0.8**
	60nm,1.6s								
YNR	**Norris Junctio**	**16.84**	**3**	*e*P		**P**		**10 59 03.8**	**+2.1**
	40nm,1.4s								
QLMT	**Earthquake Lak**	**16.93**	**1**	*e*P		**Pn**		**10 59 01.9**	**+1.1**
	1.3nm,1.0s								
MCMT	**McKenzie Canyo**	**16.94**	**358**	*e*P		**P**		**10 59 03.9**	**+1.1**
	8.5nm,1.3s								
KSU1	**Kansas State U**	**16.95**	**45**	*e*P		**P**		**10 59 02.5**	**-0.2**
	30nm,1.1s								
MIAR	**Mount Ida**	**17.02**	**62**	*e*P		**P**		**10 59 02.8**	**-0.8**
	15nm,1.1s								
I07A	**Izee**	**17.29**	**341**	*e*Pn		**P**		**10 59 08.1**	**+1.5**
	13nm,1.1s								
RSSD	**Black Hills**	**17.40**	**19**	*e*P		**Pn**		**10 59 06.9**	**+0.2**
	9.0nm,1.0s								
DLMT	**Dillon**	**17.46**	**358**	*e*Pn		**P**		**10 59 09.9**	**+1.4**
	32nm,1.5s								
BMO	**Blue Mountains**	**17.49**	**347**	*e*P		**P**		**10 59 09.4**	**+0.7**
	21nm,1.6s								
BGNE	**Belgrade**	**17.59**	**36**	*e*Pn		**Pn**		**10 59 08.8**	**-0.1**
	29nm,0.9s								
BOZ	**Bozeman (W)**	**17.74**	**1**	*e*P		**P**		**10 59 13.8**	**+2.2**
	13nm,1.4s								
LRM	**Limekiln Ridge**	**17.92**	**359**	*e*P		**P**		**10 59 16.3**	**+2.6**
	74nm,1.1s								
F10A	**Beach Ranch, E**	**18.55**	**348**	*e*P		**Pn**		**10 59 21.5**	**+0.8**
G06A	**Carlson Farm,**	**18.67**	**340**	*e*Pn		**Pn**		**10 59 25.0**	**+2.8**
	66nm,2.0s								
H04A	**Detroit Lake**	**18.68**	**337**	*e*Pn		**Pn**		**10 59 26.4**	**+4.1**
	24nm,1.4s								
HRY	**Holter Researc**	**18.80**	**0**	*e*P		**Pn**		**10 59 24.9**	**+1.1**
MSO	**Missoula**	**18.99**	**356**	*e*Pn		**Pn**		**10 59 27.9**	**+1.9**
	26nm,1.4s								
VBMS	**Vicksburg**	**19.01**	**72**	*e*P		**Pn**		**10 59 27.0**	**+0.8**
	70nm,0.3s								
CHMT	**Chamberlain Mo**	**19.04**	**357**	*e*P		**Pn**		**10 59 28.3**	**+1.6**
SLMT	**Seeley Lake**	**19.37**	**357**	*e*P		**Pn**		**10 59 31.2**	**+0.5**
HAWA	**Hanford**	**19.44**	**344**	*e*P		**P**		**10 59 30.8**	**+0.7**
	13nm,1.3s								
BRSD	**Miller**	**19.52**	**29**	*e*Pn		**Pn**		**10 59 33.4**	**+1.0**
	25nm,0.9s								
SWMT	**Swartz Lake**	**19.67**	**356**	*e*P		**Pn**		**10 59 35.2**	**+1.0**
E07A	**Sunnyside**	**19.68**	**344**	*e*P		**P**		**10 59 33.3**	**+0.6**
	23nm,1.1s								
JTMT	**Jette**	**19.93**	**355**	*e*P		**P**		**10 59 35.8**	**+0.2**
ECSD	**EROS Data Cent**	**20.05**	**34**	*e*P		Pn		10 59 38.8	+0.1
	9.4nm,0.9s								
BSMT	**Bassoo Peak**	**20.07**	**354**	*e*P		Pn		10 59 39.6	+0.5
EGMT	**Eagleton**	**20.19**	**4**	*e*P		**P**		**10 59 38.9**	**+0.5**
	89nm,1.7s								
LON	**Longmire**	**20.39**	**340**	*e*P		**P**		**10 59 41.4**	**+0.9**
	21nm,1.2s								
C09A	**Chrisman Ranch**	**20.50**	**348**	*e*Pn		**P**		**10 59 42.0**	**+0.3**
	8.8nm,1.0s								
LTY	**Liberty**	**20.53**	**343**	*e*Pn		Pn		10 59 43.7	-0.6
	16nm,1.2s								
NEW	**Newport**	**20.76**	**350**	*e*P		**P**		**10 59 44.3**	**-0.2**
	17nm,1.0s								
NEW	**Newport**	**20.76**	**350**	P		**P**		**10 59 43.9**	**-0.6**
	14nm,1.0s,baz=166,slow=9.3,SNR=15								
NEW				LR		LR		11 07 53.5	
	comp=Z,398nm,21.5s,baz=187,slow=37								
E03A	**Lebam**	**20.78**	**337**	*e*P		Pn		10 59 46.1	-1.0
	67nm,0.9s								
WALA	**Waterton Lakes**	**21.21**	**356**	*e*P		**P**		**10 59 50.3**	**+0.9**
	0.8nm,1.5s								
B08A	**Col

baz=330,slow=0.7,SNR=9.7
PLCA **Paso Flores** **78.31 149** LR LR 11 34 36.5
comp=Z,110nm,20.1s,baz=179,slow=30
NOA **NORSAR Array B** **80.16 24** LR LR 11 41 11.7
comp=Z,121nm,18.1s,baz=290,slow=35
KSRS **Korea Array** **94.16 316** P **P** **11 08 22.5 0.0**
3.1nm,0.9s,baz=60,slow=4.5,SNR=11
KSAR **Wonju Array Be** **94.19 316** P **P** **11 08 22.5 -0.2**
HHC **Hu-ho-hao-te** **100.62 328** *eP* **Pdif** **11 08 50.3 -1.5**
HHC pP pP 11 08 56.3 -1.5
HHC sP sP 11 08 57.8 -2.1
HHC SKS **SKSac** **11 19 29.0 -1.4**
HHC S SKKSac 11 20 21.0 +16
HHC SS **SS** **11 27 21.8 -1.5**
HHC LR LR
comp=Z,230nm,17.8s
WMQ **Urumqi** **106.42 345** *eP* **Pdif** **11 09 19.8 +2.3**
CD2 **Chengdu** **112.36 327** PKP **PKiKP** **11 13 40.0 0.0**
CMAR **Chiang Mai Arr** **125.10 323** PKP **PKPdf** **11 14 07.0 +2.3**
CMAR **Chiang Mai Arr** **125.10 323** PKP **PKPdf** **11 14 07.0 +2.3**
0.9nm,0.8s,baz=336,slow=1.9,SNR=7.5

IDC 25 11:00:26.0±1.5, 11°.86N×139°.67E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/23, mbtmp3.5/4, Error ellipse: s-maj=71.0km s-min=25.5km az=78.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.04 189**		P	P	11 06 54.0	-0.6
	0.4nm,0.6s,baz=14,slow=9.4,SNR=8.1						
ASAR	**Alice Springs**	**35.76 189**		P	P	11 07 27.1	+0.2
	0.3nm,0.8s,baz=22,slow=11,SNR=3.8						
MKAR	**Makanchi Array**	**59.27 318**		P	P	11 10 30.3	+0.8
	0.8nm,0.7s,baz=97,slow=7.9,SNR=5.0						
ZALV	**Zalesovo Beam**	**60.14 326**		P	P	11 10 33.7	-1.6
	0.5nm,0.5s,baz=110,slow=8.3,SNR=2.7						
LPAZ	**La Paz**	**152.69 103**		PKPbc	PKPbc	11 20 27.1	+0.6
	0.7nm,0.6s,baz=204,slow=4.3,SNR=6.0						

*IDC **25** 11:06:50.6±1.2, 12°.53S×166°.21E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.9/22, mbtmp3.9/9, ML4.2/2, MS3.5/3, Ms1 3.5/3, ms1mx3.1/31, Error ellipse: s-maj=32.9km s-min=23.9km az=139.0*
*ISCJB **25** 11:06:55.2±0.9, 12°.61S±0°.09×166°.1E±0°.1, h40km, mb3.9/7, MS3.5/3, Error ellipse: s-maj=17.1km s-min=10.0km az=138.7*
*NEIC **25** 11:06:55.7±0.8, 12°.56S×166°.28E, h35km, mb4.3/3, Error ellipse: s-maj=17.0km s-min=13.7km az=76.0*
ISC 25 11:06:56.7±0.9, 12°.72S±0°.08×166°.1E±0°.1, h40km, n30, σ1s71/29, mb3.9/7, MS3.4/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.85 298**		Pn	**Pn**	**11 08 34.9**	**+0.2**
HNR				Sn	**Sn**	**11 09 50.8**	**-0.5**
HNR	**Honiara**	**6.85 298**		Pn	**Pn**	**11 08 34.9**	**+0.2**
	25nm,0.3s,baz=153,slow=5.3,SNR=11						
HNR				Sn	**Sn**	**11 09 50.8**	**-0.5**
	9.2nm,0.3s,baz=174,slow=3.8,SNR=2.2						
DZM	**Mont Dzumac**	**9.31 178**		Pn	**Pn**	**11 09 10.8**	**+2.4**
DZM				Sn	**Sn**	**11 10 50.2**	**-1.7**
DZM	**Mont Dzumac**	**9.31 178**		Pn	**Pn**	**11 09 10.8**	**+2.4**
	0.3nm,0.3s,baz=270,slow=20,SNR=4.8						
DZM				Sn	**Sn**	**11 10 50.2**	**-1.7**
	0.3nm,0.3s,baz=270,slow=20,SNR=2.2						
EIDS	**Eidsvold**	**18.93 226**		*eP*	**Pn**	**11 11 18.1**	**+2.8**
	11nm,1.1s						
CTA	**Charters Tower**	**20.37 246**		P	Pn	11 11 32.6	+0.3
CTA	**Charters Tower**	**20.37 246**		P	Pn	11 11 32.6	+0.3
	1.9nm,0.6s,baz=72,slow=13,SNR=3.1						
QLP	**Quilpie**	**24.71 233**		P	**S**	**11 16 28.0**	**-5.7**
	baz=20,SNR=5.0						
URZ	**Urewera**	**27.27 161**		*eP*	**P**	**11 12 35.9**	**-1.3**
	18nm,1.2s						
STKA	**Stephens Creek**	**29.48 226**		LR	LR	11 22 31.7	
	comp=Z,103nm,21.2s,baz=24,slow=32						
WRA	**Warramunga Arr**	**31.25 253**		P	**P**	**11 13 13.3**	**+0.4**
WRA	**Warramunga Arr**	**31.25 253**		P	**P**	**11 13 13.3**	**+0.4**
	0.6nm,0.6s,baz=81,slow=6.9,SNR=8.5						
WRA				LR	LR	11 22 22.5	
	comp=Z,35nm,21.9s,baz=140,slow=30						
ASAR	**Alice Springs**	**32.37 246**		P	**P**	**11 13 22.9**	**+0.1**
ASAR	**Alice Springs**	**32.37 246**		P	**P**	**11 13 22.9**	**+0.1**
	1.1nm,0.7s,baz=75,slow=9.1,SNR=14						
MTN	**Manton Dam**	**34.06 266**		P	P	11 13 50.8	+13
	baz=1.9,SNR=6.6						
KNRA	**Kununurra**	**36.26 261**		P	**P**	**11 13 58.2**	**+1.7**
	baz=3.3,SNR=3.6						
FITZ	**Fitzroy Crossi**	**39.29 257**		*eP*	**P**	**11 14 22.9**	**+0.8**
	7.9nm,1.3s						
FITZ	**Fitzroy Crossi**	**39.29 257**		P	**P**	**11 14 23.3**	**+1.2**
	baz=6.7,SNR=4.3						
FITZ	**Fitzroy Crossi**	**39.29 257**		P	**P**	**11 14 22.7**	**+0.7**
	1.9nm,0.6s,baz=89,slow=7.0,SNR=8.8						
NWAO	**Narrogin (SRO)**	**48.82 237**		LR	LR	11 38 05.2	
	comp=Z,148nm,19.1s,baz=318,slow=38						
SONM	**Songino Array**	**80.20 324**		P	**P**	**11 19 03.4**	**+0.3**
SONM	**Songino Array**	**80.20 324**		P	**P**	**11 19 03.4**	**+0.3**
	0.4nm,0.6s,baz=136,slow=4.7,SNR=2.6						
ILAR	**Eielson Array**	**84.99 18**		P	**P**	**11 19 26.2**	**-1.3**
ILAR	**Eielson Array**	**84.99 18**		P	**P**	**11 19 26.2**	**-1.3**
	0.2nm,0.6s,baz=239,slow=5.5,SNR=5.9						
ZALV	**Zalesovo Beam**	**95.09 324**		P	**P**	**11 20 16.4**	**+1.0**
ZALV	**Zalesovo Beam**	**95.09 324**		P	**P**	**11 20 16.3**	**+1.0**
	0.3nm,0.3s,baz=94,slow=5.8,SNR=2.6						
ARCES	**ARCESS Array B**	**118.03 345**		PKP	**PKPdf**	**11 25 38.2**	**-0.4**
ARCES	**ARCESS Array B**	**118.03 345**		PKP	**PKPdf**	**11 25 38.2**	**-0.4**
	2.5nm,0.9s,baz=64,slow=2.1,SNR=4.3						
FINES	**FINESS Array B**	**123.44 338**		PKP	**PKPdf**	**11 25 47.7**	**-1.5**
FINES	**FINESS Array B**	**123.44 338**		PKP	**PKPdf**	**11 25 47.7**	**-1.5**
	2.2nm,0.9s,baz=11,slow=1.4,SNR=4.0						

MEX 25 11:18:37.0±0.7, 17°.14N×94°.64W, h131km±18km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGIG		**1.50 103**		*i* P	Pn	11 19 03.5	-1.8
TGIG				*i* S	Sn	11 19 25.0	-1.8
HUIG	**Huatulco**	**1.96 226**		*i* P	Pn	11 19 08.7	-1.8
HUIG				*i* S	Sn	11 19 34.3	-1.9
PCIG		**1.97 136**		*i* P	Pn	11 19 09.9	-0.8
PCIG				*i* S	Sn	11 19 35.5	-1.0
VHO	**Vista Hermosa**	**2.00 269**		*eP*	Pn	11 19 10.4	-0.9
VHO				*i* S	Sn	11 19 35.8	-1.7
CCIG	**Comitan**	**2.55 109**		*i* P	Pn	11 19 16.2	-1.9
CCIG				*i* S	Sn	11 19 48.0	-1.6
PNIG	**Pinotepa**	**3.42 258**		*i* P	Pn	11 19 26.5	-2.7
PNIG				*i* S	Sn	11 20 07.8	-1.8
TLIG	**Tlapa**	**3.77 277**		*i* P	Pn	11 19 32.1	-1.9
TLIG				*i* S	Sn	11 20 15.8	-2.2

NNC 25 11:35:53.2±12.0, 38°.19N×74°.39E, h0km, mb3.7, mpv3.5, 2C-3D, Error ellipse: s-maj=102.8km s-min=68.3km az=155.0, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TKM2	**Tokmak 2**	**4.81 11**		⇓Pn	Pn	11 37 04.8	-2.4
	9.7nm,0.4s						
TKM2				⇓Sn	Sn	11 38 06.2	+2.4
	14nm,0.7s						
KK31	**Karatay Array**	**5.72 330**		⇓Pn	Pn	11 37 21.9	+2.4
	0.5nm,0.3s,baz=141,slow=16,SNR=23						
KK31				⇑Sn	Sn	11 38 25.2	-0.7
	2.5nm,0.7s,baz=150,slow=24						
AB31	**Akbulak array**	**15.18 321**		⇑P	Pn	11 39 29.7	+0.9
	0.3nm,0.5s,baz=314,slow=4.1,SNR=6.2						

*IDC **25** 11:36:12.6±1.4, 11°.59S×166°.31E, h0km, mb4.1/8, mb1 4.2/9, mb1mx4.0/20, mbtmp4.1/9, ML3.0/1, MS3.9/1, Ms1 3.9/1, ms1mx3.1/28, Error ellipse: s-maj=44.9km s-min=22.9km az=122.0*
*NEIC **25** 11:36:17.5±0.9, 11°.64S×166°.40E, h35km, mb4.4/4, Error ellipse: s-maj=22.5km s-min=15.5km az=93.0*
*ISCJB **25** 11:36:21.6±0.8, 11°.96S±0°.07×166°.23E±0°.10, h83km, mb4.0/11, Error ellipse: s-maj=15.0km s-min=8.0km az=148.8*
ISC 25 11:36:22.2±1.2, 11°.87S±0°.10×166°.4E±0°.1, h83km, n25, σ1s16/25, mb4.1/11, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.76 290**		Pn	**Pn**	**11 37 59.4**	**+0.6**
HNR				Sn	**Sn**	**11 39 12.3**	**-2.0**
HNR	**Honiara**	**6.76 290**		Pn	**Pn**	**11 37 59.3**	**+0.6**
	18nm,0.3s,baz=151,slow=7.6,SNR=7.9						
HNR				Sn	**Sn**	**11 39 12.3**	**-2.0**
	8.0nm,0.3s,baz=52,slow=19,SNR=3.8						
DZM	**Mont Dzumac**	**10.14 180**		Pn	**Pn**	**11 38 44.9**	**-0.2**
DZM				Sn	**Sn**	**11 40 35.6**	**-1.6**
DZM	**Mont Dzumac**	**10.14 180**		Pn	**Pn**	**11 38 44.9**	**-0.2**
	0.1nm,0.3s,baz=344,slow=15,SNR=5.7						
DZM				Sn	**Sn**	**11 40 35.6**	**-1.6**
	0.1nm,0.3s,baz=122,slow=19,SNR=1.6						
CTA	**Charters Tower**	**20.97 245**		P	**P**	**11 41 00.3**	**+1.6**
CTA	**Charters Tower**	**20.97 245**		P	**P**	**11 41 00.3**	**+1.6**
	4.3nm,0.9s,baz=68,slow=14,SNR=5.1						
ARMA	**Armidale**	**22.96 214**		*eP*	**P**	**11 41 22.2**	**+2.3**
	18nm,0.8s						
STKA	**Stephens Creek**	**30.28 225**		P	**P**	**11 42 27.0**	**+1.5**
STKA	**Stephens Creek**	**30.28 225**		P	**P**	**11 42 27.0**	**+1.5**
	4.5nm,0.7s,baz=40,slow=7.6,SNR=7.6						
WRAB	**Tennant Creek**	**31.77 251**		*eP*	**P**	**11 42 39.2**	**+0.4**
	1.9nm,0.8s						
WRA	**Warramunga Arr**	**31.78 251**		P	**P**	**11 42 39.1**	**+0.2**
WRA	**Warramunga Arr**	**31.78 251**		P	**P**	**11 42 39.1**	**+0.2**
	0.9nm,0.6s,baz=84,slow=9.2,SNR=18						
ASAR	**Alice Springs**	**32.98 245**		P	**P**	**11 42 49.4**	**-0.1**
ASAR				PcP	**PcP**	**11 45 31.8**	**-0.1**
ASAR	**Alice Springs**	**32.98 245**		P	**P**	**11 42 49.4**	**-0.1**
	1.0nm,0.7s,baz=68,slow=9.7,SNR=12						
ASAR				PcP	**PcP**	**11 45 31.8**	**-0.1**
	0.6nm,0.8s,baz=70,slow=2.4,SNR=4						
PPT	**Papeete**	**42.92 103**		LR	LR	11 58 35.9	
	comp=Z,129nm,19.1s,baz=76,slow=31						
SBA	**Scott Base**	**65.98 180**		*eP*	P	11 47 01.5	+2.3
	28nm,2.1s						
CMAR	**Chiang Mai Arr**	**73.00 294**		P	P	11 47 45.1	+1.6
CMAR	**Chiang Mai Arr**	**73.00 294**		P	P	11 47 45.1	+1.6
	3.0nm,0.7s,baz=130,slow=5.2,SNR=4.5						
QSPA	**South Pole Qui**	**78.14 180**		*eP*	**P**	**11 48 11.5**	**-0.7**
	2.9nm,1.1s						
SONM	**Songino Array**	**79.69 324**		P	**P**	**11 48 20.8**	**-0.1**
SONM	**Songino Array**	**79.69 324**		P	**P**	**11 48 20.8**	**-0.1**
	0.7nm,0.8s,baz=136,slow=2.9,SNR=2.2						
ILAR	**Eielson Array**	**84.10 18**		P	P	11 48 44.5	+1.0
ILAR	**Eielson Array**	**84.10 18**		P	P	11 48 44.5	+1.0
	0.5nm,0.5s,baz=253,slow=4.9,SNR=13						
MKAR	**Makanchi Array**	**94.53 317**		P	**P**	**11 49 32.9**	**-0.6**
MKAR	**Makanchi Array**	**94.53 317**		P	**P**	**11 49 32.9**	**-0.6**
	1.9nm,0.7s,baz=89,slow=6.3,SNR=3.9						

*ISCJB **25** 11:36:59.0±0.2, 16°.08S±0°.06×172°.96W±0°.05, h10km, mb4.8/89, MS4.2/10, Error ellipse: s-maj=10.1km s-min=5.4km az=152.7*
*IDC **25** 11:36:58.2±0.5, 15°.83S×173°.37W, h0km, mb4.4/14, mb1 4.6/14, mb1mx4.5/22, mbtmp4.4/14, MS3.9/10, Ms1 3.9/10, ms1mx3.7/28, Error ellipse: s-maj=28.3km s-min=14.3km az=133.0*
*BJI **25** 11:36:59.0, 16°.00S×173°.00W, h10km, mB5.4/12, mb5.0/21, Ms5.1/5, Ms7 4.6/5*
*NEIC **25** 11:37:00.2±0.2, 16°.01S×173°.06W, h10km, mb4.9/63, Error ellipse: s-maj=10.7km s-min=5.4km az=144.0*
*AUST **25** 11:37:01.9, 15°.96S×172°.39W, h35km*
ISC 25 11:37:00.9±0.6, 15°.95S±0°.07×172°.87W±0°.06, h14km±3km, h13km:pP-P, n196, σ1s41/186, mb4.8/89, MS4.1/10, 2C-5D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.28 28**		*e*Pn	Pn	11 37 33.8	-4.5
AFI				*e*Sn	**Sn**	**11 38 02.9**	**-3.3**
AFI	**Afiamalu**	**2.28 28**		Pn	Pn	11 37 34.1	-4.1
	22nm,0.3s,baz=329,slow=3.2,SNR=15						
AFI				Sn	Sn	11 38 00.5	-5.7
	169nm,0.3s,baz=249,slow=21,SNR=15						
NIUE	**Niue**	**4.19 138**		P	**Pn**	**11 38 02.4**	**-2.0**
	baz=3.9,SNR=26						
MSVF	**Nonsavu**	**8.87 257**		*e*Pn	**Pn**	**11 39 11.0**	**+2.1**
RAR	**Rarotonga**	**13.47 115**		*e*Pn	**Pn**	**11 40 11.0**	**-0.7**
RAR	**Rarotonga**	**13.47 115**		Pn	Pn	11 40 08.5	-3.2
	1.9nm,0.3s,baz=270,slow=5.0,SNR=6.7						
RAR				LR	LR	11 44 28.3	
	comp=Z,221nm,19.9s,baz=91,slow=32						
RAO	**Raoul Island**	**14.04 198**		LR	LR	11 43 52.5	
	comp=Z,80nm,19.4s,baz=352,slow=30						
DZM	**Mont Dzumac**	**20.48 250**		*e*LR	LR	11 46 29.3	
	1μm,25.9s						
DZM	**Mont Dzumac**	**20.48 250**		*e*LR	LR	11 41 21.0	
	251nm,22.4s						
DZM	**Mont Dzumac**	**20.48 250**		P	Pn	11 41 39.4	-1.3
DZM	**Mont Dzumac**	**20.48 250**		P	Pn	11 41 39.4	-1.3
	13nm,1.0s,baz=90,slow=20,SNR=3.8						
PPT2	**Papeete2**	**22.36 98**		*e*P	**P**	**11 42 00.3**	**+1.5**
	51nm,1.2s						
PPT2				*e*LQ	LQ	11 46 20.3	
	1μm,27.2s						
PPT2				*e*LR	LR	11 47 20.8	
	106nm,24.2s						
TBI	**Tubuai**	**23.22 112**		*e*LQ	LQ	11 46 46.7	
	530nm,28.2s						
TBI				*e*LR	LR	11 47 48.5	
	330nm,26.0s						
URZ	**Urewera**	**23.92 200**		P	**P**	**11 42 12.1**	**-2.2**
URZ	**Urewera**	**23.92 200**		P	**P**	**11 42 12.1**	**-2.2**
	5.0nm,0.4s,baz=276,slow=7.3,SNR=9.2						
URZ				LR	LR	11 50 19.0	
	comp=Z,279nm,18.7s,baz=18,slow=34						
PMOR	**Pomariorio Ree**	**24.09 91**		*e*P	**P**	**11 42 17.3**	**+1.1**
	56nm,0.9s						
HNR	**Honiara**	**27.28 280**		LR	LR	11 51 34.6	
	comp=Z,432nm,21.3s,baz=106,slow=33						
RPZ	**Rata Peaks**	**30.88 203**		LR	LR	11 54 28.2	
	comp=Z,616nm,20.9s,baz=252,slow=34						
EIDS	**Eidsvold**	**34.92 248**		*e*P	**P**	**11 43 50.9**	**-1.4**
	8.5nm,1.1s						
RKT	**Rikitea**	**36.34 107**		*e*LR	LR	11 54 01.8	
	301nm,28.2s						
CTA	**Charters Tower**	**39.02 258**		P	**P**	**11 44 26.5**	**-0.9**
CTA	**Charters Tower**	**39.02 258**		P	**P**	**11 44 26.5**	**-0.9**
	2.8nm,0.5s,baz=86,slow=9.8,SNR=5.1						
PMG	**Port Moresby**	**39.48 275**		LR	LR	11 57 54.3	
	comp=Z,217nm,19.6s,baz=42,slow=32						
H11S2	**WAKE ISLAND Hy**	**39.69 329**		T	T	12 26 30.7	
	baz=152,slow=0.7,SNR=20						
H11S3	**WAKE ISLAND Hy**	**39.70 329**		T	T	12 26 31.8	
	baz=152,slow=0.7,SNR=15						
H11S1	**WAKE ISLAND Hy**	**39.71 329**		T	T	12 26 32.1	
	baz=152,slow=0.7,SNR=18						
H11N3	**WAKE ISLAND Hy**	**40.63 330**		T	T	12 27 37.7	
	baz=152,slow=0.7,SNR=29						
H11N1	**WAKE ISLAND Hy**	**40.64 330**		T	T	12 27 38.2	
	baz=152,slow=0.7,SNR=24						
H11N2	**WAKE ISLAND Hy**	**40.65 330**		T	T	12 27 39.0	
	baz=152,slow=0.7,SNR=30						
CMSA	**Cobar Meteorol**	**40.72 240**		P	P	11 44 37.5	-3.8
	baz=41,SNR=6.3						
MTSU	**Mount Surprise**	**40.93 261**		P	**P**	**11 44 44.7**	**+1.4**
	baz=41,SNR=6.9						
COEN	**Coen**	**42.46 267**		*e*P	**P**	**11 44 55.1**	**-0.7**
	101nm,1.0s						
COEN	**Coen**	**42.46 267**		P	**P**	**11 44 57.9**	**+2.1**
	baz=43,SNR=6.0						
STKA	**Stephens Creek**	**44.21 241**		*e*P	**P**	**11 45 08.3**	**-1.5**
	1.5nm,0.8s						
STKA	**Stephens Creek**	**44.21 241**		P	P	11 45 06.0	-3.7
	baz=45,SNR=5.3						
STKA	**Stephens Creek**	**44.21 241**		P	P	11 45 05.8	-4.0
	6.5nm,0.7s,baz=84,slow=10,SNR=8.5						
STKA				LR	LR	12 00 28.7	
	comp=Z,199nm,21.8s,baz=27,slow=32						
BBOO	**Buckleboo**	**48.98 240**		*e*P	**P**	**11 45 44.8**	**-2.4**
	269nm,1.0s						
WRAB	**Tennant Creek**	**50.21 257**		*e*P	P	11 45 53.5	-3.3
	9.4nm,0.9s						
WRA	**Warramunga Arr**	**50.22 257**		P	P	11 45 52.7	-4.1
WRA				PcP	**PcP**	**11 47 15.7**	**-0.3**
WRA	**Warramunga Arr**	**50.22 257**		P	P	11 45 52.7	-4.1
	6.1nm,0.7s,baz=92,slow=7.0,SNR=25						
WRA				PcP	**PcP**	**11 47 15.7**	**-0.3**
	1.3nm,0.8s,baz=96,slow=3.1,SNR=3.7						
WRA				LR	LR	12 05 53.7	
	comp=Z,211nm,18.9s,baz=100,slow=35						
AS31	**Alice Springs**	**50.43 252**		*e*P	P	11 45 53.8	-4.6
ASAR	**Alice Springs**	**50.43 252**		P	P	11 45 53.6	-4.8
ASAR	**Alice Springs**	**50.43 252**		P	P	11 45 53.6	-4.8
	7.3nm,0.5s,baz=90,slow=7.8,SNR=46						
ASAR				LR	LR	12 04 35.9	
	comp=Z,258nm,19.3s,baz=94,slow=33						
MTN	**Manton Dam**	**54.20 266**		P	**P**	**11 46 24.8**	**-1.6**
	baz=55,SNR=3.3						
KNRA	**Kununurra**	**55.99 262**		P	P	11 46 38.3	-1.1
	baz=56,SNR=8.7						
SWI	**Sorong**	**57.06 280**		P	P	11 46 49.0	+2.0
	baz=58,SNR=5.8						
FITZ	**Fitzroy Crossi**	**58.60 258**		*e*P	**P**	**11 46 57.9**	**+0.1**
	86nm,2.5s						
FITZ	**Fitzroy Crossi**	**58.60 258**		P	**P**	**11 46 57.5**	**-0.3**
	baz=59,SNR=6.7						
AAI	**Ambon**	**59.15 275**		P	P	11 47 06.8	+5.1
	baz=60,SNR=3.5						
SBA	**Scott Base**	**62.75 185**		*e*P	**P**	**11 47 27.3**	**+2.2**
	43nm,2.1s						
VNDA	**Vanda**	**62.89 186**		*e*P	**P**	**11 47 27.1**	**+1.0**
	13nm,1.5s						
VNDA	**Vanda**	**62.89 186**		P	**P**	**11 47 27.4**	**+1.3**
	2.2nm,0.9s,baz=6.2,slow=6.1,SNR=7.4						
VNDA				LR	LR	12 10 21.9	
	comp=Z,57nm,20.9s,baz=201,slow=32						
MBWA	**Marble Bar**	**63.70 254**		*e*P	**P**	**11 47 32.4**	**0.0**
	14nm,0.9s						
MEEK	**Meekatharra**	**64.08 248**		P	P	11 47 36.3	+1.4
	baz=64,SNR=4.5						
ISA	**Isabella**	**72.69 44**		*e*P	**P**	**11 48 30.1**	**+1.6**
	13nm,1.1s						
CMB	**Columbia Colle**	**72.84 41**		*e*P	**P**	**11 48 30.8**	**+1.4**
	10nm,1.1s						
PFO	**Pinyon Flat Ob**	**72.92 47**		*e*P	**P**	**11 48 30.6**	**+0.5**
	7.1nm,1.3s						
PETK	**Petropavlovsk-**	**73.30 342**		P	**P**	**11 48 30.6**	**-1.1**
PETK	**Petropavlovsk-**	**73.30 342**		P	**P**	**11 48 30.6**	**-1.1**
	2.4nm,0.7s,baz=132,slow=9.9,SNR=4.0						
MTUM	**Tungsten Hills**	**73.60 42**		*e*P	**P**	**11 48 35.9**	**+1.8**
GSC	**Goldstone**	**73.61 45**		*e*P	**P**	**11 48 35.3**	**+1.3**
	11nm,1.3s						
WAKR	**Walker**	**73.72 41**		*e*P	**P**	**11 48 35.7**	**+1.0**
	5.9nm,1.1s						
YBH	**Yreka Blue Hor**	**73.72 37**		*e*P	**P**	**11 48 36.1**	**+1.6**
	16nm,1.1s						
YBH	**Yreka Blue Hor**	**73.72 37**		P	**P**	**11 48 36.1**	**+1.6**
	8.7nm,0.9s,baz=200,slow=3.0,SNR=17						
HUMO	**Hull Mountain**	**74.15 36**		*e*P	**P**	**11 48 39.0**	**+2.1**
	17nm,1.1s						
NVAR	**Mina Array Bea**	**74.39 42**		P	**P**	**11 48 40.1**	**+1.4**
NVAR	**Mina Array Bea**	**74.39 42**		P	**P**	**11 48 40.1**	**+1.4**
	5.0nm,0.8s,baz=227,slow=9.9,SNR=36						
PAHR	**Pah Rah Range**	**74.46 40**		*e*P	**P**	**11 48 40.2**	**+1.2**
	14nm,1.2s						
NV11	**Mina Array Sit**	**74.49 42**		*e*P	**P**	**11 48 40.5**	**+1.3**
LDFC	**Landfair**	**74.65 46**		*e*P	**P**	**11 48 41.4**	**+1.2**
	31nm,1.1s						
TPH	**Tonopah**	**74.89 42**		*e*P	**P**	**11 48 42.5**	**+1.0**
	24nm,1.1s						
MOD	**Modoc**	**75.23 38**		*e*P	**P**	**11 48 44.6**	**+1.1**
	19nm,1.1s						
SHPR	**Sheep Range**	**75.38 45**		*e*P	**P**	**11 48 46.2**	**+1.7**
H04A	**Detroit Lake**	**75.91 35**		*e*P	**P**	**11 48 48.1**	**+1.0**
	22nm,1.3s						
R11A	**Troy Canyon, C**	**76.11 43**		*e*P	**P**	**11 48 49.9**	**+1.3**
TUC	**Tucson**	**76.34 50**		*e*P	**P**	**11 48 51.2**	**+1.3**
	13nm,1.4s						
WVOR	**Wild Horse Val**	**76.54 38**		*e*P	**P**	**11 48 51.5**	**+0.7**
	11nm,1.1s						
VIPM	**Ingram Point**	**76.67 36**		P	**P**	**11 48 52.8**	**+1.2**
VFP	**Flag Point**	**76.71 35**		P	**P**	**11 48 53.0**	**+1.2**
FL2	**Flat Top 2**	**76.79 33**		P	**P**	**11 48 54.1**	**+2.0**
TDL	**Tradedollar La**	**76.97 33**		P	**P**	**11 48 54.7**	**+1.5**
I07A	**Izee**	**77.03 36**		*e*P	**P**	**11 48 54.3**	**+0.8**
	9.6nm,1.0s						
CCUT	**Cedar City**	**77.16 45**		*e*P	**P**	**11 48 56.5**	**+1.9**
	12nm,1.2s						
J08A	**Circle Bar Ran**	**77.19 37**		*e*P	**P**	**11 48 55.8**	**+1.4**
	14nm,1.0s						
ARUT	**Antelope Range**	**77.23 44**		*e*P	**P**	**11 48 56.5**	**+1.6**
	186nm,1.0s						
LON	**Longmire**	**77.44 33**		*e*P	**P**	**11 48 57.6**	**+1.9**
	24nm,2.0s						
ELK	**Elko**	**77.66 41**		*e*P	**P**	**11 48 58.6**	**+1.4**
	8.4nm,1.3s						
KSM	**Kuching**	**77.74 275**		P	P	11 48 51.6	-6.5
	baz=78,SNR=3.4						
E07A	**Sunnyside**	**78.36 34**		*e*P	**P**	**11 49 02.2**	**+1.4**
	17nm,1.3s						
HAWA	**Hanford**	**78.43 35**		*e*P	**P**	**11 49 01.7**	**+0.6**
	19nm,1.4s						
BMO	**Blue Mountains**	**78.75 37**		*e*P	**P**	**11 49 03.9**	**+0.8**
	11nm,1.1s						
DUG	**Dugway**	**78.91 43**		*e*P	**P**	**11 49 05.2**	**+1.0**
	7.7nm,1.0s						
F10A	**Beach Ranch, E**	**79.46 36**		*e*P	**P**	**11 49 07.6**	**+0.7**

	13nm,1.1s								
BOZ	**Bozeman (W)**	**82.53**	**38**	*e*P		**P**	**11 49 24.4**	**+1.0**	
	20nm,1.7s								
SDCO	**Great Sand Dun**	**82.70**	**48**	*e*P		**P**	**11 49 25.1**	**+0.4**	
	5.7nm,1.3s								
COLA	**College**	**82.80**	**10**	*e*P		**P**	**11 49 23.3**	**-0.9**	
	20nm,1.0s								
ILAR	**Eielson Array**	**82.88**	**11**	P		**P**	**11 49 23.9**	**-0.7**	
ILAR	**Eielson Array**	**82.88**	**11**	P		**P**	**11 49 23.9**	**-0.7**	
	2.2nm,1.0s,baz=228,slow=6.7,SNR=11								
HRY	**Holter Researc**	**82.97**	**37**	*e*P		**P**	**11 49 26.5**	**+0.9**	
WALA	**Waterton Lakes**	**83.07**	**35**	*e*P		**P**	**11 49 27.7**	**+1.6**	
	0.5nm,1.5s								
MSTX	**Muleshoe**	**83.09**	**52**	*e*P		**P**	**11 49 27.6**	**+1.1**	
	8.9nm,0.9s								
GCMT	**Greycliff**	**83.78**	**39**	*e*P		**P**	**11 49 30.9**	**+1.1**	
	18nm,1.7s								
DAWY	**Dawson**	**83.82**	**14**	*e*P		**P**	**11 49 30.0**	**+0.4**	
AMTX	**Amarillo**	**84.28**	**51**	*e*P		**P**	**11 49 33.6**	**+0.9**	
	11nm,1.0s								
COLD	**Coldfoot**	**84.60**	**9**	*e*P		**P**	**11 49 34.3**	**+0.9**	
	12nm,1.3s								
ABTX	**Abilene, Hawle**	**84.96**	**54**	*e*P		**P**	**11 49 36.6**	**+0.6**	
	23nm,1.3s								
EDM	**Edmonton**	**85.68**	**31**	*e*P		**P**	**11 49 39.6**	**+0.4**	
MAW	**Mawson**	**87.44**	**198**	P		**P**	**11 49 47.4**	**-0.2**	
MAW	**Mawson**	**87.44**	**198**	P		**P**	**11 49 47.4**	**-0.2**	
	3.7nm,0.9s,baz=128,slow=7.6,SNR=4.6								
GYA	**Guiyang**	**88.75**	**298**	*e*P		**P**	**11 49 54.8**	**+0.1**	
GYA				PP		**PP**	**11 53 25.5**	**+1.6**	
GYA				SKS		**SKSac**	**12 00 22.0**	**-2.2**	
GYA				S		**S**	**12 00 38.5**	**-3.4**	
GYA				SS		**SS**	**12 06 32.8**	**-1.3**	
GYA				AMB	AMB				
	comp=Z,20nm,1.0s								
GYA				AMB	AMB				
	comp=Z,110nm,5.4s								
GYA				LR	LR				
	comp=N,480nm,20.7s								
GYA				LR	LR				
	comp=E,410nm,21.2s								
GYA				LR	LR				
	comp=Z,470nm,22.0s								
HHC	**Hu-ho-hao-te**	**89.77**	**313**	*e*P		**P**	**11 50 00.8**	**+1.6**	
HHC				pP		**pP**	**11 50 04.5**	**+0.6**	
HHC				sP		**sP**	**11 50 07.5**	**+1.9**	
HHC				PP		**PP**	**11 53 34.0**	**+2.3**	
HHC				SKS		**SKSac**	**12 00 29.3**	**-0.3**	
HHC				S		**S**	**12 00 49.8**	**-1.1**	
HHC				sS		**sS**	**12 00 57.8**	**-1.0**	
HHC				SS		**SS**	**12 06 46.3**	**-2.0**	
HHC				AMB	AMB				
	comp=Z,20nm,1.1s								
HHC				AMB	AMB				
	comp=Z,200nm,7.1s								
HHC				LR	LR				
	comp=N,250nm,17.2s								
HHC				LR	LR				
	comp=E,380nm,17.7s								
HHC				LR	LR				
	comp=Z,210nm,17.2s								
YKA	**Yellowknife Ar**	**90.39**	**23**	P		**P**	**11 50 00.7**	**-0.7**	
YKA	**Yellowknife Ar**	**90.39**	**23**	P		**P**	**11 50 00.6**	**-0.7**	
	0.9nm,0.8s,baz=236,slow=4.4,SNR=2.8								
KMI	**Kunming**	**91.72**	**296**	P		**P**	**11 50 09.5**	**+0.7**	
KMI				AMB	AMB				
	comp=Z,6.0nm,0.8s								
CD2	**Chengdu**	**92.53**	**301**	P		**P**	**11 50 12.8**	**+0.7**	
CD2				AMB	AMB				
	comp=Z,10.0nm,0.5s								
CMAR	**Chiang Mai Arr**	**93.27**	**288**	P		**P**	**11 50 17.3**	**+1.5**	
CMAR	**Chiang Mai Arr**	**93.27**	**288**	P		**P**	**11 50 17.3**	**+1.5**	
	4.0nm,0.9s,baz=105,slow=2.7,SNR=8.3								
LZH	**Lanzhou**	**93.96**	**306**	*e*P		**P**	**11 50 18.0**	**-0.8**	
LZH				pP		**pP**	**11 50 21.3**	**-2.2**	
LZH				sP		**sP**	**11 50 23.0**	**-2.2**	
LZH				AMB	AMB				
	comp=Z,13nm,1.2s								
GTA	**Gaotai**	**97.92**	**309**	*e*P		Pdif	11 50 38.5	+1.8	
GTA				pP		pP	11 50 42.8	+1.3	
GTA				sP		sP	11 50 45.5	+2.4	
GTA				AMB	AMB				
	comp=Z,5.0nm,0.2s								
ARCES	**ARCESS Array B**	**125.22**	**352**		PKP	**PKPdf**	**11 55 59.7**	**-0.8**	
ARCES	**ARCESS Array B**	**125.22**	**352**		PKP	**PKPdf**	**11 55 59.7**	**-0.8**	
	2.3nm,0.8s,baz=24,slow=2.5,SNR=2.8								
FINES	**FINESS Array B**	**132.58**	**348**		PKP	**PKPdf**	**11 56 14.7**	**0.0**	
FINES	**FINESS Array B**	**132.58**	**348**		PKP	**PKPdf**	**11 56 14.7**	**0.0**	
	2.1nm,0.8s,baz=16,slow=10,SNR=2.7								
AKASG	**Malin Array Be**	**141.04**	**338**		PKP	**PKPdf**	**11 56 28.5**	**-2.1**	
AKASG	**Malin Array Be**	**141.04**	**338**		PKP	**PKPdf**	**11 56 28.5**	**-2.1**	
	0.7nm,0.7s,baz=32,slow=2.7,SNR=3.6								
MALT	**Malatya**	**144.61**	**315**	⇓*i*P		**PKPdf**	**11 56 40.0**	**+2.5**	
BRG	**Berggiesshubel**	**144.73**	**353**	*e*PKP		**PKPdf**	**11 56 42.2**	**+5.0**	
	29nm,2.0s								
UPC	**Upice**	**144.79**	**350**	*e*PKP		**PKPab**	**11 56 34.2**	**-2.0**	
UPC				*ex*		x	11 56 39.4		
DPC	**Dobruska-Polom**	**144.89**	**350**	*e*PKP		**PKPab**	**11 56 36.6**	**0.0**	
OKC	**Ostrava-Krasne**	**145.03**	**348**	*e*PKP		**PKPbc**	**11 56 36.9**	**-0.2**	
OKC				*ep*PKP		**PKiKP**	**11 56 40.8**	**-0.8**	
BUR08	**Bucovina Ar. S**	**145.04**	**339**	*e*PKPdf		**PKPdf**	**11 56 39.5**	**+1.5**	
SNF	**Seneffe**	**145.45**	**3**	E			11 56 43.3		
PRU	**Pruhonice**	**145.52**	**352**	*e*PKP		**PKPbc**	**11 56 38.8**	**+0.2**	
PRU				*ep*PKP		**PKiKP**	**11 56 42.8**	**+0.2**	
NKC	**Novy Kostel**	**145.53**	**354**	*e*PKP		**PKPdf**	**11 56 38.3**	**-0.4**	
NKC				*ep*PKP		**pPKPdf**	**11 56 43.7**	**+0.1**	
KMBO	**Kilima Mbogo**	**145.75**	**243**	PKPbc		**PKPdf**	**11 56 39.5**	**-0.9**	
KMBO				*e*PKPdf		**PKPbc**	**11 56 40.5**	**-0.3**	
KMBO	**Kilima Mbogo**	**145.75**	**243**	PKPbc		**PKPdf**	**11 56 39.5**	**-0.9**	
	10nm,1.0s,baz=90,slow=7.6,SNR=7.4								
VRI	**Vrincioaia**	**145.95**	**335**	⇓*i*P		**PKPdf**	**11 56 39.1**	**-0.4**	
PLOR	**Plostina**	**146.00**	**335**	⇓*i*P		**PKPab**	**11 56 45.1**	**+4.2**	
TREC	**Trest**	**146.05**	**350**	*e*PKP		**PKPdf**	**11 56 39.9**	**+0.3**	
TREC				*ep*PKP		**PKiKP**	**11 56 43.4**	**-0.3**	
GRF	**Grafenberg Arr**	**146.18**	**355**	*e*PKPbc		**PKPdf**	**11 56 39.9**	**+0.1**	
GRFO	**Grafenberg**	**146.18**	**355**	*e*PKPdf		**PKPdf**	**11 56 40.2**	**+0.5**	
TIRR	**Tirgusor**	**146.35**	**332**	⇓*i*P		**PKPab**	**11 56 46.3**	**+4.1**	
TLB	**Topalu**	**146.42**	**333**	⇓*i*P		**PKPab**	**11 56 46.8**	**+4.4**	
KHC	**Kasperske Hory**	**146.49**	**352**	*e*PKP		**PKPbc**	**11 56 41.7**	**0.0**	
KHC				*ep*PKP		**pPKPdf**	**11 56 46.0**	**+0.8**	
KHC	**Kasperske Hory**	**146.49**	**352**	*e*PKPbc		**PKPbc**	**11 56 41.5**	**-0.2**	
GERES	**GERESS Array B**	**146.75**	**352**	PKPbc		**PKPdf**	**11 56 40.0**	**-0.8**	
GERES	**GERESS Array B**	**146.75**	**352**	PKPbc		**PKPdf**	**11 56 40.0**	**-0.8**	
	0.7nm,0.7s,baz=0.0,slow=3.2,SNR=7.8								
BR131	**Keskin Array S**	**146.90**	**321**	*e*PKPbc		**PKPbc**	**11 56 43.9**	**+0.5**	
BRTR	**Keskin Array B**	**146.90**	**321**	PKPbc		**PKPdf**	**11 56 41.6**	**+0.1**	
BRTR	**Keskin Array B**	**146.90**	**321**	PKPbc		**PKPdf**	**11 56 41.6**	**+0.1**	
	13nm,1.0s,baz=128,slow=0.8,SNR=17								
CONA	**Conrad Observa**	**147.30**	**349**	⇑*i*PKPdf		**PKPbc**	**11 56 44.6**	**+0.5**	
	14nm,1.2s								
ANTO	**Ankara**	**147.32**	**322**	*e*PKPbc		**PKPab**	**11 56 46.1**	**-0.1**	
BFO	**Black Forest**	**147.69**	**359**	*e*PKPbc		**PKPbc**	**11 56 44.9**	**-0.2**	
DAVA	**Damuels**	**148.67**	**356**	⇓*i*sPKPdf		**PKPbc**	**11 56 48.0**	**+0.1**	
	7.7nm,1.0s								
TUE	**Stuetta**	**149.51**	**357**	*e*PKPbc		**PKPbc**	**11 56 49.9**	**-0.2**	
CSS	**Prodhromos**	**149.85**	**314**	*e*PKPdf		**PKPdf**	**11 56 48.0**	**+1.7**	
SSB	**Saint Sauveur**	**150.68**	**4**	*e*PKPbc		**PKPbc**	**11 56 52.3**	**-0.4**	
TORD	**Torodi Ar. Bea**	**174.05**	**117**	PKPab		**PKPab**	**11 58 42.6**	**+0.4**	
TORD	**Torodi Ar. Bea**	**174.05**	**117**	PKPab		**PKPab**	**11 58 42.6**	**+0.4**	
	0.9nm,0.9s,baz=253,slow=7.6,SNR=4.3								

IDC ***25*** *11:40:45.8±0.5, 34.°81N×80.°43E, h0km, mb4.5/22, mb1 4.6/27, mb1mx4.5/32, mbtmp4.4/27, ML4.3/5, MS4.2/27, Ms1 4.3/27, ms1mx4.2/34, Error ellipse: s-maj=15.0km s-min=10.5km az=47.0*

SZGRF ***25*** *11:40:46.5, 34.°77N×81.°93E, h33km, mb5.1, Xizang*

ISCJB ***25*** *11:40:46.2±0.8, 34.°84N×0.°02×80.°42E±0.°02, h9km±5km, mb4.7/104, MS4.4/48, Error ellipse: s-maj=3.5km s-min=2.5km az=38.0*

BJI ***25*** *11:40:47.4, 34.°90N×80.°40E, h10km, mB5.0/34, mb4.8/46, ML5.0/4, Ms4.8/46, Ms7 4.6/45*

NEIC ***25*** *11:40:49.8±2.1, 34.°85N×80.°38E, h23km±15km, mb5.0/39, Error ellipse: s-maj=8.3km s-min=4.2km az=217.0*

NDI ***25*** *11:40:49.1±2.8, 34.°84N×80.°60E, h10km, mb5.0, mb5.0(NEIC)*

MOS ***25*** *11:40:50.2±1.5, 34.°88N×80.°42E, h39km, mb5.1/42, MS4.5/19, Error ellipse: s-maj=7.8km s-min=3.9km az=123.6*

NNC ***25*** *11:40:50.6±12.0, 35.°12N×80.°61E, h0km, mb4.9, mpv4.9, Error ellipse: s-maj=149.6km s-min=67.1km az=134.0*

GCMT ***25*** *11:40:52.0±0.3, 34.°94N×80.°25E, h18km±1km, MW5.0, Moment Tensor Solution. s25,c28; s74,c116; Moment tensor: Scale 10^16Nm; Mrr0.67±.13; Mθθ-1.25±.13; Mφφ0.58±.11; Mrθ1.84±.35; Mrφ3.29±.10; Mθφ-0.26±.25; Best double couple: M0:3.90000×10^16 NP1:φs84.00000°, δ88.00000°, λ28.00000°. NP2:φs353.00000°, δ62.00000°, λ178.00000°. Principal axes: T 3.4300, Plg21.0000°, Azm312.0000°; N 0.8700, Plg62.0000°, Azm87.0000°; P -4.2900, Plg18.0000°, Azm215.0000°; Data Used: II IC G IU CN.*

DJA ***25*** *11:41:00.5±6.4, 35.°N±9.°×8.°2E±5.°3, h43km±39km, M5.0/12, mB5.5/5, mb5.0/12, Mw(mB)5.0/5*

ISC 25 11:40:49.4±0.4, 34.°88N±0.°03×80.°35E±0.°03, h17km±2km, h17km:pP-P,n382,σ1§67/415, mb4.9/104, MS4.4/50, 15C-16D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHRM	**DHARAMSHALA**	**4.28**	**233**	*e*P	Pn	11 41 57.0	+3.0
DHRM				*eS*	**Sn**	**11 42 45.8**	**+2.2**
SDNR	**Sundarnagar**	**4.40**	**221**	*e*P	**Pn**	**11 41 57.5**	**+2.0**
THN	**Thein Dam**	**4.57**	**239**	*e*4	**Pn**	**11 41 55.0**	**-2.7**
THN				*ex*	Sb	11 42 56.1	-7.8
SMLA	**Simla**	**4.60**	**216**	*i* P	**Pn**	**11 42 00.1**	**+2.0**
SMLA				*ex*	Sn	11 42 56.8	+5.7
DDI	**Dehra Dun**	**4.94**	**204**	*e*P	**Pn**	**11 42 03.4**	**+0.5**
DDI				*eS*	**Sn**	**11 43 00.0**	**+0.4**
DDI				*ex*	x	11 43 20.6	
LGTI	**Lohaghat**	**5.41**	**181**	*ex*	Pn	11 42 13.8	+4.5
LGTI				*e*4	Sn	11 43 18.5	+7.3
KSH	**Kashi**	**5.80**	**324**	Pn	**Pn**	**11 42 17.5**	**+2.7**
KSH				Sn	**Sn**	**11 43 22.5**	**+1.6**
KSH				LR	LR		
	comp=N,7μm,7.6s						
KSH				LR	LR		
	comp=E,6μm,5.7s						
KSH				LR	LR		
	comp=Z,4μm,11.0s						
CHCP	**Chirah Chowk**	**5.99**	**260**	P	**Pn**	**11 42 17.1**	**-0.2**
NDI	**New Delhi**	**6.73**	**204**	*ex*	Pb	11 42 50.9	+5.0
NDI				AMB	AMB	11 42 56.1	
	comp=Z,119nm,0.5s						
NDI				*ex*	x	11 43 00.0	
CEP	**Cherat**	**7.06**	**264**	P	**Pn**	**11 42 30.6**	**-1.5**
CEP				S	Sn	11 43 46.0	-6.0
DANN	**Dangsing**	**7.13**	**155**	*e*P	**Pn**	**11 42 32.5**	**-0.7**
THW	**Thamme Wali**	**7.46**	**256**	P	**Pn**	**11 42 38.0**	**+0.5**
KOLN	**Koldanda**	**7.61**	**158**	*e*P	**Pn**	**11 42 39.0**	**-0.8**
	comp=Z,222nm,0.9s						
GKN	**Gorkha**	**7.77**	**151**	*e*P	**Pn**	**11 42 42.5**	**+0.6**
	comp=Z,129nm,0.4s						
ULHL	**Ulahol**	**8.03**	**338**	P	Pn	11 42 48.6	+3.2
	SNR=19						
KKN	**Kakani**	**8.23**	**148**	*e*P	**Pn**	**11 42 48.1**	**-0.1**
	comp=Z,142nm,0.5s						
DMN	**Daman**	**8.31**	**149**	*e*P	**Pn**	**11 42 49.3**	**-0.1**
	comp=Z,128nm,0.7s						
GUN	**Gumba**	**8.40**	**144**	*e*P	**Pn**	**11 42 50.3**	**-0.4**
	comp=Z,295nm,0.9s						
PKIN	**Phulchoki**	**8.46**	**148**	*e*P	**Pn**	**11 42 51.2**	**-0.3**
	comp=Z,165nm,0.5s						
PKI	**Pulchoki**	**8.47**	**148**	*e*P	**Pn**	**11 42 51.6**	**-0.1**
	comp=Z,183nm,0.6s						
KNDC	**Almaty**	**8.73**	**343**	⇓P	Pn	11 42 59.8	+4.8
	comp=Z,36nm,0.6s						
JIRN	**Jiri**	**8.76**	**144**	*e*P	**Pn**	**11 42 55.9**	**+0.2**
	comp=Z,308nm,0.4s						
AAA	**Alma-Ata**	**8.79**	**344**	*e*P	Pn	11 43 01.5	+5.8
AAA				*eS*	Sn	11 44 40.4	+6.0
AAA				pmax	pmax		
	comp=Z,200nm,1.3s						
AAA				smax	smax		
	comp=E,1μm,9.3s						
AAA				MLR	MLR		
	comp=Z,4μm,16.0s						
KBK	**Karagaybulak**	**8.84**	**333**	P	Pn	11 43 00.8	+4.4
	SNR=12						
TKM2	**Tokmak 2**	**8.84**	**337**	⇑P	**Pn**	**11 42 59.0**	**+2.4**
	comp=Z,38nm,0.8s						
TKM2	**Tokmak 2**	**8.84**	**337**	P	Pn	11 43 00.2	+3.6
	SNR=43						
AML	**Almayashu**	**8.92**	**326**	P	**Pn**	**11 43 00.6**	**+2.8**
	SNR=18						
AAK	**Ala-Archa**	**8.99**	**331**	⇓*e*P	**Pn**	**11 43 01.1**	**+2.5**
AAK				pmax	pmax		
	comp=Z,101nm,1.7s						
AAK	**Ala-Archa**	**8.99**	**331**	P	Pn	11 43 01.6	+3.0
	SNR=27						
AAK	**Ala-Archa**	**8.99**	**331**	P	Pn	11 43 06.8	+8.2
	SNR=11						
AAK	**Ala-Archa**	**8.99**	**331**	*e*Pn	**Pn**	**11 43 01.2**	**+2.7**
AAK				Lg	Lg	11 45 34.7	
AAK				*e*Sn	Sn	11 45 36.0	+56
AAK	**Ala-Archa**	**8.99**	**331**	Pn	Pn	11 43 01.8	+3.2
	comp=Z,141nm,0.6s,SNR=6.0						
AAK	**Ala-Archa**	**8.99**	**331**	Pn	Pn	11 43 02.0	+3.4
	comp=Z,3.5nm,0.3s,baz=149,slow=7.2,SNR=24						
AAK				Lg	Lg	11 45 34.7	
	comp=Z,0.6nm,0.3s,baz=162,slow=3.2,SNR=5.7						
AAK				LR	LR	11 47 00.3	
	comp=Z,3μm,18.7s,baz=131,slow=41						
FRU	**Bishkek**	**9.11**	**332**	*e*P	Pn	11 43 04.0	+3.9
FRU				pmax	pmax		
	comp=Z,550nm,1.4s						
CHMS	**Chumysh**	**9.20**	**333**	P	Pn	11 43 05.9	+4.5
	SNR=8.3						
EKS2	**Erkin-Say**	**9.31**	**329**	P	Pn	11 43 08.6	+5.7
	SNR=13						
KBL	**Kabul**	**9.31**	**271**	*e*P	**Pn**	**11 43 00.8**	**-2.3**
KBL				*e*		11 44 50.1	
KBL	**Kabul**	**9.31**	**271**	*e*Pn	**Pn**	**11 43 00.8**	**-2.3**
KBL				*e*Sn	**Sn**	**11 44 50.1**	**+2.5**
RAMN	**Ramite**	**9.55**	**144**	*e*P	**Pn**	**11 43 05.0**	**-1.4**
	comp=Z,192nm,0.6s						
TAPN	**Taplejung**	**9.80**	**138**	*e*P	**Pn**	**11 43 08.8**	**-1.1**
	comp=Z,343nm,1.0s						
ODAN	**Odare**	**10.02**	**141**	*e*P	**Pn**	**11 43 11.5**	**-1.3**
	comp=Z,212nm,0.6s						
LSA	**Lhasa**	**10.49**	**116**	P	**Pn**	**11 43 21.3**	**+1.8**
LSA				S	**Sn**	**11 45 21.5**	**+4.5**
LSA				LR	LR		
	comp=Z,2μm,12.3s						
LSA				LR	LR		
	comp=Z,2μm,10.4s						
LSA				LR	LR		
	comp=Z,4μm,14.0s						
LSA	**Lhasa**	**10.49**	**116**	*e*P	**Pn**	**11 43 20.8**	**+1.3**
LSA				pmax	pmax		
	comp=Z,38nm,0.8s						
LSA	**Lhasa**	**10.49**	**116**	*e*Pn	**Pn**	**11 43 20.8**	**+1.3**
	comp=Z,38nm,0.8s						
WMQ	**Urumqi**	**10.58**	**30**	P	**Pn**	**11 43 22.0**	**+1.7**
WMQ				pP		11 43 25.3	
WMQ				sP		11 43 28.0	
WMQ				PP	**PnPn**	**11 43 30.5**	**+2.5**
WMQ				S	**Sn**	**11 45 21.8**	**+3.4**
WMQ				sS		11 45 26.8	
WMQ				SS	**SnSn**	**11 45 35.0**	**+4.6**
WMQ				ScP	**ScP**	**11 52 55.3**	**+0.1**
WMQ				ScS	**ScS**	**11 56 29.0**	**-1.1**
WMQ				AMB	AMB		
	comp=Z,42nm,1.1s						
WMQ				AMB	AMB		
	comp=Z,340nm,3.6s						
WMQ				LR	LR		
	comp=Z,3μm,7.0s						
WMQ				LR	LR		
	comp=Z,3μm,5.8s						
WMQ				LR	LR		
	comp=Z,1μm,19.2s						
KK31	**Karatay Array**	**11.22**	**320**	P	**Pn**	**11 43 29.4**	**+0.4**
	comp=Z,9.4nm,0.6s,baz=128,slow=12,SNR=113						
KK31	**Karatay Array**	**11.22**	**320**	*e*P	**Pn**	**11 43 29.4**	**+0.4**
KK31				pmax	pmax		
	comp=Z,27nm,0.7s						
KKAR	**Karatay Array**	**11.22**	**320**	*e*P	**Pn**	**11 43 29.5**	**+0.5**
KKAR	**Karatay Array**	**11.22**	**320**	*e*Pn	**Pn**	**11 43 29.5**	**+0.5**
JBP	**Jabalpur**	**11.67**	**182**	⇑*i*P	**Pn**	**11 43 33.1**	**-2.2**
JBP				*ex*	x	11 45 35.9	
BHPL	**Bhopal**	**11.87**	**193**	*e*P	**Pn**	**11 43 35.2**	**-2.8**
BHPL				AMB	AMB	11 43 40.6	
	comp=Z,29nm,0.9s						
MK31	**Makanchi Array**	**11.99**	**6**	⇓P	**Pn**	**11 43 39.7**	**+0.1**
	comp=Z,10.0nm,0.6s,baz=180,slow=13,SNR=117						
MK31				⇓S	**Sn**	**11 45 50.4**	**-2.5**
	comp=Z,55nm,1.1s,baz=175,slow=24,SNR=6.0						
MK31	**Makanchi Array**	**11.99**	**6**	*e*P	**Pn**	**11 43 39.2**	**-0.3**
MK31	**Makanchi Array**	**11.99**	**6**	*e*Pn	**Pn**	**11 43 39.2**	**-0.3**
MKAR	**Makanchi Array**	**11.99**	**6**	P	**Pn**	**11 43 38.6**	**-1.0**
MKAR						11 45 51.5	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR				smax	smax		
	comp=N,1.0nm,0.3s						
MKAR				MLR	MLR		
	comp=Z,865nm,18.7s						
MKAR	**Makanchi Array**	**11.99**	**6**	*e*Pn	**Pn**	**11 43 39.1**	**-0.5**
MKAR				Sn	**Sn**	**11 45 51.5**	**-1.4**
MKAR	**Makanchi Array**	**11.99**	**6**	Pn	**Pn**	**11 43 38.6**	**-1.0**
	comp=Z,2.0nm,0.3s,baz=188,slow=12,SNR=67						
MKAR				Sn	**Sn**	**11 45 51.5**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=181,slow=26,SNR=5.3						
MKAR				LR	LR	11 48 59.8	
	comp=Z,865nm,18.7s,baz=187,slow=41						
BOK	**Bokaro**	**12.05**	**155**	*e*P	**Pn**	**11 43 39.1**	**-1.3**
BOK				AMB	AMB	11 43 44.0	
	comp=Z,19nm,1.3s						
BOK				*ex*	x	11 45 45.9	
SHL	**Shillong**	**13.61**	**130**	*e*P	Pn	11 43 58.0	-3.9
SHL				AMB	AMB	11 44 03.0	
	comp=Z,51nm,0.9s						
SHL				*i* 4		11 46 24.0	
NGP	**Nagpur**	**13.72**	**185**	*ex*	Pn	11 43 59.4	-3.9
NGP				AMB	AMB	11 44 04.3	
	comp=Z,32nm,1.2s						
AKL	**Akola**	**14.43**	**193**	*e*P	**Pn**	**11 44 11.0**	**-1.9**
AKL				AMP		11 44 12.3	
	comp=Z,95nm,0.9s						
AKL				*i* x	x	11 46 44.5	
BHJ	**Bhuj**	**14.87**	**222**	*ex*	Pn	11 44 14.8	-4.2
BHJ				AMB	AMB	11 44 16.7	
	comp=Z,62nm,1.2s						
IMP	**Imphal**	**15.48**	**127**	*e*4	Pn	11 44 21.0	-6.1
IMP				*e*4		11 44 28.0	
KURBB	**Kurchatov Arra**	**15.79**	**356**	⇑P	**Pn**	**11 44 30.6**	**-0.3**
	comp=Z,49nm,1.1s						
KURBB	**Kurchatov Arra**	**15.79**	**356**	Pn	**Pn**	**11 44 28.6**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=178,slow=12,SNR=22						
KURBB				Lg	Lg	11 49 05.5	
	comp=Z,0.1nm,0.3s,baz=182,slow=26,SNR=3.7						
KURK	**Kurchatov**	**15.88**	**356**	P	**Pn**	**11 44 28.6**	**-3.4**
KURK	**Kurchatov**	**15.88**	**356**	Pn	**Pn**	**11 44 28.6**	**-3.4**
KURK				Lg	Lg	11 49 05.5	
KURK	**Kurchatov**	**15.88**	**356**	Pn	**Pn**	**11 44 30.3**	**-1.7**
	comp=Z,182nm,0.9s,SNR=5.2						
GTA	**Gaotai**	**16.16**	**68**	⇓P	**Pn**	**11 44 34.5**	**-1.4**
GTA				pP	**P**	**11 44 39.0**	**0.0**
GTA				sP	**sP**	**11 44 41.3**	**-4.7**
GTA				S	**Sn**	**11 47 33.5**	**-1.3**
GTA				sS	S	11 47 40.0	-7.9
GTA				SS	**SnSn**	**11 47 53.0**	**+5.4**
GTA				AMB	AMB		
	comp=Z,14nm,1.7s						
GTA				AMB	AMB		
	comp=Z,130nm,4.3s						
GTA				LR	LR		
	comp=Z,2μm,13.1s						
GTA				LR	LR		
	comp=Z,2μm,15.2s						
GTA				LR	LR		
	comp=Z,2μm,15.7s						
POO	**Poona**	**17.28**	**201**	*e*P	**Pn**	**11 44 50.6**	**+0.6**
POO				AMB	AMB	11 44 52.0	
	comp=Z,31nm,1.3s						
VIS	**Vishakhapatnam**	**17.29**	**170**	*ex*	x	11 47 48.3	
VIS				AMB	AMB	11 48 10.0	
	comp=Z,75nm,1.4s						
HYB	**Hyderabad**	**17.46**	**186**	*i* P	Pn	11 44 47.0	-5.3
HYB				*eS*	**Sn**	**11 48 06.0**	**-0.4**
HYB				*e*		11 48 14.0	
HYB	**Hyderabad**	**17.46**	**186**	*ex*	Pn	11 44 47.5	-4.8
IAKL	**Akhelmad**	**17.61**	**282**	*e*P	**Pn**	**11 44 52.6**	**-1.7**
IEMG	**Emamgholi**	**17.70**	**285**	*e*P	**Pn**	**11 44 51.4**	**-4.0**
IKOO	**Kooshah**	**17.94**	**268**	*e*P	**Pn**	**11 44 57.0**	**-1.3**
ITEG	**Tejag**	**18.04**	**270**	*e*P	**Pn**	**11 44 59.4**	**-0.1**
ISFR	**Sfrayin**	**18.22**	**283**	*e*P	**Pn**	**11 45 00.2**	**-1.5**
HVS	**Khovu-Aksy**	**18.91**	**27**	*i* P	**Pn**	**11 45 10.4**	**+0.6**
HVS				MLR	MLR		
	comp=Z,3μm,16.0s						
VOSK	**Vostochnaya**	**19.05**	**342**	⇑P	**P**	**11 45 10.8**	**+0.2**
	comp=Z,14nm,0.7s						
LZH	**Lanzhou**	**19.17**	**80**	⇑P	**P**	**11 45 12.5**	**+0.3**
LZH				pP	**pP**	**11 45 16.5**	**-0.6**
LZH				sP	**sP**	**11 45 17.5**	**-1.8**
LZH				S	Sn	11 48 40.0	-7.6

comp=Z,840nm,15.6s
IMEH Mehriz 21.81 268 *e*P **P 11 45 39.8 -1.2**
ISHM Shahmirzad 22.07 280 *e*P **P 11 45 45.0 +1.2**
CMAI Chiengmai2 22.24 127 P **P 11 45 44.6 -1.0**
comp=Z,57nm,1.3s,comp=Z,4μm
MOY Mondy 22.40 35 *e*P **P 11 45 49.0 +1.9**
MOY pmax pmax
comp=Z,53nm,2.6s
AKTO Aktyubinsk 22.49 321 P **P 11 45 45.7 -2.2**
AKTO Aktyubinsk 22.49 321 P **P 11 45 45.7 -2.2**
AKTO Aktyubinsk 22.49 321 P **P 11 45 45.7 -2.2**
comp=Z,6.8nm,0.5s,baz=117,slow=13,SNR=18
AKTO LR LR 11 55 25.0
comp=Z,1μm,18.1s,baz=130,slow=39
ZAK Zakamensk 22.77 40 *e*P **P 11 45 50.2 -0.8**
ZAK pmax pmax
comp=Z,10.0nm,1.5s
CRAI Chiangrai 22.92 124 P **P 11 45 52.4 -0.2**
comp=Z,85nm,1.8s,comp=Z,3μm
CHTO Chiang Mai 22.99 129 *e*P **P 11 45 50.7 -2.6**
CHTO pmax pmax
comp=Z,32nm,0.9s
CHTO Chiang Mai 22.99 129 P **P 11 45 51.4 -1.9**
SNR=28
CHTO Chiang Mai 22.99 129 P **P 11 45 50.7 -2.6**
comp=Z,192nm,1.3s,comp=Z,2μm
CHTO Chiang Mai 22.99 129 *e*P **P 11 45 50.7 -2.6**
comp=Z,32nm,0.9s
CHTO Chiang Mai 22.99 129 P **P 11 45 51.0 -2.3**
comp=Z,192nm,1.3s,comp=Z,3μm
CM31 Chiang Mai Arr 23.25 130 *e*P **P 11 45 54.4 -1.6**
comp=Z,21nm,0.6s
CMAR Chiang Mai Arr 23.25 130 P **P 11 45 53.9 -2.1**
CMAR PcP **PcP 11 49 43.4 -0.2**
CMAR ScP **ScP 11 53 20.6 -0.3**
CMAR Chiang Mai Arr 23.25 130 P **P 11 45 53.9 -2.1**
comp=Z,36nm,0.9s,baz=312,slow=9.9,SNR=118
CMAR PcP **PcP 11 49 43.4 -0.2**
comp=Z,1.1nm,0.7s,baz=294,slow=3.5,SNR=6.5
CMAR ScP **ScP 11 53 20.6 -0.3**
comp=Z,0.4nm,0.4s,baz=302,slow=5.2,SNR=4.4
CMAR LR LR 11 56 20.8
comp=Z,620nm,20.8s,baz=318,slow=40
SONM Songino Array 23.32 48 P **P 11 45 57.0 +0.3**
SONM PcP **PcP 11 49 43.1 -0.4**
SONM Songino Array 23.32 48 P **P 11 45 57.0 +0.3**
comp=Z,15nm,0.9s,baz=238,slow=6.7,SNR=60
SONM PcP **PcP 11 49 43.1 -0.4**
comp=Z,0.7nm,0.5s,baz=238,slow=3.6,SNR=4.9
SONM LR LR 11 55 40.4
comp=Z,884nm,18.6s,baz=284,slow=38
XAN Xi'an 23.55 84 P **P 11 45 56.5 -2.4**
XAN pP **pP 11 46 04.0 0.0**
XAN S **S 11 50 13.8 +1.5**
XAN AMB AMB
comp=Z,10.0nm,1.6s
XAN AMB AMB
comp=Z,40nm,4.6s
XAN LR LR
comp=Z,2μm,20.4s
XAN LR LR
comp=Z,350nm,18.3s
XAN LR LR
comp=Z,420nm,13.2s
TLY Talaya 23.71 38 *e*P **P 11 46 01.9 +1.6**
TLY *e* 11 46 19.9
TLY *e*PPP PPP 11 46 33.1
TLY *e*S **S 11 50 09.7 -4.8**
TLY *e*SSS SSS 11 50 50.7
TLY pmax pmax
comp=Z,9.0nm,1.3s
TLY MLR MLR
comp=Z,879nm,16.0s
ULN Ulaanbaatar 23.73 49 P **P 11 46 01.7 +1.0**
SNR=45
ULN Ulaanbaatar 23.73 49 P **P 11 46 01.0 +0.2**
comp=Z,58nm,1.6s,comp=Z,970nm
ULN Ulaanbaatar 23.73 49 *e*P **P 11 46 00.8 0.0**
comp=Z,164nm,1.6s
GYA Guiyang 24.09 103 P **P 11 46 02.0 -2.3**
GYA PP **PnPn 11 46 36.8 +3.5**
GYA PcP **PcP 11 49 45.5 +0.1**
GYA S **S 11 50 17.0 -4.2**
GYA SS **SnSn 11 51 06.8 +4.4**
GYA ScP **ScP 11 53 22.5 -0.6**
GYA AMB AMB
comp=Z,20nm,0.8s
GYA AMB AMB
comp=Z,120nm,4.6s
GYA LR LR
comp=Z,620nm,16.7s
GYA LR LR
comp=Z,510nm,17.2s
GYA LR LR
comp=Z,670nm,16.0s
IRK Irkutsk 24.35 37 *e*P **P 11 46 07.6 +1.3**
IRK pmax pmax
comp=Z,41nm,2.1s
SUKH Sukhothai 24.41 130 P **P 11 46 06.2 -0.9**
comp=Z,11nm,1.0s,comp=Z,101nm
DGPR DIGLIPUR 24.42 149 *e*P **P 11 46 07.7 +0.5**
DGPR AMB AMB 11 46 10.3
comp=Z,36nm,1.1s
ENH Enshi 24.94 92 *e*P **P 11 46 11.7 -0.1**
comp=Z,11nm,0.7s
HHC Hu-ho-hao-te 25.27 67 *e*P **P 11 46 16.3 +1.4**
HHC pP **pP 11 46 19.5 -0.5**
HHC sP **sP 11 46 23.0 +0.8**
HHC PP **PnPn 11 46 54.0 +4.7**
HHC S **S 11 50 41.3 +1.3**
HHC sS **sS 11 50 53.0 +4.5**
HHC AMB AMB
comp=Z,53nm,1.4s
HHC AMB AMB
comp=Z,440nm,7.1s
HHC LR LR
comp=Z,1μm,15.5s
HHC LR LR
comp=Z,2μm,16.7s
HHC LR LR
comp=Z,2μm,16.7s
SVE Sverdlovsk 25.71 335 *e*P **P 11 46 20.2 +1.7**
PBA Port Blair 25.72 151 *e*P P 11 46 18.7 -0.3
PBA AMB AMB 11 46 29.0
comp=Z,47nm,0.2s
PBKT Sadao Pong 25.94 129 P **P 11 46 19.5 -1.4**
comp=Z,50nm,1.0s,comp=Z,872nm
PBKT Sadao Pong 25.94 129 P **P 11 46 19.7 -1.2**
comp=Z,50nm,1.0s,comp=Z,872nm
ARU Arti 26.18 332 *d* *i*P **P 11 46 24.0 +1.2**
ARU 11 47 02.5
ARU S **S 11 50 57.6 +3.9**
ARU SS **SnSn 11 51 53.7 +1.0**
ARU pmax pmax
comp=Z,36nm,2.5s
ARU MLR MLR
comp=Z,876nm,21.0s
MAK Makhachkala 26.67 297 P **P 11 46 25.2 -2.1**
MAK *e* 11 47 08.3
MAK *e*S **S 11 51 03.2 +1.4**
MAK pmax pmax
comp=Z,33nm,0.4s
MAK MLR MLR
comp=Z,2μm,13.0s
PALK Pallekele 27.48 179 *e*P **P 11 46 33.5 -1.3**
comp=Z,13nm,1.1s
SKNT Sakolnakorn 27.63 124 P **P 11 46 34.6 -1.6**
comp=Z,52nm,1.5s,comp=Z,1μm
DGRG David-gareji 28.14 294 P P 11 46 44.1 +3.5
GNI Garni 28.60 291 P P 11 46 48.9 +4.0
SNR=8.6
GNI Garni 28.60 291 *e*P **P 11 46 47.6 +2.7**
comp=Z,60nm,1.5s
TBLG Delisi 28.62 295 P **P 11 46 42.0 -2.9**
BJI Beijing 28.77 69 P **P 11 46 44.8 -1.4**
BJI S **S 11 51 34.8 -0.2**
BJI AMB AMB
comp=Z,9.0nm,0.6s
BJI AMB AMB
comp=Z,190nm,6.5s
BJI LR LR
comp=Z,1μm,17.3s
BJI LR LR
comp=Z,840nm,22.6s
BJI LR LR
comp=Z,640nm,24.2s

WHN Wuhan 28.85 89 P **P 11 46 48.0 +1.0**
WHN S **S 11 51 40.5 +4.1**
WHN LR LR
comp=Z,3μm,16.4s
ZEI Tsey 29.29 297 *e*P **P 11 46 52.3 +1.2**
ZEI pmax pmax
comp=Z,11nm,1.6s
AKH Akhalkalaki 29.55 294 P **P 11 46 53.7 +0.4**
ONI Oni 29.61 296 P **P 11 46 56.7 +3.0**
UBPT Khong Chiam 29.83 125 P **P 11 46 53.5 -2.3**
comp=Z,30nm,1.0s
UBPT Khong Chiam 29.83 125 P **P 11 46 56.3 +0.5**
comp=Z,30nm,1.0s
KBZ Khabaz 30.09 298 P **P 11 46 59.7 +1.9**
KBZ Khabaz 30.09 298 P **P 11 46 59.6 +1.9**
KBZ Khabaz 30.09 298 P **P 11 46 59.6 +1.9**
comp=Z,0.7nm,0.4s,baz=128,slow=11,SNR=3.9
KBZ LR LR 12 00 54.6
comp=Z,705nm,19.7s,baz=103,slow=40
GOF Gofitskoye 30.11 301 *e*P **P 11 46 59.9 +1.9**
KIV Kislovodsk 30.26 299 *e*P P 11 47 02.5 +3.0
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,503nm,16.0s
QIZ Qiongzhong 30.52 113 P **P 11 47 02.5 +0.6**
QIZ S **S 11 52 03.3 +0.6**
QIZ LR LR
comp=Z,460nm,14.3s
QIZ LR LR
comp=Z,260nm,10.2s
QIZ LR LR
comp=Z,620nm,19.4s
NJ2 Nanjing 32.12 84 *e*P **P 11 47 14.5 -1.3**
NJ2 AMB AMB
comp=Z,20nm,0.6s
VRHR Novokhopersk 32.19 312 *e*P **P 11 47 18.9 +2.6**
VRHR pmax pmax
comp=N,7.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR MLR MLR
comp=Z,450nm,10.0s
VRHR MLR MLR
comp=N,110nm,16.0s
VRHR MLR MLR
comp=E,520nm,13.0s
VORD Divnogorie 33.59 311 *e*P **P 11 47 31.2 +2.7**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=E,20nm,0.6s
VORD MLR MLR
comp=E,380nm,14.0s
VORD MLR MLR
comp=Z,660nm,14.0s
VSR Storozhevoye 33.72 312 *e*P **P 11 47 30.7 +1.0**
VSR pmax pmax
comp=Z,9.0nm,0.6s
VSR pmax pmax
comp=N,3.0nm,0.4s
VSR pmax pmax
comp=E,5.0nm,0.4s
VSR MLR MLR
comp=Z,1μm,15.0s
VSR MLR MLR
comp=N,770nm,13.0s
VSR MLR MLR
comp=E,430nm,10.0s
ANN Anapa 34.06 300 *e*P **P 11 47 33.1 +0.4**
ANN *e*S **S 11 52 56.7 -0.8**
ANN pmax pmax
comp=Z,71nm,1.4s
ANN MLR MLR
comp=Z,346nm,15.0s
KULM Kulim 34.92 143 *e*P **P 11 47 39.6 -0.7**
comp=Z,23nm,1.3s
CN2 Changchun 35.62 62 *e*P **P 11 47 45.8 -0.4**
CN2 *e*S **S 11 53 16.3 -5.3**
CN2 AMB AMB
comp=Z,10.0nm,0.6s
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,500nm,12.0s
CN2 LR LR
comp=Z,600nm,12.0s
CN2 LR LR
comp=Z,800nm,13.0s
MOS Moscow 35.80 319 *e*P **P 11 47 47.5 0.0**
MOS pmax pmax
comp=Z,64nm,1.5s
MOS MLR MLR
comp=Z,2μm,15.0s
MOS MLR MLR
comp=E,2μm,16.0s
OBN Obninsk 36.20 318 *e*P **P 11 47 51.9 +1.0**
OBN *e* 11 49 08.8
OBN pmax pmax
comp=Z,35nm,1.7s
OBN MLR MLR
comp=Z,900nm,17.0s
SIM Simferopol' 36.42 300 *e*P **P 11 47 56.0 +3.0**
SIM pmax pmax
comp=Z,19nm,1.1s
KLMR Klimovskoe 36.78 328 *e*P **P 11 47 55.0 -0.9**
KLMR pmax pmax
comp=Z,29nm,1.4s
BR131 Keskin Array S 37.14 292 *e*P **P 11 47 59.8 +0.4**
comp=Z,4.4nm,0.6s
BRTR Keskin Array B 37.14 292 P **P 11 47 59.2 -0.2**
BRTR Keskin Array B 37.14 292 P **P 11 47 59.2 -0.2**
comp=Z,3.7nm,0.5s,baz=106,slow=7.0,SNR=21
BRTR LR LR 12 06 39.9
comp=Z,206nm,20.0s,baz=222,slow=42
ANTO Ankara 37.77 292 *e*P **P 11 48 05.9 +1.3**
ANTO pmax pmax
comp=Z,65nm,1.7s
ANTO Ankara 37.77 292 P **P 11 48 07.0 +2.4**
SNR=6.6
ANTO Ankara 37.77 292 *e*P **P 11 48 05.9 +1.3**
comp=Z,65nm,1.7s
TJN Taejon 37.95 74 *i*P P 11 48 10.3 +4.2
KSAR Wonju Array Be 38.15 72 P **P 11 48 06.7 -1.1**
KSRS Korea Array 38.18 72 P **P 11 48 06.7 -1.3**
comp=Z,1.3nm,0.6s,baz=279,slow=6.7,SNR=6.9
KSRS LR LR 12 03 35.6
comp=Z,176nm,21.1s,baz=281,slow=36
MDJ Mudanjiang 38.58 60 P **P 11 48 09.5 -1.8**
MDJ PcP **PcP 11 50 22.8 -0.8**
MDJ S **S 11 54 05.0 -1.5**
MDJ ScP **ScP 11 54 10.8 0.0**
MDJ PcS **PcS 11 54 12.0 -0.7**
MDJ ScS **ScS 11 58 20.8 -0.3**
MDJ AMB AMB
comp=Z,9.0nm,1.0s
MDJ AMB AMB
comp=Z,83nm,4.1s
MDJ LR LR
comp=Z,190nm,13.3s
MDJ LR LR
comp=Z,50nm,22.2s
MDJ LR LR
comp=Z,220nm,18.9s
MYKOM Kota Tinggi 39.53 141 *e*P **P 11 48 20.5 +1.0**
comp=Z,9.6nm,1.0s
AKASG Malin Array Be 39.87 309 P **P 11 48 20.7 -1.3**
AKASG Malin Array Be 39.87 309 P **P 11 48 20.7 -1.3**
AKASG Malin Array Be 39.87 309 P **P 11 48 20.7 -1.3**
comp=Z,1.3nm,0.4s,baz=79,slow=7.8,SNR=31
AKASG LR LR 12 07 26.1
comp=Z,364nm,18.2s,baz=100,slow=40
AKBB Malin Array Si 39.87 309 *e*P **P 11 48 21.1 -0.9**
AKBB Malin Array Si 39.87 309 *e*P **P 11 48 21.1 -0.9**
AK01 Malin Array Si 39.88 309 *e*P **P 11 48 20.9 -1.2**
AK02 Malin Array Si 39.88 309 *e*P **P 11 48 21.0 -1.1**
KIEV Kiev 39.88 309 *e*P **P 11 48 20.6 -1.5**
KIEV pmax pmax
comp=Z,12nm,0.9s
KIEV Kiev 39.88 309 *e*P **P 11 48 20.6 -1.5**
comp=Z,12nm,0.9s
KLR Kul'dur 39.99 53 *e*P **P 11 48 20.2 -2.9**
KLR MLR MLR
comp=E,600nm,11.0s
KLR MLR MLR
comp=Z,2μm,11.0s
KIS Kishinev 40.09 304 *e*P **P 11 48 24.0 +0.2**
KIS Kishinev 40.09 304 *e*P **P 11 48 24.0 +0.2**
JOF Joensuu 41.16 328 *e*P **P 11 48 32.0 -0.5**
JOF pmax pmax
comp=Z,3.0nm,0.4s
JOF Joensuu 41.16 328 *e*p **P 11 48 32.0 -0.5**
comp=Z,3.0nm,0.4s
JNU Nakatsue 41.57 78 LR LR 12 07 30.0
comp=Z,646nm,18.9s,baz=293,slow=39
VRI Vrincioaia 41.59 302 *i*P **P 11 48 38.8 +2.5**
TESR Tescani 41.60 303 *i*P **P 11 48 36.6 +0.3**
PLOR Plostina 41.64 302 *i*P **P 11 48 39.2 +2.4**
MLR Muntele Rosu 42.16 302 *i*P **P 11 48 42.9 +1.8**
BURAR Bucovina Array 42.51 305 *i*P **P 11 48 43.4 -0.5**
BUR08 Bucovina Ar. S 42.52 305 *e*P **P 11 48 44.1 +0.1**
VOIR 42.80 302 *i*P **P 11 48 46.8 +0.6**
ARR Arges 43.09 302 *i*P **P 11 48 50.2 +1.6**
FINES FINESS Array B 43.12 325 P **P 11 48 48.2 -0.3**
FINES FINESS Array B 43.12 325 P **P 11 48 48.2 -0.3**
comp=Z,5.1nm,0.5s,baz=110,slow=8.7,SNR=32
FINES LR LR 12 07 58.2
comp=Z,1μm,18.5s,baz=198,slow=38
KAF Kangasniemi 43.16 326 *e*P **P 11 48 50.1 +1.3**
KAF pmax pmax
comp=Z,1.0nm,0.3s
KAF Kangasniemi 43.16 326 *e*p **P 11 48 50.1 +1.3**
comp=Z,0.6nm,0.3s
LVV L'vov 43.20 308 *e*P P 11 48 53.0 +3.7
LVV MLR MLR
comp=Z,300nm,17.0s
LVV MLR MLR
comp=N,100nm,16.0s
LVV MLR MLR
comp=E,300nm,17.0s
KSM Kuching 43.40 133 P **P 11 48 50.5 -0.8**
comp=E,11nm,1.3s
KSM Kuching 43.40 133 *e*P **P 11 48 50.2 -1.1**
comp=E,11nm,1.1s
KKM Kota Kinabalu 43.77 123 P **P 11 48 54.0 -0.4**
comp=E,34nm,1.3s
KKM Kota Kinabalu 43.77 123 *e*P **P 11 48 53.5 -0.8**
comp=E,42nm,1.2s
SBUM Sibu 43.80 130 P **P 11 48 53.9 -0.6**
comp=E,9.6nm,1.1s
SBUM Sibu 43.80 130 *e*P **P 11 48 54.0 -0.6**
comp=E,7.8nm,1.0s
KWP Kalwaria Pacla 44.06 308 *e*P **P 11 48 57.9 +1.6**
KWP pmax pmax
comp=Z,77nm,1.7s
KWP Kalwaria Pacla 44.06 308 *i*P **P 11 48 57.7 +1.4**
KWP Kalwaria Pacla 44.06 308 *e*P **P 11 48 57.9 +1.6**
comp=Z,77nm,1.7s
KWP Kalwaria Pacla 44.06 308 *e*P P 11 48 59.4 +3.1
TRPA Tarpa 44.27 306 *i*P **P 11 48 59.9 +2.0**
DRGR 44.28 304 *i*P **P 11 49 00.1 +2.0**
KOLS Kolonicke sedl 44.39 307 *e*P **P 11 48 59.1 +0.2**
KOLS pmax pmax
comp=Z,8.0nm,1.1s
KOLS Kolonicke sedl 44.39 307 *e*P **P 11 48 59.1 +0.2**
GZR Gura Zlata 44.39 302 *i*P **P 11 48 58.0 -1.1**
UZH Uzhgorod 44.40 306 *e*P **P 11 48 59.8 +0.9**
UZH *e* 11 49 16.4
VTS Vitosha 44.50 298 *i*P **P 11 49 02.2 +2.1**
TIXI Tiksi 44.57 20 *e*P P 11 49 03.4 +3.4
TIXI pmax pmax
comp=Z,3.0nm,0.8s
TIXI MLR MLR
comp=Z,1μm,16.0s
CRVS Cervenica-Dubn 44.92 307 *e*P **P 11 49 05.6 +2.4**
CRVS Cervenica-Dubn 44.92 307 *e*P **P 11 49 05.6 +2.4**
STHS Stebnicka Huta 45.03 308 *e*P **P 11 49 04.8 +0.8**
STHS pmax pmax
comp=Z,5.0nm,0.8s
STHS Stebnicka Huta 45.03 308 *e*P **P 11 49 04.8 +0.8**
SIRR Siria 45.06 303 *i*P **P 11 49 05.8 +1.5**
BZS Buzias 45.17 302 *i*P **P 11 49 06.2 +1.0**
KEV Kevo 45.21 337 *e*P **P 11 49 03.4 -1.7**
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 45.21 337 *e*p **P 11 49 03.4 -1.7**
comp=Z,0.5nm,0.4s
KECS Kecovo 45.60 306 *e*P **P 11 49 08.3 -0.3**
KECS pmax pmax
comp=Z,3.0nm,0.9s
KECS Kecovo 45.60 306 *e*P **P 11 49 08.3 -0.3**
ARCES ARCESS Array B 45.62 336 P **P 11 49 08.1 -0.3**
ARCES PcP **PcP 11 50 46.5 +0.1**
ARCES ARCESS Array B 45.62 336 P **P 11 49 08.1 -0.3**
comp=Z,2.4nm,0.7s,baz=92,slow=6.8,SNR=14
ARCES PcP **PcP 11 50 46.5 +0.1**
comp=Z,1.9nm,0.8s,baz=110,slow=4.1,SNR=5.3
ARCES LR LR 12 11 56.5
comp=Z,62nm,19.9s,baz=112,slow=41
MYLDM Lahad Datu 45.97 121 P **P 11 49 10.5 -1.3**
comp=Z,28nm,1.4s
MYLDM Lahad Datu 45.97 121 *e*P **P 11 49 12.3 +0.5**
comp=Z,80nm,1.6s
PSZ Piszkesteto 46.06 306 *e*P **P 11 49 14.3 +2.0**
PSZ pmax pmax
comp=Z,6.0nm,0.8s
PSZ Piszkesteto 46.06 306 *e*P **P 11 49 14.3 +2.0**
comp=Z,5.6nm,0.8s
OKC Ostrava-Krasne 46.99 308 *e*P **P 11 49 21.4 +1.9**
OKC Ostrava-Krasne 46.99 308 *e*P **P 11 49 21.4 +1.9**
OKC *e*pP **pP 11 49 26.5 +1.7**
MORC Moravsky Berou 47.39 308 *e*P **P 11 49 23.1 +0.4**
MORC pmax pmax
comp=Z,20nm,1.4s
MORC Moravsky Berou 47.39 308 *i*P **P 11 49 23.6 +1.0**
MORC Moravsky Berou 47.39 308 *e*P **P 11 49 23.1 +0.4**
comp=Z,20nm,1.4s
ASAJ Asahikawa 47.88 59 LR LR 12 11 22.0
comp=Z,260nm,18.0s,baz=169,slow=38
VRAC Vranov 48.06 308 *i*P **P 11 49 29.8 +2.0**
KSP Ksiaz 48.07 310 *e*P **P 11 49 28.3 +0.5**
KSP Ksiaz 48.07 310 *e*P **P 11 49 29.2 +1.4**
DPC Dobruska-Polom 48.10 309 *e*P **P 11 49 28.6 +0.4**
DPC Dobruska-Polom 48.10 309 *e*P **P 11 49 28.6 +0.4**
DPC *e*pP **pP 11 49 33.5 0.0**
DPC AMS AMS 12 11 50.0
DPC Dobruska-Polom 48.10 309 *e*P **P 11 49 28.9 +0.7**
UPC Upice 48.28 310 *e*P **P 11 49 30.4 +0.9**
UPC Upice 48.28 310 *e*P **P 11 49 30.4 +0.9**
UPC *e*pP **pP 11 49 34.7 -0.2**
CONA Conrad Observa 48.74 306 *i*P **P 11 49 33.8 +0.7**
comp=Z,32nm,1.6s,SNR=9.0
TREC Trest 48.78 308 *e*P **P 11 49 35.0 +1.6**
TREC MLR MLR
comp=Z,500nm,11.4s
TREC Trest 48.78 308 *e*P **P 11 49 35.0 +1.6**
TREC AMS AMS 12 12 30.0
comp=Z,500nm,11.4s
PVCC Panska Ves 49.19 310 AMS AMS 12 12 30.0
comp=Z,1μm,15.2s
PRU Pruhonice 49.29 309 *e*P **P 11 49 38.6 +1.4**
PRU MLR MLR
comp=Z,600nm,12.3s
PRU Pruhonice 49.29 309 *e*P **P 11 49 38.6 +1.4**
PRU AMS AMS 12 12 30.0
comp=Z,600nm,12.3s
SOKA Soboth 49.52 305 *i*P **P 11 49 39.6 +0.5**
comp=Z,38nm,1.8s,SNR=9.2
BRG Berggiesshubel 49.54 310 *e*P **P 11 49 40.4 +1.3**
comp=Z,12nm,0.8s
BRG Berggiesshubel 49.54 310 *e*P **P 11 49 40.4 +1.3**
BRG pmax pmax
comp=Z,12nm,0.8s
GEC2 GERESS Array S 50.01 308 *e*P **P 11 49 43.5 +0.7**
GEC2 pmax pmax
comp=Z,2μm,1.0s
GEC2 GERESS Array S 50.01 308 *e*P **P 11 49 43.5 +0.7**
comp=Z,2μm,1.0s
GERES GERESS Array B 50.01 308 P **P 11 49 43.2 +0.3**
GERES GERESS Array B 50.01 308 P **P 11 49 43.2 +0.3**
comp=Z,3.3nm,0.8s,baz=65,slow=6.8,SNR=19
GERES LR LR 12 13 09.4
comp=Z,388nm,21.1s,baz=76,slow=39
KHC Kasperske Hory 50.04 308 *e*P **P 11 49 43.0 0.0**
KHC Kasperske Hory 50.04 308 *e*P **P 11 49 43.0 0.0**
KHC *e*pP **pP 11 49 48.1 -0.3**
KHC Kasperske Hory 50.04 308 *e*P **P 11 49 42.1 -0.9**
comp=Z,58nm,2.0s
CLL Collm 50.07 311 *e*P **P 11 49 44.0 +0.9**

CLL pmax pmax
comp=Z,31nm,1.9s
CLL MLR MLR
comp=Z,900nm,18.6s
CLL Collm 50.07 311 *eP* **P 11 49 44.0 +0.9**
comp=Z,31nm,1.9s
CLL *eSS* **SS 12 00 30.0 +3.9**
CLL Lm MLR 12 14 00.0
comp=N,300nm,18.4s
CLL Lm MLR 12 14 00.0
comp=E,600nm,19.5s
CLL Lm MLR 12 14 00.0
comp=Z,900nm,18.6s
NB2 NORSAR Subarra 50.22 324 P **P 11 49 42.8 -1.4**
comp=Z,2.9nm,0.6s,baz=89,slow=7.9
NOA NORSAR Array B 50.22 324 P **P 11 49 43.1 -1.1**
NOA NORSAR Array B 50.22 324 P **P 11 49 43.1 -1.1**
comp=Z,2.2nm,0.6s,baz=90,slow=7.5,SNR=12
NOA LR LR 12 11 58.8
comp=Z,774nm,18.5s,baz=85,slow=37
NKC Novy Kostel 50.58 310 *eP* **P 11 49 46.3 -0.8**
NKC MLR MLR
comp=Z,600nm,14.0s
NKC Novy Kostel 50.58 310 *eP* **P 11 49 46.3 -0.8**
NKC *ePP* **pP 11 49 50.0 -2.5**
NKC AMS AMS 12 13 20.0
comp=Z,600nm,14.0s
GRF Grafenberg Arr 51.46 309 *eP* **P 11 49 55.8 +2.2**
GRF pmax pmax
comp=Z,51nm,2.0s
GRF Grafenberg Arr 51.46 309 *eP* **P 11 49 55.8 +2.2**
comp=Z,51nm,2.0s
GRFO Grafenberg 51.46 309 *eP* **P 11 49 55.1 +1.5**
GRFO pmax pmax
comp=Z,37nm,1.4s
GRFO Grafenberg 51.46 309 *eP* **P 11 49 55.1 +1.5**
comp=Z,37nm,1.4s
WTTA Wattenberg 51.68 306⇑ *iP* **P 11 49 55.8 +0.3**
comp=Z,9.4nm,1.3s
MRSI Marisa 51.72 122 P **P 11 49 55.2 -0.7**
comp=Z,20nm,0.8s
MMSI Mamuju 52.00 128 P **P 11 49 57.6 -0.5**
comp=Z,36nm,1.4s
FUORN Ofenpass-Fuorn 52.74 305 *eP* **P 11 50 05.0 +1.4**
comp=Z,100nm,2.4s
TTSI Tana Toraja 52.86 127 P **P 11 50 04.9 +0.5**
TUE Stuetta 53.39 306 *eP* **P 11 50 07.2 -1.1**
comp=Z,8.3nm,1.0s
KMBO Kilima Mbogo 53.91 238 *eP* **P 11 50 12.8 +0.4**
comp=Z,12nm,1.4s
KMBO Kilima Mbogo 53.91 238 P **P 11 50 11.9 -0.5**
comp=Z,2.4nm,0.6s,baz=45,slow=7.1,SNR=5.2
CDF Champ du Feu 54.27 308 *eP* **P 11 50 13.8 -0.7**
CDF Champ du Feu 54.27 308 *eP* **P 11 50 13.8 -0.7**
CDF Champ du Feu 54.27 308 *eP* **P 11 50 13.8 -0.7**
HINF Hinteralfeld 54.69 308 *eP* **P 11 50 16.8 -0.8**
HINF Hinteralfeld 54.69 308 *eP* **P 11 50 16.8 -0.8**
HINF Hinteralfeld 54.69 308 *eP* **P 11 50 16.8 -0.8**
PGF Pioggiola 54.70 301 *eP* **P 11 50 16.9 -0.9**
comp=Z,76nm,1.5s
PGF Pioggiola 54.70 301 *eP* **P 11 50 16.9 -0.9**
PGF pmax pmax
comp=Z,76nm,1.5s
PGF Pioggiola 54.70 301 *eP* **P 11 50 16.9 -0.9**
comp=Z,76nm,1.5s
SENIN Lac Senin/Sane 54.78 306 *eP* **P 11 50 19.8 +1.4**
comp=Z,108nm,2.5s
LPG La Plagne 55.39 305 *eP* **P 11 50 22.7 -0.3**
comp=Z,31nm,1.0s
LPG La Plagne 55.39 305 *eP* **P 11 50 22.7 -0.3**
LPG pmax pmax
comp=Z,31nm,1.0s
LPG La Plagne 55.39 305 *eP* **P 11 50 22.7 -0.3**
comp=Z,31nm,1.0s
LPL La Plagne 55.40 305 *eP* **P 11 50 22.7 -0.2**
comp=Z,17nm,0.6s
LPL La Plagne 55.40 305 *eP* **P 11 50 22.7 -0.2**
LPL pmax pmax
comp=Z,17nm,0.6s
LPL La Plagne 55.40 305 *eP* **P 11 50 22.7 -0.2**
comp=Z,17nm,0.6s
SBF Sospel 55.40 303 *eP* **P 11 50 22.2 -0.6**
comp=Z,28nm,0.9s
SBF Sospel 55.40 303 *eP* **P 11 50 22.2 -0.6**
SBF pmax pmax
comp=Z,28nm,0.9s
SBF Sospel 55.40 303 *eP* **P 11 50 22.2 -0.6**
comp=Z,28nm,0.9s
MBDF Montbardon 55.60 304 *eP* **P 11 50 24.7 +0.4**
comp=Z,11nm,0.8s
MBDF Montbardon 55.60 304 *eP* **P 11 50 24.7 +0.4**
MBDF pmax pmax
comp=Z,11nm,0.8s
MBDF Montbardon 55.60 304 *eP* **P 11 50 24.7 +0.4**
comp=Z,11nm,0.8s
FRF La Foret Royal 56.04 303 *eP* **P 11 50 26.0 -1.3**
FRF La Foret Royal 56.04 303 *eP* **P 11 50 26.0 -1.3**
FRF La Foret Royal 56.04 303 *eP* **P 11 50 26.0 -1.3**
ORIF Oris-en-Rattie 56.15 304 *eP* **P 11 50 27.2 -1.0**
ORIF Oris-en-Rattie 56.15 304 *eP* **P 11 50 27.2 -1.0**
ORIF Oris-en-Rattie 56.15 304 *eP* **P 11 50 27.2 -1.0**
LMR La Mourre 56.20 303 *eP* **P 11 50 27.3 -1.1**
LMR La Mourre 56.20 303 *eP* **P 11 50 27.3 -1.1**
LMR La Mourre 56.20 303 *eP* **P 11 50 27.3 -1.1**
KEST Kesra 56.72 293 LR LR 12 17 04.8
comp=Z,40nm,20.3s,baz=358,slow=38
LOR Lormes 56.79 308 *eP* **P 11 50 31.3 -1.3**
LOR Lormes 56.79 308 *eP* **P 11 50 31.3 -1.3**
VIVF Saint-Julien-l 56.99 305 *eP* **P 11 50 33.3 -0.7**
VIVF Saint-Julien-l 56.99 305 *eP* **P 11 50 33.3 -0.7**
VIVF Saint-Julien-l 56.99 305 *eP* **P 11 50 33.3 -0.7**
SMF Signal de Mont 56.99 307 *eP* **P 11 50 33.0 -1.0**
comp=Z,31nm,1.3s
SMF Signal de Mont 56.99 307 *eP* **P 11 50 33.0 -1.0**
SMF pmax pmax
comp=Z,31nm,1.3s
SMF Signal de Mont 56.99 307 *eP* **P 11 50 33.0 -1.0**
comp=Z,31nm,1.3s
SSF Saint Saulge 57.09 308 *eP* **P 11 50 33.6 -1.1**
SSF Saint Saulge 57.09 308 *eP* **P 11 50 33.6 -1.1**
SSF Saint Saulge 57.09 308 *eP* **P 11 50 33.6 -1.1**
AVF Avril sur Loir 57.27 307 *eP* **P 11 50 34.9 -1.0**
AVF Avril sur Loir 57.27 307 *eP* **P 11 50 34.9 -1.0**
AVF Avril sur Loir 57.27 307 *eP* **P 11 50 34.9 -1.0**
LDF La Druitiere 58.93 310 *eP* **P 11 50 46.8 -0.8**
comp=Z,34nm,1.1s
LDF La Druitiere 58.93 310 *eP* **P 11 50 46.8 -0.8**
LDF pmax pmax
comp=Z,34nm,1.1s
LDF La Druitiere 58.93 310 *eP* **P 11 50 46.8 -0.8**
comp=Z,34nm,1.1s
GRR Gorron 59.46 310 *eP* **P 11 50 50.0 -1.2**
GRR Gorron 59.46 310 *eP* **P 11 50 50.0 -1.2**
GRR Gorron 59.46 310 *eP* **P 11 50 50.0 -1.2**
ETSF Etsaut 61.21 304 *eP* **P 11 51 02.3 -1.1**
ETSF Etsaut 61.21 304 *eP* **P 11 51 02.3 -1.1**
ETSF Etsaut 61.21 304 *eP* **P 11 51 02.3 -1.1**
ESDC Sonseca Array 64.86 302 P **P 11 51 27.6 -0.1**
ESDC Sonseca Array 64.86 302 P **P 11 51 27.6 -0.1**
comp=Z,0.8nm,0.7s,baz=54,slow=6.8,SNR=5.0
ESDC LR LR 12 24 01.7
comp=Z,126nm,18.6s,baz=340,slow=40
PMRV Marv??o 67.34 303 *eP* **P 11 51 46.5 +2.9**
comp=Z,20nm,1.5s
PBAR Barrancos 67.67 302 *eP* **P 11 51 47.6 +1.9**
comp=Z,22nm,1.8s
FITZ Fitzroy Crossi 68.02 133 *eP* **P 11 51 47.4 -0.5**
comp=Z,5.1nm,0.8s
PMTG Montargil 68.08 303 *eP* P 11 51 52.5 +4.3
PVAQ Vaqueiros 68.51 301 *eP* **P 11 51 53.7 +2.8**
comp=Z,27nm,1.6s
PBDV Barranco-do-Ve 68.73 301 *eP* P 11 51 56.4 +4.0
IMA2 Indian Mountai 71.17 20 *eP* **P 11 52 07.2 +0.2**
TOA0 Torodi Ar. Sit 73.37 275 *eP* **P 11 52 19.6 -1.2**
TORD Torodi Ar. Bea 73.37 275 P **P 11 52 19.8 -1.0**
TORD Torodi Ar. Bea 73.37 275 P **P 11 52 19.8 -1.0**
comp=Z,6.5nm,0.6s,baz=44,slow=5.0,SNR=35
TORD LR LR 12 27 12.1
comp=Z,221nm,20.4s,baz=120,slow=38
COLA College 73.69 19 *eP* **P 11 52 22.5 +0.7**
COLA pmax pmax
comp=Z,33nm,0.9s
COLA College 73.69 19 *eP* **P 11 52 22.5 +0.7**
comp=Z,33nm,0.9s
ILAR Eielson Array 74.03 19 P **P 11 52 22.8 -1.1**
ILAR Eielson Array 74.03 19 P **P 11 52 22.8 -1.1**
comp=Z,0.8nm,0.6s,baz=326,slow=4.5,SNR=12
ILAR LR LR 12 29 35.2
comp=Z,436nm,18.4s,baz=145,slow=40
WRA Warramunga Arr 74.83 128 P **P 11 52 26.5 -2.6**
WRA Warramunga Arr 74.83 128 P **P 11 52 26.5 -2.6**
comp=Z,7.8nm,1.0s,baz=323,slow=5.8,SNR=38
WRA LR LR 12 26 18.6
comp=Z,74nm,20.2s,baz=110,slow=37
WRAB Tennant Creek 74.83 128 *eP* **P 11 52 28.6 -0.5**
WRAB pmax pmax
comp=Z,16nm,1.1s
WRAB Tennant Creek 74.83 128 *eP* **P 11 52 28.6 -0.5**
comp=Z,16nm,1.1s
AS31 Alice Springs 77.26 131 *eP* **P 11 52 41.4 -1.4**
ASAR Alice Springs 77.26 131 P **P 11 52 41.3 -1.6**
ASAR Alice Springs 77.26 131 P **P 11 52 41.3 -1.6**
comp=Z,4.2nm,0.9s,baz=320,slow=5.9,SNR=39
ASAR LR LR 12 27 16.2
comp=Z,110nm,20.8s,baz=276,slow=36
BOSA Boshof 81.81 227 *eP* **P 11 53 07.5 -0.2**
comp=Z,11nm,0.8s
BOSA Boshof 81.81 227 P **P 11 53 06.2 -1.4**
comp=Z,11nm,0.8s,baz=27,slow=4.0,SNR=11
BOSA LR LR 12 26 09.2
comp=Z,105nm,19.5s,baz=20,slow=33
YKA Yellowknife Ar 82.22 7 P **P 11 53 08.6 -0.7**
YKA Yellowknife Ar 82.22 7 P **P 11 53 08.5 -0.7**
comp=Z,2.9nm,0.5s,baz=339,slow=5.3,SNR=14
DBIC Dimbokro 82.30 273 P **P 11 53 11.0 +0.5**
DBIC Dimbokro 82.30 273 P **P 11 53 11.0 +0.5**
comp=Z,6.7nm,0.8s,baz=80,slow=4.0,SNR=7.6
DBIC LR LR 12 35 07.7
comp=Z,140nm,18.0s,baz=37,slow=40
CTA Charters Tower 83.04 120 P **P 11 53 13.6 -0.5**
CTA Charters Tower 83.04 120 P **P 11 53 13.6 -0.5**
comp=Z,11nm,0.8s,baz=326,slow=7.0,SNR=16
CTAO Charters Tower 83.04 120 *eP* **P 11 53 13.3 -0.8**
CTAO pmax pmax
comp=Z,10.0nm,0.7s
CTAO Charters Tower 83.04 120 *eP* **P 11 53 13.3 -0.8**
comp=Z,10.0nm,0.7s
SCHQ Schefferville 86.30 342 LR LR 12 32 28.8
comp=Z,152nm,18.6s,baz=7.5,slow=36
HNR Honiara 86.92 104 LR LR 12 31 54.1
comp=Z,94nm,18.6s,baz=287,slow=35
STKA Stephens Creek 87.86 132 *eP* **P 11 53 37.0 -0.9**
comp=Z,1.1nm,0.8s
STKA Stephens Creek 87.86 132 P **P 11 53 35.8 -2.2**
comp=Z,5.0nm,0.8s,baz=321,slow=3.9,SNR=5.4
LPAZ La Paz 146.28 295 *e*PKPdf **PKPdf 12 00 29.2 0.0**
LPAZ PKPbc **PKPdf 12 00 29.6 +0.4**
LPAZ La Paz 146.28 295 PKPbc **PKPdf 12 00 29.6 +0.4**
comp=Z,4.2nm,0.7s,baz=15,slow=4.3,SNR=18

*KRSC **25** 11:56:54.0±4.9, 53.°98N×159.°95E, h113km±112km, ML4.0*
*ISCJB **25** 11:56:55.5±0.3, 53.°97N±0.°03×159.°92E±0.°08, h121km±4km, mb3.4/8, Error ellipse: s-maj=9.0km s-min=3.7km az=27.2*
*MOS **25** 11:56:55.1±0.4, 53.°97N×159.°89E, h120km, mb4.3/1, Error ellipse: s-maj=24.1km s-min=9.4km az=71.4*
*IDC **25** 11:56:57.4±1.3, 54.°17N×159.°34E, h132km±12km, mb3.1/7, mb1 3.4/7, mb1mx3.1/26, mbtmp3.1/7, MS3.9/1, Ms1 3.9/1, ms1mx2.9/8, Error ellipse: s-maj=30.1km s-min=17.5km az=147.0*

ISC 25 11:56:55.8±0.8, 53.°99N±0.°03×159.°87E±0.°04, h118km±6km, n59, σ0.°93/75, mb3.4/8, 1C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NLC	**Nalytchevo**	**0.88**	**201**		PN	**Pn**	**11 57 16.5**	**0.0**
NLC					S	**Sn**	**11 57 32.1**	**-0.1**
NLC	**Nalytchevo**	**0.88**	**201**	*e*P		**Pn**	**11 57 16.5**	**0.0**
NLC				*i*	S	**Sn**	**11 57 32.1**	**-0.1**
SDLR	**Sedlovina**	**0.93**	**220**	P		**Pn**	**11 57 17.2**	**+0.1**
SDLR				*i*	S	**Sn**	**11 57 33.5**	**+0.3**
KRER	**Koryakskii**	**0.96**	**225**	P		**Pn**	**11 57 17.8**	**+0.2**
KRX	**Arik**	**0.97**	**229**	P		**Pn**	**11 57 17.8**	**+0.3**
KRX				*i*	S	**Sn**	**11 57 34.4**	**+0.5**
SMAR	**Somma**	**0.97**	**222**	*e*P		**Pn**	**11 57 17.8**	**+0.1**
SMAR				*i*	S	**Sn**	**11 57 34.5**	**+0.4**
AVH	**Avacha**	**0.99**	**223**	P		**Pn**	**11 57 18.2**	**+0.5**
AVH				*i*	S	**Sn**	**11 57 35.2**	**+0.9**
UGLR	**Uglovaya**	**1.00**	**219**	*e*P		**Pn**	**11 57 18.0**	**+0.1**
UGLR				*i*	S	**Sn**	**11 57 35.3**	**+0.8**
KOK	**Koryaka**	**1.02**	**227**	P		**Pn**	**11 57 18.4**	**+0.4**
GNL	**Ganaly**	**1.18**	**256**	*e*P		**Pn**	**11 57 19.8**	**+0.1**
GNL				*i*	S	**Sn**	**11 57 38.1**	**+0.3**
PET	**Petropavlovsk**	**1.22**	**217**⇑	*i*PN		**Pn**	**11 57 20.0**	**+0.1**
PET				*e*S		**Sn**	**11 57 38.1**	**0.0**
PET				pmax	pmax			
	comp=Z,741nm,0.4s							
PET				smax	smax			
	comp=N,740nm,0.7s							
PET				smax	smax			
	comp=E,691nm,0.5s							
PET	**Petropavlovsk**	**1.22**	**217**	*e*P		**Pn**	**11 57 19.9**	**+0.1**
PET				*i*	S	**Sn**	**11 57 38.2**	**+0.1**
MKZ	**Mys Kozlova**	**1.23**	**62**	PN		**Pn**	**11 57 19.8**	**-0.2**
MKZ					S	**Sn**	**11 57 37.4**	**-0.9**
MKZ	**Mys Kozlova**	**1.23**	**62**	P		**Pn**	**11 57 19.8**	**-0.2**
MKZ				*i*	S	**Sn**	**11 57 37.4**	**-0.9**
TUMR	**Tumrok**	**1.30**	**7**	*e*P		**Pn**	**11 57 21.6**	**+0.6**
TUMR				*i*	S	**Sn**	**11 57 41.2**	**+1.1**
PETK	**Petropavlovsk-**	**1.57**	**237**	PN		**Pn**	**11 57 24.1**	**+0.1**
PETK					S	**Sn**	**11 57 46.3**	**+0.9**
PETK				pmax	pmax			
	comp=Z,57nm,0.3s							
PETK				smax	smax			
	comp=N,5.0nm,0.3s							
PETK	**Petropavlovsk-**	**1.57**	**237**	P		**Pn**	**11 57 24.1**	**+0.1**
	comp=N,57nm,0.3s,baz=71,slow=16,SNR=357							
PETK					S	**Sn**	**11 57 46.3**	**+0.9**
	comp=N,4.8nm,0.3s,baz=87,slow=20,SNR=4.3							
RUS	**Russkaya**	**1.76**	**208**	PN		**Pn**	**11 57 26.0**	**-0.3**
RUS					S	**Sn**	**11 57 49.1**	**-0.3**
RUS	**Russkaya**	**1.76**	**208**	P		**Pn**	**11 57 26.0**	**-0.3**
RUS				*i*	S	**Sn**	**11 57 49.1**	**-0.3**
KMNR	**Kamenistaya**	**1.78**	**7**	*e*P		**Pn**	**11 57 27.3**	**+0.8**
GRL	**Gorelyy**	**1.80**	**218**	*e*P		**Pn**	**11 57 27.6**	**+0.7**
MTVR	**Mutnovka**	**1.82**	**215**	*e*P		**Pn**	**11 57 27.6**	**+0.5**
MTVR				*i*	S	**Sn**	**11 57 52.2**	**+1.2**
APC	**Apacha**	**1.94**	**238**	*e*P		**Pn**	**11 57 29.0**	**+0.5**
BZMR	**Bezymyannaya**	**1.98**	**10**	*e*P		**Pn**	**11 57 29.8**	**+0.8**
KIRR	**Kirishev**	**1.98**	**8**	*e*P		**Pn**	**11 57 29.6**	**+0.5**
KPT	**Kopyto**	**1.99**	**6**	*e*P		**Pn**	**11 57 29.6**	**+0.5**
ASAK	**Asacha**	**2.00**	**217**	*e*P		**Pn**	**11 57 30.0**	**+0.7**
BZWR	**Bezymyannyi-We**	**2.01**	**10**	*e*P		**Pn**	**11 57 30.3**	**+0.9**
BZGR	**Bezymyannyi-Gr**	**2.01**	**13**	*e*P		**Pn**	**11 57 30.3**	**+0.9**
ESO	**Esso**	**2.05**	**341**	PN		**Pn**	**11 57 29.7**	**-0.1**
ESO					S	**Sn**	**11 57 56.0**	**+0.2**
ESO	**Esso**	**2.05**	**341**	*e*P		**Pn**	**11 57 29.7**	**-0.1**
ESO				*i*	S	**Sn**	**11 57 56.0**	**+0.2**
KOZ	**Kozyrevsk**	**2.07**	**360**	*e*P		**Pn**	**11 57 30.5**	**+0.5**
KOZR	**Kozyr**	**2.08**	**0**	PN		**Pn**	**11 57 30.5**	**+0.4**
ZLN	**Zelenaya**	**2.10**	**14**	*e*P		**Pn**	**11 57 31.7**	**+1.2**
SRDR	**Sredinnyy**	**2.33**	**358**	*e*P		**Pn**	**11 57 33.4**	**0.0**
KLY	**Klyuchi**	**2.37**	**11**	PN		**Pn**	**11 57 35.0**	**+1.2**
KLY	**Klyuchi**	**2.37**	**11**	*e*P		**Pn**	**11 57 35.0**	**+1.2**
MIPR	**Malaya Ipel'ka**	**2.55**	**229**	P		**Pn**	**11 57 37.0**	**+0.9**
SMKR	**Semkarok**	**2.75**	**19**	*e*P		**Pn**	**11 57 39.6**	**+0.8**
KBTR	**Krutoberegovo**	**2.79**	**36**	PN		**Pn**	**11 57 39.9**	**+0.7**
KBTR	**Krutoberegovo**	**2.79**	**36**	*e*P		**Pn**	**11 57 39.9**	**+0.7**
PAU	**Pauzhetka**	**3.14**	**218**	PN		**Pn**	**11 57 44.7**	**+0.8**
PAU	**Pauzhetka**	**3.14**	**218**	*e*P		**Pn**	**11 57 44.7**	**+0.8**
BKI	**Bering**	**3.75**	**69**	PN		**Pn**	**11 57 52.1**	**+0.2**
BKI	**Bering**	**3.75**	**69**	*e*P		**Pn**	**11 57 52.1**	**+0.2**
FX1	**Attu Island--F**	**8.02**	**93**	P		**Pn**	**11 58 50.2**	**+0.8**
	comp=N,3.7nm,0.3s,baz=299,slow=2.5,SNR=19							
FX1					S	**Sn**	**12 00 15.2**	**-3.2**
	comp=N,3.3nm,0.3s,baz=286,slow=19,SNR=9.5							
ILAR	**Eielson Array**	**28.28**	**46**	P		**P**	**12 02 38.4**	**+0.8**
	comp=N,0.4nm,0.5s,baz=253,slow=5.8,SNR=12							
JCJ	**Chichijima**	**29.87**	**213**	LR		LR	12 14 43.9	
	comp=N,211nm,18.4s,baz=123,slow=36							
SONM	**Songino Array**	**33.58**	**282**	P		**P**	**12 03 21.5**	**-2.9**
	comp=N,0.3nm,0.5s,baz=37,slow=9.8,SNR=3.1							
H11N2	**WAKE ISLAND Hy**	**34.62**	**168**	T		T	12 41 24.2	
	baz=357,slow=0.7,SNR=28							
H11N3	**WAKE ISLAND Hy**	**34.64**	**168**	T		T	12 41 22.6	
	baz=357,slow=0.7,SNR=30							
H11N1	**WAKE ISLAND Hy**	**34.64**	**168**	T		T	12 41 22.7	
	baz=357,slow=0.7,SNR=37							
MKAR	**Makanchi Array**	**47.65**	**295**	*e*P		**P**	**12 05 17.5**	**-2.3**
MKAR	**Makanchi Array**	**47.65**	**295**	P		**P**	**12 05 17.2**	**-2.5**
	comp=N,0.6nm,0.6s,baz=64,slow=8.3,SNR=5.6							
PDAR	**Pinedale Array**	**57.20**	**61**	P		**P**	**12 06 32.6**	**+2.1**
	comp=N,0.3nm,0.4s,baz=330,slow=6.7,SNR=2.6							
OBN	**Obninsk**	**61.69**	**327**	*e*P		P	12 06 56.5	-4.3
OBN				*e*PP		pP	12 07 28.1	-1.3
OBN				pmax	pmax			
	comp=Z,3.0nm,0.9s							
TXAR	**Lajitas Array**	**70.41**	**67**	P		**P**	**12 07 58.7**	**+1.6**
	comp=Z,0.1nm,0.4s,baz=288,slow=3.9,SNR=5.5							
WRA	**Warramunga Arr**	**76.84**	**205**	P		**P**	**12 08 34.2**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=20,slow=6.1,SNR=5.7							
ASAR	**Alice Springs**	**80.53**	**204**	P		**P**	**12 08 55.1**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=16,slow=5.0,SNR=5.7							

*IDC **25** 12:42:16.5±2.0, 6.°11S×147.°90E, h0km, mb4.1/3, mb1 4.1/6, mb1mx3.7/19, mbtmp4.0/6, ML3.8/3, Error ellipse: s-maj=52.2km s-min=31.4km az=99.0*
*ISCJB **25** 12:42:22.3±0.8, 6.°28S±0.°08×147.°89E±0.°09, h51km, mb4.0/3, Error ellipse: s-maj=13.7km s-min=10.2km az=22.9*
*AUST **25** 12:42:24.0±1.0, 6.°44S×148.°19E, h61km, Error ellipse: s-maj=1.6km s-min=1.0km az=323.0*

ISC 25 12:42:24.2±0.9, 6.°27S±0.°10×147.°8E±0.°1, h51km, n18, σ0.°57/20, mb4.0/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**3.18**	**192**	Pn		**Pn**	**12 43 11.2**	**-0.6**
	38nm,0.3s,baz=19,slow=3.0,SNR=75							
PMG				Sn		**Sn**	**12 43 49.1**	**+0.6**
	25nm,0.3s,baz=90,slow=20,SNR=6.2							
RABL	**Rabaul**	**4.79**	**65**	P		**Pn**	**12 43 33.5**	**-0.4**
	baz=4.6,SNR=5.6							
MTSU	**Mount Surprise**	**12.28**	**196**	P		**Pn**	**12 45 16.4**	**-0.1**
	baz=12,SNR=4.7							
CTA	**Charters Tower**	**13.82**	**186**	Pn		**Pn**	**12 45 37.6**	**+0.1**
	0.2nm,0.3s,baz=0.8,slow=16,SNR=3.5							
KDU	**Kakadu**	**16.42**	**246**	P		**P**	**12 46 13.2**	**-0.3**
	baz=17,SNR=5.7							
WRA	**Warramunga Arr**	**18.88**	**223**	P		**P**	**12 46 40.0**	**-0.5**
	0.5nm,0.3s,baz=48,slow=11,SNR=30							
WRA				PcP		**PcP**	**12 51 05.5**	**0.0**
	baz=33,slow=2.0,SNR=2.8							
PALU	**Palau**	**18.98**	**315**	P		Pn	12 46 58.4	+16
	baz=19,SNR=3.5							
RMQ	**Roma**	**20.12**	**178**	P		**P**	**12 46 54.5**	**+0.5**
	baz=20,SNR=5.0							
QLP	**Quilpie**	**20.48**	**189**	P		**P**	**12 46 58.0**	**0.0**
	baz=20,SNR=13							
KNRA	**Kununurra**	**20.90**	**242**	P		**P**	**12 47 02.9**	**+0.4**
	baz=21,SNR=9.5							
ASAR	**Alice Springs**	**21.87**	**216**	P		**P**	**12 47 12.7**	**-0.2**
	3.0nm,0.5s,baz=55,slow=9.3,SNR=79							
ASAR				S		**S**	**12 51 10.7**	**-1.3**
	1.2nm,0.6s,baz=38,slow=22,SNR=11							
FITZ	**Fitzroy Crossi**	**24.63**	**240**	P		**P**	**12 47 40.7**	**+0.6**
	baz=25,SNR=15							
FITZ	**Fitzroy Crossi**	**24.63**	**240**	P		**P**	**12 47 40.5**	**+0.4**
	2.1nm,0.4s,baz=69,slow=8.9,SNR=20							
LUWI	**Luwuk**	**25.53**	**281**	P		**P**	**12 47 48.6**	**+0.3**
	baz=26,SNR=4.8							
STKA	**Stephens Creek**	**26.13**	**192**	P		**P**	**12 47 54.7**	**+1.1**
	baz=26,SNR=6.3							
STKA	**Stephens Creek**	**26.13**	**192**	P		**P**	**12 47 53.8**	**+0.2**
	1.6nm,0.3s,baz=16,slow=9.9,SNR=7.3							
MEEK	**Meekatharra**	**34.41**	**231**	P		**P**	**12 49 07.4**	**+0.4**
	baz=35,SNR=4.9							
TORD	**Torodi Ar. Bea**	**145.96**	**284**	PKPbc		**PKPdf**	**13 01 58.1**	**-0.4**
	0.4nm,0.4s,baz=66,slow=3.2,SNR=10							

IDC 25 13:05:23.5±1.8, 15.°09S×173.°80W, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.8/19, mbtmp3.8/6, MS3.8/11, Ms1 3.8/11, ms1mx3.5/39, Error ellipse: s-maj=110.2km s-min=21.7km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**2.28**	**59**	Pn		Pn	13 05 55.6	-6.9
	13nm,0.3s,baz=253,slow=20,SNR=7.3							
AFI				Sn		Sn	13 06 16.1	-15
	54nm,0.3s,baz=53,slow=19,SNR=8.4							
AFI				LR		LR	13 06 50.2	
	comp=Z,294nm,21.6s,baz=103,slow=38							
DZM	**Mont Dzumac**	**19.97**	**247**	*e*LR		LR	13 14 59.1	
	114nm,22.4s							
PPT2	**Papeete2**	**23.37**	**99**	*e*LR		LR	13 16 02.7	
	145nm,29.8s							
TBI	**Tubuai**	**24.38**	**113**	*e*LR		LR	13 16 38.9	
	194nm,27.8s							
RPZ	**Rata Peaks**	**31.33**	**201**	LR		LR	13 22 53.1	
	comp=Z,195nm,19.6s,baz=26,slow=34							
H11S2	**WAKE ISLAND Hy**	**38.50**	**329**	T		T	13 53 36.5	
	baz=152,slow=0.7,SNR=75							
H11S3	**WAKE ISLAND Hy**	**38.51**	**329**	T		T	13 53 36.9	
	baz=152,slow=0.7,SNR=83							
H11S1	**WAKE ISLAND Hy**	**38.52**	**329**	T		T	13 53 37.9	
	baz=152,slow=0.7,SNR=86							
H11N3	**WAKE ISLAND Hy**	**39.45**	**331**	T		T	13 54 47.5	
	baz=153,slow=0.7,SNR=64							
H11N1	**WAKE ISLAND Hy**	**39.46**	**331**	T		T	13 54 47.5	
	baz=153,slow=0.7,SNR=69							
H11N2	**WAKE ISLAND Hy**	**39.47**	**331**	T		T	13 54 49.0	
	baz=153,slow=0.7,SNR=55							
STKA	**Stephens Creek**	**43.86**	**240**	LR		LR	13 29 37.5	
	comp=Z,145nm,21.5s,baz=25,slow=33							
WRA	**Warramunga Arr**	**49.55**	**257**	P		P	13 14 17.2	+0.7
	0.4nm,0.5s,baz=90,slow=7.2,SNR=19							
ASAR	**Alice Springs**	**49.84**	**252**	P		P	13 14 18.4	-0.4
	2.2nm,0.5s,baz=88,slow=7.7,SNR=57							
FITZ	**Fitzroy Crossi**	**57.90**	**258**	P		P	13 15 17.3	-0.5
	1.3nm,0.9s,baz=18,slow=6.4							
FITZ				LR		LR	13 36 15.7	
	comp=Z,128nm,20.3s,baz=72,slow=32							
FX1	**Attu Island--F**	**68.62**	**352**	LR		LR	13 39 51.2	
	comp=Z,117nm,21.5s,baz=225,slow=30							
KSRS	**Korea Array**	**75.67**	**316**	LR		LR	13 47 09.6	
	comp=Z,42nm,18.4s,baz=118,slow=33							
NEW	**Newport**	**80.67**	**34**	LR		LR	13 50 08.1	
	comp=Z,47nm,18.0s,baz=161,slow=33							
TXAR	**Lajitas Array**	**80.76**	**56**	P		P	13 17 39.2	-0.1
	0.3nm,0.9s,baz=225,slow=2.0,SNR=3.1							
DLBC	**Dease Lake**	**81.55**	**22**	LR		LR	13 50 28.6	
	comp=Z,120nm,18.5s,baz=224,slow=33							
ILAR	**Eielson Array**	**82.21**	**11**	P		P	13 17 46.0

*IDC **25** 13:09:48.7±1.9, 11.51S×165.92E, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.7/19, mbtmp4.0/5, ML4.0/1, MS3.8/1, Ms1 3.8/1, ms1mx2.8/33, Error ellipse: s-maj=49.4km s-min=36.2km az=100.0*

ISC 25 13:09:54.3±1.4, 11.6S±0.1×166.0E±0.2, h37km, n9, σ1§03/10, mb3.9/4, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.31**	**290**	Pn		**Pn**		**13 11 25.7**	**+0.9**
	7.8nm,0.3s,baz=32,slow=3.3,SNR=1.6								
HNR				Sn		**Sn**		**13 12 35.3**	**-0.4**
	6.1nm,0.3s,baz=177,slow=23,SNR=1.5								
DZM	**Mont Dzumac**	**10.40**	**178**	Pn		**Pn**		**13 12 22.4**	**+1.4**
	1.3nm,0.3s,baz=268,slow=23,SNR=18								
DZM				Sn		**Sn**		**13 14 15.4**	**-0.9**
	0.3nm,0.3s,baz=300,slow=24,SNR=0.9								
CTA	**Charters Tower**	**20.73**	**244**	P		Pn		13 14 36.6	+2.3
	3.5nm,0.6s,baz=60,slow=5.1,SNR=5.3								
WRA	**Warramunga Arr**	**31.50**	**251**	P		**P**		**13 16 12.1**	**-0.9**
	1.9nm,0.8s,baz=84,slow=8.7,SNR=10.0								
ASAR	**Alice Springs**	**32.73**	**244**	P		**P**		**13 16 23.0**	**-0.8**
	2.2nm,0.7s,baz=68,slow=9.7,SNR=19								
ASAR				PcP		**PcP**		**13 19 08.7**	**-0.2**
	0.4nm,0.9s,baz=60,slow=3.2,SNR=4.7								
PPT	**Papeete**	**43.35**	**103**	LR		LR		13 31 56.0	
	comp=Z,118nm,22.0s,baz=336,slow=31								
CMAR	**Chiang Mai Arr**	**72.54**	**294**	P		**P**		**13 21 18.5**	**+0.4**
	0.4nm,0.3s,baz=132,slow=5.7,SNR=6.6								
MKAR	**Makanchi Array**	**94.09**	**317**	P		**P**		**13 23 09.2**	**+0.2**
	0.4nm,0.8s,baz=95,slow=7.2,SNR=2.5								
ARCES	**ARCESS Array B**	**116.95**	**345**	PKP		**PKPdf**		**13 28 33.1**	**-1.5**
	1.0nm,0.7s,baz=56,slow=2.3,SNR=3.6								

IDC 25 13:11:22.3±1.8, 15.17S×173.72W, h0km, mb3.9/6, mb1 4.3/6, mb1mx4.0/18, mbtmp3.9/6, MS3.5/2, Ms1 3.5/2, ms1mx3.0/39, Error ellipse: s-maj=110.9km s-min=22.9km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.26**	**57**	Pn		Pn		13 11 54.6	-6.4
	64nm,0.3s,baz=44,slow=3.3,SNR=12								
AFI				Sn		Sn		13 12 14.7	-15
	128nm,0.3s,baz=59,slow=20,SNR=7.0								
RAR	**Rarotonga**	**14.55**	**116**	LR		LR		13 19 11.7	
	comp=Z,192nm,19.9s,baz=32								
DZM	**Mont Dzumac**	**20.00**	**247**	*e*LR		LR		13 20 53.8	
	253nm,26.2s								
DZM	**Mont Dzumac**	**20.00**	**247**	LR		LR		13 22 17.3	
	comp=Z,180nm,19.4s,baz=19,slow=33								
PPT2	**Papeete2**	**23.28**	**99**	*e*LR		LR		13 22 00.7	
	215nm,27.2s								
TBI	**Tubuai**	**24.28**	**113**	*e*LR		LR		13 22 35.1	
	196nm,27.0s								
RKT	**Rikitea**	**37.36**	**108**	*e*LR		LR		13 28 35.8	
	145nm,35.8s								
H11S2	**WAKE ISLAND Hy**	**38.61**	**329**	T		T		13 59 33.9	
	baz=152,slow=0.7,SNR=19								
H11S3	**WAKE ISLAND Hy**	**38.62**	**329**	T		T		13 59 31.1	
	baz=152,slow=0.7,SNR=18								
H11S1	**WAKE ISLAND Hy**	**38.62**	**329**	T		T		13 59 31.9	
	baz=152,slow=0.7,SNR=22								
H11N3	**WAKE ISLAND Hy**	**39.56**	**331**	T		T		14 00 44.0	
	baz=152,slow=0.7,SNR=16								
H11N1	**WAKE ISLAND Hy**	**39.56**	**331**	T		T		14 00 42.1	
	baz=152,slow=0.7,SNR=23								
H11N2	**WAKE ISLAND Hy**	**39.58**	**331**	T		T		14 00 45.9	
	baz=152,slow=0.7,SNR=16								
WRA	**Warramunga Arr**	**49.60**	**257**	P		P		13 20 15.5	-0.3
	0.5nm,0.5s,baz=90,slow=7.3,SNR=6.6								
ASAR	**Alice Springs**	**49.89**	**252**	P		P		13 20 17.5	-0.6
	2.5nm,0.6s,baz=85,slow=8.1,SNR=40								
NVAR	**Mina Array Bea**	**74.36**	**42**	P		P		13 23 03.1	+0.7
	0.6nm,0.8s,baz=233,slow=9.8,SNR=4.7								
TXAR	**Lajitas Array**	**80.74**	**56**	P		P		13 23 38.6	+0.5
	0.6nm,0.9s,baz=241,slow=5.2,SNR=6.0								
ILAR	**Eielson Array**	**82.28**	**11**	P		P		13 23 44.4	-0.9
	2.0nm,1.1s,baz=217,slow=7.0,SNR=7.2								
PDAR	**Pinedale Array**	**82.30**	**42**	P		P		13 23 44.4	-1.8
	0.7nm,1.0s,baz=279,slow=2.9,SNR=5.0								
BRTR	**Keskin Array B**	**145.78**	**321**	PKPbc		PKPab		13 31 05.0	+0.7
	1.5nm,0.8s,baz=45,slow=3.6,SNR=6.6								
GERES	**GERESS Array B**	**145.87**	**351**	PKPbc		PKPbc		13 31 03.7	-0.1
	0.6nm,1.0s,baz=35,slow=3.6,SNR=4.3								

MAN 25 13:13:12, 9.00N×126.68E, h25km, mb4.7, ML3.6, MS3.5, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.87**	**201**	*i*P		Pb		13 13 28.0	-0.5
BIPH				*i*S		Sn		13 13 41.4	+0.9
BUTP	**Butuan**	**1.04**	**268**	*e*P		Pn		13 13 30.8	-0.3
BUTP				*e*S		Sb		13 13 44.3	-0.3
BUKP	**Musuan**	**1.95**	**235**	*e*P		Pb		13 13 46.5	-0.4
BUKP				*e*S		Sb		13 14 16.2	+5.4
CGP	**Cagayan de Oro**	**2.03**	**255**	*e*P		Pn		13 13 45.7	+1.0
CGP				*e*S		Sn		13 14 10.8	+1.5
MATI	**Mati**	**2.08**	**192**	*e*P		Pn		13 13 45.7	+0.3

*ISCJB **25** 13:14:41.2±1.4, 6.3S±0.3×154.3E±0.2, h48km, mb3.3/4, Error ellipse: s-maj=45.7km s-min=13.2km az=144.6*

*IDC **25** 13:14:48.4±6.9, 6.16S×153.81E, h86km±52km, mb3.0/4, mb1 3.4/5, mb1mx3.2/18, mbtmp3.2/5, ML3.2/1, Error ellipse: s-maj=83.4km s-min=31.0km az=116.0*

ISC 25 13:14:42.6±1.4, 6.4S±0.3×154.4E±0.2, h48km, n6, σ1§25/9, mb3.4/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.79**	**247**	P		**Pn**		**13 16 32.9**	**-0.6**
	2.3nm,0.3s,baz=37,slow=8.8,SNR=10.0								
PMG				S		**Sn**		**13 18 02.0**	**+1.6**
	1.3nm,0.3s,baz=1.4,slow=19,SNR=2.3								
WRA	**Warramunga Arr**	**23.71**	**233**	P		**P**		**13 19 50.0**	**-0.4**
	0.6nm,0.7s,baz=56,slow=9.1,SNR=3.5								
WRA				PcP		**PcP**		**13 23 34.1**	**+0.4**
	0.5nm,0.7s,baz=69,slow=2.1,SNR=3.0								
ASAR	**Alice Springs**	**26.17**	**227**	P		**P**		**13 20 12.0**	**-0.8**
	0.2nm,0.6s,baz=58,slow=9.5,SNR=3.8								
ASAR				PcP		**PcP**		**13 23 39.7**	**+0.5**
	0.2nm,0.8s,baz=57,slow=3.4,SNR=2.8								
SONM	**Songino Array**	**68.49**	**327**	P		**P**		**13 25 39.0**	**-1.1**
	0.5nm,0.8s,baz=116,slow=3.4,SNR=2.2								
ILAR	**Eielson Array**	**83.00**	**22**	P		**P**		**13 27 04.2**	**+1.7**
	0.4nm,0.7s,baz=236,slow=6.4,SNR=5.5								
TORD	**Torodi Ar. Bea**	**152.29**	**286**	PKPbc		**PKPbc**		**13 34 33.2**	**-1.1**
	0.4nm,0.3s,baz=59,slow=2.3,SNR=8.1								

*IDC **25** 13:16:24.0±5.7, 5.85S×153.79E, h97km±47km, mb3.4/4, mb1 3.7/6, mb1mx3.4/20, mbtmp3.5/6, Error ellipse: s-maj=99.1km s-min=29.9km az=125.0*

ISC 25 13:16:18.6±1.3, 6.2S±0.3×154.5E±0.2, h61km, n7, σ1§32/8, mb3.5/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.92**	**246**	P		**Pn**		**13 18 10.6**	**-0.5**
	2.9nm,0.3s,baz=58,slow=13,SNR=6.8								
PMG				S		**Sn**		**13 19 40.2**	**+0.9**
	1.2nm,0.3s,baz=132,slow=17,SNR=1.9								
CTA	**Charters Tower**	**15.93**	**209**	P		**P**		**13 20 02.5**	**+0.8**
	0.1nm,0.3s,baz=33,slow=14,SNR=3.3								
WRA	**Warramunga Arr**	**23.85**	**233**	P		**P**		**13 21 25.6**	**-0.9**
	1.5nm,0.8s,baz=55,slow=9.3,SNR=6.3								
ASAR	**Alice Springs**	**26.31**	**227**	P		**P**		**13 21 48.3**	**-0.6**
	0.6nm,0.8s,baz=60,slow=9.2,SNR=3.5								
ILAR	**Eielson Array**	**82.85**	**22**	P		**P**		**13 28 38.2**	**+2.0**
	0.3nm,0.6s,baz=240,slow=5.1,SNR=5.8								
INK	**Inuvik**	**89.19**	**21**	P		**P**		**13 29 06.0**	**-1.3**
	2.4nm,1.0s,baz=260,slow=6.1,SNR=7.3								
TORD	**Torodi Ar. Bea**	**152.33**	**286**	PKPbc		**PKPbc**		**13 36 08.3**	**-0.4**
	0.4nm,0.4s,baz=63,slow=1.5,SNR=7.7								

*IDC **25** 13:19:17.2±1.1, 11.61S×165.29E, h0km, mb4.0/8, mb1 4.2/10, mb1mx4.0/22, mbtmp4.1/10, ML4.1/2, Error ellipse: s-maj=26.6km s-min=23.5km az=91.0*

*ISCJB **25** 13:19:19.0±0.9, 11.75S±0.1×165.3E±0.1, h24km, mb3.9/8, Error ellipse: s-maj=19.9km s-min=10.2km az=42.0*

ISC 25 13:19:20.8±0.9, 11.6S±0.1×165.3E±0.1, h24km, n11, σ0§68/12, mb4.0/8, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.71**	**292**	Pn		**Pn**		**13 20 44.1**	**0.0**
	9.7nm,0.3s,baz=258,slow=3.8,SNR=4.3								
HNR				Sn		**Sn**		**13 21 49.5**	**+0.6**
	5.0nm,0.3s,baz=0.2,slow=4.9,SNR=1.8								
DZM	**Mont Dzumac**	**10.43**	**174**	Pn		**Pn**		**13 21 49.2**	**+0.2**
	0.9nm,0.3s,baz=110,slow=21,SNR=14								
WRA	**Warramunga Arr**	**30.88**	**251**	P		**P**		**13 25 35.6**	**-0.1**
	4.6nm,0.8s,baz=79,slow=9.3,SNR=25								
ASAR	**Alice Springs**	**32.14**	**244**	P		**P**		**13 25 45.9**	**-0.9**
	0.9nm,0.8s,baz=63,slow=10,SNR=6.2								
RPZ	**Rata Peaks**	**32.34**	**172**	P		**P**		**13 25 48.9**	**+0.6**
	3.8nm,0.8s,baz=68,slow=6.8,SNR=3.3								
FITZ	**Fitzroy Crossi**	**38.81**	**256**	P		**P**		**13 26 43.6**	**-0.6**
	2.7nm,1.1s,baz=98,slow=13,SNR=3.7								
CMAR	**Chiang Mai Arr**	**71.95**	**294**	P		**P**		**13 30 43.5**	**+0.6**
	0.5nm,0.3s,baz=126,slow=5.1,SNR=9.0								
SONM	**Songino Array**	**78.89**	**324**	P		**P**		**13 31 22.8**	**+0.5**
	0.5nm,0.7s,baz=118,slow=8.8,SNR=3.4								
ILAR	**Eielson Array**	**84.21**	**19**	P		**P**		**13 31 49.3**	**-0.6**
	0.3nm,0.6s,baz=244,slow=4.5,SNR=9.2								
MKAR	**Makanchi Array**	**93.66**	**317**	P		**P**		**13 32 34.7**	**-0.7**
	0.6nm,0.7s,baz=110,slow=10,SNR=4.5								
ESDC	**Sonseca Array**	**150.50**	**343**	PKPab		**PKPab**		**13 39 18.3**	**+0.8**
	0.1nm,0.3s,baz=1.2,slow=3.1,SNR=4.4								

*IDC **25** 13:20:18.0±0.9, 15.10S×173.76W, h0km, mb4.1/8, mb1 4.4/8, mb1mx4.1/18, mbtmp4.1/8, MS3.6/6, Ms1 3.6/6, ms1mx3.3/36, Error ellipse: s-maj=47.8km s-min=21.3km az=144.0*

*NEIC **25** 13:20:19.5±0.6, 15.09S×173.80W, h10km, mb4.6/1, Error ellipse: s-maj=28.8km s-min=11.9km az=141.0*

*ISCJB **25** 13:20:26.1±0.9, 15.1S±0.2×173.9W±0.2, h73km, mb4.0/9, Error ellipse: s-maj=41.4km s-min=15.6km az=142.8*

ISC 25 13:20:27.8±0.9, 15.1S±0.2×173.8W±0.2, h73km, n42, σ0§78/24, mb4.1/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.31**	**59**	*e*P		Pn		13 20 49.4	-14
AFI				Sn		Sn		13 21 10.1	-21
AFI	**Afiamalu**	**2.31**	**59**	Pn		Pn		13 20 51.5	-12
	36nm,0.3s,baz=299,slow=3.8,SNR=15								
AFI				Sn		Sn		13 21 10.1	-21
	174nm,0.3s,baz=28,slow=20,SNR=11								
RAR	**Rarotonga**	**14.67**	**117**	*e*P		Pn		13 23 29.4	-22
DZM	**Mont Dzumac**	**19.94**	**247**	*e*LR		LR		13 29 54.0	
	67nm,23.1s								
PPT2	**Papeete2**	**23.39**	**99**	*e*LR		LR		13 30 58.1	
	215nm,27.0s								
TBI	**Tubuai**	**24.40**	**113**	*e*LR		LR		13 31 32.0	
	251nm,26.8s								
URZ	**Urewera**	**24.43**	**197**	LR		LR		13 33 57.3	
	comp=Z,243nm,18.5s,baz=298,slow=34								
HNR	**Honiara**	**26.23**	**279**	LR		LR		13 34 42.8	
	comp=Z,46nm,19.6s,baz=88,slow=33								
RKT	**Rikitea**	**37.48**	**108**	*e*LR		LR		13 37 31.9	
	143nm,28.2s								
H11S2	**WAKE ISLAND Hy**	**38.49**	**329**	T		T		14 08 32.7	
	baz=152,slow=0.7,SNR=55								
H11S3	**WAKE ISLAND Hy**	**38.51**	**329**	T		T		14 08 33.9	
	baz=152,slow=0.7,SNR=57								
H11S1	**WAKE ISLAND Hy**	**38.51**	**329**	T		T		14 08 34.1	
	baz=152,slow=0.7,SNR=52								
H11N3	**WAKE ISLAND Hy**	**39.45**	**331**	T		T		14 09 43.0	
	baz=152,slow=0.7,SNR=50								
H11N1	**WAKE ISLAND Hy**	**39.45**	**331**	T		T		14 09 43.3	
	baz=152,slow=0.7,SNR=55								
H11N2	**WAKE ISLAND Hy**	**39.46**	**331**	T		T		14 09 44.9	
	baz=152,slow=0.7,SNR=50								
WRA	**Warramunga Arr**	**49.52**	**257**	P		**P**		**13 29 11.2**	**-0.3**
WRA	**Warramunga Arr**	**49.52**	**257**	P		**P**		**13 29 11.2**	**-0.3**
	0.5nm,0.5s,baz=90,slow=7.4,SNR=7.7								
AS31	**Alice Springs**	**49.81**	**252**	*e*P		**P**		**13 29 12.9**	**-0.8**
ASAR	**Alice Springs**	**49.82**	**252**	P		**P**		**13 29 12.6**	**-1.1**
ASAR	**Alice Springs**	**49.82**	**252**	P		**P**		**13 29 12.6**	**-1.1**
	4.9nm,0.6s,baz=90,slow=7.7,SNR=49								
JNU	**Nakatsue**	**71.29**	**313**	LR		LR		13 59 40.0	
	comp=Z,50nm,18.3s,baz=244,slow=33								
PETK	**Petropavlovsk-**	**72.22**	**342**	P		**P**		**13 31 45.0**	**+0.2**
PETK	**Petropavlovsk-**	**72.22**	**342**	P		**P**		**13 31 45.0**	**+0.2**
	3.6nm,0.8s,baz=134,slow=8.5,SNR=3.5								
NVAR	**Mina Array Bea**	**74.38**	**42**	P		**P**		**13 31 57.7**	**-0.4**
NVAR	**Mina Array Bea**	**74.38**	**42**	P		**P**		**13 31 57.7**	**-0.4**
	0.6nm,0.6s,baz=230,slow=8.6,SNR=5.3								
KSRS	**Korea Array**	**75.63**	**316**	LR		LR		14 00 38.1	
	comp=Z,40nm,19.4s,baz=150,slow=32								
TXAR	**Lajitas Array**	**80.78**	**56**	P		**P**		**13 32 34.2**	**+0.3**
TXAR	**Lajitas Array**	**80.78**	**56**	P		**P**		**13 32 34.2**	**+0.3**
	0.7nm,0.9s,baz=213,slow=7.5,SNR=7.9								
TXAR				LR		LR		14 06 11.2	
	comp=Z,35nm,18.1s,baz=240,slow=34								
COLA	**College**	**82.14**	**11**	*e*P		**P**		**13 32 39.6**	**-0.4**
ILAR	**Eielson Array**	**82.23**	**11**	P		**P**		**13 32 40.0**	**-0.6**
ILAR	**Eielson Array**	**82.23**	**11**	P		**P**		**13 32 40.0**	**-0.6**
	2.9nm,1.1s,baz=203,slow=7.4,SNR=11								
PDAR	**Pinedale Array**	**82.31**	**42**	P		**P**		**13 32 40.9**	**-0.9**
PDAR	**Pinedale Array**	**82.31**	**42**	P		**P**		**13 32 40.9**	**-0.9**
	1.0nm,0.7s,baz=208,slow=3.1,SNR=7.1								
IMA2	**Indian Mountai**	**82.32**	**8**	*e*P		**P**		**13 32 41.2**	**+0.1**
COLD	**Coldfoot**	**83.91**	**9**	*e*P		**P**		**13 32 49.5**	**+0.3**
	4.1nm,1.0s								
MAW	**Mawson**	**87.95**	**199**	P		**P**		**13 33 09.8**	**+0.5**
MAW	**Mawson**	**87.95**	**199**	P		**P**		**13 33 09.8**	**+0.5**
	1.8nm,0.9s,baz=158,slow=5.4,SNR=4.3								
SONM	**Songino Array**	**94.35**	**318**	LR		LR		14 09 39.0	
	comp=Z,26nm,20.8s,baz=154,slow=31								
BRTR	**Keskin Array B**	**145.66**	**321**	PKPbc		**PKPab**		**13 40 00.7**	**+1.6**
BRTR	**Keskin Array B**	**145.66**	**321**	PKPbc		**PKPab**		**13 40 00.7**	**+1.6**
	2.6nm,0.8s,baz=124,slow=0.4,SNR=11								
GERES	**GERESS Array B**	**145.78**	**351**	PKPbc		**PKPab**		**13 39 58.9**	**-0.3**
GERES	**GERESS Array B**	**145.78**	**351**	PKPbc		**PKPab**		**13 39 58.9**	**-0.3**
	0.9nm,0.8s,baz=20,slow=4.3,SNR=8.2								

*NIED **25** 13:20:00, 43.00N×147.10E, h23km, Mw4.0 Best double couple: M0 1.22000×10^15 NP1:φs61.00000°, δ67.00000°, λ102.00000°. NP2:φs213.00000°, δ26.00000°, λ65.00000°.*

*IDC **25** 13:20:32.0±1.1, 42.98N×147.12E, h0km, mb3.9/9, mb1 3.9/10, mb1mx3.8/27, mbtmp3.9/10, ML3.4/1, MS3.0/3, Ms1 3.0/3, ms1mx2.8/54, Error ellipse: s-maj=25.6km s-min=22.8km az=76.0*

*JMA **25** 13:20:34.4±0.3, 42.97N×147.13E, h41km, M3.9*

*MOS **25** 13:20:37.7±1.9, 43.00N×146.72E, h49km, mb4.2/8, Error ellipse: s-maj=19.1km s-min=11.1km az=104.2*

ISC 25 13:20:35.4±1.0, 42.99N±0.08×147.07E±0.07, h21km±5km, n38, σ0§78/34, mb3.9/10, 1D, Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.04**	**291**	P		**Pn**		**13 20 53.7**	**-1.0**
NEM2				*e*S		**Sn**		**13 21 08.2**	**-0.4**
YUK	**Yuzh-Kuril'sk**	**1.36**	**320**	*d*PN		**Pn**		**13 20 58.4**	**-0.7**
YUK				*i*S		**Sn**		**13 21 16.8**	**+0.3**
YUK				pmax	pmax				
	comp=Z,382nm,0.3s								
YUK				pmax	pmax				
	comp=E,16nm,0.1s								
YUK				pmax	pmax				
	comp=N,168nm,0.3s								
YUK				smax	smax				
	comp=N,3μm,0.7s								
JRA	**Rausu**	**1.71**	**304**	P		**Pn**		**13 21 03.2**	**-0.6**
JRA				*e*S		**Sn**		**13 21 24.7**	**-0.3**
JAK	**Akkeshi**	**1.74**	**271**	P		**Pn**		**13 21 03.6**	**-0.7**
JNK	**Nakash**	**1.82**	**290**	P		**Pn**		**13 21 04.4**	**-1.0**
KUR	**Kuril'sk**	**2.31**	**14**	*e*PN		**Pb**		**13 21 16.0**	**-0.3**
KUR				*e*S		**Sb**		**13 21 44.5**	**+0.1**
KUR				smax	smax				
	comp=N,640nm,1.0s								
JOB	**Onbets**	**2.38**	**269**	P		**Pn**		**13 21 12.6**	**-0.5**
JAR	**Ashorobuto**	**2.44**	**278**	P		**Pn**		**13 21 13.5**	**-0.4**
JAR				*e*S		**Sn**		**13 21 42.5**	**-0.5**
JTKR	**Abashiri--Toko**	**2.50**	**294**	P		**Pn**		**13 21 14.9**	**+0.1**
JCH	**Churui**	**2.76**	**263**	P		**Pn**		**13 21 18.1**	**-0.2**
JCH				*e*S		**Sn**		**13 21 50.0**	**-0.9**
JEM	**Erimo**	**3.06**	**253**	P		**Pn**		**13 21 23.4**	**+1.0**
JNBK	**Urakawa-nobuka**	**3.27**	**259**	P		**Pn**		**13 21 25.1**	**-0.2**
JKK2	**Kamakawa 2**	**3.27**	**287**	P		**Pn**		**13 21 27.1**	**+1.7**
ASAJ	**Asahikawa**	**3.44**	**291**	Pn		**Pn**		**13 21 29.6**	**+1.8**
	comp=N,2.4nm,0.3s,baz=138,slow=14,SNR=20								
ASAJ				Sn		**Sb**		**13 22 17.8**	**+0.8**
	baz=14,slow=29,SNR=1.8								
ASAJ				LR		LR		13 23 02.2	
	comp=N,332nm,18.9s,baz=339,slow=43								
JBT2	**Biratori 2**	**3.47**	**268**	P		**Pn**		**13 21 27.6**	**-0.5**
YSS	**Yuzh-Sakhalins**	**5.01**	**324**	*e*PN		Pn		13 21 45.6	-3.6
YSS				MLR		MLR			
	comp=Z,500nm,16.0s								
USRK	**Ussuriysk Arra**	**11.01**	**281**	LR		LR		13 28 08.1	
	comp=Z,76nm,19.3s,baz=108,slow=41								
PETK	**Petropavlovsk-**	**12.35**	**31**	PN		P		13 23 38.1	-3.7
PETK	**Petropavlovsk-**	**12.35**	**31**	Pn		P		13 23 38.1	-3.7
	comp=Z,0.1nm,0.3s,baz=198,slow=11,SNR=3.9								
KSRS	**Korea Array**	**15.63**	**256**	LR		LR		13 30 21.9	
	comp=Z,41nm,18.5s,baz=55,slow=38								
H11N2	**WAKE ISLAND Hy**	**28.57**	**138**	T		T		13 57 14.8	
	baz=331,slow=0.7,SNR=17								
H11N1	**WAKE ISLAND Hy**	**28.58**	**138**	T		T		13 57 15.7	
	baz=331,slow=0.7,SNR=24								
H11N3	**WAKE ISLAND Hy**	**28.58**	**138**	T		T		13 57 15.2	
	baz=331,slow=0.7,SNR=19								
SONM	**Songino Array**	**28.72**	**294**	P		**P**		**13 26 30.8**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=87,slow=7.7,SNR=10								
H11S1	**WAKE ISLAND Hy**	**29.52**	**140**	T		T		13 58 26.9	
	baz=335,slow=0.7,SNR=17								
H11S3	**WAKE ISLAND Hy**	**29.53**	**140**	T		T		13 58 28.2	
	baz=335,slow=0.7,SNR=15								
H11S2	**WAKE ISLAND Hy**	**29.54**	**140**	T		T		13 58 29.6	
	baz=335								
ZALV	**Zalesovo Beam**	**41.41**	**308**	P		**P**		**13 28 21.0**	**+1.1**
ZALV				pmax	pmax				
	comp=Z,1.0nm,0.6s								
ZALV	**Zalesovo Beam**	**41.41**	**308**	P		**P**		**13 28 21.0**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=69,slow=8.2,SNR=2.2								
ILAR	**Eielson Array**	**42.13**	**36**	P		**P**		**13 28 26.0**	**+0.3**
	comp=Z,3.9nm,0.9s,baz=285,slow=10,SNR=3.3								
MKAR	**Makanchi Array**	**44.89**	**298**	*e*P		**P**		**13 28 47.6**	**-0.6**
MKAR				pmax	pmax				
	comp=Z,3.0nm,0.7s								
MKAR	**Makanchi Array**	**44.89**	**298**	P		**P**		**13 28 47.3**	**-0.8**
	comp=Z,2.9nm,0.7s,baz=81,slow=7.8,SNR=17								
KURK	**Kurchatov**	**45.91**	**305**	P		**P**		**13 28 56.5**	**+0.4**
KURK				pmax	pmax				
	comp=Z,1.0nm,0.6s								
KURBB	**Kurchatov Arra**	**45.99**	**304**	P		**P**		**13 28 56.5**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=73,slow=8.7,SNR=9.0								
RES	**Resolute Bay**	**55.71**	**16**	P		**P**		**13 30 09.2**	**-0.4**
	comp=Z,2.9nm,0.6s,baz=326,slow=8.7,SNR=10								
WRA	**Warramunga Arr**	**63.71**	**193**	P		**P**		**13 31 04.8**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=13,slow=6.8,SNR=4.1								
FINES	**FINESS Array B**	**65.52**	**333**	P		**P**		**13 31 17.2**	**+0.6**
	comp=Z,3.2nm,0.9s,baz=84,slow=5.7,SNR=3.5								
ASAR	**Alice Springs**	**67.43**	**193**	P		**P**		**13 31 29.9**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=8.4,slow=5.8,SNR=4.6								

IDC 25 13:21:04.8±1.1, 30.56S×178.79W, h214km±11km, mb3.6/4, mb1 3.7/5, mb1mx3.4/18, mbtmp3.6/5, Error ellipse: s-maj=37.5km s-min=16.2km az=117.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.50**	**30**	P		Pn		13 21 41.3	+1.5
	64nm,0.3s,baz=83,slow=18,SNR=9.9								
RAO				S		S		13 22 07.0	+0.1
	98nm,0.3s,baz=110,slow=23,SNR=7.5								
**UR

ellipse: s-maj=5.7km s-min=3.9km az=22.0
*TEH **25** 13:40:22.5,31.°73N×50.°45E,h15km,ML3.5*
ISC 25 13:40:20.5±1.7, 31.°75N±0.°05×50.°47E±0.°04, h2km±14km, n34,σ0.°71/43, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**1.46**	**285**	*e*Pg	**Pb**	**13 40 48.2**	**-0.3**
SHGR				*e*Sg	**Sn**	**13 41 08.3**	**+0.5**
IGAR	**Gharneh**	**1.49**	**63**	*e*Pg	**Pg**	**13 40 49.6**	**+0.5**
IGAR				*e*		13 40 56.6	
	comp=Z,2μm,0.1s						
IGAR				*e*Sg	**Sn**	**13 41 09.3**	**+0.6**
IKLH	**Kolahrood**	**1.83**	**31**	*e*Pn	**Pb**	**13 40 53.6**	**-1.3**
IKLH				*e*Sg	**Sg**	**13 41 20.5**	**+1.2**
IKLH				*e*		13 41 42.3	
	comp=Z,4μm,0.4s						
IKLH	**Kolahrood**	**1.83**	**31**	*e*Pn	**Pb**	**13 40 53.6**	**-1.3**
IKLH				*e*Sg	**Sg**	**13 41 20.5**	**+1.2**
IZEF	**Zefreh**	**1.95**	**53**	*e*Pn	**Pb**	**13 40 55.5**	**-1.4**
IZEF				*e*Sg	**Sg**	**13 41 23.9**	**+0.8**
IZEF				*e*		13 41 29.4	
	comp=Z,2μm,0.5s						
IZEF	**Zefreh**	**1.95**	**53**	*e*Pn	**Pb**	**13 40 55.5**	**-1.4**
IZEF				*e*Sg	**Sg**	**13 41 23.9**	**+0.8**
KHMZ	**Khomeyn**	**2.03**	**348**	*e*Pg	**Pb**	**13 40 57.4**	**-1.0**
KHMZ				*e*Sg	**Sg**	**13 41 25.7**	**-0.2**
NASN	**Na'in**	**2.24**	**61**	*e*Sg	**Sg**	**13 41 31.1**	**-1.5**
ISAD	**Sadrabad**	**2.74**	**86**	*e*Sg	**Sg**	**13 41 49.0**	**+0.3**
ISAD				*e*Pn	**Pn**	**13 41 06.4**	**+0.5**
ISAD				*e*		13 42 01.7	
	comp=Z,2μm,0.4s						
ASAO	**Ashtian**	**2.82**	**353**	*e*Pn	Pb	13 41 08.4	-3.4
IPAR	**Pars**	**2.92**	**130**	*e*Pn	**Pn**	**13 41 08.5**	**+0.2**
IPAR				*e*		13 42 14.1	
	comp=Z,1μm,0.5s						
IPAR	**Pars**	**2.92**	**130**	*e*Pn	**Pn**	**13 41 08.5**	**+0.2**
ISFB	**Sefidab**	**3.00**	**29**	*e*Pn	**Pn**	**13 41 09.5**	**+0.3**
ISFB				*e*		13 42 01.9	
	comp=Z,1μm,0.5s						
ISFB	**Sefidab**	**3.00**	**29**	*e*Pn	**Pn**	**13 41 09.5**	**+0.3**
ISRV	**Sarvestan**	**3.28**	**135**	*e*Pn	**Pn**	**13 41 13.4**	**+0.1**
ISRV	**Sarvestan**	**3.28**	**135**	*e*Pn	**Pn**	**13 41 13.4**	**+0.1**
ICHK	**Chekchek**	**3.38**	**81**	*e*Pn	**Pn**	**13 41 15.1**	**+0.5**
ICHK				*e*		13 42 22.9	
	comp=Z,695nm,0.4s						
ICHK	**Chekchek**	**3.38**	**81**	*e*Pn	**Pn**	**13 41 15.1**	**+0.5**
IVRN	**Varamin**	**3.41**	**18**	*e*Pn	**Pn**	**13 41 15.1**	**+0.3**
IVRN				*e*		13 41 42.3	
	comp=Z,1μm,0.5s						
IVRN				*e*Sg	**Sg**	**13 42 09.8**	**-0.2**
IVRN	**Varamin**	**3.41**	**18**	*e*Pn	**Pn**	**13 41 15.1**	**+0.3**
IVRN				*e*Sg	**Sg**	**13 42 09.8**	**-0.2**
IMEH	**Mehriz**	**3.55**	**95**	*e*Pn	**Pn**	**13 41 17.1**	**+0.1**
IMEH				*e*		13 42 32.9	
	comp=Z,992nm,0.5s						
IMEH	**Mehriz**	**3.55**	**95**	*e*Pn	**Pn**	**13 41 17.1**	**+0.1**
IRAZ	**Razeghan**	**3.68**	**353**	*e*Pn	**Pn**	**13 41 19.1**	**+0.4**
IRAZ				*e*		13 42 41.7	
	comp=Z,1μm,0.6s						
IRAZ	**Razeghan**	**3.68**	**353**	*e*Pn	**Pn**	**13 41 19.1**	**+0.4**
IMHD	**Mahdasht**	**3.93**	**2**	*e*Pn	**Pn**	**13 41 22.2**	**+0.1**
IMHD				*e*		13 41 36.2	
	comp=Z,518nm,0.5s						
IMHD	**Mahdasht**	**3.93**	**2**	*e*Pn	**Pn**	**13 41 22.2**	**+0.1**
IDMV	**Damavand**	**4.04**	**18**	*e*Pn	**Pn**	**13 41 24.2**	**+0.5**
IDMV				*e*		13 41 37.0	
	comp=Z,648nm,0.3s						
IDMV	**Damavand**	**4.04**	**18**	*e*Pn	**Pn**	**13 41 24.2**	**+0.5**
IGHG	**Ghaleghazi**	**4.17**	**309**	*e*Pn	**Pn**	**13 41 25.7**	**+0.3**
IGHG				*e*		13 43 04.0	
	comp=Z,1μm,0.5s						
IGHG	**Ghaleghazi**	**4.17**	**309**	*e*Pn	**Pn**	**13 41 25.7**	**+0.3**
IBAF	**Bafgh**	**4.35**	**91**	*e*Pn	**Pn**	**13 41 28.1**	**+0.2**
IBAF				*e*		13 41 48.6	
	comp=Z,235nm,0.3s						
IBAF	**Bafgh**	**4.35**	**91**	*e*Pn	**Pn**	**13 41 28.1**	**+0.2**
IDHR	**Dehrash**	**4.51**	**312**	*e*Pn	**Pn**	**13 41 29.4**	**-0.8**
TABS	**Tabas**	**5.92**	**70**	*e*Pn	**Pn**	**13 41 50.2**	**+0.8**

*AUST **25** 13:48:10.2,6.°48S×130.°54E,h200km*
*IDC **25** 13:48:14.7±5.3,6.°60S×130.°05E,h187km±50km,mb3.3/1, mb1 2.8/4,mb1mx2.7/19,mbtmp2.7/4,MS3.5/1,Ms1 3.5/1, ms1mx2.7/14,Error ellipse: s-maj=78.7km s-min=22.3km az=71.0*
ISC 25 13:48:11.2±1.2, 6.°68S±0.°08×130.°1E±0.°1, h146km, n10, σ2.°56/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TLE	**Tual**	**2.85**	**69**	P	**Pn**	**13 48 57.1**	**+0.5**
	baz=2.3,SNR=5.9						
FAKI	**Fak Fak**	**4.33**	**30**	P	Pn	13 49 11.9	-3.7
	baz=3.9,SNR=5.4						
MTN	**Manton Dam**	**6.21**	**170**	P	Pn	13 49 44.9	+4.2
	baz=6.4,SNR=5.1						
KDU	**Kakadu**	**6.42**	**158**	P	**Pn**	**13 49 45.8**	**+2.3**
	baz=6.5,SNR=28						
KNRA	**Kununurra**	**9.03**	**188**	P	Pn	13 50 22.2	+3.9
	baz=9.4,SNR=5.1						
FITZ	**Fitzroy Crossi**	**12.14**	**200**	P	**Pn**	**13 51 01.6**	**+2.1**
	0.1nm,0.3s,baz=235,slow=20,SNR=7.3						
FITZ				S	**Sn**	**13 53 11.4**	**-2.2**
	0.3nm,0.3s,baz=76,slow=12,SNR=7.0						
WRA	**Warramunga Arr**	**13.82**	**163**	P	**P**	**13 51 24.4**	**-0.3**
	0.1nm,0.3s,baz=349,slow=13,SNR=7.4						
WRA				S	**Sn**	**13 53 50.3**	**-3.9**
	0.3nm,0.3s,baz=337,slow=21,SNR=7.4						
PMG	**Port Moresby**	**17.14**	**100**	LR	LR	13 58 45.6	
	comp=Z,145nm,19.8s,baz=299,slow=37						
ASAR	**Alice Springs**	**17.29**	**168**	P	**Pn**	**13 52 06.4**	**+2.6**
	0.0nm,0.3s,baz=346,slow=12,SNR=4.3						
ASAR				S	**S**	**13 55 15.1**	**-0.7**
	0.1nm,0.3s,baz=181,slow=12,SNR=1.6						
MKAR	**Makanchi Array**	**68.00**	**327**	P	**P**	**13 58 53.2**	**-1.4**
	0.5nm,0.5s,baz=119,slow=7.5,SNR=7.4						

*IDC **25** 13:48:14.4±1.2, 11.°62S×165.°34E,h0km,mb3.9/6, mb1 4.1/8,mb1mx3.9/20,mbtmp3.9/8,ML4.2/2,MS3.3/3, Ms1 3.3/3,ms1mx3.0/29,Error ellipse: s-maj=32.0km s-min=27.2km az=133.0*
*ISCJB **25** 13:48:15.8±1.0, 11.°75S±0.°1×165.°3E±0.°1, h24km, mb3.8/6, MS3.3/2, Error ellipse: s-maj=20.7km s-min=11.2km az=39.4*
ISC 25 13:48:17.9±1.0, 11.°6S±0.°1×165.°3E±0.°1, h24km, n11, σ1.°42/10, mb3.8/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.74**	**292**	Pn	**Pn**	**13 49 41.5**	**-0.1**
	11nm,0.3s,baz=165,slow=5.9,SNR=5.1						
HNR				Sn	**Sn**	**13 50 46.6**	**-0.2**
	6.8nm,0.3s,baz=174,slow=10,SNR=1.5						
HNR				LR	LR	13 51 44.0	
	comp=Z,272nm,20.9s,baz=258,slow=37						
DZM	**Mont Dzumac**	**10.43**	**174**	Pn	**Pn**	**13 50 46.3**	**+0.1**
	1.5nm,0.3s,baz=110,slow=22,SNR=22						
STKA	**Stephens Creek**	**29.75**	**224**	LR	LR	14 03 39.6	
	comp=Z,86nm,20.5s,baz=29,slow=31						
WRA	**Warramunga Arr**	**30.91**	**251**	P	**P**	**13 54 32.9**	**-0.2**
	3.0nm,0.9s,baz=81,slow=9.5,SNR=11						
ASAR	**Alice Springs**	**32.18**	**244**	P	**P**	**13 54 43.4**	**-0.8**
	1.0nm,1.0s,baz=90,slow=6.3,SNR=4.9						
FITZ	**Fitzroy Crossi**	**38.85**	**256**	LR	LR	14 11 29.0	
	comp=Z,34nm,20.4s,baz=99,slow=36						
CMAR	**Chiang Mai Arr**	**71.99**	**294**	P	**P**	**13 59 41.0**	**+0.9**
	0.6nm,0.3s,baz=126,slow=4.7,SNR=4.1						
SONM	**Songino Array**	**78.91**	**324**	P	**P**	**14 00 21.1**	**+1.7**
	0.7nm,0.9s,baz=131,slow=7.9,SNR=3.2						
ILAR	**Eielson Array**	**84.19**	**19**	P	**P**	**14 00 45.2**	**-1.6**
	0.3nm,0.6s,baz=235,slow=5.4,SNR=6.9						
MKAR	**Makanchi Array**	**93.68**	**317**	P	**P**	**14 01 31.0**	**-1.5**
	0.3nm,0.6s,baz=83,slow=8.1,SNR=3.1						
ESDC	**Sonseca Array**	**150.50**	**343**	PKPbc	**PKPbc**	**14 08 10.2**	**+2.2**
	0.1nm,0.3s,baz=8.7,slow=1.7,SNR=2.7						

IDC 25 13:52:53.1±3.2, 15.°31S×173.°25W, h0km, mb3.8/4, mb1 4.1/4,mb1mx3.8/19,mbtmp3.8/4,MS3.1/1,Ms1 3.1/1, ms1mx2.7/30,Error ellipse: s-maj=188.0km s-min=20.9km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.99**	**46**	Pn	Pn	13 53 28.4	+0.2
	35nm,0.3s,baz=236,slow=5.0,SNR=12						
AFI				Sn	Sn	13 53 48.3	-5.6
	141nm,0.3s,baz=183,slow=20,SNR=13						
PPT2	**Papeete2**	**22.81**	**99**	*e*LR	LR	14 03 35.6	
	141nm,27.2s						
TBI	**Tubuai**	**23.80**	**113**	*e*LR	LR	14 04 10.5	
	143nm,27.0s						
HNR	**Honiara**	**26.81**	**279**	LR	LR	14 07 56.6	
	comp=Z,43nm,19.7s,baz=289,slow=34						
H11S2	**WAKE ISLAND Hy**	**38.96**	**329**	T	T	14 41 10.4	
	baz=150						
H11S3	**WAKE ISLAND Hy**	**38.98**	**329**	T	T	14 41 10.5	
	baz=150						
H11S1	**WAKE ISLAND Hy**	**38.98**	**329**	T	T	14 41 11.7	
	baz=150						
H11N3	**WAKE ISLAND Hy**	**39.91**	**330**	T	T	14 42 25.5	
	baz=152,slow=0.7,SNR=31						
H11N1	**WAKE ISLAND Hy**	**39.91**	**330**	T	T	14 42 25.9	
	baz=152,slow=0.7,SNR=39						
H11N2	**WAKE ISLAND Hy**	**39.93**	**330**	T	T	14 42 26.8	
	baz=152,slow=0.7,SNR=39						
WRA	**Warramunga Arr**	**50.01**	**257**	P	P	14 01 49.6	-0.1
	0.4nm,0.6s,baz=90,slow=7.5,SNR=17						
ASAR	**Alice Springs**	**50.28**	**252**	P	P	14 01 51.6	-0.1
	2.7nm,0.6s,baz=84,slow=8.4,SNR=16						
NVAR	**Mina Array Bea**	**74.17**	**42**	P	P	14 04 31.7	-0.2
	0.2nm,0.4s,baz=260,slow=3.6,SNR=2.9						
TXAR	**Lajitas Array**	**80.44**	**56**	P	P	14 05 12.7	+5.5
	0.3nm,0.8s,baz=265,slow=3.3,SNR=3.3						
ILAR	**Eielson Array**	**82.33**	**11**	P	P	14 05 16.5	+0.2
	0.5nm,0.9s,baz=209,slow=7.2,SNR=4.2						
BRTR	**Keskin Array B**	**146.18**	**321**	PKPbc	PKPab	14 12 39.4	+2.8
	0.7nm,0.7s,baz=163,slow=1.3,SNR=4.3						

*ISCJB **25** 13:55:08.8±0.7, 41.°27N±0.°06×22.°75E±0.°04, h12km±5km, Error ellipse: s-maj=9.8km s-min=5.6km az=1.7*
*SKO **25** 13:55:08.9, 41.°27N×22.°75E, h11km, M1.0, ML1.3*
*CSEM **25** 13:55:09.0, 41.°28N×22.°76E, h9km, MD2.6, After ATH*
*ATH **25** 13:55:09.0, 41.°28N×22.°76E, h9km±1km, MD2.6/6*
ISC 25 13:55:08.0±1.1, 41.°31N±0.°06×22.°76E±0.°03, h18km±2km, n13,σ0.°22/24, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VAY	**Valandovo**	**0.14**	**273**	*i* Pg	**Pg**	**13 55 12.5**	**+0.3**
VAY				*i* Sg	**Sg**	**13 55 15.0**	**0.0**
VAY				*e*Lg	Lg	13 55 15.1	
	comp=N,240nm,0.6s						
VAY				*e*Lg	Lg	13 55 15.2	
	comp=E,99nm,0.2s						
KNT	**Kendrikon**	**0.19**	**145**	*e*PG	**Pg**	**13 55 12.7**	**-0.1**
KNT				*e*SG	**Sb**	**13 55 15.0**	**+0.2**
KNT	**Kendrikon**	**0.19**	**145**	*e*Pg	**Pg**	**13 55 12.7**	**-0.1**
KNT				*e*Sg	**Sb**	**13 55 15.0**	**+0.2**
GRG	**Griva**	**0.45**	**217**	*e*PB	**Pb**	**13 55 17.3**	**-0.1**
GRG				*e*SB	**Sg**	**13 55 23.2**	**-0.1**
GRG	**Griva**	**0.45**	**217**	*e*Pb	**Pb**	**13 55 17.3**	**-0.1**
GRG				*e*Sb	**Sg**	**13 55 23.2**	**-0.1**
SRS	**Serrai**	**0.66**	**107**	*e*PG	**Pg**	**13 55 21.2**	**+0.1**
SRS				*e*SB	**Sg**	**13 55 29.9**	**0.0**
SRS	**Serrai**	**0.66**	**107**	*e*Pg	**Pg**	**13 55 21.2**	**+0.1**
SRS				*e*Sb	**Sg**	**13 55 29.9**	**0.0**
SOH	**Sokhos**	**0.67**	**137**	*e*PB	**Pg**	**13 55 21.5**	**+0.3**
SOH				*e*SB	**Sg**	**13 55 30.4**	**+0.3**
SOH	**Sokhos**	**0.67**	**137**	*e*Pb	**Pg**	**13 55 21.5**	**+0.3**
SOH				*e*Sb	**Sg**	**13 55 30.4**	**+0.3**
HORT	**Hortiatis**	**0.76**	**160**	*e*PB	**Pg**	**13 55 22.9**	**0.0**
HORT	**Hortiatis**	**0.76**	**160**	*e*Pb	**Pg**	**13 55 22.9**	**0.0**
NVR	**Nevrokopi**	**0.83**	**87**	*e*PB	**Pn**	**13 55 24.9**	**+0.1**
NVR				*e*SB	**Sn**	**13 55 36.2**	**-0.5**
NVR	**Nevrokopi**	**0.83**	**87**	*e*Pb	**Pn**	**13 55 24.9**	**+0.1**
NVR				*e*Sb	**Sn**	**13 55 36.2**	**-0.5**

KRSC 25 13:55:26.0±3.5, 50.°05N×157.°14E, h29km±50km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.91**	**314**	*e*P	Pn	13 55 42.4	-0.4
SKR				*i* S	Sn	13 55 52.4	-2.6
PAU	**Pauzhetka**	**1.43**	**352**	*e*P	Pn	13 55 50.3	+0.3
PAU				*i* S	Sn	13 56 05.9	-2.0
MIPR	**Malaya Ipel'ka**	**2.24**	**354**	*e*P	Pn	13 56 02.4	+1.2
MTVR	**Mutnovka**	**2.52**	**15**	*e*P	Pn	13 56 07.4	+2.2
MTVR				*i* S	Sn	13 56 35.7	+0.6
RUS	**Russkaya**	**2.54**	**19**	*e*P	Pn	13 56 06.2	+1.0
RUS				*i* S	Sn	13 56 33.6	-1.5
SDLR	**Sedlovina**	**3.41**	**18**	*e*P	Pn	13 56 20.2	+2.8

MAN 25 13:57:02.4±4.9 4N×126.°11E, h101km, mb4.4, ML3.3, MS3.1, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.62**	**315**	*i*P	Pn	13 57 29.7	-0.3
GSPH				*e*S	Sn	13 57 49.2	-2.0
MATI	**Mati**	**2.00**	**4**	*e*P	Pn	13 57 35.4	+0.7
MATI				*e*S	Sn	13 58 03.4	+3.8
BUKP	**Musuan**	**3.10**	**341**	*e*P	Pn	13 57 51.2	+2.0
IPIL	**Ipil**	**4.51**	**309**	*e*P	Pn	13 58 09.9	+1.8

*NIED **25** 14:33:00,43.°30N×146.°40E,h53km,Mw3.9 Best double couple: M0.78000×10^14 NP1:φ0=316.00000°,δ62.00000°, λ45.00000°. NP2:φ0=201.00000°,δ51.00000°,λ143.00000°.*
*MOS **25** 14:33:01.5±1.2,43.°38N×146.°50E,h55km,mb4.2/13,Error ellipse: s-maj=16.2km s-min=10.5km az=90.9*
*ISCJB **25** 14:33:02.3±0.7,43.°39N±0.°06×146.°39E±0.°07, h63km±5km, mb3.7/17, Error ellipse: s-maj=11.2km s-min=6.2km az=143.5*
*IDC **25** 14:33:02.7±0.7,43.°45N×146.°31E,h48km±6km,mb3.6/16, mb1 3.8/17,mb1mx3.7/28,mbtmp3.6/17,MS2.6/1, Ms1 2.6/1,ms1mx2.3/33,Error ellipse: s-maj=18.8km s-min=15.1km az=134.0*
*SKHL **25** 14:33:02.5±1.2,43.°28N×146.°31E,h45km,mb4.9/2*
*JMA **25** 14:33:02.6±0.1,43.°32N×146.°41E,h50km±1km,M4.3*
JMA Felt I J1.
ISC 25 14:33:02.7±0.7, 43.°39N±0.°06×146.°40E±0.°05, h49km±5km, n49,σ0.°98/54, mb3.8/17, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.48**	**268**	P	**Pn**	**14 33 13.8**	**+0.2**
NEM2				*e*S	**Sn**	**14 33 21.7**	**+0.3**
YUK	**Yuzh-Kuril'sk**	**0.76**	**329**	*c i*PN	**Pn**	**14 33 17.1**	**0.0**
YUK				*i*		14 33 28.3	
YUK				pmax	pmax		
	comp=Z,2μm,0.3s						
YUK				pmax	pmax		
	comp=N,290nm,0.1s						
YUK				pmax	pmax		
	comp=E,197nm,0.1s						
YUK				smax	smax		
	comp=N,4μm,0.5s						
YUK				smax	smax		
	comp=E,5μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**0.76**	**329**	*i*P	**Pn**	**14 33 17.1**	**0.0**
YUK				AMB	AMB	14 33 18.9	
	comp=E,2μm,0.3s						
YUK				AMB	AMB	14 33 18.9	
	comp=E,290nm,0.1s						
YUK				AMB	AMB	14 33 18.9	
	comp=E,197nm,0.1s						
YUK				*i* S	**Sn**	**14 33 29.0**	**+1.4**
YUK				A	A	14 33 29.2	
	comp=E,4μm,0.5s						
YUK				A	A	14 33 29.2	
	comp=E,5μm,0.5s						
JRA	**Rausu**	**1.08**	**301**	P	**Pn**	**14 33 22.2**	**+0.8**
JRA				*e*S	**Sn**	**14 33 36.6**	**+1.3**
JNK	**Nakash**	**1.24**	**280**	P	**Pn**	**14 33 23.7**	**+0.1**
JNK				*e*S	**Sn**	**14 33 39.4**	**+0.1**
JAK	**Akkeshi**	**1.31**	**253**	P	**Pn**	**14 33 24.4**	**-0.1**
JTKR	**Abashiri--Toko**	**1.90**	**289**	P	**Pn**	**14 33 34.0**	**+1.4**
JAR	**Ashorobuto**	**1.92**	**268**	P	**Pn**	**14 33 33.6**	**+0.7**
JAR				*e*S	**Sn**	**14 33 57.0**	**+1.1**
JOB	**Onbets**	**1.94**	**256**	P	**Pn**	**14 33 33.5**	**+0.3**
JOB				*e*S	**Sn**	**14 33 56.7**	**+0.4**
KUR	**Kuril'sk**	**2.12**	**29**	*e*PN	**Pn**	**14 33 36.9**	**+1.2**
KUR				*e*S	**Sn**	**14 34 01.8**	**+1.0**
KUR				smax	smax		
	comp=N,1μm,0.4s						
KUR	**Kuril'sk**	**2.12**	**29**	*e*P	**Pn**	**14 33 36.9**	**+1.2**
KUR				AMB	AMB	14 33 37.5	
	comp=N,150nm,0.6s						
KUR				*e*S	**Sn**	**14 34 01.8**	**+1.0**
KUR				A	A	14 34 03.6	
	comp=N,1μm,0.4s						
KUR				A	A	14 34 03.6	
	comp=N,730nm,0.4s						
JMP	**Maruseppu**	**2.29**	**287**	P	**Pn**	**14 33 39.6**	**+1.6**
ASAJ	**Asahikawa**	**2.85**	**286**	P	**Pn**	**14 33 47.7**	**+2.0**
	comp=N,22nm,0.3s,baz=120,slow=14,SNR=73						
YSS	**Yuzh-Sakhalins**	**4.40**	**325**	*e*PN	**Pn**	**14 34 08.0**	**+1.1**
YSS				*e*S	**Sn**	**14 34 56.0**	**-0.8**
YSS				smax	smax		
	comp=E,50nm,0.7s						
YSS	**Yuzh-Sakhalins**	**4.40**	**325**	*e*P	**Pn**	**14 34 08.0**	**+1.1**
YSS				*e*S	**Sn**	**14 34 56.0**	**-0.8**
YSS				A	A	14 34 58.0	
	comp=E,50nm,0.7s						
PETK	**Petropavlovsk-**	**12.28**	**34**	PN	**Pn**	**14 35 53.0**	**-1.7**
PETK				MLR	MLR		
	comp=Z,27nm,18.9s						
PETK	**Petropavlovsk-**	**12.28**	**34**	P	**Pn**	**14 35 53.0**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=200,slow=15,SNR=9.2						
PETK				LR	LR	14 40 05.2	
	comp=Z,27nm,18.9s,baz=76,slow=34						
KSRS	**Korea Array**	**15.26**	**253**	P	**P**	**14 36 40.4**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=60,slow=13,SNR=3.9						
FX1	**Attu Island--F**	**20.12**	**52**	P	**P**	**14 37 33.0**	**+0.8**
	comp=Z,17nm,0.7s,baz=246,slow=6.7,SNR=5.5						
SONM	**Songino Array**	**28.11**	**293**	P	**P**	**14 38 50.2**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=81,slow=9.6,SNR=5.3						
H11N2	**WAKE ISLAND Hy**	**29.19**	**137**	T	T	15 09 47.1	
	baz=331,slow=0.7,SNR=1639						
H11N1	**WAKE ISLAND Hy**	**29.20**	**137**	T	T	15 09 48.2	
	baz=331,slow=0.7,SNR=960						
H11N3	**WAKE ISLAND Hy**	**29.21**	**137**	T	T	15 09 48.4	
	baz=331,slow=0.7,SNR=1682						
H11S1	**WAKE ISLAND Hy**	**30.14**	**139**	T	T	15 10 54.9	
	baz=334,slow=0.7,SNR=2865						
H11S3	**WAKE ISLAND Hy**	**30.14**	**139**	T	T	15 10 55.8	
	baz=334,slow=0.7,SNR=122						
H11S2	**WAKE ISLAND Hy**	**30.16**	**139**	T	T	15 10 56.2	
	baz=334,slow=0.7,SNR=84						
ZALV	**Zalesovo Beam**	**40.79**	**307**	PcP	**PcP**	**14 42 38.7**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=57,slow=5.3,SNR=3.1						
ILAR	**Eielson Array**	**42.10**	**36**	P	**P**	**14 40 51.0**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=277,slow=8.9,SNR=5.0						
MKAR	**Makanchi Array**	**44.27**	**298**	*e*P	P	14 41 11.2	+3.9
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**44.27**	**298**	P	**P**	**14 41 06.6**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=82,slow=11,SNR=4.1						
KURK	**Kurchatov**	**45.28**	**304**	P	**P**	**14 41 15.7**	**+0.5**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**45.37**	**304**	P	**P**	**14 41 15.7**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=69,slow=8.7,SNR=4.3						
INK	**Inuvik**	**46.99**	**30**	P	**P**	**14 41 28.4**	**0.0**
	comp=Z,3.2nm,1.0s,baz=291,slow=8.8,SNR=3.2						
RES	**Resolute Bay**	**55.47**	**16**	P	**P**	**14 42 30.6**	**-1.1**
	comp=Z,1.8nm,0.9s,baz=331,slow=14,SNR=6.8						
YKA	**Yellowknife Ar**	**56.41**	**33**	P	**P**	**14 42 38.2**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=300,slow=7.8,SNR=2.9						
WRA	**Warramunga Arr**	**63.98**	**193**	P	**P**	**14 43 31.0**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=10,slow=6.8,SNR=4.1						
FINES	**FINESS Array B**	**64.95**	**333**	P	**P**	**14 43 35.6**	**-1.1**
	comp=Z,2.6nm,0.9s,baz=46,slow=12,SNR=4.5						
OBN	**Obninsk**	**65.28**	**323**	*e*P	**P**	**14 43 39.9**	**+0.9**
OBN				*e*SS	SS	14 56 33.2	+1.9
OBN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ASAR	**Alice Springs**	**67.70**	**192**	P	**P**	**14 43 54.8**	**0.0**
	comp=Z,0.6nm,0.6s,baz=6.1,slow=5.5,SNR=13						
ASAR				pP	**pP**	**14 44 09.5**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=14,slow=5.2,SNR=3.4						
NVAR	**Mina Array Bea**	**68.23**	**57**	P	**P**	**14 43 58.9**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=297,slow=4.0,SNR=3.3						
NVAR				pP	**pP**	**14 44 13.1**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=298,slow=7.5,SNR=4.3						
KBZ	**Khabaz**	**69.63**	**311**	P	**P**	**14 44 07.1**	**+0.4**
KBZ				*PP	**pP**	**14 44 19.9**	**-0.7**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KBZ	**Khabaz**	**69.63**	**311**	P	**P**	**14 44 07.1**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=53,slow=5.5,SNR=6.6						
KBZ				pP	**pP**	**14 44 19.9**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=90,slow=11,SNR=2.0						
NOA	**NORSA

IDC ***25*** *15:32:35.7±1.9, 15°.67S×173°.49W, h0km, mb3.7/6, mb1 4.1/6, mb1mx3.8/19, mbtmp3.7/6, MS3.4/7, Ms1 3.4/7, ms1mx3.2/27, Error ellipse: s-maj=127.1km s-min=23.4km az=151.0*

ISC 25 15:32:45.5±1.9, 15°.9S±0°.6×173°.4W±0°.4, h79km, n24, σ1§37/8, mb3.6/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.55**	**39**	Pn	Pn	15 33 08.9	-16
	20nm,0.3s,baz=232,slow=21,SNR=17						
AFI				Sn	Sn	15 33 28.4	-27
	62nm,0.3s,baz=3.3,slow=23,SNR=20						
AFI				LR	LR	15 33 38.2	
	comp=Z,281nm,18.9s,baz=325,slow=26						
DZM	**Mont Dzumac**	**19.99**	**249**	*e*LR	LR	15 42 18.0	
	95nm,25.6s						
DZM	**Mont Dzumac**	**19.99**	**249**	LR	LR	15 43 15.0	
	comp=Z,78nm,19.6s,baz=180,slow=32						
PPT	**Papeete**	**22.89**	**98**	LR	LR	15 44 55.1	
	comp=Z,108nm,19.6s,baz=20,slow=32						
PPT2	**Papeete2**	**22.89**	**98**	*e*LR	LR	15 43 21.1	
	86nm,23.8s						
TBI	**Tubuai**	**23.72**	**112**	*e*LR	LR	15 43 54.2	
	138nm,25.5s						
PMG	**Port Moresby**	**38.96**	**275**	LR	LR	15 54 16.1	
	comp=Z,68nm,18.0s,baz=33,slow=34						
H11S2	**WAKE ISLAND Hy**	**39.40**	**329**	T	T	16 20 47.3	
	baz=152,slow=0.7,SNR=34						
H11S3	**WAKE ISLAND Hy**	**39.41**	**329**	T	T	16 20 50.1	
	baz=152,slow=0.7,SNR=40						
H11S1	**WAKE ISLAND Hy**	**39.41**	**329**	T	T	16 20 48.9	
	baz=152,slow=0.7,SNR=33						
H11N3	**WAKE ISLAND Hy**	**40.35**	**331**	T	T	16 22 00.8	
	baz=152,slow=0.7,SNR=17						
H11N1	**WAKE ISLAND Hy**	**40.35**	**331**	T	T	16 21 58.9	
	baz=152,slow=0.7,SNR=24						
H11N2	**WAKE ISLAND Hy**	**40.37**	**331**	T	T	16 22 01.7	
	baz=152,slow=0.7,SNR=17						
WRA	**Warramunga Arr**	**49.71**	**257**	P	**P**	**15 41 29.7**	**-0.3**
	0.4nm,0.7s,baz=90,slow=7.0,SNR=5.8						
ASAR	**Alice Springs**	**49.94**	**252**	P	**P**	**15 41 31.2**	**-0.6**
	1.7nm,0.7s,baz=90,slow=7.3,SNR=29						
QSPA	**South Pole Qui**	**74.13**	**180**	LR	LR	16 10 04.7	
	comp=Z,52nm,21.0s,baz=224,slow=30						
NVAR	**Mina Array Bea**	**74.72**	**42**	P	**P**	**15 44 16.2**	**-1.0**
	0.6nm,0.8s,baz=238,slow=10,SNR=3.1						
KSRS	**Korea Array**	**76.51**	**316**	LR	LR	16 16 10.7	
	comp=Z,30nm,19.5s,baz=135,slow=34						
TXAR	**Lajitas Array**	**80.91**	**56**	P	**P**	**15 44 52.7**	**+1.1**
	0.9nm,1.0s,baz=197,slow=3.9,SNR=6.0						
PDAR	**Pinedale Array**	**82.66**	**42**	P	**P**	**15 44 59.8**	**-0.9**
	0.7nm,0.9s,baz=223,slow=3.7,SNR=5.9						
ILAR	**Eielson Array**	**82.95**	**11**	P	**P**	**15 45 00.3**	**-1.1**
	0.4nm,0.8s,baz=170,slow=11,SNR=3.8						
CMAR	**Chiang Mai Arr**	**92.76**	**288**	LR	LR	16 25 15.9	
	comp=Z,15nm,18.4s,baz=175,slow=34						
BRTR	**Keskin Array B**	**146.54**	**320**	PKPbc	**PKPab**	**15 52 21.5**	**+2.1**
	1.2nm,0.9s,baz=48,slow=3.7,SNR=6.3						
GERES	**GERESS Array B**	**146.65**	**351**	PKPbc	**PKPab**	**15 52 20.3**	**+0.8**
	0.3nm,0.5s,baz=45,slow=0.2,SNR=6.9						

IDC ***25*** *15:52:35.8±0.8, 17°.53S×172°.78W, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.0/22, mbtmp4.1/9, MS3.4/3, Ms1 3.4/3, ms1mx3.0/26, Error ellipse: s-maj=33.1km s-min=20.4km az=120.0*

NEIC ***25*** *15:52:37.2±0.6, 17°.51S×172°.86W, h10km, mb4.5/3, Error ellipse: s-maj=23.5km s-min=13.8km az=126.0*

ISCJB ***25*** *15:52:38.4±0.7, 17°.5S±0°.1×172°.9W±0°.2, h28km, mb4.2/11, MS3.5/2, Error ellipse: s-maj=24.4km s-min=15.2km az=35.2*

ISC 25 15:52:40.1±0.7, 17°.6S±0°.1×172°.8W±0°.2, h28km, n44, σ1§05/31, mb4.3/11, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.77**	**267**	*e*P	Pn	15 54 52.2	+7.0
RAR	**Rarotonga**	**12.78**	**109**	*e*P	Pn	15 55 32.5	-7.5
RAR	**Rarotonga**	**12.78**	**109**	LR	LR	15 58 49.9	
	comp=Z,134nm,21.4s,baz=270,slow=29						
DZM	**Mont Dzumac**	**20.08**	**254**	*e*LR	LR	16 02 32.8	
	110nm,25.9s						
PPT2	**Papeete2**	**22.09**	**94**	*e*LR	LR	16 02 18.4	
	101nm,27.0s						
URZ	**Urewera**	**22.46**	**201**	*e*P	**P**	**15 57 37.7**	**+0.7**
	20nm,0.9s						
URZ	**Urewera**	**22.46**	**201**	P	**P**	**15 57 37.9**	**+0.8**
	11nm,0.7s,baz=21,slow=7.1,SNR=11						
TBI	**Tubuai**	**22.56**	**109**	*e*LR	LR	16 02 38.8	
	119nm,32.2s						
HNR	**Honiara**	**27.72**	**283**	LR	LR	16 07 43.3	
	comp=Z,57nm,21.4s,baz=35,slow=33						
RPZ	**Rata Peaks**	**29.46**	**204**	P	P	15 58 45.4	+3.7
RPZ	**Rata Peaks**	**29.46**	**204**	P	P	15 58 45.3	+3.7
	7.2nm,0.7s,baz=311,slow=11,SNR=2.9						
RKT	**Rikitea**	**35.79**	**105**	*e*LR	LR	16 08 54.7	
	89nm,31.8s						
H11S2	**WAKE ISLAND Hy**	**41.12**	**330**	T	T	16 40 05.7	
	baz=152,slow=0.7,SNR=9.7						
H11S3	**WAKE ISLAND Hy**	**41.13**	**330**	T	T	16 40 08.3	
	baz=152,slow=0.7,SNR=6.2						
H11S1	**WAKE ISLAND Hy**	**41.13**	**330**	T	T	16 40 08.7	
	baz=152,slow=0.7,SNR=5.7						
H11N3	**WAKE ISLAND Hy**	**42.08**	**331**	T	T	16 41 18.9	
	baz=152,slow=0.7,SNR=4.2						
H11N1	**WAKE ISLAND Hy**	**42.08**	**331**	T	T	16 41 20.5	
	baz=152,slow=0.7,SNR=6.1						
H11N2	**WAKE ISLAND Hy**	**42.09**	**331**	T	T	16 41 20.6	
	baz=152,slow=0.7,SNR=3.3						
WRAB	**Tennant Creek**	**49.98**	**258**	P	**P**	**16 01 30.2**	**-2.0**
	4.8nm,1.1s						
WRA	**Warramunga Arr**	**49.99**	**258**	P	**P**	**16 01 30.4**	**-2.0**
WRA				PcP	**PcP**	**16 02 53.4**	**+1.2**
WRA	**Warramunga Arr**	**49.99**	**258**	P	**P**	**16 01 30.4**	**-2.0**
	0.9nm,0.6s,baz=96,slow=7.9,SNR=17						
WRA				PcP	**PcP**	**16 02 53.4**	**+1.2**
	0.5nm,1.0s,baz=91,slow=3.4,SNR=2.9						
AS31	**Alice Springs**	**50.07**	**254**	*e*P	**P**	**16 01 31.7**	**-1.2**
ASAR	**Alice Springs**	**50.07**	**254**	P	**P**	**16 01 31.8**	**-1.1**
ASAR				PcP	**PcP**	**16 02 53.8**	**+1.3**
ASAR	**Alice Springs**	**50.07**	**254**	P	**P**	**16 01 31.8**	**-1.1**
	8.1nm,0.7s,baz=88,slow=8.7,SNR=107						
ASAR				PcP	**PcP**	**16 02 53.8**	**+1.3**
	1.1nm,0.8s,baz=94,slow=5.1,SNR=3.7						
QSPA	**South Pole Qui**	**72.51**	**180**	*e*P	**P**	**16 04 03.6**	**-0.6**
	4.3nm,1.1s						
QSPA	**South Pole Qui**	**72.51**	**180**	P	**P**	**16 04 03.8**	**-0.5**
	2.1nm,0.9s						
PETK	**Petropavlovsk-**	**74.85**	**342**	P	**P**	**16 04 17.9**	**+0.1**
PETK	**Petropavlovsk-**	**74.85**	**342**	P	**P**	**16 04 17.9**	**+0.1**
	5.7nm,0.9s,baz=188,slow=8.2,SNR=3.6						
NVAR	**Mina Array Bea**	**75.51**	**41**	P	**P**	**16 04 22.1**	**-0.2**
NVAR	**Mina Array Bea**	**75.51**	**41**	P	**P**	**16 04 22.1**	**-0.2**
	0.3nm,0.7s,baz=220,slow=8.3,SNR=2.6						
KSRS	**Korea Array**	**78.12**	**316**	P	**P**	**16 04 38.1**	**+1.4**
	1.2nm,0.9s,baz=129,slow=8.2,SNR=5.1						
KSAR	**Wonju Array Be**	**78.14**	**316**	P	**P**	**16 04 38.1**	**+1.3**
BBB	**Bella Bella**	**79.52**	**26**	LR	LR	16 31 58.6	
	comp=Z,56nm,21.6s,baz=246,slow=30						
PDAR	**Pinedale Array**	**83.45**	**41**	P	**P**	**16 05 05.0**	**-0.4**
PDAR	**Pinedale Array**	**83.45**	**41**	P	**P**	**16 05 05.0**	**-0.4**
	0.3nm,0.3s,baz=222,slow=6.6,SNR=3.0						
ILAR	**Eielson Array**	**84.42**	**11**	P	**P**	**16 05 08.5**	**-1.1**
ILAR	**Eielson Array**	**84.42**	**11**	P	**P**	**16 05 08.5**	**-1.1**
	0.3nm,0.6s,baz=220,slow=6.3,SNR=6.2						
KMBO	**Kilima Mbogo**	**145.10**	**241**	PKPbc	**PKPdf**	**16 12 16.5**	**+0.2**
KMBO	**Kilima Mbogo**	**145.10**	**241**	PKPbc	**PKPdf**	**16 12 16.5**	**+0.2**
	1.1nm,0.4s,baz=153,slow=2.3,SNR=5.8						
CLL	**Collm**	**146.01**	**354**	*e*PKPbc	**PKPab**	**16 12 18.0**	**+0.3**
BRTR	**Keskin Array B**	**148.20**	**319**	PKPbc	**PKPbc**	**16 12 24.1**	**+0.2**
BRTR	**Keskin Array B**	**148.20**	**319**	PKPbc	**PKPbc**	**16 12 24.1**	**+0.2**
	1.6nm,0.9s,baz=259,slow=1.3,SNR=4.2						
GERES	**GERESS Array B**	**148.34**	**352**	PKPbc	**PKPbc**	**16 12 24.4**	**+0.4**
GERES	**GERESS Array B**	**148.34**	**352**	PKPbc	**PKPbc**	**16 12 24.4**	**+0.4**
	0.9nm,0.9s,baz=11,slow=1.4,SNR=7.3						

NIED ***25*** *15:54:00, 34°.30N×137°.70E, h300km, Mw4.0 Best double couple: M0 1.01000×10^15 NP1: ϕs 25.00000°, δ 62.00000°, λ -121.00000°. NP2: ϕs 257.00000°, δ 41.00000°, λ -47.00000°.*

ISCJB ***25*** *15:54:42.2±0.4, 34°.28N±0°.06×137°.64E±0°.06, h306km±2km, mb3.6/18, Error ellipse: s-maj=9.7km s-min=7.3km az=142.5*

IDC ***25*** *15:54:42.8±1.9, 34°.24N×137°.73E, h300km±17km, mb3.3/15, mb1 3.4/19, mb1mx3.4/30, mbtmp3.3/19, Error ellipse: s-maj=19.6km s-min=10.6km az=82.0*

JMA ***25*** *15:54:42.4±0.3, 34°.33N×137°.72E, h307km±3km, M3.7*

ISC 25 15:54:43.2±0.7, 34°.28N±0°.07×137°.64E±0°.06, h303km±5km, n58, σ0§82/70, mb3.7/18, 3C-7D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO5	**TONANKAI O.B.S**	**0.07**	**115**	⇓P	**Pn**	**15 55 21.7**	**+0.3**
TK04	**Tokai 4**	**0.22**	**63**	P	**Pn**	**15 55 21.9**	**+0.5**
TK04				S	**S**	**15 55 52.4**	**+0.5**
TTO4	**TONANKAI O.B.S**	**0.29**	**196**	⇓P	**Pn**	**15 55 21.7**	**+0.2**
TK03	**Tokai 3**	**0.30**	**113**	P	**Pn**	**15 55 22.2**	**+0.6**
TK03				S	**S**	**15 55 54.1**	**+1.9**
TK02	**Tokai 2**	**0.35**	**163**	P	**Pn**	**15 55 21.9**	**+0.3**
TTO3	**TONANKAI O.B.S**	**0.46**	**205**	⇓P	**Pn**	**15 55 22.5**	**+0.6**
JAA	**Atsumi**	**0.53**	**311**	⇓P	**Pn**	**15 55 22.3**	**+0.2**
JAA				S	**S**	**15 55 52.0**	**-1.1**
JIE	**Ise**	**0.78**	**278**	S	**S**	**15 55 53.6**	**-0.9**
TTO1	**TONANKAI O.B.S**	**0.97**	**227**	P	**Pn**	**15 55 23.6**	**+0.2**
JYN	**Shimodate**	**1.42**	**31**	P	**Pn**	**15 55 25.8**	**-0.4**
JOD2	**Odawara 2**	**1.54**	**50**	⇓P	**Pn**	**15 55 26.6**	**-0.3**
JOD2				S	**S**	**15 56 01.2**	**-0.5**
JGM	**Miyama**	**1.60**	**332**	⇑P	**Pn**	**15 55 27.3**	**0.0**
JGM				S	**S**	**15 56 01.4**	**-1.0**
JWY	**Kouya**	**1.69**	**268**	⇑P	**Pn**	**15 55 28.0**	**0.0**
JWY				S	**S**	**15 56 02.5**	**-1.2**
JWZ	**Kozaga**	**1.77**	**245**	P	**Pn**	**15 55 27.9**	**-0.6**
JWZ				S	**S**	**15 56 02.0**	**-2.6**
JRY	**Ryogami san**	**2.02**	**31**	⇓P	**Pn**	**15 55 30.4**	**+0.1**
JRY				S	**S**	**15 56 07.9**	**0.0**
JWT	**Wachi**	**2.09**	**299**	⇑P	**Pn**	**15 55 30.9**	**0.0**
JWT				S	**S**	**15 56 07.5**	**-1.4**
JKG	**Kaga**	**2.26**	**332**	P	**Pn**	**15 55 32.1**	**-0.1**
MAT	**Matsushiro**	**2.30**	**12**	P	**Pn**	**15 55 32.4**	**-0.2**
MAT				S	**S**	**15 56 10.2**	**-1.9**
MAT	**Matsushiro**	**2.30**	**12**	P	**Pn**	**15 55 32.4**	**-0.2**
JAG	**Ashikaga**	**2.60**	**34**	⇓P	**Pn**	**15 55 33.9**	**-1.4**
BSO1	**Boso 1**	**2.79**	**81**	P	**Pn**	**15 55 34.7**	**-1.7**
JNU	**Nakatsue**	**5.75**	**260**	P	**Pn**	**15 56 09.7**	**0.0**
	0.5nm,0.3s,baz=4.9,slow=5.6,SNR=4.7						
KSRS	**Korea Array**	**8.49**	**295**	P	**Pn**	**15 56 44.0**	**+1.3**
	0.3nm,0.3s,baz=109,slow=13,SNR=15						
ASAJ	**Asahikawa**	**10.54**	**20**	P	**Pn**	**15 57 07.2**	**-0.6**
	1.0nm,0.3s,baz=216,slow=16,SNR=16						
USRK	**Ussuriysk Arra**	**10.82**	**338**	P	**Pn**	**15 57 11.4**	**+0.2**
	0.6nm,0.3s,baz=152,slow=12,SNR=8.6						
SONM	**Songino Array**	**26.96**	**310**	P	**P**	**15 59 59.0**	**+1.5**
	1.4nm,0.5s,baz=115,slow=9.3,SNR=9.8						
SONM				pP	**pP**	**16 00 56.7**	**+1.8**
	0.9nm,0.7s,baz=128,slow=10,SNR=3.1						
CMAR	**Chiang Mai Arr**	**37.82**	**255**	P	**P**	**16 01 31.2**	**-0.2**
	0.7nm,0.5s,baz=52,slow=7.4,SNR=8.5						
ZALV	**Zalesovo Beam**	**41.58**	**315**	P	**P**	**16 02 01.7**	**0.0**
	0.7nm,0.4s,baz=91,slow=9.0,SNR=5.2						
ZALV				PcP	**PcP**	**16 03 51.8**	**-0.6**
	2.7nm,0.6s,baz=89,slow=3.6,SNR=9.1						
MKAR	**Makanchi Array**	**43.04**	**304**	P	**P**	**16 02 14.2**	**+0.7**
	2.3nm,0.5s,baz=84,slow=10,SNR=42						
TAPN	**Taplejung**	**43.08**	**275**	*e*P	**P**	**16 02 14.1**	**-0.4**
	8.0nm,0.3s						
ODAN	**Odate**	**43.53**	**274**	*e*P	**P**	**16 02 17.4**	**-0.6**
	8.4nm,0.4s						
RAMN	**Ramite**	**44.15**	**275**	*e*P	**P**	**16 02 22.5**	**-0.4**
	9.2nm,0.5s						
JIRN	**Jiri**	**44.22**	**276**	*e*P	**P**	**16 02 23.8**	**+0.2**
	48nm,0.4s						
GUN	**Gumba**	**44.38**	**276**	*e*P	**P**	**16 02 24.7**	**-0.1**
	16nm,0.5s						
PKI	**Pulchoki**	**44.90**	**276**	*e*P	**P**	**16 02 28.2**	**-0.6**
	7.4nm,0.4s						
PKIN	**Phulchoki**	**44.90**	**276**	*e*P	**P**	**16 02 28.2**	**-0.6**
	4.9nm,0.3s						
KKN	**Kakani**	**44.92**	**277**	*e*P	**P**	**16 02 28.7**	**-0.2**
	7.4nm,0.5s						
DMN	**Daman**	**45.13**	**276**	*e*P	**P**	**16 02 30.2**	**-0.4**
	5.1nm,0.4s						
GKN	**Gorkha**	**45.37**	**277**	*e*P	**P**	**16 02 32.0**	**-0.3**
	8.3nm,0.3s						
DANN	**Dangsing**	**45.96**	**278**	*e*P	**P**	**16 02 37.2**	**+0.1**
	34nm,0.3s						
KOLN	**Koldanda**	**46.31**	**277**	*e*P	**P**	**16 02 39.9**	**+0.2**
	4.0nm,0.3s						
FITZ	**Fitzroy Crossi**	**53.33**	**194**	P	**P**	**16 03 32.1**	**+0.2**
	1.3nm,0.7s,baz=37,slow=7.3,SNR=4.3						
ILAR	**Eielson Array**	**53.45**	**31**	P	**P**	**16 03 32.3**	**+0.1**
	0.2nm,0.5s,baz=273,slow=6.2,SNR=3.8						
WRA	**Warramunga Arr**	**54.02**	**184**	P	**P**	**16 03 36.2**	**-0.6**
	0.4nm,0.3s,baz=0.5,slow=7.6,SNR=15						
ASAR	**Alice Springs**	**57.74**	**184**	P	**P**	**16 04 02.5**	**-0.5**
	0.2nm,0.4s,baz=357,slow=4.5,SNR=11						
KEV	**Kevo**	**64.91**	**339**	*e*p	**P**	**16 04 48.2**	**-1.9**
	0.4nm,0.4s						
ARCES	**ARCESS Array B**	**65.47**	**339**	P	**P**	**16 04 54.2**	**+0.5**
	0.9nm,0.5s,baz=69,slow=8.9,SNR=11						
JOF	**Joensuu**	**66.92**	**331**	*e*p	**P**	**16 05 03.3**	**+0.3**
	0.9nm,0.3s						
KAF	**Kangasniemi**	**69.31**	**332**	*e*p	**P**	**16 05 17.6**	**-0.2**
	1.7nm,0.3s						
FINES	**FINESS Array B**	**69.78**	**332**	P	**P**	**16 05 21.2**	**+0.5**
	3.4nm,0.7s,baz=63,slow=5.5,SNR=26						
KBZ	**Khabaz**	**70.33**	**310**	P	**P**	**16 05 25.1**	**+0.8**
	4.0nm,0.9s,baz=112,slow=0.8,SNR=9.0						
AKASG	**Malin Array Be**	**74.55**	**321**	P	**P**	**16 05 48.8**	**-0.1**
	0.7nm,0.4s,baz=48,slow=6.6,SNR=8.9						
NB2	**NORSAR Subarra**	**75.49**	**336**	P	**P**	**16 05 54.3**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=44,slow=5.9						
NOA	**NORSAR Array B**	**75.49**	**336**	P	**P**	**16 05 54.2**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=44,slow=5.6,SNR=4.9						
BRTR	**Keskin Array B**	**78.32**	**310**	P	**P**	**16 06 10.9**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=100,slow=5.9,SNR=6.5						
GERES	**GERESS Array B**	**83.36**	**327**	P	**P**	**16 06 36.7**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=26,slow=5.4,SNR=9.8						
TORD	**Torodi Ar. Bea**	**116.93**	**311**	PKP	**PKPdf**	**16 12 51.8**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=336,slow=0.5,SNR=3.4						
QSPA	**South Pole Qui**	**124.03**	**180**	PKP	**PKPdf**	**16 13 04.6**	**-0.1**
	comp=Z,0.6nm,0.6s						

CSEM ***25*** *15:59:19.9±0.1, 39°.41N×27°.92E, h10km, MD2.9, Error ellipse: s-maj=2.7km s-min=1.9km az=86.0*

ISK ***25*** *15:59:19.3, 39°.41N×27°.91E, h9km, MD2.7*

DDA 25 15:59:20.2, 39°.43N×27°.94E, h7km, MD2.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALY	**Balya**	**0.40**	**322**	*i* P	Pg	15 59 28.4	+0.3
BALY				*i* S	Sg	15 59 34.4	+1.0
BALY	**Balya**	**0.40**	**322**	*i* P	Pg	15 59 28.4	+0.3
BALY				*i* S	Sg	15 59 34.4	+0.9
DURS	**Dursunbey**	**0.45**	**67**	*i* P	Pg	15 59 29.0	-0.1
DURS				*i* S	Sg	15 59 35.9	+0.8
DURS	**Dursunbey**	**0.45**	**67**	*i* P	Pg	15 59 29.0	-0.1
DURS				*i* S	Sg	15 59 35.9	+0.8
AKHS	**Akhisar**	**0.56**	**190**	*i* P	Pg	15 59 30.9	-0.1
AKHS				*i* S	Sb	15 59 39.6	-0.9
AKHS	**Akhisar**	**0.56**	**190**	*i* P	Pg	15 59 30.9	-0.1
AKHS				*i* S	Sb	15 59 39.6	-0.9
AKS	**Akhisar**	**0.56**	**190**	*e*PG	Pg	15 59 30.0	-1.0
AKS				*e*SG	Sg	15 59 38.3	0.0
AKS	**Akhisar**	**0.56**	**190**	*e*Pg	Pg	15 59 30.0	-1.0
AKS				*e*Sg	Sg	15 59 38.3	0.0
DST	**Dursunbey**	**0.56**	**71**	*e*PG	Pg	15 59 31.1	+0.1
DST				*e*SG	Sg	15 59 39.4	+1.0
DST	**Dursunbey**	**0.56**	**71**	*e*Pg	Pg	15 59 31.1	0.0
DST				*e*Sg	Sg	15 59 39.4	+1.0
GONE	**Gonen-Balikesi**	**0.65**	**343**	*e*PG	Pg	15 59 32.6	-0.2
GONE				*e*SG	Sg	15 59 41.7	+0.4
GONE	**Gonen-Balikesi**	**0.65**	**343**	*e*Pg	Pg	15 59 32.6	-0.2
GONE				*e*Sg	Sg	15 59 41.7	+0.4
KCTX	**Karacabey (Bur**	**0.90**	**21**	*e*PG	Pg	15 59 37.3	-0.3
KCTX	**Karacabey (Bur**	**0.90**	**21**	*e*Pg	Pg	15 59 37.3	-0.3
BNT	**Bandirma**	**0.93**	**359**	*e*PG	Pg	15 59 37.8	-0.4
BNT	**Bandirma**	**0.93**	**359**	*e*Pg	Pg	15 59 37.8	-0.4
KULA	**Kula-Manisa**	**1.07**	**148**	*e*PG	Pg	15 59 40.0	-0.9
KULA	**Kula-Manisa**	**1.07**	**148**	*e*Pg	Pg	15 59 40.0	-0.9
KRBG	**Karabiga-Canak**	**1.08**	**333**	*e*PN	Pg	15 59 40.9	-0.2
KRBG	**Karabiga-Canak**	**1.08**	**333**	*e*Pn	Pg	15 59 40.9	-0.2
IZM	**Izmir**	**1.15**	**207**	*e*PN	Pg	15 59 41.1	-1.3
IZM	**Izmir**	**1.15**	**207**	*e*Pn	Pg	15 59 41.2	-1.3
TVSB	**Tavsanli**	**1.18**	**88**	*e*PN	Pb	15 59 43.1	0.0
TVSB	**Tavsanli**	**1.18**	**88**	*e*Pn	Pb	15 59 43.1	0.0
MDNY	**Mudanya-Bursa**	**1.19**	**37**	*e*PN	Pn	15 59 43.3	0.0
MDNY	**Mudanya-Bursa**	**1.19**	**37**	*e*Pn	Pn	15 59 43.3	0.0
LPK	**Lapseki**	**1.31**	**317**	*e*PN	Pn	15 59 44.0	-0.9
LPK	**Lapseki**	**1.31**	**317**	*e*Pn	Pn	15 59 44.0	-1.0
ARMT	**Armutlu**	**1.34**	**32**	*e*PN	Pn	15 59 45.3	-0.1
ARMT	**Armutlu**	**1.34**	**32**	*e*Pn	Pn	15 59 45.3	-0.1
RKY	**Sarkoy-Tekirda**	**1.39**	**335**	*e*PN	Pn	15 59 45.7	-0.5
RKY	**Sarkoy-Tekirda**	**1.39**	**335**	*e*Pn	Pn	15 59 45.7	-0.5
GEMT	**Gemlik**	**1.39**	**43**	*e*PN	Pn	15 59 45.9	-0.2
GEMT	**Gemlik**	**1.39**	**43**	*e*Pn	Pn	15 59 45.9	-0.2
AYDB	**Zeytinkoy-Aydi**	**1.48**	**182**	*e*PN	Pn	15 59 46.5	-0.9
AYDB	**Zeytinkoy-Aydi**	**1.48**	**182**	*e*Pn	Pn	15 59 46.5	-0.9
GELI	**Tayfur-Gelibol**	**1.49**	**311**	*e*PN	Pn	15 59 46.8	-0.6
GELI	**Tayfur-Gelibol**	**1.49**	**311**	*e*Pn	Pn	15 59 46.8	-0.6
KHAL	**Karahalli**	**1.60**	**131**	*i* P	Pn	15 59 49.1	-0.1
KHAL	**Karahalli**	**1.60**	**131**	*i* P	Pn	15 59 49.1	-0.1

PRE ***25*** *16:13:01.9±2.0, 6°.58S×35°.89E, h10km, ML4.2*

ISC 25 16:13:05.5±4.7, 6°.4S±0°.3×35°.8E±0°.1, h10km, n4, σ2§16/7, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAUS	**Longido**	**3.71**	**15**	*i* S	**Sn**	**16 14 48.8**	**+2.0**
KMBO	**Kilima Mbogo**	**5.40**	**16**	*e*P	**Pn**	**16 14 25.1**	**-1.2**
KMBO				*e*S	**Sn**	**16 15 27.9**	**-0.8**
KIG	**Kigali**	**7.17**	**307**	*e*P	**Pn**	**16 14 50.3**	**-0.3**
KIG				*e*S	**Sn**	**16 16 10.8**	**-1.5**
KIG				AML	AML	16 17 03.7	
	comp=Z,29nm,0.5s						
MBAR	**Mbarara**	**7.60**	**319**	*e*P	**Pn**	**16 14 59.4**	**+2.8**
MBAR				*e*S	**Sn**	**16 16 21.4**	**-1.6**

BUC 25 16:15:46.0±0.8, 45°.23N×24°.24E, h6km±4km, MD2.1/2, 4C-6D, Error ellipse: s-maj=10.5km s-min=2.4km az=2.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARR	**Arges**	**0.31**	**64**	⇑*i* P	Pg	16 15 52.5	+0.4
ARR	**Arges**	**0.31**	**64**	⇑*i* P	Pg	16 15 52.5	+0.4
ARR				*i* S	Sg	16 15 57.0	+0.7
LOT	**Lotru**	**0.40**	**303**	⇓*i* P	Pg	16 15 54.5	+0.6
LOT	**Lotru**	**0.40**	**303**	⇓*i* P	Pg	16 15 54.5	+0.6
LOT				*i* S	Sg	16 15 59.8	+0.6
VOIR		**0.61**	**70**	⇑*i* P	Pg	16 15 58.3	+0.5
VOIR		**0.61**	**70**	⇑*i* P	Pg	16 15 58.3	+0.5
VOIR				*i* S	Sg	16 16 06.7	+0.9
GZR	**Gura Zlata**	**1.04**	**279**	⇓*i* P	Pb	16 16 06.6	0.0
GZR	**Gura Zlata**	**1.04**	**279**	⇓*i* P	Pb	16 16 06.6	0.0
GZR				*i* S	Sb	16 16 20.3	-0.4
BZS	**Buzias**	**1.89**	**283**	S	Sb	16 16 44.5	-0.2
BZS	**Buzias**	**1.89**	**283**	*i* S	Sb	16 16 44.5	-0.2
DRGR		**1.89**	**326**	⇓*i* P	Pb	16 16 20.0	-1.0
DRGR		**1.89**	**326**	⇓*i* P	Pb	16 16 20.0	-1.0
DRGR				*i* S	Sg	16 16 46.0	-0.9

**IDC 25 16:38:50.3±1

s-maj=114.8km s-min=24.0km az=86.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy 19.31**	**90**		T	T	18 00 33.7	
	baz=277,slow=0.7,SNR=15						
H11S1	**WAKE ISLAND Hy 19.32**	**90**		T	T	18 00 31.3	
	baz=277,slow=0.7,SNR=11						
H11S2	**WAKE ISLAND Hy 19.33**	**90**		T	T	18 00 30.7	
	baz=277,slow=0.7,SNR=12						
H11N1	**WAKE ISLAND Hy 19.39**	**87**		T	T	18 00 57.4	
	baz=272,SNR=3.6						
H11N2	**WAKE ISLAND Hy 19.40**	**86**		T	T	18 00 47.0	
	baz=272						
H11N3	**WAKE ISLAND Hy 19.41**	**86**		T	T	18 00 59.9	
	baz=272						
WRA	**Warramunga Arr**	**41.12**	**197**	P	P	17 42 58.1	-0.4
	0.7nm,0.5s,baz=20,slow=8.6,SNR=8.9						
FITZ	**Fitzroy Crossi**	**42.70**	**210**	P	P	17 43 11.4	-0.1
	0.3nm,0.4s,baz=17,slow=11,SNR=8.8						
ASAR	**Alice Springs**	**44.78**	**196**	P	P	17 43 28.4	+0.1
	0.1nm,0.4s,baz=12,slow=6.9,SNR=6.4						
MKAR	**Makanchi Array**	**58.17**	**313**	P	P	17 45 08.5	0.0
	0.3nm,0.6s,baz=84,slow=8.9,SNR=3.3						
JOF	**Joensuu**	**83.34**	**335**	*ep*	P	17 47 42.2	+0.9
	0.4nm,0.3s						
FINES	**FINESS Array B**	**86.20**	**335**	P	P	17 47 55.7	0.0
	0.5nm,0.3s,baz=74,slow=4.4,SNR=11						

BGS ***25*** *17:47:35.7±1.6,28.°09N×65.°09E,h125km,mb5.5*

SZGRF ***25*** *17:47:41.7,28.°39N×64.°43E,h131km,mb5.9, Southwestern Pakistan*

BJI ***25*** *17:47:45.9,29.°52N×63.°62E,h120km,mB5.4/42,mb5.2/59*

TEH ***25*** *17:47:49.0,29.°54N×63.°83E,h124km,ML5.6*

IDC ***25*** *17:47:49.8±0.3,29.°59N×63.°95E,h128km±2km,mb5.1/49, mb1 5.2/50,mb1mx5.2/50,mbtmp5.5/50,MS4.4/21, Ms1 4.4/21,ms1mx4.2/43,Error ellipse: s-maj=6.5km s-min=5.2km az=9.0*

CSEM ***25*** *17:47:49.3±0.1,29.°54N×64.°00E,h129km,mb5.5/99, Ms4.9,Mw5.6,Error ellipse: s-maj=3.8km s-min=2.9km az=177.0*

NEIC ***25*** *17:47:49.4±0.2,29.°57N×63.°88E,mb5.6/101,MW5.5, MW5.6,Error ellipse: s-maj=4.8km s-min=3.7km az=20.0, Moment Tensor Solution. s40 Moment tensor: Scale 10^{17}Nm; Mrr=0.09; Mθθ=-0.42; Mφφ=0.51; Mrθ=1.93; Mθφ=0.59; Mφr=2.39; Best double couple: M0=3.20000×10^{17} NP1: ϕs=339.00000°,δ7.00000°,λ=-151.00000°. NP2: ϕs=220.00000°,δ86.00000°,λ=-83.00000°. Principal axes: T 3.4300, Plg41.0000°, Azm304.0000°; N -0.6200, Plg6.0000°, Azm40.0000°; P -2.8100, Plg48.0000°, Azm137.0000°;*

NEIC Felt at Farah, Kabul, Kandahar, Konduz, Mirabad, Rostaq and Rudbar. Also felt at Zahedan, Iran and at Dalbandin, Karachi, Kharan, Khuzdar, Larkana, Mach, Mastung, Pasni, Qambar, Quetta, Rohri, Sibi and Sukkur, Pakistan. Felt by people in tall buildings at Jaipur, India.

OMAN ***25*** *17:47:49.6±1.3,29.°48N×63.°92E,h114km Error ellipse: s-maj=1.4km s-min=1.1km az=298.0*

MOS ***25*** *17:47:50.2±1.0,29.°60N×63.°85E,h144km,mb5.7/92, MS4.5/24,Error ellipse: s-maj=4.5km s-min=2.8km az=118.7*

ISCJB ***25*** *17:47:50.5±0.3,29.°55N±0.°02×63.°90E±0.°01,h152km±2km, mb5.4/325,Error ellipse: s-maj=2.9km s-min=1.7km az=13.8*

DJA ***25*** *17:47:52.6±1.1,30.°N±7.°×6.°4E±.°,h142km±13km,M5.5/18, mB5.8/17,mb5.7/18,MLv5.6/1,Mw(mB)5.4/17,Mwp5.7/1*

GCMT ***25*** *17:47:53.8±0.1,29.°52N×64.°09E,h136km,MW5.6, Moment Tensor Solution. s110,c203; s40,c41; Moment tensor: Scale 10^{17}Nm; Mrr=0.12±.04; Mθθ=0.03±.05; Mφφ=-0.15±.05; Mrθ=2.21±.03; Mθφ=0.04±.04; Mφr=2.47±.03; Best double couple: M0=3.30000×10^{17} NP1:ϕs=42.00000°, δ89.00000°,λ92.00000°. NP2:ϕs=154.00000°,δ2.00000°, λ22.00000°. Principal axes: T 3.3600, Plg46.0000°, Azm313.0000°; N -0.0900, Plg2.0000°, Azm222.0000°; P -3.2700, Plg44.0000°, Azm130.0000°; Data Used: II IU IC G CN. Surface waves: sta=117, comp=240, per= 50.*

AUST ***25*** *17:47:54.2±2.1,29.°48N×63.°87E,h167km±20km Error ellipse: s-maj=14.2km s-min=6.9km az=28.0*

NEIC ***25*** *17:48:04.1±0.0,29.°79N×63.°90E,h126km,Moment Tensor Solution. s145 Moment tensor: Scale 10^{17}Nm; Mrr=0.46; Mθθ=-0.28; Mφφ=-0.18; Mrθ=1.52; Mθφ=-0.29; Mφr=1.43; Best double couple: M0=2.10000×10^{17} NP1:ϕs=233.00000°, δ7.00000°,λ96.00000°. NP2:ϕs=47.00000°,δ83.00000°, λ89.00000°. Principal axes: T 2.1100, Plg51.0000°, Azm315.0000°; N 0.0600, Plg0.0000°, Azm46.0000°; P -2.1800, Plg38.0000°, Azm137.0000°;*

ISC ***25*** **17:47:49.5±0.2,29.°56N±0.°03×63.°93E±0.°02,h127km±1km, h126km;pP-P,n2017,σ1s38/2600,mb5.5/325,344C-58D, Southwestern Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUE	**Quetta**	**2.69**	**76**	*eP*	**Pn**	**17 48 33.0**	**+0.8**
QUE				*eS*	**Sn**	**17 49 06.0**	**+0.9**
QUE	**Quetta**	**2.69**	**76**	*eP*	**Pn**	**17 48 33.0**	**+0.8**
QUE				*eS*	**Sn**	**17 49 06.0**	**+0.9**
QUE	**Quetta**	**2.69**	**76**	*eP*	**Pn**	**17 48 33.0**	**+0.8**
QUE				*eS*	**Sn**	**17 49 06.0**	**+0.9**
IDAH	**Dahanechah**	**4.71**	**313**	*eP*	**Pn**	**17 49 00.6**	**+1.7**
IDAH	**Dahanechah**	**4.71**	**313**	P	**Pn**	**17 49 00.6**	**+1.7**
IDAH	**Dahanechah**	**4.71**	**313**	*eP*	**Pn**	**17 49 00.6**	**+1.7**
IKOO	**Kooshah**	**5.11**	**305**	*eP*	**Pn**	**17 49 06.4**	**+2.2**
IKOO	**Kooshah**	**5.11**	**305**	P	**Pn**	**17 49 06.3**	**+2.1**
IKOO	**Kooshah**	**5.11**	**305**	*eP*	**Pn**	**17 49 06.4**	**+2.2**
IMON	**Monand**	**5.14**	**316**	*eP*	**Pn**	**17 49 06.3**	**+1.7**
IMON	**Monand**	**5.14**	**316**	P	**Pn**	**17 49 06.3**	**+1.7**
IMON	**Monand**	**5.14**	**316**	*eP*	**Pn**	**17 49 06.3**	**+1.7**
ITEG	**Tejag**	**5.55**	**308**	*eP*	**Pn**	**17 49 12.4**	**+2.3**
ITEG	**Tejag**	**5.55**	**308**	P	**Pn**	**17 49 12.3**	**+2.2**
ITEG	**Tejag**	**5.55**	**308**	*eP*	**Pn**	**17 49 12.4**	**+2.3**
KBL	**Kabul**	**6.59**	**40**	*eP*	**Pn**	**17 49 25.7**	**+1.5**
KBL	**Kabul**	**6.59**	**40**	*eP*n	**Pn**	**17 49 25.7**	**+1.5**
KBL	**Kabul**	**6.59**	**40**	*eP*n	**Pn**	**17 49 25.7**	**+1.5**
IBND	**Bandar-abas**	**6.84**	**254**	*eP*	**Pn**	**17 49 29.1**	**+1.8**
IBND				*eP*	**Pn**	**17 49 29.5**	**+2.2**
IBND	**Bandar-abas**	**6.84**	**254**	*eP*	**Pn**	**17 49 29.1**	**+1.8**
THW	**Thamme Wali**	**7.43**	**62**	P	**Pn**	**17 49 34.1**	**-1.2**
IBAF	**Bafgh**	**7.49**	**288**	*eP*	**Pn**	**17 49 39.4**	**+3.2**
IBAF	**Bafgh**	**7.49**	**288**	*eP*	**Pn**	**17 49 39.4**	**+3.2**
BANOM	**Banah**	**7.67**	**244**	⇑P	**Pn**	**17 49 38.2**	**-0.4**
	SNR=677						
BANOM	**Banah**	**7.67**	**244**	P	**Pn**	**17 49 38.2**	**-0.4**
	SNR=677						
SARP	**Sargodha**	**7.88**	**70**	P	**Pn**	**17 49 41.0**	**-0.3**
CEP	**Cherat**	**8.02**	**56**	⇓P	**Pn**	**17 49 43.1**	**-0.2**
CEP				S	**Sn**	**17 51 08.0**	**-4.4**
BHJ	**Bhuj**	**8.11**	**139**	*eP*	Pn	17 49 40.3	-4.1
BHJ				AMB	AMB	17 49 43.6	
	comp=Z,1μm,0.7s						
WBK	**Wadi Bani Khal**	**8.23**	**214**	P	**Pn**	**17 49 43.4**	**-2.8**
	SNR=40						
WBK				⇑S	Sn	17 51 06.8	-11
WBK	**Wadi Bani Khal**	**8.23**	**214**	P	**Pn**	**17 49 43.4**	**-2.8**
	SNR=40						
IMEH	**Mehriz**	**8.25**	**285**	*eP*	**Pn**	**17 49 49.5**	**+3.0**
IMEH	**Mehriz**	**8.25**	**285**	*eP*	**Pn**	**17 49 49.5**	**+3.0**
IAKL	**Akhelmad**	**8.26**	**330**	*eP*	**Pn**	**17 49 49.3**	**+2.7**
IAKL	**Akhelmad**	**8.26**	**330**	P	**Pn**	**17 49 49.3**	**+2.7**
IAKL	**Akhelmad**	**8.26**	**330**	*eP*	**Pn**	**17 49 49.3**	**+2.7**
UOSS	**Wadi Hilu**	**8.27**	**238**	Pn	**Pn**	**17 49 45.6**	**-1.0**
	comp=Z,2μm,0.4s,SNR=76						
SMDO	**Samad**	**8.35**	**221**	⇑P	**Pn**	**17 49 47.0**	**-0.9**
	SNR=95						
SMDO	**Samad**	**8.35**	**221**	P	**Pn**	**17 49 47.0**	**-0.9**
	SNR=95						
HATD	**Hatta, Dubai**	**8.39**	**238**	⇓P	**Pn**	**17 49 47.0**	**-1.3**
	SNR=86						
HATD				⇓S	Sn	17 51 12.0	-9.5
HATD	**Hatta, Dubai**	**8.39**	**238**	P	**Pn**	**17 49 46.9**	**-1.4**
HOQ	**Hoqain**	**8.40**	**226**	P	**Pn**	**17 49 46.8**	**-1.6**
	SNR=103						
HOQ	**Hoqain**	**8.40**	**226**	P	**Pn**	**17 49 46.8**	**-1.6**
	SNR=103						
ASHO	**Ashiyiah**	**8.53**	**237**	⇓P	**Pn**	**17 49 49.5**	**-0.7**
	SNR=227						
ASHO	**Ashiyiah**	**8.53**	**237**	P	**Pn**	**17 49 49.4**	**-0.8**
	SNR=227						
ICHK	**Chekchek**	**8.61**	**291**	*eP*	**Pn**	**17 49 54.1**	**+2.7**
ICHK	**Chekchek**	**8.61**	**291**	*eP*	**Pn**	**17 49 54.1**	**+2.7**
NAZ	**Nazwa, Dubai**	**8.65**	**240**	Pn	**Pn**	**17 49 53.9**	**+2.1**
	SNR=31						
NAZ	**Nazwa, Dubai**	**8.65**	**240**	P	**Pn**	**17 49 52.8**	**+1.0**
FAQ	**Al Faqa, Dubai**	**8.84**	**239**	P	**Pn**	**17 49 55.1**	**+0.8**
	SNR=31						
JMDO	**Jabal Madar**	**8.87**	**218**	⇓Pn	**Pn**	**17 49 54.3**	**-0.5**
	SNR=97						
JMDO	**Jabal Madar**	**8.87**	**218**	P	**Pn**	**17 49 54.3**	**-0.5**
	SNR=97						
CHCP	**Chirah Chowk**	**8.94**	**60**	P	**Pn**	**17 49 55.3**	**-0.4**
ISFR	**Sfrayin**	**8.97**	**328**	*eP*	**Pn**	**17 49 58.6**	**+2.3**
ISFR	**Sfrayin**	**8.97**	**328**	*eP*	**Pn**	**17 49 58.6**	**+2.3**
IEMG	**Emamgholi**	**8.99**	**332**	*eP*	**Pn**	**17 49 58.7**	**+2.2**
IEMG	**Emamgholi**	**8.99**	**332**	*eP*	**Pn**	**17 49 58.7**	**+2.2**
ARQ	**Araqi**	**9.08**	**229**	Pn	**Pn**	**17 49 59.2**	**+1.7**
	SNR=112						
ARQ	**Araqi**	**9.08**	**229**	⇑S	**Sn**	**17 51 34.5**	**-3.6**
ARQ	**Araqi**	**9.08**	**229**	S	**Sn**	**17 51 34.5**	**-3.6**
BSY	**Bisya**	**9.09**	**223**	⇓Pn	**Pn**	**17 49 58.9**	**+1.2**
	SNR=79						
ASUD	**Al Ashush, Dub**	**9.10**	**239**	⇑P	**Pn**	**17 49 59.9**	**+2.0**
	SNR=234						
ASUD				⇑S	**Sn**	**17 51 33.9**	**-4.7**
ASUD	**Al Ashush, Dub**	**9.10**	**239**	P	**Pn**	**17 49 59.1**	**+1.2**
ISAD	**Sadrabad**	**9.12**	**287**	*eP*	**Pn**	**17 50 01.2**	**+2.8**
ISAD	**Sadrabad**	**9.12**	**287**	*eP*	**Pn**	**17 50 01.2**	**+2.8**
ISRV	**Sarvestan**	**9.43**	**272**	*eP*	**Pn**	**17 50 04.6**	**+2.0**
ISRV	**Sarvestan**	**9.43**	**272**	*eP*	**Pn**	**17 50 04.6**	**+2.0**
IPAR	**Pars**	**9.47**	**274**	*eP*	**Pn**	**17 50 06.0**	**+2.9**
IPAR	**Pars**	**9.47**	**274**	*eP*	**Pn**	**17 50 06.0**	**+2.9**
ISHV	**Shirvan**	**9.50**	**328**	*eP*	**Pn**	**17 50 05.7**	**+2.4**
ISHV	**Shirvan**	**9.50**	**328**	*eP*	**Pn**	**17 50 05.7**	**+2.4**
JMU	**Jammu**	**9.91**	**69**	*eP*	**Pn**	**17 50 07.5**	**-1.1**
JMU				*eS*	Sn	17 51 50.0	-8.1
IANJ	**Anjilo**	**10.30**	**307**	*eP*	**Pn**	**17 50 16.4**	**+2.2**
IANJ	**Anjilo**	**10.30**	**307**	*eP*	**Pn**	**17 50 16.4**	**+2.2**
IMND	**Minoodasht**	**10.47**	**319**	*eP*	Pn	17 50 21.4	+5.3
IZEF	**Zefreh**	**10.47**	**291**	*eP*	**Pn**	**17 50 19.0**	**+2.5**
IZEF	**Zefreh**	**10.47**	**291**	*eP*	**Pn**	**17 50 19.0**	**+2.5**
THN	**Thein Dam**	**10.51**	**71**	*eP*	Pn	17 50 13.5	-3.2
THN				*ex*	x	17 51 58.0	
IGAR	**Gharneh**	**10.59**	**289**	*eP*	Pn	17 50 21.7	+3.7
ISHM	**Shahmirzad**	**10.91**	**308**	*eP*	**Pn**	**17 50 24.9**	**+2.5**
ISHM	**Shahmirzad**	**10.91**	**308**	*eP*	**Pn**	**17 50 24.9**	**+2.5**
BHK	**Bhakra**	**10.93**	**77**	*eP*	**Pn**	**17 50 21.0**	**-1.4**
BHK				*ex*	x	17 52 02.6	
ILAS	**Lasjerd**	**10.93**	**305**	*eP*	**Pn**	**17 50 24.5**	**+1.9**
ILAS	**Lasjerd**	**10.93**	**305**	*eP*	**Pn**	**17 50 24.5**	**+1.9**
DHRM	**DHARAMSHALA**	**10.96**	**73**	*eP*	**Pn**	**17 50 22.4**	**-0.5**
DHRM				*eS*	Sn	17 52 17.3	-6.4
ISFB	**Sefidab**	**11.02**	**299**	*eP*	**Pn**	**17 50 24.5**	**+0.9**
ISFB	**Sefidab**	**11.02**	**299**	*eP*	**Pn**	**17 50 24.5**	**+0.9**
IKLH	**Kolahrood**	**11.20**	**293**	*eP*	**Pn**	**17 50 28.3**	**+2.2**
IKLH	**Kolahrood**	**11.20**	**293**	*eP*	**Pn**	**17 50 28.3**	**+2.2**
IFIR	**Firoozkooh**	**11.21**	**306**	*eP*	**Pn**	**17 50 28.8**	**+2.6**
IFIR	**Firoozkooh**	**11.21**	**306**	*eP*	**Pn**	**17 50 28.8**	**+2.6**
IALA	**Alasht**	**11.39**	**308**	*eP*	P	17 50 44.6	+7.2
SDNR	**Sundarnagar**	**11.41**	**77**	*eP*	**Pn**	**17 50 28.1**	**-0.6**
SDNR				*ex*	x	17 52 22.5	
SMLA	**Simla**	**11.54**	**79**	*i* P	**Pn**	**17 50 29.9**	**-0.5**
SMLA				*i* S	Sn	17 52 29.3	-8.2
NDI	**New Delhi**	**11.65**	**91**	*eP*	Pn	17 50 26.5	-5.4
NDI				*ex*	x	17 50 52.8	
NDI				AMB	AMB	17 50 54.9	
	comp=Z,728nm,0.5s						
NDI				*eS*	Sn	17 52 24.0	-16
IVRN	**Varamin**	**11.66**	**301**	*eP*	**Pn**	**17 50 33.6**	**+1.5**
IVRN	**Varamin**	**11.66**	**301**	*eP*	**Pn**	**17 50 33.6**	**+1.5**
IDMV	**Damavand**	**11.69**	**304**	*eP*	**Pn**	**17 50 34.7**	**+2.0**
IDMV	**Damavand**	**11.69**	**304**	*eP*	**Pn**	**17 50 34.7**	**+2.0**
IPRN	**Peran**	**11.80**	**307**	*eP*	P	17 50 49.7	+7.9
DDI	**Dehra Dun**	**12.28**	**83**	*eP*	**Pn**	**17 50 38.4**	**-1.7**
DDI				AMB	AMB	17 50 42.2	
	comp=Z,1μm,0.2s						
DDI				*ex*	x	17 52 45.5	
IR3	**Iran Long-Peri**	**12.38**	**302**	*eP*	**Pn**	**17 50 43.3**	**+1.7**
IR3	**Iran Long-Peri**	**12.38**	**302**	*eP*	**Pn**	**17 50 43.3**	**+1.7**
TAS	**Tashkent**	**12.52**	**19**	*eP*	**Pn**	**17 50 44.3**	**+1.0**
IRAZ	**Razeghan**	**13.18**	**300**	*eP*	**Pn**	**17 50 53.3**	**+1.3**
IGZV	**Ghazvin**	**13.37**	**304**	*eP*	**Pn**	**17 50 56.9**	**+2.4**
IGZV	**Ghazvin**	**13.37**	**304**	*eP*	**Pn**	**17 50 56.9**	**+2.4**
JHNI	**Jhansi**	**13.59**	**104**	*i* 4	Pn	17 50 53.0	-4.1
JHNI				*i* 4		17 53 12.0	
BHPL	**Bhopal**	**13.62**	**114**	*eP*	**Pn**	**17 50 55.8**	**-1.9**
BHPL				*ex*	x	17 53 15.8	
KSH	**Kashi**	**14.03**	**42**	P	Pn	17 50 59.3	-3.5
KSH				sP		17 51 32.3	
KSH				S	Sn	17 53 25.0	-13
KSH				AMB	AMB		
	comp=Z,280nm,0.9s						
KSH				LR	LR		
	comp=Z,2μm,5.9s						
KSH				LR	LR		
	comp=Z,1μm,5.7s						
KSH				LR	LR		
	comp=Z,1μm,7.6s						
UMR	**Umm Al-Rimmam**	**14.12**	**274**	*eP*	**Pn**	**17 51 03.8**	**-0.1**
UMR				AMb	AMB	17 51 11.4	
	comp=Z,1μm,0.6s						
UMR	**Umm Al-Rimmam**	**14.12**	**274**	*eP*	**Pn**	**17 51 03.8**	**-0.1**
	comp=Z,1μm,0.6s						
KBD	**Kabd**	**14.17**	**272**	*eP*	**Pn**	**17 51 04.6**	**+0.1**
KBD				AMb	AMB	17 51 11.6	
	comp=Z,664nm,0.4s						
KBD	**Kabd**	**14.17**	**272**	*eP*	**Pn**	**17 51 04.6**	**+0.1**
	comp=Z,664nm,0.4s						
PTH	**Pithoragarh**	**14.18**	**86**	*ex*	Pn	17 50 58.2	-6.6
PTH				*e*4		17 53 20.3	
LGTI	**Lohaghat**	**14.21**	**86**	*eP*	**Pn**	**17 51 04.3**	**-0.7**
LGTI				*e*4		17 53 28.4	
POO	**Poona**	**14.22**	**138**	*eP*	**Pn**	**17 51 04.0**	**-1.4**
RDF	**Al-Radifah**	**14.32**	**271**	*eP*	**Pn**	**17 51 06.3**	**-0.1**
RDF				AMb	AMB	17 51 13.8	
	comp=Z,1μm,0.5s						
RDF	**Al-Radifah**	**14.32**	**271**	*eP*	**Pn**	**17 51 06.3**	**-0.1**
	comp=Z,1μm,0.5s						
MIB	**Mutribah**	**14.43**	**275**	*eP*	**Pn**	**17 51 07.7**	**-0.1**
MIB				AMb	AMB	17 51 15.3	
	comp=Z,2μm,0.6s						
KK31	**Karatay Array**	**14.51**	**20**	*i* P	**Pn**	**17 51 08.2**	**-0.6**
KK31				pmax	pmax		
	comp=Z,163nm,0.5s						
KKAR	**Karatay Array**	**14.51**	**20**	*eP*	**Pn**	**17 51 09.0**	**+0.2**
KKAR	**Karatay Array**	**14.51**	**20**	*eP*n	**Pn**	**17 51 09.0**	**+0.2**
KKAR	**Karatay Array**	**14.51**	**20**	*eP*	**Pn**	**17 51 09.0**	**+0.2**
NAY	**Al-Naaiem**	**14.55**	**273**	*eP*	**Pn**	**17 51 08.9**	**-0.5**
NAY				AMb	AMB	17 51 15.8	
	comp=Z,902nm,0.4s						
RST	**Umm Al-Ruwaisa**	**14.75**	**274**	*eP*	**Pn**	**17 51 11.1**	**-0.8**
RST				AMb	AMB	17 51 17.9	
	comp=Z,11μm,0.7s						
AKL	**Akola**	**14.76**	**124**	*eP*	**Pn**	**17 51 12.1**	**0.0**
AKL				*i* x	x	17 53 45.4	
AML	**Almayashu**	**14.82**	**30**	*i* P	**Pn**	**17 51 12.7**	**-0.3**
AML	**Almayashu**	**14.82**	**30**	P	**Pn**	**17 51 12.7**	**-0.3**
	SNR=195						
AML	**Almayashu**	**14.82**	**30**	*i* P	**Pn**	**17 51 12.7**	**-0.3**
RBK	**Rabkut**	**14.94**	**219**	Pn	**Pn**	**17 51 14.8**	**+0.4**
	SNR=23						
RBK	**Rabkut**	**14.94**	**219**	P	**Pn**	**17 51 14.8**	**+0.4**
	SNR=23						
EKS2	**Erkin-Say**	**15.29**	**29**	*i* P	**Pn**	**17 51 19.1**	**+0.4**
EKS2	**Erkin-Say**	**15.29**	**29**	P	**Pn**	**17 51 19.1**	**+0.4**
	SNR=333						
EKS2	**Erkin-Say**	**15.29**	**29**	*i* P	**Pn**	**17 51 19.1**	**+0.4**
IVIS	**Veis**	**15.31**	**293**	*eP*	**Pn**	**17 51 19.8**	**+0.9**
IVIS	**Veis**	**15.31**	**293**	*eP*	**Pn**	**17 51 19.8**	**+0.9**
ILIN	**Lien**	**15.32**	**295**	*eP*	**P**	**17 51 20.5**	**-0.6**
ILIN	**Lien**	**15.32**	**295**	*eP*	**P**	**17 51 20.5**	**-0.6**
KZA	**Kyzart**	**15.48**	**33**	*i* P	**Pn**	**17 51 22.1**	**+0.7**
KZA	**Kyzart**	**15.48**	**33**	P	**Pn**	**17 51 22.1**	**+0.7**
	SNR=224						
KZA	**Kyzart**	**15.48**	**33**	*i* P	**Pn**	**17 51 22.1**	**+0.7**
IGHG	**Ghaleghazi**	**15.48**	**292**	*eP*	**P**	**17 51 22.2**	**-0.8**
IGHG	**Ghaleghazi**	**15.48**	**292**	*eP*	**P**	**17 51 22.2**	**-0.8**
ABTO	**Aybut**	**15.57**	**221**	⇓Pn	**Pn**	**17 51 22.4**	**+0.2**
	SNR=26						
ABTO	**Aybut**	**15.57**	**221**	P	**Pn**	**17 51 22.4**	**+0.2**
	SNR=26						
AAK	**Ala-Archa**	**15.57**	**30**	*c i* P	**P**	**17 51 23.5**	**-0.3**
AAK	**Ala-Archa**	**15.57**	**30**	Pn	**P**	**17 51 23.3**	**-0.5**
	SNR=147						
AAK	**Ala-Archa**	**15.57**	**30**	P	**P**	**17 51 24.1**	**+0.3**
	SNR=198						
AAK	**Ala-Archa**	**15.57**	**30**	P	**P**	**17 51 24.6**	**+0.8**
	comp=Z,1μm,0.9s,SNR=91						
AAK	**Ala-Archa**	**15.57**	**30**	P	**P**	**17 51 23.3**	**-0.5**
	SNR=147						
AAK	**Ala-Archa**	**15.57**	**30**	P	**Pn**	**17 51 22.9**	**+0.7**
	comp=Z,5.4nm,0.3s,baz=202,slow=8.9,SNR=372						
AAK				S	**Sn**	**17 54 11.8**	**-3.2**
	comp=Z,1.9nm,0.3s,baz=210,slow=8.1,SNR=2.4						
IDHR	**Dehrash**	**15.72**	**294**	*eP*	**P**	**17 51 24.9**	**-0.6**
IDHR	**Dehrash**	**15.72**	**294**	*eP*	**P**	**17 51 24.9**	**-0.6**
JBP	**Jabalpur**	**15.72**	**110**	⇓*ex*	**Pn**	**17 51 21.7**	**-2.4**
JBP				*ex*	x	17 54 02.5	
FRU	**Bishkek**	**15.79**	**30**	⇑*i* P	**P**	**17 51 26.0**	**0.0**
FRU				pmax	pmax		
	comp=Z,550nm,1.6s						
FRU	**Bishkek**	**15.79**	**30**	*i* P	**P**	**17 51 26.0**	**0.0**
	comp=Z,550nm,1.6s						
KBK	**Karagaybulak**	**15.79**	**31**	*i* P	**Pn**	**17 51 25.6**	**+0.6**
KBK	**Karagaybulak**	**15.79**	**31**	P	**Pn**	**17 51 25.6**	**+0.6**
	SNR=119						
KBK	**Karagaybulak**	**15.79**	**31**	*i* P	**Pn**	**17 51 25.6**	**+0.6**
ISRB	**Sarab**	**15.84**	**306**	*eP*	**P**	**17 51 27.9**	**+1.1**
ISRB	**Sarab**	**15.84**	**306**	*eP*	**P**	**17 51 27.9**	**+1.1**
CHMS	**Chumysh**	**15.98**	**30**	*i* P	**Pn**	**17 51 27.1**	**0.0**
CHMS	**Chumysh**	**15.98**	**30**	P	**Pn**	**17 51 27.1**	**0.0**
	SNR=73						
CHMS	**Chumysh**	**15.98**	**30**	*i* P	**Pn**	**17 51 27.1**	**0.0**
NGP	**Nagpur**	**16.01**	**118**	*ex*	**Pn**	**17 51 24.7**	**-2.9**
NGP				AMB	AMB	17 51 29.1	
	comp=Z,427nm,1.0s						
USP	**Ospenovka**	**16.09**	**29**	*i* P	**Pn**	**17 51 28.8**	**+0.3**
USP	**Ospenovka**	**16.09**	**29**	P	**Pn**	**17 51 28.8**	**+0.3**
	SNR=207						
USP	**Ospenovka**	**16.09**	**29**	*i* P	**Pn**	**17 51 28.8**	**+0.3**
ULHL	**Ulahol**	**16.09**	**35**	*i* P	**P**	**17 51 31.8**	**+2.2**
ULHL	**Ulahol**	**16.09**	**35**	P	**P**	**17 51 31.8**	**+2.2**
	SNR=23						
TKM2	**Tokmak 2**	**16.30**	**32**	*i* P	**P**	**17 51 32.9**	**+1.1**
TKM2	**Tokmak 2**	**16.30**	**32**	P	**P**	**17 51 33.0**	**+1.1**
	SNR=9.6						
TKM2	**Tokmak 2**	**16.30**	**32**	*i* P	**P**	**17 51 32.9**	**+1.1**
IBST	**Bostanabad**	**16.34**	**304**	*eP*	**P**	**17 51 33.6**	**+1.3**
IBST	**Bostanabad**	**16.34**	**304**	*eP*	**P**	**17 51 33.6**	**+1.3**
IHRS	**Heris**	**16.50**	**306**	*eP*	**P**	**17 51 35.4**	**+1.3**
IHRS	**Heris**	**16.50**	**306**	*eP*	**P**	**17 51 35.4**	**+1.3**
GOA	**Goa**	**16.70**	**145**	*eP*	**P**	**17 51 36.5**	**+0.2**
GOA				AMB	AMB	17 51 39.8	
	comp=Z,492nm,2.1s						
IFTB	**Fath-abad**	**16.82**	**305**	*eP*	**P**	**17 51 39.6**	**+1.8**
IFTB	**Fath-abad**	**16.82**	**305**	*eP*	**P**	**17 51 39.6**	**+1.8**
ITBZ	**Tabriz**	**17.09**	**305**	*eP*	**Pn**	**17 51 42.2**	**+1.3**
ITBZ	**Tabriz**	**17.09**	**305**	*eP*	**Pn**	**17 51 42.2**	**+1.3**
AAA	**Alma-Ata**	**17.20**	**34**	*eP*	**Pn**	**17 51 43.3**	**+1.2**
AAA				*eS*	**Sn**	**17 54 52.4**	**-1.6**
AAA				pmax	pmax		
	comp=Z,3μm,2.3s						
AAA				smax	smax		
	comp=E,8μm,11.2s						
AAA				MLR	MLR		
	comp=Z,1μm,7.0s						
KOLN	**Koldanda**	**17.36**	**91**	*eP*	**P**	**17 51 42.3**	**-1.3**
	comp=Z,517nm,0.6s						
KOLN				*eS*	S	17 54 45.6	-13
DANN	**Dangsing**	**17.40**	**89**	*eP*	**P**	**17 51 44.3**	**+0.1**
DANN				*eS*	S	17 54 47.7	-12

KBSD **Kabsdagh** 20.88 297 *e*P **P** 17 52 23.5 +1.8
KBSD **Kabsdagh** 20.88 297 *e*P **P** 17 52 23.5 +1.8
SNR=34
ONI **Oni** 20.98 314 P Pn 17 52 24.7 -2.0
BNGL **BINGOL** 20.99 303 *i* P Pn 17 52 26.2 -0.8
TAPN **Taplejung** 21.02 90 *e*P **P** 17 52 24.8 +1.3
comp=Z,1μm,0.7s
TAPN *e*S **S** 17 56 05.1 -5.6
MAZI **Mazidag** 21.07 298 *e*P **P** 17 52 25.3 +1.5
MAZI **Mazidag** 21.07 298 *e*P **P** 17 52 25.3 +1.5
SFNV **Sufian** 21.09 295 *e*P **P** 17 52 23.8 -0.1
SFNV **Sufian** 21.09 295 *e*P **P** 17 52 23.8 -0.1
SNR=34
ERZM **Erzurum** 21.17 305 *i* P **P** 17 52 27.9 +2.9
ERZM **Erzurum** 21.17 305 *i* P **P** 17 52 27.9 +2.9
EZM **Erzurum** 21.17 305 *e*P **P** 17 52 28.1 +3.0
DAGI **Agillar** 21.27 309 *i* P **P** 17 52 27.5 +1.7
VIS **Vishakhapatnam** 21.28 119 *e*P **P** 17 52 26.9 +0.9
DDEM **Demirkent** 21.30 308 *i* P **P** 17 52 28.1 +1.9
DDEM **Demirkent** 21.30 308 *i* P **P** 17 52 28.1 +1.9
ARTV **Artvin** 21.30 309 *i* P **P** 17 52 28.2 +1.9
ARTV **Artvin** 21.30 309 *i* P **P** 17 52 28.2 +1.9
AKTK **Aktyubinsk** 21.32 350 P **P** 17 52 25.2 -1.0
AKTO **Aktyubinsk** 21.32 350 P **P** 17 52 25.2 -1.0
AKTO S **S** 17 56 14.2 -1.3
AKTO **Aktyubinsk** 21.32 350 P **P** 17 52 25.2 -1.0
AKTO ScP **ScP** 17 59 48.2 -2.4
AKTO **Aktyubinsk** 21.32 350 P **P** 17 52 25.2 -1.0
AKTO S **S** 17 56 14.2 -1.3
AKTO **Aktyubinsk** 21.32 350 P **P** 17 52 25.2 -1.0
comp=Z,184nm,0.9s,baz=162,slow=11,SNR=191
AKTO S **S** 17 56 14.2 -1.3
comp=Z,3.4nm,0.5s,baz=198,slow=20,SNR=3.0
AKTO ScP **ScP** 17 59 48.2 -2.4
comp=Z,5.1nm,0.7s,baz=130,slow=7.9,SNR=3.2
BNGB **Bing¶ll** 21.35 302 *e*P **P** 17 52 29.1 +2.4
DIY **Diyarbakir** 21.36 299 *e*P **P** 17 52 29.0 +2.2
DIY **Diyarbakir** 21.36 299 *e*P **P** 17 52 29.0 +2.2
NCK **Nalchik** 21.39 316 *i* P **P** 17 52 28.8 +1.8
DBAD **Bademkaya** 21.39 308 *i* P **P** 17 52 29.1 +1.9
DBAD **Bademkaya** 21.39 308 *i* P **P** 17 52 29.1 +1.9
DIYA **Diyarbakir** 21.45 299 *i* P **P** 17 52 29.7 +2.0
DIYA **Diyarbakir** 21.45 299 *i* P **P** 17 52 29.7 +2.0
BINT **Bingol** 21.45 302 *e*P **P** 17 52 29.1 +1.3
BCA **Borcka** 21.62 309 *e*P **P** 17 52 30.4 +0.8
BCA **Borcka** 21.62 309 *e*P **P** 17 52 30.4 +0.8
KOPT **Kop Dagi** 21.83 305 *i* P **P** 17 52 34.7 +2.6
KOPT **Kop Dagi** 21.83 305 *i* P **P** 17 52 34.7 +2.6
KBZ **Khabaz** 21.94 316 P **P** 17 52 33.9 +1.2
KBZ S **S** 17 56 26.9 +0.3
KBZ **Khabaz** 21.94 316 P **P** 17 52 33.9 +1.2
KBZ S **S** 17 56 26.9 +0.3
KBZ **Khabaz** 21.94 316 P **P** 17 52 33.9 +1.2
KBZ S **S** 17 56 26.9 +0.3
KBZ **Khabaz** 21.94 316 P **P** 17 52 33.9 +1.2
comp=Z,165nm,0.8s,baz=111,slow=6.8,SNR=235
KBZ S **S** 17 56 26.9 +0.3
comp=Z,10nm,1.1s,baz=34,slow=15,SNR=1.3
PZAR **Pazar-Rize** 22.00 308 *e*P **P** 17 52 35.3 +1.8
PZAR **Pazar-Rize** 22.00 308 *e*P **P** 17 52 35.3 +1.8
KIV **Kislovodsk** 22.19 316*c* *i*P **P** 17 52 36.9 +1.4
KIV *e*S **S** 17 56 34.0 +2.9
KIV pmax pmax
comp=Z,828nm,1.0s
KIV **Kislovodsk** 22.19 316 P **P** 17 52 37.2 +1.7
comp=Z,4μm,0.9s
PTK **Pertek** 22.27 301 *e*P **P** 17 52 37.5 +1.1
PTK **Pertek** 22.27 301 *e*P **P** 17 52 37.5 +1.1
JHLN **Al Jahlan** 22.29 292 *e*P **P** 17 52 39.8 +3.4
MDRS **Chennai** 22.32 134 *e*P **P** 17 52 38.7 +1.8
MDRS AMB AMB 17 52 41.5
comp=Z,421nm,1.5s
URFA **Urfa** 22.32 297 *e*P **P** 17 52 38.2 +1.3
URFA **Urfa** 22.32 297 *e*P **P** 17 52 38.2 +1.3
MK31 **Makanchi Array** 22.37 35 *e*P **P** 17 52 37.9 +0.7
MK31 *e**SP **sP** 17 53 15.9 -0.7
MK31 *e* 17 56 27.1
MK31 **Makanchi Array** 22.37 35 *e*P **P** 17 52 37.9 +0.7
MK31 *e*pP **pP** 17 52 59.1 -1.7
MK31 *e*sP **sP** 17 53 15.8 -0.7
MK31 *e*PcP **PcP** 17 56 27.1 -0.4
MK31 *e*ScP **ScP** 17 59 52.0 -1.3
MK31 **Makanchi Array** 22.37 35 *e*P **P** 17 52 37.9 +0.7
MK31 *e*ScP **ScP** 17 59 52.0 -1.3
MKAR **Makanchi Array** 22.37 35 P **P** 17 52 37.4 +0.3
MKAR S **S** 17 56 33.1 -0.8
MKAR **Makanchi Array** 22.37 35 P **P** 17 52 37.4 +0.3
MKAR S **S** 17 56 33.1 -0.8
MKAR ScP **ScP** 17 59 52.5 -0.8
MKAR **Makanchi Array** 22.37 35 P **P** 17 52 37.4 +0.3
MKAR S **S** 17 56 33.1 -0.8
MKAR **Makanchi Array** 22.37 35 P **P** 17 52 37.4 +0.3
comp=Z,18nm,0.5s,baz=211,slow=12,SNR=99
MKAR S **S** 17 56 33.1 -0.8
comp=Z,2.2nm,0.7s,baz=252,slow=24,SNR=2.2
MKAR ScP **ScP** 17 59 52.5 -0.8
comp=Z,5.5nm,0.8s,baz=193,slow=1.8,SNR=3.9
MKAR LR LR 18 02 38.0
comp=Z,403nm,20.5s,baz=225,slow=40
EZC **Erzincan** 22.57 303 *e*P **P** 17 52 41.5 +2.2
EZC **Erzincan** 22.57 303 *e*P **P** 17 52 41.5 +2.2
GOF **Gofitskoye** 22.61 319⇑ *i*P **P** 17 52 40.2 +0.7
GOF pmax pmax
comp=Z,350nm,0.8s
MACK **Trabzon** 22.69 307 *i* P **P** 17 52 43.0 +2.6
MACK **Trabzon** 22.69 307 *i* P **P** 17 52 43.0 +2.6
KTUT **Trabzon** 22.71 307 *e*P **P** 17 52 42.3 +1.8
KTUT **Trabzon** 22.71 307 *e*P **P** 17 52 42.3 +1.8
GUMT **Gumushane** 22.72 305 *e*P **P** 17 52 42.8 +2.0
GUMT **Gumushane** 22.72 305 *e*P **P** 17 52 42.8 +2.0
ATAB **Bozova** 22.74 297 *i* P **P** 17 52 42.9 +2.0
ATAB **Bozova** 22.74 297 *i* P **P** 17 52 42.9 +2.0
SLMH **Al Salmeh** 22.79 294 *e*P **P** 17 52 43.4 +2.0
SLMH **Al Salmeh** 22.79 294 *e*P **P** 17 52 43.4 +2.0
SNR=33
MALT **Malatya** 22.84 299 *e*P **P** 17 52 43.9 +2.0
MALT **Malatya** 22.84 299 ⇑P **P** 17 52 43.7 +1.8
MALT **Malatya** 22.84 299⇑ *i*P **P** 17 52 43.7 +1.8
MALT **Malatya** 22.84 299⇑ *i*P **P** 17 52 43.7 +1.8
MNCY **Minicoy** 22.84 156 *i* x **P** 17 52 41.0 -1.0
ZALF **Zalf** 22.97 285 *e*P **P** 17 52 45.1 +2.0
ZALF **Zalf** 22.97 285 *e*P **P** 17 52 45.1 +2.0
SNR=33
ILIC **ilic-Erzincan** 23.05 302 *e*P **P** 17 52 46.4 +2.4
ILIC **ilic-Erzincan** 23.05 302 *e*P **P** 17 52 46.4 +2.4
KEMA **Kemaliye** 23.05 302 *i* P **P** 17 52 45.7 +1.8
KEMA **Kemaliye** 23.05 302 *i* P **P** 17 52 45.7 +1.8
AKCD **Akcadag** 23.22 299 *i* P **P** 17 52 47.5 +2.0
AKCD **Akcadag** 23.22 299 *i* P **P** 17 52 47.5 +2.0
HAJJ **Hajjah** 23.24 238⇑ *e*P **P** 17 52 48.2 +2.2
HAJJ AMb AMB 17 52 49.6
comp=Z,430nm,2.1s
GZT **Gaziantep** 23.28 296 *i* P **P** 17 52 47.6 +1.4
ASF **Jabal al Asfar** 23.33 283 P **P** 17 52 47.0 +0.4
ASF **Jabal al Asfar** 23.33 283 P **P** 17 52 47.0 +0.4
comp=Z,77nm,0.8s,baz=46,slow=4.5,SNR=129
ESPY **Espiye-Giresun** 23.42 306 *e*P **P** 17 52 48.5 +1.3
ESPY **Espiye-Giresun** 23.42 306 *e*P **P** 17 52 48.5 +1.3
SALA **Sala** 23.47 285 *e*P **P** 17 52 49.8 +1.8
SALA **Sala** 23.47 285 *e*P **P** 17 52 49.8 +1.8
SNR=28
SUSE **Susehri** 23.55 304 *i* P **P** 17 52 50.8 +2.2
SUSE **Susehri** 23.55 304 *i* P **P** 17 52 50.8 +2.2
LSA **Lhasa** 23.64 83 P **P** 17 52 51.5 +1.6
LSA pP **pP** 17 53 14.8 -0.4
LSA S **S** 17 56 59.0 +3.5
LSA LR LR
comp=Z,2μm,19.0s
LSA LR LR
comp=Z,3μm,21.6s
LSA **Lhasa** 23.64 83 *e*P **P** 17 52 51.7 +1.8
LSA pmax pmax
comp=Z,248nm,0.8s
LSA MLR MLR
comp=Z,3μm,20.0s
LSA **Lhasa** 23.64 83 *e*P **P** 17 52 51.7 +1.8
comp=Z,248nm,0.8s
LSA *e*pP **pP** 17 53 13.0 -2.2
LSA LR LR
comp=Z,3μm,20.0s
LSA **Lhasa** 23.64 83 *e*P **P** 17 52 51.7 +1.8
comp=Z,248nm,0.8s
WMQ **Urumqi** 23.68 47 P **P** 17 52 51.0 +1.4
WMQ pP **pP** 17 53 17.0 +2.0
WMQ PP **PnPn** 17 53 30.5 +5.2
WMQ sP **sP** 17 53 32.3 +1.6
WMQ PcP **PcP** 17 56 32.5 +2.2
WMQ S **S** 17 56 54.5 -0.5
WMQ sS **sS** 17 57 39.5 -1.8
WMQ SS **SnSn** 17 57 55.5 +7.4
WMQ ScP **ScP** 17 59 57.8 +0.9
WMQ ScS **ScS** 18 03 43.5 -0.2
WMQ AMB AMB
comp=Z,59nm,0.6s
WMQ AMB AMB
comp=Z,520nm,3.6s
WMQ LR LR
comp=Z,4μm,11.4s
WMQ LR LR
comp=Z,3μm,11.0s
WMQ LR LR
comp=Z,3μm,10.6s
VOSK **Vostochnaya** 23.72 11 P **P** 17 52 50.2 +0.4
VOSK pmax pmax
comp=Z,713nm,0.7s
VOSK **Vostochnaya** 23.72 11 P **P** 17 52 50.2 +0.4
comp=Z,713nm,0.7s
KURBB **Kurchatov Arra** 23.74 24 P **P** 17 52 51.0 +1.2
comp=Z,164nm,0.6s,baz=218,slow=9.3,SNR=698
KURBB S **S** 17 56 57.5 +1.8
comp=Z,10nm,1.0s,baz=203,slow=11,SNR=4.7
KURBB ScP **ScP** 17 59 56.0 -0.8
comp=Z,4.3nm,1.1s,baz=229,slow=3.0,SNR=4.6
TOTH **TOTAH** 23.74 286 *e*P **P** 17 52 52.1 +1.9
TOTH **TOTAH** 23.74 286 *e*P **P** 17 52 52.1 +1.9
SNR=28
GRSN **GIRESUNGRSN** 23.75 305 *i* P **P** 17 52 51.8 +1.6
GRSN **GIRESUNGRSN** 23.75 305 *i* P **P** 17 52 51.8 +1.6
FKH **Fakeheh** 23.79 288 *e*P **P** 17 52 52.9 +2.0
FKH **Fakeheh** 23.79 288 *e*P **P** 17 52 52.8 +2.0
HAWK **Haweek** 23.82 289 *e*P **P** 17 52 52.8 +1.8
HAWK **Haweek** 23.82 289 *e*P **P** 17 52 52.8 +1.8
SNR=28
KURK **Kurchatov** 23.84 23 *e*P **P** 17 52 52.1 +1.2
KURK S **S** 17 56 57.5 +0.1
KURK pmax pmax
comp=Z,129nm,0.8s
KURK **Kurchatov** 23.84 23 *e*P **P** 17 52 52.1 +1.2
comp=Z,129nm,0.8s
KURK S **S** 17 56 57.5 +0.1
KURK ScP **ScP** 17 59 56.0 -1.1
KURK LR LR
comp=Z,339nm,21.0s
KURK **Kurchatov** 23.84 23 P **P** 17 52 52.6 +1.7
comp=Z,2μm,1.0s
KURK **Kurchatov** 23.84 23 *e*P **P** 17 52 52.1 +1.2
comp=Z,129nm,0.8s
KURK S **S** 17 56 57.5 +0.1
SOC **Sochi** 23.85 313*c* *i*P **P** 17 52 51.9 +0.9
SOC *e**SP **sP** 17 53 28.6 -3.8
SOC *e*S **S** 17 56 59.6 +1.9
SOC *e**SS sS 17 57 50.0 +5.6
SOC pmax pmax
comp=Z,466nm,0.8s
QASN **Qassioun** 23.87 287 *e*P **P** 17 52 51.8 +0.3
QASN **Qassioun** 23.87 287 *e*P **P** 17 52 51.8 +0.3
SNR=28
AYKD **Aykdinkavak** 23.89 296 *i* P **P** 17 52 53.1 +1.6
BVA2 **Borovoye Array** 23.92 10 P **P** 17 52 52.6 +1.1
BVA2 pmax pmax
comp=Z,593nm,0.5s
BVA2 **Borovoye Array** 23.92 10 P **P** 17 52 52.6 +1.1
comp=Z,593nm,0.5s
BVAR **Borovoye Array** 23.92 10 P **P** 17 52 52.7 +1.1
BVAR 17 56 30.4
BVAR **Borovoye Array** 23.92 10 P **P** 17 52 52.7 +1.1
BVAR PcP **PcP** 17 56 30.4 -0.2
BVAR ScP **ScP** 17 59 56.2 -1.1
BVAR **Borovoye Array** 23.92 10 P **P** 17 52 52.7 +1.1
BVAR **Borovoye Array** 23.92 10 P **P** 17 52 52.7 +1.1
comp=Z,420nm,0.5s,baz=178,slow=9.9,SNR=1487
BVAR PcP **PcP** 17 56 30.4 -0.2
comp=Z,5.6nm,0.5s,baz=182,slow=5.2,SNR=3.8
BVAR ScP **ScP** 17 59 56.2 -1.1
comp=Z,7.0nm,0.9s,baz=230,slow=3.6,SNR=4.3
BVAR LR LR 18 02 04.9
comp=Z,1μm,19.9s,baz=188,slow=36
BTCH **Batrach** 23.93 293 *e*P **P** 17 52 54.1 +2.1
BTCH **Batrach** 23.93 293 *e*P **P** 17 52 54.1 +2.1
SNR=28
BRVK **Borovoye** 23.94 9*c* *i*P **P** 17 52 52.8 +1.1
BRVK pmax pmax
comp=Z,2μm,1.4s
BRVK **Borovoye** 23.94 9 P **P** 17 52 53.2 +1.4
SNR=514
BRVK **Borovoye** 23.94 9 *e*P **P** 17 52 52.9 +1.1
comp=Z,1μm,0.9s
BRVK LR LR
comp=Z,2μm,22.0s
BRVK **Bovoye** 23.94 9 P **P** 17 52 53.3 +1.6
comp=Z,8μm,0.7s
BRVK **Borovoye** 23.94 9 *i* P **P** 17 52 52.8 +1.1
comp=Z,2μm,1.4s
TCHB **Talchebab** 24.11 285 *e*P **P** 17 52 54.5 +0.9
TCHB **Talchebab** 24.11 285 *e*P **P** 17 52 54.5 +0.9
SNR=28
BRBR **Barbar** 24.14 286 *e*P **P** 17 52 56.1 +2.1
BRBR **Barbar** 24.14 286 *e*P **P** 17 52 56.1 +2.1
SNR=28
COBT **Iskenderun** 24.17 294 *i* P **P** 17 52 56.1 +1.9
COBT **Iskenderun** 24.17 294 *i* P **P** 17 52 56.1 +1.9
HWQ **Hawqa** 24.18 288 *e*P **P** 17 52 55.4 +1.1
HWQ **Hawqa** 24.18 288 *e*P **P** 17 52 55.4 +1.1
TAHT **Tahtakopru-Hat** 24.20 294 *e*P **P** 17 52 55.6 +1.3
TAHT **Tahtakopru-Hat** 24.20 294 *e*P **P** 17 52 55.6 +1.3
HTY **Hatay** 24.20 293 *e*P **P** 17 52 56.1 +1.8
HTY **Hatay** 24.20 293 *e*P **P** 17 52 56.1 +1.8
YAYL **Yayladag** 24.22 293 *i* P **P** 17 52 55.9 +1.3
YAYL **Yayladag** 24.22 293 *i* P **P** 17 52 55.9 +1.3
SCER **sogukcermik** 24.23 302 *i* P **P** 17 52 56.6 +1.9
SCER **sogukcermik** 24.23 302 *i* P **P** 17 52 56.6 +1.9
RCY **Rachaya** 24.24 287 *e*P **P** 17 52 56.8 +2.0
RSDY **Resadiye-TOKAT** 24.25 304 *e*P **P** 17 52 56.4 +1.7
RSDY **Resadiye-TOKAT** 24.25 304 *e*P **P** 17 52 56.4 +1.7
TRD **Trivandrum** 24.25 147 *e*P **P** 17 52 56.9 +2.0
ANDN **Andirin** 24.28 297 *i* P **P** 17 52 56.8 +1.7
ANDN **Andirin** 24.28 297 *i* P **P** 17 52 56.8 +1.7
SVSK **Karacayir** 24.34 302 *e*P **P** 17 52 57.3 +1.8
SVSK **Karacayir** 24.34 302 *e*P **P** 17 52 57.3 +1.8
BHL **Bhannes** 24.40 288 *e*P **P** 17 52 57.9 +1.6
BHL **Bhannes** 24.40 288 *e*P **P** 17 52 57.9 +1.6
PINB **Pinarbasi** 24.47 299 *i* P **P** 17 52 58.5 +1.5
PINB **Pinarbasi** 24.47 299 *i* P **P** 17 52 58.5 +1.5
TRBA **At Turbah** 24.52 233⇑ *e*P **P** 17 52 59.9 +2.3
TRBA AMb AMB 17 53 01.4
comp=Z,162nm,1.9s
MMLI **Mount Malkishu** 24.58 284 *e*P **P** 17 52 59.6 +1.8
MMLI **Mount Malkishu** 24.58 284 *e*P **P** 17 52 59.6 +1.8
MMAI **Mount Meron Ar** 24.59 285 P **P** 17 53 00.1 +2.1
MMAI **Mount Meron Ar** 24.59 285 P **P** 17 53 00.1 +2.1
MMAI **Mount Meron Ar** 24.59 285 P **P** 17 53 00.1 +2.1
comp=Z,72nm,0.5s,baz=86,slow=13,SNR=143
MMAI PcP **PcP** 17 56 33.3 +0.8
comp=Z,2.7nm,0.5s,baz=89,slow=5.9,SNR=3.8
MMAI S **S** 17 57 14.1 +4.2
comp=Z,2.1nm,0.7s,baz=83,slow=23,SNR=1.9
MMAI ScP **ScP** 17 59 59.2 -0.4
comp=Z,1.4nm,0.4s,baz=115,slow=5.4,SNR=7.3
CEYT **Ceyhan** 24.64 295 *e*P **P** 17 53 00.0 +1.7
CEYT **Ceyhan** 24.64 295 *e*P **P** 17 53 00.0 +1.7
KOZT **Kozan** 24.66 296 *e*P **P** 17 52 59.6 +1.1
KOZT **Kozan** 24.66 296 *e*P **P** 17 52 59.6 +1.1
ERBA **Erbaa** 24.75 304 *i* P **P** 17 53 01.0 +1.7
ERBA **Erbaa** 24.75 304 *i* P **P** 17 53 01.0 +1.7
TOKT **Tokat** 24.79 303 *e*P **P** 17 53 01.1 +1.4
TOKT **Tokat** 24.79 303 *e*P **P** 17 53 01.1 +1.4
TOKA **Tokat** 24.84 303 *i* P **P** 17 53 01.5 +1.4
TOKA **Tokat** 24.84 303 *i* P **P** 17 53 01.5 +1.4
KRTS **Karatas** 24.88 294 *e*P **P** 17 53 02.7 +2.3
KRTS **Karatas** 24.88 294 *e*P **P** 17 53 02.7 +2.3
BNN **Bunyan** 24.93 299 *e*P **P** 17 53 01.8 +0.7
BNN **Bunyan** 24.93 299 *e*P **P** 17 53 01.8 +0.7
SHL **Shillong** 25.07 92⇓ *i*P **P** 17 53 03.5 +1.0
SHL *i* x x 17 57 44.0
EIL **Elat** 25.17 277 P **P** 17 53 04.8 +1.6
EIL pP **pP** 17 53 33.1 +2.9
EIL **Elat** 25.17 277 P **P** 17 53 04.8 +1.6
EIL pP **pP** 17 53 33.1 +2.9
EIL **Elat** 25.17 277 P **P** 17 53 04.8 +1.6
comp=Z,172nm,0.8s,baz=56,slow=3.3,SNR=74
EIL pP **pP** 17 53 33.1 +2.9
comp=Z,69nm,0.9s,baz=76,slow=8.3,SNR=2.8
EIL LR LR 18 03 43.2
comp=Z,1μm,21.3s,baz=94,slow=38
KARA **Karaisali** 25.23 295 *e*P **P** 17 53 04.8 +1.1
KARA **Karaisali** 25.23 295 *e*P **P** 17 53 04.8 +1.1
KVT **Kavak** 25.38 304 *e*P **P** 17 53 06.4 +1.3
KVT **Kavak** 25.38 304 *e*P **P** 17 53 06.4 +1.3
GULE **Gulek** 25.45 295 *i* P **P** 17 53 08.0 +2.1
GULE **Gulek** 25.45 295 *i* P **P** 17 53 08.0 +2.1
YOZ **Yozgat** 25.51 301 *e*P **P** 17 53 07.4 +1.1
YOZ **Yozgat** 25.51 301 *e*P **P** 17 53 07.4 +1.1
MERS **Mersin** 25.59 294 *e*P **P** 17 53 07.7 +0.7
MERS **Mersin** 25.59 294 *e*P **P** 17 53 07.7 +0.7
AVNT **Avonos** 25.67 299 *i* P **P** 17 53 08.7 +0.9
AVNT **Avonos** 25.67 299 *i* P **P** 17 53 08.7 +0.9
NIG **Nigde** 25.73 297 *e*P **P** 17 53 09.9 +1.5
NIG **Nigde** 25.73 297 *e*P **P** 17 53 09.9 +1.5
EREN **Erenkoy** 25.73 291 *e*P **P** 17 53 09.3 +1.2
EREN **Erenkoy** 25.73 291 *e*P **P** 17 53 09.3 +1.2
PHNC **Paralimni** 25.80 290 P **P** 17 53 11.2 +2.4
comp=Z,1.8nm,1.1s
PHNC **Paralimni** 25.80 290 P **P** 17 53 11.2 +2.4
comp=Z,1.8nm,1.1s
ANN **Anapa** 25.87 313*c* *i*P **P** 17 53 09.1 -0.2
ANN *i**PP **pP** 17 53 37.6 +1.3
ANN *i* 17 53 52.9
ANN *e*S **S** 17 57 31.0 +1.3
ANN *e*SS SnSn 17 58 27.1 -14
ANN pmax pmax
comp=Z,412nm,1.8s
ANN **Anapa** 25.87 313 *i* P **P** 17 53 09.1 -0.2
comp=Z,412nm,1.8s
ANN *e*S **S** 17 57 31.0 +1.3
DIKM **Dikmen** 26.12 305 *e*P **P** 17 53 12.7 +1.1
DIKM **Dikmen** 26.12 305 *e*P **P** 17 53 12.7 +1.1
CORM **Corum** 26.16 302 *e*P **P** 17 53 12.6 +0.4
CORM **Corum** 26.16 302 *e*P **P** 17 53 12.6 +0.4
CTKT **Corum** 26.16 303 *i* P **P** 17 53 13.4 +1.2
CTKT **Corum** 26.16 303 *i* P **P** 17 53 13.4 +1.2
IKL **Isikli** 26.19 293 *e*P **P** 17 53 12.2 0.0
IKL **Isikli** 26.19 293 *e*P **P** 17 53 12.2 0.0
CSS **Prodhromos** 26.37 290 P **P** 17 53 14.4 +0.4
comp=Z,2.3nm,1.4s
CSS **Prodhromos** 26.37 290 P **P** 17 53 14.1 +0.1
CSS **Prodhromos** 26.37 290 *e*P **P** 17 53 14.3 +0.3
comp=Z,85nm,0.7s
CSS LR LR
comp=Z,1μm,20.0s
CSS **Prodhromos** 26.37 290 P **P** 17 53 14.1 +0.1
MAMC **Mammari** 26.48 290 P **P** 17 53 16.3 +1.4
MAMC **Mammari** 26.48 290 P **P** 17 53 16.3 +1.4
SULT **Sultanhani-AKS** 26.59 297 *e*P **P** 17 53 16.5 +0.5
SULT **Sultanhani-AKS** 26.59 297 *e*P **P** 17 53 16.5 +0.5
ATD **Arta Tunnel** 26.59 232 P **P** 17 53 17.6 +1.5
ATD pP **pP** 17 53 48.2 +5.0
ATD sP **sP** 17 53 58.8 +0.9
ATD **Arta Tunnel** 26.59 232 P **P** 17 53 17.6 +1.5
ATD **Arta Tunnel** 26.59 232 P **P** 17 53 17.6 +1.5
comp=Z,24nm,0.8s,baz=86,slow=12,SNR=7.7
ATD pP **pP** 17 53 48.2 +5.0
comp=Z,43nm,0.9s,baz=16,slow=4.3,SNR=4.5
ATD sP **sP** 17 53 58.8 +0.9
comp=Z,126nm,0.8s,baz=31,slow=8.6,SNR=10.0
ATD LR LR 18 03 16.5
comp=Z,250nm,20.7s,baz=47,slow=35
SZAC **Souni-Zanaja** 26.73 289 P **P** 17 53 18.0 +0.8
comp=Z,2.0nm,0.4s
SZAC **Souni-Zanaja** 26.73 289 P **P** 17 53 18.0 +0.8
comp=Z,2.0nm,0.4s
LEF **Lefka** 26.74 290 *e*P **P** 17 53 17.8 +0.5
LEF **Lefka** 26.74 290 *e*P **P** 17 53 17.8 +0.5
BR131 **Keskin Array S** 26.80 300 *e*P **P** 17 53 16.7 -1.2
comp=Z,45nm,1.0s
BR131 *e*pP **pP** 17 53 43.6 -1.4
BR131 *e*sP **sP** 17 53 56.4 -3.3
BR131 *e*ScP **ScP** 18 00 04.8 -1.2
BR131 **Keskin Array S** 26.80 300 *e*P **P** 17 53 16.7 -1.2
comp=Z,45nm,1.0s
BR131 *e*pP **pP** 17 53 43.6 -1.4
BRTR **Keskin Array B** 26.80 300 P **P** 17 53 17.9 +0.1
BRTR pP **pP** 17 53 48.7 +3.7
BRTR PcP **PcP** 17 56 37.1 -0.4
BRTR ScP **ScP** 18 00 03.7 -2.3
BRTR **Keskin Array B** 26.80 300 P **P** 17 53 18.0 +0.1
BRTR pP **pP** 17 53 48.7 +3.7
BRTR **Keskin Array B** 26.80 300 PcP **PcP** 17 56 37.1 -0.4
BRTR **Keskin Array B** 26.80 300 P **P** 17 53 17.9 +0.1
comp=Z,13nm,0.7s,baz=119,slow=8.3,SNR=66
BRTR pP **pP** 17 53 48.7 +3.7
comp=Z,27nm,0.8s,baz=111,slow=9.8,SNR=6.6
BRTR PcP **PcP** 17 56 37.1 -0.4
comp=Z,7.2nm,1.0s,baz=118,slow=5.7,SNR=4.0
BRTR ScP **ScP** 18 00 03.7 -2.3
comp=Z,1.2nm,0.6s,baz=141,slow=3.6,SNR=4.2
TOS **Tosya** 26.84 303 *e*P **P** 17 53 19.0 +0.9
TOS **Tosya** 26.84 303 *e*P **P** 17 53 19.0 +0.9
ERMK **Ermenek** 26.85 293 *i* P **P** 17 53 19.5 +1.0
ERMK **Ermenek** 26.85 293 *i* P **P** 17 53 19.5 +1.0
ALFC **Alevga** 26.98 290 P **P** 17 53 20.1 +0.6
comp=Z,1.8nm,0.6s
ALFC **Alevga** 26.98 290 P **P** 17 53 20.1 +0.6
comp=Z,1.8nm,0.6s
CANT **Cankiri** 27.02 302 *e*P **P** 17 53 20.3 +0.5
ILGA **Ilgaz** 27.06 303 *i* P **P** 17 53 21.5 +1.1
ILGA **Ilgaz** 27.06 303 *i* P **P** 17 53 21.5 +1.1
IMP **Imphal** 27.07 93 *ex* P **P** 17 53 21.0 +0.6
BZK **Bozkurt** 27.11 305 *e*P **P** 17 53 21.0 +0.5
BZK **Bozkurt** 27.11 305 *e*P **P** 17 53 21.0 +0.5
ARU **Arti** 27.13 353*c* *i*P **P** 17 53 20.8 +0.4
ARU 17 54 03.5
ARU 17 56 38.3
ARU S **S** 17 57 53.0 +3.8
ARU pmax pmax
comp=Z,203nm,1.7s
ARU **Arti** 27.13 353 P **P** 17 53 20.1 -0.3
comp=Z,610nm,0.8s,SNR=36
ARU **Arti** 27.13 353 *i* P **P** 17 53 20.8 +0.4
comp=Z,203nm,1.7s
ARU **Arti** 27.13 353 PcP **PcP** 17 56 38.3 +0.5
AFSR **Af˙ar-Bala (A** 27.16 300 *e*P **P** 17 53 20.7 -0.5
AFSR **Af˙ar-Bala (A** 27.16 300 *e*P **P** 17 53 20.7 -0.5
PPCY **Paphos** 27.18 289 P **P** 17 53 21.0 -0.2
PPCY **Paphos** 27.18 289 P **P** 17 53 21.0 -0.2
AKMC **Akamas** 27.20 290 P **P** 17 53 21.8 +0.4
AKMC **Akamas** 27.20 290 P **P** 17 53 21.8 +0.4
PALK **Pallekele** 27.21 141 P **P** 17 53 24.4 +2.7
SNR=13
PALK **Pallekele** 27.21 141 P **P** 17 53 23.8 +2.1
comp=Z,79nm,0.9s,comp=Z,1μm
PALK **Pallekele** 27.21 141 *e*P **P** 17 53 21.7 0.0
comp=Z,45nm,0.8s
PALK **Pallekele** 27.21 141 P **P** 17 53 23.4 +1.7
comp=Z,324nm,0.8s,SNR=25
PALK **Pallekele** 27.21 141 *e*P **P** 17 53 21.7 0.0
comp=Z,45nm,0.8s
VRHR **Novokhopersk** 27.23 328*c* *i*P **P** 17 53 21.5 +0.1
VRHR *e*SS SS 17 59 19.7 -31
VRHR pmax pmax
comp=N,30nm,0.8s
VRHR pmax pmax
comp=Z,130nm,0.8s
VRHR pmax pmax
comp=E,30nm,0.6s
VRHR **Novokhopersk** 27.23 328 *i* P **P** 17 53 21.5 +0.1
HDMB **Hadim** 27.23 294 *e*P **P** 17 53 21.8 -0.1
HDMB **Hadim** 27.23 294 *e*P **P** 17 53 21.8 -0.1
SVE **Sverdlovsk** 27.36 356*d* *i*P **P** 17 53 23.1 +0.6
SVE *e* 17 54 08.4
SVE *e*S **S** 17 57 58.3 +5.4
SVE pmax pmax
comp=Z,157nm,1.3s
SVE **Sverdlovsk** 27.36 356 *i* P **P** 17 53 23.1 +0.6
comp=Z,157nm,1.3s
KONT **Konya--Tatoy** 27.45 296 *e*P **P** 17 53 22.9 -0.7
KONT **Konya--Tatoy** 27.45 296 *e*P **P** 17 53 22.9 -0.7
ANTO **Ankara** 27.46 300 *e*P **P** 17 53 23.0 -0.8
ANTO **Ankara** 27.46 300 ⇑P **P** 17 53 24.0 +0.2

ANTO Ankara 27.46 300 P P 17 53 24.4 +0.7
SNR=16
ANTO Ankara 27.46 300 ⇑*iP* P 17 53 24.0 +0.2
ANTO Ankara 27.46 300 *eP* P 17 53 21.9 -1.9
comp=Z,88nm,1.3s
ANTO LR LR
comp=Z,725nm,21.0s
ANTO Ankara 27.46 300 P P 17 53 24.0 +0.2
LADK Ladik-KONYA 27.48 297 *eP* P 17 53 24.6 +0.6
LADK Ladik-KONYA 27.48 297 *eP* P 17 53 24.6 +0.6
LOD Lodumlu 27.49 300 *eP* P 17 53 23.8 -0.2
LOD Lodumlu 27.49 300 *eP* P 17 53 23.8 -0.2
SIM Simferopol' 28.07 311*c* *iP* P 17 53 29.4 +0.4
SIM *e**PP pP 17 53 57.4 +1.2
SIM S S 17 58 05.0 +0.6
SIM Simferopol' 28.07 311 *i* P P 17 53 29.4 +0.4
SIM S S 17 58 05.0 +0.6
VORD Divnogorie 28.24 326*c* *iP* P 17 53 30.3 -0.1
VORD pmax pmax
comp=Z,90nm,0.6s
VORD pmax pmax
comp=E,50nm,0.9s
VORD Divnogorie 28.24 326 *i* P P 17 53 30.3 -0.1
comp=E,90nm,0.6s
VSR Storozhevoye 28.46 326*c* *iP* P 17 53 32.2 -0.2
VSR *eS* S 17 58 11.2 +0.9
VSR *e**SS sS 17 59 06.6 +8.5
VSR pmax pmax
comp=Z,180nm,0.5s
VSR pmax pmax
comp=N,70nm,0.7s
VSR pmax pmax
comp=E,120nm,0.8s
VSR smax smax
comp=E,20nm,1.2s
VSR smax smax
comp=Z,10.0nm,0.5s
VSR smax smax
comp=N,40nm,1.4s
VSR Storozhevoye 28.46 326 *i* P P 17 53 32.2 -0.2
comp=N,70nm,0.7s
VSR *eS* S 17 58 11.2 +0.9
comp=N,40nm,1.4s
BOLV Bolvadin 28.66 297 *i* P P 17 53 34.7 +0.2
BOLV Bolvadin 28.66 297 *i* P P 17 53 34.7 +0.2
ZAA0 Zalesovo Array 28.71 26 *eP* P 17 53 34.8 +0.2
ZAA0 *epP* pP 17 54 01.2 -0.6
ZAA0 *esP* sP 17 54 15.2 -1.3
ZAA0 *ePcP* PcP 17 56 41.4 -0.4
ZAA0 Zalesovo Array 28.71 26 *eP* P 17 53 34.8 +0.2
ZAA0 *epP* pP 17 54 01.2 -0.6
ZALV Zalesovo Beam 28.71 26 P P 17 53 35.2 +0.6
ZALV *PP pP 17 54 03.8 +1.9
ZALV S S 17 58 12.4 -1.8
ZALV Zalesovo Beam 28.71 26 P P 17 53 35.2 +0.6
ZALV pP pP 17 54 03.8 +1.9
ZALV S S 17 58 12.4 -1.8
ZALV ScP ScP 18 00 10.0 -1.4
ZALV Zalesovo Beam 28.71 26 P P 17 53 35.2 +0.6
ZALV pP pP 17 54 03.8 +1.9
ZALV S S 17 58 12.4 -1.8
ZALV Zalesovo Beam 28.71 26 P P 17 53 35.2 +0.6
comp=N,45nm,0.5s,baz=230,slow=9.7,SNR=288
ZALV pP pP 17 54 03.8 +1.9
comp=N,25nm,0.7s,baz=239,slow=10,SNR=2.6
ZALV S S 17 58 12.4 -1.8
comp=N,8.1nm,0.8s,baz=191,slow=12,SNR=2.8
ZALV ScP ScP 18 00 10.0 -1.4
comp=N,2.7nm,0.6s,baz=235,slow=4.1,SNR=4.4
ZALV LR LR 18 07 49.1
comp=N,307nm,18.9s,baz=72,slow=42
VOR Voronezh 28.78 327 *eP* P 17 53 35.0 -0.2
VOR pmax pmax
comp=Z,350nm,1.6s
VOR Voronezh 28.78 327 *eP* P 17 53 35.0 -0.2
comp=Z,350nm,1.6s
NVS Novosibirsk 28.84 23 *i* P P 17 53 36.3 +0.7
NVS Novosibirsk 28.84 23 *i* P P 17 53 36.3 +0.7
SEYT Eskypehyr 28.87 299 *i* P P 17 53 36.4 +0.1
SEYT Eskypehyr 28.87 299 *i* P P 17 53 36.4 +0.1
ISP Isparta 28.88 295 P P 17 53 36.2 +0.6
ISP Isparta 28.88 295 ⇑*iP* P 17 53 36.8 +0.4
ISP Isparta 28.88 295 ⇑*iP* P 17 53 36.8 +0.4
ISP Isparta 28.88 295 *eP* P 17 53 36.6 +0.2
comp=Z,487nm,1.3s
ISP LR LR
comp=Z,1μm,21.0s
ISP Isparta 28.88 295 P P 17 53 36.8 +0.4
KORT Korkueli 28.93 294 *i* P P 17 53 36.0 -0.9
KORT Korkueli 28.93 294 *i* P P 17 53 36.0 -0.9
BORA Eskisehir 29.23 300 *i* P P 17 53 39.2 -0.2
BORA Eskisehir 29.23 300 *i* P P 17 53 39.2 -0.2
AKAS Kas 29.48 292 *i* P P 17 53 40.7 -1.0
AKAS Kas 29.48 292 *i* P P 17 53 40.7 -1.0
KSL Kastellorizon 29.49 292 *eP* P 17 53 41.2 -0.5
GOLH Golhisar 29.58 294 *i* P P 17 53 43.0 +0.4
GOLH Golhisar 29.58 294 *i* P P 17 53 43.0 +0.4
KHAL Karahalli 29.75 296 *i* P P 17 53 43.9 -0.2
KHAL Karahalli 29.75 296 *i* P P 17 53 43.9 -0.2
GDZ Gediz 29.85 298 *i* P P 17 53 45.1 +0.1
GDZ Gediz 29.85 298 *i* P P 17 53 45.1 +0.1
DNZL Cakiroluk 30.03 295 *i* P P 17 53 45.9 -0.8
DNZL Cakiroluk 30.03 295 *i* P P 17 53 45.9 -0.8
KAAM Kaadhehdhoo 30.17 162 P P 17 53 50.5 +2.7
comp=Z,113nm,1.1s
ULDT Uludag 30.27 300 *i* P P 17 53 48.3 -0.5
ULDT Uludag 30.27 300 *i* P P 17 53 48.3 -0.5
TURN Turunc 30.32 293 *i* P P 17 53 51.6 +2.7
KULA Kula-Manisa 30.41 297 P P 17 53 49.3 -0.6
KULA Kula-Manisa 30.41 297 P P 17 53 49.3 -0.6
DEMI Demirci 30.43 298 *i* P P 17 53 49.6 -0.5
DEMI Demirci 30.43 298 *i* P P 17 53 49.6 -0.5
ARG Arkhangelos 30.67 292 P P 17 53 52.1 0.0
ARG Arkhangelos 30.67 292 *eP* P 17 53 52.2 +0.1
ARG Arkhangelos 30.67 292 P P 17 53 52.1 0.0
DURS Dursunbey 30.69 299 *i* P P 17 53 51.9 -0.5
DURS Dursunbey 30.69 299 *i* P P 17 53 51.9 -0.5
AYDN Tasoluk 30.95 295 *i* P P 17 53 54.7 +0.1
AYDN Tasoluk 30.95 295 *i* P P 17 53 54.7 +0.1
HVS Khovu-Aksy 30.95 37*c* *iP* P 17 53 56.2 +1.7
HVS pmax pmax
comp=Z,211nm,1.0s
GTA Gaotai 30.99 62 ⇓*P* P 17 53 57.5 +2.4
GTA pP pP 17 54 24.8 +2.3
GTA sP sP 17 54 38.0 +0.9
GTA PcP PcP 17 56 49.0 +0.9
GTA S S 17 58 54.0 +3.4
GTA sS sS 17 59 41.3 +2.7
GTA ScP ScP 18 00 20.5 +1.2
GTA SS SnSn 18 00 46.8 +1.0
GTA ScS ScS 18 04 16.8 +0.2
GTA AMB AMB
comp=Z,28nm,1.2s
GTA AMB AMB
comp=Z,220nm,5.7s
GTA LR LR
comp=Z,610nm,16.4s
GTA LR LR
comp=Z,440nm,15.7s
GTA LR LR
comp=Z,550nm,16.6s
BDRM Kayabasi 31.25 294 *i* P P 17 53 56.7 -0.6
BDRM Kayabasi 31.25 294 *i* P P 17 53 56.7 -0.6
FURI Furi 31.34 234 *eP* P 17 54 02.7 +4.1
FURI S S 17 59 09.8 +13
BALY Balya 31.37 299 *i* P P 17 53 57.9 -0.3
BALY Balya 31.37 299 *i* P P 17 53 57.9 -0.3
DGPR DIGLIPUR 31.41 115 *eP* P 17 54 01.6 +2.8
DGPR AMB AMB 17 54 02.4
comp=Z,136nm,0.7s
KARP Karpathos 31.44 291 P P 17 53 58.9 0.0
KARP Karpathos 31.44 291 *eP* P 17 53 59.1 +0.2
KARP Karpathos 31.44 291 *ePN* P 17 53 59.1 +0.2
KARP Karpathos 31.44 291 P P 17 53 58.9 0.0
GCAM G?zelcaml? 31.46 295 *i* P P 17 53 59.4 +0.4
GCAM G?zelcaml? 31.46 295 *i* P P 17 53 59.4 +0.4
EFOR EFORIE 31.49 307 ⇑*iP* P 17 54 00.4 +1.2
EFOR EFORIE 31.49 307 ⇑*iP* P 17 54 00.4 +1.2
TLCR 31.68 309 ⇓*P* P 17 54 01.2 +0.4
TLCR 31.68 309 ⇓*iP* P 17 54 01.2 +0.4
TLCR 31.68 309 P P 17 54 01.2 +0.4
PSN Preselentsi 31.70 306 P P 17 54 01.6 +0.5
PSN Preselentsi 31.70 306 P P 17 54 01.6 +0.5

TIRR Tirgusor 31.75 308 *eP* P 17 54 00.9 -0.5
TIRR *e**PP pP 17 54 28.0 -0.9
TIRR pmax pmax
comp=Z,135nm,0.6s
TIRR Tirgusor 31.75 308 ⇑*iP* P 17 54 01.8 +0.4
TIRR Tirgusor 31.75 308 *eP* P 17 54 00.9 -0.5
comp=Z,135nm,0.6s
TIRR *epP* pP 17 54 28.0 -0.9
TIRR *eSP* 17 54 40.0
TIRR Tirgusor 31.75 308 *eP* P 17 54 00.9 -0.5
comp=Z,135nm,0.6s
TIRR *epP* pP 17 54 28.0 -0.9
SMG Samos 31.78 295 P P 17 54 01.8 0.0
SMG Samos 31.78 295 *ePB* P 17 54 01.9 +0.1
SMG Samos 31.78 295 P P 17 54 01.8 0.0
CVD Cernavoda 31.97 307 ⇑*iP* P 17 54 04.8 +1.4
CVD Cernavoda 31.97 307 ⇑*iP* P 17 54 04.8 +1.4
CVD Cernavoda 31.97 307 P P 17 54 04.8 +1.4
TLB Topalu 32.03 308 ⇑*P* P 17 54 04.1 +0.2
TLB Topalu 32.03 308 ⇑*iP* P 17 54 04.1 +0.2
TLB Topalu 32.03 308 P P 17 54 04.1 +0.2
CFR Carcaliu 32.13 309 ⇑*P* P 17 54 05.2 +0.4
CFR Carcaliu 32.13 309 ⇑*iP* P 17 54 05.2 +0.4
CFR Carcaliu 32.13 309 P P 17 54 05.2 +0.4
HARR Harsova 32.14 308 ⇑*P* P 17 54 06.0 +1.1
HARR Harsova 32.14 308 ⇑*iP* P 17 54 06.0 +1.1
HARR Harsova 32.14 308 P P 17 54 06.0 +1.1
MOS Moscow 32.17 332 *eP* P 17 54 04.3 -0.7
MOS *i* *PP pP 17 54 34.3 +1.8
MOS *e**SP sP 17 54 48.2 +1.1
MOS *e* 17 55 12.0
MOS *e* 17 56 51.0
MOS pmax pmax
comp=Z,800nm,1.5s
MOS pmax pmax
comp=Z,497nm,1.4s
MOS Moscow 32.17 332 *eP* P 17 54 04.3 -0.7
comp=Z,497nm,1.4s
MOS Moscow 32.17 332 *ePcP* PcP 17 56 51.0 +0.2
PBA Port Blair 32.18 118 *eP* P 17 54 08.4 +2.9
OBN Obninsk 32.19 330 ⇑*eP* P 17 54 05.4 +0.2
OBN *e**PP pP 17 54 33.8 +1.1
OBN *e**SP sP 17 54 49.1 +1.8
OBN *e* 17 55 18.0
OBN *e* 17 56 51.5
OBN *eSS* SnSn 18 01 12.0 -2.1
OBN pmax pmax
comp=Z,494nm,1.3s
OBN Obninsk 32.19 330 P P 17 54 05.0 -0.1
comp=Z,2μm,0.9s,SNR=31
OBN Obninsk 32.19 330 *eP* P 17 54 05.4 +0.2
comp=Z,494nm,1.3s
OBN Obninsk 32.19 330 *ePcP* PcP 17 56 51.5 +0.7
KIS Kishinev 32.26 312 ⇓*iPKP* P 17 54 06.0 +0.1
KIS M 17 54 06.5
comp=Z,600nm,1.0s
KIS Kishinev 32.26 312*c* *iP* P 17 54 06.0 +0.1
KIS *e* 17 54 34.0
KIS *e* 17 55 30.0
KIS pmax pmax
comp=Z,600nm,1.0s
KIS pmax pmax
comp=Z,900nm,1.0s
KIS Kishinev 32.26 312 ⇑*iP* P 17 54 05.9 +0.1
KIS Kishinev 32.26 312 *iP* P 17 54 06.0 +0.1
comp=Z,900nm,1.0s
PRK Paraskevi 32.34 298 *ePB* P 17 54 06.3 -0.4
LEOM Leova 32.45 311 ⇓*P* P 17 54 08.2 +0.6
LEOM Leova 32.45 311 ⇓*iP* P 17 54 08.2 +0.6
LEOM Leova 32.45 311 P P 17 54 08.2 +0.6
AMRR Amara 32.53 308 ⇑*P* P 17 54 09.8 +1.5
AMRR Amara 32.53 308 ⇑*iP* P 17 54 09.8 +1.5
AMRR Amara 32.53 308 P P 17 54 09.8 +1.5
JMB Yambol 32.58 304 P P 17 54 09.8 +1.0
JMB Yambol 32.58 304 P P 17 54 10.5 +1.7
JMB Yambol 32.58 304 P P 17 54 09.8 +1.0
NPS Neapolis 32.70 290 *ePN* P 17 54 10.1 +0.1
ALN Alexandroupoli 32.72 301 P P 17 54 10.1 +0.1
ALN Alexandroupoli 32.72 301 *ePN* P 17 54 10.0 +0.1
ALN Alexandroupoli 32.72 301 P P 17 54 10.1 +0.1
APE Apeiranthos 32.78 293 ⇑*P* P 17 54 10.4 -0.3
APE Apeiranthos 32.78 293 *ePB* P 17 54 10.5 -0.3
APE Apeiranthos 32.78 293 ⇑*iP* P 17 54 10.4 -0.3
APE Apeiranthos 32.78 293 P P 17 54 10.4 -0.3
GHRR 32.88 310 ⇑*iP* P 17 54 12.7 +1.4
GHRR 32.88 310 ⇑*iP* P 17 54 12.7 +1.4
PETR Petresti 32.90 310 ⇓*iP* P 17 54 13.3 +1.8
PETR Petresti 32.90 310 ⇓*iP* P 17 54 13.3 +1.8
GRER 32.98 309 ⇑*iP* P 17 54 14.4 +2.2
GRER 32.98 309 ⇑*iP* P 17 54 14.4 +2.2
RDO Rodhopi 33.13 301 P P 17 54 13.6 0.0
RDO Rodhopi 33.13 301 *ePN* P 17 54 13.5 0.0
RDO Rodhopi 33.13 301 P P 17 54 13.6 0.0
CMAI Chiengmai2 33.19 99 P P 17 54 14.4 -0.1
comp=Z,89nm,0.7s,comp=Z,9μm
ISR Istrita 33.20 308 ⇑*P* P 17 54 16.1 +1.9
ISR Istrita 33.20 308 ⇑*iP* P 17 54 16.1 +1.9
ISR Istrita 33.20 308 P P 17 54 16.1 +1.9
SZH Strazhica 33.20 305 P P 17 54 14.8 +0.6
SZH Strazhica 33.20 305 P P 17 54 14.8 +0.6
VRI Vrincioaia 33.28 310 ⇑*P* P 17 54 15.9 +1.1
VRI Vrincioaia 33.28 310 ⇑*iP* P 17 54 15.9 +1.1
VRI Vrincioaia 33.28 310 P P 17 54 15.9 +1.1
SULR 33.29 307 ⇑*iP* P 17 54 16.7 +1.8
SULR 33.29 307 ⇑*iP* P 17 54 16.7 +1.8
IDI Anoyia 33.30 290 P P 17 54 13.3 -1.9
IDI Anoyia 33.30 290 *ePN* P 17 54 15.1 -0.1
IDI Anoyia 33.30 290 *eP* P 17 54 14.7 -0.5
comp=Z,173nm,0.7s
IDI Anoyia 33.30 290 *eP* P 17 54 14.7 -0.5
comp=Z,173nm,0.7s
IDI Anoyia 33.30 290 P P 17 54 15.0 -0.2
comp=Z,139nm,0.7s,baz=67,slow=9.5,SNR=77
PLOR Plostina 33.33 310 ⇑*P* P 17 54 16.7 +1.4
PLOR Plostina 33.33 310 ⇑*iP* P 17 54 16.7 +1.4
PLOR Plostina 33.33 310 P P 17 54 16.7 +1.4
AK02 Malin Array Si 33.45 319 *eP* P 17 54 16.0 -0.2
AK02 Malin Array Si 33.45 319 *eP* P 17 54 16.0 -0.2
AKASG Malin Array Be 33.46 319 P P 17 54 16.1 -0.3
AKASG *PP pP 17 54 44.8 +0.9
AKASG *SP sP 17 54 59.4 +0.9
AKASG Malin Array Be 33.46 319 P P 17 54 16.1 -0.3
AKASG pP pP 17 54 44.8 +0.9
AKASG sP sP 17 54 59.4 +0.9
AKASG ScP ScP 18 00 23.9 -3.3
AKASG Malin Array Be 33.46 319 P P 17 54 16.0 -0.3
AKASG pP pP 17 54 44.8 +0.9
AKASG Malin Array Be 33.46 319 P P 17 54 16.1 -0.3
comp=Z,61nm,0.6s,baz=114,slow=7.3,SNR=405
AKASG pP pP 17 54 44.8 +0.9
comp=Z,11nm,0.6s,baz=119,slow=7.5,SNR=2.7
AKASG sP sP 17 54 59.4 +0.9
comp=Z,33nm,1.0s,baz=114,slow=7.5,SNR=1.9
AKASG ScP ScP 18 00 23.9 -3.3
comp=Z,2.2nm,0.6s,baz=86,slow=3.9,SNR=4.2
AKBB Malin Array Si 33.46 319 *eP* P 17 54 16.0 -0.4
AKBB Malin Array Si 33.46 319 *eP* P 17 54 15.9 -0.4
AKBB *epP* pP 17 54 42.1 -1.8
AKBB Malin Array Si 33.46 319 *eP* P 17 54 15.9 -0.4
AKBB *epP* pP 17 54 42.1 -1.8
AK01 Malin Array Si 33.46 319 *eP* P 17 54 16.0 -0.3
AK01 *epP* pP 17 54 41.8 -2.1
AK01 Malin Array Si 33.46 319 *eP* P 17 54 16.0 -0.3
AK01 *epP* pP 17 54 41.8 -2.1
KIEV Kiev 33.47 319 *eP* P 17 54 16.0 -0.3
KIEV pmax pmax
comp=Z,300nm,1.1s
KIEV MLR MLR
comp=Z,654nm,20.0s
KIEV Kiev 33.47 319 *eP* P 17 54 16.0 -0.3
comp=Z,300nm,1.1s
KIEV LR LR
comp=Z,654nm,20.0s
KIEV Kiev 33.47 319 *eP* P 17 54 16.0 -0.3
comp=Z,654nm,20.0s
TESR Tescani 33.52 311 ⇑*iP* P 17 54 17.5 +0.6
TESR Tescani 33.52 311 ⇑*iP* P 17 54 17.5 +0.6
CHTO Chiang Mai 33.56 101 *eP* P 17 54 18.1 +0.5
CHTO pmax pmax
comp=Z,202nm,0.8s
CHTO MLR MLR
comp=Z,491nm,21.0s

CHTO Chiang Mai 33.56 101 P P 17 54 17.8 +0.2
SNR=97
CHTO Chiang Mai 33.56 101 P P 17 54 18.8 +1.2
comp=Z,1μm,1.0s,comp=Z,13μm
CHTO Chiang Mai 33.56 101 *eP* P 17 54 18.1 +0.5
comp=Z,202nm,0.8s
CHTO LR LR
comp=Z,491nm,21.0s
CHTO Chiang Mai 33.56 101 P P 17 54 17.8 +0.2
comp=Z,1μm,1.0s,comp=Z,13μm
CHTO Chiang Mai 33.56 101 *eP* P 17 54 18.1 +0.5
comp=Z,202nm,0.8s
PVL Pavlikeni 33.62 305 P P 17 54 20.0 +2.2
PVL Pavlikeni 33.62 305 P P 17 54 20.0 +2.2
MLR Muntele Rosu 33.71 309 P P 17 54 20.3 +1.6
MLR S S 17 59 36.0 +3.4
MLR Muntele Rosu 33.71 309 P P 17 54 20.3 +1.6
MLR S S 17 59 36.0 +3.4
MLR Muntele Rosu 33.71 309 P P 17 54 20.3 +1.6
comp=Z,115nm,1.0s,baz=149,slow=4.5,SNR=350
MLR S S 17 59 36.0 +3.4
comp=Z,2.0nm,1.1s,baz=358,slow=23,SNR=7.9
CM31 Chiang Mai Arr 33.72 101 *eP* P 17 54 19.4 +0.5
comp=Z,47nm,0.8s
CM31 Chiang Mai Arr 33.72 101 *eP* P 17 54 19.4 +0.5
comp=Z,47nm,0.8s
CMAR Chiang Mai Arr 33.72 101 P P 17 54 19.3 +0.4
CMAR ScP ScP 18 00 30.2 +1.4
CMAR *e* 18 25 27.6
CMAR Chiang Mai Arr 33.72 101 P P 17 54 19.3 +0.4
CMAR ScP ScP 18 00 30.2 +1.4
CMAR Chiang Mai Arr 33.72 101 P P 17 54 19.3 +0.4
comp=Z,53nm,0.8s,baz=305,slow=7.4,SNR=367
CMAR ScP ScP 18 00 30.2 +1.4
comp=Z,24nm,0.9s,baz=287,slow=4.8,SNR=21
CMAR P3KPbc 18 25 27.6
comp=Z,0.3nm,0.7s,baz=136,slow=2.4,SNR=4.4
RZN Rozhen 33.82 302 P P 17 54 19.7 -0.1
RZN Rozhen 33.82 302 P P 17 54 19.7 -0.1
VAM Vamos 33.86 290 P P 17 54 20.1 +0.1
VAM Vamos 33.86 290 *ePN* P 17 54 20.0 +0.1
VAM Vamos 33.86 290 P P 17 54 20.1 +0.1
KAVA Kavala 33.88 300 *ePN* P 17 54 20.1 0.0
PLD Plovdiv 33.89 302 P P 17 54 20.2 +0.1
PLD Plovdiv 33.89 302 P P 17 54 20.3 +0.1
PLD Plovdiv 33.89 302 P P 17 54 20.2 +0.1
GVD Gavdhos 33.97 289 *eP* P 17 54 19.1 -1.8
comp=Z,235nm,0.8s
GVD *epP* pP 17 54 45.5 -3.1
GVD Gavdhos 33.97 289 *eP* P 17 54 19.1 -1.8
comp=Z,235nm,0.8s
GVD *epP* pP 17 54 45.5 -3.1
LZH Lanzhou 33.99 68 ⇑*P* P 17 54 24.0 +2.7
LZH pP pP 17 54 49.5 +0.5
LZH sP sP 17 55 04.3 +0.8
LZH S S 17 59 40.0 +2.7
LZH sS ScP 18 00 28.0 -1.7
LZH ScP ScP 18 00 31.3 +1.6
LZH SS SnSn 18 01 52.0 -6.2
LZH AMB AMB
comp=Z,120nm,1.2s
LZH AMB AMB
comp=Z,600nm,4.0s
PRAR RASCA 34.05 312 ⇓*iP* P 17 54 21.8 +0.3
PRAR RASCA 34.05 312 ⇓*iP* P 17 54 21.8 +0.3
PAYA Payao 34.13 99 P P 17 54 23.1 +0.6
comp=Z,70nm,0.8s,comp=Z,564nm
PTL Penteli 34.14 295 P P 17 54 22.5 +0.1
PTL Penteli 34.14 295 *ePB* P 17 54 22.5 +0.1
PTL Penteli 34.14 295 P P 17 54 22.5 +0.1
DOPR Dopca 34.21 309 ⇓*iP* P 17 54 24.1 +1.2
DOPR Dopca 34.21 309 ⇓*iP* P 17 54 24.1 +1.2
CRAI Chiangrai 34.22 97 P P 17 54 23.8 +0.6
comp=Z,182nm,0.9s,comp=Z,9μm
MTUR Matau 34.24 308 ⇑*P* P 17 54 25.0 +1.7
MTUR Matau 34.24 308 ⇑*iP* P 17 54 25.0 +1.7
MTUR Matau 34.24 308 P P 17 54 25.0 +1.7
VOIR 34.30 308 ⇑*P* P 17 54 24.6 +0.8
VOIR 34.30 308 ⇑*iP* P 17 54 24.6 +0.8
VOIR 34.30 308 P P 17 54 24.6 +0.8
CD2 Chengdu 34.31 78 P P 17 54 25.5 +1.5
CD2 pP pP 17 54 53.3 +1.6
CD2 sP sP 17 55 08.0 +1.8
CD2 PP PP 17 55 45.3 +1.2
CD2 S S 17 59 43.0 +0.9
CD2 sS ScP 18 00 31.3 +0.5
CD2 SS SnSn 18 02 01.5 -4.4
CD2 AMB AMB
comp=Z,150nm,0.9s
CD2 AMB AMB
comp=Z,410nm,6.5s
CD2 LR LR
comp=Z,2μm,14.3s
CD2 LR LR
comp=Z,2μm,16.1s
PGB Panagyurishte 34.35 303 P P 17 54 25.3 +1.1
PGB Panagyurishte 34.35 303 P P 17 54 25.3 +1.1
MRKA Markates 34.39 296 P P 17 54 24.3 -0.2
MRKA Markates 34.39 296 P P 17 54 24.3 -0.2
PAIG Paliouri 34.40 298 P P 17 54 24.5 -0.1
PAIG Paliouri 34.40 298 *ePN* P 17 54 24.7 +0.1
PAIG Paliouri 34.40 298 P P 17 54 24.5 -0.1
NVR Nevrokopi 34.41 301 P P 17 54 24.8 +0.1
NVR Nevrokopi 34.41 301 *ePN* P 17 54 24.8 +0.1
NVR Nevrokopi 34.41 301 P P 17 54 24.8 +0.1
MMB Musomiste 34.54 301 P P 17 54 18.9 -6.9
ARR Arges 34.57 308 ⇑*iP* P 17 54 27.1 +1.0
ARR Arges 34.57 308 ⇑*iP* P 17 54 27.1 +1.0
ANKY Antikythira Is 34.58 291 *ePN* P 17 54 26.3 +0.2
SRS Serrai 34.59 301 P P 17 54 26.0 -0.2
SRS Serrai 34.59 301 *ePN* P 17 54 26.3 +0.1
SRS Serrai 34.59 301 P P 17 54 26.0 -0.2
PLG Polygyros 34.62 299 P P 17 54 26.7 +0.2
PLG Polygyros 34.62 299 *ePN* P 17 54 26.7 +0.2
PLG Polygyros 34.62 299 P P 17 54 26.7 +0.2
DID Didima 34.62 294 *ePN* P 17 54 25.3 -1.3
KMI Kunming 34.65 88 P P 17 54 28.5 +1.4
KMI pP pP 17 54 53.8 -1.1
KMI sP sP 17 55 08.3 -1.1
KMI PP PP 17 55 50.3 +2.2
KMI S S 17 59 49.0 +1.3
KMI sS sS 18 00 34.8 -1.3
KMI SS SnSn 18 02 08.0 -6.3
KMI LR LR
comp=Z,480nm,16.8s
KMI LR LR
comp=Z,820nm,17.5s
KMI LR LR
comp=Z,880nm,16.6s
XOR Xorichti 34.74 297 *ePN* P 17 54 26.9 -0.6
XOR Xorichti 34.74 297 *ePN* P 17 54 26.4 -1.1
BURAR Bucovina Array 34.78 312 ⇓*P* P 17 54 28.8 +0.9
BURAR Bucovina Array 34.78 312 ⇓*iP* P 17 54 28.8 +0.9
KYTH Kithira 34.78 292 P P 17 54 26.4 -1.6
KYTH Kithira 34.78 292 *ePN* P 17 54 27.1 -0.9
KYTH Kithira 34.78 292 P P 17 54 26.4 -1.6
MPEP Malo Peshtene 34.79 304 P P 17 54 28.2 +0.3
BUR08 Bucovina Ar. S 34.80 312 *eP* P 17 54 28.3 +0.3
BUR08 *epP* pP 17 54 54.0 -1.8
BUR08 Bucovina Ar. S 34.80 312 *eP* P 17 54 28.3 +0.3
BUR08 *epP* pP 17 54 54.0 -1.8
LTK Loutraki 34.85 295 P P 17 54 26.8 -1.7
LTK Loutraki 34.85 295 P P 17 54 26.8 -1.7
MDB Medias 34.93 309 ⇓*P* P 17 54 30.5 +1.4
MDB Medias 34.93 309 ⇓*iP* P 17 54 30.5 +1.4
MDB Medias 34.93 309 P P 17 54 30.5 +1.4
MSEY Mahe Island 34.99 195 PFAKE 17 54 40.0 +10
MSEY LR LR
comp=Z,415nm,22.0s
KKB Krupnik 35.05 302 P P 17 54 25.0 -5.2
VTS Vitosha 35.06 303 P P 17 54 30.4 0.0
VTS Vitosha 35.06 303 ⇑*P* P 17 54 30.6 +0.2
VTS Vitosha 35.06 303 ⇑*iP* P 17 54 30.6 +0.2
VTS Vitosha 35.06 303 P P 17 54 30.6 +0.2
VTS Vitosha 35.06 303 P P 17 54 30.6 +0.2
NANT Nan 35.08 99 P P 17 54 31.6 +1.0
comp=Z,682nm,0.8s,comp=Z,5μm
KNT Kendrikon 35.11 300 *ePN* P 17 54 30.4 -0.3
LOT Lotru 35.18 308 ⇑*P* P 17 54 31.8 +0.4
LOT Lotru 35.18 308 ⇑*iP* P 17 54 31.8 +0.4
DSF Desfina 35.21 296 *ePN* P 17 54 30.0 -1.6
MOY Mondy 35.21 41 *eP* P 17 54 33.8 +2.2

MOY pmax pmax
comp=Z,50nm,1.7s
KLMR Klimovskoe 35.28 339 *c iP* **P** **17 54 31.2 -0.6**
KLMR *i *PP* **pP** **17 55 00.0 +0.4**
KLMR *e* 17 55 50.5
KLMR pmax pmax
comp=Z,490nm,1.0s
KLMR Klimovskoe 35.28 339 *i P* **P** **17 54 31.2 -0.6**
comp=Z,490nm,1.0s
VLX Vlachokerasia 35.30 294 P **P** **17 54 31.5 -1.0**
VLX Vlachokerasia 35.30 294 *e*PN **P** **17 54 31.7 -0.8**
VLX Vlachokerasia 35.30 294 P **P** **17 54 31.5 -1.0**
GUR Goura 35.34 295 P **P** **17 54 31.2 -1.6**
GUR Goura 35.34 295 *e*PN **P** **17 54 32.3 -0.5**
GUR Goura 35.34 295 P **P** **17 54 31.2 -1.6**
DYR Agios Nikonas 35.34 293 P **P** **17 54 32.1 -0.7**
DYR Agios Nikonas 35.34 293 *e*PN **P** **17 54 32.2 -0.6**
DYR Agios Nikonas 35.34 293 P **P** **17 54 32.1 -0.7**
VAY Valandovo 35.37 301 *i P* **P** **17 54 32.6 -0.4**
AGG Agios Georgios 35.38 297 *e*PN **P** **17 54 34.1 +1.0**
UTHA Uthaitani 35.48 105 P **P** **17 54 35.0 +1.0**
comp=Z,34nm,0.9s,comp=Z,263nm
KLV Kalavryta, Ach 35.49 295 P **P** **17 54 33.4 -0.7**
KLV Kalavryta, Ach 35.49 295 *e*PN **P** **17 54 33.5 -0.7**
KLV Kalavryta, Ach 35.49 295 P **P** **17 54 33.4 -0.7**
CJR Cluj-Napoca 35.60 310 ⇓*i P* **P** **17 54 36.0 +1.2**
CJR Cluj-Napoca 35.60 310 ⇓*i P* **P** **17 54 36.0 +1.2**
CJR Cluj-Napoca 35.60 310 P **P** **17 54 36.0 +1.2**
LAKA Lakka 35.63 295 P **P** **17 54 34.1 -1.1**
LAKA Lakka 35.63 295 P **P** **17 54 34.1 -1.1**
THL Klokotos Trika 35.66 298 P **P** **17 54 33.9 -1.5**
THL Klokotos Trika 35.66 298 *e*PN **P** **17 54 32.5 -2.9**
THL Klokotos Trika 35.66 298 P **P** **17 54 33.9 -1.5**
ITM Ithomi 35.67 294 P **P** **17 54 34.5 -1.0**
ITM Ithomi 35.67 294 *e*PN **P** **17 54 34.6 -1.0**
ITM Ithomi 35.67 294 P **P** **17 54 34.5 -1.0**
PYL PYLOS 35.82 293 P **P** **17 54 35.3 -1.5**
PYL PYLOS 35.82 293 *e*PN **P** **17 54 35.2 -1.5**
PYL PYLOS 35.82 293 P **P** **17 54 35.3 -1.5**
AMT Artemida-Makis 35.84 294 P **P** **17 54 36.3 -0.7**
AMT Artemida-Makis 35.84 294 *e*PN **P** **17 54 36.5 -0.5**
AMT Artemida-Makis 35.84 294 P **P** **17 54 36.3 -0.7**
DRO Drossia 35.84 295 P **P** **17 54 36.5 -0.5**
DRO Drossia 35.84 295 P **P** **17 54 36.5 -0.5**
GZR Gura Zlata 35.85 308⇑*iP* **P** **17 54 37.0 -0.1**
GZR Gura Zlata 35.85 308⇑*iP* **P** **17 54 37.0 -0.1**
KZN Kozani 35.89 299 *e*PN **P** **17 54 36.7 -0.8**
MICGM Minsk 35.95 324⇑*iP* **P** **17 54 36.0 -1.6**
MNK Minsk 35.97 324⇑*iP* **P** **17 54 36.0 -1.8**
MNK *e*SP **pP** **17 55 05.0 -0.7**
MNK *e*PPP PPP 17 56 26.0
MNK *e*S **S** **18 00 04.0 -2.9**
MNK pmax pmax
comp=E,550nm,1.2s
MNK pmax pmax
comp=Z,610nm,1.0s
MNK Minsk 35.97 324 *i P* **P** **17 54 36.0 -1.8**
comp=Z,610nm,1.0s
ZAK Zakamensk 36.06 44⇑*iP* **P** **17 54 40.6 +1.8**
ZAK *e* 17 55 08.7
ZAK pmax pmax
comp=Z,15nm,1.1s
LOEI Loei 36.12 101 P **P** **17 54 42.5 +3.0**
comp=Z,246nm,0.9s
BOLS Boljevac 36.15 305⇑*iP* **P** **17 54 38.7 -0.8**
LVV L'vov 36.21 315⇓*iP* **P** **17 54 39.8 -0.1**
LVV *e* 17 56 04.0
LVV *e*PPP PPP 17 56 29.0
LVV *e*S S 18 00 04.6 -6.0
LVV L'vov 36.21 315 *i P* **P** **17 54 39.8 -0.1**
FNA Florina 36.23 300 P **P** **17 54 39.9 -0.4**
FNA Florina 36.23 300 *e*PN **P** **17 54 40.1 -0.2**
FNA Florina 36.23 300 P **P** **17 54 39.9 -0.4**
PDO Prodromos 36.27 296 *e*PN **P** **17 54 40.1 -0.5**
BIA Bitola 36.28 300 *e*P **P** **17 54 40.2 -0.5**
SKO Skopje 36.28 302 *i P* **P** **17 54 41.9 +1.2**
PBKT Sadao Pong 36.29 103 P **P** **17 54 41.6 +0.7**
comp=Z,222nm,0.9s,comp=Z,2μm
PBKT Sadao Pong 36.29 103 P **P** **17 54 41.6 +0.7**
comp=Z,222nm,0.9s,comp=Z,2μm
NEST Nestorio 36.45 299 P **P** **17 54 41.6 -0.6**
NEST Nestorio 36.45 299 *e*PN **P** **17 54 41.7 -0.5**
NEST Nestorio 36.45 299 P **P** **17 54 41.6 -0.6**
JAN Janina 36.56 298 P **P** **17 54 42.2 -0.9**
JAN Janina 36.56 298 *e*PN **P** **17 54 42.5 -0.6**
JAN Janina 36.56 298 P **P** **17 54 42.2 -0.9**
TRPA Tarpa 36.65 312⇑*iP* **P** **17 54 44.3 +0.6**
TRPA Tarpa 36.65 312⇑*eP* **P** **17 54 44.6 +0.9**
TRPA Tarpa 36.65 312⇑*iP* **P** **17 54 44.3 +0.6**
BZS Buzias 36.70 308 ⇑P **P** **17 54 44.8 +0.6**
BZS Buzias 36.70 308⇑*iP* **P** **17 54 44.8 +0.6**
BZS Buzias 36.70 308 P **P** **17 54 44.8 +0.6**
NACGM Naroch 36.70 324 *e*P P 17 54 40.0 -4.0
NACGM Naroch 36.70 324 *e*sS sS 18 01 10.0 +3.4
VLS Valsamata 36.73 295 *e*PN **P** **17 54 43.1 -1.4**
TLY Talaya 36.74 42 *c iP* **P** **17 54 47.1 +2.7**
TLY *e* 17 55 22.8
TLY *e*S **S** **18 00 23.4 +4.7**
TLY pmax pmax
comp=Z,28nm,1.0s
SIRR Siria 36.80 309⇑*iP* **P** **17 54 46.3 +1.3**
SIRR Siria 36.80 309⇑*iP* **P** **17 54 46.3 +1.3**
UZH Uzhgorod 36.94 313 *eP* **P** **17 54 45.4 -0.8**
UZH *e* 17 57 00.2
UZH *e*S **S** **18 00 18.2 -3.6**
UZH Uzhgorod 36.94 313 *eP* **P** **17 54 45.4 -0.8**
IGT Igoumenitsa 36.95 297 P **P** **17 54 44.9 -1.5**
IGT Igoumenitsa 36.95 297 *e*PN **P** **17 54 45.2 -1.2**
IGT Igoumenitsa 36.95 297 P **P** **17 54 44.9 -1.5**
KWP Kalwaria Pacla 36.97 315 *eP* **P** **17 54 46.9 +0.5**
KWP *e*PP **pP** **17 55 16.9 +2.5**
KWP pmax pmax
comp=Z,500nm,1.2s
KWP Kalwaria Pacla 36.97 315⇑*iP* **P** **17 54 46.8 +0.4**
KWP Kalwaria Pacla 36.97 315 *eP* **P** **17 54 46.8 +0.4**
comp=Z,386nm,1.0s
KWP *ep*P **pP** **17 55 12.7 -1.7**
KWP LR LR
comp=Z,778nm,19.0s
KWP Kalwaria Pacla 36.97 315 *eP* **P** **17 54 46.8 +0.4**
KWP *ep*P **pP** **17 55 16.8 +2.4**
KWP Kalwaria Pacla 36.97 315 *eP* **P** **17 54 46.9 +0.4**
comp=Z,500nm,1.2s
KWP *ep*P **pP** **17 55 12.7 -1.7**
PHET Kaeng Krachan 36.98 109 P **P** **17 54 48.2 +1.4**
comp=Z,870nm,0.8s,comp=Z,7μm
PHP Peshkopia 37.00 301 P **P** **17 54 46.2 -0.6**
PHP Peshkopia 37.00 301 P **P** **17 54 46.2 -0.6**
KOLS Kolonicke sedl 37.04 313 *eP* **P** **17 54 48.2 +1.2**
KOLS pmax pmax
comp=Z,519nm,1.8s
KOLS Kolonicke sedl 37.04 313 *eP* **P** **17 54 48.2 +1.2**
KOLS Kolonicke sedl 37.04 313 *eP* **P** **17 54 48.2 +1.2**
comp=Z,518nm,1.8s
GRUS Gruza 37.05 305⇑*iP* **P** **17 54 47.1 0.0**
SONM Songino Array 37.27 49 P **P** **17 54 50.9 +1.7**
SONM pP **pP** **17 55 18.9 +1.7**
SONM sP **sP** **17 55 33.2 +1.6**
SONM ScP **ScP** **18 00 41.1 -0.3**
SONM *e* 18 25 11.9
SONM Songino Array 37.27 49 P **P** **17 54 50.9 +1.7**
SONM pP **pP** **17 55 18.9 +1.7**
SONM Songino Array 37.27 49 P **P** **17 54 50.9 +1.7**
comp=Z,11nm,0.8s,baz=252,slow=9.1,SNR=30
SONM pP **pP** **17 55 18.9 +1.7**
comp=Z,9.7nm,0.7s,baz=256,slow=8.5,SNR=5.3
SONM sP **sP** **17 55 33.2 +1.6**
comp=Z,19nm,0.7s,baz=254,slow=9.0,SNR=7.7
SONM ScP **ScP** **18 00 41.1 -0.3**
comp=Z,1.3nm,0.7s,baz=240,slow=4.4,SNR=3.6
SONM LR LR 18 11 34.1
comp=Z,325nm,20.4s,baz=251,slow=38
SONM P3KPbc 18 25 11.9
comp=Z,1.8nm,1.0s,baz=117,slow=4.6,SNR=5.7
IRK Irkutsk 37.31 41 *eP* **P** **17 54 50.8 +1.6**
IRK pmax pmax
comp=Z,73nm,1.3s
TRUS Trudelj 37.31 305⇑*iP* **P** **17 54 48.7 -0.7**
KEK Kerkira 37.37 298 P **P** **17 54 48.1 -1.8**
KEK Kerkira 37.37 298 *e*PN **P** **17 54 48.1 -1.8**
KEK Kerkira 37.37 298 P **P** **17 54 48.1 -1.8**
TIR Tirane 37.41 300 *eP* **P** **17 54 48.0 -2.2**
TIR pmax pmax
comp=Z,64nm,0.8s
TIR MLR MLR
comp=Z,826nm,19.0s
TIR Tirane 37.41 300 *eP* **P** **17 54 48.0 -2.2**
comp=Z,64nm,0.8s
TIR LR LR
comp=Z,826nm,19.0s
TIR Tirane 37.41 300 *eP* **P** **17 54 48.0 -2.2**
comp=Z,826nm,19.0s
IVAS Ivanjica 37.41 304⇑*iP* **P** **17 54 49.8 -0.5**
PVY Plav 37.44 303⇑*iP* **P** **17 54 49.4 -1.2**
CHAI Chaiyaphum 37.46 103 P **P** **17 54 51.8 +0.9**
comp=Z,59nm,0.8s,comp=Z,477nm
BEY Berane 37.52 303 *eP* **P** **17 54 50.3 -1.0**
IVA Berane 37.52 303 *eP* **P** **17 54 50.2 -1.0**
CRVS Cervenica-Dubn 37.55 313 *eP* **P** **17 54 52.0 +0.7**
CRVS pmax pmax
comp=Z,187nm,1.3s
CRVS Cervenica-Dubn 37.55 313 *eP* **P** **17 54 52.0 +0.7**
CRVS Cervenica-Dubn 37.55 313 *eP* **P** **17 54 52.0 +0.7**
comp=Z,187nm,1.3s
DIVS Divibare 37.59 305 P **P** **17 54 51.9 +0.1**
DIVS Divibare 37.59 305⇑*iP* **P** **17 54 51.4 -0.4**
DGAR Diego Garcia 37.66 166 *i* P **P** **17 54 53.4 +0.9**
DGAR Diego Garcia 37.66 166 PFAKE 17 55 00.0 +7.5
DGAR LR LR
comp=Z,1μm,22.0s
GYA Guiyang 37.70 84⇑*iP* **P** **17 54 53.8 +0.8**
GYA pP **pP** **17 55 22.0 +0.9**
GYA sP **sP** **17 55 35.8 +0.3**
GYA PP **PnPn** **17 56 25.5 +1.4**
GYA PcP **PcP** **17 57 08.5 +0.8**
GYA S **S** **18 00 33.3 -0.8**
GYA ScP **ScP** **18 00 42.8 -0.6**
GYA PcS **PcS** **18 00 55.0 -1.8**
GYA sS **sS** **18 01 23.5 +0.7**
GYA SS **SS** **18 03 17.8 -6.8**
GYA ScS **ScS** **18 04 51.5 -1.2**
GYA AMB AMB
comp=Z,40nm,1.0s
GYA AMB AMB
comp=Z,190nm,5.2s
ULN Ulaanbaatar 37.71 49 P **P** **17 54 55.6 +2.7**
SNR=12
ULN Ulaanbaatar 37.71 49 P **P** **17 54 55.1 +2.2**
comp=Z,18nm,1.1s,comp=Z,729nm
ULN Ulaanbaatar 37.71 49 *eP* **P** **17 54 53.7 +0.8**
comp=Z,35nm,1.0s
ULN LR LR
comp=Z,393nm,20.0s
ULN Ulaanbaatar 37.71 49 *eP* **P** **17 54 53.7 +0.8**
comp=Z,35nm,1.0s
PUL Pulkovo 37.77 333 *c iP* **P** **17 54 53.4 +0.5**
PUL pmax pmax
comp=Z,576nm,0.7s
PUL Pulkovo 37.77 333 *i P* **P** **17 54 53.4 +0.5**
comp=Z,576nm,0.7s
STHS Stebnicka Huta 37.82 314 *eP* **P** **17 54 53.7 +0.1**
STHS pmax pmax
comp=Z,13nm,0.8s
STHS Stebnicka Huta 37.82 314 *eP* **P** **17 54 53.7 +0.1**
STHS Stebnicka Huta 37.82 314 *eP* **P** **17 54 53.7 +0.1**
comp=Z,13nm,0.8s
ULC Ulcinj 37.91 301⇑*iP* **P** **17 54 53.1 -1.4**
ULC Ulcinj 37.91 301⇑*iP* **P** **17 54 53.2 -1.3**
PLE Pljevlja 37.93 304⇑*iP* **P** **17 54 53.9 -0.8**
PLE Pljevlja 37.93 304⇑*iP* **P** **17 54 54.0 -0.8**
PDG Podgorica 37.94 302⇑*iP* **P** **17 54 53.9 -0.8**
TTG Podgorica 37.94 302⇑*iP* **P** **17 54 53.9 -0.8**
DRME Dracevica, Mon 37.98 302⇑*iP* **P** **17 54 54.0 -1.0**
BBLS Lazići 37.98 304⇑*iP* **P** **17 54 54.9 -0.2**
KECS Kecovo 38.07 312 *eP* **P** **17 54 56.6 +0.9**
KECS pmax pmax
comp=Z,57nm,0.7s
KECS Kecovo 38.07 312 *eP* **P** **17 54 56.6 +0.9**
KECS Kecovo 38.07 312 *eP* **P** **17 54 56.6 +0.9**
comp=Z,57nm,0.7s
PKSN Nyarlorinc 38.14 309⇓*eP* **P** **17 54 57.7 +1.5**
PKSN Nyarlorinc 38.14 309⇓*eP* **P** **17 54 57.7 +1.5**
NKME Niksic 38.20 303 *eP* **P** **17 54 55.3 -1.6**
BUM Brajici-Budva 38.20 302⇑*iP* **P** **17 54 55.7 -1.2**
BUM Brajici-Budva 38.20 302⇑*iP* **P** **17 54 55.7 -1.2**
SUW Suwalki 38.21 321 *eP* **P** **17 54 56.4 -0.3**
SUW *e*PP **pP** **17 55 25.5 +0.7**
SUW *e* 17 56 27.5
SUW *e*S S 18 00 47.0 +6.2
SUW pmax pmax
comp=Z,300nm,1.1s
SUW Suwalki 38.21 321 *eP* **P** **17 54 55.6 -1.1**
comp=Z,299nm,1.1s
SUW Suwalki 38.21 321 *eP* **P** **17 54 56.4 -0.3**
SUW *ep*P **pP** **17 55 25.5 +0.7**
SUW *e*PP **PP** **17 56 27.4 +0.9**
SUW *e*S S 18 00 47.0 +6.2
SUW Suwalki 38.21 321 *eP* **P** **17 54 56.4 -0.3**
comp=Z,0.2nm,1.1s
SUW *ep*P **pP** **17 55 25.5 +0.7**
XAN Xi'an 38.27 71 P **P** **17 54 58.5 +0.9**
XAN pP **pP** **17 55 28.0 +2.3**
XAN sP **sP** **17 55 42.5 +2.4**
XAN S **S** **18 00 41.8 -0.5**
XAN AMB AMB
comp=Z,35nm,1.0s
XAN LR LR
comp=Z,740nm,32.6s
XAN LR LR
comp=Z,560nm,26.5s
UPM Unac-Piva 38.27 303⇑*iP* **P** **17 54 57.1 -0.6**
UPM Unac-Piva 38.27 303⇑*iP* **P** **17 54 57.2 -0.5**
TMCR Tamitsa 38.32 342 *eP* **P** **17 54 57.7 +0.2**
TMCR *e* 17 56 30.2
TMCR pmax pmax
comp=Z,430nm,1.4s
TMCR Tamitsa 38.32 342 *eP* **P** **17 54 57.7 +0.2**
comp=Z,430nm,1.4s
PSZ Piszkesteto 38.33 311 ⇑P **P** **17 54 58.6 +0.7**
PSZ Piszkesteto 38.33 311⇑*iP* **P** **17 54 58.6 +0.7**
PSZ Piszkesteto 38.33 311 *eP* **P** **17 54 58.3 +0.4**
comp=Z,141nm,0.8s
PSZ LR LR
comp=Z,492nm,19.0s
PSZ Piszkesteto 38.33 311⇑*eP* **P** **17 54 58.7 +0.8**
PSZ Piszkesteto 38.33 311 P **P** **17 54 58.6 +0.7**
NIE Niedzica 38.41 314⇑*iP* **P** **17 54 59.6 +1.1**
NIE *e* 17 55 29.0
NIE Niedzica 38.41 314 *i P* **P** **17 54 59.6 +1.1**
NIE *e* 17 55 29.0
NIE Niedzica 38.41 314⇑*iP* **P** **17 54 59.6 +1.1**
PKS2 Kecel 38.51 309⇓*eP* **P** **17 55 00.7 +1.4**
PKS2 Kecel 38.51 309⇓*eP* **P** **17 55 00.7 +1.4**
HCY Herceg Novi 38.51 302 *eP* **P** **17 54 57.8 -1.6**
HCY Herceg Novi 38.51 302 *eP* **P** **17 54 57.8 -1.6**
VSU Vasula 38.53 329 *c iP* **P** **17 54 59.3 0.0**
VSU pmax pmax
comp=Z,741nm,0.7s
VSU Vasula 38.53 329 *i P* **P** **17 54 59.3 0.0**
comp=Z,741nm,0.7s
SURT Suratani 38.54 115 P **P** **17 55 01.3 +1.4**
comp=Z,19nm,1.0s,comp=Z,425nm
PKS7 Kunszentmiklos 38.64 310⇓*eP* **P** **17 55 01.5 +1.1**
PKS7 Kunszentmiklos 38.64 310⇓*eP* **P** **17 55 01.5 +1.1**
SKNT Sakolnakorn 38.68 100 P **P** **17 55 01.5 +0.4**
comp=Z,193nm,0.9s,comp=Z,3μm
BEL Belsk 38.80 317 *eP* **P** **17 55 01.9 +0.2**
BEL *e*PP **pP** **17 55 32.8 +3.0**
BEL pmax pmax
comp=Z,400nm,0.8s
BEL Belsk 38.80 317 *eP* **P** **17 55 01.9 +0.2**
BEL *ep*P **pP** **17 55 32.8 +3.0**
BEL Belsk 38.80 317 *eP* **P** **17 55 01.9 +0.2**
comp=Z,0.2nm,0.8s
BEL *ep*P **pP** **17 55 32.8 +3.0**
BUD Budapest 38.81 310⇑*eP* **P** **17 55 01.9 0.0**
BUD Budapest 38.81 310⇑*eP* **P** **17 55 01.9 0.0**
PKDT Phuket 38.82 117 P **P** **17 55 03.7 +1.4**
comp=Z,89nm,1.1s,comp=Z,2μm
PKSM Moragy 38.85 308 ⇑P **P** **17 55 02.7 +0.5**
PKSM Moragy 38.85 308⇑*iP* **P** **17 55 02.7 +0.5**
PKSM Moragy 38.85 308⇑*iP* **P** **17 55 02.7 +0.5**
PKSM Moragy 38.85 308⇑*eP* **P** **17 55 02.7 +0.5**
BTO Baotou 38.90 61 *eP* **P** **17 55 04.0 +1.2**
OJC Ojcow 38.94 315⇑*iP* **P** **17 55 03.1 +0.2**
OJC *e* 17 55 32.4
OJC Ojcow 38.94 315 *i P* **P** **17 55 03.1 +0.2**
OJC *e* 17 55 32.4
OJC Ojcow 38.94 315⇑*iP* **P** **17 55 03.1 +0.2**
STON Ston 39.12 303 P **P** **17 55 02.8 -1.7**
STON Ston 39.12 303 *i P* **P** **17 55 02.8 -1.7**
PKS9 Tamasi 39.16 309⇓*e* **P** **17 55 05.6 +0.8**
PKS9 Tamasi 39.16 309⇓*eP* **P** **17 55 05.6 +0.8**
PKSG 39.22 310⇓*e* **P** **17 55 05.9 +0.6**
PKSG 39.22 310⇓*eP* **P** **17 55 05.9 +0.6**
ENH Enshi 39.29 77 *eP* **P** **17 55 06.2 +0.1**
comp=Z,38nm,0.6s
ENH *ep*P **pP** **17 55 33.8 -0.6**
ENH *es*P **sP** **17 55 47.4 -1.3**
ENH Enshi 39.29 77 *eP* **P** **17 55 06.2 +0.1**
comp=Z,38nm,0.6s
ENH *ep*P **pP** **17 55 33.8 -0.6**
PKST T"s 39.43 310⇓*eP* **P** **17 55 07.6 +0.5**
PKST T"s 39.43 310⇓*eP* **P** **17 55 07.6 +0.5**
JOF Joensuu 39.44 337 *eP* **P** **17 55 07.2 +0.3**
JOF pmax pmax
comp=Z,55nm,0.3s
JOF Joensuu 39.44 337 *ep* **P** **17 55 07.2 +0.3**
comp=Z,55nm,0.3s
JOF Joensuu 39.44 337 *eP* **P** **17 55 07.2 +0.3**
comp=Z,55nm,0.3s
TIP Timpagrande 39.72 297 *eP* **P** **17 55 09.1 -0.5**
comp=Z,67nm,1.2s
TIP *ep*P **pP** **17 55 34.6 -3.3**
TIP *es*P **sP** **17 55 48.5 -3.8**
TIP LR LR
comp=Z,368nm,20.0s
TIP Timpagrande 39.72 297 *eP* **P** **17 55 09.1 -0.5**
comp=Z,67nm,1.2s
TIP *ep*P **pP** **17 55 34.6 -3.3**
KMBO Kilima Mbogo 39.76 225 *eP* P 17 55 13.8 +3.4
KMBO Kilima Mbogo 39.76 225 P P 17 55 14.1 +3.7
SNR=12
KMBO Kilima Mbogo 39.76 225 P **P** **17 55 12.5 +2.1**
KMBO pP **pP** **17 55 42.9 +4.2**
KMBO sP **sP** **17 55 54.2 +1.3**
KMBO LR LR
comp=Z,422nm,20.0s
KMBO Kilima Mbogo 39.76 225 P **P** **17 55 12.5 +2.1**
KMBO Kilima Mbogo 39.76 225 P **P** **17 55 12.5 +2.1**
comp=Z,18nm,0.6s,baz=32,slow=12,SNR=36
KMBO pP **pP** **17 55 42.9 +4.2**
comp=Z,9.4nm,0.8s,baz=32,slow=12,SNR=2.5
KMBO sP **sP** **17 55 54.2 +1.3**
comp=Z,36nm,1.0s,baz=28,slow=9.9,SNR=5.7
OKC Ostrava-Krasne 39.88 314 *eP* **P** **17 55 10.8 +0.1**
OKC *e*PP **pP** **17 55 41.0 +2.0**
OKC Ostrava-Krasne 39.88 314⇑*eP* **P** **17 55 10.8 +0.1**
OKC *ep*P **pP** **17 55 41.0 +2.0**
OKC *ePP* PnPn 17 56 57.0 +7.7
OKC Ostrava-Krasne 39.88 314 *eP* **P** **17 55 10.8 +0.1**
OKC pP **pP** **17 55 41.0 +2.0**
RAC Raciborz 39.90 314 *eP* **P** **17 55 11.7 +0.8**
RAC Raciborz 39.90 314 *eP* **P** **17 55 11.7 +0.8**
RAC *ep*P **pP** **17 55 38.0 -1.2**
HHC Hu-ho-hao-te 40.08 61 *eP* **P** **17 55 13.5 +0.9**
HHC pP **pP** **17 55 42.0 +1.1**
HHC sP **sP** **17 55 56.5 +1.2**
HHC PP **PnPn** **17 56 51.5 -0.4**
HHC PcP **PcP** **17 57 16.3 +1.4**
HHC ScP **ScP** **18 00 51.8 -0.5**
HHC S **S** **18 01 10.5 +1.2**
HHC sS **sS** **18 01 59.5 +1.0**
HHC SS **SS** **18 04 07.8 -3.8**
HHC ScS **ScS** **18 05 04.8 -1.3**
HHC AMB AMB
comp=Z,31nm,1.3s
HHC AMB AMB
comp=Z,510nm,5.9s
BEHE Becsehely 40.16 308⇑*eP* **P** **17 55 13.6 +0.5**
BEHE Becsehely 40.16 308⇑*eP* **P** **17 55 13.6 +0.5**
MORC Moravsky Berou 40.24 313 *eP* **P** **17 55 13.2 -0.6**
MORC pmax pmax
comp=Z,114nm,0.8s
MORC Moravsky Berou 40.24 313⇑*iP* **P** **17 55 14.1 +0.3**
MORC Moravsky Berou 40.24 313 *eP* **P** **17 55 13.2 -0.6**
comp=Z,114nm,0.8s
MORC *ep*P **pP** **17 55 39.9 -2.2**
MORC *es*P **sP** **17 55 54.1 -2.4**
MORC Moravsky Berou 40.24 313 *eP* **P** **17 55 13.2 -0.6**
comp=Z,114nm,0.8s
MORC *ep*P **pP** **17 55 39.9 -2.2**
CEL Celeste 40.42 295 PFAKE 17 55 30.0 +15
CEL LR LR
comp=Z,405nm,22.0s
CUC Castrocucco 40.44 298 PFAKE 17 55 30.0 +14
CUC LR LR
comp=Z,347nm,20.0s
CUC Castrocucco 40.44 298 PKIKP 18 07 07.6
FIA1 FINESS Array S 40.45 333 *eP* **P** **17 55 15.0 -0.2**
FIA1 *ep*P **pP** **17 55 42.6 -1.0**
FIA1 *es*P **sP** **17 55 55.9 -2.0**
FIA1 *ePP* **PP** **17 56 50.5 -0.2**
FIA1 FINESS Array S 40.45 333 *eP* **P** **17 55 15.0 -0.2**
FIA1 *ep*P **pP** **17 55 42.6 -1.0**
FINES FINESS Array B 40.45 333 P **P** **17 55 15.0 -0.2**
FINES pP **pP** **17 55 45.2 +1.7**
FINES PP **PP** **17 56 49.4 -1.3**
FINES FINESS Array B 40.45 333 P **P** **17 55 15.0 -0.2**
FINES pP **pP** **17 55 45.2 +1.7**
FINES FINESS Array B 40.45 333 P **P** **17 55 15.0 -0.2**
comp=Z,196nm,0.5s,baz=129,slow=8.8,SNR=1536
FINES pP **pP** **17 55 45.2 +1.7**
comp=Z,26nm,0.5s,baz=93,slow=12,SNR=2.1
FINES PP **PP** **17 56 49.4 -1.3**
comp=Z,55nm,0.9s,baz=133,slow=10,SNR=5.6
SOP Sopron 40.49 310⇑*e* **P** **17 55 15.9 +0.1**
SOP Sopron 40.49 310⇑*eP* **P** **17 55 15.9 +0.1**
KOGS Kog 40.52 308 *i P* **P** **17 55 16.1 0.0**
KOGS *ep*P **pP** **17 55 45.5 +1.1**
KOGS *es*P **sP** **17 55 59.1 +0.3**
KOGS Kog 40.52 308 *i P* **P** **17 55 16.1 0.0**
KOGS *ep*P **pP** **17 55 45.5 +1.1**
KOGS *es*P **sP** **17 55 59.1 +0.3**
UDBI Udbina 40.66 305 P **P** **17 55 15.6 -1.7**
UDBI Udbina 40.66 305 *i P* **P** **17 55 15.5 -1.7**
UBPT Khong Chiam 40.72 101 P **P** **17 55 18.3 +0.3**
comp=Z,304nm,0.9s,comp=Z,3μm
UBPT Khong Chiam 40.72 101 P **P** **17 55 18.3 +0.3**
comp=Z,304nm,0.9s,comp=Z,3μm
KAF Kangasniemi 40.74 334 *eP* **P** **17 55 17.3 -0.3**
KAF pmax pmax
comp=Z,38nm,0.3s
KAF Kangasniemi 40.74 334 *ep* **P** **17 55 17.3 -0.3**
comp=Z,38nm,0.3s
KAF Kangasniemi 40.74 334 *eP* **P** **17 55 17.3 -0.3**
comp=Z,38nm,0.3s
VRAC Vranov 40.75 312⇑*iP* **P** **17 55 18.0 +0.1**
VRAC Vranov 40.75 312 P **P** **17 55 18.1 +0.1**
VRAC pP **pP** **17 55 47.8 +1.5**
VRAC sP **sP** **17 56 01.9 +1.2**
VRAC Vranov 40.75 312⇑*iP* **P** **17 55 17.9 +0.1**
VRAC pP **pP** **17 55 47.8 +1.5**
VRAC Vranov 40.75 312 P **P** **17 55 18.1 +0.1**
comp=Z,81nm,0.7s,baz=101,slow=8.4,SNR=120
VRAC pP **pP** **17 55 47.8 +1.5**
comp=Z,16nm,0.8s,baz=65,slow=8.2,SNR=2.3
VRAC sP **sP** **17 56 01.9 +1.2**
comp=Z,29nm,0.9s,baz=96,slow=6.1,SNR=2.7
CONA Conrad Observa 40.99 310 *i P* **P** **17 55 20.0 0.0**
comp=Z,104nm,1.4s,SNR=43
CONA Conrad Observa 40.99 310 P **P** **17 55 20.0 0.0**
comp=Z,104nm,1.4s,SNR=43
BOJS Bojanci 41.11 307 *i P* **P** **17 55 20.7 -0.2**
BOJS Bojanci 41.11 307 *i P* **P** **17 55 20.7 -0.2**
ARSA Arzberg 41.12 309 *i P* **P** **17 55 21.2 +0.2**
comp=Z,194nm,0.9s,SNR=106
ARSA Arzberg 41.12 309 P **P** **17 55 21.2 +0.2**
comp=Z,194nm,0.9s,SNR=106
DPC Dobruska-Polom 41.13 314⇑*iP* **P** **17 55 21.5 +0.4**
DPC *e*PP **pP** **17 55 51.9 +2.4**
DPC *e* 17 57 06.4
DPC *e*S **S** **18 01 26.7 +2.0**
DPC Dobruska-Polom 41.13 314⇑*iP* **P** **17 55 21.5 +0.4**
DPC *ep*P **pP** **17 55 51.9 +2.4**
DPC *es*P **sP** **17 56 04.6 +0.7**
DPC *ePP* **PnPn** **17 57 06.4 +2.4**
DPC *e*S **S** **18 01 26.7 +2.0**

DPC eXS sS 18 02 12.8 -1.2
DPC Dobruska-Polom 41.13 314 *i* P P 17 55 21.5 +0.4
DPC pP pP 17 55 51.9 +2.4
DPC S S 18 01 26.7 +2.0
KSP Ksiaz 41.26 315⇑ *e*P P 17 55 22.5 +0.5
KSP *e**PP pP 17 55 52.4 +1.9
KSP *e*S S 18 01 22.5 -3.9
KSP *e**SS sS 18 02 15.0 -0.7
KSP Ksiaz 41.26 315 *e*P P 17 55 22.5 +0.5
KSP *e*pP pP 17 55 53.8 +3.3
KSP *e*S S 18 01 25.4 -1.0
KSP Ksiaz 41.26 315⇑ *e*P P 17 55 22.5 +0.5
KSP epP pP 17 55 52.4 +1.9
GKP Gorka Klasztor 41.29 319 *e*P P 17 55 22.3 +0.1
GKP *e**PP pP 17 55 53.2 +2.5
GKP pmax pmax
comp=Z,200nm,1.4s
GKP Gorka Klasztor 41.29 319 *e*P P 17 55 22.3 +0.1
GKP *e*pP pP 17 55 53.1 +2.4
GKP Gorka Klasztor 41.29 319 *e*P P 17 55 22.3 +0.1
comp=Z,0.1nm,1.4s
GKP epP pP 17 55 53.2 +2.5
NVLJ Novalja 41.30 305 P P 17 55 22.0 -0.5
NVLJ Novalja 41.30 305 *i* P P 17 55 21.9 -0.5
PERS Pernice 41.32 308 *i* P P 17 55 22.4 -0.2
PERS epP pP 17 55 52.2 +1.1
PERS *i* sP sP 17 56 05.4 -0.1
PERS Pernice 41.32 308 *i* P P 17 55 22.5 -0.2
PERS epP pP 17 55 52.2 +1.1
PERS *i* sP sP 17 56 05.4 -0.1
UPC Upice 41.36 314⇑ *i*P P 17 55 23.5 +0.6
UPC *e**PP pP 17 55 53.6 +2.3
UPC Upice 41.36 314⇑ *i*P P 17 55 23.5 +0.6
UPC epP pP 17 55 53.6 +2.3
UPC esP sP 17 56 06.9 +1.2
UPC Upice 41.36 314 *i* P P 17 55 23.5 +0.6
UPC pP pP 17 55 53.6 +2.3
SOKA Soboth 41.38 308 *i* P P 17 55 23.3 +0.1
comp=Z,246nm,1.7s,SNR=68
SOKA Soboth 41.38 308 P P 17 55 23.3 +0.1
comp=Z,246nm,1.7s,SNR=68
TREC Trest 41.46 312⇑ *i*P P 17 55 23.6 -0.2
TREC *e**PP pP 17 55 53.7 +1.5
TREC *e* 17 57 13.8
TREC *e*S S 18 01 27.7 -1.8
TREC Trest 41.46 312⇑ *i*P P 17 55 23.6 -0.2
TREC epP pP 17 55 53.7 +1.5
TREC esP sP 17 56 07.1 +0.5
TREC *e*PP PcP 17 57 13.8 -5.3
TREC *e*S S 18 01 27.7 -1.8
TREC Trest 41.46 312 *i* P P 17 55 23.6 -0.2
TREC pP pP 17 55 53.7 +1.5
LJU Ljubljana 41.66 307 *i* P P 17 55 25.7 +0.3
LJU *i* pP pP 17 55 55.7 +1.8
LJU esP sP 17 56 07.9 -0.4
LJU *e* 17 57 15.3
LJU Ljubljana 41.66 307 *i* P P 17 55 25.7 +0.3
LJU *i* pP pP 17 55 55.7 +1.8
LJU esP sP 17 56 07.9 -0.4
WDD Wield Dalam 41.69 292 PFAKE 17 55 40.0 +14
WDD LR LR
comp=Z,452nm,20.0s
OBKA Obir 41.70 308 *i* P P 17 55 26.1 +0.3
comp=Z,98nm,0.7s,SNR=37
OBKA Obir 41.70 308 P P 17 55 26.1 +0.3
comp=Z,98nm,0.7s,SNR=37
CEY Cerknica 41.70 307 *i* P P 17 55 25.7 -0.1
CEY Cerknica 41.70 307 *i* P P 17 55 25.7 -0.1
SKDS Skadanscina 41.98 306 *i* P P 17 55 27.3 -0.7
SKDS Skadanscina 41.98 306 *i* P P 17 55 27.3 -0.7
MOA Molln 42.05 310 *i* P P 17 55 28.3 -0.2
comp=Z,182nm,1.4s,SNR=70
MOA Molln 42.05 310 P P 17 55 28.3 -0.2
comp=Z,182nm,1.4s,SNR=70
VOY Vojsko 42.10 307⇑ *e*P P 17 55 28.7 -0.4
VOY *e* 17 55 31.7
VOY *e* 17 55 59.8
VOY Vojsko 42.10 307⇑ *e*P P 17 55 28.7 -0.4
LVZ Lovozero 42.11 344 *c* *i*P P 17 55 28.4 -0.3
LVZ pmax pmax
comp=Z,162nm,0.6s
LVZ Lovozero 42.11 344 P P 17 55 28.4 -0.3
comp=Z,1μm,0.8s,SNR=53
LVZ Lovozero 42.11 344 *i* P P 17 55 28.4 -0.3
comp=Z,162nm,0.6s
APA Apatity 42.16 343⇓ *i*P P 17 55 28.8 -0.3
APA *i* S S 18 01 36.0 -3.2
APA *i* SS ScS 18 05 20.0 +2.5
APA pmax pmax
comp=Z,208nm,1.0s
APA MLR MLR
comp=Z,1μm,18.0s
APA Apatity 42.16 343 *i* P P 17 55 28.8 -0.3
comp=Z,208nm,1.0s
TRI Trieste 42.16 307 *e*P P 17 55 28.5 -1.0
TRI *e**PP pP 17 55 56.8 -1.2
TRI *e* 17 57 07.4
TRI pmax pmax
comp=Z,129nm,0.6s
TRI Trieste 42.16 307 *e*P P 17 55 28.5 -1.0
comp=Z,129nm,0.6s
TRI epP pP 17 55 56.8 -1.2
TRI *e*PP PP 17 57 07.4 -2.0
TRI Trieste 42.16 307 *e*P P 17 55 28.5 -1.0
comp=Z,129nm,0.6s
TRI epP pP 17 55 56.8 -1.2
PRU Pruhonice 42.19 313 *e*P P 17 55 29.4 -0.2
PRU *e**PP pP 17 55 59.7 +1.5
PRU *e* 17 57 13.6
PRU *e*S S 18 01 42.2 +2.1
PRU Pruhonice 42.19 313⇑ *e*P P 17 55 29.4 -0.2
PRU epP pP 17 55 59.7 +1.5
PRU esP sP 17 56 12.8 +0.3
PRU *e*PP PP 17 57 13.6 +3.9
PRU *e*S S 18 01 42.2 +2.1
PRU *e*XS sS 18 02 24.3 -5.3
PRU Pruhonice 42.19 313 *e*P P 17 55 29.4 -0.2
PRU pP pP 17 55 59.7 +1.5
PRU S S 18 01 42.2 +2.1
CADS Cadrg 42.23 307 *i* P P 17 55 29.5 -0.6
CADS epP pP 17 55 59.3 +0.7
CADS esP sP 17 56 12.7 -0.2
CADS Cadrg 42.23 307 *i* P P 17 55 29.5 -0.6
CADS epP pP 17 55 59.3 +0.7
CADS esP sP 17 56 12.7 -0.2
KULM Kulim 42.23 118 P P 17 55 29.3 -1.1
KULM Kulim 42.23 118 P P 17 55 31.5 +1.1
KULM Kulim 42.23 118 P P 17 55 31.3 +0.9
comp=Z,100nm,0.8s,comp=Z,1μm
KULM Kulim 42.23 118 PFAKE 17 55 40.0 +10
KULM LR LR
comp=Z,835nm,20.0s
PVCC Panska Ves 42.27 314 *e*P P 17 55 31.0 +0.7
PVCC *e**PP pP 17 56 01.1 +2.3
PVCC *e* 17 57 15.1
PVCC Panska Ves 42.27 314⇑ *e*P P 17 55 31.0 +0.7
PVCC epP pP 17 56 01.1 +2.3
PVCC esP sP 17 56 14.9 +1.8
PVCC *e*PP PP 17 57 15.1 +4.6
PVCC Panska Ves 42.27 314 *e*P P 17 55 31.0 +0.7
PVCC pP pP 17 56 01.1 +2.3
AQU L'Aquila 42.27 302 *e*P P 17 55 29.3 -1.2
comp=Z,78nm,0.8s
AQU epP pP 17 55 57.3 -1.7
AQU LR LR
comp=Z,484nm,21.0s
AQU L'Aquila 42.27 302 *e*P P 17 55 29.3 -1.2
comp=Z,78nm,0.8s
AQU epP pP 17 55 57.3 -1.7
PRA Prague 42.27 313 ⇑P P 17 55 30.0 -0.3
PRA pP pP 17 56 00.0 +1.2
PRA PP PP 17 57 14.0 +3.4
MYKA Terra Mystica 42.33 308 *i* P P 17 55 31.0 +0.1
comp=Z,54nm,0.6s,SNR=31
MYKA Terra Mystica 42.33 308 P P 17 55 31.0 +0.1
comp=Z,54nm,0.6s,SNR=31
PSI Prapat 42.54 122 P P 17 55 33.1 +0.1
comp=Z,217nm,1.1s,comp=Z,2μm
PSI Prapat 42.54 122 P P 17 55 32.2 -0.8
PSI ScP ScP 18 01 03.8 +1.4
PSI Prapat 42.54 122 ⇑P P 17 55 33.6 +0.6
baz=43,SNR=76
PSI Prapat 42.54 122 P P 17 55 32.2 -0.8
comp=Z,146nm,0.7s,baz=314,slow=7.5,SNR=163
PSI ScP ScP 18 01 03.8 +1.4
comp=Z,14nm,1.0s,baz=241,slow=5.6,SNR=7.7
GEC2 GERESS Array S 42.55 311 *e*P P 17 55 32.8 +0.1
GEC2 *e**PP pP 17 56 02.6 +1.3
GEC2 pmax pmax
comp=Z,181nm,0.9s
GEC2 GERESS Array S 42.55 311 *e*P P 17 55 32.8 +0.1
comp=Z,181nm,0.9s
GEC2 epP pP 17 56 02.6 +1.3
GEC2 esP sP 17 56 16.6 +1.0
GEC2 GERESS Array S 42.55 311 *e*P P 17 55 32.8 +0.1
comp=Z,181nm,0.9s
GERES GERESS Array B 42.55 311 P P 17 55 32.5 -0.2
GERES pP pP 17 56 03.2 +1.9
GERES sP sP 17 56 17.2 +1.6
GERES ScP ScP 18 00 59.9 -2.1
GERES GERESS Array B 42.55 311 P P 17 55 32.5 -0.2
GERES pP pP 17 56 03.2 +1.9
GERES GERESS Array B 42.55 311 P P 17 55 32.5 -0.2
comp=Z,89nm,0.6s,baz=95,slow=7.2,SNR=1014
GERES pP pP 17 56 03.2 +1.9
comp=Z,17nm,0.8s,baz=187,slow=14,SNR=3.1
GERES sP sP 17 56 17.2 +1.6
comp=Z,32nm,0.9s,baz=101,slow=6.9,SNR=3.1
GERES ScP ScP 18 00 59.9 -2.1
comp=Z,0.7nm,0.5s,baz=85,slow=3.8,SNR=4.8
KBA Koelnbreinsper 42.58 309 *i* P P 17 55 32.9 -0.2
comp=Z,263nm,1.2s,SNR=99
KBA Koelnbreinsper 42.58 309 P P 17 55 32.9 -0.2
comp=Z,263nm,1.2s,SNR=99
KHC Kasperske Hory 42.67 312⇑ *i*P P 17 55 33.1 -0.5
KHC *e**PP pP 17 56 01.6 -0.6
KHC *e* 17 57 21.3
KHC *e*S S 18 01 47.7 +0.3
KHC *e* 18 02 40.6
KHC Kasperske Hory 42.67 312⇑ *i*P P 17 55 33.1 -0.5
KHC epP pP 17 56 01.6 -0.6
KHC esP sP 17 56 16.8 +0.3
KHC *e*PP PcP 17 57 21.3 -1.9
KHC *e*S S 18 01 47.7 +0.3
KHC *e*XS sS 18 02 40.6 +3.7
KHC Kasperske Hory 42.67 312 *i* P P 17 55 33.1 -0.5
KHC pP pP 17 56 01.6 -0.6
KHC Kasperske Hory 42.67 312 *e*PcP PcP 17 57 21.3 -1.9
KHC S S 18 01 47.7 +0.3
CIT Chita 42.72 44 *e*P P 17 55 35.4 +1.5
CIT *e* 17 56 04.5
CIT *e* 17 56 28.5
CIT pmax pmax
comp=Z,121nm,1.4s
BRG Berggiesshubel 42.72 314⇑ *i*P P 17 55 34.8 +0.8
comp=Z,185nm,0.8s
BRG pP pP 17 56 00.0 -2.5
BRG *i* 17 56 18.5
comp=Z,211nm,1.6s
BRG PP PP 17 57 10.0 -5.4
BRG S S 18 01 45.0 -2.9
BRG *i* 18 02 30.0
BRG
comp=N,241nm,14.9s
BRG
comp=E,329nm,15.7s
BRG
comp=Z,446nm,16.2s
BRG Berggiesshubel 42.72 314⇑ *i*P P 17 55 34.8 +0.8
BRG 17 57 10.0
BRG S S 18 01 45.0 -2.9
BRG pmax pmax
comp=Z,185nm,0.8s
BRG MLR MLR
comp=N,241nm,14.9s
BRG MLR MLR
comp=E,329nm,15.7s
BRG MLR MLR
comp=Z,446nm,16.2s
BRG Berggiesshubel 42.72 314 *e*P P 17 55 34.7 +0.8
comp=Z,185nm,0.8s
BRG epP pP 17 56 04.6 +2.1
BRG esP sP 17 56 18.6 +1.8
BRG Berggiesshubel 42.72 314 *i* P P 17 55 34.8 +0.8
comp=Z,185nm,0.8s
QIZ Qiongzhong 42.90 93 P P 17 55 36.0 +0.2
QIZ pP pP 17 56 04.0 -0.4
QIZ sP sP 17 56 18.0 -0.6
QIZ S S 18 01 52.3 +1.1
QIZ ScS ScS 18 05 25.3 +1.6
QIZ AMB AMB
comp=Z,420nm,10.4s
QIZ LR LR
comp=Z,510nm,15.7s
QIZ LR LR
comp=Z,360nm,18.4s
QIZ LR LR
comp=Z,1μm,21.7s
QIZ Qiongzhong 42.90 93 *e*P P 17 55 36.3 +0.5
comp=Z,63nm,0.8s
QIZ *e*PP PP 17 57 17.8 0.0
QIZ LR LR
comp=Z,1μm,22.0s
QIZ Qiongzhong 42.90 93 *e*P P 17 55 36.3 +0.5
comp=Z,63nm,0.8s
RJOB Jochberg 43.02 310 *e*P P 17 55 36.2 -0.2
comp=Z,169nm,1.4s
RJOB esP sP 17 56 19.7 +0.3
IPM Ipoh 43.03 118 P P 17 55 33.2 -3.7
IPM Ipoh 43.03 118 P P 17 55 37.6 +0.7
IPM Ipoh 43.03 118 P P 17 55 37.3 +0.4
comp=Z,168nm,0.9s,comp=Z,2μm
FBE Freiberg 43.10 314 *e*P P 17 55 38.0 +1.1
comp=Z,260nm,1.0s
FBE epP pP 17 56 07.9 +2.3
FBE esP sP 17 56 22.0 +2.1
BSD Bornholm Skovb 43.11 321⇑ *i*P P 17 55 35.7 -1.3
BSD pmax pmax
comp=Z,71nm,1.0s
BSD Bornholm Skovb 43.11 321⇑ *i*P P 17 55 35.7 -1.3
comp=Z,71nm,0.9s
BSD Bornholm Skovb 43.11 321⇑ *i*P P 17 55 35.7 -1.3
comp=Z,71nm,1.0s
ABTA Abfaltersbach 43.12 308 *i* P P 17 55 36.9 -0.3
comp=Z,204nm,0.8s,SNR=120
ABTA Abfaltersbach 43.12 308 P P 17 55 36.9 -0.3
comp=Z,204nm,0.8s,SNR=120
RUE Ruedersdorf 43.13 317 *e*P P 17 55 37.2 0.0
comp=Z,218nm,1.0s
RUE epP pP 17 56 07.2 +1.4
RUE esP sP 17 56 21.5 +1.4
RUE Ruedersdorf 43.13 317 *e*P P 17 55 36.1 -1.0
comp=Z,380nm,1.4s
RUE epP pP 17 56 03.7 -2.1
RUE *e*PP PP 17 57 19.2 -0.5
RUE *e*PcP PcP 17 57 24.4 -0.1
RUE Ruedersdorf 43.13 317 *e*P P 17 55 36.2 -1.0
comp=Z,380nm,1.4s
RUE epP pP 17 56 03.7 -2.1
WHN Wuhan 43.35 76 ⇓P P 17 55 41.3 +2.0
WHN pP pP 17 56 07.5 -0.4
WHN sP sP 17 56 21.5 -0.7
WHN S S 18 01 59.5 +1.9
WHN AMB AMB
comp=Z,100nm,0.9s
WHN LR LR
comp=Z,4μm,19.8s
CLL Collm 43.38 315⇑ *i*P P 17 55 39.6 +0.4
CLL *e**PP pP 17 56 09.0 +1.1
CLL *e*S S 18 01 54.0 -3.5
CLL pmax pmax
comp=Z,68nm,1.0s
CLL Collm 43.38 315 *e*P P 17 55 39.7 +0.5
comp=Z,68nm,1.0s
CLL Collm 43.38 315⇑ *i*P P 17 55 39.6 +0.4
comp=Z,68nm,1.0s
CLL *i* 17 55 54.0
CLL epP pP 17 56 09.0 +1.1
CLL esP sP 17 56 24.0 +1.8
CLL *e*PP PP 17 57 21.0 -1.4
CLL *e* 17 57 30.0
CLL *e* 17 57 51.0
CLL *e* 17 58 17.0
CLL *e*ScP ScP 18 01 02.0 -3.1
CLL *e*S S 18 01 54.0 -3.5
CLL *e*sS sS 18 02 45.0 -2.2
CLL *e* 18 05 42.0
CLL Collm 43.38 315 *i* P P 17 55 39.6 +0.4
comp=Z,68nm,1.0s
NKC Novy Kostel 43.56 313⇑ *i*P P 17 55 40.9 +0.2
NKC *e**PP pP 17 56 10.7 +1.3
NKC *e*S S 18 02 01.9 +1.7
NKC *e* 18 02 56.9
NKC Novy Kostel 43.56 313⇑ *i*P P 17 55 40.9 +0.2
NKC epP pP 17 56 10.7 +1.3
NKC esP sP 17 56 24.3 +0.6
NKC *e*S S 18 02 01.9 +1.7
NKC *e*XS sS 18 02 56.9 +7.0
NKC Novy Kostel 43.56 313 *i* P P 17 55 40.9 +0.2
NKC pP pP 17 56 10.7 +1.3
NKC S S 18 02 01.9 +1.7
TANN Tannenbergstha 43.58 313 *e*P P 17 55 41.2 +0.3
comp=Z,40nm,0.9s
TANN epP pP 17 56 11.2 +1.6
TANN esP sP 17 56 25.2 +1.3
BJT Baijiatuau 43.60 62 PFAKE 17 55 50.0 +8.8
BJT LR LR
comp=Z,902nm,22.0s
BJI Beijing 43.61 62 P P 17 55 43.0 +1.8
BJI S S 18 02 02.0 +0.9
BJI AMB AMB
comp=Z,39nm,1.1s
BJI AMB AMB
comp=Z,260nm,7.9s
BJI LR LR
comp=Z,600nm,19.6s
BJI LR LR
comp=Z,670nm,18.6s
BJI LR LR
comp=Z,800nm,27.6s
WERN Wernitzgruen 43.61 313 *e*P P 17 55 41.8 +0.7
comp=Z,126nm,1.4s
WERN epP pP 17 56 11.6 +1.8
MBAR Mbarara 43.62 233 *e*P P 17 55 43.0 +1.3
MBAR Mbarara 43.62 233 P P 17 55 43.0 +1.3
MBAR Mbarara 43.62 233 P P 17 55 43.7 +2.0
comp=Z,67nm,0.8s,SNR=8.2
MBAR Mbarara 43.62 233 P P 17 55 43.0 +1.3
ROTZ Rotzenmuhle 43.65 312 *e*P P 17 55 41.8 +0.4
comp=Z,155nm,1.4s
ROTZ epP pP 17 56 11.8 +1.7
ROTZ esP sP 17 56 25.8 +1.4
GUNZ Gunzen 43.65 313 *e*P P 17 55 41.9 +0.4
comp=Z,158nm,1.7s
GUNZ epP pP 17 56 12.0 +1.9
GUNZ esP sP 17 56 25.8 +1.4
WERD Werda 43.68 313 *e*P P 17 55 42.0 +0.3
comp=Z,96nm,1.4s
WERD epP pP 17 56 12.0 +1.6
WERD esP sP 17 56 26.0 +1.3
MANZ Manzenberg 43.74 313 *e*P P 17 55 42.8 +0.6
comp=Z,271nm,2.0s
WTTA Wattenberg 43.76 309 *i* P P 17 55 41.6 -0.9
comp=Z,311nm,1.2s,SNR=79
WTTA Wattenberg 43.76 309 P P 17 55 41.6 -0.9
comp=Z,311nm,1.2s,SNR=79
PLN Plauen 43.78 314 *e*P P 17 55 42.8 +0.4
comp=Z,684nm,1.6s
RGN Rugen 43.86 319 *e*P P 17 55 43.4 +0.5
comp=Z,186nm,1.1s
RGN epP pP 17 56 13.5 +1.8
RGN esP sP 17 56 27.5 +1.5
FUR Furstenfeldbru 44.08 310 *e*P P 17 55 44.1 -0.8
FUR pmax pmax
comp=Z,130nm,0.8s
FUR Furstenfeldbru 44.08 310 *e*P P 17 55 44.1 -0.8
comp=Z,130nm,0.8s
FUR esP sP 17 56 28.2 +0.3
FUR Furstenfeldbru 44.08 310 *e*P P 17 55 44.1 -0.8
comp=Z,130nm,0.8s
MOTA Moosalm 44.12 309 *i* P P 17 55 44.0 -1.4
comp=Z,97nm,0.5s,SNR=129
MOTA Moosalm 44.12 309 P P 17 55 44.0 -1.4
comp=Z,97nm,0.5s,SNR=129
NEUB Neuenburg 44.13 314 *e*P P 17 55 45.8 +0.6
comp=Z,157nm,0.8s
NEUB epP pP 17 56 15.8 +1.9
NEUB esP sP 17 56 30.0 +1.8
KTGM Kuala Trenggan 44.15 115 P P 17 55 47.5 +1.7
GRA1 Grafenberg Arr 44.27 312 *e*P P 17 55 47.0 +0.6
comp=Z,204nm,1.0s
GRF Grafenberg Arr 44.27 312 *e*P P 17 55 47.0 +0.6
GRF *e**PP pP 17 56 17.0 +1.9
GRF pmax pmax
comp=Z,204nm,1.0s
GRF Grafenberg Arr 44.27 312 *e*P P 17 55 47.0 +0.6
comp=Z,204nm,1.0s
GRF epP pP 17 56 17.0 +1.9
FRIM Kepong 44.28 119 P P 17 55 47.1 +0.2
FETA Feichten 44.36 308 *i* P P 17 55 46.1 -1.1
comp=Z,288nm,1.1s,SNR=135
FETA Feichten 44.36 308 P P 17 55 46.1 -1.1
comp=Z,288nm,1.1s,SNR=135
RETA Reutte 44.37 309 *i* P P 17 55 46.1 -1.1
comp=Z,106nm,0.6s,SNR=56
RETA Reutte 44.37 309 P P 17 55 46.1 -1.1
comp=Z,106nm,0.6s,SNR=56
VLC Villacollemand 44.49 304 *e*P P 17 55 47.3 -0.9
comp=Z,109nm,1.1s
VLC epP pP 17 56 14.9 -2.1
VLC LR LR
comp=Z,424nm,20.0s
VLC Villacollemand 44.49 304 *e*P P 17 55 47.3 -0.9
comp=Z,109nm,1.1s
VLC epP pP 17 56 14.9 -2.1
COP Copenhagen 44.63 321⇑ *i*P P 17 55 49.7 +0.7
COP *i* S S 18 02 12.8 -2.6
COP pmax pmax
comp=Z,40nm,0.9s
COP Copenhagen 44.63 321⇑ *i*P P 17 55 49.7 +0.7
comp=Z,40nm,0.8s
COP *i* S S 18 02 12.8 -2.6
COP Copenhagen 44.63 321 *i* P P 17 55 49.7 +0.7
comp=Z,40nm,0.9s
LLD Lille Linde 44.66 320 *i* P P 17 55 50.0 +0.7
LLD *i* 17 56 19.6
LLD pmax pmax
comp=Z,90nm,0.9s
LLD Lille Linde 44.66 320 *i* P P 17 55 50.0 +0.7
comp=Z,90nm,0.9s
LLD *i* 17 56 19.6
LLD Lille Linde 44.66 320 *i* P P 17 55 50.0 +0.7
comp=Z,90nm,0.9s
TIA Tai'an 44.70 67 ⇓P P 17 55 52.0 +2.1
TIA AMB AMB
comp=Z,200nm,1.0s
DAVOX Davos/Dischmat 44.92 308 P P 17 55 50.9 -0.9
DAVOX pP pP 17 56 22.3 +1.7
DAVOX S S 18 02 17.7 -2.7
DAVOX Davos/Dischmat 44.92 308 P P 17 55 50.9 -0.9
DAVOX pP pP 17 56 22.3 +1.7
DAVOX Davos/Dischmat 44.92 308 P P 17 55 50.9 -0.9
comp=Z,59nm,0.7s,baz=94,slow=5.4,SNR=215
DAVOX pP pP 17 56 22.3 +1.7
comp=Z,26nm,0.7s,baz=88,slow=9.6,SNR=2.7
DAVOX S S 18 02 17.7 -2.7
comp=Z,6.7nm,0.8s,baz=174,slow=23,SNR=8.9
DAVA Damuels 44.95 309 *i* P P 17 55 50.9 -1.1
comp=Z,426nm,0.9s,SNR=128
DAVA Damuels 44.95 309 P P 17 55 50.9 -1.1
comp=Z,426nm,0.9s,SNR=128
KIG Kigali 45.06 232 *e*P P 17 55 57.1 +3.8
KIG AMB AMB 17 55 57.9
comp=Z,18nm,0.9s
KIG Kigali 45.06 232 P P 17 55 57.1 +3.8
comp=Z,18nm,0.9s
CLZ Clausthal 45.09 315 *e*P P 17 55 53.4 +0.5
CLZ *e**PP pP 17 56 23.6 +1.9
CLZ pmax pmax
comp=Z,157nm,1.1s
CLZ Clausthal 45.09 315 *e*P P 17 55 53.4 +0.5
comp=Z,157nm,1.1s
CLZ epP pP 17 56 23.6 +1.9
CLZ Clausthal 45.09 315 *e*P P 17 55 53.4 +0.5
comp=Z,157nm,1.1s
UBBA Unterbreizbach 45.19 314 *e*P P 17 55 54.3 +0.9
comp=Z,129nm,1.5s
UBBA epP pP 17 56 24.4 +2.1
HFS Hagfors 45.27 327 P P 17 55 53.6 -0.4
HFS pP pP 17 56 24.7 +1.8
HFS PP PP 17 57 41.2 -1.0

HFS Hagfors 45.27 327 P **P** 17 55 53.6 -0.4
HFS pP **pP** 17 56 24.7 +1.8
HFS Hagfors 45.27 327 P **P** 17 55 53.6 -0.4
comp=Z,78nm,0.8s,baz=111,slow=9.9,SNR=437
HFS pP **pP** 17 56 24.7 +1.8
comp=Z,29nm,0.6s,baz=119,slow=9.0,SNR=3.1
HFS PP **PP** 17 57 41.2 -1.0
comp=Z,21nm,0.5s,baz=106,slow=11,SNR=5.3
TUE Stuetta 45.28 308 *e*P **P** 17 55 53.4 -1.2
comp=Z,118nm,0.7s
TUE *ep*P **pP** 17 56 20.7 -2.8
TUE LR LR
comp=Z,608nm,20.0s
TUE Stuetta 45.28 308 *e*P **P** 17 55 53.4 -1.2
comp=Z,118nm,0.7s
NRDL Niedersach Rie 45.35 316 *e*P **P** 17 55 55.3 +0.6
comp=Z,134nm,1.1s
NRDL *ep*P **pP** 17 56 25.5 +1.9
KEV Kevo 45.37 343 *e*P **P** 17 55 54.2 -0.5
KEV pmax pmax
comp=Z,11nm,0.3s
KEV Kevo 45.37 343 *ep* **P** 17 55 54.2 -0.5
comp=Z,11nm,0.3s
KEV Kevo 45.37 343 PFAKE 17 56 10.0 +15
KEV LR LR
comp=Z,1µm,20.0s
KEV Kevo 45.37 343 *e*P **P** 17 55 54.2 -0.5
comp=Z,11nm,0.3s
VSL Villasalto 45.42 298 *e*P **P** 17 55 54.8 -0.9
comp=Z,176nm,1.0s
VSL *ep*P **pP** 17 56 23.0 -1.5
VSL *es*P **sP** 17 56 35.8 -3.0
VSL LR LR
comp=Z,367nm,21.0s
VSL Villasalto 45.42 298 *e*P **P** 17 55 54.8 -0.9
comp=Z,176nm,1.0s
VSL *ep*P **pP** 17 56 23.0 -1.5
BSEG Bad Segeberg 45.46 318 *e*P **P** 17 55 56.0 +0.4
BSEG *e**PP **pP** 17 56 26.4 +1.9
BSEG *e**SP **sP** 17 56 40.3 +1.5
BSEG pmax pmax
comp=Z,104nm,1.0s
BSEG Bad Segeberg 45.46 318 *e*P **P** 17 55 56.0 +0.4
comp=Z,104nm,1.0s
BSEG *ep*P **pP** 17 56 26.4 +1.9
BSEG *es*P **sP** 17 56 40.3 +1.5
BSEG Bad Segeberg 45.46 318 *e*P **P** 17 55 56.0 +0.4
comp=Z,104nm,1.0s
STU Stuttgart 45.51 311 *e*P **P** 17 55 55.4 -0.8
comp=Z,176nm,0.9s
STU *ep*P **pP** 17 56 25.4 +0.4
STU *es*P **sP** 17 56 39.4 +0.1
PGF Pioggiola 45.53 302⇑*i*P **P** 17 55 55.0 -1.5
comp=Z,51nm,1.0s
PGF Pioggiola 45.53 302⇑*i*P **P** 17 55 55.0 -1.5
PGF pmax pmax
comp=Z,51nm,1.0s
PGF Pioggiola 45.53 302⇑*i*P **P** 17 55 55.0 -1.5
comp=Z,51nm,1.0s
PGF Pioggiola 45.53 302⇑*i*P **P** 17 55 55.0 -1.5
comp=Z,26nm,1.0s
ARCES ARCESS Array B 45.61 342 P **P** 17 55 56.4 -0.3
ARCES pP **pP** 17 56 26.8 +1.2
ARCES ScP **ScP** 18 01 13.3 -0.7
ARCES ARCESS Array B 45.61 342 P **P** 17 55 56.4 -0.3
ARCES pP **pP** 17 56 26.8 +1.2
ARCES ARCESS Array B 45.61 342 P **P** 17 55 56.4 -0.3
comp=Z,80nm,0.6s,baz=132,slow=8.0,SNR=361
ARCES pP **pP** 17 56 26.8 +1.2
comp=Z,24nm,0.5s,baz=138,slow=7.8,SNR=3.8
ARCES ScP **ScP** 18 01 13.3 -0.7
comp=Z,5.4nm,0.7s,baz=125,slow=5.8,SNR=3.5
ARCES LR LR 18 18 16.8
comp=Z,619nm,18.7s,baz=137,slow=40
ARE0 ARCESS Array S 45.61 342 *e*P **P** 17 55 56.3 -0.4
ARE0 ARCESS Array S 45.61 342 *e*P **P** 17 55 56.3 -0.4
ARE0 *ep*P **pP** 17 56 23.9 -1.7
ARE0 ARCESS Array S 45.61 342 *e*P **P** 17 55 56.3 -0.4
SNR=35
ARE0 *ep*P **pP** 17 56 23.9 -1.7
SPAK Spaichingen-Ko 45.73 310 *e*P **P** 17 55 56.8 -1.3
TOD Tromm 45.83 312 *e*P **P** 17 55 58.6 -0.1
PPI Padang Panjang 45.83 124⇓P **P** 17 55 59.4 +0.3
baz=46,SNR=19
KEST Kesra 45.88 293 P **P** 17 56 00.3 +0.9
comp=Z,39nm,0.6s,baz=39,slow=1.9,SNR=211
KEST pP **pP** 17 56 30.6 +2.3
comp=Z,25nm,0.9s,baz=136,slow=2.7,SNR=4.1
KTK1 Kautokeino 45.91 341 *e*P **P** 17 55 59.0 0.0
KTK1 Kautokeino 45.91 341 *e*P **P** 17 55 59.0 0.0
SNR=35
BFO Black Forest 46.05 310 *e*P **P** 17 55 59.3 -1.2
BFO *e**PP **pP** 17 56 29.4 0.0
BFO pmax pmax
comp=Z,47nm,1.1s
BFO Black Forest 46.05 310 *e*P **P** 17 55 59.3 -1.2
comp=Z,47nm,1.1s
BFO *ep*P **pP** 17 56 29.4 0.0
BFO Black Forest 46.05 310 PFAKE 17 56 10.0 +10
BFO LR LR
comp=Z,390nm,19.0s
BFO Black Forest 46.05 310 P **P** 17 55 59.7 -0.8
comp=Z,225nm,0.9s,SNR=14
BFO Black Forest 46.05 310 *e*P **P** 17 55 59.3 -1.2
comp=Z,47nm,1.1s
TNS Taunus Mts 46.11 313 *e*P **P** 17 56 01.5 +0.6
TNS *e**PP **pP** 17 56 31.8 +1.9
TNS pmax pmax
comp=Z,133nm,0.9s
TNS Taunus Mts 46.11 313 *e*P **P** 17 56 01.5 +0.6
comp=Z,133nm,0.9s
TNS *ep*P **pP** 17 56 31.8 +1.9
TNS Taunus Mts 46.11 313 *e*P **P** 17 56 01.5 +0.6
comp=Z,133nm,0.9s
HIA Hailar 46.25 49 *e*P **P** 17 56 02.5 +0.5
HIA *ep*P **pP** 17 56 30.5 -0.4
HIA *e*PcP **PcP** 17 57 36.5 +1.1
HIA LR LR
comp=Z,576nm,21.0s
HIA Hailar 46.25 49 *e*P **P** 17 56 02.5 +0.5
HIA *ep*P **pP** 17 56 30.5 -0.4
FELD Feldberg im Sc 46.25 309 *e*P **P** 17 56 00.8 -1.4
FELD Feldberg im Sc 46.25 309 *e*P **P** 17 56 00.8 -1.4
KTD Kalmit 46.27 311 *e*P **P** 17 56 02.2 0.0
KGM Kluang 46.36 119 P P 17 55 56.2 -7.1
KGM Kluang 46.36 119 P **P** 17 56 05.0 +1.7
LANF Langenberg 46.44 311 *e*P **P** 17 56 02.9 -0.6
LANF Langenberg 46.44 311 *e*P **P** 17 56 02.9 -0.6
NC602 NORSAR Array S 46.47 328 *e*P **P** 17 56 01.1 -2.4
NC602 NORSAR Array S 46.47 328 *e*P **P** 17 56 01.1 -2.4
SNR=35
LIBD Limburg 46.53 310 *e*P **P** 17 56 03.3 -0.8
SAOF Saorge 46.53 304 *e*P **P** 17 56 03.3 -1.0
SAOF Saorge 46.53 304 *e*P **P** 17 56 03.3 -1.0
BBS Basel-Blauen 46.57 309 *e*P **P** 17 56 03.1 -1.4
MUD Monsted U'grnd 46.58 321 *i* P **P** 17 56 04.6 +0.2
MUD pmax pmax
comp=Z,28nm,0.8s
MUD Monsted U'grnd 46.58 321 *i* P **P** 17 56 04.6 +0.2
comp=Z,28nm,0.8s
MUD Monsted U'grnd 46.58 321 *i* P **P** 17 56 04.6 +0.2
comp=Z,28nm,0.8s
SBF Sospel 46.62 304⇑*i*P **P** 17 56 04.1 -1.0
comp=Z,339nm,0.8s
SBF Sospel 46.62 304⇑*i*P **P** 17 56 04.1 -1.0
SBF pmax pmax
comp=Z,339nm,0.8s
SBF Sospel 46.62 304⇑*i*P **P** 17 56 04.1 -1.0
comp=Z,339nm,0.8s
SBF Sospel 46.62 304⇑*i*P **P** 17 56 04.1 -1.0
comp=Z,169nm,0.8s
AUTN L'Aution 46.63 304 *e*P **P** 17 56 04.4 -0.9
AUTN L'Aution 46.63 304 *e*P **P** 17 56 04.4 -0.9
ABH Alteburg 46.66 312 *e*P **P** 17 56 05.5 +0.3
REVF Revere 46.68 304 *e*P **P** 17 56 04.0 -1.5
REVF Revere 46.68 304 *e*P **P** 17 56 04.0 -1.5
LUCF Luceram 46.69 304 *e*P **P** 17 56 04.4 -1.2
LUCF Luceram 46.69 304 *e*P **P** 17 56 04.4 -1.2
NB2 NORSAR Subarra 46.72 328 P **P** 17 56 04.3 -1.2
comp=Z,50nm,0.8s,baz=108,slow=7.9
NB2 NORSAR Subarra 46.72 328 P **P** 17 56 04.3 -1.2
baz=108,slow=7.9
NB2 NORSAR Subarra 46.72 328 P **P** 17 56 04.3 -1.2
SNR=34
NOA NORSAR Array B 46.72 328 P **P** 17 56 04.2 -1.2
NOA pP **pP** 17 56 35.6 +1.1
NOA PP **PP** 17 57 54.4 -2.3
NOA NORSAR Array B 46.72 328 P **P** 17 56 04.2 -1.2
NOA pP **pP** 17 56 35.6 +1.1
NOA NORSAR Array B 46.72 328 P **P** 17 56 04.2 -1.2
comp=Z,25nm,0.7s,baz=109,slow=7.5,SNR=102
NOA pP **pP** 17 56 35.6 +1.1
comp=Z,26nm,0.7s,baz=110,slow=7.6,SNR=6.5
NOA PP **PP** 17 57 54.4 -2.3
comp=Z,18nm,0.7s,baz=108,slow=10,SNR=8.8
IBBN Ibbenburen 46.75 316 *e*P **P** 17 56 06.2 +0.4
comp=Z,263nm,1.2s
IBBN *ep*P **pP** 17 56 36.6 +1.8
TOUF Mont Tournerai 46.76 304 *e*P **P** 17 56 05.3 -0.9
TOUF Mont Tournerai 46.76 304 *e*P **P** 17 56 05.3 -0.9
CDF Champ du Feu 46.76 310⇑*i*P **P** 17 56 04.9 -1.2
comp=Z,131nm,1.0s
CDF Champ du Feu 46.76 310⇑*i*P **P** 17 56 04.9 -1.2
CDF pmax pmax
comp=Z,131nm,1.0s
CDF Champ du Feu 46.76 310⇑*i*P **P** 17 56 04.9 -1.2
comp=Z,131nm,1.0s
CDF Champ du Feu 46.76 310⇑*i*P **P** 17 56 04.9 -1.2
comp=Z,65nm,1.0s
NAO01 NORSAR Array S 46.81 328 *e*P **P** 17 56 05.1 -1.0
comp=Z,26nm,0.7s
NAO01 NORSAR Array S 46.81 328 *e*P **P** 17 56 05.1 -1.0
comp=Z,26nm,0.7s
NJ2 Nanjing 46.81 72 *e*P **P** 17 56 07.3 +0.7
NJ2 pP **pP** 17 56 33.0 -2.6
NJ2 sP **sP** 17 56 48.5 -1.3
NJ2 S **S** 18 02 48.0 +0.6
NJ2 sS **sS** 18 03 36.0 -1.6
NJ2 AMB AMB
comp=Z,20nm,0.7s
NJ2 LR LR
comp=Z,820nm,23.1s
NJ2 LR LR
comp=Z,880nm,19.2s
NJ2 LR LR
comp=Z,6µm,24.3s
MVIF Mont Vial 46.83 304 *e*P **P** 17 56 05.6 -1.1
MVIF Mont Vial 46.83 304 *e*P **P** 17 56 05.6 -1.1
ECH Echery 46.83 310 *e*P **P** 17 56 05.5 -1.1
ECH *e**PP **pP** 17 56 33.9 -1.7
ECH pmax pmax
comp=Z,169nm,1.1s
ECH MLR MLR
comp=Z,470nm,20.0s
ECH Echery 46.83 310 *e*P **P** 17 56 04.8 -1.7
ECH Echery 46.83 310 *e*P **P** 17 56 05.5 -1.1
comp=Z,169nm,1.1s
ECH *ep*P **pP** 17 56 33.9 -1.7
ECH *es*P **sP** 17 56 47.2 -2.5
ECH LR LR
comp=Z,470nm,20.0s
ECH Echery 46.83 310 *e*P **P** 17 56 05.4 -1.1
comp=Z,169nm,1.1s
ECH *ep*P **pP** 17 56 33.8 -1.8
MOF Molkenrain 46.83 309 *e*P **P** 17 56 05.2 -1.5
MOF Molkenrain 46.83 309 *e*P **P** 17 56 05.2 -1.5
MYKOM Kota Tinggi 46.91 119 P **P** 17 56 09.4 +1.9
MYKOM Kota Tinggi 46.91 119 P **P** 17 56 08.4 +0.9
comp=Z,611nm,0.8s,comp=Z,5µm
OG22 Abries 46.95 305 *e*P **P** 17 56 06.1 -1.6
OG22 Abries 46.95 305 *e*P **P** 17 56 06.1 -1.6
BUG Bochum--Univer 46.96 314 *e*P **P** 17 56 07.8 +0.4
comp=Z,264nm,1.1s
BUG *ep*P **pP** 17 56 38.1 +1.6
RUP Ruppelstein 46.97 312 *e*P **P** 17 56 07.8 +0.2
HINF Hinteralfeld 47.02 309⇑*i*P **P** 17 56 06.9 -1.2
comp=Z,62nm,0.9s
HINF Hinteralfeld 47.02 309⇑*i*P **P** 17 56 06.9 -1.2
HINF pmax pmax
comp=Z,62nm,0.9s
HINF Hinteralfeld 47.02 309⇑*i*P **P** 17 56 06.9 -1.2
comp=Z,62nm,0.9s
HINF Hinteralfeld 47.02 309⇑*i*P **P** 17 56 06.9 -1.2
comp=Z,31nm,0.9s
CALN Calern 47.02 304 *e*P **P** 17 56 06.8 -1.5
CALN Calern 47.02 304 *e*P **P** 17 56 06.8 -1.5
LOMF Lomont 47.03 309 *e*P **P** 17 56 07.1 -1.1
LOMF Lomont 47.03 309 *e*P **P** 17 56 07.1 -1.1
SURF Saint Ours 47.05 305 *e*P **P** 17 56 07.7 -0.8
SURF Saint Ours 47.05 305 *e*P **P** 17 56 07.7 -0.8
LPG La Plagne 47.08 306⇑*i*P **P** 17 56 07.8 -1.0
comp=Z,91nm,0.6s
LPG *ep*P **pP** 17 56 38.3 +0.4
LPG La Plagne 47.08 306⇑*i*P **P** 17 56 07.8 -1.0
LPG *e**PP **pP** 17 56 38.3 +0.4
LPG pmax pmax
comp=Z,91nm,0.6s
LPG La Plagne 47.08 306⇑*i*P **P** 17 56 07.8 -1.0
comp=Z,91nm,0.6s
LPG *ep*P **pP** 17 56 38.3 +0.4
LPG La Plagne 47.08 306⇑*i*P **P** 17 56 07.8 -1.0
comp=Z,46nm,0.6s
LPG *ep*P **pP** 17 56 38.3 +0.4
MBDF Montbardon 47.08 305⇑*i*P **P** 17 56 07.4 -1.3
comp=Z,144nm,0.8s
MBDF Montbardon 47.08 305⇑*i*P **P** 17 56 07.4 -1.3
MBDF pmax pmax
comp=Z,144nm,0.8s
MBDF Montbardon 47.08 305⇑*i*P **P** 17 56 07.4 -1.3
comp=Z,144nm,0.8s
MBDF Montbardon 47.08 305⇑*i*P **P** 17 56 07.4 -1.3
comp=Z,72nm,0.8s
LPL La Plagne 47.09 306⇑*i*P **P** 17 56 07.9 -0.9
comp=Z,284nm,1.1s
LPL La Plagne 47.09 306⇑*i*P **P** 17 56 07.9 -0.9
LPL pmax pmax
comp=Z,284nm,1.1s
LPL La Plagne 47.09 306⇑*i*P **P** 17 56 07.9 -0.9
comp=Z,284nm,1.1s
LPL La Plagne 47.09 306⇑*i*P **P** 17 56 07.9 -0.9
comp=Z,142nm,1.1s
KONO Kongsberg 47.09 326 *e*P **P** 17 56 07.4 -0.9
KONO *es* **S** 18 02 49.2 -1.4
KONO Kongsberg 47.09 326 PFAKE 17 56 20.0 +12
KONO LR LR
comp=Z,1µm,22.0s
KONO Kongsberg 47.09 326 *e*P **P** 17 56 07.4 -0.9
SNR=34
BTDF Bukit Timah Da 47.13 119 P **P** 17 56 10.1 +0.9
baz=47,SNR=10
BTDF P **P** 17 56 10.1 +0.9
baz=47,SNR=10
BNI Bardonecchia 47.13 306 PFAKE 17 56 20.0 +11
BNI LR LR
comp=Z,731nm,19.0s
RSL Roselend 47.16 306 *e*P **P** 17 56 08.3 -1.0
RSL Roselend 47.16 306 *e*P **P** 17 56 08.3 -1.0
FRF La Foret Royal 47.21 304⇑*i*P **P** 17 56 08.1 -1.4
FRF La Foret Royal 47.21 304⇑*i*P **P** 17 56 08.1 -1.4
FRF La Foret Royal 47.21 304⇑*i*P **P** 17 56 08.1 -1.4
FRF La Foret Royal 47.21 304⇑*i*P **P** 17 56 08.1 -1.4
MOR8 Moi Rana 47.28 335 *e*P **P** 17 56 08.3 -1.4
MOR8 AMB AMB 17 56 10.8
comp=Z,143nm,1.0s
MOR8 *ep*P **pP** 17 56 39.5 +0.6
MOR8 Moi Rana 47.28 335 *e*P **P** 17 56 08.3 -1.4
comp=Z,143nm,1.0s,SNR=34
MOR8 *ep*P **pP** 17 56 39.5 +0.6
SNR=145
CMAH Djebel Manchou 47.29 294 P **P** 17 56 11.0 +0.6
CMAH Djebel Manchou 47.29 294 P **P** 17 56 11.0 +0.6
WTSB Winterswijk 47.30 315 *i* P **P** 17 56 10.4 +0.4
comp=Z,154nm,0.9s
WTSB *ep*P **pP** 17 56 40.9 +1.8
WTSB Winterswijk 47.30 315 *i* P **P** 17 56 10.4 +0.4
comp=Z,154nm,0.9s
WTSB *ep*P **pP** 17 56 40.9 +1.8
HOMB Homborsund 47.32 324 *e*P **P** 17 56 11.6 +1.5
HOMB Homborsund 47.32 324 *e*P **P** 17 56 11.6 +1.5
SNR=34
LMR La Mourre 47.32 303⇑*i*P **P** 17 56 08.8 -1.6
LMR La Mourre 47.32 303⇑*i*P **P** 17 56 08.8 -1.6
LMR La Mourre 47.32 303⇑*i*P **P** 17 56 08.8 -1.6
LMR La Mourre 47.32 303⇑*i*P **P** 17 56 08.8 -1.6
TRO Tromso 47.51 340 *e*P **P** 17 56 11.3 -0.1
TRO *ep*P **pP** 17 56 42.1 +1.6
TRO *e*S **S** 18 02 55.1 -1.2
TRO Tromso 47.51 340 *e*P **P** 17 56 11.3 -0.1
SNR=34
TRO *ep*P **pP** 17 56 42.1 +1.6
SNR=145
CABF La Chapelle 47.53 308⇑*i*P **P** 17 56 11.8 -0.3
comp=Z,648nm,1.1s
CABF *ep*P **pP** 17 56 42.5 +1.3
CABF La Chapelle 47.53 308⇑*i*P **P** 17 56 11.8 -0.3
CABF *e**PP **pP** 17 56 42.5 +1.3
CABF pmax pmax
comp=Z,648nm,1.1s
CABF La Chapelle 47.53 308⇑*i*P **P** 17 56 11.8 -0.3
comp=Z,648nm,1.1s
CABF *ep*P **pP** 17 56 42.5 +1.3
CABF La Chapelle 47.53 308⇑*i*P **P** 17 56 11.8 -0.3
comp=Z,324nm,1.1s
CABF *ep*P **pP** 17 56 42.5 +1.3
GDM Grand'Maison 47.53 306 *e*P **P** 17 56 10.1 -2.1
GDM Grand'Maison 47.53 306 *e*P **P** 17 56 10.1 -2.1
WLF Walferdange 47.55 312 P **P** 17 56 12.4 +0.4
comp=Z,186nm,1.4s
WLF AP **pP** 17 56 41.6 +0.4
WLF Walferdange 47.55 312 *e*P **P** 17 56 11.4 -0.7
WLF pmax pmax
comp=Z,128nm,0.9s
WLF MLR MLR
comp=Z,672nm,19.0s
WLF Walferdange 47.55 312 *e*P **P** 17 56 12.5 +0.4
comp=Z,363nm,1.6s
WLF Walferdange 47.55 312 *e*P **P** 17 56 11.4 -0.7
comp=Z,128nm,0.9s
WLF *ep*P **pP** 17 56 38.8 -2.4
WLF *es*P **sP** 17 56 52.0 -3.4
WLF LR LR
comp=Z,672nm,19.0s
WLF Walferdange 47.55 312 *e*P **P** 17 56 11.4 -0.7
comp=Z,672nm,19.0s
WLF *ep*P **pP** 17 56 38.8 -2.4
NSS Namsos 47.57 333 *e*P **P** 17 56 11.3 -0.7
NSS Namsos 47.57 333 *e*P **P** 17 56 11.3 -0.7
SNR=34
THEF They Montfort 47.61 310 *e*P **P** 17 56 11.6 -1.0
THEF They Montfort 47.61 310 *e*P **P** 17 56 11.6 -1.0
MEM Membach 47.70 313 P **P** 17 56 13.6 +0.4
comp=Z,82nm,1.1s
MEM AP **pP** 17 56 43.9 +1.6
MEM Membach 47.70 313 P **P** 17 56 13.5 +0.4
comp=Z,82nm,1.1s
ORIF Oris-en-Rattie 47.70 305⇑*i*P **P** 17 56 11.4 -2.1
comp=Z,67nm,0.8s
ORIF *e*R
comp=Z,166nm,19.2s
ORIF Oris-en-Rattie 47.70 305⇑*i*P **P** 17 56 11.4 -2.1
ORIF pmax pmax
comp=Z,67nm,0.8s
ORIF Oris-en-Rattie 47.70 305⇑*i*P **P** 17 56 11.4 -2.1
comp=Z,67nm,0.8s
ORIF Oris-en-Rattie 47.70 305⇑*i*P **P** 17 56 11.4 -2.1
comp=Z,33nm,0.8s
HGN Heimansgroeve 47.75 313 *i* P **P** 17 56 13.6 0.0
comp=Z,62nm,1.1s
HGN Heimansgroeve 47.75 313 *i* P **P** 17 56 13.6 0.0
comp=Z,62nm,1.1s
GRN Grenoble 47.79 306 *e*P **P** 17 56 12.4 -1.7
GRN Grenoble 47.79 306 *e*P **P** 17 56 12.4 -1.7
PAGF Fort de Pagny 47.79 310⇑*i*P **P** 17 56 13.8 -0.2
comp=Z,65nm,1.0s
PAGF *ep*P **pP** 17 56 44.5 +1.4
PAGF Fort de Pagny 47.79 310⇑*i*P **P** 17 56 13.8 -0.2
comp=Z,65nm,1.0s
PAGF *ep*P **pP** 17 56 44.5 +1.4
PAGF Fort de Pagny 47.79 310⇑*i*P **P** 17 56 13.8 -0.2
comp=Z,33nm,1.0s
PAGF *ep*P **pP** 17 56 44.5 +1.4
STEI Steigen 47.80 337 *e*P **P** 17 56 13.0 -0.7
STOK Stokkvaagen 47.87 335 *e*P **P** 17 56 14.2 -0.1
BEBN Eben Emael 47.92 313 P **P** 17 56 15.0 +0.1
comp=Z,15nm,1.5s
BEBN Eben Emael 47.92 313 P **P** 17 56 14.9 +0.1
comp=Z,15nm,1.5s
SMRF Simiane la Rot 47.96 304⇑*i*P **P** 17 56 14.4 -1.0
comp=Z,61nm,0.9s
SMRF Simiane la Rot 47.96 304⇑*i*P **P** 17 56 14.4 -1.0
comp=Z,61nm,0.9s
SMRF Simiane la Rot 47.96 304⇑*i*P **P** 17 56 14.4 -1.0
comp=Z,30nm,0.9s
SNART Snartemo 48.00 324 *e*P **P** 17 56 15.5 +0.2
SNART AMB AMB 17 56 21.9
comp=Z,115nm,1.9s
CASM Ain Smara 48.09 294 P **P** 17 56 16.4 -0.1
CASM Ain Smara 48.09 294 P **P** 17 56 16.4 -0.1
OG26 St.-Nazaire-De 48.13 305 *e*P **P** 17 56 15.7 -1.0
OG26 St.-Nazaire-De 48.13 305 *e*P **P** 17 56 15.7 -1.0
BCLA Clavier 48.13 313 P **P** 17 56 16.8 +0.2
comp=Z,39nm,1.4s
BCLA AP **pP** 17 56 47.7 +2.0
BCLA Clavier 48.13 313 P **P** 17 56 16.7 +0.2
comp=Z,39nm,1.4s
CTEI Djebel Teioual 48.19 293 P **P** 17 56 17.7 +0.3
CTEI Djebel Teioual 48.19 293 P **P** 17 56 17.7 +0.3
MEZF Maizieres J'vi 48.24 310⇑*i*P **P** 17 56 17.2 -0.2
comp=Z,379nm,1.2s
MEZF *ep*P **pP** 17 56 47.9 +1.3
MEZF Maizieres J'vi 48.24 310⇑*i*P **P** 17 56 17.2 -0.2
comp=Z,379nm,1.2s
MEZF *ep*P **pP** 17 56 47.9 +1.3
MEZF Maizieres J'vi 48.24 310⇑*i*P **P** 17 56 17.2 -0.2
comp=Z,190nm,1.2s
MEZF *ep*P **pP** 17 56 47.9 +1.3
SFTF Sexfontaines 48.25 310⇑*i*P **P** 17 56 17.1 -0.4
comp=Z,692nm,1.0s
SFTF *ep*P **pP** 17 56 47.6 +1.0
SFTF Sexfontaines 48.25 310⇑*i*P **P** 17 56 17.1 -0.4
comp=Z,692nm,1.0s
SFTF *ep*P **pP** 17 56 47.6 +1.0
SFTF Sexfontaines 48.25 310⇑*i*P **P** 17 56 17.1 -0.4
comp=Z,346nm,1.0s
SFTF *ep*P **pP** 17 56 47.6 +1.0
GIVF Givet 48.43 312⇑*i*P **P** 17 56 19.5 +0.7
comp=Z,347nm,1.0s
GIVF *ep*P **pP** 17 56 50.2 +2.2
GIVF Givet 48.43 312⇑*i*P **P** 17 56 19.5 +0.7
GIVF *e**PP **pP** 17 56 50.2 +2.2
GIVF pmax pmax
comp=Z,347nm,1.0s
GIVF Givet 48.43 312⇑*i*P **P** 17 56 19.5 +0.7
comp=Z,347nm,1.0s
GIVF *ep*P **pP** 17 56 50.2 +2.2
GIVF Givet 48.43 312⇑*i*P **P** 17 56 19.5 +0.7
comp=Z,174nm,1.0s
GIVF *ep*P **pP** 17 56 50.2 +2.2
LOF Lofoten 48.46 337 *e*P **P** 17 56 17.5 -1.2
LOF Lofoten 48.46 337 *e*P **P** 17 56 17.5 -1.2
SNR=34
DFRA Djebel Bou Aff 48.53 294 P **P** 17 56 20.0 0.0
DFRA Djebel Bou Aff 48.53 294 P **P** 17 56 20.0 0.0
VIVF Saint-Julien-l 48.56 305⇑*i*P **P** 17 56 19.0 -1.0
comp=Z,407nm,1.3s
VIVF *ep*P **pP** 17 56 49.6 +0.4
VIVF Saint-Julien-l 48.56 305⇑*i*P **P** 17 56 19.0 -1.0
VIVF *e**PP **pP** 17 56 49.6 +0.4
VIVF pmax pmax
comp=Z,407nm,1.3s
VIVF Saint-Julien-l 48.56 305⇑*i*P **P** 17 56 19.0 -1.0
comp=Z,407nm,1.3s
VIVF *ep*P **pP** 17 56 49.6 +0.4
VIVF Saint-Julien-l 48.56 305⇑*i*P **P** 17 56 19.0 -1.0
comp=Z,204nm,1.3s
VIVF *ep*P **pP** 17 56 49.6 +0.4
DOU Dourbes 48.58 312 P **P** 17 56 20.2 +0.3
comp=Z,66nm,1.2s
DOU AP **pP** 17 56 51.1 +2.0
DOU Dourbes 48.58 312 P **P** 17 56 20.2 +0.3
comp=Z,66nm,1.2s
BLS5 Blasjo 48.60 325 *e*P **P** 17 56 20.6 +0.5
BLS5 AMB AMB 17 56 22.5
comp=Z,52nm,1.4s
ODD1 Odda 48.62 326 *e*P **P** 17 56 20.4 +0.2
ODD1 Odda 48.62 326 *e*P **P** 17 56 20.4 +0.2
SNR=34
SSB Saint Sauveur 48.64 306 *e*P **P** 17 56 18.8 -1.8
SSB *e**PP **pP** 17 56 50.4 +0.6
SSB *e**SP **sP** 17 57 04.0 0.0
SSB pmax pmax
comp=Z,189nm,1.4s
SSB MLR MLR
comp=Z,862nm,19.0s
SSB Saint Sauveur 48.64 306 *e*P **P** 17 56 19.4 -1.2

SSB	**Saint Sauveur**	**48.64**	**306**	*e*P	**P**	**17 56 18.8**	**-1.8**
	comp=Z,189nm,1.4s							
SSB				*e*pP	**pP**	**17 56 50.4**	**+0.6**
SSB				*e*sP	**sP**	**17 57 04.0**	**0.0**
SSB				LR	LR			
	comp=Z,862nm,19.0s							
SSB	**Saint Sauveur**	**48.64**	**306**	*e*P	**P**	**17 56 18.8**	**-1.8**
	comp=Z,189nm,1.4s							
SSB				*e*pP	**pP**	**17 56 50.4**	**+0.6**
SNF	**Seneffe**	**48.79**	**313**	P	**P**	**17 56 21.7**	**+0.2**
SNF				AP	**pP**	**17 56 52.1**	**+1.3**
SNF	**Seneffe**	**48.79**	**313**	P	**P**	**17 56 21.7**	**+0.2**
BAIF	**Baives**	**48.82**	**312**⇑	*i*P	**P**	**17 56 22.4**	**+0.6**
	comp=Z,294nm,1.0s							
BAIF	**Baives**	**48.82**	**312**⇑	*i*P	**P**	**17 56 22.4**	**+0.6**
BAIF				pmax	pmax			
	comp=Z,294nm,1.0s							
BAIF	**Baives**	**48.82**	**312**⇑	*i*P	**P**	**17 56 22.4**	**+0.6**
	comp=Z,294nm,1.0s							
BAIF	**Baives**	**48.82**	**312**⇑	*i*P	**P**	**17 56 22.4**	**+0.6**
	comp=Z,147nm,1.0s							
CKHR	**Kef el Ahmar**	**48.91**	**294**	P	**P**	**17 56 22.0**	**-0.9**
CKHR	**Kef el Ahmar**	**48.91**	**294**	P	**P**	**17 56 22.0**	**-0.9**
SSE	**Sheshan**	**48.97**	**73**	*e*P	**P**	**17 56 23.0**	**-0.2**
SSE				pP	**pP**	**17 56 51.8**	**-0.6**
SSE				S	**S**	**18 03 18.5**	**+0.7**
SSE				sS	**sS**	**18 04 07.8**	**-0.6**
SSE				AMB	AMB			
	comp=Z,15nm,1.0s							
SSE				AMB	AMB			
	comp=Z,210nm,5.3s							
SSE				LR	LR			
	comp=Z,510nm,19.2s							
SSE				LR	LR			
	comp=Z,1µm,19.2s							
SSE				LR	LR			
	comp=Z,1µm,16.1s							
SET	**Setif**	**48.97**	**294**	P	**P**	**17 56 24.0**	**+0.7**
SET	**Setif**	**48.97**	**294**	P	**P**	**17 56 24.0**	**+0.7**
LOR	**Lormes**	**49.05**	**309**⇑	*i*P	**P**	**17 56 22.7**	**-0.9**
	comp=Z,173nm,0.9s							
LOR				*e*R				
	comp=Z,235nm,19.8s							
LOR	**Lormes**	**49.05**	**309**⇑	*i*P	**P**	**17 56 22.7**	**-0.9**
	comp=Z,173nm,0.9s							
LOR	**Lormes**	**49.05**	**309**⇑	*i*P	**P**	**17 56 22.7**	**-0.9**
	comp=Z,87nm,0.9s							
SMF	**Signal de Mont**	**49.08**	**308**⇑	*i*P	**P**	**17 56 23.1**	**-0.7**
	comp=Z,240nm,0.6s							
SMF	**Signal de Mont**	**49.08**	**308**⇑	*i*P	**P**	**17 56 23.1**	**-0.7**
SMF				pmax	pmax			
	comp=Z,240nm,0.6s							
SMF	**Signal de Mont**	**49.08**	**308**⇑	*i*P	**P**	**17 56 23.1**	**-0.7**
	comp=Z,240nm,0.6s							
SMF	**Signal de Mont**	**49.08**	**308**⇑	*i*P	**P**	**17 56 23.1**	**-0.7**
	comp=Z,120nm,0.6s							
HYA	**Hoyanger**	**49.10**	**327**	*e*P	**P**	**17 56 23.8**	**0.0**
LASF	**Ste Croix**	**49.19**	**304**⇑	*i*P	**P**	**17 56 23.9**	**-0.9**
	comp=Z,141nm,1.1s							
LASF	**Ste Croix**	**49.19**	**304**⇑	*i*P	**P**	**17 56 23.9**	**-0.9**
	comp=Z,141nm,1.0s							
LASF	**Ste Croix**	**49.19**	**304**⇑	*i*P	**P**	**17 56 23.9**	**-0.9**
	comp=Z,71nm,1.1s							
COLF	**Collangettes**	**49.22**	**306**	*e*P	**P**	**17 56 24.2**	**-0.8**
COLF	**Collangettes**	**49.22**	**306**	*e*P	**P**	**17 56 24.2**	**-0.8**
PLDF	**La Plantade**	**49.25**	**307**	*e*P	**P**	**17 56 24.4**	**-0.9**
PLDF	**La Plantade**	**49.25**	**307**	*e*P	**P**	**17 56 24.4**	**-0.9**
SSF	**Saint Saulge**	**49.29**	**308**⇑	*i*P	**P**	**17 56 24.8**	**-0.7**
	comp=Z,342nm,0.9s							
SSF				*e*pP	**pP**	**17 56 55.5**	**+0.7**
SSF	**Saint Saulge**	**49.29**	**308**⇑	*i*P	**P**	**17 56 24.8**	**-0.7**
SSF				*e**PP	**pP**	**17 56 55.5**	**+0.7**
SSF				pmax	pmax			
	comp=Z,342nm,0.9s							
SSF	**Saint Saulge**	**49.29**	**308**⇑	*i*P	**P**	**17 56 24.8**	**-0.7**
	comp=Z,342nm,0.9s							
SSF				*e*pP	**pP**	**17 56 55.5**	**+0.7**
SSF	**Saint Saulge**	**49.29**	**308**⇑	*i*P	**P**	**17 56 24.8**	**-0.7**
	comp=Z,171nm,0.9s							
SSF				*e*pP	**pP**	**17 56 55.5**	**+0.7**
RUND	**Rundenannen**	**49.34**	**326**	*e*P	**P**	**17 56 24.3**	**-1.3**
RUND				*e*pP	**pP**	**17 56 54.2**	**-0.7**
BER	**Bergen**	**49.35**	**326**	*e*P	**P**	**17 56 25.2**	**-0.4**
BER				*e*pP	**pP**	**17 56 55.9**	**+1.0**
BER				*e*S	**S**	**18 03 22.6**	**+0.3**
BER	**Bergen**	**49.35**	**326**	*e*P	**P**	**17 56 25.2**	**-0.4**
	SNR=34							
BER				*e*pP	**pP**	**17 56 55.9**	**+1.0**
	SNR=146							
BER				*e*S	**S**	**18 03 22.6**	**+0.3**
	SNR=34							
EGD	**Espegrend**	**49.38**	**326**	*e*P	**P**	**17 56 24.7**	**-1.1**
AVF	**Avril sur Loir**	**49.41**	**308**⇑	*i*P	**P**	**17 56 25.4**	**-0.9**
	comp=Z,200nm,1.1s							
AVF				*e*pP	**pP**	**17 56 56.3**	**+0.7**
AVF	**Avril sur Loir**	**49.41**	**308**⇑	*i*P	**P**	**17 56 25.4**	**-0.9**
AVF				*e**PP	**pP**	**17 56 56.3**	**+0.7**
AVF				pmax	pmax			
	comp=Z,200nm,1.1s							
AVF	**Avril sur Loir**	**49.41**	**308**⇑	*i*P	**P**	**17 56 25.4**	**-0.9**
	comp=Z,200nm,1.1s							
AVF				*e*pP	**pP**	**17 56 56.3**	**+0.7**
AVF	**Avril sur Loir**	**49.41**	**308**⇑	*i*P	**P**	**17 56 25.4**	**-0.9**
	comp=Z,100nm,1.1s							
AVF				*e*pP	**pP**	**17 56 56.3**	**+0.7**
ASK	**Askoy**	**49.44**	**326**	*e*P	**P**	**17 56 25.2**	**-1.0**
LBL	**Lubilhac**	**49.55**	**306**	*e*P	**P**	**17 56 27.0**	**-0.6**
LBL	**Lubilhac**	**49.55**	**306**	*e*P	**P**	**17 56 27.0**	**-0.6**
AGO	**Saint Agoulin**	**49.59**	**307**	*e*P	**P**	**17 56 27.0**	**-0.8**
AGO	**Saint Agoulin**	**49.59**	**307**	*e*P	**P**	**17 56 27.0**	**-0.8**
PYM	**Petit Puy Mans**	**49.69**	**307**	*e*P	**P**	**17 56 27.4**	**-1.2**
PYM	**Petit Puy Mans**	**49.69**	**307**	*e*P	**P**	**17 56 27.4**	**-1.2**
BGF	**Bois d'Agland**	**49.77**	**308**⇑	*i*P	**P**	**17 56 28.2**	**-0.9**
	comp=Z,149nm,1.0s							
BGF	**Bois d'Agland**	**49.77**	**308**⇑	*i*P	**P**	**17 56 28.2**	**-0.9**
BGF				pmax	pmax			
	comp=Z,149nm,1.0s							
BGF	**Bois d'Agland**	**49.77**	**308**⇑	*i*P	**P**	**17 56 28.2**	**-0.9**
	comp=Z,149nm,1.0s							
BGF	**Bois d'Agland**	**49.77**	**308**⇑	*i*P	**P**	**17 56 28.2**	**-0.9**
	comp=Z,75nm,1.0s							
HYF	**Humbligny**	**49.88**	**309**⇑	*i*P	**P**	**17 56 29.7**	**-0.2**
HYF	**Humbligny**	**49.88**	**309**⇑	*i*P	**P**	**17 56 29.7**	**-0.2**
HYF	**Humbligny**	**49.88**	**309**⇑	*i*P	**P**	**17 56 29.7**	**-0.2**
MRIV	**Mauritius Mete**	**49.95**	**188**	*e*P	**P**	**17 56 28.1**	**-2.6**
MRIV	**Mauritius Mete**	**49.95**	**188**	*e*P	**P**	**17 56 28.1**	**-2.6**
CLNS	**Chul'man**	**50.02**	**39**	*e*P	**P**	**17 56 31.7**	**+0.8**
CLNS				*e**PP	**sP**	**17 57 16.0**	**+1.6**
CLNS				*e*		17 57 45.2		
CLNS				*e*		17 58 29.9		
CLNS				*e*PPP	PPP	17 59 34.5		
CLNS				*e*S	**S**	**18 03 30.4**	**-1.6**
CLNS				*e*		18 06 07.0		
CLNS				*e*SS	**SS**	**18 07 01.8**	**-4.4**
CLNS				pmax	pmax			
	comp=Z,29nm,1.0s							
CLNS				pmax	pmax			
	comp=E,20nm,1.0s							
CLNS				pmax	pmax			
	comp=E,10.0nm,1.1s							
CLNS				pmax	pmax			
	comp=Z,16nm,1.0s							
CLNS				pmax	pmax			
	comp=N,9.0nm,0.8s							
CLNS				smax	smax			
	comp=N,264nm,10.7s							
CLNS				smax	smax			
	comp=E,208nm,12.1s							
VERF	**Verneugheol**	**50.06**	**307**	*e*P	**P**	**17 56 30.8**	**-0.6**
VERF	**Verneugheol**	**50.06**	**307**	*e*P	**P**	**17 56 30.8**	**-0.6**
MENF	**Mencas**	**50.15**	**313**	*e*P	**P**	**17 56 32.0**	**+0.2**
MENF	**Mencas**	**50.15**	**313**	*e*P	**P**	**17 56 32.0**	**+0.2**
TCF	**Toulx Ste Croi**	**50.22**	**307**⇑	*i*P	**P**	**17 56 31.8**	**-0.7**
	comp=E,94nm,0.8s							
TCF	**Toulx Ste Croi**	**50.22**	**307**⇑	*i*P	**P**	**17 56 31.8**	**-0.7**
TCF				pmax	pmax			
	comp=Z,94nm,0.8s							
TCF	**Toulx Ste Croi**	**50.22**	**307**⇑	*i*P	**P**	**17 56 31.8**	**-0.7**
	comp=Z,94nm,0.8s							
TCF	**Toulx Ste Croi**	**50.22**	**307**⇑	*i*P	**P**	**17 56 31.8**	**-0.7**
	comp=Z,47nm,0.8s							
LRDF	**Laroque-de-Fa**	**50.25**	**303**	*e*P	**P**	**17 56 31.9**	**-0.9**
LRDF	**Laroque-de-Fa**	**50.25**	**303**	*e*P	**P**	**17 56 31.9**	**-0.9**
CN2	**Changchun**	**50.25**	**56**	*e*P	**P**	**17 56 35.5**	**+2.7**
CN2				*e*pP	**pP**	**17 57 04.8**	**+2.6**
CN2				*e*sP	**sP**	**17 57 19.0**	**+2.7**
CN2				PP	**PP**	**17 58 33.5**	**+4.4**
CN2				*e*S	**S**	**18 03 37.3**	**+1.9**
CN2				SS	**SS**	**18 07 06.5**	**-3.7**
CN2				AMB	AMB			
	comp=Z,30nm,0.9s							
CN2				AMB	AMB			
	comp=Z,200nm,3.0s							
CN2				LR	LR			
	comp=Z,500nm,14.0s							
CN2				LR	LR			
	comp=Z,500nm,14.0s							
CN2				LR	LR			
	comp=Z,600nm,14.0s							
BJO	**Bjornoya**	**50.28**	**346**	*e*P	**P**	**17 56 31.7**	**-0.8**
BJO	**Bjornoya**	**50.28**	**346**	*e*P	**P**	**17 56 31.7**	**-0.8**
	SNR=33							
CAF	**Calviac**	**50.41**	**306**⇑	*i*P	**P**	**17 56 33.4**	**-0.6**
	comp=Z,106nm,0.8s							
CAF				*e*pP	**pP**	**17 57 04.4**	**+1.0**
CAF	**Calviac**	**50.41**	**306**⇑	*i*P	**P**	**17 56 33.4**	**-0.6**
CAF				*e**PP	**pP**	**17 57 04.4**	**+1.0**
CAF				pmax	pmax			
	comp=Z,106nm,0.8s							
CAF	**Calviac**	**50.41**	**306**⇑	*i*P	**P**	**17 56 33.4**	**-0.6**
	comp=Z,106nm,0.8s							
CAF				*e*pP	**pP**	**17 57 04.4**	**+1.0**
CAF	**Calviac**	**50.41**	**306**⇑	*i*P	**P**	**17 56 33.4**	**-0.6**
	comp=Z,53nm,0.8s							
CAF				*e*pP	**pP**	**17 57 04.4**	**+1.0**
MTLF	**Montolieu**	**50.44**	**304**⇑	*i*P	**P**	**17 56 33.3**	**-0.9**
	comp=Z,98nm,0.8s							
MTLF	**Montolieu**	**50.44**	**304**⇑	*i*P	**P**	**17 56 33.3**	**-0.9**
MTLF				pmax	pmax			
	comp=Z,98nm,0.8s							
MTLF	**Montolieu**	**50.44**	**304**⇑	*i*P	**P**	**17 56 33.3**	**-0.9**
	comp=Z,98nm,0.8s							
MTLF	**Montolieu**	**50.44**	**304**⇑	*i*P	**P**	**17 56 33.3**	**-0.9**
	comp=Z,49nm,0.8s							
HOPEN	**Hopen**	**50.49**	**349**	*e*P	**P**	**17 56 35.0**	**+1.0**
HOPEN				*e*PP	**PP**	**17 58 35.4**	**+4.7**
HOPEN	**Hopen**	**50.49**	**349**	*e*P	**P**	**17 56 35.0**	**+1.0**
	SNR=33							
CARF	**Carcanieres**	**50.59**	**303**	*e*P	**P**	**17 56 34.3**	**-1.1**
CARF	**Carcanieres**	**50.59**	**303**	*e*P	**P**	**17 56 34.3**	**-1.1**
VALF	**Valcebollere**	**50.69**	**302**	*e*P	**P**	**17 56 35.5**	**-0.8**
VALF	**Valcebollere**	**50.69**	**302**	*e*P	**P**	**17 56 35.5**	**-0.8**
RJF	**Les Rejaudoux**	**50.77**	**306**⇑	*i*P	**P**	**17 56 36.2**	**-0.4**
	comp=Z,168nm,1.0s							
RJF				*e*pP	**pP**	**17 57 07.3**	**+1.2**
RJF				*e*R				
	comp=Z,222nm,18.2s							
RJF	**Les Rejaudoux**	**50.77**	**306**⇑	*i*P	**P**	**17 56 36.2**	**-0.4**
RJF				*e**PP	**pP**	**17 57 07.3**	**+1.2**
RJF				pmax	pmax			
	comp=Z,168nm,1.0s							
RJF	**Les Rejaudoux**	**50.77**	**306**⇑	*i*P	**P**	**17 56 36.2**	**-0.4**
	comp=Z,168nm,1.0s							
RJF				*e*pP	**pP**	**17 57 07.3**	**+1.2**
RJF	**Les Rejaudoux**	**50.77**	**306**⇑	*i*P	**P**	**17 56 36.2**	**-0.4**
	comp=Z,84nm,1.0s							
RJF				*e*pP	**pP**	**17 57 07.3**	**+1.2**
ABPO	**Ambohimpanom**	**50.91**	**201**	*e*P	**P**	**17 56 37.6**	**-0.5**
ABPO				MLR	MLR			
	comp=Z,399nm,21.0s							
ABPO	**Ambohimpanom**	**50.91**	**201**	*e*P	**P**	**17 56 37.6**	**-0.5**
ABPO				LR	LR			
	comp=Z,399nm,21.0s							
ABPO	**Ambohimpanom**	**50.91**	**201**	*e*P	**P**	**17 56 37.6**	**-0.5**
EMHD	**Djebel Mahouad**	**50.91**	**294**	P	P	17 56 46.5	+8.5
YHNB	**Yeheng**	**50.93**	**81**	PFAKE		17 56 50.0	+12
YHNB				LR	LR			
	comp=Z,982nm,21.0s							
TWG	**Pinlang**	**51.28**	**83**	*e*P	**P**	**17 56 41.5**	**+0.7**
	comp=Z,269nm,0.9s							
TWG				*e*pP	**pP**	**17 57 10.0**	**-0.3**
TWG				*e*PcP	**PcP**	**17 57 54.1**	**0.0**
TWG	**Pinlang**	**51.28**	**83**	*e*P	**P**	**17 56 41.5**	**+0.7**
	comp=Z,269nm,0.9s							
TWG				*e*pP	**pP**	**17 57 10.0**	**-0.3**
MLS	**Moulis**	**51.30**	**303**	*e*P	**P**	**17 56 39.0**	**-1.6**
MLS	**Moulis**	**51.30**	**303**	*e*P	**P**	**17 56 39.0**	**-1.6**
LFF	**La Frestale**	**51.35**	**306**⇑	*i*P	**P**	**17 56 40.4**	**-0.5**
	comp=Z,164nm,0.7s							
LFF	**La Frestale**	**51.35**	**306**⇑	*i*P	**P**	**17 56 40.4**	**-0.5**
LFF				pmax	pmax			
	comp=Z,164nm,0.7s							
LFF	**La Frestale**	**51.35**	**306**⇑	*i*P	**P**	**17 56 40.4**	**-0.5**
	comp=Z,164nm,0.7s							
LFF	**La Frestale**	**51.35**	**306**⇑	*i*P	**P**	**17 56 40.4**	**-0.5**
	comp=Z,82nm,0.7s							
MELF	**Melles**	**51.55**	**303**	*e*P	**P**	**17 56 41.4**	**-1.2**
MELF	**Melles**	**51.55**	**303**	*e*P	**P**	**17 56 41.4**	**-1.2**
LDF	**La Druitiere**	**51.68**	**310**⇑	*i*P	**P**	**17 56 42.3**	**-1.0**
	comp=Z,110nm,0.8s							
LDF	**La Druitiere**	**51.68**	**310**⇑	*i*P	**P**	**17 56 42.3**	**-1.0**
LDF				pmax	pmax			
	comp=Z,110nm,0.8s							
LDF	**La Druitiere**	**51.68**	**310**⇑	*i*P	**P**	**17 56 42.3**	**-1.0**
	comp=Z,110nm,0.8s							
LDF	**La Druitiere**	**51.68**	**310**⇑	*i*P	**P**	**17 56 42.3**	**-1.0**
	comp=Z,55nm,0.8s							
MFF	**Saint Martin d**	**51.82**	**308**⇑	*i*P	**P**	**17 56 43.3**	**-1.2**
	comp=Z,125nm,1.0s							
MFF	**Saint Martin d**	**51.82**	**308**⇑	*i*P	**P**	**17 56 43.3**	**-1.2**
MFF				pmax	pmax			
	comp=Z,125nm,1.0s							
MFF	**Saint Martin d**	**51.82**	**308**⇑	*i*P	**P**	**17 56 43.3**	**-1.2**
	comp=Z,125nm,1.0s							
MFF	**Saint Martin d**	**51.82**	**308**⇑	*i*P	**P**	**17 56 43.3**	**-1.2**
	comp=Z,62nm,1.0s							
EPF	**Esparros**	**51.84**	**303**⇑	*i*P	**P**	**17 56 42.5**	**-2.2**
	comp=Z,30nm,0.6s							
EPF	**Esparros**	**51.84**	**303**⇑	*i*P	**P**	**17 56 42.5**	**-2.2**
EPF				pmax	pmax			
	comp=Z,30nm,0.6s							
EPF	**Esparros**	**51.84**	**303**⇑	*i*P	**P**	**17 56 42.5**	**-2.2**
	comp=Z,30nm,0.6s							
EPF	**Esparros**	**51.84**	**303**⇑	*i*P	**P**	**17 56 42.5**	**-2.2**
	comp=Z,15nm,0.6s							
RESF	**Ens**	**51.87**	**303**	*e*P	**P**	**17 56 43.9**	**-1.1**
RESF	**Ens**	**51.87**	**303**	*e*P	**P**	**17 56 43.9**	**-1.1**
FLN	**La Foliniere**	**51.91**	**311**⇑	*i*P	**P**	**17 56 44.2**	**-0.8**
	comp=Z,287nm,0.9s							
FLN				*e*pP	**pP**	**17 57 15.1**	**+0.5**
FLN				*e*R				
	comp=Z,206nm,22.2s							
FLN	**La Foliniere**	**51.91**	**311**⇑	*i*P	**P**	**17 56 44.2**	**-0.8**
FLN				*e**PP	**pP**	**17 57 15.1**	**+0.5**
FLN				pmax	pmax			
	comp=Z,287nm,0.9s							
FLN	**La Foliniere**	**51.91**	**311**⇑	*i*P	**P**	**17 56 44.2**	**-0.8**
	comp=Z,287nm,0.9s							
FLN				*e*pP	**pP**	**17 57 15.1**	**+0.5**
FLN	**La Foliniere**	**51.91**	**311**⇑	*i*P	**P**	**17 56 44.2**	**-0.8**
	comp=Z,143nm,0.9s							
FLN				*e*pP	**pP**	**17 57 15.1**	**+0.5**
SKP1	**Kophill**	**52.01**	**314**⇑	*e*P	**P**	**17 56 44.8**	**-1.0**
EBNR	**Beni Rached**	**52.02**	**295**	P	**P**	**17 56 46.5**	**+0.3**
EBNR	**Beni Rached**	**52.02**	**295**	P	**P**	**17 56 46.5**	**+0.3**
INCN	**Inchon**	**52.03**	**64**	*e*P	**P**	**17 56 47.7**	**+1.6**
	comp=Z,98nm,1.4s							
INCN				*e*pP	**pP**	**17 57 15.2**	**-0.5**
INCN				LR	LR			
	comp=Z,714nm,20.0s							
INCN	**Inchon**	**52.03**	**64**	*e*P	**P**	**17 56 47.7**	**+1.6**
	comp=Z,98nm,1.4s							
INCN				*e*pP	**pP**	**17 57 15.2**	**-0.5**
LABF	**Labassere**	**52.03**	**303**	*e*P	**P**	**17 56 45.2**	**-0.9**
LABF	**Labassere**	**52.03**	**303**	*e*P	**P**	**17 56 45.2**	**-0.9**
VIEF	**Viey**	**52.09**	**303**	*e*P	**P**	**17 56 45.2**	**-1.4**
VIEF	**Viey**	**52.09**	**303**	*e*P	**P**	**17 56 45.2**	**-1.4**
KSM	**Kuching**	**52.16**	**114**	P	**P**	**17 56 48.6**	**+1.2**
KSM	**Kuching**	**52.16**	**114**	P	**P**	**17 56 49.3**	**+1.9**
KSM	**Kuching**	**52.16**	**114**	P	**P**	**17 56 48.3**	**+1.0**
	comp=Z,128nm,1.1s,comp=Z,2µm							
KSM	**Kuching**	**52.16**	**114**	PFAKE		17 57 00.0	+13
KSM				LR	LR			
	comp=Z,404nm,19.0s							
KSM	**Kuching**	**52.16**	**114**	⇓P	**P**	**17 56 48.4**	**+1.0**
	baz=52,SNR=34							
GRR	**Gorron**	**52.18**	**310**	*e*P	**P**	**17 56 46.2**	**-0.8**
	comp=Z,68nm,0.8s							
GRR				*e*pP	**pP**	**17 57 17.2**	**+0.6**
GRR	**Gorron**	**52.18**	**310**	*e*P	**P**	**17 56 46.2**	**-0.8**
	comp=Z,68nm,0.8s							
GRR				*e*pP	**pP**	**17 57 17.2**	**+0.6**
GRR	**Gorron**	**52.18**	**310**	*e*P	**P**	**17 56 46.2**	**-0.8**
	comp=Z,34nm,0.8s							
GRR				*e*pP	**pP**	**17 57 17.2**	**+0.6**
ECHA	**Ech Chlef**	**52.18**	**295**	P	**P**	**17 56 47.1**	**-0.1**
ECHA	**Ech Chlef**	**52.18**	**295**	P	**P**	**17 56 47.1**	**-0.1**
LCHF	**La Chataignera**	**52.23**	**308**	*e*P	**P**	**17 56 48.4**	**+1.0**
LCHF	**La Chataignera**	**52.23**	**308**	*e*P	**P**	**17 56 48.4**	**+1.0**
COCO	**West Island**	**52.25**	**138**	PFAKE		17 57 00.0	+12
COCO				LR	LR			
	comp=Z,748nm,20.0s							
WOL	**Wolverton**	**52.28**	**314**⇑	*e*P	**P**	**17 56 47.3**	**-0.4**
WOL				AMB	AMB	17 56 48.6		
	comp=Z,248nm,1.2s							
REYF	**Montagne du Re**	**52.37**	**303**	*e*P	**P**	**17 56 47.4**	**-1.3**
REYF	**Montagne du Re**	**52.37**	**303**	*e*P	**P**	**17 56 47.4**	**-1.3**
TAM	**Tamanrasset**	**52.39**	**277**	*e*P	**P**	**17 56 48.1**	**-1.1**
TAM				*e**PP	**pP**	**17 57 16.6**	**-2.2**
TAM				pmax	pmax			
	comp=Z,71nm,1.3s							
TAM				MLR	MLR			
	comp=Z,613nm,20.0s							
TAM	**Tamanrasset**	**52.39**	**277**	*e*P	**P**	**17 56 48.1**	**-1.1**
	comp=Z,70nm,1.3s							
TAM				*e*pP	**pP**	**17 57 16.6**	**-2.2**
TAM				*e*sP	**sP**	**17 57 30.3**	**-2.5**
TAM				*e*ScP	**ScP**	**18 01 41.6**	**-2.3**
TAM				LR	LR			
	comp=Z,613nm,20.0s							
TAM	**Tamanrasset**	**52.39**	**277**	*e*P	**P**	**17 56 48.1**	**-1.1**
	comp=Z,71nm,1.3s							
TAM				*e*pP	**pP**	**17 57 16.6**	**-2.2**
ETRT	**Tiaret**	**52.39**	**294**	P	**P**	**17 56 48.6**	**-0.4**
ETRT	**Tiaret**	**52.39**	**294**	P	**P**	**17 56 48.6**	**-0.4**
KBI1	**Birley Grange**	**52.43**	**316**	*e*P	**P**	**17 56 47.0**	**-1.8**
EANR	**'Ain N'Sour**	**52.44**	**294**	P	**P**	**17 56 49.3**	**+0.1**
EANR	**'Ain N'Sour**	**52.44**	**294**	P	**P**	**17 56 49.3**	**+0.1**
HPK	**Haverah Park**	**52.48**	**317**	*e*P	**P**	**17 56 48.4**	**-0.8**
ETSF	**Etsaut**	**52.51**	**303**⇑	*i*P	**P**	**17 56 48.9**	**-0.8**
	comp=Z,160nm,0.7s							
ETSF	**Etsaut**	**52.51**	**303**⇑	*i*P	**P**	**17 56 48.9**	**-0.8**
ETSF				pmax	pmax			
	comp=Z,160nm,0.7s							
ETSF	**Etsaut**	**52.51**	**303**⇑	*i*P	**P**	**17 56 48.9**	**-0.8**
	comp=Z,160nm,0.7s							
ETSF	**Etsaut**	**52.51**	**303**⇑	*i*P	**P**	**17 56 48.9**	**-0.8**
	comp=Z,80nm,0.7s							
ATE	**Arette**	**52.59**	**304**	*e*P	**P**	**17 56 49.8**	**-0.4**
ATE	**Arette**	**52.59**	**304**	*e*P	**P**	**17 56 49.8**	**-0.4**
SWN1	**Swindon**	**52.63**	**314**⇑	*e*P	**P**	**17 56 50.1**	**-0.2**
SWN1				AMB	AMB	17 56 51.2		
	comp=Z,438nm,1.8s							
LARF	**Larrau**	**52.80**	**304**	*e*P	**P**	**17 56 50.9**	**-0.9**
LARF	**Larrau**	**52.80**	**304**	*e*P	**P**	**17 56 50.9**	**-0.9**
OJGS	**Djebel Guires**	**52.81**	**294**	P	**P**	**17 56 52.0**	**0.0**
OJGS	**Djebel Guires**	**52.81**	**294**	P	**P**	**17 56 52.0**	**0.0**
TJN	**Taejon**	**52.82**	**65**	*i* P	**P**	**17 56 52.2**	**+0.2**
STRD	**Stroud**	**52.85**	**315**	*e*P	**P**	**17 56 50.8**	**-1.1**
ABRA	**Dolores**	**52.91**	**90**	*e*P	**P**	**17 56 55.4**	**+2.5**
BATH	**Bath**	**52.96**	**314**	*e*P	**P**	**17 56 52.1**	**-0.6**
BATH				AMB	AMB	17 56 52.6		
	comp=Z,188nm,0.9s							
SJPF	**Ste Jean**	**52.97**	**304**	*e*P	**P**	**17 56 52.2**	**-0.8**
	comp=Z,81nm,0.8s							
SJPF	**Ste Jean**	**52.97**	**304**	*e*P	**P**	**17 56 52.2**	**-0.8**
SJPF				pmax	pmax			
	comp=Z,81nm,0.8s							
SJPF	**Ste Jean**	**52.97**	**304**	*e*P	**P**	**17 56 52.2**	**-0.8**
	comp=Z,81nm,0.8s							
SJPF	**Ste Jean**	**52.97**	**304**	*e*P	**P**	**17 56 52.2**	**-0.8**
	comp=Z,40nm,0.8s							
JSA	**Saint Aubin**	**52.99**	**311**	*e*P	**P**	**17 56 51.6**	**-1.4**
JSA				AMB	AMB	17 56 53.3		
	comp=Z,73nm,0.9s							
SCZP	**Santa Cruz**	**52.99**	**92**	*e*P	**P**	**17 56 54.0**	**+0.6**
KSAR	**Wonju Array Be**	**53.01**	**64**	P	**P**	**17 56 54.2**	**+0.9**
KSAR				pP	**pP**	**17 57 22.9**	**-0.2**
KSAR				ScP	**ScP**	**18 01 46.4**	**+0.2**
KSAR	**Wonju Array Be**	**53.01**	**64**	P	**P**	**17 56 54.2**	**+0.9**
KSAR				pP	**pP**	**17 57 22.9**	**-0.2**
YAK	**Yakutsk**	**53.02**	**33**	*e*P	**P**	**17

MONM AMB AMB 17 56 55.1
comp=Z,121nm,1.1s
APYP Conner 53.29 89 *e*P **P** **17 56 57.6 +2.0**
MME1 Meikle Cairn 53.29 321 *e*P **P** **17 56 53.7 -1.4**
EBL Broad Law 53.31 320 *e*P **P** **17 56 54.6 -0.7**
SGMF Saint Gilles 53.32 310⇑*i*P **P** **17 56 54.8 -0.6**
comp=Z,337nm,1.1s
SGMF *e*pP **pP** **17 57 26.2 +1.1**
SGMF Saint Gilles 53.32 310⇑*i*P **P** **17 56 54.8 -0.6**
SGMF *e**PP **pP** **17 57 26.2 +1.1**
SGMF pmax pmax
comp=Z,337nm,1.1s
SGMF Saint Gilles 53.32 310⇑*i*P **P** **17 56 54.8 -0.6**
comp=Z,337nm,1.1s
SGMF *e*pP **pP** **17 57 26.2 +1.1**
SGMF Saint Gilles 53.32 310⇑*i*P **P** **17 56 54.8 -0.6**
comp=Z,169nm,1.1s
SGMF *e*pP **pP** **17 57 26.2 +1.1**
MCH1 Michaelchurch 53.36 315⇑*e*P **P** **17 56 54.1 -1.5**
MCH1 AMB AMB 17 56 56.7
comp=Z,96nm,1.4s
ECK Cauldkaine Hil 53.36 319⇑*e*P **P** **17 56 54.6 -1.0**
EKA Eskdalemuir Ar 53.37 319 P **P** **17 56 54.7 -1.0**
EKA pP **pP** **17 57 26.6 +1.2**
EKA ScP **ScP** **18 01 45.3 -2.0**
EKA Eskdalemuir Ar 53.37 319 P **P** **17 56 54.7 -1.0**
EKA pP **pP** **17 57 26.6 +1.2**
comp=Z,6.8nm,0.3s,baz=101,slow=7.5,SNR=143
EKA pP **pP** **17 57 26.6 +1.2**
comp=Z,22nm,0.9s,baz=99,slow=8.7,SNR=3.8
EKA ScP **ScP** **18 01 45.3 -2.0**
comp=Z,3.8nm,0.9s,baz=78,slow=3.7,SNR=3.8
ESK Eskdalemuir 53.40 319⇑*e*P **P** **17 56 54.9 -1.1**
ESK Eskdalemuir 53.40 319 *i*P **P** **17 56 58.7 +2.8**
ESK Eskdalemuir 53.40 319 P **P** **17 56 55.6 -0.3**
comp=Z,232nm,0.4s,SNR=19
BTM Bintulu 53.40 110 P **P** **17 56 58.2 +1.7**
BTM Bintulu 53.40 110 P **P** **17 56 58.5 +1.9**
FOEL Foel Wylfa 53.45 316 *e*P **P** **17 56 55.3 -1.0**
FOEL AMB AMB 17 56 57.1
comp=Z,118nm,1.5s
MCD Coleburn Disti 53.45 322⇑*e*P **P** **17 56 55.6 -0.7**
ODJA Bouhanifia 53.56 294 P P 17 56 50.0 -7.5
CART Cartagena 53.75 297 *i*S **S** **18 04 22.9 -0.4**
QUIF Quistinic 53.76 310⇑*i*P **P** **17 56 57.6 -1.0**
comp=Z,160nm,1.0s
QUIF Quistinic 53.76 310⇑*i*P **P** **17 56 57.6 -1.0**
QUIF pmax pmax
comp=Z,160nm,1.0s
QUIF Quistinic 53.76 310⇑*i*P **P** **17 56 57.6 -1.0**
comp=Z,160nm,1.0s
QUIF Quistinic 53.76 310⇑*i*P **P** **17 56 57.6 -1.0**
comp=Z,80nm,1.0s
ROSF Rostrenen 53.79 310⇑*i*P **P** **17 56 58.0 -0.8**
comp=Z,103nm,0.7s
ROSF Rostrenen 53.79 310⇑*i*P **P** **17 56 58.0 -0.8**
ROSF pmax pmax
comp=Z,103nm,0.7s
ROSF Rostrenen 53.79 310⇑*i*P **P** **17 56 58.0 -0.8**
comp=Z,103nm,0.7s
ROSF Rostrenen 53.79 310⇑*i*P **P** **17 56 58.0 -0.8**
comp=Z,52nm,0.7s
WPM1 Penmaenmawr 53.86 316⇑*e*P **P** **17 56 58.4 -0.9**
HEX Exmoor 53.91 314 *e*P **P** **17 56 57.8 -1.9**
MVH1 Achvaich 53.96 322⇑*e*P **P** **17 56 58.8 -1.1**
DYA Yadsworthy 54.03 313 *e*P **P** **17 56 59.7 -0.9**
DYA AMB AMB 17 57 01.1
comp=Z,262nm,0.9s
EAB Aberfoyle 54.04 320⇑*e*P **P** **17 56 59.6 -0.9**
MDO Dochfour 54.05 322 *e*P **P** **17 56 58.9 -1.7**
KLR Kul'dur 54.11 49 *e*P **P** **17 56 58.7 -2.5**
KLR *e* 18 06 33.0
KLR MLR MLR
comp=Z,2µm,12.0s
KLR Kul'dur 54.11 49 *e*P **P** **17 56 58.7 -2.5**
comp=Z,2µm,12.0s
PGBU Glenifferbraes 54.12 320 *e*P **P** **17 57 00.6 -0.5**
CAUP Cauayan 54.17 90 *e*P **P** **17 57 04.2 +2.1**
KBS Kingsbay 54.18 349 *e*P **P** **17 56 59.7 -1.5**
KBS *e*S **S** **18 04 28.0 -0.1**
KBS Kingsbay 54.18 349*c i*P **P** **17 57 01.4 +0.2**
KBS pmax pmax
comp=Z,133nm,1.1s
KBS Kingsbay 54.18 349 PFAKE 17 57 10.0 +8.8
KBS LR LR
comp=Z,667nm,21.0s
KBS Kingsbay 54.18 349 *e*P **P** **17 56 59.7 -1.5**
SNR=32
KBS *i*S **S** **18 04 27.5 -0.5**
SNR=33
YRC Rhoscolyn 54.26 316 *e*P **P** **17 57 01.4 -0.8**
TIXI Tiksi 54.38 21*c i*P **P** **17 57 02.4 -0.3**
TIXI pmax pmax
comp=Z,84nm,1.4s
TIXI Tiksi 54.38 21 *i*P **P** **17 57 02.4 -0.3**
comp=Z,84nm,1.4s
KKM Kota Kinabalu 54.45 105 P **P** **17 57 05.8 +1.6**
KKM Kota Kinabalu 54.45 105 P **P** **17 57 06.3 +2.1**
KKM Kota Kinabalu 54.45 105 PFAKE 17 57 20.0 +16
KKM LR LR
comp=Z,400nm,20.0s
KKM Kota Kinabalu 54.45 105 P **P** **17 57 05.8 +1.6**
baz=54,SNR=6.4
BALP Baler 54.45 91 *e*P **P** **17 57 06.5 +2.4**
KDM Kudat 54.52 103 P **P** **17 57 06.2 +1.6**
KDM Kudat 54.52 103 P **P** **17 57 06.4 +1.8**
KAC Achnashellach 54.55 322⇑*e*P **P** **17 57 03.5 -0.7**
ENPP El Nido 54.62 97 *e*P **P** **17 57 07.2 +1.9**
PALP Palanan 54.64 89⇑*i*P **P** **17 57 07.1 +1.6**
KPL Plockton 54.75 322⇑*e*P **P** **17 57 04.9 -0.7**
CCA1 Carnmenellis 54.88 313 *e*P **P** **17 57 05.4 -1.3**
CCA1 AMB AMB 17 57 07.2
comp=Z,187nm,0.9s
USRK Ussuriysk Arra 54.89 55 P **P** **17 57 07.3 +0.5**
comp=Z,7.9nm,0.7s,baz=277,slow=6.5,SNR=20
USRK pP **pP** **17 57 36.7 -0.1**
comp=Z,6.2nm,0.8s,baz=280,slow=6.7,SNR=3.6
USRK sP **sP** **17 57 51.3 +0.6**
comp=Z,10nm,0.7s,baz=272,slow=6.3,SNR=5.0
BUSP Coron 54.91 96 *e*P **P** **17 57 09.2 +1.7**
SDKM Sandakan 55.49 105 P **P** **17 57 12.7 +1.0**
SDKM Sandakan 55.49 105 P **P** **17 57 13.0 +1.4**
SJMP San Jose 55.50 95 *e*P **P** **17 57 13.9 +2.3**
ESDC Sonseca Array 55.59 300 P **P** **17 57 10.8 -1.3**
ESDC pP **pP** **17 57 42.3 +0.3**
ESDC Sonseca Array 55.59 300 P **P** **17 57 10.8 -1.3**
ESDC pP **pP** **17 57 42.3 +0.3**
ESDC Sonseca Array 55.59 300 P **P** **17 57 10.8 -1.3**
comp=Z,19nm,0.7s,baz=66,slow=7.5,SNR=214
ESDC pP **pP** **17 57 42.3 +0.3**
comp=Z,22nm,1.0s,baz=74,slow=11,SNR=4.7
ESLA Sonseca Array 55.59 300 *e*P **P** **17 57 10.5 -1.6**
comp=Z,8.5nm,0.9s
ESLA Sonseca Array 55.59 300 *e*P **P** **17 57 10.5 -1.6**
comp=Z,8.4nm,0.9s
ZAI Zaio 55.72 294 *i*P **P** **17 57 12.0 -1.1**
PAB San Pablo 55.91 300 PFAKE 17 57 30.0 +16
PAB LR LR
comp=Z,650nm,21.0s
CISI Cisompet, Garu 56.05 124 *e*P **P** **17 57 13.1 -2.5**
comp=Z,102nm,0.8s
CISI Cisompet, Garu 56.05 124 *e*P **P** **17 57 13.1 -2.5**
comp=Z,102nm,0.8s
HABR Khabarovsk 56.36 49*ce*P **P** **17 57 16.3 -1.0**
HABR *e* 17 58 11.3
HABR 17 59 23.2
HABR *e*S **S** **18 04 58.6 +0.8**
HABR *e* 18 06 53.3
HABR *e*SS **SS** **18 08 48.8 +2.5**
HABR pmax pmax
comp=E,59nm,2.1s
HABR pmax pmax
comp=Z,56nm,1.4s
HABR pmax pmax
comp=N,15nm,2.1s
HABR MLR MLR
comp=Z,210nm,16.0s
HABR Khabarovsk 56.36 49 *e*P **P** **17 57 16.3 -1.0**
comp=Z,15nm,2.1s
HABR Khabarovsk 56.36 49 *e*PcP **PcP** **17 58 11.3 -1.7**
LSZ Lusaka 56.36 223 *e*P **P** **17 57 18.2 +0.4**
comp=Z,66nm,1.4s
LSZ *e*pP **pP** **17 57 46.5 -1.3**
LSZ LR LR
comp=Z,391nm,20.0s
LSZ Lusaka 56.36 223 *e*P **P** **17 57 18.2 +0.4**
comp=Z,66nm,1.4s
LSZ *e*pP **pP** **17 57 46.5 -1.3**
JNU Nakatsue 56.41 68 P **P** **17 57 19.7 +1.7**
JNU pP **pP** **17 57 48.4 +0.4**
JNU Nakatsue 56.41 68 P **P** **17 57 19.7 +1.7**
JNU pP **pP** **17 57 48.4 +0.4**
JNU Nakatsue 56.41 68 P **P** **17 57 19.7 +1.7**
comp=Z,37nm,0.9s,baz=302,slow=3.3,SNR=12
JNU pP **pP** **17 57 48.4 +0.4**
comp=Z,59nm,0.8s,baz=304,slow=0.5,SNR=8.0
TSM Tawau 56.77 105 P **P** **17 57 21.6 +0.9**
MYLDM Lahad Datu 56.83 104 P **P** **17 57 23.5 +2.4**
MYLDM Lahad Datu 56.83 104 P **P** **17 57 24.0 +2.9**
TZK Tazeka 57.09 293 *i*P **P** **17 57 22.0 -1.0**
MSKU Masuku 57.18 246 PFAKE 17 57 40.0 +16
MSKU LR LR
comp=Z,2.0nm,22.0s
PBRG Braganca 57.21 303 *e*P **P** **17 57 22.5 -1.0**
comp=Z,70nm,1.6s
PBRG *e*pP **pP** **17 57 54.8 +1.2**
PBRG Braganca 57.21 303 *e*P **P** **17 57 22.5 -1.0**
comp=Z,70nm,1.6s
PBRG *e*pP **pP** **17 57 54.8 +1.2**
LIJA Lijar 57.32 297 *i*P **P** **17 57 21.5 -2.9**
MVO Moncorvo 57.56 302 *e*P **P** **17 57 25.1 -0.9**
comp=Z,79nm,1.8s
MVO *e*pP **pP** **17 57 55.9 -0.2**
MVO *e*S **S** **18 05 15.8 +1.7**
PVCP Virac 57.63 92⇓*i*P **P** **17 57 28.3 +1.6**
MDT Midelt 57.79 292 P **P** **17 57 27.0 -0.8**
MDT Midelt 57.79 292 P **P** **17 57 27.0 -0.8**
MDT Midelt 57.79 292 P **P** **17 57 27.0 -0.8**
comp=Z,28nm,0.7s,baz=85,slow=8.9,SNR=93
ZFT Errachidia 57.80 291 *i*P **P** **17 57 27.0 -1.0**
PVRL Vila Real 58.04 303 *e*P **P** **17 57 28.6 -0.7**
comp=Z,96nm,1.1s
PVRL Vila Real 58.04 303 *e*P **P** **17 57 28.6 -0.7**
comp=Z,96nm,1.1s
CZD Col de Zad 58.07 292 *i*P **P** **17 57 29.0 -1.0**
POLO Lamas de Olo 58.08 303 *e*P **P** **17 57 28.7 -1.0**
comp=Z,32nm,1.6s
POLO Lamas de Olo 58.08 303 *e*P **P** **17 57 28.7 -1.0**
comp=Z,32nm,1.6s
MTE Manteigas 58.11 301 *e*P **P** **17 57 29.2 -0.7**
comp=Z,129nm,1.0s
MTE *e*pP **pP** **17 58 01.2 +1.2**
MTE *e*S **S** **18 05 22.5 +1.2**
MTE Manteigas 58.11 301 *e*P **P** **17 57 29.1 -0.8**
comp=Z,69nm,0.8s
MTE *e*pP **pP** **17 57 58.2 -1.8**
MTE *e*SP 17 58 11.8
MTE LR LR
comp=Z,400nm,22.0s
MTE Manteigas 58.11 301 *e*P **P** **17 57 29.1 -0.8**
comp=Z,69nm,0.8s
MTE *e*pP **pP** **17 57 58.2 -1.8**
MTE *e*S **S** **18 05 22.5 +1.2**
PCAB Cabril 58.17 303 *e*P **P** **17 57 29.2 -1.0**
comp=Z,102nm,1.7s
PCAB Cabril 58.17 303 *e*P **P** **17 57 29.2 -1.0**
comp=Z,102nm,1.7s
PCBR Castelo Branco 58.19 301 *e*P **P** **17 57 29.1 -1.3**
comp=Z,141nm,1.7s
PCBR *e*pP **pP** **17 58 00.2 -0.3**
PMRV Marv??o 58.23 300 *e*P **P** **17 57 29.3 -1.3**
comp=Z,68nm,1.6s
PMRV *e*pP **pP** **17 58 00.3 -0.5**
PBAR Barrancos 58.27 299 *e*P **P** **17 57 29.2 -1.7**
comp=Z,148nm,1.1s
PBAR *e*pP **pP** **17 58 00.1 -1.0**
PGAV Gavieira, Arco 58.29 303 *e*P **P** **17 57 30.5 -0.6**
comp=Z,99nm,1.8s
PGAV *e*pP **pP** **17 58 02.1 +0.8**
PGAV Gavieira, Arco 58.29 303 *e*P **P** **17 57 30.5 -0.6**
comp=Z,99nm,1.8s
PGAV *e*pP **pP** **17 58 02.1 +0.8**
PVIS Viseu 58.30 302 *e*P **P** **17 57 30.6 -0.6**
comp=Z,94nm,1.3s
PVIS Viseu 58.30 302 *e*P **P** **17 57 30.6 -0.6**
comp=Z,94nm,1.3s
PESTR Estremoz 58.51 300 *e*P **P** **17 57 31.2 -1.4**
comp=Z,56nm,1.1s
PESTR Estremoz 58.51 300 *e*P **P** **17 57 31.2 -1.4**
comp=Z,56nm,1.1s
PCAS Casmilo, Conde 58.91 301 *e*P **P** **17 57 34.5 -0.8**
comp=Z,53nm,1.8s
PCAS Casmilo, Conde 58.91 301 *e*P **P** **17 57 34.5 -0.8**
comp=Z,53nm,1.8s
EVO Evora 58.92 299⇑*i*P **P** **17 57 35.0 -0.4**
comp=Z,112nm,1.0s
EVO *e*pP **pP** **17 58 05.7 +0.1**
EVO *e*R
comp=Z,143nm,19.5s
EVO Evora 58.92 299 *e*P **P** **17 57 34.1 -1.3**
comp=Z,98nm,1.1s
EVO *e*pP **pP** **17 58 05.0 -0.6**
EVO Evora 58.92 299 *e*P **P** **17 57 34.1 -1.3**
comp=Z,98nm,1.1s
EVO *e*pP **pP** **17 58 05.0 -0.6**
PBEJ Beja 58.94 299 *e*P **P** **17 57 34.2 -1.3**
comp=Z,71nm,1.4s
PBEJ *e*pP **pP** **17 58 05.6 -0.2**
PBEJ Beja 58.94 299 *e*P **P** **17 57 34.2 -1.3**
comp=Z,71nm,1.4s
PBEJ *e*pP **pP** **17 58 05.6 -0.2**
PMTG Montargil 58.94 300 *e*P **P** **17 57 34.1 -1.5**
comp=Z,60nm,1.7s
PMTG *e*pP **pP** **17 58 06.2 +0.4**
PMTG Montargil 58.94 300 *e*P **P** **17 57 34.1 -1.5**
comp=Z,60nm,1.7s
PMTG *e*pP **pP** **17 58 06.2 +0.4**
PTOM Tomar 58.95 301 *e*P **P** **17 57 34.9 -0.7**
comp=Z,153nm,1.9s
PTOM pP **pP** **17 58 06.2 +0.4**
PVAQ Vaqueiros 58.98 298 *e*P **P** **17 57 34.1 -1.8**
comp=Z,42nm,1.6s
PVAQ Vaqueiros 58.98 298 *e*P **P** **17 57 34.1 -1.8**
comp=Z,42nm,1.6s
EVOP Sao Brissos 59.00 299⇑*i*P **P** **17 57 35.0 -1.0**
EVOP *e**PP **pP** **17 58 05.7 -0.5**
EVOP pmax pmax
comp=Z,112nm,1.0s
EVOP Sao Brissos 59.00 299⇑*i*P **P** **17 57 35.0 -1.0**
comp=Z,112nm,1.0s
EVOP *e*pP **pP** **17 58 05.7 -0.5**
EVOP Sao Brissos 59.00 299⇑*i*P **P** **17 57 35.0 -1.0**
comp=Z,56nm,1.0s
EVOP *e*pP **pP** **17 58 05.7 -0.5**
PCVE Castro Verde 59.17 298 *e*P **P** **17 57 35.4 -1.8**
comp=Z,80nm,1.2s
PCVE *e*pP **pP** **17 58 06.2 -1.2**
PBDV Barranco-do-Ve 59.19 298 *e*P **P** **17 57 35.9 -1.4**
comp=Z,49nm,2.1s
PBDV Barranco-do-Ve 59.19 298 *e*P **P** **17 57 35.9 -1.4**
comp=Z,49nm,2.1s
RTC Rabat Centre 59.25 294 PFAKE 17 57 50.0 +12
RTC LR LR
comp=Z,197nm,20.0s
PNCL Nicolau / Gran 59.42 299 *e*P **P** **17 57 37.8 -1.0**
comp=Z,102nm,1.4s
PNCL pP **pP** **17 58 08.9 -0.2**
PNCL Nicolau / Gran 59.42 299 *e*P **P** **17 57 37.8 -1.0**
comp=Z,102nm,1.4s
PNCL pP **pP** **17 58 08.9 -0.2**
TZC Tazercounte 59.50 292 *i*P **P** **17 57 39.0 -0.7**
TOA0 Torodi Ar. Sit 59.58 268 *e*P **P** **17 57 38.6 -1.7**
TOA0 *e*pP **pP** **17 58 09.0 -1.6**
TOA0 *e*sP **sP** **17 58 21.9 -2.6**
TOA0 Torodi Ar. Sit 59.58 268 *e*P **P** **17 57 38.6 -1.7**
TOA0 *e*pP **pP** **17 58 09.0 -1.6**
TORD Torodi Ar. Bea 59.58 268 P **P** **17 57 38.5 -1.8**
TORD pP **pP** **17 58 09.1 -1.5**
TORD Torodi Ar. Bea 59.58 268 P **P** **17 57 38.5 -1.8**
TORD pP **pP** **17 58 09.1 -1.5**
TORD Torodi Ar. Bea 59.58 268 P **P** **17 57 38.5 -1.8**
comp=Z,26nm,0.4s,baz=56,slow=6.7,SNR=363
TORD pP **pP** **17 58 09.1 -1.5**
comp=Z,65nm,0.7s,baz=56,slow=6.8,SNR=12
TORD LR LR 18 25 24.2
comp=Z,612nm,18.7s,baz=65,slow=38
PTEO Sao Teotonio 59.72 299 *e*P **P** **17 57 39.9 -1.0**
comp=Z,1.5s
PTEO Sao Teotonio 59.72 299 *e*P **P** **17 57 39.9 -1.0**
comp=Z,66nm,1.5s
MORF Marmelete 59.73 298 *e*P **P** **17 57 39.4 -1.6**
comp=Z,52nm,1.6s
MORF Marmelete 59.73 298 *e*P **P** **17 57 40.5 -0.5**
MORF Marmelete 59.73 298 *e*P **P** **17 57 40.5 -0.5**
LIS Lisbon 59.73 300 *e*P **P** **17 57 41.0 0.0**
LIS AMb AMB 17 57 43.0
comp=Z,125nm,1.4s
LIS Lisbon 59.73 300 *e*P **P** **17 57 41.0 0.0**
DAG Danmarks Havn 59.77 345⇑*i*P **P** **17 57 40.2 -0.4**
DAG *i* 17 58 11.0
DAG *i*S **S** **18 05 41.0 -0.4**
DAG pmax pmax
comp=Z,51nm,0.9s
DAG Danmarks Havn 59.77 345⇑*i*P **P** **17 57 40.2 -0.4**
comp=Z,60nm,0.9s
DAG *i* 17 58 11.0
DAG *i*S **S** **18 05 41.0 -0.4**
PMAFR Mafra 59.77 300 *e*P **P** **17 57 40.4 -0.9**
PMAFR *e*pP **pP** **17 58 12.1 +0.5**
PMAFR Mafra 59.77 300 *e*P **P** **17 57 40.4 -0.9**
PMAFR *e*pP **pP** **17 58 12.1 +0.5**
PFVI Vila Bisbo 59.91 298 *e*P **P** **17 57 40.9 -1.3**
comp=Z,123nm,1.1s
PFVI Vila Bisbo 59.91 298 *e*P **P** **17 57 40.9 -1.3**
comp=Z,123nm,1.1s
OUK Oukaimeden 60.91 291 *i*P **P** **17 57 49.0 -0.5**
MSNA Messina 61.06 216 *e*P P 17 57 53.4 +3.2
MSNA AMB AMB 17 57 58.5
comp=Z,44nm,1.4s
MSNA Messina 61.06 216 P P 17 57 53.4 +3.2
comp=Z,44nm,1.4s
SCO Scoresbysund 61.10 337⇑*i*P **P** **17 57 49.7 0.0**
SCO pmax pmax
comp=Z,17nm,1.0s
SCO Scoresbysund 61.10 337⇑*i*P **P** **17 57 49.7 0.0**
comp=Z,17nm,1.0s
SCO Scoresbysund 61.10 337⇑*i*P **P** **17 57 49.7 0.0**
comp=Z,17nm,1.0s
MAT Matsushiro 61.24 62 P **P** **17 57 52.7 +1.4**
MAT S **S** **18 05 59.2 -2.2**
BORG Borgarnes 61.69 331 P **P** **17 57 54.9 +1.1**
BORG Borgarnes 61.69 331 P **P** **17 57 54.9 +1.1**
BORG Borgarnes 61.69 331 P **P** **17 57 54.9 +1.1**
comp=Z,23nm,1.0s,baz=68,slow=4.6,SNR=3.4
YSS Yuzh-Sakhalins 61.75 50⇑*e*P **P** **17 57 55.0 +0.5**
YSS *i**PP **pP** **17 58 25.0 0.0**
YSS *e*S **S** **18 06 06.0 -1.5**
YSS *e*PS **PnS** **18 06 36.0 -6.1**
YSS *e*SSS SSS 18 12 49.0
YSS pmax pmax
comp=Z,30nm,1.0s
ASAJ Asahikawa 62.37 53 P **P** **17 57 58.6 0.0**
ASAJ pP **pP** **17 58 29.1 -0.1**
ASAJ Asahikawa 62.37 53 P **P** **17 57 58.7 0.0**
ASAJ pP **pP** **17 58 29.1 -0.1**
ASAJ Asahikawa 62.37 53 P **P** **17 57 58.6 0.0**
comp=Z,7.9nm,0.8s,baz=243,slow=14,SNR=7.3
ASAJ pP **pP** **17 58 29.1 -0.1**
comp=Z,22nm,0.9s,baz=248,slow=10,SNR=4.8
KAPI Kappang 63.58 113 P **P** **17 58 06.3 -0.8**
SNR=7.7
KAPI Kappang 63.58 113 PFAKE 17 58 20.0 +13
KAPI LR LR
comp=Z,389nm,19.0s
KAPI Kappang 63.58 113 P **P** **17 58 05.0 -2.1**
comp=Z,626nm,1.0s,SNR=14
SLR Silverton 64.75 216 *e*P P 17 58 19.5 +4.9
SLR AMB AMB 17 58 20.9
comp=Z,54nm,1.5s
SLR Silverton 64.75 216 P P 17 58 19.5 +4.9
SLR pmax pmax
comp=Z,54nm,1.5s
SLR Silverton 64.75 216 P P 17 58 19.5 +4.9
comp=Z,54nm,1.5s
ALE Alert 65.24 353 P **P** **17 58 16.3 -0.6**
comp=Z,216nm,0.9s,SNR=18
ERPM east rand prop 65.27 215 *e*P **P** **17 58 16.9 -1.2**
ERPM AMB AMB 17 58 24.3
comp=Z,44nm,1.9s
ERPM east rand prop 65.27 215 P **P** **17 58 16.9 -1.2**
comp=Z,44nm,1.9s
ERPM east rand prop 65.27 215 P **P** **17 58 16.9 -1.2**
comp=Z,44nm,1.9s
KSR Koster 65.55 217 *e*P **P** **17 58 20.5 +0.6**
KSR AMB AMB 17 58 25.6
comp=Z,29nm,1.5s
KSR Koster 65.55 217 P **P** **17 58 20.5 +0.6**
comp=Z,29nm,1.5s
KSR Koster 65.55 217 P **P** **17 58 20.5 +0.6**
comp=Z,29nm,1.5s
LBTB Lobatse 65.56 218 *e*P **P** **17 58 22.2 +2.3**
LBTB AMB AMB 17 58 25.2
comp=Z,93nm,1.4s
LBTB Lobatse 65.56 218 P **P** **17 58 22.2 +2.3**
comp=Z,93nm,1.4s
LBTB Lobatse 65.56 218 P **P** **17 58 22.2 +2.3**
comp=Z,93nm,1.4s
SUMG Summit 65.69 341 *i*P **P** **17 58 20.5 +0.1**
SUMG pmax pmax
comp=Z,62nm,0.7s
SUMG Summit 65.69 341 *i*P **P** **17 58 20.5 +0.1**
comp=Z,62nm,0.7s
SUMG Summit 65.69 341 *i*P **P** **17 58 20.5 +0.1**
comp=Z,62nm,0.7s
TSUM Tsumeb 65.93 228 *e*P **P** **17 58 22.9 +0.5**
comp=Z,40nm,1.0s
TSUM *e*pP **PcP** **17 58 51.6 -0.5**
TSUM pP **pP** **17 58 53.6 +0.4**
TSUM *e*SP 17 59 05.5
TSUM LR LR
comp=Z,372nm,19.0s
TSUM Tsumeb 65.93 228 *e*P **P** **17 58 22.9 +0.5**
comp=Z,40nm,1.0s
TSUM *e*pP **PcP** **17 58 51.7 -0.5**
PRYS Parys 66.19 216 *e*P **P** **17 58 25.4 +1.5**
PRYS AMB AMB 17 58 29.3
comp=Z,28nm,1.7s
PRYS Parys 66.19 216 P **P** **17 58 25.4 +1.5**
comp=Z,28nm,1.7s
PRYS Parys 66.19 216 P **P** **17 58 25.4 +1.5**
comp=Z,28nm,1.7s
SEK Senekal 67.21 214 *e*P **P** **17 58 32.1 +1.7**
SEK AMB AMB 17 58 36.0
comp=Z,58nm,1.3s
SEK Senekal 67.21 214 P **P** **17 58 32.1 +1.7**
comp=Z,58nm,1.3s
SEK Senekal 67.21 214 P **P** **17 58 32.1 +1.7**
comp=Z,58nm,1.3s
SWZ Schweizer 67.45 217 *e*P **P** **17 58 33.6 +1.8**
SWZ AMB AMB 17 58 36.5
comp=Z,86nm,1.5s
SWZ Schweizer 67.45 217 P **P** **17 58 33.6 +1.8**
comp=Z,86nm,1.5s
SWZ Schweizer 67.45 217 P **P** **17 58 33.6 +1.8**
comp=Z,86nm,1.5s
PMAR Madeira 67.61 296 *e*P **P** **17 58 32.2 -0.8**
comp=Z,140nm,1.1s
PMAR Madeira 67.61 296 *e*P **P** **17 58 32.2 -0.8**
comp=Z,140nm,1.1s
JCJ Chichijima 67.64 71 LR LR 18 31 19.6
comp=Z,385nm,18.2s,baz=86,slow=39
PMOZ Porto Moniz, M 67.80 296 *e*P **P** **17 58 33.6 -0.5**
comp=Z,123nm,1.2s
PMOZ Porto Moniz, M 67.80 296 *e*P **P** **17 58 33.6 -0.5**
comp=Z,123nm,1.2s
DBIC Dimbokro 68.30 265 *e*P **P** **17 58 35.4 -1.9**
DBIC Dimbokro 68.30 265 P **P** **17 58 36.0 -1.3**
DBIC pP **pP** **17 59 07.3 -1.0**
DBIC Dimbokro 68.30 265 P **P** **17 58 36.0 -1.3**
DBIC pP **pP** **17 59 07.3 -1.0**
DBIC Dimbokro 68.30 265 P **P** **17 58 36.0 -1.3**
comp=Z,14nm,0.8s,baz=49,slow=7.6,SNR=17
DBIC pP **pP** **17 59 07.3 -1.0**
comp=Z,11nm,0.6s,baz=41,slow=7.4,SNR=5.2
DBIC LR LR 18 30 43.6
comp=Z,467nm,19.3s,baz=35,slow=38
KIC Kosan Boka 68.35 265 *e*P **P** **17 58 36.3 -1.4**
comp=Z,71nm,0.9s
TIC Toumodi 68.45 265 *e*P **P** **17 58 36.8 -1.5**
comp=Z,108nm,1.2s
BOSA Boshof 68.64 216 *e*P **P** **17 58 40.5 +1.3**
BOSA AMB AMB 17 58 49.6
comp=Z,61nm,4.7s
BOSA Boshof 68.64 216 P **P** **17 58 40.7 +1.4**

BOSA pP **pP** **17 59 09.7 -0.7**
BOSA Boshof 68.64 216 P **P** **17 58 40.7 +1.4**
BOSA pP **pP** **17 59 09.6 -0.7**
BOSA Boshof 68.64 216 P **P** **17 58 40.7 +1.4**
comp=Z,24nm,0.9s,baz=33,slow=6.7,SNR=27
BOSA pP **pP** **17 59 09.7 -0.7**
comp=Z,16nm,0.8s,baz=34,slow=7.3,SNR=3.8
LIC Lamto 68.66 265 ⇑*i*P **P** **17 58 37.8 -1.8**
comp=Z,37nm,0.8s,baz=54
LIC *ep*P **pP** **17 59 08.6 -2.1**
LIC *e*R
comp=Z,640nm,21.5s
LIC Lamto 68.66 265 *e*P **P** **17 58 37.8 -1.8**
comp=Z,57nm,0.8s
LIC Lamto 68.66 265 ⇑*i*P **P** **17 58 37.8 -1.8**
comp=Z,37nm,0.8s
LIC *ep*P **pP** **17 59 08.6 -2.1**
LIC Lamto 68.66 265 ⇑*i*P **P** **17 58 37.8 -1.8**
comp=Z,19nm,0.8s
LIC *ep*P **pP** **17 59 08.6 -2.1**
PETK Petropavlovsk- 69.08 40 P **P** **17 58 41.1 -0.5**
PETK *PP **pP** **17 59 11.9 -0.8**
PETK Petropavlovsk- 69.08 40 P **P** **17 58 41.1 -0.5**
PETK pP **pP** **17 59 11.8 -0.8**
PETK Petropavlovsk- 69.08 40 P **P** **17 58 41.1 -0.5**
PETK pP **pP** **17 59 11.9 -0.8**
PETK Petropavlovsk- 69.08 40 P **P** **17 58 41.1 -0.5**
comp=Z,11nm,0.8s,baz=246,slow=2.6,SNR=8.8
PETK pP **pP** **17 59 11.8 -0.8**
comp=Z,11nm,0.8s,baz=232,slow=1.7,SNR=5.3
PET Petropavlovsk 69.65 40 *e*P **P** **17 58 45.9 +0.9**
PET *e* 18 01 26.0
PET *e*S **S** **18 07 39.3 -3.8**
PET *e*'SS **SKSac** **18 08 33.0 -0.6**
PET pmax pmax
comp=Z,24nm,1.0s
PET pmax pmax
comp=Z,100nm,5.2s
PET MLR MLR
comp=Z,300nm,19.0s
PET MLR MLR
comp=Z,300nm,20.0s
AAI Ambon 69.74 107 ⇑P **P** **17 58 46.1 -0.1**
baz=70,SNR=4.2
SOEI Soe 69.97 114 P **P** **17 58 47.0 -0.8**
baz=70,SNR=34
HVD Gariep Dam 70.14 215 *e*P **P** **17 58 49.3 +0.9**
HVD AMB AMB 17 58 53.2
comp=Z,48nm,1.4s
HVD Gariep Dam 70.14 215 P **P** **17 58 49.3 +0.9**
HVD pmax pmax
comp=Z,48nm,1.4s
HVD Gariep Dam 70.14 215 P **P** **17 58 49.3 +0.9**
comp=Z,48nm,1.4s
HVD Gariep Dam 70.14 215 P **P** **17 58 49.3 +0.9**
comp=Z,48nm,1.4s
PKA Prieska 70.79 217 *e*P **P** **17 58 53.2 +0.8**
PKA AMB AMB 17 58 56.8
comp=Z,19nm,1.5s
PKA Prieska 70.79 217 P **P** **17 58 53.2 +0.8**
comp=Z,19nm,1.5s
PKA Prieska 70.79 217 P **P** **17 58 53.2 +0.8**
comp=Z,19nm,1.5s
SWI Sorong 70.83 102 ⇓P **P** **17 58 53.1 +0.3**
baz=71,SNR=3.7
ILULI Ilulissat 70.92 340 ⇑*i*P **P** **17 58 51.9 -0.6**
ILULI pmax pmax
comp=Z,31nm,0.7s
ILULI Ilulissat 70.92 340 ⇑*i*P **P** **17 58 51.9 -0.6**
comp=Z,31nm,0.7s,SNR=26
GIRL Giralia 70.96 131 ⇑P **P** **17 58 54.5 +1.1**
baz=71,SNR=11
SFJD Kangerlussuaq 72.00 338 *i*P **P** **17 58 57.9 -1.1**
comp=Z,20nm,0.7s
SFJD Kangerlussuaq 72.00 338 *e*P **P** **17 58 57.9 -1.1**
comp=Z,28nm,0.7s
SFJD *ep*P **pP** **17 59 28.7 -1.6**
SFJD pP **pP** **17 59 30.0 -0.4**
SFJD *es*P **sP** **17 59 41.8 -2.1**
SFJD Kangerlussuaq 72.00 338 *i*P **P** **17 58 57.9 -1.1**
comp=Z,20nm,0.8s,SNR=26
SFJD *ep*P **pP** **17 59 28.7 -1.6**
SFJD Kangerlussuaq 72.00 338 P **P** **17 58 57.9 -1.1**
comp=Z,22nm,0.6s,baz=46,slow=7.3,SNR=18
SFJD pP **pP** **17 59 30.0 -0.4**
comp=Z,11nm,0.8s,baz=39,slow=4.1,SNR=2.1
MBWA Marble Bar 73.68 126 PFAKE 17 59 20.0 +10
MBWA LR LR
comp=Z,776nm,19.0s
SUR Sutherland 73.95 217 *e*P **P** **17 59 13.5 +2.3**
SUR AMB AMB 17 59 36.9
comp=Z,69nm,3.1s
SUR Sutherland 73.95 217 P **P** **17 59 13.5 +2.3**
comp=Z,69nm,3.1s
SUR Sutherland 73.95 217 P **P** **17 59 13.5 +2.3**
comp=Z,69nm,3.1s
RES Resolute Bay 75.09 354 *e*P **P** **17 59 16.4 -0.6**
comp=Z,18nm,1.3s
RES *e*PcP **PcP** **17 59 29.4 -0.6**
RES Resolute Bay 75.09 354 *e*P **P** **17 59 16.4 -0.6**
comp=Z,18nm,1.3s
FITZ Fitzroy Crossi 76.04 120 ⇑P **P** **17 59 23.5 +0.3**
baz=76,SNR=38
MEEK Meekatharra 76.59 131 ⇑P **P** **17 59 25.7 -0.5**
baz=77,SNR=26
MORW Morawa 76.63 135 ⇓P **P** **17 59 26.1 -0.3**
baz=77,SNR=18
KNRA Kununurra 76.99 117 ⇑P **P** **17 59 29.3 +0.6**
baz=77,SNR=49
MTN Manton Dam 77.24 113 ⇑P **P** **17 59 30.5 +0.4**
baz=77,SNR=20
ATTU Attu Island--F 77.50 36 *e*P **P** **17 59 30.6 -0.4**
FX1 Attu Island--F 77.50 36 *e*P **P** **17 59 30.6 -0.4**
FX1 Attu Island--F 77.50 36 *e*P **P** **17 59 30.6 -0.4**
KDU Kakadu 78.23 112 ⇓P **P** **17 59 36.0 +0.4**
baz=78,SNR=52
NWAO Narrogin (SRO) 80.07 137 P **P** **17 59 45.1 -0.1**
NWAO Narrogin (SRO) 80.07 137 P **P** **17 59 45.1 -0.1**
NWAO Narrogin (SRO) 80.07 137 P **P** **17 59 45.1 -0.1**
comp=Z,124nm,0.8s,baz=314,slow=5.2,SNR=48
NWAO LR LR 18 31 16.7
comp=Z,281nm,21.3s,baz=258,slow=33
IM04 Indian Mountai 80.47 15 *e*P **P** **17 59 46.5 -0.4**
IM04 Indian Mountai 80.47 15 *e*P **P** **17 59 46.5 -0.4**
RKGY Rocky Gully 81.11 138 ⇑P **P** **17 59 50.7 0.0**
baz=81,SNR=10
INK Inuvik 81.57 6 *e*P **P** **17 59 51.7 -1.0**
comp=Z,93nm,1.4s
INK *ep*P **pP** **18 00 23.4 -1.3**
INK Inuvik 81.57 6 *e*P **P** **17 59 51.7 -1.0**
comp=Z,93nm,1.4s
INK *ep*P **pP** **18 00 23.4 -1.3**
INK Inuvik 81.57 6 P **P** **17 59 52.6 -0.1**
comp=Z,19nm,0.6s,baz=6.6,slow=7.8,SNR=59
COLA College 82.67 13 PFAKE 18 00 10.0 +12
COLA LR LR
comp=Z,244nm,20.0s
ILAR Eielson Array 82.95 13 P **P** **17 59 58.9 -1.1**
ILAR pP **pP** **18 00 32.2 +0.2**
ILAR PP **PP** **18 03 14.3 +2.9**
ILAR PKKPbc **PKKPbc** **18 18 21.2 -1.3**
ILAR Eielson Array 82.95 13 P **P** **17 59 58.9 -1.1**
ILAR pP **pP** **18 00 32.2 +0.2**
ILAR Eielson Array 82.95 13 P **P** **17 59 58.9 -1.1**
comp=Z,11nm,0.6s,baz=320,slow=3.9,SNR=108
ILAR pP **pP** **18 00 32.2 +0.2**
comp=Z,14nm,1.0s,baz=324,slow=3.9,SNR=5.5
ILAR PP **PP** **18 03 14.3 +2.9**
comp=Z,7.7nm,1.0s,baz=331,slow=8.2,SNR=6.4
ILAR PKKPbc **PKKPbc** **18 18 21.2 -1.3**
comp=Z,0.8nm,0.8s,baz=186,slow=1.2,SNR=5.3
ILAR LR LR 18 42 40.2
comp=Z,210nm,18.9s,baz=106,slow=40
TRF Thorofare Moun 83.41 15 *e*P **P** **18 00 02.0 -0.6**
comp=Z,26nm,0.8s
TRF Thorofare Moun 83.41 15 *e*P **P** **18 00 02.0 -0.6**
comp=Z,26nm,0.8s
WRA Warramunga Arr 83.77 117 P **P** **18 00 04.8 -0.1**
WRA pP **pP** **18 00 36.2 -0.8**
WRA PKKPbc **PKKPbc** **18 18 19.7 -0.7**
WRA Warramunga Arr 83.77 117 P **P** **18 00 04.8 -0.1**
WRA pP **pP** **18 00 36.2 -0.8**
WRA Warramunga Arr 83.77 117 P **P** **18 00 04.8 -0.1**
comp=Z,42nm,0.8s,baz=315,slow=4.4,SNR=286
WRA pP **pP** **18 00 36.2 -0.8**
comp=Z,26nm,0.9s,baz=315,slow=4.7,SNR=6.0
WRA PKKPbc **PKKPbc** **18 18 19.7 -0.7**
comp=Z,0.5nm,0.7s,baz=122,slow=2.3,SNR=6.7
WRA LR LR 18 38 28.7
comp=Z,99nm,21.1s,baz=250,slow=36
WRAB Tennant Creek 83.78 117 *e*P **P** **18 00 05.1 +0.2**
WRAB pmax pmax
comp=Z,72nm,0.9s
WRAB Tennant Creek 83.78 117 *e*P **P** **18 00 05.1 +0.2**
comp=Z,72nm,0.9s
WRAB *e*PcP **PcP** **18 00 09.3 +0.5**
WRAB *ep*P **pP** **18 00 36.2 -0.9**
WRAB *es*P **sP** **18 00 49.0 -1.5**
WRAB Tennant Creek 83.78 117 P **P** **18 00 05.6 +0.7**
comp=Z,421nm,1.0s,SNR=30
WRAB Tennant Creek 83.78 117 *e*P **P** **18 00 05.1 +0.2**
comp=Z,72nm,0.9s
EGAK Eagle 83.95 11 *e*P **P** **18 00 04.7 -0.4**
comp=Z,40nm,0.9s
EGAK LR LR
comp=Z,332nm,19.0s
EGAK Eagle 83.95 11 *e*P **P** **18 00 04.7 -0.4**
comp=Z,40nm,0.9s
ASAR Alice Springs 85.55 120 P **P** **18 00 13.8 +0.1**
ASAR pP **pP** **18 00 45.3 -0.7**
ASAR Alice Springs 85.55 120 P **P** **18 00 13.9 +0.1**
ASAR pP **pP** **18 00 45.3 -0.7**
ASAR Alice Springs 85.55 120 P **P** **18 00 13.8 +0.1**
comp=Z,75nm,0.8s,baz=305,slow=4.9,SNR=986
ASAR pP **pP** **18 00 45.3 -0.7**
comp=Z,44nm,0.9s,baz=308,slow=5.0,SNR=6.9
ASAR LR LR 18 39 07.3
comp=Z,232nm,21.0s,baz=272,slow=36
FORT Forrest 85.57 129 ⇑P **P** **18 00 14.4 +0.7**
baz=86,SNR=13
COEN Coen 87.69 107 ⇓P **P** **18 00 24.7 +0.3**
baz=88,SNR=6.7
KDAK Kodiak Island 87.75 19 P **P** **18 00 23.6 -0.3**
comp=Z,362nm,0.9s,SNR=7.6
KDAK Kodiak Island 87.75 19 *i*P **P** **18 00 23.8 -0.1**
HYT Haines Junctio 88.25 10 *e*P **P** **18 00 26.3 -0.1**
HYT Haines Junctio 88.25 10 *e*P **P** **18 00 26.3 -0.1**
YKA Yellowknife Ar 88.26 359 P **P** **18 00 25.6 -0.6**
YKA pP **pP** **18 00 57.4 -1.3**
YKA PP **PP** **18 03 50.4 -3.9**
YKA Yellowknife Ar 88.26 359 P **P** **18 00 25.6 -0.6**
YKA pP **pP** **18 00 57.4 -1.3**
YKA Yellowknife Ar 88.26 359 P **P** **18 00 25.6 -0.6**
comp=Z,20nm,0.6s,baz=352,slow=5.1,SNR=114
YKA pP **pP** **18 00 57.4 -1.3**
comp=Z,12nm,0.8s,baz=350,slow=5.1,SNR=4.3
YKA PP **PP** **18 03 50.4 -3.9**
comp=Z,5.1nm,0.9s,baz=356,slow=7.3,SNR=4.9
PMG Port Moresby 88.76 101 P **P** **18 00 29.5 +0.1**
PMG *ep*P **pP** **18 01 02.0 +0.1**
PMG sP **sP** **18 01 14.5 -0.7**
PMG Port Moresby 88.76 101 P **P** **18 00 29.5 +0.1**
PMG *ep*P **pP** **18 01 02.0 +0.1**
PMG Port Moresby 88.76 101 P **P** **18 00 29.5 +0.1**
comp=Z,21nm,0.9s,baz=298,slow=5.7,SNR=7.5
PMG pP **pP** **18 01 02.0 +0.1**
comp=Z,32nm,0.8s,baz=311,slow=3.5,SNR=5.8
PMG sP **sP** **18 01 14.5 -0.7**
comp=Z,36nm,0.8s,baz=309,slow=4.5,SNR=5.8
PMG LR LR 18 40 03.7
comp=Z,374nm,18.9s,baz=29,slow=35
FCC Fort Churchill 90.12 349 *e*P **P** **18 00 34.4 -0.6**
FCC Fort Churchill 90.12 349 *e*P **P** **18 00 34.4 -0.6**
FCC Fort Churchill 90.12 349 *e*P **P** **18 00 34.4 -0.6**
MTSU Mount Surprise 90.77 110 ⇓P **P** **18 00 39.3 +0.6**
baz=91,SNR=12
BBOO Buckleboo 92.26 127 ⇓P **P** **18 00 46.0 +0.7**
baz=92,SNR=4.9
CTA Charters Tower 93.33 111 P **P** **18 00 51.1 +0.6**
CTA pP **pP** **18 01 22.4 -0.7**
CTA sP **sP** **18 01 35.5 -1.0**
CTA Charters Tower 93.33 111 P **P** **18 00 51.1 +0.6**
CTA pP **pP** **18 01 22.4 -0.7**
CTA Charters Tower 93.33 111 P **P** **18 00 51.1 +0.6**
comp=Z,22nm,0.9s,baz=297,slow=5.2,SNR=27
CTA pP **pP** **18 01 22.4 -0.7**
comp=Z,23nm,1.0s,baz=300,slow=5.9,SNR=7.1
CTA sP **sP** **18 01 35.5 -1.0**
comp=Z,17nm,1.0s,baz=299,slow=8.2,SNR=4.1
CTAO Charters Tower 93.33 111 PFAKE 18 01 00.0 +9.5
CTAO LR LR
comp=Z,591nm,22.0s
QLP Quilpie 94.99 118 ⇑P **P** **18 00 58.7 +0.7**
baz=95,SNR=9.2
FFC Flin Flon 95.19 352 *i*P **P** **18 00 57.9 -0.6**
FFC Flin Flon 95.19 352 PFAKE 18 01 10.0 +12
FFC LR LR
comp=Z,270nm,21.0s
FFC Flin Flon 95.19 352 P **P** **18 00 57.6 -0.9**
comp=Z,93nm,0.6s,SNR=5.4
FFC Flin Flon 95.19 352 *i*P **P** **18 00 57.9 -0.6**
STKA Stephens Creek 95.71 123 *e*P **P** **18 01 01.1 -0.1**
comp=Z,3.1nm,0.9s
STKA *ep*P **pP** **18 01 32.9 -0.9**
STKA pP **pP** **18 01 33.0 -0.7**
STKA *es*P **sP** **18 01 46.4 -0.7**
STKA PP **PP** **18 04 56.1 +1.4**
STKA Stephens Creek 95.71 123 P **P** **18 01 01.1 -0.1**
baz=96,SNR=9.7
STKA Stephens Creek 95.71 123 *e*P **P** **18 01 01.1 -0.1**
comp=Z,3.1nm,0.9s
STKA *ep*P **pP** **18 01 32.8 -0.9**
STKA Stephens Creek 95.71 123 PP PP 18 04 56.1 +1.3
STKA Stephens Creek 95.71 123 P **P** **18 01 01.3 +0.2**
comp=Z,13nm,0.8s,baz=314,slow=5.9,SNR=20
STKA pP **pP** **18 01 33.0 -0.7**
comp=Z,8.9nm,0.8s,baz=324,slow=3.9,SNR=5.5
STKA PP **PP** **18 04 56.1 +1.4**
comp=Z,5.4nm,0.9s,baz=335,slow=7.8,SNR=3.1
STKA LR LR 18 46 47.8
comp=Z,396nm,18.1s,baz=111,slow=37
LBNH Lisbon 96.21 330 PFAKE 18 01 10.0 +6.7
LBNH LR LR
comp=Z,585nm,20.0s
MAW Mawson 96.86 180 *e*P **P** **18 01 05.2 -0.2**
comp=Z,4.9nm,1.0s
MAW pP **pP** **18 01 39.8 +1.8**
MAW Mawson 96.86 180 ⇓P **P** **18 01 08.2 +2.8**
baz=97,SNR=15
MAW Mawson 96.86 180 *e*P **P** **18 01 05.2 -0.2**
comp=Z,4.9nm,1.0s
MAW pP **pP** **18 01 39.8 +1.8**
MAW Mawson 96.86 180 P **P** **18 01 07.7 +2.3**
comp=Z,21nm,1.1s,baz=357,slow=5.4,SNR=19
MAW pP **pP** **18 01 39.8 +1.8**
comp=Z,12nm,0.8s,baz=344,slow=6.6,SNR=5.2
MAW LR LR 18 39 44.8
comp=Z,148nm,18.6s,baz=351,slow=32
NCB Newcomb 97.42 331 PFAKE 18 01 20.0 +11
NCB LR LR
comp=Z,420nm,20.0s
EDM Edmonton 97.53 358 *e*P **P** **18 01 08.7 -0.5**
EDM Edmonton 97.53 358 *e*P **P** **18 01 08.7 -0.5**
EDM Edmonton 97.53 358 *e*P **P** **18 01 08.7 -0.5**
ULM Lac du Bonnet 98.55 347 P **P** **18 01 12.2 -1.5**
ULM Lac du Bonnet 98.55 347 P **P** **18 01 12.2 -1.5**
ULM Lac du Bonnet 98.55 347 P **P** **18 01 12.2 -1.5**
comp=Z,6.9nm,0.7s,baz=23,slow=4.9,SNR=8.9
ULM LR LR 18 49 34.8
comp=Z,229nm,19.6s,baz=245,slow=38
CMSA Cobar Meteorol 98.56 121 ⇓P Pdif 18 01 14.2 +0.2
baz=99,SNR=5.9
SADO Sadowa 98.72 334 LR LR 18 46 31.9
comp=Z,166nm,18.4s,baz=254,slow=36
SYO Syowa Base 99.89 189⇑*ep*Pdiff pP 18 01 54.0 +2.3
AGMN Agassiz Nation 100.41 346 PFAKE 18 01 30.0 +7.9
AGMN LR LR
comp=Z,274nm,19.0s
ERPA Erie 101.30 333 PFAKE 18 01 40.0 +14
ERPA LR LR
comp=Z,501nm,19.0s
RCBR Riachuelo 101.39 270 PFAKE 18 01 40.0 +13
RCBR LR LR
comp=Z,335nm,20.0s
DGMT Dagmar 101.60 352 PFAKE 18 01 40.0 +13
DGMT LR LR
comp=Z,423nm,22.0s
NEW Newport 102.53 1 PFAKE 18 01 40.0 +8.4
NEW LR LR
comp=Z,400nm,20.0s
EGMT Eagleton 102.56 356 PFAKE 18 01 40.0 +8.2
EGMT LR LR
comp=Z,433nm,19.0s
CAN Canberra 102.78 123 PFAKE 18 01 40.0 +7.2
CAN LR LR
comp=Z,676nm,21.0s
MCWV Mont Chateau 103.33 332 PFAKE 18 01 50.0 +15
MCWV LR LR
comp=Z,911nm,20.0s
CBN Corbin 103.50 330 PFAKE 18 01 50.0 +14
CBN LR LR
comp=Z,479nm,20.0s
LAO LASA Array 103.59 353 PFAKE 18 01 50.0 +14
LAO LR LR
comp=Z,291nm,19.0s
ACSO Alum Creek Sta 104.07 334 PFAKE 18 01 50.0 +11
ACSO LR LR
comp=Z,367nm,22.0s
HAWA Hanford 104.34 2 PFAKE 18 01 50.0 +10
HAWA LR LR
comp=Z,351nm,19.0s
ECSD EROS Data Cent 104.92 346 PFAKE 18 01 50.0 +7.8
ECSD LR LR
comp=Z,287nm,19.0s
BOZ Bozeman (W) 105.04 357 PFAKE 18 06 10.0
BOZ LR LR
comp=Z,311nm,21.0s
RLMT Red Lodge 105.42 355 PFAKE 18 06 10.0
RLMT LR LR
comp=Z,349nm,19.0s
BLA Blacksburg 105.65 331 PFAKE 18 06 10.0
BLA LR LR
comp=Z,383nm,21.0s
BMO Blue Mountains 105.94 1 PFAKE 18 06 10.0
BMO LR LR
comp=Z,407nm,19.0s
HDIL Hopedale 105.95 339 PFAKE 18 06 10.0
HDIL LR LR
comp=Z,281nm,20.0s
CNNC Cliffs of the 106.18 328 PFAKE 18 06 10.0
CNNC LR LR
comp=Z,519nm,19.0s
HLID Hailey 107.22 359 PFAKE 18 06 10.0
HLID LR LR
comp=Z,430nm,20.0s
BW06 Boulder Array 107.78 355 PFAKE 18 06 10.0
BW06 LR LR
comp=Z,380nm,20.0s
PDAR Pinedale Array 107.78 355 PKiKP **PKiKP** **18 06 01.8 -0.4**
PDAR PP **PP** **18 06 27.1 +3.3**
PDAR PKKP **PKKPdf** **18 17 29.6 +1.4**
PDAR Pinedale Array 107.78 355 PKiKP **PKiKP** **18 06 01.8 -0.4**
PDAR Pinedale Array 107.78 355 PKiKP **PKiKP** **18 06 01.8 -0.4**
comp=Z,1.2nm,0.6s,baz=66,slow=2.3,SNR=7.9
PDAR PP **PP** **18 06 27.1 +3.3**
comp=Z,3.5nm,1.0s,baz=40,slow=2.5,SNR=9.2
PDAR PKKP **PKKPdf** **18 17 29.6 +1.4**
comp=Z,1.9nm,1.0s,baz=182,slow=5.2,SNR=8.6
AHID Auburn Hatcher 107.89 356 PFAKE 18 06 10.0
AHID LR LR
comp=Z,369nm,20.0s
OGNE Ogallala 108.66 349 PFAKE 18 06 20.0
OGNE LR LR
comp=Z,306nm,22.0s
KSU1 Kansas State U 109.33 344 PFAKE 18 06 20.0
KSU1 LR LR
comp=Z,410nm,20.0s
ISCO Idaho Springs 110.31 351 PFAKE 18 06 20.0
ISCO LR LR
comp=Z,319nm,20.0s
BMN Battle Mountai 110.36 1 PFAKE 18 06 20.0
BMN LR LR
comp=Z,262nm,22.0s
DUG Dugway 110.53 357 PFAKE 18 06 20.0
DUG LR LR
comp=Z,303nm,19.0s
SNAA Sanae 110.91 198 *e*P **PKiKP** **18 06 07.7 +0.9**
SNAA Sanae 110.91 198 *e*P PP 18 06 40.4 -6.8
OXF Oxford 111.48 337 PFAKE 18 06 20.0
OXF LR LR
comp=Z,197nm,19.0s
DRV Dumont d'Urvil 111.51 155 Pdif Pdif 18 02 21.0 +10
DRV Dumont d'Urvil 111.51 155 PP PP 18 06 41.0 -10
DRV SP SP 18 16 03.0 -6.1
DRV SS **SS** **18 22 12.0 -4.0**
VNA2 Neumayer--Watz 111.83 200 *e*P **PKiKP** **18 06 09.0 +0.5**
VNA2 Neumayer--Watz 111.83 200 *e*P PP 18 06 41.8 -12
LRAL Lakeview Retre 111.92 334 PFAKE 18 06 20.0
LRAL LR LR
comp=Z,334nm,20.0s
MVU Marysvale 112.19 357 PFAKE 18 06 20.0
MVU LR LR
comp=Z,301nm,20.0s
SDCO Great Sand Dun 112.32 351 PFAKE 18 06 20.0
SDCO LR LR
comp=Z,273nm,22.0s
NVAR Mina Array Bea 112.33 2 PKiKP **PKiKP** **18 06 11.6 +0.7**
NVAR PKKPbc **PKKPbc** **18 17 03.3 +1.7**
NVAR Mina Array Bea 112.33 2 PKiKP **PKiKP** **18 06 11.6 +0.7**
NVAR Mina Array Bea 112.33 2 PKiKP **PKiKP** **18 06 11.6 +0.7**
comp=Z,2.4nm,0.6s,baz=321,slow=1.3,SNR=18
NVAR PKKPbc **PKKPbc** **18 17 03.3 +1.7**
comp=Z,0.7nm,0.6s,baz=189,slow=4.6,SNR=5.5
TPH Tonopah 112.71 1 PFAKE 18 06 20.0
TPH LR LR
comp=Z,364nm,22.0s
MIAR Mount Ida 112.79 340 PFAKE 18 06 20.0
MIAR LR LR
comp=Z,312nm,22.0s
GRGR Grenville 113.16 300 PFAKE 18 06 20.0
GRGR LR LR
comp=Z,278nm,21.0s
MVCO Mesa Verde 113.20 353 PFAKE 18 06 20.0
MVCO LR LR
comp=Z,304nm,20.0s
GRTK Grand Turk 113.29 314 PFAKE 18 06 20.0
GRTK LR LR
comp=Z,178nm,21.0s
BRAL Brewton 113.74 333 PFAKE 18 06 20.0
BRAL LR LR
comp=Z,390nm,20.0s
VBMS Vicksburg 113.95 336 PFAKE 18 06 30.0
VBMS LR LR
comp=Z,351nm,22.0s
WMOK Wichita Mounta 114.00 344 PFAKE 18 06 30.0
WMOK LR LR
comp=Z,379nm,20.0s
WUAZ Wupatki 115.12 356 PFAKE 18 06 30.0 +14
WUAZ LR LR
comp=Z,312nm,22.0s
ANMO Albuquerque 115.20 351 PFAKE 18 06 30.0 +14
ANMO LR LR
comp=Z,290nm,19.0s
SDDR Presa de Saban 115.25 313 PFAKE 18 06 30.0 +13
SDDR LR LR
comp=Z,256nm,21.0s
GTBY Guantanamo Bay 116.92 316 PFAKE 18 06 30.0 +10
GTBY LR LR
comp=Z,163nm,20.0s
PFO Pinyon Flat Ob 117.17 0 PKiKP **PKiKP** **18 06 20.4 +0.2**
PFO LR LR
comp=Z,138nm,19.0s
PFO Pinyon Flat Ob 117.17 0 PKiKP **PKiKP** **18 06 20.4 +0.2**
PFO Pinyon Flat Ob 117.17 0 PKiKP **PKiKP** **18 06 20.4 +0.2**
comp=Z,1.4nm,0.5s,baz=63,slow=2.3,SNR=3.2
MNTX Cornudas Mount 118.24 350 *e*PKPdf **PKPdf** **18 06 22.1 -0.1**
MNTX LR LR
comp=Z,185nm,19.0s
MNTX Cornudas Mount 118.24 350 *e*PKIKP **PKPdf** **18 06 22.1 -0.1**
TUC Tucson 118.27 355 PFAKE 18 06 30.0 +7.7
TUC LR LR
comp=Z,176nm,21.0s
JCT Junction City 118.32 344 *e*PKIKP **PKPdf** **18 06 21.8 -0.6**
JCT MLR MLR
comp=Z,298nm,21.0s
JCT Junction City 118.32 344 *e*PKPdf **PKPdf** **18 06 21.8 -0.6**
JCT LR LR
comp=Z,298nm,21.0s
JCT Junction City 118.32 344 *e*PKIKP **PKPdf** **18 06 21.8 -0.6**
QSPA South Pole Qui 119.38 180 *e*PKPdf **PKPdf** **18 06 23.2 0.0**
QSPA PKKPbc **PKKPbc** **18 16 37.1 -0.9**
QSPA LR LR
comp=Z,286nm,20.0s
QSPA South Pole Qui 119.38 180 *e*PKIKP **PKPdf** **18 06 23.2 0.0**
MTDJ Mount Denham 119.68 317 PFAKE 18 06 40.0 +15
MTDJ LR LR

	comp=Z,152nm,20.0s							
TXAR	**Lajitas Array**	**120.25**	**347**	PKP	**PKPdf**	**18 06 25.9**	**-0.3**	
TXAR				PKKPbc	**PKKPbc**	**18 16 34.9**	**+1.2**	
TXAR				PKKP	**PKKPdf**	**18 17 05.3**	**+0.6**	
TXAR	**Lajitas Array**	**120.25**	**347**	PKIKP	**PKPdf**	**18 06 25.9**	**-0.3**	
TXAR	**Lajitas Array**	**120.25**	**347**	PKP	**PKPdf**	**18 06 25.9**	**-0.3**	
	comp=Z,3.1nm,0.7s,baz=156,slow=2.0,SNR=31							
TXAR				PKKPbc	**PKKPbc**	**18 16 34.9**	**+1.2**	
	comp=Z,0.8nm,0.6s,baz=182,slow=5.9,SNR=8.7							
TXAR				PKKP	**PKKPdf**	**18 17 05.3**	**+0.6**	
	comp=Z,0.5nm,0.7s,baz=175,slow=4.6,SNR=4.2							
VNDA	**Vanda**	**120.34**	**166**	PKP	**PKPdf**	**18 06 25.4**	**+0.7**	
VNDA				pPKP	**pPKPdf**	**18 06 57.6**	**-1.1**	
VNDA				PKKPbc	**PKKPbc**	**18 16 33.4**	**-0.6**	
VNDA	**Vanda**	**120.34**	**166**	PKIKP	**PKPdf**	**18 06 25.4**	**+0.7**	
VNDA	**Vanda**	**120.34**	**166**	PKP	**PKPdf**	**18 06 25.4**	**+0.7**	
	comp=Z,1.0nm,0.7s,baz=296,slow=5.0,SNR=9.1							
VNDA				pPKP	**pPKPdf**	**18 06 57.6**	**-1.1**	
	comp=Z,2.3nm,0.9s,baz=291,slow=5.9,SNR=6.2							
VNDA				PKKPbc	**PKKPbc**	**18 16 33.4**	**-0.6**	
	comp=Z,1.9nm,1.1s,baz=57,slow=3.6,SNR=5.4							
KVTX	**Kingsville**	**120.61**	**341**	PFAKE		18 06 40.0	+13	
KVTX				LR	LR			
	comp=Z,531nm,21.0s							
RPZ	**Rata Peaks**	**121.60**	**126**	PKKPbc	PKKPbc	18 16 30.2	+1.7	
RPZ	**Rata Peaks**	**121.60**	**126**	PKKPbc	PKKPbc	18 16 30.2	+1.7	
	comp=Z,7.6nm,0.8s,baz=225,slow=1.4,SNR=3.5							
KHZ	**Kahutara**	**123.12**	**124**	*e*PKPdf	**PKPdf**	**18 06 31.5**	**+0.5**	
KHZ	**Kahutara**	**123.12**	**124**	*e*PKIKP	**PKPdf**	**18 06 31.5**	**+0.5**	
TEIG	**Tepich**	**123.72**	**328**	PFAKE		18 06 40.0	+7.1	
TEIG				LR	LR			
	comp=Z,214nm,21.0s							
SNZO	**South Karori**	**123.75**	**122**	PFAKE		18 06 40.0	+7.8	
SNZO				LR	LR			
	comp=Z,349nm,20.0s							
SAML	**Samuel**	**126.53**	**281**	PFAKE		18 06 50.0	+12	
SAML				LR	LR			
	comp=Z,212nm,21.0s							
RAO	**Raoul Island**	**126.71**	**106**	PFAKE		18 06 50.0	+12	
RAO				LR	LR			
	comp=Z,833nm,19.0s							
ROSC	**El Rosal**	**127.34**	**303**	PKP	**PKPdf**	**18 06 40.1**	**-0.4**	
ROSC	**El Rosal**	**127.34**	**303**	PKIKP	**PKPdf**	**18 06 40.1**	**-0.4**	
ROSC	**El Rosal**	**127.34**	**303**	PKP	**PKPdf**	**18 06 40.1**	**-0.4**	
	comp=Z,5.8nm,0.7s,baz=108,slow=19,SNR=4.9							
BCIP	**Isla Barro Col**	**128.04**	**312**	PFAKE		18 06 50.0	+8.7	
BCIP				LR	LR			
	comp=Z,167nm,22.0s							
CPUP	**Villa Florida**	**128.48**	**259**	PKP	**PKPdf**	**18 06 41.1**	**-0.6**	
CPUP				pPKP	**pPKPdf**	**18 07 17.9**	**+2.1**	
CPUP	**Villa Florida**	**128.48**	**259**	PKIKP	**PKPdf**	**18 06 41.1**	**-0.6**	
CPUP	**Villa Florida**	**128.48**	**259**	PKP	**PKPdf**	**18 06 41.1**	**-0.6**	
	comp=Z,5.6nm,0.6s,baz=36,slow=2.4,SNR=13							
CPUP				pPKP	**pPKPdf**	**18 07 17.9**	**+2.1**	
	comp=Z,4.6nm,0.7s,baz=114,slow=3.2,SNR=3.4							
TGUH	**Tegucigalpa,Un**	**128.50**	**323**	*e*PKPdf	**PKPdf**	**18 06 41.9**	**-0.2**	
TGUH				LR	LR			
	comp=Z,133nm,19.0s							
TGUH	**Tegucigalpa,Un**	**128.50**	**323**	*e*PKIKP	**PKPdf**	**18 06 41.9**	**-0.2**	
JTS	**JuntasÁbangare**	**130.31**	**318**	PFAKE		18 07 00.0	+14	
JTS				LR	LR			
	comp=Z,240nm,20.0s							
OTAV	**Otavalo**	**133.48**	**303**	PFAKE		18 07 00.0	+7.8	
OTAV				LR	LR			
	comp=Z,218nm,21.0s							
LPAZ	**La Paz**	**134.22**	**276**	*e*PKPdf	**PKPdf**	**18 06 53.4**	**-0.3**	
LPAZ				PKP	**PKPdf**	**18 06 53.8**	**+0.2**	
LPAZ				pPKP	**pPKPdf**	**18 07 31.0**	**+3.4**	
LPAZ	**La Paz**	**134.22**	**276**	PKIKP	**PKPdf**	**18 06 53.8**	**+0.2**	
LPAZ	**La Paz**	**134.22**	**276**	PKP	**PKPdf**	**18 06 53.8**	**+0.2**	
	comp=Z,2.1nm,0.7s,baz=202,slow=2.2,SNR=8.5							
LPAZ				pPKP	**pPKPdf**	**18 07 31.0**	**+3.4**	
	comp=Z,2.9nm,0.7s,baz=350,slow=3.9,SNR=4.5							
PLCA	**Paso Flores**	**141.53**	**241**	PKPpre	PKPpre	18 07 01.8		
PLCA				PKP	**PKiKP**	**18 07 07.5**	**-1.0**	
PLCA	**Paso Flores**	**141.53**	**241**	PKhKP	PKPpre	18 07 01.8		
	comp=Z,11nm,1.0s,baz=189,slow=10,SNR=12							
PLCA				PKP	**PKiKP**	**18 07 07.5**	**-1.0**	
	comp=Z,6.4nm,0.7s,baz=287,slow=1.1,SNR=4.9							
PPT2	**Papeete2**	**147.18**	**76**	*e*PKiKP	**PKPbc**	**18 07 18.5**	**-0.1**	
	comp=Z,45nm,1.3s							
PPT2				*ep*PKiKP	**pPKiKP**	**18 07 54.5**	**-0.3**	
	comp=Z,66nm,1.2s							
PAE	**Paea**	**147.21**	**76**	*e*PKiKP	**PKPbc**	**18 07 18.4**	**-0.1**	
	comp=Z,4.7nm,1.0s							
PAE				*ep*PKiKP	**pPKiKP**	**18 07 54.3**	**-0.4**	
	comp=Z,8.9nm,1.0s							
PMOR	**Pomariorio Ree**	**147.31**	**71**	*e*PKiKP	**PKPbc**	**18 07 18.7**	**-0.1**	
	comp=Z,173nm,1.2s							
PMOR				*ep*PKiKP	**pPKiKP**	**18 07 54.6**	**-0.4**	
	comp=Z,96nm,0.9s							
VAH	**Vaihoa**	**147.65**	**71**	*e*PKiKP	**PKPbc**	**18 07 19.4**	**-0.4**	
	comp=Z,58nm,1.1s							
VAH				*ep*PKiKP	**pPKiKP**	**18 07 55.2**	**-0.5**	
	comp=Z,53nm,0.8s							
TBI	**Tubuai**	**149.54**	**86**	*e*PKiKP	**PKPbc**	**18 07 23.3**	**-1.1**	
	comp=Z,41nm,0.8s							
TBI				*ep*PKiKP	**pPKiKP**	**18 07 59.2**	**-0.2**	
	comp=Z,110nm,0.9s							

*KRSC **25** 17:49:10.1±3.6,55°.10N×162°.45E, h10km±10km, ML4.2*
*MOS **25** 17:49:11.0±0.8,55°.04N×162°.37E, h16km, mb4.3/1, Error ellipse: s-maj=22.2km s-min=12.5km az=80.9*
*ISCJB **25** 17:49:12.4±0.8,55°.09N±0°.02×162°.44E±0°.06, h26km±7km, Error ellipse: s-maj=6.0km s-min=3.6km az=15.7*

ISC 25 17:49:10.8±1.5,55°.12N±0°.03×162°.40E±0°.03, h10km±11km, **n40,σ1§21/66, 1C, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.68**	**215**	PN	**Pb**	**17 49 24.5**	**-0.3**
MKZ				S	**Sb**	**17 49 33.6**	**-0.7**
MKZ	**Mys Kozlova**	**0.68**	**215**	*e*P	**Pb**	**17 49 24.5**	**-0.3**
MKZ				*i* S	**Sb**	**17 49 33.6**	**-0.7**
KBTR	**Krutoberegovo**	**1.12**	**12**	PN	**Pn**	**17 49 34.0**	**+1.5**
KBTR				S	**Sn**	**17 49 49.9**	**+1.9**
KBTR	**Krutoberegovo**	**1.12**	**12**	*e*P	**Pn**	**17 49 34.0**	**+1.5**
KBTR				*i* S	**Sn**	**17 49 49.9**	**+1.9**
BZGR	**Bezymyannyi-Gr**	**1.27**	**311**	*e*P	**Pb**	**17 49 34.9**	**0.0**
BZGR				*i* S	**Sb**	**17 49 51.1**	**-0.2**
ZLN	**Zelenaya**	**1.28**	**315**	*e*P	**Pg**	**17 49 35.3**	**0.0**
ZLN				*i* S	**Sn**	**17 49 52.8**	**+0.7**
TUMR	**Tumrok**	**1.30**	**278**	*e*P	**Pg**	**17 49 35.5**	**-0.3**
TUMR				*i* S	**Sn**	**17 49 53.1**	**+0.4**
BZMR	**Bezymyannaya**	**1.36**	**308**	*e*P	**Pn**	**17 49 36.0**	**0.0**
BZWR	**Bezymyannyi-We**	**1.37**	**309**	*e*P	**Pb**	**17 49 36.4**	**-0.3**
KMNR	**Kamenistaya**	**1.39**	**298**	*e*P	**Pb**	**17 49 36.9**	**0.0**
KMNR				*i* S	**Sg**	**17 49 55.7**	**+0.3**
KPT	**Kopyto**	**1.50**	**305**	*e*P	**Pb**	**17 49 38.6**	**-0.2**
KRSR	**Krestovskiy**	**1.51**	**317**	*e*P	**Pn**	**17 49 38.1**	**0.0**
KLY	**Klyuchi**	**1.55**	**321**	PN	**Pn**	**17 49 37.7**	**-0.8**
KLY				S	**Sn**	**17 49 56.9**	**-1.8**
KLY	**Klyuchi**	**1.55**	**321**	*e*P	**Pn**	**17 49 37.7**	**-0.8**
KLY				*i* S	**Sn**	**17 49 56.9**	**-1.8**
SMKR	**Semkarok**	**1.56**	**341**	*e*P	**Pn**	**17 49 39.3**	**+0.6**
SMKR				*i* S	**Sb**	**17 50 00.1**	**+0.5**
BDR	**Baidarnaya**	**1.60**	**336**	*e*P	**Pb**	**17 49 40.3**	**-0.2**
KOZR	**Kozyr**	**1.71**	**305**	PN	**Pb**	**17 49 41.7**	**-0.6**
KOZ	**Kozyrevsk**	**1.71**	**304**	*e*P	**Pb**	**17 49 41.7**	**-0.7**
SRDR	**Sredinnyy**	**1.93**	**309**	*e*P	**Pn**	**17 49 44.3**	**+0.5**
BKI	**Bering**	**2.05**	**86**	PN	**Pn**	**17 49 45.7**	**+0.3**
BKI				S	**Sn**	**17 50 09.2**	**-1.8**
BKI	**Bering**	**2.05**	**86**	*e*P	**Pn**	**17 49 45.7**	**+0.3**
BKI				*i* S	**Sn**	**17 50 09.2**	**-1.8**
ESO	**Esso**	**2.25**	**293**	PN	**Pn**	**17 49 48.1**	**-0.1**
ESO				S	**Sn**	**17 50 14.2**	**-1.8**
ESO	**Esso**	**2.25**	**293**	*e*P	**Pn**	**17 49 48.1**	**-0.1**
ESO				*i* S	**Sn**	**17 50 14.2**	**-1.8**
NLC	**Nalytchevo**	**2.65**	**224**	PN	**Pn**	**17 49 53.2**	**-0.4**
NLC				S	**Sn**	**17 50 24.0**	**-1.8**
NLC	**Nalytchevo**	**2.65**	**224**	*e*P	**Pn**	**17 49 53.2**	**-0.4**
NLC				*i* S	**Sn**	**17 50 24.0**	**-1.8**
SDLR	**Sedlovina**	**2.77**	**230**	P	**Pn**	**17 49 55.7**	**+0.4**
SDLR				*i* S	**Sn**	**17 50 30.3**	**+1.4**
KRER	**Koryakskii**	**2.81**	**231**	*e*P	**Pn**	**17 49 57.4**	**+1.4**
SMAR	**Somma**	**2.81**	**230**	*e*P	**Pn**	**17 49 56.4**	**+0.3**
SMAR				*i* S	**Sn**	**17 50 29.9**	**-0.2**
KRX	**Arik**	**2.82**	**233**	*e*P	**Pn**	**17 49 57.3**	**+1.2**
AVH	**Avacha**	**2.84**	**231**	*e*P	**Pn**	**17 49 57.6**	**+1.3**
AVH				*i* S	**Sn**	**17 50 32.4**	**+1.8**
UGLR	**Uglovaya**	**2.84**	**229**	P	**Pn**	**17 49 57.3**	**+1.0**
KOK	**Koryaka**	**2.87**	**232**	P	**Pn**	**17 49 58.4**	**+1.7**
GNL	**Ganaly**	**2.97**	**243**	*e*P	**Pn**	**17 50 00.2**	**+2.1**
PET	**Petropavlovsk**	**3.04**	**228**	⇑*i* PN	**Pn**	**17 49 59.6**	**+0.5**
PET				*e*S	**Sn**	**17 50 34.8**	**-0.7**
PET				pmax	pmax		
	comp=Z,48nm,0.4s						
PET				smax	smax		
	comp=E,246nm,0.4s						
PET				smax	smax		
	comp=N,307nm,0.4s						
PET	**Petropavlovsk**	**3.04**	**228**	*e*P	**Pn**	**17 49 59.5**	**+0.5**
PET				*i* S	**Sn**	**17 50 34.9**	**-0.6**
RUS	**Russkaya**	**3.54**	**222**	PN	**Pn**	**17 50 06.4**	**+0.6**
RUS				S	**Sn**	**17 50 46.6**	**-1.1**
RUS	**Russkaya**	**3.54**	**222**	*e*P	**Pn**	**17 50 06.4**	**+0.6**
RUS				*i* S	**Sn**	**17 50 46.6**	**-1.1**
MTVR	**Mutnovka**	**3.64**	**225**	*e*P	**Pn**	**17 50 08.5**	**+1.2**
MTVR				*i* S	**Sn**	**17 50 52.5**	**+2.2**
APC	**Apacha**	**3.79**	**237**	*e*P	**Pn**	**17 50 11.7**	**+2.4**
ASAK	**Asacha**	**3.83**	**226**	*e*P	**Pn**	**17 50 11.8**	**+2.0**
ASAK				*i* S	**Sn**	**17 50 57.7**	**+2.8**

*ATH **25** 17:49:59.6,41°.28N×22°.72E, h17km±2km, MD2.9/9*
*CSEM **25** 17:49:59.6±0.2,41°.28N×22°.66E, h5km, ML2.4/10, Error ellipse: s-maj=3.3km s-min=2.9km az=68.0*
*ISCJB **25** 17:49:59.1±0.4,41°.32N±0°.02×22°.69E±0°.03, h7km±3km, Error ellipse: s-maj=3.7km s-min=3.1km az=30.2*
*THE **25** 17:49:59.9,41°.28N×22°.68E, h0km±1km, ML2.4/10, Error ellipse: s-maj=1.1km s-min=0.4km az=264.0*
*SKO **25** 17:50:00.3,41°.27N×22°.67E, h1km, M1.6, ML2.0*
*BEO **25** 17:50:01.2±1.2,41°.35N×22°.31E, h0km, ML2.0/3*

ISC 25 17:49:59.7±1.1,41°.28N±0°.02×22°.67E±0°.02, h1km±10km, **n47,σ0§70/91, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAY	**Valandovo**	**0.09**	**297**	P	**Pg**	**17 50 01.5**	**+0.1**
VAY				S	**Sg**	**17 50 03.6**	**+1.1**
VAY	**Valandovo**	**0.09**	**297**	*i* Pg	**Pg**	**17 50 01.4**	**-0.1**
VAY				*i* Sg	**Sg**	**17 50 01.1**	**-1.5**
VAY				*e*Lg	Lg	17 50 01.3	
	comp=E,555nm,0.2s						
VAY				*e*Lg	Lg	17 50 01.3	
	comp=N,1µm,0.2s						
VAY	**Valandovo**	**0.09**	**297**	P	**Pg**	**17 50 01.5**	**+0.1**
VAY				S	**Sg**	**17 50 03.6**	**+1.1**
KNT	**Kendrikon**	**0.21**	**125**	P	**Pg**	**17 50 03.9**	**+0.2**
KNT				S	**Sg**	**17 50 06.8**	**+0.4**
KNT	**Kendrikon**	**0.21**	**125**	*e*PB	**Pg**	**17 50 04.0**	**+0.2**
KNT				*e*SB	**Sg**	**17 50 06.4**	**0.0**
KNT	**Kendrikon**	**0.21**	**125**	P	**Pg**	**17 50 03.9**	**+0.2**
KNT				*e*Sb	**Sg**	**17 50 06.4**	**0.0**
THE	**Thessaloniki**	**0.69**	**161**	P	**Pg**	**17 50 12.5**	**-0.4**
THE				S	**Sg**	**17 50 22.8**	**+1.1**
THE	**Thessaloniki**	**0.69**	**161**	P	**Pg**	**17 50 12.5**	**-0.4**
THE				S	**Sg**	**17 50 22.8**	**+1.1**
SOH	**Sokhos**	**0.69**	**132**	P	**Pg**	**17 50 12.5**	**-0.5**
SOH				S	**Sg**	**17 50 23.2**	**+1.3**
SOH	**Sokhos**	**0.69**	**132**	*e*PN	**Pg**	**17 50 12.5**	**-0.5**
SOH				*e*SB	**Sg**	**17 50 21.2**	**-0.7**
SOH	**Sokhos**	**0.69**	**132**	P	**Pg**	**17 50 12.5**	**-0.5**
SOH				*e*Sb	**Sg**	**17 50 21.2**	**-0.7**
SOH				S	**Sg**	**17 50 23.2**	**+1.3**
SRS	**Serrai**	**0.71**	**103**	P	**Pg**	**17 50 12.9**	**-0.5**
SRS				S	**Sg**	**17 50 24.2**	**+1.6**
SRS	**Serrai**	**0.71**	**103**	*e*PN	**Pg**	**17 50 12.9**	**-0.5**
SRS				*e*SN	**Sg**	**17 50 23.1**	**+0.5**
SRS	**Serrai**	**0.71**	**103**	P	**Pg**	**17 50 12.9**	**-0.5**
SRS				*e*Sn	**Sg**	**17 50 23.1**	**+0.5**
SRS				S	**Sg**	**17 50 24.2**	**+1.6**
HORT	**Hortiatis**	**0.76**	**155**	P	**Pg**	**17 50 14.1**	**-0.1**
HORT				S	**Sg**	**17 50 25.1**	**+1.1**
HORT	**Hortiatis**	**0.76**	**155**	*e*PN	**Pg**	**17 50 14.0**	**-0.1**
HORT				*e*SN	**Sg**	**17 50 24.3**	**+0.3**
HORT	**Hortiatis**	**0.76**	**155**	P	**Pg**	**17 50 14.1**	**-0.1**
HORT				*e*Sn	**Sg**	**17 50 24.3**	**+0.3**
HORT				S	**Sg**	**17 50 25.1**	**+1.1**
NVR	**Nevrokopi**	**0.90**	**85**	P	**Pg**	**17 50 16.5**	**-0.5**
NVR				S	**Sg**	**17 50 29.8**	**+1.2**
NVR	**Nevrokopi**	**0.90**	**85**	*e*PN	**Pg**	**17 50 16.4**	**-0.5**
NVR				*e*SN	**Sg**	**17 50 28.8**	**+0.2**
NVR	**Nevrokopi**	**0.90**	**85**	P	**Pg**	**17 50 16.5**	**-0.5**
NVR				*e*Sn	**Sg**	**17 50 28.8**	**+0.2**
NVR				S	**Sg**	**17 50 29.8**	**+1.2**
PLG	**Polygyros**	**1.08**	**147**	P	**Pg**	**17 50 20.0**	**-0.4**
PLG				S	**Sb**	**17 50 35.6**	**-0.3**
PLG	**Polygyros**	**1.08**	**147**	P	**Pg**	**17 50 20.0**	**-0.4**
PLG				S	**Sb**	**17 50 35.6**	**-0.3**
FNA	**Florina**	**1.10**	**244**	P	**Pg**	**17 50 20.5**	**-0.3**
FNA				S	**Sb**	**17 50 36.2**	**-0.3**
FNA	**Florina**	**1.10**	**244**	*e*PN	**Pg**	**17 50 20.5**	**-0.3**
FNA				*e*SN	**Sb**	**17 50 36.1**	**-0.4**
FNA	**Florina**	**1.10**	**244**	P	**Pg**	**17 50 20.5**	**-0.3**
FNA				S	**Sb**	**17 50 36.2**	**-0.3**
KZN	**Kozani**	**1.19**	**215**	P	**Pg**	**17 50 22.5**	**0.0**
KZN				S	**Sb**	**17 50 39.3**	**+0.2**
KZN	**Kozani**	**1.19**	**215**	*e*PN	**Pg**	**17 50 23.0**	**+0.5**
KZN				*e*SN	**Sb**	**17 50 40.0**	**+0.9**
KZN	**Kozani**	**1.19**	**215**	P	**Pg**	**17 50 22.5**	**0.0**
KZN				S	**Sb**	**17 50 39.3**	**+0.2**
KZN				*e*Sn	**Sb**	**17 50 40.0**	**+0.9**
VTS	**Vitosha**	**1.37**	**17**	P	**Pg**	**17 50 25.6**	**-0.4**
VTS				S	**Sb**	**17 50 44.8**	**+0.5**
VTS	**Vitosha**	**1.37**	**17**	*e*Pg	**Pg**	**17 50 26.2**	**+0.2**
VTS	**Vitosha**	**1.37**	**17**	P	**Pg**	**17 50 25.6**	**-0.4**
VTS	**Vitosha**	**1.37**	**17**	*e*Pg	**Pg**	**17 50 26.2**	**+0.2**
VTS				S	**Sb**	**17 50 44.8**	**+0.5**
OUR	**Ouranopolis**	**1.37**	**133**	P	**Pg**	**17 50 25.6**	**-0.5**
OUR				S	**Sn**	**17 50 45.3**	**+0.5**
OUR	**Ouranopolis**	**1.37**	**133**	*e*PN	**Pg**	**17 50 25.5**	**-0.5**
OUR	**Ouranopolis**	**1.37**	**133**	P	**Pg**	**17 50 25.6**	**-0.5**
OUR				S	**Sn**	**17 50 45.3**	**+0.5**
KAVA	**Kavala**	**1.42**	**101**	P	**Pn**	**17 50 26.2**	**-0.5**
KAVA				S	**Sn**	**17 50 46.5**	**+0.5**
KAVA	**Kavala**	**1.42**	**101**	*e*PN	**Pn**	**17 50 26.2**	**-0.5**
KAVA				*e*SN	**Sg**	**17 50 43.8**	**-1.5**
KAVA	**Kavala**	**1.42**	**101**	P	**Pn**	**17 50 26.2**	**-0.5**
KAVA				*e*Sn	**Sg**	**17 50 43.8**	**-1.5**
KAVA				S	**Sn**	**17 50 46.5**	**+0.5**
NEST	**Nestorio**	**1.51**	**235**	*e*PN	**Pb**	**17 50 28.5**	**0.0**
PAIG	**Paliouri**	**1.56**	**150**	P	**Pn**	**17 50 28.1**	**-0.4**
PAIG				S	**Sb**	**17 50 49.7**	**+0.2**
PAIG	**Paliouri**	**1.56**	**150**	P	**Pn**	**17 50 28.1**	**-0.4**
PAIG				S	**Sb**	**17 50 49.7**	**+0.2**
THL	**Klokotos Trika**	**1.79**	**197**	*e*PB	**Pn**	**17 50 31.2**	**-0.5**
THL	**Klokotos Trika**	**1.79**	**197**	*e*Pb	**Pn**	**17 50 31.2**	**-0.5**
ZAPS	**Zavoj**	**1.99**	**359**	*e*Pn	**Pn**	**17 50 35.7**	**+1.1**
ZAPS				*e*Sg	**Sb**	**17 51 02.8**	**+0.7**
SELS	**Selova**	**2.25**	**330**	*e*Pn	**Pn**	**17 50 36.8**	**-1.4**
GRUS	**Gruza**	**2.98**	**332**	*e*Pn	**Pn**	**17 50 46.9**	**-1.2**
DIVS	**Divibare**	**3.44**	**326**	*e*Pn	**Pn**	**17 50 53.3**	**-1.2**

*MDD **25** 18:19:17.7±1.0,36°.67N×9°.88W, h18km±12km, mbLg2.9/44, Error ellipse: s-maj=14.7km s-min=5.3km az=51.0, PRXIMO*
*CSEM **25** 18:19:18.7±0.3,36°.75N×9°.63W, h15km, ML3.8/11, Error ellipse: s-maj=5.6km s-min=3.2km az=48.0*
*INMG **25** 18:19:18.4±1.1,36°.62N×9°.80W, h15km±3km, ML2.7, Error ellipse: s-maj=2.9km s-min=2.3km az=56.0*
*IGIL **25** 18:19:18.9,36°.59N×9°.80W, h26km, ML2.6*
*LDG **25** 18:19:21.2±0.4,36°.92N×9°.48W, h102km±4km, Ml3.1/4, Error ellipse: s-maj=7.7km s-min=4.6km az=49.0*

ISC 25 18:19:17.2±2.1,36°.63N±0°.06×9°.81W±0°.07, h33km±12km, **n152,σ1§12/270, 6C-1D, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**0.94**	**57**	*i* P	**Pb**	**18 19 35.1**	**+0.1**
PFVI				*e*S	**Sn**	**18 19 47.9**	**+1.5**
PFVI				A	A	18 19 49.2	
	62nm,0.1s						
PFVI	**Vila Bisbo**	**0.94**	**57**	⇑P	**Pb**	**18 19 35.1**	**+0.1**
	23nm,0.1s,SNR=18						
PFVI				S	**Sn**	**18 19 47.8**	**+1.5**
	61nm,0.1s,SNR=16						
PFVI	**Vila Bisbo**	**0.94**	**57**	P	**Pb**	**18 19 35.1**	**+0.1**
	23nm,0.1s,SNR=18						
PFVI				*e*S	**Sn**	**18 19 47.9**	**+1.5**
	62nm,0.1s						
MORF	**Marmelete**	**1.15**	**54**	*e*Pn	**Pb**	**18 19 38.2**	**-0.4**
MORF				*e*S	**Sb**	**18 19 53.4**	**+0.1**
MORF				A	A	18 19 56.0	
	97nm,0.1s						
MORF	**Marmelete**	**1.15**	**54**	P	**Pb**	**18 19 38.2**	**-0.4**
MORF				S	**Sb**	**18 19 53.4**	**+0.1**
	97nm,0.1s						
MORF	**Marmelete**	**1.15**	**54**	P	**Pb**	**18 19 38.2**	**-0.4**
MORF				S	**Sb**	**18 19 53.4**	**+0.1**
	97nm,0.1s						
PTEO	**Sao Teotonio**	**1.26**	**43**	*e*P	**Pb**	**18 19 39.8**	**-0.7**
PTEO				*e*S	**Sb**	**18 19 56.1**	**-0.3**
PTEO				A	A	18 19 57.3	
	43nm,0.3s						
PTEO	**Sao Teotonio**	**1.26**	**43**	P	**Pb**	**18 19 39.8**	**-0.7**
PTEO				S	**Sb**	**18 19 56.1**	**-0.3**
	22nm,0.3s						
PTEO	**Sao Teotonio**	**1.26**	**43**	*e*P	**Pb**	**18 19 39.8**	**-0.7**
PTEO				S	**Sb**	**18 19 56.1**	**-0.3**
	22nm,0.3s						
PBDV	**Barranco-do-Ve**	**1.63**	**67**	*i* Pn	**Pn**	**18 19 44.7**	**+1.1**
PBDV				*e*Sn	**Sn**	**18 20 04.2**	**+0.8**
PBDV				A	A	18 20 06.6	
	21nm,0.3s						
PBDV	**Barranco-do-Ve**	**1.63**	**67**	⇑P	**Pn**	**18 19 44.7**	**+1.1**
PBDV				S	**Sn**	**18 20 04.2**	**+0.8**
	21nm,0.3s						
PBDV	**Barranco-do-Ve**	**1.63**	**67**	P	**Pn**	**18 19 44.7**	**+1.1**
PBDV				S	**Sn**	**18 20 04.2**	**+0.8**
	21nm,0.3s						
PCVE	**Castro Verde**	**1.73**	**54**	*e*Pn	**Pn**	**18 19 46.5**	**+1.4**
PCVE				*e*Sn	**Sn**	**18 20 07.5**	**+1.4**
PCVE				A	A	18 20 09.8	
	26nm,0.4s						
PCVE	**Castro Verde**	**1.73**	**54**	⇑P	**Pn**	**18 19 46.5**	**+1.4**
PCVE				S	**Sn**	**18 20 07.5**	**+1.4**
	26nm,0.4s						
PCVE	**Castro Verde**	**1.73**	**54**	P	**Pn**	**18 19 46.5**	**+1.4**
PCVE				S	**Sn**	**18 20 07.5**	**+1.4**
	26nm,0.4s						
PNCL	**Nicolau / Gran**	**1.80**	**34**	*e*Pn	**Pn**	**18 19 47.0**	**+1.1**
PNCL				*e*Sn	**Sn**	**18 20 09.4**	**+1.8**
PNCL				A	A	18 20 12.6	
	36nm,0.1s						
PNCL	**Nicolau / Gran**	**1.80**	**34**	*e*Pn	**Pn**	**18 19 47.0**	**+1.1**
PNCL				*e*Sn	**Sn**	**18 20 09.4**	**+1.8**
	36nm,0.1s						
PVAQ	**Vaqueiros**	**1.85**	**65**	*i* Pn	**Pn**	**18 19 47.7**	**+1.1**
PVAQ				*e*Sn	**Sn**	**18 20 09.5**	**+0.7**
PVAQ				A	A	18 20 15.8	
	24nm,0.2s						
PVAQ	**Vaqueiros**	**1.85**	**65**	⇑P	**Pn**	**18 19 47.7**	**+1.1**
PVAQ				S	**Sn**	**18 20 09.5**	**+0.7**
	24nm,0.2s						
PVAQ	**Vaqueiros**	**1.85**	**65**	P	**Pn**	**18 19 47.7**	**+1.1**
PVAQ				S	**Sn**	**18 20 09.5**	**+0.7**
	24nm,0.2s						
EGRO	**El Granado**	**2.07**	**63**	P	**Pn**	**18 19 50.7**	**+1.0**
	5.8nm,0.1s,SNR=39						
EGRO				S	**Sn**	**18 20 14.9**	**+0.6**
	33nm,0.2s,SNR=13						
EGRO	**El Granado**	**2.07**	**63**	P	**Pn**	**18 19 50.7**	**+1.0**
	5.8nm,0.1s,SNR=39						
EGRO				S	**Sn**	**18 20 14.9**	**+0.6**
	33nm,0.2s,SNR=13						
PBEJ	**Beja**	**2.09**	**47**	*e*Pn	**Pn**	**18 19 50.8**

comp=E,1.5nm,0.2s,SNR=85
EBAD S Sn 18 20 39.0 0.0
comp=E,15nm,0.1s,SNR=13
EBAD Badajoz 3.07 45 P Pn 18 20 04.1 +0.6
comp=E,1.5nm,0.2s,SNR=85
EBAD S Sn 18 20 39.0 0.0
comp=E,15nm,0.1s,SNR=13
PTOM Tomar 3.18 20 *e*Pn Pn 18 20 06.3 +1.3
PTOM *e*Sn Sn 18 20 41.8 0.0
PTOM A A 18 20 45.7
comp=E,24nm,0.1s
PTOM Tomar 3.18 20 P Pn 18 20 06.3 +1.3
PTOM S Sn 18 20 41.8 0.0
comp=E,12nm,0.1s
PTOM Tomar 3.18 20 P Pn 18 20 06.3 +1.3
PTOM S Sn 18 20 41.8 0.0
comp=E,12nm,0.1s
ESPR Espera 3.19 84 ⇑P Pn 18 20 05.7 +0.7
comp=E,5.8nm,0.3s,SNR=18
ESPR S Sn 18 20 41.5 -0.3
comp=E,134nm,0.2s,SNR=8.5
ESPR Espera 3.19 84 P Pn 18 20 05.7 +0.7
comp=E,5.8nm,0.3s,SNR=18
ESPR S Sn 18 20 41.5 -0.3
comp=E,134nm,0.2s,SNR=8.5
PMRV Marv??o 3.39 34 *e*Pn Pn 18 20 08.8 +1.0
PMRV *e*Sn Sn 18 20 46.8 0.0
PMRV A A 18 20 50.4
comp=E,16nm,0.2s
PMRV Marv??o 3.39 34 P Pn 18 20 08.8 +1.0
PMRV S Sn 18 20 46.8 0.0
comp=E,16nm,0.2s
PMRV Marv??o 3.39 34 P Pn 18 20 08.8 +1.0
PMRV S Sn 18 20 46.8 0.0
comp=E,16nm,0.2s
EJIF Jimena Fronter 3.50 92 P Pn 18 20 10.4 +1.1
comp=E,3.4nm,0.2s,SNR=18
EJIF S Sn 18 20 50.4 +0.7
comp=E,7.0nm,0.3s,SNR=7.9
EJIF Jimena Fronter 3.50 92 P Pn 18 20 10.4 +1.1
comp=E,3.4nm,0.2s,SNR=18
EJIF S Sn 18 20 50.4 +0.7
comp=E,7.0nm,0.3s,SNR=7.9
PCAS Casmilo, Conde 3.57 16 *e*Pn Pn 18 20 11.6 +1.3
PCAS *e*Sn Sn 18 20 51.6 +0.2
PCAS A A 18 20 54.2
comp=E,8.8nm,0.1s
PCAS Casmilo, Conde 3.57 16 *e*Pn Pn 18 20 11.6 +1.3
PCAS *e*Sn Sn 18 20 51.6 +0.2
comp=E,8.8nm,0.1s
ECEU Ceuta 3.66 100 ⇑P Pn 18 20 12.2 +0.7
comp=E,4.0nm,0.5s,SNR=18
ECEU S Sn 18 20 54.2 +0.7
comp=E,13nm,0.6s
ECEU Ceuta 3.66 100 P Pn 18 20 12.2 +0.7
comp=E,4.0nm,0.5s,SNR=18
ECEU S Sn 18 20 54.2 +0.7
comp=E,13nm,0.6s
PCBR Castelo Branco 3.70 29 *e*Pn Pn 18 20 13.5 +1.5
PCBR *e*Sn Sn 18 20 54.5 +0.1
PCBR A A 18 20 56.3
comp=E,7.1nm,0.5s
PCBR Castelo Branco 3.70 29 P Pn 18 20 13.5 +1.5
PCBR S Sn 18 20 54.5 +0.1
comp=E,3.6nm,0.5s
PCBR Castelo Branco 3.70 29 P Pn 18 20 13.5 +1.5
PCBR S Sn 18 20 54.5 +0.1
comp=E,3.6nm,0.5s
ECAB El Cabril 3.79 66 P Pn 18 20 14.2 +0.9
comp=E,1.5nm,0.3s,SNR=33
ECAB S Sn 18 20 56.1 -0.6
comp=E,12nm,0.3s
ECAB El Cabril 3.79 66 P Pn 18 20 14.2 +0.9
comp=E,1.5nm,0.3s,SNR=33
ECAB S Sn 18 20 56.1 -0.6
comp=E,12nm,0.3s
EMIJ Mijas 4.05 89 P Pn 18 20 17.0 0.0
comp=E,0.9nm,0.3s,SNR=7.0
EMIJ S Sn 18 21 01.8 -1.5
comp=E,7.8nm,0.3s,SNR=5.0
EMIJ Mijas 4.05 89 P Pn 18 20 17.0 0.0
comp=E,0.9nm,0.3s,SNR=7.0
EMIJ S Sn 18 21 01.8 -1.5
comp=E,7.8nm,0.3s,SNR=5.0
MTE Manteigas 4.16 25 *e*Pn Pn 18 20 19.4 +0.9
MTE *e*Sn Sn 18 21 06.5 +0.4
MTE A A 18 21 09.0
comp=E,10nm,0.2s
MTE Manteigas 4.16 25 P Pn 18 20 19.4 +0.9
MTE S Sn 18 21 06.5 +0.4
comp=E,5.2nm,0.2s
MTE Manteigas 4.16 25 P Pn 18 20 19.4 +0.9
MTE S Sn 18 21 06.5 +0.4
comp=E,5.2nm,0.2s
PVIS Viseu 4.35 20 *e*Pn Pn 18 20 21.8 +0.8
PVIS *e*Sn Sn 18 21 10.5 -0.1
PVIS A A 18 21 13.8
comp=E,15nm,0.1s
PVIS Viseu 4.35 20 P Pn 18 20 21.8 +0.8
PVIS S Sn 18 21 10.5 -0.1
comp=E,7.7nm,0.1s
PVIS Viseu 4.35 20 P Pn 18 20 21.8 +0.8
PVIS S Sn 18 21 10.5 -0.1
comp=E,7.7nm,0.1s
EADA Adamuz 4.44 68 P Pn 18 20 23.2 +0.9
comp=E,1.6nm,0.2s,SNR=21
EADA S Sn 18 21 11.8 -1.1
comp=E,9.5nm,0.1s
EADA Adamuz 4.44 68 P Pn 18 20 23.2 +0.9
comp=E,1.6nm,0.2s,SNR=21
EADA S Sn 18 21 11.8 -1.1
comp=E,9.5nm,0.1s
EPLA Plasencia 4.51 39 P Pn 18 20 24.1 +0.7
comp=E,2.2nm,0.2s,SNR=10
EPLA S Sn 18 21 14.3 -0.3
comp=E,4.9nm,0.1s,SNR=13
EPLA Plasencia 4.51 39 P Pn 18 20 24.0 +0.7
comp=E,2.2nm,0.2s,SNR=10
EPLA S Sn 18 21 14.3 -0.3
comp=E,4.9nm,0.1s,SNR=13
ELUQ Luque 4.53 76 P Pn 18 20 25.1 +1.6
comp=E,0.7nm,0.2s,SNR=7.9
ELUQ S Sn 18 21 14.2 -0.9
comp=E,4.9nm,0.4s,SNR=7.9
ELUQ Luque 4.53 76 P Pn 18 20 25.1 +1.6
comp=E,0.7nm,0.2s,SNR=7.9
ELUQ S Sn 18 21 14.2 -0.9
comp=E,4.9nm,0.4s,SNR=7.9
PVRL Vila Real 4.92 19 *e*Pn Pn 18 20 29.9 +1.0
PVRL *e*Sn Sn 18 21 22.1 -2.6
PVRL A A 18 21 26.5
comp=E,30nm,0.1s
PVRL Vila Real 4.92 19 P Pn 18 20 29.9 +1.0
PVRL S Sn 18 21 22.1 -2.6
comp=E,15nm,0.1s
PVRL Vila Real 4.92 19 P Pn 18 20 29.9 +1.0
PVRL S Sn 18 21 22.1 -2.6
comp=E,15nm,0.1s
POLO Lamas de Olo 4.99 18 *e*Pn Pn 18 20 30.8 +0.9
POLO *e*Sn Sn 18 21 24.8 -1.7
POLO A A 18 21 27.8
comp=E,2.3nm,0.2s
POLO Lamas de Olo 4.99 18 *e*Pn Pn 18 20 30.8 +0.9
POLO *e*Sn Sn 18 21 24.8 -1.7
comp=E,2.3nm,0.2s
EGUA Guajares 5.02 86 P Pn 18 20 31.7 +1.5
comp=E,1.8nm,0.2s,SNR=7.9
EGUA S Sn 18 21 26.3 -0.8
comp=E,27nm,0.7s,SNR=7.9
EGUA Guajares 5.02 86 P Pn 18 20 31.7 +1.5
comp=E,1.8nm,0.2s,SNR=7.9
EGUA S Sn 18 21 26.3 -0.8
comp=E,27nm,0.7s,SNR=7.9
MVO Moncorvo 5.02 25 *e*Pn Pn 18 20 31.3 +1.0
MVO *e*Sn Sn 18 21 25.8 -1.5
MVO A A 18 21 28.7
comp=E,12nm,0.2s
MVO Moncorvo 5.02 25 P Pn 18 20 31.4 +1.0
comp=E,1.2nm,0.3s,SNR=24
MVO S Sn 18 21 25.7 -1.5
comp=E,9.0nm,0.5s,SNR=11
MVO Moncorvo 5.02 25 *e*Pn Pn 18 20 31.3 +1.0
MVO *e*Sn Sn 18 21 25.8 -1.5
comp=E,12nm,0.2s
EBAN Banos Encina 5.04 70 P Pn 18 20 31.2 +0.7
comp=E,0.3nm,0.2s,SNR=7.9
EBAN S Sn 18 21 24.3 -3.2

comp=E,23nm,0.8s,SNR=7.9
EBAN Banos Encina 5.04 70 P Pn 18 20 31.2 +0.7
comp=E,0.3nm,0.2s,SNR=7.9
EBAN S Sn 18 21 24.3 -3.2
comp=E,23nm,0.8s,SNR=7.9
ECOG Cogollos-Vega 5.04 81 P Pn 18 20 32.6 +1.9
comp=E,1.2nm,0.2s,SNR=7.9
ECOG S Sn 18 21 26.2 -1.6
comp=E,22nm,0.8s,SNR=7.9
ECOG Cogollos-Vega 5.04 81 P Pn 18 20 32.6 +1.9
comp=E,1.2nm,0.2s,SNR=7.9
ECOG S Sn 18 21 26.2 -1.6
comp=E,22nm,0.8s,SNR=7.9
EQUE Quentar 5.14 82 S Sn 18 21 29.1 -1.0
comp=E,8.9nm,0.5s,SNR=7.9
EQUE Quentar 5.14 82 S Sn 18 21 29.1 -1.0
comp=E,8.9nm,0.5s,SNR=7.9
PCAB Cabril 5.26 15 *e*Pn Pn 18 20 34.3 +0.7
PCAB *e*Sn Sn 18 21 32.7 -0.4
PCAB A A 18 21 33.7
comp=E,11nm,0.1s
PCAB Cabril 5.26 15 P Pn 18 20 34.3 +0.7
PCAB S Sn 18 21 32.7 -0.4
comp=E,5.5nm,0.1s
PCAB Cabril 5.26 15 P Pn 18 20 34.3 +0.7
PCAB *e*Sn Sn 18 21 32.7 -0.4
comp=E,11nm,0.1s
ELOB Lobios 5.41 14 P Pn 18 20 35.5 -0.1
comp=E,1.6nm,0.4s,SNR=7.2
ELOB S Sn 18 21 32.2 -4.5
comp=E,9.0nm,0.3s,SNR=5.6
ELOB Lobios 5.41 14 P Pn 18 20 35.5 -0.1
comp=E,1.6nm,0.4s,SNR=7.2
ELOB S Sn 18 21 32.2 -4.5
comp=E,9.0nm,0.3s,SNR=5.6
PGAV Gavieira, Arco 5.46 12 *e*Pn Pn 18 20 37.2 +0.8
PGAV *e*Sn Sn 18 21 36.3 -1.8
PGAV A A 18 21 40.5
comp=E,3.8nm,0.3s
PGAV Gavieira, Arco 5.46 12 *e*Pn Pn 18 20 37.2 +0.8
PGAV *e*Sn Sn 18 21 36.3 -1.8
comp=E,3.8nm,0.3s
EQES Quesada 5.51 76 P Pn 18 20 37.7 +0.7
comp=E,1.0nm,0.6s,SNR=8.3
EQES S Sn 18 21 37.9 -1.3
comp=E,21nm,1.2s,SNR=7.9
EQES Quesada 5.51 76 P Pn 18 20 37.7 +0.7
comp=E,1.0nm,0.6s,SNR=8.3
EQES S Sn 18 21 37.9 -1.3
comp=E,21nm,1.2s,SNR=7.9
EALB Alboran 5.52 95 S Sn 18 21 36.2 -3.1
comp=E,22nm,1.1s,SNR=7.9
ESDC Sonseca Array 5.52 55 P Pn 18 20 38.1 +0.9
comp=E,1.7nm,0.2s,baz=241,slow=13,SNR=47
ESDC S Sn 18 21 36.7 -2.8
comp=E,1.5nm,0.2s,baz=240,slow=24,SNR=28
ESDC Sonseca Array 5.52 55 P Pn 18 20 38.1 +0.9
comp=E,1.7nm,0.2s,baz=241,slow=13,SNR=47
ESDC S Sn 18 21 36.7 -2.8
comp=E,1.5nm,0.2s,baz=240,slow=24,SNR=28
EBER Berja 5.56 85 P Pn 18 20 39.5 +1.6
comp=E,1.0nm,0.3s,SNR=5.0
EBER S Sn 18 21 39.8 -1.0
comp=E,4.8nm,0.6s,SNR=7.9
EBER Berja 5.56 85 P Pn 18 20 39.5 +1.6
comp=E,1.0nm,0.3s,SNR=5.0
EBER S Sn 18 21 39.8 -1.0
comp=E,4.8nm,0.6s,SNR=7.9
PBRG Braganca 5.69 24 *e*Pn Pn 18 20 40.1 +0.6
PBRG *e*Sn Sn 18 21 41.7 -2.0
PBRG A A 18 21 45.6
comp=E,5.8nm,0.2s
PBRG Braganca 5.69 24 P Pn 18 20 40.1 +0.6
PBRG S Sn 18 21 41.7 -2.0
comp=E,2.9nm,0.2s
PBRG Braganca 5.69 24 P Pn 18 20 40.1 +0.6
PBRG S Sn 18 21 41.7 -2.0
comp=E,2.9nm,0.2s
ECAL Calabor 5.82 23 P Pn 18 20 42.3 +1.0
comp=E,2.7nm,0.2s,SNR=24
ECAL S Sn 18 21 44.7 -2.1
comp=E,8.0nm,0.4s,SNR=5.7
ECAL Calabor 5.82 23 P Pn 18 20 42.3 +1.0
comp=E,2.7nm,0.2s,SNR=24
ECAL S Sn 18 21 44.7 -2.1
comp=E,8.0nm,0.4s,SNR=5.7
EHUE Huescar 5.88 76 P Pn 18 20 43.6 +1.5
comp=E,0.7nm,0.3s,SNR=7.9
EHUE S Sn 18 21 46.4 -2.1
comp=E,1.2nm,0.4s,SNR=7.9
EHUE Huescar 5.88 76 P Pn 18 20 43.6 +1.5
comp=E,0.7nm,0.3s,SNR=7.9
EHUE S Sn 18 21 46.4 -2.1
comp=E,1.2nm,0.4s,SNR=7.9
GUD Guadarrama 5.97 46 ⇓P Pn 18 20 44.3 +0.9
comp=E,1.3nm,0.3s,SNR=18
GUD S Sn 18 21 49.0 -1.8
comp=E,3.3nm,0.3s,SNR=8.5
GUD Guadarrama 5.97 46 P Pn 18 20 44.3 +0.9
comp=E,1.3nm,0.3s,SNR=18
GUD S Sn 18 21 49.0 -1.8
comp=E,3.3nm,0.3s,SNR=8.5
EVIA Vianos 6.14 69 P Pn 18 20 46.3 +0.6
comp=E,1.3nm,0.2s,SNR=7.9
EVIA S Sn 18 21 52.0 -2.8
comp=E,2.8nm,0.4s,SNR=7.9
EVIA Vianos 6.14 69 P Pn 18 20 46.3 +0.6
comp=E,1.3nm,0.2s,SNR=7.9
EVIA S Sn 18 21 52.0 -2.8
comp=E,2.8nm,0.4s,SNR=7.9
EMAZ Mazaricos 6.35 6 P Pn 18 20 48.1 -0.3
comp=E,2.0nm,0.2s,SNR=148
EMAZ S Sn 18 21 54.5 -5.3
comp=E,4.9nm,0.2s,SNR=7.9
EMAZ Mazaricos 6.35 6 P Pn 18 20 48.1 -0.3
comp=E,2.0nm,0.2s,SNR=148
ETOB Tobarra 6.86 70 P Pn 18 20 55.9 +0.3
comp=E,2.0nm,0.7s,SNR=6.2
ETOB S Sn 18 22 09.4 -3.1
comp=E,3.4nm,0.5s,SNR=7.9
ETOB Tobarra 6.86 70 P Pn 18 20 55.9 +0.3
comp=E,2.0nm,0.7s,SNR=6.2
ETOB S Sn 18 22 09.4 -3.1
comp=E,3.4nm,0.5s,SNR=7.9
EMUR La Murta 6.94 77 S Sn 18 22 12.2 -2.3
comp=E,4.3nm,0.5s,SNR=7.9
EMUR La Murta 6.94 77 S Sn 18 22 12.2 -2.3
comp=E,4.3nm,0.5s,SNR=7.9
EPON Pontenova 7.00 16 P Pn 18 20 57.6 +0.2
comp=E,1.4nm,0.2s,SNR=7.9
EPON S Sn 18 22 08.9 -6.8
comp=E,8.9nm,0.8s,SNR=7.9
EPON Pontenova 7.00 16 P Pn 18 20 57.6 +0.2
comp=E,1.4nm,0.2s,SNR=7.9
EARI Arriondas 7.54 26 P Pn 18 21 06.8 +1.9
comp=E,0.3nm,0.2s,SNR=7.9
EARI S Sn 18 22 25.2 -4.0
comp=E,5.8nm,0.6s,SNR=7.9
EARI Arriondas 7.54 26 P Pn 18 21 06.8 +1.9
comp=E,0.3nm,0.2s,SNR=7.9
ELAN Lanestosa 8.21 35 S Sn 18 22 39.3 -6.3
comp=E,0.8nm,0.2s,SNR=4.8
EMOS Mosqueruela 8.22 60 P Pn 18 21 15.8 +1.5
comp=E,0.3nm,0.3s,SNR=7.9
EMOS S Sn 18 22 41.6 -4.4
comp=E,4.1nm,0.6s,SNR=7.9
EMOS Mosqueruela 8.22 60 P Pn 18 21 15.8 +1.5
comp=E,0.3nm,0.3s,SNR=7.9
EMOS S Sn 18 22 41.6 -4.4
comp=E,4.1nm,0.6s,SNR=7.9
IEPA Eparoz 9.00 44 P Pn 18 21 26.0 +1.1
comp=E,0.2nm,0.2s,SNR=7.9
IEPA S Sn 18 22 59.0 -6.1
comp=E,2.4nm,0.4s,SNR=7.9
IEPA Eparoz 9.00 44 P Pn 18 21 26.0 +1.1
comp=E,0.2nm,0.2s,SNR=7.9
IELO Elcoad 9.06 44 P Pn 18 21 25.9 +0.2
comp=E,0.8nm,0.2s,SNR=7.9
IELO S Sn 18 23 02.8 -3.8
comp=E,3.9nm,0.5s,SNR=7.9
IELO Elcoad 9.06 44 P Pn 18 21 25.9 +0.2
comp=E,0.8nm,0.2s,SNR=7.9
IELO S Sn 18 23 02.8 -3.8
comp=E,3.9nm,0.5s,SNR=7.9
EALK Alkurruntz 9.16 42 P Pn 18 21 27.6 +0.6
comp=E,0.7nm,0.1s,SNR=4.0
EALK S Sn 18 23 05.5 -3.4
comp=E,4.4nm,0.5s,SNR=4.0
EALK Alkurruntz 9.16 42 P Pn 18 21 27.6 +0.6
comp=E,0.7nm,0.1s,SNR=4.0
EALK S Sn 18 23 05.5 -3.4
comp=E,4.4nm,0.5s,SNR=4.0
SJPF Ste Jean 9.24 43 *e*P Pn 18 21 29.4 +1.2
SJPF *e*Sn Sn 18 23 01.6 -9.4
comp=E,0.8nm,0.3s
SJPF Ste Jean 9.24 43 *e*P Pn 18 21 29.4 +1.2
ETSF Etsaut 9.48 46 *e*P Pn 18 21 32.1 +0.6
ETSF *e*Sn Sn 18 23 01.6 -15
comp=E,0.3nm,0.2s
ETSF Etsaut 9.48 46 *e*P Pn 18 21 32.1 +0.6
EPF Esparros 10.09 48 *e*P Pn 18 21 41.0 +1.2
EPF *e*Sn Sn 18 23 15.7 -16
comp=E,0.6nm,0.2s
EPF Esparros 10.09 48 P Pn 18 21 41.0 +1.2

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*ISCJB **25** 18:23:00.8±0.3, 44°.70N±0'.04×146°.55E±0'.05, h172km±3km, mb3.9/33, Error ellipse: s-maj=7.8km s-min=5.6km az=150.0*
*MOS **25** 18:23:01.0±1.3, 44°.84N×146°.47E, h174km, mb4.0/16, Error ellipse: s-maj=14.4km s-min=9.9km az=104.7*
*IDC **25** 18:23:02.7±1.2, 44°.84N×146°.42E, h172km±10km, mb3.5/22, mb1 3.7/24, mb1mx3.7/28, mbtmp3.5/24, Error ellipse: s-maj=13.0km s-min=10.6km az=152.0*
*JMA **25** 18:23:02.5±0.3, 44°.55N×146°.57E, h165km±2km, M4.0*
ISC 25 18:23:01.4±0.6, 44°.70N±0'.05×146°.58E±0'.05, h167km±6km, n84, σ1°12/95, mb4.0/33, 14C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.84**	**218**	*c i*PN	**Pn**	**18 23 27.0**	**+0.4**
YUK				*i* S	**Sn**	**18 23 46.7**	**+0.7**
YUK				pmax	pmax		
	comp=Z,1μm,0.6s						
YUK				pmax	pmax		
	comp=N,182nm,0.3s						
YUK				pmax	pmax		
	comp=E,14nm,0.3s						
YUK				smax	smax		
	comp=E,297nm,0.6s						
YUK				smax	smax		
	comp=N,2μm,0.6s						
KUR	**Kuril'sk**	**1.05**	**59**	*e*PN	**Pn**	**18 23 29.0**	**+0.8**
KUR				*e*S	**Sn**	**18 23 49.3**	**+0.5**
KUR				smax	smax		
	comp=N,540nm,0.8s						
JRA	**Rausu**	**1.30**	**234**	⇑P	**Pn**	**18 23 30.5**	**+0.2**
NEM2	**Nemuro 2**	**1.47**	**205**	⇑P	**Pn**	**18 23 31.3**	**-0.7**
NEM2				*e*S	**Sn**	**18 23 53.0**	**-2.5**
JNK	**Nakash**	**1.75**	**231**	⇑P	**Pn**	**18 23 35.2**	**+0.4**
JTKR	**Abashiri--Toko**	**2.05**	**250**	⇑P	**Pn**	**18 23 38.5**	**+0.4**
JTKR				*e*S	**Sn**	**18 24 06.3**	**-0.2**
JAK	**Akkeshi**	**2.19**	**219**	⇑P	**Pn**	**18 23 39.4**	**-0.2**
JAK				*e*S	**Sn**	**18 24 07.8**	**-1.4**
JMP	**Maruseppu**	**2.41**	**254**	⇑P	**Pn**	**18 23 42.7**	**+0.4**
JMP				*e*S	**Sn**	**18 24 14.2**	**+0.2**
JAR	**Ashorobuto**	**2.47**	**236**	⇑P	**Pn**	**18 23 43.6**	**+0.6**
JOB	**Onbets**	**2.68**	**229**	⇑P	**Pn**	**18 23 45.9**	**+0.4**
JOB				*e*S	**Sn**	**18 24 18.9**	**-0.8**
JSE	**Soyaes**	**2.85**	**277**	P	**Pn**	**18 23 48.3**	**+0.7**
JSE				*e*S	**Sn**	**18 24 23.5**	**+0.1**
JKK2	**Kamakawa 2**	**2.88**	**255**	⇑P	**Pn**	**18 23 48.8**	**+0.9**
JKK2				*e*S	**Sn**	**18 24 24.7**	**+0.7**
ASAJ	**Asahikawa**	**2.92**	**260**	⇑P	**Pn**	**18 23 49.5**	**+1.2**
ASAJ				*e*S	**Sn**	**18 24 26.0**	**+1.2**
ASAJ	**Asahikawa**	**2.92**	**260**	P	**Pn**	**18 23 49.6**	**+1.2**
	comp=N,24nm,0.3s,baz=82,slow=14,SNR=233						
ASAJ				S	**Sn**	**18 24 25.1**	**+0.3**
	comp=N,5.2nm,0.3s,baz=261,slow=24,SNR=11						
JCH	**Churui**	**3.13**	**229**	⇑P	**Pn**	**18 23 51.0**	**-0.1**
JCH				*e*S	**Sn**	**18 24 26.9**	**-2.8**
JFR	**Furan**	**3.27**	**243**	⇑P	**Pn**	**18 23 53.5**	**+0.7**
JFR				*e*S	**Sn**	**18 24 32.7**	**0.0**
JWK2	**Keihoku**	**3.38**	**282**	P	**Pn**	**18 23 56.0**	**+1.9**
YSS	**Yuzh-Sakhalins**	**3.49**	**311**	⇓*i*PN	**Pn**	**18 23 56.0**	**+0.5**
YSS				*e*S	**Sn**	**18 24 37.0**	**-0.8**
YSS				pmax	pmax		
	comp=Z,160nm,0.9s						
YSS				smax	smax		
	comp=E,180nm,1.5s						
JHR	**Hokuryu**	**3.62**	**256**	P	**Pn**	**18 23 58.8**	**+1.6**
JNBK	**Urakawa-nobuka**	**3.69**	**230**	⇑P	**Pn**	**18 23 57.1**	**-1.0**
MAT	**Matsushiro**	**10.34**	**221**	P	**Pn**	**18 25 24.8**	**-0.7**
MAT				*e*S	**S**	**18 27 23.1**	**+1.9**
PETK	**Petropavlovsk-**	**11.13**	**37**	PN	**Pn**	**18 25 35.4**	**-0.4**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**11.13**	**37**	P	**Pn**	**18 25 35.4**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=203,slow=13,SNR=21						
YAK	**Yakutsk**	**19.96**	**336**	*e*P	**P**	**18 27 17.1**	**-3.1**
YAK				*e*S	S	18 30 47.8	-7.5
YAK				*e*S	**S**	**18 30 51.1**	**-4.2**
YAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.0s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.1s						
YAK				smax	smax		
	comp=E,62nm,10.3s						
YAK				smax	smax		
	comp=N,95nm,13.5s						
SONM	**Songino Array**	**27.74**	**291**	P	**P**	**18 28 33.1**	**-1.1**
	comp=N,0.3nm,0.5s,baz=60,slow=7.7,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	**30.09**	**139**	T	T	19 00 11.7	
	baz=332,slow=0.7,SNR=64						
H11N1	**WAKE ISLAND Hy**	**30.10**	**139**	T	T	19 00 12.6	
	baz=332,slow=0.7,SNR=62						
H11N3	**WAKE ISLAND Hy**	**30.11**	**139**	T	T	19 00 12.4	
	baz=332,slow=0.7,SNR=92						
H11S1	**WAKE ISLAND Hy**	**31.07**	**141**	T	T	19 01 24.3	
	baz=335,slow=0.7,SNR=238						
H11S3	**WAKE ISLAND Hy**	**31.07**	**141**	T	T	19 01 21.2	
	baz=335,slow=0.7,SNR=177						
H11S2	**WAKE ISLAND Hy**	**31.08**	**141**	T	T	19 01 25.8	
	baz=335,slow=0.7,SNR=168						
ZALV	**Zalesovo Beam**	**40.10**	**306**	P	**P**	**18 30 19.8**	**-0.4**
ZALV						18 32 21.8	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**40.10**	**306**	P	**P**	**18 30 19.8**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=82,slow=10,SNR=2.5						
ZALV				PcP	**PcP**	**18 32 21.8**	**+0.4**
	comp=Z,1.3nm,0.4s,baz=87,slow=3.6,SNR=7.9						
ILAR	**Eielson Array**	**40.97**	**37**	P	**P**	**18 30 27.8**	**+0.5**
	comp=Z,3.4nm,0.8s,baz=270,slow=7.7,SNR=31						
MKAR	**Makanchi Array**	**43.79**	**297**	*e*P	**P**	**18 30 50.5**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**43.79**	**297**	P	**P**	**18 30 50.3**	**0.0**
	comp=Z,0.8nm,0.7s,baz=74,slow=8.9,SNR=5.2						
KURK	**Kurchatov**	**44.66**	**303**	P	**P**	**18 30 57.0**	**-0.1**
KURK						18 32 37.4	
KURK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURBB	**Kurchatov Arra**	**44.75**	**303**	P	**P**	**18 30 57.0**	**-0.8**
	comp=Z,1.0nm,0.4s,baz=73,slow=8.5,SNR=9.7						
KURBB				PcP	**PcP**	**18 32 37.4**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=74,slow=3.7,SNR=4.0						
CMAR	**Chiang Mai Arr**	**47.41**	**252**	P	**P**	**18 31 20.6**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=41,slow=7.0,SNR=4.3						
BVAR	**Borovoye Array**	**48.58**	**309**	P	**P**	**18 31 28.3**	**+0.8**
BVAR						18 32 50.9	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**48.58**	**309**	P	**P**	**18 31 28.3**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=51,slow=11,SNR=3.2						
BVAR				PcP	**PcP**	**18 32 50.9**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=66,slow=2.1,SNR=4.9						
YKA	**Yellowknife Ar**	**55.24**	**34**	P	**P**	**18 32 16.8**	**+0.3**
	comp=Z,3.3nm,0.8s,baz=304,slow=7.0,SNR=9.6						
AKTO	**Aktyubinsk**	**56.61**	**310**	P	**P**	**18 32 24.3**	**-2.2**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKTO	**Aktyubinsk**	**56.61**	**310**	P	**P**	**18 32 24.3**	**-2.2**
	comp=Z,0.5nm,0.4s,baz=76,slow=12,SNR=4.0						
TMCR	**Tamitsa**	**57.94**	**331**	*e*P	**P**	**18 32 37.3**	**+1.7**
TMCR				pmax	pmax		
	comp=Z,30nm,1.3s						
ARCES	**ARCESS Array B**	**58.21**	**339**	P	**P**	**18 32 36.0**	**-1.4**

	comp=Z,2.8nm,1.0s,baz=35,slow=6.4,SNR=5.8									
ARCES						PcP		**PcP**	**18 33 27.0**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=38,slow=4.6,SNR=3.1									
FINES	**FINESS Array B**	**63.84**	**333**		P		**P**		**18 33 13.9**	**-1.4**
	comp=Z,2.0nm,0.6s,baz=51,slow=7.0,SNR=14									
WRA	**Warramunga Arr**	**65.30**	**193**		P		**P**		**18 33 25.8**	**+0.4**
	comp=Z,2.8nm,0.6s,baz=8.8,slow=6.7,SNR=43									
VSR	**Storozhevoye**	**65.74**	**319**	*eP*			**P**		**18 33 26.9**	**-1.0**
VSR						pmax	pmax			
	comp=Z,3.0nm,0.5s									
VSR						pmax	pmax			
	comp=N,5.0nm,0.6s									
VSR						pmax	pmax			
	comp=E,2.0nm,0.4s									
VORD	**Divnogorie**	**65.85**	**319**	*eP*			**P**		**18 33 26.4**	**-2.1**
VORD						pmax	pmax			
	comp=Z,9.0nm,0.9s									
VORD						pmax	pmax			
	comp=E,20nm,0.8s									
NVAR	**Mina Array Bea**	**67.42**	**58**		P		**P**		**18 33 40.7**	**+1.7**
	comp=E,1.1nm,0.7s,baz=283,slow=6.9,SNR=9.1									
NB2	**NORSAR Subarra**	**68.56**	**338**		P		**P**		**18 33 44.3**	**-1.2**
	comp=Z,1.5nm,0.6s,baz=30,slow=6.2									
NOA	**NORSAR Array B**	**68.56**	**338**		P		**P**		**18 33 44.7**	**-0.9**
	comp=Z,1.3nm,0.4s,baz=32,slow=6.6,SNR=12									
KBZ	**Khabaz**	**68.86**	**311**		P		**P**		**18 33 49.1**	**+1.5**
KBZ						pmax	pmax			
	comp=Z,3.0nm,0.9s									
KBZ	**Khabaz**	**68.86**	**311**		P		**P**		**18 33 49.0**	**+1.5**
	comp=Z,2.6nm,0.9s,baz=340,slow=1.4,SNR=5.6									
ASAR	**Alice Springs**	**69.02**	**192**		P		**P**		**18 33 49.9**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=9.7,slow=5.7,SNR=23									
PDAR	**Pinedale Array**	**69.61**	**50**		P		**P**		**18 33 53.8**	**+1.3**
	comp=Z,2.8nm,0.5s,baz=283,slow=1.3,SNR=30									
AKASG	**Malin Array Be**	**70.57**	**323**	*eP*			**P**		**18 33 57.4**	**-0.5**
AKASG						pmax	pmax			
	comp=Z,1.0nm,0.4s									
AKASG	**Malin Array Be**	**70.57**	**323**		P		**P**		**18 33 57.4**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=42,slow=6.7,SNR=8.8									
ULM	**Lac du Bonnet**	**70.98**	**37**		P		**P**		**18 34 00.4**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=326,slow=10,SNR=3.0									
CLL	**Collm**	**76.28**	**332**	*i*	P		**P**		**18 34 31.3**	**0.0**
CLL						pmax	pmax			
	comp=Z,5.0nm,1.0s									
CLL	**Collm**	**76.28**	**332**	*i*	P		**P**		**18 34 31.3**	**0.0**
	comp=Z,5.0nm,1.0s									
BRTR	**Keskin Array B**	**76.59**	**313**		P		**P**		**18 34 33.8**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=50,slow=3.2,SNR=2.9									
KHC	**Kasperske Hory**	**77.93**	**331**	*eP*			**P**		**18 34 41.1**	**+0.5**
KHC	**Kasperske Hory**	**77.93**	**331**	*eP*			**P**		**18 34 41.1**	**+0.5**
GERES	**GERESS Array B**	**78.13**	**330**		P		**P**		**18 34 40.8**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=38,slow=6.8,SNR=5.3									
CDF	**Champ du Feu**	**80.64**	**334**	*eP*			**P**		**18 34 55.8**	**+0.4**
PAGF	**Fort de Pagny**	**81.00**	**335**	*eP*			**P**		**18 34 57.3**	**+0.2**
MEZF	**Maizieres J'vi**	**81.25**	**335**	*eP*			**P**		**18 34 58.2**	**-0.2**
	comp=Z,8.7nm,0.9s									
SFTF	**Sexfontaines**	**81.52**	**335**	*eP*			**P**		**18 35 00.4**	**+0.5**
TXAR	**Lajitas Array**	**82.46**	**56**		P		**P**		**18 35 06.7**	**+1.4**
	comp=Z,0.5nm,0.5s,baz=283,slow=2.4,SNR=7.2									
LOR	**Lormes**	**82.71**	**335**	*eP*			**P**		**18 35 05.7**	**-0.4**
	comp=Z,8.0nm,0.9s									
SMF	**Signal de Mont**	**83.27**	**335**	*eP*			**P**		**18 35 08.9**	**-0.1**
	comp=Z,15nm,1.1s									
AVF	**Avril sur Loir**	**83.29**	**336**	*eP*			**P**		**18 35 09.1**	**+0.1**
LPL	**La Plagne**	**83.38**	**333**	*eP*			**P**		**18 35 10.2**	**+0.4**
	comp=Z,3.8nm,0.7s									
LPG	**La Plagne**	**83.39**	**333**	*eP*			**P**		**18 35 10.4**	**+0.4**
MBDF	**Montbardon**	**84.07**	**332**	*eP*			**P**		**18 35 13.7**	**+0.4**
	comp=Z,2.1nm,0.6s									
TCF	**Toulx Ste Croi**	**84.08**	**336**	*eP*			**P**		**18 35 13.4**	**+0.3**
ORIF	**Oris-en-Rattie**	**84.19**	**333**	*eP*			**P**		**18 35 13.9**	**+0.1**
	comp=Z,7.3nm,0.9s									
SBF	**Sospel**	**84.61**	**332**	*eP*			**P**		**18 35 15.9**	**0.0**
VIVF	**Saint-Julien-l**	**84.63**	**334**	*eP*			**P**		**18 35 16.1**	**+0.2**
H03N2	**Juan Fernandez**	**143.36**	**88**		T		T		21 22 10.6	
	baz=302,slow=0.7,SNR=14									
H03N3	**Juan Fernandez**	**143.37**	**88**		T		T		21 22 12.1	
	baz=302,slow=0.7,SNR=13									
H03N1	**Juan Fernandez**	**143.37**	**88**		T		T		21 22 11.8	
	baz=302,slow=0.7,SNR=14									

GUC 25 18:35:53.3±0.4,21°14S×69°01W,h114km±3km, ML3.6, 4C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.69**	**198**	⇑*iP*	Pn	18 36 12.6	+0.4
PB09				*i* S	Sn	18 36 27.2	+0.7
PB09				AML	AML	18 36 31.1	
	comp=E,5μm,0.3s						
PB07	**Plate Boundary**	**1.00**	**234**	⇑*iP*	Pn	18 36 15.8	+0.7
PB07				*i* S	Sn	18 36 32.8	+1.1
PB07				AML	AML	18 36 35.5	
	comp=N,1μm,0.2s						
HMBC	**Humberstone**	**1.19**	**316**	⇑*iP*	Pn	18 36 17.5	+0.5
HMBC				*i* S	Sn	18 36 35.8	+0.8
HMBC				AML	AML	18 36 38.9	
	comp=N,3μm,0.4s						
PB04	**Plate Boundary**	**1.20**	**202**	⇑*iP*	Pn	18 36 22.3	+5.3
PB04				*i* S	Sn	18 36 44.4	+9.5
PB04				AML	AML	18 36 56.3	
	comp=N,492nm,0.3s						
MACH	**Maria Elena**	**1.26**	**213**	⇓*iP*	Pn	18 36 18.6	+0.7
MACH				*i* S	Sn	18 36 37.8	+1.2
PSGC	**Pisagua**	**1.86**	**326**	*i* P	Pn	18 36 24.8	-0.1
PSGC				*i* S	Sn	18 36 49.4	+0.4
PSGC				AML	AML	18 36 56.5	
	comp=E,353nm,0.5s						
MNMC	**Minimni**	**2.07**	**345**	AML	AML	18 37 04.9	
	comp=E,541nm,0.2s						
CEN1	**Los Morros**	**2.50**	**206**	*eP*	Pn	18 36 37.1	+4.1
CEN1				*i* S	Sn	18 37 09.8	+6.4
CEN1				AML	AML	18 37 14.2	
	comp=E,111nm,0.5s						
PB10	**Plate Boundary**	**2.76**	**211**	AML	AML	18 37 31.6	
	comp=N,305nm,0.6s						

*IDC **25** 18:37:33.2±0.8, 36°14N×71°17E, h0km, mb4.0/15, mb1 4.1/19, mb1mx4.0/29, mbtmp4.0/19, ML3.9/4, Error ellipse: s-maj=18.5km s-min=16.9km az=172.0*
*MOS **25** 18:37:36.9±0.9, 36°10N×71°01E, h33km, mb4.5/15, Error ellipse: s-maj=14.5km s-min=6.2km az=82.7*
*BJI **25** 18:37:43.4, 36°36N×71°31E, h130km, mB4.8/1, mb4.2/4*
*ISCJB **25** 18:37:44.3±0.3, 36°41N±0°02×71°58E±0°04, h114km, mb4.0/24, Error ellipse: s-maj=5.1km s-min=3.2km az=161.3*
*NNC **25** 18:37:50.8±6.7, 36°93N×70°76E, h110km±83km, mb3.7, mpv4.3, Error ellipse: s-maj=51.3km s-min=30.7km az=14.0*

ISC 25 18:37:45.6±0.5, 36°43N±0°04×71°57E±0°06, h114km, n100, σ1°79/104, mb4.0/24, 6C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.61**	**174**	⇓*iP*	**Pn**	**18 38 27.7**	**+0.9**
CEP				S	Sn	**18 39 01.0**	**+2.6**
CHCP	**Chirah Chowk**	**3.09**	**153**	P	Pn	18 38 35.3	+2.3
THW	**Thamme Wali**	**3.62**	**178**	P	**Pn**	**18 38 40.2**	**+0.1**
SARP	**Sargodha**	**4.58**	**168**	P	**Pn**	**18 38 53.8**	**+0.9**
JMU	**Jammu**	**4.61**	**142**	*e*4	**Sn**	18 39 44.5	-1.2
KSH	**Kashi**	**4.65**	**47**	P	**Pn**	**18 38 51.8**	**-2.1**
KSH				S	Sn	18 39 39.5	-7.4
KSH				SMN			
	730nm,0.3s						
KSH				SME			
	590nm,0.3s						
AML	**Almayashu**	**5.93**	**15**	*i* PN	**Pn**	**18 39 11.9**	**+0.5**
AML	**Almayashu**	**5.93**	**15**	P	**Pn**	**18 39 11.9**	**+0.5**
	SNR=115						
KZA	**Kyzart**	**6.32**	**26**	*i* PN	**Pn**	**18 39 17.8**	**+1.1**
KZA	**Kyzart**	**6.32**	**26**	P	**Pn**	**18 39 17.8**	**+1.1**
	SNR=9.3						
BHK	**Bhakra**	**6.42**	**140**	*eP*	**Pn**	**18 39 19.0**	**+1.3**
BHK				*e*S	**Sn**	**18 40 28.8**	**-0.7**
EKS2	**Erkin-Say**	**6.46**	**15**	*i* PN	**Pn**	**18 39 18.7**	**+0.4**
EKS2	**Erkin-Say**	**6.46**	**15**	P	**Pn**	**18 39 18.7**	**+0.4**
	SNR=32						
AAK	**Ala-Archa**	**6.60**	**19**	PN	**Pn**	**18 39 21.4**	**+1.2**
AAK				pmax	pmax		
	comp=Z,7.0nm,0.3s						
AAK	**Ala-Archa**	**6.60**	**19**	P	**Pn**	**18 39 21.4**	**+1.2**
	SNR=41						
AAK	**Ala-Archa**	**6.60**	**19**	Pn	**Pn**	**18 39 21.4**	**+1.2**
	comp=Z,6.8nm,0.3s,baz=162,slow=6.1,SNR=72						
AAK				Sn	**Sn**	**18 40 33.9**	**-0.1**
	comp=Z,4.3nm,0.3s,baz=133,slow=23,SNR=19						
SDNR	**Sundarnagar**	**6.65**	**136**	*e*4	Pn	18 39 23.0	+2.1
SDNR				*e*4	**Sn**	**18 40 31.0**	**-4.2**
KK31	**Karatay Array**	**6.72**	**353**	⇓P	**Pn**	**18 39 20.4**	**-1.3**
	comp=Z,12nm,0.3s,baz=180,slow=13,SNR=4.6						
KK31				S	**Sn**	**18 40 31.6**	**-5.1**
	comp=Z,38nm,0.5s,baz=179,slow=21,SNR=14						
KBK	**Karagaybulak**	**6.75**	**22**	*i* P	**Pn**	**18 39 24.1**	**+1.9**
KBK	**Karagaybulak**	**6.75**	**22**	P	**Pn**	**18 39 24.1**	**+1.9**
	SNR=9.8						
ULHL	**Ulahol**	**6.84**	**30**	*i* P	**Pn**	**18 39 25.9**	**+2.3**
ULHL	**Ulahol**	**6.84**	**30**	P	**Pn**	**18 39 25.9**	**+2.3**
	SNR=11						
CHMS	**Chumysh**	**7.01**	**19**	*i* P	**Pn**	**18 39 26.5**	**+0.9**
CHMS	**Chumysh**	**7.01**	**19**	P	**Pn**	**18 39 26.5**	**+0.9**
	SNR=11						
SMLA	**Simla**	**7.04**	**137**	*i* P	**Pn**	**18 39 26.8**	**+0.6**
SMLA				*i* 4		18 40 42.9	
TKM2	**Tokmak 2**	**7.19**	**24**	⇓P	**Pn**	**18 39 29.3**	**+1.0**
	comp=Z,5.7nm,0.5s						
TKM2				⇓S	**Sn**	**18 40 48.3**	**-0.1**
	comp=Z,8.7nm,0.6s						
TKM2	**Tokmak 2**	**7.19**	**24**	*i* P	**Pn**	**18 39 29.4**	**+1.1**
TKM2	**Tokmak 2**	**7.19**	**24**	P	**Pn**	**18 39 29.4**	**+1.1**
	SNR=19						
USP	**Ospenovka**	**7.19**	**17**	*i* P	**Pn**	**18 39 28.3**	**+0.1**
USP	**Ospenovka**	**7.19**	**17**	P	**Pn**	**18 39 28.3**	**+0.1**
	SNR=14						
RTK	**Rohtak**	**8.42**	**150**	*eP*	**Pn**	**18 39 46.5**	**+1.7**
AYAN	**Aya Nagar**	**9.20**	**148**	*eP*	**Pn**	**18 39 55.0**	**-0.4**
AYAN				*e*S	Sn	18 41 28.6	-8.6
KUDL	**Kundal**	**9.24**	**152**	*eP*	**Pn**	**18 39 54.9**	**-1.1**
KUDL				*e*S	Sn	18 41 31.6	-6.6
KUDL				AML	AML	18 41 34.2	
	comp=N,27nm,0.3s						
KUDL				AML	AML	18 41 34.2	
	comp=E,22nm,0.3s						
SONA	**Sohna**	**9.39**	**149**	*eP*	**Pn**	**18 39 57.1**	**-0.8**
SONA				*e*S	Sn	18 41 33.4	-8.2
SONA				AML	AML	18 41 40.2	
	comp=N,37nm,0.2s						
SONA				AML	AML	18 41 40.8	
	comp=E,89nm,0.3s						
DANN	**Dangsing**	**13.06**	**125**	*eP*	**Pn**	**18 40 45.8**	**-1.4**
	comp=E,12nm,0.3s						
MK31	**Makanchi Array**	**13.09**	**34**	⇑P	**P**	**18 40 55.0**	**+2.0**
	comp=E,2.7nm,0.7s,baz=214,slow=10,SNR=15						
MKAR	**Makanchi Array**	**13.09**	**34**	*eP*	**Pn**	**18 40 47.4**	**+0.3**
MKAR	**Makanchi Array**	**13.09**	**34**	Pn	**Pn**	**18 40 48.0**	**+0.9**
	comp=E,0.1nm,0.3s,baz=227,slow=16,SNR=4.0						
KOLN	**Koldanda**	**13.35**	**127**	*eP*	**Pn**	**18 40 49.7**	**-1.1**
	comp=E,7.6nm,0.3s						
GKN	**Gorkha**	**13.88**	**124**	*eP*	**Pn**	**18 40 55.9**	**-1.7**
	comp=E,22nm,0.4s						
WMQ	**Urumqi**	**14.36**	**54**	P	**Pn**	**18 41 02.0**	**-1.6**
WMQ				AMB	AMB		
	comp=E,15nm,0.5s						
WMQ				AMB	AMB		
	comp=E,92nm,4.8s						
DMN	**Daman**	**14.45**	**124**	*eP*	**Pn**	**18 41 03.5**	**-1.5**
	comp=E,7.1nm,0.3s						
KKN	**Kakani**	**14.45**	**123**	*eP*	**Pn**	**18 41 03.3**	**-1.7**
	comp=E,12nm,0.5s						
PKIN	**Phulchoki**	**14.66**	**123**	*eP*	**Pn**	**18 41 06.6**	**-1.1**
	comp=E,8.2nm,0.3s						
PKI	**Pulchoki**	**14.68**	**123**	*eP*	**Pn**	**18 41 06.6**	**-1.4**
	comp=E,7.2nm,0.3s						
GUN	**Gumba**	**14.78**	**121**	*eP*	**Pn**	**18 41 07.1**	**-2.2**
	comp=E,9.4nm,0.4s						
KURBB	**Kurchatov Arra**	**15.05**	**17**	⇑P	**P**	**18 41 15.2**	**+0.5**
	comp=E,6.0nm,0.7s						
KURBB	**Kurchatov Arra**	**15.05**	**17**	Pn	**Pn**	**18 41 09.8**	**-2.3**
	comp=E,0.1nm,0.3s,baz=210,slow=10,SNR=4.3						
JIRN	**Jiri**	**15.15**	**121**	*eP*	**Pn**	**18 41 12.4**	**-1.6**
	comp=E,16nm,0.3s						
KURK	**Kurchatov**	**15.16**	**17**	P	**Pn**	**18 41 09.9**	**-3.6**
AB31	**Akbulak array**	**15.38**	**330**	⇓P	**Pn**	**18 41 12.7**	**-3.5**
	comp=E,1.6nm,0.3s,baz=147,slow=12,SNR=5.2						
AB31				⇑S	Sn	18 43 48.0	-18
	comp=E,4.1nm,0.5s,baz=150,slow=25,SNR=10						
RAMN	**Ramite**	**15.88**	**122**	*eP*	**Pn**	**18 41 21.5**	**-1.5**
	comp=E,8.5nm,0.3s						
VOSK	**Vostochnaya**	**16.30**	**359**	⇓P	**Pn**	**18 41 25.1**	**-2.6**
	comp=E,4.5nm,1.0s						
TAPN	**Taplejung**	**16.41**	**119**	*eP*	**Pn**	**18 41 27.7**	**-1.8**
	comp=E,6.9nm,0.3s						
ODAN	**Odare**	**16.48**	**121**	*eP*	**Pn**	**18 41 28.6**	**-1.8**
	comp=E,9.1nm,0.4s						
BVA0	**Borovoye Array**	**16.62**	**358**	⇓P	**Pn**	**18 41 30.6**	**-1.0**
	comp=E,2.1nm,0.6s,baz=188,slow=14,SNR=5.3						
BVAR	**Borovoye Array**	**16.62**	**358**	P	**Pn**	**18 41 29.6**	**-2.0**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**16.62**	**358**	Pn	**Pn**	**18 41 29.6**	**-2.0**
	comp=Z,0.8nm,0.3s,baz=160,slow=13,SNR=20						
BRVK	**Borovoye**	**16.66**	**357**	*i* P	**P**	**18 41 33.0**	**+0.5**
AKTO	**Aktyubinsk**	**17.08**	**329**	⇑P	**P**	**18 41 33.9**	**-3.2**
	comp=Z,3.2nm,0.5s						
AKTO				⇑S	Sn	18 44 31.0	-16
	comp=Z,3.8nm,0.5s						
AKTO	**Aktyubinsk**	**17.08**	**329**	P	**P**	**18 41 34.0**	**-3.2**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKTO	**Aktyubinsk**	**17.08**	**329**	P	**P**	**18 41 34.0**	**-3.2**
	comp=Z,1.6nm,0.3s,baz=142,slow=12,SNR=25						
AKTO				S	Sn	18 44 30.9	-16
	comp=Z,0.6nm,0.3s,baz=154,slow=21,SNR=6.2						
ZALV	**Zalesovo Beam**	**19.80**	**24**	P	**Pn**	**18 42 07.8**	**-1.6**
ZALV				S	**S**	**18 45 45.4**	**+2.0**
ZALV				pmax	pmax		
	comp=Z,15nm,0.4s						
ZALV				smax	smax		
	comp=N,1.0nm,0.7s						
ZALV	**Zalesovo Beam**	**19.80**	**24**	P	**Pn**	**18 42 07.8**	**-1.6**
	comp=N,15nm,0.4s,baz=218,slow=11,SNR=114						
ZALV				S	**S**	**18 45 45.4**	**+2.0**
	comp=N,0.8nm,0.7s,baz=206,slow=19,SNR=3.3						
NVS	**Novosibirsk**	**20.09**	**20**	*eP*	**P**	**18 42 09.5**	**-0.4**
NVS				pmax	pmax		
	comp=Z,8.0nm,0.6s						
NVS				pmax	pmax		
	comp=N,8.0nm,0.8s						
UMR	**Umm Al-Rimmam**	**21.12**	**258**	*eP*	**P**	**18 42 19.6**	**-1.6**
KBD	**Kabd**	**21.30**	**257**	*eP*	**P**	**18 42 21.1**	**-2.1**
HVS	**Khovu-Aksy**	**21.59**	**40**	*i* P	**P**	**18 42 27.5**	**+1.3**
HVS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
NAY	**Al-Naaiem**	**21.63**	**258**	*eP*	**P**	**18 42 25.4**	**-1.2**
NAY				AMb	AMB	18 42 27.1	
	comp=Z,22nm,1.0s						
RST	**Umm Al-Ruwaisa**	**21.71**	**259**	*eP*	**P**	**18 42 25.9**	**-1.7**
RST				AMb	AMB	18 42 26.9	
	comp=Z,205nm,0.8s						
ARU	**Arti**	**21.85**	**340**	*c iP*	**P**	**18 42 31.5**	**+2.7**
ARU						18 43 00.6	
ARU				S	**S**	**18 46 25.9**	**+2.8**
ARU				SS	**SnSn**	**18 47 03.6**	**+3.9**
ARU				pmax	pmax		
	comp=Z,10.0nm,1.2s						
NCK	**Nalchik**	**22.51**	**297**	*i* P	**P**	**18 42 37.9**	**+2.2**
KBZ	**Khabaz**	**23.04**	**297**	P	**P**	**18 42 38.0**	**-2.9**
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KBZ	**Khabaz**	**23.04**	**297**	P	**P**	**18 42 38.0**	**-2.9**
	comp=Z,0.9nm,0.7s,baz=166,slow=12,SNR=2.6						
SONM	**Songino Array**	**28.00**	**55**	P	P	18 43 29.9	+4.1
	comp=Z,0.4nm,0.5s,baz=265,slow=8.9,SNR=3.5						
BRTR	**Keskin Array B**	**29.90**	**288**	P	**P**	**18 43 43.6**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=88,slow=8.4,SNR=2.9						
KLMR	**Klimovskoe**	**31.77**	**330**	*eP*	**P**	**18 43 57.6**	**-1.1**
KLMR				pmax	pmax		
	comp=Z,14nm,1.2s						
AKASG	**Malin Array Be**	**33.35**	**309**	*eP*	**P**	**18 44 13.1**	**+0.5**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**33.35**	**309**	P	**P**	**18 44 13.1**	**+0.5**
	comp=Z,1.1nm,0.5s,baz=80,slow=7.5,SNR=6.4						
JOF	**Joensuu**	**36.16**	**330**	*eP*	**P**	**18 44 38.2**	**+1.6**
JOF				pmax	pmax		
	comp=Z,4.0nm,0.3s						
JOF	**Joensuu**	**36.16**	**330**	*ep*	**P**	**18 44 38.2**	**+1.6**
	comp=Z,3.7nm,0.3s						
KOLS	**Kolonicke sedl**	**37.70**	**305**	*eP*	P	18 44 55.8	+6.0
KOLS	**Kolonicke sedl**	**37.70**	**305**	*e*	P	18 44 55.8	+6.0
QIZ	**Qiongzhong**	**37.76**	**107**	P	**P**	**18 44 51.5**	**+0.9**
QIZ				S	**S**	**18 50 32.8**	**-0.1**
QIZ				AMB	AMB		
	comp=Z,7.0nm,1.5s						
FINES	**FINESS Array B**	**37.80**	**326**	P	**P**	**18 44 51.5**	**+1.0**
	comp=Z,3.8nm,0.6s,baz=115,slow=10,SNR=19						
KAF	**Kangasniemi**	**37.94**	**327**	*eP*	**P**	**18 44 52.5**	**+0.8**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KAF	**Kangasniemi**	**37.94**	**327**	*ep*	**P**	**18 44 52.5**	**+0.8**
	comp=Z,0.5nm,0.3s						
KEV	**Kevo**	**41.04**	**338**	*eP*	**P**	**18 45 18.5**	**+1.2**
KEV	**Kevo**	**41.04**	**338**	*ep*	**P**	**18 45 18.5**	**+1.2**
	comp=Z,0.3nm,0.3s						
ARCES	**ARCESS Array B**	**41.39**	**337**	P	**P**	**18 45 21.8**	**+1.7**
	comp=Z,3.8nm,0.7s,baz=114,slow=7.9,SNR=15						
HFS	**Hagfors**	**43.41**	**322**	P	**P**	**18 45 37.5**	**+0.9**
	comp=Z,4.0nm,0.6s,baz=88,slow=12,SNR=14						
NB2	**NORSAR Subarra**	**44.72**	**323**	P	**P**	**18 45 47.5**	**+0.4**
	comp=Z,3.2nm,0.5s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.72**	**323**	P	**P**	**18 45 47.9**	**+0.8**
	comp=Z,3.5nm,0.6s,baz=96,slow=7.8,SNR=19						
EKA	**Eskdalemuir Ar**	**52.66**	**316**	P	**P**	**18 46 49.8**	**+1.9**
	comp=Z,0.3nm,0.4s,baz=90,slow=9.3,SNR=4.1						
ESDC	**Sonseca Array**	**57.90**	**298**	P	**P**	**18 47 27.0**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=61,slow=7.5,SNR=3.8						
TORD	**Torodi Ar. Bea**	**66.18**	**269**	P	**P**	**18 48 19.1**	**-2.2**
	comp=Z,1.0nm,0.6s,baz=49,slow=5.7,SNR=10						
BOSA	**Boshof**	**77.99**	**221**	P	**P**	**18 49 32.3**	**+0.8**
	comp=Z,2.7nm,0.8s,baz=37,slow=8.4,SNR=3.4						
YKA	**Yellowknife Ar**	**81.30**	**3**	P	**P**	**18 49 51.1**	**+2.2**
	comp=Z,0.7nm,0.6s,baz=351,slow=5.7,SNR=4.5						
WRA	**Warramunga Arr**	**81.56**	**122**	P	P	18 49 53.8	+2.9
	comp=Z,0.2nm,0.5s,baz=325,slow=4.9,SNR=4.5						
ASAR	**Alice Springs**	**83.83**	**125**	P	P	18 50 05.6	+3.0
	comp=Z,0.2nm,0.5s,baz=309,slow=5.3,SNR=5.7						

*AUST **25** 18:37:40.8±1.9, 19°67S×179°02W, h226km, Error ellipse: s-maj=2.7km s-min=1.3km az=11.0*
*ISCJB **25** 18:37:52.8±0.6, 20°60S±0°08×177°67W±0°09, h500km, mb4.0/11, Error ellipse: s-maj=12.0km s-min=9.6km az=40.0*
*IDC **25** 18:37:53.3±2.7, 20°51S×177°69W, h490km±28km, mb3.6/11, mb1 3.7/13, mb1mx3.6/20, mbtmp3.6/13, Error ellipse: s-maj=20.8km s-min=17.4km az=99.0*

ISC 25 18:37:53.8±0.6, 20°6S±0°1×177°68W±0°09, h500km, n40, σ1°30/40, mb4.0/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.46**	**79**	P	**P**	**18 39 44.0**	**-0.6**
	baz=8.6,SNR=3.4						
AFI	**Afiamalu**	**8.74**	**41**	S	S	18 41 30.1	-10
	14nm,0.3s,baz=355,slow=22,SNR=12						
DZM	**Mont Dzumac**	**14.86**	**262**	P	**P**	**18 41 03.0**	**+0.3**
	0.9nm,0.3s,baz=80,slow=18,SNR=8.5						
URZ	**Urewera**	**18.14**	**193**	P	**P**	**18 41 34.4**	**-0.8**
	3.2nm,0.3s,baz=293,slow=2.8,SNR=18						
URZ				S	**S**	**18 44 31.8**	**-4.0**
	0.2nm,0.3s,baz=225,slow=19,SNR=2.6						
EIDS	**Eidsvold**	**29.10**	**255**	P	**P**	**18 43 14.1**	**+0.7**
	baz=28,SNR=5.0						
ARMA	**Armidale**	**29.28**	**244**	P	**P**	**18 43 16.6**	**+1.6**
	baz=29,SNR=5.4						
RMQ	**Roma**	**31.25**	**253**	P	**P**	**18 43 33.4**	**+1.3**
	baz=30,SNR=6.7						
CTA	**Charters Tower**	**33.77**	**264**	P	**P**	**18 43 54.4**	**+0.8**
	29nm,0.6s,baz=95,slow=11,SNR=54						
CMSA	**Cobar Meteorol**	**34.50**	**244**	P	**P**	**18 44 00.2**	**+0.8**
	baz=34,SNR=14						
QLP	**Quilpie**	**35.31**	**253**	P	**P**	**18 44 06.9**	**+0.6**
	baz=34,SNR=8.7						
MTSU	**Mount Surprise**	**35.88**	**267**	P	**P**	**18 44 11.8**	**+0.5**
	baz=35,SNR=40						
COEN	**Coen**	**37.89**	**274**	P	**P**	**18 44 28.5**	**+0.7**
	baz=37,SNR=11					

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.20**	**267**	*e*Pg	Pg	19 09 32.7	+0.2
OKC				*e*SG	Sg	19 09 35.3	+0.1
	comp=Z,7.3nm,0.4s						
OKC	**Ostrava-Krasne**	**0.20**	**267**	Pg	Pg	19 09 32.7	+0.2
OKC				Sg	Sg	19 09 35.3	+0.1
	7.3nm,0.4s						
MORC	**Moravsky Berou**	**0.60**	**263**	*e*Pg	Pg	19 09 40.2	0.0
MORC				*e*Sg	Sg	19 09 47.9	-0.1
VRAC	**Vranov**	**1.33**	**247**	*e*Pg	Pg	19 09 52.8	-1.4
VRAC				*e*Sg	Sg	19 10 11.0	-0.4
DPC	**Dobruska-Polom**	**1.47**	**291**	*e*PG	Pn	19 09 55.2	-1.2
DPC				*e*SG	Sg	19 10 15.6	-0.3
DPC	**Dobruska-Polom**	**1.47**	**291**	Pg	Pn	19 09 55.2	-1.2
DPC				Sg	Sg	19 10 15.6	-0.3
UPC	**Upice**	**1.71**	**294**	*e*PG	Pn	19 09 59.8	+0.2
UPC				*e*SG	Sg	19 10 23.3	-0.2
UPC	**Upice**	**1.71**	**294**	Pg	Pn	19 09 59.8	+0.2
UPC				Sg	Sg	19 10 23.3	-0.2

IDC 25 19:09:31.0±0.9,58.97S×27.29W,h0km,mb4.3/2, mb1 4.2/2,mb1mx3.7/15,mbtmp4.3/2,Error ellipse: s-maj=551.7km s-min=66.6km az=139.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**67.86**	**24**	P	P	19 20 30.9	+0.1
	3.6nm,1.1s,baz=188,slow=7.1,SNR=2.5						
TORD	**Torodi Ar. Bea**	**75.64**	**29**	P	P	19 21 17.7	0.0
	0.9nm,0.4s,baz=198,slow=6.5,SNR=24						
ILAR	**Eielson Array**	**151.94**	**308**	PKPbc	PKPbc	19 29 26.1	-0.2
	0.2nm,0.4s,baz=104,slow=2.4,SNR=4.6						

*CSEM **25** 19:10:26.7±1.4,50.28N×19.11E,h2km, Error ellipse: s-maj=22.7km s-min=17.8km az=82.0*
PRU 25 19:10:28.0,49.89N×19.23E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.49**	**48**	*e*Pg	Pg	19 10 36.7	-0.8
OJC				*e*Sg	Sg	19 10 43.1	-0.8
OKC	**Ostrava-Krasne**	**0.70**	**266**	*e*PG	Pn	19 10 41.1	-0.4
OKC				*e*SG	Sg	19 10 50.2	-0.4
	comp=Z,4.5nm,0.4s						
OKC	**Ostrava-Krasne**	**0.70**	**266**	Pg	Pg	19 10 41.1	-0.4
OKC				Sg	Sg	19 10 50.2	-0.4
	4.5nm,0.4s						
MORC	**Moravsky Berou**	**1.10**	**265**	*e*Pg	Pg	19 10 49.2	0.0
MORC				*e*Sg	Sg	19 11 03.4	-0.1
DPC	**Dobruska-Polom**	**1.93**	**285**	*e*PG	Pn	19 11 00.7	-1.4
DPC				*e*SG	Sn	19 11 24.8	-2.3
DPC	**Dobruska-Polom**	**1.93**	**285**	Pg	Pn	19 11 00.7	-1.4
DPC				Sg	Sn	19 11 24.8	-2.3

MAN 25 19:22:23,17.37N×121.41E,h110km,mb4.4,ML3.3, MS3.1,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.51**	**342**	*e*P	Pn	19 22 42.1	+2.2
CAUP	**Cauayan**	**0.58**	**137**	*e*P	Sn	19 22 59.9	+6.4
ABRA	**Dolores**	**0.72**	**292**	*e*P	Pn	19 22 44.1	+2.6
ABRA				*e*S	Sn	19 22 59.7	+4.2
BALP	**Baler**	**1.63**	**174**	*e*P	Pn	19 22 53.0	+1.6

*ISCJB **25** 19:31:50.8±0.3,6.14S±0.04×130.55E±0.04,h150km, mb3.8/5,Error ellipse: s-maj=6.5km s-min=4.8km az=158.6*
*AUST **25** 19:31:52.8,6.48S×130.54E,h100km*
*DJA **25** 19:31:55.1±0.7,6.5S±6×13.1E±,h155km±8km,M4.4/9, mb4.5/1,mB4.9/1,MLv4.3/9,Mw(mB)4.2/1*
*IDC **25** 19:31:56.4±4.2,6.43S×130.44E,h200km±45km,mb3.6/5, mb1 3.6/9,mb1mx3.5/19,mbtmp3.6/9,MS2.7/1,Ms1 2.7/1, ms1mx2.4/21,Error ellipse: s-maj=40.0km s-min=17.6km az=47.0*
ISC 25 19:31:53.0±0.7,5.95S±0.07×130.62E±0.06,h150km,n41, σ1§23/37,mb3.7/5,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.59**	**333**	P	**Pn**	**19 32 25.3**	**+1.8**
BNDI				S	**Sn**	**19 32 50.2**	**+3.3**
BNDI	**Bandanaira**	**1.59**	**333**	P	**Pn**	**19 32 25.1**	**+1.6**
	baz=2.1,SNR=12						
TLE	**Tual**	**2.13**	**82**	P	**Pn**	**19 32 31.7**	**+2.0**
TLE				S	**Sn**	**19 32 58.0**	**+0.1**
TLE	**Tual**	**2.13**	**82**	P	**Pn**	**19 32 31.4**	**+1.7**
	baz=2.3,SNR=79						
AAI	**Ambon**	**3.30**	**313**	P	**Pn**	**19 32 45.9**	**+1.7**
AAI	**Ambon**	**3.30**	**313**	P	**Pn**	**19 32 45.5**	**+1.3**
	baz=3.6,SNR=6.1						
FAKI	**Fak Fak**	**3.42**	**28**	P	**Pn**	**19 32 45.9**	**0.0**
FAKI				S	**Sn**	**19 33 25.4**	**-1.4**
FAKI	**Fak Fak**	**3.42**	**28**	P	**Pn**	**19 32 45.9**	**0.0**
	baz=3.9,SNR=75						
KMPI	**Kaimana, Papua**	**3.83**	**54**	P	**Pn**	**19 32 51.8**	**+0.8**
NLAI	**Namlea**	**4.42**	**307**	P	**Pn**	**19 33 00.6**	**+1.8**
SWI	**Sorong**	**5.09**	**7**	P	**Pn**	**19 33 06.5**	**-1.2**
SWI	**Sorong**	**5.09**	**7**	P	**Pn**	**19 33 07.9**	**+0.1**
	baz=5.7,SNR=49						
LBMI	**Labuha**	**6.13**	**329**	P	**Pn**	**19 33 22.7**	**+1.2**
MTN	**Manton Dam**	**6.87**	**176**	P	Pn	19 33 29.0	-2.4
	baz=6.4,SNR=25						
KDU	**Kakadu**	**6.94**	**165**	P	Pn	19 33 28.8	-3.5
	baz=6.5,SNR=108						
SOEI	**Soe**	**7.34**	**239**	P	**Pn**	**19 33 36.8**	**-1.0**
	baz=7.0,SNR=18						
BATI	**Baumata**	**8.08**	**238**	P	**Pn**	**19 33 46.1**	**-1.5**
	13nm,0.3s,baz=87,slow=4.4,SNR=33						
BATI				S	Sn	19 35 08.7	-9.0
	10nm,0.3s,baz=36,slow=4.6,SNR=6.5						
BATI				LR	LR	19 36 08.0	
	comp=Z,56nm,19.1s,baz=156,slow=33						
KNRA	**Kununurra**	**9.84**	**191**	P	Pn	19 34 06.7	-4.2
	baz=9.4,SNR=9.0						
FITZ	**Fitzroy Crossi**	**13.02**	**201**	P	Pn	19 34 47.6	-4.9
	baz=13,SNR=13						
FITZ	**Fitzroy Crossi**	**13.02**	**201**	P	Pn	19 34 47.1	-5.4
	0.3nm,0.3s,baz=42,slow=12,SNR=26						
FITZ				S	Sn	19 36 59.1	-18
	0.8nm,0.3s,baz=355,slow=12,SNR=4.9						
WRA	**Warramunga Arr**	**14.37**	**166**	P	Pn	19 35 03.9	-5.8
	0.4nm,0.3s,baz=349,slow=14,SNR=29						
WRA				S	Sn	19 37 35.4	-14
	1.5nm,0.3s,baz=328,slow=24,SNR=9.9						
COEN	**Coen**	**14.70**	**124**	P	**Pn**	**19 35 13.3**	**-0.6**
	baz=14,SNR=34						
PMG	**Port Moresby**	**16.75**	**103**	P	**Pn**	**19 35 40.1**	**+1.1**
	1.2nm,0.3s,baz=227,slow=5.7,SNR=7.8						
ASAR	**Alice Springs**	**17.90**	**170**	P	**P**	**19 35 50.6**	**-0.6**
	0.5nm,0.3s,baz=354,slow=8.1,SNR=26						
ASAR				S	S	19 38 57.8	-11
	0.2nm,0.3s,baz=352,slow=27,SNR=4.5						
MTSU	**Mount Surprise**	**18.04**	**133**	P	**P**	**19 35 53.2**	**+0.4**
	baz=18,SNR=23						
MEEK	**Meekatharra**	**23.54**	**208**	P	**P**	**19 36 48.8**	**-1.1**
	baz=23,SNR=4.9						
STKA	**Stephens Creek**	**27.76**	**160**	P	P	19 37 23.5	-4.3
	1.9nm,0.8s,baz=315,slow=10.0,SNR=2.9						
CMAR	**Chiang Mai Arr**	**39.55**	**308**	P	**P**	**19 39 09.6**	**-0.1**
	0.6nm,0.4s,baz=132,slow=7.3,SNR=4.6						
ODAN	**Odare**	**53.05**	**310**	*e*P	**P**	**19 40 54.5**	**-0.8**
	2.0nm,0.3s						
TAPN	**Taplejung**	**53.06**	**311**	*e*P	**P**	**19 40 54.4**	**-1.0**
	4.5nm,0.4s						
RAMN	**Ramite**	**53.70**	**310**	*e*P	**P**	**19 40 59.7**	**-0.3**
	11nm,0.5s						
JIRN	**Jiri**	**54.37**	**310**	*e*P	**P**	**19 41 04.2**	**-0.9**
	3.1nm,0.3s						
GUN	**Gumba**	**54.74**	**310**	*e*P	**P**	**19 41 06.6**	**-1.1**
	7.7nm,0.4s						
PKIN	**Phulchoki**	**54.94**	**310**	*e*P	**P**	**19 41 07.9**	**-1.1**
	1.3nm,0.2s						
DMN	**Daman**	**55.17**	**310**	*e*P	**P**	**19 41 10.0**	**-0.7**
	2.2nm,0.3s						
GKN	**Gorkha**	**55.73**	**310**	*e*P	**P**	**19 41 13.7**	**-0.9**
	5.5nm,0.3s						
KOLN	**Koldanda**	**56.41**	**309**	*e*P	**P**	**19 41 18.4**	**-1.1**
	4.2nm,0.6s						
DANN	**Dangsing**	**56.57**	**310**	*e*P	**P**	**19 41 19.9**	**-0.8**
	3.8nm,0.6s						
SONM	**Songino Array**	**57.65**	**341**	P	**P**	**19 41 28.5**	**+0.8**
	0.4nm,0.5s,baz=156,slow=4.3,SNR=3.2						
MKAR	**Makanchi Array**	**67.69**	**326**	P	**P**	**19 42 34.4**	**+0.3**
	3.6nm,0.4s,baz=114,slow=8.2,SNR=93						
ZALV	**Zalesovo Beam**	**70.92**	**333**	P	**P**	**19 42 52.9**	**-0.9**
	0.5nm,0.5s,baz=98,slow=5.1,SNR=3.1						

*ISCJB **25** 19:34:47.0±0.6,18.84S±0.07×67.30W±0.07,h220km, mb4.0/10,Error ellipse: s-maj=9.6km s-min=9.2km az=172.6*
*IDC **25** 19:34:48.4±1.1,18.77S×67.31W,h221km±9km,mb3.8/10, mb1 4.0/12,mb1mx3.9/19,mbtmp4.4/12,Error ellipse: s-maj=15.1km s-min=10.9km az=38.0*
ISC 25 19:34:48.0±0.6,18.81S±0.08×67.26W±0.08,h220km,n24, σ0§86/23,mb4.1/10,Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.64**	**342**	P	**Pn**	**19 35 36.5**	**+1.1**
	9.7nm,0.3s,baz=147,slow=6.2,SNR=221						
LPAZ				S	**S**	**19 36 12.2**	**-0.1**
	12nm,0.3s,baz=326,slow=16,SNR=4.9						
SIV	**San Ignacio**	**6.54**	**66**	P	**Pn**	**19 36 23.6**	**+1.0**
	8.3nm,0.3s,baz=273,slow=11,SNR=90						
SIV				S	**S**	**19 37 36.8**	**-1.0**
	baz=246,slow=18,SNR=3.1						
CPUP	**Villa Florida**	**11.84**	**131**	P	**P**	**19 37 34.7**	**+0.1**
	0.4nm,0.3s,baz=294,slow=15,SNR=2.9						
CFAA	**Coronel Fontan**	**12.77**	**184**	P	**Pn**	**19 37 41.3**	**-0.7**
	0.1nm,0.3s,baz=350,slow=13,SNR=6.1						
CFAA				S	S	19 39 53.9	-9.4
	0.1nm,0.3s,baz=224,slow=16,SNR=4.7						
H03N1	**Juan Fernandez**	**17.91**	**213**	T	T	19 57 38.7	
	baz=26,slow=0.7,SNR=2.9						
H03N2	**Juan Fernandez**	**17.92**	**213**	T	T	19 57 30.1	
	baz=26,slow=0.7,SNR=3.6						
H03N3	**Juan Fernandez**	**17.93**	**213**	T	T	19 57 34.4	
	baz=26,slow=0.7,SNR=3.2						
BDFB	**Brasilia**	**18.66**	**83**	P	**Pn**	**19 38 52.3**	**-0.7**
	1.5nm,0.3s,baz=258,slow=11,SNR=8.7						
PLCA	**Paso Flores**	**22.03**	**187**	P	**P**	**19 39 24.9**	**0.0**
	2.4nm,0.8s,baz=193,slow=9.7,SNR=7.4						
APG	**El Apazote**	**40.63**	**324**	P	**P**	**19 42 07.1**	**-0.1**
	8.1nm,0.5s,baz=140,slow=5.0,SNR=17						
TXAR	**Lajitas Array**	**59.37**	**323**	P	**P**	**19 44 27.0**	**-0.5**
	0.9nm,0.5s,baz=151,slow=9.3,SNR=13						
SNAA	**Sanae**	**64.32**	**162**	P	**P**	**19 45 01.1**	**+1.3**
	0.7nm,0.8s,baz=270,slow=10,SNR=4.8						
DBIC	**Dimbokro**	**66.50**	**74**	P	**P**	**19 45 15.8**	**+1.2**
	4.5nm,0.6s,baz=235,slow=8.0,SNR=11						
PDAR	**Pinedale Array**	**72.59**	**329**	P	**P**	**19 45 51.3**	**-0.2**
	0.9nm,0.5s,baz=125,slow=8.6,SNR=11						
ULM	**Lac du Bonnet**	**73.25**	**341**	P	**P**	**19 45 54.1**	**-0.8**
	6.9nm,0.4s,baz=149,slow=6.5,SNR=24						
TORD	**Torodi Ar. Bea**	**75.00**	**70**	P	**P**	**19 46 05.2**	**-0.6**
	5.7nm,0.5s,baz=255,slow=5.0,SNR=88						
ESDC	**Sonseca Array**	**82.84**	**44**	P	**P**	**19 46 48.4**	**+0.5**
	1.9nm,0.8s,baz=247,slow=5.2,SNR=16						
YKA	**Yellowknife Ar**	**89.19**	**340**	P	**P**	**19 47 18.3**	**0.0**
	3.8nm,0.6s,baz=129,slow=4.8,SNR=25						
ASAR	**Alice Springs**	**133.00**	**207**	PKP	**PKPdf**	**19 53 38.0**	**+0.1**
	0.6nm,0.5s,baz=140,slow=2.1,SNR=15						
WRA	**Warramunga Arr**	**136.04**	**210**	PKP	**PKPdf**	**19 53 43.7**	**-0.1**
	1.1nm,0.6s,baz=151,slow=1.8,SNR=15						
ZALV	**Zalesovo Beam**	**138.88**	**25**	PKP	**PKPdf**	**19 53 46.9**	**-0.9**
	0.8nm,0.4s,baz=292,slow=3.0,SNR=6.7						
MKAR	**Makanchi Array**	**142.56**	**35**	PKP	**PKPdf**	**19 53 52.6**	**-2.1**
	0.5nm,0.7s,baz=357,slow=1.6,SNR=16						
USRK	**Ussuriysk Arra**	**149.98**	**332**	PKPbc	**PKPbc**	**19 54 12.9**	**+0.5**
	5.3nm,0.7s,baz=357,slow=1.6,SNR=16						
SONM	**Songino Array**	**150.59**	**9**	PKPbc	**PKPbc**	**19 54 14.6**	**+0.6**
	3.5nm,0.6s,baz=330,slow=2.0,SNR=22						

*IDC **25** 19:58:19.1±0.8,33.52S×178.50W,h0km,mb4.3/6, mb1 4.5/8,mb1mx4.2/19,mbtmp4.4/8,ML3.9/2,MS3.9/6, Ms1 4.0/6,ms1mx3.5/33,Error ellipse: s-maj=24.7km s-min=23.0km az=158.0*
*NEIC **25** 19:58:21.7±8.4,33.39S×178.53W,h17km±49km,mb4.6/3, Error ellipse: s-maj=23.5km s-min=10.4km az=81.0*
*ISCJB **25** 19:58:24.6±0.8,33.56S±0.07×178.77W±0.1,h41km, mb4.2/9,MS4.0/5,Error ellipse: s-maj=14.5km s-min=10.1km az=8.2*
*AUST **25** 19:58:38.2,34.13S×179.74W,h60km*
ISC 25 19:58:25.1±0.6,33.37S±0.07×178.64W±0.10,h41km,n70, σ1§14/62,mb4.4/9,MS4.0/5,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.15**	**9**	Sn	**Sn**	**20 00 10.7**	**-2.7**
RAO	**Raoul Island**	**4.15**	**9**	Sn	**Sn**	**20 00 10.6**	**-2.7**
	54nm,0.3s,baz=120,slow=20,SNR=3.2						
URZ	**Urewera**	**5.98**	**214**	*e*Pn	Pn	19 59 47.1	-3.9
	69nm,0.7s						
URZ				*e*Sn	**Sn**	**20 00 56.5**	**-1.7**
URZ	**Urewera**	**5.98**	**214**	Pn	**Pn**	**19 59 48.9**	**-2.1**
	13nm,0.3s,baz=6.1,slow=3.9,SNR=52						
URZ				Sn	**Sn**	**20 00 57.0**	**-1.2**
	11nm,0.3s,baz=154,slow=22,SNR=10						
OUZ	**Omahuta**	**6.69**	**252**	*e*Pn	**Pn**	**19 59 59.8**	**-1.0**
	31nm,0.8s						
RPZ	**Rata Peaks**	**13.09**	**215**	Pn	Pn	20 01 22.7	-5.8
RPZ				Sn	Sn	20 03 39.5	-13
RPZ	**Rata Peaks**	**13.09**	**215**	Pn	Pn	20 01 22.7	-5.8
	1.1nm,0.3s,baz=84,slow=2.9,SNR=6.1						
RPZ				Sn	Sn	20 03 39.5	-13
	1.3nm,0.3s,baz=238,slow=20,SNR=5.5						
DZM	**Mont Dzumac**	**17.33**	**307**	*e*P	**P**	**20 02 25.6**	**+0.5**
	40nm,1.2s						
DZM				*e*LR	LR	20 06 30.8	
	399nm,22.5s						
DZM	**Mont Dzumac**	**17.33**	**307**	P	**P**	**20 02 26.6**	**+1.4**
DZM	**Mont Dzumac**	**17.33**	**307**	P	**P**	**20 02 26.6**	**+1.4**
	0.1nm,0.3s,baz=106,slow=19,SNR=3.6						
DZM				LR	LR	20 08 02.4	
	comp=Z,510nm,18.1s,baz=177,slow=33						
TBI	**Tubuai**	**27.47**	**76**	*e*LR	LR	20 10 53.9	
	114nm,30.8s						
RMQ	**Roma**	**29.00**	**275**	P	P	20 04 25.1	+4.0
	baz=28,SNR=5.9						
PPT2	**Papeete2**	**30.44**	**66**	*e*LR	LR	20 12 32.0	
	114nm,23.0s						
STKA	**Stephens Creek**	**33.39**	**261**	LR	LR	20 18 25.1	
	comp=Z,300nm,18.6s,baz=26,slow=36						
CTA	**Charters Tower**	**33.86**	**284**	P	**P**	**20 05 05.9**	**+1.9**
CTA	**Charters Tower**	**33.86**	**284**	P	**P**	**20 05 05.9**	**+1.9**
	4.4nm,0.5s,baz=123,slow=11,SNR=7.3						
CTAO	**Charters Tower**	**33.86**	**284**	*e*P	**P**	**20 05 04.8**	**+0.9**
	4.7nm,0.6s						
MTSU	**Mount Surprise**	**36.44**	**285**	P	**P**	**20 05 28.4**	**+2.2**
	baz=36,SNR=4.4						
PMG	**Port Moresby**	**39.48**	**299**	LR	LR	20 19 33.0	
	comp=Z,107nm,19.9s,baz=135,slow=32						
RKT	**Rikitea**	**39.55**	**87**	*e*LR	LR	20 16 30.6	
	180nm,29.8s						
COEN	**Coen**	**39.67**	**290**	P	P	20 05 56.6	+3.2
	baz=39,SNR=5.9						
AS31	**Alice Springs**	**42.50**	**270**	*e*P	**P**	**20 06 15.3**	**-1.4**
ASAR	**Alice Springs**	**42.50**	**270**	P	**P**	**20 06 16.8**	**+0.2**
ASAR				PcP	**PcP**	**20 08 08.9**	**+0.1**
ASAR				S	**S**	**20 12 35.5**	**-0.7**
ASAR	**Alice Springs**	**42.50**	**270**	P	**P**	**20 06 16.8**	**+0.2**
	4.8nm,0.6s,baz=106,slow=6.8,SNR=60						
ASAR				PcP	**PcP**	**20 08 08.9**	**+0.1**
	1.3nm,0.8s,baz=118,slow=4.8,SNR=4.5						
ASAR				S	**S**	**20 12 35.5**	**-0.7**
	0.5nm,0.8s,baz=118,slow=16,SNR=4.4						
WRAB	**Tennant Creek**	**43.75**	**276**	*e*P	**P**	**20 06 26.6**	**-0.2**
	5.1nm,0.6s						
WRA	**Warramunga Arr**	**43.76**	**276**	P	**P**	**20 06 26.9**	**+0.1**
WRA	**Warramunga Arr**	**43.76**	**276**	P	**P**	**20 06 26.9**	**+0.1**
	7.8nm,0.8s,baz=118,slow=7.4,SNR=55						
VNDA	**Vanda**	**45.09**	**186**	P	**P**	**20 06 37.6**	**+0.9**
VNDA	**Vanda**	**45.09**	**186**	P	**P**	**20 06 37.6**	**+0.9**
	0.3nm,0.7s,baz=4.9,slow=7.1,SNR=3.1						
KNRA	**Kununurra**	**50.46**	**277**	P	**P**	**20 07 19.7**	**+0.6**
	baz=50,SNR=7.2						
FITZ	**Fitzroy Crossi**	**51.88**	**273**	P	**P**	**20 07 30.3**	**+0.6**
FITZ	**Fitzroy Crossi**	**51.88**	**273**	P	**P**	**20 07 30.3**	**+0.6**
	baz=51,SNR=7.4						
FITZ	**Fitzroy Crossi**	**51.88**	**273**	P	**P**	**20 07 30.3**	**+0.6**
	3.0nm,0.8s,baz=144,slow=6.4,SNR=11						
QSPA	**South Pole Qui**	**56.75**	**180**	*e*P	**P**	**20 08 05.4**	**+0.8**
	6.8nm,1.0s						
BATI	**Baumata**	**57.55**	**280**	LR	LR	20 31 07.9	
	comp=Z,106nm,19.2s,baz=222,slow=34						
MAW	**Mawson**	**69.34**	**201**	P	**P**	**20 09 27.4**	**-0.5**
MAW	**Mawson**	**69.34**	**201**	P	**P**	**20 09 27.4**	**-0.5**
	0.6nm,0.3s,baz=90,slow=13,SNR=3.5						
NVAR	**Mina Array Bea**	**90.78**	**43**	P	**P**	**20 11 25.0**	**+0.9**
NVAR	**Mina Array Bea**	**90.78**	**43**	P	**P**	**20 11 25.0**	**+0.9**
	0.4nm,0.7s,baz=215,slow=6.2,SNR=4.0						
LPAZ	**La Paz**	**97.41**	**115**	LR	LR	20 50 13.5	
	comp=Z,46nm,18.1s,baz=298,slow=32						
CPUP	**Villa Florida**	**98.55**	**129**	LR	LR	20 52 08.1	
	comp=Z,53nm,18.8s,baz=357,slow=33						
MKAR	**Makanchi Array**	**119.24**	**309**	PKP	**PKPdf**	**20 17 09.1**	**-0.4**
MKAR	**Makanchi Array**	**119.24**	**309**	PKP	**PKPdf**	**20 17 09.0**	**-0.4**
	2.2nm,1.1s,baz=155,slow=2.9,SNR=5.2						
ARCES	**ARCESS Array B**	**141.36**	**347**	PKhKP	PKPpre	20 17 45.2	
	1.9nm,0.9s,baz=79,slow=1.9,SNR=2.7						
JOF	**Joensuu**	**144.95**	**337**	*e*p	**PKPab**	**20 17 52.7**	**-3.6**
	0.6nm,0.3s						
KBZ	**Khabaz**	**146.22**	**300**	PKPbc	**PKPab**	**20 18 01.7**	**0.0**
KBZ	**Khabaz**	**146.22**	**300**	PKPbc	**PKPab**	**20 18 01.7**	**0.0**
	4.7nm,1.0s,baz=138,slow=4.1,SNR=5.7						
KAF	**Kangasniemi**	**147.14**	**339**	*e*p	**PKPbc**	**20 18 02.3**	**-0.6**
	1.2nm,0.4s						
MZRK	**Al-Mazaregh**	**147.71**	**286**	*e*P	**PKPbc**	**20 18 05.8**	**+0.5**
FINES	**FINESS Array B**	**147.72**	**338**	PKPbc	**PKPbc**	**20 18 04.9**	**+0.4**
FINES	**FINESS Array B**	**147.72**	**338**	PKPbc	**PKPbc**	**20 18 04.9**	**+0.4**
	2.9nm,0.5s,baz=43,slow=4.4,SNR=29						
KBSD	**Kabsdagh**	**147.93**	**288**	*e*P	**PKPbc**	**20 18 06.3**	**+0.3**
SFNV	**Sufian**	**148.21**	**287**	*e*P	**PKPbc**	**20 18 07.2**	**+0.4**
SALA	**Sala**	**150.43**	**279**	*e*P	**PKPbc**	**20 18 13.4**	**+0.9**
TOTH	**TOTAH**	**150.79**	**280**	*e*P	**PKPbc**	**20 18 13.9**	**+0.7**
HAWK	**Haweek**	**150.99**	**282**	*e*P	**PKPbc**	**20 18 14.8**	**+1.1**
BTCH	**Batrach**	**151.12**	**285**	*e*P	**PKPdf**	**20 18 09.5**	**+1.4**
BRBR	**Barbar**	**151.20**	**280**	*e*P	**PKPbc**	**20 18 15.2**	**+0.8**
ARNB	**Al Arnab**	**151.50**	**285**	*e*P	**PKPdf**	**20 18 09.0**	**+0.3**
NB2	**NORSAR Subarra**	**151.59**	**350**	PKP	**PKPbc**	**20 18 15.7**	**+1.5**
	comp=Z,2.6nm,1.0s,baz=18,slow=4.1						
NOA	**NORSAR Array B**	**151.59**	**350**	PKPbc	**PKPbc**	**20 18 14.7**	**+0.5**
NOA	**NORSAR Array B**	**151.59**	**350**	PKPbc	**PKPbc**	**20 18 14.7**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=25,slow=3.7,SNR=3.4						
DBIC	**Dimbokro**	**152.81**	**166**	PKPab	**PKPab**	**20 18 28.0**	**-1.1**
DBIC	**Dimbokro**	**152.81**	**166**	PKPab	**PKPab**	**20 18 28.0**	**-1.1**
	comp=Z,1.2nm,0.5s,baz=106,slow=4.1,SNR=6.7						
AKASG	**Malin Array Be**	**153.25**	**319**	PKPbc	**PKPbc**	**20 18 18.6**	**+0.4**
AKASG	**Malin Array Be**	**153.25**	**319**	PKPbc	**PKPbc**	**20 18 18.6**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=48,slow=3.3,SNR=7.0						
BRTR	**Keskin Array B**	**153.40**	**293**	PKPbc	**PKPbc**	**20 18 18.9**	**-0.2**
BRTR	**Keskin Array B**	**153.40**	**293**	PKPbc	**PKPbc**	**20 18 18.9**	**-0.2**
	comp=Z,3.9nm,1.1s,baz=126,slow=1.7,SNR=7.4						
TORD	**Torodi Ar. Bea**	**159.87**	**181**	PKPab	**PKPab**	**20 18 59.7**	**+0.4**
TORD	**Torodi Ar. Bea**	**159.87**	**181**	PKPab	**PKPab**	**20 18 59.7**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=191,slow=3.0,SNR=9.0						

*NEIC **25** 20:03:43.1±0.5,1.84N×127.08E,h35km,mb4.7/2,Error ellipse: s-maj=25.7km s-min=8.4km az=73.0*
*ISCJB **25** 20:03:48.6±0.3,1.92N±0.03×127.14E±0.05,h100km, mb4.3/14,Error ellipse: s-maj=7.9km s-min=3.9km az=156.4*
*AUST **25** 20:03:50.8±2.1,1.99N×127.11E,h133km,Error ellipse: s-maj=3.2km s-min=1.1km az=359.0*
*IDC **25** 20:03:50.8±2.3,1.77N×127.11E,h108km±21km,mb3.9/12, mb1 4.0/13,mb1mx3.9/22,mbtmp3.9/13,Error ellipse: s-maj=29.9km s-min=10.4km az=79.0*
*BJI **25** 20:03:50.1,1.80N×127.10E,h111km,mB5.2/3,mb4.5/4*
*DJA **25** 20:03:52.6±1.7,2.7N±11°×12.7E±1.1,h108km±10km, M4.7/5,mb4.8/5,mB5.2/3,MLv4.6/5,Mw(mB)4.6/3*
ISC 25 20:03:50.1±0.5,1.86N±0.05×127.01E±0.07,h100km,n76, σ1§34/76,mb4.3/14,1D,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.14**	**162**	P	Pn	20 04 14.3	+2.2
TNTI				S	**Sn**	**20 04 30.9**	**+2.3**
SGSI	**Sangihe**	**2.34**	**321**	P	**Pn**	**20 04 28.1**	**+0.9**
LBMI	**Labuha**	**2.53**	**169**

baz=36,SNR=10.0
STKA Stephens Creek 36.29 159 P **P** **20 10 43.4 -0.8**
3.4nm,0.3s,baz=331,slow=9.3,SNR=17
RKGY Rocky Gully 37.48 194 P **P** **20 10 55.0 +0.9**
baz=38,SNR=16
CMSA Cobar Meteorol 37.66 153 P **P** **20 10 54.8 -0.9**
baz=38,SNR=5.9
ARMA Armidale 39.77 146 P **P** **20 11 13.5 0.0**
baz=40,SNR=16
USRK Ussuriysk Arra 42.39 5 P **P** **20 11 34.5 -0.1**
1.5nm,0.6s,baz=174,slow=7.5,SNR=4.4
LSA Lhasa 43.89 313 *eP* **P** **20 11 47.4 -0.2**
3.2nm,0.6s
TAPN Taplejung 45.36 308 *eP* **P** **20 11 59.2 +0.2**
6.8nm,0.8s
ODAN Odare 45.39 307 *eP* **P** **20 12 00.3 +1.0**
RAMN Ramite 46.07 307 *eP* **P** **20 12 05.1 +0.5**
8.7nm,0.7s
JIRN Jiri 46.70 307 *eP* **P** **20 12 10.1 +0.4**
7.0nm,0.5s
GUN Gumba 47.06 307 *eP* **P** **20 12 13.1 +0.7**
18nm,0.7s
PKIN Phulchoki 47.30 307 *eP* **P** **20 12 14.2 0.0**
2.4nm,0.5s
KKN Kakani 47.49 307 *eP* **P** **20 12 15.5 -0.1**
2.9nm,0.5s
DMN Daman 47.55 307 *eP* **P** **20 12 16.7 +0.6**
GKN Gorkha 48.09 307 *eP* **P** **20 12 20.3 +0.1**
6.2nm,0.7s
KOLN Koldanda 48.83 306 *eP* **P** **20 12 25.8 -0.1**
10.0nm,0.4s
DANN Dangsing 48.94 307 *eP* **P** **20 12 26.9 0.0**
9.8nm,0.5s
SONM Songino Array 49.15 342 P **P** **20 12 28.6 +0.7**
SONM Songino Array 49.15 342 P **P** **20 12 28.6 +0.7**
1.3nm,0.6s,baz=158,slow=8.8,SNR=10
PETK Petropavlovsk- 57.05 22 P **P** **20 13 26.0 +0.3**
PETK Petropavlovsk- 57.05 22 P **P** **20 13 26.0 +0.3**
3.5nm,0.8s,baz=182,slow=7.2,SNR=2.8
MKAR Makanchi Array 59.25 326 P **P** **20 13 41.9 +0.8**
MKAR Makanchi Array 59.25 326 P **P** **20 13 41.9 +0.8**
4.8nm,0.6s,baz=117,slow=8.1,SNR=47
ZALV Zalesovo Beam 62.37 333 P **P** **20 14 02.8 +0.6**
ZALV Zalesovo Beam 62.37 333 P **P** **20 14 02.8 +0.6**
1.0nm,0.5s,baz=104,slow=6.3,SNR=5.5
KKAR Karatay Array 64.79 318 *eP* **P** **20 14 16.1 -2.2**
VNDA Vanda 81.55 173 P **P** **20 15 55.4 -0.8**
VNDA Vanda 81.55 173 P **P** **20 15 55.4 -0.8**
2.9nm,0.7s,baz=316,slow=6.2,SNR=28

MEX 25 20:11:42.2±1.1, 17°15.N×94°90.W, h145km±18km, MD3.7, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TGIG		**1.74**	**102**	*i* P		Pn	20 12 12.7	-1.4
TGIG				*i* S		Sn	20 12 35.8	-2.8
VHO	**Vista Hermosa**	**1.75**	**268**	*e*P		Pn	20 12 13.5	-0.9
VHO				*e*S		Sn	20 12 37.4	-1.6
HUIG	**Huatulco**	**1.79**	**220**	*i* P		Pn	20 12 12.3	-2.4
HUIG				*i* S		Sn	20 12 37.9	-1.6
PCIG		**2.16**	**131**	*e*P		Pn	20 12 18.4	-0.5
PCIG				*i* S		Sn	20 12 45.6	-1.5
TPIG	**Tehuac#an**	**2.66**	**299**	*e*P		Pn	20 12 24.0	-1.4
TPIG				*i* S		Sn	20 12 55.8	-2.8
CCIG	**Comitan**	**2.79**	**108**	*i* P		Pn	20 12 26.2	-0.7
CCIG				*i* S		Sn	20 12 59.3	-2.0
PNIG	**Pinotepa**	**3.18**	**257**	*i* P		Pn	20 12 29.1	-2.6
PNIG				*i* S		Sn	20 13 06.9	-3.0

IDC 25 20:27:26.5±11.0, 15°64.S×173°44.W, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.7/18, mbtmp3.7/3, Error ellipse: s-maj=502.0km s-min=34.8km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**2.36**	**43**	Pn		Pn	20 27 58.8	-7.8
	61nm,0.3s,baz=196,slow=3.6,SNR=48							
AFI				Sn		Sn	20 28 19.1	-17
	232nm,0.3s,baz=186,slow=21,SNR=29							
PPT2	**Papeete2**	**22.95**	**98**	*e*LR		LR	20 38 22.9	
	95nm,25.5s							
TBI	**Tubuai**	**23.85**	**112**	*e*LR		LR	20 38 28.9	
	55nm,28.5s							
H11S2	**WAKE ISLAND Hy**	**39.15**	**329**	T		T	21 15 37.9	
	baz=152,slow=0.7,SNR=14							
H11S3	**WAKE ISLAND Hy**	**39.16**	**329**	T		T	21 15 46.7	
	baz=152,slow=0.7,SNR=12							
H11S1	**WAKE ISLAND Hy**	**39.17**	**329**	T		T	21 15 39.8	
	baz=152,slow=0.7,SNR=12							
H11N3	**WAKE ISLAND Hy**	**40.10**	**331**	T		T	21 16 58.6	
	baz=152,slow=0.7,SNR=9.6							
H11N1	**WAKE ISLAND Hy**	**40.10**	**331**	T		T	21 16 57.4	
	baz=152,slow=0.7,SNR=15							
H11N2	**WAKE ISLAND Hy**	**40.12**	**331**	T		T	21 17 03.1	
	baz=152,slow=0.7,SNR=11							
WRA	**Warramunga Arr**	**49.75**	**257**	P		P	20 36 21.2	+0.1
	0.4nm,0.5s,baz=90,slow=7.2,SNR=9.7							
ASAR	**Alice Springs**	**50.00**	**252**	P		P	20 36 22.6	-0.4
	2.7nm,0.5s,baz=87,slow=8.1,SNR=51							
ILAR	**Eielson Array**	**82.69**	**11**	P		P	20 39 51.4	-0.2
	0.2nm,0.5s,baz=220,slow=6.5,SNR=6.0							
BRTR	**Keskin Array B**	**146.32**	**321**	PKPbc		PKPbc	20 47 09.4	-0.3
	0.9nm,0.9s,baz=142,slow=4.4,SNR=4.1							

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*IDC **25** 20:29:21.8±2.3, 6°00.N×127°05.E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/23, mbtmp3.4/4, MS2.9/1, Ms1 2.9/1, ms1mx2.6/23, Error ellipse: s-maj=140.2km s-min=24.8km az=69.0*

*ISCJB **25** 20:29:33.3±0.8, 5°31.N±0.0°7.×126°3.E±0.°1, h66km, mb3.1/4, Error ellipse: s-maj=15.2km s-min=8.3km az=158.3*

*MAN **25** 20:29:34, 5°53.N×126°41.E, h100km, mb4.6, ML3.4, MS3.4*

ISC 25 20:29:34.5±1.2, 5°33.N±0.0°9×126°3.E±0.°1, h66km, n9, σ0°81/9, mb3.2/4, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GSPH	**General Santos**	**1.53**	**299**	‖ *i* P		**Pn**	**20 29 59.5**	**-0.5**
GSPH				*i* S		**Sn**	**20 30 18.5**	**-0.6**
MATI	**Mati**	**1.61**	**359**	*e*P		**Pn**	**20 30 00.9**	**+0.1**
MATI				*e*S		**Sn**	**20 30 19.9**	**-0.8**
BUKP	**Musuan**	**2.81**	**334**	*e*P		**Pn**	**20 30 18.0**	**+0.8**
PAGZ	**Pagadian**	**3.82**	**311**	*e*P		**Pn**	**20 30 32.1**	**+1.1**
TGY	**Tagaytay City**	**10.19**	**329**	LR		LR	20 36 45.3	
	comp=Z,82nm,21.6s,baz=181,slow=44							
FITZ	**Fitzroy Crossi**	**23.29**	**182**	P		**P**	**20 34 37.5**	**+0.7**
	0.9nm,0.7s,baz=29,slow=13,SNR=2.8							
WRA	**Warramunga Arr**	**26.33**	**163**	P		**P**	**20 35 04.2**	**-0.3**
	0.3nm,0.8s,baz=349,slow=9.5,SNR=5.3							
ASAR	**Alice Springs**	**29.76**	**166**	P		**P**	**20 35 34.6**	**-0.5**
	0.3nm,0.6s,baz=345,slow=7.2,SNR=6.7							
MKAR	**Makanchi Array**	**56.00**	**325**	P		P	20 39 01.4	-5.0
	0.2nm,0.5s,baz=108,slow=7.5,SNR=6.8							

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*IDC **25** 20:40:10.1±1.0, 15°54.S×173°15.W, h0km, mb3.9/7, mb1 4.2/8, mb1mx4.0/20, mbtmp4.0/8, ML4.5/1, MS3.6/5, Ms1 3.6/5, ms1mx3.2/39, Error ellipse: s-maj=53.3km s-min=19.7km az=152.0*

*ISCJB **25** 20:40:12.3±0.7, 15°.6S±0.°2×173°.1W±0.°1, h29km, mb3.8/7, MS3.5/3, Error ellipse: s-maj=24.9km s-min=14.8km az=169.6*

ISC 25 20:40:14.2±0.8, 15°.6S±0.°2×173°.1W±0.°1, h29km, n23, σ0°60/10, mb3.8/7, MS3.4/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**2.12**	**38**	Pn		Pn	20 40 40.6	-7.2
	52nm,0.3s,baz=58,slow=2.7,SNR=35							
AFI				Sn		Sn	20 40 59.2	-14
	1µm,0.3s,baz=216,slow=19,SNR=39							
AFI				LR		LR	20 41 14.4	
	comp=Z,632nm,18.5s,baz=150,slow=31							
RAR	**Rarotonga**	**13.84**	**116**	Pn		**Pn**	**20 43 28.3**	**-0.2**
	2.2nm,0.3s,baz=42,slow=0.1,SNR=4.1							
RAR				LR		LR	20 47 31.3	
	comp=Z,300nm,19.6s,baz=135,slow=32							
DZM	**Mont Dzumac**	**20.38**	**248**	*e*LR		LR	20 49 58.1	
	252nm,25.7s							
DZM	**Mont Dzumac**	**20.38**	**248**	LR		LR	20 51 11.5	
	comp=Z,135nm,21.0s,baz=31,slow=32							
PPT	**Papeete**	**22.65**	**98**	LR		LR	20 51 32.8	
	comp=Z,148nm,20.3s,baz=350,slow=30							
PPT2	**Papeete2**	**22.65**	**98**	*e*LR		LR	20 50 43.0	
	204nm,25.0s							
TBI	**Tubuai**	**23.58**	**113**	*e*LR		LR	20 51 02.4	
	217nm,27.0s							
RKT	**Rikitea**	**36.68**	**108**	*e*LR		LR	20 57 15.4	
	154nm,28.5s							
H11S2	**WAKE ISLAND Hy**	**39.27**	**329**	T		T	21 28 58.2	
	baz=152,slow=0.7,SNR=10							
H11S3	**WAKE ISLAND Hy**	**39.28**	**329**	T		T	21 29 06.4	
	baz=152,slow=0.7,SNR=8.4							
H11S1	**WAKE ISLAND Hy**	**39.29**	**329**	T		T	21 29 04.1	
	baz=152,slow=0.7,SNR=9.0							
H11N3	**WAKE ISLAND Hy**	**40.22**	**330**	T		T	21 30 10.0	
	baz=152,slow=0.7,SNR=9.5							
H11N1	**WAKE ISLAND Hy**	**40.22**	**330**	T		T	21 30 12.5	
	baz=152,slow=0.7,SNR=8.3							
H11N2	**WAKE ISLAND Hy**	**40.23**	**330**	T		T	21 30 13.1	
	baz=152,slow=0.7,SNR=7.8							
STKA	**Stephens Creek**	**44.17**	**240**	P		**P**	**20 48 21.2**	**+0.5**
	2.1nm,0.8s,baz=63,slow=11,SNR=3.3							
WRA	**Warramunga Arr**	**50.06**	**257**	P		**P**	**20 49 06.4**	**-0.4**
	0.6nm,0.4s,baz=91,slow=6.8,SNR=15							
WRA				LR		LR	21 08 27.2	
	comp=Z,84nm,20.7s,baz=170,slow=34							
ASAR	**Alice Springs**	**50.31**	**252**	P		**P**	**20 49 08.2**	**-0.5**
	2.4nm,0.4s,baz=87,slow=8.0,SNR=27							
NVAR	**Mina Array Bea**	**74.29**	**42**	P		**P**	**20 51 49.0**	**-0.2**
	0.4nm,0.7s,baz=218,slow=5.5,SNR=2.2							
TXAR	**Lajitas Array**	**80.50**	**56**	P		**P**	**20 52 24.8**	**+0.7**
	0.7nm,0.9s,baz=214,slow=5.9,SNR=4.9							
PDAR	**Pinedale Array**	**82.23**	**42**	P		**P**	**20 52 33.2**	**+0.1**
	0.9nm,1.0s,baz=222,slow=2.0,SNR=4.3							
ILAR	**Eielson Array**	**82.58**	**11**	P		**P**	**20 52 33.3**	**-0.8**
	0.6nm,0.9s,baz=232,slow=5.5,SNR=6.4							
GERES	**GERESS Array B**	**146.37**	**352**	PKPbc		**PKPab**	**20 59 53.6**	**+0.3**
	0.5nm,0.7s,baz=38,slow=5.0,SNR=5.2							
BRTR	**Keskin Array B**	**146.48**	**321**	PKPbc		**PKPab**	**20 59 54.7**	**+0.6**
	1.6nm,0.8s,baz=55,slow=1.5,SNR=7.5							

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*ISCJB **25** 21:00:25.6±0.8, 12°.28S±0.°07×166°.8E±0.°1, h10km, mb3.9/11, MS3.9/2, Error ellipse: s-maj=17.1km s-min=9.8km az=172.7*

*IDC **25** 21:00:25.2±1.5, 12°.27S×166°.95E, h0km, mb4.0/7, mb1 4.2/8, mb1mx4.0/19, mbtmp4.1/8, ML4.8/1, MS3.7/3, Ms1 3.7/3, ms1mx3.0/31, Error ellipse: s-maj=48.8km s-min=24.4km az=134.0*

*NEIC **25** 21:00:30.6±0.5, 12°.32S×166°.84E, h35km, mb4.0/5, Error ellipse: s-maj=13.7km s-min=11.5km az=142.0*

ISC 25 21:00:26.9±0.8, 12°.20S±0.°08×166°.9E±0.°1, h10km, n31, σ1°02/28, mb4.0/11, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**7.38**	**291**	Pn		**Pn**	**21 02 15.5**	**+0.7**
HNR	**Honiara**	**7.38**	**291**	Pn		**Pn**	**21 02 15.5**	**+0.7**
	15nm,0.3s,baz=149,slow=7.0,SNR=4.5							
DZM	**Mont Dzumac**	**9.83**	**183**	Pn		Pn	21 02 54.8	+6.4
DZM				Sn		**Sn**	**21 04 40.1**	**+1.2**
DZM	**Mont Dzumac**	**9.83**	**183**	Pn		Pn	21 02 54.8	+6.4
	0.3nm,0.3s,baz=317,slow=19,SNR=5.0							
DZM				Sn		**Sn**	**21 04 40.1**	**+1.2**
	0.1nm,0.3s,baz=188,slow=19,SNR=2.1							
PMG	**Port Moresby**	**19.61**	**276**	LR		LR	21 11 47.0	
	comp=Z,58nm,19.1s,baz=309,slow=35							
STKA	**Stephens Creek**	**30.43**	**226**	*e*P		**P**	**21 06 39.6**	**-0.1**
	0.6nm,0.6s							
STKA	**Stephens Creek**	**30.43**	**226**	P		**P**	**21 06 41.1**	**+1.4**
	3.8nm,0.7s,baz=30,slow=8.3,SNR=7.3							
RPZ	**Rata Peaks**	**31.60**	**174**	LR		LR	21 17 15.9	
	comp=Z,553nm,18.4s,baz=353,slow=32							
WRAB	**Tennant Creek**	**32.19**	**252**	*e*P		**P**	**21 06 54.1**	**-1.2**
	1.4nm,0.7s							
WRA	**Warramunga Arr**	**32.20**	**252**	P		**P**	**21 06 54.2**	**-1.2**
WRA	**Warramunga Arr**	**32.20**	**252**	P		**P**	**21 06 54.2**	**-1.2**
	1.2nm,0.8s,baz=83,slow=8.8,SNR=6.9							
ASAR	**Alice Springs**	**33.33**	**245**	P		**P**	**21 07 04.3**	**-1.1**
ASAR	**Alice Springs**	**33.33**	**245**	P		**P**	**21 07 04.3**	**-1.1**
	1.5nm,0.7s,baz=69,slow=9.7,SNR=21							
FITZ	**Fitzroy Crossi**	**40.21**	**256**	*e*P		**P**	**21 08 02.9**	**-1.1**
	2.0nm,0.6s							
MBWA	**Marble Bar**	**45.93**	**252**	*e*P		**P**	**21 08 49.5**	**-0.8**
	1.8nm,0.4s							
KAPI	**Kappang**	**47.13**	**274**	LR		LR	21 25 39.4	
	comp=Z,66nm,20.8s,baz=206,slow=32							
VNDA	**Vanda**	**65.37**	**181**	*e*P		**P**	**21 11 08.2**	**-0.9**
	1.8nm,1.3s							
CMAR	**Chiang Mai Arr**	**73.63**	**293**	P		**P**	**21 12 01.1**	**0.0**
CMAR	**Chiang Mai Arr**	**73.63**	**293**	P		**P**	**21 12 01.1**	**0.0**
	1.4nm,0.8s,baz=126,slow=5.0							
QSPA	**South Pole Qui**	**77.81**	**180**	*e*P		**P**	**21 12 23.9**	**-0.4**
SONM	**Songino Array**	**80.28**	**323**	P		**P**	**21 12 40.2**	**+2.0**
SONM	**Songino Array**	**80.28**	**323**	P		**P**	**21 12 40.2**	**+2.0**
	0.4nm,0.6s,baz=104,slow=6.1,SNR=3.3							
ILAR	**Eielson Array**	**84.24**	**18**	P		**P**	**21 12 58.6**	**+0.3**
ILAR	**Eielson Array**	**84.24**	**18**	P		**P**	**21 12 58.6**	**+0.3**
	0.4nm,0.7s,baz=239,slow=4.4,SNR=8.0							
DAWY	**Dawson**	**86.22**	**21**	*e*P		**P**	**21 13 08.8**	**+0.5**
MKAR	**Makanchi Array**	**95.15**	**317**	P		**P**	**21 13 50.1**	**-0.4**
MKAR	**Makanchi Array**	**95.15**	**317**	P		**P**	**21 13 50.1**	**-0.4**
	0.6nm,0.5s,baz=87,slow=6.1,SNR=10.0							
ARCES	**ARCESS Array B**	**117.73**	**346**	PKP		**PKPdf**	**21 19 12.3**	**-0.6**
ARCES	**ARCESS Array B**	**117.73**	**346**	PKP		**PKPdf**	**21 19 12.3**	**-0.6**
	0.4nm,0.3s,baz=94,slow=2.9,SNR=6.0							
ESDC	**Sonseca Array**	**151.47**	**345**	PKPbc		**PKPbc**	**21 20 21.0**	**-0.6**
ESDC	**Sonseca Array**	**151.47**	**345**	PKPbc		**PKPbc**	**21 20 21.0**	**-0.6**
	0.1nm,0.5s,baz=0.4,slow=2.9,SNR=3.2							

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*BKK **25** 21:16:41.7±0.5, 8°N±4°×12°7E±°, h10km, M4.8/24, mB5.1/7, mb4.7/24, MLv5.0/2, Mw(mB)4.5/7*

*MAN **25** 21:16:47, 7°.76N×126°.46E, h1km, mb4.8, ML3.7, MS3.7*

*ISCJB **25** 21:16:47.3±0.5, 7°.67N±0.°02×126°72E±0.°03, h82km±4km, mb4.5/75, Error ellipse: s-maj=6.0km s-min=3.5km az=157.3*

*IDC **25** 21:16:48.2±3.3, 7°.70N×126°.47E, h75km±30km, mb4.1/30, mb1 4.2/32, mb1mx4.2/36, mbtmp4.1/32, MS3.5/5, Ms1 3.5/5, ms1mx3.1/37, Error ellipse: s-maj=18.2km s-min=8.9km az=81.0*

*DJA **25** 21:16:49.0±1.7, 8°N±14°×12°7E±°, h57km±11km, M4.9/15, mB5.2/8, mb4.9/15, MLv5.2/2, Mw(mB)4.5/8*

*AUST **25** 21:16:50.0, 7°.50N×127°.02E, h100km*

*NEIC **25** 21:16:51.5±1.1, 7°.67N×126°.59E, h108km±10km, mb4.7/30, Error ellipse: s-maj=6.9km s-min=4.5km az=68.0*

ISC 25 21:16:51.3±0.4, 7°.59N±0.°03×126°.56E±0.°05, h103km±2km, n230, σ1°49/284, mb4.4/76, 4C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MATI	**Mati**	**0.71**	**205**	*e*P		Pn	21 17 03.4	-5.7
MATI				*e*S		Sn	21 17 15.5	-6.9
DAV	**Davao City (W)**	**1.10**	**242**	P		**Pn**	**21 17 10.8**	**-2.3**
DAV	**Davao City (W)**	**1.10**	**242**	*e*Pn		**Pn**	**21 17 10.0**	**-3.1**
DAV				*e*Sn		**Sn**	**21 17 29.9**	**+0.3**
DMPH	**Davao City--Mi**	**1.16**	**244**	‖ *e*P		**Pn**	**21 17 11.3**	**-2.5**
DMPH				*e*S		**Sn**	**21 17 29.4**	**-1.3**
BUKP	**Musuan**	**1.52**	**281**	*e*P		**Pn**	**21 17 15.1**	**-2.9**
KCP	**Kidapawan**	**1.57**	**249**	‖ *i*P		Pn	21 17 15.4	-3.3
KCP				*i* S		**Sn**	**21 17 36.4**	**-3.1**
BUTP	**Butuan**	**1.66**	**326**	*e*P		**Pn**	**21 17 16.7**	**-3.0**
BUTP				*e*S		**Sn**	**21 17 41.8**	**+0.5**
CGP	**Cagayan de Oro**	**2.04**	**295**	*e*P		**Pn**	**21 17 21.7**	**-2.9**
CGP				*i* S		**Sn**	**21 17 46.6**	**-3.4**
GSPH	**General Santos**	**2.19**	**227**	‖ *i*P		Pn	21 17 15.4	-11
GSPH				*e*S		**Sn**	**21 17 50.5**	**-3.1**
CTBH	**Cotabato--PC H**	**2.33**	**261**	*e*P		**Pn**	**21 17 25.7**	**-2.6**
CTBH				*i* S		**Sn**	**21 17 55.5**	**-1.1**
MSLP	**Maasin**	**3.04**	**326**	*e*P		Pn	21 17 34.3	-3.4
PAGZ	**Pagadian**	**3.16**	**275**	*e*P		**Pn**	**21 17 37.6**	**-1.8**
DCPH	**Dipolog City**	**3.33**	**287**	‖ *e*P		**Pn**	**21 17 40.0**	**-1.6**
SNPH	**Sibulan**	**3.73**	**298**	*e*S		**Sn**	**21 18 30.4**	**+0.5**
LLP	**Lapu-Lapu**	**3.73**	**317**	‖ *e*P		**Pn**	**21 17 45.1**	**-1.9**
LLP				*e*S		**Sn**	**21 18 27.9**	**-2.2**
OCLP	**Ormoc**	**3.94**	**331**	*e*P		**Pn**	**21 17 47.5**	**-2.4**
SGSI	**Sangihe**	**4.01**	**195**	P		**Pn**	**21 17 50.8**	**0.0**
GUIM	**Jordan**	**4.95**	**308**	*e*P		**Pn**	**21 18 01.3**	**-2.2**
RCP	**Roxas**	**5.46**	**317**	‖ *e*P		**Pn**	**21 18 08.9**	**-1.3**
TNTI	**Ternate**	**6.82**	**173**	P		**Pn**	**21 18 28.2**	**-0.6**
	120nm,1.1s,2µm							
TNTI	**Ternate**	**6.82**	**173**	*e*Pn		**Pn**	**21 18 30.2**	**+1.3**
TNTI				*e*Sn		**Sn**	**21 19 44.8**	**-0.2**

KMSI	**Cibinong**	**7.43**	**200**	P		**Pn**	**21 18 37.1**	**0.0**
	238nm,0.7s							
LBMI	**Labuha**	**8.22**	**173**	P		Pn	21 18 53.7	+5.7
	55nm,0.8s,931nm							
MYLDM	**Lahad Datu**	**8.36**	**254**	P		Pn	21 18 54.3	+4.4
MYLDM	**Lahad Datu**	**8.36**	**254**	P		**Pn**	**21 18 52.8**	**+3.0**
	51nm,1.1s							
MYLDM	**Lahad Datu**	**8.36**	**254**	*e*Pn		Pn	21 18 53.4	+3.5
MYLDM				*e*Sn		**Sn**	**21 20 20.4**	**-2.2**
MRSI	**Marisa**	**8.44**	**213**	P		**Pn**	**21 18 50.5**	**-0.3**
	100nm,0.5s,2µm							
TSM	**Tawau**	**9.24**	**250**	P		**Pn**	**21 19 02.7**	**+0.9**
LUWI	**Luwuk**	**9.37**	**204**	P		Pn	21 19 07.0	+3.5
	130nm,0.8s,1µm							
LUWI	**Luwuk**	**9.37**	**204**	P		Pn	21 19 07.1	+3.5
	baz=9.5,SNR=20							
SDKM	**Sandakan**	**9.51**	**259**	P		**Pn**	**21 19 06.0**	**+0.6**
SWI	**Sorong**	**9.61**	**151**	P		Pn	21 19 03.1	-3.7
	40nm,1.0s							
KDM	**Kudat**	**9.68**	**267**	P		**Pn**	**21 19 08.4**	**+0.7**
APSI	**Ampana**	**9.76**	**210**	P		**Pn**	**21 19 12.0**	**+3.1**
	83nm,1.3s,1µm							
KKM	**Kota Kinabalu**	**10.39**	**262**	P		**Pn**	**21 19 17.1**	**-0.4**
NLAI	**Namlea**	**10.77**	**177**	P		**Pn**	**21 19 20.1**	**-2.5**
	45nm,0.7s							
FAKI	**Fak Fak**	**11.88**	**151**	P		**Pn**	**21 19 35.7**	**-1.8**
	baz=12,SNR=3.9							
TTSI	**Tana Toraja**	**12.53**	**213**	P		**Pn**	**21 19 45.5**	**-0.5**
	84nm,1.4s,1µm							
MMSI	**Mamuju**	**12.75**	**217**	P		**P**	**21 19 53.5**	**-2.5**
SPSI	**Sidrap Palu**	**13.33**	**211**	P		**Pn**	**21 19 56.1**	**-0.5**
	19nm,1.1s							
MJSI	**Majene**	**13.40**	**215**	P		**Pn**	**21 19 59.0**	**+1.4**
	66nm,1.3s							
BNSI	**Bone**	**13.54**	**209**	P		**Pn**	**21 20 00.0**	**+0.7**
	86nm,1.0s,881nm							
KAPI	**Kappang**	**14.24**	**209**	*e*Pn		**Pn**	**21 20 08.1**	**-0.4**
KAPI	**Kappang**	**14.24**	**209**	P		**Pn**	**21 20 08.1**	**-0.4**
	baz=137,slow=2.2,SNR=4.0							
SBUM	**Sibu**	**15.17**	**251**	P		**P**	**21 20 22.1**	**-0.8**
SBUM	**Sibu**	**15.17**	**251**	P		**Pn**	**21 20 21.5**	**+1.3**
	81nm,1.2s,724nm							
SBUM	**Sibu**	**15.17**	**251**	*e*Pn		**P**	**21 20 21.9**	**-1.0**
	61nm,0.9s							
MMRI	**Maumere**	**16.68**	**195**	P		**P**	**21 20 43.0**	**+3.3**
MMRI	**Maumere**	**16.68**	**195**	*e*Pn		**P**	**21 20 40.2**	**+0.5**
	80nm,1.1s							
STKI	**Sintang**	**16.80**	**244**	P		P	21 20 46.2	+5.3
KSM	**Kuching**	**17.30**	**250**	P		**Pn**	**21 20 48.2**	**+1.6**
KSM	**Kuching**	**17.30**	**250**	P		**Pn**	**21 20 48.5**	**+1.9**
KSM	**Kuching**	**17.30**	**250**	*e*P		**Pn**	**21 20 47.9**	**+1.3**
	18nm,0.9s							
KSM	**Kuching**	**17.30**	**250**	P		**Pn**	**21 20 47.9**	**+1.3**
	baz=18,SNR=9.1							
BATI	**Baumata**	**17.91**	**189**	P		**Pn**	**21 20 55.5**	**+1.5**
BATI	**Baumata**	**17.91**	**189**	P		**P**	**21 20 54.0**	**0.0**
BATI	**Baumata**	**17.91**	**189**	P		**Pn**	**21 20 54.0**	**0.0**
	4.7nm,0.3s,baz=317,slow=2.6,SNR=6.1							
MTNI	**Mataram**	**19.16**	**213**	P		**Pn**	**21 21 09.0**	**+0.2**
QIZ	**Qiongzhong**	**19.83**	**307**	P		**P**	**21 21 15.0**	**+0.9**
QIZ				pP		**pP**	**21 21 32.3**	**-1.2**
QIZ				sP		**sP**	**21 21 45.3**	**-1.1**
QIZ				S		**S**	**21 21 54.5**	**+2.5**
QIZ				sS		**sS**	**21 21 25.8**	**-0.3**
QIZ				AMB		AMB		
	comp=Z,300nm,5.0s							
QIZ				LR		LR		
	comp=N,260nm,5.8s							
QIZ				LR		LR		
	comp=E,160nm,5.8s							
QIZ				LR		LR		
	comp=Z,260nm,5.4s							
QIZ	**Qiongzhong**	**19.83**	**307**	*e*P		**P**	**21 21 13.4**	**-0.7**
	comp=Z,27nm,1.0s							
UBPT	**Khong Chiam**	**22.03**	**292**	P		**P**	**21 21 40.4**	**+2.7**
UBPT	**Khong Chiam**	**22.03**	**292**	P		**P**	**21 21 40.4**	**+2.7**
	comp=Z,20nm,1.4s							
UGM	**Wanagama**	**22.20**	**226**	*e*P		**P**	**21 21 42.4**	**+2.9**
	comp=Z,704nm,1.9s							
KNRA	**Kununurra**	**23.22**	**175**	P		**P**	**21 21 49.9**	**+0.3**
	baz=23,SNR=7.9							
MYKOM	**Kota Tinggi**	**23.35**	**257**	P		**P**	**21 21 52.0**	**+1.1**
MYKOM	**Kota Tinggi**	**23.35**	**257**	*e*P		**P**	**21 21 51.8**	**+0.9**
	comp=Z,113nm,2.0s			

GSI	**Gunungsitoli**	**29.55**	**259**	*eP*		**P**	**21 22 46.1**	**-0.6**
	comp=Z,16nm,0.8s								
KSAR	**Wonju Array Be**	**29.74**	**2**	P		**P**	**21 22 47.4**	**-0.7**
KSRS	**Korea Array**	**29.76**	**2**	P		**P**	**21 22 47.4**	**-0.8**
	comp=Z,2.2nm,0.8s,baz=177,slow=10.0,SNR=10								
KSRS				LR		LR	21 33 04.3		
	comp=Z,50nm,20.2s,baz=308,slow=33								
XAN	**Xi'an**	**30.95**	**331**	P		**P**	**21 22 56.5**	**-2.3**
XAN				AMB	AMB				
	comp=Z,1.0nm,0.6s								
MTSU	**Mount Surprise**	**30.99**	**146**	P		**P**	**21 22 59.9**	**+0.6**
	baz=31,SNR=7.3								
CD2	**Chengdu**	**31.51**	**320**	P		**P**	**21 23 05.5**	**+1.7**
CD2				pP		**pP**	**21 23 27.5**	**+0.7**
CD2				sP		**sP**	**21 23 39.5**	**+0.8**
CD2				PP		**PnPn**	**21 24 13.5**	**+2.3**
CD2				S		**S**	**21 28 05.8**	**+1.0**
CD2				sS		**sS**	**21 28 44.8**	**+0.1**
CD2				SS		**SnSn**	**21 30 01.3**	**+0.2**
CD2				AMB	AMB				
	comp=Z,30nm,0.5s								
CD2				AMB	AMB				
	comp=Z,480nm,5.9s								
CD2				LR	LR				
	comp=N,590nm,6.0s								
CD2				LR	LR				
	comp=Z,690nm,5.9s								
AS31	**Alice Springs**	**31.88**	**167**	*eP*		**P**	**21 23 06.3**	**-0.7**
ASAR	**Alice Springs**	**31.88**	**167**	P		**P**	**21 23 06.8**	**-0.2**
ASAR				PcP		**PcP**	**21 25 56.4**	**+0.9**
ASAR	**Alice Springs**	**31.88**	**167**	P		**P**	**21 23 06.8**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=343,slow=7.2,SNR=31								
ASAR				PcP		**PcP**	**21 25 56.4**	**+0.9**
	comp=Z,1.7nm,0.5s,baz=349,slow=2.5,SNR=15								
AS01	**Alice Springs**	**31.89**	**167**	*eP*		**P**	**21 23 06.6**	**-0.5**
AS01				*ePcP*		**PcP**	**21 25 55.9**	**+0.3**
MEEK	**Meekatharra**	**34.89**	**193**	P		**P**	**21 23 33.6**	**+0.5**
	baz=35,SNR=10								
LZH	**Lanzhou**	**35.15**	**327**	*eP*		**P**	**21 23 36.5**	**+1.0**
LZH				pP		**pP**	**21 24 00.3**	**+1.6**
LZH				sP		**sP**	**21 24 10.8**	**+0.2**
LZH				AMB	AMB				
	comp=Z,13nm,1.0s								
HHC	**Hu-ho-hao-te**	**35.72**	**340**	*eP*		**P**	**21 23 41.8**	**+1.6**
HHC				pP		**pP**	**21 24 04.5**	**+1.0**
HHC				sP		**sP**	**21 24 15.8**	**+0.5**
HHC				PP		**PnPn**	**21 25 05.0**	**+1.6**
HHC				PcP		**PcP**	**21 26 08.0**	**+1.7**
HHC				S		**S**	**21 29 11.8**	**+2.2**
HHC				ScP		**ScP**	**21 29 44.5**	**+1.4**
HHC				sS		**sS**	**21 29 50.5**	**+0.5**
HHC				SS		**SnSn**	**21 31 37.3**	**-5.2**
HHC	**Hu-ho-hao-te**	**35.72**	**340**	ScS		ScS	21 33 47.5	-0.9
HHC				AMB	AMB				
	comp=Z,24nm,1.1s								
HHC				AMB	AMB				
	comp=Z,200nm,5.9s								
HHC				LR	LR				
	comp=N,390nm,14.3s								
HHC				LR	LR				
	comp=E,560nm,14.3s								
HHC				LR	LR				
	comp=Z,350nm,14.3s								
CN2	**Changchun**	**36.08**	**359**	*eP*		**P**	**21 23 44.3**	**+1.2**
USRK	**Ussuriysk Arra**	**36.78**	**7**	P		**P**	**21 23 48.1**	**-0.9**
	comp=Z,10nm,0.7s,baz=192,slow=8.5,SNR=41								
MDJ	**Mudanjiang**	**36.98**	**4**	P		**P**	**21 23 52.0**	**+1.3**
MDJ				pP		**pP**	**21 24 12.5**	**-1.6**
MDJ				sP		**sP**	**21 24 25.3**	**-0.6**
MDJ				PP		**PP**	**21 25 17.0**	**0.0**
MDJ				PcP		**PcP**	**21 26 10.0**	**+0.2**
MDJ				S		**S**	**21 29 32.0**	**+3.5**
MDJ				ScP		**ScP**	**21 29 49.3**	**+1.7**
MDJ				PcS		**PcS**	**21 29 59.0**	**+1.1**
MDJ				SS		**SS**	**21 32 19.0**	**+5.0**
MDJ	**Mudanjiang**	**36.98**	**4**	ScS		ScS	21 33 56.5	+1.5
MDJ				AMB	AMB				
	comp=Z,3.0nm,0.8s								
MDJ				AMB	AMB				
	comp=Z,78nm,6.3s								
MDJ				LR	LR				
	comp=N,31nm,32.0s								
MDJ				LR	LR				
	comp=E,13nm,23.4s								
MDJ				LR	LR				
	comp=Z,39nm,33.2s								
HNR	**Honiara**	**37.31**	**116**	LR		LR	21 38 32.9		
	comp=Z,47nm,19.4s,baz=267,slow=35								
MORW	**Morawa**	**37.83**	**195**	P		**P**	**21 23 59.1**	**+1.0**
	baz=38,SNR=8.2								
FORT	**Forrest**	**38.17**	**178**	*eP*		**P**	**21 24 01.4**	**+0.5**
	comp=Z,33nm,0.6s								
FORT	**Forrest**	**38.17**	**178**	P		**P**	**21 24 02.0**	**+1.0**
	baz=38,SNR=14								
ASAJ	**Asahikawa**	**38.99**	**18**	*eP*		**P**	**21 24 07.0**	**-0.6**
	comp=Z,207nm,2.4s								
ASAJ	**Asahikawa**	**38.99**	**18**	P		**P**	**21 24 08.2**	**+0.5**
	comp=Z,8.3nm,0.4s,baz=227,slow=8.6,SNR=21								
GTA	**Gaotai**	**39.76**	**327**	*eP*		**P**	**21 24 15.8**	**+1.5**
GTA				pP		**pP**	**21 24 38.5**	**+0.6**
GTA				sP		**sP**	**21 24 49.3**	**-0.3**
GTA				AMB	AMB				
	comp=Z,4.0nm,0.9s								
LSA	**Lhasa**	**39.86**	**308**	P		**P**	**21 24 15.5**	**-0.2**
LSA	**Lhasa**	**39.86**	**308**	*eP*		**P**	**21 24 15.4**	**-0.3**
	comp=Z,16nm,1.2s								
LSA				*ePcP*		**PcP**	**21 26 18.5**	**-1.3**
H11N1	**WAKE ISLAND Hy**	**40.89**	**69**	T		T	22 08 12.6		
	baz=262,slow=0.7,SNR=56								
H11N2	**WAKE ISLAND Hy**	**40.90**	**69**	T		T	22 08 09.3		
	baz=262,slow=0.7,SNR=32								
H11N3	**WAKE ISLAND Hy**	**40.91**	**69**	T		T	22 08 05.6		
	baz=262,slow=0.7,SNR=55								
BBOO	**Buckleboo**	**41.18**	**168**	*eP*		**P**	**21 24 25.4**	**-0.4**
	comp=Z,1μm,2.2s								
BBOO	**Buckleboo**	**41.18**	**168**	P		**P**	**21 24 26.3**	**+0.4**
	baz=41,SNR=31								
NWAO	**Narrogin (SRO)**	**41.26**	**192**	*eP*		**P**	**21 24 27.0**	**+0.5**
	comp=Z,23nm,1.0s								
NWAO	**Narrogin (SRO)**	**41.26**	**192**	P		**P**	**21 24 27.8**	**+1.3**
	comp=Z,15nm,0.8s,baz=21,slow=10,SNR=7.9								
TAPN	**Taplejung**	**41.70**	**303**	*eP*		**P**	**21 24 30.2**	**-0.4**
	comp=Z,8.0nm,0.5s								
STKA	**Stephens Creek**	**41.79**	**161**	*eP*		**P**	**21 24 29.6**	**-1.3**
	comp=Z,36nm,3.0s								
STKA				PcP		**PcP**	**21 26 25.8**	**+0.5**
STKA	**Stephens Creek**	**41.79**	**161**	P		**P**	**21 24 31.1**	**+0.2**
	baz=42,SNR=4.9								
STKA	**Stephens Creek**	**41.79**	**161**	P		**P**	**21 24 31.0**	**+0.1**
	comp=Z,2.6nm,0.5s,baz=330,slow=11,SNR=7.8								
STKA				PcP		**PcP**	**21 26 25.8**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=337,slow=1.1,SNR=2.9								
ODAN	**Odare**	**41.80**	**302**	*eP*		**P**	**21 24 30.9**	**-0.5**
	comp=Z,11nm,0.6s								
RAMN	**Ramite**	**42.49**	**302**	*eP*		**P**	**21 24 36.6**	**-0.4**
	comp=Z,4.6nm,0.5s								
JIRN	**Jiri**	**43.07**	**303**	*eP*		**P**	**21 24 41.4**	**-0.5**
	comp=Z,8.8nm,0.4s								
GUN	**Gumba**	**43.42**	**303**	*eP*		**P**	**21 24 43.9**	**-0.7**
ULN	**Ulaanbaatar**	**43.43**	**341**	*eP*		**P**	**21 24 43.1**	**-1.1**
	comp=Z,1.5nm,0.6s								
SONM	**Songino Array**	**43.62**	**340**	P		**P**	**21 24 44.0**	**-1.7**
SONM	**Songino Array**	**43.62**	**340**	P		**P**	**21 24 44.0**	**-1.7**
	comp=Z,0.6nm,0.4s,baz=157,slow=10.0,SNR=5.2								
SONA1	**Songino Array**	**43.63**	**340**	*eP*		**P**	**21 24 44.0**	**-1.8**
PKI	**Pulchoki**	**43.70**	**302**	*eP*		**P**	**21 24 46.0**	**-0.8**
	comp=Z,2.4nm,0.3s								
PKIN	**Phulchoki**	**43.71**	**302**	*eP*		**P**	**21 24 45.7**	**-1.1**
	comp=Z,3.3nm,0.5s								
KKN	**Kakani**	**43.88**	**303**	*eP*		**P**	**21 24 47.2**	**-0.9**
	comp=Z,12nm,1.0s								
DMN	**Daman**	**43.96**	**302**	*eP*		**P**	**21 24 48.0**	**-0.9**
	comp=Z,5.1nm,0.6s								
GKN	**Gorkha**	**44.48**	**303**	*eP*		**P**	**21 24 51.6**	**-1.3**
	comp=Z,3.1nm,0.4s								
KOLN	**Koldanda**	**45.28**	**302**	*eP*		**P**	**21 24 58.0**	**-1.3**
	comp=Z,14nm,0.6s								
DANN	**Dangsing**	**45.33**	**303**	*eP*		**P**	**21 24 58.8**	**-1.0**
	comp=Z,11nm,0.6s								
HYB	**Hyderabad**	**47.76**	**287**	*i* P		**P**	**21 25 18.0**	**-0.6**
HYB				*e*			21 25 34.0		
WMQ	**Urumqi**	**49.52**	**323**	*eP*		**P**	**21 25 32.5**	**+0.8**
WMQ				pP		**pP**	**21 25 55.8**	**-0.4**
WMQ				sP		**sP**	**21 26 07.0**	**-0.7**
WMQ				S		**S**	**21 32 31.3**	**-0.5**
WMQ				ScS		**ScS**	**21 35 11.5**	**-1.9**
WMQ	**Urumqi**	**49.52**	**323**	SS		SS	21 35 58.8	-6.3
WMQ				AMB	AMB				
	comp=Z,10.0nm,0.6s								
WMQ				AMB	AMB				
	comp=Z,11nm,5.0s								
WMQ				LR	LR				
	comp=N,88nm,19.2s								
WMQ				LR	LR				
	comp=E,38nm,19.4s								
WMQ				LR	LR				
	comp=Z,40nm,18.6s								
PEA0	**Petropavlovsk-**	**51.96**	**23**	*eP*		**P**	**21 25 49.6**	**-0.1**
PETK	**Petropavlovsk-**	**51.96**	**23**	P		**P**	**21 25 50.3**	**+0.5**
PETK	**Petropavlovsk-**	**51.96**	**23**	P		**P**	**21 25 50.3**	**+0.5**
	comp=Z,3.6nm,0.5s,baz=200,slow=3.5,SNR=11								
MK01	**Makanchi Array**	**54.32**	**324**	*eP*		**P**	**21 26 06.0**	**-1.2**
MK31	**Makanchi Array**	**54.34**	**324**	*eP*		**P**	**21 26 06.4**	**-1.0**
MK31				*ePcP*		**PcP**	**21 27 09.8**	**-0.3**
MKAR	**Makanchi Array**	**54.34**	**324**	*eP*		**P**	**21 26 06.8**	**-0.6**
MKAR				PcP		**PcP**	**21 27 09.6**	**-0.5**
MKAR	**Makanchi Array**	**54.34**	**324**	P		**P**	**21 26 06.4**	**-1.0**
	comp=Z,6.5nm,0.6s,baz=119,slow=6.3,SNR=45								
MKAR				PcP		**PcP**	**21 27 09.6**	**-0.5**
	comp=Z,3.1nm,0.7s,baz=120,slow=4.6,SNR=6.4								
MKAR				LR	LR		21 50 54.8		
	comp=Z,32nm,20.4s,baz=349,slow=38								
KSH	**Kashi**	**55.25**	**313**	P		**P**	**21 26 15.8**	**+1.6**
KSH				pP		**pP**	**21 26 40.5**	**+1.4**
KSH				sP		**sP**	**21 26 52.8**	**+2.3**
KSH				PcP		**PcP**	**21 27 14.3**	**+0.4**
KSH				PP		PP	21 28 25.0	+6.2
KSH				S		**S**	**21 33 53.0**	**+2.7**
KSH				sS		**sS**	**21 34 37.3**	**+4.3**
KSH				ScS		**ScS**	**21 35 53.5**	**-0.3**
KSH				AMB	AMB				
	comp=Z,2.0nm,0.8s								
KSH				AMB	AMB				
	comp=Z,85nm,6.4s								
KSH				LR	LR				
	comp=N,100nm,6.6s								
KSH				LR	LR				
	comp=E,120nm,7.6s								
KSH				LR	LR				
	comp=Z,110nm,5.3s								
ZAA0	**Zalesovo Array**	**57.11**	**332**	*eP*		**P**	**21 26 25.2**	**-1.8**
ZALV	**Zalesovo Beam**	**57.11**	**332**	P		**P**	**21 26 24.8**	**-2.2**
ZALV	**Zalesovo Beam**	**57.11**	**332**	P		**P**	**21 26 24.8**	**-2.2**
	comp=Z,1.9nm,0.5s,baz=135,slow=6.6,SNR=11								
AAK	**Ala-Archa**	**57.44**	**316**	P		**P**	**21 26 28.5**	**-1.2**
AAK	**Ala-Archa**	**57.44**	**316**	P		**P**	**21 26 28.5**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=145,slow=13,SNR=5.5								
KURK	**Kurchatov**	**58.44**	**326**	*eP*		**P**	**21 26 35.2**	**-1.1**
	comp=Z,3.5nm,0.8s								
KURK	**Kurchatov**	**58.44**	**326**	P		**P**	**21 26 35.0**	**-1.3**
	comp=Z,63nm,0.5s,SNR=7.3								
KURBB	**Kurchatov Arra**	**58.44**	**326**	P		**P**	**21 26 35.3**	**-1.1**
	comp=Z,2.8nm,0.4s,baz=124,slow=6.3,SNR=35								
KBL	**Kabul**	**59.10**	**306**	*eP*		**P**	**21 26 40.5**	**-1.1**
	comp=Z,2.6nm,0.6s								
KBL	**Kabul**	**59.10**	**306**	P		**P**	**21 26 40.8**	**-0.8**
	baz=60,SNR=4.5								
KKAR	**Karatay Array**	**60.34**	**316**	*eP*		**P**	**21 26 48.8**	**-0.9**
BVAR	**Borovoye Array**	**64.03**	**326**	P		**P**	**21 27 13.2**	**-0.9**
BVAR				PcP		**PcP**	**21 27 47.3**	**-1.3**
BVAR	**Borovoye Array**	**64.03**	**326**	P		**P**	**21 27 13.2**	**-0.9**
	comp=Z,2.4nm,0.6s,baz=123,slow=7.7,SNR=19								
BVAR				PcP		**PcP**	**21 27 47.3**	**-1.3**
	comp=Z,0.9nm,0.5s,baz=123,slow=7.3,SNR=3.7								
BRVK	**Borovoye**	**64.10**	**326**	*eP*		**P**	**21 27 13.4**	**-1.1**
	comp=Z,4.0nm,0.8s								
ABKAR	**Akbulak array**	**69.09**	**320**	*eP*		**P**	**21 27 44.5**	**-1.8**
AKTO	**Aktyubinsk**	**70.57**	**321**	P		**P**	**21 27 52.6**	**-2.7**
AKTO	**Aktyubinsk**	**70.57**	**321**	P		**P**	**21 27 52.6**	**-2.7**
	comp=Z,1.6nm,0.6s,baz=106,slow=10,SNR=10								
KIP	**Kipapa**	**73.73**	**70**	*eP*		**P**	**21 28 13.7**	**-1.1**
	comp=Z,2μm,2.6s								
CASY	**Casey**	**74.60**	**187**	*eP*		**P**	**21 28 18.7**	**-0.1**
CASY				*ePcP*		**P**	**21 28 19.3**	**+0.5**
SVW2	**Sparrevohn**	**77.53**	**29**	*eP*		**P**	**21 28 35.5**	**-0.1**
	comp=Z,201nm,3.0s								
RAYN	**Ar Rayn**	**78.84**	**292**	*eP*		**P**	**21 28 43.3**	**-0.5**
	comp=Z,13nm,0.6s								
RAYN	**Ar Rayn**	**78.84**	**292**	P		**P**	**21 28 43.0**	**-0.8**
	comp=Z,123nm,0.6s,SNR=11								
IMA2	**Indian Mountai**	**78.95**	**24**	*eP*		**P**	**21 28 43.8**	**+0.2**
PPLA	**Purkeypile**	**79.30**	**27**	*eP*		**P**	**21 28 45.1**	**-0.4**
	comp=Z,43nm,1.5s								
TRF	**Thorofare Moun**	**80.19**	**27**	*eP*		**P**	**21 28 50.0**	**-0.4**
	comp=Z,82nm,2.1s								
COLD	**Coldfoot**	**80.43**	**23**	*eP*		**P**	**21 28 52.5**	**+1.1**
	comp=Z,5.5nm,0.4s								
MCK	**McKinley**	**80.81**	**27**	*eP*		**P**	**21 28 53.3**	**-0.2**
	comp=Z,8.8nm,0.7s								
IL1	**Eielson Array**	**81.72**	**26**	*eP*		**P**	**21 28 57.7**	**-0.6**
ILAR	**Eielson Array**	**81.72**	**26**	P		**P**	**21 28 57.4**	**-0.9**
ILAR	**Eielson Array**	**81.72**	**26**	P		**P**	**21 28 57.4**	**-0.9**
	comp=Z,1.8nm,0.6s,baz=258,slow=4.2,SNR=32								
EGAK	**Eagle**	**84.17**	**25**	*eP*		**P**	**21 29 09.9**	**-1.0**
	comp=Z,2.9nm,0.6s								
JOF	**Joensuu**	**85.69**	**333**	*ep*		**P**	**21 29 16.4**	**-2.2**
	comp=Z,1.5nm,0.3s								
PPT	**Papeete**	**86.46**	**108**	LR		LR	22 06 42.0		
	comp=Z,168nm,19.0s,baz=344,slow=35								
INK	**Inuvik**	**86.66**	**22**	P		**P**	**21 29 22.7**	**-0.5**
INK	**Inuvik**	**86.66**	**22**	P		**P**	**21 29 22.7**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=189,slow=1.2,SNR=9.2								
ARCES	**ARCESS Array B**	**86.79**	**340**	P		**P**	**21 29 22.9**	**-1.0**
ARCES	**ARCESS Array B**	**86.79**	**340**	P		**P**	**21 29 22.9**	**-1.0**
	comp=Z,1.8nm,0.6s,baz=94,slow=7.3,SNR=6.8								
MMAI	**Mount Meron Ar**	**86.89**	**303**	P		**P**	**21 29 25.9**	**+0.7**
MMAI	**Mount Meron Ar**	**86.89**	**303**	P		**P**	**21 29 25.9**	**+0.7**
	comp=Z,2.4nm,0.6s,baz=72,slow=8.0,SNR=5.1								
VNDA	**Vanda**	**87.25**	**173**	P		**P**	**21 29 26.8**	**+1.0**
VNDA	**Vanda**	**87.25**	**173**	P		**P**	**21 29 26.8**	**+1.0**
	comp=Z,3.7nm,1.1s,baz=319,slow=5.3,SNR=17								
BR131	**Keskin Array S**	**87.45**	**310**	*eP*		**P**	**21 29 26.5**	**-1.3**
	comp=Z,1.0nm,0.5s								
BRTR	**Keskin Array B**	**87.45**	**310**	P		**P**	**21 29 26.4**	**-1.5**
BRTR	**Keskin Array B**	**87.45**	**310**	P		**P**	**21 29 26.4**	**-1.5**
	comp=Z,1.2nm,0.5s,baz=114,slow=4.7,SNR=9.2								
EIL	**Elat**	**87.69**	**299**	P		**P**	**21 29 28.9**	**-0.1**
EIL	**Elat**	**87.69**	**299**	P		**P**	**21 29 28.9**	**-0.1**
	comp=Z,2.8nm,0.7s,baz=16,slow=6.0,SNR=6.1								
KAF	**Kangasniemi**	**88.12**	**332**	*ep*		P	21 29 25.5	-4.8	
	comp=Z,0.5nm,0.3s								
CSS	**Prodhromos**	**88.34**	**305**	*eP*		**P**	**21 29 31.5**	**-0.5**
	comp=Z,7.4nm,0.7s								
FINES	**FINESS Array B**	**88.38**	**332**	P		**P**	**21 29 30.0**	**-1.5**
FINES	**FINESS Array B**	**88.38**	**332**	P		**P**	**21 29 30.0**	**-1.5**
	comp=Z,2.3nm,0.5s,baz=82,slow=3.9,SNR=22								
AKASG	**Malin Array Be**	**88.81**	**321**	P		**P**	**21 29 32.2**	**-1.7**
AKASG	**Malin Array Be**	**88.81**	**321**	P		**P**	**21 29 32.2**	**-1.7**
	comp=Z,0.5nm,0.4s,baz=66,slow=5.2,SNR=4.5								
KMBO	**Kilima Mbogo**	**89.46**	**269**	P		**P**	**21 29 38.1**	**+0.1**
KMBO	**Kilima Mbogo**	**89.46**	**269**	P		**P**	**21 29 38.1**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=49,slow=20,SNR=4.0								
NOA	**NORSAR Array B**	**95.28**	**334**	P		**P**	**21 30 01.4**	**-2.2**
NOA	**NORSAR Array B**	**95.28**	**334**	P		**P**	**21 30 01.4**	**-2.2**
	comp=Z,0.5nm,0.7s,baz=105,slow=3.8,SNR=3.0								
YKA	**Yellowknife Ar**	**96.07**	**24**	P		**P**	**21 30 06.8**	**-0.3**
YKA	**Yellowknife Ar**	**96.07**	**24**	P		**P**	**21 30 06.8**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=305,slow=4.7,SNR=6.2								
PV15	**Paradox Valley**	**111.44**	**44**	*ePdif*		**Pdif**	**21 31 17.3**	**+0.7**
BGNE	**Belgrade**	**116.33**	**36**	*ePdif*		**Pdif**	**21 31 39.4**	**+1.5**
TXAR	**Lajitas Array**	**119.33**	**50**	PKP		**PKPdf**	**21 35 30.4**	**+0.9**
TXAR	**Lajitas Array**	**119.33**	**50**	PKP		**PKPdf**	**21 35 30.4**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=192,slow=1.4,SNR=5.8								
TORD	**Torodi Ar. Bea**	**121.50**	**290**	PKP		**PKPdf**	**21 35 33.5**	**-0.4**
TORD	**Torodi Ar. Bea**	**121.50**	**290**	PKP		**PKPdf**	**21 35 33.5**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=72,slow=2.1,SNR=12								
CFAA	**Coronel Fontan**	**152.40**	**152**	PKPbc		**PKPbc**	**21 36 36.9**	**+0.7**
CFAA	**Coronel Fontan**	**152.40**	**152**	PKPbc		**PKPbc**	**21 36 36.9**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=192,slow=2.8,SNR=12								

IDC ***25*** *21:22:16.3±4.2,23.60S×175.16W,h0km, mb3.9/4, mb1 4.2/4,mb1mx3.8/18,mbtmp3.9/4, Error ellipse: s-maj=209.9km s-min=33.1km az=153.0*

ISC 25 21:22:21.0±4.1,24.5S±1.1×175.2W±0.7,h29km,n7,σ0.9s89/7, mb4.0/4,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CTA	**Charters Tower**	**35.87**	**268**	P		**P**	**21 29 19.5**	**+0.8**
	2.0nm,0.4s,baz=94,slow=9.6,SNR=4.9							
ASAR	**Alice Springs**	**46.43**	**259**	P		**P**	**21 30 45.4**	**-0.1**
	0.8nm,0.6s,baz=99,slow=7.3,SNR=9.6							
WRA	**Warramunga Arr**	**46.81**	**264**	P		**P**	**21 30 47.4**	**-1.2**
	1.1nm,0.6s,baz=92,slow=8.5,SNR=12							
ILAR	**Eielson Array**	**90.69**	**12**	P		**P**	**21 35 20.6**	**+0.2**
	0.6nm,0.9s,baz=230,slow=6.9,SNR=4.2							
MKAR	**Makanchi Array**	**115.13**	**312**	PKP		**PKPdf**	**21 40 59.8**	**+0.4**
	0.3nm,0.7s,baz=116,slow=2.4,SNR=2.5							
AKASG	**Malin Array Be**	**146.88**	**331**	PKPbc		**PKPbc**	**21 41 59.4**	**-0.9**
	0.2nm,0.3s,baz=35,slow=3.4,SNR=5.2							
BRTR	**Keskin Array B**	**150.76**	**310**	PKPbc		**PKPbc**	**21 42 11.2**	**+0.4**
	0.7nm,0.7s,baz=131,slow=5.1,SNR=3.9							

MAN 25 21:30:41,7.37N×126.69E,h84km,mb4.6,ML3.5,MS3.5, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MATI	**Mati**	**0.60**	**226**	*eP*		Pn	21 30 59.3	+3.3
MATI				*eS*		Sn	21 31 10.8	+3.6
BUKP	**Musuan**	**1.69**	**288**	*eP*		Pn	21 31 10.9	+1.9
BUKP				*eS*		Sn	21 31 32.2	+1.9
BUTP	**Butuan**	**1.91**	**326**	*eP*		Pn	21 31 13.4	+1.6
CGP	**Cagayan de Oro**	**2.25**	**299**	*eP*		Pn	21 31 17.5	+1.1
CGP				*eS*		Sn	21 31 45.4	+1.9

ISCJB ***25*** *21:36:05.0±0.7,34.03S±0.02×70.11W±0.04, h2km±4km, mb4.0/8, Error ellipse: s-maj=5.2km s-min=3.7km az=4.8*
NEIC ***25*** *21:36:05.9,34.03S×70.17W,h20km, mb4.5/1, ML4.2(GUC), After GUC.*
GUC ***25*** *21:36:05.9±0.4,34.03S×70.17W,h20km±1km, MD4.0, ML4.2*
IDC ***25*** *21:36:13.3±2.6,34.03S×69.93W,h53km±23km, mb3.6/7, mb1 3.9/12,mb1mx3.7/21,mbtmp3.6/12,ML3.7/5,MS3.3/3, Ms1 3.3/3,ms1mx2.9/23, Error ellipse: s-maj=30.5km s-min=19.1km az=86.0*

ISC 25 21:36:05.9±1.0,34.03S±0.02×70.19W±0.03,h7km±7km, n63,σ1s05/94,mb4.1/8,9C-17D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LMEL	**Las Melosas**	**0.18**	**356**	*eP*		**Pg**	**21 36 09.2**	**-0.4**
LMEL				*i* S		**Sg**	**21 36 13.1**	**+0.8**
LMEL	**Las Melosas**	**0.18**	**356**	*eP*		**Pg**	**21 36 09.2**	**-0.4**
LMEL				*i* S		**Sg**	**21 36 13.1**	**+0.8**
LMEL				AML	AML		21 36 13.7		
	comp=N,62μm,0.2s								
CACH	**El Canelo**	**0.35**	**256**	⇓*i* P		**Pg**	**21 36 13.2**	**+0.3**
CACH				*i* S		**Sb**	**21 36 19.1**	**-1.3**
CACH	**El Canelo**	**0.35**	**256**	⇓*i* P		**Pg**	**21 36 13.2**	**+0.3**
CACH				*i* S		**Sb**	**21 36 19.1**	**-1.3**
CHCH	**Chadas Angostu**	**0.40**	**284**	⇑*i* P		**Pb**	**21 36 14.3**	**-1.0**
CHCH	**Chadas Angostu**	**0.40**	**284**	⇑*i* P		**Pb**	**21 36 14.3**	**-1.0**
SJCH	**San Jose de Ma**	**0.41**	**340**	⇓*i* P		**Pg**	**21 36 13.2**	**-0.7**
SJCH				*i* S		**Sg**	**21 36 19.7**	**+0.3**
SJCH	**San Jose de Ma**	**0.41**	**340**	⇓*i* P		**Pg**	**21 36 13.2**	**-0.7**
SJCH				*i* S		**Sg**	**21 36 19.7**	**+0.3**
SJCH				AML	AML		21 36 21.1		
	comp=N,9μm,0.3s								
PCH	**Pirque**	**0.49**	**326**	⇓*i* P		**Pg**	**21 36 15.7**	**+0.3**
PCH				*i* S		**Sb**	**21 36 23.2**	**-1.1**
PCH	**Pirque**	**0.49**	**326**	⇓*i* P		**Pg**	**21 36 15.7**	**+0

TRQA				*e*Sn		**Sn**	21 39 24.1	**-3.4**
CPUP	**Villa Florida**	**13.50**	**59**	P		**Pn**	21 39 17.9	**+0.1**
	comp=E,0.4nm,0.3s,baz=199,slow=12,SNR=3.6							
CPUP				LR		LR	21 45 19.9	
	comp=E,122nm,20.2s,baz=57,slow=41							
LPAZ	**La Paz**	**17.76**	**6**	P		**P**	21 40 16.4	**+1.3**
	comp=E,0.1nm,0.3s,baz=209,slow=7.5,SNR=7.7							
SIV	**San Ignacio**	**19.75**	**27**	P		**Pn**	21 40 37.9	**0.0**
	comp=E,0.2nm,0.3s,baz=222,slow=12,SNR=14							
SIV				LR		LR	21 49 33.6	
	comp=E,64nm,19.7s,slow=41							
SNAA	**Sanae**	**50.98**	**158**	P		**P**	21 45 08.3	**+0.5**
	comp=E,1.0nm,1.1s,baz=244,slow=8.7,SNR=3.9							
QSPA	**South Pole Qui**	**56.21**	**180**	*e*P		**P**	21 45 44.0	**-2.4**
	comp=E,6.3nm,1.1s							
TXAR	**Lajitas Array**	**70.53**	**329**	P		**P**	21 47 23.7	**+2.2**
	comp=E,0.9nm,0.6s,baz=149,slow=9.3,SNR=11							
ANMO	**Albuquerque**	**76.56**	**330**	P		**P**	21 47 57.9	**+0.9**
	comp=E,1.6nm,1.0s,baz=90,slow=7.1,SNR=4.5							
PFO	**Pinyon Flat Ob**	**80.08**	**322**	P		**P**	21 48 18.6	**+2.1**
	comp=E,2.8nm,0.8s,baz=59,slow=5.9,SNR=5.7							
TORD	**Torodi Ar. Bea**	**82.78**	**69**	P		**P**	21 48 32.0	**+1.0**
	comp=E,0.9nm,0.9s,baz=252,slow=5.3,SNR=6.6							
PDAR	**Pinedale Array**	**84.50**	**332**	P		**P**	21 48 40.6	**+1.2**
	comp=E,0.5nm,0.7s,baz=170,slow=2.7,SNR=4.5							
NVAR	**Mina Array Bea**	**84.80**	**324**	P		**P**	21 48 43.6	**+2.5**
	comp=E,0.4nm,0.3s,baz=152,slow=9.9,SNR=5.1							
BRTR	**Keskin Array B**	**120.51**	**60**	PKP		**PKPdf**	21 54 58.6	**+0.4**
	comp=E,0.3nm,0.4s,baz=251,slow=4.4,SNR=3.0							
WRA	**Warramunga Arr**	**121.46**	**207**	PKP		**PKPdf**	21 55 00.3	**-0.3**
	comp=E,0.2nm,0.6s,baz=156,slow=1.6,SNR=2.7							
ZALV	**Zalesovo Beam**	**153.41**	**34**	PKPbc		**PKPbc**	21 56 03.9	**-0.4**
	comp=E,0.7nm,0.6s,baz=303,slow=3.1,SNR=4.8							

NIED ***25*** *21:48:00,29.50N×130.70E,h35km,Mw4.4 Best double couple: M₀3.77000×10¹⁵ NP1:φ=26.00000°,δ=80.00000°, λ=86.00000°. NP2:φ=230.00000°,δ=10.00000°,λ=113.00000°.*
JMA ***25*** *21:48:50.4±0.1,29.47N×130.71E,h57km±4km,M3.6*
ISCJB ***25*** *21:48:51.1±0.8,29.50N±0.04×130.68E±0.08,h51km±5km, mb3.8/11,MS3.5/7,Error ellipse: s-maj=13.4km s-min=4.8km az=26.1*
IDC ***25*** *21:49:06.6±3.7,30.30N×130.41E,h137km±33km, mb3.5/11,mb1 3.6/12,mb1mx3.5/26,mbtmp3.5/12,MS3.4/9, Ms1 3.4/9,ms1mx3.3/21,Error ellipse: s-maj=32.7km s-min=15.8km az=71.0*

ISC 25 21:48:51.8±1.5,29.48N±0.06×130.67E±0.09,h41km±13km, n37,σ0≥95/39,mb3.7/11,MS3.5/7,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.78**	**297**	P	**Pn**	**21 49 05.9**	**-0.5**
JNN				S	**Sn**	**21 49 18.2**	**+1.2**
JKC	**Kuchinoerabu**	**1.06**	**337**	P	**Pn**	**21 49 09.6**	**-0.6**
JKC				S	**Sn**	**21 49 23.5**	**-0.3**
JTN	**Tanegashima 3**	**1.20**	**13**	P	**Pn**	**21 49 11.2**	**-0.9**
JTN				S	**Sn**	**21 49 26.8**	**-0.4**
JAM	**Amami Oshima**	**1.42**	**221**	P	**Pn**	**21 49 14.4**	**-0.8**
JAM				S	**Sn**	**21 49 32.5**	**-0.2**
JTSR	**Tashiro 2**	**1.69**	**7**	P	**Pn**	**21 49 18.7**	**-0.2**
JTSR				S	**Sn**	**21 49 38.2**	**-1.2**
JAMN	**Amaminishikomi**	**1.81**	**227**	P	**Pn**	**21 49 20.5**	**+0.1**
JAMN				*e*S	**Sn**	**21 49 42.5**	**+0.4**
JSU	**Suzuyama**	**2.02**	**355**	P	**Pn**	**21 49 22.9**	**-0.6**
JNAR	**Kushima--Naru**	**2.10**	**14**	P	**Pn**	**21 49 24.5**	**0.0**
JTK	**Tokunoshima**	**2.27**	**222**	P	**Pn**	**21 49 26.9**	**0.0**
JTK				*e*S	**Sn**	**21 49 54.6**	**+1.0**
KSRS	**Korea Array**	**8.27**	**345**	P	**Pn**	**21 50 51.8**	**+2.6**
	0.2nm,0.3s,baz=160,slow=14,SNR=6.9						
KSRS				LR	LR	21 54 16.7	
	comp=Z,162nm,19.9s,baz=160,slow=42						
USRK	**Ussuriysk Arra**	**14.72**	**4**	P	**P**	**21 52 24.0**	**+1.4**
	0.3nm,0.3s,baz=180,slow=9.3,SNR=9.8						
ASAJ	**Asahikawa**	**17.42**	**30**	LR	LR	21 59 56.6	
	comp=Z,80nm,19.9s,baz=304,slow=39						
SONM	**Songino Array**	**26.19**	**321**	P	**P**	**21 54 21.8**	**-0.8**
	1.8nm,0.8s,baz=138,slow=10,SNR=9.5						
SONM				LR	LR	22 06 04.8	
	comp=Z,136nm,18.9s,baz=274,slow=40						
PETK	**Petropavlovsk-**	**30.80**	**32**	LR	LR	22 07 22.3	
	comp=Z,24nm,18.3s,baz=59,slow=36						
CMAR	**Chiang Mai Arr**	**30.91**	**256**	PcP	**PcP**	**21 58 02.2**	**+1.4**
	0.3nm,0.5s,baz=15,slow=3.7,SNR=4.2						
CMAR				LR	LR	22 10 06.6	
	comp=Z,53nm,18.3s,baz=65,slow=41						
TAPN	**Taplejung**	**37.69**	**277**	*e*P	**P**	**21 56 02.6**	**-1.2**
ODAN	**Odare**	**38.09**	**277**	*e*P	**P**	**21 56 06.1**	**-0.9**
	6.0nm,0.4s						
RAMN	**Ramite**	**38.75**	**277**	*e*P	**P**	**21 56 11.8**	**-0.8**
	3.8nm,0.5s						
JIRN	**Jiri**	**38.93**	**278**	*e*P	**P**	**21 56 14.0**	**-0.3**
	8.2nm,0.6s						
GUN	**Gumba**	**39.14**	**279**	*e*P	**P**	**21 56 15.9**	**-0.1**
	46nm,0.9s						
PKI	**Pulchoki**	**39.63**	**279**	*e*P	**P**	**21 56 19.5**	**-0.6**
	16nm,0.7s						
KKN	**Kakani**	**39.69**	**279**	*e*P	**P**	**21 56 20.0**	**-0.4**
	13nm,0.6s						
DMN	**Daman**	**39.88**	**279**	*e*P	**P**	**21 56 21.6**	**-0.5**
	7.1nm,0.6s						
GKN	**Gorkha**	**40.19**	**280**	*e*P	**P**	**21 56 24.0**	**-0.5**
	6.4nm,0.7s						
DANN	**Dangsing**	**40.86**	**280**	*e*P	**P**	**21 56 30.1**	**-0.1**
	22nm,0.7s						
ZALV	**Zalesovo Beam**	**41.07**	**320**	P	**P**	**21 56 30.1**	**-1.1**
	1.0nm,0.6s,baz=118,slow=6.4,SNR=4.7						
ZALV				LR	LR	22 15 25.9	
	comp=Z,76nm,19.2s,baz=69,slow=39						
MKAR	**Makanchi Array**	**41.09**	**309**	P	**P**	**21 56 31.2**	**-0.4**
	1.3nm,0.6s,baz=91,slow=10,SNR=17						
KOLN	**Koldanda**	**41.14**	**280**	*e*P	**P**	**21 56 32.0**	**-0.4**
	10.0nm,0.8s						
WRA	**Warramunga Arr**	**49.27**	**175**	P	P	21 57 46.8	+10
	0.4nm,0.6s,baz=355,slow=8.5,SNR=7.6						
ASAR	**Alice Springs**	**52.94**	**176**	P	P	21 58 15.6	+11
	0.6nm,0.8s,baz=7.3,slow=13,SNR=6.9						
ARCES	**ARCESS Array B**	**67.78**	**338**	LR	LR	22 33 37.8	
	comp=Z,55nm,18.1s,baz=166,slow=40						
FINES	**FINESS Array B**	**71.10**	**331**	P	**P**	**22 00 03.9**	**-1.7**
	2.0nm,0.9s,baz=53,slow=7.6,SNR=5.0						
FINES				LR	LR	22 31 18.8	
	comp=Z,36nm,18.8s,baz=111,slow=36						
RES	**Resolute Bay**	**71.95**	**12**	P	**P**	**22 00 11.2**	**+0.8**
	2.5nm,0.8s,baz=313,slow=5.7,SNR=4.5						
BRTR	**Keskin Array B**	**76.74**	**308**	P	**P**	**22 00 39.5**	**+0.4**
	1.2nm,0.7s,baz=99,slow=5.5,SNR=6.0						
NOA	**NORSAR Array B**	**77.34**	**334**	P	**P**	**22 00 40.2**	**-1.9**
	0.5nm,0.6s,baz=71,slow=16,SNR=2.5						
NOA				LR	LR	22 38 28.8	
	comp=Z,21nm,20.7s,baz=315,slow=39						
PDAR	**Pinedale Array**	**89.28**	**40**	P	**P**	**22 01 44.7**	**+0.7**
	0.3nm,0.7s,baz=294,slow=2.5,SNR=3.7						
ULM	**Lac du Bonnet**	**90.55**	**28**	P	**P**	**22 01 50.3**	**+0.9**
	2.0nm,0.8s,baz=0.0,slow=8.1,SNR=3.1						

IDC 25 22:13:42.2±46.0,15.46S×173.15W,h0km,mb4.1/3, mb1 4.3/3,mb1mx3.7/20,mbtmp4.1/3,Error ellipse: s-maj=888.6km s-min=191.0km az=78.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.21**	**240**	P	P	22 21 53.5	+0.2
	2.8nm,0.7s,baz=114,slow=6.2,SNR=4.0						
WRA	**Warramunga Arr**	**50.06**	**257**	P	P	22 22 39.0	-0.2
	0.4nm,0.5s,baz=93,slow=7.4,SNR=3.2						
ASAR	**Alice Springs**	**50.32**	**252**	P	P	22 22 40.9	-0.3
	3.2nm,0.4s,baz=89,slow=8.1,SNR=55						

IDC 25 22:54:29.5±1.2,13.04S×166.93E,h0km,mb3.9/8, mb1 4.0/8,mb1mx3.9/17,mbtmp3.9/8,MS3.2/4,Ms1 3.2/4, ms1mx3.0/28,Error ellipse: s-maj=39.5km s-min=23.6km az=108.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.73**	**297**	Pn	Pn	22 56 27.2	+3.8
	56nm,0.3s,baz=166,slow=6.3,SNR=14						
HNR				Sn	Sn	22 57 49.0	-2.8
	21nm,0.3s,baz=346,slow=19,SNR=2.4						
HNR				LR	LR	22 58 55.8	
	comp=Z,139nm,19.9s,baz=65,slow=34						
DZM	**Mont Dzumac**	**9.00**	**183**	Pn	Pn	22 56 47.0	+6.1
	0.6nm,0.3s,baz=189,slow=19,SNR=6.1						
DZM				Sn	Sn	22 58 26.0	+3.0
	0.5nm,0.3s,baz=317,slow=16,SNR=2.0						
DZM				LR	LR	22 59 51.6	
	comp=Z,117nm,18.4s,baz=185,slow=36						
PMG	**Port Moresby**	**19.73**	**278**	LR	LR	23 05 25.8	
	comp=Z,54nm,20.5s,baz=55,slow=33						
STKA	**Stephens Creek**	**29.87**	**227**	P	P	23 00 40.0	+1.1
	1.4nm,0.6s,baz=14,slow=7.6,SNR=2.9						
STKA				LR	LR	23 12 44.5	
	comp=Z,87nm,19.2s,baz=206,slow=37						
WRA	**Warramunga Arr**	**31.96**	**253**	P	P	23 00 56.9	-0.6
	0.6nm,0.5s,baz=85,slow=8.9,SNR=4.7						
ASAR	**Alice Springs**	**33.01**	**247**	P	P	23 01 06.2	-0.5
	1.5nm,0.6s,baz=71,slow=9.7,SNR=18						
VNDA	**Vanda**	**64.54**	**181**	P	P	23 05 08.0	+0.1
	0.4nm,0.6s,baz=0.0,slow=6.1,SNR=4.4						
USRK	**Ussuriysk Arra**	**65.24**	**333**	P	P	23 05 13.7	+0.8
	0.6nm,0.5s,baz=128,slow=9.3,SNR=2.8						
SONM	**Songino Array**	**80.95**	**324**	P	P	23 06 45.9	-0.1
	0.4nm,0.3s,baz=141,slow=6.0,SNR=6.2						
ILAR	**Eielson Array**	**85.03**	**18**	P	P	23 07 06.0	-0.6
	0.7nm,0.9s,baz=233,slow=5.6,SNR=6.0						
MKAR	**Makanchi Array**	**95.76**	**317**	P	P	23 07 57.2	-0.5
	0.5nm,0.6s,baz=83,slow=6.9,SNR=4.1						

ISCJB ***25*** *23:01:38.9±0.3,25.06S±0.04×70.82W±0.05,h35km, mb4.6/18,MS4.0/3,Error ellipse: s-maj=7.3km s-min=5.6km az=154.8*
BJI ***25*** *23:01:40.0,25.10S×70.70W,h19km,mB5.3/4,Ms7 4.7/4*
NEIC ***25*** *23:01:41.8±2.8,25.06S×70.73W,h41km±5km,mb4.9/10, Error ellipse: s-maj=19.1km s-min=9.8km az=107.0*
IDC ***25*** *23:01:41.6±3.2,24.99S×70.81W,h37km±25km,mb4.0/10, mb1 4.2/14,mb1mx4.1/19,mbtmp4.2/14,ML4.0/3,MS3.6/6, Ms1 3.6/6,ms1mx3.3/21,Error ellipse: s-maj=22.9km s-min=16.7km az=81.0*

ISC 25 23:01:40.5±0.4,25.10S±0.05×70.89W±0.09,h35km,n145, σ1≥36/145,mb4.9/18,MS4.0/3,1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**3.07**	**37**	*e*Pn	**Pn**	**23 02 26.9**	**+0.1**
LCO	**Las Campanas**	**3.90**	**178**	*e*Pn	**Pn**	**23 02 37.0**	**-1.3**
LCO				*e*Sn	**Sn**	**23 03 20.2**	**-2.8**
CFAA	**Coronel Fontan**	**6.89**	**161**	*e*Pn	**Pn**	**23 03 20.4**	**+1.3**
CFAA				*e*Sn	Sn	23 04 45.2	+8.8
CFAA	**Coronel Fontan**	**6.89**	**161**	Pn	**Pn**	**23 03 20.4**	**+1.3**
	0.1nm,0.3s,baz=339,slow=14,SNR=8.5						
CFAA				Sn	Sn	23 04 45.2	+8.8
	0.2nm,0.3s,baz=217,slow=18,SNR=3.0						
LPAZ	**La Paz**	**9.14**	**17**	*e*Pn	**Pn**	**23 03 49.1**	**-1.3**
LPAZ	**La Paz**	**9.14**	**17**	Pn	**Pn**	**23 03 49.6**	**-0.9**
	1.2nm,0.3s,baz=200,slow=6.4,SNR=22						
LPAZ				LR	LR	23 07 32.3	
	comp=Z,196nm,18.9s,baz=92,slow=39						
H03N1	**Juan Fernandez**	**10.87**	**218**	T	T	23 15 23.1	
	baz=43,slow=0.7,SNR=408						
H03N2	**Juan Fernandez**	**10.88**	**218**	T	T	23 15 22.7	
	baz=43,slow=0.7,SNR=338						
H03N3	**Juan Fernandez**	**10.88**	**218**	T	T	23 15 22.9	
	baz=43,slow=0.7,SNR=442						
CPUP	**Villa Florida**	**12.29**	**99**	*e*Pn	**Pn**	**23 04 34.9**	**+1.8**
CPUP	**Villa Florida**	**12.29**	**99**	Pn	**Pn**	**23 04 34.9**	**+1.8**
	0.2nm,0.3s,baz=236,slow=7.3,SNR=2.0						
CPUP				LR	LR	23 09 44.1	
	comp=Z,375nm,21.2s,baz=261,slow=39						
SIV	**San Ignacio**	**12.90**	**47**	*e*Pn	**Pn**	**23 04 38.7**	**-2.8**
SIV				*e*Sn	**Sn**	**23 07 03.9**	**-0.1**
SIV	**San Ignacio**	**12.90**	**47**	Pn	**Pn**	**23 04 38.7**	**-2.8**
	3.7nm,0.3s,baz=245,slow=12,SNR=12						
SIV				Sn	**Sn**	**23 07 03.9**	**-0.1**
	0.1nm,0.3s,baz=264,slow=19,SNR=3.2						
SIV				LR	LR	23 09 46.2	
	comp=Z,72nm,20.9s,slow=38						
TRQA	**Tornquist**	**14.98**	**152**	*e*Pn	**Pn**	**23 05 07.8**	**-1.8**
PLCA	**Paso Flores**	**15.60**	**179**	*e*Pn	**P**	**23 05 21.8**	**+0.1**
PLCA	**Paso Flores**	**15.60**	**179**	Pn	**P**	**23 05 21.8**	**+0.1**
	0.1nm,0.3s,baz=182,slow=13,SNR=8.6						
PLCA				LR	LR	23 11 15.7	
	comp=Z,171nm,19.2s,baz=174,slow=37						
SAML	**Samuel**	**17.66**	**26**	*e*Pn	**Pn**	**23 05 42.8**	**-1.1**
	13nm,0.9s						
VNA2	**Nearmap--Watz**	**57.90**	**160**	*e*P	**P**	**23 11 28.5**	**-0.2**
	baz=301,slow=16						
SNAA	**Sanae**	**59.51**	**160**	*e*P	**P**	**23 11 40.3**	**+0.3**
SNAA	**Sanae**	**59.51**	**160**	*e*P	**P**	**23 11 40.2**	**+0.3**
	12nm,0.8s						
632A	**Uvalde**	**60.97**	**331**	P	**P**	**23 11 50.8**	**+0.5**
	baz=61						
631A	**Perdido Creek**	**61.23**	**330**	P	**P**	**23 11 52.6**	**+0.4**
	baz=62						
532A	**Rocksprings**	**61.55**	**331**	P	**P**	**23 11 55.4**	**+1.0**
	baz=62						
JCT	**Junction City**	**61.81**	**332**	P	**P**	**23 11 56.4**	**+0.4**
	baz=62						
531A	**Rocksprings**	**61.87**	**331**	P	**P**	**23 11 57.1**	**+0.6**
	baz=62						
432A	**Menard**	**62.15**	**332**	P	**P**	**23 11 58.4**	**0.0**
	baz=62						
530A	**J-C Ranch, Com**	**62.21**	**330**	P	**P**	**23 11 59.1**	**+0.4**
	baz=62						
431A	**Sonora**	**62.34**	**331**	P	**P**	**23 11 59.8**	**+0.2**
	baz=63						
628A	**Black Gap, Mar**	**62.36**	**329**	P	**P**	**23 12 00.3**	**+0.5**
	baz=63						
332A	**Millersview**	**62.57**	**332**	P	**P**	**23 12 01.2**	**+0.2**
	baz=63						
627A	**Terlingua Ranc**	**62.57**	**328**	P	**P**	**23 12 01.8**	**+0.5**
	baz=63						
LTX	**Lajitas**	**62.61**	**328**	*e*P	**P**	**23 12 01.5**	**0.0**
TXAR	**Lajitas Array**	**62.61**	**328**	P	**P**	**23 12 01.5**	**0.0**
	0.8nm,0.9s,baz=146,slow=9.1,SNR=7.4						
429A	**Davenport Ranc**	**62.86**	**330**	P	**P**	**23 12 03.2**	**+0.1**
	baz=63						
528A	**Cox Ranch, San**	**62.88**	**329**	P	**P**	**23 12 03.2**	**-0.1**
	baz=63						
232A	**Coleman**	**62.97**	**333**	P	**P**	**23 12 03.8**	**+0.1**
	baz=63						
626A	**Big Bend Ranch**	**63.02**	**328**	P	**P**	**23 12 04.8**	**+0.6**
	baz=63						
330A	**Mertzon**	**63.21**	**331**	P	**P**	**23 12 06.0**	**+0.6**
	baz=64						
527A	**Woodward Ranch**	**63.26**	**328**	P	**P**	**23 12 06.1**	**+0.2**
	baz=64						
428A	**Kincaid Ranch,**	**63.31**	**329**	P	**P**	**23 12 06.7**	**+0.7**
	baz=64						
526A	**Mary Lane Ranc**	**63.41**	**328**	P	**P**	**23 12 07.6**	**+0.7**
	baz=64						
ABTX	**Abilene, Hawle**	**63.61**	**333**	P	**P**	**23 12 08.3**	**+0.3**
	baz=64						
329A	**Wagon Wheel Ra**	**63.63**	**331**	P	**P**	**23 12 08.5**	**+0.3**
	baz=64						
427A	**Hayter Ranch,**	**63.74**	**329**	P	**P**	**23 12 09.2**	**+0.2**
	baz=64						
426A	**McDonald Obser**	**63.89**	**328**	P	**P**	**23 12 10.6**	**+0.5**
	baz=64						
328A	**Wristen Ranch,**	**63.92**	**330**	P	**P**	**23 12 10.4**	**+0.4**
	baz=64						
326A	**Caldwell Ranch**	**64.40**	**329**	P	**P**	**23 12 13.7**	**+0.4**
	baz=65						
Z31A	**Sharp Cattle R**	**64.42**	**333**	P	**P**	**23 12 13.2**	**-0.1**
	baz=65						
228A	**UT Block 9, Go**	**64.44**	**330**	P	**P**	**23 12 13.4**	**-0.1**
	baz=65						
425A	**Indio Mountain**	**64.45**	**328**	P	**P**	**23 12 13.6**	**-0.1**
	baz=65						
WCI	**Wyandotte Cave**	**64.63**	**347**	*e*P	**P**	**23 12 13.1**	**-1.5**
	8.8nm,0.7s						
Z30A	**Sanderson Ranc**	**64.80**	**332**	P	**P**	**23 12 15.4**	**-0.4**
	baz=65						
325A	**Bean Ranch, Si**	**64.92**	**328**	P	**P**	**23 12 16.9**	**+0.1**
	baz=65						
QSPA	**South Pole Qui**	**65.11**	**180**	*e*P	**P**	**23 12 18.6**	**+1.1**
	93nm,2.5s						
WMOK	**Wichita Mounta**	**65.12**	**335**	*e*P	**P**	**23 12 17.6**	**-0.2**
	8.1nm,0.7s						
226B	**Telolote Peak,**	**65.13**	**329**	P	**P**	**23 12 18.3**	**+0.3**
	baz=65						
324A	**Moseley Ranch,**	**65.23**	**328**	P	**P**	**23 12 18.4**	**-0.3**
	baz=66						
MNTX	**Cornudas Mount**	**65.39**	**328**	*e*P	**P**	**23 12 19.2**	**-0.4**
	33nm,2.6s						
126A	**Clayton Basin,**	**65.53**	**330**	P	**P**	**23 12 21.4**	**+0.7**
	baz=66						
Z27A	**Tatum**	**65.73**	**331**	P	**P**	**23 12 21.5**	**-0.4**
	baz=66						
224A	**Cornudas Mount**	**65.77**	**328**	P	**P**	**23 12 21.9**	**-0.3**
	baz=66						
125A	**Gardner Draw,**	**65.84**	**329**	P	**P**	**23 12 22.5**	**-0.2**
	baz=66						
Z26A	**Caprock**	**66.04**	**330**	P	**P**	**23 12 24.2**	**+0.3**
	baz=66						
Z24A	**Sheeppen Canyo**	**66.73**	**329**	P	**P**	**23 12 28.7**	**+0.3**
	baz=67						
220A	**Playas Peak, P**	**67.12**	**326**	P	**P**	**23 12 32.1**	**+1.2**
	baz=67						
Z22A	**Elephant Butte**	**67.43**	**328**	P	**P**	**23 12 34.3**	**+1.5**
	baz=68						
Z21A	**St. Cloud Mine**	**67.81**	**327**	P	**P**	**23 12 36.6**	**+1.3**
	baz=68						
V26A	**Tequesquite Ra**	**68.08**	**332**	P	**P**	**23 12 37.6**	**+0.7**
	baz=68						
Z20A	**Nine Sixteen R**	**68.11**	**326**	P	**P**	**23 12 38.1**	**+1.0**
	baz=68						
X23A	**Hourglass Bar**	**68.14**	**329**	P	**P**	**23 12 38.2**	**+0.8**
	baz=68						
Y21A	**Point of Rocks**	**68.38**	**328**	P	**P**	**23 12 40.4**	**+1.5**
	baz=69						
V25A	**Rancho No Teng**	**68.48**	**331**	P	**P**	**23 12 40.1**	**+0.7**
	baz=69						
U26A	**Atchley Ranch,**	**68.57**	**332**	P	**P**	**23 12 40.1**	**+0.2**
	baz=69						
X21A	**Alamocita Cree**	**68.79**	**328**	P	**P**	**23 12 42.8**	**+1.4**
	baz=69						
U25A	**Circle Dot Ran**	**68.86**	**331**	P	**P**	**23 12 42.4**	**+0.7**
	baz=69						
V23A	**Ortiz Mt. (NFS**	**69.10**	**330**	P	**P**	**23 12 44.8**	**+1.5**
	baz=69						
T26A	**Comanche Natio**	**69.17**	**333**	P	**P**	**23 12 44.2**	**+0.5**
	baz=70						
X20A	**Quemado**	**69.21**	**327**	P	**P**	**23 12 45.8**	**+1.8**
	baz=70						
V22A	**San Miguel Ran**	**69.57**	**329**	P	**P**	**23 12 47.8**	**+1.6**
	baz=70						
S25A	**Robets Cordova**	**69.93**	**332**	P	**P**	**23 12 49.2**	**+0.8**
	baz=70						
R26A	**Arlington**	**70.06**	**333**	P	**P**	**23 12 49.7**	**+0.6**
	baz=70						
S24A	**Houchin Ranch,**	**70.25**	**332**	P	**P**	**23 12 51.3**	**+0.9**
	baz=71						
T22A	**Edith**	**70.47**	**330**	P	**P**	**23 12 53.4**	**+1.7**
	baz=71						
X16A	**Lo Mia Camp, P**	**70.59**	**325**	P	**P**	**23 12 54.0**	**+1.5**
	baz=71						
R24A	**Sanders Place,**	**70.70**	**332**	P	**P**	**23 12 54.3**	**+1.3**
	baz=71						
LIC	**Lamto**	**71.15**	**73**	*e*P	**P**	**23 12 55.7**	**-0.4**
	16nm,0.8s						
TIC	**Toumodi**	**71.36**	**73**	*e*P	**P**	**23 12 56.6**	**-0.8**
	3.7nm,0.2s						
KIC	**Kosan Boka**	**71.46**	**74**	*e*P	**P**	**23 12 57.9**	**-0.1**
	21nm,0.7s						
DBIC	**Dimbokro**	**71.51**	**73**	*e*P	**P**	**23 12 58.4**	**+0.1**
	9.8nm,0.8s						
DBIC	**Dimbokro**	**71.51**	**73**	P	**P**	**23 12 58.4**	**+0.1**
	9.0nm,0.7s,baz=216,slow=6.0,SNR=20						
DBIC				LR	LR	23 42 00.4	
	comp=Z,94nm,19.9s,baz=189,slow=34						
VNDA	**Vanda**	**73.00**	**190**	*e*P	**P**	**23 13 08.2**	**+2.1**
	28nm,2.4s						
VNDA	**Vanda**	**73.00**	**190**	P	**P**	**23 13 08.3**	**+2.1**
	1.4nm,0.9s,baz=154,slow=4.6,SNR=7.0						
SYO	**Syowa Base**	**73.79**	**159**	*e*P	**P**	**23 13 10.0**	**-0.9**
PD31	**Pinedale Array**	**76.35**	**332**	*e*P	**P**	**23 13 26.2**	**0.0**
PDAR	**Pinedale Array**	**76.35**	**332**	P	**P**	**23 13 26.2**	**0.0**
	0.3nm,0.6s,baz=105,slow=9.4,SNR=3.1						
NV01	**Mina Array Sit**	**77.24**	**324**	*e*P	**P**	**23 13 32.6**	**+1.2**
NVAR	**Mina Array Bea**	**77.24**	**324**	P	**P**	**23 13 32.6**	**+1.2**
	0.5nm,0.8s,baz=141,slow=7.6,SNR=2.7						
TOA0	**Torodi Ar. Sit**	**80.27**	**71**	*e*P	**P**	**23 13 47.2**	**-1.0**
TORD	**Torodi Ar. Bea**	**80.27**	**71**	P	**P**	**23 13 48.2**	**0.0**
	17nm,0.7s,baz=264,slow=5.4,SNR=114						
TORD				LR	LR	23 49 11.7	
	comp=Z,82nm,19.0s,baz=240,slow=36						
MAW	**Mawson**	**81.42**	**164**	*e*P	**P**	**23 13 54.5**	**+1.1**
	40nm,3.0s						
MAW	**Mawson**	**81.42**	**164**	P	**P**	**23 13 54.5**	**+1.1**
	5.6nm,0.8s,baz=227,slow=8.1,SNR=8.6						
BOSA	**Boshof**	**83.36**	**118**	*e*P	**P**	**23 14 04.8**	**+0.2**
BOSA	**Boshof**	**83.36**	**118**	P	**P**	**23 14 04.8**	**+0.2**
	8.6nm,0.8s,baz=198,slow=2.5,SNR=8.3						
ESDC	**Sonseca Array**	**89.66**	**45**	*e*P	**P**	**23 14 36.5**	**+1.7**
ESDC	**Sonseca Array**	**89.66**	**45**	P	**P**	**23 14 36.5**	**+1.7**
	0.3nm,0.7s,baz=351,slow=2.6,SNR=4.5						
**YKA

GYA	**Guiyang**	**177.41**	**58**	PKP	**PKPdf**	**23 21 46.8**	**-1.1**
GYA				PKPab	PKPab	23 23 32.0	-1.3
GYA				PKS	**PKSdf**	**23 25 18.5**	**-1.7**
GYA				PP	**PP**	**23 27 27.5**	**+1.0**
GYA				PPMZ			

120nm,8.0s

MEX 25 23:38:11.2±0.9, 16°33N×95°75W, h5km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.66**	**212**	*eP*	Pg	23 38 22.2	-1.7
HUIG				*i* S	Sg	23 38 33.0	+0.5
VHO	**Vista Hermosa**	**1.20**	**308**	*i* P	Pg	23 38 31.6	-2.9
VHO				*i* S	Sg	23 38 45.9	-4.3
PNIG	**Pinotepa**	**2.28**	**272**	*i* P	Pn	23 38 46.3	-3.3
PNIG				*i* S	Sn	23 39 14.5	-3.7
PCIG		**2.51**	**104**	*i* P	Pn	23 38 49.1	-3.6
PCIG				*i* S	Sn	23 39 20.5	-3.2
TLIG	**Tlapa**	**2.96**	**295**	*i* P	Pn	23 38 56.4	-2.7
TLIG				*i* S	Sn	23 39 31.9	-3.3

*IDC **25** 23:47:11.7±3.0, 35°81N×71°29E, h0km, mb3.8/5, mb1 3.8/8, mb1mx3.5/29, mbtmp3.8/8, ML3.5/3, Error ellipse: s-maj=61.4km s-min=23.4km az=139.0*
*ISCJB **25** 23:47:23.9±0.4, 36°29N±0.0 3×71°49E±0°06, h114km, mb3.9/6, Error ellipse: s-maj=7.6km s-min=3.8km az=153.2*
*NEIC **25** 23:47:25.4±1.4, 36°42N×71°18E, h93km±14km, mb4.4/2, Error ellipse: s-maj=24.7km s-min=11.4km az=132.0*
*NNC **25** 23:47:34.9±9.5, 36°97N×70°45E, h120km±114km, mb3.1, mpv3.5, Error ellipse: s-maj=83.6km s-min=54.3km az=38.0*

ISC 25 23:47:25.0±0.6, 36°31N±0°05×71°44E±0°07, h114km, n52, σ1§91/56, mb3.8/6, 6C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.51**	**171**	⇑P	**Pn**	**23 48 06.6**	**+1.8**
CEP				S	**Sn**	**23 48 39.0**	**+3.6**
KBL	**Kabul**	**2.64**	**229**	*e*Pn	**Pn**	**23 48 06.2**	**-0.4**
THW	**Thamme Wali**	**3.52**	**176**	⇑P	**Pn**	**23 48 19.3**	**+1.3**
SARP	**Sargodha**	**4.50**	**167**	P	**Pn**	**23 48 33.1**	**+2.0**
THN	**Thein Dam**	**5.24**	**136**	*e*P	**Pn**	**23 48 40.3**	**-0.8**
THN				*e*S	**Sn**	**23 49 39.5**	**-0.8**
AAK	**Ala-Archa** 4.6nm,0.3s	**6.74**	**20**	*e*Pn	**Pn**	**23 49 02.3**	**+0.8**
AAK				Sn	**Sn**	**23 50 16.9**	**0.0**
AAK	**Ala-Archa** 1.9nm,0.3s,baz=162,slow=6.7,SNR=22	**6.74**	**20**	Pn	**Pn**	**23 49 03.7**	**+2.2**
AAK				Sn	**Sn**	**23 50 16.9**	**0.0**
KK31	**Karatay Array** 0.7nm,0.3s,baz=333,slow=19,SNR=6.9	**6.82**	**354**	⇑P	**Pn**	**23 49 02.4**	**0.0**
KK31	1.3nm,0.3s,baz=176,slow=12,SNR=10			⇑S	**Sn**	**23 50 13.2**	**-5.4**
KKAR	**Karatay Array** 1.8nm,0.3s,baz=188,slow=26,SNR=3.9 4.0nm,0.3s	**6.82**	**354**	*e*Pn	**Pn**	**23 49 01.3**	**-1.1**
SMLA	**Simla**	**7.03**	**136**	*i* P	**Pn**	**23 49 05.7**	**+0.4**
SMLA				*i* S	**Sn**	**23 50 22.8**	**-1.0**
SMLA				*i* S	**Sn**	**23 50 23.3**	**-0.5**
SMLA	comp=E,84nm,0.1s			AML	AML	23 50 28.3	
SMLA	comp=N,93nm,0.3s			AML	AML	23 50 29.7	
KUDL	**Kundal**	**9.20**	**151**	*e*S	Sn	23 51 08.8	-7.5
KUDL	comp=E,19nm,0.4s			AML	AML	23 51 13.2	
KUDL	comp=N,8.2nm,0.2s			AML	AML	23 51 15.4	
SONA	**Sohna**	**9.35**	**148**	*e*S	Sn	23 51 12.9	-7.1
SONA	comp=N,11nm,0.4s			AML	AML	23 51 42.5	
SONA	comp=E,13nm,0.5s			AML	AML	23 51 43.2	
DANN	**Dangsing** comp=E,16nm,0.3s	**13.09**	**124**	*e*P	**Pn**	**23 50 25.7**	**-1.1**
MKAR	**Makanchi Array**	**13.24**	**34**	Pn	**Pn**	**23 50 28.3**	**-0.1**
MKAR	**Makanchi Array** comp=E,0.0nm,0.3s,baz=216,slow=14,SNR=2.4	**13.24**	**34**	Pn	**Pn**	**23 50 28.3**	**-0.1**
KOLN	**Koldanda** comp=E,12nm,0.4s	**13.37**	**126**	*e*P	**Pn**	**23 50 29.7**	**-0.7**
GKN	**Gorkha** comp=E,18nm,0.4s	**13.90**	**123**	*e*P	**Pn**	**23 50 35.9**	**-1.4**
BHPL	**Bhopal**	**14.02**	**157**	*e*S	**Sn**	**23 53 08.2**	**-5.0**
DMN	**Daman** comp=E,17nm,0.4s	**14.47**	**123**	*e*P	**Pn**	**23 50 43.5**	**-1.2**
KKN	**Kakani** comp=E,17nm,0.5s	**14.48**	**122**	*e*P	**Pn**	**23 50 43.5**	**-1.2**
PKIN	**Phulchoki** comp=E,9.3nm,0.3s	**14.69**	**122**	*e*P	**Pn**	**23 50 46.2**	**-1.2**
PKI	**Pulchoki** comp=E,13nm,0.4s	**14.70**	**122**	*e*P	**Pn**	**23 50 46.6**	**-1.0**
GUN	**Gumba** comp=E,12nm,0.4s	**14.81**	**120**	*e*P	**Pn**	**23 50 47.7**	**-1.4**
JIRN	**Jiri** comp=E,34nm,0.4s	**15.19**	**120**	*e*P	**Pn**	**23 50 52.5**	**-1.3**
KURBB	**Kurchatov Array** comp=E,1.3nm,0.6s	**15.19**	**17**	⇓P	**P**	**23 50 56.3**	**+0.7**
KURBB	**Kurchatov Array** comp=E,0.2nm,0.3s,baz=205,slow=10,SNR=11	**15.19**	**17**	Pn	**P**	**23 50 55.1**	**-0.5**
KURK	**Kurchatov**	**15.30**	**18**	Pn	**Pn**	**23 50 55.1**	**+0.5**
AB31	**Akbulak array** comp=E,0.2nm,0.2s,baz=155,slow=12,SNR=4.7	**15.42**	**331**	⇑P	**Pn**	**23 50 53.7**	**-2.5**
AB31	comp=E,0.9nm,0.5s,baz=168,slow=22,SNR=5.8			⇑S	Sn	23 53 31.0	-16
ABKAR	**Akbulak array** comp=E,0.9nm,0.3s	**15.42**	**331**	*e*Pn	**Pn**	**23 50 54.5**	**-1.6**
RAMN	**Ramite** comp=E,11nm,0.3s	**15.91**	**122**	*e*P	**Pn**	**23 51 00.9**	**-1.8**
TAPN	**Taplejung** comp=E,12nm,0.4s	**16.44**	**118**	*e*P	**Pn**	**23 51 08.5**	**-0.8**
ODAN	**Odare** comp=E,13nm,0.5s	**16.52**	**120**	*e*P	**Pn**	**23 51 08.7**	**-1.5**
BVAR	**Borovoye Array**	**16.73**	**358**	Pn	**P**	**23 51 15.7**	**+3.1**
BVAR	**Borovoye Array** comp=E,0.3nm,0.3s,baz=173,slow=9.5,SNR=3.7	**16.73**	**358**	Pn	**P**	**23 51 15.7**	**+3.1**
AKTO	**Aktyubinsk** comp=E,1.4nm,0.6s	**17.12**	**330**	⇓P	**Pn**	**23 51 18.3**	**+1.2**
AKTO	comp=E,0.8nm,0.6s			⇓S	Sn	23 54 13.6	-14
AKTO	**Aktyubinsk**	**17.12**	**330**	P	**P**	**23 51 15.9**	**-1.1**
AKTO	**Aktyubinsk** comp=E,0.3nm,0.3s,baz=156,slow=12,SNR=7.5	**17.12**	**330**	P	**P**	**23 51 15.9**	**-1.1**
ZAA0	**Zalesovo Array**	**19.94**	**24**	*e*P	**Pn**	**23 51 49.5**	**-0.9**
ZALV	**Zalesovo Beam**	**19.94**	**24**	P	**Pn**	**23 51 50.2**	**-0.3**
ZALV	**Zalesovo Beam** comp=E,4.3nm,0.3s,baz=205,slow=10,SNR=29	**19.94**	**24**	P	**Pn**	**23 51 50.2**	**-0.3**
GNI	**Garni**	**21.29**	**288**	*e*P	**P**	**23 51 59.9**	**-2.7**
AKASG	**Malin Array Be**	**33.34**	**309**	P	**P**	**23 53 53.0**	**+1.1**
AKASG	**Malin Array Be** comp=E,0.2nm,0.4s,baz=82,slow=7.4,SNR=3.6	**33.34**	**309**	P	**P**	**23 53 52.9**	**+1.1**
JOF	**Joensuu** comp=E,0.5nm,0.3s	**36.21**	**330**	*e*p	**P**	**23 54 19.3**	**+2.9**
FINES	**FINESS Array B**	**37.84**	**326**	P	**P**	**23 54 33.1**	**+3.0**
FINES	**FINESS Array B** comp=E,1.3nm,0.7s,baz=118,slow=11,SNR=5.3	**37.84**	**326**	P	**P**	**23 54 33.1**	**+3.0**
YHNB	**Yeheng** comp=E,26nm,0.5s	**44.13**	**91**	*e*P	P	23 55 17.5	-4.8
NB2	**NORSAR Subarra** comp=Z,0.5nm,0.5s,baz=99,slow=7.9	**44.74**	**323**	P	**P**	**23 55 29.3**	**+2.6**
NOA	**NORSAR Array B**	**44.74**	**323**	P	**P**	**23 55 29.1**	**+2.5**
NOA	**NORSAR Array B** comp=Z,0.4nm,0.4s,baz=100,slow=7.7,SNR=3.4	**44.74**	**323**	P	**P**	**23 55 29.1**	**+2.5**
TORD	**Torodi Ar. Bea**	**66.07**	**269**	P	**P**	**23 57 59.9**	**-0.1**
TORD	**Torodi Ar. Bea** comp=Z,0.8nm,0.6s,baz=51,slow=6.0,SNR=17	**66.07**	**269**	P	**P**	**23 57 59.9**	**-0.1**

IDC 25 23:53:56.9±1.2, 19°46N×122°45E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.7/26, mbtmp3.8/6, ML3.4/1, MS3.4/3, Ms1 3.4/3, ms1mx2.8/29, Error ellipse: s-maj=42.4km s-min=20.5km az=64.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array** 0.1nm,0.3s,baz=185,slow=13,SNR=4.2	**18.55**	**14**	P	Pn	23 58 16.8	+1.4
CMAR	**Chiang Mai Arr** 1.9nm,0.4s,baz=79,slow=9.3,SNR=5.8	**22.25**	**271**	P	P	23 58 57.0	+1.3
SONM	**Songino Array**	**31.17**	**339**	LR	LR	00 13 42.2	
	comp=Z,31nm,18.1s,baz=238,slow=38						
WRA	**Warramunga Arr** 0.7nm,0.9s,baz=342,slow=9.2,SNR=3.6	**40.86**	**163**	P	P	00 01 40.7	0.0
MKAR	**Makanchi Array** 0.6nm,0.4s,baz=111,slow=8.1,SNR=11	**42.60**	**319**	P	P	00 01 54.4	-0.5
ASAR	**Alice Springs** 0.5nm,0.8s,baz=346,slow=6.8,SNR=5.0	**44.30**	**165**	P	P	00 02 08.4	-0.3
KURBB	**Kurchatov Arra** 2.8nm,0.2s,baz=118,slow=8.1,SNR=4.7	**46.51**	**322**	P	P	00 02 24.7	-1.2
DZM	**Mont Dzumac** comp=Z,63nm,19.1s,baz=238,slow=34	**59.61**	**132**	LR	LR	00 27 52.7	
NOA	**NORSAR Array B** comp=Z,17nm,19.7s,baz=250,slow=38	**82.94**	**333**	LR	LR	00 46 54.2	

*AUST **26** 00:09:17.4, 7°50S×123°00E, h200km*
*ISCJB **26** 00:09:21.6±0.3, 8°07S±0°05×122°69E±0°07, h226km, mb3.9/8, Error ellipse: s-maj=10.6km s-min=4.5km az=145.6*
*IDC **26** 00:09:21.6±0.8, 8°06S×122°59E, h202km±7km, mb3.7/8, mb1 3.8/11, mb1mx3.6/22, mbtmp4.2/11, Error ellipse: s-maj=30.7km s-min=8.2km az=63.0*
*DJA **26** 00:09:22.8±0.7, 8°S±8°×12°3E±1°2, h199km±9km, M4.0/5, MLv4.0/5*

ISC 26 00:09:23.0±0.6, 8°12S±0°07×122°64E±0°09, h226km, n43, σ1§81/46, mb4.0/8, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.65**	**218**	P	Pn	00 09 50.0	-3.7
MMRI				S	**S**	**00 10 13.1**	**-4.7**
SOEI	**Soe**	**2.29**	**135**	P	**Pn**	**00 10 04.7**	**-1.8**
SOEI	**Soe** baz=2.6,SNR=76	**2.29**	**135**	P	**Pn**	**00 10 04.5**	**-2.0**
BATI	**Baumata**	**2.31**	**154**	P	**Pn**	**00 10 04.9**	**-1.8**
BATI				S	**S**	**00 10 38.3**	**-2.5**
BATI	**Baumata** 112nm,0.3s,baz=334,slow=4.0,SNR=37	**2.31**	**154**	P	**Pn**	**00 10 05.0**	**-1.6**
BATI	236nm,0.3s,baz=49,slow=20,SNR=18			S	**S**	**00 10 37.9**	**-2.9**
BBSI	**Bau Bau**	**2.61**	**358**	P	**Pn**	**00 10 07.8**	**-2.1**
BKSI	**Bulukumba**	**3.74**	**318**	P	Pn	00 10 19.2	-3.5
KKSI	**Kolaka, Sulawe**	**4.04**	**346**	P	**Pn**	**00 10 24.2**	**-2.2**
KAPI	**Kappang** 1.4nm,0.3s,baz=146,slow=18,SNR=6.1	**4.21**	**317**	P	Pn	00 10 25.1	-3.3
BNSI	**Bone**	**4.47**	**326**	P	**Pn**	**00 10 30.4**	**-1.2**
MTN	**Manton Dam** baz=9.6,SNR=18	**9.58**	**120**	P	**Pn**	**00 11 35.3**	**-1.3**
KNRA	**Kununurra** baz=9.9,SNR=25	**9.61**	**142**	P	**Pn**	**00 11 35.0**	**-1.9**
KDU	**Kakadu** baz=11,SNR=14	**10.68**	**116**	P	**Pn**	**00 11 49.5**	**-1.2**
UGM	**Wanagama** baz=12,SNR=4.5	**12.00**	**270**	P	**Pn**	**00 12 05.2**	**-2.2**
WRA	**Warramunga Arr** 1.3nm,0.3s,baz=311,slow=10,SNR=17	**16.33**	**137**	P	**P**	**00 12 59.1**	**+0.1**
WRA	1.6nm,0.3s,baz=310,slow=24,SNR=10.0			S	**S**	**00 15 53.9**	**-4.8**
GIRL	**Giralia** baz=17,SNR=4.2	**16.55**	**208**	P	**Pn**	**00 13 03.9**	**+1.1**
MEEK	**Meekatharra** baz=20,SNR=51	**18.81**	**191**	P	**P**	**00 13 27.4**	**+1.4**
ASAR	**Alice Springs** 1.9nm,0.3s,baz=329,slow=13,SNR=43	**18.86**	**146**	P	**P**	**00 13 27.8**	**+1.3**
ASAR	baz=324,slow=20,SNR=9.0			S	**S**	**00 16 53.3**	**+4.4**
ASAR	baz=325,slow=1.5,SNR=4.4			ScP	**ScP**	**00 20 58.0**	**+0.7**
COEN	**Coen** baz=21,SNR=22	**20.96**	**108**	P	**P**	**00 13 49.0**	**-0.1**
MORW	**Morawa** baz=22,SNR=9.3	**21.75**	**196**	P	**P**	**00 13 57.4**	**+0.7**
BLDU	**Ballidu** baz=24,SNR=17	**23.06**	**193**	P	**P**	**00 14 09.6**	**+0.9**
NWAO	**Narrogin (SRO)** 3.4nm,0.4s,baz=30,slow=9.2,SNR=7.2	**25.19**	**191**	P	**P**	**00 14 28.6**	**+0.6**
BBOO	**Buckleboo** baz=28,SNR=26	**27.54**	**155**	P	**P**	**00 14 50.2**	**+1.2**
STKA	**Stephens Creek** baz=30,SNR=5.1	**29.50**	**146**	P	**P**	**00 15 08.2**	**+1.9**
STKA	**Stephens Creek** 3.1nm,0.5s,baz=320,slow=10,SNR=8.1	**29.50**	**146**	P	**P**	**00 15 07.7**	**+1.4**
CMAR	**Chiang Mai Arr** 0.7nm,0.5s,baz=143,slow=9.1,SNR=4.6	**35.27**	**319**	P	**P**	**00 15 56.4**	**-0.3**
ODAN	**Odare** 5.9nm,0.4s	**48.76**	**317**	*e*P	**P**	**00 17 46.4**	**+0.8**
TAPN	**Taplejung** 11nm,0.6s	**48.86**	**317**	*e*P	**P**	**00 17 47.5**	**+1.0**
RAMN	**Ramite** 25nm,0.6s	**49.35**	**316**	*e*P	**P**	**00 17 51.4**	**+1.2**
JIRN	**Jiri** 16nm,0.6s	**50.09**	**317**	*e*P	**P**	**00 17 56.6**	**+0.8**
GUN	**Gumba** 18nm,0.5s	**50.46**	**317**	*e*P	**P**	**00 17 59.3**	**+0.7**
PKI	**Pulchoki**	**50.56**	**316**	*e*P	**P**	**00 17 59.7**	**+0.4**
PKIN	**Phulchoki**	**50.58**	**316**	*e*P	**P**	**00 17 59.9**	**+0.5**
KKN	**Kakani** 12nm,0.7s	**50.79**	**316**	*e*P	**P**	**00 18 01.5**	**+0.6**
DMN	**Daman**	**50.80**	**316**	*e*P	**P**	**00 18 01.6**	**+0.6**
KOLN	**Koldanda** 3.9nm,0.4s	**51.95**	**315**	*e*P	**P**	**00 18 09.9**	**+0.5**
DANN	**Dangsing** 29nm,0.5s	**52.19**	**316**	*e*P	**P**	**00 18 11.1**	**-0.2**
USRK	**Ussuriysk Arra** 1.2nm,0.5s,baz=190,slow=6.6,SNR=4.7	**52.76**	**8**	P	**P**	**00 18 14.7**	**0.0**
SONM	**Songino Array** 0.5nm,0.5s,baz=151,slow=7.9,SNR=4.4	**57.53**	**347**	P	**P**	**00 18 49.3**	**+0.3**
MKAR	**Makanchi Array** 3.0nm,0.5s,baz=134,slow=8.1,SNR=55	**65.39**	**331**	P	**P**	**00 19 43.0**	**+1.6**
ZALV	**Zalesovo Beam** 2.9nm,0.5s,baz=136,slow=4.8,SNR=19	**69.56**	**337**	P	**P**	**00 20 07.7**	**+0.4**
VNDA	**Vanda** 0.8nm,0.6s,baz=306,slow=8.8,SNR=17	**72.31**	**172**	P	**P**	**00 20 25.5**	**+2.0**
TORD	**Torodi Ar. Bea** 0.7nm,0.6s,baz=110,slow=2.0,SNR=5.5	**121.85**	**280**	PKP	**PKPdf**	**00 27 51.0**	**-0.3**

*IDC **26** 00:20:56.0±1.7, 9°17N×125°93E, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.8/25, mbtmp4.0/7, Error ellipse: s-maj=205.3km s-min=19.6km az=68.0*
*MAN **26** 00:20:59, 9°31N×126°51E, h3km, mb4.9, ML3.8, MS3.9*
*ISCJB **26** 00:21:00.7±0.8, 9°32N±0°07×126°69E±0°07, h54km, mb4.0/7, Error ellipse: s-maj=10.1km s-min=9.1km az=24.0*

ISC 26 00:21:02.6±1.1, 9°34N±0°07×126°6E±0°1, h54km, n22, σ1§25/17, mb4.0/7, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.07**	**250**	*e*P	Pn	00 21 17.9	-3.5
MSLP	**Maasin**	**1.92**	**294**	*e*P	**Pn**	**00 21 32.6**	**-0.4**
CGP	**Cagayan de Oro**	**2.11**	**246**	*e*P	**Pn**	**00 21 33.6**	**-1.9**
CGP				*i* S	**Sn**	**00 21 60.0**	**-0.6**
BUKP	**Musuan**	**2.13**	**227**	*e*P	**Pn**	**00 21 36.1**	**+0.3**
BUKP				*e*S	Sn	00 21 54.1	-7.0
OCLP	**Ormoc**	**2.62**	**311**	*e*P	**Pn**	**00 21 43.1**	**+0.6**
LLP	**Lapu-Lapu**	**2.81**	**290**	*e*P	**Pn**	**00 21 44.8**	**-0.2**
LLP				*e*S	**Sn**	**00 22 19.0**	**+1.3**
PAGZ	**Pagadian**	**3.54**	**246**	*e*P	**Pn**	**00 21 57.6**	**+2.5**
RCP	**Roxas**	**4.42**	**300**	⇑*e*P	**Pn**	**00 22 07.6**	**+0.4**
WRA	**Warramunga Arr** 0.6nm,0.7s,baz=346,slow=9.1,SNR=6.0	**30.07**	**165**	P	**P**	**00 27 07.2**	**+0.2**
ASAR	**Alice Springs** 5.0nm,0.3s,baz=341,slow=7.2,SNR=4.5	**33.56**	**168**	P	**P**	**00 27 37.9**	**+0.2**
H11S3	**WAKE ISLAND Hy** baz=262,slow=0.6,SNR=17	**39.85**	**72**	T	T	01 11 33.8	
H11S1	**WAKE ISLAND Hy** baz=262,slow=0.6,SNR=17	**39.86**	**72**	T	T	01 11 43.9	
H11S2	**WAKE ISLAND Hy** baz=262,slow=0.6,SNR=22	**39.86**	**72**	T	T	01 11 29.1	
H11N1	**WAKE ISLAND Hy** baz=268,slow=0.7,SNR=0.5	**40.21**	**71**	T	T	01 11 57.9	
H11N2	**WAKE ISLAND Hy** baz=268,slow=0.7,SNR=5.4	**40.22**	**71**	T	T	01 12 09.7	
H11N3	**WAKE ISLAND Hy** baz=268,slow=0.7,SNR=0.3	**40.23**	**71**	T	T	01 12 00.1	
MKAR	**Makanchi Array** 0.6nm,0.6s,baz=119,slow=8.4,SNR=5.2	**52.98**	**323**	P	**P**	**00 30 11.1**	**-2.7**
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=122,slow=7.0,SNR=3.0	**55.61**	**331**	P	**P**	**00 30 32.1**	**-0.7**
KURBB	**Kurchatov Arra** 0.7nm,0.7s,baz=126,slow=6.6,SNR=11	**57.04**	**326**	P	**P**	**00 30 42.9**	**-0.1**
ARCES	**ARCESS Array B** 1.9nm,0.9s,baz=74,slow=7.6,SNR=5.0	**85.19**	**340**	P	**P**	**00 33 33.6**	**+0.7**
FINES	**FINESS Array B**	**86.88**	**332**	P	**P**	**00 33 41.3**	**-0.1**
	0.9nm,0.6s,baz=78,slow=7.3,SNR=5.1						
TORD	**Torodi Ar. Bea** 0.5nm,0.9s,baz=53,slow=1.7,SNR=2.7	**120.94**	**291**	PKP	**PKPdf**	**00 39 50.7**	**+0.6**

GUC 26 00:23:32.8±0.7, 21°70N×68°78W, h139km±8km, ML3.7, 5C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	**Plate Boundary**	**0.86**	**229**	⇑*i* P	Pn	00 24 01.7	+6.4
PB04				*i* S	Sn	00 24 23.2	+11
PB04	comp=N,433nm,0.4s			AML	AML	00 24 25.2	
PB01	**Plate Boundary**	**0.93**	**315**	⇑*i* P	Pn	00 23 56.5	+0.4
PB01				*i* S	Sn	00 24 14.3	+0.6
PB01	comp=E,1μm,0.2s			AML	AML	00 24 15.6	
PB07	**Plate Boundary**	**1.03**	**268**	⇑P	Pn	00 23 57.9	+1.0
PB07				*e*S	Sn	00 24 16.5	+1.2
PB07	comp=N,2μm,0.3s			AML	AML	00 24 17.5	
MACH	**Maria Elena**	**1.03**	**241**	⇑*i* P	Pn	00 23 57.7	+0.6
MACH				*i* S	Sn	00 24 16.3	+0.7
HMBC	**Humberstone**	**1.75**	**324**	⇓*i* P	Pn	00 24 05.1	+0.5
HMBC				*i* S	Sn	00 24 29.8	+0.9
HMBC	comp=N,2μm,0.7s			AML	AML	00 24 31.7	
CEN1	**Los Morros**	**2.13**	**218**	*e*P	Pn	00 24 12.4	+3.5
CEN1	comp=N,212nm,0.6s			AML	AML	00 24 51.7	
PB10	**Plate Boundary**	**2.44**	**222**	*e*P	Pn	00 24 13.2	+0.6
PB10				*e*S	Sn	00 24 41.0	-2.3
PB10	comp=N,628nm,0.5s			AML	AML	00 24 52.1	
PSGC	**Pisagua**	**2.44**	**329**	⇑*i* P	Pn	00 24 12.6	-0.2
PSGC				*i* S	Sn	00 24 44.0	+0.4
PSGC	comp=E,300nm,0.4s			AML	AML	00 24 45.7	
ANCH	**Antofagasta**	**2.48**	**217**	*e*P	Pn	00 24 13.9	+0.8

*NEIC **26** 00:26:47.3, 18°57N×63°93W, h55km, MD3.6(RSPR), After RSPR.*

RSPR 26 00:26:47.3, 18°57N×63°93W, h55km±3km, MD3.6/6, 16C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.67**	**257**	⇑*e*P	Pn	00 26 59.7	-1.1
TBVI				*e*S	Sn	00 27 10.2	-0.5
TBVI	**Tortola**	**0.67**	**257**	⇓*e*P	Pn	00 26 59.7	-1.1
TBVI				*e*S	Sn	00 27 10.2	-0.5
STVI	**Saint Thomas**	**0.99**	**258**	⇓*e*P	Pn	00 27 03.9	-1.1
STVI	**Saint Thomas**	**0.99**	**258**	⇓*e*P	Pn	00 27 03.9	-1.1
STVI				*e*S	Sn	00 27 17.7	-0.5
SABA	**Saba**	**1.15**	**145**	⇑*e*P	Pn	00 27 04.9	-2.2
SABA	**Saba**	**1.15**	**145**	⇑*e*P	Pn	00 27 04.9	-2.2
SABA				*e*S	Sn	00 27 21.0	-0.9
MTP	**Monte Pirata**	**1.61**	**253**	⇑*e*P	Pn	00 27 12.2	-1.1
MTP	**Monte Pirata**	**1.61**	**253**	⇑*e*P	Pn	00 27 12.2	-1.1
MTP				*e*S	Sn	00 27 32.2	-0.9
CBYP	**Canovanas**	**1.85**	**261**	⇑*e*P	Pn	00 27 15.8	-0.9
CBYP	**Canovanas**	**1.85**	**261**	⇑*e*P	Pn	00 27 15.8	-0.9
CBYP				*e*S	Sn	00 27 37.5	-1.5
HUMP	**Col San Antoni**	**1.87**	**257**	⇑*e*P	Pn	00 27 16.0	-0.8
HUMP	**Col San Antoni**	**1.87**	**257**	⇑*e*P	Pn	00 27 16.0	-0.8
HUMP				*e*S	Sn	00 27 37.8	-1.6
CPD	**Cerro la Pandu**	**1.96**	**255**	⇑*e*P	Pn	00 27 17.6	-0.5
CPD	**Cerro la Pandu**	**1.96**	**255**	⇑*e*P	Pn	00 27 17.6	-0.5
CPD				*e*S	Sn	00 27 40.7	-0.9
SJG	**San Juan**	**2.15**	**258**	⇑*e*P	Pn	00 27 20.8	0.0
SJG				*e*S	Sn	00 27 46.4	+0.1
SJG	**San Juan**	**2.15**	**258**	⇑*e*P	Pn	00 27 20.8	0.0
SJG				*e*S	Sn	00 27 46.4	+0.1
CRPR	**Cabo Rojo, PR**	**3.07**	**260**	⇑*e*P	Pn	00 27 33.1	-0.2
CRPR	**Cabo Rojo, PR**	**3.07**	**260**	⇑*e*P	Pn	00 27 33.1	-0.2
CRPR				*e*S	Sn	00 28 09.8	+1.0

IDC 26 00:48:00.1±12.0, 18°98N×145°43E, h309km±127km, mb3.2/9, mb1 3.5/9, mb1mx3.3/25, mbtmp3.2/9, Error ellipse: s-maj=35.7km s-min=17.8km az=76.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 4.2nm,0.7s,baz=8.8,slow=8.9,SNR=20	**40.18**	**196**	P	P	00 55 07.1	-0.1
SONM	**Songino Array** 0.2nm,0.3s,baz=126,slow=7.3,SNR=2.8	**42.77**	**321**	P	P	00 55 28.1	+0.2
ASAR	**Alice Springs** 1.2nm,0.6s,baz=17,slow=8.5,SNR=20	**43.85**	**195**	P	P	00 55 36.4	-0.3
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=95,slow=8.6,SNR=5.9	**58.09**	**314**	P	P	00 57 22.0	+0.3
ILAR	**Eielson Array** 0.2nm,0.4s,baz=244,slow=4.8,SNR=4.2	**63.51**	**26**	P	P	00 57 55.8	-1.8
YKA	**Yellowknife Ar** 0.7nm,0.6s,baz=286,slow=5.2,SNR=3.3	**77.87**	**28**	P	P	00 59 24.8	+1.2
ARCES	**ARCESS Array B** 0.9nm,0.6s,baz=66,slow=9.0,SNR=5.0	**82.15**	**342**	P	P	00 59 46.0	-0.3
NVAR	**Mina Array Bea** 0.6nm,0.6s,baz=274,slow=6.0,SNR=6.0	**83.17**	**52**	P	P	00 59 53.2	+0.7
FINES	**FINESS Array B** 1.9nm,0.9s,baz=72,slow=4.5,SNR=8.2	**86.53**	**335**	P	P	01 00 07.2	-1.0

IDC 26 00:55:15.8±5.3, 24°07N×108°98W, h0km, mb3.4/1, mb1 3.6/4, mb1mx3.5/23, mbtmp3.2/4, ML3.7/3, MS3.2/6, Ms1 3.2/6, ms1mx3.0/17, Error ellipse: s-maj=86.2km s-min=15.0km az=161.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz** 194nm,0.3s,baz=81,slow=9.6,SNR=76	**1.21**	**272**	Pg	Pb	00 55 39.6	0.0
LPIG				Lg	Lg	00 55 54.7	
H06E1	**SOCORRO T-PHAS** SNR=22	**5.57**	**199**	T	T	01 02 35.2	
H06S1	**SOCORRO T** SNR=4.9	**5.62**	**199**	T

WRA	**Warramunga Arr**	**46.06**	**268**	P	P	01 37 29.1	-0.9	
	1.7nm,0.4s,baz=107,slow=8.1,SNR=9.1							
WRA				LR	LR	01 53 15.7		
	comp=Z,445nm,21.6s,baz=50,slow=32							
NB2	**NORSAR Subarra**	**146.33**	**354**	PKP	PKPab	01 48 52.2	+5.2	
	comp=Z,0.7nm,0.8s,baz=12,slow=2.9							
BRTR	**Keskin Array B**	**152.89**	**304**	PKPbc	PKPbc	01 49 03.4	-0.1	
	comp=Z,0.8nm,0.8s,baz=103,slow=1.2,SNR=4.7							

IDC ***26*** *01:30:28.9±0.7, 19°.03N×108°.20W, h0km, mb4.3/12, mb1 4.5/17, mb1mx4.4/28, mbtmp4.3/17, ML3.8/5, MS4.1/19, Ms1 4.1/19, ms1mx4.0/31, Error ellipse: s-maj=26.7km s-min=13.0km az=64.0*

GCMT ***26*** *01:30:31.4±0.3, 19°.12N×108°.08W, h16km, MW5.0, Moment Tensor Solution. s32,c36; s80,c128; Moment tensor: Scale 10^16 Nm; Mrr=-3.76±.20; Mθθ=0.06±.11; Mφφ=3.82±.14; Mrθ=-2.08±.40; Mθφ=-1.36±.07; Mφr=0.37±.30; Best double couple: M0=4.50000×10^16 NP1:φs=140.00000°, δ=57.00000°, λ=-118.00000°. NP2:φs=4.00000°, δ=43.00000°, λ=-54.00000°. Principal axes: T 4.3800, Plg8.0000°, Azm250.0000°; N 0.3200, Plg23.0000°, Azm156.0000°; P -4.7000, Plg65.0000°, Azm356.0000°; Data Used: IU II CN G IC.*

MEX ***26*** *01:30:33.1±0.6, 19°.01N×107°.88W, h10km±22km, MD4.6*

ISCJB ***26*** *01:30:33.2±0.3, 19°.00N±0°.03×107°.84W±0°.02, h33km, mb4.7/80, MS4.2/17, Error ellipse: s-maj=4.3km s-min=3.0km az=13.7*

NEIC ***26*** *01:30:36.4±2.0, 19°.09N×107°.87W, h39km±6km, mb4.7/105, MD4.5(MEX), Error ellipse: s-maj=16.0km s-min=3.1km az=97.0*

BJI ***26*** *01:30:38.1, 19°.10N×108°.00W, h59km, mB5.3/2, mb5.2/1, Ms5.0/2, Ms7 4.9/2*

ISC 26 01:30:35.3±0.5, 19°.07N±0°.05×107°.86W±0°.05, h35km, n506, σ1°.14/490, mb4.8/80, MS4.1/17, 159C-153D, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CJM	**Chamela**	**2.70**	**80**	*i*	P		**Pn**	**01 31 13.8**	**-2.4**
CJM				*i*	S		**Sn**	**01 31 45.5**	**-2.2**
CJM	**Chamela**	**2.70**	**80**	*e*	P		**Pn**	**01 31 13.8**	**-2.4**
CJM				*e*	Sn		**Sn**	**01 31 45.5**	**-2.2**
H06E1	**SOCORRO T-PHAS**	**2.91**	**265**		T		T	01 33 58.7	
	SNR=56								
H06S1	**SOCORRO T**	**2.95**	**264**		T		T	01 34 01.2	
	SNR=40								
H06N1	**SOCORRO T-PHAS**	**2.96**	**267**		T		T	01 33 51.5	
	SNR=17								
ANIG	**Ahuacatlan**	**3.71**	**57**	*i*	P		**Pn**	**01 31 29.1**	**-1.2**
ANIG				*i*	S		**Sn**	**01 32 13.5**	**+0.6**
MMIG	**Aquila**	**4.35**	**99**	*e*	P		**Pn**	**01 31 38.0**	**-1.0**
MMIG				*i*	S		**Sn**	**01 32 26.8**	**-1.7**
LPIG	**La Paz**	**5.50**	**336**	*e*	P		**Pn**	**01 31 52.0**	**-2.8**
LPIG				*e*	Sn		**Sn**	**01 32 57.0**	**+0.1**
LPIG	**La Paz**	**5.50**	**336**	*e*	Pn		**Pn**	**01 31 52.0**	**-2.8**
LPIG				*e*	Sn		**Sn**	**01 32 57.0**	**+0.1**
LPIG	**La Paz**	**5.50**	**336**		Pn		**Pn**	**01 31 51.8**	**-3.0**
	4.8nm,0.3s,baz=343,slow=1.3,SNR=8.0								
ZAIG	**Zacatecas**	**6.17**	**52**	*i*	P		**Pn**	**01 32 04.2**	**0.0**
ZAIG				*i*	S		**Sn**	**01 33 12.9**	**-0.9**
ZAIG	**Zacatecas**	**6.17**	**52**	*e*	Pn		**Pn**	**01 32 04.2**	**0.0**
ZAIG				*e*	Sn		**Sn**	**01 33 12.9**	**-0.9**
MOIG	**Morelia**	**6.33**	**83**	*e*	P		**Pn**	**01 32 04.2**	**-2.2**
MOIG	**Morelia**	**6.33**	**83**	*e*	Pn		**Pn**	**01 32 04.2**	**-2.2**
IGIG	**Irapuato, Guan**	**6.37**	**74**	*i*	P		**Pn**	**01 32 04.1**	**-2.8**
ARIG	**Puente Sto Nin**	**7.17**	**95**	*e*	P		**Pn**	**01 32 18.0**	**+0.3**
YAIG	**Yautepec**	**8.32**	**90**	*i*	P		**Pn**	**01 32 33.4**	**-0.3**
YAIG	**Yautepec**	**8.32**	**90**	*e*	Pn		**Pn**	**01 32 33.4**	**-0.3**
LTX	**Lajitas**	**10.91**	**20**	*e*	Pn		**Pn**	**01 33 08.9**	**-0.2**
TX31	**Lajitas Ar. Si**	**10.91**	**20**	*e*	Pn		**Pn**	**01 33 08.8**	**-0.3**
TXAR	**Lajitas Array**	**10.91**	**20**		Pn		**Pn**	**01 33 08.9**	**-0.2**
	1.5nm,0.3s,baz=204,slow=13,SNR=76								
TXAR					LR		LR	01 36 49.0	
	comp=Z,890nm,19.4s,baz=295,slow=34								
626A	**Big Bend Ranch**	**10.98**	**17**	⇑	P		**Pn**	**01 33 11.2**	**+1.2**
	baz=11,SNR=39								
627A	**Terlingua Ranc**	**11.12**	**21**	⇓	P		**Pn**	**01 33 12.1**	**+0.2**
	baz=11,SNR=27								
627A				⇑	S		Sn	01 35 21.8	+6.7
	baz=11								
628A	**Black Gap, Mar**	**11.32**	**23**	⇑	P		**Pn**	**01 33 15.1**	**+0.4**
	baz=11,SNR=32								
526A	**Mary Lane Ranc**	**11.47**	**17**	⇑	P		**Pn**	**01 33 17.1**	**+0.3**
	baz=12,SNR=24								
527A	**Woodward Ranch**	**11.69**	**18**	⇓	P		**Pn**	**01 33 20.9**	**+1.1**
	baz=12,SNR=51								
425A	**Indio Mountain**	**11.96**	**12**	⇓	P		**Pn**	**01 33 25.0**	**+1.5**
	baz=12,SNR=44								
528A	**Cox Ranch, San**	**11.97**	**22**	⇓	P		**Pn**	**01 33 24.2**	**+0.6**
	baz=12								
732A	**Laxson Ranch,**	**12.02**	**35**	⇑	P		**Pn**	**01 33 25.0**	**+0.8**
	baz=12								
426A	**McDonald Obser**	**12.06**	**16**	⇓	P		**Pn**	**01 33 25.8**	**+0.8**
	baz=12,SNR=25								
529A	**Stev Forest Ra**	**12.14**	**24**	⇑	P		**Pn**	**01 33 26.2**	**+0.3**
	baz=12,SNR=8.0								
320A	**Kipp Ranch, An**	**12.23**	**357**	⇑	P		**Pn**	**01 33 28.9**	**+1.7**
	baz=12								
631A	**Perdido Creek**	**12.25**	**31**	⇓	P		**Pn**	**01 33 27.9**	**+0.5**
	baz=12,SNR=14								
319A	**Douglas**	**12.32**	**354**	⇓	P		**Pn**	**01 33 30.4**	**+2.0**
	baz=12								
427A	**Hayter Ranch,**	**12.41**	**18**	⇓	P		**Pn**	**01 33 30.4**	**+0.8**
	baz=12,SNR=23								
427A				⇑	S		**Sn**	**01 35 50.0**	**+3.3**
	baz=12								
324A	**Moseley Ranch,**	**12.51**	**9**	⇑	P		**Pn**	**01 33 31.9**	**+0.9**
	baz=12,SNR=14								
428A	**Kincaid Ranch,**	**12.52**	**21**	⇑	P		**Pn**	**01 33 34.1**	**+3.0**
	baz=12,SNR=11								
530A	**J-C Ranch, Com**	**12.53**	**27**	⇓	P		**Pn**	**01 33 31.4**	**+0.3**
	baz=12,SNR=17								
325A	**Bean Ranch, Si**	**12.53**	**11**	⇑	P		**Pn**	**01 33 32.4**	**+1.1**
	baz=12,SNR=24								
326A	**Caldwell Ranch**	**12.69**	**15**	⇓	P		**Pn**	**01 33 34.1**	**+0.7**
	baz=13,SNR=22								
326A				⇑	S		**Sn**	**01 35 59.1**	**+5.5**
	baz=13								
429A	**Davenport Ranc**	**12.72**	**24**	⇓	P		**Pn**	**01 33 35.3**	**+1.5**
	baz=13,SNR=16								
632A	**Uvalde**	**12.73**	**34**	⇓	P		**Pn**	**01 33 34.9**	**+0.9**
	baz=13,SNR=8.1								
MNTX	**Cornudas Mount**	**12.78**	**10**	*e*	Pn		**Pn**	**01 33 35.7**	**+1.2**
220A	**Playas Peak, P**	**12.80**	**357**	⇓	P		**Pn**	**01 33 36.1**	**+1.2**
	baz=13,SNR=9.4								
327A	**Balmorhea Ranc**	**12.87**	**17**	⇑	P		**Pn**	**01 33 38.1**	**+2.2**
	baz=13								
531A	**Rocksprings**	**12.89**	**30**	⇑	P		**Pn**	**01 33 37.8**	**+1.7**
	baz=13,SNR=13								
223A	**Chaparral, Ant**	**12.95**	**5**	⇓	P		**Pn**	**01 33 39.1**	**+2.1**
	baz=13								
222A	**Williams Famil**	**13.00**	**3**	⇓	P		**Pn**	**01 33 39.3**	**+1.6**
	baz=13,SNR=9.2								
328A	**Wristen Ranch,**	**13.09**	**19**	⇑	P		**Pn**	**01 33 39.3**	**+0.6**
	baz=13,SNR=12								
430A	**Baggett Ranch,**	**13.12**	**26**	⇓	P		**Pn**	**01 33 41.1**	**+1.9**
	baz=13,SNR=39								
532A	**Rocksprings**	**13.17**	**32**	⇑	P		**Pn**	**01 33 41.5**	**+1.5**
	baz=13,SNR=32								
225A	**Deer Hill, Car**	**13.28**	**11**	⇑	P		**Pn**	**01 33 42.9**	**+1.4**
	baz=13,SNR=5.3								
431A	**Sonora**	**13.30**	**28**	⇑	P		**Pn**	**01 33 44.0**	**+2.2**
	baz=13,SNR=28								
226B	**Tecolote Peak,**	**13.38**	**14**	⇓	P		**Pn**	**01 33 44.4**	**+1.6**
	baz=13,SNR=24								
121A	**Cookes Peak, D**	**13.41**	**0**	⇑	P		**Pn**	**01 33 44.4**	**+1.1**
	baz=13,SNR=7.0								
120A	**U Bar Ranch, L**	**13.44**	**357**	⇓	P		**Pn**	**01 33 44.5**	**+0.7**
	baz=14,SNR=9.0								
TUC	**Tucson**	**13.45**	**349**	*e*	Pn		**Pn**	**01 33 44.8**	**+1.0**
329A	**Wagon Wheel Ra**	**13.46**	**22**	⇓	P		**Pn**	**01 33 45.2**	**+1.3**
	baz=14,SNR=6.5								
329A				⇑	S		Sn	01 36 18.6	+6.2
	baz=14								
JCT	**Junction City**	**13.51**	**31**	*e*	Pn		**Pn**	**01 33 46.7**	**+2.1**
JCT	**Junction City**	**13.51**	**31**	⇑	P		**Pn**	**01 33 46.5**	**+1.9**
	baz=14,SNR=11								
227A	**Bennet, Jal**	**13.53**	**17**	⇓	P		**Pn**	**01 33 45.9**	**+0.9**
	baz=14								
214A	**Organ Pipe Nat**	**13.59**	**342**	⇓	P		**Pn**	**01 33 46.3**	**+0.7**
	baz=14								
122A	**Conniff Cattle**	**13.60**	**3**	⇑	P		**Pn**	**01 33 48.1**	**+2.2**
	baz=14								
330A	**Mertzon**	**13.69**	**25**	⇓	P		**Pn**	**01 33 48.2**	**+1.1**
	baz=14,SNR=15								
124A	**Stringfield Ra**	**13.75**	**9**	⇓	P		**Pn**	**01 33 49.7**	**+1.7**
	baz=14,SNR=40								
228A	**UT Block 9, Go**	**13.84**	**19**	⇑	P		**Pn**	**01 33 50.6**	**+1.5**
	baz=14								
125A	**Gardner Draw,**	**13.84**	**11**	⇑	P		**Pn**	**01 33 50.7**	**+1.5**
	baz=14,SNR=5.6								
432A	**Menard**	**13.84**	**30**	⇑	P		**Pn**	**01 33 50.8**	**+1.7**
	baz=14,SNR=6.2								
331A	**San Angelo**	**13.92**	**27**	⇑	P		**Pn**	**01 33 52.1**	**+1.9**
	baz=14,SNR=20								
229A	**Bryant Ranch,**	**13.96**	**22**	⇑	P		**Pn**	**01 33 51.6**	**+1.0**
	baz=14,SNR=6.1								
126A	**Clayton Basin,**	**13.96**	**14**	⇑	P		**Pn**	**01 33 51.8**	**+1.1**
	baz=14								
Z20A	**Nine Sixteen R**	**14.01**	**357**	⇓	P		**Pn**	**01 33 52.2**	**+0.7**
	baz=14,SNR=9.1								
230A	**Sterling City**	**14.14**	**24**	⇓	P		**Pn**	**01 33 54.3**	**+1.1**
	baz=14								
127A	**Arkansas Junct**	**14.14**	**16**	⇑	P		**Pn**	**01 33 54.4**	**+1.1**
	baz=14								
Z22A	**Elephant Butte**	**14.16**	**3**	⇑	P		**Pn**	**01 33 54.6**	**+1.2**
	baz=14								
Z21A	**St. Cloud Mine**	**14.19**	**1**	⇓	P		**Pn**	**01 33 55.7**	**+1.7**
	baz=14,SNR=12								
Z23A	**Rita Site, Whi**	**14.21**	**6**	⇑	P		**Pn**	**01 33 54.9**	**+0.7**
	baz=14,SNR=16								
332A	**Millersview**	**14.29**	**29**	⇓	P		**Pn**	**01 33 55.6**	**+0.4**
	baz=14								
128A	**Castleberry Fa**	**14.34**	**19**	⇓	P		**Pn**	**01 33 55.8**	**-0.1**
	baz=14,SNR=8.8								
Z24A	**Sheeppen Canyo**	**14.38**	**8**	⇑	P		**Pn**	**01 33 57.0**	**+0.4**
	baz=14,SNR=9.4								
Z25A	**Roswell**	**14.43**	**11**	⇓	P		**Pn**	**01 33 58.3**	**+1.0**
	baz=14,SNR=16								
231A	**Bronte**	**14.51**	**26**	⇓	P		**Pn**	**01 33 58.6**	**+0.4**
	baz=14								
129A	**Stewart Farms,**	**14.54**	**21**	⇓	P		**Pn**	**01 33 58.7**	**+0.1**
	baz=15,SNR=5.8								
Z26A	**Caprock**	**14.57**	**13**	⇑	P		**Pn**	**01 33 59.0**	**0.0**
	baz=15								
113A	**Mohawk Valley,**	**14.64**	**340**	⇑	P		**Pn**	**01 33 59.9**	**0.0**
	baz=15,SNR=10								
232A	**Coleman**	**14.76**	**29**	⇓	P		**Pn**	**01 34 01.6**	**0.0**
	baz=15,SNR=10								
Z27A	**Tatum**	**14.79**	**15**	⇓	P		**Pn**	**01 34 02.2**	**+0.2**
	baz=15,SNR=16								
Y20A	**Horse Springs,**	**14.79**	**358**	⇓	P		**Pn**	**01 34 01.7**	**-0.5**
	baz=15,SNR=8.7								
130A	**Snyder**	**14.83**	**23**	⇑	P		**Pn**	**01 34 02.4**	**-0.1**
	baz=15,SNR=6.7								
Y21A	**Point of Rocks**	**14.88**	**1**	⇓	P		**Pn**	**01 34 04.1**	**+0.6**
	baz=15								
Y23A	**Lovelace Mesa,**	**14.89**	**6**	⇑	P		**Pn**	**01 34 04.1**	**+0.5**
	baz=15								
Z14A	**Wintersburg**	**14.95**	**343**	⇓	P		**Pn**	**01 34 04.7**	**+0.6**
	baz=15								
Y24A	**Capitan**	**14.96**	**8**	⇑	P		**Pn**	**01 34 04.6**	**+0.3**
	baz=15								
Z28A	**Tucker Farm, M**	**14.99**	**18**	⇑	P		**Pn**	**01 34 04.6**	**-0.1**
	baz=15,SNR=7.5								
LENM	**Lemitar**	**15.06**	**3**	*e*	Pn		**Pn**	**01 34 07.7**	**+2.0**
BNM	**Barren Site**	**15.07**	**4**	*e*	Pn		**Pn**	**01 34 07.8**	**+2.0**
Y25A	**Mesa, Roswell**	**15.07**	**10**	⇑	P		**Pn**	**01 34 06.8**	**+1.0**
	baz=15,SNR=14								
131A	**Roby**	**15.12**	**25**	⇓	P		**Pn**	**01 34 06.1**	**-0.3**
	baz=15,SNR=5.5								
Z29A	**Hungry Hill Ra**	**15.17**	**20**	⇑	P		**Pn**	**01 34 06.4**	**-0.7**
	baz=15,SNR=7.8								
Y26A	**Elida**	**15.23**	**13**	⇓	P		**Pn**	**01 34 07.2**	**-0.7**
	baz=15								
GLA	**Glamis**	**15.26**	**337**	*e*	Pn		**Pn**	**01 34 07.8**	**-0.5**
	33nm,1.1s								
GLA	**Glamis**	**15.26**	**337**	⇑	P		**Pn**	**01 34 07.8**	**-0.5**
	baz=15,SNR=5.8								
LAZ	**Ladron**	**15.29**	**2**	*e*	Pn		**Pn**	**01 34 09.2**	**+0.5**
X21A	**Alamocita Cree**	**15.32**	**0**	⇓	P		**Pn**	**01 34 09.3**	**+0.1**
	baz=15,SNR=10								
Y27A	**Causey**	**15.34**	**15**	⇑	P		**Pn**	**01 34 09.9**	**+0.6**
	baz=15								
ABTX	**Abilene, Hawle**	**15.39**	**27**	*e*	Pn		**Pn**	**01 34 10.2**	**+0.4**
	75nm,1.4s								
ABTX	**Abilene, Hawle**	**15.39**	**27**	⇓	P		**Pn**	**01 34 10.2**	**+0.4**
	baz=15								
HKT	**Hockley**	**15.39**	**43**	*e*	Pn		**Pn**	**01 34 10.5**	**+0.7**
	369nm,1.9s								
Z30A	**Sanderson Ranc**	**15.39**	**22**	⇓	P		**Pn**	**01 34 09.6**	**-0.3**
	baz=15,SNR=7.7								
DVTC	**Desert V Tower**	**15.43**	**333**	⇓	P		**Pn**	**01 34 11.0**	**+0.6**
	baz=15								
X20A	**Quemado**	**15.43**	**358**	⇓	P		**Pn**	**01 34 11.7**	**+1.1**
	baz=15								
X18A	**Snowflake**	**15.52**	**354**	⇓	P		**Pn**	**01 34 12.6**	**+0.9**
	baz=16								
MSTX	**Muleshoe**	**15.52**	**16**	*e*	Pn		**Pn**	**01 34 12.4**	**+0.7**
	46nm,1.0s								
MSTX	**Muleshoe**	**15.52**	**16**	⇓	P		**Pn**	**01 34 12.5**	**+0.7**
	baz=16								
SWSC	**Sam W. Stewart**	**15.54**	**334**	⇓	P		**Pn**	**01 34 13.3**	**+1.5**
	baz=16,SNR=8.1								
Y28A	**McKinney Farm,**	**15.61**	**18**	⇓	P		**Pn**	**01 34 13.1**	**+0.3**
	baz=16								
X16A	**Lo Mia Camp, P**	**15.62**	**349**	⇓	P		**Pn**	**01 34 13.6**	**+0.6**
	baz=16								
BAR	**Barrett**	**15.70**	**331**	*e*	Pn		**Pn**	**01 34 13.3**	**-0.5**
	66nm,1.8s								
Y29A	**Porterfield Fa**	**15.74**	**19**	⇑	P		**Pn**	**01 34 14.9**	**+0.5**
	baz=16								
MONP	**Monument Peak**	**15.76**	**333**	⇑	P		**Pn**	**01 34 15.0**	**+0.2**
	baz=16								
Z31A	**Sharp Cattle R**	**15.79**	**24**	⇑	P		**Pn**	**01 34 14.5**	**-0.5**
	baz=16,SNR=10								
Y12C	**Blythe**	**15.79**	**339**	⇓	P		**Pn**	**01 34 15.8**	**+0.8**
	baz=16								
X26A	**CR and CF Fran**	**15.84**	**12**	⇓	P		**Pn**	**01 34 16.5**	**+0.7**
	baz=16								
ANMO	**Albuquerque**	**15.87**	**4**	*e*	Pn		**Pn**	**01 34 17.5**	**+1.3**
	12nm,1.2s								
ANMO	**Albuquerque**	**15.87**	**4**		Pn		**Pn**	**01 34 15.6**	**-0.7**
	0.1nm,0.3s,baz=170,slow=12,SNR=3.3								
WHTX	**Lake Whitney**	**15.92**	**34**	*e*	Pn		**Pn**	**01 34 16.8**	**+0.1**
	78nm,1.2s								
WHTX	**Lake Whitney**	**15.92**	**34**	⇓	P		**Pn**	**01 34 18.0**	**+1.4**
	baz=16,SNR=12								
Y30A	**Stafford Cattl**	**16.01**	**21**	⇑	P		**Pn**	**01 34 18.1**	**+0.2**
	baz=16								
W20A	**Ramah**	**16.01**	**358**	⇑	P		**Pn**	**01 34 18.4**	**+0.3**
	baz=16								
BC3	**Big Chuckawall**	**16.04**	**336**	⇓	P		**Pn**	**01 34 18.5**	**+0.3**
	baz=16,SNR=15								
Z32A	**Haskell**	**16.04**	**26**	⇓	P		**Pn**	**01 34 17.9**	**-0.4**
	baz=16,SNR=28								
109C	**Camp Elliot, M**	**16.07**	**331**	⇑	P		**Pn**	**01 34 18.6**	**0.0**
	baz=16								
W18A	**Petrified Fore**	**16.08**	**354**	*e*	Pn		**Pn**	**01 34 19.1**	**+0.3**
	29nm,0.8s								
X27A	**F and S Farms,**	**16.09**	**14**	⇑	P		**Pn**	**01 34 19.3**	**+0.3**
	baz=16								
W23A	**Werner Place,**	**16.11**	**5**	⇓	P		**Pn**	**01 34 19.9**	**+0.7**
	baz=16								
PDMCI	**Parker Dam,Lak**	**16.17**	**341**	⇑	P		**Pn**	**01 34 19.5**	**-0.4**
	baz=16,SNR=5.4								
X28A	**Dimmitt**	**16.20**	**17**	⇑	P		**Pn**	**01 34 20.8**	**+0.4**
	baz=16								
W24A	**Lazy B Ranch,**	**16.23**	**7**	⇓	P		**Pn**	**01 34 21.6**	**+0.8**
	baz=16								
X29A	**Tulia**	**16.27**	**18**	⇓	P		**Pn**	**01 34 21.2**	**-0.1**
	baz=16								
Y31A	**Rekieta Farm,**	**16.31**	**23**	⇓	P		**Pn**	**01 34 21.2**	**-0.6**
	baz=16,SNR=14								
W25A	**X Bar L Ranch,**	**16.37**	**10**	⇑	P		**P**	**01 34 24.0**	**-1.1**
	baz=16								
W26A	**Owens Ranch, T**	**16.37**	**12**	⇑	P		**Pn**	**01 34 22.7**	**+0.2**
	baz=16								
IRM	**Iron Mountain**	**16.38**	**338**	⇓	P		**Pn**	**01 34 21.3**	**-1.2**
	baz=16,SNR=14								
PFO	**Pinyon Flat Ob**	**16.39**	**334**	*e*	Pn		**Pn**	**01 34 21.1**	**-1.7**
	30nm,1.3s								
PFO	**Pinyon Flat Ob**	**16.39**	**334**	⇓	P		**Pn**	**01 34 22.8**	**0.0**
	baz=16,SNR=6.4								
PFO	**Pinyon Flat Ob**	**16.39**	**334**		Pn		**Pn**	**01 34 20.5**	**-2.3**
	0.1nm,0.3s,baz=159,slow=14,SNR=8.1								
PFO					LR		LR	01 39 44.6	
	comp=Z,695nm,19.7s,baz=156,slow=34								
W27A	**Bowe Ranch, En**	**16.50**	**14**	⇑	P		**Pn**	**01 34 24.2**	**0.0**
	baz=16								
X30A	**Coker Ranch, T**	**16.53**	**21**	⇓	P		**Pn**	**01 34 24.3**	**-0.2**
	baz=17,SNR=8.7								
BELC	**Belle Mtn. Jos**	**16.55**	**336**	⇓	P		**Pn**	**01 34 25.5**	**+0.6**
	baz=17,SNR=11								
Y32A	**R-V Farms, Ver**	**16.66**	**25**	⇑	P		**Pn**	**01 34 25.4**	**-0.8**
	baz=17								
V20A	**Brimhall**	**16.68**	**358**	⇓	P		**P**	**01 34 27.8**	**-0.8**
	baz=17								
WUAZ	**Wupatki**	**16.68**	**350**	*e*	Pn		**P**	**01 34 30.4**	**+1.9**
	22nm,1.0s								
WUAZ	**Wupatki**	**16.68**	**350**	⇑	P		**P**	**01 34 29.5**	**+0.9**
	baz=17,SNR=9.0								
V23A	**Ortiz Mt. (NFS**	**16.68**	**5**	⇓	P		**Pn**	**01 34 27.4**	**+0.8**
	baz=17								
AMTX	**Amarillo**	**16.68**	**18**	⇑	P		**Pn**	**01 34 27.1**	**+0.6**
	baz=17								
MURC	**Murrieta**	**16.71**	**332**	⇑	P		**Pn**	**01 34 27.4**	**+0.6**
	baz=17,SNR=5.3								
V24A	**Rampart Ranch,**	**16.75**	**7**	⇓	P		**P**	**01 34 28.4**	**-1.0**
	baz=17								
V22A	**San Miguel Ran**	**16.81**	**3**	⇓	P		**P**	**01 34 29.2**	**-0.8**
	baz=17,SNR=7.0								
W13A	**Hualapai Mount**	**16.84**	**343**	⇓	P		**Pn**	**01 34 28.9**	**+0.4**
	baz=17								
SCI	**San Clemente I**	**16.84**	**327**	⇑	P		**Pn**	**01 34 29.0**	**+0.6**
	baz=17								
BBSC	**Beaumont Base**	**16.88**	**333**	*e*	Pn		P	01 34 36.4	+5.7
W28A	**Vega**	**16.89**	**16**	⇓	P		**Pn**	**01 34 29.1**	**0.0**
	baz=17								
W29A	**Amraillo**	**16.92**	**18**	⇑	P		**Pn**	**01 34 29.5**	**+0.1**
	baz=17								
V25A	**Rancho No Teng**	**16.95**	**9**	⇑	P		**Pn**	**01 34 30.5**	**+0.6**
	baz=17,SNR=5.9								
X31A	**McDonald Ranch**	**17.01**	**23**	⇓	P		**Pn**	**01 34 30.7**	**+0.1**
	baz=17								
V26A	**Tequesquite Ra**	**17.05**	**11**	⇓	P		**Pn**	**01 34 31.1**	**0.0**
	baz=17								
GMRC	**Granite Mounta**	**17.12**	**338**	⇓	P		**Pn**	**01 34 32.1**	**+0.2**
	baz=17,SNR=12								
APG	**El Apazote**	**17.12**	**101**		P		**P**	**01 34 34.5**	**+0.8**
	0.3nm,0.3s,baz=290,slow=8.3,SNR=13								
APG					LR		LR	01 40 22.4	
	comp=Z,857nm,21.6s,baz=287,slow=34								
BBRC	**Big Bear Solar**	**17.15**	**334**	⇓	P		**Pn**	**01 34 32.3**	**-0.2**
	baz=17								
V27A	**Dan Oppiter Fa**	**17.21**	**14**	⇓	P		**P**	**01 34 33.7**	**-0.7**
	baz=17								
U20A	**Newcomb**	**17.26**	**358**	⇓	P		**P**	**01 34 34.3**	**-0.7**
	baz=17								
U23A	**El Rito**	**17.26**	**5**	⇑	P		**P**	**01 34 35.0**	**-0.1**
	baz=17								
U22A	**Llaves**	**17.27**	**3**	⇓	P		**Pn**	**01 34 34.4**	**+0.4**
	baz=17								
U21A	**Nageezi**	**17.30**	**1**	⇑	P		**P**	**01 34 35.3**	**-0.2**
	baz=17,SNR=7.4								
V28A	**Channing**	**17.35**	**16**	⇓	P		**Pn**	**01 34 34.7**	**-0.2**
	baz=17								
NATX	**Nacogdoches**	**17.36**	**41**	*e*	Pn		**Pn**	**01 34 35.0**	**+0.2**
	142nm,1.3s								
HEC	**Hector,Ludlow**	**17.41**	**336**	⇓	P		**Pn**	**01 34 35.3**	**-0.2**
	baz=17								
BFSC	**Mount Baldy Ra**	**17.45

T31A **Randall Ranch,** 19.35 20 ⇑P Pn 01 34 58.9 -0.2
baz=19
PV09 **Paradox Valley** 19.40 357 eP P 01 34 58.8 +0.2
S29A **Ulysses** 19.41 16 ⇑P Pn 01 34 59.4 -0.4
baz=19
VES **Vestal, Richgr** 19.43 332 ⇑P P 01 34 59.0 +0.4
baz=19,SNR=7.0
CWC **Cottonwood Cre** 19.50 335 ⇓P P 01 35 00.0 +0.4
baz=20
R26A **Arlington** 19.55 10 ⇑P Pn 01 35 00.7 -0.9
baz=20
S30A **Montezuma** 19.61 18 ⇑P P 01 35 01.1 +0.4
baz=20
R27A **Eads** 19.65 12 ⇓P P 01 35 01.5 +0.3
baz=20,SNR=7.7
T32A **Huddler Ranch,** 19.67 22 ⇓P P 01 35 01.8 +0.4
baz=20
Q21A **Lamborn Mesa,** 19.70 1 ⇑P Pn 01 35 02.5 -1.0
baz=20
Q22A **Crested Butte,** 19.75 2 ⇑P P 01 35 02.3 -0.1
baz=20
Q20A **Ridgley Place,** 19.82 359 ⇑P P 01 35 03.4 +0.3
baz=20
T33A **Patterson Ranc** 19.83 23 ⇑P P 01 35 03.1 +0.1
baz=20
TUL1 **Tulsa** 19.88 30 eP P 01 35 03.0 -0.5
22nm,0.9s
TUL1 **Tulsa** 19.88 30 ⇑P P 01 35 03.1 -0.4
baz=20
S31A **Mullinville** 19.88 20 ⇑P P 01 35 03.6 -0.1
baz=20
RCTC **Rector, Farmer** 19.89 332 ⇓P P 01 35 03.3 -0.4
baz=20
R28A **Tribune** 19.92 14 ⇑P P 01 35 04.2 +0.1
baz=20
Q24A **Divide** 19.97 6 ⇓P P 01 35 05.0 +0.1
baz=20
MIAR **Mount Ida** 19.97 37 eP P 01 35 04.6 0.0
9.3nm,0.8s
Q16A **Castle Valley** 19.99 352 eP Pn 01 35 08.3 +1.4
32nm,1.5s
SMCO **Snowmass** 20.06 2 eP Pn 01 35 07.1 -0.9
29nm,1.6s
SRU **San Rafael** 20.11 354 eP Pn 01 35 08.8 +0.5
15nm,1.2s
Q26A **Hugo** 20.14 10 ⇑P P 01 35 06.9 +0.3
baz=20
R29A **Marienthal** 20.16 15 ⇑P P 01 35 06.9 +0.2
baz=20
R30A **Dighton** 20.26 17 ⇑P P 01 35 08.4 +0.7
baz=20
P23A **Jefferson** 20.32 5 ⇑P Pn 01 35 10.3 -0.7
baz=20
TGUH **Tegucigalpa,Un** 20.35 101 eP Pn 01 35 14.1 +3.1
121nm,1.3s
R11A **Troy Canyon, C** 20.36 342 eP P 01 35 08.8 -0.1
31nm,1.4s
R11A **Troy Canyon, C** 20.36 342 ⇑P P 01 35 09.8 +0.8
baz=20,SNR=26
VBMS **Vicksburg** 20.36 47 eP P 01 35 09.2 +0.4
91nm,1.0s
TMUT **Trail Mountain** 20.37 353 eP Pn 01 35 12.0 +0.5
92nm,2.2s
P20A **De Beque** 20.37 359 ⇑P Pn 01 35 11.7 +0.4
baz=20
KSCO **Kaye Shedlock'** 20.39 12 eP Pn 01 35 12.1 +0.5
34nm,0.9s
P22A **Eagle** 20.48 2 ⇓P Pn 01 35 11.3 -1.4
baz=20
P19A **Cripple Cowboy** 20.52 358 ⇑P P 01 35 11.5 +0.7
baz=20
TPH **Tonopah** 20.62 339 eP P 01 35 11.5 -0.4
34nm,1.1s
Q29A **Oakley** 20.64 15 ⇓P P 01 35 12.2 +0.3
baz=21,SNR=9.9
ISCO **Idaho Springs** 20.75 5 eP P 01 35 14.0 +0.6
13nm,1.0s
ISCO **Idaho Springs** 20.75 5 ⇑P P 01 35 13.7 +0.2
baz=21,SNR=8.1
P26A **Davis Ranch, A** 20.80 10 ⇑P P 01 35 14.4 +0.8
baz=21
MLAC **Mammoth Lakes** 20.84 335 ⇓P P 01 35 14.7 +0.5
baz=21
UALR **University of** 20.84 38 eP P 01 35 14.6 +0.5
34nm,1.0s
Q30A **Quinter** 20.92 17 ⇑P P 01 35 15.6 +0.7
baz=21
P27A **Ficken Ranch,** 20.93 11 ⇓P Pn 01 35 16.4 -1.3
baz=21
O20A **White River Ci** 21.00 359 eP P 01 35 17.1 +1.1
77nm,1.4s
O20A **White River Ci** 21.00 359 ⇓P P 01 35 17.1 +1.1
baz=21
R33A **Olander Ranch,** 21.01 22 ⇑P P 01 35 17.1 +1.2
baz=21
O22A **Kremmling** 21.06 3 ⇓P P 01 35 17.5 +0.9
baz=21,SNR=7.5
O21A **Pagoda** 21.08 1 ⇑P P 01 35 17.7 +0.8
baz=21
P28A **Saint Francis** 21.11 13 ⇓P P 01 35 17.5 +0.6
baz=21
O24A **Longmont** 21.12 6 ⇓P P 01 35 17.5 +0.3
baz=21
MPU **Maple Canyon** 21.13 352 eP P 01 35 19.1 +1.8
14nm,1.0s
NLU **North Lily Min** 21.13 351 eP P 01 35 19.3 +1.9
20nm,1.4s
O23A **Lake Granby, G** 21.14 4 ⇓P P 01 35 18.7 +1.1
baz=21,SNR=7.0
Q31A **Ellis** 21.18 19 ⇑P P 01 35 17.9 +0.2
baz=21
O19A **Miners Draw (B** 21.19 357 ⇑P P 01 35 18.6 +0.7
baz=21
O25A **Wiggins** 21.22 8 ⇓P P 01 35 19.2 +0.9
baz=21
SAO **San Andreas Ge** 21.29 329 eP P 01 35 19.0 +0.2
36nm,1.3s
P29A **Atwood** 21.32 15 ⇑P P 01 35 19.6 +0.3
baz=21
NV01 **Mina Array Sit** 21.33 337 eP P 01 35 19.7 +0.3
NVAR **Mina Array Bea** 21.33 337 P P 01 35 19.6 +0.2
16nm,1.1s,baz=163,slow=13,SNR=29
P30A **Selden** 21.44 16 ⇑P P 01 35 20.9 +0.3
baz=22
O26A **Horse Wrangler** 21.47 10 ⇓P P 01 35 22.3 +1.4
baz=22
DAU **Daniels Canyon** 21.48 353 eP P 01 35 23.2 +2.0
DUG **Dugway** 21.49 350 eP P 01 35 23.4 +2.4
58nm,1.5s
DUG **Dugway** 21.49 350 ⇑P P 01 35 22.5 +1.4
baz=22,SNR=22
P31A **Stockton** 21.66 18 ⇓P P 01 35 23.9 +1.1
baz=22
JLU **Jordanelle** 21.69 353 eP P 01 35 25.2 +1.9
36nm,1.3s
N22A **Wattenberg Ran** 21.70 3 ⇑P P 01 35 24.4 +0.9
baz=22
N20A **Spence Gulch,** 21.70 359 ⇓P P 01 35 23.7 +0.2
baz=22,SNR=12
N23A **Red Feather La** 21.82 4 ⇑P P 01 35 25.1 +0.3
baz=22,SNR=8.5
CMB **Columbia Colle** 21.83 333 eP P 01 35 22.8 -1.8
13nm,1.0s
WAKR **Walker** 21.83 335 eP P 01 35 24.9 0.0
N24A **Carr** 21.84 6 ⇓P P 01 35 24.9 0.0
baz=22
P32A **Huiting Farm,** 21.99 19 ⇓P P 01 35 26.2 -0.2
baz=22
O30A **MW Ranch, Wils** 22.09 16 ⇑P P 01 35 28.4 +0.9
baz=22
KSU1 **Kansas State U** 22.22 24 eP P 01 35 28.5 -0.3
27nm,1.0s
N28A **Pribbeno Ranch** 22.22 13 ⇑P P 01 35 30.1 +1.1
baz=22
BGU **Big Grassy Mou** 22.23 350 eP P 01 35 30.2 +1.1
22nm,1.3s
BRAL **Brewton** 22.25 54 eP P 01 35 32.8 +3.6
74nm,1.1s
PHWY **Pilot Hill** 22.26 5 eP P 01 35 30.0 +0.5
13nm,1.0s
M22A **Cedar Creek Ra** 22.29 3 ⇓P P 01 35 30.7 +0.9
baz=22
M23A **Laramie** 22.41 4 ⇑P P 01 35 31.9 +0.9
baz=22
M24A **Cheyenne** 22.48 6 ⇓P P 01 35 33.0 +1.2
baz=22
OXF **Oxford** 22.48 43 eP P 01 35 33.3 +1.7
39nm,1.1s

ELK **Elko** 22.52 345 eP P 01 35 33.2 +1.0
11nm,1.2s
ELK **Elko** 22.52 345 P P 01 35 31.6 -0.6
6.7nm,1.1s,baz=270,slow=20,SNR=14
ELK LR LR 01 44 16.0
comp=Z,168nm,18.6s,baz=180,slow=37
RWWY **Rawlins** 22.56 1 eP P 01 35 30.6 -2.1
38nm,1.5s
M26A **McRoberts Ranc** 22.69 9 ⇑P P 01 35 34.2 +0.2
baz=23
BMN **Battle Mountai** 22.76 341 eP P 01 35 36.7 +1.9
56nm,1.6s
PAHR **Pah Rah Range** 22.85 337 eP P 01 35 36.4 +0.8
40nm,1.6s
L22A **Ellis Ranch, M** 22.93 3 ⇑P P 01 35 37.2 +0.7
baz=23
HVU **Hansel Valley** 23.03 351 eP P 01 35 38.9 +1.4
67nm,1.7s
L23A **Garrett** 23.05 4 ⇓P P 01 35 37.5 -0.3
baz=23,SNR=5.5
L26A **Underwood Farm** 23.26 9 ⇑P P 01 35 41.1 +1.3
baz=23
LRAL **Lakeview Retre** 23.28 49 eP P 01 35 40.4 +0.5
231nm,2.6s
PBMO **Poplar Bluff** 23.36 37 eP P 01 35 39.8 -0.8
137nm,2.2s
K21A **Alcova** 23.50 1 ⇓P P 01 35 42.6 +0.3
baz=24
K22A **Casper** 23.54 2 eP P 01 35 39.9 -2.7
68nm,1.8s
K22A **Casper** 23.54 2 ⇓P P 01 35 42.8 +0.2
baz=24
BW06 **Boulder Array** 23.67 357 eP P 01 35 43.3 -0.6
PD31 **Pinedale Array** 23.67 357 eP P 01 35 43.7 -0.2
PDAR **Pinedale Array** 23.67 357 P P 01 35 43.7 -0.2
1.6nm,0.7s,baz=158,slow=9.7,SNR=13
PDAR PcP PcP 01 39 25.8 -1.9
0.9nm,0.8s,baz=140,slow=4.4,SNR=4.1
K23A **Bowen Ranch, D** 23.69 4 ⇑P P 01 35 45.2 +1.2
baz=24
K25A **Mack Ranch, Ha** 23.72 7 ⇓P P 01 35 45.8 +1.6
baz=24
JTS **JuntasAbangare** 23.79 108 eP P 01 35 50.0 +5.0
248nm,2.8s
JTS **JuntasAbangare** 23.79 108 P P 01 35 47.2 +2.2
13nm,1.1s,baz=299,slow=14,SNR=2.6
K26A **Motz Farm, Whi** 23.89 9 ⇑P P 01 35 47.0 +1.2
baz=24
K27A **Flueckinger Fa** 24.04 10 ⇑P P 01 35 47.7 +0.5
baz=24
J19A **Crowheart** 24.15 358 ⇑P P 01 35 48.0 -0.3
baz=24,SNR=7.2
J21A **Lysite** 24.21 1 ⇑P P 01 35 49.2 +0.3
baz=24
J20A **Shoshoni** 24.22 360 ⇑P P 01 35 49.6 +0.7
baz=24
L31A **Butterfield Fa** 24.28 16 ⇓P P 01 35 50.2 +0.9
baz=24
J22A **Midwest** 24.30 2 ⇓P P 01 35 50.2 +0.6
baz=24,SNR=8.2
REDW **Red Top Meadow** 24.36 355 eP P 01 35 50.9 +0.7
74nm,1.6s
RRI2 **Red Ridge** 24.38 354 eP P 01 35 51.2 +0.6
63nm,1.3s
SNOW **Snow King Moun** 24.45 355 eP P 01 35 51.9 +0.9
87nm,1.6s
TPAW **Teton Pass** 24.49 355 eP P 01 35 52.5 +1.0
62nm,1.4s
WVT **Waverly** 24.50 42 eP P 01 35 52.1 +0.7
16nm,1.1s
J26A **Sides Ranch, S** 24.51 8 ⇓P P 01 35 52.9 +1.4
baz=24
K30A **Basset** 24.55 15 ⇑P P 01 35 53.2 +1.4
baz=25
LOHW **Long Hollow** 24.58 355 eP P 01 35 53.7 +1.4
69nm,1.5s
FXWY **Fox Creek** 24.64 354 eP P 01 35 54.3 +1.4
13nm,1.0s
I21A **Big Trails, Te** 24.68 1 ⇑P P 01 35 54.7 +1.6
baz=25
MOOW **Moose Ponds** 24.73 355 eP P 01 35 56.0 +2.3
18nm,1.3s
I22A **9 Mile Ranch,** 24.78 2 ⇓P P 01 35 55.7 +1.7
baz=25
I20A **Worland** 24.81 360 ⇓P P 01 35 55.5 +1.3
baz=25,SNR=10
WDC **Whiskeytown Da** 24.87 333 eP P 01 35 53.9 -0.8
14nm,1.1s
IMW **Indian Meadow** 24.89 355 eP P 01 35 55.1 -0.1
9.5nm,0.9s
I19A **Meeteetse** 24.92 358 ⇑P P 01 35 55.6 +0.3
baz=25,SNR=9.0
WVOR **Wild Horse Val** 25.02 341 eP P 01 35 56.4 +0.2
41nm,1.3s
HLID **Hailey** 25.04 349 eP P 01 35 56.4 0.0
42nm,1.3s
HLID **Hailey** 25.04 349 ⇓P P 01 35 56.5 +0.2
baz=25,SNR=42
FLWY **Flagg Ranch** 25.06 355 eP P 01 35 57.9 +1.3
58nm,1.8s
J29A **Okeek** 25.09 13 ⇑P P 01 35 57.9 +1.3
baz=25
MOD **Modoc** 25.11 338 eP P 01 35 58.4 +1.4
32nm,1.3s
TIGA **Tifton** 25.11 56 ⇓P P 01 35 57.6 +0.7
baz=25
I25A **Rochford** 25.12 7 ⇑P P 01 35 58.3 +1.2
baz=25
MFID **Camas Ranch** 25.19 346 eP P 01 35 58.6 +1.0
48nm,1.4s
RSSD **Black Hills** 25.19 6 eP P 01 36 00.7 +3.0
8.8nm,1.1s
J30A **Dallas** 25.20 14 ⇑P P 01 35 58.7 +1.1
baz=25
SWET **Sewanee** 25.20 46 eP P 01 35 58.3 +0.5
14nm,0.9s
I26A **New Underwood** 25.24 8 ⇑P P 01 36 00.0 +1.9
baz=25
H20A **Greybull** 25.35 360 ⇓P P 01 36 00.1 +1.1
baz=25,SNR=5.6
H17A **Grant Village** 25.36 355 eP P 01 36 01.4 +2.1
41nm,1.9s
H17A **Grant Village** 25.36 355 ⇓P P 01 36 00.1 +0.8
baz=25
I27A **Quinn** 25.40 10 ⇑P P 01 36 00.5 +1.0
baz=25
H22A **Clearmont** 25.49 3 ⇑P P 01 36 01.0 +0.7
baz=26
I28A **Midland** 25.49 11 ⇑P P 01 36 01.0 +0.7
baz=26
H21A **Big Horn, Sher** 25.50 1 ⇓P P 01 36 01.2 +0.8
baz=26
H23A **Clabaugh Cattl** 25.51 4 ⇑P P 01 36 01.8 +1.3
baz=26
H19A **Powell** 25.55 358 ⇓P P 01 36 01.3 +0.4
baz=26,SNR=7.5
H18A **Shoshone NF, C** 25.58 357 ⇑P P 01 36 01.9 +0.5
baz=26
YMR **Madison River** 25.66 355 eP P 01 36 05.3 +3.3
50nm,1.8s
H24A **Dirks Ranch, A** 25.76 5 ⇑P P 01 36 03.3 +0.6
baz=26
USIN **University of** 25.78 39 eP P 01 36 03.6 +0.8
50nm,1.1s
J08A **Circle Bar Ran** 25.82 342 eP P 01 36 03.1 -0.3
15nm,0.9s
H26A **Fairpoint** 25.83 8 ⇑P P 01 36 05.2 +1.8
baz=26
QLMT **Earthquake Lak** 25.86 354 eP P 01 36 05.9 +2.0
YBH **Yreka Blue Hor** 25.89 334 P P 01 36 02.3 -1.8
0.9nm,0.8s,baz=128,slow=6.3,SNR=3.1
YBH LR LR 01 46 16.7
comp=Z,164nm,18.2s,baz=159,slow=37
RLMT **Red Lodge** 26.01 358 eP P 01 36 04.0 -1.2
39nm,1.7s
MCMT **McKenzie Canyo** 26.02 352 eP P 01 36 07.1 +1.8
K05A **Summer Lake** 26.04 338 eP P 01 36 07.2 +1.7
72nm,1.7s
OLIL **Olney** 26.04 37 eP P 01 36 06.2 +0.9
41nm,1.1s
G20A **Bridger** 26.08 359 ⇓P P 01 36 06.9 +1.1
baz=26
G21A **Lodge Grass** 26.09 1 ⇓P P 01 36 07.1 +1.3
baz=26
G22A **Birney** 26.11 3 ⇑P P 01 36 07.3 +1.3
baz=26
G23A **Biddle** 26.14 4 ⇑P P 01 36 07.3 +1.1
baz=26

H28A **Mission Ridge** 26.17 11 ⇑P P 01 36 07.1 +0.7
baz=26
G25A **Newell** 26.32 7 ⇑P P 01 36 08.2 +0.5
baz=26
G24A **Alzada** 26.35 5 ⇓P P 01 36 08.4 +0.3
baz=26
DLMT **Dillon** 26.52 353 eP P 01 36 11.6 +1.9
20nm,1.4s
G26A **Maurine** 26.52 8 ⇓P P 01 36 09.9 +0.3
baz=27
G27A **Dupree** 26.56 8 ⇑P P 01 36 11.1 +1.1
baz=27
F20A **Billings** 26.66 360 ⇓P P 01 36 11.4 +0.4
baz=27
F22A **Rosebud** 26.67 3 ⇑P P 01 36 11.5 +0.5
baz=27
BOZ **Bozeman (W)** 26.69 354 eP P 01 36 11.5 +0.3
40nm,2.0s
F19A **Roth Farm, Mol** 26.73 358 ⇓P P 01 36 11.5 -0.1
baz=27
I07A **Izee** 26.79 341 eP P 01 36 11.1 -1.1
10nm,1.4s
F24A **Ekalaka** 26.86 5 ⇓P P 01 36 12.9 +0.2
baz=27
TKL **Tuckaleechee C** 26.93 47 P P 01 36 13.4 +0.1
9.1nm,1.1s,baz=219,slow=10,SNR=4.4
TKL LR LR 01 48 29.9
comp=Z,394nm,18.9s,baz=233,slow=40
LRM **Limekiln Ridge** 26.95 353 eP P 01 36 12.8 -1.0
F26A **Lodgepole** 27.06 8 ⇓P P 01 36 14.3 -0.2
baz=27
E19A **Rath Farm, Rou** 27.33 359 ⇓P P 01 36 16.9 -0.1
baz=27,SNR=6.4
E22A **Miles City** 27.35 3 ⇑P P 01 36 17.9 +0.9
baz=27
E20A **Meyer Farm, Mu** 27.37 360 ⇓P P 01 36 17.6 +0.3
baz=27
KEBM **Edson Butte** 27.52 333 eP P 01 36 19.8 +1.2
55nm,1.4s
LAO **LASA Array** 27.58 2 eP P 01 36 21.2 +2.0
27nm,1.4s
E26A **Carlson Angus** 27.69 8 ⇓P P 01 36 21.2 +1.1
baz=28
SFIN **Scholer Farm** 27.73 36 ⇓P P 01 36 19.3 -1.2
baz=28
HRY **Holter Researc** 27.77 354 eP P 01 36 20.8 -0.1
D21A **La Casta Ranch** 27.94 1 ⇓P P 01 36 22.0 -0.3
baz=28
D19A **Cripps Ranch,** 28.04 359 ⇑P P 01 36 23.3 +0.1
baz=28,SNR=5.8
CHMT **Chamberlain Mo** 28.13 352 eP P 01 36 23.8 -0.4
MSO **Missoula** 28.14 351 eP P 01 36 24.3 +0.1
30nm,1.4s
MSO **Missoula** 28.14 351 ⇑P P 01 36 24.4 +0.3
baz=28,SNR=9.7
H04A **Detroit Lake** 28.20 338 eP P 01 36 24.5 -0.2
80nm,2.3s
D26A **Manning** 28.25 8 ⇓P P 01 36 25.0 0.0
baz=28,SNR=6.2
SLMT **Seeley Lake** 28.48 352 eP P 01 36 27.9 +0.6
C20A **Veseth Ranch,** 28.58 360 ⇑P P 01 36 28.2 +0.2
baz=29
C22A **Vida** 28.65 3 ⇑P P 01 36 29.0 +0.4
baz=29
SWMT **Swartz Lake** 28.81 351 eP P 01 36 29.0 -1.2
EGMT **Eagleton** 28.93 357 ⇑P P 01 36 31.2 +0.1
baz=29
C27A **Sayler Ranch,** 29.04 9 ⇑P P 01 36 31.7 -0.4
baz=29
B22A **Reddig Ranch S** 29.20 3 ⇑P P 01 36 33.3 -0.3
baz=29
B20A **Solberg Farm,** 29.30 360 ⇓P P 01 36 34.3 -0.2
baz=29
F04A **Amboy** 29.37 339 eP P 01 36 34.7 -0.3
13nm,1.0s
C30A **Mose, Pekin** 29.57 13 ⇓P P 01 36 37.3 +0.5
baz=30
A20A **Cobblestone Ra** 29.74 360 ⇓P P 01 36 37.6 -0.8
baz=30
A22A **Carney Farms,** 29.90 3 ⇑P P 01 36 38.3 -1.4
baz=30
B28A **Dugan Ranch, T** 29.94 10 ⇓P P 01 36 38.9 -1.1
baz=30
NEW **Newport** 30.08 348 eP P 01 36 43.0 +1.6
39nm,1.8s
NEW **Newport** 30.08 348 ⇑P P 01 36 40.2 -1.1
baz=30
B30A **Myrvik Farm, E** 30.32 13 ⇑P P 01 36 42.4 -0.9
baz=30
D05A **Enumclaw** 30.34 341 eP P 01 36 46.7 +3.2
101nm,1.6s
B08A **Colville Reser** 30.67 345 eP P 01 36 46.5 0.0
39nm,1.5s
ULM **Lac du Bonnet** 32.55 14 eP P 01 37 03.9 +0.9
12nm,1.1s
ULM **Lac du Bonnet** 32.55 14 P P 01 37 01.5 -1.5
3.1nm,0.8s,baz=202,slow=11,SNR=4.0
ULM LR LR 01 50 00.7
comp=Z,330nm,18.1s,baz=201,slow=36
OTAV **Otavalo** 34.39 120 eP P 01 37 22.4 +2.5
16nm,1.3s
FFC **Flin Flon** 35.88 6 eP P 01 37 31.0 -0.7
15nm,1.0s
SDV **Santo Domingo** 37.44 100 eP P 01 37 47.8 +2.0
16nm,1.0s
DLBC **Dease Lake** 42.53 343 eP P 01 38 26.7 -0.7
DLBC **Dease Lake** 42.53 343 LR LR 01 57 44.9
comp=Z,191nm,18.8s,baz=167,slow=38
YKA **Yellowknife Ar** 43.64 355 P P 01 38 34.2 -2.0
2.5nm,0.8s,baz=169,slow=8.0,SNR=9.3
SCHQ **Schefferville** 47.34 31 LR LR 01 58 03.5
comp=Z,219nm,19.3s,baz=212,slow=35
RKT **Rikitea** 49.59 213 eS S 01 46 31.4 +2.3
134nm,27.0s
RKT eLR LR 01 53 21.8
488nm,29.8s,baz=32
RKT **Rikitea** 49.59 213 eT T 02 32 10.5
6.5nm,0.2s
DAWY **Dawson** 49.75 342 eP P 01 39 23.2 -0.8
DOT **Dot Lake** 50.86 340 eP P 01 39 32.7 +0.3
49nm,1.8s
PAX **Paxson** 50.87 339 eP P 01 39 32.0 -0.5
92nm,2.4s
INK **Inuvik** 51.80 348 eP P 01 39 37.6 -1.8
26nm,1.3s
INK **Inuvik** 51.80 348 LR LR 02 02 05.7
comp=Z,121nm,20.4s,baz=152,slow=37
SAML **Samuel** 52.10 118 eP P 01 39 41.5 -0.8
8.4nm,1.1s
IL1 **Eielson Array** 52.54 340 eP P 01 39 43.4 -1.5
ILAR **Eielson Array** 52.54 340 P P 01 39 43.3 -1.5
4.8nm,0.9s,baz=146,slow=7.0,SNR=29
ILB **Eielson Array** 52.54 340 eP P 01 39 43.3 -1.5
LPAZ **La Paz** 52.55 129 eP P 01 39 46.6 +0.2
8.4nm,1.0s
LPAZ **La Paz** 52.55 129 P P 01 39 46.9 +0.5
5.3nm,0.9s,baz=325,slow=7.5,SNR=14
LPAZ LR LR 01 59 02.4
comp=Z,182nm,21.6s,baz=325,slow=32
MCK **McKinley** 52.55 338 eP P 01 39 43.2 -1.8
30nm,1.4s
TRF **Thorofare Moun** 52.86 338 eP P 01 39 46.1 -1.4
26nm,1.0s
PPLA **Purkeypile** 53.23 336 eP P 01 39 49.5 -0.8
73nm,1.4s
BPAW **Bear Paw Mtn.** 53.50 338 eP P 01 39 50.8 -1.2
72nm,2.1s
PPT **Papeete** 54.82 231 LR LR 01 56 56.1
comp=Z,455nm,19.8s,baz=148,slow=29
PPT2 **Papeete2** 54.84 231 eS S 01 47 41.3 -0.2
186nm,26.8s
PPT2 eLR LR 01 55 41.3
916nm,26.5s,baz=41
COLD **Coldfoot** 55.16 341 eP P 01 40 03.7 -0.3
22nm,1.6s
IMA2 **Indian Mountai** 55.58 339 eP P 01 40 05.4 -1.8
RES **Resolute Bay** 56.09 4 LR LR 02 04 36.0
comp=Z,231nm,22.0s,baz=206,slow=36
LVC **Limon Verde** 56.25 136 eP P 01 40 14.2 +1.5
16nm,1.1s
SIV **San Ignacio** 57.73 124 LR LR 02 02 36.5
comp=Z,182nm,19.8s,slow=33
TBI **Tubuai** 58.53 226 eS S 01 48 31.8 +1.8
194nm,28.8s
TBI eLR LR 01 57 17.9
709nm,28.2s,baz=49
H03N2 **Juan Fernandez** 59.06 152 T T 02 44 36.6
baz=328,slow=0.7,SNR=180

H03N1	**Juan Fernandez**	**59.07**	**152**	T	T	02 44 41.5		
	baz=328,slow=0.7,SNR=137							
H03N3	**Juan Fernandez**	**59.08**	**152**	T	T	02 44 40.6		
	baz=328,slow=0.7,SNR=202							
CPUP	**Villa Florida**	**66.65**	**131**	*e*P	**P**	**01 41 23.1**	**+0.5**	
CPUP	**Villa Florida**	**66.65**	**131**	P	**P**	**01 41 23.1**	**+0.5**	
	8.3nm,1.0s,baz=277,slow=7.4,SNR=5.6							
CPUP				LR	LR	02 09 54.8		
	comp=E,119nm,18.3s,baz=64,slow=35							
PLCA	**Paso Flores**	**68.86**	**150**	*e*P	**P**	**01 41 36.9**	**+0.5**	
PLCA	**Paso Flores**	**68.86**	**150**	P	**P**	**01 41 36.9**	**+0.5**	
	9.5nm,1.0s,baz=150,slow=5.6,SNR=13							
ARA0	**ARCESS Array S**	**85.67**	**15**	*e*P	**P**	**01 43 09.2**	**-0.9**	
ARCES	**ARCESS Array B**	**85.67**	**15**	P	**P**	**01 43 09.2**	**-0.9**	
	1.7nm,0.8s,baz=328,slow=3.2,SNR=6.2							
NOA	**NORSAR Array B**	**86.56**	**25**	LR	LR	02 21 42.1		
	comp=Z,87nm,20.4s,baz=0.0,slow=35							
ESDC	**Sonseca Array**	**88.22**	**49**	LR	LR	02 21 32.6		
	comp=Z,92nm,18.1s,baz=240,slow=35							
DZM	**Mont Dzumac**	**93.18**	**248**	*e*LR	LR	02 13 42.3		
	639nm,27.6s							
DZM	**Mont Dzumac**	**93.18**	**248**	LR	LR	02 15 06.3		
	comp=Z,281nm,19.8s,baz=25,slow=29							
MJAR	**Matsushiro Arr**	**96.69**	**312**	LR	LR	02 16 52.8		
	comp=Z,158nm,21.5s,baz=95,slow=29							
CN2	**Changchun**	**100.67**	**324**	*e*P	**Pdif**	**01 44 21.0**	**+1.0**	
HHC	**Hu-ho-hao-te**	**110.04**	**329**	Pdif	**Pdif**	**01 44 59.0**	**-2.9**	
HHC				PP	**PP**	**01 49 39.0**	**+2.9**	
HHC				SS	SS	02 04 58.5	-0.4	
HHC				PPMZ				
	180nm,7.8s							
HHC				LR	LR			
	comp=N,230nm,20.2s							
HHC				LR	LR			
	comp=E,330nm,20.4s							
HHC				LR	LR			
	comp=Z,290nm,19.4s							
WRA	**Warramunga Arr**	**121.67**	**258**	PKP	**PKPdf**	**01 49 23.3**	**-2.9**	
	41nm,0.3s,baz=71,slow=2.0,SNR=4.7							
CD2	**Chengdu**	**121.75**	**328**	PKP	**PKPdf**	**01 49 25.0**	**-1.2**	
ASAR	**Alice Springs**	**122.67**	**254**	PKP	**PKPdf**	**01 49 25.9**	**-2.1**	
	0.9nm,0.7s,baz=77,slow=2.0,SNR=4.5							
GYA	**Guiyang**	**123.69**	**322**	*e*Pdif	**Pdif**	**01 46 01.3**	**-1.6**	
GYA				PKP	**PKPdf**	**01 49 28.5**	**-1.7**	
GYA				sPKP		01 49 52.0		
GYA				PP	**PP**	**01 51 15.5**	**+3.8**	
GYA				PPMZ				
	90nm,7.8s							
MAW	**Mawson**	**131.12**	**175**	PKP	**PKPdf**	**01 49 42.2**	**-0.6**	
	2.0nm,0.5s,baz=27,slow=6.8,SNR=4.2							
PSI	**Prapat**	**145.85**	**307**	PKPbc	**PKPdf**	**01 50 10.1**	**-1.4**	
	15nm,0.9s,baz=66,slow=4.6,SNR=9.8							

IDC 26 01:33:37.0±2.5, 15°02S×166°17E, h0km, mb4.3/3, mb1 4.4/4, mb1mx3.9/19, mbtmp4.3/4, ML4.1/1, Error ellipse: s-maj=49.9km s-min=35.1km az=78.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.02**	**178**	Pn	Pn	01 35 21.4	+0.2
	3.2nm,0.3s,baz=356,slow=16,SNR=19						
DZM				Sn	Sn	01 36 41.7	-0.2
	4.2nm,0.3s,baz=90,slow=20,SNR=9.8						
STKA	**Stephens Creek**	**28.00**	**229**	P	P	01 39 29.8	+0.1
	4.2nm,0.5s,baz=57,slow=10,SNR=14						
WRA	**Warramunga Arr**	**30.72**	**256**	P	P	01 39 53.8	-0.2
	1.0nm,0.7s,baz=85,slow=9.1,SNR=7.4						
ASAR	**Alice Springs**	**31.57**	**249**	P	P	01 40 01.6	0.0
	2.4nm,0.6s,baz=82,slow=9.1,SNR=27						
FINES	**FINESS Array B**	**125.59**	**338**	PKP	PKPdf	01 52 39.6	-0.3
	1.7nm,0.9s,baz=58,slow=3.4,SNR=3.8						

*IDC **26** 01:38:59.1±0.5, 3°81S×151°35E, h0km, mb4.5/24, mb1 4.6/26, mb1mx4.6/28, mbtmp4.5/26, ML3.9/2, MS4.3/18, Ms1 4.4/18, ms1mx4.3/22, Error ellipse: s-maj=16.6km s-min=11.3km az=91.0*

*GCMT **26** 01:39:03.9±0.2, 3°61S×151°38E, h12km, MW5.2, Moment Tensor Solution. s53,c64; s92,c161; Moment tensor: Scale 10^16^Nm; Mrr=1.39±.14; Mθθ 7.27±.11; Mϕϕ=5.88±.14; Mrθ=0.11±.33; Mrϕ 1.88±.12; Mθϕ=1.14±.38; Best double couple: M0 7.00000×10^16^ NP1:ϕs 38.00000°, δ82.00000°, λ=170.00000°. NP2:ϕs 306.00000°, δ80.00000°, λ=8.00000°. Principal axes: T 7.5400, Plg2.0000°, Azm172.0000°; N -1.1500, Plg77.0000°, Azm74.0000°; P -6.3900, Plg13.0000°, Azm262.0000°; Data Used: ll IU G CN IC.*

*ISCJB **26** 01:39:04.3±0.2, 3°91S±0°03×151°09E±0°04, h33km, mb4.9/88, MS4.5/37 Error ellipse: s-maj=6.0km s-min=4.7km az=2.2*

*NEIC **26** 01:39:05.1±0.2, 3°84S×151°23E, h35km, mb5.1/39, Error ellipse: s-maj=8.0km s-min=5.6km az=103.0*

*BKK **26** 01:39:08.2±0.7, 4°S±5°×15°1E±1°1, h10km, M5.0/21, mB5.6/7, mb5.0/21, MLv5.1/1, Mw(mB)5.1/7*

*AUST **26** 01:39:09.7, 4°25S×150°56E, h0km*

*MOS **26** 01:39:10.0±1.8, 4°04S×151°06E, h83km, mb4.9/19, MS4.6/6, Error ellipse: s-maj=14.4km s-min=9.2km az=87.8*

*DJA **26** 01:39:11.7±3.8, 4°S±20°×15°1E±2°4, h103km±22km, M4.9/11, mB5.3/7, mb4.8/11, MLv5.1/1, Mw(mB)4.7/7*

*BJI **26** 01:39:12.5, 4°20S×150°70E, h90km, mB5.1/31, mb4.8/38, Ms4.9/29, Ms7 4.6/29*

ISC 26 01:39:05.9±0.3, 3°96S±0°05×151°20E±0°06, h35km, n245, σ2s 20/230, mb5.0/88, MS4.5/38, 3C-4D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**4.28**	**296**	P	**Pn**	**01 40 11.0**	**+2.4**
	baz=3.9,SNR=12						
PMG	**Port Moresby**	**6.74**	**216**	P	Pn	01 40 46.0	+3.6
	203nm,0.9s,2μm0.6nm						
PMG	**Port Moresby**	**6.74**	**216**	*e*Pn	**Pn**	**01 40 43.4**	**+1.0**
PMG	**Port Moresby**	**6.74**	**216**	Pn	**Pn**	**01 40 43.4**	**+1.0**
	10nm,0.3s,baz=38,slow=7.5,SNR=24						
COEN	**Coen**	**12.70**	**218**	*e*Pn	**Pn**	**01 42 04.7**	**+0.5**
COEN	**Coen**	**12.70**	**218**	P	**Pn**	**01 42 06.8**	**+2.5**
	baz=12,SNR=5.6						
PATS	**Pohnpei**	**12.86**	**34**	P	P	01 42 25.7	+8.9
	baz=14,SNR=3.7						
SRPI	**Serui, Papua**	**15.09**	**277**	P	P	01 42 48.4	+6.9
MTSU	**Mount Surprise**	**15.62**	**205**	P	**P**	**01 42 47.0**	**-0.3**
	baz=15,SNR=39						
CTA	**Charters Tower**	**16.74**	**196**	*e*Pn	**P**	**01 42 59.2**	**-0.6**
CTA	**Charters Tower**	**16.74**	**196**	Pn	**P**	**01 42 59.2**	**-0.6**
	0.4nm,0.3s,baz=22,slow=13,SNR=10						
CTAO	**Charters Tower**	**16.74**	**196**	*e*P	**P**	**01 42 59.7**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,439nm,2.1s						
CTAO	**Charters Tower**	**16.74**	**196**	*e*Pn	**P**	**01 42 59.7**	**-0.1**
	comp=Z,439nm,2.1s						
TLE	**Tual**	**18.47**	**264**	P	**Pn**	**01 43 21.7**	**+2.3**
	comp=Z,87nm,1.6s						
FAKI	**Fak Fak**	**18.95**	**273**	P	**P**	**01 43 23.9**	**-0.4**
	comp=Z,92nm,1.7s,comp=Z,1μm						
FAKI	**Fak Fak**	**18.95**	**273**	P	**P**	**01 43 23.7**	**-0.5**
	baz=18,SNR=7.8						
SWI	**Sorong**	**20.16**	**278**	P	**P**	**01 43 37.4**	**-0.1**
	comp=Z,129nm,0.9s,comp=Z,1μm						
KDU	**Kakadu**	**20.44**	**244**	P	**P**	**01 43 40.2**	**-0.4**
	baz=20,SNR=12						
BNDI	**Bandanaira**	**21.25**	**268**	P	**P**	**01 43 49.5**	**+0.2**
	comp=Z,446nm,1.8s,comp=Z,6μm						
EIDS	**Eidsvold**	**21.29**	**180**	*e*P	**P**	**01 43 51.9**	**+2.3**
	comp=Z,32nm,0.9s						
EIDS	**Eidsvold**	**21.29**	**180**	P	**P**	**01 43 54.1**	**+4.5**
	baz=21,SNR=3.8						
RMQ	**Roma**	**22.52**	**186**	P	**P**	**01 44 04.5**	**+1.6**
	baz=22,SNR=12						
WRAB	**Tennant Creek**	**22.85**	**225**	*e*P	**P**	**01 44 06.5**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,44nm,0.9s						
WRAB	**Tennant Creek**	**22.85**	**225**	*e*P	**P**	**01 44 06.5**	**+0.2**
	comp=Z,44nm,0.9s						
WRAB	**Tennant Creek**	**22.85**	**225**	P	**P**	**01 44 06.8**	**+0.5**
	comp=Z,229nm,1.2s,SNR=20						
WRA	**Warramunga Arr**	**22.86**	**225**	*e*P	**P**	**01 44 05.8**	**-0.7**
WRA	**Warramunga Arr**	**22.86**	**225**	P	**P**	**01 44 05.8**	**-0.7**
	comp=Z,9.6nm,0.6s,baz=49,slow=10,SNR=54						
DZM	**Mont Dzumac**	**23.29**	**142**	*e*P	**P**	**01 44 10.4**	**-0.5**
	comp=Z,215nm,1.4s						
DZM				*e*S	**S**	**01 48 20.8**	**-0.4**
	comp=Z,344nm,25.2s						
DZM				*e*LR	LR	01 50 14.5	
	comp=Z,4μm,24.9s						
DZM	**Mont Dzumac**	**23.29**	**142**	P	**P**	**01 44 09.2**	**-1.7**
DZM	**Mont Dzumac**	**23.29**	**142**	P	**P**	**01 44 09.2**	**-1.7**
	comp=Z,45nm,1.1s,baz=339,slow=14,SNR=15						
DZM				LR	LR	01 50 16.8	
	comp=Z,279nm,21.6s,baz=36,slow=29						
QLP	**Quilpie**	**23.46**	**196**	P	**P**	**01 44 13.5**	**+1.1**
	baz=23,SNR=16						
KNRA	**Kununurra**	**24.95**	**241**	P	**P**	**01 44 27.9**	**+1.6**
	baz=24,SNR=3.9						
AS01	**Alice Springs**	**25.71**	**219**	*e*P	**P**	**01 44 32.9**	**-0.3**
AS12	**Alice Springs**	**25.74**	**219**	*e*P	**P**	**01 44 33.0**	**-0.4**
ASAR	**Alice Springs**	**25.74**	**219**	P	**P**	**01 44 33.0**	**-0.4**
ASAR	**Alice Springs**	**25.74**	**219**	P	**P**	**01 44 33.0**	**-0.4**
	comp=Z,7.3nm,0.8s,baz=52,slow=8.9,SNR=32						
ASAR				LR	LR	01 54 50.5	
	comp=Z,659nm,18.7s,baz=42,slow=37						
WAKE	**Wake Island**	**27.65**	**33**	*e*P	**P**	**01 44 52.6**	**+1.9**
BATI	**Baumata**	**28.01**	**256**	P	**P**	**01 44 53.7**	**-0.3**
BATI	**Baumata**	**28.01**	**256**	P	**P**	**01 44 53.7**	**-0.3**
	comp=Z,25nm,0.8s,baz=263,slow=3.7,SNR=8.0						
FITZ	**Fitzroy Crossi**	**28.70**	**239**	*e*P	**P**	**01 45 00.1**	**+0.1**
FITZ	**Fitzroy Crossi**	**28.70**	**239**	P	**P**	**01 45 00.1**	**+0.1**
	comp=Z,5.5nm,0.8s						
STKA	**Stephens Creek**	**29.20**	**197**	*e*P	**P**	**01 45 04.3**	**0.0**
	comp=Z,18nm,1.9s						
STKA	**Stephens Creek**	**29.20**	**197**	P	P	01 45 10.9	+6.6
	baz=29,SNR=4.2						
STKA	**Stephens Creek**	**29.20**	**197**	P	**P**	**01 45 03.9**	**-0.4**
	comp=Z,4.0nm,0.7s,baz=27,slow=10,SNR=12						
STKA				LR	LR	01 57 16.6	
	comp=Z,512nm,18.8s,baz=15,slow=37						
JCJ	**Chichijima**	**32.08**	**345**	LR	LR	01 56 51.4	
	comp=Z,1μm,20.4s,baz=134,slow=34						
MYLDM	**Lahad Datu**	**33.90**	**285**	P	P	01 45 51.9	+5.9
MYLDM	**Lahad Datu**	**33.90**	**285**	*e*P	**P**	**01 45 45.0**	**-0.9**
	comp=Z,42nm,1.3s						
TSM	**Tawau**	**34.30**	**283**	P	**P**	**01 45 47.9**	**-1.5**
FORT	**Forrest**	**34.47**	**217**	*e*P	**P**	**01 45 50.7**	**+0.1**
	comp=Z,53nm,1.1s						
MBWA	**Marble Bar**	**35.03**	**238**	*e*P	P	01 45 52.3	-3.3
	comp=Z,20nm,1.0s						
SDKM	**Sandakan**	**35.28**	**285**	P	**P**	**01 45 55.9**	**-2.0**
KKM	**Kota Kinabalu**	**36.32**	**286**	P	**P**	**01 46 05.5**	**-1.4**
KKM	**Kota Kinabalu**	**36.32**	**286**	*e*P	**P**	**01 46 06.1**	**-0.8**
	comp=Z,23nm,0.7s						
OUZ	**Omahuta**	**37.38**	**149**	*e*P	**P**	**01 46 16.6**	**+1.1**
	comp=Z,40nm,1.4s						
MEEK	**Meekatharra**	**38.47**	**231**	P	**P**	**01 46 24.6**	**-0.3**
	baz=38,SNR=8.6						
RAO	**Raoul Island**	**38.59**	**134**	LR	LR	01 58 32.6	
	comp=Z,670nm,20.5s,baz=240,slow=30						
BTM	**Bintulu**	**38.75**	**280**	P	**P**	**01 46 27.7**	**+0.3**
SBUM	**Sibu**	**39.48**	**279**	P	**P**	**01 46 32.9**	**-0.4**
SBUM	**Sibu**	**39.48**	**279**	*e*P	**P**	**01 46 33.0**	**-0.4**
	comp=Z,21nm,1.2s						
KSM	**Kuching**	**41.22**	**277**	P	**P**	**01 46 45.6**	**-2.3**
KSM	**Kuching**	**41.22**	**277**	*e*P	**P**	**01 46 45.8**	**-2.1**
	comp=Z,39nm,1.2s						
KSM	**Kuching**	**41.22**	**277**	P	**P**	**01 46 47.9**	**0.0**
	baz=41,SNR=6.5						
URZ	**Urewera**	**41.52**	**149**	*e*P	**P**	**01 46 50.0**	**0.0**
	comp=Z,41nm,1.6s						
URZ	**Urewera**	**41.52**	**149**	P	**P**	**01 46 49.4**	**-0.5**
	comp=Z,5.8nm,0.7s,baz=349,slow=3.9,SNR=6.9						
URZ				LR	LR	02 01 10.3	
	comp=Z,339nm,20.7s,baz=124,slow=32						
JNU	**Nakatsue**	**41.60**	**334**	*e*P	**P**	**01 46 52.1**	**+1.4**
	comp=Z,86nm,1.0s						
JNU	**Nakatsue**	**41.60**	**334**	P	**P**	**01 46 49.9**	**-0.9**
	comp=Z,69nm,1.1s,baz=109,slow=3.3,SNR=8.8						
JNU				LR	LR	02 01 39.3	
	comp=Z,441nm,20.3s,baz=325,slow=33						
MJAR	**Matsushiro Arr**	**42.08**	**344**	P	P	01 46 51.4	-3.2
MJAR	**Matsushiro Arr**	**42.08**	**344**	P	P	01 46 51.4	-3.2
	comp=Z,5.5nm,0.9s,baz=172,slow=8.3,SNR=6.6						
MAJO	**Matsushiro**	**42.08**	**344**	*e*P	P	01 46 59.1	+4.5
	comp=Z,34nm,1.3s						
RPZ	**Rata Peaks**	**43.31**	**159**	*e*P	**P**	**01 47 02.6**	**-1.9**
RPZ	**Rata Peaks**	**43.31**	**159**	P	**P**	**01 47 02.6**	**-1.9**
	comp=Z,111nm,0.8s,baz=331,slow=10,SNR=4.6						
SSE	**Sheshan**	**45.11**	**323**	P	**P**	**01 47 22.0**	**+3.0**
SSE				S	**S**	**01 53 55.0**	**-1.1**
SSE				AMB	AMB		
	comp=Z,50nm,0.7s						
SSE				AMB	AMB		
	comp=Z,240nm,3.8s						
SSE				LR	LR		
	comp=Z,260nm,25.9s						
SSE				LR	LR		
	comp=Z,330nm,25.4s						
SSE				LR	LR		
	comp=Z,440nm,24.8s						
TJN	**Taejon**	**45.90**	**333**	*e*P	**P**	**01 47 26.9**	**+1.7**
PMBI	**Palembang**	**46.35**	**270**	P	P	01 47 37.7	+8.5
	baz=4.5,SNR=4.5						
KSRS	**Korea Array**	**46.55**	**334**	P	**P**	**01 47 27.8**	**-2.5**
	comp=Z,8.7nm,1.0s,baz=157,slow=8.9,SNR=11						
KSRS				LR	LR	02 04 58.4	
	comp=Z,372nm,20.8s,baz=150,slow=34						
KSAR	**Wonju Array Be**	**46.55**	**334**	P	**P**	**01 47 27.8**	**-2.6**
KS01	**Wonju Array Si**	**46.58**	**334**	*e*P	**P**	**01 47 29.2**	**-1.3**
QIZ	**Qiongzhong**	**46.67**	**301**	P	**P**	**01 47 32.3**	**+0.7**
QIZ				pP	pP	01 47 54.5	+13
QIZ				sP	sP	01 48 04.3	+18
QIZ				S	**S**	**01 54 14.3**	**-4.7**
QIZ				ScS	**ScS**	**01 57 18.8**	**-5.5**
QIZ				LR	LR		
	comp=Z,420nm,26.8s						
QIZ				LR	LR		
	comp=Z,330nm,23.3s						
INCN	**Inchon**	**47.14**	**333**	*e*P	**P**	**01 47 38.1**	**+3.2**
	comp=Z,33nm,1.3s						
NJ2	**Nanjing**	**47.20**	**322**	*e*P	**P**	**01 47 38.3**	**+2.8**
NJ2				S	**S**	**01 54 26.0**	**-0.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
NJ2				LR	LR		
	comp=Z,300nm,13.0s						
NJ2				LR	LR		
	comp=Z,570nm,15.1s						
NJ2				LR	LR		
	comp=Z,5μm,17.7s						
MYKOM	**Kota Tinggi**	**47.67**	**276**	P	**P**	**01 47 37.0**	**-2.4**
YUK	**Yuzh-Kuril'sk**	**48.02**	**355**	*d* iP	P	01 47 37.8	-3.8
YUK				*i*		01 49 08.2	
YUK				*i* PPP	PPP	01 50 21.6	
YUK				*i* S	S	01 54 30.7	-6.6
YUK				MLR	MLR		
	comp=E,300nm,20.0s						
KGM	**Kluang**	**48.22**	**276**	P	**P**	**01 47 43.4**	**-0.3**
KTGM	**Kuala Trenggan**	**48.89**	**281**	P	P	01 47 54.9	+6.0
USRK	**Ussuriysk Arra**	**50.96**	**342**	P	**P**	**01 48 02.7**	**-1.3**
	comp=E,9.5nm,0.9s,baz=147,slow=6.7,SNR=9.5						
USRK				LR	LR	02 09 27.4	
	comp=E,330nm,18.5s,baz=147,slow=36						
SKNT	**Sakolnakorn**	**51.06**	**295**	P	**P**	**01 48 04.6**	**-0.7**
	comp=E,15nm,1.0s						
KULM	**Kulim**	**51.32**	**280**	P	P	01 48 12.0	+4.6
MDJ	**Mudanjiang**	**52.09**	**341**	P	**P**	**01 48 14.5**	**+2.0**
MDJ				pP	pP	01 48 36.5	+13
MDJ				sP	sP	01 48 46.8	+20
MDJ				ScP	**ScP**	**01 53 13.5**	**-5.2**
MDJ				PcS	**PcS**	**01 53 23.0**	**+0.7**
MDJ				S	**S**	**01 55 33.0**	**-1.2**
MDJ				sS	sS	01 56 11.8	+20
MDJ				ScS	**ScS**	**01 57 55.3**	**-4.6**
MDJ				AMB	AMB		
	comp=E,21nm,1.2s						
MDJ				AMB	AMB		
	comp=E,67nm,4.8s						
MDJ				LR	LR		
	comp=E,370nm,33.8s						
MDJ				LR	LR		
	comp=E,250nm,25.8s						
MDJ				LR	LR		
	comp=E,540nm,30.6s						
MDJ	**Mudanjiang**	**52.09**	**341**	*e*P	**P**	**01 48 14.9**	**+2.4**
	comp=E,19nm,0.7s						
CHAI	**Chaiyaphum**	**52.53**	**293**	P	**P**	**01 48 15.2**	**-1.1**
	comp=E,7.2nm,0.9s,comp=E,279nm						
GYA	**Guiyang**	**52.62**	**308**	P	**P**	**01 48 19.0**	**+2.0**
GYA				pP	pP	01 48 41.8	+14
GYA				sP	sP	01 48 53.5	+22
GYA				PP	**PP**	**01 50 20.5**	**+4.1**
GYA				ScP	**ScP**	**01 53 15.0**	**-6.6**
GYA				PcS	**PcS**	**01 53 26.3**	**+0.7**
GYA				S	**S**	**01 55 39.0**	**-3.3**
GYA				sS	sS	01 56 17.0	+17
GYA				SS	**SS**	**01 59 16.8**	**-4.4**
GYA				AMB	AMB		
	comp=E,20nm,1.0s						
GYA				AMB	AMB		
	comp=E,120nm,5.7s						
GYA				LR	LR		
	comp=E,650nm,18.9s						
GYA				LR	LR		
	comp=E,520nm,19.0s						
GYA				LR	LR		
	comp=E,610nm,18.0s						
PSI	**Prapat**	**52.67**	**277**	*e*P	**P**	**01 48 15.8**	**-1.8**
PSI	**Prapat**	**52.67**	**277**	P	**P**	**01 48 15.8**	**-1.8**
	comp=E,2.1nm,0.3s,baz=136,slow=4.2,SNR=2.7						
CN2	**Changchun**	**52.90**	**337**	*e*P	**P**	**01 48 21.0**	**+2.5**
CN2				*es*P	sP	01 48 52.0	+19
CN2				*e*S	**S**	**01 55 42.8**	**-2.4**
CN2				AMB	AMB		
	comp=E,10.0nm,1.1s						
CN2				AMB	AMB		
	comp=E,200nm,5.0s						
PBKT	**Sadao Pong**	**53.66**	**294**	P	**P**	**01 48 24.6**	**0.0**
	comp=E,18nm,1.0s						
SURT	**Suratani**	**53.80**	**284**	P	P	01 48 30.5	+4.9
	comp=E,9.1nm,1.0s						
HABR	**Khabarovsk**	**54.09**	**347**	*e*P	**P**	**01 48 28.4**	**+1.2**
HABR				*e*		01 49 30.5	
HABR				*e**SS	**S**	**01 56 06.5**	**+5.3**
HABR				*e*SS	**SS**	**01 59 43.7**	**+0.4**
HABR				SSS	SSS	02 01 39.7	
HABR				pmax	pmax		
	comp=Z,74nm,1.5s						
HABR				MLR	MLR		
	comp=Z,393nm,18.0s						
BJI	**Beijing**	**54.32**	**327**	P	**P**	**01 48 31.5**	**+2.5**
BJI				sP	sP	01 49 03.8	+20
BJI				S	**S**	**01 56 09.5**	**+4.9**
BJI				AMB	AMB		
	comp=Z,20nm,0.8s						
BJI				LR	LR		
	comp=Z,530nm,19.8s						
BJI				LR	LR		
	comp=Z,350nm,18.9s						
BJI				LR	LR		
	comp=Z,450nm,27.7s						
UTHA	**Uthaitani**	**54.77**	**292**	P	**P**	**01 48 32.7**	**0.0**
	comp=Z,7.8nm,0.9s						
XAN	**Xi'an**	**54.92**	**317**	P	**P**	**01 48 36.3**	**+2.7**
XAN				pP	pP	01 48 57.8	+14
XAN				sP	sP	01 49 09.5	+21
XAN				AMB	AMB		
	comp=Z,3.0nm,0.8s						
XAN				AMB	AMB		
	comp=Z,42nm,5.6s						
KMI	**Kunming**	**55.20**	**304**	P	P	01 48 40.8	+4.8
KMI				pP	pP	01 48 58.0	+11
KMI				sP	sP	01 49 07.5	+17
KMI				S	**S**	**01 56 13.5**	**-3.9**
KMI				AMB	AMB		
	comp=Z,15nm,1.1s						
KMI				AMB	AMB		
	comp=Z,120nm,6.5s						
KMI				LR	LR		
	comp=Z,190nm,26.9s						
KMI				LR	LR		
	comp=Z,330nm,25.2s						
KMI				LR	LR		
	comp=Z,290nm,26.3s						
CRAI	**Chiangrai**	**55.38**	**298**	P	**P**	**01 48 37.1**	**0.0**
	comp=Z,87nm,1.0s						
CM01	**Chiang Mai Arr**	**56.05**	**295**	*e*P	**P**	**01 48 41.4**	**-0.5**
CM31	**Chiang Mai Arr**	**56.08**	**295**	*e*P	**P**	**01 48 41.8**	**-0.4**
CMAR	**Chiang Mai Arr**	**56.08**	**295**	P	**P**	**01 48 41.8**	**-0.4**
CMAR	**Chiang Mai Arr**	**56.08**	**295**	P	**P**	**01 48 41.8**	**-0.4**
	comp=Z,7.2nm,0.8s,baz=111,slow=5.4,SNR=38						
CHTO	**Chiang Mai**	**56.19**	**296**	*e*P	**P**	**01 48 42.5**	**-0.4**
CHTO				pmax	pmax		
	comp=Z,27nm,1.1s						
CHTO	**Chiang Mai**	**56.19**	**296**	*e*P	**P**	**01 48 42.5**	**-0.4**
	comp=Z,6.7nm,1.1s						
CHTO	**Chiang Mai**	**56.19**	**296**	P	**P**	**01 48 43.3**	**+0.4**
	comp=Z,96nm,1.2s						
CMAI	**Chiengmai2**	**56.45**	**297**	P	**P**	**01 48 46.7**	**+1.7**
	comp=Z,12nm,1.0s,comp=Z,889nm						
CD2	**Chengdu**	**56.99**	**311**	P	**P**	**01 48 50.3**	**+1.9**
CD2				pP	pP	01 49 13.3	+14
CD2				sP	sP	01 49 24.0	+21
CD2				PP	**PP**	**01 51 00.0**	**+4.6**
CD2				PcS	**PcS**	**01 53 43.5**	**-0.9**
CD2				S	**S**	**01 56 35.8**	**-4.8**
CD2				sS	sS	01 57 15.5	+17
CD2				SS	**SS**	**02 00 27.0**	**-2.8**
CD2				AMB	AMB		
	comp=Z,20nm,0.5s						
CD2				AMB	AMB		
	comp=Z,330nm,4.3s						
CD2				LR	LR		
	comp=Z,650nm,8.9s						
CD2				LR	LR		
	comp=Z,930nm,13.1s						
PET	**Petropavlovsk**	**57.12**	**5**	*e*P	P	01 49 00.6	+12
PET				*e*S	S	01 56 48.0	+6.6
PET				*e*SS	**SS**	**02 00 27.7**	**-3.2**
PET				pmax	pmax		
	comp=Z,15nm,0.6s						
PET				MLR	MLR		
	comp=Z,300nm,20.0s						
PETK	**Petropavlovsk-**	**57.12**	**5**	P	P	01 48 45.7	-3.2
PETK	**Petropavlovsk-**	**57.12**	**5**	P	P	01 48 45.7	-3.2
	comp=Z,7.5nm,0.5s,baz=171,slow=2.4,SNR=8.2						
HHC	**Hu-ho-hao-te**	**57.45**	**325**	*e*P	**P**	**01 48 52.3**	**+0.8**
HHC				pP	pP	01 49 16.0	+14
HHC				sP	sP	01 49 27.3	+21
HHC				PP	**PP**	**01 51 02.3**	**+2.9**
HHC				S	**S**	**01 56 41.0**	**-5.5**

CLNS	**Chul'man**	**64.27**	**344**	*e*P		**P**		**01 49 40.5**	**+3.0**
CLNS					pmax	pmax			
	comp=Z,22nm,1.0s								
CLNS					pmax	pmax			
	comp=E,8.0nm,0.9s								
CLNS					pmax	pmax			
	comp=N,14nm,1.2s								
ULN	**Ulaanbaatar**	**64.45**	**329**	*e*P		**P**		**01 49 37.5**	**-1.5**
	comp=N,20nm,1.2s								
SHL	**Shillong**	**64.51**	**301**	*e*P		**P**		**01 49 39.0**	**-0.9**
SONA0	**Songino Array**	**64.77**	**328**	*e*P		**P**		**01 49 39.7**	**-1.4**
SONM	**Songino Array**	**64.77**	**328**	P		**P**		**01 49 39.7**	**-1.4**
SONM	**Songino Array**	**64.77**	**328**	P		**P**		**01 49 39.7**	**-1.4**
	comp=N,1.0nm,0.6s,baz=139,slow=7.4,SNR=6.0								
SONM					LR	LR		02 16 12.9	
	comp=N,466nm,20.9s,baz=123,slow=34								
SONA1	**Songino Array**	**64.78**	**328**	*e*P		**P**		**01 49 39.1**	**-2.1**
YAK	**Yakutsk**	**67.85**	**349**	*e*P		**P**		**01 50 02.2**	**+1.9**
YAK					pmax	pmax			
	comp=Z,48nm,1.3s								
YAK					pmax	pmax			
	comp=N,25nm,1.5s								
YAK					pmax	pmax			
	comp=E,5.0nm,1.2s								
ZAK	**Zakamensk**	**67.96**	**329**	*e*P		**P**		**01 49 59.1**	**-2.3**
ZAK				*e*				01 52 32.2	
ZAK					pmax	pmax			
	comp=Z,4.0nm,1.2s								
ZAK					pmax	pmax			
	comp=Z,15nm,1.3s								
CASY	**Casey**	**68.35**	**196**	*e*P		**P**		**01 50 03.1**	**-0.3**
	comp=Z,44nm,1.6s								
TLY	**Talaya**	**68.56**	**330**	*e*P		**P**		**01 50 04.1**	**-1.0**
TLY				*e*S		S		01 58 57.2	-7.9
TLY					pmax	pmax			
	comp=Z,14nm,1.1s								
TLY					MLR	MLR			
	comp=Z,277nm,20.0s								
TAPN	**Taplejung**	**68.61**	**301**	*e*P		**P**		**01 50 05.4**	**-0.9**
	comp=Z,77nm,1.0s								
ODAN	**Odare**	**68.75**	**301**	*e*P		**P**		**01 50 06.1**	**-0.9**
	comp=Z,81nm,0.9s								
RAMN	**Ramite**	**69.45**	**301**	*e*P		**P**		**01 50 11.0**	**-0.4**
	comp=Z,14nm,0.7s								
MOY	**Mondy**	**69.88**	**329**	*e*P		P		01 50 16.9	+3.5
MOY					pmax	pmax			
	comp=Z,29nm,1.6s								
JIRN	**Jiri**	**69.99**	**301**	*e*P		**P**		**01 50 13.9**	**-1.0**
	comp=Z,31nm,0.7s								
GUN	**Gumba**	**70.33**	**301**	*e*P		**P**		**01 50 15.9**	**-1.0**
	comp=Z,109nm,1.0s								
KKN	**Kakani**	**70.81**	**301**	*e*P		**P**		**01 50 18.6**	**-1.1**
DMN	**Daman**	**70.91**	**301**	*e*P		**P**		**01 50 18.9**	**-1.4**
	comp=Z,107nm,1.0s								
GKN	**Gorkha**	**71.41**	**301**	*e*P		**P**		**01 50 22.1**	**-1.2**
	comp=Z,111nm,1.1s								
KOLN	**Koldanda**	**72.24**	**301**	*e*P		**P**		**01 50 27.1**	**-1.2**
	comp=Z,58nm,0.8s								
DANN	**Dangsing**	**72.25**	**301**	*e*P		**P**		**01 50 26.9**	**-1.6**
	comp=Z,96nm,1.1s								
HVS	**Khovu-Aksy**	**73.47**	**326**	*c i*P		**P**		**01 50 34.3**	**-0.7**
HVS					pmax	pmax			
	comp=Z,22nm,1.0s								
HVS					MLR	MLR			
	comp=Z,3µm,18.0s								
RKT	**Rikitea**	**73.58**	**113**	*e*LQ		LQ		02 10 23.2	
	comp=Z,526nm,34.5s								
RKT				*e*LR		LR		02 13 35.2	
	comp=Z,462nm,24.8s								
VNDA	**Vanda**	**73.72**	**178**	*e*P		**P**		**01 50 34.9**	**-1.0**
	comp=Z,27nm,2.2s								
VNDA	**Vanda**	**73.72**	**178**	P		**P**		**01 50 35.0**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=341,slow=7.7,SNR=10								
VNDA					LR	LR		02 21 43.4	
	comp=Z,142nm,18.2s,baz=338,slow=35								
WMQ	**Urumqi**	**74.05**	**318**	P		P		01 50 42.0	+3.5
WMQ				pP		PcP		01 51 07.0	+13
WMQ				sP		sP		01 51 18.0	+25
WMQ				PP		PP		01 53 30.3	+6.1
WMQ				S		**SKiKP**		**02 00 05.0**	**+0.7**
WMQ				SKS		SKSac		02 00 35.5	-8.0
WMQ				sS		**ScS**		**02 00 48.5**	**+2.2**
WMQ				SS		**SS**		**02 04 54.0**	**-0.4**
WMQ				AMB		AMB			
	comp=Z,18nm,1.2s								
WMQ				AMB		AMB			
	comp=Z,170nm,4.4s								
WMQ				LR		LR			
	comp=Z,280nm,21.8s								
WMQ				LR		LR			
	comp=Z,170nm,23.0s								
WMQ				LR		LR			
	comp=Z,240nm,24.6s								
HYB	**Hyderabad**	**74.71**	**289**	*i* P		**P**		**01 50 41.0**	**-1.8**
SVW2	**Sparrevohn**	**76.69**	**24**	*e*P		P		01 50 57.0	+3.7
	comp=Z,208nm,2.7s								
TIXI	**Tiksi**	**76.87**	**353**	*e*P		P		01 50 57.8	+3.8
TIXI					pmax	pmax			
	comp=Z,9.0nm,1.7s								
MK01	**Makanchi Array**	**78.64**	**319**	*e*P		**P**		**01 51 02.4**	**-2.0**
MK32	**Makanchi Array**	**78.65**	**319**	*e*P		**P**		**01 51 02.5**	**-2.0**
MKAR	**Makanchi Array**	**78.65**	**319**	*e*P		**P**		**01 51 04.2**	**-0.3**
MKAR	**Makanchi Array**	**78.65**	**319**	*e*P		**P**		**01 51 04.2**	**-0.3**
MKAR	**Makanchi Array**	**78.65**	**319**	P		**P**		**01 51 02.5**	**-2.0**
	comp=Z,4.1nm,0.9s,baz=103,slow=6.2,SNR=14								
MKAR					LR	LR		02 24 55.4	
	comp=Z,177nm,19.7s,baz=104,slow=35								
CAST	**Castle Rocks**	**79.34**	**22**	*e*P		**P**		**01 51 10.8**	**+2.9**
	comp=Z,27nm,1.3s								
ZAA0	**Zalesovo Array**	**79.58**	**327**	*e*P		**P**		**01 51 07.0**	**-2.4**
ZALV	**Zalesovo Beam**	**79.58**	**327**	P		P		01 51 06.0	-3.3
ZALV	**Zalesovo Beam**	**79.58**	**327**	P		P		01 51 06.0	-3.3
	comp=Z,1.1nm,0.7s,baz=114,slow=7.1,SNR=5.5								
ZALV					LR	LR		02 25 24.9	
	comp=Z,208nm,18.9s,baz=250,slow=35								
PMR	**Palmer**	**79.59**	**25**	*e*P		**P**		**01 51 07.9**	**-1.3**
	comp=Z,336nm,2.9s								
TRF	**Thorofare Moun**	**80.05**	**23**	*e*P		**P**		**01 51 13.4**	**+1.5**
	comp=Z,113nm,2.2s								
BPAW	**Bear Paw Mtn.**	**80.11**	**22**	*e*P		**P**		**01 51 14.1**	**+2.0**
	comp=Z,26nm,1.4s								
IMA2	**Indian Mountai**	**80.20**	**20**	*e*P		**P**		**01 51 12.0**	**-0.7**
MCK	**McKinley**	**80.71**	**23**	*e*P		**P**		**01 51 12.7**	**-2.6**
NVS	**Novosibirsk**	**80.76**	**327**	*i* P		P		01 51 12.4	-3.3
NVS					pmax	pmax			
	comp=Z,30nm,1.7s								
NVS					pmax	pmax			
	comp=E,13nm,1.6s								
KSH	**Kashi**	**81.18**	**311**	P		P		01 51 25.8	+7.3
KSH				pP		pP		01 51 47.3	+18
KSH				sP		sP		01 51 56.0	+22
KSH				PP		PP		01 54 31.0	+6.8
KSH				S		**S**		**02 01 24.0**	**-2.4**
KSH				sS		sS		02 02 08.0	+23
KSH				SS		**SS**		**02 06 43.5**	**+1.2**
KSH				AMB		AMB			
	comp=E,16nm,1.1s								
KSH				AMB		AMB			
	comp=E,100nm,8.6s								
KSH				LR		LR			
	comp=E,82nm,5.4s								
KSH				LR		LR			
	comp=E,140nm,5.7s								
KSH				LR		LR			
	comp=E,140nm,5.2s								
ILAR	**Eielson Array**	**81.99**	**22**	P		P		01 51 17.8	-4.2
ILAR	**Eielson Array**	**81.99**	**22**	P		P		01 51 17.8	-4.2
	comp=E,5.5nm,1.0s,baz=244,slow=5.6,SNR=18								
ILAR					LR	LR		02 27 22.8	
	comp=E,177nm,18.6s,baz=114,slow=36								
COLD	**Coldfoot**	**82.00**	**20**	*e*P		**P**		**01 51 25.1**	**+3.0**
KURK	**Kurchatov**	**82.13**	**322**	*e*P		**P**		**01 51 24.3**	**+1.2**
KURK					pmax	pmax			
	comp=Z,6.0nm,0.9s								
KURK	**Kurchatov**	**82.13**	**322**	*e*P		**P**		**01 51 24.3**	**+1.2**
	comp=Z,13nm,0.9s								
TKM2	**Tokmak 2**	**82.20**	**314**	*e*P		P		01 51 27.9	+4.0
TKM2					pmax	pmax			
	comp=Z,9.0nm,0.9s								
TKM2	**Tokmak 2**	**82.20**	**314**	P		P		01 51 28.5	+4.6
	SNR=7.6								
TKM2	**Tokmak 2**	**82.20**	**314**	*e*P		P		01 51 27.9	+4.0
	comp=Z,8.9nm,0.9s								
KZA	**Kyzart**	**82.27**	**313**	P		P		01 51 30.4	+5.9
	SNR=8.3								
DOT	**Dot Lake**	**82.61**	**24**	*e*P		**P**		**01 51 25.4**	**+0.1**
	comp=Z,18nm,1.1s								
KBK	**Karagaybulak**	**82.61**	**314**	P		P		01 51 31.1	+5.1
	SNR=5.6								
AAK	**Ala-Archa**	**82.94**	**314**	*e*P		**P**		**01 51 26.8**	**-0.9**
AAK					pmax	pmax			
	comp=Z,4.0nm,0.9s								
AAK					MLR	MLR			
	comp=Z,441nm,20.0s								
AAK	**Ala-Archa**	**82.94**	**314**	P		P		01 51 32.7	+5.0
	SNR=5.2								
AAK	**Ala-Archa**	**82.94**	**314**	*e*P		**P**		**01 51 29.2**	**+1.5**
	comp=Z,6.9nm,0.8s								
USP	**Ospenovka**	**83.06**	**314**	P		P		01 51 33.1	+4.9
	SNR=6.9								
AML	**Almayashu**	**83.42**	**313**	P		P		01 51 35.8	+5.3
	SNR=15								
EKS2	**Erkin-Say**	**83.46**	**314**	*e*P		**P**		**01 51 30.5**	**+0.1**
EKS2					pmax	pmax			
	comp=Z,12nm,1.0s								
EKS2	**Erkin-Say**	**83.46**	**314**	P		P		01 51 35.7	+5.4
	SNR=5.1								
EKS2	**Erkin-Say**	**83.46**	**314**	*e*P		**P**		**01 51 30.5**	**+0.1**
	comp=Z,12nm,1.0s								
HYT	**Haines Junctio**	**84.44**	**28**	*e*P		**P**		**01 51 35.7**	**+0.8**
MAW	**Mawson**	**85.73**	**203**	LR		LR		02 26 56.6	
	comp=Z,377nm,19.9s,baz=84,slow=34								
KKAR	**Karatay Array**	**85.90**	**314**	*e*P		**P**		**01 51 41.9**	**-0.6**
KKAR	**Karatay Array**	**85.90**	**314**	*e*P		**P**		**01 51 41.9**	**-0.6**
QSPA	**South Pole Qui**	**85.99**	**180**	*e*P		**P**		**01 51 42.1**	**-0.5**
	comp=Z,15nm,1.3s								
VOSK	**Vostochnaya**	**87.22**	**323**	*e*P		**P**		**01 51 50.3**	**+1.6**
VOSK					pmax	pmax			
	comp=Z,4.0nm,0.9s								
VOSK	**Vostochnaya**	**87.22**	**323**	*e*P		**P**		**01 51 50.2**	**+1.6**
	comp=Z,4.1nm,0.9s								
BRVK	**Borovoye**	**87.69**	**323**	*i*P		**P**		**01 51 53.7**	**+2.7**
BRVK					pmax	pmax			
	comp=Z,10.0nm,1.0s								
BRVK					MLR	MLR			
	comp=Z,322nm,18.0s								
BRVK	**Borovoye**	**87.69**	**323**	*e*P		**P**		**01 51 53.7**	**+2.7**
	comp=Z,9.5nm,1.0s								
INK	**Inuvik**	**88.25**	**21**	*e*P		**P**		**01 51 51.2**	**-2.0**
	comp=Z,142nm,3.0s								
INK	**Inuvik**	**88.25**	**21**	P		**P**		**01 51 51.2**	**-2.0**
	comp=Z,2.6nm,0.7s,baz=225,slow=8.6,SNR=3.1								
HUMO	**Hull Mountain**	**89.59**	**47**	*e*P		**P**		**01 52 01.1**	**+0.8**
	comp=Z,12nm,1.4s								
YBH	**Yreka Blue Hor**	**89.69**	**48**	*e*P		**P**		**01 52 00.1**	**-0.7**
	comp=Z,84nm,3.0s								
YBH	**Yreka Blue Hor**	**89.69**	**48**	P		**P**		**01 52 00.1**	**-0.7**
	comp=Z,1.9nm,0.9s,baz=213,slow=5.3,SNR=4.8								
K05A	**Summer Lake**	**91.12**	**47**	*e*P		**P**		**01 52 05.8**	**-1.7**
	comp=Z,218nm,3.0s								
MOD	**Modoc**	**91.50**	**48**	*e*P		P		01 52 13.0	+3.7
	comp=Z,3.1nm,1.4s								
PASC	**Pasadena Art C**	**92.71**	**56**	*e*PKiKP		**PKiKP**		**01 57 02.5**	**-0.6**
NV01	**Mina Array Sit**	**92.82**	**52**	*e*P		**P**		**01 52 18.4**	**+2.9**
NVAR	**Mina Array Bea**	**92.82**	**52**	P		**P**		**01 52 14.3**	**-1.3**
NVAR	**Mina Array Bea**	**92.82**	**52**	P		**P**		**01 52 14.3**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=260,slow=5.3,SNR=2.4								
NVAR					LR	LR		02 33 44.4	
	comp=Z,145nm,18.2s,baz=127,slow=35								
F10A	**Beach Ranch, E**	**93.91**	**44**	*e*P		P		01 52 26.2	+6.0
	comp=Z,36nm,1.9s								
TPC	**Twentynine Pal**	**94.47**	**56**	*e*PKiKP		**PKiKP**		**01 57 03.5**	**-2.8**
SWSC	**Sam W. Stewart**	**94.65**	**57**	*e*P		**P**		**01 52 24.4**	**+0.6**
ARU	**Arti**	**94.74**	**326**	*c i*P		**P**		**01 52 25.4**	**+1.7**
ARU								01 56 15.0	
ARU					SP	SP		02 04 56.2	+6.1
ARU					SS	**SS**		**02 10 05.8**	**+7.1**
ARU					pmax	pmax			
	comp=Z,2.0nm,1.2s								
ARU					MLR	MLR			
	comp=Z,416nm,20.0s								
YKA	**Yellowknife Ar**	**95.43**	**28**	P		**P**		**01 52 23.8**	**-2.9**
YKA	**Yellowknife Ar**	**95.43**	**28**	P		**P**		**01 52 23.8**	**-2.9**
	comp=Z,1.7nm,1.0s,baz=279,slow=5.6,SNR=3.3								
EDM	**Edmonton**	**96.42**	**37**	*e*P		**P**		**01 52 31.5**	**0.0**
PD31	**Pinedale Array**	**99.46**	**47**	*e*Pdif		**Pdif**		**01 52 42.9**	**-2.8**
PDAR	**Pinedale Array**	**99.46**	**47**	P		**Pdif**		**01 52 42.9**	**-2.8**
PDAR	**Pinedale Array**	**99.46**	**47**	P		**Pdif**		**01 52 42.9**	**-2.8**
	comp=Z,0.4nm,0.8s,baz=257,slow=3.6,SNR=3.1								
PDAR					LR	LR		02 38 21.2	
	comp=Z,108nm,18.1s,baz=268,slow=36								
OBN	**Obninsk**	**107.16**	**327**	*e*P		**Pdif**		**01 53 21.5**	**+2.3**
OBN				*e*SS		SS		02 12 44.1	-7.0
OBN					pmax	pmax			
	comp=Z,6.0nm,0.8s								
OBN					MLR	MLR			
	comp=Z,200nm,21.0s								
KOLS	**Kolonicke sedl**	**117.71**	**325**	*e*PKiKP		**PKPdf**		**01 57 53.0**	**+4.4**
KOLS	**Kolonicke sedl**	**117.71**	**325**	*e*PKP		**PKPdf**		**01 57 53.0**	**+4.4**
UZH	**Uzhgorod**	**117.84**	**324**	*e*PKiKP		PKPdf		01 58 00.1	+11
UZH				*e*				01 58 19.1	
STHS	**Stebnicka Huta**	**118.06**	**325**	*e*PKiKP		**PKPdf**		**01 57 54.0**	**+4.7**
STHS	**Stebnicka Huta**	**118.06**	**325**	*e*PKP		**PKPdf**		**01 57 54.0**	**+4.7**
CRVS	**Cervenica-Dubn**	**118.19**	**325**	*e*PKiKP		PKPdf		01 58 01.2	+12
CRVS	**Cervenica-Dubn**	**118.19**	**325**	*e*PKP		PKPdf		01 58 01.2	+12
KECS	**Kecovo**	**118.96**	**325**	*e*PKiKP		PKPdf		01 57 57.7	+6.7
KECS	**Kecovo**	**118.96**	**325**	*e*PKP		PKPdf		01 57 57.7	+6.7
KHC	**Kasperske Hory**	**122.40**	**328**	*e*PKiKP		**PKPdf**		**01 58 01.9**	**+4.2**
KHC	**Kasperske Hory**	**122.40**	**328**	*e*PKP		**PKPdf**		**01 58 01.9**	**+4.2**
GEC2	**GERESS Array S**	**122.51**	**328**	*e*PKiKP		**PKPdf**		**01 57 56.8**	**-1.2**
GEC2	**GERESS Array S**	**122.51**	**328**	*e*PKPdf		**PKPdf**		**01 57 56.8**	**-1.2**
GERES	**GERESS Array B**	**122.51**	**328**	PKP		**PKPdf**		**01 57 56.8**	**-1.2**
GERES	**GERESS Array B**	**122.51**	**328**	PKP		**PKPdf**		**01 57 56.8**	**-1.2**
	comp=Z,1.4nm,0.8s,baz=48,slow=1.5,SNR=13								
ABTA	**Abterbsach**	**124.41**	**327**	*i*PKiKP		**PKiKP**		**01 58 04.7**	**+2.7**
	comp=Z,4.6nm,1.0s								
FETA	**Feichten**	**125.21**	**328**	*i*PKiKP		**PKiKP**		**01 58 07.2**	**+3.5**
	comp=Z,5.4nm,1.0s								
ESDC	**Sonseca Array**	**137.94**	**331**	*e*PKPdf		**PKPdf**		**01 58 26.8**	**-0.6**
ESDC				*e*PP		**PP**		**02 01 15.2**	**+0.8**
ESDC	**Sonseca Array**	**137.94**	**331**	PKP		**PKPdf**		**01 58 26.8**	**-0.6**
	comp=Z,0.0nm,0.3s,baz=85,slow=1.5,SNR=3.3								
ESDC				PP		**PP**		**02 01 15.2**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=25,slow=3.9,SNR=4.5								
SIV	**San Ignacio**	**142.42**	**123**	*e*PKPdf		**PKPdf**		**01 58 35.3**	**-0.8**
SIV	**San Ignacio**	**142.42**	**123**	PKP		**PKPdf**		**01 58 35.3**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=224,slow=4.5,SNR=3.4								
TOA0	**Torodi Ar. Sit**	**148.53**	**289**	*e*PKPbc		**PKPdf**		**01 58 48.2**	**+1.7**
TORD	**Torodi Ar. Bea**	**148.53**	**289**	PKPbc		**PKPbc**		**01 58 48.8**	**-1.4**
TORD				PP		**PP**		**02 02 23.4**	**+3.6**
TORD	**Torodi Ar. Bea**	**148.53**	**289**	PKPbc		**PKPbc**		**01 58 48.8**	**-1.4**
	comp=Z,8.9nm,1.1s,baz=78,slow=3.0,SNR=16								
TORD				PP		**PP**		**02 02 23.4**	**+3.6**
	comp=Z,1.0nm,1.0s,baz=54,slow=5.3,SNR=3.9								
KIC	**Kosan Boka**	**155.92**	**277**	*e*PKP2		**PKPab**		**01 59 29.2**	**+4.5**
	comp=Z,34nm,0.8s								
DBIC	**Dimbokro**	**156.01**	**277**	PKPab		**PKPab**		**01 59 24.2**	**-0.8**
DBIC	**Dimbokro**	**156.01**	**277**	PKPab		**PKPab**		**01 59 24.2**	**-0.8**
	comp=Z,16nm,0.9s,baz=87,slow=5.1,SNR=6.0								
TIC	**Toumodi**	**156.18**	**277**	*e*PKP2		**PKPab**		**01 59 30.2**	**+4.4**
	comp=Z,41nm,1.0s								
LIC	**Lamto**	**156.22**	**276**	*e*PKP2		**PKPab**		**01 59 30.3**	**+4.3**
	comp=Z,27nm,0.8s								

*ISCJB **26** 01:39:26.6±1.0, 3°.97S±0°.09×34°.79E±0°.05, h22km, Error ellipse: s-maj=13.8km s-min=6.4km az=163.2*
*NEIC **26** 01:39:28.4, 3°.79S×34°.77E, h10km, ML4.6(PRE), After PRE.*
*PRE **26** 01:39:28.6±2.1, 3°.80S×34°.77E, h10km, ML5.0*

ISC 26 01:39:28.5±1.2, 3°.9S±0°.1×34°.79E±0°.05, h22km, n8, σ1§40/15, Lake Victoria region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MAUS	**Longido**	**2.22**	**59**	*i* P			**Pn**	**01 40 04.2**	**0.0**
MAUS				*i* S			**Sn**	**01 40 30.2**	**-0.9**
KMBO	**Kilima Mbogo**	**3.69**	**42**	*e*P			**Pn**	**01 40 24.7**	**+0.3**
KMBO				*e*S			**Sn**	**01 41 08.5**	**+1.1**
KMBO	**Kilima Mbogo**	**3.69**	**42**	*e*P			**Pn**	**01 40 24.7**	**+0.3**
KMBO				*e*S			**Sn**	**01 41 08.5**	**+1.1**
KIG	**Kigali**	**5.10**	**292**	*e*P			**Pn**	**01 40 45.4**	**+1.6**
KIG				*e*S			**Sn**	**01 41 42.6**	**+0.4**
KIG				AML		AML		01 42 14.8	
	comp=Z,905nm,0.6s								
KIG	**Kigali**	**5.10**	**292**	*e*P			**Pn**	**01 40 45.4**	**+1.6**
KIG				*e*S			**Sn**	**01 41 42.6**	**+0.4**
MBAR	**Mbarara**	**5.21**	**309**	*e*P			**Pn**	**01 40 46.0**	**+0.8**
MBAR				*e*S			**Sn**	**01 41 42.3**	**-2.5**
MBAR	**Mbarara**	**5.21**	**309**	*e*P			**Pn**	**01 40 46.0**	**+0.8**
MBAR				*e*S			**Sn**	**01 41 42.3**	**-2.5**
LSZ	**Lusaka**	**13.04**	**209**	*e*Pn			**Pn**	**01 42 32.1**	**-0.7**

*KRSC **26** 01:45:41.0±6.2, 49°.89N×156°.85E, h5km±5km, ML4.4*
*MOS **26** 01:45:41.0±2.0, 49°.89N×156°.85E, h5km, mb4.5/1, Error ellipse: s-maj=45.5km s-min=12.1km az=83.2*

ISC 26 01:45:40.6±3.3, 49°.9N±0°.2×156°.6E±0°.1, h10km, n16, σ0§91/22, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.85**	**341**	⇓*i* PN			**Pg**	**01 45 55.5**	**-1.5**
SKR					pmax	pmax			
	comp=N,180nm,0.3s								
SKR					pmax	pmax			
	comp=Z,280nm,0.3s								
SKR					pmax	pmax			
	comp=E,120nm,0.2s								
SKR	**Severo-Kuril's**	**0.85**	**341**	*e*P			**Pn**	**01 45 59.5**	**+0.9**
SKR				*e*S			**Sn**	**01 46 11.8**	**+0.6**
PAU	**Pauzhetka**	**1.60**	**6**	PN			**Pb**	**01 46 10.3**	**+0.1**
PAU				S			**Sb**	**01 46 30.5**	**0.0**
PAU	**Pauzhetka**	**1.60**	**6**	*e*P			**Pb**	**01 46 10.3**	**+0.1**
PAU				*e*S			**Sb**	**01 46 30.5**	**0.0**
MTVR	**Mutnovka**	**2.81**	**21**	*e*P			**Pn**	**01 46 27.3**	**+1.7**
MTVR				*e*S			**Sn**	**01 47 01.1**	**+1.6**
RUS	**Russkaya**	**2.84**	**25**	PN			**Pn**	**01 46 26.8**	**+0.8**
RUS				S			**Sn**	**01 46 59.5**	**-0.7**
RUS	**Russkaya**	**2.84**	**25**	*e*P			**Pn**	**01 46 26.8**	**+0.8**
RUS				*e*S			**Sn**	**01 46 59.5**	**-0.7**
PET	**Petropavlovsk**	**3.42**	**22**	*e*PN			**Pn**	**01 46 33.5**	**-0.3**
PET				*e*S			**Sn**	**01 47 15.0**	**+0.7**
PET					smax	smax			
	comp=E,94nm,0.6s								
PET					smax	smax			
	comp=N,158nm,0.6s								
SDLR	**Sedlovina**	**3.70**	**22**	*e*P			**Pn**	**01 46 39.6**	**+1.7**
NLC	**Nalytchevo**	**3.73**	**27**	PN			**Pn**	**01 46 37.8**	**-0.4**
NLC	**Nalytchevo**	**3.73**	**27**	*e*P			**Pn**	**01 46 37.8**	**-0.4**
GNL	**Ganaly**	**3.92**	**12**	*e*P			Pn	01 46 44.3	+3.4
MKZ	**Mys Kozlova**	**5.67**	**32**	PN			**Pn**	**01 47 04.9**	**+0.2**
MKZ	**Mys Kozlova**	**5.67**	**32**	*e*P			**Pn**	**01 47 04.9**	**+0.2**
KBTR	**Krutoberegovo**	**7.38**	**28**	PN			**Pn**	**01 47 28.9**	**+0.6**
KBTR	**Krutoberegovo**	**7.38**	**28**	*e*P			**Pn**	**01 47 28.9**	**+0.6**

RSPR 26 01:54:33.7, 18°.90N×68°.97W, h116km±1km, MD3.9/13, 14C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**0.41**	**254**	⇓*e*P			Pn	01 54 49.8	-0.9
DR12				*e*S			Sn	01 55 03.0	-0.5
IMO	**Isla Mona**	**1.28**	**128**	⇑*e*P			Pn	01 54 57.6	-0.7
IDE	**Isla Desecheo**	**1.51**	**110**	⇑*e*P			Pn	01 55 00.4	-0.6
IDE	**Isla Desecheo**	**1.51**	**110**	*e*S			Sn	01 55 21.6	-0.1
AGPR	**Aguadilla, PR**	**1.81**	**104**	*e*S			Sn	01 55 28.9	+0.7
AGPR	**Aguadilla, PR**	**1.81**	**104**	⇑*e*P			Pn	01 55 05.1	+0.5
LSP	**Las Mesas**	**1.93**	**112**	*e*S			Sn	01 55 31.2	+0.4
LSP	**Las Mesas**	**1.93**	**112**	⇑*e*P			Pn	01 55 06.3	+0.2
CRPR	**Cabo Rojo, PR**	**1.98**	**117**	*e*S			Sn	01 55 31.9	+0.1
CRPR	**Cabo Rojo, PR**	**1.98**	**117**	⇑*e*P			Pn	01 55 06.3	-0.3
AOPR	**Arecibo Observ**	**2.17**	**104**	*e*S			Sn	01 55 36.3	0.0
AOPR	**Arecibo Observ**	**2.17**	**104**	⇑*e*P			Pn	01 55 08.8	-0.4
SDDR	**Presa de Saban**	**2.20**	**272**	*e*S			Sn	01 55 37.1	+0.2
SDDR	**Presa de Saban**	**2.20**	**272**	⇑*e*P			Pn	01 55 09.6	0.0
CELP	**Cerrillos**

PMG	**Port Moresby**	**7.56 245**	P	Pn	02 36 12.1	-0.1
	1.3nm,0.3s,baz=71,slow=16,SNR=3.9						
PMG			S	Sn	02 37 38.1	+1.7
	1.3nm,0.3s,baz=143,slow=15,SNR=8.9						
PMG			LR	LR	02 38 42.1	
	comp=Z,131nm,21.6s,baz=85,slow=34						
WRA	**Warramunga Arr**	**23.54 233**	P	P	02 39 26.1	-0.1
	0.7nm,0.6s,baz=56,slow=9.2,SNR=6.4						
WRA			PcP	PcP	02 43 09.7	+0.6
	0.5nm,0.5s,baz=58,slow=2.3,SNR=7.0						
ASAR	**Alice Springs**	**26.03 226**	P	P	02 39 48.8	0.0
	0.5nm,0.5s,baz=59,slow=8.8,SNR=8.7						
STKA	**Stephens Creek**	**28.05 203**	P	P	02 40 06.0	-0.8
	1.8nm,0.8s,baz=10,slow=11,SNR=3.0						
FITZ	**Fitzroy Crossi**	**30.16 244**	P	P	02 40 25.3	-0.3
	0.9nm,0.7s,baz=63,slow=11,SNR=4.2						
TORD	**Torodi Ar. Bea**	**151.98 286**	PKPbc	PKPbc	02 54 08.9	-0.4
	0.4nm,0.3s,baz=78,slow=1.8,SNR=22						

IDC ***26*** *02:52:02.7±1.5,39°.22N×22°.19E,h69km±19km,mb3.3/9, mb1 3.4/17,mb1mx3.4/34,mbtmp3.4/17,Error ellipse: s-maj=17.1km s-min=11.4km az=66.0*

ISCJB ***26*** *02:52:04.1±0.2,39°.27N×0°.01×22°.14E±0°.02,h98km±2km, mb3.6/8,Error ellipse: s-maj=3.0km s-min=2.1km az=151.9*

PDG ***26*** *02:52:04.7±0.5,39°.26N×22°.13E,h90km±1km,ML3.8/10, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*

BEO ***26*** *02:52:05.5±0.9,39°.44N×21°.74E,h0km,ML3.3/7*

ATH ***26*** *02:52:05.0,39°.24N×22°.24E,h88km±1km,ML4.0*

CSEM ***26*** *02:52:05.4±0.1,39°.26N×22°.14E,h89km±2km,ML3.8, Error ellipse: s-maj=2.7km s-min=2.1km az=59.0*

THE ***26*** *02:52:06.0,39°.23N×22°.25E,h87km±1km,ML3.8/18,Error ellipse: s-maj=1.0km s-min=0.5km az=140.0*

ISC 26 02:52:04.6±0.6,39°.25N±0°.02×22°.19E±0°.02,h94km±4km, n246,σ1§14/359,mb3.6/8,21C-19D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKR	**Makrakomi, Fth**	**0.24**	**190**	P	**Pn**	**02 52 19.0**	**+0.7**
MAKR				S	**Sn**	**02 52 28.9**	**+0.5**
MAKR	**Makrakomi, Fth**	**0.24**	**190**	*eP*	**Pn**	**02 52 19.0**	**+0.7**
MAKR				*eS*	**Sn**	**02 52 28.8**	**+0.4**
MAKR	**Makrakomi, Fth**	**0.24**	**190**	P	**Pn**	**02 52 18.9**	**+0.7**
MAKR				*eS*	**Sn**	**02 52 28.8**	**+0.4**
AGG	**Agios Georgios**	**0.25**	**154**	P	**Pn**	**02 52 18.8**	**+0.4**
AGG				S	**Sn**	**02 52 28.3**	**-0.2**
AGG	**Agios Georgios**	**0.25**	**154**	*eP*	**Pn**	**02 52 18.8**	**+0.4**
AGG				*eS*	**Sn**	**02 52 28.0**	**-0.5**
AGG	**Agios Georgios**	**0.25**	**154**	P	**Pn**	**02 52 18.8**	**+0.4**
AGG				S	**Sn**	**02 52 28.3**	**-0.2**
THL	**Klokotos Trika**	**0.34**	**337**	P	**Pn**	**02 52 18.7**	**0.0**
THL				S	**Sn**	**02 52 29.9**	**+0.7**
THL	**Klokotos Trika**	**0.34**	**337**	*eP*	**Pn**	**02 52 18.3**	**-0.4**
THL				*eS*	**Sn**	**02 52 28.5**	**-0.7**
THL	**Klokotos Trika**	**0.34**	**337**	P	**Pn**	**02 52 18.7**	**0.0**
THL				*eS*	**Sn**	**02 52 28.5**	**-0.7**
EVR	**Evrytania**	**0.45**	**222**	P	**Pn**	**02 52 20.1**	**+0.5**
EVR				S	**Sn**	**02 52 30.6**	**0.0**
EVR	**Evrytania**	**0.45**	**222**	*eP*	**Pn**	**02 52 20.0**	**+0.5**
EVR				*eS*	**Sn**	**02 52 30.6**	**0.0**
EVR	**Evrytania**	**0.45**	**222**	*eP*	**Pn**	**02 52 20.0**	**+0.5**
EVR				S	**Sn**	**02 52 30.6**	**0.0**
FYTO	**Fytoko, Volos**	**0.60**	**75**	P	**Pn**	**02 52 21.1**	**+0.4**
FYTO				S	**Sn**	**02 52 32.5**	**0.0**
FYTO	**Fytoko, Volos**	**0.60**	**75**	P	**Pn**	**02 52 21.0**	**+0.4**
FYTO				S	**Sn**	**02 52 32.7**	**0.0**
AXAR	**Agios Charalam**	**0.61**	**143**	P	**Pn**	**02 52 21.2**	**+0.5**
AXAR				S	**Sn**	**02 52 33.0**	**+0.4**
AXAR	**Agios Charalam**	**0.61**	**143**	P	**Pn**	**02 52 21.2**	**+0.5**
AXAR				S	**Sn**	**02 52 33.0**	**+0.4**
XOR	**Xorichti**	**0.79**	**81**	P	**Pn**	**02 52 22.9**	**+0.6**
XOR				S	**Sn**	**02 52 35.3**	**-0.4**
XOR	**Xorichti**	**0.79**	**81**	*eP*	**Pn**	**02 52 23.0**	**+0.6**
XOR				*eS*	**Sn**	**02 52 35.6**	**-0.1**
XOR	**Xorichti**	**0.79**	**81**	P	**Pn**	**02 52 22.9**	**+0.6**
XOR				S	**Sn**	**02 52 35.3**	**-0.4**
NEO	**Neokhori**	**0.81**	**86**	P	**Pn**	**02 52 23.2**	**+0.6**
NEO				S	**Sn**	**02 52 35.7**	**-0.2**
NEO	**Neokhori**	**0.81**	**86**	*eP*	**Pn**	**02 52 23.2**	**+0.6**
NEO				*eS*	**Sn**	**02 52 35.8**	**-0.2**
NEO	**Neokhori**	**0.81**	**86**	P	**Pn**	**02 52 23.1**	**+0.5**
NEO				S	**Sn**	**02 52 35.7**	**-0.2**
PVO	**Paravola**	**0.82**	**219**	P	**Pn**	**02 52 23.9**	**+1.3**
PVO				S	**Sn**	**02 52 36.1**	**+1.8**
PVO	**Paravola**	**0.82**	**219**	P	**Pn**	**02 52 23.9**	**+1.3**
PVO				S	**Sn**	**02 52 35.7**	**-0.4**
EFP	**Efpalio**	**0.85**	**195**	P	**Pn**	**02 52 23.7**	**+0.7**
EFP	**Efpalio**	**0.85**	**195**	*eP*	**Pn**	**02 52 23.7**	**+0.7**
EFP	**Efpalio**	**0.85**	**195**	P	**Pn**	**02 52 23.7**	**+0.7**
EFP				S	**Sn**	**02 52 36.6**	**-0.1**
KALE	**Kalithea**	**0.86**	**182**	P	**Pn**	**02 52 23.6**	**+0.4**
KALE				S	**Sn**	**02 52 36.8**	**-0.2**
KALE	**Kalithea**	**0.86**	**182**	*eP*	**Pn**	**02 52 23.6**	**+0.4**
KALE				*eS*	**Sn**	**02 52 36.5**	**-0.5**
KALE	**Kalithea**	**0.86**	**182**	P	**Pn**	**02 52 23.6**	**+0.4**
KALE				S	**Sn**	**02 52 36.8**	**-0.2**
LKR	**Lokris**	**0.87**	**133**	P	**Pn**	**02 52 23.8**	**+0.6**
LKR	**Lokris**	**0.87**	**133**	*eP*	**Pn**	**02 52 23.8**	**+0.6**
LKR				*eS*	**Sn**	**02 52 37.0**	**-0.1**
LKR	**Lokris**	**0.87**	**133**	P	**Pn**	**02 52 23.7**	**+0.6**
LKR				*eS*	**Sn**	**02 52 37.0**	**-0.1**
SMIA	**Simia**	**0.88**	**115**	P	**Pn**	**02 52 23.9**	**+0.6**
SMIA				S	**Sn**	**02 52 36.9**	**-0.4**
SMIA	**Simia**	**0.88**	**115**	*eP*	**Pn**	**02 52 24.0**	**+0.6**
SMIA				*eS*	**Sn**	**02 52 37.5**	**+0.2**
SMIA	**Simia**	**0.88**	**115**	P	**Pn**	**02 52 23.9**	**+0.6**
SMIA				S	**Sn**	**02 52 37.5**	**+0.2**
DSF	**Desfina**	**0.88**	**162**	P	**Pn**	**02 52 23.8**	**+0.4**
DSF				S	**Sn**	**02 52 37.2**	**-0.2**
DSF	**Desfina**	**0.88**	**162**	*eP*	**Pn**	**02 52 23.8**	**+0.4**
DSF				*eS*	**Sn**	**02 52 37.2**	**-0.2**
DSF	**Desfina**	**0.88**	**162**	P	**Pn**	**02 52 23.8**	**+0.4**
DSF				S	**Sn**	**02 52 37.2**	**-0.2**
MEV	**Metsovon**	**0.91**	**306**	P	**Pn**	**02 52 25.1**	**+1.3**
MEV	**Metsovon**	**0.91**	**306**	P	**Pn**	**02 52 25.1**	**+1.3**
PSA1	**Psathopyrgos**	**0.95**	**194**	*eP*	**Pn**	**02 52 25.5**	**+1.4**
PSA1				*eS*	**Sn**	**02 52 38.8**	**+0.2**
SKIA	**Skiathos**	**1.00**	**94**	P	**Pn**	**02 52 25.1**	**+0.5**
SKIA				S	**Sn**	**02 52 39.5**	**+0.2**
SKIA	**Skiathos**	**1.00**	**94**	*eP*	**Pn**	**02 52 25.4**	**+0.8**
SKIA				*eS*	**Sn**	**02 52 39.6**	**+0.1**
SKIA	**Skiathos**	**1.00**	**94**	P	**Pn**	**02 52 25.1**	**+0.5**
SKIA				*eS*	**Sn**	**02 52 39.6**	**+0.1**
PDO	**Prodromos**	**1.02**	**231**	P	**Pn**	**02 52 25.9**	**+1.1**
PDO				S	**Sn**	**02 52 41.6**	**+1.7**
PDO	**Prodromos**	**1.02**	**231**	*eP*	**Pn**	**02 52 26.0**	**+1.1**
PDO				*eS*	**Sn**	**02 52 41.0**	**+1.1**
PDO	**Prodromos**	**1.02**	**231**	P	**Pn**	**02 52 25.9**	**+1.1**
PDO				S	**Sn**	**02 52 40.6**	**+0.7**
LAKA	**Lakka**	**1.02**	**189**	P	**Pn**	**02 52 25.7**	**+0.8**
LAKA	**Lakka**	**1.02**	**189**	*eP*	**Pn**	**02 52 25.7**	**+0.8**
LAKA				*eS*	**Sn**	**02 52 40.6**	**+0.5**
LAKA	**Lakka**	**1.02**	**189**	P	**Pn**	**02 52 25.7**	**+0.8**
LAKA				*eS*	**Sn**	**02 52 40.6**	**+0.5**
KZN	**Kozani**	**1.10**	**343**	P	**Pn**	**02 52 27.2**	**+1.3**
KZN				S	**Sn**	**02 52 43.3**	**+1.5**
KZN	**Kozani**	**1.10**	**343**	*eP*	**Pn**	**02 52 27.2**	**+1.3**
KZN				*eS*	**Sn**	**02 52 43.2**	**+1.5**
KZN	**Kozani**	**1.10**	**343**	P	**Pn**	**02 52 27.2**	**+1.3**
KZN				S	**Sn**	**02 52 41.3**	**-0.5**
JAN	**Janina**	**1.11**	**292**	P	**Pn**	**02 52 27.6**	**+1.7**
JAN				S	**Sn**	**02 52 44.2**	**+2.3**
JAN	**Janina**	**1.11**	**292**	*eP*	**Pn**	**02 52 28.1**	**+2.2**
JAN				*eS*	**Sn**	**02 52 43.8**	**+1.9**
JAN	**Janina**	**1.11**	**292**	P	**Pn**	**02 52 27.6**	**+1.7**
JAN				S	**Sn**	**02 52 43.5**	**+1.6**
KLV	**Kalavryta, Ach**	**1.21**	**181**	P	**Pn**	**02 52 27.6**	**+0.5**
KLV	**Kalavryta, Ach**	**1.21**	**181**	*eP*	**Pn**	**02 52 27.6**	**+0.5**
KLV				*eS*	**Sn**	**02 52 43.8**	**-0.1**
KLV	**Kalavryta, Ach**	**1.21**	**181**	P	**Pn**	**02 52 27.6**	**+0.5**
KLV				*eS*	**Sn**	**02 52 43.8**	**-0.1**
MRKA	**Markates**	**1.22**	**116**	P	**Pn**	**02 52 27.9**	**+0.8**
MRKA				S	**Sn**	**02 52 44.3**	**+0.2**
MRKA	**Markates**	**1.22**	**116**	*eP*	**Pn**	**02 52 28.0**	**+0.8**
MRKA				*eS*	**Sn**	**02 52 44.1**	**0.0**
MRKA	**Markates**	**1.22**	**116**	P	**Pn**	**02 52 27.9**	**+0.8**
MRKA				*eS*	**Sn**	**02 52 44.1**	**0.0**
AXS	**Araxos**	**1.23**	**211**	P	**Pn**	**02 52 28.2**	**+1.0**
GUR	**Goura**	**1.32**	**175**	P	**Pn**	**02 52 28.9**	**+0.4**
GUR	**Goura**	**1.32**	**175**	*eP*	**Pn**	**02 52 28.9**	**+0.4**
GUR				*eS*	**Sn**	**02 52 46.0**	**-0.4**
GUR	**Goura**	**1.32**	**175**	P	**Pn**	**02 52 28.9**	**+0.4**
GUR				*eS*	**Sn**	**02 52 46.0**	**-0.4**
RLS	**Riolos of Patr**	**1.32**	**206**	P	**Pn**	**02 52 29.4**	**+1.1**
RLS	**Riolos of Patr**	**1.32**	**206**	*eP*	**Pn**	**02 52 29.4**	**+1.1**
RLS	**Riolos of Patr**	**1.32**	**206**	P	**Pn**	**02 52 29.4**	**+1.1**
RLS				S	**Sn**	**02 52 46.2**	**0.0**
PAIG	**Paliouri**	**1.34**	**59**	P	**Pn**	**02 52 29.1**	**+0.6**
PAIG	**Paliouri**	**1.34**	**59**	*eP*	**Pn**	**02 52 29.2**	**+0.7**
PAIG				*eS*	**Sn**	**02 52 46.2**	**-0.4**
PAIG	**Paliouri**	**1.34**	**59**	P	**Pn**	**02 52 29.2**	**+0.7**
PAIG				*eS*	**Sn**	**02 52 46.2**	**-0.4**
VIL2	**Platees**	**1.34**	**140**	*eP*	**Pn**	**02 52 30.1**	**+1.5**
VIL2				*eS*	**Sn**	**02 52 47.8**	**+1.1**
DRO	**Drossia**	**1.35**	**196**	P	**Pn**	**02 52 29.9**	**+1.2**
DRO				S	**Sn**	**02 52 47.5**	**+0.6**
DRO	**Drossia**	**1.35**	**196**	P	**Pn**	**02 52 29.9**	**+1.2**
DRO				S	**Sn**	**02 52 47.5**	**+0.6**
LTK	**Loutraki**	**1.37**	**153**	P	**Pn**	**02 52 29.5**	**+0.5**
LTK	**Loutraki**	**1.37**	**153**	*eP*	**Pn**	**02 52 29.7**	**+0.7**
LTK				*eS*	**Sn**	**02 52 47.3**	**-0.1**
LTK	**Loutraki**	**1.37**	**153**	*eP*	**Pn**	**02 52 29.7**	**+0.7**
LTK				*eS*	**Sn**	**02 52 47.3**	**-0.1**
VILL	**Villia**	**1.40**	**141**	*eP*	**Pn**	**02 52 30.1**	**+0.7**
VILL				*eS*	**Sn**	**02 52 47.8**	**-0.2**
NEST	**Nestorio**	**1.46**	**323**	P	**Pn**	**02 52 31.9**	**+1.8**
NEST				S	**Sn**	**02 52 51.6**	**+2.2**
NEST	**Nestorio**	**1.46**	**323**	*eP*	**Pn**	**02 52 31.9**	**+1.8**
NEST	**Nestorio**	**1.46**	**323**	P	**Pn**	**02 52 31.9**	**+1.8**
NEST				S	**Sn**	**02 52 51.6**	**+2.2**
IGT	**Igoumenitsa**	**1.46**	**282**	P	**Pn**	**02 52 31.1**	**+1.0**
IGT	**Igoumenitsa**	**1.46**	**282**	*eP*	**Pn**	**02 52 31.0**	**+1.0**
IGT	**Igoumenitsa**	**1.46**	**282**	P	**Pn**	**02 52 31.1**	**+1.0**
PLG	**Polygyros**	**1.48**	**40**	P	**Pn**	**02 52 30.9**	**+0.5**
PLG	**Polygyros**	**1.48**	**40**	*eP*	**Pn**	**02 52 31.1**	**+0.7**
PLG	**Polygyros**	**1.48**	**40**	*eP*	**Pn**	**02 52 31.1**	**+0.7**
ERET	**Eretria**	**1.50**	**122**	P	**Pn**	**02 52 31.2**	**+0.6**
ERET	**Eretria**	**1.50**	**122**	P	**Pn**	**02 52 31.2**	**+0.6**
THE	**Thessaloniki**	**1.50**	**23**	P	**Pn**	**02 52 31.1**	**+0.5**
THE	**Thessaloniki**	**1.50**	**23**	P	**Pn**	**02 52 31.1**	**+0.5**
HORT	**Hortiatis**	**1.52**	**27**	P	**Pn**	**02 52 31.4**	**+0.5**
HORT	**Hortiatis**	**1.52**	**27**	*eP*	**Pn**	**02 52 31.4**	**+0.5**
HORT	**Hortiatis**	**1.52**	**27**	P	**Pn**	**02 52 31.4**	**+0.5**
VTN	**Vitineika**	**1.55**	**211**	P	**Pn**	**02 52 32.6**	**+1.5**
VTN	**Vitineika**	**1.55**	**211**	P	**Pn**	**02 52 32.6**	**+1.5**
FNA	**Florina**	**1.65**	**338**	P	**Pn**	**02 52 34.0**	**+1.4**
FNA				S	**Sn**	**02 52 55.6**	**+1.9**
FNA	**Florina**	**1.65**	**338**	*eP*	**Pn**	**02 52 33.9**	**+1.4**
FNA	**Florina**	**1.65**	**338**	*eP*	**Pn**	**02 52 33.9**	**+1.4**
FNA				S	**Sn**	**02 52 55.6**	**+1.9**
ATH	**Athens Observa**	**1.75**	**136**	P	**Pn**	**02 52 34.6**	**+0.9**
ATH				S	**Sn**	**02 52 56.0**	**+0.1**
ATH	**Athens Observa**	**1.75**	**136**	*eP*	**Pn**	**02 52 34.9**	**+1.2**
ATH				*eS*	**Sn**	**02 52 55.8**	**-0.1**
ATH	**Athens Observa**	**1.75**	**136**	P	**Pn**	**02 52 34.6**	**+0.9**
ATH				S	**Sn**	**02 52 56.0**	**+0.1**
AMT	**Artemida-Makis**	**1.76**	**192**	*eP*	**Pn**	**02 52 35.3**	**+1.4**
AMT	**Artemida-Makis**	**1.76**	**192**	P	**Pn**	**02 52 35.2**	**+1.4**
OUR	**Ouranopolis**	**1.76**	**51**	*eP*	**Pn**	**02 52 35.0**	**+1.2**
OUR				*eS*	**Sn**	**02 52 55.4**	**-0.5**
OUR	**Ouranopolis**	**1.76**	**51**	*eP*	**Pn**	**02 52 35.0**	**+1.2**
OUR				*eS*	**Sn**	**02 52 55.4**	**-0.5**
PTL	**Penteli**	**1.78**	**132**	*eP*	**Pn**	**02 52 35.2**	**+1.0**
PTL	**Penteli**	**1.78**	**132**	*eP*	**Pn**	**02 52 35.2**	**+1.0**
SOH	**Sokhos**	**1.81**	**29**	*eP*	**Pn**	**02 52 36.0**	**+1.5**
SOH	**Sokhos**	**1.81**	**29**	*eP*	**Pn**	**02 52 36.0**	**+1.5**
VLX	**Vlachokerasia**	**1.88**	**175**	*eP*	**Pn**	**02 52 36.7**	**+1.1**
VLX	**Vlachokerasia**	**1.88**	**175**	*eP*	**Pn**	**02 52 36.7**	**+1.1**
BIA	**Bitola**	**1.89**	**340**	*i* Pn	**Pn**	**02 52 37.1**	**+1.6**
BIA				*eSg*	**Sn**	**02 52 60.0**	**+0.9**
BIA	**Bitola**	**1.89**	**340**	*i* Pn	**Pn**	**02 52 36.6**	**+1.1**
BIA				*eSg*	**Sn**	**02 52 59.4**	**+0.3**
KEK	**Kerkira**	**1.91**	**285**	*eP*	**Pn**	**02 52 36.5**	**+0.8**
KEK	**Kerkira**	**1.91**	**285**	*eP*	**Pn**	**02 52 36.5**	**+0.8**
DID	**Didima**	**1.93**	**154**	P	**Pn**	**02 52 36.8**	**+0.7**
DID				S	**Sn**	**02 53 00.3**	**+0.3**
DID	**Didima**	**1.93**	**154**	*eP*	**Pn**	**02 52 36.9**	**+0.8**
DID	**Didima**	**1.93**	**154**	*eP*	**Pn**	**02 52 36.9**	**+0.8**
DID				S	**Sn**	**02 53 00.3**	**+0.3**
KNT	**Kendrikon**	**1.98**	**16**	*eP*	**Pn**	**02 52 38.3**	**+1.5**
KNT	**Kendrikon**	**1.98**	**16**	*eP*	**Pn**	**02 52 38.3**	**+1.5**
ITM	**Ithomi**	**2.08**	**186**	*eP*	**Pn**	**02 52 39.3**	**+1.3**
ITM	**Ithomi**	**2.08**	**186**	*eP*	**Pn**	**02 52 39.3**	**+1.3**
VAY	**Valandovo**	**2.09**	**8**	*i* Pn	**Pn**	**02 52 39.5**	**+1.3**
VAY				*eSg*	**Sn**	**02 53 01.8**	**-1.9**
VAY	**Valandovo**	**2.09**	**8**	*i* Pn	**Pn**	**02 52 39.4**	**+1.3**
VAY				*eSg*	**Sn**	**02 53 01.7**	**-1.9**
SRS	**Serrai**	**2.15**	**30**	*eP*	**Pn**	**02 52 40.1**	**+1.1**
SRS	**Serrai**	**2.15**	**30**	*eP*	**Pn**	**02 52 40.1**	**+1.1**
PYL	**PYLOS**	**2.38**	**189**	*eP*	**Pn**	**02 52 42.3**	**+0.3**
PYL	**PYLOS**	**2.38**	**189**	*eP*	**Pn**	**02 52 42.3**	**+0.3**
LIA	**Limnos Island**	**2.40**	**73**	*eP*	**Pn**	**02 52 43.2**	**+1.0**
LIA	**Limnos Island**	**2.40**	**73**	*eP*	**Pn**	**02 52 43.2**	**+1.0**
NVR	**Nevrokopi**	**2.46**	**31**	*eP*	**Pn**	**02 52 44.2**	**+1.2**
NVR	**Nevrokopi**	**2.46**	**31**	*eP*	**Pn**	**02 52 44.2**	**+1.2**
KAVA	**Kavala**	**2.50**	**45**	*eP*	**Pn**	**02 52 44.3**	**+0.8**
KAVA	**Kavala**	**2.50**	**45**	*eP*	**Pn**	**02 52 44.3**	**+0.8**
TIR	**Tirane**	**2.75**	**320**	*ePg*	**Pn**	**02 52 48.0**	**+1.2**
TIR	**Tirane**	**2.75**	**320**	*ePg*	**Pn**	**02 52 48.0**	**+1.2**
SKO	**Skopje**	**2.78**	**348**	*eP*	**Pn**	**02 52 49.9**	**+2.6**
SKO				*eSg*	**Sn**	**02 53 01.9**	**+1.0**
SKO	**Skopje**	**2.78**	**348**	*eP*	**Pn**	**02 52 49.3**	**+2.0**
SKO				*eSg*	**Sn**	**02 53 20.5**	**+0.5**
SMTH	**Samothraki Isl**	**2.85**	**64**	*eP*	**Pn**	**02 52 48.9**	**+0.7**
SMTH	**Samothraki Isl**	**2.85**	**64**	*eP*	**Pn**	**02 52 48.9**	**+0.7**
SIGR	**SIGRI**	**2.85**	**90**	*eP*	**Pn**	**02 52 49.7**	**+1.5**
SIGR	**SIGRI**	**2.85**	**90**	*eP*	**Pn**	**02 52 49.7**	**+1.5**
CHOS	**Chios island**	**3.14**	**105**	*eP*	**Pn**	**02 52 54.1**	**+1.9**
CHOS	**Chios island**	**3.14**	**105**	*eP*	**Pn**	**02 52 54.1**	**+1.9**
PRK	**Paraskevi**	**3.17**	**89**	*eP*	**Pn**	**02 52 54.5**	**+2.0**
PRK	**Paraskevi**	**3.17**	**89**	*eP*	**Pn**	**02 52 54.5**	**+2.0**
RDO	**Rodhopi**	**3.19**	**53**	*eP*	**Pn**	**02 52 54.0**	**+1.3**
RDO	**Rodhopi**	**3.19**	**53**	*eP*	**Pn**	**02 52 54.0**	**+1.3**
ALN	**Alexandroupoli**	**3.39**	**60**	*eP*	**Pn**	**02 52 56.4**	**+1.0**
ALN	**Alexandroupoli**	**3.39**	**60**	*eP*	**Pn**	**02 52 56.4**	**+1.0**
APE	**Apeiranthos**	**3.42**	**129**	*eP*	**Pn**	**02 52 57.1**	**+1.2**
APE	**Apeiranthos**	**3.42**	**129**	*i*P	**Pn**	**02 52 56.8**	**+0.9**
APE	**Apeiranthos**	**3.42**	**129**	*eP*	**Pn**	**02 52 57.1**	**+1.2**
VTS	**Vitosha**	**3.43**	**13**	*e*Pn	**Pn**	**02 53 38.0**	**+1.8**
VTS				*e*Sn	**Sn**	**02 53 38.8**	**+3.0**
VTS	**Vitosha**	**3.43**	**13**	*i*P	**Pn**	**02 52 57.9**	**+1.8**
VTS	**Vitosha**	**3.43**	**13**	*i*P	**Pn**	**02 52 57.9**	**+1.8**
VTS				*e*Sn	**Sn**	**02 53 38.8**	**+3.0**
ULC	**Ulcinj**	**3.52**	**321**	*i*Pn	**Pn**	**02 52 57.2**	**0.0**
ULC				*e*Sn	**Sn**	**02 53 37.3**	**-0.5**
ULC	**Ulcinj**	**3.52**	**321**	*i*Pn	**Pn**	**02 52 57.2**	**0.0**
ULC				*e*Sn	**Sn**	**02 53 37.3**	**-0.5**
DRME	**Dracevica, Mon**	**3.72**	**323**	*i*Pn	**Pn**	**02 52 59.9**	**0.0**
DRME				*e*Sn	**Sn**	**02 53 41.4**	**-1.2**
DRME	**Dracevica, Mon**	**3.72**	**323**	*i*Pn	**Pn**	**02 52 59.9**	**0.0**
DRME				*e*Sn	**Sn**	**02 53 41.4**	**-1.2**
PVY	**Plav**	**3.74**	**334**	*i*Pn	**Pn**	**02 53 01.2**	**+0.9**
PVY				*e*Sn	**Sn**	**02 53 42.8**	**-0.6**
PVY	**Plav**	**3.74**	**334**	*i*Pn	**Pn**	**02 53 01.2**	**+0.9**
PVY				*e*Sn	**Sn**	**02 53 42.8**	**-0.6**
PDG	**Podgorica**	**3.88**	**326**	*i*Pn	**Pn**	**02 53 02.4**	**+0.4**
PDG				*e*Sn	**Sn**	**02 53 45.3**	**-1.2**
TTG	**Podgorica**	**3.88**	**326**	*i*Pn	**Pn**	**02 53 02.4**	**+0.4**
TTG				*e*Sn	**Sn**	**02 53 45.3**	**-1.2**
BUM	**Brajici-Budva**	**3.94**	**322**	*i*Pn	**Pn**	**02 53 02.8**	**-0.2**
BUM				*e*Sn	**Sn**	**02 53 47.4**	**-0.7**
BUM	**Brajici-Budva**	**3.94**	**322**	*i*Pn	**Pn**	**02 53 02.8**	**-0.2**
BUM				*e*Sn	**Sn**	**02 53 47.4**	**-0.7**
SMG	**Samos**	**3.96**	**111**	*eP*	**Pn**	**02 53 05.1**	**+1.9**
PE1	**Pezze di Greco**	**3.97**	**295**	*e*Pn	**Pn**	**02 53 03.1**	**-0.2**
TAR1	**Taranto**	**3.98**	**290**	*e*Pn	**Pn**	**02 53 03.1**	**-0.3**
BEY	**Berane**	**4.01**	**335**	*e*Pn	**Pn**	**02 53 04.7**	**+0.8**
BEY				*e*Sn	**Sn**	**02 53 48.9**	**-1.0**
IVA	**Berane**	**4.01**	**335**	*e*Pn	**Pn**	**02 53 04.7**	**+0.8**
IVA				*e*Sn	**Sn**	**02 53 48.9**	**-1.0**
ZAPS	**Zavoj**	**4.03**	**5**	*i*Pn	**Pn**	**02 53 06.6**	**+2.4**
SELS	**Selova**	**4.05**	**349**	*e*Pn	**Pn**	**02 53 04.9**	**+0.6**
HCY	**Herceg Novi**	**4.25**	**320**	*i*Pn	**Pn**	**02 53 06.5**	**-0.5**
HCY				*e*Sn	**Sn**	**02 53 53.7**	**-1.8**
HCY	**Herceg Novi**	**4.25**	**320**	*i*Pn	**Pn**	**02 53 06.5**	**-0.5**
HCY				*e*Sn	**Sn**	**02 53 53.7**	**-1.8**
NKME	**Niksic**	**4.28**	**326**	*i*Pn	**Pn**	**02 53 07.2**	**-0.3**
NKME				*e*Sn	**Sn**	**02 53 54.7**	**-1.6**
NKME	**Niksic**	**4.28**	**326**	*i*Pn	**Pn**	**02 53 07.2**	**-0.3**
NKME				*e*Sn	**Sn**	**02 53 54.7**	**-1.6**
NKY	**Niksic**	**4.30**	**327**	*i*Pn	**Pn**	**02 53 07.9**	**0.0**
NKY				*e*Sn	**Sn**	**02 53 55.5**	**-1.4**
NKY	**Niksic**	**4.30**	**327**	*i*Pn	**Pn**	**02 53 07.9**	**0.0**
NKY				*e*Sn	**Sn**	**02 53 55.5**	**-1.4**
SJES	**Sjenica**	**4.34**	**338**	*e*Pn	**Pn**	**02 53 08.5**	**+0.1**
SJES				*e*Sn	**Sn**	**02 53 56.5**	**-1.4**
BAI	**Bari**	**4.47**	**296**	*i* Pn	**Pn**	**02 53 09.5**	**-0.5**
IDI	**Anoyia**	**4.50**	**151**	P	**Pn**	**02 53 09.6**	**-1.0**
	0.9nm,0.3s,baz=203,slow=13,SNR=9.5						
IDI				S	**Sn**	**02 53 58.0**	**-3.9**
	5.6nm,0.3s,baz=326,slow=18,SNR=13						
IVAS	**Ivanjica**	**4.58**	**341**	*e*Pn	**Pn**	**02 53 11.9**	**+0.2**
IVAS				*e*Sn	**Sn**	**02 54 02.0**	**-1.7**
IVAS	**Ivanjica**	**4.58**	**341**	*e*Pn	**Pn**	**02 53 11.9**	**+0.2**
IVAS				*e*Sn	**Sn**	**02 54 02.0**	**-1.7**
PLE	**Pljevlja**	**4.59**	**334**	*i*Pn	**Pn**	**02 53 12.6**	**+0.8**
PLE				*e*Sn	**Sn**	**02 54 02.4**	**-1.5**
PLE	**Pljevlja**	**4.59**	**334**	*i*Pn	**Pn**	**02 53 12.6**	**+0.8**
PLE				*e*Sn	**Sn**	**02 54 02.4**	**-1.5**
UPM	**Unac-Piva**	**4.66**	**329**	*i*Pn	**Pn**	**02 53 13.8**	**+1.0**
UPM				*e*Sn	**Sn**	**02 54 04.7**	**-1.0**
UPM	**Unac-Piva**	**4.66**	**329**	*i*Pn	**Pn**	**02 53 13.8**	**+1.0**
UPM				*e*Sn	**Sn**	**02 54 04.7**	**-1.0**
GRUS	**Gruza**	**4.76**	**347**	*e*Pn	**Pn**	**02 53 14.5**	**+0.5**
GRUS				*e*Sn	**Sn

CLJI	**Cilicap**	**0.46**	**18**	P		**Pn**	**03 39 07.3**	**+0.1**
KPJI	**Karang Pucung**	**0.82**	**4**	P		**Pn**	**03 39 10.3**	**-0.4**
KPJI				S		**Sn**	**03 39 26.0**	**+2.4**
BJII	**Banjamegara**	**1.17**	**45**	P		**Pn**	**03 39 15.5**	**+0.7**
BJII				S		**Sn**	**03 39 30.2**	**-0.7**
CISI	**Cisompet, Garu**	**1.21**	**300**	P		**Pn**	**03 39 14.3**	**-0.9**
CISI				S		**Sn**	**03 39 31.2**	**-0.5**
TGJI	**Tegal**	**1.31**	**11**	P		**Pn**	**03 39 14.9**	**-1.5**
YOGI	**Yogyakarta**	**1.45**	**76**	P		**Pn**	**03 39 17.8**	**-0.4**
YOGI				S		**Sn**	**03 39 35.7**	**-1.3**
UGM	**Wanagama**	**1.65**	**82**	P		**Pn**	**03 39 21.1**	**+0.3**
UGM				S		**Sn**	**03 39 41.1**	**-0.6**
LEM	**Lembang**	**1.82**	**317**	P		**Pn**	**03 39 23.8**	**+0.7**
LEM				S		**Sn**	**03 39 47.4**	**+1.7**
WOJI	**Wonogiri, Jawa**	**2.06**	**81**	P		**Pn**	**03 39 25.6**	**-0.5**
WOJI				S		**Sn**	**03 39 51.0**	**-0.1**
PCJI	**Pacitan**	**2.28**	**91**	P		**Pn**	**03 39 29.7**	**+0.6**
PCJI				S		**Sn**	**03 39 55.9**	**-0.6**
SKJI	**Sukabumi**	**2.57**	**296**	P		**Pn**	**03 39 32.3**	**-0.6**
DBJI	**Dramaga**	**2.64**	**307**	P		**Pn**	**03 39 35.4**	**+1.5**
NGJI	**Ngawi**	**2.68**	**73**	P		Pn	03 39 38.4	+3.9
NGJI				S		Sn	03 40 14.2	+8.1
SJI	**Sawahan**	**2.90**	**82**	P		**Pn**	**03 39 38.6**	**+1.1**
PWJI	**Pagerwojo**	**2.91**	**87**	P		**Pn**	**03 39 38.1**	**+0.6**
PWJI				S		**Sn**	**03 40 13.6**	**+2.1**
FITZ	**Fitzroy Crossi**	**19.07**	**123**	P		**Pn**	**03 43 10.3**	**-0.5**
	0.1nm,0.3s,baz=310,slow=7.9,SNR=4.3							
WRA	**Warramunga Arr**	**27.29**	**118**	P		**P**	**03 44 30.6**	**+0.5**
	0.3nm,0.4s,baz=291,slow=12,SNR=5.6							
ASAR	**Alice Springs**	**28.51**	**126**	P		**P**	**03 44 41.2**	**+0.2**
	0.8nm,0.5s,baz=306,slow=9.4,SNR=10							
H08S2	**Diego Garcia H**	**36.03**	**268**	T		T	04 23 37.1	
	baz=92							
H08S3	**Diego Garcia H**	**36.04**	**268**	T		T	04 23 27.0	
	baz=92							
H08S1	**Diego Garcia H**	**36.05**	**268**	T		T	04 23 24.5	
	baz=92							
STKA	**Stephens Creek**	**38.49**	**132**	P		**P**	**03 46 08.2**	**+0.8**
	3.3nm,0.7s,baz=312,slow=9.5,SNR=7.0							
MKAR	**Makanchi Array**	**59.61**	**339**	P		P	03 48 44.5	-3.8
	0.4nm,0.6s,baz=152,slow=6.5,SNR=4.2							
KURBB	**Kurchatov Arra**	**64.18**	**339**	P		P	03 49 15.0	-3.8
	0.1nm,0.4s,baz=150,slow=6.3,SNR=2.9							
BRTR	**Keskin Array B**	**83.98**	**311**	P		**P**	**03 51 13.1**	**-1.5**
	0.4nm,0.4s,baz=132,slow=8.5,SNR=3.8							

NIED ***26*** *03:48:00,29.20N×130.70E,h32km,Mw3.9 Best double couple: M07.42000×10^14 NP1:φs36.00000°,δ84.00000°, λ63.00000°. NP2:φs294.00000°,δ27.00000°,λ166.00000°.*

JMA 26 03:48:05.1±0.1,29.17N×130.68E,h34km,M3.5,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.97**	**314**	P	Pn	03 48 22.3	0.0
JNN				S	Sn	03 48 34.9	0.0
JAM	**Amami Oshima**	**1.21**	**232**	P	Pn	03 48 26.3	+0.7
JAM				S	Sn	03 48 40.9	+0.1
JKC	**Kuchinoerabu**	**1.35**	**342**	P	Pb	03 48 28.8	-1.1
JKC				eS	Sn	03 48 45.3	+0.9
JTN	**Tanegashima 3**	**1.50**	**10**	P	Pn	03 48 30.6	+0.9
JAMN	**Amaminishikomi**	**1.61**	**235**	P	Pn	03 48 32.0	+0.9
JAMN				eS	Sn	03 48 52.5	+1.7
JTSR	**Tashiro 2**	**2.00**	**6**	P	Pn	03 48 38.0	+1.4
JTSR				S	Sn	03 49 02.0	+1.5
JTK	**Tokunoshima**	**2.05**	**228**	P	Pn	03 48 38.4	+1.2
JSU	**Suzuyama**	**2.34**	**355**	P	Pn	03 48 41.5	+0.3
JNAR	**Kushima--Naru**	**2.40**	**12**	P	Pn	03 48 43.8	+1.8

IDC 26 03:49:00.8±1.3,16.02N×86.88W,h0km,mb3.6/4, mb1 3.9/6,mb1mx3.6/23,mbtmpg3.6/6,ML3.7/2,MS3.1/1, Ms1 3.1/1,ms1mx2.4/26,Error ellipse: s-maj=31.5km s-min=28.3km az=17.0,North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**3.60**	**254**	Pn	Pn	03 49 58.2	-0.1
	6.1nm,0.3s,baz=103,slow=12,SNR=112						
APG				Sn	Sn	03 50 38.4	-3.4
	14nm,0.3s,baz=190,slow=20,SNR=9.0						
JTS	**JuntasAbangare**	**6.00**	**162**	Pg	Pb	03 50 49.8	+3.5
	0.5nm,0.3s,baz=330,slow=18,SNR=3.4						
JTS				Lg	Lg	03 52 22.1	
	0.2nm,0.3s,baz=311,slow=19,SNR=2.5						
TKL	**Tuckaleechee C**	**19.75**	**7**	P	P	03 53 32.5	+0.2
	0.3nm,0.3s,baz=180,slow=14,SNR=4.3						
TXAR	**Lajitas Array**	**20.35**	**314**	P	P	03 53 39.4	+0.3
	0.5nm,0.5s,baz=127,slow=11,SNR=11						
LPIG	**La Paz**	**23.41**	**294**	LR	LR	04 04 48.7	
	comp=Z,50nm,20.2s,baz=158,slow=40						
ESDC	**Sonseca Array**	**74.58**	**53**	P	P	04 00 42.3	+0.3
	0.7nm,0.8s,baz=289,slow=4.8,SNR=5.6						
ARCES	**ARCES Array B**	**82.65**	**19**	P	P	04 01 25.1	-0.7
	1.2nm,0.6s,baz=282,slow=4.2,SNR=6.5						
TORD	**Torodi Ar. Bea**	**85.10**	**78**	P	P	04 01 39.7	+0.3
	0.2nm,0.6s,baz=292,slow=5.4,SNR=3.5						

ISCJB ***26*** *03:52:26.3±0.6,13.50N±0.07×90.87W±0.04,h70km±10km, mb3.4/3,Error ellipse: s-maj=12.3km s-min=3.8km az=27.7.*

IDC ***26*** *03:52:27.0±1.4,15.40N×89.12W,h0km,mb3.5/3, mb1 3.9/5,mb1mx3.6/22,mbtmp3.5/5,ML4.1/2,MS3.2/3, Ms1 3.2/3,ms1mx2.9/21,Error ellipse: s-maj=28.1km s-min=15.9km az=162.0*

CASC ***26*** *03:52:29.1±1.6,13.59N×90.74W,h32km±18km,MD3.9, ML4.0*

MEX ***26*** *03:52:30.0±0.3,13.51N×91.06W,h92km±9km,MD4.3*

ISC 26 03:52:26.5±1.1,13.46N±0.06×90.88W±0.04,h57km±14km, n50,σ1°23/69,mb3.6/3,2C-10D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.96**	**16**	⇓eP	**Pn**	**03 52 44.2**	**0.0**
PCG	**Pacaya**	**0.96**	**16**	⇓eP	**Pn**	**03 52 44.2**	**0.0**
FUG	**Fuego 3**	**0.98**	**2**	⇓iP	**Pn**	**03 52 44.4**	**+0.1**
FUG	**Fuego 3**	**0.98**	**2**	⇓iP	**Pn**	**03 52 44.4**	**+0.1**
JAT	**Jato**	**1.12**	**319**	eP	**Pn**	**03 52 48.2**	**+2.2**
JAT	**Jato**	**1.12**	**319**	eP	**Pn**	**03 52 48.2**	**+2.2**
GCG	**Guatemala City**	**1.17**	**17**	eP	**Pn**	**03 52 47.2**	**+0.4**
GCG				eS	**Sn**	**03 53 01.4**	**-0.6**
GCG	**Guatemala City**	**1.17**	**17**	eP	**Pn**	**03 52 47.2**	**+0.4**
GCG				eS	**Sn**	**03 53 01.4**	**-0.6**
NBG	**Las Nubes**	**1.23**	**25**	⇓eP	**Pn**	**03 52 48.7**	**+0.9**
NBG				eS	**Sn**	**03 53 04.3**	**+0.7**
NBG	**Las Nubes**	**1.23**	**25**	⇓eP	**Pn**	**03 52 48.7**	**+0.9**
NBG				eS	**Sn**	**03 53 04.3**	**+0.7**
RTR	**El Retiro**	**1.28**	**70**	eP	**Pn**	**03 52 48.6**	**+0.4**
RTR				eS	**Sn**	**03 53 03.4**	**-1.2**
RTR	**El Retiro**	**1.28**	**70**	eP	**Pn**	**03 52 48.6**	**+0.4**
RTR				eS	**Sn**	**03 53 03.4**	**-1.2**
SBLS	**San Blas**	**1.28**	**73**	⇓eP	**Pn**	**03 52 48.5**	**+0.1**
SBLS				eS	**Sn**	**03 53 03.4**	**-1.3**
SBLS	**San Blas**	**1.28**	**73**	⇓eP	**Pn**	**03 52 48.5**	**+0.1**
SBLS				eS	**Sn**	**03 53 03.4**	**-1.3**
SNJE	**San Jose**	**1.30**	**72**	⇓eP	**Pn**	**03 52 49.0**	**+0.3**
SNJE				eS	**Sn**	**03 53 03.0**	**-2.2**
SNJE	**San Jose**	**1.30**	**72**	⇓eP	**Pn**	**03 52 49.0**	**+0.3**
SNJE				eS	**Sn**	**03 53 03.0**	**-2.2**
BOQS	**Boqueron**	**1.58**	**80**	eP	**Pn**	**03 52 53.0**	**+0.6**
BOQS				eS	**Sn**	**03 53 11.9**	**-0.1**
BOQS	**Boqueron**	**1.58**	**80**	eP	**Pn**	**03 52 53.0**	**+0.6**
BOQS				eS	**Sn**	**03 53 11.9**	**-0.1**
APG	**El Apazote**	**1.59**	**15**	Pg	**Pn**	**03 52 52.0**	**-0.6**
	292nm,0.3s,baz=165,slow=12,SNR=136						
APG				Lg	Lg	03 53 10.9	
	91nm,0.3s,baz=180,slow=20,SNR=14						
SNET	**Serv Nac Est T**	**1.62**	**82**	eP	**Pn**	**03 52 53.0**	**+0.2**
SNET				eS	**Sn**	**03 53 12.7**	**0.0**
SNET				AML	AML	03 53 14.5	
	comp=Z,2μm,0.3s						
SNET	**Serv Nac Est T**	**1.62**	**82**	eP	**Pn**	**03 52 53.0**	**+0.2**
SNET				eS	**Sn**	**03 53 12.7**	**0.0**
SNET				AML	AML	03 53 14.5	
	comp=Z,2μm,0.3s						
LFU	**La Fuente**	**1.74**	**80**	eP	**Pn**	**03 52 55.6**	**+1.2**
LFU	**La Fuente**	**1.74**	**80**	eP	**Pn**	**03 52 55.6**	**+1.2**
LFRS	**El Faro**	**1.78**	**85**	eP	**Pn**	**03 52 56.0**	**+1.0**
LFRS	**El Faro**	**1.78**	**85**	eP	**Pn**	**03 52 56.0**	**+1.0**
LBRS	**Las Brisas**	**1.81**	**81**	eP	**Pn**	**03 52 56.1**	**+0.7**
LBRS	**Las Brisas**	**1.81**	**81**	eP	**Pn**	**03 52 56.1**	**+0.7**
THIG		**1.97**	**317**	iP	**Pn**	**03 52 58.8**	**+1.3**
THIG				iS	**Sn**	**03 53 21.2**	**+0.2**
MRL	**Marmol**	**1.97**	**36**	⇑eP	**Pn**	**03 52 59.0**	**+1.4**
MRL	**Marmol**	**1.97**	**36**	⇑eP	**Pn**	**03 52 59.0**	**+1.4**
CAHU	**Cacacuatique**	**2.62**	**83**	eP	**Pn**	**03 53 07.5**	**+1.0**
CAHU	**Cacacuatique**	**2.62**	**83**	eP	**Pn**	**03 53 07.5**	**+1.0**
CNCH	**Conchagua**	**2.97**	**93**	eP	**Pn**	**03 53 12.7**	**+1.4**
CNCH				eS	**Sn**	**03 53 45.9**	**0.0**
CNCH	**Conchagua**	**2.97**	**93**	eP	**Pn**	**03 53 12.7**	**+1.4**
CNCH				eS	**Sn**	**03 53 45.9**	**0.0**
CCIG	**Comitan**	**3.06**	**337**	eP	**Pn**	**03 53 13.8**	**+1.3**
CCIG				iS	**Sn**	**03 53 49.0**	**+1.0**
PCIG		**3.18**	**315**	eP	**Pn**	**03 53 14.8**	**+0.8**
PCIG				iS	**Sn**	**03 53 49.8**	**-0.8**
TGIG		**3.94**	**327**	iP	**Pn**	**03 53 26.5**	**+2.0**
TGIG				iS	**Sn**	**03 54 08.9**	**-0.7**
COPN	**Copaltepe**	**4.38**	**106**	eP	**Pn**	**03 53 32.4**	**+2.0**
COPN	**Copaltepe**	**4.38**	**106**	eP	**Pn**	**03 53 32.4**	**+2.0**
HUIG	**Huatulco**	**5.55**	**295**	iP	**Pn**	**03 53 47.4**	**+0.8**
HUIG				iS	**Sn**	**03 54 47.6**	**-1.5**
JTS	**JuntasAbangare**	**6.60**	**118**	Pn	Pn	03 54 05.4	+4.3
	comp=Z,2.1nm,0.3s,baz=314,slow=18,SNR=8.1						
JTS				Sn	**Sn**	**03 55 15.5**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=24,slow=20,SNR=1.8						
PNIG	**Pinotepa**	**7.58**	**293**	iP	**Pn**	**03 54 14.8**	**+0.3**
PNIG				iS	**Sn**	**03 55 35.4**	**-3.7**
TLIG	**Tlapa**	**8.45**	**300**	iP	**Pn**	**03 54 25.7**	**-0.7**
TLIG				iS	**Sn**	**03 55 57.4**	**-3.2**
ROSC	**El Rosal**	**18.43**	**116**	LR	LR	04 03 42.0	
	comp=Z,22nm,20.5s,baz=27,slow=38						
TXAR	**Lajitas Array**	**19.75**	**325**	P	**Pn**	**03 56 55.5**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=143,slow=12,SNR=9.3						
SADO	**Sadowa**	**32.77**	**16**	LR	LR	04 12 31.9	
	comp=Z,66nm,20.3s,baz=240,slow=40						
NVAR	**Mina Array Bea**	**34.77**	**321**	P	P	03 59 16.3	+4.5
	comp=Z,1.5nm,0.7s,baz=129,slow=8.6,SNR=18						
SCHQ	**Schefferville**	**45.36**	**19**	LR	LR	04 19 48.7	
	comp=Z,79nm,19.1s,baz=356,slow=38						
ILAR	**Eielson Array**	**63.76**	**337**	P	**P**	**04 02 53.0**	**+0.8**
	comp=Z,0.2nm,0.7s,baz=169,slow=4.8,SNR=4.4						
TORD	**Torodi Ar. Bea**	**89.45**	**77**	P	**P**	**04 05 16.3**	**-1.7**
	comp=Z,0.3nm,1.0s,baz=288,slow=6.8,SNR=3.1						

IDC 26 03:58:11.6±0.9,12.82N×144.13E,h0km,mb3.9/13, mb1 4.2/14,mb1mx4.0/27,mbtmpg4.0/14,ML5.5/1,Error ellipse: s-maj=33.4km s-min=17.7km az=82.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**14.32**	**353**	Pn	Pn	04 01 36.6	+0.9
	24nm,0.3s,baz=285,slow=20,SNR=4.3						
H11N1	**WAKE ISLAND Hy**	**22.88**	**70**	T	T	04 27 11.2	
	baz=258,slow=0.7,SNR=6.5						
H11N2	**WAKE ISLAND Hy**	**22.89**	**70**	T	T	04 27 09.4	
	baz=258,slow=0.7,SNR=3.0						
H11N3	**WAKE ISLAND Hy**	**22.90**	**70**	T	T	04 27 12.2	
	baz=258,slow=0.7,SNR=4.8						
JNU	**Nakatsue**	**23.56**	**331**	P	P	04 03 25.0	+1.1
	11nm,0.7s,baz=210,slow=21,SNR=5.0						
MJAR	**Matsushiro Arr**	**24.21**	**348**	P	P	04 03 30.6	+0.6
	2.4nm,0.5s,baz=170,slow=9.6,SNR=8.5						
KSRS	**Korea Array**	**28.49**	**332**	P	P	04 04 07.9	-0.7
	1.5nm,0.7s,baz=152,slow=11,SNR=4.3						
USRK	**Uusuriysk Arra**	**32.96**	**344**	P	P	04 04 49.7	+1.7
	1.0nm,0.5s,baz=139,slow=11,SNR=3.9						
WRA	**Warramunga Arr**	**33.96**	**197**	P	P	04 04 57.4	+0.4
	0.7nm,0.6s,baz=20,slow=9.9,SNR=10.0						
STKA	**Stephens Creek**	**44.51**	**183**	P	P	04 06 24.8	-0.2
	2.0nm,0.5s,baz=346,slow=8.1,SNR=5.1						
SONM	**Songino Array**	**46.95**	**326**	P	P	04 06 45.2	+0.9
	0.7nm,0.6s,baz=136,slow=9.6,SNR=3.5						
MKAR	**Makanchi Array**	**61.55**	**316**	P	P	04 08 30.5	-0.2
	0.6nm,0.6s,baz=94,slow=7.2,SNR=6.7						
ZALV	**Zelesovo Beam**	**61.83**	**325**	P	P	04 08 31.8	-0.6
	0.5nm,0.4s,baz=120,slow=8.5,SNR=3.1						
ILAR	**Eielson Array**	**69.56**	**25**	P	P	04 09 20.4	-1.8
	0.2nm,0.5s,baz=258,slow=5.6,SNR=6.1						
BVAR	**Borovoye Array**	**70.08**	**322**	P	P	04 09 24.2	-1.4
	1.0nm,0.5s,baz=118,slow=6.9,SNR=5.7						
YKA	**Yellowknife Ar**	**83.86**	**27**	P	P	04 10 42.9	-0.1
	0.4nm,0.4s,baz=285,slow=5.1,SNR=3.7						
NVAR	**Mina Array Bea**	**87.96**	**51**	P	P	04 11 05.5	+1.4
	0.8nm,0.6s,baz=266,slow=5.5,SNR=7.2						

IDC 26 04:00:31.2±6.3,32.86S×179.84E,h298km±60km,mb3.2/4, mb1 3.4/5,mb1mx3.2/20,mbtmpg3.3/5,Error ellipse: s-maj=70.8km s-min=34.7km az=21.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.83**	**202**	P	Pn	04 01 59.8	+1.5
	8.6nm,0.3s,baz=5.1,slow=2.8,SNR=51						
URZ				S	S	04 03 07.1	-1.3
	19nm,0.3s,baz=73,slow=19,SNR=23						
CTA	**Charters Tower**	**32.50**	**285**	P	P	04 06 35.9	+1.1
	1.2nm,0.4s,baz=131,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**41.21**	**271**	P	P	04 07 47.6	-0.2
	0.5nm,0.6s,baz=108,slow=7.3,SNR=4.9						
WRA	**Warramunga Arr**	**42.43**	**276**	P	P	04 07 57.3	-0.2
	1.0nm,0.4s,baz=115,slow=7.9,SNR=22						
FITZ	**Fitzroy Crossi**	**50.58**	**273**	P	P	04 08 59.9	-0.5
	0.9nm,0.7s,baz=166,slow=8.3,SNR=3.0						
FINES	**FINESS Array B**	**146.76**	**337**	PKPbc	PKPdf	04 19 35.5	+0.3
	0.7nm,0.5s,baz=46,slow=4.2,SNR=6.0						
TORD	**Torodi Ar. Bea**	**160.30**	**185**	PKP	PKPdf	04 19 57.2	+1.5
	0.4nm,0.9s,baz=177,slow=2.9,SNR=2.2						

GUC 26 04:57:26.9±0.5,33.57S×71.24W,h57km±3km,MD3.3, ML3.6,6C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACH	**Talagante**	**0.26**	**109**	⇑iP	Pn	04 57 36.4	0.0
TACH				iS	Sn	04 57 42.9	-0.4
LNV	**Longovilo**	**0.41**	**201**	⇑iP	Pn	04 57 37.4	-0.3
LNV				⇓iS	Sn	04 57 45.0	-0.4
SAN	**Santiago**	**0.49**	**76**	⇑iP	Pn	04 57 38.5	-0.1
SAN				iS	Sn	04 57 46.9	-0.2
SAN				AML	AML	04 57 47.4	
	comp=N,6μm,0.2s						
ANTU	**Antumapu**	**0.50**	**90**	⇓iP	Pn	04 57 38.6	-0.1
ANTU				iS	Sn	04 57 47.3	0.0
ANTU				AML	AML	04 57 47.7	
	comp=E,7μm,0.3s						
LACH	**Col Las Americ**	**0.60**	**79**	iP	Pn	04 57 40.0	+0.1
LACH				iS	Sn	04 57 49.5	+0.2
LACH				AML	AML	04 57 50.1	
	comp=E,2μm,0.1s						
PCH	**Pirque**	**0.60**	**95**	⇑iP	Pn	04 57 39.9	-0.1
CLCH	**Cerro Calan**	**0.61**	**74**	AML	AML	04 57 50.8	
	comp=Z,3μm,0.4s						
ROCH	**El Roble**	**0.63**	**18**	AML	AML	04 57 50.7	
	comp=N,7μm,0.3s						
PEL	**Peldehue**	**0.63**	**47**	⇑iP	Pn	04 57 40.1	0.0
PEL				iS	Sn	04 57 50.0	+0.2
PEL				AML	AML	04 57 50.1	
	comp=N,9μm,0.4s						
IHA	**Instituto Hidr**	**0.64**	**328**	eP	Pn	04 57 39.9	-0.3
IHA				iS	Sn	04 57 50.0	+0.1
CACH	**El Canelo**	**0.76**	**136**	⇓iP	Pn	04 57 42.5	+0.5
CACH				iS	Sn	04 57 54.4	+1.5
LMEL	**Las Melosas**	**0.90**	**108**	⇓iP	Pn	04 57 43.9	+0.1
LMEL				iS	Sn	04 57 56.9	+0.7
LMEL				AML	AML	04 57 58.0	
	comp=N,5μm,0.1s						
JACH	**Jahuel**	**1.04**	**32**	⇑iP	Pn	04 57 45.4	-0.1
JACH				iS	Sn	04 57 59.8	+0.6
LNCH	**Linares**	**2.29**	**187**	AML	AML	04 58 42.0	
	comp=N,204nm,0.7s						
CMCH	**Combarbala**	**2.40**	**5**	AML	AML	04 58 38.9	
	comp=N,638nm,0.6s						

BEO ***26*** *05:14:30.2±1.1,45.81N×27.42E,h120km,ML3.1/7*

ISCJB ***26*** *05:14:35.3±0.2,45.63N±0.03×26.55E±0.03,h132km, Error ellipse: s-maj=4.0km s-min=3.0km az=19.7*

BUC ***26*** *05:14:35.7±0.8,45.65N×26.55E,h131km±8km,MD4.1/2, Error ellipse: s-maj=6.2km s-min=5.2km az=35.0*

CSEM ***26*** *05:14:35.7±0.2,45.63N×26.54E,h129km±2km,MD3.6/6, Error ellipse: s-maj=3.7km s-min=2.9km az=17.0*

ISC 26 05:14:35.7±1.2,45.64N±0.03×26.56E±0.03,h132km,n113, σ0°73/168,63C-35D,Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.22**	**17**	⇑iP	**Pn**	**05 14 53.7**	**-0.2**
PLOR	**Plostina**	**0.22**	**17**	⇑iP	**Pn**	**05 14 53.7**	**-0.2**
PLOR				iS	**Sn**	**05 15 07.3**	**-0.4**
PLOR	**Plostina**	**0.22**	**17**	⇑iP	**Pn**	**05 14 53.7**	**-0.2**
PLOR				iS	**Sn**	**05 15 07.3**	**-0.4**
VRI	**Vrincioaia**	**0.26**	**27**	⇑iP	**Pn**	**05 14 53.8**	**-0.1**
VRI	**Vrincioaia**	**0.26**	**27**	⇑iP	**Pn**	**05 14 53.8**	**-0.1**
VRI				iS	**Sn**	**05 15 06.9**	**-0.9**
VRI	**Vrincioaia**	**0.26**	**27**	⇑iP	**Pn**	**05 14 53.8**	**-0.1**
VRI				iS	**Sn**	**05 15 06.9**	**-0.9**
ODBI	**Odobesti**	**0.37**	**70**	⇑iP	**Pn**	**05 14 55.3**	**+1.0**
ODBI	**Odobesti**	**0.37**	**70**	⇑iP	**Pn**	**05 14 55.3**	**+1.0**
ODBI				iS	**Sn**	**05 15 09.5**	**+1.1**
ODBI	**Odobesti**	**0.37**	**70**	⇑iP	**Pn**	**05 14 55.3**	**+1.0**
ODBI				iS	**Sn**	**05 15 09.5**	**+1.1**
GRER		**0.39**	**131**	⇓iP	**Pn**	**05 14 55.8**	**+1.4**
GRER		**0.39**	**131**	⇓iP	**Pn**	**05 14 55.8**	**+1.4**
GRER		**0.39**	**131**	⇓iP	**Pn**	**05 14 55.8**	**+1.4**
MLR	**Muntele Rosu**	**0.45**	**252**	⇑iP	**Pn**	**05 14 54.9**	**0.0**
MLR	**Muntele Rosu**	**0.45**	**252**	⇑iP	**Pn**	**05 14 54.9**	**0.0**
MLR				iS	**Sn**	**05 15 08.5**	**-0.9**
MLR	**Muntele Rosu**	**0.45**	**252**	⇑iP	**Pn**	**05 14 54.9**	**0.0**
MLR				iS	**Sn**	**05 15 08.5**	**-0.9**
PETR	**Petresti**	**0.48**	**79**	⇑iP	**Pn**	**05 14 55.5**	**+0.7**
PETR	**Petresti**	**0.48**	**79**	⇑iP	**Pn**	**05 14 55.5**	**+0.7**
PETR				iS	**Sn**	**05 15 09.8**	**+0.5**
PETR	**Petresti**	**0.48**	**79**	⇑iP	**Pn**	**05 14 55.5**	**+0.7**
PETR				iS	**Sn**	**05 15 09.8**	**+0.5**
ISR	**Istrita**	**0.52**	**181**	⇑iP	**Pn**	**05 14 55.6**	**+0.4**
ISR	**Istrita**	**0.52**	**181**	⇑iP	**Pn**	**05 14 55.6**	**+0.4**
ISR				iS	**Sn**	**05 15 09.7**	**-0.1**
ISR	**Istrita**	**0.52**	**181**	⇑iP	**Pn**	**05 14 55.6**	**+0.4**
ISR				iS	**Sn**	**05 15 09.7**	**-0.1**
GHRR		**0.73**	**54**	⇑iP	**Pn**	**05 14 57.0**	**+0.6**
GHRR		**0.73**	**54**	⇑iP	**Pn**	**05 14 57.0**	**+0.6**
GHRR				iS	**Sn**	**05 15 12.8**	**+0.6**
GHRR		**0.73**	**54**	⇑iP	**Pn**	**05 14 57.0**	**+0.6**
GHRR				iS	**Sn**	**05 15 12.8**	**+0.6**
PGOR	**Pogoanele**	**0.79**	**157**	⇑iP	**Pn**	**05 14 57.1**	**+0.2**
PGOR	**Pogoanele**	**0.79**	**157**	⇑iP	**Pn**	**05 14 57.1**	**+0.2**
PGOR				iS	**Sn**	**05 15 14.2**	**+1.2**
PGOR	**Pogoanele**	**0.79**	**157**	⇑iP	**Pn**	**05 14 57.1**	**+0.2**
PGOR				iS	**Sn**	**05 15 14.2**	**+1.2**
PLAR	**PLOIESTI**	**0.81**	**208**	⇑iP	**Pn**	**05 14 57.9**	**+0.8**
PLAR	**PLOIESTI**	**0.81**	**208**	⇑iP	**Pn**	**05 14 57.9**	**+0.8**
PLAR				iS	**Sn**	**05 15 14.8**	**+1.5**
PLAR	**PLOIESTI**	**0.81**	**208**	⇑iP	**Pn**	**05 14 57.9**	**+0.8**
PLAR				iS	**Sn**	**05 15 14.8**	**+1.5**
TESR	**Tescani**	**0.88**	**4**	⇑iP	**Pn**	**05 14 57.1**	**-0.6**
TESR	**Tescani**	**0.88**	**4**	⇑iP	**Pn**	**05 14 57.1**	**-0.6**
TESR				iS	**Sn**	**05 15 12.3**	**-2.1**
TESR	**Tescani**	**0.88**	**4**	⇑iP	**Pn**	**05 14 57.1**	**-0.6**
TESR				iS	**Sn**	**05 15 12.3**	**-2.1**
DOPR	**Dopca**	**0.88**	**292**	⇑iP	**Pn**	**05 14 57.5**	**-0.2**
DOPR	**Dopca**	**0.88**	**292**	⇑iP	**Pn**	**05 14 57.5**	**-0.2**
DOPR				iS	**Sn**	**05 15 13.4**	**-1.1**
DOPR	**Dopca**	**0.88**	**292**	⇑iP	**Pn**	**05 14 57.5**	**-0.2**
DOPR				iS	**Sn**	**05 15 13.4**	**-1.1**
SULR		**0.98**	**193**	⇑iP	**Pn**	**05 14 59.2**	**+0.6**
SULR		**0.98**	**193**	⇑iP	**Pn**	**05 14 59.2**	**+0.6**
SULR				iS	**Sn**	**05 15 16.9**	**+1.0**
SULR		**0.98**	**193**

DRGR		**2.91**	**295**	⇓*i*	P	**Pn**	**05 15 22.1**	**+0.9**
DRGR				*i*	S	**Sn**	**05 15 56.5**	**+0.2**
DRGR		**2.91**	**295**	⇓*i*	P	**Pn**	**05 15 22.1**	**+0.9**
DRGR				*i*	S	**Sn**	**05 15 56.5**	**+0.2**
BZS	**Buzias**	**3.47**	**271**	⇓*i*	Pn	**Pn**	**05 15 27.9**	**-0.4**
BZS	**Buzias**	**3.47**	**271**	*e*	Pn	**Pn**	**05 15 28.0**	**-0.4**
BZS	**Buzias**	**3.47**	**271**	⇑*i*	P	**Pn**	**05 15 28.1**	**-0.3**
BZS	**Buzias**	**3.47**	**271**	⇑*i*	P	**Pn**	**05 15 28.1**	**-0.3**
BZS	**Buzias**	**3.47**	**271**	⇑*i*	P	**Pn**	**05 15 28.1**	**-0.3**
ZAPS	**Zavoj**	**3.67**	**231**	⇓*i*	Pn	**Pn**	**05 15 30.8**	**-0.3**
ZAPS				*e*	Sn	Sn	05 16 05.9	-8.2
ZAPS	**Zavoj**	**3.67**	**231**	⇓*i*	Pn	**Pn**	**05 15 30.8**	**-0.3**
VTS	**Vitosha**	**3.88**	**220**	*e*	Sn	Sn	05 16 12.1	-7.2
GRUS	**Gruza**	**4.51**	**249**	*e*	Pn	**Pn**	**05 15 41.9**	**-0.3**
GRUS	**Gruza**	**4.51**	**249**	*e*	Pn	**Pn**	**05 15 41.9**	**-0.3**
SELS	**Selova**	**4.58**	**240**	*e*	Pn	**Pn**	**05 15 42.2**	**-1.0**
IVAS	**Ivanjica**	**5.02**	**248**	*e*	Pn	**Pn**	**05 15 48.5**	**-0.5**
IVAS	**Ivanjica**	**5.02**	**248**	*e*	Pn	**Pn**	**05 15 48.5**	**-0.5**

AZER ***26*** *05:31:02.0±0.0, 41°.55N×47°.53E, h10km, Error ellipse: s-maj=0.8km s-min=0.3km az=351.0*
NSSP ***26*** *05:31:03.2, 41°.43N×47°.63E, Ms3.2*
CSEM ***26*** *05:31:04.9±0.2, 41°.52N×47°.56E, h2km, mb4.3, Error ellipse: s-maj=4.5km s-min=3.4km az=58.0*
MOS ***26*** *05:31:05.1±1.1, 41°.49N×47°.70E, h18km, mb4.3/1, Error ellipse: s-maj=0.1km s-min=0.0km az=125.9*

ISC 26 05:31:04.7±0.9, 41°.49N±0°.02×47°.60E±0°.02, h8km±6km, n78, σ1§22/120, 10C-19D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKT	**Akhty**	**0.10**	**95**	*i* PG	**Pg**	**05 31 06.8**	**-0.4**
AKT	**Akhty**	**0.10**	**95**	*i* Pg	**Pg**	**05 31 06.8**	**-0.4**
SEKA	**Sheki**	**0.41**	**227**	⇓P	**Pg**	**05 31 12.5**	**-0.2**
	SNR=1108						
SEKA				⇓S	**Sg**	**05 31 18.4**	**+0.3**
SEKA	**Sheki**	**0.41**	**227**	P	**Pg**	**05 31 12.5**	**-0.2**
	SNR=1000						
SEKA				S	**Sg**	**05 31 18.4**	**+0.3**
KSMR	**Kasumkent**	**0.41**	**74**	*i* PG	**Pb**	**05 31 14.0**	**-0.3**
KSMR				*e*S	**Sb**	**05 31 21.0**	**+0.2**
KSMR	**Kasumkent**	**0.41**	**74**	*i* Pg	**Pb**	**05 31 14.0**	**-0.3**
KSMR				*e*Sg	**Sb**	**05 31 21.0**	**+0.2**
URKR	**Urkarakh**	**0.68**	**2**	*e*PG	**Pg**	**05 31 17.0**	**-0.7**
URKR				*e*S	**Sg**	**05 31 26.5**	**-0.1**
URKR	**Urkarakh**	**0.68**	**2**	*e*Pg	**Pg**	**05 31 17.0**	**-0.7**
URKR				*e*Sg	**Sg**	**05 31 26.5**	**-0.1**
QUBA	**Quba, Azerbaij**	**0.69**	**101**	⇑P	**Pb**	**05 31 19.0**	**+0.1**
	SNR=216						
QUBA				⇓S	**Sb**	**05 31 28.7**	**+0.1**
QUBA	**Quba, Azerbaij**	**0.69**	**101**	P	**Pb**	**05 31 19.0**	**+0.1**
	SNR=216						
QUBA				S	**Sb**	**05 31 28.7**	**+0.1**
KMKR	**Kumukh**	**0.74**	**330**	⇑*i* PG	**Pg**	**05 31 18.2**	**-0.8**
KMKR				*i* S	**Sg**	**05 31 28.2**	**-0.5**
KMKR				pmax	pmax		
	comp=Z,838nm,0.3s						
KMKR	**Kumukh**	**0.74**	**330**	*i* Pg	**Pg**	**05 31 18.2**	**-0.8**
	comp=Z,838nm,0.3s						
KMKR				*i* Sg	**Sg**	**05 31 28.2**	**-0.5**
IML	**Ismayilli**	**0.82**	**147**	⇓P	**Pb**	**05 31 21.4**	**+0.2**
	SNR=6.6						
IML				⇑S	**Sn**	**05 31 34.2**	**-0.8**
IML	**Ismayilli**	**0.82**	**147**	P	**Pb**	**05 31 21.4**	**+0.2**
	SNR=6.6						
IML				S	**Sn**	**05 31 34.2**	**-0.8**
SGKR	**Sergokala**	**0.97**	**3**	*i* PG	**Pg**	**05 31 23.0**	**-0.3**
SGKR				*i* S	**Sn**	**05 31 38.0**	**-0.6**
SGKR	**Sergokala**	**0.97**	**3**	*i* Pg	**Pg**	**05 31 23.0**	**-0.3**
GNBR	**Gunib**	**1.01**	**333**	⇑*i* PG	**Pg**	**05 31 23.6**	**-0.6**
GNBR				*i* S	**Sg**	**05 31 36.8**	**-0.6**
GNBR	**Gunib**	**1.01**	**333**	*i* Pg	**Pg**	**05 31 23.6**	**-0.6**
GNBR				*i* Sg	**Sg**	**05 31 36.8**	**-0.6**
PQL	**Pirkuli**	**1.03**	**133**	⇑S	**Sn**	**05 31 42.1**	**+2.0**
PQL	**Pirkuli**	**1.03**	**133**	S	**Sn**	**05 31 42.1**	**+2.0**
SIZA	**Siyzn**	**1.06**	**112**	⇑P	**Pn**	**05 31 26.2**	**+0.2**
	SNR=18						
SIZA	**Siyzn**	**1.06**	**112**	P	**Pn**	**05 31 26.2**	**+0.2**
	SNR=18						
ATGJ	**Altiaghaj**	**1.19**	**121**	⇓P	**Pn**	**05 31 27.9**	**+0.2**
	SNR=12						
ATGJ				⇓S	**Sn**	**05 31 45.6**	**+1.5**
ATGJ	**Altiaghaj**	**1.19**	**121**	P	**Pn**	**05 31 27.9**	**+0.2**
	SNR=12						
ATGJ				S	**Sn**	**05 31 45.6**	**+1.5**
ARKR	**Arakani**	**1.20**	**338**	*e*PG	**Pb**	**05 31 26.8**	**-0.9**
ARKR				*e*S	**Sb**	**05 31 42.5**	**-0.9**
ARKR				pmax	pmax		
	comp=Z,115nm,0.2s						
ARKR	**Arakani**	**1.20**	**338**	*e*Pg	**Pg**	**05 31 26.8**	**-0.9**
	comp=Z,115nm,0.2s						
ARKR				*e*Sg	**Sb**	**05 31 42.5**	**-0.9**
MNSR	**Manas**	**1.22**	**4**	*e*PG	**Pg**	**05 31 30.0**	**+2.0**
MNSR				*e*S	**Sn**	**05 31 49.8**	**+5.2**
MNSR				pmax	pmax		
	comp=Z,268nm,0.3s						
MNSR	**Manas**	**1.22**	**4**	*e*Pg	**Pg**	**05 31 30.0**	**+2.0**
	comp=Z,268nm,0.3s						
XNZR	**Khunzakh**	**1.24**	**328**	⇑*i* PG	**Pn**	**05 31 27.0**	**-1.5**
XNZR	**Khunzakh**	**1.24**	**328**	*i* Pg	**Pn**	**05 31 27.0**	**-1.5**
BRDA	**Brd**	**1.27**	**195**	⇓P	**Pg**	**05 31 29.7**	**+0.8**
	SNR=7.0						
BRDA	**Brd**	**1.27**	**195**	P	**Pg**	**05 31 29.7**	**+0.8**
	SNR=7.0						
GANJ	**Ganja**	**1.28**	**229**	⇓P	**Pn**	**05 31 27.9**	**-1.0**
	SNR=46						
GANJ				⇓S	**Sb**	**05 31 45.6**	**0.0**
GANJ	**Ganja**	**1.28**	**229**	P	**Pn**	**05 31 27.9**	**-1.0**
	SNR=46						
GANJ				S	**Sb**	**05 31 45.6**	**0.0**
UNCR	**Uncukul**	**1.36**	**334**	⇓*i* PG	**Pn**	**05 31 29.7**	**-0.3**
UNCR				*e*S	**Sg**	**05 31 49.7**	**+1.2**
UNCR				pmax	pmax		
	comp=Z,276nm,0.5s						
UNCR	**Uncukul**	**1.36**	**334**	*i* Pg	**Pn**	**05 31 29.7**	**-0.3**
	comp=Z,276nm,0.5s						
BUJR	**Buynaksk**	**1.38**	**345**	*e*PG	**Pg**	**05 31 32.5**	**+1.3**
BUJR				*e*S	**Sg**	**05 31 52.0**	**+2.8**
BUJR				pmax	pmax		
	comp=Z,134nm,0.2s						
BUJR	**Buynaksk**	**1.38**	**345**	*e*Pg	**Pg**	**05 31 32.5**	**+1.3**
	comp=Z,134nm,0.2s						
KRNR	**Karanay**	**1.43**	**339**	*e*PG	**Pn**	**05 31 31.2**	**+0.2**
KRNR				*e*S	**Sg**	**05 31 51.5**	**+0.8**
KRNR	**Karanay**	**1.43**	**339**	*e*Pg	**Pn**	**05 31 31.2**	**+0.2**
KRNR				*e*Sg	**Sg**	**05 31 51.5**	**+0.8**
MAK	**Makhachkala**	**1.47**	**357**	*e*PG	Pg	05 31 42.9	+10
MAK				*e*		05 31 52.1	
MAK				smax	smax		
	comp=N,733nm,0.6s						
MAK				smax	smax		
	comp=E,862nm,0.5s						
MAK	**Makhachkala**	**1.47**	**357**	*e*Sg	**Sg**	**05 31 52.1**	**+0.1**
BTLR	**Botlikh**	**1.56**	**319**	⇓*i* PG	**Pn**	**05 31 32.0**	**-0.7**
BTLR				pmax	pmax		
	comp=Z,157nm,0.5s						
BTLR	**Botlikh**	**1.56**	**319**	*i* Pg	**Pn**	**05 31 32.0**	**-0.7**
	comp=Z,157nm,0.5s						
DBC	**Dubki**	**1.63**	**340**	⇑*i* PN	**Pb**	**05 31 34.9**	**-0.2**
DBC				*i* S	**Sg**	**05 31 58.4**	**+1.3**
DBC	**Dubki**	**1.63**	**340**	*i* Pn	**Pb**	**05 31 34.9**	**-0.2**
DBC				*i* Sg	**Sg**	**05 31 58.4**	**+1.3**
DGRG	**David-gareji**	**1.67**	**269**	P	**Pn**	**05 31 35.0**	**+0.8**
DGRG				S	**Sg**	**05 31 59.3**	**+1.0**
DLMR	**Dylym**	**1.73**	**336**	*e*PN	**Pn**	**05 31 36.0**	**+0.9**
DLMR				*e*S	**Sg**	**05 32 02.0**	**+1.6**
DLMR				pmax	pmax		
	comp=Z,186nm,0.4s						
DLMR	**Dylym**	**1.73**	**336**	*e*Pn	**Pn**	**05 31 36.0**	**+0.9**
	comp=Z,186nm,0.4s						
STKZ		**1.79**	**201**	⇓*i* P	Pn	05 31 31.9	-4.0
STKZ				⇓*i* S	**Sn**	**05 31 56.7**	**-2.2**
VADZ	**Vardenis**	**1.93**	**227**	*e*P	**Pb**	**05 31 40.0**	**-0.1**
VADZ				⇓S	**Sg**	**05 32 06.0**	**-0.5**
VADZ	**Vardenis**	**1.93**	**227**	P	**Pb**	**05 31 40.0**	**-0.1**
VADZ				S	**Sg**	**05 32 06.0**	**-0.5**
SEAG	**Tbilisi Sea**	**2.11**	**278**	P	**Pn**	**05 31 41.4**	**+1.1**
SEAG				S	**Sb**	**05 32 10.2**	**+0.6**
TBLG	**Delisi**	**2.16**	**277**	P	**Pn**	**05 31 42.0**	**+1.1**
TBLG				S	**Sb**	**05 32 11.2**	**+0.3**
STEZ	**Stepenevan**	**2.46**	**260**	⇓*e*P	**Pn**	**05 31 46.0**	**+0.8**
STEZ				⇓*e*S	**Sn**	**05 32 16.0**	**+0.5**
STE	**Stepanavan**	**2.48**	**260**	⇓P	**Pn**	**05 31 46.0**	**+0.5**
GUDG	**Gudauri**	**2.52**	**294**	P	**Pb**	**05 31 49.3**	**-1.0**
GUDG				S	**Sb**	**05 32 22.4**	**+0.8**
GNI	**Garni**	**2.55**	**239**	*e*P	**Pb**	**05 31 50.6**	**-0.1**
GNI				*e*S	**Sb**	**05 32 23.0**	**+0.8**
GNI	**Garni**	**2.55**	**239**	P	**Pb**	**05 31 50.6**	**-0.1**
GNI				S	**Sb**	**05 32 23.0**	**+0.8**
ZEI	**Tsey**	**3.04**	**297**	*e*PN	**Pn**	**05 31 53.8**	**+0.6**
ZEI	**Tsey**	**3.04**	**297**	*e*Pn	**Pn**	**05 31 53.8**	**+0.6**
KORR	**Kora**	**3.07**	**303**	*e*PN	**Pb**	**05 31 57.0**	**-2.5**
AKH	**Akhalkalaki**	**3.08**	**270**	P	**Pn**	**05 31 56.6**	**+2.8**
AKH				S	**Sb**	**05 32 36.6**	**-1.1**
ONI	**Oni**	**3.28**	**291**	P	**Pn**	**05 31 58.9**	**+2.5**
ONI				S	**Sb**	**05 32 44.8**	**+1.7**
DIGR	**Digorskoe uzhe**	**3.30**	**297**	*e*PN	**Pn**	**05 31 58.9**	**+2.1**
DIGR	**Digorskoe uzhe**	**3.30**	**297**	*e*Pn	**Pn**	**05 31 58.9**	**+2.1**
NCK	**Nalchik**	**3.57**	**305**	*e*PN	**Pn**	**05 32 01.4**	**+1.0**
NCK	**Nalchik**	**3.57**	**305**	*e*Pn	**Pn**	**05 32 01.4**	**+1.0**
KIV	**Kislovodsk**	**4.38**	**306**	*e*PN	**Pn**	**05 32 13.5**	**+2.0**
KIV	**Kislovodsk**	**4.38**	**306**	*e*Pn	**Pn**	**05 32 13.5**	**+2.0**
AKTO	**Aktyubinsk**	**11.51**	**35**	⇑Pn	**Pn**	**05 33 47.6**	**-1.5**
	comp=Z,2.0nm,0.9s						
AKTO				⇓Sn	**Sn**	**05 35 55.2**	**-2.6**
	comp=Z,4.9nm,1.1s						
AKTO	**Aktyubinsk**	**11.51**	**35**	Pn	**Pn**	**05 33 47.6**	**-1.5**
	comp=Z,2.0nm,0.9s						
AB31	**Akbulak array**	**11.64**	**44**	⇓Pn	**Pn**	**05 33 51.6**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=232,slow=12,SNR=12						
AB31				⇑Sn	**Sn**	**05 35 59.3**	**-1.7**
	comp=Z,0.9nm,0.6s,baz=231,slow=20,SNR=5.0						
AB31	**Akbulak array**	**11.64**	**44**	Pn	**Pn**	**05 33 51.6**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=232,SNR=12						
ARU	**Arti**	**16.56**	**22**	*e*P	**P**	**05 34 58.3**	**-1.3**
ARU	**Arti**	**16.56**	**22**	*e*P	**P**	**05 34 58.3**	**-1.3**
UZH	**Uzhgorod**	**19.19**	**300**	*e*P	**Pn**	**05 35 31.9**	**+2.3**
QIZ	**Qiongzhong**	**56.98**	**93**	P	**P**	**05 40 50.8**	**-0.1**
QIZ				S	**S**	**05 48 43.8**	**-1.7**

JMA ***26*** *05:39:51.8±0.1, 33°.88N×136°.96E, h397km, M3.0*
ISCJB ***26*** *05:39:55.9±0.8, 33°.9N±0°.1×137°.0E±0°.1, h358km±7km, mb2.6/3, Error ellipse: s-maj=20.8km s-min=16.4km az=179.7*
IDC ***26*** *05:39:57.0±1.8, 33°.93N×137°.01E, h350km±28km, mb2.6/3, mb1 2.7/5, mb1mx2.6/28, mbtmp2.6/5, Error ellipse: s-maj=60.0km s-min=23.3km az=54.0*

ISC 26 05:39:57.1±1.1, 33°.9N±0°.1×137°.0E±0°.1, h352km±11km, n18, σ0§68/18, mb2.6/3, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TTO2	**TONANKAI O.B.S**	**0.20**	**170**	P	**Pn**	**05 40 41.3**	**+0.5**
TTO3	**TONANKAI O.B.S**	**0.35**	**102**	P	**Pn**	**05 40 41.7**	**+0.6**
JIE	**Ise**	**0.51**	**333**	P	**Pn**	**05 40 41.4**	**-0.1**
TK02	**Tokai 2**	**0.64**	**89**	P	**Pn**	**05 40 42.2**	**+0.6**
JKN2	**Miekihoku**	**0.66**	**297**	P	**Pn**	**05 40 41.5**	**-0.3**
JWZ	**Kozaga**	**1.13**	**249**	P	**Pn**	**05 40 42.9**	**-0.7**
JWY	**Kouya**	**1.19**	**284**	P	**Pn**	**05 40 43.4**	**-0.5**
JGM	**Miyama**	**1.77**	**353**	P	**Pn**	**05 40 46.6**	**-0.4**
JWT	**Wachi**	**1.87**	**316**	P	**Pn**	**05 40 47.0**	**-0.6**
JAI	**Aioi**	**2.11**	**267**	P	**Pn**	**05 40 48.8**	**-0.5**
JOD2	**Odawara 2**	**2.18**	**52**	P	**Pn**	**05 40 50.3**	**+0.5**
JRY	**Ryogami san**	**2.60**	**37**	P	**Pn**	**05 40 53.1**	**0.0**
MJAR	**Matsushiro Arr**	**2.79**	**21**	P	**Pn**	**05 40 54.5**	**-0.1**
	0.6nm,0.3s,baz=192,slow=8.8,SNR=4.8						
BSO1	**Boso 1**	**3.38**	**77**	P	**Pn**	**05 40 57.6**	**-1.8**
KSRS	**Korea Array**	**8.16**	**298**	P	**Pn**	**05 41 53.5**	**+0.4**
	0.3nm,0.3s,baz=112,slow=12,SNR=6.7						
SONM	**Songino Array**	**26.77**	**310**	P	**P**	**05 45 05.9**	**0.0**
	0.2nm,0.3s,baz=98,slow=10,SNR=2.0						
MKAR	**Makanchi Array**	**42.79**	**304**	P	**P**	**05 47 21.5**	**+0.3**
	0.2nm,0.5s,baz=89,slow=11,SNR=4.0						
WRA	**Warramunga Arr**	**53.64**	**183**	P	**P**	**05 48 43.5**	**0.0**
	0.1nm,0.3s,baz=359,slow=7.5,SNR=5.8						

ISCJB ***26*** *05:49:30.0±0.5, 0°.40S±0°.06×127°.48E±0°.08, h41km, mb4.3/8, Error ellipse: s-maj=12.2km s-min=8.3km az=9.6*
IDC ***26*** *05:49:40.9±4.0, 0°.57S×127°.27E, h135km±41km, mb3.9/9, mb1 3.8/11, mb1mx3.6/23, mbtmp3.8/11, MS2.9/1, Ms1 2.9/1, ms1mx2.5/27, Error ellipse: s-maj=28.7km s-min=13.2km az=76.0*
NEIC ***26*** *05:49:41.8±2.1, 0°.58S×127°.30E, h144km±21km, mb4.0/1, Error ellipse: s-maj=19.5km s-min=7.5km az=68.0*

ISC 26 05:49:31.9±0.7, 0°.37S±0°.08×127°.6E±0°.1, h41km, n27, σ1§50/25, mb4.3/8, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**9.12**	**239**	*e*Pn	Pn	05 51 45.3	+4.2
KAPI				S	**Sn**	**05 53 21.4**	**-1.1**
KAPI	**Kappang**	**9.12**	**239**	P	**Pn**	**05 51 44.1**	**+3.0**
	0.9nm,0.3s,baz=77,slow=11,SNR=6.0						
KAPI				S	**Sn**	**05 53 21.4**	**-1.1**
	0.6nm,0.3s,baz=343,slow=23,SNR=1.9						
BATI	**Baumata**	**10.54**	**202**	LR	LR	05 55 58.9	
	comp=Z,74nm,20.7s,baz=312,slow=37						
FITZ	**Fitzroy Crossi**	**17.73**	**186**	*e*P	**Pn**	**05 53 36.1**	**+0.4**
FITZ	**Fitzroy Crossi**	**17.73**	**186**	P	**Pn**	**05 53 35.4**	**-0.4**
	0.3nm,0.3s,baz=20,slow=11,SNR=6.5						
WRAB	**Tennant Creek**	**20.52**	**162**	*e*P	**P**	**05 54 07.4**	**+0.5**
	5.9nm,0.8s						
WRA	**Warramunga Arr**	**20.53**	**162**	P	**P**	**05 54 07.6**	**+0.6**
WRA	**Warramunga Arr**	**20.53**	**162**	P	**P**	**05 54 07.6**	**+0.6**
	5.9nm,0.8s,baz=339,slow=10,SNR=39						
AS31	**Alice Springs**	**23.94**	**166**	*e*P	**P**	**05 54 42.6**	**+0.1**
ASAR	**Alice Springs**	**23.94**	**166**	P	**P**	**05 54 42.4**	**-0.1**
ASAR	**Alice Springs**	**23.94**	**166**	P	**P**	**05 54 42.4**	**-0.1**
	5.1nm,0.7s,baz=349,slow=12,SNR=60						
NWAO	**Narrogin (SRO)**	**33.83**	**196**	P	P	05 56 07.3	-3.1
NWAO	**Narrogin (SRO)**	**33.83**	**196**	P	P	05 56 07.3	-3.1
	3.9nm,0.7s,baz=45,slow=8.5,SNR=4.7						
STKA	**Stephens Creek**	**34.00**	**158**	P	**P**	**05 56 11.5**	**-0.4**
STKA	**Stephens Creek**	**34.00**	**158**	P	**P**	**05 56 11.5**	**-0.4**
	2.2nm,0.8s,baz=5.2,slow=5.6,SNR=3.9						
KSAR	**Wonju Array Be**	**37.63**	**0**	P	**P**	**05 56 44.5**	**+1.6**
KSRS	**Korea Array**	**37.64**	**0**	P	**P**	**05 56 44.5**	**+1.5**
	2.0nm,0.7s,baz=180,slow=10,SNR=8.2						
USRK	**Ussuriysk Arra**	**44.55**	**4**	P	**P**	**05 57 40.6**	**+1.0**
	4.6nm,0.5s,baz=177,slow=6.7,SNR=16						
SONM	**Songino Array**	**51.45**	**342**	P	**P**	**05 58 32.7**	**-0.5**
SONM	**Songino Array**	**51.45**	**342**	P	**P**	**05 58 32.7**	**-0.5**
	1.2nm,0.7s,baz=154,slow=8.0,SNR=5.5						
PETK	**Petropavlovsk-**	**58.90**	**21**	P	**P**	**05 59 27.7**	**+1.1**
PETK	**Petropavlovsk-**	**58.90**	**21**	P	**P**	**05 59 27.7**	**+1.1**
	2.5nm,0.5s,baz=177,slow=3.8,SNR=7.0						
MK31	**Makanchi Array**	**61.43**	**326**	*e*P	**P**	**05 59 43.0**	**-1.1**
MKAR	**Makanchi Array**	**61.43**	**326**	P	**P**	**05 59 42.9**	**-1.3**
MKAR	**Makanchi Array**	**61.43**	**326**	P	**P**	**05 59 42.9**	**-1.3**
	1.9nm,0.4s,baz=116,slow=8.0,SNR=34						
TORD	**Torodi Ar. Bea**	**124.97**	**286**	PKP	**PKPdf**	**06 08 25.3**	**-3.4**
TORD	**Torodi Ar. Bea**	**124.97**	**286**	PKP	**PKPdf**	**06 08 25.3**	**-3.4**
	0.4nm,0.9s,baz=66,slow=3.5,SNR=2.7						

MEX 26 06:28:59.6±0.3, 17°.03N×101°.34W, h10km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**1.56**	**37**	*i* P	Pn	06 29 24.0	-3.5
ARIG				*i* S	Sn	06 29 42.8	-5.1
MEIG	**Mezcala**	**1.87**	**61**	*i* P	Pn	06 29 30.7	-1.1
MEIG				*i* S	Sn	06 29 50.6	-4.9
TLIG	**Tlapa**	**2.70**	**78**	*e*P	Pn	06 29 40.1	-3.2
TLIG				*i* S	Sn	06 30 12.6	-3.6
YAIG	**Yautepec**	**2.83**	**50**	*i* P	Pn	06 29 41.9	-3.2
YAIG				*i* S	Sn	06 30 15.6	-3.8
PNIG	**Pinotepa**	**3.14**	**101**	*i* P	Pn	06 29 47.0	-2.3
PNIG				*i* S	Sn	06 30 23.9	-3.1

IDC ***26*** *07:16:22.3±0.9, 27°.55S×177°.11W, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.9/17, mbtmp3.8/6, ML3.4/1, Error ellipse: s-maj=34.2km s-min=21.7km az=107.0*
NEIC ***26*** *07:16:27.5±0.6, 27°.59S×177°.17W, h35km, mb4.2/1, Error ellipse: s-maj=19.2km s-min=10.0km az=102.0*
ISCJB ***26*** *07:16:28.4±1.0, 27°.66S±0°.08×177°.3W±0°.2, h55km, mb3.8/6, Error ellipse: s-maj=25.8km s-min=10.0km az=11.0*

ISC 26 07:16:29.7±0.7, 27°.68S±0°.08×177°.3W±0°.2, h55km, n26, σ0§85/30, mb3.8/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.66**	**199**	*e*Pg	**Pn**	**07 16 56.3**	**-0.2**
RAO				*e*Sn	**Sn**	**07 17 17.3**	**+0.6**
RAO	**Raoul Island**	**1.66**	**199**	Pn	**Pn**	**07 16 56.3**	**-0.2**
	598nm,0.3s,baz=79,slow=17,SNR=16						
RAO				Sn	**Sn**	**07 17 16.7**	**-0.1**
	826nm,0.3s,baz=84,slow=22,SNR=9.4						
URZ	**Urewera**	**11.55**	**203**	Pn	**Pn**	**07 19 10.3**	**-1.5**
URZ				Sn	Sn	07 21 10.3	-8.9
URZ	**Urewera**	**11.55**	**203**	Pn	**Pn**	**07 19 10.4**	**-1.5**
	0.2nm,0.3s,baz=27,slow=2.3,SNR=3.2						
URZ				Sn	Sn	07 21 10.3	-8.9
	1.1nm,0.3s,baz=157,slow=19,SNR=9.0						
TARA	**Tarawa**	**30.36**	**340**	*e*P	**P**	**07 22 34.6**	**-1.9**
ASAR	**Alice Springs**	**43.95**	**264**	P	**P**	**07 24 32.5**	**+0.9**
ASAR	**Alice Springs**	**43.95**	**264**	P	**P**	**07 24 32.5**	**+0.9**
	0.5nm,0.6s,baz=92,slow=6.3,SNR=5.8						
WRAB	**Tennant Creek**	**44.68**	**269**	*e*P	**P**	**07 24 38.4**	**+0.9**
	3.9nm,1.1s						
WRA	**Warramunga Arr**	**44.69**	**269**	P	**P**	**07 24 38.5**	**+1.0**
WRA	**Warramunga Arr**	**44.69**	**269**	P	**P**	**07 24 38.5**	**+1.0**
	0.5nm,0.5s,baz=108,slow=8.0,SNR=9.7						
VNDA	**Vanda**	**50.86**	**186**	*e*P	**P**	**07 25 25.9**	**+1.5**
VNDA	**Vanda**	**50.86**	**186**	P	**P**	**07 25 25.5**	**+1.1**
	0.8nm,0.7s,baz=14,slow=7.8,SNR=8.6						
PETK	**Petropavlovsk-**	**83.34**	**345**	P	**P**	**07 28 50.9**	**+0.6**
PETK	**Petropavlovsk-**	**83.34**	**345**	P	**P**	**07 28 50.9**	**+0.6**
	3.5nm,0.9s,baz=155,slow=14,SNR=3.2						
NVAR	**Mina Array Bea**	**85.82**	**42**	P	**P**	**07 29 03.6**	**+0.1**
NVAR	**Mina Array Bea**	**85.82**	**42**	P	**P**	**07 29 03.6**	**+0.1**
	0.4nm,0.7s,baz=231,slow=9.1,SNR=4.1						
MKAR	**Makanchi Array**	**116.48**	**311**	PKP	**PKPdf**	**07 35 06.7**	**-0.5**
MKAR	**Makanchi Array**	**116.48**	**311**	PKP	**PKPdf**	**07 35 06.7**	**-0.5**
	0.2nm,0.5s,baz=90,slow=1.4,SNR=3.0						
NOA	**NORSAR Array B**	**146.15**	**353**	PKPbc	**PKPbc**	**07 36 03.1**	**-0.1**
NOA	**NORSAR Array B**	**146.15**	**353**	PKPbc	**PKPbc**	**07 36 03.1**	**-0.1**
	0.5nm,0.6s,baz=17,slow=2.8,SNR=3.7						
AKASG	**Malin Array Be**	**149.45**	**326**	PKP	**PKPdf**	**07 36 08.6**	**+0.8**
AKASG				PKPbc	**PKPbc**	**07 36 12.5**	**+0.2**
AKASG	**Malin Array Be**	**149.45**	**326**	PKP	**PKPdf**	**07 36 08.6**	**+0.8**
	1.2nm,0.6s,baz=42,slow=3.3,SNR=4.6						
AKASG				PKPbc	**PKPbc**	**07 36 12.5**	**+0.2**
	1.1nm,0.6s,baz=45,slow=3.3,SNR=6.8						
BRTR	**Keskin Array B**	**151.74**	**303**	PKPbc	**PKPbc**	**07 36 18.4**	**+0.1**
BRTR	**Keskin Array B**	**151.74**	**303**	PKPbc	**PKPbc**	**07 36 18.5**	**+0.1**
	0.4nm,0.4s,baz=124,slow=2.6,SNR=3.4						
TORD	**Torodi Ar. Bea**	**165.51**	**176**	PKPab	**PKPab**	**07 37 26.4**	**-0.7**
TORD	**Torodi Ar. Bea**	**165.51**	**176**	PKPab	**PKPab**	**07 37 26.4**	**-0.7**
	0.4nm,0.5s,baz=184,slow=2.9,SNR=3.8						

VIE ***26*** *07:23:03.7, 17°.58S×178°.73W, h494km, mb3.5 308 km E of Suva*
ISCJB ***26*** *07:23:06.3±0.3, 17°.64S±0°.08×178°.85W±0°.06, h539km, mb3.8/19, Error ellipse: s-maj=11.0km s-min=6.0km az=153.7*

SONM	**Songino Array**	**93.08**	**319**	P		**P**	**07 35 23.1**	**-0.2**
	0.6nm,0.9s,baz=130,slow=8.0,SNR=3.6							
ZALV	**Zalesovo Beam**	**107.77**	**322**	PKiKP		**PKiKP**	**07 40 31.3**	**-1.5**
	1.0nm,0.6s,baz=64,slow=0.5,SNR=5.2							
MKAR	**Makanchi Array**	**108.66**	**314**	PKiKP		**PKiKP**	**07 40 33.6**	**-1.2**
	0.7nm,0.5s,baz=212,slow=0.6,SNR=9.9							
AKTO	**Aktyubinsk**	**124.40**	**320**	PKP		**PKPdf**	**07 41 02.7**	**-2.1**
	1.7nm,0.8s,baz=29,slow=1.4,SNR=5.9							
ARCES	**ARCESS Array B**	**125.97**	**350**	PKP		**PKPdf**	**07 41 06.1**	**-1.2**
	2.1nm,0.8s,baz=8.9,slow=8.6,SNR=4.9							
FINES	**FINESS Array B**	**132.81**	**344**	PKP		**PKPdf**	**07 41 19.9**	**-0.5**
	1.4nm,0.6s,baz=15,slow=2.2,SNR=5.3							
NOA	**NORSAR Array B**	**136.05**	**353**	PKP		**PKPdf**	**07 41 26.3**	**-0.2**
	0.5nm,0.8s,baz=40,slow=2.1,SNR=2.4							
AKASG	**Malin Array Be**	**140.13**	**332**	PKhKP		PKPpre	07 41 21.5	
	0.4nm,0.3s,baz=164,slow=30,SNR=4.8							
AKASG				PKP		**PKPdf**	**07 41 34.1**	**-0.2**
	0.8nm,0.5s,baz=5.7,slow=1.0,SNR=5.5							
OJC	**Ojcow**	**144.21**	**339**	*e*PX		PKPbc	07 41 41.2	0.0
BRTR	**Keskin Array B**	**144.31**	**315**	PKP		PKPbc	07 41 42.1	+0.2
	5.4nm,0.8s,baz=102,slow=3.1,SNR=23							
KOLS	**Kolonicke sedl**	**144.39**	**336**	*e*		PKPbc	07 41 42.2	+0.4
NIE	**Niedzica**	**144.72**	**338**	*e*PX		PKPbc	07 41 43.5	+0.7
CRVS	**Cervenica-Dubn**	**144.72**	**337**	*e*		**PKPdf**	**07 41 42.9**	**+0.4**
CLL	**Collm**	**145.10**	**347**	⇑*i*PKP		**PKPdf**	**07 41 43.9**	**+0.9**
	comp=Z,16nm,0.6s							
UPC	**Upice**	**145.11**	**343**	*e*PKPdf		**PKPbc**	**07 41 44.5**	**+0.6**
DPC	**Dobruska-Polom**	**145.17**	**343**	*e*PKPdf		**PKPbc**	**07 41 44.7**	**+0.6**
BRG	**Berggiesshubel**	**145.30**	**346**	*e*PKP		**PKPdf**	**07 41 44.4**	**+1.1**
	comp=Z,14nm,1.3s							
KECS	**Kecovo**	**145.44**	**337**	*e*		**PKPbc**	**07 41 45.2**	**+0.3**
PVCC	**Panska Ves**	**145.47**	**345**	*e*PKPdf		**PKPbc**	**07 41 45.3**	**+0.4**
PRU	**Pruhonice**	**145.97**	**345**	*e*PKPdf		**PKPbc**	**07 41 46.8**	**+0.4**
KHC	**Kasperske Hory**	**147.00**	**345**	*e*PKPdf		**PKPbc**	**07 41 49.5**	**+0.2**
GERES	**GERESS Array B**	**147.24**	**345**	PKPbc		**PKPbc**	**07 41 50.1**	**+0.1**
	comp=Z,5.5nm,0.6s,baz=29,slow=3.0,SNR=36							
CSNA	**Conrad Observa**	**147.47**	**342**	⇑*i*PKPbc		**PKPbc**	**07 41 51.1**	**+0.5**
	comp=Z,6.3nm,0.6s							
KBA	**Koelnbreinsper**	**148.96**	**344**	*i* PKPbc		**PKPbc**	**07 41 53.6**	**-0.9**
	comp=Z,5.5nm,0.6s,SNR=5.4							
WTTA	**Wattenberg**	**149.21**	**346**	⇑*i*PKPbc		**PKPbc**	**07 41 55.1**	**0.0**
	comp=Z,9.3nm,0.5s							
MOTA	**Moosalm**	**149.26**	**347**	⇑*i*PKPbc		**PKPbc**	**07 41 54.7**	**-0.4**
	comp=Z,2.3nm,0.4s,SNR=5.2							
DAVA	**Damuels**	**149.56**	**348**	⇑*i*PKPbc		**PKPbc**	**07 41 56.0**	**+0.1**
	comp=Z,12nm,1.3s							
FETA	**Feichten**	**149.65**	**347**	⇑*i*PKPbc		**PKPbc**	**07 41 56.1**	**-0.1**
	comp=Z,7.1nm,0.9s,SNR=4.5							
TORD	**Torodi Ar. Bea**	**175.52**	**186**	PKP		**PKPdf**	**07 42 14.9**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=0.5,slow=1.4,SNR=5.3							
TORD				PKPab		**PKPab**	**07 43 55.8**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=184,slow=4.5,SNR=2.7							

IDC 26 07:50:47.6±1.1, 4°.45N×127°.49E, h0km, mb3.8/6, mb1 3.8/6, mb1mx3.6/23, mbtmp3.8/6, Error ellipse: s-maj=61.5km s-min=19.9km az=78.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
WRA	**Warramunga Arr**	**25.16**	**165**	P		P		07 56 15.1	+0.4
	0.2nm,0.5s,baz=343,slow=10,SNR=7.3								
ASAR	**Alice Springs**	**28.64**	**168**	P		P		07 56 45.7	-0.4
	0.2nm,0.5s,baz=355,slow=8.8,SNR=3.0								
KSRS	**Korea Array**	**32.85**	**1**	P		P		07 57 23.8	+0.7
	1.7nm,0.6s,baz=174,slow=9.1,SNR=7.9								
SONM	**Songino Array**	**46.87**	**341**	P		P		07 59 19.1	-0.6
	0.6nm,0.6s,baz=139,slow=9.2,SNR=4.2								
PETK	**Petropavlovsk-**	**54.48**	**22**	P		P		08 00 16.4	-0.6
	3.3nm,0.7s,baz=197,slow=4.5,SNR=4.9								
MKAR	**Makanchi Array**	**57.41**	**325**	P		P		08 00 38.1	-0.1
	1.8nm,0.5s,baz=118,slow=8.3,SNR=20								

IDC 26 08:07:10.8±4.0, 15°.00S×173°.15W, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.8/21, mbtmp4.0/3, Error ellipse: s-maj=262.2km s-min=18.4km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
AFI	**Afiamalu**	**1.71**	**51**	Pn		Pn		08 07 39.9	-2.1
	18nm,0.3s,baz=170,slow=19,SNR=18								
AFI				Sn		Sn		08 08 04.9	+0.2
	22nm,0.3s,baz=215,slow=19,SNR=5.4								
WRA	**Warramunga Arr**	**50.17**	**256**	P		P		08 16 07.5	-1.2
	1.4nm,0.9s,baz=90,slow=6.7,SNR=8.9								
ASAR	**Alice Springs**	**50.47**	**252**	P		P		08 16 10.5	-0.4
	2.7nm,0.9s,baz=86,slow=8.2,SNR=14								
NVAR	**Mina Array Bea**	**73.87**	**42**	P		P		08 18 49.0	+1.1
	0.9nm,0.7s,baz=235,slow=8.7,SNR=6.7								
BRTR	**Keskin Array B**	**146.00**	**322**	PKPbc		PKPab		08 26 53.7	+0.2
	1.0nm,0.8s,baz=53,slow=3.0,SNR=4.2								

*NEIC **26** 08:28:18.6, 16°.43N×94°.69W, h104km, MD4.0(MEX), After MEX.*

MEX 26 08:28:18.6±1.1, 16°.43N×94°.69W, h104km±19km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
HUIG	**Huatulco**	**1.52**	**244**	*i* P		Pn		08 28 43.3	-1.9
HUIG				*i* S		Sn		08 29 04.5	-1.0
HUIG	**Huatulco**	**1.52**	**244**	*i* P		Pn		08 28 43.3	-1.9
HUIG				*i* S		Sn		08 29 04.5	-1.0
TGIG		**1.54**	**77**	*i* P		Pn		08 28 44.7	-0.9
TGIG				*i* S		Sn		08 29 04.1	-2.1
TGIG		**1.54**	**77**	*i* P		Pn		08 28 44.7	-0.9
TGIG				*i* S		Sn		08 29 04.1	-2.1
PCIG		**1.59**	**117**	*e*P		Pn		08 28 47.5	+1.3
PCIG				*i* S		Sn		08 29 08.0	+1.0
PCIG		**1.59**	**117**	*e*P		Pn		08 28 47.5	+1.3
PCIG				*i* S		Sn		08 29 08.0	+1.0
VHO	**Vista Hermosa**	**2.06**	**288**	*i* P		Pn		08 28 51.9	-0.5
VHO				*i* S		Sn		08 29 15.9	-2.2
VHO	**Vista Hermosa**	**2.06**	**288**	*i* P		Pn		08 28 51.9	-0.5
VHO				*i* S		Sn		08 29 15.9	-2.2
CCIG	**Comitan**	**2.46**	**93**	*i* P		Pn		08 28 57.2	-0.2
CCIG				*i* S		Sn		08 29 25.7	-1.6
CCIG	**Comitan**	**2.46**	**93**	*i* P		Pn		08 28 57.2	-0.2
CCIG				*i* S		Sn		08 29 25.7	-1.6
PNIG	**Pinotepa**	**3.30**	**270**	*i* P		Pn		08 29 07.0	-1.5
PNIG				*i* S		Sn		08 29 45.5	-1.6
PNIG	**Pinotepa**	**3.30**	**270**	*i* P		Pn		08 29 07.0	-1.5
PNIG				*i* S		Sn		08 29 45.5	-1.6
TLIG	**Tlapa**	**3.88**	**287**	*i* P		Pn		08 29 15.8	-0.5
TLIG				*i* S		Sn		08 29 59.0	-2.2

IDC 26 08:33:16.3±7.7, 15°.68S×175°.55E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/17, mbtmp3.5/2, MS3.6/2, Ms1 3.6/2, ms1mx3.2/22, Error ellipse: s-maj=352.2km s-min=36.6km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
DZM	**Mont Dzumac**	**10.71**	**232**	*e*LR		LR		08 38 03.9	
	334nm,26.6s								
PMG	**Port Moresby**	**28.39**	**279**	LR		LR		08 48 10.4	
	comp=Z,139nm,18.9s,baz=80,slow=32								
WRA	**Warramunga Arr**	**39.40**	**258**	P		P		08 40 46.6	-1.6
	0.6nm,0.9s,baz=92,slow=9.2,SNR=2.8								
ASAR	**Alice Springs**	**39.90**	**252**	P		P		08 40 54.0	+1.6
	0.6nm,0.8s,baz=83,slow=8.8,SNR=4.9								
MJAR	**Matsushiro Arr**	**62.77**	**327**	LR		LR		09 05 37.2	
	comp=Z,1.1nm,20.0s,baz=210,slow=31								
PETK	**Petropavlovsk-**	**70.21**	**349**	LR		LR		09 09 24.3	
	comp=Z,38nm,19.9s,baz=322,slow=31								
ILAR	**Eielson Array**	**85.14**	**15**	P		P		08 45 53.9	0.0
	9.0nm,0.5s,baz=218,slow=5.4,SNR=5.0								

*IDC **26** 08:36:16.9±0.8, 11°.12S×165°.93E, h0km, mb4.3/11, mb1 4.5/13, mb1mx4.3/24, mbtmp4.4/13, ML4.4/2, MS3.6/3, Ms1 3.6/3, ms1mx3.2/19, Error ellipse: s-maj=20.3km s-min=18.9km az=81.0*

*NEIC **26** 08:36:21.0±3.6, 11°.12S×165°.90E, h26km±24km, mb4.4/2, Error ellipse: s-maj=13.5km s-min=9.0km az=45.0*

*ISCJB **26** 08:36:23.7±0.7, 11°.32S±0°.07×165°.74E±0°.08, h61km, mb4.3/12, Error ellipse: s-maj=12.8km s-min=7.6km az=141.0*

ISC 26 08:36:25.2±0.7, 11°.26S±0°.08×165°.79E±0°.09, h61km, n45, σ1s05/44, mb4.3/12, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
HNR	**Honiara**	**6.03**	**287**	Pn		**Pn**		**08 37 49.3**	**-2.5**
HNR				Sn		**Sn**		**08 38 59.5**	**-0.1**
HNR	**Honiara**	**6.03**	**287**	Pn		**Pn**		**08 37 49.3**	**-2.5**
	8.7nm,0.3s,baz=158,slow=5.4,SNR=8.9								
HNR				Sn		**Sn**		**08 38 59.4**	**-0.1**
	2.5nm,0.3s,baz=181,slow=11,SNR=1.7								
DZM	**Mont Dzumac**	**10.77**	**177**	*e*Pn		**Pn**		**08 38 55.7**	**-1.2**
	91nm,1.4s								
DZM				*e*LR		LR		08 41 25.0	
	283nm,26.1s								
DZM	**Mont Dzumac**	**10.77**	**177**	*e*Pn		**Pn**		**08 38 55.4**	**-1.5**
	15nm,0.6s								
DZM				*e*Sn		**Sn**		**08 40 56.0**	**0.0**
DZM	**Mont Dzumac**	**10.77**	**177**	Pn		**Pn**		**08 38 55.8**	**-1.1**
	3.0nm,0.3s,baz=355,slow=19,SNR=19								
DZM				Sn		**Sn**		**08 40 54.4**	**-1.6**
	0.6nm,0.3s,baz=15,slow=22,SNR=3.2								
CTA	**Charters Tower**	**20.74**	**243**	P		**P**		**08 41 01.6**	**+0.6**
CTA	**Charters Tower**	**20.74**	**243**	P		**P**		**08 41 01.6**	**+0.6**
	3.5nm,0.8s,baz=58,slow=16,SNR=3.1								
CTAO	**Charters Tower**	**20.74**	**243**	*e*P		Pn		08 41 02.4	-1.6
URZ	**Urewera**	**28.74**	**161**	P		**P**		**08 42 16.9**	**0.0**
URZ	**Urewera**	**28.74**	**161**	P		**P**		**08 42 16.9**	**0.0**
	7.7nm,0.8s,baz=342,slow=3.2,SNR=4.6								
H11S2	**WAKE ISLAND Hy**	**29.57**	**2**	T		T		09 12 54.7	
	baz=183,slow=0.7,SNR=26								
H11S3	**WAKE ISLAND Hy**	**29.58**	**2**	T		T		09 12 55.1	
	baz=183,slow=0.7,SNR=19								
H11S1	**WAKE ISLAND Hy**	**29.59**	**2**	T		T		09 12 50.9	
	baz=183,slow=0.7,SNR=7.0								
STKA	**Stephens Creek**	**30.32**	**224**	*e*P		**P**		**08 42 32.0**	**+1.0**
STKA	**Stephens Creek**	**30.32**	**224**	P		**P**		**08 42 31.4**	**+0.3**
	6.0nm,0.7s,baz=42,slow=8.3,SNR=10								
H11N1	**WAKE ISLAND Hy**	**30.79**	**2**	T		T		09 14 26.4	
	baz=184,slow=0.7,SNR=13								
H11N3	**WAKE ISLAND Hy**	**30.80**	**2**	T		T		09 14 16.5	
	baz=184,slow=0.7,SNR=6.2								
H11N2	**WAKE ISLAND Hy**	**30.81**	**2**	T		T		09 14 17.3	
	baz=184,slow=0.7,SNR=7.2								
WRAB	**Tennant Creek**	**31.44**	**250**	*e*P		**P**		**08 42 40.7**	**-0.4**
	9.2nm,1.1s								
WRA	**Warramunga Arr**	**31.45**	**250**	P		**P**		**08 42 41.8**	**+0.6**
WRA				PcP		**PcP**		**08 45 34.7**	**+1.3**
WRA	**Warramunga Arr**	**31.45**	**250**	P		**P**		**08 42 41.8**	**+0.6**
	3.5nm,0.8s,baz=80,slow=9.2,SNR=21								
WRA				PcP		**PcP**		**08 45 34.7**	**+1.3**
	1.5nm,0.9s,baz=81,slow=2.8,SNR=9.3								
RPZ	**Rata Peaks**	**32.66**	**173**	*e*P		**P**		**08 42 52.3**	**+0.8**
RPZ	**Rata Peaks**	**32.66**	**173**	P		**P**		**08 42 51.9**	**+0.4**
	23nm,0.8s,baz=116,slow=5.1,SNR=5.9								
ASAR	**Alice Springs**	**32.74**	**244**	P		**P**		**08 42 52.5**	**0.0**
ASAR				PcP		**PcP**		**08 45 38.0**	**+1.1**
ASAR	**Alice Springs**	**32.74**	**244**	P		**P**		**08 42 52.5**	**0.0**
	1.1nm,0.7s,baz=68,slow=9.8,SNR=12								
ASAR				PcP		**PcP**		**08 45 38.0**	**+1.1**
	1.5nm,0.7s,baz=74,slow=2.8,SNR=12								
RAR	**Rarotonga**	**34.44**	**111**	LR		LR		08 54 22.4	
	comp=Z,122nm,19.6s,baz=225,slow=32								
FITZ	**Fitzroy Crossi**	**39.37**	**255**	*e*P		**P**		**08 43 49.6**	**+0.4**
	3.8nm,0.8s								
PPT2	**Papeete2**	**43.61**	**104**	*e*LR		LR		08 56 35.4	
	52nm,22.0s								
TBI	**Tubuai**	**44.21**	**112**	*e*LR		LR		08 56 56.8	
	90nm,26.2s								
FX1	**Attu Island--F**	**64.19**	**5**	LR		LR		09 08 49.5	
	comp=Z,42nm,20.0s,baz=10,slow=30								
VNDA	**Vanda**	**66.28**	**181**	P		**P**		**08 47 07.5**	**+0.8**
VNDA	**Vanda**	**66.28**	**181**	P		**P**		**08 47 07.5**	**+0.8**
	1.8nm,1.1s,baz=338,slow=8.5,SNR=5.4								
CMAR	**Chiang Mai Arr**	**72.23**	**294**	P		**P**		**08 47 46.0**	**+1.5**
CMAR	**Chiang Mai Arr**	**72.23**	**294**	P		**P**		**08 47 46.0**	**+1.5**
	1.6nm,0.4s,baz=130,slow=5.8,SNR=5.9								
ILAR	**Eielson Array**	**83.70**	**18**	P		**P**		**08 48 46.0**	**-1.0**
ILAR	**Eielson Array**	**83.70**	**18**	P		**P**		**08 48 46.0**	**-1.0**
	5.3nm,0.4s,baz=236,slow=5.3,SNR=18								
NVAR	**Mina Array Bea**	**86.13**	**50**	P		**P**		**08 48 59.4**	**-0.8**
NVAR	**Mina Array Bea**	**86.13**	**50**	P		**P**		**08 48 59.4**	**-0.8**
	0.8nm,1.0s,baz=284,slow=6.0,SNR=4.3								
MKAR	**Makanchi Array**	**93.70**	**317**	P		**P**		**08 49 35.7**	**+0.3**
MKAR	**Makanchi Array**	**93.70**	**317**	P		**P**		**08 49 35.7**	**+0.3**
	0.2nm,0.3s,baz=103,slow=5.5,SNR=4.9								
MKAR				LR		LR		09 29 24.4	
	comp=Z,17nm,18.6s,baz=165,slow=34								
ARCES	**ARCESS Array B**	**116.55**	**345**	PKP		**PKPdf**		**08 55 00.6**	**-1.2**
ARCES	**ARCESS Array B**	**116.55**	**345**	PKP		**PKPdf**		**08 55 00.6**	**-1.2**
	2.2nm,0.9s,baz=60,slow=2.2,SNR=3.6								
KMBO	**Kilima Mbogo**	**127.39**	**260**	*e*PKPdf		**PKPdf**		**08 55 25.6**	**+1.0**
TORD	**Torodi Ar. Bea**	**164.34**	**279**	PKP		**PKPdf**		**08 56 23.2**	**+0.3**
TORD				PKPab		**PKPab**		**08 57 18.6**	**+1.1**
TORD	**Torodi Ar. Bea**	**164.34**	**279**	PKP		**PKPdf**		**08 56 23.2**	**+0.3**
	0.7nm,0.9s,baz=344,slow=2.5,SNR=4.1								
TORD				PKPab		**PKPab**		**08 57 18.6**	**+1.1**
	0.5nm,0.8s,baz=94,slow=4.3,SNR=2.5								

*ISCJB **26** 08:55:04.8±0.3, 60°.02N±0°.02×152°.05W±0°.04, h81km±3km, mb3.9/7, Error ellipse: s-maj=3.7km s-min=3.3km az=36.2*

*NEIC **26** 08:55:07.1, 60°.04N×152°.11W, h62km, ML3.4(AEIC), After AEIC.*

*IDC **26** 08:55:08.7±6.4, 60°.09N×151°.66W, h98km±43km, mb3.6/7, mb1 3.6/9, mb1mx3.4/27, mbtmp3.5/9, Error ellipse: s-maj=55.1km s-min=32.1km az=166.0*

ISC 26 08:55:05.7±0.8, 60°.02N±0°.03×152°.07W±0°.03, h69km±6km, n96, σ0s95/118, mb4.0/7, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
NNL	**Ninilchik**	**0.39**	**86**	P		**Pn**		**08 55 30.3**	**+0.9**
HOM	**Homer**	**0.42**	**149**	P		**Pn**		**08 55 18.2**	**+0.5**
HOM				S		**Sn**		**08 55 28.0**	**+1.5**
ILIM	**Iliamna**	**0.45**	**279**	P		**Pn**		**08 55 18.2**	**+0.2**
ILW	**Iliamna West**	**0.54**	**275**	P		**Pn**		**08 55 19.2**	**+0.2**
RSO	**Redoubt South**	**0.56**	**323**	*e*Pn		**Pn**		**08 55 19.1**	**-0.2**
RSO				*e*Sn		**Sn**		**08 55 30.2**	**+0.9**
REF	**Redoubt East F**	**0.57**	**327**	P		**Pn**		**08 55 19.2**	**-0.2**
REF				S		**Sn**		**08 55 29.2**	**-0.2**
RDT	**Redoubt**	**0.58**	**344**	P		**Pn**		**08 55 19.0**	**-0.3**
RDT				S		**Sn**		**08 55 29.1**	**-0.3**
RDWB	**Redoubt West**	**0.61**	**321**	P		**Pn**		**08 55 19.6**	**-0.1**
RDWB				S		**Sn**		**08 55 29.7**	**-0.3**
BRLK	**Bradley Lake**	**0.65**	**112**	P		**Pn**		**08 55 20.0**	**0.0**
BRLK				S		**Sn**		**08 55 30.6**	**+0.1**
CNPM	**China Poot**	**0.65**	**139**	P		**Pn**		**08 55 20.3**	**+0.3**
CNPM				S		**Sn**		**08 55 30.9**	**+0.4**
DFR	**Drift River**	**0.65**	**332**	P		**Pn**		**08 55 19.8**	**-0.3**
DFR				S		**Sn**		**08 55 30.7**	**-0.1**
OPT	**Oil Point**	**0.69**	**239**	P		**Pn**		**08 55 21.1**	**+0.7**
NCT	**North Crescent**	**0.69**	**322**	P		**Pn**		**08 55 20.6**	**0.0**
AUI	**Augustine Isla**	**0.97**	**226**	P		**Pn**		**08 55 24.6**	**+0.9**
AUI				S		**Sn**		**08 55 38.4**	**+1.3**
SLKM	**Skilak Lake**	**1.05**	**61**	P		**Pn**		**08 55 24.4**	**-0.4**
SPU	**Mount Spurr**	**1.17**	**0**	P		**Pn**		**08 55 26.4**	**+0.1**
CKL	**Chakachamna La**	**1.19**	**354**	P		**Pn**		**08 55 26.9**	**+0.3**
CKL				S		**Sn**		**08 55 42.4**	**0.0**
BGL	**Barrier Glacie**	**1.26**	**353**	P		**Pn**		**08 55 28.1**	**+0.5**
SPCG	**Spurr Capps Gl**	**1.28**	**1**	P		**Pn**		**08 55 28.4**	**+0.6**
SPCG				S		**Sn**		**08 55 45.9**	**+1.5**
SEW	**Seward**	**1.32**	**85**	P		**Pn**		**08 55 28.9**	**+0.8**
SEW				S		**Sn**		**08 55 46.6**	**+1.6**
MCNL	**McNeil River**	**1.42**	**235**	P		**Pn**		**08 55 30.1**	**+0.5**
MCNL				S		**Sn**		**08 55 47.9**	**+0.3**
FIB	**Fire Island**	**1.49**	**38**	P		**Pn**		**08 55 31.9**	**+1.6**
FIB				S		**Sn**		**08 55 52.3**	**+3.3**
STLK	**Strandline Lak**	**1.49**	**4**	P		**Pn**		**08 55 31.2**	**+0.6**
SUA	**Susitna One**	**1.59**	**24**	P		**Pn**		**08 55 32.5**	**+0.6**
SUA				S		**Sn**		**08 55 53.2**	**+1.5**
PTE	**Portage**	**1.73**	**59**	P		**Pn**		**08 55 34.0**	**+0.3**
KAPH	**Katmai Pasha**	**1.84**	**220**	P		**Pn**		**08 55 36.4**	**+1.2**
SKT	**Skwentna**	**1.99**	**7**	P		**Pn**		**08 55 37.5**	**+0.3**
SKT				S		**Sn**		**08 56 02.1**	**+1.0**
PWL	**Port Wells**	**2.04**	**64**	P		**Pn**		**08 55 37.6**	**-0.2**
SVW2	**Sparrevohn**	**2.04**	**304**	P		**Pn**		**08 55 37.7**	**-0.2**
PMR	**Palmer**	**2.14**	**41**	P		**Pn**		**08 55 39.0**	**-0.1**
KDAK	**Kodiak Island**	**2.26**	**187**	P		**Pn**		**08 55 40.9**	**+0.1**
KAKN	**Katmai Knife C**	**2.31**	**223**	P		**Pn**		**08 55 42.2**	**+0.7**
KABR	**Katmai Barrier**	**2.41**	**220**	P		**Pn**		**08 55 44.1**	**+1.2**
KELA	**Mount Kelaz**	**2.46**	**232**	P		**Pn**		**08 55 44.3**	**+0.7**
KJL	**Kejulik**	**2.67**	**224**	P		**Pn**		**08 55 48.3**	**+1.8**
OHAK	**Old Harbor**	**2.87**	**193**	P		**Pn**		**08 55 48.9**	**-0.2**
PPLA	**Purkeypile**	**2.89**	**359**	P		**Pn**		**08 55 50.4**	**+0.9**
SCM	**Sheep Creek Mo**	**2.95**	**50**	P		**Pn**		**08 55 50.0**	**-0.2**
EYAK	**Cordova Ski Ar**	**3.19**	**78**	P		**Pn**		**08 55 53.2**	**-0.2**
DIV	**Divide**	**3.30**	**68**	*e*Pn		**Pn**		**08 55 56.9**	**+1.8**
DIV				*e*Sn		**Sn**		**08 56 33.2**	**+0.1**
KLU	**Klutina**	**3.36**	**61**	P		**Pn**		**08 55 55.5**	**-0.3**
CAST	**Castle Rocks**	**3.42**	**360**	P		**Pn**		**08 55 57.3**	**+0.8**
TT01	**Tatalina**	**3.46**	**329**	P		**Pn**		**08 55 57.4**	**+0.2**
TRF	**Thorofare Moun**	**3.55**	**13**	P		**Pn**		**08 55 58.8**	**+0.4**
GOAT	**Goat Mountain**	**3.70**	**78**	P		**Pn**		**08 56 00.1**	**-0.4**
RND	**Reindeer**	**3.73**	**23**	P		**Pn**		**08 56 01.5**	**+0.7**
DHY	**Denali Highway**	**3.81**	**34**	P		**Pn**		**08 56 03.0**	**+1.1**
BMRM	**Bremner River**	**3.82**	**72**	*e*Pn		**Pn**		**08 56 04.7**	**+2.7**
BMRM				*e*Sn		**Sn**		**08 56 47.8**	**+2.2**
CHUM	**Lake Minchumin**	**3.88**	**358**	P		**Pn**		**08 56 04.0**	**+1.2**
MCK	**McKinley**	**4.01**	**20**	P		**Pn**		**08 56 06.1**	**+1.4**
NICHA	**Nichawak Mount**	**4.06**	**83**	P		**Pn**		**08 56 05.8**	**+0.5**
BPAW	**Bear Paw Mtn.**	**4.13**	**7**	P		**Pn**		**08 56 07.5**	**+1.2**
PAX	**Paxson**	**4.33**	**44**	P		**Pn**		**08 56 09.7**	**+0.6**
BWN	**Browne**	**4.35**	**15**	P		**Pn**		**08 56 11.1**	**+2.0**
BARK	**Barkley Ridge**	**4.80**	**81**	P		**Pn**		**08 56 15.9**	**+0.5**
WRH	**Wood River Hil**	**4.84**	**21**	P		**Pn**		**08 56 16.6**	**+0.7**
ISLE	**Juniper Island**	**4.88**	**79**	P		**Pn**		**08 56 16.4**	**-0.1**
PTPK	**Patty Peak**	**4.88**	**72**	P		**Pn**		**08 56 16.1**	**-0.5**
KIAG	**Kiagna River**	**4.89**	**75**	P		**Pn**		**08 56 17.0**	**+0.2**
BALM	**Baldy**	**4.91**	**74**	P		**Pn**		**08 56 16.5**	**-0.5**
MENT	**Mentasta**	**4.96**	**50**	*e*Pn		**Pn**		**08 56 18.1**	**+0.6**
MENT				*e*Sn		**Sn**		**08 57 11.6**	**-2.0**
HDA	**Harding Lake**	**5.01**	**26**	P		**Pn**		**08 56 19.1**	**+0.8**
CCB	**Clear Creek Bu**	**5.05**	**21**	P		**Pn**		**08 56 19.3**	**+0.5**
BARN	**Barnard Glacie**	**5.25**	**74**	P		**Pn**		**08 56 22.0**	**+0.3**
GCSA	**Galena City Sc**	**5.25**	**337**	P		**Pn**		**08 56 21.9**	**+0.5**
COLA	**College**	**5.25**	**20**	P		**Pn**		**08 56 21.9**	**+0.4**
DOT	**Dot Lake**	**5.26**	**43**	*e*Pn		**Pn**		**08 56 22.2**	**+0.6**
	15nm,0.6s								
MDM	**Murphy Dome**	**5.27**	**18**	P		**Pn**		**08 56 22.0**	**+0.2**
IL1	**Eielson Array**	**5.35**	**25**	P		**Pn**		**08 56 23.2**	**+0.4**

JHHJ	**Haha-jima-NKT**	**1.58**	**151**	P	**Pn**	**09 40 15.6**	**+2.3**
JHHJ				*e*S	**Sn**	**09 40 34.9**	**+2.4**
BSO1	**Boso 1**	**6.62**	**357**	P	**Pn**	**09 41 23.8**	**+1.7**
BSO4	**Boso 4**	**7.00**	**353**	P	Pn	09 41 30.8	+3.1
JOD2	**Odawara 2**	**7.47**	**346**	P	Pn	09 41 38.4	+4.1
JHU	**Hanno**	**8.00**	**348**	P	**Pn**	**09 41 44.3**	**+2.8**
JHU				*e*S	**Sn**	**09 43 10.8**	**0.0**
JRY	**Ryogami san**	**8.23**	**346**	P	Pn	09 41 47.9	+3.1
JAG	**Ashikaga**	**8.53**	**350**	P	**Pn**	**09 41 50.3**	**+1.5**
JAG				*e*S	**Sn**	**09 43 21.8**	**-2.0**
JHO	**Hitachi**	**8.59**	**356**	P	**Pn**	**09 41 50.1**	**+0.5**
MJAR	**Matsushiro Arr**	**8.90**	**344**	P	Pn	09 41 56.9	+3.0
	1.0nm,0.3s,baz=206,slow=11,SNR=11						
USRK	**Ussuriysk Arra**	**17.80**	**338**	P	**Pn**	**09 43 53.2**	**+0.5**
	0.1nm,0.3s,baz=153,slow=11,SNR=4.6						
SONM	**Songino Array**	**33.52**	**316**	P	**P**	**09 46 24.3**	**+0.1**
	0.3nm,0.4s,baz=114,slow=8.0,SNR=2.8						
WRA	**Warramunga Arr**	**48.16**	**189**	P	**P**	**09 48 23.0**	**-1.7**
	1.2nm,0.7s,baz=11,slow=8.4,SNR=14						
MKAR	**Makanchi Array**	**49.30**	**309**	P	**P**	**09 48 33.0**	**-0.4**
	0.1nm,0.4s,baz=87,slow=7.4,SNR=2.7						
KURBB	**Kurchatov Arra**	**51.85**	**314**	P	**P**	**09 48 51.0**	**-1.5**
	0.4nm,0.4s,baz=90,slow=8.3,SNR=6.5						
ASAR	**Alice Springs**	**51.88**	**189**	P	**P**	**09 48 50.7**	**-2.3**
	0.1nm,0.5s,baz=3.4,slow=6.3,SNR=3.4						
BVAR	**Borovoye Array**	**56.85**	**317**	P	**P**	**09 49 28.9**	**+0.1**
	0.7nm,0.5s,baz=153,slow=10.0,SNR=3.9						
ARCES	**ARCESS Array B**	**72.42**	**341**	P	**P**	**09 51 09.0**	**-1.1**
	1.3nm,0.8s,baz=75,slow=6.4,SNR=4.5						
FINES	**FINESS Array B**	**76.78**	**333**	P	**P**	**09 51 34.4**	**-1.1**
	1.0nm,0.3s,baz=77,slow=4.5,SNR=17						
NVAR	**Mina Array Bea**	**80.54**	**52**	P	**P**	**09 51 54.8**	**-2.1**
	0.2nm,0.5s,baz=295,slow=6.7,SNR=2.7						
NOA	**NORSAR Array B**	**82.47**	**338**	P	**P**	**09 52 05.0**	**-1.5**
	0.3nm,0.6s,baz=39,slow=4.5,SNR=2.4						

IDC 26 09:53:53.9±1.8, 12°.00S×165°.86E, h0km, mb3.9/6, mb1 3.9/7, mb1mx3.8/20, mbtmp3.9/7, ML3.8/1, MS3.4/1, Ms1 3.3/1, ms1mx2.6/30, Error ellipse: s-maj=53.9km s-min=28.6km az=108.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.03**	**177**	Pn	Pn	09 56 19.7	+0.2
	0.8nm,0.3s,baz=336,slow=19,SNR=7.1						
DZM				Sn	Sn	09 58 08.9	-3.9
	0.3nm,0.3s,baz=225,slow=19,SNR=3.1						
STKA	**Stephens Creek**	**29.84**	**225**	P	P	10 00 03.8	+0.8
	2.5nm,1.0s,baz=79,slow=5.2,SNR=2.9						
STKA				LR	LR	10 12 08.3	
	comp=Z,62nm,18.1s,baz=27,slow=37						
WRA	**Warramunga Arr**	**31.28**	**251**	P	P	10 00 15.1	-0.8
	0.3nm,0.6s,baz=83,slow=9.2,SNR=2.8						
ASAR	**Alice Springs**	**32.48**	**245**	P	P	10 00 26.3	-0.1
	0.5nm,0.7s,baz=67,slow=9.0,SNR=8.1						
SONM	**Songino Array**	**79.50**	**324**	P	P	10 06 03.5	+0.9
	0.7nm,0.9s,baz=120,slow=4.2,SNR=3.5						
MKAR	**Makanchi Array**	**94.29**	**317**	P	P	10 07 16.2	+0.9
	1.6nm,0.7s,baz=99,slow=6.8,SNR=9.4						
ZALV	**Zalesovo Beam**	**94.39**	**324**	P	P	10 07 14.4	-1.1
	0.5nm,0.4s,baz=108,slow=4.8,SNR=3.8						
ARCES	**ARCESS Array B**	**117.28**	**345**	PKP	PKPdf	10 12 39.5	-1.3
	2.3nm,1.0s,baz=27,slow=2.0,SNR=4.1						

*IDC **26** 09:56:54.7±4.1, 24°.85N×106°.70W, h0km, mb3.7/2, mb1 3.8/8, mb1mx3.7/28, mbtmp3.5/8, ML3.5/6, MS3.5/11, Ms1 3.5/11, ms1mx3.2/35, Error ellipse: s-maj=65.8km s-min=25.6km az=145.0*

*NEIC **26** 09:56:58.8, 25°.51N×107°.57W, h10km, MD4.5(MEX), After MEX.*

*MEX **26** 09:56:58.8±0.7, 25°.51N×107°.57W, h10km, MD4.5*

*ISCJB **26** 09:57:01.5±0.7, 25°.50N±0°.05×106°.69W±0°.06, h10km, mb3.8/2, MS3.5/7, Error ellipse: s-maj=8.7km s-min=6.2km az=37.8*

ISC 26 09:57:04.1±0.8, 25°.55N±0°.04×106°.92W±0°.06, h10km, n86, σ1s80/72, MS3.5/7, 26C-28D, Northern Mexico

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HPIG		**1.79**	**39**	*e*P	Pn	09 57 31.9	-3.3
HPIG				*i*S	**Sb**	**09 58 00.1**	**+0.5**
HPIG		**1.79**	**39**	*e*P	Pn	09 57 31.9	-3.3
HPIG				*i*S	**Sb**	**09 58 00.1**	**+0.5**
LPIG	**La Paz**	**3.40**	**246**	*i*P	Pn	09 57 43.2	-14
LPIG				*i*S	Sn	09 58 16.2	-21
LPIG	**La Paz**	**3.40**	**246**	*i*P	Pn	09 57 43.2	-14
LPIG				*i*S	Sn	09 58 16.2	-21
LPIG	**La Paz**	**3.40**	**246**	Pn	Pn	09 57 47.9	-9.2
	2.1nm,0.3s,baz=23,slow=7.2,SNR=11						
LPIG				LR	LR	09 59 01.9	
	comp=Z,584nm,19.2s,baz=140,slow=38						
626A	**Big Bend Ranch**	**4.70**	**31**	⇓P	**Pn**	**09 58 13.3**	**-1.9**
	baz=5.1,SNR=18						
626A				⇓S	**Sg**	**09 59 31.2**	**-3.8**
	baz=5.1						
TXAR	**Lajitas Array**	**4.75**	**37**	Pn	**Pn**	**09 58 14.1**	**-1.8**
	1.4nm,0.3s,baz=201,slow=14,SNR=21						
TXAR				Pg	**Pb**	**09 58 27.9**	**+0.3**
	3.6nm,0.3s,baz=209,slow=16,SNR=21						
TXAR				Lg	Lg	09 59 33.5	
	9.9nm,0.3s,baz=228,slow=17,SNR=4.2						
ZAIG	**Zacatecas**	**4.84**	**124**	*i*P	**Pn**	**09 58 17.6**	**+0.3**
ZAIG				*i*S	**Sn**	**09 59 17.4**	**+3.7**
ZAIG	**Zacatecas**	**4.84**	**124**	*i*P	**Pn**	**09 58 17.6**	**+0.3**
ZAIG				*i*S	**Sn**	**09 59 17.4**	**+3.7**
CGIG		**4.89**	**349**	*i*P	Pn	09 58 09.6	-8.2
CGIG				*i*S	Sn	09 59 04.5	-10
CGIG		**4.89**	**349**	*i*P	Pn	09 58 09.6	-8.2
CGIG				*i*S	Sn	09 59 04.5	-10
HSIG		**4.98**	**315**	*i*P	Pn	09 58 07.6	-11
HSIG				*i*S	Sn	09 58 59.5	-17
HSIG		**4.98**	**315**	*i*P	Pn	09 58 07.6	-11
HSIG				*i*S	Sn	09 58 59.5	-17
ANIG	**Ahuacatlan**	**4.99**	**153**	*i*P	Pn	09 58 15.6	-3.6
ANIG				*i*S	**Sn**	**09 59 16.7**	**-0.3**
ANIG	**Ahuacatlan**	**4.99**	**153**	*i*P	Pn	09 58 15.6	-3.6
ANIG				*i*S	**Sn**	**09 59 16.7**	**-0.3**
627A	**Terlingua Ranc**	**5.00**	**38**	⇓P	**Pn**	**09 58 16.8**	**-2.5**
	baz=5.4						
627A				⇑S	**Sb**	**09 59 36.9**	**+4.9**
	baz=5.4						
526A	**Mary Lane Ranc**	**5.15**	**29**	⇑P	**Pn**	**09 58 19.3**	**-2.1**
	baz=5.5,SNR=18						
628A	**Black Gap, Mar**	**5.31**	**41**	⇓P	Pn	09 58 20.2	-3.3
	baz=5.7,SNR=17						
527A	**Woodward Ranch**	**5.44**	**32**	⇓P	**Pn**	**09 58 22.8**	**-2.5**
	baz=5.8,SNR=11						
425A	**Indio Mountain**	**5.49**	**18**	⇓P	**Pn**	**09 58 24.7**	**-1.4**
	baz=5.7,SNR=20						
425A				⇑S	**Sb**	**09 59 51.1**	**+4.9**
	baz=5.7						
426A	**McDonald Obser**	**5.71**	**26**	⇑P	**Pn**	**09 58 27.0**	**-2.2**
	baz=6.0,SNR=43						
320A	**Kipp Ranch, An**	**5.94**	**347**	⇑P	**Pn**	**09 58 32.3**	**0.0**
	baz=5.9,SNR=26						
324A	**Moseley Ranch,**	**6.01**	**12**	⇓P	**Pn**	**09 58 33.1**	**-0.1**
	baz=6.2,SNR=6.8						
325A	**Bean Ranch, Si**	**6.05**	**16**	⇑P	**Pn**	**09 58 33.7**	**-0.2**
	baz=6.3						
427A	**Hayter Ranch,**	**6.13**	**30**	⇓P	**Pn**	**09 58 32.2**	**-2.6**
	baz=6.5,SNR=13						
319A	**Douglas**	**6.17**	**341**	⇓P	**Pn**	**09 58 35.5**	**+0.1**
	baz=6.1,SNR=15						
529A	**Stev Forest Ra**	**6.17**	**41**	⇑P	**Pn**	**09 58 33.8**	**-1.6**
	baz=6.6						
MNTX	**Cornudas Mount**	**6.28**	**12**	*e*Pn	**Pn**	**09 58 35.0**	**-1.8**
MNTX				*e*Sg	**Sg**	**10 00 25.5**	**-0.1**
326A	**Caldwell Ranch**	**6.30**	**24**	⇓P	**Pn**	**09 58 35.3**	**-1.9**
	baz=6.6,SNR=15						
428A	**Kincaid Ranch,**	**6.37**	**35**	⇓P	**Pn**	**09 58 36.5**	**-1.6**
	baz=6.8						
220A	**Playas Peak, P**	**6.49**	**348**	⇓P	**Pn**	**09 58 39.1**	**-0.7**
	baz=6.4,SNR=33						
222A	**Williams Famil**	**6.54**	**359**	⇑P	**Pn**	**09 58 40.6**	**+0.2**
	baz=6.6,SNR=13						
429A	**Davenport Ranc**	**6.73**	**40**	⇓P	**Pn**	**09 58 43.4**	**+0.3**
	baz=7.2						
225A	**Deer Hill, Car**	**6.79**	**15**	⇑P	**Pn**	**09 58 46.1**	**+2.1**
	baz=7.0						
631A	**Perdido Creek**	**6.83**	**54**	⇑P	Pn	09 58 40.5	-3.8
	baz=7.3						
226B	**Tecolote Peak,**	**6.94**	**20**	⇑P	**Pn**	**09 58 46.7**	**+0.7**
	baz=7.2,SNR=5.1						
121A	**Cookes Peak, D**	**7.00**	**354**	P	**Pn**	**09 58 47.0**	**+0.1**
	baz=7.0,SNR=32						
122A	**Conniff Cattle**	**7.13**	**359**	⇓P	**Pn**	**09 58 49.2**	**+0.6**
	baz=7.2						
120A	**U Bar Ranch, L**	**7.13**	**348**	⇑P	**Pn**	**09 58 49.1**	**+0.5**
	baz=7.1,SNR=15						
124A	**Stringfield Ra**	**7.24**	**10**	P	**Pn**	**09 58 51.1**	**+0.9**
	baz=7.4,SNR=24						
125A	**Gardner Draw,**	**7.36**	**15**	⇓P	**Pn**	**09 58 52.9**	**+1.2**
	baz=7.6,SNR=13						
632A	**Uvalde**	**7.46**	**56**	⇑P	Pn	09 58 49.4	-3.6
	baz=8.0						
TUC	**Tucson**	**7.54**	**334**	Pn	Pn	09 58 50.1	-4.1
431A	**Sonora**	**7.57**	**46**	⇓P	**Pn**	**09 58 53.7**	**-0.8**
	baz=8.0,SNR=5.9						
Z20A	**Nine Sixteen R**	**7.68**	**349**	⇓P	**Pn**	**09 58 56.7**	**+0.6**
	baz=7.7,SNR=8.4						
Z22A	**Elephant Butte**	**7.68**	**360**	⇑P	**Pn**	**09 58 54.3**	**-1.9**
	baz=7.8,SNR=7.6						
532A	**Rocksprings**	**7.71**	**52**	⇑P	**Pn**	**09 58 53.4**	**-3.0**
	baz=8.2						
330A	**Mertzon**	**7.72**	**40**	⇓P	**Pn**	**09 58 55.1**	**-1.6**
	baz=8.1,SNR=10.0						
Z21A	**St. Cloud Mine**	**7.76**	**355**	⇑P	**Pn**	**09 58 58.1**	**+0.7**
	baz=7.8,SNR=8.8						
Z24A	**Sheeppen Canyo**	**7.87**	**10**	⇑P	**Pn**	**09 58 59.6**	**+0.8**
	baz=8.0,SNR=9.7						
Z25A	**Roswell**	**7.94**	**13**	⇓P	**Pn**	**09 59 01.5**	**+1.8**
	baz=8.2,SNR=8.3						
JCT	**Junction City**	**7.98**	**50**	⇑P	**Pn**	**09 58 57.6**	**-2.6**
	baz=8.5						
128A	**Castleberry Fa**	**8.05**	**28**	⇑P	**Pn**	**09 59 02.6**	**+1.4**
	baz=8.4						
331A	**San Angelo**	**8.10**	**43**	⇑P	**Pn**	**09 58 59.7**	**-2.1**
	baz=8.5,SNR=5.0						
432A	**Menard**	**8.23**	**48**	⇑P	**Pn**	**09 59 01.6**	**-2.0**
	baz=8.7						
Y22A	**Socorro**	**8.36**	**360**	⇑P	**Pn**	**09 59 06.4**	**+0.8**
	baz=8.4						
Y23A	**Lovelace Mesa,**	**8.39**	**5**	⇓P	**Pn**	**09 59 07.3**	**+1.4**
	baz=8.5,SNR=8.1						
Y20A	**Horse Springs,**	**8.43**	**352**	⇑P	**Pn**	**09 59 07.5**	**+1.0**
	baz=8.4,SNR=7.4						
Y24A	**Capitan**	**8.45**	**8**	⇓P	**Pn**	**09 59 08.3**	**+1.5**
	baz=8.6,SNR=7.3						
Y21A	**Point of Rocks**	**8.46**	**356**	⇓P	**Pn**	**09 59 07.9**	**+1.0**
	baz=8.5,SNR=7.2						
BNM	**Barren Site**	**8.58**	**2**	*e*Pn	**Pn**	**09 59 05.4**	**-3.1**
BNM				*e*Lg	Lg	10 01 38.3	
231A	**Bronte**	**8.61**	**41**	⇑P	**Pn**	**09 59 08.4**	**-0.4**
	baz=9.0						
LAZ	**Ladron**	**8.83**	**359**	*e*Pn	**Pn**	**09 59 14.1**	**+2.1**
LAZ				*e*Lg	Lg	10 01 52.5	
X21A	**Alamocita Cree**	**8.90**	**355**	⇓P	**Pn**	**09 59 14.6**	**+1.6**
	baz=8.9						
Y27A	**Causey**	**8.93**	**21**	⇓P	**Pn**	**09 59 13.7**	**+0.5**
	baz=9.2,SNR=5.4						
Z29A	**Hungry Hill Ra**	**8.93**	**29**	⇓P	**Pn**	**09 59 13.7**	**+0.5**
	baz=9.3						
X18A	**Snowflake**	**9.33**	**344**	⇑P	**Pn**	**09 59 20.4**	**+1.6**
	baz=9.2						
ANMO	**Albuquerque**	**9.38**	**2**	*e*Pn	**Pn**	**09 59 20.1**	**+0.6**
ANMO	**Albuquerque**	**9.38**	**2**	Pn	**Pn**	**09 59 20.4**	**+1.0**
	0.2nm,0.3s,baz=199,slow=14,SNR=8.1						
ANMO				Lg	Lg	10 02 07.4	
	0.2nm,0.3s,baz=81,slow=19,SNR=3.1						
X16A	**Lo Mia Camp, P**	**9.67**	**337**	⇓P	**Pn**	**09 59 24.3**	**+0.8**
	baz=9.5						
V25A	**Rancho No Teng**	**10.45**	**10**	⇑P	**Pn**	**09 59 35.4**	**+1.3**
	baz=11,SNR=6.5						
U23A	**El Rito**	**10.77**	**3**	⇓P	Pn	09 59 42.5	+3.9
	baz=11,SNR=6.3						
PFO	**Pinyon Flat Ob**	**11.54**	**316**	LR	LR	10 04 06.4	
	comp=Z,113nm,18.8s,baz=164,slow=35						
R22A	**Saguache, Gunn**	**12.64**	**1**	⇓P	Pn	10 00 08.2	+3.9
	baz=13,SNR=6.4						
NVAR	**Mina Array Bea**	**16.05**	**326**	Pn	**P**	**10 00 53.0**	**-0.5**
	0.2nm,0.3s,baz=141,slow=9.6,SNR=8.1						
NVAR				Lg	Lg	10 05 49.5	
	0.0nm,0.3s,baz=120,slow=28,SNR=2.2						
ELK	**Elko**	**16.67**	**337**	P	**P**	**10 00 58.8**	**-1.6**
	0.0nm,0.3s,baz=178,slow=6.0,SNR=3.1						
ELK				Lg	Lg	10 06 09.0	
	0.1nm,0.3s,baz=183,slow=17,SNR=2.9						
ELK				LR	LR	10 07 38.8	
	comp=Z,92nm,19.6s,baz=170,slow=37						
PDAR	**Pinedale Array**	**17.31**	**353**	P	**Pn**	**10 01 05.8**	**-0.4**
	0.0nm,0.3s,baz=147,slow=5.1,SNR=7.2						
PDAR				Lg	Lg	10 06 33.1	
	0.0nm,0.3s,baz=180,slow=33,SNR=3.6						
APG	**El Apazote**	**18.64**	**121**	LR	LR	10 08 17.0	
	comp=Z,88nm,21.5s,baz=251,slow=38						
YBH	**Yreka Blue Hor**	**20.76**	**325**	LR	LR	10 10 30.1	
	comp=Z,54nm,21.4s,baz=328,slow=38						
NEW	**Newport**	**24.05**	**343**	P	**P**	**10 02 18.3**	**-1.1**
	2.7nm,1.0s,baz=143,slow=7.7,SNR=4.1						
NEW				LR	LR	10 12 23.4	
	comp=Z,63nm,18.4s,baz=167,slow=38						
JTS	**JuntasAbangare**	**25.77**	**122**	LR	LR	10 12 22.2	
	comp=Z,143nm,21.9s,baz=316,slow=37						
SADO	**Sadowa**	**29.50**	**42**	LR	LR	10 15 35.4	
	comp=Z,187nm,19.8s,baz=7.3,slow=38						
ILAR	**Eielson Array**	**46.82**	**338**	P	**P**	**10 05 32.3**	**-1.5**
	2.1nm,1.3s,baz=150,slow=7.3,SNR=7.6						
PPT	**Papeete**	**59.66**	**228**	LR	LR	10 25 42.6	
	comp=Z,99nm,20.9s,baz=6.2,slow=29						
KEST	**Kesra**	**94.36**	**47**	LR	LR	10 49 15.1	
	comp=Z,18nm,21.7s,baz=298,slow=33						
HNR	**Honiara**	**96.81**	**263**	LR	LR	10 47 04.9	
	comp=Z,58nm,20.7s,baz=55,slow=31						

IDC 26 10:17:59.6±1.1, 2°.01N×123°.80E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/25, mbtmp3.5/5, Error ellipse: s-maj=67.1km s-min=19.4km az=56.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.14**	**155**	P	P	10 23 17.6	0.0
	0.9nm,0.5s,baz=333,slow=11,SNR=17						
PMG	**Port Moresby**	**25.89**	**116**	P	P	10 23 33.5	0.0
	7.4nm,0.9s,baz=276,slow=10,SNR=3.2						
ASAR	**Alice Springs**	**27.35**	**159**	P	P	10 23 47.1	+0.5
	0.2nm,0.4s,baz=345,slow=7.7,SNR=4.7						
MKAR	**Makanchi Array**	**57.35**	**327**	P	P	10 27 47.7	-2.0
	0.1nm,0.4s,baz=127,slow=8.7,SNR=2.6						
KURBB	**Kurchatov Arra**	**61.65**	**329**	P	P	10 28 20.7	+1.4
	0.2nm,0.5s,baz=130,slow=5.9,SNR=3.8						

BJI 26 10:22:53.4, 31°.68N×104°.40E, h10km, ML3.2/8, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**0.94**	**216**	Pg	Pg	10 23 09.5	-2.2
CD2				Sg	Sg	10 23 23.8	-0.2
CD2				SMN			
	1μm,0.4s						
CD2				SME			
	680nm,0.8s						
LZH	**Lanzhou**	**4.42**	**354**	Pg	Pg	10 24 17.3	-1.0
LZH				Sn	Sn	10 24 55.0	+2.5
LZH				Sg	Sg	10 25 12.5	-3.3
LZH				SMN			
	75nm,0.6s						
LZH				SME			
	76nm,0.7s						
LZH				LR	LR		
	comp=N,200nm,9.6s						
LZH				LR	LR		
	comp=E,370nm,8.8s						
LZH				LR	LR		
	comp=Z,220nm,6.8s						
XAN	**Xi'an**	**4.47**	**57**	Pg	Pb	10 24 13.3	+1.2
XAN				Sg	Sb	10 25 08.5	+2.3
XAN				SMN			
	comp=Z,41nm,0.9s						
XAN				SME			
	comp=Z,28nm,1.0s						

WEL 26 10:24:30.6±0.5, 45°.89S×166°.54E, h19km±3km, ML3.6/10, 3D, Error ellipse: s-maj=7.0km s-min=1.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.30**	**161**	⇓P*	Pg	10 24 36.7	-0.5
PYZ				S*	Sg	10 24 41.5	-0.1
DCZ	**Deep Cove**	**0.59**	**47**	P*	Pb	10 24 41.5	-0.7
DCZ				*e*S*	Sb	10 24 49.1	-1.1
DCZ				AML	AML	10 24 52.9	
DCZ				AML	AML	10 24 54.2	
DCZ				AML	AML	10 24 54.2	
WHZ	**Wether Hill Ro**	**0.98**	**91**	⇓P*	Pb	10 24 48.6	-0.4
WHZ				S*	Sg	10 25 02.3	-0.4
WHZ				AML	AML	10 25 08.4	
MLZ	**Mavora Lakes**	**1.27**	**65**	⇓PN	Pn	10 24 52.7	-0.6
MLZ				AML	AML	10 25 15.7	
MLZ				AML	AML	10 25 16.7	
APZ	**The Paps**	**1.38**	**134**	PN	Pn	10 24 53.1	-1.8
MSZ	**Milford Sound**	**1.56**	**39**	PN	Pn	10 24 55.9	-1.4
MSZ				AML	AML	10 25 27.0	
MSZ				AML	AML	10 25 27.0	
MSZ				AML	AML	10 25 30.9	
MSZ				AML	AML	10 25 31.0	
SYZ	**Scrubby Hill**	**1.92**	**111**	PN	Pn	10 25 02.5	+0.3
WKZ	**Wanaka**	**2.04**	**60**	AML	AML	10 25 37.5	
WKZ				AML	AML	10 25 45.9	
WKZ				AML	AML	10 25 46.3	
EAZ	**Earnscleugh**	**2.05**	**72**	AML	AML	10 25 35.1	
EAZ				AML	AML	10 25 35.9	
EAZ				AML	AML	10 25 39.0	
EAZ				AML	AML	10 25 39.8	
TUZ	**Tuapeka**	**2.16**	**93**	PN	Pn	10 25 06.4	+0.9
TUZ				AML	AML	10 25 36.5	
TUZ				AML	AML	10 25 36.7	
HHSZ	**Highcliff Hill**	**2.83**	**91**	PN	Pn	10 25 15.6	+0.7
LBZ	**Lake Benmore**	**2.98**	**61**	PN	Pn	10 25 17.9	+1.0
LBZ				AML	AML	10 26 05.2	
ODZ	**Otahua Downs**	**3.01**	**75**	PN	Pn	10 25 17.2	0.0

JMA 26 10:28:37.6±0.1, 24°.41N×123°.44E, h69km±1km, M3.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.28**	**106**	P	Pn	10 28 48.4	-0.1
IRIF				S	Sn	10 28 56.8	+0.4
YOJ	**Yonaguni jima**	**0.40**	**278**	P	Pn	10 28 49.4	0.0
YOJ				S	Sn	10 28 57.9	-0.1
HATJ	**Hateruma jima**	**0.48**	**136**	P	Pn	10 28 50.2	0.0
HATJ				S	Sn	10 28 59.3	-0.1
JKRS	**Kuro-shima**	**0.55**	**108**	P	Pn	10 28 51.1	+0.3
JKRS				S	Sn	10 29 01.2	+0.8
JIJ	**Ishigaki jima**	**0.64**	**94**	P	Pn	10 28 51.8	0.0
JIJ				S	Sn	10 29 02.1	-0.1
JTJ	**Tarama**	**1.17**	**78**	P	Pn	10 28 58.6	+0.4
JTJ				S	Sn	10 29 14.1	+0.5
JMJ	**Miyako jima 2**	**1.73**	**76**	P	Pn	10 29 06.5	+0.9
JMJ				*e*S	Sn	10 29 28.1	+1.2
JOGS	**Gusukube**	**1.82**	**79**	P	Pn	10 29 07.8	+1.0
JOGS				*e*S	Sn	10 29 29.9	+0.8
JKE	**Kume jima 2**	**3.58**	**57**	P	Pn	10 29 30.3	-0.4

WEL 26 10:31:01.4±0.6, 46°.18S×166°.07E, h33km, ML3.9/10, Error ellipse: s-maj=7.3km s-min=2.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.42**	**89**	PN	Pb	10 31 10.4	-0.5
PYZ				SN	Sb	10 31 17.5	+0.1
DCZ	**Deep Cove**	**1.03**	**48**	PN	Pn	10 31 33.2	-0.3
DCZ				SN	Sb	10 31 33.7	-0.2
DCZ				AML	AML	10 31 35.2	
DCZ				AML	AML	10 31 37.6	
DCZ				AML	AML	10 31 37.8	
WHZ	**Wether Hill Ro**	**1.34**	**79**	PN	Pn	10 31 24.6	+0.8
WHZ				SN	Sb	10 31 42.4	-0.4
WHZ				AML	AML	10 31 46.6	
APZ	**The Paps**	**1.48**	**117**	PN	Pn	10 31 25.6	-0.2
APZ				*e*SN	Sn	10 31 44.6	+0.6
MLZ	**Mavora Lakes**	**1.69**	**61**	PN	Pb	10 31 30.5	-1.4
MLZ				AML	AML	10 31 57.8	
MLZ				AML	AML	10 31 58.2	
MSZ	**Milford Sound**	**1.99**	**42**	PN	Pn	10 31 34.2	+1.5
MSZ				AML	AML	10 32 16.9	
MSZ				AML	AML	10 32 16.9	
MSZ				AML	AML	10 32 16.9	
MSZ				AML	AML	10 32 16.9	
SYZ	**Scrubby Hill**	**2.16**	**101**	PN	Pn	10 31 35.8	+0.8
EAZ	**Earnscleugh**	**2.46**	**69**	AML	AML	10 32 16.5	
EAZ				AML	AML	10 32 17.3	
EAZ				AML	AML	10 32 18.4	
EAZ				AML	AML	10 32 18.4	
WKZ	**Wanaka**	**2.47**	**58**	AML	AML	10 32 24.4	
WKZ				AML	AML	10 32 34.3	
TUZ	**Tuapeka**	**2.49**	**86**	PN	Pn	10 31 41.1	+1.6
TUZ				AML	AML	10 32 20.0	
TUZ				AML	AML	10 32 28.3	
ODZ	**Otahua Downs**	**3.40**	**72**	PN	Pn	10 31 52.7	+0.5
LBZ	**Lake Benmore**	**3.41**	**60**	AML	AML	10 32 39.9	
LBZ				AML	AML	10 33 10.7	

**NNC

KMI					LR	LR		
	comp=E,280nm,8.2s							
KMI					LR	LR		
	comp=Z,240nm,11.2s							
XAN	**Xi'an**	**5.54**	**32**		Pg	**Pg**	**11 08 25.0**	**-2.9**
XAN					Sg	**Sb**	**11 09 29.0**	**+3.8**
XAN					SMN			
	comp=Z,75nm,1.0s							
XAN					SME			
	comp=Z,47nm,1.0s							
LZH	**Lanzhou**	**6.83**	**349**	*e*Pg		**Pg**	**11 08 50.3**	**-2.3**
LZH					Sg	**Sg**	**11 10 19.0**	**-2.1**
LZH					SMN			
	comp=Z,59nm,0.7s							
LZH					SME			
	comp=Z,79nm,0.8s							
HHC	**Hu-ho-hao-te**	**12.51**	**22**	*e*P		**Pn**	**11 09 42.0**	**+2.0**
HHC					AMB	AMB		
	comp=Z,42nm,1.0s							
HHC					AMB	AMB		
	comp=Z,350nm,5.2s							
SONM	**Songino Array**	**18.46**	**2**	P		**Pn**	**11 10 59.4**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=179,slow=12,SNR=3.4							
SONM					LR	LR	11 18 50.0	
	comp=Z,37nm,19.4s,baz=286,slow=39							
KSRS	**Korea Array**	**20.42**	**61**	P		**P**	**11 11 19.1**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=246,slow=12,SNR=4.7							
KSRS					LR	LR	11 20 07.9	
	comp=Z,22nm,18.2s,baz=250,slow=40							
MKAR	**Makanchi Array**	**25.03**	**320**	P		**P**	**11 12 07.3**	**+1.3**
	comp=Z,1.5nm,0.7s,baz=128,slow=12,SNR=13							
WRA	**Warramunga Arr**	**56.41**	**147**	P		**P**	**11 16 22.3**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=338,slow=8.0,SNR=14							
ASAR	**Alice Springs**	**59.43**	**149**	P		**P**	**11 16 44.5**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=332,slow=7.0,SNR=14							
FINES	**FINESS Array B**	**59.63**	**327**	P		**P**	**11 16 45.2**	**-0.6**
	comp=Z,2.0nm,0.9s,baz=114,slow=6.2,SNR=2.5							

*ISCJB **26** 11:31:11.9±0.7, 41°.22N±0'.05×22°.69E±0'.05, h4km±10km, Error ellipse: s-maj=8.5km s-min=6.6km az=172.4*
*SKO **26** 11:31:12.7, 41°.29N×22°.68E, h1km, M1.2, ML1.6*
*CSEM **26** 11:31:13.4, 41°.21N×22°.72E, h1km, MD2.6, After ATH*
*ATH **26** 11:31:13.4, 41°.21N×22°.72E, h1km±4km, MD2.6/6*

ISC 26 11:31:12.3±1.1, 41°26'N±0'.04×22°71'E±0'.03, h5km±15km, n13, σ0°56/22, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.12**	**301**	*i*	Pg	**Pg**		**11 31 14.5**	**-0.4**
VAY				*i*	Sg	**Sg**		**11 31 16.4**	**-0.3**
VAY				*e*Lg		Lg		11 31 16.4	
	comp=E,246nm,0.2s								
VAY				*e*Lg		Lg		11 31 16.4	
	comp=N,469nm,0.2s								
GRG	**Griva**	**0.38**	**218**	*e*PB		**Pg**		**11 31 20.4**	**+0.7**
GRG				*e*SB		**Sg**		**11 31 25.4**	**+0.7**
GRG	**Griva**	**0.38**	**218**	*e*Pb		**Pg**		**11 31 20.4**	**+0.7**
GRG				*e*Sb		**Sg**		**11 31 25.4**	**+0.7**
SOH	**Sokhos**	**0.65**	**132**	*e*PG		**Pg**		**11 31 25.0**	**+0.1**
SOH				*e*SB		**Sg**		**11 31 33.4**	**+0.1**
SOH	**Sokhos**	**0.65**	**132**	*e*Pg		**Pg**		**11 31 25.0**	**+0.1**
SOH				*e*Sb		**Sg**		**11 31 33.4**	**+0.1**
HORT	**Hortiatis**	**0.72**	**156**	*e*PB		**Pb**		**11 31 26.6**	**-0.8**
HORT				*e*SB		**Sg**		**11 31 35.6**	**+0.1**
HORT	**Hortiatis**	**0.72**	**156**	*e*Pb		**Pb**		**11 31 26.6**	**-0.8**
HORT				*e*Sb		**Sg**		**11 31 35.6**	**+0.1**
NVR	**Nevrokopi**	**0.87**	**84**	*e*PB		**Pg**		**11 31 30.0**	**+1.0**
NVR				*e*SB		**Sb**		**11 31 42.0**	**+0.1**
NVR	**Nevrokopi**	**0.87**	**84**	*e*Pb		**Pg**		**11 31 30.0**	**+1.0**
NVR				*e*Sb		**Sb**		**11 31 42.0**	**+0.1**
PLG	**Polygyros**	**1.04**	**148**	*e*PG		**Pg**		**11 31 32.0**	**-0.3**
PLG	**Polygyros**	**1.04**	**148**	*e*Pg		**Pg**		**11 31 32.0**	**-0.3**
FNA	**Florina**	**1.12**	**245**	*e*PG		**Pb**		**11 31 34.0**	**-0.2**
FNA	**Florina**	**1.12**	**245**	*e*Pg		**Pb**		**11 31 34.0**	**-0.2**

*NEIC **26** 11:32:42.0±0.8, 16°.14N×87°.91W, h10km, mb4.2/7, Error ellipse: s-maj=12.8km s-min=10.8km az=89.0*
NEIC Felt at Choloma, Omoa and San Pedro Sula. Also felt at Dangriga, Belize.
*CASC **26** 11:32:41.0±2.1, 16°.47N×87°.75W, h35km±999km, MD4.4, ML4.7*
*IDC **26** 11:32:43.9±1.3, 16°.08N×88°.27W, h0km, mb3.9/6, mb1 4.2/10, mb1mx3.9/27, mbtmp3.9/10, ML3.7/3, MS3.4/9, Ms1 3.4/9, ms1mx3.1/35, Error ellipse: s-maj=29.8km s-min=17.1km az=51.0*

ISC 26 11:32:41.9±2.8, 16°20'N±0'.04×87°.92W±0'.06, h3km±18km, n162, σ1°23/160, mb4.1/12, MS3.4/7, 45C-59D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRL	**Marmol**	**2.05**	**237**	⇓*e*P			**Pn**	**11 33 15.8**	**-1.6**
TGUH	**Tegucigalpa,Un**	**2.22**	**164**	*e*Pn			**Pn**	**11 33 16.6**	**-3.0**
TGUH				*e*Sn			**Sn**	**11 33 44.9**	**-2.7**
CAHU	**Cacacuatique**	**2.44**	**187**	*e*P			**Pn**	**11 33 22.3**	**-0.4**
CAHU				*e*S			**Sb**	**11 33 55.8**	**-1.1**
LBRS	**Las Brisas**	**2.68**	**204**	*e*P			**Pn**	**11 33 27.3**	**+1.3**
LBRS				*e*S			**Sb**	**11 34 01.1**	**-2.8**
LFU	**La Fuente**	**2.70**	**205**	*e*P			**Pn**	**11 33 27.6**	**+1.3**
APG	**El Apazote**	**2.73**	**244**	Pn			**Pn**	**11 33 24.3**	**-2.5**
APG	**El Apazote**	**2.73**	**244**	Pn			**Pn**	**11 33 24.3**	**-2.5**
	14nm,0.3s,baz=81,slow=8.7,SNR=246								
VSM	**San Miguel**	**2.78**	**187**	*e*P			**Pn**	**11 33 27.6**	**+0.1**
VSM				*e*S			**Sn**	**11 34 03.4**	**+1.6**
BOQS	**Boqueron**	**2.78**	**208**	*e*P			**Pn**	**11 33 28.1**	**+0.5**
BOQS				*e*S			**Sb**	**11 34 04.5**	**-2.5**
LFRS	**El Faro**	**2.79**	**203**	*e*P			**Pn**	**11 33 28.9**	**+1.3**
LFRS				*e*S			**Sb**	**11 34 05.1**	**-2.1**
SNET	**Serv Nac Est T**	**2.80**	**207**	AML		AML	AML	11 34 19.1	
	comp=Z,4μm,0.6s								
RTR	**El Retiro**	**2.83**	**216**	*e*P			**Pn**	**11 33 29.0**	**+0.8**
SNJE	**San Jose**	**2.83**	**215**	*e*P			**Pn**	**11 33 28.5**	**+0.2**
SNJE				*e*S			**Sb**	**11 34 07.1**	**-1.4**
NBG	**Las Nubes**	**2.84**	**236**	*e*P			**Pn**	**11 33 27.4**	**-1.0**
NBG				*e*S			**Sg**	**11 34 16.2**	**+3.1**
SBLS	**San Blas**	**2.87**	**215**	*e*P			**Pn**	**11 33 30.0**	**+1.2**
SBLS				*e*S			**Sb**	**11 34 07.1**	**-2.4**
CNCH	**Conchagua**	**2.91**	**178**	*e*P			**Pn**	**11 33 28.8**	**-0.4**
CNCH				*e*S			**Sn**	**11 34 05.1**	**+0.3**
FUG	**Fuego 3**	**3.31**	**239**	⇓*e*P			**Pn**	**11 33 34.1**	**-0.7**
TEIG	**Tepich**	**4.02**	**355**	*e*Pn			Pn	11 33 41.2	-3.1
CCIG	**Comitan**	**4.05**	**272**	P			**Pn**	**11 33 44.9**	**-0.1**
THIG		**4.38**	**253**	P			Pn	11 33 39.0	-10
TGIG		**5.02**	**277**	P			**Pn**	**11 33 58.3**	**+0.1**
PCIG		**5.12**	**265**	P			**Pn**	**11 33 58.8**	**-0.7**
PCIG				S			**Sn**	**11 34 58.5**	**-0.6**
JTS	**JuntasAbangare**	**6.55**	**153**	*e*Pn			**Pn**	**11 34 19.0**	**-0.2**
	comp=Z,105nm,0.8s								
JTS				*e*Sg			Sb	11 36 02.1	+6.8
JTS	**JuntasAbangare**	**6.55**	**153**	Pn			**Pn**	**11 34 21.4**	**+2.2**
	comp=Z,0.7nm,0.3s,baz=300,slow=20,SNR=2.3								
JTS				Lg		Lg		11 36 02.6	
	comp=Z,1.6nm,0.3s,baz=227,slow=19,SNR=7.4								
JTS				LR		LR		11 36 36.5	
	comp=Z,115nm,18.5s,baz=151,slow=35								
HUIG	**Huatulco**	**7.89**	**268**	P			**Pn**	**11 34 34.9**	**-2.6**
PNIG	**Pinotepa**	**9.80**	**273**	P			**Pn**	**11 35 02.5**	**-1.3**
732A	**Laxson Ranch,**	**16.70**	**320**	⇓P			**Pn**	**11 36 35.4**	**-1.6**
	baz=17								
632A	**Uvalde**	**17.15**	**323**	⇑P			**Pn**	**11 36 41.7**	**-1.0**
	baz=17								
ROSC	**El Rosal**	**17.47**	**129**	LR			LR	11 44 05.1	
	comp=Z,128nm,18.7s,baz=201,slow=39								
631A	**Perdido Creek**	**17.56**	**321**	⇑P			**Pn**	**11 36 46.7**	**-1.0**
	baz=18								
532A	**Rocksprings**	**17.68**	**324**	⇓P			**Pn**	**11 36 49.0**	**-0.4**
	baz=18								
WHTX	**Lake Whitney**	**17.95**	**333**	⇑P			**P**	**11 36 53.5**	**+0.3**
	baz=18								
531A	**Rocksprings**	**18.08**	**322**	⇓P			**Pn**	**11 36 52.6**	**-1.6**
	baz=18,SNR=7.2								
432A	**Menard**	**18.19**	**325**	⇑P			**Pn**	**11 36 55.5**	**-0.1**
	baz=18								
431A	**Sonora**	**18.50**	**323**	⇑P			**P**	**11 36 58.6**	**-0.7**
	baz=19								
530A	**J-C Ranch, Com**	**18.54**	**321**	⇑P			**P**	**11 36 59.6**	**-0.2**
	baz=19								
332A	**Millersview**	**18.56**	**327**	⇑P			**P**	**11 36 59.7**	**-0.3**
	baz=19								
331A	**San Angelo**	**18.87**	**325**	⇓P			**P**	**11 37 03.2**	**-0.2**
	baz=19								
430A	**Baggett Ranch,**	**18.94**	**322**	⇓P			**P**	**11 37 03.3**	**-0.9**
	baz=19								
529A	**Stev Forest Ra**	**19.07**	**319**	⇓P			**P**	**11 37 05.6**	**0.0**
	baz=19								
628A	**Black Gap, Mar**	**19.08**	**316**	⇓P			**P**	**11 37 05.7**	**0.0**
	baz=19,SNR=9.3								
429A	**Davenport Ranc**	**19.22**	**321**	⇓P			**P**	**11 37 06.0**	**-1.3**
	baz=19								
330A	**Mertzon**	**19.36**	**324**	⇑P			**P**	**11 37 07.6**	**-1.3**
	baz=20								
627A	**Terlingua Ranc**	**19.39**	**316**	⇑P			**P**	**11 37 08.0**	**-1.1**
	baz=20,SNR=12								
TXAR	**Lajitas Array**	**19.50**	**315**	P			**Pn**	**11 37 11.4**	**-0.1**
TXAR				S			**Sn**	**11 40 51.0**	**-0.1**
TXAR	**Lajitas Array**	**19.50**	**315**	P			**Pn**	**11 37 11.4**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=133,slow=10,SNR=17								
TXAR				S			**Sn**	**11 40 51.0**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=148,slow=28,SNR=2.5								
TKL	**Tuckaleechee C**	**19.73**	**10**	P			**Pn**	**11 37 16.2**	**+2.2**
TKL	**Tuckaleechee C**	**19.73**	**10**	P			**Pn**	**11 37 16.2**	**+2.2**
	comp=Z,0.7nm,0.3s,baz=177,slow=12,SNR=5.8								
428A	**Kincaid Ranch,**	**19.78**	**320**	⇓P			**P**	**11 37 12.3**	**-1.0**
	baz=20								
WVT	**Waverly**	**19.85**	**0**	P			**P**	**11 37 13.9**	**0.0**
	comp=Z,8.5nm,0.8s								
626A	**Big Bend Ranch**	**19.96**	**315**	⇑P			**P**	**11 37 15.9**	**+0.5**
	baz=20,SNR=5.2								
Z32A	**Haskell**	**19.98**	**331**	⇓P			**P**	**11 37 16.0**	**+0.6**
	baz=20								
527A	**Woodward Ranch**	**19.98**	**317**	⇑P			**P**	**11 37 15.5**	**-0.2**
	baz=20								
526A	**Mary Lane Ranc**	**20.25**	**316**	⇓P			**P**	**11 37 18.2**	**-0.4**
	baz=20								
Z31A	**Sharp Cattle R**	**20.30**	**329**	⇑P			**P**	**11 37 18.7**	**-0.3**
	baz=20								
328A	**Wristen Ranch,**	**20.31**	**321**	⇑P			**P**	**11 37 19.2**	**+0.1**
	baz=20								
427A	**Hayter Ranch,**	**20.31**	**319**	⇑P			**P**	**11 37 18.8**	**-0.4**
	baz=20								
Y32A	**R-V Farms, Ver**	**20.54**	**332**	⇑P			**P**	**11 37 21.7**	**+0.2**
	baz=21								
426A	**McDonald Obser**	**20.60**	**317**	⇓P			**P**	**11 37 22.1**	**-0.3**
	baz=21								
129A	**Stewart Farms,**	**20.67**	**325**	⇓P			**P**	**11 37 22.2**	**-0.8**
	baz=21								
Z30A	**Sanderson Ranc**	**20.78**	**327**	⇓P			**P**	**11 37 22.5**	**-1.6**
	baz=21								
TUL1	**Tulsa**	**20.84**	**342**	⇑P			Pn	11 37 27.9	+0.6
	baz=21								
Y31A	**Rekieta Farm,**	**20.89**	**330**	⇓P			**P**	**11 37 24.4**	**-0.9**
	baz=21								
326A	**Caldwell Ranch**	**20.99**	**319**	⇑P			**P**	**11 37 25.4**	**-1.2**
	baz=21								
128A	**Castleberry Fa**	**21.01**	**324**	⇑P			**P**	**11 37 25.6**	**-1.1**
	baz=21								
227A	**Bennet, Jal**	**21.04**	**321**	⇑P			**P**	**11 37 26.6**	**-0.5**
	baz=21								
Z29A	**Hungry Hill Ra**	**21.06**	**326**	⇓P			**P**	**11 37 26.6**	**-0.7**
	baz=21								
425A	**Indio Mountain**	**21.30**	**316**	⇓P			**P**	**11 37 30.4**	**+0.4**
	baz=21								
X31A	**McDonald Ranch**	**21.30**	**332**	⇑P			**P**	**11 37 30.9**	**+1.1**
	baz=21								
Z28A	**Tucker Farm, M**	**21.45**	**325**	⇓P			**P**	**11 37 31.3**	**-0.2**
	baz=22								
SIUC	**Southern Illin**	**21.46**	**357**	*e*P			**P**	**11 37 29.9**	**-1.5**
	comp=Z,36nm,1.1s								
Y29A	**Porterfield Fa**	**21.51**	**327**	⇑P			**P**	**11 37 31.9**	**-0.2**
	baz=22								
127A	**Arkansas Junct**	**21.55**	**322**	⇓P			**P**	**11 37 31.9**	**-0.7**
	baz=22								
X30A	**Coker Ranch, T**	**21.57**	**330**	⇓P			**P**	**11 37 32.7**	**-0.1**
	baz=22								
226B	**Tecolote Peak,**	**21.62**	**320**	⇓P			**P**	**11 37 33.1**	**-0.2**
	baz=22,SNR=7.0								
325A	**Bean Ranch, Si**	**21.67**	**317**	⇑P			**P**	**11 37 32.9**	**-1.0**
	baz=22								
Y28A	**McKinney Farm,**	**21.85**	**326**	⇑P			**P**	**11 37 35.0**	**-0.8**
	baz=22								
Z27A	**Tatum**	**21.93**	**324**	⇓P			**P**	**11 37 35.8**	**-0.9**
	baz=22								
324A	**Moseley Ranch,**	**22.05**	**317**	⇓P			**P**	**11 37 37.8**	**-0.2**
	baz=22								
225A	**Deer Hill, Car**	**22.05**	**319**	⇓P			**P**	**11 37 37.8**	**-0.3**
	baz=22								
MNTX	**Cornudas Mount**	**22.14**	**317**	*e*P			**P**	**11 37 38.4**	**-0.5**
	comp=Z,5.3nm,1.1s								
MSTX	**Muleshoe**	**22.18**	**326**	⇑P			**P**	**11 37 38.6**	**-0.7**
	baz=22								
V31A	**Spring Creek L**	**22.20**	**334**	⇑P			**P**	**11 37 40.3**	**+0.7**
	baz=22								
X28A	**Dimmitt**	**22.29**	**328**	⇓P			**P**	**11 37 39.6**	**-1.0**
	baz=22								
AMTX	**Amarillo**	**22.32**	**329**	⇓P			**P**	**11 37 40.8**	**0.0**
	baz=22								
125A	**Gardner Draw,**	**22.32**	**320**	⇓P			**P**	**11 37 39.3**	**-1.6**
	baz=22,SNR=7.5								
Y27A	**Causey**	**22.32**	**325**	⇑P			**P**	**11 37 40.2**	**-0.7**
	baz=22,SNR=7.2								
Z26A	**Caprock**	**22.34**	**322**	⇑P			**P**	**11 37 39.9**	**-1.3**
	baz=22								
LPIG	**La Paz**	**22.42**	**294**	LR			LR	11 47 20.9	
	comp=Z,185nm,18.0s,baz=105,slow=40								
OLIL	**Olney**	**22.45**	**360**	*e*P			**P**	**11 37 40.4**	**-1.6**
	comp=Z,25nm,1.0s								
Z25A	**Roswell**	**22.79**	**321**	⇑P			**P**	**11 37 44.8**	**-1.1**
	baz=23								
124A	**Stringfield Ra**	**22.85**	**319**	⇓P			**P**	**11 37 46.8**	**+0.3**
	baz=23,SNR=14								
X27A	**F and S Farms,**	**22.86**	**326**	⇑P			**P**	**11 37 46.3**	**-0.3**
	baz=23								
W27A	**Bowe Ranch, En**	**23.16**	**327**	⇑P			**P**	**11 37 48.9**	**-0.9**
	baz=23								
X26A	**CR and CF Fran**	**23.18**	**325**	⇑P			**P**	**11 37 49.1**	**-0.9**
	baz=23								
U30A	**WK&E Inc. Balk**	**23.19**	**333**	⇓P			**P**	**11 37 49.8**	**-0.2**
	baz=23								
Z24A	**Sheeppen Canyo**	**23.21**	**320**	⇓P			**P**	**11 37 50.4**	**0.0**
	baz=23,SNR=11								
Y25A	**Mesa, Roswell**	**23.22**	**323**	⇑P			**P**	**11 37 50.3**	**-0.1**
	baz=23								
W26A	**Owens Ranch, T**	**23.56**	**326**	⇑P			**P**	**11 37 52.8**	**-0.9**
	baz=24								
Y24A	**Capitan**	**23.67**	**321**	⇓P			**P**	**11 37 54.5**	**-0.4**
	baz=24,SNR=21								
Z23A	**Rita Site, Whi**	**23.71**	**319**	⇑P			**P**	**11 37 54.7**	**-0.6**
	baz=24								
122A	**Conniff Cattle**	**23.84**	**317**	⇓P			**P**	**11 37 56.3**	**-0.2**
	baz=24								
T29A	**Hugoton**	**24.00**	**333**	⇑P			**P**	**11 37 58.2**	**+0.2**
	baz=24								
W25A	**X Bar L Ranch,**	**24.03**	**325**	⇓P			**P**	**11 37 57.3**	**-1.0**
	baz=24								
Y23A	**Lovelace Mesa,**	**24.04**	**321**	⇑P			**P**	**11 37 59.2**	**+0.7**
	baz=24,SNR=17								
320A	**Kipp Ranch, An**	**24.07**	**312**	⇓P			**P**	**11 37 59.2**	**+0.4**
	baz=24								
V26A	**Tequesquite Ra**	**24.10**	**327**	⇓P			**P**	**11 37 58.7**	**-0.3**
	baz=24								
U27A	**Thompson Grove**	**24.11**	**329**	⇓P			**P**	**11 37 58.8**	**-0.2**
	baz=24								
Z22A	**Elephant Butte**	**24.17**	**318**	⇑P			**P**	**11 37 59.6**	**0.0**
	baz=24,SNR=5.1								
121A	**Cookes Peak, D**	**24.26**	**316**	⇑P			**P**	**11 38 00.6**	**+0.1**
	baz=24								
220A	**Playas Peak, P**	**24.39**	**314**	⇑P			**P**	**11 38 02.1**	**+0.4**
	baz=24								
R30A	**Dighton**	**24.54**	**336**	⇓P			**P**	**11 38 03.4**	**+0.5**
	baz=25								
U26A	**Atchley Ranch,**	**24.54**	**328**	⇓P			**P**	**11 38 04.2**	**+1.1**
	baz=25								
BNM	**Barren Site**	**24.54**	**320**	*e*P			**P**	**11 38 02.7**	**-0.5**
	comp=Z,4.6nm,1.0s								
W24A	**Lazy 6 Ranch,**	**24.55**	**324**	⇓P			**P**	**11 38 04.2**	**+0.9**
	baz=25,SNR=7.3								
V25A	**Rancho No Teng**	**24.58**	**326**	⇓P			**P**	**11 38 03.8**	**+0.4**
	baz=25								
Y22A	**Socorro**	**24.61**	**319**	⇑P			**P**	**11 38 05.0**	**+1.3**
	baz=25,SNR=28								
319A	**Douglas**	**24.63**	**312**	⇑P			**P**	**11 38 04.3**	**+0.4**
	baz=25								
Z21A	**St. Cloud Mine**	**24.66**	**317**	⇓P			**P**	**11 38 05.2**	**+1.0**
	baz=25								
LENM	**Lemitar**	**24.77**	**320**	*e*P			**P**	**11 38 05.9**	**+0.8**
	comp=Z,11nm,1.2s								
120A	**U Bar Ranch, L**	**24.84**	**315**	⇓P			**P**	**11 38 06.7**	**+0.9**
	baz=25								
V24A	**Rampart Ranch,**	**24.85**	**325**	⇓P			**P**	**11 38 06.4**	**+0.4**
	baz=25								
U25A	**Circle Dot Ran**	**24.89**	**327**	⇑P			**P**	**11 38 07.0**	**+0.8**
	baz=25								
W23A	**Werner Place,**	**24.95**	**323**	⇓P			**P**	**11 38 07.7**	**+0.9**
	baz=25,SNR=8.5								
ANMO	**Albuquerque**	**24.98**	**322**	P			**P**	**11 38 08.3**	**+1.2**
ANMO	**Albuquerque**	**24.98**	**322**	P			**P**	**11 38 08.3**	**+1.2**
	comp=Z,1.8nm,0.9s,baz=141,slow=12,SNR=4.8								
LAZ	**Ladron**	**25.02**	**320**	*e*P			**P**	**11 38 08.3**	**+0.8**
	comp=Z,1.5nm,0.7s								
ATAH	**Atahualpa**	**25.03**	**157**	LR			LR	11 46 57.9	
	comp=Z,104nm,18.6s,baz=167,slow=34								
Y21A	**Point of Rocks**	**25.10**	**319**	⇓P			**P**	**11 38 10.0**	**+1.8**
	baz=25,SNR=11								
P32A	**Huiting Farm,**	**25.13**	**340**	⇓P			**P**	**11 38 11.5**	**+3.3**
	baz=25								
Z20A	**Nine Sixteen R**	**25.15**	**316**	⇓P			**P**	**11 38 09.9**	**+1.3**
	baz=25								
R28A	**Tribune**	**25.21**	**334**	⇑P			**P**	**11 38 10.0**	**+1.0**
	baz=25								
Q29A	**Oakley**	**25.34**	**336**	⇓P			**P**	**11 38 11.7**	**+1.6**
	baz=26								
S26A	**Kim**	**25.37**	**330**	⇓P			**P**	**11 38 10.8**	**+0.3**
	baz=26								
V23A	**Ortiz Mt. (NFS**	**25.38**	**324**	⇓P			**P**	**11 38 11.6**	**+1.0**
	baz=26								
T25A	**Trinidad**	**25.46**	**328**	⇓P			**P**	**11 38 13.1**	**+1.8**
	baz=26								
X21A	**Alamocita Cree**	**25.46**	**319**	⇓P			**P**	**11 38 12.6**	**+1.2**
	baz=26,SNR=14								
Y20A	**Horse Springs,**	**25.49**	**318**	⇓P			**P**	**11 38 12.4**	**+0.6**
	baz=26,SNR=7.7								
U23A	**El Rito**	**25.80**	**324**	⇓P			**P**	**11 38 15.1**	**+0.6**
	baz=26								
T24B	**San Luis**	**25.90**	**327**	⇓P			**P**	**11 38 18.2**	**+2.7**
	baz=26								
X20A	**Quemado**	**25.97**	**319**	⇓P			**P**	**11 38 18.8**	**+2.7**
	baz=26,SNR=12								
W20A	**Ramah**	**26.34**	**320**	⇑P			**P**	**11 38 22.0**	**+2.5**
	baz=26								
U21A	**Nageezi**	**26.71**	**323**	⇑P			**P**	**11 38 25.2**	**+2.5**
	baz=27								
V20A	**Brimhall**	**26.76**	**321**	⇓P			**P**	**11 38 25.7**	**+2.5**
	baz=27								
SADO	**Sadowa**	**29.43**	**13**	LR			LR	11 51 28.2	
	comp=Z,45nm,18.1s,baz=178,slow=38								
ELK	**Elko**	**34.02**	**321**	P			**P**	**11 39 29.5**	**+2.1**
ELK	**Elko**	**34.02**	**321**	P			**P**	**11 39 29.5**	**+2.1**
	comp=Z,0.3nm,0.3s,baz=94,slow=23,SNR=2.2								
ULM	**Lac du Bonnet**	**34.56**	**351**	LR			LR	11 52 52.5	
	comp=Z,50nm,21.5s,baz=313,slow=35								
NVAR	**Mina Array Bea**	**34.65**	**316**	P			**P**	**11 39 33.5**	**+0.7**
NVAR	**Mina Array Bea**	**34.65**	**316**	P			**P**	**11 39 33.5**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=125,slow=8.0,SNR=8.0								
LPAZ	**La Paz**	**37.73**	**148**	LR			LR	11 55 33.1	
	comp=Z,55nm,19.9s,baz=171,slow=36								
YKA	**Yellowknife Ar**	**49.90**	**344**	P			P	11 41 39.6	+3.2
YKA	**Yellowknife Ar**	**49.90**	**344**	P			P	11 41 39.6	+3.2
	comp=Z,1.7nm,0.8s,baz=137,slow=7.8,SNR=3.2								
DLBC	**Dease Lake**	**52.35**	**334**	P			P	11 41 59.0	+3.9
DLBC	**Dease Lake**	**52.35**	**334**	P			P	11 41 59.0	+3.9
	comp=Z,3.8nm,0.8s,baz=111,slow=11,SNR=4.7								
ILAR	**Eielson Array**	**62.43**	**336**	P			**P**	**11 43 07.8**	**+1.7**
ILAR	**Eielson Array**	**62.43**	**336**	P			**P**	**11 43 07.8**	**+1.7**
	comp=Z,1.3nm,0.8s,baz=130,slow=4.8,SNR=16								
ILAR				LR			LR	12 12 07.0	
	comp=Z,43nm,18.1s,baz=190,slow=38								
IDI	**Anoyia**	**98.35**	**50**	LR			LR	12 25 59.5	
	comp=Z,24nm,19.3s,baz=77,slow=32								
WRA	**Warramunga Arr**	**139.73**	**258**	PKPpre			PKPpre	11 52 03.6	
WRA				PKP			**

RRRZ			S*	Sn	11 47 18.3	+0.6
RIGZ	**Rimuhau**	**1.31 175**	PN	Pn	11 47 00.7	-0.6
SNGZ	**Shannon Statio**	**1.40 189**	PN	Pn	11 47 02.5	+0.1
PRRZ	**Plateau Road**	**1.46 221**	⇓P*	Pn	11 47 03.3	+0.1
ALRZ	**Allen Road**	**1.54 221**	P*	Pn	11 47 04.4	+0.2
RAHZ	**Arahi**	**1.57 195**	PN	Pn	11 47 04.7	0.0
KNZ	**Kokohu**	**1.62 179**	PN	Pn	11 47 04.3	-0.8
KUZ	**Kuaotunu**	**1.65 293**	⇓PN	Pn	11 47 05.6	0.0
MHGZ	**Mahia Peninsul**	**1.77 173**	PN	Pn	11 47 06.4	-0.8
BKZ	**Black Stump Fm**	**1.98 206**	PN	Pn	11 47 09.9	-0.2
MKAZ	**Moumakai**	**1.98 278**	⇓PN	Pn	11 47 10.4	+0.4
KAHZ	**Kahuranaki**	**2.46 193**	PN	Pn	11 47 15.3	-1.3
WNVZ	**Wahianoa**	**2.50 219**	PN	Pn	11 47 18.5	+1.3
PXZ	**Pawanui**	**2.69 192**	PN	Pn	11 47 17.1	-2.5
PNHZ	**Pukenui**	**2.75 203**	PN	Pn	11 47 19.3	-1.1
TSZ	**Takapari Road**	**2.96 206**	PN	Pn	11 47 21.4	-1.9
PRHZ	**Porangahau**	**2.96 195**	PN	Pn	11 47 20.9	-2.5
BFZ	**Birch Farm**	**3.45 198**	PN	Pn	11 47 26.9	-3.0
MRZ	**Mangatainoka R**	**3.62 205**	PN	Pn	11 47 29.6	-2.6

CASC 26 12:18:34.5±1.1, 13°06′N×89°15′W, h35km±733km, MD3.5, 1C-1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.57**	**8**	*e*P	Pn	12 18 46.3	0.0
LFRS				*e*S	Sn	12 18 55.4	+0.9
SNVI	**San Vicente**	**0.63**	**29**	*e*P	Pn	12 18 47.1	0.0
SNVI				*e*S	Sn	12 18 56.8	+0.7
SNET	**Serv Nac Est T**	**0.63**	**353**	*e*P	Pn	12 18 47.0	-0.1
LBRS	**Las Brisas**	**0.68**	**8**	*e*P	Pn	12 18 48.0	+0.2
BOQS	**Boqueron**	**0.68**	**349**⇓	*e*P	Pn	12 18 48.1	+0.1
BOQS				*e*S	Sn	12 18 58.1	+0.5
LFU	**La Fuente**	**0.69**	**3**	*e*P	Pn	12 18 48.0	+0.1
LFU				*e*S	Sn	12 18 58.3	+0.9
SBLS	**San Blas**	**0.90**	**329**	*e*P	Pn	12 18 50.9	-0.2
SBLS				*e*S	Sn	12 19 04.5	+1.4
SNJE	**San Jose**	**0.92**	**331**	*e*P	Pn	12 18 51.1	-0.1
SNJE				*e*S	Sn	12 19 03.9	+0.4
VSM	**San Miguel**	**0.93**	**67**	*e*P	Pn	12 18 51.1	-0.3
VSM				*e*S	Sn	12 19 04.5	+0.8
BLLM	**Bellamira**	**0.96**	**67**	*e*P	Pn	12 18 52.0	+0.3
BLLM				*e*S	Sn	12 19 04.5	+0.3
RTR	**El Retiro**	**0.96**	**330**⇓	*e*P	Pn	12 18 52.1	+0.3
RTR				*e*S	Sn	12 19 04.7	+0.3
RBDL	**Robledal**	**1.17**	**333**	*e*P	Pn	12 18 54.7	0.0
CNCH	**Conchagua**	**1.30**	**80**	*e*P	Pn	12 18 56.0	-0.3
CNCH				*e*S	Sn	12 19 12.8	+0.3
FUG	**Fuego 3**	**2.15**	**310**	*e*P	Pn	12 19 08.9	+0.8
COPN	**Copaltepe**	**2.64**	**109**	*e*P	Pn	12 19 14.2	-0.5

*ISCJB **26** 12:23:58.0±0.4, 8°92S±0°04×118°99E±0°04, h102km, mb4.0/5, Error ellipse: s-maj=6.4km s-min=4.4km az=27.6*
*IDC **26** 12:23:59.5±2.3, 8°78S×118°97E, h107km±18km, mb3.7/6, mb1 3.8/9, mb1mx3.6/24, mbtmp3.7/9, Error ellipse: s-maj=29.4km s-min=8.8km az=59.0*
*DJA **26** 12:24:00.7±0.4, 9°S±6′×11°9E±°, h66km±15km, M4.5/4, mB5.1/3, mb4.8/4, MLv4.4/3, Mw(mB)4.4/3*
*AUST **26** 12:24:00.1±0.0, 8°82S×119°13E, h112km, Error ellipse: s-maj=1.0km s-min=0.9km az=4.0*

ISC 26 12:23:58.7±0.6, 8°91S±0°05×118°98E±0°05, h102km, n43, σ1°83/41, mb4.1/5, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.83**	**151**	P	**Pn**	**12 24 17.3**	**-0.4**
WSI	**Waingapu**	**1.50**	**120**	P	**Pn**	**12 24 26.2**	**+1.0**
WSI	**Waingapu**	**1.50**	**120**	P	**Pn**	**12 24 26.1**	**+1.0**
	baz=1.4,SNR=26						
MTNI	**Mataram**	**2.79**	**275**	P	**Pn**	**12 24 42.8**	**+1.1**
MMRI	**Maumere**	**3.23**	**85**	P	Pn	12 24 50.7	+3.0
DNP	**Denpasar**	**3.73**	**273**	P	**Pn**	**12 24 55.1**	**+0.8**
BKSI	**Bulukumba**	**3.74**	**18**	P	**Pn**	**12 24 56.4**	**+1.8**
SRBI	**Singaraja**	**3.81**	**282**	P	**Pn**	**12 24 55.4**	**-0.1**
KAPI	**Kappang**	**3.95**	**11**	P	**Pn**	**12 24 57.9**	**+0.6**
	4.1nm,0.3s,baz=185,slow=8.3,SNR=14						
KAPI				S	**Sn**	**12 25 41.7**	**-1.0**
	14nm,0.3s,baz=287,slow=23,SNR=13						
BNSI	**Bone**	**4.62**	**14**	P	**Pn**	**12 25 09.1**	**+2.7**
BATI	**Baumata**	**4.80**	**106**	P	**Pn**	**12 25 11.1**	**+2.3**
BATI	**Baumata**	**4.80**	**106**	P	**Pn**	**12 25 11.2**	**+2.3**
	35nm,0.3s,baz=282,slow=3.7,SNR=34						
BATI				S	**Sn**	**12 26 04.4**	**+1.1**
	34nm,0.3s,baz=301,slow=23,SNR=9.2						
ABJI	**Asem Bagus**	**4.82**	**283**	P	**Pn**	**12 25 10.5**	**+1.4**
SOEI	**Soe**	**5.29**	**100**	P	**Pn**	**12 25 17.3**	**+1.8**
	84nm,0.8s,2μm						
SOEI	**Soe**	**5.29**	**100**	P	**Pn**	**12 25 17.2**	**+1.6**
	baz=5.2,SNR=13						
BLJI	**Banyuglugur**	**5.45**	**282**	P	**Pn**	**12 25 18.3**	**+0.7**
	114nm,0.5s						
GMJI	**Gumukmas**	**5.51**	**276**	P	**Pn**	**12 25 17.0**	**-1.4**
	93nm,0.7s,2μm						
TTSI	**Tana Toraja**	**5.89**	**8**	P	Pn	12 25 27.2	+3.6
PWJI	**Pagerwojo**	**7.15**	**277**	P	**Pn**	**12 25 42.1**	**+1.4**
SJI	**Sawahan**	**7.23**	**279**	P	Pn	12 25 47.1	+5.2
UGM	**Wanagama**	**8.42**	**276**	P	Pn	12 26 03.2	+5.1
	baz=8.6,SNR=5.6						
FITZ	**Fitzroy Crossi**	**11.20**	**145**	P	**Pn**	**12 26 35.0**	**-0.7**
	baz=11,SNR=11						
FITZ	**Fitzroy Crossi**	**11.20**	**145**	P	**Pn**	**12 26 34.5**	**-1.2**
	0.5nm,0.3s,baz=331,slow=5.2,SNR=13						
FITZ				S	Sn	12 28 30.7	-8.2
	1.9nm,0.3s,baz=187,slow=19,SNR=12						
KNRA	**Kununurra**	**11.69**	**126**	P	**Pn**	**12 26 41.2**	**-1.0**
	baz=12,SNR=29						
MTN	**Manton Dam**	**12.56**	**109**	P	**Pn**	**12 26 52.4**	**-1.5**
	baz=12,SNR=62						
KDU	**Kakadu**	**13.78**	**107**	P	**Pn**	**12 27 08.7**	**-1.1**
	baz=14,SNR=16						
GIRL	**Giralia**	**14.39**	**198**	P	**P**	**12 27 21.1**	**-0.5**
	baz=15,SNR=5.8						
FAKI	**Fak Fak**	**14.48**	**67**	P	**Pn**	**12 27 17.9**	**-0.9**
	baz=14,SNR=15						
MEEK	**Meekatharra**	**17.63**	**181**	P	**Pn**	**12 27 59.3**	**+1.3**
	baz=18,SNR=7.7						
WRA	**Warramunga Arr**	**18.46**	**128**	P	**P**	**12 28 06.5**	**-0.2**
	0.9nm,0.3s,baz=303,slow=13,SNR=62						
WRA				S	**S**	**12 31 25.2**	**-7.1**
	0.4nm,0.3s,baz=308,slow=24,SNR=8.0						
WRA				ScP	**ScP**	**12 35 59.9**	**+0.3**
	0.1nm,0.3s,baz=317,slow=2.1,SNR=6.6						
MORW	**Morawa**	**20.24**	**187**	P	Pn	12 28 34.4	+5.7
	baz=20,SNR=3.9						
ASAR	**Alice Springs**	**20.48**	**138**	P	Pn	12 28 30.4	-1.3
	3.5nm,0.6s,baz=320,slow=11,SNR=95						
ASAR				S	**S**	**12 32 16.0**	**+3.8**
	0.6nm,0.6s,baz=307,slow=22,SNR=6.2						
ASAR				ScP	**ScP**	**12 36 03.8**	**-0.3**
	0.7nm,0.6s,baz=317,slow=2.3,SNR=6.4						
COEN	**Coen**	**24.23**	**104**	P	**P**	**12 29 07.5**	**+1.1**
	baz=24,SNR=16						
STKA	**Stephens Creek**	**31.03**	**141**	P	**P**	**12 30 08.9**	**+1.9**
	baz=31,SNR=9.1						
STKA	**Stephens Creek**	**31.03**	**141**	P	**P**	**12 30 08.1**	**+1.1**
	3.0nm,0.6s,baz=302,slow=9.9,SNR=12						
STKA				PcP	**PcP**	**12 33 00.8**	**+0.3**
	1.5nm,0.8s,baz=282,slow=3.9,SNR=2.8						
H08S2	**Diego Garcia H**	**45.99**	**268**	T	T	13 21 50.2	
	baz=96,slow=0.7,SNR=10						
H08S3	**Diego Garcia H**	**46.01**	**268**	T	T	13 21 51.6	
	baz=96,slow=0.7,SNR=6.7						
H08S1	**Diego Carcia H**	**46.01**	**268**	T	T	13 21 53.4	
	baz=96,slow=0.7,SNR=7.4						
SONM	**Songino Array**	**57.59**	**350**	P	**P**	**12 33 37.6**	**-0.4**
	1.2nm,0.7s,baz=167,slow=7.4,SNR=7.2						
MKAR	**Makanchi Array**	**64.37**	**333**	P	**P**	**12 34 22.9**	**-0.9**
	1.1nm,0.6s,baz=143,slow=7.8,SNR=13						
ZALV	**Zalesovo Beam**	**68.95**	**339**	P	**P**	**12 34 51.1**	**-1.6**
	1.6nm,0.6s,baz=145,slow=5.5,SNR=9.1						
VNDA	**Vanda**	**72.08**	**171**	P	**P**	**12 35 13.4**	**+2.0**
	0.4nm,0.4s,baz=311,slow=5.0,SNR=8.8						
TORD	**Torodi Ar. Bea**	**118.42**	**280**	PKP	**PKPdf**	**12 42 35.3**	**-0.1**
	0.3nm,0.6s,baz=62,slow=1.7,SNR=4.1						

*ISCJB **26** 12:30:15.7±1.0, 12°7S±0°2×166°3E±0°1, h59km, mb3.8/9, MS3.4/1, Error ellipse: s-maj=25.6km s-min=17.7km az=147.1*
*IDC **26** 12:30:16.1±6.0, 12°66S×166°42E, h52km±48km, mb3.6/9, mb1 3.8/10, mb1mx3.7/21, mbtmp3.7/10, ML4.7/1, MS3.2/2, Ms1 3.2/2, ms1mx2.9/18, Error ellipse: s-maj=49.1km s-min=23.7km az=133.0*

ISC 26 12:30:17.0±1.1, 12°6S±0°2×166°4E±0°2, h59km, n18, σ0°69/11, mb3.7/9, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.07**	**296**	P	**Pn**	**12 31 57.9**	**0.0**
	14nm,0.3s,baz=156,slow=4.7,SNR=12						
HNR				LR	LR	12 34 10.6	
	comp=Z,87nm,21.8s,baz=146,slow=33						
URZ	**Urewera**	**27.25**	**161**	LR	LR	12 44 43.6	
	comp=Z,112nm,20.9s,baz=332,slow=32						
STKA	**Stephens Creek**	**29.75**	**226**	P	**P**	**12 36 18.1**	**+0.1**
	2.3nm,0.8s,baz=95,slow=9.1,SNR=3.6						
H11S2	**WAKE ISLAND Hy**	**30.93**	**1**	T	T	13 10 57.7	
	baz=179,slow=0.7,SNR=4.0						
H11S3	**WAKE ISLAND Hy**	**30.94**	**1**	T	T	13 11 00.5	
	baz=179						
H11S1	**WAKE ISLAND Hy**	**30.95**	**1**	T	T	13 11 07.4	
	baz=179,slow=0.7,SNR=4.1						
WRA	**Warramunga Arr**	**31.56**	**252**	P	**P**	**12 36 33.6**	**-0.5**
	0.2nm,0.5s,baz=84,slow=9.8,SNR=3.5						
H11N1	**WAKE ISLAND Hy**	**32.15**	**1**	T	T	13 12 31.3	
	baz=190						
H11N3	**WAKE ISLAND Hy**	**32.16**	**1**	T	T	13 12 34.3	
	baz=190,slow=0.7,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**32.17**	**1**	T	T	13 12 33.7	
	baz=190,slow=0.7,SNR=3.8						
ASAR	**Alice Springs**	**32.67**	**246**	P	**P**	**12 36 43.2**	**-0.7**
	0.6nm,0.8s,baz=79,slow=9.4,SNR=4.7						
FITZ	**Fitzroy Crossi**	**39.60**	**257**	P	**P**	**12 37 43.6**	**+0.6**
	1.0nm,0.6s,baz=85,slow=11,SNR=3.3						
CMAR	**Chiang Mai Arr**	**73.32**	**294**	P	**P**	**12 41 44.1**	**+1.3**
	1.0nm,0.8s,baz=125,slow=4.4,SNR=7.0						
SONM	**Songino Array**	**80.31**	**324**	P	**P**	**12 42 21.6**	**-0.2**
	0.7nm,0.8s,baz=134,slow=5.8,SNR=4.4						
ILAR	**Eielson Array**	**84.82**	**18**	P	**P**	**12 42 44.0**	**-0.7**
	0.3nm,0.5s,baz=245,slow=4.8,SNR=9.8						
NVAR	**Mina Array Bea**	**86.58**	**50**	P	**P**	**12 42 54.9**	**+0.6**
	0.2nm,0.6s,baz=246,slow=8.8,SNR=2.6						
MKAR	**Makanchi Array**	**95.10**	**317**	P	**P**	**12 43 33.3**	**-0.4**
	1.7nm,0.8s,baz=96,slow=6.8,SNR=13						
TORD	**Torodi Ar. Bea**	**165.06**	**274**	PKPab	**PKPab**	**12 51 12.3**	**-0.3**
	1.0nm,0.9s,baz=76,slow=4.1,SNR=5.7						

IDC 26 12:35:56.6±1.6, 16°35S×171°30W, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.7/22, mbtmp3.6/5, ML1.5/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/18, Error ellipse: s-maj=55.4km s-min=25.2km az=137.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.47**	**349**	Pn	Pn	12 36 37.3	-0.9
	6.3nm,0.3s,baz=135,slow=10.0,SNR=10						
AFI				Sn	Sn	12 37 06.0	-3.1
	27nm,0.3s,baz=117,slow=18,SNR=12						
HNR	**Honiara**	**28.84**	**280**	LR	LR	12 51 28.6	
	comp=Z,44nm,19.5s,baz=284,slow=32						
WRA	**Warramunga Arr**	**51.60**	**257**	P	P	12 45 05.0	-0.3
	0.5nm,0.8s,baz=95,slow=7.7,SNR=4.9						
ASAR	**Alice Springs**	**51.75**	**253**	P	P	12 45 06.2	-0.2
	0.8nm,0.7s,baz=89,slow=8.2,SNR=15						
NVAR	**Mina Array Bea**	**73.70**	**41**	P	P	12 47 31.7	-1.0
	0.2nm,0.6s,baz=220,slow=11,SNR=3.4						
ILAR	**Eielson Array**	**82.99**	**10**	P	P	12 48 24.9	+1.6
	0.4nm,0.7s,baz=222,slow=5.7,SNR=9.8						

*ATH **26** 12:38:40.9, 37°35N×26°80E, h8km±2km, MD2.9/4*
*DDA **26** 12:38:41.7, 37°41N×26°71E, h6km, MD3.3, ML3.6*
*ISK **26** 12:38:42.2, 37°39N×26°69E, h5km, MD3.2*
*CSEM **26** 12:38:42.5±0.2, 37°39N×26°69E, h2km, MD2.9, Error ellipse: s-maj=4.8km s-min=3.8km az=56.0*

ISC 26 12:38:42.2±1.1, 37°39N±0°02×26°70E±0°02, h1km±11km, n66, σ0°64/91, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.34**	**19**	*e*PB	**Pg**	**12 38 48.2**	**-0.6**
SMG				*e*SB	**Sg**	**12 38 52.7**	**-0.5**
SMG	**Samos**	**0.34**	**19**	*e*Pb	**Pg**	**12 38 48.2**	**-0.6**
SMG				*e*Sb	**Sg**	**12 38 52.7**	**-0.5**
GCAM	**G?zelcaml?**	**0.53**	**53**	*i* P	**Pg**	**12 38 52.3**	**-0.1**
GCAM				*i* S	**Sg**	**12 38 59.5**	**+0.3**
GCAM	**G?zelcaml?**	**0.53**	**53**	*i* P	**Pg**	**12 38 52.3**	**-0.1**
GCAM				*i* S	**Sg**	**12 38 59.5**	**+0.3**
BODT	**Bodrum**	**0.58**	**123**	*e*PG	**Pb**	**12 38 54.5**	**-0.8**
BODT				*e*SG	**Sb**	**12 39 03.3**	**-0.8**
BODT	**Bodrum**	**0.58**	**123**	*e*Pg	**Pb**	**12 38 54.5**	**-0.8**
BODT				*e*Sg	**Sb**	**12 39 03.3**	**-0.8**
BDRM	**Kayabasi**	**0.68**	**118**	*i* P	**Pg**	**12 38 55.7**	**+0.6**
BDRM				*i* S	**Sb**	**12 39 06.3**	**-0.3**
BDRM	**Kayabasi**	**0.68**	**118**	*i* P	**Pg**	**12 38 55.7**	**+0.6**
BDRM				*i* S	**Sb**	**12 39 06.3**	**-0.3**
DAT	**Datca**	**0.96**	**133**	*e*PG	**Pb**	**12 39 01.7**	**0.0**
DAT				*e*SG	**Sb**	**12 39 15.1**	**+0.1**
DAT	**Datca**	**0.96**	**133**	*e*Pg	**Pb**	**12 39 01.7**	**0.0**
DAT				*e*Sg	**Sb**	**12 39 15.1**	**+0.1**
URLA	**Izmir**	**0.98**	**355**	*i* P	**Pg**	**12 39 00.4**	**-0.6**
URLA				*i* S	**Sg**	**12 39 13.6**	**0.0**
URLA	**Izmir**	**0.98**	**355**	*i* P	**Pg**	**12 39 00.4**	**-0.6**
URLA				*i* S	**Sg**	**12 39 13.6**	**0.0**
AYDN	**Tasoluk**	**0.98**	**73**	*i* P	**Pg**	**12 39 00.4**	**-0.6**
AYDN				*i* S	**Sg**	**12 39 14.2**	**+0.6**
AYDN	**Tasoluk**	**0.98**	**73**	*i* P	**Pg**	**12 39 00.4**	**-0.6**
AYDN				*i* S	**Sg**	**12 39 14.2**	**+0.6**
APE	**Apeiranthos**	**0.98**	**252**	*e*PG	**Pb**	**12 39 01.9**	**-0.2**
APE				*e*SG	**Sg**	**12 39 14.9**	**+1.0**
APE	**Apeiranthos**	**0.98**	**252**	*e*PN	**Pg**	**12 39 01.4**	**+0.3**
APE				*e*SB	**Sb**	**12 39 15.4**	**-0.2**
APE	**Apeiranthos**	**0.98**	**252**	*e*Pg	**Pb**	**12 39 01.9**	**-0.2**
APE				*e*Sg	**Sg**	**12 39 14.9**	**+1.0**
APE				*e*Sb	**Sb**	**12 39 15.4**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.10**	**59**	*e*PN	**Pg**	**12 39 03.4**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.10**	**59**	*e*Pn	**Pg**	**12 39 03.4**	**+0.1**
IZM	**Izmir**	**1.10**	**24**	*e*PN	**Pg**	**12 39 03.2**	**-0.2**
IZM	**Izmir**	**1.10**	**24**	*e*Pn	**Pg**	**12 39 03.2**	**-0.2**
CHOS	**Chios island**	**1.12**	**333**	*e*PB	**Pg**	**12 39 03.2**	**-0.5**
CHOS				*e*SB	**Sb**	**12 39 19.2**	**-0.4**
CHOS	**Chios island**	**1.12**	**333**	*e*Pb	**Pg**	**12 39 03.2**	**-0.5**
CHOS				*e*Sb	**Sb**	**12 39 19.2**	**-0.4**
YER	**Yerkesik**	**1.29**	**101**	*e*PN	**Pb**	**12 39 07.1**	**-0.2**
YER	**Yerkesik**	**1.29**	**101**	*e*Pn	**Pb**	**12 39 07.1**	**-0.2**
TURN	**Turunc**	**1.60**	**108**	*i* P	Pn	12 39 07.7	-4.0
TURN				*i* S	Sn	12 39 26.2	-6.8
TURN	**Turunc**	**1.60**	**108**	*i* P	Pn	12 39 07.7	-4.0
DALY	**Dalyan (Mu¨la**	**1.66**	**109**	*e*PN	**Pn**	**12 39 11.9**	**-0.5**
DALY	**Dalyan (Mu¨la**	**1.66**	**109**	*e*Pn	**Pn**	**12 39 12.0**	**-0.5**
AKHS	**Akhisar**	**1.73**	**30**	*i* P	**Pb**	**12 39 14.5**	**-0.3**
AKHS				*i* S	**Sb**	**12 39 37.3**	**+0.2**
AKHS	**Akhisar**	**1.73**	**30**	*i* P	**Pb**	**12 39 14.5**	**-0.3**
AKHS				*i* S	**Sb**	**12 39 37.3**	**+0.2**
AKS	**Akhisar**	**1.73**	**30**	*e*PN	**Pb**	**12 39 14.1**	**-0.7**
AKS	**Akhisar**	**1.73**	**30**	*e*Pn	**Pb**	**12 39 14.1**	**-0.7**
MANT	**Manisa**	**1.84**	**53**	*i* P	**Pb**	**12 39 17.1**	**+0.3**
MANT				*i* S	**Sn**	**12 39 38.9**	**-0.2**
MANT	**Manisa**	**1.84**	**53**	*i* P	**Pb**	**12 39 17.1**	**+0.3**
MANT				*i* S	**Sn**	**12 39 38.9**	**-0.2**
KARP	**Karpathos**	**1.87**	**168**	*e*PN	**Pn**	**12 39 14.5**	**-0.9**
KARP	**Karpathos**	**1.87**	**168**	*e*Pn	**Pn**	**12 39 14.5**	**-0.9**
PRK	**Paraskevi**	**1.89**	**350**	*e*PG	**Pb**	**12 39 16.7**	**-0.8**
PRK				*e*SN	**Sg**	**12 39 42.2**	**-0.7**
DENT	**Denizli**	**1.89**	**78**	*e*PN	**Pn**	**12 39 15.8**	**+0.1**
DENT	**Denizli**	**1.89**	**78**	*e*Pn	**Pn**	**12 39 15.8**	**+0.1**
DNZL	**Cakiroluk**	**1.89**	**80**	*i* P	**Pn**	**12 39 15.2**	**-0.6**
DNZL				*i* S	**Sg**	**12 39 43.2**	**+0.2**
DNZL	**Cakiroluk**	**1.89**	**80**	*i* P	**Pn**	**12 39 15.2**	**-0.6**
DNZL				*i* S	**Sg**	**12 39 43.2**	**+0.2**
KULA	**Kula-Manisa**	**1.92**	**53**	*e*PN	**Pn**	**12 39 16.7**	**+0.6**
KULA	**Kula-Manisa**	**1.92**	**53**	*e*Pn	**Pn**	**12 39 16.7**	**+0.6**
FETY	**Fethiye**	**2.05**	**111**	*e*PN	**Pn**	**12 39 17.5**	**-0.4**
FETY	**Fethiye**	**2.05**	**111**	*e*Pn	**Pn**	**12 39 17.5**	**-0.4**
DEMI	**Demirci**	**2.29**	**43**	*i* P	**Pg**	**12 39 26.5**	**+0.3**
DEMI	**Demirci**	**2.29**	**43**	*i* P	**Pg**	**12 39 26.5**	**+0.3**
KHL	**Karahalli**	**2.42**	**66**	*e*PN	**Pn**	**12 39 24.0**	**+0.9**
KHL	**Karahalli**	**2.42**	**66**	*e*Pn	**Pn**	**12 39 24.0**	**+0.9**
ELL	**Elmali**	**2.65**	**103**	*e*PN	**Pn**	**12 39 26.9**	**+0.8**
ELL	**Elmali**	**2.65**	**103**	*e*Pn	**Pn**	**12 39 26.9**	**+0.8**
DST	**Dursunbey**	**2.68**	**34**	*e*PN	**Pn**	**12 39 27.5**	**+1.0**
DST	**Dursunbey**	**2.68**	**34**	*e*Pn	**Pn**	**12 39 27.5**	**+1.0**
GONE	**Gonen-Balikesi**	**2.77**	**16**	*e*Pn	**Pn**	**12 39 28.8**	**+1.1**
GONE	**Gonen-Balikesi**	**2.77**	**16**	*e*Pn	**Pn**	**12 39 28.8**	**+1.1**
TVSB	**Tavsanli**	**2.99**	**46**	*e*PN	**Pn**	**12 39 32.1**	**+1.2**
TVSB	**Tavsanli**	**2.99**	**46**	*e*Pn	**Pn**	**12 39 32.1**	**+1.2**
GELI	**Tayfur-Gelibol**	**3.01**	**357**	*e*PN	**Pn**	**12 39 32.2**	**+1.1**
GELI	**Tayfur-Gelibol**	**3.01**	**357**	*e*Pn	**Pn**	**12 39 32.2**	**+1.1**
KRBG	**Karabiga-Canak**	**3.04**	**9**	*e*PN	**Pn**	**12 39 32.5**	**+1.1**
KRBG	**Karabiga-Canak**	**3.04**	**9**	*e*Pn	**Pn**	**12 39 32.5**	**+1.1**
KCTX	**Karacabey (Bur**	**3.15**	**24**	*e*PN	**Pn**	**12 39 34.1**	**+1.1**
KCTX	**Karacabey (Bur**	**3.15**	**24**	*e*Pn	**Pn**	**12 39 34.1**	**+1.1**
ARMT	**Armutlu**	**3.59**	**27**	*e*PN	**Pn**	**12 39 40.0**	**+0.9**
ARMT	**Armutlu**	**3.59**	**27**	*e*Pn	**Pn**	**12 39 40.0**	**+0.9**

TRN 26 13:04:58.7, 13°26N×60°33W, h16km, MD3.5, 3C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCLT	**Moule a Chique**	**0.75**	**307**⇑	*e*P	Pn	13 05 14.5	-0.1
MCLT				*e*S	Sn	13 05 26.9	+1.3
BHS	**Barnard House**	**0.78**	**273**⇑	*e*P	Pn	13 05 16.1	+1.1
BHS				*e*S	Sn	13 05 28.9	+2.5
SVV	**Soufriere Volc**	**0.87**	**274**	*e*P	Pn	13 05 17.9	+1.6
SVV				*e*S	Sn	13 05 31.1	+2.5
SLB	**Belfond**	**0.90**	**309**	*e*P	Pn	13 05 18.5	+1.7
SLB				*e*S	Sn	13 05 31.9	+2.5
FCV	**Fort Charlotte**	**0.90**	**264**	*e*P	Pn	13 05 17.9	+1.2
FCV				*e*S	Sn	13 05 31.5	+2.1
SVB	**Belmont**	**0.90**	**271**⇑	*e*P	Pn	13 05 16.8	+0.1
SVB	**Belmont**	**0.90**	**271**	*e*	Pn	13 05 20.8	+4.1
SVB				*e*S	Sn	13 05 31.2	+1.8

*NIED **26** 13:18:00, 39°60N×143°60E, h23km, Mw4.5 Best double couple: M0:5.31000×10^15 NP1:φ=30.00000°, δ=65.00000°, λ=109.00000°. NP2:φ=171.00000°, δ=31.00000°, λ=55.00000°.*
*JMA **26** 13:18:49.9±0.2, 39°62N×143°56E, h28km, M4.3*
*ISCJB **26** 13:18:50.3±1.4, 39°63N±0°04×143°48E±0°07, h21km±8km, mb4.3/29, MS3.9/22, Error ellipse: s-maj=9.8km s-min=5.1km az=30.3*
*MOS **26** 13:18:52.8±1.2, 39°63N×143°38E, h41km, mb4.7/22, Error ellipse: s-maj=13.4km s-min=7.6km az=97.6*
*IDC **26** 13:18:55.0±2.3, 39°56N×143°36E, h44km±20km, mb3.9/15, mb1 4.1/20, mb1mx4.0/30, mbtmp4.0/20, ML3.2/5, MS3.8/19, Ms1 3.8/19, ms1mx3.6/44, Error ellipse: s-maj=19.1km s-min=16.0km az=113.0*

ISC 26 13:18:53.4±1.0, 39°69N±0°05×143°44E±0°06, h29km±6km, n87, σ1°32/83, mb4.3/29, MS3.9/22, 3C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.24**	**282**	P	**Pn**	**13 19 13.2**	**-1.6**
JTH				*e*S	**Sn**	**13 19 29.8**	**-0.8**
MIYJ	**Miyakonagasawa**	**1.26**	**266**	P	**Pn**	**13 19 13.3**	**-1.7**
MIYJ				S	**Sn**	**13 19 29.5**	**-1.4**
OFUJ	**Ofunato**	**1.50**	**247**	P	**Pn**	**13 19 16.4**	**-2.0**
JANG	**Nango**	**1.63**	**296**	P	**Pn**	**13 19 18.8**	**-1.4**
JOM	**Ohasama**	**1.67**	**263**	P	**Pn**	**13 19 19.7**	**-1.1**
JMK	**Ichinoseki**	**1.87**

YAK				MLR	MLR	
	comp=Z,163nm,14.0s					
YAK				MLR	MLR	
	comp=E,94nm,13.0s					
FX1	**Attu Island--F**	**24.21 47**		LR	LR	13 32 40.0
	comp=E,38nm,19.8s,baz=277,slow=34					
SONM	**Songino Array**	**27.75 299**	P		**P**	**13 24 39.8 +0.2**
	comp=E,4.7nm,0.8s,baz=100,slow=9.4,SNR=27					
SONM				LR	LR	13 36 18.5
	comp=E,409nm,18.9s,baz=269,slow=38					
H11N2	**WAKE ISLAND Hy**	**28.32 128**		T	T	13 54 20.1
	baz=320,slow=0.7,SNR=35					
H11N1	**WAKE ISLAND Hy**	**28.33 128**		T	T	13 54 20.8
	baz=320,slow=0.7,SNR=34					
H11N3	**WAKE ISLAND Hy**	**28.34 128**		T	T	13 54 21.4
	baz=320,slow=0.7,SNR=36					
H11S1	**WAKE ISLAND Hy**	**29.14 130**		T	T	13 55 28.8
	baz=329					
H11S3	**WAKE ISLAND Hy**	**29.14 130**		T	T	13 55 21.7
	baz=329,slow=0.7,SNR=6.5					
H11S2	**WAKE ISLAND Hy**	**29.16 130**		T	T	13 55 22.3
	baz=329,slow=0.7,SNR=7.6					
TLY	**Talaya**	**29.91 307**	*e*P		**P**	**13 24 59.6 +1.1**
TLY				pmax	pmax	
	comp=Z,5.0nm,0.9s					
TLY				MLR	MLR	
	comp=Z,170nm,14.0s					
ZAK	**Zakamensk**	**29.98 304**	*e*P		**P**	**13 24 59.0 -0.3**
ZAK				pmax	pmax	
	comp=Z,4.0nm,1.3s					
TIXI	**Tiksi**	**32.88 352**	*e*P		**P**	**13 25 24.3 -0.1**
TIXI				pmax	pmax	
	comp=Z,8.0nm,2.5s					
TIXI				MLR	MLR	
	comp=Z,179nm,21.0s					
ZALV	**Zalesovo Beam**	**41.36 310**		P	**P**	**13 26 36.8 +0.2**
ZALV						13 28 34.8
ZALV				pmax	pmax	
	comp=Z,5.0nm,0.8s					
ZALV				pmax	pmax	
	comp=Z,3.0nm,0.7s					
ZALV				MLR	MLR	
	comp=Z,80nm,19.5s					
ZALV	**Zalesovo Beam**	**41.36 310**		P	**P**	**13 26 36.8 +0.2**
	comp=Z,4.9nm,0.8s,baz=82,slow=8.2,SNR=22					
ZALV				PcP	**PcP**	**13 28 34.8 +0.4**
	comp=Z,2.5nm,0.7s,baz=98,slow=4.5,SNR=5.2					
ZALV				LR	LR	13 44 12.0
	comp=Z,80nm,19.5s,baz=69,slow=37					
MKAR	**Makanchi Array**	**44.11 300**		P	**P**	**13 26 58.9 -0.1**
MKAR				pmax	pmax	
	comp=Z,7.0nm,0.9s					
MKAR				MLR	MLR	
	comp=Z,197nm,18.2s					
MKAR	**Makanchi Array**	**44.11 300**		P	**P**	**13 26 58.9 -0.1**
	comp=Z,7.0nm,0.9s,baz=82,slow=9.5,SNR=54					
MKAR				LR	LR	13 46 16.4
	comp=Z,196nm,18.2s,baz=90,slow=37					
ILAR	**Eielson Array**	**46.41 34**		P	**P**	**13 27 18.4 +1.5**
	comp=Z,0.8nm,0.9s,baz=260,slow=6.1,SNR=12					
TAPN	**Taplejung**	**47.38 273**	*e*P		**P**	**13 27 25.5 +0.1**
	comp=Z,27nm,1.2s					
JIRN	**Jiri**	**48.40 274**	*e*P		**P**	**13 27 33.6 +0.3**
	comp=Z,11nm,0.6s					
RAMN	**Ramite**	**48.43 273**	*e*P		**P**	**13 27 33.2 -0.3**
	comp=Z,38nm,1.0s					
GUN	**Gumba**	**48.51 274**	*e*P		**P**	**13 27 34.0 -0.2**
	comp=Z,37nm,0.7s					
KKN	**Kakani**	**49.03 275**	*e*P		**P**	**13 27 37.7 -0.3**
	comp=Z,30nm,0.8s					
PKI	**Pulchoki**	**49.04 274**	*e*P		**P**	**13 27 37.8 -0.5**
DMN	**Daman**	**49.26 274**	*e*P		**P**	**13 27 39.5 -0.3**
GKN	**Gorkha**	**49.42 275**	*e*P		**P**	**13 27 40.7 -0.3**
	comp=Z,18nm,0.9s					
DANN	**Dangsing**	**49.92 276**	*e*P		**P**	**13 27 45.0 +0.1**
	comp=Z,50nm,0.8s					
BRVK	**Borovoye**	**50.05 311**	*e*P		**P**	**13 27 46.0 +0.8**
BRVK				pmax	pmax	
	comp=Z,9.0nm,1.2s					
KOLN	**Koldanda**	**50.33 276**	*e*P		**P**	**13 27 48.0 +0.1**
	comp=Z,24nm,1.2s					
AAK	**Ala-Archa**	**50.67 297**	*e*P		**P**	**13 27 50.5 +0.2**
AAK				pmax	pmax	
	comp=Z,21nm,2.5s					
INK	**Inuvik**	**51.30 28**		P	**P**	**13 27 54.6 +0.2**
	comp=Z,2.0nm,0.9s,baz=187,slow=19,SNR=3.1					
SVE	**Sverdlovsk**	**54.24 318**	*e*P		**P**	**13 28 16.9 +0.7**
SVE				pmax	pmax	
	comp=Z,12nm,0.9s					
ARU	**Arti**	**55.45 318**	*e i*P		**P**	**13 28 25.4 +0.4**
ARU				S	**S**	**13 36 09.0 +1.2**
ARU				SS	SS	13 39 43.6 -8.5
ARU				pmax	pmax	
	comp=Z,17nm,1.0s					
ARU				MLR	MLR	
	comp=Z,355nm,16.0s					
WRA	**Warramunga Arr**	**59.92 190**		P	**P**	**13 28 54.7 -2.1**
	comp=Z,1.9nm,0.8s,baz=8.6,slow=7.2,SNR=8.0					
ARCES	**ARCESS Array B**	**62.08 339**		LR	LR	13 58 49.7
	comp=Z,81nm,19.4s,baz=261,slow=38					
KLMR	**Klimovskoe**	**62.37 328**		P	**P**	**13 29 12.0 -1.0**
KLMR				pmax	pmax	
	comp=Z,8.0nm,0.9s					
ASAR	**Alice Springs**	**63.65 190**		P	**P**	**13 29 20.6 -1.3**
	comp=Z,0.8nm,0.9s,baz=8.2,slow=6.2,SNR=5.7					
OBN	**Obninsk**	**66.93 323**	*e*P		**P**	**13 29 42.8 +0.1**
OBN				pmax	pmax	
	comp=Z,10.0nm,1.2s					
OBN				MLR	MLR	
	comp=Z,200nm,14.0s					
FINES	**FINESS Array B**	**67.21 332**		P	**P**	**13 29 43.8 -0.7**
	comp=Z,4.2nm,0.8s,baz=57,slow=7.0,SNR=12					
KIV	**Kislovodsk**	**70.37 311**	*e*P		**P**	**13 30 06.0 +1.4**
KIV				pmax	pmax	
	comp=Z,24nm,1.0s					
KIV				MLR	MLR	
	comp=Z,145nm,18.0s					
KBZ	**Khabaz**	**70.38 311**		P	**P**	**13 30 05.4 +0.9**
KBZ				pmax	pmax	
	comp=Z,6.0nm,0.8s					
KBZ	**Khabaz**	**70.38 311**		P	**P**	**13 30 05.4 +0.9**
	comp=Z,5.9nm,0.8s,baz=60,slow=4.8,SNR=7.2					
NVAR	**Mina Array Bea**	**72.14 55**		P	**P**	**13 30 16.4 +0.8**
	comp=Z,0.5nm,0.6s,baz=261,slow=7.4,SNR=5.0					
HFS	**Hagfors**	**72.32 336**		P	**P**	**13 30 15.9 0.0**
	comp=Z,4.4nm,0.8s,baz=76,slow=6.3,SNR=7.1					
HFS				LR	LR	14 05 16.3
	comp=Z,92nm,18.6s,baz=85,slow=38					
NB2	**NORSAR Subarra**	**72.35 338**		P	**P**	**13 30 16.3 +0.1**
	comp=Z,0.3nm,0.8s,baz=42,slow=6.2					
NOA	**NORSAR Array B**	**72.35 338**		P	**P**	**13 30 16.0 -0.2**
	comp=Z,3.4nm,0.8s,baz=39,slow=6.0,SNR=11					
NOA				LR	LR	14 07 38.4
	comp=Z,66nm,18.7s,baz=25,slow=40					
ANN	**Anapa**	**72.83 314**	*e*P		P	13 30 14.7 -4.5
ANN			*e*			13 30 34.2
ANN			*e*			13 33 01.2
ANN			*e*S		S	13 39 34.6 -8.7
ANN				pmax	pmax	
	comp=Z,48nm,1.1s					
AKASG	**Malin Array Be**	**73.17 323**		P	**P**	**13 30 20.9 -0.2**
AKASG				pmax	pmax	
	comp=Z,3.0nm,0.7s					
AKASG	**Malin Array Be**	**73.17 323**		P	**P**	**13 30 20.9 -0.2**
	comp=Z,2.8nm,0.8s,baz=43,slow=6.0,SNR=11					
PDAR	**Pinedale Array**	**74.68 47**		P	**P**	**13 30 31.4 +0.9**
	comp=Z,0.4nm,0.6s,baz=276,slow=2.6,SNR=3.3					
BRTR	**Keskin Array B**	**78.27 312**		LR	LR	14 10 13.0
	comp=Z,40nm,18.1s,baz=70,slow=39					
DPC	**Dobruska-Polom**	**79.04 329**	*e*P		**P**	**13 30 56.0 +1.3**
DPC			*e*			13 31 04.5
DPC	**Dobruska-Polom**	**79.04 329**	*e*P		**P**	**13 30 56.0 +1.3**
DPC			*e*pP		**pP**	**13 31 04.5 +0.6**
CLL	**Collm**	**79.57 331**	*e*P		**P**	**13 30 58.0 +0.5**
CLL				pmax	pmax	
	comp=Z,6.0nm,0.8s					
CLL				MLR	MLR	
	comp=Z,100nm,17.5s					
CLL	**Collm**	**79.57 331**	*e*P		**P**	**13 30 58.0 +0.5**
	comp=Z,6.0nm,0.8s					
VRAC	**Vranov**	**79.75 328**		LR	LR	14 09 48.7
	comp=Z,108nm,18.5s,baz=24,slow=38					
KHC	**Kasperske Hory**	**81.10 329**	*e*P		**P**	**13 31 06.5 +0.7**
GERES	**GERESS Array B**	**81.28 329**	P		**P**	**13 31 05.9 -0.9**
	comp=Z,0.4nm,0.2s,baz=23,slow=4.8,SNR=4.7					
GERES				LR	LR	14 11 50.6
	comp=Z,84nm,18.6s,baz=353,slow=39					
ASF	**Jabal al Asfar**	**81.33 305**		LR	LR	14 12 28.3
	comp=Z,28nm,19.5s,baz=222,slow=40					
DAVOX	**Davos/Dischmat**	**84.46 330**		LR	LR	14 12 48.0
	comp=Z,93nm,19.5s,baz=268,slow=38					
ATD	**Arta Tunnel**	**90.73 286**		LR	LR	14 16 44.2
	comp=Z,36nm,20.0s,baz=56,slow=38					
KEST	**Kesra**	**93.85 324**		LR	LR	14 19 28.4
	comp=Z,30nm,18.0s,baz=220,slow=39					

*JMA **26** 13:26:48.3±0.2,24.°39N×121.°52E,h11km,M3.4*
*TAP **26** 13:26:52.4,24.°24N×121.°77E,h14km,ML4.0,B*
ISC 26 13:26:52.2±0.8,24.°23N±0.°02×121.°80E±0.°02,h13km±5km, n62,σ0.°79/104,15C-5D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.10**	**327**	*i*	P	**Pg**	**13 26 55.3**	**+0.1**
	baz=347							
EHP				*i*	S	**Sg**	**13 26 57.6**	**+0.3**
	baz=347							
ENA	**Nanau**	**0.21**	**345**	⇑*i*	P	**Pg**	**13 26 56.9**	**+0.1**
	baz=355							
ENA				*i*	S	**Sg**	**13 27 00.1**	**+0.2**
	baz=355							
TWD	**Chiawan**	**0.24**	**232**	⇑*i*	P	**Pg**	**13 26 57.4**	**+0.1**
	baz=229							
TWD				*i*	S	**Sg**	**13 27 00.9**	**+0.2**
	baz=229							
HWA	**Hwalien**	**0.31**	**216**	*e*P		**Pb**	**13 26 59.0**	**-0.5**
	baz=217							
TWC	**Suao**	**0.38**	**7**	⇑*i*	P	**Pb**	**13 27 00.3**	**-0.6**
	baz=9.0							
TWC				*i*	S	**Sg**	**13 27 05.3**	**+0.2**
	baz=9.0							
NNS	**Nan Shan**	**0.44**	**299**	⇑*i*	P	**Pg**	**13 27 01.0**	**0.0**
	baz=300							
NNS					S	**Sg**	**13 27 06.4**	**-0.6**
	baz=300							
ESF	**Shoufeng Towns**	**0.45**	**217**	*e*P		**Pb**	**13 27 01.5**	**-0.4**
	baz=220							
ESF				*e*S		**Sb**	**13 27 08.0**	**-0.5**
	baz=220							
ENTT	**Nioudou**	**0.46**	**333**	⇑*i*	P	**Pb**	**13 27 01.6**	**-0.7**
	baz=335							
ENTT					S	**Sg**	**13 27 07.7**	**+0.1**
	baz=335							
WHF	**Hehuan Shan**	**0.49**	**261**	⇑*i*	P	**Pg**	**13 27 01.9**	**-0.2**
	baz=259							
WHF					S	**Sg**	**13 27 08.4**	**-0.4**
	baz=259							
ESL	**Shilin**	**0.53**	**219**	⇑*i*	P	**Pg**	**13 27 02.5**	**-0.1**
	baz=222							
ESL				*e*S		**Sb**	**13 27 10.4**	**-0.5**
	baz=222							
ILA	**Ilan**	**0.54**	**355**	⇑*i*	P	**Pb**	**13 27 03.4**	**-0.1**
	baz=353							
ILA					S	**Sb**	**13 27 10.9**	**-0.3**
	baz=353							
TEGC	**Jichi Village**	**0.57**	**205**	*e*P		**Pn**	**13 27 05.1**	**-0.9**
	baz=191							
TWT	**Tachien**	**0.57**	**273**	⇑*i*	P	**Pb**	**13 27 03.8**	**-0.4**
	baz=272							
TWT				*i*	S	**Sg**	**13 27 11.2**	**+0.1**
	baz=272							
NSK	**Sanguang**	**0.60**	**318**	⇑*i*	P	**Pb**	**13 27 04.0**	**-0.6**
	baz=320							
NSK					S	**Sg**	**13 27 11.5**	**-0.5**
	baz=320							
TWA	**Mucha**	**0.77**	**345**	*e*P		**Pb**	**13 27 07.6**	**0.0**
	baz=347							
TWB1	**Santiao Chiao**	**0.80**	**12**	*e*P		**Pg**	**13 27 07.9**	**+0.2**
	baz=14							
TWB1					S	**Sb**	**13 27 18.0**	**-0.6**
	baz=14							
NSTT	**Nanjuang**	**0.83**	**299**	⇑*i*	P	**Pg**	**13 27 08.4**	**+0.1**
	baz=300							
NSTT				*e*S		**Sb**	**13 27 17.9**	**-1.8**
	baz=300							
NWF	**Wu-fen Shan**	**0.84**	**359**	*e*P		**Pg**	**13 27 08.8**	**+0.3**
	baz=352							
NWF					S	**Sg**	**13 27 19.7**	**+0.2**
	baz=352							
EHY	**Hungye**	**0.84**	**211**	*e*P		**Pb**	**13 27 07.5**	**-1.2**
	baz=222							
TAP1	**Taipei**	**0.85**	**343**	*e*P		**Pn**	**13 27 09.5**	**-0.3**
	baz=343							
TAP1				*e*S		**Sg**	**13 27 19.5**	**-0.2**
	baz=343							
TAP	**Taipei**	**0.85**	**342**	*e*P		**Pn**	**13 27 10.0**	**+0.1**
	baz=334							
SMLT	**Sun Moon Lake**	**0.89**	**248**	⇑*i*	P	**Pb**	**13 27 09.3**	**-0.3**
	baz=240							
SMLT				*e*S		**Sb**	**13 27 20.5**	**-1.0**
	baz=240							
TYC	**Yuchr**	**0.92**	**250**	⇑P		**Pb**	**13 27 09.6**	**-0.4**
	baz=242							
TYC				*e*S		**Sb**	**13 27 21.0**	**-1.1**
	baz=242							
NCU	**National Centr**	**0.93**	**323**	*e*P		**Pn**	**13 27 11.3**	**+0.3**
	baz=324							
NCU				*e*S		**Sn**	**13 27 24.3**	**+0.2**
	baz=324							
TWS1	**Kuangyinshan**	**0.94**	**338**	⇑*e*P		**Pn**	**13 27 11.0**	**0.0**
	baz=339							
TWS1				*e*S		**Sn**	**13 27 23.4**	**-0.9**
	baz=339							
TWQ1	**Liyutan**	**0.94**	**277**	⇑*e*P		**Pn**	**13 27 10.8**	**-0.4**
	baz=277							
HSN	**Hsinchu**	**0.95**	**307**	*e*P		**Pn**	**13 27 11.5**	**+0.2**
	baz=302							
HSN				*e*S		**Sn**	**13 27 23.8**	**-0.9**
	baz=302							
NSY	**Sanyi**	**0.97**	**281**	*e*P		**Pn**	**13 27 11.7**	**+0.2**
	baz=282							
NSY				*e*S		**Sn**	**13 27 24.6**	**-0.5**
	baz=282							
TWF1	**Yuli**	**0.99**	**208**	*e*P		**Pb**	**13 27 09.7**	**-1.4**
	baz=219							
TCU	**Taichung**	**1.03**	**266**	*e*P		**Pg**	**13 27 13.4**	**+1.3**
	baz=273							
TCU				*e*S		**Sn**	**13 27 27.6**	**+1.0**
	baz=273							
TWY	**Chenhua**	**1.06**	**350**	*e*P		**Pg**	**13 27 13.3**	**+0.7**
	baz=351							
YUS	**Yu-Shan**	**1.07**	**227**	⇓P		**Pb**	**13 27 12.5**	**-0.3**
	baz=227							
YUS				*e*S		**Sb**	**13 27 27.2**	**+0.2**
	baz=227							
WNT	**Mingjian**	**1.08**	**251**	⇓*i*P		**Pg**	**13 27 13.8**	**+0.7**
	baz=248							
WNT					S	**Sn**	**13 27 28.9**	**+1.1**
	baz=248							
YOJ	**Yonaguni jima**	**1.13**	**78**	P		**Pn**	**13 27 13.2**	**-0.5**
YOJ					S	**Sg**	**13 27 30.8**	**+2.1**
YOJ	**Yonaguni jima**	**1.13**	**78**	*i*	P	**Pg**	**13 27 13.8**	**-0.1**
	baz=67							
ALS	**Alishan**	**1.16**	**232**	⇓*i*P		**Pb**	**13 27 14.2**	**0.0**
	baz=219							
ALS				*e*S		**Sg**	**13 27 30.1**	**+0.4**
	baz=219							
CHKT	**Chengkung**	**1.19**	**200**	*e*P		**Pn**	**13 27 12.7**	**-1.8**
	baz=186							
CHN5	**Tsauling**	**1.20**	**239**	*e*P		**Pg**	**13 27 15.3**	**-0.2**
	baz=241							
CHN5					S	**Sg**	**13 27 32.4**	**+1.3**
	baz=241							
WGK	**Gukeng**	**1.25**	**245**	*e*P		**Pg**	**13 27 16.3**	**0.0**
	baz=246							
WGK				*e*S		**Sg**	**13 27 34.9**	**+2.2**
	baz=246							
CHN2	**Minshiung**	**1.40**	**241**	*e*P		**Pg**	**13 27 19.2**	**+0.2**
	baz=243							
CHN2				*e*S		**Sg**	**13 27 38.6**	**+1.4**
	baz=243							
CHN4	**Tsaushan**	**1.41**	**232**	P		**Pg**	**13 27 18.9**	**-0.4**
	baz=235							
CHN4					S	**Sg**	**13 27 39.3**	**+1.6**
	baz=235							
WTCT	**Ta-ch'eng**	**1.44**	**256**	*e*P		**Pb**	**13 27 18.5**	**-0.3**
	baz=257							
WTCT				*e*S		**Sg**	**13 27 38.8**	**+0.4**
	baz=257							
CHY	**Chiayi**	**1.45**	**240**	*e*P		**Pg**	**13 27 20.2**	**0.0**
	baz=242							
CHY				*e*S		**Sg**	**13 27 38.8**	**-0.3**
	baz=242							
WTP	**Ta-pu**	**1.46**	**228**	*e*P		**Pb**	**13 27 18.9**	**-0.4**
	baz=231							
WTP				*e*S		**Sg**	**13 27 41.0**	**+1.7**
	baz=231							
TWK	**Hsinying**	**1.54**	**232**	*e*P		**Pb**	**13 27 20.7**	**+0.1**
	baz=235							
TWK				*e*S		**Sg**	**13 27 42.4**	**+0.7**
	baz=235							
TWG	**Pinlang**	**1.55**	**206**	*e*P		**Pn**	**13 27 17.7**	**-1.8**
	baz=191							
WSF	**Szhu**	**1.56**	**248**	*e*P		**Pb**	**13 27 20.5**	**-0.4**
	baz=259							
WSF				*e*S		**Sg**	**13 27 42.4**	**0.0**
	baz=259							
CHN1	**Nanshi**	**1.56**	**229**	⇓*e*P		**Pb**	**13 27 20.9**	**-0.1**
	baz=232							
CHN1				*e*S		**Sg**	**13 27 43.2**	**+0.7**
	baz=232							
SGST	**Jiashian**	**1.60**	**225**	⇓*e*P		**Pb**	**13 27 21.8**	**+0.3**
	baz=226							
SGST				*e*S		**Sg**	**13 27 44.0**	**+0.4**
	baz=226							
IRIF	**Iriomote-Funau**	**1.76**	**86**	P		**Pn**	**13 27 23.0**	**+0.6**
IRIF				*e*S		**Sg**	**13 27 48.9**	**-0.1**
ECL	**Taimali**	**1.80**	**206**	*e*P		**Pb**	**13 27 24.0**	**-1.1**
	baz=194							
SCLT	**Jiali**	**1.81**	**235**	*e*P		**Pb**	**13 27 25.4**	**+0.2**
	baz=238							
HATJ	**Hateruma jima**	**1.84**	**95**	P		**Pb**	**13 27 24.4**	**-1.3**
HATJ				*e*S		**Sg**	**13 27 50.3**	**-1.1**
TWM1	**Shoushan**	**1.89**	**222**	*e*P		**Pb**	**13 27 26.1**	**-0.5**
	baz=224							
SGLT	**Jiouru**	**1.92**	**219**	*e*P		**Pb**	**13 27 27.8**	**+0.8**
	baz=221							
JKRS	**Kuro-shima**	**2.02**	**89**	P		**Pn**	**13 27 26.9**	**+1.0**
JKRS				*e*S		**Sb**	**13 27 55.3**	**+1.6**
EAST	**Anshuo**	**2.03**	**206**	*e*P		**Pn**	**13 27 26.6**	**+0.4**
	baz=196							
JIJ	**Ishigaki jima**	**2.14**	**86**	P		**Pn**	**13 27 28.0**	**+0.3**
JIJ				*e*S		**Sn**	**13 27 54.8**	**+0.7**
PNG	**Penghu**	**2.16**	**253**	*e*P		**Pn**	**13 27 27.5**	**-0.3**
	baz=255							
WDGT	**Dungji**	**2.19**	**244**	*e*P		**Pn**	**13 27 28.9**	**+0.7**
	baz=247							
TWK1	**Hengchun**	**2.45**	**202**	*e*P		**Pn**	**13 27 33.2**	**+1.3**
	baz=192							
KNM	**Kinmen**	**3.08**	**274**	*e*P		**Pn**	**13 27 41.9**	**+1.4**
	baz=274							

*ISCJB **26** 13:48:42.2±0.8,22.°6S±0.°2×171.°4E±0.°1,h40km,mb4.2/10, MS3.7/7,Error ellipse: s-maj=22.1km s-min=13.8km az=2.2*
*IDC **26** 13:48:44.3±4.8,22.°47S×171.°35E,h45km±38km,mb3.9/10, mb1 4.1/10,mb1mx3.9/20,mbtmp4.2/10,ML4.9/1,MS3.5/9, Ms1 3.6/9,ms1mx3.4/21,Error ellipse: s-maj=30.9km s-min=29.5km az=51.0*
*AUST **26** 13:48:59.2,22.°47S×172.°70E,h300km*
ISC 26 13:48:43.5±0.9,22.°5S±0.°2×171.°5E±0.°1,h40km,n33, σ1s35/27,mb4.1/10,MS3.7/7,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.68**	**274**		P	**Pn**	**13 49 52.0**	**+0.2**
	55nm,0.3s,baz=213,slow=5.2,SNR=1501							
DZM					S	**Sn**	**13 50 42.3**	**-2.6**
	50nm,0.3s,baz=123,slow=23,SNR=9.2							
URZ	**Urewera**	**16.48**	**164**		LR	LR	13 57 38.7	
	comp=Z,76nm,20.9s,baz=342,slow=32							
HNR	**Honiara**	**17.03**	**318**		LR	LR	13 58 04.5	
	comp=Z,92nm,19.9s,baz=306,slow=33							
EIDS	**Eidsvold**	**18.87**	**257**		P	**Pn**	**13 53 04.8**	**+3.5**
	baz=20,SNR=6.7							
ARMA	**Armidale**	**19.45**	**242**		P	Pn	13 53 17.3	+9.0
	baz=20,SNR=6.7							
RMQ	**Roma**	**21.06**	**254**		P	**P**	**13 53 26.8**	**+2.4**
	baz=22,SNR=24							
RPZ	**Rata Peaks**	**21.21**	**181**		LR	LR	13 58 51.5	
	comp=Z,93nm,21.6s,baz=209,slow=29							
CTA	**Charters Tower**	**23.62**	**271**		P	**P**	**13 53 51.9**	**+0.8**
	3.5nm,0.6s,baz=97,slow=13,SNR=5.9							
CMSA	**Cobar Meteorol**	**24.65**	**243**		P	**P**	**13 54 01.2**	**+0.7**
	baz=26,SNR=38							
QLP	**Quilpie**	**25.11**	**255**		P	**P**	**13 54 05.3**	**+0.6**
	baz=26,SNR=5.0							
MTSU	**Mount Surprise**	**25.82**	**275**		P	**P**	**13 54 12.5**	**+1.2**
	baz=27,SNR=34							
STKA	**Stephens Creek**	**28.12**	**244**		P	**P**	**13 54 32.4**	**+0.5**
	baz=29,SNR=3.9							
STKA	**Stephens Creek**	**28.12**	**244**		P	**P**	**13 54 31.2**	**-0.6**
	4.1nm,0.8s,baz=90,slow=9.8,SNR=5.9							
STKA					LR	LR	14 04 23.6	
	comp=Z,107nm,20.7s,baz=25,slow=34							
COEN	**Coen**	**28.14**	**283**		P	**P**	**13 54 34.3**	**+2.1**
	baz=29,SNR=8.7							
ASAR	**Alice Springs**	**34.53**	**261**		P	**P**	**13 55 27.6**	**-0.7**
	7.4nm,0.8s,baz=83,slow=8.8,SNR=70							
WRA	**Warramunga Arr**	**34.66**	**267**		P	**P**	**13 55 27.6**	**-1.9**
	1.1nm,0.4s,baz=96,slow=8.0,SNR=12							
KDU	**Kakadu**	**38.33**	**278**		P	**P**	**13 56 00.6**	**-0.2**
	baz=39,SNR=4.9							
MTN	**Manton Dam**	**39.51**	**277**		P	**P**	**13 56 10.1**	**-0.6**
	baz=41,SNR=5.8							
FITZ	**Fitzroy Crossi**	**43.09**	**267**		P	**P**	**13 56 40.3**	**+0.3**
	baz=44,SNR=15							
FITZ	**Fitzroy Crossi**	**43.09**	**267**		P	**P**	**13 56 39.6**	**-0.5**
	5.6nm,0.6s,baz=152,slow=8.2,SNR=24							
MEEK	**Meekatharra**	**47.99**	**254**		P	**P**	**13 57 17.9**	**-0.9**
	baz=49,SNR=7.5							
NWAO	**Narrogin (SRO)**	**48.70**	**245**		P	**P**	**13 57 23.1**	**-1.0**
	4.1nm,0.6s,baz=106,slow=6.4,SNR=6.1							
BLDU	**Ballidu**	**49.27**	**248**		P	**P**	**13 57 27.7**	**-0.9**
	baz=50,SNR=4.9							
MORW	**Morawa**	**49.99**	**250**		P	**P**	**13 57 33.3**	**-0.8**
	baz=51,SNR=4.2							
VNDA	**Vanda**	**55.31**	**183**		P	**P**	**13 58 12.7**	**0.0**
	0.8nm,0.9s,baz=335,slow=4.8,SNR=4.6							
VNDA					LR	LR	14 17 55.3	
	comp=Z,72nm,21.6s,baz=321,slow=32							
PETK	**Petropavlovsk-**	**76.19**	**351**		LR	LR	14 28 27.3	
	comp=Z,28nm,19.9s,baz=242,slow=31							
CMAR	**Chiang Mai Arr**	**81.72**	**294**		P	**P**	**14 00 59.0**	**+0.7**
	0.5nm,0.3s,baz=149,slow=3.9,SNR=5.6							
NVAR	**Mina Array Bea**	**89.38**	**48**		P	**P**	**14 01 36.5**	**+0.2**
	0.6nm,0.8s,baz=224,slow=8.8,SNR=5.2							
NVAR					LR	LR	14 32 30.8	
	comp=Z,58nm,20.0s,baz=315,slow=29							
SONM	**Songino Array**	**91.03**	**322**		P	**P**	**14 01 43.3**	**-0.4**

*IDC **26** 13:56:03.6±1.4, 7°.84S×118°.83E, h0km, mb3.5/4, mb1 3.8/8, mb1mx3.7/25, mbtmp3.7/8, ML3.8/4, MS3.2/1, Ms1 3.2/1, ms1mx2.5/24, Error ellipse: s-maj=43.8km s-min=18.0km az=62.0*
*NEIC **26** 13:56:05.2±1.0, 7°.82S×118°.80E, h10km, mb3.7/1, Error ellipse: s-maj=28.9km s-min=10.1km az=62.0*
NEIC Felt [II] at Bima and Dompu, Indonesia.

ISC 26 13:55:59.5±3.4, 7°.91S±0°.05×118°.03E±0°.04, h13km±25km, n44, σ1°10/42, mb3.6/4, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTNI	**Mataram**	**1.97**	**248**	P	**Pb**	**13 56 35.0**	**-0.3**
MTNI				S	**Sb**	**13 56 59.8**	**-0.1**
WBSI	**Waikabubak, Su**	**2.19**	**142**	S	**Sn**	**13 57 03.9**	**+1.2**
SRBI	**Singaraja**	**2.79**	**266**	P	**Pn**	**13 56 43.7**	**-0.2**
SRBI				S	**Sb**	**13 57 24.3**	**+0.9**
WSI	**Waingapu**	**2.85**	**128**	P	**Pb**	**13 56 49.4**	**-0.9**
WSI				S	**Sb**	**13 57 25.5**	**+0.4**
WSI	**Waingapu** baz=2.9,SNR=3.5	**2.85**	**128**	P	**Pb**	**13 56 49.8**	**-0.5**
BKSI	**Bulukumba**	**3.31**	**39**	P	**Pn**	**13 56 51.3**	**+0.3**
BKSI				S	**Sn**	**13 57 30.7**	**+0.5**
KAPI	**Kappang**	**3.35**	**31**	P	**Pn**	**13 56 51.0**	**-0.6**
KAPI	**Kappang**	**3.35**	**31**	Pn	**Pn**	**13 56 50.8**	**-0.8**
KAPI				Sn	**Sn**	**13 57 28.6**	**-2.6**
KAPI	**Kappang** 32nm,0.3s,baz=204,slow=7.8,SNR=77	**3.35**	**31**	Pn	**Pn**	**13 56 50.8**	**-0.8**
KAPI				Sn	**Sn**	**13 57 28.6**	**-2.6**
ABJI	**Asem Bagus** 41nm,0.3s,baz=227,slow=22,SNR=17	**3.76**	**271**	P	**Pn**	**13 56 57.5**	**+0.3**
BNSI	**Bone**	**4.05**	**31**	P	**Pn**	**13 57 03.3**	**+2.0**
KMMI	**Kalianget**	**4.11**	**282**	P	**Pn**	**13 57 03.3**	**+1.2**
MMRI	**Maumere**	**4.23**	**100**	P	**Pn**	**13 57 04.4**	**+0.6**
BLJI	**Banyuglugur**	**4.39**	**272**	P	**Pn**	**13 57 07.1**	**+1.1**
MJSI	**Majene**	**4.43**	**12**	P	**Pn**	**13 57 07.2**	**+0.7**
GMJI	**Gumukmas**	**4.55**	**265**	P	**Pn**	**13 57 08.8**	**+0.7**
TTSI	**Tana Toraja** 57nm,0.7s,659nm0.2nm	**5.15**	**20**	P	**Pn**	**13 57 18.0**	**+1.6**
MMSI	**Mamuju**	**5.26**	**10**	P	**Pn**	**13 57 18.4**	**+0.5**
BATI	**Baumata**	**6.02**	**113**	Pn	**Pn**	**13 57 26.3**	**-2.1**
BATI	**Baumata** 1.1nm,0.3s,baz=270,slow=12,SNR=2.5	**6.02**	**113**	Pn	**Pn**	**13 57 26.3**	**-2.1**
FITZ	**Fitzroy Crossi**	**12.55**	**145**	*e*Pn	**Pn**	**13 58 58.0**	**+0.1**
FITZ				Sn	Sn	14 01 09.2	-8.6
FITZ	**Fitzroy Crossi** baz=13,SNR=5.5	**12.55**	**145**	P	**Pn**	**13 58 58.4**	**+0.5**
FITZ	**Fitzroy Crossi** 0.3nm,0.3s,baz=322,slow=22,SNR=6.8	**12.55**	**145**	Pn	**Pn**	**13 58 57.8**	**-0.2**
FITZ				Sn	Sn	14 01 09.2	-8.6
KNRA	**Kununurra** 0.3nm,0.3s,baz=179,slow=19,SNR=4.0	**13.04**	**127**	P	**Pn**	**13 59 03.9**	**-0.7**
MBWA	**Marble Bar** baz=13,SNR=5.3	**13.28**	**173**	*e*P	**Pn**	**13 59 06.9**	**-0.9**
MTN	**Manton Dam** baz=14,SNR=12	**13.79**	**112**	P	**Pn**	**13 59 13.2**	**-1.7**
FAKI	**Fak Fak** baz=15,SNR=4.2	**15.00**	**71**	P	**P**	**13 59 37.3**	**+0.5**
GIRL	**Giralia** baz=15,SNR=3.4	**15.10**	**194**	P	**Pn**	**13 59 32.4**	**-0.3**
MEEK	**Meekatharra** baz=19,SNR=7.3	**18.64**	**178**	P	**Pn**	**14 00 18.1**	**+0.6**
WRA	**Warramunga Arr**	**19.82**	**129**	P	**P**	**14 00 30.1**	**0.0**
WRA				S	S	14 04 01.2	-12
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=302,slow=12,SNR=4.7	**19.82**	**129**	P	**P**	**14 00 30.1**	**0.0**
WRA				S	S	14 04 01.2	-12
WRAB	**Tennant Creek** 0.1nm,0.3s,baz=304,slow=24,SNR=3.0	**19.83**	**129**	*e*P	**Pn**	**14 00 32.3**	**+0.5**
MORW	**Morawa** 3.8nm,0.9s baz=21,SNR=4.3	**21.13**	**185**	P	P	14 00 51.0	+6.8
AS31	**Alice Springs**	**21.85**	**138**	*e*P	**P**	**14 00 53.0**	**+0.9**
ASAR	**Alice Springs**	**21.85**	**138**	P	**P**	**14 00 51.8**	**-0.3**
ASAR	**Alice Springs** 0.8nm,0.5s,baz=322,slow=13,SNR=13	**21.85**	**138**	P	**P**	**14 00 51.8**	**-0.3**
COEN	**Coen**	**25.40**	**106**	*e*P	**P**	**14 01 27.0**	**-0.1**
PMG	**Port Moresby** comp=Z,41nm,18.7s,baz=248,slow=36	**28.84**	**95**	LR	LR	14 12 50.4	
SONM	**Songino Array**	**56.44**	**351**	P	P	14 05 48.0	+6.9
SONM	**Songino Array** 0.5nm,0.8s,baz=169,slow=8.6,SNR=3.9	**56.44**	**351**	P	P	14 05 48.0	+6.9
MKAR	**Makanchi Array**	**63.05**	**333**	P	P	14 06 33.9	+7.4
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=145,slow=6.9,SNR=4.7	**63.05**	**333**	P	P	14 06 33.9	+7.4
ZALV	**Zalesovo Beam**	**67.68**	**340**	P	P	14 07 05.0	+8.7
ZALV	**Zalesovo Beam** 0.8nm,0.6s,baz=147,slow=8.1,SNR=3.6	**67.68**	**340**	P	P	14 07 05.0	+8.7

IDC 26 14:10:58.7±4.5, 23°.91S×179°.91W, h495km±36km, mb3.3/5, mb1 3.5/5, mb1mx3.1/19, mbtmp3.3/5, Error ellipse: s-maj=87.4km s-min=28.1km az=156.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower** 4.5nm,0.4s,baz=94,slow=9.9,SNR=14	**31.56**	**270**	P	P	14 16 40.4	+0.4
PMG	**Port Moresby** 5.9nm,0.7s,baz=103,slow=7.6,SNR=3.9	**34.58**	**289**	P	P	14 17 05.7	+0.1
ASAR	**Alice Springs** 1.4nm,0.7s,baz=98,slow=7.3,SNR=35	**42.11**	**261**	P	P	14 18 07.0	0.0
ASAR				ScP	ScP	14 22 53.5	0.0
WRA	**Warramunga Arr** 2.0nm,0.5s,baz=103,slow=7.8,SNR=13	**42.49**	**266**	P	P	14 18 09.3	-0.7
NVAR	**Mina Array Bea** 0.3nm,0.7s,baz=216,slow=7.3,SNR=3.7	**84.70**	**44**	P	P	14 22 40.7	+0.4
ARCES	**ARCESS Array B** 1.6nm,1.0s,baz=33,slow=2.9,SNR=5.2	**131.92**	**348**	PKP	PKPdf	14 29 14.0	-0.6
AKASG	**Malin Array Be** 0.5nm,0.4s,baz=41,slow=4.6,SNR=4.8	**145.03**	**327**	PKPbc	PKPdf	14 29 38.1	-0.8

KRSC 26 14:17:10.0±6.2, 49°.23N×156°.51E, h5km±5km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.48**	**350**	*e*P	Pn	14 17 37.1	-0.1
SKR				*e*S	Sg	14 17 58.0	+0.6
PAU	**Pauzhetka**	**2.25**	**5**	*e*S	Sb	14 18 17.7	-1.5
RUS	**Russkaya**	**3.45**	**21**	*e*P	Pn	14 18 06.6	+2.3
SDLR	**Sedlovina**	**4.32**	**19**	*e*P	Pn	14 18 19.4	+2.9
GNL	**Ganaly**	**4.56**	**11**	*e*P	Pn	14 18 24.3	+4.5

MEX 26 14:46:07.9±0.3, 16°.88N×100°.67W, h10km±5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**1.05**	**314**	*i* P	Pg	14 46 24.7	-3.4
ZIIG				*i* S	Sg	14 46 38.2	-3.6
ARIG	**Puente Sto Nin**	**1.43**	**12**	*i* P	Pn	14 46 30.1	-3.8
ARIG				*i* S	Sn	14 46 47.5	-5.3
MEIG	**Mezcala**	**1.44**	**44**	*i* P	Pn	14 46 30.8	-3.5
MEIG				*i* S	Sn	14 46 48.3	-5.1
TLIG	**Tlapa**	**2.12**	**71**	*i* P	Pn	14 46 40.2	-3.4
TLIG				*i* S	Sn	14 47 05.2	-4.9
PNIG	**Pinotepa**	**2.48**	**101**	*i* P	Pn	14 46 45.3	-3.1
PNIG				*i* S	Sn	14 47 14.2	-4.6
YAIG	**Yautepec**	**2.49**	**37**	*i* P	Pn	14 46 45.8	-3.0
YAIG				*i* S	Sn	14 47 14.8	-4.6

IDC 26 14:52:11.2±1.9, 0°.41N×125°.11E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/22, mbtmp3.3/3, Error ellipse: s-maj=200.6km s-min=24.7km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.3nm,0.4s,baz=334,slow=10,SNR=4.2	**22.16**	**156**	P	P	14 57 08.0	-0.9
ASAR	**Alice Springs** 0.1nm,0.3s,baz=343,slow=11,SNR=13	**25.42**	**161**	P	P	14 57 41.2	+0.5
MKAR	**Makanchi Array** 0.4nm,0.4s,baz=119,slow=8.3,SNR=8.8	**59.39**	**327**	P	P	15 02 15.4	-0.1

*ISCJB **26** 14:55:13.4±0.7, 7°.61S±0°.06×126°.85E±0°.06, h200km, mb4.1/1, Error ellipse: s-maj=9.6km s-min=6.6km az=39.2*
*AUST **26** 14:55:13.7, 7°.49S×127°.03E, h200km*
*IDC **26** 14:55:18.5±3.8, 7°.93S×126°.62E, h241km±49km, mb3.8/1, mb1 4.0/5, mb1mx3.3/20, mbtmp3.9/5, MS3.0/2, Ms1 3.0/2, ms1mx2.7/27, Error ellipse: s-maj=55.6km s-min=37.7km az=76.0*

ISC 26 14:55:14.4±1.0, 7°.74S±0°.08×126°.92E±0°.08, h200km, n20, σ1°26/20, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe** baz=3.5,SNR=30	**3.30**	**232**	P	**Pn**	**14 56 09.8**	**+2.0**
BATI	**Baumata** 120nm,0.3s,baz=76,slow=8.1,SNR=132	**4.05**	**232**	P	**Pn**	**14 56 18.7**	**+1.8**
BATI	31nm,0.3s,baz=113,slow=3.5,SNR=15			S	**Sn**	**14 57 06.3**	**+0.4**
TLE	**Tual** baz=6.0,SNR=23	**6.14**	**71**	P	**Pn**	**14 56 44.7**	**+1.1**
MTN	**Manton Dam** baz=6.7,SNR=41	**6.55**	**141**	P	Pn	14 56 52.1	+3.2
FAKI	**Fak Fak** baz=6.9,SNR=31	**7.14**	**48**	P	**Pn**	**14 56 55.0**	**-1.6**
KDU	**Kakadu** baz=7.5,SNR=24	**7.35**	**132**	P	**Pn**	**14 57 01.6**	**+2.3**
SWI	**Sorong** baz=7.9,SNR=15	**8.08**	**33**	P	**Pn**	**14 57 08.4**	**-0.5**
KNRA	**Kununurra** baz=8.4,SNR=74	**8.10**	**167**	P	**Pn**	**14 57 11.3**	**+2.4**
FITZ	**Fitzroy Crossi** baz=11,SNR=11	**10.38**	**187**	P	**Pn**	**14 57 38.7**	**+0.1**
FITZ	**Fitzroy Crossi** 0.5nm,0.3s,baz=6.5,slow=8.3,SNR=9.2	**10.38**	**187**	P	**Pn**	**14 57 38.4**	**-0.2**
FITZ	1.0nm,0.3s,baz=91,slow=12,SNR=6.6			S	**Sn**	**14 59 33.9**	**-0.6**
WRA	**Warramunga Arr** 1.7nm,0.3s,baz=325,slow=12,SNR=20	**14.10**	**150**	P	**P**	**14 58 26.6**	**-0.9**
WRA	0.6nm,0.3s,baz=322,slow=21,SNR=7.1			S	**Sn**	**15 01 03.2**	**-0.3**
COEN	**Coen** baz=17,SNR=9.1	**17.11**	**113**	P	**Pn**	**14 59 02.8**	**+0.6**
ASAR	**Alice Springs** 4.3nm,0.3s,baz=333,slow=11,SNR=131	**17.20**	**158**	P	**Pn**	**14 59 02.9**	**-0.3**
ASAR	baz=337,slow=21,SNR=6.6			S	**S**	**15 02 09.9**	**-0.5**
PMG	**Port Moresby** comp=Z,36nm,21.1s,baz=74,slow=37	**20.08**	**96**	LR	LR	15 07 43.0	
MEEK	**Meekatharra** baz=21,SNR=13	**20.39**	**202**	P	**P**	**14 59 35.4**	**-0.7**
MORW	**Morawa** baz=24,SNR=3.3	**23.57**	**204**	P	**P**	**15 00 05.7**	**-1.3**
NWAO	**Narrogin (SRO)** comp=Z,47nm,19.4s,baz=104,slow=34	**26.63**	**198**	LR	LR	15 10 27.5	
STKA	**Stephens Creek** baz=28,SNR=9.7	**27.64**	**152**	P	**P**	**15 00 44.1**	**+0.5**
STKA	**Stephens Creek** 2.3nm,0.4s,baz=325,slow=9.4,SNR=12	**27.64**	**152**	P	**P**	**15 00 43.9**	**+0.3**
PATS	**Pohnpei** baz=34,SNR=3.5	**34.49**	**66**	P	P	15 01 36.2	-7.6

IDC 26 14:55:26.9±4.2, 26°.81S×178°.03W, h186km±52km, mb3.4/5, mb1 3.6/6, mb1mx3.4/18, mbtmp3.4/6, Error ellipse: s-maj=74.3km s-min=36.2km az=161.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** 58nm,0.3s,baz=81,slow=23,SNR=6.0	**2.44**	**178**	P	Pn	14 56 08.6	-0.5
RAO	99nm,0.3s,baz=72,slow=20,SNR=4.8			S	Sn	14 56 42.8	+0.5
ASAR	**Alice Springs** 0.4nm,0.5s,baz=102,slow=7.7,SNR=3.7	**43.39**	**263**	P	P	15 03 10.8	-0.5
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=107,slow=7.9,SNR=2.8	**44.05**	**268**	P	P	15 03 16.6	0.0
KSRS	**Korea Array** 1.1nm,0.6s,baz=131,slow=6.1,SNR=6.9	**81.61**	**319**	P	P	15 07 24.9	+0.9
PETK	**Petropavlovsk-** 1.1nm,0.8s,baz=126,slow=6.5,SNR=3.3	**82.34**	**346**	P	P	15 07 27.0	-0.5
CMAR	**Chiang Mai Arr** 0.2nm,0.4s,baz=152,slow=4.1,SNR=2.8	**92.19**	**289**	P	P	15 08 15.4	-0.5
ARCES	**ARCESS Array B** 1.2nm,0.8s,baz=23,slow=4.9,SNR=3.3	**135.08**	**349**	PKP	PKPdf	15 14 23.9	+0.7
FINES	**FINESS Array B** 0.7nm,0.6s,baz=19,slow=4.7,SNR=3.5	**141.76**	**342**	PKhKP	PKPpre	15 14 29.9	
NB2	**NORSAR Subarra** comp=Z,0.6nm,0.6s,baz=19,slow=3.6	**145.20**	**352**	PKP	PKPdf	15 14 41.2	-0.5
NOA	**NORSAR Array B** comp=Z,1.2nm,0.8s,baz=18,slow=2.6,SNR=4.6	**145.20**	**352**	PKPbc	PKPdf	15 14 40.6	-1.1
AKASG	**Malin Array Be** comp=Z,0.8nm,0.4s,baz=38,slow=3.2,SNR=7.7	**148.37**	**326**	PKPbc	PKPbc	15 14 50.1	-0.9

*ISCJB **26** 15:09:59.5±0.8, 32°.97N±0°.05×140°.2E±0°.1, h146km±6km, mb3.4/2, Error ellipse: s-maj=15.0km s-min=8.7km az=178.4*
*IDC **26** 15:10:02.6±8.9, 33°.03N×139°.70E, h162km±144km, mb3.1/2, mb1 3.2/3, mb1mx2.9/25, mbtmp2.9/3, ML3.1/1, Error ellipse: s-maj=145.0km s-min=113.8km az=51.0*
*JMA **26** 15:10:02.3±0.2, 33°.11N×140°.16E, h133km±2km, M3.3*

ISC 26 15:10:00.7±1.2, 32°.99N±0°.07×140°.20E±0°.09, h144km±8km, n19, σ0°.95/24, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.35**	**291**	P	**Pn**	**15 10 20.9**	**+0.2**
JHJ2				S	**Sn**	**15 10 35.3**	**-0.6**
JHCJ	**Hachijojimakas**	**0.35**	**284**	P	**Pn**	**15 10 20.8**	**+0.1**
JHCJ				*e*S	**Sn**	**15 10 35.1**	**-0.8**
BSO1	**Boso 1**	**1.78**	**21**	P	**Pn**	**15 10 33.1**	**+0.7**
BSO1				*e*S	**Sn**	**15 10 57.7**	**+0.9**
JIM2	**Oshima 3**	**1.84**	**340**	P	**Pn**	**15 10 33.7**	**+0.1**
BSO4	**Boso 4**	**2.00**	**3**	P	**Pn**	**15 10 35.9**	**+0.5**
BSO4				*e*S	**Sn**	**15 11 02.2**	**+0.2**
JIZS	**Izushimoda**	**2.05**	**328**	P	**Pn**	**15 10 36.2**	**+0.2**
TK02	**Tokai 2**	**2.26**	**296**	P	**Pn**	**15 10 39.0**	**+0.7**
TK04	**Tokai 4**	**2.39**	**306**	P	**Pn**	**15 10 40.9**	**+0.9**
JOD2	**Odawara 2**	**2.45**	**338**	P	**Pn**	**15 10 40.4**	**-0.5**
JOD2				*e*S	**Sn**	**15 11 10.8**	**-1.2**
SHZ3	**Shizuoka 3**	**2.65**	**322**	P	**Pn**	**15 10 44.3**	**+0.8**
JYN	**Shimob**	**2.85**	**332**	P	**Pn**	**15 10 46.9**	**+0.8**
JYN				*e*S	**Sn**	**15 11 23.5**	**+2.4**
JRY	**Ryogami san**	**3.21**	**341**	P	**Pn**	**15 10 51.0**	**+0.5**
JRY				*e*S	**Sn**	**15 11 28.3**	**-0.8**
JAG	**Ashikaga**	**3.48**	**350**	P	**Pn**	**15 10 53.0**	**-1.0**
MJAR	**Matsushiro Arr** 1.5nm,0.3s,baz=169,slow=12,SNR=15	**3.91**	**336**	P	**Pn**	**15 10 59.1**	**-0.5**
MJAR	0.7nm,0.3s,baz=150,slow=21,SNR=3.1			S	**Sn**	**15 11 43.7**	**-1.6**
H11N2	**WAKE ISLAND Hy** baz=309,slow=0.7,SNR=3.0	**27.23**	**112**	T	T	15 44 44.5	
H11N1	**WAKE ISLAND Hy** baz=309,slow=0.7,SNR=3.8	**27.24**	**112**	T	T	15 44 44.9	
H11N3	**WAKE ISLAND Hy** baz=309,slow=0.7,SNR=3.9	**27.25**	**112**	T	T	15 44 46.1	
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=5.0,slow=7.6,SNR=4.8	**52.93**	**187**	P	**P**	**15 19 01.8**	**-0.4**
ASAR	**Alice Springs** 0.2nm,0.6s,baz=3.8,slow=6.6,SNR=11	**56.66**	**187**	P	**P**	**15 19 29.1**	**+0.2**

IDC 26 15:12:25.2±2.5, 22°.84N×11°.54W, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.5/25, mbtmp3.7/4, ML3.1/1, Error ellipse: s-maj=67.5km s-min=31.1km az=64.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	**Babate** 1.1nm,0.3s,baz=89,slow=23,SNR=3.5	**9.41**	**211**	Lg	Lg	15 17 08.6	
MDT	**Midelt** 0.3nm,0.3s,baz=310,slow=18,SNR=3.9	**11.67**	**30**	Lg	Lg	15 18 37.2	
TORD	**Torodi Ar. Bea** 0.1nm,0.3s,baz=315,slow=12,SNR=3.2	**15.84**	**125**	Pn	Pn	15 16 10.6	+0.8
TORD	0.1nm,0.3s,baz=306,slow=22,SNR=3.8			Sn	Sn	15 19 06.5	+0.4
TORD	0.0nm,0.3s,baz=314,slow=32,SNR=2.6			Lg	Lg	15 20 47.8	
GERES	**GERESS Array B** 0.4nm,0.2s,baz=196,slow=6.9,SNR=4.6	**32.75**	**31**	P	P	15 18 59.8	0.0
FINES	**FINESS Array B** 0.3nm,0.3s,baz=204,slow=3.0,SNR=3.7	**46.40**	**24**	P	P	15 20 52.8	-0.3
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=274,slow=5.9,SNR=5.2	**76.22**	**45**	P	P	15 24 15.8	+0.2
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=297,slow=2.7,SNR=4.9	**148.14**	**91**	PKPbc	PKPbc	15 32 12.6	-1.2
ASAR	**Alice Springs** 0.8nm,0.9s,baz=296,slow=2.5,SNR=9.8	**148.28**	**98**	PKPbc	PKPbc	15 32 13.6	-0.5

*BKK **26** 16:07:01.9±0.7, 19°.5±11°×17°.6W±1°.4, h10km, M5.6/25, mB6.2/5, mb5.4/25, Mw(mB)5.9/5*
*AUST **26** 16:07:57.8±1.9, 20°.09S×177°.96W, h436km, Error ellipse: s-maj=2.0km s-min=1.2km az=294.0*
*BJI **26** 16:08:00.4, 20°.50S×177°.70W, h526km, mB4.5/8, mb4.3/13*
*ISCJB **26** 16:08:01.9±0.7, 20°.40S±0°.06×177°.76W±0°.05, h527km±8km, mb4.5/62, Error ellipse: s-maj=9.1km s-min=7.0km az=152.4*
*NEIC **26** 16:08:02.6±0.3, 20°.37S×177°.74W, mb4.5/16, Error ellipse: s-maj=10.2km s-min=6.7km az=141.0*
*IDC **26** 16:08:04.8±1.8, 20°.24S×177°.87W, h549km±20km, mb3.9/19, mb1 4.0/20, mb1mx4.0/23, mbtmp3.9/20, Error ellipse: s-maj=14.1km s-min=9.6km az=150.0*
*DJA **26** 16:08:10.7±2.8, 20°.S±9°×17°.8W±1°.5, h588km±24km, M4.8/31, mB5.3/2, mb4.8/31, Mw(mB)4.7/2*

ISC 26 16:08:02.4±0.4, 20°.39S±0°.06×177°.71W±0°.06, h526km±3km, h527km:pP-P, n196, σ1°14/221, mb4.5/62, 6C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.81**	**303**	*e*P	**P**	**16 09 30.5**	**+1.1**
NIUE	**Niue** baz=7.6,SNR=7.6	**7.44**	**81**	P	**P**	**16 09 53.6**	**-0.2**
AFI	**Afiamalu**	**8.58**	**42**	*e*P	P	16 10 01.3	-4.2
AFI				S	S	16 11 38.6	-8.0
AFI	**Afiamalu** 7.2nm,0.3s,baz=114,slow=17,SNR=12	**8.58**	**42**	P	P	16 10 00.7	-4.8
AFI	7.2nm,0.3s,baz=14,slow=22,SNR=8.7			S	S	16 11 38.6	-8.0
RAO	**Raoul Island**	**8.82**	**181**	P	**P**	**16 10 07.4**	**-0.3**
RAO				S	**S**	**16 11 50.8**	**+0.1**
RAO	**Raoul Island** 46nm,0.3s,baz=66,slow=22,SNR=6.6	**8.82**	**181**	P	**P**	**16 10 07.4**	**-0.3**
RAO	20nm,0.3s,baz=73,slow=19,SNR=3.0			S	**S**	**16 11 50.8**	**+0.1**
DZM	**Mont Dzumac**	**14.88**	**261**	P	**P**	**16 11 10.5**	**-0.6**
DZM	**Mont Dzumac** 1.5nm,0.3s,baz=92,slow=19,SNR=13	**14.88**	**261**	P	**P**	**16 11 10.5**	**-0.6**
URZ	**Urewera**	**18.36**	**193**	*e*P	**P**	**16 11 43.0**	**-1.6**
URZ	**Urewera** 1.5nm,0.3s,baz=312,slow=7.7,SNR=10	**18.36**	**193**	P	**P**	**16 11 42.8**	**-1.7**
KHZ	**Kahutara**	**23.17**	**197**	*e*P	**P**	**16 12 27.8**	**-0.1**
RPZ	**Rata Peaks**	**25.08**	**199**	P	**P**	**16 12 46.3**	**+1.4**
RPZ	**Rata Peaks** 24nm,1.1s,baz=315,slow=7.1,SNR=3.7	**25.08**	**199**	P	**P**	**16 12 46.3**	**+1.4**
EIDS	**Eidsvold** 12nm,0.6s	**29.14**	**254**	*e*P	**P**	**16 13 20.9**	**+0.1**
EIDS	**Eidsvold** baz=29,SNR=9.8	**29.14**	**254**	P	**P**	**16 13 21.4**	**+0.6**
ARMA	**Armidale** baz=29,SNR=13	**29.36**	**244**	P	**P**	**16 13 24.1**	**+1.3**
XMAS	**Kiritimati** 29nm,0.8s	**29.86**	**44**	*e*P	**P**	**16 13 26.1**	**-1.1**
RMQ	**Roma** baz=31,SNR=12	**31.30**	**252**	P	**P**	**16 13 41.0**	**+1.5**
CNB	**Canberra Magne** baz=32,SNR=7.2	**32.52**	**236**	P	**P**	**16 13 51.2**	**+1.4**
CTA	**Charters Tower**	**33.78**	**264**	P	**P**	**16 14 01.0**	**+0.4**
CTA	**Charters Tower** 47nm,0.6s,baz=95,slow=11,SNR=67	**33.78**	**264**	P	**P**	**16 14 01.0**	**+0.4**
CTAO	**Charters Tower** 163nm,1.4s	**33.78**	**264**	*e*P	**P**	**16 14 00.8**	**+0.2**
CMSA	**Cobar Meteorol** baz=34,SNR=26	**34.58**	**244**	P	**P**	**16 14 07.7**	**+0.6**
QLP	**Quilpie** baz=35,SNR=24	**35.35**	**253**	P	**P**	**16 14 14.1**	**+0.4**
PMG	**Port Moresby** 42nm,0.9s	**35.59**	**283**	P	**P**	**16 14 16.2**	**+0.4**
PMG	**Port Moresby** 42nm,0.9s	**35.59**	**283**	P	**P**	**16 14 16.0**	**+0.2**
PMG	**Port Moresby**	**35.59**	**283**	*e*P	**P**	**16 14 15.8**	**0.0**
PMG	**Port Moresby** 30nm,0.8s,baz=77,slow=4.4,SNR=15	**35.59**	**283**	P	**P**	**16 14 14.9**	**-0.9**
MTSU	**Mount Surprise** baz=36,SNR=34	**35.87**	**267**	P	**P**	**16 14 18.4**	**+0.2**
TOO	**Toolangi** baz=36,SNR=9.2	**36.18**	**234**	P	**P**	**16 14 19.8**	**-0.6**
COEN	**Coen** baz=38,SNR=22	**37.85**	**273**	P	**P**	**16 14 34.9**	**+0.5**
STKA	**Stephens Creek**	**38.08**	**244**	*e*P	**P**	**16 14 36.7**	**+0.6**
STKA	**Stephens Creek** baz=38,SNR=22	**38.08**	**244**	P	**P**	**16 14 36.9**	**+0.8**
STKA	**Stephens Creek** 16nm,0.7s,baz=92,slow=9.0,SNR=28	**38.08**	**244**	P	**P**	**16 14 36.1**	**0.0**
ARPS	**Mount Arapiles** baz=39,SNR=6.0	**38.77**	**236**	P	**P**	**16 14 42.7**	**+1.1**
BBOO	**Buckleboo** baz=43,SNR=40	**42.84**	**243**	P	**P**	**16 15 14.3**	**+0.2**
JAY	**Jayapura** 90nm,0.7s	**44.27**	**288**	P	**P**	**16 15 26.1**	**+0.6**
JAY	**Jayapura** baz=44,SNR=10.0	**44.27**	**288**	P	**P**	**16 15 26.1**	**+0.6**
AS31	**Alice Springs**	**44.81**	**257**	*e*P	**P**	**16 15 29.5**	**0.0**
ASAR	**Alice Springs**	**44.81**	**257**	P	**P**	**16 15 29.6**	**0.0**
ASAR				PcP	**PcP**	**16 17 00.2**	**-0.1**
ASAR				S	**S**	**16 21 26.9**	**-1.8**
ASAR	**Alice Springs** 88nm,0.9s,baz=99,slow=7.7,SNR=661	**44.81**	**257**	P	**P**	**16 15 29.6**	**0.0**
ASAR	3.9nm,0.9s,baz=108,slow=2.8,SNR=4.7			PcP	**PcP**	**16 17 00.2**	**-0.1**
ASAR	4.7nm,1.0s,baz=93,slow=15,SNR=17			S	**S**	**16 21 26.9**	**-1.8**
WRAB	**Tennant Creek** 74nm,1.0s	**44.88**	**262**	*e*P	**P**	**16 15 29.4**	**-0.7**
WRA	**Warramunga Arr**	**44.89**	**262**	P	**P**	**16 15 29.5**	**-0.6**
WRA				S	**S**	**16 21 27.1**	**-2.6**
WRA	**Warramunga Arr** 49nm,0.9s,baz=94,slow=6.7,SNR=86	**44.89**	**262**	P	**P**	**16 15 29.5**	**-0.6**
WRA	1.4nm,0.8s,baz=97,slow=14,SNR=3.5			S	**S**	**16 21 27.2**	**-2.6**
KDU	**Kakadu** baz=48,SNR=30	**48.22**	**271**	P	**P**	**16 15 54.9**	**-0.6**
MTN	**Manton Dam** baz=49,SNR=27	**49.44**	**270**	P	**P**	**16 16 03.6**	**-0.8**
FORT	**Forrest** baz=49,SNR=14	**49.59**	**247**	P	**P**	**16 16 05.2**	**-0.2**
TLE	**Tual** 81nm,1.0s	**50.25**	**280**	P	**P**	**16 16 10.8**	**+0.3**
TLE

NWAO	Narrogin (SRO)	58.66	243	P		P	16 17 09.7	+0.3
	16nm,1.0s,baz=71,slow=4.0,SNR=4.7							
MMRI	Maumere	59.02	272	P		P	16 17 11.7	-0.3
	68nm,0.9s							
BLDU	Ballidu	59.35	246	P		P	16 17 13.6	-0.3
	baz=59,SNR=11							
MORW	Morawa	60.12	248	P		P	16 17 18.9	-0.3
	baz=60,SNR=9.2							
LUWI	Luwuk	61.19	280	P		P	16 17 27.0	+0.6
	baz=61,SNR=6.4							
BNSI	Bone	62.43	276	P		P	16 17 34.5	0.0
KAPI	Kappang	62.55	275	P		P	16 17 33.1	-2.1
KAPI	Kappang	62.55	275	P		P	16 17 33.1	-2.1
	7.6nm,0.8s,baz=141,slow=6.5,SNR=3.4							
GIRL	Giralia	62.85	254	P		P	16 17 38.1	+1.1
	baz=63,SNR=5.1							
SPSI	Sidrap Palu	62.90	276	P		P	16 17 36.5	-1.0
TTSI	Tana Toraja	63.18	277	P		P	16 17 39.0	-0.3
PCJI	Pacitan	69.54	269	P		P	16 18 19.4	+0.6
KKM	Kota Kinabalu	70.00	285	P		P	16 18 22.0	+0.4
UGM	Wanagama	70.24	269	P		P	16 18 23.0	-0.1
	baz=70,SNR=5.9							
MJAR	Matsushiro Arr	70.29	323	P		P	16 18 21.5	-1.2
MJAR	Matsushiro Arr	70.29	323	P		P	16 18 21.5	-1.2
	2.8nm,0.7s,baz=173,slow=6.7,SNR=9.1							
STKI	Sintang	72.07	277	P		P	16 18 34.9	+1.2
SBUM	Sibu	72.26	280	P		P	16 18 35.4	+0.6
SBUM	Sibu	72.26	280	P		P	16 18 35.9	+1.1
	12nm,1.5s							
LEM	Lembang	73.32	269	P		P	16 18 41.8	+0.7
LEM	Lembang	73.32	269	P		P	16 18 41.8	+0.7
	baz=73,SNR=6.0							
KSM	Kuching	73.67	278	P		P	16 18 43.7	+0.8
KSM	Kuching	73.67	278	P		P	16 18 43.6	+0.7
	36nm,0.8s							
KSM	Kuching	73.67	278	*eP*		P	16 18 43.5	+0.5
	20nm,0.6s							
KSM	Kuching	73.67	278	P		P	16 18 43.8	+0.9
	baz=73,SNR=10							
CBJI	Citeko	74.17	269	P		P	16 18 45.2	-0.6
DBJI	Dramaga	74.22	269	P		P	16 18 45.4	-0.2
PETK	Petropavlovsk-	76.24	345	P		P	16 18 55.7	-0.7
PETK	Petropavlovsk-	76.24	345	P		P	16 18 55.7	-0.7
	2.9nm,0.7s,baz=141,slow=6.8,SNR=11							
KSRS	Korea Array	76.99	318	P		P	16 19 00.8	0.0
	1.3nm,0.8s,baz=143,slow=6.5,SNR=5.2							
KSAR	Wonju Array Be	77.01	318	P		P	16 19 00.8	-0.1
USRK	Ussuriysk Arra	79.03	326	P		P	16 19 12.1	+0.4
	4.6nm,0.8s,baz=146,slow=3.1,SNR=11							
CMB	Columbia Colle	79.20	43	*eP*		P	16 19 13.3	+0.5
	7.7nm,1.0s							
MYKOM	Kota Tinggi	79.80	276	P		P	16 19 17.2	+0.7
	24nm,1.0s							
NJ2	Nanjing	80.03	310	*eP*		P	16 19 19.3	+2.1
NJ2					AMB	AMB		
	comp=Z,10.0nm,0.8s							
YBH	Yreka Blue Hor	80.03	38	*eP*		P	16 19 18.4	+1.2
YBH	Yreka Blue Hor	80.03	38	P		P	16 19 17.6	+0.4
	5.9nm,0.7s,baz=218,slow=0.9,SNR=18							
WAKR	Walker	80.08	43	*eP*		P	16 19 18.5	+0.9
	4.9nm,1.0s							
MDJ	Mudanjiang	80.59	325	P		P	16 19 20.5	+0.6
MDJ				pP		pP	16 21 12.5	-0.7
MDJ				sP		sP	16 22 06.3	-0.8
MDJ				S		S	16 28 44.3	+0.8
MDJ				sS		sS	16 32 05.8	+0.2
MDJ				SS		SS	16 34 14.0	+2.2
MDJ					AMB	AMB		
	comp=Z,9.0nm,1.1s							
MDJ					AMB	AMB		
	comp=Z,97nm,5.6s							
NVAR	Mina Array Bea	80.76	43	P		P	16 19 21.9	+0.7
NVAR	Mina Array Bea	80.76	43	P		P	16 19 21.9	+0.7
	3.6nm,0.9s,baz=225,slow=9.7,SNR=23							
QIZ	Qiongzhong	81.07	294	P		P	16 19 23.5	+0.6
QIZ				pP		pP	16 21 15.5	-0.9
QIZ				sP		sP	16 22 08.8	-1.5
QIZ				S		S	16 28 50.3	+0.9
QIZ				sS		sS	16 32 11.8	+0.1
QIZ					AMB	AMB		
	comp=Z,100nm,6.1s							
TPH	Tonopah	81.25	44	*eP*		P	16 19 25.0	+1.2
	2.5nm,0.3s							
MOD	Modoc	81.56	39	*eP*		P	16 19 25.5	+0.4
	42nm,1.2s							
MAW	Mawson	81.76	200	P		P	16 19 26.4	+0.9
MAW	Mawson	81.76	200	P		P	16 19 26.4	+0.9
	3.9nm,0.7s,baz=101,slow=2.8,SNR=4.6							
CN2	Changchun	82.38	322	*eP*		P	16 19 30.0	+0.9
CN2				*es*	P	sP	16 22 18.0	+1.2
CN2				*eS*		S	16 29 02.5	+0.9
CN2					AMB	AMB		
	comp=Z,10.0nm,0.7s							
CN2					AMB	AMB		
	comp=Z,100nm,4.0s							
WHN	Wuhan	82.60	306	P		P	16 19 33.5	+3.0
TUC	Tucson	82.70	52	*eP*		P	16 19 32.3	+1.3
	13nm,1.4s							
WVOR	Wild Horse Val	82.87	40	*eP*		P	16 19 32.2	+0.4
	7.8nm,1.1s							
IPM	Ipoh	83.39	277	P		P	16 19 35.6	+0.7
	27nm,0.9s							
IPM	Ipoh	83.39	277	*eP*		P	16 19 35.3	+0.4
	20nm,1.0s							
PSI	Prapat	84.76	275	P		P	16 19 41.4	-0.4
	15nm,1.1s							
PSI	Prapat	84.76	275	P		P	16 19 41.3	-0.5
	baz=84,SNR=4.8							
ENH	Enshi	86.21	304	*eP*		P	16 19 48.8	+0.6
	18nm,1.3s							
TXAR	Lajitas Array	86.77	57	P		P	16 19 51.8	+0.8
TXAR				pP		pP	16 21 48.6	+2.1
TXAR	Lajitas Array	86.77	57	P		P	16 19 51.8	+0.8
	2.5nm,0.8s,baz=209,slow=6.7,SNR=11							
TXAR				pP		pP	16 21 48.6	+2.1
	0.9nm,0.8s,baz=199,slow=6.1,SNR=4.1							
MCK	McKinley	86.81	12	*eP*		P	16 19 49.4	-0.9
	2.8nm,0.7s							
GYA	Guiyang	86.84	300	*eP*		P	16 19 51.3	-0.1
GYA				pP		pP	16 21 48.3	+1.3
GYA				sP		sP	16 22 40.5	+0.2
GYA				PP		PP	16 23 26.8	+2.7
GYA				SKS		SKSac	16 29 27.0	-1.5
GYA				S		S	16 29 43.5	-2.2
GYA					AMB	AMB		
	comp=Z,10.0nm,1.0s							
SYO	Syowa Base	86.89	193⇑	*eP*		P	16 19 49.0	-1.7
SURT	Suratani	87.06	281	P		P	16 19 54.5	+1.9
	5.8nm,1.2s							
PHET	Kaeng Krachan	87.72	285	P		P	16 19 58.1	+2.5
	52nm,1.0s							
PBKT	Sadao Pong	87.85	288	P		P	16 19 57.9	+1.7
	12nm,1.5s,1μm							
PBKT	Sadao Pong	87.85	288	P		P	16 19 57.9	+1.7
	12nm,1.5s,1μm							
SNAA	Sanae	88.11	178	*eP*		P	16 19 56.4	-0.1
ILAR	Eielson Array	88.15	13	P		P	16 19 55.1	-1.4
ILAR				pP		pP	16 21 52.5	0.0
ILAR	Eielson Array	88.15	13	P		P	16 19 55.1	-1.4
	1.3nm,0.6s,baz=220,slow=5.8,SNR=29							
ILAR				pP		pP	16 21 52.5	0.0
	0.9nm,0.9s,baz=224,slow=6.0,SNR=6.5							
XAN	Xi'an	88.29	307	P		P	16 19 58.3	+0.3
XAN				pP		pP	16 21 50.5	-3.5
XAN					AMB	AMB		
	comp=Z,3.0nm,1.1s							
XAN					AMB	AMB		
	comp=Z,35nm,8.3s							
VNA2	Neumayer--Watz	88.67	177	*eP*		P	16 19 58.9	-0.2
	baz=205,slow=3.4							
PDAR	Pinedale Array	88.69	43	P		P	16 19 59.5	-0.3
PDAR	Pinedale Array	88.69	43	P		P	16 19 59.5	-0.3
	1.5nm,0.6s,baz=215,slow=3.5,SNR=14							
VNA1	Neumayer--Stat	88.90	176	*eP*		P	16 19 59.4	-0.7
NANT	Nan	88.92	290	P		P	16 20 02.5	+1.4
	28nm,1.0s							
KHLT	Khaolaem Dam	89.34	286	P		P	16 20 05.4	+2.2
	4.0nm,1.2s,447nm							
HHC	Hu-ho-hao-te	89.48	314	*eP*		P	16 20 06.8	+3.4
HHC				PP		PP	16 23 51.5	+6.9
HHC				SKS		SKSac	16 29 45.3	+1.9
HHC				S		S	16 30 11.5	+2.1
HHC					AMB	AMB		
	comp=Z,350nm,5.0s							
KMI	Kunming	89.55	297	P		P	16 20 05.5	+1.3
KMI					AMB	AMB		
	comp=Z,6.0nm,1.3s							
CM31	Chiang Mai Arr	90.34	289	*eP*		P	16 20 08.6	+0.9
CHTO	Chiang Mai	90.47	290	P		P	16 20 09.3	+0.9
CHTO	Chiang Mai	90.47	290	*eP*		P	16 20 09.1	+0.8
	54nm,1.3s							
CHTO	Chiang Mai	90.47	290	P		P	16 20 09.3	+0.9
	48nm,0.9s							
CMAI	Chiengmai2	90.78	291	P		P	16 20 10.9	+0.9
	32nm,0.8s,4μm							
CD2	Chengdu	90.96	303	P		P	16 20 11.5	+1.1
CD2					AMB	AMB		
	comp=Z,10.0nm,0.5s							
LCO	Las Campanas	94.19	123	P		P	16 20 15.7	-10
	baz=94,SNR=3.2							
ZALV	Zalesovo Beam	110.58	321	PKiKP		PKiKP	16 25 33.4	-1.3
ZALV	Zalesovo Beam	110.58	321	PKiKP		PKiKP	16 25 33.4	-1.3
	0.8nm,0.8s,baz=5.7,slow=1.4,SNR=3.4							
MKAR	Makanchi Array	111.33	313	PKiKP		PKiKP	16 25 34.7	-1.7
MKAR	Makanchi Array	111.33	313	PKiKP		PKiKP	16 25 34.7	-1.7
	0.4nm,0.6s,baz=63,slow=3.0,SNR=4.9							
KSH	Kashi	115.05	305	*e*PKP		PKPdf	16 25 40.3	-3.6
BVAR	Borovoye Array	119.17	320	PKP		PKPdf	16 25 49.6	-1.6
BVAR	Borovoye Array	119.17	320	PKP		PKPdf	16 25 49.6	-1.6
	1.4nm,0.7s,baz=24,slow=1.8,SNR=7.6							
AKTO	Aktyubinsk	127.17	318	PKP		PKPdf	16 26 05.2	-1.5
AKTO	Aktyubinsk	127.17	318	PKP		PKPdf	16 26 05.2	-1.5
	1.1nm,0.8s,baz=207,slow=3.1,SNR=4.3							
ARCES	ARCESS Array B	128.87	350	PKP		PKPdf	16 26 09.6	+0.2
ARCES	ARCESS Array B	128.87	350	PKP		PKPdf	16 26 09.6	+0.2
	2.0nm,0.8s,baz=285,slow=3.5,SNR=3.6							
FINES	FINESS Array B	135.75	344	PKP		PKPdf	16 26 22.2	-0.2
FINES	FINESS Array B	135.75	344	PKP		PKPdf	16 26 22.2	-0.2
	0.8nm,0.7s,baz=132,slow=2.8,SNR=3.4							
AKASG	Malin Array Be	143.05	331	PKPpre		PKPpre	16 26 32.2	
AKASG	Malin Array Be	143.05	331	PKhKP		PKPpre	16 26 32.2	
	2.1nm,0.5s,baz=42,slow=4.4,SNR=28							
AK01	Malin Array Si	143.06	331	*e*PKPpre		PKPpre	16 26 32.4	
KIEV	Kiev	143.06	331	*e*PKPpre		PKPpre	16 26 32.4	
AK02	Malin Array Si	143.09	331	*e*PKPpre		PKPpre	16 26 32.5	
MZRK	Al-Mazaregh	143.10	303	*i* P		PKPab	16 26 33.2	-1.0
SFNV	Sufian	143.37	304	*i* P		PKPbc	16 26 35.5	-0.2
MALT	Malatya	144.08	308	*i* P		PKPab	16 26 38.1	0.0
HAWK	Hawaii	146.80	302	*i* P		PKPbc	16 26 46.1	+0.2
ASF	Jabal al Asfar	146.97	298	PKPbc		PKPbc	16 26 46.4	0.0
ASF	Jabal al Asfar	146.97	298	PKPbc		PKPbc	16 26 46.4	0.0
	5.6nm,0.8s,baz=88,slow=0.6,SNR=8.2							
BR131	Keskin Array S	146.97	313	*e*PKPdf		PKPdf	16 26 43.6	+0.2
BR131				*e*PKPbc		PKPbc	16 26 45.5	-0.8
BRTR	Keskin Array B	146.97	313	PKPbc		PKPbc	16 26 45.4	-0.9
BRTR	Keskin Array B	146.97	313	PKPbc		PKPbc	16 26 45.4	-0.9
	2.4nm,0.7s,baz=122,slow=3.8,SNR=12							
BUR08	Bucovina Ar. S	147.09	331	*e*PKPbc		PKPbc	16 26 45.8	-0.4
BRBR	Barbar	147.46	300	*i* P		PKPbc	16 26 46.8	-1.0
MMAI	Mount Meron Ar	148.00	300	PKPbc		PKPbc	16 26 49.3	+0.3
MMAI	Mount Meron Ar	148.00	300	PKPbc		PKPbc	16 26 49.3	+0.3
	2.9nm,0.8s,baz=73,slow=6.2,SNR=7.9							
DPC	Dobruska-Polom	148.11	343⇑	*e*PKP		PKPbc	16 26 48.5	-0.2
BRG	Berggiesshubel	148.22	346	*e*PKP		PKPdf	16 26 44.4	-0.4
	5.5nm,1.3s							
BRG				*e*			16 26 48.9	
	8.1nm,1.0s							
PVCC	Panska Ves	148.40	345⇑	*e*PKP		PKPbc	16 26 48.2	-1.1
PRU	Pruhonice	148.90	345⇑	*e*PKP		PKPbc	16 26 50.0	-0.6
EIL	Elat	149.09	294	PKPbc		PKPbc	16 26 51.5	-0.2
EIL	Elat	149.09	294	PKPbc		PKPbc	16 26 51.5	-0.2
	6.8nm,0.7s,baz=341,slow=2.4,SNR=9.3							
KHC	Kesperske Hory	149.94	345⇑	*e*PKP		PKPbc	16 26 52.9	-0.3
GERES	GERESS Array B	150.17	345	PKPbc		PKPbc	16 26 52.2	-1.6
GERES	GERESS Array B	150.17	345	PKPbc		PKPbc	16 26 52.2	-1.6
	2.5nm,0.8s,baz=90,slow=1.3,SNR=12							
PKSM	Moragy	150.97	336	*i* P		PKPbc	16 26 54.9	-0.7
VTS	Vitosha	151.72	326	*i* P		PKPbc	16 26 56.0	-1.6
TORD	Torodi Ar. Bea	172.77	175	PKP		PKPdf	16 27 10.1	-1.7
TORD				PKPab		PKPab	16 28 41.5	+0.2
TORD				PP		PP	16 32 35.4	+3.4
TORD	Torodi Ar. Bea	172.77	175	PKP		PKPdf	16 27 10.1	-1.7
	1.6nm,1.0s,baz=83,slow=0.6,SNR=6.7							
TORD				PKPab		PKPab	16 28 41.5	+0.2
	0.3nm,0.8s,baz=192,slow=2.0,SNR=3.7							
TORD				PP		PP	16 32 35.4	+3.4
	0.9nm,1.0s,baz=138,slow=2.3,SNR=3.6							

*ISCJB **26** 16:45:01.5±0.3,38.08N±0.03×75.93E±0.07,h120km, mb3.5/6,Error ellipse: s-maj=7.5km s-min=3.8km az=167.9*

*NNC **26** 16:45:01.7±8.3,38.49N×75.40E,h0km,mb3.7,mpv3.3, Error ellipse: s-maj=78.9km s-min=43.1km az=13.0*

*IDC **26** 16:45:02.0±5.4,38.17N×75.81E,h103km±39km,mb3.3/6, mb1 3.3/12,mb1mx3.1/32,mbtmpg3.2/12,MS2.4/1, Ms1 2.4/1,ms1mx2.1/19,Error ellipse: s-maj=43.1km s-min=22.6km az=6.0*

ISC 26 16:45:02.5±0.6,38.07N±0.05×76.01E±0.09,h120km,n40, σ1°39/38,mb3.5/6,8C-2D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZA	Kyzart	4.05	352	P	Pn	16 46 03.1	+0.1
	SNR=20						
ULHL	Ulahol	4.17	2	P	Pn	16 46 05.0	+0.5
	SNR=7.3						
AML	Almayashu	4.43	337	P	Pn	16 46 08.0	0.0
	SNR=7.2						
KBK	Karagaybulak	4.65	350	P	Pn	16 46 12.0	+1.1
	SNR=6.8						
AAK	Ala-Archa	4.70	346	P	Pn	16 46 11.1	-0.5
	0.9nm,0.3s,baz=138,slow=9.2,SNR=11						
AAK				S	Sn	16 47 00.5	-4.7
	1.9nm,0.3s,baz=163,slow=15,SNR=5.8						
TKM2	Tokmak 2	4.86	356	⇑Pn	Pn	16 46 14.3	+0.7
	4.7nm,0.5s						
TKM2				⇑Sn	Sn	16 47 07.0	-1.9
	9.2nm,0.7s						
TKM2	Tokmak 2	4.86	356	P	Pn	16 46 14.5	+0.9
	SNR=18						
CHCP	Chirah Chowk	4.93	208	P	Pn	16 46 19.1	+4.5
CEP	Cherat	5.38	219	⇑P	Pn	16 46 24.1	+3.4
CEP				S	Sn	16 47 20.0	-1.7
THN	Thein Dam	5.63	183	*e*P	Pn	16 46 25.0	+1.1
THN				*e*S	Sn	16 47 27.0	-0.3
THW	Thamme Wali	6.31	215	P	Pn	16 46 35.1	+2.0
KK31	Karatay Array	6.54	322	Pn	Pn	16 46 35.4	-0.7
	0.7nm,0.3s,baz=140,slow=11,SNR=24						
KK31				⇑Sn	Sn	16 47 42.8	-6.5
	1.7nm,0.3s,baz=132,slow=24,SNR=5.0						
SARP	Sargodha	6.72	205	P	Pn	16 46 42.5	+3.9
MK31	Makanchi Array	9.87	26	⇓Pn	Pn	16 47 21.5	+0.4
	0.2nm,0.4s,baz=201,slow=13,SNR=4.1						
MKAR	Makanchi Array	9.87	26	P	Pn	16 47 20.4	-0.8
	0.1nm,0.3s,baz=206,slow=14,SNR=6.5						
DANN	Dangsing	11.66	144	*e*P	Pn	16 47 44.6	-0.8
	3.9nm,0.2s						
KOLN	Koldanda	12.08	146	*e*P	Pn	16 47 51.5	+0.6
	5.2nm,0.3s						
GKN	Gorkha	12.37	142	*e*P	Pn	16 47 54.4	-0.2
	5.1nm,0.3s						
KURBB	Kurchatov Arra	12.68	7	⇑Pn	P	16 48 04.8	0.0
	2.6nm,0.7s						
KURBB	Kurchatov Arra	12.68	7	P	Pn	16 47 56.2	-2.1
	0.0nm,0.3s,baz=192,slow=12,SNR=2.7						
KKN	Kakani	12.86	140	*e*P	Pn	16 48 01.5	+0.4
DMN	Daman	12.93	141	*e*P	Pn	16 48 01.9	-0.1
	2.9nm,0.3s						
PKIN	Phulchoki	13.10	140	*e*P	P	16 48 05.0	-4.9
	2.7nm,0.3s						
PKI	Pulchoki	13.11	140	*e*P	P	16 48 05.2	-4.9
JIRN	Jiri	13.44	138	*e*P	Pn	16 48 08.6	-0.2
	3.9nm,0.2s						
RAMN	Ramite	14.23	138	*e*P	P	16 48 18.8	-3.6
	4.2nm,0.3s						
TAPN	Taplejung	14.52	134	*e*P	P	16 48 22.6	-3.2
VOSK	Vostochnaya	15.07	348	⇑Pn	P	16 48 32.7	+1.4
	0.5nm,0.5s						
BVA0	Borovoye Array	15.46	347	⇓Pn	P	16 48 36.8	+1.2
	0.5nm,0.4s,baz=184,slow=10,SNR=8.2						
BVAR	Borovoye Array	15.46	347	P	Pn	16 48 33.2	-0.6
	0.4nm,0.3s,baz=160,slow=10,SNR=7.9						
BRVK	Borovoye	15.51	347	⇑Pn	P	16 48 37.7	+1.6
	4.5nm,0.8s						
AB31	Akbulak array	16.09	319	⇑P	Pn	16 48 41.8	+0.1
	0.6nm,0.5s,baz=113,slow=8.9,SNR=12						
ZALV	Zalesovo Beam	17.00	18	P	Pn	16 48 53.1	+0.4
	0.4nm,0.3s,baz=222,slow=11,SNR=12						
ZALV				LR	LR	16 56 50.4	
	comp=Z,14nm,20.4s,baz=252,slow=42						
AKTO	Aktyubinsk	17.80	320	P	P	16 49 00.8	-0.6
	0.2nm,0.3s,baz=133,slow=17,SNR=3.3						
SONM	Songino Array	24.15	56	P	P	16 50 09.6	+2.2
	1.6nm,0.8s,baz=254,slow=9.7,SNR=13						
SONM				pP		16 50 36.2	+3.8
	1.0nm,0.9s,baz=262,slow=10,SNR=5.5						
FINES	FINESS Array B	38.50	324	P	P	16 52 12.7	+0.1
	1.1nm,0.8s,baz=131,slow=8.6,SNR=4.7						
ARCES	ARCESS Array B	41.29	336	P	P	16 52 36.6	+1.1
	1.1nm,0.6s,baz=104,slow=8.4,SNR=15						
NOA	NORSAR Array B	45.57	322	P	P	16 53 10.0	0.0
	1.2nm,1.1s,baz=93,slow=8.2,SNR=3.1						
TORD	Torodi Ar. Bea	69.72	271	P	P	16 55 58.9	-0.7
	0.2nm,0.4s,baz=42,slow=5.8,SNR=3.6						
ILAR	Eielson Array	72.12	18	P	P	16 56 13.6	+0.2
	0.3nm,0.8s,baz=318,slow=5.3,SNR=4.6						

IDC 26 17:18:00.7±2.4,0.74N×27.66W,h0km,mb3.6/3, mb1 3.7/3,mb1mx3.5/24,mbtmpg3.6/3,MS3.3/3,Ms1 3.3/3, ms1mx3.0/19,Error ellipse: s-maj=86.3km s-min=51.5km az=116.0,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H10N3	ASCENSION HYDR	15.65	123	T	T	17 37 57.2	
	baz=302,slow=0.7,SNR=8.2						
H10N2	ASCENSION HYDR	15.65	123	T	T	17 37 54.7	
	baz=302,slow=0.7,SNR=5.3						
H10N1	ASCENSION HYDR	15.67	123	T	T	17 37 57.0	
	baz=302,slow=0.7,SNR=6.0						
H10S3	ASCENSION HYDR	16.14	127	T	T	17 38 34.9	
	baz=306,slow=0.7,SNR=20						
H10S1	ASCENSION HYDR	16.14	127	T	T	17 38 35.9	
	baz=306,slow=0.7,SNR=22						
H10S2	ASCENSION HYDR	16.15	127	T	T	17 38 35.7	
	baz=306,slow=0.7,SNR=16						
DBIC	Dimbokro	23.50	75	LR	LR	17 30 25.6	
	comp=Z,68nm,19.1s,baz=275,slow=32						
TORD	Torodi Ar. Bea	31.58	66	P	P	17 24 25.4	0.0
	0.4nm,0.7s,baz=258,slow=9.1,SNR=2.8						
TORD				LR	LR	17 34 45.1	
	comp=Z,42nm,19.9s,baz=75,slow=32						
CPUP	Villa Florida	39.28	225	LR	LR	17 41 20.7	
	comp=Z,40nm,19.4s,baz=170,slow=36						
GERES	GERESS Array B	59.64	30	P	P	17 28 06.9	+0.1
	0.3nm,0.5s,baz=230,slow=7.6,SNR=2.7						
AKASG	Malin Array Be	69.06	35	P	P	17 29 08.2	-0.2
	0.5nm,0.6s,baz=243,slow=5.9,SNR=4.2						
ASAR	Alice Springs	151.03	143	PKPbc	PKPbc	17 37 56.4	-0.3
	0.3nm,0.9s,baz=192,slow=1.8,SNR=4.9						

*CRAAG **26** 17:22:25.8,36.36N×7.50E,MI3.5*

CSEM 26 17:22:25.8,36.36N×7.50E,h0km,ML3.5,After ALG, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABSA	Djebel Ababsia	0.09	190	P	Pg	17 22 29.0	+1.4
ABSA	Djebel Ababsia	0.09	190	P	Pg	17 22 29.0	+1.4
CMAH	Djebel Manchou	0.27	347	P	Pg	17 22 32.2	+1.0
CMAH	Djebel Manchou	0.27	347	P	Pg	17 22 32.2	+1.0
CKFL	Kef-Lekhel	0.63	274	P	Pg	17 22 38.6	+0.6
CKFL	Kef-Lekhel	0.63	274	P	Pg	17 22 38.6	+0.6
CAEH	'Ain El Ouahch	0.67	309	P	Pg	17 22 38.7	0.0
CAEH	'Ain El Ouahch	0.67	309	P	Pg	17 22 38.7	0.0
CASM	Ain Smara	0.82	263	P	Pg	17 22 41.0	-0.6
CASM	Ain Smara	0.82	263	P	Pg	17 22 41.0	-0.6
CTEI	Djebel Teioual	0.93	252	P	Pg	17 22 43.0	-0.8
CTEI	Djebel Teioual	0.93	252	P	Pg	17 22 43.0	-0.8
DFRA	Djebel Bou Aff	1.32	279	P	Pg	17 22 50.0	-1.3
DFRA	Djebel Bou Aff	1.32	279	P	Pg	17 22 50.0	-1.3
SET	Setif	1.70	265	P	Pg	17 23 01.0	+2.4
SET	Setif	1.70	265	P	Pg	17 23 01.0	+2.4

IDC 26 17:29:58.5±3.4,15.60S×173.53W,h0km,mb3.8/4, mb1 4.1/4,mb1mx3.8/19,mbtmpg3.8/4,Error ellipse: s-maj=188.5km s-min=28.1km az=146.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	49.68	257	P	P	17 38 52.5	-0.1
	0.8nm,0.9s,baz=94,slow=6.2,SNR=3.8						
ASAR	Alice Springs	49.93	252	P	P	17 38 54.4	-0.2
	3.9nm,0.7s,baz=85,slow=8.4,SNR=64						
NVAR	Mina Array Bea	74.

mb1 4.6/12,mb1mx4.3/24,mbtmp4.3/12,MS3.6/8, Ms1 3.6/8,ms1mx3.4/28,Error ellipse: s-maj=27.4km s-min=15.1km az=137.0

NEIC ***26*** *18:12:43.2±0.3, 15.87S×173.05W, h10km, mb4.7/5, Error ellipse: s-maj=13.9km s-min=8.0km az=135.0*

AUST ***26*** *18:12:44.4±0.0, 15.87S×172.03W, h71km, Error ellipse: s-maj=1.8km s-min=1.2km az=260.0*

ISC 26 18:12:45.6±0.5, 15.8S±0.1×172.9W±0.1, h29km, n83, σ1§55/66, mb4.4/16, MS3.9/6, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.12**	**31**	*eP*	Pn	18 13 15.1	-4.1
AFI				Pn	Pn	18 13 15.3	-3.9
AFI				Sn	**Sn**	**18 13 39.8**	**-4.9**
AFI	**Afiamalu**	**2.12**	**31**	Pn	Pn	18 13 15.3	-3.9
	33nm,0.3s,baz=28,slow=3.8,SNR=21						
AFI				Sn	**Sn**	**18 13 39.8**	**-4.9**
	243nm,0.3s,baz=88,slow=20,SNR=16						
AFI				LR	LR	18 14 09.5	
	comp=Z,481nm,21.7s,baz=252,slow=38						
NIUE	**Niue**	**4.36**	**140**	P	Pn	18 13 42.0	-8.0
	baz=3.8,SNR=90						
MSVF	**Nonsavu**	**8.90**	**256**	*eP*	Pn	18 14 58.9	+6.5
	56nm,1.3s						
RAR	**Rarotonga**	**13.58**	**116**	LR	LR	18 19 55.9	
	comp=Z,253nm,20.3s,baz=271,slow=32						
DZM	**Mont Dzumac**	**20.52**	**249**	*eLR*	LR	18 22 45.3	
	123nm,21.1s						
DZM	**Mont Dzumac**	**20.52**	**249**	P	**P**	**18 17 20.9**	**-1.0**
DZM	**Mont Dzumac**	**20.52**	**249**	P	**P**	**18 17 20.9**	**-1.0**
	5.9nm,1.0s,baz=287,slow=19,SNR=3.6						
PPT2	**Papeete2**	**22.41**	**98**	*eLQ*	LQ	18 21 56.2	
	1µm,29.2s						
PPT2				*eLR*	LR	18 22 48.7	
	261nm,25.5s						
TBI	**Tubuai**	**23.32**	**113**	*eLQ*	LQ	18 22 06.1	
	370nm,29.0s						
TBI				*eLR*	LR	18 23 09.5	
	539nm,26.0s						
TBI	**Tubuai**	**23.32**	**113**	*eT*	T	18 41 47.9	
	8.9nm,0.3s						
URZ	**Urewera**	**24.10**	**200**	P	**P**	**18 17 57.4**	**-1.3**
URZ	**Urewera**	**24.10**	**200**	P	**P**	**18 17 57.4**	**-1.3**
	6.2nm,0.3s,baz=293,slow=3.7,SNR=13						
PMOR	**Pomariorio Ree**	**24.12**	**92**	*eT*	T	18 43 09.1	
	4.1nm,0.4s						
ARMA	**Armidale**	**35.58**	**239**	P	**P**	**18 19 38.6**	**-2.2**
	baz=36,SNR=6.2						
RKT	**Rikitea**	**36.43**	**108**	*eLR*	LR	18 28 51.7	
	239nm,30.5s						
RKT	**Rikitea**	**36.43**	**108**	*eT*	T	18 58 13.8	
	2.7nm,0.3s						
CTA	**Charters Tower**	**39.04**	**257**	P	**P**	**18 20 09.0**	**-1.2**
CTA	**Charters Tower**	**39.04**	**257**	P	**P**	**18 20 09.0**	**-1.2**
	2.9nm,0.8s,baz=63,slow=9.0,SNR=3.9						
PMG	**Port Moresby**	**39.44**	**274**	LR	LR	18 32 14.2	
	comp=Z,75nm,20.2s,baz=292,slow=30						
H11S2	**WAKE ISLAND Hy**	**39.51**	**329**	T	T	19 02 18.8	
	baz=151,slow=0.7						
H11S3	**WAKE ISLAND Hy**	**39.52**	**329**	T	T	19 02 24.4	
	baz=151						
H11S1	**WAKE ISLAND Hy**	**39.53**	**329**	T	T	19 02 19.1	
	baz=151,slow=0.7						
H11N3	**WAKE ISLAND Hy**	**40.45**	**330**	T	T	19 03 23.3	
	baz=152,slow=0.7,SNR=5.1						
H11N1	**WAKE ISLAND Hy**	**40.46**	**330**	T	T	19 03 23.7	
	baz=152,slow=0.7,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**40.47**	**330**	T	T	19 03 24.6	
	baz=152,slow=0.7,SNR=5.8						
CMSA	**Cobar Meteorol**	**40.80**	**240**	P	**P**	**18 20 22.5**	**-2.1**
	baz=41,SNR=4.8						
MTSU	**Mount Surprise**	**40.94**	**260**	P	**P**	**18 20 27.6**	**+1.7**
	baz=42,SNR=4.8						
QLP	**Quilpie**	**41.23**	**248**	P	**P**	**18 20 25.8**	**-2.5**
	baz=42,SNR=3.8						
COEN	**Coen**	**42.44**	**266**	P	**P**	**18 20 40.5**	**+2.2**
	baz=43,SNR=4.7						
STKA	**Stephens Creek**	**44.29**	**240**	P	**P**	**18 20 51.5**	**-1.5**
STKA	**Stephens Creek**	**44.29**	**240**	P	**P**	**18 20 51.5**	**-1.5**
	baz=45,SNR=12						
STKA	**Stephens Creek**	**44.29**	**240**	P	**P**	**18 20 51.5**	**-1.5**
	2.2nm,0.4s,baz=74,slow=9.9,SNR=16						
WRAB	**Tennant Creek**	**50.23**	**257**	*eP*	**P**	**18 21 38.5**	**-1.0**
	1.5nm,0.6s						
WRA	**Warramunga Arr**	**50.24**	**257**	P	**P**	**18 21 38.1**	**-1.5**
WRA	**Warramunga Arr**	**50.24**	**257**	P	**P**	**18 21 38.1**	**-1.5**
	0.8nm,0.4s,baz=91,slow=6.7,SNR=16						
AS31	**Alice Springs**	**50.47**	**252**	*eP*	**P**	**18 21 39.3**	**-2.0**
ASAR	**Alice Springs**	**50.47**	**252**	P	**P**	**18 21 39.5**	**-1.8**
ASAR	**Alice Springs**	**50.47**	**252**	P	**P**	**18 21 39.5**	**-1.8**
	4.8nm,0.5s,baz=88,slow=8.1,SNR=101						
MTN	**Manton Dam**	**54.19**	**265**	P	**P**	**18 22 09.6**	**+0.7**
	baz=55,SNR=3.8						
FITZ	**Fitzroy Crossi**	**58.61**	**258**	P	**P**	**18 22 40.5**	**0.0**
	baz=59,SNR=4.5						
SBA	**Scott Base**	**62.95**	**185**	*eP*	**P**	**18 23 10.1**	**+1.1**
	7.7nm,1.0s						
VNDA	**Vanda**	**63.08**	**186**	P	**P**	**18 23 09.7**	**-0.2**
VNDA	**Vanda**	**63.08**	**186**	P	**P**	**18 23 09.7**	**-0.2**
	2.6nm,1.0s,baz=21,slow=6.3,SNR=11						
MBWA	**Marble Bar**	**63.73**	**254**	*eP*	**P**	**18 23 14.7**	**-0.4**
	2.0nm,0.6s						
MJAR	**Matsushiro Arr**	**69.52**	**320**	LR	LR	18 51 56.1	
	comp=Z,90nm,18.5s,baz=145,slow=34						
PETK	**Petropavlovsk-**	**73.11**	**342**	P	**P**	**18 24 15.2**	**+2.1**
PETK	**Petropavlovsk-**	**73.11**	**342**	P	**P**	**18 24 15.2**	**+2.1**
	4.9nm,0.9s,baz=152,slow=11,SNR=4.6						
PETK				LR	LR	18 52 04.7	
	comp=Z,20nm,19.4s,baz=322,slow=32						
NVAR	**Mina Array Bea**	**74.26**	**42**	P	**P**	**18 24 21.7**	**+1.2**
NVAR	**Mina Array Bea**	**74.26**	**42**	P	**P**	**18 24 21.7**	**+1.2**
	0.8nm,0.7s,baz=230,slow=9.6,SNR=6.6						
QSPA	**South Pole Qui**	**74.30**	**180**	*eP*	**P**	**18 24 19.7**	**-0.5**
	13nm,1.3s						
KSRS	**Korea Array**	**76.74**	**315**	LR	LR	18 52 23.9	
	comp=Z,47nm,19.7s,baz=1.2,slow=31						
USRK	**Ussuriysk Arra**	**77.95**	**323**	LR	LR	18 51 43.1	
	comp=Z,80nm,21.0s,baz=199,slow=30						
TXAR	**Lajitas Array**	**80.40**	**56**	P	**P**	**18 24 56.2**	**+1.2**
TXAR	**Lajitas Array**	**80.40**	**56**	P	**P**	**18 24 56.2**	**+1.2**
	1.8nm,1.1s,baz=258,slow=6.3,SNR=4.3						
PDAR	**Pinedale Array**	**82.20**	**42**	P	**P**	**18 25 05.8**	**+1.5**
PDAR	**Pinedale Array**	**82.20**	**42**	P	**P**	**18 25 05.8**	**+1.5**
	1.8nm,0.9s,baz=221,slow=4.0,SNR=12						
COLA	**College**	**82.61**	**11**	*eP*	**P**	**18 25 06.7**	**+1.0**
	39nm,1.0s						
ILAR	**Eielson Array**	**82.69**	**11**	P	**P**	**18 25 07.2**	**+1.2**
ILAR	**Eielson Array**	**82.69**	**11**	P	**P**	**18 25 07.2**	**+1.2**
	5.9nm,0.3s,baz=235,slow=5.9,SNR=20						
LHMI	**Lhok Sumawe**	**91.55**	**275**	P	**P**	**18 25 49.0**	**-1.4**
	baz=92,SNR=3.4						
SONM	**Songino Array**	**95.42**	**318**	LR	LR	19 04 18.3	
	comp=Z,51nm,18.6s,baz=170,slow=32						
MKAR	**Makanchi Array**	**111.42**	**314**	PKiKP	**PKiKP**	**18 31 17.5**	**+0.4**
MKAR	**Makanchi Array**	**111.42**	**314**	PKiKP	**PKiKP**	**18 31 17.5**	**+0.4**
	0.2nm,0.5s,baz=23,slow=1.5,SNR=4.9						
ARCES	**ARCESS Array B**	**125.02**	**352**	PKP	**PKPdf**	**18 31 43.5**	**+1.0**
ARCES	**ARCESS Array B**	**125.02**	**352**	PKP	**PKPdf**	**18 31 43.5**	**+1.0**
	1.3nm,0.7s,baz=347,slow=1.6,SNR=5.6						
FINES	**FINESS Array B**	**132.38**	**348**	PKP	**PKPdf**	**18 31 57.0**	**+0.3**
FINES	**FINESS Array B**	**132.38**	**348**	PKP	**PKPdf**	**18 31 57.0**	**+0.3**
	1.9nm,0.9s,baz=347,slow=5.7,SNR=2.9						
DPC	**Dobruska-Polom**	**144.69**	**350**	*e*PKP	**PKPdf**	**18 32 20.2**	**+0.6**
DPC				*ep*PKP	**PKiKP**	**18 32 25.1**	**+1.8**
DPC				*ex*	x	18 32 28.3	
OKC	**Ostrava-Krasne**	**144.83**	**348**	*e*PKP	**PKPdf**	**18 32 21.1**	**+1.3**
OKC				*ex*	x	18 32 28.9	
PRU	**Pruhonice**	**145.32**	**352**	*e*PKP	**PKPdf**	**18 32 22.9**	**+2.3**
PRU				*ex*	x	18 32 29.8	
NKC	**Novy Kostel**	**145.33**	**354**	*e*PKP	**PKPdf**	**18 32 21.6**	**+0.9**
NKC				*ex*	x	18 32 29.9	
KMBO	**Kilima Mbogo**	**145.82**	**243**	PKPbc	**PKPab**	**18 32 24.1**	**+0.2**
KMBO	**Kilima Mbogo**	**145.82**	**243**	PKPbc	**PKPab**	**18 32 24.1**	**+0.2**
	2.5nm,0.9s,baz=97,slow=3.0,SNR=3.9						
KHC	**Kasperske Hory**	**146.29**	**352**	*e*PKP	**PKPab**	**18 32 24.8**	**+0.5**
KHC				*ep*PKP	**PKiKP**	**18 32 28.5**	**+1.8**
KHC				*ex*	x	18 32 32.8	
KHC	**Kasperske Hory**	**146.29**	**352**	*e*PKPbc	**PKPab**	**18 32 24.5**	**+0.3**
GERES	**GERESS Array B**	**146.55**	**352**	PKPbc	**PKPab**	**18 32 25.7**	**+0.3**
GERES	**GERESS Array B**	**146.55**	**352**	PKPbc	**PKPab**	**18 32 25.7**	**+0.3**
	0.8nm,0.7s,baz=323,slow=0.7,SNR=4.3						
BR131	**Keskin Array S**	**146.73**	**321**	*e*PKPbc	**PKPab**	**18 32 27.0**	**+0.6**
BRTR	**Keskin Array B**	**146.73**	**321**	PKPbc	**PKPab**	**18 32 26.8**	**+0.3**
BRTR	**Keskin Array B**	**146.73**	**321**	PKPbc	**PKPab**	**18 32 26.8**	**+0.3**
	7.3nm,1.0s,baz=39,slow=0.5,SNR=13						
TORD	**Torodi Ar. Bea**	**174.16**	**116**	PKP	**PKPdf**	**18 32 52.6**	**-0.8**
TORD				PKPab	**PKPab**	**18 34 23.9**	**-1.2**
TORD	**Torodi Ar. Bea**	**174.16**	**116**	PKP	**PKPdf**	**18 32 52.6**	**-0.8**
	1.1nm,1.0s,baz=299,slow=0.7,SNR=4.7						
TORD				PKPab	**PKPab**	**18 34 23.9**	**-1.2**
	0.8nm,0.9s,baz=251,slow=3.7,SNR=3.7						

IDC 26 18:18:18.2±4.5, 16.91S×177.73W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/18, mbtmp3.7/3, Error ellipse: s-maj=199.4km s-min=33.9km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.68**	**240**	P	P	18 25 52.9	+0.7
	0.9nm,0.7s,baz=90,slow=8.1,SNR=3.8						
WRA	**Warramunga Arr**	**45.45**	**258**	P	P	18 26 39.0	-0.4
	0.2nm,0.4s,baz=95,slow=7.4,SNR=5.1						
ASAR	**Alice Springs**	**45.69**	**253**	P	P	18 26 40.8	-0.5
	1.0nm,0.6s,baz=92,slow=7.6,SNR=18						
ILAR	**Eielson Array**	**84.78**	**13**	P	P	18 30 54.0	0.0
	0.2nm,0.4s,baz=219,slow=5.2,SNR=6.2						

MEX 26 18:18:24.2±1.3, 16.70N×94.15W, h131km±16km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGIG		**0.99**	**86**	*i* P	Pn	18 18 45.9	-1.3
TGIG				*i* S	Sn	18 19 02.6	-2.0
PCIG		**1.34**	**138**	*i* P	Pn	18 18 50.3	-0.3
PCIG				*i* S	Sn	18 19 10.5	-0.2
TUIG	**Tuzandepetl**	**1.35**	**349**	*i* P	Pn	18 18 48.9	-1.9
TUIG				*i* S	Sn	18 19 09.0	-1.9
CCIG	**Comitan**	**1.98**	**102**	*i* P	Pn	18 18 57.3	-0.9
CCIG				*i* S	Sn	18 19 22.6	-1.7
HUIG	**Huatulco**	**2.10**	**244**	*eP*	Pn	18 18 56.8	-2.6
HUIG				*i* S	Sn	18 19 25.3	-1.1
VHO	**Vista Hermosa**	**2.50**	**279**	*eP*	Pn	18 19 04.3	-0.4
VHO				*i* S	Sn	18 19 34.3	-1.5
TPIG	**Tehuac#an**	**3.50**	**300**	*i* P	Pn	18 19 16.9	-0.8
TPIG				*i* S	Sn	18 19 57.2	-1.8
UTMO	**Huajuapan**	**3.66**	**288**	*i* P	Pn	18 19 18.9	-0.9
UTMO				*i* S	Sn	18 20 00.5	-2.4
PNIG	**Pinotepa**	**3.82**	**266**	*eP*	Pn	18 19 19.7	-2.0
PNIG				*i* S	Sn	18 20 04.3	-2.0

IDC ***26*** *18:36:18.2±1.3, 39.30N×72.93E, h0km, mb3.5/7, mb1 3.6/9, mb1mx3.5/29, mbtmp3.4/9, ML2.8/2, Error ellipse: s-maj=29.0km s-min=20.1km az=173.0*

NNC ***26*** *18:36:22.9±7.9, 39.38N×72.09E, h0km, mb3.9, mpv3.4, Error ellipse: s-maj=64.7km s-min=33.0km az=6.0*

ISC 26 18:36:23.5±0.7, 39.40N±0.06×72.84E±0.06, h33km, n26, σ2§02/28, mb3.4/7, 8C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**2.81**	**13**	P	**Pn**	**18 37 07.7**	**+1.2**
	SNR=24						
KZA	**Kyzart**	**3.25**	**34**	P	**Pn**	**18 37 13.3**	**+0.8**
	SNR=20						
EKS2	**Erkin-Say**	**3.34**	**12**	P	**Pn**	**18 37 15.8**	**+2.3**
	SNR=17						
AAK	**Ala-Archa**	**3.47**	**21**	P	**Pn**	**18 37 16.2**	**+0.9**
	SNR=28						
KBK	**Karagaybulak**	**3.63**	**25**	P	**Pn**	**18 37 18.4**	**+0.9**
	SNR=15						
ULHL	**Ulahol**	**3.84**	**41**	P	**Pn**	**18 37 21.7**	**+1.1**
	SNR=9.3						
CHMS	**Chumysh**	**3.88**	**21**	P	**Pn**	**18 37 21.9**	**+1.0**
	SNR=34						
USP	**Ospenovka**	**4.06**	**17**	P	**Pn**	**18 37 24.6**	**+1.2**
	SNR=11						
TKM2	**Tokmak 2**	**4.09**	**30**	⇑Pn	**Pn**	**18 37 24.4**	**+0.4**
	6.2nm,0.4s						
TKM2				⇓Sn	**Sb**	**18 38 24.7**	**+0.7**
	21nm,0.6s						
TKM2	**Tokmak 2**	**4.09**	**30**	P	**Pn**	**18 37 24.8**	**+0.9**
	SNR=8.6						
KK31	**Karatay Array**	**4.10**	**335**	⇑Pn	Pn	18 37 26.6	+2.8
	1.2nm,0.3s,baz=134,slow=12,SNR=58						
KK31				⇓Pg	**Pb**	**18 37 36.1**	**+1.2**
	4.9nm,0.3s,baz=148,slow=13,SNR=8.0						
KK31				⇓Sn	Sb	18 38 16.7	-7.3
	8.2nm,0.3s,baz=133,slow=24,SNR=7.5						
KNDC	**Almaty**	**4.92**	**38**	⇑Pn	**Pb**	**18 37 46.7**	**-2.3**
KNDC				⇑Sn	**Sb**	**18 38 49.7**	**+2.0**
JMU	**Jammu**	**6.87**	**165**	*i* P	**Sb**	**18 39 44.5**	**+0.8**
THN	**Thein Dam**	**7.33**	**161**	*eP*	Px	18 39 01.1	
MKAR	**Makanchi Array**	**10.12**	**40**	Pn	**Pn**	**18 38 46.5**	**+0.1**
	0.0nm,0.3s,baz=218,slow=18,SNR=2.7						
AB31	**Akbulak array**	**13.48**	**321**	⇑Pn	**Pn**	**18 39 32.9**	**+0.6**
	0.6nm,0.4s,baz=240,slow=18,SNR=22						
AB31				⇑Sn	**Sn**	**18 41 57.0**	**-3.9**
	0.7nm,0.6s,baz=132,slow=25,SNR=3.1						
BVA0	**Borovoye Array**	**13.73**	**354**	⇑Pn	P	18 39 46.9	+3.0
	1.0nm,0.6s,baz=173,slow=12,SNR=5.4						
AKTO	**Aktyubinsk**	**15.20**	**321**	⇓Pn	**P**	**18 40 01.4**	**+1.1**
	3.7nm,0.9s						
AKTO				⇑Sn	**Sn**	**18 42 35.8**	**-7.0**
	2.8nm,1.2s						
ZALV	**Zalesovo Beam**	**16.68**	**25**	Pn	**Pn**	**18 40 13.3**	**-1.2**
	0.1nm,0.3s,baz=202,slow=11,SNR=2.9						
SONM	**Songino Array**	**25.55**	**60**	P	**P**	**18 41 48.1**	**-1.3**
	0.2nm,0.6s,baz=272,slow=8.2,SNR=3.9						
CMAR	**Chiang Mai Arr**	**30.75**	**125**	P	**P**	**18 42 34.0**	**-1.8**
	0.1nm,0.3s,baz=304,slow=8.5,SNR=3.0						
FINES	**FINESS Array B**	**35.96**	**323**	P	**P**	**18 43 21.7**	**+1.0**
	0.6nm,0.6s,baz=107,slow=12,SNR=3.8						
ARCES	**ARCESS Array B**	**39.06**	**336**	P	**P**	**18 43 47.9**	**+1.0**
	1.5nm,0.8s,baz=118,slow=9.6,SNR=3.3						
GERES	**GERESS Array B**	**42.51**	**303**	P	**P**	**18 44 14.8**	**-0.9**
	0.4nm,0.6s,baz=83,slow=8.0,SNR=4.4						
NOA	**NORSAR Array B**	**42.99**	**321**	P	**P**	**18 44 18.9**	**-0.5**
	0.6nm,0.8s,baz=108,slow=7.8,SNR=2.8						
TORD	**Torodi Ar. Bea**	**67.24**	**269**	P	**P**	**18 47 16.0**	**+1.1**
	0.3nm,0.6s,baz=49,slow=5.2,SNR=6.0						

AUST ***26*** *18:44:03.1±0.0, 7.08S×127.92E, h221km, Error ellipse: s-maj=1.7km s-min=0.8km az=304.0*

ISCJB ***26*** *18:44:04.8±0.5, 7.20S±0.05×128.03E±0.06, h250km, mb3.3/5, Error ellipse: s-maj=7.8km s-min=6.6km az=9.3*

IDC ***26*** *18:44:07.4±4.8, 7.25S×127.83E, h246km±50km, mb3.0/5, mb1 3.4/8, mb1mx3.2/20, mbtmp3.3/8, Error ellipse: s-maj=57.2km s-min=13.6km az=58.0*

ISC 26 18:44:07.0±0.8, 7.34S±0.08×127.98E±0.08, h250km, n19, σ1§90/20, mb3.2/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**4.38**	**237**	P	**Pn**	**18 45 15.2**	**-0.4**
	baz=4.5,SNR=21						
TLE	**Tual**	**5.02**	**71**	P	Pn	18 45 19.4	-3.8
	baz=5.0,SNR=28						
BATI	**Baumata**	**5.13**	**236**	P	**Pn**	**18 45 24.4**	**0.0**
	10nm,0.3s,baz=117,slow=1.8,SNR=43						
BATI				S	**S**	**18 46 25.2**	**-0.9**
	20nm,0.3s,baz=280,slow=22,SNR=22						
FAKI	**Fak Fak**	**6.12**	**44**	P	Pn	18 45 30.3	-6.4
	baz=6.0,SNR=5.9						
MTN	**Manton Dam**	**6.29**	**151**	P	**Pn**	**18 45 37.6**	**-1.1**
	baz=6.6,SNR=21						
KDU	**Kakadu**	**6.91**	**141**	P	**Pn**	**18 45 45.4**	**-1.2**
	baz=7.2,SNR=39						
SWI	**Sorong**	**7.22**	**27**	P	Pn	18 45 45.4	-5.2
	baz=7.1,SNR=8.4						
KNRA	**Kununurra**	**8.32**	**175**	P	**Pn**	**18 46 04.0**	**-0.3**
	baz=8.6,SNR=136						
FITZ	**Fitzroy Crossi**	**10.93**	**192**	P	**Pn**	**18 46 38.8**	**+1.4**
	baz=11,SNR=18						
FITZ	**Fitzroy Crossi**	**10.93**	**192**	P	**Pn**	**18 46 36.6**	**-0.7**
	3.0nm,0.3s,baz=30,slow=11,SNR=106						
FITZ				S	**S**	**18 48 37.7**	**-2.2**
	0.5nm,0.3s,baz=300,slow=20,SNR=2.9						
WRA	**Warramunga Arr**	**13.96**	**154**	P	**Pn**	**18 47 14.6**	**-0.2**
	1.7nm,0.3s,baz=330,slow=12,SNR=19						
WRA				S	**S**	**18 49 46.5**	**-3.0**
	1.0nm,0.3s,baz=331,slow=21,SNR=6.4						
COEN	**Coen**	**16.31**	**115**	P	**P**	**18 47 42.2**	**+0.8**
	baz=16,SNR=8.3						
ASAR	**Alice Springs**	**17.20**	**161**	P	**Pn**	**18 47 53.9**	**+0.5**
	1.5nm,0.3s,baz=338,slow=11,SNR=94						
ASAR				S	**S**	**18 51 03.2**	**+6.0**
	0.1nm,0.3s,baz=208,slow=27,SNR=5.0						
MTSU	**Mount Surprise**	**19.19**	**126**	P	**P**	**18 48 13.9**	**+1.3**
	baz=19,SNR=8.3						
STKA	**Stephens Creek**	**27.51**	**154**	P	**P**	**18 49 32.1**	**+1.4**
	3.3nm,1.0s,baz=19,slow=1.2,SNR=5.4						
CMAR	**Chiang Mai Arr**	**38.45**	**312**	P	**P**	**18 51 04.8**	**-0.4**
	0.3nm,0.6s,baz=125,slow=7.2,SNR=4.7						
SONM	**Songino Array**	**58.16**	**343**	P	**P**	**18 53 35.2**	**+0.3**
	0.2nm,0.3s,baz=152,slow=6.5,SNR=2.6						
MKAR	**Makanchi Array**	**67.43**	**328**	P	**P**	**18 54 35.3**	**-0.6**
	0.2nm,0.5s,baz=116,slow=8.2,SNR=5.7						
ZALV	**Zalesovo Beam**	**71.02**	**335**	P	**P**	**18 54 56.8**	**-0.8**
	0.2nm,0.3s,baz=113,slow=3.7,SNR=2.2						

ISCJB ***26*** *19:04:54.1±0.6, 45.66S×96.05E±0.2, h8km, mb4.1/11, MS4.2/15, Error ellipse: s-maj=22.4km s-min=10.8km az=35.5*

IDC ***26*** *19:04:54.9±0.8, 45.66S×96.05E, h0km, mb4.1/10, mb1 4.2/10, mb1mx4.0/19, mbtmp4.1/10, MS4.1/15, Ms1 4.1/15, ms1mx4.0/27, Error ellipse: s-maj=29.0km s-min=16.1km az=121.0*

NEIC ***26*** *19:04:56.3±0.6, 45.63S×96.02E, h10km, mb4.7/2, Error ellipse: s-maj=21.1km s-min=12.3km az=126.0*

GCMT ***26*** *19:04:58.6±0.3, 45.66S×95.74E, h12km, MW4.8, Moment Tensor Solution. s16,c18; s67,c92; Moment tensor: Scale 10^{16}Nm; M_{rr}0.10±.07; $M_{\theta\theta}$-1.85±.07; $M_{\phi\phi}$1.75±.07; $M_{r\theta}$-0.06±.23; $M_{r\phi}$-0.51±.07; $M_{\theta\phi}$0.23±.22; Best double couple: $M_0$1.90000×10^{16} NP1:φ307.00000°, δ85.00000°, λ174.00000°. NP2:φ37.00000°, δ84.00000°, λ5.00000°. Principal axes: T 1.8500, Plg8.0000°, Azm262.0000°; N 0.0700, Plg82.0000°, Azm88.0000°; P -1.9200, Plg1.0000°, Azm352.0000°; Data Used: IC G II IU.*

ISC 26 19:04:56.0±0.7, 45.65S±0.1×96.02E±0.2, h8km, n41, σ1§00/27, mb4.2/11, MS4.2/15, 1D, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**17.48**	**58**	T	T	19 26 56.7	
	baz=226,slow=0.7,SNR=161						
H01W3	**Cape Leeuwin H**	**17.49**	**58**	T	T	19 26 52.0	
	baz=226,slow=0.7,SNR=176						
H01W1	**Cape Leeuwin H**	**17.49**	**59**	T	T	19 26 52.0	
	baz=226,slow=0.7,SNR=203						
NWAO	**Narrogin (SRO)**	**20.70**	**60**	P	**P**	**19 09 35.7**	**-0.8**
NWAO	**Narrogin (SRO)**	**20.70**	**60**	P	**P**	**19 09 35.7**	**-0.8**
	11nm,1.2s,baz=206,slow=6.7,SNR=3.2						
NWAO				LR	LR	19 15 53.1	
	comp=Z,563nm,19.6s,baz=33,slow=32						
MAW	**Mawson**	**27.95**	**207**	P	**P**	**19 10 46.3**	**-0.2**
MAW	**Mawson**	**27.95**	**207**	P	**P**	**19 10 46.3**	**-0.2**
	10nm,1.0s,baz=40,slow=9.5,SNR=9.1						
MAW				LR	LR	19 19 14.7	
	comp=Z,292nm,20.8s,baz=229,slow=31						
SYO	**Syowa Base**	**36.43**	**210**	⇓*eP*	**P**	**19 11 59.8**	**-0.8**
STKA	**Stephens Creek**	**37.62**	**85**	*eP*	**P**	**19 12 13.5**	**+2.2**
STKA	**Stephens Creek**	**37.62**	**85**	P	**P**	**19 12 12.3**	**+1.1**
	1.7nm,0.7s,baz=209,slow=10,SNR=2.8						
STKA				LR	LR	19 24 33.4	
	comp=Z,536nm,20.2s,baz=208,slow=31						
ASAR	**Alice Springs**	**37.63**	**67**	P	**P**	**19 12 09.9**	**-1.5**
ASAR	**Alice Springs**	**37.63**	**67**	P	**P**	**19 12 09.9**	**-1.5**
	1.3nm,0.9s,baz=222,slow=6.9,SNR=7.0						
ASAR				LR	LR	19 25 43.2	
	comp=Z,311nm,19.7s,baz=242,slow=33						
WRA	**Warramunga Arr**	**40.60**	**64**	P	**P**	**19 12 35.6**	**-0.7**
WRA	**Warramunga Arr**	**40.60**	**64**	P	**P**	**19 12 35.6**	**-0.7**
	3.4nm,1.0s,baz=221,slow=8.1,SNR=11						
WRA				LR	LR	19 27 30.5	
	comp=Z,703nm,19.8s,baz=225,slow=33						
WRAB	**Tennant Creek**	**40.62**	**64**	P	**P**	**19 12 35.4**	**-1.1**
	18nm,1.5s						
VNDA	**Vanda**	**40.72**	**162**	P	**P**	**19 12 37.6**	**+1.0**
VNDA	**Vanda**	**40.72**	**162**	P	**P**	**19

*BYKL **26** 19:22:27.6±0.2,53˚.14N×107˚.78E*
*MOS **26** 19:22:27.0±1.4,53˚.12N×107˚.78E,h4km,mb4.2/1,Error ellipse: s-maj=22.9km s-min=13.0km az=136.1*

ISC 26 19:22:26.0±1.1,53˚.19N±0˚.02×107˚.67E±0˚.02,h6km±9km, n34,σ1§62/72,5C-3D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OGRR	**Ongureny**	**0.45**	**355**	⇑*i*Pg	**Pb**	**19 22 37.6**	**+1.2**
OGRR				*e*Sg	**Sb**	**19 22 44.3**	**+0.8**
OGRR				Pmax			
	127nm,0.1s						
OGRR				Smax			
	623nm,0.3s						
MXMB	**Maximikha**	**0.65**	**83**	⇑*i*Pg	**Pg**	**19 22 38.3**	**-0.2**
MXMB				*e*Sg	**Sg**	**19 22 46.7**	**-0.3**
MXMB				Pmax			
	65nm,0.1s						
MXMB				Smax			
	784nm,0.5s						
ZRHB	**Zarechye**	**0.71**	**206**	⇑*i*Pg	**Pb**	**19 22 41.0**	**+0.2**
ZRHB				*e*Sg	**Sb**	**19 22 50.8**	**0.0**
ZRHB				Pmax			
	120nm,0.2s						
ZRHB				Smax			
	1μm,0.6s						
TRG	**Tyrgan**	**0.91**	**242**	*e*PG	**Pn**	**19 22 45.2**	**-0.1**
TRG				*e*		19 22 58.2	
TRG				pmax	pmax		
	comp=Z,74nm,0.2s						
TRG				smax	smax		
	comp=N,1μm,0.2s						
TRG	**Tyrgan**	**0.91**	**242**	⇑*i*Pg	**Pb**	**19 22 44.6**	**+0.5**
TRG				*e*Pb	**Pn**	**19 22 46.5**	**+1.2**
TRG				*e*Sg	**Sn**	**19 22 58.1**	**-0.6**
TRG				*e*Sb	Sb	19 23 02.7	+6.2
TRG				max			
	comp=N,73nm,0.1s						
TRG				max			
	comp=N,1μm,0.2s						
KAB	**Kabansk**	**1.30**	**209**	*e*Pg	**Pg**	**19 22 52.1**	**+1.2**
KAB				*e*Sg	**Sn**	**19 23 07.6**	**-0.8**
KAB				Pmax			
	comp=N,168nm,0.4s						
KAB				Smax			
	comp=N,941nm,0.5s						
UUDB	**Ulan-Yde**	**1.33**	**180**	⇑*i*Pg	**Pn**	**19 22 50.5**	**-0.6**
UUDB				*e*Pb	**Pg**	**19 22 51.9**	**+0.5**
UUDB				*e*Sg	**Sb**	**19 23 07.2**	**-1.3**
UUDB				*e*Sb	**Sg**	**19 23 10.6**	**+2.0**
UUDB				max			
	comp=N,122nm,0.2s						
UUDB				max			
	comp=N,892nm,0.5s						
SYVR	**Suvo**	**1.47**	**71**	*e*Pg	**Pn**	**19 22 53.1**	**0.0**
SYVR				*e*		19 22 59.7	
SYVR				*e*Sg	**Sb**	**19 23 12.8**	**+0.1**
SYVR				max			
	comp=N,87nm,0.4s						
SYVR				Smax			
	comp=N,256nm,0.5s						
HRMR	**Khuramsha**	**1.63**	**196**	⇓*i*Pg	**Pb**	**19 22 56.1**	**-0.3**
HRMR				*e*Sg	**Sg**	**19 23 17.5**	**-0.7**
LSTR	**Listvyanka**	**2.18**	**234**	*e*PN	**Pn**	**19 23 04.5**	**+1.7**
LSTR				*e*		19 23 35.0	
LSTR				pmax	pmax		
	comp=Z,10.0nm,0.4s						
LSTR				smax	smax		
	comp=N,163nm,0.4s						
LSTR	**Listvyanka**	**2.18**	**234**	⇓*i*Pn	**Pn**	**19 23 04.5**	**+1.7**
LSTR				*e*Pg	**Pb**	**19 23 07.0**	**+1.2**
LSTR				*e*Sn	**Sb**	**19 23 32.6**	**-0.5**
LSTR				*e*Sg	**Sg**	**19 23 36.3**	**+0.3**
LSTR				Pmax			
	comp=N,11nm,0.2s						
LSTR				Smax			
	comp=N,171nm,0.8s						
IRK	**Irkutsk**	**2.27**	**247**	*e*PN	**Pb**	**19 23 08.7**	**+1.3**
IRK				*e*S	**Sn**	**19 23 34.4**	**+2.0**
IRK				*e*		19 23 38.2	
IRK				pmax	pmax		
	comp=Z,14nm,0.2s						
IRK				smax	smax		
	comp=N,683nm,0.5s						
IRK	**Irkutsk**	**2.27**	**247**	*e*Pn	**Pb**	**19 23 06.4**	**-1.0**
IRK				*e*Pg	**Pg**	**19 23 09.1**	**-0.4**
IRK				*e*PgPg	**PnPn**	**19 23 13.9**	**+2.7**
IRK				*e*Sn	**Sn**	**19 23 33.7**	**+1.3**
IRK				*e*Sg	**Sg**	**19 23 38.3**	**-0.6**
IRK				max			
	comp=N,43nm,0.2s						
IRK				Smax			
	comp=N,664nm,0.8s						
YLYR	**Ulyunkhan**	**2.66**	**49**	*e*PN	**Pn**	**19 23 10.6**	**+1.2**
YLYR				*e*		19 23 13.9	
YLYR				*e*		19 23 49.6	
YLYR				pmax	pmax		
	comp=Z,20nm,0.3s						
YLYR				smax	smax		
	comp=N,113nm,0.9s						
YLYR	**Ulyunkhan**	**2.66**	**49**	⇓*i*Pn	**Pn**	**19 23 10.6**	**+1.2**
YLYR				*e*Pg	**Pb**	**19 23 14.1**	**0.0**
YLYR				*e*Sg	**Sb**	**19 23 49.7**	**+2.7**
YLYR				Pmax			
	comp=N,22nm,0.5s						
YLYR				Smax			
	comp=N,102nm,0.6s						
TLY	**Talaya**	**2.89**	**240**	*e*PN	**Pg**	**19 23 20.3**	**-1.0**
TLY				*e*		19 23 56.2	
TLY				pmax	pmax		
	comp=Z,10.0nm,0.3s						
TLY				smax	smax		
	comp=E,92nm,0.6s						
TLY	**Talaya**	**2.89**	**240**	*e*Pn	**Pn**	**19 23 14.3**	**+1.7**
TLY				*e*Pg	**Pg**	**19 23 20.3**	**-1.0**
TLY				*e*Sn	**Sn**	**19 23 46.9**	**-0.7**
TLY				*e*Sg	**Sg**	**19 23 57.1**	**-1.6**
TLY				Pmax			
	comp=E,13nm,0.4s						
TLY				Smax			
	comp=E,93nm,0.6s						
KMO	**Kumora**	**3.40**	**36**	*e*PN	**Pn**	**19 23 21.5**	**+2.0**
KMO				*e*		19 23 28.1	
KMO				*e*S	**Sn**	**19 23 59.5**	**-0.6**
KMO	**Kumora**	**3.40**	**36**	*e*Pn	**Pn**	**19 23 21.3**	**+1.8**
KMO				*e*Pg	**Pb**	**19 23 28.2**	**+1.7**
KMO				*e*		19 23 34.4	
KMO				*e*Sn	**Sn**	**19 24 01.1**	**+1.0**
KMO				*e*Sg	**Sg**	**19 24 13.4**	**-1.6**
KMO				max			
	comp=E,22nm,0.4s						
KMO				Smax			
	comp=E,133nm,1.3s						
ARS	**Arshan**	**3.44**	**250**	*e*PN	**Pb**	**19 23 28.7**	**+1.3**
ARS				*e*		19 24 12.3	
ARS				pmax	pmax		
	comp=Z,15nm,0.2s						
ARS				smax	smax		
	comp=E,282nm,0.4s						
ARS	**Arshan**	**3.44**	**250**	*e*Pn	**Pn**	**19 23 21.5**	**+1.3**
ARS				*e*Pg	**Pb**	**19 23 30.2**	**+2.8**
ARS				*e*Sn	**Sn**	**19 24 02.9**	**+1.5**
ARS				*e*Sg	**Sg**	**19 24 14.9**	**-1.6**
ARS				Pmax			
	comp=E,36nm,0.5s						
ARS				Smax			
	comp=E,348nm,0.7s						
YOA	**Uoyan**	**3.77**	**37**	*e*Pg	**Pb**	**19 23 34.9**	**+1.9**
YOA				*e*Sg	**Sg**	**19 24 24.0**	**-3.1**
YOA				Pmax			
	comp=E,22nm,0.2s						
YOA				Smax			
	comp=E,467nm,1.8s						
CIT	**Chita**	**3.77**	**106**	*e*PN	**Pn**	**19 23 25.3**	**+0.6**
CIT				*e*		19 23 34.1	
CIT				*e*		19 24 20.7	
CIT				pmax	pmax		
	comp=Z,86nm,0.8s						
CIT				smax	smax		
	comp=N,233nm,1.0s						
CIT	**Chita**	**3.77**	**106**	*e*	Pg	19 23 35.4	-2.9
CIT				*e*Sn	**Sn**	**19 24 07.4**	**-2.1**
CIT				*e*Sg	**Sb**	**19 24 21.1**	**+2.1**
CIT				Smax			
	comp=N,287nm,0.8s						
ZAK	**Zakamensk**	**3.92**	**226**	*e*Pn	**Pn**	**19 23 29.2**	**+2.5**
ZAK				*e*Pg	**Pb**	**19 23 38.4**	**+3.0**
ZAK				*e*		19 23 42.0	
ZAK				*e*Sg	**Sg**	**19 24 30.4**	**-1.2**
ZAK				max			
	comp=N,6.0nm,0.3s						
ZAK				Smax			
	comp=N,25nm,0.3s						
UKT	**Uakit**	**4.18**	**54**	*e*Pn	**Pn**	**19 23 30.5**	**+0.2**
UKT				*e*Pg	**Pb**	**19 23 42.2**	**+2.3**
UKT				*e*Sg	**Sg**	**19 24 36.2**	**-3.9**
UKT				Pmax			
	comp=N,87nm,0.6s						
UKT				Smax			
	comp=N,252nm,0.5s						
MOY	**Mondy**	**4.36**	**252**	*e*Pn	Pn	19 23 37.1	+4.3
MOY				*e*Pg	**Pg**	**19 23 47.4**	**-2.1**
MOY				*e*		19 24 28.4	
MOY				*e*Sg	**Sg**	**19 24 43.6**	**-2.3**
MOY				*e*		19 24 55.5	
MOY				Pmax			
	comp=N,13nm,0.6s						
MOY				max			
	comp=N,185nm,1.0s						
SVKR	**Severomuysk**	**4.50**	**47**	*e*Sg	**Sg**	**19 24 48.2**	**-2.3**
SVKR				Smax			
	comp=N,169nm,1.2s						
KPC	**Khapcheranga**	**4.57**	**138**	*e*PN	**Pn**	**19 23 35.0**	**-0.7**
KPC				*e*		19 23 47.3	
KPC				*e*		19 24 45.2	
KPC				pmax	pmax		
	comp=Z,13nm,0.6s						
KPC				smax	smax		
	comp=E,94nm,1.1s						
KPC	**Khapcheranga**	**4.57**	**138**	*e*Pn	**Pn**	**19 23 35.2**	**-0.5**
KPC				*e*Pg	**Pb**	**19 23 48.1**	**+1.5**
KPC				*e*Sg	**Sb**	**19 24 45.3**	**+3.4**
KPC				Pmax			
	comp=E,13nm,0.4s						
KPC				Smax			
	comp=E,78nm,0.7s						
ORL	**Orlik**	**4.80**	**265**	*e*PN	Pn	19 23 43.0	+4.0
ORL				*e*		19 23 56.3	
ORL				*e*		19 24 58.3	
ORL				pmax	pmax		
	comp=Z,11nm,0.8s						
ORL				smax	smax		
	comp=N,39nm,1.0s						
ORL	**Orlik**	**4.80**	**265**	*e*Pn	Pn	19 23 43.4	+4.4
ORL				*e*		19 23 50.7	
ORL				*e*		19 24 39.5	
ORL				*e*Sg	**Sg**	**19 24 58.4**	**-1.8**
ORL				Smax			
	comp=N,41nm,1.1s						
ULN	**Ulaanbaatar**	**5.35**	**184**	*e*Pg	Pb	19 24 03.0	+3.1
ULN				*e*Sg	Sg	19 25 11.8	-5.8
TUP	**Tupik**	**7.38**	**75**	*e*Pn	**Pn**	**19 24 14.6**	**+0.4**
TUP				*e*Sg	Sg	19 26 15.2	-7.5
TUP				Smax			
	comp=N,69nm,1.1s						

*IDC **26** 19:43:20.5±0.4,15˚.28S×173˚.27W,h0km,mb4.5/19, mb1 4.7/19,mb1mx4.6/26,mbtmp4.5/19,MS4.2/29, Ms1 4.2/29,ms1mx4.2/36,Error ellipse: s-maj=21.3km s-min=13.1km az=126.0*
*NEIC **26** 19:43:22.0±0.2, 15˚.25S×173˚.30W,h10km,mb4.9/10, Error ellipse: s-maj=13.0km s-min=7.6km az=127.0*
*ISCJB **26** 19:43:23.9±0.3, 15˚.27S±0˚.07×173˚.30W±0˚.06,h33km, mb4.7/31,MS4.3/28,Error ellipse: s-maj=9.9km s-min=7.0km az=151.9*
*AUST **26** 19:43:23.7±0.7, 15˚.12S×172˚.59W,h53km,Error ellipse: s-maj=1.4km s-min=1.1km az=277.0*
*GCMT **26** 19:43:29.7±0.4, 15˚.14S×172˚.92W,h33km±1km,MW4.9, Moment Tensor Solution. s19,c22; s67,c90; Moment tensor: Scale 10¹⁶Nm; Mrr1.22±.16; Mθθ0.60±.11; Mφφ-1.82±.10; Mrθ-1.95±.13; Mθφ-0.57±.08; Mφr-0.26±.08; Best double couple: M₀2.50000×10¹⁶ NP1:φ₀231.00000°, δ71.00000°,λ128.00000°. NP2:φ₀344.00000°,δ42.00000°, λ29.00000°. Principal axes: T 2.8900, Plg49.0000°, Azm183.0000°; N -0.7300, Plg36.0000°, Azm37.0000°; P -2.1600, Plg17.0000°, Azm294.0000°; Data Used: IU Il G IC CN. Surface wave period40 sec.*

ISC 26 19:43:24.5±0.3,15˚.40S±0˚.08×173˚.08W±0˚.07,h29km, n195,σ1§15/176,mb4.8/31,MS4.3/28,17C-9D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.95**	**41**	Pn	Pn	19 43 48.5	-7.2
AFI				Sn	Sn	19 44 05.3	-14
AFI	**Afiamalu**	**1.95**	**41**	Pn	Pn	19 43 48.5	-7.2
	115nm,0.3s,baz=13,slow=2.4,SNR=58						
AFI				Sn	Sn	19 44 05.3	-14
	610nm,0.3s,baz=192,slow=20,SNR=19						
NIUE	**Niue**	**4.74**	**141**	P	**Pn**	**19 44 33.1**	**-0.9**
	baz=4.7,SNR=51						
MSVF	**Nonsavu**	**8.81**	**253**	*e*P	Pn	19 45 38.0	+7.9
RAR	**Rarotonga**	**13.90**	**117**	Pn	**Pn**	**19 46 37.0**	**-2.6**
RAR	**Rarotonga**	**13.90**	**117**	Pn	**Pn**	**19 46 37.0**	**-2.6**
	6.5nm,0.3s,baz=270,slow=5.1,SNR=4.3						
RAR				LR	LR	19 50 30.7	
	comp=Z,653nm,20.6s,baz=271,slow=30						
DZM	**Mont Dzumac**	**20.48**	**248**	*e*LR	LR	19 53 04.4	
	823nm,24.6s						
DZM	**Mont Dzumac**	**20.48**	**248**	P	**P**	**19 47 58.8**	**-1.5**
DZM	**Mont Dzumac**	**20.48**	**248**	P	**P**	**19 47 58.8**	**-1.5**
	16nm,0.9s,baz=68,slow=22,SNR=3.2						
DZM				LR	LR	19 54 08.5	
	comp=Z,446nm,18.8s,baz=205,slow=32						
PAE	**Paea**	**22.64**	**99**	*e*T	T	20 11 05.1	
	4.1nm,0.3s						
PPT	**Papeete**	**22.64**	**99**	LR	LR	19 54 46.3	
	comp=Z,386nm,19.2s,baz=233,slow=30						
PPT2	**Papeete2**	**22.64**	**99**	*e*S	**S**	**19 52 26.6**	**-3.4**
	1μm,27.8s						
PPT2				*e*LR	LR	19 53 36.2	
	433nm,24.5s						
TBI	**Tubuai**	**23.62**	**113**	*e*S	**S**	**19 52 45.9**	**-0.3**
	468nm,28.0s						
TBI				*e*LR	LR	19 54 09.8	
	716nm,24.8s,baz=286						
TBI	**Tubuai**	**23.62**	**113**	*e*T	T	20 12 30.7	
	16nm,0.4s						
PMOR	**Pomariorio Ree**	**24.31**	**92**	*e*P	**P**	**19 48 41.3**	**+1.5**
	122nm,1.1s						
PMOR	**Pomariorio Ree**	**24.31**	**92**	*e*T	T	20 13 04.8	
	4.4nm,0.3s						
URZ	**Urewera**	**24.36**	**199**	*e*P	**P**	**19 48 40.1**	**0.0**
URZ	**Urewera**	**24.36**	**199**	P	**P**	**19 48 40.7**	**+0.6**
	17nm,0.7s,baz=328,slow=5.1,SNR=11						
URZ				LR	LR	19 56 59.4	
	comp=Z,636nm,20.7s,baz=35,slow=34						
VAH	**Vaihoa**	**24.55**	**93**	*e*P	**P**	**19 48 43.2**	**+1.2**
	86nm,1.2s						
HNR	**Honiara**	**26.98**	**280**	LR	LR	19 58 05.9	
	comp=Z,154nm,18.5s,baz=291,slow=33						
RPZ	**Rata Peaks**	**31.30**	**202**	P	**P**	**19 49 40.7**	**-1.4**
RPZ	**Rata Peaks**	**31.30**	**202**	P	**P**	**19 49 40.7**	**-1.4**
	13nm,0.8s,baz=45,slow=5.7,SNR=3.2						
RPZ				LR	LR	20 01 28.5	
	comp=Z,608nm,21.2s,baz=29,slow=35						
ARMA	**Armidale**	**35.60**	**239**	P	**P**	**19 50 19.1**	**-0.8**
	baz=36,SNR=4.7						
RKT	**Rikitea**	**36.70**	**108**	*e*LR	LR	20 00 08.4	
	269nm,25.0s,baz=284						
RKT	**Rikitea**	**36.70**	**108**	*e*T	T	20 28 46.1	
	4.2nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**39.12**	**329**	T	T	20 31 08.3	
	baz=150,slow=0.7,SNR=52						
H11S3	**WAKE ISLAND Hy**	**39.13**	**329**	T	T	20 31 15.3	
	baz=150,slow=0.7,SNR=36						
H11S1	**WAKE ISLAND Hy**	**39.14**	**329**	T	T	20 31 16.7	
	baz=150,slow=0.7,SNR=24						
H11N3	**WAKE ISLAND Hy**	**40.06**	**330**	T	T	20 33 40.5	
	baz=152,slow=0.7,SNR=8.3						
H11N1	**WAKE ISLAND Hy**	**40.07**	**330**	T	T	20 33 33.6	
	baz=152,slow=0.7,SNR=8.5						
H11N2	**WAKE ISLAND Hy**	**40.08**	**330**	T	T	20 33 32.3	
	baz=152,slow=0.7,SNR=5.6						
MTSU	**Mount Surprise**	**40.82**	**260**	P	**P**	**19 51 03.1**	**-0.8**
	baz=41,SNR=5.9						
CMSA	**Cobar Meteorol**	**40.82**	**239**	P	**P**	**19 51 02.7**	**-1.0**
	baz=41,SNR=6.7						
COEN	**Coen**	**42.29**	**266**	P	**P**	**19 51 16.1**	**+0.1**
	baz=43,SNR=5.8						
TOO	**Toolangi**	**42.70**	**231**	P	**P**	**19 51 18.6**	**-0.5**
	baz=43,SNR=6.0						
STKA	**Stephens Creek**	**44.30**	**240**	P	**P**	**19 51 30.9**	**-1.2**
STKA				PcP	**PcP**	**19 53 16.3**	**+0.3**
STKA	**Stephens Creek**	**44.30**	**240**	P	**P**	**19 51 31.3**	**-0.7**
	baz=45,SNR=12						
STKA	**Stephens Creek**	**44.30**	**240**	P	**P**	**19 51 30.9**	**-1.2**
	13nm,0.8s,baz=70,slow=7.3,SNR=18						
STKA				PcP	**PcP**	**19 53 16.3**	**+0.3**
	1.7nm,0.7s,baz=72,slow=3.2,SNR=3.1						
STKA				LR	LR	20 07 10.7	
	comp=Z,180nm,19.7s,baz=298,slow=32						
WRA	**Warramunga Arr**	**50.14**	**257**	P	**P**	**19 52 16.0**	**-1.8**
WRA	**Warramunga Arr**	**50.14**	**257**	P	**P**	**19 52 16.0**	**-1.8**
	5.0nm,0.9s,baz=92,slow=7.2,SNR=56						
AS31	**Alice Springs**	**50.40**	**252**	*e*P	**P**	**19 52 18.0**	**-1.6**
ASAR	**Alice Springs**	**50.40**	**252**	P	**P**	**19 52 18.1**	**-1.6**
ASAR	**Alice Springs**	**50.40**	**252**	P	**P**	**19 52 18.1**	**-1.6**
	8.2nm,0.5s,baz=88,slow=7.9,SNR=169						
ASAR				LR	LR	20 12 08.0	
	comp=Z,279nm,18.6s,baz=89,slow=34						
FORT	**Forrest**	**55.69**	**243**	P	**P**	**19 52 57.0**	**-1.5**
	baz=56,SNR=7.6						
SBA	**Scott Base**	**63.28**	**185**	*e*P	**P**	**19 53 52.9**	**+2.8**
	7.8nm,0.8s						
VNDA	**Vanda**	**63.41**	**186**	P	**P**	**19 53 54.0**	**+3.0**
VNDA	**Vanda**	**63.41**	**186**	P	**P**	**19 53 54.0**	**+3.0**
	7.0nm,0.9s,baz=7.9,slow=6.6,SNR=34						
MJAR	**Matsushiro Arr**	**69.13**	**320**	LR	LR	20 17 52.7	
	comp=Z,292nm,20.7s,baz=110,slow=30						
ASAJ	**Asahikawa**	**71.70**	**328**	LR	LR	20 19 38.9	
	comp=Z,129nm,20.6s,baz=153,slow=30						
JNU	**Nakatsue**	**72.02**	**313**	LR	LR	20 21 23.8	
	comp=Z,117nm,19.1s,baz=322,slow=32						
ISA	**Isabella**	**72.44**	**44**	P	**P**	**19 54 47.4**	**-1.1**
	7.3nm,1.1s						
PETK	**Petropavlovsk-**	**72.72**	**342**	P	**P**	**19 54 49.2**	**-0.4**
PETK	**Petropavlovsk-**	**72.72**	**342**	P	**P**	**19 54 49.2**	**-0.4**
	7.1nm,0.7s,baz=142,slow=11,SNR=11						
PETK				LR	LR	20 23 02.8	
	comp=Z,68nm,19.4s,baz=154,slow=33						
YBH	**Yreka Blue Hor**	**73.41**	**37**	P	**P**	**19 54 55.1**	**+1.0**
YBH	**Yreka Blue Hor**	**73.41**	**37**	P	**P**	**19 54 55.1**	**+1.0**
	3.7nm,0.8s,baz=306,slow=4.8,SNR=3.8						
NVAR	**Mina Array Bea**	**74.12**	**42**	P	**P**	**19 54 59.9**	**+1.3**
NVAR	**Mina Array Bea**	**74.12**	**42**	P	**P**	**19 54 59.9**	**+1.3**
	1.7nm,1.0s,baz=228,slow=9.9,SNR=4.1						
NVAR				LR	LR	20 20 49.8	
	comp=Z,280nm,19.6s,baz=102,slow=30						
QSPA	**South Pole Qui**	**74.65**	**180**	*e*P	**P**	**19 55 03.5**	**+2.4**
	36nm,1.2s						
TUC	**Tucson**	**76.15**	**51**	*e*P	**P**	**19 55 11.3**	**+1.1**
	11nm,1.1s						
KSRS	**Korea Array**	**76.37**	**315**	P	**P**	**19 55 11.0**	**-0.2**
	1.3nm,0.9s,baz=108,slow=4.0,SNR=3.7						
KSRS				LR	LR	20 26 50.1	
	comp=Z,89nm,18.0s,baz=267,slow=34						
KSAR	**Wonju Array Be**	**76.39**	**315**	P	**P**	**19 55 11.0**	**-0.3**
ELK	**Elko**	**77.38**	**41**	LR	LR	20 23 09.2	
	comp=Z,195nm,19.9s,baz=360,slow=31						
USRK	**Ussuriysk Arra**	**77.57**	**323**	LR	LR	20 22 28.8	
	comp=Z,176nm,21.3s,baz=291,slow=30						
CISI	**Cisompet, Garu**	**77.57**	**266**	P	P	19 55 32.3	+14
	baz=78,SNR=4.8						
TXAR	**Lajitas Array**	**80.36**	**56**	P	**P**	**19 55 35.3**	**+1.7**
TXAR	**Lajitas Array**	**80.36**	**56**	P	**P**	**19 55 35.3**	**+1.7**
	0.8nm,0.8s,baz=228,slow=4.9,SNR=7.5						
TXAR				LR	LR	20 25 21.3	
	comp=Z,138nm,18.1s,baz=0.0,slow=31						
NEW	**Newport**	**80.53**	**34**	LR	LR	20 22 53.6	
	comp=Z,157nm,19.3s,baz=176,slow=30						
ANMO	**Albuquerque**	**80.57**	**50**	LR	LR	20 23 32.7	
	comp=Z,134nm,19.2s,baz=221,slow=30						
TRF	**Thorofare Moun**	**80.57**	**10**	*e*P	**P**	**19 55 32.7**	**-1.3**
	10nm,0.8s						
MCK	**McKinley**	**81.06**	**11**	*e*P	**P**	**19 55 36.1**	**-0.4**
	22nm,0.9s						
CHMT	**Chamberlain Mo**	**81.94**	**37**	*e*P	**P**	**19 55 41.9**	**+0.1**
	6.5nm,1.3s						
PDAR	**Pinedale Array**	**82.06**	**42**	P	**P**	**19 55 43.0**	**+0.4**
PDAR	**Pinedale Array**	**82.06**	**42**	P	**P**	**19 55 43.0**	**+0.4**
	1.3nm,0.8s,baz=204,slow=3.3,SNR=10						
PDAR				LR	LR	20 26 19.6	
	comp=Z,223nm,18.8s,baz=284,slow=31						
COLA	**College**	**82.30**	**11**	*e*P	**P**	**19 55 42.6**	**-0.3**
	96nm,0.9s						
ILAR	**Eielson Array**	**82.38**	**11**	P	**P**	**19 55 42.4**	**-1.0**
ILAR	**Eielson Array**	**82.38**	**11**	P	**P**	**19 55 42.4**	**-1.0**
	2.8nm,0.8s,baz=233,slow=6.3,SNR=27						
ILAR				LR	LR	20 23 39.0	
	comp=Z,165nm,21.3s,baz=221,slow=29						
IMA2	**Indian Mountai**	**82.52**	**8**	*e*P	**P**	**19 55 44.3**	**+0.1**
DAWY	**Dawson**	**83.34**	**14**	*e*P	**P**	**19 55 47.5**	**-1.0**
COLD	**Coldfoot**	**84.09**	**9**	*e*P	**P**	**19 55 52.6**	**+0.5**
	4.7nm,0.7s						
APG	**El Apazote**	**87.03**	**74**	LR	LR	20 27 48.7	
	comp=Z,133nm,19.5s,baz=303,slow=31						
ENH	**Enshi**	**87.18**	**302**	*e*P	**P**	**19 56 08.2**	**-0.2**
	2.1nm,0.8s						
MAW	**Mawson**	**87.89**	**199**	P	**P**	**19 56 12.7**	**+1.6**
MAW	**Mawson**	**87.89**	**199**	P	**P**	**19 56 13.3**	**+2.3**
	baz=88,SNR=5.6						
MAW	**Mawson**	**87.89**	**199**	P	**P**	**19 56 12.7**	**+1.6**
	15nm,1.1s,baz=94,slow=3.9,SNR=8.6						
MAW				LR	LR	20 31 38.7	
	comp=Z,300nm,20.5s,baz=118,slow=33						
INK	**Inuvik**	**88.19**	**14**	P	**P**	**19 56 12.3**	**0.0**
INK	**Inuvik**	**88.19**	**14**	P	**P**	**19 56 12.3**	**0.0**
	3.1nm,0.7s,baz=257,slow=5.9,SNR=4.4						
PLCA	**Paso Flores**	**89.29**	**132**	LR	LR	20 27 30.7	
	comp=Z,145nm,18.3s,baz=193,slow=30						
JTS	**JuntasAbangare**	**90.91**	**80**	*e*P	**P**	**19 56 28.3**	**+2.0**
	155nm,1.4s						
JTS	**JuntasAbangare**	**90.91**	**80**	LR	LR	20 28 14.5	
	comp=Z,148nm,18.9s,baz=82,slow=30						
ATAH	**Atahualpa**	**92.62**	**98**	LR	LR	20 30 13.6	
	comp=Z,201nm,18.9s,baz=310,slow=30						
SNAA	**Sanae**	**92.89**	**177**	*e*P	**P**	**19 56 36.0**	**+1.5**
CMAR	**Chiang Mai Arr**	**92.90**	**288**	P	**P**	**19 56 36.9**	**+1.4**
CMAR	**Chiang Mai Arr**	**92.90**	**288**	P	**P**	**19 56 36.9**	**+1.4**
	1.0nm,0.9s,baz=96,slow=2.3,SNR=8.1						
VNA2	**Neumayer--Watz**	**93.33**	**175**	*e*P	**P**	**19 56 37.8**	**+1.4**
	baz=151,slow=2.8						
VNA1	**Neumayer--Stat**	**93.53**	**175**	*e*P	**P**	**19 56 38.6**	**+1.3**
ULM	**Lac du Bonnet**	**93.74**	**39**	P	**P**	**19 56 37.6**	**-1.0**
ULM	**Lac du Bonnet**	**93.74**	**39**	P	**P**	**19 56 37.6**	**-1.0**
	3.6nm,0.8s,baz=297,slow=9.0,SNR=2.9						
ULM				LR	LR	20 32 59.3	
	comp=Z,254nm,19.0s,baz=272,slow=32						
SONM	**Songino Array**	**95.05**	**318**	P	**P**	**19 56 44.3**	**-0.5**
SONM	**Songino Array**	**95.05**	**318**	P

UPC	**Upice**	**144.22**	**350**	*e*PKP	**PKPab**	**20 02 55.3**	**-0.1**
UPC				*ep*PKP	**PKiKP**	**20 03 01.3**	**+0.1**
KOLS	**Kolonicke sedl**	**144.26**	**343**	*e*PKP	**PKPdf**	**20 02 57.2**	**-0.6**
DPC	**Dobruska-Polom**	**144.31**	**350**	*e*PKP	PKPbc	20 02 56.6	+0.4
DPC				*ep*PKP	**PKiKP**	**20 03 00.7**	**-0.8**
PVCC	**Panska Ves**	**144.42**	**352**	*e*PKP	PKPbc	20 02 57.1	+0.7
PVCC				*ep*PKP	**PKiKP**	**20 03 02.3**	**+0.7**
OKC	**Ostrava-Krasne**	**144.46**	**347**	*e*PKP	**PKPab**	**20 02 56.3**	**0.0**
OKC				*ep*PKP	**PKiKP**	**20 03 04.6**	**+2.9**
CRVS	**Cervenica-Dubn**	**144.52**	**343**	*e*PKP	**PKPdf**	**20 02 57.8**	**-0.4**
MORC	**Moravsky Berou**	**144.64**	**348**	*i*P	**PKPdf**	**20 02 58.3**	**-0.1**
TRPA	**Tarpa**	**144.91**	**342**	*i*P	**PKPdf**	**20 02 58.5**	**-0.4**
PRU	**Pruhonice**	**144.95**	**351**	*e*PKP	**PKPdf**	**20 02 58.6**	**-0.3**
PRU				*ep*PKP	**PKiKP**	**20 03 04.2**	**+1.5**
NKC	**Novy Kostel**	**144.97**	**354**	*e*PKP	PKPbc	20 02 58.5	+0.3
NKC				*ep*PKP	**PKiKP**	**20 03 02.4**	**-0.4**
KECS	**Kecovo**	**145.17**	**344**	*e*PKP	**PKPdf**	**20 02 59.5**	**+0.2**
VRAC	**Vranov**	**145.27**	**349**	*i*P	**PKPdf**	**20 02 59.8**	**+0.3**
VRI	**Vrincioaia**	**145.37**	**335**	*i*P	**PKPab**	**20 03 00.1**	**+0.3**
TREC	**Trest**	**145.47**	**350**	*e*PKP	**PKPab**	**20 03 00.3**	**+0.2**
TREC				*ex*	x	20 03 07.0	
DOPR	**Dopca**	**145.81**	**337**	*i*P	**PKPab**	**20 03 02.6**	**+1.1**
KMBO	**Kilima Mbogo**	**145.81**	**244**	PKPbc	**PKPab**	**20 03 02.8**	**+0.1**
KMBO	**Kilima Mbogo**	**145.81**	**244**	PKPbc	**PKPab**	**20 03 02.8**	**+0.1**
	comp=Z,9.5nm,1.1s,baz=67,slow=2.2,SNR=13						
WLF	**Walferdange**	**145.82**	**1**	*e*P	**PKPab**	**20 03 01.4**	**+0.1**
PSZ	**Piszkesteto**	**145.84**	**344**	*e*P	**PKPbc**	**20 03 01.0**	**-0.1**
TLB	**Topalu**	**145.84**	**333**	*i*P	**PKPab**	**20 03 02.0**	**+0.4**
KHC	**Kasperske Hory**	**145.92**	**352**	*e*PKP	**PKPab**	**20 03 01.7**	**-0.1**
KHC				*ep*PKP	**pPKPdf**	**20 03 07.6**	**-2.7**
KHC				*ex*	x	20 03 16.9	
KHC	**Kasperske Hory**	**145.92**	**352**	*e*P	**PKPbc**	**20 03 01.5**	**+0.2**
MLR	**Muntele Rosu**	**145.99**	**336**	*i*P	**PKPab**	**20 03 02.9**	**+0.6**
ISR	**Istrita**	**146.06**	**335**	*i*P	**PKPab**	**20 03 02.8**	**+0.3**
GERES	**GERESS Array B**	**146.18**	**352**	PKPbc	**PKPbc**	**20 03 02.2**	**0.0**
GERES	**GERESS Array B**	**146.18**	**352**	PKPbc	**PKPbc**	**20 03 02.2**	**0.0**
	comp=Z,4.9nm,0.8s,baz=28,slow=3.2,SNR=42						
BR131	**Keskin Array S**	**146.35**	**321**	*e*PKPbc	**PKPab**	**20 03 03.5**	**-0.4**
BRTR	**Keskin Array B**	**146.35**	**321**	PKPbc	**PKPab**	**20 03 03.6**	**-0.2**
BRTR	**Keskin Array B**	**146.35**	**321**	PKPbc	**PKPab**	**20 03 03.6**	**-0.2**
	comp=Z,31nm,0.9s,baz=108,slow=2.0,SNR=90						
VOIR		**146.38**	**337**	*i*P	**PKPab**	**20 03 04.3**	**+0.6**
LANF	**Langenberg**	**146.50**	**359**	PKP	**PKPbc**	**20 03 02.7**	**-0.3**
ARR	**Arges**	**146.63**	**337**	*i*P	**PKPab**	**20 03 05.2**	**+0.6**
CONA	**Conrad Observa**	**146.73**	**349**	*i*PKPdf	**PKPbc**	**20 03 04.4**	**+0.6**
	comp=Z,9.4nm,1.0s,SNR=6.6						
ANTO	**Ankara**	**146.76**	**322**	*e*PKPbc	**PKPab**	**20 03 05.2**	**-0.1**
SIRR	**Siria**	**146.84**	**341**	*i*P	**PKPbc**	**20 03 03.7**	**-0.4**
LOT	**Lotru**	**146.85**	**338**	*i*P	**PKPbc**	**20 03 04.6**	**+0.3**
ARNB	**Al Arnab**	**147.01**	**314**	*i* P	**PKPdf**	**20 02 58.6**	**-4.3**
MOA	**Molln**	**147.07**	**351**	*i*PKiKP	**PKPbc**	**20 03 04.9**	**+0.1**
	comp=Z,12nm,1.1s,SNR=5.9						
WLS	**Welschbruch**	**147.07**	**359**	PKP	**PKPbc**	**20 03 05.0**	**+0.3**
BFO	**Black Forest**	**147.14**	**358**	*e*PKPbc	**PKPbc**	**20 03 04.6**	**-0.3**
GZR	**Gura Zlata**	**147.25**	**339**	*i*P	**PKPbc**	**20 03 05.8**	**+0.5**
THEF	**They Montfort**	**147.25**	**1**	PKP	**PKPbc**	**20 03 05.0**	**-0.2**
ECH	**Echery**	**147.27**	**360**	*e*PKPbc	**PKPbc**	**20 03 05.4**	**+0.1**
HAWK	**Haweek**	**147.36**	**311**	*i* P	**PKPdf**	**20 03 02.4**	**-0.2**
BZS	**Buzias**	**147.43**	**341**	*i*P	**PKPbc**	**20 03 06.2**	**+0.5**
FELD	**Feldberg im Sc**	**147.60**	**359**	PKP	**PKPdf**	**20 03 02.9**	**-0.8**
MOF	**Molkenrain**	**147.64**	**360**	PKP	**PKPbc**	**20 03 05.7**	**-0.7**
PKSM	**Moragy**	**147.75**	**345**	*i*P	**PKPbc**	**20 03 07.3**	**+0.7**
RETA	**Reutte**	**147.84**	**355**	*i*PKiKP	**PKPbc**	**20 03 07.0**	**+0.1**
	comp=Z,13nm,1.3s,SNR=6.5						
TOTH	**TOTAH**	**147.88**	**309**	*i* P	**PKPbc**	**20 03 08.4**	**+1.0**
SALA	**Sala**	**147.94**	**308**	*i* P	**PKPbc**	**20 03 09.0**	**+1.2**
MOTA	**Moosalm**	**147.96**	**355**	*i*PKiKP	**PKPbc**	**20 03 07.5**	**+0.2**
	comp=Z,12nm,1.1s,SNR=7.2						
WTTA	**Wattenberg**	**147.99**	**354**	*i*PKiKP	**PKPbc**	**20 03 07.8**	**+0.3**
	comp=Z,9.9nm,1.0s,SNR=6.0						
ASF	**Jabal al Asfar**	**148.03**	**307**	PKPbc	**PKPbc**	**20 03 08.8**	**+0.9**
ASF	**Jabal al Asfar**	**148.03**	**307**	PKPbc	**PKPbc**	**20 03 08.8**	**+0.9**
	comp=Z,6.4nm,0.9s,baz=118,slow=0.2,SNR=10						
SOKA	**Soboth**	**148.09**	**349**	*i*PKiKP	**PKPbc**	**20 03 07.4**	**-0.2**
	comp=Z,11nm,1.0s,SNR=5.5						
DAVA	**Damuels**	**148.11**	**356**	*i*PKiKP	**PKPbc**	**20 03 08.3**	**+0.5**
	comp=Z,17nm,1.1s,SNR=5.4						
LOMF	**Lomont**	**148.14**	**0**	PKP	**PKPdf**	**20 03 05.3**	**+0.8**
BRBR	**Barbar**	**148.21**	**310**	*i* P	**PKPbc**	**20 03 09.6**	**+1.1**
FETA	**Feichten**	**148.31**	**355**	*i*PKiKP	**PKPbc**	**20 03 08.8**	**+0.5**
	comp=Z,12nm,1.2s,SNR=5.3						
ABTA	**Abfaltersbach**	**148.40**	**353**	*i*PKiKP	**PKPbc**	**20 03 08.1**	**-0.3**
	comp=Z,12nm,1.0s						
MMAI	**Mount Meron Ar**	**148.80**	**309**	PKPbc	**PKPbc**	**20 03 11.0**	**+1.1**
MMAI	**Mount Meron Ar**	**148.80**	**309**	PKPbc	**PKPbc**	**20 03 11.0**	**+1.1**
	comp=Z,18nm,0.8s,baz=58,slow=3.3,SNR=28						
TUE	**Stuetta**	**148.95**	**357**	*e*PKPbc	**PKPbc**	**20 03 10.0**	**0.0**
CSS	**Prodhromos**	**149.32**	**314**	*e*PKPbc	**PKPbc**	**20 03 11.2**	**+0.1**
BNI	**Bardonecchia**	**150.44**	**0**	*e*PKPbc	**PKPbc**	**20 03 14.8**	**+1.2**
POLO	**Lamas de Olo**	**151.15**	**23**	*e*PKPbc	**PKPbc**	**20 03 15.7**	**+0.3**
PBRG	**Braganca**	**151.16**	**21**	*e*PKPbc	**PKPbc**	**20 03 15.8**	**+0.5**
TOUF	**Mont Tournerai**	**151.48**	**359**	PKP	**PKPbc**	**20 03 14.2**	**-2.0**
AUTN	**L'Aution**	**151.49**	**359**	PKP	**PKPbc**	**20 03 16.9**	**+0.7**
SAOF	**Saorge**	**151.50**	**359**	PKP	**PKPbc**	**20 03 15.8**	**-0.2**
LUCF	**Luceram**	**151.60**	**359**	PKP	**PKPbc**	**20 03 14.8**	**-1.5**
MVO	**Moncorvo**	**151.62**	**23**	*e*PKPbc	**PKPbc**	**20 03 16.0**	**-0.4**
PMRV	**Marv??o**	**152.97**	**25**	*e*PKPbc	**PKPbc**	**20 03 20.0**	**+0.6**
ESDC	**Sonseca Array**	**154.01**	**19**	PKP	**PKPdf**	**20 03 14.1**	**+0.4**
ESDC				PKPab	**PKPab**	**20 03 35.0**	**-0.1**
ESDC	**Sonseca Array**	**154.01**	**19**	PKP	**PKPdf**	**20 03 14.1**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=2.9,slow=2.6,SNR=2.5						
ESDC				PKPab	**PKPab**	**20 03 35.0**	**-0.1**
	comp=Z,2.6nm,0.9s,baz=325,slow=3.8,SNR=14						
DBIC	**Dimbokro**	**165.56**	**126**	PKPab	**PKPab**	**20 04 26.8**	**+0.9**
DBIC	**Dimbokro**	**165.56**	**126**	PKPab	**PKPab**	**20 04 26.8**	**+0.9**
	comp=Z,4.3nm,1.1s,baz=174,slow=8.0,SNR=3.1						
TORD	**Torodi Ar. Bea**	**174.47**	**113**	PKP	**PKPdf**	**20 03 31.2**	**-1.2**
TORD				PKPab	**PKPab**	**20 05 05.2**	**-0.2**
TORD				PP	**PP**	**20 08 55.9**	**-1.8**
TORD	**Torodi Ar. Bea**	**174.47**	**113**	PKP	**PKPdf**	**20 03 31.2**	**-1.2**
	comp=Z,2.1nm,1.1s,baz=218,slow=2.1,SNR=6.9						
TORD				PKPab	**PKPab**	**20 05 05.2**	**-0.2**
	comp=Z,1.2nm,0.9s,baz=258,slow=4.5,SNR=6.8						
TORD				PP	**PP**	**20 08 55.9**	**-1.8**
	comp=Z,0.7nm,0.9s,baz=193,slow=6.1,SNR=4.2						

IDC 26 19:43:34.1±11.0, 2°.49N×94°.39E, h0km, mb3.5/3, mb1 3.5/4, mb1mx3.3/27, mbtmp3.4/4, ML3.7/1, Error ellipse: s-maj=227.0km s-min=106.7km az=152.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.49**	**15**	Pn	Pn	19 47 26.9	-0.2
	0.1nm,0.3s,baz=218,slow=9.8,SNR=4.4						
H08S2	**Diego Garcia H**	**24.05**	**245**	T	T	20 13 54.9	
	baz=62,slow=0.7,SNR=108						
H08S3	**Diego Garcia H**	**24.05**	**245**	T	T	20 14 09.8	
	baz=62,slow=0.7,SNR=17						
H08S1	**Diego Garcia H**	**24.07**	**245**	T	T	20 14 09.9	
	baz=62,slow=0.7,SNR=75						
H01W3	**Cape Leeuwin H**	**41.54**	**155**	T	T	20 37 12.3	
	baz=330,slow=0.7,SNR=4.8						
H01W2	**Cape Leeuwin H**	**41.55**	**155**	T	T	20 37 13.6	
	baz=330,slow=0.7,SNR=4.7						
H01W1	**Cape Leeuwin H**	**41.55**	**155**	T	T	20 37 12.7	
	baz=330,slow=0.7,SNR=5.2						
MKAR	**Makanchi Array**	**45.37**	**348**	P	P	19 51 54.4	+0.1
	0.7nm,0.5s,baz=168,slow=8.8,SNR=16						
SONM	**Songino Array**	**46.35**	**11**	P	P	19 52 02.1	0.0
	0.2nm,0.5s,baz=185,slow=9.7,SNR=2.7						
ZALV	**Zalesovo Beam**	**51.90**	**353**	P	P	19 52 43.8	-0.5
	0.3nm,0.5s,baz=156,slow=7.9,SNR=2.8						

IDC 26 20:21:09.7±4.1, 15°.96S×174°.04W, h88km±59km, mb3.8/5, mb1 4.0/6, mb1mx3.6/22, mbtmp3.9/6, ML2.7/1, Error ellipse: s-maj=56.6km s-min=42.9km az=89.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.99**	**47**	P	Pn	20 21 55.2	0.0
	57nm,0.3s,baz=36,slow=3.1,SNR=28						
AFI				S	Sn	20 22 25.8	-4.4
	196nm,0.3s,baz=71,slow=15,SNR=16						
URZ	**Urewera**	**23.55**	**198**	P	P	20 26 12.0	-0.1
	7.6nm,0.8s,baz=45,slow=1.4,SNR=5.2						
STKA	**Stephens Creek**	**43.23**	**240**	P	P	20 29 02.2	-0.2
	2.5nm,0.7s,baz=69,slow=8.6,SNR=6.4						
WRA	**Warramunga Arr**	**49.12**	**257**	P	P	20 29 48.6	-0.2
	1.4nm,0.6s,baz=91,slow=7.3,SNR=15						
ASAR	**Alice Springs**	**49.35**	**252**	P	P	20 29 50.4	-0.2
	4.6nm,0.8s,baz=89,slow=7.4,SNR=72						
ASAR				PcP	PcP	20 31 11.7	-0.3
	0.2nm,0.5s,baz=97,slow=5.4,SNR=3.1						
FITZ	**Fitzroy Crossi**	**57.49**	**258**	P	P	20 30 50.4	+0.2
	0.9nm,0.6s,baz=97,slow=8.1,SNR=5.7						

*JMA **26** 20:35:16.7±0.1, 33°.72N×137°.20E, h370km, M2.6*
*ISCJB **26** 20:35:18.2±0.6, 33°.7N±0°.1×137°.27E±0°.08, h356km±6km, mb3.0/3, Error ellipse: s-maj=18.0km s-min=9.2km az=158.6*
*IDC **26** 20:35:19.4±1.0, 33°.76N×137°.14E, h346km±13km, mb2.8/3, mb1 2.9/5, mb1mx2.6/28, mbtmp2.7/5, Error ellipse: s-maj=33.6km s-min=20.5km az=95.0*
ISC 26 20:35:19.2±1.0, 33°.9N±0°.1×137°.25E±0°.07, h351km±8km, n21, σ1°53/27, mb3.0/3, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTO2	**TONANKAI O.B.S**	**0.23**	**234**	P	**Pn**	**20 36 03.2**	**+0.3**
TTO4	**TONANKAI O.B.S**	**0.28**	**60**	P	**Pn**	**20 36 03.4**	**+0.6**
TTO5	**TONANKAI O.B.S**	**0.55**	**45**	P	**Pn**	**20 36 04.2**	**+0.8**
JIE	**Ise**	**0.69**	**320**	P	**Pn**	**20 36 04.0**	**0.0**
JKN2	**Miekihoku**	**0.89**	**295**	P	**Pn**	**20 36 04.3**	**-0.3**
JHMK	**Hamakita**	**1.04**	**24**	P	**Pn**	**20 36 05.4**	**+0.4**
HMMJ	**Hamamatsu 2**	**1.06**	**22**	P	**Pn**	**20 36 05.5**	**+0.2**
JGM	**Miyama**	**1.88**	**347**	P	**Pn**	**20 36 10.3**	**+0.6**
JWT	**Wachi**	**2.08**	**313**	P	**Pn**	**20 36 10.8**	**-0.3**
JAI	**Aioi**	**2.33**	**269**	P	**Pn**	**20 36 12.2**	**-0.8**
JAI				*e*S	**S**	**20 36 56.8**	**+0.6**
JRY	**Ryogami san**	**2.54**	**32**	P	**Pn**	**20 36 16.5**	**+1.8**
JHU	**Hanno**	**2.59**	**40**	P	**Pn**	**20 36 16.0**	**+0.9**
JHU				*e*S	**S**	**20 37 00.5**	**+0.5**
MJAR	**Matsushiro Arr**	**2.78**	**16**	P	**Pn**	**20 36 17.2**	**+0.5**
	0.3nm,0.3s,baz=195,slow=10,SNR=4.5						
MJAR				S	**S**	**20 37 04.9**	**+2.0**
	0.3nm,0.3s,baz=230,slow=21,SNR=2.8						
BSO4	**Boso 4**	**2.79**	**65**	P	**Pn**	**20 36 16.9**	**+0.3**
BSO4				*e*S	**S**	**20 37 03.6**	**+0.7**
JAG	**Ashikaga**	**3.13**	**35**	P	**Pn**	**20 36 19.5**	**-0.2**
JAG				*e*S	**S**	**20 37 04.9**	**-3.6**
BSO1	**Boso 1**	**3.19**	**75**	*e*S	**S**	**20 37 07.9**	**-0.6**
JYT	**Yasato**	**3.38**	**45**	P	**Pn**	**20 36 21.3**	**-0.7**
JYT				*e*S	**S**	**20 37 07.6**	**-5.0**
JNU	**Nakatsue**	**5.37**	**264**	P	**Pn**	**20 36 42.0**	**-1.0**
	0.4nm,0.3s,baz=135,slow=1.4,SNR=4.4						
WRA	**Warramunga Arr**	**53.58**	**183**	P	**P**	**20 44 05.0**	**-0.3**
	0.3nm,0.3s,baz=359,slow=7.5,SNR=7.1						
ASAR	**Alice Springs**	**57.30**	**184**	P	**P**	**20 44 31.6**	**+0.1**
	0.1nm,0.5s,baz=359,slow=6.5,SNR=4.4						
FINES	**FINESS Array B**	**70.00**	**332**	P	**P**	**20 45 54.2**	**+1.1**
	0.3nm,0.4s,baz=61,slow=6.5,SNR=7.1						

KRSC 26 21:07:43.8±3.1, 52°.95N×160°.16E, h43km±43km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLC	**Nalytchevo**	**0.54**	**295**	*e*P	Pn	21 07 56.3	+1.2
NLC				*e*S	Sn	21 08 04.1	+0.9
SDLR	**Sedlovina**	**0.84**	**294**	P	Pn	21 08 00.4	+1.1
SDLR				*e*S	Sn	21 08 11.5	+0.9
UGLR	**Uglovaya**	**0.85**	**288**	P	Pn	21 08 00.6	+1.2
UGLR				*e*S	Sn	21 08 11.6	+0.8
SMAR	**Somma**	**0.88**	**291**	P	Pn	21 08 00.8	+0.8
AVH	**Avacha**	**0.91**	**291**	P	Pn	21 08 01.7	+1.4
AVH				*e*S	Sn	21 08 13.8	+1.4
PET	**Petropavlovsk**	**0.91**	**275**	*e*P	Pn	21 08 01.1	+0.9
PET				*e*S	Sn	21 08 12.2	0.0
KRER	**Koryakskii**	**0.92**	**293**	P	Pn	21 08 01.9	+1.3
KRER				*e*S	Sn	21 08 13.7	+0.8
KOK	**Koryaka**	**0.98**	**291**	P	Pn	21 08 02.4	+1.2
KRX	**Arik**	**1.00**	**295**	P	Pn	21 08 02.5	+1.0
KRX				*e*S	Sn	21 08 14.5	-0.1
RUS	**Russkaya**	**1.13**	**243**	P	Pn	21 08 04.2	+1.1
KII	**Karymskiy**	**1.17**	**339**	*e*P	Pn	21 08 05.8	+2.0
MTVR	**Mutnovka**	**1.29**	**250**	*e*P	Pn	21 08 07.0	+1.5
MTVR				*e*S	Sn	21 08 22.6	+0.9
GRL	**Gorelyy**	**1.33**	**253**	P	Pn	21 08 07.9	+1.8
GRL				*e*S	Sn	21 08 24.0	+1.3
ASAK	**Asacha**	**1.49**	**248**	P	Pn	21 08 10.4	+2.2
ASAK				*e*S	Sn	21 08 28.8	+2.3
GNL	**Ganaly**	**1.53**	**300**	P	Pn	21 08 10.4	+1.7
APC	**Apacha**	**1.82**	**270**	*e*P	Pn	21 08 15.0	+2.5
APC				*e*S	Sn	21 08 38.0	+3.7
MKZ	**Mys Kozlova**	**1.86**	**29**	*e*P	Pn	21 08 14.7	+1.6
MKZ				*e*S	Sn	21 08 36.0	+0.7
TUMR	**Tumrok**	**2.34**	**360**	*e*P	Pn	21 08 21.7	+1.8
PAU	**Pauzhetka**	**2.54**	**236**	*e*P	Pn	21 08 26.1	+3.6
KMNR	**Kamenistaya**	**2.81**	**1**	*e*P	Pn	21 08 30.6	+4.2
ESO	**Esso**	**3.10**	**345**	*e*P	Pn	21 08 32.6	+2.4
KBTR	**Krutoberegovo**	**3.61**	**24**	*e*P	Pn	21 08 41.1	+3.9
BKI	**Bering**	**4.10**	**54**	*e*S	Sn	21 09 28.8	-1.7

*IDC **26** 21:11:45.2±1.9, 0°.92S×99°.92E, h0km, mb3.9/7, mb1 3.9/7, mb1mx3.7/23, mbtmp3.9/7, Error ellipse: s-maj=66.9km s-min=26.5km az=51.0*
*ISCJB **26** 21:11:48.1±1.3, 1°.1S±0°.2×99°.39E±0°.07, h33km, mb3.9/7, Error ellipse: s-maj=26.2km s-min=9.9km az=175.6*
*DJA **26** 21:11:58.9±0.8, 1°.S±8°×10°.0E±°, h25km, M3.9/3, MLv3.9/3*
ISC 26 21:11:49.2±1.3, 1°.2S±0°.2×99°.4E±0°.1, h35km, n10, σ1°82/10, mb4.1/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**1.04**	**77**	P	Pn	21 12 11.4	+4.0
PDSI				S	**Sn**	**21 12 22.2**	**+1.4**
PPI	**Padang Panjang**	**1.18**	**54**	P	**Pn**	**21 12 11.3**	**+2.2**
PPI				S	**Sn**	**21 12 21.8**	**-2.2**
GSI	**Gunungsitoli**	**3.07**	**323**	P	Pn	21 12 46.0	+11
WRA	**Warramunga Arr**	**38.90**	**121**	P	**P**	**21 19 10.6**	**-1.2**
	0.1nm,0.4s,baz=303,slow=9.1,SNR=3.1						
SONM	**Songino Array**	**49.16**	**6**	P	**P**	**21 20 33.1**	**-0.7**
	0.3nm,0.6s,baz=190,slow=9.8,SNR=3.0						
MKAR	**Makanchi Array**	**50.07**	**345**	P	**P**	**21 20 41.6**	**+1.1**
	0.5nm,0.3s,baz=154,slow=8.6,SNR=24						
USRK	**Ussuriysk Arra**	**53.68**	**29**	P	**P**	**21 21 05.2**	**-2.3**
	1.0nm,0.5s,baz=243,slow=4.5,SNR=5.9						
ZALV	**Zalesovo Beam**	**56.24**	**350**	P	**P**	**21 21 25.6**	**-0.1**
	0.8nm,0.2s,baz=165,slow=6.3,SNR=6.9						
FINES	**FINESS Array B**	**83.11**	**332**	P	**P**	**21 24 12.6**	**+1.5**
	1.6nm,0.9s,baz=116,slow=6.3,SNR=6.6						
ARCES	**ARCESS Array B**	**85.49**	**340**	P	**P**	**21 24 24.2**	**+1.1**
	1.5nm,0.8s,baz=99,slow=5.7,SNR=4.5						

*AUST **26** 21:34:37.3, 15°.99S×168°.45E, h35km*
*IDC **26** 21:34:46.5±0.6, 16°.61S×166°.75E, h0km, mb4.4/15, mb1 4.6/17, mb1mx4.5/23, mbtmp4.5/17, ML4.7/2, MS3.8/13, Ms1 3.8/13, ms1mx3.6/28, Error ellipse: s-maj=22.7km s-min=15.2km az=90.0*
*ISCJB **26** 21:34:47.3±4.6, 16°.60S±0°.05×166°.79E±0°.08, h15km±28km, mb4.9/46, MS4.0/15, Error ellipse: s-maj=12.7km s-min=8.5km az=171.3*
*DJA **26** 21:34:48.9±0.6, 17°.S±9°×16°.7E±1°.0, h10km, M5.0/11, mB5.8/1, mb5.0/11, Mw(mB)5.4/1*
*NEIC **26** 21:34:51.8±0.3, 16°.58S×166°.75E, h35km, mb5.1/21, Error ellipse: s-maj=8.3km s-min=6.6km az=110.0*
*BJI **26** 21:34:51.4, 16°.47S×166°.92E, h44km, mB5.3/17, mb4.7/25, Ms5.1/9, Ms7 4.7/9*
ISC 26 21:34:52.5±0.5, 16°.70S±0°.05×166°.81E±0°.08, h43km±2km, h42km:pP-P, n127, σ1°35/150, mb4.8/45, MS3.9/15, 3C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.35**	**184**	*e*Pn	**Pn**	**21 36 08.5**	**-1.5**
	134nm,0.8s						
DZM				*e*Sn	**Sn**	**21 37 10.0**	**-0.5**
DZM	**Mont Dzumac**	**5.35**	**184**	Pn	**Pn**	**21 36 08.8**	**-1.3**
	18nm,0.3s,baz=39,slow=19,SNR=303						
DZM				Sn	**Sn**	**21 37 07.4**	**-3.1**
	14nm,0.3s,baz=136,slow=23,SNR=4.0						
DZM				LR	LR	21 37 56.4	
	comp=Z,638nm,20.8s,baz=222,slow=35						
HNR	**Honiara**	**9.85**	**316**	Pn	Pn	21 37 07.5	-4.0
HNR				Sn	Sn	21 38 50.2	-11
	9.1nm,0.3s,baz=177,slow=18,SNR=2.4						
HNR				Sn	Sn	21 38 50.2	-11
	24nm,0.3s,baz=198,slow=13,SNR=3.7						
HNR				LR	LR	21 40 33.6	
	comp=Z,177nm,18.2s,baz=250,slow=36						
EIDS	**Eidsvold**	**17.02**	**237**	*e*Pn	**Pn**	**21 38 45.8**	**-1.8**
	50nm,1.1s						
EIDS	**Eidsvold**	**17.02**	**237**	P	**P**	**21 38 50.6**	**+1.7**
	baz=19,SNR=6.4						
RMQ	**Roma**	**19.39**	**237**	P	**Pn**	**21 39 19.5**	**+3.1**
	baz=21,SNR=7.0						
ARMA	**Armidale**	**19.47**	**223**	*e*Pn	**Pn**	**21 39 18.5**	**+1.1**
	217nm,2.0s						
CTA	**Charters Tower**	**19.80**	**257**	P	**Pn**	**21 39 21.1**	**-0.3**
CTA	**Charters Tower**	**19.80**	**257**	P	**Pn**	**21 39 21.1**	**-0.3**
	0.4nm,0.3s,baz=81,slow=13,SNR=5.0						
CTAO	**Charters Tower**	**19.80**	**257**	*e*P	**P**	**21 39 18.8**	**-0.7**
	21nm,1.1s						
PMG	**Port Moresby**	**20.46**	**288**	P	Pn	21 39 29.3	+0.1
PMG	**Port Moresby**	**20.46**	**288**	P	Pn	21 39 29.3	+0.1
	1.8nm,0.3s,baz=122,slow=9.5,SNR=2.9						
PMG				LR	LR	21 46 09.9	
	comp=Z,204nm,18.5s,baz=110,slow=34						
AFI	**Afiamalu**	**20.83**	**85**	LR	LR	21 45 47.1	
	comp=Z,184nm,19.4s,baz=178,slow=32						
MTSU	**Mount Surprise**	**21.51**	**263**	P	**P**	**21 39 41.0**	**+3.0**
	baz=23,SNR=11						
MGCD	**Mangrove Creek**	**21.70**	**218**	P	P	21 39 57.2	+17
	baz=23,SNR=6.7						
COEN	**Coen**	**22.96**	**274**	*e*P	**P**	**21 39 53.8**	**+0.3**
	126nm,0.9s						
COEN	**Coen**	**22.96**	**274**	P	**P**	**21 39 53.8**	**+0.3**
	baz=24,SNR=7.4						
QLP	**Quilpie**	**23.14**	**241**	P	**P**	**21 39 57.9**	**+2.6**
	baz=25,SNR=3.2						
URZ	**Urewera**	**23.30**	**159**	*e*P	**P**	**21 39 57.0**	**+0.3**
	75nm,1.4s						
URZ	**Urewera**	**23.30**	**159**	P	**P**	**21 39 57.5**	**+0.8**
	8.4nm,0.8s,baz=347,slow=14,SNR=3.4						
BKZ	**Black Stump Fm**	**23.93**	**161**	*e*P	**P**	**21 40 05.0**	**+2.3**
	262nm,2.3s						
CNB	**Canberra Magne**	**24.21**	**217**	P	**P**	**21 40 07.2**	**+1.9**
	baz=26,SNR=7.2						
CMSA	**Cobar Meteorol**	**24.22**	**229**	P	**P**	**21 40 06.2**	**+0.8**
	baz=26,SNR=8.8						
KWAJ	**Kwajalein Atol**	**25.35**	**2**	*e*P	**P**	**21 40 14.1**	**-1.6**
	774nm,2.0s						
RPZ	**Rata Peaks**	**27.17**	**173**	LR	LR	21 50 15.8	
	comp=Z,232nm,18.1s,baz=34,slow=34						
STKA	**Stephens Creek**	**27.41**	**232**	P	**P**	**21 40 34.8**	**+0.5**
STKA				PcP	**PcP**	**21 43 52.9**	**+0.5**
**

comp=Z,69nm,21.1s,baz=23,slow=33
KMI Kunming 74.98 302 P **P** **21 46 31.5 +1.4**
KMI pP **pP** **21 46 39.8 -2.9**
KMI sP **sP** **21 46 44.8 -2.8**
KMI AMB AMB
comp=Z,7.0nm,1.4s
CMAR Chiang Mai Arr 75.36 295 P **P** **21 46 32.5 +0.4**
CMAR Chiang Mai Arr 75.36 295 P **P** **21 46 32.5 +0.4**
1.3nm,0.8s,baz=127,slow=4.2,SNR=9.4
CHTO Chiang Mai 75.50 295 P **P** **21 46 34.7 +1.8**
17nm,1.4s
CHTO Chiang Mai 75.50 295 *e*P **P** **21 46 33.7 +0.8**
9.3nm,1.5s
CHTO *e*pP **pP** **21 46 44.9 -0.7**
HHC Hu-ho-hao-te 76.80 320 *e*P **P** **21 46 39.5 -0.5**
HHC pP **pP** **21 46 52.5 -0.2**
HHC sP **sP** **21 46 57.8 +0.3**
HHC PP **PP** **21 49 35.0 +1.6**
HHC S **S** **21 56 23.0 -1.4**
HHC sS **sS** **21 56 45.0 -0.6**
HHC SS **SS** **22 01 23.5 +1.8**
HHC AMB AMB
comp=Z,17nm,1.1s
HHC AMB AMB
comp=Z,240nm,5.1s
HHC LR LR
comp=N,410nm,17.0s
HHC LR LR
comp=E,300nm,15.5s
HHC LR LR
comp=Z,230nm,15.2s
CD2 Chengdu 76.87 308 P **P** **21 46 41.8 +1.3**
CD2 pP **pP** **21 46 54.0 +0.8**
CD2 sP **sP** **21 46 59.0 +1.0**
CD2 PP **PP** **21 49 36.5 +2.4**
CD2 S **S** **21 56 25.3 -0.1**
CD2 sS **sS** **21 56 46.3 -0.3**
CD2 SS **SS** **22 01 25.3 +2.4**
CD2 AMB AMB
comp=Z,10.0nm,0.5s
CD2 AMB AMB
comp=Z,150nm,3.7s
CD2 LR LR
comp=N,430nm,5.3s
CD2 LR LR
comp=Z,390nm,4.5s
LZH Lanzhou 79.32 313 *e*P P 21 46 57.5 +3.3
LZH pP pP 21 47 12.3 +5.4
LZH AMB AMB
comp=Z,22nm,1.3s
LZH AMB AMB
comp=Z,140nm,5.9s
MAW Mawson 79.90 202 P **P** **21 46 57.3 +0.7**
MAW Mawson 79.90 202 P **P** **21 46 57.3 +0.7**
5.5nm,0.9s,baz=158,slow=5.4,SNR=4.5
ULN Ulaanbaatar 83.47 324 *e*P **P** **21 47 14.7 -1.1**
13nm,1.3s
GTA Gaotai 83.71 314 *e*P **P** **21 47 17.3 0.0**
GTA pP **pP** **21 47 28.5 -1.6**
GTA sP **sP** **21 47 35.0 +0.1**
GTA SKS **SKSac** **21 57 32.8 -4.1**
GTA S **S** **21 57 37.0 -0.1**
GTA sS ScS 21 57 59.8 +10
GTA SS **SS** **22 03 06.8 +1.6**
GTA AMB AMB
comp=Z,7.0nm,1.4s
GTA AMB AMB
comp=Z,180nm,5.0s
SONM Songino Array 83.82 324 P **P** **21 47 17.3 -0.3**
SONM Songino Array 83.82 324 P **P** **21 47 17.3 -0.3**
3.5nm,0.8s,baz=150,slow=6.8,SNR=26
CAST Castle Rocks 86.00 17 *e*P **P** **21 47 27.4 -0.6**
18nm,0.8s
SYO Syowa Base 86.70 197⇑ *e*P **P** **21 47 31.0 -0.5**
IMA2 Indian Mountai 87.66 15 *e*P **P** **21 47 37.0 +0.8**
IMA2 *e*PP PP 21 50 55.2 -7.0
COLA College 88.32 18 *e*P P 21 47 35.9 -3.3
44nm,1.1s
ILAR Eielson Array 88.53 18 P **P** **21 47 38.9 -1.3**
ILAR Eielson Array 88.53 18 P **P** **21 47 38.9 -1.3**
2.9nm,0.6s,baz=238,slow=5.0,SNR=46
ILAR LR LR 22 20 45.7
comp=Z,64nm,20.4s,baz=276,slow=31
BBB Bella Bella 88.65 34 LR LR 22 27 12.7
comp=Z,93nm,18.3s,baz=125,slow=36
NVAR Mina Array Bea 88.88 49 P **P** **21 47 43.7 +0.9**
NVAR Mina Array Bea 88.88 49 P **P** **21 47 43.7 +0.9**
0.6nm,0.3s,baz=218,slow=8.7,SNR=15
LPIG La Paz 90.42 65 LR LR 22 20 26.9
comp=Z,58nm,18.2s,baz=24,slow=30
MAIT Maitri 91.05 188 *e*P **P** **21 47 51.0 -1.1**
SNAA Sanae 91.57 183 *e*P **P** **21 47 55.0 +0.5**
SNAA Sanae 91.57 183 *e*P **P** **21 47 55.1 +0.5**
8.5nm,1.0s
F10A Beach Ranch, E 92.44 43 *e*PP PP 21 52 02.5 -7.5
VNA2 Neumayer--Watz 92.51 182 *e*P **P** **21 47 58.7 -0.1**
baz=192,slow=3.6
WMQ Urumqi 93.79 315 P **P** **21 48 04.0 -1.3**
WMQ pP **pP** **21 48 17.5 -0.7**
WMQ sP **sP** **21 48 22.8 -0.2**
WMQ SKS **SKSac** **21 58 33.3 -3.3**
WMQ S **S** **21 59 06.5 -5.2**
WMQ AMB AMB
comp=Z,12nm,1.0s
WMQ AMB AMB
comp=Z,130nm,4.0s
WMQ LR LR
comp=N,83nm,22.6s
WMQ LR LR
comp=E,60nm,21.2s
WMQ LR LR
comp=Z,48nm,19.2s
PV15 Paradox Valley 96.14 52 *e*PP PP 21 52 02.5 -7.5
PDAR Pinedale Array 96.60 47 LR LR 22 30 55.1
comp=Z,37nm,18.4s,baz=80,slow=35
MKAR Makanchi Array 98.32 316 P **P** **21 48 25.6 -0.1**
MKAR Makanchi Array 98.32 316 P **P** **21 48 25.6 -0.1**
0.5nm,0.7s,baz=92,slow=6.8,SNR=3.9
PHWY Pilot Hill 99.16 50 *e*P **Pdif** **21 48 30.0 0.0**
16nm,0.9s
BOSA Boshof 121.59 220 PKP **PKPdf** **21 53 42.9 +0.4**
BOSA Boshof 121.59 220 PKP **PKPdf** **21 53 42.9 +0.4**
4.5nm,0.9s,baz=179,slow=2.2,SNR=3.8
ARCES ARCESS Array B 122.04 345 PKP **PKPdf** **21 53 41.1 -0.7**
ARCES ARCESS Array B 122.04 345 PKP **PKPdf** **21 53 41.1 -0.7**
2.3nm,0.7s,baz=29,slow=2.8,SNR=10
AKASG Malin Array Be 132.10 325 PKP **PKPdf** **21 54 00.8 -0.7**
AKASG Malin Array Be 132.10 325 PKP **PKPdf** **21 54 00.8 -0.7**
0.3nm,0.3s,baz=61,slow=1.9,SNR=3.5
NB2 NORSAR Subarra 132.40 344 PKPdf **PKPdf** **21 54 02.0 +0.1**
comp=Z,0.8nm,0.9s,baz=31,slow=1.9
NOA NORSAR Array B 132.40 344 PKP **PKPdf** **21 54 02.1 +0.3**
NOA NORSAR Array B 132.40 344 PKP **PKPdf** **21 54 02.1 +0.3**
comp=Z,0.8nm,0.8s,baz=35,slow=2.0,SNR=4.4
BRTR Keskin Array B 133.44 309 PKP **PKPdf** **21 54 04.9 +0.3**
BRTR Keskin Array B 133.44 309 PKP **PKPdf** **21 54 04.9 +0.3**
comp=Z,0.3nm,0.4s,baz=15,slow=6.0,SNR=2.8
KOLS Kolonicke sedl 136.84 326 *e*PKP **PKPdf** **21 54 07.9 -2.6**
KOLS *e* 21 54 15.2
CRVS Cervenica-Dubn 137.29 326 *e*PKP **PKPdf** **21 54 13.2 +1.8**
GERES GERESS Array B 141.18 332 PKPpre PKPpre 21 54 11.8
GERES PKP **PKPdf** **21 54 18.6 +0.1**
GERES GERESS Array B 141.18 332 PKhKP PKPpre 21 54 11.8
comp=Z,0.3nm,0.7s,baz=0.0,slow=1.1,SNR=3.0
GERES PKP **PKPdf** **21 54 18.6 +0.1**
comp=Z,0.4nm,0.6s,baz=45,slow=0.8,SNR=4.8
FETA Feichten 143.87 332⇑ *i*PKPdf PKPbc 21 54 21.6 +0.4
comp=Z,7.3nm,1.1s
DAVA Damuels 144.04 333⇑ *i*PKPdf PKPbc 21 54 21.9 +0.2
comp=Z,8.0nm,1.1s
TUE Stuetta 144.91 333 *e*PKPdf **PKPab** **21 54 24.0 -0.5**
TIP Timpagrande 145.60 317 *e*PKPdf **PKPdf** **21 54 25.4 -1.2**
BNI Bardonecchia 147.18 334 *e*PKPdf **PKPdf** **21 54 28.9 -0.3**
SSB Saint Sauveur 147.86 336 *e*PKPdf **PKPdf** **21 54 30.7 +0.5**
KEST Kesra 152.41 318 PKPab **PKPab** **21 54 55.5 +0.7**
KEST Kesra 152.41 318 PKPab **PKPab** **21 54 55.5 +0.7**
comp=Z,2.1nm,0.8s,baz=302,slow=3.1,SNR=5.9
TORD Torodi Ar. Bea 165.19 258 PKP **PKPdf** **21 54 54.2 +1.0**
TORD PKPab **PKPab** **21 55 49.8 -0.8**
TORD Torodi Ar. Bea 165.19 258 PKP **PKPdf** **21 54 54.2 +1.0**
comp=Z,0.6nm,0.9s,baz=41,slow=2.3,SNR=3.0
TORD PKPab **PKPab** **21 55 49.8 -0.8**
comp=Z,1.5nm,0.8s,baz=102,slow=3.7,SNR=8.9

*ISCJB **26** 21:48:51.9±1.4, 3.˚9S±0.˚1×68.˚5E±0.˚2, h10km, mb3.6/7, MS3.8/3, Error ellipse: s-maj=36.6km s-min=11.6km az=155.0*
*IDC **26** 21:48:51.1±1.4, 3.˚74S×68.˚14E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.5/27, mbtmp3.6/7, MS3.7/3, Ms1 3.7/3, ms1mx3.1/33, Error ellipse: s-maj=47.4km s-min=25.2km az=83.0*
ISC 26 21:48:53.3±1.4, 3.˚9S±0.˚2×68.˚4E±0.˚3, h10km, n16, σ0§94/13, mb3.6/7, MS3.8/3, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**3.57**	**133**	Pn	**Pn**	**21 49 48.1**	**-0.4**
H08N2				T	T	21 53 27.7	
baz=316,slow=0.7,SNR=3001							
H08N3	**Diego Garcia H**	**3.58**	**133**	Pn	**Pn**	**21 49 48.1**	**-0.5**
H08N3				T	T	21 53 28.0	
baz=316,slow=0.7,SNR=3043							
H08N1	**Diego Garcia H**	**3.59**	**133**	Pn	**Pn**	**21 49 48.1**	**-0.7**
H08N1				T	T	21 53 29.0	
baz=316,slow=0.7,SNR=2988							
H08S3	**Diego Garcia H**	**5.53**	**132**	Pn	**Pn**	**21 50 15.0**	**-0.6**
H08S1	**Diego Garcia H**	**5.54**	**132**	Pn	**Pn**	**21 50 15.0**	**-0.6**
H08S2	**Diego Garcia H**	**5.55**	**132**	Pn	**Pn**	**21 50 15.0**	**-0.8**
CMAR	**Chiang Mai Arr**	**37.44**	**53**	P	**P**	**21 56 07.8**	**+0.8**
0.2nm,0.4s,baz=244,slow=7.3,SNR=5.1							
BOSA	**Boshof**	**47.73**	**234**	LR	LR	22 15 09.7	
comp=Z,88nm,18.5s,baz=269,slow=33							
MKAR	**Makanchi Array**	**51.95**	**12**	P	P	21 57 59.5	-3.0
0.5nm,0.9s,baz=202,slow=11,SNR=2.7							
ZALV	**Zalesovo Beam**	**59.26**	**11**	P	**P**	**21 58 52.9**	**-2.0**
0.7nm,0.6s,baz=202,slow=7.7,SNR=4.8							
SONM	**Songino Array**	**61.34**	**28**	P	**P**	**21 59 10.1**	**+0.6**
0.4nm,0.9s,baz=215,slow=7.2,SNR=3.6							
SONM				LR	LR	22 25 23.1	
comp=Z,113nm,20.3s,baz=199,slow=36							
ASAR	**Alice Springs**	**66.07**	**114**	P	**P**	**21 59 42.1**	**+1.0**
0.1nm,0.3s,baz=294,slow=5.0,SNR=3.2							
WRA	**Warramunga Arr**	**66.11**	**110**	P	**P**	**21 59 41.6**	**+0.3**
0.9nm,0.8s,baz=288,slow=6.0,SNR=3.4							
KSRS	**Korea Array**	**68.82**	**47**	LR	LR	22 30 19.7	
comp=Z,30nm,18.3s,baz=240,slow=36							
QSPA	**South Pole Qui**	**86.11**	**180**	P	**P**	**22 01 34.7**	**+0.3**
0.8nm,0.8s							
NVAR	**Mina Array Bea**	**145.09**	**9**	PKP	**PKPdf**	**22 08 32.5**	**+0.6**
0.9nm,1.0s,baz=316,slow=2.5,SNR=3.3							

*AUST **26** 22:41:10.8±0.2, 32.˚70S×138.˚98E, h194km, Error ellipse: s-maj=0.3km s-min=0.1km az=336.0*
*ISCJB **26** 22:41:11.1±0.7, 32.˚49S±0.˚07×139.˚12E±0.˚08, h10km, mb3.5/1, Error ellipse: s-maj=12.2km s-min=8.1km az=39.3*
*IDC **26** 22:41:12.3±1.6, 32.˚65S×138.˚96E, h0km, mb3.4/1, mb1 3.8/5, mb1mx3.6/17, mbtmp3.6/5, ML3.8/4, Error ellipse: s-maj=25.0km s-min=21.6km az=6.0*
ISC 26 22:41:12.0±0.9, 32.˚59S±0.˚07×138.˚97E±0.˚05, h10km, n9, σ1§84/13, 2C-2D, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**2.33**	**73**	⇑P	**Pb**	**22 41 53.8**	**-0.3**
baz=2.4							
STKA	**Stephens Creek**	**2.33**	**73**	Pn	**Pb**	**22 41 53.4**	**-0.7**
34nm,0.3s,baz=251,slow=12,SNR=324							
STKA				Pg	**Pg**	**22 41 54.5**	**-2.2**
34nm,0.3s,baz=250,slow=14,SNR=334							
STKA				Sn	**Sb**	**22 42 24.0**	**+1.0**
82nm,0.3s,baz=270,slow=13,SNR=16							
BBOO	**Buckleboo**	**2.47**	**264**	⇓P	**Pb**	**22 41 55.0**	**-1.5**
baz=2.5							
ARPS	**Mount Arapiles**	**4.79**	**151**	⇑P	**Pn**	**22 42 23.6**	**-0.6**
baz=4.7							
CMSA	**Cobar Meteorol**	**5.80**	**81**	⇓P	**Pn**	**22 42 38.6**	**+0.5**
baz=5.8							
ASAR	**Alice Springs**	**9.95**	**332**	Pn	**Pn**	**22 43 37.4**	**+2.2**
0.4nm,0.3s,baz=149,slow=12,SNR=14							
ASAR				Sn	**Sn**	**22 45 27.2**	**+0.2**
0.8nm,0.3s,baz=153,slow=22,SNR=6.5							
WRA	**Warramunga Arr**	**13.26**	**341**	Pn	**Pn**	**22 44 21.6**	**+1.2**
0.4nm,0.3s,baz=162,slow=11,SNR=5.6							
WRA				Sn	**Sn**	**22 46 44.3**	**-3.7**
0.4nm,0.3s,baz=164,slow=23,SNR=3.2							
FITZ	**Fitzroy Crossi**	**18.77**	**317**	P	**Pn**	**22 45 33.4**	**+1.6**
0.1nm,0.3s,baz=146,slow=9.9,SNR=4.2							
VNDA	**Vanda**	**46.18**	**173**	P	**P**	**22 49 37.8**	**+1.4**
0.4nm,0.7s,baz=312,slow=7.0,SNR=4.2							

*IDC **26** 23:01:14.5±0.6, 3.˚26N×104.˚13W, h0km, mb4.7/16, mb1 4.8/17, mb1mx4.7/24, mbtmp4.7/17, ML3.2/1, MS3.6/10, Ms1 3.6/10, ms1mx3.3/31, Error ellipse: s-maj=24.7km s-min=13.5km az=53.0*
*ISCJB **26** 23:01:16.6±0.5, 3.˚39N±0.˚06×103.˚60W±0.˚06, h10km, mb4.8/66, MS3.9/12, Error ellipse: s-maj=11.2km s-min=5.3km az=139.0*
*NEIC **26** 23:01:17.0±0.3, 3.˚22N×103.˚76W, h10km, mb4.9/50, Error ellipse: s-maj=10.9km s-min=4.9km az=56.0*
*BJI **26** 23:01:18.7, 3.˚40N×103.˚50W, h10km, mB5.4/3, Ms5.1/4, Ms7.4/7.5*
ISC 26 23:01:16.7±0.5, 3.˚28N±0.˚09×103.˚84W±0.˚09, h10km, n463, σ1§10/461, mb4.8/65, MS3.5/12, 147C-148D, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAYG	**Puerto Ayora**	**14.11**	**106**	Pn	**Pn**	**23 04 34.8**	**-2.0**
APG	**El Apazote**	**17.59**	**48**	P	**P**	**23 05 24.8**	**+1.3**
APG	**El Apazote**	**17.59**	**48**	P	**P**	**23 05 24.8**	**+1.3**
0.1nm,0.3s,baz=219,slow=8.2,SNR=8.3							
APG				LR	LR	23 10 31.8	
comp=Z,476nm,21.0s,baz=260,slow=31							
TGUH	**Tegucigalpa,Un**	**19.55**	**56**	*e*P	**P**	**23 05 42.6**	**-2.1**
270nm,1.7s							
JTS	**JuntasAbangare**	**20.00**	**69**	*e*P	**Pn**	**23 05 53.5**	**+2.1**
JTS	**JuntasAbangare**	**20.00**	**69**	P	**Pn**	**23 05 51.8**	**+0.4**
7.4nm,0.7s,baz=274,slow=8.2,SNR=5.0							
JTS				LR	LR	23 11 18.9	
comp=Z,708nm,20.4s,baz=75,slow=30							
LPIG	**La Paz**	**21.62**	**344**	LR	LR	23 12 08.7	
comp=Z,119nm,20.4s,baz=191,slow=30							
TEIG	**Tepich**	**22.67**	**41**	*e*P	**P**	**23 06 16.8**	**-1.7**
100nm,1.4s							
OTAV	**Otavalo**	**25.55**	**96**	*e*P	**P**	**23 06 47.9**	**+1.3**
86nm,1.7s							
732A	**Laxson Ranch,**	**25.58**	**8**	⇓P	**P**	**23 06 46.6**	**+0.5**
baz=26							
TXAR	**Lajitas Array**	**25.91**	**0**	P	**P**	**23 06 49.7**	**+0.5**
TXAR				PcP	**PcP**	**23 10 18.5**	**+0.3**
TXAR	**Lajitas Array**	**25.91**	**0**	P	**P**	**23 06 49.7**	**+0.5**
7.8nm,0.9s,baz=180,slow=12,SNR=24							
TXAR				PcP	**PcP**	**23 10 18.5**	**+0.3**
1.1nm,0.9s,baz=151,slow=5.4,SNR=4.9							
TXAR				LR	LR	23 16 02.2	
comp=Z,150nm,21.1s,baz=190,slow=34							
627A	**Terlingua Ranc**	**26.04**	**1**	⇑P	**P**	**23 06 51.3**	**+0.9**
baz=26,SNR=14							
628A	**Black Gap, Mar**	**26.08**	**2**	⇓P	**P**	**23 06 51.9**	**+1.2**
baz=26							
626A	**Big Bend Ranch**	**26.13**	**359**	⇑P	**P**	**23 06 52.7**	**+1.5**
baz=26,SNR=11							
631A	**Perdido Creek**	**26.18**	**6**	⇑P	**P**	**23 06 52.6**	**+1.1**
baz=26							
632A	**Uvalde**	**26.37**	**8**	⇑P	**P**	**23 06 54.2**	**+0.9**
baz=27							
526A	**Mary Lane Ranc**	**26.64**	**360**	⇓P	**P**	**23 06 57.7**	**+1.8**
baz=27,SNR=5.7							
527A	**Woodward Ranch**	**26.72**	**0**	⇑P	**P**	**23 06 57.9**	**+1.3**
baz=27,SNR=13							
529A	**Stev Forest Ra**	**26.75**	**3**	⇑P	**P**	**23 06 57.9**	**+1.2**
baz=27,SNR=6.6							
530A	**J-C Ranch, Com**	**26.83**	**5**	⇑P	**P**	**23 06 58.6**	**+1.2**
baz=27,SNR=7.6							
531A	**Rocksprings**	**26.92**	**6**	⇓P	**P**	**23 06 59.3**	**+1.0**
baz=27,SNR=5.4							
532A	**Rocksprings**	**26.96**	**8**	⇑P	**P**	**23 06 59.2**	**+0.5**
baz=27							
426A	**McDonald Obser**	**27.24**	**360**	⇑P	**P**	**23 07 01.8**	**+0.4**
baz=27							
429A	**Davenport Ranc**	**27.26**	**4**	⇑P	**P**	**23 07 02.3**	**+1.0**
baz=28							
428A	**Kincaid Ranch,**	**27.32**	**2**	⇑P	**P**	**23 07 02.8**	**+0.9**
baz=28							
JCT	**Junction City**	**27.32**	**8**	*e*P	**P**	**23 07 02.9**	**+0.9**
99nm,2.5s							
JCT	**Junction City**	**27.32**	**8**	⇑P	**P**	**23 07 02.8**	**+0.9**
baz=28							
425A	**Indio Mountain**	**27.38**	**358**	⇓P	**P**	**23 07 03.6**	**+1.1**
baz=28,SNR=7.7							
ATAH	**Atahualpa**	**27.42**	**112**	P	**P**	**23 07 05.4**	**+2.0**
ATAH	**Atahualpa**	**27.42**	**112**	P	**P**	**23 07 05.4**	**+2.0**
6.3nm,0.8s,baz=46,slow=12,SNR=7.0							
ATAH				LR	LR	23 15 34.0	
comp=Z,80nm,18.4s,baz=314,slow=31							
427A	**Hayter Ranch,**	**27.43**	**1**	⇑P	**P**	**23 07 04.0**	**+1.1**
baz=28,SNR=6.3							
431A	**Sonora**	**27.43**	**6**	⇑P	**P**	**23 07 03.7**	**+0.9**
baz=28							
430A	**Baggett Ranch,**	**27.47**	**5**	⇑P	**P**	**23 07 04.2**	**+0.9**
baz=28							
432A	**Menard**	**27.71**	**7**	⇑P	**P**	**23 07 06.5**	**+1.0**
baz=28							
325A	**Bean Ranch, Si**	**27.96**	**358**	⇑P	**P**	**23 07 08.2**	**+0.4**
baz=28,SNR=7.8							
328A	**Wristen Ranch,**	**27.97**	**2**	⇑P	**P**	**23 07 07.9**	**+0.2**
baz=28,SNR=5.8							
324A	**Moseley Ranch,**	**28.06**	**357**	⇑P	**P**	**23 07 08.9**	**+0.4**
baz=28,SNR=8.4							
331A	**San Angelo**	**28.07**	**6**	⇓P	**P**	**23 07 09.3**	**+0.8**
baz=28							
330A	**Mertzon**	**28.09**	**5**	⇑P	**P**	**23 07 09.1**	**+0.3**
baz=28							
329A	**Wagon Wheel Ra**	**28.11**	**3**	⇓P	**P**	**23 07 09.8**	**+0.7**
baz=28							
332A	**Millersview**	**28.22**	**7**	⇓P	**P**	**23 07 09.9**	**0.0**
baz=28							
320A	**Kipp Ranch, An**	**28.26**	**352**	⇑P	**P**	**23 07 11.2**	**+0.9**
baz=28							
319A	**Douglas**	**28.41**	**350**	⇑P	**P**	**23 07 13.0**	**+1.2**
baz=29							
230A	**Sterling City**	**28.57**	**5**	⇑P	**P**	**23 07 13.3**	**+0.2**
baz=29							
226B	**Tecolote Peak,**	**28.65**	**359**	⇑P	**P**	**23 07 14.6**	**+0.8**
baz=29,SNR=9.1							
224A	**Cornudas Mount**	**28.69**	**357**	⇓P	**P**	**23 07 15.0**	**+0.7**
baz=29							
225A	**Deer Hill, Car**	**28.70**	**358**	⇑P	**P**	**23 07 15.5**	**+1.1**
baz=29							
231A	**Bronte**	**28.70**	**6**	⇓P	**P**	**23 07 14.6**	**+0.4**
baz=29							
232A	**Coleman**	**28.73**	**7**	⇑P	**P**	**23 07 14.7**	**+0.2**
baz=29							
220A	**Playas Peak, P**	**28.81**	**352**	⇑P	**P**	**23 07 16.3**	**+1.0**
baz=29,SNR=6.6							
222A	**Williams Famil**	**28.84**	**354**	⇑P	**P**	**23 07 16.9**	**+1.4**
baz=29							
126A	**Clayton Basin,**	**29.21**	**360**	⇓P	**P**	**23 07 18.9**	**+0.1**
baz=29,SNR=5.2							
128A	**Castleberry Fa**	**29.22**	**2**	⇑P	**P**	**23 07 19.2**	**+0.3**
baz=29							
125A	**Gardner Draw,**	**29.24**	**359**	⇓P	**P**	**23 07 19.5**	**+0.5**
baz=29							
130A	**Snyder**	**29.29**	**5**	⇑P	**P**	**23 07 19.8**	**+0.4**
baz=30							
124A	**Stringfield Ra**	**29.31**	**357**	⇓P	**P**	**23 07 20.7**	**+0.9**
baz=30							
121A	**Cookes Peak, D**	**29.34**	**353**	*e*P	**P**	**23 07 21.4**	**+1.4**
121A	**Cookes Peak, D**	**29.34**	**353**	⇑P	**P**	**23 07 21.2**	**+1.2**
baz=30,SNR=8.0							
131A	**Roby**	**29.42**	**6**	⇓P	**P**	**23 07 21.2**	**+0.6**
baz=30							
ABTX	**Abilene, Hawle**	**29.46**	**7**	*e*P	**P**	**23 07 21.1**	**+0.2**
15nm,0.9s							
ABTX	**Abilene, Hawle**	**29.46**	**7**	⇑P	**P**	**23 07 21.3**	**+0.4**
baz=30							
120A	**U Bar Ranch, L**	**29.46**	**352**	⇑P	**P**	**23 07 22.2**	**+1.1**
baz=30							
ROSC	**El Rosal**	**29.48**	**86**	*e*P	**P**	**23 07 20.1**	**-1.7**
ROSC				PcP	**PcP**	**23 10 28.4**	**+0.9**
ROSC	**El Rosal**	**29.48**	**86**	P	**P**	**23 07 24.3**	**+2.6**
3.8nm,0.4s,baz=273,slow=14,SNR=5.5							
ROSC				PcP	**PcP**	**23 10 28.4**	**+0.9**
8.0nm,0.5s,baz=270,slow=19,SNR=3.9							
ROSC				LR	LR	23 17 16.3	
comp=Z,110nm,20.0s,baz=238,slow=32							
214A	**Organ Pipe Nat**	**29.75**	**345**	⇓P	**P**	**23 07 24.1**	**+0.6**
baz=30							
Z26A	**Caprock**	**29.84**	**360**	⇓P	**P**	**23 07 24.4**	**+0.1**
baz=30							
Z25A	**Roswell**	**29.86**	**359**	⇑P	**P**	**23 07 24.9**	**+0.4**
baz=30							
Z27A	**Tatum**	**29.89**	**1**	⇓P	**P**	**23 07 25.6**	**+0.7**
baz=30,SNR=20							
Z29A	**Hungry Hill Ra**	**29.89**	**4**	⇑P	**P**	**23 07 24.4**	**-0.5**
baz=30							
Z23A	**Rita Site, Whi**	**29.91**	**356**	⇓P	**P**	**23 07 26.0**	**+1.0**
baz=30,SNR=7.7							
Z24A	**Sheeppen Canyo**	**29.93**	**357**	⇓P	**P**	**23 07 25.7**	**+0.5**
baz=30							
Z30A	**Sanderson Ranc**	**29.96**	**5**	⇓P	**P**	**23 07 25.5**	**+0.1**
baz=30,SNR=7.2							
Z22A	**Elephant Butte**	**29.96**	**355**	⇑P	**P**	**23 07 26.8**	**+1.3**
baz=30,SNR=8.5							
Z20A	**Nine Sixteen R**	**30.01**	**352**	⇓P	**P**	**23 07 27.5**	**+1.5**
baz=30,SNR=12							
Z31A	**Sharp Cattle R**	**30.08**	**6**	⇑P	**P**	**23 07 26.7**	**+0.2**
baz=30,SNR=5.4							
Z21A	**St. Cloud Mine**	**30.09**	**354**	⇑P	**P**	**23 07 27.7**	**+1.0**
baz=30,SNR=6.2							
Z32A	**Haskell**	**30.15**	**7**	⇑P	**P**	**23 07 27.1**	**0.0**
baz=30							
Y27A	**Causey**	**30.45**	**1**	⇑P	**P**	**23 07 30.2**	**+0.4**
baz=31							
Y26A	**Elida**	**30.49**	**0**	⇓P	**P**	**23 07 30.3**	**+0.2**
baz=31							
Y29A	**Porterfield Fa**	**30.49**	**4**	⇑P	**P**	**23 07 30.3**	**+0.2**
baz=31							
Y25A	**Mesa, Roswell**	**30.50**	**359**	⇑P	**P**	**23 07 30.6**	**+0.4**
baz=31,SNR=5.6							
Y28A	**McKinney Farm,**	**30.51**	**3**	⇓P	**P**	**23 07 30.7**	**+0.5**
baz=31							
Y24A	**Capitan**	**30.53**	**357**	⇓P	**P**	**23 07 31.4**	**+0.8**
baz=31							
MSTX	**Muleshoe**	**30.55**	**2**	*e*P	**P**	**23 07 31.3**	**+0.6**
42nm,1.4s							
MSTX	**Muleshoe**	**30.55**	**2**	⇑P	**P**	**23 07 31.1**	**+0.5**
baz=31,SNR=6.4							
Y30A	**Stafford Cattl**	**30.57**	**5**	⇓P	**P**	**23 07 31.4**	**+0.6**
baz=31							
Y23A	**Lovelace Mesa,**	**30.57**	**356**	⇓P	**P**	**23 07 32.0**	**+1.1**
baz=31							
Y22A	**Socorro**	**30.64**	**355**	⇓P	**P**	**23 07 32.8**	**+1.2**
baz=31,SNR=5.0							
Y31A	**Rekieta Farm,**	**30.71**	**6**	⇑P	**P**	**23 07 32.6**	**+0.6**
baz=31							
Y20A	**Horse Springs,**	**30.77**	**353**	⇓P	**P**	**23 07 34.0**	**+1.3**
baz=31,SNR=5.6							
113A	**Mohawk Valley,**	**30.78**	**344**	⇓P	**P**	**23 07 33.7**	**+1.2**
baz=31,SNR=6.0							
Y21A	**Point of Rocks**	**30.78**	**354**	⇓P	**P**	**23 07 34.3**	**+1.5**
baz=31,SNR=5.6							
LENM	**Lemitar**	**30.87**	**355**	*e*P	**P**	**23 07 34.1**	**+0.6**
X26A	**CR and CF Fran**	**31.11**	**0**	⇓P	**P**	**23 07 36.1**	**+0.4**
baz=31							
LAZ	**Ladron**	**31.12**	**355**	*e*P	**P**	**23 07 37.0**	**+1.2**
1.4nm,0.4s							
Z14A	**Wintersburg**	**31.12**	**345**	⇓P	**P**	**23 07 37.3**

X18A	Snowflake baz=32	31.61	350	⇓P		P	23 07 41.5	+1.4
BAR	Barrett	31.63	339	eP		P	23 07 42.1	+2.0
W27A	Bowe Ranch, En baz=32	31.63	1	⇑P		P	23 07 40.9	+0.6
W26A	Owens Ranch, T baz=32	31.65	0	⇑P		P	23 07 40.9	+0.6
Y14A	Wickenburg baz=32	31.68	345	⇓P		P	23 07 41.6	+1.1
MONP	Monument Peak baz=32	31.73	340	⇓P		P	23 07 42.7	+1.5
W29A	Amraillo baz=32	31.75	3	⇑P		P	23 07 41.9	+0.7
X16A	Lo Mia Camp, P baz=32	31.78	348	⇓P		P	23 07 42.9	+1.3
W25A	X Bar L Ranch, baz=32	31.78	359	⇓P		P	23 07 42.2	+0.6
W23A	Werner Place, baz=32	31.80	356	⇓P		P	23 07 42.8	+1.0
W24A	Lazy 6 Ranch, baz=32	31.80	358	⇓P		P	23 07 42.5	+0.7
W21A	San Fidel baz=32	31.88	354	⇓P		P	23 07 43.8	+1.4
Y12C	Blythe baz=32	31.91	343	⇓P		P	23 07 44.5	+2.0
W31A	Holland Ranch, baz=32	31.95	6	⇑P		P	23 07 44.2	+1.2
W20A	Ramah baz=32	31.98	353	⇑P		P	23 07 44.8	+1.4
BC3	Big Chuckawall baz=32,SNR=6.0	32.11	342	⇑P		P	23 07 45.8	+1.4
V24A	Rampart Ranch, baz=32,SNR=9.6	32.31	358	⇑P		P	23 07 47.4	+1.0
PDMCI	Parker Dam,Lak baz=32	32.32	344	⇓P		P	23 07 48.0	+1.9
V28A	Channing baz=33	32.35	2	⇓P		P	23 07 47.2	+0.7
V26A	Tequesquite Ra baz=33	32.36	0	⇑P		P	23 07 47.0	+0.4
V23A	Ortiz Mt. (NFS baz=33	32.38	356	⇑P		P	23 07 48.0	+1.1
PFO	Pinyon Flat Ob 12nm,1.0s	32.39	340	eP		P	23 07 47.9	+0.9
PFO	Pinyon Flat Ob baz=33,SNR=8.1	32.39	340	⇑P		P	23 07 48.1	+1.2
V25A	Rancho No Teng baz=33,SNR=9.6	32.41	359	⇑P		P	23 07 47.6	+0.5
IRM	Iron Mountain baz=33,SNR=7.9	32.48	342	⇓P		P	23 07 48.7	+1.2
V29A	Stinnett baz=33	32.50	4	⇓P		P	23 07 48.8	+1.0
MIAR	Mount Ida 43nm,1.3s	32.54	16	eP		P	23 07 48.9	+0.8
V31A	Spring Creek L baz=33	32.55	6	⇓P		P	23 07 49.1	+1.0
V21A	Milan baz=33	32.56	354	⇑P		P	23 07 49.9	+1.5
V22A	San Miguel Ran baz=33	32.60	355	⇑P		P	23 07 50.1	+1.3
BELC	Belle Mtn. Jos baz=33,SNR=5.7	32.60	341	⇓P		P	23 07 50.0	+1.2
V20A	Brimhall baz=33,SNR=6.6	32.64	353	⇓P		P	23 07 50.2	+1.1
MURC	Murrieta baz=33	32.65	339	⇓P		P	23 07 50.6	+1.6
WUAZ	Wupatki 5.2nm,0.9s	32.83	349	eP		P	23 07 51.2	+0.4
WUAZ	Wupatki baz=33,SNR=6.2	32.83	349	⇓P		P	23 07 52.4	+1.7
U26A	Atchley Ranch, baz=33	32.95	0	⇓P		P	23 07 52.7	+0.9
U23A	El Rito baz=33	32.96	357	⇓P		P	23 07 53.1	+1.1
U25A	Circle Dot Ran baz=33,SNR=8.9	32.96	359	⇑P		P	23 07 52.9	+0.9
U27A	Thompson Grove baz=33	32.99	2	⇓P		P	23 07 53.1	+1.0
W13A	Hualapai Mount baz=33	33.01	345	⇓P		P	23 07 54.3	+1.9
U22A	Llaves baz=33,SNR=10	33.05	356	⇓P		P	23 07 54.3	+1.5
U21A	Nageezi baz=33,SNR=5.8	33.17	354	⇑P		P	23 07 55.1	+1.2
GMRC	Granite Mounta baz=33,SNR=5.8	33.21	342	⇓P		P	23 07 55.7	+1.6
U20A	Newcomb baz=33	33.22	353	⇑P		P	23 07 55.4	+1.2
U30A	WK&E Inc. Balk baz=33	33.22	5	⇑P		P	23 07 55.0	+0.9
TUL1	Tulsa baz=34	33.31	12	⇑P		P	23 07 55.3	+0.5
LDFC	Landfair 21nm,1.1s	33.32	343	eP		P	23 07 56.5	+1.5
BFSC	Mount Baldy Ra baz=34,SNR=7.1	33.38	339	⇑P		P	23 07 57.2	+1.6
SDV	Santo Domingo 66nm,1.4s	33.47	79	eP		P	23 07 57.7	+1.0
MWC	Mount Wilson 69nm,0.1s	33.52	338	eP		P	23 07 57.9	+1.1
T24B	San Luis baz=34	33.65	358	⇑P		P	23 07 58.9	+0.9
T23A	Casias Ranch, baz=34	33.66	357	⇓P		P	23 07 59.0	+0.9
T25A	Trinidad baz=34	33.70	359	⇓P		P	23 07 59.3	+0.9
T28A	Walsh baz=34	33.72	2	⇓P		P	23 07 59.4	+1.0
T21A	Navajo Lake baz=34	33.72	355	⇑P		P	23 07 59.9	+1.3
T26A	Comanche Natio baz=34	33.73	0	⇑P		P	23 07 59.8	+1.1
U15A	North Rim baz=34,SNR=5.4	33.90	348	⇑P		P	23 08 01.4	+1.2
TUQ	Turquoise Moun baz=34	33.90	342	⇓P		P	23 08 01.5	+1.5
T33A	Patterson Ranc baz=34	34.03	8	⇓P		P	23 08 01.6	+0.6
MVCO	Mesa Verde 14nm,1.0s	34.04	353	eP		P	23 08 02.3	+0.9
MVCO	Mesa Verde baz=34,SNR=7.6	34.04	353	⇓P		P	23 08 02.1	+0.8
T32A	Huddler Ranch, baz=34	34.04	7	⇓P		P	23 08 01.7	+0.6
GSC	Goldstone 15nm,1.3s	34.06	341	eP		P	23 08 02.6	+1.3
GSC	Goldstone baz=34	34.06	341	⇓P		P	23 08 03.2	+1.8
EDW2	Edwards Air Fo baz=34	34.08	339	⇑P		P	23 08 02.9	+1.3
S26A	Kim baz=34	34.18	1	⇑P		P	23 08 03.1	+0.7
S28A	Manter baz=34	34.19	3	⇓P		P	23 08 03.4	+0.9
S24A	Houchin Ranch, baz=34	34.22	358	⇓P		P	23 08 04.6	+1.6
S25A	Robets Cordova baz=34	34.22	359	⇑P		P	23 08 03.9	+1.0
SDCO	Great Sand Dun 64nm,2.8s	34.34	358	eP		P	23 08 05.4	+1.4
S21A	Coal Bank Pass baz=35	34.41	354	⇓P		P	23 08 05.7	+1.0
S22A	4UR Ranch, Cre baz=35,SNR=9.2	34.41	356	⇓P		P	23 08 06.0	+1.3
SHOC	Shoshone baz=35	34.44	342	⇓P		P	23 08 06.4	+1.8
S20A	Disappointment baz=35,SNR=5.5	34.63	354	⇑P		P	23 08 08.7	+2.1
SHPR	Sheep Range	34.67	344	eP		P	23 08 08.4	+1.6
R25A	Fountain Ranch baz=35	34.71	359	⇓P		P	23 08 08.1	+1.1
PKM	Peak Mountain baz=35	34.78	337	⇑P		P	23 08 09.6	+1.8
R23A	Moffat baz=35	34.79	357	⇓P		P	23 08 09.0	+1.0
R24A	Sanders Place, baz=35	34.81	358	⇑P		P	23 08 08.7	+0.7
R27A	Eads baz=35,SNR=14	34.85	1	⇓P		P	23 08 09.3	+1.0
R26A	Arlington baz=35,SNR=8.3	34.86	1	⇑P		P	23 08 09.3	+0.9
R22A	Saguache, Gunn baz=35,SNR=7.5	34.89	356	⇓P		P	23 08 10.1	+1.3
R28A	Tribune baz=35	34.95	3	⇓P		P	23 08 09.4	+0.4
ISA	Isabella 2.8nm,0.7s	34.95	339	eP		P	23 08 09.9	+0.7
ISA	Isabella baz=35	34.95	339	⇑P		P	23 08 10.9	+1.8
PV01	Paradox Valley 2µm,1.5s	34.96	353	eP		P	23 08 10.1	+0.7
PV05	Paradox Valley	34.97	353	eP		P	23 08 10.8	+1.4
MPMC	Manual Prospec baz=35,SNR=8.4	34.97	341	⇓P		P	23 08 11.1	+1.7
R20A	Redvale baz=35,SNR=6.7	34.99	354	⇑P		P	23 08 10.7	+1.1
R29A	Marienthal baz=35	35.07	4	⇑P		P	23 08 10.4	+0.3
R31A	Burdett baz=35	35.07	6	⇑P		P	23 08 10.4	+0.4
R21A	Cimarron baz=35	35.09	355	⇑P		P	23 08 11.8	+1.3
FURC	Furnace Creek, baz=35	35.14	342	⇓P		P	23 08 12.9	+2.3
VES	Vestal, Richgr baz=36	35.34	338	⇑P		P	23 08 14.2	+1.9
Q25A	Bedland, Calha baz=36	35.47	359	⇓P		P	23 08 14.5	+0.8
Q26A	Hugo baz=36,SNR=6.8	35.48	0	⇓P		P	23 08 14.7	+1.0
CWC	Cottonwood Cre baz=36	35.52	340	⇓P		P	23 08 15.6	+1.5
Q22A	Crested Butte, baz=36,SNR=12	35.53	356	⇑P		P	23 08 15.3	+0.9
Q24A	Divide baz=36	35.54	358	⇓P		P	23 08 15.1	+0.7
Q29A	Oakley baz=36,SNR=5.3	35.54	4	⇓P		P	23 08 14.5	+0.3
PBMO	Poplar Bluff 26nm,1.2s	35.55	19	eP		P	23 08 14.0	-0.2
Q21A	Lamborn Mesa, baz=36	35.55	355	⇓P		P	23 08 15.6	+1.2
KSCO	Kaye Shedlock' baz=36	35.58	2	⇓P		P	23 08 15.3	+0.8
Q30A	Quinter baz=36,SNR=6.3	35.69	5	⇓P		P	23 08 15.7	+0.3
Q20A	Ridgley Place, baz=36	35.74	354	⇑P		P	23 08 16.9	+0.9
Q31A	Ellis baz=36	35.79	6	⇓P		P	23 08 16.5	+0.3
SMCO	Snowmass 37nm,2.3s	35.85	356	eP		P	23 08 17.7	+0.6
MVU	Marysvale	35.88	349	eP		P	23 08 18.3	+1.0
P23A	Jefferson baz=36	35.97	357	⇑P		P	23 08 19.4	+1.2
P25A	Willow Gulch B baz=36	36.07	360	⇓P		P	23 08 20.1	+1.3
Q16A	Castle Valley baz=36	36.10	350	⇓P		P	23 08 20.6	+1.6
TIN	Tinemaha baz=36	36.12	340	⇑P		P	23 08 21.6	+2.4
SRU	San Rafael 21nm,1.4s	36.18	351	eP		P	23 08 21.4	+1.7
P30A	Selden baz=36	36.24	5	⇓P		P	23 08 21.0	+0.8
P22A	Eagle baz=36	36.25	356	⇓P		P	23 08 21.3	+0.9
P29A	Atwood baz=36	36.25	4	⇑P		P	23 08 20.7	+0.5
P20A	De Beque baz=36	36.29	354	⇓P		P	23 08 22.2	+1.6
P31A	Stockton baz=36	36.30	6	⇑P		P	23 08 21.3	+0.7
ISCO	Idaho Springs baz=37	36.39	358	⇑P		P	23 08 22.7	+1.0
P19A	Cripple Cowboy baz=37	36.49	353	⇑P		P	23 08 23.8	+1.4
MTUM	Tungsten Hills	36.51	340	eP		P	23 08 24.6	+2.0
R11A	Troy Canyon, C	36.52	344	eP		P	23 08 25.1	+2.4
R11A	Troy Canyon, C baz=37,SNR=7.5	36.52	344	⇑P		P	23 08 24.6	+1.9
O25A	Wiggins baz=37	36.67	360	⇑P		P	23 08 25.4	+1.6
O24A	Longmont baz=37	36.69	358	⇓P		P	23 08 25.4	+1.3
TPH	Tonopah 19nm,1.4s	36.73	342	eP		P	23 08 26.0	+1.4
O27A	Beecher Island baz=37	36.76	2	⇓P		P	23 08 25.9	+1.3
O22A	Kremmling baz=37,SNR=11	36.80	357	⇓P		P	23 08 26.2	+1.0
O26A	Horse Wrangler baz=37	36.80	1	⇑P		P	23 08 26.1	+1.2
SIUC	Southern Illin 33nm,1.1s	36.80	20	eP		P	23 08 25.6	+0.7
O23A	Lake Granby, G baz=37	36.81	357	⇓P		P	23 08 26.2	+0.9
MLAC	Mammoth Lakes baz=37	36.85	340	⇑P		P	23 08 27.8	+2.3
O30A	MW Ranch, Wils baz=37	36.89	5	⇑P		P	23 08 26.4	+0.7
O20A	White River Ci	36.90	354	eP		P	23 08 27.5	+1.6
O20A	White River Ci baz=37,SNR=5.8	36.90	354	⇑P		P	23 08 27.2	+1.3
O21A	Pagoda baz=37	36.91	355	⇑P		P	23 08 27.8	+1.7
O32A	Brockman Farm, baz=37	37.16	7	⇓P		P	23 08 29.2	+1.4
O19A	Miners Draw (B baz=37,SNR=5.8	37.16	353	⇓P		P	23 08 29.2	+1.1
MPU	Maple Canyon 26nm,1.3s	37.24	350	eP		P	23 08 30.7	+1.9
N27A	Anderson Farm, baz=38	37.38	2	⇓P		P	23 08 30.6	+0.8
N26A	Koester Ranch, baz=38	37.38	1	⇑P		P	23 08 31.4	+1.5
N24A	Carr baz=38	37.39	359	⇓P		P	23 08 31.4	+1.4
NVAR	Mina Array Bea	37.40	341	P		P	23 08 31.5	+1.3
NVAR				PcP		PcP	23 10 49.9	+0.8
NVAR	Mina Array Bea 3.1nm,0.7s,baz=169,slow=8.6,SNR=14	37.40	341	P		P	23 08 31.5	+1.3
NVAR	0.6nm,0.7s,baz=151,slow=4.0,SNR=5.5			PcP		PcP	23 10 49.9	+0.8
N22A	Wattenberg Ran baz=38	37.43	357	⇓P		P	23 08 31.9	+1.5
N23A	Red Feather La baz=38,SNR=6.3	37.49	357	⇑P		P	23 08 32.1	+1.1
OGNE	Ogallala 20nm,0.7s	37.53	2	eP		P	23 08 32.0	+0.8
OGNE	Ogallala baz=38,SNR=6.9	37.53	2	⇓P		P	23 08 31.9	+0.8
DAU	Daniels Canyon	37.57	351	eP		P	23 08 33.3	+1.6
N20A	Spence Gulch, baz=38,SNR=7.5	37.60	354	⇑P		P	23 08 33.0	+1.1
DUG	Dugway 20nm,1.4s	37.63	349	eP		P	23 08 33.8	+1.7
DUG	Dugway baz=38,SNR=8.7	37.63	349	⇓P		P	23 08 33.8	+1.7
CMB	Columbia Colle	37.76	338	eP		P	23 08 35.0	+2.0
WAKR	Walker 18nm,1.1s	37.84	340	eP		P	23 08 35.4	+1.5
M24A	Cheyenne baz=38	38.03	359	⇑P		P	23 08 37.2	+1.7
M23A	Laramie baz=38,SNR=11	38.06	358	⇓P		P	23 08 36.8	+1.1
BGU	Big Grassy Mou 17nm,1.7s	38.38	349	eP		P	23 08 39.8	+1.4
L22A	Ellis Ranch, M baz=39	38.65	357	⇑P		P	23 08 42.4	+1.7
L23A	Garrett baz=39	38.70	358	⇓P		P	23 08 42.1	+1.0
L25A	Engebretsen Ra baz=39	38.71	360	⇓P		P	23 08 42.3	+1.2
MPR	Mayaguez 137nm,0.6s	38.88	65	eP		P	23 08 36.9	-5.7
MPR				epP		x	23 09 38.4	
PAHR	Pah Rah Range 35nm,1.5s	38.91	341	eP		P	23 08 45.1	+2.3
K25A	Mack Ranch, Ha baz=39	39.16	360	⇑P		P	23 08 46.1	+1.2
K22A	Casper baz=40	39.27	357	⇑P		P	23 08 47.1	+1.2
K21A	Alcova baz=40	39.30	356	⇑P		P	23 08 47.5	+1.3
OHCM	Honcut	39.31	338	eP		P	23 08 48.0	+2.0
K28A	Ten Mile Ranch baz=40	39.33	3	⇓P		P	23 08 47.2	+1.0
K23A	Bowen Ranch, D baz=40	39.34	358	⇓P		P	23 08 47.3	+0.9
BW06	Boulder Array 19nm,1.1s	39.65	353	eP		P	23 08 49.8	+0.7
PDAR	Pinedale Array	39.65	353	P		P	23 08 49.3	+0.2
PDAR				PcP		PcP	23 10 55.4	-0.7
PDAR	Pinedale Array 9.9nm,1.0s,baz=164,slow=7.6,SNR=38	39.65	353	P		P	23 08 49.3	+0.2
PDAR				PcP		PcP	23 10 55.4	-0.7
J27A	Elkhorn Farm, baz=40	39.84	2	⇓P		P	23 08 51.3	+0.8
J26A	Sides Ranch, S baz=40	39.87	1	⇓P		P	23 08 51.6	+0.9
J24A	Dixon Ranch, L baz=40	39.89	359	⇓P		P	23 08 52.1	+1.2
SFIN	Scholer Farm baz=40	39.91	20	⇓P		P	23 08 51.0	0.0
J21A	Lysite baz=40,SNR=7.3	40.02	356	⇑P		P	23 08 53.3	+1.1
J22A	Midwest baz=40,SNR=5.9	40.03	357	⇑P		P	23 08 53.0	+0.9
J28A	Allard Ranch, baz=40	40.04	3	⇓P		P	23 08 53.3	+1.2
J30A	Dallas baz=40	40.06	5	⇓P		P	23 08 53.1	+0.9
J29A	Okreek baz=40	40.08	4	⇓P		P	23 08 52.9	+0.6
J19A	Crowheart baz=40	40.09	354	⇓P		P	23 08 53.2	+0.6
RKT	Rikitea 300nm,25.5s,baz=44	40.13	228	eLR		LR	23 19 55.5	
LPAZ	La Paz 33nm,1.3s	40.30	120	eP		P	23 08 56.0	+0.7
LPAZ	La Paz 11nm,0.9s,baz=310,slow=7.7,SNR=37	40.30	120	P		P	23 08 56.4	+1.2
LPAZ	comp=Z,35nm,18.2s,baz=222,slow=35			LR		LR	23 24 39.9	
REDW	Red Top Meadow 103nm,2.6s	40.40	352	eP		P	23 08 55.9	+0.7
I24A	Kuemmerle Ranc baz=41	40.42	359	⇓P		P	23 08 56.5	+1.2
I21A	Big Trails, Te baz=41	40.48	356	⇓P		P	23 08 56.4	+0.5
I22A	9 Mile Ranch, baz=41,SNR=5.1	40.51	357	⇓P		P	23 08 57.1	+1.0
I25A	Rochford baz=41,SNR=5.8	40.57	0	⇓P		P	23 08 57.8	+1.2
LOHW	Long Hollow 15nm,1.4s	40.61	352	eP		P	23 08 57.6	+0.6
I28A	Midland baz=41,SNR=5.0	40.62	3	⇑P		P	23 08 57.7	+0.9
I27A	Quinn baz=41	40.65	2	⇑P		P	23 08 58.4	+1.2
I30A	Oacoma baz=41	40.65	5	⇓P		P	23 08 58.2	+1.0
RSSD	Black Hills 15nm,0.9s	40.67	360	eP		P	23 08 58.2	+0.7
I20A	Worland baz=41,SNR=7.3	40.68	355	⇑P		P	23 08 58.4	+1.0
I29A	Vivian Onida baz=41,SNR=5.5	40.69	4	⇓P		P	23 08 58.3	+0.8
ECSD	EROS Data Cent 44nm,1.7s	40.79	8	eP		P	23 08 58.1	-0.2
I19A	Meeteetse baz=41	40.84	354	⇑P		P	23 08 59.8	+0.9
IMW	Indian Meadow 31nm,1.8s	40.93	352	eP		P	23 09 01.3	+1.5
HLID	Hailey 58nm,2.3s	41.20	348	eP		P	23 09 03.1	+1.3
HLID	Hailey baz=41,SNR=6.0	41.20	348	⇓P		P	23 09 03.2	+1.4
H20A	Greybull baz=41,SNR=8.6	41.20	355	⇓P		P	23 09 02.6	+0.9
H22A	Clearmont baz=41,SNR=5.5	41.20	357	⇑P		P	23 09 02.3	+0.5
H27A	Howes baz=41	41.21	2	⇓P		P	23 09 02.4	+0.6
BRSD	Miller baz=41	41.22	5	⇓P		P	23 09 02.3	+0.5
H21A	Big Horn, Sher baz=42	41.27	357	⇓P		P	23 09 03.8	+1.4
H28A	Mission Ridge baz=42	41.30	3	⇑P		P	23 09 03.3	+0.9
H29A	Onida baz=42	41.30	4	⇑P		P	23 09 03.2	+0.7
H24A	Dirks Ranch, A baz=42	41.30	359	⇑P		P	23 09 03.3	+0.7
H17A	Grant Village baz=42	41.38	353	⇑P		P	23 09 04.0	+0.7
H19A	Powell baz=42	41.47	354	⇑P		P	23 09 04.6	+0.6
H18A	Shoshone NF, C baz=42	41.55	354	⇓P		P	23 09 05.5	+0.8
G28A	Parade baz=42	41.70	3	⇑P		P	23 09 06.6	+0.8
G23A	Biddle baz=42	41.77	358	⇑P		P	23 09 05.9	-0.5
G22A	Birney baz=42,SNR=6.6	41.83	357	⇑P		P	23 09 06.9	0.0
G26A	Maurine baz=42,SNR=8.0	41.86	1	⇓P		P	23 09 07.5	+0.4
G21A	Lodge Grass baz=42	41.88	356	⇓P		P	23 09 07.4	+0.1
QLMT	Earthquake Lak	41.92	352	eP		P	23 09 09.6	+1.8
G27A	Dupree baz=42,SNR=5.5	41.94	1	⇓P		P	23 09 08.1	+0.4
G20A	Bridger baz=42	41.95	355	⇑P		P	23 09 08.6	+0.7
MCMT	McKenzie Canyo 7.2nm,1.2s	42.13	350	eP		P	23 09 10.6	+1.1
SAML	Samuel 15nm,1.0s	42.31	107	eP		P	23 09 10.7	-0.4
CBN	Corbin 29nm,0.4s	42.34	31	eP		P	23 09 09.9	-1.2
F24A	Ekalaka baz=43	42.40	359	⇓P		P	23 09 11.6	+0.1
F27A	Lemmon baz=43	42.45	2	⇓P		P	23 09 12.1	+0.2
F20A	Billings baz=43,SNR=5.2	42.52	356	⇓P		P	23 09 12.8	+0.3
F29A	Eureka baz=43	42.53	4	⇓P		P	23 09 12.8	+0.3
F30A	Leola baz=43	42.59	5	⇑P		P	23 09 13.4	+0.4
F19A	Roth Farm, Mol baz=43,SNR=9.1	42.64	355	⇓P		P	23 09 13.8	+0.3
GCMT	Greycliff 23nm,1.4s	42.65	354	eP		P	23 09 14.3	+0.7
LVC	Limon Verde	42.72	129	eP		P	23 09 16.0	+1.3
SPMN	St. Paul	42.88	11	eP		P	23 09 15.1	-0.3
E27A	Carson baz=43	43.03	2	⇑P		P	23 09 16.2	-0.3
LRM	Limekiln Ridge	43.04	351	eP		P	23 09 17.9	+1.0
E28A	Huff baz=43	43.21	3	⇑P		P	23 09 18.0	0.0
E20A	Meyer Farm, Mu baz=43,SNR=17	43.22	356	⇑P		P	23 09 18.7	+0.5
E19A	Rath Farm, Rou baz=44,SNR=18	43.23	355	⇑P		P	23 09 18.5	+0.3
H03N2	Juan Fernandez baz=324	43.45	149	T		T	23 55 40.2	
H03N1	Juan Fernandez baz=324	43.46	149	T		T	23 55 39.0	
H03N3	Juan Fernandez baz=324	43.47	149	T		T	23 55 41.5	
D26A	Manning baz=44	43.60	1	⇓P		P	23 09 22.2	+1.1
D24A	Glendive baz=44	43.67	360	⇓P		P	23 09 22.0	+0.3
D21A	La Casta Ranch baz=44,SNR=6.8	43.70	357	⇓P		P	23 09 22.4	+0.4
D25A	Fairfield baz=44	43.70	1	⇑P		P	23 09 22.4	+0.3
D22A	Cohagen baz=44	43.75	358	⇑P		P	23 09 22.6	+0.2
D20A	Manuel Ranch, baz=44	43.80	356	⇑P		P	23 09 23.0	+0.2
D30A	Buchanan baz=44	43.88	5	⇓P		P	23 09 23.3	-0.1
D19A	Cripps Ranch, baz=44,SNR=7.5	43.93	355	⇑P		P	23 09 24.0	+0.1
C24A	Savage baz=44	44.08	359	⇑P		P	23 09 25.8	+0.8
MSO	Missoula baz=44	44.26	350	⇑P		P	23 09 27.1	+0.6
C25A	Freed Ranch, W baz=44	44.27	1	⇑P		P	23 09 27.4	+0.9
C22A	Vida baz=45	44.33	358	⇓P		P	23 09 27.4	+0.4
C23A	Lambert baz=45,SNR=7.8	44.37	359	⇑P		P	23 09 27.8	+0.5
C26A	Wahner Farm, P baz=45	44.40	2	⇑P		P	23 09 28.0	+0.5
C20A	Veseth Ranch, baz=45	44.41	356	⇑P		P	23 09 28.1	+0.4
C30A	Mose, Pekin	44.49	5	⇓P		P	23 09 28.2	-0.1

	baz=45							
C19A	**Slack Wire Ran**	**44.51**	**355**	⇓P		**P**	**23 09 28.7**	**+0.2**
	baz=45,SNR=5.9							
EGMT	**Eagleton**	**44.87**	**354**	*e*P		**P**	**23 09 32.1**	**+0.8**
	32nm,1.4s							
EGMT	**Eagleton**	**44.87**	**354**	⇓P		**P**	**23 09 31.8**	**+0.5**
	baz=45							
B22A	**Reddig Ranch S**	**44.89**	**358**	⇑P		**P**	**23 09 32.0**	**+0.5**
	baz=45							
B27A	**Peters Farms,**	**45.01**	**2**	⇑P		**P**	**23 09 32.7**	**+0.3**
	baz=45							
DGMT	**Dagmar**	**45.02**	**360**	*e*P		**P**	**23 09 33.2**	**+0.6**
	54nm,1.1s							
DGMT	**Dagmar**	**45.02**	**360**	⇑P		**P**	**23 09 33.1**	**+0.6**
	baz=45							
B23A	**Brockton**	**45.03**	**359**	⇑P		**P**	**23 09 33.1**	**+0.6**
	baz=45							
LCO	**Las Campanas**	**45.18**	**138**	*e*P		**P**	**23 09 35.6**	**+1.2**
	15nm,0.9s							
B19A	**Brinkman Farms**	**45.22**	**355**	⇓P		**P**	**23 09 34.5**	**+0.3**
	baz=45							
AGMN	**Agassiz Nation**	**45.37**	**7**	*e*P		**P**	**23 09 35.1**	**-0.2**
	71nm,1.9s							
A24A	**Westby**	**45.48**	**360**	⇑P		**P**	**23 09 36.2**	**0.0**
	baz=46,SNR=5.2							
A25A	**Svangstu Ranch**	**45.49**	**1**	⇑P		**P**	**23 09 36.5**	**+0.3**
	baz=46							
A28A	**Rude Farm, Bot**	**45.56**	**3**	⇓P		**P**	**23 09 37.0**	**+0.1**
	baz=46							
A22A	**Carney Farms,**	**45.58**	**358**	⇓P		**P**	**23 09 37.7**	**+0.7**
	baz=46,SNR=5.1							
A29A	**Manning Farm,**	**45.65**	**4**	⇑P		**P**	**23 09 37.4**	**0.0**
	baz=46							
NEW	**Newport**	**46.25**	**348**	*e*P		**P**	**23 09 42.5**	**+0.3**
NEW	**Newport**	**46.25**	**348**	⇓P		**P**	**23 09 42.5**	**+0.3**
	baz=46,SNR=6.6							
ULM	**Lac du Bonnet**	**47.29**	**7**	P		**P**	**23 09 48.8**	**-1.5**
ULM	**Lac du Bonnet**	**47.29**	**7**	P		**P**	**23 09 48.8**	**-1.5**
	6.2nm,1.0s,baz=183,slow=9.8,SNR=3.6							
CFAA	**Coronel Fontan**	**48.47**	**138**	P		**P**	**23 10 00.7**	**+0.9**
CFAA	**Coronel Fontan**	**48.47**	**138**	P		**P**	**23 10 00.7**	**+0.9**
	0.6nm,0.7s,baz=308,slow=7.0,SNR=7.8							
PPT	**Papeete**	**49.63**	**244**	LR		LR	23 26 29.4	
	comp=Z,239nm,18.5s,baz=308,slow=31							
PPT2	**Papeete2**	**49.64**	**244**	*e*LR		LR	23 24 07.2	
	372nm,25.2s							
EDM	**Edmonton**	**50.40**	**353**	*e*P		**P**	**23 10 14.3**	**+0.1**
TBI	**Tubuai**	**51.73**	**237**	*e*LR		LR	23 25 16.0	
	336nm,27.2s							
PLCA	**Paso Flores**	**53.33**	**149**	LR		LR	23 27 57.5	
	comp=Z,34nm,20.9s,baz=360,slow=30							
CPUP	**Villa Florida**	**53.73**	**126**	*e*P		**P**	**23 10 40.1**	**+0.7**
	53nm,0.7s							
CPUP	**Villa Florida**	**53.73**	**126**	P		**P**	**23 10 40.3**	**+0.9**
	22nm,0.9s,baz=274,slow=7.4,SNR=17							
TRQA	**Torquist**	**56.49**	**141**	*e*P		**P**	**23 10 59.0**	**-0.2**
	10nm,0.9s							
DLBC	**Dease Lake**	**58.70**	**344**	P		**P**	**23 11 15.0**	**+0.6**
DLBC	**Dease Lake**	**58.70**	**344**	P		**P**	**23 11 15.0**	**+0.6**
	2.9nm,0.6s,baz=144,slow=11,SNR=7.7							
SCHQ	**Schefferville**	**59.49**	**24**	P		**P**	**23 11 18.6**	**-1.4**
SCHQ	**Schefferville**	**59.49**	**24**	P		**P**	**23 11 18.6**	**-1.4**
	20nm,1.1s,baz=269,slow=5.0,SNR=3.9							
YKA	**Yellowknife Ar**	**59.62**	**354**	P		**P**	**23 11 18.8**	**-1.9**
YKA	**Yellowknife Ar**	**59.62**	**354**	P		**P**	**23 11 18.7**	**-1.9**
	4.1nm,0.9s,baz=163,slow=6.6,SNR=8.9							
INK	**Inuvik**	**67.96**	**349**	P		**P**	**23 12 14.9**	**-0.6**
INK	**Inuvik**	**67.96**	**349**	P		**P**	**23 12 14.9**	**-0.6**
	10nm,1.0s,baz=147,slow=8.4,SNR=7.1							
ILAR	**Eielson Array**	**68.65**	**342**	P		**P**	**23 12 19.1**	**-0.9**
ILAR	**Eielson Array**	**68.65**	**342**	P		**P**	**23 12 19.1**	**-0.9**
	9.9nm,0.9s,baz=155,slow=5.5,SNR=97							
RES	**Resolute Bay**	**71.53**	**2**	P		**P**	**23 12 36.3**	**-1.1**
RES	**Resolute Bay**	**71.53**	**2**	P		**P**	**23 12 36.3**	**-1.1**
	4.2nm,0.9s,baz=158,slow=9.3,SNR=5.6							
SUMG	**Summit**	**79.66**	**16**	*i* P		**P**	**23 13 25.1**	**+0.4**
	12nm,0.9s							
SUMG	**Summit**	**79.66**	**16**	*e*P		**P**	**23 13 25.0**	**+0.4**
	23nm,1.2s							
FX1	**Attu Island--F**	**83.17**	**323**	P		**P**	**23 13 42.0**	**-1.1**
FX1	**Attu Island--F**	**83.17**	**323**	P		**P**	**23 13 42.0**	**-1.1**
	9.9nm,0.6s,baz=173,slow=8.1,SNR=10							
H11N3	**WAKE ISLAND Hy**	**88.20**	**290**	T		T	00 51 43.1	
	baz=97							
H11N2	**WAKE ISLAND Hy**	**88.21**	**290**	T		T	00 51 41.3	
	baz=97							
H11N1	**WAKE ISLAND Hy**	**88.22**	**290**	T		T	00 51 35.8	
	baz=97							
H11S2	**WAKE ISLAND Hy**	**88.46**	**288**	T		T	00 51 52.3	
	baz=87,slow=0.6,SNR=7.1							
H11S1	**WAKE ISLAND Hy**	**88.46**	**288**	T		T	00 51 57.5	
	baz=87,slow=0.6,SNR=6.0							
H11S3	**WAKE ISLAND Hy**	**88.47**	**288**	T		T	00 51 53.5	
	baz=87,slow=0.6,SNR=4.2							
ARCES	**ARCESS Array B**	**99.75**	**16**	P		**Pdif**	**23 14 59.3**	**-1.5**
ARCES	**ARCESS Array B**	**99.75**	**16**	P		**Pdif**	**23 14 59.3**	**-1.5**
	2.4nm,0.7s,baz=310,slow=5.6,SNR=8.5							
ASAR	**Alice Springs**	**120.75**	**244**	PKP		**PKPdf**	**23 20 08.6**	**-1.4**
ASAR	**Alice Springs**	**120.75**	**244**	PKP		**PKPdf**	**23 20 08.6**	**-1.4**
	1.1nm,0.9s,baz=130,slow=2.0,SNR=7.8							
WRA	**Warramunga Arr**	**120.96**	**249**	PKP		**PKPdf**	**23 20 09.6**	**-0.9**
WRA	**Warramunga Arr**	**120.96**	**249**	PKP		**PKPdf**	**23 20 09.6**	**-0.9**
	0.7nm,0.3s,baz=118,slow=1.5,SNR=6.4							
BRTR	**Keskin Array B**	**122.10**	**38**	PKP		**PKPdf**	**23 20 11.9**	**-0.4**
BRTR	**Keskin Array B**	**122.10**	**38**	PKP		**PKPdf**	**23 20 11.9**	**-0.4**
	3.0nm,0.6s,baz=250,slow=1.2,SNR=16							
ZALV	**Zalesovo Beam**	**122.52**	**354**	PKP		**PKPdf**	**23 20 11.7**	**-0.8**
ZALV	**Zalesovo Beam**	**122.52**	**354**	PKP		**PKPdf**	**23 20 11.7**	**-0.8**
	0.3nm,0.4s,baz=329,slow=1.7,SNR=3.5							
SONM	**Songino Array**	**122.63**	**336**	PKP		**PKPdf**	**23 20 12.4**	**-0.7**
SONM	**Songino Array**	**122.63**	**336**	PKP		**PKPdf**	**23 20 12.4**	**-0.7**
	0.7nm,1.0s,baz=352,slow=2.9,SNR=3.7							
BJI	**Beijing**	**123.41**	**324**	PKP		**PKPdf**	**23 20 15.3**	**+0.7**
BJI				SS		SS	23 38 43.5	+2.3
BJI				LR		LR		
	comp=Z,180nm,23.1s							
BVAR	**Borovoye Array**	**123.69**	**4**	PKP		**PKPdf**	**23 20 13.8**	**-1.1**
BVAR	**Borovoye Array**	**123.69**	**4**	PKP		**PKPdf**	**23 20 13.8**	**-1.1**
	1.4nm,0.7s,baz=258,slow=2.7,SNR=6.3							
AKTO	**Aktyubinsk**	**124.27**	**14**	PKP		**PKPdf**	**23 20 14.2**	**-1.8**
AKTO	**Aktyubinsk**	**124.27**	**14**	PKP		**PKPdf**	**23 20 14.2**	**-1.8**
	0.6nm,0.2s,baz=123,slow=3.2,SNR=5.1							
KBZ	**Khabaz**	**124.48**	**29**	PKP		**PKPdf**	**23 20 17.1**	**+0.5**
KBZ	**Khabaz**	**124.48**	**29**	PKP		**PKPdf**	**23 20 17.1**	**+0.5**
	1.9nm,0.9s,baz=225,slow=2.9,SNR=3.1							
HHC	**Hu-ho-hao-te**	**125.47**	**327**	*e*PKP		**PKPdf**	**23 20 19.3**	**+0.6**
HHC				PKS		**PKSdf**	**23 23 55.0**	**-0.4**
HHC				SKS		**SKSdf**	**23 27 29.5**	**-1.6**
HHC				SKKS		**SKKSac**	**23 29 05.5**	**-2.8**
HHC				SS		**SS**	**23 39 10.5**	**+3.2**
HHC				PPMZ				
	comp=Z,100nm,7.6s							
HHC				LR		LR		
	comp=N,430nm,21.0s							
HHC				LR		LR		
	comp=E,250nm,20.6s							
HHC				LR		LR		
	comp=Z,330nm,19.3s							
ABKAR	**Akbulak array**	**125.82**	**13**	*e*PKPdf		**PKPdf**	**23 20 19.1**	**+0.2**
KURK	**Kurchatov**	**126.17**	**358**	PKP		**PKPdf**	**23 20 18.4**	**-1.2**
KURBB	**Kurchatov Array**	**126.27**	**358**	PKP		**PKPdf**	**23 20 18.4**	**-1.4**
	1.0nm,0.7s,baz=360,slow=1.4,SNR=12							
NJ2	**Nanjing**	**126.38**	**314**	*e*PKP		**PKPdf**	**23 20 22.5**	**+1.9**
MKAR	**Makanchi Array**	**129.85**	**355**	PKP		**PKPdf**	**23 20 26.5**	**-0.3**
MKAR	**Makanchi Array**	**129.85**	**355**	PKP		**PKPdf**	**23 20 26.5**	**-0.3**
	1.7nm,1.0s,baz=2.4,slow=2.9,SNR=6.2							
WMQ	**Urumqi**	**131.98**	**349**	*e*PKP		**PKPdf**	**23 20 32.0**	**+1.0**
WMQ				LR		LR		
	comp=N,110nm,17.0s							
WMQ				LR		LR		
	comp=E,120nm,19.0s							
WMQ				LR		LR		
	comp=Z,90nm,18.2s							
CD2	**Chengdu**	**137.00**	**324**	PKP		**PKPdf**	**23 20 41.3**	**+0.5**
KSH	**Kashi**	**137.41**	**0**	*e*PKP		**PKPdf**	**23 20 44.5**	**+3.1**
GYA	**Guiyang**	**138.24**	**317**	*e*Pdif		**Pdif**	**23 17 53.3**	**+0.3**
GYA				PKP		**PKPdf**	**23 20 43.8**	**+0.6**
GYA				PP		PP	23 23 38.0	+6.5
GYA				PKS		**PKSdf**	**23 24 18.5**	**-1.2**
GYA				SKKS			23 30 25.5	
GYA				SS		**SS**	**23 41 45.0**	**+1.2**
GYA				PPMZ				
	comp=Z,120nm,7.6s							
GYA				LR		LR		
	comp=N,120nm,20.6s							
GYA				LR		LR		
	comp=E,90nm,22.1s							
GYA				LR		LR		
	comp=Z,110nm,21.3s							
KMI	**Kunming**	**141.75**	**319**	PKP		**PKPdf**	**23 20 48.0**	**-1.8**
KSM	**Kuching**	**145.54**	**277**	*e*PKPdf		**PKPdf**	**23 20 55.8**	**-0.6**
TAPN	**Taplejung**	**147.57**	**341**	*e*P		**PKPbc**	**23 21 02.6**	**+0.1**
	41nm,0.8s							
GUN	**Gumba**	**147.61**	**344**	*e*P		**PKPbc**	**23 21 02.6**	**0.0**
	81nm,1.1s							
DANN	**Dangsing**	**147.71**	**347**	*e*P		**PKPbc**	**23 21 02.7**	**-0.1**
	18nm,0.7s							
JIRN	**Jiri**	**147.76**	**343**	*e*P		**PKPbc**	**23 21 02.7**	**-0.4**
	29nm,0.9s							
GKN	**Gorkha**	**147.84**	**346**	*e*P		**PKPbc**	**23 21 02.6**	**-0.4**
KKN	**Kakani**	**147.88**	**345**	*e*P		**PKPbc**	**23 21 03.1**	**-0.1**
PKI	**Pulchoki**	**148.06**	**344**	*e*P		**PKPbc**	**23 21 03.1**	**-0.7**
	18nm,0.7s							
DMN	**Daman**	**148.10**	**345**	*e*P		**PKPbc**	**23 21 03.5**	**-0.4**
	46nm,1.1s							
ODAN	**Odare**	**148.13**	**341**	*e*P		**PKPbc**	**23 21 03.7**	**-0.2**
RAMN	**Ramite**	**148.30**	**342**	*e*P		**PKPbc**	**23 21 03.8**	**-0.6**
	13nm,0.6s							
KOLN	**Koldanda**	**148.31**	**347**	*e*P		**PKPbc**	**23 21 03.9**	**-0.4**
	13nm,0.8s							
CHTO	**Chiang Mai**	**148.62**	**315**	*e*PKPdf		**PKPdf**	**23 21 02.1**	**+0.7**
CMAR	**Chiang Mai Arr**	**148.85**	**315**	PKPbc		**PKPdf**	**23 21 02.5**	**+0.7**
CMAR	**Chiang Mai Arr**	**148.85**	**315**	PKPbc		**PKPdf**	**23 21 02.5**	**+0.7**
	0.7nm,0.3s,baz=338,slow=1.7,SNR=14							

*JMA **26** 23:10:27.2±0.1, 38.86N×142.05E, h45km±1km, M3.5*
JMA Felt II J1.
*IDC **26** 23:10:29.1±8.9, 39.50N×140.95E, h0km, mb3.7/4, mb1 3.6/5, mb1mx3.4/27, mbtmp3.6/5, ML2.9/1, Error ellipse: s-maj=184.3km s-min=39.2km az=96.0*
ISC 26 23:10:26.4±2.2, 38.83N±0.06×142.1E±0.2, h45km±14km, n20, σ0°48/20, mb3.7/4, 5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.42**	**306**		⇓P	**Pn**	**23 10 36.7**	**+0.3**
OFUJ					S	**Sn**	**23 10 43.3**	**-0.1**
JMK	**Ichinoseki**	**0.70**	**280**		⇓P	**Pn**	**23 10 40.2**	**+0.3**
JMK					S	**Sn**	**23 10 49.3**	**-0.4**
JIO	**Ouri**	**0.70**	**237**		⇓P	**Pn**	**23 10 40.2**	**+0.2**
JIO					S	**Sn**	**23 10 49.1**	**-0.6**
JOM	**Ohasama**	**0.90**	**316**		⇓P	**Pn**	**23 10 42.9**	**+0.3**
JOM					S	**Sn**	**23 10 54.3**	**-0.2**
JOU	**Okura**	**1.22**	**248**		P	**Pn**	**23 10 47.6**	**+0.6**
JOU					S	**Sn**	**23 11 02.6**	**+0.2**
JRG	**Rokugo**	**1.27**	**297**		P	**Pn**	**23 10 48.1**	**+0.4**
JYK	**Kaneyama**	**1.36**	**274**		⇓P	**Pn**	**23 10 49.4**	**+0.4**
JMM	**Marumori**	**1.41**	**227**		P	**Pn**	**23 10 50.0**	**+0.4**
JMM					*e*S	**Sn**	**23 11 06.4**	**-0.6**
JANG	**Nango**	**1.60**	**344**		P	**Pn**	**23 10 52.9**	**+0.6**
JANG					*e*S	**Sn**	**23 11 10.9**	**-0.9**
MJAR	**Matsushiro Arr**	**3.84**	**235**		Pn	Pn	23 11 26.8	+3.7
	0.9nm,0.3s,baz=33,slow=13,SNR=10							
MJAR					Lg	Lg	23 12 28.5	
	0.2nm,0.3s,baz=7.1,slow=39,SNR=3.5							
H11N2	**WAKE ISLAND Hy**	**28.66**	**125**		T	T	23 46 45.0	
	baz=320,slow=0.7,SNR=143							
H11N1	**WAKE ISLAND Hy**	**28.67**	**125**		T	T	23 46 45.9	
	baz=320,slow=0.7,SNR=102							
H11N3	**WAKE ISLAND Hy**	**28.68**	**125**		T	T	23 46 46.1	
	baz=320,slow=0.7,SNR=109							
H11S1	**WAKE ISLAND Hy**	**29.44**	**127**		T	T	23 47 43.1	
	baz=322,slow=0.7,SNR=43							
H11S3	**WAKE ISLAND Hy**	**29.44**	**127**		T	T	23 47 43.2	
	baz=322,slow=0.7,SNR=84							
H11S2	**WAKE ISLAND Hy**	**29.45**	**127**		T	T	23 47 44.3	
	baz=322,slow=0.7,SNR=58							
ZALV	**Zalesovo Beam**	**41.13**	**311**		P	**P**	**23 18 05.2**	**-0.6**
	0.4nm,0.5s,baz=81,slow=8.9,SNR=3.4							
MKAR	**Makanchi Array**	**43.65**	**301**		P	**P**	**23 18 26.5**	**+0.1**
	0.5nm,0.6s,baz=80,slow=9.7,SNR=7.5							
KURBB	**Kurchatov Arra**	**45.34**	**307**		P	**P**	**23 18 39.8**	**0.0**
	1.0nm,0.4s,baz=80,slow=8.2,SNR=15							
BVAR	**Borovoye Array**	**49.78**	**311**		P	**P**	**23 19 14.1**	**-0.2**
	0.6nm,0.5s,baz=66,slow=8.6,SNR=3.5							

IDC 26 23:12:29.0±1.3, 53.32S×23.63E, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.8/18, mbtmp3.9/3, Error ellipse: s-maj=99.3km s-min=33.1km az=45.0, South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**68.82**	**337**		P	P	23 23 35.0	0.0
	0.5nm,0.9s,baz=178,slow=4.3,SNR=2.3							
ASAR	**Alice Springs**	**82.61**	**120**		P	P	23 24 54.4	+0.3
	1.3nm,0.8s,baz=208,slow=5.6,SNR=11							
WRA	**Warramunga Arr**	**85.89**	**118**		P	P	23 25 10.5	-0.3
	1.6nm,0.7s,baz=208,slow=3.9,SNR=7.0							
PDAR	**Pinedale Array**	**147.52**	**270**		PKPbc	PKPbc	23 32 13.8	-0.8
	0.5nm,0.9s,baz=159,slow=7.7,SNR=2.4							

*IDC **26** 23:18:48.8±0.9, 53.18S×23.77E, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.8/19, mbtmp4.0/4, MS3.2/2, Ms1 3.2/2, ms1mx3.0/22, Error ellipse: s-maj=38.9km s-min=31.9km az=55.0*
*ISCJB **26** 23:18:49.0±1.1, 53.1S±0.2×23.7E±0.4, h10km, mb4.0/4, MS3.1/2, Error ellipse: s-maj=34.7km s-min=20.5km az=26.1*
ISC 26 23:18:50.7±1.1, 53.2S±0.2×23.8E±0.3, h10km, n12, σ0°51/10, mb4.2/4, 1C, South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SYO	**Syowa Base**	**17.49**	**161**	⇑	*e*P	P	23 23 04.9	+9.4
SNAA	**Sanae**	**21.90**	**202**		*e*P	**P**	**23 23 43.2**	**-0.3**
SNAA	**Sanae**	**21.90**	**202**		P	**P**	**23 23 43.5**	**-0.1**
	1.5nm,0.9s,baz=53,slow=10,SNR=4.6							
SNAA					LR	LR	23 30 36.6	
	comp=Z,35nm,20.2s,baz=28,slow=32							
VNA2	**Neumayer--Watz**	**22.55**	**206**		*e*P	**P**	**23 23 50.5**	**0.0**
VNA1	**Neumayer--Stat**	**22.63**	**207**		*e*P	**P**	**23 23 51.6**	**+0.3**
BOSA	**Boshof**	**24.59**	**3**		LR	LR	23 31 06.6	
	comp=Z,123nm,20.4s,baz=172,slow=30							
TORD	**Torodi Ar. Bea**	**68.76**	**337**		P	**P**	**23 29 54.5**	**0.0**
	0.8nm,0.8s,baz=172,slow=7.0,SNR=4.3							
ASAR	**Alice Springs**	**82.56**	**120**		P	**P**	**23 31 13.9**	**+0.1**
	2.2nm,0.7s,baz=208,slow=5.2,SNR=18							
WRA	**Warramunga Arr**	**85.84**	**118**		P	**P**	**23 31 30.5**	**-0.1**
	2.8nm,0.8s,baz=211,slow=4.2,SNR=16							
PDAR	**Pinedale Array**	**147.64**	**270**		PKPbc	**PKPdf**	**23 38 32.9**	**+0.7**
	0.6nm,0.6s,baz=121,slow=3.8,SNR=4.6							
ELK	**Elko**	**149.84**	**262**		PKPbc	**PKPbc**	**23 38 40.6**	**+0.1**
	0.3nm,0.3s,baz=202,slow=5.4,SNR=3.9							
NVAR	**Mina Array Bea**	**150.16**	**256**		PKPbc	**PKPbc**	**23 38 40.4**	**-1.0**
	0.8nm,0.8s,baz=141,slow=4.6,SNR=6.2							

*ISCJB **26** 23:22:19.4±0.4, 0.73S±0.07×99.98E±0.07, h100km, mb4.2/14, Error ellipse: s-maj=12.4km s-min=5.0km az=44.9*
*IDC **26** 23:22:19.2±3.8, 0.89S×100.06E, h87km±31km, mb3.8/9, mb1 3.8/11, mb1mx3.6/25, mbtmp3.7/11, Error ellipse: s-maj=43.8km s-min=17.2km az=55.0*
*NEIC **26** 23:22:20.1±1.1, 0.84S×99.82E, h89km±11km, mb4.4/5, Error ellipse: s-maj=13.6km s-min=7.0km az=61.0*
NEIC Felt [II] at Padang and Pariaman.
*DJA **26** 23:22:20.2±0.8, 1.1S±10.1×10.0E±1.1, h42km±22km, M4.1/5, mb4.2/1, mB4.8/1, MLv4.1/5, Mw(mB)4.1/1*
ISC 26 23:22:21.4±0.6, 0.68S±0.08×100.02E±0.09, h100km, n51, σ1°38/49, mb4.2/14, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**0.44**	**59**		P	**Pn**	**23 22 35.1**	**-1.7**
PPI					S	**Sn**	**23 22 46.3**	**-2.0**
PDSI	**Padang**	**0.50**	**117**		P	**Pn**	**23 22 34.8**	**-2.4**
PDSI					S	**Sn**	**23 22 45.6**	**-3.5**
GSI	**Gunungsitoli**	**3.14**	**309**		P	**Pn**	**23 23 09.0**	**0.0**
GSI					S	**Sn**	**23 23 43.5**	**-2.3**
PSI	**Prapat**	**3.63**	**342**		P	**Pn**	**23 23 15.1**	**-0.6**
PSI	**Prapat**	**3.63**	**342**		P	**Pn**	**23 23 14.8**	**-0.9**
PSI	**Prapat**	**3.63**	**342**		P	**Pn**	**23 23 14.8**	**-0.9**
	2.1nm,0.3s,baz=58,slow=3.1,SNR=4.4							
LHSI	**Lahat**	**4.69**	**132**		P	**Pn**	**23 23 29.3**	**-0.7**
LHSI					S	**Sn**	**23 24 26.1**	**+2.8**
MDSI	**Maura Dua**	**5.62**	**132**		P	**Pn**	**23 23 41.5**	**-1.0**
COCO	**West Island**	**11.86**	**195**		*e*P	Pn	23 25 02.1	-5.2
CMAR	**Chiang Mai Arr**	**19.05**	**357**		P	**P**	**23 26 36.7**	**+0.8**
CMAR	**Chiang Mai Arr**	**19.05**	**357**		P	**P**	**23 26 36.7**	**+0.8**
	0.2nm,0.3s,baz=186,slow=8.8,SNR=5.9							
KAPI	**Kappang**	**20.17**	**103**		*e*P	Pn	23 26 50.5	-0.4
PALK	**Pallekele**	**20.82**	**293**		*e*P	Pn	23 26 54.5	-4.1
MBWA	**Marble Bar**	**28.01**	**138**		*e*P	**P**	**23 28 02.7**	**-0.5**
H08S2	**Diego Garcia H**	**28.29**	**255**		T	T	23 56 29.5	
	baz=76,slow=0.7,SNR=11							
H08S3	**Diego Garcia H**	**28.30**	**255**		T	T	23 56 22.4	
	baz=76,slow=0.7,SNR=10							
H08S1	**Diego Carcia H**	**28.31**	**255**		T	T	23 56 23.3	
	baz=76,slow=0.7,SNR=9.4							
FITZ	**Fitzroy Crossi**	**30.55**	**126**		*e*P	**P**	**23 28 26.6**	**+0.9**
LSA	**Lhasa**	**31.38**	**345**		*e*P	**P**	**23 28 34.2**	**+0.8**
	3.8nm,0.6s							
WRA	**Warramunga Arr**	**38.66**	**122**		P	**P**	**23 29 33.3**	**-2.3**
WRA	**Warramunga Arr**	**38.66**	**122**		P	**P**	**23 29 33.3**	**-2.3**
	0.6nm,0.4s,baz=304,slow=9.0,SNR=3.2							
WRAB	**Tennant Creek**	**38.66**	**122**		*e*P	**P**	**23 29 33.0**	**-2.6**
ASAR	**Alice Springs**	**40.02**	**127**		P	**P**	**23 29 44.8**	**-2.2**
ASAR	**Alice Springs**	**40.02**	**127**		P	**P**	**23 29 44.8**	**-2.2**
	0.6nm,0.9s,baz=316,slow=7.8,SNR=4.2							
KSAR	**Wonju Array Be**	**45.86**	**31**		P	**P**	**23 30 34.0**	**+0.3**
KSRS	**Korea Array**	**45.89**	**31**		P	**P**	**23 30 34.0**	**+0.1**
	2.0nm,0.6s,baz=228,slow=5.8,SNR=6.0							
SONM	**Songino Array**	**48.64**	**6**		P	**P**	**23 30 55.4**	**+0.1**
SONM					PcP	**PcP**	**23 32 19.4**	**+0.1**
SONM	**Songino Array**	**48.64**	**6**		P	**P**	**23 30 55.4**	**+0.1**
	1.7nm,0.7s,baz=186,slow=9.6,SNR=16							
SONM					PcP	**PcP**	**23 32 19.4**	**+0.1**
	0.4nm,0.4s,baz=189,slow=4.0,SNR=5.1							
TKM2	**Tokmak 2**	**48.64**	**336**		*e*P	**P**	**23 30 56.7**	**+1.2**
	3.3nm,0.8s							
ULN	**Ulaanbaatar**	**48.74**	**6**		*e*P	**P**	**23 30 56.4**	**+0.3**
CTAO	**Charters Tower**	**49.15**	**116**		*e*P	**P**	**23 31 01.3**	**+1.8**
EKS2	**Erkin-Say**	**49.19**	**334**		*e*P	**P**	**23 31 00.1**	**+0.6**
	3.3nm,0.8s							
MKAR	**Makanchi Array**	**49.77**	**344**		P	**P**	**23 31 04.7**	**+0.8**
MKAR	**Makanchi Array**	**49.77**	**344**		P	**P**	**23 31 04.7**	**+0.8**
	3.7nm,0.4s,baz=157,slow=8.8,SNR=110							
STKA	**Stephens Creek**	**50.02**	**133**		*e*P	**P**	**23 31 07.2**	**+1.3**
USRK	**Usuriysk Arra**	**52.99**	**28**		P	**P**	**23 31 28.4**	**+0.6**
	3.9nm,0.6s,baz=255,slow=2.8,SNR=11							
ZALV	**Zalesovo Beam**	**55.89**	**349**		P	**P**	**23 31 49.1**	**+0.5**
ZALV	**Zalesovo Beam**	**55.89**	**349**		P	**P**	**23 31 49.1**	**+0.5**
	1.8nm,0.3s,baz=175,slow=6.2,SNR=18							
CAN	**Canberra**	**57.08**	**133**		*e*P	**P**	**23 31 58.7**	**+1.1**
BRVK	**Borovoye**	**59.03**	**340**		*e*P	**P**	**23 32 10.8**	**+0.1**
	2.0nm,0.4s							
TAU	**Tasmania Unive**	**59.59**	**141**		*e*P	**P**	**23 32 16.1**	**+1.3**
ABKAR	**Akbulak array**	**60.50**	**331**		*e*P	**P**	**23 32 20.9**	**0.0**
	0.7nm,0.4s							
KMBO	**Kilima Mbogo**	**62.76**	**269**		*e*P	**P**	**23 32 35.7**	**-1.4**
FINES	**FINESS Array B**	**82.96**	**332**		P	**P**	**23 34 35.6**	**+0.5**
FINES	**FINESS Array B**	**82.96**	**332**		P	**P**	**23 34 35.6**	**+0.5**
	0.9nm,0.7s,baz=99,slow=6.0,SNR=7.9							
ARCES	**

comp=E,8μm,1.1s
UGL A A 23 52 19.0
comp=E,4μm,1.1s
UGL A A 23 52 20.0
comp=E,27μm,4.0s
UGL A A 23 52 20.0
comp=E,34μm,4.0s
UGL A A 23 52 20.0
comp=E,12μm,4.0s
KUR Kuril'sk 3.14 142 *e*PN **P 23 51 26.8 -1.1**
KUR *i* S **S 23 52 23.6 -0.6**
KUR pmax pmax
comp=Z,220nm,0.8s
KUR smax smax
comp=Z,18μm,5.0s
KUR smax smax
comp=N,300nm,0.6s
KUR Kuril'sk 3.14 142 *e*P **P 23 51 26.8 -1.1**
KUR AMB AMB 23 51 28.5
comp=N,770nm,0.8s
KUR *e*S **S 23 52 20.6 -3.6**
KUR A A 23 52 25.0
comp=N,21μm,5.0s
KUR A A 23 52 25.0
comp=N,18μm,5.0s
KUR A A 23 52 30.5
comp=N,1μm,1.0s
KUR A A 23 52 30.5
comp=N,300nm,1.0s
JSE Soyaes 3.28 213 ⇑P **P 23 51 29.0 +0.1**
JSE *e*S **S 23 52 24.9 -1.2**
JWK2 Keihoku 3.28 224 ⇑P **P 23 51 29.8 +0.9**
JWK2 *e*S **S 23 52 26.0 -0.1**
TYV Tymovskoe 3.52 334 *e*P **P 23 51 30.0 -0.6**
TYV AMB AMB 23 51 39.0
comp=N,210nm,0.8s
TYV AMB AMB 23 51 39.0
comp=N,680nm,0.8s
TYV *e*S **S 23 52 31.0 +1.6**
TYV A A 23 52 34.0
comp=N,280nm,0.8s
YUK Yuzh-Kuril'sk 3.74 172 *d i*PN **P 23 51 30.9 -1.7**
YUK *i* S **S 23 52 27.7 -5.0**
YUK pmax pmax
comp=N,439nm,0.5s
YUK pmax pmax
comp=E,206nm,0.5s
YUK pmax pmax
comp=Z,816nm,0.5s
YUK smax smax
comp=E,2μm,0.6s
YUK smax smax
comp=N,987nm,0.6s
YUK Yuzh-Kuril'sk 3.74 172 *e*P **P 23 51 30.9 -1.7**
YUK AMB AMB 23 51 35.0
comp=N,820nm,0.5s
YUK *e*S **S 23 52 27.7 -5.0**
YUK A A 23 52 40.0
comp=N,2μm,0.6s
YUK A A 23 52 40.0
comp=N,990nm,0.6s
JRA Rausu 3.80 180 ⇓P **P 23 51 31.9 -1.2**
JRA *e*S **S 23 52 30.3 -3.3**
JTKR Abashiri--Toko 3.86 193 ⇑P **P 23 51 32.8 -0.8**
JTKR *e*S **S 23 52 32.5 -2.0**
ASAJ Asahikawa 4.02 207 *e*P **P 23 51 34.8 -0.1**
ASAJ *e*S **S 23 52 37.2 +0.2**
ASAJ Asahikawa 4.02 207 P **P 23 51 34.9 -0.1**
comp=N,117nm,0.3s,baz=304,slow=3.7,SNR=299
ASAJ S **S 23 52 35.7 -1.4**
comp=N,8.1nm,0.3s,baz=16,slow=31,SNR=13
JYG Yagishiri 4.18 219 P **P 23 51 36.3 0.0**
JYG *e*S **S 23 52 38.0 -1.6**
JKK2 Kamakawa 2 4.20 204 ⇑P **P 23 51 35.8 -0.7**
JKK2 *e*S **S 23 52 37.7 -2.3**
NEM2 Nemuro 2 4.39 174 P P 23 51 34.5 -3.7
NEM2 *e*S S 23 52 35.0 -8.0
JAR Ashorobuto 4.54 192 ⇓P **P 23 51 38.1 -1.4**
JHR Hokuryu 4.64 212 ⇑P **P 23 51 40.0 -0.5**
JHR *e*S **S 23 52 44.8 -2.3**
JAK Akkeshi 4.75 184 ⇓P **P 23 51 38.4 -3.0**
JAK *e*S S 23 52 42.3 -6.6
JFR Furan 4.90 202 ⇑P **P 23 51 42.0 -0.9**
JFR *e*S **S 23 52 49.1 -2.5**
JCH Churui 5.27 194 ⇓P **P 23 51 43.4 -2.9**
JCH *e*S S 23 52 50.2 -7.7
JSK Shakotan 5.46 218 P **P 23 51 48.0 -0.1**
JEW Eniwo 5.53 209 P **P 23 51 48.6 -0.3**
JEW *e*S **S 23 52 59.3 -3.3**
JNBK Urakawa-nobuka 5.70 198 ⇓P **P 23 51 47.7 -2.9**
JNBK *e*S S 23 52 57.4 -8.3
OKH Okha 5.99 347 *e*PN **P 23 51 54.4 +1.3**
JKB Kayabe 6.52 208 P P 23 51 52.5 -6.3
JKB *e*S S 23 53 11.0 -10
HABR Khabarovsk 6.78 280 *d i*PN **P 23 52 02.4 +1.2**
HABR *e*S **S 23 53 26.6 +1.2**
HABR pmax pmax
comp=E,793nm,1.2s
HABR pmax pmax
comp=Z,1μm,1.2s
HABR pmax pmax
comp=N,67nm,0.7s
JOSM Okushiri--Mats 6.92 217 P **P 23 52 00.6 -2.3**
JOSM *e*S S 23 53 22.2 -6.1
JOT Ohata 6.98 206 P **P 23 52 01.3 -2.2**
JOT *e*S S 23 53 20.9 -8.6
SKR Severo-Kuril's 7.79 64 *e*PN P 23 52 08.0 -3.8
SKR *e*S **S 23 53 39.5 -5.3**
SKR pmax pmax
comp=N,140nm,0.8s
SKR pmax pmax
comp=Z,480nm,0.8s
SKR pmax pmax
comp=E,180nm,1.0s
SKR pmax pmax
comp=N,2μm,2.0s
SKR pmax pmax
comp=E,2μm,2.0s
SKR pmax pmax
comp=Z,2μm,2.0s
SKR smax smax
comp=N,5μm,6.0s
SKR smax smax
comp=E,2μm,4.0s
SKR smax smax
comp=N,290nm,0.5s
SKR smax smax
comp=E,150nm,0.5s
SKR Severo-Kuril's 7.79 64 *e*P P 23 52 08.0 -3.8
SKR AMB AMB 23 52 09.5
comp=E,2μm,2.0s
SKR AMB AMB 23 52 09.5
comp=E,2μm,2.0s
SKR AMB AMB 23 52 09.5
comp=E,480nm,0.8s
SKR *e*S **S 23 53 39.5 -5.3**
SKR A A 23 53 40.0
comp=E,5μm,6.0s
SKR A A 23 53 40.0
comp=E,2μm,6.0s
SKR A A 23 53 42.6
comp=E,290nm,0.5s
SKR A A 23 53 42.6
comp=E,150nm,0.5s
JANG Nango 7.80 201 P **P 23 52 10.0 -2.1**
JANG *e*S S 23 53 37.6 -7.7
JOM Ohasama 8.71 200 P **P 23 52 20.8 -1.0**
JOM *e*S **S 23 53 58.2 -4.9**
KLR Kul'dur 9.00 285 ⇑ *i*PN **P 23 52 23.0 -1.8**
KLR *e*S **S 23 54 06.0 -2.6**
KLR pmax pmax
comp=E,1μm,1.6s
KLR pmax pmax
comp=Z,2μm,1.6s
KLR pmax pmax
comp=Z,2μm,8.0s
KLR smax smax
comp=N,4μm,6.0s
KLR smax smax
comp=E,5μm,6.0s
OFUJ Ofunato 9.00 197 P **P 23 52 24.9 -0.1**
JMK Ichinoseki 9.22 199 P **P 23 52 27.0 -0.3**
JMK *e*S S 23 54 05.6 -7.6
PETK Petropavlovsk- 9.66 52 PN **P 23 52 33.1 +1.2**
PETK S **S 23 54 20.6 -1.0**
PETK Petropavlovsk- 9.66 52 P **P 23 52 33.1 +1.2**
comp=E,6.7nm,0.3s,baz=224,slow=6.2,SNR=84
PETK S **S 23 54 20.6 -1.0**
comp=E,1.4nm,0.3s,baz=205,slow=9.5,SNR=5.5
USRK Ussuriysk Arra 9.80 254 P **P 23 52 34.0 +0.6**
comp=E,13nm,0.3s,baz=63,slow=12,SNR=161
USRK S **S 23 54 22.8 -1.6**
baz=80,slow=16,SNR=7.6
USRK ScP **ScP 00 00 44.3 -1.6**
comp=E,0.1nm,0.3s,baz=294,slow=0.9,SNR=4.5
PET Petropavlovsk 10.14 53 *b i*PN **P 23 52 37.5 +0.6**
PET *e*S **S 23 54 26.4 -4.5**
PET pmax pmax
comp=Z,400nm,1.4s
PET pmax pmax
comp=Z,207nm,1.0s
PET MLR MLR
comp=Z,400nm,14.0s
PET Petropavlovsk 10.14 53 *e*P **P 23 52 37.8 +0.9**
MDJ Mudanjiang 11.20 260 P **P 23 52 48.5 -0.1**
MDJ sP **sPn 23 54 25.3 +3.0**
MDJ S **S 23 54 49.5 -2.8**
MDJ ScP **ScP 00 00 48.0 +0.2**
MDJ ScS **ScS 00 04 24.5 +1.3**
MDJ AMB AMB
comp=Z,570nm,0.8s
MDJ AMB AMB
comp=Z,570nm,6.3s
MDJ Mudanjiang 11.20 260 *e*P **P 23 52 48.9 +0.3**
comp=Z,494nm,0.6s
MDJ *e*S **S 23 54 50.8 -1.5**
JHO Hitachi 11.61 198 P **P 23 52 52.6 -0.6**
JAG Ashikaga 12.05 202 P **P 23 52 57.7 -0.2**
MAJO Matsushiro 12.29 207 *e*PN **P 23 53 00.9 +0.4**
MAJO Matsushiro 12.29 207 *e*P **P 23 53 00.8 +0.4**
MAT Matsushiro 12.29 207 P **P 23 53 00.5 0.0**
MAT S **S 23 55 15.6 +1.5**
MJAR Matsushiro Arr 12.29 207 P **P 23 53 00.7 +0.1**
MJAR S **S 23 55 14.2 +0.1**
MJAR ScP **ScP 00 00 49.1 -0.4**
MJAR Matsushiro Arr 12.29 207 P **P 23 53 00.7 +0.1**
comp=Z,6.8nm,0.3s,baz=16,slow=9.8,SNR=52
MJAR S **S 23 55 14.2 +0.1**
comp=Z,0.7nm,0.3s,baz=8.9,slow=17,SNR=5.7
MJAR ScP **ScP 00 00 49.1 -0.4**
comp=Z,0.4nm,0.3s,baz=68,slow=1.9,SNR=7.1
JGN Niukaw 12.87 209 P **P 23 53 06.9 +0.1**
JYN Shimob 13.17 204 P **P 23 53 09.8 -0.2**
SHZ3 Shizuoka 3 13.67 205 P **P 23 53 15.8 +0.5**
HMMJ Hamamatsu 2 14.00 206 P **P 23 53 18.4 -0.4**
CN2 Changchun 14.27 261 *e*P **P 23 53 20.5 -1.0**
CN2 *es*P **sPn 23 55 00.5 -3.8**
CN2 *e*S **S 23 55 48.8 -3.8**
CN2 AMB AMB
comp=Z,10.0nm,0.7s
CN2 AMB AMB
comp=Z,200nm,4.0s
CLNS Chul'man 15.31 314 *e*P **P 23 53 33.4 +1.0**
CLNS *e*S **S 23 56 18.3 +5.8**
CLNS pmax pmax
comp=Z,277nm,0.9s
CLNS pmax pmax
comp=E,147nm,1.0s
CLNS pmax pmax
comp=N,203nm,1.4s
CLNS smax smax
comp=E,454nm,1.2s
CLNS smax smax
comp=N,484nm,1.3s
CLNS MLR MLR
comp=Z,351nm,12.0s
CLNS MLR MLR
comp=N,232nm,10.0s
CLNS MLR MLR
comp=E,287nm,11.0s
SEY Seymchan 15.77 12 *d i*P **P 23 53 38.1 +1.0**
KSRS Korea Array 16.27 237 P **P 23 53 43.9 +1.2**
comp=E,6.2nm,0.3s,baz=43,slow=10.0,SNR=80
KSRS S **S 23 56 34.7 +3.4**
baz=53,slow=17,SNR=7.1
KSRS PcP **PcP 23 58 07.2 +0.6**
comp=E,0.9nm,0.3s,baz=26,slow=1.1,SNR=11
KSRS ScP **ScP 00 00 57.0 +0.6**
comp=E,0.4nm,0.3s,baz=13,slow=1.2,SNR=51
KSAR Wonju Array Be 16.30 237 P **P 23 53 43.9 +0.9**
KSAR S **S 23 56 34.7 +2.8**
KSAR PcP **PcP 23 58 07.2 +0.5**
KSAR ScP **ScP 00 00 57.0 +0.6**
SNY Shenyang 16.37 257 ⇓P **P 23 53 43.3 -0.4**
SNY S **S 23 56 26.5 -6.6**
SNY AMB AMB
comp=E,170nm,0.6s
SNY AMB AMB
comp=E,1μm,3.5s
YAK Yakutsk 16.78 334 *d i*P **P 23 53 46.6 -1.2**
YAK *e*S **S 23 56 42.8 +2.5**
YAK pmax pmax
comp=Z,576nm,0.8s
YAK pmax pmax
comp=N,276nm,1.0s
YAK pmax pmax
comp=E,225nm,1.1s
YAK smax smax
comp=N,788nm,1.0s
YAK smax smax
comp=E,653nm,1.0s
HIA Hailar 16.86 285 *e*P **P 23 53 46.9 -2.0**
comp=E,363nm,1.3s
HIA *e*S **S 23 56 41.4 -0.8**
TJN Taejon 17.34 236 *i* P **P 23 53 54.7 +0.7**
JNU Nakatsue 18.13 222 *e*P **P 23 54 02.3 +0.3**
comp=E,25nm,1.0s
JNU Nakatsue 18.13 222 P **P 23 54 02.2 +0.3**
comp=E,3.0nm,0.3s,baz=9.9,slow=4.5,SNR=24
FX1 Attu Island--F 18.58 63 P **P 23 54 06.5 +0.7**
FX1 ScP **ScP 00 01 00.6 -0.5**
FX1 Attu Island--F 18.58 63 P **P 23 54 06.5 +0.7**
comp=E,24nm,0.3s,baz=303,slow=3.3,SNR=134
FX1 ScP **ScP 00 01 00.6 -0.5**
comp=E,1.2nm,0.3s,baz=309,slow=6.5,SNR=5.2
SMY Shemya 19.13 64 *e*P **P 23 54 11.8 +0.9**
SMY Shemya 19.13 64 *e*P **P 23 54 11.8 +0.9**
CIT Chita 20.69 294 *e*P **P 23 54 25.0 -0.2**
CIT *e*S **S 23 57 44.1 -1.5**
CIT pmax pmax
comp=Z,701nm,1.9s
BJI Beijing 22.13 260 P **P 23 54 39.5 +1.2**
BJI sP **sP 23 56 47.8 +1.9**
BJI S **S 23 58 09.5 +0.8**
BJI PcP **PcP 23 58 17.8 +0.6**
BJI ScS **ScS 00 04 56.0 +0.7**
BJI AMB AMB
comp=Z,150nm,0.6s
BJI AMB AMB
comp=Z,540nm,5.2s
AMKA Amchitka 22.35 68 *e*P P 23 54 33.8 -6.3
TIA Tai'an 23.65 251 ⇑P **P 23 54 53.0 +1.1**
TIA AMB AMB
comp=Z,40nm,1.0s
JOW Kunigami 24.69 218 *e*P **P 23 55 01.3 0.0**
comp=Z,308nm,2.6s
ADK Adak 24.80 66 *e*P **P 23 55 01.5 -0.5**
ADK pmax pmax
comp=Z,88nm,1.2s
ADK Adak 24.80 66 *e*P **P 23 55 01.5 -0.5**
comp=Z,88nm,1.2s
HHC Hu-ho-hao-te 24.84 266 *e*P **P 23 55 03.0 +0.4**
HHC PcP **PcP 23 58 23.5 +0.2**
HHC S **S 23 58 51.3 -0.2**
HHC ScP **ScP 00 01 17.0 -0.4**
HHC AMB AMB
comp=Z,160nm,1.1s
HHC AMB AMB
comp=Z,580nm,5.1s
TIXI Tiksi 25.17 348 *ce*P **P 23 55 04.0 -1.0**
TIXI pmax pmax
comp=Z,32nm,1.1s
NJ2 Nanjing 25.35 241 *e*P **P 23 55 06.0 -1.1**
NJ2 AMB AMB
comp=Z,40nm,1.2s
ULN Ulaanbaatar 25.40 285 P **P 23 55 08.2 +0.7**
SNR=49
ULN Ulaanbaatar 25.40 285 P **P 23 55 07.7 +0.2**
ULN Ulaanbaatar 25.40 285 *e*P **P 23 55 08.5 +1.0**
comp=Z,102nm,0.9s
SONM Songino Array 25.84 285 P **P 23 55 11.6 +0.2**
SONM PcP **PcP 23 58 25.5 0.0**
SONM ScP **ScP 00 01 19.6 -0.6**
SONM Songino Array 25.84 285 P **P 23 55 11.6 +0.2**
comp=Z,12nm,0.6s,baz=74,slow=8.1,SNR=91
SONM PcP **PcP 23 58 25.5 0.0**
comp=Z,6.3nm,0.6s,baz=125,slow=2.6,SNR=6.9
SONM ScP **ScP 00 01 19.6 -0.6**
comp=Z,13nm,0.9s,baz=106,slow=2.2,SNR=20
ATKA Atka Island 26.30 65 *e*P **P 23 55 17.0 +1.8**
comp=Z,4μm,0.8s
ATKA *e*PcP **PcP 23 58 23.1 -3.1**
IRK Irkutsk 26.38 295 *e*P **P 23 55 14.6 -1.4**
IRK pmax pmax
comp=Z,118nm,1.3s
TLY Talaya 26.84 294 *e*P **P 23 55 20.8 +0.7**
TLY pmax pmax
comp=Z,93nm,1.1s
TLY MLR MLR
comp=Z,342nm,17.0s
TLY Talaya 26.84 294 P **P 23 55 20.9 +0.8**
comp=Z,425nm,1.1s,SNR=9.5
ZAK Zakamensk 27.28 291 ⇑ *i*P **P 23 55 24.3 +0.2**
ZAK *e* 23 58 26.8
ZAK pmax pmax
comp=Z,62nm,1.3s
SPIA Saint Paul Isl 28.32 54 *e*P **P 23 55 34.0 +1.1**
comp=Z,264nm,1.3s
GAMB Gambell 28.40 40 *e*P **P 23 55 33.5 -0.1**
comp=Z,640nm,2.2s
MOY Mondy 28.47 295 *e*P **P 23 55 35.3 +0.8**
MOY pmax pmax
comp=Z,87nm,1.7s
WHN Wuhan 29.13 245 ⇑ *i*P **P 23 55 41.5 +1.1**
WHN AMB AMB
comp=Z,70nm,0.6s
XAN Xi'an 30.29 256 P **P 23 55 50.5 0.0**
XAN pP **pP 23 57 12.3 +0.6**
XAN PP **PP 23 57 15.3 -1.8**
XAN sP **sP 23 58 04.5 -1.2**
XAN S **S 00 00 15.5 -1.2**
XAN SS SS 00 02 50.5 -11
TNA Tin City 30.40 37 *e*P **P 23 55 51.4 +0.5**
comp=Z,47nm,0.9s
UNV Unalaska Valle 30.69 60 *e*P **P 23 55 52.3 -1.2**
comp=Z,417nm,2.8s
AKUT Akutan 31.07 60 *e*P **P 23 55 56.2 -0.7**
comp=Z,204nm,1.4s
TWG Pinlang 31.42 226 *e*P **P 23 56 00.3 0.0**
comp=Z,100nm,0.4s
ENH Enshi 32.35 250 *e*P **P 23 56 08.6 +0.3**
comp=Z,9.4nm,0.4s
LZH Lanzhou 32.47 264 ⇓P **P 23 56 10.5 +1.1**
LZH sP **sP 23 58 23.0 -2.2**
LZH PcP **PcP 23 58 44.0 +1.1**
LZH S **S 00 00 50.0 -0.4**
LZH sS sS 00 03 15.3 -6.7
LZH SS SS 00 03 31.0 -12
LZH AMB AMB
comp=Z,130nm,1.0s
LZH AMB AMB
comp=Z,440nm,4.0s
GTA Gaotai 33.45 273 ⇓P **P 23 56 18.5 +0.9**
GTA pP **pP 23 57 40.3 +0.3**
GTA PP **PP 23 57 49.3 -0.8**
GTA sP **sP 23 58 36.3 +2.6**
GTA PcP **PcP 23 58 46.5 +0.9**
GTA S **S 00 01 06.8 +1.7**
GTA ScP **ScP 00 01 45.5 +0.3**
GTA sS **sS 00 03 39.0 +1.8**
GTA ScS **ScS 00 05 47.8 +0.1**
GTA AMB AMB
comp=Z,75nm,1.3s
GTA AMB AMB
comp=Z,150nm,4.3s
SDPT Sand Point 33.91 56 *e*P **P 23 56 20.7 -0.3**
comp=Z,116nm,1.0s
CHGN Chignik 34.88 54 *e*P **P 23 56 29.2 0.0**
CD2 Chengdu 35.65 257 P **P 23 56 35.8 -0.3**
CD2 pP **pP 23 58 00.5 +1.0**
CD2 PP **PP 23 58 12.0 +1.8**
CD2 sP **sP 23 58 52.3 -0.6**
CD2 S **S 00 01 38.5 +0.1**
CD2 sS **sS 00 04 09.3 -2.3**
CD2 SS **SS 00 04 33.0 -6.7**
CD2 AMB AMB
comp=Z,100nm,0.5s
CD2 AMB AMB
comp=Z,380nm,4.1s
SVW2 Sparrevohn 35.68 46 *e*P **P 23 56 36.5 +0.6**
comp=Z,65nm,1.2s
IM04 Indian Mountai 36.23 37 *e*P **P 23 56 40.5 0.0**
IM04 *e*PcP **PcP 23 58 53.9 +0.7**
IM04 *e*S **S 00 01 45.5 -0.7**
IMA2 Indian Mountai 36.27 37 *e*P **P 23 56 40.8 0.0**
GYA Guiyang 36.78 249 ⇓ *i*P **P 23 56 46.5 +0.8**
GYA pP **pP 23 58 11.3 +1.7**
GYA PcP **PcP 23 58 57.5 +1.8**
GYA sP **sP 23 59 02.8 0.0**
GYA S **ScP 00 01 58.0 +0.5**
GYA PcS **PcS 00 02 45.0 +0.2**
GYA sS **sS 00 04 26.3 -3.3**
GYA SS **SS 00 04 56.8 -5.4**
GYA ScS **ScS 00 06 06.5 +0.1**
GYA AMB AMB
comp=Z,50nm,0.7s
GYA AMB AMB
comp=Z,140nm,5.1s
CAST Castle Rocks 37.09 42 *e*P **P 23 56 48.3 +0.7**
comp=Z,80nm,1.0s
PPLA Purkeypile 37.09 42 *e*P **P 23 56 48.6 +0.8**
comp=Z,146nm,1.4s
RSO Redoubt South 37.14 47 *e*P **P 23 56 49.2 +1.0**
SPU Mount Spurr 37.37 45 *e*P **P 23 56 50.8 +0.8**
OHAK Old Harbor 37.47 52 *e*P **P 23 56 50.1 -0.6**
comp=Z,68nm,0.5s
BPAW Bear Paw Mtn. 37.51 40 *e*P **P 23 56 51.4 +0.3**
comp=Z,41nm,0.9s
ZAA0 Zalesovo Array 37.55 303 *e*P **P 23 56 51.3 -0.2**
ZAA0 *e*PcP **PcP 23 58 57.3 -0.1**
ZAA0 *e*ScP **ScP 00 01 58.8 -0.9**
ZALV Zalesovo Beam 37.55 303 P **P 23 56 51.2 -0.2**
ZALV 23 58 57.3
ZALV 00 01 59.1
ZALV Zalesovo Beam 37.55 303 P **P 23 56 51.2 -0.2**
ZALV PcP **PcP 23 58 57.3 -0.1**
ZALV ScP **ScP 00 01 59.0 -0.7**
ZALV Zalesovo Beam 37.55 303 P **P 23 56 51.2 -0.2**
comp=Z,25nm,0.6s,baz=70,slow=7.2,SNR=118
ZALV PcP **PcP 23 58 57.3 -0.1**
comp=Z,11nm,0.5s,baz=68,slow=2.2,SNR=11
ZALV ScP **ScP 00 01 59.0 -0.7**
comp=Z,31nm,0.9s,baz=72,slow=4.8,SNR=22
COLD Coldfoot 37.63 35 *e*P **P 23 56 51.8 -0.2**
comp=Z,78nm,0.7s
KDAK Kodiak Island 37.72 51 *e*P **P 23 56 52.7 0.0**
comp=Z,71nm,0.6s
KDAK Kodiak Island 37.72 51 P **P 23 56 52.2 -0.5**
comp=Z,832nm,0.5s,SNR=24
TRF Thorofare Moun 37.89 41 *e*P **P 23 56 54.7 +0.3**
comp=Z,45nm,1.1s
NVS Novosibirsk 38.20 304 ⇓ *i*P **P 23 56 57.0 +0.3**
NVS *i* *PP **pP 23 58 25.0 +3.7**
NVS *i* 23 58 39.6
NVS *i* S **S 00 02 14.6 -1.1**
NVS *i* 00 06 12.9
NVS pmax pmax
comp=Z,126nm,1.2s
NVS pmax pmax
comp=N,31nm,1.6s
NVS pmax pmax
comp=E,84nm,1.3s
NVS pmax pmax
comp=N,27nm,1.9s
NVS pmax pmax
comp=E,40nm,1.9s
NVS pmax pmax
comp=Z,51nm,1.9s
NVS smax smax
comp=N,92nm,3.0s
NVS smax smax
comp=E,264nm,2.8s

MCK	**McKinley**	**38.45**	**41**	*e*P		**P**	**23 56 59.1**	**+0.3**
MCK				pmax		pmax		
	comp=Z,100nm,1.2s							
MCK	**McKinley**	**38.45**	**41**	*e*P		**P**	**23 56 59.1**	**+0.3**
	comp=Z,100nm,1.2s							
PMR	**Palmer**	**38.70**	**44**	*e*P		**P**	**23 57 00.5**	**-0.2**
PMR				pmax		pmax		
	comp=Z,162nm,1.6s							
PMR	**Palmer**	**38.70**	**44**	*e*P		**P**	**23 57 00.5**	**-0.2**
	comp=Z,162nm,1.6s							
COLA	**College**	**38.78**	**39**	*e*P		**P**	**23 57 01.6**	**+0.3**
COLA				pmax		pmax		
	comp=Z,152nm,0.9s							
COLA	**College**	**38.78**	**39**	*e*P		**P**	**23 57 01.6**	**+0.3**
	comp=Z,152nm,0.9s							
SEW	**Seward**	**38.82**	**47**	*e*P		**P**	**23 57 01.3**	**-0.5**
	comp=Z,127nm,1.2s							
ILAR	**Eielson Array**	**39.20**	**39**	P		**P**	**23 57 04.2**	**-0.5**
ILAR				ScP		**ScP**	**00 02 04.7**	**-1.3**
ILAR				S		**S**	**00 02 29.6**	**-0.6**
ILAR	**Eielson Array**	**39.20**	**39**	P		**P**	**23 57 04.2**	**-0.5**
	comp=Z,66nm,0.8s,baz=256,slow=5.7,SNR=363							
ILAR				ScP		**ScP**	**00 02 04.7**	**-1.3**
	comp=Z,2.2nm,0.8s,baz=292,slow=5.4,SNR=5.1							
ILAR				S		**S**	**00 02 29.6**	**-0.6**
	comp=Z,2.2nm,0.9s,baz=281,slow=16,SNR=7.0							
WMQ	**Urumqi**	**39.45**	**286**	P		**P**	**23 57 08.3**	**+1.1**
WMQ				pP		**pP**	**23 58 32.3**	**-0.2**
WMQ				PP		**PP**	**23 58 52.3**	**+1.6**
WMQ				sP		**sP**	**23 59 21.5**	**-4.0**
WMQ				S		**S**	**00 02 37.8**	**+3.2**
WMQ				sS		**sS**	**00 05 06.5**	**-3.7**
WMQ				SS		**SS**	**00 05 45.5**	**-7.4**
WMQ				AMB		AMB		
	comp=Z,77nm,0.6s							
WMQ				AMB		AMB		
	comp=Z,310nm,4.2s							
PAX	**Paxson**	**40.12**	**42**	*e*P		**P**	**23 57 11.7**	**-0.7**
PAX				*e*			23 59 06.7	
PAX				pmax		pmax		
	comp=Z,14nm,0.9s							
PAX	**Paxson**	**40.12**	**42**	*e*P		**P**	**23 57 11.7**	**-0.7**
	comp=Z,14nm,0.9s							
PAX				*e*PcP		**PcP**	**23 59 06.7**	**+1.1**
KMI	**Kunming**	**40.22**	**251**	P		**P**	**23 57 15.0**	**+1.2**
KMI				pP		**pP**	**23 58 40.3**	**+0.8**
KMI				PP		**PP**	**23 58 59.0**	**-0.3**
KMI				sP		**sP**	**23 59 32.0**	**-0.2**
KMI				ScP		**ScP**	**00 02 11.8**	**+0.9**
KMI				S		**S**	**00 02 44.5**	**-2.1**
KMI				SS		SS	00 05 59.0	-8.6
KMI				ScS		**ScS**	**00 06 26.8**	**0.0**
KMI				AMB		AMB		
	comp=Z,26nm,0.9s							
KMI				AMB		AMB		
	comp=Z,150nm,4.5s							
DIV	**Divide**	**40.37**	**44**	*e*P		**P**	**23 57 14.7**	**+0.3**
	comp=Z,154nm,1.3s							
QIZ	**Qiongzhong**	**40.49**	**237**	P		**P**	**23 57 16.0**	**+0.2**
QIZ				pP		**pP**	**23 58 41.3**	**-0.3**
QIZ				sP		**sP**	**23 59 33.8**	**-0.5**
QIZ				S		**S**	**00 02 51.0**	**+0.8**
QIZ				sS		**sS**	**00 05 27.5**	**+0.9**
QIZ				ScS		**ScS**	**00 06 29.0**	**+0.9**
DOT	**Dot Lake**	**40.61**	**40**	*e*P		**P**	**23 57 15.4**	**-0.8**
	comp=Z,25nm,0.5s							
MENT	**Mentasta**	**40.91**	**41**	*e*P		**P**	**23 57 18.9**	**+0.3**
MENT				*e*S		**S**	**00 02 56.3**	**+1.0**
BMRM	**Bremner River**	**40.96**	**44**	*e*P		**P**	**23 57 19.9**	**+0.8**
	comp=Z,29nm,0.7s							
BMRM				*e*PcP		**PcP**	**23 59 09.7**	**+1.3**
RAGM	**Ragged Mountai**	**41.08**	**45**	*e*P		**P**	**23 57 21.1**	**+1.1**
	comp=Z,139nm,1.3s							
MK31	**Makanchi Array**	**41.59**	**293**	*i* P		**P**	**23 57 24.5**	**+0.2**
MK31				pmax		pmax		
	comp=Z,29nm,0.4s							
MKAR	**Makanchi Array**	**41.59**	**293**	*e*P		**P**	**23 57 24.8**	**+0.5**
MKAR	**Makanchi Array**	**41.59**	**293**	*e*P		**P**	**23 57 24.8**	**+0.5**
MKAR				ScP		**ScP**	**00 02 15.3**	**-0.4**
MKAR	**Makanchi Array**	**41.59**	**293**	P		**P**	**23 57 24.6**	**+0.4**
	comp=Z,28nm,0.6s,baz=74,slow=7.1,SNR=260							
MKAR				ScP		**ScP**	**00 02 15.3**	**-0.4**
	comp=Z,10nm,0.7s,baz=60,slow=3.4,SNR=14							
EGAK	**Eagle**	**41.61**	**38**	*e*P		**P**	**23 57 23.8**	**-0.3**
KURK	**Kurchatov**	**42.21**	**300**	P		**P**	**23 57 30.0**	**+0.9**
KURK							23 59 13.2	
KURK				S		**S**	**00 03 14.7**	**+0.3**
KURK				pmax		pmax		
	comp=Z,8.0nm,0.8s							
KURK	**Kurchatov**	**42.21**	**300**	P		**P**	**23 57 30.0**	**+0.9**
	comp=Z,7.8nm,0.8s							
KURK				PcP		**PcP**	**23 59 13.2**	**+0.6**
KURK				ScP		**ScP**	**00 02 17.9**	**-0.3**
KURK				S		**S**	**00 03 14.7**	**+0.3**
KURK	**Kurchatov**	**42.21**	**300**	P		**P**	**23 57 29.6**	**+0.5**
	comp=Z,731nm,0.5s							
KURBB	**Kurchatov Arra**	**42.30**	**300**	P		**P**	**23 57 30.0**	**+0.2**
	comp=Z,33nm,0.5s,baz=69,slow=8.7,SNR=179							
KURBB				PcP		**PcP**	**23 59 13.2**	**+0.3**
	comp=Z,9.9nm,0.5s,baz=72,slow=3.2,SNR=10.0							
KURBB				ScP		**ScP**	**00 02 17.9**	**-0.7**
	comp=Z,16nm,0.6s,baz=71,slow=3.7,SNR=21							
KURBB				S		**S**	**00 03 14.7**	**-1.0**
	comp=Z,2.8nm,0.8s,baz=65,slow=14,SNR=10							
DAWY	**Dawson**	**42.53**	**39**	*e*P		**P**	**23 57 31.2**	**-0.3**
INK	**Inuvik**	**43.73**	**32**	P		**P**	**23 57 40.9**	**+0.1**
INK				PcP		**PcP**	**23 59 18.2**	**+0.7**
INK				ScP		**ScP**	**00 02 24.4**	**+0.4**
INK				S		**S**	**00 03 34.1**	**-1.6**
INK	**Inuvik**	**43.73**	**32**	P		**P**	**23 57 40.9**	**+0.1**
	comp=Z,72nm,0.4s,baz=278,slow=5.9,SNR=524							
INK				PcP		**PcP**	**23 59 18.2**	**+0.7**
	comp=Z,5.2nm,0.4s,baz=295,slow=2.2,SNR=4.2							
INK				ScP		**ScP**	**00 02 24.4**	**+0.4**
	comp=Z,19nm,1.0s,baz=278,slow=3.1,SNR=7.7							
INK				S		**S**	**00 03 34.1**	**-1.6**
	comp=Z,5.1nm,0.9s,baz=326,slow=27,SNR=6.4							
HYT	**Haines Junctio**	**44.33**	**43**	*e*P		**P**	**23 57 47.1**	**+1.5**
LSA	**Lhasa**	**44.83**	**266**	*e*P		**P**	**23 57 50.8**	**+0.3**
LSA	**Lhasa**	**44.83**	**266**	*e*P		**P**	**23 57 50.7**	**+0.3**
LSA				pmax		pmax		
	comp=Z,53nm,0.6s							
LSA	**Lhasa**	**44.83**	**266**	*e*P		**P**	**23 57 50.7**	**+0.3**
	comp=Z,53nm,0.6s							
CRAI	**Chiangrai**	**45.26**	**249**	P		**P**	**23 57 54.2**	**+0.9**
	comp=Z,147nm,0.7s							
BVAR	**Borovoye Array**	**45.94**	**306**	P		**P**	**23 57 58.1**	**0.0**
BVAR							23 59 26.0	
BVAR	**Borovoye Array**	**45.94**	**306**	P		**P**	**23 57 58.1**	**0.0**
BVAR				PcP		**PcP**	**23 59 26.0**	**+0.5**
BVAR				ScP		**ScP**	**00 02 32.8**	**-0.6**
BVAR				S		**S**	**00 04 06.5**	**-1.0**
BVAR	**Borovoye Array**	**45.94**	**306**	P		**P**	**23 57 58.1**	**0.0**
	comp=Z,30nm,0.7s,baz=56,slow=6.3,SNR=199							
BVAR				PcP		**PcP**	**23 59 26.0**	**+0.5**
	comp=Z,3.4nm,0.4s,baz=74,slow=2.9,SNR=6.4							
BVAR				ScP		**ScP**	**00 02 32.8**	**-0.6**
	comp=Z,18nm,0.7s,baz=51,slow=3.4,SNR=17							
BVAR				S		**S**	**00 04 06.5**	**-1.0**
	comp=Z,2.6nm,0.8s,baz=57,slow=9.3,SNR=3.8							
BRVK	**Borovoye**	**45.98**	**306**	*d* iP		**P**	**23 57 58.5**	**+0.1**
BRVK				pmax		pmax		
	comp=Z,62nm,0.8s							
BRVK	**Borovoye**	**45.98**	**306**	P		**P**	**23 57 58.9**	**+0.5**
	SNR=44							
BRVK	**Borovoye**	**45.98**	**306**	P		**ScP**	**00 02 33.3**	**-0.4**
	SNR=11							
BRVK	**Borovoye**	**45.98**	**306**	*e*P		**P**	**23 57 58.7**	**+0.4**
	comp=Z,97nm,1.0s							
BRVK	**Borovoye**	**45.98**	**306**	P		**P**	**23 57 58.8**	**+0.4**
	comp=Z,570nm,0.9s,SNR=76							
CMAI	**Chiengmai2**	**46.32**	**250**	P		**P**	**23 58 02.6**	**+1.0**
	comp=Z,53nm,0.7s							
SHL	**Shillong**	**47.03**	**261**	*e*P		**P**	**23 58 09.0**	**+2.0**
SHL				*e*S		**S**	**00 04 24.0**	**+0.3**
CHTO	**Chiang Mai**	**47.21**	**249**	*e*P		**P**	**23 58 08.9**	**+0.7**
CHTO				pmax		pmax		
	comp=Z,17nm,0.6s							
CHTO	**Chiang Mai**	**47.21**	**249**	P		**P**	**23 58 09.5**	**+1.3**
	SNR=6.9							
CHTO	**Chiang Mai**	**47.21**	**249**	P		**P**	**23 58 08.8**	**+0.6**
	comp=Z,113nm,0.9s							
CHTO	**Chiang Mai**	**47.21**	**249**	*e*P		**P**	**23 58 08.9**	**+0.7**
	comp=Z,17nm,0.6s							
CHTO	**Chiang Mai**	**47.21**	**249**	P		**P**	**23 58 08.7**	**+0.6**
	comp=Z,113nm,0.9s							
KDM	**Kudat**	**47.27**	**220**	P		**P**	**23 58 10.2**	**+1.5**
CMAR	**Chiang Mai Arr**	**47.47**	**248**	P		**P**	**23 58 10.2**	**0.0**
CMAR				PcP		**PcP**	**23 59 32.1**	**+0.5**
CMAR	**Chiang Mai Arr**	**47.47**	**248**	P		**P**	**23 58 10.2**	**0.0**
CMAR				PcP		**PcP**	**23 59 32.1**	**+0.5**
	baz=359,slow=1.4							
CHAI	**Chaiyaphum**	**47.55**	**243**	P		**P**	**23 58 11.7**	**+1.0**
	comp=Z,6.2nm,0.7s,comp=Z,1μm							
ULHL	**Ulahol**	**47.56**	**290**	*i* P		**P**	**23 58 11.8**	**+1.0**
ULHL	**Ulahol**	**47.56**	**290**	P		**P**	**23 58 11.8**	**+1.0**
	SNR=19							
TKM2	**Tokmak 2**	**47.61**	**291**	*e*P		**P**	**23 58 11.4**	**+0.2**
TKM2				*e*			23 59 29.5	
TKM2				pmax		pmax		
	comp=Z,56nm,1.3s							
TKM2	**Tokmak 2**	**47.61**	**291**	P		**P**	**23 58 12.1**	**+0.9**
	SNR=34							
TKM2	**Tokmak 2**	**47.61**	**291**	*e*P		**P**	**23 58 11.4**	**+0.2**
	comp=Z,56nm,1.3s							
TKM2				*e*PcP		**PcP**	**23 59 29.5**	**-2.5**
CHMS	**Chumysh**	**48.10**	**292**	*i* P		**P**	**23 58 15.3**	**+0.6**
CHMS	**Chumysh**	**48.10**	**292**	P		**P**	**23 58 15.3**	**+0.6**
	SNR=11							
USP	**Ospenovka**	**48.12**	**292**	*i* P		**P**	**23 58 15.7**	**+0.9**
USP	**Ospenovka**	**48.12**	**292**	P		**P**	**23 58 15.7**	**+0.9**
	SNR=82							
KBK	**Karagaybulak**	**48.16**	**291**	*i* P		**P**	**23 58 16.2**	**+0.9**
KBK	**Karagaybulak**	**48.16**	**291**	P		**P**	**23 58 16.2**	**+0.9**
	SNR=36							
SDKM	**Sandakan**	**48.27**	**219**	P		**P**	**23 58 16.7**	**+0.5**
KZA	**Kyzart**	**48.27**	**291**	*i* P		**P**	**23 58 18.0**	**+1.6**
KZA	**Kyzart**	**48.27**	**291**	P		**P**	**23 58 18.0**	**+1.6**
	SNR=43							
FRU	**Bishkek**	**48.27**	**292**	*i* P		**P**	**23 58 17.5**	**+1.6**
FRU				*e*			23 59 37.0	
FRU				*e*			23 59 51.0	
FRU				*i* S		**S**	**00 04 43.0**	**+2.8**
FRU				*i*			00 07 17.0	
FRU				pmax		pmax		
	comp=Z,96nm,1.9s							
FRU				smax		smax		
	comp=N,60nm,2.2s							
KKM	**Kota Kinabalu**	**48.32**	**220**	P		**P**	**23 58 17.9**	**+1.2**
AAK	**Ala-Archa**	**48.45**	**292**	*d* iP		**P**	**23 58 18.0**	**+0.5**
AAK				pmax		pmax		
	comp=Z,72nm,1.4s							
AAK	**Ala-Archa**	**48.45**	**292**	P		**P**	**23 58 18.4**	**+0.9**
	SNR=14							
AAK	**Ala-Archa**	**48.45**	**292**	P		**P**	**23 58 18.2**	**+0.7**
	SNR=29							
AAK	**Ala-Archa**	**48.45**	**292**	*e*P		**P**	**23 58 17.8**	**+0.3**
	comp=Z,28nm,1.0s							
AAK				ScP		**ScP**	**00 02 44.1**	**-0.4**
AAK	**Ala-Archa**	**48.45**	**292**	P		**P**	**23 58 17.6**	**+0.1**
	comp=Z,150nm,0.7s,SNR=20							
AAK	**Ala-Archa**	**48.45**	**292**	P		**P**	**23 58 17.8**	**+0.3**
	comp=Z,9.0nm,0.4s,baz=104,slow=4.2,SNR=63							
AAK				ScP		**ScP**	**00 02 44.1**	**-0.4**
	comp=Z,7.1nm,1.0s,baz=100,slow=2.5,SNR=6.1							
TAPN	**Taplejung**	**48.65**	**267**	*e*P		**P**	**23 58 20.2**	**+0.9**
	comp=Z,51nm,0.5s							
DLBC	**Dease Lake**	**48.76**	**44**	*e*P		**P**	**23 58 20.3**	**+0.9**
DLBC	**Dease Lake**	**48.76**	**44**	P		**P**	**23 58 20.4**	**+1.1**
	comp=Z,23nm,1.0s,baz=284,slow=7.5,SNR=15							
EKS2	**Erkin-Say**	**48.89**	**292**	*e*P		**P**	**23 58 21.1**	**+0.4**
EKS2				*e*			23 59 35.7	
EKS2				pmax		pmax		
	comp=Z,36nm,0.8s							
EKS2	**Erkin-Say**	**48.89**	**292**	P		**P**	**23 58 21.6**	**+0.9**
	SNR=11							
EKS2	**Erkin-Say**	**48.89**	**292**	*e*P		**P**	**23 58 21.1**	**+0.4**
	comp=Z,36nm,0.8s							
EKS2				*e*PcP		**PcP**	**23 59 35.7**	**-0.9**
ODAN	**Odare**	**49.19**	**266**	*e*P		**P**	**23 58 24.4**	**+1.2**
	comp=Z,38nm,0.5s							
KSH	**Kashi**	**49.19**	**287**	P		P	23 58 28.8	+5.8
KSH				PcP		**PcP**	**23 59 42.0**	**+4.3**
KSH				pP		pP	23 59 58.3	+5.2
KSH				sP		sP	00 00 52.3	+7.6
KSH				S		S	00 05 00.3	+7.2
KSH				ScS		**ScS**	**00 07 26.5**	**+2.2**
KSH				SS		SS	00 08 39.3	+8.0
KSH				AMB		AMB		
	comp=Z,24nm,0.6s							
KSH				AMB		AMB		
	comp=Z,220nm,2.8s							
TSM	**Tawau**	**49.20**	**217**	P		**P**	**23 58 23.8**	**+0.7**
AML	**Almayashu**	**49.22**	**291**	*i* P		**P**	**23 58 24.6**	**+1.1**
AML	**Almayashu**	**49.22**	**291**	P		**P**	**23 58 24.6**	**+1.1**
	SNR=22							
ALE	**Alert**	**49.25**	**5**	P		**P**	**23 58 22.9**	**+0.3**
	comp=Z,197nm,0.6s,SNR=16							
SVE	**Sverdlovsk**	**49.31**	**314**	*c* iP		**P**	**23 58 23.7**	**+0.4**
SVE				*e*			00 00 23.9	
SVE				*e*S		**S**	**00 04 53.2**	**-0.7**
SVE				pmax		pmax		
	comp=Z,98nm,1.0s							
UTHA	**Uthaitani**	**49.36**	**245**	P		**P**	**23 58 25.4**	**+1.1**
	comp=Z,6.7nm,0.8s,comp=Z,61nm							
JIRN	**Jiri**	**49.48**	**268**	*e*P		**P**	**23 58 26.4**	**+0.9**
	comp=Z,64nm,0.5s							
GUN	**Gumba**	**49.52**	**269**	*e*P		**P**	**23 58 26.5**	**+0.7**
	comp=Z,56nm,0.4s							
RAMN	**Ramite**	**49.66**	**267**	*e*P		**P**	**23 58 27.4**	**+0.7**
	comp=Z,180nm,0.6s							
SOKR	**Solikamsk**	**49.81**	**318**	*d* iP		**P**	**23 58 26.0**	**-1.0**
SOKR				pmax		pmax		
	comp=Z,90nm,1.0s							
SWI	**Sorong**	**49.89**	**198**	P		**P**	**23 58 28.7**	**+0.5**
	comp=Z,40nm,0.9s,comp=Z,3μmcomp=Z,83μm							
KKN	**Kakani**	**50.01**	**269**	*e*P		**P**	**23 58 30.1**	**+0.9**
	comp=Z,55nm,0.5s							
PKI	**Pulchoki**	**50.06**	**269**	*e*P		**P**	**23 58 30.2**	**+0.4**
	comp=Z,40nm,0.6s							
PKIN	**Phulchoki**	**50.06**	**269**	*e*P		**P**	**23 58 30.5**	**+0.8**
	comp=Z,24nm,0.6s							
DMN	**Daman**	**50.24**	**269**	*e*P		**P**	**23 58 31.8**	**+0.8**
GKN	**Gorkha**	**50.30**	**270**	*e*P		**P**	**23 58 32.0**	**+0.7**
	comp=Z,104nm,0.7s							
ARU	**Arti**	**50.51**	**314**	*d* iP		**P**	**23 58 32.1**	**-0.1**
ARU				*e*			23 59 42.0	
ARU				pmax		pmax		
	comp=Z,177nm,1.2s							
ARU	**Arti**	**50.51**	**314**	P		**P**	**23 58 32.7**	**+0.5**
	comp=Z,817nm,0.6s,SNR=54							
SPA0	**Spitsbergen Ar**	**50.59**	**348**	*e*P		**P**	**23 58 32.3**	**-0.2**
SPITS	**Spitsbergen Ar**	**50.59**	**348**	P		**P**	**23 58 32.0**	**-0.6**
SPITS				PcP		**PcP**	**23 59 42.0**	**-0.1**
SPITS				ScP		**ScP**	**00 02 52.6**	**-0.3**
SPITS	**Spitsbergen Ar**	**50.59**	**348**	P		**P**	**23 58 32.0**	**-0.6**
	comp=Z,2.8nm,0.3s,baz=61,slow=8.7,SNR=87							
SPITS				PcP		**PcP**	**23 59 42.0**	**-0.1**
	comp=Z,3.3nm,0.4s,baz=90,slow=5.8,SNR=9.4							
SPITS				ScP		**ScP**	**00 02 52.6**	**-0.3**
	comp=Z,9.4nm,0.7s,baz=87,slow=4.3,SNR=4.2							
KBS	**Kingsbay**	**50.61**	**349**	*e*P		**P**	**23 58 32.9**	**+0.2**
KBS				AMB		AMB	23 58 34.4	
	comp=Z,66nm,1.0s							
KBS				*e*			23 59 33.6	
KBS	**Kingsbay**	**50.61**	**349**	*e*P		**P**	**23 58 33.1**	**+0.4**
KBS				pmax		pmax		
	comp=Z,37nm,0.9s							
KBS	**Kingsbay**	**50.61**	**349**	*e*P		**P**	**23 58 33.1**	**+0.4**
	comp=Z,37nm,0.9s							
KBS				*e*PcP		PcP	23 59 35.3	-6.8
DANN	**Dangsing**	**50.67**	**271**	*e*P		**P**	**23 58 35.4**	**+1.2**
	comp=Z,127nm,0.6s							
KK31	**Karatay Array**	**50.68**	**294**	*i* P		**P**	**23 58 33.5**	**-0.3**
KK31				pmax		pmax		
	comp=Z,13nm,0.4s							
KKAR	**Karatay Array**	**50.68**	**294**	*e*P		**P**	**23 58 34.0**	**+0.2**
KKAR	**Karatay Array**	**50.68**	**294**	*e*P		**P**	**23 58 34.0**	**+0.2**
KOLN	**Koldanda**	**51.15**	**270**	*e*P		**P**	**23 58 38.5**	**+0.9**
	comp=Z,60nm,0.7s							
PHET	**Kaeng Krachan**	**51.30**	**243**	P		**P**	**23 58 40.5**	**+2.0**
	comp=Z,82nm,0.8s							
RES	**Resolute Bay**	**51.57**	**17**	P		**P**	**23 58 39.8**	**+0.1**
RES				PcP		**PcP**	**23 59 46.4**	**+0.6**
RES				ScP		**ScP**	**00 02 57.6**	**+0.5**
RES				S		**S**	**00 05 22.1**	**-2.0**
RES	**Resolute Bay**	**51.57**	**17**	P		**P**	**23 58 39.8**	**+0.1**
	comp=Z,123nm,0.8s,baz=303,slow=5.2,SNR=334							
RES				PcP		**PcP**	**23 59 46.4**	**+0.6**
	comp=Z,11nm,0.5s,baz=272,slow=4.2,SNR=5.7							
RES				ScP		**ScP**	**00 02 57.6**	**+0.5**
	comp=Z,4.9nm,0.7s,baz=317,slow=5.0,SNR=4.0							
RES				S		**S**	**00 05 22.1**	**-2.0**
	comp=Z,3.2nm,0.9s,baz=117,slow=20,SNR=6.7							
FAKI	**Fak Fak**	**51.69**	**196**	P		**P**	**23 58 41.9**	**+0.6**
	comp=Z,64nm,0.7s							
KIP	**Kipapa**	**52.29**	**99**	⇓ *i* P		**P**	**23 58 46.9**	**+1.2**
KIP				pmax		pmax		
	comp=Z,41nm,0.8s							
BBB	**Bella Bella**	**52.79**	**51**	P		**P**	**23 58 49.7**	**+0.9**
BBB	**Bella Bella**	**52.79**	**51**	P		**P**	**23 58 49.7**	**+0.9**
	comp=Z,53nm,1.1s,baz=288,slow=9.6,SNR=5.3							
SBUM	**Sibu**	**53.30**	**223**	P		**P**	**23 58 54.7**	**+1.7**
SBUM	**Sibu**	**53.30**	**223**	P		**P**	**23 58 54.0**	**+1.0**
	comp=Z,55nm,0.8s							
SBUM	**Sibu**	**53.30**	**223**	*e*P		**P**	**23 58 53.8**	**+0.8**
	comp=Z,34nm,0.6s							
YKA	**Yellowknife Ar**	**53.31**	**35**	P		**P**	**23 58 52.4**	**0.0**
YKA				PcP		**PcP**	**23 59 53.1**	**+0.5**
YKA				ScP		**ScP**	**00 03 04.7**	**-0.2**
YKA	**Yellowknife Ar**	**53.31**	**35**	P		**P**	**23 58 52.4**	**0.0**
	comp=Z,13nm,0.5s,baz=306,slow=7.5,SNR=62							
YKA				PcP		**PcP**	**23 59 53.1**	**+0.5**
	comp=Z,6.5nm,0.4s,baz=308,slow=3.6,SNR=23							
YKA				ScP		**ScP**	**00 03 04.7**	**-0.2**
	comp=Z,7.6nm,0.7s,baz=303,slow=4.2,SNR=11							
AB31	**Akbulak array**	**53.52**	**306**	*i* P		**P**	**23 58 54.1**	**0.0**
AB31				pmax		pmax		
	comp=Z,27nm,0.3s							
ABKAR	**Akbulak array**	**53.52**	**306**	*e*P		**P**	**23 58 54.5**	**+0.4**
LVZ	**Lovozero**	**53.59**	**334**	*e*P		**P**	**23 58 54.6**	**+0.3**
LVZ				pmax		pmax		
	comp=Z,18nm,0.9s							
AKTO	**Aktyubinsk**	**53.91**	**308**	P		**P**	**23 58 55.3**	**-1.6**
AKTO				S		**S**	**00 05 53.5**	**-2.5**
AKTO	**Aktyubinsk**	**53.91**	**308**	P		**P**	**23 58 55.3**	**-1.6**
AKTO				ScP		**ScP**	**00 03 05.2**	**-2.6**
AKTO				S		**S**	**00 05 53.5**	**-2.5**
AKTO	**Aktyubinsk**	**53.91**	**308**	P		**P**	**23 58 55.3**	**-1.6**
	comp=Z,13nm,0.5s,baz=66,slow=8.1,SNR=44							
AKTO				ScP		**ScP**	**00 03 05.2**	**-2.6**
	comp=Z,9.7nm,0.7s,baz=82,slow=4.0,SNR=7.6							
AKTO				S		**S**	**00 05 53.5**	**-2.5**
	comp=Z,2.4nm,0.9s,baz=191,slow=21,SNR=3.8							
APA	**Apatity**	**54.16**	**334**	⇓ *i* P		**P**	**23 58 58.4**	**0.0**
APA				*i*			23 59 51.7	
APA				*i* *PP		**pP**	**00 00 29.0**	**-1.8**
APA				*i*			00 01 25.0	
APA				*i* S		**S**	**00 05 58.0**	**-0.8**
APA				pmax		pmax		
	comp=Z,22nm,0.6s							
KEV	**Kevo**	**54.48**	**338**	*e*P		**P**	**23 59 00.7**	**+0.1**
KEV				pmax		pmax		
	comp=Z,27nm,0.6s							
KEV	**Kevo**	**54.48**	**338**	*e*p		**P**	**23 59 00.5**	**-0.1**
	comp=Z,12nm,0.4s							
KEV	**Kevo**	**54.48**	**338**	*e*P		**P**	**23 59 00.7**	**+0.1**
	comp=Z,26nm,0.6s							
TMCR	**Tamitsa**	**54.81**	**329**	*e*P		**P**	**23 59 03.0**	**+0.1**
TMCR				*e*			23 59 58.2	
TMCR				*e*			00 01 11.0	
TMCR				pmax		pmax		
	comp=Z,69nm,0.7s							
NDI	**New Delhi**	**54.87**	**276**	*e*P		**P**	**23 59 02.0**	**-2.0**
SURT	**Suratani**	**54.92**	**241**	P		**P**	**23 59 07.3**	**+2.9**
	comp=Z,3.5nm,0.9s							
ARCES	**ARCESS Array B**	**55.02**	**338**	P		**P**	**23 59 04.3**	**-0.1**
ARCES				ScP		**ScP**	**00 03 11.1**	**-1.2**
ARCES	**ARCESS Array B**	**55.02**	**338**	P		**P**	**23 59 04.3**	**-0.1**
	comp=Z,5.3nm,0.3s,baz=48,slow=7.4,SNR=174							
ARCES				ScP		**ScP**	**00 03 11.1**	**-1.2**
	comp=Z,7.0nm,0.9s,baz=39,slow=7.8,SNR=6.6							
KSM	**Kuching**	**55.04**	**224**	P		**P**	**23 59 06.8**	**+1.4**
MMSI	**Mamuju**	**55.20**	**212**	P		**P**	**23 59 06.4**	**-0.1**
	comp=Z,57nm,0.8s							
DAG	**Danmarks Havn**	**55.34**	**356**	*i* P		**P**	**23 59 06.5**	**0.0**
DAG				pmax		pmax		
	comp=Z,24nm,0.9s							
DAG	**Danmarks Havn**	**55.34**	**356**	*i* P		**P**	**23 59 06.5**	**0.0**
	comp=Z,28nm,0.9s							
KTGM	**Kuala Trenggan**	**55.41**	**234**	P		**P**	**23 59 09.2**	**+1.3**
STKI	**Sintang**	**55.74**	**222**	P		**P**	**23 59 11

C09A Chrisman Ranch 60.50 50 *e*P P 23 59 43.0 +0.8
comp=Z,52nm,1.0s
FINES FINESS Array B 60.69 331 P P 23 59 42.9 -0.2
FINES ScP **ScP** 00 03 36.4 -1.1
FINES S **S** 00 07 20.6 -1.9
FINES FINESS Array B 60.69 331 P P 23 59 42.9 -0.2
comp=Z,97nm,0.7s,baz=43,slow=6.8,SNR=589
FINES ScP **ScP** 00 03 36.4 -1.1
comp=Z,20nm,0.8s,baz=70,slow=6.3,SNR=13
FINES S **S** 00 07 20.6 -1.9
comp=Z,1.4nm,0.7s,baz=84,slow=7.1,SNR=5.2
HAWA Hanford 60.73 52 *e*P P 23 59 44.9 +1.1
comp=Z,82nm,1.3s
KBO Bosley Butte 60.79 58 *e*P P 23 59 44.9 +0.7
comp=Z,308nm,1.6s
NEW Newport 60.80 49 *e*P P 23 59 44.8 +0.6
comp=Z,76nm,1.3s
NEW PcP **PcP** 00 00 23.2 +0.6
NEW Newport 60.80 49 ⇓P P 23 59 44.8 +0.6
baz=61,SNR=26
NEW Newport 60.80 49 P P 23 59 44.8 +0.6
comp=Z,19nm,0.7s,baz=307,slow=5.2,SNR=38
NEW PcP **PcP** 00 00 23.2 +0.6
comp=Z,3.6nm,0.5s,baz=338,slow=5.4,SNR=3.4
G06A Carlson Farm, 60.88 54 *e*P P 23 59 46.1 +1.4
comp=Z,162nm,1.6s
IMYA Miami 61.14 293 *e*P P 23 59 47.6 +0.8
HUMO Hull Mountain 61.26 57 *e*P P 23 59 42.3 -5.1
comp=Z,28nm,0.7s
OBN Obninsk 61.28 322 *d* iP P 23 59 46.6 -0.5
OBN *e**PP **pP** 00 01 23.9 +1.3
OBN *e* 00 02 05.6
OBN *i* S **S** 00 07 25.0 -5.1
OBN *e*SS **SS** 00 11 41.1 +1.4
OBN pmax pmax
comp=Z,35nm,0.8s
IEMG Emamgholi 61.34 295 *e*P P 23 59 49.4 +1.1
KRMB Red Mountain 61.41 59 *e*P P 23 59 50.2 +1.8
comp=Z,316nm,2.6s
COEN Coen 61.43 182 *e*P P 23 59 48.6 -0.1
comp=Z,313nm,0.7s
ISRO Mashad 61.55 294 *e*P P 23 59 50.9 +1.5
HYB Hyderabad 61.58 265 *i* P P 23 59 50.0 +0.2
HYB *e*S **S** 00 07 34.0 -1.1
SCO Scoresbysund 61.72 355 *i* P P 23 59 50.5 +0.7
SCO pmax pmax
comp=Z,10.0nm,0.8s
SCO Scoresbysund 61.72 355 *i* P P 23 59 50.5 +0.7
comp=Z,10.0nm,0.8s
IPAY Payeh 61.75 294 *e*P P 23 59 52.3 +1.4
IMOG Moghan 61.76 294 *e*P P 23 59 52.3 +1.3
IAKL Akhelmad 61.80 294 *e*P P 23 59 52.5 +1.2
IKRD Kardeh 61.84 295 *e*P P 23 59 48.4 -3.1
YBH Yreka Blue Hor 61.96 58 P P 23 59 53.7 +1.7
YBH Yreka Blue Hor 61.96 58 P P 23 59 53.7 +1.7
comp=Z,37nm,0.8s,baz=360,slow=3.6,SNR=80
ISFR Sfrayin 61.97 295 *e*P P 23 59 53.5 +1.1
F10A Beach Ranch, E 62.23 51 *e*P P 23 59 54.7 +1.0
comp=Z,50nm,1.1s
I07A Izee 62.24 54 *e*P P 23 59 55.1 +1.3
comp=Z,73nm,1.4s
BSMT Bassoo Peak 62.25 49 *e*P P 23 59 55.2 +1.3
BLMT Blacktail Moun 62.36 48 *e*P P 23 59 56.0 +1.3
JTMT Jette 62.58 48 *e*P P 23 59 56.2 +0.3
VSU Vasula 62.68 329 *d* iP P 23 59 56.0 -0.2
VSU pmax pmax
comp=Z,156nm,0.7s
ILULI Ilulissat 62.76 6 *i* P P 23 59 55.8 -0.8
ILULI pmax pmax
comp=Z,25nm,1.0s
KNTN Kanton 62.85 130 *e*P P 23 59 59.1 +1.1
comp=Z,270nm,1.8s
SWMT Swartz Lake 62.88 48 *e*P P 23 59 59.0 +1.1
BMO Blue Mountains 62.92 52 *e*P P 23 59 59.4 +1.2
BMO pmax pmax
comp=Z,32nm,1.0s
BMO Blue Mountains 62.92 52 *e*P P 23 59 59.4 +1.2
comp=Z,32nm,1.0s
MOD Modoc 63.22 56 *e*P P 00 00 01.6 +1.3
comp=Z,156nm,1.6s
J08A Circle Bar Ran 63.27 54 *e*P P 00 00 02.0 +1.5
comp=Z,127nm,1.4s
SLMT Seeley Lake 63.31 48 *e*P P 00 00 01.7 +0.9
FFC Flin Flon 63.35 37 *i* P P 00 00 01.2 +0.5
FFC Flin Flon 63.35 37 *e*P P 00 00 01.0 +0.4
comp=Z,68nm,1.0s
FFC Flin Flon 63.35 37 P P 00 00 01.9 +1.2
comp=Z,317nm,0.9s,SNR=11
MSO Missoula 63.36 49 *e*P P 00 00 01.8 +0.8
comp=Z,95nm,1.2s
MSO Missoula 63.36 49 ⇑P P 00 00 01.8 +0.8
baz=63,SNR=30
IMON Monand 63.45 291 *e*P P 00 00 02.9 +0.9
IDAH Dahanechah 63.62 290 *e*P P 00 00 03.5 +0.4
CHMT Chamberlain Mo 63.66 49 *e*P P 00 00 03.5 +0.4
ITEG Tejag 64.22 291 *e*P P 00 00 07.7 +0.8
OHCM Honcut 64.24 59 *e*P P 00 00 07.1 +0.5
IKOO Kooshah 64.38 291 *e*P P 00 00 08.6 +0.6
A19A Klindworth Far 64.48 45 ⇓P P 00 00 09.2 +1.0
baz=64,SNR=14
HRY Holter Researc 64.51 48 *e*P P 00 00 09.6 +1.2
EGMT Eagleton 64.63 46 *e*P P 00 00 09.9 +0.8
comp=Z,118nm,1.0s
EGMT Eagleton 64.63 46 ⇓P P 00 00 09.9 +0.8
baz=64,SNR=34
B19A Brinkman Farms 64.72 45 ⇑P P 00 00 10.6 +1.0
baz=64,SNR=39
LRM Limekiln Ridge 64.80 49 *e*P P 00 00 11.4 +1.0
A20A Cobblestone Ra 64.90 44 ⇓P P 00 00 11.7 +0.9
baz=65,SNR=20
MOL Molde 64.97 340 *e*P P 00 00 09.1 -1.7
MOL AMB AMB 00 00 13.8
comp=Z,32nm,0.8s
SFJD Kangerlussuaq 64.97 7 *i* P P 00 00 10.1 -0.7
comp=Z,18nm,0.8s
DLMT Dillon 65.05 49 *e*P P 00 00 13.0 +1.1
comp=Z,193nm,1.3s
ISAL Salakas 65.08 327 *e*P P 00 00 11.6 0.0
ISAL AMB AMB 00 00 12.8
comp=Z,21nm,0.8s
GOF Gofitskoye 65.14 310 ⇓ *i* P P 00 00 13.3 +1.1
GOF *e*S **S** 00 08 18.6 +1.0
GOF pmax pmax
comp=Z,159nm,0.8s
GOF smax smax
comp=E,52nm,1.2s
B20A Solberg Farm, 65.17 45 ⇓P P 00 00 13.2 +0.8
baz=65,SNR=24
C19A Slack Wire Ran 65.17 46 ⇓P P 00 00 13.7 +1.2
baz=65,SNR=28
IIGN Ignalina 65.21 327 *e*P P 00 00 12.0 -0.5
IIGN AMB AMB 00 00 13.1
comp=Z,35nm,0.7s
A21A Bergtoll Ranch 65.29 44 ⇑P P 00 00 14.3 +1.1
baz=65,SNR=10
HLID Hailey 65.33 52 *e*P P 00 00 14.8 +1.0
comp=Z,23nm,1.0s
HLID Hailey 65.33 52 ⇑P P 00 00 14.9 +1.2
baz=65,SNR=25
BOZ Bozeman (W) 65.34 49 *e*P P 00 00 15.1 +1.4
BOZ pmax pmax
comp=Z,8.0nm,0.6s
BOZ Bozeman (W) 65.34 49 *e*P P 00 00 15.1 +1.4
comp=Z,7.8nm,0.6s
NB2 NORSAR Subarra 65.37 337 P P 00 00 13.4 -0.1
comp=Z,85nm,0.8s,baz=32,slow=6.5
NB2 NORSAR Subarra 65.37 337 P P 00 00 13.4 -0.1
baz=32,slow=6.5
NOA NORSAR Array B 65.37 337 P P 00 00 13.3 -0.2
NOA PP PP 00 02 28.9 -15
NOA NORSAR Array B 65.37 337 P P 00 00 13.3 -0.2
comp=Z,46nm,0.6s,baz=33,slow=6.3,SNR=273
NOA PP PP 00 02 28.9 -15
comp=Z,3.8nm,0.7s,baz=35,slow=7.0,SNR=4.7
IANJ Anjilo 65.50 296 *e*P P 00 00 16.3 +1.3
B21A Ellsworth Farm 65.65 44 ⇓P P 00 00 16.3 +0.9
baz=65,SNR=18
ISHM Shahmirzad 65.65 297 *e*P P 00 00 17.7 +1.7
D19A Cripps Ranch, 65.65 46 ⇓P P 00 00 16.7 +1.1
baz=65,SNR=29
C20A Veseth Ranch, 65.69 45 ⇑P P 00 00 16.9 +1.1
baz=65,SNR=38
CMB Columbia Colle 65.74 60 *e*P P 00 00 16.9 +0.7
CMB pmax pmax
comp=Z,108nm,1.3s
CMB Columbia Colle 65.74 60 *e*P P 00 00 16.9 +0.7
comp=Z,108nm,1.3s
A22A Carney Farms, 65.76 43 ⇓P P 00 00 16.9 +0.7
baz=66,SNR=53
BMN Battle Mountai 65.93 56 *e*P P 00 00 18.9 +1.4
BMN Battle Mountai 65.93 56 *e*P P 00 00 18.9 +1.4
QLMT Earthquake Lak 66.01 49 *e*P P 00 00 19.1 +1.1
C21A Desert Coulee 66.04 45 ⇓P P 00 00 18.9 +1.0
baz=66
D20A Manuel Ranch, 66.06 46 ⇓P P 00 00 19.2 +1.1
baz=66,SNR=40
KIV Kislovodsk 66.08 310 *e*P P 00 00 19.0 +0.7
KIV *e* 00 00 39.0
KIV *e**PP **pP** 00 01 55.7 +0.1
KIV *e**SP **sP** 00 02 44.6 -0.6
KIV *e*PPP PPP 00 04 36.2
KIV *e*S **S** 00 08 30.6 +1.5
KIV *e*SS **SS** 00 12 59.0 +4.3
KIV pmax pmax
comp=Z,170nm,0.9s
KIV Kislovodsk 66.08 310 P P 00 00 19.9 +1.6
comp=Z,1µm,0.7s,SNR=30
IFIR Firoozkooh 66.08 297 *e*P P 00 00 19.9 +1.2
KBZ Khabaz 66.13 309 P P 00 00 19.9 +1.4
KBZ Khabaz 66.13 309 P P 00 00 19.9 +1.4
KBZ Khabaz 66.13 309 P P 00 00 19.9 +1.4
comp=Z,61nm,0.8s,baz=55,slow=5.0,SNR=68
ILAS Lasjerd 66.14 297 *e*P P 00 00 20.2 +1.2
E19A Rath Farm, Rou 66.19 47 ⇓P P 00 00 20.1 +1.1
baz=66,SNR=23
B22A Reddig Ranch S 66.22 44 ⇓P P 00 00 19.9 +0.9
baz=66,SNR=15
ZEI Tsey 66.25 308 *e*P P 00 00 10.4 -9.1
ZEI pmax pmax
comp=Z,67nm,1.0s
A23A Redstone 66.26 43 ⇓P P 00 00 20.0 +0.7
baz=66
DUS Dusheti 66.30 307 P P 00 00 22.5 +2.7
DUS S S 00 08 57.8 +26
DGRG David-gareji 66.38 306 P P 00 00 21.2 +1.0
DGRG S S 00 08 57.8 +25
SEAG Tbilisi Sea 66.47 307 P P 00 00 22.2 +1.5
E20A Meyer Farm, Mu 66.48 46 ⇑P P 00 00 21.9 +1.1
baz=66,SNR=13
HYA Hoyanger 66.51 340 *e*P P 00 00 20.9 +0.4
HYA AMB AMB 00 00 22.2
comp=Z,69nm,0.7s
TBLG Delisi 66.53 307 P P 00 00 22.5 +1.4
TBLG S **S** 00 08 33.6 -0.7
F19A Roth Farm, Mol 66.54 47 ⇑P P 00 00 22.3 +1.1
baz=66,SNR=51
IDMV Damavand 66.56 297 *e*P P 00 00 22.9 +1.2
B23A Brockton 66.57 43 ⇓P P 00 00 21.9 +0.7
baz=66,SNR=26
ONI Oni 66.63 308 P P 00 00 22.4 +0.7
ONI S **S** 00 08 34.6 -0.9
D21A La Casta Ranch 66.63 45 ⇓P P 00 00 22.6 +0.9
baz=66,SNR=21
C22A Vida 66.67 44 ⇑P P 00 00 22.3 +0.4
baz=66,SNR=8.8
NVAR Mina Array Bea 66.68 58 P P 00 00 23.5 +1.2
NVAR Mina Array Bea 66.68 58 P P 00 00 23.5 +1.2
comp=Z,45nm,0.8s,baz=301,slow=6.7,SNR=254
A24A Westby 66.68 42 ⇓P P 00 00 22.5 +0.6
baz=66,SNR=7.9
H17A Grant Village 66.75 49 *e*P P 00 00 25.4 +2.7
comp=Z,94nm,1.0s
H17A Grant Village 66.75 49 ⇑P P 00 00 25.2 +2.5
baz=66,SNR=24
ELK Elko 66.81 55 *e*P P 00 00 24.5 +1.4
comp=Z,14nm,0.6s
IMW Indian Meadow 66.91 50 *e*P P 00 00 25.3 +1.6
comp=Z,65nm,1.3s
MLAC Mammoth Lakes 66.92 59 ⇓P P 00 00 25.1 +1.3
baz=67
DGMT Dagmar 66.93 43 *e*P P 00 00 24.2 +0.8
comp=Z,198nm,1.1s
DGMT Dagmar 66.93 43 ⇑P P 00 00 24.2 +0.8
baz=67,SNR=24
SUE Sulen 66.94 340 *e*P P 00 00 23.5 +0.4
C23A Lambert 66.95 44 ⇑P P 00 00 24.5 +0.9
baz=67,SNR=25
D22A Cohagen 66.96 45 ⇑P P 00 00 24.5 +0.8
baz=67,SNR=19
E21A Keefer Ranch, 66.97 46 ⇑P P 00 00 24.9 +1.1
baz=67
F20A Billings 66.97 47 ⇑P P 00 00 24.5 +0.6
baz=67,SNR=11
KONO Kongsberg 66.98 337 *e*P P 00 00 23.4 -0.1
KONO AMB AMB 00 00 25.4
comp=Z,34nm,1.8s
H18A Shoshone NF, C 67.02 48 ⇑P P 00 00 25.3 +1.0
baz=67,SNR=14
FXWY Fox Creek 67.05 50 *e*P P 00 00 26.2 +1.6
comp=Z,108nm,1.5s
A25A Svangstu Ranch 67.07 42 ⇑P P 00 00 25.3 +0.9
baz=67,SNR=15
I17A Pilgrim Ck. 67.08 49 ⇑P P 00 00 26.1 +1.4
baz=67,SNR=6.4
IBAF Bafgh 67.10 292 *e*P P 00 00 24.6 -0.3
RRI2 Red Ridge 67.10 50 *e*P P 00 00 26.6 +1.7
comp=Z,110nm,0.8s
MOOW Moose Ponds 67.12 50 *e*P P 00 00 26.4 +1.5
comp=Z,104nm,1.4s
IVRN Varamin 67.14 297 *e*P P 00 00 26.2 +1.2
MTUM Tungsten Hills 67.27 59 *e*P P 00 00 27.0 +1.1
ISFB Sefidab 67.27 296 *e*P P 00 00 26.4 +0.6
LOHW Long Hollow 67.29 50 *e*P P 00 00 27.5 +1.5
comp=Z,94nm,1.4s
SNOW Snow King Moun 67.31 50 *e*P P 00 00 27.8 +1.6
comp=Z,85nm,1.4s
REDW Red Top Meadow 67.33 50 *e*P P 00 00 27.7 +1.4
comp=Z,153nm,1.6s
ASK Askoy 67.34 340 *e*P P 00 00 25.2 -0.4
ASK AMB AMB 00 00 26.5
comp=Z,120nm,1.6s
G20A Bridger 67.35 47 ⇓P P 00 00 26.7 +0.4
baz=67,SNR=6.5
H19A Powell 67.36 48 ⇑P P 00 00 27.3 +1.0
baz=67,SNR=10
RUND Rundenannen 67.36 340 *e*P P 00 00 25.4 -0.5
RUND AMB AMB 00 00 26.8
comp=Z,97nm,0.8s
SUW Suwalki 67.36 327 *e*P P 00 00 25.4 -0.5
SUW *e*S **S** 00 08 41.7 -1.9
SUW Suwalki 67.36 327 *e*P P 00 00 25.5 -0.4
comp=Z,43nm,1.0s
SUW Suwalki 67.36 327 *e*P P 00 00 25.3 -0.6
SUW *e*S **S** 00 08 41.7 -1.9
ICHK Chekchek 67.38 293 *e*P P 00 00 27.0 +0.3
BER Bergen 67.40 340 *e*P P 00 00 26.6 +0.6
BER AMB AMB 00 00 27.8
comp=Z,72nm,0.8s
D23A Lindsay 67.40 44 ⇑P P 00 00 27.5 +1.1
baz=67,SNR=37
AKH Akhalkalaki 67.42 307 P P 00 00 28.9 +2.1
AKH S **S** 00 08 46.8 +1.6
HVU Hansel Valley 67.43 52 *e*P P 00 00 28.1 +1.3
HVU pmax pmax
comp=Z,47nm,1.3s
HVU Hansel Valley 67.43 52 *e*P P 00 00 28.1 +1.3
comp=Z,47nm,1.3s
F21A Absaloka Mine, 67.46 46 ⇓P P 00 00 27.6 +0.8
baz=67,SNR=8.1
PTRM Twissleman Ran 67.46 61 *e*P P 00 00 28.6 +1.6
C24A Savage 67.50 43 ⇓P P 00 00 27.8 +0.8
baz=67,SNR=7.1
ODD1 Odda 67.50 339 *e*P P 00 00 27.2 +0.4
ODD1 AMB AMB 00 00 28.6
comp=Z,36nm,0.8s
EGD Espegrend 67.52 340 *e*P P 00 00 26.3 -0.5
EGD AMB AMB 00 00 27.9
comp=Z,47nm,1.2s
B25A Knox Farm, Ray 67.54 42 ⇓P P 00 00 28.3 +1.1
baz=67,SNR=6.0
AKASG Malin Array Be 67.55 322 P P 00 00 26.9 -0.2
AKASG *PP **pP** 00 02 05.4 +0.5
AKASG 00 02 52.9
AKASG S **S** 00 08 43.8 -2.0
AKASG Malin Array Be 67.55 322 P P 00 00 26.9 -0.2
AKASG pP **pP** 00 02 05.4 +0.5
AKASG PP PP 00 02 52.9 -10
AKASG S **S** 00 08 43.8 -2.0
AKASG Malin Array Be 67.55 322 P P 00 00 26.9 -0.2
comp=Z,30nm,0.5s,baz=37,slow=6.3,SNR=126
AKASG pP **pP** 00 02 05.4 +0.5
comp=Z,2.5nm,0.6s,baz=35,slow=6.6,SNR=1.9
AKASG PP PP 00 02 52.9 -10
comp=Z,3.7nm,0.6s,baz=37,slow=8.6,SNR=4.1
AKASG S **S** 00 08 43.8 -2.0
comp=Z,0.3nm,0.3s,baz=41,slow=12,SNR=15
KIEV Kiev 67.56 322 *e*P P 00 00 25.9 -1.3
KIEV pmax pmax
comp=Z,54nm,0.7s
KIEV Kiev 67.56 322 *e*P P 00 00 25.9 -1.3
comp=Z,54nm,0.7s
E22A Miles City 67.58 45 ⇓P P 00 00 28.2 +0.7
baz=67,SNR=10
RCTC Rector, Farmer 67.59 60 ⇑P P 00 00 28.4 +0.8
baz=67
ISRB Sarab 67.59 302 *e*P P 00 00 28.7 +0.8
IHRS Heris 67.60 303 *e*P P 00 00 29.3 +1.3
GNI Garni 67.62 305 P P 00 00 30.0 +2.0
SNR=7.7
GNI Garni 67.62 305 P P 00 00 30.1 +2.0
SNR=13
TIN Tinemaha 67.67 59 ⇓P P 00 00 29.5 +1.3
baz=68
I19A Meeteetse 67.81 49 ⇑P P 00 00 30.3 +1.1
baz=68,SNR=14
FITZ Fitzroy Crossi 67.82 200 *e*P P 00 00 29.5 +0.3
comp=Z,14nm,0.8s
SMMC Simmler 67.82 62 ⇑P P 00 00 30.3 +1.2
baz=68,SNR=11
IMEH Mehriz 67.83 293 *e*P P 00 00 29.2 -0.3
E23A Ismay 67.84 45 ⇑P P 00 00 30.1 +1.0
baz=68,SNR=13
G21A Lodge Grass 67.85 47 ⇓P P 00 00 29.9 +0.6
baz=68,SNR=22
D24A Glendive 67.85 44 ⇓P P 00 00 30.2 +1.0
baz=68,SNR=26
EAK Akyaka 67.87 306 *i* P P 00 00 31.1 +1.5
SOC Sochi 67.88 311 *d* iP P 00 00 29.8 +0.5
SOC *e* 00 03 02.0
SOC *e*S **S** 00 08 50.6 +0.6
SOC *e* 00 09 40.9
SOC *e*SSS SSS 00 16 38.4
SOC pmax pmax
comp=Z,78nm,0.9s
B26A Jensen Ranch, 67.88 42 ⇑P P 00 00 30.3 +1.0
baz=68,SNR=7.6
BGU Big Grassy Mou 67.89 53 *e*P P 00 00 30.8 +1.1
A27A Ledoux Ranch, 67.89 41 ⇑P P 00 00 30.2 +0.8
baz=68,SNR=13
F22A Rosebud 67.91 46 ⇓P P 00 00 30.2 +0.7
baz=68,SNR=6.6
C25A Freed Ranch, W 67.91 43 ⇓P P 00 00 30.5 +1.0
baz=68
IRAZ Razeghan 67.93 299 *e*P P 00 00 31.0 +0.9
BLS5 Blasjo 67.98 339 *e*P P 00 00 30.1 +0.5
BLS5 AMB AMB 00 00 31.7
comp=Z,24nm,0.9s
H20A Greybull 67.99 48 ⇓P P 00 00 30.5 +0.4
baz=68,SNR=19
VES Vestal, Richgr 68.00 61 ⇓P P 00 00 30.5 +0.4
baz=68,SNR=14
WRAB Tennant Creek 68.04 191 P P 00 00 30.9 +0.4
comp=Z,206nm,1.0s,SNR=13
ISAD Sadrabad 68.05 294 *e*P P 00 00 30.8 -0.1
WRA Warramunga Arr 68.05 191 P P 00 00 29.9 -0.7
WRA Warramunga Arr 68.05 191 P P 00 00 29.9 -0.7
comp=Z,17nm,0.5s,baz=9.5,slow=6.7,SNR=58
IMRD Marand 68.09 304 *e*P P 00 00 31.6 +0.7
IBST Bostanabad 68.12 302 *e*P P 00 00 31.9 +0.7
ANN Anapa 68.15 313 *d* iP P 00 00 31.1 +0.2
ANN *i* *PP **pP** 00 02 09.0 0.0
ANN *i* 00 03 06.8
ANN *e*S **S** 00 08 52.9 -0.2
ANN pmax pmax
comp=Z,33nm,0.5s
ITBZ Tabriz 68.17 303 *e*P P 00 00 32.6 +1.2
IZEF Zefreh 68.21 295 *e*P P 00 00 32.5 +0.6
PKM Peak Mountain 68.22 62 ⇓P P 00 00 33.0 +1.3
baz=68,SNR=10
E24A Baker 68.27 44 ⇓P P 00 00 32.4 +0.6
baz=68,SNR=6.6
R11A Troy Canyon, C 68.28 57 *e*P P 00 00 33.0 +0.9
R11A Troy Canyon, C 68.28 57 ⇓P P 00 00 33.0 +0.9
baz=68,SNR=52
D25A Fairfield 68.30 43 ⇑P P 00 00 32.9 +1.0
baz=68
B27A Peters Farms, 68.30 41 ⇑P P 00 00 32.6 +0.8
baz=68,SNR=9.1
G22A Birney 68.30 46 ⇓P P 00 00 32.6 +0.6
baz=68,SNR=25
I20A Worland 68.31 48 ⇓P P 00 00 33.1 +1.0
baz=68,SNR=20
J19A Crowheart 68.33 49 ⇑P P 00 00 33.6 +1.2
baz=68,SNR=26
A28A Rude Farm, Bot 68.35 40 ⇓P P 00 00 32.8 +0.7
baz=68,SNR=9.6
C26A Wahner Farm, P 68.35 42 ⇓P P 00 00 33.3 +1.1
baz=68,SNR=10
H21A Big Horn, Sher 68.36 47 ⇓P P 00 00 33.2 +0.8
baz=68,SNR=42
IKLH Kolahrood 68.38 296 *e*P P 00 00 33.3 +0.4
BW06 Boulder Array 68.43 50 *e*P P 00 00 33.6 +0.6
comp=Z,107nm,1.2s
PDAR Pinedale Array 68.43 50 P P 00 00 33.5 +0.6
PDAR Pinedale Array 68.43 50 P P 00 00 33.5 +0.6
comp=Z,48nm,0.6s,baz=4.5,slow=0.4,SNR=410
DBOC Borcka 68.45 308 *i* P P 00 00 34.6 +1.7
KMY Karmoy 68.46 339 *e*P P 00 00 33.1 +0.6
KMY AMB AMB 00 00 34.5
comp=Z,61nm,0.8s
ISA Isabella 68.48 60 *e*P P 00 00 33.2 0.0
ISA pmax pmax
comp=Z,42nm,1.1s
ISA Isabella 68.48 60 *e*P P 00 00 33.2 0.0
comp=Z,42nm,1.1s
ISA Isabella 68.48 60 ⇓P P 00 00 33.3 0.0
baz=68,SNR=24
DAGI Agillar 68.50 308 *i* P P 00 00 34.1 +0.8
DUG Dugway 68.53 54 *e*P P 00 00 34.8 +1.2
DUG pmax pmax
comp=Z,131nm,1.4s
DUG Dugway 68.53 54 *e*P P 00 00 34.8 +1.2
comp=Z,130nm,1.4s
DUG Dugway 68.53 54 ⇑P P 00 00 34.7 +1.2
baz=68,SNR=60
SBC Santa Barbara 68.59 62 ⇑P P 00 00 34.9 +1.1
baz=68
ARVC Arvin 68.64 61 ⇓P P 00 00 34.4 +0.3
baz=68,SNR=6.4
B28A Dugan Ranch, T 68.66 41 ⇑P P 00 00 34.6 +0.6
baz=68,SNR=13
DBAD Bademkaya 68.67 308 *i* P P 00 00 35.4 +1.1
C27A Sayler Ranch, 68.70 42 ⇑P P 00 00 35.1 +0.8
baz=68
H22A Clearmont 68.72 47 ⇑P P 00 00 35.3 +0.7
baz=68
DDEM Demirkent 68.72 308 *i* P P 00 00 35.9 +1.3
F24A Ekalaka 68.73 45 ⇓P P 00 00 35.1 +0.5
baz=68,SNR=16
E25A Miller Ranch, 68.74 44 ⇑P P 00 00 35.3 +0.7
baz=68,SNR=10
SNART Snartemo 68.74 338 *e*P P 00 00 34.7 +0.4
SNART AMB AMB 00 00 35.9
comp=Z,52nm,1.8s
G23A Biddle 68.75 46 ⇑P P 00 00 35.3 +0.5
baz=68,SNR=20
MPMC Manual Prospec 68.78 60 ⇑P P 00 00 36.1 +0.8
baz=69,SNR=53
D26A Manning 68.79 43 ⇑P P 00 00 35.7 +0.8
baz=68,SNR=15
A29A Manning Farm, 68.79 40 ⇓P P 00 00 35.4 +0.6
baz=68,SNR=18
I21A Big Trails, Te 68.83 48 ⇓P P 00 00 36.2 +0.9
baz=69,SNR=114
FURC Furnace Creek, 68.86 59 ⇑P P 00 00 36.7 +1.3
baz=69,SNR=46
JLU Jordanelle 68.97 53 *e*P P 00 00 37.4 +1.0
comp=Z,86nm,1.5s
EATA Eleskirt 69.06 306 *i* P P 00 00 39.2 +2.2
OSI Osito Adit 69.06 61 ⇑P P 00 00 37.8 +1.1
baz=69
LRMC Laurel Mountai 69.07 60 ⇓P P 00 00 37.6 +0.8
baz=69
J21A Lysite 69.08 48 ⇓P P 00 00 37.4 +0.5
baz=69,SNR=24
B29A Wagenman Farm, 69.09 40 ⇑P P 00 00 37.4 +0.8
baz=69

NLU North Lily Min 69.09 53 eP P 00 00 38.2 +1.2
comp=Z,43nm,1.0s
G24A Alzada 69.12 45 ⇑P P 00 00 37.3 +0.3
baz=69,SNR=6.1
F25A Bowman 69.14 44 ⇑P P 00 00 37.7 +0.7
baz=69,SNR=12
D27A Center 69.15 42 ⇑P P 00 00 38.0 +0.9
baz=69
I22A 9 Mile Ranch, 69.17 47 ⇓P P 00 00 38.1 +0.8
baz=69,SNR=12
A30A Hoffart Farm, 69.18 39 ⇑P P 00 00 37.8 +0.6
baz=69
ULM Lac du Bonnet 69.18 37 P P 00 00 36.9 -0.2
ULM Lac du Bonnet 69.18 37 P P 00 00 36.9 -0.2
comp=Z,20nm,0.6s,baz=318,slow=7.7,SNR=34
E26A Carlson Angus 69.19 43 ⇑P P 00 00 37.9 +0.5
baz=69,SNR=12
C28A Hausauer Farms 69.20 41 ⇓P P 00 00 38.3 +1.0
baz=69,SNR=8.0
TUTA Tutak 69.20 306 i P P 00 00 39.9 +2.1
BLG Laguna Peak 69.21 62 ⇓P P 00 00 38.2 +0.6
baz=69
DAU Daniels Canyon 69.21 53 eP P 00 00 39.1 +1.2
DAU Daniels Canyon 69.21 53 eP P 00 00 39.1 +1.2
H23A Clabaugh Cattl 69.21 46 ⇑P P 00 00 37.9 +0.4
baz=69
MPU Maple Canyon 69.29 53 eP P 00 00 39.4 +1.2
comp=Z,52nm,0.6s
BSD Bornholm Skovb 69.30 332 ⇓iP P 00 00 37.5 -0.2
BSD pmax pmax
comp=Z,55nm,0.7s
EDW2 Edwards Air Fo 69.31 61 ⇓P P 00 00 39.1 +0.9
baz=69,SNR=63
H24A Dirks Ranch, A 69.49 46 ⇑P P 00 00 39.3 +0.1
baz=69,SNR=22
D28A Regan 69.51 42 ⇑P P 00 00 40.1 +0.8
baz=69
J22A Midwest 69.52 48 ⇑P P 00 00 39.9 +0.4
baz=69,SNR=28
B30A Myrvik Farm, E 69.54 39 ⇓P P 00 00 39.8 +0.5
baz=69,SNR=36
DECC Green Verdugo 69.55 61 ⇑P P 00 00 40.4 +0.8
baz=69
COP Copenhagen 69.58 334 ⇓iP P 00 00 39.6 +0.2
COP pmax pmax
comp=Z,31nm,0.7s
SHOC Shoshone 69.59 59 ⇑P P 00 00 40.8 +0.9
baz=69,SNR=11
ERZM Erzurum 69.63 307 i P P 00 00 42.7 +2.3
E27A Carson 69.64 43 ⇑P P 00 00 40.8 +0.8
baz=69,SNR=18
SIM Simferopol' 69.65 315 deP P 00 00 40.3 +0.3
SIM pmax pmax
comp=Z,37nm,0.9s
PASC Pasadena Art C 69.69 61 eP P 00 00 41.4 +0.9
comp=Z,30nm,0.8s
G25A Newell 69.70 45 ⇑P P 00 00 40.8 +0.3
baz=69,SNR=6.2
K21A Alcova 69.70 49 ⇓P P 00 00 41.1 +0.4
baz=70,SNR=26
GSC Goldstone 69.71 60 eP P 00 00 41.6 +0.9
GSC pmax pmax
comp=Z,40nm,0.9s
GSC Goldstone 69.71 60 eP P 00 00 41.6 +0.9
comp=Z,40nm,0.9s
GSC Goldstone 69.71 60 ⇑P P 00 00 41.5 +0.8
baz=70,SNR=51
EKAR Karacoban 69.72 306 i P P 00 00 43.4 +2.6
MWC Mount Wilson 69.73 61 eP P 00 00 41.2 +0.3
MWC Mount Wilson 69.73 61 eP P 00 00 41.2 +0.3
SHPR Sheep Range 69.81 58 eP P 00 00 42.6 +1.2
F27A Lemmon 69.85 43 ⇑P P 00 00 41.6 +0.3
baz=70,SNR=11
MUD Monsted U'grnd 69.86 336 i P P 00 00 41.5 +0.5
MUD pmax pmax
comp=Z,21nm,0.7s
IPAR Pars 69.87 292 eP P 00 00 43.3 +1.3
RRX Edison Barstow 69.89 60 ⇓P P 00 00 42.9 +1.2
baz=70
E28A Huff 69.92 42 ⇑P P 00 00 42.3 +0.6
baz=70,SNR=8.9
FMP Fort Macarthur 69.94 62 ⇓P P 00 00 42.7 +0.7
baz=70
BFSC Mount Baldy Ra 69.95 61 ⇓P P 00 00 42.8 +0.6
baz=70,SNR=38
BEL Belsk 69.97 327 ⇓eP P 00 00 42.7 +0.9
BEL eS S 00 09 14.6 +0.7
BEL pmax pmax
comp=Z,200nm,0.7s
BEL Belsk 69.97 327 eP P 00 00 42.6 +0.8
BEL eS S 00 09 14.6 +0.7
J23A Dilts Ranch, B 69.99 47 ⇓P P 00 00 42.5 +0.2
baz=70,SNR=5.7
G26A Maurine 70.01 44 ⇑P P 00 00 42.7 +0.4
baz=70,SNR=17
HAKT HAKKARI 70.02 304 i P P 00 00 43.9 +1.2
KOPT Kop Dagi 70.02 308 i P P 00 00 44.6 +1.9
D29A Pettibone, Tap 70.05 41 ⇓P P 00 00 42.8 +0.3
baz=70
C30A Mose, Pekin 70.05 40 ⇑P P 00 00 42.7 +0.3
baz=70
MVU Marysvale 70.05 55 eP P 00 00 44.4 +1.5
comp=Z,67nm,1.4s
K22A Casper 70.06 48 ⇓P P 00 00 42.9 +0.2
baz=70,SNR=15
GKP Gorka Klasztor 70.07 330 ⇓eP P 00 00 42.5 +0.2
GKP eS S 00 09 14.4 -0.5
GKP pmax pmax
comp=Z,100nm,0.9s
GKP Gorka Klasztor 70.07 330 eP P 00 00 42.5 +0.2
GKP eS S 00 09 14.4 -0.5
CCUT Cedar City 70.09 56 eP P 00 00 44.3 +1.2
comp=Z,16nm,0.8s
CIS Catalina Islan 70.09 62 ⇓P P 00 00 43.3 +0.3
baz=70,SNR=9.2
I24A Kuemmerle Ranc 70.11 46 ⇑P P 00 00 42.9 0.0
baz=70,SNR=10
TUQ Turquoise Moun 70.13 59 ⇓P P 00 00 44.3 +1.0
baz=70,SNR=58
RSSD Black Hills 70.20 46 eP P 00 00 43.9 +0.3
RSSD pmax pmax
comp=Z,241nm,1.6s
RSSD Black Hills 70.20 46 eP P 00 00 43.9 +0.3
comp=Z,241nm,1.6s
IKOM Komasi 70.22 299 eP P 00 00 44.4 +0.6
G27A Dupree 70.26 44 ⇑P P 00 00 43.9 +0.2
baz=70,SNR=24
SCI San Clemente I 70.30 63 ⇑P P 00 00 45.0 +0.8
baz=70
HEC Hector,Ludlow 70.32 60 ⇑P P 00 00 45.3 +1.0
baz=70,SNR=60
Q16A Castle Valley 70.32 54 eP P 00 00 45.6 +1.1
comp=Z,57nm,1.1s
Q16A Castle Valley 70.32 54 ⇑P P 00 00 45.4 +0.9
baz=70,SNR=8.4
IVIS Veis 70.36 300 eP P 00 00 45.0 +0.4
BBRC Big Bear Solar 70.37 61 ⇑P P 00 00 45.8 +1.0
baz=70
D30A Buchanan 70.38 41 ⇑P P 00 00 44.7 +0.3
baz=70,SNR=22
E29A Napoleon 70.40 41 ⇑P P 00 00 44.6 +0.1
baz=70
RWWY Rawlins 70.41 49 eP P 00 00 51.8 +6.8
comp=Z,96nm,1.1s
I25A Rochford 70.42 46 ⇑P P 00 00 45.3 +0.4
baz=70,SNR=33
F28A McLaughlin 70.42 43 ⇑P P 00 00 45.1 +0.4
baz=70,SNR=9.8
O19A Miners Draw (B 70.43 51 ⇓P P 00 00 45.4 +0.4
baz=70,SNR=16
H26A Fairpoint 70.43 45 ⇑P P 00 00 45.3 +0.5
baz=70
J24A Dixon Ranch, L 70.48 47 ⇓P P 00 00 45.1 -0.1
baz=70,SNR=7.5
N20A Spence Gulch, 70.49 50 ⇓P P 00 00 46.5 +1.1
baz=70,SNR=40
IDHR Dehrash 70.50 300 eP P 00 00 45.9 +0.3
SRU San Rafael 70.54 53 eP P 00 00 46.5 +0.8
SRU pmax pmax
comp=Z,60nm,0.7s
SRU San Rafael 70.54 53 eP P 00 00 46.5 +0.8
comp=Z,60nm,0.7s
KIS Kishinev 70.54 319 ⇓iP P 00 00 45.0 -0.3
KIS XM 00 00 46.0
comp=Z,100nm,1.0s
KIS Kishinev 70.54 319 ⇓iP P 00 00 45.0 -0.3
KIS e 00 02 27.0
KIS pmax pmax
comp=Z,110nm,1.0s
KIS Kishinev 70.54 319 ⇑iP P 00 00 45.5 +0.2
L22A Ellis Ranch, M 70.55 49 ⇑P P 00 00 46.7 +0.9
baz=70,SNR=6.2
IGHG Ghaleghazi 70.66 300 eP P 00 00 46.6 +0.1
MURC Murrieta 70.67 61 ⇑P P 00 00 47.0 +0.6
baz=70,SNR=15
AGMN Agassiz Nation 70.70 38 eP P 00 00 45.9 -0.3
comp=Z,52nm,1.3s
GMRC Granite Mounta 70.74 59 ⇓P P 00 00 48.1 +1.2
baz=70
H27A Howes 70.75 44 ⇓P P 00 00 47.1 +0.4
baz=70,SNR=16
E30A Jud 70.78 41 ⇓P P 00 00 47.1 +0.3
baz=70
I26A New Underwood 70.83 45 ⇑P P 00 00 47.4 +0.3
baz=71,SNR=6.1
LDFC Landfair 70.85 59 eP P 00 00 48.4 +0.8
comp=Z,145nm,1.1s
K24A Anderson Ranch 70.85 47 ⇑P P 00 00 46.9 -0.5
baz=71
L23A Garrett 70.86 48 ⇓P P 00 00 47.4 -0.2
baz=71,SNR=6.2
F29A Eureka 70.88 42 ⇑P P 00 00 47.6 +0.2
baz=71,SNR=7.2
M22A Cedar Creek Ra 70.93 49 ⇓P P 00 00 48.4 +0.4
baz=71,SNR=19
IAS Iasi 70.93 320 ⇑iP P 00 00 48.1 +0.5
G28A Parade 70.96 43 ⇓P P 00 00 48.3 +0.4
baz=71,SNR=14
P19A Cripple Cowboy 70.98 52 ⇑P P 00 00 49.0 +0.6
baz=71,SNR=26
O20A White River Ci 71.01 51 eP P 00 00 49.1 +0.6
O20A White River Ci 71.01 51 ⇓P P 00 00 49.0 +0.6
baz=71,SNR=27
KWP Kalwaria Pacla 71.02 325 ⇓eP P 00 00 49.0 +0.8
KWP eS S 00 09 26.0 0.0
KWP Kalwaria Pacla 71.02 325 ⇓iP P 00 00 48.9 +0.8
KWP Kalwaria Pacla 71.02 325 eP P 00 00 48.9 +0.8
KWP eS S 00 09 25.9 0.0
BELC Belle Mtn. Jos 71.10 60 ⇓P P 00 00 49.5 +0.5
baz=71
PFO Pinyon Flat Ob 71.11 61 eP P 00 00 48.8 -0.3
comp=Z,35nm,0.8s
PFO Pinyon Flat Ob 71.11 61 P P 00 00 49.3 +0.2
comp=Z,256nm,0.6s,SNR=20
PFO Pinyon Flat Ob 71.11 61 ⇑P P 00 00 49.5 +0.5
baz=71,SNR=28
PFO Pinyon Flat Ob 71.11 61 P P 00 00 49.5 +0.5
comp=Z,18nm,0.5s,baz=326,slow=5.4,SNR=39
NRS Narsarsuaq 71.13 5 i P P 00 00 45.9 -2.6
NRS pmax pmax
comp=Z,44nm,0.9s
I27A Quinn 71.19 45 ⇓P P 00 00 49.7 +0.4
baz=71,SNR=12
LEOM Leova 71.19 319 ⇑iP P 00 00 49.5 +0.4
H28A Mission Ridge 71.21 44 ⇑P P 00 00 50.0 +0.6
baz=71,SNR=44
109C Camp Elliot, M 71.23 62 ⇑P P 00 00 50.1 +0.5
baz=71
F30A Leola 71.24 42 ⇑P P 00 00 49.6 +0.1
baz=71
J26A Sides Ranch, S 71.27 46 ⇑P P 00 00 50.4 +0.6
baz=71,SNR=17
L24A Wheatland 71.30 48 ⇑P P 00 00 50.8 +0.7
baz=71
M23A Laramie 71.33 49 ⇓P P 00 00 50.7 +0.3
baz=71
O21A Pagoda 71.35 50 ⇑P P 00 00 51.2 +0.6
baz=71,SNR=9.0
PRAR RASCA 71.37 321 ⇓iP P 00 00 50.3 +0.1
P20A De Beque 71.39 52 ⇑P P 00 00 51.0 +0.2
baz=71,SNR=8.9
K25A Mack Ranch, Ha 71.40 47 ⇓P P 00 00 50.6 -0.1
baz=71
N22A Wattenberg Ran 71.45 49 ⇑P P 00 00 52.1 +1.0
baz=71,SNR=28
IRM Iron Mountain 71.48 60 ⇓P P 00 00 52.5 +1.3
baz=71
U15A North Rim 71.49 56 ⇓P P 00 00 52.8 +1.3
baz=71,SNR=58
ERBA Erbaa 71.50 310 i P P 00 00 52.3 +1.2
W13A Hualapai Mount 71.54 58 ⇓P P 00 00 52.4 +0.7
baz=71
MSVF Nonsavu 71.54 147 eP P 00 00 53.4 +1.8
MSVF pmax pmax
comp=Z,495nm,3.0s
MSVF Nonsavu 71.54 147 eP P 00 00 53.4 +1.8
comp=Z,495nm,3.0s
ASHO Ashiyiah 71.55 286 P P 00 00 52.4 +0.8
SNR=5.2
BURAR Bucovina Array 71.60 322 ⇓iP P 00 00 52.1 +0.4
H29A Onida 71.62 43 ⇓P P 00 00 52.1 +0.3
baz=71,SNR=37
KEMA Kemaliye 71.62 308 i P P 00 00 53.6 +1.6
BAR Barrett 71.63 62 eP P 00 00 52.7 +0.6
comp=Z,28nm,0.8s
MONP Monument Peak 71.63 61 ⇓P P 00 00 52.8 +0.5
baz=72,SNR=14
N23A Red Feather La 71.64 49 ⇓P P 00 00 53.1 +0.8
baz=71,SNR=14
OJC Ojcow 71.65 326 eP P 00 00 52.3 +0.5
OJC Ojcow 71.65 326 eP P 00 00 52.3 +0.5
I28A Midland 71.66 44 ⇓P P 00 00 52.3 +0.3
baz=71,SNR=21
BC3 Big Chuckawall 71.66 60 ⇑P P 00 00 53.2 +0.9
baz=72
L25A Engebretsen Ra 71.70 47 ⇓P P 00 00 52.6 +0.3
baz=71
BSEG Bad Segeberg 71.71 334 eP P 00 00 52.6 +0.6
BSEG pmax pmax
comp=Z,33nm,0.8s
BSEG Bad Segeberg 71.71 334 eP P 00 00 52.6 +0.6
comp=Z,33nm,0.8s
PV09 Paradox Valley 71.73 53 eP P 00 00 54.3 +1.4
HAVZ Havza 71.73 311 i P P 00 00 53.6 +1.1
KOLS Kolonicke sedl 71.75 324 eP P 00 00 52.9 +0.5
KOLS pmax pmax
comp=Z,20nm,1.0s
STHS Stebnicka Huta 71.76 325 eP P 00 00 53.4 +0.9
ASAR Alice Springs 71.78 191 P P 00 00 53.3 +0.5
ASAR Alice Springs 71.78 191 P P 00 00 53.3 +0.5
comp=Z,28nm,0.6s,baz=2.5,slow=5.2,SNR=455
M24A Cheyenne 71.78 48 ⇑P P 00 00 53.8 +0.8
baz=72,SNR=10
J27A Elkhorn Farm, 71.82 45 ⇓P P 00 00 53.8 +0.7
baz=72,SNR=14
Q20A Ridgley Place, 71.84 52 ⇑P P 00 00 54.0 +0.6
baz=72
TESR Tescani 71.86 320 ⇓iP P 00 00 53.4 +0.3
O22A Kremmling 71.87 50 ⇑P P 00 00 54.4 +0.7
baz=72,SNR=27
RUE Ruedersdorf 71.88 331 eP P 00 00 53.5 +0.5
comp=Z,41nm,0.8s
GHRR 71.88 320 ⇓iP P 00 00 54.2 +1.0
TLCR 71.93 318 ⇓iP P 00 00 54.0 +0.5
PDMCI Parker Dam,Lak 71.96 59 ⇑P P 00 00 54.8 +0.9
baz=72,SNR=50
SWSC Sam W. Stewart 71.97 61 ⇑P P 00 00 54.6 +0.6
baz=72,SNR=14
UZH Uzhgorod 71.98 324 eP P 00 00 55.3 +1.6
UZH e 00 01 06.9
UZH eS S 00 09 37.5 +0.7
DVTC Desert V Tower 71.99 61 ⇓P P 00 00 55.0 +0.8
baz=72,SNR=26
I29A Vivian Onida 72.04 44 ⇑P P 00 00 54.5 +0.2
baz=72,SNR=28
PV05 Paradox Valley 72.05 53 eP P 00 00 55.7 +1.0
J28A Allard Ranch, 72.06 45 ⇓P P 00 00 55.1 +0.7
baz=72,SNR=16
CRVS Cervenica-Dubn 72.09 325 eP P 00 00 54.7 +0.3
CRVS pmax pmax
comp=Z,11nm,0.7s
NIE Niedzica 72.11 326 eP P 00 00 55.6 +1.0
NIE Niedzica 72.11 326 eP P 00 00 55.6 +1.0
K27A Flueckinger Fa 72.13 46 ⇑P P 00 00 55.3 +0.5
baz=72
Y12C Blythe 72.13 59 ⇑P P 00 00 56.0 +1.1
baz=72,SNR=43
O23A Lake Granby, G 72.16 50 ⇑P P 00 00 56.6 +1.3
baz=72,SNR=42
P22A Eagle 72.18 50 ⇓P P 00 00 56.3 +0.9
baz=72,SNR=24
M25A Palm-Egli Farm 72.19 48 ⇑P P 00 00 56.2 +0.9
baz=72,SNR=7.0
L26A Underwood Farm 72.22 47 ⇑P P 00 00 55.8 +0.4
baz=72
PETR Petresti 72.22 319 ⇓iP P 00 00 56.8 +1.6
N24A Carr 72.23 48 ⇑P P 00 00 56.6 +1.0
baz=72,SNR=7.7
CFR Carcaliu 72.24 319 ⇓iP P 00 00 55.6 +0.3
MBWA Marble Bar 72.27 205 eP P 00 00 55.4 -0.3
comp=Z,17nm,0.6s
TRPA Tarpa 72.28 324 ⇓iP P 00 00 56.5 +1.0
TRPA Tarpa 72.28 324 ⇓e P 00 00 56.5 +1.0
Q21A Lamborn Mesa, 72.31 52 ⇓P P 00 00 56.9 +0.8
baz=72,SNR=12
VRI Vrincioaia 72.33 320 ⇓iP P 00 00 56.8 +0.9
BRSD Miller 72.34 43 ⇓P P 00 00 56.4 +0.4
baz=72
R20A Redvale 72.36 52 ⇑P P 00 00 57.3 +0.9
baz=72,SNR=52
MALT Malatya 72.36 308 ⇓iP P 00 00 58.2 +1.9
SMCO Snowmass 72.38 51 eP P 00 00 55.8 -1.0
comp=Z,38nm,0.6s
KSP Ksiaz 72.41 329 ⇓eP P 00 00 56.7 +0.5
KSP eS SKiKP 00 09 38.2 -2.6
KSP Ksiaz 72.41 329 eP P 00 00 56.7 +0.5
KSP eS S 00 09 41.6 +0.1
GLA Glamis 72.46 60 eP P 00 00 58.0 +1.1
GLA Glamis 72.46 60 eP P 00 00 58.0 +1.1
GLA Glamis 72.46 60 ⇑P P 00 00 58.0 +1.1
baz=72
J29A Okreek 72.50 44 ⇓P P 00 00 57.2 +0.3
baz=72,SNR=19
I30A Oacoma 72.53 43 ⇓P P 00 00 57.4 +0.3
baz=72,SNR=12
K28A Ten Mile Ranch 72.54 45 ⇓P P 00 00 58.1 +0.9
baz=72,SNR=16
CTKT Corum 72.54 312 i P P 00 00 59.1 +1.7
L27A T5 Ranch, Ells 72.56 46 ⇓P P 00 00 57.8 +0.5
baz=72,SNR=5.3
OKC Ostrava-Krasne 72.58 327 eP P 00 00 57.5 +0.3
OKC e*PP pP 00 02 38.3 +1.5
OKC e 00 09 47.5
OKC Ostrava-Krasne 72.58 327 ⇓eP P 00 00 57.5 +0.3
OKC epP pP 00 02 38.3 +1.5
OKC eS S 00 09 47.5 +4.1
GRER 72.60 319 ⇓iP P 00 00 59.4 +2.0
M26A McRoberts Ranc 72.62 47 ⇑P P 00 00 58.7 +0.9
baz=72,SNR=5.8
ISCO Idaho Springs 72.62 50 eP P 00 00 59.1 +1.0
ISCO pmax pmax
comp=Z,46nm,1.2s
ISCO Idaho Springs 72.62 50 eP P 00 00 59.1 +1.0
comp=Z,46nm,1.2s
ISCO Idaho Springs 72.62 50 ⇓P P 00 00 59.0 +1.0
baz=72
S20A Disappointment 72.63 53 ⇑P P 00 00 58.9 +0.8
baz=72,SNR=52
N25A Grover 72.64 48 ⇑P P 00 00 59.0 +1.1
baz=72
Q22A Crested Butte, 72.64 51 ⇑P P 00 00 59.2 +1.0
baz=72
AKCD Akcadag 72.64 308 i P P 00 00 59.5 +1.6
O24A Longmont 72.66 49 ⇓P P 00 00 59.3 +1.2
baz=72,SNR=6.0
WUAZ Wupatki 72.66 56 ⇑P P 00 00 59.3 +1.1
baz=72
R21A Cimarron 72.67 52 ⇑P P 00 00 59.4 +1.1
baz=72,SNR=45
TLB Topalu 72.75 318 ⇑iP P 00 00 59.0 +0.8
ILGA Ilgaz 72.76 312 i P P 00 01 00.5 +1.8
UPC Upice 72.78 329 eP P 00 00 58.7 +0.3
UPC e*PP pP 00 02 41.6 +3.5
UPC Upice 72.78 329 ⇓eP P 00 00 58.7 +0.3
UPC epP pP 00 02 41.6 +3.5
DPC Dobruska-Polom 72.81 328 ⇓iP P 00 00 59.5 +0.9
DPC e*PP pP 00 02 41.4 +3.1
DPC Dobruska-Polom 72.81 328 ⇓iP P 00 00 59.5 +0.9
DPC epP pP 00 02 41.4 +3.1
DPC Dobruska-Polom 72.81 328 eP P 00 00 59.6 +0.9
KECS Kecovo 72.81 325 eP P 00 00 59.0 +0.4
KECS pmax pmax
comp=Z,9.0nm,0.9s
P23A Jefferson 72.82 50 ⇓P P 00 01 00.2 +1.0
baz=73,SNR=8.6
DOPR Dopca 72.83 321 ⇑iP P 00 01 00.2 +1.4
MORC Moravsky Berou 72.85 327 ⇓iP P 00 00 59.7 +0.9
KRLC Kraliky 72.87 328 ⇓iP P 00 00 59.5 +0.5
KRLC Kraliky 72.87 328 ⇓iP P 00 00 59.5 +0.5
Y14A Wickenburg 72.88 58 ⇓P P 00 01 00.3 +1.0
baz=73,SNR=21
M27A Reverse DX Ran 72.94 47 ⇑P P 00 01 00.3 +0.7
baz=73
J30A Dallas 72.95 44 ⇓P P 00 00 60.0 +0.4
baz=73,SNR=37
EIDS Eidsvold 72.96 174 eP P 00 01 00.6 +1.0
comp=Z,26nm,0.8s
MLR Muntele Rosu 72.96 320 ⇑iP P 00 01 00.6 +0.9
CJR Cluj-Napoca 72.99 322 ⇓iP P 00 01 01.0 +1.3
ISR Istrita 73.00 319 ⇑iP P 00 01 00.9 +1.1
K29A Lazy Trails An 73.00 44 ⇑P P 00 01 00.6 +0.7
baz=73,SNR=14
L28A Connealy Angus 73.00 46 ⇑P P 00 01 00.5 +0.6
baz=73
MVCO Mesa Verde 73.01 53 eP P 00 01 01.1 +0.8
comp=Z,48nm,0.6s
MVCO Mesa Verde 73.01 53 ⇑P P 00 01 01.2 +0.9
baz=73
NRDL Niedersach Rie 73.03 333 eP P 00 01 00.0 +0.4
comp=Z,24nm,0.9s
AMRR Amara 73.04 319 ⇓iP P 00 01 01.2 +1.3
N26A Koester Ranch, 73.06 47 ⇓P P 00 01 01.1 +0.8
baz=73
S21A Coal Bank Pass 73.06 52 ⇑P P 00 01 01.9 +1.3
baz=73,SNR=100
CLL Collm 73.13 331 ⇓iP P 00 01 00.5 +0.2
CLL e*PP pP 00 02 42.0 +1.9
CLL eS S 00 09 48.0 -1.5
CLL pmax pmax
comp=Z,51nm,0.9s
CLL Collm 73.13 331 eP P 00 01 00.3 0.0
comp=Z,52nm,0.9s
O25A Wiggins 73.15 49 ⇑P P 00 01 01.3 +0.5
baz=73,SNR=7.3
Q23A Hartsel 73.17 50 ⇓P P 00 01 01.8 +0.6
baz=73
BRG Berggiesshubel 73.19 330 eP P 00 01 00.9 +0.2
comp=Z,18nm,1.1s
R22A Saguache, Gunn 73.19 51 ⇑P P 00 01 02.8 +1.4
baz=73,SNR=32
P24A Kohler Place, 73.20 49 ⇓P P 00 01 02.2 +1.0
baz=73,SNR=6.0
MSAB Monastry St. A 73.23 318 ⇓iP P 00 01 02.2 +1.2
113A Mohawk Valley, 73.28 60 ⇓P P 00 01 02.4 +0.9
baz=73,SNR=22
DRGR 73.29 323 ⇑iP P 00 01 02.3 +0.8
Z14A Wintersburg 73.33 59 ⇓P P 00 01 02.8 +0.9
baz=73,SNR=11
FBE Freiberg 73.34 330 eP P 00 01 02.1 +0.5
comp=Z,24nm,0.9s
UMR Umm Al-Rimmam 73.36 296 eP P 00 01 02.0 -0.1
UMR AMb AMB 00 01 03.6
comp=Z,123nm,0.4s
VOIR 73.39 321 ⇑iP P 00 01 03.3 +1.2
K30A Basset 73.40 44 ⇓P P 00 01 02.7 +0.6
baz=73
N27A Anderson Farm, 73.42 47 ⇑P P 00 01 03.0 +0.6
baz=73,SNR=11
X16A Lo Mia Camp, P 73.42 57 ⇓P P 00 01 04.1 +1.6
baz=73,SNR=58
O26A Horse Wrangler 73.46 48 ⇓P P 00 01 02.9 +0.3
baz=73
L29A Maesberg Ranch 73.46 45 ⇓P P 00 01 02.8 +0.3
baz=73
Q24A Divide 73.48 50 ⇑P P 00 01 03.7 +0.6
baz=73,SNR=14
PSZ Piszkesteto 73.50 325 eP P 00 01 03.8 +1.2
PSZ Piszkesteto 73.50 325 ⇑iP P 00 01 03.8 +1.2
PSZ Piszkesteto 73.50 325 eP P 00 01 03.8 +1.2
PSZ Piszkesteto 73.50 325 ⇓ePKPPKPdP 00 01 03.4 +0.8
S22A 4UR Ranch, Cre 73.51 52 ⇓P P 00 01 04.4 +1.3
baz=73,SNR=26
CLZ Clausthal 73.51 333 eP P 00 01 03.3 +0.7
CLZ pmax pmax
comp=Z,34nm,0.8s
CLZ Clausthal 73.51 333 eP P 00 01 03.3 +0.7
comp=Z,34nm,0.8s
GZT Gaziantep 73.53 308 i P P 00 01 04.9 +1.8

M28A Bar X Bar Ranc 73.54 46 ⇑P P 00 01 03.5 +0.5
baz=73,SNR=5.8
OGNE Ogallala 73.56 47 ⇓P P 00 01 03.7 +0.6
baz=73
P25A Willow Gulch B 73.58 49 ⇓P P 00 01 04.2 +0.8
baz=73,SNR=16
VRAC Vranov 73.58 328 ⇓*i*P P 00 01 04.2 +1.2
U20A Newcomb 73.61 54 ⇑P P 00 01 04.5 +0.9
baz=73,SNR=12
NEUB Neuenburg 73.61 332 *e*P P 00 01 03.4 +0.3
comp=Z,43nm,0.9s
ARR Arges 73.63 321 ⇑*i*P P 00 01 04.9 +1.5
T21A Navajo Lake 73.69 53 ⇑P P 00 01 05.0 +0.9
baz=74,SNR=24
R23A Moffat 73.71 51 ⇑P P 00 01 05.3 +1.0
baz=74,SNR=36
PRU Pruhonice 73.73 329 ⇓*i*P P 00 01 04.4 +0.6
PRU *e**PP pP 00 02 45.5 +1.7
PRU *e* 00 09 55.3
PRU Pruhonice 73.73 329 ⇓*i*P P 00 01 04.4 +0.6
PRU *ep*P pP 00 02 45.5 +1.7
PRU *eS* S 00 09 55.3 -0.9
BRTR Keskin Array B 73.80 312 P P 00 01 05.3 +0.8
BRTR pP pP 00 02 45.6 +1.0
BRTR sP sP 00 03 39.7 +6.2
BRTR PP PP 00 03 54.6 -1.8
BRTR Keskin Array B 73.80 312 P P 00 01 05.3 +0.8
comp=Z,14nm,0.7s,baz=80,slow=3.8,SNR=74
BRTR pP pP 00 02 45.6 +1.0
comp=Z,1.6nm,0.8s,baz=104,slow=5.2,SNR=3.1
BRTR sP sP 00 03 39.7 +6.2
comp=Z,2.7nm,0.9s,baz=52,slow=4.0,SNR=5.2
BRTR PP PP 00 03 54.6 -1.8
comp=Z,8.7nm,1.1s,baz=42,slow=4.0,SNR=6.1
M29A Burnside Ranch 73.83 46 ⇑P P 00 01 04.3 -0.4
baz=74
RST Umm Al-Ruwaisa 73.84 296 *e*P P 00 01 04.2 -0.6
RST AMb AMB 00 01 06.2
comp=Z,269nm,1.1s
NAY Al-Naaiem 73.87 296 *e*P P 00 01 04.4 -0.5
NAY AMb AMB 00 01 06.5
comp=Z,24nm,0.6s
W18A Petrified Fore 73.87 55 ⇑P P 00 01 06.2 +1.1
baz=74
AYKD Aykdinkavak 73.89 308 *i*P P 00 01 06.6 +1.6
IBBN Ibbenburen 73.89 334 *e*P P 00 01 05.0 +0.3
comp=Z,55nm,0.6s
L30A Spencer Herefo 73.91 45 ⇓P P 00 01 05.1 +0.1
baz=74,SNR=9.4
O27A Beecher Island 73.91 47 ⇑P P 00 01 05.4 +0.2
baz=74,SNR=10
ESK Eskdalemuir 73.92 342 *e*P P 00 01 04.3 -0.5
ESK pmax pmax
comp=Z,20nm,0.7s
ESK Eskdalemuir 73.92 342 *e*P P 00 01 04.3 -0.5
comp=Z,20nm,0.7s
ESK Eskdalemuir 73.92 342 P P 00 01 05.5 +0.7
comp=Z,189nm,0.6s,SNR=6.4
DEV Deva 73.94 322 ⇓*i*P P 00 01 06.5 +1.4
ECSD EROS Data Cent 73.95 42 *e*P P 00 01 05.3 +0.1
comp=Z,128nm,1.2s
P26A Davis Ranch, A 73.96 48 ⇓P P 00 01 05.9 +0.4
baz=74,SNR=8.9
S23A Nye Farm, Mont 73.98 51 ⇑P P 00 01 07.0 +1.2
baz=74
Q25A Bedland, Calha 73.98 49 ⇑P P 00 01 06.1 +0.3
baz=74,SNR=19
TREC Trest 73.99 328 ⇓*i*P P 00 01 06.0 +0.7
TREC Trest 73.99 328 ⇓*i*P P 00 01 06.0 +0.7
N28A Pribbeno Ranch 74.00 47 ⇑P P 00 01 05.6 0.0
baz=74,SNR=5.1
ANDN Andirin 74.01 309 *i*P P 00 01 07.4 +1.6
U21A Nageezi 74.04 53 ⇑P P 00 01 07.0 +0.9
baz=74,SNR=36
R24A Sanders Place, 74.05 50 ⇑P P 00 01 07.1 +0.9
baz=74,SNR=30
TANN Tannenbergstha 74.07 331 *e*P P 00 01 05.9 +0.1
comp=Z,14nm,1.4s
WERD Werda 74.09 331 *e*P P 00 01 06.4 +0.5
comp=Z,15nm,1.1s
ANTO Ankara 74.11 312 *e*P P 00 01 06.9 +0.6
ANTO pmax pmax
comp=Z,37nm,0.7s
ANTO Ankara 74.11 312 P P 00 01 07.7 +1.4
SNR=17
ANTO Ankara 74.11 312 ⇓*i*P P 00 01 07.8 +1.5
ANTO Ankara 74.11 312 *e*P P 00 01 06.9 +0.6
comp=Z,36nm,0.7s
PLN Plauen 74.11 331 *e*P P 00 01 06.5 +0.5
comp=Z,99nm,1.2s
SIRR Siria 74.14 323 ⇑*i*P P 00 01 07.2 +0.9
L31A Butterfield Fa 74.15 44 ⇑P P 00 01 06.7 +0.3
baz=74
GUNZ Gunzen 74.16 331 *e*P P 00 01 06.8 +0.5
comp=Z,14nm,0.8s
X18A Snowflake 74.18 56 ⇑P P 00 01 08.1 +1.2
baz=74,SNR=20
BUD Budapest 74.19 325 ⇑*e*PKPPKPdP 00 01 07.6 +1.1
BBAL Bala 74.19 312 *i*P P 00 01 07.8 +1.0
WERN Wernitzgruen 74.21 331 *e*P P 00 01 07.1 +0.5
comp=Z,42nm,1.6s
SDCO Great Sand Dun 74.21 51 *e*P P 00 01 07.9 +0.7
comp=Z,53nm,1.3s
NKC Novy Kostel 74.23 331 ⇓*i*P P 00 01 07.1 +0.4
NKC *e* 00 09 59.3
NKC MLR MLR
comp=Z,2µm,20.3s
NKC Novy Kostel 74.23 331 ⇓*i*P P 00 01 07.1 +0.4
NKC *eS* S 00 09 59.3 -2.5
O28A Krutsinger Ran 74.31 47 ⇓P P 00 01 07.4 0.0
baz=74,SNR=5.3
SCHQ Schefferville 74.32 19 P P 00 01 06.8 -0.2
SCHQ Schefferville 74.32 19 P P 00 01 06.8 -0.2
comp=Z,11nm,0.4s,baz=348,slow=7.2,SNR=35
N29A Votaw Ranch, W 74.34 46 ⇑P P 00 01 07.4 -0.2
baz=74
P27A Ficken Ranch, 74.35 48 ⇑P P 00 01 07.7 0.0
baz=74
Q26A Hugo 74.35 49 ⇓P P 00 01 07.9 +0.2
baz=74,SNR=8.8
GZR Gura Zlata 74.39 322 ⇑*i*P P 00 01 08.4 +0.7
SPMN St. Paul 74.42 38 *e*P P 00 01 07.7 -0.2
comp=Z,56nm,1.1s
SPMN St. Paul 74.42 38 ⇑P P 00 01 07.6 -0.2
baz=74,SNR=10
214A Organ Pipe Nat 74.42 60 ⇓P P 00 01 09.0 +0.8
baz=74
S24A Houchin Ranch, 74.44 51 ⇑P P 00 01 09.3 +0.9
baz=74,SNR=26
T23A Casias Ranch, 74.46 52 ⇑P P 00 01 09.3 +0.8
baz=74
WTSB Winterswijk 74.47 335 *e*P P 00 01 08.4 +0.4
comp=Z,46nm,0.7s
PKS7 Kunszentmiklos 74.50 325 ⇓*e*PKPPKPdP 00 01 09.0 +0.8
PKSG 74.51 326 ⇑*e*PKPPKPdP 00 01 09.8 +1.5
U22A Llaves 74.51 53 ⇓P P 00 01 10.1 +1.3
baz=74
UBBA Unterbreizbach 74.52 332 *e*P P 00 01 08.3 +0.2
comp=Z,15nm,0.7s
V21A Milan 74.52 54 ⇓P P 00 01 09.5 +0.7
baz=74,SNR=10
R25A Fountain Ranch 74.54 50 ⇑P P 00 01 09.2 +0.4
baz=74,SNR=21
W20A Ramah 74.55 55 ⇑P P 00 01 09.8 +0.8
baz=74,SNR=36
MANZ Manzenberg 74.56 331 *e*P P 00 01 09.0 +0.4
comp=Z,13nm,1.0s
N30A Hueftle Ranch, 74.62 46 ⇑P P 00 01 08.9 -0.2
baz=74
BZS Buzias 74.69 323 ⇓*i*P P 00 01 10.3 +1.0
ROTZ Rotzenmuhle 74.71 331 *e*P P 00 01 10.3 +0.9
comp=Z,23nm,1.2s
M31A Lambtecht Ranc 74.73 45 ⇓P P 00 01 09.5 -0.2
baz=74,SNR=17
KSCO Kaye Shedlock' 74.73 48 ⇓P P 00 01 10.1 +0.2
baz=74
PKST T''s 74.75 326 ⇑*e* P 00 01 10.6 +0.9
T24B San Luis 74.79 51 ⇑P P 00 01 11.7 +1.3
baz=75,SNR=17
O29A 4D Ranch, Culb 74.79 46 ⇑P P 00 01 10.1 0.0
baz=74,SNR=8.7
KHC Kasperske Hory 74.79 329 ⇓*i*P P 00 01 10.7 +0.8
KHC *e**PP pP 00 02 53.7 +3.4
KHC Kasperske Hory 74.79 329 ⇓*i*P P 00 01 10.7 +0.8
KHC *ep*P pP 00 02 53.7 +3.4
KHC Kasperske Hory 74.79 329 *e*P P 00 01 10.8 +0.8
comp=Z,28nm,0.8s
BUG Bochum--Univer 74.80 334 *e*P P 00 01 10.1 +0.3
comp=Z,70nm,1.4s
V22A San Miguel Ran 74.83 53 ⇑P P 00 01 11.5 +0.8
baz=75
S25A Robets Cordova 74.83 50 ⇓P P 00 01 10.7 +0.2
baz=75
COBT Iskenderun 74.85 308 *i*P P 00 01 12.0 +1.4
R26A Arlington 74.86 49 ⇓P P 00 01 11.1 +0.5
baz=75,SNR=45
U23A El Rito 74.91 52 ⇑P P 00 01 12.2 +1.2
baz=75,SNR=48
PKS2 Kecel 74.94 325 ⇓*e*PKPPKPdP 00 01 11.7 +1.0
SOP Sopron 74.95 327 ⇓*e* P 00 01 12.1 +1.3
X20A Quemado 74.98 55 ⇓P P 00 01 13.2 +1.7
baz=75
GEC2 GERESS Array S 75.00 329 *e*P P 00 01 11.5 +0.4
GEC2 pmax pmax
comp=Z,13nm,0.7s
GEC2 GERESS Array S 75.00 329 *e*P P 00 01 11.5 +0.4
comp=Z,13nm,0.7s
GERES GERESS Array B 75.00 329 P P 00 01 11.3 +0.2
GERES PP PP 00 03 54.4 -12
GERES GERESS Array B 75.00 329 P P 00 01 11.3 +0.2
comp=Z,6.6nm,0.4s,baz=38,slow=5.4,SNR=106
GERES PP PP 00 03 54.4 -12
comp=Z,1.3nm,0.7s,baz=39,slow=6.3,SNR=3.4
CONA Conrad Observa 75.00 327 *i*P P 00 01 12.5 +1.3
comp=Z,18nm,0.6s,SNR=16
W21A San Fidel 75.02 54 ⇓P P 00 01 12.2 +0.6
baz=75
PVL Pavlikeni 75.03 319 *e*P P 00 01 12.4 +1.1
GULE Gulek 75.05 309 *i*P P 00 01 13.6 +1.8
BGNE Belgrade 75.07 44 *e*P P 00 01 08.3 -3.3
comp=Z,187nm,0.5s
BGNE Belgrade 75.07 44 ⇓P P 00 01 11.5 -0.2
baz=75
BANR Banloc 75.08 323 ⇓*i*P P 00 01 13.9 +2.4
Q28A Sharon Springs 75.10 48 ⇑P P 00 01 11.9 0.0
baz=75,SNR=6.0
GRF Grafenberg Arr 75.10 331 *e*P P 00 01 12.5 +0.9
GRF pmax pmax
comp=Z,52nm,0.8s
GRF Grafenberg Arr 75.10 331 *e*P P 00 01 12.5 +0.9
comp=Z,52nm,0.8s
GRFO Grafenberg 75.10 331 *e*P P 00 01 12.5 +0.9
GRFO pmax pmax
comp=Z,41nm,0.8s
GRFO Grafenberg 75.10 331 *e*P P 00 01 12.5 +0.9
comp=Z,41nm,0.8s
O30A MW Ranch, Wils 75.11 46 ⇓P P 00 01 11.8 -0.1
baz=75
P29A Atwood 75.13 47 ⇓P P 00 01 11.9 -0.1
baz=75,SNR=6.9
R27A Eads 75.20 49 ⇓P P 00 01 12.6 +0.1
baz=75,SNR=22
PKS9 Tamasi 75.22 325 ⇓*e* P 00 01 12.5 +0.2
T25A Trinidad 75.24 51 ⇓P P 00 01 13.4 +0.5
baz=75,SNR=30
BORA Eskisehir 75.26 314 *i*P P 00 01 13.6 +0.8
YAYL Yayladag 75.29 308 *i*P P 00 01 14.3 +1.2
U24A Moreno Valley 75.33 52 ⇑P P 00 01 15.0 +1.4
baz=75,SNR=9.6
SEYT Eskypehyr 75.34 313 *i*P P 00 01 09.9 -3.4
V23A Ortiz Mt. (NFS 75.35 53 ⇑P P 00 01 15.1 +1.6
baz=75
S26A Kim 75.36 50 ⇓P P 00 01 13.4 -0.1
baz=75
PKSM Moragy 75.39 325 ⇓*i*P P 00 01 13.7 +0.5
PKSM Moragy 75.39 325 ⇓*e*PKPPKPdP 00 01 13.3 +0.1
X21A Alamocita Cree 75.44 55 ⇓P P 00 01 15.6 +1.5
baz=75
W22A Albuquerque 75.48 54 ⇓P P 00 01 15.7 +1.5
baz=75
O31A Woolen Ranch, 75.49 46 ⇓P P 00 01 13.5 -0.5
baz=75,SNR=5.5
N32A Stulken Farm, 75.50 45 ⇓P P 00 01 13.7 -0.4
baz=75,SNR=6.6
P30A Selden 75.51 47 ⇑P P 00 01 14.2 0.0
baz=75
Y20A Horse Springs, 75.52 55 ⇑P P 00 01 16.2 +1.6
baz=75
TNS Taunus Mts 75.52 333 *e*P P 00 01 14.4 +0.4
TNS pmax pmax
comp=Z,31nm,0.9s
TNS Taunus Mts 75.52 333 *e*P P 00 01 14.4 +0.4
comp=Z,31nm,0.9s
S27A Las Animas 75.61 49 ⇑P P 00 01 14.7 -0.1
baz=75
MPEP Malo Peshtene 75.62 320 *e*P P 00 01 14.7 +0.1
T26A Comanche Natio 75.64 50 ⇓P P 00 01 14.9 -0.2
baz=75
MOA Molln 75.64 328 *i*P P 00 01 15.5 +0.8
comp=Z,15nm,0.8s,SNR=7.9
Q29A Oakley 75.65 47 ⇑P P 00 01 14.8 -0.2
baz=75
R28A Tribune 75.66 48 ⇑P P 00 01 14.8 -0.2
baz=75
ARSA Arzberg 75.70 327 *i*P P 00 01 16.0 +0.9
comp=Z,4.6nm,0.4s,SNR=8.7
HGN Heimansgroeve 75.79 335 *e*P P 00 01 15.2 -0.1
comp=Z,22nm,0.6s
HGN *ep*P pP 00 03 12.5 +16
ANMO Albuquerque 75.80 54 *e*P P 00 01 16.8 +0.8
comp=Z,66nm,1.4s
U25A Circle Dot Ran 75.80 51 ⇓P P 00 01 16.4 +0.4
baz=76
W23A Werner Place, 75.80 53 ⇓P P 00 01 17.3 +1.3
baz=76,SNR=20
X22A Bernardo 75.83 54 ⇑P P 00 01 18.0 +1.9
baz=76
Y21A Point of Rocks 75.83 55 ⇑P P 00 01 17.9 +1.6
baz=76
BEBN Eben Emael 75.83 335 P P 00 01 16.0 +0.3
comp=Z,18nm,1.0s
V24A Rampart Ranch, 75.85 52 ⇓P P 00 01 17.6 +1.2
baz=76
O32A Brockman Farm, 75.91 45 ⇓P P 00 01 16.0 -0.3
baz=76
MEM Membach 75.91 335 P P 00 01 16.2 +0.2
comp=Z,29nm,1.1s
MEM Membach 75.91 335 *e*P P 00 01 16.5 +0.5
MEM Membach 75.91 335 *e*P P 00 01 16.5 +0.5
R29A Marienthal 75.93 48 ⇑P P 00 01 16.4 -0.1
baz=76
P31A Stockton 75.95 46 ⇓P P 00 01 16.4 -0.2
baz=76
Q30A Quinter 75.96 47 ⇓P P 00 01 16.4 -0.3
baz=76,SNR=14
Z20A Nine Sixteen R 75.99 56 ⇑P P 00 01 18.4 +1.3
baz=76
LENM Lemitar 76.10 54 *e*P P 00 01 19.4 +1.7
V25A Rancho No Teng 76.11 52 ⇓P P 00 01 18.5 +0.7
baz=76
U26A Atchley Ranch, 76.15 51 ⇓P P 00 01 18.4 +0.4
baz=76
W24A Lazy 6 Ranch, 76.17 53 ⇑P P 00 01 19.4 +1.4
baz=76
T27A Campo 76.17 50 ⇓P P 00 01 18.1 +0.1
baz=76
LPM Los Pinos Moun 76.18 54 *e*P P 00 01 19.3 +1.2
S28A Manter 76.19 49 ⇑P P 00 01 18.1 +0.1
baz=76
Y22D IRIS PASSCAL I 76.20 54 ⇑P P 00 01 18.0 -0.2
baz=76
X23A Hourglass Bar 76.22 54 ⇑P P 00 01 19.5 +1.1
baz=76
P32A Hutting Farm, 76.25 45 ⇓P P 00 01 17.5 -0.7
baz=76,SNR=12
RJOB Jochberg 76.26 329 *e*P P 00 01 19.1 +1.0
comp=Z,21nm,0.9s
Y22A Socorro 76.28 55 ⇑P P 00 01 19.9 +1.2
baz=76
BCLA Clavier 76.28 335 P P 00 01 18.4 +0.3
comp=Z,22nm,1.4s
Q31A Ellis 76.34 46 ⇓P P 00 01 18.2 -0.5
baz=76
GDZ Gediz 76.35 314 *i*P P 00 01 19.8 +0.9
Z21A St. Cloud Mine 76.36 55 ⇑P P 00 01 20.7 +1.6
baz=76
SOKA Soboth 76.36 327 *i*P P 00 01 19.4 +0.6
comp=Z,31nm,1.0s,SNR=15
PERS Pernice 76.37 327 *i*P P 00 01 19.3 +0.5
120A U Bar Ranch, L 76.38 57 ⇑P P 00 01 20.5 +1.3
baz=76
FUR Furstenfeldbru 76.41 330 *e*P P 00 01 19.7 +0.8
FUR pmax pmax
comp=Z,68nm,1.2s
FUR Furstenfeldbru 76.41 330 *e*P P 00 01 19.7 +0.8
comp=Z,68nm,1.2s
T28A Walsh 76.44 49 ⇑P P 00 01 19.4 0.0
baz=76
VTS Vitosha 76.47 320 ⇑*i*P P 00 01 20.0 +0.5
VTS Vitosha 76.47 320 *e*P P 00 01 19.7 +0.2
R30A Dighton 76.47 47 ⇓P P 00 01 19.5 0.0
baz=76
SNF Seneffe 76.49 335 P P 00 01 19.6 +0.4
ERMK Ermenek 76.51 310 *i*P P 00 01 20.0 +0.1
STU Stuttgart 76.56 332 *e*P P 00 01 19.6 -0.1
STU Stuttgart 76.56 332 *e*P P 00 01 20.1 +0.4
comp=Z,37nm,0.9s
STU Stuttgart 76.56 332 *e*P P 00 01 19.6 -0.1
S29A Ulysses 76.56 48 ⇑P P 00 01 20.3 +0.2
baz=76
V26A Tequesquite Ra 76.58 51 ⇑P P 00 01 20.3 0.0
baz=76
U27A Thompson Grove 76.61 50 ⇓P P 00 01 20.5 +0.1
baz=76
KBA Koelnbreinsper 76.63 328 *i*P P 00 01 21.8 +1.4
comp=Z,30nm,0.5s,SNR=9.4
X24A Lazy VL Ranch, 76.64 53 ⇓P P 00 01 22.2 +1.6
baz=76
W25A X Bar L Ranch, 76.67 52 ⇑P P 00 01 21.9 +1.1
baz=76
OBKA Obir 76.68 327 ⇑*i*P P 00 01 21.2 +0.6
comp=Z,13nm,0.8s
GIVF Givet 76.70 335 ⇑*i*P P 00 01 20.6 +0.1
comp=Z,34nm,0.8s
GIVF Givet 76.70 335 ⇑*i*P P 00 01 20.6 +0.1
GIVF pmax pmax
comp=Z,34nm,0.8s
GIVF Givet 76.70 335 ⇑*i*P P 00 01 20.6 +0.1
comp=Z,34nm,0.8s
WLF Walferdange 76.71 334 P P 00 01 21.6 +1.1
GOLS Golise 76.71 326 *i*P P 00 01 21.0 +0.4
BALY Balya 76.73 315 *i*P P 00 01 21.9 +1.1
Q32A Meitler Ranch, 76.76 46 ⇓P P 00 01 21.0 -0.1
baz=76
DOU Dourbes 76.77 335 P P 00 01 21.1 +0.2
comp=Z,10nm,1.4s
Y23A Lovelace Mesa, 76.78 54 ⇓P P 00 01 22.8 +1.3
baz=77
Z22A Elephant Butte 76.79 55 ⇓P P 00 01 22.8 +1.3
baz=77
T29A Hugoton 76.83 49 ⇑P P 00 01 21.4 -0.1
baz=77
R31A Burdett 76.84 47 ⇓P P 00 01 21.0 -0.5
baz=77
121A Cookes Peak, D 76.87 56 *e*P P 00 01 23.4 +1.4
121A Cookes Peak, D 76.87 56 ⇓P P 00 01 23.4 +1.4
baz=77
LEGS Legarje 76.88 327 *i*P P 00 01 21.7 +0.2
S30A Montezuma 76.88 48 ⇑P P 00 01 22.0 +0.2
baz=77
319A Douglas 76.89 58 ⇓P P 00 01 23.2 +1.2
baz=77
KHAL Karahalli 76.90 313 *i*P P 00 01 22.6 +0.6
MYKA Terra Mystica 76.91 328 *i*P P 00 01 22.2 +0.5
comp=Z,8.9nm,0.5s,SNR=8.9
BAIF Baives 76.91 335 ⇑*i*P P 00 01 21.9 +0.3
BAIF Baives 76.91 335 ⇑*i*P P 00 01 21.9 +0.3
BAIF Baives 76.91 335 ⇑*i*P P 00 01 21.9 +0.3
SCIA State Center 76.92 41 *e*P P 00 01 22.0 +0.2
comp=Z,132nm,1.0s
220A Playas Peak, P 76.92 57 ⇑P P 00 01 23.6 +1.4
baz=77
CRES Cresnjev 76.93 326 *i*P P 00 01 22.0 +0.2
U28A Mallet 76.95 50 ⇓P P 00 01 22.4 +0.2
baz=77
MMB Musomiste 77.05 319 *e*P P 00 01 23.6 +1.0
WTTA Wattenberg 77.06 330 *i*P P 00 01 23.7 +1.0
comp=Z,32nm,0.5s,SNR=23
X25A Clemmons Ranch 77.08 53 ⇓P P 00 01 24.2 +1.2
baz=77
V27A Dan Oppiter Fa 77.11 51 ⇓P P 00 01 23.7 +0.5
baz=77
Y24A Capitan 77.12 54 ⇓P P 00 01 24.2 +0.9
baz=77
W26A Owens Ranch, T 77.13 52 ⇓P P 00 01 24.4 +1.1
baz=77
RETA Reutte 77.17 330 *i*P P 00 01 24.0 +0.9
comp=Z,28nm,1.1s,SNR=15
MOTA Moosalm 77.17 330 ⇓*i*P P 00 01 23.9 +0.6
comp=Z,48nm,0.9s,SNR=40
122A Conniff Cattle 77.18 55 ⇑P P 00 01 25.1 +1.5
baz=77
Z23A Rita Site, Whi 77.19 54 ⇓P P 00 01 25.0 +1.4
baz=77
ABTA Abfaltersbach 77.21 329 ⇓*i*P P 00 01 23.4 0.0
comp=Z,10nm,0.8s,SNR=5.5
BFO Black Forest 77.22 332 *e*P P 00 01 23.7 +0.3
BFO pmax pmax
comp=Z,36nm,1.2s
BFO Black Forest 77.22 332 *e*P P 00 01 23.7 +0.3
comp=Z,36nm,1.2s
BFO Black Forest 77.22 332 P P 00 01 23.6 +0.2
comp=Z,149nm,0.6s,SNR=12
T30A Plains 77.30 48 ⇑P P 00 01 24.1 +0.1
baz=77
320A Kipp Ranch, An 77.34 57 ⇑P P 00 01 25.8 +1.3
baz=77
JFWS Jewell Farm 77.37 38 *e*P P 00 01 23.6 -0.7
JFWS Jewell Farm 77.37 38 *e*P P 00 01 23.6 -0.7
S31A Mullinville 77.38 47 ⇓P P 00 01 24.0 -0.4
baz=77
U29A Oasis Ranch, S 77.39 49 ⇓P P 00 01 24.6 +0.1
baz=77
V28A Channing 77.44 50 ⇑P P 00 01 25.2 +0.3
baz=77
CDF Champ du Feu 77.48 333 ⇑*i*P P 00 01 25.2 +0.3
comp=Z,48nm,0.7s
CDF Champ du Feu 77.48 333 ⇑*i*P P 00 01 25.2 +0.3
CDF pmax pmax
comp=Z,48nm,0.7s
CDF Champ du Feu 77.48 333 ⇑*i*P P 00 01 25.2 +0.3
comp=Z,48nm,0.7s
X26A CR and CF Fran 77.52 52 ⇑P P 00 01 26.4 +1.0
baz=77
W27A Bowe Ranch, En 77.52 51 ⇓P P 00 01 26.5 +1.0
baz=77
Y25A Mesa, Roswell 77.52 53 ⇓P P 00 01 26.4 +1.0
baz=77
222A Williams Famil 77.57 56 ⇑P P 00 01 26.8 +1.0
baz=77
FETA Feichten 77.58 330 *i*P P 00 01 26.5 +0.9
comp=Z,22nm,1.1s,SNR=9.3
S32A Newby Ranch, P 77.59 47 ⇓P P 00 01 25.3 -0.3
baz=77
Z24A Sheeppen Canyo 77.61 54 ⇓P P 00 01 27.2 +1.2
baz=77
KSU1 Kansas State U 77.61 45 *e*P P 00 01 25.2 -0.5
comp=Z,116nm,1.4s
DAVA Damuels 77.64 331 *i*P P 00 01 26.6 +0.8
comp=Z,25nm,0.7s,SNR=13
123A Bell Site, Whi 77.64 55 ⇑P P 00 01 27.0 +1.0
baz=77
U30A WK&E Inc. Balk 77.64 49 ⇑P P 00 01 25.9 0.0
baz=77
T31A Randall Ranch, 77.69 48 ⇓P P 00 01 26.1 -0.1
baz=77
V29A Stinnett 77.70 50 ⇑P P 00 01 26.0 -0.4
baz=78
VAY Valandovo 77.77 319 *e*P P 00 01 25.5 -1.0
PAGF Fort de Pagny 77.82 334 ⇑*i*P P 00 01 27.4 +0.8
comp=Z,22nm,0.7s
PAGF Fort de Pagny 77.82 334 ⇑*i*P P 00 01 27.4 +0.8
comp=Z,22nm,0.6s
W28A Vega 77.82 51 ⇑P P 00 01 27.8 +0.8
baz=78
X27A F and S Farms, 77.82 52 ⇓P P 00 01 28.1 +1.0
baz=78
UDBI Udbina 77.91 326 P P 00 01 25.7 -1.5
Y26A Elida 77.99 52 ⇓P P 00 01 28.6 +0.6
baz=78
Z25A Roswell 78.00 54 ⇑P P 00 01 29.0 +1.0
baz=78
T32A Huddler Ranch, 78.00 47 ⇓P P 00 01 27.8 -0.1
baz=78
ARMA Armidale 78.01 174 *e*P P 00 01 29.6 +1.8
comp=Z,581nm,3.0s
223A Chaparral, Ant 78.02 55 ⇑P P 00 01 29.1 +0.9
baz=78
124A Stringfield Ra 78.04 54 ⇑P P 00 01 29.2 +0.8
baz=78

MEZF Maizieres J'vi 78.07 334⇑iP P 00 01 28.5 +0.6
comp=Z,45nm,0.8s
MEZF Maizieres J'vi 78.07 334⇑iP P 00 01 28.5 +0.6
comp=Z,45nm,0.8s
S33A Kaszmaul Farm, 78.13 46 ⇑P P 00 01 28.5 0.0
baz=78
HINF Hinteralfeld 78.14 333⇑iP P 00 01 28.3 -0.1
comp=Z,18nm,0.6s
HINF Hinteralfeld 78.14 333⇑iP P 00 01 28.3 -0.1
HINF pmax pmax
comp=Z,18nm,0.6s
HINF Hinteralfeld 78.14 333⇑iP P 00 01 28.3 -0.1
comp=Z,18nm,0.6s
U31A Nine Bar Ranch 78.17 48 ⇑P P 00 01 29.2 +0.4
baz=78
NVLJ Novalja 78.22 326 P P 00 01 28.6 -0.2
V30A Spur Ranch, Mi 78.22 49 ⇓P P 00 01 29.5 +0.4
baz=78
W29A Amraillo 78.22 50 ⇑P P 00 01 29.5 +0.4
baz=78
AYDN Tasoluk 78.25 314 iP P 00 01 30.8 +1.7
SFTF Sexfontaines 78.34 334⇑iP P 00 01 29.8 +0.4
comp=Z,42nm,0.5s
SFTF Sexfontaines 78.34 334⇑iP P 00 01 29.8 +0.4
comp=Z,42nm,0.4s
Y27A Causey 78.37 52 ⇑P P 00 01 30.3 +0.3
baz=78
AMTX Amarillo 78.39 50 eP P 00 01 30.8 +0.7
comp=Z,108nm,1.3s
AMTX Amarillo 78.39 50 ⇓P P 00 01 30.5 +0.5
baz=78
X28A Dimmitt 78.40 51 ⇓P P 00 01 30.4 +0.3
baz=78
Z26A Caprock 78.40 53 ⇓P P 00 01 31.1 +0.9
baz=78
T33A Patterson Ranc 78.41 47 ⇑P P 00 01 30.1 0.0
baz=78
224A Cornudas Mount 78.47 55 ⇓P P 00 01 31.6 +1.0
baz=78
125A Gardner Draw, 78.50 54 ⇑P P 00 01 31.7 +0.9
baz=78
MSTX Muleshoe 78.52 52 eP P 00 01 31.1 +0.3
comp=Z,20nm,0.9s
MSTX Muleshoe 78.52 52 ⇓P P 00 01 31.0 +0.3
baz=78
STON Ston 78.54 323 P P 00 01 29.7 -0.9
BIA Bitola 78.56 320 eP P 00 01 30.3 -0.5
V31A Spring Creek L 78.64 49 ⇑P P 00 01 32.3 +1.0
baz=78
X29A Tulia 78.71 51 ⇓P P 00 01 32.3 +0.5
baz=78
W30A Crocket Farms 78.72 50 ⇑P P 00 01 32.6 +0.7
baz=78
Z27A Tatum 78.78 52 ⇓P P 00 01 32.6 +0.4
baz=79
225A Deer Hill, Car 78.83 54 ⇓P P 00 01 33.5 +1.0
baz=79
Y28A McKinney Farm, 78.84 51 ⇓P P 00 01 32.7 +0.2
baz=79
126A Clayton Basin, 78.86 53 ⇑P P 00 01 33.1 +0.5
baz=79
324A Moseley Ranch, 78.97 55 ⇓P P 00 01 34.0 +0.7
baz=79
W31A Holland Ranch, 79.05 49 ⇓P P 00 01 34.1 +0.6
baz=79
RAYN Ar Rayn 79.08 293 P P 00 01 34.1 +0.2
comp=Z,39nm,0.5s,SNR=7.8
X30A Coker Ranch, T 79.14 50 ⇑P P 00 01 34.4 +0.4
baz=79
Y29A Porterfield Fa 79.18 51 ⇑P P 00 01 34.6 +0.3
baz=79
127A Arkansas Junct 79.19 53 ⇓P P 00 01 34.4 0.0
baz=79
226B Tecolote Peak, 79.22 54 ⇓P P 00 01 35.3 +0.8
baz=79
Z28A Tucker Farm, M 79.24 52 ⇓P P 00 01 34.8 +0.2
baz=79
SENIN Lac Senin/Sane 79.29 332 eP P 00 01 35.1 +0.3
STKA Stephens Creek 79.31 183 P P 00 01 35.0 +0.4
STKA Stephens Creek 79.31 183 P P 00 01 35.0 +0.4
comp=Z,9.3nm,0.7s,baz=341,slow=6.0,SNR=18
325A Bean Ranch, Si 79.31 55 ⇓P P 00 01 35.5 +0.4
baz=79
FLN La Foliniere 79.36 338⇑iP P 00 01 35.1 +0.3
comp=Z,50nm,0.5s
FLN La Foliniere 79.36 338⇑iP P 00 01 35.1 +0.3
FLN pmax pmax
comp=Z,50nm,0.5s
FLN La Foliniere 79.36 338⇑iP P 00 01 35.1 +0.3
comp=Z,50nm,0.5s
LDF La Druitiere 79.42 337⇑iP P 00 01 35.3 +0.1
comp=Z,37nm,0.7s
LDF La Druitiere 79.42 337⇑iP P 00 01 35.3 +0.1
LDF pmax pmax
comp=Z,37nm,0.7s
LDF La Druitiere 79.42 337⇑iP P 00 01 35.3 +0.1
comp=Z,37nm,0.7s
CABF La Chapelle 79.45 333⇑iP P 00 01 35.8 +0.3
comp=Z,12nm,0.6s
CABF La Chapelle 79.45 333⇑iP P 00 01 35.8 +0.3
CABF pmax pmax
comp=Z,12nm,0.6s
CABF La Chapelle 79.45 333⇑iP P 00 01 35.8 +0.3
comp=Z,12nm,0.6s
X31A McDonald Ranch 79.46 50 ⇑P P 00 01 36.0 +0.3
baz=79
LOR Lormes 79.53 334⇑iP P 00 01 36.0 +0.2
comp=Z,31nm,0.4s
LOR Lormes 79.53 334⇑iP P 00 01 36.0 +0.2
comp=Z,31nm,0.4s
Y30A Stafford Cattl 79.57 51 ⇓P P 00 01 36.8 +0.4
baz=79
Z29A Hungry Hill Ra 79.63 52 ⇑P P 00 01 37.1 +0.4
baz=79
FORT Forrest 79.64 195 eP P 00 01 36.6 +0.2
comp=Z,68nm,0.7s
128A Castleberry Fa 79.71 52 ⇓P P 00 01 37.7 +0.6
baz=80
227A Bennet, Jal 79.74 53 ⇓P P 00 01 37.8 +0.5
baz=80
425A Indio Mountain 79.75 55 ⇓P P 00 01 38.5 +1.1
baz=80
GRR Gorron 79.80 338⇑iP P 00 01 37.7 +0.5
comp=Z,75nm,0.5s
GRR Gorron 79.80 338⇑iP P 00 01 37.7 +0.5
GRR pmax pmax
comp=Z,75nm,0.5s
GRR Gorron 79.80 338⇑iP P 00 01 37.7 +0.5
comp=Z,75nm,0.5s
SSF Saint Saulge 79.82 334⇑iP P 00 01 37.5 +0.2
comp=Z,14nm,0.5s
SSF Saint Saulge 79.82 334⇑iP P 00 01 37.5 +0.2
SSF pmax pmax
comp=Z,14nm,0.5s
SSF Saint Saulge 79.82 334⇑iP P 00 01 37.5 +0.2
comp=Z,14nm,0.5s
Y31A Rekieta Farm, 79.84 50 ⇑P P 00 01 38.0 +0.3
baz=80
HYF Humbligny 79.88 335⇑iP P 00 01 38.2 +0.5
HYF Humbligny 79.88 335⇑iP P 00 01 38.2 +0.5
326A Caldwell Ranch 79.90 54 ⇓P P 00 01 38.9 +0.7
baz=80
Z30A Sanderson Ranc 79.91 51 ⇑P P 00 01 38.3 +0.1
baz=80
SADO Sadowa 80.02 30 P P 00 01 37.5 -0.9
SADO Sadowa 80.02 30 P P 00 01 37.5 -0.9
comp=Z,7.6nm,0.4s,baz=310,slow=4.0,SNR=18
129A Stewart Farms, 80.03 52 ⇑P P 00 01 39.0 +0.2
baz=80
228A UT Block 9, Go 80.04 53 ⇑P P 00 01 39.4 +0.5
baz=80
SMF Signal de Mont 80.10 334⇑iP P 00 01 39.2 +0.4
comp=Z,32nm,0.4s
SMF Signal de Mont 80.10 334⇑iP P 00 01 39.2 +0.4
SMF pmax pmax
comp=Z,32nm,0.4s
SMF Signal de Mont 80.10 334⇑iP P 00 01 39.2 +0.4
comp=Z,32nm,0.4s
AVF Avril sur Loir 80.11 334⇑iP P 00 01 39.2 +0.4
comp=Z,17nm,0.4s
AVF Avril sur Loir 80.11 334⇑iP P 00 01 39.2 +0.4
AVF pmax pmax
comp=Z,17nm,0.4s
AVF Avril sur Loir 80.11 334⇑iP P 00 01 39.2 +0.4
comp=Z,17nm,0.4s
327A Balmorhea Ranc 80.12 54 ⇓P P 00 01 40.0 +0.7
baz=80

LPL La Plagne 80.22 332⇑iP P 00 01 40.5 +0.7
comp=Z,40nm,0.8s
LPL La Plagne 80.22 332⇑iP P 00 01 40.5 +0.7
LPL pmax pmax
comp=Z,40nm,0.8s
LPL La Plagne 80.22 332⇑iP P 00 01 40.5 +0.7
comp=Z,40nm,0.8s
Y32A R-V Farms, Ver 80.23 50 ⇓P P 00 01 40.1 +0.3
baz=80
LPG La Plagne 80.23 332⇑iP P 00 01 40.6 +0.7
comp=Z,40nm,0.7s
LPG La Plagne 80.23 332⇑iP P 00 01 40.6 +0.7
LPG pmax pmax
comp=Z,40nm,0.7s
LPG La Plagne 80.23 332⇑iP P 00 01 40.6 +0.7
comp=Z,40nm,0.7s
SGMF Saint Gilles 80.35 339⇑iP P 00 01 40.8 +0.7
comp=Z,35nm,0.5s
SGMF Saint Gilles 80.35 339⇑iP P 00 01 40.8 +0.7
SGMF pmax pmax
comp=Z,35nm,0.5s
SGMF Saint Gilles 80.35 339⇑iP P 00 01 40.8 +0.7
comp=Z,35nm,0.5s
426A McDonald Obser 80.37 55 ⇓P P 00 01 41.1 +0.3
baz=80
Z31A Sharp Cattle R 80.40 50 ⇑P P 00 01 40.8 +0.1
baz=80
ROSF Rostrenen 80.45 339⇑iP P 00 01 41.4 +0.8
comp=Z,44nm,0.7s
ROSF Rostrenen 80.45 339⇑iP P 00 01 41.4 +0.8
ROSF pmax pmax
comp=Z,44nm,0.7s
ROSF Rostrenen 80.45 339⇑iP P 00 01 41.4 +0.8
comp=Z,44nm,0.7s
BGF Bois d'Agland 80.47 335⇑iP P 00 01 41.7 +0.9
comp=Z,19nm,0.6s
BGF Bois d'Agland 80.47 335⇑iP P 00 01 41.7 +0.9
BGF pmax pmax
comp=Z,19nm,0.6s
BGF Bois d'Agland 80.47 335⇑iP P 00 01 41.7 +0.9
comp=Z,19nm,0.6s
328A Wristen Ranch, 80.49 53 ⇑P P 00 01 41.6 +0.4
baz=80
130A Snyder 80.53 51 ⇑P P 00 01 41.8 +0.4
baz=80
TUL1 Tulsa 80.54 46 ⇑P P 00 01 41.7 +0.4
baz=80
229A Bryant Ranch, 80.57 52 ⇑P P 00 01 42.1 +0.5
baz=80
427A Hayter Ranch, 80.57 54 ⇓P P 00 01 42.7 +1.0
baz=80
BBOO Buckleboo 80.59 188 eP P 00 01 41.6 +0.2
comp=Z,465nm,0.8s
BNI Bardonecchia 80.65 332 eP P 00 01 42.7 +0.8
BNI pmax pmax
comp=Z,47nm,1.7s
BNI Bardonecchia 80.65 332 eP P 00 01 42.7 +0.8
comp=Z,47nm,1.7s
Z32A Haskell 80.76 50 ⇑P P 00 01 42.9 +0.4
baz=80
131A Roby 80.78 51 ⇑P P 00 01 42.8 +0.1
baz=80
SFIN Scholer Farm 80.79 38 eP P 00 01 42.4 -0.1
comp=Z,78nm,1.2s
SFIN Scholer Farm 80.79 38 ⇑P P 00 01 42.5 0.0
baz=80
526A Mary Lane Ranc 80.80 55 ⇓P P 00 01 44.2 +1.2
baz=81
QUIF Quistinic 80.81 339⇑iP P 00 01 43.1 +0.6
comp=Z,20nm,0.5s
QUIF Quistinic 80.81 339⇑iP P 00 01 43.1 +0.6
QUIF pmax pmax
comp=Z,21nm,0.5s
QUIF Quistinic 80.81 339⇑iP P 00 01 43.1 +0.6
comp=Z,20nm,0.5s
329A Wagon Wheel Ra 80.85 53 ⇓P P 00 01 44.0 +0.9
baz=81
TCF Toulx Ste Croi 80.90 335⇑iP P 00 01 43.5 +0.5
comp=Z,17nm,0.7s
TCF Toulx Ste Croi 80.90 335⇑iP P 00 01 43.5 +0.5
TCF pmax pmax
comp=Z,17nm,0.7s
TCF Toulx Ste Croi 80.90 335⇑iP P 00 01 43.5 +0.5
comp=Z,17nm,0.7s
SLM Saint Louis 80.90 41 eP P 00 01 43.1 0.0
SLM pmax pmax
comp=Z,130nm,1.2s
SLM Saint Louis 80.90 41 eP P 00 01 43.1 0.0
comp=Z,130nm,1.2s
MBDF Montbardon 80.91 331⇑iP P 00 01 43.4 +0.1
comp=Z,22nm,0.5s
MBDF Montbardon 80.91 331⇑iP P 00 01 43.4 +0.1
MBDF pmax pmax
comp=Z,22nm,0.5s
MBDF Montbardon 80.91 331⇑iP P 00 01 43.4 +0.1
comp=Z,22nm,0.5s
527A Woodward Ranch 81.00 55 ⇓P P 00 01 44.8 +0.8
baz=81
230A Sterling City 81.01 52 ⇓P P 00 01 44.2 +0.3
baz=81
ORIF Oris-en-Rattie 81.03 332⇑iP P 00 01 44.5 +0.7
comp=Z,33nm,0.5s
ORIF Oris-en-Rattie 81.03 332⇑iP P 00 01 44.5 +0.7
ORIF pmax pmax
comp=Z,33nm,0.5s
ORIF Oris-en-Rattie 81.03 332⇑iP P 00 01 44.5 +0.7
comp=Z,33nm,0.5s
428A Kincaid Ranch, 81.06 54 ⇓P P 00 01 45.5 +1.2
baz=81
626A Big Bend Ranch 81.16 56 ⇓P P 00 01 45.7 +0.9
baz=81
ABTX Abilene, Hawle 81.21 51 eP P 00 01 44.6 -0.3
comp=Z,133nm,1.5s
ABTX Abilene, Hawle 81.21 51 ⇓P P 00 01 45.2 +0.3
baz=81
MFF Saint Martin d 81.26 337⇑iP P 00 01 45.6 +0.7
comp=Z,25nm,0.6s
MFF Saint Martin d 81.26 337⇑iP P 00 01 45.6 +0.7
MFF pmax pmax
comp=Z,25nm,0.6s
MFF Saint Martin d 81.26 337⇑iP P 00 01 45.6 +0.7
comp=Z,25nm,0.6s
330A Mertzon 81.35 52 ⇓P P 00 01 46.1 +0.4
baz=81
231A Bronte 81.39 51 ⇑P P 00 01 46.0 +0.2
baz=81
VIVF Saint-Julien-l 81.46 333⇑iP P 00 01 46.6 +0.6
comp=Z,20nm,0.6s
VIVF Saint-Julien-l 81.46 333⇑iP P 00 01 46.6 +0.6
VIVF pmax pmax
comp=Z,20nm,0.6s
VIVF Saint-Julien-l 81.46 333⇑iP P 00 01 46.6 +0.6
comp=Z,20nm,0.6s
SBF Sospel 81.46 330⇑iP P 00 01 45.8 -0.2
comp=Z,22nm,0.6s
SBF Sospel 81.46 330⇑iP P 00 01 45.8 -0.2
SBF pmax pmax
comp=Z,23nm,0.6s
SBF Sospel 81.46 330⇑iP P 00 01 45.8 -0.2
comp=Z,22nm,0.6s
429A Davenport Ranc 81.57 53 ⇓P P 00 01 47.1 +0.2
baz=81
IDI Anoyia 81.59 314 eP P 00 01 46.6 -0.2
comp=Z,108nm,1.5s
TXAR Lajitas Array 81.59 55 P P 00 01 48.0 +1.0
TXAR Lajitas Array 81.59 55 P P 00 01 48.0 +1.0
comp=Z,38nm,0.6s,baz=284,slow=2.6,SNR=317
LONY Lake Ozonia 81.63 27 eP P 00 01 46.2 -0.6
comp=Z,41nm,1.1s
627A Terlingua Ranc 81.66 55 ⇑P P 00 01 48.2 +0.8
baz=82
FRNY Flat Rock 81.75 27 eP P 00 01 46.7 -0.7
comp=Z,22nm,1.0s
OLIL Olney 81.75 39 eP P 00 01 47.7 +0.2
529A Stev Forest Ra 81.78 54 ⇑P P 00 01 48.7 +0.8
baz=82
232A Coleman 81.78 51 ⇑P P 00 01 48.3 +0.4
baz=82
430A Baggett Ranch, 81.80 53 ⇑P P 00 01 48.5 +0.5
baz=82
331A San Angelo 81.82 52 ⇓P P 00 01 48.6 +0.5
baz=82
628A Black Gap, Mar 81.91 55 ⇑P P 00 01 49.3 +0.7
baz=82
SMRF Simiane la Rot 81.97 332⇑iP P 00 01 49.4 +0.8
comp=Z,4.8nm,0.6s
SMRF Simiane la Rot 81.97 332⇑iP P 00 01 49.4 +0.8
comp=Z,4.8nm,0.6s

FRF La Foret Royal 81.99 331⇑iP P 00 01 48.5 -0.2
comp=Z,5.2nm,0.5s
FRF La Foret Royal 81.99 331⇑iP P 00 01 48.5 -0.2
FRF pmax pmax
comp=Z,5.0nm,0.5s
FRF La Foret Royal 81.99 331⇑iP P 00 01 48.5 -0.2
comp=Z,5.2nm,0.5s
RJF Les Rejaudoux 81.99 335⇑iP P 00 01 49.3 +0.6
comp=Z,23nm,0.8s
RJF Les Rejaudoux 81.99 335⇑iP P 00 01 49.3 +0.6
RJF pmax pmax
comp=Z,23nm,0.8s
RJF Les Rejaudoux 81.99 335⇑iP P 00 01 49.3 +0.6
comp=Z,23nm,0.8s
BLO Bloomington 82.04 38 eP P 00 01 49.1 +0.1
BLO Bloomington 82.04 38 eP P 00 01 49.1 +0.1
ERPA Erie 82.04 32 eP P 00 01 49.2 +0.2
PGF Pioggiola 82.09 329⇑iP P 00 01 49.2 -0.2
PGF Pioggiola 82.09 329⇑iP P 00 01 49.2 -0.2
PGF Pioggiola 82.09 329⇑iP P 00 01 49.2 -0.2
SIUC Southern Illin 82.11 41 eP P 00 01 49.8 +0.4
comp=Z,140nm,1.1s
332A Millersview 82.13 51 ⇑P P 00 01 50.2 +0.6
baz=82
CAF Calviac 82.18 334⇑iP P 00 01 50.8 +1.1
comp=Z,28nm,0.6s
CAF Calviac 82.18 334⇑iP P 00 01 50.8 +1.1
CAF pmax pmax
comp=Z,28nm,0.6s
CAF Calviac 82.18 334⇑iP P 00 01 50.8 +1.1
comp=Z,28nm,0.6s
431A Sonora 82.22 52 ⇓P P 00 01 50.3 +0.2
baz=82
MMNY Mt. Morris Dam 82.23 30 eP P 00 01 49.6 -0.3
comp=Z,182nm,1.2s
530A J-C Ranch, Com 82.24 53 ⇓P P 00 01 51.0 +0.8
baz=82
LMR La Mourre 82.24 331⇑iP P 00 01 50.0 +0.1
comp=Z,19nm,0.5s
LMR La Mourre 82.24 331⇑iP P 00 01 50.0 +0.1
LMR pmax pmax
comp=Z,19nm,0.5s
LMR La Mourre 82.24 331⇑iP P 00 01 50.0 +0.1
comp=Z,19nm,0.5s
NCB Newcomb 82.33 28 eP P 00 01 50.2 -0.2
comp=Z,53nm,1.1s
PBMO Poplar Bluff 82.35 42 eP P 00 01 50.5 -0.1
comp=Z,143nm,1.2s
LASF Ste Croix 82.42 333⇑iP P 00 01 51.8 +0.9
comp=Z,20nm,0.9s
LASF Ste Croix 82.42 333⇑iP P 00 01 51.8 +0.9
comp=Z,20nm,0.9s
432A Menard 82.50 52 ⇑P P 00 01 51.7 +0.2
baz=82
LFF La Frestale 82.55 335⇑iP P 00 01 52.5 +1.0
comp=Z,43nm,0.6s
LFF La Frestale 82.55 335⇑iP P 00 01 52.5 +1.0
LFF pmax pmax
comp=Z,43nm,0.6s
LFF La Frestale 82.55 335⇑iP P 00 01 52.5 +1.0
comp=Z,43nm,0.6s
ACSO Alum Creek Sta 82.56 35 eP P 00 01 51.8 +0.1
comp=Z,129nm,1.3s
PKME Peaks-Kenny Pk 82.59 24 eP P 00 01 52.0 +0.4
comp=Z,53nm,1.3s
MDV Middlebury 82.63 27 eP P 00 01 51.9 0.0
531A Rocksprings 82.65 53 ⇑P P 00 01 52.6 +0.3
baz=82
MIAR Mount Ida 82.71 45 eP P 00 01 53.1 +0.6
MIAR pmax pmax
comp=Z,65nm,1.1s
MIAR Mount Ida 82.71 45 eP P 00 01 53.1 +0.6
comp=Z,65nm,1.1s
JCT Junction City 82.80 52 eP P 00 01 53.3 +0.2
JCT pmax pmax
comp=Z,122nm,1.4s
JCT Junction City 82.80 52 eP P 00 01 53.2 +0.2
comp=Z,122nm,1.4s
JCT Junction City 82.80 52 ⇑P P 00 01 53.5 +0.4
baz=83
WHTX Lake Whitney 82.84 49 ⇑P P 00 01 53.5 +0.4
baz=83
532A Rocksprings 83.03 52 ⇓P P 00 01 54.5 +0.2
baz=83
ACCN Adirondack Com 83.03 27 eP P 00 01 53.9 -0.1
HNH Hanover 83.16 26 eP P 00 01 55.2 +0.6
GNAR Gosnell 83.21 42 eP P 00 01 56.8 +1.8
comp=Z,927nm,0.8s
631A Perdido Creek 83.22 53 ⇑P P 00 01 55.9 +0.7
baz=83
HBAR Harrisburg 83.25 43 eP P 00 01 55.7 +0.5
BINY Binghamton 83.35 29 eP P 00 01 55.5 -0.1
comp=Z,32nm,0.8s
HALT Halls 83.56 42 eP P 00 01 57.2 +0.5
632A Uvalde 83.58 53 ⇑P P 00 01 57.3 +0.4
baz=83
MTLF Montolieu 83.58 334⇑iP P 00 01 58.2 +1.5
comp=Z,15nm,0.6s
MTLF Montolieu 83.58 334⇑iP P 00 01 58.2 +1.5
MTLF pmax pmax
comp=Z,15nm,0.6s
MTLF Montolieu 83.58 334⇑iP P 00 01 58.2 +1.5
comp=Z,15nm,0.6s
KSPA Keystone Colle 84.00 30 eP P 00 01 58.7 -0.1
732A Laxson Ranch, 84.09 53 ⇑P P 00 02 00.3 +0.8
baz=84
SSPA Standing Stone 84.09 31 eP P 00 01 59.5 +0.2
comp=Z,36nm,0.7s
EPF Esparros 84.42 335⇑iP P 00 02 01.3 +0.4
comp=Z,19nm,0.8s
EPF Esparros 84.42 335⇑iP P 00 02 01.3 +0.4
EPF pmax pmax
comp=Z,19nm,0.8s
EPF Esparros 84.42 335⇑iP P 00 02 01.3 +0.4
comp=Z,19nm,0.8s
NATX Nacogdoches 84.44 48 eP P 00 02 02.4 +1.2
comp=Z,401nm,1.4s
HRV Adam Dziewonsk 84.47 26 eP P 00 02 01.5 +0.3
HRV Adam Dziewonsk 84.47 26 eP P 00 02 01.5 +0.3
OXF Oxford 84.69 42 eP P 00 02 02.7 +0.3
OXF pmax pmax
comp=Z,146nm,1.1s
OXF Oxford 84.69 42 eP P 00 02 02.7 +0.3
comp=Z,146nm,1.1s
SJPF Ste Jean 84.78 336 eP P 00 02 03.5 +0.8
comp=Z,11nm,0.6s
SJPF Ste Jean 84.78 336 eP P 00 02 03.5 +0.8
SJPF pmax pmax
comp=Z,11nm,0.6s
SJPF Ste Jean 84.78 336 eP P 00 02 03.5 +0.8
comp=Z,11nm,0.6s
ETSF Etsaut 84.79 335 eP P 00 02 04.2 +1.4
comp=Z,37nm,0.5s
ETSF Etsaut 84.79 335 eP P 00 02 04.2 +1.4
ETSF pmax pmax
comp=Z,37nm,0.5s
ETSF Etsaut 84.79 335 eP P 00 02 04.2 +1.4
comp=Z,37nm,0.5s
ODNJ Ogdensburg 84.81 29 eP P 00 02 02.4 -0.4
comp=Z,27nm,1.1s
SDMD Soldier's Deli 85.55 31 eP P 00 02 06.7 +0.3
SWET Sewanee 85.64 40 eP P 00 02 07.0 -0.1
comp=Z,119nm,1.3s
CPCT Cooper Cave 86.04 39 eP P 00 02 09.2 +0.2
CBN Corbin 86.43 32 eP P 00 02 11.2 +0.5
comp=Z,51nm,0.5s
PBRG Braganca 87.42 339 eP P 00 02 15.2 -0.2
comp=Z,19nm,1.5s
KMSC Kings Mountain 87.62 36 ⇑P P 00 02 16.6 +0.2
baz=87
KEST Kesra 87.97 325 P P 00 02 18.2 +0.1
KEST Kesra 87.97 325 P P 00 02 18.2 +0.1
comp=Z,1.4nm,0.5s,baz=341,slow=2.3,SNR=18
POLO Lamas de Olo 88.08 340 eP P 00 02 17.6 -0.9
comp=Z,12nm,1.4s
PVRL Vila Real 88.16 340 eP P 00 02 18.9 +0.1
comp=Z,22nm,1.7s
ESDC Sonseca Array 88.73 337 P P 00 02 21.3 -0.2
ESDC PP PP 00 05 53.1 -4.3
ESDC PKKP PKKPdf 00 19 44.2 -5.6
ESDC Sonseca Array 88.73 337 P P 00 02 21.3 -0.2
comp=Z,1.5nm,0.4s,baz=22,slow=3.8,SNR=30
ESDC PP PP 00 05 53.1 -4.3
comp=Z,1.0nm,0.7s,baz=17,slow=7.4,SNR=3.0
ESDC PKKP PKKPdf 00 19 44.2 -5.6
comp=Z,0.1nm,0.3s,baz=205,slow=4.2,SNR=5.5
PVIS Viseu 88.73 340 eP P 00 02 21.4 -0.1

MTE	**Manteigas**	**88.95**	**339**	*e*P		**P**	**00 02 22.4**	**-0.1**
	comp=Z,22nm,2.0s							
PCAS	**Casmilo, Conde**	**89.50**	**340**	*e*P		**P**	**00 02 25.1**	**+0.1**
TIGA	**Tifton**	**89.88**	**40**	⇓P		**P**	**00 02 27.7**	**+0.8**
	baz=90							
EVO	**Evora**	**90.83**	**339**	*e*P		**P**	**00 02 30.6**	**-0.6**
EVOP	**Sao Brissos**	**90.86**	**339**	*e*P		**P**	**00 02 30.6**	**-0.7**
EVOP	**Sao Brissos**	**90.86**	**339**	*e*P		**P**	**00 02 30.6**	**-0.7**
TORD	**Torodi Ar. Bea**	**111.18**	**321**	Pdif		**Pdif**	**00 04 03.1**	**+0.4**
TORD				PKiKP		**PKiKP**	**00 07 57.8**	**-1.1**
TORD				PP		**PP**	**00 08 43.0**	**-2.8**
TORD				SKP			00 10 47.9	
TORD				PKKPbc		**PKKPbc**	**00 18 55.4**	**+1.1**
TORD	**Torodi Ar. Bea**	**111.18**	**321**	Pdiff		**Pdif**	**00 04 03.1**	**+0.4**
	comp=Z,0.3nm,0.8s,baz=46,slow=4.5,SNR=3.2							
TORD				PKiKP		**PKiKP**	**00 07 57.8**	**-1.1**
	comp=Z,1.6nm,0.4s,baz=17,slow=2.0,SNR=59							
TORD				PP		**PP**	**00 08 43.0**	**-2.8**
	comp=Z,2.0nm,0.8s,baz=14,slow=6.8,SNR=6.7							
TORD				SKP			00 10 47.9	
	comp=Z,0.5nm,0.6s,baz=2.7,slow=1.8,SNR=4.4							
TORD				PKKPbc		**PKKPbc**	**00 18 55.4**	**+1.1**
	comp=Z,2.3nm,0.5s,baz=201,slow=2.5,SNR=10.0							
DBIC	**Dimbokro**	**119.70**	**325**	PKP		**PKPdf**	**00 08 14.2**	**-0.9**
DBIC				PP		**PP**	**00 09 41.4**	**-3.5**
DBIC	**Dimbokro**	**119.70**	**325**	PKP		**PKPdf**	**00 08 14.2**	**-0.9**
	comp=Z,5.3nm,0.5s,baz=0.2,slow=2.6,SNR=24							
DBIC				PP		**PP**	**00 09 41.4**	**-3.5**
	comp=Z,3.0nm,0.6s,baz=356,slow=5.3,SNR=5.5							
TIC	**Toumodi**	**119.78**	**325**	*e*PKIKP		**PKPdf**	**00 08 14.3**	**-1.1**
	comp=Z,5.4nm,0.3s							
KIC	**Kosan Boka**	**119.93**	**325**	*e*PKIKP		**PKPdf**	**00 08 14.5**	**-1.2**
	comp=Z,8.6nm,0.5s							
LIC	**Lamto**	**120.17**	**325**	*e*PKIKP		**PKPdf**	**00 08 15.0**	**-1.1**
	comp=Z,7.0nm,0.4s							
LIC	**Lamto**	**120.17**	**325**	*e*PKIKP		**PKPdf**	**00 08 15.0**	**-1.1**
	comp=Z,12nm,0.4s							
LIC	**Lamto**	**120.17**	**325**	*e*PKPdf		**PKPdf**	**00 08 15.0**	**-1.1**
VNDA	**Vanda**	**125.41**	**176**	PKP		**PKPdf**	**00 08 23.9**	**-0.3**
VNDA	**Vanda**	**125.41**	**176**	PKP		**PKPdf**	**00 08 23.9**	**-0.3**
	comp=Z,2.9nm,0.6s,baz=314,slow=4.4,SNR=16							
MAW	**Mawson**	**130.28**	**210**	PKP		**PKPdf**	**00 08 34.2**	**+0.6**
MAW				SKPbc		**SKPab**	**00 11 13.5**	**+0.5**
MAW	**Mawson**	**130.28**	**210**	PKP		**PKPdf**	**00 08 34.2**	**+0.6**
	comp=Z,7.3nm,0.6s,baz=215,slow=1.3,SNR=14							
MAW				SKPbc		**SKPab**	**00 11 13.5**	**+0.5**
	comp=Z,24nm,0.9s,baz=42,slow=4.5,SNR=9.4							
BOSA	**Boshof**	**130.31**	**270**	PKP		**PKPdf**	**00 08 34.5**	**-0.6**
BOSA				SKPbc		**SKPbc**	**00 11 13.4**	**-1.0**
BOSA	**Boshof**	**130.31**	**270**	PKP		**PKPdf**	**00 08 34.5**	**-0.6**
	comp=Z,3.4nm,0.7s,baz=104,slow=18,SNR=7.0							
BOSA				SKPbc		**SKPbc**	**00 11 13.4**	**-1.0**
	comp=Z,41nm,1.1s,baz=59,slow=4.5,SNR=14							
SAML	**Samuel**	**134.53**	**41**	*e*PKPdf		**PKPdf**	**00 08 43.2**	**-0.1**
QSPA	**South Pole Qui**	**137.47**	**180**	PKPpre		PKPpre	00 08 35.0	
QSPA				PKP		**PKPdf**	**00 08 46.9**	**-0.4**
QSPA	**South Pole Qui**	**137.47**	**180**	PKhKP		PKPpre	00 08 35.0	
QSPA				PKP		**PKPdf**	**00 08 46.9**	**-0.4**
	comp=Z,7.3nm,0.5s							
LPAZ	**La Paz**	**138.41**	**52**	PKPpre		PKPpre	00 08 43.6	
LPAZ				SKPbc		**SKPbc**	**00 11 40.0**	**-1.2**
LPAZ	**La Paz**	**138.41**	**52**	PKhKP		PKPpre	00 08 43.6	
	comp=Z,1.3nm,0.6s,baz=35,slow=7.0,SNR=6.9							
LPAZ				SKPbc		**SKPbc**	**00 11 40.0**	**-1.2**
	comp=Z,9.2nm,1.1s,baz=5.6,slow=5.3,SNR=13							
LVC	**Limon Verde**	**143.04**	**59**	*e*PKPdf		PKPbc	00 08 56.8	+0.1
LCO	**Las Campanas**	**146.66**	**69**	*e*PKPdf		**PKPdf**	**00 09 05.8**	**+0.9**
CFAA	**Coronel Fontan**	**149.99**	**70**	PKP		**PKPdf**	**00 09 10.3**	**+0.3**
CFAA				PKPbc		**PKPbc**	**00 09 14.8**	**-0.7**
CFAA				PKPab		**PKPab**	**00 09 22.8**	**-0.4**
CFAA	**Coronel Fontan**	**149.99**	**70**	PKP		**PKPdf**	**00 09 10.3**	**+0.3**
	comp=Z,3.9nm,0.5s,baz=320,slow=3.1,SNR=4.5							
CFAA				PKPbc		**PKPbc**	**00 09 14.8**	**-0.7**
	comp=Z,3.8nm,0.5s,baz=270,slow=2.1,SNR=76							
CFAA				PKPab		**PKPab**	**00 09 22.8**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=292,slow=3.5,SNR=9.5							
SNAA	**Sanae**	**151.75**	**201**	PKP		**PKPdf**	**00 09 10.7**	**-0.7**
SNAA				PKPbc		**PKPbc**	**00 09 17.5**	**-0.8**
SNAA				PKPab		**PKPab**	**00 09 29.2**	**-0.4**
SNAA	**Sanae**	**151.75**	**201**	PKP		**PKPdf**	**00 09 10.7**	**-0.7**
	comp=Z,0.8nm,0.9s,baz=91,slow=5.2,SNR=5.6							
SNAA				PKPbc		**PKPbc**	**00 09 17.5**	**-0.8**
	comp=Z,3.0nm,0.4s,baz=195,slow=2.7,SNR=78							
SNAA				PKPab		**PKPab**	**00 09 29.2**	**-0.4**
	comp=Z,4.9nm,0.5s,baz=163,slow=3.6,SNR=21							
CPUP	**Villa Florida**	**152.30**	**47**	PKPbc		**PKPbc**	**00 09 20.6**	**-0.2**
CPUP				PKPab		**PKPab**	**00 09 32.3**	**-0.6**
CPUP	**Villa Florida**	**152.30**	**47**	PKPbc		**PKPbc**	**00 09 20.6**	**-0.2**
	comp=Z,5.5nm,0.5s,baz=286,slow=1.5,SNR=23							
CPUP				PKPab		**PKPab**	**00 09 32.3**	**-0.6**
	comp=Z,17nm,0.8s,baz=326,slow=4.0,SNR=10							

WEL 26 23:56:36.8±0.2, 45.13S×167.33E, h114km±1km, ML3.7/10, 10C-1D, Error ellipse: s-maj=1.7km s-min=1.2km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.37**	**200**	PN	Pn	23 56 53.2	-0.2
DCZ				SN	Sn	23 57 05.2	-0.6
DCZ				AML	AML	23 57 05.8	
DCZ				AML	AML	23 57 05.9	
DCZ				AML	AML	23 57 05.9	
MSZ	**Milford Sound**	**0.63**	**43**	⇑PN	Pn	23 56 55.2	+0.2
MSZ				SN	Sn	23 57 08.5	-0.1
MSZ				AML	AML	23 57 10.7	
MSZ				AML	AML	23 57 10.7	
MSZ				AML	AML	23 57 10.8	
MLZ	**Mavora Lakes**	**0.63**	**110**	⇑PN	Pn	23 56 54.7	-0.4
MLZ				SN	Sn	23 57 08.1	-0.7
MLZ				AML	AML	23 57 08.6	
WHZ	**Wether Hill Ro**	**0.88**	**151**	⇑PN	Pn	23 56 57.0	-0.1
WHZ				SN	Sn	23 57 12.1	-0.4
WHZ				AML	AML	23 57 12.5	
PYZ	**Puysegur Point**	**1.13**	**204**	⇑PN	Pn	23 56 59.8	+0.1
WKZ	**Wanaka**	**1.23**	**76**	⇑PN	Pn	23 57 00.8	0.0
WKZ				AML	AML	23 57 19.1	
WKZ				AML	AML	23 57 20.5	
WKZ				AML	AML	23 57 20.5	
WKZ				AML	AML	23 57 21.1	
EAZ	**Earnscleugh**	**1.40**	**95**	⇑PN	Pn	23 57 02.4	-0.3
EAZ				AML	AML	23 57 20.8	
EAZ				AML	AML	23 57 20.9	
EAZ				AML	AML	23 57 21.2	
EAZ				AML	AML	23 57 21.3	
JCZ	**Jackson Bay**	**1.47**	**44**	PN	Pn	23 57 03.2	-0.4
JCZ				AML	AML	23 57 25.4	
JCZ				AML	AML	23 57 28.1	
APZ	**The Paps**	**1.76**	**165**	PN	Pn	23 57 06.9	-0.2
TUZ	**Tuapeka**	**1.81**	**118**	⇑PN	Pn	23 57 07.3	-0.3
TUZ				AML	AML	23 57 28.5	
TUZ				AML	AML	23 57 29.7	
SYZ	**Scrubby Hill**	**1.89**	**139**	⇑PN	Pn	23 57 08.4	-0.2
LBZ	**Lake Benmore**	**2.17**	**71**	⇑PN	Pn	23 57 10.5	-1.6
LBZ				AML	AML	23 57 36.6	
LBZ				AML	AML	23 57 36.7	
FOZ	**Fox Glacier**	**2.31**	**48**	PN	Pn	23 57 13.3	-0.6
ODZ	**Otahua Downs**	**2.35**	**89**	⇓PN	Pn	23 57 13.1	-1.3
HHSZ	**Highcliff Hill**	**2.42**	**109**	⇑PN	Pn	23 57 14.7	-0.6
WVZ	**Waitaha Valley**	**3.20**	**51**	PN	Pn	23 57 23.1	-2.5
OXZ	**Oxford**	**3.83**	**64**	PN	Pn	23 57 30.9	-3.2
MQZ	**McQueen's Vall**	**4.07**	**71**	PN	Pn	23 57 35.0	-2.1
LTZ	**Lake Taylor**	**4.27**	**58**	PN	Pn	23 57 37.2	-2.7
DSZ	**Denniston Nort**	**4.70**	**45**	PN	Pn	23 57 42.9	-2.7

MAN 27 00:00:14, 11.29N×124.36E, h19km, mb4.1, ML2.9, MS2.6, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.34**	**134**	*e*P	Pg	00 00 18.6	-2.7
OCLP				*e*S	Sg	00 00 22.5	-3.9
LLP	**Lapu-Lapu**	**1.04**	**202**	*e*P	Pb	00 00 32.5	-0.9
LLP				*e*S	Sg	00 00 48.4	+0.4
BESP	**Borongan**	**1.10**	**74**	*e*P	Pn	00 00 28.7	-5.8
MSLP	**Maasin**	**1.25**	**157**	*e*P	Pn	00 00 36.0	-0.5
RCP	**Roxas**	**1.60**	**280**	⇑*e*P	Pn	00 00 41.1	-0.2

*IDC **27** 00:04:44.6±0.3, 59.96S×65.20W, h0km, mb5.3/19, mb1 5.3/21, mb1mx5.3/22, mbtmp5.3/21, ML5.6/2, MS5.6/25, Ms1 5.6/25, ms1mx5.6/28, Error ellipse: s-maj=18.2km s-min=10.9km az=86.0*

*ISCJB **27** 00:04:45.1±0.1, 59.97S±0.03×64.88W±0.08, h10km, mb5.8/95, MS5.8/212, Error ellipse: s-maj=6.2km s-min=4.2km az=163.7*

*BJI **27** 00:04:46.8, 60.00S×65.20W, h10km, mB5.8/42, Ms6.0/42, Ms7 5.9/46*

*NEIC **27** 00:04:46.2±0.1, 59.96S×65.16W, h10km, mb6.0/69, MS5.8/156, MW5.9, MW6.0, Error ellipse: s-maj=7.0km s-min=4.8km az=85.0 Best double couple: NP1: ϕs14.00000°, δ89.00000°, λ163.00000°. NP2: ϕs104.00000°, δ73.00000°, λ1.00000°. Principal axes: T 0.9100, Plg12.0000°, Azm327.0000°; N 0.2300, Plg73.0000°, Azm190.0000°; P -1.1400, Plg10.0000°, Azm60.0000°;*

*MOS **27** 00:04:46.0±1.0, 60.05S×65.83W, h10km, mb5.7/40, MS5.7/48 Error ellipse: s-maj=25.4km s-min=9.5km az=88.5*

*GCMT **27** 00:04:50.7±0.1, 60.05S×65.54W, h15km, MW6.0, Moment Tensor Solution. s111, c241; s98, c143; Moment tensor: Scale 10¹⁸Nm; Mrr-0.04±.01; Mθθ0.47±.01; Mϕϕ-0.43±.01; Mrθ-0.09±.02; Mϕθ1.16±.01; Mϕr-0.02±.02; Best double couple: Ms1.30000×10¹⁸ NP1:ϕs281.00000°, δ88.00000°, λ4.00000°. NP2: ϕs190.00000°, δ86.00000°, λ178.00000°. Principal axes: T 1.2700, Plg4.0000°, Azm146.0000°; N -0.0400, Plg86.0000°, Azm303.0000°; P -1.2300, Plg2.0000°, Azm55.0000°; Data Used: lI lU CN G IC. Surface waves: sta=116, comp=246, per= 50.*

*DJA **27** 00:04:53.0±0.5, 61.5S±11×6.5W±, h10km, M5.9/13, mB6.4/5, mb5.7/13, Mw(mB)6.2/5*

*NEIC **27** 00:05:01.5±0.0, 59.85S×63.68W, h10km, Moment Tensor Solution. s113 Moment tensor: Scale 10¹⁸Nm; Mrr-0.03; Mθθ0.41; Mϕϕ-0.38; Mrθ0.78; Mϕθ1.06; Mϕr0.24; Best double couple: Ms1.40000×10¹⁸ NP1:ϕs101.00000°, δ82.00000°, λ31.00000°. NP2:ϕs6.00000°, δ60.00000°, λ171.00000°. Principal axes: T 1.5400, Plg26.0000°, Azm327.0000°; N -0.3500, Plg58.0000°, Azm113.0000°; P -1.1900, Plg15.0000°, Azm229.0000°;*

ISC 27 00:04:47.8±0.6, 59.98S±0.03×65.09W±0.05, h16km±3km, h16km:pP-P, n890, σ1§42/867, mb5.9/93, MS5.8/212, 104C-74D, Drake Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**4.83**	**175**	*e*Pn	**Pn**	**00 05 58.8**	**-0.9**
PMSA				Sn	**Sn**	**00 06 50.3**	**-4.9**
PMSA	**Palmer Station**	**4.83**	**175**	Pn	**Pn**	**00 05 57.9**	**-1.8**
	20nm,0.3s,baz=348,slow=9.1,SNR=62						
PMSA				Sn	**Sn**	**00 06 50.3**	**-4.9**
	5.1nm,0.3s,baz=72,slow=16,SNR=2.9						
PMSA				LR	LR	00 07 21.2	
	comp=Z,58μm,21.2s,baz=342,slow=32						
USHA	**Ushuaia**	**5.47**	**339**	Pn	Pn	00 06 04.0	-4.5
USHA				Sn	Sn	00 07 03.4	-7.7
USHA	**Ushuaia**	**5.47**	**339**	Pn	Pn	00 06 04.0	-4.5
	27nm,0.3s,baz=148,slow=13,SNR=132						
USHA				Sn	Sn	00 07 03.4	-7.7
	27nm,0.3s,baz=61,slow=19,SNR=3.6						
EFI	**East Falkland**	**9.21**	**28**	*d*iP	**Pn**	**00 06 59.4**	**-0.4**
EFI	**East Falkland**	**9.21**	**28**	*e*Pn	**Pn**	**00 06 58.4**	**-1.4**
EFI	**East Falkland**	**9.21**	**28**	Pn	**Pn**	**00 06 59.6**	**-0.2**
	5μm,0.7s,SNR=47						
COYC	**Coyhaique**	**15.03**	**341**	⇑*i*P	**Pn**	**00 08 18.0**	**-1.2**
PLCA	**Paso Flores**	**19.57**	**348**	P	**P**	**00 09 14.3**	**-0.5**
PLCA	**Paso Flores**	**19.57**	**348**	P	**P**	**00 09 14.3**	**-0.5**
	4.8nm,0.3s,baz=355,slow=10,SNR=126						
TRQA	**Tornquist**	**22.04**	**7**	*e*P	**P**	**00 09 40.5**	**-0.9**
	5μm,1.7s						
TRQA				LR	LR		
	comp=Z,14μm,19.0s						
CCHI	**Chillan**	**23.83**	**346**	⇑*i*P	**P**	**00 09 58.9**	**-0.9**
VNA1	**Neumayer--Stat**	**24.95**	**139**	*e*P	**P**	**00 10 10.9**	**+1.1**
VNA2	**Neumayer--Watz**	**25.22**	**139**	*e*P	**P**	**00 10 13.1**	**+0.8**
	baz=270,slow=11						
LPA	**La Plata**	**25.52**	**14**	*de*P	**P**	**00 10 16.0**	**+0.8**
LPA				pP	**pP**	**00 10 21.0**	**+0.9**
LPA				PP	**PnPn**	**00 10 50.0**	**-0.8**
LPA				PPP	PPP	00 10 58.0	
LPA				PPP(2)		00 12 10.0	
LPA				PCP	**PcP**	**00 13 46.0**	**-0.3**
LPA				S	**S**	**00 14 45.0**	**+3.1**
LPA				pP	**pS**	**00 14 48.0**	**+0.2**
LPA				PPS	PPS	00 14 56.0	
LPA				SS	**SnSn**	**00 15 38.0**	**+3.0**
LPA				SSS	SSS	00 17 34.0	
LMEL	**Las Melosas**	**26.36**	**350**	*e*P	**P**	**00 10 21.5**	**-1.6**
SNAA	**Sanae**	**26.61**	**141**	*e*P	**P**	**00 10 26.3**	**+1.4**
SNAA	**Sanae**	**26.61**	**141**	*e*P	**P**	**00 10 25.5**	**+0.6**
	comp=Z,1μm,1.5s						
SNAA	**Sanae**	**26.61**	**141**	P	**P**	**00 10 26.1**	**+1.2**
	comp=Z,55nm,1.0s,baz=267,slow=8.0,SNR=58						
SNAA				LR	LR	00 19 33.7	
	comp=Z,10μm,21.1s,baz=245,slow=33						
CLCH	**Cerro Calan**	**26.84**	**350**	*e*P	**P**	**00 10 26.4**	**-0.9**
PEL	**Peldehue**	**27.10**	**350**	⇓*i*P	**P**	**00 10 27.1**	**-2.5**
CFAA	**Coronel Fontan**	**28.46**	**354**	P	**P**	**00 10 39.8**	**-2.0**
CFAA	**Coronel Fontan**	**28.46**	**354**	P	**P**	**00 10 39.8**	**-2.0**
	comp=Z,5.3nm,1.1s,baz=169,slow=9.3,SNR=27						
CFAA				LR	LR	00 21 47.8	
	comp=Z,2μm,20.6s,baz=352,slow=36						
QSPA	**South Pole Qui**	**30.25**	**180**	*e*P	**P**	**00 10 55.4**	**-2.1**
	comp=Z,2μm,2.9s						
QSPA				PcP	**PcP**	**00 13 58.1**	**+0.5**
QSPA	**South Pole Qui**	**30.25**	**180**	P	**P**	**00 10 56.5**	**-1.0**
	comp=Z,57nm,1.1s						
QSPA				PcP	**PcP**	**00 13 58.1**	**+0.5**
QSPA				LR	LR	00 22 43.3	
	comp=Z,10μm,21.4s,baz=268,slow=36						
LCO	**Las Campanas**	**31.20**	**350**	*e*P	**P**	**00 11 05.0**	**-1.3**
	comp=Z,1μm,2.5s						
LCO				LR	LR		
	comp=Z,20μm,20.0s						
LCO	**Las Campanas**	**31.20**	**350**	*e*P	**P**	**00 11 04.0**	**-2.4**
MAIT	**Maitri**	**31.40**	**142**	*e*P	**P**	**00 11 06.6**	**-0.7**
CPUP	**Villa Florida**	**34.06**	**12**	P	**P**	**00 11 29.6**	**-1.5**
CPUP				PcP	**PcP**	**00 14 09.5**	**+1.2**
CPUP	**Villa Florida**	**34.06**	**12**	P	**P**	**00 11 29.6**	**-1.5**
	comp=Z,36nm,0.7s,baz=176,slow=6.8,SNR=20						
CPUP				PcP	**PcP**	**00 14 09.5**	**+1.2**
	comp=Z,12nm,1.0s,baz=180,slow=3.0,SNR=1.7						
CPUP				LR	LR	00 25 26.6	
	comp=Z,7μm,18.2s,baz=173,slow=36						
LVC	**Limon Verde**	**37.44**	**354**	*e*P	P	00 11 53.1	-7.2
	comp=Z,1μm,2.0s						
LVC				LR	LR		
	comp=Z,9μm,20.0s						
SPB	**Sao Paulo**	**38.41**	**27**	*e*P	**P**	**00 12 07.0**	**-1.2**
	comp=Z,158nm,0.9s						
SPB				*e*PP	**PP**	**00 13 35.4**	**-0.7**
SPB				*e*S	**S**	**00 18 02.1**	**-0.4**
SPB				LR	LR		
	comp=Z,8μm,20.0s						
SBA	**Scott Base**	**38.83**	**195**	*e*P	**P**	**00 12 12.0**	**+0.8**
SBA				pmax	pmax		
	comp=Z,455nm,1.5s						
SBA				MLR	MLR		
	comp=Z,6μm,20.0s						
SBA	**Scott Base**	**38.83**	**195**	*e*P	**P**	**00 12 12.0**	**+0.8**
	comp=Z,455nm,1.5s						
SBA				LR	LR		
	comp=Z,6μm,20.0s						
VNDA	**Vanda**	**39.73**	**194**	P	**P**	**00 12 19.2**	**+0.4**
VNDA				PcP	**PcP**	**00 14 27.8**	**+3.0**
VNDA	**Vanda**	**39.73**	**194**	P	**P**	**00 12 19.2**	**+0.4**
	comp=Z,32nm,1.2s,baz=147,slow=8.1,SNR=38						
VNDA				PcP	**PcP**	**00 14 27.8**	**+3.0**
	comp=Z,9.1nm,1.0s,baz=27,slow=2.4,SNR=2.5						
VNDA				LR	LR	00 26 23.4	
	comp=Z,3μm,20.0s,baz=152,slow=33						
TRIS	**Tristan da Cun**	**40.35**	**80**	P	**P**	**00 12 23.0**	**-1.3**
	comp=Z,341nm,1.0s						
TRIS				LR	LR		
	comp=Z,16μm,22.0s						
SYO	**Syowa Base**	**40.50**	**148**	⇓*i*P	**P**	**00 12 24.0**	**-1.2**
LPAZ	**La Paz**	**43.69**	**356**	P	**P**	**00 12 51.4**	**-1.0**
LPAZ				PcP	**PcP**	**00 14 38.4**	**-1.1**
LPAZ	**La Paz**	**43.69**	**356**	P	**P**	**00 12 51.4**	**-1.0**
	comp=Z,52nm,0.8s,baz=176,slow=6.0,SNR=58						
LPAZ				PcP	**PcP**	**00 14 38.4**	**-1.1**
	comp=Z,28nm,0.9s,baz=65,slow=4.8,SNR=4.2						
LPAZ				LR	LR	00 32 40.8	
	comp=Z,15μm,19.1s,baz=351,slow=38						
SIV	**San Ignacio**	**44.02**	**6**	LR	LR	00 32 38.8	
	comp=Z,10μm,19.2s,slow=38						
RPN	**Rapa Nui**	**44.52**	**298**	PFAKE		00 13 10.0	+12
RPN				LR	LR		
	comp=Z,8μm,21.0s						
MAW	**Mawson**	**47.16**	**156**	P	**P**	**00 13 18.3**	**-0.4**
MAW				PcP	**PcP**	**00 14 50.6**	**+0.7**
MAW	**Mawson**	**47.16**	**156**	P	**P**	**00 13 18.3**	**-0.4**
	comp=Z,26nm,1.1s,baz=204,slow=9.1,SNR=17						
MAW				PcP	**PcP**	**00 14 50.6**	**+0.7**
	comp=Z,31nm,1.0s,baz=205,slow=3.9,SNR=4.4						
MAW				LR	LR	00 33 26.5	
	comp=Z,23μm,19.9s,baz=214,slow=36						
SAML	**Samuel**	**50.95**	**2**	*e*P	**P**	**00 13 46.5**	**-1.7**
	comp=Z,143nm,1.2s						
SAML				*e*PcP	**PcP**	**00 15 02.9**	**-1.5**
SAML				LR	LR		
	comp=Z,10μm,21.0s						
DRV	**Dumont d'Urvil**	**52.30**	**192**	P	P	00 13 44.0	-14
DRV				S	S	00 20 54.0	-28
DRV				SS	SS	00 24 43.0	-16
DRV				L	L	00 26 00.0	
DRV				R		00 30 00.0	
MIR	**Mirnyy**	**52.73**	**169**	*e*P	**P**	**00 13 59.0**	**-2.0**
MIR				*e*		00 13 59.0	
MIR				*e*		00 15 11.0	
MIR				*e*		00 16 08.0	
MIR				*e*PPP	PPP	00 17 16.0	
MIR				*e*S	**S**	**00 21 28.0**	**+0.2**
MIR				pmax	pmax		
	comp=Z,319nm,2.0s						
MIR				pmax	pmax		
	comp=Z,3μm,8.0s						
MIR				MLR	MLR		
	comp=N,18μm,17.0s						
MIR				MLR	MLR		
	comp=E,15μm,17.0s						
MIR				MLR	MLR		
	comp=Z,21μm,17.0s						
CASY	**Casey**	**54.01**	**178**	*e*P	**P**	**00 14 09.8**	**-0.6**
	comp=Z,866nm,2.7s						
CASY				LR	LR		
	comp=Z,8μm,21.0s						
RCBR	**Riachuelo**	**58.41**	**35**	*e*P	**P**	**00 14 42.0**	**-0.4**
	comp=Z,257nm,1.6s						
RCBR				LR	LR		
	comp=Z,6μm,22.0s						
CER	**Ceres**	**59.05**	**104**	P	**P**	**00 14 49.3**	**+2.5**
	comp=Z,211nm,2.1s						
RKT	**Rikitea**	**60.22**	**275**	*e*P	**P**	**00 14 57.2**	**+2.3**
	comp=Z,127nm,1.6s						
RKT				*e*S	**S**	**00 23 09.9**	**+2.0**
	comp=Z,990nm,28.2s						
RKT				*e*LQ	LQ	00 30 06.6	
	comp=Z,14μm,31.8s						
RKT				*e*LR	LR	00 32 40.9	
	comp=Z,7μm,25.8s,baz=149						
RKT	**Rikitea**	**60.22**	**275**	*e*T	T	01 19 30.2	
	comp=Z,2.4nm,0.2s						
SUR	**Sutherland**	**60.58**	**104**	*e*P	**P**	**00 14 59.1**	**+1.5**
	comp=Z,8μm,2.7s						
SUR	**Sutherland**	**60.58**	**104**	P	**P**	**00 14 58.5**	**+1.0**
	comp=Z,534nm,0.9s,SNR=7.2						
SUR	**Sutherland**	**60.58**	**104**	LR	LR	00 35 04.9	
	comp=Z,5μm,20.2s,baz=221,slow=30						
CVNA	**Calvinia**	**60.80**	**103**	P	**P**	**00 14 59.8**	**+0.9**
	comp=Z,211nm,3.7s						
OTAV	**Otavalo**	**60.95**	**345**	*e*P	**P**	**00 15 00.2**	**-0.2**
	comp=Z,353nm,1.3s						
OTAV				LR	LR		
	comp=Z,4μm,19.0s						
SHEL	**Horse Pasture**	**61.13**	**71**	*e*P	**P**	**00 15 04.0**	**+2.8**
SHEL				pmax	pmax		
	comp=Z,277nm,1.1s						
SHEL				MLR	MLR		
	comp=Z,3μm,22.0s						
SHEL	**Horse Pasture**	**61.13**	**71**	*e*P	**P**	**00 15 04.0**	**+2.8**
	comp=Z,277nm,1.1s						
SHEL				LR	LR		
	comp=Z,3μm,22.0s						
PAYG	**Puerto Ayora**	**62.29**	**331**	*e*P	**P**	**00 15 09.4**	**+0.5**
	comp=Z,254nm,1.6s						
PAYG				LR	LR		
	comp=Z,10μm,22.0s						
H10S3	**ASCENSION HYDR**	**63.25**	**59**	T	T	01 24 36.7	
	baz=208						
H10S2	**ASCENSION HYDR**	**63.25**	**59**	T	T	01 24 33.6	
	baz=208,slow=0.7						
H10S1	**ASCENSION HYDR**	**63.27**	**59**	T	T	01 24 40.2	
	baz=208,slow=0.7						
PKA	**Prieska**	**63.76**	**104**	P	**P**	**00 15 18.2**	**-0.5**
	comp=Z,42nm,4.4s						
ASCN	**Ascension**	**64.29**	**58**	PFAKE		00 15 30.0	+7.8
ASCN				LR	LR		
	comp=Z,1μm,22.0s						
HVD	**Gariep Dam**	**64.31**	**107**	P	**P**	**00 15 20.0**	**-2.4**
HVD				pmax	pmax		
	comp=Z,140nm,2.5s						
HVD	**Gariep Dam**	**64.31**	**107**	P	**P**	**00 15 20.0**	**-2.4**
	comp=Z,140nm,2.5s						
H10N3	**ASCENSION HYDR**	**64.31**	**58**

TSUM Tsumeb 69.92 94 *e*P P 00 15 58.4 +0.3
comp=Z,102nm,1.5s
TSUM *e*PcP **PcP** 00 16 20.1 -0.4
TSUM Tsumeb 69.92 94 LR LR 00 42 57.4
comp=Z,2μm,18.4s,baz=45,slow=33
MEH Mehetia 71.20 267 *e*P P 00 16 07.8 +2.0
comp=Z,37nm,0.9s
JTS JuntasAbangare 71.83 339 *e*P P 00 16 09.3 -0.2
comp=Z,253nm,1.4s
JTS JuntasAbangare 71.83 339 P P 00 16 08.9 -0.5
comp=Z,546nm,1.4s,SNR=16
JTS JuntasAbangare 71.83 339 LR LR 00 40 38.0
comp=Z,5μm,21.3s,baz=160,slow=30
GRGR Grenville 71.92 4 *e*P P 00 16 09.8 -0.2
comp=Z,404nm,1.4s
GRGR *e*PcP **PcP** 00 16 27.7 -0.9
GRGR LR LR
comp=Z,5μm,20.0s
PAE Paea 72.14 266 *e*P P 00 16 13.5 +2.1
comp=Z,35nm,1.3s
PPT2 Papeete2 72.20 266 *e*P P 00 16 13.0 +1.1
comp=Z,132nm,1.5s
PPT2 *e*S **S** 00 25 32.0 -1.8
comp=Z,6μm,26.0s
PPT2 *e*LQ LQ 00 34 56.1
comp=Z,8μm,25.8s
PPT2 *e*LR LR 00 38 01.0
comp=Z,13μm,29.2s,baz=139
PPT Papeete 72.22 266 LR LR 00 40 50.2
comp=Z,4μm,18.1s,baz=313,slow=30
BBGH Gun Hill 73.01 6 PFAKE 00 16 30.0 +14
BBGH LR LR
comp=Z,10μm,21.0s
VAH Vaihoa 73.22 269 *e*P P 00 16 17.0 -0.8
comp=Z,159nm,1.3s
VAH Vaihoa 73.22 269 *e*T T 01 36 01.4
comp=Z,9.4nm,0.2s
MSNA Messina 73.42 106 P P 00 16 15.4 -3.7
comp=Z,79nm,3.6s
PMOR Pomariorio Ree 73.55 269 *e*P P 00 16 19.1 -0.7
comp=Z,201nm,1.4s
TAU Tasmania Unive 74.07 204 *e*P P 00 16 21.2 -1.3
TAU pmax pmax
comp=Z,128nm,1.3s
TAU MLR MLR
comp=Z,6μm,22.0s
TAU Tasmania Unive 74.07 204 *e*P P 00 16 21.2 -1.3
comp=Z,128nm,1.3s
TAU LR LR
comp=Z,6μm,22.0s
RAR Rarotonga 74.18 255 LR LR 00 42 41.0
comp=Z,2μm,19.0s,baz=90,slow=31
RAO Raoul Island 75.54 236 PFAKE 00 16 40.0 +8.8
RAO LR LR
comp=Z,6μm,22.0s
ECG Echelle 75.81 3 *e*P P 00 16 33.7 +0.8
LKG Breislack 75.81 3 *e*P P 00 16 33.8 +0.9
TGUH Tegucigalpa,Un 75.93 338 *e*P P 00 16 34.1 +0.7
comp=Z,306nm,1.3s
TGUH LR LR
comp=Z,5μm,22.0s
ANWB Willy Bob 77.42 3 *e*P P 00 16 40.4 -1.4
comp=Z,180nm,1.1s
ANWB LR LR
comp=Z,4μm,20.0s
APG El Apazote 77.49 335 P P 00 16 40.5 -2.0
APG El Apazote 77.49 335 P P 00 16 40.5 -2.0
comp=Z,66nm,1.0s,baz=177,slow=7.6,SNR=6.1
CRPR Cabo Rojo, PR 77.73 358 *e*P P 00 16 42.6 -0.8
comp=Z,263nm,1.4s
OBIP Obispado Ponce 77.76 359 *e*P P 00 16 41.5 -2.2
comp=Z,286nm,1.4s
CELP Cerrillos 77.79 359 *e*P P 00 16 41.7 -2.1
CBYP Canovanas 77.98 359 *e*P P 00 16 44.1 -0.8
comp=Z,136nm,1.4s
CBYP *e*PcP **PcP** 00 16 54.4 -0.2
STVI Saint Thomas 78.05 0 *e*P P 00 16 44.6 -0.6
comp=Z,126nm,1.4s
AOPR Arecibo Observ 78.06 358 *e*P P 00 16 46.4 +1.0
comp=Z,201nm,1.7s
LSZ Lusaka 78.54 101 *e*P P 00 16 49.0 +0.6
comp=Z,158nm,1.5s
LSZ *e*PP **PP** 00 19 46.4 +0.6
LSZ LR LR
comp=Z,4μm,21.0s
MTDJ Mount Denham 78.59 348 *e*P P 00 16 48.8 +0.5
comp=Z,1μm,2.6s
MTDJ LR LR
comp=Z,3μm,20.0s
SDDR Presa de Saban 78.84 354 *e*P P 00 16 48.7 -1.0
comp=Z,418nm,2.3s
SDDR LR LR
comp=Z,5μm,22.0s
GTBY Guantanamo Bay 80.04 350 PFAKE 00 17 10.0 +14
GTBY LR LR
comp=Z,2μm,19.0s
CAN Canberra 80.97 208 *e*P P 00 17 00.2 -1.1
CAN pmax pmax
comp=Z,144nm,1.4s
CAN MLR MLR
comp=Z,4μm,19.0s
CAN Canberra 80.97 208 *e*P P 00 17 00.2 -1.1
comp=Z,144nm,1.4s
CAN LR LR
comp=Z,4μm,19.0s
LIC Lamto 81.00 61 ⇓*i*P P 00 17 00.9 -0.6
comp=Z,154nm,1.2s,baz=216
LIC Lamto 81.00 61 *e*P P 00 17 00.6 -0.9
comp=Z,204nm,1.5s
LIC Lamto 81.00 61 ⇓*i*P P 00 17 00.9 -0.6
comp=Z,154nm,1.2s
KIC Kosan Boka 81.25 61 *e*P P 00 17 01.7 -1.2
comp=Z,379nm,1.5s
GRTK Grand Turk 81.35 354 *e*P P 00 16 59.2 -3.8
GRTK LR LR
comp=Z,3μm,19.0s
TIC Toumodi 81.38 61 *e*P P 00 17 02.6 -1.0
comp=Z,457nm,1.5s
DBIC Dimbokro 81.47 61 P P 00 17 02.9 -1.1
DBIC Dimbokro 81.47 61 P P 00 17 02.9 -1.1
comp=Z,28nm,1.0s,baz=188,slow=7.0,SNR=22
DBIC LR LR 00 48 17.7
comp=Z,3μm,18.0s,baz=198,slow=32
SACV Santiago Islan 81.83 40 PFAKE 00 17 20.0 +14
SACV LR LR
comp=Z,2μm,19.0s
TEIG Tepich 82.13 338 *e*P P 00 17 06.4 -0.9
comp=Z,162nm,1.3s
TEIG LR LR
comp=Z,4μm,22.0s
BBTS Babate 83.99 47 LR LR 00 47 26.9
comp=Z,3μm,21.8s,baz=18,slow=30
ABPO Ambohimpanom 84.30 118 *e*P P 00 17 19.5 +0.5
ABPO pmax pmax
comp=Z,120nm,1.6s
ABPO MLR MLR
comp=Z,3μm,20.0s
ABPO Ambohimpanom 84.30 118 *e*P P 00 17 19.4 +0.5
comp=Z,120nm,1.6s
ABPO LR LR
comp=Z,3μm,20.0s
ARMA Armidale 84.99 211 *e*P P 00 17 22.5 +0.3
comp=Z,218nm,1.4s
STKA Stephens Creek 85.87 203 P P 00 17 24.6 -1.9
STKA Stephens Creek 85.87 203 P P 00 17 24.6 -1.9
comp=Z,27nm,1.1s,baz=151,slow=6.8,SNR=20
BBOO Buckleboo 85.91 198 *e*P P 00 17 24.6 -2.1
comp=Z,7μm,2.5s
RER Riviere de l'E 86.00 127 PFAKE 00 17 40.0 +13
RER LR LR
comp=Z,2μm,21.0s
AFI Afiamalu 86.20 249 LR LR 00 48 00.7
comp=Z,3μm,18.4s,baz=131,slow=30
MSVF Nonsavu 87.41 238 *e*P P 00 17 34.0 -0.3
MSVF pmax pmax
comp=Z,294nm,1.9s
MSVF MLR MLR
comp=Z,4μm,22.0s
MSVF Nonsavu 87.41 238 *e*P P 00 17 34.0 -0.3
comp=Z,294nm,1.9s
MSVF LR LR
comp=Z,4μm,22.0s
NWAO Narrogin (SRO) 87.41 182 *e*P P 00 17 34.8 +0.8
comp=Z,83nm,1.3s
NWAO LR LR
comp=Z,4μm,19.0s
NWAO Narrogin (SRO) 87.41 182 P P 00 17 32.1 -1.9
comp=Z,32nm,1.1s,baz=175,slow=6.3,SNR=7.4
DZM Mont Dzumac 88.12 227 *e*S S 00 28 13.3 -7.8
comp=Z,917nm,23.6s
DZM *e*SS SS 00 33 51.9 -16
comp=Z,2μm,29.9s
DZM Mont Dzumac 88.12 227 *e*LR LR 00 45 22.7
comp=Z,19μm,27.7s
DZM Mont Dzumac 88.12 227 *e*P P 00 17 36.5 -1.1
comp=Z,118nm,1.6s
DZM Mont Dzumac 88.12 227 P P 00 17 36.5 -1.1
comp=Z,19nm,1.0s,baz=88,slow=12,SNR=8.3
FORT Forrest 88.92 191 *e*P P 00 17 38.9 -2.3
comp=Z,116nm,0.9s
EIDS Eidsvold 89.94 212 *e*P P 00 17 44.3 -1.8
comp=Z,129nm,1.5s
TORD Torodi Ar. Bea 90.13 64 P P 00 17 46.5 -0.4
TORD PP **PP** 00 21 18.2 -2.4
TORD PKKPbc **PKKPbc** 00 35 13.9 -0.7
TORD Torodi Ar. Bea 90.13 64 P P 00 17 46.5 -0.4
comp=Z,26nm,0.9s,baz=217,slow=3.7,SNR=63
TORD PP **PP** 00 21 18.2 -2.4
comp=Z,15nm,1.3s,baz=204,slow=6.5,SNR=7.5
TORD PKKPbc **PKKPbc** 00 35 13.9 -0.7
comp=Z,2.0nm,1.3s,baz=318,slow=3.9,SNR=4.3
TORD LR LR 00 51 57.6
comp=Z,4μm,19.5s,baz=205,slow=31
KIG Kigali 90.90 95 P P 00 17 54.4 +3.5
comp=Z,31nm,1.8s
KVTX Kingsville 91.29 331 PFAKE 00 18 00.0 +8.1
KVTX LR LR
comp=Z,5μm,22.0s
LPIG La Paz 91.57 320 P P 00 17 55.0 +1.7
LPIG La Paz 91.57 320 P P 00 17 55.0 +1.7
comp=Z,14nm,0.4s,baz=135,slow=5.7,SNR=3.6
BBSR BB Station 92.01 0 PFAKE 00 18 10.0 +15
BBSR LR LR
comp=Z,2μm,21.0s
TIGA Tifton 92.36 344 ⇑P P 00 17 56.7 -0.1
baz=93
MBAR Mbarara 92.41 95 P P 00 17 59.5 +1.7
MBAR LR LR
comp=Z,932nm,20.0s
BRAL Brewton 92.45 341 *e*P P 00 17 56.7 -0.6
comp=Z,118nm,1.0s
BRAL LR LR
comp=Z,2μm,20.0s
732A Laxson Ranch, 92.93 330 ⇓P P 00 17 59.5 -0.1
baz=93
XMAS Kiritimati 92.94 269 *e*P P 00 17 59.1 -0.9
comp=Z,258nm,1.9s
XMAS LR LR
comp=Z,4μm,19.0s
HKT Hockley 93.12 334 *e*P P 00 18 01.0 +0.7
HKT pmax pmax
comp=Z,149nm,1.6s
HKT Hockley 93.12 334 *e*P P 00 18 01.0 +0.7
comp=Z,149nm,1.6s
632A Uvalde 93.63 330 ⇓P P 00 18 02.6 -0.2
baz=94
631A Perdido Creek 93.74 329 ⇓P P 00 18 03.0 -0.2
baz=94
VBMS Vicksburg 94.23 339 *e*P P 00 18 05.4 0.0
comp=Z,196nm,1.5s
VBMS LR LR
comp=Z,3μm,22.0s
532A Rocksprings 94.25 330 ⇓P P 00 18 05.7 0.0
baz=94
628A Black Gap, Mar 94.41 328 ⇑P P 00 18 06.0 -0.4
baz=95,SNR=9.8
LRAL Lakeview Retre 94.43 342 PFAKE 00 18 20.0 +14
LRAL LR LR
comp=Z,2μm,20.0s
531A Rocksprings 94.45 330 ⇓P P 00 18 06.5 0.0
baz=95,SNR=13
TXAR Lajitas Array 94.48 327 P P 00 18 06.4 -0.4
TXAR PKKPbc PKKPdf 00 35 13.3 +9.1
TXAR Lajitas Array 94.48 327 P P 00 18 06.4 -0.4
comp=Z,7.7nm,1.0s,baz=153,slow=8.4,SNR=25
TXAR PKKPbc PKKPdf 00 35 13.3 +9.1
comp=Z,0.4nm,0.6s,baz=329,slow=3.4,SNR=4.0
TXAR LR LR 00 52 41.9
comp=Z,3μm,22.0s,baz=55,slow=30
627A Terlingua Ranc 94.52 327 ⇑P P 00 18 06.6 -0.4
baz=95,SNR=11
JCT Junction City 94.56 330 *e*P P 00 18 06.8 -0.3
JCT pmax pmax
comp=Z,75nm,1.1s
JCT MLR MLR
comp=Z,1μm,19.0s
JCT Junction City 94.56 330 *e*P P 00 18 06.8 -0.3
comp=Z,75nm,1.1s
JCT LR LR
comp=Z,1μm,19.0s
JCT Junction City 94.56 330 ⇑P P 00 18 06.3 -0.7
baz=95,SNR=11
NATX Nacogdoches 94.61 335 *e*P P 00 18 09.2 +2.0
comp=Z,113nm,1.4s
530A J-C Ranch, Com 94.63 329 ⇓P P 00 18 06.9 -0.5
baz=95,SNR=14
626A Big Bend Ranch 94.82 327 ⇓P P 00 18 08.0 -0.4
baz=95,SNR=6.9
529A Stev Forest Ra 94.84 328 ⇓P P 00 18 08.1 -0.3
baz=95
JSC Jenkinsville 94.87 347 *e*P P 00 18 07.7 -0.6
JSC Jenkinsville 94.87 347 *e*P P 00 18 07.7 -0.6
432A Menard 94.94 331 ⇑P P 00 18 08.4 -0.3
baz=95
431A Sonora 94.95 330 ⇑P P 00 18 08.2 -0.6
baz=95
528A Cox Ranch, San 95.03 328 ⇑P P 00 18 08.2 -1.1
baz=95
FUNA Funafuti 95.08 243 PFAKE 00 18 20.0 +10
FUNA LR LR
comp=Z,8μm,21.0s
KMBO Kilima Mbogo 95.19 101 P P 00 18 12.6 +1.9
KMBO Kilima Mbogo 95.19 101 P P 00 18 12.6 +1.9
comp=Z,0.5nm,0.3s,baz=211,slow=11,SNR=4.3
KMBO LR LR 00 56 02.7
comp=Z,5μm,21.6s,baz=201,slow=32
430A Baggett Ranch, 95.21 329 ⇓P P 00 18 09.5 -0.5
baz=96
ASAR Alice Springs 95.21 197 P P 00 18 08.2 -2.3
ASAR PP **PP** 00 21 56.6 -2.8
ASAR PKKPbc **PKKPbc** 00 35 02.9 +1.9
ASAR Alice Springs 95.21 197 P P 00 18 08.2 -2.3
comp=Z,10nm,1.0s,baz=161,slow=4.6,SNR=29
ASAR PP **PP** 00 21 56.6 -2.8
comp=Z,10nm,1.2s,baz=170,slow=7.4,SNR=8.9
ASAR PKKPbc **PKKPbc** 00 35 02.9 +1.9
comp=Z,0.6nm,0.9s,baz=340,slow=2.5,SNR=3.4
ASAR LR LR 00 57 35.4
comp=Z,2μm,21.7s,baz=166,slow=33
AS31 Alice Springs 95.22 197 *e*P P 00 18 08.3 -2.2
AS31 *e*PP **PP** 00 21 58.8 -0.7
429A Davenport Ranc 95.23 329 ⇑P P 00 18 09.9 -0.3
baz=96,SNR=9.7
527A Woodward Ranch 95.23 327 ⇑P P 00 18 09.5 -0.8
baz=96,SNR=11
526A Mary Lane Ranc 95.28 327 ⇑P P 00 18 09.7 -0.8
baz=96
332A Millersview 95.41 331 ⇑P P 00 18 09.8 -1.1
baz=96,SNR=7.6
WHTX Lake Whitney 95.45 333 ⇓P P 00 18 09.9 -1.1
baz=96
CNNC Cliffs of the 95.46 349 PFAKE 00 18 20.0 +9.0
CNNC LR LR
comp=Z,2μm,19.0s
331A San Angelo 95.51 330 ⇓P P 00 18 11.0 -0.3
baz=96
428A Kincaid Ranch, 95.53 328 ⇓P P 00 18 11.0 -0.6
baz=96
KMSC Kings Mountain 95.72 347 *e*P P 00 18 11.8 -0.4
comp=Z,80nm,1.7s
KMSC Kings Mountain 95.72 347 ⇓P P 00 18 11.4 -0.8
baz=96
330A Mertzon 95.79 330 ⇓P P 00 18 11.9 -0.8
baz=96
426A McDonald Obser 95.84 327 ⇓P P 00 18 13.1 0.0
baz=96,SNR=8.5
427A Hayter Ranch, 95.84 328 ⇑P P 00 18 12.7 -0.2
baz=96,SNR=7.0
232A Coleman 95.87 331 ⇑P P 00 18 12.0 -1.0
baz=96,SNR=8.4
329A Wagon Wheel Ra 96.07 329 ⇑P P 00 18 14.2 +0.2
baz=96,SNR=12
231A Bronte 96.08 330 ⇑P P 00 18 13.6 -0.3
baz=96
328A Wristen Ranch, 96.19 328 ⇑P P 00 18 14.2 -0.3
baz=96
425A Indio Mountain 96.22 326 ⇑P P 00 18 14.4 -0.3
baz=96
CTA Charters Tower 96.23 209 P P 00 18 14.2 -0.9
CTA Charters Tower 96.23 209 P P 00 18 14.2 -0.9
comp=Z,12nm,0.8s,baz=160,slow=5.6,SNR=9.8
CTAO Charters Tower 96.23 209 *e*P P 00 18 14.6 -0.5
CTAO pmax pmax
comp=Z,97nm,1.5s
CTAO MLR MLR
comp=Z,3μm,19.0s
CTAO Charters Tower 96.23 209 *e*P P 00 18 14.6 -0.5
comp=Z,97nm,1.5s
CTAO LR LR
comp=Z,3μm,19.0s
230A Sterling City 96.23 330 ⇓P P 00 18 14.4 -0.3
baz=96
OXF Oxford 96.27 340 *e*P P 00 18 14.9 +0.2
OXF pmax pmax
comp=Z,59nm,1.3s
OXF MLR MLR
comp=Z,2μm,21.0s
OXF Oxford 96.27 340 *e*P P 00 18 14.9 +0.2
comp=Z,59nm,1.3s
OXF LR LR
comp=Z,2μm,21.0s
SWET Sewanee 96.40 343 *e*P P 00 18 14.4 -0.9
comp=Z,90nm,1.8s
CPCT Cooper Cave 96.43 344 *e*P P 00 18 14.2 -1.2
326A Caldwell Ranch 96.44 327 ⇑P P 00 18 15.3 -0.4
baz=97
229A Bryant Ranch, 96.48 329 ⇓P P 00 18 15.5 -0.3
baz=97
TKL Tuckaleechee C 96.53 345 P P 00 18 15.0 -0.9
TKL Tuckaleechee C 96.53 345 P P 00 18 15.0 -0.9
comp=Z,2.2nm,0.8s,baz=232,slow=3.4,SNR=2.6
ABTX Abilene, Hawle 96.57 331 *e*P P 00 18 16.2 +0.1
comp=Z,229nm,1.2s
ABTX Abilene, Hawle 96.57 331 ⇓P P 00 18 15.9 -0.2
baz=97
325A Bean Ranch, Si 96.77 326 ⇑P P 00 18 16.8 -0.5
baz=97
131A Roby 96.80 331 ⇓P P 00 18 17.0 -0.2
baz=97
228A UT Block 9, Go 96.83 329 ⇑P P 00 18 17.7 +0.3
baz=97
130A Snyder 96.87 330 ⇑P P 00 18 17.8 +0.2
baz=97
324A Moseley Ranch, 96.97 326 ⇑P P 00 18 18.2 0.0
baz=97
UALR University of 97.06 338 *e*P P 00 18 17.9 -0.3
comp=Z,58nm,1.5s
MIAR Mount Ida 97.08 337 *e*P Pdif 00 18 19.5 +1.1
MIAR pmax pmax
comp=Z,126nm,2.0s
MIAR MLR MLR
comp=Z,2μm,21.0s
MIAR Mount Ida 97.08 337 *e*P Pdif 00 18 19.4 +1.0
comp=Z,126nm,2.0s
MIAR LR LR
comp=Z,2μm,21.0s
129A Stewart Farms, 97.13 329 ⇓P Pdif 00 18 19.1 +0.2
baz=97
Z32A Haskell 97.18 332 ⇓P P 00 18 18.2 -0.7
baz=98,SNR=9.9
MNTX Cornudas Mount 97.19 326 PFAKE 00 18 30.0 +11
MNTX LR LR
comp=Z,2μm,21.0s
226B Tecolote Peak, 97.21 327 ⇓P Pdif 00 18 19.7 +0.4
baz=98
128A Castleberry Fa 97.28 329 ⇑P P 00 18 19.4 -0.1
baz=98,SNR=9.7
Z31A Sharp Cattle R 97.35 331 ⇑P P 00 18 19.0 -0.7
baz=98,SNR=9.6
Z30A Sanderson Ranc 97.57 330 ⇑P P 00 18 19.5 -1.1
baz=98,SNR=10
224A Cornudas Mount 97.58 326 ⇓P P 00 18 20.6 -0.4
baz=98
BLA Blacksburg 97.67 348 PFAKE 00 18 30.0 +8.9
BLA LR LR
comp=Z,2μm,21.0s
Z29A Hungry Hill Ra 97.69 330 ⇓P P 00 18 21.2 -0.1
baz=98
320A Kipp Ranch, An 97.76 324 ⇓P Pdif 00 18 22.2 +0.4
baz=98
Y32A R-V Farms, Ver 97.84 332 ⇑P Pdif 00 18 21.9 0.0
baz=98
Z28A Tucker Farm, M 97.89 329 ⇓Pdiff P 00 18 22.2 0.0
baz=98
125A Gardner Draw, 97.89 327 ⇑Pdiff P 00 18 22.2 0.0
baz=98
JSRW J. Sargeant Re 97.90 350 *e*P P 00 18 21.4 -0.5
Y31A Rekieta Farm, 98.00 331 ⇑Pdiff Pdif 00 18 23.1 +0.5
baz=98
319A Douglas 98.02 323 ⇑Pdiff Pdif 00 18 23.1 +0.2
baz=98
Y30A Stafford Cattl 98.07 331 ⇑Pdiff Pdif 00 18 23.2 +0.2
baz=98
Z27A Tatum 98.13 329 ⇑Pdiff Pdif 00 18 23.5 +0.2
baz=98
124A Stringfield Ra 98.15 327 ⇓Pdiff Pdif 00 18 23.6 0.0
baz=98
220A Playas Peak, P 98.29 324 ⇑Pdiff P 00 18 23.9 -0.2
baz=98
Z26A Caprock 98.29 328 ⇑Pdiff P 00 18 23.8 -0.2
baz=99
CBN Corbin 98.36 350 PFAKE 00 18 30.0 +6.0
CBN LR LR
comp=Z,2μm,21.0s
WMOK Wichita Mounta 98.39 332 PFAKE 00 18 30.0 +5.7
WMOK LR LR
comp=Z,2μm,20.0s
Y28A McKinney Farm, 98.44 329 ⇓Pdiff P 00 18 24.4 -0.2
baz=99
Z25A Roswell 98.50 327 ⇑Pdiff P 00 18 24.6 -0.3
baz=99
X31A McDonald Ranch 98.57 332 ⇓Pdiff P 00 18 25.0 -0.1
baz=99
X30A Coker Ranch, T 98.61 331 ⇓Pdiff P 00 18 25.0 -0.3
baz=99
MSTX Muleshoe 98.63 329 *e*P Pdif 00 18 26.5 +0.9
comp=Z,43nm,1.6s
MSTX Muleshoe 98.63 329 ⇑Pdiff P 00 18 25.4 -0.1
baz=99
121A Cookes Peak, D 98.66 325 *e*P Pdif 00 18 28.9 +3.1
121A Cookes Peak, D 98.66 325 ⇑Pdiff Pdif 00 18 25.8 0.0
baz=99
WRA Warramunga Arr 98.80 198 P P 00 18 23.8 -2.9
WRA PP **PP** 00 22 27.0 -0.1
WRA Warramunga Arr 98.80 198 P P 00 18 23.8 -2.9
comp=Z,15nm,0.9s,baz=177,slow=4.0,SNR=24
WRA PP **PP** 00 22 27.0 -0.1
comp=Z,9.6nm,1.3s,baz=176,slow=6.3,SNR=7.0
WRA LR LR 00 57 30.2
comp=Z,5μm,20.8s,baz=175,slow=32
WRAB Tennant Creek 98.81 198 *e*P P 00 18 23.8 -2.9
WRAB *e* 00 22 26.6
WRAB MLR MLR
comp=Z,5μm,20.0s
WRAB Tennant Creek 98.81 198 *e*P P 00 18 23.8 -2.9
WRAB *e*PP **PP** 00 22 26.6 -0.6
WRAB LR LR
comp=Z,5μm,20.0s
X29A Tulia 98.81 330 ⇓Pdiff Pdif 00 18 26.8 +0.5
baz=99
TUL1 Tulsa 98.85 335 ⇑Pdiff Pdif 00 18 27.7 +1.4
baz=99
Y26A Elida 98.86 328 ⇑Pdiff Pdif 00 18 27.4 +0.8
baz=99
120A U Bar Ranch, L 98.92 324 ⇓Pdiff P 00 18 27.8 +0.9
baz=99
MBWA Marble Bar 99.06 185 PFAKE 00 18 40.0 +12
MBWA LR LR
comp=Z,5μm,19.0s
W31A Holland Ranch, 99.09 332 ⇓Pdiff Pdif 00 18 28.3 +0.9
baz=99
Y25A Mesa, Roswell 99.10 328 ⇓Pdiff Pdif 00 18 28.7 +1.0
baz=99
Z22A Elephant Butte 99.10 325 ⇑Pdiff Pdif 00 18 28.7 +1.0
baz=99
AMTX Amarillo 99.22 330 *e*P Pdif 00 18 28.6 +0.4
comp=Z,33nm,1.4s
AMTX Amarillo 99.22 330 ⇓Pdiff Pdif 00 18 29.4 +1.3
baz=100
Y24A Capitan 99.30 327 ⇑Pdiff Pdif 00 18 30.0 +1.3
baz=100

TUC Tucson 99.35 322 PFAKE 00 18 40.0 +11
TUC LR LR
comp=Z,2µm,21.0s
Z21A St. Cloud Mine 99.35 325 ⇑Pdiff Pdif 00 18 30.0 +1.1
baz=100
Z20A Nine Sixteen R 99.44 324 ⇑Pdiff Pdif 00 18 30.5 +1.3
baz=100
W29A Amraillo 99.44 330 ⇑Pdiff Pdif 00 18 30.6 +1.5
baz=100
X26A CR and CF Fran 99.45 328 ⇑Pdiff Pdif 00 18 30.9 +1.7
baz=100
Y23A Lovelace Mesa, 99.48 326 ⇑Pdiff Pdif 00 18 31.1 +1.7
baz=100
V31A Spring Creek L 99.62 332 ⇑Pdiff Pdif 00 18 31.7 +1.9
baz=100
W28A Vega 99.71 330 ⇓Pdiff Pdif 00 18 31.2 +0.9
baz=100
W27A Bowie Ranch, En 99.74 329 ⇑Pdiff Pdif 00 18 31.2 +0.7
baz=100
W26A Owens Ranch, T 99.95 329 ⇑Pdiff Pdif 00 18 32.2 +0.8
baz=100
Y21A Point of Rocks 100.01 325 ⇑Pdiff Pdif 00 18 32.4 +0.6
baz=100
MCWV Mont Chateau 100.03 348 PFAKE 00 18 40.0 +8.6
MCWV LR LR
comp=Z,2µm,21.0s
LAZ Ladron 100.22 326 *e*Pdif Pdif 00 18 32.7 0.0
comp=Z,2.1nm,1.1s
W25A X Bar L Ranch, 100.26 328 ⇓Pdiff Pdif 00 18 34.3 +1.6
baz=100
TAM Tamanrasset 100.31 62 PFAKE 00 18 40.0 +6.7
TAM LR LR
comp=Z,4µm,21.0s
X21A Alamocita Cree 100.45 325 ⇓Pdiff Pdif 00 18 34.7 +0.9
baz=101
W24A Lazy 6 Ranch, 100.50 327 ⇓Pdiff Pdif 00 18 34.2 +0.2
baz=101
T33A Patterson Ranc 100.51 334 ⇓Pdiff Pdif 00 18 35.0 +1.4
baz=101
PMOZ Porto Moniz, M 100.51 39 *e*LR LR 00 51 34.8
comp=Z,2µm,22.0s
U30A WK&E Inc. Balk 100.54 332 ⇑Pdiff Pdif 00 18 35.5 +1.6
baz=101
ANMO Albuquerque 100.54 326 P Pdif 00 18 33.9 -0.2
ANMO PP PP 00 22 43.4 +1.7
ANMO LR LR
comp=Z,4µm,22.0s
ANMO Albuquerque 100.54 326 P Pdif 00 18 33.9 -0.2
comp=Z,0.7nm,0.7s,baz=106,slow=7.4,SNR=2.6
ANMO PP PP 00 22 43.4 +1.7
comp=Z,0.7nm,0.5s,baz=149,slow=11,SNR=4.5
MSEY Mahe Island 100.65 119 PFAKE 00 18 50.0 +15
MSEY LR LR
comp=Z,3µm,22.0s
V25A Rancho No Teng 100.88 328 ⇑Pdiff Pdif 00 18 36.4 +0.8
baz=101
ACSO Alum Creek Sta 100.94 346 PFAKE 00 18 50.0 +15
ACSO LR LR
comp=Z,2µm,20.0s
U25A Circle Dot Ran 101.36 329 ⇑Pdiff Pdif 00 18 39.2 +1.5
baz=102
FITZ Fitzroy Crossi 101.71 190 *e*Pdif Pdif 00 18 41.1 +1.4
FITZ Fitzroy Crossi 101.71 190 P Pdif 00 18 37.2 -2.4
comp=Z,4.3nm,1.0s,baz=217,slow=4.4,SNR=4.6
BC3 Big Chuckawall 102.08 319 ⇓Pdiff Pdif 00 18 42.8 +1.9
baz=102
KSU1 Kansas State U 102.09 335 PFAKE 00 18 50.0 +9.4
KSU1 LR LR
comp=Z,3µm,22.0s
HNR Honiara 102.11 226 PFAKE 00 18 50.0 +8.5
HNR LR LR
comp=Z,126nm,22.0s
BINY Binghamton 102.22 352 PFAKE 00 18 50.0 +8.9
BINY LR LR
comp=Z,3µm,19.0s
S26A Kim 102.27 330 ⇓Pdiff Pdif 00 18 43.7 +2.0
baz=102
PFO Pinyon Flat Ob 102.38 318 P Pdif 00 18 40.3 -1.9
PFO LR LR
comp=Z,2µm,19.0s
PFO Pinyon Flat Ob 102.38 318 P Pdif 00 18 40.3 -1.9
comp=Z,1.1nm,0.7s,baz=95,slow=9.6,SNR=2.3
R29A Marienthal 102.46 332 ⇓Pdiff Pdif 00 18 44.3 +1.9
baz=103
ERPA Erie 102.48 349 PFAKE 00 18 50.0 +7.7
ERPA LR LR
comp=Z,2µm,20.0s
WUAZ Wupatki 102.50 323 PFAKE 00 18 50.0 +7.2
WUAZ LR LR
comp=Z,3µm,19.0s
R28A Tribune 102.54 331 ⇑Pdiff Pdif 00 18 45.2 +2.4
baz=103
S25A Robets Cordova 102.55 329 ⇓Pdiff Pdif 00 18 44.9 +2.0
baz=103
CMLA Cha da Macela 102.71 31 PFAKE 00 18 50.0 +6.6
CMLA LR LR
comp=Z,2µm,19.0s
R27A Eads 102.73 330 ⇓Pdiff Pdif 00 18 45.7 +2.1
baz=103
CIS Catalina Islan 102.85 317 ⇑Pdiff Pdif 00 18 45.5 +1.3
baz=103
SDCO Great Sand Dun 102.91 328 PFAKE 00 19 00.0 +15
SDCO LR LR
comp=Z,3µm,20.0s
MVCO Mesa Verde 103.23 326 PFAKE 00 19 00.0 +14
MVCO LR LR
comp=Z,4µm,22.0s
R24A Sanders Place, 103.27 329 ⇑Pdiff Pdif 00 18 48.5 +2.3
baz=104
NCB Newcomb 103.87 353 PFAKE 00 19 00.0 +12
NCB LR LR
comp=Z,4µm,20.0s
LBNH Lisbon 104.02 355 PFAKE 00 19 00.0 +11
LBNH LR LR
comp=Z,4µm,22.0s
SCIA State Center 104.14 339 PFAKE 00 19 00.0 +10
SCIA LR LR
comp=Z,2µm,22.0s
LONY Lake Ozonia 104.53 353 PFAKE 00 19 00.0 +8.6
LONY LR LR
comp=Z,4µm,21.0s
JFWS Jewell Farm 104.61 341 PFAKE 00 19 00.0 +8.3
JFWS LR LR
comp=Z,3µm,21.0s
ISCO Idaho Springs 104.88 329 PFAKE 00 19 00.0 +6.6
ISCO LR LR
comp=Z,2µm,20.0s
DGAR Diego Garcia 104.90 136 PFAKE 00 19 00.0 +6.2
DGAR LR LR
comp=Z,2µm,19.0s
ISA Isabella 104.93 317 ⇑Pdiff PKiKP 00 23 10.0 +1.8
baz=105
PKME Peaks-Kenny Pk 104.94 357 PFAKE 00 19 00.0 +6.9
PKME LR LR
comp=Z,3µm,21.0s
MPMC Manual Prospec 104.95 318 ⇑Pdiff PKiKP 00 23 10.2 +1.8
baz=105
OGNE Ogallala 105.07 332 PFAKE 00 23 20.0
OGNE LR LR
comp=Z,2µm,20.0s
RTC Rabat Centre 105.13 47 PFAKE 00 23 20.0
RTC LR LR
comp=Z,3µm,20.0s
MVU Marysvale 105.52 323 PFAKE 00 23 20.0
MVU LR LR
comp=Z,3µm,22.0s
PMG Port Moresby 106.22 213 PP PP 00 23 21.8 -1.2
PMG LR LR
comp=Z,2µm,22.0s
PMG Port Moresby 106.22 213 PP PP 00 23 21.8 -1.2
comp=Z,2.0nm,0.3s,baz=65,slow=11,SNR=6.0
R11A Troy Canyon, C 106.42 321 ⇓Pdiff PKiKP 00 23 12.7 +1.6
baz=107
ECSD EROS Data Cent 106.55 337 PFAKE 00 23 20.0
ECSD LR LR
comp=Z,2µm,21.0s
COCO West Island 106.62 162 PFAKE 00 23 20.0
COCO LR LR
comp=Z,3µm,20.0s
TARA Tarawa 106.66 242 PFAKE 00 23 20.0
TARA LR LR
comp=Z,3µm,19.0s
TPH Tonopah 106.70 319 PFAKE 00 23 20.0
TPH LR LR
comp=Z,2µm,19.0s
POHA Pohakuloa 107.11 280 PFAKE 00 23 20.0
POHA LR LR
comp=Z,2µm,22.0s
DUG Dugway 107.26 324 PFAKE 00 23 20.0
DUG LR LR
comp=Z,1µm,19.0s
NVAR Mina Array Bea 107.38 319 Pdif Pdif 00 19 02.2 -2.2
NVAR PKiKP **PKiKP 00 23 14.1 +1.2**
NVAR PKKPab **PKKPab 00 34 36.0 -3.8**
NVAR Mina Array Bea 107.38 319 Pdiff Pdif 00 19 02.3 -2.2
comp=Z,0.2nm,0.5s,baz=149,slow=5.2,SNR=2.3
NVAR PKiKP **PKiKP 00 23 14.1 +1.2**
comp=Z,1.1nm,0.9s,baz=101,slow=4.7,SNR=5.3
NVAR PKKPab **PKKPab 00 34 36.0 -3.8**
comp=Z,1.0nm,0.8s,baz=314,slow=3.1,SNR=4.3
J26A Sides Ranch, S 107.56 332 ⇓Pdiff PKiKP 00 23 15.0 +2.1
baz=108
PBDV Barranco-do-Ve 107.66 45 *e*PP PP 00 23 32.8 -1.6
PVAQ Vaqueiros 107.88 45 *e*PP PP 00 23 36.1 +0.2
PVAQ Vaqueiros 107.88 45 *e*SS SS 00 38 41.4 -5.9
PVAQ Vaqueiros 107.88 45 *e*LR LR 00 54 39.9
comp=Z,2µm,18.0s
PNCL Nicolau / Gran 108.22 44 *e*PP PP 00 23 38.4 -0.1
ELK Elko 108.50 322 PP PP 00 23 37.0 -3.8
ELK Elko 108.50 322 PP PP 00 23 37.0 -3.8
comp=Z,1.2nm,0.8s,baz=173,slow=4.0,SNR=5.0
BW06 Boulder Array 108.70 327 PFAKE 00 23 30.0
BW06 LR LR
comp=Z,4µm,19.0s
PDAR Pinedale Array 108.70 327 Pdif Pdif 00 19 10.0 -0.2
PDAR PP **PP 00 23 41.8 -0.5**
PDAR PKKPbc **PKKPbc 00 34 23.6 +0.5**
PDAR PKKPab **PKKPab 00 34 31.9 -1.7**
PDAR Pinedale Array 108.70 327 Pdiff Pdif 00 19 10.0 -0.2
comp=Z,0.3nm,0.9s,baz=166,slow=4.4,SNR=2.1
PDAR PP **PP 00 23 41.8 -0.5**
comp=Z,1.6nm,1.0s,baz=163,slow=6.6,SNR=5.6
PDAR PKKPbc **PKKPbc 00 34 23.6 +0.5**
comp=Z,1.2nm,0.9s,baz=18,slow=5.2,SNR=3.6
PDAR PKKPab **PKKPab 00 34 31.9 -1.7**
comp=Z,1.6nm,1.0s,baz=0.0,slow=3.4,SNR=6.3
EVOP Sao Brissos 108.74 44 *e*PKPdf PKiKP 00 23 14.9 -0.2
EVO Evora 108.78 44 *e*PKiKP PKiKP 00 23 14.9 -0.3
comp=Z,93nm,1.7s
EVO Evora 108.78 44 *e*PP PP 00 23 43.2 +0.7
BMN Battle Mountai 108.84 320 PFAKE 00 23 30.0
BMN LR LR
comp=Z,1µm,20.0s
AHID Auburn Hatcher 109.13 326 PFAKE 00 23 30.0
AHID LR LR
comp=Z,3µm,19.0s
PESTR Estremoz 109.23 44 *e*PP PP 00 23 44.9 -0.9
PMRV Marv??o 109.80 44 *e*SS SS 00 39 14.8 +1.6
PMRV Marv??o 109.80 44 *e*LR LR 00 56 09.7
comp=Z,2µm,22.0s
MTE Manteigas 110.61 44 *e*SS SS 00 39 24.9 +0.7
MTE Manteigas 110.61 44 *e*LR LR 00 56 35.9
comp=Z,3µm,22.0s
MTE Manteigas 110.61 44 PFAKE 00 23 30.0
MTE LR LR
comp=Z,4µm,22.0s
AGMN Agassiz Nation 110.79 339 PFAKE 00 23 30.0
AGMN LR LR
comp=Z,2µm,19.0s
RLMT Red Lodge 110.81 328 PFAKE 00 23 30.0
RLMT LR LR
comp=Z,3µm,20.0s
HLID Hailey 110.82 324 PFAKE 00 23 30.0
HLID LR LR
comp=Z,2µm,21.0s
PAB San Pablo 110.99 46 PFAKE 00 23 30.0
PAB LR LR
comp=Z,4µm,21.0s
WVOR Wild Horse Val 111.10 320 PFAKE 00 23 30.0
WVOR LR LR
comp=Z,2µm,19.0s
ESDC Sonseca Array 111.24 46 PP PP 00 23 58.1 -2.3
ESDC PKKPab **PKKPbc 00 34 18.2 +3.8**
ESDC Sonseca Array 111.24 46 PP PP 00 23 58.1 -2.3
comp=Z,2.9nm,1.0s,baz=205,slow=7.1,SNR=9.2
ESDC PKKPab **PKKPbc 00 34 18.2 +3.8**
comp=Z,0.1nm,0.3s,baz=59,slow=5.4,SNR=4.8
MVO Moncorvo 111.47 44 *e*SS SS 00 39 35.7 0.0
MVO Moncorvo 111.47 44 *e*LR LR 00 56 17.8
comp=Z,2µm,18.0s
LAO LASA Array 111.49 331 PFAKE 00 23 30.0
LAO LR LR
comp=Z,2µm,20.0s
PGAV Gavieira, Arco 111.75 42 *e*LR LR 01 00 56.7
comp=Z,2µm,20.0s
BOZ Bozeman (W) 111.93 327 PFAKE 00 23 30.0
BOZ LR LR
comp=Z,3µm,22.0s
D19A Cripps Ranch, 112.60 329 ⇓PKiKP PKiKP 00 23 23.4 +1.2
baz=113
ULM Lac du Bonnet 112.67 339 PP PP 00 24 08.3 -2.1
ULM PKKPab **PKKPbc 00 34 11.2 +1.3**
ULM Lac du Bonnet 112.67 339 PP PP 00 24 08.3 -2.1
comp=Z,3.4nm,0.8s,baz=149,slow=7.9,SNR=3.8
ULM PKKPab **PKKPbc 00 34 11.2 +1.3**
comp=Z,5.1nm,0.9s,baz=326,slow=7.3,SNR=3.3
DGMT Dagmar 112.68 333 PFAKE 00 23 30.0
DGMT LR LR
comp=Z,2µm,22.0s
BMO Blue Mountains 112.86 322 PFAKE 00 23 30.0
BMO LR LR
comp=Z,2µm,22.0s
C20A Veseth Ranch, 112.89 330 ⇓PKiKP PKiKP 00 23 24.4 +1.7
baz=113
KEST Kesra 113.13 58 PP PP 00 24 14.5 +0.5
KEST Kesra 113.13 58 PP PP 00 24 14.5 +0.5
comp=Z,12nm,1.3s,baz=166,slow=4.2,SNR=4.9
C19A Slack Wire Ran 113.17 329 ⇑PKiKP PKiKP 00 23 24.5 +1.2
baz=113
CHMT Chamberlain Mo 113.54 326 *e*PKiKP PKiKP 00 23 23.0 -1.3
CHMT *e*PP **PP 00 24 16.8 -0.1**
B20A Solberg Farm, 113.56 330 ⇑Pdiff PKiKP 00 23 25.6 +1.6
baz=114
A22A Carney Farms, 113.57 332 ⇑Pdiff PKiKP 00 23 25.5 +1.5
baz=114
EGMT Eagleton 113.62 329 PFAKE 00 23 40.0
EGMT LR LR
comp=Z,2µm,19.0s
EGMT Eagleton 113.62 329 ⇑PKiKP PKiKP 00 23 25.0 +0.8
baz=114
MSO Missoula 113.66 326 ⇓PKiKP PKiKP 00 23 25.4 +1.1
baz=114
B19A Brinkman Farms 113.81 330 ⇑PKiKP PKiKP 00 23 26.5 +2.1
baz=114
HAWA Hanford 114.93 322 PFAKE 00 23 40.0 +13
HAWA LR LR
comp=Z,3µm,20.0s
KAPI Kappang 115.09 185 PFAKE 00 23 40.0 +12
KAPI LR LR
comp=Z,2µm,20.0s
SJPF Ste Jean 115.24 47 *e*PKiKP PKPdf 00 23 26.6 -0.7
SJPF Ste Jean 115.24 47 *e*PKiKP PKPdf 00 23 26.6 -0.7
SJPF Ste Jean 115.24 47 *e*PKPdf PKPdf 00 23 26.6 -0.7
WDD Wield Dalam 115.50 62 PFAKE 00 23 40.0 +12
WDD LR LR
comp=Z,5µm,21.0s
NEW Newport 115.88 324 PKP PKPdf 00 23 26.4 -2.0
NEW PP **PP 00 24 31.0 -2.2**
NEW LR LR
comp=Z,2µm,20.0s
NEW Newport 115.88 324 ⇓PKiKP PKiKP 00 23 30.1 +1.6
baz=116
NEW Newport 115.88 324 PKP PKPdf 00 23 26.4 -2.0
comp=Z,4.1nm,0.9s,baz=255,slow=3.5,SNR=5.0
NEW PP **PP 00 24 31.0 -2.2**
comp=Z,2.5nm,0.9s,baz=158,slow=12,SNR=4.7
VSL Villasalto 116.32 56 PFAKE 00 23 40.0 +10
VSL LR LR
comp=Z,5µm,20.0s
NLWA Neilton Lookou 117.21 319 PFAKE 00 23 40.0 +9.0
NLWA LR LR
comp=Z,2µm,19.0s
FFC Flin Flon 118.09 337 PFAKE 00 23 40.0 +7.6
FFC LR LR
comp=Z,2µm,21.0s
CEL Celeste 118.10 62 PFAKE 00 23 40.0 +6.9
CEL LR LR
comp=Z,6µm,20.0s
TIP Timpagrande 119.24 62 PFAKE 00 23 50.0 +15
TIP LR LR
comp=Z,4µm,21.0s
TOUF Mont Tournerai 119.24 52 PKP PKPdf 00 23 36.7 +1.5
SSB Saint Sauveur 119.25 49 PFAKE 00 23 50.0 +15
SSB LR LR
comp=Z,3µm,20.0s
AUTN L'Aution 119.29 52 PKP PKPdf 00 23 34.7 -0.7
EDM Edmonton 119.30 329 *e*PKIKP PKPdf 00 23 34.6 -0.2
EDM *e* 00 24 55.5
EDM Edmonton 119.30 329 *e*PKPdf PKPdf 00 23 34.6 -0.2
EDM *e*PP **PP 00 24 55.5 -1.5**
SAOF Saorge 119.34 52 PKP PKPdf 00 23 35.5 +0.3
ORIF Oris-en-Rattie 119.46 50 *e*PKIKP PKPdf 00 23 34.3 -1.2
comp=Z,54nm,1.6s
ORIF Oris-en-Rattie 119.46 50 *e*PKIKP PKPdf 00 23 34.3 -1.2
ORIF Oris-en-Rattie 119.46 50 *e*PKPdf PKPdf 00 23 34.3 -1.2
CUC Castrocucco 119.49 61 PFAKE 00 23 50.0 +14
CUC LR LR
comp=Z,4µm,22.0s
BNI Bardonecchia 119.88 51 *e*PKIKP PKPdf 00 23 35.8 -0.6
BNI MLR MLR
comp=Z,5µm,22.0s
BNI Bardonecchia 119.88 51 *e*PKPdf PKPdf 00 23 35.8 -0.6
BNI LR LR
comp=Z,5µm,22.0s
GSI Gunungsitoli 119.96 160 PKP PKPdf 00 23 39.7 +2.3
AVF Avril sur Loir 120.07 48 *e*PKIKP PKPdf 00 23 36.3 -0.2
comp=Z,50nm,1.6s
AVF Avril sur Loir 120.07 48 *e*PKIKP PKPdf 00 23 36.3 -0.2
AVF Avril sur Loir 120.07 48 *e*PKPdf PKPdf 00 23 36.3 -0.2
EIL Elat 120.13 82 PKP PKPdf 00 23 36.9 -0.3
EIL Elat 120.13 82 PKP PKPdf 00 23 36.9 -0.3
comp=Z,5.7nm,1.0s,baz=34,slow=7.3
SMF Signal de Mont 120.13 48 *e*PKIKP PKPdf 00 23 36.5 -0.1
comp=Z,36nm,1.4s
SMF Signal de Mont 120.13 48 *e*PKIKP PKPdf 00 23 36.5 -0.1
SMF Signal de Mont 120.13 48 *e*PKPdf PKPdf 00 23 36.5 -0.1
LPG La Plagne 120.28 51 *e*PKIKP PKPdf 00 23 38.3 +1.0
comp=Z,56nm,1.3s
LPG La Plagne 120.28 51 *e*PKIKP PKPdf 00 23 38.3 +1.0
LPG La Plagne 120.28 51 *e*PKPdf PKPdf 00 23 38.3 +1.0
LPL La Plagne 120.29 51 *e*PKIKP PKPdf 00 23 38.1 +0.8
comp=Z,56nm,1.4s
LPL La Plagne 120.29 51 *e*PKIKP PKPdf 00 23 38.1 +0.8
LPL La Plagne 120.29 51 *e*PKPdf PKPdf 00 23 38.1 +0.8
SSF Saint Saulge 120.36 48 *e*PKIKP PKPdf 00 23 36.8 -0.2
comp=Z,19nm,1.3s
SSF Saint Saulge 120.36 48 *e*PKIKP PKPdf 00 23 36.8 -0.2
SSF Saint Saulge 120.36 48 *e*PKPdf PKPdf 00 23 36.8 -0.2
AQU L'Aquila 120.39 57 PFAKE 00 23 50.0 +13
AQU LR LR
comp=Z,10µm,21.0s
VLC Villacollemand 120.62 54 PFAKE 00 23 50.0 +12
VLC LR LR
comp=Z,2µm,19.0s
LOR Lormes 120.66 48 *e*PKIKP PKPdf 00 23 37.7 +0.1
comp=Z,27nm,1.2s
LOR Lormes 120.66 48 *e*PKPdf PKPdf 00 23 37.7 +0.1
SANT Santorini 120.95 70 PFAKE 00 23 50.0 +11
SANT LR LR
comp=Z,1µm,20.0s
CABF La Chapelle 120.95 50 *e*PKIKP PKPdf 00 23 37.6 -0.7
CABF La Chapelle 120.95 50 *e*PKIKP PKPdf 00 23 37.6 -0.7
CABF La Chapelle 120.95 50 *e*PKPdf PKPdf 00 23 37.6 -0.7
PALK Pallekele 121.41 139 *e*PKPdf PKPdf 00 23 40.5 +0.3
KSM Kuching 121.54 175 PFAKE 00 23 50.0 +10
KSM LR LR
comp=Z,6µm,22.0s
PSI Prapat 121.65 161 PKP PKPdf 00 23 38.6 -2.2
PSI Prapat 121.65 161 PKP PKPdf 00 23 38.6 -2.2
comp=Z,6.0nm,0.9s,baz=208,slow=5.2,SNR=10
SFTF Sexfontaines 121.88 48 *e*PKIKP PKPdf 00 23 39.2 -0.7
comp=Z,75nm,1.3s
SFTF Sexfontaines 121.88 48 *e*PKPdf PKPdf 00 23 39.2 -0.7
TUE Stuetta 122.11 52 *e*PKPdf PKPdf 00 23 40.0 -0.6
TUE LR LR
comp=Z,3µm,20.0s
MEZF Maizieres J'vi 122.13 48 *e*PKIKP PKPdf 00 23 40.9 +0.5
comp=Z,49nm,1.1s
MEZF Maizieres J'vi 122.13 48 *e*PKPdf PKPdf 00 23 40.9 +0.5
HINF Hinteralfeld 122.24 49 *e*PKIKP PKPdf 00 23 40.9 +0.2
comp=Z,113nm,1.8s
HINF Hinteralfeld 122.24 49 *e*PKIKP PKPdf 00 23 40.9 +0.2
HINF Hinteralfeld 122.24 49 *e*PKPdf PKPdf 00 23 40.9 +0.2
THEF They Montfort 122.25 48 PKP PKPdf 00 23 39.6 -1.1
MOF Molkenrain 122.38 49 PKP PKPdf 00 23 42.1 +1.1
TIR Tirane 122.38 63 PFAKE 00 23 50.0 +8.9
TIR LR LR
comp=Z,4µm,20.0s
SBUM Sibu 122.58 177 PKP PKPdf 00 23 50.0 +7.6
ECH Echery 122.69 49 *e*PKIKP PKPdf 00 23 41.4 -0.1
ECH MLR MLR
comp=Z,2µm,19.0s
ECH Echery 122.69 49 PKP PKPdf 00 23 41.8 +0.3
ECH Echery 122.69 49 *e*PKPdf PKPdf 00 23 41.4 -0.1
ECH LR LR
comp=Z,2µm,19.0s
FELD Feldberg im Sc 122.73 50 PKP PKPdf 00 23 41.1 -0.7
CDF Champ du Feu 122.89 49 *e*PKIKP PKPdf 00 23 42.2 +0.2
comp=Z,114nm,1.9s
CDF Champ du Feu 122.89 49 *e*PKIKP PKPdf 00 23 42.2 +0.2
CDF Champ du Feu 122.89 49 *e*PKPdf PKPdf 00 23 42.2 +0.2
DAVA Damuels 122.98 52 *i* PKiKP PKiKP 00 23 43.4 +0.9
comp=Z,33nm,1.2s,SNR=9.7
FETA Feichten 123.10 52⇑*i*PKPdf PKPdf 00 23 43.1 +0.6
comp=Z,18nm,1.5s,SNR=6.9
BAIF Baives 123.11 46 *e*PKIKP PKPdf 00 23 42.7 +0.5
comp=Z,57nm,1.5s
BAIF Baives 123.11 46 *e*PKIKP PKPdf 00 23 42.7 +0.5
BAIF Baives 123.11 46 *e*PKPdf PKPdf 00 23 42.7 +0.5
ASF Jabal al Asfar 123.13 82 PKP PKPdf 00 23 43.1 +0.2
ASF PP **PP 00 25 24.1 +0.8**
ASF Jabal al Asfar 123.13 82 PKP PKPdf 00 23 43.1 +0.2
comp=Z,8.0nm,1.1s,baz=115,slow=1.7,SNR=4.7
ASF PP **PP 00 25 24.1 +0.8**
comp=Z,0.8nm,0.4s,baz=146,slow=5.1,SNR=3.4
BFO Black Forest 123.23 50 *e*PKIKP PKPdf 00 23 42.3 -0.3
BFO *e* 00 25 23.3
BFO MLR MLR
comp=Z,2µm,20.0s
BFO Black Forest 123.23 50 *e*PKPdf PKPdf 00 23 43.5 +0.9
BFO Black Forest 123.23 50 *e*PKPdf PKPdf 00 23 42.3 -0.3
BFO *e*PP **PP 00 25 23.3 -0.5**
BFO LR LR
comp=Z,2µm,20.0s
RETA Reutte 123.49 52⇑*i*PKPdf PKPdf 00 23 43.5 +0.3
comp=Z,23nm,1.2s,SNR=10
WLF Walferdange 123.50 48 *e*PKPdf PKPdf 00 23 44.4 +1.4
WLF Walferdange 123.50 48 PFAKE 00 23 50.0 +7.0
WLF LR LR
comp=Z,2µm,20.0s
MOTA Moosalm 123.51 52⇑*i*PKPdf PKPdf 00 23 43.6 +0.3
comp=Z,13nm,1.1s,SNR=8.2
LANF Langenberg 123.56 49 PKP PKPdf 00 23 42.3 -0.8
VAY Valandovo 123.58 65 *e*PKP PKPdf 00 23 45.1 +1.8
ABTA Abfaltersbach 123.60 54 *i* PKPdf PKPdf 00 23 44.0 +0.6
comp=Z,21nm,1.3s,SNR=8.9
CSS Prodhromos 123.61 77 PFAKE 00 23 50.0 +6.3
CSS LR LR
comp=Z,5µm,20.0s
IPM Ipoh 123.62 163 PKP PKPdf 00 23 45.8 +1.4
IPM Ipoh 123.62 163 *e*PKPdf PKPdf 00 23 44.3 -0.2
WTTA Wattenberg 123.66 53⇑*i*PKPdf PKPdf 00 23 44.2 +0.6
comp=Z,40nm,1.2s,SNR=14
STU Stuttgart 123.92 50 *e*PKPdf PKPdf 00 23 45.0 +1.2
MYKA Terra Mystica 123.96 55⇓*i*PKPdf PKPdf 00 23 44.6 +0.6
comp=Z,28nm,1.3s,SNR=9.6
LEGS Legarje 124.11 56 *e*PKPdf PKPdf 00 23 45.4 +1.1
LEGS *e* 00 25 27.8
OBKA Obir 124.24 55 *i* PKiKP PKiKP 00 23 45.9 +1.0
comp=Z,37nm,1.3s,SNR=9.6
FUR Furstenfeldbru 124.25 52 *e*PKIKP PKPdf 00 23 45.4 +0.9
FUR Furstenfeldbru 124.25 52 *e*PKPdf PKPdf 00 23 45.4 +0.9
KULM Kulim 124.36 163 *e*P PKPdf 00 23 45.4 -0.4
KULM LR LR
comp=Z,4µm,22.0s
RJOB Jochberg 124.51 53 *e*PKPdf PKPdf 00 23 45.6 +0.5
ISP Isparta 124.52 73 PFAKE 00 24 00.0 +15
ISP LR LR
comp=Z,2µm,19.0s
SOKA Soboth 124.57 55⇓*i*PKPdf PKPdf 00 23 46.0 +0.8
comp=Z,27nm,1.3s,SNR=13
PERS Pernice 124.58 56 *e*PKPdf PKPdf 00 23 46.2 +1.0
H11S2 WAKE ISLAND Hyl 124.58 245 T T 02 40 55.1
baz=152
GROS Grobnik 124.59 56 *e*PKPdf PKPdf 00 23 46.4 +1.1

H11S3	WAKE ISLAND Hyl	24.60	245		T	T		02 41 02.7	
	baz=152								
H11S1	WAKE ISLAND Hyl	24.60	245		T	T		02 40 59.9	
	baz=152								
TNS	Taunus Mts	124.82	49		ePKIKP	PKPdf	00 23 47.1	+1.5	
TNS					e		00 25 33.6		
TNS	Taunus Mts	124.82	49		ePKPdf	PKPdf	00 23 47.1	+1.5	
TNS					ePP	PP	00 25 33.6	-0.9	
VTS	Vitosha	124.88	64	⇑	PKIKP	PKPdf	00 23 47.5	+1.4	
VTS	Vitosha	124.88	64	⇑	iP	PKPdf	00 23 47.5	+1.4	
KOGS	Kog	124.90	56		ePKPdf	PKPdf	00 23 47.1	+1.4	
ESK	Eskdalemuir	125.02	38		PFAKE		00 24 00.0	+14	
ESK					LR	LR			
	comp=Z,2μm,20.0s								
MIDW	Midway	125.09	266		PFAKE		00 24 00.0	+13	
MIDW					LR	LR			
	comp=Z,4μm,19.0s								
MOA	Molln	125.19	54		i PKPdf	PKPdf	00 23 47.0	+0.7	
	comp=Z,31nm,1.4s,SNR=14								
ARSA	Arzberg	125.23	55	⇑	iPKPdf	PKPdf	00 23 46.7	+0.3	
	comp=Z,26nm,1.4s,SNR=15								
MYLDM	Lahad Datu	125.26	184		PKP	PKPdf	00 23 55.8	+8.3	
WAKE	Wake Island	125.30	245		PFAKE		00 24 00.0	+13	
WAKE					LR	LR			
	comp=Z,2μm,19.0s								
BUG	Bochum--Univer	125.36	47		ePKPdf	PKPdf	00 23 47.9	+1.5	
BUG					ePP	PP	00 25 34.5	-3.5	
GRFO	Grafenberg	125.45	51		ePKIKP	PKPdf	00 23 47.1	+0.4	
GRFO	Grafenberg	125.45	51		ePKPdf	PKPdf	00 23 47.1	+0.4	
GRF	Grafenberg Arr	125.45	51		ePKIKP	PKPdf	00 23 47.9	+1.2	
GRF	Grafenberg Arr	125.45	51		ePKPdf	PKPdf	00 23 47.9	+1.2	
GRF					ePP	PP	00 25 36.6	-2.1	
BSY	Bisya	125.47	107		PKPdf	PKPdf	00 23 48.5	+0.8	
	SNR=6.4								
H11N3	WAKE ISLAND Hyl	125.56	246		T	T	02 42 04.9		
	baz=146,slow=0.7								
H11N1	WAKE ISLAND Hyl	125.56	246		T	T	02 41 50.9		
	baz=146,slow=0.7								
H11N2	WAKE ISLAND Hyl	125.58	246		T	T	02 42 05.5		
	baz=146,slow=0.7								
PKSM	Moragy	125.72	58	⇑	PKIKP	PKPdf	00 23 48.6	+1.3	
PKSM	Moragy	125.72	58	⇑	iP	PKPdf	00 23 48.6	+1.3	
PKSM	Moragy	125.72	58		ePKPdf	PKPdf	00 23 47.7	+0.4	
GEC2	GERESS Array S	125.76	53		ePKIKP	PKPdf	00 23 48.1	+0.6	
GEC2					e		00 25 46.1		
GEC2	GERESS Array S	125.76	53		ePKPdf	PKPdf	00 23 48.1	+0.6	
GEC2					ePP	PP	00 25 46.1	+5.3	
GERES	GERESS Array B	125.76	53		PKP	PKPdf	00 23 46.9	-0.5	
GERES	GERESS Array B	125.76	53		PKP	PKPdf	00 23 46.9	-0.5	
	comp=Z,15nm,1.1s,baz=207,slow=1.5,SNR=41								
RDF	Al-Radifah	125.84	94		eP	PKPdf	00 23 48.9	+0.7	
RDF					AMb	AMB	00 23 52.7		
	comp=Z,78nm,1.8s								
PKS9	Tamasi	125.86	58		ePKPdf	PKPdf	00 23 49.2	+1.6	
UBBA	Unterbreizbach	125.89	49		ePKPdf	PKPdf	00 23 49.0	+1.6	
UBBA					ePP	PP	00 25 43.3	+1.9	
ROTZ	Rotzenmuhle	125.90	51		ePKPdf	PKPdf	00 23 48.4	+0.8	
ROTZ					ePP	PP	00 25 43.6	+2.0	
CONA	Conrad Observa	125.91	55	⇑	iPKPdf	PKPdf	00 23 48.0	+0.2	
	comp=Z,18nm,1.4s,SNR=8.0								
KHC	Kasperske Hory	125.94	53		ePKIKP	PKPdf	00 23 48.2	+0.5	
KHC					e		00 23 55.8		
KHC					e		00 25 45.3		
KHC					e		00 35 39.4		
KHC					MLR	MLR			
	comp=Z,4μm,20.8s								
KHC	Kasperske Hory	125.94	53		ePKPdf	PKPdf	00 23 48.2	+0.5	
KHC					epPKP	pPKPdf	00 23 55.8	+2.6	
KHC					ePP	PP	00 25 45.3	+3.4	
KHC					eSP	SP	00 35 39.4	-2.0	
KHC					eSS	SS	00 42 39.7	-2.9	
KHC					AMS	AMS	01 14 20.0		
	comp=Z,4μm,20.8s								
KHC	Kasperske Hory	125.94	53		ePKPdf	PKPdf	00 23 47.5	-0.2	
KHC					ePP	PP	00 25 40.5	-1.4	
NAY	Al-Naaiem	125.95	93		eP	PKPdf	00 23 48.9	+0.5	
NAY					AMb	AMB	00 23 52.0		
	comp=Z,24nm,1.6s								
SOP	Sopron	126.00	56		e	PKPdf	00 23 47.9	+0.1	
MANZ	Manzenberg	126.03	51		ePKPdf	PKPdf	00 23 48.6	+0.7	
MANZ					ePP	PP	00 25 44.6	+2.0	
RST	Umm Al-Ruwaisa	126.03	93		eP	PKPdf	00 23 48.8	+0.3	
RST					AMb	AMB	00 23 51.6		
	comp=Z,405nm,1.2s								
KBD	Kabd	126.12	93		eP	PKPdf	00 23 49.3	+0.6	
KBD					AMb	AMB	00 23 52.0		
	comp=Z,44nm,1.4s								
ASUD	Al Ashush, Dub	126.15	104		PKPdf	PKPdf	00 23 50.3	+1.5	
	SNR=5.8								
KKM	Kota Kinabalu	126.18	182		PFAKE		00 24 00.0	+11	
KKM					LR	LR			
	comp=Z,2μm,22.0s								
PKS2	Kecel	126.19	58		ePKPdf	PKPdf	00 23 49.0	+0.8	
WBK	Wadi Bani Khal	126.20	108		PKPdf	PKPdf	00 23 49.7	+0.6	
	SNR=15								
HOQ	Hoqain	126.23	106		PKPdf	PKPdf	00 23 49.4	+0.3	
	SNR=6.2								
PKST	T`s	126.29	57	⇑	ePKPdf	PKPdf	00 23 49.1	+0.7	
NKC	Novy Kostel	126.36	51		ePP	PP	00 25 42.5	-2.3	
NKC					ex	x	00 42 39.3		
NKC					AMS	AMS	01 17 10.0		
	comp=Z,2μm,20.3s								
WERN	Wernitzgruen	126.38	51		ePKPdf	PKPdf	00 23 49.8	+1.3	
GUNZ	Gunzen	126.42	51		ePKPdf	PKPdf	00 23 49.7	+1.1	
PLN	Plauen	126.45	51		ePKPdf	PKPdf	00 23 49.6	+1.0	
PLN					ePP	PP	00 25 47.1	+1.8	
WERD	Werda	126.48	51		ePKPdf	PKPdf	00 23 49.7	+1.0	
WERD					ePP	PP	00 25 47.2	+1.7	
TANN	Tannenbergstha	126.51	51		ePKPdf	PKPdf	00 23 49.7	+0.9	
TANN					ePP	PP	00 25 47.5	+1.7	
PKSG		126.54	57		ePKPdf	PKPdf	00 23 49.8	+0.9	
BZS	Buzias	126.54	61	⇑	PKIKP	PKPdf	00 23 50.4	+1.5	
BZS	Buzias	126.54	61	⇑	iP	PKPdf	00 23 50.3	+1.4	
ASHO	Ashiyiah	126.55	104		PKPdf	PKPdf	00 23 51.5	+1.8	
	SNR=9.5								
DAV	Davao City (W)	126.59	193		PFAKE		00 24 00.0	+10	
DAV					LR	LR			
	comp=Z,1μm,20.0s								
PKS7	Kunszentmiklos	126.60	58		ePKPdf	PKPdf	00 23 49.9	+0.9	
NAZ	Nazwa, Dubai	126.61	104		PKPdf	PKPdf	00 23 49.7	0.0	
	SNR=13								
HATD	Hatta, Dubai	126.71	104		PKPdf	PKPdf	00 23 49.6	-0.3	
	SNR=11								
PKSN	Nyarlorinc	126.78	59	⇓	ePKPdf	PKPdf	00 23 51.3	+2.0	
TREC	Trest	126.83	54		ePKIKP	PKPdf	00 23 50.2	+0.8	
TREC					e		00 23 56.6		
TREC					MLR	MLR			
	comp=Z,2μm,21.0s								
TREC	Trest	126.83	54		ePKPdf	PKPdf	00 23 50.2	+0.8	
TREC					epPKP	pPKPdf	00 23 56.6	+1.7	
TREC					AMS	AMS	01 14 00.0		
	comp=Z,2μm,21.0s								
CLZ	Clausthal	126.84	49		ePKIKP	PKPdf	00 23 50.8	+1.4	
CLZ	Clausthal	126.84	49		ePKPdf	PKPdf	00 23 50.8	+1.4	
NEUB	Neuenburg	126.88	50		ePKPdf	PKPdf	00 23 50.5	+1.1	
GZR	Gura Zlata	126.88	62	⇑	PKIKP	PKPdf	00 23 49.2	-0.5	
GZR	Gura Zlata	126.88	62	⇑	iP	PKPdf	00 23 49.2	-0.5	
PRU	Pruhonice	127.00	53		ePKIKP	PKPdf	00 23 50.1	+0.4	
PRU					e		00 23 56.7		
PRU					MLR	MLR			
	comp=Z,2μm,23.8s								
PRU	Pruhonice	127.00	53		ePKPdf	PKPdf	00 23 50.1	+0.4	
PRU					epPKP	pPKPdf	00 23 56.7	+1.6	
PRU					ePP	PP	00 25 46.0	-2.9	
PRU					ex	x	00 42 32.0		
PRU					AMS	AMS	01 11 00.0		
	comp=Z,2μm,23.8s								
PRA	Prague	127.02	53		PKPdf	PKPdf	00 23 50.0	+0.3	
PRA					PP	PP	00 25 47.0	-2.0	
SFJD	Kangerlussuaq	127.12	7		PFAKE		00 24 00.0	+11	
SFJD					LR	LR			
	comp=Z,3μm,22.0s								
ANTO	Ankara	127.23	73		PFAKE		00 24 00.0	+9.4	
ANTO					LR	LR			
	comp=Z,2μm,20.0s								
FBE	Freiberg	127.26	51		ePKPdf	PKPdf	00 23 51.3	+1.2	
FBE					ePP	PP	00 25 54.2	+3.6	
NRDL	Niedersach Rie	127.26	48		ePKPdf	PKPdf	00 23 51.6	+1.6	
NRDL					ePP	PP	00 25 49.6	-0.9	
VRAC	Vranov	127.30	54	⇑	iP	PKPdf	00 23 50.7	+0.4	
LOT	Lotru	127.36	62	⇑	iP	PKPdf	00 23 54.7	+4.0	
CLL	Collm	127.43	51		ePKIKP	PKPdf	00 23 51.0	+0.6	
CLL					e		00 23 58.0		
CLL					pmax	pmax			
	comp=Z,30nm,1.6s								
CLL					MLR	MLR			
	comp=Z,2μm,19.6s								
CLL	Collm	127.43	51		ePKPdf	PKPdf	00 23 51.5	+1.1	
CLL					ePP	PP	00 25 49.8	-1.9	
CLL	Collm	127.43	51		ePKPdf	PKPdf	00 23 51.0	+0.6	
	comp=Z,30nm,1.6s								
CLL					e		00 23 58.0		
CLL					i		00 24 03.0		
	comp=Z,31nm,1.1s								
CLL					ePP	PP	00 25 49.0	-2.7	
CLL					eSdif	Sdif	00 33 48.0	-4.9	
CLL					ePPS	PPS	00 37 37.0		
CLL					eSS	SS	00 43 03.0	+2.0	
CLL					eSSS	SSS	00 47 39.0		
CLL					e		00 50 12.0		
CLL					eSSSS		00 51 12.0		
CLL					LmH		01 17 00.0		
	comp=N,2μm,19.5s								
CLL					LmH		01 17 00.0		
	comp=E,1μm,20.7s								
CLL					LmV		01 18 00.0		
	comp=Z,2μm,19.6s								
PVCC	Panska Ves	127.43	52		ePKIKP	PKPdf	00 23 51.5	+1.0	
PVCC					e		00 23 58.2		
PVCC					MLR	MLR			
	comp=Z,3μm,21.8s								
PVCC	Panska Ves	127.43	52		ePKPdf	PKPdf	00 23 51.5	+1.0	
PVCC					epPKP	pPKPdf	00 23 58.2	+2.3	
PVCC					ePP	PP	00 25 47.7	-4.1	
PVCC					AMS	AMS	01 14 50.0		
	comp=Z,3μm,21.8s								
BRG	Berggiesshubel	127.45	52		ePKP	PKPdf	00 23 51.8	+1.3	
	comp=Z,44nm,1.9s								
BRG					e		00 25 57.4		
	comp=Z,83nm,2.4s								
BRG					SKP		00 27 06.0		
BRG					SS	SS	00 43 20.0	+19	
BRG									
	comp=N,1μm,20.8s								
BRG									
	comp=E,895nm,19.4s								
BRG									
	comp=Z,2μm,19.0s								
BRG	Berggiesshubel	127.45	52		ePKIKP	PKPdf	00 23 51.8	+1.3	
BRG					e		00 25 57.4		
BRG					pmax	pmax			
	comp=Z,44nm,1.9s								
BRG					pmax	pmax			
	comp=Z,83nm,2.4s								
BRG					MLR	MLR			
	comp=N,1μm,20.8s								
BRG					MLR	MLR			
	comp=E,895nm,19.4s								
BRG					MLR	MLR			
	comp=Z,2μm,19.0s								
BRG	Berggiesshubel	127.45	52		ePKPdf	PKPdf	00 23 51.5	+1.0	
BRG					ePP	PP	00 25 51.0	-0.9	
BRTR	Keskin Array B	127.52	74		PKP	PKPdf	00 23 50.5	-0.7	
BRTR					PP	PP	00 25 54.0	+1.4	
BRTR	Keskin Array B	127.52	74		PKP	PKPdf	00 23 50.5	-0.7	
	comp=Z,2.5nm,0.9s,baz=183,slow=2.5,SNR=12								
BRTR					PP	PP	00 25 54.0	+1.4	
	comp=Z,6.1nm,1.2s,baz=205,slow=5.5,SNR=4.1								
PSZ	Piszkesteto	127.59	58		ePKIKP	PKPdf	00 23 50.9	-0.1	
PSZ					e		00 25 52.9		
PSZ					MLR	MLR			
	comp=Z,2μm,21.0s								
PSZ	Piszkesteto	127.59	58		ePKPdf	PKPdf	00 23 50.9	-0.1	
PSZ					ePP	PP	00 25 52.9	0.0	
PSZ					LR	LR			
	comp=Z,2μm,21.0s								
PSZ	Piszkesteto	127.59	58		ePKPdf	PKPdf	00 23 52.2	+1.2	
WRAK	Wrangell Islan	127.64	320		PFAKE		00 24 00.0	+9.4	
WRAK					LR	LR			
	comp=Z,2μm,19.0s								
ARR	Arges	127.69	63	⇓	iP	PKPdf	00 23 52.0	+0.8	
YKA	Yellowknife Ar	127.88	333		PKP	PKPdf	00 23 49.5	-1.4	
YKA	Yellowknife Ar	127.88	333		PKP	PKPdf	00 23 49.5	-1.4	
	comp=Z,21nm,1.0s,baz=141,slow=2.3,SNR=18								
VOIR		127.93	63	⇑	PKIKP	PKPdf	00 23 53.0	+1.3	
VOIR		127.93	63	⇑	iP	PKPdf	00 23 53.0	+1.3	
DRGR		127.94	61	⇓	PKIKP	PKPdf	00 23 52.8	+1.1	
DRGR		127.94	61	⇓	iP	PKPdf	00 23 52.8	+1.1	
KRLC	Kraliky	127.97	54		ePP	PP	00 25 56.0	+0.6	
UPC	Upice	127.99	53		ePKIKP	PKPdf	00 23 52.9	+1.3	
UPC	Upice	127.99	53		ePKPdf	PKPdf	00 23 52.9	+1.3	
DPC	Dobruska-Polom	128.00	53		ePKIKP	PKPdf	00 23 52.9	+1.3	
DPC					e		00 23 58.7		
DPC					e		00 25 56.0		
DPC	Dobruska-Polom	128.00	53		ePKPdf	PKPdf	00 23 52.9	+1.3	
DPC					epPKP	pPKPdf	00 23 58.7	+1.6	
DPC					ePP	PP	00 25 56.0	+0.4	
DPC					ex	x	00 42 23.7		
DPC					AMS	AMS	01 12 20.0		
MORC	Moravsky Berou	128.05	55		ePKIKP	PKPdf	00 23 51.0	-0.8	
MORC					e		00 25 55.6		
MORC	Moravsky Berou	128.05	55	⇑	iP	PKPdf	00 23 53.4	+1.6	
MORC	Moravsky Berou	128.05	55		ePKPdf	PKPdf	00 23 51.0	-0.8	
MORC					ePP	PP	00 25 55.6	-0.4	
KECS	Kecovo	128.28	58		ePKIKP	PKPdf	00 23 53.2	+1.0	
KECS	Kecovo	128.28	58		ePKP	PKPdf	00 23 53.2	+1.0	
KECS					ePP	PP	00 25 56.0	-1.4	
OKC	Ostrava-Krasne	128.34	55		ePKIKP	PKPdf	00 23 54.1	+1.9	
OKC					e		00 24 00.1		
OKC					e		00 37 47.7		
OKC					MLR	MLR			
	comp=Z,2μm,22.3s								
OKC	Ostrava-Krasne	128.34	55		ePKPdf	PKPdf	00 23 54.1	+1.9	
OKC					epPKP	pPKPdf	00 24 00.1	+2.4	
OKC					ex	x	00 37 47.7		
OKC					ex	x	00 39 02.2		
OKC					AMS	AMS	01 14 50.0		
	comp=Z,2μm,22.3s								
KSP	Ksiaz	128.37	53		ePKIKP	PKPdf	00 23 52.8	+0.5	
KSP					e		00 37 36.3		
KSP					eSS	SS	00 43 23.0	+10	
KSP	Ksiaz	128.37	53		ePKP	PKPdf	00 23 53.8	+1.5	
KSP					ePP	PP	00 25 57.1	-0.8	
KSP					eSS	SS	00 43 37.2	+24	
KSP					LMZ	LR	01 12 23.8		
MLR	Muntele Rosu	128.37	64	⇑	iP	PKPdf	00 23 52.4	-0.2	
BSEG	Bad Segeberg	128.48	47		ePP	PP	00 25 56.5	-2.1	
DLBC	Dease Lake	128.55	322		ePKPdf	PKPdf	00 23 51.9	-0.5	
DLBC					PKP	PKPdf	00 23 52.9	+0.4	
DLBC	Dease Lake	128.55	322		PKP	PKPdf	00 23 52.9	+0.4	
	comp=Z,34nm,1.2s,baz=109,slow=2.7,SNR=9.9								
HARR	Harsova	128.66	66	⇑	PKIKP	PKPdf	00 23 58.2	+5.2	
HARR	Harsova	128.66	66	⇑	iP	PKPdf	00 23 58.2	+5.2	
BORG	Borgarnes	128.69	22		PFAKE		00 24 00.0	+7.6	
BORG					LR	LR			
	comp=Z,3μm,21.0s								
GUMO	Guam	128.71	218		PFAKE		00 24 10.0	+16	
GUMO					LR	LR			
	comp=Z,1μm,20.0s								
MALT	Malatya	128.76	79	⇓	PKIKP	PKPdf	00 23 55.2	+1.6	
MALT	Malatya	128.76	79	⇓	iP	PKPdf	00 23 55.2	+1.6	
TRPA	Tarpa	128.89	59	⇑	iP	PKPdf	00 23 55.1	+1.8	
TRPA	Tarpa	128.89	59	⇑	ePKPdf	PKPdf	00 23 54.2	+0.9	
NIE	Niedzica	128.92	57		ePKIKP	PKPdf	00 23 54.4	+1.0	
NIE	Niedzica	128.92	57		ePKPdf	PKPdf	00 23 54.4	+1.0	
NIE					ePP	PP	00 25 59.9	-1.8	
PLOR	Plostina	128.97	64	⇑	PKIKP	PKPdf	00 23 54.2	+0.6	
PLOR	Plostina	128.97	64	⇑	iP	PKPdf	00 23 54.2	+0.6	
VRI	Vrincioaia	129.01	64	⇑	PKIKP	PKPdf	00 23 54.4	+0.7	
VRI	Vrincioaia	129.01	64	⇑	iP	PKPdf	00 23 54.4	+0.7	
CRVS	Cervenica-Dubn	129.01	58		ePKIKP	PKPdf	00 23 55.1	+1.5	
CRVS	Cervenica-Dubn	129.01	58		ePKP	PKPdf	00 23 55.1	+1.5	
CRVS					ePP	PP	00 26 00.0	-2.2	
CFR	Carcaliu	129.13	66	⇑	PKIKP	PKPdf	00 23 55.2	+1.3	
CFR	Carcaliu	129.13	66	⇑	iP	PKPdf	00 23 55.2	+1.3	
UZH	Uzhgorod	129.16	59		i PKHKP	PKPpre	00 23 37.1		
UZH					i		00 23 55.3		
UZH					e		00 26 09.5		
UZH					ePPP	PPP	00 28 49.9		
UZH					eSS	SS	00 43 24.3	+1.7	
UZH					MLR	MLR			
	comp=N,1μm,19.0s								
UZH					MLR	MLR			
	comp=E,700nm,19.0s								
UZH					MLR	MLR			
	comp=Z,400nm,19.0s								
POO	Poona	129.25	126		eP	PKPdf	00 23 52.0	-3.0	
OJC	Ojcow	129.32	56		ePKIKP	PKPdf	00 23 55.0	+0.9	
OJC	Ojcow	129.32	56		ePKPdf	PKPdf	00 23 55.0	+0.9	
OJC					ePP	PP	00 26 01.7	-2.5	
KOLS	Kolonicke sedl	129.39	58		ePKIKP	PKPdf	00 23 55.0	+0.7	
KOLS	Kolonicke sedl	129.39	58		ePKP	PKPdf	00 23 55.0	+0.7	
KOLS					ePP	PP	00 25 59.9	-4.8	
TESR	Tescani	129.47	63	⇑	iP	PKPdf	00 23 55.8	+1.3	
BURAR	Bucovina Array	129.67	62	⇑	PKIKP	PKPdf	00 23 56.0	+1.0	
BURAR	Bucovina Array	129.67	62	⇑	iP	PKPdf	00 23 56.0	+1.0	
HYB	Hyderabad	130.07	132		i PKP	PKPdf	00 23 57.0	+0.4	
HYB					eSKS	SKSdf	00 31 08.0	+0.6	
KWP	Kalwaria Pacla	130.10	58		ePKIKP	PKPdf	00 23 54.5	-1.1	
KWP					MLR	MLR			
	comp=Z,3μm,22.0s								
KWP	Kalwaria Pacla	130.10	58	⇑	iP	PKPdf	00 23 57.0	+1.4	
KWP	Kalwaria Pacla	130.10	58		ePKPdf	PKPdf	00 23 54.5	-1.1	
KWP					ePP	PP	00 26 03.6	-5.7	
KWP					LR	LR			
	comp=Z,3μm,22.0s								
KWP	Kalwaria Pacla	130.10	58		ePKP	PKPdf	00 23 57.3	+1.7	
KWP					eSS	SS	00 44 11.8	+38	
KWP					LMZ	LR	01 16 05.4		
LEOM	Leova	130.16	65	⇑	PKIKP	PKPdf	00 23 57.2	+1.4	
LEOM	Leova	130.16	65	⇑	iP	PKPdf	00 23 57.2	+1.4	
IAS	Iasi	130.39	63	⇓	PKIKP	PKPdf	00 23 57.9	+1.7	
IAS	Iasi	130.39	63	⇓	iP	PKPdf	00 23 57.9	+1.7	
GKP	Gorka Klasztor	130.60	52		ePKIKP	PKPdf	00 23 57.4	+1.0	
GKP					eSS	SS	00 44 04.2	+24	
GKP	Gorka Klasztor	130.60	52		ePKP	PKPdf	00 23 57.3	+0.9	
GKP					eSS	SS	00 44 04.1	+24	
GKP					LMZ	LR	01 10 11.5		
LVV	L'vov	130.81	59		ePKIKP	PKPdf	00 23 58.3	+1.4	
LVV					e		00 26 17.1		
KIS	Kishinev	130.81	64		ePKP	PKPdf	00 23 56.0	-1.0	
KIS	Kishinev	130.81	64		ePP	PP	00 26 28.0	+14	
KIS					eSKP		00 27 20.0		
KIS					eSKS	SKSdf	00 30 57.0	-10	
KIS					eSKSP		00 35 55.0		
KIS					eSS	SS	00 44 16.0	+33	
KIS					eL	L	01 06 54.0		
KIS					LRM	MLR	01 16 56.0		
	comp=Z,1μm,22.0s								
KIS	Kishinev	130.81	64		ePKIKP	PKPdf	00 23 56.0	-1.0	
KIS					i		00 23 58.0		
KIS					e		00 24 04.0		
KIS					e		00 26 28.0		
KIS					e		00 44 16.0		
BEL	Belsk	130.96	55		ePKIKP	PKPdf	00 23 58.7	+1.6	
BEL					eSS	SS	00 44 11.3	+27	
BEL	Belsk	130.96	55		ePKP	PKPdf	00 23 58.7	+1.6	
BEL					eSS	SS	00 44 11.3	+27	
BEL					LMZ	LR	01 18 04.0		
BSD	Bornholm Skovb	131.10	49		i PKIKP	PKPdf	00 23 59.0	+1.7	
BSD					MLR	MLR			
	comp=Z,2μm,24.0s								
BSD	Bornholm Skovb	131.10	49		i P	PKPdf	00 23 59.0	+1.7	
BSD					i		00 24 08.7		
BSD									
	comp=Z,2μm,23.0s								
SIM	Simferopol'	131.74	70		ePKIKP	PKPdf	00 24 00.0	+1.1	
SIM					e		00 26 20.0		
SIM					eSS	SS	00 44 00.0	+5.7	
SIM					eSSS	SSS	00 48 51.0		
SIM					pmax	pmax			
	comp=Z,27nm,1.3s								
SIM					MLR	MLR			
	comp=Z,1μm,20.0s								
BER	Bergen	131.80	39		AMS	AMS	01 21 37.2		
	comp=Z,2μm,17.7s								
KONO	Kongsberg	132.63	42		eSS	SS	00 44 05.8	+1.1	
KONO	Kongsberg	132.63	42		ePKIKP	PKPdf	00 23 59.7	-0.3	
KONO					MLR	MLR			
	comp=Z,3μm,20.0s								
KONO	Kongsberg	132.63	42		ePKPdf	PKPdf	00 23 59.7	-0.3	
KONO					LR	LR			
	comp=Z,3μm,20.0s								
HYT	Haines Junctio	132.78	320		ePKPdf	PKPdf	00 24 01.1	+0.6	
ANN	Anapa	133.21	72	⇓	iPKIKP	PKPdf	00 24 01.4	-0.2	
ANN					e		00 24 06.1		
ANN					e		00 31 06.5		
ANN					pmax	pmax			
	comp=Z,104nm,2.1s								
GNI	Garni	133.31	82		PKPdf	PKPdf	00 24 05.4	+3.2	
	SNR=6.0								
GNI	Garni	133.31	82		ePKPdf	PKPdf	00 24 01.3	-0.9	
GNI					ePP	PP	00 26 30.6	+0.4	
GNI					LR	LR		

KIV *e*PS **PS** **00 37 00.4 -2.4**
KIV *e*SS SS 00 44 35.0 -0.6
KIV pmax pmax
comp=Z,23nm,1.1s
BMRM Bremner River 135.23 317 *e*PKPdf **PKPdf** **00 24 04.5 -0.5**
PBKT Sadao Pong 135.48 161 PKP **PKPdf** **00 24 10.1 +3.4**
RES Resolute Bay 135.84 349 *e*PKPdf **PKPdf** **00 24 05.4 -0.2**
KDAK Kodiak Island 135.90 310 PFAKE 00 24 20.0 +14
KDAK LR LR
comp=Z,4μm,19.0s
SEW Seward 136.34 314 *e*PKPdf **PKPdf** **00 24 06.7 -0.3**
JMIC Jan Mayen 136.54 23 *e* PKPdf 00 24 20.9 +14
MAK Makhachkala 136.78 82 *e*PIKP **PKPdf** **00 24 13.2 +4.9**
MAK *e* 00 26 54.3
MAK *e*PPP PPP 00 29 51.6
MAK *e* 00 37 24.0
MAK pmax pmax
comp=Z,68nm,0.8s
MAK MLR MLR
comp=Z,2μm,16.0s
EGAK Eagle 136.82 323 *e*PKPdf **PKPdf** **00 24 07.4 -0.3**
EGAK LR LR
comp=Z,3μm,19.0s
DOT Dot Lake 136.94 320 *e*PKPdf **PKPdf** **00 24 07.6 -0.5**
NSS Namsos 136.95 38 AMS AMS 01 21 03.9
comp=Z,3μm,20.8s
CMAR Chiang Mai Arr 136.96 158 PKPpre PKPpre 00 23 59.6
CMAR PKP **PKPdf** **00 24 09.4 0.0**
CMAR Chiang Mai Arr 136.96 158 PKhKP PKPpre 00 23 59.6
comp=Z,0.8nm,0.3s,baz=219,slow=2.7,SNR=5.8
CMAR PKP **PKPdf** **00 24 09.4 0.0**
comp=Z,2.0nm,0.5s,baz=224,slow=3.0,SNR=14
INK Inuvik 137.20 329 *e*PKPpre PKPpre 00 23 56.4
INK PKPpre PKPpre 00 23 56.5
INK PKP **PKPdf** **00 24 08.3 0.0**
INK Inuvik 137.20 329 PKhKP PKPpre 00 23 56.5
comp=Z,10nm,1.1s,baz=156,slow=2.0,SNR=5.0
INK PKP **PKPdf** **00 24 08.3 0.0**
comp=Z,41nm,1.1s,baz=130,slow=1.3,SNR=15
PMR Palmer 137.24 316 *e*PKIKP **PKPdf** **00 24 07.2 -1.4**
PMR Palmer 137.24 316 *e*PKPdf **PKPdf** **00 24 07.2 -1.4**
CHTO Chiang Mai 137.30 157 *e*PKIKP **PKPdf** **00 24 09.0 -1.1**
CHTO MLR MLR
comp=Z,1μm,21.0s
CHTO Chiang Mai 137.30 157 PKPdf **PKPdf** **00 24 12.0 +1.9**
SNR=8.9
CHTO Chiang Mai 137.30 157 PKP PKPpre 00 24 04.4
CHTO Chiang Mai 137.30 157 *e*PKPdf **PKPdf** **00 24 09.0 -1.1**
CHTO LR LR
comp=Z,1μm,21.0s
VORD Divnogorie 138.47 67 *e*PKHKP PKPpre 00 24 02.8
VORD *e* 00 27 02.0
VORD pmax pmax
comp=Z,9.0nm,0.6s
VORD pmax pmax
comp=N,30nm,1.5s
VORD pmax pmax
comp=E,40nm,0.6s
VORD pmax pmax
comp=Z,220nm,3.7s
VORD pmax pmax
comp=N,200nm,4.3s
VORD pmax pmax
comp=E,120nm,2.4s
VSR Storozhevoye 138.58 67 *e*PKHKP PKPpre 00 24 05.1
VSR *e* 00 27 06.8
VSR *e*SPP SPP 00 39 27.4
VSR *e*SSS SSS 00 50 39.3
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR pmax pmax
comp=N,9.0nm,1.2s
VSR pmax pmax
comp=E,10.0nm,1.2s
VSR pmax pmax
comp=Z,340nm,2.9s
VSR pmax pmax
comp=N,70nm,1.7s
VSR pmax pmax
comp=E,110nm,2.2s
ILAR Eielson Array 138.61 320 PKPpre PKPpre 00 23 59.1
ILAR PKP **PKPdf** **00 24 09.7 -1.4**
ILAR SKKPbc SKKPbc 00 36 26.1 -0.4
ILAR Eielson Array 138.61 320 PKhKP PKPpre 00 23 59.1
comp=E,0.5nm,0.7s,baz=149,slow=2.2,SNR=6.3
ILAR PKP **PKPdf** **00 24 09.7 -1.4**
comp=E,2.3nm,1.0s,baz=151,slow=2.9,SNR=13
ILAR SKKPbc SKKPbc 00 36 26.1 -0.4
comp=E,1.3nm,1.1s,baz=291,slow=3.8,SNR=4.3
TRF Thorofare Moun 138.88 317 *e*PKPdf **PKPdf** **00 24 10.8 -1.0**
QIZ Qiongzhong 138.93 173 PKP **PKPdf** **00 24 13.3 +0.2**
QIZ SS SS 00 45 21.8 +2.5
QIZ PPMZ
comp=E,330nm,8.6s
QIZ LR LR
comp=E,2μm,21.8s
QIZ LR LR
comp=E,3μm,29.2s
QIZ Qiongzhong 138.93 173 PFAKE 00 24 20.0 +6.9
QIZ LR LR
comp=Z,291nm,20.0s
CRAI Chiangrai 138.95 159 PKP **PKPdf** **00 24 09.1 -4.0**
COLA College 138.99 320 *e*PKIKP **PKPdf** **00 24 08.1 -3.6**
COLA MLR MLR
comp=Z,2μm,19.0s
COLA College 138.99 320 *e*PKPdf **PKPdf** **00 24 08.1 -3.6**
COLA LR LR
comp=Z,2μm,19.0s
PPLA Purkeypile 139.18 316 *e*PKPdf **PKPdf** **00 24 11.8 -0.5**
BPAW Bear Paw Mtn. 139.53 318 *e*PKPdf **PKPdf** **00 24 12.0 -0.8**
VRHR Novokhopersk 139.65 69 *e*PKHKP PKPpre 00 24 05.9
FINES FINESS Array B 139.73 48 PKPpre PKPpre 00 24 02.2
FINES PKP **PKPdf** **00 24 12.3 -0.8**
FINES FINESS Array B 139.73 48 PKhKP PKPpre 00 24 02.2
comp=Z,4.1nm,1.1s,baz=224,slow=7.8,SNR=3.4
FINES PKP **PKPdf** **00 24 12.3 -0.8**
comp=Z,12nm,1.1s,baz=152,slow=8.4,SNR=5.9
OBN Obninsk 139.98 61 ⇓*i*PKIKP **PKPdf** **00 24 10.8 -3.0**
OBN *i* 00 27 12.4
OBN *i* SS SS 00 45 32.8 +0.1
OBN pmax pmax
comp=Z,59nm,1.5s
OBN MLR MLR
comp=Z,1μm,20.0s
MOS Moscow 140.85 61 *e*PKHKP PKPpre 00 24 10.8
MOS pmax pmax
comp=Z,94nm,1.7s
MOS pmax pmax
comp=Z,200nm,2.1s
KOLN Koldanda 141.38 132 *e*P PKPdf 00 24 10.3 -7.3
comp=Z,49nm,0.9s
RAMN Ramite 141.70 137 *e*P PKPdf 00 24 11.2 -7.0
comp=Z,275nm,1.5s
DMN Daman 141.78 135 *e*P PKPdf 00 24 10.4 -7.9
comp=Z,170nm,1.3s
PKI Pulchoki 141.85 135 *e*P PKPdf 00 24 11.4 -7.2
comp=Z,134nm,1.3s
ODAN Odare 141.88 138 *e*P PKPdf 00 24 11.6 -6.9
comp=Z,286nm,1.6s
DANN Dangsing 141.96 132 *e*P PKPdf 00 24 11.7 -7.0
comp=Z,188nm,1.1s
GKN Gorkha 141.97 134 *e*P PKPdf 00 24 11.8 -6.7
comp=Z,92nm,1.0s
KKN Kakani 142.01 135 *e*P PKPdf 00 24 11.5 -7.2
comp=Z,131nm,1.5s
SHL Shillong 142.09 145 *e*PKP **PKPdf** **00 24 14.0 -4.9**
SHL *e*PP **PP** **00 27 25.0 +0.6**
JIRN Jiri 142.21 136 *e*P PKPdf 00 24 12.4 -6.9
comp=Z,43nm,0.7s
TRO Tromso 142.31 35 *e*P **PKPdf** **00 24 17.2 -0.4**
TRO AMB AMB 00 24 32.1
comp=Z,64nm,0.5s
TRO *e*SS SS 00 46 01.3 +2.0
GUN Gumba 142.33 135 *e*P PKPdf 00 24 12.8 -6.6
comp=Z,335nm,1.6s
TAPN Taplejung 142.44 138 *e*P PKPdf 00 24 13.0 -6.6
comp=Z,307nm,1.8s
ADK Adak 142.47 289 PFAKE 00 24 30.0 +12
ADK LR LR
comp=Z,2μm,21.0s
SSLB Suanglung 143.58 189 *e*PKPdf PKPbc 00 24 18.8 0.0
KMI Kunming 144.15 161 PKP **PKPab** **00 24 20.0 -0.2**
KMI SKKS 00 34 28.0
KMI PPMZ
comp=Z,460nm,7.4s
KMI LR LR
comp=Z,1μm,26.7s
KMI LR LR
comp=Z,710nm,24.2s
KMI LR LR
comp=Z,3μm,26.7s
ARCES ARCESS Array B 144.19 37 PKP **PKPab** **00 24 17.6 -1.2**
ARCES ARCESS Array B 144.19 37 PKP **PKPab** **00 24 17.6 -1.2**
comp=Z,22nm,0.8s,baz=270,slow=2.4,SNR=31
YHNB Yeheng 144.42 190 *e*PKPdf **PKPab** **00 24 21.1 +0.1**
YHNB LR LR
comp=Z,2μm,21.0s
KLMR Klimovskoe 144.67 55 *d*/*i*PKP2 **PKPab** **00 24 19.4 -1.4**
KLMR *e* 00 27 41.8
KLMR pmax pmax
comp=Z,537nm,1.5s
TATO Taipei 144.71 190 *e*PKPdf PKPbc 00 24 22.1 0.0
TATO LR LR
comp=Z,2μm,21.0s
KEV Kevo 144.76 37 *e*PKP2 **PKPab** **00 24 19.7 -1.1**
KEV MLR MLR
comp=Z,2μm,22.0s
KEV Kevo 144.76 37 *e*PKPdf **PKPab** **00 24 19.7 -1.1**
KEV LR LR
comp=Z,2μm,22.0s
QZH Quanzhou 144.89 186 ⇓*i*PKP **PKPab** **00 24 20.3 -2.3**
QZH *e*PP **PP** **00 27 41.3 +0.6**
QZH LR LR
comp=Z,4μm,21.9s
JOW Kunigami 145.61 201 *e*PKPdf **PKPdf** **00 24 24.2 -0.5**
KBS Kingsbay 145.72 20 *e*P **PKPdf** **00 24 22.9 -0.5**
KBS Kingsbay 145.72 20 *e*PKIKP **PKPdf** **00 24 23.1 -0.3**
KBS MLR MLR
comp=Z,2μm,20.0s
KBS Kingsbay 145.72 20 *e*PKPdf **PKPdf** **00 24 23.1 -0.3**
KBS LR LR
comp=Z,2μm,20.0s
LSA Lhasa 145.74 141 PKPbc **PKPbc** **00 24 25.8 -0.1**
LSA Lhasa 145.74 141 *e*PKP2 **PKPdf** **00 24 25.2 -0.3**
LSA Lhasa 145.74 141 *e*PKPdf **PKPdf** **00 24 25.2 -0.3**
APA Apatity 145.76 42 ⇑*i*PKIKP **PKPbc** **00 24 24.0 -0.2**
APA *i* 00 24 32.0
APA *i* 00 27 47.0
APA *i* 00 31 32.0
APA *i* PPS PPS 00 40 30.0
APA pmax pmax
comp=Z,562nm,1.6s
TMCR Tamitsa 145.79 49 ⇓*i*PKP2 **PKPab** **00 24 25.1 +0.3**
TMCR pmax pmax
comp=Z,428nm,1.5s
GYA Guiyang 146.01 167 ⇑*i*PKPbc **PKPdf** **00 24 25.0 -0.6**
GYA PKS **PKSdf** **00 28 02.0 +0.8**
GYA SKKS 00 34 40.0
GYA SS **SS** **00 46 42.8 +1.3**
GYA PPMZ
comp=Z,3μm,8.2s
GYA LR LR
comp=Z,1μm,20.5s
GYA LR LR
comp=Z,990nm,21.7s
GYA LR LR
comp=Z,2μm,20.2s
LVZ Lovozero 146.34 42 *i* PKP2 **PKPbc** **00 24 25.9 -0.1**
LVZ pmax pmax
comp=Z,248nm,1.2s
TNA Tin City 146.36 313 *e*PKPdf **PKPdf** **00 24 24.4 -0.3**
AKTO Aktyubinsk 147.16 81 PKIKP **PKPdf** **00 24 25.7 -0.9**
AKTO pmax pmax
comp=Z,118nm,1.4s
AKTO Aktyubinsk 147.16 81 PKPbc **PKPdf** **00 24 25.7 -0.9**
AKTO Aktyubinsk 147.16 81 PKPbc **PKPdf** **00 24 25.7 -0.9**
comp=Z,44nm,1.2s,baz=216,slow=3.0,SNR=30
HOPEN Hopen 147.19 26 *e*P **PKPab** **00 24 29.1 -0.9**
HOPEN *e*SS SS 00 46 52.8 -2.1
AB31 Akbulak array 147.36 84 *i* PKIKP **PKPdf** **00 24 26.9 0.0**
AB31 pmax pmax
comp=Z,104nm,1.0s
ABKAR Akbulak array 147.36 84 *e*PKPdf **PKPdf** **00 24 26.2 -0.8**
SMY Shemya 147.44 284 *e*PKIKP **PKPdf** **00 24 27.1 +0.2**
SMY Shemya 147.44 284 *e*PKPdf **PKPdf** **00 24 27.1 +0.2**
FX1 Attu Island--F 147.99 284 PKPbc **PKPdf** **00 24 29.4 +1.5**
FX1 Attu Island--F 147.99 284 PKPbc **PKPdf** **00 24 29.4 +1.5**
comp=Z,46nm,0.7s,baz=326,slow=2.0,SNR=32
KSH Kashi 148.25 113 PKPbc **PKPdf** **00 24 29.8 +0.9**
KSH PP **PP** **00 28 03.0 +1.7**
KSH PKS **PKSdf** **00 28 07.5 +3.4**
KSH SKS **SKSdf** **00 31 39.5 +3.1**
KSH SKKS **SKKSac** **00 34 51.5 -0.1**
KSH SS **SS** **00 47 08.8 +1.0**
KSH PPMZ
comp=Z,400nm,3.3s
KSH LR LR
comp=Z,2μm,21.4s
KSH LR LR
comp=Z,260nm,12.5s
KSH LR LR
comp=Z,2μm,22.8s
KK31 Karatay Array 148.39 102 *i* PKIKP **PKPdf** **00 24 28.5 -0.4**
KK31 pmax pmax
comp=Z,268nm,1.5s
KKAR Karatay Array 148.39 102 *e*PKPdf **PKPdf** **00 24 28.3 -0.6**
AML Almayashu 149.21 107 P **PKPdf** **00 24 31.4 +0.7**
SNR=19
EKS2 Erkin-Say 149.65 106 *e*PKIKP **PKPdf** **00 24 30.9 -0.2**
EKS2 MLR MLR
comp=Z,2μm,20.0s
EKS2 Erkin-Say 149.65 106 P **PKPdf** **00 24 31.9 +0.8**
SNR=16
EKS2 Erkin-Say 149.65 106 *e*PKPdf **PKPdf** **00 24 30.9 -0.2**
EKS2 LR LR
comp=Z,2μm,20.0s
KZA Kyzart 149.91 109 P **PKPdf** **00 24 32.3 +0.4**
SNR=27
AAK Ala-Archa 149.97 107 *e*PKIKP **PKPdf** **00 24 31.2 -0.5**
AAK 00 24 31.9
AAK 00 24 36.5
AAK MLR MLR
comp=Z,2μm,20.0s
AAK Ala-Archa 149.97 107 PKPdf **PKPdf** **00 24 32.2 +0.5**
SNR=74
AAK Ala-Archa 149.97 107 P **PKPdf** **00 24 31.8 +0.2**
SNR=20
AAK Ala-Archa 149.97 107 *e*PKPdf **PKPdf** **00 24 31.2 -0.5**
AAK PKP **PKPdf** **00 24 31.9 +0.2**
AAK PKPbc **PKPbc** **00 24 36.5 -0.1**
AAK LR LR
comp=Z,2μm,20.0s
AAK Ala-Archa 149.97 107 PKP **PKPdf** **00 24 31.9 +0.2**
comp=Z,18nm,1.1s,baz=202,slow=3.9,SNR=35
AAK PKPbc **PKPbc** **00 24 36.5 -0.1**
comp=Z,78nm,1.2s,baz=198,slow=4.4,SNR=36
CD2 Chengdu 149.98 161 PKPbc **PKPdf** **00 24 31.8 -0.1**
CD2 PKS **PKSdf** **00 28 05.3 -1.5**
CD2 PP **PP** **00 28 14.5 +3.7**
CD2 SKS **SKSdf** **00 31 37.0 -1.9**
CD2 SKKS **SKKSac** **00 35 01.3 +0.1**
CD2 SS **SS** **00 47 28.5 +2.4**
CD2 PPMZ
comp=Z,990nm,8.9s
CD2 LR LR
comp=Z,2μm,23.8s
CD2 LR LR
comp=Z,3μm,27.4s
ENH Enshi 150.06 171 *e*PKPdf **PKPdf** **00 24 32.3 +0.2**
ENH *e*PKPbc **PKPbc** **00 24 37.1 +0.1**
FRU Bishkek 150.19 107 *i* PKIKP **PKPdf** **00 24 33.0 +1.2**
FRU pmax pmax
comp=Z,740nm,2.2s
KBK Karagaybulak 150.21 107 P **PKPdf** **00 24 32.9 +0.8**
SNR=18
CHMS Chumysh 150.38 107 P **PKPdf** **00 24 32.6 +0.5**
SNR=12
USP Ospenovka 150.46 106 P **PKPdf** **00 24 32.7 +0.5**
SNR=27
ULHL Ulahol 150.51 110 P **PKPbc** **00 24 40.2 +2.2**
SNR=15
WHN Wuhan 150.56 179 PKPbc **PKPdf** **00 24 34.0 +1.3**
WHN LR LR
comp=Z,4μm,18.2s
TKM2 Tokmak 2 150.72 108 *e*PKIKP **PKPdf** **00 24 32.1 -0.8**
TKM2 MLR MLR
comp=Z,2μm,21.0s
TKM2 Tokmak 2 150.72 108 P **PKPdf** **00 24 31.7 -1.2**
SNR=20
TKM2 Tokmak 2 150.72 108 *e*PKPdf **PKPdf** **00 24 32.0 -0.8**
TKM2 LR LR
comp=Z,2μm,21.0s
SSE Sheshan 150.81 191 PKPbc **PKPbc** **00 24 39.5 +0.8**
SSE SS SS 00 47 37.5 +2.5
SSE LR LR
comp=Z,590nm,23.1s
SSE LR LR
comp=Z,1μm,23.4s
SSE LR LR
comp=Z,1μm,21.8s
ARU Arti 150.87 72 *i* PKIKP **PKPbc** **00 24 37.1 -0.9**
JNU Nakatsue 151.14 209 *e*PKPdf **PKPdf** **00 24 35.1 +1.5**
JNU PKPbc **PKPbc** **00 24 38.6 -0.9**
JNU *e*PKPbc **PKiKP** **00 24 39.8 -0.2**
JNU Nakatsue 151.14 209 PKPbc **PKPbc** **00 24 38.6 -0.9**
comp=Z,113nm,1.1s,baz=59,slow=1.6,SNR=18
NJ2 Nanjing 151.94 187 *e*PKPbc **PKPbc** **00 24 39.5 -1.8**
NJ2 pPKP **PKiKP** **00 24 42.5 +0.9**
NJ2 sPKP 00 24 43.5
NJ2 PP **PP** **00 28 23.0 +1.1**
NJ2 SKS **SKSdf** **00 31 43.0 +1.8**
NJ2 SKKS **SKKSac** **00 35 13.0 +1.3**
NJ2 PPMZ
comp=Z,470nm,7.6s
NJ2 LR LR
comp=Z,460nm,27.1s
NJ2 LR LR
comp=Z,330nm,27.1s
NJ2 LR LR
comp=Z,560nm,25.3s
SVE Sverdlovsk 152.06 72 *e*PKIKP **PKPdf** **00 24 34.1 0.0**
SVE pmax pmax
comp=Z,133nm,1.2s
MJAR Matsushiro Arr 152.17 223 PKPbc **PKPbc** **00 24 40.9 -0.8**
MJAR Matsushiro Arr 152.17 223 PKPbc **PKPbc** **00 24 40.9 -0.8**
comp=Z,29nm,1.1s,baz=198,slow=3.5,SNR=22
MAJO Matsushiro 152.17 223 *e*PKIKP **PKPbc** **00 24 41.1 -0.6**
MAJO MLR MLR
comp=Z,2μm,20.0s
MAJO Matsushiro 152.17 223 *e*PKPbc **PKPbc** **00 24 41.1 -0.6**
MAJO LR LR
comp=Z,2μm,20.0s
MAT Matsushiro 152.17 223 PKP **PKPbc** **00 24 41.6 -0.1**
XAN Xi'an 153.75 169 PKPbc **PKPdf** **00 24 38.5 +1.0**
XAN SKS **SKSdf** **00 31 44.5 +1.1**
XAN SKKS **SKKSac** **00 35 20.5 -1.1**
XAN SS **SS** **00 48 13.0 +5.4**
XAN PPMZ
comp=Z,160nm,5.8s
XAN LR LR
comp=Z,1μm,24.0s
XAN LR LR
comp=Z,200nm,21.8s
XAN LR LR
comp=Z,640nm,23.6s
BRVK Borovoye 154.84 86 *e*PKIKP **PKPdf** **00 24 37.8 -0.5**
BRVK *e* 00 24 46.9
BRVK MLR MLR
comp=Z,2μm,19.0s
BRVK Borovoye 154.84 86 PKPdf **PKPdf** **00 24 39.3 +1.0**
SNR=13
BRVK Borovoye 154.84 86 *e*PKPdf **PKPdf** **00 24 37.8 -0.5**
BRVK *e*PKPbc **PKPbc** **00 24 46.9 0.0**
BRVK LR LR
comp=Z,2μm,19.0s
BVA0 Borovoye Array 154.88 86 *i* PKIKP **PKPdf** **00 24 38.2 -0.1**
BVA0 pmax pmax
comp=Z,52nm,1.4s
BVAR Borovoye Array 154.88 86 PKIKP **PKPdf** **00 24 38.8 +0.5**
BVAR pmax pmax
comp=Z,4.0nm,0.9s
BVAR pmax pmax
comp=Z,11nm,0.8s
BVAR Borovoye Array 154.88 86 PKP **PKPdf** **00 24 38.8 +0.5**
BVAR PKPbc **PKiKP** **00 24 47.5 +0.5**
BVAR Borovoye Array 154.88 86 PKP **PKPdf** **00 24 38.8 +0.5**
comp=Z,4.3nm,0.9s,baz=240,slow=2.9,SNR=4.9
BVAR PKPbc **PKiKP** **00 24 47.5 +0.5**
comp=Z,11nm,0.8s,baz=255,slow=4.0,SNR=6.1
VOSK Vostochnaya 155.01 87 PKIKP **PKPdf** **00 24 38.3 -0.2**
VOSK pmax pmax
comp=Z,77nm,1.5s
LZH Lanzhou 155.04 158 *e*PKPbc **PKPdf** **00 24 41.5 +2.1**
LZH pPKP **pPKPdf** **00 24 46.8 +2.0**
LZH sPKP 00 24 49.5
LZH SKKS 00 35 29.3
LZH SS **SS** **00 48 25.0 +3.0**
LZH PPMZ
comp=Z,450nm,8.8s
LZH LR LR
comp=Z,1μm,15.2s
LZH LR LR
comp=Z,760nm,16.8s
LZH LR LR
comp=Z,2μm,19.3s
PET Petropavlovsk 155.27 273 *i* PKIKP PKPab 00 24 53.6 -11
PET *e*SS SS 00 48 24.7 -0.5
PET *e*SSS SSS 00 54 19.1
PET pmax pmax
comp=Z,600nm,12.8s
PET pmax pmax
comp=Z,900nm,13.2s
YUK Yuzh-Kuril'sk 155.47 243 ⇓*i*PKIKP PKPdf 00 24 49.5 +10
YUK *i* 00 28 38.5
YUK *i* PPP PPP 00 32 15.6
YUK *i* 00 41 46.5
YUK *i* SS SS 00 48 28.4 +1.3
PETK Petropavlovsk- 155.80 273 PKIKP **PKPdf** **00 24 38.8 -0.8**
PETK pmax pmax
comp=Z,21nm,1.2s
PETK Petropavlovsk- 155.80 273 PKP **PKPdf** **00 24 38.8 -0.8**
PETK Petropavlovsk- 155.80 273 PKP **PKPdf** **00 24 38.8 -0.8**
comp=Z,20nm,1.2s,baz=64,slow=6.8,SNR=5.8
KSAR Wonju Array Be 155.96 206 PKP **PKPdf** **00 24 40.7 +0.4**
KSAR PKPab **PKPab** **00 25 07.0 -0.4**
KSRS Korea Array 155.97 206 PKP **PKPdf** **00 24 40.7 +0.4**
comp=Z,7.5nm,1.2s,baz=175,slow=1.0,SNR=11
KSRS PKPab **PKPab** **00 25 07.0 -0.4**
comp=Z,24nm,1.1s,baz=166,slow=3.7,SNR=15
INCN Inchon 156.27 204 PFAKE 00 24 50.0 +9.2
INCN LR LR
comp=Z,1μm,21.0s
MK31 Makanchi Array 156.78 110 *i* PKIKP **PKPdf** **00 24 39.6 -1.5**
MK31 pmax pmax
comp=Z,78nm,1.3s
MKAR Makanchi Array 156.78 110 PKIKP **PKPdf** **00 24 41.2 0.0**
MKAR pmax pmax
comp=Z,17nm,1.2s
MKAR pmax pmax
comp=Z,13nm,1.0s
MKAR Makanchi Array 156.78 110 PKP **PKPdf** **00 24 41.1 0.0**
MKAR PKPab **PKPab** **00 25 10.9 0.0**
MKAR Makanchi Array 156.78 110 PKP **PKPdf** **00 24 41.1 0.0**
comp=Z,16nm,1.2s,baz=270,slow=1.2,SNR=29
MKAR PKPab **PKPab** **00 25 10.9 0.0**
comp=Z,12nm,1.0s,baz=242,slow=2.6,SNR=11
WMQ Urumqi 156.93 122 PKP **PKPdf** **00 24 41.5 0.0**
WMQ PP **PP** **00 28 53.8 +3.3**
WMQ SKS **SKSdf** **00 31 42.3 -4.2**
WMQ SKKS **SKKSac** **00 35 37.8 -0.7**
WMQ SS **SS** **00 48 41.8 -1.1**
WMQ LR LR
comp=Z,2μm,25.0s
WMQ LR LR
comp=Z,2μm,24.2s
WMQ LR LR
comp=Z,2μm,25.8s
ASAJ Asahikawa 156.97 239 PKP **PKPdf** **00 24 41.8 +0.3**
ASAJ PKPab **PKPab** **00 25 11.6 -0.1**
ASAJ Asahikawa 156.97 239 PKP **PKPdf** **00 24 41.8 +0.3**
comp=Z,2.8nm,0.3s,baz=263,slow=8.1,SNR=2.9
ASAJ PKPab **PKPab** **00 25 11.6 -0.1**
comp=Z,71nm,1.2s,baz=228,slow=9.0,SNR=8.0
GTA Gaotai 157.32 148 PKP **PKPdf** **00 24 41.5 -0.7**
GTA pPKP **pPKPdf** **00 24 46.3 -1.4**
GTA sPKP 00 24 50.5
GTA PP **PP** **00 28 55.5 +3.1**
GTA SKS **SKSdf** **00 31 46.5 -0.7**
GTA SKKS **SKKSac** **00 35 39.0 -1.7**
GTA SS **SS** **00 48 46.5 -0.1**
GTA PPMZ
comp=Z,700nm,8.6s
GTA LR LR
comp=Z,870nm,25.2s
GTA LR LR

comp=Z,720nm,23.3s
GTA LR LR
comp=Z,2μm,25.2s
KURBB Kurchatov Arra 157.55 98 PKP **PKPdf** **00 24 40.4 -1.5**
comp=Z,3.3nm,0.7s,baz=234,slow=1.0,SNR=30
KURBB PKPab **PKPab** **00 25 14.5 +0.5**
comp=Z,12nm,0.9s,baz=227,slow=4.3,SNR=16
KURK Kurchatov 157.65 98 PKIKP **PKPdf** **00 24 40.4 -1.6**
KURK 00 25 14.5
KURK pmax pmax
comp=Z,11nm,1.2s
KURK pmax pmax
comp=Z,12nm,0.9s
KURK Kurchatov 157.65 98 PKP **PKPdf** **00 24 40.4 -1.6**
KURK *e*PKPdf **PKPdf** **00 24 41.5 -0.5**
KURK PKPab **PKPab** **00 25 14.5 0.0**
KURK LR LR
comp=Z,1μm,21.0s
YSS Yuzh-Sakhalins 159.11 244 *i* PKP2 **PKPab** **00 25 21.3 +0.4**
YSS *e* 00 29 06.0
YSS pmax pmax
comp=Z,360nm,1.6s
BJI Beijing 160.02 183 PKP **PKPdf** **00 24 46.0 +0.8**
BJI PP **PP** **00 29 09.8 +3.1**
BJI SS SS 00 49 13.3 -1.3
BJI PPMZ
comp=Z,960nm,9.5s
BJI LR LR
comp=Z,3μm,19.4s
BJI LR LR
comp=Z,720nm,22.5s
BJI LR LR
comp=Z,3μm,30.6s
BTO Baotou 160.36 169 *e*PKP **PKPdf** **00 24 45.3 -0.4**
HHC Hu-ho-hao-te 160.73 172 *e*PKP **PKPdf** **00 24 47.3 +1.2**
HHC PKPab **PKPab** **00 25 31.8 +3.6**
HHC PKS **PKSdf** **00 28 19.3 -0.1**
HHC PP **PP** **00 29 13.0 +2.2**
HHC SKS **SKSdf** **00 31 51.0 +0.7**
HHC SKKS **SKKSac** **00 36 02.5 +4.1**
HHC SS **SS** **00 49 26.8 +4.4**
HHC PPMZ
comp=Z,260nm,7.7s
HHC LR LR
comp=Z,1μm,19.6s
HHC LR LR
comp=Z,540nm,19.6s
HHC LR LR
comp=Z,1μm,19.6s
USRK Ussuriysk Arra 161.13 221 PKP **PKPdf** **00 24 45.2 -1.1**
comp=Z,1.3nm,0.7s,baz=144,slow=4.5,SNR=5.8
USRK PKPab **PKPab** **00 25 29.0 -0.7**
comp=Z,6.0nm,1.0s,baz=162,slow=0.7,SNR=7.8
USRK PP **PP** **00 29 17.3 +4.2**
comp=Z,0.8nm,0.6s,baz=173,slow=2.3,SNR=3.9
MDJ Mudanjiang 162.25 216 PKP **PKPdf** **00 24 48.3 +0.9**
MDJ pPKP **pPKPdf** **00 24 51.5 -1.4**
MDJ sPKP 00 24 53.0
MDJ PP **PP** **00 29 20.0 +1.0**
MDJ SS SS 00 49 42.0 +3.5
MDJ PPMZ
comp=Z,280nm,7.8s
MDJ LR LR
comp=Z,760nm,22.2s
MDJ LR LR
comp=Z,990nm,25.6s
MDJ LR LR
comp=Z,1μm,22.6s
MDJ Mudanjiang 162.25 216 *e*PKPdf **PKPdf** **00 24 46.9 -0.5**
NVS Novosibirsk 162.29 93 ⇓*i* PKIKP **PKPdf** **00 24 44.7 -2.4**
NVS *i* 00 25 36.0
NVS pmax pmax
comp=Z,73nm,1.8s
NVS pmax pmax
comp=N,11nm,1.5s
NVS pmax pmax
comp=E,15nm,1.5s
CN2 Changchun 162.58 206 *e*PKP **PKPdf** **00 24 46.5 -1.3**
CN2 *e*PP **PP** **00 29 22.0 +1.4**
CN2 SKKS 00 36 09.0
CN2 *e*SS **SS** **00 49 43.0 +1.3**
CN2 PPMZ
comp=E,500nm,5.0s
CN2 LR LR
comp=E,600nm,23.0s
CN2 LR LR
comp=E,900nm,23.0s
CN2 LR LR
comp=E,1μm,25.0s
ZALV Zalesovo Beam 162.62 97 PKIKP **PKPdf** **00 24 46.6 -0.9**
ZALV 00 25 35.7
ZALV 00 29 24.0
ZALV pmax pmax
comp=Z,5.0nm,1.0s
ZALV pmax pmax
comp=Z,5.0nm,0.9s
ZALV pmax pmax
comp=Z,4.0nm,1.0s
ZALV Zalesovo Beam 162.62 97 PKP **PKPdf** **00 24 46.5 -0.9**
ZALV PKPab **PKPab** **00 25 35.6 -0.4**
ZALV PP **PP** **00 29 24.0 +2.6**
ZALV Zalesovo Beam 162.62 97 PKP **PKPdf** **00 24 46.5 -0.9**
comp=Z,5.1nm,1.0s,baz=236,slow=1.6,SNR=26
ZALV PKPab **PKPab** **00 25 35.6 -0.4**
comp=Z,5.2nm,0.9s,baz=275,slow=5.5,SNR=4.0
ZALV PP **PP** **00 29 24.0 +2.6**
comp=Z,3.7nm,0.9s,baz=207,slow=3.0,SNR=5.7
KLR Kul'dur 165.52 229 *e*PKIKP **PKPdf** **00 24 45.2 -5.1**
SONM Songino Array 166.85 154 PKP **PKPdf** **00 24 51.6 +0.1**
SONM PKPab **PKPab** **00 25 53.5 -1.5**
SONM PP **PP** **00 29 44.5 +1.4**
SONM Songino Array 166.85 154 PKP **PKPdf** **00 24 51.6 +0.1**
comp=Z,8.3nm,1.2s,baz=194,slow=1.8,SNR=14
SONM PKPab **PKPab** **00 25 53.5 -1.5**
comp=Z,10nm,0.9s,baz=196,slow=3.6,SNR=12
SONM PP **PP** **00 29 44.5 +1.4**
comp=Z,14nm,1.4s,baz=196,slow=6.3,SNR=6.2
ULN Ulaanbaatar 167.02 156 PKPdf **PKPdf** **00 24 53.2 +1.5**
SNR=14
ULN Ulaanbaatar 167.02 156 PKP **PKPdf** **00 24 52.2 +0.5**
ULN Ulaanbaatar 167.02 156 *e*PKPdf **PKPdf** **00 24 51.0 -0.7**
ULN LR LR
comp=Z,3μm,20.0s
ZAK Zakamensk 168.33 140 *e*PKIKP **PKPdf** **00 24 49.6 -2.9**
ZAK *e* 00 25 59.4
ZAK pmax pmax
comp=Z,17nm,1.5s
MOY Mondy 168.59 131 *e*PKIKP **PKPdf** **00 24 53.6 +1.0**
TLY Talaya 169.56 138 *c i* PKIKP **PKPdf** **00 24 51.6 -1.5**
TLY *e* 00 26 08.1
TLY pmax pmax
comp=Z,62nm,1.4s
IRK Irkutsk 170.24 138 *e*PKIKP **PKPdf** **00 24 53.0 -0.5**
IRK pmax pmax
comp=Z,142nm,2.3s
CIT Chita 171.98 174 *e*PKIKP **PKPdf** **00 24 56.7 +2.3**
CIT *e* 00 26 16.6
CIT *e* 00 30 08.0
YAK Yakutsk 172.54 292 *e*PKP2 **PKPab** **00 26 23.7 +4.0**
YAK pmax pmax
comp=Z,24nm,0.9s
YAK pmax pmax
comp=E,15nm,1.4s
CLNS Chul'man 173.88 243 *e*PKP2 **PKPab** **00 26 25.7 -0.2**
CLNS pmax pmax
comp=Z,34nm,1.4s
CLNS pmax pmax
comp=E,12nm,1.3s
CLNS pmax pmax
comp=N,19nm,1.3s

*IDC **27** 00:05:49.4±0.5, 6˚.52N×124˚.89E, h0km, mb4.3/21, mb1 4.4/22, mb1mx4.3/30, mbtmp4.3/22, MS3.5/6, Ms1 3.5/6, ms1mx3.3/44, Error ellipse: s-maj=21.2km s-min=11.7km az=74.0*
*MAN **27** 00:05:51, 6˚.39N×124˚.64E, h23km, mb0.0, ML0.0, MS5.3*
MAN INTENSITY IV - KORONADAL CITY S.COTABATO; INTENSITY III - NORALA & BAGUMBAYAN S. COTABATO; TAMPAKAN S. COTABATO; KABACAN N. COTABATO.
*AUST **27** 00:05:51.1±1.3, 6˚.44N×124˚.70E, h0km, Error ellipse: s-maj=1.5km s-min=1.1km az=258.0*

*ISCJB **27** 00:05:53.1±0.6, 6˚.41N±0˚.02×124˚.70E±0˚.02, h31km±5km, mb4.7/58, MS4.0/8, Error ellipse: s-maj=4.2km s-min=3.3km az=169.3*
*NEIC **27** 00:05:55.4±0.8, 6˚.46N×124˚.75E, h41km±8km, mb5.0/12, Error ellipse: s-maj=7.5km s-min=5.2km az=58.0*
NEIC Felt [IV PIVS] at Koronadal; [III PIVS] at Bagumbayan, Kabacan, Norala and Tampakan; [II PIVS] at General Santos and Matalam. Also felt at Santo Nino.
*DJA **27** 00:05:55.6±0.9, 6˚.5N±5˚×12˚.5E±˚, h26km±13km, M5.2/6, mB5.6/5, mb5.5/6, MLv5.2/2, Mw(mB)5.2/5*
*BJI **27** 00:05:57.6, 6˚.79N×124˚.55E, h35km, mB5.1/27, mb5.0/23, Ms4.7/20, Ms7 4.5/21*
*BKK **27** 00:05:57.3±0.4, 7˚N±4˚×12˚.5E±˚, h54km±6km, M5.1/20, mB5.6/6, mb4.6/20, MLv5.2/4, Mw(mB)5.1/6*
ISC 27 00:05:55.9±0.4, 6˚.45N±0˚.03×124˚.72E±0˚.03, h39km±1km, n174, σ1°55/199, mb4.7/58, MS4.0/8, 7C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time h m s	Res ISC
					Op	ISC		
GSPH	**General Santos**	**0.42**	**147**	⇓*i*	*i* P	**Pn**	**00 06 04.3**	**-1.3**
GSPH					*i* S	**Sn**	**00 06 15.4**	**+2.8**
KCP	**Kidapawan**	**0.67**	**34**	⇑*i*	*i* P	Pn	00 06 05.5	-3.6
KCP					*i* S	**Sn**	**00 06 15.1**	**-3.3**
CTBH	**Cotabato--PC H**	**0.90**	**329**		*e*P	**Pn**	**00 06 09.1**	**-3.0**
CTBH					*i* S	**Sn**	**00 06 20.4**	**-3.5**
DMPH	**Davao City--Mi**	**1.01**	**51**	⇑	*e*P	**Pn**	**00 06 11.9**	**-1.6**
DMPH					*e*S	**Sn**	**00 06 27.0**	**+0.5**
DAV	**Davao City (W)** SNR=14	**1.06**	**54**		P	**Pn**	**00 06 13.4**	**-0.9**
DAV	**Davao City (W)**	**1.06**	**54**	⇑	*e*P	**Pn**	**00 06 12.9**	**-1.3**
DAV	**Davao City (W)**	**1.06**	**54**		P	**Pn**	**00 06 13.3**	**-0.9**
DAV	**Davao City (W)**	**1.06**	**54**		*e*Pn	**Pn**	**00 06 13.3**	**-0.9**
BUKP	**Musuan**	**1.46**	**14**		*e*P	**Pn**	**00 06 17.5**	**-2.4**
MATI	**Mati**	**1.61**	**72**		*e*P	**Pn**	**00 06 20.4**	**-1.4**
MATI					*e*S	**Sn**	**00 06 39.9**	**-1.5**
PAGZ	**Pagadian**	**1.92**	**317**		*e*P	**Pn**	**00 06 24.0**	**-2.1**
CGP	**Cagayan de Oro**	**2.00**	**359**	⇑	*e*P	**Pn**	**00 06 25.1**	**-2.0**
CGP					*i* S	**Sn**	**00 06 50.4**	**-0.5**
BIPH	**Bislig**	**2.38**	**43**	⇑	*e*P	**Pn**	**00 06 31.9**	**-0.5**
BIPH					*e*S	**Sn**	**00 07 02.8**	**+2.5**
IPIL	**Ipil**	**2.51**	**302**		*e*P	**Pn**	**00 06 33.0**	**-1.2**
IPIL					*e*S	**Sn**	**00 07 01.1**	**-2.5**
BUTP	**Butuan**	**2.66**	**20**		*e*P	**Pn**	**00 06 36.9**	**+0.6**
ZMPH	**Zamboanga City**	**2.68**	**281**	⇓	*i* P	Pn	00 06 33.7	-2.9
ZMPH					*i* S	**Sn**	**00 07 04.8**	**-3.0**
SGSI	**Sangihe**	**2.86**	**164**		P	**Pn**	**00 06 38.2**	**-0.8**
SNPH	**Sibulan**	**3.23**	**333**		*e*P	Pn	00 06 51.2	+7.1
MSLP	**Maasin**	**3.67**	**2**		*e*P	Pn	00 06 54.3	+4.2
LLP	**Lapu-Lapu**	**3.92**	**349**		*e*P	**Pn**	**00 06 52.3**	**-1.3**
LLP					*e*S	**Sn**	**00 07 39.5**	**+1.2**
GUIM	**Jordan**	**4.66**	**333**		*e*P	**Pn**	**00 07 06.3**	**+2.6**
RCP	**Roxas**	**5.44**	**339**	⇑	*e*P	Pn	00 07 17.6	+3.1
TNTI	**Ternate** 453nm,0.8s,4μm	**6.23**	**155**		P	**Pn**	**00 07 26.5**	**+1.2**
TNTI	**Ternate**	**6.23**	**155**		*e*Pn	**Pn**	**00 07 25.6**	**+0.2**
MYLDM	**Lahad Datu** 101nm,0.8s,2μm	**6.31**	**259**		P	**Pn**	**00 07 26.4**	**-0.1**
MYLDM	**Lahad Datu**	**6.31**	**259**		*e*Pn	**Pn**	**00 07 26.4**	**-0.1**
MYLDM					*e*Sn	**Sn**	**00 08 33.5**	**-3.8**
MRSI	**Marisa**	**6.54**	**205**		P	**Pn**	**00 07 27.4**	**-2.3**
LUWI	**Luwuk** 888nm,0.6s,7μm	**7.69**	**195**		P	**Pn**	**00 07 45.4**	**0.0**
LUWI	**Luwuk** baz=7.7,SNR=17	**7.69**	**195**		P	**Pn**	**00 07 47.5**	**+2.1**
APSI	**Ampana** 338nm,0.8s,5μm	**7.92**	**203**		P	**Pn**	**00 07 50.1**	**+1.5**
KKM	**Kota Kinabalu**	**8.46**	**268**		*e*Pn	**Pn**	**00 07 55.4**	**-0.7**
SWI	**Sorong**	**9.77**	**138**		P	**Pn**	**00 08 13.9**	**0.0**
NLAI	**Namlea** 353nm,0.8s,3μm	**9.91**	**166**		P	**Pn**	**00 08 15.3**	**-0.6**
AAI	**Ambon**	**10.65**	**161**		P	**Pn**	**00 08 26.3**	**+0.3**
AAI	**Ambon** baz=11,SNR=3.9	**10.65**	**161**		P	**Pn**	**00 08 26.3**	**+0.3**
SPSI	**Sidrap Palu**	**11.46**	**206**		P	**Pn**	**00 08 38.5**	**+1.4**
BNSI	**Bone**	**11.72**	**203**		P	**Pn**	**00 08 42.3**	**+1.7**
KAPI	**Kappang**	**12.42**	**204**		P	**Pn**	**00 08 49.1**	**-1.1**
KAPI	**Kappang**	**12.42**	**204**		*e*Pn	**Pn**	**00 08 49.8**	**-0.4**
KAPI	**Kappang** 1.9nm,0.3s,baz=71,slow=6.4,SNR=6.8	**12.42**	**204**		Pn	Pn	00 08 47.0	-3.2
KAPI					LR	LR	00 13 37.9	
	comp=Z,181nm,20.0s,baz=44,slow=37							
SBUM	**Sibu**	**13.07**	**253**		P	**Pn**	**00 09 01.7**	**+2.5**
SBUM	**Sibu**	**13.07**	**253**		*e*Pn	**Pn**	**00 09 00.5**	**+1.3**
KSM	**Kuching**	**15.20**	**252**		P	**P**	**00 09 34.4**	**+2.0**
BATI	**Baumata**	**16.58**	**184**		Pn	**Pn**	**00 09 44.7**	**-0.9**
BATI	**Baumata** baz=253,slow=1.2,SNR=4.9	**16.58**	**184**		Pn	**Pn**	**00 09 44.7**	**-0.9**
BATI					LR	LR	00 17 02.7	
	comp=Z,160nm,21.2s,baz=176,slow=40							
QIZ	**Qiongzhong**	**19.13**	**312**		P	**P**	**00 10 16.0**	**+0.1**
QIZ					pP	**pP**	**00 10 25.0**	**-0.7**
QIZ					sP	**sP**	**00 10 28.8**	**-1.8**
QIZ					AMB	AMB		
	comp=Z,180nm,6.8s							
QIZ					LR	LR		
	comp=N,300nm,16.5s							
QIZ					LR	LR		
	comp=Z,380nm,17.7s							
BJII	**Banjamegara**	**20.29**	**228**		P	Pn	00 10 32.1	+1.3
KDU	**Kakadu** baz=21,SNR=7.2	**20.51**	**158**		P	**P**	**00 10 31.3**	**+0.4**
KNRA	**Kununurra** baz=22,SNR=14	**22.34**	**170**		P	**P**	**00 10 51.0**	**+0.4**
SKNT	**Sakolnakorn** 24nm,0.9s	**22.81**	**299**		P	**P**	**00 10 56.3**	**+0.7**
KULM	**Kulim** 32nm,1.2s	**23.97**	**269**		*e*P	**P**	**00 11 06.6**	**-0.3**
CHAI	**Chaiyaphum** 4.0nm,1.0s	**24.17**	**295**		P	**P**	**00 11 11.5**	**+2.7**
FITZ	**Fitzroy Crossi**	**24.41**	**178**		*e*P	**P**	**00 11 10.7**	**-0.2**
FITZ	**Fitzroy Crossi** 5.8nm,0.4s,baz=360,slow=12,SNR=2.5	**24.41**	**178**		P	**P**	**00 11 10.1**	**-0.7**
PBKT	**Sadao Pong**	**25.32**	**295**		P	**P**	**00 11 19.4**	**+0.2**
PBKT	**Sadao Pong** 9.1nm,0.7s	**25.32**	**295**		P	**P**	**00 11 20.8**	**+1.6**
PHET	**Kaeng Krachan** 33nm,0.9s	**25.54**	**286**		P	**P**	**00 11 23.8**	**+2.6**
WHN	**Wuhan**	**25.88**	**339**		P	P	00 11 30.0	+5.9
PSI	**Prapat**	**25.96**	**263**		P	**P**	**00 11 25.8**	**+0.6**
PSI	**Prapat** baz=26,SNR=6.9	**25.96**	**263**		P	**P**	**00 11 26.2**	**+1.0**
PSI	**Prapat** 20nm,0.9s,baz=92,slow=5.9,SNR=14	**25.96**	**263**		P	**P**	**00 11 25.8**	**+0.6**
NJ2	**Nanjing**	**26.06**	**349**		*e*P	**P**	**00 11 27.0**	**+1.3**
GYA	**Guiyang**	**26.31**	**321**	⇑	*i* P	**P**	**00 11 29.3**	**+1.1**
GYA					pP	**pP**	**00 11 40.5**	**+1.5**
GYA					PP	**PnPn**	**00 12 13.3**	**+4.7**
GYA					PcP	**PcP**	**00 14 55.5**	**+1.6**
GYA					S	**S**	**00 15 59.0**	**+0.4**
GYA					sS	**sS**	**00 16 15.0**	**-1.6**
GYA					ScP	**ScP**	**00 18 30.3**	**-0.6**
GYA					AMB	AMB		
	comp=Z,50nm,0.8s							
GYA					AMB	AMB		
	comp=Z,170nm,5.0s							
GYA					LR	LR		
	comp=N,980nm,16.6s							
GYA					LR	LR		
	comp=E,790nm,17.1s							
GYA					LR	LR		
	comp=Z,840nm,16.3s							
UTHA	**Uthaitani** 3.1nm,1.0s	**26.38**	**292**		P	**P**	**00 11 30.6**	**+1.8**
CBIJ	**Chichi jima**	**26.41**	**37**		P	**P**	**00 11 25.0**	**-4.0**
JCJ	**Chichijima** 84nm,0.4s,baz=292,slow=19,SNR=2.0	**26.41**	**37**		P	**P**	**00 11 25.0**	**-4.0**
KHLT	**Khaolaem Dam** 3.6nm,1.4s	**26.96**	**290**		P	**P**	**00 11 37.9**	**+3.8**
JNU	**Nakatsue**	**27.15**	**11**		P	**P**	**00 11 35.2**	**-0.4**
JNU	**Nakatsue** 5.0nm,0.9s,baz=163,slow=11,SNR=2.4	**27.15**	**11**		P	**P**	**00 11 35.2**	**-0.4**
CRAI	**Chiangrai** 234nm,0.7s	**27.30**	**302**		P	**P**	**00 11 37.5**	**+0.3**
COEN	**Coen** 192nm,1.4s	**27.32**	**138**		*e*P	**P**	**00 11 34.9**	**-2.5**
COEN	**Coen** baz=27,SNR=7.4	**27.32**	**138**		P	**P**	**00 11 36.4**	**-1.0**
PMG	**Port Moresby**	**27.35**	**125**		P	**P**	**00 11 38.4**	**+0.8**
PMG	**Port Moresby** 3.5nm,0.4s,baz=298,slow=16,SNR=2.9	**27.35**	**125**		P	**P**	**00 11 38.4**	**+0.8**
PMG					LR	LR	00 21 29.4	
	comp=Z,153nm,21.9s,baz=288,slow=34							
GSI	**Gunungsitoli**	**27.55**	**260**		*e*P	**P**	**00 11 39.0**	**-0.4**
	35nm,0.8s							
CMAR	**Chiang Mai Arr**	**27.81**	**298**		P	**P**	**00 11 41.6**	**-0.1**
CMAR	**Chiang Mai Arr** 0.5nm,0.3s,baz=73,slow=6.1,SNR=5.7	**27.81**	**298**		P	**P**	**00 11 41.6**	**-0.1**
WRA	**Warramunga Arr**	**27.88**	**160**		P	**P**	**00 11 40.3**	**-1.9**
WRA	**Warramunga Arr** 3.4nm,0.7s,baz=335,slow=10,SNR=7.4	**27.88**	**160**		P	**P**	**00 11 40.3**	**-1.9**
KMI	**Kunming**	**28.06**	**314**		P	**P**	**00 11 46.0**	**+1.9**
KMI					S	**S**	**00 16 30.0**	**+3.5**
CMAI	**Chiengmai2** 27nm,1.4s,3μm	**28.30**	**301**		P	**P**	**00 11 46.5**	**+0.3**
KSAR	**Wonju Array Be**	**30.99**	**5**		P	**P**	**00 12 08.2**	**-1.4**
KSRS	**Korea Array** 5.1nm,0.9s,baz=182,slow=9.9,SNR=14	**31.00**	**5**		P	**P**	**00 12 08.2**	**-1.5**
KSRS					LR	LR	00 23 12.3	
	comp=Z,87nm,20.6s,baz=292,slow=34							
MTSU	**Mount Surprise** baz=31,SNR=5.4	**31.16**	**142**		P	**P**	**00 12 12.5**	**+1.1**
AS31	**Alice Springs**	**31.24**	**164**		*e*P	**P**	**00 12 10.8**	**-1.3**
ASAR	**Alice Springs**	**31.25**	**164**		P	**P**	**00 12 11.0**	**-1.1**
ASAR	**Alice Springs** 2.7nm,0.5s,baz=346,slow=7.2,SNR=21	**31.25**	**164**		P	**P**	**00 12 11.0**	**-1.1**
CD2	**Chengdu**	**31.28**	**324**		P	**P**	**00 12 14.5**	**+2.1**
CD2					pP	**pP**	**00 12 24.5**	**+1.3**
CD2					sP	**sP**	**00 12 28.5**	**+0.6**
CD2					PP	**PnPn**	**00 13 18.5**	**+3.0**
CD2					PcP	**PcP**	**00 15 08.0**	**+1.8**
CD2					S	**S**	**00 17 18.0**	**+1.4**
CD2					sS	**sS**	**00 17 34.8**	**+0.1**
CD2					AMB	AMB		
	comp=Z,40nm,0.6s							
CD2					AMB	AMB		
	comp=Z,380nm,4.1s							
CD2					LR	LR		
	comp=N,630nm,4.5s							
CD2					LR	LR		
	comp=Z,990nm,8.9s							
MJAR	**Matsushiro Arr**	**32.40**	**21**		P	P	00 12 18.6	-3.5
MJAR	**Matsushiro Arr** 1.8nm,0.7s,baz=204,slow=8.3,SNR=2.9	**32.40**	**21**		P	P	00 12 18.6	-3.5
MJAR					LR	LR	00 24 00.2	
	comp=Z,24nm,18.9s,baz=210,slow=34							
MEEK	**Meekatharra** baz=34,SNR=4.1	**33.41**	**190**		P	P	00 12 43.7	+13
CTA	**Charters Tower**	**33.83**	**142**		P	**P**	**00 12 33.9**	**-0.8**
CTA	**Charters Tower** 1.9nm,0.5s,baz=318,slow=15,SNR=3.2	**33.83**	**142**		P	**P**	**00 12 33.9**	**-0.8**
BJI	**Beijing**	**34.32**	**348**		P	**P**	**00 12 38.8**	**+0.1**
BJI					sP	**sP**	**00 12 53.8**	**-0.5**
BJI					S	**S**	**00 18 08.8**	**+5.4**
BJI					AMB	AMB		
	comp=Z,24nm,0.9s							
BJI					LR	LR		
	comp=N,390nm,5.8s							
BJI					LR	LR		
	comp=E,610nm,6.0s							
LZH	**Lanzhou**	**35.16**	**330**		*e*P	**P**	**00 12 48.0**	**+1.7**
LZH					pP	**pP**	**00 12 57.8**	**+0.6**
LZH					sP	**sP**	**00 13 02.5**	**+0.6**
LZH					AMB	AMB		
	comp=Z,27nm,1.0s							
LZH					AMB	AMB		
	comp=Z,150nm,4.0s							
HHC	**Hu-ho-hao-te**	**36.22**	**343**		*e*P	**P**	**00 12 55.5**	**+0.3**
HHC					pP	**pP**	**00 13 05.3**	**-0.9**
HHC					sP	**sP**	**00 13 09.3**	**-1.6**
HHC					PP	**PP**	**00 14 19.0**	**+0.9**
HHC					S	**S**	**00 18 33.5**	**+0.5**
HHC					sS	**sS**	**00 18 49.5**	**-1.7**
HHC					PcS	**PcS**	**00 19 06.8**	**-0.9**
HHC					AMB	AMB		
	comp=Z,33nm,0.7s							
HHC					AMB	AMB		
	comp=Z,140nm,6.4s							
HHC					LR	LR		
	comp=N,1μm,10.0s							
HHC					LR	LR		
	comp=E,1μm,11.1s							
HHC					LR	LR		
	comp=Z,1μm,12.5s							
MORW	**Morawa** baz=36,SNR=4.8	**36.28**	**193**		P	P	00 13 00.0	+4.3
SHL	**Shillong**	**36.67**	**305**		*e*P	**P**	**00 13 01.0**	**+1.6**
FORT	**Forrest** 23nm,0.7s	**37.15**	**175**		*e*P	**P**	**00 13 01.5**	**-1.6**
CN2	**Changchun**	**37.21**	**1**		*e*P	**P**	**00 13 05.5**	**+2.0**
CN2					*es*P	**sP**	**00 13 19.3**	**+0.2**
CN2					*e*S	**S**	**00 18 51.0**	**+3.3**
CN2					AMB	AMB		
	comp=Z,10.0nm,0.6s							
QLP	**Quilpie** baz=38,SNR=3.3	**37.90**	**151**		P	**P**	**00 13 08.2**	**-1.2**
USRK	**Ussuriysk Arra** 0.8nm,0.6s,baz=188,slow=7.0,SNR=2.7	**38.14**	**8**		P	**P**	**00 13 10.0**	**-1.3**
USRK					LR	LR	00 29 33.5	
	comp=Z,226nm,19.7s,baz=228,slow=37							
LSA	**Lhasa** 7.8nm,0.6s	**39.16**	**310**		*e*P	**P**	**00 13 20.5**	**-0.2**
GTA	**Gaotai**	**39.75**	**329**		*e*P	**P**	**00 13 26.5**	**+1.4**
GTA					pP	**pP**	**00 13 36.5**	**+0.4**
GTA					sP	**sP**	**00 13 40.5**	**-0.3**
GTA					PP	**PnPn**	**00 15 02.5**	**+2.2**
GTA					S	**S**	**00 19 29.0**	**+2.4**
GTA					AMB	AMB		
	comp=Z,16nm,0.9s							
GTA					AMB	AMB		
	comp=Z,170nm,5.7s							
GTA					LR	LR		
	comp=N,250nm,16.1s							
GTA					LR	LR		
	comp=E,170nm,14.3s							
GTA					LR	LR		
	comp=Z,340nm,16.6s							
NWAO	**Narrogin (SRO)**	**39.80**	**190**		*e*P	**P**	**00 13 24.0**	**-1.3**
BBOO	**Buckleboo** 2μm,1.8s	**40.50**	**165**		*e*P	**P**	**00 13 30.8**	**-0.4**
BBOO	**Buckleboo** baz=41,SNR=25	**40.50**	**165**		P	**P**	**00 13 30.6**	**-0.5**
TAPN	**Taplejung** 35nm,1.0s	**40.81**	**305**		*e*P	**P**	**00 13 34.5**	**+0.2**
ODAN	**Odare** 35nm,0.9s	**40.88**	**304**		*e*P	**P**	**00 13 34.9**	**+0.1**
STKA	**Stephens Creek**	**41.37**	**158**		P	**P**	**00 13 38.0**	**-0.3**
STKA	**Stephens Creek** baz=42,SNR=5.1	**41.37**	**158**		P	**P**	**00 13 38.2**	**-0.1**
STKA	**Stephens Creek** 6.0nm,0.7s,baz=341,slow=7.1,SNR=10	**41.37**	**158**		P	**P**	**00 13 38.0**	**-0.3**
RAMN	**Ramite** 58nm,1.0s	**41.57**	**304**		*e*P	**P**	**00 13 40.7**	**+0.3**
JIRN	**Jiri** 44nm,0.9s	**42.18**	**305**		*e*P	**P**	**00 13 45.8**	**+0.3**
GUN	**Gumba** 82nm,0.9s	**42.53**	**305**		*e*P	**P**	**00 13 48.4**	**+0.1**
PKI	**Pulchoki** 35nm,1.1s	**42.78**	**304**		*e*P	**P**	**00 13 50.1**	**-0.3**
PKIN	**Phulchoki**	**42.80**	**304**		*e*P	**P**	**00 13 50.6**	**+0.2**
KKN	**Kakani** 35nm,1.0s	**42.97**	**304**		*e*P	**P**	**00 13 51.6**	**-0.2**
DMN	**Daman** 37nm,1.0s	**43.05**	**304**		*e*P	**P**	**00 13 52.2**	**-0.3**
GKN	**Gorkha** 39nm,1.1s	**43.58**	**304**		*e*P	**P**	**00 13 55.9**	**-0.7**
ULN	**Ulaanbaatar** 9.6nm,1.1s	**43.94**	**343**		*e*P	**P**	**00 13 58.4**	**-0.8**
SONM	**Songino Array**	**44.11**	**342**		P	**P**	**00 13 59.8**	**-0.7**
SONM	**Songino Array** 3.4nm,1.1s,baz=153,slow=7.9,SNR=7.4	**44.11**	**342**		P	**P**	**00 13 59.8**	**-0.7**
KOLN	**Koldanda** 28nm,0.8s	**44.35**	**304**		*e*P	**P**	**00 14 03.0**	**+0.1**
DANN	**Dangsing** 46nm,0.9s	**44.42**	**304**		*e*P	**P**	**00 14 03.4**	**-0.2**
ARPS	**Mount Arapiles** baz=46,SNR=5.8	**45.88**	**161**		P	P	00 14 23.3	+8.8
HYB	**Hyderabad**	**46.35**	**288**		*i* P	**P**	**00 14 18.0**	**-0.6**
CAN	**Canberra** 18nm,1.1s	**47.42**	**153**		*e*P	**P**	**00 14 26.2**	**-0.6**
WMQ	**Urumqi**	**49.36**	**325**		P	P	00 14 45.3	+3.6
WMQ					pP	pP	00 14 55.3	+2.3
WMQ					sP	sP	00 14 59.0	+1.4
WMQ					S	**S**	**00 21 48.0**	**+2.2**
WMQ					ScS	**ScS**	**00 24 31.5**	**+0.9**
WMQ					AMB	AMB		
	comp=Z,17nm,0.8s							
WMQ					AMB	AMB		
	comp=Z,160nm,5.0s							
WMQ					LR	LR		

comp=N,130nm,18.6s
WMQ LR LR
comp=E,160nm,17.6s
WMQ LR LR
comp=Z,140nm,18.4s
DZM Mont Dzumac 49.74 126 P **P** **00 14 46.3 +1.4**
DZM Mont Dzumac 49.74 126 P **P** **00 14 46.3 +1.4**
8.3nm,1.0s,baz=305,slow=19,SNR=2.6
PETK Petropavlovsk- 53.73 24 P **P** **00 15 14.8 +0.7**
PETK Petropavlovsk- 53.73 24 P **P** **00 15 14.8 +0.7**
2.7nm,0.7s,baz=242,slow=0.7,SNR=4.8
MKAR Makanchi Array 54.20 325 *eP* **P** **00 15 18.8 +1.2**
MKAR Makanchi Array 54.20 325 P **P** **00 15 18.1 +0.5**
6.7nm,0.9s,baz=129,slow=8.3,SNR=31
KSH Kashi 54.72 315 P P 00 15 31.0 +9.3
KSH pP pP 00 15 34.3 +1.2
KSH sP sP 00 15 37.0 -0.7
KSH PcP **PcP** **00 16 26.8 +2.8**
KSH PP PP 00 17 30.5 +5.9
KSH *eS* **S** **00 23 02.0 +2.4**
KSH sS sS 00 23 19.5 +1.0
KSH AMB AMB
comp=Z,7.0nm,1.3s
KSH AMB AMB
comp=Z,89nm,3.9s
KSH LR LR
comp=N,350nm,5.3s
KSH LR LR
comp=E,400nm,4.5s
KSH LR LR
comp=Z,610nm,5.6s
TKM2 Tokmak 2 56.40 318 *eP* **P** **00 15 33.4 -0.4**
AAK Ala-Archa 57.01 317 *eP* **P** **00 15 36.5 -1.6**
ZAA0 Zalesovo Array 57.27 333 *eP* **P** **00 15 37.6 -1.8**
ZALV Zalesovo Beam 57.27 333 P **P** **00 15 38.7 -0.8**
ZALV Zalesovo Beam 57.27 333 P **P** **00 15 38.7 -0.8**
comp=Z,2.4nm,0.7s,baz=122,slow=6.9,SNR=13
EKS2 Erkin-Say 57.51 317 *eP* **P** **00 15 41.0 -0.5**
comp=Z,3.0nm,0.8s
KURBB Kurchatov Arra 58.38 327 P **P** **00 15 47.6 +0.2**
comp=Z,3.9nm,0.8s,baz=125,slow=6.4,SNR=18
KURK Kurchatov 58.39 327 P **P** **00 15 47.6 +0.2**
KURK Kurchatov 58.39 327 P **P** **00 15 47.2 -0.2**
comp=Z,73nm,1.1s,SNR=5.5
KKAR Karatay Array 59.89 317 *eP* **P** **00 15 58.1 +0.2**
OUZ Omahuta 61.90 136 *eP* **P** **00 16 10.6 -1.0**
comp=Z,171nm,1.3s
BVAR Borovoye Array 63.96 327 P **P** **00 16 24.9 -0.3**
BVAR Borovoye Array 63.96 327 P **P** **00 16 24.9 -0.3**
comp=Z,2.5nm,0.8s,baz=133,slow=8.3,SNR=13
BRVK Borovoye 64.04 327 *eP* **P** **00 16 26.0 +0.4**
comp=Z,7.6nm,1.1s
BKZ Black Stump Fm 65.93 138 *eP* **P** **00 16 37.6 -0.6**
comp=Z,392nm,2.5s
ABKAR Akbulak array 68.79 321 *eP* **P** **00 16 55.8 -0.3**
AKTO Aktyubinsk 70.30 321 P **P** **00 17 03.2 -2.1**
AKTO Aktyubinsk 70.30 321 P **P** **00 17 03.2 -2.1**
comp=Z,2.7nm,0.9s,baz=90,slow=9.2,SNR=6.4
RAR Rarotonga 78.94 113 *eP* **P** **00 17 56.5 +0.5**
comp=Z,118nm,0.4s
KBZ Khabaz 79.67 313 P **P** **00 17 58.4 -1.2**
KBZ Khabaz 79.67 313 P **P** **00 17 58.4 -1.2**
comp=Z,1.8nm,1.1s,baz=45,slow=7.1,SNR=2.2
BPAW Bear Paw Mtn. 81.75 26 *eP* **P** **00 18 10.9 +0.6**
comp=Z,104nm,2.9s
ILAR Eielson Array 83.53 26 P **P** **00 18 17.9 -1.7**
ILAR Eielson Array 83.53 26 P **P** **00 18 17.9 -1.7**
comp=Z,1.2nm,1.1s,baz=258,slow=5.7,SNR=5.1
BRTR Keskin Array B 86.76 309 P **P** **00 18 37.3 +0.8**
BRTR Keskin Array B 86.76 309 P **P** **00 18 37.3 +0.8**
comp=Z,0.4nm,0.9s,baz=86,slow=5.5,SNR=2.6
FINES FINESS Array B 88.50 332 P **P** **00 18 42.4 -1.8**
FINES FINESS Array B 88.50 332 P **P** **00 18 42.4 -1.8**
comp=Z,2.7nm,0.7s,baz=100,slow=5.8,SNR=6.9
KOLS Kolonicke sedl 93.29 320 *eP* P 00 19 15.0 +8.3
CRVS Cervenica-Dubn 93.82 320 *eP* P 00 19 13.6 +4.4
KECS Kecovo 94.55 320 *eP* P 00 19 19.1 +6.6
NB2 NORSAR Subarra 95.48 333 P P 00 19 13.6 -2.9
comp=Z,1.2nm,0.8s,baz=63,slow=4.8
NOA NORSAR Array B 95.48 333 P P 00 19 13.5 -3.1
NOA NORSAR Array B 95.48 333 P P 00 19 13.5 -3.1
comp=Z,0.7nm,0.7s,baz=66,slow=4.7,SNR=3.9
TORD Torodi Ar. Bea 120.15 289 PKP **PKPdf** **00 24 43.7 0.0**
TORD Torodi Ar. Bea 120.15 289 PKP **PKPdf** **00 24 43.7 0.0**
comp=Z,0.9nm,1.0s,baz=47,slow=1.6,SNR=2.3
CFAA Coronel Fontan 152.19 156 PKPbc **PKPbc** **00 25 48.8 +0.8**
CFAA Coronel Fontan 152.19 156 PKPbc **PKPbc** **00 25 48.8 +0.8**
comp=Z,0.2nm,0.4s,baz=220,slow=5.7,SNR=2.9

BJI 27 00:06:49.0, 35°.70N × 115°.39E, h10km, ML3.8/10, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIA	**Tai'an**	**1.50**	**70**	Pg	Pb	00 07 16.5	-0.4
TIA				Sg	Sb	00 07 36.0	0.0
TIA				SMN			
	2μm,0.6s						
TIA				SME			
	2μm,0.4s						
BJI	**Beijing**	**4.38**	**8**	Pg	Pg	00 08 09.5	-3.3
BJI				Sg	Sg	00 09 11.8	+2.2
BJI				SMN			
	110nm,0.9s						
BJI				SME			
	86nm,0.7s						
NJ2	**Nanjing**	**4.64**	**141**	*e*Pg	Pb	00 08 14.0	+3.5
NJ2				Sg	Sg	00 09 12.5	-5.5
NJ2				SMN			
	120nm,0.5s						
NJ2				SME			
	150nm,0.9s						
XAN	**Xi'an**	**5.57**	**255**	Pn	Pn	00 08 12.0	0.0
XAN				Pg	Pg	00 08 32.8	-3.0
XAN				Sn	Sn	00 09 10.8	-5.3
XAN				Sg	Sb	00 09 36.5	+3.2
XAN				SMN			
	28nm,0.7s						
XAN				SME			
	10.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**5.96**	**331**	*e*P	Pn	00 07 57.5	-20
HHC				AMB	AMB		
	comp=Z,29nm,1.1s						
HHC				AMB	AMB		
	comp=Z,440nm,5.6s						

IDC ***27*** *00:19:48.6±2.1, 6°.20S × 104°.31E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/24, mbtmp4.1/6, ML4.6/1, MS4.1/1, Ms1 4.1/1, ms1mx3.5/34, Error ellipse: s-maj=77.6km s-min=22.6km az=51.0*
ISCJB ***27*** *00:19:53.6±1.0, 6°.54S±0°.06 × 104°.41E±0°.08, h40km, mb4.0/5, MS4.0/1, Error ellipse: s-maj=12.8km s-min=7.0km az=148.5*
DJA ***27*** *00:19:55.6±1.0, 6°.5S±6° × 10°.4E±°, h15km, M3.7/6, MLv3.7/6*
ISC 27 00:19:54.8±1.0, 6°.46S±0°.09 × 104°.39E±0°.09, h40km, n21, σ1°87/18, mb4.0/5, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**0.93**	**7**	P	**Pn**	**00 20 11.0**	**-0.4**
KASI				S	**Sn**	**00 20 21.6**	**-2.0**
BLSI	**Bandar Lampung**	**1.38**	**38**	S	**Sn**	**00 20 36.4**	**+1.8**
LWLI	**Liwa**	**1.47**	**347**	P	**Pn**	**00 20 18.6**	**-0.3**
LWLI				S	**Sn**	**00 20 37.7**	**+0.8**
MDSI	**Maura Dua**	**1.97**	**354**	P	**Pn**	**00 20 26.3**	**+0.6**
MDSI				S	**Sn**	**00 20 51.7**	**+2.6**
MNAI	**Manna**	**2.52**	**326**	P	**Pn**	**00 20 34.2**	**+0.9**
MNAI				S	**Sn**	**00 21 06.0**	**+3.2**
LHSI	**Lahat**	**2.75**	**342**	P	**Pn**	**00 20 37.9**	**+1.5**
PPBI	**Pangkal Pinang**	**4.61**	**22**	P	**Pn**	**00 21 04.4**	**+2.4**
BATI	**Baumata**	**19.43**	**102**	P	**P**	**00 24 17.7**	**-0.3**
	1.7nm,0.3s,baz=294,slow=17,SNR=2.2						
FITZ	**Fitzroy Crossi**	**23.74**	**121**	LR	LR	00 33 16.9	
	comp=Z,534nm,21.0s,baz=176,slow=34						
H01W3	**Cape Leeuwin H**	**29.69**	**164**	T	T	00 57 20.2	
	baz=342						
H01W2	**Cape Leeuwin H**	**29.70**	**164**	T	T	00 57 23.1	
	baz=342						
H01W1	**Cape Leeuwin H**	**29.70**	**164**	T	T	00 57 23.1	
	baz=342						
H08S2	**Diego Garcia H**	**31.67**	**266**	T	T	01 00 02.5	
	baz=89,slow=0.7,SNR=18						
H08S3	**Diego Garcia H**	**31.68**	**266**	T	T	01 00 03.8	
	baz=89,slow=0.7,SNR=18						
H08S1	**Diego Garcia H**	**31.69**	**266**	T	T	01 00 02.8	
	baz=89,slow=0.7,SNR=12						
WRA	**Warramunga Arr**	**32.02**	**118**	P	**P**	**00 26 18.4**	**+0.7**
	0.5nm,0.9s,baz=286,slow=9.7,SNR=2.8						
STKA	**Stephens Creek**	**42.94**	**131**	P	**P**	**00 27 52.0**	**+1.9**
	1.4nm,0.5s,baz=309,slow=13,SNR=4.8						
USRK	**Ussuriysk Arra**	**56.23**	**24**	P	**P**	**00 29 29.5**	**-1.5**
	2.6nm,0.7s,baz=212,slow=10,SNR=4.4						
MKAR	**Makanchi Array**	**56.53**	**342**	P	**P**	**00 29 31.1**	**-2.0**
	1.3nm,0.8s,baz=154,slow=8.9,SNR=6.4						
ZALV	**Zalesovo Beam**	**62.39**	**347**	P	**P**	**00 30 10.9**	**-2.4**
	0.6nm,0.3s,baz=137,slow=5.2,SNR=5.1						
TXAR	**Lajitas Array**	**145.11**	**46**	PKP	**PKPbc**	**00 39 27.0**	**-1.3**
	0.3nm,0.6s,baz=64,slow=2.1,SNR=3.8						

IDC 27 00:23:04.1±1.3, 31°.29S × 178°.99W, h0km, mb3.9/4, mb1 4.2/6, mb1mx4.0/20, mbtmp4.0/6, ML3.9/2, MS3.6/2, Ms1 3.6/2, ms1mx3.4/24, Error ellipse: s-maj=39.2km s-min=21.4km az=132.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.23**	**25**	Pn	Pn	00 23 42.2	-0.1
	45nm,0.3s,baz=180,slow=20,SNR=2.5						
RAO				Sn	Sn	00 24 09.7	-0.8
	271nm,0.3s,baz=202,slow=24,SNR=6.1						
RAO				LR	LR	00 24 31.8	
	comp=Z,615nm,18.6s,baz=271,slow=39						
URZ	**Urewera**	**7.66**	**204**	Pn	Pn	00 24 55.9	-1.0
	1.4nm,0.3s,baz=306,slow=4.4,SNR=3.8						
URZ				Sn	Sn	00 26 25.4	+1.0
	baz=107,slow=20,SNR=2.6						
HNR	**Honiara**	**29.26**	**313**	LR	LR	00 39 20.1	
	comp=Z,261nm,18.8s,baz=63,slow=33						
ASAR	**Alice Springs**	**42.22**	**268**	P	P	00 30 59.2	0.0
	1.3nm,0.9s,baz=107,slow=8.2,SNR=10						
WRA	**Warramunga Arr**	**43.29**	**274**	P	P	00 31 07.9	0.0
	1.7nm,0.8s,baz=115,slow=7.2,SNR=4.7						
FITZ	**Fitzroy Crossi**	**51.52**	**271**	P	P	00 32 11.9	0.0
	3.0nm,1.0s,baz=91,slow=8.6,SNR=4.4						
NVAR	**Mina Array Bea**	**89.47**	**43**	P	P	00 36 04.6	+1.3
	0.7nm,0.8s,baz=228,slow=11,SNR=2.3						
FINES	**FINESS Array B**	**145.67**	**339**	PKPbc	PKPdf	00 42 42.4	-1.4
	1.4nm,0.7s,baz=62,slow=4.5,SNR=6.4						
TORD	**Torodi Ar. Bea**	**161.94**	**182**	PKPab	PKPab	00 43 53.0	-0.6
	1.1nm,0.9s,baz=184,slow=3.1,SNR=5.5						

IDC ***27*** *00:33:25.6±0.6, 53°.80N × 164°.58W, h0km, mb4.2/30, mb1 4.4/32, mb1mx4.3/39, mbtmp4.2/32, ML3.7/2, MS4.4/2, Ms1 4.4/2, ms1mx3.6/47, Error ellipse: s-maj=18.0km s-min=10.4km az=178.0*
ISCJB ***27*** *00:33:30.5±0.5, 53°.69N±0°.05 × 164°.39W±0°.05, h47km±3km, mb4.4/60, MS5.1/1, Error ellipse: s-maj=9.3km s-min=3.2km az=158.7*
NEIC ***27*** *00:33:32.0±0.4, 53°.77N × 164°.47W, h44km±2km, mb4.3/12, ML4.2(AEIC), Error ellipse: s-maj=6.5km s-min=2.3km az=157.0*
ISC 27 00:33:31.9±1.1, 53°.75N±0°.07 × 164°.46W±0°.04, h46km±9km, n222, σ0°79/232, mb4.5/60, 34C-5D, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**0.73**	**354**	P	**Pn**	**00 33 45.4**	**-0.5**
WESN	**West Dahl Nort**	**0.83**	**355**	P	**Pn**	**00 33 47.1**	**-0.1**
AKA	**Akutan**	**0.87**	**297**	P	**Pn**	**00 33 47.6**	**-0.1**
AKUT	**Akutan**	**0.87**	**297**	P	**Pn**	**00 33 47.3**	**-0.4**
AKUT				S	**Sn**	**00 34 00.7**	**+1.4**
ZRO	**Akutan Zero**	**0.96**	**292**	P	**Pn**	**00 33 48.6**	**-0.4**
BRPK	**Brown Peak**	**0.99**	**25**	P	**Pn**	**00 33 48.4**	**-1.0**
SSLS	**Shishaldin Sou**	**1.00**	**15**	P	**Pn**	**00 33 49.0**	**-0.6**
AKGG	**Akutan Green G**	**1.01**	**297**	P	**Pn**	**00 33 49.4**	**-0.2**
AKGG				S	**Sn**	**00 34 04.5**	**+1.7**
LVA	**Lava Point**	**1.02**	**295**	P	**Pn**	**00 33 49.5**	**-0.3**
AKRB	**Akutan Reef Bi**	**1.03**	**293**	P	**Pn**	**00 33 49.5**	**-0.4**
SSLW	**Shishaldin Wes**	**1.04**	**11**	P	**Pn**	**00 33 49.7**	**-0.5**
SSLN	**Shishaldin Nor**	**1.10**	**14**	P	**Pn**	**00 33 50.8**	**-0.1**
ISNN	**Isanotski Nort**	**1.16**	**20**	P	**Pn**	**00 33 51.6**	**0.0**
UNV	**Unalaska Valle**	**1.22**	**276**	*e*Pn	**Pn**	**00 33 51.0**	**-1.4**
UNV				*eS*	**Sn**	**00 34 08.2**	**+0.5**
FALS	**False Pass**	**1.27**	**28**	P	**Pn**	**00 33 52.4**	**-0.7**
FALS				S	**Sn**	**00 34 11.0**	**+2.0**
MTBL	**Makushin Table**	**1.34**	**280**	P	**Pn**	**00 33 53.5**	**-0.7**
MCIR	**Makushin Cirqu**	**1.46**	**279**	P	**Pn**	**00 33 55.5**	**-0.3**
DRIA	**Deer Island**	**1.77**	**46**	P	**Pn**	**00 33 59.0**	**-1.0**
DT1	**Dutton Round H**	**1.86**	**42**	P	**Pn**	**00 34 01.1**	**-0.1**
DTNA	**Dutton South F**	**1.91**	**42**	P	**Pn**	**00 34 01.8**	**-0.1**
DOL	**Dolgoi Island**	**2.06**	**46**	P	**Pn**	**00 34 03.8**	**-0.3**
OKFG	**Magazine Ridge**	**2.09**	**262**	P	**Pn**	**00 34 03.8**	**-0.6**
OKTU	**Okmok Mt. Tuli**	**2.17**	**262**	P	**Pn**	**00 34 05.9**	**+0.4**
PS4A	**Pavlof South-4**	**2.20**	**42**	P	**Pn**	**00 34 06.7**	**+0.7**
OKCE	**Okmok Cone E**	**2.23**	**263**	P	**Pn**	**00 34 06.9**	**+0.5**
OKSO	**Okmok South**	**2.24**	**261**	P	**Pn**	**00 34 07.0**	**+0.4**
PVV	**Pavlof Volcano**	**2.25**	**43**	P	**Pn**	**00 34 07.1**	**+0.5**
OKSP	**Okmok Steeple**	**2.34**	**259**	P	**Pn**	**00 34 08.2**	**+0.3**
NIKH	**Nikolski High**	**2.75**	**255**	P	**Pn**	**00 34 13.8**	**+0.4**
SDPT	**Sand Point**	**2.82**	**54**	*e*Pn	**Pn**	**00 34 13.7**	**-0.7**
SDPT				*e*Sn	**Sn**	**00 34 47.3**	**+0.3**
VNHG	**Veniaminof 1**	**3.93**	**49**	P	**Pn**	**00 34 30.6**	**+1.0**
CHGN	**Chignik**	**4.32**	**51**	*e*Pn	**Pn**	**00 34 34.6**	**-0.3**
CHGN				*e*Sn	**Sn**	**00 35 24.3**	**+0.4**
ANPB	**Aniakchak Plen**	**4.67**	**47**	P	**Pn**	**00 34 41.1**	**+1.3**
SPIA	**Saint Paul Isl**	**4.76**	**319**	P	**Pn**	**00 34 42.9**	**+1.9**
KABR	**Katmai Barrier**	**6.90**	**47**	P	**Pn**	**00 35 11.2**	**+0.8**
GSCK	**Great Sitkin C**	**7.30**	**261**	P	**Pn**	**00 35 17.8**	**+2.0**
ADK	**Adak**	**7.64**	**261**	P	**Pn**	**00 35 22.7**	**+2.2**
RSO	**Redoubt South**	**9.25**	**39**	*e*Pn	**Pn**	**00 35 42.4**	**-0.3**
PPLA	**Purkeypile**	**11.19**	**30**	*e*Pn	**Pn**	**00 36 10.2**	**+1.1**
TRF	**Thorofare Moun**	**12.18**	**31**	*e*Pn	**Pn**	**00 36 22.8**	**+0.2**
DIV	**Divide**	**12.45**	**46**	*e*Pn	**Pn**	**00 36 24.6**	**-1.7**
	30nm,0.8s						
BPAW	**Bear Paw Mtn.**	**12.46**	**28**	*e*Pn	**Pn**	**00 36 26.6**	**+0.3**
	13nm,0.8s						
MCK	**McKinley**	**12.81**	**32**	*e*Pn	**Pn**	**00 36 31.2**	**+0.2**
FX1	**Attu Island--F**	**13.40**	**275**	Pn	**Pn**	**00 36 39.6**	**+0.4**
FX1	**Attu Island--F**	**13.40**	**275**	Pn	**Pn**	**00 36 39.6**	**+0.4**
	1.5nm,0.3s,baz=94,slow=13,SNR=12						
IMA2	**Indian Mountai**	**13.46**	**19**	*e*Pn	**Pn**	**00 36 40.8**	**+0.8**
PAX	**Paxson**	**13.53**	**39**	*e*Pn	**Pn**	**00 36 39.2**	**-1.9**
ILAR	**Eielson Array**	**14.17**	**32**	Pn	Pn	00 36 45.7	-3.9
ILAR				PcP	**PcP**	**00 42 05.1**	**-0.1**
ILAR	**Eielson Array**	**14.17**	**32**	Pn	Pn	00 36 45.7	-3.9
	0.1nm,0.3s,baz=230,slow=12,SNR=8.4						
ILAR				PcP	**PcP**	**00 42 05.1**	**-0.1**
	0.1nm,0.3s,baz=275,slow=2.5,SNR=4.1						
ILAR				LR	LR	00 42 53.9	
	comp=Z,290nm,20.2s,baz=134,slow=40						
EGAK	**Eagle**	**16.12**	**38**	*e*Pn	**Pn**	**00 37 15.1**	**+0.1**
	10nm,0.7s						
EGAK				*e*Sn	**Sn**	**00 40 14.8**	**+2.3**
DAWY	**Dawson**	**16.44**	**41**	*e*Pn	**Pn**	**00 37 19.6**	**+0.6**
DLBC	**Dease Lake**	**19.62**	**62**	P	**Pn**	**00 37 58.0**	**+0.1**
DLBC	**Dease Lake**	**19.62**	**62**	P	**Pn**	**00 37 58.0**	**+0.1**
	0.3nm,0.3s,baz=266,slow=9.1,SNR=14						
INK	**Inuvik**	**20.57**	**33**	*e*P	**P**	**00 38 04.8**	**-1.6**
	15nm,0.8s						
INK				PcP	**PcP**	**00 42 15.9**	**+0.6**
INK	**Inuvik**	**20.57**	**33**	P	**P**	**00 38 04.3**	**-2.0**
	7.4nm,0.4s,baz=246,slow=10,SNR=21						
INK				PcP	**PcP**	**00 42 15.9**	**+0.6**
	2.7nm,0.7s,baz=96,slow=3.6,SNR=4.4						
PETK	**Petropavlovsk-**	**22.39**	**284**	P	**P**	**00 38 25.7**	**-0.4**
PETK	**Petropavlovsk-**	**22.39**	**284**	P	**P**	**00 38 25.7**	**-0.4**
	3.0nm,0.4s,baz=91,slow=13,SNR=13						
YKA	**Yellowknife Ar**	**27.08**	**51**	P	**P**	**00 39 10.1**	**+0.3**
YKA	**Yellowknife Ar**	**27.08**	**51**	P	**P**	**00 39 10.1**	**+0.3**
	1.2nm,0.4s,baz=270,slow=6.9,SNR=15						
NEW	**Newport**	**29.83**	**81**	*e*P	**P**	**00 39 34.1**	**-0.3**
	1.5nm,0.6s						
NEW	**Newport**	**29.83**	**81**	P	**P**	**00 39 34.9**	**+0.5**
	2.3nm,0.9s,baz=294,slow=6.5,SNR=3.7						
RES	**Resolute Bay**	**33.83**	**27**	*e*P	**P**	**00 40 08.4**	**-0.7**
	1.1nm,0.5s						
RES				PcP	**PcP**	**00 42 47.5**	**+0.6**
RES	**Resolute Bay**	**33.83**	**27**	P	**P**	**00 40 08.1**	**-1.0**
	0.9nm,0.5s,baz=275,slow=9.8,SNR=5.7						
RES				PcP	**PcP**	**00 42 47.5**	**+0.6**
	4.1nm,1.0s,baz=260,slow=6.4,SNR=4.3						
NVAR	**Mina Array Bea**	**34.80**	**97**	P	**P**	**00 40 19.6**	**+1.3**
NVAR				PcP	**PcP**	**00 42 51.0**	**+0.4**
NVAR	**Mina Array Bea**	**34.80**	**97**	P	**P**	**00 40 19.6**	**+1.3**
	1.0nm,0.8s,baz=292,slow=7.0,SNR=6.0						
NVAR				PcP	**PcP**	**00 42 51.0**	**+0.4**
	0.4nm,0.5s,baz=279,slow=1.7,SNR=3.1						
ELK	**Elko**	**35.13**	**91**	P	**P**	**00 40 21.8**	**+0.7**
ELK	**Elko**	**35.13**	**91**	P	**P**	**00 40 21.8**	**+0.7**
	1.5nm,0.7s,baz=355,slow=5.4,SNR=7.9						
ASAJ	**Asahikawa**	**35.33**	**276**	P	**P**	**00 40 21.6**	**-0.8**
ASAJ	**Asahikawa**	**35.33**	**276**	P	**P**	**00 40 21.6**	**-0.8**
	6.2nm,0.8s,baz=338,slow=5.4,SNR=3.2						
PDAR	**Pinedale Array**	**37.27**	**84**	P	**P**	**00 40 39.6**	**+0.3**
PDAR	**Pinedale Array**	**37.27**	**84**	P	**P**	**00 40 39.6**	**+0.3**
	0.2nm,0.5s,baz=308,slow=8.8,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**40.45**	**224**	T	T	01 24 31.9	
	baz=28,slow=0.7,SNR=297						
H11N3	**WAKE ISLAND Hy**	**40.45**	**224**	T	T	01 24 32.4	
	baz=28,slow=0.7,SNR=481						
H11N1	**WAKE ISLAND Hy**	**40.47**	**224**	T	T	01 24 29.3	
	baz=28,slow=0.7,SNR=650						
H11S1	**WAKE ISLAND Hy**	**41.62**	**224**	T	T	01 25 46.4	
	baz=26,slow=0.7,SNR=400						
H11S2	**WAKE ISLAND Hy**	**41.64**	**224**	T	T	01 25 46.9	
	baz=26,slow=0.7,SNR=425						
H11S3	**WAKE ISLAND Hy**	**41.64**	**224**	T	T	01 25 46.8	
	baz=26,slow=0.7,SNR=372						
MJAR	**Matsushiro Arr**	**42.69**	**270**	P	**P**	**00 41 23.7**	**-0.3**
MJAR	**Matsushiro Arr**	**42.69**	**270**	P	**P**	**00 41 23.7**	**-0.3**
	0.9nm,0.5s,baz=40,slow=6.6,SNR=5.0						
SPITS	**Spitsbergen Ar**	**48.34**	**360**	P	**P**	**00 42 07.2**	**-0.9**
SPITS	**Spitsbergen Ar**	**48.34**	**360**	P	**P**	**00 42 07.2**	**-0.9**
	11nm,0.9s,baz=7.3,slow=8.0,SNR=7.5						
SUMG	**Summit**	**48.55**	**19**	*i* P	**P**	**00 42 10.8**	**+0.5**
	11nm,0.9s						
SUMG	**Summit**	**48.55**	**19**	*e*P	**P**	**00 42 10.6**	**+0.3**
	13nm,0.9s						
TXAR	**Lajitas Array**	**49.82**	**94**	P	**P**	**00 42 20.6**	**+0.4**
TXAR	**Lajitas Array**	**49.82**	**94**	P	**P**	**00 42 20.6**	**+0.4**
	3.5nm,0.8s,baz=294,slow=4.4,SNR=25						
SCHQ	**Schefferville**	**52.37**	**46**	*e*P	**P**	**00 42 38.8**	**0.0**
	10nm,0.9s						
SCHQ	**Schefferville**	**52.37**	**46**	P	**P**	**00 42 38.7**	**-0.1**
	7.6nm,1.0s,baz=285,slow=16,SNR=3.1						
SONM	**Songino Array**	**53.10**	**303**	P	**P**	**00 42 44.6**	**+0.1**
SONM				PcP	**PcP**	**00 43 53.1**	**+0.8**
SONM	**Songino Array**	**53.10**	**303**	P	**P**	**00 42 44.6**	**+0.1**
	1.4nm,1.0s,baz=37,slow=6.5,SNR=4.9						
SONM				PcP	**PcP**	**00 43 53.1**	**+0.8**
	1.5nm,0.6s,baz=70,slow=3.0,SNR=7.5						
SCO	**Scoresbysund**	**53.18**	**15**	*i* P	**P**	**00 42 45.0**	**+0.4**
	2.4nm,0.9s						
H06E1	**SOCORRO T-PHAS**	**53.71**	**109**	T	T	01 40 41.7	
	SNR=6.6						
ARCES	**ARCESS Array B**	**56.81**	**356**	P	**P**	**00 43 09.6**	**-1.3**
ARCES				PcP	**PcP**	**00 44 06.4**	**+0.3**
ARCES	**ARCESS Array B**	**56.81**	**356**	P	**P**	**00 43 09.6**	**-1.3**
	3.9nm,0.7s,baz=12,slow=8.9,SNR=6.4						
ARCES				PcP	**PcP**	**00 44 06.4**	**+0.3**
	2.5nm,0.7s,baz=352,slow=5.6,SNR=2.6						
ZALV	**Zalesovo Beam**	**58.35**	**320**	P	**P**	**00 43 21.2**	**-0.7**
ZALV				PcP	**PcP**	**00 44 12.6**	**+0.2**
ZALV	**Zalesovo Beam**	**58.35**	**320**	P	**P**	**00 43 21.2**	**-0.7**
	0.6nm,0.3s,baz=25,slow=6.7,SNR=4.9						
ZALV				PcP	**PcP**	**00 44 12.6**	**+0.2**
	1.1nm,0.5s,baz=37,slow=4.4,SNR=6.2						
JOF	**Joensuu**	**63.02**	**352**	*e*p	**P**	**00 43 54.4**	**+0.9**
	4.8nm,0.6s						
KURK	**Kurchatov**	**63.25**	**321**	*e*P	**P**	**00 43 55.5**	**+0.3**
	1.7nm,0.9s						
KURBB	**Kurchatov Arra**	**63.36**	**321**	P	**P**	**00 43 56.1**	**+0.2**
	0.8nm,0.2s,baz=39,slow=6.3,SNR=5.9						
KAF	**Kangasniemi**	**64.17**	**354**	*e*p	**P**	**00 44 00.9**	**-0.2**
	4.7nm,0.5s						
BVAR	**Borovoye Array**	**64.24**	**327**	P	**P**	**00 44 01.7**	**0.0**
BVAR	**Borovoye Array**	**64.24**	**327**	P	**P**	**00 44 01.7**	**0.0**
	4.2nm,0.7s,baz=20,slow=4.7,SNR=18						
FINES	**FINESS Array B**	**64.85**	**354**	P	**P**	**00 44 05.1**	**-0.4**
FINES	**FINESS Array B**	**64.85**	**354**	P	**P**	**00 44 05.1**	**-0.4**
	3.7nm,0.7s,baz=21,slow=7.9,SNR=14						
MKAR	**Makanchi Array**	**64.95**	**316**	P	**P**	**00 44 05.8**	**-0.6**
MKAR	**Makanchi Array**	**64.95**	**316**	P	**P**	**00 44 05.8**	**-0.6**
	0.4nm,0.3s,baz=47,slow=6.5,SNR=11						
NB2	**NORSAR Subarra**	**65.51**	**2**	P	**P**	**00 44 09.6**	**-0.3**
	comp=Z,4.7nm,1.1s,baz=359,slow=7.4						
NOA	**NORSAR Array B**	**65.51**	**2**	P	**P**	**00 44 09.3**	**-0.6**
NOA	**NORSAR Array B**	**65.51**	**2**	P	**P**	**00 44 09.3**	**-0.6**
	comp=Z,1.9nm,0.9s,baz=359,slow=7.0,SNR=4.8						
AKTO	**Aktyubinsk**	**70.22**	**333**	P	**P**	**00 44 38.5**	**-1.1**
AKTO	**Aktyubinsk**	**70.22**	**333**	P	**P**	**00 44 38.5**	**-1.1**
	comp=Z,16nm,0.6s,baz=32,slow=5.9,SN

	comp=Z,15nm,0.9s								
PKIN	**Phulchoki**	**79.11**	**302**	*e*P		**P**		**00 45 31.2**	**-0.6**
	comp=Z,7.2nm,0.6s								
MFF	**Saint Martin d**	**79.14**	**11**⇑	*i*P		**P**		**00 45 31.8**	**+0.5**
	comp=Z,27nm,1.1s								
MFF	**Saint Martin d**	**79.14**	**11**⇑	*i*P		**P**		**00 45 31.8**	**+0.5**
	comp=Z,27nm,1.1s								
GKN	**Gorkha**	**79.14**	**303**	*e*P		**P**		**00 45 31.2**	**-0.6**
	comp=Z,6.3nm,0.3s								
DMN	**Daman**	**79.23**	**302**	*e*P		**P**		**00 45 32.5**	**+0.1**
	comp=Z,11nm,0.7s								
DANN	**Dangsing**	**79.29**	**304**	*e*P		**P**		**00 45 33.0**	**+0.2**
	comp=Z,48nm,0.7s								
AVF	**Avril sur Loir**	**79.30**	**8**⇑	*i*P		**P**		**00 45 32.4**	**+0.3**
	comp=Z,7.0nm,0.6s								
AVF	**Avril sur Loir**	**79.30**	**8**⇑	*i*P		**P**		**00 45 32.4**	**+0.3**
	comp=Z,7.0nm,0.6s								
BGF	**Bois d'Agland**	**79.49**	**9**	*e*P		**P**		**00 45 33.5**	**+0.3**
	comp=Z,9.5nm,0.7s								
BGF	**Bois d'Agland**	**79.49**	**9**	*e*P		**P**		**00 45 33.5**	**+0.3**
	comp=Z,9.5nm,0.7s								
SMF	**Signal de Mont**	**79.49**	**8**⇑	*i*P		**P**		**00 45 33.5**	**+0.3**
	comp=Z,17nm,0.9s								
SMF	**Signal de Mont**	**79.49**	**8**⇑	*i*P		**P**		**00 45 33.5**	**+0.3**
	comp=Z,17nm,0.9s								
FETA	**Feichten**	**79.52**	**3**	*i*P		**P**		**00 45 34.7**	**+1.1**
	comp=Z,5.2nm,0.9s,SNR=6.5								
DRGR		**79.65**	**355**⇓	*i*P		**P**		**00 45 34.8**	**+0.6**
KOLN	**Koldanda**	**79.85**	**303**	*e*P		**P**		**00 45 35.7**	**0.0**
	comp=Z,15nm,0.9s								
SOKA	**Soboth**	**79.95**	**0**⇑	*i*P		**P**		**00 45 36.6**	**+0.8**
	comp=Z,6.2nm,1.1s,SNR=5.1								
KBZ	**Khabaz**	**80.11**	**340**	P		**P**		**00 45 37.5**	**+0.9**
KBZ	**Khabaz**	**80.11**	**340**	P		**P**		**00 45 37.5**	**+0.9**
	comp=Z,6.8nm,0.9s,baz=279,slow=2.4,SNR=14								
OBKA	**Obir**	**80.12**	**1**⇑	*i*P		**P**		**00 45 37.7**	**+1.0**
	comp=Z,13nm,1.0s,SNR=6.5								
SIRR	**Siria**	**80.22**	**356**⇓	*i*P		**P**		**00 45 39.5**	**+2.3**
VRI	**Vrincioaia**	**80.31**	**352**⇑	*i*P		P		00 45 28.7	-8.9
PLOR	**Plostina**	**80.33**	**352**⇑	*i*P		**P**		**00 45 39.7**	**+1.9**
PKSM	**Moragy**	**80.38**	**358**⇑	*i*P		**P**		**00 45 38.4**	**+0.4**
LFF	**La Frestale**	**80.88**	**11**⇑	*i*P		**P**		**00 45 41.2**	**+0.5**
	comp=Z,7.6nm,0.5s								
LFF	**La Frestale**	**80.88**	**11**⇑	*i*P		**P**		**00 45 41.2**	**+0.5**
	comp=Z,7.6nm,0.5s								
ARR	**Arges**	**80.96**	**354**⇑	*i*P		**P**		**00 45 42.3**	**+1.1**
CAF	**Calviac**	**81.03**	**10**	*e*P		**P**		**00 45 42.0**	**+0.4**
CAF	**Calviac**	**81.03**	**10**	*e*P		**P**		**00 45 42.0**	**+0.4**
VIVF	**Saint-Julien-l**	**81.33**	**8**⇑	*i*P		**P**		**00 45 43.9**	**+0.7**
	comp=Z,5.6nm,0.6s								
VIVF	**Saint-Julien-l**	**81.33**	**8**⇑	*i*P		**P**		**00 45 43.9**	**+0.7**
	comp=Z,5.6nm,0.6s								
ORIF	**Oris-en-Rattie**	**81.36**	**7**⇑	*i*P		**P**		**00 45 44.4**	**+1.0**
	comp=Z,4.0nm,0.6s								
ORIF	**Oris-en-Rattie**	**81.36**	**7**⇑	*i*P		**P**		**00 45 44.4**	**+1.0**
	comp=Z,4.0nm,0.6s								
MBDF	**Montbardon**	**81.61**	**6**⇑	*i*P		**P**		**00 45 46.4**	**+1.6**
	comp=Z,9.6nm,0.7s								
MBDF	**Montbardon**	**81.61**	**6**⇑	*i*P		**P**		**00 45 46.4**	**+1.6**
	comp=Z,9.6nm,0.7s								
SMRF	**Simiane la Rot**	**82.28**	**7**	*e*P		**P**		**00 45 49.6**	**+1.4**
SMRF	**Simiane la Rot**	**82.28**	**7**	*e*P		**P**		**00 45 49.6**	**+1.4**
SJPF	**Ste Jean**	**82.45**	**12**	*e*P		**P**		**00 45 49.9**	**+0.9**
SJPF	**Ste Jean**	**82.45**	**12**	*e*P		**P**		**00 45 49.9**	**+0.9**
MTLF	**Montolieu**	**82.61**	**10**⇑	*i*P		**P**		**00 45 50.6**	**+0.7**
	comp=Z,6.7nm,0.7s								
MTLF	**Montolieu**	**82.61**	**10**⇑	*i*P		**P**		**00 45 50.6**	**+0.7**
	comp=Z,6.7nm,0.7s								
ETSF	**Etsaut**	**82.74**	**12**⇑	*i*P		**P**		**00 45 51.6**	**+1.0**
	comp=Z,5.5nm,0.7s								
ETSF	**Etsaut**	**82.74**	**12**⇑	*i*P		**P**		**00 45 51.6**	**+1.0**
	comp=Z,5.5nm,0.7s								
FRF	**La Foret Royal**	**82.77**	**7**	*e*P		**P**		**00 45 51.4**	**+0.7**
	comp=Z,6.9nm,0.8s								
FRF	**La Foret Royal**	**82.77**	**7**	*e*P		**P**		**00 45 51.4**	**+0.7**
	comp=Z,6.9nm,0.8s								
LMR	**La Mourre**	**82.98**	**7**	*e*P		**P**		**00 45 52.6**	**+0.8**
LMR	**La Mourre**	**82.98**	**7**	*e*P		**P**		**00 45 52.6**	**+0.8**
ESDC	**Sonseca Array**	**85.44**	**15**	P		**P**		**00 46 04.8**	**+0.5**
ESDC	**Sonseca Array**	**85.44**	**15**	P		**P**		**00 46 04.8**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=343,slow=5.0,SNR=12								
BR131	**Keskin Array S**	**85.60**	**346**	*e*P		**P**		**00 46 05.8**	**+0.5**
	comp=Z,1.8nm,0.5s								
BRTR	**Keskin Array B**	**85.60**	**346**	P		**P**		**00 46 06.0**	**+0.7**
BRTR	**Keskin Array B**	**85.60**	**346**	P		**P**		**00 46 06.0**	**+0.7**
	comp=Z,3.1nm,0.6s,baz=355,slow=2.4,SNR=20								
WRAB	**Tennant Creek**	**90.20**	**236**	*e*P		**P**		**00 46 25.9**	**-1.3**
	comp=Z,0.6nm,0.7s								
WRA	**Warramunga Arr**	**90.21**	**236**	P		**P**		**00 46 26.2**	**-1.0**
WRA	**Warramunga Arr**	**90.21**	**236**	P		**P**		**00 46 26.2**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=32,slow=5.5,SNR=4.9								
ASAR	**Alice Springs**	**93.58**	**234**	P		**P**		**00 46 41.7**	**-1.1**
ASAR	**Alice Springs**	**93.58**	**234**	P		**P**		**00 46 41.7**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=35,slow=4.5,SNR=3.3								
TORD	**Torodi Ar. Bea**	**112.33**	**15**	PKiKP		**PKiKP**		**00 52 01.5**	**-1.2**
TORD	**Torodi Ar. Bea**	**112.33**	**15**	PKiKP		**PKiKP**		**00 52 01.5**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=332,slow=2.5,SNR=7.0								
H03N2	**Juan Fernandez**	**113.75**	**114**	T		T		02 55 48.1	
	baz=320,slow=0.7,SNR=62								
H03N1	**Juan Fernandez**	**113.75**	**114**	T		T		02 55 49.1	
	baz=320,slow=0.7,SNR=58								
H03N3	**Juan Fernandez**	**113.75**	**114**	T		T		02 55 51.7	
	baz=320,slow=0.7,SNR=53								
TSUM	**Tsumeb**	**145.48**	**357**	PKPbc		**PKPab**		**00 53 05.3**	**+0.1**
TSUM	**Tsumeb**	**145.48**	**357**	PKPbc		**PKPab**		**00 53 05.3**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=45,slow=4.3,SNR=3.8								
BOSA	**Boshof**	**153.90**	**340**	PKPbc		**PKPbc**		**00 53 26.6**	**+0.7**
BOSA				PKPab		**PKPab**		**00 53 38.7**	**-0.5**
BOSA	**Boshof**	**153.90**	**340**	PKPbc		**PKPbc**		**00 53 26.6**	**+0.7**
	comp=Z,5.4nm,0.9s,baz=0.0,slow=3.0,SNR=6.6								
BOSA				PKPab		**PKPab**		**00 53 38.7**	**-0.5**
	comp=Z,2.8nm,0.6s,baz=102,slow=12,SNR=4.1								

IDC 27 01:02:29.4±1.8, 30.96°×179.07°W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.7/16, mbtmp3.7/2, Error ellipse: s-maj=52.4km s-min=24.7km az=136.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.97**	**31**	Pn	Pn	01 03 03.4	-0.7
	19nm,0.3s,baz=180,slow=20,SNR=1.9						
RAO				Sn	Sg	01 03 32.3	-0.5
	140nm,0.3s,baz=104,slow=22,SNR=6.3						
URZ	**Urewera**	**7.93**	**202**	Pn	Pn	01 04 20.8	-5.2
	0.3nm,0.3s,baz=0.0,slow=10,SNR=2.3						
ASAR	**Alice Springs**	**42.17**	**268**	P	P	01 10 24.5	+0.5
	0.4nm,0.4s,baz=106,slow=8.3,SNR=5.7						
WRA	**Warramunga Arr**	**43.21**	**273**	P	P	01 10 31.7	-0.7
	1.1nm,0.6s,baz=112,slow=7.5,SNR=6.2						
TORD	**Torodi Ar. Bea**	**162.26**	**182**	PKPab	PKPab	01 23 19.9	-0.4
	0.8nm,0.9s,baz=162,slow=3.6,SNR=4.2						

CSEM 27 01:03:17.8±0.1, 43.13°N×13.18°E, h15km, ML2.1/9, Error ellipse: s-maj=3.3km s-min=2.5km az=73.0

ROM 27 01:03:17.6±0.1, 43.13°N×13.19°E, h15km±2km, MI1.7/10, Error ellipse: s-maj=1.5km s-min=0.9km az=71.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.12**	**217**	Pg	Pg	01 03 21.3	+0.1
FDMO				Sg	Sb	01 03 24.2	-0.2
	254nm,0.2s						
FDMO	**Fiordimonte**	**0.12**	**217**	Pg	Pg	01 03 21.3	+0.1
FDMO				Sg	Sb	01 03 24.2	-0.2
	254nm,0.2s						
SNTG	**Esanatoglia**	**0.22**	**304**	Pg	Pg	01 03 22.7	+0.1
SNTG				Sg	Sb	01 03 26.8	-0.4
	85nm,0.3s						
SNTG	**Esanatoglia**	**0.22**	**304**	Pg	Pg	01 03 22.7	+0.1
SNTG				Sg	Sb	01 03 26.8	-0.4
	85nm,0.3s						
CESI	**CESI - Serrava**	**0.24**	**238**	Pg	Pg	01 03 23.2	+0.1
CESI				Sg	Sb	01 03 27.7	-0.3
	20nm,0.2s						
CESI	**CESI - Serrava**	**0.24**	**238**	Pg	Pg	01 03 23.2	+0.1
CESI				Sg	Sb	01 03 27.7	-0.3
	20nm,0.2s						
CING	**Cingoli**	**0.24**	**2**	Pg	Pg	01 03 22.9	-0.1
CING				Sg	Sg	01 03 27.2	+0.5
	57nm,0.1s						
CING	**Cingoli**	**0.24**	**2**	Pg	Pg	01 03 22.9	-0.1
CING				Sg	Sg	01 03 27.2	+0.5
	57nm,0.1s						
NRCA	**Norcia**	**0.30**	**190**	Pg	Pg	01 03 24.2	+0.1
NRCA				Sg	Sb	01 03 29.5	-0.3
	19nm,0.1s						
NRCA	**Norcia**	**0.30**	**190**	Pg	Pg	01 03 24.2	+0.1
NRCA				Sg	Sb	01 03 29.5	-0.3
	19nm,0.1s						
ARVD	**Arcevia**	**0.41**	**334**	Pg	Pg	01 03 25.8	-0.1
ARVD				Sg	Sb	01 03 32.7	+0.1
	27nm,0.3s						
ARVD	**Arcevia**	**0.41**	**334**	Pg	Pg	01 03 25.8	-0.1
ARVD				Sg	Sb	01 03 32.7	+0.1
	27nm,0.3s						
OFFI	**Offida**	**0.42**	**118**	Pg	Pb	01 03 26.9	+0.2
OFFI	**Offida**	**0.42**	**118**	Pg	Pb	01 03 26.9	+0.2
MURB	**Monte Urbino**	**0.50**	**285**	Pg	Pg	01 03 27.6	-0.1
MURB				Sg	Sb	01 03 36.1	+0.7
	79nm,0.3s						
MURB	**Monte Urbino**	**0.50**	**285**	Pg	Pg	01 03 27.6	-0.1
MURB				Sg	Sb	01 03 36.1	+0.7
	79nm,0.3s						
AOI	**Ancona**	**0.52**	**36**	Pg	Pg	01 03 27.9	0.0
AOI				Sg	Sb	01 03 36.3	+0.5
AOI	**Ancona**	**0.52**	**36**	Pg	Pg	01 03 27.9	0.0
AOI				Sg	Sb	01 03 36.3	+0.5
GUMA	**Gualdo di Mace**	**0.55**	**97**	Pg	Pg	01 03 21.5	-7.1
GUMA				Sg	Sg	01 03 24.7	-11
	475nm,0.3s						
TERO	**Teramo**	**0.59**	**149**	Pg	Pg	01 03 28.9	-0.5
TERO	**Teramo**	**0.59**	**149**	Pg	Pg	01 03 28.9	-0.5
CAMP	**Campotosto**	**0.62**	**165**	Pg	Pg	01 03 29.1	-0.9
CAMP				Sg	Sb	01 03 38.9	0.0
	28nm,0.3s						
CAMP	**Campotosto**	**0.62**	**165**	Pg	Pg	01 03 29.1	-0.9
CAMP				Sg	Sb	01 03 38.9	0.0
	28nm,0.3s						
PIEI	**Pieia**	**0.62**	**311**	Pg	Pg	01 03 29.5	-0.4
PIEI				Sg	Sb	01 03 39.2	+0.3
	37nm,0.3s						
PIEI	**Pieia**	**0.62**	**311**	Pg	Pg	01 03 29.5	-0.4
PIEI				Sg	Sb	01 03 39.2	+0.3
	37nm,0.3s						
FSSB	**Fossombrone**	**0.63**	**332**	Pg	Pg	01 03 30.1	0.0
	64nm,0.3s						
FSSB	**Fossombrone**	**0.63**	**332**	Pg	Pg	01 03 30.1	0.0
	64nm,0.3s						
NVLJ	**Novalja**	**1.88**	**40**	*e*Pn	Pb	01 03 50.7	-0.9
NVLJ				Sn	Sn	01 04 11.9	-0.7
NVLJ	**Novalja**	**1.88**	**40**	*e*Pn	Pb	01 03 50.6	-1.0
NVLJ				Sn	Sn	01 04 11.8	-0.8

ISCJB 27 01:03:23.3±0.6, 24.94°S±0.06°×178.97°W±0.08, h388km, mb4.2/9, Error ellipse: s-maj=10.3km s-min=7.6km az=168.6

IDC 27 01:03:23.9±1.8, 24.59°S×178.95°W, h384km±15km, mb4.0/7, mb1 4.1/8, mb1mx3.7/19, mbtmp4.8/8, Error ellipse: s-maj=21.5km s-min=16.2km az=29.0

NEIC 27 01:03:25.7±0.8, 24.82°S×178.93°W, h406km±8km, mb4.6/4, Error ellipse: s-maj=13.1km s-min=10.3km az=86.0

AUST 27 01:03:28.7, 24.57°S×178.99°W, h450km

ISC 27 01:03:24.3±0.5, 24.96°S±0.06°×178.90W±0.09, h388km, n65, σ1.518/70, mb4.4/9, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.36**	**169**	*e*Pn	Pn	01 04 42.8	+3.7
RAO				S	**S**	**01 05 38.0**	**-1.8**
RAO	**Raoul Island**	**4.36**	**169**	P	Pn	01 04 42.8	+3.7
	972nm,0.3s,baz=72,slow=1.0,SNR=56						
RAO				S	**S**	**01 05 37.9**	**-1.8**
	85nm,0.3s,baz=65,slow=17,SNR=2.2						
MSVF	**Nonsavu**	**7.73**	**338**	*e*Pn	**P**	**01 05 16.9**	**0.0**
	62nm,0.6s						
NIUE	**Niue**	**10.17**	**57**	P	**Pn**	**01 05 46.1**	**+1.7**
	baz=10.0,SNR=8.5						
AFI	**Afiamalu**	**12.88**	**33**	*e*P	**P**	**01 06 13.5**	**-0.8**
AFI				S	S	01 08 25.5	-9.4
AFI	**Afiamalu**	**12.88**	**33**	P	**P**	**01 06 12.4**	**-1.8**
	2.6nm,0.3s,baz=254,slow=19,SNR=2.5						
AFI				S	S	01 08 25.5	-9.4
	5.7nm,0.3s,baz=225,slow=20,SNR=4.1						
URZ	**Urewera**	**13.69**	**193**	*e*P	**Pn**	**01 06 24.1**	**-0.9**
URZ				S	**S**	**01 08 49.1**	**-1.3**
URZ	**Urewera**	**13.69**	**193**	P	**P**	**01 06 22.9**	**+0.2**
	11nm,0.3s,baz=356,slow=2.7,SNR=35						
URZ				S	**S**	**01 08 49.2**	**-1.3**
	7.9nm,0.3s,baz=80,slow=23,SNR=17						
DZM	**Mont Dzumac**	**13.75**	**279**	P	**P**	**01 06 24.9**	**+1.1**
DZM	**Mont Dzumac**	**13.75**	**279**	P	**P**	**01 06 24.9**	**+1.1**
	0.2nm,0.3s,baz=94,slow=19,SNR=2.5						
RPZ	**Rata Peaks**	**20.44**	**201**	P	**P**	**01 07 32.8**	**-0.6**
RPZ	**Rata Peaks**	**20.44**	**201**	P	**P**	**01 07 32.8**	**-0.6**
	5.8nm,0.4s,baz=342,slow=6.4,SNR=4.0						
EIDS	**Eidsvold**	**27.15**	**263**	P	**P**	**01 08 34.1**	**+0.2**
	baz=27,SNR=3.4						
MGCD	**Mangrove Creek**	**27.40**	**246**	P	**P**	**01 08 38.2**	**+2.2**
	baz=27,SNR=4.6						
CNB	**Canra Magne**	**29.21**	**242**	P	**P**	**01 08 54.1**	**+2.0**
	baz=29,SNR=5.8						
YNG	**Young**	**29.80**	**244**	P	**P**	**01 08 59.0**	**+1.7**
	baz=30,SNR=5.0						
CMSA	**Cobar Meteorol**	**31.77**	**250**	P	**P**	**01 09 14.7**	**+0.4**
	baz=32,SNR=14						
CTA	**Charters Tower**	**32.49**	**271**	P	**P**	**01 09 20.9**	**+0.2**
CTA	**Charters Tower**	**32.49**	**271**	P	**P**	**01 09 20.9**	**+0.2**
	19nm,0.5s,baz=98,slow=10,SNR=23						
CTAO	**Charters Tower**	**32.49**	**271**	*e*P	**P**	**01 09 20.8**	**+0.2**
	21nm,0.6s						
TOO	**Toolangi**	**32.74**	**239**	P	**P**	**01 09 23.7**	**+1.1**
	baz=33,SNR=5.1						
QLP	**Quilpie**	**33.17**	**259**	P	**P**	**01 09 26.3**	**-0.1**
	baz=33,SNR=8.2						
MTSU	**Mount Surprise**	**34.80**	**274**	P	**P**	**01 09 40.8**	**+0.4**
	baz=35,SNR=9.1						
STKA	**Stephens Creek**	**35.28**	**250**	*e*P	**P**	**01 09 44.4**	**+0.2**
	0.9nm,0.4s						
STKA	**Stephens Creek**	**35.28**	**250**	P	**P**	**01 09 44.5**	**+0.3**
	baz=35,SNR=15						
STKA	**Stephens Creek**	**35.28**	**250**	P	**P**	**01 09 44.5**	**+0.3**
	6.6nm,0.5s,baz=102,slow=11,SNR=31						
COEN	**Coen**	**37.28**	**280**	P	**P**	**01 10 01.3**	**+0.2**
	baz=37,SNR=6.9						
BBOO	**Buckleboo**	**39.97**	**248**	P	**P**	**01 10 22.3**	**-0.7**
	baz=40,SNR=11						
ASAR	**Alice Springs**	**42.86**	**261**	P	**P**	**01 10 46.1**	**-0.3**
ASAR	**Alice Springs**	**42.86**	**261**	P	**P**	**01 10 46.1**	**-0.3**
	8.7nm,0.5s,baz=90,slow=6.5,SNR=79						
WRAB	**Tennant Creek**	**43.34**	**267**	*e*P	**P**	**01 10 49.3**	**-0.9**
	23nm,0.9s						
WRA	**Warramunga Arr**	**43.34**	**267**	P	**P**	**01 10 49.6**	**-0.6**
WRA				ScP	**ScP**	**01 15 45.9**	**+1.2**
WRA	**Warramunga Arr**	**43.34**	**267**	P	**P**	**01 10 49.6**	**-0.6**
	10nm,0.4s,baz=103,slow=7.9,SNR=117						
WRA				ScP	**ScP**	**01 15 45.9**	**+1.2**
	0.7nm,0.7s,baz=100,slow=4.1,SNR=4.1						
FORT	**Forrest**	**46.89**	**250**	P	**P**	**01 11 16.6**	**-1.0**
	baz=47,SNR=11						
KDU	**Kakadu**	**47.39**	**276**	P	**P**	**01 11 20.4**	**-1.2**
	baz=47,SNR=7.9						
MTN	**Manton Dam**	**48.54**	**275**	P	**P**	**01 11 29.6**	**-0.7**
	baz=48,SNR=3.9						
KNRA	**Kununurra**	**49.69**	**270**	P	**P**	**01 11 38.9**	**0.0**
	baz=50,SNR=11						
FITZ	**Fitzroy Crossi**	**51.75**	**266**	P	**P**	**01 11 54.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**51.75**	**266**	P	**P**	**01 11 53.9**	**-0.2**
	baz=52,SNR=20						
FITZ	**Fitzroy Crossi**	**51.75**	**266**	P	**P**	**01 11 54.0**	**-0.2**
	18nm,0.9s,baz=125,slow=7.4,SNR=38						
VNDA	**Vanda**	**53.41**	**185**	P	**P**	**01 12 08.3**	**+3.1**
VNDA	**Vanda**	**53.41**	**185**	P	**P**	**01 12 08.3**	**+3.1**
	1.1nm,0.5s,baz=12,slow=6.6,SNR=18						
MEEK	**Meekatharra**	**55.77**	**254**	P	**P**	**01 12 21.4**	**-1.4**
	baz=56,SNR=8.3						
BLDU	**Ballidu**	**56.57**	**249**	P	**P**	**01 12 27.4**	**-0.9**
	baz=56,SNR=24						
MORW	**Morawa**	**57.46**	**250**	P	**P**	**01 12 33.7**	**-0.8**
	baz=57,SNR=16						
QSPA	**South Pole Qui**	**65.13**	**180**	*e*P	**P**	**01 13 27.0**	**+2.2**
	4.2nm,0.8s						
MAW	**Mawson**	**77.11**	**200**	P	**P**	**01 14 36.4**	**+0.8**
MAW	**Mawson**	**77.11**	**200**	P	**P**	**01 14 36.4**	**+0.8**
	4.1nm,0.5s,baz=154,slow=5.0,SNR=7.6						
SYO	**Syowa Base**	**82.21**	**193**	*e*P	**P**	**01 15 01.9**	**-0.8**
MKAR	**Makanchi Array**	**113.61**	**312**	PKiKP	**PKiKP**	**01 21 16.1**	**-0.9**
	0.2nm,0.6s,baz=106,slow=0.9,SNR=3.8						
ARCES	**ARCESS Array B**	**133.12**	**349**	PKP	**PKPdf**	**01 21 53.1**	**-0.5**
ARCES	**ARCESS Array B**	**133.12**	**349**	PKP	**PKPdf**	**01 21 53.1**	**-0.5**
	1.8nm,1.0s,baz=31,slow=2.4,SNR=10						
FINES	**FINESS Array B**	**139.76**	**342**	PKPpre	PKPpre	01 21 57.6	
FINES				PKP	**PKPdf**	**01 22 03.5**	**-2.6**
FINES				SKPbc	**SKPbc**	**01 25 04.0**	**-0.4**
FINES	**FINESS Array B**	**139.76**	**342**	PKhKP	PKPpre	01 21 57.6	
	4.0nm,1.1s,baz=215,slow=12,SNR=3.1						
FINES				PKP	**PKPdf**	**01 22 03.5**	**-2.6**
	1.2nm,0.9s,baz=88,slow=4.3,SNR=3.7						
FINES				SKPbc	**SKPbc**	**01 25 04.0**	**-0.4**
	2.1nm,0.9s,baz=326,slow=0.5,SNR=4.5						
NB2	**NORSAR Subarra**	**143.28**	**352**	PKP	PKPab	01 22 09.8	0.0
	comp=Z,0.6nm,0.6s,baz=15,slow=3.2						
NOA	**NORSAR Array B**	**143.28**	**352**	PKPpre	PKPpre	01 22 04.2	
NOA				PKP	PKPab	01 22 09.7	-0.1
NOA	**NORSAR Array B**	**143.28**	**352**	PKhKP	PKPpre	01 22 04.2	
	comp=Z,0.5nm,0.6s,baz=15,slow=4.6,SNR=2.6						
NOA				PKP	PKPab	01 22 09.7	-0.1
	comp=Z,0.4nm,0.5s,baz=22,slow=3.8,SNR=4.7						
AKASG	**Malin Array Be**	**146.40**	**327**	PKPbc	**PKPdf**	**01 22 17.5**	**-0.5**
AKASG	**Malin Array Be**	**146.40**	**327**	PKPbc	**PKPdf**	**01 22 17.5**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=42,slow=4.0,SNR=5.8						
BRTR	**Keskin Array B**	**149.01**	**306**	PKPbc	**PKPbc**	**01 22 26.4**	**-1.0**
BRTR	**Keskin Array B**	**149.01**	**306**	PKPbc	**PKPbc**	**01 22 26.4**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=134,slow=4.0,SNR=5.2						
CLL	**Collm**	**152.15**	**344**	*i* PKPbc	**PKPbc**	**01 22 34.7**	**+0.5**
TORD	**Torodi Ar. Bea**	**168.24**	**183**	PKP	**PKPdf**	**01 22 45.5**	**-0.3**
TORD				PKPab	**PKPab**	**01 23 57.4**	**+1.0**
TORD	**Torodi Ar. Bea**	**168.24**	**183**	PKP	**PKPdf**	**01 22 45.5**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=132,slow=2.2,SNR=3.5						
TORD				PKPab	**PKPab**	**01 23 57.4**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=179,slow=3.8,SNR=9.3						

CASC 27 01:15:00.7±2.0, 12.01°N×88.99°W, h36km±999km, MD4.0, 2C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**1.57**	**26**	*e*P	Pn	01 15 26.5	0.0
SNVI	**San Vicente**	**1.60**	**5**	*e*P	Pn	01 15 26.3	-0.4
SNVI				*e*S	Sn	01 15 47.9	+1.6
BLLM	**Bellamira**	**1.60**	**27**	*e*P	Pn	01 15 26.8	+0.2
LFRS	**El Faro**	**1.61**	**357**	*e*P	Pn	01 15 26.3	-0.5
CNCH	**Conchagua**	**1.69**	**42**	*e*P	Pn	01 15 28.4	+0.5
BOQS	**Boqueron**	**1.74**	**351**	*e*P	Pn	01 15 28.3	-0.4
CAHU	**Cacacuatique**	**1.91**	**23**	*e*P	Pn	01 15 31.8	+0.7
CAHU				*e*S	Sn	01 15 55.6	+1.5
SBLS	**San Blas**	**1.92**	**341**⇑	*e*P	Pn	01 15 30.9	-0.4
RTR	**El Retiro**	**1.98**	**341**⇑	*e*P	Pn	01 15 32.0	0.0
COPN	**Copaltepe**	**2.35**	**86**	*e*P	Pn	01 15 36.9	+0.1
VCR	**Vista de Mar**	**3.79**	**119**	*e*P	Pn	01 15 57.6	+0.9
VCR				*e*S	Sn	01 16 40.0	-0.2
JCR	**Jicaral**	**4.37**	**119**	*e*P	Pn	01 16 05.3	+0.6
JCR				*e*S	Sn	01 16 54.5	+0.1
CGA2	**Cerro Gallo 2**	**4.86**	**114**	*e*P	Pn	01 16 14.5	+3.0
CGA2				*e*S	Sn	01 17 08.3	+1.5
QCR	**Quepos**	**5.39**	**118**	*e*P	Pn	01 16 20.5	+1.9

1.0nm,0.8s,baz=297,slow=3.9,SNR=8.5

SCHQ	**Schefferville**	**61.33**	**36**	P		**P**	**01 26 43.9**	**-0.6**
	3.0nm,0.7s,baz=304,slow=11,SNR=3.9							
FINES	**FINESS Array B**	**64.76**	**345**	P		**P**	**01 27 05.7**	**-1.3**
	0.8nm,0.7s,baz=20,slow=6.5,SNR=3.9							
KKAR	**Karatay Array**	**66.10**	**310**	*e*P		**P**	**01 27 16.5**	**+0.4**
	0.5nm,0.5s							
NOA	**NORSAR Array B**	**66.96**	**352**	P		**P**	**01 27 20.8**	**-0.5**
	0.6nm,0.8s,baz=11,slow=6.3,SNR=3.2							
AKASG	**Malin Array Be**	**74.29**	**339**	P		**P**	**01 28 05.9**	**0.0**
	0.2nm,0.2s,baz=26,slow=5.4,SNR=3.6							
WRA	**Warramunga Arr**	**80.49**	**220**	P		**P**	**01 28 40.4**	**-0.5**
	0.9nm,1.0s,baz=33,slow=5.6,SNR=3.3							
BRTR	**Keskin Array B**	**83.41**	**332**	P		**P**	**01 28 57.1**	**+0.8**
	0.7nm,0.9s,baz=66,slow=4.9,SNR=3.0							
ASAR	**Alice Springs**	**84.02**	**219**	P		**P**	**01 29 00.2**	**+1.0**
	0.3nm,0.5s,baz=16,slow=4.8,SNR=4.1							
TORD	**Torodi Ar. Bea**	**115.23**	**355**	PKP		**PKPdf**	**01 35 09.7**	**-0.5**
	0.4nm,0.9s,baz=18,slow=1.9,SNR=3.2							
DBIC	**Dimbokro**	**121.78**	**2**	PKP		**PKPdf**	**01 35 23.1**	**+0.3**
	1.0nm,0.6s,baz=315,slow=1.4,SNR=3.5							

*IDC **27** 01:33:02.7±0.9, 1.°63S×99.°28E, h0km, mb3.9/13, mb1 4.0/14, mb1mx3.9/26, mbtmp3.9/14, ML3.3/1, Error ellipse: s-maj=39.4km s-min=15.5km az=52.0*
*NEIC **27** 01:33:04.0±0.4, 1.°71S×99.°21E, h10km, mb4.0/2, Error ellipse: s-maj=15.3km s-min=7.7km az=66.0*
NEIC Felt [II] at Padang and Pariaman, Sumatra.
*ISCJB **27** 01:33:05.6±0.5, 1.°56S±0.°06×99.°32E±0.°06, h30km, mb4.0/15, Error ellipse: s-maj=9.6km s-min=6.5km az=135.5*
*DJA **27** 01:33:08.0±1.5, 2.°S±5.°×10.°0E±.°, h14km±12km, M4.5/4, ML4.5/4*

ISC 27 01:33:07.9±0.7, 1.°47S±0.°06×99.°39E±0.°08, h30km, n45, σ0°82/39, mb4.0/15, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
PDSI	**Padang**	**1.20**	**63**	P		**Pn**	**01 33 27.9**	**-0.8**
PDSI				S		**Sn**	**01 33 44.0**	**0.0**
PPI	**Padang Panjang**	**1.42**	**45**	P		**Pn**	**01 33 31.6**	**-0.1**
GSI	**Gunungsitoli**	**3.30**	**327**	P		Pn	01 34 00.9	+3.4
PSI	**Prapat**	**4.27**	**354**	Pn		**Pn**	**01 34 10.1**	**-0.9**
PSI	**Prapat**	**4.27**	**354**	Pn		**Pn**	**01 34 10.1**	**-0.9**
	1.5nm,0.3s,baz=174,slow=17,SNR=4.7							
MNAI	**Manna**	**4.57**	**129**	P		**Pn**	**01 34 15.1**	**0.0**
MNAI				S		**Sn**	**01 35 08.4**	**+1.2**
IPM	**Ipoh**	**6.13**	**15**	*e*Pn		**Pn**	**01 34 39.2**	**+2.7**
	23nm,0.8s							
IPM				*e*S		**Sb**	**01 36 06.4**	**-0.5**
KULM	**Kulim**	**6.83**	**11**	*e*Pn		Pn	01 34 50.1	+4.0
	20nm,0.9s							
KULM				*e*S		**Sb**	**01 36 25.7**	**-1.3**
H08S2	**Diego Garcia H**	**27.50**	**256**	T		T	02 06 57.2	
	baz=80							
H08S3	**Diego Garcia H**	**27.50**	**256**	T		T	02 06 58.6	
	baz=80							
H08S1	**Diego Garcia H**	**27.51**	**256**	T		T	02 06 59.4	
	baz=80							
H01W3	**Cape Leeuwin H**	**35.98**	**159**	T		T	02 17 53.3	
	baz=335,slow=0.7,SNR=10							
H01W2	**Cape Leeuwin H**	**35.99**	**159**	T		T	02 17 54.5	
	baz=335,slow=0.7,SNR=15							
H01W1	**Cape Leeuwin H**	**35.99**	**159**	T		T	02 17 54.7	
	baz=335,slow=0.7,SNR=8.4							
WRA	**Warramunga Arr**	**38.78**	**121**	P		**P**	**01 40 28.7**	**-1.5**
WRA	**Warramunga Arr**	**38.78**	**121**	P		**P**	**01 40 28.7**	**-1.5**
	1.7nm,0.6s,baz=302,slow=9.1,SNR=14							
WRAB	**Tennant Creek**	**38.79**	**121**	*e*P		**P**	**01 40 29.0**	**-1.2**
	2.4nm,0.6s							
ASAR	**Alice Springs**	**40.05**	**126**	P		**P**	**01 40 40.2**	**-0.6**
ASAR	**Alice Springs**	**40.05**	**126**	P		**P**	**01 40 40.2**	**-0.6**
	0.8nm,0.8s,baz=304,slow=8.0,SNR=9.1							
SONM	**Songino Array**	**49.48**	**6**	P		**P**	**01 41 56.3**	**+0.7**
SONM	**Songino Array**	**49.48**	**6**	P		**P**	**01 41 56.3**	**+0.7**
	0.7nm,0.5s,baz=190,slow=9.5,SNR=6.7							
STKA	**Stephens Creek**	**49.95**	**132**	P		**P**	**01 41 59.4**	**0.0**
STKA	**Stephens Creek**	**49.95**	**132**	P		**P**	**01 41 59.4**	**0.0**
	2.1nm,0.7s,baz=289,slow=6.8,SNR=3.9							
MKAR	**Makanchi Array**	**50.36**	**345**	P		**P**	**01 42 02.8**	**+0.6**
MKAR	**Makanchi Array**	**50.36**	**345**	P		**P**	**01 42 02.8**	**+0.6**
	1.8nm,0.5s,baz=149,slow=8.2,SNR=14							
USRK	**Usuriysk Arra**	**53.98**	**29**	P		**P**	**01 42 29.6**	**+0.5**
	1.2nm,0.5s,baz=250,slow=2.8,SNR=4.3							
KURBB	**Kurchatov Arra**	**54.87**	**344**	P		**P**	**01 42 36.1**	**+0.6**
	1.0nm,0.7s,baz=160,slow=7.5,SNR=11							
KURK	**Kurchatov**	**54.93**	**344**	P		**P**	**01 42 36.1**	**+0.2**
ZALV	**Zalesovo Beam**	**56.54**	**350**	P		**P**	**01 42 47.5**	**+0.1**
ZALV	**Zalesovo Beam**	**56.54**	**350**	P		**P**	**01 42 47.5**	**+0.1**
	2.4nm,0.6s,baz=158,slow=6.7,SNR=12							
BVAR	**Borovoye Array**	**59.48**	**340**	P		**P**	**01 43 08.1**	**+0.1**
BVAR	**Borovoye Array**	**59.48**	**340**	P		**P**	**01 43 08.1**	**+0.1**
	0.5nm,0.5s,baz=134,slow=4.2,SNR=4.0							
ABKAR	**Akbulak array**	**60.89**	**332**	*e*P		**P**	**01 43 17.4**	**-0.3**
	0.9nm,0.7s							
KBZ	**Khabaz**	**67.51**	**319**	P		**P**	**01 44 01.2**	**-0.1**
KBZ	**Khabaz**	**67.51**	**319**	P		**P**	**01 44 01.2**	**-0.1**
	1.5nm,0.8s,baz=108,slow=9.6,SNR=3.6							
BRTR	**Keskin Array B**	**72.52**	**313**	P		**P**	**01 44 31.5**	**-0.9**
BRTR	**Keskin Array B**	**72.52**	**313**	P		**P**	**01 44 31.5**	**-0.9**
	0.3nm,0.4s,baz=117,slow=6.5,SNR=3.0							
FINES	**FINESS Array B**	**83.36**	**332**	P		**P**	**01 45 32.4**	**+0.5**
FINES	**FINESS Array B**	**83.36**	**332**	P		**P**	**01 45 32.4**	**+0.5**
	2.0nm,0.8s,baz=102,slow=8.0,SNR=8.0							
GERES	**GERESS Array B**	**88.25**	**319**	P		**P**	**01 45 56.7**	**+0.1**
GERES	**GERESS Array B**	**88.25**	**319**	P		**P**	**01 45 56.7**	**+0.1**
	0.2nm,0.3s,baz=76,slow=8.2,SNR=3.3							
CPUP	**Villa Florida**	**144.38**	**218**	PKP		PKPbc	01 52 40.7	+0.3
CPUP	**Villa Florida**	**144.38**	**218**	PKP		PKPbc	01 52 40.7	+0.3
	2.5nm,0.7s,baz=130,slow=8.5,SNR=3.1							
TXAR	**Lajitas Array**	**144.64**	**36**	PKP		**PKPdf**	**01 52 42.3**	**-0.2**
TXAR	**Lajitas Array**	**144.64**	**36**	PKP		**PKPdf**	**01 52 42.3**	**-0.2**
	1.1nm,0.5s,baz=166,slow=2.1,SNR=14							

IDC 27 01:34:30.1±1.6, 1.°52S×99.°42E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/24, mbtmp3.9/8, Error ellipse: s-maj=83.8km s-min=18.6km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
H01W3	**Cape Leeuwin H**	**35.92**	**159**	T		T	02 19 17.8	
	baz=335,slow=0.7,SNR=9.4							
H01W2	**Cape Leeuwin H**	**35.93**	**159**	T		T	02 19 18.8	
	baz=335,slow=0.7,SNR=9.9							
H01W1	**Cape Leeuwin H**	**35.94**	**159**	T		T	02 19 24.9	
	baz=335,slow=0.7,SNR=11							
WRA	**Warramunga Arr**	**38.73**	**121**	P		P	01 41 55.8	-0.7
	1.9nm,0.7s,baz=302,slow=9.1,SNR=10							
ASAR	**Alice Springs**	**40.00**	**126**	P		P	01 42 07.0	0.0
	0.5nm,0.5s,baz=307,slow=7.9,SNR=4.1							
SONM	**Songino Array**	**49.53**	**6**	P		P	01 43 22.5	-0.3
	0.4nm,0.6s,baz=179,slow=10,SNR=2.6							
SONM				PcP		PcP	01 44 44.4	-0.3
	0.4nm,0.4s,baz=185,slow=4.9,SNR=3.1							
STKA	**Stephens Creek**	**49.90**	**132**	P		P	01 43 26.6	+0.9
	1.9nm,0.7s,baz=311,slow=9.4,SNR=3.4							
MKAR	**Makanchi Array**	**50.41**	**345**	P		P	01 43 29.6	+0.2
	2.5nm,0.7s,baz=149,slow=8.3,SNR=6.1							
KURBB	**Kurchatov Arra**	**54.93**	**344**	P		P	01 44 02.8	+0.1
	0.4nm,0.6s,baz=165,slow=6.6,SNR=3.3							
ZALV	**Zalesovo Beam**	**56.59**	**350**	P		P	01 44 14.4	-0.1
	1.8nm,0.4s,baz=145,slow=5.7,SNR=6.4							
FINES	**FINESS Array B**	**83.42**	**332**	P		P	01 46 59.1	-0.1
	1.0nm,0.5s,baz=120,slow=7.5,SNR=8.0							
CPUP	**Villa Florida**	**144.36**	**217**	PKP		PKPbc	01 54 07.8	+0.4
	2.8nm,0.7s,baz=45,slow=5.1,SNR=3.5							
TXAR	**Lajitas Array**	**144.66**	**36**	PKP		PKPbc	01 54 09.0	+0.5
	1.8nm,0.6s,baz=164,slow=1.7,SNR=15							

GUC 27 01:43:32.7±0.7, 32.°76S×71.°95W, h8km±2km, MD4.0, ML3.8, 9C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.37**	**136**	*i*P		Pg	01 43 40.4	+0.4
IHA				*i* S		Sg	01 43 45.9	+0.9
ROCH	**El Roble**	**0.82**	**106**	*i*P		Pg	01 43 48.4	-0.4
ROCH				*i* S		Sb	01 44 00.3	-0.6
ROCH				AML		AML	01 44 01.9	
	comp=N,8μm,0.3s							
CHNG	**Los Chungos**	**0.95**	**24**	*i*P		Pg	01 43 50.3	-0.6
CHNG				*i* S		Sg	01 44 03.6	+0.3
CHNG				AML		AML	01 44 07.9	
	comp=E,1μm,0.4s							
PEL	**Peldehue**	**1.13**	**110**	*i*P		Pg	01 43 53.5	-1.0
PEL				*i* S		Sg	01 44 09.2	0.0
PEL				AML		AML	01 44 15.9	
	comp=N,10μm,0.5s							
JACH	**Jahuel**	**1.14**	**87**	*i*P		Pg	01 43 53.9	-0.9
JACH				*i* S		Sg	01 44 09.7	-0.1
TACH	**Talagante**	**1.23**	**137**	*i*P		Pb	01 43 54.7	-1.6
LNV	**Longovilo**	**1.28**	**160**	*i*P		Pn	01 43 55.4	-1.5
LNV				*i* S		Sb	01 44 12.8	-0.9
SAN	**Santiago**	**1.28**	**123**	*i*P		Pn	01 43 56.1	-0.9
SAN				*i* S		Sb	01 44 13.0	-0.9
SAN				AML		AML	01 44 19.0	
	comp=N,2μm,0.3s							
STL	**Santa Lucia**	**1.29**	**122**	*i*P		Pn	01 43 55.7	-1.5
STL				*i* S		Sb	01 44 13.3	-0.8
CLCH	**Cerro Calan**	**1.34**	**119**	*i*P		Pn	01 43 57.0	-0.9
CLCH				*i* S		Sb	01 44 15.3	-0.5
CLCH				AML		AML	01 44 21.8	
	comp=N,5μm,0.6s							
PCH	**Pirque**	**1.48**	**126**	*i*P		Pn	01 43 59.2	-0.6
PCH				*i* S		Sn	01 44 19.2	-0.2
SJCH	**San Jose de Ma**	**1.60**	**124**	*i*P		Pn	01 44 00.2	-1.3
SJCH				*i* S		Sn	01 44 21.6	-0.9
SJCH				AML		AML	01 44 26.6	
	comp=N,1μm,0.4s							
CACH	**El Canelo**	**1.76**	**141**	*i*P		Pn	01 44 04.4	+0.7
CACH				*i* S		Sb	01 44 28.6	+0.6
CMCH	**Cumbarbala**	**1.77**	**27**	*i*P		Pn	01 44 03.2	-0.6
CMCH				*i* S		Sn	01 44 27.2	+0.6
CMCH				AML		AML	01 44 42.4	
	comp=E,5μm,0.7s							

FUNV 27 01:51:27.8, 12.°73N×70.°82W, h7km, MW3.7, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
MONV	**Montecano**	**1.13**	**133**	*e*P		Pg	01 51 48.9	-0.8
MONV				*e*S		Sg	01 52 03.3	-1.1
DABV	**Dabajuro**	**1.81**	**174**	*e*P		Pn	01 51 59.2	-0.2
DABV				*e*S		Sn	01 52 21.8	-0.8
SIQV	**Siquisique**	**2.30**	**154**	*e*P		Pn	01 52 06.1	0.0
SIQV				*e*S		Sn	01 52 33.2	-1.5
QARV	**Quebrada Arrib**	**2.53**	**173**	*e*P		Pn	01 52 08.6	-0.8
QARV				*e*S		Sn	01 52 38.0	-2.5
JACV	**Jacura**	**2.54**	**130**	*e*P		Pn	01 52 08.1	-1.4
JACV				*e*S		Sn	01 52 39.5	-1.2
VIRV	**Villa del Rosa**	**2.71**	**215**	*e*P		Pn	01 52 10.7	-1.1
VIRV				*e*S		Sn	01 52 42.4	-2.4
CURV	**Curarigua**	**2.83**	**163**	*e*P		Pn	01 52 12.6	-1.0
CURV				*e*S		Sn	01 52 45.3	-2.7
TEPV	**Terepaima**	**3.18**	**150**	*e*P		Pn	01 52 17.3	-1.1
TEPV				*e*S		Sn	01 52 54.0	-2.6
SANV	**Sanarito**	**3.45**	**158**	*e*P		Pn	01 52 21.1	-1.0
SANV				*e*S		Sn	01 53 01.3	-2.1
TURV	**Turiamo**	**3.70**	**128**	*e*P		Pn	01 52 23.9	-1.5
MAPV	**Macapo**	**3.70**	**141**	*e*P		Pn	01 52 24.3	-1.1
MAPV				*e*S		Sn	01 53 06.0	-3.4
VIGV	**El Vigia**	**3.91**	**188**	*e*P		Pn	01 52 27.1	-1.2
VIGV				*e*S		Sn	01 53 10.9	-3.5
SOCV	**Socops**	**4.42**	**180**	*e*P		Pn	01 52 34.7	-0.7
SOCV				*e*S		Sn	01 53 22.2	-4.3
FUNV	**FUNVISIS**	**4.53**	**119**	*e*P		Pn	01 52 35.1	-1.8
FUNV				*e*S		Sn	01 53 25.4	-4.5
BAUV	**El Baul**	**4.65**	**144**	*e*P		Pn	01 52 37.6	-0.8
BAUV				*e*S		Sn	01 53 28.5	-4.2
BIRV	**Birongo**	**4.99**	**116**	*e*P		Pn	01 52 40.8	-2.4
BIRV				*e*S		Sn	01 53 36.0	-5.1
CAPV	**Capacho**	**5.06**	**197**	*e*P		Pn	01 52 42.4	-2.0
CAPV				*e*S		Sn	01 53 37.5	-5.8
CUPV	**Cœpira**	**5.60**	**118**	*e*P		Pn	01 52 49.9	-1.8
CUPV				*e*S		Sn	01 53 50.2	-6.3

*CSEM **27** 01:57:16.7, 51.°55N×16.°11E, h0km, After GFU*

PRU 27 01:57:16.7, 51.°55N×16.°11E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
UPC	**Upice**	**1.05**	**183**	*e*PG		Pg	01 57 35.6	-1.2
UPC	**Upice**	**1.05**	**183**	Pg		Pg	01 57 35.6	-1.2
DPC	**Dobruska-Polom**	**1.21**	**174**	*e*PG		Pg	01 57 38.3	-1.7
DPC	**Dobruska-Polom**	**1.21**	**174**	Pg		Pg	01 57 38.3	-1.7
BRG	**Berggiesshubel**	**1.52**	**244**	PG		Pn	01 57 44.6	-0.6
KRLC	**Kraliky**	**1.54**	**164**	*e*PG		Pn	01 57 44.0	-1.4
KRLC	**Kraliky**	**1.54**	**164**	Pg		Pn	01 57 44.0	-1.4
PRU	**Pruhonice**	**1.85**	**213**	*e*PG		Pn	01 57 49.8	+0.1
PRU	**Pruhonice**	**1.85**	**213**	Pg		Pn	01 57 49.8	+0.1
CLL	**Collm**	**1.96**	**264**	*e*Pg		Pn	01 57 52.0	+0.8

*ISCJB **27** 01:57:22.4±1.1, 51.°47N±0.°05×16.°13E±0.°05, h0km, Error ellipse: s-maj=7.3km s-min=4.2km az=4.9*
*CSEM **27** 01:57:23.2±0.6, 51.°50N×16.°09E, h2km, ML2.9/5, Error ellipse: s-maj=9.3km s-min=5.1km az=177.0*

ISC 27 01:57:22.6±1.4, 51.°55N±0.°07×16.°07E±0.°03, h0km, n26, σ1°09/42, Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
KSP	**Ksiaz**	**0.72**	**169**	*e*Pg		**Pg**	**01 57 36.9**	**+0.4**
KSP				*e*Sg		**Sg**	**01 57 46.1**	**+0.3**
KSP	**Ksiaz**	**0.72**	**169**	*e*Pg		**Pg**	**01 57 36.9**	**+0.4**
KSP				*e*Sg		**Sg**	**01 57 46.1**	**+0.3**
UPC	**Upice**	**1.05**	**182**	*e*PG		**Pg**	**01 57 42.7**	**0.0**
UPC	**Upice**	**1.05**	**182**	Pg		**Pg**	**01 57 42.7**	**0.0**
DPC	**Dobruska-Polom**	**1.21**	**172**	*e*PG		**Pg**	**01 57 45.7**	**-0.2**
DPC				*e*SG		**Sg**	**01 58 01.2**	**-0.4**
DPC	**Dobruska-Polom**	**1.21**	**172**	Pg		**Pg**	**01 57 45.7**	**-0.2**
DPC				Sg		**Sg**	**01 58 01.2**	**-0.4**
PVCC	**Panska Ves**	**1.40**	**223**	*e*PG		**Pb**	**01 57 50.2**	**+0.6**
PVCC				*e*SG		**Sn**	**01 58 09.2**	**+0.7**
	comp=Z,40nm,0.2s							
PVCC	**Panska Ves**	**1.40**	**223**	Pg		**Pb**	**01 57 50.2**	**+0.6**
PVCC				Sg		**Sn**	**01 58 09.2**	**+0.7**
	40nm,0.2s							
BRG	**Berggiesshubel**	**1.50**	**244**	PG		**Pg**	**01 57 52.0**	**+0.6**
BRG				SG		**Sg**	**01 58 05.3**	**-5.5**
	7.6nm,0.5s							
BRG	**Berggiesshubel**	**1.50**	**244**	SG		**Sn**	**01 58 12.9**	**+1.9**
	26nm,0.4s							
KRLC	**Kraliky**	**1.55**	**163**	*e*PG		**Pb**	**01 57 51.9**	**-0.2**
KRLC				*e*SG		**Sn**	**01 58 11.7**	**-0.5**
KRLC	**Kraliky**	**1.55**	**163**	Pg		**Pb**	**01 57 51.9**	**-0.2**
KRLC				Sg		**Sn**	**01 58 11.7**	**-0.5**
PRU	**Pruhonice**	**1.84**	**212**	*e*PG		**Pb**	**01 57 56.8**	**-0.4**
PRU				*e*SG		**Sb**	**01 58 20.9**	**+0.2**
	comp=Z,6.5nm,0.3s							
PRU	**Pruhonice**	**1.84**	**212**	Pg		**Pb**	**01 57 56.8**	**-0.4**
PRU				Sg		**Sb**	**01 58 20.9**	**+0.2**
	6.5nm,0.3s							
CLL	**Collm**	**1.94**	**264**	*i* Pg(2)			01 58 01.1	
CLL				*e*Sg(2)			01 58 26.0	
	comp=Z,6.0nm,0.4s							
MORC	**Moravsky Berou**	**2.01**	**152**	*e*Pn		**Pn**	**01 57 57.1**	**-0.7**
MORC				*e*Sg		**Sb**	**01 58 25.1**	**-0.5**
OKC	**Ostrava-Krasne**	**2.17**	**142**	*e*SG		**Sb**	**01 58 29.8**	**-0.2**
	comp=Z,6.3nm,0.4s							
OKC	**Ostrava-Krasne**	**2.17**	**142**	Sg		**Sb**	**01 58 29.8**	**-0.2**
	comp=Z,6.3nm,0.4s							
VRAC	**Vranov**	**2.27**	**171**	*e*Pn		**Pn**	**01 58 01.7**	**+0.3**
TREC	**Trest**	**2.29**	**190**	*e*SG		**Sg**	**01 58 35.3**	**-0.9**
	comp=Z,5.8nm,0.4s							
TREC	**Trest**	**2.29**	**190**	Sg		**Sg**	**01 58 35.3**	**-0.9**
	comp=Z,5.8nm,0.4s							
OJC	**Ojcow**	**2.71**	**118**	*e*Pg		**Pg**	**01 58 14.8**	**+0.2**
OJC				*e*Sg		**Sg**	**01 58 49.2**	**-0.5**
OJC	**Ojcow**	**2.71**	**118**	*e*Pg		**Pg**	**01 58 14.8**	**+0.2**
OJC				*e*Sg		**Sg**	**01 58 49.2**	**-0.5**
KHC	**Kasperske Hory**	**2.90**	**214**	*e*PN		**Pn**	**01 58 10.5**	**+0.4**
KHC				*e*PG		**Pb**	**01 58 16.6**	**+1.3**
KHC				*e*SG		**Sg**	**01 58 55.0**	**-0.8**
	comp=Z,3.6nm,0.4s							
KHC	**Kasperske Hory**	**2.90**	**214**	Pn		**Pn**	**01 58 10.5**	**+0.4**
KHC	**Kasperske Hory**	**2.90**	**214**	Pg		**Pb**	**01 58 16.6**	**+1.3**
KHC				Sg		**Sg**	**01 58 55.0**	**-0.8**
	comp=Z,3.6nm,0.4s							

IDC 27 01:59:00.1±3.2, 18.°31S×174.°56W, h87km±32km, mb3.6/4, mb1 3.8/5, mb1mx3.5/21, mbtmp3.7/5, Error ellipse: s-maj=53.0km s-min=21.0km az=125.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
AFI	**Afiamalu**	**5.13**	**32**	P		Pn	02 00 14.6	+0.1
	11nm,0.3s,baz=261,slow=22,SNR=11							
AFI				S		Sn	02 01 07.2	-5.3
	14nm,0.3s,baz=39,slow=23,SNR=6.3							
URZ	**Urewera**	**21.17**	**198**	P		P	02 03 38.1	-0.2
	6.5nm,0.3s,baz=147,slow=0.9,SNR=12							
H11S2	**WAKE ISLAND Hy**	**40.95**	**332**	T		T	02 51 13.1	
	baz=151							
H11S3	**WAKE ISLAND Hy**	**40.96**	**332**	T		T	02 51 14.1	
	baz=151							
H11S1	**WAKE ISLAND Hy**	**40.96**	**332**	T		T	02 51 13.7	
	baz=151							
WRA	**Warramunga Arr**	**48.16**	**259**	P		P	02 07 31.6	-0.4
	0.5nm,0.4s,baz=96,slow=7.6,SNR=6.6							
ASAR	**Alice Springs**	**48.21**	**254**	P		P	02 07 32.5	+0.2
	0.9nm,0.6s,baz=90,slow=8.5,SNR=14							
ILAR	**Eielson Array**	**85.50**	**12**	P		P	02 11 27.6	-0.2
	0.3nm,0.6s,baz=224,slow=6.4,SNR=12							
BRTR	**Keskin Array B**	**147.62**	**317**	PKPbc		PKPbc	02 18 33.6	-1.3
	0.5nm,0.8s,baz=94,slow=1.7,SNR=2.6							
GERES	**GERESS Array B**	**148.81**	**349**	PKPbc		PKPbc	02 18 37.9	+0.2
	0.2nm,0.3s,baz=27,slow=3.5,SNR=3.6							

*AUST **27** 02:04:04.4±35.0, 25.°54S×178.°84W, h458km±2km, Error ellipse: s-maj=6.3km s-min=2.4km az=235.0*
*IDC **27** 02:04:12.4±5.6, 25.°92S×179.°86E, h451km±57km, mb3.8/5, mb1 3.9/6, mb1mx3.5/19, mbtmp3.7/6, Error ellipse: s-maj=44.6km s-min=28.8km az=19.0*
*ISCJB **27** 02:04:16.4±1.0, 25.°9S±0.°1×179.°7E±0.°1, h503km, mb4.2/5, Error ellipse: s-maj=21.0km s-min=12.4km az=32.3*

ISC 27 02:04:17.3±1.1, 26.°0S±0.°2×179.°7E±0.°1, h503km, n30, σ1°04/27, mb4.5/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
RAO	**Raoul Island**	**3.88**	**148**	S		**S**	**02 06 37.6**	**-0.6**
	9.8nm,0.3s,baz=75,slow=20,SNR=2.4							
URZ	**Urewera**	**12.45**	**190**	P		P	02 06 55.1	-5.3
	1.3nm,0.3s,baz=53,slow=5.1,SNR=4.7							
DZM	**Mont Dzumac**	**12.73**	**285**	P		**P**	**02 07 03.9**	**+0.1**
	0.6nm,0.3s,baz=109,slow=14,SNR=6.1							
ARMA	**Armidale**	**25.12**	**253**	P		**P**	**02 09 03.2**	**+1.3**
	baz=26,SNR=4.9							
EIDS	**Eidsvold**	**25.80**	**265**	P		**P**	**02 09 07.9**	**+0.1**
	baz=27,SNR=4.7							
MGCD	**Mangrove Creek**	**25.85**	**247**	P		**P**	**02 09 10.1**	**+1.9**
	baz=27,SNR=6.9							
CNB	**Canberra Magne**	**27.64**	**243**	P		**P**	**02 09 26.4**	**+2.5**
	baz=29,SNR=6.3							
RMQ	**Roma**	**27.75**	**262**	P		**P**	**02 09 26.2**	**+1.3**
	baz=29,SNR=8.1							
MILA	**Mila**	**28.19**	**239**	P		**P**	**02 09 30.5**	**+1.8**
	baz=30,SNR=13							
CMSA	**Cobar Meteorol**	**30.26**	**251**	P		**P**	**02 09 47.3**	**+0.5**
	baz=32,SNR=12							
TOO	**Toolangi**	**31.15**	**240**	P		**P**	**02 09 55.6**	**+1.3**
	baz=32,SNR=4.9							
CTA	**Charters Tower**	**31.29**	**274**	P		**P**	**02 09 55.5**	**-0.3**
	9.3nm,0.3s,baz=97,slow=10,SNR=16							
QLP	**Quilpie**	**31.76**	**261**	P		**P**	**02 09 59.6**	**-0.1**
	baz=33,SNR=22							
MTSU	**Mount Surprise**	**33.64**	**276**	P		**P**	**02 10 15.9**	**+0.1**
	baz=35,SNR=26							
STKA	**Stephens Creek**	**33.76**	**251**	P		**P**	**02 10 16.9**	**+0.3**
	baz=35,SNR=20							
STKA	**St

USRK Ussuriysk Arra 86.47 327 P **P 02 18 37.9 +0.2**
0.9nm,0.5s,baz=131,slow=4.0,SNR=4.2
MKAR Makanchi Array 116.83 310 PKP **PKPdf 02 24 36.2 -1.2**
0.4nm,0.5s,baz=50,slow=4.5,SNR=2.7
AKTO Aktyubinsk 133.19 312 PKP **PKPdf 02 25 07.5 -0.9**
0.7nm,0.6s,baz=301,slow=5.9,SNR=3.4
ARCES ARCESS Array B 138.28 347 PKhKP PKPpre 02 25 06.6
0.9nm,0.6s,baz=0.0,slow=4.7,SNR=17
ARCES PKP **PKPdf 02 25 18.4 +1.0**
0.9nm,0.5s,baz=40,slow=2.1,SNR=7.8
JOF Joensuu 141.93 338 *ep* PKPdf 02 25 19.0 -5.1
1.0nm,0.4s
DGRG David-gareji 142.47 300 P **PKPdf 02 25 23.4 -2.4**
TBLG Delisi 142.94 300 P **PKPdf 02 25 22.8 -3.8**
ONI Oni 143.82 302 P PKPbc 02 25 27.1 +0.2
AKH Akhalkalaki 143.89 300 P PKPbc 02 25 27.5 +0.3
KAF Kangasniemi 144.10 340 *ep* **PKPab 02 25 25.7 -0.8**
2.4nm,0.4s
FINES FINESS Array B 144.69 339 PKP PKPbc 02 25 27.8 -0.9
9.6nm,0.3s,baz=49,slow=4.6,SNR=177
MALT Malatya 147.96 295⇑*iP* **PKPbc 02 25 39.8 +0.9**
NB2 NORSAR Subarra148.51 350 PKP **PKPbc 02 25 38.6 -0.9**
comp=Z,1.9nm,0.5s,baz=17,slow=2.6
NOA NORSAR Array B148.51 350 PKPbc **PKPbc 02 25 38.7 -0.8**
comp=Z,1.7nm,0.5s,baz=13,slow=4.1,SNR=15
EIL Elat 150.33 277 PKPbc **PKPbc 02 25 45.4 +0.5**
comp=Z,8.0nm,0.7s,baz=46,slow=1.7,SNR=15
AKASG Malin Array Be 150.53 322 PKPbc **PKPbc 02 25 44.1 -0.5**
comp=Z,3.1nm,0.5s,baz=50,slow=2.6,SNR=16
AKASG PKPab **PKPab 02 25 51.5 -1.1**
comp=Z,0.7nm,0.4s,baz=48,slow=4.6,SNR=8.0
BRTR Keskin Array B 151.53 298 PKPbc **PKPbc 02 25 47.0 -0.5**
comp=Z,0.9nm,0.3s,baz=135,slow=4.6,SNR=10.0
BRTR PKPab **PKPab 02 25 56.6 -0.8**
comp=Z,0.9nm,0.7s,baz=111,slow=5.4,SNR=4.0
PRAR RASCA 153.99 318⇓*iP* **PKPbc 02 25 49.8 -2.7**
KWP Kalwaria Pacla 154.53 325⇓*iP* **PKPab 02 26 09.7 +0.1**
GZR Gura Zlata 157.06 317⇑*iP* **PKPdf 02 25 48.5 +0.1**
GERES GERESS Array B 159.02 335 PKPab **PKPab 02 26 28.5 -0.6**
comp=Z,0.4nm,0.4s,baz=38,slow=5.1,SNR=4.5
TORD Torodi Ar. Bea 162.85 184 PKPab **PKPab 02 26 47.2 +0.8**
comp=Z,3.7nm,0.6s,baz=179,slow=3.7,SNR=59

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*DJA **27** 02:25:55.6±0.6,9°S×6°×10°E±°, h10km, M3.8/4, MLv3.8/4*
*IDC **27** 02:25:55.8±3.4,9.°14S×107.°95E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/22, mbtmp3.8/5, Error ellipse: s-maj=150.3km s-min=23.3km az=50.0*
ISC 27 02:26:00.7±1.4,**9.°0S**±0.°1×**107.°9E**±0.°1,**h30**km,**n17, σ1°42/14, mb4.0/5, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMJI	**Cimerak**	**1.36**	**25**	P	**Pn**	**02 26 20.8**	**-2.9**
CISI	**Cisompet, Garu**	**1.46**	**358**	P	**Pb**	**02 26 27.1**	**-0.2**
KPJI	**Karang Pucung**	**1.98**	**32**	P	**Pb**	**02 26 35.7**	**-0.5**
LEM	**Lembang**	**2.20**	**354**	P	**Pb**	**02 26 40.2**	**+0.3**
TGJI	**Tegal**	**2.48**	**30**	P	**Pn**	**02 26 41.2**	**+2.2**
BJII	**Banjamegara**	**2.48**	**47**	P	**Pn**	**02 26 39.9**	**+0.7**
UGM	**Wanagama**	**2.85**	**67**	P	**Pn**	**02 26 44.3**	**+0.1**
PWJI	**Pagerwojo**	**4.02**	**76**	P	**Pn**	**02 27 00.7**	**+0.5**
FITZ	**Fitzroy Crossi**	**19.47**	**119**	P	**Pn**	**02 30 28.0**	**+1.3**
	0.1nm,0.3s,baz=296,slow=11,SNR=5.7						
WRA	**Warramunga Arr**	**27.79**	**116**	P	**P**	**02 31 46.0**	**-1.3**
	0.6nm,0.8s,baz=288,slow=11,SNR=3.9						
ASAR	**Alice Springs**	**28.84**	**123**	P	**P**	**02 31 54.8**	**-1.9**
	0.4nm,0.8s,baz=296,slow=7.1,SNR=3.8						
H08S2	**Diego Garcia H**	**35.02**	**270**	T	T	03 09 45.5	
	baz=94						
H08S3	**Diego Garcia H**	**35.03**	**270**	T	T	03 09 52.1	
	baz=94						
H08S1	**Diego Garcia H**	**35.04**	**270**	T	T	03 09 46.2	
	baz=94						
SONM	**Songino Array**	**56.62**	**359**	P	**P**	**02 35 41.6**	**+0.6**
	0.9nm,0.6s,baz=174,slow=7.8,SNR=8.5						
MKAR	**Makanchi Array**	**60.07**	**340**	P	**P**	**02 36 05.8**	**+0.8**
	1.8nm,0.5s,baz=146,slow=8.1,SNR=26						
ZALV	**Zalesovo Beam**	**65.70**	**345**	P	**P**	**02 36 42.2**	**0.0**
	0.7nm,0.6s,baz=159,slow=3.7,SNR=4.0						

MEX 27 02:30:16.5±0.8,**17.°67N**×**95.°60W**,**h72**km±17km,**MD3.7, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VHO	**Vista Hermosa**	**1.23**	**241**	*i* P	Pn	02 30 36.6	-1.7
VHO				*i* S	Sn	02 30 52.6	-2.0
TPIG	**Tehuac#an**	**1.83**	**294**	*i* P	Pn	02 30 44.8	-1.3
TPIG				*i* S	Sn	02 31 07.2	-1.5
HUIG	**Huatulco**	**1.95**	**194**	*eP*	Pn	02 30 47.0	-0.7
HUIG				*i* S	Sn	02 31 09.3	-2.0
UTMO	**Huajuapan**	**2.10**	**275**	*eP*	Pn	02 30 48.2	-1.6
UTMO				*i* S	Sn	02 31 13.4	-1.9
LVIG	**Laguna Verde**	**2.18**	**339**	*i* P	Pn	02 30 50.3	-0.4
LVIG				*i* S	Sn	02 31 14.3	-2.4
TGIG		**2.53**	**110**	*i* P	Pn	02 30 53.6	-1.9
TGIG				*i* S	Sn	02 31 23.1	-2.3
PNIG	**Pinotepa**	**2.73**	**243**	*i* P	Pn	02 30 56.1	-2.0
PNIG				*i* S	Sn	02 31 29.2	-0.9
TLIG	**Tlapa**	**2.83**	**268**	*eP*	Pn	02 30 58.8	-0.8
TLIG				*i* S	Sn	02 31 31.1	-1.6
PCIG		**3.01**	**130**	*i* P	Pn	02 31 00.9	-1.0
PCIG				*i* S	Sn	02 31 35.7	-1.1
CCIG	**Comitan**	**3.59**	**112**	*i* P	Pn	02 31 09.7	-0.4

IDC 27 02:45:29.8±1.2,**47.°54N**×**27.°49W**,**h0**km,**mb3.7**/5, **mb1 3.9**/7,**mb1mx3.5**/33,**mbtmp3.6**/7,**ML4.3**/2,**MS3.4**/4, **Ms1 3.4**/4,**ms1mx3.0**/46,**Error ellipse: s-maj=43.9km s-min=21.6km az=15.0,Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EKA	**Eskdalemuir Ar**	**16.99**	**54**	Pn	Pn	02 49 28.6	-0.1
	baz=242,slow=12,SNR=4.0						
ESDC	**Sonseca Array**	**18.71**	**106**	Pn	Pn	02 49 52.2	+2.1
	0.5nm,0.3s,baz=295,slow=13,SNR=9.5						
DAVOX	**Davos/Dischmat**	**25.27**	**78**	LR	LR	02 59 59.1	
	comp=Z,113nm,19.7s,baz=275,slow=34						
NOA	**NORSAR Array B**	**25.87**	**44**	LR	LR	02 59 13.9	
	comp=Z,40nm,21.4s,baz=65,slow=32						
GERES	**GERESS Array B**	**27.26**	**72**	P	P	02 51 15.5	-0.1
	0.8nm,0.9s,baz=299,slow=6.1,SNR=5.0						
GERES				LR	LR	03 01 21.1	
	comp=Z,171nm,19.2s,baz=59,slow=35						
KEST	**Kesra**	**29.68**	**100**	P	P	02 51 37.0	-0.3
	3.0nm,1.2s,baz=283,slow=14,SNR=3.5						
KEST				LR	LR	03 01 04.6	
	comp=Z,55nm,21.1s,baz=62,slow=32						
TORD	**Torodi Ar. Bea**	**42.05**	**135**	P	P	02 53 22.8	-0.4
	3.0nm,0.9s,baz=328,slow=8.8,SNR=25						
PDAR	**Pinedale Array**	**55.50**	**298**	P	P	02 55 06.2	-0.5
	0.5nm,0.7s,baz=77,slow=7.8,SNR=3.9						
H10S1	**ASCENSION HYDR57.37**		**165**	T	T	03 57 02.2	
	baz=350,slow=0.7,SNR=7.7						
H10S3	**ASCENSION HYDR57.38**		**165**	T	T	03 56 58.8	
	baz=350,slow=0.7,SNR=7.7						
H10S2	**ASCENSION HYDR57.39**		**165**	T	T	03 57 00.3	
	baz=350,slow=0.7,SNR=8.0						
TXAR	**Lajitas Array**	**60.01**	**282**	P	P	02 55 38.9	+0.5
	0.2nm,0.7s,baz=48,slow=7.4,SNR=3.0						

IDC 27 02:58:53.0±3.6,**7.°19S**×**125.°56E**,**h359**km±42km,**mb2.9**/1, **mb1 3.1**/5,**mb1mx2.8**/21,**mbtmp2.9**/5,**Error ellipse: s-maj=79.2km s-min=22.2km az=57.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**3.54**	**212**	P	Pn	02 59 58.4	+0.2
	23nm,0.3s,baz=48,slow=5.1,SNR=8.4						
BATI				S	S	03 00 46.6	-4.0
	23nm,0.3s,baz=311,slow=12,SNR=8.1						
FITZ	**Fitzroy Crossi**	**10.85**	**180**	P	Pn	03 01 19.4	-1.7
	0.2nm,0.3s,baz=355,slow=11,SNR=11						
FITZ				S	S	03 03 23.2	+0.5
	0.1nm,0.3s,baz=338,slow=19,SNR=3.5						
WRA	**Warramunga Arr**	**15.28**	**147**	P	P	03 02 10.5	+0.1
	0.3nm,0.3s,baz=324,slow=11,SNR=27						
ASAR	**Alice Springs**	**18.24**	**155**	P	P	03 02 42.5	+0.2
	0.3nm,0.3s,baz=335,slow=13,SNR=17						
MKAR	**Makanchi Array**	**66.04**	**329**	P	P	03 09 02.2	0.0
	0.4nm,0.5s,baz=119,slow=8.1,SNR=5.6						

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*IDC **27** 03:15:44.9±1.5,32.°74S×71.°81W,h0km,mb3.4/2, mb1 3.7/4,mb1mx3.6/15,mbtmp3.5/4,ML3.9/2,Error ellipse: s-maj=63.2km s-min=33.8km az=81.0*
*ISCJB **27** 03:15:45.0±1.0,32.°77S±0.°03×72.°01W±0.°05,h10km±6km, mb3.4/2,Error ellipse: s-maj=8.0km s-min=4.4km az=157.9*
*GUC **27** 03:15:46.5±0.6,32.°76S×71.°90W,h9km±2km,ML3.6*
ISC 27 03:15:45.2±1.7,**32.°78S**±0.°03×**71.°92W**±0.°07,**h4**km±11km, **n25,σ0°40/37,10C-5D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.34**	**137**⇓	*iP*	**Pb**	**03 15 53.6**	**-0.3**
IHA				*i* S	**Sb**	**03 15 59.1**	**-0.6**
ROCH	**El Roble**	**0.79**	**105**⇑	*iP*	**Pb**	**03 16 01.6**	**0.0**
ROCH				*i* S	**Sb**	**03 16 13.4**	**+0.5**
ROCH				AML	AML	03 16 14.5	
	comp=E,5μm,0.6s						
CHNG	**Los Chungos**	**0.96**	**22**⇑	*iP*	**Pg**	**03 16 03.6**	**0.0**
CHNG				*i* S	**Sb**	**03 16 16.8**	**-0.6**
CHNG				AML	AML	03 16 20.6	
	comp=E,1μm,0.4s						
PEL	**Peldehue**	**1.10**	**110**⇓	*iP*	**Pg**	**03 16 06.5**	**+0.2**
PEL				*i* S	**Sb**	**03 16 21.7**	**+0.1**
PEL				AML	AML	03 16 24.2	
	comp=E,3μm,0.6s						
JACH	**Jahuel**	**1.12**	**86**⇑	*iP*	**Pb**	**03 16 07.1**	**-0.1**
JACH				*i* S	**Sb**	**03 16 22.6**	**+0.3**
TACH	**Talagante**	**1.20**	**137**⇓	*iP*	**Pg**	**03 16 07.9**	**-0.4**
TACH				*i* S	**Sb**	**03 16 24.5**	**0.0**
LNV	**Longovilo**	**1.25**	**160**⇑	*iP*	**Pg**	**03 16 08.9**	**-0.3**
LNV				*i* S	**Sb**	**03 16 26.4**	**+0.4**
SAN	**Santiago**	**1.25**	**123**⇑	*iP*	**Pg**	**03 16 09.1**	**-0.1**
SAN				*eS*	**Sb**	**03 16 26.2**	**+0.2**
STL	**Santa Lucia**	**1.26**	**122**	*i* S	**Sb**	**03 16 26.1**	**-0.1**
CLCH	**Cerro Calan**	**1.31**	**118**⇑	*iP*	**Pn**	**03 16 10.1**	**-0.4**
CLCH				*i* S	**Sb**	**03 16 27.9**	**+0.1**
CLCH				AML	AML	03 16 44.4	
	comp=N,3μm,0.8s						
ANTU	**Antumapu**	**1.34**	**127**⇑	*iP*	**Pn**	**03 16 10.6**	**-0.2**
ANTU				*i* S	**Sb**	**03 16 28.4**	**-0.1**
ANTU				AML	AML	03 16 35.9	
	comp=E,2μm,0.5s						
PCH	**Pirque**	**1.45**	**126**⇑	*iP*	**Pn**	**03 16 12.6**	**+0.2**
PCH				*i* S	**Sb**	**03 16 31.7**	**0.0**
SJCH	**San Jose de Ma**	**1.57**	**124**⇑	*iP*	**Pn**	**03 16 13.6**	**-0.5**
SJCH				*i* S	**Sn**	**03 16 34.3**	**-0.6**
SJCH				AML	AML	03 16 39.9	
	comp=N,995nm,0.7s						
CACH	**El Canelo**	**1.73**	**141**⇓	*iP*	**Pb**	**03 16 17.7**	**0.0**
CACH				*i* S	**Sg**	**03 16 41.2**	**+0.2**
CMCH	**Combarbala**	**1.78**	**26**⇓	*iP*	**Pn**	**03 16 16.7**	**-0.2**
CMCH				*i* S	**Sn**	**03 16 40.4**	**+0.4**
CMCH				AML	AML	03 16 55.9	
	comp=E,3μm,0.8s						
LMEL	**Las Melosas**	**1.79**	**127**⇑	*iP*	**Pn**	**03 16 17.9**	**+0.8**
LMEL				*i* S	**Sb**	**03 16 41.8**	**+0.2**
LMEL				AML	AML	03 16 46.9	
	comp=N,983nm,0.6s						
H03N1	**Juan Fernandez**	**5.91**	**262**	T	T	03 23 55.9	
	baz=83						
H03N3	**Juan Fernandez**	**5.92**	**262**	T	T	03 23 57.2	
	baz=83						
H03N2	**Juan Fernandez**	**5.92**	**262**	T	T	03 23 53.1	
	baz=83						
PLCA	**Paso Flores**	**8.02**	**173**	Pn	**Pn**	**03 17 43.6**	**+1.0**
	comp=N,0.6nm,0.3s,baz=145,slow=10.0,SNR=17						
LPAZ	**La Paz**	**16.77**	**13**	Pn	**Pn**	**03 19 42.0**	**+0.3**
	comp=N,0.1nm,0.3s,baz=180,slow=9.6,SNR=4.5						
TXAR	**Lajitas Array**	**68.72**	**330**	P	**P**	**03 26 50.7**	**+0.5**
	comp=N,0.1nm,0.8s,baz=129,slow=5.3,SNR=2.3						
TORD	**Torodi Ar. Bea**	**83.70**	**70**	P	**P**	**03 28 15.3**	**-0.3**
	comp=N,0.7nm,0.7s,baz=246,slow=4.0,SNR=4.5						
ZALV	**Zalesovo Beam**	**153.13**	**31**	PKPbc	**PKPbc**	**03 35 43.3**	**-0.4**
	comp=N,0.5nm,0.3s,baz=256,slow=3.0,SNR=4.1						
MKAR	**Makanchi Array**	**155.87**	**47**	PKPab	**PKPab**	**03 36 07.2**	**-0.1**
	comp=N,0.5nm,0.7s,baz=305,slow=4.3,SNR=4.8						

IDC 27 03:37:12.5±1.7,**5.°81N**×**127.°15E**,**h0**km,**mb3.9**/8, **mb1 4.0**/8,**mb1mx3.7**/25,**mbtmp3.9**/8,**Error ellipse: s-maj=137.8km s-min=20.3km az=72.0,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**23.80**	**184**	P	P	03 42 26.9	-0.3
	1.1nm,0.9s,baz=353,slow=16,SNR=2.1						
WRA	**Warramunga Arr**	**26.55**	**165**	P	P	03 42 52.9	+0.6
	0.5nm,0.4s,baz=344,slow=10.0,SNR=8.3						
MKAR	**Makanchi Array**	**56.11**	**324**	P	P	03 46 54.2	+0.4
	0.8nm,0.6s,baz=117,slow=8.6,SNR=10						
ZALV	**Zalesovo Beam**	**58.95**	**332**	P	P	03 47 14.0	+0.5
	0.6nm,0.5s,baz=131,slow=5.9,SNR=3.5						
KURBB	**Kurchatov Arra**	**60.24**	**327**	P	P	03 47 22.3	-0.2
	0.9nm,0.7s,baz=124,slow=5.9,SNR=8.4						
BVAR	**Borovoye Array**	**65.83**	**326**	P	P	03 47 59.9	+0.2
	1.1nm,0.8s,baz=125,slow=7.4,SNR=4.9						
ARCES	**ARCESS Array B**	**88.66**	**340**	P	P	03 50 06.8	-0.6
	4.9nm,1.1s,baz=79,slow=6.5,SNR=3.5						
FINES	**FINESS Array B**	**90.21**	**332**	P	P	03 50 14.5	-0.3
	1.4nm,0.9s,baz=107,slow=4.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**122.65**	**290**	PKP	PKPdf	03 56 09.8	-1.5
	0.5nm,0.8s,baz=61,slow=2.3,SNR=2.6						

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*IDC **27** 03:56:29.4±0.5,11.°40S×165.°67E,h0km,mb4.6/21, mb1 4.7/24,mb1mx4.7/26,mbtmp4.6/24,ML3.9/2,MS4.2/19, Ms1 4.2/19,ms1mx4.1/30,Error ellipse: s-maj=17.1km s-min=13.0km az=91.0*
*BJI **27** 03:56:31.9,11.°50S×165.°50E,h35km,mB5.3/28,mb5.0/45, Ms5.1/18,Ms7 4.8/16*
*BKK **27** 03:56:31.3±1.3,12.°S±18.°×16.°6E±1.°9,h10km,M5.0/15, mB5.1/1,mb5.0/15,Mw(mB)4.4/1*
*ISCJB **27** 03:56:33.2±0.2,11.°48S±0.°04×165.°54E±0.°04,h33km, mb4.9/58,MS4.3/25,Error ellipse: s-maj=6.5km s-min=5.2km az=159.2*
*MOS **27** 03:56:34.2±1.4,11.°32S×165.°39E,h33km,mb5.2/13,Error ellipse: s-maj=11.0km s-min=9.2km az=20.0*
*NEIC **27** 03:56:34.8±0.2,11.°45S×165.°58E,h35km,mb5.1/17,Error ellipse: s-maj=6.2km s-min=5.1km az=126.0*
*GCMT **27** 03:56:36.2±0.2,11.°39S×165.°35E,h20km,MW5.1, Moment Tensor Solution. s56,c75; s78,c126; Moment tensor: Scale 10^16^Nm; Mrr=5.38±.20; Mθθ0.04±.14; Mφφ=5.34±.14; Mrθ=-0.17±.32; Mrφ=-0.67±.11; Mθφ=0.78±.23; Best double couple: M0=5.50000×10^16^ NP1:φ=172.00000°, δ=49.00000°, λ=-91.00000°. NP2:φ=354.00000°, δ=41.00000°, λ=-89.00000°. Principal axes: T 5.4800, Plg4.0000°, Azm263.0000°; N -0.0400, Plg1.0000°, Azm173.0000°; P -5.4400, Plg86.0000°, Azm72.0000°; Data Used: II IU CN G IC.*
*AUST **27** 03:56:40.8,10.°93S×165.°48E,h100km*
*DJA **27** 03:56:51.6±6.3,12.°S±23.°×16.°5E±4.°2,h174km±38km, M4.4/6,mB5.0/2,mb4.4/6,Mw(mB)4.3/2*
ISC 27 03:56:34.8±0.4,**11.°50S**±0.°05×**165.°62E**±0.°06,**h33**km±1km, **h33**km:**pP-P,n240,**σ1°**23**/284,**mb5.0**/58,**MS4.3**/25,**6C-1D, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.95**	**290**	Pn	**Pn**	**03 57 59.9**	**-0.7**
HNR				Sn	**Sn**	**03 59 04.8**	**-2.8**
HNR	**Honiara**	**5.95**	**290**	Pn	**Pn**	**03 57 59.9**	**-0.7**
	93nm,0.3s,baz=154,slow=3.8,SNR=28						
HNR				Sn	**Sn**	**03 59 04.7**	**-2.8**
	39nm,0.3s,baz=338,slow=19,SNR=5.8						
DZM	**Mont Dzumac**	**10.54**	**176**	*ePn*	**Pn**	**03 59 04.7**	**+1.0**
	158nm,1.2s						
DZM				*eLR*	LR	04 01 27.5	
	1μm,21.1s						
DZM	**Mont Dzumac**	**10.54**	**176**	Pn	**Pn**	**03 59 03.8**	**+0.2**
DZM				Sn	**Sn**	**04 00 59.4**	**-1.2**
DZM	**Mont Dzumac**	**10.54**	**176**	Pn	**Pn**	**03 59 03.8**	**+0.2**
	4.8nm,0.3s,baz=263,slow=23,SNR=46						
DZM				Sn	**Sn**	**04 00 59.4**	**-1.2**
	0.9nm,0.3s,baz=3.6,slow=16,SNR=3.6						
DZM				LR	LR	04 02 37.6	
	comp=Z,2μm,18.3s,baz=33,slow=35						
MSVF	**Nonsavu**	**13.53**	**119**	*eP*	**P**	**03 59 52.4**	**-0.8**
MSVF	**Nonsavu**	**13.53**	**119**	*ePn*	**P**	**03 59 52.4**	**-0.8**

PMG	**Port Moresby**	**18.28**	**275**	P	**Pn**	**04 00 46.3**	**+0.4**
	54nm,1.7s						
PMG	**Port Moresby**	**18.28**	**275**	*ePn*	**P**	**04 00 45.8**	**-0.1**
	92nm,1.3s						
PMG	**Port Moresby**	**18.28**	**275**	P	**Pn**	**04 00 46.6**	**+0.7**
	0.3nm,0.3s,baz=107,slow=4.1,SNR=8.9						
EIDS	**Eidsvold**	**19.48**	**223**	*eP*	**P**	**04 00 58.4**	**-0.6**
MANU	**Manus Island**	**20.40**	**296**	P	Pn	04 01 20.4	+9.0
	baz=20,SNR=5.2						
CTA	**Charters Tower**	**20.48**	**243**	P	**P**	**04 01 10.4**	**+0.5**
CTA	**Charters Tower**	**20.48**	**243**	P	**P**	**04 01 10.4**	**+0.5**
	13nm,0.8s,baz=74,slow=13,SNR=14						
CTAO	**Charters Tower**	**20.48**	**243**	*eP*	**P**	**04 01 10.6**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,98nm,1.3s						
CTAO	**Charters Tower**	**20.48**	**243**	*ePn*	**P**	**04 01 10.6**	**+0.6**
	comp=Z,98nm,1.3s						
MTSU	**Mount Surprise**	**21.61**	**250**	P	**P**	**04 01 23.2**	**+1.0**
	baz=22,SNR=18						
RMQ	**Roma**	**21.79**	**224**	P	**P**	**04 01 25.8**	**+1.8**
	baz=22,SNR=4.0						
COEN	**Coen**	**22.03**	**261**	*eP*	**P**	**04 01 26.1**	**-0.6**
	comp=Z,453nm,1.4s						
COEN	**Coen**	**22.03**	**261**	P	**P**	**04 01 27.4**	**+0.7**
	baz=22,SNR=8.2						
AFI	**Afiamalu**	**22.18**	**99**	LR	LR	04 08 18.8	
	comp=Z,839nm,21.1s,baz=252,slow=32						
URZ	**Urewera**	**28.56**	**161**	P	**P**	**04 02 28.8**	**+1.2**
URZ	**Urewera**	**28.56**	**161**	P	**P**	**04 02 28.8**	**+1.2**
	comp=Z,10nm,0.8s,baz=329,slow=5.7,SNR=5.6						
STKA	**Stephens Creek**	**30.03**	**224**	*eP*	**P**	**04 02 41.4**	**+0.6**
STKA	**Stephens Creek**	**30.03**	**224**	P	**P**	**04 02 42.3**	**+1.5**
	baz=30,SNR=6.1						
STKA	**Stephens Creek**	**30.03**	**224**	P	**P**	**04 02 41.1**	**+0.3**
	comp=Z,3.8nm,0.6s,baz=51,slow=13,SNR=9.7						
STKA				LR	LR	04 14 08.8	
	comp=Z,542nm,18.9s,baz=218,slow=35						
WRAB	**Tennant Creek**	**31.20**	**251**	*eP*	**P**	**04 02 50.5**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,28nm,1.1s						
WRAB	**Tennant Creek**	**31.20**	**251**	*eP*	**P**	**04 02 50.5**	**-0.8**
	comp=Z,28nm,1.1s						
WRAB	**Tennant Creek**	**31.20**	**251**	P	**P**	**04 02 50.2**	**-1.1**
	comp=Z,121nm,0.9s,SNR=9.6						
WRA	**Warramunga Arr**	**31.22**	**250**	P	**P**	**04 02 50.8**	**-0.6**
WRA				PcP	**PcP**	**04 05 46.2**	**+0.4**
WRA	**Warramunga Arr**	**31.22**	**250**	P	**P**	**04 02 50.8**	**-0.6**
	comp=Z,8.0nm,0.8s,baz=80,slow=8.9,SNR=51						
WRA				PcP	**PcP**	**04 05 46.2**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=77,slow=3.2,SNR=6.5						
RPZ	**Rata Peaks**	**32.44**	**173**	P	**P**	**04 03 01.5**	**-0.3**
RPZ	**Rata Peaks**	**32.44**	**173**	P	**P**	**04 03 01.5**	**-0.3**
	comp=Z,7.4nm,0.7s,baz=335,slow=14,SNR=1.9						
RPZ				LR	LR	04 12 35.7	
	comp=Z,201nm,20.0s,baz=335,slow=30						
AS31	**Alice Springs**	**32.48**	**244**	*eP*	**P**	**04 03 00.0**	**-2.5**
ASAR	**Alice Springs**	**32.48**	**244**	P	**P**	**04 03 01.3**	**-1.2**
ASAR				PcP	**PcP**	**04 05 49.0**	**-0.1**
ASAR	**Alice Springs**	**32.48**	**244**	P	**P**	**04 03 01.3**	**-1.2**
	comp=Z,2.8nm,0.8s,baz=73,slow=9.7,SNR=25						
ASAR				PcP	**PcP**	**04 05 49.0**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=71,slow=2.6,SNR=9.3						
ASAR				LR	LR	04 16 03.4	
	comp=Z,841nm,18.2s,baz=67,slow=36						
BBOO	**Buckleboo**	**34.43**	**227**	P	**P**	**04 03 19.7**	**+0.4**
	baz=35,SNR=4.9						
KNRA	**Kununurra**	**36.04**	**259**	P	**P**	**04 03 34.6**	**+1.3**
	baz=36,SNR=3.6						
FITZ	**Fitzroy Crossi**	**39.15**	**255**	*eP*	**P**	**04 03 59.0**	**-0.7**
	comp=Z,22nm,1.1s						
FITZ	**Fitzroy Crossi**	**39.15**	**255**	P	**P**	**04 03 59.3**	**-0.3**
	baz=39,SNR=5.7						
PPT	**Papeete**	**43.71**	**103**	LR	LR	04 19 10.4	
	comp=Z,442nm,19.4s,baz=34,slow=31						
PPT2	**Papeete2**	**43.71**	**103**	*eS*	S	04 11 14.8	+9.3
	comp=Z,302nm,27.0s						
PPT2				*eLR*	LR	04 16 54.1	
	comp=Z,446nm,24.5s						
TBI	**Tubuai**	**44.27**	**112**	*eS*	S	04 11 20.2	+6.7
	comp=Z,207nm,31.0s						
TBI				*eLQ*	LQ	04 15 15.7	
	comp=Z,744nm,31.8s						
TBI				*eLR*	LR	04 17 04.9	
	comp=Z,402nm,25.2s						
MBWA	**Marble Bar**	**44.94**	**252**	*eP*	**P**	**04 04 46.2**	**-0.7**
	comp=Z,101nm,2.1s						
MEEK	**Meekatharra**	**46.64**	**244**	P	**P**	**04 05 00.7**	**+0.3**
	baz=47,SNR=4.0						
NWAO	**Narrogin (SRO)**	**49.11**	**236**	LR	LR	04 26 55.0	
	comp=Z,1μm,18.4s,baz=280,slow=37						
MORW	**Morawa**	**49.30**	**242**	P	**P**	**04 05 20.8**	**-0.1**
	baz=49,SNR=4.9						
MJAR	**Matsushiro Arr**	**54.32**	**333**	P	**P**	**04 05

SBA	**Scott Base**	**66.35**	**180**	P	**P**	**04 07 20.6**	**+0.9**		
	comp=Z,8.6nm,1.0s								
SKNT	**Sakolnakorn**	**67.17**	**294**	P	**P**	**04 07 26.4**	**+0.5**		
	comp=Z,31nm,1.2s								
KLR	**Kul'dur**	**67.42**	**337**	*e*P	**P**	**04 07 24.2**	**-2.7**		
KLR				pmax	pmax				
	comp=Z,57nm,1.6s								
PSI	**Prapat**	**67.81**	**278**	P	**P**	**04 07 29.8**	**-0.5**		
	baz=68,SNR=6.3								
GYA	**Guiyang**	**68.57**	**304**	P	**P**	**04 07 36.3**	**+1.5**		
GYA				pP	**pP**	**04 07 46.8**	**+1.6**		
GYA				sP	**sP**	**04 07 53.3**	**+4.3**		
GYA				PP	**PP**	**04 10 09.8**	**+3.2**		
GYA				ScP		04 12 01.5			
GYA				S	**S**	**04 16 34.3**	**-1.1**		
GYA				sS	**sS**	**04 16 52.0**	**-0.5**		
GYA				SKS	**SKiKP**	**04 17 27.8**	**+1.9**		
GYA				AMB	AMB				
	comp=Z,20nm,1.0s								
GYA				AMB	AMB				
	comp=Z,120nm,5.2s								
GYA				LR	LR				
	comp=Z,640nm,18.2s								
GYA				LR	LR				
	comp=Z,590nm,19.0s								
GYA				LR	LR				
	comp=Z,660nm,18.6s								
SURA	**Surathani**	**68.75**	**285**	P	**P**	**04 07 37.4**	**+1.4**		
	comp=Z,71nm,1.3s								
BJI	**Beijing**	**68.76**	**321**	P	**P**	**04 07 35.5**	**0.0**		
BJI				S	**S**	**04 16 39.8**	**+3.0**		
BJI				SS	**SS**	**04 21 04.0**	**+1.6**		
BJI				AMB	AMB				
	comp=Z,16nm,1.3s								
PBKT	**Sadao Pong**	**69.74**	**293**	P	**P**	**04 07 43.1**	**+1.1**		
	comp=Z,12nm,1.2s								
XAN	**Xi'an**	**70.34**	**313**	P	**P**	**04 07 45.0**	**-0.5**		
XAN				pP	**pP**	**04 07 54.0**	**-1.8**		
XAN				AMB	AMB				
	comp=Z,5.0nm,1.3s								
XAN				AMB	AMB				
	comp=Z,51nm,6.5s								
UTHA	**Uthaitani**	**70.81**	**291**	P	**P**	**04 07 49.8**	**+1.2**		
	comp=Z,3.8nm,1.1s								
KMI	**Kunming**	**71.25**	**302**	P	**P**	**04 07 52.0**	**+0.6**		
KMI				pP	**pP**	**04 08 06.0**	**+4.2**		
KMI				S	**S**	**04 17 07.5**	**+0.4**		
KMI				AMB	AMB				
	comp=Z,21nm,1.6s								
CRAI	**Chiangrai**	**71.50**	**296**	P	**P**	**04 07 53.7**	**+0.9**		
	comp=Z,9.9nm,1.2s								
HHC	**Hu-ho-hao-te**	**72.10**	**320**	*e*P	**P**	**04 07 55.5**	**-0.6**		
HHC				pP	**pP**	**04 08 05.8**	**-0.7**		
HHC				sP	**sP**	**04 08 09.8**	**-0.5**		
HHC				PP	**PP**	**04 10 38.0**	**+1.3**		
HHC				S	**S**	**04 17 14.5**	**-1.5**		
HHC				sS	**SKiKP**	**04 17 31.8**	**+1.2**		
HHC				ScS	**SKSac**	**04 17 55.5**	**-2.5**		
HHC				AMB	AMB				
	comp=Z,53nm,1.1s								
HHC				AMB	AMB				
	comp=Z,580nm,6.3s								
HHC				LR	LR				
	comp=Z,290nm,18.0s								
HHC				LR	LR				
	comp=Z,570nm,17.8s								
HHC				LR	LR				
	comp=Z,380nm,17.7s								
CHTO	**Chiang Mai**	**72.30**	**294**	*e*P	**P**	**04 07 57.9**	**+0.4**		
CHTO				pmax	pmax				
	comp=Z,100nm,1.5s								
CHTO	**Chiang Mai**	**72.30**	**294**	*e*P	**P**	**04 07 57.9**	**+0.4**		
	comp=Z,100nm,1.5s								
CHTO	**Chiang Mai**	**72.30**	**294**	P	**P**	**04 07 58.4**	**+0.8**		
	comp=Z,63nm,1.5s								
CMAI	**Chiengmai2**	**72.58**	**295**	P	**P**	**04 08 00.3**	**+0.9**		
	comp=Z,10nm,1.3s								
CD2	**Chengdu**	**72.78**	**307**	P	**P**	**04 08 01.3**	**+1.0**		
CD2				pP	**pP**	**04 08 12.0**	**+1.3**		
CD2				sP	**sP**	**04 08 16.3**	**+1.7**		
CD2				PP	**PP**	**04 10 45.5**	**+2.8**		
CD2				S	**S**	**04 17 23.8**	**-0.3**		
CD2				sS	**sS**	**04 17 41.8**	**+0.5**		
CD2				SS	**SS**	**04 22 06.5**	**+1.8**		
CD2				AMB	AMB				
	comp=Z,20nm,0.5s								
CD2				AMB	AMB				
	comp=Z,360nm,4.0s								
CD2				LR	LR				
	comp=Z,380nm,6.0s								
CD2				LR	LR				
	comp=Z,490nm,4.6s								
LZH	**Lanzhou**	**74.97**	**312**	⇑P	**P**	**04 08 14.5**	**+1.4**		
LZH				pP	**pP**	**04 08 23.3**	**-0.3**		
LZH				sP	**sP**	**04 08 29.8**	**+2.3**		
LZH				AMB	AMB				
	comp=Z,35nm,1.0s								
LZH				AMB	AMB				
	comp=Z,180nm,4.4s								
YAK	**Yakutsk**	**78.50**	**344**	*e*P	**P**	**04 08 30.9**	**-1.3**		
YAK				pmax	pmax				
	comp=Z,15nm,0.9s								
QSPA	**South Pole Qui**	**78.51**	**180**	*e*P	**P**	**04 08 32.4**	**-0.1**		
	comp=Z,17nm,1.1s								
ULN	**Ulaanbaatar**	**78.60**	**324**	*e*P	**P**	**04 08 33.8**	**+0.5**		
	comp=Z,19nm,0.8s								
SONM	**Songino Array**	**78.96**	**324**	P	**P**	**04 08 35.0**	**-0.3**		
SONM	**Songino Array**	**78.96**	**324**	P	**P**	**04 08 35.0**	**-0.3**		
	comp=Z,6.7nm,1.0s,baz=136,slow=6.5,SNR=30								
SONM				LR	LR	04 42 37.6			
	comp=Z,122nm,18.7s,baz=125,slow=35								
GTA	**Gaotai**	**79.28**	**314**	*e*P	**P**	**04 08 38.0**	**+0.7**		
GTA				pP	**PcP**	**04 08 47.0**	**+1.6**		
GTA				sP	**sP**	**04 08 51.3**	**-0.3**		
GTA				S	**S**	**04 18 37.0**	**+1.4**		
GTA				sS	**SKKSac**	**04 18 53.0**	**+0.3**		
GTA				AMB	AMB				
	comp=Z,21nm,1.3s								
GTA				AMB	AMB				
	comp=Z,180nm,4.3s								
GTA				LR	LR				
	comp=Z,150nm,20.0s								
GTA				LR	LR				
	comp=Z,160nm,21.8s								
GTA				LR	LR				
	comp=Z,190nm,20.9s								
SHL	**Shillong**	**80.63**	**299**	⇓*i*P	**P**	**04 08 45.0**	**+0.1**		
ZAK	**Zakamensk**	**82.00**	**325**	*e*P	**P**	**04 08 50.1**	**-1.4**		
ZAK				pmax	pmax				
	comp=Z,9.0nm,1.2s								
TLY	**Talaya**	**82.43**	**326**	*e*P	**P**	**04 08 53.5**	**-0.1**		
TLY				pmax	pmax				
	comp=Z,21nm,1.6s								
TLY				MLR	MLR				
	comp=Z,56nm,12.0s								
MCK	**McKinley**	**82.61**	**19**	*e*P	**P**	**04 08 53.1**	**-1.2**		
MCK				pmax	pmax				
	comp=Z,26nm,1.3s								
MCK	**McKinley**	**82.61**	**19**	*e*P	**P**	**04 08 53.1**	**-1.2**		
	comp=Z,26nm,1.3s								
IMA2	**Indian Mountai**	**82.97**	**16**	*e*P	**P**	**04 08 56.0**	**-0.3**		
COLA	**College**	**83.75**	**18**	*e*P	**P**	**04 08 58.2**	**-1.9**		
COLA				pmax	pmax				
	comp=Z,40nm,0.8s								
COLA	**College**	**83.75**	**18**	*e*P	**P**	**04 08 58.2**	**-1.9**		
	comp=Z,40nm,0.8s								
MENT	**Mentasta**	**83.80**	**21**	*e*P	**P**	**04 09 00.5**	**+0.1**		
ILAR	**Eielson Array**	**83.98**	**19**	P	**P**	**04 09 00.1**	**-1.3**		
ILAR	**Eielson Array**	**83.98**	**19**	P	**P**	**04 09 00.1**	**-1.3**		
	comp=Z,2.3nm,0.6s,baz=235,slow=5.1,SNR=62								
ILAR				LR	LR	04 47 46.3			
	comp=Z,69nm,18.3s,baz=290,slow=37								
MAW	**Mawson**	**84.26**	**202**	P	**P**	**04 09 03.5**	**+0.7**		
MAW	**Mawson**	**84.26**	**202**	P	**P**	**04 09 03.9**	**+1.1**		
	baz=85,SNR=7.1								
MAW	**Mawson**	**84.26**	**202**	P	**P**	**04 09 03.5**	**+0.7**		
	comp=Z,10nm,1.1s,baz=94,slow=6.8,SNR=12								
MAW				LR	LR	04 42 57.1			
	comp=Z,121nm,19.2s,baz=242,slow=33								
ISA	**Isabella**	**85.44**	**52**	P	**P**	**04 09 09.7**	**+0.2**		
	baz=86								
EDW2	**Edwards Air Fo**	**85.59**	**53**	P	**P**	**04 09 10.0**	**-0.2**		
	baz=86								
BFSC	**Mount Baldy Ra**	**85.66**	**54**	P	**P**	**04 09 10.3**	**-0.3**		
	baz=86								
EGAK	**Eagle**	**85.84**	**20**	*e*P	**P**	**04 09 11.2**	**+0.5**		
	comp=Z,19nm,1.0s								
J05D	**Fort Rock, OR**	**85.86**	**44**	P	**P**	**04 09 11.2**	**-0.2**		
	baz=86								
I05D	**Terrebonne, OR**	**86.15**	**43**	P	**P**	**04 09 14.8**	**+2.1**		
	baz=86								
MONP	**Monument Peak**	**86.27**	**56**	P	**P**	**04 09 13.7**	**-0.1**		
	baz=86								
NVAR	**Mina Array Bea**	**86.41**	**50**	P	**P**	**04 09 13.7**	**-0.7**		
NVAR	**Mina Array Bea**	**86.41**	**50**	P	**P**	**04 09 13.7**	**-0.7**		
	comp=Z,1.3nm,0.7s,baz=238,slow=7.7,SNR=8.8								
TIXI	**Tiksi**	**86.51**	**349**	⇑*i*P	**P**	**04 09 12.9**	**-0.9**		
TIXI				pmax	pmax				
	comp=Z,9.0nm,1.6s								
SWSC	**Sam W. Stewart**	**86.79**	**56**	P	**P**	**04 09 15.8**	**-0.2**		
	baz=87								
BELC	**Belle Mtn. Jos**	**86.92**	**55**	P	**P**	**04 09 16.6**	**-0.2**		
	baz=87								
BC3	**Big Chuckawall**	**87.26**	**55**	P	**P**	**04 09 18.8**	**+0.3**		
	baz=87								
GMRC	**Granite Mounta**	**87.40**	**54**	P	**P**	**04 09 19.1**	**-0.1**		
	baz=88								
H06S1	**SOCORRO T**	**87.52**	**70**	T	T	05 45 03.4			
	SNR=14								
H06E1	**SOCORRO T-PHAS**	**87.56**	**70**	T	T	05 45 10.3			
	SNR=12								
IRM	**Iron Mountain**	**87.64**	**55**	P	**P**	**04 09 19.8**	**-0.4**		
	baz=88								
SHPR	**Sheep Range**	**88.26**	**52**	*e*P	**P**	**04 09 23.6**	**+0.3**		
	comp=Z,28nm,2.0s								
R11A	**Troy Canyon, C**	**88.43**	**50**	P	**P**	**04 09 23.5**	**-0.5**		
	baz=88								
PDMCI	**Parker Dam,Lak**	**88.48**	**55**	P	**P**	**04 09 23.5**	**-0.6**		
	baz=89								
W13A	**Hualapai Mount**	**88.89**	**54**	P	**P**	**04 09 26.5**	**+0.1**		
	baz=89								
214A	**Organ Pipe Nat**	**88.98**	**57**	P	**P**	**04 09 26.9**	**+0.3**		
	baz=89								
Y14A	**Wickenburg**	**89.30**	**55**	P	**P**	**04 09 28.3**	**+0.2**		
	baz=89								
WMQ	**Urumqi**	**89.33**	**315**	P	**P**	**04 09 26.8**	**-1.2**		
WMQ				pP	**pP**	**04 09 37.5**	**-1.2**		
WMQ				sP	**sP**	**04 09 41.3**	**-1.2**		
WMQ				SKS	**SKSac**	**04 19 52.0**	**-3.8**		
WMQ				S	**SKKSac**	**04 20 12.0**	**+4.0**		
WMQ				sS	**sS**	**04 20 30.0**	**-3.3**		
WMQ				SS	**SS**	**04 26 10.3**	**-0.8**		
WMQ				AMB	AMB				
	comp=Z,12nm,1.2s								
WMQ				AMB	AMB				
	comp=Z,170nm,5.2s								
WMQ				LR	LR				
	comp=Z,100nm,22.2s								
WMQ				LR	LR				
	comp=Z,94nm,18.8s								
U15A	**North Rim**	**90.47**	**53**	P	**P**	**04 09 34.0**	**+0.2**		
	baz=91								
X16A	**Lo Mia Camp, P**	**90.68**	**55**	P	**P**	**04 09 35.2**	**+0.5**		
	baz=91								
WUAZ	**Wupatki**	**90.98**	**54**	P	**P**	**04 09 36.6**	**+0.6**		
	baz=91								
DUG	**Dugway**	**90.99**	**49**	P	**P**	**04 09 35.7**	**-0.2**		
	baz=91								
SYO	**Syowa Base**	**91.32**	**197**	⇑*e*P	**P**	**04 09 35.0**	**-1.7**		
SYO	**Syowa Base**	**91.32**	**197**	⇑*e*PcP	**PcP**	**04 09 37.4**	**-0.2**		
SYO	**Syowa Base**	**91.32**	**197**	⇑*e*pP	pP	04 09 48.6	+1.2		
319A	**Douglas**	**91.78**	**58**	P	**P**	**04 09 40.3**	**+0.5**		
	baz=92								
Z21A	**St. Cloud Mine**	**93.50**	**57**	P	**P**	**04 09 48.6**	**+0.8**		
	baz=94								
H17A	**Grant Village**	**93.57**	**46**	P	**P**	**04 09 49.1**	**+1.1**		
	baz=94								
MK31	**Makanchi Array**	**93.77**	**317**	*e*P	**P**	**04 09 48.2**	**-0.3**		
MK31	**Makanchi Array**	**93.77**	**317**	*e*P	**P**	**04 09 48.2**	**-0.3**		
MKAR	**Makanchi Array**	**93.77**	**317**	P	**P**	**04 09 48.4**	**-0.1**		
MKAR	**Makanchi Array**	**93.77**	**317**	P	**P**	**04 09 48.4**	**-0.1**		
MKAR				PKKP	**PKKPdf**	**04 26 51.2**	**-2.3**		
MKAR	**Makanchi Array**	**93.77**	**317**	P	**P**	**04 09 48.4**	**-0.1**		
	comp=Z,5.6nm,0.9s,baz=99,slow=6.8,SNR=37								
MKAR				PKKP	**PKKPdf**	**04 26 51.2**	**-2.3**		
	comp=Z,0.4nm,0.6s,baz=262,slow=3.9,SNR=3.7								
ZAA0	**Zalesovo Array**	**93.85**	**324**	*e*P	**P**	**04 09 47.3**	**-1.4**		
ZALV	**Zalesovo Beam**	**93.85**	**324**	P	**P**	**04 09 47.5**	**-1.1**		
ZALV	**Zalesovo Beam**	**93.85**	**324**	P	**P**	**04 09 47.5**	**-1.1**		
ZALV	**Zalesovo Beam**	**93.85**	**324**	P	**P**	**04 09 47.5**	**-1.1**		
	comp=Z,9.2nm,1.0s,baz=106,slow=4.8,SNR=31								
ZALV				LR	LR	04 49 58.0			
	comp=Z,84nm,20.9s,baz=69,slow=34								
PDAR	**Pinedale Array**	**93.95**	**47**	P	**P**	**04 09 48.7**	**-1.0**		
PDAR	**Pinedale Array**	**93.95**	**47**	P	**P**	**04 09 48.7**	**-1.0**		
	comp=Z,0.8nm,0.9s,baz=241,slow=4.9,SNR=4.6								
PDAR				LR	LR	04 50 23.6			
	comp=Z,72nm,18.8s,baz=72,slow=34								
U21A	**Nageezi**	**94.12**	**54**	P	**P**	**04 09 50.4**	**-0.3**		
	baz=94								
YKA	**Yellowknife Ar**	**95.43**	**27**	P	**P**	**04 09 53.1**	**-2.6**		
YKA	**Yellowknife Ar**	**95.43**	**27**	P	**P**	**04 09 53.1**	**-2.6**		
	comp=Z,0.8nm,0.6s,baz=253,slow=4.4,SNR=3.7								
TXAR	**Lajitas Array**	**96.15**	**61**	P	**P**	**04 09 59.1**	**-0.8**		
TXAR	**Lajitas Array**	**96.15**	**61**	P	**P**	**04 09 59.1**	**-0.8**		
	comp=Z,0.2nm,0.8s,baz=60,slow=7.6,SNR=3.5								
TXAR				LR	LR	04 49 46.6			
	comp=Z,215nm,18.4s,baz=330,slow=33								
SNAA	**Sanae**	**96.66**	**184**	*e*P	**P**	**04 10 00.0**	**-1.3**		
SNAA	**Sanae**	**96.66**	**184**	P	**P**	**04 10 01.2**	**-0.1**		
SNAA	**Sanae**	**96.66**	**184**	P	**P**	**04 10 01.2**	**-0.1**		
	comp=Z,0.6nm,0.8s,baz=264,slow=2.3,SNR=6.3								
KSH	**Kashi**	**96.94**	**309**	*e*P	**P**	**04 10 05.5**	**+2.2**		
KSH				sP	**sP**	**04 10 20.3**	**+2.5**		
AAK	**Ala-Archa**	**98.51**	**312**	*e*P	**P**	**04 10 09.3**	**-1.0**		
AAK				pmax	pmax				
	comp=Z,4.0nm,1.2s								
ARCES	**ARCESS Array B**	**116.74**	**345**	PKP	**PKPdf**	**04 15 14.6**	**-0.6**		
ARCES	**ARCESS Array B**	**116.74**	**345**	PKP	**PKPdf**	**04 15 14.6**	**-0.6**		
	comp=Z,2.9nm,0.8s,baz=354,slow=1.2,SNR=12								
LPAZ	**La Paz**	**120.09**	**116**	PKP	**PKPdf**	**04 15 23.9**	**0.0**		
LPAZ	**La Paz**	**120.09**	**116**	PKP	**PKPdf**	**04 15 23.9**	**0.0**		
	comp=Z,1.3nm,0.7s,baz=225,slow=4.3,SNR=5.0								
FINES	**FINESS Array B**	**122.15**	**338**	PKP	**PKPdf**	**04 15 25.4**	**-0.3**		
FINES	**FINESS Array B**	**122.15**	**338**	PKP	**PKPdf**	**04 15 25.4**	**-0.3**		
	comp=Z,3.3nm,0.9s,baz=151,slow=4.4,SNR=8.0								
CPUP	**Villa Florida**	**123.81**	**133**	PKP	**PKPdf**	**04 15 30.2**	**+0.2**		
CPUP	**Villa Florida**	**123.81**	**133**	PKP	**PKPdf**	**04 15 30.2**	**+0.2**		
	comp=Z,0.3nm,0.3s,baz=217,slow=10,SNR=2.9								
ANN	**Anapa**	**124.79**	**317**	*i* PKIKP	**PKPdf**	**04 15 30.3**	**-1.0**		
ANN				*e*		04 22 24.4			
ANN				*e*PS	PS	04 27 08.4	-11		
ANN				pmax	pmax				
	comp=Z,47nm,1.8s								
NB2	**NORSAR Subarra**	**127.11**	**345**	PKPdf	**PKPdf**	**04 15 34.9**	**-0.4**		
	comp=Z,6.5nm,1.2s,baz=31,slow=1.9								
NOA	**NORSAR Array B**	**127.11**	**345**	PKP	**PKPdf**	**04 15 34.9**	**-0.4**		
NOA	**NORSAR Array B**	**127.11**	**345**	PKP	**PKPdf**	**04 15 34.9**	**-0.4**		
	comp=Z,2.7nm,0.9s,baz=35,slow=2.0,SNR=8.3								
AKASG	**Malin Array Be**	**127.17**	**327**	PKIKP	**PKPdf**	**04 15 35.2**	**-0.5**		
AKASG	**Malin Array Be**	**127.17**	**327**	PKP	**PKPdf**	**04 15 35.2**	**-0.5**		
AKASG	**Malin Array Be**	**127.17**	**327**	PKP	**PKPdf**	**04 15 35.2**	**-0.5**		
	comp=Z,1.4nm,0.7s,baz=64,slow=2.1,SNR=9.5								
SAML	**Samuel**	**127.39**	**111**	*e*PKPdf	**PKPdf**	**04 15 37.3**	**+0.1**		
BRTR	**Keskin Array B**	**129.18**	**312**	PKP	**PKPdf**	**04 15 40.4**	**+0.3**		
BRTR	**Keskin Array B**	**129.18**	**312**	PKP	**PKPdf**	**04 15 40.4**	**+0.3**		
	comp=Z,1.2nm,0.9s,baz=140,slow=8.1,SNR=5.6								
KOLS	**Kolonicke sedl**	**131.87**	**328**	*e*PKIKP	**PKPdf**	**04 15 45.5**	**+0.8**		
KOLS	**Kolonicke sedl**	**131.87**	**328**	*e*PKP	**PKPdf**	**04 15 45.5**	**+0.8**		
UZH	**Uzhgorod**	**132.05**	**328**	*e*PKHKP	PKPpre	04 15 30.9			
UZH				*i*		04 15 42.3			
STHS	**Stebnicka Huta**	**132.09**	**329**	*e*PKIKP	**PKPdf**	**04 15 47.2**	**+2.1**		
STHS	**Stebnicka Huta**	**132.09**	**329**	*e*PKP	**PKPdf**	**04 15 47.2**	**+2.1**		
CRVS	**Cervenica-Dubn**	**132.31**	**329**	*e*PKIKP	**PKPdf**	**04 15 47.0**	**+1.4**		
CRVS	**Cervenica-Dubn**	**132.31**	**329**	*e*PKP	**PKPdf**	**04 15 47.0**	**+1.4**		
OKC	**Ostrava-Krasne**	**133.32**	**331**	*e*PKIKP	**PKPdf**	**04 15 49.3**	**+1.9**		
OKC	**Ostrava-Krasne**	**133.32**	**331**	*e*PKPdf	**PKPdf**	**04 15 49.3**	**+1.9**		
DPC	**Dobruska-Polom**	**133.79**	**333**	*e*PKIKP	**PKPdf**	**04 15 46.5**	**-1.8**		
DPC	**Dobruska-Polom**	**133.79**	**333**	*e*PKPdf	**PKPdf**	**04 15 46.5**	**-1.8**		
UPC	**Upice**	**133.81**	**333**	*e*PKIKP	**PKPdf**	**04 15 49.6**	**+1.3**		
UPC	**Upice**	**133.81**	**333**	*e*PKPdf	**PKPdf**	**04 15 49.6**	**+1.3**		
BRG	**Berggiesshubel**	**134.42**	**335**	*e*PKP	**PKPdf**	**04 15 50.0**	**+0.5**		
	comp=Z,6.3nm,1.2s								
BRG	**Berggiesshubel**	**134.42**	**335**	*e*PKIKP	**PKPdf**	**04 15 50.0**	**+0.5**		
BRG				pmax	pmax				
	comp=Z,6.0nm,1.2s								
CLL	**Collm**	**134.47**	**336**	*e*PKIKP	**PKPdf**	**04 15 51.0**	**+1.5**		
CLL				pmax	pmax				
	comp=Z,4.0nm,0.9s								
CLL	**Collm**	**134.47**	**336**	*e*PKPdf	**PKPdf**	**04 15 51.0**	**+1.5**		
	comp=Z,4.0nm,0.9s								
CLL				LmV		05 15 00.0			
	comp=Z,100nm,20.1s								
PRU	**Pruhonice**	**134.84**	**334**	*e*PKIKP	**PKPdf**	**04 15 50.5**	**+0.3**		
PRU	**Pruhonice**	**134.84**	**334**	*e*PKPdf	**PKPdf**	**04 15 50.5**	**+0.3**		
KHC	**Kasperske Hory**	**135.90**	**334**	*e*PKIKP	**PKPdf**	**04 15 52.2**	**-0.1**		
KHC				*e*		04 16 00.9			
KHC	**Kasperske Hory**	**135.90**	**334**	*e*PKPdf	**PKPdf**	**04 15 52.2**	**-0.1**		
KHC				*e*pPKP	**pPKPdf**	**04 16 00.9**	**-2.4**		
KHC	**Kasperske Hory**	**135.90**	**334**	*e*PKPdf	**PKPdf**	**04 15 52.4**	**+0.1**		
GERES	**GERESS Array B**	**136.06**	**333**	PKP	**PKPdf**	**04 15 53.0**	**+0.4**		
GERES	**GERESS Array B**	**136.06**	**333**	PKP	**PKPdf**	**04 15 53.0**	**+0.4**		
	comp=Z,2.0nm,0.9s,baz=0.0,slow=1.3,SNR=11								
MOA	**Molln**	**136.54**	**332**	⇑*i*PKPdf	**PKPdf**	**04 15 53.3**	**-0.3**		
	comp=Z,4.2nm,1.1s								
FETA	**Feichten**	**138.74**	**334**	P	PKPdf	04 15 51.0	-6.8		
	comp=Z,6.2nm,0.9s								
BNI	**Bardonecchia**	**142.01**	**336**	PKIKP	**PKPdf**	**04 16 04.4**	**+0.6**		
BNI	**Bardonecchia**	**142.01**	**336**	PKPdf	**PKPdf**	**04 16 04.3**	**+0.6**		
VSL	**Villasalto**	**145.05**	**327**	*e*PKPdf	**PKPbc**	**04 16 08.7**	**+0.2**		
LRDF	**Laroque-de-Fa**	**145.40**	**338**	PKP	**PKPab**	**04 16 10.0**	**+0.3**		
MLS	**Moulis**	**145.90**	**340**	PKP	**PKPdf**	**04 16 10.8**	**+0.4**		
VALF	**Valcebollere**	**146.06**	**338**	PKP	**PKPbc**	**04 16 11.9**	**+0.1**		
VIEF	**Viey**	**146.32**	**341**	PKP	**PKPab**	**04 16 13.8**	**+0.6**		
KEST	**Kesra**	**147.70**	**322**	*e*PKPbc	**PKPbc**	**04 16 17.0**	**+0.4**		
KEST	**Kesra**	**147.70**	**322**	PKPbc	**PKPbc**	**04 16 17.2**	**+0.7**		
	comp=Z,11nm,0.9s,baz=153,slow=0.5,SNR=26								
CMAH	**Djebel Manchou**	**148.19**	**325**	P	**PKPbc**	**04 16 17.0**	**-0.8**		
CKFL	**Kef-Lekhel**	**148.74**	**326**	P	**PKPbc**	**04 16 19.0**	**-0.3**		
CASM	**Ain Smara**	**148.97**	**326**	P	**PKPbc**	**04 16 20.0**	**+0.2**		
DFRA	**Djebel Bou Aff**	**149.09**	**327**	P	**PKPbc**	**04 16 21.0**	**+0.8**		
PGAV	**Gavieira, Arco**	**149.18**	**351**	*e*PKPbc	**PKPbc**	**04 16 20.8**	**+0.5**		
SET	**Setif**	**149.60**	**327**	P	**PKPbc**	**04 16 23.0**	**+1.5**		
POLO	**Lamas de Olo**	**149.69**	**350**	*e*PKPbc	**PKPbc**	**04 16 22.1**	**+0.6**		
MVO	**Moncorvo**	**149.75**	**349**	*e*PKPbc	**PKPbc**	**04 16 22.0**	**+0.3**		
PVRL	**Vila Real**	**149.77**	**350**	*e*PKPbc	**PKPbc**	**04 16 22.3**	**+0.7**		
PVIS	**Viseu**	**150.34**	**350**	*e*PKPbc	**PKPbc**	**04 16 23.6**	**+0.5**		
ESIC	**Sonseca Array**	**150.46**	**344**	PKPbc	**PKPbc**	**04 16 23.9**	**+0.5**		
ESDC				PKPab	PKPab	**04 16 29.8**	**0.0**		
ESDC	**Sonseca Array**	**150.46**	**344**	PKPbc	**PKPbc**	**04 16 23.9**	**+0.5**		
	comp=Z,4.8nm,0.8s,baz=18,slow=2.5,SNR=33								
ESDC				PKPab	**PKPab**	**04 16 29.8**	**0.0**		
	comp=Z,2.1nm,0.8s,baz=14,slow=4.5,SNR=4.6								
MTE	**Manteigas**	**150.59**	**349**	*e*PKPbc	**PKPbc**	**04 16 24.4**	**+0.7**		
MTE	**Manteigas**	**150.59**	**349**	*e*PKPbc	**PKPbc**	**04 16 23.7**	**+0.1**		
PAB	**San Pablo**	**150.68**	**344**	*e*PKIKP	**PKPdf**	**04 16 18.7**	**+0.2**		
PAB				*e*		04 16 24.6			
PAB	**San Pablo**	**150.68**	**344**	*e*PKPdf	**PKPdf**	**04 16 18.7**	**+0.2**		
PAB				*e*PKPbc	**PKiKP**	**04 16 24.6**	**0.0**		
PCBR	**Castelo Branco**	**151.12**	**349**	*e*PKPbc	**PKPbc**	**04 16 25.4**	**+0.6**		
PTOM	**Tomar**	**151.50**	**350**	*e*PKPbc	**PKPbc**	**04 16 26.3**	**+0.6**		
PMRV	**Marv??o**	**151.50**	**349**	*e*PKPbc	**PKPbc**	**04 16 26.1**	**+0.3**		
PMTG	**Montargil**	**152.00**	**350**	*e*PKPbc	**PKPbc**	**04 16 27.3**	**+0.4**		
PBAR	**Barrancos**	**152.64**	**347**	*e*PKPbc	**PKPbc**	**04 16 29.0**	**+0.6**		
TOA0	**Torodi Ar. Sit**	**164.21**	**278**	*e*PKPdf	**PKPd

GRM	**Grahamstown**	**5.36**	**182**	*eP*	**Pn**	**04 07 31.1**	**+1.3**
GRM				*eS*	**Sn**	**04 08 31.0**	**-0.7**
GRM				AML	AML	04 09 13.1	
	comp=Z,35nm,0.6s						
MSNA	**Messina**	**6.34**	**29**	*eP*	**Pn**	**04 07 43.8**	**+0.7**
MSNA				*eS*	Sn	04 08 49.8	-6.1
MSNA				AML	AML	04 09 30.9	
	comp=Z,39nm,0.5s						
SUR	**Sutherland**	**6.74**	**228**	*eP*	**Pn**	**04 07 50.8**	**+2.0**
SUR				*eS*	**Sn**	**04 09 04.6**	**-1.4**
SUR				AML	AML	04 09 40.6	
	comp=Z,42nm,0.5s						
SUR	**Sutherland**	**6.74**	**228**	Pn	**Pn**	**04 07 50.6**	**+1.8**
	comp=Z,2.1nm,0.3s,baz=74,slow=13,SNR=32						
SUR				Sn	**Sn**	**04 09 02.7**	**-3.2**
	comp=Z,7.4nm,0.3s,baz=340,slow=21,SNR=8.4						
SUR				Lg	Lg	04 09 39.3	
	comp=Z,16nm,0.3s,baz=129,slow=22,SNR=14						
CVNA	**Calvinia**	**6.98**	**238**	*eP*	**Pn**	**04 07 52.5**	**+0.5**
CVNA				*eS*	**Sn**	**04 09 08.1**	**-3.6**
CVNA				AML	AML	04 09 49.3	
	comp=Z,69nm,0.4s						
KOMG	**Komaggas**	**8.28**	**255**	*eP*	**Pn**	**04 08 11.2**	**+1.5**
KOMG				*eS*	**Sn**	**04 09 40.5**	**-3.0**
KOMG				AML	AML	04 10 34.6	
	comp=Z,61nm,0.5s						
CER	**Ceres**	**8.35**	**228**	*eP*	**Pn**	**04 08 11.4**	**+0.6**
CER				*eS*	**Sn**	**04 09 42.1**	**-3.2**
CER				AML	AML	04 10 30.9	
	comp=Z,54nm,0.7s						
ELIM	**Elim**	**8.90**	**220**	*eP*	**Pn**	**04 08 19.2**	**+0.8**
ELIM				*eS*	**Sn**	**04 09 53.1**	**-5.8**
ELIM				AML	AML	04 11 02.5	
	comp=Z,32nm,0.6s						
RUDU	**RUNDU**	**11.86**	**326**	*eP*	**Pn**	**04 08 58.8**	**-0.1**
RUDU				*eS*	**Sn**	**04 11 05.7**	**-6.0**
RUDU				AML	AML	04 12 30.1	
	comp=Z,10nm,0.5s						
TSUM	**Tsumeb**	**12.04**	**314**	Pn	**Pn**	**04 09 01.3**	**-0.2**
	comp=Z,1.3nm,0.3s,baz=144,slow=12,SNR=22						
TSUM				Sn	**Sn**	**04 11 11.1**	**-5.1**
	comp=Z,0.4nm,0.3s,baz=98,slow=19,SNR=4.0						
TSUM				Lg	Lg	04 12 26.4	
	comp=Z,0.3nm,0.3s,baz=80,slow=19,SNR=3.6						
LSZ	**Lusaka**	**12.68**	**7**	Pn	**Pn**	**04 09 08.3**	**-1.8**
	comp=Z,0.6nm,0.3s,baz=189,slow=9.8,SNR=7.8						
LSZ				Sn	Sn	04 11 22.2	-9.5
	comp=Z,0.6nm,0.3s,baz=63,slow=18,SNR=5.5						
LSZ				Lg	Lg	04 12 41.7	
	comp=Z,0.1nm,0.3s,baz=110,slow=20,SNR=3.7						
OPO	**Ambohidratompo**	**21.00**	**68**	P	**P**	**04 10 54.5**	**+1.0**
	comp=Z,5.0nm,0.9s,baz=259,slow=11,SNR=4.4						
DBIC	**Dimbokro**	**45.95**	**314**	P	**P**	**04 14 33.6**	**+0.5**
	comp=Z,2.8nm,0.6s,baz=130,slow=11,SNR=4.6						
SNAA	**Sanae**	**46.71**	**192**	P	**P**	**04 14 40.6**	**+2.1**
	comp=Z,1.2nm,0.8s,baz=54,slow=7.7,SNR=10						
TORD	**Torodi Ar. Bea**	**47.48**	**326**	P	**P**	**04 14 45.7**	**+0.7**
	comp=Z,2.9nm,0.6s,baz=137,slow=5.6,SNR=40						
VNDA	**Vanda**	**71.44**	**171**	P	**P**	**04 17 31.7**	**+1.9**
	comp=Z,0.5nm,0.9s,baz=220,slow=4.3,SNR=2.5						
ESDC	**Sonseca Array**	**73.07**	**336**	P	**P**	**04 17 41.3**	**+1.3**
	comp=Z,0.6nm,0.5s,baz=154,slow=6.0,SNR=6.2						
GERES	**GERESS Array B**	**77.31**	**351**	P	**P**	**04 18 06.1**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=163,slow=8.2,SNR=3.8						
MKAR	**Makanchi Array**	**89.73**	**35**	P	**P**	**04 19 09.1**	**+1.1**
	comp=Z,0.1nm,0.5s,baz=228,slow=4.7,SNR=3.1						
NVAR	**Mina Array Bea**	**149.05**	**299**	PKPbc	**PKPab**	**04 26 00.6**	**-2.2**
	comp=Z,0.6nm,0.6s,baz=77,slow=3.9,SNR=5.4						

*NEIC **27** 04:09:46.5, 38°.26S×175°.91E, h160km, MG4.0(WEL), After WEL.*

WEL 27 04:09:46.5±0.4, 38°.27S×175°.93E, h163km±3km, ML4.0/19, 5C-1D, Error ellipse: s-maj=2.4km s-min=2.0km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OPRZ	**Ohinepanea**	**0.65**	**49**	PN		Pn	04 10 10.2	+0.2
OPRZ				SN		Sn	04 10 28.5	+0.4
OPRZ	**Ohinepanea**	**0.65**	**49**	Pn		Pn	04 10 10.2	+0.2
OPRZ				Sn		Sn	04 10 28.5	+0.4
TWVZ	**Taurewa**	**0.89**	**206**	PN		Pn	04 10 11.7	0.0
TWVZ	**Taurewa**	**0.89**	**206**	Pn		Pn	04 10 10.6	-1.1
OTVZ	**Oturere**	**0.92**	**193**	PN		Pn	04 10 12.2	+0.2
OTVZ	**Oturere**	**0.92**	**193**	Pn		Pn	04 10 12.2	+0.2
URZ	**Urewera**	**0.93**	**90**	PN		Pn	04 10 11.3	-0.6
URZ				AML		AML	04 10 30.0	
URZ				AML		AML	04 10 31.0	
URZ	**Urewera**	**0.93**	**90**	*e*Pn		Pn	04 10 11.3	-0.5
URZ				*e*S		Sn	04 10 29.4	-1.9
WPVZ	**Whakapapa**	**0.98**	**198**	PN		Pn	04 10 12.4	-0.1
BKZ	**Black Stump Fm**	**1.00**	**154**	PN		Pn	04 10 12.1	-0.3
BKZ				AML		AML	04 10 34.4	
BKZ				AML		AML	04 10 35.3	
BKZ	**Black Stump Fm**	**1.00**	**154**	Pn		Pn	04 10 12.2	-0.3
TUVZ	**Tukino**	**1.02**	**192**	PN		Pn	04 10 12.7	0.0
TUVZ	**Tukino**	**1.02**	**192**	Pn		Pn	04 10 12.7	0.0
FWVZ	**Far West T-bar**	**1.03**	**197**	PN		Pn	04 10 12.7	-0.2
FWVZ	**Far West T-bar**	**1.03**	**197**	Pn		Pn	04 10 12.7	-0.2
DRZ	**Dome Shelter**	**1.04**	**196**	PN		Pn	04 10 13.2	0.0
DRZ	**Dome Shelter**	**1.04**	**196**	Pn		Pn	04 10 13.3	+0.1
WHVZ	**Whangaehu Hut**	**1.04**	**195**	PN		Pn	04 10 12.8	-0.2
TRVZ	**Turoa**	**1.07**	**196**	PN		Pn	04 10 13.2	-0.1
TRVZ	**Turoa**	**1.07**	**196**	Pn		Pn	04 10 13.2	-0.1
NMHZ	**Naumai**	**1.07**	**141**	PN		Pn	04 10 13.8	+0.7
NMHZ				SN		Sn	04 10 33.6	-0.1
NMHZ	**Naumai**	**1.07**	**141**	Pn		Pn	04 10 13.6	+0.5
NMHZ				Sn		Sn	04 10 33.6	-0.1
WNVZ	**Wahianoa**	**1.09**	**194**	PN		Pn	04 10 13.1	-0.2
WNVZ	**Wahianoa**	**1.09**	**194**	Pn		Pn	04 10 13.1	-0.2
RAHZ	**Arahi**	**1.11**	**126**	PN		Pn	04 10 13.8	+0.5
RAHZ				SN		Sn	04 10 33.6	-0.5
RAHZ	**Arahi**	**1.11**	**126**	Pn		Pn	04 10 13.9	+0.5
RAHZ				Sn		Sn	04 10 33.6	-0.5
PKVZ	**Pokaka**	**1.12**	**204**	PN		Pn	04 10 13.3	-0.1
PKVZ	**Pokaka**	**1.12**	**204**	Pn		Pn	04 10 13.4	-0.1
MOVZ	**Moawhango**	**1.14**	**187**	⇑PN		Pn	04 10 13.2	-0.5
MOVZ	**Moawhango**	**1.14**	**187**	Pn		Pn	04 10 13.2	-0.5
MTVZ	**Mangateitei**	**1.17**	**198**	PN		Pn	04 10 13.8	-0.1
SNGZ	**Shannon Statio**	**1.22**	**115**	PN		Pn	04 10 14.7	+0.4
SNGZ				SN		Sn	04 10 34.5	-1.2
BHHZ	**Black Hill Sta**	**1.22**	**175**	PN		Pn	04 10 13.8	-0.5
BHHZ	**Black Hill Sta**	**1.22**	**175**	Pn		Pn	04 10 13.9	-0.5
VRZ	**Vera Road**	**1.25**	**227**	PN		Pn	04 10 14.8	+0.2
VRZ	**Vera Road**	**1.25**	**227**	Pn		Pn	04 10 14.8	+0.2
MWZ	**Matawai**	**1.26**	**93**	PN		Pn	04 10 14.4	-0.3
MWZ				SN		Sn	04 10 34.8	-1.6
MWZ				AML		AML	04 10 35.1	
MWZ				AML		AML	04 10 35.9	
MWZ				AML		AML	04 10 35.9	
MWZ	**Matawai**	**1.26**	**93**	Pn		Pn	04 10 14.4	-0.3
WHHZ	**Waihua**	**1.30**	**129**	PN		Pn	04 10 15.3	+0.3
MCHZ	**McNeill Hill**	**1.31**	**153**	PN		Pn	04 10 15.7	+0.5
MCHZ	**McNeill Hill**	**1.31**	**153**	Pn		Pn	04 10 15.7	+0.5
RIGZ	**Rimuhau**	**1.50**	**107**	PN		Pn	04 10 17.2	+0.2
KNZ	**Kokohu**	**1.56**	**119**	PN		Pn	04 10 17.6	+0.1
KNZ	**Kokohu**	**1.56**	**119**	Pn		Pn	04 10 17.6	+0.1
CKHZ	**Cape Kidnapper**	**1.65**	**148**	PN		Pn	04 10 18.5	0.0
CKHZ	**Cape Kidnapper**	**1.65**	**148**	Pn		Pn	04 10 18.6	+0.1
PNHZ	**Pukenui**	**1.65**	**173**	PN		Pn	04 10 17.9	-0.7
PNHZ	**Pukenui**	**1.65**	**173**	Pn		Pn	04 10 17.9	-0.7
WAZ	**Wanganui**	**1.66**	**206**	⇑PN		Pn	04 10 18.3	-0.3
WAZ	**Wanganui**	**1.66**	**206**	Pn		Pn	04 10 18.3	-0.3
PRGZ	**Paritu Road**	**1.66**	**114**	PN		Pn	04 10 18.9	+0.2
KAHZ	**Kahuranaki**	**1.69**	**155**	PN		Pn	04 10 18.9	-0.1
KAHZ	**Kahuranaki**	**1.69**	**155**	Pn		Pn	04 10 18.9	-0.1
MHGZ	**Mahia Peninsul**	**1.78**	**120**	PN		Pn	04 10 20.1	+0.2
MHGZ	**Mahia Peninsul**	**1.78**	**120**	Pn		Pn	04 10 20.1	+0.2
TSZ	**Takapari Road**	**1.79**	**179**	PN		Pn	04 10 19.2	-0.8
TSZ				AML		AML	04 10 19.5	
TSZ				AML		AML	04 10 19.5	
TSZ	**Takapari Road**	**1.79**	**179**	Pn		Pn	04 10 19.2	-0.8
CNGZ	**Carnagh Statio**	**1.80**	**98**	PN		Pn	04 10 20.4	+0.3
CNGZ	**Carnagh Statio**	**1.80**	**98**	Pn		Pn	04 10 20.6	+0.5
WPHZ	**Waipukurau**	**1.83**	**168**	PN		Pn	04 10 19.8	-0.7
WPHZ	**Waipukurau**	**1.83**	**168**	Pn		Pn	04 10 19.8	-0.7
PUZ	**Puketiti**	**1.84**	**85**	PN		Pn	04 10 20.2	-0.4
PUZ				AML		AML	04 10 45.5	
PUZ				AML		AML	04 10 46.3	
PUZ	**Puketiti**	**1.84**	**85**	Pn		Pn	04 10 20.2	-0.4
PXZ	**Pawanui**	**1.90**	**158**	PN		Pn	04 10 20.7	-0.5
PXZ				AML		AML	04 10 48.5	
PXZ				AML		AML	04 10 48.7	
PXZ	**Pawanui**	**1.90**	**158**	Pn		Pn	04 10 20.7	-0.5
MXZ	**Matakaoa Point**	**2.01**	**70**	PN		Pn	04 10 22.5	+0.1
MXZ				AML		AML	04 10 52.3	
MXZ	**Matakaoa Point**	**2.01**	**70**	Pn		Pn	04 10 22.5	+0.1
DVHZ	**Dannevirke**	**2.03**	**175**	PN		Pn	04 10 21.6	-1.2
DVHZ	**Dannevirke**	**2.03**	**175**	Pn		Pn	04 10 21.6	-1.2
POWZ	**Post Office Ro**	**2.12**	**183**	PN		Pn	04 10 22.5	-1.3
POWZ	**Post Office Ro**	**2.12**	**183**	Pn		Pn	04 10 22.5	-1.2
ANWZ	**Angora Road**	**2.23**	**169**	PN		Pn	04 10 24.0	-0.9
PRWZ	**Pori Road**	**2.28**	**179**	PN		Pn	04 10 24.5	-1.1
MRZ	**Mangatainoka R**	**2.40**	**186**	⇑PN		Pn	04 10 25.3	-1.7
MRZ				AML		AML	04 10 56.7	
MRZ				AML		AML	04 10 56.7	
MRZ	**Mangatainoka R**	**2.40**	**186**	Pn		Pn	04 10 25.4	-1.7
BFZ	**Birch Farm**	**2.42**	**174**	⇓PN		Pn	04 10 25.7	-1.5
BFZ	**Birch Farm**	**2.42**	**174**	Pn		Pn	04 10 25.7	-1.5
TIWZ	**Tintock**	**2.50**	**181**	PN		Pn	04 10 26.7	-1.6
TIWZ	**Tintock**	**2.50**	**181**	Pn		Pn	04 10 26.7	-1.6
OGWZ	**Otaki Gorge**	**2.61**	**193**	PN		Pn	04 10 27.8	-1.7
OGWZ	**Otaki Gorge**	**2.61**	**193**	Pn		Pn	04 10 27.8	-1.7
CPWZ	**Castlepoint**	**2.64**	**176**	PN		Pn	04 10 28.7	-1.2
HOWZ	**Holdsworth Sta**	**2.64**	**187**	⇑PN		Pn	04 10 27.9	-2.1
HOWZ	**Holdsworth Sta**	**2.64**	**187**	Pn		Pn	04 10 27.9	-2.1
KIW	**Kapiti Island**	**2.71**	**197**	PN		Pn	04 10 28.5	-2.1
KIW				AML		AML	04 11 03.2	
KIW				AML		AML	04 11 05.5	
KIW	**Kapiti Island**	**2.71**	**197**	Pn		Pn	04 10 28.6	-2.1
TMWZ	**Te Maipa**	**2.83**	**181**	⇑PN		Pn	04 10 30.1	-2.1
TMWZ	**Te Maipa**	**2.83**	**181**	Pn		Pn	04 10 30.1	-2.1
MTW	**Mount Morrison**	**2.90**	**186**	PN		Pn	04 10 30.2	-2.4
MTW				AML		AML	04 11 06.3	
MTW				AML		AML	04 11 06.8	
MTW	**Mount Morrison**	**2.90**	**186**	Pn		Pn	04 10 30.6	-2.4
CAW	**Cannon Point**	**2.91**	**193**	PN		Pn	04 10 31.0	-2.2
CAW				AML		AML	04 11 06.8	
CAW				AML		AML	04 11 08.7	
CAW	**Cannon Point**	**2.91**	**193**	Pn		Pn	04 10 31.0	-2.2
DUWZ	**D'Urville Isla**	**2.97**	**211**	PN		Pn	04 10 31.7	-2.3
DUWZ	**D'Urville Isla**	**2.97**	**211**	Pn		Pn	04 10 31.7	-2.3
TRWZ	**Traveller**	**3.13**	**183**	PN		Pn	04 10 33.4	-2.5
TRWZ				AML		AML	04 11 11.9	
TRWZ				AML		AML	04 11 13.5	
TRWZ	**Traveller**	**3.13**	**183**	Pn		Pn	04 10 33.4	-2.5
PAWZ	**Paruwai Farm**	**3.13**	**187**	PN		Pn	04 10 33.3	-2.6
PAWZ				AML		AML	04 11 11.1	
PAWZ				AML		AML	04 11 12.6	
PAWZ	**Paruwai Farm**	**3.13**	**187**	Pn		Pn	04 10 33.4	-2.6
SNZO	**South Karori**	**3.18**	**197**	PN		Pn	04 10 33.7	-2.7
SNZO				AML		AML	04 11 13.1	
SNZO	**South Karori**	**3.18**	**197**	*e*Pn		Pn	04 10 33.8	-2.7
SNZO				*e*S		Sn	04 11 10.2	-5.3
MSWZ	**Moikau Station**	**3.18**	**189**	PN		Pn	04 10 33.8	-2.8
MSWZ				AML		AML	04 11 12.0	
MSWZ				AML		AML	04 11 12.2	
MSWZ	**Moikau Station**	**3.18**	**189**	Pn		Pn	04 10 33.9	-2.7
TCW	**Tory Channel**	**3.20**	**203**	PN		Pn	04 10 34.3	-2.5
TCW				AML		AML	04 11 12.4	
TCW				AML		AML	04 11 12.9	
TCW	**Tory Channel**	**3.20**	**203**	Pn		Pn	04 10 34.3	-2.5
PLWZ	**Palliser**	**3.34**	**189**	PN		Pn	04 10 35.6	-2.9
PLWZ	**Palliser**	**3.34**	**189**	Pn		Pn	04 10 35.6	-2.9
TUWZ	**Tuamarina**	**3.51**	**205**	PN		Pn	04 10 38.0	-2.6
TUWZ				AML		AML	04 11 19.1	
TUWZ				AML		AML	04 11 20.8	
TUWZ	**Tuamarina**	**3.51**	**205**	Pn		Pn	04 10 38.0	-2.6
NNZ	**Nelson**	**3.54**	**213**	PN		Pn	04 10 38.3	-2.7
NNZ	**Nelson**	**3.54**	**213**	Pn		Pn	04 10 38.3	-2.7
BSWZ	**Blackbirch Sta**	**3.79**	**204**	PN		Pn	04 10 41.5	-2.7
BSWZ				AML		AML	04 11 28.4	
BSWZ	**Blackbirch Sta**	**3.79**	**204**	Pn		Pn	04 10 41.5	-2.7
THZ	**Tophouse**	**4.19**	**213**	PN		Pn	04 10 46.1	-3.5
THZ	**Tophouse**	**4.19**	**213**	Pn		Pn	04 10 46.3	-3.3
KHZ	**Kahutara**	**4.53**	**203**	PN		Pn	04 10 50.6	-3.2
KHZ				AML		AML	04 11 43.8	
KHZ	**Kahutara**	**4.53**	**203**	Pn		Pn	04 10 50.6	-3.2
DSZ	**Denniston Nort**	**4.70**	**221**	PN		Pn	04 10 52.0	-4.2
DSZ	**Denniston Nort**	**4.70**	**221**	Pn		Pn	04 10 52.0	-4.2
LTZ	**Lake Taylor**	**5.30**	**211**	PN		Pn	04 11 00.2	-3.8
LTZ	**Lake Taylor**	**5.30**	**211**	Pn		Pn	04 10 59.7	-4.3
OXZ	**Oxford**	**5.85**	**209**	PN		Pn	04 11 06.4	-4.8
MQZ	**McQueen's Vall**	**5.97**	**204**	PN		Pn	04 11 07.6	-5.1
MQZ	**McQueen's Vall**	**5.97**	**204**	Pn		Pn	04 11 07.7	-5.0
WVZ	**Waitaha Valley**	**6.21**	**218**	PN		Pn	04 11 12.2	-3.8
LBZ	**Lake Benmore**	**7.48**	**213**	PN		Pn	04 11 28.3	-4.6
ODZ	**Otahua Downs**	**7.84**	**209**	PN		Pn	04 11 33.1	-4.5
ODZ	**Otahua Downs**	**7.84**	**209**	Pn		Pn	04 11 33.1	-4.5
CTZ	**Chatham Island**	**7.84**	**136**	Pn		Pn	04 11 42.5	+5.0
JCZ	**Jackson Bay**	**7.93**	**221**	PN		Pn	04 11 34.5	-4.4
JCZ	**Jackson Bay**	**7.93**	**221**	Pn		Pn	04 11 34.5	-4.3

*CSEM **27** 04:30:20.3, 38°.28N×26°.56W, h0km, ML3.7, After PDA*

PDA 27 04:30:20.3±0.9, 38°.28N×26°.56W, h0km±3km, MD3.6, ML3.7, Error ellipse: s-maj=6.0km s-min=1.1km az=34.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ADH	**Angra Heroismo**	**0.65**	**305**	*e*P		Pg	04 30 31.4	-1.3
ADH				*e*S		Sg	04 30 40.3	-0.9
JNU				A		A	04 30 40.8	
	2μm,0.4s							
ADH	**Angra Heroismo**	**0.65**	**305**	*e*P		Pg	04 30 31.4	-1.3
ADH				*e*S		Sg	04 30 40.3	-0.9
PSET	**Sete Cidades**	**0.81**	**124**	*e*P		Pg	04 30 33.9	-1.9
PSET				*e*S		Sg	04 30 44.2	-2.1
PSET				A		A	04 30 49.1	
	3μm,0.4s							
PSET	**Sete Cidades**	**0.81**	**124**	*e*P		Pg	04 30 33.9	-1.9
PSET				*e*S		Sg	04 30 44.2	-2.1
PDA	**Ponta Delgada**	**0.89**	**127**	*e*P		Pg	04 30 35.2	-2.1
PDA				*e*S		Sg	04 30 46.3	-2.5
PDA				A		A	04 30 52.0	
	1μm,0.5s							
PDA	**Ponta Delgada**	**0.89**	**127**	*e*P		Pg	04 30 35.2	-2.1
PDA				*e*S		Sg	04 30 46.3	-2.5
GRON	**Grota Negra**	**0.96**	**122**	*e*P		Pg	04 30 37.6	-1.2
GRON				*e*S		Sg	04 30 50.4	-0.9
GRON				A		A	04 30 53.9	
	249nm,0.4s							
CMLA	**Cha da Macela**	**0.97**	**122**	*e*P		Pg	04 30 36.3	-2.6
CMLA				*e*S		Sg	04 30 48.3	-3.2
CMLA				A		A	04 30 49.6	
	4μm,0.3s							
CMLA	**Cha da Macela**	**0.97**	**122**	*e*P		Pg	04 30 36.3	-2.6
CMLA				*e*S		Sg	04 30 48.3	-3.2
TOPO	**Topo**	**1.11**	**287**	*e*P		Pg	04 30 37.2	-4.5
TOPO				*e*S		Sg	04 30 49.0	-7.2
TOPO	**Topo**	**1.11**	**287**	*e*P		Pg	04 30 37.2	-4.5
TOPO				*e*S		Sg	04 30 49.0	-7.2
BART	**Pico Bartolome**	**1.21**	**114**	*e*P		Pg	04 30 39.6	-4.0
BART				*e*S		Sg	04 30 54.0	-5.4
BART				A		A	04 30 59.9	
	853nm,0.5s							
BART	**Pico Bartolome**	**1.21**	**114**	*e*P		Pg	04 30 39.6	-4.0
BART				*e*S		Sg	04 30 54.0	-5.4
PMAN	**Manadas**	**1.25**	**287**	*e*P		Pg	04 30 40.2	-3.8
PMAN				*e*S		Sg	04 30 54.9	-5.6
PMAN				A		A	04 30 59.6	
	179nm,0.3s							
PMAN	**Manadas**	**1.25**	**287**	*e*P		Pg	04 30 40.5	-3.8
PMAN				*e*S		Sg	04 30 54.9	-5.6
PGRA	**Graciosa**	**1.34**	**304**	*e*P		Pg	04 30 41.0	-5.0
PGRA				*e*S		Sg	04 30 57.2	-6.2
PGRA				A		A	04 30 58.5	
	257nm,0.3s							
PGRA	**Graciosa**	**1.34**	**304**	*e*P		Pg	04 30 41.0	-5.0
PGRA				*e*S		Sg	04 30 57.2	-6.2
PPNO	**Prainha do Nor**	**1.35**	**279**	*e*P		Pg	04 30 41.3	-5.0
PPNO				*e*S		Sg	04 30 57.5	-6.4
PPNO				A		A	04 31 02.8	
	161nm,0.4s							
PPNO	**Prainha do Nor**	**1.35**	**279**	*e*P		Pg	04 30 41.3	-5.0
PPNO				*e*S		Sg	04 30 57.5	-6.4
PICO	**Pico**	**1.48**	**279**	*e*P		Pn	04 30 43.7	-4.6
PICO				*e*S		Sg	04 30 59.5	-8.6
PICO	**Pico**	**1.48**	**279**	*e*P		Pn	04 30 43.7	-4.6
PICO				*e*S		Sg	04 30 59.5	-8.6
PCAN	**Candelaria**	**1.52**	**278**	*e*P		Pn	04 30 43.8	-5.0
PCAN				*e*S		Sg	04 31 01.9	-7.5
PCAN				A		A	04 31 07.0	
	106nm,0.3s							
PCAN	**Candelaria**	**1.52**	**278**	*e*P		Pn	04 30 43.8	-5.0
PCAN				*e*S		Sg	04 31 01.9	-7.5
HOR	**Horta**	**1.64**	**279**	*e*P		Pn	04 30 45.4	-5.0
HOR				*e*S		Sn	04 31 04.5	-7.8
HOR	**Horta**	**1.64**	**279**	*e*P		Pn	04 30 45.4	-5.0
HOR				*e*S		Sn	04 31 04.5	-7.8
CALA	**Caldeira**	**1.71**	**281**	*e*P		Pn	04 30 47.3	-4.2
CALA				*e*S		Sn	04 31 05.2	-8.9
CALA	**Caldeira**	**1.71**	**281**	*e*P		Pn	04 30 47.3	-4.2
CALA				*e*S		Sn	04 31 05.2	-8.9
PSMA	**Santa Maria**	**1.71**	**138**	*e*P		Pn	04 30 46.6	-4.8
PSMA				*e*S		Sn	04 31 06.2	-7.8
PSMA				A		A	04 31 08.8	
	117nm,0.1s							
PSMN	**Pico do Norte,**	**1.74**	**137**	*e*P		Pn	04 30 46.9	-4.9
PSMN				*e*S		Sn	04 31 06.5	-8.2
PSMN				A		A	04 31 09.0	
	98nm,0.2s							
PSMN	**Pico do Norte,**	**1.74**	**137**	*e*P		Pn	04 30 46.9	-4.9
PSMN				*e*S		Sn	04 31 06.5	-8.2

*ISCJB **27** 04:43:57.0±0.5, 1°.97S±0°.05×68°.99E±0°.10, h10km, mb3.9/16, MS4.1/3, Error ellipse: s-maj=14.9km s-min=6.2km az=159.6*
*IDC **27** 04:43:57.9±0.8, 1°.92S×68°.97E, h0km, mb3.9/14, mb1 3.9/14, mb1mx3.8/31, mbtmp3.9/14, MS4.0/3, Ms1 4.0/3, ms1mx3.2/40, Error ellipse: s-maj=24.7km s-min=20.4km az=53.0*
*NEIC **27** 04:43:59.3±0.5, 1°.94S×68°.98E, h10km, mb4.4/2, Error ellipse: s-maj=12.5km s-min=9.4km az=62.0*

ISC 27 04:43:59.2±0.6, 1°.96S±0°.09×69°.0E±0°.1, h10km, n46, σ0°80/40, mb4.0/16, MS4.1/3, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
H08N2	**Diego Garcia H**	**4.79**	**155**	Pn		**Pn**	**04 45 10.8**	**-0.3**
H08N2				T		T	04 49 58.7	
	baz=334,slow=0.7,SNR=361							
H08N3	**Diego Garcia H**	**4.80**	**155**	Pn		**Pn**	**04 45 10.8**	**-0.5**
H08N3				T		T	04 49 57.8	
	baz=334,slow=0.7,SNR=319							
H08N1	**Diego Garcia H**	**4.81**	**155**	Pn		**Pn**	**04 45 10.8**	**-0.6**
H08N1				T		T	04 50 08.7	
	baz=334,slow=0.7,SNR=356							
DGAR	**Diego Garcia**	**6.43**	**148**	*e*Pn		**Pn**	**04 45 33.5**	**-0.5**
	194nm,0.6s							
DGAR				*e*S		Sn	04 46 34.9	-13
H08S3	**Diego Garcia H**	**6.63**	**148**	Pn		**Pn**	**04 45 36.4**	**-0.1**
H08S1	**Diego Garcia H**	**6.64**	**149**	Pn		**Pn**	**04 45 36.4**	**-0.2**
H08S2	**Diego Garcia H**	**6.65**	**148**	Pn		**Pn**	**04 45 36.4**	**-0.4**
PALK	**Pallekele**	**14.86**	**52**	*e*Pn		**Pn**	**04 47 29.4**	**-0.2**
	11nm,0.4s							
PALK				*e*S		Sn	04 50 05.0	-9.4
LSZ	**Lusaka**	**42.34**	**249**	P		**P**	**04 51 54.2**

s-min=14.2km az=93.0
ISCJB 27 05:18:16.5±0.6, 1°.68S×0°.06×138°.70E±0°.05, h36km, mb4.0/9, MS3.5/5, Error ellipse: s-maj=9.8km s-min=6.0km az=23.8
NEIC 27 05:18:18.6±0.6, 1°.64S×138°.55E, h35km, mb4.5/3, Error ellipse: s-maj=20.4km s-min=10.6km az=80.0
AUST 27 05:18:21.8, 1°.95S×138°.51E, h35km

ISC 27 05:18:18.7±0.7, 1°.78S±0°.07×138°.65E±0°.05, h36km, n52, σ2§50/45, mb4.0/9, MS3.6/5, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.18**	**110**	P			Pn	05 18 48.6	-3.8
JAY	**Jayapura**	**2.18**	**110**	P			**Pn**	**05 18 51.8**	**-0.7**
	baz=2.3,SNR=4.2								
SRPI	**Serui, Papua**	**2.41**	**268**	P			**Pn**	**05 18 56.7**	**+1.1**
SRPI				S			**Sn**	**05 19 24.9**	**+1.0**
BAKI	**Biak**	**2.61**	**283**	P			**Pn**	**05 18 57.1**	**-1.2**
BAKI				S			**Sn**	**05 19 29.6**	**+0.9**
FAKI	**Fak Fak**	**6.50**	**260**	P			**Pn**	**05 19 52.9**	**+1.1**
	baz=6.3,SNR=4.4								
KDU	**Kakadu**	**12.45**	**209**	P			**Pn**	**05 21 13.5**	**+0.1**
	baz=12,SNR=17								
COEN	**Coen**	**12.90**	**160**	*e*Pn			**Pn**	**05 21 20.1**	**+0.5**
MTN	**Manton Dam**	**13.28**	**214**	P			**Pn**	**05 21 23.9**	**-0.9**
	baz=13,SNR=18								
SOEI	**Soe**	**16.35**	**240**	P			P	05 22 17.0	+8.7
	baz=16,SNR=4.3								
KNRA	**Kununurra**	**16.91**	**215**	P			**P**	**05 22 14.2**	**-0.1**
	baz=17,SNR=8.4								
WRAB	**Tennant Creek**	**18.53**	**193**	*e*P			**Pn**	**05 22 33.1**	**+0.5**
	20nm,0.6s								
WRA	**Warramunga Arr**	**18.54**	**193**	P			**Pn**	**05 22 33.5**	**+0.7**
WRA				S			**Sn**	**05 25 52.7**	**-6.4**
WRA	**Warramunga Arr**	**18.54**	**193**	P			**Pn**	**05 22 33.5**	**+0.7**
	1.4nm,0.3s,baz=16,slow=12,SNR=59								
WRA				S			**Sn**	**05 25 52.7**	**-6.4**
	0.3nm,0.3s,baz=14,slow=22,SNR=5.6								
CTA	**Charters Tower**	**19.66**	**158**	P			**Pn**	**05 22 48.0**	**+1.9**
CTA	**Charters Tower**	**19.66**	**158**	P			**Pn**	**05 22 48.0**	**+1.9**
	0.6nm,0.3s,baz=328,slow=12,SNR=7.7								
CTAO	**Charters Tower**	**19.66**	**158**	*e*P			**Pn**	**05 22 45.9**	**-0.3**
FITZ	**Fitzroy Crossi**	**20.65**	**217**	*e*P			**P**	**05 22 55.6**	**+0.2**
	6.6nm,0.8s								
FITZ				S			**S**	**05 26 39.6**	**-4.7**
FITZ	**Fitzroy Crossi**	**20.65**	**217**	P			Pn	05 22 56.8	-1.0
	baz=20,SNR=5.6								
FITZ	**Fitzroy Crossi**	**20.65**	**217**	P			Pn	05 22 56.6	-1.2
	5.7nm,0.9s,baz=54,slow=11,SNR=9.0								
FITZ				S			**S**	**05 26 39.6**	**-4.7**
	5.5nm,0.6s,baz=184,slow=13,SNR=8.2								
FITZ				LR			LR	05 30 20.1	
	comp=Z,75nm,21.7s,baz=178,slow=35								
ASAR	**Alice Springs**	**22.24**	**192**	P			**P**	**05 23 14.2**	**+1.7**
ASAR				S			**S**	**05 27 20.1**	**+4.7**
ASAR	**Alice Springs**	**22.24**	**192**	P			**P**	**05 23 14.2**	**+1.7**
	12nm,0.8s,baz=23,slow=10,SNR=10								
ASAR				S			**S**	**05 27 20.1**	**+4.7**
	5.3nm,1.0s,baz=13,slow=25,SNR=12								
QLP	**Quilpie**	**25.24**	**168**	P			**P**	**05 23 43.9**	**+2.5**
	baz=25,SNR=5.2								
EIDS	**Eidsvold**	**26.34**	**154**	*e*P			**P**	**05 23 52.4**	**+1.0**
	19nm,0.8s								
EIDS	**Eidsvold**	**26.34**	**154**	P			P	05 23 59.7	+8.3
	baz=26,SNR=3.3								
RMQ	**Roma**	**26.42**	**159**	P			P	05 23 59.5	+7.4
	baz=26,SNR=5.1								
STKA	**Stephens Creek**	**30.07**	**175**	P			**P**	**05 24 25.3**	**+0.7**
STKA	**Stephens Creek**	**30.07**	**175**	P			**P**	**05 24 25.3**	**+0.7**
	2.8nm,0.7s,baz=0.9,slow=9.8,SNR=4.2								
STKA				LR			LR	05 37 59.4	
	comp=Z,143nm,20.0s,baz=223,slow=39								
CMSA	**Cobar Meteorol**	**30.34**	**168**	P			**P**	**05 24 29.4**	**+2.4**
	baz=30,SNR=6.4								
MEEK	**Meekatharra**	**31.33**	**216**	P			**P**	**05 24 37.5**	**+1.7**
	baz=31,SNR=3.6								
H11S3	**WAKE ISLAND Hy**	**34.16**	**53**	T			T	06 00 52.8	
	baz=236,slow=0.7,SNR=29								
H11S2	**WAKE ISLAND Hy**	**34.17**	**53**	T			T	06 00 54.7	
	baz=236,slow=0.7,SNR=22								
H11S1	**WAKE ISLAND Hy**	**34.17**	**53**	T			T	06 00 54.1	
	baz=236,slow=0.7,SNR=14								
H11N1	**WAKE ISLAND Hy**	**34.99**	**51**	T			T	06 02 01.8	
	baz=232,slow=0.7,SNR=6.2								
H11N2	**WAKE ISLAND Hy**	**35.00**	**51**	T			T	06 02 11.7	
	baz=232,slow=0.7,SNR=5.9								
H11N3	**WAKE ISLAND Hy**	**35.01**	**51**	T			T	06 02 06.9	
	baz=232,slow=0.7,SNR=5.3								
KSRS	**Korea Array**	**40.28**	**347**	LR			LR	05 39 54.3	
	comp=Z,50nm,21.1s,baz=346,slow=32								
USRK	**Ussuriysk Arra**	**46.16**	**353**	LR			LR	05 42 27.5	
	comp=Z,92nm,21.7s,baz=185,slow=32								
GTA	**Gaotai**	**54.29**	**323**	*e*P			**P**	**05 27 39.8**	**-1.8**
GTA				pP			pP	05 27 45.5	-6.9
GTA				sP			sP	05 27 48.5	-8.1
GTA				AMB			AMB		
	comp=Z,2.0nm,0.6s								
SONM	**Songino Array**	**56.85**	**335**	LR			LR	05 51 34.9	
	comp=Z,70nm,18.1s,baz=95,slow=35								
MKAR	**Makanchi Array**	**69.02**	**322**	P			**P**	**05 29 19.8**	**-0.8**
MKAR	**Makanchi Array**	**69.02**	**322**	P			**P**	**05 29 19.8**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=108,slow=6.1,SNR=5.9								
ZALV	**Zalesovo Beam**	**71.10**	**330**	P			**P**	**05 29 31.3**	**-1.9**
ZALV	**Zalesovo Beam**	**71.10**	**330**	P			**P**	**05 29 31.3**	**-1.9**
	comp=Z,0.5nm,0.5s,baz=131,slow=6.1,SNR=2.8								
VNDA	**Vanda**	**76.71**	**175**	P			**P**	**05 30 05.9**	**+0.3**
VNDA	**Vanda**	**76.71**	**175**	P			**P**	**05 30 05.9**	**+0.3**
	comp=Z,0.8nm,0.9s,baz=332,slow=5.2,SNR=3.9								
ILAR	**Eielson Array**	**85.01**	**24**	P			**P**	**05 30 48.9**	**-1.2**
ILAR	**Eielson Array**	**85.01**	**24**	P			**P**	**05 30 48.9**	**-1.2**
	comp=Z,0.4nm,0.9s,baz=263,slow=4.5,SNR=3.5								
QSPA	**South Pole Qui**	**88.16**	**180**	P			**P**	**05 31 06.8**	**+1.1**
QSPA	**South Pole Qui**	**88.16**	**180**	P			**P**	**05 31 06.8**	**+1.1**
	comp=Z,0.6nm,0.6s								
CRVS	**Cervenica-Dubn**	**108.94**	**322**	PDIF			**Pdif**	**05 32 45.9**	**+6.0**
LPAZ	**La Paz**	**148.03**	**125**	PKPbc			**PKPab**	**05 38 04.0**	**-0.9**
LPAZ	**La Paz**	**148.03**	**125**	PKPbc			**PKPab**	**05 38 04.0**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=303,slow=2.1,SNR=2.7								

IDC 27 05:33:47.9±3.5, 30°.33S×138°.33E, h0km, mb1 3.0/3, mb1mx3.0/15, mbtmp2.8/3, ML2.7/3, Error ellipse: s-maj=82.7km s-min=15.9km az=44.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.20**	**120**	Pn			Pn	05 34 38.2	-1.2
	0.4nm,0.3s,baz=303,slow=13,SNR=5.8								
STKA				Pg			Pg	05 34 47.9	-1.4
	1.4nm,0.3s,baz=302,slow=14,SNR=15								
STKA				Sn			Sn	05 35 16.4	-1.9
	0.7nm,0.3s,baz=257,slow=18,SNR=4.0								
STKA				Lg			Lg	05 35 28.5	
	1.5nm,0.3s,baz=24,slow=20,SNR=6.7								
ASAR	**Alice Springs**	**7.72**	**328**	Pn			Pn	05 35 42.5	+0.8
	0.1nm,0.3s,baz=148,slow=12,SNR=5.0								
ASAR				Sn			Sn	05 37 08.8	-1.1
	0.1nm,0.3s,baz=153,slow=21,SNR=4.2								
WRA	**Warramunga Arr**	**10.96**	**340**	Pn			Pn	05 36 26.8	+0.8
	0.1nm,0.3s,baz=164,slow=11,SNR=4.3								
WRA				Sn			Sn	05 38 28.0	-1.4
	0.0nm,0.3s,baz=161,slow=22,SNR=2.9								

ISCJB 27 06:04:00.2±1.2, 5°.39S±0°.07×102°.37E±0°.08, h34km, mb3.5/4, Error ellipse: s-maj=11.1km s-min=10.2km az=158.1
IDC 27 06:04:00.2±4.0, 4°.68S×102°.69E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/23, mbtmp3.5/4, Error ellipse: s-maj=166.0km s-min=24.5km az=55.0
DJA 27 06:04:03.0±1.2, 5°.5S×10°.3E±1°.0, h24km±18km, M3.9/4, MLv3.9/4

ISC 27 06:04:02.2±1.3, 5°.32S±0°.08×102°.4E±0°.1, h34km, n16, σ1§03/13, mb3.5/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.09**	**29**	P			**Pn**	**06 04 20.8**	**-0.2**
MNAI				S			**Sb**	**06 04 36.1**	**-0.4**
LWLI	**Liwa**	**1.66**	**80**	P			**Pn**	**06 04 28.8**	**-0.2**
LHSI	**Lahat**	**1.84**	**37**	P			**Pn**	**06 04 31.7**	**+0.3**
LHSI				S			**Sn**	**06 04 54.7**	**+1.2**
MDSI	**Maura Dua**	**1.93**	**65**	P			**Pn**	**06 04 32.9**	**+0.2**
MDSI				S			**Sn**	**06 04 55.8**	**0.0**
KASI	**Kota Agung**	**2.08**	**96**	P			**Pn**	**06 04 34.5**	**-0.1**
KASI				S			**Sn**	**06 04 57.6**	**-1.7**
H08S2	**Diego Garcia H**	**29.82**	**264**	T			T	06 41 04.7	
	baz=87,slow=0.7,SNR=12								
H08S3	**Diego Garcia H**	**29.83**	**264**	T			T	06 41 05.4	
	baz=87,slow=0.7,SNR=9.1								
H08S1	**Diego Garcia H**	**29.84**	**264**	T			T	06 41 06.2	
	baz=87,slow=0.7,SNR=8.0								
H01W3	**Cape Leeuwin H**	**31.36**	**161**	T			T	06 43 03.7	
	baz=338								
H01W2	**Cape Leeuwin H**	**31.37**	**161**	T			T	06 43 08.8	
	baz=338								
H01W1	**Cape Leeuwin H**	**31.37**	**161**	T			T	06 43 10.0	
	baz=338								
WRA	**Warramunga Arr**	**34.27**	**118**	P			**P**	**06 10 47.6**	**+2.1**
	0.2nm,0.5s,baz=297,slow=9.4,SNR=5.0								
ASAR	**Alice Springs**	**35.38**	**124**	P			P	06 11 00.8	+5.8
	0.2nm,0.3s,baz=299,slow=6.9,SNR=5.1								
SONM	**Songino Array**	**53.04**	**3**	P			**P**	**06 13 15.1**	**-0.9**
	0.3nm,0.6s,baz=189,slow=8.6,SNR=2.2								
MKAR	**Makanchi Array**	**54.87**	**343**	P			**P**	**06 13 28.5**	**-0.7**
	0.4nm,0.4s,baz=137,slow=7.1,SNR=7.1								
TXAR	**Lajitas Array**	**145.66**	**43**	PKPbc			**PKPdf**	**06 23 37.8**	**-0.2**
	0.2nm,0.5s,baz=270,slow=0.4,SNR=7.5								

ISCJB 27 06:18:16.6±0.4, 6°.13N±0°.03×126°.11E±0°.06, h155km±3km, mb4.5/29, Error ellipse: s-maj=9.6km s-min=4.7km az=172.9
MAN 27 06:18:17, 6°.22N×126°.24E, h142km, mb5.0, ML3.9, MS4.0
IDC 27 06:18:17.1±2.2, 6°.08N×126°.00E, h145km±19km, mb3.9/18, mb1 4.1/19, mb1mx4.0/26, mbtmp3.9/19, Error ellipse: s-maj=24.2km s-min=9.2km az=75.0
AUST 27 06:18:18.2±1.1, 6°.43N×126°.03E, h195km, Error ellipse: s-maj=2.3km s-min=1.7km az=21.0
NEIC 27 06:18:19.7±0.8, 6°.09N×126°.04E, h171km±7km, mb4.6/7, Error ellipse: s-maj=13.2km s-min=6.8km az=73.0
DJA 27 06:18:20.1±0.7, 6°.N±4°×12°.6E±°, h120km±5km, M4.9/7, mB6.0/2, mb4.9/7, MLv4.8/2, Mw(mB)5.7/2

ISC 27 06:18:17.2±0.7, 6°.14N±0°.04×126°.14E±0°.07, h146km±5km, n105, σ1§08/119, mb4.3/29, 4C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.81**	**8**	*e*P			**Pn**	**06 18 40.6**	**+0.4**
MATI				*e*S			**Sn**	**06 18 54.3**	**-3.4**
DAV	**Davao City (W)**	**1.08**	**329**	P			Pn	06 18 46.6	+4.2
DAV	**Davao City (W)**	**1.08**	**329**	Pn			Pn	06 18 46.3	+3.9
DMPH	**Davao City--Mi**	**1.13**	**326**	*e*P			**Pn**	**06 18 44.1**	**+1.2**
DMPH				*e*S			**Sn**	**06 19 03.0**	**+0.6**
GSPH	**General Santos**	**1.18**	**268**	*i*P			**Pn**	**06 18 42.5**	**-0.9**
GSPH				*i* S			**Sn**	**06 19 01.9**	**-1.5**
KCP	**Kidapawan**	**1.35**	**310**	*i*P			Pn	06 18 40.6	-4.4
KCP				*i* S			**Sn**	**06 19 07.4**	**+1.1**
BUKP	**Musuan**	**2.04**	**328**	*e*P			**Pn**	**06 18 54.1**	**+1.5**
BUKP				*e*S			**Sn**	**06 19 16.7**	**-3.1**
BIPH	**Bislig**	**2.05**	**6**	*i,e*P			**Pn**	**06 18 52.6**	**-0.1**
BIPH				*i* S			**Sn**	**06 19 19.9**	**-0.1**
CTBH	**Cotabato--PC H**	**2.17**	**300**	*i*P			**Pn**	**06 18 54.7**	**+0.6**
CTBH				*i* S			Sn	06 19 11.9	-11
SGSI	**Sangihe**	**2.51**	**194**	P			**Pn**	**06 18 58.9**	**+0.6**
SGSI				S			**Sn**	**06 19 29.9**	**0.0**
CGP	**Cagayan de Oro**	**2.71**	**328**	*e*P			**Pn**	**06 19 01.2**	**+0.4**
CGP				*i* S			**Sn**	**06 19 39.6**	**+5.1**
BUTP	**Butuan**	**2.86**	**350**	*e*P			**Pn**	**06 19 04.4**	**+1.7**
KMSI	**Cibinong**	**5.93**	**201**	P			**Pn**	**06 19 44.3**	**+1.4**
	376nm,0.8s								
MRSI	**Marisa**	**7.01**	**217**	P			**Pn**	**06 19 58.3**	**+0.9**
	79nm,0.6s								
MYLDM	**Lahad Datu**	**7.66**	**263**	P			Pn	06 20 10.3	+4.2
	92nm,1.2s,1μm								
MYLDM	**Lahad Datu**	**7.66**	**263**	*e*Pn			Pn	06 20 10.2	+4.1
LUWI	**Luwuk**	**7.88**	**205**	P			Pn	06 20 15.1	+6.0
	baz=8.1,SNR=3.3								
APSI	**Ampana**	**8.31**	**213**	P			Pn	06 20 19.7	+4.9
	88nm,1.0s								
TTSI	**Tana Toraja**	**11.09**	**215**	P			**Pn**	**06 20 54.8**	**+3.1**
BNSI	**Bone**	**12.07**	**210**	P			**Pn**	**06 21 06.9**	**+2.3**
KAPI	**Kappang**	**12.78**	**210**	P			**Pn**	**06 21 12.5**	**-1.3**
KAPI	**Kappang**	**12.78**	**210**	P			**Pn**	**06 21 12.5**	**-1.3**
	0.5nm,0.3s,baz=28,slow=11,SNR=5.6								
MTN	**Manton Dam**	**19.50**	**165**	P			**P**	**06 22 33.7**	**+0.6**
	baz=20,SNR=17								
KDU	**Kakadu**	**19.73**	**161**	P			**P**	**06 22 36.0**	**+0.4**
	baz=20,SNR=10								
KNRA	**Kununurra**	**21.83**	**173**	P			**P**	**06 22 58.2**	**+0.2**
	baz=22,SNR=7.9								
BTDF	**Bukit Timah Da**	**22.81**	**259**	P			P	06 23 02.8	-4.9
	baz=23,SNR=1000								
BTDF				P			P	06 23 02.8	-4.9
	baz=23,SNR=1000								
FITZ	**Fitzroy Crossi**	**24.09**	**181**	*e*P			**P**	**06 23 19.6**	**+0.4**
	103nm,2.6s								
FITZ				PcP			**PcP**	**06 26 57.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**24.09**	**181**	P			**P**	**06 23 19.7**	**+0.4**
	baz=24,SNR=9.1								
FITZ	**Fitzroy Crossi**	**24.09**	**181**	P			**P**	**06 23 19.4**	**+0.1**
	8.8nm,0.9s,baz=18,slow=7.7,SNR=21								
FITZ				PcP			**PcP**	**06 26 57.0**	**+0.1**
	0.9nm,0.5s,baz=317,slow=5.3,SNR=3.5								
RGRI	**Rengat**	**24.62**	**256**	P			P	06 23 32.1	+7.9
	995nm,0.5s,67μm								
COEN	**Coen**	**26.16**	**140**	*e*P			**P**	**06 23 40.0**	**+1.8**
	128nm,0.8s								
COEN	**Coen**	**26.16**	**140**	P			**P**	**06 23 38.0**	**-0.2**
	baz=27,SNR=15								
PBKT	**Sadao Pong**	**26.73**	**295**	P			**P**	**06 23 45.1**	**+1.9**
WRAB	**Tennant Creek**	**27.14**	**163**	*e*P			**P**	**06 23 46.3**	**-0.6**
	4.8nm,0.5s								
WRA	**Warramunga Arr**	**27.14**	**163**	P			**P**	**06 23 46.0**	**-0.8**
WRA				PcP			**PcP**	**06 27 03.6**	**-0.3**
WRA				ScP			**ScP**	**06 30 31.0**	**+0.2**
WRA	**Warramunga Arr**	**27.14**	**163**	P			**P**	**06 23 46.0**	**-0.8**
	0.7nm,0.5s,baz=342,slow=9.6,SNR=23								
WRA				PcP			**PcP**	**06 27 03.6**	**-0.3**
	0.6nm,0.6s,baz=338,slow=2.4,SNR=3.4								
WRA				ScP			**ScP**	**06 30 31.0**	**+0.2**
	0.3nm,0.5s,baz=346,slow=3.1,SNR=5.3								
CMAR	**Chiang Mai Arr**	**29.20**	**297**	P			**P**	**06 24 05.3**	**+0.1**
CMAR	**Chiang Mai Arr**	**29.20**	**297**	P			**P**	**06 24 05.3**	**+0.1**
	1.6nm,0.5s,baz=105,slow=7.1,SNR=8.1								
MTSU	**Mount Surprise**	**30.06**	**144**	P			**P**	**06 24 13.6**	**+0.8**
	baz=30,SNR=8.2								
ASAR	**Alice Springs**	**30.57**	**166**	P			**P**	**06 24 17.1**	**-0.2**
ASAR				PcP			**PcP**	**06 27 12.7**	**+0.1**
ASAR				ScP			**ScP**	**06 30 41.8**	**+0.1**
ASAR	**Alice Springs**	**30.57**	**166**	P			**P**	**06 24 17.1**	**-0.2**
	1.8nm,0.4s,baz=342,slow=7.0,SNR=27								
ASAR				PcP			**PcP**	**06 27 12.7**	**+0.1**
	1.6nm,0.5s,baz=342,slow=2.1,SNR=10								
ASAR				ScP			**ScP**	**06 30 41.8**	**+0.1**
	0.3nm,0.6s,baz=329,slow=3.2,SNR=3.0								
KSAR	**Wonju Array Be**	**31.20**	**3**	P			**P**	**06 24 24.1**	**+1.6**
KSAR				PcP			**PcP**	**06 27 14.3**	**+0.4**
KSRS	**Korea Array**	**31.22**	**3**	P			**P**	**06 24 24.1**	**+1.4**
	2.4nm,0.5s,baz=187,slow=9.5,SNR=11								
KSRS				PcP			**PcP**	**06 27 14.3**	**+0.4**
	1.7nm,0.6s,baz=189,slow=2.3,SNR=6.2								
MEEK	**Meekatharra**	**33.38**	**192**	P			**P**	**06 24 41.3**	**-0.5**
	baz=34,SNR=7.8								
MORW	**Morawa**	**36.32**	**195**	P			**P**	**06 25 07.0**	**0.0**
	baz=37,SNR=4.0								
FORT	**Forrest**	**36.75**	**177**	P			**P**	**06 25 11.0**	**+0.5**
	baz=37,SNR=33								
BLDU	**Balidu**	**37.64**	**193**	P			**P**	**06 25 18.0**	**-0.1**
	baz=38,SNR=10								
USRK	**Ussuriysk Arra**	**38.26**	**7**	P			**P**	**06 25 23.9**	**+0.8**
	4.4nm,0.8s,baz=193,slow=7.3,SNR=8.5								
BBOO	**Buckleboo**	**39.86**	**167**	*e*P			**P**	**06 25 37.3**	**+0.7**
	178nm,0.5s								
BBOO	**Buckleboo**	**39.86**	**167**	P			**P**	**06 25 37.0**	**+0.5**
	baz=40,SNR=26								
STKA	**Stephens Creek**	**40.57**	**160**	*e*P			**P**	**06 25 42.7**	**+0.3**
STKA				PcP			**PcP**	**06 27 41.8**	**-0.1**
STKA	**Stephens Creek**	**40.57**	**160**	P			**P**	**06 25 43.0**	**+0.5**
	baz=41,SNR=11								
STKA	**Stephens Creek**	**40.57**	**160**	P			**P**	**06 25 42.2**	**-0.2**
	6.4nm,0.6s,baz=324,slow=7.8,SNR=19								
STKA				PcP			**PcP**	**06 27 41.8**	**-0.1**
	2.6nm,0.7s,baz=333,slow=4.5,SNR=3.4								
H11S3	**WAKE ISLAND Hy**	**41.37**	**69**	T			T	07 10 04.5	
	baz=260,slow=0.6,SNR=4.6								
H11S1	**WAKE ISLAND Hy**	**41.38**	**69**	T			T	07 10 06.7	
	baz=260,slow=0.6,SNR=3.6								
H11S2	**WAKE ISLAND Hy**	**41.38**	**69**	T			T	07 10 06.0	
	baz=260,slow=0.6,SNR=6.2								
TAPN	**Taplejung**	**42.15**	**305**	*e*P			**P**	**06 25 56.1**	**+0.3**
	7.5nm,0.4s								
ODAN	**Odare**	**42.23**	**304**	*e*P			**P**	**06 25 56.5**	**+0.1**
	24nm,0.7s								
RAMN	**Ramite**	**42.91**	**303**	*e*P			**P**	**06 26 02.3**	**+0.4**
	22nm,0.8s								
JIRN	**Jiri**	**43.52**	**304**	*e*P			**P**	**06 26 06.9**	**0.0**
	9.6nm,0.4s								
GUN	**Gumba**	**43.86**	**304**	*e*P			**P**	**06 26 09.1**	**-0.5**
	12nm,0.4s								
DMN	**Daman**	**44.39**	**304**	*e*P			**P**	**06 26 14.4**	**+0.7**
SONM	**Songino Array**	**44.84**	**341**	P			**P**	**06 26 17.3**	**+0.5**
SONM				PcP			**PcP**	**06 27 56.5**	**+0.4**
SONM	**Songino Array**	**44.84**	**341**	P			**P**	**06 26 17.3**	**+0.5**
	0.8nm,0.3s,baz=153,slow=7.6,SNR=8.2								
SONM				PcP			**PcP**	**06 27 56.5**	**+0.4**
	2.2nm,0.8s,baz=152,slow=3.3,SNR=8.9								
GKN	**Gorkha**	**44.92**	**304**	*e*P			**P**	**06 26 18.0**	**+0.2**
	6.9nm,0.4s								
KOLN	**Koldanda**	**45.70**	**303**	*e*P			**P**	**06 26 24.1**	**+0.1**
	15nm,0.3s								
DANN	**Dangsing**	**45.77**	**304**	*e*P			**P**	**06 26 23.7**	**-0.9**
	16nm,0.4s								
MKAR	**Makanchi Array**	**55.26**	**325**	*e*P			**P**	**06 27 35.2**	**0.0**
MKAR				PcP			**PcP**	**06 28 34.2**	**-0.1**
MKAR	**Makanchi Array**	**55.26**	**325**	P			**P**	**06 27 35.3**	**0.0**
	3.5nm,0.4s,baz=116,slow=7.1,SNR=37								
MKAR				PcP			**PcP**	**06 28 34.2**	**-0.1**
	1.8nm,0.5s,baz=126,slow=3.1,SNR=6.2								
ZALV	**Zalesovo Beam**	**58.19**	**333**	P			**P**	**06 27 54.9**	**-0.9**
ZALV	**Zalesovo Beam**	**58.19**	**333**	P			**P**	**06 27 54.9**	**-0.9**
	1.2nm,0.4s,baz=125,slow=6.3,SNR=6.5								
AAK	**Ala-Archa**	**58.20**	**317**	*e*P			**P**	**06 27 56.4**	**+0.1**
	2.1nm,0.5s								
KURK	**Kurchatov**	**59.41**	**327**	*e*P			**P**	**06 28 03.5**	**-0.7**
	5.6nm,0.6s								
KKAR	**Karatay Array**	**61.09**	**316**	*e*P			**P**	**06 28 15.6**	**-0.3**
BRVK	**Borovoye**	**65.07**	**327**	*e*P			**P**	**06 28 41.5**	**-0.4**
	6.7nm,0.7s								
ABKAR	**Akbulak array**	**69.93**	**320**	*e*P			**P**	**06 29 11.9**	**-0.6**
RDF	**Al-Radifah**	**77.08**	**298**	*e*P			**P**	**06 29 54.5**	**-0.2**
RDF				AMb			AMB	06 29 58.8	
	comp=Z,25nm,1.1s								
NAY	**Al-Naaiem**	**77.35**	**298**	*e*P			**P**	**06 29 55.2**	**-1.0**
NAY				AMb			AMB	06 29 57.0	
	comp=Z,20nm,0.9s								
RST	**Umm Al-Ruwaisa**	**77.56**	**299**	*e*P			**P**	**06 29 55.7**	**-1.7**
RST				AMb			AMB	06 29 58.0	
	comp=Z,290nm,0.9s								
IMA2	**Indian Mountai**	**80.44**	**24**	*e*P			**P**	**06 30 13.5**	**+1.0**
BPAW	**Bear Paw Mtn.**	**81.40**	**26**	*e*P			**P**	**06 30 18.7**	**+1.2**
COLD	**Coldfoot**	**81.92**	**23**	*e*P			**P**	**06 30 19.7**	**-0.4**
	comp=Z,8.9nm,0.9s								
ILAR	**Eielson Array**	**83.20**	**26**	P			**P**	**06 30 26.1**	**-0.7**
ILAR	**Eielson Array**	**83.20**	**26**	P			**P**	**06 30 26.1**	**-0.7**
	comp=Z,2.1nm,0.6s,baz=264,slow=4.6,SNR=19								
MAW	**Mawson**	**85.79**	**200**	P			**P**	**06 30 38.4**	**-1.2**
MAW	**Mawson**	**85.79**	**200**	P			**P**	**06 30 38.4**	**-1.2**
	comp=Z,2.0nm,0.7s,baz=56,slow=7.3,SNR=4.

0.5nm,0.4s,baz=112,slow=6.6,SNR=2.9
ZALV PcP **PcP** **06 51 28.1 -0.1**
0.7nm,0.4s,baz=132,slow=4.1,SNR=3.1
WRA **Warramunga Arr 47.65 187** P **P** **06 50 08.5 0.0**
0.3nm,0.3s,baz=5.5,slow=7.7,SNR=16
WRA ScP **ScP** **06 54 36.5 -0.5**
0.5nm,0.9s,baz=4.4,slow=4.9,SNR=4.7
MKAR **Makanchi Array 48.40 309** P **P** **06 50 14.9 +1.1**
0.4nm,0.3s,baz=87,slow=10,SNR=8.1
MKAR PcP **PcP** **06 51 32.1 +0.7**
0.4nm,0.8s,baz=72,slow=5.2,SNR=3.2
MKAR ScP **ScP** **06 54 39.1 -0.9**
0.1nm,0.5s,baz=88,slow=6.1,SNR=2.5
BVAR **Borovoye Array 56.11 317** P **P** **06 51 10.4 +1.1**
3.9nm,0.4s,baz=89,slow=6.5
ILAR **Eielson Array 58.24 29** P **P** **06 51 23.2 -0.5**
0.3nm,0.7s,baz=252,slow=6.1,SNR=4.1
AKTO **Aktyubinsk 64.07 315** P **P** **06 52 01.4 -1.0**
1.1nm,0.6s,baz=53,slow=5.1,SNR=4.5
ARCES **ARCESS Array B 72.25 340** P **P** **06 52 51.4 -0.5**
1.4nm,0.8s,baz=69,slow=6.9,SNR=7.1
FINES **FINESS Array B 76.43 333** P **P** **06 53 15.9 +0.2**
1.7nm,0.3s,baz=65,slow=4.9,SNR=15
AKASG **Malin Array Be 80.83 323** P **P** **06 53 38.6 -0.9**
0.2nm,0.3s,baz=48,slow=4.7,SNR=3.1
NB2 **NORSAR Subarra 82.23 337** P **P** **06 53 45.9 -0.7**
comp=Z,0.4nm,0.5s,baz=49,slow=4.6
NOA **NORSAR Array B 82.23 337** P **P** **06 53 45.8 -0.7**
comp=Z,0.9nm,0.6s,baz=46,slow=5.0,SNR=4.6
TORD **Torodi Ar. Bea 122.52 309** PKP **PKPdf** **07 00 17.2 -0.4**
comp=Z,0.2nm,0.6s,baz=38,slow=3.0,SNR=2.2
LPAZ **La Paz 151.86 72** PKPbc **PKPbc** **07 01 18.7 +0.7**
comp=Z,0.6nm,0.2s,baz=263,slow=8.3,SNR=13

NNC 27 06:59:00.8±3.6, 54°02N×86°21E, h0km, mb3.8, mpv3.6, 2C-6D, Error ellipse: s-maj=27.5km s-min=19.7km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**5.81**	**237**	⇓Pn	Pn	07 00 29.0	+0.8
	6.2nm,0.5s						
KURBB				⇓Sn	Sn	07 01 37.3	+1.9
	3.9nm,0.6s						
KURBB				⇓Lg	Lg	07 02 04.3	
	7.2nm,0.8s						
MK31	**Makanchi Array**	**7.66**	**201**	⇑Pn	Pn	07 00 54.2	+0.6
	0.5nm,0.3s,baz=27,slow=14,SNR=62						
MK31				⇑Sn	Sn	07 02 21.2	+0.2
	0.5nm,0.5s,baz=25,slow=26,SNR=4.0						
MK31				⇓Lg	Lg	07 03 02.2	
	2.3nm,0.8s,baz=13,slow=26,SNR=4.2						
VOSK	**Vostochnaya**	**9.20**	**268**	⇓Pn	Pn	07 01 13.5	-1.2
	1.0nm,0.7s						
VOSK				⇓Sn	Sn	07 02 59.3	+0.4
	2.2nm,1.3s						

*IDC **27** 07:11:51.1±1.1, 27°64S×178°34W, h247km±7km, mb3.8/7, mb1 3.9/7, mb1mx3.7/17, mbtmp3.8/7, Error ellipse: s-maj=22.9km s-min=17.0km az=45.0*
*NEIC **27** 07:11:52.5±1.0, 27°64S×178°23W, h264km±10km, mb4.3/9, Error ellipse: s-maj=16.0km s-min=13.7km az=81.0*
*AUST **27** 07:11:52.2±0.0, 27°75S×177°99W, h269km, Error ellipse: s-maj=1.8km s-min=1.0km az=298.0*
ISC 27 07:11:51.0±0.5, 27°56S±0°08×178°28W±0°10, h250km, n53, σ1s07/61, mb4.2/12, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.72**	**169**	*e*Pn	**Pn**	**07 12 32.1**	**+1.2**
RAO				*e*Sn	**S**	**07 12 59.8**	**-2.8**
RAO	**Raoul Island**	**1.72**	**169**	P	**Pn**	**07 12 32.1**	**+1.2**
	250nm,0.3s,baz=73,slow=20,SNR=19						
RAO				S	**S**	**07 13 00.9**	**-1.6**
	505nm,0.3s,baz=81,slow=23,SNR=13						
MSVF	**Nonsavu**	**10.35**	**340**	*e*Pn	**P**	**07 14 18.7**	**-0.6**
	74nm,0.9s						
URZ	**Urewera**	**11.35**	**199**	*e*Pn	Pn	07 14 21.2	-5.1
URZ				*e*Sn	S	07 16 21.8	-11
URZ	**Urewera**	**11.35**	**199**	P	Pn	07 14 21.4	-5.0
	3.5nm,0.3s,baz=295,slow=2.8,SNR=17						
URZ				S	S	07 16 17.6	-16
	7.6nm,0.3s,baz=9.3,slow=22,SNR=14						
NIUE	**Niue**	**11.40**	**44**	P	**P**	**07 14 30.7**	**-0.3**
	baz=11,SNR=3.2						
AFI	**Afiamalu**	**14.87**	**25**	*e*P	**P**	**07 15 08.6**	**-1.0**
	40nm,0.5s						
AFI				*e*S	S	07 17 40.9	-13
AFI	**Afiamalu**	**14.87**	**25**	P	**P**	**07 15 07.8**	**-1.8**
	13nm,0.3s,baz=252,slow=6.4,SNR=15						
AFI				S	S	07 17 40.3	-14
	2.3nm,0.3s,baz=49,slow=20,SNR=4.0						
DZM	**Mont Dzumac**	**14.90**	**288**	*e*Pn	Pn	07 15 13.4	+3.2
	13nm,0.6s						
DZM	**Mont Dzumac**	**14.90**	**288**	P	Pn	07 15 13.9	+3.7
	1.4nm,0.3s,baz=96,slow=17,SNR=13						
RPZ	**Rata Peaks**	**18.28**	**205**	S	S	07 18 48.4	-14
	1.9nm,0.3s,baz=142,slow=23,SNR=10						
ARMA	**Armidale**	**26.44**	**257**	P	**P**	**07 17 07.9**	**+2.6**
	baz=27,SNR=4.0						
MGCD	**Mangrove Creek**	**26.94**	**250**	P	**P**	**07 17 11.9**	**+2.3**
	baz=27,SNR=5.8						
CMSA	**Cobar Meteorol**	**31.50**	**254**	P	**P**	**07 17 51.1**	**+1.3**
	baz=32,SNR=5.6						
TOO	**Toolangi**	**31.95**	**243**	P	**P**	**07 17 54.3**	**+0.6**
	baz=32,SNR=4.0						
CTAO	**Charters Tower**	**33.20**	**275**	*e*P	**P**	**07 18 06.6**	**+1.9**
	12nm,0.9s						
STKA	**Stephens Creek**	**34.97**	**253**	*e*P	**P**	**07 18 19.8**	**0.0**
	0.6nm,0.8s						
STKA				PcP	**PcP**	**07 20 46.1**	**0.0**
STKA	**Stephens Creek**	**34.97**	**253**	P	**P**	**07 18 20.3**	**+0.6**
	baz=35,SNR=4.7						
STKA	**Stephens Creek**	**34.97**	**253**	P	**P**	**07 18 19.9**	**+0.2**
	1.7nm,0.5s,baz=120,slow=8.5,SNR=7.0						
STKA				PcP	**PcP**	**07 20 46.1**	**0.0**
	1.5nm,0.6s,baz=100,slow=6.1,SNR=4.6						
MTSU	**Mount Surprise**	**35.60**	**277**	P	P	07 18 27.5	+2.2
	baz=36,SNR=5.1						
ASAR	**Alice Springs**	**43.09**	**264**	P	**P**	**07 19 26.9**	**0.0**
ASAR				PcP	**PP**	**07 21 11.8**	**-0.7**
ASAR				ScP	**ScP**	**07 24 38.4**	**-0.7**
ASAR	**Alice Springs**	**43.09**	**264**	P	**P**	**07 19 26.9**	**0.0**
	3.4nm,0.6s,baz=90,slow=7.0,SNR=75						
ASAR				PcP	**PP**	**07 21 11.8**	**-0.7**
	0.6nm,0.4s,baz=114,slow=3.4,SNR=4.7						
ASAR				ScP	**ScP**	**07 24 38.4**	**-0.7**
	0.4nm,0.9s,baz=108,slow=3.0,SNR=2.9						
WRAB	**Tennant Creek**	**43.81**	**269**	*e*P	**P**	**07 19 32.5**	**-0.1**
	10.0nm,0.8s						
WRA	**Warramunga Arr**	**43.81**	**269**	P	**P**	**07 19 32.6**	**-0.1**
WRA				PcP	**PcP**	**07 21 14.9**	**+0.4**
WRA				ScP	**ScP**	**07 24 42.0**	**0.0**
WRA	**Warramunga Arr**	**43.81**	**269**	P	**P**	**07 19 32.6**	**-0.1**
	6.9nm,0.4s,baz=108,slow=7.6,SNR=160						
WRA				PcP	**PcP**	**07 21 14.9**	**+0.4**
	1.1nm,0.7s,baz=110,slow=3.1,SNR=5.9						
WRA				ScP	**ScP**	**07 24 42.0**	**0.0**
	0.7nm,1.1s,baz=100,slow=3.9,SNR=4.1						
KDU	**Kakadu**	**48.24**	**278**	P	**P**	**07 20 06.8**	**-0.3**
	baz=48,SNR=5.2						
SBA	**Scott Base**	**50.85**	**184**	*e*P	**P**	**07 20 27.8**	**+2.0**
	7.1nm,0.9s						
VNDA	**Vanda**	**50.89**	**185**	P	**P**	**07 20 26.6**	**+0.5**
VNDA	**Vanda**	**50.89**	**185**	P	**P**	**07 20 26.6**	**+0.5**
	2.3nm,0.6s,baz=5.6,slow=8.2,SNR=33						
FITZ	**Fitzroy Crossi**	**52.17**	**268**	*e*P	**P**	**07 20 35.9**	**-0.6**
	4.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.17**	**268**	P	**P**	**07 20 36.5**	**0.0**
	baz=52,SNR=8.8						
MEEK	**Meekatharra**	**55.62**	**255**	P	**P**	**07 20 59.7**	**-1.6**
	baz=56,SNR=6.9						
MBWA	**Marble Bar**	**56.33**	**262**	*e*P	**P**	**07 21 04.5**	**-1.9**
	8.0nm,0.8s						
MORW	**Morawa**	**57.14**	**252**	P	**P**	**07 21 10.3**	**-1.7**
	baz=57,SNR=6.4						
QSPA	**South Pole Qui**	**62.54**	**180**	*e*P	**P**	**07 21 47.9**	**-0.2**
	4.6nm,0.7s						
QSPA	**South Pole Qui**	**62.54**	**180**	P	**P**	**07 21 48.2**	**0.0**
	4.4nm,0.7s						
MAW	**Mawson**	**74.88**	**200**	P	**P**	**07 23 03.4**	**-0.4**
MAW	**Mawson**	**74.88**	**200**	P	**P**	**07 23 03.6**	**-0.2**
	baz=75,SNR=7.0						
MAW	**Mawson**	**74.88**	**200**	P	**P**	**07 23 03.4**	**-0.4**
	3.4nm,0.7s,baz=154,slow=7.5,SNR=12						
NVAR	**Mina Array Bea**	**86.33**	**43**	P	**P**	**07 24 07.2**	**+2.1**
NVAR	**Mina Array Bea**	**86.33**	**43**	P	**P**	**07 24 07.2**	**+2.1**
	0.4nm,0.6s,baz=235,slow=4.3,SNR=3.2						
MKAR	**Makanchi Array**	**115.74**	**311**	PKP	**PKPdf**	**07 30 02.8**	**-0.6**
MKAR	**Makanchi Array**	**115.74**	**311**	PKP	**PKPdf**	**07 30 02.8**	**-0.6**
	0.2nm,0.5s,baz=93,slow=3.2,SNR=2.9						
KURK	**Kurchatov**	**118.89**	**315**	PKP	**PKPdf**	**07 30 08.4**	**-0.9**
KURBB	**Kurchatov Arra**	**118.93**	**315**	PKP	**PKPdf**	**07 30 08.4**	**-1.0**
	0.5nm,0.7s,baz=94,slow=1.8,SNR=4.8						
ARCES	**ARCESS Array B**	**135.77**	**348**	PKP	**PKPdf**	**07 30 41.4**	**+0.5**
ARCES	**ARCESS Array B**	**135.77**	**348**	PKP	**PKPdf**	**07 30 41.4**	**+0.5**
	2.5nm,0.9s,baz=59,slow=4.3,SNR=3.2						
AKASG	**Malin Array Be**	**148.86**	**325**	PKPbc	**PKPbc**	**07 31 08.8**	**+0.2**
AKASG	**Malin Array Be**	**148.86**	**325**	PKPbc	**PKPbc**	**07 31 08.8**	**+0.2**
	0.8nm,0.4s,baz=43,slow=3.6,SNR=5.5						
BRTR	**Keskin Array B**	**150.94**	**303**	PKPbc	**PKPbc**	**07 31 14.5**	**+0.2**
BRTR				PKPab	**PKPab**	**07 31 22.6**	**-0.1**
BRTR	**Keskin Array B**	**150.94**	**303**	PKPbc	**PKPbc**	**07 31 14.5**	**+0.2**
	0.6nm,0.5s,baz=111,slow=2.9,SNR=3.5						
BRTR				PKPab	**PKPab**	**07 31 22.6**	**-0.1**
	0.8nm,0.6s,baz=98,slow=3.7,SNR=4.0						
TORD	**Torodi Ar. Bea**	**165.66**	**180**	PKPab	**PKPab**	**07 32 25.6**	**-0.9**
TORD	**Torodi Ar. Bea**	**165.66**	**180**	PKPab	**PKPab**	**07 32 25.6**	**-0.9**
	0.6nm,0.7s,baz=164,slow=3.0,SNR=4.5						

KRSC 27 07:21:17.0±5.6, 51°07N×158°60E, h27km±27km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**1.19**	**290**	P	Pb	07 21 38.6	-0.3
PAU				*i* S	Sn	07 21 52.6	-0.6
RUS	**Russkaya**	**1.37**	**358**	P	Pb	07 21 41.2	-0.7
RUS				*i* S	Sn	07 21 57.0	-0.5
ASAK	**Asacha**	**1.39**	**342**	P	Pb	07 21 41.7	-0.6
ASAK				*i* S	Sn	07 21 58.1	-0.1
MTVR	**Mutnovka**	**1.44**	**350**	P	Pb	07 21 42.5	-0.8
MTVR				*i* S	Sn	07 21 59.2	-0.4
GRL	**Gorelyy**	**1.52**	**348**	P	Pb	07 21 44.2	-0.5
GRL				*i* S	Sn	07 22 01.9	+0.3
SKR	**Severo-Kuril's**	**1.62**	**257**	P	Pb	07 21 45.3	-0.9
SKR				*i* S	Sn	07 22 04.4	+0.7
MIPR	**Malaya Ipel'ka**	**1.67**	**317**	P	Pn	07 21 45.6	+1.2
PET	**Petropavlovsk**	**1.96**	**1**	P	Pn	07 21 50.0	+1.6
PET				*i* S	Sn	07 22 12.3	+0.3
APC	**Apacha**	**2.06**	**335**	P	Pn	07 21 51.4	+1.6
AVH	**Avacha**	**2.20**	**2**	P	Pb	07 21 54.5	-1.7
AVH				*i* S	Sn	07 22 20.1	+1.8
SMAR	**Somma**	**2.20**	**3**	P	Pb	07 21 54.3	-2.1
SMAR				*i* S	Sn	07 22 19.9	+1.3
SDLR	**Sedlovina**	**2.22**	**4**	P	Pn	07 21 54.0	+1.8
KOK	**Koryaka**	**2.23**	**1**	P	Pb	07 21 54.8	-1.9
KOK				*i* S	Sn	07 22 20.5	+1.6
KRER	**Koryakskii**	**2.24**	**2**	P	Pn	07 21 54.6	+2.0
KRER				*i* S	Sn	07 22 20.0	+0.5
KRX	**Arik**	**2.29**	**1**	P	Pn	07 21 55.4	+2.2
KRX				*i* S	Sn	07 22 21.8	+1.1
GNL	**Ganaly**	**2.66**	**352**	P	Pn	07 22 00.6	+2.4
GNL				*i* S	Sn	07 22 30.8	+1.1
MKZ	**Mys Kozlova**	**3.98**	**27**	P	Pn	07 22 17.5	+1.4
KBTR	**Krutoberegovo**	**5.73**	**24**	P	P	07 22 42.9	+2.8

NNC 27 07:31:29.2±4.4, 54°17N×85°63E, h0km, mb3.8, mpv3.5, 4C-4D, Error ellipse: s-maj=33.9km s-min=24.1km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**5.61**	**234**	⇑Pn	Pn	07 32 54.5	+0.7
	1.7nm,0.3s						
KURBB				⇑Sn	Sn	07 34 01.5	+2.5
	2.3nm,0.6s						
KURBB				⇑Lg	Lg	07 34 26.8	
	7.7nm,0.7s						
MK31	**Makanchi Array**	**7.69**	**197**	⇓Pn	Pn	07 33 22.3	0.0
	2.4nm,1.1s,baz=25,slow=14,SNR=19						
MK31				⇓Sn	Sn	07 34 49.8	-0.3
	0.4nm,0.6s,baz=25,slow=26,SNR=5.5						
MK31				⇓Lg	Lg	07 35 32.2	
	2.0nm,0.8s,baz=25,slow=30,SNR=4.3						
VOSK	**Vostochnaya**	**8.87**	**267**	⇓Pn	Pn	07 33 39.0	+0.5
	3.4nm,1.4s						
VOSK				⇓Sn	Sn	07 35 17.1	-1.9
	2.1nm,0.8s						

MEX 27 07:32:11.4±1.6, 16°77N×94°45W, h119km±25km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.52**	**308**	*i* P	Pn	07 32 31.2	+1.8
CMIG				*i* S	Sn	07 32 41.1	-1.9
TGIG		**1.27**	**89**	*i* P	Pn	07 32 34.8	-1.5
TGIG				*i* S	Sn	07 32 53.0	-2.2
PCIG		**1.59**	**132**	*i* P	Pn	07 32 39.2	-0.6
PCIG				*i* S	Sn	07 33 00.4	-1.0
HUIG	**Huatulco**	**1.88**	**238**	*i* P	Pn	07 32 40.5	-2.8
HUIG				*i* S	Sn	07 33 06.2	-1.4
VHO	**Vista Hermosa**	**2.20**	**278**	*i* P	Pn	07 32 46.9	-0.8
VHO				*i* S	Sn	07 33 14.4	-1.0
UTMO	**Huajuapan**	**3.37**	**289**	*i* P	Pn	07 33 02.2	-0.6
UTMO				*i* S	Sn	07 33 41.1	-1.4

*IDC **27** 07:33:47.9±2.3, 5°97S×130°46E, h0km, mb4.2/1, mb1 4.4/3, mb1mx3.8/17, mbtmp4.2/3, ML4.2/2, MS4.7/1, Ms1 4.7/1, ms1mx3.1/22, Error ellipse: s-maj=142.6km s-min=30.3km az=71.0*
*ISCJB **27** 07:34:02.0±0.6, 6°42S±0°05×130°48E±0°08, h200km, mb3.8/1, Error ellipse: s-maj=11.6km s-min=6.2km az=24.2*
*AUST **27** 07:34:01.9, 6°48S×130°54E, h200km*
*DJA **27** 07:34:04.5±0.4, 7°S±3°×13°0E±, h105km±12km, M4.5/5, mb4.3/4, mB5.5/2, MLv4.5/5, Mw(mB)4.9/2*
ISC 27 07:34:01.1±1.0, 6°42S±0°05×130°48E±0°09, h200km, n20, σ2s51/19, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.75**	**153**	P	**Sn**	**07 35 02.2**	**-3.2**
BNDI	**Bandanaira**	**1.97**	**343**	P	**Pn**	**07 34 39.5**	**+0.1**
BNDI	**Bandanaira**	**1.97**	**343**	P	**Pn**	**07 34 39.7**	**+0.3**
	baz=2.1,SNR=7.3						
TLE	**Tual**	**2.37**	**71**	P	Pn	07 34 48.1	+4.5
TLE				S	**Sn**	**07 35 16.1**	**-0.6**
TLE	**Tual**	**2.37**	**71**	P	Pn	07 34 48.3	+4.7
	baz=2.3,SNR=34						
FAKI	**Fak Fak**	**3.90**	**27**	P	**Pn**	**07 35 03.2**	**+1.5**
FAKI				S	**Sn**	**07 35 45.8**	**-3.5**
FAKI	**Fak Fak**	**3.90**	**27**	P	**Pn**	**07 35 03.3**	**+1.6**
	baz=3.9,SNR=56						
KMPI	**Kaimana, Papua**	**4.22**	**50**	P	Pn	07 35 10.3	+4.6
KMPI				S	**Sn**	**07 35 57.1**	**+0.7**
SWI	**Sorong**	**5.57**	**8**	P	**Pn**	**07 35 24.9**	**+2.0**
	32nm,0.3s,4µm0.5nm						
SWI				S	**Sn**	**07 36 23.5**	**-4.1**
	32nm,0.3s,4µm0.5nm						
SWI	**Sorong**	**5.57**	**8**	P	**Pn**	**07 35 24.4**	**+1.5**
	baz=5.7,SNR=15						
MTN	**Manton Dam**	**6.42**	**174**	P	**Pn**	**07 35 35.7**	**+1.8**
	baz=6.4,SNR=105						
KDU	**Kakadu**	**6.53**	**163**	P	**Pn**	**07 35 37.7**	**+2.4**
	baz=6.5,SNR=398						
SOEI	**Soe**	**6.99**	**241**	P	**Pn**	**07 35 43.1**	**+1.7**
	baz=7.0,SNR=5.5						
KNRA	**Kununurra**	**9.36**	**190**	P	**Pn**	**07 36 13.0**	**+1.0**
	baz=9.4,SNR=19						
FITZ	**Fitzroy Crossi**	**12.54**	**202**	P	**Pn**	**07 36 53.3**	**+0.4**
	baz=13,SNR=14						
WRA	**Warramunga Arr**	**13.96**	**165**	Pn	**P**	**07 37 12.7**	**+0.2**
	0.9nm,0.3s,baz=348,slow=13,SNR=49						
WRA				Sn	**S**	**07 39 40.8**	**-5.3**
	2.4nm,0.3s,baz=346,slow=20,SNR=15						
COEN	**Coen**	**14.56**	**122**	P	P	07 37 28.6	+9.4
	baz=14,SNR=25						
ASAR	**Alice Springs**	**17.46**	**169**	P	Pn	07 37 58.6	+5.6
	1.8nm,0.3s,baz=350,slow=10,SNR=98						
ASAR				S	**S**	**07 41 05.5**	**+3.0**
	0.4nm,0.3s,baz=353,slow=26,SNR=6.4						
JCJ	**Chichijima**	**35.19**	**18**	LR	LR	07 52 31.8	
	comp=Z,1µm,19.9s,baz=131,slow=32						
MKAR	**Makanchi Array**	**68.01**	**326**	P	P	07 44 46.6	+7.8
	0.9nm,0.3s,baz=123,slow=7.5,SNR=9.8						

*IDC **27** 07:55:00.5±0.9, 37°10N×103°68E, h0km, mb3.8/10, mb1 4.0/12, mb1mx3.8/30, mbtmp3.8/12, ML3.9/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/34, Error ellipse: s-maj=29.8km s-min=16.6km az=56.0*
*NEIC **27** 07:55:02.3±0.6, 37°13N×103°75E, h10km, mb4.0/3, Error ellipse: s-maj=12.5km s-min=10.3km az=57.0*
*BJI **27** 07:55:03.2, 37°12N×103°70E, h4km, mb4.2/2, ML4.0/12, Ms3.7/2, Ms7 3.5/2*
ISC 27 07:55:01.2±0.6, 37°10N±0°07×103°65E±0°07, h10km, n33, σ1s75/36, mb4.0/12, Gansu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LZH	**Lanzhou**	**1.02**	**171**	Pg	**Pn**	**07 55 22.3**	**+0.6**
LZH				Sg	**Sn**	**07 55 35.0**	**-1.1**
LZH				SMN			
	comp=Z,3µm,0.8s						
LZH				SME			
	comp=Z,4µm,0.8s						
GTA	**Gaotai**	**3.80**	**309**	Pn	Pn	07 56 02.3	+2.4
GTA				Pg	**Pg**	**07 56 11.3**	**-2.6**
GTA				Sn	**Sb**	**07 56 49.5**	**-5.0**
GTA				Sg	**Sg**	**07 57 00.5**	**-2.7**
GTA				SMN			
	440nm,0.6s						
GTA				SME			
	390nm,0.7s						
GTA				LR	LR		
	comp=N,450nm,6.2s						
GTA				LR	LR		
	comp=E,660nm,7.6s						
GTA				LR	LR		
	comp=Z,540nm,7.6s						
XAN	**Xi'an**	**5.27**	**124**	Pn	**Pn**	**07 56 18.3**	**-1.7**
XAN				Pg	**Pg**	**07 56 40.0**	**-2.1**
XAN				Sn	**Sn**	**07 57 22.0**	**+1.1**
XAN				Sg	**Sg**	**07 57 47.3**	**-3.1**
XAN				SMN			
	comp=Z,59nm,0.8s						
XAN				SME			
	comp=Z,22nm,0.8s						
BTO	**Baotou**	**6.08**	**53**	*e*Pg	Pg	07 56 52.0	-5.7
BTO				SMN			
	25nm,0.5s						
BTO				SME			
	12nm,0.8s						
CD2	**Chengdu**	**6.17**	**179**	Pg	Pg	07 57 22.3	+23
CD2				Sg	Sn	07 57 28.8	-14
CD2				SMN			
	440nm,0.5s						
CD2				SME			
	530nm,0.5s						
HHC	**Hu-ho-hao-te**	**7.22**	**56**	*e*Pn	Pn	07 56 49.3	+2.5
HHC				Pg	Pg	07 57 13.5	-5.8
HHC				Sg	Sg	07 58 44.0	-8.7
HHC				SMN			
	comp=Z,83nm,0.5s						
HHC				SME			
	comp=Z,130nm,0.5s						
SONM	**Songino Array**	**10.92**	**10**	Pn	**Pn**	**07 57 38.5**	**+1.0**
SONM				Lg	Lg	08 00 48.2	
SONM	**Songino Array**	**10.92**	**10**	Pn	**Pn**	**07 57 38.5**	**+1.0**
	1.2nm,0.3s,baz=189,slow=13,SNR=11						
SONM				Lg	Lg	08 00 48.2	
	1.0nm,0.3s,baz=194,slow=30,SNR=6.9						
SONM				LR	LR	08 02 17.4	
	comp=Z,107nm,18.0s,baz=226,slow=40						
ULN	**Ulaanbaatar**	**11.05**	**12**	*e*Pn	**Pn**	**07 57 40.3**	**+0.9**
MKAR	**Makanchi Array**	**18.56**	**308**	P	**Pn**	**07 59 19.0**	**+0.8**
MKAR	**Makanchi Array**	**18.56**	**308**	P	**Pn**	**07 59 19.0**	**+0.8**
	0.2nm,0.3s,baz=107,slow=13,SNR=25						
ZALV	**Zalesovo Beam**	**21.29**	**328**	P	**P**	**07 59 48.3**	**+0.7**
ZALV	**Zalesovo Beam**	**21.29**	**328**	P	**P**	**07 59 48.3**	**+0.7**
	2.8nm,0.6s,baz=134,slow=9.8,SNR=18						
TKM2	**Tokmak 2**	**22.20**	**294**	*e*P	**P**	**08 00 01.4**	**+3.6**
	4.4nm,0.7s						
KURK	**Kurchatov**	**22.45**	**315**	*e*P	**P**	**08 00 01.3**	**+1.1**
	5.5nm,0.6s						
KURBB	**Kurchatov Arra**	**22.46**	**315**	P	**P**	**08 00 01.0**	**+0.7**
	1.8nm,0.6s,baz=118,slow=11,SNR=18						
AAK	**Ala-Archa**	**22.99**	**293**	*e*P	**P**	**08 00 08.0**	**+1.9**
	2.9nm,1.0s						
AAK	**Ala-Archa**	**22.99**	**293**	P	**P**	**08 00 07.1**	**+1.0**
	1.7nm,0.7s,baz=135,slow=4.3,SNR=4.2						
BVAR	**Borovoye Array**	**28.05**	**315**	P	**P**	**08 00 54.4**	**+1.9**
BVAR	**Borovoye Array**	**28.05**	**315**	P	**P**	**08 00 54.4**	**+1.9**
	0.7nm,0.6s,baz=99,slow=8.9,SNR=3.5						
ARCES	**ARCESS Array B**	**51.68**	**334**	P	**P**	**08 04 08.9**	**+1.1**
ARCES	**ARCESS Array B**	**51.68**	**334**	P	**P**	**08 04 08.9**	**+1.1**
	1.3nm,0.6s,baz=83,slow=8.3,SNR=7.5						
FINES	**FINESS Array B**	**52.45**	**324**	P	**P**	**08 04 14.7**	**+1.1**
FINES	**FINESS Array B**	**52.45**	**324**	P	**P**	**08 04 14.7**	**+1.1**
	0.6nm,0.3s,baz=84,slow=5.9,SNR=3.5						
NB2	**NORSAR Subarra**	**59.46**	**326**	P	**P**	**08 05 04.2**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=66,slow=6.9						
NOA	**NORSAR Array B**	**59.46**	**326**	P	**P**	**08 05 04.3**	**+0.4**
NOA	**NORSAR Array B**	**59.46**	**326**	P	**P**	**08 05 04.3**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=70,slow=6.9,SNR=4.4						
WRA	**Warramunga Arr**	**63.69**	**148**	P	**P**	**08 05 33.8**	**+1.0**
WRA	**Warramunga Arr**	**63.69**	**148**	P	**P**	**08 05 33.8**	**+1.0**
	comp=Z,1.1nm,1.0s,baz=346,slow=6.8,SNR=5.4						
ILAR	**Eielson Array**	**64.63**	**27**	P	**P**	**08 05 39.2**	**+0.7**
ILAR	**Eielson Array**

UPC	**Upice**	**1.79**	**279**	*e*SG	**Sn**	**08 10 32.5**	**+0.1**
	comp=Z,11nm,0.4s							
UPC	**Upice**	**1.79**	**279**	Sg	**Sn**	**08 10 32.5**	**+0.1**
	11nm,0.4s							
STHS	**Stebnicka Huta**	**1.80**	**117**	*e*PN	**Pn**	**08 10 10.3**	**+1.2**
STHS				*e*SN	**Sb**	**08 10 35.2**	**+1.5**
STHS	**Stebnicka Huta**	**1.80**	**117**	*e*Pn	**Pn**	**08 10 10.3**	**+1.2**
STHS				*e*Sn	**Sb**	**08 10 35.2**	**+1.5**
KRUC	**Moravsky**	**1.96**	**233**	*e*Pn	**Pn**	**08 10 10.9**	**-0.4**
	baz=50							
KRUC				*e*Sn	**Sn**	**08 10 37.2**	**+0.6**
	11nm,0.2s,baz=50							
KECS	**Kecovo**	**2.10**	**147**	*e*PN	**Pn**	**08 10 14.7**	**+1.6**
KECS				*e*SN	**Sn**	**08 10 37.0**	**-2.9**
KECS	**Kecovo**	**2.10**	**147**	*e*Pn	**Pn**	**08 10 14.7**	**+1.6**
CRVS	**Cervenica-Dubn**	**2.21**	**127**	*e*PN	**Pb**	**08 10 17.6**	**+0.1**
CRVS				*e*SN	**Sb**	**08 10 46.9**	**+1.4**
CRVS	**Cervenica-Dubn**	**2.21**	**127**	*e*Pn	**Pb**	**08 10 17.6**	**+0.1**
CRVS				*e*Sn	**Sb**	**08 10 46.9**	**+1.4**
PSZ	**Piszkesteto**	**2.46**	**162**	S	**Sb**	**08 10 53.7**	**+1.1**
PSZ	**Piszkesteto**	**2.46**	**162**	S	**Sb**	**08 10 53.7**	**+1.1**
KWP	**Kalwaria Pacla**	**2.61**	**103**	⇓*i*P	**Pb**	**08 10 25.0**	**+0.6**
KWP	**Kalwaria Pacla**	**2.61**	**103**	S	**Sg**	**08 11 00.7**	**+0.2**
KWP	**Kalwaria Pacla**	**2.61**	**103**	⇓*i*P	**Pb**	**08 10 25.0**	**+0.6**
KWP				S	**Sg**	**08 11 00.7**	**+0.2**
KOLS	**Kolonicke sedl**	**2.63**	**119**	*e*PN	**Pb**	**08 10 24.2**	**-0.5**
KOLS				*e*SN	**Sb**	**08 10 58.0**	**+0.5**
KOLS	**Kolonicke sedl**	**2.63**	**119**	*e*Pn	**Pb**	**08 10 24.2**	**-0.5**
KOLS				*e*Sn	**Sb**	**08 10 58.0**	**+0.5**
PRU	**Pruhonice**	**2.75**	**266**	*e*SG	**Sb**	**08 11 01.5**	**+0.7**
	comp=Z,14nm,0.5s							
PRU	**Pruhonice**	**2.75**	**266**	Sg	**Sb**	**08 11 01.5**	**+0.7**
	14nm,0.5s							
CONA	**Conrad Observa**	**3.02**	**221**	⇓*i*Pn	Pn	08 10 23.3	-2.6
CONA				⇓*i*Sg	**Sb**	**08 11 08.6**	**-0.4**
	5.6nm,0.4s							
CONA	**Conrad Observa**	**3.02**	**221**	Pn	Pn	08 10 23.3	-2.6
BRG	**Berggiesshubel**	**3.15**	**283**	PG	**Pg**	**08 10 36.6**	**-0.4**
BRG				SG	**Sb**	**08 11 15.6**	**+3.2**
	8.6nm,0.5s							
KHC	**Kasperske Hory**	**3.57**	**253**	*e*PN	**Pn**	**08 10 32.0**	**-1.3**
KHC				*e*SG	**Sg**	**08 11 29.9**	**-1.3**
	comp=Z,16nm,0.5s							
KHC	**Kasperske Hory**	**3.57**	**253**	Pn	**Pn**	**08 10 32.0**	**-1.3**
KHC				Sg	**Sg**	**08 11 29.9**	**-1.3**
	16nm,0.5s							
CLL	**Collm**	**3.82**	**288**	*e*Sg	**Sg**	**08 11 40.0**	**+0.7**
	comp=Z,15nm,0.8s							
MOA	**Molln**	**3.83**	**233**	⇓*i*Sg	**Sg**	**08 11 39.0**	**-0.7**
	comp=Z,5.8nm,0.3s							
MOA	**Molln**	**3.83**	**233**	Sg	**Sg**	**08 11 39.0**	**-0.7**
	comp=Z,5.8nm,0.3s							
DRGR		**4.34**	**142**	⇑*i*P	Pn	08 10 49.8	+5.8
DRGR		**4.34**	**142**	⇑*i*P	Pn	08 10 49.8	+5.8
BURAR	**Bucovina Array**	**5.00**	**120**	⇑*i*P	**Pn**	**08 10 51.7**	**-1.3**
BURAR	**Bucovina Array**	**5.00**	**120**	⇑*i*P	**Pn**	**08 10 51.7**	**-1.3**

*IDC **27** 08:22:30.5±0.9, 8.°98S×157.°87E, h0km, mb4.2/7, mb1 4.4/9, mb1mx4.1/18, mbtmp4.2/9, ML3.8/2, MS3.7/9, Ms1 3.7/9, ms1mx3.4/27, Error ellipse: s-maj=28.3km s-min=18.2km az=153.0*

*ISCJB **27** 08:22:33.1±0.5, 8.°94S±0.°08×157.°80E±0.°05, h23km, mb4.3/13, MS3.6/8, Error ellipse: s-maj=11.7km s-min=7.1km az=173.0*

*NEIC **27** 08:22:36.0±0.5, 9.°01S×157.°90E, h35km, mb4.6/8, Error ellipse: s-maj=15.8km s-min=9.6km az=158.0*

*AUST **27** 08:22:52.7, 9.°01S×157.°54E, h200km*

ISC 27 08:22:34.5±0.7, 8.°9S±0.°1×157.°93E±0.°06, h23km, n48, σ1§28/35, mb4.3/13, MS3.6/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.05**	**104**	Pn	**Pn**	**08 23 06.8**	**-0.8**
HNR				Sn	**Sb**	**08 23 36.4**	**+0.2**
HNR	**Honiara**	**2.05**	**104**	Pn	**Pn**	**08 23 06.8**	**-0.8**
	40nm,0.3s,baz=244,slow=5.4,SNR=12						
HNR				Sn	**Sb**	**08 23 36.4**	**+0.2**
	194nm,0.3s,baz=251,slow=14,SNR=6.0						
PMG	**Port Moresby**	**10.64**	**267**	*e*Pn	**Pn**	**08 25 06.3**	**+0.6**
	27nm,1.0s						
PMG	**Port Moresby**	**10.64**	**267**	LR	LR	08 28 56.6	
	comp=Z,552nm,18.1s,baz=96,slow=36						
COEN	**Coen**	**15.29**	**250**	*e*P	**Pn**	**08 26 10.2**	**+1.0**
	96nm,0.9s						
COEN	**Coen**	**15.29**	**250**	P	**P**	**08 26 15.7**	**+2.0**
	baz=15,SNR=6.0						
CTA	**Charters Tower**	**15.82**	**224**	Pn	**Pn**	**08 26 14.1**	**-1.8**
CTA	**Charters Tower**	**15.82**	**224**	Pn	**Pn**	**08 26 14.1**	**-1.8**
	0.2nm,0.3s,baz=39,slow=14,SNR=3.0						
CTAO	**Charters Tower**	**15.82**	**224**	*e*P	**Pn**	**08 26 13.4**	**-2.5**
	44nm,1.5s						
MTSU	**Mount Surprise**	**16.07**	**234**	P	**P**	**08 26 24.8**	**+2.4**
	baz=16,SNR=16						
MMPI	**Merauke**	**17.35**	**270**	P	P	08 26 52.3	+16
	baz=17,SNR=3.5						
RMQ	**Roma**	**19.50**	**205**	P	**Pn**	**08 27 01.7**	**+0.2**
	baz=19,SNR=9.9						
MSVF	**Nonsavu**	**21.42**	**116**	*e*P	**P**	**08 27 23.4**	**+2.2**
	21nm,1.1s						
QLP	**Quilpie**	**21.83**	**215**	P	**P**	**08 27 25.5**	**+0.1**
	baz=22,SNR=5.6						
CMSA	**Cobar Meteorol**	**25.20**	**205**	P	**P**	**08 27 58.7**	**+0.1**
	baz=25,SNR=14						
WRAB	**Tennant Creek**	**25.28**	**242**	*e*P	**P**	**08 27 58.2**	**-1.2**
	9.2nm,0.6s						
WRA	**Warramunga Arr**	**25.29**	**242**	P	**P**	**08 27 58.5**	**-1.0**
WRA	**Warramunga Arr**	**25.29**	**242**	P	**P**	**08 27 58.5**	**-1.0**
	4.7nm,0.7s,baz=68,slow=9.2,SNR=27						
WRA				LR	LR	08 37 29.0	
	comp=Z,166nm,19.1s,baz=65,slow=36						
ASAR	**Alice Springs**	**27.25**	**235**	P	**P**	**08 28 15.3**	**-1.9**
ASAR	**Alice Springs**	**27.25**	**235**	P	**P**	**08 28 15.3**	**-1.9**
	2.2nm,0.9s,baz=63,slow=8.9,SNR=19						
ASAR				LR	LR	08 39 07.6	
	comp=Z,88nm,21.4s,baz=99,slow=37						
STKA	**Stephens Creek**	**27.41**	**211**	*e*P	**P**	**08 28 20.4**	**+2.0**
	1.9nm,0.9s						
STKA	**Stephens Creek**	**27.41**	**211**	P	**P**	**08 28 20.9**	**+2.4**
	baz=27,SNR=10						
STKA	**Stephens Creek**	**27.41**	**211**	P	**P**	**08 28 17.6**	**-0.9**
	9.3nm,0.9s,baz=38,slow=11,SNR=15						
STKA				LR	LR	08 38 41.3	
	comp=Z,139nm,21.2s,baz=25,slow=36						
H11S3	**WAKE ISLAND Hy**	**28.60**	**18**	T	T	08 57 09.9	
	baz=199,slow=0.7,SNR=7.6						
H11S2	**WAKE ISLAND Hy**	**28.60**	**18**	T	T	08 57 05.2	
	baz=199,slow=0.7,SNR=15						
H11S1	**WAKE ISLAND Hy**	**28.61**	**18**	T	T	08 57 03.4	
	baz=199,slow=0.7,SNR=5.5						
H11N1	**WAKE ISLAND Hy**	**29.81**	**17**	T	T	08 58 53.9	
	baz=205						
H11N3	**WAKE ISLAND Hy**	**29.82**	**17**	T	T	08 58 50.5	
	baz=205,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**29.83**	**17**	T	T	08 58 50.6	
	baz=205						
FITZ	**Fitzroy Crossi**	**32.64**	**250**	LR	LR	08 39 51.3	
	comp=Z,84nm,19.7s,baz=270,slow=32						
JNU	**Nakatsue**	**49.12**	**330**	LR	LR	08 51 55.2	
	comp=Z,57nm,18.3s,baz=243,slow=36						
ASAJ	**Asahikawa**	**54.60**	**346**	LR	LR	08 55 06.0	
	comp=Z,96nm,18.5s,baz=139,slow=36						
SONM	**Songino Array**	**72.54**	**326**	P	P	08 34 03.7	+3.9
SONM	**Songino Array**	**72.54**	**326**	P	P	08 34 03.7	+3.9
	1.3nm,0.9s,baz=145,slow=5.5,SNR=6.4						
QSPA	**South Pole Qui**	**81.05**	**180**	*e*P	**P**	**08 34 47.1**	**-0.5**
	11nm,1.5s						
MCK	**McKinley**	**82.79**	**21**	*e*P	**P**	**08 34 56.6**	**0.0**
	10.0nm,1.0s						
COLA	**College**	**83.86**	**20**	*e*P	**P**	**08 35 01.6**	**-0.3**
	50nm,1.4s						
ILAR	**Eielson Array**	**84.13**	**21**	P	**P**	**08 35 03.0**	**-0.4**
ILAR	**Eielson Array**	**84.13**	**21**	P	**P**	**08 35 03.0**	**-0.4**
	3.2nm,1.1s,baz=254,slow=5.0,SNR=9.8						
KAAM	**Kaadhehdhoo**	**85.07**	**271**	P	P	08 35 02.3	-7.0
	baz=85,SNR=3.3						
MK31	**Makanchi Array**	**86.78**	**318**	*e*P	**P**	**08 35 17.1**	**0.0**
MKAR	**Makanchi Array**	**86.78**	**318**	P	**P**	**08 35 17.6**	**+0.5**
MKAR	**Makanchi Array**	**86.78**	**318**	P	**P**	**08 35 17.6**	**+0.5**
	0.8nm,0.7s,baz=96,slow=5.8,SNR=8.4						
ZALV	**Zalesovo Beam**	**87.41**	**326**	P	**P**	**08 35 19.9**	**+0.1**
ZALV	**Zalesovo Beam**	**87.41**	**326**	P	**P**	**08 35 20.0**	**+0.1**
	0.4nm,0.4s,baz=101,slow=7.5,SNR=2.3						
ZALV				LR	LR	09 14 46.5	
	comp=Z,35nm,19.8s,baz=159,slow=36						
NVAR	**Mina Array Bea**	**90.65**	**51**	P	**P**	**08 35 35.4**	**-0.4**
NVAR	**Mina Array Bea**	**90.65**	**51**	P	**P**	**08 35 35.4**	**-0.4**
	1.6nm,1.0s,baz=251,slow=5.6,SNR=6.1						
PDAR	**Pinedale Array**	**97.84**	**48**	LR	LR	09 14 46.1	
	comp=Z,69nm,19.1s,baz=258,slow=32						

*ISCJB **27** 08:24:10.0±0.9, 44.°4N±0.°1×146.°4E±0.°1, h193km±10km, mb3.1/3, Error ellipse: s-maj=20.8km s-min=15.0km az=165.6*

*IDC **27** 08:24:12.5±2.9, 45.°61N×146.°07E, h140km±67km, mb3.1/3, mb1 3.3/5, mb1mx3.0/26, mbtmp3.2/5, Error ellipse: s-maj=137.3km s-min=28.0km az=169.0*

*JMA **27** 08:24:12.4±0.4, 44.°52N×146.°38E, h169km, M3.4*

ISC 27 08:24:10.5±1.2, 44.°5N±0.°1×146.°4E±0.°1, h185km±12km, n17, σ1§19/23, mb3.1/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JRA	**Rausu**	**1.09**	**239**	P	**Pn**	**08 24 39.7**	**+0.4**
NEM2	**Nemuro 2**	**1.23**	**204**	P	**Pn**	**08 24 40.6**	**+0.1**
NEM2				*e*S	**Sn**	**08 25 02.3**	**-1.3**
JTKR	**Abashiri--Toko**	**1.88**	**255**	P	**Pn**	**08 24 47.0**	**+0.4**
JTKR				*e*S	**Sn**	**08 25 14.6**	**+0.1**
JAK	**Akkeshi**	**1.95**	**220**	P	**Pn**	**08 24 48.2**	**+0.8**
JAK				*e*S	**Sn**	**08 25 15.4**	**-0.5**
JAR	**Ashorobuto**	**2.26**	**239**	P	**Pn**	**08 24 52.6**	**+1.9**
JOB	**Onbets**	**2.46**	**231**	P	**Pn**	**08 24 54.4**	**+1.4**
JOB				*e*S	**Sn**	**08 25 26.1**	**+0.1**
JKK2	**Kamakawa 2**	**2.71**	**258**	P	**Pn**	**08 24 56.7**	**+0.8**
ASAJ	**Asahikawa**	**2.77**	**263**	P	**Pn**	**08 24 57.5**	**+0.9**
ASAJ	**Asahikawa**	**2.77**	**263**	P	**Pn**	**08 24 57.6**	**+1.0**
	9.1nm,0.3s,baz=82,slow=13,SNR=63						
JSE	**Soyaes**	**2.77**	**281**	P	**Pn**	**08 24 56.4**	**-0.2**
JCH	**Churui**	**2.91**	**231**	P	**Pn**	**08 24 59.3**	**+1.0**
JCH				*e*S	**Sn**	**08 25 34.3**	**-1.2**
JFR	**Furan**	**3.07**	**246**	*e*S	**Sn**	**08 25 39.7**	**+0.7**
JNBK	**Urakawa-nobuka**	**3.47**	**232**	P	**Pn**	**08 25 05.5**	**+0.4**
JNBK				*e*S	**Sn**	**08 25 44.6**	**-3.2**
USRK	**Ussuriysk Arra**	**10.34**	**273**	P	**Pn**	**08 26 34.2**	**-0.1**
	0.2nm,0.3s,baz=87,slow=14,SNR=4.0						
ILAR	**Eielson Array**	**41.20**	**37**	P	**P**	**08 31 37.0**	**+0.4**
	0.5nm,0.8s,baz=258,slow=5.5,SNR=8.3						
MKAR	**Makanchi Array**	**43.77**	**297**	P	**P**	**08 31 58.5**	**+0.9**
	0.4nm,0.8s,baz=65,slow=9.5,SNR=3.1						
FINES	**FINESS Array B**	**63.97**	**333**	P	**P**	**08 34 22.1**	**-1.3**
	1.4nm,0.9s,baz=57,slow=7.0,SNR=4.3						

*IDC **27** 08:39:36.2±0.7, 1.°85N×121.°92E, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.9/24, mbtmp4.0/9, ML3.9/1, MS3.1/2, Ms1 3.1/2, ms1mx2.7/31, Error ellipse: s-maj=55.9km s-min=14.7km az=71.0*

*ISCJB **27** 08:39:39.6±0.4, 1.°84N±0.°04×121.°75E±0.°05, h33km, mb4.2/16, MS3.1/1, Error ellipse: s-maj=8.2km s-min=5.1km az=159.5*

*NEIC **27** 08:39:41.2±0.3, 1.°78N×121.°73E, h35km, mb4.3/6, Error ellipse: s-maj=16.1km s-min=5.6km az=66.0*

*BKK **27** 08:39:42.6±0.6, 2.°N±5.°×12.°1E±.°, h10km, M5.0/8, mB5.4/2, mb4.7/8, MLv5.1/4, Mw(mB)4.8/2*

*DJA **27** 08:39:42.3±0.3, 2.°N±3.°×12.°2E±.°, h30km, M4.9/12, mb5.0/10, mB5.3/7, MLv5.0/12, Mw(mB)4.7/7*

ISC 27 08:39:41.6±0.6, 1.81N±0.°07×121.80E±0.°09, h35km, n56, σ1§15/55, mb4.2/16, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOLI	**Toli-Toli**	**1.22**	**236**	P	Pn	08 39 58.9	-3.2
MRSI	**Marisa**	**1.33**	**174**	P	**Pn**	**08 40 04.4**	**+0.7**
KMSI	**Cibinong**	**2.50**	**119**	P	Pn	08 40 24.6	+4.8
APSI	**Ampana**	**2.70**	**183**	P	**Pn**	**08 40 23.8**	**+1.2**
LUWI	**Luwuk**	**2.99**	**161**	P	Pn	08 40 32.1	+5.5
SGSI	**Sangihe**	**4.17**	**63**	P	**Pn**	**08 40 44.3**	**+1.5**
TSM	**Tawau**	**4.64**	**302**	P	**Pn**	**08 40 46.5**	**-2.7**
TSM	**Tawau**	**4.64**	**302**	P	**Pn**	**08 40 47.0**	**-2.2**
MYLDM	**Lahad Datu**	**4.70**	**316**	P	**Pn**	**08 40 50.8**	**+0.6**
MYLDM	**Lahad Datu**	**4.70**	**316**	P	**Pn**	**08 40 50.2**	**+0.1**
TTSI	**Tana Toraja**	**5.21**	**202**	P	**Pn**	**08 40 58.4**	**+1.3**
	291nm,0.8s,2µm0.8nm						
MMSI	**Mamuju**	**5.32**	**213**	P	**Pn**	**08 40 58.4**	**-0.3**
	142nm,0.6s,2µm0.5nm						
SDKM	**Sandakan**	**5.97**	**310**	P	**Pn**	**08 41 07.2**	**-0.4**
SPSI	**Sidrap Palu**	**6.08**	**200**	P	**Pn**	**08 41 10.1**	**+1.0**
	82nm,0.7s,833nm0.3nm						
BNSI	**Bone**	**6.39**	**195**	P	**Pn**	**08 41 16.4**	**+3.0**
	72nm,0.7s,1µm0.3nm						
KKM	**Kota Kinabalu**	**6.99**	**307**	P	**Pn**	**08 41 22.2**	**+0.6**
KKM	**Kota Kinabalu**	**6.99**	**307**	P	**Pn**	**08 41 20.8**	**-0.8**
	253nm,0.6s,5µm1.3nm						
KKM	**Kota Kinabalu**	**6.99**	**307**	*e*Pn	**Pn**	**08 41 20.8**	**-0.8**
	223nm,0.4s						
KAPI	**Kappang**	**7.08**	**197**	*e*Pn	**Pn**	**08 41 21.7**	**-1.1**
KAPI	**Kappang**	**7.08**	**197**	Pn	**Pn**	**08 41 22.1**	**-0.6**
	2.2nm,0.3s,baz=4.4,slow=13,SNR=5.9						
KAPI				LR	LR	08 43 38.2	
	comp=Z,130nm,19.0s,baz=18,slow=34						
KDM	**Kudat**	**7.09**	**316**	P	**Pn**	**08 41 24.8**	**+1.8**
BKSI	**Bulukumba**	**7.28**	**193**	P	Pn	08 41 32.0	+6.5
MTKI	**Muara Teweh, K**	**7.42**	**248**	P	**Pn**	**08 41 26.3**	**-1.3**
	96nm,0.7s,5µm0.8nm						
SBUM	**Sibu**	**9.60**	**274**	P	**Pn**	**08 41 56.9**	**-0.5**
SBUM	**Sibu**	**9.60**	**274**	P	**Pn**	**08 41 57.3**	**-0.1**
SBUM	**Sibu**	**9.60**	**274**	P	**Pn**	**08 41 57.5**	**+0.1**
	26nm,0.9s						
BJII	**Banjamegara**	**15.10**	**233**	P	**Pn**	**08 43 14.0**	**+1.4**
	53nm,1.6s						
KPJI	**Karang Pucung**	**15.73**	**235**	P	**P**	**08 43 27.4**	**+3.1**
FITZ	**Fitzroy Crossi**	**20.14**	**169**	*e*P	**P**	**08 44 12.2**	**-0.6**
	5.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**20.14**	**169**	P	**P**	**08 44 12.3**	**-0.6**
	6.4nm,0.5s,baz=8.9,slow=9.7,SNR=37						
SKNT	**Sakolnakorn**	**23.12**	**312**	P	**P**	**08 44 43.6**	**-1.2**
	18nm,0.8s						
NAYO	**Nakonayok**	**23.75**	**303**	P	**P**	**08 44 51.0**	**0.0**
	40nm,0.7s,631nm						
WRAB	**Tennant Creek**	**24.87**	**151**	*e*P	**P**	**08 45 01.3**	**+0.1**
	6.1nm,0.8s						
WRA	**Warramunga Arr**	**24.87**	**151**	P	**P**	**08 45 00.7**	**-0.6**
WRA				PcP	**PcP**	**08 48 36.4**	**-0.4**
WRA	**Warramunga Arr**	**24.87**	**151**	P	**P**	**08 45 00.6**	**-0.6**
	0.6nm,0.3s,baz=327,slow=11,SNR=44						
WRA				PcP	**PcP**	**08 48 36.4**	**-0.4**
	0.4nm,0.6s,baz=318,slow=2.6,SNR=3.9						
UTHA	**Uthaitani**	**25.94**	**303**	P	**P**	**08 45 12.2**	**+1.3**
	2.3nm,0.8s						
SUKH	**Sukhothai**	**26.78**	**307**	P	**P**	**08 45 20.6**	**+2.1**
	3.0nm,1.0s						
AS31	**Alice Springs**	**27.92**	**156**	*e*P	**P**	**08 45 28.8**	**0.0**
ASAR	**Alice Springs**	**27.92**	**156**	P	**P**	**08 45 28.4**	**-0.3**
ASAR				PcP	**PcP**	**08 48 43.4**	**-0.5**
ASAR	**Alice Springs**	**27.92**	**156**	P	**P**	**08 45 28.4**	**-0.3**
	0.5nm,0.4s,baz=344,slow=15,SNR=16						
ASAR				PcP	**PcP**	**08 48 43.4**	**-0.5**
	0.9nm,0.6s,baz=343,slow=2.6,SNR=9.1						
KSRS	**Korea Array**	**35.92**	**8**	LR	LR	09 03 30.2	
	comp=Z,31nm,18.2s,baz=195,slow=40						
STKA	**Stephens Creek**	**38.40**	**152**	P	**P**	**08 46 59.7**	**-0.1**
STKA	**Stephens Creek**	**38.40**	**152**	P	**P**	**08 46 59.7**	**-0.1**
	1.1nm,0.5s,baz=305,slow=8.9,SNR=7.1						
SONM	**Songino Array**	**47.75**	**346**	P	**P**	**08 48 16.4**	**+1.0**
SONM	**Songino Array**	**47.75**	**346**	P	**P**	**08 48 16.4**	**+1.0**
	1.8nm,0.7s,baz=166,slow=9.3,SNR=11						
MKAR	**Makanchi Array**	**56.46**	**328**	P	**P**	**08 49 20.0**	**-0.1**
MKAR	**Makanchi Array**	**56.46**	**328**	P	**P**	**08 49 20.0**	**-0.1**
	1.3nm,0.3s,baz=128,slow=8.6,SNR=19						
KBL	**Kaul**	**58.87**	**310**	*e*P	**P**	**08 49 36.1**	**-1.4**
	16nm,1.0s						
ZAA0	**Zalesovo Array**	**60.19**	**336**	*e*P	**P**	**08 49 44.9**	**-1.0**
ZALV	**Zalesovo Beam**	**60.19**	**336**	P	**P**	**08 49 45.2**	**-0.7**
ZALV	**Zalesovo Beam**	**60.19**	**336**	P	**P**	**08 49 45.2**	**-0.7**
	3.7nm,0.8s,baz=122,slow=7.2,SNR=13						
KURK	**Kurchatov**	**60.82**	**330**	*e*P	**P**	**08 49 49.7**	**-0.6**
	5.5nm,1.0s						
KKAR	**Karatay Array**	**61.37**	**319**	*e*P	**P**	**08 49 53.6**	**-0.6**
	1.8nm,0.8s						
BRVK	**Borovoye**	**66.40**	**329**	*e*P	**P**	**08 50 26.6**	**-0.5**
	1.1nm,0.5s						
ILAR	**Eielson Array**	**88.94**	**25**	P	**P**	**08 52 31.1**	**-1.2**
ILAR	**Eielson Array**	**88.94**	**25**	P	**P**	**08 52 31.1**	**-1.2**
	0.1nm,0.6s,baz=238,slow=5.1,SNR=4.1						

*IDC **27** 08:59:42.8±1.4, 37.°87N×20.°33E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.6/26, mbtmp3.8/6, ML2.5/1, Error ellipse: s-maj=30.7km s-min=24.7km az=88.0*

*ISCJB **27** 08:59:43.6±0.9, 37.°80N±0.°03×20.°08E±0.°04, h15km±7km, mb3.7/5, Error ellipse: s-maj=6.2km s-min=3.3km az=42.0*

*CSEM **27** 08:59:44.3±0.3, 37.°81N×20.°22E, h2km, MD3.5, Error ellipse: s-maj=6.1km s-min=3.2km az=40.0*

*BEO **27** 08:59:44.7±0.8, 37.°80N×20.°06E, h5km, ML3.8/7*

*THE **27** 08:59:45.2, 37.°81N×20.°27E, h0km±2km, MD3.5/5, Error ellipse: s-maj=2.3km s-min=1.2km az=229.0*

*ATH **27** 08:59:46.7, 37.°82N×20.°48E, h19km±1km, MD3.5/24, ML3.3*

ISC 27 08:59:45.0±1.2, 37.°82N±0.°03×20.°25E±0.°03, h14km±8km, n170, σ1§22/212, mb3.9/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.45**	**37**	P	**Pg**	**08 59 53.9**	**0.0**
VLS				S	**Sg**	**09 00 00.2**	**+0.2**
VLS	**Valsamata**	**0.45**	**37**	*e*PB	**Pg**	**08 59 53.9**	**0.0**
VLS	**Valsamata**	**0.45**	**37**	P	**Pg**	**08 59 53.9**	**0.0**
VLS				S	**Sg**	**09 00 00.2**	**+0.2**
KFL	**Anninata**	**0.52**	**55**	P	**Pg**	**08 59 54.7**	**-0.5**
KFL				S	**Sg**	**09 00 01.5**	**-0.6**
KFL	**Anninata**	**0.52**	**55**	P	**Pg**	**08 59 54.7**	**-0.5**
KFL				S	**Sg**	**09 00 01.5**	**-0.6**
VTN	**Vitineika**	**0.75**	**82**	P	**Pg**	**08 59 58.6**	**-0.9**
VTN	**Vitineika**	**0.75**	**82**	P	**Pg**	**08 59 58.6**	**-0.9**
SFD	**Strofades**	**0.83**	**133**	*e*PN	**Pg**	**09 00 00.5**	**-0.6**
AXS	**Araxos**	**0.97**	**67**	P	**Pb**	**09 00 02.2**	**-1.3**
AXS	**Araxos**	**0.97**	**67**	P	**Pb**	**09 00 02.2**	**-1.3**
RLS	**Riolos of Patr**	**0.99**	**76**	P	**Pb**	**09 00 02.9**	**-1.0**
RLS				S	**Sn**	**09 00 18.6**	**+0.3**
RLS	**Riolos of Patr**	**0.99**	**76**	*e*PN	**Pb**	**09 00 03.0**	**-1.0**
RLS	**Riolos of Patr**	**0.99**	**76**	P	**Pb**	**09 00 02.9**	**-1.0**
RLS				S	**Sn**	**09 00 18.6**	**+0.3**
PDO	**Prodromos**	**1.07**	**43**	P	**Pb**	**09 00 04.5**	**-0.8**
PDO	**Prodromos**	**1.07**	**43**	*e*PN	**Pb**	**09 00 05.1**	**-0.2**
PDO	**Prodromos**	**1.07**	**43**	P	**Pb**	**09 00 04.5**	**-0.8**
PDO	**Prodromos**	**1.07**	**43**	*e*Pn	**Pb**	**09 00 05.1**	**-0.2**
DRO	**Drossia**	**1.16**	**83**	P	Pn	**09 00 05.8**	**-1.1**
DRO				S	**Sn**	**09 00 24.1**	**+1.5**
DRO	**Drossia**	**1.16**	**83**	P	**Pn**	**09 00 05.8**	**-1.1**
DRO				S	**Sn**	**09 00 24.1**	**+1.5**
AMT	**Artemida-Makis**	**1.19**	**103**	P	Pn	**09 00 07.0**	**-0.3**
AMT				S	**Sg**	**09 00 24.6**	**+1.1**
AMT	**Artemida-Makis**	**1.19**	**103**	*e*PN	**Pn**	**09 00 06.1**	**-1.2**
AMT	**Artemida-Makis**	**1.19**	**103**	P	**Pn**	**09 00 07.0**	**-0.3**
AMT				S	**Sg**	**09 00 24.6**	**+1.1**
PVO	**Paravola**	**1.28**	**51**	P	**Pg**	**09 00 09.3**	**-0.4**
PVO	**Paravola**	**1.28**	**51**	P	**Pg**	**09 00 09.3**	**-0.4**
UPR	**University Cam**	**1.30**	**69**	P	**Pg**	**09 00 09.9**	**-0.1**
UPR	**University Cam**	**1.30**	**69**	P	**Pg**	**09 00 09.9**	**-0.1**
PSA1	**Psathopyrgos**	**1.39**	**68**	*e*PN	**Pb**	**09 00 10.4**	**-0.2**
LAKA	**Lakka**	**1.43**	**72**	*e*PN	**Pn**	**09 00 10.9**	**+0.4**
LAKA	**Lakka**	**1.43**	**72**	*e*Pn	**Pn**	**09 00 10.9**	**+0.4**
EFP	**Efpalio**	**1.44**	**65**	P	**Pn**	**09 00 10.9**	**+0.3**
EFP				S	**Sg**	**09 00 32.6**	**+1.2**
EFP	**Efpalio**	**1.44**	**65**	*e*PN	**Pn**	**09 00 11.0**	**+0.3**
EFP	**Efpalio**

GRG	**Griva**	**3.55**	**27**	*e*Pn		**Pn**	**09 00 42.1**	**+2.4**
HORT	**Hortiatis**	**3.55**	**38**	*e*PN		**Pn**	**09 00 41.1**	**+1.4**
HORT	**Hortiatis**	**3.55**	**38**	*e*Pn		**Pn**	**09 00 41.1**	**+1.4**
OUR	**Ouranopolis**	**3.84**	**48**	*e*PN		**Pn**	**09 00 45.0**	**+1.4**
OUR	**Ouranopolis**	**3.84**	**48**	*e*Pn		**Pn**	**09 00 45.0**	**+1.4**
SOH	**Sokhos**	**3.85**	**38**	*e*PN		**Pn**	**09 00 46.5**	**+2.7**
SOH	**Sokhos**	**3.85**	**38**	*e*Pn		**Pn**	**09 00 46.5**	**+2.7**
PHP	**Peshkopia**	**3.87**	**2**	*i* PN		**Pn**	**09 00 45.6**	**+1.6**
PHP				*i* SN		**Sn**	**09 01 31.9**	**+2.6**
PHP	**Peshkopia**	**3.87**	**2**	*i* Pn		**Pn**	**09 00 45.6**	**+1.6**
PHP				*i* Sn		**Sn**	**09 01 31.9**	**+2.6**
KNT	**Kendrikon**	**3.92**	**31**	*e*PN		**Pn**	**09 00 47.0**	**+2.3**
KNT	**Kendrikon**	**3.92**	**31**	*e*Pn		**Pn**	**09 00 47.0**	**+2.3**
PUK	**Puka**	**4.23**	**356**	*i* PN		**Pn**	**09 00 50.4**	**+1.4**
PUK				*i* SN		**Sn**	**09 01 38.0**	**-0.2**
PUK	**Puka**	**4.23**	**356**	*i* Pn		**Pn**	**09 00 50.4**	**+1.4**
PUK				*i* Sn		**Sn**	**09 01 38.0**	**-0.2**
GVD	**Gavdhos**	**4.29**	**133**	*e*PN		**Pn**	**09 00 51.6**	**+1.7**
GVD	**Gavdhos**	**4.29**	**133**	*e*Pn		**Pn**	**09 00 51.6**	**+1.7**
IDI	**Anoyia**	**4.51**	**123**	*e*PN		**Pn**	**09 00 54.8**	**+1.9**
IDI	**Anoyia**	**4.51**	**123**	*e*Pn		**Pn**	**09 00 54.8**	**+1.9**
IDI	**Anoyia**	**4.51**	**123**	Pn		**Pn**	**09 00 53.1**	**+0.2**
	0.3nm,0.3s,baz=328,slow=19,SNR=2.3							
IDI						**Sn**	**09 01 46.0**	**+0.8**
	4.0nm,0.3s,baz=316,slow=20,SNR=6.9							
KAVA	**Kavala**	**4.58**	**45**	*e*PN		**Pn**	**09 00 55.4**	**+1.6**
KAVA	**Kavala**	**4.58**	**45**	*e*Pn		**Pn**	**09 00 55.4**	**+1.6**
PDG	**Podgorica**	**4.67**	**351**	*e*PN		**Pn**	**09 00 54.1**	**-0.9**
PDG				*e*Sn		**Sn**	**09 01 49.0**	**0.0**
PDG	**Podgorica**	**4.67**	**351**	*e*Pn		**Pn**	**09 00 54.1**	**-0.9**
PDG				*e*Sn		**Sn**	**09 01 49.0**	**0.0**
TREB	**Trebinje**	**5.10**	**344**	*e*Pn		**Pn**	**09 00 59.1**	**-1.9**
TREB				*e*Sn		**Sn**	**09 01 58.2**	**-1.5**
TREB	**Trebinje**	**5.10**	**344**	*e*Pn		**Pn**	**09 00 59.1**	**-1.9**
TREB				*e*Sn		**Sn**	**09 01 58.2**	**-1.5**
VTS	**Vitosha**	**5.28**	**24**	*e*Pn		**Pn**	**09 01 05.8**	**+2.3**
VTS				*e*Sn		**Sn**	**09 02 04.6**	**+0.4**
VTS	**Vitosha**	**5.28**	**24**	*e*Pn		**Pn**	**09 01 05.8**	**+2.3**
VTS				*e*Sn		**Sn**	**09 02 04.6**	**+0.4**
STON	**Ston**	**5.41**	**340**	*e*Pn		Pn	09 01 00.8	-4.4
STON						**Sn**	**09 02 04.6**	**-2.6**
STON	**Ston**	**5.41**	**340**	*e*Pn		**Pn**	**09 01 06.7**	**+1.5**
STON				*e*Sn		**Sn**	**09 02 04.9**	**-2.3**
STON	**Ston**	**5.41**	**340**	*e*Pn		**Pn**	**09 01 06.7**	**+1.5**
STON				*e*Sn		**Sn**	**09 02 04.6**	**-2.6**
SELS	**Selova**	**5.44**	**7**	*e*Pn		**Pn**	**09 01 06.1**	**+0.5**
SJES	**Sjenica**	**5.44**	**358**	*e*PN		**Pn**	**09 01 06.2**	**+0.5**
SJES				*e*Sn		**Sn**	**09 02 08.5**	**+0.3**
SJES	**Sjenica**	**5.44**	**358**	*e*Pn		**Pn**	**09 01 06.2**	**+0.5**
SJES				*e*Sn		**Sn**	**09 02 08.5**	**+0.3**
ZAPS	**Zavoj**	**5.74**	**18**	*e*Pn		**Pn**	**09 01 09.8**	**0.0**
IVAS	**Ivanjica**	**5.75**	**359**	*e*Pn		**Pn**	**09 01 10.8**	**+0.8**
IVAS				*e*Sn		**Sn**	**09 02 15.9**	**+0.1**
IVAS	**Ivanjica**	**5.75**	**359**	*e*Pn		**Pn**	**09 01 10.8**	**+0.8**
IVAS				*e*Sn		**Sn**	**09 02 15.9**	**+0.1**
GRUS	**Gruza**	**6.08**	**3**	*e*Pn		**Pn**	**09 01 13.9**	**-0.4**
GRUS	**Gruza**	**6.08**	**3**	*e*Pn		**Pn**	**09 01 13.9**	**-0.4**
BBLS	**Lazići**	**6.08**	**354**	*e*Pn		**Pn**	**09 01 15.3**	**+0.9**
BBLS	**Lazići**	**6.08**	**354**	*e*Pn		**Pn**	**09 01 15.3**	**+0.9**
DIVS	**Divibare**	**6.28**	**358**	*e*Pn		**Pn**	**09 01 18.3**	**+1.1**
DIVS				*e*Sn		**Sn**	**09 02 26.7**	**-2.0**
DIVS	**Divibare**	**6.28**	**358**	*e*Pn		**Pn**	**09 01 18.3**	**+1.1**
DIVS				*e*Sn		**Sn**	**09 02 26.7**	**-2.0**
TRUS	**Trudelj**	**6.40**	**1**	*e*Sn		**Sn**	**09 02 29.2**	**-2.4**
FGSL	**Fruska Gora**	**7.34**	**358**	*e*Pn		**Pn**	**09 01 31.8**	**+0.1**
FRGS	**Fruska Gora**	**7.34**	**358**	*e*Pn		**Pn**	**09 01 31.8**	**+0.1**
NVLJ	**Novalja**	**7.86**	**331**	*e*Pn		**Pn**	**09 01 40.8**	**+1.9**
NVLJ						**Sn**	**09 03 04.5**	**-3.0**
NVLJ	**Novalja**	**7.86**	**331**	*e*Pn		**Pn**	**09 01 40.7**	**+1.9**
GERES	**GERESS Array B**	**12.00**	**339**	Sn		**Sn**	**09 04 46.0**	**-3.2**
	0.4nm,0.3s,baz=155,slow=24,SNR=4.2							
FINES	**FINESS Array B**	**23.93**	**7**	P		**P**	**09 04 57.9**	**-0.4**
	2.0nm,0.6s,baz=176,slow=8.9,SNR=12							
TORD	**Torodi Ar. Bea**	**29.62**	**219**	P		**P**	**09 05 50.4**	**+0.6**
	0.3nm,0.6s,baz=29,slow=9.9,SNR=3.3							
ARCES	**ARCESS Array B**	**31.90**	**3**	P		**P**	**09 06 09.2**	**-0.4**
	1.2nm,0.7s,baz=188,slow=10,SNR=8.4							
MKAR	**Makanchi Array**	**45.67**	**58**	P		**P**	**09 08 04.2**	**-1.0**
	0.6nm,0.4s,baz=278,slow=6.9,SNR=9.9							
ZALV	**Zalesovo Beam**	**46.09**	**48**	P		**P**	**09 08 07.5**	**-0.8**
	1.1nm,0.5s,baz=263,slow=8.8,SNR=4.8							

*ISCJB **27** 09:35:14.6±1.2, 8.21S±0.05×107.17E±0.05, h15km±11km, Error ellipse: s-maj=7.9km s-min=7.4km az=42.0*
*AUST **27** 09:35:14.3±1.2, 8.31S×107.26E, h0km, Error ellipse: s-maj=1.7km s-min=0.9km az=313.0*
*DJA **27** 09:35:16.7±0.7, 8°S±3°×107°E±°, h14km±6km, M4.2/11, MLv4.2/11*

ISC 27 09:35:14.1±1.7, 8°19S±0.05×107°18E±0.05, h9km±12km, n21, σ1ᵖ18/23, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.89**	**45**	P	**Pb**	**09 35 32.4**	**+0.6**
CISI				S	**Sg**	**09 35 42.3**	**-0.5**
CISI	**Cisompet, Garu**	**0.89**	**45**	P	**Pb**	**09 35 31.7**	**0.0**
	baz=0.9,SNR=337						
SKJI	**Sukabumi**	**1.32**	**332**	P	**Pn**	**09 35 37.8**	**-1.1**
SKJI				S	**Sb**	**09 35 54.8**	**-1.5**
LEM	**Lembang**	**1.42**	**18**	P	**Pb**	**09 35 41.1**	**+0.2**
LEM				S	**Sb**	**09 35 59.1**	**0.0**
LEM	**Lembang**	**1.42**	**18**	P	**Pg**	**09 35 42.8**	**+1.4**
	baz=1.5,SNR=20						
DBJI	**Dramaga**	**1.68**	**345**	P	**Pb**	**09 35 45.4**	**+0.2**
DBJI				S	**Sn**	**09 36 04.2**	**-1.2**
KPJI	**Karang Pucung**	**1.93**	**64**	P	**Pn**	**09 35 48.4**	**+1.2**
KPJI				S	**Sn**	**09 36 12.6**	**+1.0**
TGJI	**Tegal**	**2.33**	**56**	P	**Pn**	**09 35 54.0**	**+1.4**
BJII	**Banjamegara**	**2.65**	**72**	P	**Pg**	**09 36 04.2**	**-0.7**
XMI	**Christmas Isla**	**2.69**	**213**	P	**Pn**	**09 35 59.1**	**+1.4**
	baz=2.6,SNR=9.0						
XMIS	**Christmas Isla**	**2.73**	**213**	P	**Pn**	**09 35 59.3**	**+1.0**
	baz=2.7,SNR=37						
UGM	**Wanagama**	**3.32**	**86**	P	**Pn**	**09 36 07.5**	**+1.1**
UGM	**Wanagama**	**3.32**	**86**	P	**Pn**	**09 36 06.5**	**+0.1**
	baz=3.3,SNR=21						
PCJI	**Pacitan**	**3.96**	**90**	P	**Pn**	**09 36 16.1**	**+1.0**
SJI	**Sawahan**	**4.56**	**85**	P	**Pb**	**09 36 31.8**	**-2.7**
PWJI	**Pagerwojo**	**4.58**	**88**	P	Pn	09 36 29.4	+5.7
MDSI	**Maura Dua**	**4.73**	**321**	P	Pb	09 36 32.2	-5.1
GIRL	**Giralia**	**15.89**	**156**	P	**Pn**	**09 38 57.2**	**-1.0**
	baz=16,SNR=3.3						
FITZ	**Fitzroy Crossi**	**20.48**	**121**	P	**P**	**09 39 53.1**	**+0.6**
	baz=20,SNR=6.1						
KDU	**Kakadu**	**25.27**	**102**	P	P	09 40 47.6	+6.6
	baz=25,SNR=3.6						
STKA	**Stephens Creek**	**39.73**	**131**	P	**P**	**09 42 47.5**	**+0.3**
	baz=40,SNR=14						

IDC 27 09:57:26.0±2.2, 6.64S×129.72E, h0km, mb3.7/1, mb1 3.6/4, mb1mx3.4/19, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=92.2km s-min=27.6km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.07**	**199**	Pn	Pn	10 00 20.6	+1.2
	0.2nm,0.3s,baz=24,slow=10.0,SNR=15						
FITZ					Sn	10 02 23.9	-11
	0.5nm,0.3s,baz=101,slow=21,SNR=9.0						
WRA	**Warramunga Arr**	**13.96**	**162**	Pn	Pn	10 00 44.1	-1.3
	0.2nm,0.3s,baz=338,slow=13,SNR=15						
WRA					Sn	10 03 05.9	-15
	0.4nm,0.3s,baz=339,slow=21,SNR=9.2						
ASAR	**Alice Springs**	**17.40**	**167**	P	Pn	10 01 30.3	-0.1
	0.2nm,0.3s,baz=345,slow=9.4,SNR=14						
ASAR				S	Sn	10 04 30.1	-15
	0.1nm,0.3s,baz=346,slow=25,SNR=6.4						
MKAR	**Makanchi Array**	**67.77**	**327**	P	P	10 08 25.7	0.0
	0.3nm,0.4s,baz=120,slow=8.0,SNR=2.8						

IDC 27 10:07:02.9±2.2, 15.22S×173.19W, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.7/20, mbtmp3.6/4, Error ellipse: s-maj=151.9km s-min=21.0km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.89**	**46**	Pn	Pn	10 07 34.8	-1.8
	26nm,0.3s,baz=23,slow=2.0,SNR=32						
AFI					Sn	10 07 54.1	-7.1
	137nm,0.3s,baz=78,slow=18,SNR=23						
WRA	**Warramunga Arr**	**50.09**	**257**	P	P	10 15 59.1	-1.0
	0.2nm,0.5s,baz=92,slow=8.2,SNR=9.1						
ASAR	**Alice Springs**	**50.36**	**252**	P	P	10 16 01.9	-0.3
	0.7nm,0.6s,baz=87,slow=8.2,SNR=16						
TXAR	**Lajitas Array**	**80.34**	**56**	P	P	10 19 16.9	+0.3
	0.5nm,1.0s,baz=217,slow=4.3,SNR=4.0						
PDAR	**Pinedale Array**	**82.00**	**42**	P	P	10 19 25.6	+0.4
	0.5nm,0.7s,baz=199,slow=4.1,SNR=4.2						
BRTR	**Keskin Array B**	**146.15**	**321**	PKPbc	PKPab	10 26 46.6	+0.3
	0.7nm,0.7s,baz=46,slow=4.2,SNR=3.8						

*NIED **27** 10:18:00.25°00N×128°20E, h5km, Mw4.2 Best double couple: M₀2.15000×10¹⁵ NP1:φ≈218.00000°, δ85.00000°, λ=-92.00000°. NP2:φ≈54.00000°, δ6.00000°, λ=-74.00000°.*
*IDC **27** 10:18:57.2±0.8, 24.88N×128.09E, h0km, mb4.1/13, mb1 4.1/16, mb1mx4.0/30, mbtmp4.1/16, ML3.6/2, MS3.2/3, Ms1 3.2/3, ms1mx2.8/40, Error ellipse: s-maj=40.5km s-min=13.3km az=73.0*
*ISCJB **27** 10:18:58.1±1.4, 24.98N±0.04×128.16E±0.04, h23km±10km, mb4.1/15, MS3.3/2, Error ellipse: s-maj=6.8km s-min=4.5km az=138.6*
*JMA **27** 10:18:59.7±0.3, 25.05N×128.21E, h79km, M4.1*
*NEIC **27** 10:19:01.9±0.6, 24.94N×128.11E, h35km, mb4.5/2, MW4.2(NIED), Error ellipse: s-maj=13.3km s-min=9.1km az=95.0*

ISC 27 10:18:58.8±2.1, 25.02N±0.05×128.24E±0.05, h14km±12km, n57, σ2ᵖ00/74, mb4.1/15, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**1.20**	**338**	P	**Pg**	**10 19 20.9**	**-1.0**
JJT2				*e*S	**Sb**	**10 19 37.5**	**+0.8**
JAGN	**Aguni-jima**	**1.80**	**330**	P	**Pn**	**10 19 29.4**	**-0.1**
JAGN				*e*S	**Sn**	**10 19 50.5**	**-1.6**
JOW	**Kunigami**	**1.80**	**1**	P	**Pn**	**10 19 28.9**	**-0.6**
JOW				*e*S	**Sn**	**10 19 50.2**	**-2.0**
JOW	**Kunigami**	**1.80**	**1**	*e*Pn	**Pn**	**10 19 29.1**	**-0.4**
JOW				*e*Sn	**Sn**	**10 19 48.4**	**-3.9**
JKE	**Kume jima 2**	**1.85**	**315**	P	**Pn**	**10 19 29.6**	**-0.5**
JKE				*e*S	**Sn**	**10 19 51.2**	**-2.1**
JIH	**Iheya**	**2.02**	**353**	P	**Pn**	**10 19 32.4**	**-0.1**
JIH				*e*S	**Sn**	**10 19 55.2**	**-2.3**
JOGS	**Gusukube**	**2.59**	**265**	P	**Pn**	**10 19 40.1**	**-0.2**
JOGS				*e*S	**Sn**	**10 20 08.8**	**-2.7**
JMJ	**Miyako jima 2**	**2.68**	**266**	P	**Pn**	**10 19 41.2**	**-0.4**
JMJ				*e*S	**Sn**	**10 20 11.3**	**-2.6**
JMZ	**Minamidaito 2**	**2.81**	**73**	P	Pn	10 19 40.2	-3.1
JMZ				*e*S	**Sn**	**10 20 12.4**	**-4.6**
JTK	**Tokunoshima**	**2.83**	**13**	P	**Pn**	**10 19 43.4**	**-0.2**
JTK				*e*S	**Sn**	**10 20 13.3**	**-4.1**
JTJ	**Tarama**	**3.24**	**264**	P	**Pn**	**10 19 48.5**	**-0.7**
JTJ				*e*S	**Sn**	**10 20 23.8**	**-3.8**
JAMN	**Amaminishikomi**	**3.32**	**14**	P	**Pn**	**10 19 49.9**	**-0.4**
JAMN				*e*S	**Sn**	**10 20 25.0**	**-4.5**
JAM	**Amami Oshima**	**3.59**	**20**	P	**Pn**	**10 19 53.7**	**-0.3**
JAM				*e*S	**Sn**	**10 20 32.2**	**-4.1**
JZK	**Kikaishima**	**3.63**	**25**	*e*S	**Sn**	**10 20 34.9**	**-2.3**
JIJ	**Ishigaki jima**	**3.78**	**261**	P	**Pn**	**10 19 55.5**	**-1.2**
JIJ				*e*S	Sn	10 20 35.9	-5.2
JKRS	**Kuro-shima**	**3.93**	**259**	P	**Pn**	**10 19 57.7**	**-1.0**
JKRS				*e*S	**Sn**	**10 20 40.7**	**-3.9**
HATJ	**Hateruma jima**	**4.15**	**258**	*e*S	Sn	10 20 44.8	-5.4
IRIF	**Iriomote-Funau**	**4.16**	**261**	*e*S	**Sn**	**10 20 49.7**	**-0.6**
YOJ	**Yonaguni jima**	**4.79**	**264**	P	**Pn**	**10 20 10.4**	**-0.1**
YOJ				*e*S	**Sn**	**10 21 02.3**	**-3.5**
YULB	**Yu-li**	**6.54**	**257**	*e*Pn	Pn	10 20 31.7	-3.0
	18nm,0.6s						
YULB				*e*Sn	Sn	10 21 40.9	-8.3
SSLB	**Suanglung**	**6.75**	**261**	*e*Pn	**Pn**	**10 20 35.6**	**-2.0**
	12nm,0.4s						
SSLB				*e*Sn	**Sn**	**10 21 50.1**	**-4.3**
TPUB	**Ta-pu**	**7.16**	**258**	*e*Pn	**Pn**	**10 20 42.1**	**-1.1**
	46nm,0.3s						
TPUB				*e*Sn	**Sn**	**10 22 00.2**	**-4.1**
JNU	**Nakatsue**	**8.39**	**15**	Pn	**Pn**	**10 21 01.0**	**+0.9**
JNU				Sn	**Sn**	**10 22 30.9**	**-3.9**
JNU	**Nakatsue**	**8.39**	**15**	Pn	**Pn**	**10 21 01.0**	**+0.9**
	1.0nm,0.3s,baz=189,slow=5.0,SNR=10						
JNU				Sn	**Sn**	**10 22 30.9**	**-3.9**
	0.3nm,0.3s,baz=204,slow=20,SNR=5.0						
KSAR	**Wonju Array Be**	**12.39**	**359**	Pn	**Pn**	**10 21 55.9**	**+1.1**
KSRS	**Korea Array**	**12.40**	**359**	Pn	**Pn**	**10 21 55.8**	**+1.0**
	baz=172,slow=11,SNR=4.2						
KSRS				LR	LR	10 27 06.0	
	comp=Z,62nm,19.1s,baz=180,slow=39						
USRK	**Ussuriysk Arra**	**19.38**	**8**	P	**Pn**	**10 23 26.8**	**+1.5**
	0.5nm,0.3s,baz=185,slow=9.4,SNR=20						
SONM	**Songino Array**	**28.58**	**328**	P	**P**	**10 24 56.3**	**+1.8**
SONM	**Songino Array**	**28.58**	**328**	P	**P**	**10 24 56.3**	**+1.8**
	1.0nm,0.6s,baz=143,slow=11,SNR=4.4						
SONM				LR	LR	10 37 46.5	
	comp=Z,34nm,20.6s,baz=40,slow=39						
MK31	**Makanchi Array**	**42.35**	**313**	*e*P	**P**	**10 26 52.6**	**+0.1**
MKAR	**Makanchi Array**	**42.35**	**313**	P	**P**	**10 26 52.6**	**+0.1**
MKAR	**Makanchi Array**	**42.35**	**313**	P	**P**	**10 26 52.6**	**+0.1**
	1.5nm,0.5s,baz=99,slow=10.0,SNR=29						
FITZ	**Fitzroy Crossi**	**42.94**	**184**	P	**P**	**10 26 56.5**	**-0.9**
FITZ	**Fitzroy Crossi**	**42.94**	**184**	P	**P**	**10 26 56.5**	**-0.9**
	1.9nm,0.7s,baz=12,slow=7.9,SNR=3.6						
ZALV	**Zalesovo Beam**	**43.22**	**324**	P	**P**	**10 27 00.0**	**+0.7**
ZALV	**Zalesovo Beam**	**43.22**	**324**	P	**P**	**10 27 00.0**	**+0.7**
	2.8nm,0.8s,baz=107,slow=8.1,SNR=14						
WRAB	**Tennant Creek**	**45.08**	**172**	*e*P	**P**	**10 27 13.7**	**-0.9**
	3.2nm,0.8s						
WRA	**Warramunga Arr**	**45.09**	**172**	P	**P**	**10 27 14.1**	**-0.6**
WRA	**Warramunga Arr**	**45.09**	**172**	P	**P**	**10 27 14.1**	**-0.6**
	3.1nm,0.8s,baz=352,slow=8.8,SNR=24						
KURK	**Kurchatov**	**45.71**	**317**	P	**P**	**10 27 19.1**	**-0.1**
KURK				*e*P	**P**	**10 27 19.1**	**-0.1**
KURBB	**Kurchatov Arra**	**45.74**	**317**	P	**P**	**10 27 19.1**	**-0.4**
	1.2nm,0.5s,baz=104,slow=9.0,SNR=9.4						
ASAR	**Alice Springs**	**48.71**	**173**	P	**P**	**10 27 42.7**	**-0.3**
ASAR	**Alice Springs**	**48.71**	**173**	P	**P**	**10 27 42.7**	**-0.3**
	1.1nm,0.7s,baz=2.0,slow=14,SNR=18						
BVAR	**Borovoye Array**	**51.18**	**319**	P	**P**	**10 28 02.5**	**+1.0**
BVAR	**Borovoye Array**	**51.18**	**319**	P	**P**	**10 28 02.5**	**+1.0**
	3.1nm,0.6s,baz=79,slow=7.7,SNR=12						
BRVK	**Borovoye**	**51.25**	**319**	*e*P	**P**	**10 28 03.2**	**+1.2**
	8.7nm,1.0s						
ABKAR	**Akbulak array**	**57.48**	**314**	*e*P	**P**	**10 28 48.4**	**+1.0**
STKA	**Stephens Creek**	**58.00**	**167**	P	**P**	**10 28 50.5**	**-0.6**
STKA	**Stephens Creek**	**58.00**	**167**	P	**P**	**10 28 50.5**	**-0.6**
	1.9nm,0.9s,baz=141,slow=24,SNR=5.1						
AKTO	**Aktyubinsk**	**58.69**	**315**	P	**P**	**10 28 55.4**	**-0.5**
AKTO	**Aktyubinsk**	**58.69**	**315**	P	**P**	**10 28 55.4**	**-0.5**
	0.7nm,0.3s,baz=101,slow=5.2,SNR=5.1						
AKASG	**Malin Array Be**	**76.45**	**320**	P	**P**	**10 30 49.5**	**+1.4**
AKASG	**Malin Array Be**	**76.45**	**320**	P	**P**	**10 30 49.4**	**+1.4**
	0.4nm,0.3s,baz=58,slow=6.7,SNR=3.3						
BRTR	**Keskin Array B**	**77.78**	**308**	P	**P**	**10 30 57.0**	**+1.0**
BRTR	**Keskin Array B**	**77.78**	**308**	P	**P**	**10 30 57.0**	**+1.0**
	1.0nm,0.8s,baz=48,slow=7.3,SNR=4.5						
NOA	**NORSAR Array B**	**80.40**	**334**	P	**P**	**10 31 11.6**	**+1.9**
NOA	**NORSAR Array B**	**80.40**	**334**	P	**P**	**10 31 11.6**	**+1.9**
	0.6nm,0.9s,baz=75,slow=8.7,SNR=3.0						
NOA				LR	LR	11 13 54.5	
	comp=Z,24nm,18.5s,baz=220,slow=41						

*NEIC **27** 10:35:56.3, 38.24S×175.75E, h182km, MG4.0(WEL), After WEL.*

WEL 27 10:35:57.0±0.4, 38.25S×175.77E, h175km±3km, ML4.0/19, 4C-1D, Error ellipse: s-maj=2.2km s-min=2.0km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.74**	**57**	PN	Pn	10 36 22.4	-0.1
OPRZ	**Ohinepanea**	**0.74**	**57**	Pn	Pn	10 36 22.0	-0.5
HIZ	**Hauiti**	**0.77**	**250**	PN	Pn	10 36 22.6	0.0
KRVZ	**Karewarewa**	**0.85**	**187**	PN	Pn	10 36 23.4	+0.1
WTVZ	**West Tongariro**	**0.87**	**189**	PN	Pn	10 36 23.6	+0.2
WTVZ	**West Tongariro**	**0.87**	**189**	Pn	Pn	10 36 23.6	+0.2
WPVZ	**Whakapapa**	**0.97**	**190**	PN	Pn	10 36 24.2	+0.1
WPVZ	**Whakapapa**	**0.97**	**190**	Pn	Pn	10 36 24.2	+0.1
WPVZ					Sn	10 36 52.1	+6.9
FWVZ	**Far West T-bar**	**1.02**	**190**	PN	Pn	10 36 24.4	-0.3
FWVZ					**Sn**	10 36 44.7	-1.4
FWVZ	**Far West T-bar**	**1.02**	**190**	Pn	Pn	10 36 24.5	-0.2
TUVZ	**Tukino**	**1.02**	**185**	⇑PN	Pn	10 36 24.7	+0.1
TUVZ	**Tukino**	**1.02**	**185**	Pn	Pn	10 36 24.7	+0.1
DRZ	**Dome Shelter**	**1.03**	**189**	*e*PN	Pn	10 36 25.1	+0.2
DRZ				*e*SN	Sn	10 36 45.4	-1.1
WHVZ	**Whangaehu Hut**	**1.04**	**188**	PN	Pn	10 36 24.5	-0.3
URZ	**Urewera**	**1.05**	**91**	PN	Pn	10 36 24.1	-0.5
URZ				SN	Sn	10 36 45.8	0.0
URZ				AML	AML	10 36 47.3	
URZ	**Urewera**	**1.05**	**91**	Pn	Pn	10 36 24.1	-0.5
TRVZ	**Turoa**	**1.06**	**189**	PN	Pn	10 36 25.0	0.0
TRVZ	**Turoa**	**1.06**	**189**	Pn	Pn	10 36 25.0	+0.1
BKZ	**Black Stump Fm**	**1.07**	**149**	⇑PN	Pn	10 36 24.8	-0.1
BKZ				AML	AML	10 36 49.1	
BKZ				AML	AML	10 36 56.4	
BKZ	**Black Stump Fm**	**1.07**	**149**	Pn	Pn	10 36 24.8	-0.1
WNVZ	**Wahianoa**	**1.08**	**187**	PN	Pn	10 36 25.1	0.0
WNVZ	**Wahianoa**	**1.08**	**187**	Pn	Pn	10 36 25.1	0.0
PKVZ	**Pokaka**	**1.09**	**198**	PN	Pn	10 36 24.9	-0.1
MOVZ	**Moawhango**	**1.15**	**181**	PN	Pn	10 36 25.1	-0.4
MOVZ				SN	Sn	10 36 47.3	-0.4
MOVZ	**Moawhango**	**1.15**	**181**	Pn	Pn	10 36 25.1	-0.4
MOVZ				Sn	Sn	10 36 47.3	-0.4
MTVZ	**Mangateitei**	**1.16**	**192**	PN	Pn	10 36 25.3	-0.2
MTVZ	**Mangateitei**	**1.16**	**192**	Pn	Pn	10 36 25.5	0.0
NMHZ	**Naumai**	**1.17**	**137**	PN	Pn	10 36 26.5	+0.8
NMHZ	**Naumai**	**1.17**	**137**	Pn	Pn	10 36 26.5	+0.8
VRZ	**Vera Road**	**1.18**	**222**	PN	Pn	10 36 25.7	+0.1
VRZ	**Vera Road**	**1.18**	**222**	Pn	Pn	10 36 25.7	+0.1
RAHZ	**Arahi**	**1.23**	**123**	PN	Pn	10 36 26.7	+0.6
RAHZ	**Arahi**	**1.23**	**123**	Pn	Pn	10 36 26.6	+0.6
MKAZ	**Moumakai**	**1.24**	**337**	PN	Pn	10 36 25.9	-0.3
MKAZ	**Moumakai**	**1.24**	**337**	Pn	Pn	10 36 25.9	-0.3
BHHZ	**Black Hill Sta**	**1.25**	**170**	PN	Pn	10 36 25.9	-0.5
BHHZ				SN	Sn	10 36 48.5	-0.8
BHHZ	**Black Hill Sta**	**1.25**	**170**	Pn	Pn	10 36 25.9	-0.5
SNGZ	**Shannon Statio**	**1.34**	**114**	PN	Pn	10 36 27.3	+0.3
MWZ	**Matawai**	**1.38**	**94**	⇓PN	Pn	10 36 27.1	-0.4
MWZ				SN	Sn	10 36 51.1	0.0
MWZ				AML	AML	10 36 52.7	
MWZ				AML	AML	10 36 52.7	
MWZ				AML	AML	10 36 53.8	
MWZ	**Matawai**	**1.38**	**94**	Pn	Pn	10 36 27.1	-0.4
MCHZ	**McNeill Hill**	**1.39**	**149**	PN	Pn	10 36 28.0	+0.5
MCHZ	**McNeill Hill**	**1.39**	**149**	Pn	Pn	10 36 28.1	+0.5
WHHZ	**Waihua**	**1.41**	**126**	PN	Pn	10 36 28.8	+1.1
WAZ	**Wanganui**	**1.62**	**202**	PN	Pn	10 36 29.1	-0.7
WAZ	**Wanganui**	**1.62**	**202**	Pn	Pn	10 36 29.1	-0.7
RIGZ	**Rimuhau**	**1.63**	**107**	PN	Pn	10 36 29.8

OXZ	Oxford	5.80	208	PN	Pn	10 37 14.9	-6.4
CRLZ	Canterbury Las	5.83	203	PN	Pn	10 37 15.4	-6.2
CRLZ	Canterbury Las	5.83	203	Pn	Pn	10 37 15.6	-6.1
MQZ	McQueen's Vall	5.94	202	PN	Pn	10 37 16.6	-6.5
MQZ	McQueen's Vall	5.94	202	Pn	Pn	10 37 16.6	-6.5
WVZ	Waitaha Valley	6.15	217	PN	Pn	10 37 20.5	-5.4
WVZ	Waitaha Valley	6.15	217	Pn	Pn	10 37 20.4	-5.4
RPZ	Rata Peaks	6.52	212	PN	Pn	10 37 24.6	-6.2
ODZ	Otahua Downs	7.79	208	PN	Pn	10 37 41.6	-5.9
ODZ	Otahua Downs	7.79	208	Pn	Pn	10 37 41.7	-5.8
JCZ	Jackson Bay	7.86	220	PN	Pn	10 37 41.6	-6.9
JCZ	Jackson Bay	7.86	220	Pn	Pn	10 37 41.6	-6.9

NEIC ***27*** *10:50:33.3, 53.°15N×166.°64W, h21km, ML3.8(AEIC), After AEIC.*

ISCJB ***27*** *10:50:34.3±0.7, 53.°22N±0.°08×166.°72W±0.°07, h55km±7km, mb3.8/8, MS3.5/8, Error ellipse: s-maj=15.2km s-min=4.2km az=155.4*

IDC ***27*** *10:50:39.0±4.0, 53.°22N×166.°96W, h92km±35km, mb3.5/8, mb1 3.7/10, mb1mx3.4/32, mbtmp3.5/10, MS3.5/8, Ms1 3.5/8, ms1mx3.3/34, Error ellipse: s-maj=31.4km s-min=18.2km az=178.0*

ISC 27 10:50:35.2±1.2, 53°24N±0.°10×166°74W±0.°05, h50km±11km, n56, σ1°20/47, mb3.9/8, MS3.6/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGOD	Makushin Gods	0.56	352	P	Pn	10 50 46.5	-0.7
MREP	Makushin Rep't	0.57	360	P	Pn	10 50 47.2	-0.2
MSOM	Makushin Julie	0.59	348	P	Pn	10 50 47.1	-0.5
UNV	Unalaska Valle	0.62	13	P	Pn	10 50 46.4	-1.6
UNV				S	Sn	10 50 55.9	-1.3
MCIR	Makushin Cirqu	0.72	353	P	Pn	10 50 49.2	0.0
OKFG	Magazine Ridge	0.72	284	P	Pn	10 50 48.5	-0.7
OKFG				S	Sn	10 50 59.3	-0.1
MTBL	Makushin Table	0.73	3	P	Pn	10 50 49.0	-0.5
OKTU	Okmok Mt. Tuli	0.80	281	P	Pn	10 50 50.2	0.0
OKSO	Okmok South	0.80	278	P	Pn	10 50 51.2	-0.9
OKCE	Okmok Cone E	0.88	283	P	Pn	10 50 51.1	-0.2
OKSP	Okmok Steeple	0.93	271	P	Pn	10 50 51.6	-0.4
ZRO	Akutan Zero	0.97	28	P	Pn	10 50 51.5	-1.0
AKRB	Akutan Reef Bi	0.98	24	P	Pn	10 50 51.9	-0.7
AKRB				S	Sn	10 51 06.8	+1.3
LVA	Lava Point	1.01	24	P	Pn	10 50 52.4	-0.7
AKGG	Akutan Green G	1.06	24	P	Pn	10 50 53.2	-0.5
AKUT	Akutan	1.06	32	P	Pn	10 50 52.6	-1.2
AKUT				S	Sn	10 51 07.6	+0.1
NIKH	Nikolski High	1.30	259	P	Pn	10 50 55.8	-1.3
NIKH				S	Sn	10 51 15.2	+1.9
WESE	West Dahl East	1.77	45	P	Pn	10 51 03.4	-0.2
WESN	West Dahl Nort	1.84	43	P	Pn	10 51 04.5	+0.1
SSBA	Shishaldin	2.18	44	P	Pn	10 51 08.7	-0.3
SSLW	Shishaldin Wes	2.18	44	P	Pn	10 51 08.8	-0.2
BRPK	Brown Peak	2.26	50	P	Pn	10 51 10.9	+0.8
ISNN	Isanotski Nort	2.37	46	P	Pn	10 51 12.2	+0.6
FALS	False Pass	2.54	49	P	Pn	10 51 14.8	+0.9
DRIA	Deer Island	3.15	55	P	Pn	10 51 23.0	+0.7
DT1	Dutton Round H	3.22	53	P	Pn	10 51 24.4	+1.2
DTNA	Dutton South F	3.26	52	P	Pn	10 51 24.8	+1.1
SDPT	Sand Point	4.23	58	eP	Pn	10 51 37.0	-0.1
SDPT				eS	Sn	10 52 25.1	-0.1
SPIA	Saint Paul Isl	4.43	334	P	Pn	10 51 42.2	+2.5
GSCK	Great Sitkin C	5.87	262	P	Pn	10 52 01.0	+1.4
ADK	Adak	6.22	261	P	Pn	10 52 06.0	+1.7
FX1	Attu Island--F 1.1nm,0.3s,baz=356,slow=7.7,SNR=12	12.10	276	P	Pn	10 53 26.6	+1.9
ILAR	Eielson Array 0.1nm,0.3s,baz=226,slow=9.7,SNR=5.9	15.34	33	P	P	10 54 10.4	-1.6
DLBC	Dease Lake 4.5nm,0.8s,baz=256,slow=8.5,SNR=4.9	21.07	61	P	P	10 55 18.6	+3.6
DLBC				LR	LR	11 03 58.9	
	comp=Z,224nm,18.4s,baz=6.1,slow=38						
PETK	Petropavlovsk- comp=Z,49nm,18.1s,baz=326,slow=34	21.19	284	LR	LR	11 02 45.2	
INK	Inuvik 3.7nm,0.6s,baz=231,slow=9.8,SNR=13	21.74	33	P	P	10 55 22.4	+0.5
INK				LR	LR	11 03 32.1	
	comp=Z,117nm,20.5s,baz=127,slow=35						
NEW	Newport comp=Z,133nm,18.1s,baz=340,slow=36	31.26	79	LR	LR	11 09 26.9	
PDAR	Pinedale Array 0.6nm,0.8s,baz=318,slow=4.2,SNR=4.5	38.68	82	P	P	10 57 54.0	-0.1
H11N2	WAKE ISLAND Hy 39.15 222 baz=27,slow=0.7,SNR=66			T	T	11 39 35.7	
H11N3	WAKE ISLAND Hy 39.16 221 baz=27,slow=0.7,SNR=64			T	T	11 39 36.3	
H11N1	WAKE ISLAND Hy 39.17 221 baz=27,slow=0.7,SNR=65			T	T	11 39 52.8	
H11S1	WAKE ISLAND Hy 40.33 221 baz=25,slow=0.7,SNR=27			T	T	11 41 04.4	
H11S2	WAKE ISLAND Hy 40.34 221 baz=25,slow=0.7,SNR=30			T	T	11 41 05.5	
H11S3	WAKE ISLAND Hy 40.35 221 baz=25,slow=0.7,SNR=21			T	T	11 41 28.2	
KSRS	Korea Array comp=Z,32nm,18.6s,baz=65,slow=36	46.88	278	LR	LR	11 19 03.3	
TXAR	Lajitas Array 1.1nm,0.8s,baz=295,slow=4.3,SNR=17	51.16	92	P	P	10 59 33.6	+0.4
SONM	Songino Array comp=Z,67nm,18.9s,baz=53,slow=35	52.21	302	LR	LR	11 21 05.4	
ZALV	Zalesovo Beam comp=Z,41nm,19.9s,baz=278,slow=35	57.84	319	LR	LR	11 24 40.4	
MKAR	Makanchi Array 0.5nm,0.7s,baz=57,slow=4.5,SNR=4.2	64.35	315	P	P	11 01 03.6	-1.8
AKASG	Malin Array Be 0.4nm,0.4s,baz=7.1,slow=5.3,SNR=3.1	75.56	350	P	P	11 02 12.9	-1.2
KBZ	Khabaz comp=Z,49nm,19.4s,baz=121,slow=40	80.11	339	LR	LR	11 44 26.7	
BRTR	Keskin Array B 1.7nm,0.9s,baz=72,slow=4.0,SNR=6.3	85.74	344	P	P	11 03 09.2	+0.2
WRA	Warramunga Arr 0.8nm,1.0s,baz=40,slow=5.1,SNR=4.4	88.80	234	P	P	11 03 21.5	-2.1
H03N2	Juan Fernandez baz=320,slow=0.7,SNR=42	114.78	113	T	T	13 14 19.1	
H03N1	Juan Fernandez baz=320,slow=0.7,SNR=45	114.79	113	T	T	13 14 11.1	
H03N3	Juan Fernandez baz=320,slow=0.7,SNR=34	114.80	113	T	T	13 14 15.2	

IDC 27 11:02:27.3±3.1, 5.°42S×153.°49E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/18, mbtmp3.4/2, Error ellipse: s-maj=143.4km s-min=44.5km az=124.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.6nm,0.5s,baz=57,slow=10,SNR=14	23.57	231	P	P	11 07 41.2	+1.4
ASAR	Alice Springs 0.3nm,0.6s,baz=57,slow=9.1,SNR=6.0	26.18	224	P	P	11 08 02.8	-1.0
TORD	Torodi Ar. Bea 0.9nm,0.6s,baz=78,slow=1.2,SNR=11	151.15	287	PKPbc	PKPbc	11 22 23.1	-0.6

NEIC ***27*** *11:11:27.6, 18.°71N×67.°49W, h10km, MD3.0(RSPR), After RSPR.*

RSPR 27 11:11:27.6, 18.°71N×67.°49W, h10km±1km, MD3.0/15, 22C-8D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	Isla Desecheo	0.32	178	iP	Pg	11 11 33.9	-0.1
IDE	Isla Desecheo	0.32	178	eS	Sg	11 11 38.8	+0.5
IDE				eS	Sb	11 11 41.5	+0.9
IDE	Isla Desecheo	0.32	178	iP	Pg	11 11 33.9	-0.1
IDE				eS	Sg	11 11 38.8	+0.5
AGPR	Aguadilla, PR	0.43	124	eP	Pg	11 11 35.4	-0.6
AGPR	Aguadilla, PR	0.43	124	eP	Pg	11 11 35.4	-0.6
AGPR				eS	Sg	11 11 41.9	+0.3
LSP	Las Mesas	0.65	144	eP	Pg	11 11 39.1	-1.1
LSP	Las Mesas	0.65	144	eP	Pg	11 11 39.1	-1.1
LSP				eS	Sg	11 11 48.7	-0.2
IMO	Isla Mona	0.72	214	eP	Pg	11 11 40.2	-1.2
IMO	Isla Mona	0.72	214	eP	Pg	11 11 40.2	-1.2
LRS	Lares	0.73	124	eS	Sg	11 11 49.9	-1.7
AOPR	Arecibo Observ	0.78	117	eP	Pg	11 11 40.8	-1.9
AOPR	Arecibo Observ	0.78	117	eP	Pg	11 11 40.8	-1.9
AOPR				eS	Sg	11 11 51.4	-1.6
CRPR	Cabo Rojo, PR	0.78	153	eP	Pg	11 11 41.1	-1.6
CRPR	Cabo Rojo, PR	0.78	153	eP	Pg	11 11 41.1	-1.6
CRPR				eS	Sg	11 11 52.5	-0.5
GBPR	Guanica, Bosqu	0.93	142	eP	Pg	11 11 43.6	-1.9
GBPR	Guanica, Bosqu	0.93	142	eP	Pg	11 11 43.6	-1.9
OBIP	Obispado Ponce	1.06	128	eP	Pg	11 11 45.3	-2.8
OBIP	Obispado Ponce	1.06	128	eP	Pg	11 11 45.3	-2.8
OBIP				eS	Sg	11 11 58.9	-3.0
CELP	Cerrillos	1.07	126	eP	Pb	11 11 45.6	-2.5
CELP				eS	Sg	11 11 59.7	-2.3
CELP	Cerrillos	1.07	126	eP	Pb	11 11 45.6	-2.5
CELP				eS	Sg	11 11 59.7	-2.3
SJG	San Juan	1.40	115	eP	Pn	11 11 51.1	-2.1
SJG				eS	Sn	11 12 08.5	-3.1
SJG	San Juan	1.40	115	eP	Pn	11 11 51.1	-2.1
SJG				eS	Sn	11 12 08.5	-3.1
CBYP	Canovanas	1.60	105	eP	Pn	11 11 53.6	-2.5
CBYP	Canovanas	1.60	105	eP	Pn	11 11 53.6	-2.5
CPD	Cerro la Pandu	1.63	114	eP	Pn	11 11 54.3	-2.1
CPD	Cerro la Pandu	1.63	114	eP	Pn	11 11 54.3	-2.1
HUMP	Col San Antoni	1.65	110	eP	Pn	11 11 55.3	-1.3
HUMP	Col San Antoni	1.65	110	eP	Pn	11 11 55.3	-1.3
DR12	Loma Pena Alta	1.80	273	eP	Pn	11 11 55.4	-3.3
DR12	Loma Pena Alta	1.80	273	eP	Pn	11 11 55.4	-3.3
MTP	Monte Pirata	1.93	108	eP	Pn	11 11 58.9	-1.6
MTP	Monte Pirata	1.93	108	eP	Pn	11 11 58.9	-1.6
SDDR	Presa de Saban	3.61	275	ePn	Pn	11 12 25.3	+1.7
SDDR				eSg	Sg	11 13 23.1	-0.7

AUST ***27*** *11:13:32.5, 24.°93S×177.°30W, h60km*

IDC ***27*** *11:13:38.8±3.2, 25.°30S×177.°53W, h123km±25km, mb3.9/9, mb1 4.1/11, mb1mx3.9/21, mbtmp4.0/11, MS2.9/1, Ms1 2.9/1, ms1mx2.7/24, Error ellipse: s-maj=26.0km s-min=18.9km az=45.0*

ISCJB ***27*** *11:13:41.7±0.6, 25.°51S±0.°06×177.°5W±0.°1, h160km, mb4.0/11, Error ellipse: s-maj=14.9km s-min=8.5km az=168.0*

NEIC ***27*** *11:13:42.7±1.4, 25.°44S×177.°51W, h157km±12km, mb4.5/4, Error ellipse: s-maj=20.3km s-min=11.8km az=76.0*

ISC 27 11:13:42.7±0.7, 25.°48S±0.°07×177.°4W±0.°1, h160km, n52, σ1°58/45, mb4.2/11, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.79	186	ePn	Pn	11 14 39.0	-1.4
RAO				S	Sn	11 15 23.4	-2.1
RAO	Raoul Island 44nm,0.3s,baz=317,slow=19,SNR=5.6	3.79	186	P	Pn	11 14 39.0	-1.4
RAO				S	Sn	11 15 23.3	-2.1
RAO				LR	LR	11 15 53.1	
	301nm,0.3s,baz=91,slow=24,SNR=9.7 comp=Z,179nm,20.4s,baz=271,slow=34						
MSVF	Nonsavu 88nm,1.3s	8.78	331	ePn	Pn	11 15 47.3	+0.8
NIUE	Niue baz=9.0,SNR=10	9.42	49	P	Pn	11 15 45.9	-9.0
AFI	Afiamalu	12.67	26	P	Pn	11 16 26.9	-11
AFI				S	Sn	11 18 32.8	-25
AFI	Afiamalu 4.1nm,0.3s,baz=189,slow=19,SNR=10	12.67	26	P	Pn	11 16 26.9	-11
AFI				S	Sn	11 18 32.8	-25
	7.8nm,0.3s,baz=27,slow=23,SNR=7.9						
URZ	Urewera	13.56	199	ePn	Pn	11 16 50.1	+1.6
URZ				S	Sn	11 19 08.2	-11
URZ	Urewera 2.7nm,0.3s,baz=12,slow=2.0,SNR=20	13.56	199	P	Pn	11 16 49.3	+0.8
URZ				S	Sn	11 19 08.3	-11
	2.7nm,0.3s,baz=129,slow=17,SNR=12						
RMQ	Roma baz=30,SNR=5.1	30.36	261	P	P	11 19 43.5	+4.0
TOO	Toolangi baz=34,SNR=4.3	33.62	240	P	P	11 20 09.8	+1.9
STKA	Stephens Creek	36.35	250	P	P	11 20 30.8	-0.5
STKA	Stephens Creek baz=37,SNR=4.5	36.35	250	P	P	11 20 33.2	+1.8
STKA	Stephens Creek 2.8nm,0.5s,baz=96,slow=10,SNR=7.8	36.35	250	P	P	11 20 30.8	-0.5
BBOO	Buckleboo baz=41,SNR=14	41.01	249	P	P	11 21 10.6	+0.4
ASAR	Alice Springs	44.10	262	P	P	11 21 33.5	-1.8
ASAR	Alice Springs 0.9nm,0.4s,baz=90,slow=7.1,SNR=24	44.10	262	P	P	11 21 33.5	-1.8
WRAB	Tennant Creek 2.8nm,1.0s	44.64	267	eP	P	11 21 39.3	-0.3
WRA	Warramunga Arr	44.64	267	P	P	11 21 38.6	-1.0
WRA				pP	pP	11 22 08.2	-6.9
WRA	Warramunga Arr 1.3nm,0.7s,baz=105,slow=7.8,SNR=16	44.64	267	P	P	11 21 38.6	-1.0
WRA				pP	pP	11 22 08.2	-6.9
	0.5nm,0.7s,baz=104,slow=7.6,SNR=5.6						
KNRA	Kununurra baz=51,SNR=4.8	51.02	270	P	P	11 22 29.7	+1.0
VNDA	Vanda	53.03	186	P	P	11 22 44.0	+1.4
VNDA	Vanda 1.7nm,0.6s,baz=14,slow=7.0,SNR=12	53.03	186	P	P	11 22 44.0	+1.4
MEEK	Meekatharra baz=57,SNR=3.5	56.91	254	P	P	11 23 10.9	-0.4
BLDU	Ballidu baz=58,SNR=9.2	57.63	249	P	P	11 23 15.6	-0.6
MORW	Morawa baz=59,SNR=7.7	58.54	250	P	P	11 23 22.3	-0.3
QSPA	South Pole Qui 7.8nm,0.9s	64.62	180	eP	P	11 24 04.4	+1.6
UGM	Wanagama baz=71,SNR=3.3	70.46	270	P	P	11 24 43.4	+3.1
MAW	Mawson	77.08	200	P	P	11 25 19.5	+1.7
MAW	Mawson baz=77,SNR=10	77.08	200	P	P	11 25 19.8	+2.0
MAW	Mawson 6.6nm,0.8s,baz=135,slow=4.8,SNR=13	77.08	200	P	P	11 25 19.5	+1.7
PETK	Petropavlovsk-	81.19	345	P	P	11 25 40.0	-0.2
PETK	Petropavlovsk- 6.3nm,0.7s,baz=154,slow=7.8,SNR=6.1	81.19	345	P	P	11 25 40.0	-0.2
SYO	Syowa Base	82.01	193	eP	P	11 25 43.4	-1.0
H03N3	Juan Fernandez baz=246,slow=0.7,SNR=6.7	82.94	124	T	T	12 57 04.1	
H03N2	Juan Fernandez baz=246,slow=0.7,SNR=14	82.94	124	T	T	12 57 07.9	
H03N1	Juan Fernandez baz=246,slow=0.7,SNR=8.0	82.95	124	T	T	12 57 16.9	
SNAA	Sanae	83.05	178	eP	P	11 25 50.3	+0.5
SNAA	Sanae	83.05	178	eI		11 25 59.7	
SNAA	Sanae 9.0nm,1.2s	83.05	178	eP	P	11 25 50.3	+0.5
SNAA	Sanae 2.1nm,0.9s,baz=213,slow=5.3	83.05	178	P	P	11 25 50.5	+0.7
VNA2	Neumayer--Watz baz=196,slow=2.9	83.61	177	eP	P	11 25 52.7	+0.1
VNA2	Neumayer--Watz baz=196,slow=2.9	83.61	177	eI	P	11 25 55.9	+3.3
VNA1	Neumayer--Stat	83.83	176	eP	P	11 25 53.7	0.0
VNA1	Neumayer--Stat	83.83	176	eI	P	11 25 57.8	+4.1
PLCA	Paso Flores	85.49	133	P	P	11 26 03.3	+0.5
PLCA	Paso Flores 5.3nm,1.0s,baz=135,slow=8.6,SNR=4.0	85.49	133	P	P	11 26 03.3	+0.5
PDAR	Pinedale Array	92.22	43	P	P	11 26 33.3	-1.2
PDAR	Pinedale Array 0.3nm,0.7s,baz=197,slow=4.6,SNR=3.5	92.22	43	P	P	11 26 33.3	-1.2
AKASG	Malin Array Be	147.55	328	PKPbc	PKPbc	11 33 07.9	+0.2
AKASG				pPKPbc	pPKPbc	11 33 44.7	-4.8
AKASG	Malin Array Be 0.2nm,0.3s,baz=44,slow=4.1,SNR=4.9	147.55	328	PKPbc	PKPbc	11 33 07.9	+0.2
AKASG				pPKPbc	pPKPbc	11 33 44.7	-4.8
	0.9nm,0.5s,baz=42,slow=3.6,SNR=6.1						
TORD	Torodi Ar. Bea	167.71	176	PKPab	PKPab	11 34 38.6	+1.2
TORD	Torodi Ar. Bea 1.8nm,1.0s,baz=186,slow=2.8,SNR=7.2	167.71	176	PKPab	PKPab	11 34 38.6	+1.2

ISCJB ***27*** *11:27:13.2±0.4, 56.°08S±0.°07×27.°5W±0.°1, h112km, mb4.8/21, Error ellipse: s-maj=11.1km s-min=9.0km az=155.1*

IDC ***27*** *11:27:16.0±1.4, 56.°11S×27.°65W, h123km±11km, mb4.3/11, mb1 4.4/13, mb1mx4.3/18, mbtmp4.4/13, MS3.8/5, Ms1 3.8/5, ms1mx3.5/20, Error ellipse: s-maj=15.5km s-min=12.8km az=57.0*

NEIC ***27*** *11:27:17.7±1.8, 56.°09S×27.°64W, h140km±16km, mb5.0/8, Error ellipse: s-maj=9.4km s-min=6.2km az=46.0*

ISC 27 11:27:14.3±0.3, 56.°15S±0.°08×27.°59W±0.°09, h112km, n93, σ1°08/132, mb4.9/20, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	Sanae 52nm,0.5s	18.75	156	eP	P	11 31 24.8	+0.9
SNAA				PcP	PcP	11 35 47.4	+1.0
SNAA				ScP	ScP	11 39 09.9	-1.5
SNAA	Sanae 6.9nm,0.3s,baz=296,slow=11,SNR=271	18.75	156	P	P	11 31 24.9	+0.9
SNAA				PcP	PcP	11 35 47.4	+1.0
	0.3nm,0.3s,baz=272,slow=4.7,SNR=6.4						
SNAA				ScP	ScP	11 39 09.9	-1.5
	0.1nm,0.3s,baz=231,slow=2.2,SNR=7.6						
PMSA	Palmer Station	19.67	229	eP	Pn	11 31 36.3	-0.1
PMSA	Palmer Station 9.6nm,0.3s,baz=56,slow=6.9,SNR=30	19.67	229	P	Pn	11 31 36.1	-0.4
PMSA				LR	LR	11 37 39.9	
	comp=Z,169nm,21.8s,baz=56,slow=32						
MAIT	Maitri	22.28	146	eP	P	11 32 00.1	-1.6
USHA	Ushuaia	22.94	256	P	P	11 32 09.3	+0.8
USHA	Ushuaia 3.1nm,0.3s,baz=233,slow=21,SNR=5.7	22.94	256	P	P	11 32 09.3	+0.8
PLCA	Paso Flores	31.80	281	P	P	11 33 27.5	-0.5
PLCA				PcP	PcP	11 36 16.6	+0.3
PLCA				ScP	ScP	11 39 46.1	-2.9
PLCA	Paso Flores 1.1nm,0.5s,baz=6.8,slow=4.7,SNR=3.9	31.80	281	P	P	11 33 27.5	-0.5
PLCA				PcP	PcP	11 36 16.6	+0.3
	0.8nm,0.5s,baz=185,slow=17,SNR=4.7						
PLCA				ScP	ScP	11 39 46.1	-2.9
	2.6nm,1.1s,baz=323,slow=5.1,SNR=3.8						
PLCA				LR	LR	11 45 46.6	
	comp=Z,88nm,18.3s,baz=0.4,slow=35						
QSPA	South Pole Qui 40nm,0.6s	34.10	180	eP	P	11 33 49.1	+1.3
QSPA				PcP	PcP	11 36 22.4	0.0
QSPA				ScP	ScP	11 39 54.6	-2.0
CPUP	Villa Florida	36.71	312	P	P	11 34 09.9	-0.4
CPUP				PcP	PcP	11 36 30.7	+0.3
CPUP	Villa Florida 4.5nm,0.5s,baz=142,slow=7.6,SNR=14	36.71	312	P	P	11 34 09.9	-0.4
CPUP				PcP	PcP	11 36 30.7	+0.3
	2.1nm,0.4s,baz=144,slow=2.4,SNR=10.0						
MAW	Mawson	40.20	144	P	P	11 34 40.1	+1.1
MAW				ScP	ScP	11 40 18.6	-0.6
MAW	Mawson 2.9nm,0.6s,baz=223,slow=9.8,SNR=6.8	40.20	144	P	P	11 34 40.1	+1.1
MAW				ScP	ScP	11 40 18.6	-0.6
	2.0nm,0.5s,baz=245,slow=4.2,SNR=8.5						
LCO	Las Campanas 8.2nm,0.8s	40.74	293	eP	P	11 34 43.3	-0.9
LVC	Limon Verde 20nm,0.4s	45.15	301	eP	P	11 35 20.5	+0.6
SBA	Scott Base 11nm,0.6s	45.97	184	eP	P	11 35 27.4	+2.2
BOSA	Boshof	46.21	76	P	P	11 35 28.3	+0.4
BOSA	Boshof 2.7nm,0.7s,baz=112,slow=4.4,SNR=4.1	46.21	76	P	P	11 35 28.3	+0.4
BOSA				LR	LR	11 51 46.0	
	comp=Z,236nm,18.2s,baz=174,slow=32						
VNDA	Vanda	46.47	183	eP	P	11 35 30.7	+1.5
VNDA	Vanda 18nm,0.6s,baz=184,slow=7.0,SNR=138	46.47	183	P	P	11 35 30.6	+1.5
H10S2	ASCENSION HYDR baz=188,slow=0.7,SNR=4.7	48.16	17	T	T	12 26 13.0	
H10S3	ASCENSION HYDR baz=188,slow=0.7,SNR=6.1	48.16	17	T	T	12 26 08.9	
H10S1	ASCENSION HYDR baz=188,slow=0.7,SNR=4.7	48.17	17	T	T	12 26 14.4	
H10N3	ASCENSION HYDR baz=188,slow=0.7,SNR=5.3	49.28	17	T	T	12 27 37.2	
H10N2	ASCENSION HYDR baz=266,slow=0.7,SNR=3.7	49.29	17	T	T	12 27 36.5	
LPAZ	La Paz	50.25	306	P	P	11 36 00.2	+0.5
LPAZ				PcP	PcP	11 37 18.2	+1.1
LPAZ	La Paz 15nm,0.4s,baz=105,slow=5.2,SNR=118	50.25	306	P	P	11 36 00.2	+0.5
LPAZ				PcP	PcP	11 37 18.2	+1.1
	3.5nm,0.4s,baz=63,slow=4.2,SNR=4.7						
LPAZ				LR	LR	11 54 44.6	
	comp=Z,77nm,19.2s,baz=125,slow=33						
SAML	Samuel 3.2nm,0.5s	54.71	315	eP	P	11 36 31.3	-0.5
LIC	Lamto 31nm,0.6s	64.88	25	eP	P	11 37 42.2	+0.9
KIC	Kosan Boka 17nm,0.9s	65.08	25	eP	P	11 37 43.3	+0.7
TIC	Toumodi 13nm,0.5s	65.28	25	eP	P	11 37 44.7	+0.7
DBIC	Dimbokro	65.35	25	P	P	11 37 45.2	+0.8
DBIC	Dimbokro 4.8nm,0.5s,baz=171,slow=7.5,SNR=13	65.35	25	P	P	11 37 45.2	+0.8
OTAV	Otavalo 20nm,1.0s	69.52	304	eP	P	11 38 12.7	+1.4
TOAO	Torodi Ar. Sit	73.25	30	eP	P	11 38 34.0	+0.9
TORD	Torodi Ar. Bea	73.25	30	P	P	11 38 34.1	+1.1
TORD	Torodi Ar. Bea 12nm,0.5s,baz=199,slow=6.5,SNR=146	73.25	30	P	P	11 38 34.1	+1.1
TEIG	Tepich 24nm,0.4s	91.58	305	eP	P	11 40 08.7	+0.5
STKA	Stephens Creek	91.84	171	eP	P	11 40 10.3	+0.8
STKA	Stephens Creek 1.9nm,0.5s,baz=192,slow=3.6,SNR=12	91.84	171	P	P	11 40 09.4	0.0
KEST	Kesra comp=Z,51nm,19.6s,baz=208,slow=34	96.77	29	LR	LR	12 21 52.4	
ASAR	Alice Springs	98.96	163	P	Pdif	11 40 41.8	-0.3
ASAR				PP	PP	11 44 41.1	-3.1
ASAR				PKiKP	PKiKP	11 45 12.2	+0.1
ASAR				PKKPbc	PKKPdf	11 57 06.8	-0.6
ASAR	Alice Springs 1.3nm,0.7s,baz=184,slow=4.0,SNR=25	98.96	163	P	Pdif	11 40 41.8	-0.3
ASAR				PP	PP	11 44 41.1	-3.1
	0.4nm,0.6s,baz=190,slow=6.4,SNR=6.3						
ASAR				PKiKP	PKiKP	11 45 12.2	+0.1
	0.2nm,0.5s,baz=151,slow=1.3,SNR=5.8						
ASAR				PKKPbc	PKKPdf	11 57 06.8	-0.6
	0.3nm,0.4s,baz=23,slow=2.7,SNR=6.0						
WRA	Warramunga Arr	102.68	163	P	Pdif	11 40 58.4	-0.3
WRA				PP	PP	11 45 08.9	-3.4
WRA				PKiKP	PKiKP	11 45 20.5	+1.6
WRA

comp=Z,0.2nm,0.5s,baz=241,slow=3.0,SNR=2.5
MKAR PKP **PKPdf** **11 46 23.4 +0.3**
comp=Z,0.7nm,0.5s,baz=232,slow=4.2,SNR=3.6
MKAR SKPbc **SKPbc** **11 49 43.8 -1.9**
comp=Z,0.7nm,0.6s,baz=222,slow=1.3,SNR=6.3
KURBB **Kurchatov Arra 137.55 65** PKP **PKPdf** **11 46 23.6 -0.1**
comp=Z,0.5nm,0.6s,baz=239,slow=2.3,SNR=6.6
KURBB SKPbc **SKPbc** **11 49 44.8 -1.9**
comp=Z,0.6nm,0.6s,baz=233,slow=3.5,SNR=6.5
KURK Kurchatov 137.65 65 PKP **PKPdf** **11 46 23.6 -0.3**
KURK SKPbc **SKPbc** **11 49 44.8 -2.2**
ZALV Zalesovo Beam 142.61 64 PKPpre PKPpre 11 46 28.8
ZALV Zalesovo Beam 142.61 64 PKhKP PKPpre 11 46 28.8
comp=Z,1.5nm,0.4s,baz=234,slow=4.3,SNR=9.1
HYT Haines Junctio 144.67 307 *e*PKPdf **PKPdf** **11 46 36.6 +0.3**
INK Inuvik 145.73 321 *e*PKPdf **PKPdf** **11 46 38.0 +0.3**
DIV Divide 148.52 305 *e*PKPdf **PKPbc** **11 46 47.2 +0.7**
PAX Paxson 148.95 308 *e*PKPbc **PKPbc** **11 46 47.1 -0.4**
ILAR Eielson Array 150.01 312 PKPbc **PKPbc** **11 46 49.8 -0.2**
ILAR Eielson Array 150.01 312 PKPbc **PKPbc** **11 46 49.8 -0.2**
comp=Z,8.5nm,0.5s,baz=126,slow=3.1,SNR=140
PMR Palmer 150.21 305 *e*PKPdf **PKPdf** **11 46 45.0 -0.3**
PMR *e*PKPbc **PKiKP** **11 46 51.0 -0.3**
PMR *e*PKPab **PKPab** **11 46 56.4 -0.8**
COLA College 150.44 312 *e*PKPdf **PKPdf** **11 46 44.7 -0.8**
COLA *e*PKPbc **PKPbc** **11 46 50.6 -0.3**
COLA *e*PKPab **PKPab** **11 46 58.3 +0.3**
MCK McKinley 150.66 309 *e*PKPdf **PKPdf** **11 46 46.2 +0.2**
MCK *e*PKPbc **PKiKP** **11 46 52.1 -0.1**
MCK *e*PKPab **PKPab** **11 46 58.6 -0.4**
SONM Songino Array 150.96 87 PKPbc **PKPbc** **11 46 53.1 +0.2**
SONM Songino Array 150.96 87 PKPbc **PKPbc** **11 46 53.1 +0.2**
comp=Z,11nm,0.5s,baz=222,slow=3.5,SNR=69
TRF Thorofare Moun 151.19 308 *e*PKPbc **PKPbc** **11 46 52.9 -0.1**
BPAW Bear Paw Mtn. 151.62 310 *e*PKPbc **PKPbc** **11 46 53.6 -0.2**
BPAW *e*PKPab **PKPab** **11 47 02.6 -0.5**
COLD Coldfoot 151.74 316 *e*PKPdf **PKPdf** **11 46 47.0 -0.5**
COLD *e*PKPbc **PKiKP** **11 46 54.6 +0.3**
COLD *e*PKPab **PKPab** **11 47 03.9 +0.5**
PPLA Purkeypile 151.91 307 *e*PKPbc **PKPbc** **11 46 54.7 +0.1**
PPLA *e*PKPab **PKPab** **11 47 04.8 +0.4**
JNU Nakatsue 152.57 138 PKPbc **PKPbc** **11 46 56.7 -0.3**
JNU Nakatsue 152.57 138 PKPbc **PKPbc** **11 46 56.7 -0.3**
comp=Z,4.7nm,0.7s,baz=211,slow=10,SNR=5.9
IMA2 Indian Mountai 153.02 313 *e*PKPdf **PKPdf** **11 46 49.3 -0.3**
IMA2 *e*PKPbc **PKiKP** **11 46 57.1 -0.1**
IMA2 *e*PKPab **PKPab** **11 47 08.1 -1.0**
MJAR Matsushiro Arr 158.16 148 PKPab **PKPab** **11 47 31.7 +0.1**
MJAR Matsushiro Arr 158.16 148 PKPab **PKPab** **11 47 31.7 +0.1**
comp=Z,1.2nm,0.6s,baz=197,slow=5.2,SNR=4.8

*PRE **27** 11:45:03.3±2.5,5°.68S×35°.94E,h10km,ML3.9*
*ISCJB **27** 11:45:04.7±1.3,5°.52S±0°.08×35°.71E±0°.08,h9km,Error ellipse: s-maj=12.6km s-min=10.8km az=150.7*
ISC 27 11:45:05.8±1.6,**5°.47S**±0°.09×**35°.85E**±0°.09,**h9**km,**n5,**
σ1ᵖ**58**/**9,Tanzania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAUS	**Longido**	**2.84**	**17**	*i* P	**Pn**	**11 45 53.4**	**+1.8**
MAUS				*i* S	**Sb**	**11 46 31.3**	**-0.6**
KMBO	**Kilima Mbogo**	**4.54**	**18**	*e*P	**Pn**	**11 46 15.3**	**+0.4**
KMBO				*e*S	**Sn**	**11 47 07.3**	**-0.6**
KIG	**Kigali**	**6.75**	**301**	*e*P	**Pn**	**11 46 46.9**	**+1.6**
KIG				*e*S	**Sn**	**11 48 02.1**	**-0.3**
KIG				AML	AML	11 48 45.9	
comp=Z,21nm,0.6s							
MBAR	**Mbarara**	**7.04**	**313**	*e*P	**Pn**	**11 46 50.8**	**+1.6**
MBAR				*e*S	**Sn**	**11 48 07.2**	**-2.2**
LSZ	**Lusaka**	**12.31**	**217**	*e*P	**Pn**	**11 48 00.7**	**-0.8**
LSZ				*e*S	Sn	11 50 05.6	-14

*IDC **27** 11:48:29.9±0.9,51°.79N×174°.69E,h0km,mb3.6/5, mb1 4.0/6,mb1mx3.6/29,mbtmp3.6/6,ML3.2/1,Error ellipse: s-maj=22.4km s-min=12.7km az=40.0*
*ISCJB **27** 11:48:32.5±0.7,51°.70N±0°.07×174°.41E±0°.08,h29km, mb3.6/5,Error ellipse: s-maj=10.7km s-min=5.8km az=29.0*
*NEIC **27** 11:48:32.5,51°.67N×174°.52E,h10km,ML3.2(AEIC),After AEIC.*
ISC 27 11:48:33.7±0.9,**51°.85N**±0°.09×**174°.51E**±0°.04,**h29**km,**n14,**
σ1ᵖ**74**/**17,mb3.6/5,Near Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMY	**Shemya**	**0.91**	**344**	P	**Pb**	**11 48 51.9**	**+1.0**
SMY				S	**Sb**	**11 49 05.9**	**+3.2**
FX1	**Attu Island--F**	**1.32**	**322**	P	**Pb**	**11 48 56.9**	**-0.9**
FX1				S	**Sb**	**11 49 14.4**	**+0.1**
FX1	**Attu Island--F**	**1.32**	**322**	Pn	**Pn**	**11 48 56.5**	**+0.3**
49nm,0.3s,baz=178,slow=2.7,SNR=289							
FX1				Sn	**Sn**	**11 49 13.7**	**+0.9**
141nm,0.3s,baz=221,slow=20,SNR=21							
LSSA	**Little Sitkin**	**2.48**	**86**	P	Pb	11 49 13.1	-4.4
LSSE	**Little Sitkin**	**2.51**	**87**	P	**Pn**	**11 49 13.3**	**+0.8**
LSPA	**Little Sitkin**	**2.52**	**86**	P	Pb	11 49 13.7	-4.4
LSPA				S	**Sb**	**11 49 45.8**	**-2.9**
AMKA	**Amchitka**	**3.02**	**97**	P	**Pn**	**11 49 20.6**	**+1.1**
CESW	**Semis' Southwe**	**3.13**	**87**	P	**Pn**	**11 49 22.3**	**+1.3**
PETK	**Petropavlovsk-**	**10.34**	**284**	Pn	**Pn**	**11 51 01.4**	**+1.5**
0.2nm,0.3s,baz=90,slow=20,SNR=9.7							
PETK				Sn	**Sn**	**11 52 51.2**	**-3.4**
0.4nm,0.3s,baz=170,slow=9.8,SNR=4.9							
ILAR	**Eielson Array**	**23.59**	**42**	P	**P**	**11 53 40.0**	**-1.5**
0.5nm,0.6s,baz=248,slow=8.6,SNR=12							
PDAR	**Pinedale Array**	**50.08**	**69**	P	**P**	**11 57 26.1**	**+0.1**
0.4nm,0.7s,baz=289,slow=5.8,SNR=4.4							
TXAR	**Lajitas Array**	**62.65**	**77**	P	**P**	**11 58 56.2**	**+0.7**
0.7nm,0.5s,baz=310,slow=4.6,SNR=19							
WRA	**Warramunga Arr**	**79.64**	**218**	P	**P**	**12 00 38.3**	**+0.2**
0.5nm,0.6s,baz=30,slow=5.9,SNR=8.3							
ASAR	**Alice Springs**	**83.19**	**217**	P	**P**	**12 00 57.8**	**+0.9**
0.3nm,0.6s,baz=22,slow=5.4,SNR=5.4							

IDC 27 12:01:19.3±1.4,**13°.82S**×**177°.81W,h0**km,**mb3.9**/7, **mb1 4.2**/7,**mb1mx4.0**/19,**mbtmp3.9**/7,**MS4.3**/22, **Ms1 4.3**/22,**ms1mx4.2**/33,**Error ellipse: s-maj=110.0km s-min=21.1km az=148.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**15.36**	**180**	LR	LR	12 09 13.9	
comp=Z,3μm,21.9s,baz=349,slow=31							
DZM	**Mont Dzumac**	**17.07**	**239**	*e*LR	LR	12 09 29.5	
1μm,26.9s							
RAR	**Rarotonga**	**18.69**	**116**	LR	LR	12 10 14.8	
comp=Z,1μm,21.6s,baz=271,slow=29							
URZ	**Urewera**	**24.76**	**190**	LR	LR	12 14 10.3	
comp=Z,1μm,20.1s,baz=28,slow=31							
PPT	**Papeete**	**27.42**	**102**	LR	LR	12 14 18.0	
comp=Z,608nm,21.4s,baz=202,slow=28							
PPT2	**Papeete2**	**27.42**	**102**	*e*LR	LR	12 13 22.2	
1μm,26.0s,baz=267							
TBI	**Tubuai**	**28.44**	**114**	*e*S	S	12 11 37.1	-27
88nm,25.5s							
TBI				*e*LQ	LQ	12 12 20.8	
605nm,30.8s							
TBI				*e*LR	LR	12 13 54.0	
2μm,27.5s,baz=288							
RPZ	**Rata Peaks**	**31.29**	**196**	LR	LR	12 19 17.3	
comp=Z,2μm,18.7s,baz=40,slow=34							
STKA	**Stephens Creek**	**41.22**	**237**	P	P	12 09 06.5	+0.4
2.5nm,1.1s,baz=36,slow=8.7,SNR=2.9							
STKA				LR	LR	12 22 35.5	
comp=Z,208nm,18.8s,baz=248,slow=31							
RKT	**Rikitea**	**41.54**	**109**	*e*LR	LR	12 19 56.3	
887nm,26.8s,baz=280							
WRA	**Warramunga Arr**	**46.08**	**256**	P	P	12 09 45.4	-0.1
2.0nm,1.1s,baz=92,slow=7.0,SNR=5.8							
WRA				LR	LR	12 26 57.8	
comp=Z,548nm,20.8s,baz=105,slow=33							
ASAR	**Alice Springs**	**46.58**	**250**	P	P	12 09 48.9	-0.6
1.4nm,0.6s,baz=85,slow=8.2,SNR=10							
ASAR				LR	LR	12 27 50.4	
comp=Z,477nm,19.4s,baz=94,slow=34							
VNDA	**Vanda**	**64.55**	**185**	LR	LR	12 38 17.7	
comp=Z,160nm,18.5s,baz=344,slow=34							
ASAJ	**Asahikawa**	**68.00**	**330**	LR	LR	12 35 44.4	
comp=Z,274nm,21.8s,baz=91,slow=30							
PETK	**Petropavlovsk-**	**69.90**	**345**	LR	LR	12 36 32.2	
comp=Z,152nm,21.0s,baz=160,slow=30							
KSRS	**Korea Array**	**72.08**	**317**	LR	LR	12 42 35.9	
comp=Z,59nm,19.9s,baz=317,slow=34							
USRK	**Ussuriysk Arra**	**73.60**	**325**	LR	LR	12 38 59.2	
comp=Z,227nm,20.6s,baz=299,slow=31							
NVAR	**Mina Array Bea**	**76.09**	**44**	P	P	12 13 08.6	-0.8
1.5nm,0.6s,baz=241,slow=12,SNR=4.7							
NVAR				LR	LR	12 37 48.4	
comp=Z,143nm,20.1s,baz=197,slow=29							
QSPA	**South Pole Qui**	**76.21**	**180**	LR	LR	12 39 56.5	
comp=Z,190nm,20.5s,baz=221,slow=30							
ILAR	**Eielson Array**	**81.79**	**13**	P	P	12 13 40.8	+1.0
0.6nm,1.0s,baz=223,slow=5.0,SNR=4.1							
ILAR				LR	LR	12 43 12.9	
comp=Z,235nm,21.5s,baz=238,slow=31							
TXAR	**Lajitas Array**	**83.33**	**58**	P	P	12 13 49.8	+1.1
2.7nm,1.3s,baz=234,slow=4.3,SNR=5.3							
TXAR				LR	LR	12 46 22.4	
comp=Z,92nm,18.2s,baz=180,slow=32							
PDAR	**Pinedale Array**	**84.00**	**43**	P	P	12 13 51.1	-0.9
0.8nm,0.9s,baz=254,slow=2.6,SNR=5.1							
PDAR				LR	LR	12 43 38.8	
comp=Z,174nm,19.1s,baz=151,slow=30							
PMSA	**Palmer Station**	**87.32**	**157**	LR	LR	12 47 12.5	
comp=Z,72nm,19.0s,baz=96,slow=32							
MAW	**Mawson**	**87.89**	**200**	LR	LR	12 48 47.9	
comp=Z,277nm,18.3s,baz=114,slow=32							
CMAR	**Chiang Mai Arr**	**88.07**	**289**	LR	LR	12 51 26.9	
comp=Z,56nm,18.3s,baz=329,slow=34							
ULM	**Lac du Bonnet**	**95.42**	**40**	LR	LR	12 50 20.1	
comp=Z,248nm,18.8s,baz=322,slow=31							
BRTR	**Keskin Array B**	**142.21**	**319**	PKP	PKPdf	12 20 52.9	-1.4
1.5nm,0.9s,baz=110,slow=1.4,SNR=6.1							
GERES	**GERESS Array B**	**143.80**	**347**	PKP	PKPdf	12 20 56.1	-0.6
0.3nm,0.3s,baz=51,slow=3.1,SNR=4.9							

IDC 27 12:10:51.0±10.0,**18°.75N**×**145°.65E,h85**km±97km, **mb3.5**/10,**mb1 3.7**/10,**mb1mx3.5**/26,**mbtmp3.5**/10,**Error ellipse: s-maj=31.2km s-min=16.1km az=85.0,Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**24.25**	**324**	P	P	12 15 58.3	-1.7
0.3nm,0.5s,baz=134,slow=12,SNR=2.9							
WRA	**Warramunga Arr**	**40.02**	**197**	P	P	12 18 17.6	-0.1
1.2nm,0.6s,baz=15,slow=7.9,SNR=22							
WRA				PcP	PcP	12 20 19.9	-1.4
0.6nm,0.4s,baz=17,slow=3.5,SNR=5.2							
ASAR	**Alice Springs**	**43.69**	**196**	P	P	12 18 48.4	+0.7
0.4nm,0.5s,baz=21,slow=8.8,SNR=12							
ZALV	**Zalesovo Beam**	**57.95**	**322**	P	P	12 20 33.7	-0.7
0.5nm,0.4s,baz=122,slow=7.4,SNR=2.9							
MKAR	**Makanchi Array**	**58.40**	**314**	P	P	12 20 38.3	+0.6
0.3nm,0.5s,baz=89,slow=8.3,SNR=4.0							
KURBB	**Kurchatov Arra**	**61.26**	**318**	P	P	12 20 58.0	+0.8
0.4nm,0.5s,baz=92,slow=7.4,SNR=5.6							
ILAR	**Eielson Array**	**63.62**	**26**	P	P	12 21 13.4	+0.7
0.8nm,0.6s,baz=250,slow=6.0,SNR=10.0							
BVAR	**Borovoye Array**	**66.41**	**320**	P	P	12 21 31.6	+0.6
0.9nm,0.6s,baz=100,slow=6.2,SNR=5.1							
YKA	**Yellowknife Ar**	**77.97**	**28**	P	P	12 22 40.0	+0.4
1.6nm,0.8s,baz=297,slow=6.4,SNR=2.7							
NVAR	**Mina Array Bea**	**83.14**	**52**	P	P	12 23 08.6	+0.4
0.8nm,0.4s,baz=268,slow=5.4,SNR=3.3							
LPAZ	**La Paz**	**147.72**	**91**	PKPbc	PKPdf	12 30 24.3	-0.3
0.9nm,0.6s,baz=256,slow=1.1,SNR=3.8							

*KISR **27** 12:29:26.1±1.4,32°.87N×50°.54E,h8km±999km,ML3.6*
*ISN **27** 12:29:28.5±0.3,33°.71N×45°.44E,h0km,ML3.3*
ISC 27 12:29:29.9±4.4,**33°.4N**±0°.2×**45°.2E**±0°.2,**h10**km,**n4,**σ2ᵖ**11**/**6, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**0.64**	**114**	*e*Pg	**Pn**	**12 29 44.5**	**-0.5**
baz=325,slow=2.4							
IBDR				*e*Sg	**Sn**	**12 29 55.7**	**+0.5**
MIB	**Mutribah**	**3.99**	**153**	*e*P	**Pn**	**12 30 33.7**	**+2.7**
RST	**Umm Al-Ruwaisa**	**4.14**	**158**	*e*P	Pn	12 30 38.0	+4.8
RST				*e*S	**Sb**	**12 31 33.6**	**+0.5**
RST				AML	AML	12 31 38.9	
comp=Z,261nm,0.7s							
RDF	**Al-Radifah**	**4.86**	**155**	*e*P	**Pn**	**12 30 41.4**	**-1.6**
RDF				*e*S	**Sn**	**12 31 37.6**	**-1.7**
RDF				AML	AML	12 31 49.4	
comp=Z,12nm,0.6s							

IDC 27 12:49:12.8±9.1,**16°.11S**×**173°.17W,h0**km,**mb3.4**/3, **mb1 3.7**/3,**mb1mx3.5**/21,**mbtmp3.4**/3,**Error ellipse: s-maj=399.9km s-min=38.5km az=139.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**49.90**	**257**	P	P	12 58 08.9	+0.3
0.1nm,0.7s,baz=93,slow=6.4,SNR=5.5							
ASAR	**Alice Springs**	**50.10**	**252**	P	P	12 58 09.6	-0.6
0.7nm,0.5s,baz=86,slow=8.1,SNR=9.8							
ILAR	**Eielson Array**	**83.09**	**11**	P	P	13 01 40.0	+0.1
0.3nm,0.8s,baz=230,slow=7.0,SNR=4.8							

*UPP **27** 12:56:08.9,57°.78N×11°.51E,h0km,ML1.9,Mining explosion.*
*CSEM **27** 12:56:08.9±0.3,57°.80N×11°.56E,h1km,ML1.9,Error ellipse: s-maj=9.0km s-min=3.7km az=67.0,Mining explosion.*
*ISCJB **27** 12:56:08.1±1.4,57°.79N±0°.07×11°.5E±0°.2,h0km,Error ellipse: s-maj=19.3km s-min=7.0km az=158.5*
IDC 27 12:56:14.4±2.0,58°.12N×11°.47E,h0km,mb1 3.3/4, mb1mx3.0/30,mbtmp3.2/4,ML2.7/4,Error ellipse: s-maj=16.9km s-min=14.3km az=59.0
*NAO **27** 12:56:15.7±2.5,58°.41N×11°.18E,ML2.0*
*BER **27** 12:56:17.1±1.9,58°.40N×11°.23E,h0km±22km, ML2.0(NAO)*
ISC 27 12:56:07.9±1.4,**57°.78N**±0°.05×**11°.51E**±0°.08,**h0**km,**n22,**
σ1ᵖ**18**/**26,Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TJOU	**Tjoern**	**0.26**	**14**	P	**Pg**	**12 56 14.1**	**+1.3**
VANU	**Vaenersborg**	**0.77**	**23**	P	**Pg**	**12 56 23.5**	**+0.8**
FABU	**Falkenberg**	**1.02**	**139**	P	**Pg**	**12 56 28.0**	**+0.6**
FKPU	**Falk**	**1.24**	**71**	P	**Pg**	**12 56 31.8**	**+0.1**
STRU	**Stroemstad**	**1.27**	**352**	P	**Pg**	**12 56 32.2**	**0.0**
GNOU	**Gnosjoe**	**1.31**	**111**	P	**Pg**	**12 56 33.2**	**+0.2**
NASU	**Vaermlandsnaes**	**1.45**	**37**	P	**Pn**	**12 56 35.5**	**+0.2**
FINU	**Finntorp**	**1.70**	**17**	P	**Pb**	**12 56 39.6**	**-0.5**
DEL	**Delary**	**1.84**	**135**	P	**Pb**	**12 56 42.1**	**-0.3**
HFS	**Hagfors**	**2.62**	**25**	Pn	**Pn**	**12 56 52.6**	**+1.2**
baz=219,slow=14							
HFS				Lg	Lg	12 57 23.6	
baz=220,slow=37							
HFS	**Hagfors**	**2.62**	**25**	Pn	**Pn**	**12 56 52.6**	**+1.2**
baz=219,slow=14							
HFS				Lg	Lg	12 57 23.6	
baz=220,slow=37							
HFS	**Hagfors**	**2.62**	**25**	Pn	**Pn**	**12 56 52.6**	**+1.2**
baz=219,slow=13,SNR=50							
HFS				Lg	Lg	12 57 23.6	
SNR=90							
HFS	**Hagfors**	**2.62**	**25**	Pn	**Pn**	**12 56 52.7**	**+1.2**
2.5nm,0.3s,baz=209,slow=14,SNR=40							
HFS				Pg	**Pb**	**12 56 55.6**	**0.0**
2.5nm,0.3s,baz=204,slow=15,SNR=50							
HFS				Lg	Lg	12 57 26.5	
3.9nm,0.3s,baz=211,slow=27,SNR=8.8							
NB2	**NORSAR Subarra**	**3.27**	**358**	Pn	**Pn**	**12 57 00.3**	**-0.1**
NB2				Lg	Lg	12 57 38.2	
NB2	**NORSAR Subarra**	**3.27**	**358**	Pn	**Pn**	**12 57 00.3**	**-0.1**
NB2				Lg	Lg	12 57 38.2	
NB2	**NORSAR Subarra**	**3.27**	**358**	Pn	**Pn**	**12 57 00.3**	**-0.1**
SNR=50							
NB2				Lg	Lg	12 57 38.2	
NOA	**NORSAR Array B**	**3.27**	**358**	Pn	**Pn**	**12 57 00.5**	**+0.1**
0.6nm,0.3s,baz=176,slow=13,SNR=22							
NOA				Lg	Lg	12 57 47.9	
1.4nm,0.3s,baz=84,slow=18,SNR=6.1							
FIA0	**FINESS Array S**	**8.24**	**57**	Pn	**Pn**	**12 58 10.0**	**+1.4**
baz=254,slow=11							
FIA0				Sn	**Sn**	**12 59 40.5**	**-1.8**
baz=253,slow=28							
FIA0	**FINESS Array S**	**8.24**	**57**	P	**Pn**	**12 58 10.0**	**+1.4**
baz=254,slow=11,SNR=47							
FIA0				Sn	**Sn**	**12 59 40.5**	**-1.8**
baz=253,slow=23,SNR=50							
FINES	**FINESS Array B**	**8.24**	**57**	Pn	**Pn**	**12 58 10.3**	**+1.8**
0.5nm,0.3s,baz=257,slow=11,SNR=22							
FINES				Sn	**Sn**	**12 59 40.3**	**-2.0**
0.3nm,0.3s,baz=252,slow=22,SNR=6.3							
ARCES	**ARCESS Array B**	**13.28**	**22**	Pn	Pn	12 59 13.6	-3.7
0.1nm,0.3s,baz=204,slow=15,SNR=2.7							

*ISCJB **27** 12:56:12.3±1.9,57°.77N±0°.09×11°.5E±0°.3,h0km,Error ellipse: s-maj=23.2km s-min=9.9km az=155.1*
*CSEM **27** 12:56:13.1,57°.81N×11°.43E,h0km,ML1.9,Mining explosion. After UPP*
*UPP **27** 12:56:13.1,57°.81N×11°.43E,h0km,ML1.9,Mining explosion.*
*IDC **27** 12:56:20.5±2.2,58°.15N×11°.69E,h0km,mb1 3.4/3, mb1mx3.0/29,mbtmp3.2/3,ML2.9/3,Error ellipse: s-maj=19.4km s-min=14.8km az=66.0*
ISC 27 12:56:12.6±1.6,**57°.79N**±0°.07×**11°.4E**±0°.1,**h0**km,**n11,**
σ0ᵖ**92**/**11,Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TJOU	**Tjoern**	**0.27**	**24**	P	**Pg**	**12 56 17.7**	**0.0**
VANU	**Vaenersborg**	**0.79**	**26**	P	**Pg**	**12 56 28.1**	**+0.5**
FABU	**Falkenberg**	**1.06**	**138**	P	**Pg**	**12 56 32.8**	**-0.1**
STRU	**Stroemstad**	**1.25**	**354**	P	**Pg**	**12 56 36.8**	**+0.2**
FKPU	**Falk**	**1.28**	**72**	P	**Pg**	**12 56 36.8**	**-0.4**
NASU	**Vaermlandsnaes**	**1.47**	**38**	P	**Pn**	**12 56 40.4**	**0.0**
FINU	**Finntorp**	**1.71**	**19**	P	**Pb**	**12 56 44.9**	**0.0**
HFS	**Hagfors**	**2.63**	**26**	Pg	**Pb**	**12 56 59.5**	**-1.1**
2.8nm,0.3s,baz=208,slow=21,SNR=24							
HFS				Lg	Lg	12 57 30.4	
3.9nm,0.3s,baz=208,slow=31,SNR=11							
NOA	**NORSAR Array B**	**3.26**	**358**	Pn	**Pn**	**12 57 05.5**	**+0.5**
0.8nm,0.3s,baz=177,slow=14,SNR=12							
NOA				Lg	Lg	12 57 54.3	
1.9nm,0.3s,baz=158,slow=20,SNR=9.0							
FINES	**FINESS Array B**	**8.28**	**58**	Pn	**Pn**	**12 58 15.5**	**+1.8**
0.6nm,0.3s,baz=259,slow=12,SNR=14							
ARCES	**ARCESS Array B**	**13.29**	**22**	Pn	**Pn**	**12 59 20.8**	**-1.4**
0.1nm,0.3s,baz=217,slow=14,SNR=4.5							

*BJI **27** 13:04:35.1,3°.80N×122°.50E,h584km,mB4.6/2,mb4.4/10*
*ISCJB **27** 13:04:36.7±0.2,3°.92N±0°.05×122°.54E±0°.06,h604km, mb4.0/21,Error ellipse: s-maj=8.9km s-min=4.1km az=142.7*
*IDC **27** 13:04:38.6±1.2,3°.89N×122°.50E,h616km±16km,mb3.4/20, mb1 3.4/20,mb1mx3.3/30,mbtmp3.4/20,Error ellipse: s-maj=18.3km s-min=7.2km az=69.0*
*AUST **27** 13:04:38.9±1.1,3°.56N×122°.17E,h598km,Error ellipse: s-maj=2.4km s-min=1.5km az=20.0*
*DJA **27** 13:04:39.1±0.6,4°.N±9°×12°.3E±°,h557km±13km,M4.7/6, mb4.7/4,mB5.0/4,MLv4.9/6,Mw(mB)4.3/4*
ISC 27 13:04:37.6±0.4,**3°.83N**±0°.06×**122°.45E**±0°.09,**h604**km,**n69,**
σ1ᵖ**36**/**77,mb4.0**/**21,Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**3.37**	**189**	P	**P**	**13 05 58.6**	**-0.8**
MRSI				S	**S**	**13 07 03.5**	**-2.4**
KMSI	**Cibinong**	**3.58**	**155**	P	**P**	**13 05 59.5**	**-1.2**
KMSI				S	**S**	**13 07 08.1**	**-0.1**
MYLDM	**Lahad Datu**	**4.16**	**289**	P	**P**	**13 06 05.5**	**+0.9**
MYLDM	**Lahad Datu**	**4.16**	**289**	P	**P**	**13 06 04.8**	**+0.3**
TSM	**Tawau**	**4.59**	**276**	P	**P**	**13 06 07.2**	**-0.5**
LUWI	**Luwuk**	**4.85**	**176**	P	**P**	**13 06 08.3**	**-1.4**
LUWI				S	**S**	**13 07 19.7**	**-5.0**
LUWI	**Luwuk**	**4.85**	**176**	P	**P**	**13 06 08.6**	**-1.1**
baz=4.6,SNR=50							
SDKM	**Sandakan**	**5.54**	**289**	P	**P**	**13 06 13.8**	**-1.4**
TNTI	**Ternate**	**5.77**	**122**	P	**P**	**13 06 14.9**	**-2.2**
581nm,1.1s,5μm2.0nm							
TNTI				S	S	13 07 22.5	-16
581nm,1.1s,5μm2.0nm							
KDM	**Kudat**	**6.38**	**299**	P	**P**	**13 06 21.6**	**-0.7**
KKM	**Kota Kinabalu**	**6.59**	**290**	P	**P**	**13 06 23.7**	**-0.7**
KKM	**Kota Kinabalu**	**6.59**	**290**	P	**P**	**13 06 24.0**	**-0.3**
KKM	**Kota Kinabalu**	**6.59**	**290**	P	**P**	**13 06 23.4**	**-0.9**
114nm,0.9s,1μm							
KKM	**Kota Kinabalu**	**6.59**	**290**	P	**P**	**13 06 23.7**	**-0.7**
baz=6.4,SNR=23							
LBMI	**Labuha**	**6.72**	**131**	P	**P**	**13 06 23.4**	**-2.0**
144nm,0.8s,4μm							
LBMI				S	**S**	**13 07 50.1**	**-3.3**
144nm,0.8s,4μm							
NLAI	**Namlea**	**8.42**	**146**	P	**P**	**13 06 42.6**	**+1.4**
NLAI				S	**S**	**13 08 23.5**	**+1.2**
BTM	**Bintulu**	**9.38**	**266**	P	**P**	**13 06 52.0**	**+1.6**
SWI	**Sorong**	**9.96**	**118**	P	P	13 07 03.3	+7.1
baz=10,SNR=4.8							
SBUM	**Sibu**	**10.31**	**263**	P	**P**	**13 06 57.2**	**-2.5**
FAKI	**Fak Fak**	**11.87**	**124**	P	**P**	**13 07 14.8**	**-0.3**
baz=12,SNR=9.5							
KSM	**Kuching**	**12.36**	**259**	P	**P**	**13 07 21.0**	**+1.0**
SOEI	**Soe**	**13.62**	**172**	P	**P**	**13 07 33.4**	**+0.5**
baz=14,SNR=3.4

12nm,0.2s
GUN Gumba 42.26 308 *e*P **P 13 11 41.2 +1.0**
14nm,0.3s
PKI Pulchoki 42.48 308 *e*P **P 13 11 42.3 +0.4**
6.0nm,0.2s
PKIN Phulchoki 42.49 308 *e*P **P 13 11 42.9 +1.0**
3.9nm,0.3s
KKN Kakani 42.68 308 *e*P **P 13 11 43.9 +0.6**
5.9nm,0.3s
DMN Daman 42.73 308 *e*P **P 13 11 44.7 +0.9**
GKN Gorkha 43.28 308 *e*P **P 13 11 48.3 +0.4**
ASAJ Asahikawa 43.88 21 P **P 13 11 51.8 -0.2**
18nm,1.1s,baz=345,slow=22,SNR=5.6
KOLN Koldanda 44.00 307 *e*P **P 13 11 54.7 +1.2**
47nm,0.7s
ARMA Armidale 44.02 143 P P 13 11 56.6 +3.1
baz=44,SNR=6.7
DANN Dangsing 44.13 308 *e*P **P 13 11 55.6 +1.0**
60nm,0.8s
SONM Songino Array 45.97 345 P **P 13 12 08.7 +0.7**
1.2nm,0.3s,baz=161,slow=9.0,SNR=5.4
MKAR Makanchi Array 55.10 327 P **P 13 13 14.9 +0.8**
3.4nm,0.3s,baz=121,slow=8.4,SNR=116
MKAR PcP **PcP 13 14 06.2 +0.1**
1.5nm,0.6s,baz=121,slow=4.5,SNR=9.7
PETK Petropavlovsk- 57.02 25 P **P 13 13 26.8 -0.4**
3.6nm,0.9s,baz=197,slow=7.0,SNR=7.8
ZALV Zalesovo Beam 58.62 335 P **P 13 13 37.5 -0.5**
1.2nm,0.3s,baz=122,slow=5.6,SNR=13
AKTO Aktyubinsk 70.95 322 P **P 13 14 54.5 -0.8**
2.1nm,0.3s,baz=117,slow=5.5,SNR=14
ILAR Eielson Array 86.84 25 P **P 13 16 17.6 -1.4**
0.2nm,0.6s,baz=245,slow=4.6,SNR=6.2
ARCES ARCESS Array B 88.87 340 P **P 13 16 27.3 -1.0**
1.7nm,0.8s,baz=86,slow=5.7,SNR=6.6
AKASG Malin Array Be 89.11 321 P **P 13 16 28.6 -1.2**
0.3nm,0.4s,baz=73,slow=3.5,SNR=4.5
SPITS Spitsbergen Ar 89.54 349 P **P 13 16 31.0 -0.3**
1.1nm,0.3s,baz=96,slow=8.5,SNR=23
FINES FINESS Array B 89.71 331 P **P 13 16 30.3 -2.0**
1.3nm,0.8s,baz=41,slow=7.4,SNR=3.7
TORD Torodi Ar. Bea 118.82 287 PKP **PKPdf 13 22 18.7 -0.7**
0.4nm,0.3s,baz=51,slow=1.6,SNR=11

MAN 27 13:07:39,13°.41N×124°.74E,h1km,mb4.0,ML2.8,MS2.5, 2C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVCP	**Virac**	**0.60**	**288**	⇑*i* P	Pb	13 07 51.8	-0.5
CNP	**Catarman**	**0.90**	**185**	*e*P	Pb	13 07 57.3	-0.1
CNP				*e*S	Sg	13 08 05.4	-2.5
GQP	**Guinayangan**	**2.29**	**283**	⇓*e*P	Pb	13 08 19.5	-1.6
RCP	**Roxas**	**2.68**	**227**	⇓*e*P	Pb	13 08 27.1	-0.8
BOAC	**Boac**	**2.82**	**271**	*e*P	Pn	13 08 22.8	-2.4
BOAC				*e*S	Sn	13 09 02.1	+2.2

UPP **27** *13:13:59.5,57°.79N×11°.49E,h0km,ML1.9,Mining explosion.*
ISCJB **27** *13:14:02.5±0.5,58°.06N±0°.04×11°.91E±0°.07,h0km,Error ellipse: s-maj=6.2km s-min=5.2km az=162.7*
BER **27** *13:14:03.9±2.7,57°.98N×11°.54E,h0km,ML2.0(NAO), Suspected explosion*
CSEM **27** *13:14:03.2±0.3,58°.03N×11°.79E,h1km,ML1.9,Error ellipse: s-maj=7.3km s-min=6.1km az=54.0,Mining explosion.*
NAO **27** *13:14:04.5±2.5,58°.11N×11°.45E,ML2.0*
IDC **27** *13:14:05.2±1.9,58°.18N×11°.47E,h0km,mb1 3.3/4, mb1mx3.1/30,mbtmp3.2/4,ML2.8/3,Error ellipse: s-maj=15.9km s-min=14.3km az=51.0*
ISC 27 13:14:03.2±0.9,58°.09N±0°.04×11°.80E±0°.04,h0km,n26, σ0s69/31,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TJOU	**Tjoern**	**0.11**	**239**	P	**Pg**	**13 14 04.6**	**-0.6**
TJOU				S	**Sg**	**13 14 08.2**	**+1.6**
VANU	**Vaenersborg**	**0.43**	**19**	P	**Pb**	**13 14 14.0**	**+0.4**
STRU	**Stroemstad**	**1.00**	**341**	P	**Pb**	**13 14 22.7**	**-0.7**
FKPU	**Falk**	**1.02**	**85**	P	**Pg**	**13 14 22.4**	**-0.3**
NASU	**Vaermlandsnaes**	**1.11**	**40**	P	**Pn**	**13 14 26.1**	**+0.1**
FINU	**Finntorp**	**1.37**	**15**	P	**Pn**	**13 14 30.1**	**+0.7**
EKSU	**Eksjoe**	**1.94**	**104**	P	**Pn**	**13 14 36.5**	**-0.9**
LNKU	**Linkoeping**	**1.97**	**84**	P	**Pn**	**13 14 37.9**	**+0.2**
HFS	**Hagfors**	**2.27**	**25**	Pn	**Pn**	**13 14 43.0**	**+1.1**
	baz=219,slow=14						
HFS				Lg	Lg	13 15 17.2	
	baz=205,slow=28						
HFS	**Hagfors**	**2.27**	**25**	Pn	**Pn**	**13 14 43.0**	**+1.1**
	baz=219,slow=14						
HFS				Lg	Lg	13 15 17.2	
	baz=205,slow=28						
HFS	**Hagfors**	**2.27**	**25**	Pn	**Pn**	**13 14 43.0**	**+1.1**
HFS				Lg	Lg	13 15 17.2	
	SNR=4.1						
HFS	**Hagfors**	**2.27**	**25**	Pn	**Pn**	**13 14 42.5**	**+0.6**
	2.5nm,0.3s,baz=199,slow=17,SNR=37						
HFS				Pg	**Pg**	**13 14 45.6**	**-1.1**
	2.5nm,0.3s,baz=203,slow=16,SNR=45						
HFS				Lg	Lg	13 15 17.2	
	3.5nm,0.3s,baz=209,slow=24,SNR=9.2						
NB2	**NORSAR Subarra**	**2.98**	**354**	Pn	**Pn**	**13 14 51.3**	**-0.3**
	baz=176,slow=14						
NB2				Lg	Lg	13 15 39.8	
	baz=171,slow=37						
NB2	**NORSAR Subarra**	**2.98**	**354**	Pn	**Pn**	**13 14 51.3**	**-0.3**
	baz=176,slow=14						
NB2				Lg	Lg	13 15 39.8	
	baz=171,slow=37						
NB2	**NORSAR Subarra**	**2.98**	**354**	Pn	**Pn**	**13 14 51.3**	**-0.3**
	SNR=3.9						
NB2				Lg	Lg	13 15 39.8	
	SNR=4.0						
NOA	**NORSAR Array B**	**2.98**	**354**	Pn	**Pn**	**13 14 51.4**	**-0.3**
	0.7nm,0.3s,baz=176,slow=13,SNR=25						
NOA				Lg	Lg	13 15 34.6	
	1.0nm,0.3s,baz=247,slow=15,SNR=5.0						
BSD	**Bornholm Skovb**	**3.44**	**149**	*i* P	**Pn**	**13 14 58.2**	**+0.2**
BSD				*e*S	**Sn**	**13 15 38.7**	**-0.7**
BSD	**Bornholm Skovb**	**3.44**	**149**	*e*P	**Pn**	**13 14 58.2**	**+0.2**
BSD				*e*S	**Sn**	**13 15 38.8**	**-0.7**
	4.0nm,0.3s,SNR=49						
FIA0	**FINESS Array S**	**7.95**	**59**	Pn	**Pn**	**13 16 00.5**	**+0.6**
	baz=253,slow=12						
FIA0				Sn	**Sn**	**13 17 30.0**	**-0.3**
	baz=241,slow=28						
FIA0	**FINESS Array S**	**7.95**	**59**	Pn	**Pn**	**13 16 00.5**	**+0.6**
	baz=253,slow=12						
FIA0				Sn	**Sn**	**13 17 30.0**	**-0.3**
	baz=241,slow=28						
FIA0	**FINESS Array S**	**7.95**	**59**	Pn	**Pn**	**13 16 00.4**	**+0.6**
	SNR=3.6						
FIA0				Sn	**Sn**	**13 17 30.0**	**-0.3**
FINES	**FINESS Array B**	**7.95**	**59**	Pn	**Pn**	**13 16 00.2**	**+0.4**
	0.6nm,0.3s,baz=258,slow=11,SNR=22						
FINES				Sn	**Sn**	**13 17 30.0**	**-0.3**
	0.3nm,0.3s,baz=253,slow=22,SNR=5.0						
FINES				Lg	Lg	13 18 16.8	
	0.2nm,0.3s,baz=251,slow=29,SNR=2.8						
ARA0	**ARCESS Array S**	**12.93**	**22**	Pn	Pn	13 17 04.3	-3.6
	baz=210,slow=14						
ARA0	**ARCESS Array S**	**12.93**	**22**	P	Pn	13 17 04.3	-3.6
	baz=210,slow=14						
ARCES	**ARCESS Array B**	**12.93**	**22**	Pn	Pn	13 17 04.1	-3.9
	0.1nm,0.3s,baz=198,slow=14,SNR=2.5						
KIS	**Kishinev**	**15.13**	**130**	*e*	**P**	**13 17 44.0**	**+0.7**

UPP **27** *13:29:20.2,57°.79N×11°.48E,h0km,ML2.8,Mining explosion.*
HEL **27** *13:29:20.7±0.2,57°.79N×11°.45E,h0km,ML2.3, ML2.8(UPP),Explosion*
CSEM **27** *13:29:20.3±0.3,57°.84N×11°.44E,h2km,ML2.8,Error ellipse: s-maj=6.7km s-min=4.7km az=36.0,Mining explosion.*
BER **27** *13:29:22.6±3.7,57°.89N×11°.47E,h0km,MD2.6,ML1.9, ML2.3(NAO),Suspected explosion*
NAO **27** *13:29:24.7±2.4,58°.05N×11°.52E,ML2.3*
ISC 27 13:29:19.5±0.8,57°.83N±0°.03×11°.46E±0°.04,h0km,n54, σ1s35/61,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANU	**Vaenersborg**	**0.74**	**26**	*i* P	**Pg**	**13 29 34.8**	**+1.1**
VANU	**Vaenersborg**	**0.74**	**26**	P	**Pg**	**13 29 34.7**	**+1.1**
STRU	**Stroemstad**	**1.21**	**353**	*e*P	**Pg**	**13 29 43.5**	**+0.7**
STRU	**Stroemstad**	**1.21**	**353**	P	**Pg**	**13 29 43.5**	**+0.7**
FKPU	**Falk**	**1.25**	**74**	P	**Pg**	**13 29 43.1**	**-0.3**
GNOU	**Gnosjoe**	**1.35**	**113**	*e*P	**Pg**	**13 29 44.3**	**-1.1**
GNOU	**Gnosjoe**	**1.35**	**113**	P	**Pg**	**13 29 44.3**	**-1.1**
NASU	**Vaermlandsnaes**	**1.43**	**39**	*e*P	**Pn**	**13 29 46.9**	**+0.3**
NASU	**Vaermlandsnaes**	**1.43**	**39**	P	**Pn**	**13 29 46.9**	**+0.3**
HOMB	**Homborsund**	**1.63**	**287**	*e*P	**Pn**	**13 29 50.5**	**+1.0**
HOMB				*e*Sg	**Sn**	**13 30 12.0**	**+0.9**
HOMB	**Homborsund**	**1.63**	**287**	*e*P	**Pn**	**13 29 50.5**	**+1.0**
	SNR=50						
HOMB				*e*Sg	**Sn**	**13 30 12.0**	**+0.9**
	SNR=90						
FINU	**Finntorp**	**1.66**	**18**	*e*P	**Pn**	**13 29 50.9**	**+1.0**
FINU	**Finntorp**	**1.66**	**18**	P	**Pn**	**13 29 50.9**	**+1.0**
DEL	**Delary**	**1.89**	**135**	*e*P	**Pn**	**13 29 53.4**	**+0.3**
DEL	**Delary**	**1.89**	**135**	P	**Pn**	**13 29 53.4**	**+0.3**
KONO	**Kongsberg**	**2.06**	**333**	*e*P	**Pn**	**13 29 55.9**	**+0.5**
KONO				*e*S	**Sb**	**13 30 25.9**	**+1.9**
KONO				AML	AML	13 30 34.8	
	comp=Z,16nm,0.4s						
KONO	**Kongsberg**	**2.06**	**333**	*e*P	**Pn**	**13 29 55.9**	**+0.5**
	SNR=50						
KONO				*e*S	**Sb**	**13 30 25.9**	**+1.9**
	comp=Z,16nm,0.4s,SNR=50						
EKSU	**Eksjoe**	**2.08**	**96**	*e*P	**Pn**	**13 29 57.3**	**+1.6**
EKSU	**Eksjoe**	**2.08**	**96**	P	**Pn**	**13 29 57.2**	**+1.6**
VXJU	**Vaexsjoe**	**2.09**	**114**	*e*P	**Pn**	**13 29 57.0**	**+1.2**
VXJU	**Vaexsjoe**	**2.09**	**114**	P	**Pn**	**13 29 57.0**	**+1.2**
LNKU	**Linkoeping**	**2.19**	**78**	*e*P	**Pn**	**13 29 58.7**	**+1.6**
LNKU	**Linkoeping**	**2.19**	**78**	P	**Pn**	**13 29 58.7**	**+1.6**
COP	**Copenhagen**	**2.22**	**166**	*e*S	**Sn**	**13 30 28.0**	**+2.4**
COP	**Copenhagen**	**2.22**	**166**	*e*S	**Sn**	**13 30 28.0**	**+2.4**
	SNR=50						
UDD	**Uddeholm**	**2.52**	**25**	*e*P	**Pn**	**13 30 02.8**	**+1.1**
UDD	**Uddeholm**	**2.52**	**25**	P	**Pn**	**13 30 02.8**	**+1.1**
HFS	**Hagfors**	**2.58**	**26**	Pn	**Pn**	**13 30 03.6**	**+1.1**
	baz=219,slow=14						
HFS				Lg	Lg	13 30 39.3	
	baz=205,slow=28						
HFS	**Hagfors**	**2.58**	**26**	Pn	**Pn**	**13 30 03.6**	**+1.1**
	baz=219,slow=14						
HFS				Lg	Lg	13 30 39.3	
	baz=205,slow=28						
HFS	**Hagfors**	**2.58**	**26**	Pn	**Pn**	**13 30 03.6**	**+1.1**
	SNR=0.3						
HFS				Lg	Lg	13 30 39.3	
NC602	**NORSAR Array S**	**2.91**	**1**	*e*P	**Pn**	**13 30 07.7**	**+0.6**
NC602				*e*S	**Sn**	**13 30 41.3**	**-1.4**
NC602	**NORSAR Array S**	**2.91**	**1**	*e*P	**Pn**	**13 30 07.7**	**+0.6**
	SNR=50						
NC602				*e*S	**Sn**	**13 30 41.3**	**-1.4**
	comp=Z,12nm,0.4s,SNR=50						
BLS5	**Blasjo**	**3.06**	**303**	*e*P	**Pn**	**13 30 09.4**	**+0.2**
BLS5				*e*S	**Sn**	**13 30 44.0**	**-2.6**
BLS5				AML	AML	13 31 02.6	
	comp=Z,12nm,0.4s						
NB2	**NORSAR Subarra**	**3.22**	**358**	Pn	**Pn**	**13 30 12.3**	**+0.9**
	baz=181,slow=14						
NB2				Lg	Lg	13 31 00.4	
	baz=173,slow=37						
NB2	**NORSAR Subarra**	**3.22**	**358**	Pn	**Pn**	**13 30 12.3**	**+0.9**
	baz=181,slow=14						
NB2				Lg	Lg	13 31 00.4	
	baz=173,slow=37						
NB2	**NORSAR Subarra**	**3.22**	**358**	Pn	**Pn**	**13 30 12.3**	**+0.9**
	SNR=9.4						
NB2				Lg	Lg	13 31 00.4	
	SNR=3.9						
ODD1	**Odda**	**3.26**	**312**	*e*P	**Pn**	**13 30 10.6**	**-1.3**
ODD1				AML	AML	13 31 04.6	
	comp=Z,9.7nm,0.3s						
ODD1	**Odda**	**3.26**	**312**	*e*P	**Pn**	**13 30 10.6**	**-1.3**
	SNR=50						
BSD	**Bornholm Skovb**	**3.33**	**143**	*e*PB	Pb	13 30 17.4	-2.1
BSD	**Bornholm Skovb**	**3.33**	**143**	*i* P	**Pb**	**13 30 17.6**	**-1.8**
BSD				*e*S	**Sb**	**13 31 03.0**	**+2.6**
BSD	**Bornholm Skovb**	**3.33**	**143**	Pb	Pb	13 30 17.3	-2.1
BSD	**Bornholm Skovb**	**3.33**	**143**	*i* P	**Pb**	**13 30 17.7**	**-1.7**
	SNR=49						
AAL	**Aland**	**5.00**	**58**	*e*P	**Pn**	**13 30 37.1**	**+1.4**
AAL				*e*S	**Sn**	**13 31 33.9**	**-0.2**
AAL	**Aland**	**5.00**	**58**	P	**Pn**	**13 30 37.1**	**+1.4**
AAL				S	**Sn**	**13 31 33.8**	**-0.2**
RAF	**Rauma**	**6.15**	**54**	*e*P	**Pn**	**13 30 52.3**	**+0.8**
RAF				*e*S	**Sn**	**13 32 01.9**	**-0.6**
RAF				MSG		13 32 49.4	
	comp=Z,2.6nm,0.2s						
RAF	**Rauma**	**6.15**	**54**	P	**Pn**	**13 30 52.3**	**+0.8**
RAF				S	**Sn**	**13 32 01.8**	**-0.6**
MTSE	**Matsula**	**6.58**	**77**	*e*S	**Sn**	**13 32 09.8**	**-3.1**
KEF	**Keuruu**	**8.00**	**51**	*e*S	**Sn**	**13 32 45.1**	**-2.7**
FIA0	**FINESS Array S**	**8.24**	**58**	Pn	**Pn**	**13 31 21.1**	**+0.9**
	baz=253,slow=12						
FIA0				Sn	Sn	13 32 48.7	-5.1
	baz=249,slow=22						
FIA0	**FINESS Array S**	**8.24**	**58**	Pn	**Pn**	**13 31 21.1**	**+0.9**
	baz=253,slow=12						
FIA0				Sn	Sn	13 32 48.7	-5.1
	baz=249,slow=22						
FIA0	**FINESS Array S**	**8.24**	**58**	Pn	**Pn**	**13 31 21.0**	**+0.9**
	SNR=5.2						
KAF	**Kangasniemi**	**8.58**	**54**	*e*S	Sn	13 32 55.9	-6.4
ARA0	**ARCESS Array S**	**13.24**	**22**	Pn	Pn	13 32 25.3	-3.2
	baz=205,slow=12						
ARA0	**ARCESS Array S**	**13.24**	**22**	Pn	Pn	13 32 25.3	-3.2
	baz=205,slow=12						

ISCJB **27** *13:46:32.1±0.5,57°.87N±0°.03×11°.52E±0°.09,h0km,Error ellipse: s-maj=7.3km s-min=4.5km az=13.7*
UPP **27** *13:46:33.0,57°.79N×11°.47E,h0km,ML2.6,Mining explosion.*
CSEM **27** *13:46:33.4±0.3,57°.84N×11°.49E,h2km,ML2.6,Error ellipse: s-maj=7.9km s-min=5.0km az=91.0,Mining explosion.*
HEL **27** *13:46:33.7±0.3,57°.78N×11°.46E,h0km,ML2.8, ML2.6(UPP),Explosion*
BER **27** *13:46:36.5±2.7,57°.95N×11°.57E,h0km,ML2.3(NAO), Suspected explosion*
IDC **27** *13:46:37.9±1.9,58°.08N×11°.39E,h0km,mb1 3.6/3, mb1mx3.1/29,mbtmp3.5/3,ML2.8/4,Error ellipse: s-maj=15.8km s-min=14.0km az=54.0*
NAO **27** *13:46:38.5±2.4,58°.13N×11°.45E,ML2.3*
ISC 27 13:46:32.3±0.8,57°.82N±0°.03×11°.51E±0°.04,h0km,n54, σ1s22/62,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANU	**Vaenersborg**	**0.74**	**24**	*i* P	**Pg**	**13 46 47.7**	**+1.2**
VANU	**Vaenersborg**	**0.74**	**24**	P	**Pg**	**13 46 47.7**	**+1.2**
FABU	**Falkenberg**	**1.05**	**141**	*e*P	**Pg**	**13 46 52.3**	**0.0**
FABU	**Falkenberg**	**1.05**	**141**	P	**Pg**	**13 46 52.3**	**0.0**
FKPU	**Falk**	**1.23**	**73**	P	**Pg**	**13 46 56.0**	**+0.2**
STRU	**Stroemstad**	**1.23**	**352**	*e*P	**Pg**	**13 46 56.4**	**+0.4**
STRU	**Stroemstad**	**1.23**	**352**	P	**Pg**	**13 46 56.3**	**+0.4**
GNOU	**Gnosjoe**	**1.32**	**113**	*e*P	**Pg**	**13 46 57.3**	**-0.3**
GNOU	**Gnosjoe**	**1.32**	**113**	P	**Pg**	**13 46 57.3**	**-0.3**
NASU	**Vaermlandsnaes**	**1.42**	**38**	*e*P	**Pn**	**13 46 59.8**	**+0.5**
NASU	**Vaermlandsnaes**	**1.42**	**38**	P	**Pn**	**13 46 59.8**	**+0.5**
FINU	**Finntorp**	**1.67**	**17**	*e*P	**Pn**	**13 47 03.8**	**+1.0**
FINU	**Finntorp**	**1.67**	**17**	P	**Pn**	**13 47 03.7**	**+1.0**
GID	**Gilleleje**	**1.73**	**168**	*i* P	**Pb**	**13 47 06.2**	**+1.3**
	SNR=66						
GID				*e*S	**Sb**	**13 47 28.5**	**+1.3**
	SNR=66						
DEL	**Delary**	**1.87**	**135**	*e*P	**Pn**	**13 47 06.2**	**+0.8**
DEL	**Delary**	**1.87**	**135**	P	**Pn**	**13 47 06.2**	**+0.8**
MUD	**Monsted U'grnd**	**1.87**	**224**	*i* P	**Pn**	**13 47 05.5**	**+0.1**
MUD				*i* S	**Sn**	**13 47 29.3**	**-0.4**
MUD	**Monsted U'grnd**	**1.87**	**224**	*i* P	**Pn**	**13 47 05.5**	**+0.1**
MUD				*i* S	**Sn**	**13 47 29.4**	**-0.3**
	SNR=66						
EKSU	**Eksjoe**	**2.05**	**95**	*e*P	**Pn**	**13 47 10.1**	**+2.0**
EKSU	**Eksjoe**	**2.05**	**95**	P	**Pn**	**13 47 10.0**	**+2.0**
VXJU	**Vaexsjoe**	**2.06**	**114**	*e*P	**Pn**	**13 47 09.9**	**+1.7**
VXJU	**Vaexsjoe**	**2.06**	**114**	P	**Pn**	**13 47 09.9**	**+1.7**
LNKU	**Linkoeping**	**2.16**	**77**	*e*P	**Pn**	**13 47 11.7**	**+2.1**
LNKU	**Linkoeping**	**2.16**	**77**	P	**Pn**	**13 47 11.6**	**+2.1**
HFS	**Hagfors**	**2.58**	**25**	Pn	**Pn**	**13 47 16.7**	**+1.4**
	baz=219,slow=12						
HFS				Lg	Lg	13 47 51.1	
	baz=214,slow=28						
HFS	**Hagfors**	**2.58**	**25**	Pn	**Pn**	**13 47 16.7**	**+1.4**
	baz=219,slow=12						
HFS				Lg	Lg	13 47 51.1	
	baz=214,slow=28						
HFS	**Hagfors**	**2.58**	**25**	Pn	**Pn**	**13 47 16.7**	**+1.4**
	baz=219,slow=12,SNR=5.8						
HFS				Lg	Lg	13 47 51.1	
	SNR=1.8						
HFS	**Hagfors**	**2.58**	**25**	Pn	**Pn**	**13 47 16.5**	**+1.2**
	1.8nm,0.3s,baz=212,slow=12,SNR=30						
HFS				Pg	**Pb**	**13 47 19.7**	**+0.2**
	1.8nm,0.3s,baz=194,slow=16,SNR=36						
HFS				Lg	Lg	13 47 52.5	
	3.1nm,0.3s,baz=215,slow=31,SNR=13						
NB2	**NORSAR Subarra**	**3.24**	**357**	Pn	**Pn**	**13 47 24.7**	**+0.4**
	baz=180,slow=14						
NB2				Lg	Lg	13 48 13.3	
	baz=173,slow=37						
NB2	**NORSAR Subarra**	**3.24**	**357**	Pn	**Pn**	**13 47 24.7**	**+0.4**
	baz=180,slow=14						
NB2				Lg	Lg	13 48 13.3	
	baz=173,slow=37						
NB2	**NORSAR Subarra**	**3.24**	**357**	Pn	**Pn**	**13 47 24.7**	**+0.4**
	baz=180,slow=13,SNR=8.2						
NB2				Lg	Lg	13 48 13.3	
	SNR=3.9						
NOA	**NORSAR Array B**	**3.24**	**357**	Pn	**Pn**	**13 47 24.8**	**+0.4**
	0.6nm,0.3s,baz=176,slow=12,SNR=32						
NOA				Lg	Lg	13 48 11.7	
	2.2nm,0.3s,baz=353,slow=16,SNR=7.8						
BSD	**Bornholm Skovb**	**3.30**	**144**	*e*P	Pn	13 47 28.9	+3.7
BSD	**Bornholm Skovb**	**3.30**	**144**	*i* P	**Pb**	**13 47 31.7**	**0.0**
BSD				*i* S	**Sg**	**13 48 17.4**	**-0.9**
BSD	**Bornholm Skovb**	**3.30**	**144**	P	Pn	13 47 28.9	+3.7
RAF	**Rauma**	**6.14**	**54**	*e*P	**Pn**	**13 48 04.5**	**+0.4**
RAF				*e*S	**Sn**	**13 49 14.7**	**-0.2**
RAF				MSG		13 49 47.7	
	comp=Z,3.0nm,0.3s						
RAF	**Rauma**	**6.14**	**54**	P	**Pn**	**13 48 04.5**	**+0.4**
RAF				S	**Sn**	**13 49 14.7**	**-0.2**
MTSE	**Matsula**	**6.56**	**77**	*e*P	**Pn**	**13 48 11.0**	**+1.1**
MTSE				*e*S	**Sn**	**13 49 23.2**	**-2.0**
MTSE	**Matsula**	**6.56**	**77**	P	**Pn**	**13 48 10.9**	**+1.1**
VAF	**Ylistaro**	**7.61**	**42**	*e*P	**Pn**	**13 48 25.9**	**+1.6**
VAF				MPN		13 48 33.2	
	comp=Z,1.2nm,0.2s						
VAF	**Ylistaro**	**7.61**	**42**	P	Pn	**13 48 25.8**	**+1.6**
PVF	**Pernaja**	**7.86**	**64**	*e*P	**Pn**	**13 48 27.6**	**-0.2**
PVF	**Pernaja**	**7.86**	**64**	P	Pn	**13 48 27.5**	**-0.2**
KEF	**Keuruu**	**7.99**	**51**	*e*P	**Pn**	**13 48 31.0**	**+1.5**
KEF				*e*S	**Sn**	**13 49 57.8**	**-2.6**
KEF	**Keuruu**	**7.99**	**51**	P	**Pn**	**13 48 30.9**	**+1.5**
FIA0	**FINESS Array S**	**8.22**	**58**	Pn	**Pn**	**13 48 34.0**	**+1.4**
	baz=251,slow=12						
FIA0	**FINESS Array S**	**8.22**	**58**	Pn	**Pn**	**13 48 34.0**	**+1.4**
	baz=251,slow=12						
FIA0	**FINESS Array S**	**8.22**	**58**	*e*P	**Pn**	**13 48 34.0**	**+1.4**
FIA0				MPN		13 48 36.1	
	comp=Z,1.4nm,0.2s						
FIA0				*e*S	**Sn**	**13 50 04.9**	**-1.3**
FIA0	**FINESS Array S**	**8.22**	**58**	P	**Pn**	**13 48 34.0**	**+1.4**
FINES	**FINESS Array B**	**8.22**	**58**	Pn	**Pn**	**13 48 34.1**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=261,slow=12,SNR=35						
FINES				Sn	**Sn**	**13 50 04.5**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=254,slow=23,SNR=4.9						
FINES				Lg	Lg	13 50 53.3	
	comp=Z,0.5nm,0.3s,baz=255,slow=27,SNR=6.7						
KAF	**Kangasniemi**	**8.57**	**54**	MSN		13 50 18.4	
	comp=Z,0.8nm,0.2s						
ARA0	**ARCESS Array S**	**13.24**	**22**	Pn	**Pn**	**13 49 39.8**	**-1.5**
	baz=207,slow=16						
ARA0	**ARCESS Array S**	**13.24**	**22**	Pn	**Pn**	**13 49 39.8**	**-1.5**
	baz=207,slow=16						
ARCES	**ARCESS Array B**	**13.24**	**22**	Pn	**Pn**	**13 49 39.5**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=202,slow=14,SNR=4.6						

IDC **27** *14:09:55.4±0.5,12°.05S×166°.00E,h0km,mb4.7/20, mb1 4.9/23,mb1mx4.8/26,mbtmp4.8/23,ML4.0/2,MS4.6/27, Ms1 4.6/27,ms1mx4.5/33,Error ellipse: s-maj=17.8km s-min=13.5km az=99.0*
ISCJB **27** *14:09:58.3±1.8,12°.13S±0°.04×166°.00E±0°.05,h27km±12km, mb5.1/68,MS4.7/45,Error ellipse: s-maj=8.8km s-min=6.9km az=8.4*
BJI **27** *14:09:59.8,11°.47S×166°.49E,h29km,mB5.5/40,mb5.2/55, Ms5.2/40,Ms7 4.9/38*
MOS **27** *14:09:59.8±1.2,12°.10S×165°.84E,h33km,mb5.5/27, MS4.7/4,Error ellipse: s-maj=10.8km s-min=8.4km az=27.0*
BKK **27** *14:10:00.8±0.4,12°.5±0°.6×16°.6E±°,h10km,M5.3/28, mB5.9/7,mb5.1/28,Mw(mB)5.5/7*
NEIC **27** *14:10:01.0±0.3,12°.05S×165°.96E,h35km,mb5.4/22,Error ellipse: s-maj=8.5km s-min=7.5km az=130.0*
AUST **27** *14:10:02.8±3.1,12°.18S×166°.14E,h50km,Error ellipse: s-maj=54.0km s-min=14.2km az=57.0*
GCMT **27** *14:10:03.0±0.1,12°.12S×165°.91E,h18km,MW5.3 Best double couple: NP1:φs147.00000°,δ68.00000°, λ79.00000°. NP2:φs354.00000°,δ25.00000°,λ115.00000°. Principal axes: T 1.3100, Plg66.0000°, Azm38.0000°; N -0.0400, Plg10.0000°, Azm151.0000°; P -1.2700, Plg22.0000°, Azm245.0000°; Data Used: II IU G CN IC.*
DJA **27** *14:10:05.7±1.3,12°.5±0°.5×16°.6E±°,h66km±16km,M4.9/9, mB5.4/4,mb4.9/9,Mw(mB)4.8/4,Mwp5.2/1*
ISC 27 14:10:00.9±0.4,12°.12S±0°.04×166°.05E±0°.06,h35km±1km, h35km:pP-P,n262,σ1s55/299,mb5.2/68,MS4.7/46,22C-3D, Santa Cruz Islands

| Code | Station Name | Δ° | AZ° | Phase | ID | Time | Res |
|---

AFI Afiamalu 21.68 97 LR LR 14 21 46.5
comp=Z,2µm,19.4s,baz=275,slow=33
MTSU Mount Surprise 21.80 251 ⇑P **P** **14 14 49.2 -1.1**
baz=22,SNR=26
COEN Coen 22.36 263 *e*P **P** **14 14 56.1 -0.1**
comp=Z,988nm,1.4s
ARMA Armidale 22.59 214 *e*P **P** **14 14 59.8 +1.2**
comp=Z,239nm,1.5s
ARMA Armidale 22.59 214 ⇑P **P** **14 14 59.3 +0.7**
baz=23,SNR=13
QLP Quilpie 25.05 232 ⇓P **P** **14 15 22.0 -0.1**
baz=25,SNR=7.5
MGCD Mangrove Creek 25.05 211 ⇑P **P** **14 15 23.6 +1.5**
baz=25,SNR=6.7
CMSA Cobar Meteorol 26.94 221 ⇑P **P** **14 15 40.4 +1.3**
baz=27,SNR=56
STKA Stephens Creek 29.88 225 *e*P **P** **14 16 05.9 +0.5**
STKA Stephens Creek 29.88 225 P **P** **14 16 05.9 +0.5**
baz=30,SNR=12
STKA Stephens Creek 29.88 225 P **P** **14 16 05.6 +0.2**
comp=Z,9.0nm,0.9s,baz=42,slow=7.7,SNR=14
STKA LR LR 14 28 00.8
comp=Z,2µm,19.8s,baz=52,slow=36
TOO Toolangi 31.32 212 ⇑P **P** **14 16 19.5 +1.4**
baz=31,SNR=5.0
WRAB Tennant Creek 31.40 252 *e*P **P** **14 16 18.1 -0.9**
WRAB pmax pmax
comp=Z,74nm,1.4s
WRAB Tennant Creek 31.40 252 *e*P **P** **14 16 18.1 -0.9**
comp=Z,74nm,1.4s
WRAB Tennant Creek 31.40 252 P **P** **14 16 18.0 -0.9**
comp=Z,118nm,1.5s,SNR=8.2
WRA Warramunga Arr 31.41 252 P **P** **14 16 17.3 -1.8**
WRA PcP **PcP** **14 19 12.7 +0.5**
WRA ScP **ScP** **14 22 56.1 +3.2**
WRA Warramunga Arr 31.41 252 P **P** **14 16 17.3 -1.8**
comp=Z,7.3nm,0.9s,baz=84,slow=9.0,SNR=42
WRA PcP **PcP** **14 19 12.7 +0.5**
comp=Z,5.2nm,1.1s,baz=61,slow=2.2,SNR=5.1
WRA ScP **ScP** **14 22 56.1 +3.2**
comp=Z,3.6nm,1.2s,baz=75,slow=3.7,SNR=7.2
WRA LR LR 14 28 26.8
comp=Z,1µm,19.4s,baz=95,slow=35
RPZ Rata Peaks 31.78 173 *e*P **P** **14 16 23.3 +1.3**
RPZ Rata Peaks 31.78 173 P **P** **14 16 22.3 +0.3**
comp=Z,24nm,0.9s,baz=23,slow=10,SNR=9.0
AS31 Alice Springs 32.59 245 *e*P **P** **14 16 28.0 -1.5**
ASAR Alice Springs 32.59 245 P **P** **14 16 27.9 -1.6**
ASAR PcP **PcP** **14 19 13.0 -2.4**
ASAR ScP **ScP** **14 23 01.1 +4.2**
ASAR Alice Springs 32.59 245 P **P** **14 16 27.9 -1.6**
comp=Z,8.7nm,0.7s,baz=69,slow=9.6,SNR=147
ASAR PcP **PcP** **14 19 13.0 -2.4**
comp=Z,5.2nm,1.1s,baz=82,slow=3.9,SNR=6.4
ASAR ScP **ScP** **14 23 01.1 +4.2**
comp=Z,1.4nm,1.1s,baz=94,slow=3.0,SNR=5.1
ASAR LR LR 14 29 37.2
comp=Z,1µm,18.0s,baz=70,slow=36
KDU Kakadu 32.78 265 ⇑P **P** **14 16 30.1 -1.0**
baz=33,SNR=12
RAR Rarotonga 33.91 110 LR LR 14 28 13.2
comp=Z,573nm,19.0s,baz=271,slow=32
MTN Manton Dam 34.08 265 ⇑P **P** **14 16 42.2 -0.3**
baz=34,SNR=3.7
BBOO Buckleboo 34.33 228 P **P** **14 16 44.7 +0.3**
baz=34,SNR=5.0
KNRA Kununurra 36.33 260 ⇑P **P** **14 17 01.6 -0.2**
baz=36,SNR=6.7
FITZ Fitzroy Crossi 39.40 256 *e*P **P** **14 17 27.1 -0.7**
comp=Z,71nm,1.5s
FITZ Fitzroy Crossi 39.40 256 ⇑P **P** **14 17 27.7 0.0**
baz=40,SNR=8.6
FITZ Fitzroy Crossi 39.40 256 LR LR 14 33 29.7
comp=Z,1µm,19.0s,baz=73,slow=36
NLAI Namlea 39.55 280 P **P** **14 17 30.5 +1.5**
LBMI Labuha 39.90 284 P **P** **14 17 32.9 +0.9**
SOEI Soe 41.06 269 P **P** **14 17 41.6 -0.1**
PPT Papeete 43.16 103 LR LR 14 33 38.9
comp=Z,2µm,18.2s,baz=4.6,slow=33
PPT2 Papeete2 43.16 103 *e*S S 14 24 37.3 +14
comp=Z,693nm,26.2s
PPT2 *e*LQ LQ 14 28 18.2
comp=Z,3µm,26.8s
PPT2 *e*LR LR 14 30 07.9
comp=Z,2µm,26.8s,baz=275
TBI Tubuai 43.66 111 *e*S S 14 24 37.9 +7.5
comp=Z,467nm,27.8s
TBI *e*LQ LQ 14 28 31.2
comp=Z,1µm,34.5s
TBI *e*LR LR 14 30 27.4
comp=Z,956nm,26.5s,baz=291
LUWI Luwuk 44.30 281 P **P** **14 18 08.3 +0.4**
MBWA Marble Bar 45.14 252 *e*P **P** **14 18 14.7 +0.2**
comp=Z,67nm,1.2s
MRSI Marisa 45.53 283 P P 14 18 27.8 +10
BNSI Bone 46.05 276 P **P** **14 18 22.3 +0.5**
KAPI Kappang 46.27 275 *e*P **P** **14 18 22.0 -1.5**
comp=Z,37nm,1.3s
KAPI Kappang 46.27 275 LR LR 14 40 05.3
comp=Z,230nm,18.1s,baz=106,slow=39
SPSI Sidrap Palu 46.47 276 P **P** **14 18 24.6 -0.5**
TTSI Tana Toraja 46.63 277 P **P** **14 18 26.3 -0.1**
MEEK Meekatharra 46.75 245 ⇑P **P** **14 18 27.3 +0.2**
baz=47,SNR=12
NWAO Narrogin (SRO) 49.12 237 P **P** **14 18 45.1 -0.2**
comp=Z,22nm,1.0s
NWAO Narrogin (SRO) 49.12 237 LR LR 14 40 08.0
comp=Z,3µm,18.1s,baz=249,slow=37
MYLDM Lahad Datu 50.30 287 P P 14 18 58.9 +4.3
SDKM Sandakan 51.68 287 P P 14 19 12.6 +7.6
KKM Kota Kinabalu 52.73 287 P **P** **14 19 15.1 +2.2**
KKM Kota Kinabalu 52.73 287 *e*P **P** **14 19 14.4 +1.5**
comp=Z,52nm,1.0s
BTM Bintulu 54.79 283 P P 14 19 41.9 +14
MJAR Matsushiro Arr 55.05 333 P **P** **14 19 27.7 -1.7**
MJAR Matsushiro Arr 55.05 333 P **P** **14 19 27.7 -1.7**
comp=Z,14nm,1.2s,baz=166,slow=7.6,SNR=13
MAT Matsushiro 55.05 333 P **P** **14 19 27.2 -2.2**
MAT S **S** **14 27 07.6 -2.0**
SBUM Sibu 55.40 282 P **P** **14 19 34.4 +2.1**
JNU Nakatsue 56.12 324 P **P** **14 19 35.2 -1.9**
JNU Nakatsue 56.12 324 P **P** **14 19 35.2 -1.9**
comp=Z,12nm,0.8s,baz=350,slow=1.8,SNR=8.1
RKT Rikitea 56.95 110 *e*LR LR 14 36 35.9
comp=Z,729nm,30.2s,baz=283
KSM Kuching 56.97 280 P **P** **14 19 44.9 +1.3**
KSM Kuching 56.97 280 *e*P **P** **14 19 43.3 -0.2**
comp=Z,25nm,1.5s
DRV Dumont d'Urvil 57.22 192 P P 14 19 38.0 -6.4
DRV S S 14 27 24.0 -14
DRV SS SS 14 31 19.0 -7.8
DRV L L 14 34 00.0
DRV R 14 37 00.0
ASAJ Asahikawa 59.90 341 LR LR 14 40 26.4
comp=Z,348nm,21.3s,baz=33,slow=31
TJN Taejon 60.47 325 *e*P **P** **14 20 09.0 +1.6**
SSE Sheshan 60.82 316 P **P** **14 20 09.0 -0.9**
SSE S **S** **14 28 30.8 +5.6**
SSE AMB AMB
comp=Z,36nm,0.7s
SSE AMB AMB
comp=Z,270nm,4.9s
SSE LR LR
comp=Z,140nm,19.5s
SSE LR LR
comp=Z,220nm,19.5s
KSRS Korea Array 60.92 326 P **P** **14 20 10.5 0.0**
comp=Z,4.8nm,0.8s,baz=136,slow=7.2,SNR=19
KSRS LR LR 14 42 16.4
comp=Z,254nm,21.0s,baz=133,slow=32
KSAR Wonju Array Be 60.94 326 P **P** **14 20 10.5 -0.1**
NJ2 Nanjing 62.99 316 *e*P **P** **14 20 25.0 +0.6**
NJ2 pP **pP** **14 20 33.5 -1.5**
NJ2 sP **sP** **14 20 37.8 -1.3**
NJ2 PP **PP** **14 22 43.5 +0.1**
NJ2 S **S** **14 28 53.0 +0.4**
NJ2 sS **sS** **14 29 10.0 0.0**
NJ2 AMB AMB
comp=Z,20nm,0.5s
NJ2 AMB AMB
comp=Z,250nm,5.2s
NJ2 LR LR
comp=Z,980nm,16.6s
NJ2 LR LR
comp=Z,1µm,16.5s
NJ2 LR LR
comp=Z,1µm,17.3s
MYKOM **Kota Tinggi 63.29 278** P P 14 20 32.7 +5.8
QIZ Qiongzhong 63.45 298 P **P** **14 20 27.5 -0.3**
QIZ S **S** **14 28 59.0 +0.2**
QIZ AMB AMB
comp=Z,17nm,1.4s
QIZ AMB AMB
comp=Z,83nm,3.5s
KGM Kluang 63.86 278 P P 14 20 36.6 +5.9
USRK Ussuriysk Arra 64.03 333 P **P** **14 20 31.1 -0.1**
comp=Z,35nm,1.1s,baz=128,slow=5.6,SNR=31
USRK LR LR 14 45 47.7
comp=Z,291nm,21.6s,baz=328,slow=34
KTGM Kuala Trenggan 64.90 282 P **P** **14 20 39.9 +2.5**
WHN Wuhan 65.32 312 P P 14 20 44.0 +4.2
WHN S **S** **14 29 24.0 +2.5**
WHN LR LR
comp=Z,1µm,15.5s
PETK Petropavlovsk- 65.36 354 LR LR 14 43 45.1
comp=Z,284nm,19.9s,baz=173,slow=31
MDJ Mudanjiang 65.43 332 P **P** **14 20 40.3 +0.1**
MDJ pP **pP** **14 20 49.5 -1.4**
MDJ sP **sP** **14 20 53.5 -1.4**
MDJ PP **PP** **14 23 06.5 +1.8**
MDJ S **S** **14 29 23.3 +0.9**
MDJ ScS **SKSac** **14 30 32.3 -0.6**
MDJ SS **SS** **14 33 37.3 +0.8**
MDJ AMB AMB
comp=Z,35nm,1.4s
MDJ AMB AMB
comp=Z,150nm,5.4s
MDJ LR LR
comp=Z,120nm,24.2s
MDJ LR LR
comp=Z,96nm,19.4s
VNDA Vanda 65.43 181 *e*P **P** **14 20 39.8 0.0**
comp=Z,59nm,1.4s
VNDA Vanda 65.43 181 P **P** **14 20 40.0 +0.2**
comp=Z,26nm,1.3s,baz=350,slow=7.4,SNR=27
VNDA LR LR 14 46 59.2
comp=Z,234nm,20.0s,baz=1.7,slow=34
SBA Scott Base 65.73 180 *e*P **P** **14 20 42.5 +0.8**
SBA pmax pmax
comp=Z,93nm,1.4s
SBA Scott Base 65.73 180 *e*P **P** **14 20 42.5 +0.8**
comp=Z,93nm,1.4s
FRIM Kepong 65.80 279 P P 14 20 48.4 +5.1
HABR Khabarovsk 66.28 338 *ce*P **P** **14 20 45.7 +0.1**
HABR *e**PP **pP** **14 20 54.4 -1.9**
HABR *e**SP **sP** **14 20 58.6 -1.7**
HABR *e* 14 21 14.0
HABR *e* 14 23 09.8
HABR *e*S **S** **14 29 32.8 +0.2**
HABR *e* 14 30 37.9
HABR *e*SS **SS** **14 33 48.7 -0.9**
HABR pmax pmax
comp=Z,41nm,1.6s
HABR pmax pmax
comp=E,24nm,1.6s
HABR pmax pmax
comp=N,17nm,1.6s
HABR MLR MLR
comp=Z,253nm,17.0s
SNY Shenyang 66.39 327 ⇑P **P** **14 20 46.0 -0.4**
SNY S **S** **14 29 34.8 +0.7**
SNY AMB AMB
comp=Z,18nm,1.4s
SNY LR LR
comp=Z,350nm,18.6s
SNY LR LR
comp=Z,590nm,16.8s
SNY LR LR
comp=Z,410nm,15.6s
IPM Ipoh 66.70 280 P P 14 20 54.2 +5.1
IPM Ipoh 66.70 280 *e*P **P** **14 20 49.9 +0.8**
comp=Z,78nm,1.4s
CN2 Changchun 66.81 329 *e*P **P** **14 20 49.0 -0.1**
CN2 *es*P **sP** **14 21 03.3 -0.5**
CN2 *e*PP **PP** **14 23 18.0 +1.3**
CN2 *e*S **S** **14 29 37.5 -1.6**
CN2 *e*SS **SS** **14 33 57.5 -0.5**
CN2 AMB AMB
comp=Z,50nm,1.3s
CN2 AMB AMB
comp=Z,500nm,7.0s
CN2 LR LR
comp=Z,500nm,18.0s
CN2 LR LR
comp=Z,300nm,18.0s
CN2 LR LR
comp=Z,500nm,19.0s
KULM Kulim 67.27 281 P P 14 20 57.9 +5.2
KULM Kulim 67.27 281 *e*P **P** **14 20 54.2 +1.5**
comp=Z,46nm,1.4s
SKNT Sakolnakorn 67.79 294 P **P** **14 20 57.5 +1.6**
comp=Z,25nm,1.5s
KLR Kul'dur 68.15 337 *e*P P 14 20 53.4 -4.1
KLR pmax pmax
comp=Z,110nm,1.6s
PSI Prapat 68.31 278 P **P** **14 20 57.7 -1.7**
PSI Prapat 68.31 278 P **P** **14 20 57.7 -1.7**
comp=Z,4.6nm,0.6s,baz=201,slow=8.6,SNR=2.6
GYA Guiyang 69.26 304 P **P** **14 21 06.0 +0.9**
GYA pP **pP** **14 21 17.3 +1.5**
GYA sP **sP** **14 21 22.8 +3.0**
GYA PP **PP** **14 23 40.5 +1.9**
GYA ScP 14 25 29.0
GYA S **S** **14 30 08.3 -1.1**
GYA sS **sS** **14 30 26.0 -1.1**
GYA SKS **SKSac** **14 30 59.0 -4.1**
GYA SS **SS** **14 34 35.5 -1.3**
GYA AMB AMB
comp=Z,30nm,1.0s
GYA AMB AMB
comp=Z,140nm,5.4s
GYA LR LR
comp=Z,840nm,18.8s
GYA LR LR
comp=Z,790nm,19.4s
GYA LR LR
comp=Z,960nm,18.8s
BJI Beijing 69.50 321 P **P** **14 21 07.0 +1.0**
BJI sP **sP** **14 21 18.3 -2.4**
BJI S **S** **14 30 16.0 +4.6**
BJI SS **SS** **14 34 42.5 +2.8**
BJI AMB AMB
comp=Z,35nm,0.6s
BJI AMB AMB
comp=Z,180nm,6.3s
BJI LR LR
comp=Z,560nm,18.6s
BJI LR LR
comp=Z,380nm,25.2s
BJI LR LR
comp=Z,430nm,24.0s
PBKT Sadao Pong 70.36 293 P P 14 21 16.9 +5.1
comp=Z,10nm,1.5s
LOEI Loei 70.41 294 P **P** **14 21 11.8 -0.3**
XAN Xi'an 71.06 312 P **P** **14 21 17.5 +1.7**
XAN pP **pP** **14 21 31.0 +4.5**
XAN AMB AMB
comp=Z,6.0nm,1.5s
XAN AMB AMB
comp=Z,57nm,7.4s
UTHA Uthaitani 71.41 291 P P 14 21 23.6 +5.4
comp=Z,3.1nm,1.3s
KMI Kunming 71.93 302 P P 14 21 25.8 +4.3
KMI pP pP 14 21 34.5 +2.3
KMI PP **PP** **14 24 03.0 +1.3**
KMI S **S** **14 30 42.5 +1.7**
KMI AMB AMB
comp=Z,24nm,1.3s
KMI LR LR
comp=Z,180nm,18.2s
KMI LR LR
comp=Z,320nm,16.6s
KMI LR LR
comp=Z,280nm,19.9s
KHLT Khaolaem Dam 71.96 290 P P 14 21 27.9 +6.4
comp=Z,5.0nm,1.6s
CM31 Chiang Mai Arr 72.81 294 P **P** **14 21 26.1 -0.5**
comp=Z,10nm,1.0s
CMAR Chiang Mai Arr 72.81 294 P **P** **14 21 26.8 +0.2**
CMAR Chiang Mai Arr 72.81 294 P **P** **14 21 26.8 +0.2**
comp=Z,2.8nm,0.7s,baz=126,slow=4.6,SNR=21
CMAR LR LR 14 53 46.3
comp=Z,122nm,18.0s,baz=213,slow=36
HHC Hu-ho-hao-te 72.84 320 *e*P **P** **14 21 27.5 +1.1**
HHC pP **pP** **14 21 37.8 +0.6**
HHC PcP **PcP** **14 21 44.5 +1.1**
HHC PP **PP** **14 24 11.8 +2.8**
HHC S **S** **14 30 50.3 0.0**
HHC SKS **SKSac** **14 31 25.5 -3.9**
HHC ScS **SKKSac** **14 31 29.0 -0.6**
HHC AMB AMB
comp=Z,53nm,1.1s
HHC AMB AMB
comp=Z,430nm,6.5s
HHC LR LR
comp=Z,440nm,17.8s
HHC LR LR
comp=Z,620nm,17.8s
HHC LR LR
comp=Z,820nm,17.9s
CHTO Chiang Mai 72.93 294 *e*P **P** **14 21 26.7 -0.6**
CHTO pmax pmax
comp=Z,121nm,1.5s
CHTO Chiang Mai 72.93 294 *e*P **P** **14 21 26.7 -0.6**
comp=Z,121nm,1.5s
CHTO Chiang Mai 72.93 294 P **P** **14 21 29.2 +1.9**
comp=Z,60nm,1.6s
CMAI Chiengmai2 73.21 295 P **P** **14 21 31.2 +2.1**
comp=Z,19nm,1.0s,comp=Z,2µm
CD2 Chengdu 73.48 307 P **P** **14 21 32.0 +1.6**
CD2 pP **pP** **14 21 42.8 +1.6**
CD2 sP **sP** **14 21 47.0 +1.8**
CD2 PP **PP** **14 24 17.8 +3.1**
CD2 S **S** **14 30 57.8 -0.1**
CD2 sS **sS** **14 31 15.8 +0.1**
CD2 SS **SS** **14 35 43.3 +1.9**
CD2 AMB AMB
comp=Z,30nm,0.5s
CD2 AMB AMB
comp=Z,490nm,3.9s
CD2 LR LR
comp=Z,410nm,13.7s
CD2 LR LR
comp=Z,740nm,18.4s
BTO Baotou 73.69 319 *e*P **P** **14 21 32.5 +1.1**
SEY Seymchan 75.57 354 ⇑*e*P **P** **14 21 42.6 +0.9**
LZH Lanzhou 75.69 312 ⇑P P 14 21 46.5 +3.3
LZH pP **PcP** **14 21 59.0 +3.1**
LZH PP **PP** **14 24 38.0 +4.6**
LZH S **S** **14 31 24.3 +1.6**
LZH SS **SS** **14 36 17.0 +2.0**
LZH AMB AMB
comp=Z,55nm,1.2s
LZH AMB AMB
comp=Z,330nm,4.0s
LZH LR LR
comp=Z,550nm,19.1s
LZH LR LR
comp=Z,560nm,17.0s
LZH LR LR
comp=Z,540nm,19.4s
CLNS Chul'man 76.68 338 *e*P **P** **14 21 48.7 +0.5**
CLNS *e* 14 21 58.3
CLNS *e* 14 24 42.3
CLNS *e*PPP PPP 14 26 30.6
CLNS *e*S **S** **14 31 28.7 -3.7**
CLNS *e* 14 32 16.4
CLNS pmax pmax
comp=E,4.0nm,0.9s
CLNS pmax pmax
comp=N,12nm,1.3s
CLNS pmax pmax
comp=Z,19nm,1.4s
CLNS pmax pmax
comp=N,5.0nm,0.9s
CLNS pmax pmax
comp=Z,6.0nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,0.9s
CLNS smax smax
comp=N,195nm,11.5s
CLNS smax smax
comp=E,299nm,12.2s
CIT Chita 78.23 330 *e*P **P** **14 21 57.7 +0.7**
CIT *e* 14 22 09.6
CIT pmax pmax
comp=Z,267nm,1.5s
YAK Yakutsk 79.20 343 *e*P **P** **14 22 01.8 -0.2**
YAK pmax pmax
comp=Z,11nm,1.2s
ULN Ulaanbaatar 79.34 324 *e*P **P** **14 22 03.6 +0.3**
comp=Z,83nm,1.3s
SONM Songino Array 79.70 324 P **P** **14 22 05.7 +0.4**
SONM Songino Array 79.70 324 P **P** **14 22 05.7 +0.4**
comp=Z,13nm,1.0s,baz=131,slow=2.8,SNR=50
SONM LR LR 14 57 42.1
comp=Z,356nm,20.2s,baz=317,slow=36
GTA Gaotai 80.01 314 ⇑P **P** **14 22 08.3 +1.1**
GTA pP **pP** **14 22 19.3 +1.3**
GTA sP **sP** **14 22 23.3 +1.3**
GTA PP **PP** **14 25 12.0 +2.5**
GTA S **S** **14 32 09.8 +0.7**
GTA SKS **SKSac** **14 32 19.8 -2.4**
GTA sS **sS** **14 32 27.3 +0.2**
GTA SS **SS** **14 37 24.3 +4.4**
GTA AMB AMB
comp=Z,22nm,1.6s
GTA AMB AMB
comp=Z,300nm,4.7s
GTA LR LR
comp=Z,280nm,17.1s
GTA LR LR
comp=Z,330nm,19.0s
GTA LR LR
comp=Z,410nm,22.3s
SHL Shillong 81.28 298 *e*P **P** **14 22 16.0 +1.7**
ZAK Zakamensk 82.75 325 ⇑*i*P **P** **14 22 21.2 -0.2**
ZAK pmax pmax
comp=Z,22nm,1.5s
IRK Irkutsk 83.11 327 *e*P **P** **14 22 22.2 -0.9**
IRK pmax pmax
comp=Z,65nm,1.8s
TLY Talaya 83.17 326 *e*P **P** **14 22 23.5 +0.1**
TLY pmax pmax
comp=Z,60nm,1.4s
TLY MLR MLR
comp=Z,170nm,17.0s
TLY Talaya 83.17 326 P **P** **14 22 23.7 +0.3**
comp=Z,184nm,1.2s,SNR=5.8
IMA2 Indian Mountai 83.46 15 *e*P P 14 22 28.5 +3.8
MAW Mawson 83.84 202 P **P** **14 22 26.8 +0.2**
MAW Mawson 83.84 202 ⇑P **P** **14 22 27.8 +1.2**
baz=84,SNR=6.2
MAW Mawson 83.84 202 P **P** **14 22 26.8 +0.2**
comp=Z,8.1nm,1.1s,baz=103,slow=8.5,SNR=9.7
MAW LR LR 14 52 10.1
comp=Z,269nm,21.0s,baz=100,slow=30
ILAR Eielson Array 84.43 18 P **P** **14 22 27.5 -2.1**
ILAR Eielson Array 84.43 18 P **P** **14 22 27.5 -2.1**
comp=Z,1.2nm,0.9s,baz=260,slow=4.6,SNR=9.4
ILAR LR LR 14 57 10.9
comp=Z,275nm,19.0s,baz=97,slow=34
MOY Mondy 84.62 325 *e*P **P** **14 22 30.2 -0.8**
MOY pmax pmax
comp=Z,81nm,2.5s
EGAK Eagle 86.28 20 *e*P **P** **14 22 37.3 -1.5**
comp=Z,5.2nm,0.6s
PFO Pinyon Flat Ob 86.46 55 LR LR 14 53 30.5
comp=Z,608nm,18.6s,baz=176,slow=30
NVAR Mina Array Bea 86.49 50 P **P** **14 22 42.5 +1.8**
NVAR Mina Array Bea 86.49 50 P **P** **14 22 42.5 +1.8**
comp=Z,1.1nm,0.6s,baz=234,slow=9.3,SNR=4.9
PALK Pallekele 86.99 278 P **P** **14 22 40.6 -2.9**
comp=Z,22nm,1.2s
TIXI Tiksi 87.19 349 *ce*P **P** **14 22 41.3 -1.8**
TIXI pmax pmax
comp=Z,14nm,1.7s
HVS Khovu-Aksy 88.57 323 *c i*P **P** **14 22 50.0 -0.2**
LPIG La Paz 89.19 65 LR LR 14 54 26.3
comp=Z,202nm,20.5s,baz=246,slow=30
WMQ Urumqi 90.06 315 P **P** **14 22 58.0 +0.6**
WMQ pP **pP** **14 23 08.5 +0.1**
WMQ sP **sP** **14 23 12.5 +0.2**
WMQ PP **PP** **14 26 33.3 +2.2**
WMQ SKS **SKSac** **14 33 24.3 -1.6**
WMQ S **S** **14 33 46.0 -2.3**

WMQ sS **sS** 14 34 03.5 -3.0
WMQ SS **SS** 14 39 47.5 -0.1
WMQ AMB AMB
comp=Z,24nm,1.2s
WMQ AMB AMB
comp=Z,250nm,4.8s
WMQ LR LR
comp=Z,220nm,18.8s
WMQ LR LR
comp=Z,220nm,20.0s
WMQ LR LR
comp=Z,220nm,19.6s
SYO Syowa Base 90.85 197 *e*P **P** 14 22 59.6 -0.9
HYB Hyderabad 91.22 287 *i* P **P** 14 23 04.0 +0.7
HYB *e* 14 33 48.0
HYB *e* 14 33 56.0
PDAR Pinedale Array 94.06 47 P **P** 14 23 16.9 +0.7
PDAR Pinedale Array 94.06 47 P **P** 14 23 16.9 +0.7
comp=Z,0.3nm,0.6s,baz=247,slow=4.7,SNR=2.3
PDAR LR LR 15 00 49.4
comp=Z,501nm,18.1s,baz=91,slow=32
MK31 Makanchi Array 94.50 317 *e*P **P** 14 23 18.0 +0.2
MK31 Makanchi Array 94.50 317 *e*P **P** 14 23 18.0 +0.2
MKAR Makanchi Array 94.50 317 P **P** 14 23 17.5 -0.3
MKAR Makanchi Array 94.50 317 P **P** 14 23 17.5 -0.3
MKAR Makanchi Array 94.50 317 P **P** 14 23 17.5 -0.3
comp=Z,13nm,0.7s,baz=93,slow=6.5,SNR=90
MKAR LR LR 15 08 04.5
comp=Z,181nm,18.2s,baz=88,slow=37
ZAA0 Zalesovo Array 94.59 324 *e*P **P** 14 23 16.4 -1.6
ZALV Zalesovo Beam 94.59 324 P **P** 14 23 16.8 -1.2
ZALV Zalesovo Beam 94.59 324 P **P** 14 23 16.8 -1.2
ZALV Zalesovo Beam 94.59 324 P **P** 14 23 16.8 -1.2
comp=Z,15nm,1.0s,baz=107,slow=3.3,SNR=48
ZALV LR LR 15 04 08.4
comp=Z,226nm,21.3s,baz=249,slow=34
MAIT Maitri 95.46 188 *e*P **P** 14 23 18.8 -3.0
NVS Novosibirsk 95.70 325 *e*P P 14 23 19.4 -3.6
NVS *e*S S 14 34 31.6 -6.2
NVS pmax pmax
comp=Z,38nm,1.8s
NVS pmax pmax
comp=N,10.0nm,1.6s
NVS pmax pmax
comp=E,23nm,1.7s
NVS pmax pmax
comp=Z,22nm,2.2s
NVS smax smax
comp=E,19nm,2.0s
YKA Yellowknife Ar 95.79 27 P **P** 14 23 24.7 +1.5
YKA Yellowknife Ar 95.79 27 P **P** 14 23 24.7 +1.5
comp=E,1.1nm,0.7s,baz=258,slow=4.7,SNR=6.1
SNAA Sanae 96.07 184 *e*P **P** 14 23 23.2 -1.4
SNAA Sanae 96.07 184 *e*pP pP 14 23 35.4 -0.2
SNAA Sanae 96.07 184 *e*P **P** 14 23 22.8 -1.8
comp=E,22nm,1.1s
TXAR Lajitas Array 96.08 61 LR LR 15 00 36.1
comp=E,485nm,19.9s,baz=150,slow=32
VNA2 Neumayer--Watz 97.03 182 *e*P **P** 14 23 26.8 -2.1
VNA2 Neumayer--Watz 97.03 182 *e*pP pP 14 23 36.6 -3.3
VNA1 Neumayer--Stat 97.34 182 *e*P **P** 14 23 28.3 -1.9
KURK Kurchatov 97.65 320 PP PP 14 27 30.4 +0.4
KURBB Kurchatov Arra 97.69 320 PP PP 14 27 30.4 +0.1
comp=E,0.3nm,0.2s,baz=97,slow=8.4,SNR=4.3
AAK Ala-Archa 99.22 312 LR LR 15 12 23.4
comp=E,210nm,18.4s,baz=78,slow=38
APA Apatity 116.54 342 *i* PKIKP **PKPdf** **14 28 41.0 +0.3**
APA MLR MLR
comp=Z,600nm,23.0s
ARCES ARCESS Array B 117.44 345 PKP **PKPdf** **14 28 41.2 -1.2**
ARCES ARCESS Array B 117.44 345 PKP **PKPdf** **14 28 41.2 -1.2**
comp=Z,4.2nm,0.9s,baz=80,slow=2.5,SNR=22
OBN Obninsk 121.87 329 *i* PKIKP **PKPdf** **14 28 51.6 +0.3**
OBN *e* 14 30 29.8
OBN *e*SS SS 14 47 06.7 +7.1
OBN pmax pmax
comp=Z,13nm,1.2s
VSR Storozhevoye 122.09 324 *e*PKIKP **PKPdf** **14 28 51.7 -0.2**
VSR pmax pmax
comp=Z,5.0nm,0.5s
VSR pmax pmax
comp=N,6.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,1.2s
VORD Divnogorie 122.12 323 *e*PKIKP **PKPdf** **14 28 51.7 -0.2**
VORD pmax pmax
comp=Z,4.0nm,0.6s
VORD pmax pmax
comp=N,6.0nm,0.7s
VORD pmax pmax
comp=E,3.0nm,0.7s
KIV Kislovodsk 122.19 315 *i* PKIKP **PKPdf** **14 28 50.1 -2.3**
KIV *e* 14 35 46.9
KIV *e*PS **PS** **14 40 18.4 -4.4**
KIV *e*SS SS 14 47 01.3 -3.6
KIV *e*SSS SSS 14 51 35.1
KIV pmax pmax
comp=Z,8.0nm,1.1s
FINES FINESS Array B 122.87 338 PKP **PKPdf** **14 28 51.8 -1.3**
FINES FINESS Array B 122.87 338 PKP **PKPdf** **14 28 51.8 -1.3**
comp=Z,5.3nm,1.0s,baz=102,slow=2.4,SNR=9.0
ANN Anapa 125.52 317 *i* PKIKP **PKPdf** **14 28 58.5 -0.1**
ANN *e* 14 35 59.6
ANN pmax pmax
comp=Z,47nm,1.2s
KMBO Kilima Mbogo 127.48 259 PKP **PKPdf** **14 29 02.2 -1.5**
KMBO Kilima Mbogo 127.48 259 PKP **PKPdf** **14 29 02.2 -1.5**
comp=Z,4.7nm,1.0s,baz=18,slow=20,SNR=4.0
NOA NORSAR Array B 127.81 345 PKP **PKPdf** **14 29 02.1 -0.5**
NOA NORSAR Array B 127.81 345 PKP **PKPdf** **14 29 02.1 -0.5**
comp=Z,1.6nm,0.9s,baz=40,slow=2.1,SNR=2.7
AKASG Malin Array Be 127.92 327 PKIKP **PKPdf** **14 29 02.5 -0.5**
AKASG Malin Array Be 127.92 327 PKP **PKPdf** **14 29 02.5 -0.5**
AKASG Malin Array Be 127.92 327 PKP **PKPdf** **14 29 02.5 -0.5**
comp=Z,2.1nm,0.8s,baz=56,slow=1.6,SNR=17
AK02 Malin Array Si 127.95 326 *e*PKPdf **PKPdf** **14 29 01.8 -1.3**
BRTR Keskin Array B 129.90 312 PKP **PKPdf** **14 29 06.9 -0.5**
BRTR Keskin Array B 129.90 312 PKP **PKPdf** **14 29 06.9 -0.5**
comp=Z,2.3nm,1.0s,baz=126,slow=3.2,SNR=11
KOLS Kolonicke sedl 132.62 328 *e*PKIKP **PKPdf** **14 29 12.0 -0.1**
KOLS Kolonicke sedl 132.62 328 *e*PKP **PKPdf** **14 29 12.0 -0.1**
UZH Uzhgorod 132.79 328 *e*PKIKP **PKPdf** **14 29 13.1 +0.7**
UZH *i* 14 29 22.3
CRVS Cervenica-Dubn 133.05 328 *e*PKIKP **PKPdf** **14 29 13.8 +0.9**
CRVS Cervenica-Dubn 133.05 328 *e*PKP **PKPdf** **14 29 13.8 +0.9**
KECS Kecovo 133.82 329 *e*PKIKP **PKPdf** **14 29 15.3 +1.0**
KECS Kecovo 133.82 329 *e*PKP **PKPdf** **14 29 15.3 +1.0**
OKC Ostrava-Krasne 134.06 331 AMS AMS 15 34 10.0
comp=Z,300nm,18.6s
DPC Dobruska-Polom 134.53 333 *e*PKIKP **PKPdf** **14 29 14.9 -0.8**
DPC *e* 14 29 29.1
DPC Dobruska-Polom 134.53 333 *e*PKPdf **PKPdf** **14 29 14.9 -0.8**
DPC *ep*PKP **pPKPdf** **14 29 29.1 +2.1**
BRG Berggiesshubel 135.16 335 *e*PKP **PKPdf** **14 29 18.5 +1.7**
comp=Z,4.4nm,0.9s
BRG Berggiesshubel 135.16 335 *e*PKIKP **PKPdf** **14 29 18.5 +1.7**
BRG pmax pmax
comp=Z,4.0nm,0.9s
PRU Pruhonice 135.57 334 AMS AMS 15 33 20.0
comp=Z,300nm,20.9s
TREC Trest 135.66 333 *e*PKIKP **PKPdf** **14 29 19.4 +1.6**
TREC MLR MLR
comp=Z,300nm,20.7s
TREC Trest 135.66 333 *e*PKPdf **PKPdf** **14 29 19.4 +1.6**
TREC AMS AMS 15 35 20.0
comp=Z,300nm,20.7s
KHC Kasperske Hory 136.63 334 *e*PKIKP **PKPdf** **14 29 19.2 -0.4**
KHC Kasperske Hory 136.63 334 *e*PKPdf **PKPdf** **14 29 19.2 -0.4**
KHC *es*PKP 14 29 37.6
GERES GERESS Array B 136.79 333 PKP **PKPdf** **14 29 20.4 +0.4**
GERES SKPbc **SKiKP** **14 32 53.5 -2.0**
GERES GERESS Array B 136.79 333 PKP **PKPdf** **14 29 20.4 +0.4**
comp=Z,0.5nm,0.5s,baz=75,slow=1.5,SNR=10.0
GERES SKPbc **SKiKP** **14 32 53.5 -2.0**
comp=Z,0.4nm,0.2s,baz=64,slow=3.1,SNR=5.2
BNI Bardonecchia 142.74 336 PKIKP PKPpre 14 29 27.6
BNI Bardonecchia 142.74 336 PKPpre PKPpre 14 29 27.6
PLDF La Plantade 143.11 339 PKP PKPbc 14 29 29.3 +0.9
SAOF Saorge 143.24 334 PKP PKPab 14 29 27.6 +0.1
AUTN L'Aution 143.29 334 PKP PKPab 14 29 28.1 +0.1
TOUF Mont Tournerai 143.35 334 PKP PKPab 14 29 28.2 0.0
LUCF Luceram 143.41 334 PKP PKPab 14 29 28.3 0.0
MVIF Mont Vial 143.49 334 PKP PKPab 14 29 28.5 -0.1
CALN Calern 143.71 334 PKP PKPab 14 29 29.6 +0.1

LBL Lubilhac 143.88 339 PKP PKPbc 14 29 31.4 +0.8
VSL Villasalto 145.79 327 *e*PKP **PKPdf** **14 29 35.1 -1.2**
KEST Kesra 148.44 322 *e*PKPbc **PKPbc** **14 29 44.5 0.0**
KEST Kesra 148.44 322 PKPbc **PKPbc** **14 29 44.6 +0.1**
comp=Z,8.3nm,1.0s,baz=207,slow=1.8,SNR=11
CMAH Djebel Manchou 148.93 325 P **PKPbc** **14 29 45.6 -0.1**
ABSA Djebel Ababsia 149.15 325 P **PKPbc** **14 29 46.8 +0.5**
CKFL Kef-Lekhel 149.48 326 P **PKPbc** **14 29 47.6 +0.4**
CASM Ain Smara 149.71 326 P **PKPbc** **14 29 47.8 +0.2**
DFRA Djebel Bou Aff 149.83 327 P **PKPbc** **14 29 48.3 +0.3**
CTEI Djebel Teioual 149.90 326 P **PKPbc** **14 29 48.5 +0.3**
SET Setif 150.34 327 P **PKPbc** **14 29 50.0 +0.8**
POLO Lamas de Olo 150.36 351 *e*PKPbc **PKPbc** **14 29 48.9 -0.2**
MVO Moncorvo 150.43 349 *e*PKPbc **PKPbc** **14 29 49.8 +0.6**
PVIS Viseu 151.02 350 *e*PKPbc **PKPbc** **14 29 51.6 +1.0**
ESDC Sonseca Array 151.16 344 PKPbc **PKPbc** **14 29 50.5 -0.5**
ESDC PKPab **PKPab** **14 29 56.0 -2.7**
ESDC Sonseca Array 151.16 344 PKPbc **PKPbc** **14 29 50.5 -0.5**
comp=Z,1.6nm,0.7s,baz=358,slow=3.0,SNR=14
ESDC PKPab **PKPab** **14 29 56.0 -2.7**
comp=Z,0.4nm,0.3s,baz=35,slow=2.7,SNR=7.0
MTE Manteigas 151.27 350 *e*PKPbc **PKPbc** **14 29 52.0 +0.8**
PAB San Pablo 151.39 344 *e*PKIKP **PKPbc** **14 29 51.9 +0.4**
PAB San Pablo 151.39 344 *e*PKPbc **PKPbc** **14 29 51.9 +0.4**
PMRV Marv??o 152.18 349 *e*PKPbc **PKPbc** **14 29 52.9 -0.4**
TOAO Torodi Ar. Sit 164.69 276 *e*PKPdf **PKPdf** **14 30 01.6 -0.6**
TORD Torodi Ar. Bea 164.69 276 PKP **PKPdf** **14 30 01.4 -0.8**
TORD PKPab **PKPab** **14 30 58.9 +1.0**
TORD Torodi Ar. Bea 164.69 276 PKP **PKPdf** **14 30 01.4 -0.8**
comp=Z,15nm,1.2s,baz=22,slow=0.6,SNR=32
TORD PKPab **PKPab** **14 30 58.9 +1.0**
comp=Z,6.7nm,1.1s,baz=89,slow=2.8,SNR=6.2
KIC Kosan Boka 169.26 239 *e*P **PKPab** **14 31 16.9 -1.0**
comp=Z,95nm,1.3s
LIC Lamto 169.42 237 *e*P **PKPab** **14 31 19.6 +1.0**
comp=Z,7.8nm,0.2s
DBIC Dimbokro 169.52 240 PKP **PKPdf** **14 30 04.3 -1.5**
DBIC PKPab **PKPab** **14 31 19.8 +0.7**
DBIC Dimbokro 169.52 240 PKP **PKPdf** **14 30 04.3 -1.5**
comp=Z,8.9nm,1.1s,baz=33,slow=2.2,SNR=4.5
DBIC PKPab **PKPab** **14 31 19.8 +0.7**
comp=Z,3.6nm,0.8s,baz=100,slow=7.1,SNR=3.1
TIC Toumodi 169.65 239 *e*P **PKPab** **14 31 17.6 -2.1**
comp=Z,14nm,0.2s

IDC ***27*** *14:13:12.9±0.6, 11°.17S×165°.67E, h0km, mb4.3/14, mb1 4.5/16, mb1mx4.4/24, mbtmp4.4/16, ML4.6/2, Error ellipse: s-maj=18.8km s-min=16.9km az=109.0*
ISCJB ***27*** *14:13:15.7±0.5, 11°.24S±0°.07×165°.62E±0°.07, h30km, mb4.4/16, Error ellipse: s-maj=11.1km s-min=8.6km az=29.1*
NEIC ***27*** *14:13:17.3±3.2, 11°.19S×165°.63E, h29km±22km, mb4.5/6, Error ellipse: s-maj=10.9km s-min=8.5km az=59.0*
ISC 27 14:13:17.5±0.5, 11°.18S±0°.09×165°.70E±0°.08, h30km, n51, σ0s 85/57, mb4.3/16, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.92**	**287**	Pn	**Pn**	**Pn**	**14 14 43.3**	**+0.2**
HNR				Sn	**Sn**	**Sn**	**14 15 50.6**	**+0.7**
HNR	**Honiara**	**5.92**	**287**	Pn	**Pn**	**Pn**	**14 14 43.3**	**+0.2**
	19nm,0.3s,baz=76,slow=5.1,SNR=5.4							
HNR				Sn	**Sn**	**Sn**	**14 15 50.6**	**+0.7**
	5.3nm,0.3s,baz=180,slow=20,SNR=1.4							
DZM	**Mont Dzumac**	**10.86**	**176**	*e*P	**Pn**	**Pn**	**14 15 50.6**	**-0.4**
DZM	**Mont Dzumac**	**10.86**	**176**	Pn	**Pn**	**Pn**	**14 15 51.6**	**+0.6**
	4.3nm,0.3s,baz=37,slow=20,SNR=12							
CTA	**Charters Tower**	**20.69**	**242**	P	**P**	**P**	**14 17 55.1**	**-0.3**
CTA	**Charters Tower**	**20.69**	**242**	P	**P**	**P**	**14 17 55.1**	**-0.3**
	12nm,0.9s,baz=75,slow=15,SNR=4.4							
CTAO	**Charters Tower**	**20.69**	**242**	*e*Pn	**P**	**P**	**14 17 56.4**	**+1.0**
	20nm,0.9s							
URZ	**Urewera**	**28.84**	**161**	*e*P	**P**	**P**	**14 19 13.6**	**+0.4**
URZ	**Urewera**	**28.84**	**161**	P	**P**	**P**	**14 19 13.2**	**0.0**
	7.0nm,0.7s,baz=41,slow=11,SNR=5.2							
STKA	**Stephens Creek**	**30.31**	**223**	*e*P	**P**	**P**	**14 19 26.6**	**+0.2**
	1.0nm,0.8s							
STKA	**Stephens Creek**	**30.31**	**223**	P	**P**	**P**	**14 19 26.6**	**+0.2**
	4.4nm,0.7s,baz=18,slow=9.6,SNR=4.2							
WRA	**Warramunga Arr**	**31.39**	**250**	P	**P**	**P**	**14 19 34.9**	**-1.2**
WRA	**Warramunga Arr**	**31.39**	**250**	P	**P**	**P**	**14 19 34.9**	**-1.2**
	7.8nm,0.8s,baz=80,slow=9.2,SNR=11							
AS31	**Alice Springs**	**32.69**	**243**	*e*P	**P**	**P**	**14 19 46.5**	**-1.0**
ASAR	**Alice Springs**	**32.69**	**243**	P	**P**	**P**	**14 19 45.6**	**-1.9**
ASAR	**Alice Springs**	**32.69**	**243**	P	**P**	**P**	**14 19 45.6**	**-1.9**
	2.7nm,0.8s,baz=63,slow=10,SNR=5.7							
MJAR	**Matsushiro Arr**	**54.06**	**333**	P	**P**	**P**	**14 22 38.4**	**-1.0**
MJAR	**Matsushiro Arr**	**54.06**	**333**	P	**P**	**P**	**14 22 38.4**	**-1.0**
	1.1nm,0.6s,baz=175,slow=9.2,SNR=4.5							
IPM	**Ipoh**	**66.19**	**280**	*e*P	**P**	**P**	**14 24 03.2**	**+0.1**
	23nm,0.9s							
VNDA	**Vanda**	**66.36**	**181**	*e*P	**P**	**P**	**14 24 02.7**	**-0.3**
	2.5nm,1.0s							
VNDA	**Vanda**	**66.36**	**181**	P	**P**	**P**	**14 24 02.7**	**-0.3**
	0.8nm,0.6s,baz=342,slow=8.4,SNR=4.1							
SBA	**Scott Base**	**66.67**	**180**	*e*P	**P**	**P**	**14 24 05.7**	**+0.7**
	0.3nm,1.0s							
PSI	**Prapat**	**67.84**	**278**	P	**P**	**P**	**14 24 12.3**	**-1.4**
PSI	**Prapat**	**67.84**	**278**	P	**P**	**P**	**14 24 12.3**	**-1.4**
	3.3nm,0.4s,baz=205,slow=6.1,SNR=3.7							
CMAR	**Chiang Mai Arr**	**72.12**	**294**	P	**P**	**P**	**14 24 40.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**72.12**	**294**	P	**P**	**P**	**14 24 40.0**	**+0.3**
	1.3nm,0.6s,baz=127,slow=4.9,SNR=7.5							
IMA2	**Indian Mountai**	**82.65**	**16**	*e*P	**P**	**P**	**14 25 37.3**	**-0.5**
ILAR	**Eielson Array**	**83.65**	**19**	P	**P**	**P**	**14 25 42.4**	**-0.5**
ILAR	**Eielson Array**	**83.65**	**19**	P	**P**	**P**	**14 25 42.4**	**-0.5**
	2.4nm,0.6s,baz=232,slow=5.3,SNR=20							
MAW	**Mawson**	**84.58**	**202**	P	**P**	**P**	**14 25 48.0**	**+0.4**
MAW	**Mawson**	**84.58**	**202**	P	**P**	**P**	**14 25 48.0**	**+0.4**
	2.3nm,0.7s,baz=112,slow=5.4,SNR=4.5							
EGAK	**Eagle**	**85.52**	**20**	*e*P	**P**	**P**	**14 25 52.3**	**0.0**
	5.8nm,0.7s							
NVAR	**Mina Array Bea**	**86.15**	**50**	P	**P**	**P**	**14 25 56.5**	**+0.2**
NVAR	**Mina Array Bea**	**86.15**	**50**	P	**P**	**P**	**14 25 56.5**	**+0.2**
	1.1nm,0.7s,baz=243,slow=6.3,SNR=4.4							
MK31	**Makanchi Array**	**93.58**	**317**	*e*P	**P**	**P**	**14 26 30.8**	**-0.1**
MKAR	**Makanchi Array**	**93.58**	**317**	P	**P**	**P**	**14 26 31.1**	**+0.3**
MKAR	**Makanchi Array**	**93.58**	**317**	P	**P**	**P**	**14 26 31.1**	**+0.3**
	0.7nm,0.6s,baz=95,slow=5.4,SNR=6.9							
PDAR	**Pinedale Array**	**93.68**	**47**	P	**P**	**P**	**14 26 31.9**	**+0.2**
PDAR	**Pinedale Array**	**93.68**	**47**	P	**P**	**P**	**14 26 31.9**	**+0.2**
	0.2nm,0.3s,baz=262,slow=6.1,SNR=2.1							
ARCES	**ARCESS Array B**	**116.45**	**345**	PKP	**PKPdf**	**PKPdf**	**14 31 57.5**	**-0.4**
ARCES	**ARCESS Array B**	**116.45**	**345**	PKP	**PKPdf**	**PKPdf**	**14 31 57.5**	**-0.4**
	3.3nm,1.0s,baz=64,slow=2.1,SNR=3.8							
LPAZ	**La Paz**	**120.17**	**116**	PKP	**PKPdf**	**PKPdf**	**14 32 06.8**	**-0.4**
LPAZ	**La Paz**	**120.17**	**116**	PKP	**PKPdf**	**PKPdf**	**14 32 06.8**	**-0.4**
	0.7nm,0.7s,baz=262,slow=7.1,SNR=3.6							
AKASG	**Malin Array Be**	**126.95**	**327**	PKP	**PKPdf**	**PKPdf**	**14 32 17.2**	**-1.3**
AKASG	**Malin Array Be**	**126.95**	**327**	PKP	**PKPdf**	**PKPdf**	**14 32 17.2**	**-1.3**
	0.4nm,0.3s,baz=66,slow=3.2,SNR=5.7							
BRTR	**Keskin Array B**	**129.02**	**313**	PKP	**PKPdf**	**PKPdf**	**14 32 23.8**	**+0.7**
BRTR	**Keskin Array B**	**129.02**	**313**	PKP	**PKPdf**	**PKPdf**	**14 32 23.8**	**+0.7**
	0.4nm,0.4s,baz=355,slow=6.5,SNR=3.1							
ESDC	**Sonseca Array**	**150.17**	**344**	PKPbc	**PKPbc**	**PKPbc**	**14 33 07.5**	**+1.6**
ESDC				PKPab	**PKPab**	**PKPab**	**14 33 12.4**	**+0.6**
ESDC	**Sonseca Array**	**150.17**	**344**	PKPbc	**PKPbc**	**PKPbc**	**14 33 07.5**	**+1.6**
	0.2nm,0.3s,baz=0.9,slow=3.3,SNR=3.3							
ESDC				PKPab	**PKPab**	**PKPab**	**14 33 12.4**	**+0.6**
	0.3nm,0.4s,baz=28,slow=6.1,SNR=2.9							
TORD	**Torodi Ar. Bea**	**164.24**	**279**	PKP	**PKPdf**	**PKPdf**	**14 33 19.2**	**+0.1**
TORD				PKPab	**PKPab**	**PKPab**	**14 34 14.8**	**+1.7**
TORD	**Torodi Ar. Bea**	**164.24**	**279**	PKP	**PKPdf**	**PKPdf**	**14 33 19.2**	**+0.1**
	0.3nm,0.6s,baz=113,slow=3.3,SNR=3.0							
TORD				PKPab	**PKPab**	**PKPab**	**14 34 14.8**	**+1.7**
	0.3nm,0.6s,baz=95,slow=5.8,SNR=3.4							

IDC ***27*** *14:17:59.1±1.3, 12°.24S×166°.40E, h0km, mb4.0/9, mb1 4.2/11, mb1mx4.1/21, mbtmp4.1/11, ML3.9/2, Error ellipse: s-maj=38.5km s-min=23.8km az=137.0*
ISCJB ***27*** *14:18:04.3±0.6, 12°.08S±0°.09×165°.95E±0°.09, h30km, mb4.2/12, Error ellipse: s-maj=14.7km s-min=9.6km az=136.9*
NEIC ***27*** *14:18:05.8±0.7, 12°.01S×166°.19E, h35km, mb4.6/3, Error ellipse: s-maj=18.3km s-min=14.0km az=73.0*
ISC 27 14:18:05.2±0.7, 12°.05S±0°.1×166°.13E±0°.10, h30km, n32, σ1s 36/38, mb4.2/12, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.58**	**292**	Pn	**Pn**	**Pn**	**14 19 40.8**	**+0.8**
	14nm,0.3s,baz=322,slow=0.8,SNR=10							
HNR				Sn	**Sn**	**Sn**	**14 20 52.3**	**-1.8**
	3.2nm,0.3s,baz=227,slow=19,SNR=2.5							
DZM	**Mont Dzumac**	**10.05**	**178**	*e*P	**Pn**	**Pn**	**14 20 28.1**	**+0.5**
PMG	**Port Moresby**	**18.82**	**276**	P	**Pn**	**Pn**	**14 22 25.4**	**+2.1**
PMG	**Port Moresby**	**18.82**	**276**	P	**Pn**	**Pn**	**14 22 25.4**	**+2.1**
	0.3nm,0.3s,baz=77,slow=7.9,SNR=3.5							
CTA	**Charters Tower**	**20.72**	**245**	P	**P**	**P**	**14 22 43.0**	**-0.4**
CTA	**Charters Tower**	**20.72**	**245**	P	**P**	**P**	**14 22 43.0**	**-0.4**
	7.4nm,1.0s,baz=88,slow=8.0,SNR=3.3							
WRA	**Warramunga Arr**	**31.53**	**251**	P	**P**	**P**	**14 24 24.0**	**-1.1**
WRA				PcP	**PcP**	**PcP**	**14 27 18.9**	**+1.4**
WRA	**Warramunga Arr**	**31.53**	**251**	P	**P**	**P**	**14 24 24.0**	**-1.1**
	0.7nm,0.8s,baz=82,slow=7.8,SNR=4.6							
WRA				PcP	**PcP**	**PcP**	**14 27 18.9**	**+1.4**
	0.8nm,1.0s,baz=61,slow=3.5,SNR=3.9							
ASAR	**Alice Springs**	**32.73**	**245**	P	**P**	**P**	**14 24 34.4**	**-1.1**
ASAR				PcP	**PcP**	**PcP**	**14 27 19.5**	**-1.3**
ASAR	**Alice Springs**	**32.73**	**245**	P	**P**	**P**	**14 24 34.4**	**-1.1**
	1.2nm,0.9s,baz=80,slow=9.5,SNR=5.5							
ASAR				PcP	**PcP**	**PcP**	**14 27 19.5**	**-1.3**
	0.6nm,0.9s,baz=106,slow=3.0,SNR=4.0							
KSRS	**Korea Array**	**60.85**	**326**	P	**P**	**P**	**14 28 16.2**	**+1.4**
	1.2nm,0.8s,baz=148,slow=7.4,SNR=5.7							
KSAR	**Wonju Array Be**	**60.87**	**326**	P	**P**	**P**	**14 28 16.2**	**+1.3**
USRK	**Ussuriysk Arra**	**63.94**	**333**	P	**P**	**P**	**14 28 36.8**	**+1.4**
	3.2nm,0.8s,baz=130,slow=6.0,SNR=4.9							
SBA	**Scott Base**	**65.88**	**180**	*e*P	**P**	**P**	**14 28 48.5**	**+1.0**
	1.8nm,0.7s							
CMAR	**Chiang Mai Arr**	**72.83**	**294**	P	**P**	**P**	**14 29 31.0**	**-0.7**
CMAR	**Chiang Mai Arr**	**72.83**	**294**	P	**P**	**P**	**14 29 31.0**	**-0.7**
	0.3nm,0.3s,baz=134,slow=5.2,SNR=4.1							
QSPA	**South Pole Qui**	**78.04**	**180**	*e*P	**P**	**P**	**14 30 00.7**	**-0.2**
	12nm,1.1s							
ULN	**Ulaanbaatar**	**79.27**	**324**	*e*P	**P**	**P**	**14 30 09.3**	**+1.4**
	7.3nm,1.0s							
SONM	**Songino Array**	**79.63**	**324**	P	**P**	**P**	**14 30 11.3**	**+1.4**
SONM	**Songino Array**	**79.63**	**324**	P	**P**	**P**	**14 30 11.3**	**+1.4**
	2.4nm,0.9s,baz=140,slow=4.2,SNR=8.1							
ILAR	**Eielson Array**	**84.27**	**18**	P	**P**	**P**	**14 30 32.4**	**-1.3**
ILAR	**Eielson Array**	**84.27**	**18**	P	**P**	**P**	**14 30 32.4**	**-1.3**
	0.3nm,0.8s,baz=234,slow=5.2,SNR=3.9							
MK31	**Makanchi Array**	**94.45**	**317**	*e*P	**P**	**P**	**14 31 23.6**	**+1.1**
MKAR	**Makanchi Array**	**94.45**	**317**	P	**P**	**P**	**14 31 23.7**	**+1.2**
MKAR	**Makanchi Array**	**94.45**	**317**	P	**P**	**P**	**14 31 23.7**	**+1.2**
	5.0nm,0.8s,baz=98,slow=6.3,SNR=39							
ZALV	**Zalesovo Beam**	**94.53**	**324**	P	**P**	**P**	**14 31 22.2**	**-0.4**
ZALV	**Zalesovo Beam**	**94.53**	**324**	P	**P**	**P**	**14 31 22.2**	**-0.4**
	2.1nm,0.8s,baz=123,slow=5.5,SNR=8.6							
ARCES	**ARCESS Array B**	**117.32**	**345**	PKP	**PKPdf**	**PKPdf**	**14 36 46.2**	**-1.0**
ARCES	**ARCESS Array B**	**117.32**	**345**	PKP	**PKPdf**	**PKPdf**	**14 36 46.2**	**-1.0**
	2.0nm,0.9s,baz=55,slow=11,SNR=3.7							
TORD	**Torodi Ar. Bea**	**164.76**	**276**	PKP	**PKPdf**	**PKPdf**	**14 38 04.7**	**-2.5**
TORD	**Torodi Ar. Bea**	**164.76**	**276**	PKP	**PKPdf**	**PKPdf**	**14 38 04.7**	**-2.5**
	0.8nm,1.0s,baz=349,slow=2.9,SNR=3.5							

ISCJB ***27*** *14:29:41.8±0.5, 18°.17S±0°.09×175°.37W±0°.08, h228km, mb4.0/13, Error ellipse: s-maj=13.8km s-min=8.6km az=143.7*
IDC ***27*** *14:29:42.1±2.0, 18°.34S×175°.37W, h216km±18km, mb3.8/13, mb1 4.0/14, mb1mx3.9/22, mbtmp3.8/14, Error ellipse: s-maj=17.3km s-min=10.1km az=114.0*
AUST ***27*** *14:29:44.6±1.0, 17°.95S×175°.04W, h263km, Error ellipse: s-maj=2.2km s-min=1.4km az=348.0*
ISC 27 14:29:43.0±0.6, 18°.21S±0°.09×175°.25W±0°.10, h228km, n29, σ1s 39/31, mb4.0/13, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.12**	**101**	P	**Pn**	**Pn**	**14 31 00.1**	**+0.5**
	baz=5.0,SNR=20							
AFI	**Afiamalu**	**5.42**	**38**	P	**Pn**	**Pn**	**14 31 03.2**	**-0.4**
	6.7nm,0.3s,baz=216,slow=6.1,SNR=10							
AFI				S	**S**	**S**	**14 32 03.7**	**-3.8**
	40nm,0.3s,baz=60,slow=23,SNR=12							
URZ	**Urewera**	**21.06**	**197**	P	**P**	**P**	**14 34 08.0**	**-1.6**
	7.9nm,0.3s,baz=344,slow=3.9,SNR=17							
URZ				S	**S**	**S**	**14 37 46.8**	**-2.7**
	3.1nm,0.6s,baz=131,slow=18,SNR=4.5							
RMQ	**Roma**	**34.20**	**250**	P	**P**	**P**	**14 36 07.2**	**0.0**
	baz=34,SNR=5.0							
CTA	**Charters Tower**	**36.36**	**261**	P	**P**	**P**	**14 36 23.9**	**-1.8**
	5.7nm,0.6s,baz=113,slow=10,SNR=8.3							
QLP	**Quilpie**	**38.25**	**250**	P	**P**	**P**	**14 36 40.4**	**-1.0**
	baz=38,SNR=6.0							
MTSU	**Mount Surprise**	**38.36**	**264**	P	**P**	**P**	**14 36 41.1**	**-1.3**
	baz=39,SNR=7.6							
STKA	**Stephens Creek**	**41.13**	**242**	P	**P**	**P**	**14 37 05.7**	**+0.5**
	baz=41,SNR=5.6							
STKA	**Stephens Creek**	**41.13**	**242**	P	**P**	**P**	**14 37 05.2**	**+0.1**
	1.6n

*IDC **27** 14:40:50.0±2.3,4.°49S×133.°43E,h0km,mb3.8/3, mb1 4.0/5,mb1mx3.7/17,mbtmp3.8/5,ML3.9/2,MS3.6/1, Ms1 3.6/1,ms1mx3.1/29,Error ellipse: s-maj=76.3km s-min=26.2km az=85.0*

*ISCJB **27** 14:40:51.1±1.1,4.°54S±0.°05×133.°6E±0.°2,h21km,mb3.8/3, MS3.6/1,Error ellipse: s-maj=22.1km s-min=7.4km az=174.6*

*AUST **27** 14:40:57.1,4.°46S×133.°53E,h60km*

ISC 27 14:40:53.7±1.4,4.°51S±0.°08×133.°5E±0.°2,h21km,n17, σ1°06/14,mb4.2/3,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLE	**Tual**	**1.33**	**213**	P	Pb	14 41 23.4	+5.4
	baz=1.4,SNR=6.7						
FAKI	**Fak Fak**	**1.98**	**323**	P	**Pn**	**14 41 26.8**	**+0.7**
	baz=2.0,SNR=48						
BNDI	**Bandanaira**	**3.54**	**270**	P	**Pb**	**14 41 55.2**	**-0.5**
	baz=3.6,SNR=4.6						
SWI	**Sorong**	**4.23**	**329**	P	**Pn**	**14 41 57.2**	**+0.2**
	baz=4.3,SNR=4.6						
KDU	**Kakadu**	**8.19**	**187**	P	**Pn**	**14 42 51.8**	**+0.4**
	baz=8.3,SNR=14						
MTN	**Manton Dam**	**8.60**	**195**	P	**Pn**	**14 42 58.6**	**+1.6**
	baz=8.7,SNR=63						
SOEI	**Soe**	**10.50**	**240**	P	Pn	14 43 31.3	+8.0
	baz=11,SNR=3.8						
LUWI	**Luwuk**	**11.21**	**288**	P	**Pn**	**14 43 34.7**	**+1.8**
	baz=11,SNR=5.3						
KNRA	**Kununurra**	**12.02**	**202**	P	**Pn**	**14 43 44.5**	**+0.6**
	baz=12,SNR=14						
WRA	**Warramunga Arr**	**15.37**	**177**	Pn	Pn	14 44 24.4	-5.1
	0.1nm,0.3s,baz=352,slow=13,SNR=9.9						
WRA				Sn	Sn	14 47 09.5	-10
	0.2nm,0.3s,baz=357,slow=23,SNR=4.5						
FITZ	**Fitzroy Crossi**	**15.53**	**209**	P	**Pn**	**14 44 32.6**	**+1.0**
	baz=16,SNR=12						
FITZ	**Fitzroy Crossi**	**15.53**	**209**	Pn	**Pn**	**14 44 31.6**	**0.0**
	0.5nm,0.3s,baz=34,slow=9.4,SNR=14						
FITZ				Sn	**Sn**	**14 47 22.1**	**-1.0**
	0.4nm,0.3s,baz=214,slow=17,SNR=5.6						
ASAR	**Alice Springs**	**19.05**	**179**	P	**P**	**14 45 14.2**	**-0.6**
	0.2nm,0.3s,baz=3.9,slow=12,SNR=15						
CMAR	**Chiang Mai Arr**	**40.96**	**305**	P	**P**	**14 48 34.7**	**-0.7**
	1.0nm,0.9s,baz=129,slow=6.3,SNR=6.4						
KSRS	**Korea Array**	**42.06**	**353**	LR	LR	15 04 28.0	
	comp=Z,77nm,18.1s,baz=180,slow=34						
MKAR	**Makanchi Array**	**68.11**	**325**	P	**P**	**14 51 50.6**	**-1.5**
	1.2nm,0.7s,baz=122,slow=7.7,SNR=9.2						
ZALV	**Zalesovo Beam**	**70.95**	**332**	P	**P**	**14 52 10.0**	**+0.5**
	1.6nm,0.8s,baz=116,slow=5.1,SNR=7.2						

IDC 27 14:44:21.9±18.0,18.°78S×174.°47W,h0km,mb4.1/5, mb1 4.2/5,mb1mx3.9/21,mbtmp4.1/5,MS3.8/1,Ms1 3.8/1, ms1mx3.1/30,Error ellipse: s-maj=341.4km s-min=150.0km az=82.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**20.76**	**199**	LR	LR	14 56 19.5	
	comp=Z,233nm,19.6s,baz=281,slow=35						
CTA	**Charters Tower**	**37.01**	**261**	P	P	14 51 34.6	+1.0
	1.5nm,0.4s,baz=52,slow=12,SNR=3.3						
STKA	**Stephens Creek**	**41.53**	**243**	P	P	14 52 11.2	-0.1
	1.0nm,0.6s,baz=58,slow=9.4,SNR=4.0						
WRA	**Warramunga Arr**	**48.16**	**260**	P	P	14 53 03.8	-0.6
	1.0nm,0.3s,baz=96,slow=7.6,SNR=85						
ASAR	**Alice Springs**	**48.17**	**255**	P	P	14 53 04.0	-0.4
	2.7nm,0.6s,baz=96,slow=7.6,SNR=38						
FITZ	**Fitzroy Crossi**	**56.58**	**260**	P	P	14 54 06.9	0.0
	1.1nm,0.5s,baz=90,slow=6.1,SNR=4.9						

FUNV 27 14:47:43.5,9.°45N×70.°56W,h13km,MW3.7,7C-7D, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QARV	**Quebrada Arrib**	**0.76**	**3**	↑*i*P	Pg	14 47 57.8	-0.5
QARV				*e*S	Sg	14 48 08.4	+0.1
CURV	**Curarigua**	**0.81**	**46**	↑*e*P	Pg	14 47 58.6	-0.8
CURV				*e*S	Sg	14 48 09.8	-0.4
VIGV	**El Vigia**	**1.00**	**233**	↑*e*P	Pb	14 48 02.2	-0.5
VIGV				*e*S	Sg	14 48 16.2	+0.3
SANV	**Sanarito**	**1.01**	**87**	↓*i*P	Pb	14 48 02.5	-0.6
SANV				*e*S	Sb	14 48 15.4	-1.0
SOCV	**Socops**	**1.19**	**194**	↑*e*P	Pn	14 48 04.7	-1.3
SOCV				*e*S	Sb	14 48 21.7	+0.2
SIQV	**Siquisique**	**1.40**	**32**	↑*e*P	Pn	14 48 08.6	-0.3
SIQV				*e*S	Sb	14 48 27.5	-0.1
TEPV	**Terepaima**	**1.44**	**69**	↓*e*P	Pn	14 48 09.6	+0.1
TEPV				*e*S	Sn	14 48 28.0	-0.3
DABV	**Dabajuro**	**1.47**	**357**	↓*e*P	Pn	14 48 09.5	-0.3
DABV				*e*S	Sb	14 48 29.1	-0.2
VIRV	**Villa del Rosa**	**2.10**	**300**	↓*i*P	Pn	14 48 16.1	-2.4
VIRV				*e*S	Sn	14 48 43.1	-1.4
CAPV	**Capacho**	**2.34**	**228**	↑*e*P	Pn	14 48 21.4	-0.7
CAPV				*e*S	Sn	14 48 49.3	-1.6
BAUV	**El Baul**	**2.53**	**101**	↓*e*P	Pn	14 48 23.0	-1.4
BAUV				*e*S	Sn	14 48 53.6	-1.6
ELOV	**Elorza**	**2.65**	**156**	↓*e*P	Pn	14 48 25.3	-0.7
ELOV				*e*S	Sn	14 48 56.3	-1.8
TURV	**Turiamo**	**2.86**	**69**	↑*e*P	Pn	14 48 27.5	-1.3
IMOV	**Isla Los Monje**	**2.91**	**353**	*e*P	Pn	14 48 28.3	-1.3
MERV	**Las Mercedes**	**4.21**	**92**	*e*P	Pn	14 48 46.4	-1.1
CUPV	**Cœpira**	**4.74**	**82**	↓*e*P	Pn	14 48 53.8	-1.1
PCRV	**Puerto La Cruz**	**5.88**	**82**	*e*P	Pn	14 49 09.1	-1.4

*CSEM **27** 14:53:42.9±0.1,39.°24N×23.°29E,h15km,MD2.5,Error ellipse: s-maj=3.0km s-min=2.6km az=111.0*

*ATH **27** 14:53:42.7,39.°27N×23.°32E,h16km±2km,MD2.5/8*

*THE **27** 14:53:43.2,39.°22N×23.°29E,h11km,ML2.1/5,Error ellipse: s-maj=0.9km s-min=0.4km az=12.0*

ISC 27 14:53:42.8±0.8,39.°25N±0.°02×23.°30E±0.°02,h16km±4km, n32,σ0°37/61,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEO	**Neokhori**	**0.08**	**314**	P	**Pg**	**14 53 46.0**	**-0.2**
NEO				S	**Sg**	**14 53 48.1**	**-0.2**
NEO	**Neokhori**	**0.08**	**314**	*e*PB	**Pg**	**14 53 46.2**	**0.0**
NEO				*e*SB	**Sg**	**14 53 48.1**	**-0.2**
NEO	**Neokhori**	**0.08**	**314**	*e*Pb	**Pg**	**14 53 46.2**	**0.0**
NEO				S	**Sg**	**14 53 48.1**	**-0.2**
XOR	**Xorichti**	**0.14**	**324**	P	**Pg**	**14 53 47.0**	**+0.2**
XOR				S	**Sg**	**14 53 49.9**	**+0.4**
XOR	**Xorichti**	**0.14**	**324**	P	**Pg**	**14 53 47.0**	**+0.2**
XOR				S	**Sg**	**14 53 49.9**	**+0.4**
SKIA	**Skiathos**	**0.15**	**123**	*e*PB	**Pg**	**14 53 46.8**	**-0.1**
SKIA				*e*SB	**Sg**	**14 53 49.4**	**-0.3**
SKIA	**Skiathos**	**0.15**	**123**	*e*Pb	**Pg**	**14 53 46.8**	**-0.1**
SKIA				*e*Sb	**Sg**	**14 53 49.4**	**-0.3**
SMIA	**Simia**	**0.38**	**191**	*e*PB	**Pg**	**14 53 50.6**	**0.0**
SMIA				*e*SB	**Sg**	**14 53 55.7**	**-0.2**
SMIA	**Simia**	**0.38**	**191**	*e*Pb	**Pg**	**14 53 50.6**	**0.0**
SMIA				*e*Sb	**Sg**	**14 53 55.7**	**-0.2**
AOS	**Alonnisos**	**0.46**	**100**	P	**Pg**	**14 53 52.0**	**0.0**
AOS				S	**Sg**	**14 53 58.2**	**-0.1**
AOS	**Alonnisos**	**0.46**	**100**	P	**Pg**	**14 53 52.0**	**0.0**
AOS				S	**Sg**	**14 53 58.2**	**-0.1**
MRKA	**Markates**	**0.59**	**157**	*e*PN	**Pg**	**14 53 54.6**	**+0.1**
MRKA				*e*SN	**Sg**	**14 54 02.5**	**+0.2**
MRKA	**Markates**	**0.59**	**157**	*e*Pn	**Pg**	**14 53 54.6**	**+0.1**
MRKA				*e*Sn	**Sg**	**14 54 02.5**	**+0.2**
LKR	**Lokris**	**0.64**	**201**	P	**Pg**	**14 53 55.0**	**-0.5**
LKR				S	**Sg**	**14 54 03.8**	**-0.2**
LKR	**Lokris**	**0.64**	**201**	*e*PB	**Pg**	**14 53 55.0**	**-0.5**
LKR				*e*SN	**Sb**	**14 54 05.1**	**+0.7**
LKR	**Lokris**	**0.64**	**201**	P	**Pg**	**14 53 55.0**	**-0.5**
LKR				S	**Sg**	**14 54 03.8**	**-0.2**
LKR				*e*Sn	**Sb**	**14 54 05.1**	**+0.7**
PAIG	**Paliouri**	**0.74**	**23**	P	**Pn**	**14 53 58.4**	**-0.2**
PAIG				S	**Sn**	**14 54 09.6**	**+0.1**
PAIG	**Paliouri**	**0.74**	**23**	P	**Pn**	**14 53 58.4**	**-0.2**
PAIG				S	**Sn**	**14 54 09.6**	**+0.1**
AGG	**Agios Georgios**	**0.79**	**254**	P	**Pg**	**14 53 57.6**	**-0.6**
AGG				S	**Sb**	**14 54 08.8**	**+0.2**
AGG	**Agios Georgios**	**0.79**	**254**	P	**Pg**	**14 53 57.6**	**-0.6**
AGG				S	**Sb**	**14 54 08.8**	**+0.2**
MAKR	**Makrakomi, Fth**	**0.94**	**256**	*e*PN	**Pg**	**14 54 01.0**	**-0.1**
MAKR				*e*SN	**Sn**	**14 54 14.6**	**+0.1**
MAKR	**Makrakomi, Fth**	**0.94**	**256**	*e*Pn	**Pg**	**14 54 01.0**	**-0.1**
MAKR				*e*Sn	**Sn**	**14 54 14.6**	**+0.1**
DSF	**Desfina**	**1.03**	**216**	P	**Pb**	**14 54 01.6**	**-0.8**
DSF				S	**Sg**	**14 54 16.2**	**-0.2**
DSF	**Desfina**	**1.03**	**216**	P	**Pb**	**14 54 01.6**	**-0.8**
DSF				S	**Sg**	**14 54 16.2**	**-0.2**
THL	**Klokotos Trika**	**1.04**	**288**	P	**Pb**	**14 54 02.6**	**+0.1**
THL				S	**Sn**	**14 54 17.6**	**+0.6**
THL	**Klokotos Trika**	**1.04**	**288**	*e*PN	**Pb**	**14 54 02.6**	**+0.1**
THL	**Klokotos Trika**	**1.04**	**288**	P	**Pb**	**14 54 02.6**	**+0.1**
THL				S	**Sn**	**14 54 17.6**	**+0.6**
PLG	**Polygyros**	**1.13**	**6**	P	**Pb**	**14 54 04.3**	**+0.3**
PLG	**Polygyros**	**1.13**	**6**	*e*PN	**Pb**	**14 54 04.1**	**+0.1**
PLG				*e*SN	**Sb**	**14 54 17.5**	**-0.9**
PLG	**Polygyros**	**1.13**	**6**	*e*Pn	**Pb**	**14 54 04.1**	**+0.1**
PLG				*e*Sn	**Sb**	**14 54 17.5**	**-0.9**
DID	**Didima**	**1.74**	**182**	P	**Pn**	**14 54 12.9**	**+0.5**
DID	**Didima**	**1.74**	**182**	P	**Pn**	**14 54 12.9**	**+0.5**

*BJI **27** 15:08:53.0,37.°40N×70.°40E,h100km,mB4.5/2,mb4.3/6*

*ISCJB **27** 15:08:59.7±0.4,37.°09N±0.°03×71.°63E±0.°06,h106km, mb3.6/12,Error ellipse: s-maj=7.0km s-min=3.3km az=164.0*

*IDC **27** 15:09:01.5±3.9,37.°15N×71.°49E,h105km±33km,mb3.4/11, mb1 3.6/15,mb1mx3.5/30,mbtmp3.4/15,Error ellipse: s-maj=27.4km s-min=14.9km az=29.0*

*NNC **27** 15:09:06.4±5.7,37.°69N×70.°84E,h134km±64km,mb3.6, mpv4.1,Error ellipse: s-maj=47.1km s-min=24.2km az=13.0*

ISC 27 15:09:01.5±0.6,37.°14N±0.°05×71.°62E±0.°07,h106km,n58, σ1°79/60,mb3.7/12,4C-7D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**3.32**	**176**	P	**Pn**	**15 09 52.3**	**+0.5**
CEP				S	**Sn**	**15 10 33.0**	**+2.4**
CHCP	**Chirah Chowk**	**3.73**	**158**	⇑P	**Pn**	**15 09 59.3**	**+2.1**
KSH	**Kashi**	**4.16**	**54**	P	**Pn**	**15 10 03.0**	**-0.1**
KSH				S	**Sn**	**15 10 48.3**	**-2.5**
KSH				SMN			
	comp=Z,370nm,0.5s						
KSH				SME			
	comp=Z,370nm,0.5s						
THW	**Thamme Wali**	**4.34**	**179**	P	**Pn**	**15 10 05.3**	**-0.1**
JMU	**Jammu**	**5.17**	**148**	*e*S	**Sn**	**15 11 12.5**	**-2.5**
AML	**Almayashu**	**5.23**	**17**	P	**Pn**	**15 10 19.0**	**+1.3**
	SNR=30						
SARP	**Sargodha**	**5.28**	**170**	P	**Pn**	**15 10 15.4**	**-2.7**
EKS2	**Erkin-Say**	**5.76**	**16**	P	**Pn**	**15 10 26.1**	**+1.6**
	SNR=20						
AAK	**Ala-Archa**	**5.91**	**21**	P	**Pn**	**15 10 28.7**	**+2.0**
	SNR=16						
AAK	**Ala-Archa**	**5.91**	**21**	P	**Pn**	**15 10 28.7**	**+2.0**
	2.9nm,0.3s,baz=175,slow=5.9,SNR=42						
AAK				S	**Sn**	**15 11 32.5**	**-0.7**
	3.3nm,0.3s,baz=312,slow=23,SNR=9.2						
KK31	**Karatay Array**	**6.01**	**352**	⇓P	**Pn**	**15 10 26.9**	**-1.1**
	21nm,0.4s,baz=183,slow=14,SNR=3.6						
KK31				⇓S	Sn	15 11 26.9	-8.6
	4.2nm,0.3s,baz=178,slow=23,SNR=3.6						
DHRM	**DHARAMSHALA**	**6.22**	**140**	*e*P	**Pn**	**15 10 31.2**	**+0.2**
DHRM				*e*S	**Sn**	**15 11 39.8**	**-1.0**
DHRM				AML	AML	15 11 43.6	
	comp=N,952nm,0.3s						
DHRM				AML	AML	15 11 44.2	
	comp=E,1μm,0.5s						
ULHL	**Ulahol**	**6.22**	**34**	P	Pn	15 10 34.2	+3.3
	SNR=7.9						
CHMS	**Chumysh**	**6.32**	**21**	P	**Pn**	**15 10 33.7**	**+1.6**
	SNR=15						
USP	**Ospenovka**	**6.50**	**19**	P	**Pn**	**15 10 35.5**	**+0.9**
	SNR=11						
TKM2	**Tokmak 2**	**6.53**	**27**	⇑P	**Pn**	**15 10 36.1**	**+1.0**
	comp=E,3.6nm,0.5s						
TKM2				⇓S	**Sn**	**15 11 50.5**	**+2.3**
	comp=E,11nm,0.7s						
TKM2	**Tokmak 2**	**6.53**	**27**	P	**Pn**	**15 10 37.1**	**+2.0**
	SNR=15						
SDNR	**Sundarnagar**	**7.16**	**140**	*e*P	**Pn**	**15 10 44.0**	**+0.4**
SDNR				*e*S	**Sn**	**15 12 01.0**	**-2.4**
SMLA	**Simla**	**7.56**	**141**	*e*P	**Pn**	**15 10 49.0**	**0.0**
SMLA				*e*S	Sn	15 12 08.0	-5.0
SMLA				AML	AML	15 12 13.7	
	comp=E,241nm,0.4s						
SMLA				AML	AML	15 12 14.5	
	comp=N,235nm,0.2s						
DDI	**Dehra Dun**	**8.66**	**140**	*e*P	**Pn**	**15 11 03.8**	**-0.2**
DDI				*e*S	Sn	15 12 34.2	-5.7
DDI				AML	AML	15 12 43.1	
	comp=N,519nm,0.3s						
DDI				AML	AML	15 12 43.8	
	comp=E,597nm,0.4s						
MK31	**Makanchi Array**	**12.48**	**36**	P	**Pn**	**15 11 55.8**	**+0.5**
	comp=E,0.6nm,0.5s,baz=219,slow=14,SNR=9.6						
MKAR	**Makanchi Array**	**12.48**	**36**	P	**Pn**	**15 11 56.4**	**+1.1**
	comp=E,0.1nm,0.3s,baz=226,slow=16,SNR=9.9						
DANN	**Dangsing**	**13.45**	**127**	*e*P	**Pn**	**15 12 06.3**	**-2.1**
	comp=E,16nm,0.3s						
DANN				*e*S	Sn	15 14 27.1	-10
KOLN	**Koldanda**	**13.76**	**129**	*e*P	**Pn**	**15 12 09.8**	**-2.5**
	comp=E,19nm,0.5s						
KOLN				*e*S	Sn	15 14 35.0	-9.1
GKN	**Gorkha**	**14.25**	**126**	*e*P	**Pn**	**15 12 16.2**	**-2.4**
	comp=E,42nm,0.7s						
GKN				*e*S	Sn	15 14 45.2	-11
KURBB	**Kurchatov Arra**	**14.36**	**18**	P	**Pn**	**15 12 20.1**	**+0.5**
	comp=E,0.4nm,0.3s,baz=205,slow=10,SNR=2.4						
BHPL	**Bhopal**	**14.73**	**159**	*e*P	Pn	15 12 18.0	-6.6
BHPL				*e*S	Sn	15 14 54.8	-12
AB31	**Akbulak array**	**14.78**	**329**	P	Pn	15 12 19.6	-5.4
	comp=E,6.5nm,0.7s,baz=138,slow=13,SNR=126						
AB31				⇓S	Sn	15 14 50.5	-17
	comp=E,3.0nm,0.6s						
KKN	**Kakani**	**14.81**	**125**	*e*P	**Pn**	**15 12 23.5**	**-2.3**
	comp=E,16nm,0.5s						
DMN	**Daman**	**14.82**	**126**	*e*P	**Pn**	**15 12 24.2**	**-1.8**
	comp=E,12nm,0.3s						
DMN				*e*S	Sn	15 14 59.0	-11
PKIN	**Phulchoki**	**15.03**	**125**	*e*P	**Pn**	**15 12 27.5**	**-1.1**
	comp=E,14nm,0.3s						
PKI	**Pulchoki**	**15.04**	**125**	*e*P	**Pn**	**15 12 27.5**	**-1.4**
	comp=E,10.0nm,0.4s						
GUN	**Gumba**	**15.13**	**123**	*e*P	**Pn**	**15 12 27.5**	**-2.4**
	comp=E,75nm,0.8s						
JIRN	**Jiri**	**15.50**	**123**	*e*P	**Pn**	**15 12 32.3**	**-2.3**
	comp=E,42nm,0.4s						
VOSK	**Vostochnaya**	**15.59**	**359**	⇓P	**Pn**	**15 12 32.6**	**-2.5**
	comp=E,4.9nm,0.9s						
BVA0	**Borovoye Array**	**15.91**	**357**	⇑P	**Pn**	**15 12 36.2**	**-2.9**
	comp=E,7.8nm,1.5s,baz=189,slow=16,SNR=13						
BVAR	**Borovoye Array**	**15.91**	**357**	P	**Pn**	**15 12 36.5**	**-2.6**
	comp=E,0.5nm,0.3s,baz=172,slow=14,SNR=13						
BRVK	**Borovoye**	**15.94**	**357**	⇓P	**Pn**	**15 12 37.8**	**-1.7**
	comp=E,5.9nm,0.6s						
RAMN	**Ramite**	**16.24**	**124**	*e*P	**Pn**	**15 12 41.6**	**-2.1**
	comp=E,24nm,0.4s						
AKTO	**Aktyubinsk**	**16.49**	**328**	↑P	Pn	15 12 41.2	-5.1
	comp=E,24nm,0.8s						
AKTO				⇓S	Sn	15 15 33.7	-15
	comp=E,2.5nm,0.6s						
AKTO	**Aktyubinsk**	**16.49**	**328**	P	**Pn**	**15 12 42.8**	**-3.5**
	comp=E,1.6nm,0.3s,baz=138,slow=14,SNR=20						
AKTO				S	Sn	15 15 35.0	-14
	comp=E,0.2nm,0.3s,baz=6.0,slow=19,SNR=3.7						
TAPN	**Taplejung**	**16.73**	**121**	*e*P	**Pn**	**15 12 48.2**	**-1.6**
	comp=E,17nm,0.5s						
ODAN	**Odare**	**16.83**	**123**	*e*P	**Pn**	**15 12 49.9**	**-1.0**
	comp=E,9.1nm,0.3s						
ZALV	**Zalesovo Beam**	**19.12**	**24**	P	**P**	**15 13 16.8**	**+0.8**
	comp=E,0.8nm,0.3s,baz=216,slow=10.0,SNR=15						
GTA	**Gaotai**	**22.21**	**75**	*e*P	**P**	**15 13 53.3**	**+3.9**
GTA				AMB	AMB		
	comp=E,5.0nm,0.8s						
KBZ	**Khabaz**	**22.76**	**296**	P	**P**	**15 13 53.3**	**-1.5**
	comp=E,1.9nm,0.8s,baz=162,slow=11,SNR=3.3						
SONM	**Songino Array**	**27.56**	**56**	P	**P**	**15 14 38.9**	**+0.4**
	comp=E,0.7nm,0.5s,baz=269,slow=9.5,SNR=4.4						
CMAR	**Chiang Mai Arr**	**30.34**	**120**	P	**P**	**15 15 05.5**	**+2.3**
	comp=E,0.4nm,0.5s,baz=309,slow=6.8,SNR=4.3						
AKASG	**Malin Array Be**	**32.94**	**308**	P	**P**	**15 15 24.2**	**-1.4**
	comp=E,0.9nm,0.5s,baz=76,slow=8.0,SNR=5.5						
FINES	**FINESS Array B**	**37.23**	**325**	P	**P**	**15 16 02.2**	**-0.2**
	comp=E,1.8nm,0.4s,baz=122,slow=8.6,SNR=20						
STHS	**Stebnicka Huta**	**37.99**	**305**	*e*P	**P**	**15 16 10.8**	**+1.8**
ARCES	**ARCESS Array B**	**40.74**	**337**	P	**P**	**15 16 31.9**	**+0.4**
	comp=E,1.7nm,0.8s,baz=116,slow=8.2,SNR=9.0						
NB2	**NORSAR Subarra**	**44.17**	**323**	P	**P**	**15 16 58.5**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**44.17**	**323**	P	**P**	**15 16 58.8**	**-0.7**
	comp=Z,2.1nm,0.7s,baz=95,slow=8.0,SNR=13						
ILAR	**Eielson Array**	**74.03**	**16**	P	**P**	**15 20 25.8**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=298,slow=3.6,SNR=5.0						
YKA	**Yellowknife Ar**	**80.58**	**3**	P	**P**	**15 21 02.3**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=349,slow=5.5,SNR=6.4						
WRA	**Warramunga Arr**	**81.91**	**122**	P	**P**	**15 21 08.2**	**-1.3**
	comp=Z,0.1nm,0.5s,baz=326,slow=5.0,SNR=4.9						
ASAR	**Alice Springs**	**84.22**	**125**	P	**P**	**15 21 22.0**	**+0.7**
	comp=Z,0.1nm,0.5s,baz=303,slow=5.1,SNR=7.8						

*ISCJB **27** 15:28:42.8±0.6,33.°02N±0.°07×138.°41E±0.°07, h308km±4km,mb3.2/8,Error ellipse: s-maj=12.1km s-min=7.9km az=151.0*

*IDC **27** 15:28:43.6±1.3,32.°98N×138.°23E,h293km±12km,mb3.1/8, mb1 3.2/12,mb1mx3.1/30,mbtmp3.1/12,Error ellipse: s-maj=20.1km s-min=13.8km az=75.0*

*JMA **27** 15:28:43.4±0.3,32.°96N×138.°35E,h305km,M3.3*

ISC 27 15:28:44.0±1.1,33.°04N±0.°10×138.°36E±0.°08,h301km±7km, n37,σ1°18/47,mb3.3/8,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TK02	**Tokai 2**	**1.03**	**331**	P	**Pn**	**15 29 25.7**	**+1.4**
TTO1	**TONANKAI O.B.S**	**1.44**	**294**	P	**Pn**	**15 29 27.4**	**+1.0**
HMMJ	**Hamamatsu 2**	**1.88**	**344**	P	**Pn**	**15 29 31.1**	**+1.3**
JIE	**Ise**	**1.92**	**315**	P	**Pn**	**15 29 30.9**	**+0.7**
JIE				*e*S	**S**	**15 30 06.5**	**-0.5**
JKN2	**Miekihoku**	**2.11**	**305**	P	**Pn**	**15 29 31.9**	**+0.3**
JKN2				S	**S**	**15 30 09.1**	**-0.5**
JOD2	**Odawara 2**	**2.29**	**15**	P	**Pn**	**15 29 34.6**	**+1.4**
BSO4	**Boso 4**	**2.54**	**40**	*e*S	**S**	**15 30 14.7**	**-1.5**
JWY	**Kouya**	**2.59**	**298**	P	**Pn**	**15 29 36.4**	**+0.5**
JHU	**Hanno**	**2.90**	**15**	P	**Pn**	**15 29 39.4**	**+0.6**
JHU				S	**S**	**15 30 23.0**	**+0.5**
JRY	**Ryogami san**	**3.00**	**8**	P	**Pn**	**15 29 41.3**	**+1.6**
JRY				S	**S**	**15 30 25.8**	**+1.5**
JAI	**Aioi**	**3.35**	**284**	P	**Pn**	**15 29 43.1**	**-0.2**
JAG	**Ashikaga**	**3.49**	**15**	P	**Pn**	**15 29 44.7**	**0.0**
JAG				*e*S	**S**	**15 30 30.9**	**-2.4**
MJAR	**Matsushiro Arr**	**3.49**	**358**	P	**Pn**	**15 29 45.2**	**+0.5**
	1.4nm,0.3s,baz=262,slow=7.9,SNR=14						
MJAR				S	**S**	**15 30 32.4**	**-0.9**
	baz=209,slow=20,SNR=2.9						
MAT	**Matsushiro**	**3.49**	**358**	P	**Pn**	**15 29 45.5**	**+0.8**
MAT				*e*S	**S**	**15 30 33.1**	**-0.2**
JYT	**Yasato**	**3.52**	**25**	P	**Pn**	**15 29 44.1**	**-0.9**
JYT				*e*S	**S**	**15 30 30.5**	**-3.3**
JHO	**Hitachi**	**4.00**	**26**	P	**Pn**	**15 29 49.3**	**-0.8**
JHO				*e*S	**S**	**15 30 39.8**	**-3.3**
KSRS	**Korea Array**	**9.60**	**300**	P	**Pn**	**15 30 58.1**	**+1.0**
	0.8nm,0.3s,baz=111,slow=13,SNR=33						
KSRS				S	**S**	**15 32 44.9**	**-0.7**
	0.2nm,0.3s,baz=71,slow=22,SNR=9.5						
ASAJ	**Asahikawa**	**11.54**	**15**	P	**P**	**15 31 23.0**	**+0.4**
	0.4nm,0.3s,baz=4.5,slow=26,SNR=6.5						
USRK	**Ussuriysk Array**	**12.20**	**338**	P	**Pn**	**15 31 29.1**	**+0.3**
	0.7nm,0.3s,baz=150,slow=11,SNR=13						
SONM	**Songino Array**	**28.22**	**311**	P	**P**	**15 34 09.8**	**+0.1**
	1.0nm,0.8s,baz=111,slow=8.1,SNR=6.0						
ZALV	**Zalesovo Beam**	**42.88**	**316**	P	**P**	**15 36 13.1**	**0.0**
	0.5nm,0.3s,baz=99,slow=9.1,SNR=3.1						
TAPN	**Taplejung**	**43.80**	**276**	*e*P	**P**	**15 36 20.4**	**-0.8**
	2.5nm,0.3s						
MKAR	**Makanchi Array**	**44.24**	**305**	P	**P**	**15 36 23.9**	**-0.2**
	0.6nm,0.3s,baz=88,slow=9.4,SNR=20						
ODAN	**Odare**	**44.24**	**276**	*e*P	**P**	**15 36 23.5**	**-1.1**
	5.1nm,0.4s						
RAMN	**Ramite**	**44.87**	**276**	*e*P	**P**	**15 36 28.8**	**-0.8**
	7.2nm,0.4s	

VNDA	**Vanda**	**63.47**	**186**	P	**P**	**16 01 39.2**	**+0.6**
VNDA	**Vanda**	**63.47**	**186**	P	**P**	**16 01 39.2**	**+0.6**
	1.4nm,1.0s,baz=326,slow=13,SNR=5.4						
KAPI	**Kappang**	**66.52**	**271**	LR	LR	16 29 12.1	
	comp=Z,49nm,18.8s,baz=151,slow=34						
MJAR	**Matsushiro Arr**	**68.97**	**320**	LR	LR	16 26 40.2	
	comp=Z,121nm,19.2s,baz=105,slow=31						
NVAR	**Mina Array Bea**	**74.17**	**42**	P	P	16 02 50.2	+4.1
NVAR	**Mina Array Bea**	**74.17**	**42**	P	P	16 02 50.2	+4.1
	1.4nm,0.8s,baz=223,slow=8.6,SNR=5.4						
QSPA	**South Pole Qui**	**74.73**	**180**	*eP*	**P**	**16 02 49.2**	**+0.4**
	4.3nm,1.2s						
KSRS	**Korea Array**	**76.20**	**315**	LR	LR	16 32 06.1	
	comp=Z,55nm,18.1s,baz=275,slow=32						
TXAR	**Lajitas Array**	**80.45**	**56**	P	P	16 03 25.3	+4.0
TXAR	**Lajitas Array**	**80.45**	**56**	P	P	16 03 25.3	+4.0
	1.0nm,1.0s,baz=224,slow=5.2,SNR=6.6						
PDAR	**Pinedale Array**	**82.11**	**42**	P	**P**	**16 03 31.6**	**+1.6**
PDAR	**Pinedale Array**	**82.11**	**42**	P	**P**	**16 03 31.6**	**+1.6**
	0.9nm,0.9s,baz=202,slow=3.2,SNR=5.1						
ILAR	**Eielson Array**	**82.34**	**11**	P	**P**	**16 03 32.6**	**+2.3**
ILAR	**Eielson Array**	**82.34**	**11**	P	**P**	**16 03 32.6**	**+2.3**
	0.4nm,0.7s,baz=229,slow=6.7,SNR=6.3						
CMAR	**Chiang Mai Arr**	**92.72**	**288**	P	**P**	**16 04 23.1**	**+1.3**
CMAR	**Chiang Mai Arr**	**92.72**	**288**	P	**P**	**16 04 23.1**	**+1.3**
	0.2nm,0.6s,baz=109,slow=2.2,SNR=4.0						
TKL	**Tuckaleechee C**	**98.35**	**55**	LR	LR	16 44 10.3	
	comp=Z,205nm,18.2s,baz=46,slow=32						
GERES	**GERESS Array B**	**146.08**	**352**	PKPbc	**PKPab**	**16 10 51.5**	**+1.8**
GERES	**GERESS Array B**	**146.08**	**352**	PKPbc	**PKPab**	**16 10 51.5**	**+1.8**
	0.3nm,0.4s,baz=56,slow=3.4,SNR=6.1						
BRTR	**Keskin Array B**	**146.18**	**321**	PKPbc	**PKPab**	**16 10 51.5**	**+1.0**
BRTR	**Keskin Array B**	**146.18**	**321**	PKPbc	**PKPab**	**16 10 51.5**	**+1.0**
	1.5nm,0.8s,baz=91,slow=2.6,SNR=7.9						

*ISCJB **27** 15:52:11.7±0.6, 15°.1S±0°.2×174°.0W±0°.1, h10km, mb3.9/10, MS3.6/1, Error ellipse: s-maj=27.7km s-min=12.3km az=145.2*

*IDC **27** 15:52:11.2±0.8, 15°.46S×173°.70W, h0km, mb3.8/8, mb1 4.2/8, mb1mx3.9/18, mbtmp3.8/8, MS3.8/1, Ms1 3.8/1, ms1mx3.0/33, Error ellipse: s-maj=42.4km s-min=19.0km az=140.0*

*NEIC **27** 15:52:13.4±0.6, 15°.11S×173°.96W, h10km, mb4.5/2, Error ellipse: s-maj=27.5km s-min=15.1km az=139.0*

ISC 27 15:52:13.0±0.7, 15°.1S±0°.2×173°.8W±0°.2, h10km, n34, σ1§32/26, mb3.9/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.35**	**59**	*eP*	**Pn**	**15 52 49.9**	**-1.9**
AFI				Sn	Sn	15 53 08.5	-12
AFI	**Afiamalu**	**2.35**	**59**	Pn	Pn	15 52 44.2	-7.5
	29nm,0.3s,baz=14,slow=12,SNR=3.8						
AFI				Sn	Sn	15 53 08.5	-12
	84nm,0.3s,baz=208,slow=20,SNR=6.5						
HNR	**Honiara**	**26.22**	**279**	LR	LR	16 06 47.8	
	comp=Z,193nm,19.2s,baz=117,slow=33						
H11S2	**WAKE ISLAND Hy**	**38.52**	**330**	T	T	16 41 11.4	
	baz=152,slow=0.7						
H11S3	**WAKE ISLAND Hy**	**38.54**	**329**	T	T	16 41 08.8	
	baz=152,slow=0.7						
H11S1	**WAKE ISLAND Hy**	**38.54**	**330**	T	T	16 41 12.8	
	baz=152,slow=0.7						
H11N3	**WAKE ISLAND Hy**	**39.48**	**331**	T	T	16 42 19.8	
	baz=152,slow=0.7						
H11N1	**WAKE ISLAND Hy**	**39.48**	**331**	T	T	16 42 20.9	
	baz=152,slow=0.7						
H11N2	**WAKE ISLAND Hy**	**39.49**	**331**	T	T	16 42 21.9	
	baz=152,slow=0.7						
STKA	**Stephens Creek**	**43.80**	**240**	P	**P**	**16 00 17.2**	**-2.1**
STKA	**Stephens Creek**	**43.80**	**240**	P	**P**	**16 00 17.2**	**-2.1**
	0.7nm,0.5s,baz=124,slow=15,SNR=2.4						
WRAB	**Tennant Creek**	**49.48**	**257**	P	**P**	**16 01 02.6**	**-1.4**
WRA	**Warramunga Arr**	**49.49**	**257**	P	**P**	**16 01 04.0**	**-0.1**
WRA	**Warramunga Arr**	**49.49**	**257**	P	**P**	**16 01 04.0**	**-0.1**
	0.2nm,0.6s,baz=95,slow=6.4,SNR=2.9						
AS31	**Alice Springs**	**49.78**	**252**	*eP*	**P**	**16 01 06.6**	**+0.3**
ASAR	**Alice Springs**	**49.78**	**252**	P	**P**	**16 01 06.8**	**+0.4**
ASAR	**Alice Springs**	**49.78**	**252**	P	**P**	**16 01 06.8**	**+0.4**
	5.2nm,0.7s,baz=87,slow=7.4,SNR=9.5						
SBA	**Scott Base**	**63.47**	**185**	*eP*	**P**	**16 02 45.4**	**+2.6**
	4.1nm,1.0s						
VNDA	**Vanda**	**63.59**	**186**	P	**P**	**16 02 41.6**	**-1.9**
VNDA	**Vanda**	**63.59**	**186**	P	**P**	**16 02 41.6**	**-1.9**
	1.7nm,0.9s,baz=5.6,slow=5.3,SNR=7.0						
NVAR	**Mina Array Bea**	**74.43**	**42**	P	**P**	**16 03 52.7**	**+0.9**
NVAR	**Mina Array Bea**	**74.43**	**42**	P	**P**	**16 03 52.7**	**+0.9**
	1.1nm,0.8s,baz=240,slow=8.2,SNR=3.6						
QSPA	**South Pole Qui**	**74.90**	**180**	*eP*	**P**	**16 03 55.8**	**+1.8**
	5.7nm,1.1s						
HLID	**Hailey**	**79.70**	**40**	*eP*	**P**	**16 04 21.7**	**+0.4**
TXAR	**Lajitas Array**	**80.83**	**56**	P	**P**	**16 04 27.9**	**+0.3**
TXAR	**Lajitas Array**	**80.83**	**56**	P	**P**	**16 04 27.9**	**+0.3**
	0.2nm,0.3s,baz=210,slow=7.2,SNR=4.3						
ILAR	**Eielson Array**	**82.28**	**11**	P	**P**	**16 04 35.3**	**+1.0**
ILAR	**Eielson Array**	**82.28**	**11**	P	**P**	**16 04 35.3**	**+1.0**
	0.5nm,0.6s,baz=227,slow=6.5,SNR=9.3						
PDAR	**Pinedale Array**	**82.36**	**42**	P	**P**	**16 04 35.2**	**-0.4**
PDAR	**Pinedale Array**	**82.36**	**42**	P	**P**	**16 04 35.2**	**-0.4**
	0.5nm,0.8s,baz=239,slow=7.3,SNR=2.7						
BRTR	**Keskin Array B**	**145.69**	**321**	PKPbc	**PKPab**	**16 11 54.3**	**+1.3**
BRTR	**Keskin Array B**	**145.69**	**321**	PKPbc	**PKPab**	**16 11 54.3**	**+1.3**
	1.7nm,0.8s,baz=69,slow=2.4,SNR=2.2						
GERES	**GERESS Array B**	**145.82**	**351**	PKPbc	**PKPbc**	**16 11 52.5**	**-0.2**
GERES	**GERESS Array B**	**145.82**	**351**	PKPbc	**PKPbc**	**16 11 52.5**	**-0.2**
	0.2nm,0.3s,baz=15,slow=4.1,SNR=2.1						

*ISCJB **27** 16:19:52.5±0.5, 10°.85N±0°.04×62°.40W±0°.03, h79km±7km, Error ellipse: s-maj=7.2km s-min=3.9km az=157.3*

*TRN **27** 16:19:56.2, 10°.96N×62°.28W, h55km, MD3.7*

*FUNV **27** 16:19:56.3, 10°.58N×62°.37W, h62km, MW3.5*

ISC 27 16:19:52.2±1.3, 10°.81N±0°.04×62°.39W±0°.03, h87km±9km, n23, σ1§61/38, 7C-5D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.23**	**134**	*iP*	**Pn**	**16 20 05.1**	**+0.1**
GUIV				*eS*	**Sn**	**16 20 13.2**	**-1.2**
TCE	**Chacachacare**	**0.63**	**100**	*iP*	**Pn**	**16 20 09.1**	**+1.2**
TCE				*eS*	**Sn**	**16 20 18.0**	**-1.5**
GUNV	**Guanoco**	**0.84**	**220**	*eP*	**Pn**	**16 20 11.3**	**+1.3**
GUNV				*eS*	**Sn**	**16 20 20.2**	**-3.0**
CRUV	**Carupano**	**0.84**	**261**	*iP*	**Pn**	**16 20 10.7**	**+0.8**
CRUV				*eS*	**Sn**	**16 20 23.3**	**+0.1**
TRN	**Trinidad (W)**	**0.98**	**99**	*eP*	**Pn**	**16 20 12.8**	**+1.4**
TRN				*eS*	**Sn**	**16 20 25.5**	**-0.4**
TPP	**Pointe-a-Pierr**	**1.04**	**118**	*iP*	**Pn**	**16 20 14.2**	**+2.0**
TPP				*eS*	**Sn**	**16 20 28.4**	**+1.2**
TBH	**Brigand Hill**	**1.34**	**104**	*iP*	**Pn**	**16 20 17.6**	**+1.8**
TBH				*eS*	**Sn**	**16 20 34.5**	**+0.8**
GRW	**Mount Saint Ca**	**1.52**	**28**	*eP*	**Pn**	**16 20 19.5**	**+1.3**
GRW				*eS*	**Sn**	**16 20 35.1**	**-2.7**
TPR	**Prospect**	**1.63**	**76**	*eP*	**Pn**	**16 20 21.1**	**+1.6**
TPR				*eS*	**Sn**	**16 20 39.0**	**-1.2**
BOT	**Bacolet**	**1.68**	**78**	*iP*	**Pn**	**16 20 21.5**	**+1.4**
BOT				*eS*	**Sn**	**16 20 41.1**	**-0.2**
TOSP	**Speyside**	**1.88**	**75**	*eP*	**Pn**	**16 20 22.9**	**+0.1**
TOSP				*eS*	**Sn**	**16 20 44.6**	**-1.5**
ORIV	**Oritupano**	**2.00**	**210**	*iP*	**Pn**	**16 20 25.7**	**+1.4**
PCRV	**Puerto La Cruz**	**2.30**	**254**	*eP*	**Pn**	**16 20 30.2**	**+1.8**
PCRV				*eS*	**Sn**	**16 20 55.7**	**-0.3**
SVB	**Belmont**	**2.69**	**24**	*eP*	**Pn**	**16 20 34.9**	**+1.3**
SVB				*eS*	**Sn**	**16 21 03.1**	**-2.2**
RIOV	**Rio Grande**	**2.78**	**168**	*eP*	**Pn**	**16 20 35.4**	**+0.6**
GURV	**El Guri**	**3.10**	**193**	*iP*	**Pn**	**16 20 39.3**	**+0.1**
GURV				*eS*	Sn	16 21 10.3	-5.1
MCLT	**Moule a Chique**	**3.21**	**26**	*eP*	**Pn**	**16 20 41.4**	**+0.8**
MCLT				*eS*	**Sn**	**16 21 16.1**	**-1.8**
CUPV	**Cœpira**	**3.43**	**258**	*eP*	**Pn**	**16 20 45.6**	**+2.0**
CUPV				*eS*	**Sn**	**16 21 23.1**	**-0.1**
MERV	**Las Mercedes**	**4.15**	**248**	*eP*	**Pn**	**16 20 54.3**	**+1.0**
LUEV	**Luepa**	**5.02**	**169**	*eP*	**Pn**	**16 21 04.1**	**-1.2**
TURV	**Turiamo**	**5.37**	**267**	*eP*	**Pn**	**16 21 12.9**	**+2.9**
BAUV	**El Baul**	**5.87**	**252**	*eP*	**Pn**	**16 21 17.5**	**+0.7**
BAUV				*eS*	**Sn**	**16 22 19.3**	**-3.4**
SKI	**Saint Kitts**	**6.50**	**357**	*eP*	Pn	16 21 28.8	+3.5

*BKK **27** 16:25:05.8±0.7, 5°.N±6°×12°.8E±°, h10km, M4.8/11, mB6.0/3, mb4.7/11, MLv4.7/2, Mw(mB)5.6/3*

*IDC **27** 16:25:08.8±0.6, 4°.12N×126°.26E, h0km, mb4.1/15, mb1 4.2/15, mb1mx4.1/24, mbtmp4.1/15, MS2.8/1, Ms1 2.8/1, ms1mx2.4/34, Error ellipse: s-maj=33.2km s-min=12.8km az=75.0*

*ISCJB **27** 16:25:14.2±0.4, 4°.14N±0°.03×126°.67E±0°.05, h45km, mb4.3/21, MS2.7/1, Error ellipse: s-maj=7.6km s-min=4.0km az=161.8*

*AUST **27** 16:25:17.4±4.1, 3°.68N×126°.54E, h11km, Error ellipse: s-maj=1.7km s-min=0.9km az=29.0*

*DJA **27** 16:25:21.7±0.7, 4°.N±5°×12°.6E±°, h36km, M4.6/9, mb4.5/8, mB5.1/4, MLv4.7/9, Mw(mB)4.4/4*

ISC 27 16:25:15.7±0.5, 4°.14N±0°.04×126°.59E±0°.08, h45km, n53, σ1§59/53, mb4.2/21, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.15**	**247**	P	**Pn**	**16 25 34.9**	**-0.4**
GSPH	**General Santos**	**2.53**	**320**	*iP*	**Pn**	**16 25 54.6**	**+0.1**
MATI	**Mati**	**2.81**	**353**	*eP*	**Pn**	**16 26 00.1**	**+1.9**
MATI				*eS*	**Sn**	**16 26 32.4**	**+1.6**
TNTI	**Ternate**	**3.43**	**167**	P	**Pn**	**16 26 07.8**	**+1.1**
TNTI				S	**Sn**	**16 26 46.9**	**+0.8**
CTBH	**Cotabato--PC H**	**3.85**	**323**	*eP*	**Pn**	**16 26 13.5**	**+1.1**
BUKP	**Musuan**	**4.02**	**338**	*eP*	**Pn**	**16 26 17.0**	**+2.2**
KMSI	**Cibinong**	**4.39**	**216**	P	**Pn**	**16 26 21.9**	**+2.0**
KMSI				S	Sn	16 27 04.8	-5.1
LBMI	**Labuha**	**4.83**	**169**	P	**Pn**	**16 26 28.1**	**+2.2**
PAGZ	**Pagadian**	**4.88**	**319**	*eP*	**Pn**	**16 26 28.1**	**+1.5**
IPIL	**Ipil**	**5.40**	**312**	*eP*	**Pn**	**16 26 34.8**	**+1.1**
MRSI	**Marisa**	**5.90**	**232**	P	**Pn**	**16 26 41.9**	**+1.3**
	184nm,0.5s,2μm0.8nm						
LUWI	**Luwuk**	**6.40**	**217**	P	Pn	16 26 53.0	+5.5
	113nm,1.1s,982nm0.4nm						
LUWI	**Luwuk**	**6.40**	**217**	P	Pn	16 26 53.5	+6.0
	baz=6.0,SNR=4.7						
TOLI	**Toli-Toli**	**6.52**	**243**	P	**Pn**	**16 26 51.2**	**+2.1**
	68nm,0.6s,2μm0.5nm						
SWI	**Sorong**	**6.82**	**137**	P	**Pn**	**16 26 55.8**	**+2.6**
	baz=6.5,SNR=7.0						
NLAI	**Namlea**	**7.34**	**176**	P	**Pn**	**16 27 00.5**	**+0.1**
	22nm,0.9s,995nm0.2nm						
MYLDM	**Lahad Datu**	**8.13**	**278**	P	**Pn**	**16 27 14.2**	**+3.0**
	38nm,1.1s,0.2nm						
FAKI	**Fak Fak**	**9.01**	**141**	P	**Pn**	**16 27 25.6**	**+2.4**
	baz=8.7,SNR=7.1						
TTSI	**Tana Toraja**	**9.83**	**224**	P	**Pn**	**16 27 37.0**	**+2.5**
	16nm,0.9s						
MMSI	**Mamuju**	**10.24**	**229**	P	**Pn**	**16 27 42.4**	**+2.2**
	26nm,1.7s						
KKM	**Kota Kinabalu**	**10.51**	**281**	P	**Pn**	**16 27 46.2**	**+2.3**
KKM	**Kota Kinabalu**	**10.51**	**281**	P	Pn	16 27 47.4	+3.6
	baz=11,SNR=3.1						
KSM	**Kuching**	**16.47**	**261**	P	**P**	**16 29 07.5**	**+1.6**
	baz=16,SNR=3.9						
MTN	**Manton Dam**	**17.46**	**165**	P	**Pn**	**16 29 14.9**	**-1.2**
	baz=17,SNR=3.7						
KDU	**Kakadu**	**17.71**	**161**	P	**Pn**	**16 29 18.3**	**-0.8**
	baz=17,SNR=5.1						
KNRA	**Kununurra**	**19.80**	**174**	P	**P**	**16 29 43.2**	**+0.7**
	baz=20,SNR=4.3						
FITZ	**Fitzroy Crossi**	**22.12**	**182**	P	**P**	**16 30 08.9**	**+1.4**
	baz=22,SNR=11						
FITZ	**Fitzroy Crossi**	**22.12**	**182**	P	**P**	**16 30 06.6**	**-0.9**
	1.8nm,0.6s,baz=5.1,slow=10,SNR=11						
PMG	**Port Moresby**	**24.52**	**123**	LR	LR	16 40 38.8	
	comp=Z,24nm,19.7s,baz=88,slow=38						
WRA	**Warramunga Arr**	**25.11**	**163**	P	**P**	**16 30 35.8**	**-0.7**
	1.8nm,0.4s,baz=343,slow=10.0,SNR=5.9						
WRA				PcP	**PcP**	**16 34 09.9**	**-0.3**
	0.3nm,0.6s,baz=346,slow=2.3,SNR=3.1						
SKNT	**Sakolnakorn**	**25.58**	**302**	P	**P**	**16 30 41.4**	**+0.6**
	14nm,1.1s						
CHAI	**Chaiyaphum**	**26.86**	**298**	P	**P**	**16 30 52.8**	**+0.4**
	3.7nm,0.7s						
PBKT	**Sadao Pong**	**28.02**	**298**	P	**P**	**16 31 04.2**	**+1.5**
	12nm,0.9s						
LOEI	**Loei**	**28.14**	**300**	P	P	16 30 59.8	-4.1
	32nm,0.8s						
ASAR	**Alice Springs**	**28.54**	**166**	P	**P**	**16 31 07.0**	**-0.4**
	0.6nm,0.5s,baz=346,slow=7.0,SNR=28						
ASAR				PcP	**PcP**	**16 34 18.2**	**0.0**
	0.4nm,0.8s,baz=345,slow=2.3,SNR=3.4						
CRAI	**Chiangrai**	**30.12**	**304**	P	**P**	**16 31 23.6**	**+2.1**
	239nm,1.2s,11μm						
CMAR	**Chiang Mai Arr**	**30.55**	**300**	P	**P**	**16 31 23.5**	**-1.7**
	2.0nm,0.9s,baz=115,slow=7.1,SNR=18						
CHTO	**Chiang Mai**	**30.69**	**301**	P	**P**	**16 31 27.2**	**+0.7**
	23nm,1.2s						
MEEK	**Meekatharra**	**31.55**	**194**	P	**P**	**16 31 33.1**	**-0.9**
	baz=31,SNR=6.0						
KSRS	**Kea Array**	**33.18**	**2**	P	**P**	**16 31 48.4**	**+0.3**
	2.5nm,0.6s,baz=178,slow=10,SNR=14						
STKA	**Stephens Creek**	**38.56**	**159**	P	**P**	**16 32 36.2**	**+2.0**
	baz=38,SNR=9.6						
STKA	**Stephens Creek**	**38.56**	**159**	P	**P**	**16 32 34.3**	**+0.1**
	2.2nm,0.6s,baz=352,slow=6.1,SNR=13						
USRK	**Ussuriysk Arra**	**40.18**	**6**	P	**P**	**16 32 48.1**	**+0.6**
	2.0nm,0.6s,baz=190,slow=6.7,SNR=10						
SONM	**Songino Array**	**46.87**	**341**	P	**P**	**16 33 40.4**	**-1.1**
	0.8nm,0.5s,baz=157,slow=8.2,SNR=8.4						
SONM				PcP	**PcP**	**16 35 14.5**	**+0.6**
	1.0nm,0.9s,baz=159,slow=4.1,SNR=4.1						
PETK	**Petropavlovsk-**	**55.11**	**22**	P	**P**	**16 34 43.4**	**+0.1**
	2.4nm,0.7s,baz=196,slow=4.8,SNR=7.2						
MKAR	**Makanchi Array**	**57.14**	**325**	P	**P**	**16 34 56.2**	**-1.7**
	1.3nm,0.5s,baz=116,slow=7.6,SNR=27						
MKAR				PcP	**PcP**	**16 35 51.2**	**-1.0**
	1.2nm,0.4s,baz=108,slow=4.9,SNR=8.1						
ZALV	**Zalesovo Beam**	**60.16**	**333**	P	P	16 35 15.4	-3.3
	0.9nm,0.4s,baz=123,slow=7.3,SNR=8.0						
BRTR	**Keskin Array B**	**89.65**	**310**	P	**P**	**16 38 07.0**	**-2.3**
	0.8nm,0.8s,baz=139,slow=2.8,SNR=4.4						
ARCES	**ARCESS Array B**	**90.02**	**340**	P	**P**	**16 38 08.6**	**-1.6**
	1.4nm,0.6s,baz=80,slow=5.8,SNR=10						
FINES	**FINESS Array B**	**91.41**	**332**	P	**P**	**16 38 15.1**	**-1.7**
	2.6nm,0.8s,baz=44,slow=5.8,SNR=7.7						
AKASG	**Malin Array Be**	**91.49**	**321**	P	**P**	**16 38 15.7**	**-1.7**
	0.5nm,0.4s,baz=68,slow=4.5,SNR=4.1						
SNAA	**Sanae**	**105.57**	**195**	*ep*	**Pdif**	**16 39 17.3**	**-3.2**
TORD	**Torodi Ar. Bea**	**122.66**	**288**	PKP	**PKPdf**	**16 44 06.3**	**-1.3**
	0.2nm,0.4s,baz=83,slow=1.3,SNR=4.3						

WEL 27 16:25:45.8±0.3, 38°.15S×178°.86E, h33km, ML3.5/7, Error ellipse: s-maj=3.2km s-min=1.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**0.48**	**279**	PN	Pb	16 25 54.9	-1.2
PUZ				SN	Sb	16 26 03.1	-0.2
PUZ				AML	AML	16 26 03.4	
CNGZ	**Carnagh Statio**	**0.62**	**237**	PN	Pn	16 25 57.2	-1.0
MXZ	**Matakaoa Point**	**0.73**	**323**	PN	Pn	16 25 59.5	-0.3
MXZ				AML	AML	16 26 11.7	
MXZ				AML	AML	16 26 12.3	
RIGZ	**Rimuhau**	**1.03**	**237**	PN	Pn	16 26 02.9	-1.0
RIGZ				SN	Sn	16 26 17.4	+0.1
MWZ	**Matawai**	**1.07**	**260**	PN	Pn	16 26 03.5	-1.0
MWZ				SN	Sn	16 26 17.7	-0.6
MWZ				AML	AML	16 26 18.8	
MWZ				AML	AML	16 26 18.9	
MWZ				AML	AML	16 26 18.9	
PRGZ	**Paritu Road**	**1.09**	**225**	PN	Pn	16 26 04.4	-0.4
SNGZ	**Shannon Statio**	**1.35**	**242**	PN	Pn	16 26 07.6	-0.8
URZ	**Urewera**	**1.39**	**265**	PN	Pn	16 26 08.2	-0.6
URZ				AML	AML	16 26 30.6	
URZ				AML	AML	16 26 34.3	
RAHZ	**Arahi**	**1.59**	**241**	PN	Pn	16 26 11.5	-0.1
NMHZ	**Naumai**	**1.87**	**239**	PN	Pn	16 26 15.3	-0.3
BKZ	**Black Stump Fm**	**2.12**	**241**	PN	Pn	16 26 18.2	-0.7
MCHZ	**McNeill Hill**	**2.13**	**232**	PN	Pn	16 26 18.2	-0.8
MCHZ				SN	Sn	16 26 43.9	-0.5
KAHZ	**Kahuranaki**	**2.26**	**223**	PN	Pn	16 26 19.8	-1.1
PXZ	**Pawanui**	**2.44**	**219**	PN	Pn	16 26 21.9	-1.4
PXZ				AML	AML	16 27 19.2	
BHHZ	**Black Hill Sta**	**2.56**	**238**	PN	Pn	16 26 24.0	-1.1
PNHZ	**Pukenui**	**2.72**	**229**	PN	Pn	16 26 25.1	-2.1
WHVZ	**Whangaehu Hut**	**2.80**	**245**	PN	Pn	16 26 27.5	-1.1
WNVZ	**Wahianoa**	**2.81**	**244**	PN	Pn	16 26 27.8	-0.9
FWVZ	**Far West T-bar**	**2.82**	**246**	AML	AML	16 27 41.3	
FWVZ				AML	AML	16 27 45.0	
TSZ	**Takapari Road**	**2.96**	**229**	PN	Pn	16 26 27.7	-2.8
TSZ				SN	Sn	16 27 01.8	-3.1
MRZ	**Mangatainoka R**	**3.57**	**224**	PN	Pn	16 26 35.7	-3.2
MRZ				AML	AML	16 27 43.0	

*MOS **27** 16:25:50.9±1.0, 6°.89N×72°.93W, h141km, mb5.0/40, Error ellipse: s-maj=7.7km s-min=5.1km az=106.6*

*ISCJB **27** 16:25:53.0±0.3, 6°.79N±0°.03×72°.92W±0°.02, h165km±2km, mb5.0/177, Error ellipse: s-maj=4.2km s-min=2.7km az=5.3*

*BJI **27** 16:25:52.2, 6°.80N×72°.90W, h146km, mB5.4/18*

*NEIC **27** 16:25:53.8±0.1, 6°.77N×72°.90W, mb5.2/144, Error ellipse: s-maj=3.6km s-min=3.3km az=33.0*

NEIC Felt [IV] at Bucaramanga and [II] at Bogota and Medellin. Also felt at Cartagena, Leticia, Penol, San Gil and Sogamoso. Felt at Merida, Venezuela.

*IDC **27** 16:25:53.5±0.4, 6°.77N×72°.90W, h156km±3km, mb4.5/20, mb1 4.7/23, mb1mx4.6/27, mbtmp5.0/23, MS3.9/8, Ms1 3.9/8, ms1mx3.7/25, Error ellipse: s-maj=9.3km s-min=6.9km az=88.0*

*FUNV **27** 16:25:55.1, 6°.82N×73°.04W, h164km, MW5.3*

*GCMT **27** 16:25:56.1±0.2, 6°.93N×73°.07W, h164km±2km, MW5.1, Moment Tensor Solution. s33,c40; s82,c134; Moment tensor: Scale 10^16^Nm; Mrr0.55±.15; Mθθ4.98±.16; Mϕϕ-5.52±.17; Mrθ2.85±.12; Mrϕ0.30±.16; Mθϕ-2.43±.13; Best double couple: M₀6.50000×10^16^ NP1:ϕ₁135.00000°, δ86.00000°, λ36.00000°. NP2:ϕ₂42.00000°, δ54.00000°, λ175.00000°. Principal axes: T 6.4300, Plg27.0000°, Azm5.0000°; N 0.0900, Plg54.0000°, Azm140.0000°; P -6.5200, Plg21.0000°, Azm263.0000°; Data Used: IU II G IC CN.*

ISC 27 16:25:53.5±0.3, 6°.79N±0°.03×72°.94W±0°.04, h161km±2km, h161km:pP-P, n917, σ1§16/1027, mb5.0/177, 213C-221D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.23**	**30**	*iP*	**Pn**	**16 26 23.0**	**+1.4**
CAPV				*eS*	**Sn**	**16 26 43.7**	**+0.4**
ROSC	**El Rosal**	**2.37**	**216**	*ePn*	**Pn**	**16 26 34.5**	**+0.4**
ROSC				S	**Sn**	**16 27 05.4**	**0.0**
ROSC	**El Rosal**	**2.37**	**216**	P	**Pn**	**16 26 34.5**	**+0.4**
	4μm,0.3s,baz=39,slow=2.6,SNR=2720						
ROSC				S	**Sn**	**16 27 05.4**	**0.0**
	2μm,0.3s,baz=79,slow=20,SNR=13						
SOCV	**Socops**	**2.54**	**54**	*iP*	**Pn**	**16 26 37.1**	**+1.4**
SOCV				*eS*	**Sn**	**16 27 07.8**	**-0.6**
VIGV	**El Vigia**	**2.56**	**37**	*iP*	**Pn**	**16 26 37.5**	**+1.5**
VIGV				*eS*	**Sn**	**16 27 08.2**	**-0.7**
SDV	**Santo Domingo**	**3.09**	**48**	*eP*	**Pn**	**16 26 44.6**	**+1.9**
ELOV	**Elorza**	**3.44**	**86**	*iP*	**Pn**	**16 26 49.1**	**+2.3**
VIRV	**Villa del Rosa**	**3.72**	**8**	*iP*	**Pn**	**16 26 50.1**	**-0.5**
VIRV				*eS*	**Sn**	**16 27 30.8**	**-4.2**
QARV	**Quebrada Arrib**	**4.15**	**35**	*iP*	**Pn**	**16 26 57.4**	**+1.3**
SANV	**Sanarito**	**4.31**	**51**	*iP*	**Pn**	**16 26 59.1**	**+0.8**
SANV				*eS*	**Sn**	**16 27 46.0**	**-2.8**
CURV	**Curarigua**	**4.35**	**42**	*iP*	**Pn**	**16 26 59.8**	**+1.1**
DABV	**Dabajuro**	**4.69**	**29**	*eP*	**Pn**	**16 27 04.2**	**+1.0**
DABV				*eS*	**Sn**	**16 27 54.1**	**-3.4**
TEPV	**Terepaima**	**4.87**	**49**	*iP*	**Pn**	**16 27 06.3**	**+0.9**
TEPV				*eS*	**Sn**	**16 27 59.3**	**-2.3**
SIQV	**Siquisique**	**4.92**	**39**	*iP*	**Pn**	**16 27 07.0**	**+0.8**
SIQV				*eS*	**Sn**	**16 27 59.6**	**-3.4**
BAUV	**El Baul**	**5.30**	**66**	*iP*	**Pn**	**16 27 11.3**	**+0.2**
PAYV	**Puerto Ayacuch**	**5.43**	**104**	*iP*	**Pn**	**16 27 13.4**	**+0.6**

baz=354,slow=18,SNR=2.0
DEG La Desirade 14.99 50 eP P 16 29 19.7 +0.7
CCCC Cccc 15.07 342 eP P 16 29 19.5 -0.2
ANWB Willy Bob 15.34 44 eP Pn 16 29 20.8 -0.9
comp=E,162nm,0.8s
TGUH Tegucigalpa,Un 15.83 298 eP Pn 16 29 26.6 -1.2
comp=E,391nm,1.0s
MGV Manicaragua 16.68 337 eP P 16 29 37.4 -0.1
SAML Samuel 18.41 148 eP P 16 29 56.9 +0.2
comp=E,0.6nm,0.5s
SOR Soroa 18.63 330 eP P 16 29 59.2 +0.2
PAYG Puerto Ayora 18.83 247 eP P 16 30 02.0 +0.7
comp=E,470nm,1.1s
APG El Apazote 19.03 297 P P 16 30 01.6 -2.1
APG El Apazote 19.03 297 P P 16 30 01.6 -2.1
comp=E,4.4nm,0.3s,baz=136,slow=6.9,SNR=88
TEIG Tepich 19.99 313 eP P 16 30 14.4 +0.7
comp=E,119nm,0.8s
LPAZ La Paz 23.42 168 eP P 16 30 47.9 -1.1
comp=E,1.8nm,0.4s
LPAZ La Paz 23.42 168 P P 16 30 49.2 +0.3
comp=E,7.9nm,0.8s,baz=354,slow=8.7,SNR=26
SIV San Ignacio 25.50 153 P P 16 31 07.6 +0.3
SIV pP pP 16 31 40.1 -0.5
SIV San Ignacio 25.50 153 P P 16 31 07.6 +0.3
comp=E,7.6nm,0.9s,baz=338,slow=9.2,SNR=19
SIV pP pP 16 31 40.1 -0.5
comp=E,45nm,0.9s,baz=331,slow=9.9,SNR=19
SIV LR LR 16 42 34.9
comp=E,354nm,19.5s,slow=39
TIGA Tifton 26.47 339 ⇑P P 16 31 17.8 +2.1
baz=27
LRAL Lakeview Retre 29.20 335 eP P 16 31 40.7 +0.7
comp=E,69nm,0.8s
KMSC Kings Mountain 29.25 346 ⇓P P 16 31 42.2 +1.7
baz=29,SNR=13
VBMS Vicksburg 30.14 329 eP P 16 31 49.9 +1.6
comp=E,328nm,1.0s
TKL Tuckaleechee C 30.40 342 eP P 16 31 51.3 +0.7
TKL Tuckaleechee C 30.40 342 P P 16 31 51.3 +0.7
comp=E,67nm,1.1s,baz=161,slow=12,SNR=12
CPCT Cooper Cave 30.44 341 eP P 16 31 52.6 +1.6
SWET Sewanee 30.71 339 eP P 16 31 53.5 +0.2
comp=E,62nm,0.9s
VWCC Virginia Weste 30.98 349 eP P 16 31 57.4 +1.7
BLA Blacksburg 31.04 348 eP P 16 31 57.9 +1.7
BLA pmax pmax
comp=Z,86nm,1.1s
BLA Blacksburg 31.04 348 eP P 16 31 57.9 +1.7
comp=Z,86nm,1.1s
JSRW J. Sargeant Re 31.09 352 eP P 16 31 57.9 +1.3
OXF Oxford 31.50 333 eP P 16 32 00.8 +0.6
OXF pmax pmax
comp=Z,99nm,0.9s
OXF Oxford 31.50 333 eP P 16 32 00.8 +0.6
comp=Z,99nm,0.9s
HKT Hockley 31.53 320 eP P 16 32 00.8 +0.3
HKT pmax pmax
comp=Z,59nm,1.8s
HKT Hockley 31.53 320 eP P 16 32 00.8 +0.3
comp=Z,59nm,1.8s
NATX Nacogdoches 32.07 324 eP P 16 32 06.3 +1.0
comp=Z,148nm,1.1s
WVT Waverly 32.23 337 eP P 16 32 07.6 +1.0
WVT pmax pmax
comp=Z,166nm,0.8s
WVT Waverly 32.23 337 eP P 16 32 07.6 +1.0
comp=Z,166nm,0.8s
HALT Halls 32.65 335 eP P 16 32 11.0 +0.7
SDMD Soldier's Deli 32.66 354 eP P 16 32 11.7 +1.3
comp=Z,33nm,0.6s
GLAT Glass 32.94 335 eP P 16 32 13.7 +0.9
GNAR Gosnell 32.99 334 P P 16 32 12.4 -0.8
comp=Z,4μm,1.0s
UALR University of 33.10 330 eP P 16 32 14.2 0.0
comp=Z,36nm,0.9s
BDFB Brasilia 33.26 132 P P 16 32 17.6 +1.6
BDFB Brasilia 33.26 132 P P 16 32 17.6 +1.6
comp=Z,11nm,1.0s,baz=298,slow=12,SNR=7.3
BDFB LR LR 16 46 52.2
comp=Z,92nm,19.5s,baz=213,slow=38
MCWV Mont Chateau 33.31 350 eP P 16 32 18.1 +2.2
comp=Z,121nm,1.1s
PARMO Parma 33.47 335 eP P 16 32 17.7 +0.3
MIAR Mount Ida 33.54 328 eP P 16 32 17.8 -0.3
MIAR pmax pmax
comp=Z,33nm,0.9s
MIAR Mount Ida 33.54 328 eP P 16 32 17.8 -0.3
comp=Z,33nm,0.9s
WCI Wyandotte Cave 33.56 341 eP P 16 32 19.0 +0.8
WCI pmax pmax
comp=Z,121nm,0.6s
WCI Wyandotte Cave 33.56 341 eP P 16 32 19.0 +0.8
comp=Z,121nm,0.6s
732A Laxson Ranch, 33.59 314 ⇑P P 16 32 18.5 0.0
baz=34
BRNJ Basking Ridge 33.78 358 eP P 16 32 22.5 +2.5
comp=Z,63μm,1.0s
USIN University of 33.79 339 eP P 16 32 21.0 +0.9
comp=Z,368nm,0.9s
632A Uvalde 33.91 315 ⇑P P 16 32 21.5 +0.2
baz=34,SNR=11
WHTX Lake Whitney 33.93 321 ⇓P P 16 32 22.0 +0.6
baz=34,SNR=7.7
SSPA Standing Stone 33.99 353 eP P 16 32 23.8 +2.0
comp=Z,128nm,1.4s
SIUC Southern Illin 34.15 337 eP P 16 32 24.1 +0.8
comp=Z,236nm,0.7s
532A Rocksprings 34.36 316 ⇑P P 16 32 25.7 +0.4
baz=34,SNR=43
631A Perdido Creek 34.41 314 ⇑P P 16 32 25.9 +0.2
baz=34,SNR=12
BLO Bloomington 34.49 341 eP P 16 32 27.7 +1.6
BLO pmax pmax
comp=Z,228nm,0.6s
BLO Bloomington 34.49 341 eP P 16 32 27.7 +1.6
comp=Z,228nm,0.6s
ACSO Alum Creek Sta 34.49 346 eP P 16 32 27.4 +1.2
comp=Z,168nm,1.1s
JCT Junction City 34.50 316 eP P 16 32 26.0 -0.5
JCT pmax pmax
comp=Z,8.0nm,0.6s
JCT Junction City 34.50 316 eP P 16 32 26.0 -0.5
comp=Z,8.2nm,0.6s
JCT Junction City 34.50 316 ⇑P P 16 32 26.9 +0.4
baz=35
OLIL Olney 34.63 339 eP P 16 32 27.5 +0.2
comp=Z,170nm,0.6s
432A Menard 34.74 317 ⇓P P 16 32 28.6 +0.1
baz=35,SNR=9.3
531A Rocksprings 34.83 315 ⇓P P 16 32 29.2 -0.1
baz=35,SNR=13
332A Millersview 35.02 318 ⇓P P 16 32 31.3 +0.4
baz=35,SNR=23
431A Sonora 35.18 316 ⇓P P 16 32 32.4 +0.1
baz=35,SNR=11
232A Coleman 35.27 319 ⇓P P 16 32 33.2 +0.1
baz=35,SNR=31
ALLY Alegheny Colle 35.30 351 eP P 16 32 35.0 +1.9
comp=Z,173nm,1.0s
SLM Saint Louis 35.35 336 eP P 16 32 33.9 +0.4
SLM pmax pmax
comp=Z,44nm,0.6s
SLM Saint Louis 35.35 336 eP P 16 32 33.9 +0.4
comp=Z,44nm,0.6s
BINY Binghamton 35.36 356 eP P 16 32 35.6 +2.0
comp=Z,85nm,0.7s
530A J-C Ranch, Com 35.38 315 ⇑P P 16 32 34.2 +0.2
baz=36,SNR=28
331A San Angelo 35.43 317 ⇑P P 16 32 34.8 +0.3
baz=36,SNR=11
HRV Adam Dziewonsk 35.59 2 eP P 16 32 37.6 +2.1
HRV pmax pmax
comp=Z,177nm,1.1s
HRV Adam Dziewonsk 35.59 2 eP P 16 32 37.5 +2.1
comp=Z,177nm,1.1s
430A Baggett Ranch, 35.68 316 ⇑P P 16 32 36.8 +0.2
baz=36
ERPA Erie 35.73 351 eP P 16 32 38.2 +1.4
comp=Z,64nm,0.7s
ABTX Abilene, Hawle 35.74 320 ⇑P P 16 32 37.3 +0.3
baz=36,SNR=16
231A Bronte 35.75 318 ⇑P P 16 32 37.2 +0.1
baz=36,SNR=9.3
TUL1 Tulsa 35.76 327 ⇑P P 16 32 37.1 +0.1
baz=36,SNR=16
SFIN Scholer Farm 35.77 341 ⇓P P 16 32 38.4 +1.3
baz=36,SNR=69
529A Stev Forest Ra 35.99 314 ⇑P P 16 32 39.3 0.0
baz=36,SNR=14
330A Mertzon 36.00 317 ⇑P P 16 32 39.7 +0.4
baz=36
429A Davenport Ranc 36.04 315 ⇓P P 16 32 39.5 -0.2
baz=36,SNR=7.5
Z32A Haskell 36.08 321 ⇑P P 16 32 40.6 +0.7
baz=36,SNR=44
628A Black Gap, Mar 36.12 312 ⇑P P 16 32 41.0 +0.6
baz=36,SNR=9.2
CPUP Villa Florida 36.24 156 P P 16 32 40.9 -0.4
CPUP pP pP 16 33 15.4 -0.4
CPUP Villa Florida 36.24 156 P P 16 32 40.9 -0.4
comp=Z,1.2nm,0.6s,baz=320,slow=10,SNR=3.1
CPUP pP pP 16 33 15.4 -0.4
comp=Z,4.2nm,0.6s,baz=332,slow=7.4,SNR=4.9
CPUP LR LR 16 49 42.9
comp=Z,174nm,19.0s,baz=322,slow=40
230A Sterling City 36.25 317 ⇓P P 16 32 41.7 +0.3
baz=36,SNR=5.9
131A Roby 36.26 319 ⇓P P 16 32 41.7 +0.3
baz=36,SNR=7.0
528A Cox Ranch, San 36.42 313 ⇑P P 16 32 43.1 +0.2
baz=36,SNR=13
ACCN Adirondack Com 36.45 359 eP P 16 32 44.6 +1.7
comp=Z,29nm,0.8s
627A Terlingua Ranc 36.47 312 ⇓P P 16 32 43.9 +0.5
baz=37,SNR=19
Z31A Sharp Cattle R 36.51 320 ⇑P P 16 32 44.2 +0.7
baz=37,SNR=7.2
Y32A R-V Farms, Ver 36.52 321 ⇓P P 16 32 44.1 +0.5
baz=37,SNR=15
130A Snyder 36.59 318 ⇑P P 16 32 44.8 +0.6
baz=37,SNR=7.9
329A Wagon Wheel Ra 36.60 316 ⇑P P 16 32 44.6 +0.2
baz=37,SNR=11
WMOK Wichita Mounta 36.61 323 eP P 16 32 43.3 -1.1
WMOK pmax pmax
comp=Z,54nm,1.0s
WMOK Wichita Mounta 36.61 323 eP P 16 32 43.3 -1.1
comp=Z,54nm,1.0s
TXAR Lajitas Array 36.62 312 P P 16 32 44.9 +0.2
TXAR pP pP 16 33 19.9 +0.8
TXAR PcP PcP 16 35 06.3 +2.0
TXAR S S 16 38 15.8 +0.1
TXAR ScP ScP 16 38 36.7 +0.6
TXAR Lajitas Array 36.62 312 P P 16 32 44.9 +0.2
comp=Z,9.6nm,0.6s,baz=128,slow=10,SNR=101
TXAR pP pP 16 33 19.9 +0.8
comp=Z,1.7nm,0.5s,baz=121,slow=9.4,SNR=1.5
TXAR PcP PcP 16 35 06.3 +2.0
comp=Z,8.6nm,0.9s,baz=140,slow=7.6,SNR=5.4
TXAR S S 16 38 15.8 +0.1
comp=Z,0.2nm,0.3s,baz=88,slow=16,SNR=3.0
TXAR ScP ScP 16 38 36.7 +0.6
comp=Z,3.0nm,0.9s,baz=142,slow=8.6,SNR=4.9
428A Kincaid Ranch, 36.66 314 ⇓P P 16 32 45.7 +0.7
baz=37,SNR=25
229A Bryant Ranch, 36.77 317 ⇓P P 16 32 46.5 +0.6
baz=37,SNR=29
Y31A Rekieta Farm, 37.00 321 ⇑P P 16 32 48.6 +0.8
baz=37,SNR=36
527A Woodward Ranch 37.01 313 ⇓P P 16 32 48.8 +0.8
baz=37,SNR=26
NCB Newcomb 37.05 358 eP P 16 32 49.6 +1.7
comp=Z,124nm,1.1s
MDV Middlebury 37.06 360 eP P 16 32 49.3 +1.3
626A Big Bend Ranch 37.08 312 ⇑P P 16 32 49.1 +0.6
baz=37,SNR=9.8
328A Wristen Ranch, 37.12 315 ⇓P P 16 32 49.1 +0.3
baz=37,SNR=19
Z30A Sanderson Ranc 37.12 319 ⇑P P 16 32 49.2 +0.4
baz=37,SNR=16
129A Stewart Farms, 37.21 318 ⇓P P 16 32 49.9 +0.4
baz=37,SNR=10
427A Hayter Ranch, 37.24 314 ⇑P P 16 32 50.1 +0.2
baz=37,SNR=28
X31A McDonald Ranch 37.27 322 ⇓P P 16 32 50.1 +0.1
baz=37,SNR=14
LBNH Lisbon 37.31 1 eP P 16 32 52.0 +1.9
LBNH pmax pmax
comp=Z,154nm,1.0s
LBNH Lisbon 37.31 1 eP P 16 32 52.0 +1.9
comp=Z,154nm,1.0s
526A Mary Lane Ranc 37.31 312 ⇑P P 16 32 50.9 +0.3
baz=37,SNR=11
Y30A Stafford Cattl 37.35 320 ⇓P P 16 32 51.6 +0.9
baz=38,SNR=12
228A UT Block 9, Go 37.39 316 ⇓P P 16 32 51.4 +0.3
baz=38
Z29A Hungry Hill Ra 37.49 318 ⇑P P 16 32 52.3 +0.4
baz=38,SNR=31
426A McDonald Obser 37.59 313 ⇑P P 16 32 53.6 +0.7
baz=38,SNR=28
W31A Holland Ranch, 37.62 322 ⇑P P 16 32 52.8 -0.1
baz=38,SNR=26
128A Castleberry Fa 37.62 317 ⇓P P 16 32 53.9 +0.9
baz=38,SNR=24
X30A Coker Ranch, T 37.70 321 ⇓P P 16 32 54.1 +0.4
baz=38,SNR=38
LONY Lake Ozonia 37.71 358 eP P 16 32 54.4 +0.9
comp=Z,112nm,1.2s
227A Bennet, Jal 37.82 316 ⇓P P 16 32 54.8 +0.2
baz=38
Y29A Porterfield Fa 37.84 319 ⇓P P 16 32 55.4 +0.6
baz=38,SNR=15
FRNY Flat Rock 37.90 359 eP P 16 32 56.6 +1.6
comp=Z,104nm,1.1s
326A Caldwell Ranch 37.91 314 ⇑P P 16 32 56.1 +0.6
baz=38,SNR=6.6
V31A Spring Creek L 37.95 323 ⇓P P 16 32 56.2 +0.5
baz=38,SNR=8.7
Z28A Tucker Farm, M 37.95 318 ⇓P P 16 32 56.1 +0.3
baz=38,SNR=11
T33A Patterson Ranc 37.95 326 ⇑P P 16 32 55.8 +0.1
baz=38,SNR=6.0
S33A Kaszmaul Farm, 38.19 327 ⇓P P 16 32 57.4 -0.3
baz=38,SNR=5.7
SADO Sadowa 38.22 353 P P 16 32 58.7 +1.1
SADO Sadowa 38.22 353 P P 16 32 58.7 +1.1
comp=Z,82nm,0.7s,baz=204,slow=2.9,SNR=59
X29A Tulia 38.22 320 ⇓P P 16 32 58.4 +0.3
baz=38,SNR=13
Y28A McKinney Farm, 38.24 319 ⇓P P 16 32 58.8 +0.5
baz=38,SNR=18
127A Arkansas Junct 38.24 316 ⇑P P 16 32 58.6 +0.3
baz=38
425A Indio Mountain 38.35 313 ⇓P P 16 32 59.7 +0.5
baz=38,SNR=22
T32A Huddler Ranch, 38.40 326 ⇓P P 16 32 59.8 +0.4
baz=38
CFAA Coronel Fontan 38.44 174 P P 16 32 58.5 -1.3
CFAA pP pP 16 33 32.9 -1.7
CFAA ScP ScP 16 38 40.9 -1.8
CFAA Coronel Fontan 38.44 174 P P 16 32 58.5 -1.3
comp=Z,0.2nm,0.4s,baz=344,slow=11,SNR=6.2
CFAA pP pP 16 33 32.9 -1.7
comp=Z,0.8nm,0.7s,baz=322,slow=8.7,SNR=4.8
CFAA ScP ScP 16 38 40.9 -1.8
comp=Z,0.7nm,0.8s,baz=355,slow=2.3,SNR=5.1
V30A Spur Ranch, Mi 38.45 322 ⇑P P 16 33 00.8 +0.8
baz=39
PKME Peaks-Kenny Pk 38.46 4 eP P 16 33 01.4 +1.7
comp=Z,63nm,0.8s
226B Tecolote Peak, 38.46 315 ⇓P P 16 33 00.8 +0.8
baz=39,SNR=15
AMTX Amarillo 38.49 321 ⇓P P 16 33 00.9 +0.6
baz=39
Z27A Tatum 38.52 317 ⇑P P 16 33 00.6 0.0
baz=39,SNR=117
X28A Dimmitt 38.59 320 ⇑P P 16 33 01.6 +0.4
baz=39,SNR=12
KSU1 Kansas State U 38.60 330 eP P 16 33 00.4 -0.7
comp=Z,130nm,0.8s
W29A Amraillo 38.62 321 ⇑P P 16 33 02.4 +1.0
baz=39,SNR=6.4
MSTX Muleshoe 38.62 319 ⇓P P 16 33 01.8 +0.4
baz=39,SNR=23
325A Bean Ranch, Si 38.65 313 ⇓P P 16 33 02.1 +0.3
baz=39,SNR=13
126A Clayton Basin, 38.68 316 ⇑P P 16 33 02.0 0.0
baz=39,SNR=5.0
T31A Randall Ranch, 38.77 325 ⇓P P 16 33 02.5 0.0
baz=39,SNR=18
S32A Newby Ranch, P 38.78 326 ⇓P P 16 33 02.5 -0.1
baz=39,SNR=8.0
Y27A Causey 38.83 318 ⇑P P 16 33 03.5 +0.3
baz=39,SNR=21
225A Deer Hill, Car 38.95 315 ⇑P P 16 33 04.7 +0.5
baz=39,SNR=17
Z26A Caprock 39.02 317 ⇓P P 16 33 05.2 +0.5
baz=39,SNR=30
S31A Mullinville 39.03 326 ⇓P P 16 33 04.7 0.0
baz=39
V29A Stinnett 39.03 322 ⇑P P 16 33 05.7 +0.9
baz=39,SNR=24
324A Moseley Ranch, 39.06 313 ⇓P P 16 33 05.8 +0.7
baz=39,SNR=40
W28A Vega 39.06 321 ⇓P P 16 33 05.4 +0.3
baz=39
JFWS Jewell Farm 39.08 340 eP P 16 33 05.1 +0.1
JFWS pmax pmax
comp=Z,253nm,0.6s
JFWS Jewell Farm 39.08 340 eP P 16 33 05.1 +0.1
comp=Z,253nm,0.6s
MNTX Cornudas Mount 39.12 314 eP P 16 33 05.8 +0.3
comp=Z,26nm,0.9s
125A Gardner Draw, 39.13 315 ⇑P P 16 33 06.2 +0.5
baz=39,SNR=40
T30A Plains 39.23 324 ⇓P P 16 33 07.0 +0.7
baz=39
X27A F and S Farms, 39.25 319 ⇑P P 16 33 07.3 +0.6
baz=39,SNR=8.7
U29A Oasis Ranch, S 39.26 323 ⇓P P 16 33 08.0 +1.3
baz=39
Y26A Elida 39.29 318 ⇑P P 16 33 07.3 +0.3
baz=39,SNR=13
SCIA State Center 39.33 336 eP P 16 33 07.4 +0.4
comp=Z,132nm,0.6s
V28A Channing 39.39 321 ⇓P P 16 33 08.8 +1.1
baz=40
P33A Williams Farm, 39.40 329 ⇓P P 16 33 08.5 +0.8
baz=40
W27A Bowe Ranch, En 39.48 320 ⇑P P 16 33 09.2 +0.7
baz=40,SNR=40
Z25A Roswell 39.53 316 ⇓P P 16 33 09.9 +1.0
baz=40,SNR=33
R31A Burdett 39.53 326 ⇓P P 16 33 08.7 -0.1
baz=40,SNR=12
S30A Montezuma 39.60 325 ⇑P P 16 33 10.1 +0.7
baz=40
X26A CR and CF Fran 39.66 318 ⇑P P 16 33 10.6 +0.6
baz=40,SNR=16
124A Stringfield Ra 39.72 315 ⇓P P 16 33 12.0 +1.3
baz=40,SNR=19
T29A Hugoton 39.75 324 ⇑P P 16 33 11.5 +0.9
baz=40,SNR=5.4
V27A Dan Oppiter Fa 39.77 321 ⇑P P 16 33 11.8 +0.8
baz=40,SNR=7.4
U28A Mallet 39.79 322 ⇓P P 16 33 11.6 +0.5
baz=40
Y25A Mesa, Roswell 39.88 317 ⇓P P 16 33 13.1 +1.3
baz=40,SNR=24
R30A Dighton 39.94 326 ⇑P P 16 33 12.6 +0.4
baz=40,SNR=10
W26A Owens Ranch, T 39.95 319 ⇑P P 16 33 13.3 +0.9
baz=40,SNR=18
S29A Ulysses 39.96 324 ⇓P P 16 33 13.3 +0.9
baz=40,SNR=7.1
Q31A Ellis 39.97 327 ⇓P P 16 33 12.3 -0.2
baz=40,SNR=5.9
Z24A Sheeppen Canyo 40.00 316 ⇓P P 16 33 14.0 +1.0
baz=40,SNR=19
U27A Thompson Grove 40.19 321 ⇑P P 16 33 15.1 +0.7
baz=40,SNR=13
X25A Clemmons Ranch 40.21 318 ⇓P P 16 33 15.6 +1.0
baz=40,SNR=6.5
T28A Walsh 40.21 323 ⇓P P 16 33 14.8 +0.3
baz=40,SNR=19
P31A Stockton 40.34 328 ⇓P P 16 33 15.7 +0.2
baz=40
Y24A Capitan 40.39 316 ⇓P P 16 33 17.2 +1.0
baz=40,SNR=56
S28A Manter 40.40 324 ⇑P P 16 33 17.0 +1.0
baz=40,SNR=15
Q30A Quinter 40.40 327 ⇓P P 16 33 16.1 +0.1
baz=40,SNR=7.5
V26A Tequesquite Ra 40.40 320 ⇑P P 16 33 17.1 +1.0
baz=40,SNR=15
W25A X Bar L Ranch, 40.48 319 ⇓P P 16 33 17.9 +1.1
baz=41,SNR=35
R29A Marienthal 40.52 325 ⇓P P 16 33 17.7 +0.7
baz=41
T27A Campo 40.54 322 ⇑P P 16 33 17.7 +0.5
baz=41,SNR=24
Z23A Rita Site, Whi 40.57 315 ⇓P P 16 33 18.6 +1.1
baz=41,SNR=15
N32A Stulken Farm, 40.71 330 ⇓P P 16 33 18.8 +0.3
baz=41
U26A Atchley Ranch, 40.75 321 ⇑P P 16 33 20.0 +1.0
baz=41,SNR=12
X24A Lazy VL Ranch, 40.75 317 ⇓P P 16 33 20.2 +1.1
baz=41,SNR=7.7
Q29A Oakley 40.76 326 ⇓P P 16 33 19.3 +0.3
baz=41,SNR=9.2
Y23A Lovelace Mesa, 40.81 316 ⇑P P 16 33 20.8 +1.1
baz=41,SNR=24
P30A Selden 40.82 327 ⇓P P 16 33 19.6 +0.2
baz=41
R28A Tribune 40.85 325 ⇑P P 16 33 20.5 +0.7
baz=41,SNR=23
V25A Rancho No Teng 40.96 319 ⇑P P 16 33 22.0 +1.2
baz=41,SNR=29
S27A Las Animas 41.05 323 ⇓P P 16 33 21.8 +0.4
baz=41,SNR=12
Z22A Elephant Butte 41.08 314 ⇑P P 16 33 22.9 +1.1
baz=41,SNR=13
W24A Lazy 6 Ranch, 41.10 318 ⇑P P 16 33 22.8 +0.8
baz=41,SNR=11
BGNE Belgrade 41.13 331 ⇓P P 16 33 22.3 +0.5
baz=41,SNR=7.4
T26A Comanche Natio 41.15 322 ⇑P P 16 33 23.3 +1.0
baz=41,SNR=33
U25A Circle Dot Ran 41.17 320 ⇑P P 16 33 23.3 +0.8
baz=41,SNR=17
O30A MW Ranch, Wils 41.17 328 ⇓P P 16 33 23.0 +0.7
baz=41
P29A Atwood 41.23 327 ⇓P P 16 33 23.3 +0.5
baz=41
320A Kipp Ranch, An 41.25 311 ⇓P P 16 33 24.8 +1.6
baz=41,SNR=14
121A Cookes Peak, D 41.30 313 ⇓P P 16 33 25.0 +1.4
baz=41,SNR=16
V24A Rampart Ranch, 41.32 319 ⇓P P 16 33 24.9 +1.1
baz=41,SNR=46
BNM Barren Site 41.33 316 eP P 16 33 24.4 +0.5
comp=Z,7.8nm,0.9s
Q28A Sharon Springs 41.35 325 ⇑P P 16 33 24.9 +1.0
baz=42
S26A Kim 41.36 322 ⇓P P 16 33 25.3 +1.4
baz=42,SNR=34
R27A Eads 41.39 324 ⇓P P 16 33 24.7 +0.6
baz=42,SNR=70
LPM Los Pinos Moun 41.42 316 eP P 16 33 25.3 +0.7
comp=Z,3.9nm,0.6s
Y22A Socorro 41.45 315 ⇓P P 16 33 25.1 +0.3
baz=42
M31A Lambtecht Ranc 41.48 330 ⇓P P 16 33 24.8 0.0
baz=42,SNR=6.7
220A Playas Peak, P 41.53 312 ⇑P P 16 33 26.7 +1.3
baz=42,SNR=31
O29A 4D Ranch, Culb 41.53 327 ⇓P P 16 33 25.6 +0.4
baz=42
W23A Werner Place, 41.57 317 ⇓P P 16 33 26.9 +1.0
baz=42,SNR=11
LENM Lemitar 41.58 316 eP P 16 33 26.2 +0.3
comp=Z,21nm,1.2s
COWI Conover 41.59 343 eP P 16 33 25.2 -0.3
comp=Z,172nm,1.0s
Z21A St. Cloud Mine 41.61 314 ⇓P P 16 33 27.5 +1.3
baz=42
T25A Trinidad 41.63 321 ⇓P P 16 33 27.7 +1.4
baz=42
N30A Hueftle Ranch, 41.65 329 ⇓P P 16 33 26.1 0.0
baz=42,SNR=7.1
ANMO Albuquerque 41.66 317 eP P 16 33 27.3 +0.8
comp=Z,28nm,1.3s
ANMO pP pP 16 34 01.6 -0.1
ANMO sP sP 16 34 18.8 -1.2
ANMO Albuquerque 41.66 317 P P 16 33 27.4 +0.8
comp=Z,6.7nm,0.7s,baz=133,slow=7.7,SNR=9.7
ANMO pP pP 16 34 01.6 -0.1
comp=Z,5.3nm,0.9s,baz=124,slow=13,SNR=2.6
ANMO sP sP 16 34 18.8 -1.2
comp=Z,6.9nm,0.7s,baz=148,slow=11,SNR=3.4

P28A	Saint Francis baz=42,SNR=10	41.66	326	⇑P		P	16 33 26.7	+0.3
KSCO	Kaye Shedlock' baz=42	41.77	325	⇓P		P	16 33 28.5	+1.2
R26A	Arlington baz=42,SNR=48	41.78	323	⇑P		P	16 33 28.0	+0.7
X22A	Bernardo baz=42,SNR=17	41.79	316	⇓P		P	16 33 29.1	+1.5
LAZ	Ladron comp=Z,23nm,0.8s	41.82	316	eP		P	16 33 29.0	+1.1
120A	U Bar Ranch, L baz=42,SNR=26	41.92	312	⇑P		P	16 33 30.1	+1.5
V23A	Ortiz Mt. (NFS baz=42,SNR=15	41.93	318	⇓P		P	16 33 30.4	+1.7
S25A	Robets Cordova baz=42,SNR=58	41.97	322	⇑P		P	16 33 30.4	+1.4
Y21A	Point of Rocks baz=42,SNR=9.0	41.98	315	⇑P		P	16 33 31.0	+1.8
SPMN	St. Paul baz=42	42.00	339	⇑P		P	16 33 29.2	+0.4
L31A	Butterfield Fa baz=42,SNR=7.5	42.05	331	⇓P		P	16 33 29.3	-0.1
O28A	Krutsinger Ran baz=42,SNR=11	42.06	326	⇓P		P	16 33 30.0	+0.5
Z20A	Nine Sixteen R baz=42	42.17	313	⇑P		P	16 33 32.6	+1.9
R25A	Fountain Ranch baz=42,SNR=46	42.19	322	⇑P		P	16 33 31.9	+1.2
T24B	San Luis baz=42	42.19	320	⇑P		P	16 33 32.7	+1.8
Q26A	Hugo baz=42,SNR=18	42.23	324	⇑P		P	16 33 32.2	+1.1
ECSD	EROS Data Cent comp=Z,85nm,1.0s	42.25	334	eP		P	16 33 29.3	-1.6
U23A	El Rito baz=42,SNR=6.5	42.28	319	⇑P		P	16 33 33.2	+1.7
X21A	Alamocita Cree baz=42,SNR=30	42.30	315	⇑P		P	16 33 33.3	+1.5
M29A	Burnside Ranch baz=43	42.42	329	⇑P		P	16 33 33.0	+0.6
Y20A	Horse Springs, baz=42,SNR=28	42.43	314	⇑P		P	16 33 34.4	+1.6
S24A	Houchin Ranch, baz=43,SNR=21	42.44	321	⇑P		P	16 33 34.5	+1.6
O27A	Beecher Island baz=43,SNR=7.9	42.49	326	⇑P		P	16 33 33.6	+0.5
V22A	San Miguel Ran baz=43,SNR=14	42.51	318	⇓P		P	16 33 35.0	+1.5
P26A	Davis Ranch, A baz=43,SNR=17	42.56	325	⇑P		P	16 33 34.4	+0.8
T23A	Casias Ranch, baz=43,SNR=9.0	42.59	320	⇑P		P	16 33 35.7	+1.6
Q25A	Bedland, Calha baz=43	42.66	323	⇑P		P	16 33 35.8	+1.3
SDCO	Great Sand Dun comp=Z,39nm,0.9s	42.69	321	eP		P	16 33 35.7	+0.9
U22A	Llaves baz=43,SNR=13	42.74	318	⇑P		P	16 33 36.5	+1.2
R24A	Sanders Place, baz=43,SNR=26	42.74	322	⇑P		P	16 33 36.5	+1.2
L29A	Maesberg Ranch baz=43	42.77	330	⇓P		P	16 33 35.6	+0.3
OGNE	Ogallala comp=Z,34nm,0.7s	42.77	327	eP		P	16 33 34.1	-1.2
OGNE	Ogallala baz=43,SNR=6.3	42.77	327	⇑P		P	16 33 35.7	+0.4
K30A	Basset baz=43,SNR=23	42.80	331	⇑P		P	16 33 35.6	+0.2
X20A	Quemado baz=43,SNR=14	42.84	315	⇑P		P	16 33 38.1	+1.9
V21A	Milan baz=43,SNR=11	42.94	317	⇓P		P	16 33 38.1	+1.3
N27A	Anderson Farm, baz=43,SNR=16	42.95	327	⇓P		P	16 33 37.1	+0.3
O26A	Horse Wrangler baz=43,SNR=22	42.99	325	⇓P		P	16 33 37.9	+0.7
P25A	Willow Gulch B baz=43,SNR=18	43.00	324	⇓P		P	16 33 38.1	+0.9
T22A	Edith baz=43,SNR=16	43.14	319	⇑P		P	16 33 39.6	+1.1
W20A	Ramah baz=43	43.16	316	⇓P		P	16 33 40.2	+1.6
R23A	Moffat baz=43,SNR=28	43.16	321	⇓P		P	16 33 40.2	+1.5
Q24A	Divide baz=43,SNR=14	43.23	323	⇑P		P	16 33 40.1	+0.9
J30A	Dallas baz=43,SNR=5.3	43.23	332	⇑P		P	16 33 38.6	-0.3
L28A	Connealy Angus baz=43	43.26	329	⇓P		P	16 33 39.3	+0.1
U21A	Nageezi baz=43,SNR=9.8	43.30	318	⇓P		P	16 33 41.2	+1.4
N26A	Koester Ranch, baz=44	43.34	326	⇑P		P	16 33 41.2	+1.3
M27A	Reverse DX Ran baz=44	43.37	327	⇓P		P	16 33 41.0	+0.8
TUC	Tucson	43.40	311	eP		P	16 33 40.9	+0.4
TUC	comp=Z,15nm,0.8s			pmax		pmax		
TUC	Tucson comp=Z,15nm,0.8s	43.40	311	eP		P	16 33 40.9	+0.4
V20A	Brimhall baz=44,SNR=6.9	43.50	317	⇑P		P	16 33 42.6	+1.3
S22A	4UR Ranch, Cre baz=44,SNR=48	43.52	320	⇓P		P	16 33 43.0	+1.4
Q23A	Hartsel baz=44,SNR=7.7	43.61	322	⇓P		P	16 33 43.4	+1.1
I30A	Oacoma baz=44,SNR=11	43.65	332	⇓P		P	16 33 42.0	-0.3
J29A	Okreek baz=44,SNR=24	43.69	331	⇑P		P	16 33 42.4	-0.2
L27A	T5 Ranch, Ells baz=44,SNR=9.4	43.73	328	⇑P		P	16 33 43.1	+0.1
R22A	Saguache, Gunn baz=44,SNR=8.5	43.77	321	⇑P		P	16 33 44.9	+1.3
BRSD	Miller baz=44,SNR=28	43.84	333	⇑P		P	16 33 43.8	0.0
U20A	Newcomb baz=44	43.85	317	⇑P		P	16 33 44.9	+0.8
X18A	Snowflake baz=44,SNR=5.4	43.87	314	⇓P		P	16 33 45.7	+1.4
P23A	Jefferson baz=44,SNR=19	43.90	323	⇑P		P	16 33 45.9	+1.2
O24A	Longmont baz=44	43.93	324	⇓P		P	16 33 45.6	+1.0
W18A	Petrified Fore baz=44,SNR=6.0	44.01	315	⇑P		P	16 33 46.8	+1.3
ISCO	Idaho Springs	44.04	323	eP		P	16 33 46.6	+0.9
ISCO	comp=Z,60nm,1.0s			pmax		pmax		
ISCO	Idaho Springs comp=Z,60nm,1.0s	44.04	323	eP		P	16 33 46.6	+0.9
ISCO	Idaho Springs baz=44,SNR=49	44.04	323	⇓P		P	16 33 46.9	+1.2
S21A	Coal Bank Pass baz=44,SNR=44	44.09	319	⇑P		P	16 33 47.2	+1.0
L26A	Underwood Farm baz=44	44.10	327	⇓P		P	16 33 46.2	+0.3
K27A	Flueckinger Fa baz=44	44.13	329	⇓P		P	16 33 46.1	0.0
I29A	Vivian Onida baz=44,SNR=16	44.14	332	⇓P		P	16 33 45.7	-0.4
J28A	Allard Ranch, baz=44,SNR=32	44.15	330	⇑P		P	16 33 46.2	0.0
M25A	Palm-Egli Farm baz=44	44.22	326	⇑P		P	16 33 47.4	+0.5
Q22A	Crested Butte, baz=44,SNR=31	44.24	321	⇑P		P	16 33 48.4	+1.1
N24A	Carr baz=44,SNR=5.9	44.28	325	⇓P		P	16 33 48.6	+1.1
MVCO	Mesa Verde comp=Z,48nm,1.3s	44.30	318	eP		P	16 33 48.7	+0.9
MVCO	Mesa Verde baz=44	44.30	318	⇓P		P	16 33 48.9	+1.1
J27A	Elkhorn Farm, baz=44,SNR=14	44.41	330	⇑P		P	16 33 48.4	+0.1
O23A	Lake Granby, G baz=45,SNR=13	44.48	323	⇓P		P	16 33 50.5	+1.3
I28A	Midland baz=45,SNR=12	44.54	331	⇑P		P	16 33 49.0	-0.3
S20A	Disappointment baz=45,SNR=71	44.56	319	⇑P		P	16 33 51.1	+1.3
H29A	Onida baz=45,SNR=11	44.56	332	⇑P		P	16 33 49.0	-0.4
P22A	Eagle baz=45,SNR=12	44.60	322	⇑P		P	16 33 51.3	+1.2
K26A	Motz Farm, Whi baz=45,SNR=11	44.62	328	⇓P		P	16 33 50.4	+0.4
Q21A	Lamborn Mesa, baz=45	44.64	321	⇑P		P	16 33 51.9	+1.5
L25A	Engebretsen Ra baz=45,SNR=5.5	44.66	327	⇓P		P	16 33 51.6	+1.3
M24A	Cheyenne baz=45,SNR=6.7	44.67	326	⇓P		P	16 33 51.3	+0.8
R20A	Redvale baz=45,SNR=20	44.78	320	⇓P		P	16 33 53.0	+1.5
214A	Organ Pipe Nat baz=45,SNR=7.0	44.79	309	⇑P		P	16 33 52.2	+0.7
O22A	Kremmling baz=45,SNR=46	44.82	323	⇓P		P	16 33 52.8	+0.9
G29A	Hoven baz=45,SNR=18	44.86	333	⇑P		P	16 33 51.9	+0.1
PV01	Paradox Valley comp=Z,4μm,0.9s	44.87	319	eP		P	16 33 53.3	+1.1
X16A	Lo Mia Camp, P baz=45,SNR=16	44.88	313	⇑P		P	16 33 53.4	+1.1
K25A	Mack Ranch, Ha baz=45,SNR=10	44.92	327	⇓P		P	16 33 53.2	+0.8
N23A	Red Feather La baz=45,SNR=44	44.93	324	⇑P		P	16 33 54.1	+1.4
F30A	Leola baz=45,SNR=10	44.96	334	⇓P		P	16 33 52.7	+0.1
H28A	Mission Ridge baz=45,SNR=15	44.97	332	⇓P		P	16 33 52.8	+0.1
J26A	Sides Ranch, S baz=45,SNR=16	44.99	329	⇓P		P	16 33 53.4	+0.4
I27A	Quinn baz=45,SNR=24	45.02	330	⇑P		P	16 33 52.9	-0.3
Q20A	Ridgley Place, baz=45,SNR=41	45.17	320	⇓P		P	16 33 55.9	+1.4
N22A	Wattenberg Ran baz=45,SNR=11	45.17	324	⇑P		P	16 33 56.3	+1.7
M23A	Laramie baz=45,SNR=12	45.17	325	⇑P		P	16 33 55.4	+0.8
G28A	Parade baz=45,SNR=25	45.23	332	⇑P		P	16 33 54.9	+0.2
F29A	Eureka baz=46,SNR=12	45.31	334	⇓P		P	16 33 55.3	-0.1
WUAZ	Wupatki comp=Z,73nm,0.9s	45.37	315	eP		P	16 33 57.2	+1.1
WUAZ	Wupatki baz=46,SNR=9.7	45.37	315	⇑P		P	16 33 57.2	+1.1
I26A	New Underwood baz=46,SNR=13	45.40	330	⇓P		P	16 33 55.9	-0.2
O21A	Pagoda baz=46,SNR=11	45.41	322	⇑P		P	16 33 57.8	+1.3
J25A	Sunshine Ranch baz=46,SNR=13	45.42	328	⇓P		P	16 33 56.9	+0.5
E30A	Jud baz=46	45.44	335	⇓P		P	16 33 56.5	+0.2
H27A	Howes baz=45,SNR=22	45.45	331	⇑P		P	16 33 56.1	-0.4
Z14A	Wintersburg baz=46,SNR=6.2	45.50	311	⇑P		P	16 33 57.9	+0.9
P20A	De Beque baz=46,SNR=7.1	45.55	321	⇓P		P	16 33 58.6	+1.1
L23A	Garrett baz=46,SNR=23	45.59	326	⇓P		P	16 33 58.4	+0.6
M22A	Cedar Creek Ra baz=46,SNR=7.8	45.63	324	⇑P		P	16 33 59.4	+1.1
AGMN	Agassiz Nation comp=Z,83nm,0.6s	45.72	339	eP		P	16 33 58.7	+0.3
F28A	McLaughlin baz=46,SNR=6.6	45.76	333	⇑P		P	16 33 59.1	+0.2
H26A	Fairpoint baz=46,SNR=9.2	45.78	330	⇓P		P	16 33 59.0	0.0
Y14A	Wickenburg baz=46,SNR=17	45.80	312	⇓P		P	16 34 00.1	+0.7
E29A	Napoleon baz=46,SNR=7.8	45.80	334	⇓P		P	16 33 59.5	+0.3
I25A	Rochford baz=46,SNR=30	45.83	329	⇑P		P	16 34 00.3	+0.6
O20A	White River Ci baz=46,SNR=7.9	45.83	322	⇑P		P	16 34 00.6	+0.8
D30A	Buchanan baz=46,SNR=21	45.86	336	⇑P		P	16 33 59.8	+0.2
113A	Mohawk Valley, baz=46,SNR=6.1	45.86	310	⇓P		P	16 34 00.4	+0.6
G27A	Dupree baz=45,SNR=39	45.93	332	⇑P		P	16 34 00.5	+0.3
L22A	Ellis Ranch, M baz=46,SNR=12	45.95	325	⇓P		P	16 34 01.6	+1.0
K23A	Bowen Ranch, D baz=46,SNR=15	45.97	326	⇓P		P	16 34 01.5	+0.8
P19A	Cripple Cowboy baz=46,SNR=9.3	45.99	321	⇓P		P	16 34 02.1	+1.0
RSSD	Black Hills	46.06	329	eP		P	16 34 01.5	0.0
RSSD	comp=Z,125nm,0.9s			pmax		pmax		
RSSD	Black Hills comp=Z,124nm,0.9s	46.06	329	eP		P	16 34 01.4	0.0
D29A	Pettibone, Tap baz=46	46.17	335	⇑P		P	16 34 02.2	+0.2
I24A	Kuemmerle Ranc baz=46,SNR=12	46.18	328	⇑P		P	16 34 02.9	+0.6
G26A	Maurine baz=46,SNR=13	46.18	331	⇓P		P	16 34 02.0	-0.2
C30A	Mose, Pekin baz=46,SNR=34	46.22	336	⇓P		P	16 34 02.7	+0.3
N20A	Spence Gulch, baz=46,SNR=19	46.27	323	⇑P		P	16 34 03.7	+0.6
E28A	Huff baz=46,SNR=9.9	46.27	334	⇓P		P	16 34 03.1	+0.3
F27A	Lemmon baz=46,SNR=27	46.34	332	⇑P		P	16 34 04.2	+0.8
J23A	Dilts Ranch, B baz=46	46.36	327	⇓P		P	16 34 04.8	+1.0
K22A	Casper baz=46,SNR=14	46.40	326	⇑P		P	16 34 04.7	+0.7
U15A	North Rim baz=47,SNR=15	46.47	315	⇑P		P	16 34 05.7	+0.8
O19A	Miners Draw (B baz=47,SNR=13	46.47	321	⇑P		P	16 34 05.4	+0.7
G25A	Newell baz=47,SNR=18	46.51	330	⇓P		P	16 34 04.8	0.0
E27A	Carson baz=47,SNR=21	46.55	333	⇑P		P	16 34 06.0	+1.0
F26A	Lodgepole baz=47,SNR=15	46.63	332	⇓P		P	16 34 06.0	+0.3
SRU	San Rafael	46.68	319	eP		P	16 34 06.9	+0.5
SRU	comp=Z,52nm,1.0s			pmax		pmax		
SRU	San Rafael comp=Z,52nm,1.0s	46.68	319	eP		P	16 34 06.9	+0.5
D28A	Regan baz=47,SNR=6.3	46.69	334	⇓P		P	16 34 06.4	+0.3
I23A	Meade Ranch, G baz=47	46.69	328	⇑P		P	16 34 06.7	+0.4
H24A	Dirks Ranch, A baz=47,SNR=6.8	46.76	329	⇑P		P	16 34 06.7	-0.1
B30A	Myrvik Farm, E baz=47,SNR=7.1	46.77	337	⇑P		P	16 34 06.9	+0.3
GLA	Glamis	46.79	310	eP		P	16 34 08.2	+1.0
GLA	comp=Z,38nm,1.1s			pmax		pmax		
GLA	Glamis comp=Z,38nm,1.1s	46.79	310	eP		P	16 34 08.2	+1.0
GLA	Glamis baz=47,SNR=6.7	46.79	310	⇑P		P	16 34 07.9	+0.7
K21A	Alcova baz=47,SNR=52	46.80	325	⇑P		P	16 34 08.1	+0.8
PDMCI	Parker Dam,Lak baz=47	46.81	312	⇓P		P	16 34 08.4	+1.2
J22A	Midwest baz=47,SNR=56	46.87	327	⇑P		P	16 34 08.1	+0.3
W13A	Hualapai Mount baz=47,SNR=7.3	46.98	313	⇑P		P	16 34 09.6	+0.8
E26A	Carlson Angus baz=47,SNR=34	46.99	332	⇑P		P	16 34 08.8	+0.3
Q16A	Castle Valley baz=47	47.00	319	⇑P		P	16 34 09.2	+0.3
C28A	Hausauer Farms baz=47,SNR=5.3	47.02	335	⇓P		P	16 34 09.1	+0.4
D27A	Center baz=47,SNR=18	47.04	333	⇑P		P	16 34 09.2	+0.4
F25A	Bowman baz=47,SNR=5.8	47.06	331	⇑P		P	16 34 09.3	+0.2
H23A	Clabaugh Cattl baz=47	47.07	328	⇑P		P	16 34 10.0	+0.8
A30A	Hoffart Farm, baz=47,SNR=5.7	47.16	337	⇑P		P	16 34 09.6	-0.1
B29A	Wagenman Farm, baz=47,SNR=34	47.19	336	⇓P		P	16 34 10.4	+0.5
I22A	9 Mile Ranch, baz=47,SNR=24	47.19	327	⇓P		P	16 34 10.7	+0.5
TMUT	Trail Mountain	47.23	319	eP		P	16 34 11.2	+0.4
J21A	Lysite baz=48,SNR=12	47.36	326	⇓P		P	16 34 12.2	+0.6
ULM	Lac du Bonnet comp=Z,120nm,0.7s	47.37	340	eP		P	16 34 11.0	-0.3
ULM				S		S	16 40 49.4	-3.5
ULM	Lac du Bonnet comp=Z,120nm,0.6s,baz=147,slow=7.6,SNR=100	47.37	340	P		P	16 34 11.2	-0.1
ULM				S		S	16 40 49.4	-3.5
ULM	comp=Z,4.1nm,0.8s,baz=116,slow=23,SNR=3.2			LR		LR	16 55 04.7	
D26A	Manning baz=48,SNR=25	47.39	333	⇑P		P	16 34 12.3	+0.7
E25A	Miller Ranch, baz=48,SNR=25	47.45	332	⇓P		P	16 34 12.6	+0.5
MVU	Marysvale comp=Z,57nm,0.9s	47.47	318	eP		P	16 34 13.7	+1.2
F24A	Ekalaka baz=48	47.48	330	⇑P		P	16 34 12.8	+0.4
SWSC	Sam W. Stewart baz=48	47.49	309	⇓P		P	16 34 13.6	+1.2
C27A	Sayler Ranch, baz=48,SNR=26	47.50	334	⇓P		P	16 34 13.3	+1.0
IRM	Iron Mountain baz=48,SNR=8.7	47.50	311	⇓P		P	16 34 13.1	+0.5
A29A	Manning Farm, baz=48,SNR=19	47.50	337	⇑P		P	16 34 12.9	+0.5
G23A	Biddle baz=48,SNR=11	47.50	329	⇓P		P	16 34 12.8	+0.3
BC3	Big Chuckawall baz=48	47.52	310	⇑P		P	16 34 13.9	+1.0
I21A	Big Trails, Te baz=48,SNR=49	47.58	326	⇓P		P	16 34 13.8	+0.6
B28A	Dugan Ranch, T baz=48,SNR=24	47.58	335	⇓P		P	16 34 13.9	+1.0
H22A	Clearmont baz=48,SNR=11	47.59	328	⇓P		P	16 34 14.0	+0.8
J20A	Shoshoni baz=48,SNR=12	47.73	325	⇓P		P	16 34 15.2	+0.9
C26A	Wahner Farm, P baz=48,SNR=11	47.84	334	⇓P		P	16 34 15.9	+0.9
DAU	Daniels Canyon	47.87	320	eP		P	16 34 16.7	+1.0
DAU	comp=Z,67nm,0.9s			pmax		pmax		
DAU	Daniels Canyon comp=Z,67nm,0.9s	47.87	320	eP		P	16 34 16.7	+1.0
D25A	Fairfield baz=48	47.89	332	⇓P		P	16 34 16.7	+1.3
MPU	Maple Canyon comp=Z,63nm,1.0s	47.90	320	eP		P	16 34 16.6	+0.8
A28A	Rude Farm, Bot baz=48,SNR=14	47.91	336	⇑P		P	16 34 15.8	+0.3
B27A	Peters Farms, baz=48,SNR=12	47.92	335	⇑P		P	16 34 16.5	+0.9
E24A	Baker baz=48,SNR=9.0	47.92	331	⇑P		P	16 34 15.9	+0.2
ARUT	Antelope Range	47.94	316	eP		P	16 34 17.1	+1.0
ARUT	comp=Z,508nm,0.9s			pmax		pmax		
ARUT	Antelope Range comp=Z,508nm,0.9s	47.94	316	eP		P	16 34 17.1	+1.0
MONP	Monument Peak baz=48	47.95	309	⇑P		P	16 34 16.5	+0.1
G22A	Birney baz=48,SNR=61	47.98	328	⇓P		P	16 34 17.0	+0.8
H21A	Big Horn, Sher baz=48,SNR=14	47.98	327	⇓P		P	16 34 16.6	+0.4
JLU	Jordanelle comp=Z,27nm,0.9s	48.10	320	eP		P	16 34 18.2	+0.8
I20A	Worland baz=48,SNR=27	48.13	326	⇑P		P	16 34 18.2	+0.8
GMRC	Granite Mounta baz=48	48.15	311	⇑P		P	16 34 17.9	+0.2
SCHQ	Schefferville comp=Z,218nm,0.7s	48.15	5	eP		P	16 34 18.0	+0.8
SCHQ				ScP		ScP	16 39 22.4	+0.8
SCHQ	Schefferville comp=Z,212nm,0.7s,baz=190,slow=6.4,SNR=157	48.15	5	P		P	16 34 18.4	+1.1
SCHQ				ScP		ScP	16 39 22.4	+0.8
BW06	comp=Z,24nm,0.8s,baz=195,slow=4.3,SNR=8.5 Boulder Array	48.21	324	eP		P	16 34 18.1	-0.1
PDAR	comp=Z,44nm,1.0s Pinedale Array	48.21	324	P		P	16 34 18.5	+0.3
PDAR				ScP		ScP	16 39 23.1	+0.7
PDAR	Pinedale Array comp=Z,47nm,1.1s,baz=129,slow=8.1,SNR=114	48.21	324	P		P	16 34 18.5	+0.3
PDAR				ScP		ScP	16 39 23.1	+0.7
PDAR	comp=Z,2.9nm,0.8s,baz=116,slow=5.8,SNR=5.5			LR		LR	16 57 09.4	
J19A	comp=Z,127nm,20.3s,baz=242,slow=39 Crowheart	48.22	325	⇓P		P	16 34 18.9	+0.7
PFO	baz=48,SNR=17 Pinyon Flat Ob	48.26	310	⇓P		P	16 34 19.5	+0.9
C25A	baz=48 Freed Ranch, W	48.27	333	⇑P		P	16 34 19.4	+1.1
B26A	baz=48,SNR=6.6 Jensen Ranch,	48.32	334	⇓P		P	16 34 20.3	+1.6
D24A	baz=48 Glendive	48.33	332	⇓P		P	16 34 19.9	+1.1
A27A	baz=48,SNR=46 Ledoux Ranch,	48.34	335	⇑P		P	16 34 19.7	+0.9
F22A	baz=48,SNR=28 Rosebud	48.34	329	⇓P		P	16 34 19.6	+0.6
E23A	baz=48,SNR=30 Ismay	48.37	330	⇑P		P	16 34 19.3	+0.2
H20A	baz=48,SNR=7.3 Greybull	48.41	327	⇓P		P	16 34 19.6	+0.1
G21A	baz=48,SNR=33 Lodge Grass	48.46	328	⇓P		P	16 34 20.6	+0.7
SHPR	baz=49,SNR=38 Sheep Range	48.54	314	eP		P	16 34 21.7	+1.0
TUQ	comp=Z,21nm,1.2s Turquoise Moun	48.62	312	⇓P		P	16 34 22.0	+0.7
E22A	baz=49,SNR=7.0 Miles City	48.64	330	⇓P		P	16 34 21.6	+0.4
B25A	baz=49,SNR=12 Knox Farm, Ray	48.65	333	⇓P		P	16 34 22.6	+1.5
I19A	baz=49,SNR=59 Meeteetse	48.67	326	⇑P		P	16 34 22.2	+0.6
C24A	baz=49,SNR=17 Savage	48.68	332	⇓P		P	16 34 22.8	+1.4
DUG	baz=49,SNR=8.3 Dugway	48.75	319	eP		P	16 34 23.2	+0.9
DUG	comp=Z,24nm,0.8s			pmax		pmax		
DUG	Dugway comp=Z,24nm,0.8s	48.75	319	eP		P	16 34 23.2	+0.9
DUG	Dugway baz=49,SNR=16	48.75	319	⇑P		P	16 34 23.8	+1.5
D23A	Lindsay baz=49,SNR=13	48.79	331	⇑P		P	16 34 23.7	+1.3
F21A	Absaloka Mine, baz=49,SNR=7.0	48.82	329	⇓P		P	16 34 23.2	+0.6
G20A	Bridger baz=49,SNR=76	49.00	327	⇑P		P	16 34 24.4	+0.4
H19A	Powell baz=49	49.06	326	⇓P		P	16 34 25.6	+1.1
AHID	Auburn Hatcher comp=Z,24nm,0.7s	49.12	323	eP		P	16 34 25.3	+0.2
A25A	Svangstu Ranch baz=49,SNR=22	49.13	334	⇓P		P	16 34 25.9	+1.1
GSC	Goldstone	49.22	312	eP		P	16 34 26.8	+1.0
GSC	comp=Z,21nm,0.8s			pmax		pmax		
GSC	Goldstone comp=Z,20nm,0.8s	49.22	312	eP		P	16 34 26.8	+1.0
GSC	Goldstone baz=49,SNR=8.9	49.22	312	⇓P		P	16 34 26.1	+0.2
C23A	Lambert baz=49,SNR=24	49.23	332	⇓P		P	16 34 26.8	+1.1
D22A	Cohagen baz=49,SNR=20	49.25	330	⇑P		P	16 34 27.0	+1.2
DGMT	Dagmar comp=Z,258nm,0.6s	49.26	333	eP		P	16 34 26.6	+0.8
DGMT	Dagmar baz=49,SNR=56	49.26	333	⇓P		P	16 34 27.3	+1.4
E21A	Keefer Ranch, baz=49,SNR=11	49.28	329	⇑P		P	16 34 26.8	+0.8
BGU	Big Grassy Mou comp=Z,66nm,0.9s	49.28	320	eP		P	16 34 26.9	+0.6
F20A	Billings baz=50,SNR=42	49.34	328	⇓P		P	16 34 27.2	+0.7
H18A	Shoshone NF, C baz=50,SNR=17	49.44	326	⇓P		P	16 34 27.7	+0.2
I17A	Pilgrim Ck. baz=50	49.50	325	⇑P		P	16 34 29.1	+1.1
RLMT	Red Lodge	49.51	327	eP		P	16 34 28.5	+0.5

comp=Z,12nm,0.5s
A24A Westby 49.51 333 ⇓P P 16 34 29.5 +1.8
baz=50,SNR=52
C22A Vida 49.52 331 ⇑P P 16 34 29.2 +1.4
baz=50,SNR=13
HVU Hansel Valley 49.59 321 *e*P P 16 34 28.6 0.0
HVU pmax pmax
comp=Z,20nm,0.8s
HVU Hansel Valley 49.59 321 *e*P P 16 34 28.6 0.0
comp=Z,20nm,0.8s
D21A La Casta Ranch 49.59 330 ⇓P P 16 34 29.7 +1.3
baz=50,SNR=38
B23A Brockton 49.62 332 ⇓P P 16 34 30.1 +1.5
baz=50,SNR=16
R11A Troy Canyon, C 49.69 316 ⇑P P 16 34 30.5 +1.0
baz=50,SNR=22
H17A Grant Village 49.78 325 ⇓P P 16 34 31.3 +1.1
baz=50
E20A Meyer Farm, Mu 49.80 329 ⇓P P 16 34 31.2 +1.2
baz=50,SNR=48
F19A Roth Farm, Mol 49.80 327 ⇑P P 16 34 30.6 +0.5
baz=50,SNR=8.9
A23A Redstone 49.92 333 ⇓P P 16 34 32.4 +1.6
baz=50,SNR=36
EDW2 Edwards Air Fo 49.93 311 ⇓P P 16 34 31.8 +0.6
baz=50,SNR=5.5
YFT Old Faithful 49.97 325 *e*P P 16 34 33.3 +1.8
comp=Z,24nm,1.0s
B22A Reddig Ranch S 49.97 332 ⇑P P 16 34 32.7 +1.5
baz=50,SNR=18
E19A Rath Farm, Rou 50.11 328 ⇓P P 16 34 33.4 +1.1
baz=50,SNR=12
C21A Desert Coulee 50.17 330 ⇓P P 16 34 33.8 +1.1
baz=50,SNR=6.6
YMR Madison River 50.17 325 *e*P P 16 34 34.4 +1.3
comp=Z,55nm,1.3s
D20A Manuel Ranch, 50.19 329 ⇑P P 16 34 33.9 +1.0
baz=50,SNR=27
A22A Carney Farms, 50.42 332 ⇓P P 16 34 36.4 +1.7
baz=51,SNR=126
QLMT Earthquake Lak 50.53 325 *e*P P 16 34 37.2 +1.5
comp=Z,8.3nm,1.2s
C20A Veseth Ranch, 50.54 330 ⇑P P 16 34 36.4 +0.9
baz=51,SNR=8.9
B21A Ellsworth Farm 50.54 331 ⇑P P 16 34 36.8 +1.2
baz=51,SNR=9.2
ISA Isabella 50.61 311 ⇓P P 16 34 37.3 +1.0
baz=51
D19A Cripps Ranch, 50.62 329 ⇑P P 16 34 37.1 +1.0
baz=51,SNR=42
ELK Elko 50.62 319 *e*P P 16 34 37.0 +0.5
comp=Z,12nm,1.0s
ARVC Arvin 50.66 310 ⇓P P 16 34 37.9 +1.3
baz=51
TPH Tonopah 50.71 315 *e*P P 16 34 37.8 +0.6
TPH pmax pmax
comp=Z,21nm,1.0s
TPH Tonopah 50.71 315 *e*P P 16 34 37.8 +0.6
comp=Z,21nm,1.0s
B20A Solberg Farm, 51.04 331 ⇓P P 16 34 40.8 +1.5
baz=51,SNR=55
C19A Slack Wire Ran 51.08 329 ⇑P P 16 34 40.6 +1.0
baz=51,SNR=30
VES Vestal, Richgr 51.13 311 ⇓P P 16 34 41.4 +1.3
baz=51
BOZ Bozeman (W) 51.14 326 *e*P P 16 34 38.9 -1.2
BOZ pmax pmax
comp=Z,21nm,0.8s
BOZ Bozeman (W) 51.14 326 *e*P P 16 34 38.9 -1.2
comp=Z,21nm,0.8s
A20A Cobblestone Ra 51.29 331 ⇓P P 16 34 42.2 +1.1
baz=51,SNR=23
MCMT McKenzie Canyo 51.35 324 *e*P P 16 34 43.0 +1.1
comp=Z,33nm,1.1s
B19A Brinkman Farms 51.50 330 ⇓P P 16 34 43.5 +0.8
baz=52,SNR=14
NV11 Mina Array Sit 51.53 315 *e*P P 16 34 43.3 +0.1
HLID Hailey 51.57 322 *e*P P 16 34 43.7 +0.2
comp=Z,38nm,1.0s
HLID Hailey 51.57 322 ⇑P P 16 34 44.5 +1.1
baz=52,SNR=41
SMMC Simmler 51.62 310 ⇑P P 16 34 44.7 +1.0
baz=52
EGMT Eagleton 51.63 329 ⇑P P 16 34 45.2 +1.6
baz=52
NVAR Mina Array Bea 51.63 315 P P 16 34 44.8 +0.7
NVAR pP pP 16 35 21.6 +0.9
NVAR ScP ScP 16 39 39.4 +2.1
NVAR Mina Array Bea 51.63 315 P P 16 34 44.8 +0.7
comp=Z,10nm,0.8s,baz=122,slow=7.2,SNR=38
NVAR pP pP 16 35 21.6 +0.9
comp=Z,5.0nm,0.8s,baz=133,slow=8.4,SNR=3.1
NVAR ScP ScP 16 39 39.4 +2.1
comp=Z,2.0nm,0.9s,baz=113,slow=6.9,SNR=4.1
LRM Limekiln Ridge 51.70 325 *e*P P 16 34 45.1 +0.6
comp=Z,293nm,0.9s
A19A Klindworth Far 51.72 331 ⇑P P 16 34 45.4 +1.0
baz=52,SNR=12
BMN Battle Mountai 51.79 317 *e*P P 16 34 44.8 -0.3
BMN pmax pmax
comp=Z,25nm,1.0s
BMN Battle Mountai 51.79 317 *e*P P 16 34 44.8 -0.3
comp=Z,26nm,1.0s
HRY Holter Researc 51.90 327 *e*P P 16 34 46.3 +0.6
comp=Z,62nm,1.0s
WAKR Walker 52.47 314 *e*P P 16 34 50.7 +0.4
comp=Z,8.4nm,0.8s
CHMT Chamberlain Mo 52.80 326 *e*P P 16 34 52.4 -0.1
comp=Z,6.1nm,1.1s
PAHR Pah Rah Range 52.94 316 *e*P P 16 34 54.2 +0.6
comp=Z,12nm,0.7s
SLMT Seeley Lake 53.12 326 *e*P P 16 34 55.1 +0.3
comp=Z,23nm,1.0s
MSO Missoula 53.13 326 ⇓P P 16 34 55.2 +0.4
baz=53,SNR=10
FFC Flin Flon 53.18 339 *i*P P 16 34 55.1 +0.3
FFC Flin Flon 53.18 339 *e*P P 16 34 54.7 -0.1
comp=Z,82nm,0.8s
FFC Flin Flon 53.18 339 P P 16 34 54.6 -0.2
comp=Z,300nm,0.5s,SNR=12
SWMT Swartz Lake 53.56 326 *e*P P 16 34 58.3 +0.4
comp=Z,4.2nm,0.7s
YBMT Yellow Bay 53.77 327 *e*P P 16 35 00.4 +0.9
comp=Z,25nm,0.9s
JTMT Jette 53.85 326 *e*P P 16 35 00.6 +0.5
comp=Z,37nm,1.0s
BLMT Blacktail Moun 54.05 327 *e*P P 16 35 02.4 +0.8
comp=Z,54nm,0.9s
BSMT Bassoo Peak 54.19 326 *e*P P 16 35 03.2 +0.6
comp=Z,37nm,1.1s
FCC Fort Churchill 54.34 347 *e*P P 16 35 03.0 -0.2
FCC pmax pmax
comp=Z,3.0nm,0.9s
FCC Fort Churchill 54.34 347 *e*P P 16 35 03.0 -0.2
comp=Z,2.8nm,0.9s
MOD Modoc 54.53 318 *e*P P 16 35 05.2 +0.1
comp=Z,37nm,0.6s
LBCM Butte Creek Ri 54.78 316 P P 16 35 07.4 +0.4
LNOR Lincton Mounta 55.13 323 P P 16 35 09.9 +0.6
LNOR Lincton Mounta 55.13 323 P P 16 35 09.8 +0.6
NEW Newport 55.72 326 *e*P P 16 35 12.8 -0.5
comp=Z,27nm,1.1s
NEW Newport 55.72 326 ⇑P P 16 35 13.3 -0.1
baz=56,SNR=12
YBH Yreka Blue Hor 56.09 316 *e*P P 16 35 15.2 -0.9
comp=Z,6.9nm,0.5s
KHMM Horse Mountain 56.45 315 *e*P P 16 35 17.9 -1.0
comp=Z,17nm,0.7s
BKCOR Black Crater 56.51 320 P P 16 35 20.8 +1.6
EDM Edmonton 56.73 332 *e*P P 16 35 20.2 -0.3
EDM Edmonton 56.73 332 *e*P P 16 35 20.2 -0.3
ETW Entiat 57.22 324 P P 16 35 24.9 +0.8
NLW Nelson Butte 57.46 324 P P 16 35 26.2 +0.4
WPW White Pass 57.51 322 P P 16 35 27.1 +0.9
KEBM Edson Butte 57.65 317 *e*P P 16 35 28.4 +1.3
HDW Hoodsport 58.86 323 P P 16 35 35.7 +0.2
OSD Olympics--Snow 59.33 323 P P 16 35 40.2 +1.3
SFJD Kangerlussuaq 62.02 10 *i*P P 16 35 56.5 +0.1
comp=Z,21nm,0.8s
SFJD Kangerlussuaq 62.02 10 P P 16 35 56.5 +0.1
SFJD Kangerlussuaq 62.02 10 P P 16 35 56.5 +0.1
comp=Z,20nm,0.6s,baz=187,slow=6.0,SNR=10.0
YKA Yellowknife Ar 63.35 340 P P 16 36 05.6 +0.3
YKA Yellowknife Ar 63.35 340 P P 16 36 05.6 +0.3
comp=Z,71nm,0.6s,baz=133,slow=6.6,SNR=258
YKW3 Yellowknife Ar 63.40 340 *e*P P 16 36 05.7 +0.1
comp=Z,1.7nm,0.8s

ILULI Ilulissat 63.97 8⇑*i*P P 16 36 09.5 +0.3
ILULI pmax pmax
comp=Z,69nm,0.8s
EVOP Sao Brissos 66.15 51 *e*P P 16 36 23.9 0.0
EVOP Sao Brissos 66.15 51 *e*P P 16 36 23.9 0.0
EVO Evora 66.24 51 *e*P P 16 36 23.9 -0.5
TIC Toumodi 67.40 86 *e*P P 16 36 32.0 -0.2
comp=Z,40nm,0.8s
LIC Lamto 67.42 86 *e*P P 16 36 32.4 0.0
comp=Z,106nm,0.6s
DLBC Dease Lake 67.44 331 *e*P P 16 36 32.9 +1.1
DBIC Dimbokro 67.56 86 *e*P P 16 36 33.0 -0.2
comp=Z,40nm,0.8s
DBIC Dimbokro 67.56 86 P P 16 36 33.2 0.0
comp=Z,28nm,0.7s,baz=266,slow=7.2,SNR=43
KIC Kosan Boka 67.69 86 *e*P P 16 36 34.0 -0.1
comp=Z,101nm,0.7s
SUMG Summit 68.98 11⇑*i*P P 16 36 42.4 +0.9
SUMG pmax pmax
comp=Z,200nm,0.7s
SUMG Summit 68.98 11⇑*i*P P 16 36 42.4 +0.9
comp=Z,198nm,0.7s
SUMG Summit 68.98 11 *e*P P 16 36 42.1 +0.6
comp=Z,203nm,0.7s
RES Resolute Bay 69.02 354 P P 16 36 41.5 +0.4
RES Resolute Bay 69.02 354 P P 16 36 41.5 +0.4
comp=Z,12nm,0.8s,baz=180,slow=9.1,SNR=14
ESDC Sonseca Array 69.53 50 P P 16 36 44.0 -1.1
ESDC ⇑*e* 17 04 49.7
ESDC Sonseca Array 69.53 50 P P 16 36 44.0 -1.1
comp=Z,0.3nm,0.3s,baz=251,slow=6.4,SNR=4.6
ESDC PKP2bc 17 04 49.7
comp=Z,0.4nm,0.4s,baz=50,slow=3.0,SNR=4.6
SCO Scoresbysund 71.29 16 *i*P P 16 36 56.0 +0.9
SCO pmax pmax
comp=Z,4.0nm,0.9s
SCO Scoresbysund 71.29 16 *i*P P 16 36 56.0 +0.9
comp=Z,4.3nm,0.9s
HYT Haines Junctio 71.86 332 *e*P P 16 37 00.4 +1.6
SGMF Saint Gilles 71.93 41 *e*P P 16 36 58.9 -0.4
SGMF Saint Gilles 71.93 41 *e*P P 16 36 58.9 -0.4
SGMF Saint Gilles 71.93 41 *e*P P 16 36 58.9 -0.4
SJPF Ste Jean 72.05 47 *e*P P 16 37 00.2 0.0
comp=Z,14nm,0.7s
SJPF Ste Jean 72.05 47 *e*P P 16 37 00.2 0.0
SJPF pmax pmax
comp=Z,14nm,0.7s
SJPF Ste Jean 72.05 47 *e*P P 16 37 00.2 0.0
comp=Z,14nm,0.7s
GRR Gorron 73.07 42 *e*P P 16 37 05.7 -0.4
comp=Z,21nm,0.7s
GRR *e*pP pP 16 37 46.0 +0.9
GRR Gorron 73.07 42 *e*P P 16 37 05.7 -0.4
GRR pmax pmax
comp=Z,21nm,0.7s
GRR Gorron 73.07 42 *e*P P 16 37 05.7 -0.4
comp=Z,21nm,0.7s
GRR *e*pP pP 16 37 46.0 +0.9
INK Inuvik 73.12 340 *e*P P 16 37 06.5 +0.5
comp=Z,37nm,0.8s
EPF Esparros 73.18 47 *e*P P 16 37 06.7 -0.2
EPF Esparros 73.18 47 *e*P P 16 37 06.7 -0.2
EPF Esparros 73.18 47 *e*P P 16 37 06.7 -0.2
MFF Saint Martin d 73.28 43 *e*P P 16 37 07.1 -0.3
comp=Z,14nm,0.6s
MFF *e*pP pP 16 37 47.6 +1.1
MFF Saint Martin d 73.28 43 *e*P P 16 37 07.1 -0.3
MFF pmax pmax
comp=Z,15nm,0.6s
MFF Saint Martin d 73.28 43 *e*P P 16 37 07.1 -0.3
comp=Z,14nm,0.6s
MFF *e*pP pP 16 37 47.6 +1.1
FLN La Foliniere 73.37 41 *e*P P 16 37 07.6 -0.2
comp=Z,32nm,0.6s
FLN *e*pP pP 16 37 48.0 +1.0
FLN La Foliniere 73.37 41 *e*P P 16 37 07.6 -0.2
FLN pmax pmax
comp=Z,33nm,0.6s
FLN La Foliniere 73.37 41 *e*P P 16 37 07.6 -0.2
comp=Z,32nm,0.6s
FLN *e*pP pP 16 37 48.0 +1.0
TOA0 Torodi Ar. Sit 73.57 78 *e*P P 16 37 08.8 -0.9
TORD Torodi Ar. Bea 73.57 78 P P 16 37 08.8 -0.8
TORD pP pP 16 37 48.8 0.0
TORD Torodi Ar. Bea 73.57 78 P P 16 37 08.8 -0.8
comp=Z,2.9nm,0.5s,baz=283,slow=6.2,SNR=47
TORD pP pP 16 37 48.8 0.0
comp=Z,4.1nm,0.6s,baz=287,slow=5.5,SNR=7.1
LDF La Druitiere 73.58 41 *e*P P 16 37 08.7 -0.4
comp=Z,12nm,0.6s
LDF La Druitiere 73.58 41 *e*P P 16 37 08.7 -0.4
LDF pmax pmax
comp=Z,13nm,0.6s
LDF La Druitiere 73.58 41 *e*P P 16 37 08.7 -0.4
comp=Z,12nm,0.6s
DAWY Dawson 73.74 335 *e*P P 16 37 10.1 +0.3
CAF Calviac 74.62 45 *e*P P 16 37 15.4 +0.2
CAF Calviac 74.62 45 *e*P P 16 37 15.4 +0.2
CAF Calviac 74.62 45 *e*P P 16 37 15.4 +0.2
EGAK Eagle 74.69 336 *e*P P 16 37 15.4 +0.3
comp=Z,52nm,1.1s
BMRM Bremner River 75.23 331 *e*P P 16 37 19.7 +1.3
comp=Z,95nm,1.1s
MENT Mentasta 75.29 333 *e*P P 16 37 19.9 +1.2
DOT Dot Lake 75.61 334 *e*P P 16 37 21.4 +0.9
comp=Z,58nm,0.8s
ALE Alert 75.84 1 P P 16 37 21.7 +0.2
comp=Z,238nm,0.7s,SNR=14
PAX Paxson 76.07 333 *e*P P 16 37 23.7 +0.5
PAX pmax pmax
comp=Z,39nm,1.0s
PAX Paxson 76.07 333 *e*P P 16 37 23.7 +0.5
comp=Z,39nm,1.0s
VIVF Saint-Julien-l 76.46 46 *e*P P 16 37 25.8 +0.1
VIVF Saint-Julien-l 76.46 46 *e*P P 16 37 25.8 +0.1
VIVF Saint-Julien-l 76.46 46 *e*P P 16 37 25.8 +0.1
DOU Dourbes 76.82 40 P P 16 37 28.4 +0.8
SFTF Sexfontaines 76.95 42 *e*P P 16 37 27.7 -0.7
comp=Z,20nm,0.6s
SFTF *e*pP pP 16 38 09.4 +1.6
SFTF Sexfontaines 76.95 42 *e*P P 16 37 27.7 -0.7
comp=Z,20nm,0.6s
SFTF *e*pP pP 16 38 09.4 +1.6
GIVF Givet 76.97 40 *e*P P 16 37 28.0 -0.4
comp=Z,23nm,0.8s
GIVF *e*pP pP 16 38 10.6 +2.7
GIVF Givet 76.97 40 *e*P P 16 37 28.0 -0.4
GIVF pmax pmax
comp=Z,23nm,0.8s
GIVF Givet 76.97 40 *e*P P 16 37 28.0 -0.4
comp=Z,23nm,0.8s
GIVF *e*pP pP 16 38 10.6 +2.7
MEZF Maizieres J'vi 76.99 42 *e*P P 16 37 28.0 -0.5
comp=Z,32nm,0.9s
MEZF *e*pP pP 16 38 09.8 +1.8
MEZF Maizieres J'vi 76.99 42 *e*P P 16 37 28.0 -0.5
comp=Z,32nm,0.9s
MEZF *e*pP pP 16 38 09.8 +1.8
ILAR Eielson Array 77.07 335 P P 16 37 29.0 +0.3
ILAR PP PP 16 40 24.5 +0.3
ILAR Eielson Array 77.07 335 P P 16 37 29.0 +0.3
comp=Z,9.9nm,0.7s,baz=109,slow=4.3,SNR=112
ILAR PP PP 16 40 24.5 +0.3
comp=Z,1.8nm,0.9s,baz=108,slow=5.8,SNR=5.6
ILAR LR LR 17 12 41.2
comp=Z,135nm,18.8s,baz=81,slow=36
COLA College 77.49 335 *e*P P 16 37 31.3 +0.4
COLA pmax pmax
comp=Z,55nm,0.9s
COLA College 77.49 335 *e*P P 16 37 31.3 +0.4
comp=Z,54nm,0.9s
PMR Palmer 77.50 332 *e*P P 16 37 31.5 +0.4
PMR pmax pmax
comp=Z,31nm,0.9s
PMR Palmer 77.50 332 *e*P P 16 37 31.5 +0.4
comp=Z,32nm,0.9s
MEM Membach 77.77 40 P P 16 37 34.0 +1.2
comp=Z,6.3nm,1.2s
MEM Membach 77.77 40 P sP 16 38 25.8 -3.7
WLF Walferdange 77.79 41 P P 16 37 34.1 +1.1
comp=Z,12nm,1.4s
WLF Walferdange 77.79 41 *e*P P 16 37 33.3 +0.3
WLF pmax pmax
comp=Z,19nm,0.9s
WLF Walferdange 77.79 41 *e*P P 16 37 33.3 +0.3

comp=Z,19nm,0.9s
MBDF Montbardon 77.94 46 *e*P P 16 37 34.1 0.0
comp=Z,6.4nm,0.8s
MBDF Montbardon 77.94 46 *e*P P 16 37 34.1 0.0
MBDF pmax pmax
comp=Z,6.0nm,0.8s
MBDF Montbardon 77.94 46 *e*P P 16 37 34.1 0.0
comp=Z,6.4nm,0.8s
LPL La Plagne 77.95 45 *e*P P 16 37 34.5 +0.3
LPL La Plagne 77.95 45 *e*P P 16 37 34.5 +0.3
LPL La Plagne 77.95 45 *e*P P 16 37 34.5 +0.3
LPG La Plagne 77.96 45 *e*P P 16 37 34.6 +0.2
LPG *e*pP pP 16 38 14.6 +0.6
LPG La Plagne 77.96 45 *e*P P 16 37 34.6 +0.2
LPG *e**PP pP 16 38 14.6 +0.6
LPG La Plagne 77.96 45 *e*P P 16 37 34.6 +0.2
LPG *e*pP pP 16 38 14.6 +0.6
HINF Hinteralfeld 78.15 43 *e*P P 16 37 34.1 -0.9
comp=Z,11nm,0.8s
HINF Hinteralfeld 78.15 43 *e*P P 16 37 34.1 -0.9
HINF pmax pmax
comp=Z,11nm,0.8s
HINF Hinteralfeld 78.15 43 *e*P P 16 37 34.1 -0.9
comp=Z,11nm,0.8s
TRF Thorofare Moun 78.31 333 *e*P P 16 37 36.4 +0.7
comp=Z,26nm,0.9s
ECH Echery 78.37 42 *e*P P 16 37 35.8 -0.4
ECH pmax pmax
comp=Z,13nm,1.0s
ECH Echery 78.37 42 *e*P P 16 37 35.8 -0.4
comp=Z,13nm,1.0s
SBF Sospel 78.39 47 *e*P P 16 37 36.5 0.0
comp=Z,20nm,0.8s
SBF Sospel 78.39 47 *e*P P 16 37 36.5 0.0
SBF pmax pmax
comp=Z,20nm,0.8s
SBF Sospel 78.39 47 *e*P P 16 37 36.5 0.0
comp=Z,20nm,0.8s
CDF Champ du Feu 78.46 42 *e*P P 16 37 36.1 -0.7
comp=Z,10nm,0.7s
CDF Champ du Feu 78.46 42 *e*P P 16 37 36.1 -0.7
CDF pmax pmax
comp=Z,10.0nm,0.7s
CDF Champ du Feu 78.46 42 *e*P P 16 37 36.1 -0.7
comp=Z,10nm,0.7s
BPAW Bear Paw Mtn. 78.70 334 *e*P P 16 37 38.1 +0.3
comp=Z,34nm,0.9s
COLD Coldfoot 78.85 337 *e*P P 16 37 39.9 +1.4
comp=Z,28nm,0.9s
PPLA Purkeypile 79.09 333 *e*P P 16 37 40.4 +0.4
comp=Z,30nm,0.6s
OHAK Old Harbor 79.10 327 *e*P P 16 37 40.2 +0.2
RSO Redoubt South 79.10 330 *e*P P 16 37 40.2 +0.1
comp=Z,84nm,0.8s
BFO Black Forest 79.16 42 P P 16 37 41.0 +0.4
BFO Black Forest 79.16 42 P P 16 37 41.0 +0.4
PPT Papeete 79.42 251 LR LR 17 04 21.0
comp=Z,230nm,20.1s,baz=19,slow=29
TUE Stuetta 79.80 44 *e*P P 16 37 45.0 +0.7
comp=Z,5.5nm,1.0s
IMA2 Indian Mountai 80.07 336 P P 16 37 42.9 -2.3
IM04 Indian Mountai 80.10 336 *e*P P 16 37 45.1 -0.1
DAVA Damuels 80.18 43 *i*P P 16 37 47.6 +1.4
comp=Z,19nm,0.8s,SNR=5.8
FETA Feichten 80.76 44⇑*i*P P 16 37 50.1 +0.8
comp=Z,12nm,0.9s,SNR=8.3
NAO01 NORSAR Array S 81.10 30 *e*P P 16 37 50.5 -0.2
comp=Z,20nm,0.9s
NB2 NORSAR Subarra 81.26 29 P P 16 37 52.3 +0.7
comp=Z,8.0nm,0.7s,baz=267,slow=5.3
NOA NORSAR Array B 81.26 29 P P 16 37 52.5 +1.0
NOA NORSAR Array B 81.26 29 P P 16 37 52.5 +1.0
comp=Z,7.3nm,0.7s,baz=268,slow=5.3,SNR=30
NOA LR LR 17 12 20.8
comp=Z,22nm,18.2s,baz=240,slow=34
NKC Novy Kostel 81.87 40 *e*P P 16 37 56.1 +1.1
NKC Novy Kostel 81.87 40 *e*P P 16 37 56.1 +1.1
NKC *e*PCP PcP 16 38 01.8 +1.6
NKC *e*pP pP 16 38 36.8 +1.9
ABTA Abfaltersbach 81.98 44 *i*P P 16 37 56.7 +1.0
comp=Z,8.1nm,0.7s,SNR=4.9
CLL Collm 82.21 39 *i*P P 16 37 57.4 +0.8
CLL *e**PP pP 16 38 38.0 +1.4
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL Collm 82.21 39 *i*P P 16 37 57.4 +0.8
comp=Z,7.0nm,0.8s
CLL *i*PcP PcP 16 38 02.5 +0.9
CLL *e*pP pP 16 38 38.0 +1.4
CLL *e*(sP) sP 16 38 59.0 +5.4
CLL *e*SSSS 17 00 12.0
KBS Kingsbay 82.39 11*ce*P P 16 37 58.8 +1.7
KBS pmax pmax
comp=Z,53nm,1.4s
KHC Kasperske Hory 82.63 41 *e*P P 16 37 59.9 +0.9
KHC *e**PP pP 16 38 40.1 +1.2
KHC Kasperske Hory 82.63 41 *e*P P 16 37 59.9 +0.9
KHC *e*PCP PcP 16 38 05.4 +1.8
KHC *e*pP pP 16 38 40.1 +1.2
KHC Kasperske Hory 82.63 41 *e*P P 16 37 59.5 +0.5
comp=Z,7.0nm,1.0s
GERES GERESS Array B 82.72 42 P P 16 38 00.1 +0.6
GERES GERESS Array B 82.72 42 P P 16 38 00.1 +0.6
comp=Z,4.6nm,0.7s,baz=256,slow=4.0,SNR=29
MYKA Terra Mystica 82.76 44 *i*P P 16 38 00.6 +0.8
comp=Z,9.0nm,0.9s,SNR=4.2
BRG Berggiesshubel 82.81 40 *e*P P 16 38 00.7 +0.9
comp=Z,6.4nm,0.8s
BRG *e* 16 38 06.4
comp=Z,5.1nm,0.8s
BRG Berggiesshubel 82.81 40 *e*P P 16 38 00.7 +0.9
BRG pmax pmax
comp=Z,6.0nm,0.8s
BRG pmax pmax
comp=Z,5.0nm,0.8s
MOA Molln 83.14 43⇑*i*P P 16 38 02.5 +0.9
comp=Z,14nm,1.2s
PRA Prague 83.15 40 P P 16 38 04.0 +2.4
PRA pP pP 16 38 44.0 +2.4
PRU Pruhonice 83.23 40 *e*P P 16 38 03.0 +1.1
PRU *e**PP pP 16 38 43.5 +1.5
PRU Pruhonice 83.23 40 *e*P P 16 38 03.0 +1.1
PRU *e*PCP PcP 16 38 08.7 +2.6
PRU *e*pP pP 16 38 43.5 +1.5
TREC Trest 83.88 41 *e*P P 16 38 06.1 +0.8
TREC Trest 83.88 41 *e*P P 16 38 06.1 +0.8
ARSA Arzberg 84.02 43 *i*P P 16 38 06.8 +0.7
comp=Z,6.4nm,0.7s,SNR=4.1
UPC Upice 84.14 40 *e*P P 16 38 07.6 +1.0
UPC Upice 84.14 40 *e*P P 16 38 07.6 +1.0
UPC *e*PCP PcP 16 38 12.6 +2.5
KSP Ksiaz 84.30 40 *e*P P 16 38 08.2 +0.8
DPC Dobruska-Polom 84.35 40 *e*P P 16 38 08.8 +1.1
DPC Dobruska-Polom 84.35 40 *e*P P 16 38 08.8 +1.1
DPC *e*PCP PcP 16 38 14.3 +3.2
VRAC Vranov 84.60 41⇑*i*P P 16 38 10.5 +1.6
FALS False Pass 84.78 325 *e*P P 16 38 09.5 -0.1
comp=Z,73nm,0.9s
MORC Moravsky Berou 85.18 41 ⇑P P 16 38 13.1 +1.2
MORC Moravsky Berou 85.18 41⇑*i*P P 16 38 13.1 +1.2
MORC Moravsky Berou 85.18 41 *e*P P 16 38 11.9 0.0
comp=Z,4.4nm,0.7s
OKC Ostrava-Krasne 85.56 40 *e*P P 16 38 15.1 +1.4
OKC Ostrava-Krasne 85.56 40 *e*P P 16 38 15.1 +1.4
OKC *ex* x 16 38 20.6
PKSM Moragy 86.24 44 ⇑P P 16 38 17.4 +0.3
PKSM Moragy 86.24 44⇑*i*P P 16 38 17.4 +0.3
ARCES ARCESS Array B 86.64 20 P P 16 38 19.1 +0.6
ARCES ARCESS Array B 86.64 20 P P 16 38 19.1 +0.6
comp=Z,14nm,0.8s,baz=264,slow=3.4,SNR=42
UNV Unalaska Valle 86.67 324 *e*P P 16 38 19.4 +0.4
comp=Z,46nm,1.0s
KECS Kecovo 87.23 42 *e*P P 16 38 23.6 +1.7
KECS Kecovo 87.23 42 *e*P P 16 38 23.6 +1.7
STHS Stebnicka Huta 87.61 41 *e*P P 16 38 26.0 +2.3
STHS pmax pmax
comp=Z,2.0nm,0.9s
STHS Stebnicka Huta 87.61 41 *e*P P 16 38 26.0 +2.3
CRVS Cervenica-Dubn 87.82 41 *e*P P 16 38 26.1 +1.4
CRVS pmax pmax
comp=Z,4.0nm,1.3s
CRVS Cervenica-Dubn 87.82 41 *e*P P 16 38 26.1 +1.4
SUW Suwalki 88.14 36 *e*P P 16 38 27.9 +1.9
SUW Suwalki 88.14 36 *e*P P 16 38 27.9 +1.9

VNA1	**Neumayer--Stat**	88.23	162	*e*P		**P**	16 38 25.4	-0.6
VNA1	**Neumayer--Stat**	88.23	162	*e*pP		pP	16 39 05.9	-0.6
KOLS	**Kolonicke sedl**	88.35	41	*e*P		P	16 38 32.0	+4.8
KOLS	**Kolonicke sedl**	88.35	41	*e*P		P	16 38 32.0	+4.8
BZS	**Buzias**	88.38	44	⇓*j*P		P	16 38 30.9	+3.6
BZS	**Buzias**	88.38	44	⇓*j*P		P	16 38 30.9	+3.6
FINES	**FINESS Array B**	88.38	28	P		**P**	**16 38 27.4**	**+0.4**
FINES				pP		**pP**	**16 39 06.2**	**-1.2**
FINES	**FINESS Array B**	88.38	28	P		**P**	**16 38 27.4**	**+0.4**
	comp=Z,12nm,1.1s,baz=263,slow=3.1,SNR=12							
FINES				pP		**pP**	**16 39 06.2**	**-1.2**
	comp=Z,5.9nm,0.9s,baz=315,slow=1.3,SNR=2.6							
KWP	**Kalwaria Pacla**	88.53	40	⇑*j*P		**P**	**16 38 29.8**	**+1.8**
KWP	**Kalwaria Pacla**	88.53	40	⇑*j*P		**P**	**16 38 29.8**	**+1.8**
KWP	**Kalwaria Pacla**	88.53	40	*e*P		**P**	**16 38 30.0**	**+2.0**
VNA2	**Neumayer--Watz**	88.61	163	*e*P		**P**	**16 38 26.7**	**-1.1**
	baz=308,slow=6.3							
VNA2	**Neumayer--Watz**	88.61	163	*e*pP		pP	16 39 08.6	+0.2
	baz=308,slow=6.3							
TRPA	**Tarpa**	88.64	42	⇑*j*P		**P**	**16 38 30.1**	**+1.6**
DRGR		88.96	43	⇑P		P	16 38 36.4	+6.2
DRGR		88.96	43	⇑*j*P		P	16 38 36.4	+6.2
VSU	**Vasula**	89.30	31	*d*⇑*j*P		**P**	**16 38 31.8**	**+0.5**
VSU				*i* *PP		**pP**	**16 39 12.7**	**+0.8**
VSU				pmax	pmax			
	comp=Z,47nm,1.2s							
SNAA	**Sanae**	90.26	163	*e*P		**P**	**16 38 35.2**	**-0.4**
SNAA	**Sanae**	90.26	163	*e*P		**P**	**16 38 34.9**	**-0.7**
	comp=Z,3.2nm,0.8s							
LVZ	**Lovozero**	90.28	21	⇑*j*P		**P**	**16 38 37.1**	**+1.3**
LVZ				pmax	pmax			
	comp=Z,68nm,2.5s							
BUR08	**Bucovina Ar. S**	90.49	42	*e*P		**P**	**16 38 39.1**	**+1.7**
BURAR	**Bucovina Array**	90.50	42	⇑P		P	16 38 30.8	-6.6
BURAR	**Bucovina Array**	90.50	42	⇑*j*P		P	16 38 30.8	-6.6
ARR	**Arges**	90.51	44	⇓*j*P		**P**	**16 38 38.9**	**+1.5**
VOIR		90.79	44	⇓P		P	16 38 42.6	+3.9
VOIR		90.79	44	⇓*j*P		P	16 38 42.6	+3.9
MLR	**Muntele Rosu**	91.40	44	⇑*j*P		**P**	**16 38 42.7**	**+1.1**
TIRR	**Tirgusor**	93.32	45	⇑P		**P**	**16 38 47.9**	**-2.4**
TIRR	**Tirgusor**	93.32	45	⇑*j*P		**P**	**16 38 47.9**	**-2.4**
KLMR	**Klimovskoe**	94.78	27	*e*P		**P**	**16 38 55.7**	**-0.9**
KLMR				pmax	pmax			
	comp=Z,14nm,1.3s							
OBN	**Obninsk**	95.41	33	⇑*j*P		**P**	**16 39 00.0**	**+0.4**
OBN				*i*			16 49 18.9	
OBN				pmax	pmax			
	comp=Z,12nm,1.2s							
TIXI	**Tiksi**	100.41	353	⇑*e*P		**Pdif**	**16 39 21.9**	**+0.2**
ONI	**Oni**	104.28	43	P		**Pdif**	**16 39 39.0**	**-0.8**
ABKAR	**Akbulak array**	110.73	31	*e*PKiKP		**PKiKP**	**16 44 08.4**	**+1.0**
ZAAO	**Zalesovo Array**	116.65	14	*e*PKPdf		**PKPdf**	**16 44 18.6**	**+0.1**
ZALV	**Zalesovo Beam**	116.65	14	PKIKP		**PKPdf**	**16 44 18.8**	**+0.2**
ZALV	**Zalesovo Beam**	116.65	14	PKP		**PKPdf**	**16 44 18.8**	**+0.2**
ZALV				SKP			16 47 39.3	
ZALV	**Zalesovo Beam**	116.65	14	PKP		**PKPdf**	**16 44 18.8**	**+0.2**
	comp=Z,6.8nm,0.6s,baz=260,slow=1.9,SNR=40							
ZALV				SKP			16 47 39.3	
	comp=Z,1.9nm,0.7s,baz=356,slow=2.6,SNR=5.1							
DZM	**Mont Dzumac**	120.87	248	PKP		**PKPdf**	**16 44 28.5**	**+0.9**
DZM	**Mont Dzumac**	120.87	248	PKP		**PKPdf**	**16 44 28.5**	**+0.9**
	comp=Z,5.0nm,0.9s,baz=270,slow=20,SNR=3.0							
EKS2	**Erkin-Say**	122.21	29	*e*PKiKP		**PKPdf**	**16 44 31.0**	**+1.2**
EKS2	**Erkin-Say**	122.21	29	*e*PKPdf		**PKPdf**	**16 44 31.0**	**+1.2**
MK31	**Makanchi Array**	122.29	20	*e*PKIKP		**PKPdf**	**16 44 29.4**	**-0.2**
MK31	**Makanchi Array**	122.29	20	*e*PKPdf		**PKPdf**	**16 44 29.4**	**-0.2**
MKAR	**Makanchi Array**	122.29	20	PKIKP		**PKPdf**	**16 44 29.7**	**0.0**
MKAR							16 45 10.6	
MKAR	**Makanchi Array**	122.29	20	PKP		**PKPdf**	**16 44 29.6**	**0.0**
MKAR				pPKP		**pPKPdf**	**16 45 10.6**	**-1.6**
MKAR	**Makanchi Array**	122.29	20	PKP		**PKPdf**	**16 44 29.6**	**0.0**
	comp=Z,3.5nm,0.5s,baz=296,slow=2.6,SNR=70							
MKAR				pPKP		**pPKPdf**	**16 45 10.6**	**-1.6**
	comp=Z,0.7nm,0.4s,baz=294,slow=2.4,SNR=2.1							
AAK	**Ala-Archa**	122.57	28	*d*iPKIKP		**PKPdf**	**16 44 31.8**	**+1.3**
AAK				pmax	pmax			
	comp=Z,23nm,1.7s							
AAK	**Ala-Archa**	122.57	28	*e*PKPdf		**PKPdf**	**16 44 31.5**	**+1.0**
TKM2	**Tokmak 2**	122.85	27	*e*PKIKP		**PKPdf**	**16 44 31.8**	**+0.7**
TKM2	**Tokmak 2**	122.85	27	*e*PKPdf		**PKPdf**	**16 44 31.8**	**+0.7**
ZAK	**Zakamensk**	122.97	3	*e*PKIKP		**PKPdf**	**16 44 31.3**	**+0.3**
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.1s							
USRK	**Ussuriysk Arra**	124.48	338	PKP		**PKPdf**	**16 44 34.4**	**+0.5**
	comp=Z,5.1nm,0.9s,baz=248,slow=2.8,SNR=9.8							
ULN	**Ulaanbaatar**	125.58	0	*e*PKPdf		**PKPdf**	**16 44 36.5**	**+0.4**
SONM	**Songino Array**	125.61	1	PKP		**PKPdf**	**16 44 36.9**	**+0.7**
SONM	**Songino Array**	125.61	1	PKP		**PKPdf**	**16 44 36.9**	**+0.7**
	comp=Z,3.4nm,0.7s,baz=338,slow=1.1,SNR=21							
KSH	**Kashi**	125.69	29	*e*PKP		**PKPdf**	**16 44 39.3**	**+2.8**
KSH				PP		**PP**	**16 46 32.8**	**+3.3**
KSH				PKS	PKSdf		16 48 07.3	-6.0
KSH				SKS		**SKSdf**	**16 51 32.5**	**-1.1**
KSH				SKKS		**SKKSac**	**16 53 06.8**	**-6.0**
KSH				SS		**SS**	**17 03 16.5**	**+0.2**
KSH				PPMZ				
	comp=Z,71nm,4.5s							
KSH				LR	LR			
	comp=Z,83nm,4.4s							
KSH				LR	LR			
	comp=Z,110nm,4.5s							
WMQ	**Urumqi**	126.66	17	PKP		**PKPdf**	**16 44 36.5**	**-1.7**
WMQ				PP		**PP**	**16 46 39.3**	**+3.8**
WMQ				PKS		**PKSdf**	**16 48 11.8**	**-3.0**
WMQ				SKS		**SKSdf**	**16 51 30.5**	**-4.6**
WMQ				SS		**SS**	**17 03 29.0**	**+1.4**
WMQ				PPMZ				
	comp=Z,39nm,12.2s							
WMQ				LR	LR			
	comp=Z,74nm,18.0s							
WMQ				LR	LR			
	comp=Z,30nm,19.6s							
WMQ				LR	LR			
	comp=Z,31nm,22.2s							
CN2	**Changchun**	126.96	343	*e*PKP		**PKPdf**	**16 44 34.3**	**-4.4**
MJAR	**Matsushiro Arr**	127.94	328	PKP		**PKPdf**	**16 44 41.5**	**+0.7**
MJAR	**Matsushiro Arr**	127.94	328	PKP		**PKPdf**	**16 44 41.5**	**+0.7**
	comp=Z,2.3nm,0.7s,baz=167,slow=0.6,SNR=7.0							
KSRS	**Korea Array**	131.86	338	PKP		**PKPdf**	**16 44 49.5**	**+1.4**
	comp=Z,2.5nm,1.0s,baz=42,slow=2.2,SNR=5.7							
KSRS				PP		**PP**	**16 47 10.2**	**+0.9**
	comp=Z,3.3nm,0.9s,baz=14,slow=5.6,SNR=7.8							
KSRS				SKPbc		**SKPbc**	**16 47 59.0**	**-0.2**
	comp=Z,2.6nm,0.9s,baz=20,slow=3.5,SNR=6.4							
KSAR	**Wonju Array Be**	131.89	338	PKP		**PKPdf**	**16 44 49.5**	**+1.4**
KSAR				PP		**PP**	**16 47 10.2**	**+0.7**
KSAR				SKPbc		**SKPbc**	**16 47 59.0**	**-0.3**
HHC	**Hu-ho-hao-te**	132.41	355	*e*PKP		**PKPdf**	**16 44 47.5**	**-1.8**
HHC				sPKP			16 45 46.5	
HHC				PP		**PP**	**16 47 15.5**	**+2.8**
HHC				PKS		**PKSdf**	**16 48 22.3**	**-3.5**
HHC				SKS		**SKSdf**	**16 51 40.8**	**-5.0**
HHC				SKKS		**SKKSac**	**16 53 48.8**	**-5.6**
HHC				SS		**SS**	**17 04 37.5**	**-0.5**
HHC				PPMZ				
	comp=Z,250nm,7.4s							
HHC				LR	LR			
	comp=Z,360nm,19.9s							
HHC				LR	LR			
	comp=Z,320nm,21.0s							
HHC				LR	LR			
	comp=Z,300nm,19.2s							
GTA	**Gaotai**	133.54	8	PKP		**PKPdf**	**16 44 52.5**	**+1.0**
GTA				sPKP			16 45 45.3	
GTA				PP		**PP**	**16 47 20.3**	**+0.3**
GTA				SKS		**SKSdf**	**16 51 49.0**	**+1.1**
GTA				SKKS		**SKKSac**	**16 53 56.8**	**-4.6**
GTA				PPMZ				
	comp=Z,150nm,6.6s							
LZH	**Lanzhou**	137.24	4	*e*PKP		**PKPdf**	**16 45 00.3**	**+1.8**
LZH				PP		PP	16 47 52.3	+9.0
LZH				SKKS			16 54 22.0	
LZH				SS		SS	17 05 45.0	+9.0
LZH				PPMZ				
	comp=Z,190nm,5.0s							
DANN	**Dangsing**	138.45	32	*e*P		**PKPdf**	**16 45 02.1**	**+1.0**
	comp=Z,37nm,0.8s							
KOLN	**Koldanda**	138.83	32	*e*P		**PKPdf**	**16 45 01.0**	**-0.7**
	comp=Z,6.8nm,0.7s							
GKN	**Gorkha**	139.19	31	*e*P		**PKPdf**	**16 45 02.4**	**+0.1**
	comp=Z,38nm,0.9s							
STKA	**Stephens Creek**	139.27	228	PKP		**PKPdf**	**16 45 03.9**	**+1.8**
STKA				SKPbc		**SKPbc**	**16 48 21.8**	**-0.7**
STKA	**Stephens Creek**	139.27	228	PKP		**PKPdf**	**16 45 03.9**	**+1.8**
	comp=Z,3.9nm,0.7s,baz=94,slow=2.6,SNR=8.4							
STKA				SKPbc		**SKPbc**	**16 48 21.8**	**-0.7**
	comp=Z,5.8nm,0.8s,baz=82,slow=2.9,SNR=5.9							
XAN	**Xi'an**	139.35	358	PKP		PKPdf	16 44 56.8	-5.5
KKN	**Kakani**	139.69	31	*e*P		**PKPdf**	**16 45 01.6**	**-1.7**
	comp=Z,14nm,0.6s							
CTA	**Charters Tower**	139.78	247	SKPbc		**SKPbc**	**16 48 23.8**	**-0.5**
CTA	**Charters Tower**	139.78	247	SKPbc		**SKPbc**	**16 48 23.8**	**-0.5**
	comp=Z,6.0nm,0.9s,baz=96,slow=4.5,SNR=4.3							
GUN	**Gumba**	139.88	30	*e*P		**PKPdf**	**16 45 00.5**	**-3.3**
	comp=Z,23nm,0.8s							
PKIN	**Phulchoki**	139.92	31	*e*P		**PKPdf**	**16 45 01.5**	**-2.3**
	comp=Z,5.1nm,0.7s							
PKI	**Pulchoki**	139.93	31	*e*P		**PKPdf**	**16 45 01.2**	**-2.7**
	comp=Z,28nm,1.1s							
JIRN	**Jiri**	140.25	30	*e*P		**PKPdf**	**16 45 00.4**	**-4.1**
	comp=Z,8.6nm,0.6s							
RAMN	**Ramite**	141.04	30	*e*P		PKPdf	16 44 59.5	-6.3
	comp=Z,25nm,0.6s							
TAPN	**Taplejung**	141.23	28	*e*P		PKPdf	16 44 59.3	-6.9
	comp=Z,12nm,0.7s							
ODAN	**Odare**	141.50	29	*e*P		PKPdf	16 44 59.7	-6.9
	comp=Z,16nm,0.7s							
MTSU	**Mount Surprise**	142.00	249	P		**PKPdf**	**16 45 03.2**	**-4.2**
	baz=5.4,SNR=8.3							
CD2	**Chengdu**	142.38	5	PKP		**PKPdf**	**16 45 06.8**	**-1.0**
CD2				pPKP		**pPKPdf**	**16 45 45.3**	**-5.0**
CD2				sPKP			16 46 01.5	
CD2				PP		**PP**	**16 48 18.5**	**+3.9**
CD2				PKS		**PKSdf**	**16 48 41.0**	**-2.8**
CD2				SKS		**SKSdf**	**16 52 00.0**	**-2.9**
CD2				SKKS		**SKKSac**	**16 54 52.5**	**-1.1**
CD2				SS		**SS**	**17 06 38.0**	**+2.2**
CD2				PPMZ				
	comp=Z,450nm,4.2s							
CD2				LR	LR			
	comp=Z,360nm,7.1s							
CD2				LR	LR			
	comp=Z,570nm,8.3s							
COEN	**Coen**	143.81	256	*e*PKPpre		PKPbc	16 45 08.4	-0.3
COEN	**Coen**	143.81	256	P		PKPbc	16 45 08.6	-0.1
	baz=5.8,SNR=16							
IMP	**Imphal**	146.11	22	*e*P		**PKPdf**	**16 45 15.0**	**+0.5**
IMP				*e*S		x	16 46 08.0	
NACB	**Ninganchiao**	146.11	336	*e*PKPbc		**PKPab**	**16 45 16.6**	**+0.3**
SSLB	**Suanglung**	146.72	336	PKPdf		**PKPdf**	**16 45 16.4**	**+0.9**
GYA	**Guiyang**	146.94	1	PKPbc		**PKPdf**	**16 45 13.8**	**-2.1**
GYA				pPKP		**pPKPdf**	**16 45 53.3**	**-5.2**
GYA				sPKP			16 46 08.0	
GYA				PP		**PP**	**16 48 44.5**	**+2.6**
GYA				PPMZ				
	comp=Z,130nm,8.0s							
TPUB	**Ta-pu**	147.28	336	*e*PKPbc		**PKPbc**	**16 45 19.6**	**+0.7**
KMI	**Kunming**	148.00	7	PKPbc		**PKPbc**	**16 45 21.0**	**-0.1**
FORT	**Forrest**	149.07	217	*e*PKPbc		**PKPbc**	**16 45 22.4**	**-0.9**
AS31	**Alice Springs**	149.24	234	*e*PKPdf		**PKPdf**	**16 45 18.6**	**-1.0**
AS31				*e*PKPbc		**PKPbc**	**16 45 23.4**	**-0.7**
ASAR	**Alice Springs**	149.24	234	PKP		**PKPdf**	**16 45 19.8**	**+0.2**
ASAR				PKPbc		**PKPbc**	**16 45 23.4**	**-0.6**
ASAR	**Alice Springs**	149.24	234	PKP		**PKPdf**	**16 45 19.8**	**+0.2**
	comp=Z,14nm,0.7s,baz=111,slow=1.3,SNR=70							
ASAR				PKPbc		**PKPbc**	**16 45 23.4**	**-0.6**
	comp=Z,15nm,0.7s,baz=116,slow=3.3,SNR=104							
PALK	**Pallekele**	150.22	62	*e*PKPbc		**PKPbc**	**16 45 27.2**	**+0.5**
WRAB	**Tennant Creek**	150.48	241	*e*PKIKP		**PKPdf**	**16 45 21.5**	**-0.1**
WRAB				*e*			16 45 34.5	
WRAB	**Tennant Creek**	150.48	241	*e*PKPdf		**PKPdf**	**16 45 21.5**	**-0.1**
WRAB				*e*PKPbc		**PKPbc**	**16 45 26.5**	**-0.6**
WRAB				*e*PKPab		**PKPab**	**16 45 34.5**	**+0.4**
WRA	**Warramunga Arr**	150.48	241	PKP		**PKPdf**	**16 45 21.8**	**+0.2**
WRA				PKPbc		**PKPbc**	**16 45 26.6**	**-0.5**
WRA				pPKPbc		**pPKPbc**	**16 46 07.4**	**-2.0**
WRA	**Warramunga Arr**	150.48	241	PKP		**PKPdf**	**16 45 21.8**	**+0.2**
	comp=Z,7.9nm,0.8s,baz=109,slow=2.6,SNR=179							
WRA				PKPbc		**PKPbc**	**16 45 26.6**	**-0.5**
	comp=Z,21nm,0.8s,baz=109,slow=2.6,SNR=208							
WRA				pPKPbc		**pPKPbc**	**16 46 07.4**	**-2.0**
	comp=Z,15nm,0.7s,baz=107,slow=2.2,SNR=5.0							
CHTO	**Chiang Mai**	153.33	17	*e*PKIKP		**PKPdf**	**16 45 25.8**	**-0.1**
CHTO				*e*			16 45 45.1	
CHTO	**Chiang Mai**	153.33	17	*e*PKPdf		**PKPdf**	**16 45 25.8**	**-0.1**
CHTO				*e*PKPbc		**PKPbc**	**16 45 33.5**	**-0.1**
CHTO				*e*PKPab		**PKPab**	**16 45 45.0**	**-0.9**
CM31	**Chiang Mai Arr**	153.66	18	*e*PKPdf		**PKPdf**	**16 45 27.6**	**+1.2**
CM31				*e*PKPbc		**PKiKP**	**16 45 35.0**	**+0.6**
CMAR	**Chiang Mai Arr**	153.66	18	PKP		**PKPdf**	**16 45 27.9**	**+1.5**
CMAR				PKPbc		**PKiKP**	**16 45 35.1**	**+0.7**
CMAR				PKPab		**PKPab**	**16 45 47.5**	**+0.2**
CMAR	**Chiang Mai Arr**	153.66	18	PKP		**PKPdf**	**16 45 27.9**	**+1.5**
	comp=Z,4.3nm,0.8s,baz=300,slow=2.1,SNR=52							
CMAR				PKPbc		**PKiKP**	**16 45 35.1**	**+0.7**
	comp=Z,14nm,0.6s,baz=324,slow=3.4,SNR=88							
CMAR				PKPab		**PKPab**	**16 45 47.5**	**+0.2**
	comp=Z,5.8nm,0.7s,baz=329,slow=4.5,SNR=7.9							
QIZ	**Qingzhong**	154.20	354	PKPbc		**PKPdf**	**16 45 25.3**	**-1.8**
QIZ				PP		**PP**	**16 49 24.5**	**+1.2**
QIZ				SS		SS	17 08 52.0	+3.8
QIZ				LR	LR			
	comp=Z,190nm,21.2s							
KDU	**Kakadu**	154.29	255	P		**PKPbc**	**16 45 37.6**	**+1.9**
	baz=7.9,SNR=4.8							
KNRA	**Kununurra**	156.98	246	P		**PKPab**	**16 46 01.7**	**-0.1**
	baz=9.7,SNR=11							
FITZ	**Fitzroy Crossi**	158.69	236	PKP		**PKPdf**	**16 45 33.3**	**+0.4**
FITZ				PKPab		**PKPab**	**16 46 09.0**	**-0.1**
FITZ	**Fitzroy Crossi**	158.69	236	PKP		**PKPdf**	**16 45 33.3**	**+0.4**
	comp=Z,2.1nm,0.9s,baz=34,slow=5.2,SNR=2.4							
FITZ				PKPab		**PKPab**	**16 46 09.0**	**-0.1**
	comp=Z,11nm,0.8s,baz=150,slow=4.5,SNR=14							
PSI	**Prapat**	167.48	41	PKP		**PKPdf**	**16 45 41.6**	**-0.1**
PSI				PKPab		**PKPab**	**16 46 48.7**	**+0.8**
PSI	**Prapat**	167.48	41	PKP		**PKPdf**	**16 45 41.6**	**-0.1**
	comp=Z,4.0nm,0.8s,baz=157,slow=16,SNR=4.3							
PSI				PKPab		**PKPab**	**16 46 48.7**	**+0.8**
	comp=Z,2.3nm,0.3s,baz=320,slow=9.7,SNR=2.4							

*IDC **27** 16:29:57.4±0.8, 15°.48S×173°.68W, h0km, mb4.1/9, mb1 4.4/9, mb1mx4.2/18, mbtmp4.1/9, MS3.4/4, Ms1 3.4/4, ms1mx3.2/25, Error ellipse: s-maj=41.8km s-min=18.9km az=142.0*

*NEIC **27** 16:29:58.8±0.4, 15°.48S×173°.70W, h10km, mb4.8/2, Error ellipse: s-maj=23.5km s-min=9.4km az=144.0*

*ISCJB **27** 16:30:01.5±0.7, 15°.5S±0°.2×173°.7W±0°.2, h42km, mb4.2/11, MS3.6/3, Error ellipse: s-maj=34.4km s-min=13.3km az=144.6*

ISC 27 16:30:03.4±0.7, 15°.5S±0°.2×173°.7W±0°.2, h42km, n40, σ0965/31, mb4.1/11, MS4.0/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.44**	**51**	*e*P	Pn	16 30 30.8	-10
AFI				Sn	Sn	16 30 54.7	-15
AFI	**Afiamalu**	**2.44**	**51**	Pn	Pn	16 30 30.8	-10
	13nm,0.3s,baz=15,slow=5.2,SNR=20						
AFI				Sn	Sn	16 30 54.7	-15
	78nm,0.3s,baz=102,slow=22,SNR=15						
AFI				LR	LR	16 31 19.0	
	comp=Z,276nm,21.2s,baz=75,slow=34						
HNR	**Honiara**	**26.39**	**280**	LR	LR	16 42 28.7	
	comp=Z,29nm,21.7s,baz=356,slow=28						
H11S2	**WAKE ISLAND Hy**	**38.87**	**330**	T	T	17 19 02.6	
	baz=152,slow=0.7,SNR=19						
H11S3	**WAKE ISLAND Hy**	**38.88**	**330**	T	T	17 19 05.6	
	baz=152,slow=0.7,SNR=12						
H11S1	**WAKE ISLAND Hy**	**38.89**	**330**	T	T	17 19 03.7	
	baz=152,slow=0.7,SNR=14						
H11N3	**WAKE ISLAND Hy**	**39.82**	**331**	T	T	17 20 03.4	
	baz=152,slow=0.7,SNR=15						
H11N1	**WAKE ISLAND Hy**	**39.83**	**331**	T	T	17 20 04.1	
	baz=152,slow=0.7,SNR=13						
H11N2	**WAKE ISLAND Hy**	**39.84**	**331**	T	T	17 20 04.9	
	baz=152,slow=0.7,SNR=17						
STKA	**Stephens Creek**	**43.73**	**240**	P	**P**	**16 38 03.6**	**-1.2**
STKA	**Stephens Creek**	**43.73**	**240**	P	**P**	**16 38 03.6**	**-1.2**
	3.0nm,0.8s,baz=59,slow=11,SNR=5.8						
WRAB	**Tennant Creek**	**49.52**	**257**	P	**P**	**16 38 50.0**	**-0.4**
WRA	**Warramunga Arr**	**49.53**	**257**	P	**P**	**16 38 50.1**	**-0.3**
WRA				PcP	**PcP**	**16 40 12.5**	**+0.5**
WRA	**Warramunga Arr**	**49.53**	**257**	P	**P**	**16 38 50.1**	**-0.3**
	1.6nm,0.9s,baz=94,slow=7.4,SNR=15						
WRA				PcP	**PcP**	**16 40 12.5**	**+0.5**
	0.3nm,0.6s,baz=90,slow=3.2,SNR=2.5						
AS31	**Alice Springs**	**49.79**	**252**	*e*P	**P**	**16 38 52.0**	**-0.4**
ASAR	**Alice Springs**	**49.79**	**252**	P	**P**	**16 38 52.2**	**-0.2**
ASAR	**Alice Springs**	**49.79**	**252**	P	**P**	**16 38 52.2**	**-0.2**
	11nm,0.7s,baz=86,slow=8.0,SNR=162						
VNDA	**Vanda**	**63.27**	**186**	P	**P**	**16 40 27.9**	**+0.6**
VNDA	**Vanda**	**63.27**	**186**	P	**P**	**16 40 27.9**	**+0.6**
	1.9nm,1.0s,baz=351,slow=3.2,SNR=5.3						
MJAR	**Matsushiro Arr**	**68.80**	**320**	LR	LR	17 08 41.5	
	comp=Z,76nm,18.4s,baz=135,slow=34						
NVAR	**Mina Array Bea**	**74.59**	**42**	P	**P**	**16 41 38.7**	**+0.2**
NVAR	**Mina Array Bea**	**74.59**	**42**	P	**P**	**16 41 38.7**	**+0.2**
	1.7nm,0.7s,baz=223,slow=9.6,SNR=6.4						
USRK	**Ussuriysk Arra**	**77.26**	**323**	LR	LR	17 17 00.9	
	comp=Z,64nm,18.3s,baz=163,slow=36						
HLID	**Hailey**	**79.88**	**39**	*e*P	**P**	**16 42 07.6**	**-0.5**
	3.0nm,0.8s						
TXAR	**Lajitas Array**	**80.91**	**56**	P	**P**	**16 42 13.6**	**-0.2**
TXAR	**Lajitas Array**	**80.91**	**56**	P	**P**	**16 42 13.6**	**-0.2**
	0.7nm,0.8s,baz=216,slow=6.2,SNR=4.9						
COLA	**College**	**82.49**	**11**	P	**P**	**16 42 21.1**	**0.0**
	19nm,0.9s						
PDAR	**Pinedale Array**	**82.53**	**42**	P	**P**	**16 42 21.4**	**-0.8**
PDAR	**Pinedale Array**	**82.53**	**42**	P	**P**	**16 42 21.4**	**-0.8**
	1.0nm,0.8s,baz=231,slow=4.7,SNR=4.1						
ILAR	**Eielson Array**	**82.58**	**11**	P	**P**	**16 42 21.4**	**-0.3**
ILAR	**Eielson Array**	**82.58**	**11**	P	**P**	**16 42 21.4**	**-0.3**
	0.6nm,0.7s,baz=228,slow=6.5,SNR=8.8						
CMAR	**Chiang Mai Arr**	**92.34**	**288**	P	**P**	**16 43 11.6**	**+1.5**
CMAR	**Chiang Mai Arr**	**92.34**	**288**	P	**P**	**16 43 11.6**	**+1.5**
	0.4nm,0.8s,baz=125,slow=4.5,SNR=4.6						
ARCES	**ARCESS Array B**	**124.64**	**352**	PKP	**PKPdf**	**16 48 58.0**	**+0.2**
ARCES	**ARCESS Array B**	**124.64**	**352**	PKP	**PKPdf**	**16 48 58.0**	**+0.2**
	2.0nm,0.9s,baz=336,slow=2.7,SNR=4.2						
BR131	**Keskin Array S**	**146.02**	**321**	*e*PKPbc	**PKPab**	**16 49 39.8**	**0.0**
BRTR	**Keskin Array B**	**146.02**	**321**	PKPbc	**PKPab**	**16 49 40.2**	**+0.4**
BRTR	**Keskin Array B**	**146.02**	**321**	PKPbc	**PKPab**	**16 49 40.2**	**+0.4**
	1.9nm,0.8s,baz=88,slow=2.3,SNR=8.3						
GERES	**GERESS Array B**	**146.17**	**351**	PKPbc	**PKPab**	**16 49 39.6**	**-0.3**
GERES	**GERESS Array B**	**146.17**	**351**	PKPbc	**PKPab**	**16 49 39.6**	**-0.3**
	0.4nm,0.4s,baz=345,slow=4.1,SNR=6.4						

*BYKL **27** 16:53:40.9±0.2, 55°.24N×110°.16E*

MOS 27 16:53:42.3±1.7, 55°.23N×110°.20E, h10km, mb4.2/1, 2C-2D, Error ellipse: s-maj=57.3km s-min=22.1km az=59.1, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YLYR	**Ulyunkhan**	**0.66**	**122**	⇑*j*Pg	Pg	16 53 53.0	-2.1
YLYR				*e*Sg	Sg	16 54 01.8	-1.9
YLYR				Pmax			
	25nm,0.3s						
YLYR				Smax			
	143nm,0.1s						
NIZ	**Nizh Angarsk**	**

TLY				*e*Pg	Pb	16 55 15.3	+0.5	
TLY				*e*Sn	Sn	16 55 59.9	-2.5	
TLY				*e*Sg	Sb	16 56 23.4	+5.0	
TLY				Pmax				
	comp=E,3.0nm,0.2s							
TLY				Smax				
	comp=E,22nm,0.3s							
ARS	**Arshan**	**5.70**	**238**	*e*Pn	Pn	16 55 06.2	-0.8	
ARS				*e*Sn	Sn	16 56 08.8	-3.7	
ARS				*e*Sg	Sb	16 56 36.9	+6.7	
ARS				Smax				
	comp=E,58nm,0.6s							
TUP	**Tupik**	**5.70**	**94**	*e*Pn	Pn	16 55 07.2	+0.2	
TUP				*e*Sn	Sn	16 56 10.3	-2.1	
TUP				*e*Sg	Sg	16 56 38.5	-6.7	
TUP				Smax				
	comp=E,50nm,1.8s							
MOY	**Mondy**	**6.55**	**241**	*e*PN	Pn	16 55 19.7	+0.8	
MOY				*e*		16 55 41.1		
MOY				*e*S	Sn	16 56 32.2	-1.5	
MOY				*e*		16 57 08.0		
MOY				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MOY				smax	smax			
	comp=N,36nm,1.4s							
MOY	**Mondy**	**6.55**	**241**	*e*Pn	Pn	16 55 19.5	+0.6	
MOY				*e*		16 55 25.8		
MOY				*e*Sn	Sn	16 56 28.4	-5.3	
MOY				*e*Sg	Sg	16 57 04.4	-8.5	
MOY				Smax				
	comp=N,37nm,1.8s							
ORL	**Orlik**	**6.71**	**251**	*e*PN	Pn	16 55 20.9	-0.1	
ORL				*e*		16 55 42.2		
ORL				*e*S	Sn	16 56 35.8	-1.7	
ORL				*e*		16 57 07.9		
ORL				pmax	pmax			
	comp=Z,2.0nm,1.0s							
ORL				smax	smax			
	comp=N,19nm,1.4s							
ORL	**Orlik**	**6.71**	**251**	*e*Pn	Pn	16 55 20.0	-1.0	
ORL				*e*		16 56 35.9		
ORL				*e*Sg	Sg	16 57 08.6	-9.2	
ORL				Smax				
	comp=N,45nm,1.5s							

IDC 27 17:12:09.6±1.6,3°64N×126°10E,h0km,mb3.5/5, mb1 3.6/5,mb1mx3.4/24,mbtmp3.5/5,Error ellipse: s-maj=178.1km s-min=19.3km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.80**	**161**	P	P	17 17 32.9	-0.5
	1.2nm,0.6s,baz=340,slow=11,SNR=11						
ASAR	**Alice Springs**	**28.19**	**165**	P	P	17 18 05.1	+1.1
	0.1nm,0.4s,baz=344,slow=7.9,SNR=7.5						
STKA	**Stephens Creek**	**38.27**	**158**	P	P	17 19 31.2	-0.6
	0.8nm,0.6s,baz=328,slow=9.6,SNR=4.9						
MKAR	**Makanchi Array**	**57.27**	**326**	P	P	17 21 58.5	-0.6
	0.3nm,0.9s,baz=121,slow=7.9,SNR=2.7						
KURBB	**Kurchatov Arra**	**61.48**	**328**	P	P	17 22 28.5	+0.5
	0.2nm,0.2s,baz=128,slow=6.1,SNR=3.0						

IDC 27 17:19:34.1±1.4,31°.02N×56°.48E,h0km,mb3.8/7, mb1 3.8/7,mb1mx3.5/29,mbtmp3.8/7,MS3.2/1,Ms1 3.3/1, ms1mx2.5/32,Error ellipse: s-maj=39.4km s-min=21.9km az=153.0
THR 27 17:19:34.8±0.9,30°.84N×56°.83E,h14km±11km,ML3.6
ISCJB 27 17:19:35.4±0.4,30°.95N±0°.04×56°.75E±0°.04,h10km, mb3.8/6,MS3.1/1,Error ellipse: s-maj=6.2km s-min=4.4km az=9.1
CSEM 27 17:19:35.2±0.2,30°.89N×56°.79E,h2km,ML3.6,Error ellipse: s-maj=4.8km s-min=4.5km az=37.0
TEH 27 17:19:36.9,30°.95N×56°.78E,h7km,ML3.8

ISC 27 17:19:34.9±0.7,30°.91N±0°.04×56°.77E±0°.04,h10km,n58, σ1§65/60,mb3.9/6,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRBR	**Kerman**	**0.92**	**181**	*e*Pg	**Pg**	**17 19 50.9**	**-1.8**
KRBR				AML	AML	17 20 05.3	
	comp=E,2μm,0.3s						
KRBR	**Kerman**	**0.92**	**181**	*e*Pg	**Pg**	**17 19 50.9**	**-1.8**
IBAF	**Bafgh**	**1.24**	**304**	*e*Sg	**Sg**	**17 20 15.3**	**+0.5**
IBAF				*e*		17 20 25.0	
	comp=E,25μm,0.1s						
IBAF	**Bafgh**	**1.24**	**304**	*e*Sg	**Sg**	**17 20 15.3**	**+0.5**
IMEH	**Mehriz**	**1.91**	**285**	*e*Sg	**Sg**	**17 20 36.5**	**0.0**
IMEH				*e*Pn	**Pb**	**17 20 09.5**	**-0.6**
IMEH				*e*		17 20 37.7	
	comp=Z,21μm,0.3s						
ICHK	**Chekchek**	**2.42**	**304**	*e*Pn	**Pn**	**17 20 16.5**	**+1.7**
ICHK				*e*Sg	**Sg**	**17 20 51.1**	**-1.6**
ICHK				*e*		17 21 03.2	
	comp=Z,6μm,0.1s						
ICHK	**Chekchek**	**2.42**	**304**	*e*Pn	**Pn**	**17 20 16.5**	**+1.7**
ICHK				*e*Sg	**Sg**	**17 20 51.1**	**-1.6**
IKOO	**Kooshah**	**2.43**	**51**	*e*Pn	**Pn**	**17 20 15.9**	**+1.0**
IKOO				*e*		17 20 16.8	
	comp=Z,6μm,0.1s						
IKOO	**Kooshah**	**2.43**	**51**	*e*Pn	**Pn**	**17 20 15.9**	**+1.0**
ITEG	**Tejag**	**2.60**	**40**	*e*Pn	**Pn**	**17 20 18.0**	**+0.8**
ITEG				*e*		17 21 06.2	
	comp=Z,4μm,0.2s						
ITEG	**Tejag**	**2.60**	**40**	*e*Pn	**Pn**	**17 20 18.0**	**+0.8**
TABS	**Tabas**	**2.75**	**6**	*e*Pn	**Pn**	**17 20 21.2**	**+2.0**
TABS				AML	AML	17 21 12.8	
	comp=N,342nm,0.5s						
TABS	**Tabas**	**2.75**	**6**	*e*Pn	**Pn**	**17 20 21.2**	**+2.0**
ISAD	**Sadrabad**	**2.83**	**292**	*e*Pn	**Pn**	**17 20 22.2**	**+1.8**
ISAD				*e*		17 21 08.7	
	comp=Z,3μm,0.1s						
ISAD	**Sadrabad**	**2.83**	**292**	*e*Pn	**Pn**	**17 20 22.2**	**+1.8**
IDAH	**Dahanechah**	**3.21**	**54**	*e*Pn	**Pn**	**17 20 27.5**	**+1.9**
IDAH				*e*		17 21 33.2	
	comp=Z,1μm,0.2s						
IDAH	**Dahanechah**	**3.21**	**54**	*e*Pn	**Pn**	**17 20 27.5**	**+1.9**
IMON	**Monand**	**3.35**	**46**	*e*Pn	**Pn**	**17 20 29.3**	**+1.7**
IMON				*e*		17 20 45.8	
	comp=Z,2μm,0.1s						
IMON	**Monand**	**3.35**	**46**	*e*Pn	**Pn**	**17 20 29.3**	**+1.7**
IPAR	**Pars**	**3.39**	**253**	*e*Pn	**Pn**	**17 20 30.7**	**+2.5**
IPAR				*e*		17 21 38.7	
	comp=Z,1μm,0.3s						
IPAR	**Pars**	**3.39**	**253**	*e*Pn	**Pn**	**17 20 30.7**	**+2.5**
IBND	**Bandar-abas**	**3.45**	**183**	*e*Pn	**Pn**	**17 20 31.1**	**+2.4**
IBND	**Bandar-abas**	**3.45**	**183**	*e*Pn	**Pn**	**17 20 31.1**	**+2.4**
ISRV	**Sarvestan**	**3.52**	**245**	*e*Pn	**Pn**	**17 20 32.1**	**+2.2**
ISRV				*e*		17 21 41.1	
	comp=Z,2μm,0.5s						
ISRV	**Sarvestan**	**3.52**	**245**	*e*Pn	**Pn**	**17 20 32.1**	**+2.2**
BNDS	**Bandar-Abbas**	**3.53**	**189**	*e*Pn	**Pn**	**17 20 31.2**	**+1.2**
BNDS				AML	AML	17 21 17.2	
	comp=N,104nm,0.7s						
BNDS	**Bandar-Abbas**	**3.53**	**189**	*e*Pn	**Pn**	**17 20 31.2**	**+1.2**
ZHSF	**Zahedan**	**3.69**	**109**	*e*Pn	**Pn**	**17 20 33.0**	**+0.8**
ZHSF	**Zahedan**	**3.69**	**109**	*e*Pn	**Pn**	**17 20 33.0**	**+0.8**
NASN	**Na'in**	**3.87**	**300**	*e*Pn	**Pn**	**17 20 37.3**	**+2.6**
NASN				*e*Sg	**Sg**	**17 21 37.4**	**-1.7**
NASN				AML	AML	17 21 46.2	
	comp=N,72nm,0.7s						
NASN	**Na'in**	**3.87**	**300**	*e*Pn	**Pn**	**17 20 37.3**	**+2.6**
IZEF	**Zefreh**	**4.27**	**299**	*e*Pn	**Pn**	**17 20 41.7**	**+1.5**
IZEF				*e*		17 21 55.2	
	comp=Z,579nm,0.2s						
IZEF	**Zefreh**	**4.27**	**299**	*e*Pn	**Pn**	**17 20 41.7**	**+1.5**
ISFB	**Sefidab**	**5.14**	**313**	*e*Pn	**Pn**	**17 20 53.3**	**+1.3**
ISFB				*e*		17 22 31.3	
	comp=Z,596nm,0.4s						
ISFB	**Sefidab**	**5.14**	**313**	*e*Pn	**Pn**	**17 20 53.3**	**+1.3**
IANJ	**Anjilo**	**5.14**	**333**	*e*Pn	**Pn**	**17 20 53.3**	**+1.1**
IANJ				*e*		17 22 46.4	
	comp=Z,506nm,0.3s						
IANJ	**Anjilo**	**5.14**	**333**	*e*Pn	**Pn**	**17 20 53.3**	**+1.1**
ISHM	**Shahmirzad**	**5.69**	**330**	*e*Pn	**Pn**	**17 21 01.6**	**+1.9**
ISHM	**Shahmirzad**	**5.69**	**330**	*e*Pn	**Pn**	**17 21 01.6**	**+1.9**
IFIR	**Firoozkooh**	**5.80**	**326**	*e*Pn	**Pn**	**17 21 02.4**	**+1.2**
IFIR				*e*		17 21 33.7	
	comp=Z,193nm,0.2s						
IFIR	**Firoozkooh**	**5.80**	**326**	*e*Pn	**Pn**	**17 21 02.4**	**+1.2**
IVRN	**Varamin**	**5.88**	**315**	*e*Pn	**Pn**	**17 21 03.4**	**+1.2**
IVRN	**Varamin**	**5.88**	**315**	*e*Pn	**Pn**	**17 21 03.4**	**+1.2**

IAKL	**Akhelmad**	**5.92**	**16**	*e*		17 21 07.4		
	comp=Z,321nm,0.1s							
IAKL				*e*Pn	**Pn**	**17 21 04.9**	**+2.0**	
IGLO	**Ghaloghah**	**6.10**	**337**	*e*Pn	**Pn**	**17 21 06.2**	**+0.9**	
IGLO				*e*		17 23 11.8		
	comp=Z,1μm,0.4s							
IDMV	**Damavand**	**6.12**	**321**	*e*Pn	**Pn**	**17 21 06.8**	**+1.1**	
IDMV				*e*		17 23 10.7		
	comp=Z,482nm,0.4s							
IDMV	**Damavand**	**6.12**	**321**	*e*Pn	**Pn**	**17 21 06.8**	**+1.1**	
ISFR	**Sfrayin**	**6.22**	**9**	*e*Pn	**Pn**	**17 21 07.7**	**+0.7**	
ISFR				*e*		17 23 10.3		
	comp=Z,401nm,0.4s							
ISFR	**Sfrayin**	**6.22**	**9**	*e*Pn	**Pn**	**17 21 07.7**	**+0.7**	
AKTO	**Aktyubinsk**	**19.53**	**2**	P	P	17 23 57.1	-5.3	
	comp=Z,0.1nm,0.3s,baz=226,slow=2.4,SNR=3.0							
BRTR	**Keskin Array B**	**20.78**	**301**	P	**P**	**17 24 13.1**	**-3.2**	
	comp=Z,0.6nm,0.8s,baz=108,slow=14,SNR=3.5							
BVAR	**Borovoye Array**	**24.23**	**20**	P	**P**	**17 24 53.5**	**+1.8**	
	comp=Z,1.2nm,0.6s,baz=214,slow=6.8,SNR=5.0							
MKAR	**Makanchi Array**	**25.27**	**44**	P	**P**	**17 25 02.5**	**+1.2**	
	comp=Z,0.5nm,0.5s,baz=231,slow=9.6,SNR=8.4							
KURBB	**Kurchatov Arra**	**25.51**	**33**	P	**P**	**17 25 04.2**	**+0.8**	
	comp=Z,1.5nm,0.2s,baz=234,slow=9.2,SNR=7.3							
ZALV	**Zalesovo Beam**	**30.61**	**33**	P	**P**	**17 25 49.8**	**+0.9**	
	comp=Z,1.8nm,0.4s,baz=249,slow=9.4,SNR=13							
NOA	**NORSAR Array B**	**42.32**	**329**	LR	LR	17 48 46.6		
	comp=Z,26nm,18.2s,baz=230,slow=42							
TORD	**Torodi Ar. Bea**	**59.50**	**264**	P	**P**	**17 28 55.0**	**-0.9**	
	comp=Z,1.7nm,0.7s,baz=56,slow=7.2,SNR=12							
ASAR	**Alice Springs**	**91.63**	**117**	P	**P**	**17 32 44.6**	**+2.0**	
	comp=Z,0.3nm,0.8s,baz=304,slow=4.9,SNR=4.1							

IDC 27 18:10:08.8±0.5,13°.96N×93°.13E,h0km,mb4.1/23, mb1 4.2/24,mb1mx4.2/32,mbtmp4.1/24,ML4.0/1,MS3.8/12, Ms1 3.8/12,ms1mx3.5/40,Error ellipse: s-maj=19.5km s-min=11.7km az=55.0
ISCJB 27 18:10:12.9±0.3,14°.20N±0°.03×93°.00E±0°.04,h32km, mb4.3/37,MS3.8/11,Error ellipse: s-maj=5.7km s-min=3.9km az=167.6
NEIC 27 18:10:16.4±1.0,14°.06N×93°.23E,h55km±9km,mb4.6/13, Error ellipse: s-maj=9.2km s-min=5.1km az=65.0
BKK 27 18:10:24.1±2.1,15°.N±6°.×9°.4E±1°.9,h10km,M4.6/10, mb4.8/9,mB5.1/5,MLv4.6/10,Mw(mB)4.5/5

ISC 27 18:10:13.9±0.4,14°.16N±0°.04×93°.10E±0°.05,h32km,n117, σ1§49/113,mb4.3/37,MS3.8/11,4C-1D,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DGPR	**DIGLIPUR**	**0.99**	**190**	*e*P	**Pn**	**18 10 30.9**	**-0.6**
DGPR				*e*S	**Sn**	**18 10 44.0**	**-0.3**
DGPR				AML	AML	18 10 46.3	
	comp=N,16μm,0.6s						
DGPR				AML	AML	18 10 47.0	
	comp=E,19μm,0.6s						
PBA	**Port Blair**	**2.51**	**188**	*e*P	Pn	18 10 53.1	+0.7
PBA				*e*S	Sn	18 11 22.2	+0.3
KHLT	**Khaolaem Dam**	**5.36**	**82**	P	**Pn**	**18 11 33.8**	**+2.2**
SRDT	**SRDT**	**5.84**	**87**	P	**Pn**	**18 11 40.7**	**+2.4**
	comp=E,125nm,0.7s,comp=E,1μmcomp=E,0.4nm						
PHET	**Kaeng Krachan**	**6.47**	**100**	P	Pn	18 11 50.5	+3.5
	comp=E,211nm,0.6s,comp=E,3μmcomp=E,1.0nm						
CMAR	**Chiang Mai Arr**	**7.05**	**52**	Pn	**Pn**	**18 11 56.7**	**+1.7**
CMAR				Sn	**Sn**	**18 13 12.5**	**-1.6**
CMAR	**Chiang Mai Arr**	**7.05**	**52**	Pn	**Pn**	**18 11 56.7**	**+1.7**
	comp=E,0.7nm,0.3s,baz=242,slow=15,SNR=30						
CMAR				Sn	**Sn**	**18 13 12.5**	**-1.6**
	comp=E,1.9nm,0.3s,baz=234,slow=26,SNR=11						
CMAR				LR	LR	18 15 26.3	
	comp=E,689nm,19.2s,baz=272,slow=44						
CHTO	**Chiang Mai**	**7.27**	**50**	*e*Pn	**Pn**	**18 11 58.8**	**+0.8**
	comp=E,66nm,0.6s						
CHTO				*e*Sn	**Sn**	**18 13 15.2**	**-4.3**
CHTO	**Chiang Mai**	**7.27**	**50**	P	Pn	18 12 01.7	+3.7
	comp=E,134nm,1.1s,comp=E,0.6nm						
SURT	**Suratani**	**7.60**	**132**	P	Pn	18 12 13.0	+10
	comp=E,8.4nm,1.2s,comp=E,0.0nm						
PATY	**Pattaya**	**7.65**	**98**	P	Pn	18 12 12.4	+9.2
	comp=E,18nm,0.6s,comp=E,386nmcomp=E,0.1nm						
PBKT	**Sadao Pong**	**7.96**	**71**	P	Pn	18 12 12.7	+5.3
	comp=E,51nm,0.8s,comp=E,968nmcomp=E,0.2nm						
CMAI	**Chiengmai2**	**8.08**	**44**	P	Pn	18 12 13.1	+3.9
	comp=E,117nm,0.7s,comp=E,0.6nm						
VIS	**Vishakhapatnam**	**10.04**	**292**	*i* P	**Pn**	**18 12 35.5**	**-0.5**
VIS				*i* S	Sn	18 14 18.2	-9.4
VIS				*ex*	x	18 14 20.3	
	comp=N,121nm,0.4s						
VIS				*ex*	x	18 14 21.1	
	comp=E,82nm,0.4s						
IMP	**Imphal**	**10.60**	**4**	*e*P	**Pn**	**18 12 44.0**	**+0.3**
IMP				*e*S	**Sn**	**18 14 43.0**	**+1.6**
SHL	**Shillong**	**11.41**	**354**	*ex*	**Pn**	**18 12 53.0**	**-1.9**
SHL				*e*S	**Sn**	**18 14 57.3**	**-4.1**
KULM	**Kulim**	**11.53**	**139**	Pn	Pn	18 12 59.9	+3.6
PSI	**Prapat**	**12.66**	**152**	Pn	**Pn**	**18 13 14.9**	**+2.9**
PSI	**Prapat**	**12.66**	**152**	Pn	**Pn**	**18 13 14.9**	**+2.9**
	comp=E,1.0nm,0.3s,baz=342,slow=13,SNR=6.5						
ODAN	**Odare**	**13.72**	**338**	*e*P	**Pn**	**18 13 23.8**	**-2.7**
	comp=E,37nm,0.4s						
ODAN				*e*S	Sn	18 15 46.2	-12
PALK	**Pallekele**	**13.96**	**242**	*e*Pn	Pn	18 13 25.9	-3.8
PALK				*e*Sn	Sn	18 15 39.6	-24
TAPN	**Taplejung**	**14.06**	**340**	*e*P	Pn	18 13 27.7	-3.5
	comp=E,48nm,0.6s						
RAMN	**Ramite**	**14.10**	**336**	*e*P	**Pn**	**18 13 29.0**	**-2.7**
	comp=E,44nm,0.6s						
JIRN	**Jiri**	**14.90**	**335**	*e*P	**Pn**	**18 13 40.7**	**-2.0**
PKI	**Pulchoki**	**15.15**	**333**	*e*P	**Pn**	**18 13 44.3**	**-1.7**
	comp=E,20nm,0.3s						
PKIN	**Phulchoki**	**15.16**	**333**	*e*P	**Pn**	**18 13 44.4**	**-1.7**
	comp=E,22nm,0.3s						
GUN	**Gumba**	**15.25**	**335**	*e*P	**Pn**	**18 13 45.3**	**-2.0**
JBP	**Jabalpur**	**15.31**	**308**	*je*P	**P**	**18 13 50.8**	**-1.4**
JBP				*e*4	**Sn**	**18 16 31.7**	**-4.7**
DMN	**Daman**	**15.32**	**332**	*e*P	**Pn**	**18 13 46.7**	**-1.4**
	comp=E,52nm,0.8s						
KKN	**Kakani**	**15.40**	**333**	*e*P	**Pn**	**18 13 47.3**	**-1.8**
	comp=E,24nm,0.7s						
GKN	**Gorkha**	**15.87**	**332**	*e*P	**Pn**	**18 13 53.9**	**-1.2**
	comp=E,23nm,0.3s						
KOLN	**Koldanda**	**16.18**	**328**	*e*P	**Pn**	**18 13 59.3**	**+0.1**
	comp=E,68nm,0.6s						
DANN	**Dangsing**	**16.58**	**330**	*e*P	**Pn**	**18 14 03.4**	**-0.9**
	comp=E,39nm,0.5s						
POO	**Poona**	**18.98**	**286**	*e*P	**Pn**	**18 14 35.0**	**+1.3**
KSM	**Kuching**	**21.17**	**125**	Pn	P	18 14 50.4	-6.3
H08S3	**Diego Garcia H**	**29.78**	**225**	T	T	18 47 23.0	
	baz=42,slow=0.7,SNR=11						
H08S2	**Diego Garcia H**	**29.79**	**225**	T	T	18 47 23.6	
	baz=42,slow=0.7,SNR=11						
H08S1	**Diego Carcia H**	**29.80**	**225**	T	T	18 47 13.1	
	baz=42,slow=0.7,SNR=9.2						
TKM2	**Tokmak 2**	**32.39**	**336**	P	**P**	**18 16 41.3**	**+0.4**
	comp=E,1.9nm,0.7s						
AAK	**Ala-Archa**	**32.60**	**334**	P	**P**	**18 16 44.1**	**+1.3**
AAK				*e*		18 16 54.0	
AAK	**Ala-Archa**	**32.60**	**334**	P	**P**	**18 16 44.1**	**+1.3**
	comp=E,1.1nm,0.6s,baz=158,slow=3.8,SNR=5.6						
EKS2	**Erkin-Say**	**32.93**	**333**	*e*P	**P**	**18 16 46.4**	**+0.8**
	comp=E,3.2nm,0.8s						
MKAR	**Makanchi Array**	**33.78**	**347**	P	**P**	**18 16 54.3**	**+1.5**
MKAR	**Makanchi Array**	**33.78**	**347**	P	**P**	**18 16 54.3**	**+1.5**
	comp=E,2.2nm,0.7s,baz=159,slow=8.8,SNR=24						
MKAR				LR	LR	18 34 29.8	
	comp=E,103nm,19.5s,baz=157,slow=43						
SONM	**Songino Array**	**35.35**	**16**	P	**P**	**18 17 08.6**	**+2.1**
SONM				PcP	**PcP**	**18 19 36.9**	**+0.6**
SONM	**Songino Array**	**35.35**	**16**	P	**P**	**18 17 08.6**	**+2.1**
	comp=E,3.5nm,1.1s,baz=190,slow=8.0,SNR=10.0						
SONM				PcP	**PcP**	**18 19 36.9**	**+0.6**
	comp=E,0.7nm,0.8s,baz=180,slow=4.0,SNR=3.7						
SONM				LR	LR	18 33 10.4	
	comp=E,153nm,19.0s,baz=350,slow=39						
ULN	**Ulaanbaatar**	**35.55**	**16**	P	**P**	**18 17 09.3**	**+1.1**
	comp=E,2.9nm,0.8s						
KURK	**Kurchatov**	**38.31**	**345**	*e*P	**P**	**18 17 32.7**	**+1.2**
	comp=E,5.6nm,1.0s						
KSAR	**Wonju Array Be**	**38.63**	**47**	P	**P**	**18 17 34.8**	**+0.4**
KSRS	**Korea Array**	**38.66**	**47**	P	**P**	**18 17 34.8**	**+0.2**
	comp=E,0.8nm,0.6s,baz=250,slow=8.5,SNR=5.3						
KSRS				LR	LR	18 36 05.2	
	comp=E,205nm,19.5s,baz=56,slow=40						

BATI	**Baumata**	**38.79**	**127**	P	**P**	**18 17 33.2**	**-2.8**	
BATI	**Baumata**	**38.79**	**127**	P	**P**	**18 17 33.2**	**-2.8**	
	comp=E,5.7nm,0.6s,baz=109,slow=5.2,SNR=4.2							
ZAA0	**Zalesovo Array**	**40.23**	**352**	*e*P	**P**	**18 17 48.6**	**+1.1**	
ZALV	**Zalesovo Beam**	**40.23**	**352**	P	**P**	**18 17 48.7**	**+1.3**	
ZALV	**Zalesovo Beam**	**40.23**	**352**	P	**P**	**18 17 48.7**	**+1.3**	
	comp=E,1.7nm,0.5s,baz=174,slow=8.3,SNR=12							
ZALV				LR	LR	18 38 36.9		
	comp=E,93nm,18.6s,baz=74,slow=42							
BRVK	**Borovoye**	**42.83**	**340**	P	**P**	**18 18 09.9**	**+1.2**	
	comp=E,5.1nm,1.1s							
ABKAR	**Akbulak array**	**44.30**	**329**	*e*P	**P**	**18 18 21.9**	**+1.2**	
	comp=E,3.8nm,0.7s							
MJAR	**Matsushiro Arr**	**45.94**	**53**	LR	LR	18 40 05.6		
	comp=E,101nm,19.4s,baz=55,slow=39							
AKTO	**Aktyubinsk**	**46.02**	**329**	P	**P**	**18 18 34.1**	**-0.1**	
AKTO	**Aktyubinsk**	**46.02**	**329**	P	**P**	**18 18 34.1**	**-0.1**	
	comp=E,1.0nm,0.6s,baz=128,slow=16,SNR=4.8							
GNI	**Garni**	**49.45**	**311**	P	**P**	**18 19 02.1**	**+0.8**	
	comp=E,26nm,1.2s							
NWAO	**Narrogin (SRO)**	**52.19**	**154**	*e*P	**P**	**18 19 20.2**	**-1.5**	
	comp=E,16nm,1.0s							
WRA	**Warramunga Arr**	**52.86**	**129**	P	**P**	**18 19 25.1**	**-1.8**	
WRA				PcP	**PcP**	**18 20 35.6**	**-0.3**	
WRA	**Warramunga Arr**	**52.86**	**129**	P	**P**	**18 19 25.1**	**-1.8**	
	comp=E,3.9nm,0.8s,baz=310,slow=8.0,SNR=26							
WRA				PcP	**PcP**	**18 20 35.6**	**-0.3**	
	comp=E,3.3nm,0.7s,baz=315,slow=3.4,SNR=19							
WRAB	**Tennant Creek**	**52.86**	**129**	*e*P	**P**	**18 19 24.9**	**-2.0**	
	comp=E,5.0nm,0.9s							
WRAB				*e*PcP	**PcP**	**18 20 35.2**	**-0.7**	
ASF	**Jabal al Asfar**	**54.10**	**300**	LR	LR	18 46 30.0		
	comp=E,54nm,18.6s,baz=273,slow=40							
ASAR	**Alice Springs**	**54.81**	**133**	P	**P**	**18 19 39.8**	**-1.4**	
ASAR				PcP	**PcP**	**18 20 43.1**	**-0.2**	
ASAR	**Alice Springs**	**54.81**	**133**	P	**P**	**18 19 39.8**	**-1.4**	
	comp=E,3.6nm,0.5s,baz=308,slow=6.8,SNR=71							
ASAR				PcP	**PcP**	**18 20 43.1**	**-0.2**	
	comp=E,2.3nm,0.8s,baz=314,slow=3.7,SNR=7.6							
MMAI	**Mount Meron Ar**	**55.44**	**300**	LR	LR	18 46 04.8		
	comp=E,62nm,18.6s,baz=25,slow=39							
EIL	**Elat**	**55.58**	**296**	LR	LR	18 46 03.2		
	comp=E,58nm,18.0s,baz=93,slow=39							
BRTR	**Keskin Array B**	**57.67**	**308**	P	**P**	**18 20 01.9**	**+0.3**	
BRTR	**Keskin Array B**	**57.67**	**308**	P	**P**	**18 20 01.9**	**+0.3**	
	comp=E,1.4nm,0.7s,baz=115,slow=6.7,SNR=8.9							
PMG	**Port Moresby**	**58.51**	**110**	*e*P	**P**	**18 20 06.3**	**-1.3**	
	comp=E,6.1nm,0.6s							
AKASG	**Malin Array Be**	**62.67**	**320**	P	**P**	**18 20 36.0**	**+0.6**	
AKASG	**Malin Array Be**	**62.67**	**320**	P	**P**	**18 20 36.0**	**+0.6**	
	comp=E,0.2nm,0.3s,baz=92,slow=4.4,SNR=7.2							
MLR	**Muntele Rosu**	**64.05**	**314**	P	**P**	**18 20 46.8**	**+2.0**	
MLR	**Muntele Rosu**	**64.05**	**314**	P	**P**	**18 20 46.8**	**+2.0**	
	comp=E,0.6nm,0.7s,baz=144,slow=8.7							
STKA	**Stephens Creek**	**65.22**	**135**	P	**P**	**18 20 51.3**	**-1.2**	
STKA	**Stephens Creek**	**65.22**	**135**	P	**P**	**18 20 51.3**	**-1.2**	
	comp=E,2.3nm,0.7s,baz=330,slow=8.5,SNR=8.4							
FINES	**FINESS Array B**	**66.73**	**331**	P	**P**	**18 21 01.6**	**-0.1**	
FINES	**FINESS Array B**	**66.73**	**331**	P	**P**	**18 21 01.6**	**-0.1**	
	comp=E,0.7nm,0.4s,baz=139,slow=8.1,SNR=4.9							
FINES				LR	LR	18 53 37.8		
	comp=E,88nm,18.3s,baz=55,slow=39							
ARCES	**ARCESS Array B**	**69.05**	**340**	P	**P**	**18 21 18.0**	**+1.8**	
ARCES	**ARCESS Array B**	**69.05**	**340**	P	**P**	**18 21 18.0**	**+1.8**	
	comp=E,4.3nm,1.1s,baz=95,slow=8.2,SNR=2.8							
ARCES				LR	LR	18 54 59.5		
	comp=E,90nm,18.6s,baz=257,slow=39							
LSZ	**Lusaka**	**70.53**	**248**	*e*P	**P**	**18 21 26.9**	**+0.6**	
	comp=E,8.3nm,0.8s							
BRG	**Berggiesshuel**	**72.32**	**319**	*e*P	**P**	**18 21 37.5**	**+1.1**	
	comp=E,9.1nm,1.6s							
GERES	**GERESS Array B**	**72.52**	**317**	P	**P**	**18 21 38.0**	**+0.1**	

ASAR				PcP	PcP	18 50 10.4	-0.3	
ASAR	**Alice Springs**	**37.99**	**167**	P	P	18 47 55.4	0.0	
	0.6nm,0.5s,baz=344,slow=7.0,SNR=13							
ASAR				PcP	PcP	18 50 10.4	-0.3	
	0.6nm,0.8s,baz=347,slow=3.0,SNR=4.7							
STKA	**Stephens Creek**	**47.89**	**161**	P	P	18 49 16.0	+0.7	
STKA	**Stephens Creek**	**47.89**	**161**	P	P	18 49 16.0	+0.7	
	0.9nm,0.7s,baz=352,slow=8.7,SNR=2.4							
MKAR	**Makanchi Array**	**48.66**	**322**	P	P	18 49 22.4	+1.2	
MKAR	**Makanchi Array**	**48.66**	**322**	P	P	18 49 22.4	+1.2	
	2.0nm,0.9s,baz=118,slow=7.8,SNR=13							
ZALV	**Zalesovo Beam**	**51.15**	**331**	P	P	18 49 39.6	-0.4	
ZALV	**Zalesovo Beam**	**51.15**	**331**	P	P	18 49 39.6	-0.4	
	0.8nm,0.5s,baz=101,slow=7.7,SNR=4.4							
KURK	**Kurchatov**	**52.66**	**325**	*eP*	P	18 49 51.9	+0.7	
	6.5nm,1.0s							
KURK				*e*		18 50 01.2		
BRVK	**Borovoye**	**58.33**	**325**	*eP*	P	18 50 32.9	+0.9	
	5.3nm,0.9s							
BRVK				*e*		18 50 41.4		
ABKAR	**Akbulak array**	**63.57**	**318**	*eP*	P	18 51 08.0	+0.4	
	3.5nm,1.0s							
FINES	**FINESS Array B**	**82.42**	**331**	P	P	18 52 58.8	-0.2	
FINES	**FINESS Array B**	**82.42**	**331**	P	P	18 52 58.8	-0.2	
	2.0nm,1.0s,baz=201,slow=9.4,SNR=3.7							
VNDA	**Vanda**	**93.31**	**172**	P	P	18 53 50.6	-0.5	
VNDA	**Vanda**	**93.31**	**172**	P	P	18 53 50.6	-0.5	
	0.8nm,1.0s,baz=320,slow=7.1,SNR=3.1							

FUNV 27 18:45:12.8,6°.68N×73°.16W,h174km,MW3.5,1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.45**	**35**	*iP*	Pn	18 45 43.6	-0.5
CAPV				*eS*	Sn	18 46 05.7	-2.6
SOCV	**Socops**	**2.79**	**55**	*eP*	Pn	18 45 57.7	-1.0
SOCV				*eS*	Sn	18 46 30.2	-4.1
VIGV	**El Vigia**	**2.79**	**40**	*eP*	Pn	18 45 58.0	-0.7
VIGV				*eS*	Sn	18 46 31.0	-3.4
VIRV	**Villa del Rosa**	**3.88**	**11**	*eP*	Pn	18 46 10.2	-2.0
VIRV				*eS*	Sn	18 46 53.8	-4.8
CURV	**Curarigua**	**4.58**	**43**	*eP*	Pn	18 46 20.2	-1.2
TEPV	**Terepaima**	**5.11**	**50**	*eP*	Pn	18 46 27.1	-1.1
BAUV	**El Baul**	**5.55**	**66**	*eP*	Pn	18 46 31.3	-2.6
BAUV				*eS*	Sn	18 47 31.1	-6.5

IDC 27 18:53:50.2±2.2,5°.76S×148°.94E,h0km,mb4.0/4, mb1 4.2/5,mb1mx3.7/20,mbtmp4.1/5,ML3.2/1,Error ellipse: s-maj=58.0km s-min=35.3km az=117.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.03**	**206**	Pn	Pn	18 54 54.5	+1.3
	12nm,0.3s,baz=34,slow=5.2,SNR=55						
PMG				Sn	Sn	18 55 36.0	-5.2
	32nm,0.3s,baz=169,slow=19,SNR=15						
WRA	**Warramunga Arr**	**20.00**	**224**	P	P	18 58 24.1	-0.5
	1.9nm,0.4s,baz=48,slow=11,SNR=47						
WRA				PcP	PcP	19 02 41.5	+0.2
	0.2nm,0.6s,baz=35,slow=1.5,SNR=3.4						
ASAR	**Alice Springs**	**22.94**	**218**	P	P	18 58 55.1	-1.2
	0.7nm,0.4s,baz=57,slow=8.4,SNR=22						
BATI	**Baumata**	**25.41**	**258**	P	P	18 59 20.6	+0.9
	12nm,0.8s,baz=90,slow=10,SNR=6.5						
FITZ	**Fitzroy Crossi**	**25.84**	**240**	P	P	18 59 23.1	-0.5
	4.5nm,0.8s,baz=86,slow=11,SNR=13						
TORD	**Torodi Ar. Bea**	**146.89**	**285**	PKPbc	PKPbc	19 13 34.9	-0.8
	0.2nm,0.3s,baz=83,slow=2.4,SNR=10						

ISCJB 27 19:09:31.7±0.3,5°.88N±0°.04×125°.88E±0°.07,h154km±3km, mb3.6/14,Error ellipse: s-maj=12.1km s-min=5.0km az=162.8
IDC 27 19:09:31.4±4.2,6°.03N×126°.05E,h140km±39km,mb3.5/13, mb1 3.7/14,mb1mx3.6/25,mbtmp3.6/14,Error ellipse: s-maj=28.3km s-min=11.7km az=75.0
MAN 27 19:09:34,5°.95N×125°.79E,h131km,mb4.7,ML3.6,MS3.6
AUST 27 19:09:42.1±0.0,5°.41N×126°.45E,h199km,Error ellipse: s-maj=1.9km s-min=1.6km az=264.0
DJA 27 19:09:45.8±0.5,5°N±4°×12°6E±°,h98km,M4.7/3,mb4.7/3, mB5.3/2,MLv4.6/3,Mw(mB)4.8/2

ISC 27 19:09:32.7±0.7,5°.84N±0°.04×125°.87E±0°.07,h147km±6km, n43,σ1°54/51,mb3.6/14,4C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**0.95**	**285**	*iP*	**Pn**	**19 09 55.5**	**-1.4**
GSPH				*eS*	**Sn**	**19 10 11.4**	**-4.0**
MATI	**Mati**	**1.17**	**19**	*eP*	**Pn**	**19 09 58.9**	**+0.2**
MATI				*eS*	**Sn**	**19 10 17.8**	**-0.8**
DAV	**Davao City (W)**	**1.26**	**347**	P	**Sn**	**19 10 22.9**	**+2.7**
DMPH	**Davao City--Mi**	**1.29**	**344**	*eP*	**Pn**	**19 10 00.2**	**+0.3**
DMPH				*eS*	**Sn**	**19 10 18.1**	**-2.7**
KCP	**Kidapawan**	**1.40**	**326**	*iP*	**Pn**	**19 10 01.2**	**+0.2**
KCP				*iS*	**Sn**	**19 10 23.7**	**+0.9**
CTBH	**Cotabato--PC H**	**2.12**	**310**	*iP*	**Pn**	**19 10 08.6**	**-0.5**
CTBH				*iS*	**Sn**	**19 10 35.6**	**-1.5**
SGSI	**Sangihe**	**2.17**	**189**	P	**Pn**	**19 10 09.9**	**+0.3**
SGSI				S	**Sn**	**19 10 38.6**	**+0.5**
BUKP	**Musuan**	**2.18**	**338**	*eP*	**Pn**	**19 10 10.5**	**+0.7**
CGP	**Cagayan de Oro**	**2.85**	**336**	*eP*	**Pn**	**19 10 18.2**	**+0.1**
BUTP	**Butuan**	**3.12**	**355**	*eP*	**Pn**	**19 10 21.4**	**-0.1**
PAGZ	**Pagadian**	**3.18**	**309**	*eP*	**Pn**	**19 10 22.3**	**+0.1**
IPIL	**Ipil**	**3.81**	**301**	*eP*	**Pn**	**19 10 31.4**	**+1.0**
TNTI	**Ternate**	**5.25**	**163**	P	**Pn**	**19 10 49.1**	**-0.3**
TNTI				S	**Sn**	**19 11 46.1**	**-3.2**
LBMI	**Labuha**	**6.63**	**166**	P	**Pn**	**19 11 08.5**	**+0.6**
	63nm,1.1s,2μm0.3nm						
LBMI				S	**Sn**	**19 12 20.3**	**-2.2**
	63nm,1.1s,2μm0.3nm						
LUWI	**Luwuk**	**7.50**	**204**	P	Pn	19 11 25.5	+6.0
	baz=7.4,SNR=4.7						
SWI	**Sorong**	**8.56**	**141**	P	**Pn**	**19 11 33.9**	**+0.3**
	baz=7.9,SNR=7.5						
NLAI	**Namlea**	**9.10**	**172**	P	**Pn**	**19 11 39.3**	**-1.5**
	192nm,0.6s,4μm						
NLAI				S	Sn	19 13 12.8	-9.0
	192nm,0.6s,4μm						
FAKI	**Fak Fak**	**10.78**	**144**	P	**Pn**	**19 12 04.4**	**+1.2**
	baz=10,SNR=3.5						
SBUM	**Sibu**	**14.03**	**257**	P	P	19 12 51.5	+3.1
SOEI	**Soe**	**15.57**	**186**	P	pP	19 13 22.7	-8.3
SOEI	**Soe**	**15.57**	**186**	P	**P**	**19 13 08.4**	**+2.7**
	baz=15,SNR=3.6						
BATI	**Baumata**	**16.09**	**188**	P	**P**	**19 13 13.8**	**+2.5**
BATI	**Baumata**	**16.09**	**188**	P	**P**	**19 13 13.4**	**+2.1**
	4.9nm,0.3s,baz=23,slow=0.8,SNR=17						
MTN	**Manton Dam**	**19.28**	**164**	P	**P**	**19 13 47.6**	**+1.3**
	baz=19,SNR=9.8						
KDU	**Kakadu**	**19.54**	**160**	P	**P**	**19 13 50.1**	**+1.1**
	baz=19,SNR=27						
KNRA	**Kununurra**	**21.57**	**172**	P	**P**	**19 14 11.7**	**+1.0**
	baz=21,SNR=9.9						
FITZ	**Fitzroy Crossi**	**23.79**	**181**	P	P	19 14 22.1	-10
	baz=24,SNR=4.7						
FITZ	**Fitzroy Crossi**	**23.79**	**181**	P	**P**	**19 14 33.2**	**+1.2**
	0.9nm,0.5s,baz=55,slow=6.7,SNR=5.9						
WRA	**Warramunga Arr**	**26.94**	**162**	P	**P**	**19 15 00.1**	**-0.4**
	0.3nm,0.4s,baz=342,slow=9.9,SNR=15						
WRA				PcP	**PcP**	**19 18 18.7**	**-0.1**
	0.6nm,0.8s,baz=338,slow=2.6,SNR=3.4						
CMAR	**Chiang Mai Arr**	**29.11**	**298**	P	**P**	**19 15 20.3**	**+0.5**
	0.4nm,0.6s,baz=118,slow=6.6,SNR=7.0						
ASAR	**Alice Springs**	**30.35**	**165**	P	**P**	**19 15 31.4**	**+0.6**
	0.5nm,0.5s,baz=341,slow=7.1,SNR=23						
ASAR				PcP	**PcP**	**19 18 27.6**	**+0.2**
	0.5nm,0.4s,baz=343,slow=2.6,SNR=11						
KSRS	**Korea Array**	**31.52**	**3**	P	**P**	**19 15 39.6**	**-1.2**
	0.6nm,0.6s,baz=188,slow=8.8,SNR=4.0						
MJAR	**Matsushiro Arr**	**32.58**	**19**	P	P	19 15 46.7	-3.5
	1.0nm,0.7s,baz=202,slow=8.9,SNR=3.5						
BBOO	**Buckleboo**	**39.63**	**167**	P	**P**	**19 16 51.5**	**+1.4**
	baz=39,SNR=8.3						
STKA	**Stephens Creek**	**40.39**	**159**	P	**P**	**19 16 57.7**	**+1.3**
	2.4nm,0.9s,baz=328,slow=9.8,SNR=3.0						
SONM	**Songino Array**	**45.04**	**341**	P	**P**	**19 17 34.7**	**+0.9**
	0.4nm,0.9s,baz=151,slow=10,SNR=3.0						
SONM				PcP	**PcP**	**19 19 12.3**	**+0.1**
	0.8nm,0.7s,baz=142,slow=4.0,SNR=6.2						
MKAR	**Makanchi Array**	**55.35**	**325**	P	**P**	**19 18 50.5**	**-0.8**
	1.6nm,0.5s,baz=118,slow=7.3,SNR=27						
MKAR				PcP	**PcP**	**19 19 48.7**	**-1.4**
	1.0nm,0.6s,baz=114,slow=4.1,SNR=6.8						
ZALV	**Zalesovo Beam**	**58.34**	**333**	P	**P**	**19 19 10.5**	**-1.7**
	0.8nm,0.4s,baz=135,slow=7.5,SNR=5.5						
ILAR	**Eielson Array**	**83.58**	**26**	P	**P**	**19 21 43.0**	**-1.1**
	0.4nm,0.8s,baz=268,slow=5.1,SNR=4.4						
ARCES	**ARCESS Array B**	**88.19**	**340**	P	**P**	**19 22 05.5**	**-1.2**
	2.8nm,1.0s,baz=77,slow=6.9,SNR=7.9						
FINES	**FINESS Array B**	**89.58**	**332**	P	**P**	**19 22 12.0**	**-1.4**
	1.5nm,0.6s,baz=58,slow=4.7,SNR=9.0						
NOA	**NORSAR Array B**	**96.53**	**334**	P	**P**	**19 22 43.5**	**-1.9**
	0.3nm,0.7s,baz=100,slow=7.7,SNR=2.8						
TORD	**Torodi Ar. Bea**	**121.44**	**289**	PKP	**PKPdf**	**19 28 08.8**	**-0.8**
	0.5nm,0.7s,baz=52,slow=2.2,SNR=6.1						

AUST 27 19:13:48.8,8°.00N×126°.02E,h100km
IDC 27 19:14:10.8±9.4,6°.04N×126°.08E,h148km±84km,mb3.4/8, mb1 3.6/10,mb1mx3.3/28,mbtmp3.5/10,Error ellipse: s-maj=78.3km s-min=14.2km az=60.0
ISCJB 27 19:14:12.3±0.3,5°.88N±0°.04×125°.92E±0°.07,h168km±3km, mb3.6/8,Error ellipse: s-maj=11.9km s-min=4.6km az=161.4
MAN 27 19:14:13,5°.93N×125°.89E,h159km,mb4.9,ML3.8,MS3.9
DJA 27 19:14:15.7±0.9,6°N±4°×12°6E±1°3,h112km±17km,M4.5/5, mb4.5/3,mB5.0/2,MLv4.6/5,Mw(mB)4.4/2

ISC 27 19:14:13.0±0.7,5°.86N±0°.05×125°.89E±0°.08,h161km±6km, n47,σ1°14/53,mb3.8/8,2C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**0.96**	**283**	*iP*	**Pn**	**19 14 38.3**	**-0.4**
GSPH				*eS*	**Sn**	**19 14 56.5**	**-1.9**
MATI	**Mati**	**1.14**	**19**	*eP*	**Pn**	**19 14 40.8**	**+0.7**
MATI				*eS*	**Sn**	**19 15 00.4**	**-0.4**
DAV	**Davao City (W)**	**1.24**	**346**	P	**Pn**	**19 14 41.7**	**+0.7**
DMPH	**Davao City--Mi**	**1.27**	**343**	*eP*	**Pn**	**19 14 42.0**	**+0.7**
DMPH				*eS*	**Sn**	**19 14 59.5**	**-3.5**
KCP	**Kidapawan**	**1.39**	**325**	*iP*	**Pn**	**19 14 42.3**	**-0.1**
KCP				*iS*	**Sn**	**19 15 06.7**	**+1.6**
CTBH	**Cotabato--PC H**	**2.12**	**310**	*iP*	**Pn**	**19 14 50.6**	**+0.4**
CTBH				*iS*	Sn	19 14 55.6	-23
BUKP	**Musuan**	**2.17**	**338**	*eP*	**Pn**	**19 14 51.7**	**+0.9**
SGSI	**Sangihe**	**2.19**	**189**	P	**Pn**	**19 14 51.9**	**+0.8**
SGSI				S	**Sn**	**19 15 20.3**	**-0.2**
CGP	**Cagayan de Oro**	**2.84**	**335**	*eP*	**Pn**	**19 14 59.0**	**+0.2**
CGP				*iS*	**Sn**	**19 15 34.0**	**-0.4**
BUTP	**Butuan**	**3.10**	**355**	*eP*	**Pn**	**19 15 03.5**	**+1.4**
PAGZ	**Pagadian**	**3.18**	**309**	*eP*	**Pn**	**19 15 03.9**	**+0.9**
TNTI	**Ternate**	**5.27**	**164**	P	**Pn**	**19 15 30.3**	**+0.1**
	36nm,0.6s,2μm0.7nm						
TNTI				S	**Sn**	**19 16 28.7**	**-1.9**
	36nm,0.6s,2μm0.7nm						
KMSI	**Cibinong**	**5.59**	**200**	P	**Pn**	**19 15 36.8**	**+2.4**
	153nm,0.8s,0.5nm						
LBMI	**Labuha**	**6.65**	**166**	P	**Pn**	**19 15 49.4**	**+0.8**
LBMI				S	**Sn**	**19 17 00.3**	**-3.4**
LUWI	**Luwuk**	**7.53**	**205**	P	Pn	19 16 03.7	+3.4
	baz=9.6,SNR=9.6						
SWI	**Sorong**	**8.57**	**141**	P	**Pn**	**19 16 14.2**	**+0.2**
	baz=10,SNR=4.7						
KAPI	**Kappang**	**12.42**	**210**	P	**Pn**	**19 17 05.1**	**+0.5**
	0.3nm,0.3s,baz=46,slow=21,SNR=3.8						
SOEI	**Soe**	**15.60**	**186**	P	P	19 17 50.8	+5.4
	baz=18,SNR=3.9						
BATI	**Baumata**	**16.12**	**188**	P	**P**	**19 17 51.9**	**+1.0**
	4.7nm,0.3s,baz=43,slow=1.6,SNR=13						
MTN	**Manton Dam**	**19.30**	**164**	P	**P**	**19 18 27.0**	**+1.2**
	baz=22,SNR=4.2						
KDU	**Kakadu**	**19.55**	**160**	P	**P**	**19 18 29.1**	**+0.6**
	baz=22,SNR=9.5						
KNRA	**Kununurra**	**21.59**	**172**	P	**P**	**19 18 52.0**	**+1.8**
	baz=24,SNR=7.2						
FITZ	**Fitzroy Crossi**	**23.81**	**181**	P	**P**	**19 19 11.9**	**+0.6**
	baz=26,SNR=8.3						
FITZ	**Fitzroy Crossi**	**23.81**	**181**	P	**P**	**19 19 11.6**	**+0.3**
	1.9nm,0.8s,baz=3.8,slow=11,SNR=5.4						
COEN	**Coen**	**26.12**	**139**	P	**P**	**19 19 32.2**	**-0.1**
	baz=28,SNR=5.8						
WRA	**Warramunga Arr**	**26.96**	**162**	P	**P**	**19 19 39.0**	**-0.7**
	0.6nm,0.5s,baz=335,slow=10,SNR=5.4						
CMAR	**Chiang Mai Arr**	**29.11**	**298**	P	**P**	**19 19 59.3**	**+0.4**
	0.3nm,0.6s,baz=131,slow=7.3,SNR=5.1						
ASAR	**Alice Springs**	**30.37**	**165**	P	**P**	**19 20 10.0**	**0.0**
	0.3nm,0.3s,baz=340,slow=7.2,SNR=14						
MORW	**Morawa**	**36.00**	**195**	P	**P**	**19 20 59.0**	**+0.4**
	baz=38,SNR=3.8						
BBOO	**Buckleboo**	**39.66**	**167**	P	**P**	**19 21 30.1**	**+0.8**
	baz=42,SNR=11						
STKA	**Stephens Creek**	**40.41**	**159**	P	**P**	**19 21 36.4**	**+0.9**
	baz=43,SNR=5.5						
STKA	**Stephens Creek**	**40.41**	**159**	P	**P**	**19 21 36.0**	**+0.5**
	3.6nm,0.6s,baz=343,slow=7.6,SNR=8.9						
TAPN	**Taplejung**	**42.10**	**305**	*eP*	**P**	**19 21 50.1**	**+0.3**
	3.1nm,0.4s						
ODAN	**Odare**	**42.17**	**304**	*eP*	**P**	**19 21 50.5**	**+0.2**
	5.0nm,0.7s						
JIRN	**Jiri**	**43.47**	**305**	*eP*	**P**	**19 22 01.1**	**+0.2**
	4.6nm,0.5s						
GUN	**Gumba**	**43.81**	**305**	*eP*	**P**	**19 22 03.7**	**+0.1**
	5.0nm,0.4s						
PKI	**Pukoki**	**44.07**	**304**	*eP*	**P**	**19 22 05.3**	**-0.4**
	1.4nm,0.3s						
PKIN	**Phulchoki**	**44.09**	**304**	*eP*	**P**	**19 22 05.9**	**+0.2**
KKN	**Kakani**	**44.26**	**304**	*eP*	**P**	**19 22 06.8**	**-0.2**
	2.7nm,0.4s						
DMN	**Daman**	**44.34**	**304**	*eP*	**P**	**19 22 08.5**	**+0.8**
GKN	**Gorkha**	**44.87**	**304**	*eP*	**P**	**19 22 11.2**	**-0.6**
	1.8nm,0.3s						
KOLN	**Koldanda**	**45.64**	**303**	*eP*	**P**	**19 22 18.0**	**+0.1**
	8.0nm,0.3s						
DANN	**Dangsing**	**45.72**	**304**	*eP*	**P**	**19 22 18.2**	**-0.4**
	6.7nm,0.4s						
MKAR	**Makanchi Array**	**55.34**	**325**	P	**P**	**19 23 29.3**	**-0.8**
	0.6nm,0.3s,baz=120,slow=7.6,SNR=20						
KURBB	**Kurchatov Arra**	**59.50**	**327**	P	**P**	**19 23 57.3**	**-1.8**
	0.6nm,0.4s,baz=128,slow=6.4,SNR=11						
FINES	**FINESS Array B**	**89.57**	**332**	P	**P**	**19 26 50.9**	**-1.1**
	0.8nm,0.7s,baz=75,slow=4.6,SNR=3.9						
TORD	**Torodi Ar. Bea**	**121.45**	**289**	PKP	**PKPdf**	**19 32 47.3**	**-1.0**
	0.6nm,0.8s,baz=7.2,slow=2.4,SNR=3.6						

ISCJB 27 19:18:19.2±0.2,19°.17N±0°.04×68°.99W±0°.03,h10km, mb4.3/35,MS3.8/4,Error ellipse: s-maj=6.3km s-min=2.7km az=28.9
BJI 27 19:18:19.0,19°.00N×69°.10W,h10km,Ms5.0/1,Ms7 4.8/1
NEIC 27 19:18:21.0±1.1,19°.06N×69°.01W,h14km±8km,mb4.6/18, MD4.5(RSPR),Error ellipse: s-maj=7.6km s-min=3.8km az=198.0
NEIC Felt at Samana. Felt [III] at Mayaguez, Puerto Rico.
RSPR 27 19:18:22.6,18°.95N×69°.13W,h10km±31km,MD4.5/5
IDC 27 19:18:28.5±4.8,19°.22N×69°.01W,h75km±46km,mb3.6/16, mb1 3.9/18,mb1mx3.8/28,mbtmp3.7/18,ML3.2/1,MS3.5/3, Ms1 3.6/3,ms1mx3.0/36,Error ellipse: s-maj=19.2km s-min=12.6km az=33.0

ISC 27 19:18:19.8±0.4,19°.03N±0°.05×69°.02W±0°.03,h10km,n136, σ1°52/146,mb4.4/36,MS3.6/4,21C-12D,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DR12	**Loma Pena Alta**	**0.42**	**235**	*iP*	**Pg**	**19 18 28.7**	**+0.6**
DR12	**Loma Pena Alta**	**0.42**	**235**	*iP*	**Pg**	**19 18 28.7**	**+0.6**
IMO	**Isla Mona**	**1.40**	**131**	*iP*	**Pn**	**19 18 44.0**	**-1.3**
IMO	**Isla Mona**	**1.40**	**131**	*i Pu*	**Pn**	**19 18 44.0**	**-1.3**
IDE	**Isla Desecheo**	**1.60**	**113**	*eP*	**Pn**	**19 18 46.7**	**-1.5**
IDE	**Isla Desecheo**	**1.60**	**113**	*eP*	**Pn**	**19 18 46.7**	**-1.5**
IDE				*eS*	**Sn**	**19 19 09.4**	**+0.5**
AGP	**Aguadilla**	**1.89**	**109**	*ePn*	**Pn**	**19 18 52.7**	**+0.6**
AGPR	**Aguadilla, PR**	**1.89**	**107**	*eP*	**Pn**	**19 18 52.8**	**+0.6**
AGPR	**Aguadilla, PR**	**1.89**	**107**	*eP*	**Pn**	**19 18 52.8**	**+0.6**
AGPR				*eS*	**Sg**	**19 19 20.5**	**-0.2**
MPR	**Mayaguez**	**1.96**	**114**	*eP*	**Pn**	**19 18 54.1**	**+1.0**
MPR	**Mayaguez**	**1.96**	**114**	*eP*	**Pn**	**19 18 54.1**	**+1.0**
LSP	**Las Mesas**	**2.02**	**115**	*eP*	**Pn**	**19 18 54.1**	**+0.1**
LSP	**Las Mesas**	**2.02**	**115**	*ePn*	**Pn**	**19 18 53.0**	**-1.0**
LSP				*eSn*	**Sn**	**19 19 21.1**	**+1.7**
CRPR	**Cabo Rojo, PR**	**2.08**	**119**	*eP*	**Pn**	**19 18 55.3**	**+0.6**
CRPR	**Cabo Rojo, PR**	**2.08**	**119**	*eP*	**Pn**	**19 18 55.3**	**+0.6**
SDDR	**Presa de Saban**	**2.15**	**269**	*eP*	**Pb**	**19 18 58.6**	**-0.2**
SDDR	**Presa de Saban**	**2.15**	**269**	*eP*	**Pb**	**19 18 58.6**	**-0.2**
LRS	**Lares**	**2.19**	**109**	*iP*	**Pn**	**19 18 57.8**	**+1.5**
LRS	**Lares**	**2.19**	**109**	*i Pu*	**Pn**	**19 18 57.8**	**+1.5**
GBPR	**Guanica, Bosqu**	**2.29**	**117**	*eP*	**Pn**	**19 18 59.5**	**+1.9**
GBPR	**Guanica, Bosqu**	**2.29**	**117**	*eP*	**Pn**	**19 18 59.5**	**+1.9**
OBIP	**Obispado Ponce**	**2.49**	**113**	*eP*	**Pn**	**19 19 02.8**	**+2.4**
OBIP	**Obispado Ponce**	**2.49**	**113**	*ePn*	**Pn**	**19 19 01.6**	**+1.2**
OBIP				*eSg*	**Sb**	**19 19 36.0**	**+0.6**
CELP	**Cerrillos**	**2.50**	**112**	*eP*	**Pn**	**19 19 02.1**	**+1.5**
CELP	**Cerrillos**	**2.50**	**112**	*ePn*	**Pn**	**19 19 01.4**	**+0.8**
CELP				*eSn*	**Sn**	**19 19 33.0**	**+1.8**
SJG	**San Juan**	**2.87**	**108**	*eP*	**Pn**	**19 19 07.5**	**+1.8**
SJG	**San Juan**	**2.87**	**108**	*eP*	**Pn**	**19 19 07.5**	**+1.8**
CBYP	**Canovanas**	**3.09**	**104**	*eP*	**Pn**	**19 19 10.1**	**+1.3**
CBYP	**Canovanas**	**3.09**	**104**	*eP*	**Pn**	**19 19 10.1**	**+1.3**
CPD	**Cerro la Pandu**	**3.11**	**108**	*eP*	**Pn**	**19 19 11.2**	**+2.3**
CPD	**Cerro la Pandu**	**3.11**	**108**	*eP*	**Pn**	**19 19 11.2**	**+2.3**
HUMP	**Col San Antoni**	**3.13**	**106**	*eP*	**Pn**	**19 19 11.0**	**+1.7**
HUMP	**Col San Antoni**	**3.13**	**106**	*eP*	**Pn**	**19 19 11.0**	**+1.7**
GRTK	**Grand Turk**	**3.17**	**322**	*eP*	**Pn**	**19 19 08.8**	**-0.9**
GRTK	**Grand Turk**	**3.17**	**322**	*ePn*	**Pn**	**19 19 08.8**	**-0.9**
GRTK				*eSn*	**Sn**	**19 19 48.0**	**+0.5**
MTP	**Monte Pirata**	**3.42**	**105**	*eP*	**Pn**	**19 19 14.6**	**+1.4**
MTP	**Monte Pirata**	**3.42**	**105**	*eP*	**Pn**	**19 19 14.6**	**+1.4**
STVI	**Saint Thomas**	**3.91**	**99**	*eP*	**Pn**	**19 19 22.2**	**+2.2**
STVI	**Saint Thomas**	**3.91**	**99**	*eP*	**Pn**	**19 19 22.2**	**+2.2**
TBVI	**Tortola**	**4.22**	**98**	*eP*	**Pn**	**19 19 26.4**	**+2.2**
TBVI	**Tortola**	**4.22**	**98**	*eP*	**Pn**	**19 19 26.4**	**+2.2**
CDVI	**St. Croix**	**4.23**	**107**	*eP*	Pn	19 19 27.8	+3.4
CDVI	**St. Croix**	**4.23**	**107**	*ePn*	**Pn**	**19 19 26.5**	**+2.1**
CDVI				*eSn*	**Sn**	**19 20 08.4**	**-5.6**
SABA	**Saba**	**5.66**	**103**	*ePn*	Pn	19 19 49.4	+5.3
GTBY	**Guantanamo Bay**	**5.82**	**280**	*ePn*	**Pn**	**19 19 45.2**	**-1.0**
ANWB	**Willy Bob**	**7.00**	**100**	Pn	**Pn**	**19 20 03.0**	**+0.5**
LZG	**Guadaloupe-1**	**7.48**	**111**	*eP*	**Pn**	**19 20 10.4**	**+1.3**
MLG	**Mont-d'or**	**7.57**	**112**	*eP*	**Pn**	**19 20 11.6**	**+1.2**
SEG	**Port Louis**	**7.62**	**109**	*eP*	**Pn**	**19 20 13.8**	**+2.8**
BCG	**Bois Riant Cap**	**7.64**	**111**	*eP*	**Pn**	**19 20 13.2**	**+1.9**
H05N1	**Guadeloupe/Mar**	**8.05**	**108**	P	Pn	19 20 21.4	+4.4
	SNR=6.8						
H05N1				S	**Sn**	**19 21 51.0**	**+2.8**
H05S1	**Guadeloupe/Mar**	**9.08**	**119**	P	**Pn**	**19 20 33.6**	**+2.6**
	SNR=13						
H05S1				S	**Sn**	**19 22 13.2**	**-0.1**
GRGR	**Grenville**	**9.87**	**133**	*ePn*	**Pn**	**19 20 41.5**	**-0.3**
GRGR				*eSn*	**Sn**	**19 22 29.8**	**-2.9**
SDV	**Santo Domingo**	**10.21**	**189**	*ePn*	**Pn**	**19 20 46.3**	**-0.4**
BBSR	**BB Station**	**13.84**	**15**	*ePn*	**Pn**	**19 21 35.0**	**-1.1**
BBSR				*eSn*	Sn	19 23 52.4	-17
BCIP	**Isla Barro Col**	**14.35**	**228**	Pn	**Pn**	**19 21 44.5**	**+1.3**
ROSC	**El Rosal**	**15.01**	**201**	P	**P**	**19 21 59.9**	**+1.8**
	2.2nm,0.3s,baz=97,slow=23,SNR=7.6						
JTS	**JuntasAbangare**	**17.68**	**243**	P	**P**	**19 22 27.8**	**+0.5**
JTS	**JuntasAbangare**	**17.68**	**243**	P	**P**	**19 22 30.9**	**+3.6**
	baz=290,slow=20,SNR=4.3						
TEIG	**Tepich**	**18.18**	**277**	*ePn*	**P**	**19 22 35.2**	**+2.4**
	8.7nm,0.6s						
OTAV	**Otavalo**	**

ILAR	**Eielson Array**	**67.79**	**333**	P		**P**	**19 29 16.0**	**-1.6**
	0.1nm,0.6s,baz=92,slow=6.5,SNR=2.9							
TORD	**Torodi Ar. Bea**	**67.81**	**83**	P		**P**	**19 29 17.6**	**-1.1**
	1.9nm,0.7s,baz=295,slow=7.6,SNR=15							
NB2	**NORSAR Subarra**	**68.82**	**31**	P		**P**	**19 29 24.5**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=272,slow=6.5							
NOA	**NORSAR Array B**	**68.82**	**31**	P		**P**	**19 29 24.2**	**0.0**
	comp=Z,0.9nm,0.7s,baz=272,slow=6.4,SNR=5.5							
ARCES	**ARCESS Array B**	**73.91**	**21**	P		**P**	**19 29 54.6**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=287,slow=4.5,SNR=21							
ARCES					LR	LR	19 56 32.4	
	comp=Z,41nm,18.4s,baz=80,slow=31							
FINES	**FINESS Array B**	**75.88**	**30**	P		**P**	**19 30 06.6**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=254,slow=3.6,SNR=9.9							
AKASG	**Malin Array Be**	**80.57**	**40**	P		**P**	**19 30 32.2**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=294,slow=4.3,SNR=4.5							
BRTR	**Keskin Array B**	**87.34**	**49**	P		**P**	**19 31 07.6**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=319,slow=4.2,SNR=3.7							
CN2	**Changchun**	**116.08**	**348**	*e*PKP		**PKPdf**	**19 37 02.3**	**-1.1**
CN2				PP		**PP**	**19 38 10.3**	**+3.5**
CN2				SKS		**SKSdf**	**19 44 13.3**	**-2.5**
CN2				*e*SS		**SS**	**19 54 08.0**	**-0.4**
HHC	**Hu-ho-hao-te**	**120.42**	**359**	*e*PKP		**PKPdf**	**19 37 11.0**	**-1.0**
HHC				PP		**PP**	**19 38 38.3**	**+1.4**
HHC				PKS		**PKSdf**	**19 40 46.5**	**-2.3**
HHC				SKS		**SKSdf**	**19 44 22.0**	**-2.5**
HHC				SKKS		**SKKSac**	**19 45 33.3**	**-5.3**
HHC				SS		**SS**	**19 55 05.5**	**+0.7**
HHC				LR	LR			
	comp=Z,110nm,18.1s							
HHC				LR	LR			
	comp=Z,120nm,18.3s							
HHC				LR	LR			
	comp=Z,200nm,19.6s							
NJ2	**Nanjing**	**128.65**	**351**	*e*PKP		**PKPdf**	**19 37 25.3**	**-2.5**
CD2	**Chengdu**	**129.86**	**8**	PKP		**PKPdf**	**19 37 28.8**	**-1.5**
WRA	**Warramunga Arr**	**157.96**	**264**	PKPab		**PKPab**	**19 38 51.5**	**+0.5**
	comp=Z,0.4nm,1.0s,baz=78,slow=4.1,SNR=2.7							
ASAR	**Alice Springs**	**158.17**	**254**	PKPab		**PKPab**	**19 38 50.9**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=103,slow=4.0,SNR=3.9							

MEX 27 19:26:57.6±0.9, 16°56N×93°81W, h139km±11km, MD3.5, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
TGIG		**0.69**	**72**	*i* P	Pn	19 27 18.1	-0.8
TGIG				*i* S	Sn	19 27 32.9	-2.2
PCIG		**1.02**	**146**	*i* P	Pn	19 27 20.2	-1.3
PCIG				*i* S	Sn	19 27 37.6	-2.1
CCIG	**Comitan**	**1.63**	**99**	*i* P	Pn	19 27 26.9	-1.1
CCIG				*i* S	Sn	19 27 48.9	-2.3
HUIG	**Huatulco**	**2.34**	**251**	*i* P	Pn	19 27 34.5	-1.8
HUIG				*i* S	Sn	19 28 05.0	-1.0
VHO	**Vista Hermosa**	**2.84**	**281**	*i* P	Pn	19 27 40.6	-2.2
VHO				*i* S	Sn	19 28 15.4	-2.3

*DJA **27** 19:28:28.5±0.5, 4°N±4°×12°7E±°, h67km±13km, M4.6/9, mb4.7/5, mB5.0/4, MLv4.7/9, Mw(mB)4.3/4*
*ISCJB **27** 19:28:31.8±0.3, 3°70N±0°03×126°81E±0°04, h53km, mb4.2/22, MS3.4/3, Error ellipse: s-maj=5.8km s-min=3.5km az=153.3*
*IDC **27** 19:28:35.7±6.0, 3°58N×126°68E, h75km±58km, mb3.8/13, mb1 3.9/13, mb1mx3.8/24, mbtmp3.8/13, MS3.4/3, Ms1 3.4/3, ms1mx2.9/34, Error ellipse: s-maj=36.6km s-min=13.3km az=73.0*
*NEIC **27** 19:28:35.2±1.2, 3.73N×126°89E, h72km±10km, mb4.4/10, Error ellipse: s-maj=14.6km s-min=6.0km az=75.0*
*AUST **27** 19:28:36.3±0.5, 3°59N×126°88E, h67km, Error ellipse: s-maj=1.2km s-min=1.0km az=356.0*

ISC 27 19:28:33.7±0.5, 3°69N±0°05×126°76E±0°06, h53km, n89, σ1§17/83, mb4.3/22, MS3.2/3, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	
SGSI	**Sangihe**	**1.23**	**270**	P	**Pn**	**19 28 53.0**	**-1.6**
SGSI				S	**Sn**	**19 29 10.0**	**-0.2**
TNTI	**Ternate**	**2.96**	**168**	P	**Pn**	**19 29 17.4**	**-0.8**
TNTI				S	**Sn**	**19 29 51.9**	**-0.5**
GSPH	**General Santos**	**2.99**	**323**	P	**Pn**	**19 29 19.7**	**+1.0**
MATI	**Mati**	**3.28**	**351**	*e*P	**Pn**	**19 29 25.2**	**+2.6**
DAV	**Davao City (W)**	**3.56**	**341**	Pn	**Pn**	**19 29 28.3**	**+1.8**
KMSI	**Cibinong**	**4.16**	**222**	P	Pn	19 29 30.2	-4.4
KMSI				S	Sn	19 30 32.9	+11
CTBH	**Cotabato--PC H**	**4.32**	**325**	*e*P	**Pn**	**19 29 38.5**	**+1.7**
LBMI	**Labuha**	**4.36**	**170**	P	**Pn**	**19 29 37.8**	**+0.4**
LBMI				S	Sn	19 30 33.2	+6.3
BUKP	**Musuan**	**4.50**	**338**	*e*P	**Pn**	**19 29 41.4**	**+2.0**
PAGZ	**Pagadian**	**5.33**	**321**	*e*P	**Pn**	**19 29 52.5**	**+1.7**
BUTP	**Butuan**	**5.37**	**348**	*e*P	Pn	19 29 43.6	-7.7
MRSI	**Marisa**	**5.78**	**237**	P	**Pn**	**19 29 58.4**	**+1.5**
	70nm,0.9s,2μm0.3nm						
MRSI				S	**Sn**	**19 31 02.8**	**+0.9**
	70nm,0.9s,2μm0.3nm						
IPIL	**Ipil**	**5.83**	**315**	*e*P	**Pn**	**19 29 57.7**	**+0.1**
LUWI	**Luwuk**	**6.16**	**220**	P	Pn	19 30 05.7	+3.6
	137nm,1.1s,1μm0.5nm						
LUWI				S	Sn	19 31 22.2	+11
	137nm,1.1s,1μm0.5nm						
LUWI	**Luwuk**	**6.16**	**220**	P	Pn	19 30 05.9	+3.8
	baz=6.2,SNR=16						
SWI	**Sorong**	**6.37**	**135**	P	**Pn**	**19 30 05.5**	**+0.5**
	72nm,0.9s,1μm0.4nm						
SWI				S	**Sn**	**19 31 17.2**	**+0.7**
	72nm,0.9s,1μm0.4nm						
SWI	**Sorong**	**6.37**	**135**	P	**Pn**	**19 30 05.6**	**+0.5**
	baz=6.2,SNR=12						
APSI	**Ampana**	**6.85**	**228**	P	Pn	19 30 16.6	+5.0
	86nm,1.0s						
NLAI	**Namlea**	**6.89**	**177**	P	**Pn**	**19 30 13.5**	**+1.4**
NLAI				S	**Sn**	**19 31 27.9**	**-1.2**
MYLDM	**Lahad Datu**	**8.37**	**281**	P	Pn	19 30 38.7	+6.3
PALU	**Palau**	**8.49**	**64**	P	Pn	19 30 33.3	-0.8
	baz=8.4,SNR=4.6						
FAKI	**Fak Fak**	**8.55**	**140**	P	**Pn**	**19 30 35.5**	**+0.6**
	baz=8.4,SNR=8.9						
TTSI	**Tana Toraja**	**9.64**	**226**	P	Pn	19 30 59.5	+10
KKM	**Kota Kinabalu**	**10.77**	**283**	*e*Pn	**Pn**	**19 31 08.2**	**+2.8**
BATI	**Baumata**	**14.14**	**193**	P	**P**	**19 31 54.8**	**-2.6**
BATI	**Baumata**	**14.14**	**193**	P	**P**	**19 31 54.8**	**-2.6**
	1.3nm,0.3s,baz=118,slow=8.4,SNR=5.1						
SBUM	**Sibu**	**14.57**	**266**	P	P	19 32 06.2	+4.0
JAY	**Jayapura**	**15.23**	**114**	P	**P**	**19 32 10.5**	**+0.9**
	baz=15,SNR=3.7						
KSM	**Kuching**	**16.58**	**263**	*e*Pn	**P**	**19 32 24.5**	**-0.1**
KSM	**Kuching**	**16.58**	**263**	P	**P**	**19 32 28.5**	**+3.9**
	baz=17,SNR=3.4						
MTN	**Manton Dam**	**16.98**	**165**	P	**Pn**	**19 32 27.9**	**+0.2**
	baz=17,SNR=3.9						
KDU	**Kakadu**	**17.23**	**161**	P	**P**	**19 32 32.7**	**+1.1**
	baz=17,SNR=4.5						
KNRA	**Kununurra**	**19.34**	**174**	P	**P**	**19 32 54.6**	**-0.2**
	baz=19,SNR=22						
TPUB	**Ta-pu**	**20.38**	**344**	*e*P	**P**	**19 33 04.1**	**-2.1**
	29nm,0.9s						
YHNB	**Yeheng**	**21.50**	**347**	*e*P	**P**	**19 33 17.6**	**-0.6**
FITZ	**Fitzroy Crossi**	**21.68**	**183**	P	**P**	**19 33 19.2**	**-0.9**
FITZ	**Fitzroy Crossi**	**21.68**	**183**	P	**P**	**19 33 19.2**	**-0.9**
	baz=22,SNR=8.9						
FITZ	**Fitzroy Crossi**	**21.68**	**183**	P	**P**	**19 33 19.2**	**-0.9**
	1.1nm,0.4s,baz=4.3,slow=4.7,SNR=14						
WRAB	**Tennant Creek**	**24.63**	**163**	*e*P	**P**	**19 33 48.8**	**-0.6**
	16nm,0.8s						
WRA	**Warramunga Arr**	**24.63**	**163**	P	**P**	**19 33 48.0**	**-1.3**
WRA	**Warramunga Arr**	**24.63**	**163**	P	**P**	**19 33 48.0**	**-1.3**
	10nm,0.7s,baz=344,slow=10,SNR=86						
MBWA	**Marble Bar**	**25.64**	**195**	*e*P	**P**	**19 33 59.7**	**+1.3**
ASAR	**Alice Springs**	**28.06**	**166**	P	**P**	**19 34 19.9**	**-0.4**
ASAR	**Alice Springs**	**28.06**	**166**	P	**P**	**19 34 19.9**	**-0.4**
	0.6nm,0.4s,baz=348,slow=7.5,SNR=19						
JNU	**Nakatsue**	**29.54**	**7**	LR	LR	19 44 46.9	
	comp=Z,66nm,20.1s,baz=60,slow=33						
CMAR	**Chiang Mai Arr**	**30.92**	**300**	P	**P**	**19 34 46.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**30.92**	**300**	P	**P**	**19 34 46.0**	**+0.2**
	1.0nm,0.8s,baz=114,slow=7.3,SNR=15						
CHTO	**Chiang Mai**	**31.07**	**301**	*e*P	**P**	**19 34 46.9**	**-0.2**
	6.9nm,0.8s						
MEEK	**Meekatharra**	**31.16**	**194**	P	**P**	**19 34 49.5**	**+1.8**
	baz=31,SNR=3.2						
KSAR	**Wonju Array Be**	**33.61**	**2**	P	**P**	**19 35 10.4**	**+1.4**
KSRS	**Korea Array**	**33.62**	**2**	P	**P**	**19 35 10.4**	**+1.3**
	2.3nm,0.7s,baz=181,slow=9.9,SNR=14						
KSRS				LR	LR	19 49 58.8	
	comp=Z,43nm,19.0s,baz=175,slow=38						
STKA	**Stephens Creek**	**38.08**	**159**	P	**P**	**19 35 46.6**	**-0.7**
STKA	**Stephens Creek**	**38.08**	**159**	P	**P**	**19 35 47.2**	**-0.1**
	baz=38,SNR=15						
STKA	**Stephens Creek**	**38.08**	**159**	P	**P**	**19 35 46.6**	**-0.7**
	6.3nm,0.7s,baz=340,slow=6.6,SNR=21						
USRK	**Ussuriysk Arra**	**40.61**	**6**	P	**P**	**19 36 09.2**	**+0.9**
	2.0nm,0.7s,baz=175,slow=6.6,SNR=5.4						
TAPN	**Taplejung**	**44.07**	**306**	*e*P	**P**	**19 36 36.3**	**-0.8**
	8.7nm,1.0s						
ODAN	**Odare**	**44.12**	**306**	*e*P	**P**	**19 36 36.7**	**-0.8**
	3.3nm,0.4s						
RAMN	**Ramite**	**44.80**	**305**	*e*P	**P**	**19 36 42.4**	**-0.5**
	4.3nm,0.6s						
JIRN	**Jiri**	**45.42**	**306**	*e*P	**P**	**19 36 47.3**	**-0.7**
	4.1nm,0.4s						
GUN	**Gumba**	**45.78**	**306**	*e*P	**P**	**19 36 50.6**	**-0.1**
	7.3nm,0.5s						
PKI	**Pulchoki**	**46.02**	**305**	*e*P	**P**	**19 36 51.7**	**-0.9**
KKN	**Kakani**	**46.22**	**306**	*e*P	**P**	**19 36 53.2**	**-0.8**
	1.4nm,0.3s						
DMN	**Daman**	**46.28**	**305**	*e*P	**P**	**19 36 53.7**	**-0.9**
LHI	**Lord Howe Isla**	**46.59**	**141**	P	P	19 37 02.6	+6.1
	baz=47,SNR=3.2						
GKN	**Gorkha**	**46.82**	**306**	*e*P	**P**	**19 36 57.5**	**-1.2**
	2.7nm,0.4s						
ULN	**Ulaanbaatar**	**47.17**	**342**	*e*P	**P**	**19 37 00.5**	**-0.6**
	2.0nm,0.8s						
SONM	**Songino Array**	**47.35**	**341**	P	**P**	**19 37 02.4**	**-0.1**
SONM	**Songino Array**	**47.35**	**341**	P	**P**	**19 37 02.4**	**-0.1**
	1.2nm,0.7s,baz=159,slow=7.8,SNR=6.4						
SONM				LR	LR	19 59 18.6	
	comp=Z,70nm,18.7s,baz=179,slow=39						
KOLN	**Koldanda**	**47.58**	**305**	*e*P	**P**	**19 37 03.9**	**-0.7**
	7.5nm,0.4s						
DANN	**Dangsing**	**47.67**	**306**	*e*P	**P**	**19 37 04.7**	**-0.8**
	12nm,0.5s						
MKAR	**Makanchi Array**	**57.61**	**325**	P	**P**	**19 38 18.1**	**-0.3**
MKAR	**Makanchi Array**	**57.61**	**325**	P	**P**	**19 38 18.1**	**-0.3**
	1.5nm,0.4s,baz=118,slow=7.5,SNR=27						
TKM2	**Tokmak 2**	**59.80**	**319**	*e*P	**P**	**19 38 33.5**	**-0.4**
	2.6nm,0.8s						
AAK	**Ala-Archa**	**60.41**	**318**	P	**P**	**19 38 38.1**	**+0.2**
ZALV	**Zalesovo Beam**	**60.64**	**333**	P	**P**	**19 38 38.6**	**-0.5**
ZALV	**Zalesovo Beam**	**60.64**	**333**	P	**P**	**19 38 38.6**	**-0.5**
	0.6nm,0.4s,baz=134,slow=7.4,SNR=4.7						
EKS2	**Erkin-Say**	**60.91**	**318**	*e*P	**P**	**19 38 42.1**	**+0.8**
	5.3nm,1.4s						
KURK	**Kurchatov**	**61.80**	**328**	*e*P	**P**	**19 38 46.7**	**-0.3**
	3.7nm,0.6s						
KKAR	**Karatay Array**	**63.29**	**317**	*e*P	**P**	**19 38 56.7**	**-0.4**
	2.6nm,0.9s						
BRVK	**Borovoye**	**67.45**	**327**	*e*P	**P**	**19 39 22.4**	**-1.4**
	6.3nm,1.1s						
ABKAR	**Akbulak array**	**72.21**	**321**	*e*P	**P**	**19 39 52.6**	**-0.5**
	1.2nm,0.6s						
BRTR	**Keskin Array B**	**90.08**	**310**	P	**P**	**19 41 27.6**	**-0.7**
BRTR	**Keskin Array B**	**90.08**	**310**	P	**P**	**19 41 27.6**	**-0.7**
	1.0nm,0.9s,baz=95,slow=6.2,SNR=4.2						
ARCES	**ARCESS Array B**	**90.50**	**340**	P	**P**	**19 41 28.2**	**-1.3**
ARCES	**ARCESS Array B**	**90.50**	**340**	P	**P**	**19 41 28.2**	**-1.3**
	2.3nm,0.8s,baz=80,slow=6.2,SNR=10						
FINES	**FINESS Array B**	**91.89**	**332**	P	**P**	**19 41 36.6**	**+0.6**
FINES	**FINESS Array B**	**91.89**	**332**	P	**P**	**19 41 36.6**	**+0.6**
	0.9nm,0.7s,baz=97,slow=4.1,SNR=3.2						
TORD	**Torodi Ar. Bea**	**122.97**	**288**	PKP	**PKPdf**	**19 47 25.0**	**-0.1**
TORD	**Torodi Ar. Bea**	**122.97**	**288**	PKP	**PKPdf**	**19 47 25.0**	**-0.1**
	0.3nm,0.6s,baz=348,slow=0.9,SNR=2.1						

*ISCJB **27** 19:42:06.9±0.7, 11°90N±0°07×92°85E±0°08, h23km, mb3.7/10, Error ellipse: s-maj=11.5km s-min=9.5km az=141.3*
*IDC **27** 19:42:16.9±6.2, 12°20N×93°05E, h92km±54km, mb3.5/10, mb1 3.6/11, mb1mx3.4/28, mbtmp3.5/11, ML3.8/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/41, Error ellipse: s-maj=43.3km s-min=13.7km az=56.0*

ISC 27 19:42:08.6±0.9, 11°9N±0°1×92°7E±0°1, h23km, n24, σ1§06/19, mb3.8/10, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	
CMAR	**Chiang Mai Arr**	**8.87**	**42**	P	**Pn**	**19 44 15.8**	**+0.4**
	0.3nm,0.3s,baz=235,slow=15,SNR=14						
CMAR				S	**Sn**	**19 45 55.2**	**+0.5**
	0.2nm,0.3s,baz=236,slow=27,SNR=5.2						
PSI	**Prapat**	**10.96**	**145**	LR	LR	19 48 52.9	
	comp=Z,92nm,18.9s,baz=93,slow=36						
SHL	**Shillong**	**13.60**	**357**	*e*P	Pn	19 45 10.0	-10
ODAN	**Odare**	**15.68**	**342**	*e*P	**Pn**	**19 45 49.1**	**+0.7**
	7.5nm,0.4s						
TAPN	**Taplejung**	**16.05**	**344**	*e*P	**Pn**	**19 45 50.9**	**-2.4**
	6.0nm,0.3s						
PKI	**Pulchoki**	**17.01**	**337**	*e*P	**P**	**19 46 07.7**	**+0.5**
	3.1nm,0.3s						
PKIN	**Phulchoki**	**17.02**	**337**	*e*P	**P**	**19 46 07.4**	**+0.2**
	2.7nm,0.2s						
DMN	**Daman**	**17.16**	**337**	*e*P	**P**	**19 46 09.2**	**+0.5**
KKN	**Kakani**	**17.25**	**337**	*e*P	**Pn**	**19 46 09.6**	**+1.2**
GKN	**Gorkha**	**17.70**	**336**	*e*P	**Pn**	**19 46 14.6**	**+0.8**
KOLN	**Koldanda**	**17.93**	**333**	*e*P	**P**	**19 46 19.3**	**+2.1**
	9.6nm,0.6s						
H08S3	**Diego Garcia H**	**27.95**	**227**	T	T	20 17 05.1	
	baz=44,slow=0.7,SNR=8.8						
H08S2	**Diego Garcia H**	**27.95**	**227**	T	T	20 17 05.8	
	baz=44,slow=0.7,SNR=9.0						
H08S1	**Diego Garcia H**	**27.97**	**227**	T	T	20 17 10.3	
	baz=44,slow=0.7,SNR=6.3						
MKAR	**Makanchi Array**	**35.86**	**348**	P	**P**	**19 49 07.2**	**+0.6**
	1.4nm,0.5s,baz=142,slow=9.0,SNR=27						
SONM	**Songino Array**	**37.60**	**15**	P	**P**	**19 49 19.8**	**-1.8**
	0.5nm,0.7s,baz=191,slow=7.1,SNR=3.9						
KSRS	**Korea Array**	**40.49**	**45**	P	P	19 49 41.8	-4.0
	1.3nm,0.6s,baz=238,slow=9.2,SNR=5.8						
ZALV	**Zalesovo Beam**	**42.39**	**353**	P	**P**	**19 50 00.6**	**-0.5**
	0.3nm,0.3s,baz=157,slow=8.1,SNR=3.5						
FITZ	**Fitzroy Crossi**	**44.12**	**132**	P	**P**	**19 50 15.7**	**+0.2**
	0.7nm,0.3s,baz=334,slow=10,SNR=9.0						
WRA	**Warramunga Arr**	**51.79**	**127**	P	**P**	**19 51 15.1**	**+0.1**
	0.7nm,0.6s,baz=300,slow=10.0,SNR=19						
ASAR	**Alice Springs**	**53.61**	**131**	P	**P**	**19 51 28.9**	**+0.4**
	0.6nm,0.4s,baz=308,slow=6.6,SNR=16						
AKASG	**Malin Array Be**	**64.13**	**321**	P	**P**	**19 52 40.3**	**-0.8**
	0.2nm,0.3s,baz=114,slow=4.1,SNR=3.1						
FINES	**FINESS Array B**	**68.50**	**332**	P	**P**	**19 53 08.7**	**-0.2**
	2.0nm,0.9s,baz=113,slow=3.2,SNR=2.9						
GERES	**GERESS Array B**	**73.89**	**318**	P	**P**	**19 53 42.2**	**+0.3**
	0.4nm,0.5s,baz=91,slow=7.9,SNR=4.9						

*BJI **27** 19:49:42.9, 9°39S×106°21E, h16km, mB5.0/10, mb4.7/19, Ms4.9/12, Ms7 4.6/12*
*IDC **27** 19:49:42.6±0.5, 9°13S×106°93E, h0km, mb4.2/22, mb1 4.3/24, mb1mx4.3/30, mbtmp4.2/24, ML4.2/2, MS3.8/11, Ms1 3.8/11, ms1mx3.6/36, Error ellipse: s-maj=18.4km s-min=11.5km az=58.0*
*NEIC **27** 19:49:43.6±0.3, 9°19S×106°92E, h10km, mb4.7/16, Error ellipse: s-maj=8.4km s-min=6.5km az=50.0*
*AUST **27** 19:49:43.1±2.4, 9°28S×106°75E, h6km, Error ellipse: s-maj=1.0km s-min=0.8km az=293.0*
*ISCJB **27** 19:49:45.7±0.3, 9°23S±0°04×106°84E±0°03, h33km, mb4.4/38, MS4.0/12, Error ellipse: s-maj=5.7km s-min=4.2km az=32.1*
*BKK **27** 19:49:46.3±0.4, 9°S±5°×10°7E±°, h10km, M4.7/11, mB5.6/2, mb4.9/11, MLv4.6/2, Mw(mB)5.0/2*
*DJA **27** 19:49:51.6±0.5, 9°S±5°×10°7E±°, h12km, M4.7/25, mb5.0/11, mB5.1/8, MLv4.7/25, Mw(mB)4.5/8*

ISC 27 19:49:47.9±0.4, 9°11S±0°05×106°89E±0°05, h35km, n157, σ1§28/138, mb4.3/38, MS4.0/12, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	
XMI	**Christmas Isla**	**1.78**	**222**	P	Pn	19 50 11.6	-4.6
	baz=1.6,SNR=71						
CISI	**Cisompet, Garu**	**1.80**	**31**	P	**Pn**	**19 50 16.0**	**-0.4**
CISI	**Cisompet, Garu**	**1.80**	**31**	*e*Pn	**Pn**	**19 50 15.8**	**-0.6**
CISI	**Cisompet, Garu**	**1.80**	**31**	P	**Pn**	**19 50 16.4**	**0.0**
	baz=2.0,SNR=343						
SKJI	**Sukabumi**	**2.12**	**351**	P	**Pn**	**19 50 20.7**	**-0.1**
LEM	**Lembang**	**2.38**	**18**	P	**Pn**	**19 50 26.3**	**+1.7**
LEM				S	**Sn**	**19 50 50.2**	**-2.5**
LEM	**Lembang**	**2.38**	**18**	P	**Pn**	**19 50 26.2**	**+1.7**
	baz=2.6,SNR=87						
CLJI	**Cilicap**	**2.52**	**57**	P	Pn	19 50 29.6	+3.3
KPJI	**Karang Pucung**	**2.68**	**49**	P	**Pn**	**19 50 30.1**	**+1.5**
TNG	**Tangerang**	**2.93**	**355**	P	Pn	19 50 36.4	+4.4
TGJI	**Tegal**	**3.14**	**45**	P	**Pn**	**19 50 35.1**	**+0.3**
BJII	**Banjamegara**	**3.30**	**58**	P	**Pn**	**19 50 38.4**	**+1.2**
UGM	**Wanagama**	**3.78**	**72**	P	**Pn**	**19 50 43.1**	**-0.7**
UGM	**Wanagama**	**3.78**	**72**	*e*Pn	Pn	19 50 40.0	-3.8
UGM	**Wanagama**	**3.78**	**72**	P	**Pn**	**19 50 42.8**	**-1.0**
	baz=4.0,SNR=49						
WOJI	**Wonogiri, Jawa**	**4.18**	**73**	P	Pn	19 51 03.2	+14
KASI	**Kota Agung**	**4.29**	**326**	P	**Pn**	**19 50 50.0**	**-0.6**
PCJI	**Pacitan**	**4.33**	**78**	P	**Pn**	**19 50 49.9**	**-1.4**
KLI	**Kotabumi**	**4.68**	**334**	P	Pn	19 51 04.1	+8.0
LWLI	**Liwa**	**4.95**	**325**	P	**Pn**	**19 51 00.2**	**+0.4**
PWJI	**Pagerwojo**	**4.98**	**78**	P	**Pn**	**19 51 01.1**	**+1.0**
SJI	**Sawahan**	**5.01**	**75**	P	**Pn**	**19 51 02.5**	**+1.8**
MDSI	**Maura Dua**	**5.33**	**329**	P	**Pn**	**19 51 04.7**	**-0.3**
	65nm,0.8s,910nm0.3nm						
KRKI	**Karangkates**	**5.58**	**81**	P	Pn	19 51 12.6	+4.2
	415nm,0.9s,2.7nm						
MNAI	**Manna**	**6.13**	**320**	P	**Pn**	**19 51 14.5**	**-1.5**
	baz=6.2,SNR=3.9						
LHSI	**Lahat**	**6.23**	**327**	P	**Pn**	**19 51 18.9**	**+1.6**
	98nm,1.1s,1μm0.4nm						
GMJI	**Gumukmas**	**6.53**	**83**	P	Pn	19 51 26.8	+5.3
	175nm,1.1s,0.7nm						
BLJI	**Banyuglugur**	**6.77**	**79**	P	Pn	19 51 31.2	+6.4
	106nm,0.8s,6μm1.3nm						
PPBI	**Pangkal Pinang**	**6.95**	**354**	P	**Pn**	**19 51 30.2**	**+3.0**
	20nm,1.1s,483nm0.1nm						
MASI	**Maura Aman, Be**	**7.52**	**322**	P	Pn	19 51 49.6	+14
DNP	**Denpasar**	**8.23**	**88**	P	Pn	19 52 01.5	+17
SRBI	**Singaraja**	**8.29**	**84**	P	**Pn**	**19 51 48.3**	**+2.6**
	150nm,1.5s,2μm0.4nm						
KHKI	**Kahang-Kahang**	**8.65**	**86**	P	Pn	19 51 58.7	+8.1
	67nm,0.8s,0.4nm						
MTNI	**Mataram**	**9.18**	**88**	P	Pn	19 52 05.9	+8.0
	46nm,0.8s,780nm						
KSM	**Kuching**	**11.05**	**18**	Pn	**Pn**	**19 52 23.1**	**-0.4**
SBUM	**Sibu**	**12.65**	**25**	*e*Pn	Pn	19 52 48.9	+3.4
KAPI	**Kappang**	**13.39**	**73**	*e*Pn	**Pn**	**19 52 54.3**	**-1.3**
	14nm,0.9s						
KAPI	**Kappang**	**13.39**	**73**	P	**Pn**	**19 52 55.0**	**-0.6**
	0.4nm,0.3s,baz=229,slow=20,SNR=2.9						
KAPI				LR	LR	19 59 07.4	
	comp=Z,446nm,19.3s,baz=259,slow=42						
MMRI	**Maumere**	**15.17**	**89**	*e*Pn	**Pn**	**19 53 21.0**	**+1.3**
	50nm,1.1s						
GIRL	**Giralia**	**15.19**	**153**	P	Pn	19 53 14.1	-5.7
	baz=15,SNR=17						
KULM	**Kulim**	**15.60**	**336**	*e*Pn	**Pn**	**19 53 22.6**	**-2.6**
	17nm,1.1s						
BATI	**Baumata**	**16.57**	**95**	Pn	**Pn**	**19 53 36.6**	**-1.1**
BATI	**Baumata**	**16.57**	**95**	Pn	**Pn**	**19 53 36.6**	**-1.1**
	2.7nm,0.3s,baz=99,slow=19,SNR=4.3						
SOEI	**Soe**	**17.15**	**94**	P	**P**	**19 53 47.9**	**+1.4**
	baz=17,SNR=7.3						
MBWA	**Marble Bar**	**17.22**	**136**	*e*Pn	Pn	19 53 40.6	-5.2
	52nm,1.6s						
KKM	**Kota Kinabalu**	**17.69**	**32**	Pn	**Pn**	**19 53 51.3**	**-0.5**
	16nm,0.8s						
LUWI	**Luwuk**	**17.72**	**64**	P	P	19 54 03.3	+11
	baz=18,SNR=3.1						
MYLDM	**Lahad Datu**	**18.32**	**40**	*e*P	**Pn**	**19 54 02.1**	**+2.7**
	518nm,2.7s						
FITZ	**Fitzroy Crossi**	**20.28**	**118**	*e*P	**P**	**19 54 20.2**	**-0.4**
	15nm,0.9s						
FITZ	**Fitzroy Crossi**	**20.28**	**118**	P	**P**	**19 54 20.4**	**-0.2**
	baz=20,SNR=9.5						
FITZ	**Fitzroy Crossi**

	baz=39,SNR=9.9								
STKA	**Stephens Creek**	**39.34**	**130**	P		**P**		**19 57 13.3**	**-0.7**
	3.9nm,0.7s,baz=297,slow=7.8,SNR=11								
STKA				PcP		**PcP**		19 59 23.1	+0.9
	1.2nm,0.5s,baz=299,slow=9.3,SNR=3.7								
ODAN	**Odare**	**40.46**	**333**	*eP*		**P**		**19 57 24.5**	**+1.0**
	53nm,0.9s								
TAPN	**Taplejung**	**40.74**	**333**	*eP*		**P**		**19 57 27.4**	**+1.5**
	56nm,0.9s								
RAMN	**Ramite**	**40.90**	**332**	*eP*		**P**		**19 57 28.7**	**+1.5**
	34nm,1.0s								
JIRN	**Jiri**	**41.69**	**332**	*eP*		**P**		**19 57 35.2**	**+1.4**
	41nm,0.7s								
PKI	**Pulchoki**	**41.99**	**331**	*eP*		**P**		**19 57 36.8**	**+0.6**
	30nm,1.1s								
PKIN	**Phulchoki**	**42.00**	**331**	*eP*		**P**		**19 57 37.5**	**+1.3**
	6.5nm,0.5s								
GUN	**Gumba**	**42.05**	**332**	*eP*		**P**		**19 57 38.0**	**+1.3**
	118nm,1.2s								
DMN	**Daman**	**42.16**	**331**	*eP*		**P**		**19 57 38.6**	**+1.0**
	42nm,0.9s								
KKN	**Kakani**	**42.23**	**331**	*eP*		**P**		**19 57 39.1**	**+1.0**
	43nm,0.9s								
CMSA	**Cobar Meteorol**	**42.35**	**127**	P		**P**		**19 57 38.7**	**-0.1**
	baz=42,SNR=5.2								
GKN	**Gorkha**	**42.72**	**330**	*eP*		**P**		**19 57 42.7**	**+0.7**
	60nm,1.1s								
XAN	**Xi'an**	**42.96**	**2**	P		**P**		**19 57 44.0**	**+0.4**
XAN				pP		**pP**		**19 57 50.0**	**-4.0**
XAN				AMB	AMB				
	comp=Z,3.0nm,0.9s								
XAN				AMB	AMB				
	comp=Z,30nm,5.0s								
KOLN	**Koldanda**	**43.04**	**329**	*eP*		**P**		**19 57 45.8**	**+1.1**
	32nm,0.6s								
DANN	**Dangsing**	**43.44**	**330**	*eP*		**P**		**19 57 48.6**	**+0.7**
	28nm,0.6s								
GTA	**Gaotai**	**48.72**	**353**	*eP*		**P**		**19 58 31.5**	**+2.3**
GTA				pP		**pP**		**19 58 41.0**	**+1.4**
GTA				sP		**sP**		**19 58 45.8**	**+2.0**
GTA				AMB	AMB				
	comp=Z,9.0nm,1.0s								
GTA				AMB	AMB				
	comp=Z,170nm,5.7s								
GTA				LR	LR				
	comp=N,350nm,16.2s								
GTA				LR	LR				
	comp=E,240nm,15.2s								
GTA				LR	LR				
	comp=Z,340nm,12.8s								
KSAR	**Wonju Array Be**	**50.31**	**22**	P		**P**		**19 58 41.7**	**+0.5**
KSRS	**Korea Array**	**50.34**	**22**	P		**P**		**19 58 41.7**	**+0.4**
	1.3nm,0.8s,baz=198,slow=9.6,SNR=5.1								
MJAR	**Matsushiro Arr**	**54.12**	**31**	P		**P**		**19 59 07.9**	**-1.6**
MJAR	**Matsushiro Arr**	**54.12**	**31**	P		**P**		**19 59 07.9**	**-1.6**
	1.4nm,0.7s,baz=196,slow=9.5,SNR=2.9								
MJAR				LR		LR		20 21 17.8	
	comp=Z,65nm,18.9s,baz=20,slow=35								
SONM	**Songino Array**	**56.70**	**360**	P		**P**		**19 59 29.1**	**+1.1**
SONM	**Songino Array**	**56.70**	**360**	P		**P**		**19 59 29.1**	**+1.1**
	2.2nm,0.7s,baz=166,slow=7.8,SNR=18								
SONM				LR		LR		20 28 41.3	
	comp=Z,225nm,18.3s,baz=5.4,slow=41								
ULN	**Ulaanbaatar**	**56.73**	**0**	*eP*		**P**		**19 59 28.9**	**+0.7**
	7.2nm,0.7s								
ULN				*e*				19 59 39.1	
USRK	**Ussuriysk Arra**	**57.73**	**21**	P		**P**		**19 59 34.7**	**-0.5**
	1.0nm,0.7s,baz=210,slow=5.6,SNR=3.4								
TKM2	**Tokmak 2**	**59.13**	**334**	*eP*		**P**		**19 59 45.1**	**-0.1**
	6.0nm,0.4s								
AAK	**Ala-Archa**	**59.39**	**333**	P		**P**		**19 59 44.6**	**-2.4**
	4.1nm,1.0s								
AAK	**Ala-Archa**	**59.39**	**333**	P		**P**		**19 59 46.3**	**-0.7**
	0.5nm,0.3s,baz=187,slow=8.1,SNR=2.6								
EKS2	**Erkin-Say**	**59.74**	**332**	*eP*		**P**		**19 59 49.3**	**-0.1**
	8.1nm,0.9s								
MKAR	**Makanchi Array**	**59.83**	**341**	P		**P**		**19 59 50.5**	**+0.7**
MKAR	**Makanchi Array**	**59.83**	**341**	P		**P**		**19 59 50.5**	**+0.7**
	7.5nm,0.7s,baz=146,slow=8.0,SNR=88								
MKAR				LR		LR		20 29 40.6	
	comp=Z,81nm,18.2s,baz=270,slow=40								
KURBB	**Kurchatov Arra**	**64.39**	**340**	P		**P**		**20 00 21.1**	**+0.9**
	8.2nm,0.8s,baz=157,slow=5.7,SNR=50								
KURK	**Kurchatov**	**64.44**	**341**	P		**P**		**20 00 21.1**	**+0.6**
MAW	**Mawson**	**65.33**	**197**	P		**P**		**20 00 26.3**	**+0.2**
MAW	**Mawson**	**65.33**	**197**	P		**P**		**20 00 26.3**	**+0.2**
	2.0nm,0.7s,baz=84,slow=13,SNR=4.8								
ZALV	**Zalesovo Beam**	**65.54**	**346**	P		**P**		**20 00 27.7**	**0.0**
ZALV	**Zalesovo Beam**	**65.54**	**346**	P		**P**		**20 00 27.7**	**0.0**
	2.7nm,0.4s,baz=158,slow=5.7,SNR=15								
BVAR	**Borovoye Array**	**69.26**	**337**	P		**P**		**20 00 52.2**	**+0.9**
BVAR	**Borovoye Array**	**69.26**	**337**	P		**P**		**20 00 52.2**	**+0.9**
	2.9nm,0.5s,baz=142,slow=7.5,SNR=12								
ABKAR	**Akbulak array**	**71.17**	**330**	*eP*		**P**		**20 01 03.3**	**+0.3**
	8.5nm,0.6s								
AKTO	**Aktyubinsk**	**72.88**	**330**	P		**P**		**20 01 12.7**	**-0.6**
AKTO	**Aktyubinsk**	**72.88**	**330**	P		**P**		**20 01 12.7**	**-0.6**
	0.8nm,0.4s,baz=153,slow=6.8,SNR=1.9								
VNDA	**Vanda**	**73.92**	**169**	P		**P**		**20 01 18.4**	**-0.6**
VNDA	**Vanda**	**73.92**	**169**	P		**P**		**20 01 18.4**	**-0.6**
	0.9nm,0.9s,baz=322,slow=4.5,SNR=3.5								
VNDA				LR		LR		20 27 39.2	
	comp=Z,26nm,18.9s,baz=337,slow=31								
PETK	**Petropavlovsk-**	**75.48**	**29**	P		**P**		**20 01 28.6**	**+0.2**
PETK	**Petropavlovsk-**	**75.48**	**29**	P		**P**		**20 01 28.6**	**+0.2**
	3.2nm,0.8s,baz=164,slow=3.0,SNR=4.8								
MBAR	**Mbarara**	**76.23**	**272**	P		**P**		**20 01 35.1**	**+1.3**
MBAR	**Mbarara**	**76.23**	**272**	P		**P**		**20 01 35.1**	**+1.3**
	0.8nm,0.4s,baz=32,slow=23,SNR=3.1								
KBZ	**Khabaz**	**78.14**	**318**	P		**P**		**20 01 44.4**	**+0.9**
KBZ	**Khabaz**	**78.14**	**318**	P		**P**		**20 01 44.4**	**+0.9**
	1.4nm,0.7s,baz=206,slow=9.0,SNR=3.7								
BOSA	**Boshof**	**78.39**	**243**	LR		LR		20 33 56.3	
	comp=Z,68nm,18.5s,baz=346,slow=34								
QSPA	**South Pole Qui**	**80.89**	**180**	*eP*		**P**		**20 01 57.6**	**-0.7**
	4.0nm,0.9s								
BRTR	**Keskin Array B**	**83.15**	**312**	P		**P**		**20 02 11.2**	**+0.5**
BRTR	**Keskin Array B**	**83.15**	**312**	P		**P**		**20 02 11.2**	**+0.5**
	0.9nm,0.7s,baz=136,slow=6.9,SNR=5.7								
SNAA	**Sanae**	**87.49**	**197**	*eP*		P		20 02 28.2	-3.5
AKASG	**Malin Array Be**	**89.27**	**322**	P		**P**		**20 02 40.2**	**-0.1**
AKASG	**Malin Array Be**	**89.27**	**322**	P		**P**		**20 02 40.2**	**-0.1**
	0.3nm,0.4s,baz=88,slow=4.6,SNR=3.6								
AKASG				LR		LR		20 50 05.2	
	comp=Z,36nm,20.1s,baz=255,slow=41								
KOLS	**Kolonicke sedl**	**93.28**	**319**	*eP*		P		20 03 09.5	+10
KECS	**Kecovo**	**94.38**	**318**	*eP*		P		20 03 16.2	+12
ARCES	**ARCESS Array B**	**95.47**	**340**	LR		LR		20 49 59.2	
	comp=Z,75nm,18.5s,baz=356,slow=38								
TXAR	**Lajitas Array**	**145.01**	**51**	PKP		**PKPdf**		**20 09 22.3**	**0.0**
TXAR	**Lajitas Array**	**145.01**	**51**	PKP		**PKPdf**		**20 09 22.3**	**0.0**
	0.9nm,0.8s,baz=194,slow=2.4,SNR=6.2								
WMOK	**Wichita Mounta**	**145.31**	**39**	*e*PKPdf		**PKPab**		**20 09 22.7**	**+0.2**
JCT	**Junction City**	**147.25**	**46**	*e*PKPbc		**PKPbc**		**20 09 28.9**	**+0.6**
WVT	**Waverly**	**149.95**	**24**	*e*PKPbc		**PKPbc**		**20 09 35.5**	**+0.4**
WVT				*e*				20 09 45.3	
SIV	**San Ignacio**	**152.36**	**206**	PKPbc		**PKPbc**		**20 09 40.0**	**-1.2**
SIV				PKPab		**PKPab**		**20 09 51.1**	**-0.1**
SIV	**San Ignacio**	**152.36**	**206**	PKPbc		**PKPbc**		**20 09 40.0**	**-1.2**
	0.5nm,0.4s,baz=149,slow=2.8,SNR=2.2								
SIV				PKPab		**PKPab**		**20 09 51.1**	**-0.1**
	2.7nm,0.8s,baz=133,slow=0.6,SNR=8.6								
LPAZ	**La Paz**	**154.29**	**191**	PKPab		**PKPab**		**20 09 59.7**	**-0.2**
LPAZ	**La Paz**	**154.29**	**191**	PKPab		**PKPab**		**20 09 59.7**	**-0.2**
	1.0nm,0.5s,baz=230,slow=2.9,SNR=3.8								

*IDC **27** 19:53:12.0±1.3,32.°72S×72.°31W,h0km,mb3.8/2, mb1 3.7/6,mb1mx3.6/18,mbtmp3.6/6,ML3.9/3,MS2.9/1, Ms1 2.9/1,ms1mx2.4/24,Error ellipse: s-maj=41.1km s-min=23.7km az=104.0*

*ISCJB **27** 19:53:13.2±1.0,32.°80S±0.°03×72.°03W±0.°05,h11km±6km, mb3.7/2,Error ellipse: s-maj=8.0km s-min=4.5km az=154.7*

*GUC **27** 19:53:14.5±0.7,32.°78S×71.°94W,h9km±2km,MD4.0, ML3.6*

ISC 27 19:53:13.3±1.7,32.°78S±0.°03×71.°93W±0.°06,h4km±10km, n30,σ0°70/43,6C-7D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.35**	**136**	⇑	*iP*	**Pb**	**19 53 21.8**	**-0.3**
IHA					*i* S	**Sb**	**19 53 27.2**	**-0.7**
ROCH	**El Roble**	**0.80**	**104**	⇑	*iP*	**Pb**	**19 53 29.9**	**0.0**
ROCH					*i* S	**Sb**	**19 53 41.3**	**+0.1**
ROCH					AML	AML	19 53 42.4	
	comp=E,5μm,0.6s							
CHNG	**Los Chungos**	**0.96**	**22**	⇑	*iP*	**Pg**	**19 53 32.3**	**+0.5**
CHNG					*i* S	**Sb**	**19 53 45.6**	**-0.1**
CHNG					AML	AML	19 53 51.1	
	comp=E,1μm,0.6s							
PEL	**Peldehue**	**1.11**	**110**	⇓	*iP*	**Pg**	**19 53 35.1**	**+0.5**
PEL					*i* S	**Sb**	**19 53 50.1**	**+0.2**
PEL					AML	AML	19 53 59.6	
	comp=E,8μm,0.5s							
JACH	**Jahuel**	**1.13**	**86**	⇓	*iP*	**Pg**	**19 53 35.4**	**+0.3**
JACH					*i* S	**Sb**	**19 53 51.1**	**+0.5**
TACH	**Talagante**	**1.21**	**137**	⇓	*iP*	**Pg**	**19 53 36.1**	**-0.3**
TACH					*i* S	**Sg**	**19 53 52.5**	**+0.3**
LNV	**Longovilo**	**1.25**	**160**	⇓	*iP*	**Pg**	**19 53 36.5**	**-0.9**
SAN	**Santiago**	**1.26**	**123**	⇓	*iP*	**Pg**	**19 53 37.5**	**+0.1**
SAN					*i* S	**Sb**	**19 53 54.6**	**+0.3**
SAN					AML	AML	19 54 01.2	
	comp=N,2μm,0.7s							
STL	**Santa Lucia**	**1.26**	**122**		*eP*	**Pg**	**19 53 37.2**	**-0.4**
STL					*eS*	**Sb**	**19 53 54.5**	**+0.1**
STL					AML	AML	19 54 00.8	
	comp=N,312nm,0.8s							
CLCH	**Cerro Calan**	**1.32**	**118**	⇑	*iP*	**Pn**	**19 53 38.5**	**-0.2**
CLCH					*i* S	**Sg**	**19 53 56.3**	**+0.5**
CLCH					AML	AML	19 54 03.8	
	comp=N,3μm,0.7s							
ANTU	**Antumapu**	**1.34**	**126**		*eP*	**Pn**	**19 53 38.5**	**-0.4**
ANTU					*eS*	**Sg**	**19 53 57.0**	**+0.4**
ANTU					AML	AML	19 54 05.7	
	comp=E,2μm,0.7s							
LACH	**Col Las Americ**	**1.35**	**120**		*eP*	**Pn**	**19 53 38.7**	**-0.4**
LACH					*i* S	**Sb**	**19 53 56.8**	**-0.2**
LACH					AML	AML	19 54 07.2	
	comp=N,995nm,0.5s							
PCH	**Pirque**	**1.45**	**126**	⇓	*iP*	**Pn**	**19 53 40.7**	**+0.2**
PCH					*eS*	**Sn**	**19 54 00.3**	**+0.2**
SJCH	**San Jose de Ma**	**1.58**	**124**		*eP*	**Pn**	**19 53 41.8**	**-0.4**
SJCH					*eS*	**Sn**	**19 54 03.2**	**0.0**
SJCH					AML	AML	19 54 11.2	
	comp=N,981nm,0.7s							
CACH	**El Canelo**	**1.74**	**141**	⇓	*iP*	**Pb**	**19 53 45.8**	**-0.1**
CACH					*i* S	**Sg**	**19 54 09.2**	**0.0**
CMCH	**Combarbala**	**1.78**	**26**	⇑	*iP*	**Pn**	**19 53 45.3**	**+0.2**
CMCH					*eS*	**Sb**	**19 54 09.3**	**-0.1**
CMCH					AML	AML	19 54 20.1	
	comp=N,4μm,0.8s							
LMEL	**Las Melosas**	**1.80**	**127**	⇑	*iP*	**Pn**	**19 53 46.1**	**+0.8**
LMEL					AML	AML	19 54 19.1	
	comp=N,2μm,0.4s							
CFAA	**Coronel Fontan**	**3.34**	**70**	Pn		**Pb**	**19 54 10.8**	**-2.4**
	comp=N,0.3nm,0.3s,baz=247,slow=14,SNR=32							
CFAA				Sn		**Sb**	**19 54 53.3**	**-1.0**
	comp=N,0.6nm,0.3s,baz=106,slow=20,SNR=5.7							
H03N1	**Juan Fernandez**	**5.90**	**262**	T		T	20 01 11.2	
	baz=85,slow=0.7,SNR=140							
H03N3	**Juan Fernandez**	**5.91**	**262**	T		T	20 01 09.8	
	baz=85,slow=0.7,SNR=111							
H03N2	**Juan Fernandez**	**5.92**	**262**	T		T	20 01 13.4	
	baz=85,slow=0.7,SNR=139							
PLCA	**Paso Flores**	**8.02**	**172**	Pn		**Pn**	**19 55 11.7**	**+1.0**
	comp=N,0.5nm,0.3s,baz=332,slow=12,SNR=9.4							
CPUP	**Villa Florida**	**14.23**	**67**	LR		LR	20 02 55.3	
	comp=N,46nm,19.0s,baz=345,slow=40							
LPAZ	**La Paz**	**16.77**	**13**	Pn		**Pn**	**19 57 10.9**	**+1.0**
	comp=N,0.1nm,0.3s,baz=190,slow=6.6,SNR=5.2							
SIV	**San Ignacio**	**19.39**	**33**	P		**P**	**19 57 41.1**	**+0.6**
	comp=N,0.2nm,0.3s,baz=208,slow=15,SNR=2.7							
SNAA	**Sanae**	**52.68**	**158**	P		**P**	**20 02 29.2**	**+0.6**
	comp=N,0.6nm,0.9s,baz=225,slow=8.6,SNR=3.8							
TORD	**Torodi Ar. Bea**	**83.71**	**70**	P		**P**	**20 05 44.0**	**+0.1**
	comp=N,0.9nm,0.9s,baz=247,slow=4.0,SNR=6.2							
KURBB	**Kurchatov Arra**	**151.91**	**42**	PKPbc		**PKPbc**	**20 13 09.4**	**+0.2**
	comp=N,0.6nm,0.7s,baz=298,slow=3.4,SNR=5.9							
KURBB				PKPab		**PKPab**	**20 13 16.2**	**-2.2**
	comp=N,0.5nm,0.5s,baz=294,slow=3.1,SNR=4.8							
ZALV	**Zalesovo Beam**	**153.14**	**31**	PKPbc		**PKPbc**	**20 13 11.6**	**-0.3**
	comp=N,0.6nm,0.5s,baz=314,slow=3.6,SNR=4.4							
MKAR	**Makanchi Array**	**155.88**	**47**	PKPab		**PKPab**	**20 13 35.3**	**-0.1**
	comp=N,0.6nm,0.8s,baz=317,slow=3.4,SNR=5.1							

MEX 27 20:36:22.7±0.7,15.°52N×94.°42W,h17km±77km,MD3.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCIG		**1.17**	**81**	*eP*		Pn	20 36 40.9	-3.5
PCIG				*eS*		Sb	20 36 54.8	-4.7
HUIG	**Huatulco**	**1.64**	**279**	*eP*		Pn	20 36 48.0	-2.9
HUIG				*eS*		Sn	20 37 06.5	-5.1
TGIG		**1.77**	**45**	*eP*		Pn	20 36 49.1	-3.5
TGIG				*i* S		Sn	20 37 10.1	-4.7
CCIG	**Comitan**	**2.32**	**71**	*i* P		Pn	20 36 58.4	-2.1
CCIG				*i* S		Sn	20 37 25.0	-3.8
VHO	**Vista Hermosa**	**2.70**	**305**	*i* P		Pn	20 37 03.3	-2.4
VHO				*i* S		Sn	20 37 34.9	-3.3
UTMO	**Huajuapan**	**3.97**	**306**	*i* P		Pn	20 37 20.6	-2.6
UTMO				*eS*		Sn	20 38 06.0	-3.5

IDC 27 20:36:37.5±1.7,9.°93S×158.°65E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.4/18,mbtmp3.5/3,Error ellipse: s-maj=91.8km s-min=17.4km az=154.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**1.37**	**69**	Pn		Pb	20 37 04.7	+0.6
	29nm,0.3s,baz=203,slow=13,SNR=6.7							
HNR				Sn		Sg	20 37 21.8	+0.2
	53nm,0.3s,baz=124,slow=21,SNR=16							
WRA	**Warramunga Arr**	**25.48**	**244**	P		P	20 42 07.0	-0.7
	0.2nm,0.3s,baz=72,slow=9.2,SNR=15							
STKA	**Stephens Creek**	**26.95**	**213**	P		P	20 42 20.8	-0.1
	0.9nm,0.4s,baz=326,slow=11,SNR=4.1							
ASAR	**Alice Springs**	**27.28**	**237**	P		P	20 42 24.8	+0.7
	0.2nm,0.3s,baz=69,slow=10,SNR=5.4							

*ISCJB **27** 20:37:08.9±0.5,47.°24N±0.°08×152.°80E±0.°09,h56km, mb3.8/18,Error ellipse: s-maj=13.7km s-min=4.6km az=141.8*

*MOS **27** 20:37:14.7±1.4,47.°40N×152.°66E,h109km,mb4.0/10, Error ellipse: s-maj=15.4km s-min=9.1km az=63.3*

*IDC **27** 20:37:15.6±2.4,47.°30N×152.°66E,h102km±21km, mb3.5/18,mb1 3.7/22,mb1mx3.6/30,mbtmp3.5/22,Error ellipse: s-maj=17.4km s-min=11.5km az=142.0*

ISC 27 20:37:10.2±0.6,47.°24N±0.°10×152.°76E±0.°09,h56km,n73, σ1°48/64,mb3.9/18,1C,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.09**	**31**	PN		**Pn**	**20 38 07.7**	**-2.5**
SKR				*eS*		**Sn**	**20 38 53.8**	**-3.0**
SKR				smax		smax		
	comp=N,60nm,0.5s							
SKR				smax		smax		
	comp=E,100nm,0.5s							
NEM2	**Nemuro 2**	**6.28**	**235**	P		**Pn**	**20 38 39.7**	**-0.5**
NEM2				*eS*		**Sn**	**20 39 47.8**	**-2.8**
JRA	**Rausu**	**6.29**	**241**	P		**Pn**	**20 38 43.5**	**+3.1**
PETK	**Petropavlovsk-**	**6.68**	**26**	PN		Pn	20 38 51.1	+5.5
PETK				pmax		pmax		
	comp=Z,1.0nm,0.3s							
PETK	**Petropavlovsk-**	**6.68**	**26**	P		Pn	20 38 51.1	+5.5
	comp=Z,0.9nm,0.3s,baz=222,slow=15,SNR=5.3							
JNK	**Nakash**	**6.74**	**240**	P		**Pn**	**20 38 48.3**	**+1.9**
YSS	**Yuzh-Sakhalins**	**6.84**	**271**	*e*PN		Pn	20 38 53.0	+5.2
PET	**Petropavlovsk**	**6.92**	**31**	*e*PN		Pn	20 39 02.2	+13
JAK	**Akkeshi**	**7.11**	**236**	P		**Pn**	**20 38 51.1**	**-0.4**
JAK				*eS*		**Sn**	**20 40 07.8**	**-3.0**
JAR	**Ashorobuto**	**7.47**	**241**	P		**Pn**	**20 38 58.5**	**+2.1**
JAR				*eS*		**Sn**	**20 40 21.4**	**+1.7**
JOB	**Onbets**	**7.66**	**239**	P		**Pn**	**20 39 00.4**	**+1.3**
JOB				*eS*		**Sn**	**20 40 23.2**	**-1.2**
JWK2	**Keihoku**	**7.77**	**260**	P		Pn	20 39 08.2	+7.7
ASAJ	**Asahikawa**	**7.77**	**250**	P		Pn	20 39 04.1	+3.5
	comp=Z,1.3nm,0.3s,baz=88,slow=20,SNR=6.6							
JKK2	**Kamakawa 2**	**7.79**	**248**	P		Pn	20 39 04.9	+4.0
JCH	**Churui**	**8.11**	**239**	P		**Pn**	**20 39 05.8**	**+0.5**
JCH				*eS*		**Sn**	**20 40 32.5**	**-3.0**
JFR	**Furan**	**8.26**	**244**	P		Pn	20 39 10.6	+3.4
JBT2	**Biratori 2**	**8.61**	**243**	P		**Pn**	**20 39 14.0**	**+1.9**
JNBK	**Urakawa-nobuka**	**8.68**	**239**	P		**Pn**	**20 39 12.4**	**-0.5**
JNB	**Noboribetsu**	**9.59**	**244**	P		**Pn**	**20 39 26.7**	**+1.2**
JYM2	**Yakumo 2**	**10.20**	**244**	P		**Pn**	**20 39 34.4**	**+0.6**
JTM	**Tenmabayashi**	**10.60**	**237**	P		**Pn**	**20 39 37.1**	**-2.2**
JANG	**Nango**	**10.63**	**234**	P		Pn	20 39 36.3	-3.4
JRG	**Rokugo**	**11.80**	**233**	P		**Pn**	**20 39 53.0**	**-2.6**
FX1	**Attu Island--F**	**14.25**	**59**	P		**Pn**	**20 40 29.1**	**+0.3**
	comp=Z,1.1nm,0.3s,baz=266,slow=19,SNR=5.7							
USRK	**Ussuriysk Arra**	**14.82**	**266**	P		**P**	**20 40 39.2**	**-1.8**
	comp=Z,0.6nm,0.3s,baz=70,slow=12,SNR=9.8							
MJA0	**Matsu Arr-Jizo**	**15.17**	**230**	*eP*		**P**	**20 40 46.6**	**+1.6**
MJA0				pmax		pmax		
	comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**15.19**	**231**	P		**P**	**20 40 45.9**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=48,slow=8.4,SNR=11							
MAJO	**Matsushiro**	**15.20**	**231**	*eP*		**P**	**20 40 45.9**	**+0.7**
YAK	**Yakutsk**	**19.78**	**327**	*eP*		**P**	**20 41 36.2**	**+0.8**
KSRS	**Korea Array**	**20.72**	**251**	P		Pn	20 41 48.5	-0.1
	comp=Z,1.9nm,0.6s,baz=54,slow=11,SNR=7.8							
TIXI	**Tiksi**	**26.93**	**344**	⇑	*eP*	**P**	**20 42 45.1**	**-0.6**
H11N2	**WAKE ISLAND Hy**	**29.76**	**152**	T		T	21 14 46.3	
	baz=343,slow=0.7,SNR=97							
H11N1	**WAKE ISLAND Hy**	**29.78**	**152**	T		T	21 14 51.0	
	baz=343,slow=0.7,SNR=31							
H11N3	**WAKE ISLAND Hy**	**29.78**	**152**	T		T	21 14 50.9	
	baz=343,slow=0.7,SNR=130							
H11S1	**WAKE ISLAND Hy**	**30.85**	**154**	T		T	21 16 12.1	
	baz=340,SNR=226							
H11S3	**WAKE ISLAND Hy**	**30.86**	**154**	T		T	21 16 25.2	
	baz=340,SNR=87							
H11S2	**WAKE ISLAND Hy**	**30.87**	**154**	T		T	21 16 13.4	
	baz=340,SNR=122							
COLA	**College**	**35.90**	**39**	*eP*		**P**	**20 44 06.3**	**+1.8**
ILAR	**Eielson Array**	**36.32**	**39**	P		**P**	**20 44 09.0**	**+0.9**
	comp=Z,0.9nm,0.9s,baz=272,slow=8.7,SNR=8.7							
INK	**Inuvik**	**41.37**	**33**	P		**P**	**20 44 51.9**	**+1.7**
	comp=Z,2.5nm,0.9s,baz=278,slow=8.1,SNR=3.0							
ZALV	**Zalesovo Beam**	**42.13**	**305**	P		**P**	**20 44 56.4**	**-0.2**
ZALV							20 46 50.6	
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.4s							
ZALV	**Zalesovo Beam**	**42.13**	**305**	P		**P**	**20 44 56.4**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=68,slow=9.4,SNR=3.0							
ZALV				PcP		**PcP**	**20 46 50.6**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=62,slow=3.5,SNR=8.0							
MKAR	**Makanchi Array**	**46.51**	**297**	P		**P**	**20 45 30.5**	**-1.2**
MKAR							20 47 05.7	
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**46.51**	**297**	P		**P**	**20 45 30.5**	**-1.2**
	comp=Z,0.1nm,0.4s,baz=56,slow=6.7,SNR=4.6							
MKAR				PcP		**PcP**	**20 47 05.7**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=72,slow=3.7,SNR=12							
YKA	**Yellowknife Ar**	**50.68**	**37**	P		**P**	**20 46 03.4**	**0.0**
	comp=Z,1.1nm,0.7s,baz=302,slow=7.3,SNR=3.8							
CMAR	**Chiang Mai Ar**	**52.26**	**256**	P		**P**	**20 46 16.9**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=32,slow=7.7,SNR=11							
TAPN	**Taplejung**	**53.84**	**273**	*eP*		**P**	**20 46 29.3**	**+1.6**
	comp=Z,3.2nm,0.3s							
ODAN	**Odare**	**54.37**	**272**	*eP*		**P**	**20 46 33.0**	**+1.5**
	comp=Z,3.2nm,0.5s							
JIRN	**Jiri**	**54.67**	**274**	*eP*

CEYT					*e*Sg	**Sb**	**20 55 14.5**	**+0.4**
BTCH	**Batrach**	**0.77**	**110**		*e*P	**Pg**	**20 55 03.2**	**-0.8**
BTCH					*e*S	**Sg**	**20 55 13.8**	**-0.2**
BTCH					AML	AML	20 55 15.1	
	comp=E,26µm,0.6s							
BTCH					AML	AML	20 55 15.9	
	comp=N,8µm,0.3s							
BTCH	**Batrach**	**0.77**	**110**		*e*P	**Pg**	**20 55 03.2**	**-0.8**
	SNR=75							
BTCH					*e*S	**Sg**	**20 55 13.8**	**-0.2**
	comp=N,8µm,0.3s,SNR=59							
DRWC	**Darouich**	**0.94**	**70**		*e*P	**Pg**	**20 55 05.5**	**-1.8**
DRWC					*e*S	**Sg**	**20 55 16.4**	**-3.2**
DRWC					AML	AML	20 55 23.9	
	comp=N,6µm,0.6s							
DRWC					AML	AML	20 55 24.1	
	comp=E,9µm,0.7s							
DRWC	**Darouich**	**0.94**	**70**		*e*P	**Pg**	**20 55 05.5**	**-1.8**
	SNR=67							
DRWC					*e*S	**Sg**	**20 55 16.4**	**-3.2**
	comp=E,9µm,0.7s,SNR=59							
MERS	**Mersin**	**1.01**	**304**		*e*PG	**Pg**	**20 55 07.9**	**-0.7**
MERS	**Mersin**	**1.01**	**304**		*e*Pg	**Pg**	**20 55 07.9**	**-0.7**
KARA	**Karaisali**	**1.04**	**337**		*e*PG	**Pg**	**20 55 07.7**	**-1.5**
KARA	**Karaisali**	**1.04**	**337**		*e*Pg	**Pg**	**20 55 07.7**	**-1.5**
KIZK	**Mersin**	**1.16**	**279**		*i* P	**Pg**	**20 55 09.8**	**-1.6**
KIZK					*i* S	**Sn**	**20 55 27.9**	**+0.3**
KIZK	**Mersin**	**1.16**	**279**		*i* P	**Pg**	**20 55 09.8**	**-1.6**
KIZK					*i* S	**Sn**	**20 55 27.9**	**+0.3**
GULE	**Gulek**	**1.17**	**327**		*i* P	**Pg**	**20 55 10.5**	**-1.1**
GULE					*i* S	Sg	20 55 18.2	-8.6
GULE	**Gulek**	**1.17**	**327**		*i* P	**Pg**	**20 55 10.5**	**-1.1**
KOZT	**Kozan**	**1.20**	**10**		*e*PN	**Pg**	**20 55 11.2**	**-0.9**
KOZT	**Kozan**	**1.20**	**10**		*e*Pn	**Pg**	**20 55 11.2**	**-0.9**
KUZU	**Kuzuini**	**1.30**	**68**		*i* P	**Pn**	**20 55 13.4**	**-0.3**
KUZU					*i* S	**Sb**	**20 55 30.5**	**-0.3**
KUZU	**Kuzuini**	**1.30**	**68**		*i* P	**Pn**	**20 55 13.4**	**-0.3**
KUZU					*i* S	**Sb**	**20 55 30.5**	**-0.3**
EREN	**Erenkoy**	**1.37**	**236**		*e*PN	**Pn**	**20 55 13.0**	**-1.5**
EREN	**Erenkoy**	**1.37**	**236**		*e*Pn	**Pn**	**20 55 13.0**	**-1.5**
ANDN	**Andirin**	**1.42**	**26**		*i* P	**Pn**	**20 55 15.8**	**+0.4**
ANDN					*i* S	**Sg**	**20 55 37.9**	**+3.0**
ANDN	**Andirin**	**1.42**	**26**		*i* P	**Pn**	**20 55 15.8**	**+0.4**
BIDA	**Albida**	**1.42**	**154**		*e*P	**Pn**	**20 55 15.2**	**-0.2**
BIDA					*e*S	**Sg**	**20 55 34.9**	**-0.1**
BIDA					AML	AML	20 55 37.0	
	comp=N,5µm,0.3s							
BIDA					AML	AML	20 55 37.0	
	comp=E,2µm,0.3s							
BIDA	**Albida**	**1.42**	**154**		*e*P	**Pn**	**20 55 15.2**	**-0.2**
	SNR=57							
BIDA					*e*S	**Sg**	**20 55 34.9**	**-0.1**
	comp=E,2µm,0.3s,SNR=49							
KFRA	**Kufra**	**1.48**	**137**		*e*P	**Pn**	**20 55 16.6**	**+0.5**
KFRA					*e*S	**Sb**	**20 55 36.2**	**+0.4**
KFRA					AML	AML	20 55 40.9	
	comp=E,24µm,0.8s							
KFRA					AML	AML	20 55 41.6	
	comp=N,9µm,0.3s							
KFRA	**Kufra**	**1.48**	**137**		*e*P	**Pn**	**20 55 16.6**	**+0.5**
	SNR=57							
KFRA					*e*S	**Sb**	**20 55 36.2**	**+0.4**
	comp=N,9µm,0.3s,SNR=49							
AYKD	**Aykdinkavak**	**1.49**	**42**		*i* P	**Pn**	**20 55 16.9**	**+0.6**
AYKD					*i* S	**Sn**	**20 55 36.8**	**+0.8**
IKL	**Isikli**	**1.52**	**268**		*e*PN	**Pn**	**20 55 14.5**	**-2.1**
IKL	**Isikli**	**1.52**	**268**		*e*Pn	**Pn**	**20 55 14.5**	**-2.1**
PHNC	**Paralimni**	**1.80**	**224**		P	**Pn**	**20 55 19.9**	**-0.5**
	comp=N,17nm,1.1s							
PHNC					S	**Sn**	**20 55 42.5**	**-0.9**
PHNC	**Paralimni**	**1.80**	**224**		P	**Pn**	**20 55 19.9**	**-0.5**
	comp=N,17nm,1.1s							
PHNC					S	**Sn**	**20 55 42.5**	**-0.9**
HAWK	**Haweek**	**1.90**	**159**		*e*P	**Pn**	**20 55 22.2**	**+0.3**
HAWK					*e*S	**Sn**	**20 55 46.8**	**+0.6**
HAWK					AML	AML	20 55 51.3	
	comp=E,1µm,0.3s							
HAWK					AML	AML	20 55 56.9	
	comp=N,1µm,0.5s							
HAWK	**Haweek**	**1.90**	**159**		*e*P	**Pn**	**20 55 22.2**	**+0.3**
	SNR=45							
HAWK					*e*S	**Sn**	**20 55 46.8**	**+0.6**
	comp=N,1µm,0.5s,SNR=40							
SLMH	**Al Salmeh**	**1.91**	**92**		*e*P	**Pn**	**20 55 21.5**	**-0.5**
SLMH					*e*S	**Sn**	**20 55 45.9**	**-0.4**
SLMH					AML	AML	20 55 57.9	
	comp=Z,2µm,0.5s							
SLMH	**Al Salmeh**	**1.91**	**92**		*e*P	**Pn**	**20 55 21.5**	**-0.5**
	SNR=45							
SLMH					*e*S	**Sn**	**20 55 45.9**	**-0.4**
	comp=Z,2µm,0.5s,SNR=40							
GZT	**Gaziantep**	**1.92**	**56**		*i* P	**Pn**	**20 55 21.8**	**-0.4**
GZT					*i* S	Sn	20 55 39.6	-7.1
LFK	**Lefkose**	**1.94**	**239**		*e*PN	**Pn**	**20 55 20.1**	**-2.3**
LFK	**Lefkose**	**1.94**	**239**		*e*Pn	**Pn**	**20 55 20.1**	**-2.3**
NIG	**Nigde**	**1.96**	**337**		*e*PN	**Pn**	**20 55 22.6**	**-0.3**
NIG	**Nigde**	**1.96**	**337**		*e*Pn	**Pn**	**20 55 22.6**	**-0.3**
HWQ	**Hawqa**	**2.04**	**171**		*e*P	**Pn**	**20 55 23.5**	**-0.4**
HWQ	**Hawqa**	**2.04**	**171**		*e*P	**Pn**	**20 55 23.5**	**-0.4**
AKIN	**Ak¯-nc¯-lar- K**	**2.14**	**234**		*e*PN	**Pn**	**20 55 24.0**	**-1.1**
AKIN	**Ak¯-nc¯-lar- K**	**2.14**	**234**		*e*Pn	**Pn**	**20 55 24.0**	**-1.1**
MAMC	**Mammari**	**2.22**	**240**		P	**Pn**	**20 55 25.7**	**-0.5**
MAMC	**Mammari**	**2.22**	**240**		P	**Pn**	**20 55 25.7**	**-0.5**
CSS	**Prodhromos**	**2.26**	**234**		P	**Pn**	**20 55 26.5**	**-0.2**
	comp=Z,4.9nm,0.7s							
CSS					S	**Sn**	**20 55 55.0**	**+0.3**
CSS	**Prodhromos**	**2.26**	**234**		Pn	**Pn**	**20 55 26.1**	**-0.6**
CSS	**Prodhromos**	**2.26**	**234**		P	**Pn**	**20 55 26.5**	**-0.2**
	comp=Z,4.9nm,0.7s							
CSS					S	**Sn**	**20 55 55.0**	**+0.3**
AKDN	**Akdeniz- K¯-br**	**2.34**	**245**		*e*PN	**Pn**	**20 55 26.3**	**-1.5**
AKDN	**Akdeniz- K¯-br**	**2.34**	**245**		*e*Pn	**Pn**	**20 55 26.3**	**-1.5**
BHL	**Bhannes**	**2.39**	**178**		*e*P	**Pn**	**20 55 28.5**	**-0.2**
BHL	**Bhannes**	**2.39**	**178**		*e*P	**Pn**	**20 55 28.5**	**-0.2**
LEF	**Lefka**	**2.47**	**242**		*e*PN	**Pn**	**20 55 29.9**	**+0.2**
LEF	**Lefka**	**2.47**	**242**		*e*Pn	**Pn**	**20 55 29.9**	**+0.2**
ATAB	**Bozova**	**2.48**	**61**		*i* P	**Pg**	**20 55 36.2**	**-0.5**
ATAB					*i* S	**Sg**	**20 56 10.3**	**+1.5**
SULT	**Sultanhani-AKS**	**2.50**	**320**		*e*PN	**Pn**	**20 55 30.4**	**+0.2**
SULT	**Sultanhani-AKS**	**2.50**	**320**		*e*Pn	**Pn**	**20 55 30.4**	**+0.2**
AVNT	**Avonos**	**2.54**	**347**		*i* P	**Pn**	**20 55 30.8**	**+0.1**
AVNT	**Avonos**	**2.54**	**347**		*i* P	**Pn**	**20 55 30.8**	**+0.1**
BNN	**Bunyan**	**2.56**	**5**		*e*PN	**Pn**	**20 55 31.4**	**+0.4**
BNN	**Bunyan**	**2.56**	**5**		*e*Pn	**Pn**	**20 55 31.4**	**+0.4**
HDMB	**Hadim**	**2.56**	**286**		*e*PN	**Pn**	**20 55 30.4**	**-0.7**
HDMB	**Hadim**	**2.56**	**286**		*e*Pn	**Pn**	**20 55 30.4**	**-0.7**
GAZI	**Gazipasa**	**2.63**	**270**		*i* P	**Pn**	**20 55 31.0**	**-0.8**
GAZI					*i* S	**Sn**	**20 56 02.7**	**-1.2**
GAZI	**Gazipasa**	**2.63**	**270**		*i* P	**Pn**	**20 55 31.0**	**-0.8**
GAZI					*i* S	**Sn**	**20 56 02.7**	**-1.2**
ALFC	**Alevga**	**2.67**	**246**		P	Pn	20 55 28.3	-4.1
ALFC					S	**Sn**	**20 56 05.0**	**+0.1**
ALFC	**Alevga**	**2.67**	**246**		P	Pn	20 55 28.3	-4.1
ALFC					S	**Sn**	**20 56 05.0**	**+0.1**
SZAC	**Souni-Zanaja**	**2.67**	**236**		P	**Pn**	**20 55 32.6**	**+0.1**
	comp=Z,5.0nm,0.6s							
SZAC					S	**Sn**	**20 56 05.2**	**+0.1**
SZAC	**Souni-Zanaja**	**2.67**	**236**		P	**Pn**	**20 55 32.6**	**+0.1**
	comp=Z,5.0nm,0.6s							
SZAC					S	**Sn**	**20 56 05.2**	**+0.1**
DARE	**Darende-Malaty**	**2.73**	**33**		*e*PN	**Pn**	**20 55 34.3**	**+0.9**
DARE	**Darende-Malaty**	**2.73**	**33**		*e*Pn	**Pn**	**20 55 34.3**	**+0.9**
AKCD	**Akcadag**	**2.74**	**43**		*i* P	**Pn**	**20 55 34.8**	**+1.3**
AKCD					*i* S	**Sg**	**20 56 19.1**	**+2.0**
AKCD	**Akcadag**	**2.74**	**43**		*i* P	**Pn**	**20 55 34.8**	**+1.3**
RCY	**Rachaya**	**2.81**	**175**		*e*P	**Pn**	**20 55 34.2**	**-0.2**
RCY	**Rachaya**	**2.81**	**175**		*e*P	**Pn**	**20 55 34.2**	**-0.2**
URFA	**Urfa**	**2.85**	**65**		*e*PN	**Pn**	**20 55 35.8**	**+0.8**
URFA	**Urfa**	**2.85**	**65**		*e*Pn	**Pn**	**20 55 35.8**	**+0.8**
BRBR	**Barbar**	**2.90**	**174**		*e*P	**Pn**	**20 55 36.3**	**+0.5**
BRBR					*e*S	**Sn**	**20 56 12.4**	**+1.5**
BRBR					AML	AML	20 56 30.7	
	comp=E,295nm,0.6s							
BRBR					AML	AML	20 56 38.2	
	comp=N,342nm,0.4s							
BRBR	**Barbar**	**2.90**	**174**		*e*P	**Pn**	**20 55 36.3**	**+0.5**
	SNR=45							
BRBR					*e*S	**Sn**	**20 56 12.4**	**+1.5**
	comp=N,342nm,0.4s,SNR=40							
AKMC	**Akamas**	**2.92**	**245**		P	**Pn**	**20 55 36.5**	**+0.6**
AKMC	**Akamas**	**2.92**	**245**		P	**Pn**	**20 55 36.5**	**+0.6**
PPCY	**Paphos**	**2.98**	**243**		P	**Pn**	**20 55 36.8**	**+0.2**
PPCY	**Paphos**	**2.98**	**243**		P	**Pn**	**20 55 36.8**	**+0.2**
TOTH	**TOTAH**	**3.02**	**166**		*e*P	**Pn**	**20 55 39.0**	**+1.8**
TOTH					*e*S	**Sn**	**20 56 15.1**	**+1.5**
TOTH					AML	AML	20 56 32.2	
	comp=E,462nm,0.5s							
TOTH					AML	AML	20 56 32.5	
	comp=N,254nm,0.5s							
TOTH	**TOTAH**	**3.02**	**166**		*e*P	**Pn**	**20 55 39.0**	**+1.8**
	SNR=45							
TOTH					*e*S	**Sn**	**20 56 15.1**	**+1.5**
	comp=N,254nm,0.5s,SNR=40							
KONT	**Konya--Tatoy**	**3.04**	**304**		*e*PN	**Pn**	**20 55 38.3**	**+0.7**
KONT	**Konya--Tatoy**	**3.04**	**304**		*e*Pn	**Pn**	**20 55 38.3**	**+0.7**
MALT	**Malatya**	**3.04**	**48**		*e*PN	**Pn**	**20 55 37.9**	**+0.3**
MALT	**Malatya**	**3.04**	**48**		Pn	**Pn**	**20 55 38.1**	**+0.5**
MALT					Sn	**Sn**	**20 56 15.4**	**+1.2**
KSDI	**Kefar Szold**	**3.10**	**179**		Pn	**Pn**	**20 55 38.4**	**+0.1**
KSDI					Sn	**Sn**	**20 56 15.8**	**+0.2**
LADK	**Ladik-KONYA**	**3.18**	**308**		*e*PN	**Pn**	**20 55 39.3**	**-0.2**
LADK	**Ladik-KONYA**	**3.18**	**308**		*e*Pn	**Pn**	**20 55 39.3**	**-0.2**
NAQL	**Naqoura**	**3.19**	**186**		*e*P	**Pn**	**20 55 38.3**	**-1.3**
HNTI	**Hanita**	**3.23**	**186**		Pn	**Pn**	**20 55 40.4**	**+0.3**
HNTI					Sn	**Sn**	**20 56 18.4**	**-0.2**
MMA0	**Mount Meron ar**	**3.28**	**182**		Pn	**Pn**	**20 55 41.1**	**+0.2**
MMA0					Sn	**Sn**	**20 56 19.4**	**-0.7**
MMAI	**Mount Meron Ar**	**3.28**	**182**		Pn	**Pn**	**20 55 40.3**	**-0.5**
	comp=N,34nm,0.3s,baz=358,slow=12,SNR=256							
MMAI					Sn	**Sn**	**20 56 20.2**	**+0.1**
	comp=N,93nm,0.3s,baz=7.1,slow=22,SNR=14							
YOZ	**Yozgat**	**3.34**	**357**		*e*PN	**Pn**	**20 55 42.2**	**+0.5**
YOZ	**Yozgat**	**3.34**	**357**		*e*Pn	**Pn**	**20 55 42.2**	**+0.5**
BLGI	**Bet Lehem HaGe**	**3.57**	**185**		Pn	**Pn**	**20 55 45.2**	**+0.4**
TCHB	**Talchebab**	**3.64**	**175**		*e*P	**Pn**	**20 55 46.9**	**+1.2**
TCHB					*e*S	**Sn**	**20 56 29.2**	**+0.4**
TCHB					AML	AML	20 56 49.1	
	comp=E,558nm,0.7s							
TCHB					AML	AML	20 56 57.8	
	comp=N,370nm,0.4s							
TCHB	**Talchebab**	**3.64**	**175**		*e*P	**Pn**	**20 55 46.9**	**+1.2**
	SNR=45							
TCHB					*e*S	**Sn**	**20 56 29.2**	**+0.4**
	comp=N,370nm,0.4s,SNR=40							
SFNV	**Sufian**	**3.67**	**87**		*e*P	**Pn**	**20 55 45.8**	**-0.5**
SFNV					*e*S	**Sn**	**20 56 27.4**	**-2.4**
SFNV					AML	AML	20 56 53.2	
	comp=Z,531nm,0.4s							
SFNV	**Sufian**	**3.67**	**87**		*e*P	**Pn**	**20 55 45.8**	**-0.5**
	SNR=45							
SFNV					*e*S	**Sn**	**20 56 27.4**	**-2.4**
	comp=Z,531nm,0.4s,SNR=40							
ZALF	**Zalf**	**3.67**	**156**		*e*P	**Pn**	**20 55 47.6**	**+1.4**
ZALF					*e*S	**Sn**	**20 56 29.1**	**-0.6**
ZALF					AML	AML	20 56 50.1	
	comp=N,285nm,0.6s							
ZALF					AML	AML	20 56 53.1	
	comp=E,302nm,0.6s							
ZALF	**Zalf**	**3.67**	**156**		*e*P	**Pn**	**20 55 47.6**	**+1.4**
	SNR=45							
ZALF					*e*S	**Sn**	**20 56 29.1**	**-0.6**
	comp=E,302nm,0.6s,SNR=40							
OFRI	**'Ofer**	**3.70**	**188**		Pn	**Pn**	**20 55 46.1**	**-0.5**
SALA	**Sala**	**3.71**	**165**		*e*P	**Pn**	**20 55 48.1**	**+1.2**
SALA					*e*S	**Sn**	**20 56 31.0**	**+0.2**
SALA					AML	AML	20 56 48.4	
	comp=N,295nm,0.4s							
SALA					AML	AML	20 56 52.3	
	comp=E,35nm,0.4s							
SALA	**Sala**	**3.71**	**165**		*e*P	**Pn**	**20 55 48.1**	**+1.2**
	SNR=45							
SALA					*e*S	**Sn**	**20 56 31.0**	**+0.2**
	comp=E,35nm,0.4s,SNR=40							
AFSR	**Af¯ar-Bala (A**	**3.71**	**329**		*e*PN	**Pn**	**20 55 47.6**	**+0.9**
AFSR	**Af¯ar-Bala (A**	**3.71**	**329**		*e*Pn	**Pn**	**20 55 47.7**	**+0.9**
BRTR	**Keskin Array B**	**3.74**	**337**		Pn	**Pn**	**20 55 47.5**	**+0.2**
	comp=E,1.1nm,0.3s,baz=165,slow=16,SNR=38							
SVSK	**Karacayir**	**3.78**	**17**		*e*PN	**Pn**	**20 55 48.5**	**+0.8**
SVSK	**Karacayir**	**3.78**	**17**		*e*Pn	**Pn**	**20 55 48.5**	**+0.8**
SUTC	**Sutluce-Ispart**	**3.84**	**289**		*e*PN	**Pn**	**20 55 49.6**	**+1.0**
SUTC	**Sutluce-Ispart**	**3.84**	**289**		*e*Pn	**Pn**	**20 55 49.6**	**+1.0**
MMLI	**Mount Malkishu**	**3.85**	**182**		*e*PN	**Pn**	**20 55 48.8**	**0.0**
MMLI	**Mount Malkishu**	**3.85**	**182**		Pn	**Pn**	**20 55 49.0**	**+0.3**
MMLI					Sn	**Sn**	**20 56 33.4**	**-0.8**
KIZT	**Kizilcal**	**3.90**	**312**		*e*PN	**Pn**	**20 55 50.0**	**+0.6**
KIZT	**Kizilcal**	**3.90**	**312**		*e*Pn	**Pn**	**20 55 50.0**	**+0.6**
CORM	**Corum**	**3.94**	**350**		*e*PN	**Pn**	**20 55 51.1**	**+1.1**
CORM	**Corum**	**3.94**	**350**		*e*Pn	**Pn**	**20 55 51.1**	**+1.1**
ILIC	**ilic-Erzincan**	**3.94**	**36**		*e*PN	**Pn**	**20 55 51.1**	**+1.1**
ILIC	**ilic-Erzincan**	**3.94**	**36**		*e*Pn	**Pn**	**20 55 51.1**	**+1.1**
PTK	**Pertek**	**3.99**	**48**		*e*PN	**Pn**	**20 55 51.6**	**+0.8**
PTK	**Pertek**	**3.99**	**48**		*e*Pn	**Pn**	**20 55 51.6**	**+0.8**
ANTB	**Antalya**	**4.00**	**280**		*e*PN	**Pn**	**20 55 51.1**	**+0.5**
ANTB	**Antalya**	**4.00**	**280**		*e*Pn	**Pn**	**20 55 51.1**	**+0.5**
HMDT	**Nahal Hemdat**	**4.04**	**180**		Pn	**Pn**	**20 55 52.1**	**+0.9**
HMDT					Sn	**Sn**	**20 56 37.6**	**-1.1**
DIY	**Diyarbakir**	**4.05**	**65**		*e*PN	**Pn**	**20 55 52.6**	**+1.1**
DIY	**Diyarbakir**	**4.05**	**65**		*e*Pn	**Pn**	**20 55 52.6**	**+1.1**
KBSD	**Kabsdagh**	**4.06**	**79**		*e*P	**Pn**	**20 55 50.9**	**-0.7**
KBSD					*e*S	**Sn**	**20 56 36.0**	**-3.4**
KBSD	**Kabsdagh**	**4.06**	**79**		*e*P	**Pn**	**20 55 50.9**	**-0.7**
	SNR=45							
KBSD					*e*S	**Sn**	**20 56 36.0**	**-3.4**
	SNR=40							
SLTI	**Sal'it**	**4.07**	**186**		Pn	**Pn**	**20 55 51.7**	**0.0**
SLTI					Sn	**Sn**	**20 56 38.2**	**-1.3**
MAZI	**Mazidag**	**4.08**	**72**		*e*PN	**Pn**	**20 55 52.2**	**+0.2**
MAZI	**Mazidag**	**4.08**	**72**		*e*Pn	**Pn**	**20 55 52.2**	**+0.2**
TOKT	**Tokat**	**4.09**	**11**		*e*PN	**Pn**	**20 55 53.1**	**+1.1**
TOKT	**Tokat**	**4.09**	**11**		*e*Pn	**Pn**	**20 55 53.1**	**+1.1**
MZRK	**Al-Mazaregh**	**4.15**	**95**		*e*P	**Pn**	**20 55 52.1**	**-0.7**
MZRK					*e*S	**Sn**	**20 56 38.5**	**-2.9**
MZRK					AML	AML	20 57 05.4	
	comp=Z,1µm,0.4s							
MZRK	**Al-Mazaregh**	**4.15**	**95**		*e*P	**Pn**	**20 55 52.1**	**-0.7**
	SNR=45							
MZRK					*e*S	**Sn**	**20 56 38.5**	**-2.9**
	comp=Z,1µm,0.4s,SNR=40							
BCK	**Bucak**	**4.15**	**288**		*e*PN	**Pn**	**20 55 53.6**	**+0.7**
BCK	**Bucak**	**4.15**	**288**		*e*Pn	**Pn**	**20 55 53.6**	**+0.7**
ANTO	**Ankara**	**4.18**	**329**		*e*PN	**Pn**	**20 55 54.7**	**+1.5**
ANTO	**Ankara**	**4.18**	**329**		*e*Pn	**Pn**	**20 55 54.7**	**+1.5**
ASF	**Jabal al Asfar**	**4.26**	**165**		Pn	**Pn**	**20 55 57.5**	**+3.1**
	comp=Z,0.9nm,0.3s,baz=296,slow=8.3,SNR=14							
ASF					Lg	Lg	20 57 00.5	
	comp=Z,11nm,0.3s,baz=139,slow=23,SNR=10							
ASF					LR	LR	20 57 56.4	
	comp=Z,143nm,18.1s,baz=88,slow=42							
CTKT	**Corum**	**4.36**	**352**		*i* P	**Pn**	**20 55 58.3**	**+2.5**
CTKT	**Corum**	**4.36**	**352**		*i* P	**Pn**	**20 55 58.3**	**+2.5**
EZC	**Erzincan**	**4.56**	**40**		*e*PN	**Pn**	**20 55 59.2**	**+0.6**
EZC	**Erzincan**	**4.56**	**40**		*e*Pn	**Pn**	**20 55 59.2**	**+0.6**
ELL	**Elmali**	**4.58**	**277**		*e*PN	**Pn**	**20 55 59.2**	**+0.5**
ELL	**Elmali**	**4.58**	**277**		*e*Pn	**Pn**	**20 55 59.2**	**+0.5**
SHUT	**Suhut-Afyon**	**4.58**	**301**		*e*PN	**Pn**	**20 55 59.6**	**+0.8**
SHUT	**Suhut-Afyon**	**4.58**	**301**		*e*Pn	**Pn**	**20 55 59.6**	**+0.8**
DSI	**Dead Sea**	**4.72**	**182**		Pn	**Pn**	**20 56 00.8**	**+0.2**
AKAS	**Kas**	**4.81**	**271**		*i* P	Pn	20 55 57.7	-4.3
AKAS					*e*S	**Sn**	**20 56 59.3**	**+1.3**
MZDA	**Masada**	**4.98**	**182**		Pn	**Pn**	**20 56 04.7**	**+0.6**
MZDA					Sn	**Sn**	**20 57 01.7**	**-0.1**
KZIT	**Kziot**	**5.47**	**191**		Pn	**Pn**	**20 56 11.1**	**+0.2**
KZIT					Sn	**Sn**	**20 57 12.6**	**-1.3**
RMNI	**Mount Ramon**	**5.73**	**187**		Pn	**Pn**	**20 56 14.6**	**+0.1**
ZFRI	**Zfri**	**5.74**	**183**		Pn	**Pn**	**20 56 14.2**	**-0.4**
PRNI	**Paran**	**5.95**	**185**		Pn	**Pn**	**20 56 18.1**	**+0.6**
KRMI	**Paran Flat**	**6.21**	**187**		Pn	**Pn**	**20 56 21.2**	**+0.1**
KRMI					Sn	**Sn**	**20 57 31.2**	**-1.0**
MBRI	**Mt Berech**	**6.51**	**185**		Pn	**Pn**	**20 56 25.7**	**+0.4**
MBRI					Sn	**Sn**	**20 57 40.1**	**+0.3**
EIL	**Elat**	**6.63**	**185**		Pn	**Pn**	**20 56 28.0**	**+1.1**
EIL	**Elat**	**6.63**	**185**		Pn	**Pn**	**20 56 28.2**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=42,slow=15,SNR=5.0							
EIL					LR	LR	20 59 24.1	
	comp=Z,89nm,19.5s,baz=192,slow=41							
IDI	**Anoyia**	**8.73**	**266**		Pn	**Pn**	**20 56 52.8**	**-2.9**
	comp=Z,0.7nm,0.3s,baz=127,slow=14,SNR=19							
IDI					Sn	**Sn**	**20 58 30.7**	**-3.7**
	comp=Z,0.6nm,0.3s,baz=321,slow=23,SNR=3.3							
AKASG	**Malin Array Be**	**15.10**	**344**		Pn	**Pn**	**20 58 21.5**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=151,slow=12,SNR=2.6							
GERES	**GERESS Array B**	**20.32**	**315**		P	**P**	**20 59 24.4**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=119,slow=11,SNR=10.0							
PGF	**Pioggiola**	**21.40**	**295**		*e*P	**P**	**20 59 40.1**	**+2.8**
	comp=Z,38nm,1.3s							
PGF	**Pioggiola**	**21.40**	**295**		*e*P	**P**	**20 59 40.1**	**+2.8**
	comp=Z,38nm,1.3s							
AKTO	**Aktyubinsk**	**21.47**	**42**		P	**P**	**20 59 36.2**	**-1.7**
	comp=Z,1.9nm,0.7s,baz=235,slow=7.3,SNR=7.4							
AKTO					LR	LR	21 09 45.4	
	comp=Z,58nm,19.1s,baz=144,slow=41							
SBF	**Sospel**	**22.73**	**298**		*e*P	**P**	**20 59 55.9**	**+4.3**
MBDF	**Montbardon**	**23.36**	**300**		*e*P	**P**	**21 00 01.8**	**+3.7**
	comp=Z,5.9nm,0.7s							
LPG	**La Plagne**	**23.53**	**302**		*e*P	**P**	**21 00 03.2**	**+3.2**
	comp=Z,12nm,1.1s							
LPG	**La Plagne**	**23.53**	**302**		*e*P	**P**	**21 00 03.2**	**+3.2**
	comp=Z,11nm,1.1s							
LPL	**La Plagne**	**23.55**	**302**		*e*P	**P**	**21 00 03.6**	**+3.5**
	comp=Z,2.7nm,0.6s							
CABF	**La Chapelle**	**24.25**	**304**		*e*P	**P**	**21 00 10.6**	**+4.1**
SMF	**Signal de Mont**	**25.76**	**304**		*e*P	**P**	**21 00 26.8**	**+6.6**
FINES	**FINESS Array B**	**25.87**	**350**		P	**P**	**21 00 20.2**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=159,slow=12,SNR=4.9							
LOR	**Lormes**	**25.89**	**305**		*e*P	**P**	**21 00 25.9**	**+4.6**
	comp=Z,8.9nm,1.0s							
SSF	**Saint Saulge**	**26.07**	**304**		*e*P	**P**	21 00 28.2	+5.2
HFS	**Hagfors**	**27.69**	**336**		P	**P**	**21 00 34.7**	**-2.7**
	comp=Z,1.7nm,0.8s,baz=139,slow=7.8,SNR=2.5							
NOA	**NORSAR Array B**	**29.18**	**336**		P	**P**	**21 00 50.2**	**-0.5**
	comp=Z,0.4nm,0.9s,baz=128,slow=10,SNR=2.9							
BVAR	**Borovoye Array**	**29.50**	**44**		P	**P**	**21 00 54.2**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=266,slow=5.8,SNR=2.6							
ARCES	**ARCESS Array B**	**33.74**	**354**		P	**P**	**21 01 29.4**	**-1.3**
	comp=Z,1.0nm,0.7s,baz=168,slow=8.7,SNR=3.5							
MKAR	**Makanchi Array**	**36.03**	**58**		P	**P**	**21 01 51.3**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=282,slow=5.6,SNR=6.1							
ZALV	**Zalesovo Beam**	**38.09**	**47**		P	**P**	**21 02 08.0**	**-0.1**
	com

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.30**	**11**⇑	iP	Pn	21 28 37.7	-0.1
PLOR	**Plostina**	**0.30**	**11**⇑	iP	Pn	21 28 37.7	-0.1
PLOR				i S	Sn	21 28 50.4	-1.0
PLOR	**Plostina**	**0.30**	**11**⇑	iP	Pn	21 28 37.7	-0.1
PLOR				i S	Sn	21 28 50.4	-1.0
VRI	**Vrincioaia**	**0.33**	**20**⇑	iP	Pn	21 28 38.0	+0.1
VRI	**Vrincioaia**	**0.33**	**20**⇑	iP	Pn	21 28 38.0	+0.1
VRI				i S	Sn	21 28 50.9	-0.6
VRI	**Vrincioaia**	**0.33**	**20**⇑	iP	Pn	21 28 38.0	+0.1
VRI				i S	Sn	21 28 50.9	-0.6
GRER		**0.34**	**122**⇑	iP	Pn	21 28 39.0	+1.1
GRER		**0.34**	**122**⇑	iP	Pn	21 28 39.0	+1.1
GRER		**0.34**	**122**⇑	iP	Pn	21 28 39.0	+1.1
ODBI	**Odobesti**	**0.40**	**59**⇑	iP	Pn	21 28 39.0	+0.9
ODBI	**Odobesti**	**0.40**	**59**⇑	iP	Pn	21 28 39.0	+0.9
ODBI				i S	Sn	21 28 53.4	+1.5
ODBI	**Odobesti**	**0.40**	**59**⇑	iP	Pn	21 28 39.0	+0.9
ODBI				i S	Sn	21 28 53.4	+1.5
ISR	**Istrita**	**0.44**	**182**⇑	iP	Pn	21 28 39.0	+0.5
ISR	**Istrita**	**0.44**	**182**⇑	iP	Pn	21 28 39.0	+0.5
ISR				i S	Sn	21 28 54.0	+1.6
ISR	**Istrita**	**0.44**	**182**⇑	iP	Pn	21 28 39.0	+0.5
ISR				i S	Sn	21 28 54.0	+1.6
MLR	**Muntele Rosu**	**0.44**	**261**⇑	iP	Pn	21 28 38.7	+0.2
MLR	**Muntele Rosu**	**0.44**	**261**⇑	iP	Pn	21 28 38.7	+0.2
MLR				i S	Sn	21 28 52.3	-0.3
MLR	**Muntele Rosu**	**0.44**	**261**⇑	iP	Pn	21 28 38.7	+0.2
MLR				i S	Sn	21 28 52.3	-0.3
PETR	**Petresti**	**0.49**	**70**⇑	iP	Pn	21 28 39.3	+0.7
PETR	**Petresti**	**0.49**	**70**⇑	iP	Pn	21 28 39.3	+0.7
PETR				i S	Sn	21 28 53.2	+0.5
PETR	**Petresti**	**0.49**	**70**⇑	iP	Pn	21 28 39.3	+0.7
PETR				i S	Sn	21 28 53.2	+0.5
PGOR	**Pogoanele**	**0.71**	**156**⇑	iP	Pn	21 28 40.8	+0.7
PGOR	**Pogoanele**	**0.71**	**156**⇑	iP	Pn	21 28 40.8	+0.7
PGOR				i S	Sn	21 28 56.6	+1.2
PGOR	**Pogoanele**	**0.71**	**156**⇑	iP	Pn	21 28 40.8	+0.7
PGOR				i S	Sn	21 28 56.6	+1.2
PLAR	**PLOIESTI**	**0.75**	**211**⇑	iP	Pn	21 28 41.2	+0.8
PLAR	**PLOIESTI**	**0.75**	**211**⇑	iP	Pn	21 28 41.2	+0.8
PLAR				i S	Sn	21 28 57.3	+1.4
PLAR	**PLOIESTI**	**0.75**	**211**⇑	iP	Pn	21 28 41.2	+0.8
PLAR				i S	Sn	21 28 57.3	+1.4
GHRR		**0.77**	**49**⇑	iP	Pn	21 28 40.9	+0.4
GHRR		**0.77**	**49**⇑	iP	Pn	21 28 40.9	+0.4
GHRR				i S	Sn	21 28 56.3	+0.1
GHRR		**0.77**	**49**⇑	iP	Pn	21 28 40.9	+0.4
GHRR				i S	Sn	21 28 56.3	+0.1
SULR		**0.91**	**194**⇑	iP	Pn	21 28 42.4	+0.7
SULR		**0.91**	**194**⇑	iP	Pn	21 28 42.4	+0.7
SULR				i S	Sn	21 28 59.0	+0.8
SULR		**0.91**	**194**⇑	iP	Pn	21 28 42.4	+0.7
SULR				i S	Sn	21 28 59.0	+0.8
DOPR	**Dopca**	**0.92**	**297**⇑	iP	Pn	21 28 41.6	-0.3
DOPR	**Dopca**	**0.92**	**297**⇑	iP	Pn	21 28 41.6	-0.3
DOPR				i S	Sn	21 28 57.5	-1.0
DOPR	**Dopca**	**0.92**	**297**⇑	iP	Pn	21 28 41.6	-0.3
DOPR				i S	Sn	21 28 57.5	-1.0
TESR	**Tescani**	**0.95**	**3**⇑	iP	Pn	21 28 41.7	-0.4
TESR	**Tescani**	**0.95**	**3**⇑	iP	Pn	21 28 41.7	-0.4
TESR	**Tescani**	**0.95**	**3**⇑	iP	Pn	21 28 41.7	-0.4
VOIR		**1.07**	**264**⇑	iP	Pn	21 28 43.2	-0.2
VOIR		**1.07**	**264**⇑	iP	Pn	21 28 43.2	-0.2
VOIR				i S	Sn	21 29 00.0	-1.2
VOIR		**1.07**	**264**⇑	iP	Pn	21 28 43.2	-0.2
VOIR				i S	Sn	21 29 00.0	-1.2
AMRR	**Amara**	**1.09**	**150**⇓	iP	Pn	21 28 44.0	+0.5
AMRR	**Amara**	**1.09**	**150**⇓	iP	Pn	21 28 44.0	+0.5
AMRR				i S	Sn	21 29 01.6	+0.3
AMRR	**Amara**	**1.09**	**150**⇓	iP	Pn	21 28 44.0	+0.5
AMRR				i S	Sn	21 29 01.6	+0.3
MTUR	**Matau**	**1.11**	**253**⇑	iP	Pn	21 28 45.0	+1.2
MTUR	**Matau**	**1.11**	**253**⇑	iP	Pn	21 28 45.0	+1.2
MTUR	**Matau**	**1.11**	**253**⇑	iP	Pn	21 28 45.0	+1.2
CFR	**Carcaliu**	**1.17**	**109**⇑	iP	Pn	21 28 44.2	0.0
CFR	**Carcaliu**	**1.17**	**109**⇑	iP	Pn	21 28 44.2	0.0
CFR				i S	Sn	21 29 01.5	-1.1
CFR	**Carcaliu**	**1.17**	**109**⇑	iP	Pn	21 28 44.2	0.0
CFR				i S	Sn	21 29 01.5	-1.1
CIOR	**Ciorogarla**	**1.21**	**204**⇑	iP	Pn	21 28 44.9	+0.2
CIOR	**Ciorogarla**	**1.21**	**204**⇑	iP	Pn	21 28 44.9	+0.2
CIOR				i S	Sn	21 29 03.5	0.0
CIOR	**Ciorogarla**	**1.21**	**204**⇑	iP	Pn	21 28 44.9	+0.2
CIOR				i S	Sn	21 29 03.5	0.0
BUC1	**Bucharest**	**1.27**	**198**⇑	iP	Pn	21 28 45.7	+0.4
BUC1	**Bucharest**	**1.27**	**198**⇑	iP	Pn	21 28 45.7	+0.4
BUC1				i S	Sn	21 29 04.4	-0.1
BUC1	**Bucharest**	**1.27**	**198**⇑	iP	Pn	21 28 45.7	+0.4
BUC1				i S	Sn	21 29 04.4	-0.1
HARR	**Harsova**	**1.30**	**132**⇓	iP	Pn	21 28 45.9	+0.3
HARR	**Harsova**	**1.30**	**132**⇓	iP	Pn	21 28 45.9	+0.3
HARR	**Harsova**	**1.30**	**132**⇓	iP	Pn	21 28 45.9	+0.3
ARR	**Arges**	**1.38**	**263**⇑	iP	Pn	21 28 46.6	+0.1
ARR	**Arges**	**1.38**	**263**⇑	iP	Pn	21 28 46.6	+0.1
ARR				i S	Sn	21 29 06.1	-0.6
ARR	**Arges**	**1.38**	**263**⇑	iP	Pn	21 28 46.6	+0.1
ARR				i S	Sn	21 29 06.1	-0.6
TLB	**Topalu**	**1.43**	**132**⇓	iP	Pn	21 28 47.3	+0.3
TLB	**Topalu**	**1.43**	**132**⇓	iP	Pn	21 28 47.3	+0.3
TLB				i S	Sn	21 29 06.4	-1.2
TLB	**Topalu**	**1.43**	**132**⇓	iP	Pn	21 28 47.3	+0.3
TLB				i S	Sn	21 29 06.4	-1.2
LEOM	**Leova**	**1.48**	**51**⇑	iP	Pn	21 28 47.8	+0.2
LEOM	**Leova**	**1.48**	**51**⇑	iP	Pn	21 28 47.8	+0.2
LEOM				i S	Sn	21 29 08.2	-0.5
LEOM	**Leova**	**1.48**	**51**⇑	iP	Pn	21 28 47.8	+0.2
LEOM				i S	Sn	21 29 08.2	-0.5
CVD	**Cernavoda**	**1.62**	**140**⇓	iP	Pn	21 28 49.5	+0.3
CVD	**Cernavoda**	**1.62**	**140**⇓	iP	Pn	21 28 49.5	+0.3
CVD				i S	Sn	21 29 10.4	-1.1
CVD	**Cernavoda**	**1.62**	**140**⇓	iP	Pn	21 28 49.5	+0.3
CVD				i S	Sn	21 29 10.4	-1.1
TLCR		**1.63**	**102**⇑	iP	Pn	21 28 49.4	+0.2
TLCR		**1.63**	**102**⇑	iP	Pn	21 28 49.4	+0.2
TLCR				i S	Sn	21 29 11.2	-0.4
TLCR		**1.63**	**102**⇑	iP	Pn	21 28 49.4	+0.2
TLCR				i S	Sn	21 29 11.2	-0.4
TIRR	**Tirgusor**	**1.71**	**129**⇓	iP	Pn	21 28 50.5	+0.3
TIRR	**Tirgusor**	**1.71**	**129**⇓	iP	Pn	21 28 50.5	+0.3
TIRR				i S	Sn	21 29 12.1	-1.2
TIRR	**Tirgusor**	**1.71**	**129**⇓	iP	Pn	21 28 50.5	+0.3
TIRR				i S	Sn	21 29 12.1	-1.2
MSAB	**Monastry St. A**	**1.72**	**148**⇓	iP	Pn	21 28 50.8	+0.5
MSAB	**Monastry St. A**	**1.72**	**148**⇓	iP	Pn	21 28 50.8	+0.5
MSAB				i S	Sn	21 29 13.4	-0.2
MSAB	**Monastry St. A**	**1.72**	**148**⇓	iP	Pn	21 28 50.8	+0.5
MSAB				i S	Sn	21 29 13.4	-0.2
IAS	**Iasi**	**1.77**	**22**	S	Sn	21 29 12.9	-1.8
IAS	**Iasi**	**1.77**	**22**	i S	Sn	21 29 12.9	-1.8
IAS	**Iasi**	**1.77**	**22**	i S	Sn	21 29 12.9	-1.8
LOT	**Lotru**	**1.97**	**268**	S	Sn	21 29 17.3	-1.9
LOT	**Lotru**	**1.97**	**268**	i S	Sn	21 29 17.3	-1.9
LOT	**Lotru**	**1.97**	**268**	i S	Sn	21 29 17.3	-1.9
EFOR	**EFORIE**	**2.09**	**134**⇓	iP	Pn	21 28 55.2	+0.5
EFOR	**EFORIE**	**2.09**	**134**⇓	iP	Pn	21 28 55.2	+0.5
EFOR				i S	Sn	21 29 20.7	-0.7
EFOR	**EFORIE**	**2.09**	**134**⇓	iP	Pn	21 28 55.2	+0.5
EFOR				i S	Sn	21 29 20.7	-0.7
ZIMR		**2.09**	**205**	S	Sn	21 29 20.1	-1.4
ZIMR		**2.09**	**205**	i S	Sn	21 29 20.1	-1.4
KIS	**Kishinev**	**2.12**	**47**	S	Sn	21 29 20.5	-1.8
KIS	**Kishinev**	**2.12**	**47**	i S	Sn	21 29 20.5	-1.8
KIS	**Kishinev**	**2.12**	**47**	i S	Sn	21 29 20.5	-1.8
BURAR	**Bucovina Array**	**2.26**	**336**⇓	iP	Pn	21 28 58.3	+1.3
BURAR	**Bucovina Array**	**2.26**	**336**⇓	iP	Pn	21 28 58.3	+1.3
BURAR				i S	Sn	21 29 26.1	+0.6
BURAR	**Bucovina Array**	**2.26**	**336**⇓	iP	Pn	21 28 58.3	+1.3
BURAR				i S	Sn	21 29 26.1	+0.6
MANR	**Mangalia**	**2.26**	**140**⇑	iP	Pn	21 28 57.5	+0.6
MANR	**Mangalia**	**2.26**	**140**⇑	iP	Pn	21 28 57.5	+0.6
MANR				i S	Sn	21 29 24.9	-0.4
MANR	**Mangalia**	**2.26**	**140**⇑	iP	Pn	21 28 57.5	+0.6
MANR				i S	Sn	21 29 24.9	-0.4
SRE	**Strehaia**	**2.54**	**251**	S	Sn	21 29 30.1	-1.7
SRE	**Strehaia**	**2.54**	**251**	i S	Sn	21 29 30.1	-1.7
SRE	**Strehaia**	**2.54**	**251**	i S	Sn	21 29 30.1	-1.7
GZR	**Gura Zlata**	**2.67**	**268**	S	Sn	21 29 34.2	-0.7
GZR	**Gura Zlata**	**2.67**	**268**	*i* S	Sn	21 29 34.2	-0.7
GZR	**Gura Zlata**	**2.67**	**268**	*i* S	Sn	21 29 34.2	-0.7
DRGR		**2.95**	**296**⇑	iP	Pn	21 29 06.0	+0.2
DRGR		**2.95**	**296**⇑	iP	Pn	21 29 06.0	+0.2
DRGR		**2.95**	**296**⇑	iP	Pn	21 29 06.0	+0.2

IDC 27 21:36:01.4±3.0, 12°.35S×165°.65E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/19, mbtmp3.8/5, MS3.4/3, Ms1 3.4/3, ms1mx3.0/36, Error ellipse: s-maj=98.9km s-min=31.0km az=123.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**22.04**	**97**	LR	LR	21 47 22.6	
	comp=Z,44nm,21.1s,baz=277,slow=31						
STKA	**Stephens Creek**	**29.45**	**225**	P	P	21 42 08.4	+1.3
	1.5nm,0.7s,baz=43,slow=9.9,SNR=4.2						
STKA				LR	LR	21 52 50.8	
	comp=Z,105nm,18.4s,baz=25,slow=34						
WRA	**Warramunga Arr**	**30.97**	**252**	P	P	21 42 20.7	-0.1
	0.3nm,0.8s,baz=79,slow=9.6,SNR=4.4						
ASAR	**Alice Springs**	**32.15**	**245**	P	P	21 42 29.8	-1.3
	0.9nm,0.7s,baz=74,slow=9.1,SNR=9.0						
JNU	**Nakatsue**	**56.08**	**325**	LR	LR	22 08 24.8	
	comp=Z,41nm,18.8s,baz=62,slow=35						
SONM	**Songino Array**	**79.66**	**324**	P	P	21 48 11.3	+0.3
	0.3nm,0.7s,baz=104,slow=6.1,SNR=2.9						
MKAR	**Makanchi Array**	**94.40**	**317**	P	P	21 49 24.2	+0.8
	0.7nm,0.9s,baz=92,slow=5.2,SNR=3.5						
ESDC	**Sonseca Array**	**151.27**	**343**	PKPbc	PKPbc	21 55 56.0	-1.4
	0.4nm,0.7s,baz=14,slow=1.6,SNR=4.5						

NIED 27 21:38:00.26°.90N×126°.60E, h113km, Mw4.2 Best double couple: M₀2.61000×10¹⁵ NP1:φ₁226.00000°, δ74.00000°, λ34.00000°. NP2:φ₂125.00000°, δ58.00000°, λ161.00000°.

ISCJB 27 21:38:16.5±0.3, 26°.80N±0°.08×126°.60E±0°.07, h131km±7km, mb3.8/10, Error ellipse: s-maj=16.2km s-min=3.8km az=140.2

JMA 27 21:38:18.3±0.3, 26°.86N×126°.55E, h119km±4km, M4.2

IDC 27 21:38:20.1±8.2, 26°.91N×126°.51E, h145km±52km, mb3.7/10, mb1 3.7/13, mb1mx3.6/28, mbtmp3.6/13, Error ellipse: s-maj=81.2km s-min=24.7km az=1.0

ISC 27 21:38:17.7±0.7, 26°.82N±0°.08×126°.58E±0°.07, h129km±8km, n31, σ1°19/45, mb3.8/10, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.53**	**159**	P	**Pn**	**21 38 36.7**	**-0.1**
JAGN	**Aguni-jima**	**0.64**	**111**	P	**Pn**	**21 38 37.5**	**0.0**
JAGN				S	**Sn**	**21 38 51.5**	**-0.9**
JJT2	**Tamagusuku 2**	**1.25**	**123**	P	**Pn**	**21 38 43.9**	**+0.9**
JJT2				S	**Sn**	**21 39 02.1**	**-0.1**
JIH	**Iheya**	**1.26**	**80**	P	**Pn**	**21 38 43.4**	**+0.3**
JIH				S	**Sn**	**21 39 01.4**	**-0.9**
JOW	**Kunigami**	**1.52**	**89**	P	**Pn**	**21 38 46.2**	**+0.3**
JOW				S	**Sn**	**21 39 05.6**	**-1.8**
JOGS	**Gusukube**	**2.31**	**208**	P	**Pn**	**21 38 56.0**	**+0.6**
JOGS				S	**Sn**	**21 39 24.3**	**-0.1**
JMJ	**Miyako jima 2**	**2.31**	**210**	P	**Pn**	**21 38 55.9**	**+0.4**
JMJ				S	**Sn**	**21 39 23.5**	**-0.9**
JTK	**Tokunoshima**	**2.32**	**65**	P	**Pn**	**21 38 55.2**	**-0.4**
JTK				S	**Sn**	**21 39 22.9**	**-1.7**
JAMN	**Amaminishikomi**	**2.71**	**58**	P	**Pn**	**21 38 59.9**	**-0.6**
JAMN				S	**Sn**	**21 39 31.1**	**-2.3**
JTJ	**Tarama**	**2.75**	**218**	P	**Pn**	**21 39 01.0**	**-0.1**
JTJ				S	**Sn**	**21 39 32.8**	**-1.7**
JAM	**Amami Oshima**	**3.12**	**59**	P	**Pn**	**21 39 05.2**	**-0.6**
JAM				S	**Sn**	**21 39 40.3**	**-2.6**
JIJ	**Ishigaki jima**	**3.29**	**223**	P	**Pn**	**21 39 07.5**	**-0.6**
JIJ				S	**Sn**	**21 39 43.6**	**-3.4**
JZK	**Kikaishima**	**3.36**	**63**	P	**Pn**	**21 39 08.7**	**-0.3**
JZK				S	**Sn**	**21 39 47.2**	**-1.4**
JKRS	**Kuro-shima**	**3.46**	**223**	P	**Pn**	**21 39 09.9**	**-0.5**
IRIF	**Iriomote-Funau**	**3.57**	**227**	P	**Pn**	**21 39 10.9**	**-0.8**
IRIF				S	**Sn**	**21 39 51.5**	**-2.1**
YOJ	**Yonaguni jima**	**3.99**	**235**	P	**Pn**	**21 39 17.7**	**+0.5**
JNN	**Nakanoshima**	**4.18**	**43**	P	**Pn**	**21 39 19.7**	**-0.2**
JMZ	**Minamidaito 2**	**4.28**	**102**	P	**Pn**	**21 39 19.7**	**-1.5**
JMZ				S	Sn	21 40 04.4	-6.1
JNU	**Nakatsue**	**7.30**	**30**	P	**Pn**	**21 40 03.1**	**+1.3**
	6.8nm,0.3s,baz=228,slow=4.2,SNR=58						
KSRS	**Korea Array**	**10.66**	**6**	P	**Pn**	**21 40 48.8**	**+1.9**
	0.3nm,0.3s,baz=181,slow=12,SNR=4.8						
MJAR	**Matsushiro Arr**	**13.84**	**43**	P	**Pn**	**21 41 29.7**	**+1.2**
	0.5nm,0.3s,baz=240,slow=15,SNR=4.8						
SONM	**Songino Array**	**26.27**	**328**	P	**P**	**21 43 41.2**	**+0.2**
	3.9nm,0.6s,baz=145,slow=10,SNR=25						
MKAR	**Makanchi Array**	**40.04**	**312**	P	**P**	**21 45 40.0**	**-0.1**
	3.5nm,0.4s,baz=96,slow=11,SNR=111						
MKAR				PcP	**PcP**	**21 47 43.5**	**+1.0**
	1.2nm,0.6s,baz=112,slow=1.9,SNR=9.4						
ZALV	**Zalesovo Beam**	**40.89**	**323**	P	**P**	**21 45 46.9**	**0.0**
	7.4nm,0.5s,baz=113,slow=8.8,SNR=41						
ILAR	**Eielson Array**	**44.62**	**28**	P	**P**	**21 48 41.1**	**0.0**
	0.4nm,0.6s,baz=301,slow=10,SNR=4.9						
FINES	**FINESS Array B**	**71.62**	**330**	P	**P**	**21 49 24.2**	**-0.5**
	2.9nm,1.0s,baz=65,slow=5.9,SNR=10						
AKASG	**Malin Array Be**	**74.12**	**319**	P	**P**	**21 49 39.2**	**-0.6**
	0.5nm,0.3s,baz=65,slow=6.0,SNR=2.9						
BRTR	**Keskin Array B**	**75.50**	**307**	P	**P**	**21 49 47.8**	**-0.3**
	0.2nm,0.4s,baz=59,slow=5.5,SNR=2.7						
NOA	**NORSAR Array B**	**78.13**	**333**	P	**P**	**21 50 01.9**	**-0.4**
	0.9nm,0.8s,baz=54,slow=5.6,SNR=4.4						
YKA	**Yellowknife Ar**	**78.61**	**25**	P	**P**	**21 50 05.8**	**+1.0**
	0.8nm,0.4s,baz=306,slow=5.6,SNR=5.8						
GERES	**GERESS Array B**	**83.83**	**322**	P	**P**	**21 50 33.5**	**+0.6**
	0.4nm,0.6s,baz=44,slow=6.3,SNR=4.3						

IDC 27 21:56:42.2±5.6, 11°.87S×166°.37E, h75km±46km, mb3.6/10, mb1 3.8/11, mb1mx3.6/22, mbtmp3.7/11, ML4.7/1, MS4.0/1, Ms1 4.0/1, ms1mx3.1/25, Error ellipse: s-maj=33.5km s-min=20.9km az=88.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.76**	**290**	P	Pn	21 58 18.4	-0.4
	16nm,0.3s,baz=199,slow=12,SNR=3.9						
HNR				S	Sn	21 59 29.4	-5.0
	18nm,0.3s,baz=202,slow=8.5,SNR=3.3						
DZM	**Mont Dzumac**	**10.14**	**180**	P	Pn	21 59 10.6	+5.5
	1.2nm,0.3s,baz=359,slow=16,SNR=7.5						
DZM				S	Sn	22 00 54.2	-3.1
	baz=200,slow=21,SNR=2.1						
STKA	**Stephens Creek**	**30.27**	**225**	P	P	22 02 47.5	+1.3
	3.8nm,0.8s,baz=32,slow=8.2,SNR=8.4						
WRA	**Warramunga Arr**	**31.78**	**251**	P	P	22 02 59.4	-0.3
	0.6nm,0.6s,baz=84,slow=9.2,SNR=3.8						
ASAR	**Alice Springs**	**32.98**	**245**	P	P	22 03 09.6	-0.6
	0.9nm,0.8s,baz=68,slow=9.3,SNR=7.1						
FITZ	**Fitzroy Crossi**	**39.76**	**256**	P	P	22 04 07.7	-0.2
	2.1nm,0.8s,baz=104,slow=10,SNR=4.3						
PPT	**Papeete**	**42.91**	**103**	LR	LR	22 19 06.1	
	comp=Z,167nm,18.7s,baz=214,slow=31						
VNDA	**Vanda**	**65.68**	**181**	P	P	22 07 18.4	+0.2
	0.2nm,0.6s,baz=5.6,slow=7.2,SNR=3.7						
CMAR	**Chiang Mai Arr**	**73.00**	**294**	P	P	22 08 04.5	+0.2
	2.2nm,0.6s,baz=125,slow=4.8,SNR=13						
QSPA	**South Pole Qui**	**78.14**	**180**	P	P	22 08 32.5	-0.6
	0.8nm,0.6s						
SONM	**Songino Array**	**79.69**	**324**	P	P	22 08 42.7	+0.9
	0.2nm,0.4s,baz=114,slow=4.0,SNR=2.9						
ILAR	**Eielson Array**	**84.10**	**18**	P	P	22 09 04.6	+0.2
	0.2nm,0.5s,baz=239,slow=5.1,SNR=3.7						
MKAR	**Makanchi Array**	**94.54**	**317**	P	P	22 09 52.7	-1.8
	0.6nm,0.7s,baz=95,slow=8.8,SNR=5.4						

ISCJB 27 22:01:36.5±0.6, 0°.54N±0°.05×122°.41E±0°.09, h148km, mb3.8/7, Error ellipse: s-maj=13.0km s-min=7.4km az=168.6

IDC 27 22:01:37.9±7.2, 0°.44N×122°.30E, h144km±73km, mb3.6/7, mb1 3.7/9, mb1mx3.4/25, mbtmp3.5/9, Error ellipse: s-maj=84.6km s-min=13.4km az=59.0

DJA 27 22:01:48.5±0.3, 0°N±3°×12°2E±°, h96km, M4.0/7, MLv4.0/7

ISC 27 22:01:38.5±0.9, 0°.55N±0°.09×122°.3E±0°.1, h148km, n29, σ1°48/27, mb4.0/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.40**	**259**	P	Pn	22 02 04.9	+5.8
MRSI				S	Sn	22 02 22.6	+7.8
TOLI	**Toli-Toli**	**1.64**	**290**	P	Pn	22 02 13.4	+4.0
TOLI				S	**Sn**	**22 02 35.6**	**+2.5**
LUWI	**Luwuk**	**1.64**	**165**	P	Pn	22 02 13.9	+4.4
LUWI				S	**Sn**	**22 02 38.0**	**+4.8**
KMSI	**Cibinong**	**1.65**	**89**	P	Pn	22 02 19.4	+10
KMSI				S	Sn	22 02 47.2	+14
TTSI	**Tana Toraja**	**4.37**	**215**	P	**Pn**	**22 02 44.1**	**+0.5**
MMSI	**Mamuju**	**4.70**	**227**	P	**Pn**	**22 02 46.7**	**-1.3**
SGKI	**Sangatta, Kali**	**4.85**	**257**	P	**Pn**	**22 02 48.8**	**-1.2**
SPSI	**Sidrap Palu**	**5.17**	**210**	P	**Pn**	**22 02 54.3**	**+0.1**
BNSI	**Bone**	**5.40**	**204**	P	**Pn**	**22 02 58.2**	**+1.0**
KAPI	**Kappang**	**6.10**	**205**	P	**Pn**	**22 03 03.9**	**-2.7**
	0.8nm,0.3s,baz=34,slow=15,SNR=5.6						
MDSI	**Maura Dua**	**18.82**	**254**	P	**P**	**22 05 46.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**18.82**	**170**	P	**P**	**22 05 45.5**	**-1.4**
	0.2nm,0.3s,baz=334,slow=9.2,SNR=6.2						
WRA	**Warramunga Arr**	**23.52**	**151**	P	**P**	**22 06 34.9**	**-0.5**
	2.1nm,0.6s,baz=326,slow=11,SNR=16						
ASAR	**Alice Springs**	**26.57**	**156**	P	**P**	**22 07 02.5**	**-0.5**
	0.6nm,0.6s,baz=344,slow=14,SNR=10						
CMAR	**Chiang Mai Arr**	**29.05**	**309**	P	**P**	**22 07 26.1**	**+1.1**
	0.2nm,0.3s,baz=129,slow=7.1,SNR=4.7						
STKA	**Stephens Creek**	**37.05**	**152**	P	**P**	**22 08 32.4**	**-1.9**
	3.1nm,0.8s,baz=327,slow=12,SNR=5.6						
ODAN	**Odare**	**42.56**	**311**	*eP*	**P**	**22 09 20.5**	**+0.3**
	3.5nm,0.5s						
TAPN	**Taplejung**	**42.58**	**312**	*eP*	**P**	**22 09 20.6**	**+0.1**
	5.6nm,0.6s						
RAMN	**Ramite**	**43.21**	**310**	*eP*	**P**	**22 09 25.8**	**+0.4**
	12nm,0.8s						
JIRN	**Jiri**	**43.89**	**311**	*eP*	**P**	**22 09 31.0**	**0.0**
	9.4nm,0.6s						
GUN	**Gumba**	**44.26**	**311**	*eP*	**P**	**22 09 33.9**	**0.0**
	11nm,0.5s						
KKN	**Kakani**	**44.65**	**311**	*eP*	**P**	**22 09 36.5**	**-0.4**
	2.8nm,0.5s						
DMN	**Daman**	**44.69**	**310**	*eP*	**P**	**22 09 37.0**	**-0.2**
	4.9nm,0.6s						
GKN	**Gorkha**	**45.24**	**310**	*eP*	**P**	**22 09 41.2**	**-0.3**
	4.8nm,0.6s						
KOLN	**Koldanda**	**45.92**	**309**	*eP*	**P**	**22 09 46.6**	**-0.3**
	8.7nm,0.7s						
DANN	**Dangsing**	**46.09**	**310**	*eP*	**P**	**22 09 47.9**	**-0.4**
	20nm,0.9s						
SONM	**Songino Array**	**49.09**	**346**	P	**P**	**22 10 12.2**	**+1.3**
	1.9nm,0.7s,baz=164,slow=9.1,SNR=19						
MKAR	**Makanchi Array**	**57.80**	**329**	P	**P**	**22 11 14.7**	**+0.4**
	2.4nm,0.7s,baz=124,slow=9.0,SNR=20						
ZALV	**Zalesovo Beam**	**61.54**	**336**	P	**P**	**22 11 38.3**	**-1.4**
	1.4nm,0.8s,baz=99,slow=9.3,SNR=6.4						

IDC 27 22:08:52.6±0.9, 1°.08S×127°.32E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.8/21, mbtmp3.8/8, ML3.5/2, MS3.2/1, Ms1 3.2/1, ms1mx2.7/34, Error ellipse: s-maj=35.6km s-min=16.9km az=73.0

*ISCJB 27 22:08:57.6±0.3, 1°.17S±0°.04×127°.08E±0°.04, h34km, mb3.8/7, Error ellipse: s-maj=5.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.56**	**32**	P	**Pb**	**22 37 34.6**	**+1.5**
TNTI	**Ternate**	**1.88**	**5**	P	**Pb**	**22 37 54.0**	**-1.3**
NLAI	**Namlea**	**2.11**	**183**	P	**Pn**	**22 37 54.4**	**0.0**
SWI	**Sorong**	**4.06**	**86**	P	Pn	22 38 26.4	+5.1
LUWI	**Luwuk**	**4.43**	**271**	P	**Pn**	**22 38 25.9**	**-0.5**
APSI	**Ampana**	**5.56**	**272**	P	**Pn**	**22 38 42.3**	**+0.5**
TTSI	**Tana Toraja** 33nm,0.7s	**7.62**	**255**	P	**Pn**	**22 39 11.0**	**+0.8**
BNSI	**Bone** 12nm,1.2s	**7.80**	**245**	P	**Pn**	**22 39 13.9**	**+1.2**
SPSI	**Sidrap Palu** 30nm,0.6s	**7.95**	**249**	P	**Pn**	**22 39 15.9**	**+1.2**
BKSI	**Bulukumba** 28nm,0.6s	**8.21**	**239**	P	**Pn**	**22 39 18.7**	**+0.4**
KAPI	**Kappang** 3.5nm,0.3s,baz=60,slow=4.8,SNR=7.4	**8.39**	**242**	Pn	**Pn**	**22 39 21.2**	**+0.5**
MMSI	**Mamuju**	**8.43**	**259**	P	**Pn**	**22 39 21.8**	**+0.4**
WRA	**Warramunga Arr** 0.0nm,0.3s,baz=340,slow=11,SNR=2.8	**19.97**	**160**	P	**P**	**22 41 49.7**	**-1.4**
ASAR	**Alice Springs** 0.3nm,0.4s,baz=346,slow=11,SNR=4.4	**23.34**	**164**	P	**P**	**22 42 26.1**	**-0.9**
MJAR	**Matsushiro Arr** comp=Z,91nm,20.9s,baz=130,slow=33	**38.84**	**14**	LR	LR	22 58 31.1	
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=119,slow=7.2,SNR=5.4	**61.81**	**327**	P	**P**	**22 47 37.4**	**+0.3**

*IDC **27** 23:15:07.4±0.8, 1°.06S×127°.07E, h0km, mb4.0/9, mb1 4.2/11, mb1mx4.0/24, mbtmp4.1/11, ML3.6/2, MS4.6/1, Ms1 4.6/1, ms1mx2.9/31, Error ellipse: s-maj=31.3km s-min=15.1km az=76.0*

*DJA **27** 23:15:10.9±0.8, 1°S±3°×12°.7E±°, h10km, M4.5/4, mb4.8/4, mB5.1/3, MLv4.3/4, Mw(mB)4.4/3*

ISC 27 23:15:10.7±0.7, 1°.17S±0°.05×127°.25E±0°.07, h31km, n23, σ1s37/22, mb4.1/8, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.59**	**26**	P	**Pn**	**23 15 23.2**	**+0.2**
TNTI	**Ternate**	**1.94**	**4**	P	**Pn**	**23 15 42.0**	**+0.5**
TNTI				S	**Sb**	**23 16 09.0**	**-0.1**
NLAI	**Namlea**	**2.06**	**184**	P	**Pb**	**23 15 46.0**	**-1.4**
NLAI				S	**Sb**	**23 16 11.9**	**-0.6**
SWI	**Sorong**	**4.03**	**86**	P	**Pb**	**23 16 18.3**	**-2.6**
LUWI	**Luwuk**	**4.47**	**272**	P	**Pn**	**23 16 13.6**	**-2.8**
FAKI	**Fak Fak** 78nm,0.9s,933nm	**5.29**	**109**	P	Pn	23 16 34.3	+6.6
MRSI	**Marisa** 40nm,0.7s,2µm	**5.55**	**287**	P	**Pn**	**23 16 30.8**	**-0.4**
TTSI	**Tana Toraja** 43nm,0.7s,0.1nm	**7.65**	**256**	P	**Pn**	**23 17 00.6**	**+0.6**
SPSI	**Sidrap Palu**	**7.96**	**250**	P	**Pn**	**23 17 04.5**	**+0.1**
BKSI	**Bulukumba**	**8.22**	**240**	P	**Pn**	**23 17 10.0**	**+2.2**
KAPI	**Kappang** 1.1nm,0.3s,baz=48,slow=8.1,SNR=9.5	**8.40**	**243**	Pn	**Pn**	**23 17 10.5**	**+0.1**
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=19,slow=11,SNR=8.4	**16.90**	**185**	Pn	**P**	**23 19 06.7**	**0.0**
WRA	**Warramunga Arr** 3.9nm,0.6s,baz=337,slow=11,SNR=11	**19.90**	**160**	P	**P**	**23 19 41.1**	**+1.3**
ASAR	**Alice Springs** 6.2nm,0.8s,baz=344,slow=10,SNR=68	**23.27**	**164**	P	**P**	**23 20 18.2**	**+2.4**
PSI	**Prapat** 3.9nm,0.5s,baz=137,slow=1.9,SNR=5.0	**28.59**	**278**	P	**P**	**23 21 03.1**	**-1.3**
JCJ	**Chichijima** comp=Z,1µm,19.8s,baz=88,slow=32	**31.58**	**26**	LR	LR	23 32 13.6	
STKA	**Stephens Creek** 3.8nm,0.6s,baz=324,slow=8.1,SNR=10	**33.41**	**157**	P	P	23 21 50.2	+3.6
KSRS	**Korea Array** 0.8nm,0.6s,baz=259,slow=23,SNR=4.1	**38.44**	**1**	P	**P**	**23 22 30.9**	**+1.3**
USRK	**Ussuriysk Arra** 0.6nm,0.4s,baz=177,slow=8.3,SNR=3.5	**45.37**	**5**	P	**P**	**23 23 26.0**	**-0.2**
SONM	**Songino Array** 1.6nm,0.9s,baz=152,slow=7.2,SNR=8.4	**52.09**	**342**	P	**P**	**23 24 18.4**	**+0.6**
MKAR	**Makanchi Array** 0.9nm,0.4s,baz=115,slow=8.1,SNR=27	**61.88**	**327**	P	**P**	**23 25 27.5**	**+0.3**
ZALV	**Zalesovo Beam** 0.3nm,0.4s,baz=142,slow=7.5,SNR=3.4	**65.18**	**334**	P	**P**	**23 25 48.7**	**0.0**
TORD	**Torodi Ar. Bea** 0.6nm,1.0s,baz=66,slow=2.6,SNR=3.1	**124.81**	**285**	PKP	**PKPdf**	**23 34 10.0**	**+1.5**

IDC 27 23:39:12.2±17.0, 24°.68S×179°.81E, h515km±174km, mb3.2/4, mb1 3.4/4, mb1mx3.1/16, mbtmp3.2/4, Error ellipse: s-maj=108.3km s-min=23.8km az=57.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 1.9nm,0.3s,baz=107,slow=9.1,SNR=7.4	**34.28**	**249**	P	P	23 45 15.2	0.0
ASAR	**Alice Springs** 1.0nm,0.4s,baz=101,slow=7.9,SNR=23	**41.74**	**262**	P	P	23 46 16.1	-0.1
WRA	**Warramunga Arr** 3.9nm,0.4s,baz=103,slow=8.3,SNR=15	**42.19**	**267**	P	P	23 46 19.4	-0.4
VNDA	**Vanda** 0.3nm,0.5s,baz=29,slow=5.7,SNR=4.3	**53.59**	**185**	P	P	23 47 44.2	0.0
BRTR	**Keskin Array B** 0.4nm,0.6s,baz=119,slow=4.2,SNR=2.7	**147.30**	**306**	PKPbc	PKPbc	23 57 59.2	-0.3
KEST	**Kesra** 0.4nm,0.4s,baz=330,slow=3.0,SNR=10	**166.25**	**325**	PKPab	PKPab	23 59 22.5	-0.6
TORD	**Torodi Ar. Bea** 0.3nm,0.8s,baz=176,slow=4.3,SNR=5.2	**168.40**	**189**	PKPab	PKPab	23 59 32.0	-0.8

*MDD **28** 00:18:16.7±3.0, 40°.26N×13°.39W, h0km, mb3.5/5, Error ellipse: s-maj=25.1km s-min=24.1km az=126.0, PRXIMO*

*INMG **28** 00:18:18.3±1.0, 40°.27N×13°.85W, h10km, ML1.9, Error ellipse: s-maj=10.4km s-min=7.7km az=93.0*

*CSEM **28** 00:18:19.4±0.4, 40°.28N×13°.12W, h10km, ML2.7/5, Error ellipse: s-maj=7.8km s-min=7.2km az=119.0*

ISC 28 00:18:18.2±4.1, 40°.28N±0°.07×13°.2W±0°.2, h10km, n40, σ0s78/60, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCAS	**Casmilo, Conde**	**3.62**	**92**	*e*Sn	**Sn**	**00 19 58.2**	**+1.2**
PCAS	1.1nm,0.1s			A	A	00 20 04.0	
PCAS	**Casmilo, Conde** 1.1nm,0.1s	**3.62**	**92**	*e*Sn	**Sn**	**00 19 58.2**	**+1.2**
PTOM	**Tomar**	**3.75**	**99**	*e*Sn	**Sn**	**00 20 01.0**	**+0.8**
PTOM	2.1nm,0.1s			A	A	00 20 05.4	
PTOM	**Tomar** 1.1nm,0.1s	**3.75**	**99**	S	**Sn**	**00 20 01.0**	**+0.8**
PTOM	**Tomar** 1.1nm,0.1s	**3.75**	**99**	S	**Sn**	**00 20 01.0**	**+0.8**
PMTG	**Montargil**	**4.03**	**106**	*e*Pn	**Pn**	**00 19 20.3**	**+0.3**
PMTG				*e*Sn	**Sn**	**00 20 07.4**	**+0.2**
PMTG	0.7nm,0.4s			A	A	00 20 12.4	
PMTG	**Montargil** 0.7nm,0.4s	**4.03**	**106**	*e*Pn	**Pn**	**00 19 20.3**	**+0.3**
PMTG				*e*Sn	**Sn**	**00 20 07.4**	**+0.2**
PVIS	**Viseu**	**4.07**	**82**	*e*Sn	**Sn**	**00 20 08.3**	**-0.1**
PVIS	**Viseu**	**4.07**	**82**	S	**Sn**	**00 20 08.3**	**-0.1**
PVIS	**Viseu**	**4.07**	**82**	S	**Sn**	**00 20 08.3**	**-0.1**
PGAV	**Gavieira, Arco**	**4.09**	**64**	*e*Pn	**Pn**	**00 19 21.5**	**+0.6**
PGAV				*e*Sn	**Sn**	**00 20 08.1**	**-0.8**
PGAV	1.8nm,0.1s			A	A	00 20 11.1	
PGAV	**Gavieira, Arco** 1.8nm,0.1s	**4.09**	**64**	*e*Pn	**Pn**	**00 19 21.5**	**+0.6**
PGAV				*e*Sn	**Sn**	**00 20 08.1**	**-0.8**
PCAB	**Cabril**	**4.17**	**68**	*e*Pn	**Pn**	**00 19 22.7**	**+0.8**
PCAB				*e*Sn	**Sn**	**00 20 11.4**	**+0.6**
PCAB	1.3nm,0.1s			A	A	00 20 13.1	
PCAB	**Cabril**	**4.17**	**68**	P	**Pn**	**00 19 22.7**	**+0.8**
PCAB	0.6nm,0.1s			S	**Sn**	**00 20 11.4**	**+0.6**
PCAB	**Cabril**	**4.17**	**68**	P	**Pn**	**00 19 22.7**	**+0.8**
PCAB	0.6nm,0.1s			S	**Sn**	**00 20 11.4**	**+0.6**
ELOB	**Lobios** 0.3nm,0.1s,SNR=7.9	**4.20**	**66**	P	**Pn**	**00 19 22.3**	**-0.1**
ELOB	0.6nm,0.1s,SNR=7.9			S	**Sn**	**00 20 10.3**	**-1.2**
ELOB	**Lobios** 0.3nm,0.1s,SNR=7.9	**4.20**	**66**	P	**Pn**	**00 19 22.3**	**-0.1**
ELOB	0.6nm,0.1s,SNR=7.9			S	**Sn**	**00 20 10.3**	**-1.2**
POLO	**Lamas de Olo**	**4.25**	**73**	*e*Sn	**Sn**	**00 20 12.6**	**-0.2**
POLO	0.4nm,0.5s			A	A	00 20 23.0	
POLO	**Lamas de Olo** 0.4nm,0.5s	**4.25**	**73**	*e*Sn	**Sn**	**00 20 12.6**	**-0.2**
PCBR	**Castelo Branco**	**4.42**	**94**	*e*Sn	**Sn**	**00 20 16.6**	**-0.2**
PCBR	1.3nm,0.4s			A	A	00 20 19.1	
PCBR	**Castelo Branco** 0.6nm,0.4s	**4.42**	**94**	S	**Sn**	**00 20 16.6**	**-0.2**
PCBR	**Castelo Branco** 0.6nm,0.4s	**4.42**	**94**	S	**Sn**	**00 20 16.6**	**-0.2**
PMRV	**Marv??o**	**4.56**	**99**	*e*Pn	**Pn**	**00 19 27.8**	**+0.6**
PMRV				*e*Sn	**Sn**	**00 20 20.3**	**+0.1**
PMRV	0.4nm,0.1s			A	A	00 20 28.2	
PMRV	**Marv??o**	**4.56**	**99**	P	**Pn**	**00 19 27.8**	**+0.6**
PMRV	0.4nm,0.1s			S	**Sn**	**00 20 20.3**	**+0.1**
PMRV	**Marv??o**	**4.56**	**99**	P	**Pn**	**00 19 27.8**	**+0.6**
PMRV	0.4nm,0.1s			S	**Sn**	**00 20 20.3**	**+0.1**
PESTR	**Estremoz**	**4.56**	**106**	*e*Pn	**Pn**	**00 19 27.4**	**+0.1**
PESTR				*e*Sn	**Sn**	**00 20 19.9**	**-0.5**
PESTR	1.2nm,0.7s			A	A	00 20 28.4	
PESTR	**Estremoz** 1.2nm,0.7s	**4.56**	**106**	P	**Pn**	**00 19 27.4**	**+0.1**
PESTR				S	**Sn**	**00 20 19.9**	**-0.5**
PESTR	**Estremoz** 0.6nm,0.7s	**4.56**	**106**	P	**Pn**	**00 19 27.4**	**+0.1**
PESTR	0.6nm,0.7s			S	**Sn**	**00 20 19.9**	**-0.5**
MVO	**Moncorvo**	**4.78**	**77**	*e*Sn	**Sn**	**00 20 24.6**	**-1.1**
MVO	1.8nm,0.1s			A	A	00 20 29.6	
MVO	**Moncorvo** 0.2nm,0.1s,SNR=4.0	**4.78**	**77**	P	**Pn**	**00 19 31.4**	**+1.1**
MVO	1.4nm,0.1s,SNR=8.9			S	**Sn**	**00 20 24.3**	**-1.4**
MVO	**Moncorvo** 0.2nm,0.1s,SNR=4.0	**4.78**	**77**	P	**Pn**	**00 19 31.4**	**+1.1**
MVO	1.4nm,0.1s,SNR=8.9			S	Sn	00 20 24.3	-1.4
MVO	1.8nm,0.1s			*e*Sn	Sn	00 20 24.6	-1.1
EBAD	**Badajoz** 0.5nm,0.1s,SNR=7.9	**5.03**	**106**	P	**Pn**	**00 19 33.8**	**+0.1**
EBAD	0.7nm,0.2s,SNR=7.9			S	**Sn**	**00 20 30.2**	**-1.6**
EBAD	**Badajoz** 0.5nm,0.1s,SNR=7.9	**5.03**	**106**	P	**Pn**	**00 19 33.8**	**+0.1**
EBAD	0.7nm,0.2s,SNR=7.9			S	**Sn**	**00 20 30.2**	**-1.6**
PBRG	**Braganca**	**5.12**	**71**	*e*Sn	**Sn**	**00 20 33.5**	**-0.7**
PBRG	**Braganca**	**5.12**	**71**	S	**Sn**	**00 20 33.5**	**-0.7**
PBRG	**Braganca**	**5.12**	**71**	S	**Sn**	**00 20 33.5**	**-0.7**
ECAL	**Calabor** 0.2nm,0.1s,SNR=7.9	**5.16**	**69**	P	**Pn**	**00 19 36.3**	**+0.7**
ECAL	0.9nm,0.3s,SNR=7.9			S	**Sn**	**00 20 33.5**	**-1.7**
ECAL	**Calabor** 0.2nm,0.1s,SNR=7.9	**5.16**	**69**	P	**Pn**	**00 19 36.3**	**+0.7**
ECAL	0.9nm,0.3s,SNR=7.9			S	**Sn**	**00 20 33.5**	**-1.7**
EADA	**Adamuz** 0.2nm,0.1s,SNR=7.9	**7.02**	**105**	P	**Pn**	**00 20 00.5**	**-0.6**
EADA	**Adamuz** 0.2nm,0.1s,SNR=7.9	**7.02**	**105**	P	**Pn**	**00 20 00.5**	**-0.6**

*IDC **28** 00:23:29.2±1.4, 1°.23S×127°.37E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.5/22, mbtmp3.6/5, ML3.4/2, MS2.9/1, Ms1 2.9/1, ms1mx2.6/19, Error ellipse: s-maj=49.6km s-min=23.3km az=71.0*

*DJA **28** 00:23:33.4±0.7, 1°S±11°×12°.7E±1°.6, h24km±30km, M4.4/7, mB5.2/3, mb4.8/7, MLv4.3/6, Mw(mB)4.6/3*

ISC 28 00:23:31.5±0.9, 1°.25S±0°.05×127°.41E±0°.07, h31km, n19, σ1s81/19, mb3.5/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.61**	**9**	P	**Pn**	**00 23 46.1**	**+2.0**
NLAI	**Namlea**	**2.00**	**189**	P	**Pb**	**00 24 06.6**	**-0.7**
NLAI				S	**Sb**	**00 24 30.7**	**-1.1**
TNTI	**Ternate**	**2.01**	**359**	P	**Pb**	**00 24 06.1**	**-1.3**
SWI	**Sorong**	**3.87**	**84**	P	**Pb**	**00 24 36.5**	**-2.7**
LUWI	**Luwuk**	**4.64**	**272**	P	**Pn**	**00 24 36.6**	**-2.9**
SGSI	**Sangihe**	**5.25**	**339**	P	**Pn**	**00 24 45.0**	**-2.9**
MRSI	**Marisa** 29nm,0.6s,813nm0.1nm	**5.73**	**287**	P	**Pn**	**00 24 55.1**	**+0.6**
APSI	**Ampana** 332nm,0.4s,6µm1.4nm	**5.77**	**273**	P	**Pn**	**00 24 55.2**	**+0.2**
TTSI	**Tana Toraja**	**7.79**	**257**	P	**Pn**	**00 25 22.5**	**-0.3**
SPSI	**Sidrap Palu** 47nm,0.6s,0.2nm	**8.09**	**250**	P	**Pn**	**00 25 28.0**	**+1.0**
BKSI	**Bulukumba** 26nm,0.6s	**8.32**	**241**	P	**Pn**	**00 25 32.8**	**+2.7**
KAPI	**Kappang** 17nm,0.8s	**8.51**	**244**	P	**Pn**	**00 25 31.8**	**-0.9**
KAPI	**Kappang** 3.1nm,0.3s,baz=72,slow=2.0,SNR=13	**8.51**	**244**	Pn	**Pn**	**00 25 33.5**	**+0.8**
KAPI	comp=Z,69nm,18.4s,baz=143,slow=38			LR	LR	00 28 51.6	
MMSI	**Mamuju** 32nm,0.8s	**8.61**	**260**	P	**Pn**	**00 25 35.8**	**+1.7**
MJSI	**Majene**	**8.72**	**255**	P	**Pn**	**00 25 34.9**	**-0.8**
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=340,slow=12,SNR=3.2	**19.78**	**160**	P	**Pn**	**00 28 01.2**	**+0.2**
ASAR	**Alice Springs** 0.8nm,0.7s,baz=347,slow=11,SNR=7.7	**23.16**	**165**	P	**P**	**00 28 38.0**	**+2.4**
SONM	**Songino Array** 0.6nm,0.9s,baz=148,slow=8.4,SNR=2.6	**52.21**	**342**	P	P	00 32 43.0	+3.3
MKAR	**Makanchi Array** 0.5nm,0.5s,baz=115,slow=8.2,SNR=6.9	**62.03**	**327**	P	**P**	**00 33 50.4**	**+1.4**

*IDC **28** 00:44:26.8±0.9, 36°.21S×99°.87W, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.2/20, mbtmp4.1/10, MS3.7/10, Ms1 3.7/10, ms1mx3.6/20, Error ellipse: s-maj=25.3km s-min=22.9km az=45.0*

*ISCJB **28** 00:44:27.1±0.8, 36°.3S±0°.1×99°.8W±0°.2, h14km, mb4.0/12, MS3.6/11, Error ellipse: s-maj=19.6km s-min=17.2km az=177.0*

*NEIC **28** 00:44:28.2±0.6, 36°.19S×99°.80W, h10km, mb4.3/4, Error ellipse: s-maj=17.0km s-min=15.1km az=70.0*

ISC 28 00:44:29.0±0.8, 36°.2S±0°.1×99°.8W±0°.2, h14km, n39, σ0s99/26, mb4.1/12, MS3.6/11, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez** baz=245,slow=0.7,SNR=21	**17.39**	**87**	T	T	01 06 32.5	
H03N3	**Juan Fernandez** baz=245,slow=0.7,SNR=30	**17.39**	**87**	T	T	01 06 31.6	
H03N1	**Juan Fernandez** baz=245,slow=0.7,SNR=25	**17.40**	**87**	T	T	01 06 33.0	
PLCA	**Paso Flores**	**23.31**	**110**	P	**P**	**00 49 38.0**	**+1.5**
PLCA	**Paso Flores** 3.6nm,1.0s,baz=273,slow=12,SNR=3.3	**23.31**	**110**	P	**P**	**00 49 38.0**	**+1.5**
PLCA	comp=Z,117nm,21.3s,baz=279,slow=31			LR	LR	00 56 24.4	
CFAA	**Coronel Fontan**	**26.56**	**89**	P	**P**	**00 50 06.3**	**-0.3**
CFAA	**Coronel Fontan** 0.6nm,1.0s,baz=240,slow=7.6,SNR=4.2	**26.56**	**89**	P	**P**	**00 50 06.3**	**-0.3**
CFAA	comp=Z,11nm,18.2s,baz=254,slow=31			LR	LR	00 58 05.4	
USHA	**Ushuaia** comp=Z,236nm,18.2s,baz=244,slow=32	**28.45**	**141**	LR	LR	00 59 42.2	
LPAZ	**La Paz** 5.3nm,1.0s	**34.45**	**63**	*e*P	**P**	**00 51 16.8**	**-0.3**
LPAZ	**La Paz** 5.8nm,1.0s,baz=220,slow=6.6,SNR=14	**34.45**	**63**	P	**P**	**00 51 18.1**	**+1.0**
LPAZ	comp=Z,98nm,20.5s,baz=49,slow=29			LR	LR	01 01 17.1	
ATAH	**Atahualpa**	**34.98**	**39**	P	**P**	**00 51 21.8**	**+0.5**
ATAH	**Atahualpa** 6.7nm,0.9s,baz=301,slow=2.9,SNR=5.8	**34.98**	**39**	P	**P**	**00 51 21.8**	**+0.5**
ATAH	comp=Z,38nm,20.0s,baz=194,slow=28			LR	LR	01 00 50.9	
CPUP	**Villa Florida** comp=Z,85nm,18.1s,baz=24,slow=32	**37.39**	**87**	LR	LR	01 04 10.2	
SIV	**San Ignacio**	**39.88**	**70**	P	**P**	**00 52 00.6**	**-1.9**
SIV	**San Ignacio** 2.1nm,0.5s,baz=244,slow=10,SNR=6.7	**39.88**	**70**	P	**P**	**00 52 00.6**	**-1.9**
SAML	**Samuel** 8.0nm,1.2s	**42.97**	**60**	*e*P	**P**	**00 52 25.8**	**-2.0**
ROSC	**El Rosal** comp=Z,82nm,18.1s,baz=214,slow=33	**47.34**	**36**	LR	LR	01 10 07.7	
BDFB	**Brasilia** comp=Z,118nm,20.3s,baz=142,slow=34	**50.27**	**80**	LR	LR	01 12 58.5	
H06E1	**SOCORRO T-PHAS** SNR=4.5	**55.72**	**347**	T	T	01 54 53.4	
VNDA	**Vanda** 2.4nm,1.0s	**56.70**	**195**	*e*P	**P**	**00 54 11.1**	**-0.3**
VNDA	**Vanda** 2.4nm,1.0s,baz=75,slow=4.7,SNR=8.1	**56.70**	**195**	P	**P**	**00 54 11.7**	**+0.2**
VNDA	comp=Z,64nm,19.9s,baz=106,slow=31			LR	LR	01 14 06.2	
SNAA	**Sanae** 1.4nm,0.9s	**58.19**	**158**	*e*P	**P**	**00 54 22.1**	**0.0**
SNAA	**Sanae** comp=Z,36nm,19.2s,baz=206,slow=32	**58.19**	**158**	LR	LR	01 15 03.3	
TXAR	**Lajitas Array**	**65.32**	**356**	P	**P**	**00 55 11.0**	**+0.4**
TXAR	**Lajitas Array** 0.5nm,0.7s,baz=182,slow=8.8,SNR=5.7	**65.32**	**356**	P	**P**	**00 55 11.0**	**+0.4**
NVAR	**Mina Array Bea**	**76.23**	**345**	P	**P**	**00 56 17.0**	**0.0**
NVAR	**Mina Array Bea** 1.6nm,0.7s,baz=176,slow=6.9,SNR=6.9	**76.23**	**345**	P	**P**	**00 56 17.0**	**0.0**
PDAR	**Pinedale Array**	**79.13**	**353**	P	**P**	**00 56 32.1**	**-0.9**
PDAR	**Pinedale Array** 1.5nm,0.9s,baz=147,slow=6.6,SNR=7.2	**79.13**	**353**	P	**P**	**00 56 32.1**	**-0.9**
ULM	**Lac du Bonnet**	**86.19**	**3**	P	**P**	**00 57 10.3**	**+1.0**
ULM	**Lac du Bonnet** 2.1nm,0.8s,baz=190,slow=12,SNR=2.6	**86.19**	**3**	P	**P**	**00 57 10.3**	**+1.0**
STKA	**Stephens Creek** comp=Z,160nm,21.3s,baz=205,slow=30	**91.12**	**228**	LR	LR	01 29 46.5	
H01W1	**Cape Leeuwin H** baz=151,slow=0.7,SNR=3.3	**102.47**	**208**	T	T	02 53 29.2	
H01W2	**Cape Leeuwin H** baz=151,slow=0.7,SNR=3.7	**102.47**	**208**	T	T	02 53 33.6	
H01W3	**Cape Leeuwin H** baz=151,slow=0.7,SNR=3.4	**102.48**	**208**	T	T	02 53 32.6	
BRTR	**Keskin Array B**	**143.48**	**70**	PKP	**PKPdf**	**01 04 02.5**	**-0.7**
BRTR	**Keskin Array B** 0.3nm,0.7s,baz=243,slow=1.3,SNR=3.1	**143.48**	**70**	PKP	**PKPdf**	**01 04 02.5**	**-0.7**
KBZ	**Khabaz**	**150.67**	**64**	PKPbc	**PKPbc**	**01 04 20.1**	**-0.2**
KBZ	**Khabaz** 3.7nm,0.9s,baz=315,slow=2.9,SNR=3.2	**150.67**	**64**	PKPbc	**PKPbc**	**01 04 20.1**	**-0.2**

IDC 28 00:44:39.4±8.1, 15°.81N×146°.82E, h0km, mb3.9/6, mb1 3.9/6, mb1mx3.6/26, mbtmp3.9/6, Error ellipse: s-maj=284.0km s-min=99.3km az=18.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array** 0.7nm,0.5s,baz=126,slow=7.7,SNR=6.5	**46.06**	**323**	P	P	00 53 04.7	-0.5
ZALV	**Zalesovo Beam** 0.3nm,0.4s,baz=113,slow=11,SNR=2.6	**60.95**	**323**	P	P	00 54 54.6	+0.3
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=88,slow=8.4,SNR=6.6	**61.24**	**315**	P	P	00 54 57.0	+0.6
BVAR	**Borovoye Array** 0.9nm,0.4s,baz=103,slow=6.4,SNR=8.5	**69.38**	**321**	P	P	00 55 48.6	-0.4
ARCES	**ARCESS Array B** 1.9nm,0.8s,baz=75,slow=7.8,SNR=4.0	**85.55**	**342**	P	P	00 57 19.8	+0.5
FINES	**FINESS Array B** 0.5nm,0.5s,baz=60,slow=4.6,SNR=5.2	**89.94**	**336**	P	P	00 57 39.6	-0.8

IDC 28 00:52:59.0±6.0, 14°.22S×174°.09W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.6/19, mbtmp3.4/3, Error ellipse: s-maj=286.5km s-min=36.1km az=140.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy** baz=149,slow=0.7,SNR=10.0	**37.61**	**329**	T	T	01 40 43.3	
H11S3	**WAKE ISLAND Hy** baz=149,slow=0.7,SNR=8.6	**37.63**	**329**	T	T	01 40 46.0	
H11S1	**WAKE ISLAND Hy** baz=149,slow=0.7,SNR=7.3	**37.63**	**329**	T	T	01 40 52.0	
WRA	**Warramunga Arr** 0.1nm,0.4s,baz=91,slow=7.2,SNR=2.3	**49.47**	**256**	P	P	01 01 51.8	+0.2
ASAR	**Alice Springs** 0.5nm,0.5s,baz=88,slow=7.9,SNR=6.5	**49.85**	**251**	P	P	01 01 53.9	-0.6
ILAR	**Eielson Array** 0.3nm,0.7s,baz=217,slow=5.2,SNR=4.9	**81.42**	**11**	P	P	01 05 17.4	-0.1
BRTR	**Keskin Array B** 1.5nm,0.9s,baz=98,slow=2.3,SNR=7.6	**144.82**	**321**	PKP	PKPdf	01 12 38.4	-0.2

*ISCJB **28** 01:00:28.7±0.2, 51°.42N±0°.01×6°.56E±0°.02, h0km, Error ellipse: s-maj=2.2km s-min=1.9km az=26.0*

*CSEM **28** 01:00:29.7±0.1, 51°.45N×6°.59E, h1km, ML3.4/19, Error ellipse: s-maj=2.7km s-min=2.3km az=148.0*

*BUG **28** 01:00:29.3, 51°.52N×6°.57E, h1km, ML2.8*

BUG Felt in Kamp-Lintfort.

*PRU **28** 01:00:30.5, 51°.44N×6°.58E, h3km*

*LDG **28** 01:00:30.9±0.1, 51°.47N×6°.59E, h1km, Md3.5/2, Ml3.4/25, Error ellipse: s-maj=1.5km s-min=1.3km az=138.0, Suspected Mining induced.*

*UCC **28** 01:00:30.5, 51°.50N×6°.62E, h10km, ML2.6*

*BNS **28** 01:00:30.3±0.6, 51°.51N×6°.57E, h1km, ML2.6*

*BGR **28** 01:00:31.1±0.2, 51°.47N×6°.63E, h1km, ML2.8/6, Error ellipse: s-maj=3.3km s-min=2.2km az=110.0*

*VIE **28** 01:00:34.9±0.9, 51°.28N×6°.78E, h10km, mb2.7/2, ML2.6/3, Error ellipse: s-maj=24.5km s-min=7.3km az=70.0 7 km N of Dsseldorf*

*STR **28** 01:00:35.3±0.2, 51°.16N×6°.44E, h10km, Ml3.0, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 28 01:00:29.0±0.7, 51°.45N±0°.01×6°.54E±0°.01, h0km, n201, σ1s10/321, 3C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRHE	**Rheinberg**	**0.07**	**18**	Pg	**Pg**	**01 00 30.5**	**+0.1**
BRHE				Sg	**Sg**	**01 00 31.5**	**+0.2**
BRHE	**Rheinberg**	**0.07**	**18**	Pg	**Pg**	**01 00 30.5**	**+0.1**
BRHE				Sg	**Sg**	**01 00 31.5**	**+0.2**
LAUG	**Laupendahl**	**0.27**	**111**	*i*Pg	**Pg**	**01 00 35.6**	**+1.3**
LAUG	**Laupendahl**	**0.27**	**111**	Pg	**Pg**	**01 00 35.6**	**+1.3**
HKB	**Herkenbosch** 172nm,0.2s	**0.35**	**222**	P	**Pb**	**01 00 38.3**	**+0.2**
HKB				S	**Sb**	**01 00 44.7**	**+0.6**
RODG	**Roetgen-Dahlhe**	**0.38**	**216**	*e*Pg	**Pb**	**01 00 38.9**	**+0.3**
RODG	**Roetgen-Dahlhe**	**0.38**	**216**	Pg	**Pb**	**01 00 38.9**	**+0.3**
JCK	**Jackerath**	**0.42**	**189**	*e*Pg	**Pb**	**01 00 39.3**	**0.0**
JCK	839nm,0.2s			*e*Sg	**Sb**	**01 00 46.2**	**0.0**

109nm,0.1s
GSH Grosshau 0.72 188 Pg **Pb 01 00 44.9 +0.5**
HGN Heimansgroeve 0.79 209 *e*Pg **Pb 01 00 46.1 +0.6**
HGN *e*Sg **Sb 01 00 58.5 +1.8**
HGN Heimansgroeve 0.79 209 *e*Pg **Pb 01 00 46.2 +0.6**
387nm,0.2s,baz=33
HGN *e*Sg **Sb 01 00 57.6 +0.9**
HGN Heimansgroeve 0.79 209 Pg **Pb 01 00 46.1 +0.6**
HGN *e*Sg **Sb 01 00 57.6 +0.9**
WBS Wahnbachtalspe 0.80 144 *e*Pg **Pb 01 00 45.9 +0.2**
WBS *e*Sg **Sb 01 00 57.1 +0.1**
241nm,0.2s
DREG Dreilaegerbach 0.81 194 *e*Pg **Pb 01 00 46.6 +0.6**
DREG Dreilaegerbach 0.81 194 Pg **Pb 01 00 46.6 +0.6**
KLL Kalltalsperre 0.82 190 *e*Pg **Pb 01 00 46.6 +0.5**
KLL Kalltalsperre 0.82 190 Pg **Pb 01 00 46.6 +0.5**
BEBN Eben Emael 0.85 220 ⇓P **Pb 01 00 47.6 +1.0**
BEBN S **Sb 01 00 59.3 +0.8**
comp=N,98nm,0.3s
BEBN Eben Emael 0.85 220 P **Pb 01 00 47.6 +1.0**
BEBN S **Sb 01 00 59.3 +0.8**
comp=N,98nm,0.3s
STB Steinbach 0.88 167 *e*Pg **Pb 01 00 48.2 +1.1**
STB *e*Sg **Sb 01 01 00.8 +1.5**
comp=N,265nm,0.4s
STB Steinbach 0.88 167 Pg **Pb 01 00 48.2 +1.1**
SORT Sorpetalsperre 0.90 96 *e*Pg **Pg 01 00 46.7 +0.4**
SORT *e*Sg **Sg 01 00 58.7 +0.7**
SORT Sorpetalsperre 0.90 96 Pg **Pg 01 00 46.7 +0.4**
SORT Sg **Sg 01 00 58.7 +0.7**
MEM Membach 0.91 202 ⇓P **Pb 01 00 48.2 +0.6**
MEM S **Sb 01 01 01.4 +1.2**
comp=N,197nm,0.3s
MEM Membach 0.91 202 *e*Pg **Pb 01 00 48.3 +0.6**
MEM *e*Sg **Sb 01 01 01.5 +1.3**
MEM Membach 0.91 202 P **Pb 01 00 48.1 +0.6**
MEM S **Sb 01 01 01.4 +1.2**
comp=N,197nm,0.3s
TDN Todenfeld 0.91 163 *e*Sg **Sb 01 01 01.3 +0.9**
comp=N,93nm,0.2s
BMOL Mol 0.94 256 P **Pn 01 00 49.7 +0.2**
OLFT Oleftalsperre 0.96 184 *e*Pg **Pb 01 00 49.2 +0.7**
OLFT *e*Sg **Sb 01 01 03.0 +1.2**
OLFT Oleftalsperre 0.96 184 Pg **Pb 01 00 49.2 +0.7**
OLFT Sg **Sb 01 01 03.0 +1.2**
BSTI Sart Tilman 1.06 216 P **Pb 01 00 51.5 +1.2**
IBBN Ibbenburen 1.15 41 *e*Pg **Pg 01 00 51.4 +0.4**
IBBN *e*Sg **Sg 01 01 06.3 +0.5**
IBBN Ibbenburen 1.15 41 Pg **Pg 01 00 51.4 +0.4**
IBBN Sg **Sg 01 01 06.3 +0.5**
HILG Hillesheim 1.16 176 *e*Pg **Pn 01 00 52.2 +0.6**
HILG Hillesheim 1.16 176 Pg **Pn 01 00 53.2 +0.6**
BHE Schloss Buerre 1.17 159 *e*Pg **Pb 01 00 53.0 +0.9**
BHE Schloss Buerre 1.17 159 Pg **Pb 01 00 53.0 +0.9**
LOH Wallersheim-Lo 1.27 180 *e*Pg **Pn 01 00 54.7 +0.7**
LOH *e*Sg **Sn 01 01 12.4 +0.6**
comp=N,134nm,0.2s
LOH Wallersheim-Lo 1.27 180 Pg **Pn 01 00 54.7 +0.7**
LOH Sg **Sn 01 01 12.4 +0.6**
comp=N,134nm,0.2s
KOE Koeppel 1.27 143 *e*Pg **Pb 01 00 54.5 +0.6**
KOE Koeppel 1.27 143 Pg **Pb 01 00 54.5 +0.6**
BGG Burgeitz 1.34 158 *e*Pg **Pg 01 00 55.3 +0.5**
BGG Burgeitz 1.34 158 Pg **Pg 01 00 55.3 +0.5**
WIT Witteveen 1.37 3 *e*Pg **Pb 01 00 57.0 +1.5**
WIT *e*Sg **Sn 01 01 14.8 +0.6**
WIT Witteveen 1.37 3 Pg **Pb 01 00 57.0 +1.5**
WIT Sg **Sn 01 01 14.8 +0.6**
LKLB Kalborn 1.38 192 P **Pg 01 00 56.4 +1.0**
LKLB S **Sn 01 01 15.6 +1.2**
comp=N,127nm,0.4s
BGES Gesves 1.41 221 P **Pn 01 00 56.4 +0.5**
BGES S **Sn 01 01 16.0 +0.9**
LVIA Vianden 1.53 188 P **Pn 01 00 58.6 +1.0**
LVIA S **Sg 01 01 19.9 +1.7**
comp=N,56nm,0.3s
ABH Alteburg 1.70 157 Pn **Pn 01 01 00.7 +0.8**
ABH Sg **Sb 01 01 24.0 +1.0**
TNS Taunus Mts 1.73 135 *e*Pg **Pb 01 01 01.8 +0.2**
TNS *e*Sg **Sg 01 01 25.5 +1.1**
TNS Taunus Mts 1.73 135 Pg **Pb 01 01 01.8 +0.2**
TNS Sg **Sg 01 01 25.5 +1.1**
GIVF Givet 1.73 220 *e*Pn **Pn 01 01 01.2 +0.8**
SNR=1.0
GIVF Givet 1.73 220 *e*P **Pg 01 01 03.1 +0.9**
GIVF *e*Sn **Sn 01 01 22.4 -0.8**
SNR=1.0
GIVF *e*Sg **Sg 01 01 26.4 +1.7**
comp=N,158nm,0.4s,SNR=1.0
GIVF Givet 1.73 220 *e*Pn **Pn 01 01 01.2 +0.8**
SNR=1.0
GIVF Givet 1.73 220 *e*P **Pg 01 01 03.1 +0.9**
GIVF *e*Sn **Sn 01 01 22.4 -0.8**
SNR=1.0
GIVF *e*Sg **Sg 01 01 26.4 +1.7**
comp=N,79nm,0.4s,SNR=1.0
RUP Ruppelstein 1.78 169 Pn **Pn 01 01 01.7 +0.6**
RUP Ruppelstein 1.78 169 Pg **Pb 01 01 03.6 +1.0**
RUP Sg **Sn 01 01 25.7 +1.3**
WLF Walferdange 1.80 188 ⇑P **Pg 01 01 04.7 +1.1**
WLF S **Sg 01 01 27.9 +0.9**
comp=E,46nm,0.4s
WLF Walferdange 1.80 188 *e*Pg **Pg 01 01 04.7 +1.1**
WLF *e*Sg **Sg 01 01 28.5 +1.6**
WLF Walferdange 1.80 188 Pg **Pg 01 01 04.7 +1.1**
WLF S **Sg 01 01 27.8 +0.9**
comp=E,46nm,0.4s
WLF Sg **Sg 01 01 28.5 +1.6**
DOU Dourbes 1.83 223 ⇑P **Pn 01 01 02.5 +0.8**
DOU S **Sn 01 01 26.0 +0.3**
comp=N,41nm,0.4s
DOU Dourbes 1.83 223 P **Pn 01 01 02.5 +0.8**
DOU S **Sn 01 01 25.9 +0.3**
comp=N,41nm,0.4s
BAIF Baives 2.03 228 *e*Pn **Pn 01 01 05.2 +0.7**
SNR=1.0
BAIF Baives 2.03 228 *e*Pg **Pg 01 01 09.3 +1.4**
BAIF *e*Sn **Sn 01 01 29.9 -0.6**
comp=N,68nm,0.4s,SNR=1.0
BAIF Baives 2.03 228 *e*Pn **Pn 01 01 05.2 +0.7**
SNR=1.0
BAIF Baives 2.03 228 *e*Pg **Pg 01 01 09.3 +1.4**
BAIF *e*Sn **Sn 01 01 29.9 -0.6**
comp=N,34nm,0.4s,SNR=1.0
TOD Tromm 2.34 141 Pn **Pn 01 01 09.1 +0.3**
TOD Sg **Sg 01 01 46.0 +1.7**
KTD Kalmit 2.35 154 Pn **Pn 01 01 09.5 +0.6**
KTD Kalmit 2.35 154 Pg **Pg 01 01 15.8 +1.8**
KTD Sg **Sg 01 01 44.3 -0.2**
CLZ Clausthal 2.42 79 *e*Pn **Pn 01 01 08.8 -1.1**
CLZ *e*Pg **Pb 01 01 13.8 +0.3**
CLZ *e*Sg **Sg 01 01 45.9 -0.9**
CLZ Clausthal 2.42 79 Pn **Pn 01 01 08.8 -1.1**
LANF Langenberg 2.60 161 Pn **Pn 01 01 12.9 +0.5**
LANF Langenberg 2.60 161 Pg **Pg 01 01 20.6 +1.7**
LANF Sg **Sg 01 01 51.9 -0.7**
LANF Langenberg 2.60 161 Pn **Pn 01 01 12.9 +0.5**
LANF Langenberg 2.60 161 Pg **Pg 01 01 20.6 +1.7**
LANF Sg **Sg 01 01 51.9 -0.7**
MENF Mencas 2.91 254 Pn **Pn 01 01 17.8 +1.3**
MENF Mencas 2.91 254 Pg **Pg 01 01 27.0 +2.2**
MENF Mencas 2.91 254 Pn **Pn 01 01 17.8 +1.3**
MENF Mencas 2.91 254 Pg **Pg 01 01 27.0 +2.2**
PAGF Fort de Pagny 2.94 191 *e*Pn **Pn 01 01 17.8 +0.7**
PAGF Fort de Pagny 2.94 191 *e*Pg **Pg 01 01 25.8 +0.4**
baz=12
PAGF *e*Sg **Sg 01 02 04.0 +0.4**
comp=N,16nm,0.6s
PAGF Fort de Pagny 2.94 191 *e*Pn **Pn 01 01 17.8 +0.7**
PAGF Fort de Pagny 2.94 191 *e*Pg **Pg 01 01 25.8 +0.4**
PAGF *e*Sg **Sg 01 02 04.0 +0.4**
comp=N,8.0nm,0.6s
CDF Champ du Feu 3.08 171 *e*Pn **Pn 01 01 18.9 -0.1**
SNR=1.0
CDF Champ du Feu 3.08 171 *e*Pg **Pg 01 01 28.4 +0.4**
CDF *e*Sn **Sn 01 01 53.5 -3.0**
SNR=1.0
CDF *e*Sg **Sg 01 02 08.2 +0.4**
comp=N,34nm,0.6s,SNR=1.0
CDF Champ du Feu 3.08 171 *e*Pn **Pn 01 01 18.9 -0.1**
SNR=1.0
CDF Champ du Feu 3.08 171 *e*Pg **Pg 01 01 28.4 +0.4**
CDF *e*Sn **Sn 01 01 53.5 -3.0**
SNR=1.0
CDF *e*Sg **Sg 01 02 08.2 +0.4**
comp=N,17nm,0.6s,SNR=1.0
WLS Welschbruch 3.08 170 Pn **Pn 01 01 19.2 +0.2**
WLS Sg **Sg 01 02 06.6 -1.5**
WLS Welschbruch 3.08 170 Pn **Pn 01 01 19.2 +0.2**
WLS Sg **Sg 01 02 06.6 -1.5**
MEZF Maizieres J'vi 3.10 199 *e*Pn **Pn 01 01 20.0 +0.8**
baz=25,SNR=1.0
MEZF Maizieres J'vi 3.10 199 *e*Pg **Pg 01 01 28.8 +0.3**
baz=22
MEZF *e*Sg **Sg 01 02 09.0 +0.4**
comp=N,43nm,0.4s
MEZF Maizieres J'vi 3.10 199 *e*Pn **Pn 01 01 20.0 +0.8**
SNR=1.0
MEZF Maizieres J'vi 3.10 199 *e*Pg **Pg 01 01 28.8 +0.3**
MEZF *e*Sg **Sg 01 02 09.0 +0.4**
comp=N,22nm,0.4s
THEF They Montfort 3.25 187 Pg **Pg 01 01 31.6 +0.4**
THEF Sg **Sg 01 02 12.1 -1.1**
THEF They Montfort 3.25 187 Pg **Pg 01 01 31.6 +0.4**
THEF Sg **Sg 01 02 12.1 -1.1**
ECH Echery 3.26 173 Pn **Pn 01 01 21.4 0.0**
ECH Echery 3.26 173 Pn **Pn 01 01 21.4 0.0**
LIBD Limburg 3.37 168 Pn **Pn 01 01 23.4 +0.5**
LIBD Sg **Sg 01 02 16.6 -0.7**
SFTF Sexfontaines 3.39 197 *e*Pn **Pn 01 01 23.7 +0.5**
SFTF Sexfontaines 3.39 197 *e*Pg **Pg 01 01 33.7 -0.3**
baz=21
SFTF *e*Sg **Sg 01 02 17.3 -0.6**
comp=N,23nm,0.3s
SFTF Sexfontaines 3.39 197 *e*Pn **Pn 01 01 23.7 +0.5**
SFTF Sexfontaines 3.39 197 *e*Pg **Pg 01 01 33.7 -0.3**
SFTF *e*Sg **Sg 01 02 17.3 -0.6**
comp=N,12nm,0.3s
HAU Haudompre 3.45 182 *e*Pn **Pn 01 01 23.7 -0.3**
HAU Haudompre 3.45 182 *e*Pg **Pg 01 01 34.9 -0.2**
HAU *e*Sg **Sg 01 02 19.5 -0.3**
comp=N,28nm,0.4s,SNR=1.0
HAU Haudompre 3.45 182 *e*Pn **Pn 01 01 23.7 -0.3**
HAU Haudompre 3.45 182 *e*Pg **Pg 01 01 34.9 -0.2**
HAU *e*Sg **Sg 01 02 19.5 -0.3**
comp=N,14nm,0.4s,SNR=1.0
MOF Molkenrain 3.62 174 Pn **Pn 01 01 26.1 -0.3**
MOF Molkenrain 3.62 174 Pg **Pg 01 01 38.5 +0.1**
MOF Sg **Sg 01 02 24.8 -0.5**
MOF Molkenrain 3.62 174 Pn **Pn 01 01 26.1 -0.3**
MOF Molkenrain 3.62 174 Pg **Pg 01 01 38.5 +0.1**
MOF Sg **Sg 01 02 24.8 -0.5**
HINF Hinteralfeld 3.64 177 *e*Pn **Pn 01 01 26.9 +0.2**
SNR=1.0
HINF Hinteralfeld 3.64 177 *e*Pg **Pg 01 01 38.5 -0.3**
HINF *e*Sg **Sg 01 02 24.1 -1.9**
comp=N,14nm,0.4s,SNR=1.0
HINF Hinteralfeld 3.64 177 *e*Pn **Pn 01 01 26.9 +0.2**
SNR=1.0
HINF Hinteralfeld 3.64 177 *e*Pg **Pg 01 01 38.5 -0.3**
HINF *e*Sg **Sg 01 02 24.1 -1.9**
comp=N,6.9nm,0.4s,SNR=1.0
SPAK Spaichingen-Ko 3.65 156 Pn **Pn 01 01 26.5 -0.4**
FELD Feldberg im Sc 3.70 165 Pn **Pn 01 01 26.9 -0.7**
FELD Sg **Sg 01 02 27.2 -0.7**
FELD Feldberg im Sc 3.70 165 Pn **Pn 01 01 26.9 -0.7**
FELD Sg **Sg 01 02 27.2 -0.7**
NKC Novy Kostel 3.94 106 *e*PN **Pn 01 01 31.2 +0.5**
NKC *e*PG **Pb 01 01 41.0 +1.7**
NKC *e*SG **Sg 01 02 34.8 -0.7**
comp=N,8.4nm,0.6s
NKC Novy Kostel 3.94 106 Pn **Pn 01 01 31.2 +0.5**
CLL Collm 4.05 89 *e*Pn **Pn 01 01 32.0 -0.3**
CLL *e*Pg **Pb 01 01 43.0 +1.8**
CLL *e*Sg **Sg 01 02 36.0 -3.2**
comp=Z,11nm,0.9s
LOMF Lomont 4.11 177 Pn **Pn 01 01 32.7 -0.4**
LOMF Lomont 4.11 177 Pn **Pn 01 01 32.7 -0.4**
LOR Lormes 4.54 204 *e*Pn **Pn 01 01 38.9 0.0**
baz=34,SNR=1.0
LOR *e*Sn **Sn 01 02 29.1 -3.2**
comp=Z,11nm,0.3s,SNR=1.0
LOR *e*Sg **Sg 01 02 54.3 -0.4**
comp=Z,22nm,0.3s
LOR Lormes 4.54 204 *e*Pn **Pn 01 01 38.9 0.0**
SNR=1.0
LOR *e*Sn **Sn 01 02 29.1 -3.2**
comp=Z,5.6nm,0.3s,SNR=1.0
LOR *e*Sg **Sg 01 02 54.3 -0.4**
comp=Z,11nm,0.3s
BRG Berggiesshubel 4.70 94 PG **Pg 01 01 58.1 -0.9**
BRG SG **Sn** 01 02 04.0 -32
comp=Z,41nm,1.4s
DAVA Damuels 4.70 151 ⇑/*i*Pn **Pn 01 01 43.2 +1.8**
DAVA Damuels 4.70 151 Pn **Pn 01 01 43.2 +1.8**
SSF Saint Saulge 4.82 205 *e*Pn **Pn 01 01 43.5 +0.7**
SNR=1.0
SSF *e*Sn **Sn 01 02 35.1 -4.2**
SNR=1.0
SSF *e*Sg **Sg 01 03 02.6 -1.2**
comp=Z,21nm,0.3s,SNR=1.0
SSF Saint Saulge 4.82 205 *e*Pn **Pn 01 01 43.5 +0.7**
SNR=1.0
SSF *e*Sn **Sn 01 02 35.1 -4.2**
SNR=1.0
SSF *e*Sg **Sg 01 03 02.6 -1.2**
comp=Z,10nm,0.3s,SNR=1.0
CABF La Chapelle 4.85 184 *e*Pn **Pn 01 01 43.0 -0.3**
SNR=1.0
CABF *e*Sg **Sg 01 03 04.1 -0.7**
comp=Z,21nm,0.7s
CABF La Chapelle 4.85 184 *e*Pn **Pn 01 01 43.0 -0.3**
SNR=1.0
CABF *e*Sg **Sg 01 03 04.1 -0.7**
comp=Z,10nm,0.7s
HYF Humbligny 4.90 213 *e*Pn **Pn 01 01 44.2 +0.3**
HYF *e*Sg **Sg 01 03 05.2 -1.1**
HYF Humbligny 4.90 213 *e*Pn **Pn 01 01 44.2 +0.3**
HYF *e*Sg **Sg 01 03 05.2 -1.1**
KHC Kasperske Hory 5.08 114 *e*PN **Pn 01 01 46.8 +0.4**
KHC *ex* x 01 01 54.5
KHC *ex* x 01 02 01.0
KHC *e*PG **Pg 01 02 07.1 +0.9**
KHC *e*SG **Sg 01 03 10.4 -1.6**
comp=Z,8.4nm,0.9s
KHC Kasperske Hory 5.08 114 Pn **Pn 01 01 46.8 +0.4**
KHC Sg **Sg 01 03 10.4 -1.6**
comp=Z,8.4nm,0.9s
MOTA Moosalm 5.08 142 ⇓/*i*Pn **Pn 01 01 47.5 +1.0**
MOTA Moosalm 5.08 142 Pn **Pn 01 01 47.5 +1.0**
AVF Avril sur Loir 5.11 205 *e*Pn **Pn 01 01 46.9 +0.1**
SNR=1.0
AVF *e*Sg **Sg 01 03 12.0 -1.1**
comp=Z,8.4nm,0.4s
AVF Avril sur Loir 5.11 205 *e*Pn **Pn 01 01 46.9 +0.1**
SNR=1.0
AVF *e*Sg **Sg 01 03 12.0 -1.1**
comp=Z,4.2nm,0.4s
SMF Signal de Mont 5.12 201 *e*Pn **Pn 01 01 47.2 +0.2**
SNR=1.0
SMF *e*Sg **Sg 01 03 12.4 -1.1**
comp=Z,21nm,0.5s
SMF Signal de Mont 5.12 201 *e*Pn **Pn 01 01 47.2 +0.2**
SNR=1.0
SMF *e*Sg **Sg 01 03 12.4 -1.1**
comp=Z,11nm,0.5s
LDF La Druitiere 5.16 239 *e*Pn **Pn 01 01 48.0 +0.6**
SNR=1.0
LDF *e*Sn **Sn 01 02 44.2 -3.4**
SNR=1.0
LDF *e*Sg **Sg 01 03 12.3 -2.3**
comp=Z,8.1nm,0.4s,SNR=1.0
LDF La Druitiere 5.16 239 *e*Pn **Pn 01 01 48.0 +0.6**
SNR=1.0
LDF *e*Sn **Sn 01 02 44.2 -3.4**
SNR=1.0
LDF *e*Sg **Sg 01 03 12.3 -2.3**
comp=Z,4.1nm,0.4s,SNR=1.0
FLN La Foliniere 5.26 242 *e*Pn **Pn 01 01 49.0 +0.2**
baz=60,SNR=1.0
FLN *e*Sn **Sn 01 02 46.2 -3.8**
comp=Z,12nm,0.4s,SNR=1.0
FLN La Foliniere 5.26 242 *e*Pn **Pn 01 01 49.0 +0.2**
SNR=1.0
PRU Pruhonice 5.29 103 *e*SG **Sg 01 03 18.1 -0.8**
comp=Z,4.4nm,0.8s
PRU Pruhonice 5.29 103 Sg **Sg 01 03 18.1 -0.8**
comp=Z,4.4nm,0.8s
BGF Bois d'Agland 5.46 208 *e*Pn **Pn 01 01 51.6 -0.1**
SNR=1.0
BGF *e*Sg **Sg 01 03 23.3 -1.2**
comp=Z,49nm,0.5s,SNR=1.0
BGF Bois d'Agland 5.46 208 *e*Pn **Pn 01 01 51.6 -0.1**
SNR=1.0
GRR Gorron 5.67 240 *e*Pn **Pn 01 01 54.8 +0.3**
SNR=1.0
GRR *e*Sn **Sn 01 02 55.9 -4.4**
comp=Z,17nm,0.3s,SNR=1.0
GRR Gorron 5.67 240 *e*Pn **Pn 01 01 54.8 +0.3**
SNR=1.0
TCF Toulx Ste Croi 5.90 211 *e*Pn **Pn 01 01 57.6 -0.1**
SNR=1.0
TCF *e*Sg **Sg 01 03 36.6 -1.9**
comp=Z,7.3nm,0.4s
TCF Toulx Ste Croi 5.90 211 *e*Pn **Pn 01 01 57.6 -0.1**
SNR=1.0
LPL La Plagne 5.94 179 *e*Pn **Pn 01 01 58.8 +0.4**
SNR=1.0
LPL La Plagne 5.94 179 *e*Pn **Pn 01 01 58.8 +0.4**
SNR=1.0
LPG La Plagne 5.96 179 *e*Pn **Pn 01 01 59.0 +0.3**
LPG *e*Sg **Sg 01 03 38.4 -1.9**
comp=Z,2.7nm,0.5s
LPG La Plagne 5.96 179 *e*Pn **Pn 01 01 59.0 +0.3**
UPC Upice 6.06 95 *e*SG **Sg 01 03 42.4 -1.1**
UPC Upice 6.06 95 Sg **Sg 01 03 42.4 -1.1**
TREC Trest 6.12 107 *e*SG **Sg 01 03 44.1 -1.4**
comp=Z,2.1nm,0.4s
TREC Trest 6.12 107 Sg **Sg 01 03 44.1 -1.4**
comp=Z,2.1nm,0.4s
DPC Dobruska-Polom 6.29 96 *e*SG **Sg 01 03 49.2 -1.7**
DPC Dobruska-Polom 6.29 96 Sg **Sg 01 03 49.2 -1.7**
MFF Saint Martin d 6.54 225 *e*Pn **Pn 01 02 06.5 0.0**
SNR=1.0
MFF Saint Martin d 6.54 225 *e*Pn **Pn 01 02 06.5 0.0**
SNR=1.0
ORIF Oris-en-Rattie 6.55 184 *e*Pn **Pn 01 02 06.5 -0.2**
SNR=1.0
ORIF Oris-en-Rattie 6.55 184 *e*Pn **Pn 01 02 06.5 -0.2**
SNR=1.0
SGMF Saint Gilles 6.69 245 *e*Pn **Pn 01 02 08.2 -0.3**
SNR=1.0
SGMF Saint Gilles 6.69 245 *e*Pn **Pn 01 02 08.2 -0.3**
SNR=1.0
VIVF Saint-Julien-l 6.71 191 *e*Pn **Pn 01 02 09.4 +0.5**
VIVF *e*Sg **Sg 01 04 01.8 -2.8**
comp=Z,5.7nm,0.5s
VIVF Saint-Julien-l 6.71 191 *e*Pn **Pn 01 02 09.4 +0.5**
RJF Les Rejaudoux 7.00 210 *e*Pn **Pn 01 02 12.1 -0.6**
RJF *e*Sn Sn 01 03 27.8 -5.2
comp=Z,5.0nm,0.5s,SNR=1.0
RJF *e*Sg **Sg 01 04 11.1 -2.5**
comp=Z,5.9nm,0.5s
RJF Les Rejaudoux 7.00 210 *e*Pn **Pn 01 02 12.1 -0.6**
CAF Calviac 7.18 206 *e*Pn **Pn 01 02 14.6 -0.6**
SNR=1.0
CAF Calviac 7.18 206 *e*Pn **Pn 01 02 14.6 -0.6**
SNR=1.0
QUIF Quistinic 7.22 244 *e*Pn **Pn 01 02 15.1 -0.6**
SNR=1.0
QUIF Quistinic 7.22 244 *e*Pn **Pn 01 02 15.1 -0.6**
SNR=1.0
LFF La Frestale 7.58 213 *e*Pn **Pn 01 02 20.1 -0.5**
SNR=1.0
LFF La Frestale 7.58 213 *e*Pn **Pn 01 02 20.1 -0.5**
SNR=1.0
LASF Ste Croix 7.59 195 *e*Pn **Pn 01 02 21.5 +0.6**
SNR=1.0
LASF Ste Croix 7.59 195 *e*Pn **Pn 01 02 21.5 +0.6**
SNR=1.0
EPF Esparros 9.41 209 *e*Pn **Pn 01 02 44.6 -1.3**
SNR=1.0
EPF Esparros 9.41 209 *e*Pn **Pn 01 02 44.6 -1.3**
SNR=1.0

*ISCJB **28** 01:01:14.3±0.5,5˚.26N±0˚.06×124˚.8E±0˚.1,h200km, mb3.5/10, Error ellipse: s-maj=17.8km s-min=7.7km az=5.0*

*IDC **28** 01:01:18.7±2.5,5˚.32N×125˚.15E,h232km±22km, mb3.3/10, mb1 3.5/10,mb1mx3.3/26,mbtmp3.3/10, Error ellipse: s-maj=55.1km s-min=11.2km az=69.0*

ISC 28 01:01:15.6±0.6,5˚.23N±0˚.07×125˚.0E±0˚.2,h200km,n23, σ1♀95/25,mb3.6/10,1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**0.85**	**358**	⇓*i*P	Pn	01 01 49.4	+4.8
GSPH				*i* S	**Sn**	**01 02 11.5**	**+4.2**
MATI	**Mati**	**2.13**	**37**	*e*P	**Pn**	**01 01 57.3**	**+1.8**
MATI				*e*S	Sn	01 02 08.4	-18
BUKP	**Musuan**	**2.63**	**2**	*e*P	Pn	01 02 05.4	+4.3
BUKP				*e*S	Sn	01 02 19.1	-18
BIPH	**Bislig**	**3.24**	**25**	*i* S	**Sn**	**01 02 49.6**	**+0.3**
SBUM	**Sibu**	**13.03**	**258**	P	P	01 04 24.1	+7.4
MTN	**Manton Dam**	**18.97**	**161**	P	**Pn**	**01 05 23.9**	**-1.2**
baz=14,SNR=7.8							
KDU	**Kakadu**	**19.29**	**157**	P	**Pn**	**01 05 26.9**	**-2.1**
baz=14,SNR=8.5							
FITZ	**Fitzroy Crossi**	**23.19**	**178**	P	**P**	**01 06 06.4**	**+1.6**
baz=18,SNR=6.0							
FITZ	**Fitzroy Crossi**	**23.19**	**178**	P	**P**	**01 06 06.1**	**+1.3**
1.8nm,0.3s,baz=2.2,slow=7.0,SNR=18							
WRA	**Warramunga Arr**	**26.65**	**160**	P	**P**	**01 06 35.9**	**-0.3**
1.0nm,0.5s,baz=336,slow=10,SNR=9.4							
WRA				ScP	**ScP**	**01 13 11.4**	**-4.6**
0.3nm,0.6s,baz=333,slow=3.0,SNR=4.6							
ASAR	**Alice Springs**	**30.01**	**163**	P	**P**	**01 07 06.5**	**+0.6**
0.4nm,0.4s,baz=340,slow=6.9,SNR=10							
ASAR				PcP	**PcP**	**01 10 02.8**	**-0.3**
0.5nm,0.4s,baz=342,slow=2.5,SNR=6.7							
ASAR				ScP	**ScP**	**01 13 22.4**	**-4.1**
0.1nm,0.3s,baz=346,slow=3.4,SNR=4.5							
MEEK	**Meekatharra**	**32.27**	**191**	P	**P**	**01 07 26.8**	**+1.2**
baz=28,SNR=5.5							
MORW	**Morawa**	**35.17**	**194**	P	**P**	**01 07 51.8**	**+1.2**
baz=31,SNR=3.6							
BBOO	**Buckleboo**	**39.27**	**165**	P	**P**	**01 08 26.4**	**+1.4**
baz=34,SNR=14							
STKA	**Stephens Creek**	**40.15**	**158**	P	**P**	**01 08 33.7**	**+1.4**
baz=35,SNR=6.8							
STKA	**Stephens Creek**	**40.15**	**158**	P	**P**	**01 08 33.0**	**+0.7**
1.5nm,0.3s,baz=336,slow=7.3,SNR=6.9							
MKAR	**Makanchi Array**	**55.34**	**326**	P	**P**	**01 10 29.2**	**+0.5**
0.5nm,0.4s,baz=114,slow=7.5,SNR=11							
MKAR				PcP	**PcP**	**01 11 26.3**	**-0.5**
0.4nm,0.6s,baz=111,slow=5.3,SNR=6.0							
ZALV	**Zalesovo Beam**	**58.47**	**333**	P	**P**	**01 10 49.6**	**-0.9**
0.3nm,0.4s,baz=94,slow=5.4,SNR=2.6							
KURBB	**Kurchatov Arra**	**59.55**	**328**	P	**P**	**01 10 57.9**	**-0.1**
0.6nm,0.5s,baz=130,slow=6.4,SNR=9.6							
ILAR	**Eielson Array**	**84.51**	**25**	P	**P**	**01 13 24.8**	**-1.1**
0.1nm,0.4s,baz=253,slow=4.2,SNR=4.5							
VNDA	**Vanda**	**85.13**	**172**	P	**P**	**01 13 28.5**	**-0.1**
0.2nm,0.4s,baz=299,slow=6.7,SNR=3.1							
FINES	**FINESS Array B**	**89.69**	**332**	P	**P**	**01 13 49.5**	**-1.3**
1.1nm,0.8s,baz=46,slow=6.3,SNR=4.5							
TORD	**Torodi Ar. Bea**	**120.80**	**289**	PKP	**PKPdf**	**01 19 43.3**	**-1.7**
0.3nm,0.6s,baz=80,slow=1.3,SNR=3.7							

IDC 28 02:03:52.9±1.9,11˚.64S×166˚.38E,h0km,mb3.7/4, mb1 3.9/5,mb1mx3.7/20,mbtmp3.9/5,ML4.8/1,Error ellipse: s-maj=54.5km s-min=31.2km az=151.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.70**	**289**	Pn	Pn	02 05 34.3	+1.7
21nm,0.3s,baz=188,slow=7.5,SNR=6.0							
HNR				Sn	Sn	02 06 49.1	-0.6
11nm,0.3s,baz=174,slow=18,SNR=2.2							
WRA	**Warramunga Arr**	**31.87**	**251**	P	P	02 10 20.2	0.0
0.3nm,0.3s,baz=83,slow=9.3,SNR=12							
ASAR	**Alice Springs**	**33.09**	**244**	P	P	02 10 30.8	-0.1
0.4nm,0.6s,baz=64,slow=10,SNR=5.1							
ILAR	**Eielson Array**	**83.88**	**18**	P	P	02 16 24.7	+0.5
0.4nm,0.9s,baz=224,slow=5.5,SNR=4.3							
MKAR	**Makanchi Array**	**94.38**	**317**	P	P	02 17 13.7	-1.1
0.6nm,0.6s,baz=93,slow=4.8,SNR=6.1							

IDC 28 02:06:14.8±9.5,15˚.95S×172˚.99W,h0km,mb3.5/3, mb1 3.8/3,mb1mx3.5/21,mbtmp3.5/3,Error ellipse:

s-maj=419.2km s-min=35.8km az=139.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.34**	**30**	Sn	Sn	02 07 16.5	-7.6
	16nm,0.3s,baz=195,slow=18,SNR=8.0						
WRA	**Warramunga Arr**	**50.11**	**257**	P	P	02 15 12.4	+0.3
	0.2nm,0.4s,baz=94,slow=7.7,SNR=2.6						
ASAR	**Alice Springs**	**50.32**	**252**	P	P	02 15 13.3	-0.4
	0.8nm,0.7s,baz=86,slow=8.6,SNR=9.7						
ILAR	**Eielson Array**	**82.91**	**11**	P	P	02 18 40.9	0.0
	0.3nm,0.8s,baz=208,slow=4.8,SNR=4.0						

CASC 28 02:17:40.1±1.4, 13.16N×89.24W, h31km±3km, MD3.7, ML4.0, 3C-9D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	**0.50**	**20**	*i*P	Pb	02 17 50.9	+0.2
SNET	**Serv Nac Est T**	**0.53**	**1**	*i*P	Pb	02 17 51.2	+0.1
SNET				*e*S	Sn	02 18 00.6	+0.9
SNET				AML	AML	02 18 02.6	
	comp=Z,9μm,0.3s						
BOQS	**Boqueron**	**0.58**	**356**	*i*P	Pb	02 17 52.2	+0.1
BOQS				*e*S	Sb	02 18 00.7	+0.3
SNVI	**San Vicente**	**0.60**	**41**	*i*P	Pb	02 17 52.2	-0.2
SNVI				*e*S	Sb	02 18 01.0	+0.2
LFU	**La Fuente**	**0.60**	**12**	*i*P	Pn	02 17 52.6	-0.1
LBRS	**Las Brisas**	**0.61**	**18**	*i*P	Pn	02 17 52.7	-0.1
SBLS	**San Blas**	**0.78**	**331**	*i* P	Pn	02 17 54.5	-0.7
SNJE	**San Jose**	**0.79**	**333**	*i*P	Pn	02 17 54.8	-0.7
RTR	**El Retiro**	**0.84**	**332**	*i* P	Pn	02 17 55.5	-0.5
VSM	**San Miguel**	**0.98**	**74**	*i*P	Pn	02 17 57.8	-0.2
BLLM	**Bellamira**	**1.01**	**74**	*i*P	Pn	02 17 58.0	-0.3
BLLM				*e*S	Sb	02 18 12.7	+0.4
CAHU	**Cacacuatique**	**1.17**	**58**	*i*P	Pn	02 18 00.1	-0.6
CNCH	**Conchagua**	**1.37**	**85**	*i*P	Pn	02 18 02.7	-0.6
CNCH				*e*S	Sn	02 18 21.5	+0.9
NBG	**Las Nubes**	**1.78**	**323**	*e*P	Pn	02 18 09.7	+0.5
MRL	**Marmol**	**1.95**	**347**	*e*P	Pn	02 18 12.0	+0.7
FUG	**Fuego 3**	**2.02**	**310**	*e*P	Pn	02 18 13.0	+0.7
FUG				*e*S	Sn	02 18 37.9	+1.2
JAT	**Jato**	**2.60**	**297**	*e*P	Pn	02 18 20.3	+0.3

NNC 28 02:18:42.6±4.1, 33.70N×69.51E, h29km±56km, mb3.7, 4C-1D, Error ellipse: s-maj=37.7km s-min=18.8km az=144.0, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**9.42**	**4**	P	Pn	02 20 56.2	-0.1
	0.7nm,0.3s,baz=180,slow=13,SNR=34						
KK31				S	Sn	02 22 41.9	+0.7
	1.4nm,0.5s,baz=191,slow=23,SNR=4.2						
TKM2	**Tokmak 2**	**10.37**	**26**	P	Pn	02 21 09.4	-0.2
	3.7nm,0.9s						
MK31	**Makanchi Array**	**16.29**	**33**	P	Pn	02 22 28.9	-0.3
	1.7nm,0.9s,baz=208,slow=11,SNR=6.2						
AB31	**Akbulak array**	**17.09**	**338**	P	Pn	02 22 38.9	-0.4
	0.9nm,0.6s,baz=152,slow=12,SNR=23						
AKTO	**Aktyubinsk**	**18.73**	**337**	P	P	02 22 58.9	0.0
	3.5nm,0.8s						

*TRN **28** 02:59:43.7, 12.78N×59.42W, h37km, MD3.6*
*FUNV **28** 02:59:50.0, 12.49N×59.12W, h54km, MW3.4*
ISC 28 02:59:42.9±3.0, 12.82N±0.09×59.3W±0.2, h72km±48km, n13, σ1.9s62/18, 1C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MCLT	**Moule a Chique**	**1.83**	**299**	*e*P	**Pn**	**03 00 11.9**	**-0.5**
MCLT				*e*S	**Sn**	**03 00 33.4**	**-1.4**
BHS	**Barnard House**	**1.85**	**285**	*e*P	**Pn**	**03 00 13.7**	**+1.1**
BHS				*e*S	**Sn**	**03 00 34.3**	**-0.8**
FCV	**Fort Charlotte**	**1.93**	**280**	*e*S	**Sn**	**03 00 36.6**	**-0.6**
SVV	**Soufriere Volc**	**1.94**	**285**	*e*P	**Pn**	**03 00 14.0**	**+0.2**
SVV				*e*S	**Sn**	**03 00 36.0**	**-1.3**
TOSP	**Speyside**	**1.94**	**219**	*e*S	**Sn**	**03 00 36.2**	**-1.2**
SVB	**Belmont**	**1.96**	**283**	*e*P	**Pn**	**03 00 14.6**	**+0.5**
SVB				*e*S	**Sn**	**03 00 37.5**	**-0.4**
SLB	**Belfond**	**1.98**	**301**	*i*P	**Pn**	**03 00 15.9**	**+1.6**
SLB				*e*S	**Sn**	**03 00 38.4**	**+0.2**
GUIV	**Guiria**	**3.59**	**233**	*e*P	Pn	03 00 42.4	+6.1
GUIV				*e*S	**Sn**	**03 01 19.7**	**+2.1**
CRUV	**Carupano**	**4.41**	**241**	*e*P	Pn	03 00 52.9	+5.4
CRUV				*e*S	**Sn**	**03 01 38.7**	**+1.1**
GUNV	**Guanoco**	**4.45**	**234**	*e*P	Pn	03 00 53.0	+5.1
GUNV				*e*S	**Sn**	**03 01 39.9**	**+1.4**
RIOV	**Rio Grande**	**5.34**	**208**	*e*S	**Sn**	**03 01 57.1**	**-3.1**
LUEV	**Luepa**	**7.26**	**197**	*e*P	**Pn**	**03 01 27.3**	**+0.8**
BAUV	**El Baul**	**9.42**	**247**	*e*S	**Sn**	**03 03 37.4**	**-2.8**

*IDC **28** 03:14:04.9±1.9, 14.23S×177.49W, h0km, mb3.9/6, mb1 4.3/6, mb1mx4.0/19, mbtmp3.9/6, MS3.9/16, Ms1 3.9/16, ms1mx3.8/31, Error ellipse: s-maj=137.1km s-min=23.4km az=151.0*
*ISCJB **28** 03:14:08.3±1.5, 14.3S±0.7×177.6W±0.4, h33km, mb3.8/6, MS3.9/15, Error ellipse: s-maj=106.3km s-min=19.3km az=151.2*
ISC 28 03:14:10.3±1.8, 14.3S±0.7×177.5W±0.4, h35km, n28, σ1.9s06/8, mb4.0/6, MS3.9/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**17.12**	**241**	*e*LR	LR	03 22 14.2	
	302nm,26.6s						
RAR	**Rarotonga**	**18.24**	**115**	LR	LR	03 23 14.4	
	comp=Z,254nm,18.4s,baz=272,slow=30						
URZ	**Urewera**	**24.39**	**190**	LR	LR	03 26 25.1	
	comp=Z,493nm,21.7s,baz=131,slow=30						
PPT	**Papeete**	**27.05**	**101**	LR	LR	03 26 57.1	
	comp=Z,149nm,21.2s,baz=0.2,slow=29						
PPT2	**Papeete2**	**27.05**	**101**	*e*LR	LR	03 26 08.4	
	300nm,26.0s						
TBI	**Tubuai**	**28.00**	**113**	*e*LQ	LQ	03 25 21.2	
	297nm,33.0s						
TBI				*e*LR	LR	03 26 39.6	
	323nm,28.8s						
PMG	**Port Moresby**	**34.90**	**274**	LR	LR	03 30 48.3	
	comp=Z,103nm,20.4s,baz=191,slow=29						
H11N3	**WAKE ISLAND Hy**	**37.07**	**335**	T	T	04 01 37.9	
	baz=150						
H11N1	**WAKE ISLAND Hy**	**37.08**	**335**	T	T	04 01 35.0	
	baz=150,slow=0.7,SNR=6.9						
H11N2	**WAKE ISLAND Hy**	**37.09**	**335**	T	T	04 01 37.3	
	baz=150,slow=0.7,SNR=4.0						
RKT	**Rikitea**	**41.12**	**109**	*e*LR	LR	03 32 41.0	
	206nm,29.0s						
WRA	**Warramunga Arr**	**46.26**	**256**	P	**P**	**03 22 32.0**	**-0.8**
	1.9nm,1.2s,baz=94,slow=7.9,SNR=4.6						
WRA				LR	LR	03 40 16.2	
	comp=Z,154nm,19.6s,baz=115,slow=34						
ASAR	**Alice Springs**	**46.72**	**251**	P	**P**	**03 22 36.3**	**0.0**
	1.0nm,0.5s,baz=84,slow=8.5,SNR=18						
ASAR				LR	LR	03 39 15.5	
	comp=Z,138nm,20.7s,baz=81,slow=32						
VNDA	**Vanda**	**64.15**	**185**	LR	LR	03 47 58.6	
	comp=Z,64nm,19.5s,baz=340,slow=32						
MJAR	**Matsushiro Arr**	**65.54**	**322**	LR	LR	03 46 58.1	
	comp=Z,70nm,19.9s,baz=130,slow=30						
PETK	**Petropavlovsk-**	**70.39**	**344**	LR	LR	03 50 40.7	
	comp=Z,120nm,21.6s,baz=319,slow=31						
KSRS	**Korea Array**	**72.59**	**317**	LR	LR	03 55 08.9	
	comp=Z,50nm,18.4s,baz=105,slow=34						
USRK	**Ussuriysk Arra**	**74.12**	**325**	LR	LR	03 53 46.2	
	comp=Z,101nm,18.7s,baz=144,slow=32						
NVAR	**Mina Array Bea**	**76.20**	**44**	P	**P**	**03 25 56.2**	**+0.8**
	2.5nm,0.9s,baz=233,slow=9.4,SNR=6.2						
ILAR	**Eielson Array**	**82.14**	**13**	P	**P**	**03 26 26.6**	**-0.5**
	0.4nm,0.9s,baz=204,slow=4.0,SNR=3.7						
ILAR				LR	LR	03 56 30.2	
	comp=Z,102nm,21.0s,baz=219,slow=31						
TXAR	**Lajitas Array**	**83.31**	**58**	P	**P**	**03 26 33.0**	**-1.1**
	0.5nm,0.9s,baz=216,slow=4.5,SNR=3.3						
PDAR	**Pinedale Array**	**84.11**	**43**	P	**P**	**03 26 37.9**	**-0.1**
	1.5nm,1.0s,baz=235,slow=5.2,SNR=5.9						
MAW	**Mawson**	**87.58**	**199**	LR	LR	04 00 22.4	
	comp=Z,180nm,21.7s,baz=235,slow=32						
PLCA	**Paso Flores**	**93.20**	**133**	LR	LR	04 02 01.1	
	comp=Z,32nm,19.2s,baz=256,slow=31						
SNAA	**Sanae**	**94.21**	**178**	LR	LR	04 02 20.4	
	comp=Z,14nm,21.3s,baz=221,slow=31						
ATAH	**Atahualpa**	**97.01**	**99**	LR	LR	04 02 21.9	
	comp=Z,240nm,21.2s,baz=330,slow=30						
BRTR	**Keskin Array B**	**142.72**	**319**	PKP	**PKPdf**	**03 33 41.3**	**+0.9**
	0.6nm,0.9s,baz=76,slow=6.1,SNR=4.6						
GERES	**GERESS Array B**	**144.28**	**347**	PKP	**PKPdf**	**03 33 44.4**	**+1.5**
	0.2nm,0.3s,baz=20,slow=3.1,SNR=5.0						

WEL 28 03:25:02.9±1.1, 35.42S×177.71E, h33km, ML4.1/2, Error ellipse: s-maj=19.5km s-min=7.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.19**	**167**	P*	Pn	03 25 37.2	+0.2
PUZ	**Puketiti**	**2.68**	**171**	PN	Pn	03 25 42.8	-1.0
PUZ				SN	Sn	03 26 12.7	-2.5
MWZ	**Matawai**	**2.91**	**183**	P*	Pn	03 25 46.7	-0.3
MWZ				S*	Sn	03 26 21.3	+0.4
RIGZ	**Rimuhau**	**3.28**	**179**	PN	Pn	03 25 49.8	-2.2
RIGZ				SN	Sn	03 26 27.8	-2.1

IDC 28 03:49:33.1±16.0, 20.30S×177.55W, h416km±156km, mb3.3/6, mb1 3.6/6, mb1mx3.2/20, mbtmp3.3/6, Error ellipse: s-maj=189.6km s-min=59.5km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.93**	**264**	P	P	03 55 40.5	+0.8
	2.2nm,0.3s,baz=79,slow=10,SNR=3.2						
ASAR	**Alice Springs**	**44.97**	**256**	P	P	03 57 09.2	-0.3
	1.5nm,0.5s,baz=94,slow=7.6,SNR=26						
WRA	**Warramunga Arr**	**45.04**	**262**	P	P	03 57 09.5	-0.6
	1.0nm,0.4s,baz=96,slow=7.4,SNR=34						
FITZ	**Fitzroy Crossi**	**53.47**	**262**	P	P	03 58 12.2	-0.7
	1.1nm,0.7s,baz=90,slow=3.0,SNR=3.4						
ILAR	**Eielson Array**	**88.03**	**13**	P	P	04 01 36.8	-0.2
	0.5nm,1.1s,baz=216,slow=5.6,SNR=3.8						
CMAR	**Chiang Mai Arr**	**90.44**	**289**	P	P	04 01 50.0	+0.6
	1.0nm,0.3s,baz=98,slow=4.6,SNR=6.1						

*CRAAG **28** 04:16:23.4, 36.90N×5.13E, Ml3.5*
CSEM 28 04:16:23.4, 36.90N×5.13E, h0km, ML3.5, After ALG, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SET	**Setif**	**0.73**	**162**	P	Pg	04 16 38.0	+0.5
SET	**Setif**	**0.73**	**162**	P	Pg	04 16 38.0	+0.5
CASM	**Ain Smara**	**1.27**	**120**	P	Pn	04 16 53.0	+4.5
CASM	**Ain Smara**	**1.27**	**120**	P	Pn	04 16 53.0	+4.5
AKET	**Djebel Ketaf**	**1.31**	**230**	P	Pg	04 16 44.5	-4.3
AKET	**Djebel Ketaf**	**1.31**	**230**	P	Pg	04 16 44.5	-4.3
ADJB	**Djebel Djouab**	**1.55**	**242**	P	Pn	04 16 49.2	-3.2
ADJB	**Djebel Djouab**	**1.55**	**242**	P	Pn	04 16 49.2	-3.2

*NSSC **28** 04:26:56.5±2.5, 38.47N×38.66E, h0km±23km, ML2.9*
*DDA **28** 04:27:01.0, 38.18N×38.53E, h6km, MD3.4*
*ISK **28** 04:27:00.2, 38.18N×38.52E, h7km, ML3.5*
*CSEM **28** 04:27:01.0±0.1, 38.18N×38.52E, h5km, MD3.4, Error ellipse: s-maj=2.9km s-min=2.5km az=95.0*
ISC 28 04:27:00.4±1.2, 38.19N±0.02×38.54E±0.02, h1km±10km, n79, σ1.9s00/116, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKCD	**Akcadag**	**0.50**	**283**	*i* P	**Pb**	**04 27 11.0**	**-1.1**
AKCD				*i* S	**Sb**	**04 27 19.0**	**-0.9**
AKCD	**Akcadag**	**0.50**	**283**	*i* P	**Pb**	**04 27 11.0**	**-1.1**
AKCD				*i* S	**Sb**	**04 27 19.0**	**-0.9**
ATAB	**Bozova**	**0.74**	**195**	*i* P	**Pb**	**04 27 15.4**	**-0.8**
ATAB				*i* S	**Sb**	**04 27 25.3**	**-1.6**
ATAB	**Bozova**	**0.74**	**195**	*i* P	**Pb**	**04 27 15.4**	**-0.8**
ATAB				*i* S	**Sb**	**04 27 25.3**	**-1.6**
URFA	**Urfa**	**0.78**	**163**	PG	**Pb**	**04 27 15.9**	**-0.9**
URFA				*e*SG	**Sg**	**04 27 26.0**	**+0.6**
URFA	**Urfa**	**0.78**	**163**	*i* Pg	**Pb**	**04 27 16.0**	**-0.9**
URFA				*e*Sg	**Sg**	**04 27 26.0**	**+0.6**
DARE	**Darende-Malaty**	**0.91**	**295**	*e*PG	**Pg**	**04 27 17.9**	**0.0**
DARE				*e*SG	**Sb**	**04 27 30.9**	**-1.0**
PTK	**Pertek**	**0.97**	**43**	*e*PG	**Pg**	**04 27 19.3**	**+0.2**
PTK				*e*SG	**Sb**	**04 27 33.5**	**-0.1**
PTK	**Pertek**	**0.97**	**43**	*e*Pg	**Pg**	**04 27 19.3**	**+0.2**
PTK				*e*Sg	**Sb**	**04 27 33.5**	**-0.1**
KEMA	**Kemaliye**	**1.08**	**358**	*i* P	**Pg**	**04 27 21.0**	**-0.1**
KEMA				*i* S	**Sn**	**04 27 37.8**	**-0.8**
KEMA	**Kemaliye**	**1.08**	**358**	*i* P	**Pg**	**04 27 21.0**	**-0.1**
KEMA				*i* S	**Sn**	**04 27 37.8**	**-0.8**
GZT	**Gaziantep**	**1.13**	**223**	*i* P	**Pb**	**04 27 22.9**	**0.0**
GZT				*i* S	**Sn**	**04 27 40.1**	**+0.2**
ILIC	**ilic-Erzincan**	**1.26**	**1**	*e*PN	**Pg**	**04 27 24.9**	**+0.2**
ILIC				*e*SN	**Sn**	**04 27 42.5**	**-0.6**
ILIC	**ilic-Erzincan**	**1.26**	**1**	*e*Pn	**Pg**	**04 27 24.9**	**+0.2**
ILIC				*e*Sn	**Sn**	**04 27 42.5**	**-0.6**
DIYA	**Diyarbakir**	**1.28**	**101**	*i* P	**Pn**	**04 27 25.5**	**-0.1**
DIYA				*i* S	**Sn**	**04 27 44.8**	**+1.4**
DIYA	**Diyarbakir**	**1.28**	**101**	*i* P	**Pn**	**04 27 25.5**	**-0.1**
DIY	**Diyarbakir**	**1.36**	**102**	*e*PN	**Pb**	**04 27 26.9**	**0.0**
DIY	**Diyarbakir**	**1.36**	**102**	*e*Pn	**Pb**	**04 27 26.9**	**0.0**
AYKD	**Aykdinkavak**	**1.57**	**241**	*i* P	**Pn**	**04 27 29.1**	**-0.4**
AYKD				*i* S	**Sg**	**04 27 52.9**	**+1.9**
ERZN	**Erzincan**	**1.68**	**33**	*e*PN	**Pn**	**04 27 31.2**	**+0.1**
BINT	**Bingol**	**1.68**	**65**	*e*Pn	**Pg**	**04 27 33.5**	**+0.9**
MAZI	**Mazidag**	**1.68**	**115**	*e*PN	**Pn**	**04 27 31.3**	**+0.2**
MAZI	**Mazidag**	**1.68**	**115**	*e*Pn	**Pn**	**04 27 31.3**	**+0.2**
EZC	**Erzincan**	**1.69**	**22**	*e*PN	**Pn**	**04 27 30.7**	**-0.6**
EZC	**Erzincan**	**1.69**	**22**	*e*Pn	**Pn**	**04 27 31.2**	**-0.1**
ANDN	**Andirin**	**1.84**	**251**	*i* P	**Pn**	**04 27 33.1**	**-0.2**
ANDN				*i* S	**Sg**	**04 28 01.0**	**+1.5**
ANDN	**Andirin**	**1.84**	**251**	*i* P	**Pn**	**04 27 33.1**	**-0.2**
BNGB	**Bingl¶l**	**1.86**	**64**	*e*PN	**Pn**	**04 27 33.5**	**-0.1**
KBSD	**Kabsdagh**	**1.98**	**126**	*e*P	**Pn**	**04 27 35.8**	**+0.5**
KBSD				*e*S	**Sn**	**04 27 58.8**	**-2.0**
KBSD				AML	AML	04 28 08.1	
	comp=Z,289nm,0.3s						
KBSD	**Kabsdagh**	**1.98**	**126**	*e*P	**Pn**	**04 27 35.8**	**+0.5**
	SNR=45						
KBSD				*e*S	**Sn**	**04 27 58.8**	**-2.0**
	comp=Z,289nm,0.3s,SNR=40						
SLMH	**Al Salmeh**	**2.03**	**194**	*e*P	**Pn**	**04 27 35.6**	**-0.2**
SLMH				*e*S	**Sg**	**04 28 04.8**	**-0.8**
SLMH				AML	AML	04 28 11.5	
	comp=Z,127nm,0.6s						
SLMH	**Al Salmeh**	**2.03**	**194**	*e*P	**Pn**	**04 27 35.6**	**-0.2**
	SNR=45						
SLMH				*e*S	**Sg**	**04 28 04.8**	**-0.8**
	comp=Z,127nm,0.6s,SNR=40						
SVSK	**Karacayir**	**2.10**	**326**	*e*PN	**Pn**	**04 27 37.4**	**+0.6**
SVSK	**Karacayir**	**2.10**	**326**	*e*Pn	**Pn**	**04 27 37.4**	**+0.6**
SFNV	**Sufian**	**2.17**	**144**	*e*P	**Pn**	**04 27 37.2**	**-0.6**
SFNV				*e*S	**Sn**	**04 28 05.2**	**-0.1**
SFNV				AML	AML	04 28 18.5	
	comp=Z,269nm,0.5s						
SFNV	**Sufian**	**2.17**	**144**	*e*P	**Pn**	**04 27 37.2**	**-0.6**
	SNR=45						
SFNV				*e*S	**Sn**	**04 28 05.2**	**-0.1**
	comp=Z,269nm,0.5s,SNR=40						
BNN	**Bunyan**	**2.21**	**288**	*e*PN	**Pn**	**04 27 38.3**	**-0.2**
BNN	**Bunyan**	**2.21**	**288**	*e*Pn	**Pn**	**04 27 38.3**	**-0.2**
KOZT	**Kozan**	**2.26**	**253**	*e*PN	**Pn**	**04 27 38.3**	**-0.7**
KOZT	**Kozan**	**2.26**	**253**	*e*Pn	**Pn**	**04 27 38.3**	**-0.7**
MNKR	**ALMNKUR**	**2.32**	**165**	*e*P	**Pn**	**04 27 38.8**	**-1.0**
MNKR				*e*S	**Sn**	**04 28 10.0**	**+1.1**
MNKR				AML	AML	04 28 17.9	
	comp=Z,277nm,0.3s						
MNKR	**ALMNKUR**	**2.32**	**165**	*e*P	**Pn**	**04 27 38.8**	**-1.0**
	SNR=45						
MNKR				*e*S	**Sn**	**04 28 10.0**	**+1.1**
	comp=Z,277nm,0.3s,SNR=40						
GUMT	**Gumushane**	**2.38**	**18**	*e*PN	**Pn**	**04 27 40.6**	**-0.2**
GUMT	**Gumushane**	**2.38**	**18**	*e*Pn	**Pn**	**04 27 40.6**	**-0.2**
RSDY	**Resadiye-TOKAT**	**2.40**	**337**	*e*PN	**Pn**	**04 27 41.1**	**+0.2**
RSDY	**Resadiye-TOKAT**	**2.40**	**337**	*e*Pn	**Pn**	**04 27 41.1**	**+0.2**
TAHT	**Tahtakopru-Hat**	**2.61**	**227**	*e*PN	**Pn**	**04 27 43.5**	**-0.3**
TAHT	**Tahtakopru-Hat**	**2.61**	**227**	*e*Pn	**Pn**	**04 27 43.5**	**-0.3**
TOKT	**Tokat**	**2.63**	**325**	*e*PN	**Pn**	**04 27 43.9**	**-0.2**
TOKT	**Tokat**	**2.63**	**325**	*e*Pn	**Pn**	**04 27 43.9**	**-0.2**
BTCH	**Batrach**	**2.71**	**218**	*e*P	**Pn**	**04 27 45.0**	**-0.3**
BTCH				*e*S	**Sb**	**04 28 21.9**	**-1.8**
BTCH				AML	AML	04 28 36.7	
	comp=N,160nm,0.7s						
BTCH				AML	AML	04 28 37.7	
	comp=E,325nm,0.7s						
BTCH	**Batrach**	**2.71**	**218**	*e*P	**Pn**	**04 27 45.0**	**-0.3**
	SNR=45						
BTCH				*e*S	**Sb**	**04 28 21.9**	**-1.8**
	comp=E,325nm,0.7s,SNR=40						
ESPY	**Espiye-Giresun**	**2.73**	**3**	*e*PN	**Pn**	**04 27 46.3**	**+0.8**
ESPY	**Espiye-Giresun**	**2.73**	**3**	*e*Pn	**Pn**	**04 27 46.3**	**+0.8**
EZM	**Erzurum**	**2.79**	**51**	*e*PN	**Pn**	**04 27 47.2**	**+0.7**
HTY	**Hatay**	**2.82**	**224**	*e*PN	**Pn**	**04 27 46.3**	**-0.3**
HTY	**Hatay**	**2.82**	**224**	*e*Pn	**Pn**	**04 27 46.3**	**-0.3**
YOZ	**Yozgat**	**2.90**	**301**	*e*PN	**Pn**	**04 27 48.2**	**+0.3**
YOZ	**Yozgat**	**2.90**	**301**	*e*Pn	**Pn**	**04 27 48.2**	**+0.3**
KARA	**Karaisali**	**2.91**	**253**	*e*PN	**Pn**	**04 27 48.2**	**+0.2**
KARA	**Karaisali**	**2.91**	**253**	*e*Pn	**Pn**	**04 27 48.2**	**+0.2**
NIG	**Nigde**	**3.10**	**270**	*e*PN	**Pn**	**04 27 50.2**	**-0.5**
NIG	**Nigde**	**3.10**	**270**	*e*Pn	**Pn**	**04 27 50.2**	**-0.5**
ARNB	**Al Arnab**	**3.10**	**222**	*e*P	**Pn**	**04 27 50.6**	**0.0**
ARNB				*e*S	**Sn**	**04 28 31.2**	**+2.8**
ARNB				AML	AML	04 28 50.2	
	comp=N,34nm,0.5s						
ARNB				AML	AML	04 28 51.9	
	comp=E,66nm,0.6s						
ARNB	**Al Arnab**	**3.10**	**222**	*e*P	**Pn**	**04 27 50.6**	**0.0**
	SNR=45						
ARNB				*e*S	**Sn**	**04 28 31.2**	**+2.8**
	comp=E,66nm,0.6s,SNR=40						
SIRT	**Sirnak**	**3.16**	**101**	*e*PN	**Pn**	**04 27 51.3**	**-0.2**
SIRT	**Sirnak**	**3.16**	**101**	*e*Pn	**Pn**	**04 27 51.3**	**-0.2**
WRDH	**Warideh**	**3.17**	**213**	*e*P	**Pn**	**04 27 50.9**	**-0.7**
WRDH				*e*S	**Sn**	**04 28 33.0**	**+2.9**
WRDH				AML	AML	04 28 44.8	
	comp=Z,17nm,0.6s						
WRDH				AML	AML	04 28 53.3	
	comp=N,28nm,0.3s						
WRDH	**Warideh**	**3.17**	**213**	*e*P	**Pn**	**04 27 50.9**	**-0.7**
	SNR=45						
WRDH				*e*S	**Sn**	**04 28 33.0**	**+2.9**
	comp=N,28nm,0.3s,SNR=40						
KFRA	**Kufra**	**3.28**	**206**	*e*P	**Pn**	**04 27 52.7**	**-0.4**
KFRA				*e*S	**Sn**	**04 28 35.5**	**+2.7**
KFRA				AML	AML	04 28 53.6	
	comp=N,163nm,0.5s						
KFRA				AML	AML	04 29 00.3	
	comp=E,238nm,0.4s						
KFRA	**Kufra**	**3.28**	**206**	*e*P	**Pn**	**04 27 52.7**	**-0.4**
	SNR=45						
KFRA				*e*S	**Sn**	**04 28 35.5**	**+2.7**
	comp=E,238nm,0.4s,SNR=40						
BIDA	**Albida**	**3.63**	**210**	*e*P	**Pn**	**04 27 58.1**	**+0.1**
BIDA				*e*S	**Sn**	**04 28 43.1**	**+1.5**
BIDA				AML	AML	04 29 06.8	
	comp=E,18nm,0.7s						
BIDA				AML	AML	04 29 07.0	
	comp=Z,35nm,0.4s						
BIDA				AML	AML	04 29 07.1	
	comp=N,71nm,0.5s						
BIDA	**Albida**	**3.63**	**210**	*e*P	**Pn**	**04 27 58.1**	**+0.1**
	SNR=45						
BIDA				*e*S	**Sn**	**04 28 43.1**	**+1.5**
	comp=N,71nm,0.5s,SNR=40						
AGRB	**Hanur-Agry**	**3.74**	**67**	*e*PN	**Pn**	**04 28 00.9**	**+1.4**
AGRB	**Hanur-Agry**	**3.74**	**67**	*e*Pn	**Pn**	**04 28 00.9**	**+1.4**
HAWK	**Haweek**	**4.04**	**206**	*e*P	**Pn**	**04 28 03.5**	**-0.1**
HAWK				*e*S	**Sn**	**04 28 53.1**	**+1.4**
HAWK				AML	AML	04 29 16.1	
	comp=E,29nm,0.6s						
HAWK				AML	AML	04 29 23.9	
	comp=N,38nm,0.4s						
HAWK	**Haweek**	**4.04**	**206**	*e*P	**Pn**	**04 28 03.5**	**-0.1**
	SNR=45						
HAWK				*e*S	**Sn**	**04 28 53.1**	**+1.4**
	comp=N,38nm,0.4s,SNR=40						
CUKT	**Cukurca**	**4.13**	**102**	*e*PN	**Pn**	**04 28 05.2**	**+0.4**
CUKT	**Cukurca**	**4.13**	**102**	*e*Pn	**Pn**	**04 28 05.2**	**+0.4**

*ISCJB **28** 04:32:11.8±0.2, 7.08S±0.03×129.46E±0.03, h139km, mb4.5/22, Error ellipse: s-maj=4.7km s-min=4.1km az=137.9*
*AUST **28** 04:32:12.0±0.4, 7.12S×129.41E, h115km, Error ellipse: s-maj=0.9km s-min=0.7km az=241.0*
*BJI **28** 04:32:14.9, 7.20S×129.30E, h159km, mB5.2/11, mb4.6/18*
*IDC **28** 04:32:

8.5nm,0.3s,baz=330,slow=23,SNR=14
WRA LR LR 04 40 56.6
comp=Z,56nm,20.0s,baz=200,slow=38
BKB Balikpapan 13.74 295 P **P** **04 35 29.2 +2.6**
112nm,1.1s,4μm
COEN Coen 15.16 118 *e*Pn **Pn** **04 35 38.9 -1.6**
131nm,0.8s
COEN eSn Sn 04 38 15.6 -13
COEN Coen 15.16 118 P **Pn** **04 35 41.3 +0.8**
baz=15,SNR=20
MTKI Muara Teweh, K 15.69 293 P **P** **04 35 50.4 +2.2**
96nm,0.7s,7μm
TSM Tawau 16.16 314 P **P** **04 35 55.7 +2.3**
MYLDM Lahad Datu 16.37 318 P **P** **04 36 00.1 +4.4**
MYLDM Lahad Datu 16.37 318 P **P** **04 35 58.9 +3.2**
74nm,1.1s
MYLDM Lahad Datu 16.37 318 *e*P **P** **04 35 58.8 +3.1**
54nm,0.9s
AS12 Alice Springs 16.97 166 *e*P **Pn** **04 36 04.2 +1.4**
ASAR Alice Springs 16.97 166 P **Pn** **04 36 04.2 +1.4**
1.6nm,0.3s,baz=341,slow=9.4,SNR=76
ASAR S S 04 38 59.2 -13
1.1nm,0.3s,baz=330,slow=17,SNR=7.0
SDKM Sandakan 17.59 316 P **Pn** **04 36 13.3 +3.1**
PMG Port Moresby 17.76 98 P **Pn** **04 36 13.7 +1.5**
47nm,1.0s
PMG Port Moresby 17.76 98 *e*P **Pn** **04 36 13.5 +1.3**
PMG eS S 04 39 19.4 -9.1
PMG Port Moresby 17.76 98 P **Pn** **04 36 13.5 +1.3**
1.7nm,0.3s,baz=295,slow=7.2,SNR=11
PMG S S 04 39 19.4 -9.1
0.3nm,0.3s,baz=347,slow=19,SNR=3.0
MTSU Mount Surprise 18.20 128 P **Pn** **04 36 17.2 -0.2**
baz=18,SNR=22
KKM Kota Kinabalu 18.55 315 P **Pn** **04 36 24.8 +3.1**
KKM Kota Kinabalu 18.55 315 *e*P **Pn** **04 36 23.2 +1.5**
69nm,0.8s
KKM Kota Kinabalu 18.55 315 P **Pn** **04 36 23.7 +1.9**
baz=19,SNR=6.2
STKI Sintang 19.23 291 P **Pn** **04 36 29.3 -0.2**
BTM Bintulu 19.23 302 P **Pn** **04 36 30.3 +0.7**
SBUM Sibu 19.59 299 P **Pn** **04 36 34.6 +0.9**
SBUM Sibu 19.59 299 *e*P **Pn** **04 36 33.0 -0.7**
75nm,1.1s
CTA Charters Tower 20.82 130 *e*P **P** **04 36 45.3 +1.2**
CTA Charters Tower 20.82 130 P **P** **04 36 45.3 +1.2**
8.1nm,0.8s,baz=307,slow=10,SNR=6.4
KSM Kuching 20.86 294 P Pn 04 36 47.5 -1.3
KSM Kuching 20.86 294 *e*P **P** **04 36 44.1 -0.5**
19nm,0.9s
KSM Kuching 20.86 294 P **P** **04 36 44.6 0.0**
baz=21,SNR=4.4
CISI Cisompet, Garu 21.37 268 *e*P **P** **04 36 48.8 -1.3**
68nm,0.7s
CISI Cisompet, Garu 21.37 268 P **P** **04 36 48.9 -1.3**
baz=21,SNR=3.4
MEEK Meekatharra 21.89 207 P **P** **04 36 56.2 +0.6**
baz=22,SNR=6.3
QLP Quilpie 23.94 145 P **P** **04 37 16.9 +2.0**
baz=24,SNR=4.6
BBOO Buckleboo 26.26 167 P **P** **04 37 39.4 +3.6**
baz=26,SNR=6.3
STKA Stephens Creek 27.10 157 *e*P **P** **04 37 43.9 +0.5**
STKA Stephens Creek 27.10 157 P **P** **04 37 43.9 +0.5**
5.0nm,0.7s,baz=331,slow=10,SNR=10
KGM Kluang 27.54 288 P **P** **04 37 50.7 +3.2**
CMSA Cobar Meteorol 28.64 150 P **P** **04 37 58.1 +1.0**
baz=29,SNR=4.9
PSI Prapat 31.95 287 *e*P **P** **04 38 26.1 -0.5**
PSI Prapat 31.95 287 P **P** **04 38 26.8 +0.2**
baz=32,SNR=9.9
PSI Prapat 31.95 287 P **P** **04 38 26.1 -0.5**
19nm,0.7s,baz=107,slow=5.9,SNR=20
LOEI Loei 37.04 312 P P 04 39 07.2 -3.0
DZM Mont Dzumac 38.69 117 P **P** **04 39 24.6 +0.4**
6.6nm,0.7s,baz=265,slow=17,SNR=4.3
CHTO Chiang Mai 39.57 311 *e*P **P** **04 39 30.8 -0.6**
12nm,0.8s
CHTO Chiang Mai 39.57 311 P **P** **04 39 30.8 -0.6**
76nm,0.9s
GYA Guiyang 40.03 327 *e*P **P** **04 39 37.3 +2.1**
GYA PcP **PcP** **04 41 38.8 +1.2**
GYA ScP **ScP** **04 45 10.0 -3.9**
GYA S **S** **04 45 31.0 +0.1**
GYA sS sS 04 46 33.0 +8.6
GYA ScS **ScS** **04 49 24.5 -3.3**
GYA AMB AMB
comp=Z,10.0nm,0.8s
CMAI Chiengmai2 40.19 313 P **P** **04 39 35.7 -1.0**
NJ2 Nanjing 40.27 346 *e*P **P** **04 39 36.0 -0.9**
NJ2 AMB AMB
comp=Z,20nm,0.8s
CD2 Chengdu 45.11 328 P **P** **04 40 17.8 +1.7**
CD2 pP pP 04 40 54.0 +6.5
CD2 sP sP 04 41 12.5 +9.4
CD2 PP **PP** **04 42 06.5 +2.0**
CD2 S **S** **04 46 44.8 -0.2**
CD2 sS sS 04 47 48.5 +9.0
CD2 SS **ScS** **04 50 04.3 +5.4**
CD2 AMB AMB
comp=Z,460nm,4.5s
HHC Hu-ho-hao-te 50.51 343 *e*P **P** **04 40 58.0 +0.4**
HHC PcP **PcP** **04 42 13.5 -0.1**
HHC PP **PP** **04 42 57.5 +2.6**
HHC ScP **ScP** **04 45 52.5 -4.3**
HHC PcS **PcS** **04 46 09.3 -1.8**
HHC S **S** **04 47 59.0 -2.1**
HHC ScS **ScS** **04 50 28.5 -6.1**
HHC SS **SS** **04 51 33.3 -3.8**
HHC AMB AMB
comp=Z,53nm,1.1s
HHC AMB AMB
comp=Z,170nm,5.6s
HHC LR LR
comp=N,340nm,16.2s
HHC LR LR
comp=E,710nm,16.6s
HHC LR LR
comp=Z,330nm,16.1s
CN2 Changchun 50.86 356 *e*P P 04 41 05.5 +5.5
CN2 *e*S **S** **04 48 08.8 +3.3**
CN2 AMB AMB
comp=Z,10.0nm,0.6s
CN2 AMB AMB
comp=Z,200nm,4.0s
USRK Ussuriysk Arra 51.19 2 P **P** **04 41 01.0 -1.4**
2.4nm,0.7s,baz=198,slow=12,SNR=4.3
MDJ Mudanjiang 51.55 0 P **P** **04 41 07.3 +2.2**
MDJ pP pP 04 41 43.8 +6.5
MDJ sP sP 04 41 58.5 +5.8
MDJ PcP **PcP** **04 42 15.0 -2.2**
MDJ S **S** **04 48 17.5 +2.5**
MDJ AMB AMB
comp=Z,8.0nm,1.3s
MDJ AMB AMB
comp=Z,430nm,6.0s
MDJ LR LR
comp=N,180nm,6.5s
MDJ LR LR
comp=E,180nm,5.7s
MDJ LR LR
comp=Z,400nm,7.3s
ODAN Odare 52.89 311 *e*P **P** **04 41 14.5 -1.2**
12nm,0.4s
TAPN Taplejung 52.92 312 *e*P **P** **04 41 14.8 -1.2**
13nm,0.4s
RAMN Ramite 53.53 311 *e*P **P** **04 41 19.7 -0.7**
29nm,0.5s
GTA Gaotai 53.82 332 *e*P **P** **04 41 21.5 -0.6**
GTA pP **pP** **04 41 58.3 +3.8**
GTA sP **sP** **04 42 14.3 +4.5**
GTA AMB AMB
comp=Z,7.0nm,0.5s
JIRN Jiri 54.22 312 *e*P **P** **04 41 24.4 -1.1**
6.2nm,0.4s
GUN Gumba 54.59 312 *e*P **P** **04 41 27.0 -1.2**
26nm,0.6s
PKI Pulchoki 54.75 311 *e*P **P** **04 41 28.1 -1.3**
9.6nm,0.5s
GKN Gorkha 55.56 311 *e*P **P** **04 41 33.6 -1.3**
14nm,0.4s
HYB Hyderabad 55.82 297 *i* P **P** **04 41 37.0 +0.2**
KOLN Koldanda 56.22 310 *e*P **P** **04 41 38.4 -1.3**
16nm,0.7s
DANN Dangsing 56.40 311 *e*P **P** **04 41 39.6 -1.5**
13nm,0.6s

SONA0 Songino Array 58.40 342 *e*P **P** **04 41 52.8 -1.7**
SONM Songino Array 58.40 342 P **P** **04 41 52.8 -1.7**
1.2nm,0.7s,baz=154,slow=6.1,SNR=7.2
WMQ Urumqi 63.19 327 *e*P **P** **04 42 28.3 +1.4**
WMQ pP **PcP** **04 43 06.3 +3.2**
WMQ sP sP 04 43 24.0 +8.6
WMQ S **S** **04 50 45.0 -2.5**
WMQ ScS **SKSac** **04 52 01.5 -5.2**
WMQ SS **SS** **04 54 56.0 -0.4**
WMQ AMB AMB
comp=Z,10.0nm,0.5s
WMQ AMB AMB
comp=Z,180nm,4.6s
WMQ LR LR
comp=N,88nm,18.6s
WMQ LR LR
comp=E,38nm,20.2s
WMQ LR LR
comp=Z,40nm,18.2s
KSH Kashi 67.71 318 *e*P P 04 43 03.0 +6.8
KSH pP pP 04 43 36.0 +6.0
MK32 Makanchi Array 68.02 327 *e*P **P** **04 42 56.9 -1.0**
MKAR Makanchi Array 68.02 327 *e*P **P** **04 42 57.1 -0.7**
MKAR Makanchi Array 68.02 327 P **P** **04 42 56.9 -1.0**
6.0nm,0.5s,baz=116,slow=8.2,SNR=88
AAK Ala-Archa 70.26 320 *e*P **P** **04 43 11.4 -0.5**
4.6nm,1.1s
ZALV Zalesovo Beam 71.45 334 P **P** **04 43 16.8 -1.9**
3.9nm,0.7s,baz=113,slow=3.9,SNR=17
KURK Kurchatov 72.33 329 *e*P **P** **04 43 23.1 -0.8**
2.6nm,0.6s
VNDA Vanda 72.36 173 *e*P **P** **04 43 23.4 -0.3**
VNDA Vanda 72.36 173 P **P** **04 43 23.4 -0.3**
0.2nm,0.6s,baz=330,slow=8.1,SNR=2.3
ATKA Atka Island 76.13 32 *e*P **P** **04 43 44.8 -1.1**
30μm,0.8s
VOSK Vostochnaya 77.41 328 *e*P **P** **04 43 51.8 -1.4**
4.1nm,0.6s
ABKAR Akbulak array 82.25 322 *e*P **P** **04 44 18.0 -1.2**
ILAR Eielson Array 93.77 25 P **P** **04 45 11.4 -3.0**
0.4nm,0.7s,baz=266,slow=4.6,SNR=6.4
ILB Eielson Array 93.77 25 *e*P **P** **04 45 11.4 -3.0**
STHS Stebnicka Huta 107.18 319 PDIF **Pdif** **04 46 14.9 +0.1**
GATR Gnd/Air Tx Cnt 110.61 56 *e*Pdif **Pdif** **04 46 29.3 -1.2**
CIAC Catalina I. Ai 112.46 57 *e*Pdif **Pdif** **04 46 41.7 +3.0**
TOA0 Torodi Ar. Sit 128.22 281 *e*PKPdf **PKPdf** **04 51 03.5 -0.9**
TORD Torodi Ar. Bea 128.22 281 PKP **PKPdf** **04 51 03.5 -0.9**
0.9nm,0.6s,baz=74,slow=1.7,SNR=9.3
TORD SKPbc SKiKP 04 54 07.8 -20
0.5nm,0.7s,baz=48,slow=3.3,SNR=4.2
DBIC Dimbokro 134.56 272 SKPbc **SKPbc** **04 54 29.2 -4.6**
4.9nm,0.8s,baz=98,slow=4.4,SNR=6.3
CPUP Villa Florida 146.07 169 *e*PKPdf **PKPdf** **04 51 35.3 -1.6**
CPUP Villa Florida 146.07 169 PKPbc **PKPdf** **04 51 37.4 +0.5**
0.8nm,0.4s,baz=72,slow=3.2,SNR=3.3
LPAZ La Paz 150.97 144 *e*PKPbc **PKPbc** **04 51 51.0 -0.7**
LPAZ La Paz 150.97 144 PKPbc **PKPbc** **04 51 51.0 -0.7**
0.9nm,0.5s,baz=287,slow=20,SNR=6.5

*ISCJB **28** 05:01:33.9±0.5,23.92S±0.04×67.72W±0.04,h117km±3km, mb4.7/71, Error ellipse: s-maj=6.9km s-min=5.2km az=146.3*
*NEIC **28** 05:01:34.6±0.5,23.93S×67.68W,h111km±5km,mb4.7/54, Error ellipse: s-maj=7.9km s-min=5.2km az=70.0*
*BJI **28** 05:01:34.7,24.00S×67.70W,h113km,mB5.1/4*
*IDC **28** 05:01:35.5±1.6,23.87S×67.70W,h118km±13km,mb4.2/10, mb1 4.3/16,mb1mx4.2/19,mbtmp4.1/16,MS3.0/3, Ms1 3.0/3,ms1mx2.7/22,Error ellipse: s-maj=17.5km s-min=12.0km az=64.0*
*GUC **28** 05:01:37.8±0.7,23.70S×68.36W,h183km±17km,ML5.0*

ISC 28 05:01:34.6±0.5,23.99S±0.04×67.73W±0.06,h115km±4km, n452,σ1§00/479,mb4.6/71,146C-174D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.75**	**321**	*e*Pn		**Pn**		**05 02 06.8**	**+1.9**
LVC				*e*Sn		**Sn**		**05 02 29.5**	**+1.4**
CEN1	**Los Morros**	**2.35**	**284**	⇓*i*P		**Pn**		**05 02 15.0**	**+2.7**
CEN1				*i* S		**Sn**		**05 02 42.1**	**+1.0**
CEN1				AML		AML		05 02 43.4	
comp=N,4μm,0.7s									
PB04	**Plate Boundary**	**2.36**	**316**	⇓*i*P		Pn		05 02 18.0	+5.7
PB04				*i* S		Sn		05 02 48.6	+7.3
PB04				AML		AML		05 02 50.8	
comp=N,5μm,0.7s									
ANCH	**Antofagasta**	**2.48**	**277**	⇑*i*P		**Pn**		**05 02 14.6**	**+0.8**
ANCH				*i* S		**Sn**		**05 02 42.9**	**-1.1**
MACH	**Maria Elena**	**2.59**	**313**	⇓*i*P		**Pn**		**05 02 16.2**	**+0.7**
MACH				*i* S		**Sn**		**05 02 45.8**	**-1.2**
PB09	**Plate Boundary**	**2.59**	**327**	⇓*i*P		**Pn**		**05 02 17.2**	**+1.6**
PB09				*i* S		**Sn**		**05 02 47.1**	**+0.1**
PB09				AML		AML		05 02 52.9	
comp=E,15μm,0.7s									
PB10	**Plate Boundary**	**2.63**	**280**	⇑*i*P		**Pn**		**05 02 16.3**	**+0.4**
PB10				*i* S		**Sn**		**05 02 45.6**	**-2.1**
PB10				AML		AML		05 02 52.4	
comp=N,13μm,0.5s									
PB07	**Plate Boundary**	**3.01**	**318**	⇓*i*P		**Pn**		**05 02 21.4**	**+0.4**
PB07				*i* S		**Sn**		**05 02 54.2**	**-2.6**
PB07				AML		AML		05 02 58.8	
comp=N,5μm,0.3s									
PB01	**Plate Boundary**	**3.36**	**331**	⇓*i*P		**Pn**		**05 02 25.6**	**0.0**
PB01				*i* S		**Sn**		**05 03 03.0**	**-1.9**
PB01				AML		AML		05 03 07.1	
comp=E,3μm,0.6s									
LCO	**Las Campanas**	**5.67**	**207**	*e*Pn		**Pn**		**05 02 56.0**	**-0.7**
LCO				*e*Sn		**Sn**		**05 03 58.4**	**-2.2**
CFAA	**Coronel Fontan**	**7.60**	**183**	P		**Pn**		**05 03 23.5**	**+0.9**
CFAA				S		**Sn**		**05 04 44.2**	**-2.9**
CFAA	**Coronel Fontan**	**7.60**	**183**	P		**Pn**		**05 03 23.5**	**+0.9**
comp=E,1.2nm,0.3s,baz=352,slow=13,SNR=174									
CFAA				S		**Sn**		**05 04 44.2**	**-2.9**
comp=E,1.7nm,0.3s,baz=251,slow=22,SNR=10									
LPAZ	**La Paz**	**7.67**	**357**	*e*Pn		**Pn**		**05 03 24.2**	**0.0**
LPAZ				S		**Sn**		**05 04 48.9**	**-1.0**
LPAZ	**La Paz**	**7.67**	**357**	P		**Pn**		**05 03 24.2**	**0.0**
comp=E,11nm,0.3s,baz=164,slow=6.8,SNR=205									
LPAZ				S		**Sn**		**05 04 48.9**	**-1.0**
comp=E,0.8nm,0.3s,baz=13,slow=19,SNR=2.8									
LPAZ				LR		LR		05 06 32.2	
comp=E,61nm,18.1s,baz=193,slow=39									
CPUP	**Villa Florida**	**9.70**	**106**	*e*Pn		**Pn**		**05 03 51.9**	**+0.9**
comp=E,52nm,0.6s									
CPUP	**Villa Florida**	**9.70**	**106**	P		**Pn**		**05 03 52.3**	**+1.2**
comp=E,1.1nm,0.3s,baz=270,slow=15,SNR=9.4									
CPUP				LR		LR		05 07 57.3	
comp=E,113nm,19.3s,baz=208,slow=39									
SIV	**San Ignacio**	**10.12**	**39**	P		**Pn**		**05 03 55.0**	**-1.8**
SIV				S		Sn		05 05 34.7	-14
SIV	**San Ignacio**	**10.12**	**39**	P		**Pn**		**05 03 55.0**	**-1.8**
comp=E,40nm,0.3s,baz=247,slow=10,SNR=232									
SIV				S		Sn		05 05 34.7	-14
baz=226,slow=18,SNR=3.1									
SIV				LR		LR		05 08 52.9	
comp=E,98nm,21.5s,slow=44									
H03N1	**Juan Fernandez**	**13.59**	**224**	T		T		05 17 04.9	
baz=41									
H03N2	**Juan Fernandez**	**13.60**	**224**	T		T		05 17 18.0	
baz=41,slow=0.7									
H03N3	**Juan Fernandez**	**13.61**	**224**	T		T		05 17 07.4	
baz=41,slow=0.7									
TRQA	**Tornquist**	**14.86**	**162**	*e*Pn		**Pn**		**05 04 57.9**	**-0.9**
comp=E,70nm,1.0s									
SAML	**Samuel**	**15.58**	**17**	*e*Pn		**Pn**		**05 05 05.7**	**-2.2**
comp=E,5.5nm,0.6s									
PLCA	**Paso Flores**	**16.86**	**187**	P		**P**		**05 05 24.1**	**+0.3**
PLCA	**Paso Flores**	**16.86**	**187**	P		**P**		**05 05 24.1**	**+0.3**
comp=E,0.1nm,0.3s,baz=18,slow=16,SNR=2.9									
SPB	**Sao Paulo**	**18.58**	**93**	*e*P		**Pn**		**05 05 44.0**	**-0.3**
comp=E,27nm,0.6s									
ATAH	**Atahualpa**	**19.64**	**327**	P		**P**		**05 05 56.0**	**+1.2**
ATAH	**Atahualpa**	**19.64**	**327**	P		**P**		**05 05 56.0**	**+1.2**
comp=E,0.8nm,0.3s,baz=90,slow=6.1,SNR=7.6									
OTAV	**Otavalo**	**26.24**	**335**	*e*P		**P**		**05 07 00.3**	**+0.7**
comp=E,9.4nm,0.9s									
ROSC	**El Rosal**	**29.39**	**346**	P		**P**		**05 07 27.1**	**-0.5**
ROSC	**El Rosal**	**29.39**	**346**	P		**P**		**05 07 27.1**	**-0.5**
comp=E,2.8nm,0.4s,baz=98,slow=18,SNR=4.9									
SDV	**Santo Domingo**	**32.80**	**355**	*e*P		**P**		**05 07 55.5**	**-1.8**
comp=E,3.4nm,0.8s									
JTS	**JuntasAbangare**	**38.01**	**332**	*e*P		**P**		**05 08 42.5**	**+0.8**
comp=E,15nm,0.9s									

TGUH Tegucigalpa,Un 42.37 331 *e*P **P** **05 09 17.4 -0.2**
comp=E,9.8nm,0.6s
JSC Jenkinsville 59.36 347 *e*P **P** **05 11 24.7 0.0**
HKT Hockley 60.04 332 P **P** **05 11 29.1 -0.2**
comp=E,4.7nm,1.1s
KMSC Kings Mountain 60.21 347 ⇑P **P** **05 11 30.1 -0.4**
baz=60
732A Laxson Ranch, 60.92 328 ⇓P **P** **05 11 35.0 -0.4**
baz=61,SNR=8.1
CPCT Cooper Cave 61.22 344 *e*P **P** **05 11 36.8 -0.6**
SWET Sewanee 61.36 343 *e*P **P** **05 11 37.5 -0.9**
comp=E,22nm,0.6s
632A Uvalde 61.47 328 ⇑P **P** **05 11 38.6 -0.6**
baz=62,SNR=5.2
631A Perdido Creek 61.78 328 ⇓P **P** **05 11 40.5 -0.7**
baz=62,SNR=6.9
532A Rocksprings 62.05 329 ⇓P **P** **05 11 42.7 -0.3**
baz=62,SNR=5.8
JCT Junction City 62.29 329 *e*P **P** **05 11 44.2 -0.5**
comp=E,14nm,0.8s
JCT Junction City 62.29 329 ⇓P **P** **05 11 44.4 -0.3**
baz=62,SNR=10
531A Rocksprings 62.39 328 ⇓P **P** **05 11 45.2 -0.1**
baz=63,SNR=10
WHTX Lake Whitney 62.50 332 ⇓P **P** **05 11 45.2 -0.8**
baz=63
432A Menard 62.62 329 ⇓P **P** **05 11 46.2 -0.7**
baz=63,SNR=9.2
WVT Waverly 62.74 342 *e*P **P** **05 11 46.0 -1.5**
comp=E,9.3nm,0.6s
530A J-C Ranch, Com 62.76 327 ⇑P **P** **05 11 47.8 0.0**
baz=63,SNR=7.4
431A Sonora 62.84 328 ⇓P **P** **05 11 48.0 -0.3**
baz=63
628A Black Gap, Mar 63.00 326 ⇓P **P** **05 11 49.5 +0.1**
baz=63,SNR=7.3
332A Millerview 63.02 329 ⇑P **P** **05 11 48.9 -0.5**
baz=63,SNR=9.0
529A Stev Forest Ra 63.18 327 ⇑P **P** **05 11 50.7 +0.1**
baz=63,SNR=13
430A Baggett Ranch, 63.23 328 ⇑P **P** **05 11 50.3 -0.6**
baz=64,SNR=5.2
627A Terlingua Ranc 63.24 325 ⇓P **P** **05 11 51.0 0.0**
baz=64
331A San Angelo 63.28 329 ⇓P **P** **05 11 50.6 -0.6**
baz=64,SNR=7.9
TXAR Lajitas Array 63.29 325 P **P** **05 11 51.1 -0.2**
TXAR Lajitas Array 63.29 325 P **P** **05 11 51.1 -0.2**
comp=E,1.7nm,0.7s,baz=149,slow=9.8,SNR=28
232A Coleman 63.40 330 ⇑P **P** **05 11 51.5 -0.5**
baz=64,SNR=5.9
429A Davenport Ranc 63.42 327 ⇓P **P** **05 11 52.2 0.0**
baz=64,SNR=7.7
528A Cox Ranch, San 63.50 326 ⇓P **P** **05 11 52.5 -0.2**
baz=64
626A Big Bend Ranch 63.71 325 ⇓P **P** **05 11 54.5 +0.4**
baz=64,SNR=20
330A Mertzon 63.71 328 ⇓P **P** **05 11 53.4 -0.7**
baz=64
231A Bronte 63.74 329 ⇓P **P** **05 11 53.9 -0.4**
baz=64
PARMO Parma 63.81 340 *e*P **P** **05 11 54.3 -0.2**
428A Kincaid Ranch, 63.90 327 ⇓P **P** **05 11 54.9 -0.4**
baz=64
527A Woodward Ranch 63.91 326 ⇓P **P** **05 11 55.3 -0.2**
baz=64,SNR=10.0
ABTX Abilene, Hawle 64.01 330 ⇑P **P** **05 11 55.6 -0.4**
baz=64
230A Sterling City 64.08 329 ⇑P **P** **05 11 56.0 -0.4**
baz=64
526A Mary Lane Ranc 64.09 325 ⇓P **P** **05 11 57.0 +0.3**
baz=64,SNR=9.9
PBMO Poplar Bluff 64.13 340 *e*P **P** **05 11 55.5 -1.1**
comp=E,20nm,0.7s
PBMO *e*pP pP 05 12 18.1 -6.6
329A Wagon Wheel Ra 64.17 328 ⇓P **P** **05 11 56.7 -0.4**
baz=64,SNR=5.8
427A Hayter Ranch, 64.36 326 ⇓P **P** **05 11 58.2 -0.2**
baz=65
131A Roby 64.39 330 ⇓P **P** **05 11 58.0 -0.5**
baz=65
229A Bryant Ranch, 64.48 328 ⇑P **P** **05 11 58.6 -0.5**
baz=65
328A Wrishen Ranch, 64.49 327 ⇑P **P** **05 11 59.1 -0.1**
baz=65,SNR=6.6
Z32A Haskell 64.51 331 ⇑P **P** **05 11 58.7 -0.6**
baz=65
426A McDonald Obser 64.54 326 ⇑P **P** **05 11 59.8 +0.1**
baz=65,SNR=11
130A Snyder 64.60 329 ⇓P **P** **05 11 59.7 -0.2**
baz=65,SNR=6.9
SIUC Southern Illin 64.62 341 *e*P **P** **05 11 58.8 -1.0**
comp=E,13nm,0.4s
Z31A Sharp Cattle R 64.82 330 ⇓P **P** **05 12 00.9 -0.4**
baz=65,SNR=6.7
228A UT Block 9, Go 64.98 328 ⇓P **P** **05 12 01.9 -0.5**
baz=65
326A Caldwell Ranch 65.03 326 ⇓P **P** **05 12 02.4 -0.3**
baz=65,SNR=7.0
129A Stewart Farms, 65.05 329 ⇓P **P** **05 12 02.4 -0.5**
baz=65
Y32A R-V Farms, Ver 65.08 331 ⇑P **P** **05 12 02.4 -0.5**
baz=65
425A Indio Mountain 65.13 325 ⇓P **P** **05 12 03.0 -0.4**
baz=65,SNR=9.7
TUL1 Tulsa 65.22 335 ⇑P **P** **05 12 03.5 -0.3**
baz=66
227A Bennet, Jal 65.25 327 ⇓P **P** **05 12 04.3 +0.2**
baz=66
Z30A Sanderson Ranc 65.25 329 ⇑P **P** **05 12 04.1 +0.1**
baz=66
128A Castleberry Fa 65.34 328 ⇓P **P** **05 12 04.6 -0.1**
baz=66
Y31A Rekieta Farm, 65.42 331 ⇑P **P** **05 12 04.9 -0.2**
baz=66,SNR=5.3
Z29A Hungry Hill Ra 65.50 329 ⇓P **P** **05 12 05.2 -0.5**
baz=66
325A Bean Ranch, Si 65.59 325 ⇓P **P** **05 12 06.3 -0.1**
baz=66,SNR=18
226B Tecolote Peak, 65.74 326 ⇑P **P** **05 12 07.3 +0.1**
baz=66
127A Arkansas Junct 65.81 327 ⇓P **P** **05 12 07.5 -0.3**
baz=66
Z28A Tucker Farm, M 65.84 329 ⇑P **P** **05 12 07.1 -0.9**
baz=66
X31A McDonald Ranch 65.85 331 ⇓P **P** **05 12 07.6 -0.3**
baz=66,SNR=12
324A Moseley Ranch, 65.91 325 ⇑P **P** **05 12 07.7 -0.8**
baz=66,SNR=6.7
GDL2 Guadalupe Moun 65.93 326 *e*P **P** **05 12 08.8 +0.2**
comp=E,1.7nm,0.4s
Y29A Porterfield Fa 65.97 329 ⇑P **P** **05 12 08.1 -0.7**
baz=66,SNR=5.3
225A Deer Hill, Car 66.10 326 ⇑P **P** **05 12 08.6 -1.0**
baz=66
X30A Coker Ranch, T 66.10 330 ⇑P **P** **05 12 09.0 -0.5**
baz=66
126A Clayton Basin, 66.12 327 ⇓P **P** **05 12 09.7 0.0**
baz=66,SNR=5.8
QSPA South Pole Qui 66.21 180 *e*pP **P** **05 12 12.1 +2.2**
Z27A Tatum 66.26 328 ⇑P **P** **05 12 10.0 -0.6**
baz=66,SNR=7.9
Y28A McKinney Farm, 66.28 329 ⇓P **P** **05 12 10.3 -0.5**
baz=66
W31A Holland Ranch, 66.31 332 ⇑P **P** **05 12 09.8 -0.9**
baz=67
125A Gardner Draw, 66.45 326 ⇑P **P** **05 12 11.4 -0.4**
baz=67
X29A Tulia 66.47 330 ⇓P **P** **05 12 11.2 -0.7**
baz=67
SFIN Scholer Farm 66.53 344 ⇓P **P** **05 12 10.2 -1.8**
baz=67
MSTX Muleshoe 66.58 329 *e*P **P** **05 12 12.4 -0.3**
comp=E,20nm,1.1s
MSTX Muleshoe 66.58 329 ⇑P **P** **05 12 12.3 -0.4**
baz=67,SNR=9.0
Z26A Caprock 66.60 327 ⇑P **P** **05 12 12.5 -0.3**
baz=67,SNR=5.7
Y27A Causey 66.70 328 ⇑P **P** **05 12 12.8 -0.6**
baz=67,SNR=6.4
V31A Spring Creek L 66.76 332 ⇑P **P** **05 12 13.6 -0.1**
baz=67
X28A Dimmitt 66.76 329 ⇑P **P** **05 12 13.7 -0.1**
baz=67
AMTX Amarillo 66.83 330 ⇑P **P** **05 12 14.2 +0.1**
baz=67
124A Stringfield Ra 66.89 326 ⇑P **P** **05 12 15.5 +0.8**
baz=67

Z25A	Roswell	66.97	327	⇓P		P	05 12 14.6	-0.6
	baz=67,SNR=6.8							
W29A	Amarillo	67.01	330	⇑P		P	05 12 15.3	0.0
	baz=67							
Y26A	Elida	67.05	328	⇑P		P	05 12 16.2	+0.6
	baz=67							
X27A	F and S Farms,	67.29	329	⇑P		P	05 12 17.3	+0.1
	baz=68							
Z24A	Sheeppen Canyo	67.34	326	⇓P		P	05 12 17.5	-0.1
	baz=68							
Y25A	Mesa, Roswell	67.48	327	⇓P		P	05 12 17.5	-0.8
	baz=68,SNR=5.1							
X26A	CR and CF Fran	67.55	328	⇓P		P	05 12 18.8	0.0
	baz=68							
T32A	Huddler Ranch,	67.57	333	⇑P		P	05 12 18.9	+0.1
	baz=68							
W27A	Bowe Ranch, En	67.61	329	⇑P		P	05 12 18.9	-0.2
	baz=68							
Z23A	Rita Site, Whi	67.73	326	⇓P		P	05 12 20.8	+0.9
	baz=68							
U30A	WK&E Inc. Balk	67.75	332	⇑P		P	05 12 20.1	+0.2
	baz=68							
T31A	Randall Ranch,	67.81	333	⇓P		P	05 12 20.6	+0.4
	baz=68							
220A	Playas Peak, P	67.90	323	⇓P		P	05 12 22.2	+1.2
	baz=68							
319A	Douglas	67.92	322	⇑P		P	05 12 21.9	+0.8
	baz=68							
W26A	Owens Ranch, T	67.97	329	⇓P		P	05 12 21.9	+0.5
	baz=68							
121A	Cookes Peak, D	67.98	324	⇑P		P	05 12 22.5	+0.9
	baz=68							
LIC	Lamto	68.07	72	eP		P	05 12 22.1	-0.2
	comp=E,30nm,0.7s							
Z22A	Elephant Butte	68.11	325	⇓P		P	05 12 23.2	+0.8
	baz=68,SNR=7.7							
Y23A	Lovelace Mesa,	68.17	326	⇓P		P	05 12 22.8	+0.1
	baz=68							
S31A	Mullinville	68.18	333	⇑P		P	05 12 22.5	0.0
	baz=68							
TIC	Toumodi	68.28	72	eP		P	05 12 23.5	-0.1
	comp=E,20nm,0.8s							
U28A	Mallet	68.31	331	⇓P		P	05 12 23.3	-0.2
	baz=69							
KIC	Kosan Boka	68.38	72	eP		P	05 12 23.6	-0.7
	comp=E,42nm,0.6s							
W25A	X Bar L Ranch,	68.41	328	⇑P		P	05 12 24.0	-0.2
	baz=69,SNR=7.4							
DBIC	Dimbokro	68.43	72	eP		P	05 12 24.2	-0.3
	comp=E,30nm,1.0s							
DBIC	Dimbokro	68.43	72	P		P	05 12 24.6	0.0
	comp=E,17nm,0.6s,baz=213,slow=7.5,SNR=37							
120A	U Bar Ranch, L	68.45	324	⇓P		P	05 12 25.3	+0.8
	baz=69							
Z21A	St. Cloud Mine	68.52	325	⇓P		P	05 12 26.0	+1.0
	baz=69							
T29A	Hugoton	68.55	332	⇑P		P	05 12 25.4	+0.5
	baz=69							
V26A	Tequesquite Ra	68.55	329	⇑P		P	05 12 25.3	+0.3
	baz=69							
U27A	Thompson Grove	68.62	330	⇓P		P	05 12 26.1	+0.7
	baz=69							
Y22A	Socorro	68.64	326	⇑P		P	05 12 26.1	+0.5
	baz=69							
R31A	Burdett	68.77	334	⇓P		P	05 12 26.3	+0.1
	baz=69							
Z20A	Nine Sixteen R	68.86	324	⇓P		P	05 12 28.3	+1.3
	baz=69							
W24A	Lazy 6 Ranch,	68.86	328	⇑P		P	05 12 27.3	+0.2
	baz=69							
S29A	Ulysses	68.86	332	⇓P		P	05 12 27.3	+0.4
	baz=69,SNR=5.1							
T28A	Walsh	68.88	331	⇓P		P	05 12 26.6	-0.4
	baz=69,SNR=5.1							
V25A	Rancho No Teng	68.98	328	⇓P		P	05 12 28.2	+0.4
	baz=69,SNR=7.8							
U26A	Atchley Ranch,	69.02	329	⇑P		P	05 12 28.2	+0.2
	baz=69,SNR=6.1							
Y21A	Point of Rocks	69.06	325	⇑P		P	05 12 29.4	+1.0
	baz=69							
R30A	Dighton	69.07	333	⇓P		P	05 12 28.2	+0.1
	baz=69							
T27A	Campo	69.10	331	⇑P		P	05 12 28.6	+0.2
	baz=69,SNR=6.9							
ANMO	Albuquerque	69.17	327	eP		P	05 12 29.6	+0.6
	comp=E,7.4nm,0.9s							
S28A	Manter	69.17	331	⇓P		P	05 12 28.9	+0.1
	baz=69,SNR=6.6							
W23A	Werner Place,	69.19	327	⇓P		P	05 12 29.8	+0.7
	baz=69,SNR=5.4							
V24A	Rampart Ranch,	69.21	328	⇓P		P	05 12 29.4	+0.2
	baz=69,SNR=7.6							
U25A	Circle Dot Ran	69.34	329	⇑P		P	05 12 30.2	+0.3
	baz=70,SNR=6.9							
X21A	Alamocita Cree	69.46	325	⇓P		P	05 12 32.1	+1.2
	baz=70							
W22A	Albuquerque	69.48	326	⇓P		P	05 12 31.9	+1.1
	baz=70							
T26A	Comanche Natio	69.59	330	⇑P		P	05 12 32.1	+0.6
	baz=70,SNR=6.1							
Q30A	Quinter	69.64	333	⇑P		P	05 12 32.0	+0.5
	baz=70							
V23A	Ortiz Mt. (NFS	69.67	327	⇓P		P	05 12 32.9	+0.8
	baz=70							
SCIA	State Center	69.68	340	eP		P	05 12 30.9	-0.8
	comp=E,32nm,0.4s							
JFWS	Jewell Farm	69.73	343	eP		P	05 12 31.3	-0.7
	comp=E,18nm,0.6s							
U24A	Moreno Valley	69.76	328	⇑P		P	05 12 33.3	+0.7
	baz=70							
P31A	Stockton	69.76	334	⇓P		P	05 12 32.4	+0.2
	baz=70							
R28A	Tribune	69.77	332	⇑P		P	05 12 32.1	-0.4
	baz=70							
Q29A	Oakley	69.87	333	⇓P		P	05 12 33.2	+0.2
	baz=70							
S26A	Kim	69.90	330	⇑P		P	05 12 34.0	+0.7
	baz=70,SNR=9.1							
X20A	Quemado	69.91	325	⇑P		P	05 12 34.4	+0.9
	baz=70							
W21A	San Fidel	69.91	326	⇑P		P	05 12 34.4	+0.9
	baz=70,SNR=5.3							
T25A	Trinidad	69.94	329	⇑P		P	05 12 34.3	+0.7
	baz=70							
O32A	Brockman Farm,	69.97	336	⇓P		P	05 12 33.4	-0.2
	baz=70							
P30A	Selden	70.13	334	⇓P		P	05 12 34.4	-0.1
	baz=70							
U23A	El Rito	70.14	328	⇓P		P	05 12 35.9	+1.0
	baz=70							
R27A	Eads	70.15	331	⇓P		P	05 12 34.9	+0.1
	baz=70							
V22A	San Miguel Ran	70.16	327	⇑P		P	05 12 35.9	+0.8
	baz=70							
T24B	San Luis	70.33	329	⇓P		P	05 12 37.3	+1.2
	baz=71,SNR=5.8							
W20A	Ramah	70.36	325	⇑P		P	05 12 37.4	+1.1
	baz=71							
Q28A	Sharon Springs	70.38	332	⇑P		P	05 12 36.7	+0.5
	baz=71							
R26A	Arlington	70.45	331	⇑P		P	05 12 37.2	+0.6
	baz=71,SNR=6.4							
P29A	Atwood	70.46	333	⇓P		P	05 12 37.4	+0.8
	baz=71							
U22A	Llaves	70.50	327	⇑P		P	05 12 38.1	+0.9
	baz=71							
X18A	Snowflake	70.67	324	⇓P		P	05 12 39.6	+1.5
	baz=71							
KSCO	Kaye Shedlock'	70.67	332	eP		P	05 12 38.4	+0.4
	comp=E,14nm,0.6s							
KSCO	Kaye Shedlock'	70.67	332	⇑P		P	05 12 38.5	+0.4
	baz=71							
R25A	Fountain Ranch	70.70	330	⇑P		P	05 12 38.6	+0.4
	baz=71							
S24A	Houchin Ranch,	70.72	329	⇑P		P	05 12 39.4	+0.9
	baz=71,SNR=5.9							
P28A	Saint Francis	70.77	333	⇑P		P	05 12 39.4	+0.9
	baz=71							
V20A	Brimhall	70.86	326	⇑P		P	05 12 40.0	+0.7
	baz=71							
BGNE	Belgrade	70.92	336	eP		P	05 12 39.3	0.0
BGNE	Belgrade	70.92	336	⇑P		P	05 12 39.2	-0.1
	baz=71,SNR=6.4							
SDCO	Great Sand Dun	70.94	329	eP		P	05 12 40.4	+0.6
	comp=E,27nm,1.8s							
U21A	Nageezi	70.94	327	⇓P		P	05 12 40.5	+0.7
	baz=71							
Q26A	Hugo	70.99	331	⇑P		P	05 12 39.9	-0.1
	baz=71							
N30A	Hueftle Ranch,	71.14	335	⇑P		P	05 12 41.4	+0.8
	baz=71							
R24A	Sanders Place,	71.14	330	⇓P		P	05 12 41.9	+0.9
	baz=71,SNR=6.8							
M31A	Lambtecht Ranc	71.17	336	⇑P		P	05 12 41.5	+0.7
	baz=71							
O28A	Krutsinger Ran	71.25	333	⇓P		P	05 12 42.4	+1.1
	baz=72							
Q25A	Bedland, Calha	71.31	331	⇑P		P	05 12 42.6	+0.7
	baz=72							
T21A	Navajo Lake	71.32	327	⇓P		P	05 12 43.0	+1.0
	baz=72							
U20A	Newcomb	71.33	326	⇑P		P	05 12 42.9	+0.9
	baz=72,SNR=9.6							
N29A	Votaw Ranch, W	71.36	334	⇑P		P	05 12 42.7	+0.6
	baz=72							
X16A	Lo Mia Camp, P	71.40	323	⇓P		P	05 12 42.8	+0.2
	baz=72							
P26A	Davis Ranch, A	71.44	332	⇓P		P	05 12 43.4	+0.8
	baz=72							
113A	Mohawk Valley,	71.51	320	⇑P		P	05 12 44.0	+1.0
	baz=72							
S22A	4UR Ranch, Cre	71.57	328	⇓P		P	05 12 44.3	+0.6
	baz=72							
O27A	Beecher Island	71.59	333	⇑P		P	05 12 44.4	+0.9
	baz=72,SNR=5.0							
N28A	Pribbeno Ranch	71.62	334	⇑P		P	05 12 44.2	+0.6
	baz=72							
M30A	Dale-Ortello V	71.68	335	⇓P		P	05 12 44.7	+0.8
	baz=72							
Q24A	Divide	71.76	330	⇑P		P	05 12 45.6	+0.8
	baz=72,SNR=6.0							
P25A	Willow Gulch B	71.76	331	⇓P		P	05 12 45.5	+0.9
	baz=72,SNR=5.1							
L31A	Butterfield Fa	71.84	336	⇓P		P	05 12 45.3	+0.5
	baz=72,SNR=5.6							
MVCO	Mesa Verde	71.97	327	eP		P	05 12 47.0	+1.0
	comp=E,12nm,1.2s							
MVCO	Mesa Verde	71.97	327	⇑P		P	05 12 47.0	+1.0
	baz=72							
S21A	Coal Bank Pass	71.97	328	⇓P		P	05 12 47.0	+1.0
	baz=72							
L30A	Spencer Herefo	71.98	335	⇑P		P	05 12 46.5	+0.8
	baz=72							
OGNE	Ogallala	72.04	333	⇑P		P	05 12 46.7	+0.6
	baz=72							
N27A	Anderson Farm,	72.13	333	⇑P		P	05 12 48.5	+1.8
	baz=72							
WUAZ	Wupatki	72.18	324	P		P	05 12 45.1	-2.1
	comp=E,7.6nm,0.9s							
WUAZ	Wupatki	72.18	324	⇓P		P	05 12 48.7	+1.5
	baz=72							
O25A	Wiggins	72.23	331	⇑P		P	05 12 48.9	+1.6
	baz=72							
S20A	Disappointment	72.38	327	⇓P		P	05 12 49.8	+1.4
	baz=73							
P23A	Jefferson	72.40	330	⇑P		P	05 12 50.0	+1.4
	baz=73							
R21A	Cimarron	72.41	328	⇑P		P	05 12 49.6	+1.1
	baz=73,SNR=5.6							
ECSD	EROS Data Cent	72.42	338	eP		P	05 12 47.5	-0.8
	comp=E,6.2nm,0.6s							
Q22A	Crested Butte,	72.49	329	⇑P		P	05 12 50.4	+1.3
	baz=73							
K30A	Basset	72.56	336	⇓P		P	05 12 49.3	+0.2
	baz=73							
SPMN	St. Paul	72.58	342	eP		P	05 12 48.0	-1.1
	comp=E,22nm,1.3s							
SPMN	St. Paul	72.58	342	⇓P		P	05 12 48.2	-0.9
	baz=73							
ISCO	Idaho Springs	72.64	330	eP		P	05 12 50.9	+0.9
	comp=E,4.7nm,0.8s							
ISCO	Idaho Springs	72.64	330	⇓P		P	05 12 50.8	+0.8
	baz=73,SNR=5.3							
Y12C	Blythe	72.66	320	⇓P		P	05 12 51.0	+1.1
	baz=73							
R20A	Redvale	72.67	327	⇓P		P	05 12 51.3	+1.2
	baz=73,SNR=6.0							
SMCO	Snowmass	72.77	329	eP		P	05 12 52.0	+1.1
	comp=E,7.9nm,0.8s							
K29A	Lazy Trails An	72.90	335	⇓P		P	05 12 51.7	+0.5
	baz=73							
P22A	Eagle	73.01	329	⇓P		P	05 12 52.8	+0.8
	baz=73							
J30A	Dallas	73.08	336	⇑P		P	05 12 52.6	+0.5
	baz=73							
O23A	Lake Granby, G	73.11	330	⇓P		P	05 12 53.8	+1.1
	baz=73,SNR=6.0							
Q20A	Ridgley Place,	73.23	328	⇓P		P	05 12 54.1	+0.8
	baz=74							
IRM	Iron Mountain	73.31	320	⇓P		P	05 12 55.2	+1.4
	baz=74							
U15A	North Rim	73.35	324	⇓P		P	05 12 55.5	+1.3
	baz=74							
O22A	Kremmling	73.36	330	⇑P		P	05 12 54.9	+0.7
	baz=74							
L26A	Underwood Farm	73.38	333	⇑P		P	05 12 54.7	+0.7
	baz=74							
J29A	Okeek	73.46	336	⇓P		P	05 12 54.6	+0.2
	baz=74							
109C	Camp Elliot, M	73.59	318	⇓P		P	05 12 56.6	+1.3
	baz=74							
K27A	Flueckinger Fa	73.60	334	⇑P		P	05 12 56.7	+1.4
	baz=74							
M24A	Cheyenne	73.65	332	⇓P		P	05 12 57.0	+1.3
	baz=74,SNR=6.8							
N23A	Red Feather La	73.68	331	⇑P		P	05 12 57.4	+1.4
	baz=74							
P20A	De Beque	73.70	328	⇓P		P	05 12 57.4	+1.3
	baz=74							
PHWY	Pilot Hill	73.79	331	eP		P	05 12 57.2	+0.5
	comp=E,6.1nm,1.1s							
J28A	Allard Ranch,	73.82	335	⇓P		P	05 12 57.0	+0.5
	baz=74,SNR=8.4							
O21A	Pagoda	73.83	329	⇓P		P	05 12 58.0	+1.1
	baz=74							
N22A	Wattenberg Ran	73.83	330	⇑P		P	05 12 58.1	+1.2
	baz=74							
J27A	Elkhorn Farm,	73.97	335	⇓P		P	05 12 58.5	+1.1
	baz=74,SNR=9.7							
I29A	Vivian Onida	73.98	336	⇓P		P	05 12 57.2	-0.2
	baz=74,SNR=5.0							
M23A	Laramie	74.04	331	⇑P		P	05 12 58.8	+0.7
	baz=74,SNR=5.8							
GMRC	Granite Mounta	74.05	321	⇑P		P	05 12 59.3	+1.1
	baz=74							
P19A	Cripple Cowboy	74.09	328	⇓P		P	05 12 59.5	+1.1
	baz=74,SNR=19							
O20A	White River Ci	74.13	329	eP		P	05 12 59.8	+1.2
	comp=E,13nm,0.8s							
O20A	White River Ci	74.13	329	⇓P		P	05 12 59.2	+0.7
	baz=74,SNR=5.5							
I28A	Midland	74.28	336	⇓P		P	05 12 59.5	+0.3
	baz=74							
M22A	Cedar Creek Ra	74.38	331	⇓P		P	05 13 00.9	+0.9
	baz=75							
J26A	Sides Ranch, S	74.45	334	⇑P		P	05 13 01.4	+1.2
	baz=75							
SRU	San Rafael	74.45	327	eP		P	05 13 01.1	+0.6
	comp=E,12nm,0.6s							
H29A	Onida	74.46	337	⇓P		P	05 13 00.2	0.0
	baz=75							
HEC	Hector,Ludlow	74.47	320	⇑P		P	05 13 01.3	+0.8
	baz=75							
G30A	Faulkton	74.52	337	⇓P		P	05 13 01.1	+0.6
	baz=75							
L23A	Garrett	74.56	332	⇓P		P	05 13 02.1	+1.1
	baz=75							
VNDA	Vanda	74.60	190	P		P	05 13 03.0	+2.4
VNDA	Vanda	74.60	190	P		P	05 13 03.0	+2.4
	comp=E,0.3nm,0.7s,baz=117,slow=3.3,SNR=3.5							
Q16A	Castle Valley	74.63	326	⇑P		P	05 13 02.7	+1.2
	baz=75							
K24A	Anderson Ranch	74.67	333	⇓P		P	05 13 02.8	+1.2
	baz=75							
O19A	Miners Draw (B	74.68	328	⇑P		P	05 13 02.8	+1.1
	baz=75							
I27A	Quinn	74.68	335	⇑P		P	05 13 02.4	+0.9
	baz=75							
CCUT	Cedar City	74.76	324	eP		P	05 13 03.6	+1.2
	comp=E,8.5nm,0.9s							
H28A	Mission Ridge	74.80	336	⇑P		P	05 13 02.6	+0.5
	baz=75							
J25A	Sunshine Ranch	74.80	334	⇑P		P	05 13 03.7	+1.4
	baz=75							
BFSC	Mount Baldy Ra	74.85	319	⇓P		P	05 13 04.1	+1.3
	baz=75							
I26A	New Underwood	74.96	335	⇑P		P	05 13 04.1	+1.0
	baz=75							
K23A	Bowen Ranch, D	75.04	332	⇓P		P	05 13 04.3	+0.6
	baz=75,SNR=6.0							
F30A	Leola	75.09	338	⇑P		P	05 13 05.4	+1.6
	baz=75							
J24A	Dixon Ranch, L	75.11	333	⇓P		P	05 13 05.2	+1.1
	baz=75							
H27A	Howes	75.17	335	⇓P		P	05 13 04.5	+0.3
	baz=75							
I25A	Rochford	75.30	334	⇑P		P	05 13 06.2	+0.9
	baz=76,SNR=5.6							
K22A	Casper	75.35	331	eP		P	05 13 06.5	+1.0
	comp=E,7.6nm,0.9s							
K22A	Casper	75.35	331	⇓P		P	05 13 06.3	+0.8
	baz=76							
F29A	Eureka	75.37	337	⇓P		P	05 13 06.0	+0.6
	baz=76							
EDW2	Edwards Air Fo	75.49	319	⇑P		P	05 13 07.3	+0.9
	baz=76							
RSSD	Black Hills	75.50	334	eP		P	05 13 06.9	+0.4
	comp=E,82nm,2.6s							
K21A	Alcova	75.65	331	⇓P		P	05 13 08.0	+0.7
	baz=76,SNR=12							
G26A	Maurine	75.92	335	⇓P		P	05 13 08.8	+0.3
	baz=76							
J22A	Midwest	75.94	332	⇓P		P	05 13 09.5	+0.7
	baz=76							
JLU	Jordanelle	76.05	327	eP		P	05 13 10.6	+1.0
	comp=E,6.8nm,0.6s							
D30A	Buchanan	76.11	339	⇓P		P	05 13 09.7	+0.2
	baz=76,SNR=7.3							
G27A	Dupree	76.12	335	⇑P		P	05 13 07.7	-2.0
	baz=76							
G25A	Newell	76.15	335	⇓P		P	05 13 10.4	+0.5
	baz=76							
F27A	Lemmon	76.19	336	⇑P		P	05 13 10.3	+0.2
	baz=76,SNR=5.6							
H24A	Dirks Ranch, A	76.23	334	⇓P		P	05 13 10.6	+0.2
	baz=76,SNR=5.2							
J21A	Lysite	76.31	331	⇑P		P	05 13 11.6	+0.6
	baz=77							
E28A	Huff	76.31	337	⇓P		P	05 13 11.3	+0.6
	baz=77							
ISA	Isabella	76.32	320	⇓P		P	05 13 12.2	+1.1
	baz=76							
I22A	9 Mile Ranch,	76.33	332	⇑P		P	05 13 11.5	+0.5
	baz=77							
D29A	Pettibone, Tap	76.35	338	⇑P		P	05 13 11.0	+0.1
	baz=77							
F26A	Lodgepole	76.42	336	⇓P		P	05 13 11.8	+0.4
	baz=77							
DUG	Dugway	76.42	326	eP		P	05 13 13.0	+1.3
	comp=E,6.4nm,1.0s							
DUG	Dugway	76.42	326	⇓P		P	05 13 12.9	+1.3
	baz=77							
E27A	Carson	76.50	337	⇑P		P	05 13 12.6	+0.8
	baz=77							
C30A	Mose, Pekin	76.54	339	⇑P		P	05 13 12.2	+0.3
	baz=77							
R11A	Troy Canyon, C	76.55	323	P		P	05 13 13.5	+1.1
R11A	Troy Canyon, C	76.55	323	⇓P		P	05 13 13.5	+1.1
	baz=77							
PKM	Peak Mountain	76.61	318	⇓P		P	05 13 13.7	+0.9
	baz=77							
I21A	Big Trails, Te	76.61	332	⇓P		P	05 13 12.9	+0.3
	baz=77,SNR=8.8							
G24A	Alzada	76.66	334	⇑P		P	05 13 13.5	+0.7
	baz=77							
F25A	Bowman	76.78	335	⇑P		P	05 13 14.2	+0.7
	baz=77							
VES	Vestal, Richgr	76.80	319	⇑P		P	05 13 14.5	+0.9
	baz=77							
PDAR	Pinedale Array	76.80	330	P		P	05 13 13.8	0.0
PDAR				pP		pP	05 13 42.0	-0.9
PDAR	Pinedale Array	76.80	330	P		P	05 13 13.8	0.0
	comp=E,1.8nm,0.7s,baz=134,slow=7.5,SNR=18							
PDAR				pP		pP	05 13 42.0	-0.9
	comp=E,0.6nm,0.6s,baz=135,slow=9.0,SNR=2.0							
H22A	Clearmont	76.84	333	⇑P		P	05 13 14.7	+0.9
	baz=77							
E26A	Carlson Angus	76.86	336	⇓P		P	05 13 13.9	0.0
	baz=77							
G23A	Biddle	76.94	334	⇑P		P	05 13 14.8	+0.4
	baz=77,SNR=5.2							
J19A	Crowheart	76.96	330	⇑P		P	05 13 15.7	+1.1
	baz=77							
SMMC	Simmler	76.99	318	⇑P		P	05 13 16.2	+1.4
	baz=77							
MDND	Maddock	77.04	339	eP		P	05 13 15.2	+0.5
	comp=E,41nm,0.8s							
MDND	Maddock	77.04	339	⇓P		P	05 13 15.3	+0.5
	baz=77,SNR=9.0							
I20A	Worland	77.09	331	⇓P		P	05 13 16.1	+0.8
	baz=77							
F24A	Ekalaka	77.09	335	⇑P		P	05 13 15.7	+0.4
	baz=77,SNR=6.1							
B30A	Myrvik Farm, E	77.15	340	⇓P		P	05 13 15.4	0.0
	baz=77							
H21A	Big Horn, Sher	77.16	332	⇑P		P	05 13 15.9	+0.2
	baz=77,SNR=5.2							
TORD	Torodi Ar. Bea	77.19	69	P		P	05 13 16.4	+0.1
TORD	Torodi Ar. Bea	77.19	69	P		P	05 13 16.4	+0.1
	comp=E,71nm,0.6s,baz=259,slow=5.8,SNR=1214							
E25A	Miller Ranch,	77.24	336	⇓P		P	05 13 16.6	+0.6
	baz=78							
D26A	Manning	77.33	336	⇓P		P	05 13 17.2	+0.8
	baz=78							
G22A	Birney	77.33	333	⇓P		P	05 13 17.2	+0.6
	baz=78							
H20A	Greybull	77.46	332	⇓P		P	05 13 17.6	+0.3
	baz=78,SNR=5.2							
B29A	Wagenman Farm,	77.49	339	⇑P		P	05 13 17.8	+0.5
	baz=78							
I19A	Meeteetse	77.54	331	⇓P		P	05 13 18.7	+0.8
	baz=78,SNR=5.3							
E24A	Baker	77.64	335	⇓P		P	05 13 18.8	+0.6
	baz=78,SNR=5.4							
G21A	Lodge Grass	77.71	333	⇓P		P	05 13 19.3	+0.6
	baz=78							
D25A	Fairfield	77.75	336	⇑P		P	05 13 19.9	+1.1
	baz=78							
F22A	Rosebud	77.77	334	⇓P		P	05 13 19.2	+0.3
	baz=78,SNR=8.8							
B28A	Dugan Ranch, T	77.81	338	⇑P		P	05 13 19.6	+0.5
	baz=78							
A29A	Manning Farm,	77.85	339	⇑P		P	05 13 19.4	+0.2
	baz=78							
REDW	Red Top Meadow	77.86	329	eP		P	05 13 20.4	+0.6
	comp=E,7.2nm,0.9s							
MLAC	Mammoth Lakes	77.87	321	⇑P		P	05 13 20.6	+0.7
	baz=78							
LOHW	Long Hollow	77.94	330	eP		P	05 13 20.9	+0.7
	comp=E,5.4nm,

D23A	**Lindsay**	**78.49**	**335**	⇓P		**P**	**05 13 23.8**	**+1.0**
	baz=79								
A27A	**Ledoux Ranch,**	**78.54**	**338**	⇓P		**P**	**05 13 24.3**	**+1.2**
	baz=79								
E21A	**Keefer Ranch,**	**78.72**	**333**	⇓P		**P**	**05 13 24.8**	**+0.7**
	baz=79								
A26A	**Wade Farm, Ken**	**78.77**	**338**	⇓P		**P**	**05 13 24.7**	**+0.3**
	baz=79								
D22A	**Cohagen**	**78.85**	**334**	⇑P		**P**	**05 13 26.1**	**+1.2**
	baz=79								
F19A	**Roth Farm, Mol**	**78.95**	**332**	⇓P		**P**	**05 13 26.2**	**+0.7**
	baz=79,SNR=5.9								
C23A	**Lambert**	**79.00**	**335**	⇑P		**P**	**05 13 26.4**	**+0.7**
	baz=79								
D21A	**La Casta Ranch**	**79.11**	**334**	⇑P		**P**	**05 13 26.9**	**+0.7**
	baz=79								
E20A	**Meyer Farm, Mu**	**79.12**	**333**	⇓P		**P**	**05 13 27.1**	**+0.8**
	baz=79,SNR=12								
DGMT	**Dagmar**	**79.18**	**336**	*e*P		**P**	**05 13 27.2**	**+0.6**
	comp=E,19nm,0.6s								
DGMT	**Dagmar**	**79.18**	**336**	⇑P		**P**	**05 13 27.5**	**+0.9**
	baz=79,SNR=6.6								
A25A	**Svangstu Ranch**	**79.18**	**337**	⇓P		**P**	**05 13 27.5**	**+0.9**
	baz=79								
C22A	**Vida**	**79.22**	**335**	⇑P		**P**	**05 13 27.7**	**+0.9**
	baz=80								
E19A	**Rath Farm, Rou**	**79.36**	**332**	⇓P		**P**	**05 13 28.2**	**+0.5**
	baz=80,SNR=12								
B23A	**Brockton**	**79.47**	**336**	⇑P		**P**	**05 13 29.2**	**+1.0**
	baz=80								
A24A	**Westby**	**79.49**	**337**	⇑P		**P**	**05 13 29.5**	**+1.3**
	baz=80								
D20A	**Manuel Ranch,**	**79.59**	**333**	⇓P		**P**	**05 13 29.3**	**+0.4**
	baz=80,SNR=5.9								
PAHR	**Pah Rah Range**	**79.61**	**322**	*e*P		**P**	**05 13 30.8**	**+1.5**
	comp=E,11nm,0.8s								
B22A	**Reddig Ranch S**	**79.72**	**335**	⇓P		**P**	**05 13 30.5**	**+1.0**
	baz=80								
HLID	**Hailey**	**79.72**	**327**	*e*P		**P**	**05 13 31.1**	**+1.3**
	comp=E,10nm,0.8s								
HLID	**Hailey**	**79.72**	**327**	⇓P		**P**	**05 13 31.0**	**+1.3**
	baz=80,SNR=13								
C21A	**Desert Coulee**	**79.76**	**334**	⇓P		**P**	**05 13 30.4**	**+0.6**
	baz=80								
A23A	**Redstone**	**79.84**	**336**	⇓P		**P**	**05 13 31.0**	**+0.9**
	baz=80								
D19A	**Cripps Ranch,**	**79.96**	**333**	⇓P		**P**	**05 13 31.4**	**+0.5**
	baz=80								
C20A	**Veseth Ranch,**	**80.04**	**334**	⇑P		**P**	**05 13 31.6**	**+0.3**
	baz=80								
DLMT	**Dillon**	**80.20**	**330**	*e*P		**P**	**05 13 33.0**	**+0.7**
	comp=E,14nm,1.4s								
B21A	**Ellsworth Farm**	**80.22**	**335**	⇓P		**P**	**05 13 32.9**	**+0.7**
	baz=80								
A22A	**Carney Farms,**	**80.25**	**336**	⇓P		**P**	**05 13 33.0**	**+0.6**
	baz=80,SNR=5.2								
LRM	**Limekiln Ridge**	**80.48**	**330**	*e*P		**P**	**05 13 35.0**	**+1.1**
C19A	**Slack Wire Ran**	**80.48**	**333**	⇓P		**P**	**05 13 34.3**	**+0.6**
	baz=81								
B20A	**Solberg Farm,**	**80.62**	**334**	⇑P		**P**	**05 13 34.9**	**+0.5**
	baz=81								
A20A	**Cobblestone Ra**	**80.94**	**334**	⇓P		**P**	**05 13 36.5**	**+0.4**
	baz=81,SNR=5.3								
EGMT	**Eagleton**	**81.00**	**333**	⇑P		**P**	**05 13 36.8**	**+0.3**
	baz=81								
B19A	**Brinkman Farms**	**81.01**	**334**	⇑P		**P**	**05 13 36.7**	**+0.3**
	baz=81								
A19A	**Klindworth Far**	**81.30**	**334**	⇓P		**P**	**05 13 38.2**	**+0.1**
	baz=82								
BOSA	**Boshof**	**81.33**	**117**	P		**P**	**05 13 39.7**	**+0.8**
BOSA	**Boshof**	**81.33**	**117**	P		**P**	**05 13 39.7**	**+0.8**
	comp=E,5.3nm,0.5s,baz=242,slow=4.3,SNR=20								
MOD	**Modoc**	**81.61**	**323**	*e*P		**P**	**05 13 40.9**	**+1.0**
	comp=E,73nm,2.5s								
J08A	**Circle Bar Ran**	**81.63**	**325**	*e*P		**P**	**05 13 41.1**	**+1.2**
	comp=E,7.0nm,0.8s								
MAW	**Mawson**	**81.64**	**163**	P		**P**	**05 13 41.3**	**+1.8**
MAW	**Mawson**	**81.64**	**163**	P		**P**	**05 13 41.3**	**+1.8**
	comp=E,1.4nm,0.4s,baz=275,slow=6.7,SNR=4.7								
MSO	**Missoula**	**81.92**	**330**	⇓P		**P**	**05 13 42.3**	**+1.0**
	baz=82								
BMO	**Blue Mountains**	**82.09**	**327**	*e*P		**P**	**05 13 42.7**	**+0.5**
	comp=E,17nm,1.6s								
F10A	**Beach Ranch, E**	**82.85**	**328**	*e*P		**P**	**05 13 46.9**	**+0.7**
	comp=E,98nm,2.6s								
LBTB	**Lobatse**	**83.00**	**114**	*e*P		**P**	**05 13 48.3**	**+0.7**
	comp=E,4.5nm,0.5s								
PBEJ	**Beja**	**83.42**	**43**	*e*P		**P**	**05 13 50.5**	**+1.3**
	comp=E,27nm,1.9s								
PMTG	**Montargil**	**83.83**	**42**	*e*P		**P**	**05 13 52.0**	**+0.8**
	comp=E,21nm,1.5s								
PCBR	**Castelo Branco**	**84.75**	**42**	*e*P		**P**	**05 13 56.8**	**+0.9**
	comp=E,16nm,1.7s								
TAM	**Tamanrasset**	**84.98**	**63**	*e*P		**P**	**05 13 58.6**	**+1.0**
	comp=E,4.1nm,0.8s								
MTE	**Manteigas**	**85.05**	**42**	*e*P		**P**	**05 13 58.0**	**+0.5**
	comp=E,19nm,1.9s								
PVRL	**Vila Real**	**85.47**	**41**	*e*P		**P**	**05 13 59.9**	**+0.4**
	comp=E,29nm,1.9s								
PCAB	**Cabril**	**85.55**	**40**	*e*P		**P**	**05 14 00.7**	**+0.8**
	comp=E,47nm,1.9s								
MVO	**Moncorvo**	**85.82**	**41**	*e*P		**P**	**05 14 02.0**	**+0.7**
	comp=E,14nm,1.9s								
EDM	**Edmonton**	**86.47**	**334**	*e*P		**P**	**05 14 03.3**	**-0.8**
PAB	**San Pablo**	**86.53**	**44**	*e*pP		**P**	**05 14 05.7**	**+0.9**
ESDC	**Sonseca Array**	**86.85**	**44**	P		**P**	**05 14 07.2**	**+0.9**
ESDC	**Sonseca Array**	**86.85**	**44**	P		**P**	**05 14 07.2**	**+0.9**
	comp=E,1.7nm,0.7s,baz=234,slow=4.8,SNR=10								
YKA	**Yellowknife Ar**	**93.89**	**340**	P		**P**	**05 14 38.4**	**-0.2**
YKA	**Yellowknife Ar**	**93.89**	**340**	P		**P**	**05 14 38.4**	**-0.2**
	comp=E,2.5nm,0.6s,baz=135,slow=4.5,SNR=14								
ASAR	**Alice Springs**	**128.18**	**205**	PKP		**PKPdf**	**05 20 27.9**	**-0.1**
ASAR				pPKP		**pPKPdf**	**05 21 02.2**	**+3.1**
ASAR	**Alice Springs**	**128.18**	**205**	PKP		**PKPdf**	**05 20 27.9**	**-0.1**
	comp=E,0.8nm,0.7s,baz=162,slow=2.3,SNR=6.9								
ASAR				pPKP		**pPKPdf**	**05 21 02.2**	**+3.1**
	comp=E,0.4nm,0.6s,baz=121,slow=1.7,SNR=2.3								
WRA	**Warramunga Arr**	**131.33**	**208**	PKP		**PKPdf**	**05 20 34.4**	**+0.3**
WRA				SKPbc		**SKPbc**	**05 23 47.6**	**-1.1**
WRA	**Warramunga Arr**	**131.33**	**208**	PKP		**PKPdf**	**05 20 34.4**	**+0.3**
	comp=E,0.6nm,0.4s,baz=174,slow=1.0,SNR=20								
WRA				SKPbc		**SKPbc**	**05 23 47.6**	**-1.1**
	comp=E,2.5nm,0.9s,baz=144,slow=3.6,SNR=13								
ZALV	**Zalesovo Beam**	**143.69**	**27**	PKP	PKPbc	05 20 53.5	0.0		
ZALV				pPKP	pPKPdf	05 21 27.4	+0.6		
ZALV	**Zalesovo Beam**	**143.69**	**27**	PKP	PKPbc	05 20 53.5	0.0		
	comp=E,2.7nm,0.7s,baz=299,slow=4.3,SNR=11								
ZALV				pPKP	pPKPdf	05 21 27.4	+0.6		
	comp=E,0.4nm,0.3s,baz=318,slow=1.9,SNR=1.3								
KSH	**Kashi**	**145.73**	**54**	PKPbc	**PKPab**	**05 21 02.0**	**+1.0**		
KSH				pPKP	**pPKPdf**	**05 21 25.8**	**-5.2**		
KSH				sPKP		05 21 39.3			
KSH				PKS	**PKSdf**	**05 24 36.3**	**+0.9**		
KSH				SKS	**SKSdf**	**05 27 57.8**	**-0.8**		
KSH				SKKS	**SKKSac**	**05 31 03.3**	**-0.4**		
KSH				PPMZ					
	comp=E,84nm,4.0s								
KSH				LR	LR				
	comp=E,100nm,6.0s								
KSH				LR	LR				
	comp=E,230nm,5.7s								
KSH				LR	LR				
	comp=E,240nm,5.9s								
MKAR	**Makanchi Array**	**146.94**	**39**	PKPbc	**PKPdf**	**05 21 02.3**	**+0.7**		
MKAR				pPKPbc	pPKPbc	05 21 39.8	+5.4		
MKAR	**Makanchi Array**	**146.94**	**39**	PKPbc	**PKPdf**	**05 21 02.3**	**+0.7**		
	comp=E,4.6nm,0.8s,baz=302,slow=2.2,SNR=29								
MKAR				pPKPbc	pPKPbc	05 21 39.8	+5.4		
	comp=E,1.5nm,0.7s,baz=305,slow=4.5,SNR=2.4								
WMQ	**Urumqi**	**151.76**	**40**	*e*PKPbc	**PKPdf**	**05 21 09.5**	**+0.1**		
MJAR	**Matsushiro Arr**	**154.43**	**305**	PKPab	**PKPab**	**05 21 36.3**	**-0.3**		
MJAR	**Matsushiro Arr**	**154.43**	**305**	PKPab	**PKPab**	**05 21 36.3**	**-0.3**		
	comp=E,2.1nm,0.7s,baz=152,slow=1.8,SNR=5.8								
SONM	**Songino Array**	**155.75**	**10**	PKP	**PKPdf**	**05 21 17.3**	**+2.3**		
SONM				PKPab	**PKPab**	**05 21 41.8**	**-0.1**		
SONM	**Songino Array**	**155.75**	**10**	PKP	**PKPdf**	**05 21 17.3**	**+2.3**		
	comp=E,0.3nm,0.5s,baz=0.0,slow=2.9,SNR=2.7								
SONM				PKPab	**PKPab**	**05 21 41.8**	**-0.1**		
	comp=E,0.5nm,0.6s,baz=63,slow=0.3,SNR=2.8								
CN2	**Changchun**	**157.47**	**334**	*e*PKP	**PKPdf**	**05 21 18.0**	**+0.8**		
HHC	**Hu-ho-hao-te**	**163.18**	**2**	*e*PKP	**PKPdf**	**05 21 19.0**	**-4.7**		
HHC				PKS	PKSdf	05 24 51.5	-5.3		
HHC				PP	**PP**	**05 25 57.5**	**-1.1**		
HHC				SKS	**SKSdf**	**05 28 12.5**	**-5.5**		
HHC				SKKS	**SKKSac**	**05 32 35.0**	**-1.8**		
HHC				SS	**SS**	**05 46 12.0**	**-1.9**		
HHC				PPMZ					
	comp=E,150nm,9.6s								
HHC				LR	LR				
	comp=E,220nm,21.4s								
HHC				LR	LR				
	comp=E,220nm,21.7s								
HHC				LR	LR				
	comp=E,220nm,20.4s								
CMAR	**Chiang Mai Arr**	**166.41**	**111**	PKPab	**PKPab**	**05 22 30.4**	**+1.1**		
CMAR	**Chiang Mai Arr**	**166.41**	**111**	PKPab	**PKPab**	**05 22 30.4**	**+1.1**		
	comp=E,1.1nm,0.6s,baz=252,slow=5.0,SNR=6.4								
CD2	**Chengdu**	**169.77**	**46**	PKP	**PKPdf**	**05 21 27.8**	**-1.2**		
GYA	**Guiyang**	**174.36**	**63**	*e*PKP	**PKPdf**	**05 21 30.5**	**-0.8**		
GYA				pPKP	**pPKPdf**	**05 22 00.5**	**-2.1**		
GYA				sPKP		05 22 13.0			
GYA				PKPab	**PKPab**	**05 23 04.8**	**+0.3**		
GYA				PKS	**PKSdf**	**05 25 01.5**	**-2.3**		
GYA				PP	**PP**	**05 26 57.8**	**+0.8**		
GYA				PPMZ					
	comp=E,80nm,8.0s								

*IDC **28** 05:11:48.5±1.2, 11°.58S×165°.38E, h0km, mb4.1/7, mb1 4.3/9, mb1mx4.0/21, mbtmp4.1/9, ML4.3/2, MS3.3/3, Ms1 3.4/3, ms1mx3.1/23, Error ellipse: s-maj=35.6km s-min=22.7km az=122.0*

*ISCJB **28** 05:11:50.4±0.9, 11°.70S±0°.09×165°.3E±0°.1, h24km, mb4.1/9, MS3.4/2, Error ellipse: s-maj=18.1km s-min=12.8km az=158.4*

*NEIC **28** 05:11:53.7±0.7, 11°.64S×165°.29E, h35km, mb4.5/4, Error ellipse: s-maj=14.6km s-min=11.2km az=73.0*

ISC 28 05:11:52.2±0.8, 11°.61S±0°.10×165°.3E±0°.1, h24km, n27, σ0s81/26, mb4.0/9, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.71**	**292**	Pn	**Pn**	**05 13 14.4**	**-1.1**
HNR	**Honiara**	**5.71**	**292**	Pn	**Pn**	**05 13 14.4**	**-1.1**
	9.3nm,0.3s,baz=180,slow=6.1,SNR=3.1						
DZM	**Mont Dzumac**	**10.46**	**174**	Pn	**Pn**	**05 14 20.9**	**+0.1**
DZM	**Mont Dzumac**	**10.46**	**174**	Pn	**Pn**	**05 14 20.9**	**+0.1**
	1.7nm,0.3s,baz=29,slow=18,SNR=13						
PMG	**Port Moresby**	**17.39**	**275**	LR	LR	05 21 32.2	
	comp=Z,84nm,20.5s,baz=155,slow=32						
EIDS	**Eidsvold**	**19.19**	**223**	P	**P**	**05 16 13.8**	**-0.7**
	24nm,1.5s						
CTA	**Charters Tower**	**20.16**	**243**	P	Pn	05 16 29.6	+2.5
CTA	**Charters Tower**	**20.16**	**243**	P	Pn	05 16 29.6	+2.5
	5.7nm,0.7s,baz=72,slow=11,SNR=4.5						
CTAO	**Charters Tower**	**20.16**	**243**	P	**P**	**05 16 24.8**	**-0.3**
	19nm,1.3s						
URZ	**Urewera**	**28.55**	**160**	P	**P**	**05 17 45.6**	**-0.6**
	18nm,1.1s						
STKA	**Stephens Creek**	**29.74**	**224**	P	**P**	**05 17 57.8**	**+0.9**
STKA	**Stephens Creek**	**29.74**	**224**	P	**P**	**05 17 57.8**	**+0.9**
	1.4nm,0.6s,baz=50,slow=9.7,SNR=4.5						
STKA				LR	LR	05 29 15.2	
	comp=Z,57nm,20.9s,baz=27,slow=35						
WRAB	**Tennant Creek**	**30.88**	**251**	*e*P	**P**	**05 18 06.5**	**-0.6**
	22nm,1.4s						
WRA	**Warramunga Arr**	**30.89**	**251**	P	**P**	**05 18 07.6**	**+0.4**
WRA	**Warramunga Arr**	**30.89**	**251**	P	**P**	**05 18 07.6**	**+0.4**
	8.1nm,0.9s,baz=83,slow=9.7,SNR=59						
ASAR	**Alice Springs**	**32.16**	**244**	P	**P**	**05 18 17.8**	**-0.6**
ASAR	**Alice Springs**	**32.16**	**244**	P	**P**	**05 18 17.8**	**-0.6**
	1.0nm,0.8s,baz=76,slow=9.9,SNR=10						
CMAR	**Chiang Mai Arr**	**71.95**	**294**	P	**P**	**05 23 15.6**	**+1.3**
CMAR	**Chiang Mai Arr**	**71.95**	**294**	P	**P**	**05 23 15.6**	**+1.3**
	1.2nm,0.7s,baz=128,slow=4.0,SNR=7.4						
CMAR				LR	LR	05 55 21.1	
	comp=Z,27nm,18.6s,baz=35,slow=36						
SONM	**Songino Array**	**78.87**	**324**	P	**P**	**05 23 54.6**	**+1.0**
SONM	**Songino Array**	**78.87**	**324**	P	**P**	**05 23 54.6**	**+1.0**
	0.4nm,0.4s,baz=141,slow=6.7,SNR=4.1						
ILAR	**Eielson Array**	**84.18**	**19**	P	**P**	**05 24 19.9**	**-1.3**
ILAR	**Eielson Array**	**84.18**	**19**	P	**P**	**05 24 19.9**	**-1.3**
	0.6nm,0.6s,baz=238,slow=4.3,SNR=13						
MKAR	**Makanchi Array**	**93.64**	**317**	P	**P**	**05 25 06.7**	**0.0**
MKAR	**Makanchi Array**	**93.64**	**317**	P	**P**	**05 25 06.7**	**0.0**
	0.6nm,0.7s,baz=93,slow=5.3,SNR=3.9						
ESDC	**Sonseca Array**	**150.48**	**343**	PKPbc	**PKPbc**	**05 31 42.4**	**+0.1**
ESDC				PKPab	**PKPab**	**05 31 49.3**	**+0.6**
ESDC	**Sonseca Array**	**150.48**	**343**	PKPbc	**PKPbc**	**05 31 42.4**	**+0.1**
	0.7nm,0.8s,baz=359,slow=3.8,SNR=3.3						
ESDC				PKPab	**PKPab**	**05 31 49.3**	**+0.6**
	0.2nm,0.4s,baz=333,slow=1.4,SNR=3.1						

JMA 28 05:22:01.6, 33°.37N×130°.90E, h11km±1km, M1.0, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.25**	**184**	P	Pg	05 22 06.8	0.0
JNU				*e*S	Sg	05 22 10.2	-0.1
JNU	**Nakatsue**	**0.25**	**184**	PKPab	Pg	05 22 06.6	-0.2
JNU	**Nakatsue**	**0.25**	**184**	PKPab	Pg	05 22 06.6	-0.2
	2.3nm,0.3s,baz=344,slow=15,SNR=7.9						
JFA	**Akaike**	**0.35**	**346**	P	Pg	05 22 08.8	+0.1

*NIED **28** 05:25:00, 37°.50N×141°.50E, h53km, Mw4.2 Best double couple: M◎2.44000×10^15 NP1:φs306.00000°, δ81.00000°, λ-93.00000°. NP2:φs148.00000°, δ9.00000°, λ-69.00000°.*

*ISCJB **28** 05:25:29.3±0.8, 37°.47N±0°.04×141°.63E±0°.07, h43km±7km, mb4.2/21, MS3.8/1, Error ellipse: s-maj=9.6km s-min=4.6km az=27.4*

*NEIC **28** 05:25:29.1±2.4, 37°.44N×141°.64E, h27km±17km, mb4.4/4, Error ellipse: s-maj=9.7km s-min=7.4km az=128.0*

NEIC Recorded [2 JMA] in Fukushima and [1 JMA] in Ibaraki, Miyagi and Tochigi.

*JMA **28** 05:25:30.5±0.1, 37°.48N×141°.54E, h43km±2km, M4.2*

JMA Felt II J1.

*IDC **28** 05:25:31.5±0.5, 37°.46N×141°.54E, h44km±4km, mb4.0/17, mb1 4.2/21, mb1mx4.1/29, mbtmp4.0/21, ML3.8/4, MS3.2/6, Ms1 3.3/6, ms1mx3.1/35, Error ellipse: s-maj=14.3km s-min=11.6km az=119.0*

ISC 28 05:25:31.2±0.5, 37°.46N±0°.04×141°.59E±0°.05, h43km±4km, n78, σ1s00/92, mb4.3/21, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.58**	**261**	P	**Pn**	**05 25 41.9**	**-1.3**
JFK				S	**Sn**	**05 25 49.6**	**-2.1**
ONAJ	**Iwakimizuishiy**	**0.73**	**241**	P	**Pn**	**05 25 43.9**	**-1.3**
ONAJ				S	**Sn**	**05 25 53.1**	**-2.1**
JMM	**Marumori**	**0.75**	**303**	P	**Pn**	**05 25 44.2**	**-1.2**
JMM				S	**Sn**	**05 25 53.7**	**-2.0**
JFT	**Otama**	**1.00**	**274**	P	**Pn**	**05 25 48.3**	**-0.5**
JFT				S	**Sn**	**05 26 00.8**	**-1.0**
JIO	**Ouri**	**1.01**	**349**	P	**Pn**	**05 25 48.0**	**-0.9**
JIO				S	**Sn**	**05 25 59.8**	**-2.2**
JOU	**Okura**	**1.16**	**321**	P	**Pn**	**05 25 50.2**	**-0.9**
JOU				S	**Sn**	**05 26 04.6**	**-1.2**
JHO	**Hitachi**	**1.18**	**224**	P	**Pn**	**05 25 49.8**	**-1.5**
JHO				S	**Sn**	**05 26 03.2**	**-2.9**
JFY	**Yanaizu**	**1.50**	**269**	P	**Pn**	**05 25 55.2**	**-0.5**
JFY				*e*S	**Sn**	**05 26 14.1**	**0.0**
JMK	**Ichinoseki**	**1.52**	**349**	P	**Pn**	**05 25 55.4**	**-0.5**
JMK				S	**Sn**	**05 26 13.2**	**-1.2**
MJAR	**Matsushiro Arr**	**2.86**	**252**	P	**Pn**	**05 26 14.6**	**+0.2**
MJAR				S	**Sn**	**05 26 48.4**	**+0.8**
MJAR	**Matsushiro Arr**	**2.86**	**252**	P	**Pn**	**05 26 14.6**	**+0.2**
	16nm,0.3s,baz=80,slow=16,SNR=69						
MJAR				S	**Sn**	**05 26 48.4**	**+0.8**
	18nm,0.3s,baz=90,slow=26,SNR=6.6						
MJAR				LR	LR	05 27 38.2	
	comp=Z,1μm,20.0s,baz=70,slow=45						
MAJO	**Matsushiro**	**2.86**	**252**	*e*Pn	**Pn**	**05 26 15.0**	**+0.6**
MAT	**Matsushiro**	**2.86**	**252**	P	**Pn**	**05 26 15.0**	**+0.6**
MAT				S	**Sn**	**05 26 50.5**	**+2.9**
ASAJ	**Asahikawa**	**6.69**	**6**	*e*Pn	**Pn**	**05 27 04.6**	**-2.3**
	15nm,0.8s						
ASAJ				S	**Sn**	**05 28 21.7**	**-0.1**
ASAJ	**Asahikawa**	**6.69**	**6**	P	**Pn**	**05 27 05.8**	**-1.1**
	2.8nm,0.3s,baz=213,slow=13,SNR=7.4						
ASAJ				S	**Sn**	**05 28 21.7**	**-0.1**
	0.8nm,0.3s,baz=99,slow=19,SNR=3.0						
ASAJ				LR	LR	05 30 27.1	
	comp=Z,76nm,19.4s,baz=198,slow=44						
JNU	**Nakatsue**	**9.77**	**247**	*e*Pn	**Pn**	**05 27 49.1**	**0.0**
	4.4nm,0.6s						
JNU	**Nakatsue**	**9.77**	**247**	P	**Pn**	**05 27 49.8**	**+0.6**
	0.3nm,0.3s,baz=41,slow=15,SNR=6.7						
USRK	**Ussuriysk Arra**	**9.91**	**316**	P	**Pn**	**05 27 53.8**	**+2.8**
	0.3nm,0.3s,baz=124,slow=13,SNR=13						
USRK				LR	LR	05 31 25.8	
	comp=Z,86nm,18.8s,baz=322,slow=36						
CBIJ	**Chichi jima**	**10.35**	**177**	P	Pn	05 27 53.2	-3.9
CBIJ				S	Sn	05 29 41.1	-11
JCJ	**Chichijima**	**10.35**	**177**	P	Pn	05 27 53.2	-3.9
	7.8nm,0.3s,baz=270,slow=20,SNR=3.8						
JCJ				S	Sn	05 29 41.1	-11
	12nm,0.3s,baz=273,slow=19,SNR=5.7						
KSRS	**Korea Array**	**10.87**	**274**	P	Pn	05 28 08.6	+4.5
	0.3nm,0.3s,baz=92,slow=14,SNR=9.9						
KSRS				LR	LR	05 32 14.6	
	comp=Z,66nm,18.1s,baz=161,slow=37						
KSAR	**Wonju Array Be**	**10.90**	**274**	P	Pn	05 28 08.6	+4.1
PETK	**Petropavlovsk-**	**19.25**	**30**	P	**P**	**05 29 51.2**	**-0.5**
PETK	**Petropavlovsk-**	**19.25**	**30**	P	**P**	**05 29 51.2**	**-0.5**
	0.9nm,0.3s,baz=228,slow=7.6,SNR=2.7						
PETK				LR	LR	05 36 28.3	
	comp=Z,92nm,21.8s,baz=341,slow=34						
ENH	**Enshi**	**27.51**	**264**	*e*P	**P**	**05 31 12.5**	**-1.2**
	9.7nm,0.5s						
SONM	**Songino Array**	**27.67**	**303**	P	**P**	**05 31 15.0**	**0.0**
SONM	**Songino Array**	**27.67**	**303**	P	**P**	**05 31 15.0**	**0.0**
	1.6nm,0.6s,baz=103,slow=7.4,SNR=13						
H11N2	**WAKE ISLAND Hy**	**28.25**	**122**	T	T	06 01 35.2	
	baz=318,slow=0.7,SNR=225						
H11N1	**WAKE ISLAND Hy**	**28.25**	**122**	T	T	06 01 35.5	
	baz=318,slow=0.7,SNR=216						
H11N3	**WAKE ISLAND Hy**	**28.26**	**122**	T	T	06 01 37.2	
	baz=318,slow=0.7,SNR=233						
H11S1	**WAKE ISLAND Hy**	**28.97**	**124**	T	T	06 02 30.7	
	baz=320,slow=0.7,SNR=220						
H11S3	**WAKE ISLAND Hy**	**28.98**	**124**	T	T	06 02 29.3	
	baz=320,slow=0.7,SNR=154						
H11S2	**WAKE ISLAND Hy**	**28.99**	**124**	T	T	06 02 28.8	
	baz=320,slow=0.7,SNR=149						
UNV	**Unalaska Valle**	**38.85**	**48**	*e*P	**P**	**05 32 51.5**	**-0.4**
ZALV	**Zalesovo Beam**	**41.73**	**312**	P	**P**	**05 33 16.2**	**+0.5**
ZALV	**Zalesovo Beam**	**41.73**	**312**	P	**P**	**05 33 16.2**	**+0.5**
	3.0nm,0.7s,baz=85,slow=7.5,SNR=12						
CMAR	**Chiang Mai Arr**	**41.74**	**255**	P	**P**	**05 33 17.0**	**+0.7**
CMAR	**Chiang Mai Arr**	**41.74**	**255**	P	**P**	**05 33 17.0**	**+0.7**
	0.9nm,0.3s,baz=45,slow=7.9,SNR=3.3						
MKAR	**Makanchi Array**	**44.02**	**302**	P	**P**	**05 33 34.0**	**-0.4**
MKAR	**Makanchi Array**	**44.02**	**302**	P	**P**	**05 33 34.0**	**-0.4**
	1.5nm,0.7s,baz=86,slow=10,SNR=15						
KURK	**Kurchatov**	**45.78**	**308**	*e*P	**P**	**05 33 47.5**	**-0.8**
	2.8nm,0.6s						
ILAR	**Eielson Array**	**49.06**	**33**	P	**P**	**05 34 13.8**	**+0.3**
ILAR	**Eielson Array**	**49.06**	**33**	P	**P**	**05 34 13.8**	**+0.3**
	2.7nm,0.7s,baz=270,slow=6.5,SNR=24						
TKM2	**Tokmak 2**	**49.55**	**298**	*e*P	**P**	**05 34 18.1**	**+0.1**
	2.6nm,0.7s						
HYT	**Haines Junctio**	**53.87**	**37**	*e*P	**P**	**05 34 51.2**	**+1.4**
INK	**Inuvik**	**53.94**	**27**	P	**P**	**05 34 50.8**	**+0.8**
INK	**Inuvik**	**53.94**	**27**	P	**P**	**05 34 50.8**	**+0.8**
	3.2nm,0.6s,baz=320,slow=4.2,SNR=16						
WRA	**Warramunga Arr**	**57.50**	**188**	P	**P**	**05 35 15.5**	**-0.5**
WRA	**Warramunga Arr**	**57.50**	**188**	P	**P**	**05 35 15.5**	**-0.5**
	6.2nm,0.6s,baz=360,slow=7.5,SNR=86						
ABKAR	**Akbulak array**	**57.77**	**310**	*e*P	**P**	**05 35 17.1**	**-0.7**
	1.3nm,0.5s						
ASAR	**Alice Springs**	**61.23**	**188**	P	**P**	**05 35 42.0**	**+0.2**
ASAR	**Alice Springs**	**61.23**	**188**	P	**P**	**05 35 42.0**	**+0.2**
	2.4nm,0.7s,baz

comp=E,109µm,0.3s
JACH Jahuel 1.09 84⇑ *iP* **Pb 05 43 33.0 -0.8**
JACH Jahuel 1.09 84⇑ *iP* **Pb 05 43 33.0 -0.8**
TACH Talagante 1.17 138⇓ *iP* **Pn 05 43 33.5 -1.8**
TACH Talagante 1.17 138⇓ *iP* **Pn 05 43 33.5 -1.8**
SAN Santiago 1.21 123 *eP* **Pn 05 43 35.1 -0.9**
SAN *eS* **Sn 05 43 52.0 -0.6**
SAN Santiago 1.21 123 *eP* **Pn 05 43 35.1 -0.9**
SAN *eS* **Sn 05 43 52.0 -0.6**
LNV Longovilo 1.22 161 *eP* **Pn 05 43 33.7 -2.3**
LNV Longovilo 1.22 161 *eP* **Pn 05 43 33.7 -2.3**
CLCH Cerro Calan 1.28 118 *eP* **Pn 05 43 35.7 -1.1**
CLCH *eS* **Sb 05 43 52.4 -1.1**
CLCH AML AML 05 44 02.2
comp=N,27µm,0.6s
ANTU Antumapu 1.30 127 *eP* **Pn 05 43 36.1 -1.0**
ANTU S **Sg 05 43 57.1 +2.5**
ANTU Antumapu 1.30 127 *eP* **Pn 05 43 36.1 -1.0**
ANTU *eS* **Sg 05 43 57.1 +2.5**
ANTU AML AML 05 44 06.3
comp=N,24µm,0.8s
LACH Col Las Americ 1.31 121 *eP* **Pn 05 43 36.5 -0.8**
LACH Col Las Americ 1.31 121 *eP* **Pn 05 43 36.5 -0.8**
FSR Penalolen 1.32 121 *eP* **Pn 05 43 36.8 -0.7**
FSR S **Sg 05 43 56.9 +1.6**
FSR Penalolen 1.32 121 *eP* **Pn 05 43 36.8 -0.7**
FSR *eS* **Sg 05 43 56.9 +1.6**
PCH Pirque 1.41 126⇓ *iP* **Pn 05 43 38.1 -0.6**
PCH Pirque 1.41 126⇓ *iP* **Pn 05 43 38.1 -0.6**
SJCH San Jose de Ma 1.53 124⇓ *iP* **Pn 05 43 39.2 -1.2**
SJCH *eS* **Sn 05 44 00.0 -0.4**
SJCH San Jose de Ma 1.53 124⇓ *iP* **Pn 05 43 39.2 -1.2**
SJCH *eS* **Sn 05 44 00.0 -0.4**
CACH El Canelo 1.70 141⇓ *eP* **Pb 05 43 43.3 -1.0**
CACH El Canelo 1.70 141⇓ *eP* **Pb 05 43 43.3 -1.0**
CMCH Combarbala 1.78 25 *eP* **Pn 05 43 43.0 -0.7**
CMCH *eS* **Sn 05 44 06.2 -0.3**
CMCH Combarbala 1.78 25 *eP* **Pn 05 43 43.0 -0.7**
CMCH *eS* **Sn 05 44 06.2 -0.3**
CMCH AML AML 05 44 16.9
comp=E,28µm,0.6s
NICH Los Niches 2.27 166 P **Pn 05 43 49.1 -1.3**
NICH Los Niches 2.27 166 *eP* **Pn 05 43 49.1 -1.3**
TALC Talca 2.61 176 *eP* **Pn 05 43 54.4 -0.6**
TALC Talca 2.61 176 *eP* **Pn 05 43 54.4 -0.6**
TALC AML AML 05 44 43.8
comp=E,12µm,0.5s
TLL Tololo Astrono 2.77 20 *eP* **Pn 05 43 57.6 0.0**
TLL Tololo Astrono 2.77 20 *eP* **Pn 05 43 57.6 0.0**
TLL AML AML 05 45 05.8
comp=N,2µm,0.4s
LNCH Linares 3.06 176 P **Pn 05 44 01.1 -0.1**
LNCH Linares 3.06 176 *eP* **Pn 05 44 01.1 -0.1**
LNCH AML AML 05 45 02.6
comp=N,2µm,0.8s
CFAA Coronel Fontan 3.31 70 Pn **Pn 05 44 07.3 +2.6**
CFAA Lg Lg 05 44 52.5
CFAA Coronel Fontan 3.31 70 Pn **Pn 05 44 07.3 +2.6**
comp=N,0.7nm,0.3s,baz=243,slow=12,SNR=73
CFAA Lg Lg 05 44 52.5
comp=N,4.7nm,0.3s,baz=248,slow=19,SNR=2.3
COCH Cobquecura 3.41 192 P Pn 05 44 02.7 -3.4
COCH Cobquecura 3.41 192 *eP* Pn 05 44 02.7 -3.4
CCHI Chillan 3.80 182 P Pn 05 44 13.7 +2.2
CCHI Chillan 3.80 182 *eP* Pn 05 44 13.7 +2.2
CCHI AML AML 05 45 31.1
comp=E,777nm,0.6s
LCO Las Campanas 3.90 15 P **Pn 05 44 12.1 -1.1**
LCO Las Campanas 3.90 15 *eP* **Pn 05 44 12.1 -1.1**
VACH Vallenar 4.31 13 *eP* **Pn 05 44 17.8 -0.7**
VACH Vallenar 4.31 13 *eP* **Pn 05 44 17.8 -0.7**
H03N1 Juan Fernandez 5.94 262 Pn **Pn 05 44 39.6 -1.0**
H03N1 T T 05 51 09.1
baz=84,slow=0.7,SNR=354
H03N3 Juan Fernandez 5.95 262 Pn **Pn 05 44 39.6 -1.2**
H03N3 T T 05 51 16.2
baz=84,slow=0.7,SNR=442
H03N2 Juan Fernandez 5.95 262 Pn **Pn 05 44 39.6 -1.2**
H03N2 T T 05 51 16.6
baz=84,slow=0.7,SNR=989
PLCA Paso Flores 8.00 173 Pn **Pn 05 45 09.3 +0.1**
PLCA Lg Lg 05 47 27.9
PLCA Paso Flores 8.00 173 Pn **Pn 05 45 09.3 +0.1**
comp=E,1.5nm,0.3s,baz=330,slow=14,SNR=25
PLCA Lg Lg 05 47 27.9
comp=E,0.1nm,0.3s,baz=261,slow=18,SNR=2.0
PLCA LR LR 05 48 54.8
comp=E,868nm,18.2s,baz=320,slow=42
TRQA Tornquist 9.63 126 *ePn* **Pn 05 45 31.5 0.0**
comp=E,22nm,0.7s
CPUP Villa Florida 14.20 67 Pn P 05 46 37.8 -3.8
CPUP Lg Lg 05 50 32.8
CPUP Villa Florida 14.20 67 Pn P 05 46 37.8 -3.8
comp=E,0.4nm,0.3s,baz=225,slow=17,SNR=3.1
CPUP Lg Lg 05 50 32.8
comp=E,0.5nm,0.3s,baz=150,slow=20,SNR=2.0
CPUP LR LR 05 52 49.9
comp=E,276nm,18.8s,baz=233,slow=41
LPAZ La Paz 16.78 13 Pn **Pn 05 47 08.4 -0.2**
LPAZ La Paz 16.78 13 Pn **Pn 05 47 08.4 -0.2**
comp=E,0.4nm,0.3s,baz=184,slow=7.2,SNR=20
SIV San Ignacio 19.38 33 P **P 05 47 38.5 -0.5**
SIV San Ignacio 19.38 33 P **P 05 47 38.5 -0.5**
comp=E,0.4nm,0.3s,baz=225,slow=11,SNR=8.2
SIV LR LR 05 56 13.4
comp=E,671nm,18.6s,slow=41
USHA Ushuaia 22.17 175 P P 05 48 16.4 +7.6
comp=E,15nm,1.0s,baz=337,slow=6.2,SNR=3.4
USHA LR LR 05 57 42.7
comp=E,380nm,18.9s,baz=330,slow=39
SAML Samuel 25.06 21 *eP* **P 05 48 37.3 -0.2**
comp=E,15nm,1.1s
ROSC El Rosal 37.52 356 P P 05 50 30.3 +2.8
ROSC El Rosal 37.52 356 P P 05 50 30.3 +2.8
comp=E,1.8nm,0.3s,baz=225,slow=5.7,SNR=3.7
VNA2 Neumayer--Watz 51.07 158 *eP* P 05 52 17.5 +2.5
SNAA Sanae 52.65 158 *eP* P 05 52 29.7 +2.8
RKT Rikitea 55.85 263 *eLR* LR 06 09 00.0
comp=E,248nm,26.0s
H06E1 SOCORRO T-PHAS 33.43 318 T T 07 02 55.8
SNR=7.5
VNDA Vanda 65.31 191 P P 05 53 57.4 +2.9
VNDA Vanda 65.31 191 P P 05 53 57.4 +2.9
comp=E,0.5nm,0.7s,baz=77,slow=0.6,SNR=5.1
SYO Syowa Base 66.94 159⇑ *eP* **P 05 54 06.2 +1.1**
TBI Tubuai 67.73 256 *eS* **S 06 03 12.3 +3.3**
comp=E,153nm,29.8s
TBI Tubuai 67.73 256 *eLR* LR 06 14 47.0
comp=E,606nm,25.8s,baz=117
TBI Tubuai 67.73 256 *eT* T 07 07 43.1
comp=E,2.7nm,0.2s
TXAR Lajitas Array 68.75 330 P **P 05 54 17.1 0.0**
TXAR Lajitas Array 68.75 330 P **P 05 54 17.1 0.0**
comp=E,1.2nm,0.7s,baz=152,slow=9.5,SNR=13
PPT2 Papeete2 70.54 261 *eS* S 06 03 46.9 +4.4
comp=E,54nm,23.2s
PPT2 Papeete2 70.54 261 *eLR* LR 06 15 56.0
comp=E,247nm,25.8s
PPT Papeete 70.56 261 LR LR 06 18 48.5
comp=E,176nm,18.6s,baz=180,slow=30
MAW Mawson 74.30 164 P **P 05 54 51.5 +1.6**
MAW Mawson 74.30 164 P **P 05 54 51.5 +1.6**
comp=E,1.9nm,0.3s,baz=208,slow=6.9,SNR=4.4
DBIC Dimbokro 74.67 71 P **P 05 54 52.3 -0.6**
DBIC Dimbokro 74.67 71 P **P 05 54 52.3 -0.6**
comp=E,2.6nm,0.6s,baz=190,slow=5.3,SNR=3.4
DBIC LR LR 06 22 02.2
comp=E,169nm,21.8s,baz=187,slow=31
BOSA Boshof 80.51 118 P **P 05 55 26.2 +0.5**
BOSA Boshof 80.51 118 P **P 05 55 26.2 +0.5**
comp=E,3.3nm,0.5s,baz=232,slow=9.6,SNR=7.5
BOSA LR LR 06 28 03.4
comp=E,142nm,19.9s,baz=79,slow=34
PDAR Pinedale Array 82.75 333 P **P 05 55 36.8 -0.3**
PDAR Pinedale Array 82.75 333 P **P 05 55 36.8 -0.3**
comp=E,0.5nm,0.9s,baz=142,slow=7.4,SNR=3.3
NVAR Mina Array Bea 82.97 325 P **P 05 55 39.6 +1.3**
NVAR Mina Array Bea 82.97 325 P **P 05 55 39.6 +1.3**
comp=E,1.2nm,0.6s,baz=160,slow=4.7,SNR=4.5
TORD Torodi Ar. Bea 83.67 70 P **P 05 55 41.5 -0.8**
TORD Torodi Ar. Bea 83.67 70 P **P 05 55 41.5 -0.8**
comp=E,3.0nm,0.8s,baz=254,slow=4.3,SNR=14
URZ Urewera 84.57 228 LR LR 06 23 51.1
comp=E,134nm,21.7s,baz=156,slow=29

DZM Mont Dzumac 102.06 234 *eLR* LR 06 30 30.7
comp=E,136nm,23.9s
WRA Warramunga Arr 121.88 209 PKP **PKPdf 06 02 07.0 -1.0**
WRA Warramunga Arr 121.88 209 PKP **PKPdf 06 02 07.0 -1.0**
comp=E,0.3nm,0.6s,baz=168,slow=1.5,SNR=9.0
H11S2 WAKE ISLAND Hy 25.92 270 T T 08 21 02.8
baz=121,slow=0.7,SNR=31
H11S1 WAKE ISLAND Hy 25.93 270 T T 08 21 06.8
baz=121,slow=0.7,SNR=20
H11S3 WAKE ISLAND Hy 25.93 270 T T 08 21 05.2
baz=121,slow=0.7,SNR=12
BVAR Borovoye Array 146.30 42 PKPbc **PKPab 06 02 54.4 +0.2**
BVAR Borovoye Array 146.30 42 PKPbc **PKPab 06 02 54.4 +0.2**
comp=E,2.1nm,0.6s,baz=280,slow=2.5,SNR=9.8
KURBB Kurchatov Arra 151.89 42 PKPbc **PKPbc 06 03 07.7 +0.1**
comp=E,2.1nm,0.6s,baz=298,slow=2.9,SNR=30
KURK Kurchatov 151.90 42 PKPbc **PKPbc 06 03 07.7 0.0**
ZALV Zalesovo Beam 153.13 31 PKPbc **PKPbc 06 03 09.5 -0.8**
ZALV Zalesovo Beam 153.13 31 PKPbc **PKPbc 06 03 09.5 -0.8**
comp=E,3.0nm,0.7s,baz=277,slow=3.0,SNR=11
MKAR Makanchi Array 155.86 47 PKP **PKPdf 06 03 06.6 -0.4**
MKAR PKPab **PKPab 06 03 33.1 -0.8**
MKAR Makanchi Array 155.86 47 PKP **PKPdf 06 03 06.6 -0.4**
comp=E,0.5nm,0.9s,baz=309,slow=5.0,SNR=2.5
MKAR PKPab **PKPab 06 03 33.1 -0.8**
comp=E,1.2nm,0.6s,baz=298,slow=3.5,SNR=8.0
SONM Songino Array 164.92 4 PKPab **PKPab 06 04 13.8 +0.5**
SONM Songino Array 164.92 4 PKPab **PKPab 06 04 13.8 +0.5**
comp=E,0.5nm,0.8s,baz=345,slow=5.1,SNR=2.7

MAN 28 05:48:02,6.17N×123.87E,h13km,mb0.0,ML0.0,MS0.0, 2C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GSPH	**General Santos**	**1.08**	**94⇑**	*iP*		Pn	05 48 27.5	+4.5
GSPH				*i*	S	Sn	05 48 45.0	+7.1
CTBH	**Cotabato--PC H**	**1.11**	**20⇑**	*iP*		Pb	05 48 22.1	-1.0
PAGZ	**Pagadian**	**1.74**	**344**	*eP*		Pn	05 48 32.6	+0.7
PAGZ				*eS*		Sn	05 48 40.7	-13
IPIL	**Ipil**	**2.06**	**321**	*eP*		Pn	05 48 37.8	+1.4
BUKP	**Musuan**	**2.07**	**35**	*eP*		Pb	05 48 38.5	-1.1
CGP	**Cagayan de Oro**	**2.42**	**20**	*eP*		Pn	05 48 41.9	+0.6
CGP				*i*	S	Sn	05 49 12.8	+2.2

IDC 28 05:59:07.5±4.1,30.76N×139.67E,h65km±36km,mb3.5/11, mb1 3.7/12,mb1mx3.6/26,mbtmp3.5/12,ML3.2/1, MS3.1/2,Ms1 3.1/2,ms1mx2.8/22,Error ellipse: s-maj=26.4km s-min=17.9km az=79.0,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCJ	**Chichijima**	**4.27**	**148**	S		Sn	06 00 46.9	-12
7.2nm,0.3s,baz=274,slow=22,SNR=5.9								
MJAR	**Matsushiro Arr**	**5.89**	**348**	P		Pn	06 00 32.4	+0.1
0.6nm,0.3s,baz=196,slow=16,SNR=6.4								
MJAR				S		Sn	06 01 43.4	+4.9
0.4nm,0.3s,baz=158,slow=25,SNR=2.2								
JNU	**Nakatsue**	**7.83**	**290**	LR		LR	06 03 58.2	
comp=Z,87nm,19.4s,baz=64,slow=37								
KSRS	**Korea Array**	**11.80**	**308**	P		Pn	06 01 58.8	+5.9
baz=114,slow=12,SNR=3.0								
USRK	**Ussuriysk Arra**	**14.72**	**338**	LR		LR	06 08 41.1	
comp=Z,96nm,18.7s,baz=277,slow=39								
H11N2	**WAKE ISLAND Hy**	**26.90**	**108**	T		T	06 32 32.7	
baz=303,slow=0.7,SNR=24								
H11N1	**WAKE ISLAND Hy**	**26.90**	**108**	T		T	06 32 33.0	
baz=303,slow=0.7,SNR=13								
H11N3	**WAKE ISLAND Hy**	**26.91**	**108**	T		T	06 32 33.9	
baz=303,slow=0.7,SNR=26								
H11S3	**WAKE ISLAND Hy**	**27.35**	**110**	T		T	06 33 12.9	
baz=306,slow=0.7,SNR=9.7								
H11S1	**WAKE ISLAND Hy**	**27.36**	**110**	T		T	06 33 15.3	
baz=306,slow=0.7,SNR=13								
H11S2	**WAKE ISLAND Hy**	**27.37**	**110**	T		T	06 33 14.7	
baz=306,slow=0.7,SNR=9.2								
ZALV	**Zalesovo Beam**	**45.30**	**317**	PcP		PcP	06 08 57.9	+0.6
0.7nm,0.6s,baz=116,slow=3.4,SNR=2.9								
ZALV				ScP		ScP	06 12 46.6	+2.3
0.3nm,0.4s,baz=124,slow=2.6,SNR=2.6								
MKAR	**Makanchi Array**	**46.48**	**307**	P		P	06 07 28.8	+0.7
0.5nm,0.8s,baz=86,slow=9.0,SNR=5.8								
KURBB	**Kurchatov Arra**	**48.93**	**312**	P		P	06 07 47.0	+0.1
0.8nm,0.8s,baz=92,slow=7.5,SNR=9.2								
WRA	**Warramunga Arr**	**50.67**	**186**	P		P	06 07 59.8	-0.6
0.9nm,0.7s,baz=359,slow=7.7,SNR=14								
BVAR	**Borovoye Array**	**53.87**	**316**	P		P	06 08 23.6	-0.2
0.5nm,0.5s,baz=106,slow=4.7,SNR=2.5								
ASAR	**Alice Springs**	**54.40**	**187**	P		P	06 08 28.0	+0.1
0.4nm,0.4s,baz=4.6,slow=6.6,SNR=7.7								
ILAR	**Eielson Array**	**55.60**	**30**	P		P	06 08 35.4	-0.7
0.4nm,0.8s,baz=286,slow=6.5,SNR=4.1								
FINES	**FINESS Array B**	**73.69**	**333**	P		P	06 10 32.9	-1.0
2.2nm,0.9s,baz=90,slow=4.2,SNR=3.3								
AKASG	**Malin Array Be**	**78.37**	**323**	P		P	06 11 00.7	-0.1
1.1nm,0.6s,baz=52,slow=4.6,SNR=5.4								
BRTR	**Keskin Array B**	**81.91**	**312**	P		P	06 11 20.5	+0.2
0.7nm,0.7s,baz=116,slow=4.2,SNR=4.3								
PDAR	**Pinedale Array**	**83.14**	**44**	P		P	06 11 26.5	-0.2
0.3nm,0.7s,baz=258,slow=3.6,SNR=2.7								
TXAR	**Lajitas Array**	**95.12**	**52**	P		P	06 12 24.8	+0.8
0.6nm,0.8s,baz=283,slow=1.7,SNR=7.1								
LPAZ	**La Paz**	**150.83**	**67**	PKPbc		PKPbc	06 18 54.6	+0.6
0.9nm,0.7s,baz=225,slow=1.4,SNR=6.0								

DJA 28 06:06:41.2±0.5,4.4S±5.5°×110.3E±,h10km,M3.1/4,MLv3.1/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LHSI	**Lahat**	**0.20**	**13**	P		Pg	06 06 46.3	+0.9
MNAI	**Manna**	**0.62**	**237**	P		Pg	06 06 52.2	-1.1
MDSI	**Maura Dua**	**0.84**	**124**	P		Pg	06 06 56.1	-1.2
MDSI				S		Sg	06 07 07.4	-0.9
LWLI	**Liwa**	**1.15**	**150**	P		Pg	06 07 03.4	0.0
WSI	**Waingapu**	**17.61**	**109**	P		P	06 09 44.0	-64
LBMI	**Labuha**	**24.23**	**83**	P		P	06 10 01.8	-117

*CSEM **28** 06:09:51.6±0.3,59.76N×6.16E,h2km,ML2.2,Error ellipse: s-maj=8.8km s-min=4.2km az=40.0,Suspected Mining explosion.*
*NAO **28** 06:09:52.3±3.9,59.80N×6.03E,ML2.5*
*BER **28** 06:09:53.3,59.70N×5.86E,h12km,MD2.3,ML2.2, ML2.5(NAO)*
*UPP **28** 06:09:54.9,59.60N×6.60E,h0km,ML1.9,Suspected Mining explosion.*

ISC 28 06:09:51.1±0.8,59.70N±0.02×6.03E±0.03,h0km,n38, σ1§17/54,2C-1D,Southern Norway

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BLS5	**Blasjo**	**0.35**	**142⇑**	*iP*		**Pb**	**06 10 01.1**	**+0.8**
BLS5				*eS*		**Sb**	**06 10 06.8**	**+0.4**
BLS5				AML		AML	06 10 07.0	
comp=Z,287nm,0.2s								
ODD1	**Odda**	**0.37**	**55⇑**	*iP*		**Pb**	**06 10 01.6**	**+1.0**
ODD1				*eS*		**Sb**	**06 10 07.7**	**+0.8**
ODD1				AML		AML	06 10 08.4	
comp=Z,483nm,0.3s								
KMY	**Karmoy**	**0.63**	**219⇓**	*iP*		**Pg**	**06 10 04.0**	**+0.8**
KMY				*ePg*		**Pb**	**06 10 05.2**	**+0.2**
KMY				*eS*		**Sg**	**06 10 11.1**	**-0.3**
KMY				*eSg*		Sb	06 10 11.8	-2.6
KMY				AML		AML	06 10 12.3	
comp=Z,311nm,0.2s								
EGD	**Espegrend**	**0.70**	**325**	*eP*		**Pg**	**06 10 04.4**	**-0.1**
EGD				*eS*		**Sg**	**06 10 13.2**	**-0.3**
EGD				AML		AML	06 10 15.8	
comp=Z,79nm,0.2s								
BER	**Bergen**	**0.77**	**333**	*eP*		**Pg**	**06 10 06.8**	**+1.0**
BER				*eS*		**Sg**	**06 10 16.9**	**+1.3**
BER				AML		AML	06 10 18.3	
comp=Z,64nm,0.2s								
BER	**Bergen**	**0.77**	**333**	*eP*		**Pg**	**06 10 06.8**	**+1.0**
SNR=90								
BER				*eS*		**Sg**	**06 10 17.0**	**+1.3**
comp=Z,97nm,0.3s,SNR=90								
RUND	**Rundenannen**	**0.79**	**335**	*eP*		**Pg**	**06 10 06.1**	**-0.1**
RUND				*eS*		**Sg**	**06 10 16.5**	**+0.1**
RUND				AML		AML	06 10 17.6	
comp=Z,97nm,0.3s								
ASK	**Askoy**	**0.89**	**332**	*eP*		Pg	06 10 07.4	-0.7
ASK				AML		AML	06 10 21.0	
comp=Z,64nm,0.3s								
HYA	**Hoyanger**	**1.47**	**3**	*eP*		**Pn**	**06 10 17.9**	**-0.9**
HYA				*eSg*		**Sg**	**06 10 38.8**	**+0.5**
HYA				AML		AML	06 10 41.6	
comp=Z,54nm,0.5s								
SNART	**Snartemo**	**1.50**	**155**	*eP*		**Pn**	**06 10 18.5**	**-0.7**
SNART				*e*			06 10 25.8	
SNART				*eSg*		**Sg**	**06 10 39.5**	**+0.4**
SNART				AML		AML	06 10 40.0	
comp=Z,90nm,0.2s								
SUE	**Sulen**	**1.50**	**336**	*eP*		Pn	06 10 17.5	-1.7
SUE				*ePg*		**Pb**	**06 10 19.5**	**-0.2**
SUE				*eS*		Sb	06 10 34.9	-4.3
SUE				AML		AML	06 10 40.0	
comp=Z,31nm,0.2s								
SUE	**Sulen**	**1.50**	**336**	*eP*		Pn	06 10 17.5	-1.7
SNR=55								
KONO	**Kongsberg**	**1.81**	**90**	*eP*		**Pn**	**06 10 23.9**	**+0.4**
KONO				AML		AML	06 10 51.6	
comp=Z,32nm,0.3s								
KONO	**Kongsberg**	**1.81**	**90**	*eP*		**Pn**	**06 10 23.9**	**+0.4**
SNR=55								
HOMB	**Homborsund**	**1.93**	**137**	*eS*		**Sn**	**06 10 49.2**	**-0.7**
HOMB	**Homborsund**	**1.93**	**137**	*eS*		**Sn**	**06 10 49.2**	**-0.7**
comp=Z,14nm,0.3s,SNR=55								
STRU	**Stroemstad**	**2.72**	**102**	P		**Pn**	**06 10 35.1**	**-0.9**
STRU				S		**Sn**	**06 11 06.8**	**-2.8**
DOMB	**Dombas**	**2.78**	**31**	*eSg*		**Sb**	**06 11 18.7**	**+2.6**
DOMB				AML		AML	06 11 25.5	
comp=Z,14nm,0.3s								
NB2	**NORSAR Subarra**	**2.90**	**60**	Pn		**Pn**	**06 10 38.7**	**+0.1**
baz=244,slow=14								
NB2				Pg		**Pb**	**06 10 44.3**	**+0.6**
baz=246,slow=18								
NB2				Lg		Lg	06 11 22.9	
baz=249,slow=37								
NB2	**NORSAR Subarra**	**2.90**	**60**	Pn		**Pn**	**06 10 38.7**	**+0.1**
baz=244,slow=14								
NB2				Pg		**Pb**	**06 10 44.3**	**+0.6**
baz=246,slow=18								
NB2				Sg		**Sg**	**06 11 22.9**	**-1.4**
baz=249,slow=37								
NB2	**NORSAR Subarra**	**2.90**	**60**	Pn		**Pn**	**06 10 38.7**	**+0.1**
SNR=55								
NB2	**NORSAR Subarra**	**2.90**	**60**	Pg		**Pb**	**06 10 44.3**	**+0.6**
SNR=90								
NB2				Sg		**Sg**	**06 11 22.9**	**-1.4**
SNR=90								
NC602	**NORSAR Array S**	**2.94**	**67**	*eP*		**Pn**	**06 10 39.0**	**0.0**
NC602				*eSg*		**Sb**	**06 11 22.7**	**+2.0**
NC602	**NORSAR Array S**	**2.94**	**67**	*eP*		**Pn**	**06 10 39.0**	**0.0**
SNR=55								
NC602				*eSg*		**Sb**	**06 11 22.7**	**+2.0**
SNR=90								
MOL	**Molde**	**2.97**	**14**	*eS*		**Sn**	**06 11 12.7**	**-3.0**
MOL	**Molde**	**2.97**	**14**	*eS*		**Sn**	**06 11 12.7**	**-3.0**
SNR=55								
FINU	**Finntorp**	**3.30**	**92**	P		**Pn**	**06 10 44.1**	**+0.2**
VANU	**Vaenersborg**	**3.35**	**109**	P		**Pn**	**06 10 44.4**	**-0.2**
TJOU	**Tjoern**	**3.35**	**118**	P		**Pn**	**06 10 44.4**	**-0.3**
NASU	**Vaermlandsnaes**	**3.75**	**99**	P		**Pn**	**06 10 49.8**	**-0.3**
UDD	**Uddeholm**	**3.84**	**81**	P		**Pn**	**06 10 51.2**	**-0.1**
HFS	**Hagfors**	**3.88**	**80**	Pn		**Pn**	**06 10 51.6**	**-0.4**
baz=263,slow=14								
HFS				Sn		**Sn**	**06 11 36.3**	**-1.9**
baz=291,slow=28								
HFS				Lg		Lg	06 11 54.8	
baz=266,slow=28								
HFS	**Hagfors**	**3.88**	**80**	Pn		**Pn**	**06 10 51.6**	**-0.4**
baz=263,slow=14								
HFS				Sn		**Sn**	**06 11 36.3**	**-1.9**
baz=291,slow=28								
HFS				Lg		Lg	06 11 54.8	
baz=266,slow=28								
HFS	**Hagfors**	**3.88**	**80**	Pn		**Pn**	**06 10 51.6**	**-0.4**
SNR=55								
HFS				Sn		**Sn**	**06 11 36.3**	**-1.9**
SNR=55								
HFS				Lg		Lg	06 11 54.8	
SNR=8.7								
BORU	**Boraas**	**4.08**	**118**	P		**Pn**	**06 10 54.2**	**-0.5**
FKPU	**Falk**	**4.28**	**108**	P		**Pn**	**06 10 56.7**	**-0.7**
FIA0	**FINESS Array S**	**10.01**	**71**	Lg		Lg	06 15 02.5	
baz=264,slow=28								
FIA0	**FINESS Array S**	**10.01**	**71**	Lg		Lg	06 15 02.5	
baz=264,slow=28								

*IDC **28** 06:19:35.5±0.6,32.76S×71.82W,h0km,mb4.1/11, mb1 4.2/14,mb1mx4.2/19,mbtmp4.1/14,ML4.1/3,Error ellipse: s-maj=25.8km s-min=16.3km az=86.0*
*GUC **28** 06:19:36.9±0.8,32.78S×71.94W,h8km±3km,ML4.2*
*NEIC **28** 06:19:36.9,32.78S×71.94W,h8km,ML4.1(GUC),After GUC.*
*ISCJB **28** 06:19:37.1±0.8,32.79S±0.03×71.97W±0.05,h21km±6km, mb4.2/12,Error ellipse: s-maj=6.7km s-min=4.8km az=155.0*

ISC 28 06:19:37.6±1.2,32.77S±0.03×71.87W±0.05,h13km±7km, n72,σ0§71/87,mb4.4/12,6C-17D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.32**	**143⇓**	*iP*		**Pg**	**06 19 44.2**	**0.0**
IHA				*i*	S	**Sb**	**06 19 49.7**	**-0.7**
IHA	**Instituto Hidr**	**0.32**	**143⇓**	*iP*		**Pg**	**06 19 44.2**	**0.0**
IHA				*i*	S	**Sb**	**06 19 49.7**	**-0.7**
ROCH	**El Roble**	**0.75**	**106⇓**	*iP*		**Pg**	**06 19 52.3**	**0.0**
ROCH				*i*	S	**Sb**	**06 20 03.7**	**+0.7**
CHNG	**Los Chungos**	**0.93**	**20⇑**	*iP*		**Pg**	**06 19 54.5**	**-1.1**
CHNG				*i*	S	**Sg**	**06 20 08.4**	**+0.5**
CHNG	**Los Chungos**	**0.93**	**20⇑**	*iP*		**Pg**	**06 19 54.5**	**-1.1**
CHNG				*i*	S	**Sg**	**06 20 08.4**	**+0.5**
CHNG				AML		AML	06 20 11.6	
comp=E,5µm,0.4s								
PEL	**Peldehue**	**1.07**	**111⇑**	*iP*		**Pb**	**06 19 57.4**	**-0.5**
PEL				*i*	S	**Sg**	**06 20 13.0**	**+0.9**
PEL				AML		AML	06 20 18.9	
comp=E,19µm,0.5s								
JACH	**Jahuel**	**1.08**	**86⇑**	*iP*		**Pb**	**06 19 57.8**	**-0.4**
JACH	**Jahuel**	**1.08**	**86⇑**	*iP*		**Pb**	**06 19 57.8**	**-0.4**
TACH	**Talagante**	**1.18**	**139⇓**	*iP*		**Pn**	**06 19 58.5**	**-1.3**
TACH	**Talagante**	**1.18**	**139⇓**	*iP*		**Pn**	**06 19 58.5**	**-1.3**
SAN	**Santiago**	**1.23**	**124**	*eP*		**Pn**	**06 20 00.0**	**-0.4**
SAN				*i*	S	**Sb**	**06 20 16.8**	**+0.4**
SAN	**Santiago**	**1.23**	**124**	*eP*		**Pn**	**06 20 00.0**	**-0.4**
SAN				*i*	S	**Sb**	**06 20 16.8**	**+0.4**
CLCH	**Cerro Calan**	**1.28**	**120⇑**	*iP*		**Pn**	**06 20 00.8**	**-0.5**
CLCH				*i*	S	**Sb**	**06 20 18.7**	**+0.6**
CLCH				AML		AML	06 20 35.8	
comp=E,11µm,0.6s								
ANTU	**Antumapu**	**1.31**	**128⇓**	*iP*		**Pn**	**06 20

H03N2	Juan Fernandez	5.96	262	Pn		Pn	06 21 06.0	+0.7
PLCA	Paso Flores	8.02	173	Pn		Pn	06 21 33.5	-0.4
PLCA	Paso Flores	8.02	173	Pn		Pn	06 21 33.5	-0.4
	comp=E,0.8nm,0.3s,baz=333,slow=9.5,SNR=18							
CPUP	Villa Florida	14.18	67	Pn		Pn	06 22 59.5	+1.3
CPUP				Lg		Lg	06 27 08.2	
CPUP	Villa Florida	14.18	67	Pn		Pn	06 22 59.5	+1.3
	comp=E,0.2nm,0.3s,baz=227,slow=18,SNR=2.0							
CPUP				Lg		Lg	06 27 08.2	
	comp=E,1.0nm,0.3s,baz=323,slow=20,SNR=2.1							
LPAZ	La Paz	16.75	13	Pn		Pn	06 23 32.8	+0.2
LPAZ	La Paz	16.75	13	Pn		Pn	06 23 32.8	+0.2
	comp=E,0.3nm,0.3s,baz=190,slow=7.6,SNR=31							
SIV	San Ignacio	19.36	33	P		P	06 24 02.9	-0.1
SIV	San Ignacio	19.36	33	P		P	06 24 02.9	-0.1
	comp=E,0.2nm,0.3s,baz=228,slow=12,SNR=8.6							
SAML	Samuel	25.03	21	eP		P	06 25 01.2	-0.3
	comp=E,8.7nm,1.1s							
BDFB	Brasilia	27.54	57	P		P	06 25 23.2	-1.1
BDFB	Brasilia	27.54	57	P		P	06 25 23.2	-1.1
	comp=E,8.0nm,0.9s,baz=206,slow=4.0,SNR=8.5							
VNA1	Neumayer--Stat	50.75	157	eP		P	06 28 37.4	+0.6
VNA2	Neumayer--Watz	51.09	158	eP		P	06 28 39.1	-0.3
SNAA	Sanae	52.67	158	eP		P	06 28 51.5	+0.3
SNAA	Sanae	52.67	158	eP		P	06 28 51.1	-0.1
	comp=E,59nm,1.1s							
SNAA	Sanae	52.67	158	P		P	06 28 51.2	-0.1
	comp=E,1.0nm,0.8s,baz=285,slow=5.8,SNR=19							
QSPA	South Pole Qui	57.47	180	P		P	06 29 26.2	+0.2
QSPA	South Pole Qui	57.47	180	P		P	06 29 26.2	+0.2
	comp=E,2.4nm,0.6s							
TXAR	Lajitas Array	68.73	330	P		P	06 30 41.1	0.0
TXAR	Lajitas Array	68.73	330	P		P	06 30 41.1	0.0
	comp=E,0.5nm,0.7s,baz=143,slow=8.9,SNR=6.7							
MAW	Mawson	74.32	164	P		P	06 31 14.4	+0.1
MAW	Mawson	74.32	164	P		P	06 31 14.4	+0.1
	comp=E,2.0nm,0.8s,baz=207,slow=9.0,SNR=3.4							
DBIC	Dimbokro	74.65	71	P		P	06 31 17.4	+0.4
DBIC	Dimbokro	74.65	71	P		P	06 31 17.4	+0.4
	comp=E,2.6nm,0.8s,baz=225,slow=5.7,SNR=3.3							
BOSA	Boshof	80.52	118	P		P	06 31 50.1	+0.2
BOSA	Boshof	80.52	118	P		P	06 31 50.1	+0.2
	comp=E,7.2nm,1.2s,baz=263,slow=7.0,SNR=3.6							
PDAR	Pinedale Array	82.73	333	P		P	06 32 01.8	+0.7
PDAR	Pinedale Array	82.73	333	P		P	06 32 01.8	+0.7
	comp=E,0.2nm,0.6s,baz=164,slow=4.2,SNR=2.3							
NVAR	Mina Array Bea	82.95	325	P		P	06 32 03.4	+1.0
NVAR	Mina Array Bea	82.95	325	P		P	06 32 03.4	+1.0
	comp=E,0.3nm,0.2s,baz=170,slow=5.5,SNR=2.7							
TORD	Torodi Ar. Bea	83.66	70	P		P	06 32 06.2	-0.1
TORD	Torodi Ar. Bea	83.66	70	P		P	06 32 06.2	-0.1
	comp=E,2.6nm,0.7s,baz=261,slow=4.6,SNR=17							
ULM	Lac du Bonnet	85.35	345	P		P	06 32 13.1	-0.9
ULM	Lac du Bonnet	85.35	345	P		P	06 32 13.1	-0.9
	comp=E,2.3nm,0.7s,baz=322,slow=3.6,SNR=3.4							
WRA	Warramunga Arr	121.91	209	PKP		PKPdf	06 38 31.1	-1.1
WRA	Warramunga Arr	121.91	209	PKP		PKPdf	06 38 31.1	-1.1
	comp=E,0.3nm,0.7s,baz=156,slow=1.4,SNR=6.4							
BVAR	Borovoye Array	146.28	42	PKPbc		PKPab	06 39 17.8	-0.4
BVAR	Borovoye Array	146.28	42	PKPbc		PKPab	06 39 17.8	-0.4
	comp=E,1.9nm,0.6s,baz=291,slow=4.6,SNR=7.8							
KURBB	Kurchatov Arra	151.87	42	PKPbc		PKPbc	06 39 31.9	+0.2
	comp=E,2.3nm,0.8s,baz=298,slow=3.0,SNR=28							
KURK	Kurchatov	151.88	42	PKPbc		PKPbc	06 39 31.9	+0.1
MKAR	Makanchi Array	155.84	47	PKPab		PKPab	06 39 56.4	-1.5
MKAR	Makanchi Array	155.84	47	PKPab		PKPab	06 39 56.4	-1.5
	comp=E,2.1nm,0.7s,baz=278,slow=3.4,SNR=13							

*BJI **28** 06:20:00.9, 33˚.41S×71˚.03W, h10km, mB5.3/10, Ms5.3/11, Ms7 5.0/14*

*IDC **28** 06:20:00.8±0.4, 32˚.70S×71˚.82W, h0km, mb4.9/15, mb1 5.0/19, mb1mx5.0/21, mbtmp4.8/19, ML4.8/4, MS4.1/1, Ms1 4.1/1, ms1mx3.6/11, Error ellipse: s-maj=19.7km s-min=12.5km az=86.0*

*GUC **28** 06:20:02.8±0.4, 32˚.76S×71˚.88W, h5km±2km, ML5.1*

*ISCJB **28** 06:20:02.4±0.8, 32˚.79S±0˚.03×71˚.95W±0˚.04, h16km±5km, mb5.1/97, MS4.5/2, Error ellipse: s-maj=6.3km s-min=4.2km az=155.6*

*NEIC **28** 06:20:02.8±0.1, 32˚.74S×71˚.76W, h10km, mb5.2/74, ML5.1(GUC), Error ellipse: s-maj=5.1km s-min=3.0km az=68.0*

NEIC Felt [III] at Puchuncavi and Vina del Mar; [II] at Los Andes, Santiago and Valparaiso.

*GCMT **28** 06:20:03.5±0.3, 32˚.84S×72˚.05W, h19km±1km, MW5.0, Moment Tensor Solution. s31,c31; s59,c80; Moment tensor: Scale 10^16^Nm; Mrr3.88±.23; Mθθ-0.26±.13; Mφφ-3.62±.16; Mrθ0.12±.33; Mrφ0.84±.09; Mθφ0.30±.26; Best double couple: M0 3.90000×10^16^ NP1:ϕs349.00000°, δ47.00000°, λ94.00000°. NP2:ϕs164.00000°, δ43.00000°, λ86.00000°. Principal axes: T 3.9000, Plg87.0000°, Azm310.0000°; N -0.0700, Plg3.0000°, Azm167.0000°; P -3.8300, Plg2.0000°, Azm77.0000°; Data Used: IU II G IC CN.*

*MOS **28** 06:20:05.1±1.1, 32˚.69S×71˚.73W, h33km, mb5.4/24 Error ellipse: s-maj=17.0km s-min=8.9km az=100.1*

ISC 28 06:20:03.9±0.8, **32.77S**±0˚.03×**71.92W**±0˚.03, **h20**km±3km, **n620,σ1ϕ07/649, mb5.2/98, 175C-176D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.34	138	⇑iP		Pg	06 20 09.5	-1.8
IHA				iS		Sg	06 20 14.9	-1.5
IHA	Instituto Hidr	0.34	138	⇑iP		Pg	06 20 09.5	-1.8
IHA				iS		Sg	06 20 14.9	-1.5
CHNG	Los Chungos	0.95	22	iP		Pb	06 20 20.6	-1.2
CHNG				iS		Sb	06 20 33.8	-0.1
CHNG	Los Chungos	0.95	22	iP		Pb	06 20 20.6	-1.2
CHNG				iS		Sb	06 20 33.8	-0.1
PEL	Peldehue	1.10	110	⇑iP		Pn	06 20 23.1	-1.2
PEL				iS		Sb	06 20 38.2	-0.1
PEL				AML		AML	06 20 44.4	
	comp=E,261μm,0.5s							
ANTU	Antumapu	1.34	127	⇑iP		Pn	06 20 26.6	-0.9
ANTU				iS		Sn	06 20 44.9	+0.1
ANTU	Antumapu	1.34	127	⇑iP		Pn	06 20 26.6	-0.9
ANTU				iS		Sn	06 20 44.9	+0.1
ANTU				AML		AML	06 20 51.3	
	comp=N,59μm,0.7s							
LACH	Col Las Americ	1.35	121	eP		Pn	06 20 27.0	-0.7
LACH				iS		Sn	06 20 45.1	+0.1
LACH	Col Las Americ	1.35	121	eP		Pn	06 20 27.0	-0.7
LACH				iS		Sn	06 20 45.1	+0.1
LACH				AML		AML	06 20 55.2	
	comp=N,28μm,0.6s							
SJCH	San Jose de Ma	1.57	124	⇓iP		Pn	06 20 29.4	-1.4
SJCH				iS		Sn	06 20 50.6	-0.1
SJCH	San Jose de Ma	1.57	124	⇓iP		Pn	06 20 29.4	-1.4
SJCH				iS		Sn	06 20 50.6	-0.1
SJCH				AML		AML	06 20 57.8	
	comp=E,24μm,0.5s							
CMCH	Combarbala	1.77	26	⇑iP		Pn	06 20 33.6	0.0
CMCH				iS		Sb	06 20 56.9	-0.8
CMCH	Combarbala	1.77	26	⇑iP		Pn	06 20 33.6	0.0
CMCH				iS		Sb	06 20 56.9	-0.8
CMCH				AML		AML	06 21 04.6	
	comp=E,94μm,0.7s							
CFAA	Coronel Fontan	3.33	71	Pn		Pn	06 20 57.9	+2.9
CFAA				Lg		Lg	06 21 43.4	
CFAA	Coronel Fontan	3.33	71	Pn		Pn	06 20 57.9	+2.9
	comp=E,5.9nm,0.3s,baz=254,slow=13,SNR=23							
CFAA				Lg		Lg	06 21 43.4	
	comp=E,16nm,0.3s,baz=124,slow=18,SNR=5.8							
LCO	Las Campanas	3.89	16	ePn		Pn	06 21 02.2	-0.7
LCO						Sn	06 21 44.8	-3.4
H03N1	Juan Fernandez	5.91	262	Pn		Pn	06 21 29.3	-0.8
H03N1				T		T	06 27 58.2	
	baz=85,slow=0.7,SNR=607							
H03N3	Juan Fernandez	5.92	261	Pn		Pn	06 21 29.3	-1.0
H03N3				T		T	06 27 59.0	
	baz=85,slow=0.7,SNR=377							
H03N2	Juan Fernandez	5.92	262	Pn		Pn	06 21 29.3	-1.0
H03N2				T		T	06 27 59.5	
	baz=85,slow=0.7,SNR=542							
PLCA	Paso Flores	8.02	173	Pn		Pn	06 21 59.1	-0.3
PLCA				Lg		Lg	06 24 12.0	
PLCA	Paso Flores	8.02	173	Pn		Pn	06 21 59.1	-0.3
	comp=E,6.2nm,0.3s,baz=337,slow=10,SNR=42							
PLCA				Lg		Lg	06 24 12.0	
	comp=E,0.4nm,0.3s,baz=283,slow=12,SNR=3.4							
TRQA	Tornquist	9.67	126	ePn		Pn	06 22 22.4	+0.5
	comp=E,300nm,1.4s							
LVC	Limon Verde	10.46	15	ePn		Pn	06 22 30.9	-2.2
LVC						Sn	06 24 41.0	+11
CPUP	Villa Florida	14.22	67	ePn		Pn	06 23 23.0	-1.2
CPUP						Sn	06 25 59.2	-2.2
CPUP	Villa Florida	14.22	67	Pn		Pn	06 23 21.9	-2.4
	comp=E,0.9nm,0.3s,baz=214,slow=13,SNR=5.7							
CPUP						Sn	06 25 59.2	-2.2
	comp=E,0.9nm,0.3s,baz=253,slow=14,SNR=1.8							
LPAZ	La Paz	16.77	13	ePn		Pn	06 23 57.6	-0.6
	comp=E,69nm,1.0s							
LPAZ	La Paz	16.77	13	Pn		Pn	06 23 57.9	-0.3
	comp=E,0.9nm,0.3s,baz=183,slow=9.2,SNR=31							
SIV	San Ignacio	19.38	33	P		P	06 24 27.3	-1.4
SIV	San Ignacio	19.38	33	P		P	06 24 27.3	-1.4
	comp=E,0.6nm,0.3s,baz=231,slow=12,SNR=21							
SIV						LR	06 31 54.8	
	comp=E,538nm,19.3s,slow=37							
EFI	East Falkland	21.43	156	⇑eP		P	06 24 50.5	0.0
EFI					pmax	pmax		
	comp=Z,543nm,1.2s							
EFI	East Falkland	21.43	156	eP		P	06 24 50.2	-0.3
	comp=Z,273nm,0.8s							
EFI	East Falkland	21.43	156	P		P	06 24 50.6	0.0
	comp=Z,980nm,1.0s,SNR=5.2							
USHA	Ushuaia	22.19	175	P		P	06 25 00.0	+1.3
USHA	Ushuaia	22.19	175	P		P	06 25 00.0	+1.3
	comp=Z,17nm,0.6s,baz=347,slow=6.0,SNR=14							
SPB	Sao Paulo	23.40	73	eP		P	06 25 10.9	-0.7
	comp=Z,173nm,1.1s							
SAML	Samuel	25.05	21	eP		P	06 25 26.4	-0.5
	comp=Z,101nm,1.2s							
ATAH	Atahualpa	26.21	345	P		P	06 25 36.1	-1.8
ATAH	Atahualpa	26.21	345	P		P	06 25 36.1	-1.8
	comp=Z,3.2nm,0.6s,baz=100,slow=17,SNR=1.8							
BDFB	Brasilia	27.57	57	P		P	06 25 48.5	-1.4
BDFB	Brasilia	27.57	57	P		P	06 25 48.5	-1.4
	comp=Z,107nm,1.1s,baz=227,slow=8.3,SNR=40							
OTAV	Otavalo	33.41	348	eP		P	06 26 44.2	+2.4
	comp=Z,13nm,1.1s							
ROSC	El Rosal	37.49	356	P		P	06 27 19.6	+2.8
ROSC	El Rosal	37.49	356	P		P	06 27 19.6	+2.8
	comp=Z,11nm,0.8s,baz=109,slow=4.1,SNR=8.7							
SDV	Santo Domingo	41.44	2	eP		P	06 27 48.7	-0.8
	comp=Z,42nm,1.1s							
TGUH	Tegucigalpa,Un	48.82	340	eP		P	06 28 48.5	+0.5
	comp=Z,51nm,1.5s							
VNA1	Neumayer--Stat	50.76	157	el		P	06 29 02.6	+0.5
OBIP	Obispado Ponce	50.78	7	eP		P	06 29 02.8	0.0
	comp=Z,597nm,2.8s							
SABA	Saba	50.79	11	eP		P	06 29 03.0	+0.1
CELP	Cerrillos	50.81	7	eP		P	06 29 03.3	+0.2
SNAA	Sanae	52.68	158	el		P	06 29 16.8	+0.3
SNAA	Sanae	52.68	158	P		P	06 29 16.9	+0.3
SNAA	Sanae	52.68	158	P		P	06 29 16.9	+0.3
	comp=Z,12nm,1.0s,baz=278,slow=6.6,SNR=42							
TEIG	Tepich	54.97	341	eP		P	06 29 33.4	-0.3
	comp=Z,26nm,0.8s							
RKT	Rikitea	55.82	263	eS		S	06 37 24.2	-2.2
	comp=Z,167nm,31.8s							
RKT				eLR		LR	06 45 52.6	
	comp=Z,552nm,25.8s							
RKT	Rikitea	55.82	263	eT		T	07 29 52.7	
	comp=Z,3.2nm,0.2s							
MAIT	Maitri	57.38	157	eP		P	06 29 47.5	-2.9
MAIT	Maitri	57.38	157	eP		P	06 29 48.8	-1.6
QSPA	South Pole Qui	57.46	180	eP		P	06 29 51.9	+0.7
	comp=Z,74nm,1.2s							
QSPA	South Pole Qui	57.46	180	P		P	06 29 51.9	+0.7
	comp=Z,25nm,0.8s							
H06E1	SOCORRO T-PHAS	63.39	318	T		T	07 39 39.8	
	SNR=10							
SBA	Scott Base	64.30	192	eP		P	06 30 39.1	+1.8
SBA					pmax	pmax		
	comp=Z,163nm,3.0s							
SBA	Scott Base	64.30	192	eP		P	06 30 39.1	+1.8
	comp=Z,163nm,3.0s							
TIGA	Tifton	64.81	349	⇓P		P	06 30 42.5	+1.3
	baz=65							
BBSR	BB Station	65.15	7	eP		P	06 30 43.7	+0.3
	comp=Z,89nm,1.4s							
VNDA	Vanda	65.32	191	P		P	06 30 45.2	+1.1
VNDA				⇑e			06 59 27.8	
VNDA	Vanda	65.32	191	P		P	06 30 45.2	+1.1
	comp=Z,1.9nm,0.9s,baz=131,slow=4.8,SNR=7.6							
VNDA					PKP2bc		06 59 27.8	
	comp=Z,0.9nm,0.9s,baz=283,slow=0.8,SNR=4.4							
HKT	Hockley	66.37	337	eP		P	06 30 52.0	+0.8
HKT					pmax	pmax		
	comp=Z,51nm,1.8s							
HKT	Hockley	66.37	337	eP		P	06 30 52.0	+0.8
	comp=Z,51nm,1.8s							
732A	Laxson Ranch,	66.71	333	⇑P		P	06 30 54.1	+0.6
	baz=67,SNR=14							
SYO	Syowa Base	66.97	159	⇓eP		P	06 30 53.0	-1.7
SYO	Syowa Base	66.97	159	⇑epP		P	06 30 56.6	+1.9
VBMS	Vicksburg	66.98	343	eP		P	06 30 55.2	+0.1
	comp=Z,14nm,0.3s							
632A	Uvalde	67.34	334	⇓P		P	06 30 58.3	+0.7
	baz=68							
631A	Perdido Creek	67.55	333	⇓P		P	06 30 59.1	+0.2
	baz=68,SNR=5.8							
TBI	Tubuai	67.71	256	eS		S	06 39 53.6	-3.3
	comp=Z,304nm,29.2s							
TBI	Tubuai	67.71	256	eLR		LR	06 51 25.6	
	comp=Z,1μm,25.8s,baz=111							
TBI	Tubuai	67.71	256	eT		T	07 44 40.0	
	comp=Z,7.7nm,0.3s							
532A	Rocksprings	67.94	334	⇓P		P	06 31 02.1	+0.7
	baz=68,SNR=13							
KMSC	Kings Mountain	68.13	352	eP		P	06 31 02.5	+0.1
	comp=Z,16nm,1.0s							
KMSC	Kings Mountain	68.13	352	⇓P		P	06 31 02.2	-0.2
	baz=68							
531A	Rocksprings	68.22	333	⇑P		P	06 31 03.8	+0.7
	baz=69,SNR=12							
JCT	Junction City	68.22	334	eP		P	06 31 04.1	+1.0
JCT					pmax	pmax		
	comp=Z,40nm,1.3s							
JCT	Junction City	68.22	334	eP		P	06 31 04.1	+1.0
	comp=Z,40nm,1.3s							
JCT	Junction City	68.22	334	⇑P		P	06 31 03.6	+0.5
	baz=69,SNR=10.0							
530A	J-C Ranch, Com	68.50	333	⇑P		P	06 31 05.7	+0.8
	baz=69,SNR=11							
628A	Black Gap, Mar	68.53	331	⇑P		P	06 31 05.7	+0.7
	baz=69,SNR=9.0							
432A	Menard	68.58	334	⇓P		P	06 31 05.7	+0.3
	baz=69,SNR=7.7							
431A	Sonora	68.70	334	⇓P		P	06 31 06.2	+0.1
	baz=69,SNR=6.3							
627A	Terlingua Ranc	68.70	331	⇑P		P	06 31 06.6	+0.3
	baz=69							
TXAR	Lajitas Array	68.72	330	P		P	06 31 06.7	+0.4
TXAR	Lajitas Array	68.72	330	P		P	06 31 06.7	+0.4
	comp=Z,3.9nm,0.8s,baz=148,slow=9.2,SNR=24							
WHTX	Lake Whitney	68.78	337	⇓P		P	06 31 07.0	+0.4
	baz=69							
529A	Stev Forest Ra	68.83	332	⇓P		P	06 31 07.5	+0.5
	baz=69,SNR=12							
CPCT	Cooper Cave	68.89	349	eP		P	06 31 07.3	+0.2
SWET	Sewanee	68.90	348	eP		P	06 31 07.5	+0.3
	comp=Z,26nm,0.9s							
OXF	Oxford	68.92	345	eP		P	06 31 07.4	+0.1
OXF					pmax	pmax		
	comp=Z,48nm,0.9s							
OXF	Oxford	68.92	345	eP		P	06 31 07.3	+0.1
	comp=Z,48nm,0.9s							
332A	Millersview	69.02	335	⇑P		P	06 31 08.0	0.0
	baz=69,SNR=5.0							
430A	Baggett Ranch,	69.03	333	P		P	06 31 08.5	+0.3
	baz=69,SNR=12							
528A	Cox Ranch, San	69.08	332	⇓P		P	06 31 08.8	+0.2
	baz=69,SNR=9.3							
626A	Big Bend Ranch	69.10	330	⇓P		P	06 31 09.9	+1.2
	baz=69,SNR=9.4							
429A	Davport Ranc	69.14	333	⇑P		P	06 31 09.6	+0.7
	baz=70,SNR=8.9							
331A	San Angelo	69.20	334	⇓P		P	06 31 09.5	+0.3
	baz=70,SNR=7.7							
527A	Woodward Ranch	69.41	331	⇓P		P	06 31 10.9	+0.3
	baz=70,SNR=10							
232A	Coleman	69.44	335	⇓P		P	06 31 11.0	+0.4
	baz=70,SNR=5.2							
526A	Mary Lane Ranc	69.53	330	⇓P		P	06 31 12.0	+0.7
	baz=70,SNR=12							
428A	Kincaid Ranch,	69.54	332	⇑P		P	06 31 11.7	+0.3
	baz=70							
330A	Mertzon	69.57	334	⇑P		P	06 31 11.4	-0.1
	baz=70,SNR=6.1							
231A	Bronte	69.72	334	⇓P		P	06 31 12.5	+0.1
	baz=70,SNR=5.8							
427A	Hayter Ranch,	69.94	331	⇑P		P	06 31 14.1	+0.2
	baz=70,SNR=6.5							
329A	Wagon Wheel Ra	69.94	333	⇓P		P	06 31 14.3	+0.4
	baz=70,SNR=7.4							
230A	Sterling City	69.97	334	⇑P		P	06 31 14.6	+0.6
	baz=70							
MIAR	Mount Ida	69.99	341	eP		P	06 31 14.3	+0.4
MIAR					pmax	pmax		
	comp=Z,33nm,1.4s							
MIAR	Mount Ida	69.99	341	eP		P	06 31 14.3	+0.4
	comp=Z,33nm,1.4s							
426A	McDonald Obser	70.03	331	⇓P		P	06 31 15.4	+0.8
	baz=70							
ABTX	Abilene, Hawle	70.11	335	eP		P	06 31 15.7	+0.9
ABTX	Abilene, Hawle	70.11	335	⇓P		P	06 31 15.5	+0.8
	baz=70							
WVT	Waverly	70.14	346	eP		P	06 31 14.3	-0.5
WVT					pmax	pmax		
	comp=Z,58nm,1.1s							
WVT	Waverly	70.14	346	eP		P	06 31 14.3	-0.5
	comp=Z,58nm,1.1s							
328A	Wristen Ranch,	70.17	332	⇓P		P	06 31 15.7	+0.4
	baz=70,SNR=5.4							
229A	Bryant Ranch,	70.31	333	⇓P		P	06 31 16.2	+0.2
	baz=71							
131A	Roby	70.42	335	⇓P		P	06 31 16.8	+0.1
	baz=71,SNR=5.3							
PPT2	Papeete2	70.51	261	eS		S	06 40 28.0	-2.4
	comp=Z,138nm,24.5s							
PPT2	Papeete2	70.51	261	eLR		LR	06 52 31.0	
	comp=Z,511nm,26.5s,baz=115							
130A	Snyder	70.56	334	⇑P		P	06 31 17.8	+0.2
	baz=71							
326A	Caldwell Ranch	70.58	331	⇑P		P	06 31 18.3	+0.5
	baz=71							
Z32A	Haskell	70.67	336	⇑P		P	06 31 18.3	+0.2
	baz=71,SNR=9.6							
228A	UT Block 9, Go	70.74	333	⇑P		P	06 31 18.9	+0.2
	baz=71,SNR=9.2							
Z31A	Sharp Cattle R	70.91	335	⇓P		P	06 31 20.0	+0.4
	baz=71,SNR=9.4							
227A	Bennet, Jal	70.92	332	⇑P		P	06 31 20.1	+0.3
	baz=71							
129A	Stewart Farms,	70.92	334	⇓P		P	06 31 20.3	+0.6
	baz=71,SNR=5.1							
325A	Bean Ranch, Si	71.04	330	⇓P		P	06 31 20.9	+0.3
	baz=71,SNR=15							
PARMO	Parma	71.06	345	eP		P	06 31 21.2	+0.8
128A	Castleberry Fa	71.15	333	⇑P		P	06 31 21.6	+0.4
	baz=72,SNR=9.1							
Z30A	Sanderson Ranc	71.23	334	⇑P		P	06 31 21.9	+0.2
	baz=72,SNR=6.6							
Y32A	R-V Farms, Ver	71.29	336	⇓P		P	06 31 22.2	+0.3
	baz=72,SNR=6.2							
324A	Moseley Ranch,	71.31	330	⇓P		P	06 31 22.0	-0.3
	baz=72,SNR=6.9							
PBMO	Poplar Bluff	71.32	344	eP		P	06 31 28.6	+6.7
	comp=Z,28nm,1.8s							
226B	Tecolote Peak,	71.33	331	⇑P		P	06 31 22.4	+0.1
	baz=72							
Z29A	Hungry Hill Ra	71.42	334	⇓P		P	06 31 22.8	-0.1
	baz=72,SNR=8.8							
MNTX	Cornudas Mount	71.49	330	eP		P	06 31 22.6	-0.6
	comp=Z,14nm,1.0s							
GDL2	Guadalupe Moun	71.51	331	eP		P	06 31 24.1	+0.6
127A	Arkansas Junct	71.53	332	⇑P		P	06 31 23.3	-0.2
	baz=72,SNR=6.0							
Y31A	Rekieta Farm,	71.53	335	⇓P		P	06 31 23.7	+0.3
	baz=72,SNR=5.5							
Z28A	Tucker Farm, M	71.70	333	⇓P		P	06 31 24.4	-0.1
	baz=72,SNR=5.3							
126A	Clayton Basin,	71.77	332	⇑P		P	06 31 25.2	+0.3
	baz=72,SNR=6.9							
TUL1	Tulsa	71.89	340	⇓P		P	06 31 25.5	0.0
	baz=72,SNR=6.8							
Y29A	Porterfield Fa	71.95	334	⇑P		P	06 31 26.0	+0.1
	baz=72,SNR=7.5							
SIUC	Southern Illin	71.96	346	eP		P	06 31 25.4	-0.4
	comp=Z,20nm,0.9s							
125A	Gardner Draw,	72.03	331	⇑P		P	06 31 26.7	+0.1
	baz=72,SNR=5.3							
Z27A	Tatum	72.04	333	⇓P		P	06 31 26.9	+0.3
	baz=72,SNR=8.1							
X31A	McDonald Ranch	72.04	336	⇓P		P	06 31 26.7	+0.3
	baz=72,SNR=8.0							
X30A	Coker Ranch, T	72.19	335	⇓P		P	06 31 27.9	+0.5
	baz=72							
Y28A	McKinney Farm,	72.20	334	⇑P		P	06 31 28.1	+0.6

baz=74
Y23A Lovelace Mesa, 73.71 331 ⇑P P 06 31 37.6 +1.0
baz=74,SNR=11
T33A Patterson Ranc 73.71 338 ⇓P P 06 31 37.0 +0.7
baz=74,SNR=7.3
W26A Owens Ranch, T 73.82 333 ⇑P P 06 31 37.9 +0.8
baz=74,SNR=8.8
V28A Channing 73.84 335 ⇑P P 06 31 38.0 +0.8
baz=74,SNR=5.7
Z21A St. Cloud Mine 73.85 329 ⇓P P 06 31 38.3 +0.8
baz=74,SNR=5.6
U30A WK&E Inc. Balk 73.99 336 ⇓P P 06 31 38.8 +0.8
baz=74
X24A Lazy VL Ranch, 74.01 332 ⇑P P 06 31 39.2 +0.9
baz=74,SNR=6.4
T32A Huddler Ranch, 74.02 338 ⇑P P 06 31 39.0 +0.9
baz=74
V27A Dan Oppiter Fa 74.07 334 ⇑P P 06 31 39.2 +0.7
baz=74,SNR=5.2
Z20A Nine Sixteen R 74.09 329 ⇓P P 06 31 40.0 +1.3
baz=74,SNR=6.9
BNM Barren Site 74.14 331 *e*P P 06 31 40.4 +1.2
comp=Z,7.3nm,1.0s
W25A X Bar L Ranch, 74.20 333 ⇑P P 06 31 39.7 +0.4
baz=75,SNR=9.5
LPM Los Pinos Moun 74.28 331 *e*P P 06 31 41.3 +1.4
comp=Z,2.6nm,0.7s
LIC Lamto 74.29 72 *e*P P 06 31 40.0 -0.2
comp=Z,53nm,1.2s
MAW Mawson 74.33 164 P P 06 31 39.8 +0.3
MAW Mawson 74.33 164 P P 06 31 39.8 +0.3
comp=Z,27nm,0.9s,baz=217,slow=7.1,SNR=26
X23A Hourglass Bar 74.33 331 ⇑P P 06 31 41.1 +0.9
baz=75
U28A Mallet 74.40 335 ⇓P P 06 31 41.2 +0.7
baz=75,SNR=5.7
Y21A Point of Rocks 74.45 330 ⇑P P 06 31 42.8 +1.8
baz=75,SNR=6.5
V26A Tequesquite Ra 74.46 334 ⇑P P 06 31 41.2 +0.4
baz=75,SNR=8.5
TIC Toumodi 74.55 71 *e*P P 06 31 41.3 -0.4
comp=Z,151nm,1.6s
W24A Lazy 6 Ranch, 74.57 332 ⇓P P 06 31 42.3 +0.8
baz=75,SNR=8.0
LAZ Ladron 74.57 330 *e*P P 06 31 42.5 +1.0
comp=Z,14nm,1.4s
KIC Kosan Boka 74.60 72 *e*P P 06 31 41.8 -0.2
comp=Z,188nm,1.4s
X22A Bernardo 74.60 330 ⇓P P 06 31 43.0 +1.3
baz=75
U27A Thompson Grove 74.66 335 ⇑P P 06 31 43.0 +1.0
baz=75
DBIC Dimbokro 74.69 72 *e*P P 06 31 42.6 +0.1
DBIC Dimbokro 74.69 72 P P 06 31 42.5 0.0
comp=Z,26nm,1.0s,baz=209,slow=5.8,SNR=17
ANMO Albuquerque 74.76 331 *e*P P 06 31 43.8 +1.1
comp=Z,21nm,1.2s
R33A Olander Ranch, 74.76 339 ⇑P P 06 31 43.2 +0.9
baz=75
T29A Hugoton 74.78 336 ⇓P P 06 31 43.3 +0.8
baz=75
V25A Rancho No Teng 74.81 333 ⇑P P 06 31 43.5 +0.6
baz=75,SNR=11
W23A Werner Place, 74.82 331 ⇓P P 06 31 44.0 +1.0
baz=75,SNR=9.2
X21A Alamocita Cree 74.88 330 ⇑P P 06 31 45.0 +1.6
baz=75,SNR=8.5
S30A Montezuma 74.94 337 ⇓P P 06 31 44.9 +1.4
baz=75
V24A Rampart Ranch, 74.96 332 ⇓P P 06 31 44.8 +0.9
baz=75,SNR=6.8
U26A Atchley Ranch, 74.97 334 ⇓P P 06 31 44.4 +0.6
baz=75,SNR=6.5
T28A Walsh 75.03 335 ⇓P P 06 31 44.7 +0.6
baz=75,SNR=8.1
W22A Albuquerque 75.03 331 ⇑P P 06 31 46.1 +1.9
baz=75,SNR=5.6
214A Organ Pipe Nat 75.07 325 ⇓P P 06 31 45.5 +1.1
baz=75
S29A Ulysses 75.14 336 ⇑P P 06 31 45.9 +1.3
baz=76
T27A Campo 75.19 335 ⇓P P 06 31 45.8 +0.8
baz=76,SNR=10
R31A Burdett 75.22 338 ⇓P P 06 31 46.3 +1.2
baz=76
U25A Circle Dot Ran 75.22 333 ⇑P P 06 31 46.1 +0.8
baz=76,SNR=9.6
X20A Quemado 75.26 329 ⇑P P 06 31 46.8 +1.2
baz=76,SNR=7.3
SUR Sutherland 75.33 119 *e*P P 06 31 46.9 +0.6
comp=Z,977nm,3.0s
SUR Sutherland 75.33 119 P P 06 31 41.1 -5.2
comp=Z,261nm,0.8s,SNR=11
MMNY Mt. Morris Dam 75.34 355 *e*P P 06 31 45.6 +0.1
comp=Z,71nm,1.2s
V23A Ortiz Mt. (NFS 75.34 332 ⇑P P 06 31 47.2 +1.1
baz=76
S28A Manter 75.38 336 ⇑P P 06 31 46.8 +0.7
baz=76,SNR=7.8
W21A San Fidel 75.39 330 ⇓P P 06 31 47.8 +1.5
baz=76,SNR=11
R30A Dighton 75.46 337 ⇑P P 06 31 47.9 +1.4
baz=76
U24A Moreno Valley 75.56 333 ⇓P P 06 31 48.7 +1.3
baz=76
T26A Comanche Natio 75.61 334 ⇓P P 06 31 48.5 +1.0
baz=76,SNR=9.2
W20A Ramah 75.76 330 ⇑P P 06 31 49.9 +1.5
baz=76,SNR=10
V22A San Miguel Ran 75.78 331 ⇑P P 06 31 50.2 +1.6
baz=76,SNR=17
Q31A Ellis 75.84 338 ⇓P P 06 31 49.3 +0.7
baz=76,SNR=6.3
U23A El Rito 75.85 332 ⇑P P 06 31 50.6 +1.6
baz=76,SNR=6.1
R29A Marienthal 75.87 337 ⇓P P 06 31 49.6 +0.8
baz=76
T25A Trinidad 75.88 334 ⇑P P 06 31 50.4 +1.3
baz=76,SNR=16
X18A Snowflake 75.88 328 ⇑P P 06 31 50.3 +1.1
baz=76
S26A Kim 75.96 335 ⇑P P 06 31 50.7 +1.3
baz=76,SNR=16
R28A Tribune 76.02 336 ⇑P P 06 31 50.6 +0.9
baz=76,SNR=6.5
U22A Llaves 76.16 332 ⇑P P 06 31 52.6 +1.9
baz=76,SNR=8.2
P32A Huiting Farm, 76.16 339 ⇑P P 06 31 51.2 +0.9
baz=76
T24B San Luis 76.18 333 ⇑P P 06 31 52.4 +1.6
baz=76,SNR=8.3
W18A Petrified Fore 76.28 329 ⇓P P 06 31 52.3 +0.9
baz=77
R27A Eads 76.31 335 ⇑P P 06 31 52.2 +0.8
baz=77,SNR=9.9
V20A Brimhall 76.32 330 ⇑P P 06 31 52.8 +1.1
baz=77,SNR=8.0
T23A Casias Ranch, 76.41 332 ⇓P P 06 31 53.5 +1.3
baz=77,SNR=5.7
X16A Lo Mia Camp, P 76.46 327 ⇑P P 06 31 53.5 +1.1
baz=77,SNR=12
U21A Nageezi 76.53 331 ⇓P P 06 31 53.9 +1.1
baz=77,SNR=12
R26A Arlington 76.56 335 ⇓P P 06 31 54.0 +1.2
baz=77,SNR=12
S24A Houchin Ranch, 76.62 333 ⇓P P 06 31 54.7 +1.3
baz=77,SNR=13
O32A Brockman Farm, 76.65 340 ⇑P P 06 31 54.4 +1.2
baz=77
Q28A Sharon Springs 76.68 336 ⇑P P 06 31 54.5 +1.1
baz=77
T22A Edith 76.73 332 ⇑P P 06 31 55.1 +1.1
baz=77,SNR=9.9
Y14A Wickenburg 76.79 326 ⇑P P 06 31 55.0 +0.9
baz=77
SDCO Great Sand Dun 76.82 333 *e*P P 06 31 55.5 +1.0
comp=Z,10nm,1.0s
U20A Newcomb 76.84 330 ⇓P P 06 31 55.4 +0.9
baz=77,SNR=6.2
O31A Woolen Ranch, 76.86 339 ⇓P P 06 31 55.2 +0.9
baz=77
P29A Atwood 76.87 337 ⇓P P 06 31 55.4 +0.9
baz=77,SNR=5.2
KSCO Kaye Shedlock' 76.90 336 *e*P P 06 31 56.3 +1.6
comp=Z,42nm,1.2s
KSCO Kaye Shedlock' 76.90 336 ⇑P P 06 31 56.1 +1.3
baz=77
GLA Glamis 76.95 324 ⇑P P 06 31 56.6 +1.6
baz=77
T21A Navajo Lake 76.96 331 ⇑P P 06 31 56.6 +1.4
baz=77,SNR=6.2
LONY Lake Ozonia 77.06 358 *e*P P 06 31 56.0 +0.7
comp=Z,72nm,1.8s
R24A Sanders Place, 77.10 334 ⇓P P 06 31 57.3 +1.3
baz=78,SNR=11
P28A Saint Francis 77.11 337 ⇓P P 06 31 57.2 +1.4
baz=78
O30A MW Ranch, Wils 77.11 338 ⇑P P 06 31 57.3 +1.4
baz=78
Q26A Hugo 77.14 335 ⇓P P 06 31 57.4 +1.3
baz=78
JFWS Jewell Farm 77.17 346 *e*P P 06 31 56.2 +0.2
JFWS pmax pmax
comp=Z,21nm,1.0s
JFWS Jewell Farm 77.17 346 *e*P P 06 31 56.2 +0.2
comp=Z,21nm,1.0s
DVTC Desert V Tower 77.27 323 ⇓P P 06 31 57.7 +0.8
baz=78
R23A Moffat 77.33 333 ⇑P P 06 31 58.8 +1.5
baz=78
S22A 4UR Ranch, Cre 77.33 332 ⇓P P 06 31 58.6 +1.2
baz=78,SNR=7.5
WUAZ Wupatki 77.34 328 *e*P P 06 31 58.5 +1.2
comp=Z,35nm,1.4s
WUAZ Wupatki 77.34 328 ⇓P P 06 31 58.7 +1.4
baz=78,SNR=7.1
Y12C Blythe 77.36 325 ⇑P P 06 31 58.6 +1.3
baz=78
Q25A Bedland, Calha 77.39 335 ⇓P P 06 31 58.6 +1.1
baz=78
MVCO Mesa Verde 77.54 331 *e*P P 06 31 60.0 +1.4
comp=Z,22nm,1.1s
MVCO Mesa Verde 77.54 331 ⇑P P 06 31 59.5 +1.0
baz=78,SNR=8.7
O28A Krutsinger Ran 77.62 337 ⇑P P 06 31 59.8 +1.1
baz=78,SNR=5.0
S21A Coal Bank Pass 77.64 332 ⇓P P 06 32 00.3 +1.2
baz=78,SNR=11
P26A Davis Ranch, A 77.64 336 ⇑P P 06 31 59.9 +1.0
baz=78,SNR=5.4
BGNE Belgrade 77.67 340 ⇓P P 06 31 60.0 +1.1
baz=78
Q24A Divide 77.76 334 ⇓P P 06 32 00.8 +1.1
baz=78,SNR=9.4
M31A Lambtecht Ranc 77.85 339 ⇓P P 06 32 01.0 +1.1
baz=78
N29A Votaw Ranch, W 77.88 338 ⇓P P 06 32 01.4 +1.3
baz=78
P25A Willow Gulch B 77.89 335 ⇑P P 06 32 01.8 +1.5
baz=78,SNR=9.4
O27A Beecher Island 77.91 337 ⇓P P 06 32 01.6 +1.2
baz=78,SNR=6.7
DRV Dumont d'Urvil 77.92 192 S S 06 42 03.0 +11
DRV SS **SS** **06 46 45.0 -6.5**
DRV L L 06 52 00.0
DRV R 06 56 00.0
IRM Iron Mountain 78.00 325 ⇓P P 06 32 02.0 +1.1
baz=78
S20A Disappointment 78.02 331 ⇑P P 06 32 02.6 +1.5
baz=78,SNR=8.4
W13A Hualapai Mount 78.15 326 ⇑P P 06 32 03.0 +1.0
baz=78
R21A Cimarron 78.16 332 ⇑P P 06 32 03.2 +1.2
baz=78,SNR=6.8
P24A Kohler Place, 78.16 335 ⇓P P 06 32 03.0 +1.2
baz=78
PFO Pinyon Flat Ob 78.21 323 *e*P P 06 32 04.3 +2.1
comp=Z,16nm,1.0s
PFO Pinyon Flat Ob 78.21 323 ⇑P P 06 32 03.4 +1.2
baz=78
O26A Horse Wrangler 78.24 336 ⇓P P 06 32 03.7 +1.6
baz=79
R20A Redvale 78.33 331 ⇓P P 06 32 04.2 +1.4
baz=79,SNR=9.8
Q22A Crested Butte, 78.33 333 ⇓P P 06 32 04.3 +1.3
baz=79,SNR=6.7
PV01 Paradox Valley 78.36 331 *e*P P 06 32 02.7 -0.3
comp=Z,2µm,1.4s
P23A Jefferson 78.38 334 ⇑P P 06 32 04.2 +1.0
baz=79
O25A Wiggins 78.41 335 ⇓P P 06 32 04.8 +1.7
baz=79,SNR=5.9
N27A Anderson Farm, 78.48 337 ⇓P P 06 32 04.8 +1.4
baz=79
PV15 Paradox Valley 78.50 331 *e*P P 06 32 05.5 +1.7
U15A North Rim 78.51 328 ⇓P P 06 32 05.5 +1.5
baz=79,SNR=8.9
PV05 Paradox Valley 78.53 331 *e*P P 06 32 04.9 +0.9
MURC Murrieta 78.58 323 ⇑P P 06 32 05.3 +1.2
baz=79
L31A Butterfield Fa 78.58 340 ⇑P P 06 32 04.6 +0.7
baz=79,SNR=6.6
SMCO Snowmass 78.63 333 *e*P P 06 32 06.5 +1.7
comp=Z,23nm,1.0s
ISCO Idaho Springs 78.67 334 *e*P P 06 32 06.1 +1.3
ISCO pmax pmax
comp=Z,14nm,1.1s
ISCO Idaho Springs 78.67 334 *e*P P 06 32 06.1 +1.3
comp=Z,14nm,1.1s
ISCO Idaho Springs 78.67 334 ⇑P P 06 32 05.8 +1.1
baz=79,SNR=7.0
GMRC Granite Mounta 78.75 325 ⇑P P 06 32 06.6 +1.5
baz=79
PV09 Paradox Valley 78.90 331 *e*P P 06 32 07.6 +1.5
P22A Eagle 78.91 333 ⇑P P 06 32 07.3 +1.3
baz=79,SNR=6.5
HEC Hector,Ludlow 79.12 324 ⇑P P 06 32 08.5 +1.4
baz=80
O23A Lake Granby, G 79.14 334 ⇓P P 06 32 08.8 +1.5
baz=80,SNR=8.6
K30A Basel 79.26 340 ⇓P P 06 32 08.5 +0.8
baz=80,SNR=6.5
N24A Carr 79.31 335 ⇓P P 06 32 09.6 +1.5
baz=80
BFSC Mount Baldy Ra 79.31 323 ⇑P P 06 32 09.4 +1.2
baz=80
O22A Kremmling 79.33 334 ⇓P P 06 32 09.4 +1.1
baz=80,SNR=9.5
ECSD EROS Data Cent 79.41 342 *e*P P 06 32 07.7 -0.7
comp=Z,29nm,0.9s
P20A De Beque 79.46 332 ⇓P P 06 32 10.3 +1.3
baz=80,SNR=8.6
K29A Lazy Trails An 79.55 339 ⇑P P 06 32 10.4 +1.2
baz=80
L27A T5 Ranch, Ells 79.56 337 ⇓P P 06 32 10.7 +1.4
baz=80
O21A Pagoda 79.72 333 ⇓P P 06 32 11.6 +1.1
baz=80
GSC Goldstone 79.73 324 *e*P P 06 32 11.7 +1.3
GSC pmax pmax
comp=Z,71nm,2.0s
GSC Goldstone 79.73 324 *e*P P 06 32 11.7 +1.3
comp=Z,71nm,2.0s
GSC Goldstone 79.73 324 ⇓P P 06 32 11.2 +0.8
baz=80
N23A Red Feather La 79.75 334 ⇓P P 06 32 11.6 +1.0
baz=80,SNR=5.1
P19A Cripple Cowboy 79.81 332 ⇓P P 06 32 12.1 +1.1
baz=80,SNR=6.7
J30A Dallas 79.82 340 ⇓P P 06 32 10.8 +0.1
baz=80,SNR=5.7
M24A Cheyenne 79.85 335 ⇓P P 06 32 12.0 +1.0
baz=80,SNR=5.2
N22A Wattenberg Ran 79.85 334 ⇓P P 06 32 12.3 +1.1
baz=80,SNR=6.5
SHPR Sheep Range 79.90 326 *e*P P 06 32 12.6 +1.2
SPMN St. Paul 79.91 345 *e*P P 06 32 10.7 -0.3
comp=Z,12nm,0.8s
SPMN St. Paul 79.91 345 ⇑P P 06 32 10.9 -0.2
baz=80
CCUT Cedar City 79.92 328 *e*P P 06 32 13.8 +2.2
comp=Z,16nm,1.0s
PHWY Pilot Hill 79.93 335 *e*P P 06 32 12.7 +1.1
O20A White River Ci 79.95 333 *e*P P 06 32 13.0 +1.3
O20A White River Ci 79.95 333 ⇓P P 06 32 12.7 +1.0
baz=80
EDW2 Edwards Air Fo 79.99 323 ⇑P P 06 32 12.9 +1.1
baz=80
SRU San Rafael 79.99 330 *e*P P 06 32 13.0 +1.1
SRU pmax pmax
comp=Z,10.0nm,0.9s
SRU San Rafael 79.99 330 *e*P P 06 32 13.0 +1.1
comp=Z,10nm,0.9s
K27A Fluecking Fa 80.09 338 ⇓P P 06 32 13.3 +1.1
baz=80
Q16A Castle Valley 80.10 330 *e*P P 06 32 13.2 +0.7
baz=80
Q16A Castle Valley 80.10 330 ⇑P P 06 32 13.4 +0.9
baz=80
J29A Okreek 80.14 339 ⇑P P 06 32 13.1 +0.7
baz=80,SNR=12
ARUT Antelope Range 80.15 328 *e*P P 06 32 14.1 +1.3
ARUT pmax pmax
comp=Z,705nm,1.7s
ARUT Antelope Range 80.15 328 *e*P P 06 32 14.1 +1.3
comp=Z,705nm,1.7s
L25A Engebretsen Ra 80.17 336 ⇓P P 06 32 13.6 +0.9
baz=80
M23A Laramie 80.17 335 ⇓P P 06 32 13.5 +0.7
baz=80,SNR=6.7
MVU Marysvale 80.20 329 *e*P P 06 32 15.4 +2.3
comp=Z,11nm,1.0s
K26A Motz Farm, Whi 80.39 337 ⇓P P 06 32 14.8 +1.0
baz=81
J28A Allard Ranch, 80.43 339 ⇓P P 06 32 14.8 +0.8
baz=81,SNR=9.7
O19A Miners Draw (B 80.44 332 ⇑P P 06 32 15.0 +0.8
baz=81
J27A Elkhorn Farm, 80.52 338 ⇓P P 06 32 15.5 +1.0
baz=81,SNR=11
SBC Santa Barbara 80.53 322 ⇓P P 06 32 16.0 +1.4
baz=81
BOSA Boshof 80.55 118 *e*P P 06 32 15.8 +0.5
BOSA Boshof 80.55 118 P P 06 32 15.2 -0.1
comp=Z,34nm,0.9s,baz=240,slow=4.3,SNR=25
I29A Vivian Onida 80.70 340 ⇑P P 06 32 15.6 +0.2
baz=81,SNR=5.0
ISA Isabella 80.85 323 *e*P P 06 32 16.7 +0.3
ISA pmax pmax
comp=Z,27nm,1.5s
ISA Isabella 80.85 323 *e*P P 06 32 16.7 +0.3
comp=Z,27nm,1.5s
ISA Isabella 80.85 323 ⇓P P 06 32 17.6 +1.1
baz=81
RWWY Rawlins 80.90 334 *e*P P 06 32 23.9 +7.1
J26A Sides Ranch, S 80.91 338 ⇑P P 06 32 17.6 +1.0
baz=81,SNR=7.3
I28A Midland 80.94 339 ⇓P P 06 32 17.1 +0.5
baz=81,SNR=9.0
J25A Sunshine Ranch 81.21 337 ⇓P P 06 32 18.6 +0.3
baz=82
MPU Maple Canyon 81.22 330 *e*P P 06 32 20.2 +1.8
comp=Z,15nm,1.1s
H29A Onida 81.22 340 ⇓P P 06 32 18.4 +0.2
baz=82,SNR=6.3
CASY Casey 81.25 181 *e*P P 06 32 19.2 +1.1
comp=Z,42nm,1.2s
I27A Quinn 81.27 339 ⇑P P 06 32 18.8 +0.4
baz=82,SNR=6.5
K23A Bowen Ranch, D 81.27 336 ⇓P P 06 32 19.7 +1.1
baz=82
VES Vestal, Richgr 81.30 323 ⇑P P 06 32 19.6 +0.9
baz=82
NLU North Lily Min 81.35 330 *e*P P 06 32 20.0 +0.8
comp=Z,14nm,1.2s
G30A Faulkton 81.39 341 ⇓P P 06 32 19.7 +0.8
baz=82
J24A Dixon Ranch, L 81.45 336 ⇓P P 06 32 20.7 +1.2
baz=82
I26A New Underwood 81.48 338 ⇓P P 06 32 20.1 +0.5
baz=82
K22A Casper 81.49 335 *e*P P 06 32 20.6 +0.8
K22A Casper 81.49 335 ⇓P P 06 32 20.4 +0.6
baz=82,SNR=8.5
H28A Mission Ridge 81.50 339 ⇑P P 06 32 20.2 +0.6
baz=82,SNR=6.8
R11A Troy Canyon, C 81.59 327 *e*P P 06 32 21.8 +1.4
R11A Troy Canyon, C 81.59 327 ⇑P P 06 32 21.1 +0.7
baz=82
JLU Jordanelle 81.63 331 *e*P P 06 32 21.7 +1.0
comp=Z,66nm,2.2s
G29A Hoven 81.66 340 ⇑P P 06 32 21.0 +0.6
baz=82
RCTC Rector, Farmer 81.74 323 ⇓P P 06 32 21.5 +0.5
baz=82
K21A Alcova 81.74 334 ⇓P P 06 32 21.8 +0.7
baz=82,SNR=6.3
I25A Rochford 81.75 337 ⇓P P 06 32 21.8 +0.6
baz=82,SNR=5.6
H27A Howes 81.78 339 ⇑P P 06 32 21.6 +0.4
baz=82
DUG Dugway 81.86 330 *e*P P 06 32 23.2 +1.4
DUG pmax pmax
comp=Z,20nm,1.1s
DUG Dugway 81.86 330 *e*P P 06 32 23.1 +1.4
comp=Z,20nm,1.1s
DUG Dugway 81.86 330 ⇑P P 06 32 22.7 +0.9
baz=82,SNR=5.6
RSSD Black Hills 81.94 337 *e*P P 06 32 22.9 +0.7
RSSD pmax pmax
comp=Z,12nm,1.0s
RSSD Black Hills 81.94 337 *e*P P 06 32 22.9 +0.7
comp=Z,12nm,1.0s
TPH Tonopah 82.14 326 *e*P P 06 32 24.4 +1.0
TPH pmax pmax
comp=Z,21nm,1.2s
TPH Tonopah 82.14 326 *e*P P 06 32 24.4 +1.0
comp=Z,21nm,1.2s
J22A Midwest 82.14 335 ⇓P P 06 32 23.4 +0.3
baz=82
F29A Eureka 82.22 341 ⇑P P 06 32 23.7 +0.4
baz=83
J21A Lysite 82.43 335 ⇑P P 06 32 25.6 +0.8
baz=83
F28A McLaughlin 82.51 340 ⇑P P 06 32 25.3 +0.5
baz=83,SNR=6.0
G26A Maurine 82.54 339 ⇑P P 06 32 25.3 +0.2
baz=83,SNR=7.3
I22A 9 Mile Ranch, 82.57 336 ⇓P P 06 32 25.6 +0.3
baz=83
E30A Jud 82.59 342 ⇑P P 06 32 25.9 +0.6
baz=83
J20A Shoshoni 82.67 334 ⇑P P 06 32 26.7 +0.7
baz=83
H24A Dirks Ranch, A 82.67 337 ⇓P P 06 32 26.0 +0.2
baz=83
G25A Newell 82.70 338 ⇓P P 06 32 26.2 +0.3
baz=83,SNR=8.9
BW06 Boulder Array 82.72 333 *e*P P 06 32 26.5 +0.2
comp=Z,70nm,2.5s
PDAR Pinedale Array 82.72 333 P P 06 32 26.5 +0.2
PDAR Pinedale Array 82.72 333 P P 06 32 26.5 +0.2
comp=Z,3.5nm,1.1s,baz=149,slow=6.1,SNR=11
G27A Dupree 82.72 339 ⇓P P 06 32 24.6 -1.4
baz=83,SNR=6.2
I21A Big Trails, Te 82.78 335 ⇓P P 06 32 26.5 0.0
baz=83
E29A Napoleon 82.84 341 ⇓P P 06 32 26.8 +0.2
baz=83
F27A Lemmon 82.89 339 ⇑P P 06 32 27.1 +0.2
baz=83,SNR=5.4
NVAR Mina Array Bea 82.94 325 P P 06 32 28.7 +1.2
NVAR Mina Array Bea 82.94 325 P P 06 32 28.7 +1.2
comp=Z,6.8nm,0.8s,baz=156,slow=6.2,SNR=15
J19A Crowheart 82.95 334 ⇓P P 06 32 27.9 +0.4
baz=83,SNR=5.5
F26A Lodgepole 83.06 339 ⇓P P 06 32 28.2 +0.4
baz=83,SNR=6.0
D30A Buchanan 83.11 342 ⇑P P 06 32 28.3 +0.4
baz=84,SNR=8.9
H22A Clearmont 83.14 336 ⇑P P 06 32 28.1 -0.2
baz=84
E28A Huff 83.14 340 ⇑P P 06 32 28.6 +0.5
baz=84
HVU Hansel Valley 83.17 330 *e*P P 06 32 29.3 +0.7
HVU pmax pmax
comp=Z,11nm,1.0s
HVU Hansel Valley 83.17 330 *e*P P 06 32 29.3 +0.7
comp=Z,11nm,1.0s
I20A Worland 83.20 335 ⇓P P 06 32 28.9 +0.3
baz=84
E27A Carson 83.26 340 ⇑P P 06 32 29.1 +0.3
baz=84
D29A Pettibone, Tap 83.28 341 ⇑P P 06 32 29.3 +0.5
baz=84
G23A Biddle 83.35 337 ⇓P P 06 32 29.5 +0.2
baz=84
ELK Elko 83.37 328 *e*P P 06 32 30.5 +0.7
comp=Z,8.2nm,1.0s
F25A Bowman 83.37 338 ⇑P P 06 32 29.9 +0.5
baz=84
H21A Big Horn, Sher 83.40 336 ⇑P P 06 32 29.9 +0.3
baz=84
AGMN Agassiz Nation 83.50 344 *e*P P 06 32 36.5 +6.6
E26A Carlson Angus 83.56 339 ⇓P P 06 32 30.7 +0.4

baz=84,SNR=5.2
C30A Mose, Pekin 83.58 342 ⇑P P 06 32 30.7 +0.4
baz=84,SNR=8.4
I19A Meeteetse 83.59 334 ⇓P P 06 32 30.9 +0.2
baz=84
F24A Ekalaka 83.61 338 ⇑P P 06 32 31.1 +0.5
baz=84
H20A Greybull 83.62 335 ⇑P P 06 32 30.9 +0.2
baz=84,SNR=5.9
D28A Regan 83.67 341 ⇑P P 06 32 31.6 +0.7
baz=84
TORD Torodi Ar. Bea 83.70 70 P P 06 32 31.6 -0.2
TORD Torodi Ar. Bea 83.70 70 P P 06 32 31.6 -0.2
comp=Z,28nm,0.8s,baz=254,slow=4.9,SNR=63
REDW Red Top Meadow 83.72 333 *e*P P 06 32 32.0 +0.5
comp=Z,9.7nm,1.1s
SNOW Snow King Moun 83.77 333 *e*P P 06 32 32.5 +0.8
comp=Z,68nm,2.3s
LOHW Long Hollow 83.84 333 *e*P P 06 32 32.6 +0.5
D27A Center 83.86 340 ⇓P P 06 32 32.8 +0.9
baz=84
G21A Lodge Grass 83.98 336 ⇓P P 06 32 33.1 +0.5
baz=84
MDND Maddock 84.01 342 *e*P P 06 32 33.2 +0.7
MDND Maddock 84.01 342 ⇑P P 06 32 32.9 +0.4
baz=84,SNR=7.4
FXWY Fox Creek 84.02 333 *e*P P 06 32 33.5 +0.5
comp=Z,81nm,2.8s
D26A Manning 84.06 340 ⇑P P 06 32 33.5 +0.7
baz=84,SNR=5.6
I17A Pilgrim Ck. 84.09 333 ⇓P P 06 32 33.9 +0.6
baz=84
C28A Hausauer Farms 84.10 341 ⇑P P 06 32 33.7 +0.7
baz=84
H19A Powell 84.13 334 ⇑P P 06 32 33.9 +0.5
baz=84
F22A Rosebud 84.14 337 ⇑P P 06 32 34.2 +0.9
baz=84
IMW Indian Meadow 84.21 333 *e*P P 06 32 34.7 +0.7
B30A Myrvik Farm, E 84.24 343 ⇓P P 06 32 33.9 +0.2
baz=85,SNR=11
FLWY Flagg Ranch 84.27 333 *e*P P 06 32 35.3 +1.0
G20A Bridger 84.33 335 ⇓P P 06 32 34.6 +0.2
baz=85
H18A Shoshone NF, C 84.39 334 ⇓P P 06 32 35.1 +0.2
baz=85,SNR=6.9
C27A Sayler Ranch, 84.41 340 ⇓P P 06 32 35.2 +0.6
baz=85
D25A Fairfield 84.43 339 ⇑P P 06 32 35.6 +0.9
baz=85
E23A Ismay 84.47 338 ⇑P P 06 32 35.6 +0.6
baz=85
B29A Wagenman Farm, 84.51 342 ⇓P P 06 32 35.2 +0.1
baz=85,SNR=5.8
A30A Hoffart Farm, 84.69 343 ⇓P P 06 32 36.3 +0.4
baz=85
D24A Glendive 84.70 338 ⇓P P 06 32 36.5 +0.4
baz=85
B28A Dugan Ranch, T 84.77 341 ⇑P P 06 32 36.8 +0.5
baz=85,SNR=5.8
YMR Madison River 84.87 333 *e*P P 06 32 37.8 +0.5
comp=Z,19nm,1.0s
A29A Manning Farm, 84.90 342 ⇓P P 06 32 37.3 +0.2
baz=85,SNR=8.5
C25A Freed Ranch, W 84.92 339 ⇓P P 06 32 37.7 +0.5
baz=85
B27A Peters Farms, 84.97 341 ⇓P P 06 32 38.1 +0.7
baz=85
E21A Keefer Ranch, 85.09 336 ⇑P P 06 32 38.8 +0.7
baz=85
C24A Savage 85.11 339 ⇑P P 06 32 38.8 +0.6
baz=86,SNR=6.1
F19A Roth Farm, Mol 85.14 335 ⇑P P 06 32 38.9 +0.5
baz=86
A28A Rude Farm, Bot 85.16 342 ⇑P P 06 32 38.8 +0.4
baz=86
B26A Jensen Ranch, 85.22 340 ⇓P P 06 32 39.4 +0.8
baz=86
HLID Hailey 85.32 330 *e*P P 06 32 40.3 +0.8
comp=Z,11nm,1.2s
HLID Hailey 85.32 330 ⇓P P 06 32 40.1 +0.6
baz=86
D22A Cohagen 85.32 337 ⇑P P 06 32 39.7 +0.5
baz=86
ULM Lac du Bonnet 85.34 345 P P 06 32 38.6 -0.6
ULM Lac du Bonnet 85.34 345 P P 06 32 38.6 -0.6
comp=Z,11nm,0.9s,baz=154,slow=4.6,SNR=8.5
B25A Knox Farm, Ray 85.39 340 ⇓P P 06 32 40.2 +0.7
baz=86
E20A Meyer Farm, Mu 85.41 336 ⇑P P 06 32 40.2 +0.4
baz=86,SNR=6.6
A27A Ledoux Ranch, 85.46 341 ⇓P P 06 32 40.5 +0.7
baz=86
D21A La Casta Ranch 85.52 337 ⇑P P 06 32 40.6 +0.3
baz=86
C23A Lambert 85.58 338 ⇑P P 06 32 40.9 +0.4
baz=86,SNR=5.9
E19A Rath Farm, Rou 85.60 335 ⇓P P 06 32 40.9 +0.2
baz=86,SNR=9.0
MCMT McKenzie Canyo 85.73 332 *e*P P 06 32 42.3 +0.7
comp=Z,3.9nm,0.9s
DGMT Dagmar 85.87 339 *e*P P 06 32 42.8 +0.9
comp=Z,47nm,1.3s
DGMT Dagmar 85.87 339 ⇓P P 06 32 42.2 +0.3
baz=86,SNR=7.1
D20A Manuel Ranch, 85.92 336 ⇑P P 06 32 42.2 0.0
baz=86,SNR=9.2
BOZ Bozeman (W) 85.95 333 *e*P P 06 32 42.9 +0.4
BOZ pmax pmax
comp=Z,6.0nm,1.0s
BOZ Bozeman (W) 85.95 333 *e*P P 06 32 42.9 +0.4
comp=Z,6.2nm,1.0s
A25A Svangstu Ranch 85.98 340 ⇓P P 06 32 43.2 +0.8
baz=86
DLMT Dillon 86.08 333 *e*P P 06 32 44.0 +0.8
comp=Z,19nm,1.4s
B23A Brockton 86.11 339 ⇑P P 06 32 43.4 +0.3
baz=86
C21A Desert Coulee 86.22 337 ⇑P P 06 32 43.8 +0.1
baz=87
A24A Westby 86.22 339 ⇓P P 06 32 44.3 +0.6
baz=87
D19A Cripps Ranch, 86.24 336 ⇓P P 06 32 43.6 -0.2
baz=87,SNR=5.9
B22A Reddig Ranch S 86.28 338 ⇑P P 06 32 44.6 +0.6
baz=87,SNR=9.4
LRM Limekiln Ridge 86.41 333 *e*P P 06 32 45.9 +1.0
C20A Veseth Ranch, 86.42 337 ⇑P P 06 32 44.9 +0.2
baz=87
MOD Modoc 86.60 326 *e*P P 06 32 47.1 +1.3
comp=Z,16nm,1.4s
B21A Ellsworth Farm 86.72 337 ⇓P P 06 32 46.4 +0.4
baz=87
C19A Slack Wire Ran 86.79 336 ⇓P P 06 32 46.8 +0.3
baz=87
A22A Carney Farms, 86.86 338 ⇑P P 06 32 47.2 +0.3
baz=87,SNR=8.6
J08A Circle Bar Ran 86.90 328 *e*P P 06 32 48.3 +1.1
comp=Z,23nm,0.9s
B20A Solberg Farm, 87.05 337 ⇑P P 06 32 48.1 +0.3
baz=87
EGMT Eagleton 87.28 336 ⇑P P 06 32 48.8 -0.1
baz=88
B19A Brinkman Farms 87.38 336 ⇑P P 06 32 49.4 +0.1
baz=88,SNR=7.7
A20A Cobblestone Ra 87.41 337 ⇓P P 06 32 49.4 -0.1
baz=88,SNR=7.6
BMO Blue Mountains 87.58 330 *e*P P 06 32 57.1 +6.7
comp=Z,22nm,1.6s
A19A Klindworth Far 87.72 337 ⇑P P 06 32 51.5 +0.5
baz=88
MSO Missoula 87.82 333 ⇑P P 06 32 52.0 +0.4
baz=88
I07A Izee 87.93 328 *e*P P 06 32 53.6 +1.4
comp=Z,12nm,1.1s
SLMT Seeley Lake 87.99 333 *e*P P 06 32 52.8 +0.4
comp=Z,6.6nm,1.0s
BSMT Bassoo Peak 88.99 333 *e*P P 06 32 58.2 +1.1
HAWA Hanford 89.75 329 *e*P P 06 33 01.8 +1.2
comp=Z,8.9nm,0.9s
NEW Newport 90.24 332 ⇑P P 06 33 02.7 -0.2
baz=91
TAM Tamanrasset 92.20 64 *e*P P 06 33 12.5 -0.2
TAM pmax pmax
comp=Z,22nm,1.4s
TAM Tamanrasset 92.20 64 *e*P P 06 33 12.5 -0.2
comp=Z,22nm,1.4s
PMTG Montargil 92.72 44 *e*P P 06 33 14.7 +0.2
comp=Z,36nm,1.8s
EDM Edmonton 92.90 337 *e*P P 06 33 13.9 -1.2
EDM Edmonton 92.90 337 *e*P P 06 33 13.8 -1.2
MTE Manteigas 93.99 44 *e*P P 06 33 20.5 +0.1
comp=Z,29nm,1.5s
MVO Moncorvo 94.78 43 *e*P P 06 33 24.0 0.0
comp=Z,23nm,1.8s
PAB San Pablo 95.34 46 *e*P P 06 33 33.1 +6.5
PAB San Pablo 95.34 46 *e*P P 06 33 33.1 +6.5
PBRG Braganca 95.36 43 *e*P P 06 33 26.6 0.0
comp=Z,23nm,1.6s
ESDC Sonseca Array 95.65 46 P P 06 33 27.7 -0.3
ESDC Sonseca Array 95.65 46 P P 06 33 27.7 -0.3
comp=Z,0.3nm,0.3s,baz=235,slow=4.1,SNR=9.1
DZM Mont Dzumac 102.04 234 *e*LR LR 07 07 20.4
comp=Z,280nm,22.7s
ILAR Eielson Array 113.15 333 PKiKP **PKiKP** 06 38 38.2 -0.8
ILAR Eielson Array 113.15 333 PKiKP **PKiKP** 06 38 38.2 -0.8
comp=Z,0.5nm,0.9s,baz=215,slow=2.8,SNR=4.8
CRVS Cervenica-Dubn 115.95 47 *i* P **Pdif** 06 35 01.0 +2.8
CRVS Cervenica-Dubn 115.95 47 PDIF **Pdif** 06 35 01.0 +2.8
ASAR Alice Springs 118.70 207 PKP **PKPdf** 06 38 50.1 -1.0
ASAR PKKPab **PKKPab** 06 49 13.3 +1.2
ASAR Alice Springs 118.70 207 PKP **PKPdf** 06 38 50.1 -1.0
comp=Z,0.5nm,0.5s,baz=132,slow=2.9,SNR=5.7
ASAR PKKPab **PKKPab** 06 49 13.3 +1.2
comp=Z,0.2nm,0.3s,baz=3.3,slow=3.2,SNR=4.2
BRTR Keskin Array B 121.14 60 PKP **PKPdf** 06 38 55.0 -0.4
BRTR PP **PP** 06 40 27.9 +1.8
BRTR Keskin Array B 121.14 60 PKP **PKPdf** 06 38 55.0 -0.4
comp=Z,1.4nm,0.9s,baz=224,slow=3.4,SNR=5.6
BRTR PP **PP** 06 40 27.9 +1.8
comp=Z,1.4nm,1.0s,baz=240,slow=6.4,SNR=3.7
AKASG Malin Array Be 121.28 47 PKIKP **PKPdf** 06 38 54.2 -0.9
AKASG 06 40 22.4
AKASG Malin Array Be 121.28 47 PKP **PKPdf** 06 38 54.1 -0.9
AKASG PP **PP** 06 40 22.4 -4.1
AKASG Malin Array Be 121.28 47 PKP **PKPdf** 06 38 54.1 -0.9
comp=Z,2.0nm,0.7s,baz=275,slow=2.5,SNR=8.3
AKASG PP **PP** 06 40 22.4 -4.1
comp=Z,1.5nm,0.8s,baz=250,slow=8.0,SNR=4.8
VSU Vasula 121.66 38 ⇓*i* PKIKP **PKPdf** 06 38 55.0 -0.5
WRA Warramunga Arr 121.88 209 PKP **PKPdf** 06 38 55.5 -1.9
WRA PKKPab **PKKPab** 06 48 60.0 +1.8
WRA Warramunga Arr 121.88 209 PKP **PKPdf** 06 38 55.5 -1.9
comp=Z,1.6nm,0.8s,baz=173,slow=1.5,SNR=11
WRA PKKPab **PKKPab** 06 48 60.0 +1.8
comp=Z,0.3nm,0.5s,baz=338,slow=4.5,SNR=5.7
H11S2 WAKE ISLAND Hyl 25.88 270 T T 08 58 00.7
baz=121,slow=0.7,SNR=85
H11S1 WAKE ISLAND Hyl 25.89 270 T T 08 58 00.5
baz=121,slow=0.7,SNR=54
H11S3 WAKE ISLAND Hyl 25.90 270 T T 08 58 02.2
baz=121,slow=0.7,SNR=52
OBN Obninsk 126.47 43 ⇓*i* PKIKP **PKPdf** 06 39 04.6 -0.2
OBN *e* 06 39 11.6
OBN *e* 06 41 06.1
OBN pmax pmax
comp=Z,13nm,0.7s
OBN MLR MLR
comp=Z,100nm,18.0s
TMCR Tamitsa 127.61 31 *e*PKIKP PKPdf 06 39 14.1 +7.4
TMCR pmax pmax
comp=Z,20nm,1.2s
KLMR Klimovskoe 128.35 36 *e*PKIKP **PKPdf** 06 39 06.5 -1.8
KLMR pmax pmax
comp=Z,31nm,1.2s
KIV Kislovodsk 128.75 57 *i* PKIKP PKPdf 06 38 59.5 -10
KIV pmax pmax
comp=Z,9.0nm,1.0s
ARU Arti 138.74 40 *i* PKIKP **PKPdf** 06 39 28.3 +0.4
SEY Seymchan 139.01 331⇑*e*PKIKP **PKPdf** 06 39 29.1 +0.9
TIXI Tiksi 139.50 350 ⇓*i* PKIKP **PKPdf** 06 39 32.6 +3.7
AB31 Akbulak array 140.84 51 *i* PKHKP PKPpre 06 39 24.3
AB31 pmax pmax
comp=Z,1.0nm,0.5s
POO Poona 146.21 106 ⇓*i* P **PKPdf** 06 39 42.0 -0.4
comp=Z,10.0nm,1.2s
BRVK Borovoye 146.24 42 *c i* PKP2 **PKPbc** 06 39 42.8 +0.3
BVA0 Borovoye Array 146.31 42 *i* PKP2 **PKPbc** 06 39 42.5 -0.2
BVA0 pmax pmax
comp=Z,35nm,1.0s
BVAR Borovoye Array 146.31 42 PKP2 **PKPbc** 06 39 42.5 -0.2
BVAR Borovoye Array 146.31 42 PKPbc **PKPbc** 06 39 42.5 -0.2
BVAR Borovoye Array 146.31 42 PKPbc **PKPbc** 06 39 42.5 -0.2
comp=Z,11nm,0.7s,baz=270,slow=4.4,SNR=30
VOSK Vostochnaya 146.75 42 PKP2 **PKPdf** 06 39 42.3 0.0
VOSK pmax pmax
comp=Z,26nm,1.0s
YAK Yakutsk 147.61 341 *e*PKP2 **PKPbc** 06 39 45.1 -0.9
YAK pmax pmax
comp=Z,63nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.5s
YAK pmax pmax
comp=N,7.0nm,1.2s
KK31 Karatay Array 148.86 60 *i* PKIKP **PKPdf** 06 39 47.4 +1.3
KK31 pmax pmax
comp=Z,13nm,0.8s
HYB Hyderabad 149.33 113 *i* PKP **PKPab** 06 39 58.0 +1.4
ASAJ Asahikawa 150.89 303 PKPbc **PKPbc** 06 39 55.1 +0.3
ASAJ Asahikawa 150.89 303 PKPbc **PKPbc** 06 39 55.1 +0.3
comp=Z,12nm,0.8s,baz=270,slow=12,SNR=3.7
EKS2 Erkin-Say 151.29 60 P **PKPbc** 06 39 57.2 +1.2
SNR=14
AML Almayashu 151.31 61 P **PKPbc** 06 39 57.1 +0.6
SNR=5.1
USP Ospenovka 151.72 59 P **PKPbc** 06 39 57.8 +0.9
SNR=13
AAK Ala-Archa 151.82 60 *c i* PKIKP **PKPbc** 06 39 57.8 +0.5
AAK Ala-Archa 151.82 60 P **PKPbc** 06 39 58.3 +1.0
SNR=11
FRU Bishkek 151.88 59 *e*PKIKP **PKPbc** 06 39 58.0 +0.7
FRU *i* 06 40 05.0
FRU pmax pmax
comp=Z,95nm,1.8s
KURBB Kurchatov Arra 151.90 42 PKPbc **PKPbc** 06 39 57.1 +0.1
comp=Z,14nm,0.8s,baz=299,slow=3.1,SNR=52
KURBB PP **PP** 06 43 40.1 +2.2
comp=Z,1.9nm,1.0s,baz=285,slow=6.4,SNR=4.5
KURK Kurchatov 151.91 42 PKIKP **PKPbc** 06 39 57.1 +0.1
KURK 06 43 40.2
KURK Kurchatov 151.91 42 PKPbc **PKPbc** 06 39 57.1 +0.1
KURK PP **PP** 06 43 40.1 +2.1
TKM2 Tokmak 2 152.57 59 PKIKP **PKPbc** 06 39 58.2 -0.9
TKM2 pmax pmax
comp=Z,19nm,1.1s
TKM2 Tokmak 2 152.57 59 P **PKPbc** 06 39 59.2 +0.2
SNR=9.0
ZALV Zalesovo Beam 153.13 31 PKIKP **PKPbc** 06 39 59.7 +0.1
ZALV Zalesovo Beam 153.13 31 PKPbc **PKPbc** 06 39 59.7 +0.1
ZALV Zalesovo Beam 153.13 31 PKPbc **PKPbc** 06 39 59.7 +0.1
comp=Z,19nm,0.8s,baz=296,slow=3.2,SNR=15
KSH Kashi 153.31 66 PKPbc PKPdf 06 39 48.0 -5.2
KSH PKS **PKSdf** 06 43 28.5 +0.9
KSH PPMZ
comp=Z,190nm,3.8s
KSH LR LR
comp=Z,170nm,5.1s
KSH LR LR
comp=Z,170nm,5.6s
KSH LR LR
comp=Z,240nm,6.3s
MK31 Makanchi Array 155.87 47 *i* PKP2 **PKPab** 06 40 23.2 -0.1
MK31 pmax pmax
comp=Z,21nm,0.9s
MKAR Makanchi Array 155.87 47 PKP2 **PKPab** 06 40 23.3 0.0
MKAR 06 44 01.1
MKAR Makanchi Array 155.87 47 PKPab **PKPab** 06 40 23.3 0.0
MKAR PP **PP** 06 44 01.1 +0.5
MKAR Makanchi Array 155.87 47 PKPab **PKPab** 06 40 23.3 0.0
comp=Z,11nm,0.8s,baz=298,slow=4.2,SNR=28
MKAR PP **PP** 06 44 01.1 +0.5
comp=Z,3.1nm,1.1s,baz=298,slow=2.6,SNR=4.9
MDJ Mudanjiang 159.53 312 PKP **PKPdf** 06 40 01.3 +0.4
MDJ SS SS 07 04 31.0 +4.5
MDJ LR LR
comp=Z,68nm,26.0s
MDJ LR LR
comp=Z,120nm,23.2s
MDJ LR LR
comp=Z,55nm,19.2s
WMQ Urumqi 160.62 49 *e*PKP **PKPdf** 06 40 02.8 +0.5
WMQ LR LR
comp=Z,140nm,28.8s
WMQ LR LR
comp=Z,250nm,30.4s
WMQ LR LR
comp=Z,100nm,25.6s
ZAK Zakamensk 162.05 10 *e*PKP2 **PKPab** 06 40 50.2 +0.3
ZAK pmax pmax
comp=Z,5.0nm,1.4s
CN2 Changchun 162.51 314 *e*PKP **PKPdf** 06 40 02.0 -2.1
CN2 PP **PP** 06 44 38.0 +1.4
CN2 LR LR
comp=Z,200nm,19.0s
CN2 LR LR
comp=Z,200nm,19.0s
CN2 LR LR
comp=Z,200nm,21.0s
KSRS Korea Array 163.11 292 PKP **PKPdf** 06 40 03.4 -1.5
comp=Z,1.9nm,0.9s,baz=13,slow=0.1,SNR=8.4
KSRS PKPab **PKPab** 06 40 56.6 +1.6
comp=Z,1.7nm,0.9s,baz=83,slow=4.5,SNR=6.0
KSAR Wonju Array Be 163.15 292 PKP **PKPdf** 06 40 03.4 -1.5
KSAR PKPab **PKPab** 06 40 56.6 +1.4
CMAR Chiang Mai Arr 163.55 148 PKPab **PKPab** 06 40 57.3 +0.1
CMAR PP **PP** 06 44 43.2 +1.5
CMAR Chiang Mai Arr 163.55 148 PKPab **PKPab** 06 40 57.3 +0.1
comp=Z,0.9nm,0.4s,baz=219,slow=3.9,SNR=4.8
CMAR PP **PP** 06 44 43.2 +1.5
comp=Z,0.8nm,0.3s,baz=248,slow=7.6,SNR=4.2
SHL Shillong 164.14 113 *e*P **PKPab** 06 41 00.5 +0.4
SNY Shenyang 164.73 311 ⇑PKP **PKPdf** 06 40 05.3 -0.9
SONM Songino Array 164.90 4 PKP **PKPdf** 06 40 05.9 -0.4
SONM PKPab **PKPab** 06 41 01.3 -1.3
SONM PP PP 06 44 54.5 +6.1
SONM Songino Array 164.90 4 PKP **PKPdf** 06 40 05.9 -0.4
comp=Z,0.3nm,0.4s,baz=342,slow=0.5,SNR=4.3
SONM PKPab **PKPab** 06 41 01.3 -1.3
comp=Z,3.2nm,0.9s,baz=336,slow=4.2,SNR=12
SONM PP PP 06 44 54.5 +6.1
comp=Z,1.8nm,1.2s,baz=316,slow=8.3,SNR=4.1
QIZ Qiongzhong 166.22 187 PKP **PKPdf** 06 40 08.5 +0.3
QIZ PP **PP** 06 44 54.3 -0.8
QIZ PPMZ
comp=Z,200nm,5.4s
QIZ LR LR
comp=Z,250nm,5.2s
BJI Beijing 170.25 320 PKP **PKPdf** 06 40 10.5 +0.3
BJI LR LR
comp=Z,64nm,25.8s
GTA Gaotai 170.59 43 PKP **PKPdf** 06 40 11.3 +0.6
GTA PKPab **PKPab** 06 41 29.0 +0.9
GTA PKS **PKSdf** 06 43 41.3 -1.8
GTA PP **PP** 06 45 19.3 +1.0
GTA SKS **SKSdf** 06 47 10.3 -2.9
GTA SKKS **SKKSac** 06 52 03.5 -0.9
GTA SS **SS** 07 06 19.0 -0.6
GTA PPMZ
comp=Z,160nm,6.2s
GTA LR LR
comp=Z,210nm,16.2s
GTA LR LR
comp=Z,140nm,14.2s
GTA LR LR
comp=Z,150nm,17.1s
NJ2 Nanjing 170.86 268 *e*PKP **PKPdf** 06 40 10.3 -0.5
KMI Kunming 171.06 147 PKP **PKPdf** 06 40 12.3 +0.8
HHC Hu-ho-hao-te 171.47 342 *e*PKP **PKPdf** 06 40 09.5 -1.5
HHC PKS **PKSdf** 06 43 41.0 -2.4
HHC SKS **SKSdf** 06 47 11.8 -1.6
HHC SKKS **SKKSac** 06 52 10.5 +2.2
HHC PPMZ
comp=Z,280nm,9.6s
HHC LR LR
comp=Z,350nm,22.8s
HHC LR LR
comp=Z,360nm,21.3s
HHC LR LR
comp=Z,160nm,21.5s
GYA Guiyang 173.59 169 PKP **PKPdf** 06 40 11.5 -0.9
GYA PKPab **PKPab** 06 41 42.5 +1.0
GYA PKS **PKSdf** 06 43 42.0 -2.9
GYA SKKS 06 52 19.8
GYA PPMZ
comp=Z,130nm,8.4s
GYA LR LR
comp=Z,140nm,22.0s
GYA LR LR
comp=Z,130nm,23.4s
GYA LR LR
comp=Z,150nm,21.8s
LZH Lanzhou 175.18 45 *e*PKP **PKPdf** 06 40 11.8 -0.9
LZH pPKP **pPKPdf** 06 40 19.5 +0.1
CD2 Chengdu 175.88 116 PKP **PKPdf** 06 40 13.0 +0.1
CD2 PKS **PKSdf** 06 43 43.8 -1.3
CD2 SKS **SKSdf** 06 47 13.5 -1.5
CD2 PPMZ
comp=Z,310nm,3.8s
CD2 LR LR
comp=Z,300nm,7.8s
CD2 LR LR
comp=Z,540nm,9.2s

*ISCJB **28** 06:52:18.7±1.0, 32°.80S±0°.03×72°.05W±0°.04, h5km±6km, mb4.0/5, Error ellipse: s-maj=6.7km s-min=3.6km az=156.0*
*IDC **28** 06:52:18.9±1.1, 32°.79S×72°.09W, h0km, mb4.1/4, mb1 4.1/8, mb1mx3.9/18, mbtmp3.9/8, ML3.8/4, MS2.9/1, Ms1 2.9/1, ms1mx2.7/25, Error ellipse: s-maj=31.2km s-min=25.8km az=119.0*
*NEIC **28** 06:52:20.6±0.5, 32°.79S×72°.08W, h10km, mb4.1/1, Error ellipse: s-maj=11.2km s-min=7.4km az=87.0*
*GUC **28** 06:52:20.7±0.5, 32°.80S×71°.95W, h8km±1km, ML4.1*
ISC 28 06:52:20.0±1.6, 32°.83S±0°.03×71°.97W±0°.06, h5km±10km, n50, σ0°.83/65, mb4.2/5, 3C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.34**	**125**	⇓*i* P	**Pb**	**06 52 27.9**	**-0.6**
IHA				*i* S	**Sb**	**06 52 33.0**	**-1.1**
CHNG	**Los Chungos**	**1.03**	**23**	⇓*i* P	**Pg**	**06 52 38.8**	**-0.9**
CHNG				*i* S	**Sb**	**06 52 52.9**	**-1.1**
PEL	**Peldehue**	**1.12**	**106**	⇑*i* P	**Pg**	**06 52 41.3**	**-0.3**
PEL				*i* S	**Sb**	**06 52 56.6**	**-0.3**
JACH	**Jahuel**	**1.17**	**83**	*e* P	**Pg**	**06 52 41.8**	**-0.7**
JACH				⇓*i* P	**Pg**	**06 52 41.8**	**-0.7**
JACH				*i* S	**Sb**	**06 52 57.9**	**-0.4**
TACH	**Talagante**	**1.19**	**134**	*i* P	**Pb**	**06 52 42.2**	**-0.9**
LNV	**Longovilo**	**1.21**	**157**	*e* P	**Pn**	**06 52 42.7**	**-0.9**
LNV				*i* S	**Sb**	**06 52 59.7**	**+0.2**
SAN	**Santiago**	**1.26**	**120**	*e* P	**Pn**	**06 52 43.5**	**-0.8**
SAN				*i* S	**Sb**	**06 53 00.6**	**-0.2**
STL	**Santa Lucia**	**1.27**	**119**	⇓*i* P	**Pn**	**06 52 43.5**	**-0.9**
STL				*i* S	**Sb**	**06 53 00.7**	**-0.3**
CLCH	**Cerro Calan**	**1.33**	**115**	⇓*i* P	**Pn**	**06 52 44.6**	**-0.7**
CLCH				*i* S	**Sb**	**06 53 02.5**	**-0.3**
CLCH				AML	AML	06 53 13.5	
	comp=E,5μm,0.4s						
ANTU	**Antumapu**	**1.34**	**124**	*i* P	**Pn**	**06 52 45.1**	**-0.3**
ANTU				*i* S	**Sb**	**06 53 02.8**	**-0.3**
ANTU				AML	AML	06 53 10.6	
	comp=N,5μm,0.3s						
LACH	**Col Las Ámeric**	**1.36**	**117**	⇓*i* P	**Pn**	**06 52 45.3**	**-0.4**
LACH				*i* S	**Sb**	**06 53 03.3**	**-0.3**
FSR	**Penalolen**	**1.37**	**118**	*e* P	**Pb**	**06 52 46.5**	**+0.3**
FSR				*i* S	**Sg**	**06 53 05.4**	**+1.3**
PCH	**Pirque**	**1.45**	**123**	*e* P	**Pn**	**06 52 46.7**	**-0.3**
PCH				*i* S	**Sn**	**06 53 06.2**	**-0.2**
CACH	**El Canelo**	**1.72**	**139**	*i* P	**Pb**	**06 52 51.9**	**-0.2**
CACH				*i* S	**Sg**	**06 53 15.5**	**+0.3**
LMEL	**Las Melosas**	**1.79**	**125**	⇓*i* P	**Pn**	**06 52 52.2**	**+0.5**
LMEL				*i* S	**Sb**	**06 53 16.2**	**0.0**
LMEL				AML	AML	06 53 21.4	
	comp=N,2μm,0.6s						
CMCH	**Combarbala**	**1.85**	**27**	⇑*i* P	**Pn**	**06 52 51.7**	**-0.8**
CMCH				*i* S	**Sn**	**06 53 16.1**	**-0.1**
NICH	**Los Niches**	**2.25**	**164**	⇓*i* P	**Pn**	**06 52 59.4**	**+1.5**
NICH				*i* S	**Sb**	**06 53 28.8**	**-0.5**
NICH				AML	AML	06 53 48.6	
	comp=N,1μm,0.6s						
TLL	**Tololo Astrono**	**2.84**	**21**	⇑*i* P	**Pn**	**06 53 06.3**	**+0.1**
TLL				*i* S	**Sn**	**06 53 43.0**	**+2.1**
TLL				AML	AML	06 53 55.6	

comp=N,946nm,0.4s
CFAA Coronel Fontan 3.39 70 Pn **Pn 06 53 16.0 +2.4**
CFAA Lg Lg 06 54 04.8
CFAA Coronel Fontan 3.39 70 Pn **Pn 06 53 16.0 +2.4**
comp=N,0.2nm,0.3s,baz=244,slow=14,SNR=33
CFAA Lg Lg 06 54 04.8
comp=N,2.6nm,0.3s,baz=358,slow=21,SNR=6.8
LCO Las Campanas 3.96 16 *e*Pn **Pn 06 53 20.8 -0.8**
H03N1 Juan Fernandez 5.85 262 T T 07 00 20.6
baz=83,slow=0.7,SNR=96
H03N3 Juan Fernandez 5.87 262 T T 07 00 21.9
baz=83,slow=0.7,SNR=113
H03N2 Juan Fernandez 5.87 262 T T 07 00 20.6
baz=83,slow=0.7,SNR=159
PLCA Paso Flores 7.97 172 Pn **Pn 06 54 17.5 +1.0**
PLCA Lg Lg 06 56 32.6
PLCA Paso Flores 7.97 172 Pn **Pn 06 54 17.5 +1.0**
comp=N,0.2nm,0.3s,baz=0.8,slow=9.8,SNR=5.6
PLCA Lg Lg 06 56 32.6
comp=N,0.3nm,0.3s,baz=216,slow=16,SNR=6.2
PLCA LR LR 06 57 30.0
comp=N,90nm,20.1s,baz=265,slow=39
TRQA Tornquist 9.67 125 *e*Pn **Pn 06 54 41.1 +1.3**
LVC Limon Verde 10.54 16 Pn **Pn 06 54 52.8 +0.8**
comp=N,6.4nm,0.8s
CPUP Villa Florida 14.29 67 Pn **Pn 06 55 43.8 +0.9**
CPUP Lg Lg 06 59 55.1
CPUP Villa Florida 14.29 67 Pn **Pn 06 55 43.8 +0.9**
comp=N,0.3nm,0.3s,baz=246,slow=20,SNR=2.9
CPUP Lg Lg 06 59 55.1
comp=N,0.2nm,0.3s,baz=311,slow=20,SNR=1.9
LPAZ La Paz 16.84 13 Pn **Pn 06 56 17.1 -0.1**
LPAZ La Paz 16.84 13 Pn **Pn 06 56 17.1 -0.1**
comp=N,0.1nm,0.3s,baz=201,slow=6.6,SNR=11
SIV San Ignacio 19.46 33 P **P 06 56 46.6 -1.0**
SIV San Ignacio 19.46 33 P **P 06 56 46.6 -1.0**
comp=N,0.1nm,0.3s,baz=226,slow=5.9,SNR=3.6
SAML Samuel 25.12 21 P **P 06 57 44.7 -1.2**
comp=N,5.1nm,1.1s
BDFB Brasilia 27.65 57 P **P 06 58 08.6 -0.3**
BDFB Brasilia 27.65 57 P **P 06 58 08.6 -0.3**
comp=N,2.7nm,0.9s,baz=231,slow=13,SNR=3.3
TXAR Lajitas Array 68.75 331 P **P 07 03 24.4 -0.5**
TXAR Lajitas Array 68.75 331 P **P 07 03 24.4 -0.5**
comp=N,0.3nm,0.5s,baz=128,slow=5.8,SNR=3.9
LENM Lemitar 74.33 330 P **P 07 03 58.9 +0.3**
BOSA Boshof 80.56 118 P **P 07 04 33.8 0.0**
BOSA Boshof 80.56 118 P **P 07 04 33.8 0.0**
comp=N,6.9nm,1.1s,baz=260,slow=6.1,SNR=3.6
TORD Torodi Ar. Bea 83.76 70 P **P 07 04 50.3 -0.2**
TORD Torodi Ar. Bea 83.76 70 P **P 07 04 50.3 -0.2**
comp=N,1.3nm,0.8s,baz=262,slow=4.6,SNR=6.7
WRA Warramunga Arr 121.80 209 PKP **PKPdf 07 11 15.2 -0.6**
WRA Warramunga Arr 121.80 209 PKP **PKPdf 07 11 15.2 -0.6**
comp=N,0.4nm,1.0s,baz=164,slow=1.7,SNR=4.0
ZALV Zalesovo Beam 153.21 31 PKPbc **PKPbc 07 12 18.5 +0.1**
ZALV Zalesovo Beam 153.21 31 PKPbc **PKPbc 07 12 18.5 +0.1**
comp=N,1.8nm,0.8s,baz=299,slow=3.1,SNR=7.4
MKAR Makanchi Array 155.94 47 PKPab **PKPab 07 12 42.1 0.0**
MKAR Makanchi Array 155.94 47 PKPab **PKPab 07 12 42.1 0.0**
comp=N,0.8nm,0.6s,baz=292,slow=4.1,SNR=8.0

*DDA **28** 07:05:55.7,39.4N×26.4E,h7km,MD2.6*
*CSEM **28** 07:05:56.5±0.2,39.4N×26.3E,h10km,MD2.8,Error ellipse: s-maj=4.9km s-min=4.0km az=80.0*
*ATH **28** 07:05:57.2,39.51N×26.33E,h5km±4km,MD2.8/7*

ISC 28 07:05:56.9±0.9,39.49N±0.04×26.37E±0.03,h15km±8km, n17,σ0s57/31,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.25**	**197**		*e*PG		**Pg**	**07 06 02.1**	**-0.2**
PRK					*e*SG		**Sg**	**07 06 07.2**	**+1.1**
PRK	**Paraskevi**	**0.25**	**197**		*e*Pg		**Pg**	**07 06 02.1**	**-0.2**
PRK					*e*Sg		**Sg**	**07 06 07.2**	**+1.1**
AYVA	**Ayvalik**	**0.31**	**125**		*i* P		**Pg**	**07 06 02.3**	**-1.0**
AYVA					*i* S		**Sg**	**07 06 07.9**	**+0.2**
AYVA	**Ayvalik**	**0.31**	**125**		*i* P		**Pg**	**07 06 02.3**	**-1.0**
AYVA					*i* S		**Sg**	**07 06 07.9**	**+0.2**
SIGR	**SIGRI**	**0.48**	**236**		*e*PG		**Pg**	**07 06 06.2**	**-0.3**
SIGR					*e*SB		**Sg**	**07 06 12.7**	**-0.3**
SIGR	**SIGRI**	**0.48**	**236**		*e*Pg		**Pg**	**07 06 06.2**	**-0.3**
SIGR					*e*Sb		**Sg**	**07 06 12.7**	**-0.3**
BALY	**Balya**	**1.00**	**75**		*i* P		**Pg**	**07 06 16.3**	**+0.1**
BALY					*i* S		**Sg**	**07 06 29.5**	**+0.2**
LIA	**Limnos Island**	**1.00**	**295**		*e*PN		**Pb**	**07 06 16.0**	**+0.1**
LIA					*e*SB		**Sn**	**07 06 30.2**	**+0.1**
LIA	**Limnos Island**	**1.00**	**295**		*e*Pn		**Pb**	**07 06 16.0**	**+0.1**
LIA					*e*Sb		**Sn**	**07 06 30.2**	**+0.1**
CHOS	**Chios island**	**1.12**	**193**		*e*PB		**Pg**	**07 06 17.5**	**-1.1**
CHOS	**Chios island**	**1.12**	**193**		*e*Pb		**Pg**	**07 06 17.5**	**-1.1**
SMTH	**Samothraki Isl**	**1.18**	**327**		*e*PB		**Pb**	**07 06 18.9**	**0.0**
SMTH					*e*SB		**Sn**	**07 06 34.9**	**+0.4**
SMTH	**Samothraki Isl**	**1.18**	**327**		*e*Pb		**Pb**	**07 06 18.9**	**0.0**
SMTH					*e*Sb		**Sn**	**07 06 34.9**	**+0.4**
ALN	**Alexandroupoli**	**1.43**	**350**		*e*PG		**Pb**	**07 06 23.4**	**+0.2**
ALN					*e*SN		**Sg**	**07 06 43.1**	**+0.1**
ALN	**Alexandroupoli**	**1.43**	**350**		*e*Pg		**Pb**	**07 06 23.4**	**+0.2**
ALN					*e*Sn		**Sg**	**07 06 43.1**	**+0.1**
DURS	**Dursunbey**	**1.63**	**85**		*i* P		**Pn**	**07 06 24.8**	**-0.3**
DURS					*i* S		**Sn**	**07 06 46.5**	**+0.6**
SMG	**Samos**	**1.81**	**168**		*e*PN		**Pg**	**07 06 32.2**	**+0.5**

IDC 28 07:17:24.1±8.4,14.24S×167.10E,h80km±82km,mb3.6/4, mb1 3.9/5,mb1mx3.6/20,mbtmp3.7/5,ML4.3/1,Error ellipse: s-maj=89.4km s-min=30.8km az=152.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.82**	**184**		P		Pn	07 19 15.1	-0.2
	3.9nm,0.3s,baz=47,slow=20,SNR=26								
DZM					S		Sn	07 20 34.1	-8.3
	baz=336,slow=20,SNR=2.2								
STKA	**Stephens Creek**	**29.19**	**229**		P		P	07 23 18.5	+0.3
	3.4nm,0.4s,baz=51,slow=8.0,SNR=24								
WRA	**Warramunga Arr**	**31.79**	**255**		P		P	07 23 41.5	+0.2
	0.2nm,0.3s,baz=83,slow=7.3,SNR=2.8								
ASAR	**Alice Springs**	**32.70**	**248**		P		P	07 23 48.9	-0.4
	0.9nm,0.6s,baz=77,slow=9.2,SNR=13								
ILAR	**Eielson Array**	**86.11**	**18**		P		P	07 29 56.1	+0.2
	0.5nm,1.1s,baz=248,slow=4.7,SNR=5.3								
ARCES	**ARCESS Array B**	**119.73**	**345**		PKP		PKPdf	07 36 04.0	-0.5
	2.0nm,0.8s,baz=68,slow=2.5,SNR=9.2								
TORD	**Torodi Ar. Bea**	**165.78**	**267**		PKPab		PKPab	07 38 20.0	-0.5
	0.8nm,1.0s,baz=86,slow=3.0,SNR=2.8								

IDC 28 07:28:48.9±3.1,3.94S×151.96E,h0km,mb3.4/2, mb1 3.7/2,mb1mx3.3/18,mbtmp3.4/2,Error ellipse: s-maj=137.4km s-min=42.4km az=121.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.42**	**226**		P		P	07 34 00.8	+1.0
	1.0nm,0.6s,baz=53,slow=10,SNR=9.1								
ASAR	**Alice Springs**	**26.25**	**220**		P		P	07 34 26.2	+0.2
	0.2nm,0.4s,baz=54,slow=8.6,SNR=3.7								
TORD	**Torodi Ar. Bea**	**149.24**	**289**		PKPbc		PKPbc	07 48 39.2	-1.5
	0.2nm,0.3s,baz=90,slow=2.2,SNR=7.2								

IDC 28 07:34:16.6±2.1,0.84S×127.92E,h0km,mb3.3/2, mb1 3.5/3,mb1mx3.3/21,mbtmp3.3/3,ML3.3/1,Error ellipse: s-maj=153.9km s-min=25.7km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.99**	**162**		P		P	07 38 51.0	+0.1
	0.1nm,0.3s,baz=341,slow=11,SNR=5.8								
ASAR	**Alice Springs**	**23.42**	**166**		P		P	07 39 27.4	-0.1
	0.6nm,0.6s,baz=350,slow=12,SNR=7.8								
MKAR	**Makanchi Array**	**61.98**	**326**		P		P	07 44 38.5	-0.1
	0.1nm,0.4s,baz=111,slow=8.3,SNR=4.5								

*ISCJB **28** 07:56:30.9±1.1,36.54N±0.08×71.2E±0.1,h150km, mb3.1/2,Error ellipse: s-maj=12.6km s-min=11.3km az=1.4*
*IDC **28** 07:56:32.7±14.0,36.48N×71.23E,h162km±137km, mb3.0/2,mb1 3.2/7,mb1mx2.9/31,mbtmp3.1/7,ML3.9/5, Error ellipse: s-maj=82.8km s-min=26.7km az=8.0*
*NNC **28** 07:56:41.3±5.1,37.11N×71.05E,h179km±60km,mb3.0, mpv3.9,Error ellipse: s-maj=46.1km s-min=23.8km az=18.0*

ISC 28 07:56:33.3±1.7,36.7N±0.1×71.0E±0.1,h150km,n12, σ1s31/13,4C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.42**	**357**		P		Pn	07 58 08.7	+3.1
	2.6nm,0.3s,baz=176,slow=12,SNR=62								
KK31					⇑S		**Sn**	**07 59 17.7**	**-0.2**
	9.4nm,0.4s,baz=204,slow=41,SNR=3.6								
TKM2	**Tokmak 2**	**7.17**	**28**		⇑P		**Pn**	**07 58 17.5**	**+1.8**
	5.8nm,0.6s								
TKM2					⇓S		**Sn**	**07 59 35.1**	**-1.0**
	9.2nm,0.9s								
MK31	**Makanchi Array**	**13.15**	**36**		P		**P**	**07 59 38.8**	**-0.1**
	1.2nm,0.6s,baz=213,slow=10,SNR=8.4								
MKAR	**Makanchi Array**	**13.15**	**36**		P		**Pn**	**07 59 32.9**	**-1.4**
	0.1nm,0.3s,baz=209,slow=11,SNR=3.4								
AB31	**Akbulak array**	**14.92**	**331**		⇑P		**P**	**07 59 58.3**	**-0.1**
	0.7nm,0.4s,baz=0.0,slow=0.1,SNR=24								
AB31					⇑S		**Sn**	**08 02 40.2**	**-1.8**
	2.1nm,0.7s,baz=148,slow=23,SNR=5.4								
KURBB	**Kurchatov Arra**	**14.95**	**19**		P		**Pn**	**07 59 57.8**	**+0.9**
	0.4nm,0.3s,baz=207,slow=11,SNR=4.1								
BVAR	**Borovoye Array**	**16.34**	**359**		P		**P**	**08 00 15.1**	**+1.0**
	0.3nm,0.3s,baz=188,slow=4.4,SNR=4.1								
AKTO	**Aktyubinsk**	**16.61**	**330**		⇓P		**Pn**	**08 00 18.8**	**+1.5**
	2.5nm,0.5s								
AKTO	**Aktyubinsk**	**16.61**	**330**		P		**Pn**	**08 00 19.0**	**+1.7**
	1.1nm,0.3s,baz=134,slow=10,SNR=16								
ZALV	**Zalesovo Beam**	**19.75**	**25**		P		**P**	**08 00 51.0**	**-0.4**
	0.7nm,0.3s,baz=225,slow=12,SNR=9.0								
TORD	**Torodi Ar. Bea**	**65.71**	**269**		P		**P**	**08 07 01.3**	**-0.8**
	0.7nm,0.5s,baz=51,slow=6.0,SNR=8.3								
WRA	**Warramunga Arr**	**82.10**	**122**		P		P	08 08 33.9	-3.3
	0.1nm,0.8s,baz=320,slow=4.5,SNR=3.7								

*ISCJB **28** 07:57:36.2±0.2,37.44N±0.02×23.08E±0.03,h97km±2km, mb3.8/16,Error ellipse: s-maj=3.6km s-min=2.6km az=149.7*
*IDC **28** 07:57:36.8±1.8,37.43N×23.19E,h91km±17km,mb3.6/16, mb1 3.7/20,mb1mx3.6/35,mbtmp3.6/20,MS3.6/2, Ms1 3.6/2,ms1mx2.5/44,Error ellipse: s-maj=16.1km s-min=13.9km az=3.0*
*HLW **28** 07:57:36.2,37.46N×23.69E,h33km±21km,Md3.9,Ml4.0*
*ATH **28** 07:57:36.5,37.41N×23.10E,h87km±1km,ML3.6*
*CSEM **28** 07:57:37.5±0.1,37.41N×23.04E,h85km±2km,ML3.6, Error ellipse: s-maj=3.3km s-min=2.5km az=55.0*
*THE **28** 07:57:37.8,37.41N×23.09E,h80km±1km,ML4.0/11,Error ellipse: s-maj=1.0km s-min=0.3km az=347.0*
*BEO **28** 07:57:38.6±0.8,37.65N×22.32E,h0km,ML3.6/6*

ISC 28 07:57:36.6±0.5,37.45N±0.03×23.06E±0.02,h89km±3km, n232,σ1s41/296,mb3.8/16,8C-10D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DID	**Didima**	**0.15**	**67**		P		**Pn**	**07 57 49.4**	**+0.1**
DID					S		**Sn**	**07 57 58.3**	**-0.5**
DID	**Didima**	**0.15**	**67**		*e*P		**Pn**	**07 57 49.6**	**+0.3**
DID					*e*S		**Sn**	**07 57 59.1**	**+0.3**
DID	**Didima**	**0.15**	**67**		*e*P		**Pn**	**07 57 49.6**	**+0.3**
DID					S		**Sn**	**07 57 58.3**	**-0.5**
VLX	**Vlachokerasia**	**0.55**	**262**		P		**Pn**	**07 57 52.1**	**+0.4**
VLX					S		**Sn**	**07 58 03.1**	**+0.2**
VLX	**Vlachokerasia**	**0.55**	**262**		*e*P		**Pn**	**07 57 52.5**	**+0.8**
VLX					*e*S		**Sn**	**07 58 02.9**	**0.0**
VLX	**Vlachokerasia**	**0.55**	**262**		*e*P		**Pn**	**07 57 52.5**	**+0.8**
VLX					S		**Sn**	**07 58 03.1**	**+0.2**
LTK	**Loutraki**	**0.58**	**353**		P		**Pn**	**07 57 52.5**	**+0.6**
LTK					S		**Sn**	**07 58 03.4**	**+0.1**
LTK	**Loutraki**	**0.58**	**353**		*e*P		**Pn**	**07 57 52.5**	**+0.6**
LTK					*e*S		**Sn**	**07 58 03.4**	**+0.1**
LTK	**Loutraki**	**0.58**	**353**		*e*P		**Pn**	**07 57 52.5**	**+0.6**
LTK					*e*S		**Sn**	**07 58 03.4**	**+0.1**
ATH	**Athens Observa**	**0.74**	**45**		P		**Pn**	**07 57 53.9**	**+0.5**
ATH					S		**Sn**	**07 58 06.5**	**+0.6**
ATH	**Athens Observa**	**0.74**	**45**		*e*P		**Pn**	**07 57 54.3**	**+0.9**
ATH					*e*S		**Sn**	**07 58 05.6**	**-0.3**
ATH	**Athens Observa**	**0.74**	**45**		P		**Pn**	**07 57 53.9**	**+0.5**
ATH					S		**Sn**	**07 58 06.5**	**+0.6**
VILL	**Villia**	**0.74**	**16**		*e*P		**Pn**	**07 57 54.2**	**+0.7**
VILL					*e*S		**Sn**	**07 58 06.5**	**+0.4**
GUR	**Goura**	**0.75**	**311**		P		**Pn**	**07 57 54.2**	**+0.6**
GUR					S		**Sn**	**07 58 06.7**	**+0.4**
GUR	**Goura**	**0.75**	**311**		*e*P		**Pn**	**07 57 54.6**	**+0.9**
GUR					*e*S		**Sn**	**07 58 06.3**	**0.0**
GUR	**Goura**	**0.75**	**311**		P		**Pn**	**07 57 54.5**	**+0.9**
GUR					S		**Sn**	**07 58 06.7**	**+0.4**
ATHU	**Athens Univers**	**0.78**	**48**		P		**Pn**	**07 57 54.5**	**+0.7**
ATHU					S		**Sn**	**07 58 05.2**	**-1.4**
VIL2	**Platees**	**0.78**	**12**		*e*P		**Pn**	**07 57 54.2**	**+0.3**
VIL2					*e*S		**Sn**	**07 58 06.5**	**-0.2**
PTL	**Penteli**	**0.88**	**46**		P		**Pn**	**07 57 55.5**	**+0.6**
PTL					S		**Sn**	**07 58 08.6**	**+0.1**
PTL	**Penteli**	**0.88**	**46**		*e*P		**Pn**	**07 57 55.9**	**+1.0**
PTL					*e*S		**Sn**	**07 58 08.7**	**+0.2**
PTL	**Penteli**	**0.88**	**46**		P		**Pn**	**07 57 55.5**	**+0.6**
PTL					*e*S		**Sn**	**07 58 08.7**	**+0.2**
KLV	**Kalavryta, Ach**	**0.94**	**310**		P		**Pn**	**07 57 56.5**	**+1.0**
KLV					S		**Sn**	**07 58 10.4**	**+0.7**
KLV	**Kalavryta, Ach**	**0.94**	**310**		*e*P		**Pn**	**07 57 56.5**	**+1.0**
KLV					*e*S		**Sn**	**07 58 10.4**	**+0.7**
KLV	**Kalavryta, Ach**	**0.94**	**310**		*e*P		**Pn**	**07 57 56.5**	**+1.0**
KLV					*e*S		**Sn**	**07 58 10.4**	**+0.7**
ITM	**Ithomi**	**0.94**	**254**		P		**Pn**	**07 57 56.1**	**+0.6**
ITM					S		**Sn**	**07 58 10.6**	**+0.9**
ITM	**Ithomi**	**0.94**	**254**		*e*P		**Pn**	**07 57 57.2**	**+1.7**
ITM					*e*S		**Sn**	**07 58 11.3**	**+1.6**
ITM	**Ithomi**	**0.94**	**254**		P		**Pn**	**07 57 56.1**	**+0.6**
ITM					S		**Sn**	**07 58 10.6**	**+0.9**
DESF	**Desfina**	**1.05**	**337**		*e*P		**Pn**	**07 57 57.8**	**+0.9**
DESF					*e*S		**Sn**	**07 58 12.7**	**+0.6**
DESF	**Desfina**	**1.05**	**337**		*e*P		**Pn**	**07 57 57.8**	**+0.9**
DESF					*e*S		**Sn**	**07 58 12.7**	**+0.6**
DSF	**Desfina**	**1.05**	**337**		P		**Pn**	**07 57 57.8**	**+0.9**
DSF					S		**Sn**	**07 58 13.0**	**+0.9**
DSF	**Desfina**	**1.05**	**337**		*e*P		**Pn**	**07 57 57.8**	**+0.9**
DSF					*e*S		**Sn**	**07 58 12.6**	**+0.5**
DSF	**Desfina**	**1.05**	**337**		*e*P		**Pn**	**07 57 57.8**	**+0.9**
DSF					S		**Sn**	**07 58 13.0**	**+0.9**
AMT	**Artemida-Makis**	**1.08**	**275**		P		**Pn**	**07 57 58.0**	**+0.9**
AMT					S		**Sn**	**07 58 14.0**	**+1.5**
AMT	**Artemida-Makis**	**1.08**	**275**		*e*P		**Pn**	**07 57 59.1**	**+2.0**
AMT	**Artemida-Makis**	**1.08**	**275**		P		**Pn**	**07 57 58.0**	**+0.9**
AMT					S		**Sn**	**07 58 14.0**	**+1.5**
KYTH	**Kithira**	**1.16**	**181**		P		**Pn**	**07 57 58.3**	**+0.1**
KYTH	**Kithira**	**1.16**	**181**		*e*P		**Pn**	**07 57 58.7**	**+0.5**
KYTH	**Kithira**	**1.16**	**181**		P		**Pn**	**07 57 58.3**	**+0.1**
LAKA	**Lakka**	**1.17**	**313**		*e*P		**Pn**	**07 57 59.5**	**+1.3**
LAKA					*e*S		**Sn**	**07 58 15.2**	**+0.8**
LAKA	**Lakka**	**1.17**	**313**		P		**Pn**	**07 57 59.3**	**+1.1**
LAKA					*e*S		**Sn**	**07 58 15.2**	**+0.8**
PYL	**PYLOS**	**1.19**	**243**		P		**Pn**	**07 57 58.9**	**+0.5**
PYL					S		**Sn**	**07 58 15.7**	**+0.9**
PYL	**PYLOS**	**1.19**	**243**		*e*P		**Pn**	**07 57 58.8**	**+0.4**
PYL	**PYLOS**	**1.19**	**243**		P		**Pn**	**07 57 58.9**	**+0.5**
PYL					S		**Sn**	**07 58 15.2**	**+0.4**
KALE	**Kalithea**	**1.19**	**323**		*e*P		**Pn**	**07 57 59.4**	**+0.9**
KALE					*e*S		**Sn**	**07 58 15.8**	**+0.8**
KALE	**Kalithea**	**1.19**	**323**		*e*P		**Pn**	**07 57 59.4**	**+0.9**
KALE					*e*S		**Sn**	**07 58 15.8**	**+0.8**
LKR	**Lokris**	**1.20**	**358**		P		**Pn**	**07 57 59.8**	**+1.1**
LKR					S		**Sn**	**07 58 16.4**	**+1.2**
LKR	**Lokris**	**1.20**	**358**		*e*P		**Pn**	**07 57 59.7**	**+1.1**
LKR					*e*S		**Sn**	**07 58 16.3**	**+1.1**
LKR	**Lokris**	**1.20**	**358**		*e*P		**Pn**	**07 57 59.7**	**+1.1**
LKR					*e*S		**Sn**	**07 58 16.3**	**+1.1**
PSA1	**Psathopyrgos**	**1.28**	**314**		*e*P		**Pn**	**07 58 00.7**	**+1.2**
PSA1					*e*S		**Sn**	**07 58 18.2**	**+1.5**
UPR	**University Cam**	**1.31**	**310**		P		**Pn**	**07 58 01.3**	**+1.4**
UPR					S		**Sn**	**07 58 19.3**	**+1.9**
UPR	**University Cam**	**1.31**	**310**		P		**Pn**	**07 58 01.3**	**+1.4**
UPR					S		**Sn**	**07 58 19.3**	**+1.9**
MRKA	**Markates**	**1.33**	**18**		*e*P		**Pn**	**07 58 01.2**	**+1.1**
MRKA	**Markates**	**1.33**	**18**		*e*P		**Pn**	**07 58 01.2**	**+1.1**
EFP	**Efpalio**	**1.34**	**317**		P		**Pn**	**07 58 01.8**	**+1.6**
EFP					S		**Sn**	**07 58 19.8**	**+1.7**
EFP	**Efpalio**	**1.34**	**317**		*e*P		**Pn**	**07 58 01.8**	**+1.6**
EFP					*e*S		**Sn**	**07 58 19.5**	**+1.4**
EFP	**Efpalio**	**1.34**	**317**		P		**Pn**	**07 58 01.5**	**+1.3**
EFP					*e*S		**Sn**	**07 58 19.5**	**+1.4**
AXAR	**Agios Charalam**	**1.36**	**347**		P		**Pn**	**07 58 01.8**	**+1.3**
AXAR					S		**Sn**	**07 58 19.4**	**+0.9**
RLS	**Riolos of Patr**	**1.40**	**296**		*e*P		**Pn**	**07 58 02.9**	**+1.9**
RLS	**Riolos of Patr**	**1.40**	**296**		P		**Pn**	**07 58 02.8**	**+1.8**
RLS					S		**Sn**	**07 58 21.6**	**+2.1**
SMIA	**Simia**	**1.44**	**5**		*e*P		**Pn**	**07 58 03.0**	**+1.5**
SMIA					*e*S		**Sn**	**07 58 22.4**	**+2.1**
SMIA	**Simia**	**1.44**	**5**		*e*P		**Pn**	**07 58 03.0**	**+1.5**
SMIA					*e*S		**Sn**	**07 58 22.4**	**+2.1**
AXS	**Araxos**	**1.53**	**300**		P		**Pn**	**07 58 04.1**	**+1.5**
AXS	**Araxos**	**1.53**	**300**		P		**Pn**	**07 58 04.1**	**+1.5**
VTN	**Vitineika**	**1.56**	**288**		P		**Pn**	**07 58 04.4**	**+1.4**
VTN	**Vitineika**	**1.56**	**288**		P		**Pn**	**07 58 04.4**	**+1.4**
ANKY	**Antikythira Is**	**1.59**	**173**		P		**Pn**	**07 58 03.6**	**+0.2**
ANKY					S		**Sn**	**07 58 24.0**	**+0.3**
ANKY	**Antikythira Is**	**1.59**	**173**		*e*P		**Pn**	**07 58 03.8**	**+0.4**
ANKY	**Antikythira Is**	**1.59**	**173**		*e*P		**Pn**	**07 58 03.8**	**+0.4**
ANKY					S		**Sn**	**07 58 24.0**	**+0.3**
AGG	**Agios Georgios**	**1.68**	**340**		P		**Pn**	**07 58 06.1**	**+1.5**
AGG	**Agios Georgios**	**1.68**	**340**		*e*P		**Pn**	**07 58 06.1**	**+1.5**
AGG	**Agios Georgios**	**1.68**	**340**		*e*P		**Pn**	**07 58 06.1**	**+1.5**
PVO	**Paravola**	**1.68**	**314**		P		**Pn**	**07 58 06.4**	**+1.8**
PVO					S		**Sn**	**07 58 28.1**	**+2.2**
PVO	**Paravola**	**1.68**	**314**		P		**Pn**	**07 58 06.4**	**+1.8**
PVO					S		**Sn**	**07 58 28.1**	**+2.2**
MAKR	**Makrakomi, Fth**	**1.73**	**335**		*e*P		**Pn**	**07 58 06.9**	**+1.7**
MAKR	**Makrakomi, Fth**	**1.73**	**335**		P		**Pn**	**07 58 06.8**	**+1.6**
MAKR					S		**Sn**	**07 58 27.2**	**+0.2**
SKIA	**Skiathos**	**1.75**	**10**		*e*P		**Pn**	**07 58 06.9**	**+1.4**
SKIA	**Skiathos**	**1.75**	**10**		*e*P		**Pn**	**07 58 06.9**	**+1.4**
EVR	**Evrytania**	**1.77**	**327**		P		**Pn**	**07 58 07.4**	**+1.6**
EVR	**Evrytania**	**1.77**	**327**		*e*P		**Pn**	**07 58 07.3**	**+1.4**
EVR	**Evrytania**	**1.77**	**327**		P		**Pn**	**07 58 07.2**	**+1.4**
EVR					S		**Sn**	**07 58 28.5**	**+0.5**
AOS	**Alonnisos**	**1.84**	**20**		P		**Pn**	**07 58 07.6**	**+1.0**
AOS	**Alonnisos**	**1.84**	**20**		*e*P		**Pn**	**07 58 07.6**	**+1.0**
AOS	**Alonnisos**	**1.84**	**20**		*e*P		**Pn**	**07 58 07.6**	**+1.0**
NEO	**Neokhori**	**1.86**	**4**		*e*P		**Pn**	**07 58 08.3**	**+1.3**
NEO	**Neokhori**	**1.86**	**4**		*e*P		**Pn**	**07 58 08.3**	**+1.3**
PDO	**Prodromos**	**1.88**	**308**		P		**Pn**	**07 58 08.7**	**+1.6**
PDO	**Prodromos**	**1.88**	**308**		*e*P		**Pn**	**07 58 09.6**	**+2.5**
PDO	**Prodromos**	**1.88**	**308**		P		**Pn**	**07 58 08.7**	**+1.6**
KFL	**Anninata**	**1.92**	**291**		P		**Pn**	**07 58 08.8**	**+1.1**
KFL	**Anninata**	**1.92**	**291**		P		**Pn**	**07 58 08.8**	**+1.1**
XOR	**Xorichti**	**1.92**	**3**		P		**Pn**	**07 58 08.9**	**+1.2**
XOR	**Xorichti**	**1.92**	**3**		*e*P		**Pn**	**07 58 08.9**	**+1.2**
XOR	**Xorichti**	**1.92**	**3**		*e*P		**Pn**	**07 58 08.9**	**+1.2**
APE	**Apeiranthos**	**2.01**	**100**		P		**Pn**	**07 58 09.6**	**+0.6**
APE					S		**Sn**	**07 58 33.8**	**+0.3**
APE	**Apeiranthos**	**2.01**	**100**		*e*P		**Pn**	**07 58 09.8**	**+0.9**
APE	**Apeiranthos**	**2.01**	**100**	⇑	*e*P		**Pn**	**07 58 09.5**	**+0.6**
APE	**Apeiranthos**	**2.01**	**100**	⇑	*e*P		**Pn**	**07 58 09.5**	**+0.6**
APE					S		**Sn**	**07 58 33.8**	**+0.3**
VLS	**Valsamata**	**2.09**	**291**		P		**Pn**	**07 58 11.3**	**+1.4**
VLS	**Valsamata**	**2.09**	**291**		P		**Pn**	**07 58 11.3**	**+1.4**
KARN	**Karanos**	**2.15**	**161**		P		**Pn**	**07 58 11.0**	**+0.2**
KARN					S

STON	**Ston**	**6.80**	**325**	*e*Pn	**Pn**	07 59 13.1	-0.5		
BBLS	**Lazići**	**6.99**	**338**	*e*Pn	**Pn**	07 59 15.6	-0.7		
BBLS				*e*Sn	**Sn**	08 00 29.6	-4.6		
BBLS	**Lazići**	**6.99**	**338**	*e*Pn	**Pn**	07 59 15.6	-0.7		
DIVS	**Divibare**	**7.04**	**342**	*e*Pn	**Pn**	07 59 16.2	-0.8		
DIVS				*e*Sn	**Sn**	08 00 30.4	-5.1		
DIVS	**Divibare**	**7.04**	**342**	*e*Pn	**Pn**	07 59 16.2	-0.8		
TLB	**Topalu**	**8.06**	**26**	⇓*i*P	**Pn**	07 59 32.0	+1.1		
TLB	**Topalu**	**8.06**	**26**	⇓*i*P	**Pn**	07 59 32.0	+1.1		
TIRR	**Tirgusor**	**8.09**	**28**	⇓*i*P	Pn	07 59 34.5	+3.3		
TIRR	**Tirgusor**	**8.09**	**28**	⇓*i*P	Pn	07 59 34.5	+3.3		
VOIR		**8.12**	**10**	⇑*i*P	**Pn**	07 59 34.1	+2.3		
VOIR		**8.12**	**10**	⇑*i*P	**Pn**	07 59 34.1	+2.3		
MLR	**Muntele Rosu**	**8.32**	**14**	⇓*i*P	**Pn**	07 59 37.0	+2.4		
MLR	**Muntele Rosu**	**8.32**	**14**	⇓*i*P	**Pn**	07 59 37.0	+2.4		
MLR	**Muntele Rosu**	**8.32**	**14**	P	**Pn**	07 59 36.4	+1.8		
	0.1nm,0.3s,baz=168,slow=14,SNR=2.9								
SWA2		**8.42**	**166**	P	Pn	07 59 33.0	-2.9		
	baz=169								
SWA2				AMP		08 01 00.0			
	comp=E,50μm,0.2s,logA/T=5.4,baz=169								
SWA2		**8.42**	**166**	P	Pn	07 59 33.0	-2.9		
SWA2				S	Sn	08 00 57.9	-11		
BRTR	**Keskin Array B**	**8.59**	**71**	P	**Pn**	07 59 37.6	-0.6		
	comp=E,0.1nm,0.3s,baz=248,slow=11,SNR=2.1								
PLOR	**Plostina**	**8.82**	**17**	⇓*i*P	Pn	07 59 44.7	+3.5		
PLOR	**Plostina**	**8.82**	**17**	⇓*i*P	Pn	07 59 44.7	+3.5		
VRI	**Vrincioaia**	**8.85**	**17**	⇓*i*P	Pn	07 59 44.9	+3.3		
VRI	**Vrincioaia**	**8.85**	**17**	⇓*i*P	Pn	07 59 44.9	+3.3		
UDBI	**Udbina**	**8.97**	**324**	*e*Pn	**Pn**	07 59 44.1	+0.8		
UDBI				Sn	**Sn**	08 01 18.9	-3.6		
UDBI	**Udbina**	**8.97**	**324**	*e*Pn	**Pn**	07 59 44.0	+0.8		
BOJS	**Bojanci**	**9.95**	**326**	*i* Pn	**Pn**	07 59 56.1	-0.5		
BOJS				*i* Sn	Sn	08 01 38.6	-7.8		
BOJS	**Bojanci**	**9.95**	**326**	*i* Pn	**Pn**	07 59 56.1	-0.5		
BOJS				*i* Sn	Sn	08 01 38.6	-7.8		
PDKS	**Podkum**	**10.50**	**328**	*i* Pn	**Pn**	08 00 04.1	0.0		
PDKS				*i* Sn	**Sn**	08 01 55.2	-4.6		
PDKS	**Podkum**	**10.50**	**328**	*i* Pn	**Pn**	08 00 04.1	0.0		
PDKS				*i* Sn	**Sn**	08 01 55.2	-4.6		
HSAF	**As Saff**	**10.54**	**135**	P	Pn	07 59 59.7	-5.1		
	baz=137								
HSAF	**As Saff**	**10.54**	**135**	P	Pn	07 59 59.7	-5.1		
GLL	**Jalalah**	**10.66**	**135**	P	Pn	08 00 01.1	-5.2		
	baz=137								
GLL	**Jalalah**	**10.66**	**135**	P	Pn	08 00 01.1	-5.2		
JAVS	**Javornik**	**10.79**	**324**	*i* Pn	**Pn**	08 00 07.2	-0.9		
JAVS				*i* Sn	Sn	08 02 00.0	-6.8		
JAVS	**Javornik**	**10.79**	**324**	*i* Pn	**Pn**	08 00 07.2	-0.9		
JAVS				*i* Sn	Sn	08 02 00.0	-6.8		
AMAG	**Maghara**	**10.81**	**126**	P	Pn	08 00 02.6	-5.8		
	baz=128								
AMAG				S	Sn	08 01 47.7	-20		
	baz=128								
AMAG	**Maghara**	**10.81**	**126**	P	Pn	08 00 02.6	-5.8		
AMAG				S	Sn	08 01 47.7	-20		
EIL	**Elat**	**12.58**	**125**	P	Pn	08 00 29.2	-3.1		
	comp=E,0.5nm,0.3s,baz=295,slow=19,SNR=5.9								
EIL				S	Sn	08 02 41.3	-9.3		
	comp=E,0.7nm,0.3s,baz=13,slow=18,SNR=3.8								
VRAC	**Vranov**	**12.75**	**340**	LR	LR	08 05 32.6			
	comp=E,41nm,19.4s,baz=278,slow=37								
GERES	**GERESS Array B**	**13.27**	**332**	P	**Pn**	**08 00 42.4**	**+1.0**		
	comp=E,0.5nm,0.3s,baz=149,slow=14,SNR=3.8								
AKASG	**Malin Array Be**	**13.96**	**16**	P	**P**	**08 00 54.8**	**-0.7**		
	comp=E,0.8nm,0.3s,baz=207,slow=9.8,SNR=4.2								
ESDC	**Sonseca Array**	**21.22**	**284**	P	**P**	**08 02 17.9**	**+2.7**		
	comp=E,0.8nm,0.4s,baz=85,slow=9.6,SNR=5.0								
HFS	**Hagfors**	**23.48**	**348**	P	**P**	**08 02 37.4**	**-0.7**		
	comp=E,2.5nm,0.5s,baz=150,slow=8.2,SNR=14								
FINES	**FINESS Array B**	**24.10**	**4**	P	**P**	**08 02 42.6**	**-1.0**		
	comp=E,2.3nm,0.8s,baz=159,slow=11,SNR=4.2								
NOA	**NORSAR Array B**	**24.77**	**346**	P	**P**	**08 02 49.0**	**-0.8**		
	comp=E,1.0nm,0.8s,baz=149,slow=9.6,SNR=5.6								
EKA	**Eskdalemuir Ar**	**25.20**	**324**	P	**P**	**08 02 54.6**	**+0.9**		
	comp=E,3.3nm,0.5s,baz=125,slow=9.1,SNR=12								
AKTO	**Aktyubinsk**	**28.04**	**51**	P	**P**	**08 03 18.1**	**-1.2**		
	comp=E,0.5nm,0.3s,baz=277,slow=16,SNR=3.0								
TORD	**Torodi Ar. Bea**	**30.81**	**224**	P	**P**	**08 03 44.7**	**+0.6**		
	comp=E,0.7nm,0.6s,baz=30,slow=9.4,SNR=7.3								
ARCES	**ARCESS Array B**	**32.18**	**2**	P	**P**	**08 03 54.9**	**-0.7**		
	comp=E,1.7nm,0.9s,baz=191,slow=9.0,SNR=5.1								
ARCES				PcP	**PcP**	**08 06 41.8**	**-0.4**		
	comp=E,2.4nm,0.9s,baz=192,slow=1.1,SNR=5.2								
BVAR	**Borovoye Array**	**36.06**	**49**	P	**P**	**08 04 29.9**	**+0.5**		
	comp=E,0.5nm,0.4s,baz=221,slow=5.1,SNR=3.2								
KURBB	**Kurchatov Arra**	**41.05**	**53**	P	**P**	**08 05 11.1**	**0.0**		
	comp=E,1.4nm,0.2s,baz=278,slow=8.7,SNR=4.0								
MKAR	**Makanchi Array**	**43.97**	**58**	P	**P**	**08 05 34.4**	**-0.6**		
	comp=E,0.5nm,0.3s,baz=273,slow=7.8,SNR=14								
ZALV	**Zalesovo Beam**	**44.69**	**48**	P	**P**	**08 05 39.8**	**-0.7**		
	comp=E,1.6nm,0.3s,baz=280,slow=8.1,SNR=6.8								
SONM	**Songino Array**	**59.36**	**51**	P	**P**	**08 07 28.8**	**-0.8**		
	comp=E,0.7nm,0.7s,baz=265,slow=7.1,SNR=4.8								
SCHQ	**Schefferville**	**60.35**	**318**	P	**P**	**08 07 36.7**	**+0.7**		
	comp=E,3.0nm,0.6s,baz=60,slow=8.1,SNR=5.2								
ILAR	**Eielson Array**	**77.81**	**356**	P	**P**	**08 09 24.3**	**+0.5**		
	comp=E,0.2nm,0.5s,baz=355,slow=3.3,SNR=6.1								
BBB	**Bella Bella**	**87.26**	**343**	LR	LR	08 52 06.3			
	comp=E,167nm,18.4s,baz=94,slow=37								
PDAR	**Pinedale Array**	**89.27**	**327**	P	**P**	**08 10 23.3**	**+0.2**		
	comp=E,0.2nm,0.4s,baz=64,slow=4.1,SNR=2.9								
ASAR	**Alice Springs**	**120.09**	**98**	PKP	**PKPdf**	**08 16 16.7**	**-0.6**		
	comp=E,0.2nm,0.3s,baz=310,slow=1.9,SNR=4.6								

*BJI **28** 08:36:05.4, 41˚.30N×73˚.20E, h5km, mB4.1/1, mb4.2/3, ML4.2/4*

*ISCJB **28** 08:36:05.8±0.4, 41˚.23N±0˚.03×73˚.20E±0˚.04, h11km, mb3.9/16, MS3.1/1, Error ellipse: s-maj=4.7km s-min=4.4km az=1.1*

*IDC **28** 08:36:05.6±1.3, 41˚.15N×73˚.19E, h0km, mb4.0/9, mb1 4.1/13, mb1mx3.9/30, mbtmp3.9/13, ML4.0/4, MS3.0/1, Ms1 3.0/1, ms1mx2.5/33, Error ellipse: s-maj=25.2km s-min=12.4km az=159.0*

*NNC **28** 08:36:08.4±1.3, 41˚.37N×73˚.46E, h0km, mb4.5, mpv4.3, Error ellipse: s-maj=13.9km s-min=5.5km az=177.0*

*MOS **28** 08:36:11.3±1.6, 41˚.50N×73˚.13E, h33km, mb4.3/12, Error ellipse: s-maj=8.9km s-min=5.6km az=82.4*

*NEIC **28** 08:36:12.0±1.0, 41˚.44N×73˚.22E, h35km, mb4.5/1, Error ellipse: s-maj=17.7km s-min=7.5km az=164.0*

ISC 28 08:36:06.4±0.6, **41˚.23N**±0˚.04×**73˚.25E**±0˚.04, **h11km**, **n91, s191/103, mb4.0/16, 13C-15B, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**0.96**	**20**	*i* PG	**Pb**	**08 36 25.0**	**-0.4**
AML	**Almayashu**	**0.96**	**20**	P	**Pb**	**08 36 25.0**	**-0.4**
	SNR=9.3						
EKS2	**Erkin-Say**	**1.49**	**15**	*e*PG	**Pb**	**08 36 33.7**	**-0.5**
EKS2	**Erkin-Say**	**1.49**	**15**	P	**Pb**	**08 36 33.6**	**-0.5**
	SNR=460						
EKS2	**Erkin-Say**	**1.49**	**15**	*e*Pn	**Pb**	**08 36 33.7**	**-0.5**
AAK	**Ala-Archa**	**1.69**	**33**	*d* P*	**Pn**	**08 36 36.1**	**+0.1**
AAK	**Ala-Archa**	**1.69**	**33**	*e*Pn	**Pn**	**08 36 36.2**	**+0.2**
AAK				*e*Sn	**Sn**	**08 36 54.1**	**-3.7**
KZA	**Kyzart**	**1.73**	**60**	P	**Pn**	**08 36 35.4**	**-1.3**
	SNR=86						
FRU	**Bishkek**	**1.90**	**32**	⇓*i*PN	**Pb**	**08 36 41.0**	**-0.2**
FRU				*e*S	**Sn**	**08 37 01.0**	**-1.9**
FRU				pmax	pmax		
	comp=Z,353nm,1.8s						
FRU				smax	smax		
	comp=E,2μm,1.8s						
KBK	**Karagaybulak**	**1.91**	**41**	*i* PN	**Pn**	**08 36 39.9**	**+0.8**
KBK	**Karagaybulak**	**1.91**	**41**	P	**Pn**	**08 36 39.9**	**+0.8**
	SNR=116						
CHMS	**Chumysh**	**2.10**	**32**	*i* PN	**Pb**	**08 36 43.5**	**-1.0**
CHMS	**Chumysh**	**2.10**	**32**	P	**Pb**	**08 36 43.5**	**-1.0**
	SNR=187						
USP	**Ospenovka**	**2.24**	**24**	*i* PN	**Pb**	**08 36 45.9**	**-1.1**
USP	**Ospenovka**	**2.24**	**24**	P	**Pb**	**08 36 46.0**	**-1.1**
	SNR=436						
TKM2	**Tokmak 2**	**2.43**	**45**	⇓Pn	**Pn**	**08 36 47.9**	**+1.5**
TKM2	comp=E,216nm,0.4s			⇑Lg	Lg	08 37 18.5	
	comp=E,509nm,0.5s						
TKM2	**Tokmak 2**	**2.43**	**45**	*e*PN	**Pn**	**08 36 48.1**	**+1.7**
TKM2	**Tokmak 2**	**2.43**	**45**	P	**Pn**	**08 36 48.1**	**+1.7**
	SNR=353						
TKM2	**Tokmak 2**	**2.43**	**45**	*e*Pn	**Pn**	**08 36 48.1**	**+1.7**
TKM2				*e*Sn	**Sn**	**08 37 14.2**	**-2.0**
ULHL	**Ulahol**	**2.46**	**65**	P	**Pn**	**08 36 48.5**	**+1.7**
	SNR=40						
KSH	**Kashi**	**2.69**	**128**	Pn	**Pb**	**08 36 52.8**	**-1.9**
KSH				Sn	**Sn**	**08 37 21.3**	**-1.1**
KSH				SMN			
	comp=E,1μm,0.5s						
KSH				SME			
	comp=E,810nm,0.4s						
KK31	**Karatay Array**	**2.77**	**314**	Pn	**Pb**	**08 36 54.6**	**-1.4**
	comp=E,5.7nm,0.3s,baz=126,slow=12,SNR=958						
KK31				⇓Pg	**Pg**	**08 36 59.1**	**-0.4**
	comp=E,49nm,0.3s,baz=125,slow=16,SNR=5.6						
KK31				⇑Lg	Lg	08 37 37.6	
	comp=E,385nm,0.3s,baz=131,slow=25,SNR=18						
KK31	**Karatay Array**	**2.77**	**314**	PN	**Pb**	**08 36 54.5**	**-1.4**
KK31				*e*		08 36 59.1	
KK31						08 37 36.3	
KK31				pmax	pmax		
	comp=Z,14nm,0.2s						
KK31				pmax	pmax		
	comp=Z,119nm,0.2s						
KKAR	**Karatay Array**	**2.77**	**314**	*e*PN	**Pb**	**08 36 54.7**	**-1.2**
KKAR	**Karatay Array**	**2.77**	**314**	*e*Pn	**Pb**	**08 36 54.7**	**-1.2**
KNDC	**Almaty**	**3.40**	**53**	⇑Pg	**Pb**	**08 37 05.6**	**-1.2**
	comp=Z,165nm,0.5s						
KNDC				⇓Lg	Lg	08 37 48.8	
	comp=Z,2μm,0.8s						
AAA	**Alma-Ata**	**3.42**	**52**	*e*PN	**Pb**	**08 37 07.8**	**+0.7**
AAA				*e*S	**Sb**	**08 37 47.7**	**-1.1**
AAA				pmax	pmax		
	comp=Z,227nm,0.6s						
AAA				smax	smax		
	comp=N,2μm,1.0s						
CEP	**Cherat**	**7.46**	**189**	P	Pn	08 38 02.4	+7.0
CEP				S	**Sn**	**08 39 20.0**	**-0.1**
MK31	**Makanchi Array**	**8.57**	**46**	⇓Pn	**Pn**	**08 38 11.2**	**+0.8**
	comp=N,6.3nm,0.5s,baz=226,slow=14,SNR=6.3						
MK31				⇑Lg	Lg	08 40 29.8	
	comp=N,16nm,0.7s,baz=227,slow=28,SNR=5.2						
MK31	**Makanchi Array**	**8.57**	**46**	*e*P	**Pn**	**08 38 11.1**	**+0.8**
MK31				pmax	pmax		
	comp=Z,7.0nm,0.5s						
MK31	**Makanchi Array**	**8.57**	**46**	Pn	**Pn**	**08 38 11.7**	**+1.4**
MKAR	**Makanchi Array**	**8.57**	**46**	P	**Pn**	**08 38 12.7**	**+2.3**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR	**Makanchi Array**	**8.57**	**46**	Pn	**Pn**	**08 38 12.7**	**+2.3**
MKAR				Sn	Sn	08 39 58.4	+11
MKAR				Lg	Lg	08 40 33.4	
MKAR	**Makanchi Array**	**8.57**	**46**	Pn	**Pn**	**08 38 12.7**	**+2.3**
	comp=E,2.3nm,0.3s,baz=234,slow=14,SNR=20						
MKAR				Sn	Sn	08 39 58.4	+11
	comp=E,0.5nm,0.3s,baz=228,slow=23,SNR=2.7						
MKAR				Lg	Lg	08 40 33.4	
	comp=E,2.8nm,0.3s,baz=228,slow=29,SNR=5.9						
THN	**Thein Dam**	**8.99**	**167**	*e*P	Pn	08 38 20.5	+4.3
THN				*e*S	Sn	08 39 47.5	-10
KURBB	**Kurchatov Arra**	**10.09**	**20**	⇓Pn	**Pn**	**08 38 31.7**	**+0.5**
	comp=Z,8.2nm,0.6s						
KURBB				⇓Lg	Lg	08 41 21.8	
	comp=Z,194nm,0.7s						
KURBB	**Kurchatov Arra**	**10.09**	**20**	Pn	**Pn**	**08 38 32.0**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=210,slow=12,SNR=6.0						
KURBB				Lg	Lg	08 41 20.0	
	comp=Z,1.6nm,0.3s,baz=203,slow=27,SNR=9.5						
KURK	**Kurchatov**	**10.20**	**20**	⇑Pn	**Pn**	**08 38 30.5**	**-2.1**
	comp=Z,2.1nm,0.7s						
KURK				⇑Lg	Lg	08 41 25.1	
	comp=Z,57nm,1.0s						
KURK	**Kurchatov**	**10.20**	**20**	P	**Pn**	**08 38 32.0**	**-0.6**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KURK	**Kurchatov**	**10.20**	**20**	Pn	**Pn**	**08 38 32.0**	**-0.6**
KURK				Lg	Lg	08 41 20.0	
VOSK	**Vostochnaya**	**11.61**	**353**	⇑Pn	**Pn**	**08 38 53.2**	**+1.3**
	comp=Z,3.8nm,0.6s						
VOSK				⇑Sn	**Sn**	**08 41 03.6**	**+2.2**
	comp=Z,7.7nm,0.7s						
VOSK				⇓Lg	Lg	08 42 12.3	
	comp=Z,53nm,0.9s						
VOSK	**Vostochnaya**	**11.61**	**353**	P	**Pn**	**08 38 51.5**	**-0.4**
VOSK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BVA0	**Borovoye Array**	**11.96**	**352**	⇑Pn	**Pn**	**08 38 58.6**	**+1.8**
	comp=Z,5.0nm,0.7s,baz=148,slow=12,SNR=11						
BVA0				⇓Sn	**Sn**	**08 41 14.9**	**+4.8**
	comp=Z,12nm,0.8s,baz=173,slow=25,SNR=3.6						
BVA0				⇑Lg	Lg	08 42 25.0	
	comp=Z,29nm,0.8s						
BVA0	**Borovoye Array**	**11.96**	**352**	*i* P	Pn	08 39 00.9	+4.1
BVA0				*i*		08 41 14.9	
BVA0				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BVA0				smax	smax		
	comp=Z,12nm,0.8s						
BVA0				pmax	pmax		
	comp=Z,46nm,1.1s						
BVAR	**Borovoye Array**	**11.96**	**352**	P	**Pn**	**08 38 56.6**	**-0.2**
BVAR						08 41 13.6	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR				smax	smax		
	comp=N,1.0nm,0.3s						
BVAR	**Borovoye Array**	**11.96**	**352**	Pn	**Pn**	**08 38 56.6**	**-0.2**
BVAR				Sn	**Sn**	**08 41 13.6**	**+3.5**
BVAR				Lg	Lg	08 42 22.3	
BVAR	**Borovoye Array**	**11.96**	**352**	Pn	**Pn**	**08 38 56.6**	**-0.2**
	comp=N,0.7nm,0.3s,baz=152,slow=14,SNR=8.7						
BVAR				Sn	**Sn**	**08 41 13.6**	**+3.5**
	comp=N,0.6nm,0.3s,baz=157,slow=19,SNR=3.5						
BVAR				Lg	Lg	08 42 22.3	
	comp=N,1.9nm,0.3s,baz=169,slow=23,SNR=4.0						
BRVK	**Borovoye**	**12.01**	**351**	⇑Pn	**Pn**	**08 38 57.9**	**+0.5**
	comp=N,12nm,0.9s						
BRVK				⇓Sn	**Sn**	**08 41 15.5**	**+4.3**
	comp=N,24nm,1.3s						
BRVK				⇓Lg	Lg	08 42 23.7	
	comp=N,98nm,1.1s						
BRVK	**Borovoye**	**12.01**	**351**	P	**Pn**	**08 38 56.7**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,12nm,1.0s						
AB31	**Akbulak array**	**12.33**	**315**	Pn	**Pn**	**08 39 02.6**	**+0.8**
	comp=Z,7.8nm,0.7s,baz=119,slow=14,SNR=109						
AB31				⇓Sn	Sn	08 41 27.4	+8.1
	comp=Z,4.4nm,0.7s,baz=118,slow=22,SNR=3.7						
AB31				⇑Lg	Lg	08 42 43.0	
	comp=Z,15nm,0.8s						
AB31	**Akbulak array**	**12.33**	**315**	*i* P	**Pn**	**08 39 02.6**	**+0.8**
AB31				pmax	pmax		
	comp=Z,6.0nm,0.5s						
AB31				pmax	pmax		
	comp=Z,23nm,0.9s						
ABKAR	**Akbulak array**	**12.33**	**315**	*e*Pn	**Pn**	**08 39 02.6**	**+0.7**
	comp=Z,7.3nm,0.6s						
AKTO	**Aktyubinsk**	**14.03**	**316**	⇑Pn	**Pn**	**08 39 24.3**	**-0.8**
	comp=Z,11nm,1.1s						
AKTO				⇓Lg	Lg	08 43 31.0	
	comp=Z,25nm,1.2s						
AKTO	**Aktyubinsk**	**14.03**	**316**	P	**Pn**	**08 39 24.7**	**-0.4**
AKTO						08 41 57.4	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO				MLR	MLR		
	comp=Z,70nm,20.7s						
AKTO	**Aktyubinsk**	**14.03**	**316**	Pn	**Pn**	**08 39 24.7**	**-0.4**
AKTO				Sn	**Sn**	**08 41 57.4**	**-3.4**
AKTO				Lg	Lg	08 43 31.6	
AKTO	**Aktyubinsk**	**14.03**	**316**	Pn	**Pn**	**08 39 24.7**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=127,slow=17,SNR=12						
AKTO				Sn	**Sn**	**08 41 57.4**	**-3.4**
	comp=Z,0.2nm,0.3s,baz=257,slow=19,SNR=2.4						
AKTO				Lg	Lg	08 43 31.6	
	baz=180,slow=20,SNR=1.6						
AKTO				LR	LR	08 45 25.4	
	comp=Z,70nm,20.7s,baz=325,slow=40						
ZALV	**Zalesovo Beam**	**14.90**	**27**	P	**P**	**08 39 41.1**	**-1.5**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**14.90**	**27**	Pn	**P**	**08 39 41.1**	**-1.5**
ZALV				Sn	**S**	**08 42 34.6**	**-5.4**
ZALV				Lg	Lg	08 44 01.2	
ZALV	**Zalesovo Beam**	**14.90**	**27**	Pn	**P**	**08 39 41.1**	**-1.5**
	comp=Z,0.9nm,0.3s,baz=220,slow=15,SNR=7.0						
ZALV				Sn	**S**	**08 42 34.6**	**-5.4**
	baz=227,slow=21,SNR=3.8						
ZALV				Lg	Lg	08 44 01.2	
	comp=Z,0.5nm,0.3s,baz=215,slow=25,SNR=5.1						
HVS	**Khovu-Aksy**	**17.23**	**48**	*i* P	**P**	**08 40 11.7**	**+3.1**
HVS				pmax	pmax		
	comp=Z,19nm,1.2s						
ARU	**Arti**	**17.96**	**333**	*d* iP	**P**	**08 40 16.9**	**+0.4**
ARU				S	**Sn**	**08 43 36.8**	**+0.7**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.2s						
GTA	**Gaotai**	**20.31**	**86**	*e*P	Pn	08 40 50.8	+6.2
GTA				pP	pP	08 40 54.0	+8.3
GTA				sP	sP	08 40 56.3	+9.2
GTA				AMB	AMB		
	comp=Z,7.0nm,0.7s						
GNI	**Garni**	**21.61**	**277**	*e*P	**P**	**08 40 58.6**	**+2.0**
	comp=Z,15nm,0.7s						
ZEI	**Tsey**	**21.82**	**284**	*e*P	P	08 40 48.6	-10
ZEI				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KBZ	**Khabaz**	**22.47**	**287**	P	**P**	**08 41 08.1**	**+2.6**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KBZ	**Khabaz**	**22.47**	**287**	P	**P**	**08 41 08.1**	**+2.6**
KBZ	**Khabaz**	**22.47**	**287**	P	**P**	**08 41 08.1**	**+2.6**
	comp=Z,2.0nm,0.7s,baz=108,slow=16,SNR=3.3						
KIV	**Kislovodsk**	**22.60**	**287**	*e*P	**P**	**08 41 07.8**	**+0.7**
KIV				pmax	pmax		
	comp=Z,11nm,1.0s						
KIV				MLR	MLR		
	comp=Z,54nm,15.0s						
ZAK	**Zakamensk**	**22.72**	**56**	*e*P	**P**	**08 41 05.2**	**-3.1**
ZAK				*e*		08 45 48.4	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.5s						
SONM	**Songino Array**	**24.40**	**63**	P	**P**	**08 41 27.5**	**+2.6**
SONM	**Songino Array**	**24.40**	**63**	P	**P**	**08 41 27.5**	**+2.6**
	comp=Z,0.2nm,0.5s,baz=279,slow=9.6,SNR=2.7						
VORD	**Divnogorie**	**25.28**	**304**	*e*P	**P**	**08 41 33.5**	**+0.9**
VORD				pmax	pmax		
	comp=Z,5.0nm,0.7s						
VORD				pmax	pmax		
	comp=N,6.0nm,0.5s						
VORD				pmax	pmax		
	comp=E,10.0nm,1.1s						
VSR	**Storozhevoye**	**25.40**	**305**	*e*P	**P**	**08 41 34.5**	**+0.8**
VSR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
VSR				pmax	pmax		
	comp=N,4.0nm,0.9s						
VSR				pmax	pmax		
	comp=E,10.0nm,1.0s						
BRTR	**Keskin Array B**	**29.99**	**280**	P	**P**	**08 42 17.4**	**+2.2**
BRTR	**Keskin Array B**	**29.99**	**280**	P	**P**	**08 42 17.4**	**+2.2**
	comp=E,1.4nm,0.6s,baz=95,slow=9.0,SNR=6.8						
AKASG	**Malin Array Be**	**31.62**	**303**	P	**P**	**08 42 29.7**	**+0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**31.62**	**303**	P	**P**	**08 42 29.7**	**+0.6**
AKASG	**Malin Array Be**	**31.62**	**303**	P	**P**	**08 42 29.7**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=76,slow=7.9,SNR=5.6						
FINES	**FINESS Array B**	**34.70**	**322**	P	**P**	**08 42 56.7**	**+0.8**
FINES	**FINESS Array B**	**34.70**	**322**	P	**P**	**08 42 56.7**	**+0.8**
	comp=Z,0.9nm,0.4s,baz=111,slow=10.0,SNR=9.3						
ARCES	**ARCESS Array B**	**37.54**	**335**	P	**P**	**08 43 20.6**	**+0.5**
ARCES	**ARCESS Array B**	**37.54**	**335**	P	**P**	**08 43 20.6**	**+0.5**
	comp=Z,4.6nm,1.0s,baz=108,slow=7.8,SNR=9.2						
NB2	**NORSAR Subarra**	**41.78**	**320**	P	**P**	**08 43 55.7**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=90,slow=8.6						
NOA	**NORSAR Array B**	**41.78**	**320**	P	**P**	**08 43 55.6**	**0.0**
NOA	**NORSAR Array B**	**41.78**	**320**	P	**P**	**08 43 55.6**	**0.0**
	comp=Z,1.8nm,0.6s,baz=90,slow=8.1,SNR=7.6						
GERES	**GERESS Array B**	**41.80**	**301**	P	**P**	**08 43 56.4**	**+0.3**
GERES	**GERESS Array B**	**41.80**	**301**	P	**P**	**08 43 56.4**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=78,slow=9.1,SNR=14						
TORD	**Torodi Ar. Bea**	**67.61**	**268**	P	**P**	**08 47 03.1**	**-0.3**
TORD	**Torodi Ar. Bea**	**67.61**	**268**	P	**P**	**08 47 03.1**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=56,slow=5.3,SNR=26						
ILAR	**Eielson Array**	**69.76**	**17**	P	**P**	**08 47 17.5**	**+1.4**
ILAR	**Eielson Array**	**69.76**	**17**	P	**P**	**08 47 17.5**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=318,slow=4.2,SNR=2.6						

*KRSC **28** 08:36:25.5±1.4, 53˚.43N×160˚.92E, h5km±5km, ML5.0*

*MOS **28** 08:36:25.6±0.9, 53˚.80N×160˚.55E, h17km, mb5.2

APC	**Apacha**	**2.22**	**257**	*e*P		**Pn**	**08 37 05.7**	**+2.3**
APC				*i* S		**Sn**	**08 37 33.0**	**+3.4**
KMNR	**Kamenistaya**	**2.29**	**353**	P		**Pn**	**08 37 06.4**	**+1.9**
KMNR				*i* S		**Sn**	**08 37 35.0**	**+3.5**
BZMR	**Bezymyannaya**	**2.46**	**357**	*e*P		**Pn**	**08 37 08.7**	**+1.9**
BZMR				*i* S		Sn	08 37 42.1	+6.5
BZGR	**Bezymyannyi-Gr**	**2.46**	**359**	*e*P		**Pn**	**08 37 08.6**	**+1.8**
BZGR				*i* S		**Sn**	**08 37 39.9**	**+4.3**
KIRR	**Kirishev**	**2.48**	**355**	*e*P		**Pn**	**08 37 09.1**	**+2.0**
KIRR				*i* S		Sn	08 37 43.2	+7.0
BZWR	**Bezymyannyi-We**	**2.49**	**357**	*e*P		**Pn**	**08 37 08.7**	**+1.5**
BZWR				*i* S		**Sn**	**08 37 41.5**	**+5.1**
KPT	**Kopyto**	**2.50**	**353**	*e*P		**Pn**	**08 37 09.2**	**+1.9**
ZLN	**Zelenaya**	**2.54**	**1**	*e*P		**Pn**	**08 37 10.2**	**+2.4**
LGNR	**Loginova**	**2.60**	**359**	*e*P		**Pn**	08 37 11.7	+2.8
LGNR				*i* S		**Sn**	**08 37 42.5**	**+3.1**
KOZ	**Kozyrevsk**	**2.63**	**349**	*e*P		**Pn**	**08 37 10.4**	**+1.4**
KOZ				*i* S		**Sn**	**08 37 43.3**	**+3.7**
KOZR	**Kozyr**	**2.63**	**350**	PN		**Pn**	**08 37 10.4**	**+1.4**
CIRR	**Tsirk**	**2.64**	**0**	*e*P		**Pn**	**08 37 11.6**	**+2.4**
CIRR				*i* S		**Sn**	**08 37 43.5**	**+3.5**
ESO	**Esso**	**2.71**	**335**	PN		**Pn**	**08 37 11.0**	**+0.8**
ESO	**Esso**	**2.71**	**335**	*e*P		**Pn**	**08 37 11.0**	**+0.8**
KRSR	**Krestovskiy**	**2.74**	**358**	*e*P		**Pn**	**08 37 11.7**	**+1.1**
KRSR				*i* S		Sn	08 37 49.1	+6.6
KLY	**Klyuchi**	**2.83**	**359**	PN		**Pn**	**08 37 13.9**	**+2.1**
KLY				S		**Sn**	**08 37 46.9**	**+2.3**
KLY	**Klyuchi**	**2.83**	**359**	*e*P		**Pn**	**08 37 13.9**	**+2.1**
KLY				*i* S		**Sn**	**08 37 46.9**	**+2.3**
SRDR	**Sredinnyy**	**2.90**	**349**	*e*P		**Pn**	**08 37 13.7**	**+1.0**
SRDR				*i* S		Sn	08 37 54.5	+8.2
KBTR	**Krutoberegovo**	**2.98**	**23**	PN		**Pn**	**08 37 15.1**	**+1.3**
KBTR				S		**Sn**	**08 37 50.4**	**+2.1**
KBTR	**Krutoberegovo**	**2.98**	**23**	*e*P		**Pn**	**08 37 15.1**	**+1.3**
KBTR				*i* S		**Sn**	**08 37 50.4**	**+2.1**
BDR	**Baidarnaya**	**3.10**	**5**	*e*P		**Pn**	**08 37 17.4**	**+1.9**
BDR				*i* S		**Sn**	**08 37 53.6**	**+2.2**
SMKR	**Semkarok**	**3.13**	**7**	*e*P		**Pn**	**08 37 18.1**	**+2.1**
SMKR				*i* S		**Sn**	**08 37 54.7**	**+2.6**
SRKR	**Sorokina**	**3.19**	**4**	*e*P		Pn	08 37 19.8	+3.1
BKI	**Bering**	**3.52**	**59**	PN		**Pn**	**08 37 22.1**	**+1.0**
BKI	**Bering**	**3.52**	**59**	*e*P		**Pn**	**08 37 22.1**	**+1.0**
BKI				*i* S		**Sn**	**08 37 58.6**	**-2.8**
SKR	**Severo-Kuril's**	**4.00**	**227**	PN		Pn	08 37 32.0	+4.2
SKR	**Severo-Kuril's**	**4.00**	**227**	*e*P		Pn	08 37 30.6	+2.8
SKR				*i* S		**Sn**	**08 38 18.2**	**+4.9**
PALN	**Palana**	**5.63**	**356**	P		**Pn**	**08 37 51.9**	**+1.7**
OSSR	**Ossora**	**5.92**	**12**	*e*P		Pn	08 37 57.8	+3.7
OSSR				*i* S		**Sn**	**08 39 01.3**	**+0.7**
FX1	**Attu Island--F**	**7.50**	**90**	P		**Pn**	**08 38 16.7**	**+1.0**
FX1				S		**Sn**	**08 39 35.6**	**-3.7**
FX1	**Attu Island--F**	**7.50**	**90**	P		**Pn**	**08 38 16.7**	**+1.0**
	comp=N,34nm,0.3s,baz=332,slow=5.3,SNR=89							
FX1				S		**Sn**	**08 39 35.6**	**-3.7**
	comp=N,97nm,0.3s,baz=82,slow=22,SNR=18							
FX1				LR		LR	08 41 04.4	
	comp=N,2µm,21.6s,baz=296,slow=35							
TILK	**Tilichiki**	**7.58**	**21**	*e*P		Pn	08 38 19.6	+2.8
TILK				*i* S		**Sn**	**08 39 41.4**	**+0.2**
SMY	**Shemya**	**8.08**	**90**	*e*PN		Pn	08 38 27.4	+3.7
SMY	**Shemya**	**8.08**	**90**	*e*Pn		Pn	08 38 27.4	+3.7
YUK	**Yuzh-Kuril'sk**	**13.60**	**232**	⇑*i*P		Pn	08 39 43.2	+4.0
YUK				*i* S		**Sn**	**08 42 09.5**	**+0.7**
YUK				pmax		pmax		
	comp=Z,115nm,0.5s							
ADK	**Adak**	**13.78**	**88**	*e*P		**Pn**	**08 39 41.1**	**-0.6**
ADK	**Adak**	**13.78**	**88**	*e*Pn		**Pn**	**08 39 41.1**	**-0.6**
ASAJ	**Asahikawa**	**15.15**	**239**	*e*Pn		**Pn**	**08 39 60.0**	**-0.1**
ASAJ	**Asahikawa**	**15.15**	**239**	P		**Pn**	**08 40 01.6**	**+1.6**
	comp=Z,1.1nm,0.3s,baz=101,slow=11,SNR=6.5							
ASAJ				LR		LR	08 45 36.7	
	comp=Z,625nm,19.2s,baz=54,slow=36							
HABR	**Khabarovsk**	**16.89**	**263**	*e*P		**Pn**	**08 40 20.3**	**-1.9**
HABR				pmax		pmax		
	comp=Z,42nm,2.5s							
YAK	**Yakutsk**	**18.48**	**310**	*e*P		**P**	**08 40 39.5**	**-1.7**
YAK				*e*S		**Sn**	**08 44 00.7**	**-6.1**
YAK				pmax		pmax		
	comp=E,24nm,0.9s							
YAK				pmax		pmax		
	comp=Z,125nm,0.9s							
YAK				pmax		pmax		
	comp=N,17nm,1.0s							
YAK				smax		smax		
	comp=N,141nm,3.2s							
YAK				smax		smax		
	comp=E,121nm,3.8s							
YAK				MLR		MLR		
	comp=Z,826nm,14.0s							
YAK				MLR		MLR		
	comp=N,278nm,14.0s							
YAK				MLR		MLR		
	comp=E,560nm,15.0s							
KLR	**Kul'dur**	**18.53**	**268**	*e*P		**P**	**08 40 39.8**	**-2.1**
KLR				MLR		MLR		
	comp=Z,2µm,12.0s							
TNA	**Tin City**	**19.70**	**40**	*e*P		**P**	**08 40 54.1**	**-0.5**
	comp=Z,50nm,1.2s							
CLNS	**Chul'man**	**20.59**	**294**	*e*P		Pn	08 41 07.0	+0.1
CLNS				*e**PP		pP	08 41 15.7	+1.3
CLNS				*e*			08 41 22.3	
CLNS				*e*S		**S**	**08 44 52.4**	**+0.1**
CLNS				*e*SS		**SnSn**	**08 45 16.7**	**+4.0**
CLNS				*e*			08 45 19.8	
CLNS				pmax		pmax		
	comp=E,10.0nm,0.8s							
CLNS				pmax		pmax		
	comp=Z,12nm,0.7s							
CLNS				pmax		pmax		
	comp=N,9.0nm,0.9s							
CLNS				pmax		pmax		
	comp=Z,13nm,0.8s							
CLNS				pmax		pmax		
	comp=E,12nm,0.9s							
CLNS				pmax		pmax		
	comp=N,12nm,1.0s							
CLNS				smax		smax		
	comp=E,269nm,11.2s							
CLNS				smax		smax		
	comp=N,43nm,7.4s							
CLNS				MLR		MLR		
	comp=N,248nm,14.0s							
CLNS				MLR		MLR		
	comp=Z,656nm,13.0s							
CLNS				MLR		MLR		
	comp=E,463nm,14.0s							
USRK	**Ussuriysk Arra**	**20.95**	**255**	P		**P**	**08 41 09.7**	**+1.4**
	comp=E,1.2nm,0.5s,baz=47,slow=14,SNR=5.0							
USRK				LR		LR	08 50 08.2	
	comp=E,362nm,18.0s,baz=218,slow=39							
VLA	**Vladivostok**	**21.67**	**253**	⇓*e*P		**P**	**08 41 17.3**	**+1.3**
VLA				S		**S**	**08 45 15.2**	**+1.7**
VLA				*e*			08 45 16.1	
VLA				pmax		pmax		
	comp=Z,22nm,0.7s							
MDJ	**Mudanjiang**	**22.10**	**259**	P		**P**	**08 41 18.8**	**-1.9**
MDJ				S		**S**	**08 45 21.3**	**-0.5**
MDJ				PcS		**PcS**	**08 48 56.5**	**+1.3**
MDJ				ScS		**ScS**	**08 52 31.5**	**-3.8**
MDJ				AMB		AMB		
	comp=Z,18nm,0.8s							
MDJ				AMB		AMB		
	comp=Z,250nm,7.0s							
MDJ				LR		LR		
	comp=Z,380nm,15.2s							
MDJ				LR		LR		
	comp=Z,320nm,12.7s							
TIXI	**Tiksi**	**22.89**	**335**	⇓*i*P		**P**	**08 41 26.4**	**-2.4**
TIXI				pmax		pmax		
	comp=Z,21nm,1.7s							
MAT	**Matsushiro**	**23.09**	**232**	P		**P**	**08 41 32.3**	**+1.1**
MAT				S		**S**	**08 45 43.2**	**+3.9**
MJAR	**Matsushiro Arr**	**23.09**	**232**	P		**P**	**08 41 32.3**	**+1.1**
MJAR	**Matsushiro Arr**	**23.09**	**232**	P		**P**	**08 41 32.3**	**+1.1**
	comp=Z,15nm,0.8s,baz=19,slow=9.1,SNR=22							
MJAR				LR		LR	08 51 32.6	
	comp=Z,350nm,20.4s,baz=60,slow=39							
CN2	**Changchun**	**25.01**	**262**	*e*P		**P**	**08 41 50.0**	**+1.0**
CN2				*e*S		**S**	**08 46 07.5**	**-2.6**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.9s							
CN2				AMB		AMB		
	comp=Z,300nm,4.0s							
CN2				LR		LR		
	comp=Z,600nm,13.0s							
CN2				LR		LR		
	comp=Z,400nm,13.0s							
CN2				LR		LR		
	comp=Z,700nm,14.0s							
IM04	**Indian Mountai**	**25.44**	**43**	*e*P		**P**	**08 41 52.6**	**-0.1**
OHAK	**Old Harbor**	**26.01**	**63**	*e*P		**P**	**08 41 56.9**	**-1.0**
	comp=Z,31nm,1.0s							
KDAK	**Kodiak Island**	**26.28**	**62**	*e*P		**P**	**08 42 01.5**	**+1.2**
	comp=Z,94nm,1.6s							
TRF	**Thorofare Moun**	**26.81**	**49**	*e*P		**P**	**08 42 05.6**	**+0.4**
	comp=Z,13nm,1.0s							
KSRS	**Korea Array**	**27.72**	**248**	P		**P**	**08 42 13.9**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=46,slow=8.9,SNR=7.3							
KSRS				LR		LR	08 54 30.4	
	comp=Z,247nm,19.9s,baz=58,slow=39							
KSAR	**Wonju Array Be**	**27.75**	**248**	P		**P**	**08 42 13.9**	**+0.2**
ILAR	**Eielson Array**	**28.27**	**46**	P		**P**	**08 42 17.9**	**-0.1**
ILAR				PcP		**PcP**	**08 45 29.4**	**-0.8**
ILAR	**Eielson Array**	**28.27**	**46**	P		**P**	**08 42 17.9**	**-0.1**
	comp=Z,7.8nm,0.8s,baz=267,slow=8.8,SNR=57							
ILAR				PcP		**PcP**	**08 45 29.4**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=275,slow=3.6,SNR=6.3							
ILAR				LR		LR	08 53 28.0	
	comp=Z,266nm,21.9s,baz=66,slow=36							
JNU	**Nakatsue**	**29.43**	**238**	*e*P		P	08 42 31.8	+3.1
JNU	**Nakatsue**	**29.43**	**238**	P		P	08 42 31.4	+2.7
	comp=Z,2.6nm,0.6s,baz=330,slow=4.4,SNR=5.0							
JNU				LR		LR	08 54 26.5	
	comp=Z,362nm,21.8s,baz=46,slow=36							
BJI	**Beijing**	**32.79**	**264**	P		**P**	**08 42 58.0**	**-0.2**
BJI				S		**S**	**08 48 12.5**	**+0.3**
BJI				AMB		AMB		
	comp=Z,10.0nm,0.6s							
BJI				LR		LR		
	comp=Z,590nm,20.6s							
BJI				LR		LR		
	comp=Z,360nm,21.1s							
INK	**Inuvik**	**33.32**	**38**	*e*P		**P**	**08 43 02.9**	**+0.4**
	comp=Z,20nm,1.0s							
INK				PcP		**PcP**	**08 45 43.6**	**+0.1**
INK	**Inuvik**	**33.32**	**38**	P		**P**	**08 43 03.1**	**+0.6**
	comp=Z,7.1nm,0.6s,baz=288,slow=7.8,SNR=35							
INK				PcP		**PcP**	**08 45 43.6**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=228,slow=1.9,SNR=4.6							
INK				LR		LR	08 57 52.3	
	comp=Z,313nm,18.1s,baz=319,slow=38							
TLY	**Talaya**	**33.94**	**291**	*e*P		**P**	**08 43 08.2**	**0.0**
TLY				*e*S		S	08 48 19.7	-10
TLY				pmax		pmax		
	comp=Z,9.0nm,1.5s							
TLY				MLR		MLR		
	comp=Z,560nm,17.0s							
H11N2	**WAKE ISLAND Hy**	**34.03**	**170**	T		T	09 19 36.8	
	baz=356,slow=0.7,SNR=280							
H11N3	**WAKE ISLAND Hy**	**34.04**	**170**	T		T	09 19 37.9	
	baz=356,slow=0.7,SNR=321							
H11N1	**WAKE ISLAND Hy**	**34.04**	**170**	T		T	09 19 37.9	
	baz=356,slow=0.7,SNR=357							
SONM	**Songino Array**	**34.19**	**283**	P		**P**	**08 43 09.5**	**-1.0**
SONM				PcP		**PcP**	**08 45 46.3**	**-0.2**
SONM	**Songino Array**	**34.19**	**283**	P		**P**	**08 43 09.5**	**-1.0**
	comp=Z,3.5nm,0.7s,baz=56,slow=7.5,SNR=20							
SONM				PcP		**PcP**	**08 45 46.3**	**-0.2**
	comp=Z,2.8nm,0.8s,baz=61,slow=1.4,SNR=8.4							
SONM				LR		LR	08 58 24.3	
	comp=Z,583nm,19.9s,baz=48,slow=39							
HHC	**Hu-ho-hao-te**	**35.03**	**269**	*e*P		**P**	**08 43 16.0**	**-1.8**
HHC				PP		**PnPn**	**08 44 33.3**	**-2.3**
HHC				PcP		**PcP**	**08 45 49.8**	**+0.8**
HHC				S		**S**	**08 48 42.8**	**-4.4**
HHC				ScP		**ScP**	**08 49 31.5**	**+0.4**
HHC				PcS		**PcS**	**08 49 35.0**	**-0.9**
HHC				ScS		**ScS**	**08 53 33.3**	**-1.7**
HHC				AMB		AMB		
	comp=Z,36nm,1.2s							
HHC				AMB		AMB		
	comp=Z,440nm,5.3s							
HHC				LR		LR		
	comp=Z,660nm,14.6s							
HHC				LR		LR		
	comp=Z,850nm,14.2s							
HHC				LR		LR		
	comp=Z,680nm,14.7s							
H11S1	**WAKE ISLAND Hy**	**35.22**	**170**	T		T	09 21 01.6	
	baz=355,slow=0.7,SNR=23							
H11S3	**WAKE ISLAND Hy**	**35.23**	**170**	T		T	09 21 06.2	
	baz=355,slow=0.7,SNR=48							
H11S2	**WAKE ISLAND Hy**	**35.23**	**170**	T		T	09 21 02.1	
	baz=355,slow=0.7,SNR=19							
NJ2	**Nanjing**	**36.75**	**251**	*e*P		**P**	**08 43 32.3**	**-0.1**
NJ2				pP		**pP**	**08 43 40.5**	**-3.1**
NJ2				S		**S**	**08 49 15.0**	**+1.7**
NJ2				sS		**sS**	**08 49 30.0**	**-1.8**
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.6s							
NJ2				AMB		AMB		
	comp=Z,300nm,5.0s							
NJ2				LR		LR		
	comp=Z,660nm,25.4s							
NJ2				LR		LR		
	comp=Z,910nm,28.6s							
DLBC	**Dease Lake**	**37.50**	**54**	P		**P**	**08 43 40.9**	**+2.2**
DLBC	**Dease Lake**	**37.50**	**54**	P		**P**	**08 43 40.9**	**+2.2**
	comp=Z,2.7nm,0.7s,baz=270,slow=7.1,SNR=6.1							
YKA	**Yellowknife Ar**	**42.61**	**43**	P		**P**	**08 44 21.6**	**+0.7**
YKA	**Yellowknife Ar**	**42.61**	**43**	P		**P**	**08 44 21.5**	**+0.7**
	comp=Z,4.1nm,0.5s,baz=297,slow=7.7,SNR=14							
LZH	**Lanzhou**	**42.73**	**270**	*e*P		**P**	**08 44 24.3**	**+2.0**
LZH				pP		**pP**	**08 44 33.3**	**-0.3**
LZH				sP		**sP**	**08 44 37.0**	**-1.3**
LZH				AMB		AMB		
	comp=Z,110nm,1.2s							
LZH				AMB		AMB		
	comp=Z,510nm,5.0s							
LZH				LR		LR		
	comp=Z,800nm,12.9s							
LZH				LR		LR		
	comp=Z,810nm,11.2s							
LZH				LR		LR		
	comp=Z,1µm,17.8s							
RES	**Resolute Bay**	**42.81**	**22**	*e*P		**P**	**08 44 22.2**	**-0.1**
	comp=Z,7.3nm,0.8s							
RES	**Resolute Bay**	**42.81**	**22**	P		**P**	**08 44 22.7**	**+0.4**
	comp=Z,6.0nm,0.7s,baz=327,slow=6.2,SNR=34							
RES				LR		LR	09 05 49.1	
	comp=Z,230nm,18.4s,baz=12,slow=41							
ZALV	**Zalesovo Beam**	**42.89**	**303**	LR		LR	09 03 35.6	
	comp=Z,509nm,18.3s,baz=69,slow=38							
GTA	**Gaotai**	**42.95**	**276**	*e*P		**P**	**08 44 23.0**	**-1.0**
GTA				pP		**pP**	**08 44 34.0**	**-1.3**
GTA				sP		**sP**	**08 44 37.8**	**-2.2**
GTA				S		**S**	**08 50 43.3**	**-2.9**
GTA				SS		SS	08 53 48.0	-11
GTA				AMB		AMB		
	comp=Z,10.0nm,0.8s							
GTA				AMB		AMB		
	comp=Z,120nm,7.1s							
GTA				LR		LR		
	comp=Z,420nm,19.0s							
GTA				LR		LR		
	comp=Z,420nm,15.2s							
CD2	**Chengdu**	**46.39**	**264**	P		**P**	**08 44 51.8**	**+0.4**
CD2				pP		**pP**	**08 45 02.0**	**-0.8**
CD2				sP		**sP**	**08 45 06.3**	**-1.2**
CD2				PP		**PP**	**08 46 40.0**	**-0.7**
CD2				S		**S**	**08 51 34.3**	**-1.8**
CD2				sS		**sS**	**08 51 51.5**	**-3.5**
CD2				SS		ScS	08 54 51.5	+8.4
CD2				AMB		AMB		
	comp=Z,390nm,3.8s							
CD2				LR		LR		
	comp=Z,490nm,6.6s							
CD2				LR		LR		
	comp=Z,480nm,7.2s							
SPITS	**Spitsbergen Ar**	**46.81**	**351**	P		**P**	**08 44 53.0**	**-1.1**
SPITS	**Spitsbergen Ar**	**46.81**	**351**	P		**P**	**08 44 53.0**	**-1.1**
	comp=Z,14nm,0.6s,baz=55,slow=7.3,SNR=24							
WMQ	**Urumqi**	**47.20**	**289**	P		**P**	**08 44 57.0**	**-0.7**
WMQ				pP		**pP**	**08 45 07.0**	**-2.1**
WMQ				PP		**PP**	**08 46 47.0**	**-1.6**
WMQ				PcS		**PcS**	**08 50 23.5**	**-0.2**
WMQ				S		**S**	**08 51 45.0**	**-2.5**
WMQ				sS		sS	08 52 01.5	-5.0
WMQ				ScS		**ScS**	**08 54 46.3**	**-1.8**
WMQ				SS		SS	08 55 04.5	-10
WMQ				AMB		AMB		
	comp=Z,17nm,0.9s							
WMQ				AMB		AMB		
	comp=Z,240nm,5.0s							
WMQ				LR		LR		
	comp=Z,600nm,18.2s							
WMQ				LR		LR		
	comp=Z,550nm,17.4s							
WMQ				LR		LR		
	comp=Z,560nm,18.0s							
KURK	**Kurchatov**	**47.85**	**302**	P		**P**	**08 45 00.2**	**-2.3**
KURK				pmax		pmax		
	comp=Z,9.0nm,0.7s							
KURK	**Kurchatov**	**47.85**	**302**	P		**P**	**08 45 00.2**	**-2.3**
KURK	**Kurchatov**	**47.85**	**302**	P		P	08 44 59.1	-3.4
	comp=Z,177nm,0.7s,SNR=9.9							
KURBB	**Kurchatov Arra**	**47.95**	**302**	P		P	08 45 00.2	-3.1
	comp=Z,9.2nm,0.7s,baz=59,slow=7.4,SNR=13							
GYA	**Guiyang**	**47.96**	**258**	P		**P**	**08 45 04.8**	**+1.0**
GYA				pP		**pP**	**08 45 15.0**	**-0.2**
GYA				PcP		**PcP**	**08 46 33.3**	**+1.8**
GYA				PP		**PP**	**08 46 56.5**	**+0.6**
GYA				ScP		**ScP**	**08 50 24.3**	**+1.9**
GYA				S		**S**	**08 51 57.0**	**-1.7**
GYA				sS		**sS**	**08 52 15.5**	**-2.2**
GYA				ScS		**ScS**	**08 54 52.0**	**-1.7**
GYA				SS		SS	08 55 20.5	-7.0
GYA				AMB		AMB		
	comp=Z,20nm,1.0s							
GYA				AMB		AMB		
	comp=Z,130nm,4.8s							
GYA				LR		LR		
	comp=Z,540nm,17.5s							
GYA				LR		LR		
	comp=Z,430nm,18.0s							
GYA				LR		LR		
	comp=Z,550nm,17.6s							
MKAR	**Makanchi Array**	**48.33**	**296**	P		**P**	**08 45 03.6**	**-2.7**
MKAR				pmax		pmax		
	comp=Z,4.0nm,0.5s							
MKAR				MLR		MLR		
	comp=Z,220nm,19.2s							
MKAR	**Makanchi Array**	**48.33**	**296**	P		**P**	**08 45 03.6**	**-2.7**
MKAR	**Makanchi Array**	**48.33**	**296**	P		**P**	**08 45 03.6**	**-2.7**
	comp=Z,4.1nm,0.5s,baz=59,slow=7.1,SNR=14							
MKAR				LR		LR	09 06 40.8	
	comp=Z,220nm,19.2s,baz=40,slow=38							
NEW	**Newport**	**49.37**	**61**	P		**P**	**08 45 14.3**	**0.0**
NEW	**Newport**	**49.37**	**61**	⇑P		**P**	**08 45 14.7**	**+0.3**
	baz=49							
NEW	**Newport**	**49.37**	**61**	P		**P**	**08 45 14.3**	**0.0**
	comp=Z,1.5nm,0.5s,baz=339,slow=6.9,SNR=4.6							
BVAR	**Borovoye Array**	**50.45**	**308**	P		P	08 45 18.8	-3.5
BVAR				pmax		pmax		
	comp=Z,4.0nm,0.5s							
BVAR	**Borovoye Array**	**50.45**	**308**	P		P	08 45 18.8	-3.5
BVAR	**Borovoye Array**	**50.45**	**308**	P		P	08 45 18.8	-3.5
	comp=Z,3.8nm,0.5s,baz=61,slow=8.2,SNR=5.8							
YBH	**Yreka Blue Hor**	**50.53**	**71**	P		**P**	**08 45 24.9**	**+1.7**
YBH	**Yreka Blue Hor**	**50.53**	**71**	P		**P**	**08 45 24.9**	**+1.7**
	comp=Z,3.8nm,0.9s,baz=308,slow=4.9,SNR=4.7							
YBH				LR		LR	09 02 47.2	
	comp=Z,264nm,19.7s,baz=320,slow=31							
KMI	**Kunming**	**51.27**	**260**	P		**P**	**08 45 30.0**	**+0.9**
KMI				AMB		AMB		
	comp=Z,8.0nm,0.7s							
QIZ	**Qiongzhong**	**51.94**	**249**	P		**P**	**08 45 35.3**	**+1.4**
QIZ				S		**S**	**08 52 54.0**	**-0.1**
QIZ				AMB		AMB		
	comp=Z,31nm,1.7s							
QIZ				LR		LR		
	comp=Z,230nm,5.7s							
MSO	**Missoula**	**51.95**	**60**	⇑P		**P**	**08 45 34.2**	**+0.3**
	baz=52							
KEV	**Kevo**	**52.56**	**342**	*e*P		**P**	**08 45 36.7**	**-1.2**
KEV	**Kevo**	**52.56**	**342**	*e*p		**P**	**08 45 36.7**	**-1.2**
FCC	**Fort Churchill**	**52.93**	**39**	*e*P		**P**	**08 45 40.2**	**-0.5**
FCC	**Fort Churchill**	**52.93**	**39**	*e*P		**P**	**08 45 40.2**	**-0.5**
ARCES	**ARCESS Array B**	**53.03**	**342**	P		**P**	**08 45 39.6**	**-1.8**
ARCES	**ARCESS Array B**	**53.03**	**342**	P		**P**	**08 45 39.6**	**-1.8**
	comp=Z,7.6nm,0.6s,baz=40,slow=8.9,SNR=29							
ARCES				LR		LR	09 11 22.1	
	comp=Z,160nm,19.1s,baz=42,slow=40							
APA	**Apatity**	**53.03**	**338**	⇑P		**pP**	**08 45 55.0**	**+2.1**
APA				*i*			08 46 57.2	
APA				*i* S		S	08 53 30.0	+22
APA				*i*			08 55 24.0	
APA				MLR		MLR		
	comp=Z,600nm,18.0s							
A19A	**Klindworth Far**	**53.19**	**55**	⇑P		**P**	**08 45 43.3**	**+0.4**
	baz=53							
EGMT	**Eagleton**	**53.30**	**57**	⇓P		**P**	**08 45 44.1**	**+0.4**
	baz=53							
B19A	**Brinkman Farms**	**53.41**	**56**	⇓P		**P**	**08 45 44.9**	**+0.4**
	baz=53,SNR=8.5							
SUMG	**Summit**	**53.52**	**7**	*i* P		**P**	**08 45 44.2**	**-1.2**
	comp=Z,26nm,0.9s							
SUMG	**Summit**	**53.52**	**7**	*e*P		**P**	**08 45 44.4**	**-1.0**
	comp=Z,32nm,1.0s							
A20A	**Cobblestone Ra**	**53.63**	**55**	⇑P		**P**	**08 45 46.8**	**+0.7**
	baz=53,SNR=9.1							
C19A	**Slack Wire Ran**	**53.84**	**57**	⇑P		**P**	**08 45 48.6**	**+0.9**
	baz=54,SNR=8.2							
HLID	**Hailey**	**53.87**	**64**	⇑P		**P**	**08 45 48.8**	**+0.7**
	baz=54							
B20A	**Solberg Farm,**	**53.88**	**56**	⇓P		**P**	**08 45 48.6**	**+0.6**
	baz=54,SNR=6.2							
D19A	**Cripps Ranch,**	**54.31**	**57**	⇓P		**P**	**08 45 51.8**	**+0.7**
	baz=54,SNR=5.2							
C20A	**Veseth Ranch,**	**54.38**	**56**	⇓P		**P**	**08 45 52.5**	**+0.9**
	baz=54,SNR=5.6							
B21A	**Ellsworth Farm**	**54.38**	**55**	⇑P		**P**	**08 45 52.2**	**+0.6**
	baz=54							
A22A	**Carney Farms,**	**54.53**	**54**	⇓P		**P**	**08 45 53.2**

TPH pmax pmax
comp=Z,11nm,1.1s
TPH Tonopah 56.10 70 *eP* **P 08 46 06.4 +2.1**
comp=Z,11nm,1.1s
E22A Miles City 56.27 56 ⇓P **P 08 46 06.2 +0.9**
baz=56
I19A Meeteetse 56.40 60 ⇓P **P 08 46 07.1 +0.7**
baz=56
SMMC Simmler 56.47 75 ⇓P **P 08 46 09.1 +2.3**
baz=56
G21A Lodge Grass 56.49 58 ⇓P **P 08 46 08.2 +1.3**
baz=56
E23A Ismay 56.55 56 ⇑P **P 08 46 08.5 +1.3**
baz=56
F22A Rosebud 56.58 57 ⇑P **P 08 46 08.6 +1.2**
baz=56
D24A Glendive 56.60 55 ⇓P **P 08 46 08.6 +1.1**
baz=56
KSH Kashi 56.61 293 *eP* P 08 46 12.0 +4.2
KSH *ep* pP pP 08 46 22.0 +2.5
KSH *es* sP sP 08 46 26.5 +2.4
KSH PcP **PcP 08 47 03.5 -0.3**
KSH PP **PP 08 48 17.3 +3.6**
C25A Freed Ranch, W 56.70 53 ⇓P **P 08 46 09.4 +1.2**
baz=56
B26A Jensen Ranch, 56.72 52 ⇑P **P 08 46 09.3 +1.0**
baz=56
A27A Ledoux Ranch, 56.77 51 ⇓P **P 08 46 09.7 +1.0**
baz=56
KLMR Klimovskoe 56.80 330 *eP* **P 08 46 05.8 -2.9**
KLMR pmax pmax
comp=Z,10.0nm,0.7s
R11A Troy Canyon, C 56.83 69 ⇓P **P 08 46 11.4 +1.9**
baz=57
I20A Worland 56.91 60 ⇓P **P 08 46 11.3 +1.4**
baz=57
J19A Crowheart 56.91 61 ⇑P **P 08 46 11.6 +1.6**
baz=57
G22A Birney 56.95 57 ⇑P **P 08 46 11.2 +1.1**
baz=57
H21A Big Horn, Sher 56.99 58 ⇓P **P 08 46 11.8 +1.3**
baz=57
PDAR Pinedale Array 57.00 61 P **P 08 46 12.2 +1.5**
PDAR Pinedale Array 57.00 61 P **P 08 46 12.2 +1.5**
comp=Z,6.0nm,0.9s,baz=304,slow=3.4,SNR=30
PDAR LR LR 09 12 02.0
comp=Z,207nm,21.0s,baz=246,slow=37
E24A Baker 57.00 55 ⇑P **P 08 46 10.9 +0.5**
baz=57
DUG Dugway 57.06 66 ⇓P **P 08 46 12.8 +1.7**
baz=57,SNR=7.7
D25A Fairfield 57.06 54 ⇑P **P 08 46 12.1 +1.3**
baz=57
ISA Isabella 57.09 73 ⇓P **P 08 46 12.7 +1.4**
baz=57
A28A Rude Farm, Bot 57.26 51 ⇑P **P 08 46 13.3 +1.2**
baz=57,SNR=6.0
J20A Shoshoni 57.35 60 ⇑P **P 08 46 14.8 +1.8**
baz=57,SNR=5.6
H22A Clearmont 57.36 58 ⇓P **P 08 46 14.4 +1.3**
baz=57
JOF Joensuu 57.37 335 *eP* **P 08 46 11.3 -1.4**
JOF pmax pmax
comp=Z,19nm,0.7s
JOF Joensuu 57.37 335 *ep* **P 08 46 11.3 -1.4**
comp=Z,19nm,0.7s
G23A Biddle 57.42 57 ⇑P **P 08 46 14.2 +0.8**
baz=57
F24A Ekalaka 57.43 56 ⇓P **P 08 46 14.5 +1.0**
baz=57
I21A Big Trails, Te 57.44 59 ⇓P **P 08 46 14.9 +1.2**
baz=57
E25A Miller Ranch, 57.48 55 ⇓P **P 08 46 14.9 +1.1**
baz=57
B28A Dugan Ranch, T 57.54 51 ⇓P **P 08 46 15.5 +1.3**
baz=57,SNR=6.9
D26A Manning 57.57 54 ⇓P **P 08 46 15.5 +1.1**
baz=57
J21A Lysite 57.69 60 ⇓P **P 08 46 16.7 +1.2**
baz=58
A29A Manning Farm, 57.73 50 ⇑P **P 08 46 16.5 +1.0**
baz=57,SNR=6.2
I22A 9 Mile Ranch, 57.79 59 ⇓P **P 08 46 17.4 +1.2**
baz=58
F25A Bowman 57.86 55 ⇑P **P 08 46 17.7 +1.2**
baz=58
EDW2 Edwards Air Fo 57.93 74 ⇑P **P 08 46 19.2 +2.1**
baz=58
E26A Carlson Angus 57.96 54 ⇓P **P 08 46 18.2 +1.1**
baz=58
B29A Wagenman Farm, 58.00 51 ⇓P **P 08 46 18.7 +1.3**
baz=58
C28A Hausauer Farms 58.06 52 ⇓P **P 08 46 18.9 +1.1**
baz=58
J22A Midwest 58.14 59 ⇑P **P 08 46 19.9 +1.3**
baz=58
A30A Hoffart Farm, 58.14 50 ⇑P **P 08 46 19.3 +1.0**
baz=58
H24A Dirks Ranch, A 58.16 57 ⇓P **P 08 46 19.6 +0.9**
baz=58
ULM Lac du Bonnet 58.27 47 P **P 08 46 19.3 +0.1**
ULM Lac du Bonnet 58.27 47 P **P 08 46 19.3 +0.1**
comp=Z,5.3nm,0.5s,baz=316,slow=7.8,SNR=14
K21A Alcova 58.29 60 ⇓P **P 08 46 20.6 +0.8**
baz=58,SNR=7.5
F26A Lodgepole 58.30 55 ⇓P **P 08 46 20.7 +1.1**
baz=58
GSC Goldstone 58.30 72 ⇑P **P 08 46 21.4 +1.6**
baz=58
MDND Maddock 58.33 51 ⇑P **P 08 46 20.6 +1.0**
baz=58
D28A Regan 58.35 52 ⇓P **P 08 46 20.7 +0.9**
baz=58
G25A Newell 58.41 56 ⇓P **P 08 46 21.3 +1.0**
baz=58
E27A Carson 58.42 54 ⇓P **P 08 46 21.8 +1.4**
baz=58,SNR=5.2
B30A Myrvik Farm, E 58.48 50 ⇑P **P 08 46 21.9 +1.2**
baz=58,SNR=7.3
TAPN Taplejung 58.56 274 *eP* **P 08 46 20.3 -1.6**
comp=Z,9.4nm,0.4s
F27A Lemmon 58.60 54 ⇓P **P 08 46 22.5 +0.8**
baz=58
CMAR Chiang Mai Arr 58.64 258 P **P 08 46 22.9 +0.8**
CMAR Chiang Mai Arr 58.64 258 P **P 08 46 22.9 +0.8**
comp=Z,1.6nm,0.3s,baz=25,slow=6.2,SNR=7.0
CMAR LR LR 09 13 57.0
comp=Z,140nm,20.2s,baz=55,slow=38
K22A Casper 58.66 60 ⇑P **P 08 46 23.1 +0.9**
baz=58
E28A Huff 58.73 53 ⇑P **P 08 46 23.7 +1.2**
baz=58,SNR=6.5
G26A Maurine 58.74 55 ⇓P **P 08 46 23.7 +1.1**
baz=58,SNR=8.5
Q16A Castle Valley 58.86 66 ⇓P **P 08 46 25.7 +1.9**
baz=59
D29A Pettibone, Tap 58.90 52 ⇑P **P 08 46 24.8 +1.1**
baz=59
HEC Hector,Ludlow 58.91 72 ⇓P **P 08 46 26.0 +2.0**
baz=59
C30A Mose, Pekin 58.96 51 ⇑P **P 08 46 25.0 +0.9**
baz=59
G27A Dupree 59.00 55 ⇑P **P 08 46 25.2 +0.7**
baz=59,SNR=7.9
I25A Rochford 59.09 57 ⇓P **P 08 46 26.2 +0.9**
baz=59,SNR=8.3
ODAN Odare 59.11 274 *eP* **P 08 46 24.1 -1.6**
comp=Z,16nm,0.5s
J24A Dixon Ranch, L 59.12 58 ⇑P **P 08 46 26.8 +1.5**
baz=59
L22A Ellis Ranch, M 59.15 60 ⇓P **P 08 46 27.4 +1.7**
baz=59
GUN Gumba 59.23 276 *eP* **P 08 46 26.2 -0.4**
comp=Z,10nm,0.3s
E29A Napoleon 59.24 52 ⇑P **P 08 46 26.9 +0.9**
baz=59
D30A Buchanan 59.26 51 ⇓P **P 08 46 27.0 +0.9**
baz=59,SNR=5.6
KAF Kangasniemi 59.27 337 *eP* **P 08 46 24.3 -1.7**
KAF pmax pmax
comp=Z,18nm,0.6s
KAF Kangasniemi 59.27 337 *ep* **P 08 46 24.3 -1.7**
comp=Z,18nm,0.6s
GMRC Granite Mounta 59.33 72 ⇓P **P 08 46 29.1 +2.1**
baz=59
L23A Garrett 59.47 60 ⇓P **P 08 46 28.8 +0.9**
baz=59,SNR=5.9
H27A Howes 59.47 55 ⇓P **P 08 46 29.1 +1.4**
baz=59
J25A Sunshine Ranch 59.51 57 ⇑P **P 08 46 29.1 +1.1**
baz=59
RAMN Ramite 59.52 275 *eP* **P 08 46 26.8 -1.7**
comp=Z,50nm,0.4s
I26A New Underwood 59.52 56 ⇑P **P 08 46 29.1 +1.1**
baz=59
P19A Cripple Cowboy 59.53 64 ⇑P **P 08 46 29.8 +1.4**
baz=59
O20A White River Ci 59.56 63 ⇓P **P 08 46 30.2 +1.6**
baz=59
E30A Jud 59.63 52 ⇑P **P 08 46 29.4 +0.6**
baz=59
KKN Kakani 59.68 277 *eP* **P 08 46 29.0 -0.5**
comp=Z,15nm,0.4s
F29A Eureka 59.69 53 ⇓P **P 08 46 30.2 +1.1**
baz=59,SNR=6.6
PFO Pinyon Flat Ob 59.73 73 LR LR 09 08 47.6
comp=Z,93nm,20.6s,baz=341,slow=32
I27A Quinn 59.89 56 ⇓P **P 08 46 31.9 +1.3**
baz=60,SNR=10
GKN Gorkha 59.90 277 *eP* **P 08 46 31.0 0.0**
comp=Z,8.0nm,0.3s
FINES FINESS Array B 59.91 337 P **P 08 46 29.1 -1.2**
FINES FINESS Array B 59.91 337 P **P 08 46 29.1 -1.2**
comp=Z,19nm,0.6s,baz=30,slow=7.4,SNR=49
FINES LR LR 09 13 40.2
comp=Z,299nm,21.1s,baz=224,slow=37
O21A Pagoda 59.91 62 ⇑P **P 08 46 32.6 +1.5**
baz=60
DMN Daman 59.92 277 *eP* **P 08 46 30.5 -0.7**
comp=Z,7.4nm,0.5s
M23A Laramie 59.92 60 ⇑P **P 08 46 32.3 +1.2**
baz=60
J26A Sides Ranch, S 59.93 57 ⇑P **P 08 46 32.1 +1.2**
baz=60,SNR=5.4
H28A Mission Ridge 59.96 55 ⇑P **P 08 46 32.6 +1.6**
baz=60,SNR=9.7
N22A Wattenberg Ran 60.02 61 ⇑P **P 08 46 33.5 +1.7**
baz=60
U15A North Rim 60.03 68 ⇑P **P 08 46 33.2 +1.3**
baz=60
W13A Hualapai Mount 60.10 71 ⇓P **P 08 46 33.7 +1.4**
baz=60
G29A Hoven 60.11 54 ⇓P **P 08 46 32.7 +0.7**
baz=60
DANN Dangsing 60.17 278 *eP* **P 08 46 33.0 0.0**
comp=Z,20nm,0.6s
N23A Red Feather La 60.22 61 ⇑P **P 08 46 34.5 +1.3**
baz=60
MONP Monument Peak 60.27 74 ⇓P **P 08 46 35.9 +2.4**
baz=60
K26A Motz Farm, Whi 60.33 58 ⇑P **P 08 46 35.0 +1.4**
baz=60
I28A Midland 60.38 55 ⇓P **P 08 46 34.9 +1.1**
baz=60,SNR=6.1
H29A Onida 60.38 54 ⇑P **P 08 46 34.6 +0.6**
baz=60
M24A Cheyenne 60.39 60 ⇓P **P 08 46 35.4 +1.2**
baz=60
Q20A Ridgley Place, 60.39 64 ⇓P **P 08 46 36.1 +1.9**
baz=60
O22A Kremmling 60.44 62 ⇓P **P 08 46 36.5 +1.8**
baz=60
J27A Elkhorn Farm, 60.51 56 ⇓P **P 08 46 36.3 +1.4**
baz=60
G30A Faulkton 60.53 53 ⇓P **P 08 46 35.6 +0.7**
baz=60,SNR=8.5
PDMCI Parker Dam,Lak 60.54 71 ⇓P **P 08 46 37.0 +1.9**
baz=60
KOLN Koldanda 60.69 278 *eP* **P 08 46 36.1 -0.4**
comp=Z,6.2nm,0.3s
Y12C Blhe 60.72 72 ⇑P **P 08 46 38.7 +2.4**
baz=61
O23A Lake Granby, G 60.73 61 ⇑P **P 08 46 38.3 +1.6**
baz=60
P22A Eagle 60.74 62 ⇑P **P 08 46 38.5 +1.8**
baz=60
J28A Allard Ranch, 60.77 56 ⇓P **P 08 46 37.9 +1.3**
baz=60,SNR=9.7
I29A Vivian Onida 60.78 55 ⇓P **P 08 46 37.6 +0.9**
baz=60
K27A Flueckinger Fa 60.80 57 ⇑P **P 08 46 38.1 +1.2**
baz=60
Q21A Lamborn Mesa, 60.86 63 ⇓P **P 08 46 39.0 +1.6**
baz=61,SNR=6.5
R20A Redvale 60.90 64 ⇓P **P 08 46 38.9 +1.1**
baz=61
S20A Disappointment 61.17 65 ⇑P **P 08 46 41.2 +1.6**
baz=61,SNR=5.7
ISCO Idaho Springs 61.19 61 ⇓P **P 08 46 41.7 +1.8**
baz=61,SNR=11
Q22A Crested Butte, 61.19 63 ⇑P **P 08 46 41.1 +1.3**
baz=61
WUAZ Wupatki 61.21 68 ⇓P **P 08 46 41.6 +1.8**
baz=61
R21A Cimarron 61.21 64 ⇓P **P 08 46 41.6 +1.7**
baz=61,SNR=13
J29A Okreek 61.23 55 ⇓P **P 08 46 40.5 +0.8**
baz=61,SNR=8.9
O24A Longmont 61.24 61 ⇓P **P 08 46 41.3 +1.4**
baz=61
S21A Coal Bank Pass 61.60 64 ⇑P **P 08 46 44.4 +1.8**
baz=61,SNR=9.0
J30A Dallas 61.70 55 ⇓P **P 08 46 43.6 +0.8**
baz=61
K29A Lazy Trails An 61.71 56 ⇓P **P 08 46 44.3 +1.3**
baz=61
P24A Kohler Place, 61.77 61 ⇓P **P 08 46 45.3 +1.7**
baz=62
X16A Lo Mia Camp, P 61.97 69 ⇑P **P 08 46 46.7 +1.7**
baz=62
N27A Anderson Farm, 62.04 59 ⇓P **P 08 46 46.7 +1.4**
baz=62
S22A 4UR Ranch, Cre 62.05 64 ⇓P **P 08 46 47.5 +1.9**
baz=62,SNR=6.7
K30A Basset 62.12 55 ⇑P **P 08 46 46.8 +1.1**
baz=62,SNR=5.7
P25A Willow Gulch B 62.16 61 ⇓P **P 08 46 47.4 +1.2**
baz=62
OGNE Ogallala 62.20 58 ⇓P **P 08 46 48.0 +1.7**
baz=62
T21A Navajo Lake 62.23 65 ⇑P **P 08 46 48.3 +1.5**
baz=62
R23A Moffat 62.26 63 ⇓P **P 08 46 48.5 +1.4**
baz=62
OBN Obninsk 62.39 328 ⇓ *eP* **P 08 46 47.3 +0.1**
OBN 08 47 28.0
OBN pmax pmax
comp=Z,10.0nm,0.8s
OBN MLR MLR
comp=Z,300nm,19.0s
M29A Burnside Ranch 62.50 57 ⇓P **P 08 46 49.3 +1.0**
baz=62
S23A Nye Farm, Mont 62.53 63 ⇑P **P 08 46 50.7 +1.9**
baz=62
O27A Beecher Island 62.53 59 ⇑P **P 08 46 49.8 +1.2**
baz=62,SNR=6.5
P26A Davis Ranch, A 62.55 60 ⇓P **P 08 46 49.9 +1.1**
baz=62
T22A Edith 62.55 64 ⇑P **P 08 46 50.8 +1.8**
baz=62
Q25A Bedland, Calha 62.56 61 ⇑P **P 08 46 50.7 +1.8**
baz=62
U21A Nageezi 62.58 65 ⇓P **P 08 46 50.9 +1.8**
baz=62
V20A Brimhall 62.60 66 ⇓P **P 08 46 51.2 +2.0**
baz=62
L30A Spencer Herefo 62.61 56 ⇑P **P 08 46 50.1 +1.1**
baz=62
R24A Sanders Place, 62.61 62 ⇓P **P 08 46 50.8 +1.5**
baz=62
N28A Pribbeno Ranch 62.64 58 ⇑P **P 08 46 50.7 +1.4**
baz=62
X18A Snowflake 62.72 68 ⇑P **P 08 46 51.8 +1.8**
baz=63
L31A Butterfield Fa 62.87 55 ⇓P **P 08 46 51.7 +1.0**
baz=63,SNR=9.8
Q26A Hugo 62.93 61 ⇓P **P 08 46 52.7 +1.4**
baz=63
P27A Ficken Ranch, 62.95 60 ⇑P **P 08 46 52.9 +1.5**
baz=63
S24A Houchin Ranch, 62.99 63 ⇓P **P 08 46 53.6 +1.7**
baz=63
N29A Votaw Ranch, W 63.00 57 ⇓P **P 08 46 53.1 +1.4**
baz=63
214A Organ Pipe Nat 63.02 72 ⇓P **P 08 46 52.8 +1.0**
baz=63
V21A Milan 63.05 66 ⇓P **P 08 46 53.6 +1.3**
baz=63
U22A Llaves 63.05 65 ⇑P **P 08 46 53.5 +1.3**
baz=63
W20A Ramah 63.08 67 ⇑P **P 08 46 54.1 +1.6**
baz=63
R25A Fountain Ranch 63.11 62 ⇑P **P 08 46 53.6 +1.1**
baz=63
NB2 NORSAR Subarra 63.27 344 P **P 08 46 51.9 -1.2**
comp=Z,11nm,0.6s,baz=23,slow=6.9
NB2 NORSAR Subarra 63.27 344 P **P 08 46 51.9 -1.2**
baz=23,slow=6.9
NOA NORSAR Array B 63.27 344 P **P 08 46 52.1 -0.9**
NOA NORSAR Array B 63.27 344 P **P 08 46 52.1 -0.9**
comp=Z,16nm,0.7s,baz=22,slow=6.6,SNR=57
NOA LR LR 09 19 20.9
comp=Z,93nm,19.2s,baz=15,slow=41
KSCO Kaye Shedlock' 63.33 60 ⇑P **P 08 46 54.9 +1.0**
baz=63
T24B San Luis 63.34 63 ⇓P **P 08 46 55.8 +1.6**
baz=63
P28A Saint Francis 63.36 59 ⇑P **P 08 46 54.8 +0.7**
baz=63
V22A San Miguel Ran 63.37 65 ⇓P **P 08 46 55.8 +1.4**
baz=63
SPMN St. Paul 63.41 49 ⇓P **P 08 46 54.6 +0.5**
baz=63
R26A Arlington 63.44 61 ⇓P **P 08 46 55.9 +1.3**
baz=63
U23A El Rito 63.45 64 ⇑P **P 08 46 56.5 +1.6**
baz=63,SNR=9.5
PMG Port Moresby 63.70 195 LR LR 09 13 07.3
comp=Z,86nm,18.3s,baz=13,slow=34
O30A MW Ranch, Wils 63.77 57 ⇓P **P 08 46 57.5 +0.8**
baz=64
R27A Eads 63.78 61 ⇓P **P 08 46 58.2 +1.3**
baz=64
BGNE Belgrade 63.79 55 ⇑P **P 08 46 57.8 +1.0**
baz=64
T25A Trinidad 63.79 63 ⇓P **P 08 46 58.5 +1.4**
baz=64
N31A Bailey Ranch, 63.84 56 ⇓P **P 08 46 57.5 +0.4**
baz=64
V23A Ortiz Mt. (NFS 63.88 65 ⇓P **P 08 46 59.8 +2.0**
baz=64,SNR=5.5
S26A Kim 63.93 62 ⇓P **P 08 46 59.0 +1.1**
baz=64
X21A Alamocita Cree 63.98 67 ⇓P **P 08 47 00.4 +2.0**
baz=64,SNR=6.4
P30A Selden 64.15 58 ⇓P **P 08 47 00.2 +1.0**
baz=64
T26A Comanche Natio 64.20 62 ⇑P **P 08 47 00.4 +0.7**
baz=64
R28A Tribune 64.25 60 ⇑P **P 08 47 00.9 +0.9**
baz=64
Q29A Oakley 64.27 59 ⇑P **P 08 47 01.2 +1.1**
baz=64
W23A Werner Place, 64.34 65 ⇑P **P 08 47 02.3 +1.6**
baz=64
U25A Circle Dot Ran 64.35 63 ⇓P **P 08 47 02.0 +1.2**
baz=64,SNR=6.8
LAZ Ladron 64.37 66 *eP* **P 08 47 02.2 +1.3**
comp=Z,7.7nm,1.4s
V24A Rampart Ranch, 64.39 64 ⇓P **P 08 47 02.7 +1.6**
baz=64,SNR=5.3
Z20A Nine Sixteen R 64.53 68 ⇓P **P 08 47 03.8 +1.8**
baz=64
R29A Marienthal 64.54 59 ⇑P **P 08 47 03.1 +1.3**
baz=64
Q30A Quinter 64.59 58 ⇓P **P 08 47 03.1 +1.0**
baz=64
V25A Rancho No Teng 64.66 64 ⇓P **P 08 47 03.9 +1.1**
baz=64,SNR=5.6
W24A Lazy 6 Ranch, 64.70 65 ⇓P **P 08 47 04.8 +1.7**
baz=64
U26A Atchley Ranch, 64.71 63 ⇓P **P 08 47 04.2 +1.1**
baz=64
T27A Campo 64.74 61 ⇑P **P 08 47 03.8 +0.6**
baz=64
S28A Manter 64.78 61 ⇓P **P 08 47 04.6 +1.2**
baz=64
Y22A Socorro 64.81 67 ⇓P **P 08 47 05.7 +2.0**
baz=65
P32A Huiting Farm, 64.92 57 ⇑P **P 08 47 04.7 +0.5**
baz=65
T28A Walsh 65.02 61 ⇑P **P 08 47 05.6 +0.6**
baz=65
R30A Dighton 65.09 59 ⇓P **P 08 47 05.9 +0.6**
baz=65
SCHQ Schefferville 65.12 28 P **P 08 47 03.4 -1.9**
SCHQ Schefferville 65.12 28 P **P 08 47 03.4 -1.9**
comp=Z,3.0nm,0.5s,baz=332,slow=7.3,SNR=6.7
V26A Tequesquite Ra 65.13 63 ⇑P **P 08 47 06.6 +0.8**
baz=65
U27A Thompson Grove 65.17 62 ⇑P **P 08 47 06.7 +0.6**
baz=65,SNR=6.3
W25A X Bar L Ranch, 65.21 64 ⇓P **P 08 47 07.3 +1.0**
baz=65,SNR=5.4
Y23A Lovelace Mesa, 65.31 66 ⇑P **P 08 47 08.6 +1.5**
baz=65
Q32A Meitler Ranch, 65.42 57 ⇑P **P 08 47 08.6 +1.1**
baz=65
R31A Burdett 65.47 58 ⇓P **P 08 47 08.2 +0.4**
baz=65
220A Playas Peak, P 65.47 69 ⇓P **P 08 47 10.2 +2.2**
baz=65
Y24A Capitan 65.66 66 ⇑P **P 08 47 10.2 +0.9**
baz=66,SNR=5.9
V27A Dan Oppiter Fa 65.67 63 ⇑P **P 08 47 10.3 +1.1**
baz=66
V28A Channing 66.00 62 ⇓P **P 08 47 12.5 +1.2**
baz=66
Y25A Mesa, Roswell 66.06 65 ⇑P **P 08 47 13.1 +1.3**
baz=66,SNR=9.9
Z24A Sheeppen Canyo 66.14 66 ⇑P **P 08 47 13.8 +1.4**
baz=66
T31A Randall Ranch, 66.30 59 ⇑P **P 08 47 13.8 +0.6**
baz=66
Z25A Roswell 66.53 66 ⇓P **P 08 47 16.6 +1.7**
baz=66
124A Stringfield Ra 66.57 66 ⇑P **P 08 47 16.5 +1.3**
baz=66
Y27A Causey 66.92 64 ⇓P **P 08 47 18.2 +0.9**
baz=67,SNR=7.6
Z26A Caprock 66.94 65 ⇑P **P 08 47 18.8 +1.4**
baz=67,SNR=5.4
125A Gardner Draw, 67.04 66 ⇓P **P 08 47 19.7 +1.7**
baz=67
MSTX Muleshoe 67.06 64 ⇑P **P 08 47 18.8 +0.7**
baz=67,SNR=6.3
V31A Spring Creek L 67.23 60 ⇓P **P 08 47 20.4 +1.3**
baz=67
X29A Tulia 67.27 63 ⇑P **P 08 47 20.6 +1.1**
baz=67
Z27A Tatum 67.32 64 ⇓P **P 08 47 21.2 +1.3**
baz=67
225A Deer Hill, Car 67.37 66 ⇑P **P 08 47 21.9 +1.7**
baz=67
126A Clayton Basin, 67.39 66 ⇓P **P 08 47 20.9 +0.7**
baz=67
324A Moseley Ranch, 67.51 67 ⇓P **P 08 47 21.8 +0.7**
baz=67
W31A Holland Ranch, 67.63 61 ⇓P **P 08 47 22.5 +0.8**
baz=67
X30A Coker Ranch, T 67.70 62 ⇓P **P 08 47 22.9 +0.8**
baz=68
127A Arkansas Junct 67.73 65 ⇓P **P 08 47 23.5 +1.1**
baz=68
Y29A Porterfield Fa 67.73 63 ⇑P **P 08 47 23.3 +0.9**
baz=68
226B Tecolote Peak, 67.75 66 ⇓P **P 08 47 23.7 +1.2**
baz=68
Z28A Tucker Farm, M 67.79 64 ⇑P **P 08 47 23.7 +1.0**
baz=68
325A Bean Ranch, Si 67.85 67 ⇑P **P 08 47 24.4 +1.2**
baz=68
X31A McDonald Ranch 68.03 61 ⇓P **P 08 47 25.1 +0.9**
baz=68,SNR=5.4
Y30A Stafford Cattl 68.13 62 ⇑P **P 08 47 25.6 +0.8**
baz=68
Z29A Hungry Hill Ra 68.17 63 ⇓P **P 08 47 26.1 +1.0**
baz=68
128A Castleberry Fa 68.25 64 ⇓P **P 08 47 26.7 +1.1**
baz=68
425A Indio Mountain 68.29 67 ⇓P **P 08 47 27.6 +1.6**
baz=68
Y31A Rekieta Farm, 68.40 62 ⇓P **P 08 47 27.1 +0.6**
baz=68

326A Caldwell Ranch 68.43 66 ⇓P P 08 47 27.9 +1.1
baz=68
Z30A Sanderson Ranc 68.46 63 ⇓P P 08 47 27.5 +0.6
baz=68,SNR=5.0
AKASG Malin Array Be 68.47 329 P P 08 47 24.5 -2.1
AKASG pmax pmax
comp=Z,9.0nm,0.5s
AKASG MLR MLR
comp=Z,485nm,20.3s
AKASG Malin Array Be 68.47 329 P P 08 47 24.4 -2.1
AKASG Malin Array Be 68.47 329 P P 08 47 24.4 -2.1
comp=Z,9.0nm,0.5s,baz=28,slow=6.0,SNR=21
AKASG LR LR 09 20 43.9
comp=Z,485nm,20.3s,baz=295,slow=39
228A UT Block 9, Go 68.57 65 ⇑P P 08 47 29.6 +1.9
baz=68
Y32A R-V Farms, Ver 68.80 61 ⇑P P 08 47 29.4 +0.4
baz=69,SNR=7.0
Z31A Sharp Cattle R 68.96 62 ⇓P P 08 47 30.7 +0.7
baz=69
328A Wristen Ranch, 69.02 66 ⇑P P 08 47 31.4 +1.0
baz=69,SNR=9.1
130A Snyder 69.08 63 ⇑P P 08 47 31.4 +0.6
baz=69
427A Hayter Ranch, 69.11 66 ⇓P P 08 47 32.3 +1.2
baz=69
229A Bryant Ranch, 69.11 64 ⇑P P 08 47 32.3 +1.3
baz=69
TUL1 Tulsa 69.20 58 ⇑P P 08 47 32.0 +0.6
baz=69
Z32A Haskell 69.32 62 ⇓P P 08 47 33.0 +0.8
baz=69
526A Mary Lane Ranc 69.34 67 ⇑P P 08 47 33.8 +1.2
baz=69
329A Wagon Wheel Ra 69.39 65 ⇑P P 08 47 33.7 +0.9
baz=69,SNR=5.7
KIV Kislovodsk 69.41 317 eP P 08 47 29.9 -2.8
KIV pmax pmax
comp=Z,8.0nm,0.9s
KIV MLR MLR
comp=Z,231nm,18.0s
KBZ Khabaz 69.51 317 P P 08 47 31.6 -1.6
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KBZ MLR MLR
comp=Z,281nm,19.5s
KBZ Khabaz 69.51 317 P P 08 47 31.6 -1.6
KBZ Khabaz 69.51 317 P P 08 47 31.6 -1.6
comp=Z,5.9nm,0.9s,baz=349,slow=5.2,SNR=4.7
KBZ LR LR 09 22 29.6
comp=Z,281nm,19.5s,baz=26,slow=40
527A Woodward Ranch 69.53 67 ⇓P P 08 47 35.2 +1.5
baz=69
230A Sterling City 69.55 64 ⇓P P 08 47 34.9 +1.2
baz=69
428A Kincaid Ranch, 69.59 66 ⇑P P 08 47 35.4 +1.4
baz=69,SNR=10.0
626A Big Bend Ranch 69.70 68 ⇓P P 08 47 35.9 +1.2
baz=70
ABTX Abilene, Hawle 69.76 62 ⇓P P 08 47 35.9 +1.0
baz=70
SFIN Scholer Farm 69.81 49 ⇓P P 08 47 35.4 +0.3
baz=70
330A Mertzon 69.89 64 ⇓P P 08 47 36.8 +1.1
baz=70
231A Bronte 69.94 63 ⇓P P 08 47 37.2 +1.2
baz=70
528A Cox Ranch, San 69.97 66 ⇓P P 08 47 37.3 +0.9
baz=70,SNR=6.9
429A Davenport Ranc 70.10 65 ⇑P P 08 47 37.9 +0.7
baz=70,SNR=5.3
TXAR Lajitas Array 70.13 68 P P 08 47 38.7 +1.4
TXAR Lajitas Array 70.13 68 P P 08 47 38.7 +1.4
comp=Z,4.5nm,0.6s,baz=290,slow=3.6,SNR=92
627A Terlingua Ranc 70.19 67 ⇓P P 08 47 38.9 +1.2
baz=70
529A Stev Forest Ra 70.31 66 ⇓P P 08 47 39.3 +0.9
baz=70,SNR=8.0
232A Coleman 70.33 63 ⇓P P 08 47 39.5 +1.0
baz=70
430A Baggett Ranch, 70.33 65 ⇑P P 08 47 39.4 +0.8
baz=70
331A San Angelo 70.37 64 ⇑P P 08 47 39.0 +0.3
baz=70,SNR=5.6
LPIG La Paz 70.40 76 LR LR 09 11 01.9
comp=Z,200nm,21.9s,baz=330,slow=29
628A Black Gap, Mar 70.44 67 ⇓P P 08 47 40.5 +1.4
baz=70
332A Millersview 70.67 63 ⇓P P 08 47 41.2 +0.7
baz=70,SNR=6.1
431A Sonora 70.75 64 ⇓P P 08 47 41.7 +0.6
baz=71,SNR=6.5
ANN Anapa 70.76 321 eP P 08 47 43.7 +2.9
ANN pmax pmax
comp=Z,25nm,1.2s
ANN MLR MLR
comp=N,351nm,18.0s
ANN MLR MLR
comp=Z,338nm,18.0s
530A J-C Ranch, Com 70.78 65 ⇓P P 08 47 42.2 +1.0
baz=71,SNR=7.7
432A Menard 71.04 64 ⇓P P 08 47 43.9 +1.1
baz=71
AFI Afiamalu 71.14 152 LR LR 09 12 09.0
comp=Z,181nm,19.9s,baz=303,slow=30
531A Rocksprings 71.19 65 ⇑P P 08 47 44.8 +1.1
baz=71
KWP Kalwaria Pacla 71.32 333 eP P 08 47 43.9 -0.3
KWP Kalwaria Pacla 71.32 333 ⇓*i*P P 08 47 43.9 -0.3
KWP Kalwaria Pacla 71.32 333 eP P 08 47 43.9 -0.3
JCT Junction City 71.35 64 ⇓P P 08 47 45.2 +0.6
baz=71,SNR=5.6
WHTX Lake Whitney 71.41 61 ⇑P P 08 47 45.8 +0.9
baz=71
OJC Ojcow 71.55 335 eP P 08 47 45.3 -0.2
OJC Ojcow 71.55 335 eP P 08 47 45.3 -0.2
532A Rocksprings 71.57 64 ⇓P P 08 47 46.6 +0.6
baz=71
HYB Hyderabad 71.57 274 *i* P P 08 47 45.5 -0.6
NRDL Niedersach Rie 71.58 342 eP P 08 47 45.0 -0.5
comp=Z,16nm,1.0s
631A Perdido Creek 71.76 65 ⇓P P 08 47 47.5 +0.3
baz=72,SNR=5.9
KSP Ksiaz 71.83 337 eP P 08 47 46.4 -0.8
KSP Ksiaz 71.83 337 eP P 08 47 47.1 -0.1
STHS Stebnicka Huta 71.91 333 eP P 08 47 47.8 +0.1
STHS pmax pmax
comp=Z,5.0nm,0.7s
STHS Stebnicka Huta 71.91 333 eP P 08 47 47.8 +0.1
KOLS Kolonicke sedl 72.08 333 eP P 08 47 48.8 +0.1
KOLS pmax pmax
comp=Z,4.0nm,1.0s
KOLS Kolonicke sedl 72.08 333 eP P 08 47 48.8 +0.1
632A Uvalde 72.11 65 ⇓P P 08 47 49.9 +0.7
baz=72
CLL Collm 72.12 339 ⇑*i*P P 08 47 48.0 -0.9
CLL *e* 08 48 12.0
CLL pmax pmax
comp=Z,30nm,1.1s
CLL MLR MLR
comp=Z,200nm,20.3s
CLL Collm 72.12 339 eP P 08 47 47.9 -0.9
comp=Z,29nm,1.1s
CLL Collm 72.12 339 ⇑*i*P P 08 47 48.0 -0.9
comp=Z,30nm,1.1s
CLL *es*P **sP** 08 48 01.0 -4.5
CLL LmH 09 22 00.0
comp=Z,200nm,20.3s
CLZ Clausthal 72.15 341 eP P 08 47 49.0 -0.1
CLZ pmax pmax
comp=Z,37nm,1.1s
CLZ Clausthal 72.15 341 eP P 08 47 49.0 -0.1
comp=Z,37nm,1.1s
IBBN Ibbenburen 72.18 343 eP P 08 47 49.1 -0.1
comp=Z,29nm,0.6s
UPC Upice 72.21 337 eP P 08 47 50.6 +1.1
UPC *e* 08 48 01.8
UPC Upice 72.21 337 eP P 08 47 50.6 +1.1
UPC *ep*P **pP** 08 48 01.8 +0.4
DPC Dobruska-Polom 72.28 337 eP P 08 47 49.5 -0.5
DPC *e* 08 48 02.2
DPC Dobruska-Polom 72.28 337 eP P 08 47 49.5 -0.5
DPC *ep*P **pP** 08 48 02.2 +0.3
DPC AMS AMS 09 20 20.0
OKC Ostrava-Krasne 72.32 336 eP P 08 47 50.5 +0.4
OKC MLR MLR
comp=Z,300nm,18.7s
OKC Ostrava-Krasne 72.32 336 eP P 08 47 50.5 +0.4
OKC AMS AMS 09 23 40.0
comp=Z,300nm,18.7s
CRVS Cervenica-Dubn 72.32 333 eP P 08 47 50.6 +0.4
CRVS pmax pmax
comp=Z,5.0nm,1.0s
CRVS Cervenica-Dubn 72.32 333 eP P 08 47 50.6 +0.4
BRG Berggiesshubel 72.33 339 eP P 08 47 49.6 -0.5
comp=Z,19nm,1.4s
BRG *e* 08 48 05.5
BRG Berggiesshubel 72.33 339 eP P 08 47 49.7 -0.5
comp=Z,19nm,1.4s
FBE Freiberg 72.41 329 eP P 08 47 50.3 -0.3
comp=Z,17nm,1.0s
BURAR Bucovina Array 72.43 330 ⇑P P 08 47 49.5 -1.4
BURAR Bucovina Array 72.43 330 ⇑*i*P P 08 47 49.5 -1.4
NEUB Neuenburg 72.47 340 eP P 08 47 50.4 -0.6
comp=Z,19nm,0.6s
PVCC Panska Ves 72.52 338 eP P 08 47 51.9 +0.6
PVCC Panska Ves 72.52 338 eP P 08 47 51.9 +0.6
MORC Moravsky Berou 72.53 336 ⇓P P 08 47 50.8 -0.6
MORC Moravsky Berou 72.53 336 ⇓*i*P P 08 47 50.8 -0.6
732A Laxson Ranch, 72.62 65 ⇑P P 08 47 53.5 +1.2
baz=72,SNR=9.6
TRPA Tarpa 72.73 332 ⇑*i*P P 08 47 52.3 -0.3
WVT Waverly 72.91 52 eP P 08 47 54.0 +0.1
WVT pmax pmax
comp=Z,9.0nm,0.8s
WVT Waverly 72.91 52 eP P 08 47 54.0 +0.1
comp=Z,8.7nm,0.8s
KECS Kecovo 72.97 334 eP P 08 47 53.9 -0.1
KECS pmax pmax
comp=Z,2.0nm,0.8s
KECS Kecovo 72.97 334 eP P 08 47 53.9 -0.1
TESR Tescani 72.98 329 ⇓*i*P P 08 47 52.9 -1.2
PRU Pruhonice 73.03 338 eP P 08 47 54.5 +0.2
PRU MLR MLR
comp=Z,300nm,19.8s
PRU Pruhonice 73.03 338 eP P 08 47 54.5 +0.2
PRU AMS AMS 09 21 30.0
comp=Z,300nm,19.8s
PLN Plauen 73.08 340 eP P 08 47 54.2 -0.4
comp=Z,82nm,1.1s
TANN Tannenbergstha 73.08 339 eP P 08 47 54.3 -0.4
comp=Z,18nm,1.4s
WERD Werda 73.08 340 eP P 08 47 54.2 -0.5
comp=Z,15nm,1.0s
BUG Bochum--Univer 73.10 343 eP P 08 47 54.0 -0.7
comp=Z,22nm,0.9s
GUNZ Gunzen 73.16 339 eP P 08 47 54.7 -0.4
comp=Z,14nm,0.9s
VRAC Vranov 73.19 336 ⇓*i*P P 08 47 55.9 +0.6
UBBA Unterbreizbach 73.19 341 eP P 08 47 54.6 -0.5
comp=Z,61nm,1.9s
WERN Wernitzgruen 73.22 339 eP P 08 47 55.2 -0.3
comp=Z,20nm,0.9s
NKC Novy Kostel 73.25 339 eP P 08 47 55.3 -0.4
NKC *e* 08 48 02.0
NKC Novy Kostel 73.25 339 eP P 08 47 55.3 -0.4
NKC *ex* x 08 48 02.0
TREC Trest 73.46 337 eP P 08 47 57.0 +0.1
TREC MLR MLR
comp=Z,300nm,17.9s
TREC Trest 73.46 337 eP P 08 47 57.0 +0.1
TREC AMS AMS 09 25 10.0
comp=Z,300nm,17.9s
VRI Vrincioaia 73.53 328 ⇑P P 08 47 57.2 -0.2
VRI Vrincioaia 73.53 328 ⇑*i*P P 08 47 57.2 -0.2
MANZ Manzenberg 73.56 339 eP P 08 47 57.0 -0.5
comp=Z,10.0nm,1.1s
CFR Carcaliu 73.70 327 ⇓P P 08 47 57.1 -1.2
CFR Carcaliu 73.70 327 ⇓*i*P P 08 47 57.1 -1.2
ROTZ Rotzenmuhle 73.75 339 eP P 08 47 58.5 -0.1
comp=Z,12nm,1.0s
DOPR Dopca 73.86 329 ⇑*i*P P 08 47 59.7 +0.4
GRF Grafenberg Arr 74.02 340 eP P 08 48 00.1 -0.1
GRF pmax pmax
comp=Z,31nm,0.8s
GRF Grafenberg Arr 74.02 340 eP P 08 48 00.1 -0.1
comp=Z,31nm,0.8s
KHC Kasperske Hory 74.05 338 eP P 08 48 00.0 -0.4
KHC *e* 08 48 04.7
KHC *e* 08 48 12.8
KHC MLR MLR
comp=Z,300nm,18.9s
KHC Kasperske Hory 74.05 338 eP P 08 48 00.0 -0.4
KHC *ex* x 08 48 04.7
KHC *ep*P **pP** 08 48 12.8 +0.4
KHC AMS AMS 09 26 20.0
comp=Z,300nm,18.9s
TNS Taunus Mts 74.06 342 eP P 08 48 00.0 -0.5
TNS pmax pmax
comp=Z,17nm,1.0s
TNS Taunus Mts 74.06 342 eP P 08 48 00.0 -0.5
comp=Z,17nm,1.0s
MLR Muntele Rosu 74.11 329 ⇓*i*P P 08 48 00.9 0.0
MEM Membach 74.12 344 P P 08 48 00.3 -0.4
comp=Z,32nm,1.0s
WET Wettzell 74.19 339 eP P 08 48 01.1 -0.1
WET pmax pmax
comp=Z,20nm,0.9s
WET Wettzell 74.19 339 eP P 08 48 01.1 -0.1
comp=Z,20nm,0.9s
TIRR Tirgusor 74.25 327 ⇓P P 08 48 00.5 -1.0
TIRR Tirgusor 74.25 327 ⇓*i*P P 08 48 00.5 -1.0
TLB Topalu 74.25 327 ⇑P P 08 47 59.7 -1.9
TLB Topalu 74.25 327 ⇑*i*P P 08 47 59.7 -1.9
ISR Istrita 74.26 328 ⇓P P 08 48 00.3 -1.4
ISR Istrita 74.26 328 ⇓*i*P P 08 48 00.3 -1.4
GEC2 GERESS Array S 74.29 338 eP P 08 48 01.6 -0.3
GEC2 pmax pmax
comp=Z,10.0nm,0.9s
GEC2 GERESS Array S 74.29 338 eP P 08 48 01.6 -0.3
comp=Z,10.0nm,0.9s
GERES GERESS Array B 74.29 338 P P 08 48 01.7 -0.2
GERES GERESS Array B 74.29 338 P P 08 48 01.7 -0.2
comp=Z,8.6nm,0.8s,baz=35,slow=4.9,SNR=31
GERES LR LR 09 26 46.7
comp=Z,219nm,18.1s,baz=26,slow=41
VOIR 74.44 329 ⇓P P 08 48 02.5 -0.3
VOIR 74.44 329 ⇓*i*P P 08 48 02.5 -0.3
ARR Arges 74.63 330 ⇓*i*P P 08 48 02.0 -1.9
CONA Conrad Observa 74.65 336 ⇑*i*P P 08 48 04.3 +0.3
comp=Z,8.3nm,0.9s,SNR=5.2
SIRR Siria 74.68 332 ⇓*i*P P 08 48 04.4 +0.3
GIVF Givet 74.81 344 eP P 08 48 04.0 -0.7
comp=Z,33nm,1.0s
GIVF Givet 74.81 344 eP P 08 48 04.0 -0.7
GIVF pmax pmax
comp=Z,33nm,1.0s
GIVF Givet 74.81 344 eP P 08 48 04.0 -0.7
comp=Z,33nm,1.0s
DOU Dourbes 74.85 344 P P 08 48 04.2 -0.8
BAIF Baives 74.95 345 eP P 08 48 04.9 -0.6
comp=Z,29nm,0.9s
BAIF Baives 74.95 345 eP P 08 48 04.9 -0.6
BAIF pmax pmax
comp=Z,29nm,0.9s
BAIF Baives 74.95 345 eP P 08 48 04.9 -0.6
comp=Z,29nm,0.9s
GZR Gura Zlata 75.15 331 ⇓P P 08 48 06.1 -0.8
GZR Gura Zlata 75.15 331 ⇓*i*P P 08 48 06.1 -0.8
LANF Langenberg 75.37 342 eP P 08 48 08.0 0.0
ARSA Arzberg 75.37 336 ⇑*i*P P 08 48 08.3 +0.3
comp=Z,9.8nm,0.8s
DZM Mont Dzumac 75.40 175 eLR LR 09 11 39.9
comp=Z,308nm,26.2s
RJOB Jochberg 75.54 338 eP P 08 48 09.1 0.0
comp=Z,15nm,0.8s
PKSM Moragy 75.55 334 ⇓P P 08 48 08.5 -0.6
PKSM Moragy 75.55 334 ⇓*i*P P 08 48 08.4 -0.6
BFO Black Forest 75.89 341 eP P 08 48 10.4 -0.6
BFO pmax pmax
comp=Z,60nm,2.2s
BFO Black Forest 75.89 341 eP P 08 48 10.4 -0.6
comp=Z,60nm,2.2s
BFO Black Forest 75.89 341 eP P 08 48 09.7 -1.3
comp=Z,19nm,1.3s
WLS Welschbruch 76.00 342 eP P 08 48 10.5 -1.2
CDF Champ du Feu 76.01 342 eP P 08 48 11.2 -0.6
comp=Z,27nm,0.8s
CDF Champ du Feu 76.01 342 eP P 08 48 11.2 -0.6
CDF pmax pmax
comp=Z,27nm,0.8s
CDF Champ du Feu 76.01 342 eP P 08 48 11.2 -0.6
comp=Z,27nm,0.8s
SOKA Soboth 76.02 336 ⇑*i*P P 08 48 11.9 0.0
comp=Z,15nm,0.9s
KBA Koelnbreinsper 76.04 338 ⇑*i*P P 08 48 12.6 +0.5
comp=Z,38nm,0.8s,SNR=7.2
PERS Pernice 76.04 336 *i* P P 08 48 11.7 -0.3
PAGF Fort de Pagny 76.15 343 eP P 08 48 12.3 -0.2
comp=Z,17nm,1.0s
PAGF Fort de Pagny 76.15 343 eP P 08 48 12.3 -0.2
comp=Z,17nm,1.0s
RETA Reutte 76.21 340 ⇑*i*P P 08 48 13.0 +0.1
comp=Z,9.7nm,0.7s
ECH Echery 76.22 342 eP P 08 48 12.1 -0.8
ECH pmax pmax
comp=Z,27nm,1.3s
ECH Echery 76.22 342 eP P 08 48 12.6 -0.3
ECH Echery 76.22 342 eP P 08 48 12.1 -0.8
comp=Z,27nm,1.3s
WTTA Wattenberg 76.24 339 ⇑*i*P P 08 48 13.4 +0.2
comp=Z,19nm,1.1s
MOTA Moosalm 76.28 339 ⇓*i*P P 08 48 13.4 0.0
comp=Z,13nm,0.7s,SNR=8.0
OBKA Obir 76.30 337 ⇑*i*P P 08 48 13.4 -0.1
comp=Z,33nm,1.2s,SNR=6.4
MEZF Maizieres J'vi 76.32 344 eP P 08 48 13.1 -0.3
MEZF Maizieres J'vi 76.32 344 eP P 08 48 13.1 -0.3
FELD Feldberg im Sc 76.39 341 eP P 08 48 13.3 -0.7
THEF They Montfort 76.42 343 eP P 08 48 13.6 -0.4
ABTA Abfaltersbach 76.54 338 ⇑*i*P P 08 48 14.5 -0.3
comp=Z,18nm,0.8s,SNR=8.7
BRTR Keskin Array B 76.56 321 P P 08 48 13.8 -1.3
BRTR Keskin Array B 76.56 321 P P 08 48 13.8 -1.3
comp=Z,1.2nm,0.6s,baz=46,slow=4.8,SNR=6.1
BRTR LR LR 09 29 06.7
comp=Z,133nm,19.1s,baz=25,slow=41
HAU Haudompre 76.57 343 eP P 08 48 14.2 -0.7
comp=Z,11nm,0.5s
HAU *e*R
comp=Z,318nm,19.0s
HAU Haudompre 76.57 343 eP P 08 48 14.2 -0.7
HAU pmax pmax
comp=Z,11nm,0.5s
HAU Haudompre 76.57 343 eP P 08 48 14.2 -0.7
comp=Z,11nm,0.5s
MOF Molkenrain 76.58 342 eP P 08 48 14.2 -0.8
DAVA Damuels 76.59 340 ⇑*i*P P 08 48 14.9 -0.2
comp=Z,15nm,1.0s
WRA Warramunga Arr 76.60 205 P P 08 48 15.8 +0.6
WRA Warramunga Arr 76.60 205 P P 08 48 15.8 +0.6
comp=Z,3.7nm,0.9s,baz=24,slow=6.3,SNR=44
SFTF Sexfontaines 76.61 344 eP P 08 48 14.5 -0.6
comp=Z,66nm,1.0s
SFTF Sexfontaines 76.61 344 eP P 08 48 14.5 -0.6
comp=Z,66nm,1.0s
PDKS Podkum 76.61 336 *i* P P 08 48 13.6 -1.5
HINF Hinteralfeld 76.66 342 eP P 08 48 14.5 -0.9
HINF Hinteralfeld 76.66 342 eP P 08 48 14.5 -0.9
HINF Hinteralfeld 76.66 342 eP P 08 48 14.5 -0.9
FETA Feichten 76.67 339 ⇑*i*P P 08 48 15.8 +0.2
comp=Z,24nm,1.0s,SNR=7.4
KMSC Kings Mountain 76.70 48 ⇓P P 08 48 16.3 +0.5
baz=76
FLN La Foliniere 76.89 347 eP P 08 48 15.8 -0.8
comp=Z,31nm,0.9s
FLN *e*R
comp=Z,285nm,18.0s
FLN La Foliniere 76.89 347 eP P 08 48 15.8 -0.8
FLN pmax pmax
comp=Z,31nm,0.9s
FLN La Foliniere 76.89 347 eP P 08 48 15.8 -0.8
comp=Z,31nm,0.9s
JAVS Javornik 76.99 337 *i* P P 08 48 16.2 -1.1
LDF La Druitiere 77.01 347 eP P 08 48 17.0 -0.3
LDF La Druitiere 77.01 347 eP P 08 48 17.0 -0.3
LDF La Druitiere 77.01 347 eP P 08 48 17.0 -0.3
BOJS Bojanci 77.07 336 *i* P P 08 48 17.1 -0.6
LOMF Lomont 77.12 342 eP P 08 48 15.6 -2.4
GRR Gorron 77.31 348 eP P 08 48 18.3 -0.7
comp=Z,24nm,0.8s
GRR Gorron 77.31 348 eP P 08 48 18.3 -0.7
GRR pmax pmax
comp=Z,24nm,0.8s
GRR Gorron 77.31 348 eP P 08 48 18.3 -0.7
comp=Z,24nm,0.8s
FITZ Fitzroy Crossi 77.44 214 P P 08 48 21.2 +1.3
FITZ Fitzroy Crossi 77.44 214 P P 08 48 21.2 +1.3
comp=Z,2.7nm,0.8s,baz=43,slow=5.7,SNR=4.6
TUE Stuetta 77.47 340 eP P 08 48 19.4 -0.8
comp=Z,31nm,0.8s
VTS Vitosha 77.58 329 ⇓P P 08 48 19.8 -1.0
VTS Vitosha 77.58 329 ⇓*i*P P 08 48 19.8 -1.0
SGMF Saint Gilles 77.65 349 eP P 08 48 20.4 -0.5
comp=Z,33nm,0.7s
SGMF Saint Gilles 77.65 349 eP P 08 48 20.4 -0.5
SGMF pmax pmax
comp=Z,33nm,0.7s
SGMF Saint Gilles 77.65 349 eP P 08 48 20.4 -0.5
comp=Z,33nm,0.7s
ROSF Rostrenen 77.65 349 eP P 08 48 20.4 -0.5
ROSF Rostrenen 77.65 349 eP P 08 48 20.4 -0.5
ROSF Rostrenen 77.65 349 eP P 08 48 20.4 -0.5
LOR Lormes 77.71 344 eP P 08 48 20.6 -0.7
comp=Z,31nm,0.9s
LOR *e*R
comp=Z,355nm,18.2s
LOR Lormes 77.71 344 eP P 08 48 20.6 -0.7
comp=Z,31nm,0.9s
CABF La Chapelle 77.97 342 eP P 08 48 22.6 -0.2
comp=Z,32nm,0.8s
CABF La Chapelle 77.97 342 eP P 08 48 22.6 -0.2
CABF pmax pmax
comp=Z,32nm,0.8s
CABF La Chapelle 77.97 342 eP P 08 48 22.6 -0.2
comp=Z,32nm,0.8s
SSF Saint Saulge 77.97 344 eP P 08 48 22.1 -0.6
comp=Z,22nm,0.8s
SSF Saint Saulge 77.97 344 eP P 08 48 22.1 -0.6
SSF pmax pmax
comp=Z,22nm,0.8s
SSF Saint Saulge 77.97 344 eP P 08 48 22.1 -0.6
comp=Z,22nm,0.8s
QUIF Quistinic 78.05 349 eP P 08 48 22.5 -0.6
comp=Z,28nm,0.8s
QUIF Quistinic 78.05 349 eP P 08 48 22.5 -0.6
QUIF pmax pmax
comp=Z,28nm,0.8s
QUIF Quistinic 78.05 349 eP P 08 48 22.5 -0.6
comp=Z,28nm,0.8s
AVF Avril sur Loir 78.26 344 eP P 08 48 23.8 -0.5
comp=Z,34nm,1.0s
AVF Avril sur Loir 78.26 344 eP P 08 48 23.8 -0.5
AVF pmax pmax
comp=Z,34nm,1.0s
AVF Avril sur Loir 78.26 344 eP P 08 48 23.8 -0.5
comp=Z,34nm,1.0s
SMF Signal de Mont 78.32 344 eP P 08 48 24.1 -0.6
comp=Z,16nm,0.8s
SMF Signal de Mont 78.32 344 eP P 08 48 24.1 -0.6
SMF pmax pmax
comp=Z,16nm,0.8s
SMF Signal de Mont 78.32 344 eP P 08 48 24.1 -0.6
comp=Z,16nm,0.8s
BGF Bois d'Agland 78.56 345 eP P 08 48 25.6 -0.4
BGF Bois d'Agland 78.56 345 eP P 08 48 25.6 -0.4
BGF Bois d'Agland 78.56 345 eP P 08 48 25.6 -0.4
RSL Roselend 78.76 342 eP P 08 48 27.4 +0.1
LPL La Plagne 78.90 342 eP P 08 48 28.6 +0.4
comp=Z,66nm,0.8s
LPL La Plagne 78.90 342 eP P 08 48 28.6 +0.4
LPL pmax pmax
comp=Z,66nm,0.8s
LPL La Plagne 78.90 342 eP P 08 48 28.6 +0.4
comp=Z,66nm,0.8s
LPG La Plagne 78.92 342 eP P 08 48 28.8 +0.5
comp=Z,59nm,0.7s
LPG La Plagne 78.92 342 eP P 08 48 28.8 +0.5
LPG pmax pmax
comp=Z,59nm,0.7s
LPG La Plagne 78.92 342 eP P 08 48 28.8 +0.5
comp=Z,59nm,0.7s
TCF Toulx Ste Croi 78.93 345 eP P 08 48 27.6 -0.4
comp=Z,7.4nm,0.6s
TCF Toulx Ste Croi 78.93 345 eP P 08 48 27.6 -0.4
TCF pmax pmax
comp=Z,7.0nm,0.6s
TCF Toulx Ste Croi 78.93 345 eP P 08 48 27.6 -0.4

	comp=Z,7.4nm,0.6s							
MFF	**Saint Martin d**	**78.97**	**347**	*e*P		**P**	**08 48 27.9**	**-0.3**
	comp=Z,17nm,0.8s							
MFF	**Saint Martin d**	**78.97**	**347**	*e*P		**P**	**08 48 27.9**	**-0.3**
MFF				pmax		pmax		
	comp=Z,17nm,0.8s							
MFF	**Saint Martin d**	**78.97**	**347**	*e*P		**P**	**08 48 27.9**	**-0.3**
	comp=Z,17nm,0.8s							
AGO	**Saint Agoulin**	**79.01**	**344**	*e*P		**P**	**08 48 29.0**	**+0.5**
PLDF	**La Plantade**	**79.01**	**344**	*e*P		**P**	**08 48 28.3**	**-0.3**
PYM	**Petit Puy Mans**	**79.33**	**344**	*e*P		**P**	**08 48 30.8**	**+0.5**
SSB	**Saint Sauveur**	**79.53**	**343**	*e*P		**P**	**08 48 30.8**	**-0.5**
SSB				pmax		pmax		
	comp=Z,22nm,1.3s							
SSB	**Saint Sauveur**	**79.53**	**343**	*e*P		**P**	**08 48 30.8**	**-0.5**
	comp=Z,22nm,1.3s							
ORIF	**Oris-en-Rattie**	**79.64**	**342**	*e*P		**P**	**08 48 32.4**	**+0.4**
	comp=Z,45nm,0.8s							
ORIF				*e*R				
	comp=Z,235nm,19.0s							
ORIF	**Oris-en-Rattie**	**79.64**	**342**	*e*P		**P**	**08 48 32.4**	**+0.4**
ORIF				pmax		pmax		
	comp=Z,45nm,0.8s							
ORIF	**Oris-en-Rattie**	**79.64**	**342**	*e*P		**P**	**08 48 32.4**	**+0.4**
	comp=Z,45nm,0.8s							
MBDF	**Montbardon**	**79.66**	**341**	*e*P		**P**	**08 48 32.9**	**+0.7**
	comp=Z,25nm,0.7s							
MBDF	**Montbardon**	**79.66**	**341**	*e*P		**P**	**08 48 32.9**	**+0.7**
MBDF				pmax		pmax		
	comp=Z,25nm,0.7s							
MBDF	**Montbardon**	**79.66**	**341**	*e*P		**P**	**08 48 32.9**	**+0.7**
	comp=Z,25nm,0.7s							
VIVF	**Saint-Julien-l**	**79.91**	**343**	*e*P		**P**	**08 48 33.7**	**+0.3**
	comp=Z,32nm,1.2s							
VIVF	**Saint-Julien-l**	**79.91**	**343**	*e*P		**P**	**08 48 33.7**	**+0.3**
VIVF				pmax		pmax		
	comp=Z,32nm,1.2s							
VIVF	**Saint-Julien-l**	**79.91**	**343**	*e*P		**P**	**08 48 33.7**	**+0.3**
	comp=Z,32nm,1.2s							
RJF	**Les Rejaudoux**	**79.99**	**345**	*e*P		**P**	**08 48 33.9**	**+0.1**
RJF				*e*R				
	comp=Z,205nm,19.2s							
RJF	**Les Rejaudoux**	**79.99**	**345**	*e*P		**P**	**08 48 33.9**	**+0.1**
RJF	**Les Rejaudoux**	**79.99**	**345**	*e*P		**P**	**08 48 33.9**	**+0.1**
OG25	**Le Caire**	**80.13**	**342**	*e*P		**P**	**08 48 35.2**	**+0.5**
SAOF	**Saorge**	**80.22**	**341**	*e*P		**P**	**08 48 34.2**	**-0.9**
AUTN	**L'Aution**	**80.23**	**341**	*e*P		**P**	**08 48 35.0**	**-0.4**
TOUF	**Mont Tournerai**	**80.25**	**341**	*e*P		**P**	**08 48 34.4**	**-1.1**
ASAR	**Alice Springs**	**80.28**	**205**	P		**P**	**08 48 37.1**	**+1.7**
ASAR	**Alice Springs**	**80.28**	**205**	P		**P**	**08 48 37.1**	**+1.7**
	comp=Z,2.7nm,0.8s,baz=17,slow=5.6,SNR=20							
CAF	**Calviac**	**80.28**	**345**	*e*P		**P**	**08 48 35.7**	**+0.3**
	comp=Z,16nm,0.8s							
CAF	**Calviac**	**80.28**	**345**	*e*P		**P**	**08 48 35.7**	**+0.3**
CAF				pmax		pmax		
	comp=Z,16nm,0.8s							
CAF	**Calviac**	**80.28**	**345**	*e*P		**P**	**08 48 35.7**	**+0.3**
	comp=Z,16nm,0.8s							
LUCF	**Luceram**	**80.35**	**341**	*e*P		**P**	**08 48 35.5**	**-0.4**
SBF	**Sospel**	**80.36**	**341**	*e*P		**P**	**08 48 35.3**	**-0.6**
	comp=Z,46nm,0.9s							
SBF	**Sospel**	**80.36**	**341**	*e*P		**P**	**08 48 35.3**	**-0.6**
SBF				pmax		pmax		
	comp=Z,46nm,0.9s							
SBF	**Sospel**	**80.36**	**341**	*e*P		**P**	**08 48 35.3**	**-0.6**
	comp=Z,46nm,0.9s							
MVIF	**Mont Vial**	**80.38**	**341**	*e*P		**P**	**08 48 35.6**	**-0.5**
LFF	**La Frestale**	**80.47**	**346**	*e*P		**P**	**08 48 36.5**	**+0.2**
LFF	**La Frestale**	**80.47**	**346**	*e*P		**P**	**08 48 36.5**	**+0.2**
LFF	**La Frestale**	**80.47**	**346**	*e*P		**P**	**08 48 36.5**	**+0.2**
REVF	**Revere**	**80.49**	**341**	*e*P		**P**	**08 48 35.8**	**-0.8**
CALN	**Calern**	**80.57**	**341**	*e*P		**P**	**08 48 36.8**	**-0.3**
SMRF	**Simiane la Rot**	**80.60**	**342**	*e*P		**P**	**08 48 37.6**	**+0.4**
SMRF	**Simiane la Rot**	**80.60**	**342**	*e*P		**P**	**08 48 37.6**	**+0.4**
FRF	**La Foret Royal**	**80.80**	**341**	*e*P		**P**	**08 48 37.8**	**-0.4**
	comp=Z,14nm,0.6s							
FRF	**La Foret Royal**	**80.80**	**341**	*e*P		**P**	**08 48 37.8**	**-0.4**
FRF				pmax		pmax		
	comp=Z,14nm,0.6s							
FRF	**La Foret Royal**	**80.80**	**341**	*e*P		**P**	**08 48 37.8**	**-0.4**
	comp=Z,14nm,0.6s							
LASF	**Ste Croix**	**80.81**	**343**	*e*P		**P**	**08 48 38.9**	**+0.6**
	comp=Z,18nm,1.1s							
LASF	**Ste Croix**	**80.81**	**343**	*e*P		**P**	**08 48 38.9**	**+0.6**
	comp=Z,18nm,1.1s							
LMR	**La Mourre**	**81.05**	**341**	*e*P		**P**	**08 48 39.3**	**-0.2**
	comp=Z,29nm,0.8s							
LMR	**La Mourre**	**81.05**	**341**	*e*P		**P**	**08 48 39.3**	**-0.2**
LMR				pmax		pmax		
	comp=Z,29nm,0.8s							
LMR	**La Mourre**	**81.05**	**341**	*e*P		**P**	**08 48 39.3**	**-0.2**
	comp=Z,29nm,0.8s							
PMOR	**Pomariorio Ree**	**81.13**	**130**	*e*T		T	10 18 13.9	
	comp=Z,7.6nm,0.2s							
PGF	**Pioggiola**	**81.30**	**339**	*e*P		**P**	**08 48 40.3**	**-0.7**
	comp=Z,14nm,0.8s							
PGF	**Pioggiola**	**81.30**	**339**	*e*P		**P**	**08 48 40.3**	**-0.7**
PGF				pmax		pmax		
	comp=Z,14nm,0.8s							
PGF	**Pioggiola**	**81.30**	**339**	*e*P		**P**	**08 48 40.3**	**-0.7**
	comp=Z,14nm,0.8s							
MMAI	**Mount Meron Ar**	**81.69**	**316**	P		**P**	**08 48 42.2**	**-1.0**
MMAI	**Mount Meron Ar**	**81.69**	**316**	P		**P**	**08 48 42.2**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=0.0,slow=2.9,SNR=3.1							
MTLF	**Montolieu**	**81.80**	**344**	*e*P		**P**	**08 48 44.1**	**+0.6**
	comp=Z,12nm,0.8s							
MTLF	**Montolieu**	**81.80**	**344**	*e*P		**P**	**08 48 44.1**	**+0.6**
MTLF				pmax		pmax		
	comp=Z,13nm,0.8s							
MTLF	**Montolieu**	**81.80**	**344**	*e*P		**P**	**08 48 44.1**	**+0.6**
	comp=Z,12nm,0.8s							
EPF	**Esparros**	**82.39**	**346**	*e*P		**P**	**08 48 46.6**	**-0.1**
EPF	**Esparros**	**82.39**	**346**	*e*P		**P**	**08 48 46.6**	**-0.1**
EPF	**Esparros**	**82.39**	**346**	*e*P		**P**	**08 48 46.6**	**-0.1**
SJPF	**Ste Jean**	**82.54**	**347**	*e*P		**P**	**08 48 47.7**	**+0.3**
	comp=Z,6.0nm,0.6s							
SJPF	**Ste Jean**	**82.54**	**347**	*e*P		**P**	**08 48 47.7**	**+0.3**
SJPF				pmax		pmax		
	comp=Z,6.0nm,0.6s							
SJPF	**Ste Jean**	**82.54**	**347**	*e*P		**P**	**08 48 47.7**	**+0.3**
	comp=Z,6.0nm,0.6s							
PPT2	**Papeete2**	**82.65**	**133**	*e*LR		LR	09 15 01.7	
	comp=Z,284nm,23.8s							
ETSF	**Etsaut**	**82.65**	**346**	*e*P		**P**	**08 48 48.7**	**+0.6**
	comp=Z,18nm,0.8s							
ETSF	**Etsaut**	**82.65**	**346**	*e*P		**P**	**08 48 48.7**	**+0.6**
ETSF				pmax		pmax		
	comp=Z,19nm,0.8s							
ETSF	**Etsaut**	**82.65**	**346**	*e*P		**P**	**08 48 48.7**	**+0.6**
	comp=Z,18nm,0.8s							
PBRG	**Braganca**	**84.47**	**351**	*e*P		P	08 48 59.9	+2.5
	comp=Z,28nm,1.6s							
MVO	**Moncorvo**	**85.14**	**351**	*e*P		**P**	**08 49 01.4**	**+0.7**
	comp=Z,24nm,1.3s							
PVIS	**Viseu**	**85.66**	**351**	*e*P		**P**	**08 49 05.2**	**+1.9**
	comp=Z,28nm,1.8s							
ESDC	**Sonseca Array**	**86.28**	**348**	P		**P**	**08 49 06.2**	**-0.2**
ESDC	**Sonseca Array**	**86.28**	**348**	P		**P**	**08 49 06.2**	**-0.2**
	comp=Z,3.9nm,0.8s,baz=1.8,slow=5.3,SNR=12							
STKA	**Stephens Creek**	**86.62**	**196**	P		**P**	**08 49 08.9**	**+1.2**
STKA	**Stephens Creek**	**86.62**	**196**	P		**P**	**08 49 08.9**	**+1.2**
	comp=Z,1.0nm,0.6s,baz=345,slow=8.5,SNR=3.6							
STKA				LR		LR	09 28 52.4	
	comp=Z,121nm,19.2s,baz=26,slow=36							
KEST	**Kesra**	**87.75**	**337**	P		**P**	**08 49 12.1**	**-1.6**
KEST	**Kesra**	**87.75**	**337**	P		**P**	**08 49 12.1**	**-1.6**
	comp=Z,0.9nm,0.4s,baz=345,slow=3.6,SNR=5.8							
KEST				LR		LR	09 33 08.9	
	comp=Z,106nm,18.1s,baz=274,slow=39							
TBI	**Tubuai**	**87.79**	**135**	*e*LR		LR	09 17 17.7	
	comp=Z,294nm,25.5s							
RKT	**Rikitea**	**94.27**	**124**	*e*LR		LR	09 20 23.5	
	comp=Z,180nm,26.2s							
ATD	**Arta Tunnel**	**96.59**	**299**	LR		LR	09 38 21.8	
	comp=Z,223nm,20.4s,baz=11,slow=38							
LPAZ	**La Paz**	**126.94**	**65**	PKP		**PKPdf**	**08 55 29.7**	**+0.4**
LPAZ	**La Paz**	**126.94**	**65**	PKP		**PKPdf**	**08 55 29.7**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=6.1,slow=6.9,SNR=5.7							
VNDA	**Vanda**	**130.74**	**180**	PKP		**PKPdf**	**08 55 35.0**	**+1.1**
VNDA	**Vanda**	**130.74**	**180**	PKP		**PKPdf**	**08 55 35.0**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=321,slow=6.2,SNR=4.2							
PLCA	**Paso Flores**	**143.63**	**91**	PKP		PKPbc	08 55 57.1	+0.6
PLCA	**Paso Flores**	**143.63**	**91**	PKP		PKPbc	08 55 57.1	+0.6
	comp=Z,1.4nm,0.7s,baz=314,slow=3.6,SNR=3.6							
SUR	**Sutherland**	**144.51**	**290**	PKP		**PKPdf**	**08 56 00.5**	**-0.3**
SUR	**Sutherland**	**144.51**	**290**	PKP		**PKPdf**	**08 56 00.5**	**-0.3**
	comp=Z,7.6nm,0.9s,baz=90,slow=12,SNR=3.1							
SYO	**Syowa Base**	**149.24**	**217**	*e*PKPdf		**PKPbc**	**08 56 10.6**	**-1.0**

IDC 28 09:25:23.5±3.7, 0°.64S×100°.55E, h105km±34km, mb3.3/5, mb1 3.4/6, mb1mx3.2/24, mbtmp3.2/6, Error ellipse: s-maj=69.3km s-min=19.9km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.78**	**335**	P	Pn	09 26 18.7	-1.4
	0.8nm,0.3s,baz=170,slow=17,SNR=5.1						
H08S2	**Diego Garcia H**	**28.82**	**255**	T	T	09 59 19.2	
	baz=78,slow=0.7,SNR=3.0						
H08S3	**Diego Garcia H**	**28.82**	**255**	T	T	09 59 19.2	
	baz=78,slow=0.7,SNR=6.7						
H08S1	**Diego Garcia H**	**28.84**	**255**	T	T	09 59 19.2	
	baz=78,slow=0.7,SNR=2.9						
WRA	**Warramunga Arr**	**38.23**	**122**	P	P	09 32 33.5	-0.1
	0.1nm,0.3s,baz=298,slow=9.3,SNR=14						
ASAR	**Alice Springs**	**39.62**	**128**	P	P	09 32 45.2	-0.1
	0.2nm,0.4s,baz=303,slow=8.6,SNR=3.2						
MKAR	**Makanchi Array**	**49.88**	**344**	P	P	09 34 06.1	-0.2
	0.2nm,0.3s,baz=156,slow=7.6,SNR=4.2						
VNDA	**Vanda**	**83.38**	**169**	P	P	09 37 38.6	0.0
	0.7nm,0.9s,baz=306,slow=2.8,SNR=3.1						
ARCES	**ARCESS Array B**	**85.39**	**340**	P	P	09 37 49.2	+0.3
	2.1nm,0.9s,baz=91,slow=4.8,SNR=3.9						
TXAR	**Lajitas Array**	**143.29**	**37**	PKP	PKPbc	09 44 44.6	+0.9
	0.1nm,0.5s,baz=349,slow=2.8,SNR=2.9						

IDC 28 09:28:51.6±6.5, 15°.97S×173°.64W, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.6/21, mbtmp3.6/4, ML1.5/1, MS3.2/1, Ms1 3.2/1, ms1mx2.8/30, Error ellipse: s-maj=307.2km s-min=25.1km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.73**	**42**	Pn	Pn	09 29 35.3	-1.5
	5.1nm,0.3s,baz=169,slow=23,SNR=10						
AFI				LR	LR	09 30 01.1	
	comp=Z,394nm,18.7s,baz=170,slow=26						
AFI				Sn	Sn	09 30 03.0	-7.5
	13nm,0.3s,baz=48,slow=21,SNR=6.1						
WRA	**Warramunga Arr**	**49.49**	**257**	P	P	09 37 44.0	-0.2
	0.3nm,0.8s,baz=94,slow=7.7,SNR=13						
ASAR	**Alice Springs**	**49.72**	**252**	P	P	09 37 45.3	-0.7
	1.4nm,0.7s,baz=83,slow=8.3,SNR=16						
ILAR	**Eielson Array**	**83.04**	**11**	P	P	09 41 18.9	+0.4
	0.4nm,1.0s,baz=225,slow=6.1,SNR=4.3						
BRTR	**Keskin Array B**	**146.44**	**320**	PKPbc	PKPbc	09 48 35.4	+0.2
	0.5nm,0.7s,baz=29,slow=3.6,SNR=2.6						

IDC 28 09:35:05.5±1.5, 16°.26S×173°.40W, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/22, mbtmp3.8/5, ML3.1/9/1, Error ellipse: s-maj=56.8km s-min=23.0km az=127.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.82**	**34**	Pn	Pn	09 35 50.4	-1.5
	10.0nm,0.3s,baz=197,slow=6.9,SNR=11						
AFI				Sn	Sn	09 36 19.2	-7.4
	42nm,0.3s,baz=90,slow=20,SNR=12						
URZ	**Urewera**	**23.45**	**199**	P	P	09 40 16.2	-0.3
	6.5nm,0.9s,baz=335,slow=19,SNR=3.1						
WRA	**Warramunga Arr**	**49.65**	**257**	P	P	09 43 59.0	-0.3
	0.2nm,0.3s,baz=91,slow=7.6,SNR=11						
ASAR	**Alice Springs**	**49.85**	**253**	P	P	09 44 00.8	-0.1
	1.4nm,0.5s,baz=88,slow=8.3,SNR=25						
ILAR	**Eielson Array**	**83.29**	**11**	P	P	09 47 34.5	+0.8
	0.2nm,0.7s,baz=227,slow=6.5,SNR=3.5						

MEX 28 09:48:51.5±0.6, 17°.40N×94°.54W, h142km±11km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGIG		**1.49**	**114**	*i* P	Pn	09 49 19.4	-1.0
TGIG				*e*S	Sn	09 49 40.6	-1.9
PCIG		**2.11**	**143**	*i* P	Pn	09 49 26.2	-1.3
PCIG				*i* S	Sn	09 49 53.3	-1.8
VHO	**Vista Hermosa**	**2.12**	**261**	*e*P	Pn	09 49 26.7	-1.2
VHO				*i* S	Sn	09 49 53.7	-2.1
HUIG	**Huatulco**	**2.22**	**223**	*e*P	Pn	09 49 24.3	-4.5
HUIG				*i* S	Sn	09 49 53.0	-4.4
CCIG	**Comitan**	**2.56**	**116**	*i* P	Pn	09 49 32.1	-1.0
CCIG				*i* S	Sn	09 50 02.6	-2.6
TPIG	**Tehuac#an**	**2.87**	**291**	*i* P	Pn	09 49 36.0	-1.2
TPIG				*i* S	Sn	09 50 10.1	-2.3
UTMO	**Huajuapan**	**3.14**	**278**	*i* P	Pn	09 49 38.9	-1.7
UTMO				*i* S	Sn	09 50 17.4	-1.3

*IDC **28** 09:51:32.4±1.2, 19°.87N×77°.31W, h0km, mb3.9/7, mb1 4.2/8, mb1mx3.9/27, mbtmp3.9/8, ML3.3/1, Error ellipse: s-maj=36.0km s-min=25.9km az=40.0*
*NEIC **28** 09:51:33.8±0.5, 19°.98N×77°.13W, h10km, mb3.8/3, Error ellipse: s-maj=11.9km s-min=7.6km az=189.0*
NEIC Felt at Santiago de Cuba and Yara.
*ISCJB **28** 09:51:34.4±0.4, 19°.89N±0°.04×77°.08W±0°.06, h33km, mb3.8/10, Error ellipse: s-maj=8.4km s-min=5.7km az=164.5*
*JSN **28** 09:51:35.8±1.2, 19°.85N×76°.93W, h25km±873km, MD3.7*

ISC 28 09:51:36.9±0.6, 19°.85N±0°.06×77°.17W±0°.06, h35km, n36, σ1°.42/36, mb3.8/10, 1D, Cuba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STH	**Stony Hill**	**1.80**	**169**	*i* P	**Pn**	**09 52 04.0**	**-1.5**
STH				*i* S	**Sn**	**09 52 24.5**	**-2.6**
GWJ	**Greenwich**	**1.82**	**167**	⇓*i* P	**Pn**	**09 52 04.3**	**-1.5**
HOJ	**Hope**	**1.88**	**168**	*i* P	**Pn**	**09 52 04.0**	**-2.6**
GTBY	**Guantanamo Bay**	**1.94**	**87**	*e*Pn	**Pn**	**09 52 06.0**	**-1.4**
GTBY				*e*Sn	**Sn**	**09 52 32.3**	**+1.8**
MCJ	**Malvern**	**1.98**	**194**	*i* P	**Pn**	**09 52 07.6**	**-0.4**
PCJ	**Portland Cotta**	**2.10**	**180**	*i* P	**Pn**	**09 52 09.0**	**-0.6**
SDDR	**Presa de Saban**	**5.62**	**98**	*e*Pn	**Pn**	**09 52 56.6**	**-1.4**
	34nm,0.4s						
GRTK	**Grand Turk**	**5.88**	**73**	*e*Pn	**Pn**	**09 52 59.8**	**-1.8**
TEIG	**Tepich**	**10.45**	**274**	*e*Pn	**Pn**	**09 54 03.4**	**-0.9**
JTS	**JuntasAbangare**	**12.12**	**219**	Pn	**Pn**	**09 54 29.2**	**+2.0**
JTS	**JuntasAbangare**	**12.12**	**219**	Pn	**Pn**	**09 54 29.2**	**+2.0**
	0.2nm,0.3s,baz=76,slow=19,SNR=2.1						
APG	**El Apazote**	**13.57**	**251**	Pn	Pn	09 54 50.8	+3.5
APG	**El Apazote**	**13.57**	**251**	Pn	Pn	09 54 50.8	+3.5
	0.4nm,0.3s,baz=41,slow=20,SNR=3.3						
TKL	**Tuckaleechee C**	**16.79**	**341**	Pn	**Pn**	**09 55 28.1**	**-1.3**
TKL	**Tuckaleechee C**	**16.79**	**341**	Pn	**Pn**	**09 55 28.1**	**-1.3**
	0.1nm,0.3s,baz=169,slow=14,SNR=2.4						
SADO	**Sadowa**	**24.90**	**357**	P	**P**	**09 56 55.6**	**-0.8**
SADO	**Sadowa**	**24.90**	**357**	P	**P**	**09 56 55.6**	**-0.8**
	3.3nm,0.6s,baz=214,slow=3.6,SNR=3.3						
TXAR	**Lajitas Array**	**25.83**	**297**	P	**P**	**09 57 06.4**	**+1.2**
TXAR	**Lajitas Array**	**25.83**	**297**	P	**P**	**09 57 06.4**	**+1.2**
	2.1nm,0.8s,baz=114,slow=8.9,SNR=23						
MNTX	**Cornudas Mount**	**27.93**	**301**	*e*P	**P**	**09 57 24.6**	**+0.6**
	1.9nm,1.0s						
ECSD	**EROS Data Cent**	**28.84**	**330**	*e*P	**P**	**09 57 31.4**	**-0.6**
	1.6nm,0.7s						
ISCO	**Idaho Springs**	**31.48**	**315**	P	**P**	**09 57 55.0**	**-0.8**
	0.9nm,0.7s						
ULM	**Lac du Bonnet**	**33.78**	**338**	P	**P**	**09 58 14.9**	**-0.4**
ULM	**Lac du Bonnet**	**33.78**	**338**	P	**P**	**09 58 14.9**	**-0.4**
	2.8nm,0.6s,baz=156,slow=12,SNR=4.0						
PDAR	**Pinedale Array**	**35.54**	**317**	P	**P**	**09 58 30.2**	**-0.7**
PDAR	**Pinedale Array**	**35.54**	**317**	P	**P**	**09 58 30.2**	**-0.7**
	0.8nm,0.8s,baz=129,slow=12,SNR=4.7						
DLBC	**Dease Lake**	**54.12**	**329**	P	**P**	**10 00 59.0**	**+0.7**
DLBC	**Dease Lake**	**54.12**	**329**	P	**P**	**10 00 59.0**	**+0.7**
	3.4nm,1.0s,baz=127,slow=5.1,SNR=3.4						
ILAR	**Eielson Array**	**63.59**	**333**	P	**P**	**10 02 03.7**	**-0.2**
ILAR	**Eielson Array**	**63.59**	**333**	P	**P**	**10 02 03.7**	**-0.2**
	0.3nm,0.8s,baz=89,slow=4.6,SNR=4.2						
TORD	**Torodi Ar. Bea**	**75.32**	**81**	P	**P**	**10 03 20.1**	**+2.9**
TORD	**Torodi Ar. Bea**	**75.32**	**81**	P	**P**	**10 03 20.1**	**+2.9**
	0.4nm,0.7s,baz=275,slow=5.8,SNR=2.4						
WRA	**Warramunga Arr**	**150.40**	**264**	PKPbc	**PKPbc**	**10 11 24.9**	**-0.6**
WRA	**Warramunga Arr**	**150.40**	**264**	PKPbc	**PKPbc**	**10 11 24.9**	**-0.6**
	0.5nm,0.6s,baz=86,slow=2.9,SNR=14						
ASAR	**Alice Springs**	**150.93**	**257**	PKPbc	**PKPbc**	**10 11 26.5**	**-0.2**
ASAR	**Alice Springs**	**150.93**	**257**	PKPbc	**PKPbc**	**10 11 26.5**	**-0.2**
	1.6nm,0.7s,baz=94,slow=2.3,SNR=12						

GUC 28 10:05:24.9±0.5, 32°.79S×71°.94W, h12km±2km, ML3.9, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.35**	**133**	*i* P	Pg	10 05 31.2	-0.7
IHA				*i* S	Sg	10 05 36.4	-0.2
LCCH	**Las Cruces**	**0.75**	**156**	*i* P	Pg	10 05 38.1	-1.4
ROCH	**El Roble**	**0.81**	**103**	⇑*i* P	Pg	10 05 39.3	-1.5
ROCH				*i* S	Sg	10 05 50.5	-1.1
PEL	**Peldehue**	**1.11**	**109**	*i* P	Pb	10 05 44.5	-1.8
PEL				⇓*e*S	Sb	10 05 58.7	-2.1
PEL				AML	AML	10 06 05.8	
	comp=E,10μm,0.3s						
JACH	**Jahuel**	**1.14**	**85**	*e*P	Pb	10 05 44.7	-2.0
TACH	**Talagante**	**1.21**	**136**	*i* P	Pn	10 05 45.5	-2.2
TACH				*i* S	Sb	10 06 01.0	-2.3
STL	**Santa Lucia**	**1.27**	**121**	*i* P	Pn	10 05 46.5	-2.1
STL				*i* S	Sb	10 06 02.9	-2.3
CLCH	**Cerro Calan**	**1.33**	**118**	⇑*i* P	Pn	10 05 47.9	-1.6
CLCH				*i* S	Sb	10 06 04.9	-2.1
CLCH				AML	AML	10 06 13.4	
	comp=N,3μm,0.7s						
ANTU	**Antumapu**	**1.35**	**126**	*e*P	Pn	10 05 47.9	-1.8
ANTU				*i* S	Sb	10 06 05.2	-2.3
PCH	**Pirque**	**1.46**	**125**	*e*P	Pn	10 05 50.0	-1.2
PCH				*i* S	Sn	10 06 08.5	-1.9
SJCH	**San Jose de Ma**	**1.58**	**123**	⇓*i* P	Pn	10 05 51.0	-1.9
SJCH				*i* S	Sn	10 06 11.5	-1.9
CACH	**El Canelo**	**1.74**	**140**	*i* P	Pn	10 05 54.9	-0.3
CACH				*i* S	Sn	10 06 17.5	+0.1
CMCH	**Combarbala**	**1.80**	**27**	⇓*i* P	Pn	10 05 54.8	-1.2
CMCH				*i* S	Sn	10 06 18.1	-0.7
LMEL	**Las Melosas**	**1.80**	**126**	*i* P	Pn	10 05 55.2	-0.8
LMEL				*i* S	Sn	10 06 18.2	-0.8
LMEL				AML	AML	10 06 25.7	
	comp=N,2μm,0.2s						

IDC 28 10:13:44.6±2.2, 20°.39S×90°.67E, h0km, mb4.0/10, mb1 4.2/10, mb1mx3.9/26, mbtmp4.0/10, MS3.4/2, Ms1 3.4/2, ms1mx3.0/34, Error ellipse: s-maj=73.2km s-min=21.3km az=36.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**21.68**	**303**	T	T	10 41 00.7	
	baz=128,slow=0.7,SNR=22						
H08S1	**Diego Garcia H**	**21.69**	**303**	T	T	10 41 06.0	
	baz=128,slow=0.7,SNR=12						
H08S3	**Diego Garcia H**	**21.70**	**303**	T	T	10 41 23.2	
	baz=128,slow=0.7,SNR=20						
H08N1	**Diego Garcia H**	**23.63**	**304**	T	T	10 43 45.3	
	baz=146,slow=0.7,SNR=3.2						
H08N3	**Diego Garcia H**	**23.65**	**303**	T	T	10 43 44.5	
	baz=146,slow=0.7,SNR=5.5						
H08N2	**Diego Garcia H**	**23.66**	**304**	T	T	10 43 51.3	
	baz=146,slow=0.7,SNR=3.9						
PSI	**Prapat**	**24.43**	**20**	LR	LR	10 28 31.1	
	comp=Z,43nm,18.1s,baz=201,slow=36						
H01W3	**Cape Leeuwin H**	**25.23**	**130**	T	T	10 45 12.0	
	baz=299,slow=0.7,SNR=14						
H01W2	**Cape Leeuwin H**	**25.23**	**130**	T	T	10 45 12.5	
	baz=299,slow=0.7,SNR=12						
H01W1	**Cape Leeuwin H**	**25.25**	**130**	T	T	10 45 13.5	
	baz=299,slow=0.7,SNR=14						
FITZ	**Fitzroy Crossi**	**33.06**	**92**	P	P	10 20 21.8	-0.4
	1.3nm,0.8s,baz=235,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**40.10**	**103**	P	P	10 21 22.4	0.0

PTPK	Patty Peak	5.22	71	P		Pn	10 18 42.9	-0.3
KIAG	Kiagna River	5.23	74	P		Pn	10 18 43.1	-0.3
BALM	Baldy	5.25	73	P		Pn	10 18 42.6	-1.0
HDA	Harding Lake	5.27	28	P		Pn	10 18 43.7	0.0
MENT	Mentasta	5.28	51	*e*Pn		Pn	10 18 40.5	-3.4
MENT				*e*Sn		Sn	10 19 44.8	+1.3
CCB	Clear Creek Bu	5.29	23	P		Pn	10 18 43.1	-0.9
MESA	MESA	5.40	82	P		Pn	10 18 45.4	-0.3
COLA	College	5.48	22	P		Pn	10 18 46.1	-0.5
MDM	Murphy Dome	5.49	20	P		Pn	10 18 46.2	-0.5
BARN	Barnard Glacie	5.58	73	P		Pn	10 18 48.1	-0.1
ILAR	Eielson Array	5.59	26	P		Pn	10 18 47.0	-1.1
ILAR				S		Sn	10 19 46.0	-5.0
ILAR	Eielson Array 1.6nm,0.3s,baz=219,slow=14,SNR=82	5.59	26	P		Pn	10 18 47.0	-1.1
ILAR				S		Sn	10 19 46.0	-5.0
	0.4nm,0.3s,baz=235,slow=17,SNR=2.9							
IL1	Eielson Array	5.59	26	P		Pn	10 18 47.4	-0.7
RKAV	Rock Avalanche	5.70	81	P		Pn	10 18 49.8	+0.1
SCRK	Sand Creek	5.80	41	P		Pn	10 18 50.7	-0.4
IM04	Indian Mountai	6.12	356	*e*Pn		Pn	10 18 54.6	-0.7
IM3	Indian Mountai	6.13	356	P		Pn	10 18 54.5	-0.8
IMA2	Indian Mountai	6.21	356	P		Pn	10 18 56.4	-0.2
COLD	Coldfoot	7.45	8	P		Pn	10 19 12.8	-0.4
BM3	Burnt Mountain	8.36	22	P		Pn	10 19 24.6	-1.1
DLBC	Dease Lake	11.71	87	P		Pn	10 20 12.9	+1.8
DLBC	Dease Lake 0.5nm,0.3s,baz=246,slow=9.1,SNR=13	11.71	87	P		Pn	10 20 12.9	+1.8
INK	Inuvik	11.83	37	P		Pn	10 20 12.8	+0.3
INK	Inuvik 0.1nm,0.3s,baz=246,slow=10.0,SNR=2.9	11.83	37	P		Pn	10 20 12.8	+0.3
YKA	Yellowknife Ar	18.36	65	P		P	10 21 34.5	+0.7
YKA	Yellowknife Ar 0.1nm,0.3s,baz=277,slow=9.8,SNR=6.4	18.36	65	P		P	10 21 34.5	+0.7
SONM	Songino Array	54.98	306	P		P	10 26 48.6	+0.7
SONM	Songino Array 0.2nm,0.4s,baz=42,slow=9.2,SNR=2.9	54.98	306	P		P	10 26 48.6	+0.7

IDC 28 10:18:52.6±2.4, 51°45N×94°67E, h0km, mb1 3.0/3, mb1mx2.9/30, mbtmp3.0/3, ML2.7/2, Error ellipse: s-maj=44.4km s-min=20.3km az=10.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	Zalesovo Beam 0.2nm,0.3s,baz=108,slow=9.3,SNR=3.0	6.49	297	Pn	Pn	10 20 30.1	+0.7
ZALV				Lg	Lg	10 22 11.2	
	1.1nm,0.3s,baz=101,slow=26,SNR=4.3						
SONM	Songino Array 0.1nm,0.3s,baz=298,slow=18,SNR=4.3	8.42	111	Pg	Pb	10 21 24.6	+5.2
SONM				Lg	Lg	10 23 19.6	
	0.2nm,0.3s,baz=297,slow=33,SNR=5.6						
MKAR	Makanchi Array 0.1nm,0.3s,baz=55,slow=12,SNR=4.6	9.36	245	Pn	Pn	10 21 09.9	+1.2
MKAR				Lg	Lg	10 23 48.0	
	0.2nm,0.3s,baz=61,slow=30,SNR=5.6						
KURBB	Kurchatov Arra baz=80,slow=10,SNR=3.7	10.21	272	Pn	Pn	10 21 19.5	-0.7
KURBB				Lg	Lg	10 24 13.6	
	0.1nm,0.3s,baz=80,slow=33,SNR=3.6						
BVAR	Borovoye Array 0.2nm,0.3s,baz=64,slow=16,SNR=2.7	14.95	286	Pn	Pn	10 22 25.8	+0.8

IDC 28 10:20:05.9±2.8, 26°00S×69°09W, h104km±23km, mb3.5/3, mb1 3.6/6, mb1mx3.4/21, mbtmp3.5/6, Error ellipse: s-maj=40.7km s-min=21.5km az=100.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan 1.5nm,0.3s,baz=346,slow=14,SNR=100	5.63	173	P	Pn	10 21 27.5	+0.2
CFAA				S	Sn	10 22 26.6	-4.1
	11nm,0.3s,baz=216,slow=18,SNR=38						
LPAZ	La Paz 0.8nm,0.3s,baz=191,slow=4.9,SNR=15	9.71	5	P	Pn	10 22 23.1	-0.3
CPUP	Villa Florida 0.3nm,0.3s,baz=253,slow=12,SNR=3.9	10.57	94	P	Pn	10 22 33.9	-0.3
H03N1	Juan Fernandez baz=50,slow=0.7,SNR=3.8	11.30	227	T	T	10 32 37.0	
H03N2	Juan Fernandez baz=50,slow=0.7,SNR=172	11.32	227	T	T	10 32 37.9	
H03N3	Juan Fernandez baz=50,slow=0.7,SNR=192	11.32	227	T	T	10 32 38.2	
SIV	San Ignacio 4.5nm,0.3s,baz=238,slow=12,SNR=41	12.45	38	P	Pn	10 22 56.1	-3.5
SNAA	Sanae 0.3nm,0.5s,baz=278,slow=12,SNR=13	58.11	160	P	P	10 29 47.9	-0.2
H06E1	SOCORRO T-PHAS SNR=4.9	60.28	313	T	T	11 34 26.3	
QSPA	South Pole Qui 1.8nm,0.6s	64.21	180	P	P	10 30 29.7	+0.2
TORD	Torodi Ar. Bea 1.3nm,0.7s,baz=256,slow=5.1,SNR=8.6	79.05	70	P	P	10 31 59.3	+0.2
TORD				pP	pP	10 32 29.6	+3.8
	2.8nm,0.7s,baz=251,slow=5.2,SNR=11						
ASAR	Alice Springs 0.4nm,0.8s,baz=134,slow=1.4,SNR=5.8	125.84	206	PKP	PKPdf	10 38 55.8	-0.4
H11S2	WAKE ISLAND Hyl baz=110,slow=0.7,SNR=6.7	128.14	274	T	T	12 59 27.4	
H11S1	WAKE ISLAND Hyl baz=110,slow=0.7,SNR=4.0	128.15	274	T	T	12 59 27.9	
H11S3	WAKE ISLAND Hyl baz=110,slow=0.7,SNR=3.9	128.16	274	T	T	12 59 27.6	
WRA	Warramunga Arr 0.3nm,0.6s,baz=168,slow=1.7,SNR=7.8	128.98	209	PKP	PKPdf	10 39 01.9	-0.4
ZALV	Zalesovo Beam 1.4nm,0.6s,baz=304,slow=3.2,SNR=3.7	146.04	28	pPKPbc	pPKPbc	10 40 06.0	+4.6
MKAR	Makanchi Array 0.7nm,0.7s,baz=343,slow=1.6,SNR=3.2	149.27	40	pPKPbc	pPKPbc	10 40 16.1	+5.5

*THE **28** 10:21:58.4, 42°.19N×26°.29E, h5km±1km, ML3.1/7, Error ellipse: s-maj=1.3km s-min=0.6km az=17.0*
*CSEM **28** 10:21:58.2±0.1, 42°.19N×26°.21E, h2km, ML3.1/7, Error ellipse: s-maj=3.0km s-min=2.4km az=17.0*
*BEO **28** 10:21:58.9±0.7, 42°.26N×26°.18E, h0km, ML2.9/7*
*SOF **28** 10:21:58.2, 42°.22N×26°.23E, h5km, MD3.5*
*ISK **28** 10:21:59.4, 42°.02N×26°.34E, h5km, MD3.3*

ISC 28 10:21:57.6±1.0, 42°21N±0°.01×26°23E±0°.02, h7km±9km, n143,σ0s98/168, 12C-11D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMB	Yambol	0.36	46	P	Pg	10 22 05.1	+0.4
JMB				S	Sg	10 22 10.2	+0.7
JMB	Yambol	0.36	46	*e*Pg	Pg	10 22 05.2	+0.5
JMB				*e*Sg	Sg	10 22 10.2	+0.7
JMB	Yambol	0.36	46	P	Pg	10 22 05.2	+0.5
JMB	Yambol	0.36	46	P	Pg	10 22 05.2	+0.5
JMB				S	Sg	10 22 10.2	+0.7
EDRB	Edirne	0.53	134	*e*PG	Pg	10 22 07.9	+0.1
EDRB	Edirne	0.53	134	P	Pg	10 22 07.8	0.0
EDRB				S	Sg	10 22 14.6	-0.1
EDRB	Edirne	0.53	134	P	Pg	10 22 07.8	0.0
EDRB				S	Sg	10 22 14.6	-0.1
DIM	Dimitrovgrad	0.54	253	P	Pg	10 22 08.6	+0.5
DIM	Dimitrovgrad	0.54	253	P	Pg	10 22 08.6	+0.5
KDZ	Kurdzhali	0.83	227	P	Pn	10 22 15.4	-0.3
KDZ	Kurdzhali	0.83	227	P	Pn	10 22 15.4	-0.3
SZH	Strazhica	1.08	348	P	Pn	10 22 19.5	+0.4
SZH	Strazhica	1.08	348	P	Pn	10 22 19.5	+0.4
PHSR	Pinarhisar	1.13	121	*e*PG	Pg	10 22 18.8	-0.4
PHSR				*e*SG	Sg	10 22 32.9	-0.9
PHSR	Pinarhisar	1.13	121	*e*Pg	Pg	10 22 18.8	-0.4
PHSR				*e*Sg	Sg	10 22 32.9	-0.9
PLD	Plovdiv	1.14	265	P	Pb	10 22 19.8	+0.1
PLD				S	Sn	10 22 37.4	+1.5
PLD	Plovdiv	1.14	265	*e*Pg	Pg	10 22 19.5	0.0
PLD				*e*Sg	Sg	10 22 33.0	-1.3
PLD	Plovdiv	1.14	265	P	Pg	10 22 19.4	0.0
PLD	Plovdiv	1.14	265	*e*Pg	Pg	10 22 19.5	0.0
PLD	Plovdiv	1.14	265	P	Pb	10 22 19.8	+0.1
RDO	Rodhopi	1.19	206	P	Pn	10 22 20.7	+0.1
RDO				S	Sn	10 22 38.4	+1.4
RDO	Rodhopi	1.19	206	*e*P	Pn	10 22 20.8	+0.1
RDO	Rodhopi	1.19	206	P	Pn	10 22 20.7	+0.1
PVL	Pavlikeni	1.20	327	P	Pn	10 22 21.2	+0.4
PVL	Pavlikeni	1.20	327	P	Pn	10 22 21.2	+0.4
RZN	Rozhen	1.25	246	P	Pg	10 22 21.3	-0.2
RZN	Rozhen	1.25	246	P	Pg	10 22 21.3	-0.2
PRD	Provadia	1.31	41	P	Pn	10 22 22.1	-0.2
PRD	Provadia	1.31	41	P	Pn	10 22 22.1	-0.2
ALN	Alexandroupoli	1.32	186	P	Pg	10 22 22.9	-0.1
ALN				S	Sn	10 22 40.9	+0.6
ALN	Alexandroupoli	1.32	186	*e*P	Pb	10 22 22.8	+0.1
ALN	Alexandroupoli	1.32	186	P	Pg	10 22 22.9	-0.1
ALN				S	Sn	10 22 40.9	+0.6
ENEZ	Enez	1.48	182	*e*PN	Pn	10 22 24.9	+0.3
ENEZ				*e*SN	Sg	10 22 45.2	+0.1
ENEZ	Enez	1.48	182	*e*Pn	Pn	10 22 24.9	+0.3
ENEZ				*e*Sn	Sg	10 22 45.2	+0.1
ERIK	Erikli-Kesan	1.56	172	*e*PN	Pn	10 22 26.1	+0.4
ERIK	Erikli-Kesan	1.56	172	*e*Pn	Pn	10 22 26.1	+0.4
TKR	Tekirdag	1.56	141	*e*PN	Pb	10 22 26.5	-0.4
TKR	Tekirdag	1.56	141	*e*Pn	Pb	10 22 26.5	-0.4
PGB	Panagyurishte	1.57	283	P	Pb	10 22 27.3	+0.4
PGB	Panagyurishte	1.57	283	P	Pb	10 22 27.3	+0.4
ZIMR		1.58	337	S	Sg	10 22 50.8	+2.5
RKY	Sarkoy-Tekirda	1.68	155	*e*PN	Pn	10 22 27.8	+0.3
RKY	Sarkoy-Tekirda	1.68	155	*e*Pn	Pn	10 22 27.8	+0.3
CTYL	Yal??k??y-??at	1.71	115	*e*PN	Pb	10 22 29.8	+0.5
CTYL	Yal??k??y-??at	1.71	115	*e*Pn	Pb	10 22 29.8	+0.5
KAVA	Kavala	1.77	227	P	Pb	10 22 29.7	-0.7
KAVA				S	Sb	10 22 52.5	-0.3
KAVA	Kavala	1.77	227	*e*P	Pb	10 22 30.2	-0.2
KAVA	Kavala	1.77	227	P	Pb	10 22 29.7	-0.7
KAVA				S	Sb	10 22 52.5	-0.3
SLVT	Silivri	1.78	123	*e*PN	Pb	10 22 30.3	-0.2
SLVT	Silivri	1.78	123	*e*Pn	Pb	10 22 30.3	-0.2
SMTH	Samothraki Isl	1.82	197	P	Pn	10 22 29.6	+0.3
SMTH				S	Sb	10 22 54.1	-0.1
SMTH	Samothraki Isl	1.82	197	*e*P	Pb	10 22 31.4	+0.2
SMTH	Samothraki Isl	1.82	197	P	Pb	10 22 29.6	+0.3
SMTH				S	Sb	10 22 54.1	-0.1
GELI	Tayfur-Gelibol	1.82	174	*e*PN	Pn	10 22 29.8	+0.5
GELI	Tayfur-Gelibol	1.82	174	*e*Pn	Pn	10 22 29.8	+0.5
LPK	Lapseki	1.88	168	*e*PN	Pn	10 22 30.6	+0.4
LPK	Lapseki	1.88	168	*e*Pn	Pn	10 22 30.6	+0.4
CTKS	Kestanelik-??a	1.96	119	*e*PN	Pb	10 22 33.3	-0.4
CTKS	Kestanelik-??a	1.96	119	*e*Pn	Pb	10 22 33.3	-0.4
MMB	Musomiste	1.97	252	P	Pg	10 22 35.3	-0.1
MMB	Musomiste	1.97	252	P	Pg	10 22 35.3	-0.1
NVR	Nevrokopi	1.97	245	P	Pn	10 22 32.7	+1.3
NVR				S	Sb	10 22 58.2	-0.4
NVR	Nevrokopi	1.97	245	*e*P	Pb	10 22 33.2	-0.6
NVR	Nevrokopi	1.97	245	P	Pn	10 22 32.7	+1.3
NVR				S	Sb	10 22 58.2	-0.4
KRBG	Karabiga-Canak	1.99	156	*e*PN	Pn	10 22 32.1	+0.5
KRBG	Karabiga-Canak	1.99	156	*e*Pn	Pn	10 22 32.1	+0.5
PSN	Preselentsi	2.05	44	P	Pn	10 22 32.9	+0.4
PSN	Preselentsi	2.05	44	P	Pn	10 22 32.9	+0.4
MPEP	Malo Peshtene	2.16	303	P	Pn	10 22 35.5	+1.5
BGKT	Bogazkoy	2.17	118	*e*PN	Pb	10 22 36.6	-0.5
BGKT	Bogazkoy	2.17	118	*e*Pn	Pb	10 22 36.6	-0.5
SRS	Serrai	2.26	242	P	Pn	10 22 35.9	+0.5
SRS				S	Sb	10 23 06.2	-0.7
SRS	Serrai	2.26	242	P	Pn	10 22 35.9	+0.5
SRS				S	Sb	10 23 06.2	-0.7
VTS	Vitosha	2.27	281	P	Pn	10 22 36.9	+1.2
VTS	Vitosha	2.27	281	⇑*i*Pn	Pn	10 22 36.8	+1.1
VTS				*e*Sn	Sn	10 23 05.0	+1.0
VTS	Vitosha	2.27	281	⇓*i*P	Pn	10 22 36.8	+1.1
VTS	Vitosha	2.27	281	S	Sn	10 23 05.0	+1.0
VTS	Vitosha	2.27	281	P	Pn	10 22 36.8	+1.1
VTS	Vitosha	2.27	281	P	Pn	10 22 36.8	+1.1
VTS				S	Sn	10 23 05.0	+1.0
KLYT	Kilyos	2.31	114	*e*PN	Pb	10 22 38.7	-0.9
KLYT	Kilyos	2.31	114	*e*Pn	Pb	10 22 38.7	-0.9
ISK	Istanbul-Kandi	2.41	117	*e*PN	Pb	10 22 39.8	-1.5
ISK	Istanbul-Kandi	2.41	117	P	Pn	10 22 37.8	+0.4
ISK				S	Sn	10 23 07.7	+0.5
ISK	Istanbul-Kandi	2.41	117	P	Pn	10 22 37.8	+0.4
ISK	Istanbul-Kandi	2.41	117	*e*Pn	Pb	10 22 39.8	-1.5
ISK				S	Sn	10 23 07.7	+0.5
GONE	Gonen-Balikesi	2.43	153	*e*PN	Pn	10 22 38.8	+1.1
GONE	Gonen-Balikesi	2.43	153	*e*Pn	Pn	10 22 38.8	+1.1
LIA	Limnos Island	2.44	199	P	Pn	10 22 38.2	+0.3
LIA				S	Sn	10 23 08.6	+0.6
LIA	Limnos Island	2.44	199	P	Pn	10 22 38.2	+0.3
LIA				S	Sn	10 23 08.6	+0.6
KCTX	Karacabey (Bur	2.52	140	*e*PN	Pn	10 22 40.1	+1.1
KCTX	Karacabey (Bur	2.52	140	*e*Pn	Pn	10 22 40.1	+1.1
OUR	Ouranopolis	2.53	223	P	Pn	10 22 39.4	+0.3
OUR	Ouranopolis	2.53	223	P	Pn	10 22 39.4	+0.3
TLB	Topalu	2.71	28	⇓*i*P	Pb	10 22 47.0	+0.5
TLB	Topalu	2.71	28	⇓*i*P	Sg	10 22 47.7	-2.1
TLB	Topalu	2.71	28	⇓*i*P	Pb	10 22 47.0	+0.5
TIRR	Tirgusor	2.75	35	⇑*i*P	Pb	10 22 47.4	+0.3
TIRR	Tirgusor	2.75	35	S	Sg	10 23 26.3	+0.3
TIRR	Tirgusor	2.75	35	⇑*i*P	Pb	10 22 47.4	+0.3
SILT	Sile	2.77	111	*e*PN	Pb	10 22 45.0	-2.4
SILT	Sile	2.77	111	*e*Pn	Pb	10 22 45.0	-2.4
PLG	Polygyros	2.79	230	P	Pn	10 22 43.4	+0.7
PLG	Polygyros	2.79	230	P	Pn	10 22 43.4	+0.7
ZAPS	Zavoj	2.85	293	⇓*i*Pn	Pn	10 22 45.4	+1.8
ZAPS				*e*Sn	Sn	10 23 18.5	+0.3
ISR	Istrita	2.91	4	⇓*i*P	Pg	10 22 52.1	-1.3
HRT	Hereke	2.93	117	*e*PN	Pn	10 22 47.1	+2.4
HRT	Hereke	2.93	117	*e*Pn	Pn	10 22 47.1	+2.4
ADVT	Abdulvahap	3.18	123	*e*PN	Pn	10 22 50.3	+2.2
ADVT	Abdulvahap	3.18	123	*e*Pn	Pn	10 22 50.3	+2.2
CFR	Carcaliu	3.27	24	⇑*i*P	Pb	10 22 56.2	+0.3
CFR	Carcaliu	3.27	24	S	Sg	10 23 43.3	-2.3
MLR	Muntele Rosu	3.28	356	⇓*i*P	Pb	10 22 55.6	-0.7
MLR	Muntele Rosu	3.28	356	S	Sg	10 23 43.3	+0.2
MLR	Muntele Rosu	3.28	356	⇓*i*P	Pb	10 22 55.6	-0.7
VOIR		3.33	346	⇑*i*P	Pb	10 22 57.3	+0.2
VOIR		3.33	346	S	Sg	10 23 44.5	-0.2
ARR	Arges	3.36	340	⇑*i*P	Pb	10 22 58.3	+0.8
ARR	Arges	3.36	340	S	Sg	10 23 44.3	-1.2
TLCR		3.51	31	S	Sb	10 23 45.8	+2.9
AKS	Akhisar	3.54	160	*e*PN	Pn	10 22 53.8	+0.8
AKS	Akhisar	3.54	160	*e*Pn	Pn	10 22 53.8	+0.8
PLOR	Plostina	3.65	5	S	Sg	10 23 51.4	-3.4
VRI	Vrincioaia	3.67	5	⇑*i*P	Pn	10 22 58.6	+3.8
VRI	Vrincioaia	3.67	5	⇑*i*P	Pn	10 22 58.6	+3.8
TVSB	Tavsanli	3.69	137	*e*PN	Pn	10 22 56.2	+1.0
TVSB	Tavsanli	3.69	137	*e*Pn	Pn	10 22 56.2	+1.0
CHOS	Chios island	3.82	182	P	Pn	10 22 57.6	+0.6
CHOS	Chios island	3.82	182	P	Pn	10 22 57.6	+0.6
SELS	Selova	3.90	287	*e*PN	Pn	10 22 58.6	+0.7
SELS	Selova	3.90	287	*e*Pn	Pn	10 22 58.6	+0.7
GZR	Gura Zlata	4.04	323	⇓*i*P	Pn	10 23 04.4	+4.4
GZR	Gura Zlata	4.04	323	⇓*i*P	Pn	10 23 04.4	+4.4
GRUS	Gruza	4.38	294	⇑*i*Pn	Pn	10 23 05.7	+1.2
GRUS				*e*Sn	Sn	10 23 55.7	0.0
GRUS	Gruza	4.38	294	⇑*i*Pn	Pn	10 23 05.7	+1.2
BZS	Buzias	4.76	317	⇑*i*P	Pn	10 23 14.3	+4.5
BZS	Buzias	4.76	317	S	Sb	10 24 16.1	-2.8
BZS	Buzias	4.76	317	⇑*i*P	Pn	10 23 14.3	+4.5
DIVS	Divibare	4.94	295	*e*Pn	Pn	10 23 12.9	+0.6
DIVS	Divibare	4.94	295	*e*Pn	Pn	10 23 12.9	+0.6
DRGR		5.22	332	⇓*i*P	Pb	10 23 23.1	-6.2
DRGR		5.22	332	S	Sb	10 24 29.1	-3.1
BBLS	Lazići	5.27	291	*e*Pn	Pn	10 23 18.0	+1.2
BBLS				*e*Sn	Sn	10 24 17.0	-0.8
BBLS	Lazići	5.27	291	*e*Pn	Pn	10 23 18.0	+1.2
BBLS				*e*Sn	Sn	10 24 17.0	-0.8

WEL 28 10:28:60.0±1.5, 34°92S×178°31E, h33km, ML3.7/4, Error ellipse: s-maj=23.9km s-min=11.2km az=90.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	3.15	181	PN	Pn	10 29 46.4	-1.0
PUZ				SN	Sn	10 30 20.7	-3.1
MWZ	Matawai	3.47	190	P*	Pn	10 29 52.3	+0.6
URZ	Urewera	3.47	196	P*	Pn	10 29 52.6	+0.9
URZ				S*	Sn	10 30 32.0	+0.3
BKZ	Black Stump Fm	4.49	198	P*	Pn	10 30 05.3	-0.5

*SOF **28** 10:40:42.3, 42°.21N×26°.25E, h7km, MD3.5*
*CSEM **28** 10:40:42.5±0.1, 42°.18N×26°.22E, h2km, ML3.0, Error ellipse: s-maj=3.0km s-min=2.7km az=25.0*
*THE **28** 10:40:42.2, 42°.20N×26°.28E, h0km±1km, ML3.1/6, Error ellipse: s-maj=1.8km s-min=0.8km az=18.0*
*BEO **28** 10:40:43.6±0.6, 42°.38N×26°.15E, h4km±6km, ML3.0/8*

*ISK **28** 10:40:44.2, 42°.03N×26°.32E, h6km, MD3.3*

ISC 28 10:40:42.2±1.1, 42°19N±0°.01×26°24E±0°.02, h3km±10km, n157,σ1s17/189, 15C-12D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMB	Yambol	0.38	43	P	Pg	10 40 49.2	-0.3
JMB				S	Sg	10 40 54.5	+0.1
JMB	Yambol	0.38	43	*e*Pg	Pg	10 40 49.5	0.0
JMB	Yambol	0.38	43	P	Pg	10 40 49.5	0.0
JMB	Yambol	0.38	43	P	Pg	10 40 49.5	0.0
JMB				S	Sg	10 40 54.5	+0.1
EDRB	Edirne	0.51	132	*e*PG	Pg	10 40 52.0	0.0
EDRB				*e*SG	Sg	10 40 57.3	-1.3
EDRB	Edirne	0.51	132	P	Pg	10 40 52.0	0.0
EDRB				S	Sg	10 40 59.1	+0.5
EDRB	Edirne	0.51	132	P	Pg	10 40 52.0	0.0
EDRB				*e*Sg	Sg	10 40 57.3	-1.3
EDRB				S	Sg	10 40 59.1	+0.5
DIM	Dimitrovgrad	0.54	255	P	Pg	10 40 52.9	+0.3
DIM	Dimitrovgrad	0.54	255	P	Pg	10 40 52.9	+0.3
KDZ	Kurdzhali	0.82	229	P	Pb	10 40 59.3	+0.3
KDZ	Kurdzhali	0.82	229	P	Pb	10 40 59.3	+0.3
SZH	Strazhica	1.10	348	P	Pg	10 41 03.3	0.0
SZH	Strazhica	1.10	348	P	Pg	10 41 03.3	0.0
PHSR	Pinarhisar	1.11	120	*e*PG	Pg	10 41 03.0	-0.4
PHSR				*e*SG	Sg	10 41 17.7	-0.2
PHSR	Pinarhisar	1.11	120	*e*Pg	Pg	10 41 03.1	-0.4
PHSR				*e*Sg	Sg	10 41 17.7	-0.2
PLD	Plovdiv	1.14	266	P	Pg	10 41 03.8	-0.3
PLD	Plovdiv	1.14	266	*e*Pg	Pg	10 41 03.6	-0.5
PLD				*e*Sg	Sg	10 41 18.8	-0.1
PLD	Plovdiv	1.14	266	P	Pg	10 41 03.7	-0.4
PLD	Plovdiv	1.14	266	P	Pg	10 41 03.8	-0.3
PLD				*e*Sg	Sg	10 41 18.8	-0.1
RDO	Rodhopi	1.17	207	P	Pb	10 41 05.0	0.0
RDO				S	Sn	10 41 22.5	+0.7
RDO	Rodhopi	1.17	207	*e*P	Pb	10 41 05.0	0.0
RDO	Rodhopi	1.17	207	P	Pb	10 41 05.0	0.0
RDO				S	Sn	10 41 22.5	+0.7
PVL	Pavlikeni	1.22	327	P	Pg	10 41 05.6	0.0
PVL	Pavlikeni	1.22	327	P	Pg	10 41 05.6	0.0
RZN	Rozhen	1.24	247	P	Pg	10 41 05.7	-0.3
RZN	Rozhen	1.24	247	P	Pg	10 41 05.7	-0.3
ALN	Alexandroupoli	1.30	186	P	Pg	10 41 07.1	0.0
ALN				S	Sn	10 41 26.2	+1.1
ALN	Alexandroupoli	1.30	186	*e*P	Pg	10 41 07.0	0.0
ALN	Alexandroupoli	1.30	186	P	Pg	10 41 07.1	0.0
ALN				S	Sn	10 41 26.2	+1.1
PRD	Provadia	1.32	40	P	Pg	10 41 06.3	-1.3
PRD	Provadia	1.32	40	P	Pg	10 41 06.3	-1.3
ENEZ	Enez	1.45	182	*e*PN	Pg	10 41 10.1	+0.1
ENEZ	Enez	1.45	182	*e*Pn	Pg	10 41 10.1	+0.1
ERIK	Erikli-Kesan	1.53	172	*e*PN	Pn	10 41 10.0	-0.4
ERIK	Erikli-Kesan	1.53	172	*e*Pn	Pn	10 41 10.0	-0.4
CRLT	Corlu	1.54	133	*e*PN	Pn	10 41 10.7	+0.1
CRLT	Corlu	1.54	133	*e*Pn	Pn	10 41 10.7	+0.1
TKR	Tekirdag	1.54	140	*e*PN	Pn	10 41 10.4	-0.2
TKR	Tekirdag	1.54	140	*e*Pn	Pn	10 41 10.4	-0.2
PGB	Panagyurishte	1.57	284	P	Pn	10 41 11.6	+0.5
PGB	Panagyurishte	1.57	284	P	Pn	10 41 11.6	+0.5
ZIMR		1.60	337	⇑*i*P	Pg	10 41 14.9	+2.1
ZIMR		1.60	337	S	Sg	10 41 35.7	+2.1
RKY	Sarkoy-Tekirda	1.66	154	*e*PN	Pn	10 41 12.1	-0.1
RKY	Sarkoy-Tekirda	1.66	154	*e*Pn	Pn	10 41 12.1	-0.1
CTYL	Yal??k??y-??at	1.69	114	*e*PN	Pn	10 41

CFR	Carcaliu	3.29	24	S	Sb	10 42 21.9	+0.3
CFR	Carcaliu	3.29	24	⇓*i*P	Pn	10 41 36.0	+1.4
MLR	Muntele Rosu	3.31	356	⇑*i*P	Pn	10 41 37.9	+2.9
MLR	Muntele Rosu	3.31	356	S	Sg	10 42 28.3	-0.1
MLR	Muntele Rosu	3.31	356	⇑*i*P	Pn	10 41 37.9	+2.9
SRE	Strehaia	3.31	319	S	Sg	10 42 27.6	-1.0
VOIR		3.36	346	⇑*i*P	Pn	10 41 38.3	+2.7
VOIR		3.36	346	S	Sg	10 42 28.2	-1.8
VOIR		3.36	346	⇑*i*P	Pn	10 41 38.3	+2.7
ARR	Arges	3.38	340	⇑*i*P	Pb	10 41 41.2	-1.6
ARR	Arges	3.38	340	S	Sg	10 42 29.4	-1.4
TLCR		3.53	31	⇑*i*P	Pn	10 41 39.9	+2.0
TLCR		3.53	31	S	Sb	10 42 26.9	-1.6
TLCR		3.53	31	⇑*i*P	Pn	10 41 39.9	+2.0
BOLS	Boljevac	3.54	299	*e*Pn	Pn	10 41 37.6	-0.5
BOLS	Boljevac	3.54	299	*e*Pn	Pn	10 41 37.6	-0.5
PLOR	Plostina	3.67	5	S	Sb	10 42 35.3	+2.6
VRI	Vrincioaia	3.69	5	⇑*i*P	Pn	10 41 42.4	+2.2
VRI	Vrincioaia	3.69	5	⇑*i*P	Pn	10 41 42.4	+2.2
DOPR	Dopca	3.83	351	⇓*i*P	Pn	10 41 43.8	+1.8
DOPR	Dopca	3.83	351	⇓*i*P	Pn	10 41 43.8	+1.8
SELS	Selova	3.91	287	*i* Pn	Pn	10 41 42.8	-0.4
SELS	Selova	3.91	287	*i* Pn	Pn	10 41 42.8	-0.4
GZR	Gura Zlata	4.07	323	S	Sb	10 42 46.9	+2.9
GRUS	Gruza	4.39	295	⇓*i*Pn	Pn	10 41 49.6	-0.1
GRUS				*e*Sn	Sn	10 42 37.9	-3.4
GRUS	Gruza	4.39	295	⇓*i*Pn	Pn	10 41 49.6	-0.1
BZS	Buzias	4.78	317	⇑*i*P	Pn	10 41 55.9	+0.8
BZS	Buzias	4.78	317	S	Sb	10 43 10.2	+5.7
BZS	Buzias	4.78	317	⇑*i*P	Pn	10 41 55.9	+0.8
DIVS	Divibare	4.95	295	*e*Pn	Pn	10 41 57.2	-0.3
DIVS				*e*Sn	Sn	10 42 50.7	-4.6
DIVS	Divibare	4.95	295	*e*Pn	Pn	10 41 57.2	-0.3
BBLS	Lazići	5.28	291	*e*Pn	Pn	10 42 01.4	-0.6
BBLS	Lazići	5.28	291	*e*Pn	Pn	10 42 01.4	-0.6

IDC 28 11:37:09.5±3.9, 10°95S×165°98E, h77km±36km, mb3.2/3, mb1 3.6/5, mb1mx3.3/20, mbtmp3.5/5, Error ellipse: s-maj=38.1km s-min=32.8km az=135.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.13**	**284**	P	Pn	11 38 37.2	-0.3
	7.3nm,0.3s,baz=202,slow=3.6,SNR=4.2						
DZM	**Mont Dzumac**	**11.06**	**178**	P	Pn	11 39 45.2	+0.2
	0.3nm,0.3s,baz=88,slow=17,SNR=6.9						
STKA	**Stephens Creek**	**30.67**	**224**	pP	pP	11 43 32.3	-2.6
	0.4nm,0.3s,baz=23,slow=12,SNR=5.2						
WRA	**Warramunga Arr**	**31.73**	**250**	P	P	11 43 26.6	+0.2
	0.5nm,0.8s,baz=82,slow=9.2,SNR=5.4						
WRA				pP	pP	11 43 42.6	-1.9
	0.5nm,0.8s,baz=80,slow=9.2,SNR=4.9						
ASAR	**Alice Springs**	**33.04**	**243**	P	P	11 43 37.5	-0.3
	0.4nm,0.8s,baz=67,slow=10,SNR=4.7						
ILAR	**Eielson Array**	**83.35**	**18**	P	P	11 49 27.6	0.0
	0.3nm,0.5s,baz=239,slow=5.5,SNR=8.9						

*ISCJB **28** 11:44:15.9±0.5, 18°.8S±0°.1×177°.75W±0°.10, h600km, mb3.9/12, Error ellipse: s-maj=20.1km s-min=7.1km az=149.7*
*AUST **28** 11:44:16.2±0.0, 18°.91S×177°.19W, h622km±1km, Error ellipse: s-maj=2.3km s-min=2.0km az=302.0*
*IDC **28** 11:44:17.5±1.2, 18°.67S×177°.74W, h613km±15km, mb3.4/12, mb1 3.6/14, mb1mx3.5/23, mbtmp3.5/14, Error ellipse: s-maj=21.7km s-min=10.2km az=155.0*
ISC 28 11:44:16.5±0.6, 18°.7S±0°.2×177°.7W±0°.1, h600km, n37, σ1°01/41, mb3.9/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.43**	**51**	P	**P**	**11 46 10.9**	**+0.2**
	15nm,0.3s,baz=192,slow=2.7,SNR=29						
AFI				S	**S**	**11 47 43.9**	**-0.1**
	3.1nm,0.3s,baz=217,slow=20,SNR=3.4						
DZM	**Mont Dzumac**	**15.23**	**255**	P	**P**	**11 47 27.4**	**+0.5**
	1.0nm,0.3s,baz=95,slow=16,SNR=10.0						
ARMA	**Armidale**	**30.13**	**241**	P	**P**	**11 49 40.8**	**+1.3**
	baz=30,SNR=12						
MGCD	**Mangrove Creek**	**31.39**	**236**	P	**P**	**11 49 52.6**	**+2.5**
	baz=32,SNR=11						
RMQ	**Roma**	**31.84**	**250**	P	**P**	**11 49 55.4**	**+1.4**
	baz=32,SNR=8.4						
CNB	**Canberra Magne**	**33.48**	**234**	P	**P**	**11 50 08.8**	**+1.0**
	baz=34,SNR=44						
CTA	**Charters Tower**	**33.98**	**262**	P	**P**	**11 50 12.7**	**+0.6**
	18nm,0.6s,baz=93,slow=11,SNR=24						
PMG	**Port Moresby**	**35.25**	**280**	P	**P**	**11 50 23.4**	**+0.7**
	12nm,0.8s,baz=57,slow=6.5,SNR=4.5						
CMSA	**Cobar Meteorol**	**35.34**	**242**	P	**P**	**11 50 24.0**	**+0.7**
	baz=36,SNR=73						
QLP	**Quilpie**	**35.88**	**250**	P	**P**	**11 50 28.3**	**+0.5**
	baz=36,SNR=44						
MTSU	**Mount Surprise**	**35.99**	**265**	P	**P**	**11 50 29.4**	**+0.7**
	baz=36,SNR=22						
TOO	**Toolangi**	**37.19**	**232**	P	**P**	**11 50 39.0**	**+0.6**
	baz=37,SNR=12						
COEN	**Coen**	**37.78**	**271**	P	**P**	**11 50 44.7**	**+1.3**
	baz=38,SNR=33						
STKA	**Stephens Creek**	**38.84**	**242**	P	**P**	**11 50 52.6**	**+0.9**
	baz=39,SNR=28						
STKA	**Stephens Creek**	**38.84**	**242**	P	**P**	**11 50 52.4**	**+0.6**
	7.2nm,0.3s,baz=84,slow=10.0,SNR=33						
HTT	**Hallett**	**41.32**	**240**	P	**P**	**11 51 12.0**	**+0.5**
	baz=42,SNR=8.7						
BBOO	**Buckleboo**	**43.61**	**242**	P	**P**	**11 51 29.3**	**0.0**
	baz=44,SNR=16						
WRA	**Warramunga Arr**	**45.15**	**260**	P	**P**	**11 51 40.8**	**-0.5**
	7.8nm,0.3s,baz=97,slow=6.3,SNR=423						
WRA				PcP	**PcP**	**11 53 08.0**	**-0.7**
	0.9nm,0.4s,baz=90,slow=3.5,SNR=5.2						
WRA				S	**S**	**11 57 37.0**	**-1.4**
	0.6nm,0.8s,baz=91,slow=15,SNR=5.9						
ASAR	**Alice Springs**	**45.22**	**255**	P	**P**	**11 51 41.9**	**+0.1**
	16nm,0.7s,baz=86,slow=8.3,SNR=317						
ASAR				PcP	**PcP**	**11 53 08.0**	**-0.9**
	1.6nm,0.5s,baz=102,slow=3.5,SNR=7.3						
ASAR				S	**S**	**11 57 37.5**	**-1.9**
	0.8nm,0.6s,baz=92,slow=16,SNR=7.5						
KDU	**Kakadu**	**48.21**	**270**	P	P	11 51 57.3	-7.1
	baz=49,SNR=23						
MTN	**Manton Dam**	**49.44**	**269**	P	**P**	**11 52 13.2**	**-0.2**
	baz=50,SNR=9.3						
FORT	**Forrest**	**50.27**	**245**	P	**P**	**11 52 18.6**	**-0.7**
	baz=51,SNR=9.9						
KNRA	**Kununurra**	**51.07**	**265**	P	**P**	**11 52 25.1**	**-0.1**
	baz=52,SNR=16						
FITZ	**Fitzroy Crossi**	**53.56**	**261**	P	**P**	**11 52 43.0**	**+0.1**
	baz=54,SNR=23						
SOEI	**Soe**	**56.74**	**270**	P	**P**	**11 53 06.8**	**+1.5**
	baz=57,SNR=6.6						
MEEK	**Meekatharra**	**58.78**	**250**	P	**P**	**11 53 17.9**	**-0.8**
	baz=59,SNR=12						
VNDA	**Vanda**	**59.71**	**185**	P	**P**	**11 53 24.3**	**+0.3**
	0.6nm,0.5s,baz=2.5,slow=7.9,SNR=10.0						
NVAR	**Mina Array Bea**	**79.54**	**43**	P	**P**	**11 55 23.2**	**+0.7**
	0.4nm,0.4s,baz=202,slow=6.8,SNR=2.9						
MAW	**Mawson**	**83.33**	**200**	P	**P**	**11 55 40.3**	**-0.8**
	1.3nm,0.7s,baz=129,slow=6.5,SNR=3.9						
TXAR	**Lajitas Array**	**85.86**	**57**	P	**P**	**11 55 55.3**	**+1.1**
	1.5nm,0.7s,baz=202,slow=4.7,SNR=10						
ILAR	**Eielson Array**	**86.52**	**13**	P	**P**	**11 55 55.2**	**-1.1**
	0.3nm,0.8s,baz=227,slow=3.6,SNR=7.2						
PDAR	**Pinedale Array**	**87.48**	**43**	P	**P**	**11 56 01.0**	**-0.7**
	0.5nm,0.6s,baz=255,slow=1.8,SNR=3.0						
CMAR	**Chiang Mai Arr**	**89.78**	**289**	P	**P**	**11 56 13.8**	**+1.2**
	0.6nm,0.4s,baz=100,slow=2.4,SNR=6.6						
MKAR	**Makanchi Array**	**110.17**	**314**	PKiKP	**PKiKP**	**12 01 39.2**	**-1.8**
	0.4nm,0.5s,baz=147,slow=0.2,SNR=8.2						
ARCES	**ARCESS Array B**	**127.22**	**350**	PKP	**PKPdf**	**12 02 12.2**	**-0.8**
	4.7nm,1.0s,baz=29,slow=2.1,SNR=8.2						
BRTR	**Keskin Array B**	**145.81**	**314**	PKPbc	**PKPdf**	**12 02 49.2**	**+1.0**
	1.4nm,0.6s,baz=124,slow=3.9,SNR=5.0						
GERES	**GERESS Array B**	**148.55**	**345**	PKPbc	**PKPbc**	**12 02 55.9**	**-0.9**
	0.5nm,0.4s,baz=35,slow=3.6,SNR=6.8						

IDC 28 11:45:36.9±10.0, 2°.07N×95°.55E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.4/26, mbtmp3.7/4, ML4.4/1, Error ellipse: s-maj=206.2km s-min=113.2km az=147.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.62**	**11**	Pn	Pn	11 49 31.5	+0.1
	0.5nm,0.3s,baz=202,slow=12,SNR=6.2						
H08S2	**Diego Garcia H**	**24.95**	**247**	T	T	12 17 15.8	
	baz=66,slow=0.7,SNR=49						
H08S3	**Diego Garcia H**	**24.95**	**247**	T	T	12 17 12.6	
	baz=66,slow=0.7,SNR=50						
H08S1	**Diego Garcia H**	**24.96**	**247**	T	T	12 17 13.8	
	baz=66,slow=0.7,SNR=61						
H01W3	**Cape Leeuwin H**	**40.69**	**156**	T	T	12 37 28.3	
	baz=333						
H01W2	**Cape Leeuwin H**	**40.70**	**156**	T	T	12 37 33.0	
	baz=333						
H01W1	**Cape Leeuwin H**	**40.70**	**156**	T	T	12 37 36.4	
	baz=333						
MKAR	**Makanchi Array**	**46.02**	**347**	P	P	11 54 02.0	-0.2
	0.6nm,0.6s,baz=163,slow=7.6,SNR=5.7						
SONM	**Songino Array**	**46.54**	**10**	P	P	11 54 06.1	-0.3
	0.2nm,0.3s,baz=197,slow=9.0,SNR=3.0						
ZALV	**Zalesovo Beam**	**52.46**	**352**	P	P	11 54 51.4	+0.1
	1.1nm,0.6s,baz=171,slow=6.3,SNR=5.7						

IDC 28 11:46:45.2±1.1, 42°.52N×133°.20E, h477km±16km, mb2.9/3, mb1 2.9/7, mb1mx2.7/28, mbtmp2.9/7, Error ellipse: s-maj=27.6km s-min=17.5km az=161.0, Primorye

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USRK	**Ussuriysk Arra**	**1.89**	**333**	P	P	11 47 47.9	+0.3
	1.2nm,0.3s,baz=146,slow=5.1,SNR=20						
KSRS	**Korea Array**	**6.48**	**220**	P	P	11 48 25.9	+0.5
	1.1nm,0.3s,baz=36,slow=10,SNR=28						
ASAJ	**Asahikawa**	**7.04**	**74**	P	P	11 48 29.8	-1.1
	2.2nm,0.3s,baz=257,slow=11,SNR=20						
JNU	**Nakatsue**	**9.56**	**192**	P	P	11 48 58.2	+0.3
	0.2nm,0.3s,baz=1.8,slow=9.0,SNR=3.1						
SONM	**Songino Array**	**19.58**	**295**	P	P	11 50 42.2	+1.0
	0.2nm,0.3s,baz=98,slow=11,SNR=3.9						
ZALV	**Zalesovo Beam**	**33.55**	**307**	P	P	11 52 42.9	-1.1
	0.7nm,0.4s,baz=90,slow=9.0,SNR=2.9						
MKAR	**Makanchi Array**	**35.95**	**295**	P	P	11 53 03.7	-0.6
	0.8nm,0.7s,baz=84,slow=8.8,SNR=8.2						
ILAR	**Eielson Array**	**48.40**	**34**	P	P	11 54 42.7	+0.3
	0.7nm,0.7s,baz=280,slow=6.4,SNR=13						

*IDC **28** 12:07:34.6±1.3, 11°.50S×165°.47E, h0km, mb4.2/10, mb1 4.3/12, mb1mx4.2/23, mbtmp4.2/12, ML4.5/2, MS3.5/5, Ms1 3.5/5, ms1mx3.2/33, Error ellipse: s-maj=34.0km s-min=20.3km az=118.0*
*ISCJB **28** 12:07:37.2±0.8, 11°.44S±0°.08×165°.35E±0°.09, h24km, mb4.2/11, MS3.6/3, Error ellipse: s-maj=13.8km s-min=10.6km az=141.4*
*NEIC **28** 12:07:40.0±0.8, 11°.51S×165°.42E, h35km, mb4.5/2, Error ellipse: s-maj=15.9km s-min=10.7km az=88.0*
*AUST **28** 12:07:59.4±6.0, 11°.89S×164°.20E, h120km, Error ellipse: s-maj=5.5km s-min=2.0km az=247.0*
ISC 28 12:07:38.7±0.8, 11°.46S±0°.10×165°.4E±0°.1, h24km, n39, σ0s91/38, mb4.2/11, MS3.6/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.75**	**290**	Pn	**Pn**	**12 09 02.8**	**+0.2**
HNR				Sn	**Sn**	**12 10 06.6**	**-1.1**
HNR	**Honiara**	**5.75**	**290**	Pn	**Pn**	**12 09 02.8**	**+0.2**
	22nm,0.3s,baz=212,slow=0.3,SNR=8.3						
HNR				Sn	**Sn**	**12 10 06.6**	**-1.1**
	9.0nm,0.3s,baz=355,slow=23,SNR=6.3						
HNR				LR	LR	12 11 04.8	
	comp=Z,193nm,21.0s,baz=51,slow=36						
DZM	**Mont Dzumac**	**10.59**	**175**	Pn	**Pn**	**12 10 08.5**	**-0.6**
DZM	**Mont Dzumac**	**10.59**	**175**	Pn	**Pn**	**12 10 08.5**	**-0.6**
	1.8nm,0.3s,baz=297,slow=22,SNR=14						
PMG	**Port Moresby**	**18.07**	**275**	LR	LR	12 18 14.9	
	comp=Z,155nm,18.2s,baz=84,slow=35						
CTA	**Charters Tower**	**20.32**	**243**	P	Pn	12 12 14.3	-1.0
CTA	**Charters Tower**	**20.32**	**243**	P	Pn	12 12 14.3	-1.0
	4.3nm,0.7s,baz=75,slow=15,SNR=3.5						
MTSU	**Mount Surprise**	**21.44**	**249**	P	**P**	**12 12 26.5**	**+1.2**
	baz=20,SNR=14						
RMQ	**Roma**	**21.67**	**224**	P	**P**	**12 12 28.9**	**+1.1**
	baz=21,SNR=7.3						
COEN	**Coen**	**21.84**	**261**	P	**P**	**12 12 31.0**	**+1.4**
	baz=21,SNR=6.1						
ARMA	**Armidale**	**22.79**	**212**	*e*P	**P**	**12 12 39.4**	**-0.5**
	13nm,1.1s						
ARMA	**Armidale**	**22.79**	**212**	P	**P**	**12 12 40.1**	**+0.3**
	baz=22,SNR=4.0						
CMSA	**Cobar Meteorol**	**27.04**	**219**	P	**P**	**12 13 21.3**	**+2.2**
	baz=26,SNR=7.2						
STKA	**Stephens Creek**	**29.92**	**224**	P	**P**	**12 13 45.0**	**+0.1**
STKA	**Stephens Creek**	**29.92**	**224**	P	**P**	**12 13 45.5**	**+0.6**
	baz=29,SNR=4.7						
STKA	**Stephens Creek**	**29.92**	**224**	P	**P**	**12 13 45.0**	**+0.1**
	2.6nm,0.6s,baz=16,slow=6.0,SNR=7.1						
STKA				LR	LR	12 24 36.4	
	comp=Z,122nm,18.9s,baz=293,slow=34						
WRAB	**Tennant Creek**	**31.02**	**250**	*e*P	**P**	**12 13 54.3**	**-0.5**
	8.5nm,0.6s						
WRA	**Warramunga Arr**	**31.04**	**250**	P	**P**	**12 13 54.4**	**-0.5**
WRA	**Warramunga Arr**	**31.04**	**250**	P	**P**	**12 13 54.4**	**-0.5**
	13nm,0.7s,baz=80,slow=9.1,SNR=97						
KDU	**Kakadu**	**32.23**	**264**	P	**P**	**12 14 04.3**	**-1.1**
	baz=31,SNR=3.0						
ASAR	**Alice Springs**	**32.32**	**244**	P	**P**	**12 14 04.6**	**-1.6**
ASAR				PcP	**PcP**	**12 16 53.5**	**-0.6**
ASAR	**Alice Springs**	**32.32**	**244**	P	**P**	**12 14 04.6**	**-1.6**
	1.9nm,0.9s,baz=64,slow=9.9,SNR=24						
ASAR				PcP	**PcP**	**12 16 53.5**	**-0.6**
	0.4nm,0.7s,baz=76,slow=2.1,SNR=4.4						
KNRA	**Kununurra**	**35.84**	**259**	P	**P**	**12 14 37.5**	**+0.6**
	baz=35,SNR=5.5						
FITZ	**Fitzroy Crossi**	**38.96**	**255**	P	**P**	**12 15 02.4**	**-0.8**
FITZ	**Fitzroy Crossi**	**38.96**	**255**	P	**P**	**12 15 02.8**	**-0.4**
	baz=38,SNR=4.3						
FITZ	**Fitzroy Crossi**	**38.96**	**255**	P	**P**	**12 15 02.4**	**-0.8**
	4.1nm,0.8s,baz=104,slow=8.8,SNR=7.1						
FITZ				LR	LR	12 28 30.3	
	comp=Z,56nm,21.1s,baz=162,slow=32						
MEEK	**Meekatharra**	**46.47**	**244**	P	**P**	**12 16 04.4**	**+0.2**
	baz=45,SNR=4.2						
NWAO	**Narrogin (SRO)**	**48.96**	**236**	LR	LR	12 38 28.5	
	comp=Z,124nm,18.2s,baz=338,slow=38						
MJAR	**Matsushiro Arr**	**54.19**	**333**	P	**P**	**12 17 01.5**	**-0.9**
MJAR	**Matsushiro Arr**	**54.19**	**333**	P	**P**	**12 17 01.5**	**-0.9**
	1.2nm,0.9s,baz=164,slow=8.3,SNR=4.2						
XMIS	**Christmas Isla**	**58.59**	**265**	P	P	12 17 44.9	+11
	baz=57,SNR=3.2						
CMAR	**Chiang Mai Arr**	**71.98**	**294**	P	**P**	**12 19 02.1**	**+1.2**
CMAR	**Chiang Mai Arr**	**71.98**	**294**	P	**P**	**12 19 02.1**	**+1.2**
	2.4nm,0.8s,baz=119,slow=5.3,SNR=14						
SONM	**Songino Array**	**78.81**	**324**	P	**P**	**12 19 40.4**	**+0.6**
SONM	**Songino Array**	**78.81**	**324**	P	**P**	**12 19 40.4**	**+0.6**
	1.0nm,0.9s,baz=121,slow=5.6,SNR=6.9						
ILAR	**Eielson Array**	**84.01**	**19**	P	**P**	**12 20 06.3**	**-0.4**
ILAR	**Eielson Array**	**84.01**	**19**	P	**P**	**12 20 06.3**	**-0.4**
	0.4nm,0.5s,baz=230,slow=6.8,SNR=18						
MKAR	**Makanchi Array**	**93.60**	**317**	P	**P**	**12 20 53.3**	**+0.3**
MKAR	**Makanchi Array**	**93.60**	**317**	P	**P**	**12 20 53.3**	**+0.3**
	0.9nm,0.7s,baz=90,slow=6.9,SNR=6.4						

*ISCJB **28** 12:10:19.0±0.5, 21°.30S±0°.04×68°.51W±0°.09, h114km±7km, mb4.0/5, Error ellipse: s-maj=13.9km s-min=7.4km az=179.2*
*NEIC **28** 12:10:20.8, 21°.31S×68°.87W, h122km, MG4.1(GUC), After GUC.*
*GUC **28** 12:10:20.8±0.5, 21°.31S×68°.87W, h122km±3km, ML4.1*
*IDC **28** 12:10:21.9±3.3, 21°.32S×68°.29W, h119km±27km, mb3.9/5, mb1 4.0/7, mb1mx3.7/19, mbtmp3.9/7, Error ellipse: s-maj=30.9km s-min=25.0km az=106.0*
ISC 28 12:10:20.8±0.8, 21°.33S±0°.04×68°.7W±0°.1, h119km±8km, n43, σ0s64/45, mb4.2/5, 2C-8D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**Plate Boundary**	**0.67**	**226**	⇓*i*P	**Pn**	**12 10 40.3**	**+0.3**
PB09				*i* S	**Sn**	**12 10 54.8**	**+0.3**
PB09	**Plate Boundary**	**0.67**	**226**	⇓*i*P	**Pn**	**12 10 40.3**	**+0.3**
PB09				*i* S	**Sn**	**12 10 54.8**	**+0.3**
PB09				AML	AML	12 10 56.5	
	comp=E,10μm,0.4s						
PB01	**Plate Boundary**	**0.77**	**291**	⇓*i*P	**Pn**	**12 10 40.6**	**-0.1**
PB01				*i* S	**Sn**	**12 10 55.2**	**-0.4**
PB01	**Plate Boundary**	**0.77**	**291**	⇓*i*P	**Pn**	**12 10 40.6**	**-0.1**
PB01				*i* S	**Sn**	**12 10 55.2**	**-0.4**
PB01				AML	AML	12 10 57.4	
	comp=E,5μm,0.3s						
PB07	**Plate Boundary**	**1.15**	**250**	⇓*i*P	**Pn**	**12 10 44.5**	**+0.1**
PB07				*i* S	**Sn**	**12 11 02.2**	**-0.2**
PB07	**Plate Boundary**	**1.15**	**250**	⇓*i*P	**Pn**	**12 10 44.5**	**+0.1**
PB07				*i* S	**Sn**	**12 11 02.2**	**-0.2**
PB07				AML	AML	12 11 03.8	
	comp=E,5μm,0.5s						
PB04	**Plate Boundary**	**1.17**	**217**	⇑*i*P	Pn	12 10 50.0	+5.6
PB04				*i* S	Sn	12 11 12.2	+10
PB04	**Plate Boundary**	**1.17**	**217**	⇑*i*P	Pn	12 10 50.0	+5.6
PB04				*i* S	Sn	12 11 12.2	+10
PB04				AML	AML	12 11 14.3	
	comp=N,1μm,0.2s						
LVC	**Limon Verde**	**1.29**	**188**	*e*Pn	**Pn**	**12 10 46.3**	**+0.2**
LVC				*e*Sn	**Sn**	**12 11 04.5**	**-0.7**
HMBC	**Humberstone**	**1.51**	**314**	⇓*i*P	**Pn**	**12 10 48.1**	**-0.2**
HMBC				*i* S	**Sn**	**12 11 08.7**	**-0.5**
HMBC	**Humberstone**	**1.51**	**314**	⇓*i*P	**Pn**	**12 10 48.1**	**-0.2**
HMBC				*i* S	**Sn**	**12 11 08.7**	**-0.5**
HMBC				AML	AML	12 11 11.1	
	comp=N,4μm,0.4s						
MNMC	**Minimini**	**2.33**	**339**	*e*P	**Pn**	**12 10 58.9**	**+0.2**
MNMC				*i* S	**Sn**	**12 11 28.2**	**+0.6**
MNMC	**Minimini**	**2.33**	**339**	*e*P	**Pn**	**12 10 58.9**	**+0.2**
MNMC				*i* S	**Sn**	**12 11 28.2**	**+0.6**
MNMC				AML	AML	12 11 33.6	
	comp=E,2μm,0.6s						
CEN1	**Los Morros**	**2.47**	**213**	AML	AML	12 11 40.2	
	comp=N,257nm,0.4s						
PB10	**Plate Boundary**	**2.76**	**218**	AML	AML	12 11 59.3	
	comp=N,907nm,0.5s						
LPAZ	**La Paz**	**5.04**	**7**	P	**Pn**	**12 11 36.5**	**+1.6**
LPAZ				S	Sn	12 12 25.3	-7.1
LPAZ	**La Paz**	**5.04**	**7**	P	**Pn**	**12 11 36.5**	**+1.6**
	comp=N,4.2nm,0.3s,baz=197,slow=6.0,SNR=95						
LPAZ				S	Sn	12 12 25.3	-7.1
	baz=41,slow=19,SNR=2.6						
LCO	**Las Campanas**	**7.86**	**193**	*e*Pn	Pn	12 12 08.0	-4.6
LCO				*e*Sn	Sn	12 13 33.0	-7.0
SIV	**San Ignacio**	**8.99**	**55**	P	Pn	12 12 23.9	-3.8
SIV				S	Sn	12 13 59.2	-8.0
SIV	**San Ignacio**	**8.99**	**55**	P	Pn	12 12 23.9	-3.8
	comp=N,6.8nm,0.3s,baz=259,slow=12,SNR=70						
SIV				S	Sn	12 13 59.2	-8.0
	baz=148,slow=19,SNR=2.6						
CFAA	**Coronel Fontan**	**10.25**	**178**	P	Pn	12 12 39.8	-4.8
CFAA	**Coronel Fontan**	**10.25**	**178**	P	Pn	12 12 39.8	-4.8
	comp=N,0.1nm,0.3s,baz=353,slow=15,SNR=4.1						
SAML	**Samuel**	**13.41**	**24**	Pn	**Pn**	**12 13 25.0**	**-1.5**
VNA2	**Neumayer--Watz**	**60.76**	**161**	*e*P	**P**	**12 20 19.7**	**+0.1**
SNAA	**Sanae**	**62.39**	**161**	*e*P	**P**	**12 20 31.2**	**+0.6**
SNAA	**Sanae**	**62.39**	**161**	P	**P**	**12 20 30.9**	**+0.3**
SNAA	**Sanae**	**62.39**	**161**	P	**P**	**12 20 30.9**	**+0.3**
	comp=N,0.5nm,0.6s,baz=281,slow=10.0,SNR=12						
DBIC	**Dimbokro**	**68.52**	**73**	P	**P**	**12 21 10.0**	**-0.9**
DBIC	**Dimbokro**	**68.52**	**73**	P	**P**	**12 21 10.0**	**-0.9**
	comp=N,3.4nm,0.7s,baz=252,slow=9.6,SNR=3.9						
TORD	**Torodi Ar. Bea**	**77.14**	**70**	P	**P**	**12 22 00.8**	**-1.0**
TORD	**Torodi Ar. Bea**	**77.14**	**70**	P	**P**	**12 22 00.8**	**-1.0**
	comp=N,3.3nm,0.8s,baz=244,slow=4.5,SNR=18						
MAW	**Mawson**	**84.45**	**163**	P	**P**	**12 22 40.3**	**+0.6**
MAW	**Mawson**	**84.45**	**163**	P	**P**	**12 22 40.3**	**+0.6**
	comp=N,1.3nm,0.6s,baz=243,slow=6.8,SNR=5.0						
YKA	**Yellowknife Ar**	**91.08**	**341**	P	**P**	**12 23 12.0**	**+0.6**
YKA	**Yellowknife Ar**	**91.08**	**341**	P	**P**	**12 23 12.0**	**+0.6**
	comp=N,1.1nm,0.5s,baz=130,slow=4.7,SNR=5.2						
ASAR	**Alice Springs**	**130.15**	**207**	PKP	**PKPdf**	**12 29 17.8**	**+0.2**
ASAR	**Alice Springs**	**130.15**	**207**	PKP	**PKPdf**	**12 29 17.8**	**+0.2**
	comp=N,0.4nm,1.0s,baz=122,slow=1.7,SNR=2.8						
WRA	**Warramunga Arr**	**133.19**	**210**	PKP	**PKPdf**	**12 29 23.8**	**+0.4**
WRA	**Warramunga Arr**	**133.19**	**210**	PKP	**PKPdf**	**12 29 23.8**	**+0.4**
	comp=N,0.3nm,0.8s,baz=157,slow=1.7,SNR=4.9						
ZALV	**Zalesovo Beam**	**141.72**	**25**	PKP	**PKPdf**	**12 29 37.5**	**-0.5**
ZALV	**Zalesovo Beam**	**141.72**	**25**	PKP	**PKPdf**	**12 29 37.5**	**-0.5**
	comp=N,0.7nm,0.5s,baz=318,slow=3.9,SNR=3.2						
MKAR	**Makan

ms1mx2.9/22, Error ellipse: s-maj=335.3km s-min=34.8km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.06**	**44**	Pn	Pn	12 37 43.7	-7.3
	30nm,0.3s,baz=80,slow=0.7,SNR=31						
AFI				Sn	Sn	12 38 02.1	-15
	236nm,0.3s,baz=123,slow=17,SNR=20						
RAR	**Rarotonga**	**14.05**	**116**	LR	LR	12 44 39.7	
	comp=Z,75nm,19.6s,baz=272,slow=32						
DZM	**Mont Dzumac**	**20.32**	**248**	*e*LR	LR	12 47 36.7	
	134nm,25.7s						
PPT2	**Papeete2**	**22.81**	**99**	*e*LR	LR	12 47 45.0	
	101nm,25.0s						
TBI	**Tubuai**	**23.78**	**113**	*e*LR	LR	12 48 14.7	
	96nm,24.2s						
H11S2	**WAKE ISLAND Hy**	**39.03**	**329**	T	T	13 26 16.7	
	baz=150,slow=0.7						
H11S3	**WAKE ISLAND Hy**	**39.04**	**329**	T	T	13 26 21.7	
	baz=150,slow=0.7						
H11S1	**WAKE ISLAND Hy**	**39.04**	**329**	T	T	13 26 12.3	
	baz=150						
H11N3	**WAKE ISLAND Hy**	**39.97**	**330**	T	T	13 27 31.9	
	baz=147						
H11N1	**WAKE ISLAND Hy**	**39.98**	**330**	T	T	13 27 14.4	
	baz=147						
H11N2	**WAKE ISLAND Hy**	**39.99**	**330**	T	T	13 27 27.6	
	baz=147						
WRA	**Warramunga Arr**	**49.98**	**257**	P	P	12 46 11.2	-0.2
	0.3nm,0.4s,baz=93,slow=6.8,SNR=13						
ASAR	**Alice Springs**	**50.24**	**252**	P	P	12 46 12.9	-0.5
	1.2nm,0.5s,baz=86,slow=8.2,SNR=14						
H06E1	**SOCORRO T-PHAS**	**70.13**	**63**	T	T	14 04 54.5	
	SNR=5.1						
ILAR	**Eielson Array**	**82.41**	**11**	P	P	12 49 37.7	-0.9
	0.4nm,0.9s,baz=214,slow=4.4,SNR=5.3						
BRTR	**Keskin Array B**	**146.24**	**321**	PKPbc	PKPab	12 56 59.0	+0.3
	1.2nm,0.8s,baz=65,slow=2.9,SNR=5.5						

MEX 28 13:10:23.2±0.4, 19°18N×104°00W, h91km±7km, MD3.6, Jalisco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CJM	**Chamela**	**1.04**	**288**	*i* P	Pn	13 10 42.0	-1.4
CJM				*i* S	Sn	13 10 57.1	-1.4
MMIG	**Aquila**	**1.08**	**145**	*e*P	Pn	13 10 42.6	-1.4
MMIG				*i* S	Sn	13 10 58.0	-1.5
SFJM	**Santa Fe**	**1.58**	**35**	*e*P	Pn	13 10 49.0	-1.2
SFJM				*i* S	Sn	13 11 08.3	-2.4
ANIG	**Ahuacatlan**	**1.92**	**345**	*i* P	Pn	13 10 53.4	-1.2
ANIG				*i* S	Sn	13 11 16.7	-1.8
ARIG	**Puente Sto Nin**	**3.57**	**104**	*e*P	Pn	13 11 16.3	-0.2
ARIG				*i* S	Sn	13 11 56.8	-1.0

*ISCJB **28** 13:16:20.2±0.4, 43°.09N±0°.02×13°.97E±0°.04, h46km±6km, Error ellipse: s-maj=4.9km s-min=4.1km az=168.1*
*CSEM **28** 13:16:20.5±0.1, 43°.09N×13°.96E, h40km, ML3.6/12, Error ellipse: s-maj=3.9km s-min=3.1km az=70.0*
*ROM **28** 13:16:20.4±0.2, 43°.07N×13°.92E, h34km±1km, Ml2.8/33, Error ellipse: s-maj=3.1km s-min=1.4km az=61.0*

ISC 28 13:16:20.6±1.2, 43°09N±0°.02×13°93E±0°.03, h46km±6km, n73, σ1§00/104, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMA	**Gualdo di Mace**	**0.03**	**170**	Pg	**Pn**	**13 16 29.8**	**+1.9**
GUMA				Sg	**Sn**	**13 16 37.5**	**+4.5**
	897nm,0.3s						
OFFI	**Offida**	**0.23**	**229**	Pg	**Pn**	**13 16 27.6**	**-1.2**
OFFI				Sg	**Sn**	**13 16 33.8**	**-0.8**
	2μm,0.6s						
OFFI	**Offida**	**0.23**	**229**	Pg	**Pn**	**13 16 27.6**	**-1.2**
OFFI				Sg	**Sn**	**13 16 33.8**	**-0.8**
	2μm,0.6s						
TRTR	**Tortoreto Alta**	**0.28**	**182**	Pg	**Pn**	**13 16 28.3**	**-0.9**
TRTR				Sg	**Sn**	**13 16 35.1**	**-0.2**
	2μm,0.3s						
TRTR	**Tortoreto Alta**	**0.28**	**182**	Pg	**Pn**	**13 16 28.3**	**-0.9**
TRTR				Sg	**Sn**	**13 16 35.1**	**-0.2**
	2μm,0.3s						
AOI	**Ancona**	**0.52**	**333**	Pg	**Pn**	**13 16 31.6**	**-0.3**
AOI				Sg	**Sn**	**13 16 41.1**	**+1.1**
	799nm,0.5s						
AOI	**Ancona**	**0.52**	**333**	Pg	**Pn**	**13 16 31.6**	**-0.3**
AOI				Sg	**Sn**	**13 16 41.1**	**+1.1**
	799nm,0.5s						
TERO	**Teramo**	**0.52**	**207**	Pg	**Pn**	**13 16 30.9**	**-1.1**
TERO				Sg	**Sn**	**13 16 39.0**	**-1.1**
	2μm,0.2s						
TERO	**Teramo**	**0.52**	**207**	Pg	**Pn**	**13 16 30.9**	**-1.1**
TERO				Sg	**Sn**	**13 16 39.0**	**-1.1**
	2μm,0.2s						
CING	**Cingoli**	**0.61**	**298**	Pg	**Pn**	**13 16 32.7**	**-0.4**
CING				Sg	**Sn**	**13 16 42.6**	**+0.6**
	931nm,0.7s						
CING	**Cingoli**	**0.61**	**298**	Pg	**Pn**	**13 16 32.7**	**-0.4**
CING				Sg	**Sn**	**13 16 42.6**	**+0.6**
	931nm,0.7s						
FDMO	**Fiordimonte**	**0.62**	**266**	Pg	**Pn**	**13 16 32.2**	**-1.0**
FDMO				Sg	**Sn**	**13 16 41.7**	**-0.5**
	474nm,0.2s						
FDMO	**Fiordimonte**	**0.62**	**266**	Pg	**Pn**	**13 16 32.2**	**-1.0**
FDMO				Sg	**Sn**	**13 16 41.7**	**-0.5**
	474nm,0.2s						
NRCA	**Norcia**	**0.65**	**247**	Pg	**Pn**	**13 16 32.5**	**-1.1**
NRCA	**Norcia**	**0.65**	**247**	Pg	**Pn**	**13 16 32.5**	**-1.1**
CAMP	**Campotosto**	**0.67**	**215**	Pg	**Pn**	**13 16 33.1**	**-0.9**
CAMP				Sg	**Sn**	**13 16 43.0**	**-0.6**
	536nm,0.8s						
CAMP	**Campotosto**	**0.67**	**215**	Pg	**Pn**	**13 16 33.1**	**-0.9**
CAMP				Sg	**Sn**	**13 16 43.0**	**-0.6**
	536nm,0.8s						
VCEL	**Villa Celiera**	**0.70**	**185**	Pg	**Pn**	**13 16 33.8**	**-0.5**
VCEL				Sg	**Sn**	**13 16 45.0**	**+0.9**
	406nm,0.3s						
VCEL	**Villa Celiera**	**0.70**	**185**	Pg	**Pn**	**13 16 33.8**	**-0.5**
VCEL				Sg	**Sn**	**13 16 45.0**	**+0.9**
	406nm,0.3s						
SNTG	**Esanatoglia**	**0.74**	**283**	Pg	**Pn**	**13 16 34.4**	**-0.4**
SNTG				Sg	**Sn**	**13 16 45.8**	**+0.7**
	126nm,0.2s						
SNTG	**Esanatoglia**	**0.74**	**283**	Pg	**Pn**	**13 16 34.4**	**-0.4**
SNTG				Sg	**Sn**	**13 16 45.8**	**+0.7**
	126nm,0.2s						
CESI	**CESI - Serrava**	**0.76**	**264**	Pg	**Pn**	**13 16 34.5**	**-0.5**
CESI				Sg	**Sn**	**13 16 46.4**	**+1.0**
	193nm,0.4s						
CESI	**CESI - Serrava**	**0.76**	**264**	Pg	**Pn**	**13 16 34.5**	**-0.5**
CESI				Sg	**Sn**	**13 16 46.4**	**+1.0**
	193nm,0.4s						
ARVD	**Arcevia**	**0.83**	**300**	Pg	**Pn**	**13 16 36.0**	**0.0**
	238nm,0.2s						
ARVD	**Arcevia**	**0.83**	**300**	Pg	**Pn**	**13 16 36.0**	**0.0**
	238nm,0.2s						
AQU	**L'Aquila**	**0.83**	**208**	Pg	**Pn**	**13 16 35.8**	**-0.2**
AQU				Sg	**Sn**	**13 16 48.7**	**+1.5**
	432nm,0.5s						
AQU	**L'Aquila**	**0.83**	**208**	Pg	**Pn**	**13 16 35.8**	**-0.2**
AQU				Sg	**Sn**	**13 16 48.7**	**+1.5**
	432nm,0.5s						
FAGN	**Fagnano**	**0.86**	**197**	Pg	**Pn**	**13 16 36.4**	**0.0**
	752nm,0.4s						
FAGN	**Fagnano**	**0.86**	**197**	Pg	**Pn**	**13 16 36.4**	**0.0**
	752nm,0.4s						
FIAM	**Fiamignano**	**1.01**	**216**	Pg	**Pn**	**13 16 39.1**	**+0.6**
	193nm,0.7s						
FIAM	**Fiamignano**	**1.01**	**216**	Pg	**Pn**	**13 16 39.1**	**+0.6**
	193nm,0.7s						
FSSB	**Fossombrone**	**1.03**	**306**	Pg	**Pn**	**13 16 39.5**	**+0.8**
	467nm,0.4s						
FSSB	**Fossombrone**	**1.03**	**306**	Pg	**Pn**	**13 16 39.5**	**+0.8**
	467nm,0.4s						
MURB	**Monte Urbino**	**1.04**	**280**	Pg	**Pn**	**13 16 39.4**	**+0.5**
	713nm,0.4s						
MURB	**Monte Urbino**	**1.04**	**280**	Pg	**Pn**	**13 16 39.4**	**+0.5**
	713nm,0.4s						
LPEL	**Lama dei Pelig**	**1.06**	**170**	Pg	**Pn**	**13 16 39.0**	**-0.1**
	147nm,0.3s						
LPEL	**Lama dei Pelig**	**1.06**	**170**	Pg	**Pn**	**13 16 39.0**	**-0.1**
	147nm,0.3s						
INTR	**Introdacqua**	**1.08**	**181**	Pg	**Pn**	**13 16 39.1**	**-0.2**
INTR				Sg	**Sn**	**13 16 55.1**	**+1.9**
	337nm,0.5s						
INTR	**Introdacqua**	**1.08**	**181**	Pg	**Pn**	**13 16 39.1**	**-0.2**
INTR				Sg	**Sn**	**13 16 55.1**	**+1.9**
	337nm,0.5s						
CESX	**Cesi**	**1.10**	**245**	Pg	**Pn**	**13 16 39.8**	**+0.2**
	151nm,0.4s						
CESX	**Cesi**	**1.10**	**245**	Pg	**Pn**	**13 16 39.8**	**+0.2**
	151nm,0.4s						
PIEI	**Pieia**	**1.11**	**294**	Pg	**Pn**	**13 16 39.9**	**+0.1**
	146nm,0.4s						
PIEI	**Pieia**	**1.11**	**294**	Pg	**Pn**	**13 16 39.9**	**+0.1**
	146nm,0.4s						
VVLD	**Villa Vallelon**	**1.24**	**191**	Pg	**Pn**	**13 16 41.9**	**+0.3**
	117nm,0.6s						
VVLD	**Villa Vallelon**	**1.24**	**191**	Pg	**Pn**	**13 16 41.9**	**+0.3**
	117nm,0.6s						
BADI	**Badiali**	**1.30**	**289**	Pg	**Pn**	**13 16 43.9**	**+1.6**
	100nm,0.3s						
BADI	**Badiali**	**1.30**	**289**	Pg	**Pn**	**13 16 43.9**	**+1.6**
	100nm,0.3s						
CERT	**Cerreto**	**1.34**	**212**	Pg	**Pn**	**13 16 43.4**	**+0.5**
	105nm,0.4s						
CERT	**Cerreto**	**1.34**	**212**	Pg	**Pn**	**13 16 43.4**	**+0.5**
	105nm,0.4s						
MGAB	**Montegabbione**	**1.34**	**263**	Pg	**Pn**	**13 16 43.6**	**+0.6**
	88nm,0.4s						
MGAB	**Montegabbione**	**1.34**	**263**	Pg	**Pn**	**13 16 43.6**	**+0.6**
	88nm,0.4s						
PARC	**Parchiule**	**1.35**	**295**	Pg	**Pn**	**13 16 44.0**	**+0.9**
	63nm,0.5s						
PARC	**Parchiule**	**1.35**	**295**	Pg	**Pn**	**13 16 44.0**	**+0.9**
	63nm,0.5s						
POFI	**Posta Fibreno**	**1.38**	**187**	Pg	**Pn**	**13 16 43.7**	**+0.2**
	59nm,0.5s						
POFI	**Posta Fibreno**	**1.38**	**187**	Pg	**Pn**	**13 16 43.7**	**+0.2**
	59nm,0.5s						
CAFI	**Castiglion Fio**	**1.46**	**280**	Pg	**Pn**	**13 16 45.2**	**+0.7**
	43nm,0.5s						
CAFI	**Castiglion Fio**	**1.46**	**280**	Pg	**Pn**	**13 16 45.2**	**+0.7**
	43nm,0.5s						
MIDA	**Miranda**	**1.47**	**170**	Pg	**Pn**	**13 16 45.2**	**+0.5**
	68nm,0.4s						
MIDA	**Miranda**	**1.47**	**170**	Pg	**Pn**	**13 16 45.2**	**+0.5**
	68nm,0.4s						
CERA	**Filignano**	**1.49**	**177**	Pg	**Pn**	**13 16 45.3**	**+0.3**
	108nm,0.7s						
CERA	**Filignano**	**1.49**	**177**	Pg	**Pn**	**13 16 45.3**	**+0.3**
	108nm,0.7s						
SACS	**San Casciano d**	**1.50**	**262**	Pg	**Pn**	**13 16 45.3**	**+0.2**
	41nm,0.8s						
SACS	**San Casciano d**	**1.50**	**262**	Pg	**Pn**	**13 16 45.3**	**+0.2**
	41nm,0.8s						
CRE	**Caprese Michel**	**1.54**	**291**	Pg	**Pn**	**13 16 46.7**	**+1.0**
	38nm,1.2s						
CRE	**Caprese Michel**	**1.54**	**291**	Pg	**Pn**	**13 16 46.7**	**+1.0**
	38nm,1.2s						
NVLJ	**Novalja**	**1.62**	**24**	*e*Pn	**Pn**	**13 16 46.6**	**-0.1**
NVLJ				Sg	**Sn**	**13 17 06.1**	**-0.3**
NVLJ	**Novalja**	**1.62**	**24**	*e*Pn	**Pn**	**13 16 46.6**	**-0.1**
NVLJ				Sg	**Sn**	**13 17 06.1**	**-0.3**
UDBI	**Udbina**	**1.96**	**42**	*e*Pn	**Pn**	**13 16 49.9**	**-1.5**
UDBI				Sn	**Sn**	**13 17 16.1**	**+1.3**
UDBI	**Udbina**	**1.96**	**42**	*e*Pn	**Pn**	**13 16 49.9**	**-1.5**
UDBI				Sn	**Sn**	**13 17 16.1**	**+1.3**
STON	**Ston**	**2.78**	**93**	*i* Pn	**Pn**	**13 17 02.4**	**-0.1**
STON				Sn	**Sn**	**13 17 33.9**	**-0.9**
STON	**Ston**	**2.78**	**93**	*i* Pn	**Pn**	**13 17 02.4**	**-0.1**
STON				Sn	**Sn**	**13 17 33.8**	**-0.9**
TRAV	**Traversella**	**5.06**	**301**	P	**Pn**	**13 17 32.0**	**-1.9**
RSP	**Reno Superiore**	**5.22**	**296**	P	**Pn**	**13 17 33.5**	**-2.7**

*IDC **28** 13:17:29.3±0.5, 8°.28S×159°.25E, h54km±5km, mb4.0/15, mb1 4.1/15, mb1mx4.1/19, mbtmp4.0/15, MS3.4/4, Ms1 3.4/4, ms1mx3.1/27, Error ellipse: s-maj=19.1km s-min=6.7km az=62.0*
*ISCJB **28** 13:17:31.8±0.6, 8°.43S±0°.06×159°.51E±0°.10, h103km, mb4.1/15, Error ellipse: s-maj=14.0km s-min=7.9km az=159.1*
*AUST **28** 13:17:33.8±0.0, 8°.57S×159°.34E, h85km, Error ellipse: s-maj=2.6km s-min=1.1km az=37.0*

ISC 28 13:17:34.0±0.7, 8°42S±0°09×159°5E±0°1, h103km, n35, σ1§58/28, mb4.0/15, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.10**	**156**	P	Pn	13 17 51.7	-4.1
HNR	746nm,0.3s,baz=257,slow=2.1,SNR=401			S	**Sn**	**13 18 09.1**	**-3.0**
	3μm,0.3s,baz=120,slow=20,SNR=52						
RABL	**Rabaul**	**8.40**	**300**	P	**Pn**	**13 19 35.1**	**+2.0**
	baz=8.4,SNR=3.3						
PMG	**Port Moresby**	**12.22**	**264**	LR	LR	13 24 38.0	
	comp=Z,48nm,20.1s,baz=77,slow=36						
DZM	**Mont Dzumac**	**15.13**	**155**	P	**P**	**13 21 06.1**	**+0.9**
	0.8nm,0.3s,baz=274,slow=23,SNR=15						
JAY	**Jayapura**	**19.59**	**286**	P	**P**	**13 21 52.1**	**-2.1**
	baz=20,SNR=9.5						
ARMA	**Armidale**	**23.08**	**198**	P	**P**	**13 22 32.6**	**+1.6**
	baz=23,SNR=4.4						
QLP	**Quilpie**	**23.14**	**217**	P	**P**	**13 22 31.8**	**+0.4**
	baz=23,SNR=5.0						
WRA	**Warramunga Arr**	**26.89**	**242**	P	**P**	**13 23 04.8**	**-0.8**
	1.1nm,0.5s,baz=66,slow=9.4,SNR=51						
H11S2	**WAKE ISLAND Hy**	**27.68**	**15**	T	T	13 51 51.1	
	baz=197,slow=0.7,SNR=71						
H11S3	**WAKE ISLAND Hy**	**27.68**	**15**	T	T	13 51 52.4	
	baz=197,slow=0.7,SNR=70						
H11S1	**WAKE ISLAND Hy**	**27.69**	**15**	T	T	13 51 53.7	
	baz=197,slow=0.7,SNR=67						
STKA	**Stephens Creek**	**28.66**	**213**	P	**P**	**13 23 21.1**	**0.0**
	baz=28,SNR=12						
STKA	**Stephens Creek**	**28.66**	**213**	P	**P**	**13 23 21.1**	**-0.1**
	2.2nm,0.5s,baz=48,slow=13,SNR=12						
STKA				LR	LR	13 34 29.1	
	comp=Z,124nm,20.1s,baz=52,slow=36						
ASAR	**Alice Springs**	**28.80**	**235**	P	**P**	**13 23 21.4**	**-1.2**
	1.8nm,0.4s,baz=63,slow=9.9,SNR=66						
ASAR				ScP	**ScP**	**13 30 07.2**	**+4.8**
	0.7nm,0.9s,baz=56,slow=4.8,SNR=5.4						
H11N1	**WAKE ISLAND Hy**	**28.90**	**15**	T	T	13 53 14.6	
	baz=197,slow=0.7,SNR=168						
H11N3	**WAKE ISLAND Hy**	**28.91**	**15**	T	T	13 53 15.3	
	baz=197,slow=0.7,SNR=496						
H11N2	**WAKE ISLAND Hy**	**28.91**	**15**	T	T	13 53 15.3	
	baz=197,slow=0.7,SNR=174						
KNRA	**Kununurra**	**30.87**	**254**	P	**P**	**13 23 40.3**	**-0.5**
	baz=31,SNR=4.8						
HTT	**Hallett**	**31.30**	**214**	P	**P**	**13 23 44.6**	**0.0**
	baz=31,SNR=3.7						
BBOO	**Buckleboo**	**32.55**	**218**	P	**P**	**13 23 55.1**	**-0.3**
	baz=32,SNR=13						
URZ	**Urewera**	**33.69**	**155**	P	**P**	**13 24 05.9**	**+0.7**
	4.1nm,0.5s,baz=181,slow=23,SNR=7.3						
URZ				LR	LR	13 35 46.2	
	comp=Z,123nm,18.8s,baz=263,slow=32						
MEEK	**Meiktatharra**	**42.73**	**240**	P	**P**	**13 25 21.2**	**-0.2**
	baz=43,SNR=4.1						
MJAR	**Matsushiro Arr**	**48.99**	**337**	P	**P**	**13 26 08.7**	**-1.6**
	1.8nm,0.8s,baz=173,slow=9.8,SNR=4.8						
KSRS	**Korea Array**	**54.36**	**329**	P	**P**	**13 26 47.7**	**-2.5**
	1.0nm,0.8s,baz=152,slow=5.5,SNR=4.6						
KSRS				LR	LR	13 45 40.3	
	comp=Z,34nm,20.6s,baz=45,slow=31						
USRK	**Ussuriysk Arra**	**57.99**	**337**	P	**P**	**13 27 15.7**	**-0.1**
	0.9nm,0.9s,baz=127,slow=8.3,SNR=7.1						
PETK	**Petropavlovsk-**	**61.31**	**359**	P	**P**	**13 27 38.7**	**+0.2**
	5.0nm,0.9s,baz=169,slow=8.1,SNR=4.5						
CMAR	**Chiang Mai Arr**	**65.42**	**295**	P	**P**	**13 28 05.3**	**-1.0**
	1.4nm,0.9s,baz=111,slow=4.6,SNR=9.8						
CMAR				pP	pP	13 28 23.4	-8.6
	2.0nm,0.8s,baz=118,slow=4.8,SNR=6.0						
VNDA	**Vanda**	**69.08**	**179**	P	**P**	**13 28 29.1**	**+0.8**
	2.2nm,0.7s,baz=357,slow=5.8,SNR=13						
SONM	**Songino Array**	**72.98**	**326**	P	**P**	**13 28 53.3**	**+0.7**
	4.4nm,0.8s,baz=135,slow=6.1,SNR=22						
SONM				pP	**PcP**	**13 29 08.3**	**-0.6**
	3.4nm,0.6s,baz=143,slow=5.6,SNR=14						
ILAR	**Eielson Array**	**83.11**	**20**	P	**P**	**13 29 47.4**	**-0.6**
	0.6nm,0.5s,baz=244,slow=4.9,SNR=23						
ILAR				pP	pP	13 30 03.8	-11
	0.8nm,0.6s,baz=244,slow=5.2,SNR=5.8						
MAW	**Mawson**	**84.79**	**202**	P	**P**	**13 29 57.2**	**+0.6**
	3.4nm,0.7s,baz=94,slow=7.3,SNR=14						
MKAR	**Makanchi Array**	**87.43**	**318**	P	**P**	**13 30 10.1**	**+0.1**
	1.1nm,0.6s,baz=102,slow=5.3,SNR=10						
MKAR				pP	pP	13 30 24.1	-13
	1.7nm,0.6s,baz=93,slow=6.4,SNR=14						
ZALV	**Zalesovo Beam**	**87.87**	**325**	P	**P**	**13 30 13.5**	**+1.7**
	0.3nm,0.3s,baz=99,slow=4.5,SNR=2.9						
ZALV				pP	PcP	13 30 25.2	+12
	0.6nm,0.6s,baz=113,slow=5.1,SNR=3.0						
KURBB	**Kurchatov Arra**	**90.75**	**321**	pP	pP	13 30 39.0	-14
	0.4nm,0.4s,baz=95,slow=3.9,SNR=2.8						
BVAR	**Borovoye Array**	**96.12**	**323**	pP	pP	13 31 03.1	-14
	0.9nm,0.5s,baz=101,slow=4.7,SNR=2.6						

*IDC **28** 13:30:57.5±0.9, 39°.25N×73°.66E, h0km, mb3.7/9, mb1 3.8/14, mb1mx3.6/32, mbtmp3.7/14, ML3.4/5, MS3.3/3, Ms1 3.3/3, ms1mx2.8/44, Error ellipse: s-maj=17.6km s-min=14.8km az=124.0*
*MOS **28** 13:31:01.1±1.3, 39°.40N×73°.45E, h36km, mb4.0/5, Error ellipse: s-maj=17.6km s-min=9.2km az=85.9*
*TEH **28** 13:31:02.7, 39°.68N×73°.25E, h1km, ML4.1*
*NNC **28** 13:31:04.2±2.2, 39°.77N×73°.25E, h3km±9km, mb4.0, mpv3.7, Error ellipse: s-maj=14.8km s-min=5.8km az=179.0*

ISC 28 13:31:01.5±1.0, 39°55N±0°.08×73°32E±0°.06, h10km, n52, σ1§40/45, mb3.8/10, 7C-10D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**2.05**	**90**	Pg	Pn	13 31 29.5	-6.7
KSH				Sg	Sn	13 31 54.0	-8.0
KSH				SMN			
	1μm,0.5s						
KSH				SME			
	1μm,0.8s						
AML	**Almayashu**	**2.60**	**6**	P	**Pn**	**13 31 44.8**	**+0.8**
	SNR=24						
KZA	**Kyzart**	**2.92**	**29**	P	**Pn**	**13 31 49.8**	**+1.4**
	SNR=9.3						
EKS2	**Erkin-Say**	**3.13**	**6**	P	**Pn**	**13 31 52.3**	**+1.3**
	SNR=15						
KBK	**Karagaybulak**	**3.34**	**21**	P	**Pn**	**13 31 57.1**	**+3.1**
	SNR=9.2						
FRU	**Bishkek**	**3.43**	**16**	*e*PN	**Pb**	**13 32 03.0**	**+0.7**
FRU				*e*S	**Sb**	**13 32 44.0**	**-0.1**
FRU				pmax	pmax		
	comp=Z,57nm,1.8s						
FRU				pmax	pmax		
	comp=E,530nm,1.8s						
ULHL	**Ulahol**	**3.49**	**38**	P	**Pn**	**13 31 57.8**	**+1.7**
	SNR=12						
CHMS	**Chumysh**	**3.62**	**17**	P	**Pn**	**13 31 58.6**	**+1.0**
	SNR=16						
TKM2	**Tokmak 2**	**3.78**	**26**	⇓Pn	**Pn**	**13 32 00.5**	**+0.4**
TKM2							
	comp=E,22nm,0.5s			⇑Lg	Lg	13 32 59.7	
TKM2							
	comp=E,67nm,0.6s						
TKM2	**Tokmak 2**	**3.78**	**26**	PN	**Pn**	**13 32 00.4**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,22nm,0.5s						
TKM2				pmax	pmax		
	comp=Z,67nm,0.6s						
TKM2	**Tokmak 2**	**3.78**	**26**	P	**Pn**	**13 32 00.7**	**+0.6**
	SNR=9.7						
USP	**Ospenovka**	**3.82**	**13**	P	**Pn**	**13 32 01.1**	**+0.7**
	SNR=15						
KK31	**Karatay Array**	**4.14**	**330**	Pn	**Pn**	**13 32 05.7**	**+0.9**
	comp=Z,3.4nm,0.4s,baz=136,slow=13,SNR=85						
KK31				⇑Pg	**Pb**	**13 32 15.2**	**+0.8**
	comp=Z,5.4nm,0.3s						
KK31				⇓Lg	Lg	13 33 09.7	
	comp=Z,70nm,0.8s,baz=145,slow=24,SNR=4.5						
KK31	**Karatay Array**	**4.14**	**330**	*e*PN	**Pn**	**13 32 05.7**	**+0.9**
KK31				pmax	pmax		
	comp=Z,8.0nm,0.4s						
KK31				pmax	pmax		
	comp=Z,12nm,0.3s						
KNDC	**Almaty**	**4.58**	**36**	⇓Pn	**Pn**	**13 32 13.3**	**+2.4**
KNDC				⇑Lg	Lg	13 33 25.4	
AAA	**Alma-Ata**	**4.61**	**35**	*e*PN	**Pg**	**13 32 30.3**	**+0.4**
AAA				pmax	pmax		
	comp=Z,69nm,0.5s						
MK31	**Makanchi Array**	**9.76**	**39**	⇓Pn	**Pn**	**13 33 24.0**	**+2.0**
	comp=Z,3.8nm,1.1s,baz=217,slow=15,SNR=3.9						
MK31				⇑Pg		13 33 59.0	
	comp=Z,1.8nm,0.7s,baz=220,slow=14,SNR=3.9						
MK31				⇑Lg	Lg	13 36 07.6	
	comp=Z,6.3nm,0.9s,baz=226,slow=29,SNR=4.8						
MK31	**Makanchi Array**	**9.76**	**39**	*i* P	**Pn**	**13 33 23.9**	**+2.0**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MK31				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**9.76**	**39**	P	**Pn**	**13 33 21.3**	**-0.7**
MKAR	**Makanchi Array**	**9.76**	**39**	Pn	**Pn**	**13 33 21.3**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=215,slow=12,SNR=4.5						
MKAR				Lg	Lg	13 36 06.2	
	comp=Z,0.1nm,0.3s,baz=229,slow=26,SNR=5.4						
IMYA	**Miami**	**10.92**	**257**	*e*Pn	Pn	13 33 33.4	-4.6
KURBB	**Kurchatov Arra**	**11.67**	**17**	⇑Lg	Lg	13 37 10.2	
	comp=Z,31nm,0.9s						
KURBB	**Kurchatov Arra**	**11.67**	**17**	Pn	**Pn**	**13 33 47.0**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=206,slow=12,SNR=5.4						
KURBB				Sn	**Sn**	**13 35 57.3**	**-1.0**
	comp=Z,0.0nm,0.3s,baz=202,slow=24,SNR=3.6						
KURBB				Lg	Lg	13 37 09.5	
	comp=Z,0.2nm,0.3s,baz=206,sl

comp=Z,560nm,5.6s
BRTR Keskin Array B 30.39 283 P **P** 13 37 15.8 +1.9
comp=Z,0.9nm,0.7s,baz=87,slow=8.1,SNR=5.4
AKASG Malin Array Be 32.59 305 P **P** 13 37 32.1 -0.8
AKASG Malin Array Be 32.59 305 P **P** 13 37 32.1 -0.8
comp=Z,0.2nm,0.3s,baz=80,slow=7.3,SNR=5.7
FINES FINESS Array B 36.06 323 P **P** 13 38 01.8 -1.1
comp=Z,1.9nm,0.8s,baz=97,slow=7.7,SNR=5.1
FINES LR LR 13 52 43.4
comp=Z,74nm,18.8s,baz=117,slow=36
ARCES ARCESS Array B 39.08 336 P **P** 13 38 29.0 +0.7
comp=Z,2.8nm,0.9s,baz=108,slow=7.8,SNR=5.1
TORD Torodi Ar. Bea 67.62 269 P **P** 13 41 59.5 +0.7
comp=Z,0.6nm,0.5s,baz=47,slow=5.2,SNR=4.6
ILAR Eielson Array 71.34 17 P **P** 13 42 19.2 -1.8
comp=Z,0.2nm,0.7s,baz=330,slow=5.2,SNR=3.7
WRA Warramunga Arr 82.10 124 P P 13 43 17.6 -4.8
comp=Z,0.6nm,0.7s,baz=326,slow=4.7,SNR=6.1
ASAR Alice Springs 84.54 127 P P 13 43 30.3 -4.6
comp=Z,0.3nm,0.6s,baz=312,slow=4.7,SNR=5.8

IDC 28 13:33:45.5±3.1, 1°36'N×122°26'E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.5/24, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=128.5km s-min=54.7km az=70.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.62**	**170**	P		P	P	13 38 15.9	+0.2
	0.2nm,0.3s,baz=7.7,slow=12,SNR=12								
WRA	**Warramunga Arr**	**24.26**	**151**	P		P	P	13 39 04.7	+0.2
	1.5nm,0.4s,baz=328,slow=10,SNR=35								
ASAR	**Alice Springs**	**27.33**	**156**	P		P	P	13 39 32.1	-0.2
	0.9nm,0.5s,baz=345,slow=15,SNR=28								
ASAR				PcP		PcP	PcP	13 42 51.4	-0.7
	0.3nm,0.3s,baz=345,slow=2.0,SNR=10								
STKA	**Stephens Creek**	**37.80**	**153**	P		P	P	13 41 03.8	+0.1
	1.7nm,0.6s,baz=304,slow=8.7,SNR=5.9								

*ISCJB **28** 13:40:08.7±0.3,23°.66N±0°.03×70°.09E±0°.03,h15km, mb4.2/28,MS3.4/12, Error ellipse: s-maj=4.6km s-min=3.9km az=6.8*

*IDC **28** 13:40:08.9±0.8,23°.62N×69°.84E, h0km, mb4.1/15, mb1 4.2/15,mb1mx4.0/31, mbtmp4.1/15,MS3.5/10, Ms1 3.5/10,ms1mx3.3/39, Error ellipse: s-maj=22.6km s-min=16.3km az=41.0*

*NEIC **28** 13:40:10.5±0.6,23°.65N×69°.84E, h10km, mb4.4/7, Error ellipse: s-maj=12.9km s-min=9.0km az=49.0*

NEIC Felt [III] at Bhuj. Also felt in the Ahmadabad and Bhachau-Chobari-Morudi areas.

*MOS **28** 13:40:12.7±1.2,23°.75N×69°.95E, h33km, mb4.5/10, Error ellipse: s-maj=14.5km s-min=6.8km az=87.1*

ISC 28 13:40:10.7±0.5, 23°.69N±0°.05×70°.01E±0°.05, h15km, n107, σ1§86/111, mb4.2/28, MS3.4/12, 4C-2D, Southern India

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BHJ	**Bhuj**	**0.54**	**218**	*eP*		**Pg**	**Pg**	**13 40 20.2**	**-1.2**
BHJ				*eS*		**Sg**	**Sg**	**13 40 26.9**	**-1.8**
BHJ				AML		AML	AML	13 40 28.4	
	comp=E,89μm,1.1s								
BHJ				AML		AML	AML	13 40 30.8	
	comp=N,52μm,0.7s								
POO	**Poona**	**6.26**	**144**	*eP*		**Pn**	**Pn**	**13 41 42.8**	**+0.2**
POO				*eS*		**Sn**	**Sn**	**13 42 51.7**	**-2.1**
POO				AML		AML	AML	13 43 35.6	
	comp=N,394nm,0.7s								
POO				AML		AML	AML	13 43 49.5	
	comp=E,354nm,0.7s								
BHPL	**Bhopal**	**6.82**	**92**	*eP*		**Pn**	**Pn**	**13 41 51.2**	**+1.0**
BHPL				*eS*		**Sn**	**Sn**	**13 43 08.3**	**+0.7**
BHPL				AML		AML	AML	13 43 52.9	
	comp=N,429nm,0.4s								
BHPL				AML		AML	AML	13 44 01.1	
	comp=E,328nm,0.6s								
AKL	**Akola**	**7.13**	**113**	*eP*		**Pn**	**Pn**	**13 41 56.1**	**+1.5**
AKL				*ex*		**Sn**	**Sn**	**13 43 16.5**	**+1.0**
AKL				AML		AML	AML	13 44 09.4	
	comp=N,266nm,0.4s								
AKL				AML		AML	AML	13 44 09.5	
	comp=E,159nm,0.4s								
JHNI	**Jhansi**	**7.96**	**75**	*i 4*		**Pn**	**Pn**	**13 42 06.0**	**+0.1**
JHNI				*i 4*		Sb	Sb	13 44 10.0	+7.0
NDI	**New Delhi**	**8.16**	**51**	*eP*		**Pn**	**Pn**	**13 42 07.0**	**-1.6**
NDI				*eS*		**Sn**	**Sn**	**13 43 36.0**	**-4.6**
NGP	**Nagpur**	**8.73**	**105**	*eP*		**Pn**	**Pn**	**13 42 15.9**	**-0.6**
NGP				*ex*		Sn	Sn	13 44 02.5	+7.8
NGP				AML		AML	AML	13 45 25.4	
	comp=N,116nm,0.9s								
NGP				AML		AML	AML	13 45 32.1	
	comp=E,76nm,0.5s								
JBP	**Jabalpur**	**9.17**	**91⇑**	*iP*		**Pn**	**Pn**	**13 42 23.7**	**+1.2**
JBP				*e4*				13 44 17.2	
THW	**Thamme Wali**	**9.20**	**9**	P		**Pn**	**Pn**	**13 42 22.5**	**-0.4**
BHK	**Bhakra**	**9.56**	**35**	*e4*		x		13 42 39.0	
BHK				*eS*		**Sn**	**Sn**	**13 44 12.0**	**-3.2**
DDI	**Dehra Dun**	**9.75**	**46**	*eS*		**Sn**	**Sn**	**13 44 16.7**	**-3.0**
SMLA	**Simla**	**9.76**	**39**	*eP*		**Pn**	**Pn**	**13 42 32.5**	**+2.0**
SMLA				*ex*		x		13 44 36.2	
SMLA				AML		AML	AML	13 45 28.9	
	comp=N,237nm,0.5s								
SMLA				AML		AML	AML	13 45 34.0	
	comp=E,510nm,0.6s								
SDNR	**Sundarnagar**	**9.93**	**37**	*e4*		x		13 42 44.0	
SDNR				*e4*		x		13 44 36.6	
THN	**Thein Dam**	**10.06**	**29**	*ex*		**Pn**	**Pn**	**13 42 33.2**	**-1.4**
THN				*eS*		**Sn**	**Sn**	**13 44 23.2**	**-4.0**
HYB	**Hyderabad**	**10.14**	**126**	*i* P		**Pn**	**Pn**	**13 42 35.0**	**-0.9**
HYB				*e*				13 42 43.0	
HYB				*eS*		**Sn**	**Sn**	**13 44 24.0**	**-5.4**
HYB				*e*				13 44 38.0	
DHRM	**DHARAMSHALA**	**10.18**	**32**	*eP*		**Pn**	**Pn**	**13 42 38.0**	**+1.6**
DHRM				*ex*		**Sn**	**Sn**	**13 44 30.1**	**-0.4**
DHRM				AML		AML	AML	13 45 41.7	
	comp=N,802nm,0.3s								
DHRM				AML		AML	AML	13 45 46.8	
	comp=E,792nm,0.7s								
WBK	**Wadi Bani Khal**	**10.22**	**266**	**⇓**P		Pn	Pn	**13 42 34.7**	**-2.2**
	SNR=7.7								
CEP	**Cherat**	**10.23**	**9**	P		**Pn**	**Pn**	**13 42 36.5**	**-0.7**
CHCP	**Chirah Chowk**	**10.33**	**15**	P		**Pn**	**Pn**	**13 42 37.7**	**-0.8**
LGTI	**Lohaghat**	**10.80**	**56**	*eP*		**Pn**	**Pn**	**13 42 44.1**	**-0.7**
LGTI				*e4*				13 45 51.5	
PTH	**Pithoragarh**	**10.83**	**55**	*ex*		Pn	Pn	13 42 39.9	-5.5
PTH				*eS*		**Sn**	**Sn**	**13 44 42.4**	**-4.1**
SMDO	**Samad**	**11.01**	**269**	P		**Pn**	**Pn**	**13 42 45.6**	**-2.2**
	SNR=12								
JMDO	**Jabal Madar**	**11.05**	**266**	**⇑**P		**Pn**	**Pn**	**13 42 46.7**	**-1.6**
	SNR=18								
HOQ	**Hoqain**	**11.65**	**272**	P		**Pn**	**Pn**	**13 42 55.2**	**-1.3**
	SNR=5.7								
BSY	**Bisya**	**11.82**	**268**	P		**Pn**	**Pn**	**13 42 57.7**	**-1.2**
	SNR=8.5								
ARQ	**Araqi**	**12.39**	**271**	P		**Pn**	**Pn**	**13 43 06.7**	**+0.2**
	SNR=17								
KOLN	**Koldanda**	**12.90**	**69**	*eP*		**Pn**	**Pn**	**13 43 12.3**	**-1.5**
	comp=E,56nm,0.5s								
DANN	**Dangsing**	**13.20**	**67**	*eP*		**Pn**	**Pn**	**13 43 18.4**	**+0.5**
	comp=E,34nm,0.5s								
VIS	**Vishakhapatnam**	**13.80**	**113**	*eP*		**Pn**	**Pn**	**13 43 26.3**	**+0.5**
VIS				*i 4*				13 46 36.9	
GKN	**Gorkha**	**13.85**	**69**	*eP*		**Pn**	**Pn**	**13 43 24.5**	**-2.1**
	comp=E,36nm,0.6s								
DMN	**Daman**	**14.16**	**71**	*eP*		**Pn**	**Pn**	**13 43 28.3**	**-2.7**
	comp=E,77nm,0.8s								
KKN	**Kakani**	**14.35**	**70**	*eP*		**Pn**	**Pn**	**13 43 31.4**	**-2.2**
	comp=E,80nm,0.6s								
PKIN	**Phulchoki**	**14.40**	**71**	*eP*		**Pn**	**Pn**	**13 43 31.6**	**-2.8**
	comp=E,50nm,0.5s								
PKI	**Pulchoki**	**14.41**	**71**	*eP*		**Pn**	**Pn**	**13 43 31.5**	**-3.1**
	comp=E,63nm,0.6s								
BOK	**Bokaro**	**14.54**	**86**	*ex*		**Pn**	**Pn**	**13 43 34.9**	**-1.1**
BOK				*e4*				13 46 09.5	
BOK				AML		AML	AML	13 48 21.1	
	comp=E,102nm,1.1s								
BOK				AML		AML	AML	13 48 22.8	
	comp=N,58nm,0.9s								
GUN	**Gumba**	**14.89**	**70**	*eP*		**Pn**	**Pn**	**13 43 38.6**	**-2.5**
	comp=N,336nm,1.0s								
JIRN	**Jiri**	**15.11**	**71**	*eP*		**Pn**	**Pn**	**13 43 40.8**	**-3.2**
	comp=N,48nm,0.5s								
RAMN	**Ramite**	**15.35**	**74**	*eP*		**Pn**	**Pn**	**13 43 43.8**	**-3.2**
	comp=N,45nm,0.4s								
ODAN	**Odare**	**16.03**	**75**	*eP*		**Pn**	**Pn**	**13 43 53.2**	**-2.7**
	comp=N,67nm,0.6s								
TAPN	**Taplejung**	**16.38**	**73**	*eP*		**Pn**	**Pn**	**13 43 57.9**	**-2.6**
	comp=N,26nm,0.6s								
EKS2	**Erkin-Say**	**19.18**	**8**	*eP*		**Pn**	**Pn**	**13 44 35.2**	**+0.4**
EKS2					pmax	pmax			
	comp=Z,10.0nm,0.8s								
EKS2	**Erkin-Say**	**19.18**	**8**	*eP*		**Pn**	**Pn**	**13 44 35.2**	**+0.4**
	comp=Z,10nm,0.8s								
AAK	**Ala-Archa**	**19.26**	**10**	*c iP*		**Pn**	**Pn**	**13 44 35.7**	**-0.1**
AAK					pmax	pmax			
	comp=Z,49nm,1.0s								
AAK	**Ala-Archa**	**19.26**	**10**	*eP*		**Pn**	**Pn**	**13 44 36.1**	**+0.4**
	comp=Z,16nm,0.8s								
KK31	**Karatay Array**	**19.37**	**1**	P		**P**	**P**	**13 44 36.1**	**+0.3**
KK31					pmax	pmax			
	comp=Z,6.0nm,0.4s								
KKAR	**Karatay Array**	**19.37**	**1**	*eP*		**P**	**P**	**13 44 35.6**	**-0.2**
KKAR					pmax	pmax			
	comp=Z,10.0nm,0.5s								
KKAR	**Karatay Array**	**19.37**	**1**	*eP*		**P**	**P**	**13 44 35.6**	**-0.2**
	comp=Z,9.8nm,0.5s								
FRU	**Bishkek**	**19.47**	**10**	*eP*		**Pn**	**Pn**	**13 44 40.0**	**+1.8**
FRU					pmax	pmax			
	comp=Z,49nm,1.8s								
TKM2	**Tokmak 2**	**19.73**	**12**	*i* P		**P**	**P**	**13 44 40.7**	**+0.7**
TKM2					pmax	pmax			
	comp=Z,9.0nm,0.8s								
TKM2	**Tokmak 2**	**19.73**	**12**	*eP*		**Pn**	**Pn**	**13 44 41.1**	**-0.4**
	comp=Z,9.0nm,0.8s								
LSA	**Lhasa**	**19.80**	**68**	*eP*		**Pn**	**Pn**	**13 44 43.9**	**+1.2**
LSA					pmax	pmax			
	comp=Z,18nm,0.8s								
LSA	**Lhasa**	**19.80**	**68**	*eP*		**Pn**	**Pn**	**13 44 43.9**	**+1.2**
	comp=Z,18nm,0.8s								
RDF	**Al-Radifah**	**20.79**	**289**	*eP*		**P**	**P**	**13 44 52.5**	**+1.1**
RDF					AMb	AMb	AMB	13 45 02.3	
	comp=Z,40nm,1.0s								
NAY	**Al-Naaiem**	**21.11**	**290**	*eP*		**P**	**P**	**13 44 54.8**	**-0.1**
NAY					AMb	AMb	AMB	13 45 05.3	
	comp=Z,28nm,0.9s								
RST	**Umm Al-Ruwaisa**	**21.36**	**291**	*eP*		**P**	**P**	**13 44 56.3**	**-1.3**
RST					AMb	AMb	AMB	13 45 04.2	
	comp=Z,131nm,1.1s								
MK31	**Makanchi Array**	**25.08**	**20**	*i* P		**P**	**P**	**13 45 35.6**	**+1.0**
MK31					pmax	pmax			
	comp=Z,3.0nm,0.5s								
MKAR	**Makanchi Array**	**25.08**	**20**	P		**P**	**P**	**13 45 35.8**	**+1.2**
MKAR	**Makanchi Array**	**25.08**	**20**	P		**P**	**P**	**13 45 35.8**	**+1.2**
MKAR	**Makanchi Array**	**25.08**	**20**	P		**P**	**P**	**13 45 35.8**	**+1.2**
	comp=Z,4.3nm,0.8s,baz=207,slow=9.7,SNR=29								
MKAR					LR		LR	13 55 13.0	
	comp=Z,37nm,21.2s,baz=215,slow=36								
AB31	**Akbulak array**	**26.72**	**345**	*i* P		**P**	**P**	**13 45 51.2**	**+1.8**
AB31					pmax	pmax			
	comp=Z,8.0nm,0.6s								
ABKAR	**Akbulak array**	**26.72**	**345**	*eP*		**P**	**P**	**13 45 51.1**	**+1.7**
	comp=Z,12nm,0.8s								
GNI	**Garni**	**26.88**	**314**	LR		LR	LR	13 59 05.9	
	comp=Z,41nm,20.7s,baz=288,slow=42								
CMAR	**Chiang Mai Arr**	**27.46**	**95**	P		**P**	**P**	**13 45 58.7**	**+2.2**
CMAR	**Chiang Mai Arr**	**27.46**	**95**	P		**P**	**P**	**13 45 58.7**	**+2.2**
	comp=Z,0.6nm,0.4s,baz=290,slow=8.6,SNR=4.4								
CMAR					LR		LR	13 58 41.3	
	comp=Z,51nm,18.3s,baz=149,slow=40								
KURBB	**Kurchatov Arra**	**27.69**	**12**	P		**P**	**P**	**13 45 58.9**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=208,slow=8.6,SNR=3.8								
KURK	**Kurchatov**	**27.80**	**12**	P		**P**	**P**	**13 45 58.9**	**-0.1**
KURK	**Kurchatov**	**27.80**	**12**	P		**P**	**P**	**13 45 58.9**	**-0.1**
AKTO	**Aktyubinsk**	**28.29**	**344**	P		**P**	**P**	**13 46 03.7**	**+0.3**
AKTO	**Aktyubinsk**	**28.29**	**344**	P		**P**	**P**	**13 46 03.7**	**+0.3**
AKTO	**Aktyubinsk**	**28.29**	**344**	P		**P**	**P**	**13 46 03.7**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=165,slow=9.6,SNR=7.0								
AKTO					LR		LR	13 59 19.7	
	comp=Z,77nm,18.9s,baz=30,slow=41								
VOSK	**Vostochnaya**	**29.00**	**1**	P		**P**	**P**	**13 46 10.3**	**+0.6**
VOSK					pmax	pmax			
	comp=Z,4.0nm,1.2s								
BVA0	**Borovoye Array**	**29.29**	**0**	*i* P		**P**	**P**	**13 46 13.2**	**+0.9**
BVA0					pmax	pmax			
	comp=Z,4.0nm,1.3s								
BVAR	**Borovoye Array**	**29.29**	**0**	P		**P**	**P**	**13 46 14.7**	**+2.3**
BVAR	**Borovoye Array**	**29.29**	**0**	P		**P**	**P**	**13 46 14.7**	**+2.3**
BVAR	**Borovoye Array**	**29.29**	**0**	P		**P**	**P**	**13 46 14.7**	**+2.3**
	comp=Z,0.9nm,0.6s,baz=170,slow=8.8,SNR=3.0								
BVAR					LR		LR	14 00 37.6	
	comp=Z,100nm,18.2s,baz=212,slow=42								
BRVK	**Borovoye**	**29.33**	**0**	*eP*		**P**	**P**	**13 46 13.8**	**+1.2**
BRVK					pmax	pmax			
	comp=Z,2.0nm,1.0s								
KBZ	**Khabaz**	**29.92**	**319**	LR		LR	LR	14 02 03.4	
	comp=Z,56nm,18.0s,baz=219,slow=44								
KIV	**Kislovodsk**	**30.17**	**319**	*eP*		**P**	**P**	**13 46 23.1**	**+2.7**
KIV					pmax	pmax			
	comp=Z,8.0nm,0.9s								
KIV					MLR		MLR		
	comp=Z,37nm,15.0s								
ZALV	**Zalesovo Beam**	**32.21**	**16**	P		**P**	**P**	**13 46 38.5**	**+0.5**
ZALV	**Zalesovo Beam**	**32.21**	**16**	P		**P**	**P**	**13 46 38.5**	**+0.5**
ZALV	**Zalesovo Beam**	**32.21**	**16**	P		**P**	**P**	**13 46 38.5**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=212,slow=9.9,SNR=10.0								
ZALV					LR		LR	14 00 37.4	
	comp=Z,75nm,18.1s,baz=246,slow=38								
HVS	**Khovu-Aksy**	**32.95**	**28**	*eP*		**P**	**P**	**13 46 47.3**	**+2.6**
HVS					pmax	pmax			
	comp=Z,18nm,1.2s								
ARU	**Arti**	**33.77**	**349**	*d iP*		**P**	**P**	**13 46 54.7**	**+3.1**
ARU								13 48 01.2	
ARU					S		**S**	**13 52 14.1**	**-0.4**
ARU					SS		**SnSn**	**13 54 12.0**	**-7.3**
ARU					pmax	pmax			
	comp=Z,6.0nm,1.2s								
SONM	**Songino Array**	**37.58**	**41**	P		P	P	13 47 28.3	+3.6
SONM	**Songino Array**	**37.58**	**41**	P		P	P	13 47 28.3	+3.6
	comp=Z,3.8nm,0.9s,baz=239,slow=8.5,SNR=17								
OBN	**Obninsk**	**39.96**	**330⇑**	*eP*		**P**	**P**	**13 47 46.7**	**+2.4**
OBN								13 49 17.0	
OBN					pmax	pmax			
	comp=Z,10.0nm,0.5s								
OBN					MLR		MLR		
	comp=Z,100nm,16.0s								
AKASG	**Malin Array Be**	**41.44**	**321**	P		**P**	**P**	**13 47 57.0**	**+0.4**
AKASG	**Malin Array Be**	**41.44**	**321**	P		**P**	**P**	**13 47 57.0**	**+0.4**
AKASG	**Malin Array Be**	**41.44**	**321**	P		**P**	**P**	**13 47 57.0**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=115,slow=6.6,SNR=4.9								
FINES	**FINESS Array B**	**48.12**	**333**	P		**P**	**P**	**13 48 50.1**	**+0.5**
FINES	**FINESS Array B**	**48.12**	**333**	P		**P**	**P**	**13 48 50.2**	**+0.5**
	comp=Z,4.6nm,1.0s,baz=117,slow=15,SNR=3.8								
KSAR	**Wonju Array Be**	**50.96**	**60**	P		**P**	**P**	**13 49 12.7**	**+1.0**
KSRS	**Korea Array**	**50.99**	**60**	P		**P**	**P**	**13 49 12.7**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=265,slow=7.1,SNR=7.1								
ARCES	**ARCESS Array B**	**52.85**	**342**	P		**P**	**P**	**13 49 25.9**	**+0.5**
ARCES	**ARCESS Array B**	**52.85**	**342**	P		**P**	**P**	**13 49 25.9**	**+0.5**
	comp=Z,3.1nm,0.9s,baz=134,slow=7.7,SNR=3.6								
NB2	**NORSAR Subarra**	**54.54**	**329**	P		**P**		**13 49 39.2**	**+1.3**
	comp=Z,2.8nm,1.0s,baz=103,slow=7.9								
NOA	**NORSAR Array B**	**54.54**	**329**	P		**P**	**P**	**13 49 37.5**	**-0.4**
NOA	**NORSAR Array B**	**54.54**	**329**	P		**P**	**P**	**13 49 37.5**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=104,slow=7.6,SNR=4.4								
NOA					LR		LR	14 17 08.6	
	comp=Z,50nm,18.9s,baz=110,slow=41								
TORD	**Torodi Ar. Bea**	**65.15**	**274**	P		**P**	**P**	**13 50 51.6**	**0.0**
TORD	**Torodi Ar. Bea**	**65.15**	**274**	P		**P**	**P**	**13 50 51.6**	**0.0**
	comp=Z,2.5nm,0.7s,baz=81,slow=5.4,SNR=15								
TORD					LR		LR	14 22 56.8	
	comp=Z,68nm,18.1s,baz=300,slow=40								
DBIC	**Dimbokro**	**73.52**	**270**	LR		LR	LR	14 26 46.2	
	comp=Z,125nm,18.1s,baz=49,slow=38								
WRA	**Warramunga Arr**	**76.22**	**119**	P		**P**	**P**	**13 51 60.0**	**+1.1**
WRA	**Warramunga Arr**	**76.22**	**119**	P		**P**	**P**	**13 51 60.0**	**+1.1**
	comp=Z,2.4nm,0.8s,baz=315,slow=4.8,SNR=28								
WRAB	**Tennant Creek**	**76.22**	**119**	*eP*		**P**	**P**	**13 51 59.8**	**+0.9**
WRAB					pmax	pmax			
	comp=Z,4.0nm,0.8s								
WRAB	**Tennant Creek**	**76.22**	**119**	*eP*		**P**	**P**	**13 51 59.8**	**+0.9**
	comp=Z,3.7nm,0.8s								
ASAR	**Alice Springs**	**77.85**	**123**	P		**P**	**P**	**13 52 09.2**	**+1.1**
ASAR	**Alice Springs**	**77.85**	**123**	P		**P**	**P**	**13 52 09.2**	**+1.1**
	comp=Z,3.0nm,0.6s,baz=306,slow=5.6,SNR=40								

CASC 28 14:00:30.8±1.8, 11°.58N×88°.05W, h35km±17km, MD3.8, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.69**	**7**	*eP*		Pn	Pn	14 00 58.5	+0.4
VSM	**San Miguel**	**1.85**	**353**	*eP*		Pn	Pn	14 01 00.9	+0.5
LFRS	**El Faro**	**2.25**	**334**	*eP*		Pn	Pn	14 01 05.9	+0.1
SBLS	**San Blas**	**2.72**	**326**	*eP*		Pn	Pn	14 01 12.7	+0.3
SNJE	**San Jose**	**2.73**	**326**	*eP*		Pn	Pn	14 01 12.8	+0.4
SNJE				*eS*		Sn	Sn	14 01 44.3	-0.2
RTR	**El Retiro**	**2.78**	**326**	*eP*		Pn	Pn	14 01 13.5	+0.4
RTR				**⇑***eS*		Sn	Sn	14 01 45.5	0.0
RBDL	**Robledal**	**2.98**	**328**	*eP*		Pn	Pn	14 01 16.7	+0.9
JCR	**Jicaral**	**3.36**	**121**	*eP*		Pn	Pn	14 01 21.2	+0.3
JCR				*eS*		Sn	Sn	14 01 60.0	+0.2
CGA2	**Cerro Gallo 2**	**3.85**	**114**	*eP*		Pn	Pn	14 01 29.8	+2.0
CGA2				*eS*		Sn	Sn	14 02 11.3	-0.7
URSC	**Urasca**	**4.54**	**112**	*eP*		Pn	Pn	14 01 39.3	+1.9
URSC				*eS*		Sn	Sn	14 02 29.5	+0.3
BUS	**Buena Vista**	**4.68**	**115**	*eP*		Pn	Pn	14 01 40.7	+1.2

IDC 28 14:01:57.5±2.0, 7°.87S×130°.10E, h0km, mb3.4/1, mb1 3.6/4, mb1mx3.4/20, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=68.0km s-min=26.0km az=83.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.06**	**203**	Pn		Pn	Pn	14 04 37.2	+0.1
	0.3nm,0.3s,baz=24,slow=11,SNR=15								
FITZ						Sn	Sn	14 06 41.2	-0.3
	0.2nm,0.3s,baz=227,slow=19,SNR=3.7								
WRA	**Warramunga Arr**	**12.69**	**162**	Pn		Pn	Pn	14 04 58.1	-1.3
	0.1nm,0.3s,baz=344,slow=14,SNR=12								
WRA						Sn	Sn	14 07 11.6	-10
	0.1nm,0.3s,baz=332,slow=21,SNR=4.3								
ASAR	**Alice Springs**	**16.13**	**167**	Pn		P	P	14 05 47.8	-1.4
	0.1nm,0.3s,baz=349,slow=9.2,SNR=4.8								
MKAR	**Makanchi Array**	**69.00**	**327**	P		P	P	14 13 04.9	0.0
	0.2nm,0.5s,baz=118,slow=7.4,SNR=3.6								

MAN 28 14:05:34, 7°.58N×126°.28E, h50km, mb4.6, ML3.5, MS3.4, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.63**	**182**	*eP*		Pn	Pn	14 05 48.5	+1.6
MATI				*eS*		Sn	Sn	14 05 59.1	+2.8
DMPH	**Davao City--Mi**	**0.91**	**237⇑**	*eP*		Pn	Pn	14 05 52.6	+2.1
DMPH				*eS*		Sn	Sn	14 06 08.3	+5.7
BUKP	**Musuan**	**1.24**	**284**	*eP*		Pn	Pn	14 05 55.2	+0.2
BUKP				*eS*		Sn	Sn	14 06 12.0	+1.3
BUTP	**Butuan**	**1.52**	**335**	*eP*		Pn	Pn	14 06 00.2	+1.3
CGP	**Cagayan de Oro**	**1.79**	**299⇑**	*eP*		Pn	Pn	14 06 03.0	+0.5
CGP				*i S*		Sn	Sn	14 06 23.4	-0.7
PAGZ	**Pagadian**	**2.88**	**275**	*eP*		Pn	Pn	14 06 19.2	+1.8

IDC 28 14:14:05.6±1.8, 11°.04N×86°.02W, h168km±23km, mb3.0/1, mb1 3.3/2, mb1mx3.0/23, mbtmp3.0/2, Error ellipse: s-maj=206.2km s-min=28.5km az=43.0, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**1.28**	**125**	P		P	Pn	14 14 35.0	+0.5
	50nm,0.3s,baz=311,slow=19,SNR=152								
JTS						S	Sn	14 14 56.7	-0.1
	60nm,0.3s,baz=252,slow=23,SNR=17								
APG	**El Apazote**	**5.86**	**313**	P		Pn	Pn	14 15 30.7	-0.2
	0.5nm,0.3s,baz=122,slow=15,SNR=3.8								
TXAR	**Lajitas Array**	**24.55**	**320**	P		P	P	14 19 10.1	0.0
	0.6nm,0.6s,baz=141,slow=10,SNR=5.6								
ASAR	**Alice Springs**	**140.02**	**246**	PKP		PKPdf	PKPdf	14 33 13.7	-1.3
	0.

BUKP				*e*S		Sn	14 35 36.9	-15
KAPI	**Kappang**	**11.41**	**211**	P		**Pn**	**14 37 05.0**	**+0.3**
	1.1nm,0.3s,baz=85,slow=12,SNR=4.3							
FITZ	**Fitzroy Crossi**	**22.78**	**180**	P		**P**	**14 39 15.9**	**-0.1**
	3.4nm,0.3s,baz=3.1,slow=9.5,SNR=35							
WRA	**Warramunga Arr**	**26.06**	**161**	P		**P**	**14 39 45.5**	**-0.2**
	0.4nm,0.4s,baz=336,slow=10.0,SNR=6.4							
ASAR	**Alice Springs**	**29.45**	**164**	P		**P**	**14 40 16.1**	**+0.1**
	0.3nm,0.4s,baz=338,slow=6.9,SNR=21							
ASAR				ScP		**ScP**	**14 46 44.8**	**-1.3**
	0.2nm,0.5s,baz=339,slow=2.7,SNR=6.4							
STKA	**Stephens Creek**	**39.54**	**158**	P		**P**	**14 41 42.6**	**+0.2**
	0.4nm,0.3s,baz=3.2,slow=8.1,SNR=4.8							
MKAR	**Makanchi Array**	**56.04**	**325**	P		**P**	**14 43 49.2**	**-0.2**
	0.3nm,0.4s,baz=114,slow=7.9,SNR=8.1							

IDC 28 14:44:06.1±1.8, 13°05S×166°17E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/20, mbtmp3.5/4, ML3.1/1, MS2.9/1, Ms1 2.9/1, ms1mx2.7/17, Error ellipse: s-maj=52.8km s-min=32.7km az=127.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.98**	**178**	Pn	Pn	14 46 16.9	-0.4
	0.2nm,0.3s,baz=342,slow=20,SNR=7.2						
DZM				Sn	Sn	14 47 53.0	-6.3
	baz=139,slow=19,SNR=2.4						
DZM				LR	LR	14 49 22.2	
	comp=Z,90nm,21.8s,baz=203,slow=35						
WRA	**Warramunga Arr**	**31.25**	**253**	P	P	14 50 27.0	-0.8
	0.5nm,1.0s,baz=84,slow=9.1,SNR=3.6						
ASAR	**Alice Springs**	**32.32**	**246**	P	P	14 50 38.0	+0.6
	0.4nm,0.7s,baz=72,slow=9.7,SNR=9.0						
ILAR	**Eielson Array**	**85.27**	**18**	P	P	14 56 44.5	0.0
	0.3nm,0.7s,baz=239,slow=4.1,SNR=6.1						

IDC 28 14:54:32.6±1.2, 11°84N×142°55E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.4/25, mbtmp3.3/4, MS4.1/1, Ms1 4.1/1, ms1mx2.9/23, Error ellipse: s-maj=49.6km s-min=26.1km az=108.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.60**	**194**	P	P	15 01 06.1	0.0
	0.2nm,0.6s,baz=16,slow=10.0,SNR=2.7						
ASAR	**Alice Springs**	**36.29**	**193**	P	P	15 01 38.0	-0.1
	0.2nm,0.7s,baz=22,slow=11,SNR=5.3						
CMAR	**Chiang Mai Arr**	**42.52**	**284**	P	P	15 02 30.3	-0.1
	0.3nm,0.6s,baz=79,slow=6.5,SNR=2.8						
URZ	**Urewera**	**59.41**	**149**	LR	LR	15 28 43.8	
	comp=Z,130nm,18.4s,baz=224,slow=34						
ILAR	**Eielson Array**	**71.11**	**25**	P	P	15 05 52.6	0.0
	0.5nm,0.5s,baz=249,slow=5.9,SNR=17						

IDC 28 15:00:03.4±2.6, 30°09S×179°24W, h299km±26km, mb2.8/2, mb1 3.6/5, mb1mx3.2/20, mbtmp3.6/5, Error ellipse: s-maj=29.0km s-min=20.0km az=122.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.42**	**54**	S	S	15 01 20.1	+0.2
	378nm,0.3s,baz=230,slow=23,SNR=7.9						
URZ	**Urewera**	**8.70**	**199**	P	Pn	15 02 05.6	+0.1
	3.0nm,0.3s,baz=147,slow=15,SNR=45						
URZ				S	S	15 03 43.0	-1.6
	4.3nm,0.3s,baz=331,slow=19,SNR=6.5						
DZM	**Mont Dzumac**	**15.13**	**298**	P	Pn	15 03 25.7	+2.0
	2.8nm,0.3s,baz=109,slow=20,SNR=26						
RPZ	**Rata Peaks**	**15.65**	**207**	P	P	15 03 27.9	+0.4
	0.6nm,0.3s,baz=16,slow=7.4,SNR=3.6						
RPZ				S	S	15 06 10.7	-6.3
	1.2nm,0.3s,baz=295,slow=20,SNR=8.3						
AFI	**Afiamalu**	**17.51**	**25**	P	P	15 03 48.4	+0.2
	2.5nm,0.3s,baz=26,slow=24,SNR=4.4						
AFI				S	S	15 06 47.8	-6.8
	1.3nm,0.3s,baz=78,slow=20,SNR=3.0						
ASAR	**Alice Springs**	**42.06**	**267**	P	P	15 07 26.5	-0.3
	0.2nm,0.3s,baz=102,slow=7.2,SNR=4.4						
WRA	**Warramunga Arr**	**43.02**	**272**	P	P	15 07 34.6	+0.2
	0.5nm,0.4s,baz=110,slow=8.1,SNR=18						
KAF	**Kangasniemi**	**143.89**	**340**	*ep*	PKPab	15 18 59.5	-1.0
	5.9nm,0.8s						
FINES	**FINESS Array B**	**144.48**	**339**	PKP	PKPab	15 19 02.0	-0.8
	5.2nm,0.4s,baz=52,slow=3.8,SNR=45						
NOA	**NORSAR Array B**	**148.27**	**350**	PKPbc	PKPbc	15 19 13.2	-0.6
	1.5nm,0.5s,baz=16,slow=4.2,SNR=6.0						
AKASG	**Malin Array Be**	**150.40**	**322**	PKPbc	PKPbc	15 19 18.5	-0.7
	1.5nm,0.5s,baz=48,slow=2.8,SNR=11						
BRTR	**Keskin Array B**	**151.51**	**299**	PKPbc	PKPbc	15 19 21.9	-0.5
	0.5nm,0.5s,baz=148,slow=3.4,SNR=3.5						
TORD	**Torodi Ar. Bea**	**163.12**	**183**	PKPab	PKPab	15 20 22.9	+0.5
	0.3nm,0.6s,baz=166,slow=5.3,SNR=2.8						

IDC 28 15:05:18.1±23.0, 20°89S×177°89W, h415km±233km, mb2.9/4, mb1 3.1/4, mb1mx2.9/18, mbtmp2.9/4, Error ellipse: s-maj=155.5km s-min=78.1km az=133.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.71**	**245**	P	P	15 11 56.1	-0.2
	0.9nm,0.7s,baz=86,slow=14,SNR=2.9						
ASAR	**Alice Springs**	**44.53**	**257**	P	P	15 12 51.1	0.0
	0.5nm,0.5s,baz=94,slow=8.2,SNR=11						
WRA	**Warramunga Arr**	**44.65**	**262**	P	P	15 12 51.9	-0.2
	0.3nm,0.3s,baz=96,slow=7.6,SNR=27						
ILAR	**Eielson Array**	**88.67**	**13**	P	P	15 17 25.2	0.0
	0.6nm,1.1s,baz=210,slow=5.2,SNR=3.4						
AKASG	**Malin Array Be**	**143.41**	**331**	PKP	PKPdf	15 24 03.1	-0.7
	0.4nm,0.5s,baz=39,slow=4.5,SNR=4.3						

*ISCJB **28** 15:07:32.5±0.7, 43°.43N±0°.06×144°.87E±0°.06, h111km±4km, mb3.5/3, Error ellipse: s-maj=9.8km s-min=7.4km az=175.6*
*JMA **28** 15:07:33.8±0.1, 43°.43N×144°.83E, h105km±1km, M3.0*
*IDC **28** 15:07:34.8±5.6, 43°.66N×144°.88E, h114km±29km, mb3.3/3, mb1 3.4/3, mb1mx3.1/24, mbtmp3.3/3, Error ellipse: s-maj=75.4km s-min=51.6km az=2.0*

ISC 28 15:07:33.2±1.0, 43°42N±0°.06×144°88E±0°.05, h107km±7km, n22, σ0°49/29, mb3.4/3, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNK	**Nakash**	**0.20**	**324**	P	**Pn**	**15 07 48.4**	**+0.1**
JNK				*e*S	**Sn**	**15 07 58.7**	**-1.0**
JAK	**Akkeshi**	**0.45**	**198**	P	**Pn**	**15 07 49.8**	**+0.4**
JAK				*e*S	**Sn**	**15 08 01.7**	**+0.2**
JRA	**Rausu**	**0.55**	**19**	P	**Pn**	**15 07 50.6**	**+0.5**
JRA				*e*S	**Sn**	**15 08 03.0**	**+0.2**
NEM2	**Nemuro 2**	**0.63**	**95**	P	**Pn**	**15 07 51.2**	**+0.5**
NEM2				*e*S	**Sn**	**15 08 03.7**	**-0.2**
JAR	**Ashorobuto**	**0.82**	**262**	P	**Pn**	**15 07 52.8**	**+0.4**
JAR				*e*S	**Sn**	**15 08 07.0**	**+0.1**
JTKR	**Abashiri--Toko**	**0.90**	**308**	P	**Pn**	**15 07 53.2**	**+0.1**
JTKR				*e*S	**Sn**	**15 08 08.1**	**0.0**
JOB	**Onbets**	**0.92**	**236**	P	**Pn**	**15 07 53.9**	**+0.5**
JOB				*e*S	**Sn**	**15 08 08.7**	**+0.1**
JMP	**Maruseppu**	**1.25**	**298**	P	**Pn**	**15 07 57.0**	**0.0**
JMP				*e*S	**Sn**	**15 08 14.2**	**-0.7**
JCH	**Churui**	**1.38**	**235**	P	**Pn**	**15 07 58.7**	**+0.3**
JCH				*e*S	**Sn**	**15 08 17.0**	**-0.4**
JKK2	**Kamakawa 2**	**1.61**	**287**	P	**Pn**	**15 08 01.7**	**+0.4**
JKK2				*e*S	**Sn**	**15 08 22.1**	**-0.5**
JFR	**Furan**	**1.69**	**262**	P	**Pn**	**15 08 02.6**	**+0.4**
JFR				*e*S	**Sn**	**15 08 23.9**	**-0.4**
ASAJ	**Asahikawa**	**1.79**	**294**	P	**Pn**	**15 08 04.4**	**+0.9**
ASAJ				*e*S	**Sn**	**15 08 26.6**	**0.0**
ASAJ	**Asahikawa**	**1.79**	**294**	P	**Pn**	**15 08 04.5**	**+1.0**
	27nm,0.3s,baz=105,slow=11,SNR=256						
ASAJ				S	**Sn**	**15 08 27.0**	**+0.5**
	5.8nm,0.3s,baz=242,slow=31,SNR=17						
SONM	**Songino Array**	**27.08**	**293**	P	**P**	**15 13 05.9**	**+0.1**
	0.4nm,0.5s,baz=90,slow=8.4,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**29.98**	**135**	T	T	15 44 53.6	
	baz=329						
H11N1	**WAKE ISLAND Hy**	**29.99**	**135**	T	T	15 44 32.9	
	baz=329,SNR=3.9						
H11N3	**WAKE ISLAND Hy**	**30.00**	**135**	T	T	15 44 41.9	
	baz=329						
H11S1	**WAKE ISLAND Hy**	**30.91**	**137**	T	T	15 45 56.9	
	baz=332,slow=0.7,SNR=14						
H11S3	**WAKE ISLAND Hy**	**30.91**	**137**	T	T	15 45 41.1	
	baz=332,slow=0.7,SNR=9.4						
H11S2	**WAKE ISLAND Hy**	**30.93**	**137**	T	T	15 45 59.4	
	baz=332,slow=0.7,SNR=9.7						
MKAR	**Makanchi Array**	**43.27**	**297**	P	**P**	**15 15 23.4**	**-0.5**
	0.3nm,0.5s,baz=83,slow=8.5,SNR=7.7						
FINES	**FINESS Array B**	**64.41**	**332**	P	**P**	**15 17 57.3**	**-0.1**
	2.0nm,0.9s,baz=36,slow=5.2,SNR=4.7						

JSN 28 15:09:31.8±0.9, 19°65N×76°11W, h0km±177km, MD3.7, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GWJ	**Greenwich**	**1.68**	**201**	*i* P	Pn	15 10 00.8	-1.7
STH	**Stony Hill**	**1.70**	**203**	*i* P	Pn	15 10 01.1	-1.7
STH				*i* S	Sn	15 10 23.0	-2.4
HOJ	**Hope**	**1.75**	**201**	*i* P	Pn	15 10 01.1	-2.3
YHJ	**Yallahs**	**1.79**	**192**	*i* P	Pn	15 10 02.7	-1.3
PCJ	**Portland Cotta**	**2.15**	**208**	*i* P	Pn	15 10 07.8	-1.1
MCJ	**Malvern**	**2.28**	**221**	*i* P	Pn	15 10 09.4	-1.4

*CSEM **28** 15:12:59.7, 39°.05N×29°.35W, h10km, ML3.1, After PDA*
PDA 28 15:12:59.7±0.9, 39°05N×29°35W, h10km, MD3.5, ML3.1, Error ellipse: s-maj=7.0km s-min=5.0km az=66.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**0.66**	**130**	*i* P	Pg	15 13 10.0	-2.5
PCED				*e*S	Sg	15 13 18.2	-3.0
PCED				A	A	15 13 20.2	
	186nm,0.2s						
PCED	**Cedros**	**0.66**	**130**	*i* P	Pg	15 13 10.0	-2.5
PCED				*e*S	Sg	15 13 18.2	-3.0
CALA	**Caldeira**	**0.69**	**133**	*e*P	Pg	15 13 11.1	-2.1
CALA				*e*S	Sg	15 13 19.1	-3.3
CALA	**Caldeira**	**0.69**	**133**	*e*P	Pg	15 13 11.1	-2.1
CALA				*e*S	Sg	15 13 19.1	-3.3
HOR	**Horta**	**0.77**	**133**	*e*P	Pg	15 13 11.8	-2.8
HOR				*e*S	Sg	15 13 21.1	-3.5
HOR	**Horta**	**0.77**	**133**	*e*P	Pg	15 13 11.8	-2.8
HOR				*e*S	Sg	15 13 21.1	-3.5
PICO	**Pico**	**0.91**	**127**	*i* P	Pg	15 13 14.0	-3.3
PICO				*e*S	Sg	15 13 24.7	-4.6
PICO	**Pico**	**0.91**	**127**	*i* P	Pg	15 13 14.0	-3.3
PICO				*e*S	Sg	15 13 24.7	-4.6
PPNO	**Prainha do Nor**	**1.03**	**124**	*e*P	Pg	15 13 15.7	-3.9
PPNO				*e*S	Sg	15 13 27.5	-5.6
PPNO				A	A	15 13 37.8	
	341nm,0.4s						
PPNO	**Prainha do Nor**	**1.03**	**124**	*e*P	Pg	15 13 15.7	-3.9
PPNO				*e*S	Sg	15 13 27.5	-5.6
PGRA	**Graciosa**	**1.07**	**91**	*e*S	Sg	15 13 28.2	-6.0
PGRA				A	A	15 13 36.4	
	108nm,0.4s						
PGRA	**Graciosa**	**1.07**	**91**	*e*S	Sg	15 13 28.2	-6.0
PMAN	**Manadas**	**1.07**	**113**	*i* P	Pg	15 13 15.6	-4.7
PMAN				*e*S	Sg	15 13 28.4	-5.9
PMAN				A	A	15 13 30.2	
	201nm,0.5s						
PMAN	**Manadas**	**1.07**	**113**	*i* P	Pg	15 13 15.6	-4.7
PMAN				*e*S	Sg	15 13 28.4	-5.9
PID	**Ribeirinha**	**1.14**	**122**	*e*P	Sn	15 13 33.7	-3.8
TOPO	**Topo**	**1.21**	**112**	*e*P	Pn	15 13 17.7	-5.1
TOPO				*e*S	Sb	15 13 31.9	-6.6
TOPO	**Topo**	**1.21**	**112**	*e*P	Pn	15 13 17.7	-5.1
TOPO				*e*S	Sb	15 13 31.9	-6.6
ADH	**Angra Heroismo**	**1.70**	**103**	*e*P	Sn	15 13 48.2	-3.0
PSET	**Sete Cidades**	**3.10**	**112**	*e*P	Pn	15 13 44.8	-4.0
PSET	**Sete Cidades**	**3.10**	**112**	*e*P	Pn	15 13 44.8	-4.0
CMLA	**Cha da Macela**	**3.27**	**112**	*e*P	Pn	15 13 47.4	-3.6
CMLA	**Cha da Macela**	**3.27**	**112**	*e*P	Pn	15 13 47.4	-3.6
BART	**Pico Bartolome**	**3.52**	**110**	*e*P	Pn	15 13 50.4	-4.2
BART	**Pico Bartolome**	**3.52**	**110**	*e*P	Pn	15 13 50.4	-4.2
PSMA	**Santa Maria**	**3.92**	**120**	*e*P	Pn	15 13 55.9	-4.0
PSMN	**Pico do Norte,**	**3.96**	**120**	*e*P	Pn	15 13 56.1	-4.3
PSMN	**Pico do Norte,**	**3.96**	**120**	*e*P	Pn	15 13 56.1	-4.3

IDC 28 15:29:32.4±2.6, 21°75N×143°55E, h275km±50km, mb3.0/5, mb1 3.2/6, mb1mx2.9/28, mbtmp3.1/6, Error ellipse: s-maj=108.6km s-min=25.4km az=71.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.46**	**347**	P	Pn	15 30 56.2	+1.7
	10nm,0.3s,baz=0.0,slow=18,SNR=4.3						
JCJ				S	S	15 31 59.6	-0.8
	1.9nm,0.3s,baz=253,slow=19,SNR=2.4						
KSRS	**Korea Array**	**20.68**	**323**	P	P	15 33 52.0	+0.2
	0.4nm,0.5s,baz=152,slow=9.3,SNR=4.2						
WRA	**Warramunga Arr**	**42.41**	**193**	P	P	15 37 00.6	0.0
	1.2nm,0.5s,baz=17,slow=9.8,SNR=29						
FITZ	**Fitzroy Crossi**	**43.32**	**205**	P	P	15 37 07.4	-0.3
	1.0nm,0.6s,baz=9.8,slow=7.7,SNR=6.0						
ASAR	**Alice Springs**	**46.11**	**192**	P	P	15 37 29.4	-0.3
	0.3nm,0.5s,baz=14,slow=6.6,SNR=13						
STKA	**Stephens Creek**	**53.36**	**182**	P	P	15 38 23.9	0.0
	0.6nm,0.4s,baz=22,slow=11,SNR=4.3						

*CSEM **28** 16:00:15.6±0.1, 43°.04N×0°.22E, h10km, ML2.5/12, Error ellipse: s-maj=1.7km s-min=1.3km az=176.0*
*MDD **28** 16:00:16.8±0.2, 42°.99N×0°.20E, h6km±3km, mbLg2.0/23, Error ellipse: s-maj=2.1km s-min=1.5km az=10.0, PRXIMO*
*STR **28** 16:00:16.1±0.1, 42°.98N×0°.16E, h5km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **28** 16:00:16.4±0.1, 43°.01N×0°.20E, h4km, Md2.7/3, Ml2.6/12, Error ellipse: s-maj=1.2km s-min=1.0km az=178.0*

ISC 28 16:00:15.7±0.7, 43°02N±0°.02×0°21E±0°.02, h10km±4km, n101, σ1°09/137, 1C, France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EPF	**Esparros**	**0.10**	**84**	*e*Pg	**Pg**	**16 00 18.9**	**+0.5**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**16 00 20.8**	**+0.5**
	327nm,0.2s						
EPF	**Esparros**	**0.10**	**84**	Pg	**Pg**	**16 00 18.9**	**+0.5**
EPF				*e*Sg	**Sg**	**16 00 20.8**	**+0.5**
	164nm,0.2s						
LABF	**Labassere**	**0.10**	**285**	Pg	**Pg**	**16 00 18.6**	**+0.2**
LABF				Sg	**Sg**	**16 00 20.2**	**-0.1**
LABF	**Labassere**	**0.10**	**285**	Pg	**Pg**	**16 00 18.6**	**+0.2**
LABF				Sg	**Sg**	**16 00 20.2**	**-0.1**
VIEF	**Viey**	**0.19**	**224**	Pg	**Pg**	**16 00 19.8**	**-0.1**
VIEF				Sg	**Sg**	**16 00 21.7**	**-1.0**
VIEF	**Viey**	**0.19**	**224**	Pg	**Pg**	**16 00 19.8**	**-0.1**
VIEF				Sg	**Sg**	**16 00 21.7**	**-1.0**
VIEF				Lg	Lg	16 00 22.4	
RESF	**Ens**	**0.23**	**155**	Pg	**Pg**	**16 00 20.8**	**+0.2**
RESF				Sg	**Sg**	**16 00 23.8**	**-0.1**
RESF	**Ens**	**0.23**	**155**	Pg	**Pg**	**16 00 20.8**	**+0.2**
RESF				Sg	**Sg**	**16 00 23.8**	**-0.1**
RESF				Lg	Lg	16 00 24.1	
EBIE	**Bielsa**	**0.34**	**188**	⇑Pg	**Pg**	**16 00 22.5**	**-0.1**
	41nm,0.2s,SNR=18						
EBIE				Lg	Lg	16 00 26.6	
	43nm,0.1s,SNR=11						
EBIE	**Bielsa**	**0.34**	**188**	Pg	**Pg**	**16 00 22.5**	**-0.1**
	41nm,0.2s,SNR=18						
EBIE				Lg	Lg	16 00 26.6	
	43nm,0.1s,SNR=11						
MELF	**Melles**	**0.43**	**110**	Pg	**Pg**	**16 00 24.3**	**0.0**
MELF				Lg	Lg	16 00 31.2	
REYF	**Montagne du Re**	**0.44**	**276**	Pg	**Pg**	**16 00 24.3**	**-0.1**
REYF				Sg	**Sg**	**16 00 30.5**	**+0.2**
REYF	**Montagne du Re**	**0.44**	**276**	Pg	**Pg**	**16 00 24.3**	**-0.1**
REYF				Sg	**Sg**	**16 00 30.5**	**+0.2**
ETSF	**Etsaut**	**0.57**	**258**	*e*Pg	**Pg**	**16 00 26.7**	**-0.2**
	SNR=1.0						
ETSF				*e*Sg	**Sg**	**16 00 34.7**	**+0.2**
	43nm,0.2s,SNR=1.0						
ETSF	**Etsaut**	**0.57**	**258**	Pg	**Pg**	**16 00 26.7**	**-0.2**
ETSF				*e*Sg	**Sg**	**16 00 34.7**	**+0.2**
	22nm,0.2s,SNR=1.0						
FDAF	**Les Forges d'A**	**0.60**	**251**	Pg	**Pg**	**16 00 27.1**	**-0.4**
FDAF				Lg	Lg	16 00 35.1	
MLS	**Moulis**	**0.66**	**95**	Pg	**Pg**	**16 00 29.0**	**+0.6**
MLS				Sg	**Sg**	**16 00 38.7**	**+1.7**
MLS	**Moulis**	**0.66**	**95**	Pg	**Pg**	**16 00 29.0**	**+0.6**
MLS				Sg	**Sg**	**16 00 38.7**	**+1.7**
ATE	**Arette**	**0.67**	**276**	Pg	**Pg**	**16 00 28.3**	**-0.4**
ATE				Sg	**Sg**	**16 00 37.4**	**0.0**
ATE	**Arette**	**0.67**	**276**	Pg	**Pg**	**16 00 28.3**	**-0.4**
ATE				Sg	**Sg**	**16 00 37.4**	**0.0**
SALF	**Salau**	**0.77**	**110**	Pg	**Pg**	**16 00 30.3**	**-0.3**
SALF				Lg	Lg	16 00 40.7	
CTRE	**Tremp**	**0.81**	**149**	Pg	**Pg**	**16 00 31.7**	**+0.3**
CTRE				Lg	Lg	16 00 42.9	
CTRE	**Tremp**	**0.81**	**149**	Pg	**Pg**	**16 00 31.7**	**+0.3**
CTRE				Lg	Lg	16 00 42.9	
ORDF	**Ordiarp**	**0.86**	**283**	Pg	**Pg**	**16 00 32.5**	**+0.2**
ORDF				Sg	**Sg**	**16 00 43.0**	**-0.4**
ORDF	**Ordiarp**	**0.86**	**283**	Pg	**Pg**	**16 00 32.5**	**+0.2**
ORDF				Sg	**Sg**	**16 00 43.0**	**-0.4**
ORDF				Lg	Lg	16 00 44.3	
LARF	**Larrau**	**0.88**	**271**	Pg	**Pg**	**16 00 32.2**	**-0.4**
LARF				Sg	**Sg**	**16 00 43.8**	**-0.2**
LARF	**Larrau**	**0.88**	**271**	Pg	**Pg**	**16 00 32.2**	**-0.4**
LARF				Sg	**Sg**	**16 00 43.8**	**-0.2**
CEST	**Esterri de Car**	**0.88**	**118**	Pg	**Pg**	**16 00 32.4**	**-0.3**
CEST				Lg	Lg	16 00 45.0	
	16nm,0.1s						
CEST	**Esterri de Car**	**0.88**	**118**	Pg	**Pg**	**16 00 32.4**	**-0.3**
CEST				Lg	Lg	16 00 45.0	
	16nm,0.1s						
CSOR	**Sort**	**0.94**	**133**	Pg	**Pg**	**16 00 33.9**	**+0.1**
	0.8nm,0.2s,SNR=12						
CSOR				Lg	Lg	16 00 46.0	
	8.5nm,0.2s,SNR=10						
CSOR	**Sort**	**0.94**	**133**	Pg	**Pg**	**16 00 33.9**	**+0.1**
	0.8nm,0.2s,SNR=12						
CSOR				Lg	Lg	16 00 46.0	
	8.5nm,0.2s,SNR=10						
GRBF	**Gourbit**	**0.99**	**100**	Lg	Lg	16 00 48.7	
SJPF	**Ste Jean**	**1.05**	**276**	*e*Pg	**Pg**	**16 00 36.0**	**0.0**
	SNR=1.0						
SJPF	**Ste Jean**	**1.05**	**276**	*e*Pn	**Pg**	**16 00 36.7**	**+0.7**
	SNR=1.0						
SJPF				*e*Sg	**Sg**	**16 00 49.8**	**+0.1**
	5.8nm,0.2s,SNR=1.0						
SJPF	**Ste Jean**	**1.05**	**276**	Pg	**Pg**	**16 00 36.0**	**0.0**
SJPF	**Ste Jean**	**1.05**	**276**	*e*Pn	**Pg**	**16 00 36.7**	**+0.7**
	SNR=1.0						
SJPF				*e*Sg	**Sg**	**16 00 49.8**	**+0.1**
	2.9nm,0.2s,SNR=1.0						
IELO	**Elcoad**	**1.07**	**261**	Pg	**Pg**	**16 00 36.5**	**+0.1**
	1.2nm,0.1s,SNR=7.9						
IELO				Lg	Lg	16 00 51.6	
	8.9nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**1.07**	**261**	Pg	**Pg**	**16 00 36.5**	**+0.1**
	1.2nm,0.1s,SNR=7.9						
IELO				Lg	Lg	16 00 51.7	
	8.9nm,0.2s,SNR=7.9						
IEPA	**Eparoz**	**1.11**	**258**	Pg	**Pg**	**16 00 37.2**	**+0.1**
	1.1nm,0.1s,SNR=7.9						
IEPA				Lg	Lg	16 00 52.8	
	12nm,0.2s,SNR=7.9						
IEPA	**Eparoz**	**1.11**	**258**	Pg	**Pg**	**16 00 37.2**	**+0.1**
	1.1nm,0.1s,SNR=7.9						
IEPA				Lg	Lg	16 00 52.8	
	12nm,0.2s,SNR=7.9						
CORG	**Organya**	**1.14**	**134**	Pg	**Pg**	**16 00 37.5**	**-0.1**
CORG				Lg	Lg	16 00 52.9	
CORG	**Organya**	**1.14**	**134**	Pg	**Pg**	**16 00 37.5**	**-0.1**
CORG				Lg	Lg	16 00 52.9	
CAVN	**Les Avellanes**	**1.21**	**160**	Pg	**Pg**	**16 00 38.2**	**-0.7**
CAVN				Lg	Lg	16 00 54.4	
	28nm,0.1s						
CAVN	**Les Avellanes**	**1.21**	**160**	Pg	**Pg**	**16 00 38.2**	**-0.7**
CAVN				Lg	Lg	16 00 54.4	
	28nm,0.1s						
EALK	**Alkurruntz**	**1.27**	**280**	Pg	**Pg**	**16 00 41.5**	**+1.4**
	0.8nm,0.1s,SNR=7.9						
EALK				Lg	Lg	16 00 57.8	
	11nm,0.4s,SNR=7.9						
EALK	**Alkurruntz**	**1.27**	**280**	Pg	**Pg**	**16 00 41.5**	**+1.4**
	0.8nm,0.1s,SNR=7.9						
EALK				Lg	Lg	16 00 57.8	
	11nm,0.4s,SNR=7.9						
ELIZ	**Elizondo**	**1.28**	**277**	Pg	**Pn**	**16 00 40.6**	**+0.9**
	3.7nm,0.2s,SNR=7.9						
ELIZ				Lg	Lg	16 00 58.0	
	4.7nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**1.28**	**277**	Pg	**Pn**	**16 00 40.6**	**+0.9**
	3.7nm,0.2s,SNR=7.9						
ELIZ				Lg	Lg	16 00 58.0	
	4.7nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**1.28**	**259**	Pg	**Pg**	**16 00 42.2**	**+1.9**
	1.6nm,0.1s,SNR=7.9						
IUNC				Lg	Lg	16 00 58.5	
	21nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**1.28**	**259**	Pg	**Pg**	**16

	0.4nm,0.2s,SNR=7.9							
EJON					Lg	Lg	16 01 23.0	
	2.2nm,0.2s,SNR=7.9							
EJON	**La Jonquera**	**2.06**	**105**		Pg	**Pg**	**16 00 55.6**	**+0.4**
	0.4nm,0.2s,SNR=7.9							
EJON					Lg	Lg	16 01 23.0	
	2.2nm,0.2s,SNR=7.9							
ERTA	**Horta de San J**	**2.06**	**177**		Lg	Lg	16 01 20.9	
	3.7nm,0.2s,SNR=7.9							
ERTA	**Horta de San J**	**2.06**	**177**		Lg	Lg	16 01 20.9	
	3.7nm,0.2s,SNR=7.9							
CFON	**Fontmartina**	**2.08**	**127**		Pn	**Pn**	**16 00 52.5**	**+1.8**
	1.0nm,0.1s,SNR=7.9							
CFON					Lg	Lg	16 01 21.9	
	20nm,0.3s,SNR=9.4							
CFON	**Fontmartina**	**2.08**	**127**		Pn	**Pn**	**16 00 52.5**	**+1.8**
	1.0nm,0.1s,SNR=7.9							
CFON					Lg	Lg	16 01 21.9	
	20nm,0.3s,SNR=9.4							
CAF	**Calviac**	**2.33**	**35**	*e*Pn		**Pn**	**16 00 53.7**	**-0.4**
	SNR=1.0							
CAF	**Calviac**	**2.33**	**35**	*e*Pg		**Pb**	**16 01 00.0**	**+2.2**
CAF				*e*Sg		**Sg**	**16 01 30.3**	**-0.3**
	4.0nm,0.2s							
CAF	**Calviac**	**2.33**	**35**	Pn		**Pn**	**16 00 53.7**	**-0.4**
CAF	**Calviac**	**2.33**	**35**	Pg		**Pb**	**16 01 00.0**	**+2.2**
CAF				*e*Sg		**Sg**	**16 01 30.3**	**-0.3**
	2.0nm,0.2s							
RJF	**Les Rejaudoux**	**2.47**	**22**	*e*Pn		**Pn**	**16 00 55.8**	**-0.2**
RJF	**Les Rejaudoux**	**2.47**	**22**	*e*Pg		**Pb**	**16 01 02.3**	**+2.1**
RJF				*e*Sn		**Sn**	**16 01 24.2**	**-2.1**
RJF				*e*Sg		**Sg**	**16 01 34.5**	**-0.6**
	5.1nm,0.2s							
RJF	**Les Rejaudoux**	**2.47**	**22**	Pn		**Pn**	**16 00 55.8**	**-0.2**
RJF	**Les Rejaudoux**	**2.47**	**22**	Pg		**Pb**	**16 01 02.3**	**+2.1**
RJF				Sn		**Sn**	**16 01 24.2**	**-2.1**
RJF				*e*Sg		**Sg**	**16 01 34.5**	**-0.6**
	2.5nm,0.2s							
EMOS	**Mosqueruela**	**2.70**	**191**	Pg		**Pb**	**16 01 04.9**	**+0.6**
	0.6nm,0.2s,SNR=7.9							
EMOS					Lg	Lg	16 01 40.5	
	0.8nm,0.2s,SNR=4.0							
EMOS	**Mosqueruela**	**2.70**	**191**	Pg		**Pb**	**16 01 04.9**	**+0.6**
	0.6nm,0.2s,SNR=7.9							
EMOS					Lg	Lg	16 01 40.5	
	0.8nm,0.2s,SNR=4.0							
LASF	**Ste Croix**	**2.86**	**67**	*e*Pn		**Pn**	**16 01 00.6**	**-0.8**
LASF	**Ste Croix**	**2.86**	**67**	*e*Pg		**Pg**	**16 01 09.8**	**-0.7**
LASF				*e*Sn		**Sn**	**16 01 33.8**	**-2.0**
LASF				*e*Sg		**Sg**	**16 01 46.6**	**-0.9**
	5.1nm,0.3s,SNR=1.0							
LASF	**Ste Croix**	**2.86**	**67**	Pn		**Pn**	**16 01 00.6**	**-0.8**
LASF	**Ste Croix**	**2.86**	**67**	Pg		**Pg**	**16 01 09.8**	**-0.7**
LASF				Sn		**Sn**	**16 01 33.8**	**-2.0**
LASF				*e*Sg		**Sg**	**16 01 46.6**	**-0.9**
	2.5nm,0.3s,SNR=1.0							
TCF	**Toulx Ste Croi**	**3.57**	**23**	*e*Pg		Pb	16 01 22.6	+3.7
TCF				*e*Sg		**Sg**	**16 02 08.7**	**-1.5**
	2.7nm,0.3s,SNR=1.0							
TCF	**Toulx Ste Croi**	**3.57**	**23**	Pg		Pb	16 01 22.6	+3.7
TCF				*e*Sg		**Sg**	**16 02 08.7**	**-1.5**
	1.4nm,0.3s,SNR=1.0							
MFF	**Saint Martin d**	**3.59**	**356**	*e*Pn		**Pn**	**16 01 10.9**	**-0.5**
MFF	**Saint Martin d**	**3.59**	**356**	*e*P		**Pn**	**16 01 14.4**	**+3.0**
MFF	**Saint Martin d**	**3.59**	**356**	*e*Pg		**Pg**	**16 01 23.1**	**-1.4**
MFF				*e*Sg		**Sg**	**16 02 09.2**	**-1.8**
	2.7nm,0.3s							
MFF	**Saint Martin d**	**3.59**	**356**	Pn		**Pn**	**16 01 10.9**	**-0.5**
MFF	**Saint Martin d**	**3.59**	**356**	*e*P		**Pn**	**16 01 14.4**	**+3.0**
MFF	**Saint Martin d**	**3.59**	**356**	Pg		**Pg**	**16 01 23.1**	**-1.4**
MFF				*e*Sg		**Sg**	**16 02 09.2**	**-1.8**
	1.4nm,0.3s							
VIVF	**Saint-Julien-l**	**3.71**	**59**	*e*Sg		**Sg**	**16 02 13.9**	**-1.0**
	1.8nm,0.2s,SNR=1.0							
VIVF	**Saint-Julien-l**	**3.71**	**59**	*e*Sg		**Sg**	**16 02 13.9**	**-1.0**
	0.9nm,0.2s,SNR=1.0							
LPG	**La Plagne**	**5.31**	**60**	*e*Sg		**Sg**	**16 03 03.9**	**-2.4**
	2.3nm,0.6s,SNR=1.0							
LPG	**La Plagne**	**5.31**	**60**	*e*Sg		**Sg**	**16 03 03.9**	**-2.4**
	1.1nm,0.6s,SNR=1.0							

*ISCJB **28** 16:05:45.6±0.7,24°.00S±0°.05×66°.7W±0°.1,h195km, mb3.4/1,Error ellipse: s-maj=16.8km s-min=7.2km az=8.4*
*IDC **28** 16:05:45.7±1.8,23°.98S×66°.74W,h176km±18km,mb3.3/1, mb1 3.3/6,mb1mx3.2/20,mbtmp3.2/6,Error ellipse: s-maj=29.8km s-min=16.0km az=107.0*

ISC 28 16:05:46.7±0.8,23°.95S±0°.07×66°.6W±0°.1,h195km,n12, σ1§15/14,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.75**	**349**	P		**Pn**	**16 07 38.2**	**+0.9**
	1.0nm,0.3s,baz=161,slow=11,SNR=24							
LPAZ				S		**Sn**	**16 09 03.5**	**-1.6**
	0.4nm,0.3s,baz=72,slow=20,SNR=4.6							
CFAA	**Coronel Fontan**	**7.76**	**190**	P		**Pn**	**16 07 34.6**	**-2.2**
	0.1nm,0.3s,baz=18,slow=12,SNR=26							
CFAA				S		Sn	16 08 55.3	-9.1
	0.6nm,0.3s,baz=264,slow=19,SNR=23							
SIV	**San Ignacio**	**9.48**	**34**	P		**Pn**	**16 07 59.2**	**-0.2**
	0.4nm,0.3s,baz=234,slow=13,SNR=6.4							
SIV				S		**Sn**	**16 09 44.7**	**-0.9**
	baz=266,slow=14,SNR=2.3							
PLCA	**Paso Flores**	**17.06**	**190**	P		**P**	**16 09 33.2**	**+0.7**
	0.2nm,0.3s,baz=45,slow=12,SNR=3.5							
BDFB	**Brasilia**	**19.36**	**68**	P		**Pn**	**16 10 00.8**	**-0.5**
	0.7nm,0.3s,baz=251,slow=14,SNR=4.1							
VNA2	**Neumayer--Watz**	**57.66**	**160**	*e*P		**P**	**16 15 16.7**	**+0.5**
	baz=298,slow=5.8							
SNAA	**Sanae**	**59.29**	**161**	*e*P		**P**	**16 15 28.8**	**+1.2**
TORD	**Torodi Ar. Bea**	**76.24**	**69**	P		**P**	**16 17 15.4**	**+1.3**
	0.5nm,0.5s,baz=256,slow=5.6,SNR=7.1							
ASAR	**Alice Springs**	**128.64**	**204**	PKP		**PKPdf**	**16 24 31.6**	**+0.3**
	0.5nm,0.7s,baz=109,slow=2.7,SNR=4.5							
WRA	**Warramunga Arr**	**131.82**	**207**	PKP		**PKPdf**	**16 24 38.0**	**+0.6**
	0.3nm,0.4s,baz=160,slow=1.8,SNR=6.5							
ZALV	**Zalesovo Beam**	**143.19**	**28**	PKP		**PKPdf**	**16 24 56.3**	**-0.8**
	1.2nm,0.6s,baz=292,slow=4.7,SNR=6.9							
MKAR	**Makanchi Array**	**146.27**	**40**	PKPbc		**PKPab**	**16 25 05.8**	**+0.5**
	2.0nm,0.7s,baz=312,slow=3.0,SNR=18							

IDC 28 16:06:41.3±3.5,15°.33S×173°.12W,h0km,mb3.9/3, mb1 4.0/3,mb1mx3.7/21,mbtmp3.9/3,Error ellipse: s-maj=192.2km s-min=24.4km az=141.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.92**	**43**	P		Pn	16 07 14.3	-1.0
	29nm,0.3s,baz=181,slow=2.5,SNR=70							
AFI				Sn		Sn	16 07 34.0	-6.2
	192nm,0.3s,baz=80,slow=19,SNR=25							
H11S2	**WAKE ISLAND Hy**	**39.04**	**329**	T		T	16 55 38.0	
	baz=152,slow=0.7,SNR=12							
H11S3	**WAKE ISLAND Hy**	**39.06**	**329**	T		T	16 55 43.0	
	baz=152,slow=0.7,SNR=8.6							
H11S1	**WAKE ISLAND Hy**	**39.06**	**329**	T		T	16 55 45.5	
	baz=152,slow=0.7,SNR=10.0							
H11N3	**WAKE ISLAND Hy**	**39.98**	**330**	T		T	16 56 58.1	
	baz=152,slow=0.7							
H11N1	**WAKE ISLAND Hy**	**39.99**	**330**	T		T	16 56 57.1	
	baz=152,slow=0.7							
H11N2	**WAKE ISLAND Hy**	**40.00**	**330**	T		T	16 56 59.5	
	baz=152,slow=0.7							
STKA	**Stephens Creek**	**44.31**	**240**	P		P	16 14 53.8	+0.6
	2.4nm,1.1s,baz=79,slow=10,SNR=2.7							
WRA	**Warramunga Arr**	**50.13**	**257**	P		P	16 15 37.8	-1.0
	0.4nm,0.4s,baz=95,slow=6.7,SNR=5.5							
ASAR	**Alice Springs**	**50.39**	**252**	P		P	16 15 40.0	-0.9
	1.1nm,0.5s,baz=88,slow=7.9,SNR=12							
BRTR	**Keskin Array B**	**146.27**	**321**	PKPbc		PKPab	16 26 25.5	+0.4
	0.7nm,0.7s,baz=93,slow=2.9,SNR=3.2							

IDC 28 16:06:59.7±1.8,8°.37S×124°.01E,h0km,mb3.4/1, mb1 3.7/4,mb1mx3.4/21,mbtmp3.5/4,ML3.5/3,Error ellipse: s-maj=115.7km s-min=26.4km az=64.0,Timor region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.80**	**171**	Pn		Pn	16 09 21.7	-0.3
	0.3nm,0.3s,baz=345,slow=9.3,SNR=22							
FITZ				Sn		Sn	16 11 00.7	-12
	1.0nm,0.3s,baz=23,slow=17,SNR=16							
WRA	**Warramunga Arr**	**15.24**	**140**	Pn		Pn	16 10 35.3	-1.1
	0.3nm,0.3s,baz=320,slow=13,SNR=41							
WRA				Sn		Sn	16 13 11.5	-14
	0.3nm,0.3s,baz=311,slow=24,SNR=9.8							
ASAR	**Alice Springs**	**17.92**	**149**	P		P	16 11 11.0	-0.2
	0.1nm,0.3s,baz=317,slow=11,SNR=20							
ASAR				S		Sn	16 14 16.2	-15
	0.1nm,0.3s,baz=313,slow=21,SNR=5.9							
MKAR	**Makanchi Array**	**66.28**	**330**	P		P	16 17 49.9	+0.1
	0.2nm,0.4s,baz=135,slow=6.5,SNR=4.6							

IDC 28 16:08:44.3±3.5,33°.07S×178°.83W,h0km,mb3.6/2, mb1 3.9/3,mb1mx3.6/18,mbtmp3.7/3,ML3.4/1,Error ellipse: s-maj=74.2km s-min=46.5km az=56.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.14**	**211**	Pn		Pn	16 10 14.6	-1.6
	0.9nm,0.3s,baz=312,slow=4.2,SNR=11							
URZ				Sn		Sn	16 11 19.7	-7.5
	2.8nm,0.3s,baz=112,slow=19,SNR=9.7							
ASAR	**Alice Springs**	**42.33**	**270**	P		P	16 16 40.4	+0.1
	0.4nm,0.4s,baz=106,slow=7.6,SNR=6.3							
WRA	**Warramunga Arr**	**43.56**	**275**	P		P	16 16 50.2	0.0
	0.5nm,0.6s,baz=112,slow=7.7,SNR=6.1							
TORD	**Torodi Ar. Bea**	**160.16**	**182**	PKPab		PKPab	16 29 25.9	-0.2
	0.5nm,0.8s,baz=204,slow=3.2,SNR=2.7							

*IDC **28** 16:12:21.8±1.3,17°.16S×173°.01W,h0km,mb4.0/8, mb1 4.2/8,mb1mx4.0/23,mbtmp4.0/8,MS3.5/7,Ms1 3.5/7, ms1mx3.3/30,Error ellipse: s-maj=47.3km s-min=22.7km az=132.0*

ISC 28 16:12:26.8±1.2,16°.7S±0°.2×173°.1W±0°.3,h41km,n19, σ1§88/10,mb4.0/8,MS3.6/5,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.09**	**25**	Pn		Pn	16 13 08.8	-4.5
	4.9nm,0.3s,baz=141,slow=13,SNR=8.8							
AFI				Sn		**Sn**	**16 13 45.9**	**-3.1**
	14nm,0.3s,baz=177,slow=21,SNR=5.9							
AFI				LR		LR	16 14 26.3	
	comp=Z,311nm,21.7s,baz=88,slow=36							
AFI				T		T	16 16 45.3	
	10nm,0.3s,baz=153,slow=22,SNR=9.0							
RAR	**Rarotonga**	**13.36**	**111**	Pn		Pn	16 15 19.3	-15
	2.3nm,0.3s,baz=270,slow=3.1,SNR=6.2							
RAR				LR		LR	16 19 15.6	
	comp=Z,92nm,19.5s,baz=270,slow=32							
DZM	**Mont Dzumac**	**20.00**	**251**	*e*LR		LR	16 22 00.6	
	206nm,24.9s							
PPT2	**Papeete2**	**22.49**	**96**	*e*LR		LR	16 22 05.9	
	233nm,29.8s,baz=261							
PPT	**Papeete**	**22.49**	**96**	LR		LR	16 24 01.5	
	comp=Z,254nm,20.4s,baz=87,slow=31							
URZ	**Urewera**	**23.10**	**200**	P		**P**	**16 17 26.5**	**-2.5**
	8.1nm,0.6s,baz=105,slow=7.4,SNR=6.4							
URZ				LR		LR	16 24 12.9	
	comp=Z,118nm,21.1s,baz=1.3,slow=31							
TBI	**Tubuai**	**23.14**	**110**	*e*LR		LR	16 22 27.8	
	246nm,31.0s							
HNR	**Honiara**	**27.22**	**282**	LR		LR	16 25 25.6	
	comp=Z,62nm,21.2s,baz=57,slow=29							
CTA	**Charters Tower**	**38.64**	**259**	P		**P**	**16 19 47.2**	**+0.5**
	3.0nm,0.9s,baz=78,slow=14,SNR=2.6							
STKA	**Stephens Creek**	**43.63**	**241**	P		**P**	**16 20 26.6**	**-0.9**
	1.0nm,0.7s,baz=96,slow=10,SNR=3.3							
WRA	**Warramunga Arr**	**49.83**	**258**	P		**P**	**16 21 15.9**	**-0.3**
	1.2nm,0.7s,baz=97,slow=7.2,SNR=22							
ASAR	**Alice Springs**	**49.98**	**253**	P		**P**	**16 21 17.3**	**-0.1**
	3.3nm,0.6s,baz=89,slow=8.7,SNR=48							
FITZ	**Fitzroy Crossi**	**58.23**	**259**	LR		LR	16 46 00.9	
	comp=Z,108nm,18.8s,baz=7.4,slow=35							
MJAR	**Matsushiro Arr**	**70.15**	**320**	LR		LR	16 47 41.3	
	comp=Z,68nm,20.5s,baz=45,slow=30							
KSRS	**Korea Array**	**77.32**	**316**	P		P	16 24 22.4	+5.2
	1.0nm,1.0s,baz=119,slow=7.5,SNR=4.9							
PDAR	**Pinedale Array**	**83.07**	**42**	P		**P**	**16 24 50.4**	**+1.9**
	0.5nm,0.4s,baz=90,slow=0.3,SNR=2.7							
ILAR	**Eielson Array**	**83.70**	**11**	P		**P**	**16 24 52.5**	**+1.6**
	0.4nm,0.8s,baz=220,slow=5.4,SNR=4.7							
BRTR	**Keskin Array B**	**147.37**	**320**	PKPbc		**PKPab**	**16 32 09.4**	**+0.9**
	0.8nm,0.7s,baz=148,slow=1.8,SNR=5.3							
GERES	**GERESS Array B**	**147.51**	**352**	PKPbc		**PKPab**	**16 32 08.6**	**0.0**
	0.3nm,0.4s,baz=37,slow=5.5,SNR=5.4							

IDC 28 16:24:18.1±7.9,15°.37S×174°.34W,h0km,mb3.6/3, mb1 4.0/3,mb1mx3.6/19,mbtmp3.6/3,Error ellipse: s-maj=351.0km s-min=36.3km az=139.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.87**	**60**	Pn		Pn	16 24 58.7	-6.6
	7.1nm,0.3s,baz=276,slow=21,SNR=8.3							
AFI				Sn		Sn	16 25 28.3	-12
	24nm,0.3s,baz=45,slow=22,SNR=11							
WRA	**Warramunga Arr**	**48.97**	**257**	P		P	16 33 06.2	-0.6
	0.3nm,0.5s,baz=92,slow=6.8,SNR=9.7							
ASAR	**Alice Springs**	**49.26**	**252**	P		P	16 33 09.1	+0.1
	1.5nm,0.6s,baz=90,slow=7.7,SNR=29							
ILAR	**Eielson Array**	**82.60**	**11**	P		P	16 36 42.3	-0.4
	0.3nm,0.9s,baz=230,slow=5.6,SNR=3.7							
BRTR	**Keskin Array B**	**145.56**	**320**	PKPbc		PKPdf	16 43 58.9	0.0
	1.1nm,0.8s,baz=84,slow=0.7,SNR=6.1							

TAP 28 16:33:29.4,24°.33N×121°.64E,h26km,ML3.5,6C-5D,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.09**	**104**	P		Pb	16 33 34.3	+0.2
	baz=104							
EHP				S		Sb	16 33 38.2	+0.9
	baz=104							
ENA	**Nanau**	**0.13**	**43**	⇓*i*P		Pb	16 33 34.6	+0.2
	baz=45							
ENA				*e*S		Sb	16 33 38.0	+0.2
	baz=45							
TWD	**Chiawan**	**0.26**	**190**	⇓*i*P		Pb	16 33 35.8	0.0
	baz=188							
TWD				S		Sb	16 33 40.3	+0.1
	baz=188							
NNS	**Nan Shan**	**0.27**	**294**	⇑*i*P		Pb	16 33 36.3	0.0
	baz=299							
NNS				*i* S		Sb	16 33 41.1	+0.2
	baz=299							
ENTT	**Nioudou**	**0.32**	**347**	⇑*i*P		Pb	16 33 37.0	+0.2
	baz=352							
ENTT				*i* S		Sb	16 33 41.9	+0.2
	baz=352							
TWC	**Suao**	**0.33**	**34**	⇓*i*P		Pb	16 33 37.2	+0.2
	baz=35							
TWC				*i* S		Sb	16 33 42.3	+0.2
	baz=35							
HWA	**Hwalien**	**0.35**	**186**	*i* P		Pb	16 33 37.6	+0.3
	baz=192							
HWA				*i* S		Sn	16 33 44.2	-1.0
	baz=192							
WHF	**Hehuan Shan**	**0.39**	**242**	⇓*i*P		Pb	16 33 38.5	0.0
	baz=241							
WHF				*i* S		Sb	16 33 44.4	-0.2
	baz=241							
NSK	**Sanguang**	**0.43**	**323**	⇑*i*P		Pb	16 33 38.7	+0.1
	baz=323							
NSK				*i* S		Sb	16 33 44.8	-0.1
	baz=323							
TWT	**Tachien**	**0.43**	**260**	⇑*i*P		Pb	16 33 39.3	+0.5
	baz=256							
TWT				S		Sb	16 33 45.4	+0.2
	baz=256							
ILA	**Ilan**	**0.44**	**12**	P		Pb	16 33 39.0	+0.3
	baz=9.0							
ILA				S		Sb	16 33 45.7	+0.7
	baz=9.0							
ESF	**Shoufeng Towns**	**0.47**	**195**	*e*P		Pb	16 33 39.3	+0.1
	baz=196							
ESF				*e*S		Sn	16 33 47.2	-0.9
	baz=196							
ESL	**Shilin**	**0.55**	**200**	*e*P		Pb	16 33 39.8	-0.7
	baz=200							
ESL				*e*S		Sb	16 33 48.3	+0.3
	baz=200							
TWA	**Mucha**	**0.65**	**355**	*e*P		Pb	16 33 42.2	+0.1
	baz=2.0							
TWA				S		Sb	16 33 51.6	+0.7
	baz=2.0							
NSTT	**Nanjuang**	**0.66**	**297**	⇑*i*P		Pn	16 33 42.9	-0.2
	baz=297							
NSTT				*i* S		Sb	16 33 51.6	+0.5
	baz=297							
TAP1	**Taipei**	**0.71**	**351**	P		Pn	16 33 44.1	+0.3
	baz=349							
TAP1				*e*S		Sn	16 33 53.5	-0.5
	baz=349							
TAP	**Taipei**	**0.71**	**350**	P		Pn	16 33 44.1	+0.2
	baz=349							
TAP				*e*S		Sb	16 33 53.4	+0.6
	baz=349							
TWB1	**Santiao Chiao**	**0.74**	**25**	*e*P		Pb	16 33 43.9	+0.2
	baz=25							
TWB1				*e*S		Sb	16 33 53.7	+0.2
	baz=25							
NWF	**Wu-fen Shan**	**0.75**	**10**	P		Pn	16 33 44.4	-0.1
	baz=9.0							
NWF				S		Sn	16 33 54.5	-0.5
	baz=9.0							
NCU	**National Centr**	**0.76**	**327**	P		Pn	16 33 45.1	+0.6
	baz=327							
NCU				S		Sn	16 33 56.5	+1.3
	baz=327							
HSN	**Hsinchu**	**0.77**	**308**	*e*P		Pn	16 33 45.3	+0.7
	baz=311							
HSN				S		Sn	16 33 57.0	+1.6
	baz=311							
TWQ1	**Liyutan**	**0.79**	**271**	P		Pn	16 33 45.8	+0.8
	baz=271							
TWQ1				*e*S		Sn	16 33 56.6	+0.5
	baz=271							
NSY	**Sanyi**	**0.81**	**276**	*e*P		Pn	16 33 46.3	+0.1
	baz=271							
NSY				*e*S		Sn	16 33 57.8	+1.4
	baz=271							
SMLT	**Sun Moon Lake**	**0.81**	**237**	*e*P		Pn	16 33 45.6	+0.2
	baz=236							
TYC	**Yuchr**	**0.83**	**239**	P		Pn	16 33 45.9	+0.4
	baz=233							
EHY	**Hungye**	**0.87**	**200**	*e*P		Pb	16 33 45.0	-1.0
	baz=193							
EHY				*e*S		Sb	16 33 57.2	0.0
	baz=193							
TCU	**Taichung**	**0.90**	**258**	⇑P		Pn	16 33 48.3	+1.9
	baz=259							
TCU				*e*S		Sn	16 34 01.0	+2.4
	baz=259							
TWY	**Chenhua**	**0.94**	**358**	P		Pb	16 33 47.8	+0.7
	baz=347							
TWY				S		Sn	16 34 00.6	+1.0
	baz=347							
WNT	**Mingjian**	**0.99**	**243**	*e*P		Pb	16 33 49.0	+1.2
	baz=255							
WNT				*e*S		Sn	16 34 04.5	+3.7
	baz=255							
TWF1	**Yuli**	**1.03**	**198**	*e*P		Pn	16 33 46.1	-2.1
	baz=198							
YUS	**Yu-Shan**	**1.05**	**217**	*e*P		Pn	16 33 49.0	-0.1
	baz=224							
ALS	**Alishan**	**1.12**	**223**	*e*P		Pb	16 33 50.9	+0.3
	baz=211							
CHN5	**Tsauling**	**1.15**	**231**	*e*P		Pb	16 33 51.8	+1.1
	baz=231							
CHN5				*e*S		Sb	16 34 07.7	+2.4
	baz=231							
WGK	**Gukeng**	**1.18**	**237**	*e*P		Pb	16 33 52.4	+1.3
	baz=238							
WGK				*e*S		Sb	16 34 09.3	+3.3
	baz=238							
CHKT	**Chengkung**	**1.25**	**192**	*e*P		Pn	16 33 51.7	+0.5
	baz=191							
YOJ	**Yonaguni jima**	**1.25**	**84**	*e*P		Pb	16 33 52.4	0.0
	baz=84							
WTCT	**Ta-ch'eng**	**1.33**	**250**	*e*P		Pb	16 33 53.8	+0.1
	baz=260							
WTCT				*e*S		Sb	16 34 12.3	+2.0
	baz=260							
CHN2	**Minshiung**	**1.33**	**234**	*e*P		Pb	16 33 54.6	+0.9
	baz=234							
CHN2				*e*S		Sb	16 34 13.7	+3.3
	baz=234							
CHN4	**Tsaushan**	**1.37**	**225**	*e*P		Pb	16 33 55.1	+0.7
	baz=225							
CHN4				*e*S		Sb	16 34 14.3	+2.8
	baz=225							
CHY	**Chiayi**	**1.39**	**234**	*e*P		Pb	16 33 55.9	+1.2
	baz=221							
WTP	**Ta-pu**	**1.43**	**221**	*e*P		Pb	16 33 55.7	+0.1
	baz=208							
WTP				*e*S		Sb	16 34 16.9	+3.4
	baz=208							
WSF	**Szhu**	**1.47**	**242**	*e*P		Pb	16 33 56.7	+0.6
	baz=244							
WSF				*e*S		Sb	16 34 16.9	+2.5
	baz=244							
TWK	**Hsinying**	**1.50**	**225**	⇓*e*P		Pb	16 33 56.8	+0.2
	baz=225							
TWK				*e*S		Sb	16 34 18.5	+3.2
	baz=225							
CHN1	**Nanshi**	**1.53**	**222**	*e*P		Pb	16 33 57.7	+0.5
	baz=210							
CHN1				*e*S		Sb	16 34 18.8	+2.6
	baz=210							
SGST	**Jiashian**	**1.58**	**218**	*e*P		Pb	16 33 58.0	0.0
	baz=204							
TWG	**Pinlang**	**1.59**	**199**	*e*P		Pn	16 33 56.7	+0.7
	baz=186							
CHN8	**Yiju**	**1.64**	**233**	*e*P		Pb	16 33 59.5	+0.6
	baz=232							
ECL	**Taimali**	**1.84**	**200**	*e*P		Pn	16 33 59.5	+0.1
	baz=188							
TWM1	**Shoushan**	**1.87**	**217**	*e*P		Pb	16 34 04.0	+1.0
	baz=216							
PNG	**Penghu**	**2.06**	**249**

ellipse: s-maj=8.8km s-min=5.5km az=105.0
*WAR **28** 17:10:02.0,51°.48N×16°.16E*
*BGR **28** 17:10:02.0±0.3,51°.45N×16°.18E,h1km,ML4.0/15,Error ellipse: s-maj=4.4km s-min=2.2km az=17.0*
*STR **28** 17:10:03.2±0.7,50°.97N×16°.11E,h5km,Ml4.6,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*VIE **28** 17:10:03.7±0.4,51°.28N×16°.10E,h0km,mb3.6/17, ML3.6/14,Ms4.2/4,Error ellipse: s-maj=2.4km s-min=1.9km az=1.0 67 km WNW of Wroclaw Suspected Mining induced.*
ISC 28 17:10:00.7±0.3,51°.50N±0°.02×16°.14E±0°.02,h0km,n391, σ1♀39/504,mb4.3/21,50C-36D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**171**	*e*Pg		**Pg**	**17 10 14.1**	**+0.7**
KSP				*e*Sg		**Sg**	**17 10 21.7**	**-0.2**
KSP	**Ksiaz**	**0.66**	**171**	⇓*i*P		**Pg**	**17 10 14.0**	**+0.7**
KSP				*e*			17 10 26.0	
KSP	**Ksiaz**	**0.66**	**171**	*e*Pg		**Pg**	**17 10 14.0**	**+0.7**
KSP				*e*Sg		**Sg**	**17 10 22.0**	**+0.1**
KSP	**Ksiaz**	**0.66**	**171**	*i* P		**Pg**	**17 10 14.0**	**+0.7**
KSP				Sg		**Sg**	**17 10 21.7**	**-0.2**
KSP				*e*S		**Sb**	**17 10 26.0**	**+1.2**
UPC	**Upice**	**0.99**	**185**	⇓*i*P		**Pg**	**17 10 20.1**	**+0.4**
UPC				*e*			17 10 32.7	
UPC	comp=N,626nm,0.5s			smax	smax			
UPC	**Upice**	**0.99**	**185**	⇓*i*PG		**Pg**	**17 10 20.1**	**+0.4**
UPC	comp=N,626nm,0.5s			*e*SG		**Sg**	**17 10 32.7**	**+0.1**
UPC	**Upice**	**0.99**	**185**	Pg		**Pg**	**17 10 20.1**	**+0.4**
UPC	comp=N,626nm,0.5s			Sg		**Sg**	**17 10 32.7**	**+0.1**
DPC	**Dobruska-Polom**	**1.16**	**174**	*e*Pg		**Pg**	**17 10 22.9**	**+0.1**
DPC				*e*Sg		**Sg**	**17 10 38.0**	**+0.3**
DPC	**Dobruska-Polom**	**1.16**	**174**	⇓*i*P		**Pg**	**17 10 22.9**	**+0.1**
DPC				*e*			17 10 37.5	
DPC	**Dobruska-Polom**	**1.16**	**174**	⇓*i*PG		**Pg**	**17 10 22.9**	**+0.1**
DPC				*e*SG		**Sg**	**17 10 37.5**	**-0.2**
DPC				AMS		AMS	17 10 50.0	
DPC	**Dobruska-Polom**	**1.16**	**174**	*i* P		**Pg**	**17 10 22.9**	**+0.1**
DPC				Sg		**Sg**	**17 10 37.5**	**-0.2**
PVCC	**Panska Ves**	**1.39**	**226**	*e*P		**Pg**	**17 10 27.4**	**+0.2**
PVCC				*e*			17 10 46.3	
PVCC	comp=N,1μm,0.4s			smax	smax			
PVCC	**Panska Ves**	**1.39**	**226**	⇓*e*PG		**Pg**	**17 10 27.4**	**+0.2**
PVCC	comp=N,1μm,0.4s			*e*SG		**Sn**	**17 10 46.3**	**0.0**
PVCC	**Panska Ves**	**1.39**	**226**	Pg		**Pg**	**17 10 27.4**	**+0.2**
PVCC	comp=N,1μm,0.4s			Sg		**Sn**	**17 10 46.3**	**0.0**
KRLC	**Kraliky**	**1.48**	**164**	⇓*i*P		**Pn**	**17 10 28.4**	**-0.2**
KRLC				*e*			17 10 47.9	
KRLC	**Kraliky**	**1.48**	**164**	⇓*i*PG		**Pn**	**17 10 28.4**	**-0.2**
KRLC				*e*SG		**Sg**	**17 10 47.9**	**-0.3**
KRLC	**Kraliky**	**1.48**	**164**	Pg		**Pn**	**17 10 28.4**	**-0.2**
KRLC				Sg		**Sg**	**17 10 47.9**	**-0.3**
BRG	**Berggiesshubel**	**1.52**	**246**	PN		**Pn**	**17 10 28.7**	**-0.3**
BRG				PG		**Pg**	**17 10 30.5**	**+0.8**
BRG	comp=N,608nm,0.4s			SG		**Sn**	**17 10 51.0**	**+1.6**
BRG	**Berggiesshubel**	**1.52**	**246**	*e*Pn		**Pn**	**17 10 28.8**	**-0.2**
BRG				*e*Pg		**Pg**	**17 10 29.9**	**+0.2**
BRG				*e*Sg		**Sn**	**17 10 51.1**	**+1.6**
BRG	**Berggiesshubel**	**1.52**	**246**	Pn		**Pn**	**17 10 28.8**	**-0.2**
PRA	**Prague**	**1.79**	**218**	⇓PG		**Pb**	**17 10 34.0**	**-0.3**
PRA				SG		**Sb**	**17 10 57.0**	**-0.3**
PRU	**Pruhonice**	**1.82**	**214**	*e*P		**Pn**	**17 10 33.2**	**0.0**
PRU				*e*			17 10 58.9	
PRU	comp=N,663nm,0.6s			smax	smax			
PRU	comp=Z,2μm,4.2s			MLR	MLR			
PRU	**Pruhonice**	**1.82**	**214**	⇓*e*PN		**Pn**	**17 10 33.2**	**0.0**
PRU				*e*PG		**Pg**	**17 10 35.3**	**-0.2**
PRU				*e*SG		**Sg**	**17 10 58.9**	**-0.2**
PRU	comp=Z,662nm,0.6s comp=Z,2μm,4.2s			AMS	AMS		17 11 10.0	
PRU	**Pruhonice**	**1.82**	**214**	Pn		**Pn**	**17 10 33.2**	**0.0**
FBE	**Freiberg**	**1.84**	**253**	*e*Pn		**Pn**	**17 10 33.7**	**+0.2**
FBE				*e*Pg		**Pg**	**17 10 36.2**	**+0.2**
FBE				*e*Sg		**Sg**	**17 11 00.5**	**+0.7**
FBE	**Freiberg**	**1.84**	**253**	Pn		**Pn**	**17 10 33.7**	**+0.2**
GKP	**Gorka Klasztor**	**1.90**	**20**	*e*P		**Pn**	**17 10 32.4**	**-1.9**
GKP				*e*			17 11 09.9	
GKP	**Gorka Klasztor**	**1.90**	**20**	*e*Pn		**Pn**	**17 10 32.4**	**-1.9**
GKP				*e*Pg		**Pb**	**17 10 35.4**	**-0.8**
GKP				*e*PP		PnPn	17 10 43.0	+1.4
GKP				*e*Sg		**Sb**	**17 11 00.9**	**+0.5**
GKP				*e*			17 11 05.8	
GKP	**Gorka Klasztor**	**1.90**	**20**	*e*P		**Pn**	**17 10 32.4**	**-1.9**
RAC	**Raciborz**	**1.93**	**137**	*e*P		**Pn**	**17 10 34.0**	**-0.7**
RAC				*e*			17 11 02.6	
RAC	**Raciborz**	**1.93**	**137**	*e*P		**Pn**	**17 10 34.0**	**-0.7**
RAC	**Raciborz**	**1.93**	**137**	*e*Pg		**Pg**	**17 10 37.5**	**-0.1**
RAC				*e*S		**Sg**	**17 11 02.6**	**+0.1**
MORC	**Moravsky Berou**	**1.94**	**152**	*e*Pn		**Pn**	**17 10 34.2**	**-0.8**
MORC				*e*Pg		**Pg**	**17 10 37.5**	**-0.4**
MORC				*e*Sg		**Sb**	**17 11 01.9**	**+0.2**
MORC	**Moravsky Berou**	**1.94**	**152**	⇑P		**Pn**	**17 10 35.1**	**+0.2**
MORC	**Moravsky Berou**	**1.94**	**152**	⇑*i*P		**Pn**	**17 10 35.1**	**+0.2**
MORC	**Moravsky Berou**	**1.94**	**152**	*e*Pn		**Pn**	**17 10 34.5**	**-0.4**
MORC	**Moravsky Berou**	**1.94**	**152**	P		**Pn**	**17 10 35.1**	**+0.2**
CLL	**Collm**	**1.97**	**266**	*e*Pn		**Pn**	**17 10 35.2**	**-0.1**
CLL				*e*Pg		**Pg**	**17 10 38.2**	**-0.2**
CLL				*e*Sg		**Sg**	**17 11 04.6**	**+0.6**
CLL	**Collm**	**1.97**	**266**	*e*P		**Pn**	**17 10 35.0**	**-0.3**
CLL				*i*			17 11 05.4	
CLL	**Collm**	**1.97**	**266**	*e*Pn		**Pn**	**17 10 35.0**	**-0.3**
CLL				*e*Pg		**Pb**	**17 10 38.0**	**+0.6**
CLL				*i*			17 10 42.6	
CLL	comp=Z,434nm,0.6s			*i* Sg		**Sg**	**17 11 05.4**	**+1.4**
CLL	**Collm**	**1.97**	**266**	*e*P		**Pn**	**17 10 35.0**	**-0.3**
CLL	**Collm**	**1.97**	**266**	Pn		**Pn**	**17 10 35.2**	**-0.1**
CLL	**Collm**	**1.97**	**266**	Pg		**Pg**	**17 10 38.2**	**-0.2**
CLL				Sg		**Sg**	**17 11 04.6**	**+0.6**
CLL				*i* S		**Sg**	**17 11 05.4**	**+1.4**
OKC	**Ostrava-Krasne**	**2.10**	**142**	*e*Pn		**Pn**	**17 10 36.1**	**-0.9**
OKC				*e*Pg		**Pg**	**17 10 40.6**	**-0.2**
OKC				*e*Sg		**Sb**	**17 11 06.1**	**0.0**
OKC	**Ostrava-Krasne**	**2.10**	**142**	*e*P		**Pn**	**17 10 36.1**	**-0.9**
OKC				*e*			17 11 06.1	
OKC	comp=N,847nm,0.8s			smax	smax			
OKC	comp=Z,2μm,2.8s			MLR	MLR			
OKC	**Ostrava-Krasne**	**2.10**	**142**	⇓*e*PN		**Pn**	**17 10 36.1**	**-0.9**
OKC				*e*PG		**Pb**	**17 10 40.1**	**+0.5**
OKC				*e*SG		**Sb**	**17 11 06.1**	**0.0**
OKC	comp=Z,846nm,0.8s comp=Z,2μm,2.8s			AMS	AMS		17 11 30.0	
OKC	**Ostrava-Krasne**	**2.10**	**142**	*e*P		**Pn**	**17 10 36.1**	**-0.9**
OKC	**Ostrava-Krasne**	**2.10**	**142**	Pg		**Pg**	**17 10 40.6**	**-0.2**
OKC				*e*S		**Sb**	**17 11 06.1**	**0.0**
VRAC	**Vranov**	**2.21**	**172**	⇑*i*P		**Pn**	**17 10 39.1**	**+0.5**
VRAC	**Vranov**	**2.21**	**172**	*e*Pn		**Pn**	**17 10 38.6**	**0.0**
VRAC	**Vranov**	**2.21**	**172**	P		**Pn**	**17 10 39.1**	**+0.5**
VRAC				*e*Sg		**Sb**	**17 11 10.6**	**+1.2**
VRAC	**Vranov**	**2.21**	**172**	Pn		**Pn**	**17 10 38.2**	**-0.4**
VRAC	comp=Z,718nm,1.0s comp=Z,18nm,0.3s,baz=353,slow=14,SNR=84 comp=Z,78nm,0.3s,baz=256,slow=19,SNR=9.3			Lg	Lg		17 11 09.7	
TREC	**Trest**	**2.24**	**191**	*e*P		**Pn**	**17 10 39.3**	**+0.2**
TREC				*e*			17 11 11.9	
TREC	comp=N,246nm,0.4s			smax	smax			
TREC	comp=Z,2μm,2.6s			MLR	MLR			
TREC	**Trest**	**2.24**	**191**	⇓*e*PN		**Pn**	**17 10 39.3**	**+0.2**
TREC				*e*PG		**Pb**	**17 10 42.6**	**+0.5**
TREC				*e*SG		**Sg**	**17 11 11.9**	**-0.8**
TREC	comp=Z,246nm,0.4s comp=Z,2μm,2.6s			AMS	AMS		17 11 30.0	
TREC	**Trest**	**2.24**	**191**	Pn		**Pn**	**17 10 39.3**	**+0.2**
KRUC	**Moravsky**	**2.44**	**176**	*e*Pn		**Pn**	**17 10 42.1**	**+0.3**
KRUC				*e*Sg		**Sg**	**17 11 18.7**	**-0.4**
TANN	**Tannenbergstha**	**2.56**	**246**	*e*Pn		**Pn**	**17 10 44.0**	**+0.5**
TANN				*e*Pg		**Pg**	**17 10 51.1**	**+1.3**
TANN				*e*Sg		**Sg**	**17 11 22.8**	**-0.2**
TANN	**Tannenbergstha**	**2.56**	**246**	Pn		**Pn**	**17 10 44.0**	**+0.5**
WERD	**Werda**	**2.64**	**248**	*e*Pn		**Pn**	**17 10 45.0**	**+0.5**
WERD				*e*Pg		**Pg**	**17 10 51.7**	**+0.4**
WERD				*e*Sg		**Sg**	**17 11 25.1**	**-0.3**
WERD	**Werda**	**2.64**	**248**	Pn		**Pn**	**17 10 45.0**	**+0.5**
OJC	**Ojcow**	**2.65**	**117**	*e*Pn		**Pn**	**17 10 43.0**	**-1.6**
OJC				*e*Pg		**Pg**	**17 10 50.5**	**-0.9**
OJC	**Ojcow**	**2.65**	**117**	*e*P		**Pn**	**17 10 42.8**	**-1.8**
OJC				*e*			17 11 15.0	
OJC	**Ojcow**	**2.65**	**117**	*e*Pn		**Pn**	**17 10 42.8**	**-1.8**
OJC				*e*P		**Pg**	**17 10 51.3**	**-0.1**
OJC				*e*Pg		Pb	17 10 52.4	+3.4
OJC				*e*Sn		**Sn**	**17 11 15.0**	**-2.5**
OJC				*e*Sg		**Sg**	**17 11 26.4**	**+0.6**
OJC	**Ojcow**	**2.65**	**117**	*e*P		**Pn**	**17 10 42.8**	**-1.8**
OJC	**Ojcow**	**2.65**	**117**	Pn		**Pn**	**17 10 43.0**	**-1.6**
OJC	**Ojcow**	**2.65**	**117**	Pg		**Pg**	**17 10 50.5**	**-0.9**
OJC				*e*S		**Sn**	**17 11 15.0**	**-2.5**
OJC				*e*Sg		**Sg**	**17 11 26.4**	**+0.6**
NKC	**Novy Kostel**	**2.66**	**243**	*e*P		**Pn**	**17 10 45.4**	**+0.6**
NKC				*e*			17 11 27.3	
NKC	comp=N,347nm,0.4s			smax	smax			
NKC	comp=Z,600nm,4.5s			MLR	MLR			
NKC	**Novy Kostel**	**2.66**	**243**	⇓*e*PN		**Pn**	**17 10 45.4**	**+0.6**
NKC				*e*PG		**Pg**	**17 10 51.6**	**0.0**
NKC				*e*SG		**Sg**	**17 11 27.3**	**+1.3**
NKC	comp=Z,347nm,0.4s			AMS	AMS		17 11 40.0	
NKC	**Novy Kostel**	**2.66**	**243**	Pn		**Pn**	**17 10 45.4**	**+0.6**
JAVC	**Velka Javorina**	**2.82**	**159**	*e*Sg		**Sg**	**17 11 32.8**	**+1.6**
KHC	**Kasperske Hory**	**2.88**	**216**	*e*P		**Pn**	**17 10 47.9**	**0.0**
KHC				*e*			17 11 24.0	
KHC	comp=N,377nm,0.8s			smax	smax			
KHC	comp=Z,800nm,4.9s			MLR	MLR			
KHC	**Kasperske Hory**	**2.88**	**216**	⇓*e*PN		**Pn**	**17 10 47.9**	**0.0**
KHC				*e*PG		**Pb**	**17 10 54.5**	**+1.6**
KHC				*e*SN		**Sn**	**17 11 24.0**	**+0.8**
KHC				*e*SG		**Sg**	**17 11 32.3**	**-0.9**
KHC	comp=Z,377nm,0.8s comp=Z,800nm,4.9s			AMS	AMS		17 11 50.0	
KHC	**Kasperske Hory**	**2.88**	**216**	Pn		**Pn**	**17 10 47.9**	**0.0**
BEL	**Belsk**	**2.92**	**81**	*e*P		**Pn**	**17 10 50.4**	**+2.1**
BEL				*e*			17 11 26.6	
BEL	**Belsk**	**2.92**	**81**	*e*Pn		**Pn**	**17 10 50.3**	**+2.0**
BEL				*e*Pg		**Pg**	**17 10 58.2**	**+1.6**
BEL				*e*Sn		**Sn**	**17 11 26.6**	**+2.5**
BEL				*e*Sg		Sg	17 11 41.8	+7.4
BEL	**Belsk**	**2.92**	**81**	*e*P		**Pn**	**17 10 50.4**	**+2.1**
BEL	**Belsk**	**2.92**	**81**	*e*Pg		**Pg**	**17 10 58.2**	**+1.6**
BEL				*e*S		**Sn**	**17 11 26.6**	**+2.5**
MANZ	**Manzenberg**	**2.97**	**241**	*e*Pn		**Pn**	**17 10 49.9**	**+0.8**
MANZ				*e*Pg		**Pg**	**17 10 58.6**	**+1.0**
MANZ				*e*Sg		**Sg**	**17 11 37.0**	**+0.9**
MANZ	**Manzenberg**	**2.97**	**241**	Pn		**Pn**	**17 10 49.9**	**+0.8**
ROTZ	**Rotzenmuhle**	**3.04**	**237**	*e*Pn		**Pn**	**17 10 50.5**	**+0.5**
ROTZ				*e*Pg		**Pg**	**17 10 59.1**	**+0.1**
ROTZ				*e*Sg		**Sg**	**17 11 37.8**	**-0.5**
ROTZ	**Rotzenmuhle**	**3.04**	**237**	Pn		**Pn**	**17 10 50.5**	**+0.5**
GEC2	**GERESS Array S**	**3.08**	**211**	*e*Pn		**Pn**	**17 10 50.7**	**+0.1**
GEC2				*e*Pg		**Pg**	**17 11 00.0**	**+0.3**
GEC2				*e*Sg		**Sb**	**17 11 37.0**	**+2.5**
GEC2	**GERESS Array S**	**3.08**	**211**	*e*P		**Pn**	**17 10 50.7**	**+0.1**
GEC2	**GERESS Array S**	**3.08**	**211**	*e*P		**Pg**	**17 11 00.0**	**+0.3**
GEC2				*e*			17 11 37.0	
GEC2	**GERESS Array S**	**3.08**	**211**	Pn		**Pn**	**17 10 50.7**	**+0.1**
GERES	**GERESS Array B**	**3.08**	**211**	P		**Pn**	**17 10 50.8**	**+0.1**
GERES	comp=Z,47nm,0.3s			S		**Sn**	**17 11 28.6**	**+0.4**
GERES	**GERESS Array B**	**3.08**	**211**	Pn		**Pn**	**17 10 50.8**	**+0.1**
GERES	comp=Z,12nm,0.3s,baz=28,slow=13,SNR=219 comp=Z,47nm,0.3s,baz=32,slow=16,SNR=83			Pg		**Pb**	**17 10 57.5**	**+1.1**
GERES	comp=Z,23nm,0.3s,baz=32,slow=31,SNR=6.1			Sn		**Sn**	**17 11 28.6**	**+0.4**
GERES	comp=Z,35nm,0.3s,baz=30,slow=28,SNR=9.8			Lg	Lg		17 11 36.9	
SMOL	**Smolenice**	**3.10**	**164**	*e*P		**Pn**	**17 10 52.7**	**+1.9**
SMOL	**Smolenice**	**3.10**	**164**	*e*PN		**Pn**	**17 10 52.7**	**+1.9**
SMOL				*e*			17 11 00.3	
SMOL	**Smolenice**	**3.10**	**164**	*e*SG		**Sg**	**17 11 43.2**	**+3.0**
SMOL	**Smolenice**	**3.10**	**164**	*e*P		**Pn**	**17 10 52.7**	**+1.9**
SMOL				*e*Sg		**Sg**	**17 11 43.2**	**+3.0**
WET	**Wettzell**	**3.15**	**223**	*e*Pn		**Pn**	**17 10 51.8**	**+0.3**
WET				*e*Sg		**Sg**	**17 11 40.6**	**-1.1**
WET	**Wettzell**	**3.15**	**223**	*e*P		**Pn**	**17 10 51.8**	**+0.3**
WET	**Wettzell**	**3.15**	**223**	Pn		**Pn**	**17 10 51.8**	**+0.3**
WET				Sg		**Sg**	**17 11 40.6**	**-1.1**
NIE	**Niedzica**	**3.38**	**126**	*e*P		**Pn**	**17 10 53.6**	**-1.2**
NIE	**Niedzica**	**3.38**	**126**	*e*Pn		**Pn**	**17 10 53.6**	**-1.2**
NIE				*e*Pg		**Pg**	**17 11 04.8**	**-0.7**
NIE				*e*Sg		**Sg**	**17 11 48.6**	**-0.7**
NIE	**Niedzica**	**3.38**	**126**	*e*P		**Pn**	**17 10 53.6**	**-1.2**
CONA	**Conrad Observa** SNR=32	**3.58**	**183**	⇓*i*Pn		**Pn**	**17 10 57.7**	**+0.2**
CONA				⇑*i*Pg		**Pg**	**17 11 08.0**	**-1.2**
CONA				⇓*i*Sg		**Sg**	**17 11 54.5**	**-1.1**
CONA	comp=Z,478nm,1.1s			Pn		**Pn**	**17 10 57.7**	**+0.2**
CLZ	**Clausthal**	**3.60**	**278**	*e*Pn		**Pn**	**17 10 58.3**	**+0.5**
CLZ				*e*Sg		**Sg**	**17 11 58.5**	**+2.1**
CLZ	**Clausthal**	**3.60**	**278**	*e*P		**Pn**	**17 10 58.3**	**+0.5**
CLZ	**Clausthal**	**3.60**	**278**	Pn		**Pn**	**17 10 58.3**	**+0.5**
CLZ				Sg		**Sg**	**17 11 58.5**	**+2.1**
GRA1	**Grafenberg Arr**	**3.62**	**242**	Pn		**Pn**	**17 10 58.8**	**+0.9**
GRA1	**Grafenberg Arr**	**3.62**	**242**	Pg		**Pg**	**17 11 11.4**	**+1.5**
GRA1				Sg		**Sg**	**17 11 57.2**	**+0.5**
GRF	**Grafenberg Arr**	**3.62**	**242**	*e*Pn		**Pn**	**17 10 58.8**	**+0.9**
GRF				*e*Pg		**Pg**	**17 11 11.4**	**+1.5**
GRF				*e*Sg		**Sg**	**17 11 57.2**	**+0.5**
GRF	**Grafenberg Arr**	**3.62**	**242**	*e*P		**Pn**	**17 10 58.8**	**+0.9**
BSD	**Bornholm Skovb**	**3.70**	**349**	⇑*i*P		**Pn**	**17 10 58.4**	**-0.6**
BSD				*i* S		**Sn**	**17 11 39.6**	**-3.6

CEY					*e*Sn		**Sn**	17 12 36.7	-0.3
CEY	**Cerknica**	**5.87**	**192**		*e*Pn		**Pn**	17 11 29.3	+0.4
CEY					*e*Sn		**Sn**	17 12 36.7	-0.3
LANF	**Langenberg**	**5.91**	**248**		P		**Pn**	17 11 27.8	-1.6
LANF	**Langenberg**	**5.91**	**248**		P		**Pn**	17 11 27.8	-1.6
BOJS	**Bojanci**	**6.03**	**186**	*i*	Pn		**Pn**	17 11 32.1	+1.1
BOJS	**Bojanci**	**6.03**	**186**	⇑*i*	Pn		**Pn**	17 11 32.1	+1.1
BOJS					*e*Sn		**Sn**	17 12 40.2	-0.5
BOJS	**Bojanci**	**6.03**	**186**	⇑*i*	Pn		**Pn**	17 11 32.1	+1.1
BOJS					*e*Sn		**Sn**	17 12 40.2	-0.5
RUP	**Ruppelstein**	**6.05**	**256**		P		**Pn**	17 11 31.7	+0.3
DAVOX	**Davos/Dischmat**	**6.25**	**223**		P		**Pn**	17 11 33.1	-1.2
	comp=E,3.0nm,0.3s								
DAVOX					S		**Sn**	17 12 44.6	-1.9
DAVOX	**Davos/Dischmat**	**6.25**	**223**		Pn		**Pn**	17 11 33.1	-1.2
	comp=E,2.6nm,0.3s,baz=24,slow=12,SNR=22								
DAVOX					Sn		**Sn**	17 12 44.6	-1.9
	comp=E,1.2nm,0.3s,baz=16,slow=18,SNR=2.4								
DAVOX					Lg		Lg	17 13 19.4	
	comp=E,2.7nm,0.3s,baz=238,slow=23,SNR=5.7								
SIRR	**Siria**		**6.38**	**143**	⇑*i*	P	**Pn**	17 11 35.9	+0.1
DRGR			**6.38**	**135**	⇑P		**Pn**	17 11 35.9	-0.1
DRGR			**6.38**	**135**	*e*Pn		**Pn**	17 11 35.6	-0.4
DRGR			**6.38**	**135**	⇑*i*P		**Pn**	17 11 35.9	-0.1
DRGR			**6.38**	**135**	*e*Pn		**Pn**	17 11 35.6	-0.4
DRGR			**6.38**	**135**	P		**Pn**	17 11 35.9	-0.1
FELD	**Feldberg im Sc**		**6.40**	**239**	P		**Pn**	17 11 34.7	-1.6
FELD	**Feldberg im Sc**		**6.40**	**239**	P		**Pn**	17 11 34.7	-1.6
MUD	**Monsted U'grnd**		**6.44**	**323**	*i* P		Pn	17 11 41.1	+4.4
MUD	**Monsted U'grnd**		**6.44**	**323**	*i* P		Pn	17 11 41.1	+4.4
MUD	**Monsted U'grnd**		**6.44**	**323**	*i* P		Pn	17 11 41.1	+4.4
MEM	**Membach**		**6.45**	**266**		PN	**Pn**	17 11 37.5	+0.7
MEM	**Membach**		**6.45**	**266**		PG	**Pg**	17 12 03.2	-1.0
MEM	**Membach**		**6.45**	**266**		SN	**Sn**	17 12 51.6	+0.6
	comp=E,52nm,0.0s								
MEM	**Membach**		**6.45**	**266**		SG	**Sg**	17 13 26.6	-1.1
HGN	**Heimansgroeve**		**6.47**	**267**	*e*P		**Pn**	17 11 39.2	+2.2
HGN					*e*S		**Sg**	17 13 30.0	+1.8
HGN	**Heimansgroeve**		**6.47**	**267**	*e*P		**Pn**	17 11 39.2	+2.2
CDF	**Champ du Feu**		**6.50**	**245**	*e*Pn		**Pn**	17 11 36.2	-1.4
CDF					*e*Sg		**Sg**	17 13 24.1	-5.1
	comp=E,511nm,1.4s								
CDF	**Champ du Feu**		**6.50**	**245**	*e*Pn		**Pn**	17 11 36.2	-1.4
WLF	**Walferdange**		**6.62**	**258**	PN		**Pn**	17 11 38.1	-1.0
WLF					PG		**Pg**	17 12 07.7	+0.3
WLF					SN		**Sn**	17 12 57.5	+2.3
	comp=E,72nm,0.0s								
WLF					SG		**Sg**	17 13 34.9	+1.8
BEBN	**Eben Emael**		**6.62**	**268**	PN		**Pn**	17 11 39.9	+0.8
ECH	**Echery**		**6.67**	**244**	P		**Pn**	17 11 37.9	-2.0
ECH	**Echery**		**6.67**	**244**	P		**Pn**	17 11 37.9	-2.0
BLY	**Banja Luka**		**6.79**	**174**	*e*Pn		**Pn**	17 11 41.6	+0.1
BLY	**Banja Luka**		**6.79**	**174**	*e*Pn		**Pn**	17 11 41.6	+0.1
FRGS	**Fruska Gora**		**6.80**	**157**	*e*Pn		**Pn**	17 11 42.6	+0.9
FGSL	**Fruska Gora**		**6.80**	**157**	*e*Pn		**Pn**	17 11 42.6	+0.9
MOF	**Molkenrain**		**6.89**	**242**	P		**Pn**	17 11 41.1	-1.8
MOF	**Molkenrain**		**6.89**	**242**	P		**Pn**	17 11 41.1	-1.8
BZS	**Buzias**		**6.92**	**146**	⇑P		**Pn**	17 11 44.3	+1.1
BZS	**Buzias**		**6.92**	**146**	*e*Pn		**Pn**	17 11 43.1	-0.1
BZS	**Buzias**		**6.92**	**146**	⇑*i*P		**Pn**	17 11 44.3	+1.1
BZS	**Buzias**		**6.92**	**146**	*e*Pn		**Pn**	17 11 43.1	-0.1
BZS	**Buzias**		**6.92**	**146**	P		**Pn**	17 11 44.3	+1.1
BCLA	**Clavier**		**6.93**	**265**	PN		**Pn**	17 11 44.4	+1.0
NVLJ	**Novalja**		**6.99**	**187**	*e*Pn		**Pn**	17 11 45.4	+1.2
NVLJ					Sn		Sb	17 13 18.5	-8.3
NVLJ	**Novalja**		**6.99**	**187**	*e*Pn		**Pn**	17 11 45.4	+1.2
HINF	**Hinteralfeld**		**7.06**	**242**	*e*Pn		Pn	17 11 41.8	-3.5
HINF					*e*Sg		**Sg**	17 13 41.8	-5.5
	comp=E,186nm,1.0s								
BURAR	**Bucovina Array**		**7.07**	**120**	⇑P		**Pn**	17 11 45.4	0.0
BURAR	**Bucovina Array**		**7.07**	**120**	⇑*i*P		**Pn**	17 11 45.4	0.0
HAU	**Haudompre**		**7.24**	**245**	*e*Pn		**Pn**	17 11 45.2	-2.5
HAU					*e*Sg		Sg	17 13 46.5	-6.5
	comp=E,226nm,1.2s								
NACGM	**Naroch**		**7.24**	**58**	*e*P		**Pn**	17 11 45.0	-2.7
GIVF	**Givet**		**7.31**	**263**	*e*P		**Pn**	17 11 50.0	+1.4
GIVF					*e*Sg		Sg	17 13 48.9	-6.2
	comp=E,214nm,1.2s								
GIVF	**Givet**		**7.31**	**263**	*e*P		**Pn**	17 11 50.0	+1.4
PAGF	**Fort de Pagny**		**7.32**	**250**	*e*Pn		**Pn**	17 11 45.8	-3.0
	baz=65								
PAGF					*e*Sg		**Sg**	17 13 50.5	-5.2
	comp=E,93nm,1.2s								
DOU	**Dourbes**		**7.45**	**264**	PN		**Pn**	17 11 50.7	+0.1
DOU					SN		**Sn**	17 13 14.6	-1.0
	comp=E,9.4nm,0.0s								
GZR	**Gura Zlata**		**7.53**	**142**	⇑P		**Pn**	17 11 53.6	+1.8
GZR	**Gura Zlata**		**7.53**	**142**	⇓*i*Pn		**Pn**	17 11 52.7	+0.9
GZR	**Gura Zlata**		**7.53**	**142**	⇑*i*P		**Pn**	17 11 53.6	+1.8
GZR	**Gura Zlata**		**7.53**	**142**	⇓*i*Pn		**Pn**	17 11 52.7	+0.9
GZR	**Gura Zlata**		**7.53**	**142**	P		**Pn**	17 11 53.6	+1.8
MICGM	**Minsk**		**7.70**	**62**	⇓*e*P		Pg	17 12 23.0	-5.0
BAIF	**Baives**		**7.70**	**264**	*e*Sg		Sg	17 14 00.7	-7.1
	comp=E,188nm,1.2s								
MEZF	**Maizieres J'vi**		**7.75**	**252**	*e*Pn		**Pn**	17 11 51.6	-3.0
MEZF					*e*Sg		Sg	17 14 03.4	-5.9
	comp=E,223nm,1.2s								
SFTF	**Sexfontaines**		**7.89**	**250**	*e*Pn		Pn	17 11 53.3	-3.3
SFTF					*e*Sg		Sg	17 14 07.3	-6.7
	comp=E,420nm,1.5s								
BBLS	**Lazići**		**7.95**	**163**	*e*Pn		**Pn**	17 11 58.4	+1.0
BBLS	**Lazići**		**7.95**	**163**	*e*Pn		**Pn**	17 11 58.4	+1.0
CABF	**La Chapelle**		**8.21**	**237**	*e*Pn		Pn	17 11 56.5	-4.6
CABF					*e*Sg		Sg	17 14 16.1	-8.1
	comp=E,410nm,1.3s								
GRUS	**Gruza**		**8.21**	**156**	*e*Pn		**Pn**	17 12 00.6	-0.4
GRUS	**Gruza**		**8.21**	**156**	*e*Pn		**Pn**	17 12 00.6	-0.4
KIEV	**Kiev**		**8.27**	**90**	*e*P		**Pn**	17 12 00.2	-1.6
KIEV	**Kiev**		**8.27**	**90**	*e*P		**Pn**	17 12 00.2	-1.6
AKASG	**Malin Array Be**		**8.28**	**90**	P		**Pn**	17 12 00.4	-1.5
AKASG								17 13 32.8	
AKASG					pmax		pmax		
	comp=Z,7.0nm,0.3s								
AKASG					smax		smax		
	comp=N,3.0nm,0.3s								
AKASG	**Malin Array Be**		**8.28**	**90**	P		**Pn**	17 12 00.4	-1.5
	comp=N,7.0nm,0.3s								
AKASG					S		**Sn**	17 13 32.8	-3.2
AKASG	**Malin Array Be**		**8.28**	**90**	Pn		**Pn**	17 12 00.4	-1.5
	comp=N,7.3nm,0.3s,baz=280,slow=12,SNR=26								
AKASG					Sn		**Sn**	17 13 32.8	-3.2
	comp=N,3.1nm,0.3s,baz=266,slow=25,SNR=4.4								
AKASG					Lg		Lg	17 14 31.5	
	comp=N,1.2nm,0.3s,baz=270,slow=26,SNR=6.7								
VOIR			**8.47**	**132**	⇓P		**Pn**	17 12 05.5	+0.9
VOIR			**8.47**	**132**	⇓*i*P		**Pn**	17 12 05.5	+0.9
VOIR			**8.47**	**132**	P		**Pn**	17 12 05.5	+0.9
TESR	**Tescani**		**8.52**	**122**	⇓*i*P		**Pn**	17 12 05.8	+0.6
LPL	**La Plagne**		**8.64**	**230**	*e*P		**Pn**	17 12 07.9	+0.8
LPL					*e*Sg		Sg	17 14 31.7	-6.4
	comp=N,93nm,1.2s								
LPL	**La Plagne**		**8.64**	**230**	*e*P		**Pn**	17 12 07.9	+0.8
LPG	**La Plagne**		**8.65**	**230**	*e*P		**Pn**	17 12 07.7	+0.4
LPG					*e*Sg		Sg	17 14 32.0	-6.2
	comp=N,155nm,1.3s								
LPG	**La Plagne**		**8.65**	**230**	*e*P		**Pn**	17 12 07.7	+0.4
STON	**Ston**		**8.70**	**172**	*e*Pn		**Pn**	17 12 08.7	+1.1
STON	**Ston**		**8.70**	**172**	*e*Pn		**Pn**	17 12 08.7	+1.1
HFS	**Hagfors**		**8.77**	**352**	P		**Pn**	17 12 07.7	-0.8
	comp=N,1.0nm,0.3s								
HFS					S		**Sn**	17 13 44.6	-3.3
HFS	**Hagfors**		**8.77**	**352**	Pn		**Pn**	17 12 07.7	-0.8
	comp=N,0.8nm,0.3s,baz=161,slow=15,SNR=21								
HFS					Sn		**Sn**	17 13 44.6	-3.3
	comp=N,1.0nm,0.3s,baz=165,slow=23,SNR=3.9								
HFS					Lg		Lg	17 14 42.5	
	comp=N,0.8nm,0.3s,baz=168,slow=29,SNR=2.3								
MLR	**Muntele Rosu**		**8.86**	**129**	⇑*i*P		**Pn**	17 12 09.2	-0.8
MLR	**Muntele Rosu**		**8.86**	**129**	P		**Pn**	17 12 09.2	-0.8
PLOR	**Plostina**		**8.96**	**125**	⇑P		**Pn**	17 12 11.4	+0.1
PLOR	**Plostina**		**8.96**	**125**	⇑*i*P		**Pn**	17 12 11.4	+0.1
PLOR	**Plostina**		**8.96**	**125**	P		**Pn**	17 12 11.4	+0.1
KONO	**Kongsberg**		**8.96**	**338**	*e*P		Pn	17 12 19.1	+7.8
LOR	**Lormes**		**9.06**	**247**	*e*Pn		Pn	17 12 09.2	-3.4
	baz=70								
LOR					*e*Sg		Sn	17 14 43.8	+49
	comp=N,146nm,1.2s								
MBDF	**Montbardon**		**9.22**	**226**	*e*Pn		**Pn**	17 12 14.3	-0.7
MBDF					*e*Sg		Sn	17 14 49.1	+49
	comp=N,71nm,1.2s								
MBDF	**Montbardon**		**9.22**	**226**	*e*Pn		**Pn**	17 12 14.3	-0.7
VSU	**Vasula**		**9.26**	**37**	*i* P		**Pn**	17 12 15.0	-0.2
VSU	**Vasula**		**9.26**	**37**	*i* P		**Pn**	17 12 15.0	-0.2
SSF	**Saint Saulge**		**9.37**	**247**	*e*Pn		Pn	17 12 13.2	-3.7
SSF					*e*Sg		Sn	17 14 52.8	+50
	comp=N,85nm,1.2s								
SMF	**Signal de Mont**		**9.41**	**244**	*e*Pn		Pn	17 12 13.7	-3.8
SMF					*e*Sg		Sn	17 14 55.4	+51
	comp=N,131nm,1.2s								
ORIF	**Oris-en-Rattie**		**9.49**	**230**	*e*Sg		Sn	17 14 57.4	+51
	comp=N,206nm,1.6s								
SBF	**Sospel**		**9.62**	**221**	*e*P		**Pn**	17 12 20.8	+0.4
SBF	**Sospel**		**9.62**	**221**	*e*P		**Pn**	17 12 20.8	+0.4
CLF	**Chambon-Foret**		**9.63**	**254**	*e*P		**Pn**	17 12 22.4	+2.0
CLF	**Chambon-Foret**		**9.63**	**254**	*e*P		**Pn**	17 12 22.4	+2.0
NOA	**NORSAR Array B**		**9.95**	**346**	P		**Pn**	17 12 22.4	-2.3
	comp=N,1.0nm,0.3s								
NOA					S		Sn	17 14 08.7	-8.3
NOA	**NORSAR Array B**		**9.95**	**346**	Pn		**Pn**	17 12 22.4	-2.3
	comp=N,0.8nm,0.3s,baz=163,slow=12,SNR=20								
NOA					Sn		Sn	17 14 08.7	-8.3
	comp=N,0.4nm,0.3s,baz=200,slow=15,SNR=2.7								
NOA					Lg		Lg	17 15 08.6	
	comp=N,0.6nm,0.3s,baz=42,slow=24,SNR=2.5								
BGF	**Bois d'Agland**		**10.03**	**246**	*e*Sg		Sn	17 15 14.0	+55
	comp=N,197nm,1.3s								
VIVF	**Saint-Julien-l**		**10.13**	**233**	*e*Pn		**Pn**	17 12 24.7	-2.6
VIVF					*e*Sg		Sn	17 15 17.4	+56
	comp=N,72nm,1.3s								
FRF	**La Foret Royal**		**10.20**	**223**	*e*Pn		**Pn**	17 12 27.2	-1.1
FRF	**La Foret Royal**		**10.20**	**223**	*e*Pn		**Pn**	17 12 27.2	-1.1
LMR	**La Mourre**		**10.44**	**222**	*e*Pn		**Pn**	17 12 31.2	-0.4
LMR	**La Mourre**		**10.44**	**222**	*e*Pn		**Pn**	17 12 31.2	-0.4
TCF	**Toulx Ste Croi**		**10.54**	**246**	*e*Sg		Sn	17 15 30.2	+58
	comp=N,134nm,1.4s								
LDF	**La Druitiere**		**10.85**	**261**	*e*Sg			17 15 39.8	
	comp=N,58nm,1.2s								
LASF	**Ste Croix**		**11.10**	**233**	*e*Pn		**Pn**	17 12 38.4	-2.1
LASF					*e*Sg			17 15 47.2	
	comp=N,43nm,1.3s								
FINES	**FINESS Array B**		**11.37**	**25**	P		**Pn**	17 12 41.6	-2.5
	comp=N,1.0nm,0.3s								
FINES					S		Sn	17 14 45.2	-6.5
	comp=N,1.0nm,0.3s								
FINES	**FINESS Array B**		**11.37**	**25**	Pn		**Pn**	17 12 41.6	-2.5
	comp=N,1.1nm,0.3s,baz=209,slow=11,SNR=27								
FINES					Sn		Sn	17 14 45.2	-6.5
	comp=N,1.2nm,0.3s,baz=204,slow=20,SNR=5.4								
GRR	**Gorron**		**11.38**	**261**	*e*Sg			17 15 55.8	
	comp=N,71nm,1.3s								
CAF	**Calviac**		**11.45**	**240**	*e*Sg			17 15 57.9	
	comp=N,37nm,1.2s								
RJF	**Les Rejaudoux**		**11.52**	**243**	*e*Sg			17 15 59.8	
	comp=N,61nm,1.2s								
MFF	**Saint Martin d**		**11.75**	**252**	*e*Sg			17 16 06.6	
	comp=N,79nm,1.4s								
KAF	**Kangasniemi**		**11.99**	**24**	*e*P		**Pn**	17 12 49.7	-3.0
KAF					pmax		pmax		
	comp=Z,3.0nm,0.3s								
KAF	**Kangasniemi**		**11.99**	**24**	*ep*		**Pn**	17 12 49.7	-3.0
	comp=Z,3.3nm,0.3s								
KAF	**Kangasniemi**		**11.99**	**24**	*e*P		**Pn**	17 12 49.7	-3.0
	comp=Z,3.0nm,0.3s								
EKA	**Eskdalemuir Ar**		**12.13**	**296**	P		Pn	17 12 51.1	-3.4
EKA					S		Sn	17 15 02.9	-7.4
EKA	**Eskdalemuir Ar**		**12.13**	**296**	Pn		Pn	17 12 51.1	-3.4
	baz=99,slow=14,SNR=13								
EKA					Sn		Sn	17 15 02.9	-7.4
	baz=99,slow=26,SNR=4.0								
LFF	**La Frestale**		**12.17**	**243**	*e*Sg			17 16 20.8	
	comp=Z,88nm,1.3s								
MTLF	**Montolieu**		**12.45**	**234**	*e*Sg			17 16 30.9	
	comp=Z,49nm,1.7s								
SGMF	**Saint Gilles**		**12.48**	**262**	*e*Pn		Pn	17 12 56.0	-3.4
OBN	**Obninsk**		**12.73**	**65**⇑	*e*P		Pn	17 12 58.8	-4.0
OBN					S		**Sn**	**17 15 26.0**	**+0.9**
OBN					pmax		pmax		
	comp=Z,32nm,1.2s								
OBN					MLR		MLR		
	comp=Z,100nm,16.0s								
ROSF	**Rostrenen**		**12.90**	**263**	*e*Pn		**Pn**	**17 13 02.1**	**-3.0**
MOS	**Moscow**		**13.43**	**63**	*e*P		Pn	17 13 04.9	-7.3
MOS					pmax		pmax		
	comp=Z,49nm,1.1s								
EPF	**Esparros**		**13.64**	**238**	*e*Sg		S	17 17 06.0	+55
	comp=Z,38nm,1.3s								
JOF	**Joensuu**		**14.04**	**30**	*e*P		Pn	17 13 16.0	-4.6
JOF					pmax		pmax		
	comp=Z,4.0nm,0.5s								
JOF	**Joensuu**		**14.04**	**30**	*ep*		Pn	17 13 16.0	-4.6
	comp=Z,3.6nm,0.5s								
ETSF	**Etsaut**		**14.21**	**239**	*e*Sg			17 17 24.7	
	comp=Z,16nm,1.1s								
VSR	**Storozhevoye**		**14.38**	**82**	*e*P		Pn	17 13 20.5	-4.9
VSR					pmax		pmax		
	comp=Z,5.0nm,0.4s								
VSR					pmax		pmax		
	comp=N,7.0nm,0.6s								
VSR					pmax		pmax		
	comp=E,10.0nm,0.8s								
SJPF	**Ste Jean**		**14.43**	**241**	*e*Sg			17 17 31.2	
	comp=E,27nm,1.2s								
VORD	**Divnogorie**		**14.51**	**83**	*e*P		Pn	17 13 20.0	-7.1
VORD					pmax		pmax		
	comp=Z,2.0nm,0.3s								
VORD					pmax		pmax		
	comp=N,20nm,0.8s								
VORD					pmax		pmax		
	comp=E,10.0nm,0.9s								
VORD	**Divnogorie**		**14.51**	**83**	*e*P		Pn	17 13 20.0	-7.1
	comp=E,20nm,0.8s								
VRHR	**Novokhopersk**		**15.93**	**81**	*e*P		Pn	17 13 39.8	-6.1
VRHR					pmax		pmax		
	comp=Z,40nm,1.1s								
VRHR					pmax		pmax		
	comp=N,4.0nm,0.5s								
VRHR					pmax		pmax		
	comp=E,70nm,1.2s								
KLMR	**Klimovskoe**		**15.95**	**45**	*e*P		Pn	17 13 37.4	-8.8
KLMR					*e*S		Sn	17 16 31.8	-12
KLMR					pmax		pmax		
	comp=Z,25nm,1.6s								
BRTR	**Keskin Array B**		**16.93**	**127**	P		**Pn**	**17 13 59.2**	**+0.2**
BRTR	**Keskin Array B**		**16.93**	**127**	Pn		**Pn**	**17 13 59.2**	**+0.2**
	comp=Z,0.0nm,0.3s,baz=327,slow=6.5,SNR=4.9								
TMCR	**Tamitsa**		**17.11**	**34**	*e*P		Pn	17 13 55.9	-4.9
TMCR					*e*S		**Sn**	**17 17 09.1**	**-2.3**
TMCR					pmax		pmax		
	comp=Z,38nm,1.3s								
ESDC	**Sonseca Array**		**18.30**	**238**	Pn		**P**	**17 14 16.5**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=47,slow=11,SNR=5.4								
ARCES	**ARCESS Array B**		**18.63**	**10**	P		**P**	**17 14 16.2**	**-3.3**
	comp=Z,1.0nm,0.3s								
ARCES	**ARCESS Array B**		**18.63**	**10**	Pn		**P**	**17 14 16.2**	**-3.3**
	comp=Z,1.1nm,0.3s,baz=190,slow=14,SNR=16								
KEV	**Kevo**		**19.02**	**12**	*e*P		**P**	**17 14 21.8**	**-1.9**
KEV					pmax		pmax		
	comp=Z,5.0nm,0.3s								
KEV	**Kevo**		**19.02**	**12**	*ep*		**P**	**17 14 21.8**	**-1.9**
	comp=Z,4.8nm,0.3s								
KEV	**Kevo**		**19.02**	**12**	*e*P		**P**	**17 14 21.8**	**-1.9**
	comp=Z,5.0nm,0.3s								
NCK	**Nalchik**		**20.12**	**103**	*i* P		**P**	**17 14 35.6**	**-0.3**
NCK	**Nalchik**		**20.12**	**103**	*i* P		**P**	**17 14 35.6**	**-0.3**
MMAI	**Mount Meron Ar**		**23.21**	**135**	P		**P**	**17 15 09.9**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=307,slow=12,SNR=4.2								
SOKR	**Solikamsk**		**24.04**	**54**	*e*P		**P**	**17 15 18.5**	**+1.5**
SOKR					pmax		pmax		
	comp=Z,30nm,1.4s								
SOKR	**Solikamsk**		**24.04**	**54**	*e*P		**P**	**17 15 18.5**	**+1.5**
	comp=Z,30nm,1.4s								
ASF	**Jabal al Asfar**		**24.59**	**134**	P		**P**	**17 15 22.1**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=322,slow=12,SNR=3.4								
ARU	**Arti**		**25.13**	**62**	*c i*P		**P**	**17 15 26.8**	**-0.2**
ARU								17 16 00.0	
ARU					S		**S**	**17 19 54.9**	**+2.4**
ARU					SS		**SnSn**	**17 20 44.7**	**+3.6**
ARU					pmax		pmax		
	comp=Z,15nm,1.0s								
ARU	**Arti**		**25.13**	**62**	*i* P		**P**	**17 15 26.8**	**-0.2**
	comp=Z,15nm,1.0s								
ARU					S		**S**	**17 19 54.9**	**+2.4**
AKTK	**Aktyubinsk**		**26.14**	**76**	P		**P**	**17 15 34.9**	**-1.3**
	comp=Z,4.0nm,0.6s								
AKTO	**Aktyubinsk**		**26.14**	**76**	P		**P**	**17 15 34.9**	**-1.3**
AKTO					pmax		pmax		
	comp=Z,4.0nm,0.6s								
AKTO	**Aktyubinsk**		**26.14**	**76**	P		**P**	**17 15 34.9**	**-1.3**
	comp=Z,4.1nm,0.6s,baz=282,slow=9.0,SNR=11								
SVE	**Sverdlovsk**		**26.22**	**61**	*e*P		**P**	**17 15 37.4**	**+0.5**
SVE					pmax		pmax		
	comp=Z,22nm,1.5s								
SVE	**Sverdlovsk**		**26.22**	**61**	*e*P		**P**	**17 15 37.4**	**+0.5**
	comp=Z,22nm,1.5s								
SPITS	**Spitsbergen Ar**		**26.79**	**0**	P		**P**	**17 15 41.8**	**-0.1**
	comp=Z,6.0nm,0.8s								
SPITS	**Spitsbergen Ar**		**26.79**	**0**	P		**P**	**17 15 41.8**	**-0.1**
	comp=Z,5.6nm,0.8s,baz=165,slow=10,SNR=4.6								
BRVK	**Borovoye**		**32.51**	**66**	⇓*i*P		**P**	**17 16 31.1**	**-1.7**
BRVK					pmax		pmax		
	comp=Z,9.0nm,1.3s								
BRVK	**Borovoye**		**32.51**	**66**	*i* P		**P**	**17 16 31.1**	**-1.7**
	comp=Z,9.0nm,1.3s								
NVS	**Novosibirsk**		**38.98**	**58**	*i* P		**P**	**17 17 29.7**	**+1.5**
NVS	**Novosibirsk**		**38.98**	**58**	*i* P		**P**	**17 17 29.7**	**+1.5**
AAK	**Ala-Archa**		**39.76**	**79**	*i* P		**P**	**17 17 34.0**	**-1.1**
AAK					pmax		pmax		
	comp=Z,31nm,1.4s								
AAK	**Ala-Archa**		**39.76**	**79**	*i* P		**P**	**17 17 34.0**	**-1.1**
	comp=Z,31nm,1.4s								
TORD	**Torodi Ar. Bea**		**39.99**	**202**	P		**P**	**17 17 36.7**	**-0.3**
	comp=Z,4.7nm,1.1s,baz=9.8,slow=8.0,SNR=16								
ZALV	**Zalesovo Beam**		**40.19**	**59**	P		**P**	**17 17 39.3**	**+1.0**
ZALV								17 19 14.6	
ZALV					pmax		pmax		
	comp=Z,2.0nm,1.0s								
ZALV					pmax		pmax		
	comp=Z,1.0nm,0.5s								
ZALV	**Zalesovo Beam**		**40.19**	**59**	P		**P**	**17 17 39.3**	**+1.0**
	comp=Z,2.0nm,1.0s								
ZALV	**Zalesovo Beam**		**40.19**	**59**	P		**P**	**17 17 39.3**	**+1.0**
	comp=Z,2.2nm,1.0s,baz=302,slow=8.5,SNR=9.2								
ZALV					PP		**PnPn**	**17 19 14.6**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=285,slow=12,SNR=3.9								
MKAR	**Makanchi Array**		**42.20**	**69**	P		**P**	**17 17 55.8**	**+0.8**
MKAR					pmax		pmax		
	comp=Z,1.0nm,0.7s								
MKAR	**Makanchi Array**		**42.20**	**69**	P		**P**	**17 17 55.8**	**+0.8**
	comp=Z,1.0nm,0.7s								
MKAR	**Makanchi Array**		**42.20**	**69**	P		**P**	**17 17 55.8**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=303,slow=6.9,SNR=7.1								
SCHQ	**Schefferville**		**47.09**	**308**	P		**P**	**17 18 34.0**	**+0.1**
	comp=Z,3.4nm,0.9s,baz=106,slow=9.2,SNR=3.6								

NIED ***28*** *17:37:00,32˚.30N×132˚.10E,h35km,Mw4.8 Best double couple: M1.76000×10¹⁶ NP1:φs198.00000°,δ85.00000°, λ-88.00000°. NP2:φs354.00000°,δ5.00000°, λ-114.00000°.*

ISCJB ***28*** *17:37:08.5±0.4,32˚.35N±0˚.04×132˚.03E±0˚.04,h47km±3km, mb4.4/36,MS4.3/18,Error ellipse: s-maj=6.4km s-min=4.7km az=144.2*

JMA ***28*** *17:37:08.6,32˚.32N×132˚.10E,h26km±1km,M4.7 Broadband fault plane solution: P waves. NP1: φs3.00000°,δ78.00000°,λ84.00000°. NP2:φs211.00000°, δ13.00000°,λ118.00000°. Principal axes: T Plg56.0000°, Azm265.0000°; N Plg6.0000°, Azm4.0000°; P Plg33.0000°, Azm98.0000°;*

JMA Felt III J1.

IDC ***28*** *17:37:09.2±0.4,32˚.32N×131˚.88E,h35km±3km,mb4.1/25, mb1 4.3/28,mb1mx4.2/36,mbtmp4.1/28,ML3.9/3,MS4.2/21, Ms1 4.2/21,ms1mx4.0/34 Error ellipse: s-maj=13.7km s-min=7.8km az=60.0*

NEIC ***28*** *17:37:09.9±0.9,32˚.33N×131˚.91E,h43km±7km,mb4.6/13, MW4.8(NIED),Error ellipse: s-maj=8.1km s-min=6.7km az=177.0*

NEIC Recorded [3 JMA] in Oita and Miyazaki; [2 JMA] in Fukuoka and Kumamoto; [1 JMA] in Kagoshima and Yamaguchi. Recorded [2 JMA] in Ehima and Kochi, Shikoku.

ISC 28 17:37:08.8±0.4,32˚.34N±0˚.04×132˚.03E±0˚.04,h33km±1km, h33km:pP-P,n108,σ1§24/118,mb4.5/35,MS4.2/18,1C-4D, Shikoku

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JTSN	**Tsuno**	**0.46**	**258**	⇓P			**Pn**	**17 37 18.7**	**-0.3**
JTSN				S			**Sn**	**17 37 25.8**	**-0.2**
JKIT	**Kitakata**	**0.56**	**300**	P			**Pb**	**17 37 20.8**	**+0.4**
JKIT				S			**Sb**	**17 37 29.4**	**+1.0**
JUS	**Usuki**	**0.76**	**342**	⇓P			**Pn**	**17 37 23.7**	**+0.5**
JTO	**Tosashimizu**	**0.83**	**51**	⇓P			**Pn**	**17 37 23.5**	**-0.7**
JTO				S			**Sn**	**17 37 34.1**	**-1.2**
JTZ	**Takazaki**	**0.91**	**242**	⇑P			**Pb**	**17 37 25.9**	**-0.3**
JTZ				S			**Sb**	**17 37 38.7**	**+0.7**
UWA2	**Uwa jima 2**	**1.00**	**30**	⇓P			**Pn**	**17 37 26.4**	**-0.2**
UWA2				*e*S			**Sn**	**17 37 38.8**	**-0.8**
JNAR	**Kushima--Naru**	**1.04**	**219**	P			**Pb**	**17 37 27.7**	**-0.5**
JNU	**Nakatsue**	**1.25**	**309**	Pg			**Pb**	**17 37 31.8**	**0.0**
JNU				Lg			Lg	17 37 49.1	
JNU	**Nakatsue**	**1.25**	**309**	Pg			**Pb**	**17 37 31.8**	**0.0**
	804nm,0.3s,baz=129,slow=6.3,SNR=7554								
JNU				LR			LR	17 37 44.0	
	comp=Z,3μm,19.1s,baz=68,slow=30								
JNU				Lg			Lg	17 37 49.1	
	2μm,0.3s,baz=198,slow=21,SNR=37								
KSRS	**Korea Array**	**6.12**	**328**	Pn			**Pn**	**17 38 38.5**	**+1.7**
	7.5nm,0.3s,baz=146,slow=14,SNR=58								
KSRS				Sn			**Sn**	**17 39 48.5**	**+3.0**
	3.9nm,0.3s,baz=153,slow=18,SNR=5.4								
KSRS				LR			LR	17 41 12.1	
	comp=Z,2μm,21.7s,baz=146,slow=40								
KSAR	**Wonju Array Be**	**6.12**	**327**	Pn			**Pn**	**17 38 38.5**	**+1.6**
KSAR				Sn			**Sn**	**17 39 48.5**	**+2.8**
MAJO	**Matsushiro**	**6.60**	**49**	*e*P			**Pn**	**17 38 44.9**	**+1.4**
	37nm,0.4s								
MAT	**Matsushiro**	**6.60**	**49**	P			**Pn**	**17 38 45.1**	**+1.6**
MAT				S			**Sn**	**17 39 55.6**	**-2.0**
MJAR	**Matsushiro Arr**	**6.60**	**49**	Pn			**Pn**	**17 38 45.0**	**+1.5**
MJAR				Sn			**Sn**	**17 39 56.6**	**-1.0**
MJAR	**Matsushiro Arr**	**6.60**	**49**	Pn			**Pn**	**17 38 45.0**	**+1.5**
	7.8nm,0.3s,baz=244,slow=14,SNR=82								
MJAR				Sn			**Sn**	**17 39 56.6**	**-1.0**
	baz=233,slow=15,SNR=2.7								
INCN	**Inchon**	**6.78**	**321**	*e*P			**Pn**	**17 38 45.5**	**-0.5**
	25nm,0.6s								
JCJ	**Chichijima**	**10.26**	**118**	LR			LR	17 43 00.8	
	comp=Z,1μm,19.3s,baz=282,slow=34								
USRK	**Ussuriysk Arra**	**11.84**	**360**	Pn			Pn	17 39 59.6	+4.4
	0.2nm,0.3s,baz=188,slow=14,SNR=3.7								
USRK				LR			LR	17 44 18.6	
	comp=Z,410nm,18.5s,baz=152,slow=36								
MDJ	**Mudanjiang**	**12.40**	**352**	P			**Pn**	**17 40 01.7**	**-1.3**
	4.4nm,0.8s								
ASAJ	**Asahikawa**	**14.38**	**32**	Pn			**Pn**	**17 40 30.6**	**+0.7**
ASAJ	**Asahikawa**	**14.38**	**32**	Pn			**Pn**	**17 40 30.6**	**+0.7**
	0.4nm,0.3s,baz=196,slow=14,SNR=6.9								
ASAJ				LR			LR	17 45 57.9	
	comp=Z,353nm,19.3s,baz=340,slow=37								
BJT	**Baijiatuan**	**14.91**	**305**	P			**Pn**	**17 40 38.6**	**+1.5**
	25nm,0.7s								
HIA	**Hailar**	**19.26**	**335**	*e*P			**Pn**	**17 41 31.5**	**0.0**
	41nm,1.2s								
ENH	**Enshi**	**19.37**	**270**	*e*P			**P**	**17 41 30.4**	**-1.4**
	30nm,1.0s								
ULN	**Ulaanbaatar**	**24.46**	**317**	*e*P			**P**	**17 42 23.8**	**-0.9**
	17nm,0.9s								
SONM	**Songino Array**	**24.83**	**316**	P			**P**	**17 42 27.2**	**-0.8**
SONM				pP			**pP**	**17 42 37.2**	**-0.4**
SONM	**Songino Array**	**24.83**	**316**	P			**P**	**17 42 27.2**	**-0.8**
	12nm,1.0s,baz=130,slow=8.9,SNR=51								
SONM				pP			**pP**	**17 42 37.2**	**-0.4**
	20nm,0.9s,baz=131,slow=9.9,SNR=17								
SONM				LR			LR	17 52 47.8	
	comp=Z,651nm,19.5s,baz=135,slow=38								
GTA	**Gaotai**	**26.94**	**294**	*e*P			**P**	**17 42 45.5**	**-1.7**
GTA				pP			**pP**	**17 42 53.5**	**-3.3**
GTA				sP			**sP**	**17 42 56.8**	**-4.0**
GTA				PP			PnPn	17 43 20.3	-10
GTA				S			S	17 47 01.3	-21
GTA				sS			sS	17 47 12.8	-25
GTA				SS			SnSn	17 47 55.0	-34
GTA				AMB			AMB		
	comp=Z,6.0nm,1.1s								
GTA				AMB			AMB		
	comp=Z,140nm,4.3s								
GTA				LR			LR		
	comp=N,400nm,18.0s								
GTA				LR			LR		
	comp=E,950nm,17.1s								
GTA				LR			LR		
	comp=Z,1μm,18.5s								
CHTO	**Chiang Mai**	**32.60**	**254**	*e*P			**P**	**17 43 35.6**	**-1.7**
	comp=Z,12nm,1.1s								
CMAR	**Chiang Mai Arr**	**32.78**	**253**	P			**P**	**17 43 38.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**32.78**	**253**	P			**P**	**17 43 38.6**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=47,slow=7.4,SNR=8.4								
CMAR				LR			LR	17 58 15.9	
	comp=Z,292nm,19.3s,baz=235,slow=39								
H11N2	**WAKE ISLAND Hy**	**33.60**	**103**	T			T	18 19 34.7	
	baz=302,slow=0.7,SNR=16								
H11N1	**WAKE ISLAND Hy**	**33.60**	**103**	T			T	18 19 34.3	
	baz=302,slow=0.7,SNR=17								
H11N3	**WAKE ISLAND Hy**	**33.62**	**103**	T			T	18 19 38.7	
	baz=302,slow=0.7,SNR=14								
H11S3	**WAKE ISLAND Hy**	**34.04**	**105**	T			T	18 20 11.2	
	baz=302,slow=0.7								
H11S1	**WAKE ISLAND Hy**	**34.04**	**105**	T			T	18 20 10.7	
	baz=302,slow=0.7								
H11S2	**WAKE ISLAND Hy**	**34.05**	**105**	T			T	18 20 13.6	
	baz=302								
ZALV	**Zalesovo Beam**	**39.71**	**317**	LR			LR	18 02 04.5	
	comp=Z,532nm,18.6s,baz=71,slow=38								
MKAR	**Makanchi Array**	**40.30**	**306**	P			**P**	**17 44 42.8**	**0.0**
MKAR	**Makanchi Array**	**40.30**	**306**	P			**P**	**17 44 42.8**	**0.0**
	comp=Z,1.9nm,0.9s,baz=98,slow=9.2,SNR=2.8								
MKAR				LR			LR	18 02 46.3	
	comp=Z,379nm,18.9s,baz=86,slow=38								
PSI	**Prapat**	**42.77**	**233**	LR			LR	18 05 23.2	
	comp=Z,232nm,18.3s,baz=137,slow=40								
KURK	**Kurchatov**	**42.97**	**312**	P			**P**	**17 45 04.2**	**-0.4**
KURBB	**Kurchatov Arra**	**43.02**	**311**	P			**P**	**17 45 04.2**	**-0.8**
	comp=Z,2.1nm,0.6s,baz=100,slow=8.8,SNR=5.0								
PMG	**Port Moresby**	**43.95**	**158**	LR			LR	18 00 49.8	
	comp=Z,169nm,21.0s,baz=339,slow=32								
BVAR	**Borovoye Array**	**48.15**	**314**	P			**P**	**17 45 44.5**	**-1.1**
BVAR	**Borovoye Array**	**48.15**	**314**	P			**P**	**17 45 44.5**	**-1.1**
	comp=Z,3.1nm,0.6s,baz=93,slow=12,SNR=6.2								
FITZ	**Fitzroy Crossi**	**50.53**	**188**	*e*P			**P**	**17 46 03.8**	**-0.1**
	comp=Z,12nm,1.1s								
FITZ				pP			**pP**	**17 46 15.3**	**+1.4**
FITZ	**Fitzroy Crossi**	**50.53**	**188**	P			**P**	**17 46 04.0**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=8.8,slow=7.2,SNR=3.5								
FITZ				pP			**pP**	**17 46 15.3**	**+1.4**
	comp=Z,4.8nm,0.7s,baz=14,slow=9.5,SNR=6.4								
WRAB	**Tennant Creek**	**52.02**	**177**	*e*P			**P**	**17 46 15.2**	**0.0**
	comp=Z,12nm,0.8s								
WRA	**Warramunga Arr**	**52.03**	**177**	P			**P**	**17 46 15.1**	**-0.2**
WRA				pP			**pP**	**17 46 26.1**	**+0.8**
WRA	**Warramunga Arr**	**52.03**	**177**	P			**P**	**17 46 15.1**	**-0.2**
	comp=Z,5.6nm,0.9s,baz=352,slow=7.7,SNR=29								
WRA				pP			**pP**	**17 46 26.1**	**+0.8**
	comp=Z,10nm,0.8s,baz=353,slow=8.0,SNR=26								
CTA	**Charters Tower**	**53.88**	**163**	P			**P**	**17 46 28.6**	**-0.3**
CTA				pP			**pP**	**17 46 41.2**	**+2.3**
CTA	**Charters Tower**	**53.88**	**163**	P			**P**	**17 46 28.6**	**-0.3**
	comp=Z,8.9nm,1.0s,baz=353,slow=10,SNR=4.9								
CTA				pP			**pP**	**17 46 41.2**	**+2.3**
	comp=Z,10nm,0.9s,baz=339,slow=7.7,SNR=4.9								
ASAR	**Alice Springs**	**55.72**	**178**	P			**P**	**17 46 42.5**	**+0.4**
ASAR				pP			**pP**	**17 46 53.6**	**+1.4**
ASAR	**Alice Springs**	**55.72**	**178**	P			**P**	**17 46 42.5**	**+0.4**
	comp=Z,4.6nm,0.9s,baz=358,slow=5.7,SNR=38								
ASAR				pP			**pP**	**17 46 53.6**	**+1.4**
	comp=Z,6.0nm,0.8s,baz=12,slow=12,SNR=20								
AKTO	**Aktyubinsk**	**56.06**	**312**	P			**P**	**17 46 44.8**	**+0.4**
AKTO	**Aktyubinsk**	**56.06**	**312**	P			**P**	**17 46 44.8**	**+0.4**
	comp=Z,4.7nm,0.7s,baz=84,slow=9.2,SNR=2.6								
ILAR	**Eielson Array**	**57.50**	**30**	P			**P**	**17 46 55.4**	**+1.0**
ILAR	**Eielson Array**	**57.50**	**30**	P			**P**	**17 46 55.4**	**+1.0**
	comp=Z,1.3nm,0.7s,baz=268,slow=6.7,SNR=21								
INK	**Inuvik**	**61.98**	**25**	*e*P			**P**	**17 47 26.5**	**+1.5**
	comp=Z,8.6nm,0.9s								
INK	**Inuvik**	**61.98**	**25**	P			**P**	**17 47 26.6**	**+1.5**
	comp=Z,6.2nm,0.6s,baz=307,slow=7.1,SNR=17								
STKA	**Stephens Creek**	**64.51**	**171**	P			**P**	**17 47 43.2**	**+1.0**
STKA				pP			**pP**	**17 47 54.1**	**+1.7**
STKA	**Stephens Creek**	**64.51**	**171**	P			**P**	**17 47 43.2**	**+1.0**
	comp=Z,8.2nm,0.8s,baz=348,slow=6.4,SNR=18								
STKA				pP			**pP**	**17 47 54.1**	**+1.7**
	comp=Z,11nm,0.7s,baz=338,slow=7.5,SNR=13								
ARCES	**ARCESS Array B**	**65.56**	**338**	LR			LR	18 18 33.6	
	comp=Z,166nm,21.6s,baz=277,slow=38								
KBZ	**Khabaz**	**67.92**	**309**	P			**P**	**17 48 03.6**	**-0.5**
KBZ	**Khabaz**	**67.92**	**309**	P			**P**	**17 48 03.6**	**-0.5**
	comp=Z,3.7nm,0.9s,baz=68,slow=5.4,SNR=3.5								
KBZ				LR			LR	18 21 51.4	
	comp=Z,368nm,19.7s,baz=256,slow=40								
FINES	**FINESS Array B**	**69.20**	**330**	P			**P**	**17 48 10.4**	**-1.3**
FINES	**FINESS Array B**	**69.20**	**330**	P			**P**	**17 48 10.4**	**-1.3**
	comp=Z,1.8nm,0.7s,baz=81,slow=8.6,SNR=2.9								
FINES				LR			LR	18 20 53.7	
	comp=Z,171nm,19.2s,baz=20,slow=38								
YKA	**Yellowknife Ar**	**71.60**	**27**	P			**P**	**17 48 26.8**	**+0.4**
YKA	**Yellowknife Ar**	**71.60**	**27**	P			**P**	**17 48 26.8**	**+0.4**
	comp=Z,2.7nm,0.8s,baz=300,slow=5.4,SNR=3.9								
AKASG	**Malin Array Be**	**73.05**	**320**	P			**P**	**17 48 34.0**	**-1.3**
AKASG	**Malin Array Be**	**73.05**	**320**	P			**P**	**17 48 34.0**	**-1.3**
	comp=Z,2.4nm,0.6s,baz=55,slow=6.2,SNR=13								
AKASG				LR			LR	18 23 37.7	
	comp=Z,248nm,18.6s,baz=110,slow=38								
AK01	**Malin Array Si**	**73.06**	**320**	*e*P			**P**	**17 48 33.8**	**-1.5**
KIEV	**Kiev**	**73.06**	**320**	*e*P			**P**	**17 48 33.7**	**-1.7**
	comp=Z,6.8nm,0.9s								
SUMG	**Summit**	**75.16**	**357**	*i* P			**P**	**17 48 48.5**	**+0.8**
	comp=Z,4.7nm,0.9s								
SUMG				*e*				17 49 00.5	
SUMG	**Summit**	**75.16**	**357**	*e*P			**P**	**17 48 48.3**	**+0.6**
	comp=Z,7.9nm,0.8s								
NOA	**NORSAR Array B**	**75.29**	**334**	P			**P**	**17 48 47.0**	**-1.2**
NOA	**NORSAR Array B**	**75.29**	**334**	P			**P**	**17 48 47.0**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=77,slow=7.8,SNR=2.6								
NOA				LR			LR	18 25 05.6	
	comp=Z,127nm,19.4s,baz=15,slow=38								
BRTR	**Keskin Array B**	**75.90**	**308**	P			**P**	**17 48 51.0**	**-1.3**
BRTR				pP			**pP**	**17 49 01.6**	**-1.1**
BRTR	**Keskin Array B**	**75.90**	**308**	P			**P**	**17 48 51.0**	**-1.3**
	comp=Z,2.2nm,0.8s,baz=92,slow=5.0,SNR=11								
BRTR				pP			**pP**	**17 49 01.6**	**-1.1**
	comp=Z,3.8nm,0.8s,baz=93,slow=5.4,SNR=12								
BRTR				LR			LR	18 25 48.3	
	comp=Z,86nm,20.0s,baz=193,slow=38								
BUR08	**Bucovina Ar. S**	**76.91**	**318**	*e*P			**P**	**17 48 57.0**	**-0.8**
YBH	**Yreka Blue Hor**	**79.26**	**47**	P			**P**	**17 49 12.8**	**+1.9**
YBH	**Yreka Blue Hor**	**79.26**	**47**	P			**P**	**17 49 12.8**	**+1.9**
	comp=Z,1.7nm,0.7s,baz=329,slow=4.2,SNR=3.5								
BSMT	**Bassoo Peak**	**80.27**	**39**	*e*P			**P**	**17 49 17.9**	**+1.5**
	comp=Z,4.3nm,0.9s								
CLL	**Collm**	**80.99**	**326**	*e*P			**P**	**17 49 19.0**	**-0.9**
CLL				LmH				18 29 00.0	
	comp=N,200nm,19.5s								
CLL				LmH				18 29 00.0	
	comp=E,100nm,19.3s								
CLL				LmH				18 29 00.0	
	comp=Z,300nm,21.4s								
SLMT	**Seeley Lake**	**81.33**	**39**	*e*P			**P**	**17 49 21.0**	**-1.1**
	comp=Z,3.0nm,0.5s								
GERES	**GERESS Array B**	**82.28**	**324**	P			**P**	**17 49 26.7**	**-0.3**
GERES				pP			**pP**	**17 49 37.3**	**-0.2**
GERES	**GERESS Array B**	**82.28**	**324**	P			**P**	**17 49 26.7**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=39,slow=3.9,SNR=3.1								
GERES				pP			**pP**	**17 49 37.3**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=35,slow=4.9,SNR=4.2								
GERES				LR			LR	18 30 23.6	
	comp=Z,430nm,18.4s,baz=46,slow=39								
NVAR	**Mina Array Bea**	**83.93**	**48**	P			**P**	**17 49 37.6**	**+1.8**
NVAR				pP			**pP**	**17 49 47.2**	**+0.8**
NVAR	**Mina Array Bea**	**83.93**	**48**	P			**P**	**17 49 37.6**	**+1.8**
	comp=Z,4.1nm,0.9s,baz=293,slow=3.5,SNR=10								
NVAR				pP			**pP**	**17 49 47.2**	**+0.8**
	comp=Z,4.3nm,0.8s,baz=294,slow=4.3,SNR=8.0								
NVAR				LR			LR	18 23 59.5	
	comp=Z,113nm,19.3s,baz=154,slow=33								
ELK	**Elko**	**84.40**	**45**	*e*P			**P**	**17 49 39.9**	**+1.7**
	comp=Z,1.1nm,0.7s								
TPH	**Tonopah**	**84.82**	**48**	*e*P			**P**	**17 49 41.9**	**+1.6**
	comp=Z,16nm,0.9s								
TPH				*e*				17 49 52.8	
PDAR	**Pinedale Array**	**86.35**	**40**	P			**P**	**17 49 47.8**	**-0.1**
PDAR	**Pinedale Array**	**86.35**	**40**	P			**P**	**17 49 47.8**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=294,slow=1.5,SNR=8.0								
ULM	**Lac du Bonnet**	**87.48**	**28**	P			**P**	**17 49 53.9**	**+0.9**
ULM	**Lac du Bonnet**	**87.48**	**28**	P			**P**	**17 49 53.9**	**+0.9**
	comp=Z,2.3nm,0.7s,baz=295,slow=13,SNR=3.5								
PPT	**Papeete**	**89.84**	**111**	LR			LR	18 26 59.9	
	comp=Z,101nm,20.4s,baz=346,slow=33								
PV01	**Paradox Valley**	**90.02**	**43**	*e*P			**P**	**17 50 07.5**	**+2.0**
	comp=Z,969nm,1.3s								
KEST	**Kesra**	**93.58**	**317**	LR			LR	18 38 55.0	
	comp=Z,68nm,20.4s,baz=282,slow=40								
ESDC	**Sonseca Array**	**97.55**	**327**	LR			LR	18 40 45.6	
	comp=Z,225nm,18.1s,baz=330,slow=39								
TXAR	**Lajitas Array**	**99.04**	**47**	P			**Pdif**	**17 50 46.7**	**0.0**
TXAR	**Lajitas Array**	**99.04**	**47**	P			**Pdif**	**17 50 46.7**	**0.0**
	comp=Z,0.2nm,0.5s,baz=320,slow=2.7,SNR=2.7								
TORD	**Torodi Ar. Bea**	**114.42**	**305**	PKP			PKPdf	17 55 45.3	-0.5
TORD	**Torodi Ar. Bea**	**114.42**	**305**	PKP			PKPdf	17 55 45.3	-0.5
	comp=Z,0.2nm,0.8s,baz=114,slow=1.5,SNR=2.5								
SAML	**Samuel**	**152.78**	**35**	*e*PKPbc			**PKPbc**	**17 57 02.6**	**-0.3**
H03N2	**Juan Fernandez**	**154.02**	**101**	T			T	20 49 54.9	
	baz=277,slow=0.7,SNR=5.3								
H03N3	**Juan Fernandez**	**154.03**	**101**	T			T	20 49 53.8	
	baz=277,slow=0.7,SNR=4.1								
H03N1	**Juan Fernandez**	**154.04**	**101**	T			T	20 49 55.0	
	baz=277,slow=0.7,SNR=4.3								

ISCJB ***28*** *17:38:12.2±0.3,36˚.45N±0˚.02×71˚.24E±0˚.04,h246km±4km, mb4.2/75, Error ellipse: s-maj=5.5km s-min=3.3km az=159.7*

BJI ***28*** *17:38:12.6,36˚.56N×71˚.16E,h244km,mB4.7/4,mb4.6/8*

MOS ***28*** *17:38:12.3±1.1,36˚.47N×71˚.19E,h242km,mb4.4/25, Error ellipse: s-maj=7.7km s-min=4.5km az=95.0*

IDC ***28*** *17:38:14.4±0.7,36˚.48N×71˚.17E,h252km±6km,mb3.9/25, mb1 4.0/30,mb1mx4.0/37,mbtmp3.9/30, Error ellipse: s-maj=9.2km s-min=8.0km az=133.0*

NNC ***28*** *17:38:20.8±3.3,37˚.15N×71˚.56E,h258km±25km,mb3.7, mpv5.0, Error ellipse: s-maj=28.9km s-min=21.6km az=9.0*

ISC 28 17:38:13.7±0.4,36˚.43N±0˚.04×71˚.28E±0˚.04,h248km±3km, h247km:pP-P,n237,σ1§34/270,mb4.2/75,33C-8D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.65**	**169**	⇓P			**Pn**	**17 39 02.5**	**-0.1**
CEP				S			S	17 39 34.0	-7.2
CHCP	**Chirah Chowk**	**3.21**	**149**	⇑P			**Pn**	**17 39 09.1**	**+0.6**
THW	**Thamme Wali**	**3.65**	**174**	⇑P			**Pn**	**17 39 13.3**	**-0.2**
SARP	**Sargodha**	**4.64**	**165**	⇑P			**Pn**	**17 39 26.0**	**+0.8**
JMU	**Jammu**	**4.76**	**140**	*e*4			x	17 39 38.0	
JMU				*e*4			**S**	**17 40 21.5**	**-3.0**
KSH	**Kashi**	**4.82**	**49**	P			Pn	17 39 23.3	-4.0
KSH				S			S	17 40 13.5	-13
THN	**Thein Dam**	**5.42**	**136**	*e*P			Pn	17 39 30.0	-4.6
THN				*e*4			S	17 40 32.5	-6.6
DHRM	**DHARAMSHALA**	**5.89**	**134**	*e*P			**Pn**	**17 39 39.0**	**-1.7**
DHRM				*e*S			**S**	**17 40 48.6**	**-1.5**
DHRM				AML			AML	17 40 49.5	
	comp=E,3μm,1.0s								
DHRM				AML			AML	17 40 50.6	
	comp=N,3μm,0.1s								
AML	**Almayashu**	**5.99**	**17**	*i* PN			**Pn**	**17 39 40.6**	**-1.4**
AML	**Almayashu**	**5.99**	**17**	P			**Pn**	**17 39 40.6**	**-1.4**
	SNR=299								
KZA	**Kyzart**	**6.42**	**27**	*i* PN			**Pn**	**17 39 46.4**	**-1.1**
KZA	**Kyzart**	**6.42**	**27**	P			**Pn**	**17 39 46.3**	**-1.1**
	SNR=52								
EKS2	**Erkin-Say**	**6.51**	**16**	*i* PN			**Pn**	**17 39 47.4**	**-0.9**
EKS2	**Erkin-Say**	**6.51**	**16**	P			**Pn**	**17 39 47.4**	**-0.9**
	SNR=52								
BHK	**Bhakra**	**6.58**	**138**	*e*P			**Pn**	**17 39 46.4**	**-2.7**
BHK				*e*4				17 40 54.6	
AAK	**Ala-Archa**	**6.67**	**21**	*ce*PN			**Pn**	**17 39 48.5**	**-1.8**
AAK				pmax			pmax		
	comp=Z,141nm,0.8s								
AAK	**Ala-Archa**	**6.67**	**21**	P			**Pn**	**17 39 50.0**	**-0.4**
	SNR=16								
KK31	**Karatay Array**	**6.69**	**355**	⇑P			**Pn**	**17 39 48.7**	**-1.7**
	comp=Z,66nm,0.5s,baz=179,slow=12,SNR=1024								
KK31				⇑S			S	17 41 00.9	-6.9
	comp=Z,159nm,0.5s,baz=186,slow=24,SNR=19								
KK31	**Karatay Array**	**6.69**	**355**	*i* PN			**Pn**	**17 39 48.4**	**-2.0**
KK31				pmax			pmax		
	comp=Z,93nm,0.5s								
SDNR	**Sundarnagar**	**6.82**	**134**	*e*4			**Pn**	**17 39 52.0**	**-0.2**
SDNR				*e*S			**S**	**17 41 07.6**	**-3.6**
KBK	**Karagaybulak**	**6.83**	**23**	*i* PN			**Pn**	**17 39 51.9**	**-0.4**
KBK	**Karagaybulak**	**6.83**	**23**	P			**Pn**	**17 39 52.0**	**-0.4**
	SNR=45								
FRU	**Bishkek**	**6.89**	**21**	*e*PN			**Pn**	**17 39 52.0**	**-1.0**
FRU				*i*				17 41 11.0	
FRU				pmax			pmax		
	comp=Z,60nm,1.8s								
FRU				pmax			pmax		
	comp=E,809nm,1.8s								
ULHL	**Ulahol**	**6.96**	**32**	*i* PN			**Pn**	**17 39 53.3**	**-0.8**
ULHL	**Ulahol**	**6.96**	**32**	P			**Pn**	**17 39 53.3**	**-0.8**
	SNR=49								
CHMS	**Chumysh**	**7.08**	**21**	*i* PN			**Pn**	**17 39 55.3**	**0.0**
CHMS	**Chumysh**	**7.08**	**21**	P			**Pn**	**17 39 55.4**	**0.0**
	SNR=32								
SMLA	**Simla**	**7.21**	**135**	*e*P			**Pn**	**17 39 57.0**	**-0.1**
SMLA				*e*S			**S**	**17 41 16.8**	**-3.2**
SMLA				AML			AML	17 41 19.4	
	comp=N,986nm,0.5s								
SMLA				AML			AML	17 41 19.7	
	comp=E,755nm,0.4s								
USP	**Ospenovka**	**7.26**	**19**	*i* PN			**Pn**	**17 39 56.9**	**-0.7**
USP	**Ospenovka**	**7.26**	**19**	P			**Pn**	**17 39 57.0**	**-0.7**
	SNR=19								
TKM2	**Tokmak 2**	**7.29**	**26**	⇑P			**Pn**	**17 39 56.8**	**-1.3**
	comp=E,118nm,0.8s								
TKM2				⇑S			S	17 41 11.2	-11
	comp=E,83nm,0.8s								
TKM2	**Tokmak 2**	**7.29**	**26**	PN			**Pn**	**17 39 56.8**	**-1.3**
TKM2				pmax			pmax		
	comp=Z,118nm,0.9s								
TKM2	**Tokmak

BVAR	**Borovoye Array**	**16.60**	**358**	P	**P**		**17 41 50.9**	**-0.2**
BVAR				S	**S**		**17 44 52.8**	**+1.1**
BVAR				pmax	pmax			
	comp=Z,5.0nm,0.3s							
BVAR	**Borovoye Array**	**16.60**	**358**	P	**P**		**17 41 50.9**	**-0.2**
	comp=Z,4.8nm,0.3s,baz=153,slow=13,SNR=38							
BVAR				S	**S**		**17 44 52.8**	**+1.1**
	baz=175,slow=19,SNR=3.8							
TAPN	**Taplejung**	**16.62**	**118**	*eP*	**Pn**		**17 41 54.4**	**+0.8**
	comp=Z,70nm,0.6s							
BRVK	**Borovoye**	**16.64**	**358**	P	**P**		**17 41 51.8**	**+0.4**
BRVK				S	**S**		**17 44 51.5**	**-0.8**
BRVK				pmax	pmax			
	comp=Z,33nm,0.5s							
BRVK				smax	smax			
	comp=N,14nm,1.0s							
BRVK	**Borovoye**	**16.64**	**358**	P	**Pn**		**17 41 54.4**	**+1.2**
	SNR=9.8							
ODAN	**Odare**	**16.69**	**120**	*eP*	**Pn**		**17 41 55.5**	**+1.1**
	comp=N,49nm,0.5s							
AKTO	**Aktyubinsk**	**16.95**	**330**	⇓P	**P**		**17 41 53.4**	**-1.5**
	comp=N,40nm,0.6s							
AKTO	**Aktyubinsk**	**16.95**	**330**	P	**P**		**17 41 53.6**	**-1.3**
AKTO				S	**S**		**17 44 55.7**	**-3.0**
AKTO				pmax	pmax			
	comp=Z,6.0nm,0.3s							
AKTO				smax	smax			
	comp=N,1.0nm,0.3s							
AKTO	**Aktyubinsk**	**16.95**	**330**	P	**P**		**17 41 53.6**	**-1.3**
	comp=N,6.3nm,0.3s,baz=139,slow=9.7,SNR=63							
AKTO				S	**S**		**17 44 55.6**	**-3.0**
	comp=N,0.6nm,0.3s,baz=6.4,slow=20,SNR=7.6							
ASHO	**Ashiyiah**	**17.55**	**232**	P	**P**		**17 42 02.2**	**+0.5**
	SNR=11							
LSA	**Lhasa**	**17.95**	**106**	P	**Pn**		**17 42 10.5**	**+1.2**
LSA				AMB	AMB			
	comp=N,30nm,0.8s							
POO	**Poona**	**17.98**	**172**	*eP*	**P**		**17 42 06.8**	**+0.4**
JMDO	**Jabal Madar**	**18.09**	**223**	P	**Pn**		**17 42 09.2**	**-1.3**
	SNR=9.6							
BSY	**Bisya**	**18.30**	**226**	P	**P**		**17 42 11.4**	**+1.6**
	SNR=9.1							
ZALV	**Zalesovo Beam**	**19.89**	**24**	P	**P**		**17 42 26.2**	**-0.2**
ZALV				S	**S**		**17 45 55.1**	**-1.2**
ZALV				pmax	pmax			
	comp=Z,3.0nm,0.3s							
ZALV	**Zalesovo Beam**	**19.89**	**24**	P	**P**		**17 42 26.2**	**-0.2**
	comp=Z,2.5nm,0.3s,baz=211,slow=11,SNR=35							
ZALV				S	**S**		**17 45 55.1**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=222,slow=19,SNR=5.1							
HYB	**Hyderabad**	**20.01**	**159**	*eP*	Pn		17 42 35.0	+1.8
NVS	**Novosibirsk**	**20.17**	**20**	*eP*	**P**		**17 42 29.7**	**+0.3**
NVS				*i* S	**S**		**17 46 00.2**	**-1.2**
NVS				pmax	pmax			
	comp=Z,6.0nm,0.7s							
NVS				pmax	pmax			
	comp=N,1.0nm,0.5s							
NVS				pmax	pmax			
	comp=E,2.0nm,0.5s							
NVS				smax	smax			
	comp=N,8.0nm,0.9s							
NVS				smax	smax			
	comp=E,24nm,1.1s							
SHL	**Shillong**	**20.68**	**116**	*e*4	**P**		**17 42 37.5**	**+2.1**
GNI	**Garni**	**21.13**	**288**	P	**P**		**17 42 42.0**	**+2.2**
	comp=E,28nm,0.9s,baz=350,slow=2.8,SNR=7.7							
RDF	**Al-Radifah**	**21.30**	**256**	*eP*	**P**		**17 42 41.0**	**-0.4**
RDF				AMb	AMB		17 42 45.4	
	comp=E,61nm,0.8s							
NAY	**Al-Naaiem**	**21.39**	**257**	*eP*	**P**		**17 42 41.4**	**-0.9**
NAY				AMb	AMB		17 42 46.0	
	comp=Z,34nm,0.7s							
RST	**Umm Al-Ruwaisa**	**21.48**	**258**	*eP*	**P**		**17 42 42.1**	**-1.0**
RST				AMb	AMB		17 42 46.1	
	comp=Z,600nm,0.8s							
SVE	**Sverdlovsk**	**21.62**	**344**	*eP*	**P**		**17 42 44.6**	**+0.5**
ARU	**Arti**	**21.77**	**341**	*d i* P	**P**		**17 42 46.4**	**+0.9**
ARU				S	**S**		**17 46 30.9**	**+2.7**
ARU				pmax	pmax			
	comp=Z,26nm,1.7s							
KBZ	**Khabaz**	**22.83**	**297**	P	**P**		**17 42 53.8**	**-1.5**
KBZ				pmax	pmax			
	comp=Z,6.0nm,0.8s							
KBZ	**Khabaz**	**22.83**	**297**	P	**P**		**17 42 53.8**	**-1.5**
	comp=Z,5.8nm,0.8s,baz=113,slow=7.4,SNR=8.7							
GOF	**Gofitskoye**	**22.97**	**301**	*eP*	**P**		**17 42 58.4**	**+1.8**
KIV	**Kislovodsk**	**23.02**	**298**	*eP*	**P**		**17 42 58.0**	**+0.8**
KIV				*e**PP	**pP**		**17 43 41.3**	**+0.9**
KIV				*e**SP	**sP**		**17 44 12.5**	**+0.7**
KIV				*e*			17 46 39.4	
KIV				*e*S	**S**		**17 46 50.1**	**+1.2**
KIV				pmax	pmax			
	comp=Z,21nm,1.1s							
KIV				MLR	MLR			
	comp=Z,46nm,15.0s							
RBK	**Rabkut**	**24.16**	**223**	P	**P**		**17 43 08.6**	**+0.9**
	SNR=6.1							
ANN	**Anapa**	**26.86**	**299**	*eP*	**P**		**17 43 28.9**	**-2.7**
ANN				pmax	pmax			
	comp=Z,105nm,1.2s							
SONM	**Songino Array**	**28.19**	**55**	P	**P**		**17 43 46.1**	**+2.6**
	comp=Z,0.7nm,0.4s,baz=274,slow=10.0,SNR=2.2							
SONM				pP	**pP**		**17 44 35.1**	**+2.9**
	comp=Z,2.7nm,0.9s,baz=253,slow=8.5,SNR=4.4							
MMAI	**Mount Meron Ar**	**29.58**	**274**	PcP	**PcP**		**17 46 54.6**	**+0.5**
	comp=Z,1.9nm,0.5s,baz=68,slow=6.7,SNR=6.1							
BRTR	**Keskin Array B**	**29.67**	**288**	P	**P**		**17 43 56.7**	**0.0**
	comp=Z,3.1nm,0.7s,baz=98,slow=8.6,SNR=23							
BRTR				PcP	**PcP**		**17 46 54.3**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=133,slow=2.9,SNR=5.3							
OBN	**Obninsk**	**30.13**	**319**	⇑*eP*	**P**		**17 44 00.0**	**-0.4**
OBN				*PP	**pP**		**17 44 48.0**	**-1.4**
OBN							17 45 04.0	
OBN				S	**S**		**17 48 36.0**	**-4.4**
OBN				pmax	pmax			
	comp=Z,11nm,0.5s							
KLMR	**Klimovskoe**	**31.65**	**331**	*eP*	**P**		**17 44 12.4**	**-1.2**
KLMR				pmax	pmax			
	comp=Z,25nm,1.3s							
AKASG	**Malin Array Be**	**33.16**	**309**	P	**P**		**17 44 25.8**	**-1.0**
AKASG				*PP	**pP**		**17 45 17.1**	**+0.8**
AKASG							17 45 43.3	
AKASG							17 47 02.7	
AKASG				pmax	pmax			
	comp=Z,5.0nm,0.6s							
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.5s							
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.7s							
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**33.16**	**309**	P	**P**		**17 44 25.8**	**-1.0**
	comp=Z,4.5nm,0.6s,baz=81,slow=7.1,SNR=47							
AKASG				pP	**pP**		**17 45 17.1**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=84,slow=7.1,SNR=2.2							
AKASG				PP	**PP**		**17 45 43.3**	**-4.0**
	comp=Z,2.1nm,0.7s,baz=91,slow=12,SNR=4.7							
AKASG				PcP	**PcP**		**17 47 02.6**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=83,slow=3.3,SNR=4.5							
TMCR	**Tamitsa**	**34.20**	**335**	*eP*	**P**		**17 44 36.2**	**+0.6**
TMCR				*e*			17 46 01.0	
TMCR				*e*			17 47 06.4	
TMCR				pmax	pmax			
	comp=Z,26nm,1.0s							
PLOR	**Plostina**	**34.51**	**300**	⇑P	**P**		**17 44 36.6**	**-2.0**
PLOR	**Plostina**	**34.51**	**300**	⇑*i* P	**P**		**17 44 36.6**	**-2.0**
TESR	**Tescani**	**34.51**	**301**	⇑*i* P	**P**		**17 44 35.9**	**-2.6**
MLR	**Muntele Rosu**	**35.01**	**299**	⇑*i* P	**P**		**17 44 44.4**	**+1.5**
VOIR		**35.64**	**299**	⇑P	**P**		**17 44 46.4**	**-1.8**
VOIR		**35.64**	**299**	⇑*i* P	**P**		**17 44 46.4**	**-1.8**
ATD	**Arta Tunnel**	**35.66**	**233**	P	**P**		**17 44 50.2**	**+1.5**
	comp=Z,17nm,0.9s,baz=267,slow=19,SNR=5.6							
JOF	**Joensuu**	**36.04**	**330**	*eP*	**P**		**17 44 50.7**	**-0.5**
JOF				pmax	pmax			
	comp=Z,19nm,0.3s							
JOF	**Joensuu**	**36.04**	**330**	*ep*	**P**		**17 44 50.7**	**-0.5**
	comp=Z,19nm,0.3s							
KWP	**Kalwaria Pacla**	**37.23**	**306**	⇑P	**P**		**17 45 02.6**	**+1.1**
KWP	**Kalwaria Pacla**	**37.23**	**306**	⇑*i* P	**P**		**17 45 02.6**	**+1.1**
KWP	**Kalwaria Pacla**	**37.23**	**306**	*eP*	**P**		**17 45 02.7**	**+1.2**
TRPA	**Tarpa**	**37.32**	**304**	⇑*i* P	**P**		**17 45 02.1**	**-0.1**
KOLS	**Kolonicke sedl**	**37.50**	**305**	*eP*	**P**		**17 45 03.9**	**+0.1**
KOLS				pmax	pmax			
	comp=Z,4.0nm,1.0s							
KOLS	**Kolonicke sedl**	**37.50**	**305**	*eP*	**P**		**17 45 03.9**	**+0.1**

FINES	**FINESS Array B**	**37.66**	**326**	P	**P**		**17 45 05.0**	**+0.1**
	comp=Z,7.5nm,0.5s,baz=118,slow=9.6,SNR=55							
KAF	**Kangasniemi**	**37.80**	**327**	*eP*	**P**		**17 45 05.9**	**-0.2**
KAF				pmax	pmax			
	comp=Z,3.0nm,0.4s							
KAF	**Kangasniemi**	**37.80**	**327**	*ep*	**P**		**17 45 05.9**	**-0.2**
	comp=Z,2.5nm,0.4s							
SIRR	**Siria**	**37.97**	**301**	⇑*i* P	**P**		**17 45 07.8**	**+0.1**
QIZ	**Qiongzhong**	**37.99**	**107**	P	**P**		**17 45 06.5**	**-1.7**
QIZ				pP	**pP**		**17 45 57.0**	**-1.7**
QIZ				sP	**sP**		**17 46 27.5**	**+0.6**
QIZ				S	**S**		**17 50 39.0**	**-2.5**
QIZ				AMB	AMB			
	comp=Z,120nm,4.4s							
QIZ				LR	LR			
	comp=Z,380nm,13.9s							
QIZ				LR	LR			
	comp=Z,660nm,14.1s							
BZS	**Buzias**	**38.04**	**300**	⇑P	P		17 44 59.8	-8.5
BZS	**Buzias**	**38.04**	**300**	⇑*i* P	P		17 44 59.8	-8.5
STHS	**Stebnicka Huta**	**38.18**	**306**	*eP*	**P**		**17 45 09.5**	**+0.1**
STHS				pmax	pmax			
	comp=Z,3.0nm,0.8s							
STHS	**Stebnicka Huta**	**38.18**	**306**	*eP*	**P**		**17 45 09.5**	**+0.1**
KECS	**Kecovo**	**38.68**	**304**	*eP*	**P**		**17 45 13.7**	**+0.1**
KECS				pmax	pmax			
	comp=Z,2.0nm,0.7s							
KECS	**Kecovo**	**38.68**	**304**	*eP*	**P**		**17 45 13.7**	**+0.1**
PSZ	**Piszkesteto**	**39.09**	**304**	⇑P	**P**		**17 45 17.6**	**+0.4**
PSZ	**Piszkesteto**	**39.09**	**304**	⇑*i* P	**P**		**17 45 17.5**	**+0.4**
PKSM	**Moragy**	**40.06**	**301**	⇑P	**P**		**17 45 25.4**	**+0.4**
PKSM	**Moragy**	**40.06**	**301**	⇑*i* P	**P**		**17 45 25.4**	**+0.4**
MORC	**Moravsky Berou**	**40.58**	**307**	⇑P	**P**		**17 45 29.2**	**-0.1**
MORC	**Moravsky Berou**	**40.58**	**307**	⇑*i* P	**P**		**17 45 29.2**	**-0.1**
KEV	**Kevo**	**40.95**	**338**	*eP*	**P**		**17 45 30.4**	**-1.4**
KEV				pmax	pmax			
	comp=Z,23nm,1.0s							
KEV	**Kevo**	**40.95**	**338**	*ep*	**P**		**17 45 30.4**	**-1.4**
	comp=Z,23nm,1.0s							
KRLC	**Kraliky**	**41.06**	**307**	*eP*	**P**		**17 45 33.3**	**+0.1**
KRLC	**Kraliky**	**41.06**	**307**	*eP*	**P**		**17 45 33.3**	**+0.1**
VRAC	**Vranov**	**41.22**	**306**	⇑*i* P	**P**		**17 45 33.4**	**-1.0**
ARCES	**ARCESS Array B**	**41.29**	**338**	P	**P**		**17 45 35.2**	**+0.5**
	comp=Z,14nm,0.7s,baz=113,slow=8.6,SNR=61							
ARCES				pP	**pP**		**17 46 26.8**	**+0.8**
	comp=Z,1.5nm,0.5s,baz=108,slow=7.8,SNR=1.3							
DPC	**Dobruska-Polom**	**41.35**	**307**	*eP*	**P**		**17 45 36.0**	**+0.5**
DPC	**Dobruska-Polom**	**41.35**	**307**	*eP*	**P**		**17 45 36.0**	**+0.5**
UPC	**Upice**	**41.54**	**308**	*eP*	**P**		**17 45 37.7**	**+0.7**
UPC	**Upice**	**41.54**	**308**	*eP*	**P**		**17 45 37.7**	**+0.7**
CONA	**Conrad Observa**	**41.80**	**304**	P	**P**		**17 45 39.5**	**+0.2**
	comp=Z,9.3nm,1.0s							
TREC	**Trest**	**41.94**	**306**	*eP*	**P**		**17 45 40.9**	**+0.6**
TREC	**Trest**	**41.94**	**306**	*eP*	**P**		**17 45 40.9**	**+0.6**
PRU	**Pruhonice**	**42.51**	**307**	*eP*	**P**		**17 45 43.8**	**-1.0**
PRU	**Pruhonice**	**42.51**	**307**	*eP*	**P**		**17 45 43.8**	**-1.0**
BRG	**Berggiesshubel**	**42.84**	**308**	⇑*i* P	**P**		**17 45 47.8**	**+0.3**
	comp=Z,10nm,1.1s							
BRG								
	comp=Z,563nm,19.5s							
BRG								
	comp=N,234nm,19.1s							
BRG								
	comp=E,315nm,19.1s							
GERES	**GERESS Array B**	**43.15**	**305**	P	**P**		**17 45 49.9**	**-0.2**
	comp=E,1.0nm,0.8s,baz=111,slow=7.6,SNR=7.3							
GERES				PcP	**PcP**		**17 47 34.3**	**-0.4**
	comp=E,0.9nm,0.9s,baz=96,slow=3.9,SNR=3.8							
KHC	**Kasperske Hory**	**43.20**	**306**	*eP*	**P**		**17 45 50.8**	**+0.4**
KHC	**Kasperske Hory**	**43.20**	**306**	*eP*	**P**		**17 45 50.8**	**+0.4**
KHC				*ex*	x		17 46 50.4	
CLL	**Collm**	**43.41**	**309**	⇑*i* P	**P**		**17 45 51.8**	**-0.1**
CLL				pmax	pmax			
	comp=Z,4.0nm,0.8s							
CLL	**Collm**	**43.41**	**309**	⇑*i* P	**P**		**17 45 51.8**	**-0.1**
	comp=Z,4.0nm,0.8s							
CLL				*e*PP	**PcP**		**17 47 35.0**	**-0.5**
NKC	**Novy Kostel**	**43.84**	**308**	*eP*	**P**		**17 45 55.8**	**+0.4**
NKC	**Novy Kostel**	**43.84**	**308**	*eP*	**P**		**17 45 55.8**	**+0.4**
YAK	**Yakutsk**	**43.89**	**35**	*eP*	**P**		**17 45 56.9**	**+1.3**
NB2	**NORSAR Subarra**	**44.57**	**323**	P	**P**		**17 46 00.4**	**-0.6**
	comp=Z,20nm,1.1s,baz=97,slow=7.9							
NOA	**NORSAR Array B**	**44.57**	**323**	P	**P**		**17 46 00.6**	**-0.4**
	comp=Z,6.5nm,0.7s,baz=96,slow=7.7,SNR=24							
NOA				pP	**pP**		**17 46 52.0**	**-1.0**
	comp=Z,2.0nm,0.8s,baz=97,slow=8.1,SNR=3.2							
KSRS	**Korea Array**	**44.69**	**71**	PcP	**PcP**		**17 47 40.5**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=296,slow=2.7,SNR=4.4							
FETA	**Feichten**	**45.37**	**303**	⇑*i* P	**P**		**17 46 06.6**	**-1.1**
	comp=Z,3.7nm,0.8s							
DAVA	**Damuels**	**45.90**	**304**	⇓*i* P	**P**		**17 46 11.0**	**-0.8**
	comp=Z,11nm,0.6s,SNR=9.7							
DAVOX	**Davos/Dischmat**	**45.98**	**303**	P	**P**		**17 46 11.6**	**-0.9**
	comp=Z,2.9nm,0.6s,baz=77,slow=7.1,SNR=4.1							
DAVOX				PcP	**PcP**		**17 47 44.6**	**-0.2**
	comp=Z,1.9nm,0.5s,baz=285,slow=7.6,SNR=5.0							
CDF	**Champ du Feu**	**47.43**	**306**	*eP*	**P**		**17 46 23.1**	**-0.4**
	comp=Z,3.2nm,0.7s							
PGF	**Pioggiola**	**47.50**	**297**	*eP*	**P**		**17 46 23.6**	**-0.6**
	comp=Z,13nm,0.8s							
HINF	**Hinteralfeld**	**47.82**	**305**	*eP*	**P**		**17 46 25.6**	**-0.9**
	comp=Z,5.8nm,0.7s							
MEM	**Membach**	**47.88**	**309**	P	**P**		**17 46 27.0**	**+0.2**
HAU	**Haudompre**	**48.12**	**305**	*eP*	**P**		**17 46 28.0**	**-0.7**
	comp=Z,5.9nm,0.6s							
SBF	**Sospel**	**48.28**	**300**	*eP*	**P**		**17 46 29.5**	**-0.6**
	comp=Z,26nm,0.8s							
LPG	**La Plagne**	**48.37**	**302**	*eP*	**P**		**17 46 30.6**	**-0.4**
	comp=Z,10nm,0.8s							
LPL	**La Lagune**	**48.38**	**302**	*eP*	**P**		**17 46 30.6**	**-0.4**
	comp=Z,14nm,0.9s							
PAGF	**Fort de Pagny**	**48.42**	**306**	*eP*	**P**		**17 46 31.0**	**0.0**
	comp=Z,3.7nm,0.7s							
MBDF	**Montbardon**	**48.54**	**301**	*eP*	**P**		**17 46 31.0**	**-1.1**
	comp=Z,6.7nm,0.6s							
CABF	**La Chapelle**	**48.58**	**303**	*eP*	**P**		**17 46 32.1**	**-0.2**
	comp=Z,6.6nm,0.6s							
GIVF	**Givet**	**48.71**	**308**	*eP*	**P**		**17 46 33.4**	**+0.2**
DOU	**Dourbes**	**48.86**	**308**	P	**P**		**17 46 34.7**	**+0.4**
	comp=Z,9.0nm,2.8s							
MEZF	**Maizieres J'vi**	**48.87**	**306**	*eP*	**P**		**17 46 34.2**	**-0.2**
FRF	**La Foret Royal**	**48.91**	**299**	*eP*	**P**		**17 46 33.9**	**-0.9**
	comp=Z,7.8nm,0.7s							
KMBO	**Kilima Mbogo**	**48.95**	**228**	P	**P**		**17 46 37.0**	**+1.4**
	comp=Z,3.0nm,0.6s,baz=39,slow=12,SNR=8.8							
ORIF	**Oris-en-Rattie**	**49.11**	**301**	*eP*	**P**		**17 46 35.6**	**-0.8**
BAIF	**Baives**	**49.11**	**308**	*eP*	**P**		**17 46 36.3**	**+0.1**
KEST	**Kesra**	**49.27**	**289**	P	**P**		**17 46 38.1**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=356,slow=4.6,SNR=6.3							
VIVF	**Saint-Julien-l**	**49.95**	**301**	*eP*	**P**		**17 46 42.1**	**-0.6**
	comp=Z,9.7nm,0.7s							
SMF	**Signal de Mont**	**50.08**	**304**	*eP*	**P**		**17 46 42.8**	**-0.7**
	comp=Z,16nm,0.8s							
SSF	**Saint Saulge**	**50.20**	**305**	*eP*	**P**		**17 46 43.6**	**-0.8**
AVF	**Avril sur Loir**	**50.37**	**304**	*eP*	**P**		**17 46 44.9**	**-0.8**
	comp=Z,13nm,0.7s							
LASF	**Ste Croix**	**50.72**	**301**	*eP*	**P**		**17 46 48.2**	**-0.2**
	comp=Z,16nm,0.9s							
HYF	**Humbligny**	**50.73**	**305**	*eP*	**P**		**17 46 47.9**	**-0.4**
BGF	**Bois d'Agland**	**50.76**	**304**	*eP*	**P**		**17 46 47.7**	**-0.9**
TCF	**Toulx Ste Croi**	**51.26**	**304**	*eP*	**P**		**17 46 51.9**	**-0.4**
	comp=Z,11nm,0.8s							
CAF	**Calviac**	**51.72**	**302**	*eP*	**P**		**17 46 55.5**	**-0.3**
	comp=Z,5.9nm,0.7s							
RJF	**Les Rejaudoux**	**51.99**	**303**	*eP*	**P**		**17 46 57.6**	**-0.1**
	comp=Z,5.3nm,0.7s							
MTLF	**Montolieu**	**52.07**	**300**	*eP*	**P**		**17 46 57.8**	**-0.6**
	comp=Z,6.2nm,0.9s							
LDF	**La Druitiere**	**52.20**	**307**	*eP*	**P**		**17 46 58.3**	**-0.9**
FLN	**La Foliniere**	**52.38**	**308**	*eP*	**P**		**17 46 59.6**	**-0.9**
	comp=Z,9.5nm,0.7s							
LFF	**La Frestale**	**52.62**	**303**	*eP*	**P**		**17 47 01.0**	**-1.3**
	comp=Z,7.3nm,0.6s							
MBAR	**Mbarara**	**52.65**	**235**	P	**P**		**17 47 02.8**	**-0.3**
	comp=Z,14nm,0.7s,baz=44,slow=12,SNR=24							
GRR	**Gorron**	**52.72**	**307**	*eP*	**P**		**17 47 02.0**	**-1.0**
	comp=Z,11nm,0.8s							
MFF	**Saint Martin d**	**52.74**	**305**	*eP*	**P**		**17 47 02.2**	**-1.0**
	comp=Z,7.1nm,0.8s							
EPF	**Esparros**	**53.47**	**300**	*eP*	**P**		**17 47 07.8**	**-0.9**
SGMF	**Saint Gilles**	**53.85**	**307**	*eP*	**P**		**17 47 10.6**	**-0.6**
COCO	**West Island**	**54.03**	**149**	*i* P	P		17 47 19.0	+6.2
ETSF	**Etsaut**	**54.14**	**301**	*eP*	**P**		**17 47 13.1**	**-0.4**
	comp=Z,10.0nm,0.7s							
ROSF	**Rostrenen**	**54.28**	**308**	*eP*	**P**		**17 47 13.5**	**-0.8**

SJPF	**Ste Jean**	**54.53**	**301**	*eP*	**P**		**17 47 15.9**	**-0.3**
ESDC	**Sonseca Array**	**57.69**	**298**	P	**P**		**17 47 37.8**	**-0.8**
	comp=Z,1.6nm,0.5s,baz=61,slow=7.2,SNR=16							
ESDC				PP	**PP**		**17 49 51.3**	**+2.1**
SUMG	**Summit**	**61.20**	**341**	*i* P	**P**		**17 48 03.8**	**+1.4**
SUMG				pmax	pmax			
	comp=Z,7.0nm,0.8s							
SUMG	**Summit**	**61.20**	**341**	*i* P	**P**		**17 48 03.8**	**+1.4**
	comp=Z,7.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**65.94**	**269**	P	**P**		**17 48 31.6**	**-2.1**
	comp=Z,7.4nm,0.5s,baz=48,slow=5.9,SNR=78							
INK	**Inuvik**	**73.94**	**9**	P	**P**		**17 49 22.3**	**+1.0**
	comp=Z,3.8nm,0.5s,baz=353,slow=11,SNR=6.8							
FITZ	**Fitzroy Crossi**	**74.67**	**127**	P	**P**		**17 49 27.1**	**+0.8**
	comp=Z,4.4nm,0.8s,baz=270,slow=4.5,SNR=13							
ILAR	**Eielson Array**	**74.78**	**16**	P	**P**		**17 49 26.4**	**+0.1**
	comp=Z,1.8nm,0.9s,baz=314,slow=4.6,SNR=10							
ILAR				pP	**pP**		**17 50 24.4**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=319,slow=4.4,SNR=8.2							
DBIC	**Dimbokro**	**74.92**	**267**	P	**P**		**17 49 26.5**	**-1.4**
	comp=Z,2.8nm,0.5s,baz=22,slow=8.8,SNR=7.4							
KIC	**Kosan Boka**	**75.00**	**267**	*eP*	**P**		**17 49 26.8**	**-1.6**
	comp=Z,4.5nm,0.4s							
TSUM	**Tsumeb**	**75.05**	**232**	P	**P**		**17 49 28.3**	**-0.3**
	comp=Z,4.7nm,0.6s,baz=15,slow=8.9,SNR=12							
TIC	**Toumodi**	**75.06**	**267**	*eP*	**P**		**17 49 26.8**	**-2.0**
	comp=Z,6.7nm,0.2s							
LIC	**Lamto**	**75.31**	**267**	*eP*	**P**		**17 49 28.7**	**-1.5**
	comp=Z,6.4nm,0.5s							
LIC	**Lamto**	**75.31**	**267**	*eP*	**P**		**17 49 28.2**	**-2.0**
	comp=Z,11nm,0.5s							
BOSA	**Boshof**	**77.84**	**220**	P	**P**		**17 49 43.0**	**-1.0**
	comp=Z,4.1nm,0.7s,baz=33,slow=6.3,SNR=6.8							
YKA	**Yellowknife Ar**	**81.30**	**3**	P	**P**		**17 50 02.8**	**+0.8**
	comp=Z,2.6nm,0.6s,baz=352,slow=5.3,SNR=6.0							
YKA				pP	**pP**		**17 51 01.8**	**+0.9**
	comp=Z,3.1nm,0.9s,baz=351,slow=5.1,SNR=2.7							
WRA	**Warramunga Arr**	**81.77**	**122**	P	**P**		**17 50 05.2**	**+0.1**
	comp=Z,5.8nm,0.6s,baz=325,slow=4.9,SNR=114							
WRA				PKKPbc	**PKKPbc**		**18 08 35.0**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=119,slow=2.5,SNR=5.1							
ASAR	**Alice Springs**	**84.03**	**125**	P	**P**		**17 50 16.9**	**+0.2**
	comp=Z,7.5nm,0.6s,baz=310,slow=5.0,SNR=87							
FFC	**Flin Flon**	**89.02**	**356**	*i* P	**P**		**17 50 41.7**	**+1.3**
CTA	**Charters Tower**	**90.31**	**115**	P	**P**		**17 50 46.8**	**-0.1**
	comp=Z,6.5nm,0.9s,baz=342,slow=6.6,SNR=3.9							
DZM	**Mont Dzumac**	**106.75**	**105**	*e*LR	LR		18 07 38.2	
	comp=Z,194nm,23.1s							
SNAA	**Sanae**	**119.41**	**200**	*eP*	**PKPdf**		**17 56 33.0**	**+0.4**
VNA2	**Neumayer--Watz**	**120.42**	**202**	*eP*	**PKPdf**		**17 56 36.5**	**+2.1**
	baz=22,slow=1.2							
VNA1	**Neumayer--Stat**	**120.58**	**202**	*eP*	**PKPdf**		**17 56 36.5**	**+1.8**
CPUP	**Villa Florida**	**135.43**	**268**	PKP	**PKPdf**		**17 57 03.7**	**-0.6**
	comp=Z,1.7nm,0.5s,baz=43,slow=3.7,SNR=4.6							
LPAZ	**La Paz**	**138.84**	**288**	PKP	**PKPdf**		**17 57 11.1**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=357,slow=6.3,SNR=4.4							
CFAA	**Coronel Fontan**	**146.28**	**266**	PKPbc	**PKPdf**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**22.36**	**167**	LR	LR	19 02 52.2	
	comp=Z,105nm,21.6s,baz=299,slow=33						
JNU	**Nakatsue**	**22.92**	**335**	LR	LR	19 02 04.7	
	comp=Z,104nm,21.9s,baz=57,slow=30						
KSRS	**Korea Array**	**27.87**	**335**	LR	LR	19 05 33.8	
	comp=Z,89nm,18.0s,baz=168,slow=32						
WRA	**Warramunga Arr**	**33.13**	**193**	P	P	18 57 06.4	+0.2
	1.9nm,0.8s,baz=13,slow=9.4,SNR=12						
ASAR	**Alice Springs**	**36.83**	**193**	P	P	18 57 38.1	-0.1
	0.4nm,0.8s,baz=23,slow=11,SNR=8.5						
DZM	**Mont Dzumac**	**41.88**	**145**	LR	LR	19 11 55.9	
	comp=Z,393nm,19.0s,baz=348,slow=31						
CMAR	**Chiang Mai Arr**	**41.89**	**284**	P	P	18 58 20.2	-0.4
	3.1nm,0.9s,baz=86,slow=6.2,SNR=28						
STKA	**Stephens Creek**	**44.14**	**181**	LR	LR	19 14 46.1	
	comp=Z,106nm,21.6s,baz=24,slow=33						
SONM	**Songino Array**	**46.08**	**327**	LR	LR	19 16 37.1	
	comp=Z,81nm,19.6s,baz=117,slow=34						
MKAR	**Makanchi Array**	**60.38**	**317**	P	P	19 00 39.6	+0.4
	1.4nm,0.9s,baz=91,slow=11,SNR=5.6						
ZALV	**Zalesovo Beam**	**60.92**	**325**	P	P	19 00 44.1	+1.3
	0.4nm,0.4s,baz=107,slow=5.0,SNR=2.6						
KURBB	**Kurchatov Arra**	**63.69**	**321**	P	P	19 01 01.6	+0.3
	1.9nm,0.8s,baz=106,slow=7.1,SNR=12						
ILAR	**Eielson Array**	**70.71**	**25**	P	P	19 01 46.2	+0.5
	0.7nm,0.7s,baz=242,slow=5.9,SNR=8.8						
PPT	**Papeete**	**73.81**	**113**	LR	LR	19 32 18.5	
	comp=Z,183nm,19.1s,baz=344,slow=34						
ARCES	**ARCESS Array B**	**87.25**	**342**	P	P	19 03 15.2	-1.1
	5.2nm,1.0s,baz=69,slow=6.6,SNR=4.4						
FINES	**FINESS Array B**	**90.96**	**334**	P	P	19 03 32.2	-1.6
	2.2nm,0.7s,baz=72,slow=3.4,SNR=12						
HFS	**Hagfors**	**96.72**	**337**	LR	LR	19 50 46.6	
	comp=Z,85nm,19.4s,baz=252,slow=37						

IDC 28 19:13:04.6±4.3, 15°45S×173°00W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/21, mbtmpg3.9/3, Error ellipse: s-maj=216.3km s-min=25.9km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.93**	**38**	Pn	Pn	19 13 38.9	0.0
	11nm,0.3s,baz=203,slow=7.7,SNR=9.7						
AFI				Sn	Sn	19 13 58.6	-5.3
	25nm,0.3s,baz=218,slow=18,SNR=8.4						
H11S2	**WAKE ISLAND Hy**	**39.20**	**329**	T	T	20 02 38.3	
	baz=150,slow=0.7,SNR=20						
H11S3	**WAKE ISLAND Hy**	**39.21**	**329**	T	T	20 02 39.9	
	baz=150,slow=0.7,SNR=20						
H11S1	**WAKE ISLAND Hy**	**39.22**	**329**	T	T	20 02 38.8	
	baz=150,slow=0.7,SNR=14						
H11N3	**WAKE ISLAND Hy**	**40.14**	**330**	T	T	20 03 52.4	
	baz=150,slow=0.7,SNR=3.9						
H11N1	**WAKE ISLAND Hy**	**40.15**	**330**	T	T	20 03 51.5	
	baz=150,slow=0.7,SNR=2.4						
H11N2	**WAKE ISLAND Hy**	**40.16**	**330**	T	T	20 03 53.2	
	baz=150,slow=0.7,SNR=3.3						
STKA	**Stephens Creek**	**44.35**	**240**	P	P	19 21 16.6	-0.2
	1.1nm,0.7s,baz=100,slow=11,SNR=2.0						
WRA	**Warramunga Arr**	**50.21**	**257**	P	P	19 22 02.5	-0.3
	0.4nm,0.5s,baz=90,slow=7.1,SNR=8.4						
ASAR	**Alice Springs**	**50.46**	**252**	P	P	19 22 04.8	+0.1
	2.7nm,0.6s,baz=86,slow=8.1,SNR=51						
H06E1	**SOCORRO T-PHAS**	**59.93**	**63**	T	T	20 40 41.8	
	SNR=14						

*IDC **28** 19:27:01.0±1.4, 35°.34N×22°.85E, h0km, mb3.6/6, mb1 3.6/7, mb1mx3.5/29, mbtmpg3.6/7, ML3.9/1, MS3.3/2, Ms1 3.3/2, ms1mx2.4/41, Error ellipse: s-maj=30.6km s-min=23.5km az=2.0*

*CSEM **28** 19:27:05.3, 35°.14N×22°.70E, h84km, ML3.5, After ATH*

*ATH **28** 19:27:05.3, 35°.14N×22°.70E, h84km±2km, ML3.5*

*ISCJB **28** 19:27:06.5±0.8, 35°.21N±0°.05×22°.69E±0°.06, h33km, mb3.5/6, MS3.1/2, Error ellipse: s-maj=9.8km s-min=4.2km az=42.1*

ISC 28 19:27:06.0±0.9, 35°.12N±0°.06×22°.70E±0°.05, h33km, n112, σ1°30/117, mb3.5/6, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.89**	**33**	eP	Pn	19 27 22.5	+0.3
ANKY	**Antikythira Is**	**0.89**	**33**	eP	Pn	19 27 22.5	+0.3
KARN	**Karanos**	**1.03**	**74**	eP	Pb	19 27 25.8	+0.4
KARN				eS	Sb	19 27 41.6	+2.9
KARN	**Karanos**	**1.03**	**74**	eP	Pb	19 27 25.8	+0.4
KARN				eS	Sb	19 27 41.6	+2.9
GVD	**Gavdhos**	**1.17**	**104**	eP	Pn	19 27 26.3	+0.2
GVD				eS	Sb	19 27 43.9	+1.3
GVD	**Gavdhos**	**1.17**	**104**	eP	Pn	19 27 26.3	+0.2
GVD				eS	Sb	19 27 43.9	+1.3
KYTH	**Kithira**	**1.19**	**13**	eP	Pn	19 27 27.4	+1.1
KYTH	**Kithira**	**1.19**	**13**	eP	Pn	19 27 27.4	+1.1
VAM	**Vamos**	**1.26**	**77**	eP	Pb	19 27 29.0	-0.2
VAM	**Vamos**	**1.26**	**77**	eP	Pb	19 27 29.0	-0.2
SIVA	**Sivas**	**1.73**	**93**	eP	Pb	19 27 35.6	-1.6
SIVA	**Sivas**	**1.73**	**93**	eP	Pb	19 27 35.6	-1.6
IDI	**Anoyia**	**1.80**	**84**	Pn	Pn	19 27 31.1	-3.7
	3.2nm,0.3s,baz=314,slow=16,SNR=15						
PYL	**PYLOS**	**1.93**	**337**	eP	Pn	19 27 37.6	+1.1
PYL	**PYLOS**	**1.93**	**337**	eP	Pn	19 27 37.6	+1.1
ITM	**Ithomi**	**2.15**	**343**	eP	Pn	19 27 41.0	+1.5
ITM	**Ithomi**	**2.15**	**343**	eP	Pn	19 27 41.0	+1.5
VLX	**Vlachokerasia**	**2.26**	**353**	eP	Pn	19 27 43.6	+2.5
VLX	**Vlachokerasia**	**2.26**	**353**	eP	Pn	19 27 43.6	+2.5
LAST	**Lasithi**	**2.28**	**88**	eP	Pn	19 27 43.5	+2.2
LAST	**Lasithi**	**2.28**	**88**	eP	Pn	19 27 43.5	+2.2
DID	**Didima**	**2.42**	**10**	eP	Pn	19 27 43.5	+0.3
DID	**Didima**	**2.42**	**10**	eP	Pn	19 27 43.5	+0.3
AMT	**Artemida-Makis**	**2.53**	**342**	eP	Pn	19 27 46.2	+1.4
AMT	**Artemida-Makis**	**2.53**	**342**	eP	Pn	19 27 46.2	+1.4
NAIG	**Nisos Aigina**	**2.71**	**13**	eP	Pn	19 27 47.9	+0.8
NAIG	**Nisos Aigina**	**2.71**	**13**	eP	Pn	19 27 47.9	+0.8
GUR	**Goura**	**2.82**	**354**	eP	Pn	19 27 49.6	+0.8
GUR	**Goura**	**2.82**	**354**	eP	Pn	19 27 49.6	+0.8
ZKR	**Zakros**	**2.88**	**89**	eP	Pn	19 27 51.8	+2.2
ZKR	**Zakros**	**2.88**	**89**	eP	Pn	19 27 51.8	+2.2
LTK	**Loutraki**	**2.90**	**4**	eP	Pn	19 27 50.8	+0.9
LTK	**Loutraki**	**2.90**	**4**	eP	Pn	19 27 50.8	+0.9
ATH	**Athens Observa**	**2.96**	**16**	eP	Pn	19 27 52.2	+1.6
ATH	**Athens Observa**	**2.96**	**16**	eP	Pn	19 27 52.2	+1.6
APE	**Apeiranthos**	**3.00**	**49**	eP	Pn	19 27 51.5	+0.2
APE	**Apeiranthos**	**3.00**	**49**	eP	Pn	19 27 51.5	+0.2
PTL	**Penteli**	**3.07**	**17**	eP	Pn	19 27 52.4	+0.3
PTL	**Penteli**	**3.07**	**17**	eP	Pn	19 27 52.4	+0.3
VILL	**Villia**	**3.07**	**9**	eP	Pn	19 27 52.8	+0.5
RLS	**Riolos of Patr**	**3.09**	**342**	eP	Pn	19 27 54.0	+1.6
RLS	**Riolos of Patr**	**3.09**	**342**	eP	Pn	19 27 54.0	+1.6
VIL2	**Platees**	**3.12**	**8**	eP	Pn	19 27 52.8	0.0
LAKA	**Lakka**	**3.16**	**350**	eP	Pn	19 27 55.7	+2.2
LAKA	**Lakka**	**3.16**	**350**	eP	Pn	19 27 55.7	+2.2
DSF	**Desfina**	**3.28**	**358**	eP	Pn	19 27 55.7	+0.5
DSF	**Desfina**	**3.28**	**358**	eP	Pn	19 27 55.7	+0.5
DESF	**Desfina**	**3.29**	**358**	eP	Pn	19 27 55.7	+0.5
DESF	**Desfina**	**3.29**	**358**	eP	Pn	19 27 55.7	+0.5
KALE	**Kalithea**	**3.29**	**352**	eP	Pn	19 27 55.6	+0.3
KALE	**Kalithea**	**3.29**	**352**	eP	Pn	19 27 55.6	+0.3
EFP	**Efpalio**	**3.36**	**349**	eP	Pn	19 27 58.4	+2.3
EFP	**Efpalio**	**3.36**	**349**	eP	Pn	19 27 58.4	+2.3
VLS	**Valsamata**	**3.49**	**332**	eP	Pn	19 27 58.0	+0.1
VLS	**Valsamata**	**3.49**	**332**	eP	Pn	19 27 58.0	+0.1
LKR	**Lokris**	**3.53**	**4**	eP	Pn	19 27 59.0	+0.6
LKR	**Lokris**	**3.53**	**4**	eP	Pn	19 27 59.0	+0.6
MRKA	**Markates**	**3.65**	**11**	eP	Pn	19 28 01.0	+0.9
MRKA	**Markates**	**3.65**	**11**	eP	Pn	19 28 01.0	+0.9
KARP	**Karpathos**	**3.67**	**82**	eP	Pn	19 28 01.5	+1.0
KARP	**Karpathos**	**3.67**	**82**	eP	Pn	19 28 01.5	+1.0
PDO	**Prodromos**	**3.68**	**341**	eP	Pn	19 28 02.2	+1.7
PDO	**Prodromos**	**3.68**	**341**	eP	Pn	19 28 02.2	+1.7
SMIA	**Simia**	**3.77**	**6**	eP	Pn	19 28 02.8	+1.0
SMIA	**Simia**	**3.77**	**6**	eP	Pn	19 28 02.8	+1.0
EVR	**Evrytania**	**3.85**	**350**	eP	Pn	19 28 05.9	+2.9
EVR	**Evrytania**	**3.85**	**350**	eP	Pn	19 28 05.9	+2.9
AGG	**Agios Georgios**	**3.90**	**356**	eP	Pn	19 28 05.1	+1.5
AGG				eS	Sn	19 28 47.6	-0.7
AGG	**Agios Georgios**	**3.90**	**356**	eP	Pn	19 28 05.1	+1.5
AGG				eS	Sn	19 28 47.6	-0.7
MAKR	**Makrakomi, Fth**	**3.91**	**353**	eP	Pn	19 28 05.5	+1.8
MAKR				eS	Sn	19 28 48.6	+0.1
SKIA	**Skiathos**	**4.08**	**8**	eP	Pn	19 28 07.7	+1.6
SKIA	**Skiathos**	**4.08**	**8**	eP	Pn	19 28 07.7	+1.6
NEO	**Neokhori**	**4.20**	**6**	eP	Pn	19 28 08.3	+0.6
NEO	**Neokhori**	**4.20**	**6**	eP	Pn	19 28 08.3	+0.6
SMG	**Samos**	**4.22**	**51**	eP	Pn	19 28 08.2	+0.3
SMG	**Samos**	**4.22**	**51**	eP	Pn	19 28 08.2	+0.3
CHOS	**Chios island**	**4.23**	**39**	eP	Pn	19 28 08.3	+0.2
CHOS	**Chios island**	**4.23**	**39**	eP	Pn	19 28 08.3	+0.2
XOR	**Xorichti**	**4.25**	**5**	eP	Pn	19 28 09.4	+1.0
XOR	**Xorichti**	**4.25**	**5**	eP	Pn	19 28 09.4	+1.0
THL	**Klokotos Trika**	**4.47**	**353**	eP	Pn	19 28 10.9	-0.4
THL	**Klokotos Trika**	**4.47**	**353**	eP	Pn	19 28 10.9	-0.4
ARG	**Arkhangelos**	**4.55**	**75**	eP	Pn	19 28 13.2	+0.7
ARG	**Arkhangelos**	**4.55**	**75**	eP	Pn	19 28 13.2	+0.7
IGT	**Igoumenitsa**	**4.79**	**337**	eP	Pn	19 28 15.2	-0.6
IGT	**Igoumenitsa**	**4.79**	**337**	eP	Pn	19 28 15.2	-0.6
PAIG	**Paliouri**	**4.86**	**9**	eP	Pn	19 28 16.8	+0.1
PAIG	**Paliouri**	**4.86**	**9**	eP	Pn	19 28 16.8	+0.1
OUR	**Ouranopolis**	**5.30**	**11**	eP	Pn	19 28 22.8	0.0
OUR	**Ouranopolis**	**5.30**	**11**	eP	Pn	19 28 22.8	0.0
NEST	**Nestorio**	**5.44**	**347**	eP	Pn	19 28 25.8	+1.0
NEST	**Nestorio**	**5.44**	**347**	eP	Pn	19 28 25.8	+1.0
HORT	**Hortiatis**	**5.47**	**3**	eP	Pn	19 28 24.9	-0.4
HORT	**Hortiatis**	**5.47**	**3**	eP	Pn	19 28 24.9	-0.4
FNA	**Florina**	**5.75**	**350**	eP	Pn	19 28 28.9	-0.1
FNA	**Florina**	**5.75**	**350**	eP	Pn	19 28 28.9	-0.1
SRS	**Serrai**	**6.03**	**6**	eP	Pn	19 28 32.4	-0.4
SRS	**Serrai**	**6.03**	**6**	eP	Pn	19 28 32.4	-0.4
KNT	**Kendrikon**	**6.03**	**1**	eP	Pn	19 28 32.4	-0.4
KNT	**Kendrikon**	**6.03**	**1**	eP	Pn	19 28 32.4	-0.4
BRTR	**Keskin Array B**	**9.84**	**59**	Pn	Pn	19 29 26.1	+0.9
	0.1nm,0.3s,baz=233,slow=12,SNR=9.0						
MMAI	**Mount Meron Ar**	**10.74**	**98**	Pn	Pn	19 29 35.8	-1.8
	1.0nm,0.3s,baz=286,slow=9.9,SNR=4.5						
GERES	**GERESS Array B**	**15.24**	**337**	Pn	P	19 30 43.9	+0.6
	0.1nm,0.3s,baz=152,slow=12,SNR=4.6						
MDT	**Midelt**	**22.75**	**272**	LR	LR	19 43 32.4	
	comp=Z,51nm,19.2s,baz=194,slow=43						
HFS	**Hagfors**	**25.70**	**350**	P	P	19 32 31.0	-1.8
	1.1nm,0.5s,baz=163,slow=10,SNR=4.9						
NOA	**NORSAR Array B**	**26.96**	**348**	P	P	19 32 42.3	-2.0
	0.6nm,0.7s,baz=156,slow=9.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**28.97**	**226**	P	P	19 33 04.4	+1.8
	0.4nm,0.7s,baz=33,slow=9.2,SNR=2.8						
AKTO	**Aktyubinsk**	**29.76**	**48**	LR	LR	19 47 31.6	
	comp=Z,61nm,18.4s,baz=204,slow=42						
KURBB	**Kurchatov Arra**	**42.71**	**51**	P	P	19 34 56.6	-3.0
	0.2nm,0.3s,baz=277,slow=8.8,SNR=6.4						
MKAR	**Makanchi Array**	**45.47**	**56**	P	P	19 35 20.6	-1.4
	0.3nm,0.3s,baz=271,slow=8.2,SNR=16						
ZALV	**Zalesovo Beam**	**46.48**	**46**	P	P	19 35 27.7	-2.0
	0.3nm,0.2s,baz=271,slow=7.9,SNR=3.1						

*IDC **28** 19:45:39.5±6.7, 6°.67S×156°.83E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.8/18, mbtmpg3.9/5, MS2.8/1, Ms1 2.8/1, ms1mx2.6/27, Error ellipse: s-maj=200.2km s-min=27.1km az=114.0*

ISC 28 19:45:45.6±7.4, 6°.7S±0°.7×157°E±°, h35km, n10, σ0s94/6, mb3.9/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.26**	**130**	LR	LR	19 47 31.2	
	comp=Z,137nm,21.1s,baz=83,slow=27						
WRA	**Warramunga Arr**	**25.34**	**237**	P	P	19 51 10.5	+1.0
	2.5nm,0.6s,baz=60,slow=10,SNR=35						
H11S3	**WAKE ISLAND Hy**	**26.91**	**21**	T	T	20 19 32.3	
	baz=203,slow=0.7,SNR=48						
H11S2	**WAKE ISLAND Hy**	**26.91**	**22**	T	T	20 19 32.5	
	baz=203,slow=0.7,SNR=62						
H11S1	**WAKE ISLAND Hy**	**26.93**	**21**	T	T	20 19 33.6	
	baz=203,slow=0.7,SNR=50						
ASAR	**Alice Springs**	**27.61**	**230**	P	P	19 51 30.2	+0.2
	0.8nm,0.7s,baz=61,slow=9.0,SNR=15						
FITZ	**Fitzroy Crossi**	**32.27**	**247**	P	P	19 52 10.8	-0.5
	baz=60,slow=6.4						
SONM	**Songino Array**	**69.97**	**327**	P	P	19 56 54.4	+0.8
	0.6nm,0.7s,baz=123,slow=5.5,SNR=4.1						
MKAR	**Makanchi Array**	**84.25**	**318**	P	P	19 58 13.8	-0.1
	1.0nm,0.8s,baz=113,slow=4.3,SNR=6.6						
ZALV	**Zalesovo Beam**	**84.84**	**326**	P	P	19 58 15.6	-0.9
	0.4nm,0.4s,baz=99,slow=7.4,SNR=2.6						

IDC 28 19:51:18.8±5.3, 0°.93N×131°.08E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/21, mbtmpg3.3/3, Error ellipse: s-maj=371.3km s-min=28.7km az=71.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.99**	**171**	P	P	19 56 03.2	-0.7
	1.2nm,1.0s,baz=352,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**24.60**	**174**	P	P	19 56 41.5	+0.5
	0.6nm,0.8s,baz=354,slow=10,SNR=5.3						
MKAR	**Makanchi Array**	**62.33**	**324**	P	P	20 01 43.1	-0.1
	0.4nm,0.9s,baz=118,slow=6.3,SNR=4.1						

*IDC **28** 19:55:36.9±0.6, 15°.69S×173°.43W, h0km, mb4.3/13, mb1 4.5/14, mb1mx4.4/23, mbtmp4.3/14, ML4.1/1, MS4.1/16, Ms1 4.2/16, ms1mx4.0/30, Error ellipse: s-maj=27.2km s-min=15.9km az=148.0*

*BJI **28** 19:55:37.3, 15°.60S×173°.50W, h10km, mB5.5/16, mb5.0/21, Ms5.2/12, Ms7 4.7/14*

*ISCJB **28** 19:55:37.3±0.2, 15°.72S±0°.08×173°.48W±0°.06, h10km, mb4.8/45, MS4.3/22, Error ellipse: s-maj=13.1km s-min=6.0km az=153.6*

*NEIC **28** 19:55:38.9±0.3, 15°.66S×173°.52W, h10km, mb5.0/23, Error ellipse: s-maj=16.8km s-min=7.1km az=144.0*

*GCMT **28** 19:55:41.4±0.3, 15°.68S×173°.30W, h12km, MW4.9, Moment Tensor Solution. s29,c35; s77,c112; Moment tensor: Scale 10^16Nm; Mrr=2.54±.07; Mθθ=2.07±.08; Mφφ=0.47±.07; Mrθ=-0.95±.27; Mrφ=1.02±.06; Mθφ=1.15±.28; Best double couple: M0=2.90000×10^16 NP1:φs=88.00000°, δ=54.00000°, λ=-60.00000°. NP2:φs=223.00000°, δ=46.00000°, λ=-125.00000°. Principal axes: T 2.5900, Plg5.0000°, Azm157.0000°; N 0.6200, Plg24.0000°, Azm249.0000°; P -3.2200, Plg65.0000°, Azm57.0000°; Data Used: II IU IC G CN. Surface wave period40 sec.*

*MOS **28** 19:55:41.4±1.2, 15°.68S×173°.51W, h33km, mb5.1/10 Error ellipse: s-maj=19.8km s-min=11.4km az=141.9*

ISC 28 19:55:39.1±0.6, 15°.71S±0°.09×173°.44W±0°.08, h13km±2km, h12km:pP-P, n232, σ0s95/227, mb4.9/45, MS4.3/22, 2C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.41**	**42**	Pn	Pn	19 56 10.8	-7.4
AFI				Sn	Sn	19 56 34.9	-13
AFI				TT		19 58 37.6	
AFI	**Afiamalu**	**2.41**	**42**	Pn	Pn	19 56 10.8	-7.4
	28nm,0.3s,baz=234,slow=20,SNR=27						
AFI				Sn	Sn	19 56 34.9	-13
	107nm,0.3s,baz=217,slow=15,SNR=8.7						
AFI				T	T	19 58 37.6	
	83nm,0.3s,baz=324,slow=23,SNR=3.7						
MSVF	**Nonsavu**	**8.39**	**255**	eP	Pn	19 57 44.5	+4.0
MSVF	**Nonsavu**	**8.39**	**255**	ePn	Pn	19 57 44.5	+4.0
RAR	**Rarotonga**	**14.07**	**115**	eP	Pn	19 58 54.1	-4.1
RAR				TT		20 13 08.8	
RAR	**Rarotonga**	**14.07**	**115**	Pn	Pn	19 58 56.5	-1.7
	1.0nm,0.3s,baz=270,slow=7.5,SNR=5.0						
RAR				LR	LR	20 03 27.1	
	comp=Z,373nm,19.1s,baz=269,slow=33						
RAR				T	T	20 13 08.8	
	24nm,0.3s,baz=90,slow=14,SNR=9.9						
DZM	**Mont Dzumac**	**20.04**	**249**	eLR	LR	20 05 16.2	
	315nm,29.1s						
DZM	**Mont Dzumac**	**20.04**	**249**	P	P	20 00 12.2	+0.1
DZM	**Mont Dzumac**	**20.04**	**249**	P	P	20 00 12.2	+0.1
	8.5nm,1.1s,baz=117,slow=6.8,SNR=2.6						
PPT	**Papeete**	**22.94**	**98**	LR	LR	20 06 30.5	
	comp=Z,320nm,21.2s,baz=284,slow=28						
PPT2	**Papeete2**	**22.94**	**98**	eS	S	20 04 41.0	-12
	75nm,25.0s						
PPT2				eLQ	LQ	20 05 07.3	
	1μm,27.0s						
PPT2				eLR	LR	20 06 01.2	
	567nm,25.5s						
TBI	**Tubuai**	**23.82**	**112**	eLQ	LQ	20 05 31.6	
	1μm,27.8s						
TBI				eLR	LR	20 06 33.3	
	946nm,27.5s						
HNR	**Honiara**	**26.59**	**280**	LR	LR	20 08 42.2	
	comp=Z,148nm,21.3s,baz=107,slow=29						
CTA	**Charters Tower**	**38.53**	**257**	P	P	20 03 03.0	+1.4
CTA	**Charters Tower**	**38.53**	**257**	P	P	20 03 03.0	+1.4
	6.0nm,0.9s,baz=106,slow=14,SNR=3.1						
H11S2	**WAKE ISLAND Hy**	**39.20**	**329**	T	T	20 44 42.7	
	baz=153,slow=0.7,SNR=47						
H11S3	**WAKE ISLAND Hy**	**39.22**	**329**	T	T	20 44 37.3	
	baz=153,slow=0.7,SNR=128						
H11S1	**WAKE ISLAND Hy**	**39.22**	**329**	T	T	20 44 40.1	
	baz=153,slow=0.7,SNR=40						
H11N3	**WAKE ISLAND Hy**	**40.16**	**331**	T	T	20 45 55.4	
	baz=152,slow=0.7,SNR=58						
H11N1	**WAKE ISLAND Hy**	**40.16**	**331**	T	T	20 45 55.6	
	baz=152,slow=0.7,SNR=72						
H11N2	**WAKE ISLAND Hy**	**40.17**	**331**	T	T	20 45 56.7	
	baz=152,slow=0.7,SNR=73						
COEN	**Coen**	**41.92**	**266**	eP	P	20 03 31.0	+1.2
	99nm,0.9s						
STKA	**Stephens Creek**	**43.85**	**240**	eP	P	20 03 43.3	-1.9
	3.6nm,1.3s						
STKA	**Stephens Creek**	**43.85**	**240**	P	P	20 03 44.0	-1.2
	11nm,1.1s,baz=69,slow=10,SNR=7.6						
WRA	**Warramunga Arr**	**49.73**	**257**	P	P	20 04 30.1	-1.4
WRA	**Warramunga Arr**	**49.73**	**257**	P	P	20 04 30.1	-1.4
	4.6nm,0.8s,baz=93,slow=6.6,SNR=25						
AS31	**Alice Springs**	**49.97**	**252**	eP	P	20 04 32.8	-0.6
ASAR	**Alice Springs**	**49.98**	**252**	P	P	20 04 33.0	-0.3
ASAR	**Alice Springs**	**49.98**	**252**	P	P	20 04 33.0	-0.3
	24nm,0.7s,baz=85,slow=8.3,SNR=64						
FITZ	**Fitzroy Crossi**	**58.10**	**258**	LR	LR	20 28 41.2	
	comp=Z,73nm,18.3s,baz=174,slow=34						
VNDA	**Vanda**	**63.07**	**186**	P	P	20 06 07.2	+1.6
VNDA	**Vanda**	**63.07**	**186**	P	P	20 06 07.2	+1.6
	1.7nm,1.0s,baz=10,slow=4.8,SNR=4.3						
VNDA				LR	LR	20 26 05.9	
	comp=Z,122nm,20.8s,baz=8.8,slow=29						
MJAR	**Matsushiro Arr**	**69.15**	**320**	LR	LR	20 30 31.9	
	comp=Z,248nm,21.4s,baz=130,slow=30						
JNU	**Nakatsue**	**71.98**	**313**	LR	LR	20 32 56.7	
	comp=Z,126nm,19.2s,baz=65,slow=31						
EDW2	**Edwards Air Fo**	**72.79**	**45**	P	P	20 07 08.0	+0.4
	baz=73						
ISA	**Isabella**	**72.90**	**44**	P	P	20 07 08.4	+0.2
	baz=73						
CMB	**Columbia Colle**	**73.02**	**41**	eP	P	20 07 09.7	+0.9
CMB				pmax	pmax		
	comp=Z,23nm,1.6s						
CMB	**Columbia Colle**	**73.02**	**41**	eP	P	20 07 09.7	+0.9
	comp=Z,23nm,1.6s						
GSC	**Goldstone**	**73.83**	**45**	P	P	20 07 14.5	+0.8
	baz=74						
WAKR	**Walker**	**73.90**	**41**	eP	P	20 07 14.7	+0.5
	comp=Z,20nm,1.5s						
HEC	**Hector,Ludlow**	**73.91**	**46**	P	P	20 07 14.2	+0.1
	baz=74						
GLA	**Glamis**	**74.03**	**48**	P	P	20 07 15.7	+0.8
	baz=74						
HUMO	**Hull Mountain**	**74.28**	**36**	eP	P	20 07 17.2	+1.1
	comp=Z,49nm,1.5s						
QSPA	**South Pole Qui**	**74.34**	**180**	eP	P	20 07 17.3	+1.1
	comp=Z,76nm,2.4s						
GMRC	**Granite Mounta**	**74.34**	**46**	P	P	20 07 16.9	+0.1
	baz=74						
IRM	**Iron Mountain**	**74.38**	**47**	P	P	20 07 17.3	+0.4
	baz=75						
NVAR	**Mina Array Bea**	**74.58**	**42**	P	P	20 07 18.5	+0.3
NVAR	**Mina Array Bea**	**74.58**	**42**	P	P	20 07 18.5	+0.3
	comp=Z,4.2nm,0.9s,baz=227,slow=8.5,SNR=13						
NVAR				LR	LR	20 33 12.2	
	comp=Z,105nm,18.1s,baz=157,slow=30						
Y12C	**Blythe**	**74.61**	**48**	P	P	20 07 19.0	+0.9
	baz=75						
PAHR	**Pah Rah Range**	**74.64**	**40**	eP	P	20 07 19.5	+1.1
	comp=Z,18nm,1.3s						
113A	**Mohawk Valley,**	**74.65**

HLID	**Hailey**	**79.89**	**39**	*e*P		**P**	**20 07 48.5**	**+0.7**
	comp=Z,9.2nm,1.1s							
HLID	**Hailey**	**79.89**	**39**	P		**P**	**20 07 48.3**	**+0.5**
	baz=80							
U20A	**Newcomb**	**80.18**	**48**	P		**P**	**20 07 49.7**	**+0.1**
	baz=80							
324A	**Moseley Ranch,**	**80.26**	**54**	P		**P**	**20 07 50.2**	**+0.2**
	baz=80							
NJ2	**Nanjing**	**80.32**	**307**	*e*P		**P**	**20 07 50.8**	**+0.7**
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.5s							
425A	**Indio Mountain**	**80.37**	**54**	P		**P**	**20 07 50.7**	**+0.1**
	baz=80							
224A	**Cornudas Mount**	**80.50**	**53**	P		**P**	**20 07 51.7**	**+0.4**
	baz=81							
325A	**Bean Ranch, Si**	**80.62**	**54**	P		**P**	**20 07 52.1**	**0.0**
	baz=81							
526A	**Mary Lane Ranc**	**80.78**	**55**	P		**P**	**20 07 52.6**	**-0.3**
	baz=81							
TXAR	**Lajitas Array**	**80.82**	**56**	P		**P**	**20 07 53.7**	**+0.7**
TXAR	**Lajitas Array**	**80.82**	**56**	P		**P**	**20 07 53.7**	**+0.7**
	comp=Z,1.7nm,0.9s,baz=203,slow=5.2,SNR=8.0							
U21A	**Nageezi**	**80.82**	**48**	P		**P**	**20 07 53.7**	**+0.6**
	baz=81							
Y23A	**Lovelace Mesa,**	**80.89**	**51**	P		**P**	**20 07 54.1**	**+0.6**
	baz=81							
PV01	**Paradox Valley**	**80.97**	**46**	*e*P		**P**	**20 07 54.0**	**+0.2**
	comp=Z,1µm,1.4s							
S20A	**Disappointment**	**80.97**	**47**	P		**P**	**20 07 54.6**	**+0.8**
	baz=81							
225A	**Deer Hill, Car**	**81.05**	**53**	P		**P**	**20 07 54.9**	**+0.6**
	baz=81							
426A	**McDonald Obser**	**81.07**	**55**	P		**P**	**20 07 54.9**	**+0.4**
	baz=81							
627A	**Terlingua Ranc**	**81.09**	**56**	P		**P**	**20 07 54.9**	**+0.4**
	baz=81							
V22A	**San Miguel Ran**	**81.13**	**49**	P		**P**	**20 07 54.7**	**0.0**
	baz=81							
Z24A	**Sheeppen Canyo**	**81.15**	**52**	P		**P**	**20 07 54.5**	**-0.3**
	baz=81							
527A	**Woodward Ranch**	**81.19**	**55**	P		**P**	**20 07 55.2**	**+0.2**
	baz=81							
S21A	**Coal Bank Pass**	**81.29**	**47**	P		**P**	**20 07 55.9**	**+0.2**
	baz=82							
CN2	**Changchun**	**81.29**	**320**	*e*P		**P**	**20 07 54.0**	**-1.1**
CN2				*e*S		**S**	**20 18 02.8**	**-2.6**
CN2				AMB	AMB			
	comp=Z,10.0nm,0.8s							
CN2				AMB	AMB			
	comp=Z,200nm,4.0s							
CN2				LR	LR			
	comp=Z,200nm,16.0s							
CN2				LR	LR			
	comp=Z,200nm,16.0s							
CN2				LR	LR			
	comp=Z,200nm,17.0s							
Y24A	**Capitan**	**81.35**	**51**	P		**P**	**20 07 56.1**	**+0.2**
	baz=82							
W23A	**Werner Place,**	**81.35**	**50**	P		**P**	**20 07 56.2**	**+0.3**
	baz=82							
326A	**Caldwell Ranch**	**81.38**	**54**	P		**P**	**20 07 56.1**	**+0.1**
	baz=82							
MCK	**McKinley**	**81.43**	**11**	*e*P		**P**	**20 07 54.0**	**-1.4**
MCK				pmax	pmax			
	comp=Z,30nm,1.7s							
MCK	**McKinley**	**81.43**	**11**	*e*P		**P**	**20 07 54.0**	**-1.4**
	comp=Z,30nm,1.7s							
628A	**Black Gap, Mar**	**81.50**	**56**	P		**P**	**20 07 56.5**	**-0.1**
	baz=82							
MCMT	**McKenzie Canyo**	**81.52**	**39**	*e*P		**P**	**20 07 57.4**	**+0.8**
	comp=Z,3.5nm,1.2s							
Q20A	**Ridgley Place,**	**81.54**	**46**	P		**P**	**20 07 57.0**	**+0.3**
	baz=82							
226B	**Tecolote Peak,**	**81.54**	**53**	P		**P**	**20 07 56.8**	**-0.1**
	baz=82							
T22A	**Edith**	**81.63**	**48**	P		**P**	**20 07 57.6**	**+0.3**
	baz=82							
P20A	**De Beque**	**81.73**	**45**	P		**P**	**20 07 58.1**	**+0.4**
	baz=82							
R21A	**Cimarron**	**81.78**	**46**	P		**P**	**20 07 58.2**	**0.0**
	baz=82							
U23A	**El Rito**	**81.83**	**49**	P		**P**	**20 07 58.4**	**0.0**
	baz=82							
W24A	**Lazy 6 Ranch,**	**81.92**	**50**	P		**P**	**20 07 58.8**	**-0.1**
	baz=82							
REDW	**Red Top Meadow**	**82.00**	**41**	*e*P		**P**	**20 08 00.7**	**+1.6**
	comp=Z,19nm,1.4s							
S22A	**4UR Ranch, Cre**	**82.01**	**47**	P		**P**	**20 08 00.5**	**+1.1**
	baz=82							
BSMT	**Bassoo Peak**	**82.04**	**36**	*e*P		**P**	**20 07 58.6**	**-0.6**
	comp=Z,3.2nm,0.1s							
X25A	**Clemmons Ranch**	**82.19**	**51**	P		**P**	**20 08 00.4**	**+0.2**
	baz=82							
V24A	**Rampart Ranch,**	**82.24**	**50**	P		**P**	**20 08 00.4**	**-0.2**
	baz=82							
529A	**Stev Forest Ra**	**82.29**	**56**	P		**P**	**20 08 00.4**	**-0.3**
	baz=82							
N20A	**Spence Gulch,**	**82.44**	**44**	P		**P**	**20 07 60.0**	**-1.6**
	baz=83							
PDAR	**Pinedale Array**	**82.52**	**42**	P		**P**	**20 08 00.7**	**-1.3**
PDAR	**Pinedale Array**	**82.52**	**42**	P		**P**	**20 08 00.7**	**-1.3**
	comp=Z,1.9nm,1.0s,baz=212,slow=5.3,SNR=8.8							
PDAR				LR		LR	20 43 20.1	
	comp=Z,138nm,18.3s,baz=60,slow=35							
W25A	**X Bar L Ranch,**	**82.63**	**50**	P		**P**	**20 08 02.6**	**+0.1**
	baz=83							
COLA	**College**	**82.67**	**11**	*e*P		**P**	**20 08 02.8**	**+1.0**
BOZ	**Bozeman (W)**	**82.68**	**39**	*e*P		**P**	**20 08 02.9**	**+0.3**
BOZ				pmax	pmax			
	comp=Z,9.0nm,1.2s							
BOZ	**Bozeman (W)**	**82.68**	**39**	*e*P		**P**	**20 08 02.9**	**+0.3**
	comp=Z,9.0nm,1.2s							
429A	**Davenport Ranc**	**82.74**	**56**	P		**P**	**20 08 02.6**	**-0.5**
	baz=83							
ILAR	**Eielson Array**	**82.75**	**11**	P		**P**	**20 08 01.4**	**-0.9**
ILAR	**Eielson Array**	**82.75**	**11**	P		**P**	**20 08 01.4**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=230,slow=6.7,SNR=12							
ILAR				LR		LR	20 42 58.3	
	comp=Z,133nm,18.2s,baz=257,slow=34							
V25A	**Rancho No Teng**	**82.77**	**50**	P		**P**	**20 08 03.5**	**+0.2**
	baz=83							
X26A	**CR and CF Fran**	**82.83**	**51**	P		**P**	**20 08 03.4**	**-0.2**
	baz=83							
QIZ	**Qiongzhong**	**82.98**	**292**	P		**P**	**20 08 03.0**	**-1.5**
QIZ				S		**S**	**20 18 21.0**	**-2.8**
QIZ				LR		LR		
	comp=Z,230nm,22.7s							
530A	**J-C Ranch, Com**	**83.00**	**56**	P		**P**	**20 08 04.6**	**+0.2**
	baz=83							
329A	**Wagon Wheel Ra**	**83.01**	**55**	P		**P**	**20 08 04.5**	**0.0**
	baz=83							
J19A	**Crowheart**	**83.09**	**42**	P		**P**	**20 08 04.8**	**+0.1**
	baz=83							
HRY	**Holter Researc**	**83.12**	**38**	*e*P		**P**	**20 08 04.6**	**-0.2**
	comp=Z,6.2nm,0.5s							
U25A	**Circle Dot Ran**	**83.16**	**49**	P		**P**	**20 08 06.2**	**+0.8**
	baz=83							
O22A	**Kremmling**	**83.30**	**45**	P		**P**	**20 08 06.0**	**0.0**
	baz=84							
631A	**Perdido Creek**	**83.33**	**57**	P		**P**	**20 08 06.3**	**+0.2**
	baz=84							
531A	**Rocksprings**	**83.64**	**56**	P		**P**	**20 08 07.6**	**-0.1**
	baz=84							
ISCO	**Idaho Springs**	**83.78**	**46**	*e*P		**P**	**20 08 09.7**	**+1.1**
ISCO				pmax	pmax			
	comp=Z,111nm,2.2s							
ISCO	**Idaho Springs**	**83.78**	**46**	*e*P		**P**	**20 08 09.7**	**+1.1**
	comp=Z,111nm,2.2s							
ABTX	**Abilene, Hawle**	**85.28**	**54**	*e*P		**P**	**20 08 16.1**	**+0.1**
BJI	**Beijing**	**85.65**	**314**	P		**P**	**20 08 18.0**	**+0.4**
BJI				S		**S**	**20 18 53.8**	**+4.2**
BJI				AMB	AMB			
	comp=Z,9.0nm,0.9s							
BJI				LR	LR			
	comp=Z,92nm,23.9s							
MAW	**Mawson**	**87.49**	**199**	P		**P**	**20 08 25.6**	**-0.6**
MAW	**Mawson**	**87.49**	**199**	P		**P**	**20 08 25.6**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=91,slow=6.6,SNR=3.7							
MAW				LR		LR	20 45 07.3	
	comp=Z,262nm,19.9s,baz=134,slow=34							
GYA	**Guiyang**	**88.15**	**298**	*e*P		**P**	**20 08 30.5**	**+0.2**
GYA				PP		**PP**	**20 11 59.0**	**+1.5**
GYA				SKS		**SKSac**	**20 19 13.0**	**-2.3**
GYA				S		**S**	**20 19 13.0**	**-1.7**
GYA				SS		**SS**	**20 25 03.5**	**-0.3**
GYA				AMB	AMB			
	comp=Z,20nm,1.0s							
GYA				AMB	AMB			
	comp=Z,130nm,5.3s							
GYA				LR	LR			
	comp=Z,570nm,20.8s							
GYA				LR	LR			
	comp=Z,490nm,21.3s							
GYA				LR	LR			
	comp=Z,520nm,20.6s							
HHC	**Hu-ho-hao-te**	**89.20**	**313**	*e*P		**P**	**20 08 35.5**	**+0.6**
HHC				sP		**sP**	**20 08 41.5**	**+0.6**
HHC				PP		**PP**	**20 12 07.5**	**+1.9**
HHC				SKS		**SKSac**	**20 19 02.8**	**-2.0**
HHC				S		**S**	**20 19 21.5**	**-2.5**
HHC				sS		**ScS**	**20 19 29.8**	**+0.8**
HHC				SS		**SS**	**20 25 19.3**	**+0.7**
HHC				AMB	AMB			
	comp=Z,28nm,1.0s							
HHC				AMB	AMB			
	comp=Z,300nm,6.8s							
HHC				LR	LR			
	comp=Z,370nm,18.9s							
HHC				LR	LR			
	comp=Z,350nm,18.6s							
HHC				LR	LR			
	comp=Z,360nm,18.1s							
PLCA	**Paso Flores**	**89.34**	**132**	LR		LR	20 39 28.1	
	comp=Z,174nm,19.0s,baz=276,slow=30							
KMI	**Kunming**	**91.12**	**296**	P		**P**	**20 08 41.8**	**-2.5**
KMI				pP		**pP**	**20 08 47.3**	**-1.5**
KMI				sP		**sP**	**20 08 49.0**	**-1.4**
KMI				S		**S**	**20 19 42.0**	**-0.7**
KMI				AMB	AMB			
	comp=Z,4.0nm,1.3s							
KMI				LR	LR			
	comp=Z,140nm,19.5s							
KMI				LR	LR			
	comp=Z,96nm,20.2s							
KMI				LR	LR			
	comp=Z,140nm,28.9s							
CD2	**Chengdu**	**91.93**	**301**	P		**P**	**20 08 48.8**	**+1.0**
CD2				AMB	AMB			
	comp=Z,30nm,0.5s							
SNAA	**Sanae**	**92.60**	**177**	*e*P		**P**	**20 08 48.3**	**-1.8**
SNAA	**Sanae**	**92.60**	**177**	*e*P		**P**	**20 08 50.9**	**+0.7**
	comp=Z,10nm,1.5s							
CMAR	**Chiang Mai Arr**	**92.67**	**288**	P		**P**	**20 08 50.9**	**-0.5**
CMAR	**Chiang Mai Arr**	**92.67**	**288**	P		**P**	**20 08 50.9**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=101,slow=4.7,SNR=3.3							
CMAR				LR		LR	20 45 36.3	
	comp=Z,78nm,18.9s,baz=154,slow=32							
VNA2	**Neumayer--Watz**	**93.05**	**175**	*e*P		**P**	**20 08 51.9**	**-0.2**
	baz=174,slow=4.6							
VNA2	**Neumayer--Watz**	**93.05**	**175**	*e*pP		pP	20 08 58.9	+2.3
	baz=174,slow=4.6							
VNA1	**Neumayer--Stat**	**93.25**	**175**	*e*P		**P**	**20 08 54.2**	**+1.2**
LZH	**Lanzhou**	**93.37**	**306**	*e*P		**P**	**20 08 55.0**	**+0.6**
LZH				pP		**pP**	**20 08 59.0**	**+0.1**
LZH				sP		**sP**	**20 09 01.0**	**+0.5**
LZH				AMB	AMB			
	comp=Z,34nm,1.0s							
LZH				AMB	AMB			
	comp=Z,180nm,5.3s							
SONM	**Songino Array**	**95.05**	**318**	LR		LR	20 46 21.9	
	comp=Z,161nm,19.0s,baz=2.4,slow=32							
TIXI	**Tiksi**	**95.29**	**344**	*e*P		**P**	**20 09 02.2**	**+0.1**
TIXI				pmax	pmax			
	comp=Z,2.0nm,1.2s							
KSH	**Kashi**	**115.62**	**307**	*e*PKP		**PKPdf**	**20 14 24.8**	**+3.3**
KSH				PP	PP		20 15 31.8	+7.7
ARCES	**ARCESS Array B**	**124.91**	**352**	PKP		**PKPdf**	**20 14 37.1**	**-1.1**
ARCES	**ARCESS Array B**	**124.91**	**352**	PKP		**PKPdf**	**20 14 37.1**	**-1.1**
	comp=Z,4.2nm,0.8s,baz=0.0,slow=1.2,SNR=3.8							
OBN	**Obninsk**	**134.38**	**336**	*i* PKIKP		PKPdf	20 15 08.0	+11
OBN				*e*			20 15 12.5	
OBN				SS	SS		20 35 41.0	+23
OBN				pmax	pmax			
	comp=Z,3.0nm,0.9s							
OBN				MLR	MLR			
	comp=Z,100nm,16.0s							
CLL	**Collm**	**144.11**	**353**	*e*PKPdf		PKPbc	20 15 13.0	+0.5
STHS	**Stebnicka Huta**	**144.31**	**344**	*e*PKIKP		**PKPdf**	**20 15 14.4**	**-0.5**
STHS	**Stebnicka Huta**	**144.31**	**344**	*e*PKIKP		**PKPdf**	**20 15 14.4**	**-0.5**
UPC	**Upice**	**144.46**	**350**	*e*PKIKP		**PKPab**	**20 15 13.1**	**-0.3**
UPC				*e*			20 15 18.0	
UPC	**Upice**	**144.46**	**350**	*e*PKP		**PKPab**	**20 15 13.1**	**-0.3**
UPC				*e*pPKP		**PKiKP**	**20 15 18.0**	**-0.8**
DPC	**Dobruska-Polom**	**144.55**	**349**	*e*PKIKP		PKPbc	20 15 14.2	+0.2
DPC				*e*			20 15 29.1	
DPC	**Dobruska-Polom**	**144.55**	**349**	*e*PKP		PKPbc	20 15 14.2	+0.2
DPC				*e*pPKP		**PKiKP**	**20 15 18.3**	**-0.7**
DPC				*ex*		x	20 15 29.1	
OKC	**Ostrava-Krasne**	**144.68**	**347**	*e*PKIKP		PKPbc	20 15 14.4	+0.1
OKC				*e*			20 15 18.9	
OKC	**Ostrava-Krasne**	**144.68**	**347**	*e*PKP		PKPbc	20 15 14.4	+0.1
OKC				*e*pPKP		**PKiKP**	**20 15 18.9**	**-0.3**
OKC				*ex*		x	20 15 31.6	
CRVS	**Cervenica-Dubn**	**144.72**	**343**	*e*PKIKP		PKPbc	20 15 14.6	+0.1
CRVS	**Cervenica-Dubn**	**144.72**	**343**	*e*PKP		PKPbc	20 15 14.6	+0.1
KRLC	**Kraliky**	**144.73**	**349**	*e*PKIKP		**PKPab**	**20 15 14.5**	**+0.1**
KRLC				*e*			20 15 19.2	
KRLC	**Kraliky**	**144.73**	**349**	*e*PKP		**PKPab**	**20 15 14.5**	**+0.1**
KRLC				*e*pPKP		**PKiKP**	**20 15 19.2**	**-0.2**
KRLC				*ex*		x	20 15 31.7	
PRU	**Pruhonice**	**145.20**	**351**	*e*PKIKP		**PKPab**	**20 15 16.2**	**+0.1**
PRU				*e*			20 15 30.4	
PRU	**Pruhonice**	**145.20**	**351**	*e*PKP		**PKPab**	**20 15 16.2**	**+0.1**
PRU				*e*pPKP		**PKiKP**	**20 15 19.8**	**-0.5**
PRU				*ex*		x	20 15 30.4	
NKC	**Novy Kostel**	**145.24**	**353**	*e*PKIKP		**PKPbc**	**20 15 16.0**	**-0.1**
NKC	**Novy Kostel**	**145.24**	**353**	*e*PKP		**PKPbc**	**20 15 16.0**	**-0.1**
NKC				*e*pPKP		**PKiKP**	**20 15 20.1**	**-0.3**
KMBO	**Kilima Mbogo**	**145.36**	**244**	PKPbc		**PKPdf**	**20 15 18.7**	**+0.6**
KMBO	**Kilima Mbogo**	**145.36**	**244**	PKPbc		**PKPdf**	**20 15 18.7**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=66,slow=20,SNR=4.3							
BCLA	**Clavier**	**145.36**	**1**	PKP		**PKPbc**	**20 15 16.3**	**-0.2**
KECS	**Kecovo**	**145.37**	**344**	*e*PKIKP		**PKPdf**	**20 15 16.8**	**0.0**
KECS	**Kecovo**	**145.37**	**344**	*e*PKP		**PKPdf**	**20 15 16.8**	**0.0**
DOU	**Dourbes**	**145.66**	**2**	PKP		**PKPdf**	**20 15 17.3**	**+0.1**
TREC	**Trest**	**145.72**	**350**	*e*PKP2		**PKPdf**	**20 15 17.5**	**+0.1**
TREC	**Trest**	**145.72**	**350**	*e*PKP		**PKPdf**	**20 15 17.5**	**+0.1**
TREC				*e*pPKP		**pPKPdf**	**20 15 21.8**	**-0.2**
TREC				*ex*		x	20 15 28.4	
GRF	**Grafenberg Arr**	**145.89**	**355**	*e*PKP2		**PKPab**	**20 15 18.7**	**0.0**
GRF	**Grafenberg Arr**	**145.89**	**355**	*e*PKPbc		**PKPab**	**20 15 18.7**	**0.0**
GRFO	**Grafenberg**	**145.90**	**355**	*e*PKP2		**PKPbc**	**20 15 18.5**	**+0.3**
GRFO	**Grafenberg**	**145.90**	**355**	*e*PKPbc		**PKPbc**	**20 15 18.5**	**+0.3**
WLF	**Walferdange**	**146.13**	**0**	PKP		**PKPab**	**20 15 19.7**	**+0.2**
WLF	**Walferdange**	**146.13**	**0**	*e*PKP2		**PKPab**	**20 15 19.5**	**0.0**
WLF	**Walferdange**	**146.13**	**0**	*e*PKPdf		**PKPab**	**20 15 19.5**	**0.0**
KHC	**Kasperske Hory**	**146.18**	**352**	*e*PKP2		**PKPbc**	**20 15 18.9**	**-0.3**
KHC	**Kasperske Hory**	**146.18**	**352**	*e*PKP		**PKPbc**	**20 15 18.9**	**-0.3**
KHC				*e*pPKP		**pPKPdf**	**20 15 23.5**	**+0.7**
KHC				*ex*		x	20 15 30.2	
KHC	**Kasperske Hory**	**146.18**	**352**	*e*PKPbc		**PKPbc**	**20 15 18.9**	**-0.3**
BRTR	**Keskin Array B**	**146.37**	**321**	PKPbc		**PKPbc**	**20 15 20.3**	**+0.1**
BRTR	**Keskin Array B**	**146.37**	**321**	PKPbc		**PKPbc**	**20 15 20.3**	**+0.1**
	comp=Z,7.2nm,1.1s,baz=104,slow=2.5,SNR=14							
GERES	**GERESS Array B**	**146.44**	**351**	PKPbc		**PKPdf**	**20 15 18.8**	**+0.1**
GERES	**GERESS Array B**	**146.44**	**351**	PKPbc		**PKPdf**	**20 15 18.8**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=33,slow=3.2,SNR=16							
LANF	**Langenberg**	**146.80**	**358**	PKP		**PKPbc**	**20 15 20.6**	**-0.4**
CSNA	**Conrad Observa**	**146.97**	**348**	*i* PKPbc		**PKPbc**	**20 15 21.0**	**-0.6**
	comp=Z,7.1nm,1.2s							
MOA	**Molln**	**147.32**	**350**	*i* pPKPdf		**PKPbc**	**20 15 22.4**	**-0.1**
	comp=Z,7.4nm,1.4s							
WLS	**Welschbruch**	**147.38**	**359**	PKP		**PKPbc**	**20 15 22.6**	**-0.1**
BFO	**Black Forest**	**147.44**	**358**	*e*PKP2		**PKPbc**	**20 15 22.6**	**-0.2**
BFO	**Black Forest**	**147.44**	**358**	*e*PKPbc		**PKPbc**	**20 15 22.6**	**-0.2**
THEF	**They Montfort**	**147.57**	**1**	PKP		**PKPbc**	**20 15 23.3**	**+0.2**
FELD	**Feldberg im Sc**	**147.90**	**358**	PKP		**PKPbc**	**20 15 24.0**	**-0.2**
BNI	**Bardonecchia**	**150.75**	**360**	*e*PKIKP		**PKPbc**	**20 15 32.1**	**+0.7**
BNI	**Bardonecchia**	**150.75**	**360**	*e*PKPbc		**PKPbc**	**20 15 32.1**	**+0.7**
ESDC	**Sonseca Array**	**154.41**	**19**	PKPbc		**PKPbc**	**20 15 42.8**	**+3.1**
ESDC	**Sonseca Array**	**154.41**	**19**	PKPbc		**PKPbc**	**20 15 42.8**	**+3.1**
	comp=Z,0.1nm,0.3s,baz=343,slow=2.0,SNR=4.4							
TORD	**Torodi Ar. Bea**	**174.65**	**118**	PKPab		**PKPab**	**20 17 22.2**	**-1.0**
TORD	**Torodi Ar. Bea**	**174.65**	**118**	PKPab		**PKPab**	**20 17 22.2**	**-1.0**
	comp=Z,2.7nm,1.2s,baz=274,slow=4.5,SNR=6.0							

CSEM ***28*** *19:58:37.8, 42°.40N×13°.36E, h10km, MD1.9/9, After ROM*
ROM 28 19:58:37.8±0.1, 42°.40N×13°.36E, h10km, Md1.9/9, MI1.3/5,

Error ellipse: s-maj=1.2km s-min=0.8km az=93.0,
Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	**L'Aquila**	**0.06**	**145**	Pg	Pg	19 58 40.4	+0.4
AQU				Sg	Sg	19 58 41.8	+0.2
	225nm,0.3s						
AQU	**L'Aquila**	**0.06**	**145**	Pg	Pg	19 58 40.4	+0.4
AQU				Sg	Sg	19 58 41.8	+0.2
	225nm,0.3s						
CAMP	**Campotosto**	**0.14**	**16**	Pg	Pg	19 58 41.8	+0.6
CAMP				Sg	Sg	19 58 44.2	+0.6
	66nm,0.7s						
CAMP	**Campotosto**	**0.14**	**16**	Pg	Pg	19 58 41.8	+0.6
CAMP				Sg	Sg	19 58 44.2	+0.6
	66nm,0.7s						
FAGN	**Fagnano**	**0.22**	**129**	Pg	Pb	19 58 43.3	-0.6
FAGN				Sg	Sg	19 58 47.2	+1.6
	98nm,0.4s						
FAGN	**Fagnano**	**0.22**	**129**	Pg	Pb	19 58 43.3	-0.6
FAGN				Sg	Sg	19 58 47.2	+1.6
	98nm,0.4s						
FIAM	**Fiamignano**	**0.22**	**233**	Pg	Pg	19 58 43.3	+0.7
FIAM				Sg	Sg	19 58 47.2	+1.4
	25nm,0.4s						
FIAM	**Fiamignano**	**0.22**	**233**	Pg	Pg	19 58 43.3	+0.7
FIAM				Sg	Sg	19 58 47.2	+1.4
	25nm,0.4s						
TERO	**Teramo**	**0.29**	**40**	Pg	Pg	19 58 44.0	+0.3
TERO				Sg	Sg	19 58 48.5	+0.8
	32nm,0.4s						
TERO	**Teramo**	**0.29**	**40**	Pg	Pg	19 58 44.0	+0.3
TERO				Sg	Sg	19 58 48.5	+0.8
	32nm,0.4s						
VCEL	**Villa Celiera**	**0.36**	**91**	Pg	Pb	19 58 45.9	-0.5
VCEL	**Villa Celiera**	**0.36**	**91**	Pg	Pb	19 58 45.9	-0.5
PTQR	**Pietraquaria**	**0.38**	**175**	Pg	Pg	19 58 45.9	+0.4
PTQR				Sg	Sb	19 58 51.8	-1.0
PTQR	**Pietraquaria**	**0.38**	**175**	Pg	Pg	19 58 45.9	+0.4
PTQR				Sg	Sb	19 58 51.8	-1.0
NRCA	**Norcia**	**0.47**	**338**	Pg	Pg	19 58 47.5	+0.4
NRCA	**Norcia**	**0.47**	**338**	Pg	Pg	19 58 47.5	+0.4

ISCJB ***28*** *20:12:55.0±4.0, 13°.5±1°.4W±0°.8, h16km, mb3.8/6, MS3.6/9, Error ellipse: s-maj=184.0km s-min=23.2km az=145.0*
IDC ***28*** *20:12:54.2±2.2, 12°.75S×14°.38W, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/23, mbtmp3.9/6, MS3.6/9, Ms1 3.6/9, ms1mx3.4/28, Error ellipse: s-maj=104.9km s-min=28.4km az=143.0*
ISC 28 20:12:56.7±1.7, 12°.8S±0°.5×14°.4W±0°.4, h16km, n20, σ0°.52/7, mb3.9/6, MS3.5/9, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**3.79**	**356**	T	T	20 17 54.1	
	baz=181,slow=0.7,SNR=343						
H10S3	**ASCENSION HYDR**	**3.79**	**356**	T	T	20 17 57.5	
	baz=181,slow=0.7,SNR=245						
H10S1	**ASCENSION HYDR**	**3.80**	**356**	T	T	20 17 55.5	
	baz=181,slow=0.7,SNR=164						
H10N1	**ASCENSION HYDR**	**4.88**	**359**	T	T	20 19 16.4	
	baz=187,slow=0.7,SNR=37						
H10N3	**ASCENSION HYDR**	**4.89**	**359**	T	T	20 19 15.1	
	baz=187,slow=0.7,SNR=79						
H10N2	**ASCENSION HYDR**	**4.90**	**359**	T	T	20 19 21.9	
	baz=187,slow=0.7,SNR=29						
DBIC	**Dimbokro**	**21.50**	**27**	LR	LR	20 23 53.4	
	comp=Z,123nm,19.2s,baz=194,slow=31						
BBTS	**Babate**	**27.33**	**355**	LR	LR	20 26 17.9	
	comp=Z,51nm,21.9s,baz=194,slow=29						
TORD	**Torodi Ar. Bea**	**30.27**	**32**	P	**P**	**20 19 07.0**	**-0.3**
	0.9nm,0.8s,baz=218,slow=8.7,SNR=3.6						
TORD				LR	LR	20 29 20.7	
	comp=Z,97nm,18.9s,baz=345,slow=33						
TSUM	**Tsumeb**	**31.35**	**106**	LR	LR	20 29 46.5	
	comp=Z,73nm,18.6s,baz=119,slow=32						
BDFB	**Brasilia**	**32.71**	**261**	LR	LR	20 29 38.3	
	comp=Z,88nm,20.4s,baz=225,slow=31						
BOSA	**Boshof**	**40.08**	**119**	LR	LR	20 34 11.8	
	comp=Z,94nm,19.0s,baz=314,slow=32						
LPAZ	**La Paz**	**52.03**	**259**	P	**P**	**20 22 06.8**	**0.0**
	0.8nm,0.3s,baz=90,slow=5.1,SNR=6.7						
LPAZ				LR	LR	20 43 14.2	
	comp=Z,99nm,18.6s,baz=253,slow=35						
KEST	**Kesra**	**53.19**	**24**	P	**P**	**20 22 15.1**	**+0.7**
	1.6nm,0.9s,baz=183,slow=6.0,SNR=4.5						
ATD	**

JBP				*e*S		**Sn**	**20 42 41.0**	**-5.9**
GKN	**Gorkha**	**15.69**	**331**	*e*P		**Pn**	**20 40 05.1**	**-0.3**
	comp=Z,3.9nm,0.3s							
KOLN	**Koldanda**	**16.01**	**328**	*e*P		**Pn**	**20 40 09.4**	**-0.1**
	comp=Z,1.8nm,0.2s							
H08S3	**Diego Garcia H**	**29.91**	**224**	T		T	21 13 43.0	
	baz=45							
H08S2	**Diego Garcia H**	**29.91**	**224**	T		T	21 13 42.4	
	baz=45							
H08S1	**Diego Garcia H**	**29.93**	**224**	T		T	21 13 43.5	
	baz=45							
H08N2	**Diego Garcia H**	**30.03**	**228**	T		T	21 14 00.7	
	baz=267,slow=0.2,SNR=23							
H08N1	**Diego Garcia H**	**30.03**	**228**	T		T	21 14 01.5	
	baz=267,slow=0.2,SNR=23							
H08N3	**Diego Garcia H**	**30.05**	**228**	T		T	21 14 01.8	
	baz=267,slow=0.2,SNR=26							
MKAR	**Makanchi Array**	**33.59**	**347**	P		**P**	**20 43 05.7**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=172,slow=7.4,SNR=5.9							
ZALV	**Zalesovo Beam**	**40.04**	**352**	P		**P**	**20 43 59.0**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=184,slow=12,SNR=3.7							
FITZ	**Fitzroy Crossi**	**45.50**	**134**	P		**P**	**20 44 42.5**	**-1.4**
	comp=Z,0.8nm,0.4s,baz=322,slow=19,SNR=6.4							
WRA	**Warramunga Arr**	**52.99**	**129**	P		**P**	**20 45 40.0**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=304,slow=9.0,SNR=3.3							
WRA				PcP		**PcP**	**20 46 49.5**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=318,slow=2.4,SNR=4.2							
ASAR	**Alice Springs**	**54.96**	**133**	P		**P**	**20 45 55.1**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=308,slow=7.4,SNR=4.2							
BRTR	**Keskin Array B**	**57.54**	**308**	P		**P**	**20 46 15.1**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=121,slow=8.8,SNR=4.5							
FINES	**FINESS Array B**	**66.55**	**331**	P		**P**	**20 47 14.2**	**+0.3**
	comp=Z,2.6nm,0.9s,baz=145,slow=7.0,SNR=4.9							
GERES	**GERESS Array B**	**72.37**	**317**	P		**P**	**20 47 50.3**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=90,slow=5.3,SNR=5.7							
NOA	**NORSAR Array B**	**73.63**	**330**	P		**P**	**20 47 57.5**	**0.0**
	comp=Z,0.6nm,0.7s,baz=90,slow=5.8,SNR=3.1							
TORD	**Torodi Ar. Bea**	**88.12**	**283**	P		**P**	**20 49 16.6**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=78,slow=4.8,SNR=5.2							

*ISCJB **28** 20:38:04.1±0.3,6.°50S±0.°06×107.°43E±0.°05,h198km, mb3.8/13,Error ellipse: s-maj=9.0km s-min=4.6km az=36.2*
*IDC **28** 20:38:04.2±1.7,6.°35S×107.°38E,h179km±15km,mb3.6/13, mb1 3.7/13,mb1mx3.6/24,mbtmp3.6/13,Error ellipse: s-maj=20.6km s-min=8.9km az=62.0*
*DJA **28** 20:38:06.6±0.4,7.°5S±8.°×107.°7E±.°,h172km±5km,M4.1/11, mb4.5/2,mB5.3/1,MLv3.9/11,Mw(mB)4.7/1*
*AUST **28** 20:38:06.1±0.0,6.°82S×107.°37E,h184km,Error ellipse: s-maj=1.1km s-min=0.9km az=15.0*

ISC 28 20:38:05.2±0.5,6.°62S±0.°06×107.°40E±0.°06,h198km,n60, σ1§52/62,mb3.8/13,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LEM	**Lembang**	**0.30**	**133**	P		**Pn**	**20 38 31.2**	**-0.5**
LEM				S		**Sn**	**20 38 48.1**	**-4.1**
LEM	**Lembang**	**0.30**	**133**	P		**Pn**	**20 38 31.4**	**-0.4**
	baz=0.2,SNR=16							
CBJI	**Citeko**	**0.58**	**290**	P		**Pn**	**20 38 32.2**	**-0.2**
DBJI	**Dramaga**	**0.65**	**276**	P		**Pn**	**20 38 32.9**	**+0.1**
DBJI				S		**Sn**	**20 38 52.5**	**-1.5**
SKJI	**Sukabumi**	**0.92**	**245**	P		**Pn**	**20 38 33.5**	**-0.8**
CISI	**Cisompet, Garu**	**1.02**	**156**	P		**Pn**	**20 38 34.1**	**-0.9**
CISI	**Cisompet, Garu**	**1.02**	**156**	P		**Pn**	**20 38 33.4**	**-1.6**
	baz=0.9,SNR=1000							
KPJI	**Karang Pucung**	**1.68**	**115**	P		**Pn**	**20 38 39.6**	**-0.8**
TGJI	**Tegal**	**1.73**	**98**	P		**Pn**	**20 38 40.9**	**0.0**
BJII	**Banjamegara**	**2.40**	**107**	P		**Pn**	**20 38 47.3**	**-0.7**
SMRI	**Semarang**	**3.05**	**98**	P		**Pn**	**20 38 55.0**	**-0.4**
SMRI	**Semarang**	**3.05**	**98**	P		**Pn**	**20 38 55.0**	**-0.4**
	baz=3.1,SNR=4.6							
KASI	**Kota Agung**	**3.09**	**291**	P		**Pn**	**20 38 57.5**	**+1.7**
UGM	**Wanagama**	**3.35**	**113**	P		**Pn**	**20 38 57.7**	**-1.3**
UGM	**Wanagama**	**3.35**	**113**	P		**Pn**	**20 38 57.8**	**-1.3**
	baz=3.3,SNR=22							
MDSI	**Maura Dua**	**3.84**	**303**	P		**Pn**	**20 39 05.8**	**+0.8**
NGJI	**Ngawi**	**4.10**	**101**	P		**Pn**	**20 39 08.2**	**0.0**
XMI	**Christmas Isla**	**4.16**	**204**	P		**Pn**	**20 39 07.6**	**-1.4**
	baz=4.0,SNR=9.9							
XMIS	**Christmas Isla**	**4.21**	**204**	P		**Pn**	**20 39 07.7**	**-1.9**
	baz=4.0,SNR=65							
SJI	**Sawahan**	**4.47**	**105**	P		**Pn**	**20 39 12.2**	**-0.8**
PWJI	**Pagerwojo**	**4.58**	**108**	P		**Pn**	**20 39 12.9**	**-1.4**
PPBI	**Pangkal Pinang**	**4.61**	**344**	P		**Pn**	**20 39 14.7**	**+0.1**
MNAI	**Manna**	**4.96**	**297**	P		**Pn**	**20 39 20.3**	**+1.2**
MNAI	**Manna**	**4.96**	**297**	P		**Pn**	**20 39 20.9**	**+1.7**
	baz=5.0,SNR=19							
GRJI	**Gresik**	**5.05**	**94**	P		**Pn**	**20 39 20.2**	**-0.1**
PDSI	**Padang**	**8.95**	**309**	P		**Pn**	**20 40 10.2**	**-0.7**
	40nm,0.5s,3μm0.3nm							
PPI	**Padang Panjang**	**9.29**	**311**	P		**Pn**	**20 40 16.6**	**+1.2**
PPI	**Padang Panjang**	**9.29**	**311**	P		**Pn**	**20 40 16.4**	**+1.1**
	baz=9.4,SNR=3.3							
PSI	**Prapat**	**12.62**	**318**	P		Pn	20 40 46.4	-12
	baz=13,SNR=3.6							
GIRL	**Giralia**	**17.24**	**158**	P		Pn	20 42 01.2	+6.8
	baz=17,SNR=5.0							
FITZ	**Fitzroy Crossi**	**21.13**	**124**	P		**P**	**20 42 35.7**	**+0.8**
	0.3nm,0.3s,baz=307,slow=5.1,SNR=5.7							
FITZ				S		S	20 46 27.6	+9.4
	1.2nm,0.8s,baz=18,slow=20,SNR=4.8							
MEEK	**Meekatharra**	**22.59**	**153**	P		**P**	**20 42 52.1**	**+2.9**
	baz=22,SNR=5.1							
KNRA	**Kununurra**	**22.79**	**115**	P		**P**	**20 42 51.2**	**+0.1**
	baz=23,SNR=4.7							
MTN	**Manton Dam**	**24.18**	**107**	P		**P**	**20 43 06.5**	**+2.8**
	baz=24,SNR=4.9							
KDU	**Kakadu**	**25.43**	**106**	P		**P**	**20 43 16.6**	**+1.6**
	baz=25,SNR=3.2							
CMAR	**Chiang Mai Arr**	**26.28**	**342**	P		**P**	**20 43 22.4**	**-0.2**
	0.8nm,0.6s,baz=177,slow=8.5,SNR=11							
CMAR				pP		**pP**	**20 44 01.9**	**-0.7**
	1.0nm,0.9s,baz=174,slow=7.9,SNR=4.1							
CMAR				ScP		**ScP**	**20 50 05.3**	**+0.4**
	0.5nm,0.7s,baz=204,slow=2.6,SNR=4.6							
NWAO	**Narrogin (SRO)**	**27.73**	**162**	P		**P**	**20 43 37.3**	**+2.0**
	15nm,1.0s,baz=322,slow=17,SNR=4.0							
WRA	**Warramunga Arr**	**29.31**	**119**	P		**P**	**20 43 50.4**	**+0.8**
	0.2nm,0.3s,baz=308,slow=8.7,SNR=16							
WRA				ScP		**ScP**	**20 50 15.7**	**+1.4**
	0.3nm,0.5s,baz=309,slow=2.5,SNR=6.3							
ASAR	**Alice Springs**	**30.59**	**126**	P		**P**	**20 44 02.1**	**+1.3**
	1.4nm,0.4s,baz=298,slow=7.8,SNR=42							
ASAR				S		**S**	**20 48 46.9**	**-1.4**
	0.8nm,0.9s,baz=292,slow=16,SNR=5.9							
ASAR				ScP		**ScP**	**20 50 20.6**	**+2.1**
	0.7nm,0.8s,baz=288,slow=3.3,SNR=5.4							
H08S2	**Diego Garcia H**	**34.65**	**266**	T		T	21 20 51.8	
	baz=91,slow=0.7,SNR=2.6							
H08S3	**Diego Garcia H**	**34.66**	**266**	T		T	21 20 52.4	
	baz=91,slow=0.7,SNR=3.8							
H08S1	**Diego Garcia H**	**34.66**	**266**	T		T	21 20 51.0	
	baz=91,slow=0.7,SNR=3.2							
BBOO	**Buckleboo**	**37.26**	**138**	P		**P**	**20 44 59.7**	**+1.5**
	baz=37,SNR=8.9							
ODAN	**Odare**	**38.52**	**331**	*e*P		**P**	**20 45 07.3**	**-1.6**
	4.5nm,0.4s							
RAMN	**Ramite**	**38.98**	**330**	*e*P		**P**	**20 45 11.6**	**-1.2**
	3.5nm,0.3s							
HTT	**Hallett**	**39.56**	**137**	P		P	20 45 09.2	-8.1
	baz=40,SNR=3.1							
JIRN	**Jiri**	**39.77**	**330**	*e*P		**P**	**20 45 17.9**	**-1.6**
	6.1nm,0.3s							
QLP	**Quilpie**	**40.27**	**124**	P		**P**	**20 45 22.4**	**-0.8**
	baz=40,SNR=3.3							
STKA	**Stephens Creek**	**40.60**	**133**	P		**P**	**20 45 28.0**	**+2.1**
	baz=40,SNR=78							
STKA	**Stephens Creek**	**40.60**	**133**	P		**P**	**20 45 27.9**	**+2.1**
	14nm,0.5s,baz=307,slow=8.2,SNR=97							
STKA				ScP		**ScP**	**20 50 57.0**	**+2.2**
	1.7nm,1.0s,baz=332,slow=15,SNR=2.9							
GKN	**Gorkha**	**40.84**	**328**	*e*P		**P**	**20 45 25.8**	**-2.2**
	6.1nm,0.3s							
KOLN	**Koldanda**	**41.21**	**327**	*e*P		**P**	**20 45 29.3**	**-1.7**
	6.4nm,0.7s							
DANN	**Dangsing**	**41.58**	**328**	*e*P		**P**	**20 45 31.4**	**-2.8**
	6.8nm,0.3s							
KSRS	**Korea Array**	**47.85**	**22**	P		**P**	**20 46 23.0**	**-0.2**
	0.4nm,0.3s,baz=197,slow=8.5,SNR=4.4							
SONM	**Songino Array**	**54.23**	**359**	P		**P**	**20 47 10.7**	**+0.1**
	1.4nm,0.6s,baz=179,slow=9.4,SNR=11							
SONM				PcP		**PcP**	**20 48 11.5**	**-0.8**
	0.1nm,0.4s,baz=175,slow=4.7,SNR=2.8							
USRK	**Ussuriysk Arra**	**55.24**	**21**	P		**P**	**20 47 16.1**	**-1.7**
	0.8nm,0.4s,baz=186,slow=6.9,SNR=5.5							
MKAR	**Makanchi Array**	**57.67**	**340**	P		**P**	**20 47 33.6**	**-1.3**
	1.0nm,0.4s,baz=153,slow=8.1,SNR=28							
ZALV	**Zalesovo Beam**	**63.27**	**345**	P		**P**	**20 48 10.9**	**-1.7**
	1.0nm,0.3s,baz=146,slow=6.7,SNR=8.0							
MAW	**Mawson**	**67.84**	**197**	P		P	20 48 45.4	+3.8
	1.0nm,0.6s,baz=26,slow=2.8,SNR=11							
VNDA	**Vanda**	**76.27**	**170**	P		**P**	**20 49 34.3**	**+2.8**
	1.0nm,0.3s,baz=322,slow=6.6,SNR=18							

BJI 28 20:53:27.4,37.°12N×103.°69E,h7km,ML3.5/7,Gansu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**1.04**	**173**	*e*Pg		Pg	20 53 46.3	-1.3
LZH				Sg		Sg	20 53 59.5	-1.8
LZH				SMN				
	3μm,1.0s							
LZH				SME				
	4μm,0.7s							
GTA	**Gaotai**	**3.81**	**308**	Pn		Pn	20 54 26.5	-0.2
GTA				Pg		Pb	20 54 35.3	+0.1
GTA				Sn		Sn	20 55 13.0	+1.1
GTA				Sg		Sb	20 55 24.5	+2.8
GTA				SMN				
	80nm,0.6s							
GTA				SME				
	93nm,0.6s							
XAN	**Xi'an**	**5.25**	**124**	Pg		Pg	20 55 05.0	-3.2
XAN				Sg		Sg	20 56 11.5	-4.8
XAN				SMN				
	17nm,0.7s							
XAN				SME				
	7.0nm,0.6s							
HHC	**Hu-ho-hao-te**	**7.17**	**56**	*e*Pn		Pn	20 55 11.5	-1.4

*CSEM **28** 21:10:08.9,12.°10N×43.°50E,h27km,ML3.6,After DHMR*
DHMR 28 21:10:08.9±2.0,12.°10N×43.°50E,h28km±28km,ML3.6, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.27**	**28**	*i* P		Pb	21 10 32.2	-0.4
TRBA				*i* S		Sb	21 10 48.2	-0.5
TRBA				AML		AML	21 10 50.8	
	comp=N,714nm,0.3s							
UDYN	**Al 'Udayn**	**1.91**	**14**	*i* P		Pb	21 10 42.1	-1.1
UDYN				*i* S		Sb	21 11 06.4	-0.5
UDYN				AML		AML	21 11 15.8	
	comp=E,2μm,0.5s							
UDYN	**Al 'Udayn**	**1.91**	**14**	*i* P		Pb	21 10 42.2	-1.1
UDYN				*i* S		Sb	21 11 06.4	-0.4
	comp=E,765nm,0.5s							
LBOS		**2.45**	**44**	*i* P		Pn	21 10 49.3	+1.8
LBOS				*i* S		Sb	21 11 22.8	+0.1
BDHA	**Al Bayda'**	**2.74**	**47**	*i* P		Pn	21 10 53.3	+1.9
BDHA				*i* S		Sb	21 11 29.8	-1.2
BDHA				AML		AML	21 11 40.6	
	comp=E,255nm,0.5s							
BDHA	**Al Bayda'**	**2.74**	**47**	*i* P		Pn	21 10 53.3	+1.9
BDHA				*i* S		Sb	21 11 29.8	-1.2
	comp=E,127nm,0.5s							

*CSEM **28** 21:20:31.2,35.°55N×21.°91E,h15km,MD3.5,After ATH*
ATH 28 21:20:31.4,35.°56N×21.°92E,h16km±5km,MD3.5/19, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.16**	**51**	*e*PN		Pn	21 20 52.8	-0.2
KYTH	**Kithira**	**1.16**	**51**	*e*Pn		Pn	21 20 52.8	-0.2
ANKY	**Antikythira Is**	**1.17**	**74**	*e*PN		Pg	21 20 54.1	+0.2
ANKY	**Antikythira Is**	**1.17**	**74**	*e*Pn		Pg	21 20 54.1	+0.2
PYL	**PYLOS**	**1.34**	**354**	*e*PB		Pn	21 20 55.6	+0.1
PYL	**PYLOS**	**1.34**	**354**	*e*Pb		Pn	21 20 55.6	+0.1
ITM	**Ithomi**	**1.62**	**0**	*e*PN		Pb	21 21 00.9	0.0
ITM	**Ithomi**	**1.62**	**0**	*e*Pn		Pb	21 21 00.9	0.0
KARN	**Karanos**	**1.64**	**95**	*e*PN		Pb	21 21 02.0	+0.7
KARN	**Karanos**	**1.64**	**95**	*e*Pn		Pb	21 21 02.0	+0.7
VLX	**Vlachokerasia**	**1.84**	**11**	*e*PN		Pb	21 21 05.3	+0.4
VLX	**Vlachokerasia**	**1.84**	**11**	*e*Pn		Pb	21 21 05.3	+0.4
AMT	**Artemida-Makis**	**1.98**	**355**	*e*PN		Pb	21 21 07.3	+0.2
AMT	**Artemida-Makis**	**1.98**	**355**	*e*Pn		Pb	21 21 07.3	+0.2
DID	**Didima**	**2.21**	**28**	*e*PN		Pb	21 21 09.9	-1.2
DID	**Didima**	**2.21**	**28**	*e*Pn		Pb	21 21 09.9	-1.2
GUR	**Goura**	**2.40**	**8**	*e*PN		Pb	21 21 12.7	-1.6
GUR	**Goura**	**2.40**	**8**	*e*Pn		Pb	21 21 12.7	-1.6
IDI	**Anoyia**	**2.44**	**96**	*e*PB		Pn	21 21 12.1	+1.4
IDI	**Anoyia**	**2.44**	**96**	*e*Pb		Pn	21 21 12.1	+1.4
KLV	**Kalavryta, Ach**	**2.49**	**4**	*e*PN		Pb	21 21 14.2	-1.6
KLV	**Kalavryta, Ach**	**2.49**	**4**	*e*Pn		Pb	21 21 14.2	-1.6
LTK	**Loutraki**	**2.60**	**19**	*e*PB		Pb	21 21 15.4	-2.2
LTK	**Loutraki**	**2.60**	**19**	*e*Pb		Pb	21 21 15.4	-2.2
LAKA	**Lakka**	**2.67**	**1**	*e*PB		Pb	21 21 17.0	-2.0
LAKA	**Lakka**	**2.67**	**1**	*e*Pb		Pb	21 21 17.0	-2.0
VLS	**Valsamata**	**2.82**	**338**	*e*PN		Pn	21 21 17.7	+1.8
VLS	**Valsamata**	**2.82**	**338**	*e*Pn		Pn	21 21 17.7	+1.8
VILL	**Villia**	**2.83**	**23**	*e*Pn		Pn	21 21 18.6	+2.6
KALE	**Kalithea**	**2.83**	**3**	*e*PN		Pn	21 21 18.2	+2.1
KALE	**Kalithea**	**2.83**	**3**	*e*Pn		Pn	21 21 18.2	+2.1
VIL2	**Platees**	**2.86**	**22**	*e*PN		Pn	21 21 18.6	+2.2
DSF	**Desfina**	**2.89**	**10**	*e*PN		Pn	21 21 19.4	+2.6
DSF	**Desfina**	**2.89**	**10**	*e*Pn		Pn	21 21 19.4	+2.6
DESF	**Desfina**	**2.89**	**10**	*e*PN		Pn	21 21 18.7	+1.8
DESF	**Desfina**	**2.89**	**10**	*e*Pn		Pn	21 21 18.7	+1.8
PDO	**Prodromos**	**3.09**	**349**	*e*PB		Pb	21 21 23.2	-2.8
PDO	**Prodromos**	**3.09**	**349**	*e*Pb		Pb	21 21 23.2	-2.8

*MOS **28** 21:28:56.8±0.8,53.°42N×153.°91E,h482km,mb4.1/19, Error ellipse: s-maj=13.9km s-min=8.9km az=76.8*
*KRSC **28** 21:28:56.0±9.9,52.°98N×154.°76E,h529km±98km,ML4.6*
*BJI **28** 21:28:57.1,53.°40N×153.°80E,h480km,mb4.4/8*
*ISCJB **28** 21:28:57.1±0.2,53.°40N±0.°05×153.°83E±0.°05,h480km, mb4.0/46,Error ellipse: s-maj=6.8km s-min=4.0km az=161.9*
*NEIC **28** 21:28:57.8±0.8,53.°25N×153.°92E,h484km±14km, mb4.4/23,Error ellipse: s-maj=39.5km s-min=7.9km az=160.0*
*IDC **28** 21:28:58.5±1.1,53.°42N×153.°83E,h485km±14km, mb3.4/22,mb1 3.6/25,mb1mx3.5/31,mbtmp3.4/25,Error ellipse: s-maj=12.4km s-min=8.2km az=147.0*

ISC 28 21:28:57.8±0.5,53.°34N±0.°07×154.°02E±0.°06,h480km, n108,σ1§21/116,mb4.1/46,1C-1D,Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
APC	**Apacha**	**1.94**	**101**	*e*P		**P**	**21 30 01.4**	**+0.7**
APC				S		**S**	**21 30 52.9**	**+1.0**
MIPR	**Malaya Ipel'ka**	**1.97**	**122**	*e*P		**P**	**21 30 01.6**	**+0.6**
PEA0B	**Petropavlovsk-**	**2.22**	**95**	*e*P		**P**	**21 30 02.9**	**+0.6**
PETK	**Petropavlovsk-**	**2.22**	**95**	PN		**P**	**21 30 02.9**	**+0.6**
PETK				pmax	pmax			
	comp=Z,42nm,0.3s							
PETK	**Petropavlovsk-**	**2.22**	**95**	P		**P**	**21 30 02.9**	**+0.6**
	comp=Z,42nm,0.3s,baz=306,slow=0.7,SNR=161							
PETK				S		S	21 31 02.4	+7.6
	comp=Z,4.8nm,0.3s,baz=286,slow=12,SNR=3.8							
GNL	**Ganaly**	**2.37**	**80**	*e*P		**P**	**21 30 04.1**	**+0.9**
GNL				S		**S**	**21 30 58.5**	**+2.1**
PAU	**Pauzhetka**	**2.54**	**137**	PN		**P**	**21 30 04.4**	**+0.3**
PAU	**Pauzhetka**	**2.54**	**137**	*e*P		**P**	**21 30 04.9**	**+1.0**
MTVR	**Mutnovka**	**2.66**	**107**	*e*P		**P**	**21 30 05.5**	**+0.4**
KRX	**Arik**	**2.77**	**88**	*e*P		**P**	**21 30 06.7**	**+0.9**
PET	**Petropavlovsk**	**2.81**	**95**	PN		**P**	**21 30 06.0**	**+0.2**
PET	**Petropavlovsk**	**2.81**	**95**	*e*P		**P**	**21 30 06.0**	**+0.2**
RUS	**Russkaya**	**2.87**	**107**	PN		**P**	**21 30 05.6**	**-0.6**
RUS	**Russkaya**	**2.87**	**107**	*e*P		**P**	**21 30 05.6**	**-0.6**
SMAR	**Somma**	**2.87**	**90**	*e*P		**P**	**21 30 06.9**	**+0.4**
UGLR	**Uglovaya**	**2.89**	**91**	*e*P		**P**	**21 30 07.4**	**+0.9**
SDLR	**Sedlovina**	**2.92**	**89**	*e*P		**P**	**21 30 07.1**	**+0.4**
SKR	**Severo-Kuril's**	**2.96**	**153**	S		**S**	**21 31 02.1**	**-1.0**
ESO	**Esso**	**3.76**	**45**	PN		**P**	**21 30 14.5**	**+1.7**
ESO				S		**S**	**21 31 16.4**	**+2.4**
ESO	**Esso**	**3.76**	**45**	*e*P		**P**	**21 30 14.5**	**+1.7**
ESO				S		**S**	**21 31 16.4**	**+2.4**
SRDR	**Sredinnyy**	**4.44**	**46**	*e*P		**P**	**21 30 20.2**	**+1.6**
MKZ	**Mys Kozlova**	**4.71**	**72**	PN		**P**	**21 30 21.0**	**+0.1**
MKZ	**Mys Kozlova**	**4.71**	**72**	P		**P**	**21 30 21.0**	**+0.1**

SMKR	**Semkarok**	**5.38**	**50**	*e*P		**P**	**21 30 29.1**	**+1.9**
SMKR				S		**S**	**21 31 40.7**	**+0.3**
KBTR	**Krutoberegovo**	**5.85**	**57**	PN		**P**	**21 30 29.9**	**-1.7**
KBTR				S		**S**	**21 31 43.6**	**-4.8**
KBTR	**Krutoberegovo**	**5.85**	**57**	*e*P		**P**	**21 30 29.9**	**-1.7**
KBTR				S		**S**	**21 31 43.6**	**-4.8**
YSS	**Yuzh-Sakhalins**	**9.64**	**233**	*e*PN		**P**	**21 31 12.0**	**+0.8**
SEY	**Seymchan**	**9.66**	**356**	*e*PN		**P**	**21 31 11.4**	**+0.4**
ASAJ	**Asahikawa**	**11.90**	**224**	P		**P**	**21 31 36.1**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=342,slow=20,SNR=3.1							
YAK	**Yakutsk**	**15.57**	**314**	*e*P		**P**	**21 32 12.1**	**-1.8**
YAK				*e*S		**S**	**21 34 57.9**	**+2.0**
YAK				pmax	pmax			
	comp=Z,24nm,0.9s							
YAK				pmax	pmax			
	comp=E,10.0nm,1.1s							
YAK				pmax	pmax			
	comp=N,4.0nm,0.9s							
YAK				smax	smax			
	comp=N,63nm,1.6s							
YAK				smax	smax			
	comp=E,34nm,1.6s							
USRK	**Ussuriysk Arra**	**17.10**	**247**	P		**P**	**21 32 30.8**	**+0.5**
	comp=E,0.2nm,0.3s,baz=45,slow=12,SNR=5.0							
TIXI	**Tiksi**	**21.41**	**338**	*d* P		**P**	**21 33 09.7**	**-0.1**
TIXI				pmax	pmax			
	comp=Z,10.0nm,1.8s							
KSRS	**Korea Array**	**24.05**	**239**	P		**P**	**21 33 34.1**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=40,slow=9.9,SNR=5.3							
SVW2	**Sparrevohn**	**27.73**	**54**	*e*P		**P**	**21 34 07.3**	**+1.2**
	comp=Z,29nm,1.7s							
IM04	**Indian Mountai**	**28.29**	**43**	*e*P		**P**	**21 34 11.4**	**+0.5**
IMA2	**Indian Mountai**	**28.33**	**43**	*e*P		**P**	**21 34 12.2**	**+0.7**
CAST	**Castle Rocks**	**29.11**	**48**	*e*P		**P**	**21 34 19.6**	**+1.4**
	comp=Z,7.4nm,0.7s							
PPLA	**Purkeypile**	**29.12**	**49**	*e*P		**P**	**21 34 20.4**	**+2.0**
	comp=Z,32nm,1.6s							
SPU	**Mount Spurr**	**29.41**	**53**	*e*P		**P**	**21 34 22.3**	**+1.4**
BPAW	**Bear Paw Mtn.**	**29.54**	**47**	*e*P		**P**	**21 34 23.3**	**+1.4**
	comp=Z,7.1nm,1.0s							
OHAK	**Old Harbor**	**29.63**	**61**	*e*P		**P**	**21 34 22.8**	**0.0**
	comp=Z,138nm,1.9s							
COLD	**Coldfoot**	**29.73**	**40**	*e*P		**P**	**21 34 24.4**	**+1.0**
	comp=Z,9.5nm,0.6s							
KDAK	**Kodiak Island**	**29.86**	**60**	*e*P		**P**	**21 34 25.1**	**+0.5**
	comp=Z,240nm,2.2s							
TRF	**Thorofare Moun**	**29.91**	**48**	*e*P		**P**	**21 34 26.5**	**+1.2**
	comp=Z,10nm,0.8s							
SONM	**Songino Array**	**30.27**	**279**	P		**P**	**21 34 28.9**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=55,slow=7.8,SNR=8.4							
MCK	**McKinley**	**30.48**	**47**	*e*P		**P**	**21 34 29.6**	**-0.4**
MCK				pmax	pmax			
	comp=Z,13nm,0.9s							
MCK	**McKinley**	**30.48**	**47**	*e*P		**P**	**21 34 29.6**	**-0.4**
	comp=Z,13nm,0.9s							
COLA	**College**	**30.81**	**45**	*e*P		**P**	**21 34 32.6**	**-0.2**
COLA				pmax	pmax			
	comp=Z,10.0nm,0.7s							
COLA	**College**	**30.81**	**45**	*e*P		**P**	**21 34 32.6**	**-0.2**
	comp=Z,10nm,0.7s							
SEW	**Seward**	**30.88**	**55**	*e*P		**P**	**21 34 33.4**	**0.0**
	comp=Z,40nm,1.3s							
SML	**Sawmill**	**31.06**	**51**	*e*P		**P**	**21 34 35.4**	**+0.3**
SML				pmax	pmax			
	comp=Z,2.0nm,0.4s							
SML	**Sawmill**	**31.06**	**51**	*e*P		**P**	**21 34 35.4**	**+0.3**
	comp=Z,2.0nm,0.4s							
ILAR	**Eielson Array**	**31.24**	**45**	P		**P**	**21 34 37.3**	**+0.8**
	comp=Z,5.8nm,0.8s,baz=275,slow=9.2,SN

CLL	Collm	70.71 335	*i* P	P	21 39 26.5	+2.4		
GERES	GERESS Array B	72.79 334	P	P	21 39 36.1	-0.4		
	comp=Z,0.2nm,0.4s,baz=27,slow=5.5,SNR=3.5							
TXAR	Lajitas Array	73.84 63	P	P	21 39 44.2	+1.4		
	comp=Z,1.6nm,0.5s,baz=299,slow=3.9,SNR=8.7							
WRA	Warramunga Arr	74.94 199	P	P	21 39 48.6	-0.3		
	comp=Z,2.8nm,0.6s,baz=15,slow=5.9,SNR=32							
FITZ	Fitzroy Crossi	75.25 208	P	P	21 39 50.3	-0.3		
	comp=Z,1.5nm,0.9s,baz=141,slow=1.7,SNR=3.8							
ASAR	Alice Springs	78.65 199	P	P	21 40 09.5	+0.3		
	comp=Z,4.1nm,0.6s,baz=11,slow=5.2,SNR=78							

*IDC **28** 21:54:48.1±1.8,40.54N×51.83E,h0km,mb3.4/4, mb1 3.6/5,mb1mx3.3/25,mbtmp3.5/5,ML3.1/1,Error ellipse: s-maj=41.5km s-min=19.0km az=178.0*
*AZER **28** 21:54:55.9±0.1,40.96N×51.81E,h41km,Error ellipse: s-maj=0.9km s-min=0.6km az=28.0*
*CSEM **28** 21:54:55.8±0.3,41.10N×51.92E,h30km,mb3.8,Error ellipse: s-maj=14.4km s-min=4.2km az=157.0*
*NNC **28** 21:55:01.3±4.6,41.51N×52.66E,h0km,mb3.8,Error ellipse: s-maj=54.1km s-min=23.0km az=63.0*

ISC 28 21:54:54.9±1.7,41.08N±0.07×51.96E±0.05,h30km±16km, n49,σ1§48/65,mb3.5/5,15C-15D,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GALA	Gala	1.52	244	⇑P		Pn		21 55 20.8	+0.7
GALA	Gala	1.52	244	P		Pn		21 55 20.8	+0.7
NDR	Nardaran	1.58	252	⇑P		Pb		21 55 22.3	-1.1
	SNR=17								
NDR	Nardaran	1.58	252	P		Pb		21 55 22.3	-1.1
	SNR=17								
GOBA	Gobu	1.82	249	⇑P		Pn		21 55 24.9	+0.7
GOBA	Gobu	1.82	249	P		Pn		21 55 24.9	+0.7
ATGJ	Altiaghaj	2.30	265	⇑P		Pn		21 55 31.4	+0.6
	SNR=8.0								
ATGJ				⇓S		Sn		21 55 58.9	+0.8
ATGJ	Altiaghaj	2.30	265	P		Pn		21 55 31.4	+0.6
	SNR=8.0								
ATGJ				S		Sn		21 55 58.9	+0.8
SIZA	Siyzn	2.31	271	⇓P		Pn		21 55 33.1	+2.1
SIZA				⇓S		Sn		21 56 00.1	+1.7
SIZA	Siyzn	2.31	271	P		Pn		21 55 33.1	+2.1
SIZA				S		Sn		21 56 00.1	+1.7
ALIB	Äli-Bayra	2.51	244	⇑P		Pn		21 55 34.1	+0.4
ALIB				⇓S		Sn		21 56 04.8	+1.5
ALIB	Äli-Bayra	2.51	244	P		Pn		21 55 34.1	+0.4
ALIB				S		Sn		21 56 04.8	+1.5
PQL	Pirkuli	2.56	264	P		Pn		21 55 35.0	+0.5
	SNR=11								
PQL				⇑S		Sn		21 56 04.8	0.0
PQL	Pirkuli	2.56	264	P		Pn		21 55 35.0	+0.5
	SNR=11								
PQL				S		Sn		21 56 04.8	0.0
QUBA	Quba, Azerbaij	2.63	277	⇓P		Pn		21 55 36.8	+1.5
	SNR=31								
QUBA				⇓S		Sn		21 56 06.4	+0.2
QUBA	Quba, Azerbaij	2.63	277	P		Pn		21 55 36.8	+1.5
	SNR=31								
QUBA				S		Sn		21 56 06.4	+0.2
IML	Ismayilli	2.87	265	⇑P		Pn		21 55 38.5	-0.2
	SNR=35								
IML				⇑S		Sn		21 56 10.8	-1.5
IML	Ismayilli	2.87	265	P		Pn		21 55 38.5	-0.2
	SNR=35								
IML				S		Sn		21 56 10.8	-1.5
GLBA	Clilabad	3.29	237	⇓Pn		Pn		21 55 42.0	-2.4
	SNR=61								
SEKA	Sheki	3.59	274	⇓P		Pn		21 55 48.9	+0.3
	SNR=9.7								
SEKA				⇑S		Sn		21 56 28.0	-2.1
SEKA	Sheki	3.59	274	P		Pn		21 55 48.9	+0.3
	SNR=9.7								
SEKA				S		Sn		21 56 28.0	-2.1
BRDA	Brd	3.72	259	⇓P		Pn		21 55 49.7	-0.6
	SNR=8.5								
BRDA				⇑S		Sn		21 56 30.4	-2.7
BRDA	Brd	3.72	259	P		Pn		21 55 49.7	-0.6
	SNR=8.5								
GANJ	Ganja	4.29	266	⇑P		Pn		21 55 57.1	-1.1
	SNR=7.0								
GANJ	Ganja	4.29	266	P		Pn		21 55 57.1	-1.1
	SNR=7.0								
DGRG	David-gareji	4.97	276	P		Pn		21 56 07.6	0.0
DGRG				S		Sn		21 57 02.2	-1.8
TBLG	Delisi	5.47	279	P		Pn		21 56 13.9	-0.4
TBLG				S		Sn		21 57 11.8	-4.3
DUS	Dusheti	5.53	283	P		Sn		21 57 15.8	-2.0
KBZ	Khabaz	7.21	295	Pn		Pn		21 56 38.6	+0.5
	0.1nm,0.3s,baz=93,slow=1.0,SNR=4.7								
KBZ						Sn		21 57 51.9	-7.0
	0.2nm,0.3s,baz=180,slow=6.1,SNR=4.9								
AB31	Akbulak array	9.92	32	Pn		Pn		21 57 17.3	+2.0
	0.8nm,0.5s,baz=210,slow=12,SNR=30								
AB31				⇓Sn		Sn		21 59 04.8	-0.8
	1.7nm,0.3s,baz=183,slow=22,SNR=9.5								
AB31	Akbulak array	9.92	32	Pn		Pn		21 57 17.3	+2.0
	0.8nm,0.5s,SNR=30								
AB31						Sn		21 59 04.8	-0.8
	1.7nm,0.3s,SNR=9.5								
AKTO	Aktyubinsk	10.26	22	⇑Pn		Pn		21 57 20.7	+0.7
	3.3nm,0.5s								
AKTO				⇓Sn		Sn		21 59 11.3	-2.6
	4.5nm,0.4s								
AKTO	Aktyubinsk	10.26	22	Pn		Pn		21 57 20.7	+0.7
	3.3nm,0.5s								
KK31	Karatay Array	13.93	76	⇑Pn		Pn		21 58 10.6	+0.5
	1.3nm,0.7s,baz=270,slow=15,SNR=11								
KK31				⇓Sn		Sn		22 00 40.4	-3.3
	1.3nm,0.6s,baz=266,slow=24,SNR=4.5								
KK31	Karatay Array	13.93	76	Pn		Pn		21 58 10.6	+0.5
	1.3nm,0.7s,baz=270,SNR=11								
BRTR	Keskin Array B	14.03	270	Pn		Pn		21 58 13.8	+2.1
	0.1nm,0.3s,baz=90,slow=8.7,SNR=2.3								
BVA0	Borovoye Array	17.27	40	⇓P		P		21 58 55.3	+0.4
	3.3nm,1.1s,baz=223,slow=16,SNR=10								
BVA0				S		Sn		22 02 01.8	-2.9
	0.1nm,0.4s,baz=223,slow=26,SNR=4.3								
BVA0	Borovoye Array	17.27	40	P		P		21 58 55.3	+0.4
	3.3nm,1.1s,SNR=10								
TKM2	Tokmak 2	17.66	76	⇑P		P		21 59 00.2	+0.7
	3.9nm,0.8s								
TKM2	Tokmak 2	17.66	76	P		P		21 59 00.2	+0.7
	3.9nm,0.8s								
KURBB	Kurchatov Arra	20.72	54	⇑P		Pn		21 59 35.2	0.0
	1.4nm,0.8s								
KURBB	Kurchatov Arra	20.72	54	P		Pn		21 59 35.2	0.0
	1.4nm,0.8s								
KURK	Kurchatov	20.80	53	⇓P		Pn		21 59 35.5	-0.6
	1.3nm,0.8s								
KURK	Kurchatov	20.80	53	P		Pn		21 59 35.5	-0.6
	1.3nm,0.8s								
MK31	Makanchi Array	22.49	65	⇓P		P		21 59 59.5	+7.7
	4.5nm,1.4s,baz=243,slow=11,SNR=4.0								
MKAR	Makanchi Array	22.49	65	P		P		21 59 53.0	+1.2
	0.5nm,0.8s,baz=257,slow=11,SNR=3.4								
ZALV	Zalesovo Beam	25.40	48	P		P		22 00 20.9	+1.5
	0.7nm,0.5s,baz=268,slow=10,SNR=4.9								
FINES	FINESS Array B	25.72	331	P		P		22 00 22.9	+0.7
	2.4nm,0.9s,baz=125,slow=10,SNR=2.7								
TORD	Torodi Ar. Bea	51.78	252	P		P		22 03 55.6	-4.3
	0.2nm,0.7s,baz=35,slow=7.9,SNR=3.7								

IDC 28 22:00:33.2±1.2,52.00N×172.77E,h0km,mb3.4/4, mb1 3.8/5,mb1mx3.5/27,mbtmp3.5/5,ML4.1/1,Error ellipse: s-maj=42.4km s-min=24.6km az=162.0,Near Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	9.25	283	Pn		Pn		22 02 48.6	+0.8
	2.0nm,0.3s,baz=99,slow=18,SNR=22								
PETK				Sn		Sn		22 04 23.7	-8.8
	0.2nm,0.3s,baz=88,slow=22,SNR=2.6								
ILAR	Eielson Array	24.20	43	P		P		22 05 49.9	-1.1
	0.7nm,0.6s,baz=248,slow=9.2,SNR=4.4								
H11N2	WAKE ISLAND Hy	32.53	190	T		T		22 42 05.2	
	baz=6.2								
H11N3	WAKE ISLAND Hy	32.55	190	T		T		22 42 07.2	
	baz=6.2								
H11N1	WAKE ISLAND Hy	32.55	190	T		T		22 42 06.5	
	baz=6.2								
H11S1	WAKE ISLAND Hy	33.76	190	T		T		22 43 38.4	
	baz=7.6								
H11S3	WAKE ISLAND Hy	33.78	190	T		T		22 43 43.3	
	baz=7.6								
H11S2	WAKE ISLAND Hy	33.78	190	T		T		22 43 43.0	
	baz=7.6								
PDAR	Pinedale Array	51.02	68	P		P		22 09 37.8	+0.8
	0.2nm,0.3s,baz=336,slow=4.2,SNR=3.1								
MKAR	Makanchi Array	55.42	303	P		P		22 10 09.0	0.0
	0.4nm,0.9s,baz=62,slow=6.0,SNR=2.4								
WRA	Warramunga Arr	79.10	217	P		P		22 12 39.0	-0.3
	0.5nm,0.9s,baz=33,slow=6.4,SNR=3.0								

IDC 28 22:02:50.7±7.2,15.20S×173.55W,h0km,mb3.7/3, mb1 4.0/3,mb1mx3.7/18,mbtmp3.7/3,MS3.4/2,Ms1 3.4/2, ms1mx3.1/20,Error ellipse: s-maj=334.5km s-min=33.4km az=140.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.14	53	Pn		Pn		22 03 18.7	-9.1
	12nm,0.3s,baz=243,slow=2.3,SNR=15								
AFI				Sn		Sn		22 03 37.1	-18
	50nm,0.3s,baz=263,slow=23,SNR=7.0								
RAO	Raoul Island	14.56	195	LR		LR		22 11 03.1	
	comp=Z,97nm,18.3s,baz=236,slow=34								
DZM	Mont Dzumac	20.14	247	LR		LR		22 13 54.1	
	comp=Z,147nm,18.8s,baz=192,slow=33								
H11S2	WAKE ISLAND Hy	38.72	329	T		T		22 51 36.1	
	baz=150,slow=0.7,SNR=11								
H11S3	WAKE ISLAND Hy	38.73	329	T		T		22 51 37.6	
	baz=150,slow=0.7,SNR=10								
H11S1	WAKE ISLAND Hy	38.74	329	T		T		22 51 37.9	
	baz=150,slow=0.7,SNR=7.8								
H11N3	WAKE ISLAND Hy	39.67	330	T		T		22 52 50.0	
	baz=148,slow=0.7,SNR=4.4								
H11N1	WAKE ISLAND Hy	39.67	330	T		T		22 52 50.3	
	baz=148								
H11N2	WAKE ISLAND Hy	39.69	330	T		T		22 52 50.7	
	baz=148,slow=0.7,SNR=3.9								
WRA	Warramunga Arr	49.75	257	P		P		22 11 44.8	-0.6
	0.5nm,0.9s,baz=93,slow=6.6,SNR=7.2								
ASAR	Alice Springs	50.04	252	P		P		22 11 47.4	-0.2
	1.3nm,0.6s,baz=86,slow=8.4,SNR=21								
ILAR	Eielson Array	82.28	11	P		P		22 15 12.9	-0.7
	0.5nm,0.8s,baz=208,slow=7.1,SNR=4.6								
BRTR	Keskin Array B	145.91	321	PKPbc		PKPab		22 22 33.5	+0.4
	1.4nm,0.8s,baz=67,slow=2.8,SNR=7.9								
GERES	GERESS Array B	145.92	351	PKPbc		PKPdf		22 22 31.0	-0.7
	0.3nm,0.6s,baz=350,slow=5.0,SNR=3.8								

WEL 28 22:07:15.3±0.4,38.95S×175.23E,h201km±3km,ML3.5/5, Error ellipse: s-maj=4.0km s-min=2.6km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TRVZ	Turoa	0.43	145	PN		PN		22 07 42.4	-0.1
WHVZ	Whangaehu Hut	0.43	140	PN		PN		22 07 42.6	0.0
WNVZ	Wahianoa	0.47	143	PN		PN		22 07 42.6	0.0
MOVZ	Moawhango	0.61	139	PN		PN		22 07 42.7	-0.4
MOVZ				SN		S		22 08 03.4	-1.3
BHHZ	Black Hill Sta	0.84	130	PN		PN		22 07 44.0	-0.2
BKZ	Black Stump Fm	1.01	103	PN		PN		22 07 44.9	-0.3
BKZ				SN		S		22 08 08.1	-0.2
PNHZ	Pukenui	1.22	142	PN		PN		22 07 46.9	+0.1
PNHZ				SN		S		22 08 11.4	+0.3
TSZ	Takapari Road	1.25	153	PN		PN		22 07 47.2	+0.2
TSZ				AML		AML		22 08 13.1	
RAHZ	Arahi	1.45	89	PN		PN		22 07 48.7	0.0
RAHZ				SN		S		22 08 13.8	-0.3
WPHZ	Waipukurau	1.46	140	PN		PN		22 07 49.0	+0.4
POWZ	Post Office Ro	1.50	164	PN		PN		22 07 49.1	0.0
DVHZ	Dannevirke	1.53	152	PN		PN		22 07 49.3	0.0
MRZ	Mangatainoka R	1.73	171	PN		PN		22 07 50.9	-0.3
MRZ				AML		AML		22 08 18.7	
MRZ				AML		AML		22 08 20.0	
OGWZ	Otaki Gorge	1.87	181	PN		PN		22 07 52.3	-0.2
OGWZ				SN		S		22 08 20.2	-0.9
HOWZ	Holdsworth Sta	1.96	174	PN		PN		22 07 53.0	-0.5
HOWZ				SN		S		22 08 21.0	-1.7
DUWZ	D'Urville Isla	2.11	208	PN		PN		22 07 54.1	-0.9
CAW	Cannon Point	2.16	183	PN		PN		22 07 54.8	-0.7
CAW				AML		AML		22 08 27.2	
CAW				AML		AML		22 08 27.3	
TCW	Tory Channel	2.38	198	PN		PN		22 07 57.3	-0.5
TCW				AML		AML		22 08 29.4	
MSWZ	Moikau Station	2.46	180	PN		PN		22 07 57.8	-1.0
MSWZ				AML		AML		22 08 30.9	
MSWZ				AML		AML		22 08 32.1	
TUWZ	Tuamarina	2.67	201	PN		PN		22 08 00.2	-0.8
NNZ	Nelson	2.68	211	PN		PN		22 07 59.8	-1.4
KHZ	Kahutara	3.70	200	PN		PN		22 08 12.2	-1.1
LTZ	Lake Taylor	4.44	209	PN		PN		22 08 20.3	-2.3

*IDC **28** 22:07:07.5±1.0,21.98S×175.93W,h0km,mb4.3/8, mb1 4.4/9,mb1mx4.2/21,mbtmp4.3/9,ML4.3/1,MS3.4/1, Ms1 3.4/1,ms1mx2.8/23,Error ellipse: s-maj=31.0km s-min=23.9km az=137.0*
*AUST **28** 22:07:18.6±6.9,22.00S×175.43W,h109km,Error ellipse: s-maj=4.6km s-min=1.2km az=0.0*
*NEIC **28** 22:07:20.7±2.0,22.28S×176.04W,h104km±16km,mb4.7/4, Error ellipse: s-maj=18.7km s-min=13.4km az=83.0*

ISC 28 22:07:20.8±0.8,21.8S±0.1×175.6W±0.1,h137km,n43, σ1§83/32,mb4.0/10,1D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIUE	Niue	5.96	64	P		Pn		22 08 44.2	-2.6
	baz=5.9,SNR=3.2								
MSVF	Nonsavu	7.21	303	*e*Pn		Pn		22 09 03.5	-0.2
	17nm,0.8s								
RAR	Rarotonga	14.74	91	T		T		22 25 50.3	
	6.5nm,0.3s,baz=270,slow=8.6,SNR=4.0								
DZM	Mont Dzumac	16.67	266	Pn		P		22 10 58.0	-8.6
URZ	Urewera	17.59	199	*e*Pn		P		22 11 10.1	-6.2
URZ				S		S		22 14 11.5	-21
URZ	Urewera	17.59	199	P		P		22 11 10.1	-6.2
	0.9nm,0.3s,baz=355,slow=13,SNR=3.9								
URZ				S		S		22 14 11.5	-21
	0.6nm,0.3s,baz=96,slow=19,SNR=2.9								
RPZ	Rata Peaks	24.52	204	P		P		22 12 25.5	-2.0
RPZ	Rata Peaks	24.52	204	P		P		22 12 25.5	-2.0
	13nm,0.9s,baz=318,slow=22,SNR=7.0								
PPT	Papeete	24.84	85	LR		LR		22 19 27.7	
	comp=Z,77nm,20.1s,baz=233,slow=29								
ARMA	Armidale	30.58	247	P		P		22 13 22.7	+0.9
	baz=31,SNR=5.0								
CTA	Charters Tower	35.62	266	P		P		22 14 05.0	-0.5
CTA	Charters Tower	35.62	266	P		P		22 14 05.0	-0.5
	6.8nm,0.5s,baz=93,slow=10,SNR=7.6								
CTAO	Charters Tower	35.62	266	*e*P		P		22 14 04.5	-1.1
	6.3nm,0.5s								
CMSA	Cobar Meteorol	35.78	246	P		P		22 14 07.1	+0.2
	baz=36,SNR=9.0								
QLP	Quilpie	36.85	254	P		P		22 14 15.7	-0.3
	baz=37,SNR=5.1								
STKA	Stephens Creek	39.29	246	*e*P		P		22 14 34.8	-1.6
	0.4nm,0.6s								
STKA	Stephens Creek	39.29	246	P		P		22 14 36.5	+0.1
	baz=39,SNR=5.3								
STKA	Stephens Creek	39.29	246	P		P		22 14 35.5	-0.9
	2.0nm,0.5s,baz=103,slow=11,SNR=11								
HTT	Hallett	41.65	244	P		P		22 14 56.3	+0.5
	baz=42,SNR=4.2								
ASAR	Alice Springs	46.42	258	P		P		22 15 33.6	-0.4
ASAR	Alice Springs	46.42	258	P		P		22 15 33.6	-0.4
	2.4nm,0.7s,baz=96,slow=7.7,SNR=21								
WRA	Warramunga Arr	46.66	263	P		P		22 15 34.6	-1.2
WRA	Warramunga Arr	46.66	263	P		P		22 15 34.6	-1.2
	2.4nm,0.6s,baz=99,slow=8.2,SNR=38								
KDU	Kakadu	50.23	271	P		P		22 16 03.2	0.0
	baz=50,SNR=4.2								
KNRA	Kununurra	52.82	266	P		P		22 16 22.6	+0.1
	baz=53,SNR=4.7								
FITZ	Fitzroy Crossi	55.09	263	*e*P		P		22 16 38.8	-0.1
	2.9nm,0.6s								
FITZ	Fitzroy Crossi	55.09	263	P		P		22 16 39.2	+0.3
	baz=55,SNR=7.9								
MBWA	Marble Bar	59.77	258	*e*P		P		22 17 11.6	-0.1
	3.8nm,0.5s								
QSPA	South Pole Qui	68.30	180	*e*P		P		22 18 08.6	+1.7
NVAR	Mina Array Bea	80.44	42	P		P		22 19 24.6	+7.0
NVAR	Mina Array Bea	80.44	42	P		P		22 19 24.6	+7.0
	0.5nm,0.4s,baz=242,slow=6.9,SNR=2.8								
MAW	Mawson	81.11	199	P		P		22 19 23.6	+3.2
	1.0nm,0.7s,baz=158,slow=9.2,SNR=4.2								
CMAR	Chiang Mai Arr	92.66	289	P		P		22 20 21.8	+4.2
CMAR	Chiang Mai Arr	92.66	289	P		P		22 20 21.8	+4.2
	0.7nm,0.9s,baz=116,slow=3.0,SNR=5.1								
AKASG	Malin Array Be	145.20	332	PKPbc		PKPab		22 26 45.2	+3.1
AKASG	Malin Array Be	145.20	332	PKPbc		PKPab		22 26 45.2	+3.1
	3.5nm,0.6s,baz=41,slow=4.3,SNR=16								
BRTR	Keskin Array B	149.36	312	PKPbc		PKPab		22 26 57.8	-1.3
BRTR	Keskin Array B	149.36	312	PKPbc		PKPab		22 26 57.8	-1.3
	0.8nm,0.6s,baz=96,slow=2.9,SNR=4.9								
CLL	Collm	149.78	349	*i* PKPbc		PKPab		22 26 59.4	-0.7
	comp=Z,3.0nm,0.9s								
GERES	GERESS Array B	152.00	347	PKPbc		PKPbc		22 27 03.3	+3.6
GERES	GERESS Array B	152.00	347	PKPbc		PKPbc		22 27 03.3	+3.6
	comp=Z,0.3nm,0.6s,baz=45,slow=2.1,SNR=3.8								
TORD	Torodi Ar. Bea	171.03	163	PKPab		PKPab		22 28 36.5	+3.4
TORD	Torodi Ar. Bea	171.03	163	PKPab		PKPab		22 28 36.5	+3.4
	comp=Z,0.2nm,0.7s,baz=178,slow=4.4,SNR=2.3								

IDC 28 22:48:48.5±15.0,24.41S×66.79W,h149km±127km, mb3.1/1,mb1 3.1/2,mb1mx3.0/16,mbtmp3.0/2,ML3.7/1, Error ellipse: s-maj=156.5km s-min=66.4km az=161.0, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	8.18	351	P		Pn		22 50 44.9	-0.2
	0.4nm,0.3s,baz=167,slow=7.2,SNR=9.8								
TORD	Torodi Ar. Bea	76.53	69	P		P		23 00 22.6	0.0
	0.5nm,1.0s,baz=254,slow=5.4,SNR=4.1								
WRA	Warramunga Arr	131.35	207	PKP		PKPdf		23 07 43.5	-0.3
	0.3nm,0.8s,baz=127,slow=1.4,SNR=4.6								
ZALV	Zalesovo Beam	143.66	28	PKP		PKPbc		23 08 03.1	0.0
	0.3nm,0.5s,baz=357,slow=5.8,SNR=3.0								
MKAR	Makanchi Array	146.71	40	PKPbc		PKPbc		23 08 12.3	-0.4
	0.5nm,0.7s,baz=310,slow=2.7,SNR=4.5								

MEX 28 23:05:30.1±1.1,16.48N×94.63W,h12km±11km,MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TGIG		1.48	78	*i* P		Pn		23 05 53.7	-2.8
TGIG				*i* S		Sn		23 06 09.8	-6.0
PCIG		1.56	119	*i* P		Pn		23 05 54.0	-3.7
PCIG				*i* S		Sn		23 06 13.1	-4.7
HUIG	Huatulco	1.59	244	*i* P		Pn		23 05 53.8	-4.2
HUIG				*i* S		Sn		23 06 14.2	-4.3
VHO	Vista Hermosa	2.10	287	*i* P		Pn		23 06 02.9	-2.4
VHO				*i* S		Sn		23 06 27.0	-4.5
CCIG	Comitan	2.40	94	*i* P		Pn		23 06 07.0	-2.4
CCIG				*i* S		Sn		23 06 34.0	-5.0
UTMO	Huajuapan	3.32	294	*i* P		Pn		23 06 19.7	-2.4
UTMO				*i* S		Sn		23 06 58.6	-3.1
PNIG	Pinotepa	3.36	269	*i* P		Pn		23 06 19.0	-3.4
PNIG				*i* S		Sn		23 06 58.8	-3.4

*IDC **28** 23:20:53.0±3.2, 17.81N×102.82W,h0km,mb4.0/3, mb1 4.3/4,mb1mx3.9/24,mbtmp3.9/4,ML3.3/1,MS3.2/1, Ms1 3.2/1,ms1mx2.8/42,Error ellipse: s-maj=130.0km s-min=41.4km az=90.0*
*ISCJB **28** 23:20:54.4±1.2, 17.81N±0.07×103.04W±0.05,h27km±9km, mb4.0/3,Error ellipse: s-maj=12.1km s-min=5.7km az=27.2*
*MEX **28** 23:20:55.6±0.4, 17.80N×103.07W,h7km±7km,MD4.1*

ISC 28 23:20:54.5±1.6,17.85N±0.08×102.99W±0.05, h10km±10km,n17,σ1§29/20,mb4.2/3,Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.55	322	*e*P		Pg		23 21 05.9	+0.6
MMIG				*i* S		Sg		23 21 13.5	+0.9
ZIIG	Zihuatanejo	1.47	99	*e*P		Pn		23 21 19.7	-1.3
ZIIG				*e*S		Sg		23 21 39.4	-2.5
URUA	Uruapan	1.79	29	*i* P		Pn		23 21 24.7	-0.8
URUA				*i* S		Sn		23 21 47.0	-1.3
MOIG	Morelia	2.49	43	*e*P		Pn		23 21 34.6	-0.6
MOIG				*i* S		Sn		23 22 06.1	+0.3
ARIG	Puente Sto Nin	2.55	80	*e*P		Pn		23 21 35.3	-0.6
ARIG				*i* S		Sn		23 22 07.4	+0.5
CJM	Chamela	2.55	310	*i* P		Pn		23 21 34.1	-1.8
CJM				*i* S		Sn		23 22 04.5	-2.4
CAIG	El Cayaco	2.72	107	*i* P		Pn		23 21 38.4	+0.2
CAIG				*i* S		Sn		23 22 11.2	+0.2
TLIG	Tlapa	4.22	93	*i* P		Pn		23 21 58.7	-0.3
TLIG				*i* S		Sn		23 22 48.3	-0.2
H06E1	SOCORRO T-PHAS	7.60	278	T		T	

R15V 1.59 325 eP Pn 23 34 17.9 -2.4
R15V i S Sn 23 34 38.2 -1.4
EZ5V 1.70 341 eP Pn 23 34 20.7 -1.4
EZ5V i S Sn 23 34 42.1 -0.5
MOIG Morelia 2.50 44 eP Pn 23 34 31.2 -1.9
MOIG i S Sn 23 35 03.0 +0.5
MOIG Morelia 2.50 44 eP Pn 23 34 31.2 -1.9
MOIG i S Sn 23 35 03.0 +0.5
CJM Chamela 2.51 311 eP Pn 23 34 31.5 -1.5
CJM i S Sn 23 35 00.5 -1.9
ARIG Puente Sto Nin 2.58 80 eP Pn 23 34 31.3 -2.6
ARIG i S Sn 23 35 03.8 -0.2
SFJM Santa Fe 2.61 360 eP Pn 23 34 34.0 -0.5
SFJM Santa Fe 2.61 360 eP Pn 23 34 34.0 -0.5
IGIG Irapuato, Guan 3.29 29 eP Pn 23 34 42.4 -1.5
IGIG eS Sn 23 35 22.9 +1.1
ANIG Ahuacatlan 3.47 336 eP Pn 23 34 45.4 -0.9
ANIG i S Sn 23 35 25.2 -1.0
ANIG Ahuacatlan 3.47 336 eP Pn 23 34 45.4 -0.9
ANIG i S Sn 23 35 25.2 -1.0
PPM Popocatepetl 4.34 73 eP Pn 23 34 57.4 -1.2
PPM i S Sn 23 35 49.2 +1.1
PPM Popocatepetl 4.34 73 eP Pn 23 34 57.4 -1.2
PPM i S Sn 23 35 49.2 +1.1
PNIG Pinotepa 4.90 107 eP Pn 23 35 05.0 -1.0
PNIG i S Sn 23 36 00.4 -1.1
PNIG Pinotepa 4.90 107 eP Pn 23 35 05.0 -1.0
PNIG i S Sn 23 36 00.4 -1.1
H06E1 SOCORRO T-PHAS 7.56 278 T T 23 43 17.7
SNR=298
H06S1 SOCORRO T 7.59 278 T T 23 43 22.4
SNR=32
H06N1 SOCORRO T-PHAS 7.63 279 T T 23 43 20.5
SNR=13
732A Laxson Ranch, 11.17 14 ⇓P Pn 23 36 32.0 +0.2
baz=11
TXAR Lajitas Array 11.43 357 Pn Pn 23 36 35.8 +0.3
TXAR Lg Lg 23 39 44.1
TXAR Lajitas Array 11.43 357 Pn Pn 23 36 35.8 +0.3
0.1nm,0.3s,baz=175,slow=15,SNR=16
TXAR Lg Lg 23 39 44.1
0.2nm,0.3s,baz=170,slow=21,SNR=3.2
TXAR LR LR 23 41 41.5
comp=Z,873nm,18.8s,baz=180,slow=42
627A Terlingua Ranc 11.54 358 ⇓P Pn 23 36 38.3 +1.3
baz=12,SNR=15
628A Black Gap, Mar 11.57 1 ⇓P Pn 23 36 38.9 +1.5
baz=12
626A Big Bend Ranch 11.68 355 ⇑P Pn 23 36 41.0 +2.1
baz=12,SNR=10
631A Perdido Creek 11.71 11 ⇑P Pn 23 36 40.5 +1.3
baz=12,SNR=10
526A Mary Lane Ranc 12.18 356 ⇑P Pn 23 36 47.9 +2.2
baz=12,SNR=22
529A Stev Forest Ra 12.23 3 ⇑P Pn 23 36 48.0 +1.7
baz=12,SNR=6.6
527A Woodward Ranch 12.24 358 ⇑P Pn 23 36 48.6 +2.0
baz=12,SNR=5.8
528A Cox Ranch, San 12.24 1 ⇓P Pn 23 36 48.3 +1.7
baz=12
530A J-C Ranch, Com 12.32 7 ⇓P Pn 23 36 49.2 +1.5
baz=12
APG El Apazote 12.38 101 Pn Pn 23 36 49.3 +0.7
APG Lg Lg 23 40 12.1
APG El Apazote 12.38 101 Pn Pn 23 36 49.3 +0.7
0.4nm,0.3s,baz=250,slow=18,SNR=5.0
APG Lg Lg 23 40 12.1
baz=159,slow=23,SNR=4.3
APG LR LR 23 41 22.9
comp=Z,805nm,19.8s,baz=332,slow=38
531A Rocksprings 12.45 10 ⇑P Pn 23 36 50.5 +1.2
baz=13
532A Rocksprings 12.53 13 ⇑P Pn 23 36 51.3 +0.8
baz=13,SNR=5.7
429A Davenport Ranc 12.74 4 ⇓P Pn 23 36 54.8 +1.4
baz=13,SNR=5.3
426A McDonald Obser 12.78 356 ⇑P Pn 23 36 55.7 +1.7
baz=13
428A Kincaid Ranch, 12.81 1 ⇓P Pn 23 36 55.4 +1.1
baz=13
JCT Junction City 12.89 13 ePn Pn 23 36 56.3 +0.8
61nm,1.4s
JCT eSn Sn 23 39 18.1 +0.5
JCT Junction City 12.89 13 ⇑P Pn 23 36 55.6 +0.2
baz=13
427A Hayter Ranch, 12.93 359 ⇓P Pn 23 36 57.2 +1.2
baz=13,SNR=6.4
431A Sonora 12.95 9 ⇑P Pn 23 36 57.7 +1.6
baz=13,SNR=7.7
430A Baggett Ranch, 12.97 7 ⇑P Pn 23 36 58.1 +1.7
baz=13
425A Indio Mountain 12.99 352 ⇓P Pn 23 36 58.3 +1.5
baz=13,SNR=12
432A Menard 13.28 12 ⇑P Pn 23 37 00.9 +0.2
baz=14
326A Caldwell Ranch 13.42 356 ⇓P Pn 23 37 03.9 +1.2
baz=14
328A Wristen Ranch, 13.46 1 ⇑P Pn 23 37 04.4 +1.2
baz=14
325A Bean Ranch, Si 13.56 353 ⇓P Pn 23 37 05.1 +0.5
baz=14,SNR=5.6
330A Mertzon 13.59 7 ⇑P Pn 23 37 05.2 +0.3
baz=14,SNR=9.9
331A San Angelo 13.59 9 ⇑P Pn 23 37 05.0 +0.1
baz=14,SNR=8.1
329A Wagon Wheel Ra 13.60 4 ⇓P Pn 23 37 04.9 -0.1
baz=14,SNR=5.4
324A Moseley Ranch, 13.70 351 ⇑P Pn 23 37 07.2 +0.7
baz=14
332A Millersview 13.78 12 ⇑P Pn 23 37 06.8 -0.8
baz=14,SNR=7.6
MNTX Cornudas Mount 13.94 352 ePn Pn 23 37 10.3 +0.7
5.8nm,0.9s
MNTX eSn Sn 23 39 39.2 -3.9
230A Sterling City 14.07 7 ⇓P Pn 23 37 11.8 +0.3
baz=14,SNR=5.5
227A Bennet, Jal 14.09 359 ⇑P Pn 23 37 13.2 +1.5
baz=14
226B Tecolote Peak, 14.19 356 ⇑P Pn 23 37 13.6 +0.5
baz=14
228A UT Block 9, Go 14.20 1 ⇓P Pn 23 37 13.2 0.0
baz=14
231A Bronte 14.22 9 ⇓P Pn 23 37 13.5 0.0
baz=14,SNR=8.4
225A Deer Hill, Car 14.28 354 ⇑P Pn 23 37 15.2 +0.8
baz=14
232A Coleman 14.29 12 ⇓P Pn 23 37 13.8 -0.7
baz=14,SNR=14
320A Kipp Ranch, An 14.31 341 ⇑P Pn 23 37 16.0 +1.2
baz=14
224A Cornudas Mount 14.33 351 ⇑P Pn 23 37 15.6 +0.5
baz=14,SNR=5.7
319A Douglas 14.60 338 ⇑P Pn 23 37 19.8 +1.1
baz=15
222A Williams Famil 14.65 346 ⇑P Pn 23 37 20.1 +0.7
baz=15
128A Castleberry Fa 14.70 2 ⇑P Pn 23 37 19.1 -0.9
baz=15,SNR=24
129A Stewart Farms, 14.74 4 ⇑P Pn 23 37 20.7 +0.2
baz=15,SNR=5.3
126A Clayton Basin, 14.74 357 ⇑P Pn 23 37 21.5 +0.9
baz=15
127A Arkansas Junct 14.75 359 ⇓P Pn 23 37 21.2 +0.5
baz=15
130A Snyder 14.79 7 ⇓P Pn 23 37 21.3 +0.2
baz=15,SNR=16
125A Gardner Draw, 14.80 355 ⇑P Pn 23 37 22.2 +0.8
baz=15
220A Playas Peak, P 14.84 341 ⇓P Pn 23 37 22.5 +0.6
baz=15,SNR=11
124A Stringfield Ra 14.93 352 ⇑P Pn 23 37 23.7 +0.5
baz=15,SNR=13
131A Roby 14.94 9 ⇑P Pn 23 37 22.2 -0.9
baz=15,SNR=14
WHTX Lake Whitney 14.94 19 ePn Pn 23 37 25.0 +2.0
WHTX Lake Whitney 14.94 19 ⇓P Pn 23 37 23.2 +0.1
baz=15,SNR=5.8
ABTX Abilene, Hawle 15.01 11 ePn Pn 23 37 23.5 -0.5
ABTX eSn Sn 23 40 13.7 +4.5
ABTX Abilene, Hawle 15.01 11 ⇑P Pn 23 37 23.0 -1.1
baz=15
121A Cookes Peak, D 15.22 345 ⇓P Pn 23 37 27.3 +0.2
baz=15,SNR=6.9
Z26A Caprock 15.37 357 ⇓P Pn 23 37 27.3 -1.5
baz=16,SNR=7.8
Z28A Tucker Farm, M 15.37 2 ⇑P Pn 23 37 27.9 -0.9
baz=16
Z29A Hungry Hill Ra 15.38 4 ⇓P Pn 23 37 28.8 -0.1
baz=16,SNR=21
Z27A Tatum 15.39 359 ⇓P Pn 23 37 27.5 -1.5
baz=16,SNR=12
Z25A Roswell 15.43 355 ⇑P Pn 23 37 28.6 -1.0
baz=16
Z30A Sanderson Ranc 15.45 6 ⇑P Pn 23 37 28.6 -1.2
baz=16,SNR=27
120A U Bar Ranch, L 15.47 342 ⇓P Pn 23 37 30.1 -0.1
baz=16
Z24A Sheeppen Canyo 15.54 353 ⇑P Pn 23 37 30.5 -0.7
baz=16
Z23A Rita Site, Whi 15.60 350 ⇑P Pn 23 37 30.9 -1.0
baz=16
Z31A Sharp Cattle R 15.60 9 ⇓P Pn 23 37 29.6 -2.2
baz=16,SNR=32
TGUH Tegucigalpa,Un 15.61 102 ePn Pn 23 37 33.2 +1.2
51nm,1.5s
Z32A Haskell 15.70 11 ⇑P Pn 23 37 31.1 -2.0
baz=16,SNR=12
Z22A Elephant Butte 15.73 348 ⇓P Pn 23 37 32.2 -1.3
baz=16
NATX Nacogdoches 15.77 27 ePn P 23 37 35.7 -1.6
90nm,1.1s
Z21A St. Cloud Mine 15.94 346 ⇓P Pn 23 37 34.0 -2.3
baz=16,SNR=6.2
Y27A Causey 15.95 360 ⇓P Pn 23 37 33.9 -2.5
baz=16,SNR=13
Y29A Porterfield Fa 15.97 4 ⇓P Pn 23 37 33.7 -2.9
baz=16,SNR=25
Z20A Nine Sixteen R 15.99 343 ⇑P Pn 23 37 36.5 -0.4
baz=16
Y28A McKinney Farm, 15.99 2 ⇓P Pn 23 37 34.0 -2.8
baz=16,SNR=5.9
TUC Tucson 16.00 335 ePn Pn 23 37 37.5 +0.5
6.3nm,0.9s
Y26A Elida 16.01 358 ⇑P Pn 23 37 35.5 -1.6
baz=16
MSTX Muleshoe 16.04 1 ePn Pn 23 37 35.9 -1.6
MSTX Muleshoe 16.04 1 ⇓P Pn 23 37 34.8 -2.6
baz=16,SNR=7.9
Y30A Stafford Cattl 16.06 6 ⇓P Pn 23 37 35.4 -2.3
baz=16
Y25A Mesa, Roswell 16.06 355 ⇑P Pn 23 37 37.6 -0.2
baz=16
Y24A Capitan 16.14 353 ⇓P Pn 23 37 39.0 +0.1
baz=16,SNR=12
Y31A Rekieta Farm, 16.22 8 ⇑P Pn 23 37 38.5 -1.1
baz=16,SNR=20
Y23A Lovelace Mesa, 16.23 351 ⇓P Pn 23 37 39.4 -0.5
baz=16,SNR=15
Y32A R-V Farms, Ver 16.39 11 ⇓P Pn 23 37 40.3 -1.5
baz=17,SNR=6.2
Y22A Socorro 16.39 348 ⇑P Pn 23 37 42.2 +0.2
baz=17
BNM Barren Site 16.54 349 ePn P 23 37 45.2 -0.8
12nm,1.1s
X29A Tulia 16.55 4 ⇓P Pn 23 37 43.1 -0.8
baz=17
214A Organ Pipe Nat 16.59 330 ⇑P P 23 37 46.2 -0.2
baz=17
X28A Dimmitt 16.60 2 ⇓P Pn 23 37 44.0 -0.6
baz=17
Y21A Point of Rocks 16.61 346 ⇓P Pn 23 37 45.3 +0.4
baz=17
LENM Lemitar 16.61 348 ePn P 23 37 46.3 -0.6
7.3nm,0.9s
X30A Coker Ranch, T 16.62 6 ⇑P Pn 23 37 44.2 -0.6
baz=17
X26A CR and CF Fran 16.63 358 ⇓P Pn 23 37 43.9 -1.1
baz=17,SNR=9.6
Y20A Horse Springs, 16.68 344 ⇑P Pn 23 37 46.6 +0.9
baz=17
X27A F and S Farms, 16.71 360 ⇑P Pn 23 37 46.5 +0.5
baz=17
X24A Lazy VL Ranch, 16.77 353 ⇑P Pn 23 37 47.3 +0.4
baz=17
X23A Hourglass Bar 16.89 351 ⇑P Pn 23 37 48.1 -0.2
baz=17
X31A McDonald Ranch 16.92 9 ⇓P Pn 23 37 46.3 -2.2
baz=17,SNR=6.1
AMTX Amarillo 16.99 4 ⇑P Pn 23 37 48.6 -0.9
baz=17
X21A Alamocita Cree 17.05 346 ⇑P Pn 23 37 50.9 +0.5
baz=17
W27A Bowe Ranch, En 17.13 360 ⇓P Pn 23 37 50.6 -0.6
baz=17
W26A Owens Ranch, T 17.17 358 ⇓P Pn 23 37 51.5 -0.2
baz=17
W29A Amarillo 17.23 4 ⇓P Pn 23 37 52.1 -0.3
baz=17
ANMO Albuquerque 17.29 350 ePn P 23 37 53.9 -0.5
9.1nm,1.0s
ANMO Lg Lg 23 42 50.9
ANMO Albuquerque 17.29 350 P Pn 23 37 52.7 -0.5
0.1nm,0.3s,baz=158,slow=14,SNR=9.3
ANMO Lg Lg 23 42 50.9
0.1nm,0.3s,baz=49,slow=20,SNR=2.1
ANMO LR LR 23 45 07.8
comp=Z,2µm,18.9s,baz=7.5,slow=40
W25A X Bar L Ranch, 17.33 356 ⇑P Pn 23 37 53.7 0.0
baz=18
W28A Vega 17.34 2 ⇓P Pn 23 37 53.5 -0.3
baz=18
W24A Lazy 6 Ranch, 17.41 353 ⇑P Pn 23 37 54.1 -0.6
baz=18,SNR=21
W23A Werner Place, 17.45 351 ⇑P Pn 23 37 54.6 -0.7
baz=18
W31A Holland Ranch, 17.47 8 ⇑P Pn 23 37 54.6 -0.8
baz=18
W22A Albuquerque 17.48 349 ⇓P P 23 37 56.6 +0.2
baz=18
W21A San Fidel 17.67 347 ⇓P P 23 37 58.7 +0.1
baz=18
X18A Snowflake 17.71 341 ⇓P Pn 23 37 58.6 +0.1
baz=18
113A Mohawk Valley, 17.72 329 ⇑P P 23 37 59.8 +0.9
baz=18
Z14A Wintersburg 17.82 332 ⇓P P 23 38 01.5 +1.5
baz=18
V27A Dan Oppiter Fa 17.82 0 ⇑P P 23 38 00.1 -0.1
baz=18
V28A Channing 17.83 2 ⇓P Pn 23 37 59.6 -0.3
baz=18
W20A Ramah 17.87 345 ⇑P P 23 38 00.7 -0.2
baz=18,SNR=6.4
V26A Texsquite Ra 17.87 358 ⇓P Pn 23 37 58.3 -2.1
baz=18,SNR=5.9
V24A Rampart Ranch, 17.90 354 ⇑P Pn 23 38 00.6 -0.3
baz=18,SNR=15
V25A Rancho No Teng 17.96 356 ⇓P Pn 23 38 01.0 -0.5
baz=18
V29A Stinnett 17.99 4 ⇓P Pn 23 38 01.2 -0.6
baz=18
V23A Ortiz Mt. (NFS 18.03 352 ⇓P P 23 38 02.5 -0.1
baz=18,SNR=9.1
V31A Spring Creek L 18.06 8 ⇑P Pn 23 38 01.0 -1.6
baz=18,SNR=9.8
X16A Lo Mia Camp, P 18.12 337 ⇑P P 23 38 04.2 +0.7
baz=18
V22A San Miguel Ran 18.30 350 ⇓P P 23 38 05.5 -0.1
baz=18,SNR=5.7
U28A Mallet 18.45 2 ⇑P P 23 38 07.2 +0.1
baz=19
U26A Atchley Ranch, 18.47 358 ⇓P P 23 38 07.0 -0.4
baz=19
GLA Glamis 18.48 327 ⇑P Pn 23 38 09.0 +1.2
baz=19
U27A Thompson Grove 18.48 1 ⇑P P 23 38 06.5 -1.0
baz=19,SNR=6.3
U25A Circle Dot Ran 18.50 356 ⇑P P 23 38 07.3 -0.4
baz=19,SNR=9.2
V20A Brimhall 18.50 346 ⇓P Pn 23 38 08.9 +0.7
baz=19
U23A El Rito 18.60 352 ⇑P P 23 38 08.5 -0.4
baz=19,SNR=6.7
MIAR Mount Ida 18.63 25 eP P 23 38 06.1 -2.8
27nm,1.3s
U30A WK&E Inc. Balk 18.71 6 ⇑P P 23 38 09.8 -0.1
baz=19
U22A Llaves 18.75 350 ⇓P Pn 23 38 11.5 +0.3
baz=19
Y12C Blythe 18.88 329 ⇓P Pn 23 38 12.7 +0.2
baz=19
SWSC Sam W. Stewart 18.91 325 ⇑P Pn 23 38 13.9 +1.1
baz=19
U21A Nageezi 18.94 348 ⇓P Pn 23 38 14.4 +0.9
baz=19,SNR=18
JTS JuntasAbangare 19.07 111 LR LR 23 44 41.8
comp=Z,151nm,19.4s,baz=121,slow=35
U20A Newcomb 19.07 346 ⇑P Pn 23 38 15.3 +0.3
baz=19
TUL1 Tulsa 19.08 18 eP P 23 38 11.2 -2.6
TUL1 Tulsa 19.08 18 P P 23 38 11.9 -2.0
baz=19,SNR=11
WUAZ Wupatki 19.08 339 eP Pn 23 38 15.9 +0.8
20nm,0.8s
WUAZ Wupatki 19.08 339 ⇑P Pn 23 38 15.8 +0.7
baz=19,SNR=17
T27A Campo 19.12 1 ⇓P P 23 38 14.0 -0.5
baz=19,SNR=5.9
MONP Monument Peak 19.21 324 ⇓P Pn 23 38 17.5 +0.7
baz=19
T24B San Luis 19.24 354 ⇑P P 23 38 16.1 +0.2
baz=19
T25A Trinidad 19.24 357 ⇓P P 23 38 15.7 -0.1
baz=19
T30A Plains 19.24 6 ⇑P P 23 38 15.9 +0.2
baz=19
T26A Comanche Natio 19.24 359 ⇑P P 23 38 16.0 +0.2
baz=19,SNR=6.7
T29A Hugoton 19.28 4 ⇑P P 23 38 16.2 +0.1
baz=20
UALR University of 19.35 27 eP Pn 23 38 18.4 +0.3
31nm,1.0s
T22A Edith 19.38 351 ⇑P Pn 23 38 18.1 -0.6
baz=20,SNR=5.8
T31A Randall Ranch, 19.38 8 P P 23 38 16.5 -0.7
baz=20,SNR=8.8
T21A Navajo Lake 19.46 349 ⇓P Pn 23 38 19.8 +0.1
baz=20
T32A Huddler Ranch, 19.58 10 ⇓P P 23 38 19.0 -0.4
baz=20
T33A Patterson Ranc 19.60 11 ⇑P P 23 38 17.9 -1.6
baz=20,SNR=6.7
S28A Manter 19.68 3 ⇑P P 23 38 20.4 -0.1
baz=20
S27A Las Animas 19.74 0 ⇓P P 23 38 21.0 -0.3
baz=20
S29A Ulysses 19.75 4 ⇓P P 23 38 21.5 +0.2
baz=20
PFO Pinyon Flat Ob 19.77 325 ⇓P Pn 23 38 23.5 +0.2
baz=20
PFO Pinyon Flat Ob 19.77 325 P Pn 23 38 23.7 +0.4
0.2nm,0.3s,baz=173,slow=6.5,SNR=4.8
PFO LR LR 23 45 51.7
comp=Z,486nm,18.6s,baz=318,slow=36
S24A Houchin Ranch, 19.80 355 ⇑P P 23 38 20.7 -1.3
baz=20,SNR=16
BELC Belle Mtn. Jos 19.83 327 ⇓P Pn 23 38 23.5 -0.4
baz=20
S30A Montezuma 19.83 6 ⇓P P 23 38 21.3 -0.8
baz=20
MVCO Mesa Verde 19.86 347 eP Pn 23 38 23.8 -0.7
25nm,1.0s
MVCO Mesa Verde 19.86 347 ⇓P P 23 38 23.5 +0.8
baz=20,SNR=9.1
S31A Mullinville 19.92 8 ⇓P P 23 38 21.5 -1.7
baz=20,SNR=6.8
SDCO Great Sand Dun 19.93 354 eP Pn 23 38 24.5 -0.8
17nm,1.0s
S32A Newby Ranch, P 20.08 9 ⇓P P 23 38 24.1 -0.7
baz=20
S22A 4UR Ranch, Cre 20.09 351 ⇓P P 23 38 25.5 +0.3
baz=20
S21A Coal Bank Pass 20.16 349 ⇓P P 23 38 26.0 0.0
baz=20,SNR=19
MURC Murrieta 20.18 324 ⇓P P 23 38 26.6 +0.7
baz=20
U15A North Rim 20.22 338 ⇓P P 23 38 26.6 -0.1
baz=20,SNR=11
R25A Fountain Ranch 20.24 357 ⇑P P 23 38 25.8 -0.8
baz=20
GMRC Granite Mounta 20.27 329 ⇑P Pn 23 38 28.2 -1.0
baz=20
R27A Eads 20.35 1 ⇓P P 23 38 26.4 -1.4
baz=20,SNR=14
R26A Arlington 20.36 359 ⇑P P 23 38 26.7 -1.3
baz=21,SNR=6.0
R23A Moffat 20.40 354 ⇑P P 23 38 27.7 -0.8
baz=21
R28A Tribune 20.43 3 ⇓P P 23 38 27.3 -1.4
baz=21,SNR=8.7
S20A Disappointment 20.43 348 ⇑P P 23 38 29.1 +0.2
baz=21
R30A Dighton 20.48 6 ⇑P P 23 38 28.5 -0.7
baz=21
R29A Marienthal 20.55 4 ⇓P P 23 38 30.5 +0.5
baz=21
OXF Oxford 20.55 34 eP P 23 38 26.4 -3.5
72nm,1.0s
HEC Hector,Ludlow 20.64 328 ⇓P P 23 38 31.5 +0.5
baz=21
PV01 Paradox Valley 20.77 348 eP P 23 38 33.3 +0.8
672nm,1.0s
R20A Redvale 20.78 348 ⇑P P 23 38 31.6 -1.0
baz=21,SNR=11
R21A Cimarron 20.81 350 ⇑P P 23 38 33.3 +0.4
baz=21
LRAL Lakeview Retre 20.87 41 eP P 23 38 30.4 -3.1
9.8nm,0.6s
BFSC Mount Baldy Ra 20.91 324 ⇓P P 23 38 35.0 +1.1
baz=21
Q25A Bedland, Calha 21.00 357 ⇑P P 23 38 34.0 -1.0
baz=21
KSCO Kaye Shedlock' 21.07 1 eP P 23 38 35.1 -0.5
KSCO Kaye Shedlock' 21.07 1 ⇓P P 23 38 34.4 -1.2
baz=21,SNR=7.3
MWC Mount Wilson 21.12 323 eP P 23 38 37.8 +1.5
15nm,1.0s
Q28A Sharon Springs 21.15 3 ⇓P P 23 38 35.3 -1.1
baz=21,SNR=6.9
Q22A Crested Butte, 21.19 352 ⇓P P 23 38 37.1 0.0
baz=21
GSC Goldstone 21.25 327 eP P 23 38 38.2 +0.7
17nm,1.0s
GSC Goldstone 21.25 327 ⇑P P 23 38 38.5 +0.9
baz=21,SNR=7.8
Q21A Lamborn Mesa, 21.27 350 ⇓P P 23 38 38.3 +0.5
baz=21
DECC Green Verdugo 21.29 323 ⇑P P 23 38 40.2 +2.2
baz=21
Q31A Ellis 21.30 8 ⇑P P 23 38 37.4 -0.5
baz=22
Q32A Meitler Ranch, 21.41 10 ⇓P P 23 38 37.7 -1.4
baz=22,SNR=9.2
SHPR Sheep Range 21.44 332 eP P 23 38 40.3 +0.6
7.1nm,1.0s
Q20A Ridgley Place, 21.51 349 ⇓P P 23 38 40.7 +0.4
baz=22
EDW2 Edwards Air Fo 21.56 325 ⇑P P 23 38 42.1 +1.3
baz=22
P23A Jefferson 21.57 354 ⇓P P 23 38 42.6 +1.4
baz=22,SNR=5.6
P27A Ficken Ranch, 21.62 1 ⇓P P 23 38 41.6 +0.2
baz=22
P26A Davis Ranch, A 21.62 359 ⇓P P 23 38 41.6 +0.1
baz=22
P28A Saint Francis 21.66 3 ⇓P P 23 38 41.5 -0.4
baz=22
P29A Atwood 21.73 4 ⇑P P 23 38 41.1 -1.6
baz=22
P30A Selden 21.74 6 ⇓P P 23 38 41.7 -0.9
baz=22
P31A Stockton 21.81 8 ⇑P P 23 38 41.5 -1.9
baz=22
KSU1 Kansas State U 21.88 13 eP P 23 38 41.6 -2.6
49nm,0.9s
P22A Eagle 21.89 352 ⇑P P 23 38 43.9 -0.6
baz=22
ISCO Idaho Springs 21.97 355 eP P 23 38 44.9 -0.6
9.6nm,1.1s
ISCO Idaho Springs 21.97 355 ⇑P P 23 38 44.1 -1.3
baz=22,SNR=5.3
P33A Williams Farm, 21.99 11 ⇑P P 23 38 43.3 -2.0
baz=22
TIGA Tifton 22.19 49 ⇑P P 23 38 42.4 -5.1
baz=22
O25A Wiggins 22.19 358 ⇑P P 23 38 47.4 -0.2
baz=22
O24A Longmont 22.25 356 ⇑P P 23 38 48.4 +0.1
baz=22
O26A Horse Wrangler 22.30 359 ⇓P P 23 38 48.8 0.0
baz=22
ISA Isabella 22.41 325 eP P 23 38 51.1 +1.2

	24nm,1.0s									
ISA	**Isabella**	22.41	325	⇑P		P		23 38 49.9	-0.1	
	baz=22,SNR=10									
O22A	**Kremmling**	22.43	353	⇑P		P		23 38 49.0	-1.4	
	baz=23,SNR=8.6									
WVT	**Waverly**	22.62	33	*e*P		P		23 38 47.9	-4.2	
	12nm,1.0s									
O32A	**Brockman Farm,**	22.69	9	⇑P		P		23 38 51.0	-1.9	
	baz=23,SNR=6.7									
VES	**Vestal, Richgr**	22.87	325	⇑P		P		23 38 56.1	+1.3	
	baz=23									
N24A	**Carr**	22.94	356	⇑P		P		23 38 55.7	+0.1	
	baz=23									
SWET	**Sewanee**	23.01	38	*e*P		P		23 38 51.8	-4.4	
	19nm,1.0s									
N22A	**Wattenberg Ran**	23.05	353	⇑P		P		23 38 56.7	-0.1	
	baz=23									
N23A	**Red Feather La**	23.09	354	⇑P		P		23 38 56.1	-1.1	
	baz=23									
R11A	**Troy Canyon, C**	23.18	334	⇑P		P		23 38 56.6	-1.4	
	baz=23,SNR=5.1									
SIUC	**Southern Illin**	23.19	29	*e*P		P		23 38 55.1	-2.8	
	22nm,0.8s									
M31A	**Lambtecht Ranc**	23.66	8	⇓P		P		23 38 59.2	-3.3	
	baz=24,SNR=5.9									
TPH	**Tonopah**	23.66	331	*e*P		P		23 39 04.0	+1.2	
	22nm,1.3s									
DUG	**Dugway**	23.81	341	*e*P		P		23 39 04.7	+0.6	
	8.5nm,1.1s									
BGNE	**Belgrade**	23.83	9	*e*P		P		23 39 02.8	-1.4	
BGNE	**Belgrade**	23.83	9	⇑P		P		23 39 02.7	-1.4	
	baz=24									
USIN	**University of**	24.12	31	*e*P		P		23 39 02.6	-4.2	
	30nm,0.3s									
NV11	**Mina Array Sit**	24.39	330	*e*P		P		23 39 10.5	+1.1	
NVAR	**Mina Array Bea**	24.45	330	P		P		23 39 11.9	+1.8	
NVAR	**Mina Array Bea**	24.45	330	P		P		23 39 11.9	+1.8	
	6.6nm,0.8s,baz=159,slow=9.3,SNR=26									
L31A	**Butterfield Fa**	24.49	8	⇑P		P		23 39 07.8	-2.4	
	baz=25									
OLIL	**Olney**	24.53	29	*e*P		P		23 39 08.1	-2.4	
	47nm,1.0s									
TKL	**Tuckaleechee C**	24.61	40	P		P		23 39 07.8	-3.5	
TKL	**Tuckaleechee C**	24.61	40	P		P		23 39 07.8	-3.5	
	7.8nm,0.8s,baz=188,slow=8.2,SNR=11									
TKL					LR	LR		23 51 07.6		
	comp=Z,226nm,19.2s,baz=116,slow=43									
K22A	**Casper**	24.89	354	⇑P		P		23 39 12.2	-1.7	
	baz=25									
K23A	**Bowen Ranch, D**	24.91	355	⇑P		P		23 39 12.4	-1.7	
	baz=25									
K21A	**Alcova**	24.95	353	⇓P		P		23 39 12.2	-2.3	
	baz=25,SNR=5.3									
WCI	**Wyandotte Cave**	25.01	32	*e*P		P		23 39 11.9	-3.0	
	31nm,0.8s									
WAKR	**Walker**	25.07	328	*e*P		P		23 39 16.7	+1.1	
	20nm,1.1s									
ELK	**Elko**	25.11	338	*e*P		P		23 39 16.1	0.0	
	6.6nm,1.0s									
ELK	**Elko**	25.11	338	P		P		23 39 16.9	+0.8	
	6.2nm,1.0s,baz=176,slow=5.6,SNR=16									
J27A	**Elkhorn Farm,**	25.32	2	⇑P		P		23 39 15.9	-1.9	
	baz=26									
J26A	**Sides Ranch, S**	25.37	360	⇑P		P		23 39 17.3	-0.9	
	baz=26									
SCIA	**State Center**	25.39	17	*e*P		P		23 39 16.8	-1.4	
	32nm,0.7s									
PDAR	**Pinedale Array**	25.44	349	P		P		23 39 18.1	-0.9	
PDAR					PcP	PcP		23 42 51.6	+1.2	
PDAR	**Pinedale Array**	25.44	349	P		P		23 39 18.1	-0.9	
	2.7nm,0.8s,baz=144,slow=11,SNR=14									
PDAR					PcP	PcP		23 42 51.6	+1.2	
	1.1nm,0.7s,baz=127,slow=3.9,SNR=3.6									
PDAR					LR	LR		23 51 01.9		
	comp=Z,441nm,18.8s,baz=5.8,slow=41									
J28A	**Allard Ranch,**	25.52	3	⇑P		P		23 39 17.1	-2.5	
	baz=26,SNR=6.6									
J30A	**Dallas**	25.55	6	⇑P		P		23 39 17.6	-2.2	
	baz=26,SNR=5.2									
J29A	**Okreek**	25.56	5	⇓P		P		23 39 18.2	-1.7	
	baz=26									
BMN	**Battle Mountai**	25.61	334	*e*P		P		23 39 21.3	+0.8	
	25nm,1.3s									
J22A	**Midwest**	25.64	354	⇓P		P		23 39 18.9	-1.7	
	baz=26,SNR=6.5									
J19A	**Crowheart**	25.83	350	⇓P		P		23 39 21.3	-1.2	
	baz=26									
KMSC	**Kings Mountain**	25.84	44	⇑P		P		23 39 18.4	-4.1	
	baz=26									
I22A	**9 Mile Ranch,**	26.11	354	⇑P		P		23 39 24.0	-1.0	
	baz=26									
I21A	**Big Trails, Te**	26.12	353	⇑P		P		23 39 24.1	-1.0	
	baz=26									
I27A	**Quinn**	26.14	2	⇑P		P		23 39 24.2	-0.9	
	baz=26									
I29A	**Vivian Onida**	26.18	4	⇓P		P		23 39 24.1	-1.4	
	baz=26									
ECSD	**EROS Data Cent**	26.35	11	*e*P		P		23 39 25.2	-1.8	
	9.2nm,0.8s									
I20A	**Worland**	26.36	352	⇑P		P		23 39 26.0	-1.2	
	baz=26,SNR=8.6									
I19A	**Meeteetse**	26.57	350	⇓P		P		23 39 28.7	-0.5	
	baz=27									
H28A	**Mission Ridge**	26.78	3	⇓P		P		23 39 29.6	-1.3	
	baz=27									
H29A	**Onida**	26.78	4	⇑P		P		23 39 29.4	-1.5	
	baz=27									
H20A	**Greybull**	26.87	352	⇑P		P		23 39 31.1	-0.6	
	baz=27									
H21A	**Big Horn, Sher**	26.89	354	⇓P		P		23 39 31.3	-0.7	
	baz=27									
H18A	**Shoshone NF, C**	27.31	350	⇓P		P		23 39 35.2	-0.7	
	baz=28									
G26A	**Maurine**	27.35	1	⇓P		P		23 39 35.2	-0.8	
	baz=28									
HLID	**Hailey**	27.37	342	⇑P		P		23 39 36.6	+0.2	
	baz=28									
G30A	**Faulkton**	27.38	6	⇑P		P		23 39 34.0	-2.2	
	baz=28,SNR=12									
G22A	**Birney**	27.41	355	⇓P		P		23 39 35.1	-1.5	
	baz=28,SNR=6.6									
G27A	**Dupree**	27.43	0	⇓P		P		23 39 35.1	-1.6	
	baz=28									
G21A	**Lodge Grass**	27.50	354	⇑P		P		23 39 36.9	-0.6	
	baz=28									
G20A	**Bridger**	27.62	352	⇑P		P		23 39 37.7	-0.8	
	baz=28									
WVOR	**Wild Horse Val**	27.87	335	*e*P		P		23 39 41.6	+0.9	
	15nm,0.9s									
F24A	**Ekalaka**	27.92	358	⇓P		P		23 39 40.2	-1.0	
	baz=28									
F27A	**Lemmon**	27.94	1	⇓P		P		23 39 40.4	-0.9	
	baz=28									
F25A	**Bowman**	27.98	359	⇑P		P		23 39 41.0	-0.7	
	baz=28									
F29A	**Eureka**	28.01	5	⇓P		P		23 39 40.8	-1.2	
	baz=28									
F20A	**Billings**	28.18	352	⇑P		P		23 39 42.7	-0.8	
	baz=28									
E29A	**Napoleon**	28.76	5	⇑P		P		23 39 47.1	-1.4	
	baz=29									
E30A	**Jud**	28.76	6	⇑P		P		23 39 46.8	-1.7	
	baz=29									
E20A	**Meyer Farm, Mu**	28.87	353	⇓P		P		23 39 48.7	-0.9	
	baz=29									
E19A	**Rath Farm, Rou**	28.91	352	⇑P		P		23 39 49.3	-0.6	
	baz=29									
D26A	**Manning**	29.09	1	⇑P		P		23 39 51.0	-0.5	
	baz=29									
YBH	**Yreka Blue Hor**	29.15	329	LR		LR		23 53 16.8		
	comp=Z,149nm,21.8s,baz=332,slow=40									
D29A	**Pettibone, Tap**	29.25	5	⇓P		P		23 39 51.6	-1.3	
	baz=30									
D22A	**Cohagen**	29.32	356	⇓P		P		23 39 52.7	-0.9	
	baz=30									
D30A	**Buchanan**	29.37	6	⇓P		P		23 39 52.0	-2.0	
	baz=30,SNR=10									
D20A	**Manuel Ranch,**	29.45	353	⇑P		P		23 39 53.7	-1.0	
	baz=30,SNR=7.2									
D19A	**Cripps Ranch,**	29.61	352	⇑P		P		23 39 55.2	-1.0	
	baz=30,SNR=9.4									
C26A	**Wahner Farm, P**	29.89	1	⇓P		P		23 39 57.4	-1.1	
	baz=30									
C22A	**Vida**	29.89	356	⇑P		P		23 39 58.0	-0.7	
	baz=30									
C23A	**Lambert**	29.91	357	⇑P		P		23 39 58.1	-0.7	
	baz=30									
C30A	**Mose, Pekin**	29.99	6	⇓P		P		23 39 57.3	-2.1	
	baz=30,SNR=9.5									
C20A	**Veseth Ranch,**	30.05	353	⇓P		P		23 39 59.3	-0.7	
	baz=30									
CHMT	**Chamberlain Mo**	30.17	346	*e*P		P		23 40 01.1	-0.3	
	1.2nm,0.8s									
C19A	**Slack Wire Ran**	30.20	352	⇓P		P		23 40 00.8	-0.5	
	baz=30									
EGMT	**Eagleton**	30.58	351	*e*P		P		23 40 04.5	-0.2	
	7.1nm,0.8s									
EGMT	**Eagleton**	30.58	351	⇑P		P		23 40 04.3	-0.4	
	baz=31									
B30A	**Myrvik Farm, E**	30.75	6	⇑P		P		23 40 05.3	-0.8	
	baz=31									
B19A	**Brinkman Farms**	30.89	352	⇑P		P		23 40 06.9	-0.5	
	baz=31									
AGMN	**Agassiz Nation**	30.91	9	*e*P		P		23 40 05.3	-2.2	
	34nm,0.8s									
A22A	**Carney Farms,**	31.14	356	⇑P		P		23 40 09.1	-0.5	
	baz=31									
TRW	**Toppenish Ridg**	31.85	337	P		P		23 40 18.4	+2.5	
ASR	**Mount Adams--S**	32.14	335	P		P		23 40 20.6	+2.1	
NEW	**Newport**	32.43	342	*e*P		P		23 40 20.7	-0.2	
NEW					PcP	PcP		23 43 08.5	+0.9	
NEW	**Newport**	32.43	342	P		P		23 40 20.8	-0.2	
	0.6nm,0.3s,baz=221,slow=19,SNR=4.1									
NEW					PcP	PcP		23 43 08.5	+0.9	
	1.5nm,0.6s,baz=217,slow=20,SNR=4.2									
FL2	**Flat Top 2**	32.48	335	P		P		23 40 23.0	+1.5	
WPW	**White Pass**	32.57	336	P		P		23 40 23.6	+1.3	
LON	**Longmire**	32.71	336	P		P		23 40 24.9	+1.4	
ULM	**Lac du Bonnet**	32.81	8	P		P		23 40 21.2	-3.0	
ULM	**Lac du Bonnet**	32.81	8	P		P		23 40 21.2	-3.0	
	13nm,1.0s,baz=194,slow=9.6,SNR=12									
ULM					LR	LR		23 54 41.2		
	comp=Z,367nm,19.4s,baz=45,slow=38									
WTV	**Waterville**	32.83	339	P		P		23 40 26.0	+1.5	
FFC	**Flin Flon**	36.80	1	*e*P		P		23 40 56.7	-1.8	
	38nm,1.3s									
DLBC	**Dease Lake**	45.12	340	*e*P		P		23 42 09.0	+1.9	
DLBC	**Dease Lake**	45.12	340	P		P		23 42 08.0	+1.0	
	7.2nm,0.7s,baz=162,slow=7.0,SNR=10									
YKA	**Yellowknife Ar**	45.31	352	P		P		23 42 06.5	-1.9	
YKA	**Yellowknife Ar**	45.31	352	P		P		23 42 06.5	-1.9	
	6.9nm,0.9s,baz=162,slow=7.6,SNR=9.1									
SCHQ	**Schefferville**	46.10	28	P		P		23 42 12.4	-2.4	
	17nm,0.9s,baz=237,slow=2.4,SNR=6.9									
SAML	**Samuel**	47.52	121	*e*P		P		23 42 25.8	-0.6	
	8.7nm,1.3s									
DAWY	**Dawson**	52.33	341	*e*P		P		23 43 02.8	+0.5	
EGAK	**Eagle**	53.38	341	*e*P		P		23 43 10.8	+0.8	
	12nm,0.9s									
INK	**Inuvik**	53.97	347	*e*P		P		23 43 14.4	+0.1	
INK	**Inuvik**	53.97	347	P		P		23 43 14.3	+0.1	
	12nm,0.8s,baz=135,slow=7.3,SNR=32									
RSO	**Redoubt South**	55.26	333	*e*P		P		23 43 25.1	+1.1	
	54nm,0.9s									
ILAR	**Eielson Array**	55.27	339	P		P		23 43 24.4	+0.7	
ILAR					PcP	PcP		23 44 25.3	+1.2	
ILAR	**Eielson Array**	55.27	339	P		P		23 43 24.4	+0.7	
	11nm,0.9s,baz=147,slow=5.5,SNR=84									
ILAR					PcP	PcP		23 44 25.3	+1.2	
	1.2nm,0.7s,baz=151,slow=2.7,SNR=6.5									
MCK	**McKinley**	55.40	337	*e*P		P		23 43 25.6	+0.9	
	12nm,1.0s									
COLA	**College**	55.66	339	*e*P		P		23 43 27.6	+1.1	
	38nm,0.9s									
TRF	**Thorofare Moun**	55.75	336	*e*P		P		23 43 28.2	+0.8	
	27nm,0.9s									
H03N2	**Juan Fernandez**	55.96	156	T		T		00 44 01.7		
	baz=332,slow=0.7,SNR=122									
H03N1	**Juan Fernandez**	55.97	156	T		T		00 43 58.9		
	baz=332,slow=0.7,SNR=82									
H03N3	**Juan Fernandez**	55.98	156	T		T		00 44 03.0		
	baz=332,slow=0.7,SNR=102									
BPAW	**Bear Paw Mtn.**	56.36	337	*e*P		P		23 43 31.8	+0.2	
	9.8nm,1.0s									
COLD	**Coldfoot**	57.80	340	*e*P		P		23 43 43.4	+1.7	
	12nm,0.9s									
IM04	**Indian Mountai**	58.34	338	*e*P		P		23 43 45.6	+0.1	
IMA2	**Indian Mountai**	58.35	338	*e*P		P		23 43 45.4	-0.3	
SUMG	**Summit**	65.55	17	*i* P		P		23 44 33.3	-1.0	
	9.8nm,1.0s									
SPITS	**Spitsbergen Ar**	78.35	11	P		P		23 45 51.3	+0.9	
SPITS	**Spitsbergen Ar**	78.35	11	P		P		23 45 51.3	+0.9	
	9.5nm,0.9s,baz=276,slow=1.6,SNR=5.4									
EKA	**Eskdalemuir Ar**	80.97	35	P		P		23 46 05.1	+0.1	
EKA	**Eskdalemuir Ar**	80.97	35	P		P		23 46 05.1	+0.1	
	7.8nm,0.9s,baz=303,slow=4.7,SNR=15									
PCAS	**Casmilo, Conde**	82.08	51	*e*P		P		23 46 12.3	+1.0	
	34nm,1.9s									
PMTG	**Montargil**	82.56	51	*e*P		P		23 46 14.8	+1.0	
	21nm,1.5s									
PTEO	**Sao Teotonio**	82.63	53	*e*P		P		23 46 15.9	+1.8	
	57nm,1.6s									
MTE	**Manteigas**	82.68	50	*e*P		P		23 46 15.3	+0.8	
	33nm,1.7s									
EVOP	**Sao Brissos**	82.80	52	*e*P		P		23 46 15.5	+0.5	
	21nm,1.0s									
EVO	**Evora**	82.88	52	*e*P		P		23 46 15.5	+0.1	
	21nm,1.0s									
PMRV	**Marv??o**	83.08	51	*e*P		P		23 46 17.4	+0.9	
	22nm,1.6s									
PCVE	**Castro Verde**	83.12	53	*e*P		P		23 46 17.9	+1.2	
	26nm,1.9s									
QUIF	**Quistinic**	83.34	42	*e*P		P		23 46 14.7	-2.9	
SGMF	**Saint Gilles**	83.61	41	*e*P		P		23 46 15.7	-3.3	
GRR	**Gorron**	84.63	41	*e*P		P		23 46 25.5	+1.3	
	12nm,0.8s									
GRR	**Gorron**	84.63	41	*e*P		P		23 46 25.5	+1.3	
	12nm,0.8s									
FLN	**La Foliniere**	84.73	40	*e*P		P		23 46 26.1	+1.4	
	48nm,1.1s,baz=287									
FLN	**La Foliniere**	84.73	40	*e*P		P		23 46 26.1	+1.4	
	48nm,1.1s									
LDF	**La Druitiere**	85.02	41	*e*P		P		23 46 27.5	+1.4	
	13nm,0.9s									
LDF	**La Druitiere**	85.02	41	*e*P		P		23 46 27.5	+1.4	
	13nm,0.9s									
ESDC	**Sonseca Array**	85.52	50	P		P		23 46 29.4	+0.5	
ESDC	**Sonseca Array**	85.52	50	P		P		23 46 29.4	+0.5	
	2.3nm,0.8s,baz=306,slow=4.8,SNR=16									
ARCES	**ARCESS Array B**	85.59	16	P		P		23 46 29.0	+0.4	
ARCES	**ARCESS Array B**	85.59	16	P		P		23 46 29.0	+0.4	
	2.2nm,0.7s,baz=297,slow=5.3,SNR=4.9									
NB2	**NORSAR Subarra**	85.64	26	P		P		23 46 29.9	+0.9	
	comp=Z,1.6nm,0.8s,baz=303,slow=5.1									
NOA	**NORSAR Array B**	85.64	26	P		P		23 46 29.3	+0.3	
NOA	**NORSAR Array B**	85.64	26	P		P		23 46 29.3	+0.3	
	comp=Z,3.0nm,0.8s,baz=302,slow=4.8,SNR=8.8									
MFF	**Saint Martin d**	85.73	42	*e*P		P		23 46 30.9	+1.2	
	comp=Z,7.1nm,0.9s									
MFF	**Saint Martin d**	85.73	42	*e*P		P		23 46 30.9	+1.2	
	comp=Z,7.1nm,0.9s									
SJPF	**Ste Jean**	86.27	46	*e*P		P		23 46 33.7	+1.2	
SJPF	**Ste Jean**	86.27	46	*e*P		P		23 46 33.7	+1.2	
ETSF	**Etsaut**	86.80	46	*e*P		P		23 46 36.6	+1.4	
	comp=Z,15nm,0.9s									
ETSF	**Etsaut**	86.80	46	*e*P		P		23 46 36.6	+1.4	
	comp=Z,15nm,0.9s									
LFF	**La Frestale**	86.92	44	*e*P		P		23 46 36.1	+0.5	
	comp=Z,16nm,1.0s									
LFF	**La Frestale**	86.92	44	*e*P		P		23 46 36.1	+0.5	
	comp=Z,16nm,1.0s									
BAIF	**Baives**	87.06	38	*e*P		P		23 46 36.5	+0.3	
BAIF	**Baives**	87.06	38	*e*P		P		23 46 36.5	+0.3	
RJF	**Les Rejaudoux**	87.29	43	*e*P		P		23 46 37.5	+0.1	
RJF	**Les Rejaudoux**	87.29	43	*e*P		P		23 46 37.5	+0.1	
MDT	**Midelt**	87.29	57	P		P		23 46 39.0	+1.1	
MDT	**Midelt**	87.29	57	P		P		23 46 39.0	+1.1	
	comp=Z,1.1nm,0.7s,baz=249,slow=8.6,SNR=4.6									
TCF	**Toulx Ste Croi**	87.35	42	*e*P		P		23 46 37.6	-0.1	
TCF	**Toulx Ste Croi**	87.35	42	*e*P		P		23 46 37.6	-0.1	
EPF	**Esparros**	87.37	46	*e*P		P		23 46 39.1	+1.2	
	comp=Z,5.5nm,0.7s									
EPF	**Esparros**	87.37	46	*e*P		P		23 46 39.1	+1.2	
	comp=Z,5.5nm,0.7s									
LOR	**Lormes**	88.00	41	*e*P		P		23 46 40.8	0.0	
LOR	**Lormes**	88.00	41	*e*P		P		23 46 40.8	0.0	
MTLF	**Montolieu**	88.52	45	*e*P		P		23 46 44.6	+1.3	
	comp=Z,12nm,1.3s									
MTLF	**Montolieu**	88.52	45	*e*P		P		23 46 44.6	+1.3	
	comp=Z,12nm,1.3s									
GERES	**GERESS Array B**	93.09	36	P		P		23 47 03.6	-1.0	
GERES	**GERESS Array B**	93.09	36	P		P		23 47 03.6	-1.0	
	comp=Z,0.5nm,0.8s,baz=283,slow=6.6,SNR=3.8									
LIC	**Lamto**	95.67	82	*e*P		P		23 47 17.9	+0.9	
LIC	**Lamto**	95.67	82	*e*P		P		23 47 17.9	+0.9	
WRA	**Warramunga Arr**	125.92	258	PKP		PKPdf		23 52 55.8	+2.6	
WRA	**Warramunga Arr**	125.92	258	PKP		PKPdf		23 52 55.8	+2.6	
	comp=Z,0.1nm,0.3s,baz=79,slow=2.9,SNR=3.7									
CMAR	**Chiang Mai Arr**	137.94	328	PKP		PKPdf		23 53 18.8	+2.8	
CMAR	**Chiang Mai Arr**	137.94	328	PKP		PKPdf		23 53 18.8	+2.8	
	comp=Z,0.5nm,0.4s,baz=9.5,slow=2.2,SNR=5.2									

ISCJB ***28*** *23:56:38.8±0.1, 15°.76S±0°.05×173°.38W±0°.03, h10km, mb5.4/181, MS5.3/196, Error ellipse: s-maj=7.5km s-min=3.6km az=152.2*

IDC ***28*** *23:56:38.5±0.4, 15°.65S×173°.40W, h0km, mb4.9/24, mb1 5.1/24, mb1mx5.1/24, mbtmp4.9/24, MS5.0/33, Ms1 5.0/33, ms1mx4.9/44, Error ellipse: s-maj=15.8km s-min=11.4km az=133.0*

NEIC ***28*** *23:56:40.1±0.1, 15°.79S×173°.39W, h10km, mb5.7/137, MS5.3/138, Error ellipse: s-maj=6.7km s-min=3.6km az=146.0*

BJI ***28*** *23:56:40.7, 14°.94S×172°.88W, h12km, mB5.6/28, mb5.3/23, Ms5.5/34, Ms7 5.3/33*

DJA ***28*** *23:56:41.5±0.3, 16°.5S±°×17°.3W±°, h10km, M5.6/10, mB6.1/4, mb5.5/10, MLv5.7/1, Mw(mB)5.8/4*

MOS ***28*** *23:56:43.8±1.0, 15°.44S×173°.35W, h33km, mb5.8/45, MS5.3/41, Error ellipse: s-maj=12.0km s-min=7.5km az=60.5*

GCMT ***28*** *23:56:44.2±0.1, 15°.64S×173°.18W, h12km, MW5.5, Moment Tensor Solution. s85,c148; s46,c49; Moment tensor: Scale 10^17Nm; Mrr-2.32±.03; Mθθ2.35±.03; Mφφ-0.04±.03; Mrθ0.35±.08; Mθφ0.94±.03; Mφr0.51±.10; Best double couple: M0:2.60000×10^17 NP1:φs241.00000°, δ52.00000°, λ-103.00000°. NP2:φs81.00000°, δ40.00000°, λ-74.00000°. Principal axes: T 2.7300, Plg6.0000°, Azm340.0000°; N -0.3000, Plg10.0000°, Azm249.0000°; P -2.4400, Plg78.0000°, Azm100.0000°; Data Used: II IU IC G CN. Surface waves: sta=112, comp=226, per= 50.*

SZGRF ***28*** *23:56:45.3, 15°.87S×173°.07W, h33km, mb5.4, Tonga Islands*

AUST ***28*** *23:57:40.7±1.9, 16°.78S×175°.90W, h420km±17km, Error ellipse: s-maj=23.5km s-min=17.1km az=79.0*

ISC 28 23:56:41.0±0.4, 15°.75S±0°.06×173°.28W±0°.05, h15km±2km, h14km:pP-P,n1246,σ1§04/1177, mb5.6/179, MS5.2/197, 268C-203D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.34**	**39**	*e*Pn	Pn	23 57 12.2	-6.8
AFI				Sn	Sn	23 57 36.1	-11
AFI				TT		23 59 29.1	
AFI	**Afiamalu**	**2.34**	**39**	Pn	Pn	23 57 11.9	-7.1
	92nm,0.3s,baz=27,slow=3.2,SNR=89						
AFI				Sn	Sn	23 57 36.1	-11
	338nm,0.3s,baz=279,slow=21,SNR=17						
AFI				T	T	23 59 29.1	
	390nm,0.3s,baz=119,slow=23,SNR=4.3						
MSVF	**Nonsavu**	**8.54**	**255**	*e*P	Pn	23 58 52.4	+8.1
MSVF	**Nonsavu**	**8.54**	**255**	*e*Pn	Pn	23 58 52.4	+8.1
MSVF	**Nonsavu**	**8.54**	**255**	Pn	Pn	23 58 54.1	+10
	2μm,1.3s,SNR=14						
KNTN	**Kanton**	**12.99**	**7**	*e*Pn	Pn	23 59 41.0	-4.2
RAR	**Rarotonga**	**13.91**	**115**	*e*Pn	**Pn**	**23 59 55.8**	**-2.0**
RAR				Sn	Sn	00 02 21.5	-11
RAR				TT		00 14 08.2	
RAR	**Rarotonga**	**13.91**	**115**	Pn	**Pn**	**23 59 54.7**	**-3.1**
	2.7nm,0.3s,baz=270,slow=6.1,SNR=17						
RAR				Sn	Sn	00 02 21.5	-11
	2.8nm,0.3s,baz=270,slow=14,SNR=2.8						
RAR				LR	LR	00 04 10.3	
	comp=Z,3μm,21.1s,baz=268,slow=32						
RAR				T	T	00 14 08.2	
	100nm,0.3s,baz=270,slow=2.5,SNR=8.4						
DZM	**Mont Dzumac**	**20.18**	**249**	*e*P	Pn	00 01 16.8	-0.5
	451nm,1.6s						
DZM				*e*S	**S**	**00 05 01.9**	**+0.3**
	1μm,26.1s						
DZM				*e*LQ

comp=Z,1µmcomp=Z,151nm,1.2s
PMG Port Moresby 39.08 274 *e*P **P 00 04 08.4 +0.5**
PMG LR LR
comp=Z,2µm,20.0s
PMG Port Moresby 39.08 274 P **P 00 04 07.5 -0.5**
comp=Z,65nm,1.1s,baz=143,slow=3.6,SNR=10
H11S2 WAKE ISLAND Hy 39.33 329 T T 00 45 33.7
baz=152,slow=0.7,SNR=644
H11S3 WAKE ISLAND Hy 39.34 329 T T 00 45 35.6
baz=152,slow=0.7,SNR=329
H11S1 WAKE ISLAND Hy 39.34 329 T T 00 45 35.9
baz=152,slow=0.7,SNR=292
KIP Kipapa 39.86 22 PFAKE 00 04 30.0 +16
KIP LR LR
comp=Z,1695µm,21.0s
WAKE Wake Island 40.02 330 PFAKE 00 04 30.0 +14
WAKE LR LR
comp=Z,5µm,20.0s
H11N3 WAKE ISLAND Hy 40.27 330 T T 00 46 45.7
baz=152,slow=0.7,SNR=202
H11N1 WAKE ISLAND Hy 40.28 330 T T 00 46 46.0
baz=152,slow=0.7,SNR=180
H11N2 WAKE ISLAND Hy 40.29 330 T T 00 46 47.1
baz=152,slow=0.7,SNR=173
CMSA Cobar Meteorol 40.48 240 ⇓P **P 00 04 17.9 -1.5**
baz=38,SNR=25
MTSU Mount Surprise 40.57 260 ⇓P **P 00 04 20.0 -0.4**
baz=38,SNR=17
QLP Quilpie 40.89 248 P **P 00 04 21.9 -1.0**
baz=38,SNR=5.1
COEN Coen 42.08 266 *e*P **P 00 04 32.8 0.0**
comp=Z,875nm,1.2s
COEN Coen 42.08 266 P **P 00 04 32.9 +0.2**
baz=40,SNR=21
TOO Toolangi 42.34 231 ⇓P **P 00 04 35.9 +1.2**
baz=40,SNR=4.6
TAU Tasmania Unive 43.14 223 PFAKE 00 04 50.0 +9.0
TAU LR LR
comp=Z,6µm,19.0s
MIDW Midway 43.89 355 PFAKE 00 05 00.0 +13
MIDW LR LR
comp=Z,5µm,20.0s
STKA Stephens Creek 43.97 240 *e*P **P 00 04 47.1 -0.8**
STKA Stephens Creek 43.97 240 P **P 00 04 47.2 -0.6**
baz=41,SNR=23
STKA Stephens Creek 43.97 240 P **P 00 04 46.4 -1.4**
comp=Z,45nm,1.1s,baz=88,slow=8.7,SNR=20
HTT Hallett 46.46 239 ⇓P **P 00 05 06.9 -0.9**
baz=44,SNR=8.4
BBOO Buckleboo 48.74 240 *e*P **P 00 05 24.2 -1.2**
comp=Z,499nm,1.0s
BBOO Buckleboo 48.74 240 ⇓P **P 00 05 23.7 -1.7**
baz=46,SNR=11
WRAB Tennant Creek 49.87 257 PFAKE 00 05 50.0 +16
WRAB LR LR
comp=Z,1523µm,21.0s
WRA Warramunga Arr 49.88 257 P **P 00 05 32.0 -2.3**
WRA Warramunga Arr 49.88 257 P **P 00 05 32.0 -2.3**
comp=Z,46nm,1.2s,baz=90,slow=6.9,SNR=65
WRA LR LR 00 25 27.6
comp=Z,1µm,18.2s,baz=90,slow=35
AS31 Alice Springs 50.12 252 *e*P **P 00 05 34.3 -1.7**
ASAR Alice Springs 50.12 252 P **P 00 05 33.9 -2.2**
ASAR Alice Springs 50.12 252 P **P 00 05 33.9 -2.2**
comp=Z,40nm,0.9s,baz=85,slow=8.1,SNR=106
ASAR LR LR 00 25 57.4
comp=Z,752nm,18.6s,baz=84,slow=35
GUMO Guam 50.62 303 PFAKE 00 05 50.0 +10
GUMO LR LR
comp=Z,2µm,21.0s
MTN Manton Dam 53.82 265 P **P 00 06 02.7 -1.1**
baz=51,SNR=5.1
FORT Forrest 55.36 243 *e*P **P 00 06 13.0 -1.8**
comp=Z,236nm,1.7s
KNRA Kununurra 55.63 262 ⇑P **P 00 06 16.7 -0.1**
baz=53,SNR=5.4
FITZ Fitzroy Crossi 58.26 258 *e*P **P 00 06 35.5 0.0**
comp=Z,90nm,1.8s
FITZ Fitzroy Crossi 58.26 258 ⇓P **P 00 06 35.0 -0.4**
baz=56,SNR=5.8
FITZ Fitzroy Crossi 58.26 258 LR LR 00 29 55.1
comp=Z,814nm,20.6s,baz=104,slow=34
DRV Dumont d'Urvil 59.31 200 P P 00 06 34.0 -7.9
DRV S S 00 14 38.0 -12
DRV SS SS 00 18 57.0 +13
DRV L L 00 21 00.0
DRV R 00 24 00.0
SOEI Soe 61.03 267 ⇑P **P 00 06 54.3 -0.5**
baz=58,SNR=6.1
SBA Scott Base 62.91 185 PFAKE 00 07 20.0 +14
SBA LR LR
comp=Z,2µm,19.0s
VNDA Vanda 63.04 186 *e*P **P 00 07 07.4 +0.3**
comp=Z,33nm,0.9s
VNDA Vanda 63.04 186 P **P 00 07 08.2 +1.1**
comp=Z,8.1nm,1.0s,baz=13,slow=7.1,SNR=16
VNDA LR LR 00 29 44.5
comp=Z,801nm,20.3s,baz=18,slow=32
MBWA Marble Bar 63.38 254 *e*P **P 00 07 09.3 -1.1**
comp=Z,54nm,1.1s
MBWA LR LR
comp=Z,1µm,20.0s
KLBR Kellerberrin 64.18 242 ⇑P **P 00 07 14.1 -1.4**
baz=61,SNR=4.7
NWAO Narrogin (SRO) 64.55 241 LR LR 00 35 28.8
comp=Z,863nm,18.5s,baz=87,slow=36
DAV Davao City (W) 64.64 286 PFAKE 00 07 30.0 +11
DAV LR LR
comp=Z,2µm,19.0s
KAPI Kappang 66.50 271 LR LR 00 35 04.8
comp=Z,574nm,21.3s,baz=106,slow=35
ADK Adak 67.41 358 PFAKE 00 07 50.0 +14
ADK LR LR
comp=Z,3µm,20.0s
MJAR Matsushiro Arr 69.28 320 P **P 00 07 47.2 -0.6**
MJAR Matsushiro Arr 69.28 320 P **P 00 07 47.2 -0.6**
comp=Z,0.7nm,0.3s,baz=153,slow=6.2,SNR=3.5
MJAR LR LR 00 31 44.5
comp=Z,2µm,21.8s,baz=105,slow=30
MAJO Matsushiro 69.28 320 PFAKE 00 08 00.0 +12
MAJO LR LR
comp=Z,3µm,22.0s
ERM Erimo 70.12 327 PFAKE 00 08 00.0 +7.2
ERM LR LR
comp=Z,2µm,20.0s
CASY Casey 70.14 205 *e*P **P 00 07 53.7 +1.1**
comp=Z,175nm,2.2s
CASY LR LR
comp=Z,2µm,20.0s
H06S1 SOCORRO T 70.26 63 T T 01 24 24.9
SNR=37
H06E1 SOCORRO T-PHAS 70.31 63 T T 01 24 26.8
SNR=238
MYLDM Lahad Datu 70.64 281 P P 00 08 14.1 +18
SCI San Clemente I 71.27 46 ⇑P **P 00 08 01.6 +1.6**
baz=72
PKM Peak Mountain 71.48 44 ⇑P **P 00 08 02.1 +0.6**
baz=72
SAO San Andreas Ge 71.51 42 *e*P **P 00 08 04.1 +2.7**
SAO pmax pmax
comp=Z,57nm,1.1s
SAO San Andreas Ge 71.51 42 *e*P **P 00 08 04.1 +2.7**
comp=Z,57nm,1.1s
SMMC Simmler 71.60 44 ⇓P **P 00 08 03.1 +1.0**
baz=72
CIS Catalina Islan 71.60 46 ⇓P **P 00 08 02.8 +0.7**
baz=72
FMP Fort Macarthur 71.85 46 ⇑P **P 00 08 04.4 +0.9**
baz=72
OSI Osito Adit 72.06 45 ⇓P **P 00 08 05.8 +0.9**
baz=72
DECC Green Verdugo 72.12 45 ⇓P **P 00 08 06.2 +0.9**
baz=72
JNU Nakatsue 72.12 313 *e*P **P 00 08 06.6 +1.4**
comp=Z,8.3nm,1.0s
JNU Nakatsue 72.12 313 LR LR 00 34 30.5
comp=Z,1µm,20.6s,baz=54,slow=32
KIPM Iron Peak 72.14 38 *e*P **P 00 08 05.8 +0.5**
comp=Z,242nm,1.8s
PASC Pasadena Art C 72.18 46 *e*P **P 00 08 05.9 +0.4**
comp=Z,79nm,1.2s
109C Camp Elliot, M 72.23 47 ⇓P **P 00 08 06.6 +0.8**
baz=72
ARVC Arvin 72.28 44 ⇑P **P 00 08 06.4 +0.3**
baz=73
MWC Mount Wilson 72.30 46 *e*P **P 00 08 07.6 +1.2**
MWC pmax pmax
comp=Z,79nm,1.1s
MWC Mount Wilson 72.30 46 *e*P **P 00 08 07.6 +1.2**
comp=Z,79nm,1.1s
VES Vestal, Richgr 72.51 44 ⇓P **P 00 08 08.3 +0.8**
baz=73,SNR=14
MURC Murrieta 72.55 47 ⇓P **P 00 08 07.9 +0.2**
baz=73
BFSC Mount Baldy Ra 72.58 46 ⇑P **P 00 08 08.9 +0.8**
baz=73,SNR=9.5
KHMM Horse Mountain 72.67 37 *e*P **P 00 08 10.6 +2.1**
comp=Z,92nm,1.1s
RCTC Rector, Farmer 72.68 43 ⇓P **P 00 08 09.5 +1.1**
baz=73
EDW2 Edwards Air Fo 72.71 45 ⇑P **P 00 08 09.3 +0.5**
baz=73,SNR=25
MONP Monument Peak 72.71 48 ⇓P **P 00 08 09.5 +0.5**
baz=73
ISA Isabella 72.82 44 *e*P **P 00 08 10.2 +0.8**
ISA pmax pmax
comp=Z,69nm,1.1s
ISA Isabella 72.82 44 *e*P **P 00 08 10.2 +0.8**
comp=Z,70nm,1.1s
ISA Isabella 72.82 44 ⇑P **P 00 08 10.0 +0.6**
baz=73,SNR=26
CMB Columbia Colle 72.95 41 *e*P **P 00 08 10.5 +0.4**
CMB pmax pmax
comp=Z,68nm,1.4s
CMB Columbia Colle 72.95 41 *e*P **P 00 08 10.5 +0.4**
comp=Z,68nm,1.4s
KRMB Red Mountain 72.98 37 *e*P **P 00 08 12.4 +2.1**
comp=Z,436nm,2.5s
PETK Petropavlovsk- 73.00 342 P **P 00 08 09.2 -0.8**
PETK Petropavlovsk- 73.00 342 P **P 00 08 09.2 -0.8**
PETK Petropavlovsk- 73.00 342 P **P 00 08 09.2 -0.8**
comp=Z,9.6nm,0.8s,baz=151,slow=7.3,SNR=4.4
PETK LR LR 00 37 03.8
comp=Z,486nm,18.2s,baz=163,slow=33
OHCM Honcut 73.05 40 *e*P P 00 08 16.7 +6.2
KKM Kota Kinabalu 73.06 281 PFAKE 00 08 20.0 +8.7
KKM LR LR
comp=Z,841nm,22.0s
PFO Pinyon Flat Ob 73.07 47 *e*P **P 00 08 10.7 -0.3**
PFO Pinyon Flat Ob 73.07 47 P **P 00 08 11.6 +0.6**
comp=Z,232nm,1.1s,SNR=6.7
PFO Pinyon Flat Ob 73.07 47 ⇓P **P 00 08 11.2 +0.1**
baz=73,SNR=10
PFO Pinyon Flat Ob 73.07 47 P **P 00 08 09.1 -1.9**
comp=Z,28nm,1.0s,baz=254,slow=2.4,SNR=9.0
PFO LR LR 00 33 29.7
comp=Z,822nm,19.4s,baz=246,slow=30
LPIG La Paz 73.12 58 LR LR 00 31 43.3
comp=Z,389nm,18.9s,baz=22,slow=29
WDC Whiskeytown Da 73.18 38 *e*P **P 00 08 11.8 +0.5**
WDC pmax pmax
comp=Z,133nm,1.4s
WDC Whiskeytown Da 73.18 38 *e*P **P 00 08 11.8 +0.5**
comp=Z,133nm,1.4s
SWSC Sam W. Stewart 73.19 48 ⇑P **P 00 08 12.3 +0.8**
baz=74
RRX Edison Barstow 73.39 46 ⇓P **P 00 08 13.3 +0.6**
baz=74
BELC Belle Mtn. Jos 73.61 47 ⇑P **P 00 08 14.9 +0.7**
baz=74
KEBM Edson Butte 73.62 35 *e*P P 00 08 17.4 +3.4
comp=Z,190nm,1.2s
MLAC Mammoth Lakes 73.71 42 ⇑P **P 00 08 15.3 +0.5**
baz=74
MTUM Tungsten Hills 73.72 43 *e*P **P 00 08 15.7 +0.8**
GSC Goldstone 73.75 45 *e*P **P 00 08 15.1 +0.2**
GSC pmax pmax
comp=Z,96nm,1.1s
GSC Goldstone 73.75 45 *e*P **P 00 08 15.1 +0.2**
comp=Z,96nm,1.1s
GSC Goldstone 73.75 45 ⇓P **P 00 08 15.3 +0.4**
baz=74,SNR=31
TIN Tinemaha 73.77 43 ⇓P **P 00 08 15.5 +0.4**
baz=74
BC3 Big Chuckawall 73.81 47 ⇑P **P 00 08 15.6 +0.3**
baz=74,SNR=8.6
YBH Yreka Blue Hor 73.81 37 *e*P **P 00 08 15.8 +0.7**
YBH Yreka Blue Hor 73.81 37 P **P 00 08 15.2 +0.1**
comp=Z,57nm,1.2s,baz=235,slow=1.0,SNR=28
YBH LR LR 00 34 35.0
comp=Z,1µm,18.9s,baz=236,slow=31
HEC Hector,Ludlow 73.82 46 ⇓P **P 00 08 15.7 +0.3**
baz=74,SNR=28
WAKR Walker 73.83 41 *e*P **P 00 08 15.8 +0.3**
comp=Z,113nm,1.4s
GLA Glamis 73.94 48 *e*P **P 00 08 17.0 +1.0**
GLA pmax pmax
comp=Z,85nm,1.2s
GLA Glamis 73.94 48 *e*P **P 00 08 17.0 +1.0**
comp=Z,85nm,1.2s
GLA Glamis 73.94 48 ⇑P **P 00 08 16.8 +0.8**
baz=74,SNR=14
HUMO Hull Mountain 74.22 36 *e*P **P 00 08 18.2 +0.8**
comp=Z,115nm,1.1s
GMRC Granite Mounta 74.26 46 ⇓P **P 00 08 18.1 +0.2**
baz=74
IRM Iron Mountain 74.29 47 ⇑P **P 00 08 18.6 +0.6**
baz=75,SNR=38
QSPA South Pole Qui 74.29 180 *e*P **P 00 08 18.6 +0.9**
comp=Z,60nm,1.0s
QSPA LR LR
comp=Z,2µm,22.0s
FURC Furnace Creek, 74.36 44 ⇓P **P 00 08 18.7 +0.4**
baz=75
TUQ Turquoise Moun 74.43 46 ⇑P **P 00 08 19.1 +0.2**
baz=75
SHOC Shoshone 74.43 45 ⇑P **P 00 08 19.5 +0.7**
baz=75
NVAR Mina Array Bea 74.51 42 P **P 00 08 19.3 -0.1**
NVAR Mina Array Bea 74.51 42 P **P 00 08 19.3 -0.1**
comp=Z,31nm,1.1s,baz=227,slow=7.4,SNR=44
NVAR LR LR 00 33 10.5
comp=Z,1µm,21.8s,baz=118,slow=29
Y12C Blythe 74.52 48 ⇑P **P 00 08 19.9 +0.7**
baz=75,SNR=14
113A Mohawk Valley, 74.56 49 ⇑P **P 00 08 20.3 +0.7**
baz=75,SNR=16
PAHR Pah Rah Range 74.57 40 *e*P **P 00 08 20.3 +0.6**
comp=Z,79nm,1.2s
NV11 Mina Array Sit 74.61 42 *e*P **P 00 08 20.0 +0.1**
LDFC Landfair 74.80 46 *e*P **P 00 08 22.2 +1.2**
comp=Z,148nm,1.0s
214A Organ Pipe Nat 74.85 50 ⇑P **P 00 08 21.8 +0.5**
baz=75,SNR=14
NACB Ninganchiao 74.93 301 *e*P **P 00 08 21.4 -0.5**
NACB *e*S **S 00 17 59.0 -0.2**
TPH Tonopah 75.01 43 *e*P **P 00 08 22.5 +0.2**
TPH pmax pmax
comp=Z,145nm,1.2s
TPH MLR MLR
comp=Z,1µm,20.0s
TPH Tonopah 75.01 43 *e*P **P 00 08 22.5 +0.2**
comp=Z,145nm,1.2s
TPH LR LR
comp=Z,1µm,20.0s
PDMCI Parker Dam,Lak 75.07 47 ⇓P **P 00 08 22.9 +0.4**
baz=75,SNR=18
KDAK Kodiak Island 75.24 11 *e*P **P 00 08 24.2 +1.3**
comp=Z,48nm,1.1s
KDAK LR LR
comp=Z,3µm,22.0s
COR Corvallis 75.30 34 *e*P P 00 08 28.7 +5.1
COR pmax pmax
comp=Z,114nm,1.1s
COR Corvallis 75.30 34 *e*P P 00 08 28.7 +5.1
comp=Z,114nm,1.1s
YHNB Yeheng 75.32 301 PFAKE 00 08 40.0 +16
YHNB LR LR
comp=Z,2µm,20.0s
MOD Modoc 75.32 38 *e*P **P 00 08 24.2 +0.2**
comp=Z,145nm,1.0s
TATO Taipei 75.36 302 PFAKE 00 08 40.0 +16
TATO LR LR
comp=Z,1µm,20.0s
Z14A Wintersburg 75.45 49 ⇓P **P 00 08 24.9 +0.2**
baz=76,SNR=27
SHPR Sheep Range 75.52 45 *e*P **P 00 08 25.6 +0.4**
W13A Hualapai Mount 75.66 47 ⇑P **P 00 08 26.4 +0.3**
baz=76
Y14A Wickenburg 75.70 48 ⇓P **P 00 08 27.1 +0.9**
baz=76,SNR=21
H04A Detroit Lake 75.97 35 *e*P **P 00 08 28.2 +0.8**
comp=Z,124nm,1.0s
R11A Troy Canyon, C 76.23 43 *e*P **P 00 08 29.7 +0.4**
R11A Troy Canyon, C 76.23 43 ⇑P **P 00 08 29.5 +0.2**
baz=76
BMN Battle Mountai 76.34 41 *e*P **P 00 08 30.4 +0.5**
BMN pmax pmax
comp=Z,70nm,1.1s
BMN MLR MLR
comp=Z,1µm,21.0s
BMN Battle Mountai 76.34 41 *e*P **P 00 08 30.4 +0.5**
comp=Z,70nm,1.1s
BMN LR LR
comp=Z,1µm,21.0s
E03A Lebam 76.44 33 *e*P **P 00 08 32.2 +2.2**
comp=Z,123nm,1.0s
KSRS Korea Array 76.49 316 P **P 00 08 31.6 +1.1**
comp=Z,1.2nm,0.6s,baz=135,slow=8.3,SNR=6.0
KSRS LR LR 00 36 03.1
comp=Z,982nm,21.8s,baz=119,slow=31
KSAR Wonju Array Be 76.51 316 P **P 00 08 31.6 +1.0**
TUC Tucson 76.52 51 *e*P **P 00 08 31.3 +0.3**
TUC pmax pmax
comp=Z,61nm,1.0s
TUC MLR MLR
comp=Z,509nm,19.0s
TUC Tucson 76.52 51 *e*P **P 00 08 31.3 +0.3**
comp=Z,61nm,1.0s
TUC LR LR
comp=Z,509nm,19.0s
WVOR Wild Horse Val 76.63 38 *e*P **P 00 08 31.6 +0.2**
WVOR pmax pmax
comp=Z,127nm,1.1s
WVOR MLR MLR
comp=Z,2µm,20.0s
WVOR Wild Horse Val 76.63 38 *e*P **P 00 08 31.6 +0.2**
comp=Z,127nm,1.1s
WVOR LR LR
comp=Z,2µm,20.0s
VIPM Ingram Point 76.74 36 P **P 00 08 32.4 +0.4**
VIPM Ingram Point 76.74 36 P **P 00 08 32.4 +0.4**
NLWA Neilton Lookou 76.83 32 *e*P P 00 08 37.3 +5.0
comp=Z,65nm,1.3s
NLWA LR LR
comp=Z,1µm,22.0s
FL2 Flat Top 2 76.85 34 P **P 00 08 33.6 +1.1**
TDL Tradedollar La 77.02 34 P **P 00 08 34.1 +0.6**
X16A Lo Mia Camp, P 77.06 48 ⇑P **P 00 08 34.6 +0.5**
baz=77,SNR=95
I07A Izee 77.11 37 *e*P **P 00 08 34.2 +0.1**
comp=Z,101nm,1.0s
MIR Mirnyy 77.15 204 ⇑*i*P **P 00 08 36.0 +2.2**
MIR *i* 00 08 47.0
MIR pmax pmax
comp=Z,134nm,2.0s
VLA Vladivostok 77.16 322 ⇓P **P 00 08 32.1 -2.0**
VLA *e* 00 11 22.9
VLA pmax pmax
comp=Z,26nm,0.7s
G06A Carlson Farm, 77.18 35 *e*P **P 00 08 34.6 +0.3**
comp=Z,85nm,1.3s
319A Douglas 77.21 52 ⇑P **P 00 08 35.2 +0.3**
baz=78
J08A Circle Bar Ran 77.28 38 *e*P **P 00 08 35.6 +0.6**
comp=Z,138nm,1.1s
CCUT Cedar City 77.30 45 *e*P **P 00 08 36.1 +0.7**
comp=Z,80nm,1.2s
KSM Kuching 77.34 275 P P 00 08 40.7 +4.8
comp=Z,689nmcomp=Z,24nm,2.1s
KSM Kuching 77.34 275 *e*P **P 00 08 35.5 -0.4**
comp=Z,90nm,1.4s
KSM LR LR
comp=Z,303nm,21.0s
ARUT Antelope Range 77.37 45 *e*P **P 00 08 35.8 +0.1**
ARUT *e* 00 11 28.4
ARUT pmax pmax
comp=Z,1µm,1.1s
ARUT Antelope Range 77.37 45 *e*P **P 00 08 35.8 +0.1**
comp=Z,1µm,1.1s
ARUT *e*PP **PP 00 11 28.4 -2.0**
INCN Inchon 77.38 315 PFAKE 00 08 50.0 +14
INCN LR LR
comp=Z,1µm,20.0s
U15A North Rim 77.46 46 ⇓P **P 00 08 36.9 +0.5**
baz=78,SNR=79
LON Longmire 77.49 33 *e*P **P 00 08 37.6 +1.6**
LON pmax pmax
comp=Z,87nm,1.8s
LON Longmire 77.49 33 *e*P **P 00 08 37.6 +1.6**
comp=Z,87nm,1.8s
WUAZ Wupatki 77.65 47 *e*P **P 00 08 37.6 +0.3**
WUAZ LR LR
comp=Z,840nm,20.0s
WUAZ Wupatki 77.65 47 ⇓P **P 00 08 38.1 +0.8**
baz=78,SNR=33
D05A Enumclaw 77.68 33 *e*P **P 00 08 39.5 +2.5**
RSO Redoubt South 77.73 10 *e*P **P 00 08 37.8 +0.5**
USRK Ussuriysk Arra 77.73 323 P **P 00 08 35.7 -1.7**
comp=Z,3.2nm,0.8s,baz=123,slow=3.2,SNR=6.8
USRK LR LR 00 36 31.0
comp=Z,2µm,21.2s,baz=297,slow=31
ELK Elko 77.77 41 *e*P **P 00 08 38.5 +0.5**
comp=Z,62nm,1.1s
320A Kipp Ranch, An 77.77 52 ⇑P **P 00 08 38.2 +0.1**
baz=78,SNR=19
PGC Sidney 77.88 31 *e*P **P 00 08 38.7 +0.6**
comp=Z,4.2nm,1.2s
SVW2 Sparrevohn 77.89 9 *e*P **P 00 08 38.3 +0.5**
comp=Z,15nm,1.0s
220A Playas Peak, P 78.03 52 ⇑P **P 00 08 39.8 +0.3**
baz=78,SNR=60
X18A Snowflake 78.19 49 ⇑P **P 00 08 41.0 +0.6**
baz=78,SNR=33
120A U Bar Ranch, L 78.24 51 ⇓P **P 00 08 41.7 +1.0**
baz=78,SNR=24
LTY Liberty 78.42 34 *e*P **P 00 08 41.9 +0.7**
comp=Z,137nm,2.0s
E07A Sunnyside 78.42 34 *e*P **P 00 08 41.7 +0.5**
comp=Z,86nm,1.1s
REDWA Red Mountain 78.49 35 P **P 00 08 43.5 +2.0**
HAWA Hanford 78.50 35 *e*P **P 00 08 42.1 +0.5**
comp=Z,94nm,1.3s
HAWA LR LR
comp=Z,2µm,19.0s
SPU Mount Spurr 78.53 10 *e*P **P 00 08 41.0 -0.4**
Z20A Nine Sixteen R 78.53 51 ⇓P **P 00 08 43.4 +1.1**
baz=79,SNR=50
MVU Marysvale 78.56 44 *e*P **P 00 08 43.8 +1.3**
comp=Z,73nm,1.0s
MVU LR LR
comp=Z,1µm,21.0s
W18A Petrified Fore 78.63 48 ⇑P **P 00 08 43.4 +0.6**
baz=79
HABR Khabarovsk 78.70 328 *e*P P 00 08 39.3 -3.3
HABR *e* 00 08 48.7
HABR *e**PP **PcP 00 08 49.5 -1.9**
HABR *e**SP sP 00 08 53.7 +4.6
HABR *e*S S 00 18 30.8 -8.5
HABR *e*S SKSac 00 18 43.9 -13
HABR *e* 00 18 55.5
HABR pmax pmax
comp=Z,143nm,2.6s
HABR MLR MLR
comp=Z,830nm,19.0s
B06A Marblemount 78.79 32 *e*P **P 00 08 44.5 +1.5**
comp=Z,310nm,2.5s
BMO Blue Mountains 78.83 37 *e*P **P 00 08 43.2 -0.4**
BMO pmax pmax
comp=Z,63nm,1.1s
BMO MLR MLR
comp=Z,1µm,20.0s
BMO Blue Mountains 78.83 37 *e*P **P 00 08 43.2 -0.4**
comp=Z,63nm,1.1s
BMO LR LR
comp=Z,1µm,20.0s
121A Cookes Peak, D 78.87 52 *e*P **P 00 08 44.9 +0.7**
121A Cookes Peak, D 78.87 52 ⇓P **P 00 08 45.3 +1.1**
baz=79,SNR=30
DUG Dugway 79.04 43 *e*P **P 00 08 45.3 +0.4**
DUG pmax pmax
comp=Z,83nm,1.2s
DUG MLR MLR
comp=Z,1µm,21.0s
DUG Dugway 79.04 43 *e*P **P 00 08 45.3 +0.4**
comp=Z,83nm,1.2s
DUG LR LR
comp=Z,1µm,21.0s
DUG Dugway 79.04 43 ⇓P **P 00 08 45.2 +0.3**
baz=79

Y20A	Horse Springs, baz=79,SNR=54	79.05	50	⇑P		P	00 08 46.2	+0.9	
222A	Williams Famil baz=79	79.20	52	⇑P		P	00 08 46.7	+0.7	
BGU	Big Grassy Mou comp=Z,170nm,2.1s	79.28	42	eP		P	00 08 48.1	+1.9	
Z21A	St. Cloud Mine baz=80,SNR=80	79.31	51	⇓P		P	00 08 48.0	+1.4	
MDJ	Mudanjiang	79.38	322	P		P	00 08 48.0	+1.6	
MDJ				pP		pP	00 08 51.3	+0.1	
MDJ				sP		sP	00 08 52.5	-0.5	
MDJ				PcP		PcP	00 08 56.5	+2.0	
MDJ				PP		PP	00 11 42.0	-4.8	
MDJ				S		S	00 18 50.0	+3.2	
MDJ	comp=Z,200nm,5.9s			AMB		AMB			
MDJ	comp=Z,860nm,32.6s			LR		LR			
MDJ	comp=Z,1μm,27.3s			LR		LR			
MDJ	comp=Z,2μm,25.0s			LR		LR			
MDJ	Mudanjiang	79.38	322	PFAKE			00 09 00.0	+14	
MDJ	comp=Z,3μm,22.0s			LR		LR			
NLU	North Lily Min comp=Z,129nm,2.0s	79.40	43	eP		P	00 08 48.7	+1.7	
PMR	Palmer	79.44	11	eP		P	00 08 47.1	+0.7	
PMR	comp=Z,63nm,1.4s			pmax		pmax			
PMR	Palmer comp=Z,64nm,1.4s	79.44	11	eP		P	00 08 47.1	+0.7	
Q16A	Castle Valley	79.48	45	eP		P	00 08 48.5	+1.1	
Q16A	Castle Valley baz=80	79.48	45	⇑P		P	00 08 48.1	+0.7	
W20A	Ramah baz=80,SNR=116	79.52	49	⇑P		P	00 08 48.5	+0.7	
F10A	Beach Ranch, E comp=Z,109nm,1.1s	79.53	36	eP		P	00 08 46.8	-0.6	
122A	Conniff Cattle baz=80	79.54	52	⇑P		P	00 08 48.4	+0.6	
Y21A	Point of Rocks baz=80,SNR=32	79.62	50	⇓P		P	00 08 49.4	+1.0	
WRAK	Wrangell Islan	79.63	22	PFAKE			00 09 00.0	+12	
WRAK	comp=Z,1μm,20.0s			LR		LR			
TMUT	Trail Mountain comp=Z,106nm,1.1s	79.64	44	eP		P	00 08 49.1	+0.7	
223A	Chaparral, Ant baz=80	79.67	53	⇓P		P	00 08 48.5	0.0	
DIV	Divide comp=Z,76nm,1.2s	79.71	13	eP		P	00 08 48.2	+0.2	
MPU	Maple Canyon comp=Z,50nm,1.2s	79.72	43	eP		P	00 08 50.6	+1.9	
X21A	Alamocita Cree baz=80,SNR=44	79.73	50	⇑P		P	00 08 49.4	+0.4	
B08A	Colville Reser comp=Z,35nm,1.0s	79.81	33	eP		P	00 08 48.2	-0.5	
Z22A	Elephant Butte baz=80,SNR=33	79.81	51	⇓P		P	00 08 50.0	+0.7	
HLID	Hailey comp=Z,96nm,1.0s	79.82	39	eP		P	00 08 49.5	+0.4	
HLID	comp=Z,1μm,20.0s			LR		LR			
HLID	Hailey baz=80	79.82	39	⇑P		P	00 08 49.9	+0.7	
BMRM	Bremner River comp=Z,81nm,1.3s	79.83	14	eP		P	00 08 48.4	-0.2	
SPUT	South Promonto comp=Z,152nm,1.5s	79.85	42	eP		P	00 08 49.1	-0.2	
V20A	Brimhall baz=80,SNR=18	79.86	48	⇓P		P	00 08 50.3	+0.8	
HVU	Hansel Valley	79.89	41	eP		P	00 08 50.5	+1.0	
HVU	comp=Z,42nm,1.0s			pmax		pmax			
HVU	Hansel Valley comp=Z,42nm,1.0s	79.89	41	eP		P	00 08 50.5	+1.0	
SRU	San Rafael	80.01	45	eP		P	00 08 51.1	+0.8	
SRU	comp=Z,82nm,1.2s			pmax		pmax			
SRU	San Rafael comp=Z,82nm,1.2s	80.01	45	eP		P	00 08 51.0	+0.8	
C09A	Chrisman Ranch comp=Z,38nm,1.0s	80.03	34	eP		P	00 08 50.0	0.0	
123A	Bell Site, Whi baz=80	80.07	52	⇓P		P	00 08 50.9	+0.2	
U20A	Newcomb baz=80,SNR=30	80.09	48	⇑P		P	00 08 51.3	+0.6	
Y22A	Socorro baz=80,SNR=9.2	80.11	51	⇑P		P	00 08 51.4	+0.5	
JLU	Jordanelle comp=Z,53nm,1.2s	80.14	43	eP		P	00 08 52.6	+1.6	
W21A	San Fidel baz=80	80.14	49	⇓P		P	00 08 51.3	+0.2	
324A	Moseley Ranch, baz=80,SNR=21	80.15	53	⇓P		P	00 08 51.4	+0.3	
DAU	Daniels Canyon	80.17	43	eP		P	00 08 53.3	+2.0	
DAU	Daniels Canyon	80.17	43	eP		P	00 08 53.2	+2.0	
LAZ	Ladron comp=Z,24nm,1.2s	80.19	50	eP		P	00 08 52.0	+0.6	
Y22D	IRIS PASSCAL I baz=80	80.21	50	⇓P		P	00 08 52.9	+1.5	
LENM	Lemitar	80.21	50	eP		P	00 08 52.6	+1.2	
425A	Indio Mountain baz=80,SNR=36	80.26	54	⇑P		P	00 08 52.3	+0.5	
X22A	Bernardo baz=81	80.33	50	⇑P		P	00 08 52.8	+0.7	
MNTX	Cornudas Mount comp=Z,46nm,1.2s	80.34	53	eP		P	00 08 52.2	+0.2	
MNTX	comp=Z,412nm,19.0s			LR		LR			
Z23A	Rita Site, Whi baz=81,SNR=15	80.36	51	⇑P		P	00 08 53.0	+0.7	
224A	Cornudas Mount baz=81,SNR=26	80.39	53	⇑P		P	00 08 53.0	+0.5	
626A	Big Bend Ranch baz=81,SNR=17	80.43	56	⇓P		P	00 08 53.1	+0.5	
BNM	Barren Site comp=Z,47nm,1.2s	80.46	51	eP		P	00 08 52.9	0.0	
V21A	Milan baz=81,SNR=28	80.46	49	⇑P		P	00 08 53.8	+1.0	
NJ2	Nanjing	80.47	307	eP		P	00 08 55.0	+2.4	
NJ2				pP		pP	00 08 58.5	+1.0	
NJ2				S		S	00 18 58.5	-0.4	
NJ2				sS		SKKSac	00 19 12.5	-0.1	
NJ2	comp=Z,160nm,8.8s			AMB		AMB			
NJ2	comp=Z,1μm,21.9s			LR		LR			
NJ2	comp=Z,2μm,23.2s			LR		LR			
NJ2	comp=Z,1μm,23.2s			LR		LR			
PV05	Paradox Valley	80.48	46	eP		P	00 08 53.9	+1.0	
MVCO	Mesa Verde comp=Z,59nm,1.3s	80.50	47	eP		P	00 08 54.6	+1.6	
MVCO	comp=Z,1μm,21.0s			LR		LR			
MVCO	Mesa Verde baz=81,SNR=14	80.50	47	⇑P		P	00 08 53.7	+0.8	
325A	Bean Ranch, Si baz=81,SNR=39	80.52	54	⇑P		P	00 08 53.3	+0.1	
LPM	Los Pinos Moun	80.53	50	eP		P	00 08 53.7	+0.6	
CAST	Castle Rocks comp=Z,13nm,0.9s	80.62	9	eP		P	00 08 51.8	-1.0	
PV09	Paradox Valley	80.66	46	eP		P	00 08 54.7	+0.8	
526A	Mary Lane Ranc baz=81,SNR=26	80.67	55	⇑P		P	00 08 54.4	+0.5	
W22A	Albuquerque baz=81	80.69	50	⇓P		P	00 08 55.2	+1.2	
TXAR	Lajitas Array	80.71	56	P		P	00 08 54.5	+0.3	
TXAR	Lajitas Array comp=Z,15nm,1.1s,baz=216,slow=6.2,SNR=34	80.71	56	P		P	00 08 54.5	+0.3	
TXAR	comp=Z,364nm,19.2s,baz=320,slow=30			LR		LR	00 37 25.9		
124A	Stringfield Ra baz=81,SNR=20	80.71	52	⇑P		P	00 08 55.2	+0.9	
U21A	Nageezi baz=81,SNR=114	80.73	48	⇑P		P	00 08 54.9	+0.6	
Y23A	Lovelace Mesa, baz=81,SNR=28	80.79	51	⇑P		P	00 08 55.3	+0.7	
PV01	Paradox Valley comp=Z,8μm,1.1s	80.88	46	eP		P	00 08 55.4	+0.3	
S20A	Disappointment baz=81,SNR=61	80.88	47	⇑P		P	00 08 55.8	+0.7	
NEW	Newport comp=Z,23nm,1.1s	80.93	34	eP		P	00 08 55.5	+0.7	
NEW	Newport baz=81	80.93	34	⇓P		P	00 08 55.5	+0.7	
NEW	Newport comp=Z,955nm,20.2s,baz=240,slow=30	80.93	34	LR		LR	00 37 23.7		
ANMO	Albuquerque comp=Z,48nm,1.1s	80.94	50	eP		P	00 08 55.8	+0.4	
ANMO	comp=Z,711nm,19.0s			LR		LR			
225A	Deer Hill, Car baz=81,SNR=28	80.94	53	⇑P		P	00 08 55.9	+0.5	
TRF	Thorofare Moun comp=Z,61nm,1.1s	80.95	10	eP		P	00 08 54.0	-0.7	
426A	McDonald Obser baz=81,SNR=36	80.96	55	⇑P		P	00 08 56.1	+0.5	
X23A	Hourglass Bar baz=81	80.97	50	⇓P		P	00 08 55.8	+0.2	
627A	Terlingua Ranc baz=81,SNR=37	80.98	56	⇓P		P	00 08 55.9	+0.3	
SKAG	Skagway comp=Z,31nm,1.3s	81.04	19	eP		P	00 08 57.3	+2.3	
R20A	Redvale baz=81	81.04	46	⇓P		P	00 08 56.1	+0.3	
V22A	San Miguel Ran baz=81,SNR=18	81.04	49	⇑P		P	00 08 56.2	+0.3	
Z24A	Sheeppen Canyo baz=81,SNR=10	81.05	52	⇑P		P	00 08 56.5	+0.5	
T21A	Navajo Lake baz=81,SNR=15	81.08	48	⇓P		P	00 08 56.7	+0.6	
527A	Woodward Ranch baz=81,SNR=24	81.08	55	⇑P		P	00 08 56.4	+0.2	
TNA	Tin City comp=Z,98nm,1.2s	81.17	2	eP		P	00 08 56.4	+0.9	
S21A	Coal Bank Pass baz=82,SNR=89	81.20	47	⇓P		P	00 08 58.0	+1.1	
Y24A	Capitan baz=82,SNR=34	81.25	51	⇓P		P	00 08 58.1	+1.0	
W23A	Werner Place, baz=82,SNR=25	81.26	50	⇓P		P	00 08 57.5	+0.4	
326A	Caldwell Ranch baz=82,SNR=7.0	81.27	54	⇑P		P	00 08 57.8	+0.7	
U22A	Llaves baz=82,SNR=23	81.28	48	⇓P		P	00 08 58.0	+0.8	
125A	Gardner Draw, baz=82,SNR=15	81.30	53	⇓P		P	00 08 58.1	+0.8	
P19A	Cripple Cowboy baz=82	81.31	45	⇓P		P	00 08 57.6	+0.3	
628A	Black Gap, Mar baz=82,SNR=29	81.39	56	⇓P		P	00 08 58.4	+0.7	
PAX	Paxson	81.42	12	eP		P	00 08 57.6	+0.5	
PAX	comp=Z,33nm,1.3s			pmax		pmax			
PAX	Paxson comp=Z,33nm,1.3s	81.42	12	eP		P	00 08 57.6	+0.5	
CN2	Changchun	81.43	320	eP		P	00 08 57.5	0.0	
CN2	comp=Z,20nm,1.1s			AMB		AMB			
BPAW	Bear Paw Mtn. comp=Z,39nm,1.6s	81.44	10	eP		P	00 08 56.5	-0.6	
226B	Tecolote Peak, baz=82,SNR=38	81.44	53	⇑P		P	00 08 58.9	+0.9	
MCK	McKinley	81.44	11	eP		P	00 08 56.9	-0.3	
MCK	comp=Z,71nm,1.0s			pmax		pmax			
MCK	McKinley comp=Z,71nm,1.0s	81.44	11	eP		P	00 08 56.9	-0.3	
MCMT	McKenzie Canyo comp=Z,35nm,1.1s	81.45	39	eP		P	00 08 58.6	+0.6	
Q20A	Ridgley Place, baz=82,SNR=47	81.45	46	⇑P		P	00 08 58.2	+0.2	
AHID	Auburn Hatcher comp=Z,81nm,1.2s	81.46	41	eP		P	00 08 58.1	+0.1	
AHID	comp=Z,1μm,22.0s			LR		LR			
V23A	Ortiz Mt. (NFS baz=82,SNR=45	81.49	49	⇓P		P	00 08 59.7	+1.4	
Z25A	Roswell baz=82,SNR=17	81.52	52	⇑P		P	00 08 59.1	+0.7	
X24A	Lazy VL Ranch, baz=82,SNR=20	81.53	51	⇓P		P	00 08 58.8	+0.3	
427A	Hayter Ranch, baz=82,SNR=27	81.53	55	⇑P		P	00 08 59.0	+0.5	
O19A	Miners Draw (B baz=82	81.53	44	⇑P		P	00 08 58.5	+0.2	
T22A	Edith baz=82,SNR=32	81.54	48	⇑P		P	00 08 59.1	+0.6	
RRI2	Red Ridge comp=Z,90nm,1.1s	81.62	41	eP		P	00 08 59.5	+0.6	
P20A	De Beque baz=82,SNR=29	81.64	45	⇑P		P	00 08 59.1	+0.1	
327A	Balmorhea Ranc baz=82	81.67	54	⇓P		P	00 08 59.5	+0.3	
R21A	Cimarron baz=82,SNR=69	81.70	46	⇑P		P	00 08 60.0	+0.6	
528A	Cox Ranch, San baz=82,SNR=28	81.74	56	⇓P		P	00 09 00.5	+0.8	
U23A	El Rito baz=82,SNR=45	81.74	49	⇓P		P	00 09 00.8	+1.2	
MENT	Mentasta	81.77	13	eP		P	00 08 58.6	-0.3	
126A	Clayton Basin, baz=82,SNR=21	81.78	53	⇓P		P	00 09 00.2	+0.5	
Y25A	Mesa, Roswell baz=82,SNR=27	81.81	51	⇑P		P	00 09 00.8	+0.8	
W24A	Lazy 6 Ranch, baz=82,SNR=47	81.83	50	⇑P		P	00 09 00.7	+0.7	
DLMT	Dillon comp=Z,72nm,1.2s	81.89	38	eP		P	00 09 00.7	+0.6	
MSO	Missoula comp=Z,71nm,1.3s	81.89	37	eP		P	00 08 60.0	-0.1	
MSO	Missoula baz=82,SNR=30	81.89	37	⇓P		P	00 08 59.5	-0.5	
Q21A	Lamborn Mesa, baz=82,SNR=19	81.90	46	⇓P		P	00 09 00.8	+0.4	
S22A	4UR Ranch, Cre baz=82,SNR=76	81.92	47	⇑P		P	00 09 01.0	+0.4	
REDW	Red Top Meadow comp=Z,117nm,1.3s	81.92	41	eP		P	00 09 00.9	+0.4	
FXWY	Fox Creek comp=Z,87nm,1.4s	81.95	40	eP		P	00 09 00.7	+0.1	
BSMT	Bassoo Peak	81.98	35	eP		P	00 08 59.1	-1.5	
DLBC	Dease Lake	81.98	21	eP		P	00 08 59.5	-0.7	
SNOW	Snow King Moun comp=Z,111nm,1.1s	82.03	41	eP		P	00 09 01.8	+0.8	
428A	Kincaid Ranch, baz=82,SNR=14	82.05	55	⇓P		P	00 09 01.9	+0.7	
O20A	White River Ci	82.05	45	eP		P	00 09 03.1	+2.0	
O20A	White River Ci baz=82,SNR=8.8	82.05	45	⇑P		P	00 09 01.6	+0.5	
Z26A	Caprock baz=82,SNR=32	82.08	52	⇑P		P	00 09 02.3	+0.9	
X25A	Clemmons Ranch baz=82,SNR=32	82.09	51	⇑P		P	00 09 01.3	-0.1	
227A	Bennet, Jal baz=82	82.09	54	⇑P		P	00 09 01.4	+0.1	
IMW	Indian Meadow comp=Z,86nm,1.1s	82.14	40	eP		P	00 09 02.3	+0.6	
V24A	Rampart Ranch, baz=82,SNR=25	82.15	50	⇓P		P	00 09 02.2	+0.4	
T23A	Casias Ranch, baz=82,SNR=12	82.17	48	⇓P		P	00 09 02.3	+0.4	
529A	Stev Forest Ra baz=82,SNR=26	82.18	56	⇑P		P	00 09 01.7	-0.1	
MOOW	Moose Ponds comp=Z,82nm,1.6s	82.19	40	eP		P	00 09 03.8	+2.0	
JTMT	Jette	82.20	36	eP		P	00 09 02.7	+1.0	
LOHW	Long Hollow comp=Z,69nm,1.3s	82.20	41	eP		P	00 09 01.9	0.0	
328A	Wristen Ranch, baz=82,SNR=17	82.21	54	⇑P		P	00 09 02.1	+0.1	
LRM	Limekiln Ridge	82.22	38	eP		P	00 09 02.1	+0.1	
SWMT	Swartz Lake	82.23	36	eP		P	00 09 02.5	+0.7	
BLMT	Blacktail Moun	82.30	35	eP		P	00 09 02.5	+0.2	
127A	Arkansas Junct baz=82,SNR=5.8	82.31	53	⇓P		P	00 09 03.3	+0.8	
QLMT	Earthquake Lak	82.31	39	eP		P	00 09 03.2	+0.7	
DOT	Dot Lake comp=Z,46nm,1.0s	82.32	13	eP		P	00 09 01.1	-0.7	
CHMT	Chamberlain Mo	82.33	37	eP		P	00 09 01.4	-1.0	
N20A	Spence Gulch, baz=83	82.36	44	⇑P		P	00 09 03.3	+0.4	
Q22A	Crested Butte, baz=83,SNR=37	82.37	46	⇑P		P	00 09 04.0	+1.0	
SLMT	Seeley Lake	82.37	36	eP		P	00 09 02.8	+0.2	
I17A	Pilgrim Ck. baz=83	82.38	40	⇓P		P	00 09 03.0	+0.2	
FLWY	Flagg Ranch comp=Z,129nm,1.2s	82.38	40	eP		P	00 09 03.8	+1.0	
U24A	Moreno Valley baz=83,SNR=19	82.44	49	⇓P		P	00 09 03.8	+0.4	
BW06	Boulder Array comp=Z,384nm,2.5s	82.45	42	eP		P	00 09 03.1	-0.1	
BW06	comp=Z,1μm,20.0s			LR		LR			
PDAR	Pinedale Array	82.45	42	P		P	00 09 02.8	-0.4	
PDAR	Pinedale Array comp=Z,16nm,1.1s,baz=222,slow=2.0,SNR=43	82.45	42	P		P	00 09 02.8	-0.4	
PDAR	comp=Z,835nm,18.4s,baz=246,slow=32			LR		LR	00 40 22.8		
Y26A	Elida baz=83,SNR=11	82.46	52	⇓P		P	00 09 03.5	+0.2	
SMCO	Snowmass comp=Z,75nm,1.2s	82.47	46	eP		P	00 09 03.9	+0.3	
YFT	Old Faithful comp=Z,109nm,1.5s	82.48	40	eP		P	00 09 03.4	0.0	
S23A	Nye Farm, Mont baz=83	82.49	48	⇓P		P	00 09 03.4	-0.2	
YMR	Madison River comp=Z,83nm,1.2s	82.52	40	eP		P	00 09 03.8	+0.3	
W25A	X Bar L Ranch, baz=83,SNR=40	82.53	50	⇓P		P	00 09 03.7	0.0	
O21A	Pagoda baz=83	82.61	45	⇓P		P	00 09 04.1	0.0	
BOZ	Bozeman (W)	82.62	38	eP		P	00 09 04.2	+0.3	
BOZ	comp=Z,84nm,1.4s			pmax		pmax			
BOZ	comp=Z,1μm,19.0s			MLR		MLR			
BOZ	Bozeman (W) comp=Z,84nm,1.4s	82.62	38	eP		P	00 09 04.2	+0.3	
BOZ	comp=Z,1μm,19.0s			LR		LR			
H17A	Grant Village	82.62	40	eP		P	00 09 07.3	+3.3	
H17A	Grant Village baz=83	82.62	40	⇓P		P	00 09 05.4	+1.3	
429A	Davenport Ranc baz=83,SNR=50	82.63	55	⇓P		P	00 09 04.4	+0.1	
T24B	San Luis baz=83,SNR=26	82.65	48	⇓P		P	00 09 05.3	+0.8	
228A	UT Block 9, Go baz=83,SNR=5.2	82.67	54	⇑P		P	00 09 05.0	+0.5	
V25A	Rancho No Teng baz=83,SNR=65	82.68	50	⇓P		P	00 09 04.7	+0.2	
Z27A	Tatum baz=83,SNR=14	82.68	53	⇑P		P	00 09 04.5	0.0	
COLA	College	82.68	11	eP		P	00 09 02.6	-1.0	
COLA	comp=Z,86nm,1.0s			pmax		pmax			
COLA	comp=Z,2μm,20.0s			MLR		MLR			
COLA	College comp=Z,86nm,1.0s	82.68	11	eP		P	00 09 02.5	-1.0	
COLA	comp=Z,2μm,20.0s			LR		LR			
YNR	Norris Junctio comp=Z,98nm,1.4s	82.72	40	eP		P	00 09 05.2	+0.6	
X26A	CR and CF Fran baz=83,SNR=18	82.73	51	⇓P		P	00 09 05.1	+0.3	
ILAR	Eielson Array	82.77	11	P		P	00 09 02.5	-1.5	
ILAR	Eielson Array comp=Z,5.2nm,0.9s,baz=226,slow=5.0,SNR=33	82.77	11	P		P	00 09 02.5	-1.5	
ILAR	comp=Z,1μm,21.3s,baz=32,slow=31			LR		LR	00 38 46.3		
IM04	Indian Mountai	82.79	8	eP		P	00 09 04.5	+0.3	
P22A	Eagle baz=83,SNR=17	82.81	46	⇑P		P	00 09 05.5	+0.4	
R23A	Moffat baz=83,SNR=36	82.83	47	⇑P		P	00 09 06.0	+0.6	
SDCO	Great Sand Dun comp=Z,77nm,1.6s	82.86	48	eP		P	00 09 06.5	+0.9	
SDCO	comp=Z,615nm,20.0s			LR		LR			
SEY	Seymchan	82.89	345	eP		P	00 09 02.2	-2.5	
530A	J-C Ranch, Com baz=83,SNR=10.0	82.89	56	⇓P		P	00 09 06.1	+0.5	
IMA2	Indian Mountai	82.89	8	eP		P	00 09 04.7	-0.2	
329A	Wagon Wheel Ra baz=83,SNR=24	82.90	55	⇓P		P	00 09 05.9	+0.3	
Y27A	Causey baz=83,SNR=15	82.95	52	⇑P		P	00 09 06.5	+0.7	
128A	Castleberry Fa baz=83,SNR=12	82.96	53	⇑P		P	00 09 06.6	+0.7	
W26A	Owens Ranch, T baz=83	82.99	51	⇓P		P	00 09 05.8	-0.3	
J19A	Crowheart baz=83,SNR=32	83.01	42	⇓P		P	00 09 06.1	+0.1	
S24A	Houchin Ranch, baz=83,SNR=15	83.02	48	⇓P		P	00 09 07.0	+0.6	
HRY	Holter Researc	83.05	38	eP		P	00 09 06.0	-0.2	
U25A	Circle Dot Ran baz=83,SNR=39	83.07	49	⇓P		P	00 09 07.0	+0.4	
PAYG	Puerto Ayora	83.07	89	PFAKE			00 09 20.0	+13	
PAYG	comp=Z,1μm,20.0s			LR		LR			
WALA	Waterton Lakes comp=Z,1.1nm,0.9s	83.13	35	eP		P	00 09 06.1	-0.4	
Q23A	Hartsel baz=83	83.14	47	⇑P		P	00 09 07.0	0.0	
QIZ	Qiongzhong	83.15	292	P		P	00 09 05.8	-1.2	
QIZ				S		S	00 19 29.5	+2.5	
QIZ	comp=Z,360nm,23.7s			LR		LR			
QIZ	comp=Z,1μm,25.2s			LR		LR			
QIZ	Qiongzhong	83.15	292	PFAKE			00 09 20.0	+13	
QIZ	comp=Z,790nm,22.0s			LR		LR			
O22A	Kremmling baz=84,SNR=33	83.21	45	⇑P		P	00 09 07.9	+0.5	
430A	Baggett Ranch, baz=84	83.22	56	⇓P		P	00 09 07.8	+0.5	
631A	Perdido Creek baz=84,SNR=26	83.22	57	⇑P		P	00 09 07.6	+0.4	
229A	Bryant Ranch, baz=84	83.22	54	⇑P		P	00 09 07.4	+0.2	
V26A	Tequesquite Ra baz=84,SNR=18	83.27	50	⇓P		P	00 09 08.0	+0.5	
MSTX	Muleshoe	83.28	52	eP		P	00 09 07.9	+0.3	
MSTX	Muleshoe baz=84,SNR=32	83.28	52	⇓P		P	00 09 07.6	+0.1	
Z28A	Tucker Farm, M baz=84,SNR=8.4	83.30	53	⇑P		P	00 09 07.1	-0.6	
X27A	F and S Farms, baz=84,SNR=19	83.31	51	⇑P		P	00 09 07.4	-0.3	
H18A	Shoshone NF, C baz=84,SNR=17	83.32	40	⇑P		P	00 09 08.0	+0.3	
P23A	Jefferson baz=84,SNR=14	83.34	46	⇓P		P	00 09 09.0	+0.9	
T25A	Trinidad baz=84,SNR=15	83.38	49	⇓P		P	00 09 08.7	+0.5	
WHN	Wuhan	83.39	304	P		P	00 09 14.0	+6.0	
WHN				S		S	00 19 28.8	-0.2	
WHN	comp=Z,1μm,16.6s			LR		LR			
WHN	comp=Z,2μm,18.5s			LR		LR			
WHN	comp=Z,2μm,19.5s			LR		LR			
I19A	Meeteetse baz=84,SNR=34	83.43	41	⇓P		P	00 09 08.0	-0.2	
129A	Stewart Farms, baz=84,SNR=8.9	83.44	54	⇓P		P	00 09 08.4	0.0	
732A	Laxson Ranch, baz=84	83.46	58	⇓P		P	00 09 08.3	-0.1	
RWWY	Rawlins comp=Z,78nm,1.0s	83.46	44	eP		P	00 09 14.7	+6.1	
330A	Mertzon baz=84	83.50	55	⇓P		P	00 09 08.5	-0.2	
W27A	Bowe Ranch, En baz=84,SNR=28	83.51	51	⇓P		P	00 09 08.3	-0.4	
531A	Rocksprings baz=84,SNR=37	83.53	56	⇓P		P	00 09 08.0	-0.9	
U26A	Atchley Ranch, baz=84,SNR=36	83.55	50	⇑P		P	00 09 08.8	-0.2	
N22A	Wattenberg Ran baz=84,SNR=37	83.56	45	⇓P		P	00 09 09.9	+0.8	
S25A	Robets Cordova baz=84	83.59	48	⇓P		P	00 09 09.0	-0.2	
Q24A	Divide baz=84,SNR=11	83.64	47	⇑P		P	00 09 09.9	+0.3	
Y28A	McKinney Farm, baz=84	83.65	52	⇓P		P	00 09 09.3	-0.2	
O23A	Lake Granby, G baz=84,SNR=17	83.66	45	⇓P		P	00 09 10.9	+1.3	
431A	Sonora baz=84	83.68	56	⇓P		P	00 09 09.7	+0.1	
J20A	Shoshoni baz=84,SNR=13	83.68	42	⇓P		P	00 09 10.0	+0.6	

ISCO	Idaho Springs	83.69	46	eP		P	00 09 10.3	+0.5
ISCO				pmax		pmax			
	comp=Z,180nm,2.3s								
ISCO				MLR		MLR			
	comp=Z,776nm,21.0s								
ISCO	Idaho Springs	83.69	46	eP		P	00 09 10.2	+0.5
	comp=Z,180nm,2.3s								
ISCO				LR		LR			
	comp=Z,776nm,21.0s								
ISCO	Idaho Springs	83.69	46	⇑P		P	00 09 09.7	-0.1	
	baz=84,SNR=21								
230A	Sterling City	83.74	55	⇓P		P	00 09 09.9	0.0	
	baz=84								
H19A	Powell	83.74	40	⇓P		P	00 09 10.4	+0.6	
	baz=84,SNR=23								
M22A	Cedar Creek Ra	83.74	44	⇓P		P	00 09 09.8	-0.1	
	baz=84,SNR=12								
RLMT	Red Lodge	83.79	40	eP		P	00 09 09.8	-0.2	
	comp=Z,54nm,1.1s								
RLMT				LR		LR			
	comp=Z,1μm,21.0s								
PMSA	Palmer Station	83.81	156	PFAKE			00 09 20.0	+10	
PMSA				LR		LR			
	comp=Z,2μm,19.0s								
Z29A	Hungry Hill Ra	83.81	53	⇑P		P	00 09 10.1	-0.2	
	baz=84,SNR=11								
GCMT	Greycliff	83.87	39	eP		P	00 09 10.8	+0.4	
	comp=Z,85nm,1.6s								
K21A	Alcova	83.88	43	⇑P		P	00 09 10.4	-0.1	
	baz=84,SNR=13								
R25A	Fountain Ranch	83.90	48	⇓P		P	00 09 10.7	0.0	
	baz=84,SNR=8.5								
I20A	Worland	83.93	41	⇑P		P	00 09 11.3	+0.6	
	baz=84,SNR=30								
EGAK	Eagle	83.93	13	eP		P	00 09 10.2	+0.2	
	comp=Z,41nm,1.1s								
EGAK				LR		LR			
	comp=Z,2μm,21.0s								
X28A	Dimmitt	83.94	52	⇑P		P	00 09 10.6	-0.3	
	baz=84,SNR=14								
N23A	Red Feather La	83.95	45	⇑P		P	00 09 10.9	-0.2	
	baz=84,SNR=26								
V27A	Dan Oppiter Fa	83.96	50	⇓P		P	00 09 11.0	0.0	
	baz=84,SNR=12								
T26A	Comanche Natio	83.99	49	⇑P		P	00 09 10.8	-0.5	
	baz=84,SNR=9.6								
532A	Rocksprings	84.03	57	⇑P		P	00 09 11.4	-0.1	
	baz=84,SNR=20								
P24A	Kohler Place,	84.05	46	⇓P		P	00 09 12.0	+0.5	
	baz=84								
331A	San Angelo	84.06	55	⇑P		P	00 09 11.8	+0.3	
	baz=84,SNR=7.2								
Y29A	Porterfield Fa	84.08	53	⇓P		P	00 09 11.5	-0.1	
	baz=84,SNR=24								
J21A	Lysite	84.08	42	⇑P		P	00 09 11.5	-0.1	
	baz=84,SNR=42								
130A	Snyder	84.13	54	⇑P		P	00 09 11.7	-0.2	
	baz=84,SNR=10								
L22A	Ellis Ranch, M	84.14	44	⇑P		P	00 09 12.0	+0.1	
	baz=84,SNR=21								
O24A	Longmont	84.20	46	⇑P		P	00 09 12.4	+0.2	
	baz=84								
U27A	Thompson Grove	84.24	50	⇑P		P	00 09 12.2	-0.3	
	baz=84,SNR=12								
JCT	Junction City	84.24	56	eP		P	00 09 13.2	+0.7	
JCT				pmax		pmax			
	comp=Z,21nm,0.9s								
JCT				MLR		MLR			
	comp=Z,364nm,20.0s								
JCT	Junction City	84.24	56	eP		P	00 09 13.2	+0.7	
	comp=Z,21nm,0.9s								
JCT				LR		LR			
	comp=Z,364nm,20.0s								
JCT	Junction City	84.24	56	⇓P		P	00 09 12.4	-0.2	
	baz=84								
Q25A	Bedland, Calha	84.26	47	⇓P		P	00 09 12.4	-0.2	
	baz=84								
S26A	Kim	84.26	49	⇑P		P	00 09 12.3	-0.3	
	baz=84								
Z30A	Sanderson Ranc	84.27	53	⇓P		P	00 09 12.0	-0.6	
	baz=84,SNR=32								
H20A	Greybull	84.27	41	⇑P		P	00 09 12.2	-0.2	
	baz=84,SNR=8.8								
X29A	Tulia	84.28	52	⇑P		P	00 09 12.6	-0.1	
	baz=84								
F19A	Roth Farm, Mol	84.34	39	⇓P		P	00 09 12.6	-0.2	
	baz=85,SNR=21								
M23A	Laramie	84.36	44	⇓P		P	00 09 13.0	-0.1	
	baz=85								
K22A	Casper	84.36	43	⇑P		P	00 09 12.5	-0.5	
	baz=85,SNR=7.7								
231A	Bronte	84.38	55	⇓P		P	00 09 12.6	-0.6	
	baz=85,SNR=12								
432A	Menard	84.40	56	⇑P		P	00 09 13.0	-0.3	
	baz=85,SNR=21								
I21A	Big Trails, Te	84.40	42	⇑P		P	00 09 12.7	-0.4	
	baz=85,SNR=28								
V28A	Channing	84.41	51	⇓P		P	00 09 12.9	-0.4	
	baz=85								
PHWY	Pilot Hill	84.46	45	eP		P	00 09 13.7	0.0	
	comp=Z,89nm,1.7s								
COLD	Coldfoot	84.47	9	eP		P	00 09 13.7	+0.9	
	comp=Z,63nm,1.2s								
AMTX	Amarillo	84.47	52	eP		P	00 09 13.7	0.0	
	comp=Z,77nm,0.9s								
AMTX	Amarillo	84.47	52	⇑P		P	00 09 13.3	-0.3	
	baz=85								
G20A	Bridger	84.49	40	⇑P		P	00 09 13.1	-0.4	
	baz=85,SNR=7.5								
R26A	Arlington	84.56	48	⇑P		P	00 09 13.3	-0.7	
	baz=85,SNR=9.3								
P25A	Willow Gulch B	84.57	47	⇑P		P	00 09 14.0	-0.1	
	baz=85,SNR=9.1								
T27A	Campo	84.58	49	⇑P		P	00 09 13.6	-0.5	
	baz=85,SNR=13								
W29A	Amraillo	84.59	51	⇑P		P	00 09 13.9	-0.3	
	baz=85,SNR=12								
131A	Roby	84.61	54	⇑P		P	00 09 14.0	-0.3	
	baz=85,SNR=14								
332A	Millersview	84.63	55	⇑P		P	00 09 13.8	-0.6	
	baz=85,SNR=26								
N24A	Carr	84.64	45	⇑P		P	00 09 14.8	+0.3	
	baz=85,SNR=8.6								
L23A	Garrett	84.66	44	⇓P		P	00 09 14.0	-0.6	
	baz=85,SNR=12								
U28A	Mallet	84.66	50	⇑P		P	00 09 14.1	-0.5	
	baz=85								
Y30A	Stafford Cattl	84.67	53	⇑P		P	00 09 14.2	-0.5	
	baz=85								
S27A	Las Animas	84.70	49	⇓P		P	00 09 14.3	-0.5	
	baz=85								
E19A	Rath Farm, Rou	84.74	39	⇑P		P	00 09 15.4	+0.7	
	baz=85,SNR=18								
J22A	Midwest	84.74	42	⇓P		P	00 09 13.9	-1.0	
	baz=85,SNR=10								
KVTX	Kingsville	84.74	60	PFAKE			00 09 30.0	+15	
KVTX				LR		LR			
	comp=Z,601nm,22.0s								
Q26A	Hugo	84.77	47	⇑P		P	00 09 14.8	-0.4	
	baz=85								
F20A	Billings	84.81	40	⇓P		P	00 09 15.4	+0.3	
	baz=85								
O25A	Wiggins	84.86	46	⇑P		P	00 09 15.7	+0.2	
	baz=85								
232A	Coleman	84.89	55	⇓P		P	00 09 15.5	-0.3	
	baz=85,SNR=23								
X30A	Coker Ranch, T	84.91	52	⇑P		P	00 09 15.9	+0.1	
	baz=85								
EGMT	Eagleton	84.94	37	eP		P	00 09 16.6	+0.9	
	comp=Z,235nm,2.2s								
EGMT				LR		LR			
	comp=Z,1μm,19.0s								
EGMT	Eagleton	84.94	37	⇑P		P	00 09 15.4	-0.2	
	baz=85,SNR=12								
H21A	Big Horn, Sher	84.94	41	⇑P		P	00 09 15.9	+0.1	
	baz=85								
I22A	9 Mile Ranch,	84.95	42	⇓P		P	00 09 15.2	-0.7	
	baz=85,SNR=10								
M24A	Cheyenne	84.96	45	⇓P		P	00 09 16.2	+0.2	
	baz=85								
V29A	Stinnett	84.98	51	⇑P		P	00 09 16.0	-0.2	
	baz=85								
K23A	Bowen Ranch, D	85.00	43	⇑P		P	00 09 16.2	0.0	
	baz=85								
R27A	Eads	85.02	48	⇑P		P	00 09 15.6	-0.7	
	baz=85,SNR=6.9								
D19A	Cripps Ranch,	85.03	38	⇑P		P	00 09 17.0	+0.9	
	baz=85								
Z31A	Sharp Cattle R	85.04	54	⇑P		P	00 09 16.0	-0.4	
	baz=85,SNR=25								
T28A	Walsh	85.04	49	⇑P		P	00 09 15.8	-0.6	
	baz=85								
G21A	Lodge Grass	85.11	40	⇓P		P	00 09 17.2	+0.5	
	baz=85								
L24A	Wheatland	85.14	44	⇑P		P	00 09 17.6	+0.7	
	baz=85								
E20A	Meyer Farm, Mu	85.15	39	⇑P		P	00 09 16.7	0.0	
	baz=85,SNR=10								
P26A	Davis Ranch, A	85.16	47	⇓P		P	00 09 16.8	-0.3	
	baz=85								
ABTX	Abilene, Hawle	85.17	54	eP		P	00 09 17.3	+0.2	
ABTX	Abilene, Hawle	85.17	54	⇑P		P	00 09 16.8	-0.3	
	baz=85,SNR=39								
N25A	Grover	85.18	45	⇑P		P	00 09 17.2	0.0	
	baz=85								
Y31A	Rekieta Farm,	85.19	53	⇓P		P	00 09 16.8	-0.4	
	baz=85,SNR=18								
C19A	Slack Wire Ran	85.21	38	⇓P		P	00 09 17.6	+0.6	
	baz=86,SNR=22								
J23A	Dilts Ranch, B	85.34	43	⇓P		P	00 09 17.9	0.0	
	baz=86								
H22A	Clearmont	85.36	41	⇑P		P	00 09 17.6	-0.3	
	baz=86								
S28A	Manter	85.39	49	⇑P		P	00 09 17.7	-0.5	
	baz=86								
U29A	Oasis Ranch, S	85.40	50	⇑P		P	00 09 18.0	-0.3	
	baz=86								
W30A	Crocket Farms	85.42	52	⇑P		P	00 09 18.8	+0.4	
	baz=86								
D20A	Manuel Ranch,	85.43	38	⇓P		P	00 09 17.9	-0.2	
	baz=86,SNR=10								
KSCO	Kaye Shedlock'	85.44	48	eP		P	00 09 21.3	+2.8	
KSCO	Kaye Shedlock'	85.44	48	⇑P		P	00 09 18.1	-0.4	
	baz=86								
F21A	Absaloka Mine,	85.45	40	⇓P		P	00 09 18.6	+0.3	
	baz=86								
M25A	Palm-Egli Farm	85.47	45	⇓P		P	00 09 18.6	0.0	
	baz=86								
O26A	Horse Wrangler	85.47	46	⇑P		P	00 09 18.0	-0.6	
	baz=86								
K24A	Anderson Ranch	85.52	43	⇑P		P	00 09 18.1	-0.7	
	baz=86								
Z32A	Haskell	85.55	54	⇑P		P	00 09 19.1	+0.1	
	baz=86,SNR=73								
V30A	Spur Ranch, Mi	85.56	51	⇑P		P	00 09 19.0	-0.1	
	baz=86								
USHA	Ushuaia	85.56	146	LR		LR	00 38 31.1		
	comp=Z,3μm,21.1s,baz=234,slow=29								
B19A	Brinkman Farms	85.62	37	⇑P		P	00 09 19.2	+0.2	
	baz=86,SNR=11								
I23A	Meade Ranch, G	85.64	42	⇑P		P	00 09 19.0	-0.3	
	baz=86								
X31A	McDonald Ranch	85.67	52	⇑P		P	00 09 18.9	-0.7	
	baz=86								
G22A	Birney	85.69	41	⇓P		P	00 09 19.7	+0.2	
	baz=86								
EDM	Edmonton	85.72	31	eP		P	00 09 18.7	-0.7	
EDM	Edmonton	85.72	31	eP		P	00 09 18.7	-0.7	
R28A	Tribune	85.75	48	⇑P		P	00 09 19.5	-0.5	
	baz=86,SNR=13								
N26A	Koester Ranch,	85.78	46	⇑P		P	00 09 19.2	-0.9	
	baz=86								
BJT	Baijiatuan	85.79	313	PFAKE			00 09 30.0	+10	
BJT				LR		LR			
	comp=Z,673nm,22.0s								
BJI	Beijing	85.80	313	P		P	00 09 20.5	+0.5	
BJI				S		S	00 19 46.5	-6.1	
BJI				AMB		AMB			
	comp=Z,15nm,1.0s								
BJI				AMB		AMB			
	comp=Z,300nm,4.8s								
BJI				LR		LR			
	comp=Z,600nm,19.4s								
BJI				LR		LR			
	comp=Z,650nm,26.6s								
BJI				LR		LR			
	comp=Z,980nm,26.2s								
C20A	Veseth Ranch,	85.81	38	⇓P		P	00 09 19.5	-0.5	
	baz=86,SNR=14								
L25A	Engebretsen Ra	85.84	44	⇑P		P	00 09 19.8	-0.5	
	baz=86								
Y32A	R-V Farms, Ver	85.84	53	⇓P		P	00 09 20.1	-0.3	
	baz=86,SNR=20								
J24A	Dixon Ranch, L	85.89	43	⇓P		P	00 09 20.2	-0.3	
	baz=86								
W31A	Holland Ranch,	85.90	52	⇑P		P	00 09 20.7	0.0	
	baz=86								
F22A	Rosebud	85.96	40	⇑P		P	00 09 20.7	-0.1	
	baz=86								
S29A	Ulysses	85.97	49	⇓P		P	00 09 20.7	-0.4	
	baz=86								
A19A	Klindworth Far	85.97	37	⇑P		P	00 09 20.8	0.0	
	baz=86								
Q28A	Sharon Springs	86.03	48	⇑P		P	00 09 21.6	+0.3	
	baz=86								
O27A	Beecher Island	86.03	46	⇓P		P	00 09 21.8	+0.4	
	baz=86								
K25A	Mack Ranch, Ha	86.10	44	⇓P		P	00 09 22.4	+0.7	
	baz=86								
M26A	McRoberts Ranc	86.10	45	⇓P		P	00 09 21.9	+0.2	
	baz=86								
D21A	La Casta Ranch	86.11	39	⇓P		P	00 09 22.0	+0.5	
	baz=86								
I24A	Kuemmerle Ranc	86.14	42	⇑P		P	00 09 21.7	-0.1	
	baz=86								
B20A	Solberg Farm,	86.15	37	⇓P		P	00 09 21.6	-0.1	
	baz=86								
T30A	Plains	86.18	50	⇑P		P	00 09 21.8	-0.3	
	baz=86								
V31A	Spring Creek L	86.20	51	⇑P		P	00 09 22.8	+0.6	
	baz=86								
G23A	Biddle	86.25	41	⇑P		P	00 09 22.2	0.0	
	baz=86								
N27A	Anderson Farm,	86.25	46	⇓P		P	00 09 21.9	-0.4	
	baz=86								
R29A	Marienthal	86.27	49	⇑P		P	00 09 22.3	-0.2	
	baz=86,SNR=5.2								
P28A	Saint Francis	86.29	47	⇑P		P	00 09 23.0	+0.4	
	baz=86								
L26A	Underwood Farm	86.39	45	⇓P		P	00 09 22.8	-0.3	
	baz=87								
LAO	LASA Array	86.40	39	eP		P	00 09 23.1	+0.1	
LAO	comp=Z,55nm,1.2s			LR		LR			
	comp=Z,776nm,20.0s								
C21A	Desert Coulee	86.40	38	⇑P		P	00 09 23.0	+0.1	
	baz=87								
A20A	Cobblestone Ra	86.42	37	⇑P		P	00 09 22.7	-0.2	
	baz=87,SNR=19								
U31A	Nine Bar Ranch	86.42	51	⇑P		P	00 09 23.1	-0.2	
	baz=87								
E22A	Miles City	86.46	40	⇑P		P	00 09 23.0	-0.2	
	baz=87								
S30A	Montezuma	86.46	49	⇑P		P	00 09 22.7	-0.8	
	baz=87								
J25A	Sunshine Ranch	86.48	43	⇓P		P	00 09 23.3	-0.1	
	baz=87								
H24A	Dirks Ranch, A	86.58	42	⇑P		P	00 09 23.7	-0.2	
	baz=87								
K26A	Motz Farm, Whi	86.60	44	⇓P		P	00 09 24.3	+0.2	
	baz=87								
WMOK	Wichita Mounta	86.62	53	PFAKE			00 09 40.0	+16	
WMOK				LR		LR			
	comp=Z,440nm,20.0s								
RSSD	Black Hills	86.64	42	eP		P	00 09 24.8	+0.4	
RSSD				pmax		pmax			
	comp=Z,258nm,2.7s								
RSSD	Black Hills	86.64	42	eP		P	00 09 24.8	+0.4	
	comp=Z,258nm,2.7s								
D22A	Cohagen	86.64	39	⇑P		P	00 09 24.5	+0.5	
	baz=87								
M27A	Reverse DX Ran	86.64	45	⇑P		P	00 09 24.8	+0.4	
	baz=87								
COCO	West Island	86.65	258	PFAKE			00 09 40.0	+15	
COCO				LR		LR			
	comp=Z,771nm,20.0s								
WHTX	Lake Whitney	86.66	56	eP		P	00 09 23.9	-0.5	
WHTX	Lake Whitney	86.66	56	⇓P		P	00 09 24.5	0.0	
	baz=87								
B21A	Ellsworth Farm	86.73	38	⇓P		P	00 09 24.9	+0.4	
	baz=87								
I25A	Rochford	86.79	43	⇑P		P	00 09 24.8	-0.3	
	baz=87								
T31A	Randall Ranch,	86.83	50	⇓P		P	00 09 24.6	-0.6	
	baz=87								
R30A	Dighton	86.84	49	⇓P		P	00 09 24.9	-0.4	
	baz=87								
E23A	Ismay	86.88	40	⇑P		P	00 09 25.3	+0.1	
	baz=87								
P29A	Atwood	86.89	48	⇓P		P	00 09 25.2	-0.3	
	baz=87								
N28A	Pribbeno Ranch	86.89	46	⇑P		P	00 09 25.2	-0.3	
	baz=87								
G24A	Alzada	86.92	41	⇓P		P	00 09 25.4	-0.2	
	baz=87								
L27A	T5 Ranch, Ells	86.92	45	⇓P		P	00 09 25.2	-0.4	
	baz=87								
J26A	Sides Ranch, S	86.92	43	⇓P		P	00 09 25.4	-0.2	
	baz=87								
A21A	Bergtoll Ranch	87.05	37	⇓P		P	00 09 26.1	0.0	
	baz=87								
C22A	Vida	87.09	39	⇓P		P	00 09 26.0	-0.3	
	baz=87								
F24A	Ekalaka	87.13	41	⇑P		P	00 09 26.3	-0.3	
	baz=87								
H25A	Fruitdale	87.14	42	⇓P		P	00 09 26.5	-0.1	
	baz=87								
Q30A	Quinter	87.15	48	⇓P		P	00 09 26.5	-0.2	
	baz=87								
S31A	Mullinville	87.17	50	⇑P		P	00 09 26.6	-0.3	
	baz=87								
K27A	Flueckinger Fa	87.23	44	⇓P		P	00 09 26.5	-0.7	
	baz=88								
D23A	Lindsay	87.24	39	⇓P		P	00 09 27.0	-0.1	
	baz=88								
HKT	Hockley	87.27	58	eP		P	00 09 29.3	+1.9	
HKT				pmax		pmax			
	comp=Z,91nm,1.7s								
HKT	Hockley	87.27	58	eP		P	00 09 29.2	+1.9	
	comp=Z,90nm,1.7s								
B22A	Reddig Ranch S	87.28	38	⇓P		P	00 09 27.3	+0.1	
	baz=88								
M28A	Bar X Bar Ranc	87.29	46	⇑P		P	00 09 26.6	-0.8	
	baz=88								
APG	El Apazote	87.31	74	LR		LR	00 40 25.9		
	comp=Z,199nm,18.3s,baz=249,slow=30								
P30A	Selden	87.35	48	⇑P		P	00 09 27.4	-0.3	
	baz=88								
I26A	New Underwood	87.37	43	⇓P		P	00 09 26.6	-1.1	
	baz=88								
T32A	Huddler Ranch,	87.42	50	⇓P		P	00 09 27.5	-0.5	
	baz=88								
L28A	Connealy Angus	87.43	45	⇑P		P	00 09 27.6	-0.6	
	baz=88								
G25A	Newell	87.50	42	⇑P		P	00 09 27.5	-0.8	
	baz=88								
MAW	Mawson	87.50	199	P		P	00 09 28.2	+0.3	
MAW	Mawson	87.50	199	P		P	00 09 28.2	+0.3	
	comp=Z,18nm,1.2s,baz=106,slow=5.2,SNR=19								
MAW				LR		LR	00 46 09.0		
	comp=Z,3μm,20.1s,baz=122,slow=34								
E24A	Baker	87.53	40	⇓P		P	00 09 28.4	0.0	
	baz=88								
C23A	Lambert	87.54	39	⇓P		P	00 09 28.6	+0.2	
	baz=88								
HIA	Hailar	87.55	323	PFAKE			00 09 40.0	+12	
HIA				LR		LR			
	comp=Z,2μm,21.0s								
S32A	Newby Ranch, P	87.60	50	⇑P		P	00 09 27.8	-1.1	
	baz=88								
J27A	Elkhorn Farm,	87.61	44	⇓P		P	00 09 28.8	-0.2	
	baz=88,SNR=7.4								
KULM	Kulim	87.65	276	PFAKE			00 09 40.0	+10	
KULM				LR		LR			
	comp=Z,425nm,20.0s								
Q31A	Ellis	87.75	49	⇓P		P	00 09 29.3	-0.4	
	baz=88								
D24A	Glendive	87.76	40	⇑P		P	00 09 29.4	-0.1	
	baz=88								
F25A	Bowman	87.78	41	⇑P		P	00 09 29.6	0.0	
	baz=88								
C24A	Savage	87.88	39	⇓P		P	00 09 29.8	-0.2	
	baz=88								
T33A	Patterson Ranc	87.88	51	⇓P		P	00 09 30.3	0.0	
	baz=88								
I27A	Quinn	87.91	43	⇑P		P	00 09 29.9	-0.5	
	baz=88								
N30A	Hueftle Ranch,	87.94	47	⇑P		P	00 09 29.9	-0.6	
	baz=88								
B23A	Brockton	87.95	38	⇓P		P	00 09 30.3	-0.1	
	baz=88								
P31A	Stockton	87.96	48	⇑P		P	00 09 30.5	-0.1	
	baz=88								
G26A	Maurine	88.06	42	⇑P		P	00 09 30.8	-0.2	
	baz=88								
E25A	Miller Ranch,	88.06	40	⇑P		P	00 09 31.1	+0.1	
	baz=88								
L29A	Maesberg Ranch	88.17	45	⇑P		P	00 09 31.5	-0.1	
	baz=88								
J28A	Allard Ranch,	88.19	44	⇑P		P	00 09 31.7	0.0	
	baz=88								
A23A	Redstone	88.24	38	⇓P		P	00 09 31.9	+0.2	
	baz=88								
O31A	Woolen Ranch,	88.24	47	⇑P		P	00 09 31.8	-0.1	
	baz=88								
GYA	Guiyang	88.31	298	⇑iP		P	00 09 33.0	+0.3	
GYA				PP		PP	00 13 02.0	+1.5	
GYA				SKS		SKSac	00 20 01.5	-0.1	
GYA				S		S	00 20 18.0	+0.2	
GYA				SS		SS	00 26 10.0	+2.2	
GYA				AMB		AMB			
	comp=Z,50nm,1.0s								
GYA				AMB		AMB			
	comp=Z,150nm,5.3s								
GYA				LR		LR			
	comp=Z,970nm,20.4s								
GYA				LR		LR			
	comp=Z,780nm,21.2s								
GYA				LR		LR			
	comp=Z,860nm,20.7s								
Q32A	Meitler Ranch,	88.35	49	⇓P		P	00 09 32.2	-0.3	
	baz=89								
M30A	Dale-Ortello V	88.38	46	⇓P		P	00 09 32.8	+0.2	
	baz=89								
D25A	Fairfield	88.39	40	⇑P		P	00 09 33.0	+0.5	
	baz=89								
DGMT	Dagmar	88.43	38	eP		P	00 09 33.8	+1.2	
	comp=Z,63nm,1.0s								
DGMT				LR		LR			
	comp=Z,2μm,20.0s								
DGMT	Dagmar	88.43	38	⇓P		P	00 09 33.1	+0.4	
	baz=89								
G27A	Dupree	88.53	42	⇑P		P	00 09 33.0	-0.2	
	baz=89								
INK	Inuvik	88.58	14	eP		P	00 09 32.3	-0.5	
	comp=Z,31nm,1.1s								
PSI	Prapat	88.63	273	P		P	00 09 40.5	+6.0	
E26A	Carlson Angus	88.64	41	⇓P		P	00 09 32.9	-0.8	
	baz=89								
C25A	Freed Ranch, W	88.67	39	⇓P		P	00 09 33.6	-0.2	
	baz=89								
F27A	Lemmon	88.67	41	⇑P		P	00 09 33.6	-0.3	
	baz=89								
A24A	Westby	88.74	38	⇑P		P	00 09 34.2	+0.1	
	baz=89								
N31A

PLCA LR LR 00 40 51.4
comp=Z,1µm,20.2s,baz=265,slow=30
E27A Carson 89.19 41 ⇑P **P** **00 09 35.6 -0.7**
baz=89
N32A Stulken Farm, 89.19 47 ⇓P **P** **00 09 36.2 -0.2**
baz=89
A25A Svangstu Ranch 89.28 38 ⇑P **P** **00 09 36.7 +0.1**
baz=90
L31A Butterfield Fa 89.34 46 ⇓P **P** **00 09 36.4 -0.7**
baz=90
HHC Hu-ho-hao-te 89.35 313 *e*P **P** **00 09 37.5 +0.2**
HHC sP **sP** **00 09 43.5 -0.4**
HHC PP **PP** **00 13 11.0 +2.5**
HHC SKS **SKSac** **00 20 05.0 -2.2**
HHC S **S** **00 20 25.0 -2.0**
HHC sS **ScS** **00 20 32.5 +0.8**
HHC SS **SS** **00 26 23.0 +0.7**
HHC AMB AMB
comp=Z,42nm,1.1s
HHC AMB AMB
comp=Z,260nm,6.6s
HHC LR LR
comp=Z,800nm,16.9s
HHC LR LR
comp=Z,1µm,17.5s
HHC LR LR
comp=Z,1µm,18.9s
C26A Wahner Farm, P 89.43 40 ⇑P **P** **00 09 37.2 -0.1**
baz=90
F28A McLaughlin 89.44 42 ⇓P **P** **00 09 37.3 -0.2**
baz=90
D27A Center 89.49 40 ⇓P **P** **00 09 37.3 -0.4**
baz=90
GSI Gunungsitoli 89.53 271 *e*P **P** **00 09 40.2 +1.6**
comp=Z,121nm,1.5s
BGNE Belgrade 89.53 47 ⇓P **P** **00 09 37.0 -1.0**
baz=90
KSU1 Kansas State U 89.81 49 *e*P P 00 09 43.8 +4.5
comp=Z,141nm,2.5s
KSU1 LR LR
comp=Z,770nm,20.0s
A26A Wade Farm, Ken 89.90 39 ⇓P **P** **00 09 39.6 0.0**
baz=90
TGUH Tegucigalpa,Un 90.00 75 PFAKE 00 09 50.0 +9.3
TGUH LR LR
comp=Z,317nm,20.0s
BRSD Miller 90.11 44 ⇓P **P** **00 09 40.2 -0.4**
baz=90
BTO Baotou 90.36 312 *e*P **P** **00 09 41.0 -1.0**
YKA Yellowknife Ar 90.37 23 P **P** **00 09 40.0 -1.3**
YKA Yellowknife Ar 90.37 23 P **P** **00 09 40.0 -1.3**
comp=Z,15nm,1.0s,baz=238,slow=4.3,SNR=7.4
LOEI Loei 90.45 288 P **P** **00 09 42.7 -0.1**
comp=Z,22nm,0.9s
MIAR Mount Ida 90.58 54 *e*P **P** **00 09 44.1 +1.1**
MIAR pmax pmax
comp=Z,201nm,2.8s
MIAR MLR MLR
comp=Z,572nm,20.0s
MIAR Mount Ida 90.58 54 *e*P **P** **00 09 44.1 +1.1**
comp=Z,201nm,2.8s
MIAR LR LR
comp=Z,572nm,20.0s
TEIG Tepich 90.80 69 PFAKE 00 10 00.0 +16
TEIG LR LR
comp=Z,374nm,19.0s
E30A Jud 90.91 42 ⇑P **P** **00 09 44.1 -0.2**
baz=91
A28A Rude Farm, Bot 90.98 39 ⇓P **P** **00 09 44.3 -0.3**
baz=91
JTS JuntasAbangare 91.16 80 *e*P **P** **00 09 48.9 +2.8**
comp=Z,171nm,2.1s
JTS LR LR
comp=Z,798nm,19.0s
D30A Buchanan 91.23 41 ⇓P **P** **00 09 45.3 -0.4**
baz=92
KMI Kunming 91.28 296 P **P** **00 09 47.8 +1.0**
KMI pP **pP** **00 09 51.0 -0.7**
KMI PP **PP** **00 13 27.8 +3.5**
KMI SKS **SKSac** **00 20 18.8 -0.5**
KMI S **S** **00 20 44.8 -0.9**
KMI SS **SS** **00 26 51.5 +0.4**
KMI AMB AMB
comp=Z,85nm,3.1s
KMI LR LR
comp=Z,380nm,12.6s
KMI LR LR
comp=Z,630nm,15.6s
KMI LR LR
comp=Z,770nm,16.9s
B29A Wagenman Farm, 91.37 40 ⇑P **P** **00 09 46.3 0.0**
baz=92
ECSD EROS Data Cent 91.42 45 *e*P **P** **00 09 47.2 +0.5**
comp=Z,150nm,2.8s
ECSD LR LR
comp=Z,1µm,21.0s
A29A Manning Farm, 91.61 39 ⇓P **P** **00 09 47.1 -0.4**
baz=92
UALR University of 91.62 54 *e*P **P** **00 09 47.8 -0.1**
comp=Z,26nm,0.9s
CD2 Chengdu 92.09 301 P **P** **00 09 51.0 +0.8**
CD2 pP **pP** **00 09 55.8 +0.7**
CD2 sP **sP** **00 09 58.0 +1.2**
CD2 PP **PP** **00 13 33.8 +3.4**
CD2 SKS **SKSac** **00 20 22.5 -0.8**
CD2 S **S** **00 20 50.8 -1.6**
CD2 sS **sS** **00 20 58.3 -2.2**
CD2 SS **SS** **00 27 03.8 +1.5**
CD2 AMB AMB
comp=Z,10.0nm,0.5s
CD2 AMB AMB
comp=Z,360nm,4.1s
CD2 LR LR
comp=Z,890nm,22.2s
CD2 LR LR
comp=Z,1µm,26.4s
A30A Hoffart Farm, 92.19 40 ⇓P **P** **00 09 49.8 -0.4**
baz=92
SYO Syowa Base 92.28 191 ⇓*e*P **P** **00 09 49.4 -0.8**
SYO Syowa Base 92.28 191 ⇑*e*pP pP 00 09 54.8 -0.3
FFC Flin Flon 92.33 33 PFAKE 00 10 00.0 +9.4
FFC LR LR
comp=Z,603nm,21.0s
EFI East Falkland 92.54 146 PFAKE 00 10 00.0 +8.2
EFI LR LR
comp=Z,1µm,20.0s
SNAA Sanae 92.55 177 *e*P **P** **00 09 52.5 +0.9**
comp=Z,24nm,1.0s
ATAH Atahualpa 92.75 98 LR LR 00 40 51.4
comp=Z,449nm,19.7s,baz=238,slow=29
CMAR Chiang Mai Arr 92.84 288 P **P** **00 09 54.2 +0.4**
CMAR PP **PP** **00 13 38.4 +2.0**
CMAR Chiang Mai Arr 92.84 288 P **P** **00 09 54.2 +0.4**
comp=Z,2.5nm,0.5s,baz=96,slow=2.9,SNR=16
CMAR PP **PP** **00 13 38.4 +2.0**
comp=Z,0.5nm,0.3s,baz=79,slow=5.6,SNR=2.7
CMAR LR LR 00 46 16.1
comp=Z,669nm,21.1s,baz=277,slow=32
CHTO Chiang Mai 92.93 289 *e*P **P** **00 09 55.3 +1.0**
CHTO pmax pmax
comp=Z,36nm,1.9s
CHTO MLR MLR
comp=Z,771nm,22.0s
CHTO Chiang Mai 92.93 289 P **P** **00 09 55.4 +1.1**
comp=Z,26nm,1.1s
CHTO Chiang Mai 92.93 289 *e*P **P** **00 09 55.3 +1.0**
comp=Z,36nm,1.9s
CHTO LR LR
comp=Z,771nm,22.0s
CHTO Chiang Mai 92.93 289 P **P** **00 09 55.4 +1.1**
LCO Las Campanas 93.06 121 PFAKE 00 10 10.0 +15
LCO LR LR
comp=Z,783nm,20.0s
SCIA State Center 93.18 47 PFAKE 00 10 10.0 +15
SCIA LR LR
comp=Z,988nm,21.0s
AGMN Agassiz Nation 93.48 41 *e*P **P** **00 09 56.1 0.0**
comp=Z,27nm,1.3s
AGMN LR LR
comp=Z,1µm,20.0s
LZH Lanzhou 93.53 306 *e*P **P** **00 09 59.3 +2.5**
LZH pP **pP** **00 10 03.5 +1.8**
LZH sP **sP** **00 10 07.0 +3.5**
LZH SKS **SKSac** **00 20 32.0 +0.7**
LZH *e*S **S** **00 21 04.3 -0.9**
LZH sS **sS** **00 21 12.5 -0.8**
LZH SS **SS** **00 27 17.3 -5.5**
LZH AMB AMB
comp=Z,53nm,1.2s
LZH AMB AMB
comp=Z,300nm,4.4s
LZH LR LR
comp=Z,2µm,16.4s
LZH LR LR
comp=Z,860nm,16.0s
LZH LR LR
comp=Z,3µm,18.7s
MAIT Maitri 93.62 182 *e*P **P** **00 09 55.5 -1.0**
MAIT Maitri 93.62 182 *e*P **P** **00 09 55.3 -1.1**
PBMO Poplar Bluff 93.70 53 *e*P **P** **00 09 57.8 +0.5**
comp=Z,46nm,1.5s
OXF Oxford 93.85 55 *e*P **P** **00 09 59.5 +1.4**
OXF pmax pmax
comp=Z,48nm,1.3s
OXF MLR MLR
comp=Z,542nm,19.0s
OXF Oxford 93.85 55 *e*P **P** **00 09 59.5 +1.4**
comp=Z,48nm,1.3s
OXF LR LR
comp=Z,542nm,19.0s
ULM Lac du Bonnet 94.13 39 P **P** **00 09 58.0 -1.1**
ULM Lac du Bonnet 94.13 39 P **P** **00 09 58.0 -1.1**
comp=Z,8.6nm,0.9s,baz=270,slow=6.2,SNR=4.5
ULM LR LR 00 47 13.6
comp=Z,1µm,19.7s,baz=248,slow=32
CFAA Coronel Fontan 94.16 124 LR LR 00 43 08.3
comp=Z,102nm,19.9s,baz=257,slow=30
PARMO Parma 94.19 53 *e*P **P** **00 10 01.7 +2.0**
SPMN St. Paul 94.49 44 *e*P **P** **00 10 01.8 +0.9**
SPMN St. Paul 94.49 44 ⇑P **P** **00 10 01.0 +0.2**
baz=95
OTAV Otavalo 94.71 91 PFAKE 00 10 10.0 +6.8
OTAV LR LR
comp=Z,347nm,20.0s
ULN Ulaanbaatar 94.77 318 PFAKE 00 10 10.0 +7.7
ULN LR LR
comp=Z,912nm,21.0s
SONM Songino Array 95.19 318 P **P** **00 10 03.6 -0.5**
SONM PP PP 00 14 00.1 +5.8
SONM Songino Array 95.19 318 P **P** **00 10 03.6 -0.5**
comp=Z,0.6nm,0.9s,baz=122,slow=2.2,SNR=3.1
SONM PP PP 00 14 00.1 +5.8
comp=Z,0.5nm,0.9s,baz=114,slow=6.6,SNR=4.3
SONM LR LR 00 47 57.1
comp=Z,555nm,21.6s,baz=155,slow=32
TIXI Tiksi 95.37 344 ⇑*i*P **P** **00 10 03.8 -0.4**
TIXI pmax pmax
comp=Z,3.0nm,1.1s
LRAL Lakeview Retre 95.39 57 PFAKE 00 10 20.0 +15
LRAL LR LR
comp=Z,289nm,19.0s
JFWS Jewell Farm 95.58 47 *e*P **P** **00 10 05.3 -0.6**
JFWS pmax pmax
comp=Z,24nm,0.9s
JFWS MLR MLR
comp=Z,865nm,19.0s
JFWS Jewell Farm 95.58 47 *e*P **P** **00 10 05.2 -0.6**
comp=Z,24nm,0.9s
JFWS LR LR
comp=Z,865nm,19.0s
TRQA Tornquist 96.34 132 PFAKE 00 10 20.0 +10
TRQA LR LR
comp=Z,1µm,22.0s
LVC Limon Verde 96.75 116 *e*P P 00 10 16.7 +4.6
comp=Z,18nm,1.4s
LVC LR LR
comp=Z,794nm,19.0s
SWET Sewanee 96.80 55 *e*P **P** **00 10 12.2 +0.6**
comp=Z,188nm,2.9s
SFIN Scholer Farm 97.19 50 ⇑P **P** **00 10 12.1 -1.1**
baz=97
COWI Conover 97.20 44 *e*P **P** **00 10 12.6 -0.6**
comp=Z,34nm,1.2s
GTA Gaotai 97.49 309 *e*P **P** **00 10 14.5 -0.3**
GTA pP **pP** **00 10 18.5 -1.2**
GTA sP **sP** **00 10 21.5 +0.1**
GTA SKS **SKSac** **00 20 50.3 -1.8**
GTA S **S** **00 21 35.5 -3.9**
GTA SS **SS** **00 28 19.8 +0.9**
GTA AMB AMB
comp=Z,3.0nm,1.3s
GTA AMB AMB
comp=Z,85nm,6.6s
GTA LR LR
comp=Z,450nm,20.9s
GTA LR LR
comp=Z,950nm,21.8s
GTA LR LR
comp=Z,1µm,21.4s
LPAZ La Paz 99.58 110 P **Pdif** **00 10 26.1 +0.7**
LPAZ La Paz 99.58 110 P **Pdif** **00 10 26.1 +0.7**
comp=Z,1.4nm,1.1s,baz=302,slow=1.7,SNR=4.1
LPAZ LR LR 00 46 39.5
comp=Z,321nm,20.4s,baz=239,slow=30
ROSC El Rosal 99.90 88 P **Pdif** **00 10 28.0 +1.6**
ROSC El Rosal 99.90 88 P **Pdif** **00 10 28.0 +1.6**
comp=Z,5.1nm,0.3s,baz=276,slow=19,SNR=3.6
ACSO Alum Creek Sta 100.22 51 PFAKE 00 10 40.0 +13
ACSO LR LR
comp=Z,839nm,21.0s
BLA Blacksburg 101.58 54 PFAKE 00 10 40.0 +7.0
BLA LR LR
comp=Z,415nm,20.0s
LSA Lhasa 102.38 298 PFAKE 00 10 50.0 +13
LSA LR LR
comp=Z,448nm,21.0s
GTBY Guantanamo Bay 102.71 73 PFAKE 00 10 50.0 +12
GTBY LR LR
comp=Z,251nm,19.0s
ERPA Erie 102.79 50 PFAKE 00 10 50.0 +12
ERPA LR LR
comp=Z,784nm,19.0s
CNNC Cliffs of the 103.24 57 PFAKE 00 10 50.0 +10
CNNC LR LR
comp=Z,526nm,21.0s
CBN Corbin 104.13 54 PFAKE 00 11 00.0 +16
CBN LR LR
comp=Z,719nm,20.0s
SDDR Presa de Saban 106.05 74 PFAKE 00 15 20.0
SDDR LR LR
comp=Z,353nm,19.0s
SAML Samuel 106.57 105 PFAKE 00 15 20.0
SAML LR LR
comp=Z,504nm,21.0s
LONY Lake Ozonia 107.03 48 PFAKE 00 15 20.0
LONY LR LR
comp=Z,824nm,22.0s
WMQ Urumqi 107.19 312 *e*Pdif **Pdif** **00 10 58.3 +0.5**
WMQ PP **PP** **00 15 28.3 +3.3**
WMQ S **Sdif** **00 22 54.5 -5.7**
WMQ SS **SS** **00 30 30.0 -2.7**
WMQ PPMZ
comp=Z,140nm,5.6s
WMQ LR LR
comp=Z,470nm,23.8s
WMQ LR LR
comp=Z,340nm,24.8s
WMQ LR LR
comp=Z,460nm,24.4s
NCB Newcomb 107.22 48 PFAKE 00 15 20.0
NCB LR LR
comp=Z,1µm,20.0s
LBNH Lisbon 108.89 48 PFAKE 00 15 20.0
LBNH LR LR
comp=Z,2µm,19.0s
ZALV Zalesovo Beam 109.57 322 PP PP 00 15 50.0 +8.1
ZALV Zalesovo Beam 109.57 322 PP PP 00 15 50.0 +8.1
comp=Z,0.3nm,0.4s,baz=95,slow=4.9,SNR=3.6
MKAR Makanchi Array 111.16 314 PKIKP **PKiKP** **00 15 13.2 -1.0**
MKAR Makanchi Array 111.16 314 PKiKP **PKiKP** **00 15 13.2 -1.0**
MKAR Makanchi Array 111.16 314 PKiKP **PKiKP** **00 15 13.2 -1.0**
comp=Z,0.6nm,0.8s,baz=97,slow=2.9,SNR=3.5
KURK Kurchatov 113.48 319 *i* PKiKP **PKiKP** **00 15 16.6 -1.9**
KURK Kurchatov 113.48 319 PFAKE 00 15 30.0
KURK LR LR
comp=Z,508nm,20.0s
GRGR Grenville 113.79 83 PFAKE 00 15 30.0
GRGR LR LR
comp=Z,402nm,21.0s
BBSR BB Station 113.79 61 PFAKE 00 15 30.0
BBSR LR LR
comp=Z,144nm,21.0s
SPB Sao Paulo 114.20 125 PFAKE 00 15 30.0 +9.3
SPB LR LR
comp=Z,783nm,20.0s
KSH Kashi 115.78 307 *e*PKP **PKPdf** **00 15 26.5 +3.0**
KSH PP PP 00 16 34.0 +7.2
TKM2 Tokmak 2 115.98 310 PFAKE 00 15 40.0 +16
TKM2 LR LR
comp=Z,589nm,20.0s
KBS Kingsbay 116.75 359 PFAKE 00 15 40.0 +16
KBS LR LR
comp=Z,574nm,22.0s
AAK Ala-Archa 116.80 310 PFAKE 00 15 40.0 +15
AAK LR LR
comp=Z,635nm,21.0s
EKS2 Erkin-Say 117.33 310 PFAKE 00 15 40.0 +14
EKS2 LR LR
comp=Z,690nm,20.0s
BRVK Borovoye 118.29 322 *e*PKIKP **PKPdf** **00 15 27.1 -0.6**
BRVK MLR MLR
comp=Z,1µm,20.0s
BRVK Borovoye 118.29 322 *e*PKPdf **PKPdf** **00 15 27.1 -0.6**
BRVK LR LR
comp=Z,1µm,20.0s
KBL Kabul 121.44 301 *e*PKIKP **PKPdf** **00 15 34.0 -0.6**
KBL Kabul 121.44 301 *e*PKPdf **PKPdf** **00 15 34.0 -0.6**
SVE Sverdlovsk 122.49 328 *i* PKIKP **PKPdf** **00 15 35.8 +0.2**
SVE pmax pmax
comp=Z,15nm,1.2s
SVE MLR MLR
comp=Z,922nm,21.0s
SOKR Solikamsk 123.14 332 *i* PKIKP PKPdf 00 15 47.2 +10
SOKR pmax pmax
comp=Z,30nm,1.3s
ARU Arti 123.70 328 *i* PKIKP **PKPdf** **00 15 37.6 -0.4**
ARU 01 22 34.8
ARU pmax pmax
comp=Z,1µm,20.4s
KEV Kevo 124.56 352 PFAKE 00 15 50.0 +11
KEV LR LR
comp=Z,1µm,20.0s
ARCES ARCESS Array B 124.97 352 PKP **PKPdf** **00 15 38.5 -1.6**
ARCES ARCESS Array B 124.97 352 PKP **PKPdf** **00 15 38.5 -1.6**
comp=Z,15nm,0.9s,baz=27,slow=1.4,SNR=6.4
APA Apatity 125.40 348 ⇑*i*PKIKP **PKPdf** **00 15 38.6 -2.3**
APA *i* 00 17 38.0
ABKAR Akbulak array 125.56 320 *e*PKPdf **PKPdf** **00 15 41.8 +0.1**
ABPO Ambohimpanom 127.25 231 PFAKE 00 16 00.0 +14
ABPO LR LR
comp=Z,774nm,19.0s
MSEY Mahe Island 127.66 251 PFAKE 00 16 00.0 +13
MSEY LR LR
comp=Z,471nm,21.0s
KLMR Klimovskoe 129.16 340 *e*PKIKP **PKPdf** **00 15 46.2 -2.1**
KLMR pmax pmax
comp=Z,36nm,1.3s
SUR Sutherland 130.28 196 PFAKE 00 16 00.0 +8.3
SUR LR LR
comp=Z,2µm,21.0s
FINES FINESS Array B 132.31 348 PKP **PKPdf** **00 15 54.5 +0.3**
FINES FINESS Array B 132.31 348 PKP **PKPdf** **00 15 54.5 +0.3**
comp=Z,3.9nm,1.0s,baz=48,slow=2.8,SNR=6.3
BOSA Boshof 132.39 202 PKP **PKPdf** **00 15 56.5 +0.8**
BOSA Boshof 132.39 202 PKP **PKPdf** **00 15 56.5 +0.8**
comp=Z,7.0nm,1.1s,baz=243,slow=2.3,SNR=2.7
RCBR Riachuelo 132.66 114 PFAKE 00 16 10.0 +14
RCBR LR LR
comp=Z,1µm,22.0s
OBN Obninsk 134.48 336 *i* PKIKP **PKPdf** **00 15 58.8 +0.3**
OBN *e* 00 23 06.6
OBN *e*SS SS 00 36 17.1 -3.3
OBN pmax pmax
comp=Z,5.0nm,0.8s
OBN MLR MLR
comp=Z,700nm,20.0s
NB2 NORSAR Subarra 134.66 357 PKPdf **PKPdf** **00 15 59.7 +1.0**
comp=Z,25nm,1.7s,baz=6.6,slow=1.8
NB2 NORSAR Subarra 134.66 357 PKPdf **PKPdf** **00 15 59.7 +1.0**
baz=6.6,slow=1.8
NOA NORSAR Array B 134.66 357 PKP **PKPdf** **00 16 00.0 +1.3**
NOA NORSAR Array B 134.66 357 PKP **PKPdf** **00 16 00.0 +1.3**
comp=Z,1.2nm,0.9s,baz=7.9,slow=3.2,SNR=5.7
MAK Makhachkala 135.93 316 *e*PKIKP PKPdf 00 15 55.2 -6.4
MAK MLR MLR
comp=Z,2µm,24.0s
KONO Kongsberg 136.12 358 PFAKE 00 16 10.0 +8.6
KONO LR LR
comp=Z,934nm,20.0s
VSR Storozhevoye 136.12 331 *e*PKIKP **PKPdf** **00 15 59.6 -2.1**
VSR pmax pmax
comp=Z,5.0nm,0.5s
VSR pmax pmax
comp=N,6.0nm,0.7s
VSR pmax pmax
comp=E,9.0nm,1.1s
VORD Divnogorie 136.23 331 *e*PKIKP **PKPdf** **00 16 00.3 -1.6**
VORD pmax pmax
comp=Z,5.0nm,1.0s
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=E,20nm,0.9s
KIV Kislovodsk 138.55 320 *i* PKIKP **PKPdf** **00 16 05.7 -0.8**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,894nm,21.0s
GNI Garni 139.00 314 PFAKE 00 16 20.0 +12
GNI LR LR
comp=Z,724nm,22.0s
ESK Eskdalemuir 139.78 9 PFAKE 00 16 20.0 +12
ESK LR LR
comp=Z,1µm,20.0s
AKASG Malin Array Be 140.71 337 PKIKP **PKPdf** **00 16 07.6 -2.5**
AKASG Malin Array Be 140.71 337 PKP **PKPdf** **00 16 07.6 -2.5**
AKASG Malin Array Be 140.71 337 PKP **PKPdf** **00 16 07.6 -2.5**
comp=Z,2.4nm,0.8s,baz=31,slow=2.2,SNR=15
KIEV Kiev 140.72 337 *e*PKIKP **PKPdf** **00 16 09.7 -0.4**
KIEV MLR MLR
comp=Z,976nm,21.0s
KIEV Kiev 140.72 337 *e*P **PKPdf** **00 16 09.7 -0.4**
KIEV LR LR
comp=Z,976nm,21.0s
LSZ Lusaka 142.58 216 *e*PKPdf **PKPdf** **00 16 14.1 -0.6**
LSZ LR LR
comp=Z,1µm,21.0s
SIM Simferopol' 142.85 327 *e*PKHKP PKPpre 00 16 09.6
SIM pmax pmax
comp=Z,100nm,10.0s
LVV L'vov 143.23 341 *e*PKIKP PKPdf 00 16 22.3 +7.6
LVV MLR MLR
comp=N,1µm,23.0s
LVV MLR MLR
comp=Z,1µm,23.0s
LVV MLR MLR
comp=E,600nm,24.0s
TSUM Tsumeb 143.66 197 PFAKE 00 16 30.0 +13
TSUM LR LR
comp=Z,1µm,19.0s
KWP Kalwaria Pacla 143.79 342 ⇓PKIKP PKPbc 00 16 13.6 +0.3
KWP Kalwaria Pacla 143.79 342 ⇓*i*P PKPbc 00 16 13.6 +0.3
KWP Kalwaria Pacla 143.79 342 *e*PKPdf PKPbc 00 16 13.2 0.0
KWP LR LR
comp=Z,673nm,20.0s
KWP Kalwaria Pacla 143.79 342 *e*PKP PKPbc 00 16 13.3 0.0
WTSB Winterswijk 143.87 360 *e*PKP PKPbc 00 16 13.3 -0.1
comp=Z,157nm,2.0s
CLZ Clausthal 143.88 356 *e*PKIKP PKPbc 00 16 13.9 +0.4
CLZ Clausthal 143.88 356 *e*PKPbc PKPbc 00 16 13.9 +0.4
OJC Ojcow 144.03 346 *e*PKIKP PKPbc 00 16 14.1 +0.2
OJC Ojcow 144.03 346 *e*PKPdf PKPbc 00 16 14.1 +0.2
KSP Ksiaz 144.16 350 *e*PKIKP PKPbc 00 16 14.3 0.0
KSP MLR MLR
comp=Z,3µm,21.6s
KSP Ksiaz 144.16 350 *e*PKP PKPbc 00 16 14.7 +0.4
CLL Collm 144.18 353 *i* PKIKP **PKPab** **00 16 13.9 0.0**
CLL *i* 00 16 19.0
CLL pmax pmax
comp=Z,17nm,1.2s
CLL MLR MLR
comp=Z,600nm,20.1s
CLL Collm 144.18 353 *e*PKPbc **PKPab** **00 16 14.1 +0.2**
CLL Collm 144.18 353 *i* PKPdf **PKPab** **00 16 13.9 0.0**
comp=Z,17nm,1.2s
CLL *i* (PKiKP) 00 16 19.0
comp=Z,18nm,1.0s

CLL ePSKS 00 29 42.0
CLL e(SS) 00 38 54.0
CLL eSSS SSS 00 43 30.0
CLL LmH 01 21 00.0
comp=N,700nm,20.4s
CLL LmH 01 21 00.0
comp=E,300nm,20.1s
CLL LmV 01 23 00.0
comp=Z,600nm,20.1s
CLL Collm 144.18 353 LmV 00 33 00.0
comp=Z,100nm,18.4s
MALT Malatya 144.19 315 ⇑PKIKP **PKPdf 00 16 17.2 +0.3**
MALT Malatya 144.19 315 ⇑iP **PKPdf 00 16 17.2 +0.3**
BUG Bochum--Univer 144.40 359 ePKPbc PKPbc 00 16 15.3 +0.3
NEUB Neuenburg 144.40 355 ePKPbc PKPbc 00 16 15.0 0.0
BRG Berggiesshubel 144.49 352 ePKP **PKPab 00 16 14.8 -0.3**
comp=Z,38nm,1.7s
BRG e 00 16 20.8
comp=Z,54nm,1.8s
BRG e 00 16 38.3
comp=Z,13nm,1.3s
BRG
comp=Z,971nm,22.0s
BRG
comp=N,666nm,24.5s
BRG
comp=E,689nm,24.5s
BRG Berggiesshubel 144.49 352 ePKPbc PKPbc 00 16 15.6 +0.3
FBE Freiberg 144.51 353 ePKPbc PKPbc 00 16 16.0 +0.6
UPC Upice 144.53 350 ePKIKP PKPbc 00 16 16.1 +0.6
UPC Upice 144.53 350 ePKP PKPbc 00 16 16.1 +0.6
DPC Dobruska-Polom 144.63 349 ePKIKP **PKPab 00 16 15.2 -0.5**
DPC e 00 16 20.2
DPC e 00 38 18.3
DPC Dobruska-Polom 144.63 349 ePKP **PKPab 00 16 15.2 -0.5**
DPC epPKP **PKiKP 00 16 20.2 -0.7**
DPC eSS SS 00 38 18.3 -0.9
DPC AMS AMS 01 19 20.0
NIE Niedzica 144.64 345 ePKIKP **PKPdf 00 16 16.7 -0.5**
NIE Niedzica 144.64 345 ePKPdf **PKPdf 00 16 16.7 -0.5**
BUR08 Bucovina Ar. S 144.72 338 ePKPdf PKPbc 00 16 16.8 +0.4
BURAR Bucovina Array 144.74 338 ⇑PKIKP **PKPdf 00 16 17.5 0.0**
BURAR Bucovina Array 144.74 338 ⇑iP **PKPdf 00 16 17.5 0.0**
PVCC Panska Ves 144.74 351 ePKIKP **PKPdf 00 16 17.3 0.0**
PVCC e 00 16 22.4
PVCC MLR MLR
comp=Z,2μm,23.3s
PVCC Panska Ves 144.74 351 ePKP **PKPdf 00 16 17.3 0.0**
PVCC epPKP **pPKPdf 00 16 22.4 +0.1**
PVCC AMS AMS 01 18 50.0
comp=Z,2μm,23.3s
OKC Ostrava-Krasne 144.76 347 ePKIKP PKPbc 00 16 16.5 +0.2
OKC e 00 16 26.0
OKC MLR MLR
comp=Z,1μm,24.6s
OKC Ostrava-Krasne 144.76 347 ePKP PKPbc 00 16 16.5 +0.2
OKC epPKP **PKiKP 00 16 20.4 -0.7**
OKC ex x 00 16 26.0
OKC AMS AMS 01 15 00.0
comp=Z,1μm,24.6s
KRLC Kraliky 144.81 349 ePKIKP PKPbc 00 16 16.5 0.0
KRLC Kraliky 144.81 349 ePKP PKPbc 00 16 16.5 0.0
KRLC epPKP **PKiKP 00 16 20.7 -0.6**
UZH Uzhgorod 144.81 342 ⇓iPKIKP PKPbc 00 16 16.6 +0.2
UZH i 00 16 33.2
UBBA Unterbreizbach 144.92 356 ePKPbc PKPbc 00 16 17.0 +0.4
MORC Moravsky Berou 144.94 348 ⇓PKIKP **PKPdf 00 16 17.5 -0.2**
MORC Moravsky Berou 144.94 348 ⇓iP **PKPdf 00 16 17.5 -0.2**
MORC Moravsky Berou 144.94 348 ePKPdf **PKPab 00 16 16.6 -0.3**
UCC Uccle 144.99 3 PKP **PKPdf 00 16 17.9 +0.2**
UCC APKP **PKiKP 00 16 21.0 -0.5**
BEBN Eben Emael 145.03 1 PKP **PKPdf 00 16 17.6 -0.1**
BEBN APKP **PKiKP 00 16 21.6 0.0**
HGN Heimansgroeve 145.07 1 ePKP **PKPab 00 16 17.3 +0.1**
comp=Z,189nm,1.7s
PLN Plauen 145.08 354 ePKPbc **PKPdf 00 16 17.8 -0.1**
WERD Werda 145.10 354 ePKPbc **PKPdf 00 16 18.0 0.0**
TANN Tannenbergstha 145.12 354 ePKPbc **PKPdf 00 16 18.0 0.0**
TESR Tescani 145.12 336 ⇑iP **PKPbc 00 16 16.9 -0.6**
GUNZ Gunzen 145.18 354 ePKPbc **PKPdf 00 16 18.4 +0.3**
TRPA Tarpa 145.18 341 ⇑iP **PKPab 00 16 17.9 +0.2**
PRA Prague 145.20 351 PKP **PKPdf 00 16 18.0 -0.1**
MEM Membach 145.23 1 PKP **PKPbc 00 16 17.4 -0.4**
MEM APKP **PKiKP 00 16 21.9 -0.1**
WERN Wernitzgruen 145.25 354 ePKPbc **PKPdf 00 16 18.6 +0.4**
TLCR 145.26 332 ⇑PKIKP **PKPdf 00 16 18.3 0.0**
TLCR 145.26 332 ⇑iP **PKPdf 00 16 20.0 +1.7**
PRU Pruhonice 145.27 351 ePKIKP **PKPdf 00 16 18.2 0.0**
PRU MLR MLR
comp=Z,2μm,21.6s
PRU Pruhonice 145.27 351 ePKP **PKPdf 00 16 18.2 0.0**
PRU epPKP **PKiKP 00 16 22.1 0.0**
PRU AMS AMS 01 19 40.0
comp=Z,2μm,21.6s
SNF Seneffe 145.28 3 PKP **PKPbc 00 16 17.4 -0.4**
SNF APKP **PKiKP 00 16 22.0 -0.1**
NKC Novy Kostel 145.30 354 ePKIKP **PKPab 00 16 18.2 +0.1**
NKC e 00 16 25.8
NKC Novy Kostel 145.30 354 ePKP **PKPab 00 16 18.2 +0.1**
NKC epPKP **PKiKP 00 16 22.2 0.0**
NKC ex x 00 16 25.8
NKC AMS AMS 01 18 00.0
BCLA Clavier 145.40 2 PKP **PKPbc 00 16 17.6 -0.7**
BCLA APKP **PKiKP 00 16 21.8 -0.6**
KMBO Kilima Mbogo 145.49 244 PKPbc **PKPab 00 16 20.8 +0.5**
KMBO LR LR
comp=Z,448nm,20.0s
KMBO Kilima Mbogo 145.49 244 PKPbc **PKPab 00 16 20.8 +0.5**
comp=Z,13nm,1.1s,baz=86,slow=2.2,SNR=26
PETR Petresti 145.52 334 ⇑iP **PKPab 00 16 19.9 +0.8**
CFR Carcaliu 145.56 333 ⇑PKIKP **PKPdf 00 16 18.4 -0.4**
CFR Carcaliu 145.56 333 ⇑iP **PKPdf 00 16 18.4 -0.4**
MANZ Manzenberg 145.58 354 ePKPbc **PKPab 00 16 19.6 +0.4**
VRAC Vranov 145.58 349 ⇑iP **PKPdf 00 16 18.7 -0.1**
TNS Taunus Mts 145.59 358 ePKIKP **PKPab 00 16 19.8 +0.5**
TNS Taunus Mts 145.59 358 ePKPbc **PKPab 00 16 19.8 +0.5**
VRI Vrincioaia 145.61 335 ⇑PKIKP **PKPab 00 16 19.5 +0.1**
VRI Vrincioaia 145.61 335 ⇑iP **PKPab 00 16 19.5 +0.1**
PLOR Plostina 145.66 335 ⇓PKIKP **PKPab 00 16 19.8 +0.2**
PLOR Plostina 145.66 335 ⇓iP **PKPab 00 16 19.8 +0.2**
DOU Dourbes 145.70 2 PKP **PKPdf 00 16 18.9 -0.1**
DOU APKP **PKiKP 00 16 23.4 +0.4**
GIVF Givet 145.70 2 ePKIKP **PKPdf 00 16 18.5 -0.5**
GIVF Givet 145.70 2 ePKIKP **PKPdf 00 16 18.5 -0.5**
GIVF Givet 145.70 2 ePKPdf **PKPdf 00 16 18.5 -0.5**
BAIF Baives 145.72 3 ePKIKP **PKPdf 00 16 18.5 -0.5**
BAIF Baives 145.72 3 ePKIKP **PKPdf 00 16 18.5 -0.5**
BAIF Baives 145.72 3 ePKPdf **PKPdf 00 16 18.5 -0.5**
ROTZ Rotzenmuhle 145.78 354 ePKPbc **PKPab 00 16 20.6 +0.7**
TREC Trest 145.79 350 ePKIKP **PKPdf 00 16 19.1 -0.1**
TREC e 00 16 23.7
TREC MLR MLR
comp=Z,1μm,21.7s
TREC Trest 145.79 350 ePKP **PKPdf 00 16 19.1 -0.1**
TREC epPKP **PKiKP 00 16 23.7 +0.4**
TREC AMS AMS 01 18 30.0
comp=Z,1μm,21.7s
GRF Grafenberg Arr 145.95 355 ePKP2 **PKPab 00 16 21.1 +0.5**
GRF MLR MLR
comp=Z,700nm,20.6s
GRF Grafenberg Arr 145.95 355 ePKPbc **PKPab 00 16 21.1 +0.5**
GRF eL L 01 22 31.5
comp=Z,654nm,20.6s
GRFO Grafenberg 145.95 355 ePKP2 **PKPdf 00 16 19.6 +0.2**
GRFO Grafenberg 145.95 355 ePKPdf **PKPdf 00 16 19.6 +0.2**
TIRR Tirgusor 146.00 332 ⇑PKP2 **PKPbc 00 16 20.2 -0.2**
TIRR Tirgusor 146.00 332 ⇑iP **PKPbc 00 16 20.2 -0.2**
TIRR Tirgusor 146.00 332 ePKPdf **PKPdf 00 16 19.9 +0.3**
DOPR Dopca 146.06 336 ⇑iP **PKPbc 00 16 20.4 -0.2**
TLB Topalu 146.07 332 ⇑PKP2 **PKPab 00 16 20.9 -0.2**
TLB Topalu 146.07 332 ⇑iP **PKPab 00 16 20.9 -0.2**
CJR Cluj-Napoca 146.08 339 ⇑PKP2 **PKPab 00 16 22.5 +1.3**
CJR Cluj-Napoca 146.08 339 ⇑iP **PKPab 00 16 22.5 +1.3**
PSZ Piszkesteto 146.13 344 ⇑PKP2 **PKPab 00 16 21.8 +0.4**
PSZ Piszkesteto 146.13 344 ⇑iP **PKPab 00 16 21.8 +0.4**
PSZ Piszkesteto 146.13 344 ePKPdf **PKPdf 00 16 20.3 +0.4**
PSZ LR LR
comp=Z,566nm,20.0s
WLF Walferdange 146.17 1 PKP **PKPbc 00 16 20.7 -0.1**
WLF APKP **pPKPdf 00 16 24.9 +0.1**
WLF Walferdange 146.17 1 ePKP2 **PKPdf 00 16 20.0 +0.2**
WLF MLR MLR
comp=Z,1μm,20.0s
WLF Walferdange 146.17 1 ePKPbc **PKPab 00 16 22.2 +0.8**
WLF Walferdange 146.17 1 ePKPdf **PKPdf 00 16 20.0 +0.2**
WLF LR LR
comp=Z,1μm,20.0s
MLR Muntele Rosu 146.24 335 ⇑iP **PKPdf 00 16 20.5 +0.3**
KHC Kasperske Hory 146.24 352 ePKP2 **PKPdf 00 16 20.3 +0.3**
KHC MLR MLR
comp=Z,2μm,24.0s
KHC Kasperske Hory 146.24 352 ePKP **PKPdf 00 16 20.3 +0.3**
KHC epPKP **pPKPdf 00 16 25.0 0.0**
KHC ex x 00 16 40.0
KHC ex x 00 39 02.1
KHC AMS AMS 01 19 30.0
comp=Z,2μm,24.0s
KHC Kasperske Hory 146.24 352 ePKPdf **PKPdf 00 16 20.1 +0.2**
PGOR Pogoanele 146.28 334 ⇑iP **PKPdf 00 16 19.9 -0.2**
ISR Istrita 146.29 334 ⇑PKP2 **PKPbc 00 16 21.7 +0.4**
ISR Istrita 146.29 334 ⇑iP **PKPbc 00 16 21.7 +0.4**
DRGR 146.31 340 ⇑PKP2 **PKPdf 00 16 20.5 +0.3**
DRGR 146.31 340 ⇑iP **PKPdf 00 16 20.5 +0.3**
WET Wettzell 146.32 353 ePKP2 **PKPab 00 16 22.2 +0.2**
WET Wettzell 146.32 353 ePKPbc **PKPab 00 16 22.2 +0.2**
ROSF Rostrenen 146.48 12 ePKIKP **PKPdf 00 16 19.1 -1.2**
ROSF Rostrenen 146.48 12 ePKIKP **PKPdf 00 16 19.1 -1.2**
ROSF Rostrenen 146.48 12 ePKPdf **PKPdf 00 16 19.1 -1.2**
BRTR Keskin Array B 146.50 321 PKPbc **PKPdf 00 16 20.9 0.0**
BRTR Keskin Array B 146.50 321 PKPbc **PKPdf 00 16 20.9 0.0**
comp=Z,10nm,0.9s,baz=112,slow=2.0,SNR=32
GEC2 GERESS Array S 146.50 352 ePKP2 **PKPab 00 16 22.8 0.0**
GEC2 GERESS Array S 146.50 352 ePKPbc **PKPab 00 16 22.8 0.0**
GERES GERESS Array B 146.50 352 PKPbc **PKPbc 00 16 21.3 -0.6**
GERES PP **PP 00 19 48.7 +4.7**
GERES GERESS Array B 146.50 352 PKPbc **PKPbc 00 16 21.3 -0.6**
comp=Z,15nm,1.1s,baz=29,slow=3.0,SNR=71
GERES PP **PP 00 19 48.7 +4.7**
comp=Z,0.5nm,0.9s,baz=20,slow=4.3,SNR=3.8
MSAB Monastry St. A 146.55 332 ⇓iP **PKPdf 00 16 17.0 -3.6**
FLN La Foliniere 146.55 9 ePKIKP **PKPdf 00 16 19.7 -0.7**
FLN eR
comp=Z,2μm,22.0s
FLN La Foliniere 146.55 9 ePKIKP **PKPdf 00 16 19.7 -0.7**
FLN La Foliniere 146.55 9 ePKPdf **PKPdf 00 16 19.7 -0.7**
SECR 146.56 335 ⇑iP **PKPab 00 16 24.9 +1.9**
VOIR 146.63 336 ⇑PKP2 **PKPab 00 16 23.1 -0.3**
VOIR 146.63 336 ⇑iP **PKPab 00 16 23.1 -0.3**
SGMF Saint Gilles 146.70 11 ePKIKP **PKPdf 00 16 20.1 -0.6**
SGMF Saint Gilles 146.70 11 ePKIKP **PKPdf 00 16 20.1 -0.6**
SGMF Saint Gilles 146.70 11 ePKPdf **PKPdf 00 16 20.1 -0.6**
LDF La Druitiere 146.77 8 ePKIKP **PKPdf 00 16 19.9 -0.9**
LDF La Druitiere 146.77 8 ePKIKP **PKPdf 00 16 19.9 -0.9**
LDF La Druitiere 146.77 8 ePKPdf **PKPdf 00 16 19.9 -0.9**
LANF Langenberg 146.85 359 PKP **PKPab 00 16 24.6 +0.1**
ARR Arges 146.85 337 ⇑iP **PKPbc 00 16 22.4 -0.6**
GRR Gorron 146.86 9 ePKIKP **PKPdf 00 16 20.4 -0.6**
GRR Gorron 146.86 9 ePKIKP **PKPdf 00 16 20.4 -0.6**
GRR Gorron 146.86 9 ePKPdf **PKPdf 00 16 20.4 -0.6**
QUIF Quistinic 146.90 12 ePKIKP **PKPdf 00 16 20.2 -0.8**
QUIF Quistinic 146.90 12 ePKIKP **PKPdf 00 16 20.2 -0.8**
QUIF Quistinic 146.90 12 ePKPdf **PKPdf 00 16 20.2 -0.8**
ANTO Ankara 146.92 322 ⇑PKP2 **PKPbc 00 16 23.4 0.0**
ANTO Ankara 146.92 322 ⇑iP **PKPbc 00 16 23.4 0.0**
ANTO Ankara 146.92 322 ePKPdf **PKPdf 00 16 21.6 +0.1**
ANTO LR LR
comp=Z,416nm,20.0s
STU Stuttgart 147.01 357 ePKIKP **PKPdf 00 16 21.2 0.0**
STU Stuttgart 147.01 357 ePKPbc **PKPab 00 16 24.0 -0.6**
STU Stuttgart 147.01 357 ePKPdf **PKPdf 00 16 21.2 0.0**
CONA Conrad Observa 147.04 349 ⇑iPKPbc **PKPdf 00 16 22.3 +0.8**
comp=Z,46nm,1.0s,SNR=21
DEV Deva 147.04 339 ⇑PKP2 **PKPab 00 16 24.2 -0.7**
DEV Deva 147.04 339 ⇑iP **PKPbc 00 16 24.1 +0.7**
LOT Lotru 147.11 338 ⇑iP **PKPdf 00 16 22.6 +0.9**
SIRR Siria 147.11 341 ⇑iP **PKPbc 00 16 24.1 +0.5**
PAGF Fort de Pagny 147.28 1 ePKIKP **PKPdf 00 16 21.0 -0.7**
comp=Z,36nm,1.8s
PAGF Fort de Pagny 147.28 1 ePKPdf **PKPdf 00 16 21.0 -0.7**
MEZF Maizieres J'vi 147.31 2 ePKIKP **PKPdf 00 16 21.2 -0.5**
MEZF Maizieres J'vi 147.31 2 ePKPdf **PKPdf 00 16 21.2 -0.5**
MOA Molln 147.39 351 *i* pPKPdf **PKPbc 00 16 24.8 +0.4**
comp=Z,60nm,1.4s,SNR=21
CDF Champ du Feu 147.43 359 ePKIKP **PKPdf 00 16 21.1 -1.0**
CDF Champ du Feu 147.43 359 ePKIKP **PKPdf 00 16 21.1 -1.0**
CDF Champ du Feu 147.43 359 ePKPdf **PKPdf 00 16 21.1 -1.0**
PRD Provadia 147.44 331 P **PKPbc 00 16 24.6 0.0**
FUR Furstenfeldbru 147.46 354 ePKP2 **PKPbc 00 16 25.5 +1.0**
FUR Furstenfeldbru 147.46 354 ePKPbc **PKPbc 00 16 25.5 +1.0**
BFO Black Forest 147.49 358 ePKIKP **PKPdf 00 16 22.0 -0.1**
BFO MLR MLR
comp=Z,737nm,21.0s
BFO Black Forest 147.49 358 ePKPbc **PKPbc 00 16 25.5 +0.9**
BFO Black Forest 147.49 358 ePKPdf **PKPdf 00 16 22.0 -0.1**
BFO LR LR
comp=Z,737nm,21.0s
GZR Gura Zlata 147.51 339 ⇓PKIKP **PKPbc 00 16 25.0 +0.2**
GZR Gura Zlata 147.51 339 ⇓iP **PKPbc 00 16 25.0 +0.2**
SFTF Sexfontaines 147.61 2 ePKIKP **PKPdf 00 16 21.8 -0.4**
SFTF Sexfontaines 147.61 2 ePKPdf **PKPdf 00 16 21.8 -0.4**
THEF They Montfort 147.61 1 PKP **PKPbc 00 16 25.7 +0.8**
ECH Echery 147.62 359 ePKIKP **PKPdf 00 16 22.4 +0.1**
ECH MLR MLR
comp=Z,776nm,21.0s
ECH Echery 147.62 359 PKP **PKPbc 00 16 25.2 +0.2**
ECH Echery 147.62 359 ePKPdf **PKPdf 00 16 22.4 +0.1**
ECH LR LR
comp=Z,776nm,21.0s
BZS Buzias 147.70 340 ⇑PKP2 **PKPbc 00 16 25.6 +0.4**
BZS Buzias 147.70 340 ⇑iP **PKPbc 00 16 25.6 +0.4**
RJOB Jochberg 147.71 352 ePKPbc **PKPbc 00 16 26.1 +0.8**
ARSA Arzberg 147.75 349 ⇓*i*PKPbc **PKPdf 00 16 23.5 +0.9**
comp=Z,41nm,1.4s,SNR=13
HAU Haudompre 147.84 0 ePKIKP **PKPdf 00 16 21.9 -0.8**
HAU eR
comp=Z,650nm,21.8s
HAU Haudompre 147.84 0 ePKIKP **PKPdf 00 16 21.9 -0.8**
HAU Haudompre 147.84 0 ePKPdf **PKPdf 00 16 21.9 -0.8**
FELD Feldberg im Sc 147.95 358 PKP **PKPbc 00 16 26.7 +0.7**
MOF Molkenrain 147.99 359 PKP **PKPbc 00 16 26.7 +0.6**
HINF Hinteralfeld 148.03 360 ePKIKP **PKPdf 00 16 22.0 -1.0**
HINF Hinteralfeld 148.03 360 ePKIKP **PKPdf 00 16 22.0 -1.0**
HINF Hinteralfeld 148.03 360 ePKPdf **PKPdf 00 16 22.0 -1.0**
PKSM Moragy 148.04 344 ⇑PKIKP **PKPdf 00 16 23.6 +0.6**
PKSM Moragy 148.04 344 ⇑iP **PKPdf 00 16 23.6 +0.6**
BANR Banloc 148.07 341 ⇑iP **PKPbc 00 16 27.1 +0.9**
RETA Reutte 148.18 355 ⇑*i*PKPdf **PKPdf 00 16 23.8 +0.5**
comp=Z,56nm,1.2s,SNR=16
KBA Koelnbreinsper 148.28 351 ⇑*i*PKPdf **PKPdf 00 16 23.6 0.0**
comp=Z,29nm,0.8s
MOTA Moosalm 148.29 354 ⇓*i*PKPdf **PKPdf 00 16 23.9 +0.3**
comp=Z,36nm,1.0s,SNR=13
WTTA Wattenberg 148.32 354 ⇑*i*PKPbc **PKPdf 00 16 24.4 +0.7**
comp=Z,61nm,1.4s,SNR=12
PVL Pavlikeni 148.34 334 P **PKPdf 00 16 23.5 -0.1**
KOGS Kog 148.38 347 ePKPdf **PKPdf 00 16 23.7 +0.2**
KOGS *i* PKPbc **PKPbc 00 16 27.2 +0.2**
HYF Humbligny 148.39 5 ePKIKP **PKPdf 00 16 23.2 -0.4**
HYF Humbligny 148.39 5 ePKPdf **PKPdf 00 16 23.2 -0.4**
SOKA Soboth 148.40 349 *i* PKPdf **PKPdf 00 16 24.0 +0.3**
comp=Z,47nm,1.3s,SNR=28
PERS Pernice 148.42 349 ePKPdf **PKPdf 00 16 23.9 +0.2**
PERS ePKPbc **PKPbc 00 16 27.3 +0.1**
DAVA Damuels 148.45 356 ⇑*i*pPKPdf **PKPdf 00 16 24.8 +0.9**
comp=Z,61nm,1.2s,SNR=17
LOR Lormes 148.49 4 ePKIKP **PKPdf 00 16 23.2 -0.5**
comp=Z,29nm,1.3s
LOR eR
comp=Z,2μm,20.5s
LOR Lormes 148.49 4 ePKPdf **PKPdf 00 16 23.2 -0.5**
LOMF Lomont 148.49 360 PKP **PKPbc 00 16 28.3 +0.9**
ASCN Ascension 148.54 137 PFAKE 00 16 40.0 +8.3
ASCN LR LR
comp=Z,252nm,20.0s
LCHF La Chataignera 148.55 10 PKP **PKPab 00 16 29.9 -0.9**
FETA Feichten 148.65 355 ⇑iPKPdf **PKPdf 00 16 23.9 -0.3**
comp=Z,56nm,1.1s,SNR=16
OBKA Obir 148.65 350 ⇓*i*pPKPdf **PKPdf 00 16 24.8 +0.7**
comp=Z,30nm,1.3s,SNR=10
SSF Saint Saulge 148.67 4 ePKIKP **PKPdf 00 16 23.4 -0.6**
comp=Z,33nm,1.4s
SSF Saint Saulge 148.67 4 ePKIKP **PKPdf 00 16 23.4 -0.6**
SSF Saint Saulge 148.67 4 ePKPdf **PKPdf 00 16 23.4 -0.6**
MYKA Terra Mystica 148.68 351 ⇓*i*PKPdf **PKPdf 00 16 23.8 -0.3**
comp=Z,49nm,1.4s,SNR=10
MFF Saint Martin d 148.71 9 *e*PKIKP **PKPdf 00 16 23.2 -0.9**
comp=Z,84nm,1.6s
MFF Saint Martin d 148.71 9 *e*PKIKP **PKPdf 00 16 23.2 -0.9**
MFF Saint Martin d 148.71 9 *e*PKPdf **PKPdf 00 16 23.2 -0.9**
ABTA Abfaltersbach 148.72 352 ⇑*i*PKPdf **PKPdf 00 16 24.1 -0.1**
comp=Z,62nm,1.0s,SNR=16
EDRB Edirne 148.79 330 P **PKPbc 00 16 27.1 -1.1**
MPEP Malo Peshtene 148.89 336 P **PKPbc 00 16 29.4 +1.0**
AVF Avril sur Loir 148.93 4 ePKIKP **PKPdf 00 16 23.5 -0.9**
comp=Z,35nm,1.7s
AVF Avril sur Loir 148.93 4 ePKPdf **PKPdf 00 16 23.5 -0.9**
CADS Cadrg 149.05 351 ePKPdf **PKPdf 00 16 24.5 -0.2**
CADS ePKPbc **PKPbc 00 16 28.6 -0.2**
LJU Ljubljana 149.10 349 ePKPdf **PKPdf 00 16 25.5 +0.8**
LJU ePKPbc **PKiKP 00 16 29.6 -0.6**
LJU *e* 00 16 32.6
BGF Bois d'Agland 149.12 5 ePKIKP **PKPdf 00 16 24.2 -0.6**
BGF Bois d'Agland 149.12 5 ePKIKP **PKPdf 00 16 24.2 -0.6**
BGF Bois d'Agland 149.12 5 ePKPdf **PKPdf 00 16 24.2 -0.6**
CABF La Chapelle 149.23 1 ePKIKP **PKPdf 00 16 24.9 -0.2**
comp=Z,134nm,1.8s
CABF La Chapelle 149.23 1 ePKIKP **PKPdf 00 16 24.9 -0.2**
CABF La Chapelle 149.23 1 ePKPdf **PKPdf 00 16 24.9 -0.2**
TUE Stuetta 149.29 356 ePKPdf **PKPdf 00 16 26.0 +0.7**
TUE ePKPbc **PKiKP 00 16 30.3 -0.5**
TUE ePKPab **PKPab 00 16 34.5 +0.4**
TUE LR LR
comp=Z,1μm,20.0s
TCF Toulx Ste Croi 149.32 6 ePKIKP **PKPdf 00 16 24.3 -0.8**
comp=Z,44nm,1.6s
TCF Toulx Ste Croi 149.32 6 ePKPdf **PKPdf 00 16 24.3 -0.8**
PGB Panagyurishte 149.38 334 P **PKPbc 00 16 29.7 -0.1**
CSS Prodhromos 149.43 314 P **PKPbc 00 16 30.8 +0.7**
CSS Prodhromos 149.43 314 PFAKE 00 16 40.0 +5.1
CSS LR LR
comp=Z,576nm,22.0s
BOJS Bojanci 149.48 348 ePKPdf **PKPdf 00 16 26.5 +1.1**
BOJS ePKPbc **PKiKP 00 16 31.0 +0.1**
OG01 Vacheresse 149.51 0 PKP **PKPbc 00 16 31.5 +1.5**
PLD Plovdiv 149.52 333 P **PKPbc 00 16 30.1 +0.1**
TRI Trieste 149.56 350 ePKPdf **PKPdf 00 16 25.7 +0.2**
KDZ Kurdzhali 149.56 332 P **PKPbc 00 16 30.0 -0.2**
DIVS Divibare 149.58 341 P **PKPbc 00 16 31.0 +0.7**
ISP Isparta 149.59 321 ePKPdf **PKPdf 00 16 26.3 +0.4**
ISP LR LR
comp=Z,645nm,22.0s
AGO Saint Agoulin 149.64 5 PKP **PKiKP 00 16 32.3 +1.0**
VTS Vitosha 149.74 335 P **PKPbc 00 16 31.7 +0.9**
VTS Vitosha 149.74 335 ⇑PKP2 **PKPbc 00 16 31.4 +0.6**
VTS Vitosha 149.74 335 ⇑iP **PKPbc 00 16 31.4 +0.6**
VTS Vitosha 149.74 335 P **PKPbc 00 16 30.7 -0.1**
PLDF La Plantade 149.76 4 PKP **PKPbc 00 16 32.9 +2.3**
RDO Rodhopi 149.91 331 P **PKPbc 00 16 31.3 +0.3**
PYM Petit Puy Mans 149.93 5 PKP 00 16 33.1
RJF Les Rejaudoux 150.21 7 ePKIKP **PKPdf 00 16 25.8 -0.8**
comp=Z,57nm,1.6s
RJF eR
comp=Z,2μm,23.0s
RJF Les Rejaudoux 150.21 7 ePKIKP **PKPdf 00 16 25.8 -0.8**
RJF Les Rejaudoux 150.21 7 ePKPdf **PKPdf 00 16 25.8 -0.8**
KULA Kula-Manisa 150.23 324 P **PKPbc 00 16 31.7 -0.3**
FRNF Fournols 150.25 6 PKP **PKPbc 00 16 33.1 +1.3**
LPL La Plagne 150.33 360 ePKIKP **PKPdf 00 16 26.9 -0.1**
comp=Z,43nm,1.8s
LPL La Plagne 150.33 360 ePKIKP **PKPdf 00 16 26.9 -0.1**
LPL La Plagne 150.33 360 ePKPdf **PKPdf 00 16 26.9 -0.1**
LPG La Plagne 150.35 360 ePKIKP **PKPdf 00 16 27.1 0.0**
comp=Z,58nm,1.8s
LPG La Plagne 150.35 360 ePKIKP **PKPdf 00 16 27.1 0.0**
LPG La Plagne 150.35 360 ePKPdf **PKPdf 00 16 27.1 0.0**
MMB Musomiste 150.36 334 P **PKPbc 00 16 31.7 -0.5**
KKB Krupnik 150.40 335 P **PKPbc 00 16 32.3 +0.1**
SMTH Samothraki Isl 150.44 330 P **PKPbc 00 16 31.8 -0.5**
LFF La Frestale 150.47 9 ePKIKP **PKPdf 00 16 26.2 -0.7**
comp=Z,58nm,1.5s
LFF La Frestale 150.47 9 ePKIKP **PKPdf 00 16 26.2 -0.7**
LFF La Frestale 150.47 9 ePKPdf **PKPdf 00 16 26.2 -0.7**
KAVA Kavala 150.50 332 P **PKPbc 00 16 32.6 +0.2**
NVR Nevrokopi 150.50 333 P **PKPbc 00 16 31.3 -1.2**
SSB Saint Sauveur 150.51 3 ePKIKP **PKPdf 00 16 27.8 +0.7**
SSB *e* 00 16 32.8
SSB MLR MLR
comp=Z,2μm,21.0s
SSB Saint Sauveur 150.51 3 PKP **PKPbc 00 16 33.6 +1.2**
SSB Saint Sauveur 150.51 3 ePKPdf **PKPdf 00 16 27.8 +0.7**
SSB ePKPbc **PKiKP 00 16 32.8 -0.3**
SSB LR LR
comp=Z,2μm,21.0s
GRN Grenoble 150.59 1 PKP **PKPbc 00 16 34.5 +1.8**
GDM Grand'Maison 150.64 1 PKP **PKPbc 00 16 34.5 +1.6**
CAF Calviac 150.65 7 ePKIKP **PKPdf 00 16 27.0 -0.3**
comp=Z,21nm,1.3s
CAF Calviac 150.65 7 ePKIKP **PKPdf 00 16 27.0 -0.3**
CAF Calviac 150.65 7 ePKPdf **PKPdf 00 16 27.0 -0.3**
BNI Bardonecchia 150.79 0 ePKIKP **PKPdf 00 16 28.8 +1.2**
BNI *e* 00 16 33.1
BNI MLR MLR
comp=Z,1μm,20.0s
BNI Bardonecchia 150.79 0 ePKPdf **PKPdf 00 16 28.8 +1.2**
BNI ePKPbc **PKPbc 00 16 33.0 -0.2**
BNI LR LR
comp=Z,1μm,20.0s
SRS Serrai 150.81 333 P **PKPbc 00 16 31.7 -1.5**
PGAV Gavieira, Arco 150.86 23 ePKPbc **PKPbc 00 16 34.8 +1.4**
ORIF Oris-en-Rattie 150.92 1 ePKIKP **PKPdf 00 16 27.5 -0.3**
comp=Z,48nm,1.7s
ORIF eR
comp=Z,939nm,22.0s
ORIF Oris-en-Rattie 150.92 1 ePKIKP **PKPdf 00 16 27.5 -0.3**
ORIF Oris-en-Rattie 150.92 1 ePKPdf **PKPdf 00 16 27.5 -0.3**
VIVF Saint-Julien-l 150.94 3 ePKIKP **PKPdf 00 16 27.6 -0.1**
comp=Z,68nm,1.9s
VIVF Saint-Julien-l 150.94 3 ePKIKP **PKPdf 00 16 27.6 -0.1**
VIVF Saint-Julien-l 150.94 3 ePKPdf **PKPdf 00 16 27.6 -0.1**
VAY Valandovo 151.07 335 P **PKPbc 00 16 33.0 -0.8**
VAY Valandovo 151.07 335 ePKP **PKPbc 00 16 33.5 -0.3**
MBDF Montbardon 151.12 360 ePKIKP **PKPdf 00 16 27.7 -0.5**
comp=Z,45nm,1.6s
MBDF Montbardon 151.12 360 ePKIKP **PKPdf 00 16 27.7 -0.5**
MBDF Montbardon 151.12 360 ePKPdf **PKPdf 00 16 27.7 -0.5**
SOH Sokhos 151.15 333 P **PKPbc 00 16 37.4 +3.3**
PCAB Cabril 151.17 23 ePKPbc **PKPbc 00 16 33.5 -0.6**
PCAB Cabril 151.17 23 ePKPab **PKPab 00 16 39.0 -2.8**
MBAR Mbarara 151.25 238 PFAKE 00 16 40.0 -3.1
MBAR LR LR
comp=Z,1μm,22.0s
PDG Podgorica 151.31 340 P **PKPbc 00 16 33.5 -0.8**
THE Thessaloniki 151.47 334 P **PKPbc 00 16 33.0 -1.7**
VLC Villacollemand 151.51 354 ePKPbc **PKPbc 00 16 33.6 -1.2**
VLC LR LR
comp=Z,2μm,21.0s
POLO Lamas de Olo 151.55 23 ePKPbc **PKPbc 00 16 34.8 -0.2**
POLO Lamas de Olo 151.55 23 ePKPab **PKPab 00 16 40.1 -3.3**
PBRG Braganca 151.56 21 ePKPbc **PKPbc 00 16 35.9 +0.9**
PBRG Braganca 151.56 21 ePKPab **PKPab 00 16 39.7 -3.7**
PHP Peshkopia 151.57 338 P **PKPbc 00 16 34.5 -0.5**
PVRL Vila Real 151.66 23 ePKPbc **PKPbc 00 16 34.5 -0.7**
PVRL Vila Real 151.66 23 ePKPab **PKPab 00 16 40.3 -3.5**
LASF Ste Croix 151.66 4 ePKIKP **PKPdf 00 16 28.6 -0.3**
comp=Z,59nm,1.5s
LASF Ste Croix 151.66 4 ePKPdf **PKPdf 00 16 28.6 -0.3**
TOUF Mont Tournerai 151.83 359 PKP **PKPbc 00 16 36.3 +0.6**
AUTN L'Aution 151.84 359 PKP **PKPbc 00 16 36.8 +1.0**
SAOF Saorge 151.85 359 PKP **PKPbc 00 16 36.4 +0.8**
SMRF Simiane la Rot 151.85 2 ePKIKP **PKPdf 00 16 29.1 -0.1**
comp=Z,68nm,1.7s
SMRF Simiane la Rot 151.85 2 ePKPdf **PKPdf 00 16 29.1 -0.1**
SJPF Ste Jean 151.90 12 ePKIKP **PKPdf 00 16 29.1 -0.

TIR	**Tirane**	**152.07**	**339**	PFAKE			00 16 40.0	+3.9
TIR				LR	LR			
	comp=Z,1μm,21.0s							
CALN	**Calern**	**152.09**	**360**	PKP	**PKPbc**		**00 16 37.1**	**+0.8**
REVF	**Revere**	**152.10**	**359**	PKP	**PKPbc**		**00 16 36.6**	**+0.5**
ETSF	**Etsaut**	**152.23**	**12**	*e*PKIKP	**PKPdf**		**00 16 29.7**	**-0.1**
	comp=Z,61nm,1.9s							
ETSF	**Etsaut**	**152.23**	**12**	*e*PKIKP	**PKPdf**		**00 16 29.7**	**-0.1**
ETSF	**Etsaut**	**152.23**	**12**	*e*PKPdf	**PKPdf**		**00 16 29.7**	**-0.1**
MTLF	**Montolieu**	**152.23**	**7**	*e*PKIKP	**PKPdf**		**00 16 29.2**	**-0.5**
	comp=Z,43nm,1.8s							
MTLF	**Montolieu**	**152.23**	**7**	*e*PKIKP	**PKPdf**		**00 16 29.2**	**-0.5**
MTLF	**Montolieu**	**152.23**	**7**	*e*PKPdf	**PKPdf**		**00 16 29.2**	**-0.5**
EPF	**Esparros**	**152.27**	**10**	*e*PKIKP	**PKPdf**		**00 16 29.4**	**-0.4**
	comp=Z,35nm,1.6s							
EPF	**Esparros**	**152.27**	**10**	*e*PKIKP	**PKPdf**		**00 16 29.4**	**-0.4**
EPF	**Esparros**	**152.27**	**10**	*e*PKPdf	**PKPdf**		**00 16 29.4**	**-0.4**
FRF	**La Foret Royal**	**152.28**	**0**	*e*PKIKP	**PKPdf**		**00 16 29.0**	**-0.8**
	comp=Z,36nm,1.7s							
FRF	**La Foret Royal**	**152.28**	**0**	*e*PKIKP	**PKPdf**		**00 16 29.0**	**-0.8**
FRF	**La Foret Royal**	**152.28**	**0**	*e*PKPdf	**PKPdf**		**00 16 29.0**	**-0.8**
PCAS	**Casmilo, Conde**	**152.39**	**26**	*e*PKPbc	**PKPbc**		**00 16 38.0**	**+1.1**
NEST	**Nestorio**	**152.44**	**336**	P	**PKPbc**		**00 16 36.3**	**-0.8**
MLS	**Moulis**	**152.46**	**9**	PKP	**PKPbc**		**00 16 38.0**	**+1.1**
MTE	**Manteigas**	**152.48**	**24**	*e*PKPab	**PKPbc**		**00 16 42.0**	**+4.9**
MTE	**Manteigas**	**152.48**	**24**	PFAKE			00 16 40.0	+2.9
MTE				LR	LR			
	comp=Z,829nm,21.0s							
LMR	**La Mourre**	**152.51**	**0**	*e*PKIKP	**PKPdf**		**00 16 29.4**	**-0.7**
LMR	**La Mourre**	**152.51**	**0**	*e*PKIKP	**PKPdf**		**00 16 29.4**	**-0.7**
LMR	**La Mourre**	**152.51**	**0**	*e*PKPdf	**PKPdf**		**00 16 29.4**	**-0.7**
LRDF	**Laroque-de-Fa**	**152.67**	**7**	PKP	**PKPbc**		**00 16 38.6**	**+1.2**
PTOM	**Tomar**	**152.79**	**26**	*e*PKPab	**PKPbc**		**00 16 42.7**	**+5.0**
CARF	**Carcanieres**	**152.84**	**7**	PKP	**PKPbc**		**00 16 38.8**	**+0.9**
AQU	**L'Aquila**	**152.87**	**349**	PFAKE			00 16 40.0	+2.1
AQU				LR	LR			
	comp=Z,1μm,22.0s							
MEV	**Metsovon**	**152.91**	**335**	P	**PKPbc**		**00 16 39.0**	**+0.8**
PCBR	**Castelo Branco**	**152.99**	**25**	*e*PKPdf	**PKPdf**		**00 16 31.3**	**+0.4**
PCBR	**Castelo Branco**	**152.99**	**25**	*e*PKPab	**PKPbc**		**00 16 42.9**	**+4.7**
VALF	**Valcebollere**	**153.13**	**8**	PKP	**PKPbc**		**00 16 39.9**	**+1.2**
SJAF	**Saint Jean de**	**153.16**	**6**	PKP	**PKPbc**		**00 16 39.1**	**+0.6**
PGF	**Pioggiola**	**153.22**	**356**	*e*PKIKP	**PKPdf**		**00 16 30.1**	**-1.2**
	comp=Z,24nm,1.3s							
PGF	**Pioggiola**	**153.22**	**356**	*e*PKIKP	**PKPdf**		**00 16 30.1**	**-1.2**
PGF	**Pioggiola**	**153.22**	**356**	*e*PKPdf	**PKPdf**		**00 16 30.1**	**-1.2**
PMTG	**Montargil**	**153.32**	**27**	*e*PKPbc	**PKPbc**		**00 16 36.7**	**-2.2**
PMRV	**Marv??o**	**153.37**	**25**	*e*PKPdf	**PKPdf**		**00 16 32.5**	**+1.0**
PMRV	**Marv??o**	**153.37**	**25**	*e*PKPab	**PKPbc**		**00 16 43.9**	**+4.8**
EVR	**Evrytania**	**153.39**	**333**	P	**PKPbc**		**00 16 43.8**	**+4.6**
SANT	**Santorini**	**153.54**	**324**	PFAKE			00 16 40.0	+0.4
SANT				LR	LR			
	comp=Z,490nm,20.0s							
PESTR	**Estremoz**	**153.76**	**26**	*e*PKPab	**PKPab**		**00 16 52.6**	**-0.1**
EVOP	**Sao Brissos**	**153.82**	**27**	*e*PKIKP	**PKPdf**		**00 16 33.1**	**+1.0**
EVOP	**Sao Brissos**	**153.82**	**27**	*e*PKPdf	**PKPdf**		**00 16 33.1**	**+1.0**
EVO	**Evora**	**153.86**	**27**	*e*PKIKP	**PKPdf**		**00 16 33.1**	**+0.9**
	comp=Z,62nm,1.5s							
EVO				*e*R				
	comp=Z,953nm,20.8s							
EVO	**Evora**	**153.86**	**27**	*e*PKPab	**PKPab**		**00 16 56.6**	**+3.5**
PNCL	**Nicolau / Gran**	**153.98**	**28**	*e*PKPbc	**PKPbc**		**00 16 43.1**	**+2.7**
PAB	**San Pablo**	**154.39**	**20**	PFAKE			00 16 40.0	-1.4
PAB				LR	LR			
	comp=Z,1μm,20.0s							
ESDC	**Sonseca Array**	**154.40**	**19**	PKP	**PKPdf**		**00 16 33.4**	**+0.4**
ESDC				PKPbc	**PKiKP**		**00 16 41.4**	**0.0**
ESDC				PKPab	**PKPab**		**00 16 54.8**	**-0.7**
ESDC				PP	**PP**		**00 20 27.9**	**-1.7**
ESDC	**Sonseca Array**	**154.40**	**19**	PKP	**PKPdf**		**00 16 33.4**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=339,slow=2.5,SNR=7.5							
ESDC				PKPbc	**PKiKP**		**00 16 41.4**	**0.0**
	comp=Z,1.8nm,0.7s,baz=342,slow=2.8,SNR=9.5							
ESDC				PKPab	**PKPab**		**00 16 54.8**	**-0.7**
	comp=Z,7.1nm,1.0s,baz=324,slow=3.3,SNR=9.5							
ESDC				PP	**PP**		**00 20 27.9**	**-1.7**
	comp=Z,0.2nm,0.6s,baz=316,slow=3.5,SNR=3.4							
CUC	**Castrocucco**	**154.58**	**344**	PFAKE			00 16 40.0	-1.7
CUC				LR	LR			
	comp=Z,763nm,22.0s							
TIP	**Timpagrande**	**155.06**	**341**	PFAKE			00 16 40.0	+6.0
TIP				LR	LR			
	comp=Z,946nm,22.0s							
CEL	**Celeste**	**156.17**	**342**	PFAKE			00 16 50.0	-13
CEL				LR	LR			
	comp=Z,925nm,20.0s							
VSL	**Villasalto**	**156.23**	**355**	PFAKE			00 16 50.0	-13
VSL				LR	LR			
	comp=Z,1μm,20.0s							
RTC	**Rabat Centre**	**158.10**	**32**	PFAKE			00 16 50.0	+12
RTC				LR	LR			
	comp=Z,828nm,19.0s							
WDD	**Wield Dalam**	**158.79**	**342**	PFAKE			00 16 50.0	+11
WDD				LR	LR			
	comp=Z,889nm,22.0s							
KEST	**Kesra**	**159.96**	**354**	PKPab	**PKPab**		**00 17 19.4**	**-0.1**
KEST	**Kesra**	**159.96**	**354**	PKPab	**PKPab**		**00 17 19.4**	**-0.1**
	comp=Z,2.6nm,1.1s,baz=299,slow=3.3,SNR=5.7							
MSKU	**Masuku**	**161.41**	**202**	PFAKE			00 16 50.0	+7.6
MSKU				LR	LR			
	comp=Z,2.0nm,21.0s							
LIC	**Lamto**	**165.09**	**128**	*e*PKIKP	**PKPdf**		**00 16 45.8**	**0.0**
	comp=Z,22nm,1.0s							
LIC	**Lamto**	**165.09**	**128**	*e*P	**PKPdf**		**00 16 46.0**	**+0.2**
	comp=Z,30nm,1.0s							
LIC	**Lamto**	**165.09**	**128**	*e*PKPdf	**PKPdf**		**00 16 45.8**	**0.0**
TIC	**Toumodi**	**165.36**	**127**	*e*P	**PKPdf**		**00 16 41.8**	**-4.3**
	comp=Z,12nm,0.2s							
KIC	**Kosan Boka**	**165.39**	**128**	*e*P	**PKPdf**		**00 16 43.3**	**-2.8**
	comp=Z,65nm,1.3s							
DBIC	**Dimbokro**	**165.50**	**127**	PKP	**PKPdf**		**00 16 46.0**	**-0.1**
DBIC				PKPab	**PKPab**		**00 17 45.4**	**+1.1**
DBIC	**Dimbokro**	**165.50**	**127**	PKP	**PKPdf**		**00 16 46.0**	**-0.1**
	comp=Z,9.3nm,1.0s,baz=199,slow=5.9,SNR=3.9							
DBIC				PKPab	**PKPab**		**00 17 45.4**	**+1.1**
	comp=Z,13nm,1.1s,baz=260,slow=3.4,SNR=4.1							
TAM	**Tamanrasset**	**172.91**	**9**	*e*PKIKP	**PKPdf**		**00 16 51.2**	**+0.5**
TAM				MLR	MLR			
	comp=Z,626nm,20.0s							
TAM	**Tamanrasset**	**172.91**	**9**	*e*PKPdf	**PKPdf**		**00 16 51.2**	**+0.5**
TAM				*e*PKPab	**PKPab**		**00 18 17.8**	**+0.9**
TAM				LR	LR			
	comp=Z,626nm,20.0s							
TOA0	**Torodi Ar. Sit**	**174.48**	**117**	*e*PKPdf	**PKPdf**		**00 16 50.0**	**-1.3**
TOA0				*e*PKPab	**PKPab**		**00 18 23.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**174.48**	**117**	PKP	**PKPdf**		**00 16 49.8**	**-1.4**
TORD				PKPab	**PKPab**		**00 18 24.0**	**-0.2**
TORD				PP	**PP**		**00 22 13.1**	**-3.3**
TORD	**Torodi Ar. Bea**	**174.48**	**117**	PKP	**PKPdf**		**00 16 49.8**	**-1.4**
	comp=Z,10nm,1.3s,baz=308,slow=0.9,SNR=23							
TORD				PKPab	**PKPab**		**00 18 24.0**	**-0.2**
	comp=Z,10.0nm,1.0s,baz=263,slow=3.6,SNR=13							
TORD				PP	**PP**		**00 22 13.1**	**-3.3**
	comp=Z,2.8nm,1.3s,baz=223,slow=12,SNR=8.6							

MEX 28 23:58:02.2±0.8, 17.88N×103.11W, h7km±5km, MD3.8, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.47**	**331**	*i* P	Pg	23 58 10.7	-0.5
MMIG				*i* S	Sg	23 58 17.9	+0.5
R15V		**1.53**	**327**	*e*P	Pn	23 58 26.5	-3.6
R15V				*i* S	Sn	23 58 45.2	-5.1
ZIIG	**Zihuatanejo**	**1.59**	**100**	*i* P	Pn	23 58 26.6	-4.2
ZIIG				*i* S	Sn	23 58 47.5	-4.2
EZ5V		**1.66**	**344**	*e*P	Pn	23 58 29.2	-3.0
EZ5V				*i* S	Sn	23 58 48.1	-5.9
URUA	**Uruapan**	**1.82**	**32**	*i* P	Pn	23 58 29.9	-4.4
URUA				*i* S	Sn	23 58 52.5	-5.4
CJM	**Chamela**	**2.44**	**312**	*i* P	Pn	23 58 38.7	-3.8
CJM				*i* S	Sn	23 59 08.8	-3.9
SFJM	**Santa Fe**	**2.60**	**1**	*i* P	Pn	23 58 46.6	+1.7
ARIG	**Puente Sto Nin**	**2.66**	**81**	*i* P	Pn	23 59 42.0	-3.6
ARIG				*i* S	Sn	23 59 13.8	-4.3
ACX	**Acapulco**	**3.26**	**107**	*i* P	Pb	23 58 58.2	-2.4
MEIG	**Mezcala**	**3.32**	**89**	*i* P	Pn	23 58 51.5	-3.4
MEIG				*i* S	Sn	23 59 31.0	-3.7

MEX 29 00:00:12.6±0.9, 17.91N×103.11W, h6km±7km, MD4.0, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.44**	**329**	*i* P	Pg	00 00 20.3	-0.8
MMIG				*i* S	Sg	00 00 27.8	+0.8
R15V		**1.50**	**327**	*i* P	Pn	00 00 36.2	-4.0
R15V				*i* S	Sn	00 00 55.1	-5.1
ZIIG	**Zihuatanejo**	**1.59**	**101**	*i* P	Pn	00 00 37.1	-4.2
ZIIG				*i* S	Sn	00 00 57.6	-4.5
EZ5V		**1.63**	**343**	*i* P	Pn	00 00 38.8	-3.4
EZ5V				*i* S	Sn	00 00 59.1	-4.6
URUA	**Uruapan**	**1.79**	**33**	*i* P	Pn	00 00 39.8	-4.6
URUA				*i* S	Sn	00 01 01.8	-5.8
CJM	**Chamela**	**2.42**	**311**	*i* P	Pn	00 00 49.9	-2.8
CJM				*i* S	Sn	00 01 18.0	-4.7
SFJM	**Santa Fe**	**2.56**	**1**	*i* P	Pn	00 00 56.6	+1.7
ARIG	**Puente Sto Nin**	**2.65**	**82**	*i* P	Pn	00 00 53.7	-2.2
ARIG				*i* S	Sn	00 01 23.9	-4.5
MEIG	**Mezcala**	**3.32**	**89**	*i* P	Pn	00 01 02.4	-2.8
MEIG				*i* S	Sn	00 01 41.7	-3.3

*ISCJB **29** 00:06:44.1±1.1, 10.81N±0.04×60.08W±0.10, h102km±8km, Error ellipse: s-maj=16.2km s-min=6.9km az=11.3*
*TRN **29** 00:06:46.7, 10.85N×59.99W, h43km, MD3.6*
*FUNV **29** 00:06:51.5, 10.57N×60.44W, h66km, MW3.5*

ISC 29 00:06:44.9±1.9, 10.78N±0.05×60.17W±0.09, h98km±10km, n20, σ2.43/33, 5C, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOSP	**Speyside**	**0.63**	**325**	*e*P	**Pn**	**00 07 00.0**	**-1.5**
TOSP				*e*S	**Sn**	**00 07 09.8**	**-4.2**
BOT	**Bacolet**	**0.66**	**306**	*e*P	**Pn**	**00 07 02.2**	**+0.4**
BOT				*e*S	**Sn**	**00 07 12.9**	**-1.6**
TPR	**Prospect**	**0.72**	**304**	*e*P	**Pn**	**00 07 02.8**	**+0.4**
TPR				*e*S	**Sn**	**00 07 13.9**	**-1.5**
TBH	**Brigand Hill**	**0.93**	**252**	*e*P	**Pn**	**00 07 06.6**	**+2.1**
TBH				*e*S	**Sn**	**00 07 20.1**	**+0.9**
TRN	**Trinidad (W)**	**1.22**	**264**	*e*P	**Pn**	**00 07 09.5**	**+1.8**
TRN				*e*S	**Sn**	**00 07 27.9**	**+3.0**
TPP	**Pointe-a-Pierr**	**1.34**	**250**	*e*P	**Pn**	**00 07 11.8**	**+2.7**
TPP				*e*S	**Sn**	**00 07 30.8**	**+3.3**
TCE	**Chacachacare**	**1.56**	**267**	*e*P	Pn	00 07 15.3	+3.5
TCE				*e*S	**Sn**	**00 07 34.5**	**+2.3**
GRW	**Mount Saint Ca**	**2.00**	**313**	*e*P	**Pn**	**00 07 19.5**	**+2.0**
GRW				*e*S	**Sn**	**00 07 44.4**	**+1.9**
GUIV	**Guiria**	**2.02**	**266**	*e*P	**Pn**	**00 07 19.2**	**+1.5**
GUIV				*e*S	**Sn**	**00 07 39.3**	**-3.5**
SVB	**Belmont**	**2.69**	**337**	*e*P	**Pn**	**00 07 27.9**	**+1.4**
SVB				*e*S	**Sn**	**00 07 58.1**	**-0.5**
GUNV	**Guanoco**	**2.79**	**258**	*e*P	**Pn**	**00 07 30.0**	**+2.1**
GUNV				*e*S	**Sn**	**00 07 56.3**	**-4.7**
MCLT	**Moule a Chique**	**3.01**	**346**	*e*P	**Pn**	**00 07 32.2**	**+1.4**
MCLT				*e*S	**Sn**	**00 08 06.4**	**+0.3**
CRUV	**Carupano**	**3.02**	**268**	*e*P	**Pn**	**00 07 31.6**	**+0.8**
CRUV				*e*S	**Sn**	**00 08 01.7**	**-4.5**
RIOV	**Rio Grande**	**3.14**	**211**	*e*P	**Pn**	**00 07 33.8**	**+1.2**
ORIV	**Oritupano**	**3.62**	**242**	*e*P	**Pn**	**00 07 40.0**	**+1.1**
ORIV				*e*S	**Sn**	**00 08 15.5**	**-5.2**
PCRV	**Puerto La Cruz**	**4.43**	**263**	*e*P	**Pn**	**00 07 50.0**	**0.0**
LUEV	**Luepa**	**5.07**	**195**	*e*P	**Pn**	**00 07 59.5**	**+0.7**
CUPV	**Cepira**	**5.57**	**263**	*e*P	**Pn**	**00 08 06.0**	**+0.5**
TURV	**Turiamo**	**7.55**	**268**	*e*P	**Pn**	**00 08 33.4**	**+1.1**
BAUV	**El Baul**	**7.97**	**257**	*e*P	**Pn**	**00 08 38.0**	**0.0**

*IDC **29** 00:18:40.2±1.6, 32.70S×72.49W, h0km, mb3.9/1, mb1 3.7/4, mb1mx3.6/17, mbtmp3.6/4, ML3.8/2, Error ellipse: s-maj=43.4km s-min=34.9km az=122.0*
*ISCJB **29** 00:18:41.8±1.3, 32.79S±0.04×72.00W±0.08, h7km±9km, mb3.9/1, Error ellipse: s-maj=11.2km s-min=5.4km az=158.3*
*GUC **29** 00:18:43.9±0.3, 32.78S×71.93W, h3km±1km, ML3.8*

ISC 29 00:18:43.6±1.6, 32.74S±0.04×71.84W±0.07, h12km±9km, n24, σ0.86/28, 3C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.33**	**150**	*i* P	**Pg**	**00 18 50.3**	**0.0**
ROCH	**El Roble**	**0.74**	**109**	*i* P	**Pg**	**00 18 58.4**	**+0.5**
ROCH				*i* S	**Sb**	**00 19 09.5**	**+0.9**
ROCH				AML	AML	00 19 11.6	
	comp=N,6μm,0.3s						
CHNG	**Los Chungos**	**0.90**	**19**	*i* P	**Pg**	**00 19 01.1**	**+0.1**
CHNG				*i* S	**Sb**	**00 19 14.5**	**+1.5**
PEL	**Peldehue**	**1.05**	**113**	*i* P	**Pb**	**00 19 03.7**	**-0.1**
PEL				*i* S	**Sg**	**00 19 18.8**	**+1.2**
PEL				AML	AML	00 19 25.1	
	comp=E,9μm,0.4s						
CLCH	**Cerro Calan**	**1.28**	**121**	*i* P	**Pn**	**00 19 07.0**	**-0.3**
CLCH				*i* S	**Sb**	**00 19 24.8**	**+0.9**
CLCH				AML	AML	00 19 31.7	
	comp=N,2μm,0.6s						
ANTU	**Antumapu**	**1.31**	**130**	*i* P	**Pn**	**00 19 07.5**	**-0.2**
ANTU				*i* S	**Sb**	**00 19 25.4**	**+0.5**
ANTU				AML	AML	00 19 31.3	
	comp=E,2μm,0.7s						
LACH	**Col Las Americ**	**1.31**	**123**	*i* P	**Pn**	**00 19 07.6**	**-0.1**
LACH				*i* S	**Sb**	**00 19 25.5**	**+0.6**
SJCH	**San Jose de Ma**	**1.54**	**126**	*i* P	**Pn**	**00 19 10.1**	**-0.8**
SJCH				*i* S	**Sn**	**00 19 30.7**	**-0.1**
CMCH	**Combarbala**	**1.71**	**25**	*i* S	**Sb**	**00 19 37.7**	**+1.1**
CMCH				AML	AML	00 19 45.6	
	comp=N,4μm,0.8s						
CACH	**El Canelo**	**1.72**	**143**	*i* P	**Pb**	**00 19 14.3**	**-0.9**
CACH				*i* S	**Sb**	**00 19 37.7**	**+0.8**
LMEL	**Las Melosas**	**1.76**	**129**	*e*P	**Pn**	**00 19 14.7**	**+0.6**
LMEL				*i* S	**Sb**	**00 19 38.3**	**+0.2**
LMEL				AML	AML	00 19 43.6	
	comp=N,1μm,0.2s						
CFAA	**Coronel Fontan**	**3.26**	**71**	Pn	**Pb**	**00 19 39.9**	**-1.4**
	comp=N,0.3nm,0.3s,baz=247,slow=14,SNR=19						
CFAA				Sn	**Sg**	**00 20 26.9**	**-1.3**
	comp=N,1.3nm,0.3s,baz=48,slow=15,SNR=6.4						
H03N1	**Juan Fernandez**	**5.98**	**261**	T	T	00 26 48.6	
	baz=84,slow=0.7,SNR=209						
H03N3	**Juan Fernandez**	**5.99**	**261**	T	T	00 26 54.6	
	baz=84,slow=0.7,SNR=186						
H03N2	**Juan Fernandez**	**5.99**	**261**	T	T	00 26 43.8	
	baz=84,slow=0.7,SNR=157						
PLCA	**Paso Flores**	**8.05**	**173**	Pn	**Pn**	**00 20 40.4**	**+0.1**
	comp=N,0.2nm,0.3s,baz=339,slow=14,SNR=3.7						
LPAZ	**La Paz**	**16.72**	**12**	Pn	**Pn**	**00 22 38.5**	**+0.2**
	comp=N,0.2nm,0.3s,baz=190,slow=9.9,SNR=6.0						
TORD	**Torodi Ar. Bea**	**83.62**	**70**	P	**P**	**00 31 13.2**	**+1.0**
	comp=N,0.6nm,0.7s,baz=254,slow=5.9,SNR=5.7						
H11S2	**WAKE ISLAND Hyl**	**25.95**	**270**	T	T	02 56 43.7	
	baz=121,slow=0.7,SNR=7.5						
H11S1	**WAKE ISLAND Hyl**	**25.96**	**270**	T	T	02 56 39.3	
	baz=121,slow=0.7,SNR=8.8						
H11S3	**WAKE ISLAND Hyl**	**25.96**	**270**	T	T	02 56 44.0	
	baz=121,slow=0.7,SNR=7.3						
KURBB	**Kurchatov Arra**	**151.83**	**42**	PKPbc	**PKPbc**	**00 38 38.1**	**+0.3**
	comp=N,0.3nm,0.5s,baz=303,slow=2.6,SNR=4.2						
ZALV	**Zalesovo Beam**	**153.07**	**31**	PKPbc	**PKPbc**	**00 38 40.1**	**-0.4**
	comp=N,0.8nm,0.7s,baz=339,slow=3.7,SNR=3.8						
MKAR	**Makanchi Array**	**155.80**	**47**	PKPab	**PKPab**	**00 39 02.2**	**-1.7**
	comp=N,0.4nm,0.7s,baz=320,slow=4.2,SNR=2.8						

*IDC **29** 00:26:52.5±0.7, 0.91S×103.34W, h0km, mb4.2/15, mb1 4.4/15, mb1mx4.3/23, mbtmp4.2/15, Error ellipse: s-maj=25.0km s-min=15.8km az=59.0*
*ISCJB **29** 00:26:54.0±0.6, 0.83S±0.07×103.13W±0.08, h10km, mb4.6/46, MS4.8/2, Error ellipse: s-maj=12.7km s-min=7.7km az=142.2*
*NEIC **29** 00:26:54.4±0.4, 0.96S×103.30W, h10km, mb4.8/27, Error ellipse: s-maj=11.6km s-min=6.9km az=61.0*
*BJI **29** 00:26:56.3, 0.80S×103.10W, h10km, mB5.5/2, Ms5.1/2, Ms7 4.8/1*

ISC 29 00:26:54.5±0.5, 0.92S±0.10×103.3W±0.1, h10km, n296, σ0.96/302, mb4.7/46, 89C-102D, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**20.27**	**38**	P	Pn	00 31 31.7	-1.0
APG				S	S	00 35 08.8	-10
APG	**El Apazote**	**20.27**	**38**	P	Pn	00 31 31.7	-1.0
	21nm,0.9s,baz=224,slow=11,SNR=6.2						
APG				S	S	00 35 08.8	-10
	1.5nm,0.3s,baz=267,slow=24,SNR=9.8						
JTS	**JuntasAbangare**	**21.37**	**58**	P	**P**	**00 31 41.7**	**-0.7**
JTS				*e*Pn	**P**	**00 31 44.5**	**+2.1**
JTS	**JuntasAbangare**	**21.37**	**58**	P	**P**	**00 31 41.7**	**-0.7**
	13nm,0.9s,baz=269,slow=6.4,SNR=6.7						
TGUH	**Tegucigalpa,Un**	**21.74**	**46**	*e*P	**P**	**00 31 45.5**	**-0.8**
	34nm,1.0s						
OTAV	**Otavalo**	**24.85**	**87**	*e*P	**P**	**00 32 19.3**	**+1.3**
ATAH	**Atahualpa**	**25.56**	**105**	P	**P**	**00 32 26.1**	**+1.7**
ATAH	**Atahualpa**	**25.56**	**105**	P	**P**	**00 32 26.1**	**+1.7**
	3.3nm,0.7s,baz=220,slow=8.1,SNR=4.3						
TXAR	**Lajitas Array**	**30.09**	**359**	P	**P**	**00 33 03.6**	**-0.8**
TXAR				PcP	**PcP**	**00 36 05.9**	**-0.3**
TXAR	**Lajitas Array**	**30.09**	**359**	P	**P**	**00 33 03.6**	**-0.8**
	1.1nm,0.8s,baz=171,slow=8.9,SNR=4.6						
TXAR				PcP	**PcP**	**00 36 05.9**	**-0.3**
	1.4nm,0.7s,baz=188,slow=4.5,SNR=5.4						
627A	**Terlingua Ranc**	**30.20**	**360**	⇓P	**P**	**00 33 06.4**	**+1.0**
	baz=30						
628A	**Black Gap, Mar**	**30.24**	**1**	⇓P	**P**	**00 33 06.7**	**+1.0**
	baz=30						
626A	**Big Bend Ranch**	**30.32**	**359**	⇑P	**P**	**00 33 07.1**	**+0.8**
	baz=30						
526A	**Mary Lane Ranc**	**30.82**	**359**	⇓P	**P**	**00 33 11.7**	**+0.8**
	baz=31						
529A	**Stev Forest Ra**	**30.89**	**2**	⇑P	**P**	**00 33 12.3**	**+0.9**
	baz=31						
527A	**Woodward Ranch**	**30.90**	**359**	⇑P	**P**	**00 33 12.3**	**+0.7**
	baz=31						
528A	**Cox Ranch, San**	**30.91**	**1**	⇓P	**P**	**00 33 12.6**	**+0.9**
	baz=31						
530A	**J-C Ranch, Com**	**30.95**	**3**	⇓P	**P**	**00 33 12.9**	**+1.0**
	baz=31						
531A	**Rocksprings**	**31.02**	**5**	⇑P	**P**	**00 33 13.1**	**+0.5**
	baz=31						
532A	**Rocksprings**	**31.04**	**6**	⇓P	**P**	**00 33 13.3**	**+0.5**
	baz=31						
429A	**Davenport Ranc**	**31.40**	**2**	⇑P	**P**	**00 33 16.6**	**+0.7**
	baz=32						
JCT	**Junction City**	**31.40**	**6**	*e*P	**P**	**00 33 16.6**	**+0.7**
	16nm,1.4s						
JCT	**Junction City**	**31.40**	**6**	⇓P	**P**	**00 33 16.4**	**+0.5**
	baz=32						
426A	**McDonald Obser**	**31.42**	**359**	⇑P	**P**	**00 33 16.9**	**+0.6**
	baz=32						
428A	**Kincaid Ranch,**	**31.48**	**1**	⇓P	**P**	**00 33 17.5**	**+0.9**
	baz=32						
431A	**Sonora**	**31.53**	**4**	⇓P	**P**	**00 33 17.7**	**+0.7**
	baz=32						
425A	**Indio Mountain**	**31.57**	**357**	⇓P	**P**	**00 33 18.1**	**+0.5**
	baz=32						
427A	**Hayter Ranch,**	**31.60**	**360**	⇓P	**P**	**00 33 18.4**	**+0.8**
	baz=32,SNR=5.6						
432A	**Menard**	**31.80**	**6**	⇑P	**P**	**00 33 19.8**	**+0.4**
	baz=32						
325A	**Bean Ranch, Si**	**32.16**	**357**	⇑P	**P**	**00 33 22.9**	**+0.2**
	baz=32						
331A	**San Angelo**	**32.17**	**5**	⇓P	**P**	**00 33 23.1**	**+0.4**
	baz=32						
324A	**Moseley Ranch,**	**32.26**	**356**	⇑P	**P**	**00 33 23.4**	**-0.1**
	baz=32,SNR=5.2						
332A	**Millersview**	**32.30**	**6**	⇓P	**P**	**00 33 23.8**	**+0.1**
	baz=32						
231A	**Bronte**	**32.80**	**5**	⇑P	**P**	**00 33 28.1**	**0.0**
	baz=33						
232A	**Coleman**	**32.81**	**6**	⇓P	**P**	**00 33 28.7**	**+0.4**
	baz=33						
226B	**Tecolote Peak,**	**32.83**	**359**	⇓P	**P**	**00 33 29.3**	**+0.8**
	baz=33,SNR=9.3						
224A	**Cornudas Mount**	**32.89**	**356**	⇓P	**P**	**00 33 30.1**	**+1.0**
	baz=33

baz=37,SNR=5.4
V31A **Spring Creek L** 36.65 5 ⇓P P 00 34 02.3 +0.9
baz=37
V22A **San Miguel Ran** 36.80 355 ⇓P P 00 34 03.8 +0.9
baz=37
WUAZ **Wupatki** 37.03 349 ⇓P P 00 34 05.9 +1.1
baz=37,SNR=5.9
U25A **Circle Dot Ran** 37.15 358 ⇓P P 00 34 06.3 +0.5
baz=37,SNR=6.6
W13A **Hualapai Mount** 37.18 346 ⇑P P 00 34 07.7 +1.5
baz=37
GMRC **Granite Mounta** 37.36 343 ⇑P P 00 34 09.0 +1.4
baz=38
U21A **Nageezi** 37.38 354 ⇑P P 00 34 08.9 +1.1
baz=38,SNR=6.1
U20A **Newcomb** 37.43 353 ⇓P P 00 34 09.3 +1.2
baz=38
HEC **Hector,Ludlow** 37.61 342 ⇓P P 00 34 11.0 +1.3
baz=38
T24B **San Luis** 37.84 357 ⇑P P 00 34 12.4 +0.5
baz=38
LPAZ **La Paz** 37.85 116 *e*P P 00 34 13.1 +0.6
LPAZ PcP PcP 00 36 29.0 -0.1
LPAZ **La Paz** 37.85 116 P P 00 34 12.9 +0.4
3.5nm,1.0s,baz=312,slow=7.0,SNR=8.6
LPAZ PcP PcP 00 36 29.0 -0.1
0.7nm,0.5s,baz=300,slow=4.6,SNR=4.0
T25A **Trinidad** 37.88 359 ⇓P P 00 34 13.2 +1.1
baz=38
T22A **Edith** 37.89 355 ⇑P P 00 34 13.0 +0.8
baz=38,SNR=6.7
T26A **Comanche Natio** 37.91 360 ⇓P P 00 34 13.0 +0.7
baz=38
T21A **Navajo Lake** 37.93 354 ⇓P P 00 34 13.4 +1.0
baz=38
T31A **Randall Ranch,** 37.98 5 ⇓P P 00 34 13.5 +0.9
baz=38
U15A **North Rim** 38.09 348 ⇑P P 00 34 15.4 +1.5
baz=38
GSC **Goldstone** 38.19 342 ⇑P P 00 34 16.0 +1.4
baz=38
MVCO **Mesa Verde** 38.25 353 *e*P P 00 34 15.7 +0.5
14nm,1.0s
MVCO **Mesa Verde** 38.25 353 ⇑P P 00 34 15.5 +0.3
baz=38,SNR=7.6
S28A **Manter** 38.34 2 ⇓P P 00 34 16.4 +0.7
baz=39
S26A **Kim** 38.35 360 ⇓P P 00 34 16.7 +0.8
baz=39
S25A **Robets Cordova** 38.41 359 ⇑P P 00 34 17.8 +1.4
baz=39
S24A **Houchin Ranch,** 38.41 358 ⇑P P 00 34 18.0 +1.4
baz=39
S22A **4UR Ranch, Cre** 38.62 355 ⇓P P 00 34 19.0 +0.7
baz=39,SNR=7.1
S21A **Coal Bank Pass** 38.62 354 ⇓P P 00 34 19.1 +0.7
baz=39
S20A **Disappointment** 38.84 354 ⇑P P 00 34 21.6 +1.4
baz=39
R23A **Moffat** 38.99 357 ⇑P P 00 34 22.5 +1.1
baz=39
R27A **Eads** 39.02 1 ⇓P P 00 34 21.9 +0.4
baz=39,SNR=5.3
R26A **Arlington** 39.03 360 ⇑P P 00 34 22.4 +0.8
baz=39
ISA **Isabella** 39.06 340 ⇓P P 00 34 23.2 +1.4
baz=39
PV01 **Paradox Valley** 39.17 353 *e*P P 00 34 23.4 +0.5
561nm,1.1s
PV05 **Paradox Valley** 39.18 353 *e*P P 00 34 24.1 +1.2
R20A **Redvale** 39.20 354 ⇓P P 00 34 24.0 +0.9
baz=39,SNR=6.4
R29A **Marienthal** 39.20 3 ⇑P P 00 34 23.8 +0.8
baz=39
R21A **Cimarron** 39.30 355 ⇑P P 00 34 25.3 +1.3
baz=40
R33A **Olander Ranch,** 39.34 7 ⇑P P 00 34 25.1 +1.0
baz=40
PBMO **Poplar Bluff** 39.36 16 *e*P P 00 34 24.3 +0.1
80nm,2.2s
WVT **Waverly** 39.57 20 *e*P P 00 34 24.9 -1.0
18nm,1.2s
H03N2 **Juan Fernandez** 39.60 147 T T 01 16 33.6
baz=320,slow=0.7,SNR=44
H03N1 **Juan Fernandez** 39.62 147 T T 01 16 31.1
baz=320,slow=0.7,SNR=44
H03N3 **Juan Fernandez** 39.62 147 T T 01 16 34.9
baz=320,slow=0.7,SNR=46
Q29A **Oakley** 39.67 3 ⇓P P 00 34 28.0 +1.1
baz=40
Q24A **Divide** 39.73 358 ⇓P P 00 34 28.7 +1.0
baz=40
Q22A **Crested Butte,** 39.73 356 ⇑P P 00 34 28.4 +0.7
baz=40,SNR=5.4
LVC **Limon Verde** 39.76 125 *e*P P 00 34 29.8 +1.7
69nm,2.4s
Q21A **Lamborn Mesa,** 39.76 355 ⇑P P 00 34 28.8 +1.0
baz=40
Q30A **Quinter** 39.80 4 ⇓P P 00 34 28.9 +0.9
baz=40
Q32A **Meitler Ranch,** 39.95 6 ⇑P P 00 34 30.0 +0.8
baz=40
P23A **Jefferson** 40.17 357 ⇑P P 00 34 32.4 +1.0
baz=40
CPCT **Cooper Cave** 40.20 24 *e*P P 00 34 31.7 +0.4
Q16A **Castle Valley** 40.30 350 ⇑P P 00 34 33.0 +0.7
baz=40
P30A **Selden** 40.37 4 ⇑P P 00 34 33.2 +0.6
baz=41
SRU **San Rafael** 40.39 351 *e*P P 00 34 34.1 +1.1
14nm,1.4s
P31A **Stockton** 40.41 5 ⇓P P 00 34 33.7 +0.8
baz=41
P22A **Eagle** 40.45 356 ⇑P P 00 34 34.7 +1.2
baz=41
P20A **De Beque** 40.50 354 ⇓P P 00 34 34.8 +0.9
baz=41
ISCO **Idaho Springs** 40.58 357 *e*P P 00 34 36.3 +1.6
96nm,2.8s
ISCO **Idaho Springs** 40.58 357 ⇓P P 00 34 35.9 +1.2
baz=41
TMUT **Trail Mountain** 40.68 351 *e*P P 00 34 35.9 +0.3
6.6nm,1.0s
P19A **Cripple Cowboy** 40.70 353 ⇓P P 00 34 36.7 +1.1
baz=41
O22A **Kremmling** 41.00 356 ⇑P P 00 34 38.8 +0.7
baz=41,SNR=7.9
O23A **Lake Granby, G** 41.01 357 ⇓P P 00 34 38.8 +0.6
baz=41
O20A **White River Ci** 41.11 354 *e*P P 00 34 40.3 +1.4
17nm,0.9s
O20A **White River Ci** 41.11 354 ⇑P P 00 34 40.1 +1.1
baz=41,SNR=5.1
O21A **Pagoda** 41.12 355 ⇑P P 00 34 40.1 +1.1
baz=41
KMSC **Kings Mountain** 41.33 28 ⇑P P 00 34 40.8 +0.3
baz=42
O19A **Miners Draw (B** 41.37 353 ⇑P P 00 34 42.1 +1.1
baz=42
MPU **Maple Canyon** 41.45 350 *e*P P 00 34 43.3 +1.6
11nm,1.2s
NVAR **Mina Array Bea** 41.53 342 P P 00 34 41.9 -0.6
NVAR PcP PcP 00 36 40.2 +0.2
NVAR **Mina Array Bea** 41.53 342 P P 00 34 41.9 -0.6
1.0nm,0.8s,baz=174,slow=9.8,SNR=3.6
NVAR PcP PcP 00 36 40.2 +0.2
0.3nm,0.6s,baz=142,slow=4.5,SNR=4.1
N23A **Red Feather La** 41.69 357 ⇑P P 00 34 44.4 +0.6
baz=42,SNR=6.8
N20A **Spence Gulch,** 41.81 354 ⇓P P 00 34 45.9 +1.2
baz=42
DUG **Dugway** 41.84 349 *e*P P 00 34 46.5 +1.7
18nm,1.5s
DUG **Dugway** 41.84 349 ⇓P P 00 34 46.5 +1.7
baz=42
PHWY **Pilot Hill** 42.07 358 *e*P P 00 34 45.1 -1.8
M30A **Dale-Ortello V** 42.38 4 ⇓P P 00 34 50.4 +1.3
baz=43
ELK **Elko** 42.88 347 P P 00 34 54.2 +0.8
ELK **Elko** 42.88 347 P P 00 34 54.2 +0.8
0.3nm,0.3s,baz=184,slow=5.8,SNR=3.4
L23A **Garrett** 42.90 357 ⇓P P 00 34 53.8 +0.3
baz=43
K22A **Casper** 43.47 357 ⇑P P 00 34 58.7 +0.5
baz=44
K21A **Alcova** 43.51 356 ⇓P P 00 34 59.1 +0.6
baz=44
K30A **Basset** 43.52 4 ⇑P P 00 34 59.1 +0.7
baz=44
K23A **Bowen Ranch, D** 43.53 357 ⇑P P 00 34 59.2 +0.6
baz=44
SCIA **State Center** 43.59 11 *e*P P 00 34 53.2 -5.7
114nm,0.3s
SFIN **Scholer Farm** 43.68 18 ⇓P P 00 34 59.4 -0.2
baz=44
BW06 **Boulder Array** 43.86 353 *e*P P 00 35 01.6 +0.3
21nm,1.4s
PDAR **Pinedale Array** 43.86 353 P P 00 35 01.2 0.0
PDAR PcP PcP 00 36 46.8 -0.8
PDAR **Pinedale Array** 43.86 353 P P 00 35 01.2 0.0
5.1nm,0.9s,baz=157,slow=7.9,SNR=21
PDAR PcP PcP 00 36 46.8 -0.8
0.4nm,0.5s,baz=222,slow=1.2,SNR=3.1
J26A **Sides Ranch, S** 44.04 0 ⇓P P 00 35 03.5 +0.9
baz=44
J24A **Dixon Ranch, L** 44.07 359 ⇑P P 00 35 03.9 +1.0
baz=44
J25A **Sunshine Ranch** 44.12 359 ⇓P P 00 35 04.1 +0.9
baz=44
J22A **Midwest** 44.23 357 ⇓P P 00 35 04.5 +0.3
baz=44,SNR=7.7
J20A **Shoshoni** 44.29 355 ⇑P P 00 35 05.5 +0.9
baz=44
J19A **Crowheart** 44.29 354 ⇓P P 00 35 05.6 +0.8
baz=44
RRI2 **Red Ridge** 44.66 352 *e*P P 00 35 07.7 0.0
I22A **9 Mile Ranch,** 44.71 357 ⇓P P 00 35 08.7 +0.7
baz=45
I25A **Rochford** 44.74 360 ⇓P P 00 35 09.4 +1.1
baz=45
I29A **Vivian Onida** 44.82 3 ⇓P P 00 35 09.6 +0.8
baz=45
RSSD **Black Hills** 44.85 359 *e*P P 00 35 09.1 -0.1
20nm,1.6s
I20A **Worland** 44.88 355 ⇓P P 00 35 09.6 +0.3
baz=45
FXWY **Fox Creek** 44.90 352 *e*P P 00 35 09.8 +0.2
22nm,1.9s
I19A **Meeteetse** 45.05 354 ⇓P P 00 35 11.1 +0.3
baz=45
I17A **Pilgrim Ck.** 45.12 353 ⇓P P 00 35 12.7 +1.3
baz=45
IMW **Indian Meadow** 45.15 352 *e*P P 00 35 12.0 +0.3
16nm,1.5s
FLWY **Flagg Ranch** 45.30 352 *e*P P 00 35 13.2 +0.4
MOD **Modoc** 45.33 342 *e*P P 00 35 14.3 +1.4
HLID **Hailey** 45.40 349 *e*P P 00 35 14.4 +0.9
6.8nm,1.2s
HLID **Hailey** 45.40 349 ⇓P P 00 35 14.2 +0.7
baz=46,SNR=6.4
H22A **Clearmont** 45.40 357 ⇑P P 00 35 14.2 +0.7
baz=46
H20A **Greybull** 45.41 355 ⇑P P 00 35 13.5 0.0
baz=46
H29A **Onida** 45.43 3 ⇓P P 00 35 14.5 +0.9
baz=46
H24A **Dirks Ranch, A** 45.48 359 ⇓P P 00 35 14.1 0.0
baz=46,SNR=5.4
H18A **Shoshone NF, C** 45.76 354 ⇑P P 00 35 17.1 +0.7
baz=46
G30A **Faulkton** 46.00 4 ⇓P P 00 35 17.6 -0.4
baz=46
G22A **Birney** 46.02 357 ⇓P P 00 35 18.0 -0.4
baz=46
G24A **Alzada** 46.06 359 ⇓P P 00 35 18.2 -0.4
baz=46
G21A **Lodge Grass** 46.08 356 ⇓P P 00 35 18.5 -0.4
baz=46
QLMT **Earthquake Lak** 46.13 352 *e*P P 00 35 20.7 +1.4
G20A **Bridger** 46.15 355 ⇑P P 00 35 19.0 -0.4
baz=46
MCMT **McKenzie Canyo** 46.34 351 *e*P P 00 35 21.7 +0.6
5.3nm,1.3s
F22A **Rosebud** 46.58 357 ⇓P P 00 35 22.8 +0.2
baz=47
F24A **Ekalaka** 46.58 359 ⇓P P 00 35 22.3 -0.4
baz=47,SNR=5.8
F20A **Billings** 46.72 355 ⇑P P 00 35 24.4 +0.5
baz=47
F19A **Roth Farm, Mol** 46.85 355 ⇓P P 00 35 24.4 -0.4
baz=47,SNR=9.1
I07A **Izee** 47.09 344 *e*P P 00 35 27.9 +1.2
16nm,1.3s
E26A **Carlson Angus** 47.20 1 ⇓P P 00 35 27.6 +0.1
baz=47
E23A **Ismay** 47.26 358 ⇓P P 00 35 27.7 -0.2
baz=48
E20A **Meyer Farm, Mu** 47.42 355 ⇑P P 00 35 29.1 -0.2
baz=48
E19A **Rath Farm, Rou** 47.43 355 ⇑P P 00 35 28.9 -0.4
baz=48,SNR=7.9
D24A **Glendive** 47.85 359 ⇑P P 00 35 32.7 +0.2
baz=48
D21A **La Casta Ranch** 47.90 357 ⇑P P 00 35 32.9 0.0
baz=48,SNR=6.2
D22A **Cohagen** 47.94 357 ⇓P P 00 35 33.2 0.0
baz=48,SNR=5.8
D30A **Buchanan** 48.00 4 ⇑P P 00 35 33.6 0.0
baz=48
D20A **Manuel Ranch,** 48.01 356 ⇓P P 00 35 33.2 -0.5
baz=48,SNR=5.4
D19A **Cripps Ranch,** 48.14 355 ⇑P P 00 35 34.5 -0.3
baz=48,SNR=7.1
C24A **Savage** 48.27 359 ⇓P P 00 35 36.2 +0.4
baz=48
MSO **Missoula** 48.47 350 ⇑P P 00 35 37.3 -0.1
baz=49
C22A **Vida** 48.52 358 ⇓P P 00 35 38.1 +0.3
baz=49
C23A **Lambert** 48.55 358 ⇓P P 00 35 38.3 +0.3
baz=49
C30A **Mose, Pekin** 48.61 4 ⇓P P 00 35 38.9 +0.6
baz=49
C20A **Veseth Ranch,** 48.61 356 ⇑P P 00 35 38.1 -0.4
baz=49,SNR=5.7
C21A **Desert Coulee** 48.66 357 ⇓P P 00 35 38.4 -0.4
baz=49
C19A **Slack Wire Ran** 48.72 355 ⇑P P 00 35 39.3 0.0
baz=49
SLMT **Seeley Lake** 48.79 351 *e*P P 00 35 40.7 +0.7
5.6nm,1.2s
EGMT **Eagleton** 49.07 354 *e*P P 00 35 42.0 0.0
44nm,1.7s
EGMT **Eagleton** 49.07 354 ⇓P P 00 35 42.1 +0.1
baz=49
B22A **Reddig Ranch S** 49.08 358 ⇓P P 00 35 42.1 +0.1
baz=49
B26A **Jensen Ranch,** 49.11 1 ⇑P P 00 35 42.0 -0.2
baz=49
DGMT **Dagmar** 49.20 359 ⇓P P 00 35 43.1 +0.2
baz=49
B28A **Dugan Ranch, T** 49.24 3 ⇓P P 00 35 42.9 -0.2
baz=50
B30A **Myrvik Farm, E** 49.36 4 ⇓P P 00 35 44.1 0.0
baz=50
A26A **Wade Farm, Ken** 49.63 1 ⇑P P 00 35 46.1 -0.1
baz=50
A24A **Westby** 49.65 359 ⇓P P 00 35 46.9 +0.6
baz=50
A25A **Svangstu Ranch** 49.66 0 ⇓P P 00 35 46.9 +0.4
baz=50
A28A **Rude Farm, Bot** 49.70 3 ⇑P P 00 35 46.6 -0.1
baz=50
A20A **Cobblestone Ra** 49.77 356 ⇓P P 00 35 47.3 0.0
baz=50
A22A **Carney Farms,** 49.77 358 ⇑P P 00 35 47.1 -0.2
baz=50,SNR=5.3
A29A **Manning Farm,** 49.77 3 ⇓P P 00 35 46.7 -0.5
baz=50
NEW **Newport** 50.45 348 *e*P P 00 35 52.3 -0.1
NEW **Newport** 50.45 348 ⇑P P 00 35 51.8 -0.6
baz=51
NEW **Newport** 50.45 348 P P 00 35 49.4 -3.1
5.5nm,0.9s,baz=128,slow=6.4,SNR=4.7
ULM **Lac du Bonnet** 51.37 6 P P 00 35 57.3 -1.9
ULM **Lac du Bonnet** 51.37 6 P P 00 35 57.3 -1.9
4.6nm,0.8s,baz=188,slow=9.1,SNR=5.7
BDFB **Brasilia** 56.41 108 P P 00 36 35.4 -1.5
BDFB **Brasilia** 56.41 108 P P 00 36 35.4 -1.5
1.8nm,0.5s,baz=283,slow=18,SNR=4.2
SCHQ **Schefferville** 63.11 23 P P 00 37 20.5 -1.7
SCHQ **Schefferville** 63.11 23 P P 00 37 20.5 -1.7
9.8nm,1.0s,baz=238,slow=5.1,SNR=3.9
YKA **Yellowknife Ar** 63.83 354 P P 00 37 25.8 -1.0
YKA **Yellowknife Ar** 63.83 354 P P 00 37 25.8 -1.0
7.7nm,0.6s,baz=163,slow=6.6,SNR=12
INK **Inuvik** 72.16 349 *e*P P 00 38 18.4 -0.7
22nm,1.3s
ILAR **Eielson Array** 72.79 342 P P 00 38 21.9 -1.1
ILAR **Eielson Array** 72.79 342 P P 00 38 21.9 -1.1
3.3nm,0.7s,baz=155,slow=5.5,SNR=35
PPLA **Purkeypile** 73.33 339 *e*P P 00 38 25.9 -0.4
53nm,1.6s
SUMG **Summit** 83.52 16 *i* P P 00 39 22.6 -0.2
11nm,1.0s
QSPA **South Pole Qui** 89.11 180 *e*P P 00 39 50.6 +0.6
14nm,1.2s
H11N3 **WAKE ISLAND Hy** 90.13 290 T T 02 19 35.5
baz=94,slow=0.7,SNR=5.3
H11N2 **WAKE ISLAND Hy** 90.14 290 T T 02 19 35.8
baz=94,slow=0.7,SNR=6.5
H11N1 **WAKE ISLAND Hy** 90.15 290 T T 02 19 38.9
baz=94,slow=0.7,SNR=5.8
H11S2 **WAKE ISLAND Hy** 90.31 288 T T 02 19 53.7
baz=93
H11S1 **WAKE ISLAND Hy** 90.31 288 T T 02 19 49.1
baz=93
H11S3 **WAKE ISLAND Hy** 90.32 288 T T 02 20 23.9
baz=93
SNAA **Sanae** 92.42 162 P P 00 40 04.9 -0.4
SNAA **Sanae** 92.42 162 P P 00 40 04.9 -0.4
0.8nm,1.1s,baz=210,slow=3.7,SNR=4.1
CN2 **Changchun** 119.25 321 *e*PKP **PKPdf** 00 45 47.3 +3.0
ASAR **Alice Springs** 119.37 242 PKP **PKPdf** 00 45 43.8 -1.4
ASAR **Alice Springs** 119.37 242 PKP **PKPdf** 00 45 43.8 -1.4
0.2nm,0.4s,baz=60,slow=1.9,SNR=3.4
WRA **Warramunga Arr** 119.89 246 PKP **PKPdf** 00 45 44.6 -1.7
WRA **Warramunga Arr** 119.89 246 PKP **PKPdf** 00 45 44.6 -1.7
0.5nm,0.8s,baz=93,slow=2.7,SNR=7.3
BRTR **Keskin Array B** 124.98 40 PKP **PKPdf** 00 45 55.1 -0.5
BRTR **Keskin Array B** 124.98 40 PKP **PKPdf** 00 45 55.1 -0.5
1.5nm,0.8s,baz=337,slow=1.9,SNR=7.8
SONM **Songino Array** 126.67 335 PKP **PKPdf** 00 45 58.5 -0.2
SONM **Songino Array** 126.67 335 PKP **PKPdf** 00 45 58.5 -0.2
1.9nm,1.1s,baz=42,slow=1.7,SNR=7.4
ZALV **Zalesovo Beam** 126.73 354 PKP **PKPdf** 00 45 57.5 -0.9
ZALV **Zalesovo Beam** 126.73 354 PKP **PKPdf** 00 45 57.5 -0.9
0.8nm,0.6s,baz=189,slow=0.1,SNR=5.6
BVAR **Borovoye Array** 127.81 5 PKP **PKPdf** 00 46 00.7 +0.3
BVAR **Borovoye Array** 127.81 5 PKP **PKPdf** 00 46 00.7 +0.3
1.1nm,0.7s,baz=45,slow=2.3,SNR=4.8
HHC **Hu-ho-hao-te** 129.27 326 *e*PKP **PKPdf** 00 46 03.3 -0.5
HHC PP **PP** 00 48 13.5 +1.8
HHC PKS **PKSdf** 00 49 39.0 -1.4
HHC SKS **SKSdf** 00 53 13.5 -2.3
HHC SKKS **SKKSac** 00 55 06.5 -3.4
HHC SS **SS** 01 05 32.5 +0.1
HHC PPMZ
410nm,9.5s
HHC LR LR
comp=N,220nm,20.0s
HHC LR LR
comp=E,230nm,21.2s
HHC LR LR
comp=Z,230nm,21.5s
KURK **Kurchatov** 130.36 358 PKP **PKPdf** 00 46 05.2 -0.2
KURBB **Kurchatov Arra** 130.46 358 PKP **PKPdf** 00 46 05.2 -0.4
0.5nm,0.3s,baz=347,slow=2.1,SNR=7.4
WMQ **Urumqi** 136.18 349 *e*PKP **PKPdf** 00 46 17.8 +1.2
WMQ LR LR
comp=N,130nm,21.2s
WMQ LR LR
comp=E,91nm,20.8s
CD2 **Chengdu** 140.68 322 PKP **PKPdf** 00 46 25.8 +0.5
KSH **Kashi** 141.58 1 *e*PKP PKPdf 00 46 32.0 +5.3
KSH PP **PP** 00 49 31.8 +3.2
KSH PKS **PKSdf** 00 50 03.8 +1.1
GYA **Guiyang** 141.61 314 *e*PKP **PKPdf** 00 46 27.3 +0.2
GYA PP **PP** 00 49 33.8 +3.7
GYA PPMZ
90nm,7.6s
KMI **Kunming** 145.21 316 PKPbc **PKPbc** 00 46 33.0 -0.2
KBL **Kabul** 145.79 11 *e*PKPdf **PKPdf** 00 46 34.5 +0.1
CMAR **Chiang Mai Arr** 152.08 310 PKP **PKPdf** 00 46 44.0 -0.6
CMAR PKPbc **PKPbc** 00 46 51.1 -0.1
CMAR **Chiang Mai Arr** 152.08 310 PKP **PKPdf** 00 46 44.0 -0.6
0.7nm,0.3s,baz=10.0,slow=2.4,SNR=5.0
CMAR PKPbc **PKPbc** 00 46 51.1 -0.1
2.9nm,0.6s,baz=16,slow=1.2,SNR=13

GUC 29 00:56:19.4±0.3, 34°52S×71°53W, h63km±1km, ML3.6, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.54**	**153**	*i* P		Pn	00 56 31.7	-0.4
NICH				*i* S		Sn	00 56 41.1	-0.1
NICH				AML		AML	00 56 42.7	
comp=E,6μm,0.2s								
LNV	**Longovilo**	**0.57**	**10**	*i* P		Pn	00 56 32.1	-0.2
LNV				*i* S		Sn	00 56 41.6	-0.2
CACH	**El Canelo**	**0.87**	**63**	⇑*i* P		Pn	00 56 35.6	-0.4
CACH				*i* S		Sn	00 56 48.4	0.0
TALC	**Talca**	**0.88**	**186**	*e*P		Pn	00 56 35.8	-0.2
TALC				*i* S		Sn	00 56 48.1	-0.2
CHCH	**Chadas Angostu**	**0.93**	**51**	*e*P		Pn	00 56 36.5	-0.3
CHCH				*i* S		Sn	00 56 49.9	+0.3
TACH	**Talagante**	**0.99**	**30**	⇓*i* P		Pn	00 56 37.2	-0.4
TACH				*i* S		Sn	00 56 50.8	-0.2
ANTU	**Antumapu**	**1.21**	**38**	*i* P		Pn	00 56 40.2	-0.1
ANTU				*i* S		Sn	00 56 55.9	-0.1
ANTU				AML		AML	00 56 58.0	
comp=E,2μm,0.3s								
PCH	**Pirque**	**1.23**	**43**	*i* P		Pn	00 56 40.5	-0.2
LMEL	**Las Melosas**	**1.29**	**59**	*i* P		Pn	00 56 41.4	-0.1
LMEL				*i* S		Sn	00 56 58.2	+0.1
LMEL				AML		AML	00 56 59.9	
comp=N,2μm,0.2s								
SJCH	**San Jose de Ma**	**1.31**	**48**	⇑*i* P		Pn	00 56 40.9	-0.9
SJCH				*i* S		Sn	00 56 58.0	-0.6
LNCH	**Linares**	**1.32**	**183**	*i* P		Pn	00 56 41.7	-0.1
LNCH				*i* S		Sn	00 56 58.5	-0.1
CLCH	**Cerro Calan**	**1.39**	**37**	*i* P		Pn	00 56 42.7	-0.1
CLCH				*i* S		Sn	00 57 00.5	+0.1
CLCH				AML		AML	00 57 03.0	
comp=N,2μm,0.7s								
PEL	**Peldehue**	**1.54**	**27**	AML		AML	00 57 08.5	
comp=N,1μm,0.3s								
ROCH	**El Roble**	**1.60**	**16**	*e*P		Pn	00 56 46.0	+0.2
ROCH				*i* S		Sn	00 57 06.1	+0.3
ROCH				AML		AML	00 57 09.9	
comp=N,1μm,0.3s								
JACH	**Jahuel**	**1.99**	**23**	*e*P		Pn	00 56 51.1	+0.1
JACH				*i* S		Sn	00 57 15.0	0.0

*IDC **29** 01:06:07.0±2.1, 20°20S×178°19W, h535km±24km, mb3.3/7, mb1 3.6/9, mb1mx3.4/20, mbtmp4.3/9, Error ellipse: s-maj=23.3km s-min=14.1km az=146.0*
*ISCJB **29** 01:06:08.2±0.7, 20°3S±0°2×178°2W±0°2, h569km, mb3.8/8, Error ellipse: s-maj=24.9km s-min=14.4km az=138.6*

ISC 29 01:06:09.3±0.7, 20°2S±0°2×178°1W±0°2, h569km, n14, σ1§20/15, mb3.9/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.73**	**45**	P		**P**	**01 08 12.4**	**-2.5**
5.5nm,0.3s,baz=222,slow=12,SNR=4.3								
URZ	**Urewera**	**18.45**	**192**	P		**P**	**01 09 48.2**	**-1.9**
1.1nm,0.3s,baz=0.0,slow=8.1,SNR=5.3								
STKA	**Stephens Creek**	**37.81**	**244**	P		**P**	**01 12 37.8**	**-0.3**
4.9nm,0.8s,baz=106,slow=12,SNR=5.0								
ASAR	**Alice Springs**	**44.47**	**256**	P		**P**	**01 13 30.4**	**-0.5**
6.4nm,0.6s,baz=87,slow=8.4,SNR=65								
ASAR				PcP		**PcP**	**01 15 02.4**	**+0.4**
1.0nm,0.5s,baz=107,slow=4.0,SNR=7.6								
WRA	**Warramunga Arr**	**44.53**	**262**	P		**P**	**01 13 30.5**	**-0.9**
2.2nm,0.3s,baz=96,slow=7.6,SNR=145								
WRA				PcP		**PcP**	**01 15 02.2**	**+0.1**
0.5nm,0.6s,baz=97,slow=3.2,SNR=3.0								
FITZ	**Fitzroy Crossi**	**52.95**	**262**	P		**P**	**01 14 33.6**	**-0.1**
1.9nm,0.6s,baz=105,slow=4.2,SNR=13								
VNDA	**Vanda**	**58.17**	**185**	P		**P**	**01 15 09.7**	**+0.9**
1.1nm,0.8s,baz=341,slow=3.7,SNR=4.1								
TXAR	**Lajitas Array**	**87.00**	**57**	P		**P**	**01 17 57.2**	**+2.0**
0.6nm,0.7s,baz=191,slow=6.0,SNR=5.6								
ILAR	**Eielson Array**	**88.07**	**13**	P		**P**	**01 17 59.5**	**+0.4**
0.6nm,0.8s,baz=227,slow=5.2,SNR=9.9								
PDAR	**Pinedale Array**	**88.84**	**43**	P		**P**	**01 18 04.0**	**+0.4**
4.9nm,0.5s,baz=220,slow=2.4,SNR=21								

MKAR	**Makanchi Array**	**110.93**	**314**	PKiKP	**PKiKP**		**01 23 38.4**	**+0.1**
	0.3nm,0.7s,baz=90,slow=1.8,SNR=2.6							
AKASG	**Malin Array Be**	**142.72**	**331**	PKhKP	PKPpre		01 24 35.6	
	3.2nm,0.5s,baz=43,slow=4.4,SNR=18							
BRTR	**Keskin Array B**	**146.57**	**313**	PKPbc	**PKPbc**		**01 24 48.4**	**+0.5**
	1.4nm,0.6s,baz=135,slow=4.9,SNR=9.2							
GERES	**GERESS Array B**	**149.91**	**344**	PKPbc	**PKPbc**		**01 24 56.5**	**+0.7**
	0.6nm,0.7s,baz=107,slow=1.4,SNR=6.9							

IDC 29 01:14:39.0±10.0**, 16°38S**×**173°09W, h0**km**, mb3.5/3, mb1 3.8/3, mb1mx3.6/21, mbtmp3.5/3, Error ellipse: s-maj=465.2km s-min=35.8km az=140.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.76**	**27**	Pn	Pn	01 15 14.2	-10
	8.7nm,0.3s,baz=135,slow=16,SNR=6.8						
AFI				Sn	Sn	01 15 42.2	-17
	25nm,0.3s,baz=52,slow=23,SNR=5.8						
H11S2	**WAKE ISLAND Hy**	**39.95**	**329**	T	T	02 04 06.1	
	baz=152,slow=0.7,SNR=11						
H11S3	**WAKE ISLAND Hy**	**39.96**	**329**	T	T	02 04 06.1	
	baz=152,slow=0.7,SNR=11						
H11S1	**WAKE ISLAND Hy**	**39.97**	**329**	T	T	02 04 07.7	
	baz=152,slow=0.7,SNR=10						
WRA	**Warramunga Arr**	**49.92**	**258**	P	P	01 23 33.5	-1.5
	0.2nm,0.7s,baz=96,slow=7.3,SNR=2.7						
ASAR	**Alice Springs**	**50.10**	**253**	P	P	01 23 37.5	+1.1
	0.7nm,0.4s,baz=91,slow=8.1,SNR=12						
ILAR	**Eielson Array**	**83.34**	**11**	P	P	01 27 07.5	0.0
	0.3nm,0.8s,baz=220,slow=6.1,SNR=4.2						

*IDC **29** 01:14:52.0±1.1, 52°.68N×167°.12W, h0km, mb3.9/16, mb1 4.1/17, mb1mx4.0/30, mbtmp3.9/17, ML3.8/1, Error ellipse: s-maj=31.3km s-min=14.5km az=13.0*
*ISCJB **29** 01:14:52.1±1.4, 52°.32N±0°.05×167°.04W±0°.06, h19km±9km, mb4.0/21, Error ellipse: s-maj=9.0km s-min=6.0km az=164.0*
*NEIC **29** 01:14:53.6, 52°.23N×166°.99W, h28km, ML3.5(AEIC), After AEIC.*

ISC 29 01:14:54.5±1.9**, 52°43N**±0°.08×**167°10W**±0°.05**, h23**km±12km**, n90**, σ1§15/92**, mb4.0**/21**, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKSP	**Okmok Steeple**	**1.10**	**319**	P	**Pb**	**01 15 14.7**	**-0.1**
OKFG	**Magazine Ridge**	**1.10**	**334**	P	**Pb**	**01 15 14.6**	**-0.3**
OKFG				S	**Sn**	**01 15 30.4**	**+1.3**
OKTU	**Okmok Mt. Tuli**	**1.12**	**330**	P	**Pb**	**01 15 15.5**	**+0.3**
OKSO	**Okmok South**	**1.13**	**326**	P	**Pb**	**01 15 14.9**	**-0.5**
OKSO				S	**Sn**	**01 15 30.8**	**+0.9**
OKCE	**Okmok Cone E**	**1.19**	**328**	P	**Pb**	**01 15 16.6**	**+0.2**
NIKH	**Nikolski High**	**1.20**	**298**	P	**Pn**	**01 15 15.2**	**-0.6**
NIKH				S	**Sn**	**01 15 31.1**	**-0.3**
MGOD	**Makushin Gods**	**1.38**	**6**	P	**Pn**	**01 15 18.4**	**+0.1**
MREP	**Makushin Rep't**	**1.40**	**9**	P	**Pb**	**01 15 18.9**	**-1.1**
UNV	**Unalaska Valle**	**1.47**	**14**	*e*Pn	**Pn**	**01 15 18.8**	**-0.8**
UNV				*e*S	**Sb**	**01 15 42.8**	**+3.6**
MSW	**Makushin Switc**	**1.50**	**7**	P	**Pn**	**01 15 20.2**	**+0.1**
MSW				S	**Sb**	**01 15 40.6**	**+0.3**
MCIR	**Makushin Cirqu**	**1.53**	**5**	P	**Pb**	**01 15 20.9**	**-1.3**
MTBL	**Makushin Table**	**1.57**	**9**	P	**Pn**	**01 15 21.3**	**+0.3**
ZRO	**Akutan Zero**	**1.80**	**21**	P	**Pn**	**01 15 23.8**	**-0.3**
AKRB	**Akutan Reef Bi**	**1.82**	**19**	P	**Pn**	**01 15 24.5**	**+0.1**
AKRB				S	**Sb**	**01 15 48.2**	**-1.1**
AKUT	**Akutan**	**1.89**	**24**	*e*Pn	**Pn**	**01 15 25.0**	**-0.3**
AKUT				*e*S	**Sn**	**01 15 48.6**	**+0.3**
AKGG	**Akutan Green G**	**1.90**	**20**	P	**Pn**	**01 15 25.4**	**-0.1**
FALS	**False Pass**	**3.28**	**41**	P	**Pn**	**01 15 44.5**	**+0.1**
DT1	**Dutton Round H**	**3.92**	**45**	P	**Pn**	**01 15 53.3**	**0.0**
DTNA	**Dutton South F**	**3.96**	**45**	P	**Pn**	**01 15 54.0**	**+0.2**
SDPT	**Sand Point**	**4.89**	**51**	*e*Pn	**Pn**	**01 16 06.2**	**-0.3**
SPIA	**Saint Paul Isl**	**5.10**	**340**	P	**Pn**	**01 16 09.7**	**+0.3**
ADK	**Adak**	**5.93**	**269**	*e*Pn	**Pn**	**01 16 21.4**	**+0.7**
VNHG	**Veniaminof 1**	**6.00**	**48**	P	**Pn**	**01 16 20.4**	**-1.5**
CHGN	**Chignik**	**6.39**	**49**	Pn	**Pn**	**01 16 27.8**	**+0.7**
OHAK	**Old Harbor**	**9.30**	**53**	*e*Pn	**Pn**	**01 17 05.9**	**-1.1**
SEW	**Seward**	**12.43**	**45**	*e*Pn	**Pn**	**01 17 48.0**	**-1.8**
PPLA	**Purkeypile**	**13.14**	**31**	*e*Pn	**Pn**	**01 18 02.5**	**+2.8**
BPAW	**Bear Paw Mtn.**	**14.39**	**29**	*e*Pn	**Pn**	**01 18 17.6**	**+1.0**
	3.9nm,0.8s						
IM04	**Indian Mountai**	**15.15**	**21**	*e*Pn	**P**	**01 18 29.2**	**-2.5**
IMA2	**Indian Mountai**	**15.25**	**21**	*e*Pn	**P**	**01 18 30.7**	**-2.2**
ILAR	**Eielson Array**	**16.14**	**32**	Pn	**Pn**	**01 18 36.9**	**-2.8**
ILAR	**Eielson Array**	**16.14**	**32**	Pn	**Pn**	**01 18 36.9**	**-2.8**
	0.1nm,0.3s,baz=211,slow=12,SNR=7.9						
COLD	**Coldfoot**	**17.00**	**23**	*e*Pn	**Pn**	**01 18 50.8**	**+0.3**
HYT	**Haines Junctio**	**18.18**	**51**	*e*Pn	**P**	**01 19 08.5**	**+3.1**
DAWY	**Dawson**	**18.48**	**40**	*e*Pn	**Pn**	**01 19 09.0**	**+0.2**
PETK	**Petropavlovsk-**	**21.19**	**286**	P	**P**	**01 19 38.7**	**+0.6**
PETK	**Petropavlovsk-**	**21.19**	**286**	P	**P**	**01 19 38.7**	**+0.6**
	2.8nm,0.8s,baz=100,slow=12,SNR=3.5						
INK	**Inuvik**	**22.54**	**32**	*e*P	**P**	**01 19 50.6**	**-1.8**
INK	**Inuvik**	**22.54**	**32**	P	**P**	**01 19 50.6**	**-1.8**
	2.6nm,0.4s,baz=210,slow=9.7,SNR=30						
NEW	**Newport**	**31.64**	**77**	P	**P**	**01 21 16.2**	**+0.6**
NEW	**Newport**	**31.64**	**77**	P	**P**	**01 21 16.2**	**+0.6**
	1.4nm,0.8s,baz=299,slow=8.2,SNR=5.0						
NVAR	**Mina Array Bea**	**36.27**	**93**	P	**P**	**01 21 57.8**	**+1.6**
NVAR	**Mina Array Bea**	**36.27**	**93**	P	**P**	**01 21 57.8**	**+1.6**
	2.1nm,0.8s,baz=297,slow=8.4,SNR=9.5						
ELK	**Elko**	**36.74**	**87**	P	**P**	**01 22 00.5**	**+0.4**
ELK	**Elko**	**36.74**	**87**	P	**P**	**01 22 00.5**	**+0.4**
	1.0nm,0.6s,baz=6.2,slow=5.1,SNR=3.2						
H11N2	**WAKE ISLAND Hy**	**38.39**	**222**	T	T	02 03 53.7	
	baz=24,slow=0.7						
H11N3	**WAKE ISLAND Hy**	**38.40**	**222**	T	T	02 03 51.1	
	baz=24,slow=0.7						
H11N1	**WAKE ISLAND Hy**	**38.41**	**222**	T	T	02 03 54.9	
	baz=24						
PDAR	**Pinedale Array**	**39.02**	**81**	P	**P**	**01 22 20.2**	**+0.9**
PDAR	**Pinedale Array**	**39.02**	**81**	P	**P**	**01 22 20.2**	**+0.9**
	2.2nm,0.6s,baz=302,slow=5.2,SNR=5.7						
TXAR	**Lajitas Array**	**51.35**	**91**	P	**P**	**01 23 57.7**	**+0.5**
TXAR	**Lajitas Array**	**51.35**	**91**	P	**P**	**01 23 57.7**	**+0.5**
	1.7nm,0.8s,baz=290,slow=4.4,SNR=14						
SONM	**Songino Array**	**52.46**	**302**	P	**P**	**01 24 05.8**	**+0.5**
SONM	**Songino Array**	**52.46**	**302**	P	**P**	**01 24 05.8**	**+0.5**
	0.2nm,0.3s,baz=39,slow=9.3,SNR=2.5						
SCHQ	**Schefferville**	**54.43**	**44**	P	**P**	**01 24 19.6**	**+0.2**
SCHQ	**Schefferville**	**54.43**	**44**	P	**P**	**01 24 19.6**	**+0.2**
	1.3nm,0.3s,baz=266,slow=8.9,SNR=7.4						
ARCES	**ARCESS Array B**	**58.00**	**355**	P	**P**	**01 24 43.7**	**-1.0**
ARCES	**ARCESS Array B**	**58.00**	**355**	P	**P**	**01 24 43.7**	**-1.0**
	4.7nm,0.9s,baz=16,slow=6.9,SNR=6.1						
ZALV	**Zalesovo Beam**	**58.31**	**319**	P	**P**	**01 24 46.9**	**-0.2**
ZALV	**Zalesovo Beam**	**58.31**	**319**	P	**P**	**01 24 46.8**	**-0.2**
	0.2nm,0.4s,baz=32,slow=7.9,SNR=2.4						
MKAR	**Makanchi Array**	**64.77**	**315**	P	**P**	**01 25 30.0**	**-0.8**
MKAR	**Makanchi Array**	**64.77**	**315**	P	**P**	**01 25 30.0**	**-0.8**
	0.4nm,0.5s,baz=53,slow=6.9,SNR=3.0						
FINES	**FINESS Array B**	**65.99**	**353**	P	**P**	**01 25 37.9**	**-0.6**
FINES	**FINESS Array B**	**65.99**	**353**	P	**P**	**01 25 37.9**	**-0.6**
	1.2nm,0.5s,baz=2.9,slow=7.6,SNR=7.4						
NOA	**NORSAR Array B**	**66.88**	**1**	P	P	01 25 40.8	-3.4
NOA	**NORSAR Array B**	**66.88**	**1**	P	P	01 25 40.8	-3.4
	0.8nm,0.8s,baz=2.2,slow=9.4,SNR=2.6						
AKASG	**Malin Array Be**	**76.33**	**349**	P	**P**	**01 26 39.8**	**-1.3**
AKASG	**Malin Array Be**	**76.33**	**349**	P	**P**	**01 26 39.8**	**-1.3**
	0.6nm,0.4s,baz=14,slow=5.9,SNR=3.7						
LDF	**La Druitiere**	**78.75**	**9**	*e*P	**P**	**01 26 54.9**	**+0.2**
LDF	**La Druitiere**	**78.75**	**9**	*e*P	**P**	**01 26 54.9**	**+0.2**
GERES	**GERESS Array B**	**79.10**	**359**	P	**P**	**01 26 57.5**	**+0.7**
GERES	**GERESS Array B**	**79.10**	**359**	P	**P**	**01 26 57.5**	**+0.7**
	0.1nm,0.3s,baz=19,slow=6.2,SNR=3.2						
SSF	**Saint Saulge**	**80.56**	**6**	*e*P	**P**	**01 27 05.1**	**+0.5**
SSF	**Saint Saulge**	**80.56**	**6**	*e*P	**P**	**01 27 05.1**	**+0.5**
MFF	**Saint Martin d**	**80.72**	**9**	*e*P	**P**	**01 27 06.1**	**+0.6**
MFF	**Saint Martin d**	**80.72**	**9**	*e*P	**P**	**01 27 06.1**	**+0.6**
AVF	**Avril sur Loir**	**80.82**	**7**	*e*P	**P**	**01 27 06.4**	**+0.4**
	1.8nm,0.4s						
AVF	**Avril sur Loir**	**80.82**	**7**	*e*P	**P**	**01 27 06.4**	**+0.4**
	1.8nm,0.4s						
RJF	**Les Rejaudoux**	**82.16**	**8**	*e*P	**P**	**01 27 14.3**	**+1.2**
RJF	**Les Rejaudoux**	**82.16**	**8**	*e*P	**P**	**01 27 14.3**	**+1.2**
CAF	**Calviac**	**82.58**	**8**	*e*P	**P**	**01 27 16.6**	**+1.2**
CAF	**Calviac**	**82.58**	**8**	*e*P	**P**	**01 27 16.6**	**+1.2**
ORIF	**Oris-en-Rattie**	**82.85**	**5**	*e*P	**P**	**01 27 18.0**	**+1.2**
	2.5nm,0.6s						
ORIF	**Oris-en-Rattie**	**82.85**	**5**	*e*P	**P**	**01 27 18.0**	**+1.2**
	2.5nm,0.6s						
MBDF	**Montbardon**	**83.08**	**4**	*e*P	**P**	**01 27 19.9**	**+1.8**
	5.6nm,0.7s						
MBDF	**Montbardon**	**83.08**	**4**	*e*P	**P**	**01 27 19.9**	**+1.8**
	5.6nm,0.7s						
BRTR	**Keskin Array B**	**86.47**	**344**	P	**P**	**01 27 35.3**	**0.0**
BRTR	**Keskin Array B**	**86.47**	**344**	P	**P**	**01 27 35.3**	**0.0**
	1.4nm,0.7s,baz=56,slow=2.0,SNR=7.4						
ESDC	**Sonseca Array**	**87.11**	**13**	P	**P**	**01 27 38.0**	**-0.3**
ESDC	**Sonseca Array**	**87.11**	**13**	P	**P**	**01 27 38.0**	**-0.3**
	0.7nm,0.7s,baz=336,slow=4.5,SNR=5.7						

*IDC **29** 01:16:53.1±0.7, 52°.43N×167°.29W, h0km, mb4.1/20, mb1 4.3/20, mb1mx4.2/32, mbtmp4.1/20, Error ellipse: s-maj=23.8km s-min=13.8km az=8.0*
*ISCJB **29** 01:16:55.2±1.5, 52°.33N±0°.05×167°.06W±0°.06, h20km±9km, mb4.3/37, Error ellipse: s-maj=9.6km s-min=5.7km az=158.0*
*NEIC **29** 01:16:55.7, 52°.22N×167°.00W, h18km, mb4.1/4, ML3.5(AEIC), After AEIC.*

ISC 29 01:16:57.0±1.9**, 52°43N**±0°.08×**167°11W**±0°.04**, h24**km±12km**, n120**, σ1§28/128**, mb4.3**/37**, 1C, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKSP	**Okmok Steeple**	**1.10**	**320**	P	**Pb**	**01 17 17.4**	**+0.1**
OKFG	**Magazine Ridge**	**1.10**	**334**	P	**Pb**	**01 17 17.0**	**-0.4**
OKFG				S	**Sn**	**01 17 32.7**	**+1.4**
OKTU	**Okmok Mt. Tuli**	**1.11**	**330**	P	**Pb**	**01 17 18.0**	**+0.3**
OKSO	**Okmok South**	**1.13**	**326**	P	**Pb**	**01 17 17.3**	**-0.6**
OKSO				S	**Sn**	**01 17 33.5**	**+1.4**
OKCE	**Okmok Cone E**	**1.19**	**328**	P	**Pb**	**01 17 19.0**	**0.0**
NIKH	**Nikolski High**	**1.20**	**298**	P	**Pn**	**01 17 17.7**	**-0.5**
NIKH				S	**Sn**	**01 17 34.0**	**+0.4**
UNV	**Unalaska Valle**	**1.47**	**14**	*e*Pn	**Pb**	**01 17 23.4**	**-0.2**
UNV				*e*S	**Sn**	**01 17 38.0**	**-2.4**
MSW	**Makushin Switc**	**1.51**	**7**	P	**Pn**	**01 17 22.8**	**+0.3**
MSW				S	**Sb**	**01 17 42.8**	**-0.1**
MCIR	**Makushin Cirqu**	**1.54**	**5**	P	**Pb**	**01 17 23.7**	**-1.1**
MTBL	**Makushin Table**	**1.57**	**9**	P	**Pn**	**01 17 23.7**	**+0.3**
AKRB	**Akutan Reef Bi**	**1.82**	**20**	P	**Pn**	**01 17 26.5**	**-0.2**
AKUT	**Akutan**	**1.89**	**25**	*e*Pn	**Pn**	**01 17 27.3**	**-0.4**
AKUT				*e*S	**Sn**	**01 17 50.9**	**+0.2**
FALS	**False Pass**	**3.28**	**41**	*e*Pn	**Pn**	**01 17 48.2**	**+1.4**
FALS				*e*S	**Sn**	**01 18 25.7**	**+0.7**
DTNA	**Dutton South F**	**3.97**	**45**	P	**Pn**	**01 17 56.6**	**+0.3**
SDPT	**Sand Point**	**4.89**	**51**	*e*Pn	**Pn**	**01 18 09.0**	**0.0**
SDPT				*e*S	**Sn**	**01 19 01.3**	**-3.5**
ADK	**Adak**	**5.92**	**269**	*e*Pn	**Pn**	**01 18 23.9**	**+0.8**
ADK				*e*S	**Sn**	**01 19 28.6**	**-1.4**
CHGN	**Chignik**	**6.39**	**49**	*e*Pn	**Pn**	**01 18 30.4**	**+0.9**
SEW	**Seward**	**12.44**	**45**	*e*Pn	**Pn**	**01 19 52.3**	**+0.1**
BPAW	**Bear Paw Mtn.**	**14.39**	**29**	*e*Pn	**Pn**	**01 20 20.3**	**+1.3**
IM04	**Indian Mountai**	**15.15**	**21**	*e*Pn	**Pn**	**01 20 31.3**	**+2.2**
IMA2	**Indian Mountai**	**15.25**	**21**	*e*Pn	**Pn**	**01 20 33.0**	**+2.4**
ILAR	**Eielson Array**	**16.15**	**32**	Pn	**Pn**	**01 20 38.2**	**-3.8**
ILAR	**Eielson Array**	**16.15**	**32**	Pn	**Pn**	**01 20 38.2**	**-3.8**
	baz=225,slow=12,SNR=3.9						
COLD	**Coldfoot**	**17.00**	**23**	*e*Pn	**P**	**01 20 54.2**	**-0.3**
	4.2nm,0.7s						
HYT	**Haines Junctio**	**18.19**	**51**	*e*Pn	**P**	**01 21 11.4**	**+3.6**
PETK	**Petropavlovsk-**	**21.18**	**286**	P	**P**	**01 21 40.0**	**-0.3**
PETK	**Petropavlovsk-**	**21.18**	**286**	P	**P**	**01 21 40.0**	**-0.3**
	3.2nm,0.5s,baz=93,slow=12,SNR=16						
INK	**Inuvik**	**22.55**	**32**	*e*P	**P**	**01 21 53.3**	**-1.5**
	7.5nm,1.0s						
INK	**Inuvik**	**22.55**	**32**	P	**P**	**01 21 53.3**	**-1.5**
	4.1nm,0.6s,baz=241,slow=9.7,SNR=10						
NEW	**Newport**	**31.65**	**77**	P	**P**	**01 23 18.7**	**+0.7**
NEW	**Newport**	**31.65**	**77**	P	**P**	**01 23 18.7**	**+0.7**
	0.7nm,0.6s,baz=324,slow=9.3,SNR=3.7						
RES	**Resolute Bay**	**35.72**	**26**	P	**P**	**01 23 53.8**	**+0.7**
RES	**Resolute Bay**	**35.72**	**26**	P	**P**	**01 23 53.8**	**+0.7**
	1.7nm,0.8s,baz=306,slow=8.7,SNR=2.6						
NVAR	**Mina Array Bea**	**36.28**	**93**	P	**P**	**01 24 00.2**	**+1.7**
NVAR	**Mina Array Bea**	**36.28**	**93**	P	**P**	**01 24 00.2**	**+1.7**
	2.6nm,0.8s,baz=299,slow=8.1,SNR=11						
ELK	**Elko**	**36.74**	**87**	P	**P**	**01 24 03.3**	**+0.8**
ELK	**Elko**	**36.74**	**87**	P	**P**	**01 24 03.3**	**+0.8**
	1.6nm,0.8s,baz=294,slow=11,SNR=6.1						
H11N2	**WAKE ISLAND Hy**	**38.39**	**222**	T	T	02 05 18.7	
	baz=26						
H11N3	**WAKE ISLAND Hy**	**38.40**	**222**	T	T	02 05 26.8	
	baz=26						
H11N1	**WAKE ISLAND Hy**	**38.41**	**222**	T	T	02 05 25.3	
	baz=26						
PDAR	**Pinedale Array**	**39.03**	**81**	P	**P**	**01 24 21.9**	**+0.1**
PDAR	**Pinedale Array**	**39.03**	**81**	P	**P**	**01 24 21.9**	**+0.1**
	2.2nm,0.9s,baz=308,slow=5.5,SNR=8.5						
KSRS	**Korea Array**	**46.77**	**278**	P	**P**	**01 25 24.6**	**+0.5**
	0.5nm,0.4s,baz=45,slow=7.5,SNR=4.6						
KSAR	**Wonju Array Be**	**46.80**	**278**	P	**P**	**01 25 24.6**	**+0.3**
TXAR	**Lajitas Array**	**51.36**	**91**	P	**P**	**01 26 00.0**	**+0.5**
TXAR				PcP	**PcP**	**01 27 14.3**	**+0.2**
TXAR	**Lajitas Array**	**51.36**	**91**	P	**P**	**01 26 00.0**	**+0.5**
	2.5nm,0.8s,baz=294,slow=4.2,SNR=17						
TXAR				PcP	**PcP**	**01 27 14.3**	**+0.2**
	0.8nm,0.8s,baz=305,slow=6.5,SNR=4.2						
SONM	**Songino Array**	**52.45**	**302**	P	**P**	**01 26 07.0**	**-0.5**
SONM	**Songino Array**	**52.45**	**302**	P	**P**	**01 26 07.0**	**-0.5**
	0.7nm,0.8s,baz=110,slow=2.8,SNR=4.2						
ARCES	**ARCESS Array B**	**58.00**	**355**	P	**P**	**01 26 46.8**	**-0.2**
ARCES	**ARCESS Array B**	**58.00**	**355**	P	**P**	**01 26 46.8**	**-0.2**
	4.9nm,0.9s,baz=7.8,slow=7.3,SNR=3.5						
ZALV	**Zalesovo Beam**	**58.31**	**319**	P	**P**	**01 26 48.4**	**-1.0**
ZALV	**Zalesovo Beam**	**58.31**	**319**	P	**P**	**01 26 48.4**	**-1.0**
	0.8nm,0.5s,baz=72,slow=7.9,SNR=4.6						
MKAR	**Makanchi Array**	**64.76**	**315**	P	**P**	**01 27 31.1**	**-2.0**
MKAR	**Makanchi Array**	**64.76**	**315**	P	**P**	**01 27 31.1**	**-2.0**
	1.2nm,0.8s,baz=52,slow=8.1,SNR=5.5						
FINES	**FINESS Array B**	**65.99**	**353**	P	**P**	**01 27 40.4**	**-0.3**
FINES	**FINESS Array B**	**65.99**	**353**	P	**P**	**01 27 40.4**	**-0.3**
	3.7nm,0.8s,baz=16,slow=5.5,SNR=8.3						
AKASG	**Malin Array Be**	**76.32**	**349**	P	**P**	**01 28 42.9**	**-0.6**
AKASG	**Malin Array Be**	**76.32**	**349**	P	**P**	**01 28 42.9**	**-0.6**
	0.9nm,0.4s,baz=12,slow=5.7,SNR=5.8						
BAIF	**Baives**	**77.63**	**6**	*e*P	**P**	**01 28 51.3**	**+0.5**
BAIF	**Baives**	**77.63**	**6**	*e*P	**P**	**01 28 51.3**	**+0.5**
LDF	**La Druitiere**	**78.75**	**9**	*e*P	**P**	**01 28 57.3**	**+0.3**
LDF	**La Druitiere**	**78.75**	**9**	*e*P	**P**	**01 28 57.3**	**+0.3**
GRR	**Gorron**	**78.88**	**9**	*e*P	**P**	**01 28 59.3**	**+1.6**
GRR	**Gorron**	**78.88**	**9**	*e*P	**P**	**01 28 59.3**	**+1.6**
GERES	**GERESS Array B**	**79.11**	**359**	P	**P**	**01 28 58.7**	**-0.4**
GERES	**GERESS Array B**	**79.11**	**359**	P	**P**	**01 28 58.7**	**-0.4**
	0.4nm,0.6s,baz=355,slow=4.3,SNR=5.8						
PAGF	**Fort de Pagny**	**79.21**	**5**	*e*P	**P**	**01 29 00.7**	**+1.1**
	1.3nm,0.7s						
PAGF	**Fort de Pagny**	**79.21**	**5**	*e*P	**P**	**01 29 00.7**	**+1.1**
	1.3nm,0.7s						
HAU	**Haudompre**	**79.79**	**4**	*e*P	**P**	**01 29 03.5**	**+0.7**
HAU	**Haudompre**	**79.79**	**4**	*e*P	**P**	**01 29 03.5**	**+0.7**
HINF	**Hinteralfeld**	**80.00**	**4**	*e*P	**P**	**01 29 04.5**	**+0.6**
	2.5nm,0.5s						
HINF	**Hinteralfeld**	**80.00**	**4**	*e*P	**P**	**01 29 04.5**	**+0.6**
	2.5nm,0.5s						
LOR	**Lormes**	**80.39**	**6**	*e*P	**P**	**01 29 06.7**	**+0.7**
LOR	**Lormes**	**80.39**	**6**	*e*P	**P**	**01 29 06.7**	**+0.7**
SSF	**Saint Saulge**	**80.57**	**6**	*e*P	**P**	**01 29 07.7**	**+0.8**
	3.3nm,0.7s						
SSF	**Saint Saulge**	**80.57**	**6**	*e*P	**P**	**01 29 07.7**	**+0.8**
	3.3nm,0.6s						
MFF	**Saint Martin d**	**80.72**	**9**	*e*P	**P**	**01 29 08.6**	**+0.9**
	14nm,1.1s						
MFF	**Saint Martin d**	**80.72**	**9**	*e*P	**P**	**01 29 08.6**	**+0.9**
	14nm,1.0s						
AVF	**Avril sur Loir**	**80.83**	**7**	*e*P	**P**	**01 29 08.9**	**+0.6**
	3.2nm,0.7s						
AVF	**Avril sur Loir**	**80.83**	**7**	*e*P	**P**	**01 29 08.9**	**+0.6**
	3.2nm,0.7s						
TCF	**Toulx Ste Croi**	**81.24**	**7**	*e*P	**P**	**01 29 11.9**	**+1.3**
TCF	**Toulx Ste Croi**	**81.24**	**7**	*e*P	**P**	**01 29 11.9**	**+1.3**
SOKA	**Soboth**	**81.26**	**359**	*i* P	**P**	**01 29 12.3**	**+1.6**
	4.7nm,1.0s,SNR=6.5						
OBKA	**Obir**	**81.43**	**359**	*i* P	**P**	**01 29 13.3**	**+1.6**
	5.5nm,0.7s,SNR=6.0						
RJF	**Les Rejaudoux**	**82.16**	**8**	*e*P	**P**	**01 29 16.6**	**+1.2**
	10nm,1.1s						
RJF	**Les Rejaudoux**	**82.16**	**8**	*e*P	**P**	**01 29 16.6**	**+1.2**
	10nm,1.1s						
LFF	**La Frestale**	**82.45**	**9**	*e*P	**P**	**01 29 18.6**	**+1.7**
	13nm,0.9s						
LFF	**La Frestale**	**82.45**	**9**	*e*P	**P**	**01 29 18.6**	**+1.7**
	13nm,0.9s						
CAF	**Calviac**	**82.58**	**8**	*e*P	**P**	**01 29 18.6**	**+0.9**
	12nm,1.2s						
CAF	**Calviac**	**82.58**	**8**	*e*P	**P**	**01 29 18.6**	**+0.9**
	12nm,1.2s						
VIVF	**Saint-Julien-l**	**82.84**	**6**	*e*P	**P**	**01 29 20.1**	**+1.1**
VIVF	**Saint-Julien-l**	**82.84**	**6**	*e*P	**P**	**01 29 20.1**	**+1.1**
ORIF	**Oris-en-Rattie**	**82.85**	**5**	*e*P	**P**	**01 29 20.5**	**+1.4**
	4.9nm,0.8s						
ORIF	**Oris-en-Rattie**	**82.85**	**5**	*e*P	**P**	**01 29 20.5**	**+1.4**
	4.9nm,0.8s						
MBDF	**Montbardon**	**83.08**	**4**	*e*P	**P**	**01 29 22.4**	**+2.0**
	3.8nm,0.7s						
MBDF	**Montbardon**	**83.08**	**4**	*e*P	**P**	**01 29 22.4**	**+2.0**
	3.8nm,0.6s						
SJPF	**Ste Jean**	**84.06**	**10**	*e*P	**P**	**01 29 27.3**	**+2.0**
SJPF	**Ste Jean**	**84.06**	**10**	*e*P	**P**	**01 29 27.3**	**+2.0**
MTLF	**Montolieu**	**84.17**	**8**	*e*P	**P**	**01 29 27.0**	**+1.2**
MTLF	**Montolieu**	**84.17**	**8**	*e*P	**P**	**01 29 27.0**	**+1.2**
FRF	**La Foret Royal**	**84.24**	**5**	*e*P	**P**	**01 29 27.4**	**+1.2**
	4.3nm,0.7s						
FRF	**La Foret Royal**	**84.24**	**5**	*e*P	**P**	**01 29 27.4**	**+1.2**
	4.3nm,0.7s						
EPF	**Esparros**	**84.31**	**9**	*e*P	**P**	**01 29 28.4**	**+1.8**
	8.9nm,1.1s						
EPF	**Esparros**	**84.31**	**9**	*e*P	**P**	**01 29 28.4**	**+1.8**
	8.9nm,1.1s						
ETSF	**Etsaut**	**84.34**	**10**	*e*P	**P**	**01 29 28.8**	**+2.0**
	6.6nm,0.9s						
ETSF	**Etsaut**	**84.34**	**10**	*e*P	**P**	**01 29 28.8**	**+2.0**
	6.6nm,0.9s						
LMR	**La Mourre**	**84.46**	**5**	*e*P	**P**	**01 29 28.4**	**+1.1**
	6.1nm,0.9s						
LMR	**La Mourre**	**84.46**	**5**	*e*P	**P**	**01 29 28.4**	**+1.1**
	6.1nm,0.9s						
PGF	**Pioggiola**	**85.34**	**3**	*e*P	**P**	**01 29 33.0**	**+1.1**
	36nm,1.0s						
PGF	**Pioggiola**	**85.34**	**3**	*e*P	**P**	**01 29 33.0**	**+1.1**
	36nm,1.0s						
BRTR	**Keskin Array B**	**86.47**	**344**	P	**P**	**01 29 39.2**	**+1.6**

comp=Z,314nm,19.6s,baz=103,slow=40
ANMO Albuquerque 18.82 345 P P 01 27 54.5 +0.4
0.1nm,0.3s,baz=172,slow=14,SNR=2.1
ANMO LR LR 01 35 51.6
comp=Z,252nm,18.1s,baz=89,slow=39
NVAR Mina Array Bea 26.59 328 P P 01 29 15.5 +2.8
2.4nm,0.7s,baz=150,slow=9.2,SNR=9.9
PDAR Pinedale Array 26.99 345 P P 01 29 18.0 +1.7
1.0nm,0.8s,baz=154,slow=10,SNR=6.4
YKA Yellowknife Ar 46.68 351 P P 01 32 02.3 -0.3
2.3nm,0.8s,baz=158,slow=7.9,SNR=3.5
H03N2 Juan Fernandez 54.06 158 T T 02 31 18.8
baz=334,slow=0.7,SNR=29
H03N1 Juan Fernandez 54.07 158 T T 02 31 18.9
baz=334,slow=0.7,SNR=31
H03N3 Juan Fernandez 54.08 158 T T 02 31 22.3
baz=334,slow=0.7,SNR=36
INK Inuvik 55.56 346 P P 01 33 09.2 0.0
2.1nm,0.9s,baz=128,slow=9.1,SNR=6.1
ILAR Eielson Array 57.11 338 P P 01 33 21.3 +0.9
0.9nm,0.9s,baz=152,slow=6.3,SNR=7.4

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*ISCJB **29** 01:25:12.0±0.3,20°.68S±0°.03×69°.36W±0°.05,h71km±3km, mb4.5/60, Error ellipse: s-maj=7.9km s-min=4.1km az=160.5*
*IDC **29** 01:25:12.4±3.0,20°.68S×69°.43W,h61km±26km, mb4.1/22, mb1 4.3/24,mb1mx4.3/25,mbtmp4.2/24,ML4.9/2, MS3.6/2, Ms1 3.5/2,ms1mx3.2/23,Error ellipse: s-maj=20.6km s-min=13.5km az=49.0*
*GUC **29** 01:25:13.4±0.5,20°.76S×69°.62W,h66km±2km,ML5.0*
*NEIC **29** 01:25:13.4,20°.76S×69°.62W,h66km, mb4.7/40, MW5.0(GUC),After GUC.*
NEIC Felt [IV] at Pica; [III] at Alto Hospicio, Huara, Iquique and Pozo Almonte; [II] at Camina.
*BJI **29** 01:25:19.0,20°.60S×69°.40W,h101km, mB4.8/3*
ISC 29 01:25:13.5±0.5,20°.72S±0°.03×69°.53W±0.06,h76km±3km, h76km:pP-P,n414,σ1°§46/424,mb4.6/61,133C-114D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
PB01	**Plate Boundary**	**0.32**	**173**	⇑*i*P		**Pn**	**01 25 24.6**	**-1.0**
PB01				*i* S		**Sn**	**01 25 32.7**	**-1.9**
PB01	**Plate Boundary**	**0.32**	**173**	⇑*i*P		**Pn**	**01 25 24.6**	**-1.0**
PB01				*i* S		**Sn**	**01 25 32.7**	**-1.9**
PB01				AML		AML	01 25 33.2	
	comp=E,255μm,0.4s							
HMBC	**Humberstone**	**0.55**	**323**	⇑*i*P		**Pn**	**01 25 26.9**	**-0.7**
HMBC				*i* S		**Sn**	**01 25 36.9**	**-1.0**
HMBC	**Humberstone**	**0.55**	**323**	⇑*i*P		**Pn**	**01 25 26.9**	**-0.7**
HMBC				*i* S		**Sn**	**01 25 36.9**	**-1.0**
HMBC				AML		AML	01 25 37.9	
	comp=E,95μm,0.1s							
PB07	**Plate Boundary**	**1.05**	**198**	⇑*i*P		**Pn**	**01 25 32.3**	**-0.9**
PB07				*i* S		**Sn**	**01 25 46.5**	**-1.4**
PB07	**Plate Boundary**	**1.05**	**198**	⇑*i*P		**Pn**	**01 25 32.3**	**-0.9**
PB07				*i* S		**Sn**	**01 25 46.5**	**-1.4**
PB07				AML		AML	01 25 52.8	
	comp=E,35μm,0.4s							
PB09	**Plate Boundary**	**1.10**	**166**	⇑*i*P		**Pn**	**01 25 33.7**	**-0.1**
PB09				*i* S		**Sn**	**01 25 48.8**	**-0.2**
PB09	**Plate Boundary**	**1.10**	**166**	⇑*i*P		**Pn**	**01 25 33.7**	**-0.1**
PB09				*i* S		**Sn**	**01 25 48.8**	**-0.2**
PB09				AML		AML	01 25 50.6	
	comp=E,70μm,0.4s							
PSGC	**Pisagua**	**1.25**	**333**	⇑*i*P		**Pn**	**01 25 35.4**	**-0.2**
PSGC	**Pisagua**	**1.25**	**333**	⇑*i*P		**Pn**	**01 25 35.4**	**-0.2**
PSGC				AML		AML	01 25 52.8	
	comp=E,38μm,0.4s							
MACH	**Maria Elena**	**1.48**	**188**	*i* P		**Pn**	**01 25 37.8**	**-0.9**
MACH				*i* S		**Sn**	**01 25 56.7**	**-1.0**
MACH	**Maria Elena**	**1.48**	**188**	*i* P		**Pn**	**01 25 37.8**	**-0.9**
MACH				*i* S		**Sn**	**01 25 56.7**	**-1.0**
PB04	**Plate Boundary**	**1.54**	**179**	AML		AML	01 26 04.8	
	comp=E,14μm,0.3s							
MNMC	**Minimini**	**1.58**	**358**	⇓*i*P		**Pn**	**01 25 40.9**	**+0.8**
MNMC				*i* S		**Sn**	**01 26 02.0**	**+1.9**
MNMC	**Minimini**	**1.58**	**358**	⇓*i*P		**Pn**	**01 25 40.9**	**+0.8**
MNMC				*i* S		**Sn**	**01 26 02.0**	**+1.9**
MNMC				AML		AML	01 26 10.2	
	comp=E,28μm,0.3s							
LVC	**Limon Verde**	**1.97**	**163**	*e*Pn		**Pn**	**01 25 46.4**	**+1.3**
LVC				*e*Sn		**Sn**	**01 26 10.2**	**+1.0**
LVC	**Limon Verde**	**1.97**	**163**	*e*P		**Pn**	**01 25 45.8**	**+0.6**
LVC				*i* S		**Sn**	**01 26 10.2**	**+1.0**
SPCH	**San Pedro de A**	**2.50**	**151**	AML		AML	01 27 08.5	
	comp=E,7μm,0.7s							
CEN1	**Los Morros**	**2.73**	**193**	AML		AML	01 26 52.8	
	comp=E,5μm,0.8s							
PB10	**Plate Boundary**	**2.94**	**199**	AML		AML	01 26 42.0	
	comp=E,13μm,0.6s							
LPAZ	**La Paz**	**4.60**	**17**	*e*Pn		Pn	01 26 25.6	+4.3
LPAZ				*e*Sn		Sn	01 27 02.1	-12
LPAZ	**La Paz**	**4.60**	**17**	P		Pn	01 26 25.6	+4.3
	comp=E,21nm,0.3s,baz=192,slow=7.3,SNR=298							
ARE	**Arequipa**	**4.63**	**336**	*e*P		**Pn**	**01 26 21.0**	**-0.3**
ARE				*i*			01 26 30.2	
ARE				*e*S		**Sn**	**01 27 12.0**	**-1.9**
LCO	**Las Campanas**	**8.32**	**187**	*e*Pn		**Pn**	**01 27 11.7**	**0.0**
LCO				*e*Sn		Sn	01 29 02.8	+18
SIV	**San Ignacio**	**9.30**	**61**	*e*Pn		**Pn**	**01 27 24.3**	**-0.6**
SIV	**San Ignacio**	**9.30**	**61**	P		**Pn**	**01 27 24.3**	**-0.6**
	comp=E,10nm,0.3s,baz=261,slow=10,SNR=183							
CFAA	**Coronel Fontan**	**10.90**	**174**	*e*Pn		Pn	01 27 42.9	-3.7
CFAA				*e*Sn		**Sn**	**01 29 48.1**	**+1.2**
CFAA	**Coronel Fontan**	**10.90**	**174**	P		Pn	01 27 42.9	-3.7
	comp=E,0.2nm,0.3s,baz=1.8,slow=13,SNR=15							
CFAA					S	**Sn**	**01 29 48.1**	**+1.2**
	comp=E,0.0nm,0.3s,baz=290,slow=15,SNR=2.0							
CPUP	**Villa Florida**	**12.50**	**119**	*e*Pn		**Pn**	**01 28 06.7**	**-1.7**
CPUP	**Villa Florida**	**12.50**	**119**	P		**Pn**	**01 28 06.7**	**-1.7**
	comp=E,0.9nm,0.3s,baz=283,slow=12,SNR=9.8							
CPUP					LR	LR	01 33 46.7	
	comp=E,245nm,18.5s,baz=113,slow=41							
SAML	**Samuel**	**13.21**	**29**	*e*Pn		**Pn**	**01 28 15.8**	**-2.3**
H03N1	**Juan Fernandez**	**15.17**	**211**	T		T	01 43 51.2	
	baz=33,slow=0.7,SNR=40							
H03N2	**Juan Fernandez**	**15.17**	**211**	T		T	01 43 56.5	
	baz=33,slow=0.7,SNR=45							
H03N3	**Juan Fernandez**	**15.18**	**211**	T		T	01 44 00.4	
	baz=33,slow=0.7,SNR=46							
TRQA	**Tornquist**	**18.47**	**161**	*e*P		**P**	**01 29 23.0**	**-0.3**
	comp=E,15nm,1.4s							
PLCA	**Paso Flores**	**19.97**	**182**	*e*P		**P**	**01 29 40.0**	**+0.3**
	comp=E,12nm,1.1s							
PLCA	**Paso Flores**	**19.97**	**182**	P		**P**	**01 29 40.0**	**+0.3**
	comp=E,5.2nm,0.7s,baz=30,slow=13,SNR=6.9							
PLCA					LR	LR	01 37 14.4	
	comp=E,137nm,18.8s,baz=315,slow=36							
BDFB	**Brasilia**	**21.05**	**80**	*e*P		**P**	**01 29 50.2**	**-1.4**
BDFB	**Brasilia**	**21.05**	**80**	P		**P**	**01 29 50.1**	**-1.4**
	comp=E,3.8nm,0.3s,baz=253,slow=10,SNR=8.7							
OTAV	**Otavalo**	**22.58**	**336**	*e*P		**P**	**01 30 08.1**	**-0.3**
	comp=E,6.9nm,0.8s							
ROSC	**El Rosal**	**25.85**	**349**	*e*P		**P**	**01 30 38.2**	**-0.3**
ROSC	**El Rosal**	**25.85**	**349**	P		**P**	**01 30 38.3**	**-0.3**
	comp=E,8.3nm,0.4s,baz=69,slow=11,SNR=4.7							
SDV	**Santo Domingo**	**29.44**	**358**	*e*P		**P**	**01 31 09.9**	**-0.5**
	comp=E,10nm,0.8s							
RCBR	**Riachuelo**	**35.81**	**70**	*e*P		**P**	**01 32 07.6**	**+1.7**
	comp=E,38nm,1.1s							
OBIP	**Obispado Ponce**	**38.63**	**4**	*e*P		**P**	**01 32 28.7**	**-0.8**
	comp=E,51nm,1.0s							
CELP	**Cerrillos**	**38.66**	**4**	*e*P		**P**	**01 32 28.4**	**-1.5**
MTP	**Monte Pirata**	**38.77**	**6**	*e*P		**P**	**01 32 29.2**	**-1.5**
	comp=E,24nm,0.6s							
CBYP	**Canovanas**	**38.92**	**6**	*e*P		**P**	**01 32 30.8**	**-1.3**
	comp=E,39nm,0.8s							
APG	**El Apazote**	**41.03**	**328**	P		**P**	**01 32 49.4**	**-0.4**
APG	**El Apazote**	**41.03**	**328**	P		**P**	**01 32 49.4**	**-0.4**
	comp=E,4.0nm,0.3s,baz=199,slow=12,SNR=11							
TKL	**Tuckaleechee C**	**57.67**	**346**	*e*P		**P**	**01 34 55.6**	**-0.4**
TKL	**Tuckaleechee C**	**57.67**	**346**	P		**P**	**01 34 55.6**	**-0.4**
	comp=E,1.8nm,0.6s,baz=162,slow=7.6,SNR=4.8							
632A	**Uvalde**	**57.83**	**329**	⇑P		**P**	**01 34 58.4**	**+1.1**
	baz=58							
631A	**Perdido Creek**	**58.14**	**328**	⇑P		**P**	**01 35 00.5**	**+1.1**
	baz=58							
531A	**Rocksprings**	**58.74**	**329**	⇓P		**P**	**01 35 05.0**	**+1.3**
	baz=59							
432A	**Menard**	**58.97**	**330**	⇑P		**P**	**01 35 05.9**	**+0.7**
	baz=59							
530A	**J-C Ranch, Com**	**59.12**	**328**	⇓P		**P**	**01 35 07.1**	**+0.8**
	baz=59							
WVT	**Waverly**	**59.13**	**343**	*e*P		**P**	**01 35 05.4**	**-0.8**
	comp=E,7.4nm,0.9s							
431A	**Sonora**	**59.20**	**329**	⇓P		**P**	**01 35 07.8**	**+0.9**
	baz=59							
332A	**Millersview**	**59.37**	**330**	⇑P		**P**	**01 35 08.2**	**+0.3**
	baz=60,SNR=5.0							
628A	**Black Gap, Mar**	**59.37**	**326**	⇑P		**P**	**01 35 09.1**	**+1.0**
	baz=60							
529A	**Stev Forest Ra**	**59.54**	**327**	⇑P		**P**	**01 35 10.1**	**+0.9**
	baz=60,SNR=5.2							
430A	**Baggett Ranch,**	**59.59**	**328**	⇑P		**P**	**01 35 10.5**	**+0.9**
	baz=60							
627A	**Terlingua Ranc**	**59.61**	**326**	⇑P		**P**	**01 35 10.8**	**+1.1**
	baz=60							
331A	**San Angelo**	**59.63**	**329**	⇑P		**P**	**01 35 10.5**	**+0.7**
	baz=60							
LTX	**Lajitas**	**59.66**	**325**	*e*P		**P**	**01 35 10.5**	**+0.4**
TXAR	**Lajitas Array**	**59.66**	**325**	P		**P**	**01 35 10.5**	**+0.4**
TXAR	**Lajitas Array**	**59.66**	**325**	P		**P**	**01 35 10.5**	**+0.4**
	comp=E,0.6nm,0.8s,baz=148,slow=7.4,SNR=4.6							
232A	**Coleman**	**59.74**	**330**	⇑P		**P**	**01 35 11.4**	**+0.9**
	baz=60							
429A	**Davenport Ranc**	**59.78**	**328**	⇓P		**P**	**01 35 12.0**	**+1.2**
	baz=60							
528A	**Cox Ranch, San**	**59.86**	**327**	⇑P		**P**	**01 35 12.5**	**+1.0**
	baz=60							
330A	**Mertzon**	**60.07**	**329**	⇑P		**P**	**01 35 13.7**	**+0.9**
	baz=60							
626A	**Big Bend Ranch**	**60.08**	**325**	⇓P		**P**	**01 35 13.7**	**+0.7**
	baz=60							
428A	**Kincaid Ranch,**	**60.26**	**327**	⇑P		**P**	**01 35 15.7**	**+1.5**
	baz=60							
ABTX	**Abilene, Hawle**	**60.36**	**331**	⇑P		**P**	**01 35 16.5**	**+1.8**
	baz=61							
526A	**Mary Lane Ranc**	**60.46**	**326**	⇑P		**P**	**01 35 16.9**	**+1.3**
	baz=61							
329A	**Wagon Wheel Ra**	**60.53**	**328**	⇑P		**P**	**01 35 17.1**	**+1.2**
	baz=61							
427A	**Hayter Ranch,**	**60.73**	**327**	⇓P		**P**	**01 35 18.5**	**+1.1**
	baz=61							
131A	**Roby**	**60.74**	**330**	⇓P		**P**	**01 35 18.6**	**+1.2**
	baz=61							
229A	**Bryant Ranch,**	**60.84**	**329**	⇑P		**P**	**01 35 19.1**	**+1.1**
	baz=61							
328A	**Wristen Ranch,**	**60.85**	**327**	⇓P		**P**	**01 35 19.3**	**+1.2**
	baz=61							
Z32A	**Haskell**	**60.86**	**331**	⇓P		**P**	**01 35 19.0**	**+0.9**
	baz=61							
426A	**McDonald Obser**	**60.91**	**326**	⇓P		**P**	**01 35 19.7**	**+0.9**
	baz=61							
130A	**Snyder**	**60.95**	**330**	⇑P		**P**	**01 35 19.5**	**+0.7**
	baz=61							
Z31A	**Sharp Cattle R**	**61.17**	**331**	⇓P		**P**	**01 35 21.0**	**+0.8**
	baz=61							
326A	**Caldwell Ranch**	**61.40**	**327**	⇑P		**P**	**01 35 23.1**	**+1.2**
	baz=62							
Y32A	**R-V Farms, Ver**	**61.43**	**332**	⇑P		**P**	**01 35 23.4**	**+1.4**
	baz=62							
425A	**Indio Mountain**	**61.51**	**325**	⇓P		**P**	**01 35 23.6**	**+0.9**
	baz=62,SNR=5.9							
TUL1	**Tulsa**	**61.57**	**336**	⇓P		**P**	**01 35 23.6**	**+0.8**
	baz=62							
VNA2	**Neumayer--Watz**	**61.57**	**161**	*e*P		**P**	**01 35 22.3**	**-0.2**
VNA2	**Neumayer--Watz**	**61.57**	**161**	*e*I			01 35 36.6	
Z30A	**Sanderson Ranc**	**61.59**	**330**	⇓P		**P**	**01 35 24.1**	**+1.0**
	baz=62							
227A	**Bennet, Jal**	**61.60**	**328**	⇑P		**P**	**01 35 24.9**	**+1.6**
	baz=62							
128A	**Castleberry Fa**	**61.70**	**329**	⇓P		**P**	**01 35 24.3**	**+0.4**
	baz=62							
Y31A	**Rekieta Farm,**	**61.76**	**331**	⇑P		**P**	**01 35 25.2**	**+1.0**
	baz=62							
Z29A	**Hungry Hill Ra**	**61.84**	**330**	⇑P		**P**	**01 35 25.3**	**+0.4**
	baz=62							
325A	**Bean Ranch, Si**	**61.96**	**326**	⇑P		**P**	**01 35 26.5**	**+0.7**
	baz=62,SNR=7.5							
226B	**Tecolote Peak,**	**62.10**	**327**	⇓P		**P**	**01 35 28.0**	**+1.4**
	baz=62							
127A	**Arkansas Junct**	**62.17**	**328**	⇑P		**P**	**01 35 28.2**	**+1.1**
	baz=62							
Z28A	**Tucker Farm, M**	**62.19**	**329**	⇑P		**P**	**01 35 27.9**	**+0.7**
	baz=62							
X31A	**McDonald Ranch**	**62.20**	**332**	⇓P		**P**	**01 35 27.5**	**+0.4**
	baz=62							
324A	**Moseley Ranch,**	**62.28**	**325**	⇑P		**P**	**01 35 28.2**	**+0.3**
	baz=62,SNR=6.7							
Y29A	**Porterfield Fa**	**62.32**	**330**	⇓P		**P**	**01 35 28.7**	**+0.7**
	baz=63							
MNTX	**Cornudas Mount**	**62.43**	**326**	*e*P		**P**	**01 35 29.0**	**+0.3**
MNTX				*e*pP		**pP**	**01 35 46.6**	**-1.9**
225A	**Deer Hill, Car**	**62.46**	**326**	⇑P		**P**	**01 35 30.1**	**+1.0**
	baz=63							
126A	**Clayton Basin,**	**62.48**	**327**	⇑P		**P**	**01 35 30.1**	**+1.0**
	baz=63							
Z27A	**Tatum**	**62.62**	**328**	⇑P		**P**	**01 35 30.7**	**+0.6**
	baz=63							
Y28A	**McKinney Farm,**	**62.63**	**330**	⇑P		**P**	**01 35 30.8**	**+0.7**
	baz=63							
224A	**Cornudas Mount**	**62.80**	**326**	⇓P		**P**	**01 35 31.9**	**+0.5**
	baz=63							
125A	**Gardner Draw,**	**62.81**	**327**	⇓P		**P**	**01 35 31.8**	**+0.5**
	baz=63							
X29A	**Tulia**	**62.82**	**330**	⇓P		**P**	**01 35 31.9**	**+0.6**
	baz=63							
MSTX	**Muleshoe**	**62.93**	**329**	*e*P		**P**	**01 35 32.6**	**+0.4**
MSTX				*e*pP		**pP**	**01 35 50.5**	**-1.4**
MSTX	**Muleshoe**	**62.93**	**329**	⇓P		**P**	**01 35 33.0**	**+0.9**
	baz=63							
SFIN	**Scholer Farm**	**62.95**	**345**	⇑P		**P**	**01 35 31.3**	**-0.6**
	baz=63							
Y27A	**Causey**	**63.05**	**329**	⇑P		**P**	**01 35 33.4**	**+0.5**
	baz=63							
X28A	**Dimmitt**	**63.11**	**330**	⇓P		**P**	**01 35 33.7**	**+0.4**
	baz=63							
SNAA	**Sanae**	**63.20**	**161**	*e*P		**P**	**01 35 33.9**	**+0.5**
SNAA	**Sanae**	**63.20**	**161**	*e*P		**P**	**01 35 34.1**	**+0.7**
	comp=E,6.5nm,0.9s							
124A	**Stringfield Ra**	**63.26**	**326**	⇓P		**P**	**01 35 35.4**	**+0.9**
	baz=64							
Z25A	**Roswell**	**63.34**	**327**	⇑P		**P**	**01 35 35.4**	**+0.6**
	baz=64							
Z24A	**Sheeppen Canyo**	**63.70**	**327**	⇓P		**P**	**01 35 38.3**	**+1.0**
	baz=64							
320A	**Kipp Ranch, An**	**63.87**	**323**	⇑P		**P**	**01 35 40.2**	**+1.8**
	baz=64							
X26A	**CR and CF Fran**	**63.91**	**329**	⇑P		**P**	**01 35 39.7**	**+1.1**
	baz=64							
W27A	**Bowe Ranch, En**	**63.96**	**330**	⇓P		**P**	**01 35 39.7**	**+0.8**
	baz=64							
Z23A	**Rita Site, Whi**	**64.10**	**326**	⇓P		**P**	**01 35 41.3**	**+1.4**
	baz=64							
T31A	**Randall Ranch,**	**64.15**	**334**	⇓P		**P**	**01 35 41.1**	**+1.1**
	baz=64							
220A	**Playas Peak, P**	**64.29**	**324**	⇓P		**P**	**01 35 42.8**	**+1.6**
	baz=64							
X25A	**Clemmons Ranch**	**64.30**	**328**	⇓P		**P**	**01 35 42.0**	**+0.8**
	baz=64							
319A	**Douglas**	**64.32**	**323**	⇑P		**P**	**01 35 43.0**	**+1.6**
	baz=64							
121A	**Cookes Peak, D**	**64.36**	**325**	*e*P		**P**	**01 35 44.0**	**+2.3**
121A	**Cookes Peak, D**	**64.36**	**325**	⇑P		**P**	**01 35 43.6**	**+2.0**
	baz=65							
Z22A	**Elephant Butte**	**64.48**	**326**	⇓P		**P**	**01 35 44.3**	**+1.9**
	baz=65							
W25A	**X Bar L Ranch,**	**64.76**	**329**	⇑P		**P**	**01 35 45.2**	**+1.1**
	baz=65							
120A	**U Bar Ranch, L**	**64.84**	**324**	⇓P		**P**	**01 35 46.8**	**+2.1**
	baz=65							
Z21A	**St Cloud Mine**	**64.90**	**325**	⇑P		**P**	**01 35 47.3**	**+2.2**
	baz=65							
V26A	**Tequesquite Ra**	**64.90**	**330**	⇓P		**P**	**01 35 45.9**	**+0.9**
	baz=65,SNR=5.6							
Z20A	**Nine Sixteen R**	**65.24**	**324**	⇓P		**P**	**01 35 49.3**	**+2.0**
	baz=66							
V25A	**Rancho No Teng**	**65.33**	**329**	⇑P		**P**	**01 35 49.2**	**+1.3**
	baz=66							
U26A	**Atchley Ranch,**	**65.37**	**330**	⇑P		**P**	**01 35 49.3**	**+1.2**
	baz=66,SNR=5.7							
S28A	**Manter**	**65.52**	**332**	⇑P		**P**	**01 35 49.8**	**+0.8**
	baz=66,SNR=6.4							
ANMO	**Albuquerque**	**65.53**	**327**	*e*P		**P**	**01 35 50.7**	**+1.5**
ANMO	**Albuquerque**	**65.53**	**327**	P		**P**	**01 35 50.7**	**+1.5**
	comp=E,2.0nm,0.8s,baz=128,slow=6.5,SNR=8.7							
W23A	**Werner Place,**	**65.55**	**328**	⇑P		**P**	**01 35 50.9**	**+1.6**
	baz=66							
V24A	**Rampart Ranch,**	**65.56**	**329**	⇑P		**P**	**01 35 51.0**	**+1.6**
	baz=66							
Q31A	**Ellis**	**65.67**	**335**	⇓P		**P**	**01 35 51.0**	**+1.2**
	baz=66							
U25A	**Circle Dot Ran**	**65.69**	**330**	⇑P		**P**	**01 35 51.5**	**+1.3**
	baz=66,SNR=9.2							
Y20A	**Horse Springs,**	**65.73**	**325**	⇓P		**P**	**01 35 52.7**	**+2.1**
	baz=66							
X21A	**Alamocita Cree**	**65.83**	**326**	⇓P		**P**	**01 35 52.9**	**+1.6**
	baz=66,SNR=5.5							
W22A	**Albuquerque**	**65.84**	**327**	⇓P		**P**	**01 35 53.1**	**+1.8**
	baz=66							
R29A	**Marienthal**	**65.89**	**333**	⇓P		**P**	**01 35 52.4**	**+1.1**
	baz=66							
T26A	**Comanche Natio**	**65.94**	**331**	⇑P		**P**	**01 35 53.2**	**+1.4**
	baz=66							
Q30A	**Quinter**	**65.98**	**334**	⇓P		**P**	**01 35 53.2**	**+1.4**
	baz=66							
V23A	**Ortiz Mt. (NFS**	**66.03**	**328**	⇓P		**P**	**01 35 53.9**	**+1.5**
	baz=66							
P31A	**Stockton**	**66.11**	**335**	⇓P		**P**	**01 35 53.2**	**+0.6**
	baz=66,SNR=5.8							
Q29A	**Oakley**	**66.22**	**334**	⇑P		**P**	**01 35 54.0**	**+0.6**
	baz=66							
S26A	**Kim**	**66.25**	**331**	⇓P		**P**	**01 35 55.2**	**+1.5**
	baz=66,SNR=6.9							
T25A	**Trinidad**	**66.28**	**330**	⇓P		**P**	**01 35 55.8**	**+1.7**
	baz=66							
O32A	**Brockman Farm,**	**66.32**	**336**	⇑P		**P**	**01 35 55.0**	**+1.1**
	baz=67							
P30A	**Selden**	**66.47**	**334**	⇑P		**P**	**01 35 55.6**	**+0.7**
	baz=67							
V22A	**San Miguel Ran**	**66.52**	**327**	⇓P		**P**	**01 35 57.4**	**+1.8**
	baz=67,SNR=6.2							
T24B	**San Luis**	**66.68**	**329**	⇑P		**P**	**01 35 58.4**	**+1.8**
	baz=67							
S25A	**Robets Cordova**	**66.72**	**330**	⇑P		**P**	**01 35 58.5**	**+1.8**
	baz=67							
Q28A	**Sharon Springs**	**66.72**	**333**	⇓P		**P**	**01 35 57.8**	**+1.2**
	baz=67							
W20A	**Ramah**	**66.73**	**326**	⇑P		**P**	**01 35 59.0**	**+2.0**
	baz=67							
214A	**Organ Pipe Nat**	**66.80**	**321**	⇑P		**P**	**01 35 59.5**	**+2.3**
	baz=67							
U22A	**Llaves**	**66.86**	**328**	⇓P		**P**	**01 35 59.8**	**+2.1**
	baz=67							
S24A	**Houchin Ranch,**	**67.06**	**330**	⇑P		**P**	**01 36 01.0**	**+1.9**
	baz=67							
V20A	**Brimhall**	**67.23**	**326**	⇑P		**P**	**01 36 01.6**	**+1.6**
	baz=68							
BGNE	**Belgrade**	**67.27**	**337**	*e*P		**P**	**01 35 59.3**	**-0.7**
	comp=E,30nm,0.8s							
BGNE	**Belgrade**	**67.27**	**337**	⇓P		**P**	**01 36 00.7**	**+0.7**
	baz=68							
SDCO	**Great Sand Dun**	**67.29**	**330**	*e*P		**P**	**01 36 01.9**	**+1.4**
	comp=E,3.9nm,0.8s							
U21A	**Nageezi**	**67.30**	**327**	⇓P		**P**	**01 36 01.8**	**+1.3**
	baz=68							
W18A	**Petrified Fore**	**67.38**	**325**	⇑P		**P**	**01 36 03.1**	**+2.1**
	baz=68							
T22A	**Edith**	**67.38**	**328**	⇑P		**P**	**01 36 03.1**	**+2.0**
	baz=68							
R24A	**Sanders Place,**	**67.49**	**330**	⇓P		**P**	**01 36 03.4**	**+1.7**
	baz=68							
O28A	**Krutsinger Ran**	**67.59**	**334**	⇓P		**P**	**01 36 03.8**	**+1.7**
	baz=68							
T21A	**Navajo Lake**	**67.68**	**328**	⇑P		**P**	**01 36 04.8**	**+1.9**
	baz=68							
U20A	**Newcomb**	**67.70**	**327**	⇑P		**P**	**01 36 04.8**	**+1.8**
	baz=68							
N29A	**Votaw Ranch, W**	**67.71**	**335**	⇑P		**P**	**01 36 04.9**	**+2.1**
	baz=68							
R23A	**Moffat**	**67.80**	**330**	⇓P		**P**	**01 36 05.5**	**+1.8**
	baz=68							
S22A	**4UR Ranch, Cre**	**67.92**	**329**	⇑P		**P**	**01 36 06.4**	**+1.9**
	baz=68							
O27A	**Beecher Island**	**67.94**	**333**	⇑P		**P**	**01 36 06.3**	**+2.0**
	baz=68							
113A	**Mohawk Valley,**	**67.94**	**321**	⇓P		**P**	**01 36 06.5**	**+2.2**
	baz=68							
N28A	**Pribbeno Ranch**	**67.97**	**334**	⇑P		**P**	**01 36 05.9**	**+1.5**
	baz=68							
Q24A	**Divide**	**68.10**	**331**	⇓P		**P**	**01 36 07.4**	**+1.7**
	baz=68							
L31A	**Butterfield Fa**	**68.19**	**337**	⇓P		**P**	**01 36 07.2**	**+1.4**
	baz=68							
M29A	**Burnside Ranch**	**68.27**	**335**	⇓P		**P**	**01 36 07.9**	**+1.6**
	baz=68							
L30A	**Spencer Herefo**	**68.33**	**336**	⇑P		**P**	**01 36 08.2**

P19A	Cripple Cowboy	70.44	329	⇑P	P	01 36 21.9 +1.9
	baz=71,SNR=12					
GMRC	Granite Mounta	70.47	321	⇑P	P	01 36 22.5 +2.4
	baz=71					
O20A	White River Ci	70.48	329	*e*P	P	01 36 22.1 +2.0
	comp=E,8.4nm,0.9s					
O20A	White River Ci	70.48	329	⇓P	P	01 36 22.7 +2.6
	baz=71					
M22A	Cedar Creek Ra	70.72	331	⇑P	P	01 36 24.3 +2.7
	baz=71					
J26A	Sides Ranch, S	70.79	335	⇓P	P	01 36 24.0 +2.2
	baz=71					
SRU	San Rafael	70.81	327	*e*P	P	01 36 23.4 +1.2
	comp=E,11nm,0.8s					
H29A	Onida	70.82	337	⇑P	P	01 36 22.8 +0.9
	baz=71					
Q16A	Castle Valley	71.00	327	*e*P	P	01 36 23.6 +0.3
Q16A	Castle Valley	71.00	327	⇑P	P	01 36 25.7 +2.4
	baz=71					
I27A	Quinn	71.03	336	⇑P	P	01 36 24.3 +1.1
	baz=71					
N20A	Spence Gulch,	71.04	330	⇓P	P	01 36 24.4 +0.8
	baz=71					
CCUT	Cedar City	71.14	324	*e*P	P	01 36 27.1 +2.8
	comp=E,5.4nm,0.8s					
CCUT				*e*PcP	PcP	01 36 43.0 -0.9
MVU	Marysvale	71.23	326	*e*P	P	01 36 27.0 +2.2
	comp=E,7.4nm,0.6s					
TMUT	Trail Mountain	71.30	327	*e*P	P	01 36 26.1 +0.8
	comp=E,30nm,1.9s					
ARUT	Antelope Range	71.36	325	*e*P	P	01 36 28.1 +2.6
I25A	Rochford	71.64	335	⇓P	P	01 36 28.6 +1.5
	baz=72,SNR=6.7					
K22A	Casper	71.69	332	⇑P	P	01 36 29.2 +1.8
	baz=72					
I24A	Kuemmerle Ranc	71.87	334	⇑P	P	01 36 30.1 +1.7
	baz=72					
E30A	Jud	72.00	339	⇑P	P	01 36 29.6 +0.7
	baz=72					
K21A	Alcova	72.00	332	⇓P	P	01 36 30.7 +1.5
	baz=72,SNR=12					
MPU	Maple Canyon	72.06	327	*e*P	P	01 36 31.9 +2.2
	comp=E,6.0nm,0.8s					
F28A	McLaughlin	72.08	338	⇓P	P	01 36 31.5 +2.0
	baz=72					
H25A	Fruitdale	72.09	335	⇓P	P	01 36 30.9 +1.3
	baz=72					
G26A	Maurine	72.27	336	⇑P	P	01 36 31.7 +1.1
	baz=73					
J22A	Midwest	72.28	333	⇑P	P	01 36 32.3 +1.4
	baz=73					
JLU	Jordanelle	72.40	328	*e*P	P	01 36 33.9 +2.1
	comp=E,7.7nm,0.7s					
G27A	Dupree	72.47	336	⇑P	P	01 36 30.9 -0.9
	baz=72					
D30A	Buchanan	72.48	340	⇑P	P	01 36 32.6 +0.8
	baz=73					
G25A	Newell	72.50	336	⇓P	P	01 36 33.1 +1.1
	baz=73					
H24A	Dirks Ranch, A	72.57	335	⇑P	P	01 36 33.4 +0.9
	baz=73					
J21A	Lysite	72.65	332	⇓P	P	01 36 34.1 +1.0
	baz=73					
E28A	Huff	72.67	338	⇓P	P	01 36 34.0 +1.0
	baz=73					
I22A	9 Mile Ranch,	72.67	333	⇓P	P	01 36 34.1 +1.0
	baz=73,SNR=5.6					
ISA	Isabella	72.75	320	⇓P	P	01 36 35.5 +1.8
	baz=73					
F26A	Lodgepole	72.77	336	⇑P	P	01 36 34.8 +1.2
	baz=73					
DUG	Dugway	72.79	327	⇑P	P	01 36 35.8 +1.8
	baz=73					
C30A	Mose, Pekin	72.91	340	⇓P	P	01 36 35.0 +0.7
	baz=73					
R11A	Troy Canyon, C	72.94	324	*e*P	P	01 36 35.0 0.0
	comp=E,19nm,2.1s					
R11A	Troy Canyon, C	72.94	324	⇓P	P	01 36 37.4 +2.4
	baz=73					
I21A	Big Trails, Te	72.96	332	⇓P	P	01 36 35.9 +1.0
	baz=73,SNR=12					
G24A	Alzada	73.00	335	⇓P	P	01 36 36.8 +1.8
	baz=73					
F25A	Bowman	73.13	336	⇑P	P	01 36 37.5 +1.8
	baz=73					
BW06	Boulder Array	73.15	330	*e*P	P	01 36 37.2 +1.0
PD31	Pinedale Array	73.15	330	*e*P	P	01 36 37.5 +1.4
PDAR	Pinedale Array	73.15	330	P	P	01 36 37.5 +1.4
PDAR	Pinedale Array	73.15	330	P	P	01 36 37.5 +1.4
	comp=E,1.5nm,0.6s,baz=141,slow=6.6,SNR=13					
G23A	Biddle	73.28	334	⇓P	P	01 36 37.6 +0.9
	baz=74,SNR=5.8					
J19A	Crowheart	73.31	331	⇑P	P	01 36 38.3 +1.4
	baz=74					
I20A	Worland	73.43	332	⇑P	P	01 36 39.2 +1.6
	baz=74					
F24A	Ekalaka	73.44	335	⇓P	P	01 36 38.5 +0.9
	baz=74					
H21A	Big Horn, Sher	73.50	333	⇑P	P	01 36 39.3 +1.2
	baz=74					
B30A	Myrvik Farm, E	73.52	340	⇑P	P	01 36 38.5 +0.6
	baz=74					
G22A	Birney	73.67	334	⇓P	P	01 36 39.8 +0.9
	baz=74					
H20A	Greybull	73.80	332	⇑P	P	01 36 40.6 +0.8
	baz=74,SNR=5.9					
MLI	Malad Range	73.81	328	*e*P	P	01 36 41.3 +1.3
B29A	Wagenman Farm,	73.86	340	⇑P	P	01 36 40.7 +0.8
	baz=74					
AHID	Auburn Hatcher	73.87	329	*e*P	P	01 36 41.8 +1.5
	comp=E,11nm,0.8s					
I19A	Meeteetse	73.89	331	⇓P	P	01 36 41.8 +1.4
	baz=74					
A30A	Hoffart Farm,	73.94	341	⇓P	P	01 36 41.7 +1.3
	baz=74					
E24A	Baker	73.98	336	⇑P	P	01 36 42.3 +1.6
	baz=74					
G21A	Lodge Grass	74.05	333	⇑P	P	01 36 42.7 +1.5
	baz=74					
D25A	Fairfield	74.10	337	⇓P	P	01 36 43.0 +1.6
	baz=74					
F22A	Rosebud	74.11	334	⇑P	P	01 36 42.9 +1.4
	baz=74					
B28A	Dugan Ranch, T	74.17	339	⇑P	P	01 36 43.0 +1.3
	baz=74					
REDW	Red Top Meadow	74.21	330	*e*P	P	01 36 44.2 +1.9
	comp=E,5.0nm,0.8s					
A29A	Manning Farm,	74.22	340	⇑P	P	01 36 42.5 +0.6
	baz=74,SNR=5.9					
SNOW	Snow King Moun	74.24	330	*e*P	P	01 36 43.4 +0.9
	comp=E,6.5nm,0.8s					
LOHW	Long Hollow	74.29	330	*e*P	P	01 36 43.9 +1.2
	comp=E,4.3nm,0.8s					
E23A	Ismay	74.32	335	⇑P	P	01 36 44.5 +1.8
	baz=75					
TPAW	Teton Pass	74.36	330	*e*P	P	01 36 44.7 +1.4
	comp=E,5.8nm,0.8s					
H19A	Powell	74.38	332	⇑P	P	01 36 44.8 +1.6
	baz=75					
ULM	Lac du Bonnet	74.40	343	*e*P	P	01 36 42.7 -0.3
ULM	Lac du Bonnet	74.40	343	P	P	01 36 42.7 -0.3
	comp=E,5.0nm,0.8s,baz=170,slow=4.4,SNR=6.8					
RRI2	Red Ridge	74.42	330	*e*P	P	01 36 45.2 +1.5
	comp=E,9.8nm,0.8s					
ELK	Elko	74.46	326	P	P	01 36 45.0 +1.2
ELK	Elko	74.46	326	P	P	01 36 45.0 +1.2
	comp=E,1.4nm,0.7s,baz=249,slow=3.8,SNR=5.6					
G20A	Bridger	74.48	333	⇑P	P	01 36 44.7 +0.9
	baz=75					
FXWY	Fox Creek	74.50	330	*e*P	P	01 36 45.8 +1.8
I17A	Pilgrim Ck.	74.51	330	⇓P	P	01 36 45.7 +1.6
	baz=75					
E22A	Miles City	74.52	335	⇑P	P	01 36 45.2 +1.3
	baz=75					
NV01	Mina Array Sit	74.53	322	*e*P	P	01 36 46.2 +1.9
NVAR	Mina Array Bea	74.53	322	P	P	01 36 45.9 +1.6
NVAR	Mina Array Bea	74.53	322	P	P	01 36 45.9 +1.6
	comp=E,1.7nm,0.8s,baz=153,slow=5.4,SNR=7.9					
IMW	Indian Meadow	74.66	330	*e*P	P	01 36 46.8 +1.7
	comp=E,4.6nm,0.8s					
H18A	Shoshone NF, C	74.69	332	⇑P	P	01 36 46.2 +1.1
	baz=75,SNR=13					
FLWY	Flagg Ranch	74.69	331	*e*P	P	01 36 47.0 +1.9
	comp=E,12nm,0.8s					
C24A	Savage	74.83	336	⇓P	P	01 36 47.3 +1.7
	baz=75					
D23A	Lindsay	74.83	336	⇑P	P	01 36 47.3 +1.7
	baz=75,SNR=5.7					
RLMT	Red Lodge	74.86	332	*e*P	P	01 36 47.8 +1.7
	comp=E,7.0nm,0.8s					
E21A	Keefer Ranch,	75.06	334	⇓P	P	01 36 48.7 +1.8
	baz=75					
D22A	Cohagen	75.19	335	⇑P	P	01 36 49.4 +1.7
	baz=76					
SCHQ	Schefferville	75.28	2	*e*P	P	01 36 47.6 -0.4
SCHQ	Schefferville	75.28	2	P	P	01 36 47.6 -0.4
	comp=E,14nm,0.8s,baz=166,slow=3.8,SNR=7.4					
F19A	Roth Farm, Mol	75.29	333	⇑P	P	01 36 49.6 +1.2
	baz=76,SNR=7.6					
C23A	Lambert	75.35	336	⇓P	P	01 36 50.2 +1.7
	baz=76					
D21A	La Casta Ranch	75.45	335	⇓P	P	01 36 51.1 +1.9
	baz=76					
E20A	Meyer Farm, Mu	75.47	334	⇓P	P	01 36 50.9 +1.6
	baz=76,SNR=9.8					
DGMT	Dagmar	75.53	337	⇑P	P	01 36 51.4 +1.8
	baz=76					
A25A	Svangstu Ranch	75.54	338	⇑P	P	01 36 51.3 +1.7
	baz=76					
GCMT	Greycliff	75.56	332	*e*P	P	01 36 51.8 +1.8
C22A	Vida	75.57	336	⇑P	P	01 36 51.3 +1.4
	baz=76					
E19A	Rath Farm, Rou	75.71	333	⇓P	P	01 36 52.2 +1.5
	baz=76,SNR=16					
B23A	Brockton	75.82	337	⇓P	P	01 36 53.1 +1.8
	baz=76					
A24A	Westby	75.84	337	⇓P	P	01 36 53.3 +2.0
	baz=76					
D20A	Manuel Ranch,	75.94	334	⇓P	P	01 36 53.3 +1.4
	baz=76,SNR=9.4					
PAHR	Pah Rah Range	76.01	323	*e*P	P	01 36 54.9 +2.2
	comp=E,7.1nm,0.8s					
B22A	Reddig Ranch S	76.07	336	⇓P	P	01 36 54.1 +1.4
	baz=76					
HLID	Hailey	76.08	328	*e*P	P	01 36 55.2 +2.2
	comp=E,3.2nm,0.7s					
HLID	Hailey	76.08	328	⇑P	P	01 36 55.4 +2.4
	baz=76,SNR=6.8					
C21A	Desert Coulee	76.11	335	⇑P	P	01 36 54.7 +1.8
	baz=76					
A23A	Redstone	76.19	337	⇓P	P	01 36 55.1 +1.8
	baz=76					
MCMT	McKenzie Canyo	76.26	330	*e*P	P	01 36 56.1 +2.0
D19A	Cripps Ranch,	76.30	334	⇑P	P	01 36 55.4 +1.3
	baz=77,SNR=9.1					
C20A	Veseth Ranch,	76.38	334	⇓P	P	01 36 55.4 +0.9
	baz=77,SNR=6.7					
B21A	Ellsworth Farm	76.56	335	⇓P	P	01 36 57.2 +1.8
	baz=77					
A22A	Carney Farms,	76.60	336	⇑P	P	01 36 57.2 +1.5
	baz=77,SNR=6.3					
C19A	Slack Wire Ran	76.82	334	⇑P	P	01 36 58.5 +1.5
	baz=77,SNR=5.9					
B20A	Solberg Farm,	76.97	335	⇓P	P	01 36 58.9 +1.1
	baz=77,SNR=7.7					
A20A	Cobblestone Ra	77.28	335	⇓P	P	01 37 01.0 +1.5
	baz=78,SNR=6.3					
EGMT	Eagleton	77.34	334	*e*P	P	01 37 01.1 +1.1
	comp=E,9.4nm,0.9s					
EGMT	Eagleton	77.34	334	⇑P	P	01 37 01.2 +1.3
	baz=78					
SYO	Syowa Base	77.43	160	⇓*e*X		01 37 04.8
VNDA	Vanda	77.51	190	*e*P	P	01 37 01.2 +0.8
VNDA	Vanda	77.51	190	P	P	01 37 01.2 +0.8
	comp=E,1.0nm,0.9s,baz=118,slow=9.4,SNR=3.6					
TOA0	Torodi Ar. Sit	77.64	71	*e*P	P	01 37 01.6 -0.6
TORD	Torodi Ar. Bea	77.64	71	P	P	01 37 01.8 -0.4
TORD	Torodi Ar. Bea	77.64	71	P	P	01 37 01.8 -0.4
	comp=E,14nm,0.6s,baz=254,slow=5.4,SNR=293					
A19A	Klindworth Far	77.65	335	⇓P	P	01 37 03.0 +1.5
	baz=78					
MSO	Missoula	78.26	331	⇓P	P	01 37 06.4 +1.3
	baz=78					
BMO	Blue Mountains	78.45	327	*e*P	P	01 37 08.0 +1.8
YBH	Yreka Blue Hor	79.24	322	P	P	01 37 11.1 +0.5
YBH	Yreka Blue Hor	79.24	322	P	P	01 37 11.1 +0.5
	comp=E,1.6nm,0.7s,baz=106,slow=9.9,SNR=3.2					
WALA	Waterton Lakes	79.91	332	*e*P	P	01 37 15.7 +1.6
NEW	Newport	80.79	330	⇓P	P	01 37 20.2 +1.6
	baz=81					
C09A	Chrisman Ranch	81.00	329	*e*P	P	01 37 21.7 +1.9
	comp=E,6.3nm,0.8s					
EDM	Edmonton	82.81	335	*e*P	P	01 37 29.4 +0.2
BOSA	Boshof	84.32	118	*e*P	P	01 37 37.9 +0.2
BOSA	Boshof	84.32	118	P	P	01 37 37.9 +0.2
	comp=E,5.2nm,0.8s,baz=213,slow=8.5,SNR=6.2					
MAW	Mawson	85.24	164	P	P	01 37 42.2 +0.8
MAW	Mawson	85.24	164	P	P	01 37 42.2 +0.8
	comp=E,2.1nm,0.6s,baz=223,slow=7.8,SNR=8.9					
ESDC	Sonseca Array	85.69	45	*e*P	P	01 37 44.9 +0.8
ESDC	Sonseca Array	85.69	45	P	P	01 37 44.9 +0.8
	comp=E,2.1nm,1.0s,baz=243,slow=5.3,SNR=8.6					
ES19	SONSECA Array	85.74	45	*e*P	P	01 37 43.3 -1.1
YKA	Yellowknife Ar	90.26	341	P	P	01 38 06.0 +0.6
YKA	Yellowknife Ar	90.26	341	P	P	01 38 05.9 +0.6
	comp=E,4.1nm,0.8s,baz=137,slow=4.7,SNR=6.6					
YKB5	Yellowknife Ar	90.26	341	*e*P	P	01 38 05.9 +0.6
DLBC	Dease Lake	93.25	333	*e*P	P	01 38 20.2 +0.8
DLBC	Dease Lake	93.25	333	P	P	01 38 20.2 +0.8
	comp=E,2.1nm,0.9s,baz=186,slow=9.1,SNR=3.0					
KEST	Kesra	93.30	53	P	P	01 38 21.1 +0.9
KEST	Kesra	93.30	53	P	P	01 38 21.1 +0.9
	comp=E,0.7nm,0.8s,baz=344,slow=8.4,SNR=3.4					
DOU	Dourbes	95.98	39	P	P	01 38 29.5 -2.5
BCLA	Clavier	96.53	38	P	P	01 38 29.3 -5.1
WLF	Walferdange	96.72	39	P	P	01 38 31.4 -3.9
	comp=Z,5.8nm,1.0s					
BEBN	Eben Emael	96.90	38	P	P	01 38 32.0 -4.0
MEM	Membach	97.02	38	P	P	01 38 29.4 -7.2
FUORN	Ofenpass-Fuorn	98.08	43	*e*P	P	01 38 39.1 -2.8
	comp=Z,11nm,1.0s					
KBZ	Khabaz	120.08	51	*e*PKPdf	PKPdf	01 43 56.8 +1.3
KBZ	Khabaz	120.08	51	PKP	PKPdf	01 43 56.8 +1.3
	comp=Z,4.1nm,1.0s,baz=284,slow=4.2,SNR=3.6					
H11S2	WAKE ISLAND Hyl	27.20	278	T	T	04 03 46.9
	baz=105,slow=0.7,SNR=448					
H11S1	WAKE ISLAND Hyl	27.21	278	T	T	04 03 45.0
	baz=105,slow=0.7,SNR=139					
H11S3	WAKE ISLAND Hyl	27.22	278	T	T	04 03 38.2
	baz=105,slow=0.7,SNR=118					
H11N3	WAKE ISLAND Hyl	27.27	279	T	T	04 03 55.5
	baz=105,slow=0.7,SNR=147					
H11N2	WAKE ISLAND Hyl	27.28	279	T	T	04 03 57.7
	baz=105,slow=0.7,SNR=120					
H11N1	WAKE ISLAND Hyl	27.28	279	T	T	04 03 57.0
	baz=105,slow=0.7,SNR=123					
AKTO	Aktyubinsk	129.44	41	PKP	PKPdf	01 44 12.3 -0.9
AKTO	Aktyubinsk	129.44	41	PKP	PKPdf	01 44 12.3 -0.9
	comp=Z,1.5nm,0.7s,baz=315,slow=5.7,SNR=4.6					
BVAR	Borovoye Array	135.47	34	PKP	PKPdf	01 44 23.1 -1.5
BVAR	Borovoye Array	135.47	34	PKP	PKPdf	01 44 23.1 -1.5
	comp=Z,0.9nm,0.7s,baz=22,slow=1.6,SNR=4.2					
KURK	Kurchatov	140.99	32	*e*PKPpre	PKPpre	01 44 30.0
KURK				*e*PKPdf	PKiKP	01 44 36.3 -1.1
KURBB	Kurchatov Arra	141.00	32	PKhKP	PKPpre	01 44 30.0
KURBB				PKP	PKiKP	01 44 36.3 -1.2
	comp=Z,0.6nm,0.2s,baz=306,slow=2.7,SNR=6.8					
ZALV	Zalesovo Beam	141.49	24	PKPpre	PKPpre	01 44 31.0
ZALV				PKP	PKPdf	01 44 36.2 +0.6
ZALV	Zalesovo Beam	141.49	24	PKhKP	PKPpre	01 44 31.0
	comp=Z,1.0nm,0.7s,baz=316,slow=4.0,SNR=5.4					
ZALV				PKP	PKPdf	01 44 36.2 +0.6
	comp=Z,2.9nm,0.7s,baz=279,slow=2.2,SNR=11					
KSH	Kashi	145.05	50	PKP	PKPdf	01 44 44.5 +2.0
KSH				pPKP	pPKPdf	01 45 12.0 +7.9
KSH				sPKP		01 45 21.0
KSH				PP	PP	01 48 08.0 +6.5
KSH				PKS	PKSdf	01 48 17.8 -0.3
KSH				SKS	SKSdf	01 51 41.3 -3.9
KSH				SKKS	SKKSac	01 54 46.0 -1.1
KSH				SS	SS	02 06 44.0 -1.8
KSH				PPMZ		
	comp=Z,190nm,5.0s					
KSH				LR	LR	
	comp=Z,70nm,5.3s					
KSH				LR	LR	
	comp=Z,93nm,5.3s					
KSH				LR	LR	
	comp=Z,200nm,5.8s					
MK32	Makanchi Array	145.34	35	*e*PKPbc	PKPab	01 44 43.5 +0.7
MKAR	Makanchi Array	145.34	35	PKPbc	PKPab	01 44 43.5 +0.7
MKAR	Makanchi Array	145.34	35	PKPbc	PKPab	01 44 43.5 +0.7
	comp=Z,14nm,0.8s,baz=324,slow=3.3,SNR=61					
WMQ	Urumqi	150.16	34	*e*PKPbc	PKPdf	01 44 51.0 +0.3
WMQ				LR	LR	
	comp=Z,79nm,20.6s					
WMQ				LR	LR	
	comp=Z,57nm,19.8s					
WMQ				LR	LR	
	comp=Z,35nm,19.4s					
USRK	Ussuriysk Arra	150.54	328	PKPbc	PKPbc	01 44 57.6 +1.0
	comp=Z,4.9nm,0.7s,baz=241,slow=0.4,SNR=4.9					
MJAR	Matsushiro Arr	151.13	309	PKPbc	PKPbc	01 44 58.6 +0.3
MJAR	Matsushiro Arr	151.13	309	PKPbc	PKPbc	01 44 58.6 +0.3
	comp=Z,2.4nm,0.7s,baz=127,slow=2.3,SNR=3.2					
MAJO	Matsushiro	151.14	309	*e*PKPbc	PKPbc	01 44 58.6 +0.3
HHC	Hu-ho-hao-te	159.91	358	*e*PKP	PKPdf	01 45 04.5 +0.4
HHC				pPKP	pPKPdf	01 45 31.0 +5.2
HHC				sPKP		01 45 42.5
HHC				PKS	PKSdf	01 48 37.0 -0.6
HHC				PP	PP	01 49 28.8 +4.3
HHC				SKS	SKSdf	01 51 58.5 -4.4
HHC				SKKS	SKKSac	01 56 04.5 -2.9
HHC				PPMZ		
	comp=Z,90nm,9.6s					
HHC				LR	LR	
	comp=Z,120nm,20.0s					
HHC				LR	LR	
	comp=Z,180nm,20.4s					
HHC				LR	LR	
	comp=Z,140nm,22.0s					
CD2	Chengdu	168.19	29	PKP	PKPdf	01 45 11.5 -0.3
KMI	Kunming	171.64	57	PKP	PKPdf	01 45 16.8 +2.6
GYA	Guiyang	173.31	31	*e*PKP	PKPdf	01 45 15.0 +0.2
GYA				pPKP	pPKPdf	01 45 41.5 +4.9
GYA				sPKP		01 45 51.5
GYA				PKPab	PKPab	01 46 45.0 +1.9
GYA				PKS	PKSdf	01 48 45.5 -1.7
GYA				PPMZ		
	comp=Z,80nm,8.2s					

IDC ***29*** *01:33:56.3±1.6, 39.˚71N×77.˚56E, h0km, mb3.5/6, mb1 3.6/11, mb1mx3.5/32, mbtmp3.5/11, ML3.4/5, Error ellipse: s-maj=32.0km s-min=16.2km az=139.0*

ISCJB ***29*** *01:33:57.5±1.0, 39.˚85N±0.˚09×77.˚64E±0.˚08, h10km, mb3.7/7, Error ellipse: s-maj=13.3km s-min=9.0km az=167.5*

BJI ***29*** *01:34:01.0, 40.˚17N×77.˚26E, h9km, ML3.5/8*

ISC 29 01:33:59.0±1.3, 39.˚9N±0.˚1×77.˚42E±0.˚09, h10km, n21, σ1§63/20, mb3.6/7, 1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	Kashi	1.18	251	⇓*i*Pg	Pg	01 34 31.3	+9.5
KSH				Sg	Sn	01 34 51.8	+14
KSH				SMN			
	1µm,0.4s						
KSH				SME			
	840nm,0.4s						
ULHL	Ulahol	2.50	340	P	Pn	01 34 41.0	+1.1
	SNR=215						
KZA	Kyzart	2.72	324	P	Pn	01 34 45.8	+2.8
	SNR=582						
TKM2	Tokmak 2	3.31	336	P	Pn	01 34 52.5	+1.5
	SNR=129						
KBK	Karagaybulak	3.31	327	P	Pn	01 34 53.1	+2.1
	SNR=14						
AML	Almayashu	3.58	309	P	Pn	01 34 56.9	+1.9
	SNR=13						
CHMS	Chumysh	3.68	328	P	Pn	01 34 58.0	+2.1
	SNR=20						
EKS2	Erkin-Say	3.88	316	P	Pn	01 35 01.7	+2.9
	SNR=17						
USP	Osperovka	4.00	328	P	Pb	01 35 07.9	-1.7
	SNR=14						
MKAR	Makanchi Array	7.74	26	Pn	Pn	01 35 53.3	+1.6
	0.5nm,0.3s,baz=207,slow=15,SNR=21						
MKAR				Sn	Sn	01 37 19.8	+0.4
	0.2nm,0.3s,baz=206,slow=20,SNR=3.1						
MKAR				Lg	Lg	01 38 00.3	
	0.7nm,0.3s,baz=209,slow=29,SNR=4.3						
KURBB	Kurchatov Arra	10.74	4	Pn	Pn	01 36 33.6	+0.9
	0.1nm,0.3s,baz=193,slow=12,SNR=8.2						
KURBB				Lg	Lg	01 39 35.6	
	0.2nm,0.3s,baz=184,slow=32,SNR=5.8						
BVAR	Borovoye Array	13.97	342	Pn	Pn	01 37 15.5	-1.4
	0.2nm,0.3s,baz=160,slow=9.0,SNR=6.5						
ZALV	Zalesovo Beam	14.91	17	Pn	Pn	01 37 30.9	+1.2
	0.2nm,0.3s,baz=209,slow=12,SNR=4.6						
ZALV				Lg	Lg	01 41 55.7	
	0.1nm,0.3s,baz=216,slow=27,SNR=4.0						
AKTO	Aktyubinsk	17.21	314	P	P	01 38 02.3	+1.4
	0.1nm,0.3s,baz=130,slow=14,SNR=3.6						
SONM	Songino Array	22.25	60	P	P	01 38 55.9	0.0
	0.4nm,0.5s,baz=260,slow=8.6,SNR=2.2						
HHC	Hu-ho-hao-te	25.94	77	*e*P	P	01 39 31.5	0.0
HHC				AMB	AMB		
	comp=Z,27nm,1.1s						
HHC				AMB	AMB		
	comp=Z,370nm,5.4s						
BRTR	Keskin Array B	33.37	284	P	P	01 40 37.4	-0.1
	comp=Z,0.6nm,0.7s,baz=107,slow=9.1,SNR=3.8						
AKASG	Malin Array Be	34.99	304	P	P	01 40 53.4	+2.2
	comp=Z,1.1nm,0.6s,baz=82,slow=12,SNR=5.1						
GERES	GERESS Array B	45.19	303	P	P	01 42 15.3	-0.7
	comp=Z,0.6nm,0.7s,baz=57,slow=9.7,SNR=4.4						
ILAR	Eielson Array	70.03	19	P	P	01 45 09.6	-0.9
	comp=Z,0.3nm,0.9s,baz=309,slow=5.7,SNR=4.4						
TORD	Torodi Ar. Bea	70.78	271	P	P	01 45 15.4	-0.4
	comp=Z,0.6nm,0.5s,baz=46,slow=5.5,SNR=24						

BJI ***29*** *01:33:58.4, 5.˚52S×140.˚70E, h45km, mB5.4/35, mb5.4/56, Ms4.8/34, Ms7 4.4/34*

AUST ***29*** *01:33:58.1±2.3, 5.˚35S×140.˚37E, h13km±15km, Error ellipse: s-maj=6.9km s-min=5.1km az=68.0*

ISCJB ***29*** *01:33:59.5±0.6, 5.˚29S±0.˚02×140.˚41E±0.˚03, h37km±5km, mb5.4/150, MS4.6/92, Error ellipse: s-maj=4.9km s-min=3.6km az=143.4*

IDC ***29*** *01:33:59.7±3.9, 5.˚24S×140.˚39E, h23km±25km, mb5.0/27, mb1 5.1/32, mb1mx5.1/32, mbtmp5.1/32, ML4.9/4, MS4.4/9, Ms1 4.4/9, ms1mx4.1/28, Error ellipse: s-maj=12.5km s-min=7.8km az=85.0*

MOS ***29*** *01:34:00.5±0.9, 4.˚97S×140.˚53E, h33km, mb5.6/40, MS4.5/24, Error ellipse: s-maj=11.0km s-min=5.8km az=119.2*

NEIC ***29*** *01:34:00.1±1.4, 5.˚26S×140.˚38E, h29km±9

935nm,0.6s,12µm6.5nm
PMG Port Moresby 7.82 122 P **Pn** **01 35 53.4 +0.5**
435nm,1.0s,4µm1.3nm
PMG Port Moresby 7.82 122 *e*Pn **Pn** **01 35 53.0 +0.1**
PMG Port Moresby 7.82 122 Pn **Pn** **01 35 53.5 +0.5**
22nm,0.3s,baz=350,slow=5.4,SNR=32
FAKI Fak Fak 8.49 286 P **Pn** **01 36 03.0 +0.8**
334nm,0.8s,3µm
FAKI Fak Fak 8.49 286 ⇓P **Pn** **01 36 02.4 +0.2**
baz=8.5,SNR=55
COEN Coen 8.99 163 *e*Pn **Pn** **01 36 09.6 +0.5**
COEN Coen 8.99 163 ⇑P **Pn** **01 36 09.4 +0.3**
baz=9.0,SNR=53
SAUI Saumlaki 9.43 253 P **Pn** **01 36 17.4 +2.3**
2µm,1.1s,21µm
SWI Sorong 10.16 296 P **Pn** **01 36 24.6 -0.5**
337nm,0.7s,3µm
SWI Sorong 10.16 296 ⇓P **Pn** **01 36 24.8 -0.2**
baz=10,SNR=9.9
BNDI Bandanaira 10.50 274 P **Pn** **01 36 32.4 +2.6**
793nm,1.0s,11µm
KDU Kakadu 10.72 226 P **Pn** **01 36 30.7 -2.0**
baz=11,SNR=796
MTSU Mount Surprise 13.28 164 P **Pn** **01 37 08.0 +0.1**
baz=13,SNR=16
NLAI Namlea 13.44 278 P **Pn** **01 37 12.3 +2.4**
106nm,1.0s,1µm
LBMI Labuha 13.71 289 P **P** **01 37 22.9 +1.5**
TNTI Ternate 14.37 295 P **Pn** **01 37 23.6 +1.0**
128nm,0.9s,3µm
KNRA Kununurra 15.38 227 P **Pn** **01 37 32.9 -3.0**
baz=15,SNR=40
KNRA ⇓P P 01 37 33.2 -6.8
baz=15
WRAB Tennant Creek 15.67 202 *e*P **Pn** **01 37 37.8 -1.9**
WRAB pmax pmax
comp=Z,210nm,0.6s
WRAB Tennant Creek 15.67 202 *e*Pn **Pn** **01 37 37.8 -1.9**
comp=Z,210nm,0.6s
WRAB *e*S **Sn** **01 40 25.6 -6.8**
WRAB Tennant Creek 15.67 202 Pn **Pn** **01 37 37.6 -2.1**
comp=Z,2µm,0.7s,SNR=45
WRA Warramunga Arr 15.68 202 Pn **Pn** **01 37 37.3 -2.6**
WRA Sn Sn 01 40 24.3 -8.3
WRA Lg Lg 01 42 18.7
WRA Warramunga Arr 15.68 202 Pn **Pn** **01 37 37.3 -2.6**
comp=Z,1.1nm,0.3s,baz=17,slow=13,SNR=50
WRA Sn Sn 01 40 24.3 -8.3
comp=Z,8.8nm,0.3s,baz=27,slow=22,SNR=6.4
WRA Lg Lg 01 42 18.7
comp=Z,17nm,0.3s,baz=32,slow=28,SNR=6.6
CTA Charters Tower 15.73 159 Pn **Pn** **01 37 41.4 +0.9**
CTA Lg Lg 01 42 23.9
CTA Charters Tower 15.73 159 Pn **Pn** **01 37 41.4 +0.9**
comp=Z,6.1nm,0.3s,baz=337,slow=12,SNR=52
CTA Lg Lg 01 42 23.9
comp=Z,6.1nm,0.3s,baz=266,slow=20,SNR=14
CTAO Charters Tower 15.73 159 *e*P **P** **01 37 42.7 -1.2**
CTAO pmax pmax
comp=Z,260nm,0.9s
CTAO Charters Tower 15.73 159 *e*Pn **P** **01 37 42.7 -1.2**
comp=Z,260nm,0.9s
CTAO *e*S S 01 40 59.3 +12
SOEI Soe 16.60 254 P **Pn** **01 37 50.4 -1.2**
comp=Z,892nm,0.8s,comp=Z,7µm
SOEI Soe 16.60 254 P **Pn** **01 37 51.0 -0.6**
baz=17,SNR=14
SGSI Sangihe 17.36 301 P **P** **01 38 06.0 +4.1**
comp=Z,409nm,0.8s
KMSI Cibinong 17.43 289 P **P** **01 38 03.0 +0.3**
comp=Z,565nm,1.0s,comp=Z,6µm
BBSI Bau Bau 17.77 269 P **P** **01 38 10.6 +4.2**
comp=Z,152nm,1.0s,comp=Z,2µm
LUWI Luwuk 18.12 283 P Pn 01 38 18.7 +8.3
MMRI Maumere 18.34 259 P **Pn** **01 38 16.7 +3.7**
comp=Z,287nm,0.9s
FITZ Fitzroy Crossi 19.22 227 *e*P **P** **01 38 21.0 -1.4**
comp=Z,115nm,0.6s
FITZ *e*S S 01 41 45.8 -12
FITZ Lg Lg 01 44 11.7
FITZ Fitzroy Crossi 19.22 227 P **P** **01 38 21.0 -1.4**
baz=19,SNR=98
FITZ Fitzroy Crossi 19.22 227 P **P** **01 38 20.9 -1.6**
comp=Z,2.3nm,0.3s,baz=54,slow=12,SNR=45
FITZ S S 01 41 45.9 -12
comp=Z,12nm,0.3s,baz=134,slow=13,SNR=9.1
FITZ Lg Lg 01 44 11.7
baz=333,slow=22,SNR=4.8
FITZ LR LR 01 46 07.5
comp=Z,2µm,19.3s,baz=48,slow=38
APSI Ampana 19.24 283 P **Pn** **01 38 24.5 +0.6**
comp=Z,361nm,1.1s,comp=Z,3µm
AS31 Alice Springs 19.28 198 *e*P **Pn** **01 38 24.6 +0.3**
AS31 *e*S **S** **01 41 52.7 -6.6**
ASAR Alice Springs 19.28 198 P **Pn** **01 38 24.4 +0.1**
ASAR S **Sn** **01 42 00.8 +1.1**
ASAR Lg Lg 01 44 14.6
ASAR Alice Springs 19.28 198 P **Pn** **01 38 24.4 +0.1**
comp=Z,8.8nm,0.3s,baz=27,slow=9.4,SNR=538
ASAR S **Sn** **01 42 00.8 +1.1**
comp=Z,4.5nm,0.3s,baz=22,slow=22,SNR=6.6
ASAR Lg Lg 01 44 14.6
comp=Z,3.5nm,0.3s,baz=26,slow=32,SNR=4.4
MRSI Marisa 19.33 287 P **P** **01 38 23.8 +0.2**
comp=Z,189nm,0.7s,comp=Z,2µm
HNR Honiara 19.79 103 P **P** **01 38 29.1 +0.4**
HNR Honiara 19.79 103 P **P** **01 38 29.0 +0.4**
comp=Z,49nm,0.3s,baz=208,slow=4.6,SNR=17
BKSI Bulukumba 20.20 269 P Pn 01 38 34.4 -0.9
comp=Z,269nm,0.7s,comp=Z,2µm
BNSI Bone 20.26 272 P Pn 01 38 35.9 -0.1
comp=Z,299nm,0.8s,comp=Z,2µm
CTBH Cotabato--PC H 20.39 308 ⇑*i*P **P** **01 38 34.3 -0.9**
WSI Waingapu 20.40 257 P **P** **01 38 34.2 -1.1**
comp=Z,1µm,0.7s,comp=Z,20µm
KAPI Kappang 20.58 270 P **P** **01 38 38.3 +1.0**
SNR=14
KAPI Kappang 20.58 270 P **P** **01 38 37.9 +0.6**
comp=Z,124nm,0.9s,comp=Z,1µm
KAPI Kappang 20.58 270 P **P** **01 38 37.9 +0.6**
comp=Z,6.1nm,0.8s
KAPI LR LR
comp=Z,700nm,19.0s
KAPI Kappang 20.58 270 Pn **P** **01 38 37.3 0.0**
comp=Z,682nm,0.7s,SNR=8.4
KAPI Kappang 20.58 270 P **P** **01 38 37.9 +0.6**
comp=Z,44nm,0.8s,baz=111,slow=6.8,SNR=15
TOLI Toli-Toli 20.62 288 P **P** **01 38 38.4 +0.7**
comp=Z,243nm,0.7s
SPSI Sidrap Palu 20.62 273 P **P** **01 38 38.1 +0.4**
comp=Z,126nm,0.7s,comp=Z,2µm
TTSI Tana Toraja 20.66 275 P Pn 01 38 40.5 -0.3
comp=Z,127nm,0.9s,comp=Z,3µm
QLP Quilpie 21.45 171 ⇑P **P** **01 38 47.9 +1.5**
baz=22,SNR=128
EIDS Eidsvold 22.40 154 *e*P **P** **01 38 56.9 +0.2**
comp=Z,119nm,0.6s
EIDS Eidsvold 22.40 154 P **P** **01 38 56.8 +0.2**
baz=22,SNR=37
RMQ Roma 22.50 160 ⇓P **P** **01 38 58.3 +0.6**
baz=23,SNR=29
MYLDM Lahad Datu 24.25 295 P **P** **01 39 17.8 +2.8**
MYLDM Lahad Datu 24.25 295 P **P** **01 39 17.3 +2.3**
comp=Z,372nm,1.3s,comp=Z,4µm
MYLDM Lahad Datu 24.25 295 *e*P **P** **01 39 17.5 +2.5**
comp=Z,542nm,1.3s
MTNI Mataram 24.28 261 P **P** **01 39 14.4 -0.9**
comp=Z,283nm,1.0s,comp=Z,3µm
TSM Tawau 24.46 293 P **P** **01 39 17.8 +0.9**
KHKI Kahang-Kahang 24.81 262 P **P** **01 39 19.0 -1.1**
comp=Z,118nm,1.0s,comp=Z,1µm
DNP Denpasar 25.23 261 P P 01 39 32.4 +8.4
MBWA Marble Bar 25.50 230 *e*P **P** **01 39 25.3 -1.0**
comp=Z,70nm,0.7s
MBWA LR LR
comp=Z,1µm,21.0s
SDKM Sandakan 25.62 295 P **P** **01 39 28.1 +0.5**
KMMI Kalianget 26.35 265 P **P** **01 39 38.1 +4.0**
comp=Z,112nm,0.9s
STKA Stephens Creek 26.43 178 *e*P **P** **01 39 33.5 -1.1**
comp=Z,9.4nm,0.8s
STKA Stephens Creek 26.43 178 ⇓P **P** **01 39 33.8 -0.9**
baz=27,SNR=45
STKA Stephens Creek 26.43 178 P **P** **01 39 37.1 +2.4**
comp=Z,44nm,0.8s,baz=344,slow=8.9,SNR=30
STKA LR LR 01 50 39.4
comp=Z,1µm,21.2s,baz=350,slow=38

CMSA Cobar Meteorol 26.54 170 P **P** **01 39 36.0 +0.5**
baz=27,SNR=17
KKM Kota Kinabalu 26.67 295 P **P** **01 39 37.0 -0.1**
KKM Kota Kinabalu 26.67 295 P **P** **01 39 36.5 -0.6**
comp=Z,108nm,1.0s,comp=Z,918nm
KKM Kota Kinabalu 26.67 295 *e*P **P** **01 39 35.6 -1.5**
comp=Z,83nm,0.9s
KKM LR LR
comp=Z,412nm,22.0s
KKM Kota Kinabalu 26.67 295 P **P** **01 39 36.7 -0.4**
baz=27,SNR=8.8
BLJI Banyuglugur 26.75 263 P P 01 39 48.1 +10
ARMA Armidale 27.10 158 *e*P **P** **01 39 40.7 -0.1**
comp=Z,25nm,1.1s
ARMA Armidale 27.10 158 P **P** **01 39 41.5 +0.7**
baz=27,SNR=5.6
BBOO Buckleboo 27.64 188 *e*P **P** **01 39 47.2 +1.7**
comp=Z,2µm,1.0s
BBOO Buckleboo 27.64 188 P **P** **01 39 47.8 +2.3**
baz=28,SNR=17
FORT Forrest 27.86 203 *e*P **P** **01 39 47.4 0.0**
comp=Z,260nm,0.7s
FORT Forrest 27.86 203 P **P** **01 39 47.6 +0.2**
baz=28,SNR=26
HTT Hallett 27.99 183 ⇓P **P** **01 39 50.8 +2.1**
baz=28,SNR=16
BTM Bintulu 28.59 287 P **P** **01 39 55.2 +1.0**
SBUM Sibu 29.21 285 P **P** **01 40 00.9 +1.3**
comp=Z,17nm,1.2s
MEEK Meekatharra 29.70 222 P **P** **01 40 04.0 +0.1**
baz=30,SNR=9.3
YNG Yong 29.76 167 P **P** **01 40 05.0 +0.6**
baz=30,SNR=6.1
DZM Mont Dzumac 30.18 126 *e*P **P** **01 40 08.7 +0.4**
comp=Z,71nm,1.1s
DZM *e*LR LR 01 47 52.5
comp=Z,1µm,23.1s
DZM Mont Dzumac 30.18 126 P **P** **01 40 08.9 +0.6**
DZM Mont Dzumac 30.18 126 P **P** **01 40 08.9 +0.6**
comp=Z,15nm,0.8s,baz=255,slow=12,SNR=8.6
KSM Kuching 30.82 282 P **P** **01 40 14.3 +0.4**
KSM Kuching 30.82 282 P **P** **01 40 14.3 +0.4**
comp=Z,18nm,1.0s
KSM Kuching 30.82 282 *e*P **P** **01 40 14.3 +0.4**
comp=Z,13nm,0.7s
CAN Canberra 30.88 166 PFAKE 01 40 30.0 +16
CAN LR LR
comp=Z,3µm,21.0s
KPJI Karang Pucung 31.35 265 P **P** **01 40 18.8 +0.2**
comp=Z,39nm,1.4s
CBIJ Chichi jima 32.28 3 P **P** **01 40 25.8 -0.8**
JCJ Chichijima 32.28 3 P **P** **01 40 25.8 -0.8**
comp=Z,77nm,0.6s,baz=202,slow=9.7,SNR=3.5
MORW Morawa 33.01 222 P **P** **01 40 33.1 +0.1**
baz=33,SNR=8.4
PPBI Pangkal Pinang 34.34 274 P **P** **01 40 44.8 0.0**
comp=Z,27nm,0.8s
NACB Ninganchiao 34.59 329 *e*P **P** **01 40 45.3 -1.4**
comp=Z,60nm,1.1s
SSLB Suanglung 34.61 328 *e*P **P** **01 40 46.2 -0.8**
comp=Z,20nm,0.7s
NWAO Narrogin (SRO) 34.94 215 P **P** **01 40 49.0 -0.7**
NWAO LR LR
comp=Z,1µm,19.0s
NWAO Narrogin (SRO) 34.94 215 P **P** **01 40 49.0 -0.7**
comp=Z,11nm,0.9s,baz=66,slow=14,SNR=2.9
YHNB Yeheng 35.11 329 *e*P **P** **01 40 53.4 +2.0**
comp=Z,87nm,1.1s
YHNB LR LR
comp=Z,360nm,21.0s
TATO Taipei 35.30 329 *e*P **P** **01 40 51.3 -1.6**
comp=Z,214nm,0.6s
MDSI Maura Dua 36.11 270 P P 01 41 05.7 +5.7
comp=Z,20nm,1.1s
LHSI Lahat 36.80 271 P P 01 41 12.8 +6.9
comp=Z,43nm,1.0s
QZH Quanzhou 36.83 326 ⇓*i*P **P** **01 41 09.0 +3.1**
QZH AMB AMB
comp=Z,120nm,0.7s
MYKOM Kota Tinggi 37.20 280 P **P** **01 41 09.7 +0.3**
MYKOM Kota Tinggi 37.20 280 P **P** **01 41 09.5 +0.2**
comp=Z,57nm,0.8s
KGM Kluang 37.77 280 P **P** **01 41 14.4 +0.3**
TAU Tasmania Unive 37.92 172 *e*P **P** **01 41 13.7 -1.2**
TAU pmax pmax
comp=Z,50nm,1.4s
TAU Tasmania Unive 37.92 172 *e*P **P** **01 41 13.7 -1.2**
comp=Z,50nm,1.4s
QIZ Qiongzhong 38.64 310 P **P** **01 41 19.5 -1.8**
QIZ pP **pP** **01 41 33.0 +0.1**
QIZ sP **sP** **01 41 37.0 -0.9**
QIZ S **S** **01 47 13.8 -1.4**
QIZ AMB AMB
comp=Z,24nm,1.3s
QIZ AMB AMB
comp=Z,140nm,7.4s
QIZ LR LR
comp=Z,340nm,23.9s
QIZ Qiongzhong 38.64 310 PFAKE 01 41 30.0 +8.7
QIZ LR LR
comp=Z,354nm,21.0s
KTGM Kuala Trenggan 38.70 285 P **P** **01 41 22.1 +0.1**
MSVF Nonsavu 38.79 112 *e*P **P** **01 41 24.1 +1.4**
MSVF pmax pmax
comp=Z,91nm,1.2s
MSVF MLR MLR
comp=Z,325nm,21.0s
MSVF Nonsavu 38.79 112 *e*P **P** **01 41 24.1 +1.4**
comp=Z,91nm,1.2s
MSVF LR LR
comp=Z,325nm,21.0s
MSVF Nonsavu 38.79 112 P **P** **01 41 24.9 +2.2**
comp=Z,357nm,0.9s,SNR=8.3
JNU Nakatsue 39.30 347 *e*P **P** **01 41 26.1 -0.6**
comp=Z,36nm,1.3s
JNU Nakatsue 39.30 347 P **P** **01 41 25.7 -1.0**
comp=Z,28nm,0.9s,baz=150,slow=5.2,SNR=12
FRIM Kepong 39.67 282 P **P** **01 41 29.3 -0.8**
PDSI Padang 40.12 275 P **P** **01 41 32.2 -1.7**
comp=Z,57nm,0.8s,comp=Z,17µm
PPI Padang Panjang 40.25 276 P **P** **01 41 33.6 -1.3**
comp=Z,85nm,0.9s,comp=Z,769nm
PPI Padang Panjang 40.25 276 P **P** **01 41 33.8 -1.1**
baz=40,SNR=4.4
IPM Ipoh 40.53 283 P **P** **01 41 38.0 +0.8**
comp=Z,43nm,1.2s
IPM Ipoh 40.53 283 *e*P **P** **01 41 37.0 -0.3**
comp=Z,46nm,1.1s
SSE Sheshan 40.62 334 P **P** **01 41 38.0 +0.4**
SSE AMB AMB
comp=Z,53nm,0.9s
SSE AMB AMB
comp=Z,130nm,7.9s
SSE LR LR
comp=Z,210nm,17.0s
SSE LR LR
comp=Z,190nm,17.0s
SSE LR LR
comp=Z,330nm,18.2s
KULM Kulim 41.09 284 P **P** **01 41 40.9 -0.8**
KULM Kulim 41.09 284 *e*P **P** **01 41 41.0 -0.8**
comp=Z,39nm,1.1s
MJAR Matsushiro Arr 41.70 357 P **P** **01 41 44.7 -1.8**
MJAR PcP **PcP** **01 43 42.4 -0.2**
MJAR Matsushiro Arr 41.70 357 P **P** **01 41 44.7 -1.8**
comp=Z,4.5nm,0.8s,baz=186,slow=10,SNR=8.1
MJAR PcP **PcP** **01 43 42.4 -0.2**
comp=Z,7.1nm,0.9s,baz=193,slow=4.6,SNR=6.9
MJAR LR LR 01 57 10.2
comp=Z,182nm,19.9s,baz=170,slow=33
MAJO Matsushiro 41.70 357 *e*P **P** **01 41 44.8 -1.7**
MAJO pmax pmax
comp=Z,21nm,0.8s
MAJO MLR MLR
comp=Z,340nm,21.0s
MAJO Matsushiro 41.70 357 *e*P **P** **01 41 44.8 -1.7**
comp=Z,21nm,0.8s
MAJO LR LR
comp=Z,340nm,21.0s
MAT Matsushiro 41.70 357 P **P** **01 41 44.9 -1.6**
MAT *e*S S 01 48 09.2 +8.6
PSI Prapat 42.23 280 P **P** **01 41 49.8 -1.5**
comp=Z,70nm,0.9s,comp=Z,655nm
PSI Prapat 42.23 280 P **P** **01 41 50.3 -1.0**
baz=42,SNR=10
NJ2 Nanjing 42.47 332 *e*P **P** **01 41 52.5 -0.3**
NJ2 S **S** **01 48 15.0 +3.0**

NJ2 sS **sS** **01 48 33.0 +1.5**
NJ2 AMB AMB
comp=Z,40nm,1.1s
NJ2 AMB AMB
comp=Z,160nm,6.8s
NJ2 LR LR
comp=Z,330nm,21.6s
NJ2 LR LR
comp=Z,330nm,18.4s
NJ2 LR LR
comp=Z,240nm,15.8s
OUZ Omahuta 42.67 139 *e*P **P** **01 41 57.2 +2.9**
comp=Z,43nm,0.9s
TJN Taejon 43.25 345 *e*P **P** **01 41 57.9 -1.1**
GSI Gunungsitoli 43.29 278 P **P** **01 41 58.4 -1.4**
comp=Z,33nm,1.6s
GSI Gunungsitoli 43.29 278 *e*P **P** **01 41 57.5 -2.3**
comp=Z,32nm,0.7s
KCSI Kotacane, Aceh 43.49 281 P **P** **01 42 00.4 -1.0**
comp=Z,26nm,1.5s,comp=Z,414nm
CHAI Chaiyaphum 43.49 300 P **P** **01 42 00.2 -1.1**
comp=Z,50nm,0.8s,comp=Z,441nm
WHN Wuhan 43.53 327 P **P** **01 42 02.3 +0.9**
COCO West Island 43.56 258 PFAKE 01 42 10.0 +8.1
COCO LR LR
comp=Z,465nm,19.0s
KSAR Wonju Array Be 44.13 346 P **P** **01 42 06.1 0.0**
KSAR PcP **PcP** **01 43 51.6 +1.0**
KSRS Korea Array 44.13 346 P **P** **01 42 06.1 0.0**
comp=Z,5.0nm,0.5s,baz=160,slow=8.7,SNR=24
KSRS PcP **PcP** **01 43 51.6 +1.0**
comp=Z,9.0nm,0.9s,baz=178,slow=4.3,SNR=12
PHET Kaeng Krachan 44.39 294 P **P** **01 42 08.4 -0.1**
comp=Z,526nm,0.9s,comp=Z,4µm
INCN Inchon 44.49 344 PFAKE 01 42 20.0 +11
INCN LR LR
comp=Z,354nm,20.0s
LOEI Loei 44.83 301 P P 01 42 08.5 -3.5
comp=Z,136nm,0.8s,comp=Z,3µm
GYA Guiyang 45.47 316 ⇑*i*P **P** **01 42 17.0 -0.1**
GYA AMB AMB
comp=Z,20nm,0.8s
ENH Enshi 46.16 322 *e*P **P** **01 42 22.3 -0.1**
comp=Z,67nm,0.7s
ENH *e*pP pP 01 42 28.4 -5.8
ENH *e*PcP **PcP** **01 43 58.9 +1.0**
DCZ Deep Cove 46.27 154 *e*P **P** **01 42 24.9 +1.9**
comp=Z,218nm,0.9s
URZ Urewera 46.73 140 *e*P **P** **01 42 26.6 -0.1**
comp=Z,191nm,1.6s
URZ Urewera 46.73 140 P **P** **01 42 27.2 +0.4**
comp=Z,15nm,0.4s,baz=289,slow=5.0,SNR=24
URZ LR LR 02 01 34.3
comp=Z,679nm,19.1s,baz=124,slow=35
RPZ Rata Peaks 46.78 150 *e*P **P** **01 42 28.6 +1.5**
comp=Z,223nm,0.9s
RPZ Rata Peaks 46.78 150 P **P** **01 42 27.6 +0.5**
comp=Z,208nm,0.9s,baz=253,slow=1.8,SNR=34
CRAI Chiangrai 46.83 304 P **P** **01 42 27.6 -0.2**
comp=Z,83nm,1.0s,comp=Z,6µm
BKZ Black Stump Fm 46.87 141 *e*P **P** **01 42 29.5 +1.6**
comp=Z,56nm,0.9s
ERM Erimo 47.19 3 *e*P **P** **01 42 30.4 +0.3**
ERM pmax pmax
comp=Z,55nm,1.3s
ERM Erimo 47.19 3 PFAKE 01 42 40.0 +10
ERM LR LR
comp=Z,775nm,21.0s
KHZ Kahutara 47.19 147 *e*P **P** **01 42 31.0 +0.7**
comp=Z,100nm,0.8s
CMAR Chiang Mai Arr 47.22 301 P **P** **01 42 30.9 0.0**
CMAR Chiang Mai Arr 47.22 301 P **P** **01 42 30.9 0.0**
comp=Z,48nm,0.9s,baz=124,slow=6.0,SNR=162
CMAR LR LR 02 01 02.7
comp=Z,176nm,21.5s,baz=302,slow=34
DL2 Dalian 47.33 340 *e*P P 01 42 35.0 +3.7
DL2 S S 01 49 29.0 +6.9
DL2 AMB AMB
comp=Z,28nm,0.7s
DL2 AMB AMB
comp=Z,93nm,7.8s
DL2 LR LR
comp=Z,220nm,20.6s
DL2 LR LR
comp=Z,220nm,21.1s
CHTO Chiang Mai 47.38 302 *e*P **P** **01 42 31.8 -0.3**
CHTO *e* 01 44 03.6
CHTO pmax pmax
comp=Z,51nm,0.8s
CHTO MLR MLR
comp=Z,215nm,21.0s
CHTO Chiang Mai 47.38 302 P **P** **01 42 32.0 -0.1**
SNR=23
CHTO Chiang Mai 47.38 302 P **P** **01 42 31.6 -0.5**
comp=Z,328nm,0.9s,comp=Z,3µm
CHTO Chiang Mai 47.38 302 *e*P **P** **01 42 31.8 -0.3**
comp=Z,52nm,0.8s
CHTO *e*PcP **PcP** **01 44 03.6 +1.2**
CHTO LR LR
comp=Z,215nm,21.0s
CHTO Chiang Mai 47.38 302 P **P** **01 42 31.6 -0.5**
comp=Z,328nm,0.9s,comp=Z,3µm
KMI Kunming 47.51 311 P **P** **01 42 34.5 +1.2**
KMI pP **pP** **01 42 47.0 +1.8**
KMI sP **sP** **01 42 50.5 +0.4**
KMI PcP **PcP** **01 44 04.3 +1.2**
KMI PP **PP** **01 44 25.8 +0.7**
KMI S **S** **01 49 26.0 +0.3**
KMI sS **sS** **01 49 46.5 +1.1**
KMI SS **SS** **01 52 49.3 -4.9**
KMI AMB AMB
comp=Z,19nm,1.0s
KMI AMB AMB
comp=Z,200nm,3.5s
KMI LR LR
comp=Z,190nm,13.4s
KMI LR LR
comp=Z,170nm,12.1s
KMI LR LR
comp=Z,270nm,17.9s
CMAI Chiengmai2 47.80 303 P **P** **01 42 35.0 -0.5**
comp=Z,42nm,0.8s
KNTN Kanton 47.80 89 *e*P **P** **01 42 36.5 +1.0**
comp=Z,94nm,0.8s
AFI Afiamalu 47.82 104 *e*P **P** **01 42 36.9 +1.2**
AFI *e*PcP **pP** **01 42 43.5 -4.1**
AFI Afiamalu 47.82 104 P **P** **01 42 36.9 +1.2**
comp=Z,68nm,0.7s,baz=225,slow=5.7,SNR=7.8
VLA Vladivostok 48.84 352 ⇓*e*P **P** **01 42 41.7 -1.2**
VLA 01 44 04.8
VLA 01 44 34.4
VLA *e*S **S** **01 49 43.1 -0.3**
VLA pmax pmax
comp=Z,30nm,0.6s
XAN Xi'an 49.18 325 P **P** **01 42 45.8 0.0**
XAN AMB AMB
comp=Z,12nm,0.7s
ASAJ Asahikawa 49.26 2 P **P** **01 42 45.2 -0.9**
ASAJ Asahikawa 49.26 2 P **P** **01 42 45.2 -0.9**
comp=Z,8.5nm,0.4s,baz=209,slow=11,SNR=5.2
SNY Shenyang 49.38 343 ⇑P **P** **01 42 46.8 -0.3**
SNY S **S** **01 49 48.5 -2.6**
SNY AMB AMB
comp=Z,20nm,0.6s
SNY LR LR
comp=Z,230nm,16.2s
SNY LR LR
comp=Z,220nm,19.5s
SNY LR LR
comp=Z,360nm,18.0s
USRK Ussuriysk Arra 49.88 352 P **P** **01 42 49.7 -1.2**
comp=Z,11nm,0.8s,baz=178,slow=8.5,SNR=24
CD2 Chengdu 50.25 318 P **P** **01 42 56.8 +2.8**
CD2 pP **pP** **01 43 08.3 +2.3**
CD2 sP **sP** **01 43 13.0 +2.1**
CD2 PP **PP** **01 44 53.3 +3.5**
CD2 S **S** **01 50 05.3 +1.6**
CD2 sS **sS** **01 50 24.8 +1.2**
CD2 SS **SS** **01 53 36.0 -1.9**
CD2 AMB AMB
comp=Z,80nm,1.1s
CD2 AMB AMB
comp=Z,480nm,4.3s
CD2 LR LR
comp=Z,320nm,5.4s
BJT Baijiatuau 50.35 336 *e*P **P** **01 42 54.1 -0.4**

BJT LR LR
comp=Z,26nm,0.6s
BJI **Beijing** **50.36 336** P **P** **01 42 54.0 -0.6**
BJI pP **pP** **01 43 06.8 +0.3**
BJI PcP **PcP** **01 44 13.0 +0.3**
BJI S S 01 49 58.5 -6.3
BJI AMB AMB
comp=Z,39nm,0.7s
BJI AMB AMB
comp=Z,130nm,4.9s
BJI LR LR
comp=Z,460nm,17.2s
BJI LR LR
comp=Z,280nm,11.9s
BJI LR LR
comp=Z,310nm,24.5s
MDJ **Mudanjiang** **50.66 350** P **P** **01 42 57.0 +0.2**
MDJ pP **pP** **01 43 08.3 -0.4**
MDJ sP **sP** **01 43 13.3 -0.4**
MDJ PcP **PcP** **01 44 11.5 -2.2**
MDJ PP **PP** **01 44 56.0 +2.8**
MDJ ScP **ScP** **01 48 04.8 -1.9**
MDJ PcS **PcS** **01 48 10.0 -1.0**
MDJ S **S** **01 50 11.5 +2.7**
MDJ ScS **ScS** **01 52 44.0 -0.2**
MDJ AMB AMB
comp=Z,26nm,1.1s
MDJ AMB AMB
comp=Z,150nm,5.1s
MDJ LR LR
comp=Z,150nm,19.9s
MDJ LR LR
comp=Z,130nm,22.6s
MDJ LR LR
comp=Z,280nm,21.9s
MDJ **Mudanjiang** **50.66 350** *e*P **P** **01 42 56.5 -0.2**
comp=Z,7.3nm,0.4s
MDJ LR LR
comp=Z,466nm,20.0s
CN2 **Changchun** **50.74 346** *e*P **P** **01 42 57.0 -0.4**
CN2 *e*S **S** **01 50 10.5 +0.6**
CN2 AMB AMB
comp=Z,20nm,0.8s
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,600nm,21.0s
CN2 LR LR
comp=Z,300nm,21.0s
CN2 LR LR
comp=Z,500nm,25.0s
YSS **Yuzh-Sakhalins** **52.10 2** *e*P **P** **01 43 05.0 -2.5**
YSS *e* 01 43 16.2
YSS pmax pmax
comp=Z,50nm,0.9s
HHC **Hu-ho-hao-te** **53.02 333** *e*P **P** **01 43 15.0 +0.4**
HHC PcP **PcP** **01 44 23.3 +0.5**
HHC PP **PP** **01 45 17.0 +2.2**
HHC ScP **ScP** **01 48 15.8 -1.4**
HHC PcS **PcS** **01 48 20.8 -0.9**
HHC S **S** **01 50 40.5 -1.2**
HHC ScS **ScS** **01 52 57.3 -3.7**
HHC SS **SS** **01 54 19.8 -1.8**
HHC AMB AMB
comp=Z,65nm,1.1s
HHC AMB AMB
comp=Z,280nm,5.9s
HHC LR LR
comp=Z,530nm,15.8s
HHC LR LR
comp=Z,440nm,14.7s
HHC LR LR
comp=Z,570nm,16.5s
BTO **Baotou** **53.55 331** *e*P **P** **01 43 18.3 -0.2**
LZH **Lanzhou** **53.59 323** *e*P **P** **01 43 20.0 +1.1**
LZH pP **pP** **01 43 33.5 +2.6**
LZH sP **sP** **01 43 37.8 +2.0**
LZH PcP **PcP** **01 44 25.0 -0.2**
LZH PP **PP** **01 45 23.5 +3.5**
LZH *e*S **S** **01 50 51.0 +1.4**
LZH sS **sS** **01 51 11.5 +1.9**
LZH SS **SKiKP** **01 54 32.5 +1.4**
LZH AMB AMB
comp=Z,250nm,1.2s
LZH AMB AMB
comp=Z,400nm,4.3s
HABR **Khabarovsk** **53.78 356** *e*P **P** **01 43 17.8 -2.1**
HABR *e**PP **pP** **01 43 27.8 -4.1**
HABR 01 44 23.3
HABR 01 45 19.3
HABR *e*PPP PPP 01 46 27.5
HABR *e*S **S** **01 50 50.7 -0.7**
HABR *e**SS **sS** **01 51 07.9 -3.5**
HABR *e* 01 53 04.2
HABR pmax pmax
comp=Z,52nm,1.2s
HABR MLR MLR
comp=Z,127nm,17.0s
IMP **Imphal** **54.21 306** *ex* **P** **01 43 21.0 -2.6**
KLR **Kul'dur** **54.86 353** *e*P P 01 43 24.2 -3.5
KLR pmax pmax
comp=Z,130nm,1.6s
SHL **Shillong** **56.22 305** *e*P **P** **01 43 39.0 +0.8**
HIA **Hailar** **57.28 344** PFAKE 01 44 00.0 +15
HIA LR LR
comp=Z,542nm,20.0s
GTA **Gaotai** **58.17 324** ⇑P **P** **01 43 52.8 +1.1**
GTA pP **pP** **01 44 03.0 -0.8**
GTA sP **sP** **01 44 07.0 -1.7**
GTA PP **PP** **01 46 02.5 +1.5**
GTA S **S** **01 51 48.3 -2.2**
GTA AMB AMB
comp=Z,43nm,1.2s
GTA AMB AMB
comp=Z,260nm,5.2s
GTA LR LR
comp=Z,100nm,19.0s
GTA LR LR
comp=Z,99nm,17.6s
GTA LR LR
comp=Z,180nm,18.0s
LSA **Lhasa** **58.68 309** *e*P **P** **01 43 56.5 +0.7**
LSA pmax pmax
comp=Z,25nm,0.8s
LSA MLR MLR
comp=Z,155nm,20.0s
LSA **Lhasa** **58.68 309** *e*P **P** **01 43 56.5 +0.7**
comp=Z,26nm,0.8s
LSA LR LR
comp=Z,155nm,20.0s
PETK **Petropavlovsk-** **60.03 12** P **P** **01 44 04.2 +0.1**
PETK **Petropavlovsk-** **60.03 12** P **P** **01 44 04.2 +0.1**
PETK **Petropavlovsk-** **60.03 12** P **P** **01 44 04.2 +0.1**
comp=Z,13nm,0.6s,baz=168,slow=7.4,SNR=27
PETK LR LR 02 05 26.5
comp=Z,331nm,21.3s,baz=175,slow=32
TAPN **Taplejung** **60.37 306** *e*P **P** **01 44 07.3 0.0**
comp=Z,62nm,0.6s
ODAN **Odare** **60.43 305** *e*P **P** **01 44 07.6 0.0**
comp=Z,93nm,0.8s
ULN **Ulaanbaatar** **60.54 335** P **P** **01 44 08.9 +1.0**
SNR=6.3
ULN **Ulaanbaatar** **60.54 335** P **P** **01 44 08.4 +0.5**
comp=Z,21nm,2.2s,comp=Z,930nm
ULN **Ulaanbaatar** **60.54 335** *e*P **P** **01 44 08.6 +0.7**
comp=Z,11nm,0.8s
ULN LR LR
comp=Z,402nm,20.0s
SONM **Songino Array** **60.80 334** P **P** **01 44 10.0 +0.4**
SONM PcP **PcP** **01 44 53.5 +0.4**
SONM P'P' 02 13 25.3
SONM ⇑*e* 02 13 36.9
SONM **Songino Array** **60.80 334** P **P** **01 44 10.0 +0.4**
comp=Z,4.4nm,0.6s,baz=154,slow=7.3,SNR=33
SONM PcP **PcP** **01 44 53.5 +0.4**
comp=Z,2.7nm,0.6s,baz=161,slow=5.0,SNR=4.0
SONM PKPPKP **P'P'df** **02 13 25.3 -1.8**
comp=Z,1.1nm,1.1s,baz=354,slow=3.0,SNR=4.2
SONM PKP2bc 02 13 36.9
comp=Z,1.6nm,0.9s,baz=318,slow=2.0,SNR=5.9
PALK **Pallekele** **60.88 281** P **P** **01 44 11.4 +0.7**
comp=Z,51nm,1.2s
PALK **Pallekele** **60.88 281** *e*P **P** **01 44 11.1 +0.3**
comp=Z,42nm,0.9s
PALK **Pallekele** **60.88 281** P **P** **01 44 11.4 +0.7**
comp=Z,260nm,0.9s,SNR=5.2
RAMN **Ramite** **61.11 305** *e*P **P** **01 44 12.5 +0.2**
comp=Z,113nm,0.8s
JIRN **Jiri** **61.73 305** *e*P **P** **01 44 16.7 +0.1**
comp=Z,84nm,0.7s
GUN **Gumba** **62.08 305** *e*P **P** **01 44 19.1 +0.2**
comp=Z,139nm,0.8s
PKI **Pulchoki** **62.33 305** *e*P **P** **01 44 20.3 -0.3**
comp=Z,43nm,0.7s
PKIN **Phulchoki** **62.34 305** *e*P **P** **01 44 20.2 -0.4**
comp=Z,35nm,0.8s
KKN **Kakani** **62.52 305** *e*P **P** **01 44 21.8 +0.1**
comp=Z,120nm,0.8s
DMN **Daman** **62.59 305** *e*P **P** **01 44 22.5 +0.3**
GKN **Gorkha** **63.12 305** *e*P **P** **01 44 25.8 +0.1**
comp=Z,198nm,0.6s
KOLN **Koldanda** **63.89 304** *e*P **P** **01 44 31.0 +0.2**
comp=Z,210nm,0.7s
DANN **Dangsing** **63.97 305** *e*P **P** **01 44 31.4 0.0**
comp=Z,137nm,0.6s
ZAK **Zakamensk** **64.07 335** *e*P **P** **01 44 31.4 0.0**
ZAK pmax pmax
comp=Z,22nm,1.2s
CASY **Casey** **64.30 193** *e*P **P** **01 44 33.4 +0.9**
comp=Z,34nm,1.0s
TLY **Talaya** **64.89 336** *e*P **P** **01 44 37.2 +0.6**
TLY pmax pmax
comp=Z,26nm,1.3s
TLY MLR MLR
comp=Z,203nm,21.0s
HYB **Hyderabad** **65.11 292** *i* P **P** **01 44 37.0 -1.7**
HYB *e* 01 44 43.5
KIP **Kipapa** **65.91 64** *e*P **P** **01 44 43.0 -0.8**
KIP pmax pmax
comp=Z,214nm,2.5s
MOY **Mondy** **65.99 334** *e*P **P** **01 44 44.8 +0.9**
MOY pmax pmax
comp=Z,42nm,2.3s
YAK **Yakutsk** **67.68 355** *e*P **P** **01 44 53.6 -0.6**
YAK pmax pmax
comp=Z,57nm,0.9s
YAK pmax pmax
comp=N,25nm,1.2s
YAK pmax pmax
comp=E,7.0nm,1.2s
WMQ **Urumqi** **68.11 322** P **P** **01 44 58.0 +0.6**
WMQ pP **pP** **01 45 11.0 +1.2**
WMQ sP **sP** **01 45 16.5 +1.9**
WMQ PP **PP** **01 47 30.5 +2.3**
WMQ S **S** **01 53 53.5 -0.8**
WMQ sS **sS** **01 54 14.5 -0.4**
WMQ ScS **SKiKP** **01 54 49.5 -0.2**
WMQ SS **SS** **01 58 16.5 -1.2**
WMQ AMB AMB
comp=E,91nm,0.8s
WMQ AMB AMB
comp=E,320nm,3.6s
WMQ LR LR
comp=E,220nm,22.6s
WMQ LR LR
comp=E,100nm,21.2s
WMQ LR LR
comp=E,100nm,23.2s
SEY **Seymchan** **68.68 6** *e*P **P** **01 44 59.9 -0.6**
HVS **Khovu-Aksy** **68.99 331***c* *i*P **P** **01 45 03.5 +0.7**
HVS pmax pmax
comp=Z,213nm,1.0s
MIR **Mirnyy** **69.25 198**⇑ *i*P **P** **01 45 06.0 +2.0**
MIR *i* 01 45 11.0
MIR pmax pmax
comp=Z,126nm,1.0s
PAE **Paea** **69.36 107** *e*P **P** **01 45 06.4 +0.8**
comp=Z,9.1nm,1.1s
PPT **Papeete** **69.36 107** P **P** **01 45 07.3 +1.6**
PPT **Papeete** **69.36 107** P **P** **01 45 07.3 +1.6**
comp=Z,32nm,0.7s,baz=81,slow=15,SNR=3.9
PPT LR LR 02 11 37.9
comp=Z,202nm,19.1s,baz=184,slow=32
PPT2 **Papeete2** **69.36 107** *e*P **P** **01 45 06.8 +1.0**
comp=Z,56nm,1.3s
PPT2 **Papeete2** **69.36 107** *e*LR LR 02 06 04.3
comp=Z,264nm,26.8s
TBI **Tubuai** **69.67 113** *e*P **P** **01 45 08.4 +1.0**
comp=Z,100nm,0.9s
PMOR **Pomariorio Ree** **70.97 104** *e*P **P** **01 45 16.4 +0.9**
comp=Z,101nm,1.1s
PMOR *e*pP **pP** **01 45 23.5 -4.5**
comp=Z,85nm,1.0s
VAH **Vaihoa** **71.23 104** *e*P **P** **01 45 17.7 +0.6**
comp=Z,36nm,0.9s
VAH *e*pP **pP** **01 45 24.8 -4.7**
comp=Z,43nm,1.1s
MK31 **Makanchi Array** **72.89 322***ce*P **P** **01 45 27.1 +0.6**
MK31 pmax pmax
comp=Z,116nm,1.0s
MK31 **Makanchi Array** **72.89 322** *e*P **P** **01 45 27.0 +0.6**
MKAR **Makanchi Array** **72.89 322** P **P** **01 45 27.3 +0.8**
MKAR **Makanchi Array** **72.89 322** P **P** **01 45 27.3 +0.8**
MKAR **Makanchi Array** **72.89 322** P **P** **01 45 27.3 +0.8**
comp=Z,53nm,0.8s,baz=118,slow=7.4,SNR=87
VNDA **Vanda** **73.04 175** *e*P **P** **01 45 27.1 +0.3**
comp=Z,8.8nm,0.7s
VNDA **Vanda** **73.04 175** P **P** **01 45 28.0 +1.2**
comp=Z,9.9nm,0.7s,baz=322,slow=6.4,SNR=65
KSH **Kashi** **74.11 313**⇑ *i*P **P** **01 45 37.0 +3.1**
KSH pP **PcP** **01 45 49.3 +0.4**
KSH PcP **pP** **01 45 51.0 +4.5**
KSH sP **sP** **01 45 54.3 +3.1**
KSH PP **PP** **01 48 22.0 +2.1**
KSH S **S** **01 55 06.0 +1.8**
KSH sS **sS** **01 55 27.0 +2.0**
KSH AMB AMB
comp=Z,43nm,1.0s
KSH LR LR
comp=Z,140nm,6.9s
KSH LR LR
comp=Z,74nm,6.2s
KSH LR LR
comp=Z,230nm,6.4s
AKUT **Akutan** **74.26 30** *e*P **P** **01 45 34.2 -0.1**
comp=Z,26nm,0.6s
ZAA0 **Zalesovo Array** **75.04 330** *e*P **P** **01 45 37.9 -0.9**
ZALV **Zalesovo Beam** **75.04 330** P **P** **01 45 38.2 -0.7**
ZALV **Zalesovo Beam** **75.04 330** P **P** **01 45 38.1 -0.7**
ZALV P'P' 02 13 09.0
ZALV **Zalesovo Beam** **75.04 330** P **P** **01 45 38.1 -0.7**
comp=Z,12nm,0.8s,baz=109,slow=5.0,SNR=33
ZALV PKPPKP P'P'df 02 13 09.0 +5.7
comp=Z,0.8nm,0.7s,baz=343,slow=4.6,SNR=3.7
KZA **Kyzart** **75.54 316** *i* P **P** **01 45 43.9 +1.4**
KZA **Kyzart** **75.54 316** P **P** **01 45 43.9 +1.4**
SNR=24
TKM2 **Tokmak 2** **75.61 317** *e*P **P** **01 45 43.2 +0.6**
TKM2 pmax pmax
comp=Z,37nm,1.0s
TKM2 MLR MLR
comp=Z,153nm,19.0s
TKM2 **Tokmak 2** **75.61 317** P **P** **01 45 43.4 +0.8**
SNR=20
TKM2 **Tokmak 2** **75.61 317** *e*P **P** **01 45 43.2 +0.6**
comp=Z,36nm,1.0s
TKM2 LR LR
comp=Z,153nm,19.0s
KBK **Karagaybulak** **75.95 316** *i* P **P** **01 45 45.4 +0.8**
KBK **Karagaybulak** **75.95 316** P **P** **01 45 45.4 +0.8**
SNR=8.4
CHMS **Chumysh** **76.21 317** *i* P **P** **01 45 46.3 +0.4**
CHMS **Chumysh** **76.21 317** P **P** **01 45 46.3 +0.4**
SNR=9.7
FRU **Bishkek** **76.25 316** *e*P **P** **01 45 48.0 +1.9**
FRU pmax pmax
comp=Z,67nm,2.0s
AAK **Ala-Archa** **76.26 316***c* *i*P **P** **01 45 47.1 +0.7**
AAK pmax pmax
comp=Z,65nm,1.3s
AAK **Ala-Archa** **76.26 316** P **P** **01 45 47.5 +1.2**
SNR=8.4
AAK **Ala-Archa** **76.26 316** *e*P **P** **01 45 47.0 +0.7**
comp=Z,43nm,1.3s
AAK LR LR
comp=Z,218nm,22.0s
AAK **Ala-Archa** **76.26 316** P **P** **01 45 47.9 +1.6**
comp=Z,122nm,0.8s,SNR=11
NVS **Novosibirsk** **76.30 330**⇑ *i*P **P** **01 45 45.5 -0.5**
NVS *i* 01 48 34.4
NVS pmax pmax
comp=Z,29nm,0.9s
NVS pmax pmax
comp=N,7.0nm,0.7s
NVS pmax pmax
comp=E,20nm,1.0s
USP **Ospenovka** **76.48 317** *i* P **P** **01 45 47.9 +0.5**
USP **Ospenovka** **76.48 317** P **P** **01 45 47.9 +0.5**
SNR=34
AML **Almayashu** **76.64 315** *i* P **P** **01 45 49.9 +1.1**
AML **Almayashu** **76.64 315** P **P** **01 45 49.9 +1.1**
SNR=43
EKS2 **Erkin-Say** **76.77 316** *e*P **P** **01 45 50.2 +1.1**
EKS2 *e**PP **PcP** **01 45 56.3 -4.0**
EKS2 pmax pmax
comp=Z,33nm,0.8s
EKS2 MLR MLR
comp=Z,214nm,20.0s
EKS2 **Erkin-Say** **76.77 316** P **P** **01 45 50.2 +1.1**
SNR=19
EKS2 **Erkin-Say** **76.77 316** *e*P **P** **01 45 50.2 +1.1**
comp=Z,33nm,0.8s
EKS2 *e*pP **PcP** **01 45 56.3 -4.0**
EKS2 LR LR
comp=Z,214nm,20.0s
KURK **Kurchatov** **76.82 325** P **P** **01 45 49.3 +0.2**
KURK 01 48 43.9
KURK pmax pmax
comp=Z,3.0nm,1.2s
KURK MLR MLR
comp=Z,103nm,20.0s
KURK **Kurchatov** **76.82 325** P **P** **01 45 49.6 +0.5**
SNR=24
KURK **Kurchatov** **76.82 325** P **P** **01 45 49.3 +0.2**
comp=Z,3.0nm,1.2s
KURK PP **PP** **01 48 43.9 +1.5**
KURK LR LR
comp=Z,103nm,20.0s
KURK **Kurchatov** **76.82 325** P **P** **01 45 49.6 +0.5**
comp=Z,241nm,0.8s,SNR=29
KURBB **Kurchatov Arra** **76.83 325** P **P** **01 45 49.3 +0.2**
comp=Z,19nm,0.9s,baz=116,slow=4.8,SNR=117
KURBB PP **PP** **01 48 43.9 +1.4**
comp=Z,1.5nm,0.4s,baz=122,slow=9.1,SNR=4.5
TIXI **Tiksi** **77.20 356** *e*P **P** **01 45 49.4 -1.4**
TIXI pmax pmax
comp=Z,12nm,1.2s
KBL **Kabul** **77.85 307** *e*P **P** **01 45 54.9 -0.6**
KBL *e**PP **PcP** **01 46 01.1 -4.2**
KBL pmax pmax
comp=Z,45nm,0.7s
KBL **Kabul** **77.85 307** *e*P **P** **01 45 54.9 -0.6**
comp=Z,45nm,0.7s
KBL *e*pP **PcP** **01 46 01.1 -4.2**
CHGN **Chignik** **78.99 30** *e*P **P** **01 46 00.1 -0.8**
KK31 **Karatay Array** **79.18 316***ce*P **P** **01 46 02.2 -0.2**
KK31 pmax pmax
comp=Z,28nm,0.8s
KKAR **Karatay Array** **79.18 316** *e*P **P** **01 46 02.7 +0.3**
KKAR **Karatay Array** **79.18 316** *e*P **P** **01 46 02.7 +0.3**
MAW **Mawson** **80.36 202** P **P** **01 46 09.6 +1.4**
MAW **Mawson** **80.36 202** P **P** **01 46 09.7 +1.4**
baz=80,SNR=76
MAW **Mawson** **80.36 202** P **P** **01 46 09.6 +1.4**
comp=Z,60nm,0.9s,baz=81,slow=6.4,SNR=128
MAW LR LR 02 19 56.1
comp=Z,404nm,19.9s,baz=26,slow=34
OHAK **Old Harbor** **81.94 30** *e*P **P** **01 46 17.0 +0.3**
comp=Z,56nm,0.8s
VOSK **Vostochnaya** **81.98 325** P **P** **01 46 16.6 -0.6**
VOSK pmax pmax
comp=Z,13nm,1.0s
BVA0 **Borovoye Array** **82.42 325** *i* P **P** **01 46 19.5 +0.1**
BVA0 pmax pmax
comp=Z,39nm,0.8s
BVAR **Borovoye Array** **82.42 325** P **P** **01 46 20.3 +0.9**
BVAR **Borovoye Array** **82.42 325** P **P** **01 46 20.3 +0.9**
BVAR **Borovoye Array** **82.42 325** P **P** **01 46 20.3 +0.9**
comp=Z,21nm,0.7s,baz=111,slow=7.9,SNR=78
SVW2 **Sparrevohn** **82.45 26** *e*P **P** **01 46 20.0 +0.5**
comp=Z,22nm,1.0s
BRVK **Borovoye** **82.49 325***c* *i*P **P** **01 46 20.3 +0.5**
BRVK pmax pmax
comp=Z,93nm,1.7s
BRVK **Borovoye** **82.49 325** P **P** **01 46 20.6 +0.8**
SNR=15
BRVK **Borovoye** **82.49 325** *e*P **P** **01 46 20.3 +0.5**
comp=Z,25nm,0.6s
BRVK LR LR
comp=Z,214nm,21.0s
BRVK **Borovoye** **82.49 325** P **P** **01 46 20.2 +0.5**
comp=Z,248nm,0.8s,SNR=16
KDAK **Kodiak Island** **82.50 30** *e*P **P** **01 46 19.8 +0.1**
comp=Z,593nm,2.7s
KDAK LR LR
comp=Z,544nm,20.0s
KDAK **Kodiak Island** **82.50 30** P **P** **01 46 19.6 -0.1**
comp=Z,234nm,1.2s,SNR=10.0
RKT **Rikitea** **82.99 113** *e*LR LR 02 12 26.1
comp=Z,204nm,30.0s
QSPA **South Pole Qui** **84.63 180** *e*P **P** **01 46 31.1 +0.3**
comp=Z,63nm,1.1s
QSPA LR LR
comp=Z,529nm,20.0s
PPLA **Purkeypile** **84.65 25** *e*P **P** **01 46 30.0 -0.8**
comp=Z,38nm,1.1s
SEW **Seward** **84.86 28** *e*P **P** **01 46 30.0 -1.8**
comp=Z,36nm,1.0s
IDAH **Dahanechah** **84.94 303** *e*P **P** **01 46 33.6 +0.4**
SMDO **Samad** **85.07 294** P **P** **01 46 34.3 +0.5**
SNR=11
IM04 **Indian Mountai** **85.24 22** *e*P **P** **01 46 33.3 -0.3**
IMA2 **Indian Mountai** **85.32 22** *e*P **P** **01 46 34.0 -0.1**
IMYA **Miami** **85.36 307** *e*P **P** **01 46 35.7 +0.6**
PMR **Palmer** **85.51 27** *e*P **P** **01 46 34.1 -0.9**
PMR pmax pmax
comp=Z,53nm,0.8s
PMR **Palmer** **85.51 27** *e*P **P** **01 46 34.0 -0.9**
comp=Z,53nm,0.8s
BPAW **Bear Paw Mtn.** **85.60 24** *e*P **P** **01 46 34.9 -0.6**
comp=Z,14nm,0.8s
TRF **Thorofare Moun** **85.66 25** *e*P **P** **01 46 34.6 -1.3**
comp=Z,24nm,0.7s
BSY **Bisya** **85.81 293** P **P** **01 46 37.4 0.0**
SNR=9.6
HOQ **Hoqain** **85.81 294** P **P** **01 46 38.5 +1.1**
SNR=8.1
ISRO **Mashad** **85.86 307** *e*P **P** **01 46 38.4 +0.9**
ITEG **Tejag** **85.90 303** *e*P **P** **01 46 38.1 +0.3**
IMOG **Moghan** **85.93 307** *e*P P 01 46 28.4 -10
MCK **McKinley** **86.32 25** *e*P **P** **01 46 38.0 -1.0**
MCK pmax pmax
comp=Z,59nm,0.7s
MCK **McKinley** **86.32 25** *e*P **P** **01 46 38.0 -1.0**
comp=Z,59nm,0.7s
ARQ **Araqi** **86.50 294** P **P** **01 46 40.9 +0.1**
SNR=9.0
IEMG **Emamgholi** **86.69 308** *e*P **P** **01 46 39.6 -2.2**
IKRD **Kardeh** **86.70 307** *e*P **P** **01 46 38.6 -3.2**
DIV **Divide** **86.90 28** *e*P **P** **01 46 42.1 +0.1**
comp=Z,84nm,1.0s
HATD **Hatta, Dubai** **87.04 295** P **P** **01 46 42.9 -0.5**
SNR=6.2
COLD **Coldfoot** **87.05 21** *e*P **P** **01 46 43.0 +0.6**
comp=Z,23nm,0.7s
ASHO **Ashiyiah** **87.09 295** P **P** **01 46 44.0 +0.4**
SNR=6.5
COLA **College** **87.14 24** *e*P **P** **01 46 41.5 -1.4**
COLA pmax pmax
comp=Z,108nm,1.1s
COLA MLR MLR
comp=Z,296nm,21.0s
COLA **College** **87.14 24** *e*P **P** **01 46 41.5 -1.4**
comp=Z,108nm,1.1s
COLA LR LR
comp=Z,296nm,21.0s
BMRM **Bremner River** **87.40 28** *e*P **P** **01 46 44.1 -0.3**
comp=Z,71nm,1.0s
NAZ **Nazwa, Dubai** **87.49 295** P **P** **01 46 45.7 +0.2**
SNR=7.0
ILAR **Eielson Array** **87.50 24** P **P** **01 46 43.5 -1.2**
ILAR PKKPbc **PKKPbc** **02 04 34.6 -2.1**
ILAR **Eielson Array** **87.50 24** P **P** **01 46 43.5 -1.2**
comp=Z,23nm,0.7s,baz=258,slow=4.7,SNR=184
ILAR PKKPbc **PKKPbc** **02 04 34.6 -2.1**
comp=Z,0.4nm,0.7s,baz=359,slow=1.4,SNR=4.2

PAX	**Paxson**	**87.57**	**26**	*e*P	**P**	**01 46 44.6**	**-0.6**
PAX				pmax	pmax		
	comp=Z,22nm,0.6s						
PAX	**Paxson**	**87.57**	**26**	*e*P	**P**	**01 46 44.6**	**-0.6**
	comp=Z,22nm,0.6s						
AB31	**Akbulak array**	**87.81**	**320**	*ce*P	**P**	**01 46 45.1**	**-1.4**
AB31				pmax	pmax		
	comp=Z,13nm,0.7s						
ABKAR	**Akbulak array**	**87.81**	**320**	*e*P	**P**	**01 46 45.4**	**-1.1**
	comp=Z,7.7nm,0.7s						
RBK	**Rabkut**	**87.98**	**288**	P	**P**	**01 46 48.0**	**-0.1**
	SNR=14						
DOT	**Dot Lake**	**88.37**	**26**	*e*P	**P**	**01 46 48.6**	**-0.3**
	comp=Z,65nm,0.9s						
IBAF	**Bafgh**	**88.38**	**302**	*e*P	**P**	**01 46 49.5**	**-0.4**
SVE	**Sverdlovsk**	**88.85**	**327**	⇓*i*P	**P**	**01 46 50.3**	**-0.9**
SVE				pmax	pmax		
	comp=Z,37nm,1.3s						
SYO	**Syowa Base**	**88.93**	**201**	⇓*i*P	**P**	**01 46 51.0**	**-0.4**
IMEH	**Mehriz**	**89.17**	**301**	*e*P	**P**	**01 46 52.5**	**-1.2**
AKTO	**Aktyubinsk**	**89.24**	**321**	P	**P**	**01 46 51.0**	**-2.2**
AKTO	**Aktyubinsk**	**89.24**	**321**	P	**P**	**01 46 51.0**	**-2.2**
AKTO	**Aktyubinsk**	**89.24**	**321**	P	**P**	**01 46 51.0**	**-2.2**
	comp=Z,7.2nm,0.8s,baz=85,slow=6.0,SNR=11						
ICHK	**Chekchek**	**89.44**	**302**	*e*P	**P**	**01 46 54.2**	**-0.7**
EGAK	**Eagle**	**89.87**	**25**	*e*P	**P**	**01 46 55.8**	**0.0**
	comp=Z,30nm,0.8s						
EGAK				LR	LR		
	comp=Z,238nm,20.0s						
ARU	**Arti**	**89.91**	**327**	*c i*P	**P**	**01 46 55.0**	**-1.2**
ARU				S	**SKSac**	**01 57 22.9**	**-0.6**
ARU				SS	**SS**	**02 03 42.9**	**-0.9**
ARU				pmax	pmax		
	comp=Z,48nm,1.2s						
ARU	**Arti**	**89.91**	**327**	P	**P**	**01 46 54.2**	**-2.0**
	comp=Z,212nm,1.2s,SNR=12						
ISAD	**Sadrabad**	**90.01**	**302**	*e*P	**P**	**01 46 56.6**	**-1.1**
IPAR	**Pars**	**90.34**	**300**	*e*P	**P**	**01 46 59.3**	**0.0**
DAWY	**Dawson**	**90.48**	**26**	*e*P	**P**	**01 46 59.1**	**+0.4**
HYT	**Haines Junctio**	**90.76**	**29**	*e*P	**P**	**01 47 00.2**	**-0.1**
ILAS	**Lasjerd**	**90.98**	**305**	*e*P	**P**	**01 47 01.4**	**-0.6**
IFIR	**Firoozkooh**	**91.17**	**306**	*e*P	**P**	**01 47 02.5**	**-0.5**
IZEF	**Zefreh**	**91.25**	**303**	*e*P	**P**	**01 47 03.9**	**+0.5**
SOKR	**Solikamsk**	**91.33**	**330**	*e*P	**P**	**01 47 02.1**	**-0.6**
SOKR				pmax	pmax		
	comp=Z,8.0nm,0.4s						
ISFB	**Sefidab**	**91.47**	**304**	*e*P	**P**	**01 47 03.6**	**-0.5**
IKLH	**Kolahrood**	**91.92**	**303**	*e*P	**P**	**01 47 06.3**	**-0.2**
IVRN	**Varamin**	**91.95**	**305**	*e*P	**P**	**01 47 06.0**	**-0.3**
IPIR	**Pirpir**	**92.44**	**302**	*e*P	**P**	**01 47 07.3**	**-1.6**
IRAZ	**Razeghan**	**93.45**	**305**	*e*P	**P**	**01 47 11.6**	**-1.8**
INK	**Inuvik**	**93.45**	**22**	*e*P	**P**	**01 47 11.4**	**-1.0**
	comp=Z,9.1nm,1.0s						
INK	**Inuvik**	**93.45**	**22**	P	**P**	**01 47 11.2**	**-1.2**
	comp=Z,3.0nm,0.5s,baz=272,slow=11,SNR=22						
IHRS	**Heris**	**95.92**	**308**	*e*P	**P**	**01 47 23.3**	**-1.4**
RAYN	**Ar Rayn**	**96.60**	**293**	P	**P**	**01 47 26.4**	**-1.5**
	comp=Z,92nm,0.7s,SNR=7.8						
MAIT	**Maitri**	**96.84**	**195**	*e*P	**P**	**01 47 27.3**	**-0.5**
IMRD	**Marand**	**96.98**	**308**	*e*P	**P**	**01 47 28.4**	**-1.0**
HUMO	**Hull Mountain**	**98.46**	**48**	*e*P	Pdif	01 47 36.4	+0.6
	comp=Z,15nm,0.8s						
NCK	**Nalchik**	**98.59**	**313**	*e*P	**P**	**01 47 34.9**	**-1.4**
YBH	**Yreka Blue Hor**	**98.65**	**49**	*e*P	Pdif	01 47 37.6	+0.8
	comp=Z,4.1nm,0.9s						
YBH	**Yreka Blue Hor**	**98.65**	**49**	P	Pdif	01 47 36.9	+0.1
	comp=Z,5.8nm,0.8s,baz=218,slow=2.1,SNR=12						
YBH				LR	LR	02 25 46.1	
	comp=Z,237nm,20.1s,baz=349,slow=32						
KBZ	**Khabaz**	**99.09**	**313**	P	**Pdif**	**01 47 37.0**	**-1.5**
KBZ	**Khabaz**	**99.09**	**313**	P	**Pdif**	**01 47 37.0**	**-1.5**
KBZ	**Khabaz**	**99.09**	**313**	P	**Pdif**	**01 47 37.0**	**-1.5**
	comp=Z,3.1nm,0.9s,baz=210,slow=15,SNR=3.5						
SNAA	**Sanae**	**99.49**	**191**	*e*Pdiff	**Pdif**	**01 47 40.9**	**+1.0**
SNAA	**Sanae**	**99.49**	**191**	*e*P	**PKKPbc**	**02 04 01.3**	**-4.0**
VRHR	**Novokhopersk**	**99.65**	**321**	*e*P	**Pdif**	**01 47 38.9**	**-1.9**
VRHR				pmax	pmax		
	comp=N,20nm,0.6s						
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VRHR				pmax	pmax		
	comp=E,20nm,0.7s						
KLMR	**Klimovskoe**	**99.94**	**331**	*e*P	**Pdif**	**01 47 39.0**	**-2.9**
KLMR				pmax	pmax		
	comp=Z,34nm,1.9s						
MOD	**Modoc**	**100.44**	**49**	*e*Pdif	**Pdif**	**01 47 45.3**	**+0.4**
	comp=Z,67nm,1.2s						
VNA2	**Neumayer--Watz**	**100.95**	**190**	*e*Pdiff	**Pdif**	**01 47 46.5**	**+0.2**
	baz=132,slow=3.7						
VNA2	**Neumayer--Watz**	**100.95**	**190**	*e*PKiKP	**PKiKP**	**01 52 12.3**	**+0.8**
	baz=132,slow=3.7						
VNA2	**Neumayer--Watz**	**100.95**	**190**	*es*PKiKP	sPKiKP	01 52 28.0	-1.3
	baz=132,slow=3.7						
VNA2	**Neumayer--Watz**	**100.95**	**190**	*e*P	**PKKPbc**	**02 03 56.3**	**-4.7**
	baz=342,slow=4.7						
VSR	**Storozhevoye**	**101.18**	**321**	*e*P	**Pdif**	**01 47 46.1**	**-1.6**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VSR				pmax	pmax		
	comp=N,4.0nm,0.4s						
VSR				pmax	pmax		
	comp=E,8.0nm,0.6s						
VNA1	**Neumayer--Stat**	**101.33**	**190**	*e*Pdiff	**Pdif**	**01 47 48.1**	**+0.1**
VNA1	**Neumayer--Stat**	**101.33**	**190**	*e*P	**PKKPbc**	**02 03 56.4**	**-3.4**
APA	**Apatity**	**101.36**	**338**	⇓*i*P	**Pdif**	**01 47 55.0**	**+6.9**
APA				*i*		01 52 04.0	
APA				*i* SS	SS	02 06 40.0	+14
YKA	**Yellowknife Ar**	**101.61**	**27**	P	**Pdif**	**01 47 48.6**	**-0.6**
YKA	**Yellowknife Ar**	**101.61**	**27**	P	**Pdif**	**01 47 48.6**	**-0.6**
	comp=E,4.4nm,0.7s,baz=283,slow=5.0,SNR=5.8						
WVOR	**Wild Horse Val**	**101.66**	**48**	PFAKE		01 48 00.0	+10
WVOR				LR	LR		
	comp=Z,319nm,20.0s						
J08A	**Circle Bar Ran**	**101.72**	**47**	*e*Pdif	**Pdif**	**01 47 51.6**	**+1.2**
NVAR	**Mina Array Bea**	**102.13**	**52**	P	**Pdif**	**01 47 52.6**	**+0.1**
NVAR				PP	**PP**	**01 52 07.8**	**+3.1**
NVAR	**Mina Array Bea**	**102.13**	**52**	P	**Pdif**	**01 47 52.6**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=262,slow=5.9,SNR=8.4						
NVAR				PP	**PP**	**01 52 07.8**	**+3.1**
	comp=Z,0.8nm,0.7s,baz=258,slow=7.1,SNR=4.6						
OBN	**Obninsk**	**102.27**	**325**	⇓*i*P	**Pdif**	**01 47 51.2**	**-1.1**
OBN				*e*		01 52 03.9	
OBN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
F10A	**Beach Ranch, E**	**102.40**	**44**	*e*Pdif	**Pdif**	**01 47 54.8**	**+1.4**
BMO	**Blue Mountains**	**102.44**	**45**	*e*P	**Pdif**	**01 47 54.2**	**+0.6**
BMO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BMO				MLR	MLR		
	comp=Z,393nm,19.0s						
BMO	**Blue Mountains**	**102.44**	**45**	*e*Pdif	**Pdif**	**01 47 54.2**	**+0.6**
	comp=Z,3.8nm,0.8s						
BMO				LR	LR		
	comp=Z,393nm,19.0s						
BMN	**Battle Mountai**	**102.85**	**50**	PFAKE		01 48 10.0	+14
BMN				LR	LR		
	comp=Z,394nm,20.0s						
KMBO	**Kilima Mbogo**	**103.00**	**268**	P	**Pdif**	**01 47 57.1**	**+0.2**
KMBO				LR	LR		
	comp=Z,88nm,20.0s						
KMBO	**Kilima Mbogo**	**103.00**	**268**	P	**Pdif**	**01 47 57.1**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=170,slow=9.0,SNR=3.6						
TPH	**Tonopah**	**103.00**	**52**	PFAKE		01 48 10.0	+14
TPH				LR	LR		
	comp=Z,283nm,20.0s						
ARCES	**ARCESS Array B**	**103.53**	**341**	Pdif	**Pdif**	**01 47 57.0**	**-0.8**
ARCES				PKiKP	**PKiKP**	**01 52 16.4**	**+0.3**
ARCES	**ARCESS Array B**	**103.53**	**341**	Pdiff	**Pdif**	**01 47 57.0**	**-0.8**
	comp=Z,8.4nm,0.7s,baz=79,slow=6.3,SNR=10.0						
ARCES				PKiKP	**PKiKP**	**01 52 16.4**	**+0.3**
	comp=Z,3.4nm,0.8s,baz=64,slow=3.4,SNR=4.2						
ELK	**Elko**	**104.33**	**49**	Pdif	**Pdif**	**01 47 59.5**	**-2.8**
ELK	**Elko**	**104.33**	**49**	Pdiff	**Pdif**	**01 47 59.5**	**-2.8**
	comp=Z,0.7nm,0.5s,baz=230,slow=3.1,SNR=3.5						
HLID	**Hailey**	**104.64**	**46**	*e*Pdif	**Pdif**	**01 48 05.8**	**+2.3**
HLID				LR	LR		
	comp=Z,221nm,19.0s						
FINES	**FINESS Array B**	**106.15**	**333**	Pdif	**Pdif**	**01 48 08.8**	**-0.7**
FINES				PKiKP	**PKiKP**	**01 52 21.1**	**+0.1**
FINES	**FINESS Array B**	**106.15**	**333**	Pdiff	**Pdif**	**01 48 08.8**	**-0.7**
	comp=Z,7.7nm,1.0s,baz=80,slow=4.0,SNR=3.5						
FINES				PKiKP	**PKiKP**	**01 52 21.1**	**+0.1**
	comp=Z,3.2nm,0.9s,baz=122,slow=2.5,SNR=7.3						
BRTR	**Keskin Array B**	**106.28**	**310**	Pdif	**Pdif**	**01 48 09.7**	**-1.1**
BRTR				PKiKP	**PKiKP**	**01 52 22.1**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=94,slow=5.1,SNR=5.8						
BRTR				PKiKP	**PKiKP**	**01 52 22.1**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=90,slow=1.6,SNR=4.9						
BOZ	**Bozeman (W)**	**106.33**	**44**	PFAKE		01 52 30.0	
BOZ				LR	LR		
	comp=Z,184nm,19.0s						
MVU	**Marysvale**	**106.89**	**51**	PFAKE		01 52 40.0	
MVU				LR	LR		
	comp=Z,404nm,20.0s						
ANTO	**Ankara**	**106.91**	**310**	PFAKE		01 52 40.0	
ANTO				LR	LR		
	comp=Z,77nm,21.0s						
AHID	**Auburn Hatcher**	**107.15**	**47**	PFAKE		01 52 40.0	
AHID				LR	LR		
	comp=Z,307nm,20.0s						
AKASG	**Malin Array Be**	**107.46**	**322**	P	**Pdif**	**01 48 14.2**	**-1.4**
AKASG	**Malin Array Be**	**107.46**	**322**	Pdif	**Pdif**	**01 48 14.2**	**-1.4**
AKASG				PKiKP	**PKiKP**	**01 52 24.1**	**+0.2**
AKASG	**Malin Array Be**	**107.46**	**322**	Pdiff	**Pdif**	**01 48 14.2**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=67,slow=3.5,SNR=4.6						
AKASG				PKiKP	**PKiKP**	**01 52 24.1**	**+0.2**
	comp=Z,2.4nm,0.6s,baz=69,slow=2.2,SNR=9.5						
WUAZ	**Wupatki**	**107.89**	**55**	PFAKE		01 52 40.0	
WUAZ				LR	LR		
	comp=Z,446nm,21.0s						
BW06	**Boulder Array**	**108.27**	**47**	PFAKE		01 52 40.0	
BW06				LR	LR		
	comp=Z,409nm,19.0s						
PDAR	**Pinedale Array**	**108.27**	**47**	Pdif	**Pdif**	**01 48 20.0**	**+0.3**
PDAR				PKiKP	**PKiKP**	**01 52 26.4**	**+0.5**
PDAR	**Pinedale Array**	**108.27**	**47**	Pdiff	**Pdif**	**01 48 20.0**	**+0.3**
	comp=Z,1.0nm,0.9s,baz=284,slow=2.1,SNR=5.1						
PDAR				PKiKP	**PKiKP**	**01 52 26.4**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=213,slow=1.7,SNR=7.6						
TUC	**Tucson**	**108.71**	**58**	PFAKE		01 52 40.0	
TUC				LR	LR		
	comp=Z,245nm,21.0s						
MBAR	**Mbarara**	**109.53**	**267**	PFAKE		01 52 40.0	
MBAR				LR	LR		
	comp=Z,1μm,22.0s						
TLB	**Topalu**	**109.60**	**315**	⇑*i*P	**PKiKP**	**01 52 28.7**	**+0.7**
MVCO	**Mesa Verde**	**109.97**	**52**	PFAKE		01 52 40.0	
MVCO				LR	LR		
	comp=Z,384nm,19.0s						
FFC	**Flin Flon**	**110.05**	**33**	PFAKE		01 52 40.0	
FFC				LR	LR		
	comp=Z,282nm,19.0s						
VRI	**Vrincioaia**	**110.22**	**317**	⇑PKiKP	**PKiKP**	**01 52 29.8**	**+0.6**
VRI	**Vrincioaia**	**110.22**	**317**	⇑*i*P	**PKiKP**	**01 52 29.8**	**+0.6**
BURAR	**Bucovina Array**	**110.78**	**319**	⇓PKiKP	**PKiKP**	**01 52 30.6**	**+0.2**
BURAR	**Bucovina Array**	**110.78**	**319**	⇓*i*P	**PKiKP**	**01 52 30.6**	**+0.2**
MLR	**Muntele Rosu**	**110.84**	**317**	⇑*i*P	**PKiKP**	**01 52 30.8**	**+0.2**
VOIR		**111.46**	**317**	⇑PKiKP	**PKiKP**	**01 52 34.0**	**+2.3**
VOIR		**111.46**	**317**	⇑*i*P	**PKiKP**	**01 52 34.0**	**+2.3**
ISCO	**Idaho Springs**	**111.75**	**49**	PFAKE		01 52 40.0	
ISCO				LR	LR		
	comp=Z,314nm,20.0s						
ARR	**Arges**	**111.76**	**317**	⇑*i*P	**PKiKP**	**01 52 32.9**	**+0.6**
KWP	**Kalwaria Pacla**	**111.79**	**322**	⇑PKiKP	**PKiKP**	**01 52 32.6**	**+0.5**
KWP	**Kalwaria Pacla**	**111.79**	**322**	⇑*i*P	**PKiKP**	**01 52 32.5**	**+0.5**
ANMO	**Albuquerque**	**111.96**	**55**	*e*PKPdf	**PKiKP**	**01 52 33.4**	**+0.3**
ANMO				LR	LR		
	comp=Z,296nm,21.0s						
SDCO	**Great Sand Dun**	**112.23**	**51**	PFAKE		01 52 50.0	
SDCO				LR	LR		
	comp=Z,485nm,19.0s						
KOLS	**Kolonicke sedl**	**112.28**	**321**	*e*P	**Pdif**	**01 48 37.4**	**+0.3**
KOLS				*e*		01 52 34.1	
KOLS	**Kolonicke sedl**	**112.28**	**321**	PDIF	**Pdif**	**01 48 37.4**	**+0.3**
KOLS	**Kolonicke sedl**	**112.28**	**321**	*e*PKP	**PKiKP**	**01 52 34.1**	**+1.1**
LOT	**Lotru**	**112.33**	**317**	⇑*i*P	**PKiKP**	**01 52 33.9**	**+0.5**
DRGR		**112.65**	**319**	⇑PKiKP	**PKiKP**	**01 52 34.1**	**+0.2**
DRGR		**112.65**	**319**	⇑*i*P	**PKiKP**	**01 52 34.1**	**+0.2**
STHS	**Stebnicka Huta**	**112.76**	**322**	*e*PKP	**PKiKP**	**01 52 35.4**	**+1.4**
NOA	**NORSAR Array B**	**112.76**	**336**	PKKPbc	PKKPbc	02 03 31.0	+6.9
NOA	**NORSAR Array B**	**112.76**	**336**	PKKPbc	PKKPbc	02 03 31.0	+6.9
	comp=Z,1.0nm,0.7s,baz=238,slow=4.4,SNR=3.7						
CRVS	**Cervenica-Dubn**	**112.79**	**321**	*i* P	**Pdif**	**01 48 42.0**	**+2.6**
CRVS	**Cervenica-Dubn**	**112.79**	**321**	PDIF	**Pdif**	**01 48 42.0**	**+2.6**
GZR	**Gura Zlata**	**113.01**	**317**	⇑PKiKP	**PKiKP**	**01 52 35.4**	**+0.8**
GZR	**Gura Zlata**	**113.01**	**317**	⇑*i*P	**PKiKP**	**01 52 35.4**	**+0.8**
NIE	**Niedzica**	**113.33**	**322**	*i* PKiKP	**PKiKP**	**01 52 36.3**	**+1.2**
NIE	**Niedzica**	**113.33**	**322**	*e*PKiKP	**PKiKP**	**01 52 36.3**	**+1.2**
VTS	**Vitosha**	**113.48**	**314**	⇑PKiKP	**PKiKP**	**01 52 36.1**	**+0.4**
VTS	**Vitosha**	**113.48**	**314**	⇑*i*P	**PKiKP**	**01 52 36.1**	**+0.4**
BZS	**Buzias**	**113.73**	**318**	⇑PKiKP	**PKiKP**	**01 52 35.7**	**-0.2**
BZS	**Buzias**	**113.73**	**318**	⇑*i*P	**PKiKP**	**01 52 35.7**	**-0.2**
PSZ	**Piszkesteto**	**114.11**	**321**	PFAKE		01 52 50.0	+13
PSZ				LR	LR		
	comp=Z,181nm,20.0s						
OKC	**Ostrava-Krasne**	**114.49**	**323**	*e*PKiKP	PKPdf	01 52 37.7	+0.5
OKC	**Ostrava-Krasne**	**114.49**	**323**	*e*PKP	PKPdf	01 52 37.7	+0.5
MORC	**Moravsky Berou**	**114.88**	**323**	⇑PKiKP	PKPdf	01 52 39.4	+1.4
MORC	**Moravsky Berou**	**114.88**	**323**	⇑*i*P	PKPdf	01 52 39.4	+1.4
MORC	**Moravsky Berou**	**114.88**	**323**	*e*PKPdf	PKPdf	01 52 38.6	+0.6
TXAR	**Lajitas Array**	**115.15**	**60**	PKP	**PKPdf**	**01 52 39.4**	**+0.1**
TXAR				PKKPbc	**PKKPbc**	**02 03 16.8**	**+1.7**
TXAR	**Lajitas Array**	**115.15**	**60**	PKP	**PKPdf**	**01 52 39.4**	**+0.1**
	comp=Z,2.1nm,0.9s,baz=90,slow=1.3,SNR=11						
TXAR				PKKPbc	**PKKPbc**	**02 03 16.8**	**+1.7**
	comp=Z,2.5nm,0.9s,baz=132,slow=8.6,SNR=10						
ULM	**Lac du Bonnet**	**115.18**	**36**	PKP	**PKPdf**	**01 52 37.4**	**-1.1**
ULM	**Lac du Bonnet**	**115.18**	**36**	PKP	**PKPdf**	**01 52 37.4**	**-1.1**
	comp=Z,5.0nm,0.6s,baz=304,slow=2.6,SNR=6.9						
KRLC	**Kraliky**	**115.21**	**324**	*e*PKiKP	**PKPdf**	**01 52 39.1**	**+0.4**
KRLC				*e*		01 52 46.1	
KRLC	**Kraliky**	**115.21**	**324**	*e*PKP	**PKPdf**	**01 52 39.1**	**+0.4**
KRLC				epPKP	PKiKP	01 52 46.1	+7.4
DPC	**Dobruska-Polom**	**115.37**	**324**	*e*PKiKP	**PKPdf**	**01 52 40.1**	**+1.1**
DPC				*e*		01 52 47.1	
DPC	**Dobruska-Polom**	**115.37**	**324**	*e*PKP	**PKPdf**	**01 52 40.1**	**+1.1**
DPC				epPKP	PKiKP	01 52 47.1	+8.1
UPC	**Upice**	**115.48**	**324**	*e*PKiKP	**PKPdf**	**01 52 39.7**	**+0.6**
UPC	**Upice**	**115.48**	**324**	*e*PKP	**PKPdf**	**01 52 39.7**	**+0.6**
PKSM	**Moragy**	**115.50**	**319**	⇑PKiKP	**PKPdf**	**01 52 39.2**	**-0.1**
PKSM	**Moragy**	**115.50**	**319**	⇑*i*P	**PKPdf**	**01 52 39.2**	**-0.1**
VRAC	**Vranov**	**115.63**	**323**	⇑*i*P	**PKPdf**	**01 52 39.2**	**-0.3**
TIR	**Tirane**	**116.22**	**314**	PFAKE		01 52 50.0	+9.2
TIR				LR	LR		
	comp=Z,161nm,19.0s						
TREC	**Trest**	**116.30**	**323**	*e*PKiKP	**PKPdf**	**01 52 41.5**	**+0.7**
TREC				*e*		01 52 48.7	
TREC	**Trest**	**116.30**	**323**	*e*PKP	**PKPdf**	**01 52 41.5**	**+0.7**
TREC				epPKP	pPKPdf	01 52 48.7	-5.3
PVCC	**Panska Ves**	**116.31**	**325**	*e*PKiKP	**PKPdf**	**01 52 41.1**	**+0.4**
PVCC				*e*		01 52 47.2	
PVCC	**Panska Ves**	**116.31**	**325**	*e*PKP	**PKPdf**	**01 52 41.1**	**+0.4**
PVCC				epPKP	PKiKP	01 52 47.2	+6.5
BRG	**Berggiesshubel**	**116.51**	**325**	*i* P	**PKPdf**	**01 52 41.5**	**+0.4**
	comp=Z,4.4nm,0.9s						
BRG				*e*		01 52 48.8	
	comp=Z,4.5nm,0.8s						
BRG	**Berggiesshubel**	**116.51**	**325**	*e*PKPdf	**PKPdf**	**01 52 41.6**	**+0.5**
PRU	**Pruhonice**	**116.56**	**324**	*e*PKiKP	**PKPdf**	**01 52 41.8**	**+0.6**
PRU				*e*		01 52 48.9	
PRU	**Pruhonice**	**116.56**	**324**	*e*PKP	**PKPdf**	**01 52 41.8**	**+0.6**
PRU				epPKP	pPKPdf	01 52 48.9	-5.5
PRA	**Prague**	**116.59**	**324**	PKP	**PKPdf**	**01 52 42.0**	**+0.8**
CSNA	**Conrad Observa**	**116.62**	**322**	⇑*i*PKiKP	**PKiKP**	**01 52 41.6**	**0.0**
	comp=Z,3.3nm,0.6s						
FBE	**Freiberg**	**116.83**	**326**	*e*PKPdf	**PKPdf**	**01 52 42.4**	**+0.7**
CLL	**Collm**	**116.84**	**326**	*i* PKiKP	**PKPdf**	**01 52 41.8**	**+0.1**
CLL				*i*		01 52 49.1	
CLL				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CLL				MLR	MLR		
	comp=Z,200nm,20.8s						
CLL	**Collm**	**116.84**	**326**	*e*PKPdf	**PKPdf**	**01 52 42.0**	**+0.3**
CLL	**Collm**	**116.84**	**326**	*i* PKiKP	**PKiKP**	**01 52 41.8**	**+0.1**
	comp=Z,8.0nm,0.8s						
CLL				*i* pPKiKP	**pPKiKP**	**01 52 49.1**	**-5.8**
CLL				Lm	MLR	02 45 00.0	
	comp=Z,200nm,20.8s						
ECSD	**EROS Data Cent**	**117.15**	**43**	*e*PKPdf	**PKPdf**	**01 52 41.8**	**-0.8**
KHC	**Kasperske Hory**	**117.50**	**324**	*e*PKiKP	**PKPdf**	**01 52 43.4**	**+0.3**
KHC				*e*		01 52 50.7	
KHC	**Kasperske Hory**	**117.50**	**324**	*e*PKP	**PKPdf**	**01 52 43.4**	**+0.3**
KHC				epPKP	**pPKPdf**	**01 52 50.7**	**-5.6**
KHC	**Kasperske Hory**	**117.50**	**324**	*e*PKPdf	**PKPdf**	**01 52 43.5**	**+0.3**
GEC2	**GERESS Array S**	**117.55**	**323**	*e*PKiKP	**PKPdf**	**01 52 43.5**	**+0.2**
GEC2	**GERESS Array S**	**117.55**	**323**	*e*PKPdf	**PKPdf**	**01 52 43.5**	**+0.2**
GERES	**GERESS Array B**	**117.55**	**323**	PKP	**PKPdf**	**01 52 43.5**	**+0.2**
GERES				PKKPbc	**PKKPab**	**02 03 09.0**	**-0.3**
GERES	**GERESS Array B**	**117.55**	**323**	PKP	**PKPdf**	**01 52 43.5**	**+0.2**
	comp=Z,3.3nm,0.7s,baz=70,slow=1.3,SNR=30						
GERES				PKKPbc	**PKKPab**	**02 03 09.0**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=222,slow=3.6,SNR=4.1						
TANN	**Tannenbergstha**	**117.56**	**325**	*e*PKPdf	**PKPdf**	**01 52 43.4**	**+0.2**
NEUB	**Neuenburg**	**117.57**	**326**	*e*PKPdf	**PKPdf**	**01 52 43.8**	**+0.7**
PERS	**Pernice**	**117.60**	**321**	*i* PKPdf	**PKPdf**	**01 52 43.2**	**-0.2**
WERD	**Werda**	**117.64**	**325**	*e*PKPdf	**PKPdf**	**01 52 43.7**	**+0.4**
SOKA	**Soboth**	**117.64**	**321**	⇑*i*PKiKP	**PKPdf**	**01 52 43.4**	**-0.1**
	comp=Z,8.0nm,1.2s						
NKC	**Novy Kostel**	**117.66**	**325**	*e*PKiKP	**PKPdf**	**01 52 43.6**	**+0.2**
NKC	**Novy Kostel**	**117.66**	**325**	*e*PKP	**PKPdf**	**01 52 43.6**	**+0.2**
GUNZ	**Gunzen**	**117.66**	**325**	*e*PKPdf	**PKPdf**	**01 52 43.8**	**+0.4**
PLN	**Plauen**	**117.70**	**325**	*e*PKPdf	**PKPdf**	**01 52 43.7**	**+0.3**
LEGS	**Legarje**	**117.75**	**320**	*i* PKPdf	**PKPdf**	**01 52 43.8**	**+0.2**
LEGS				*i* pPKPdf	**pPKPdf**	**01 52 51.0**	**-5.8**
WET	**Wettzell**	**117.90**	**324**	*e*PKiKP	**PKPdf**	**01 52 44.2**	**+0.3**
WET	**Wettzell**	**117.90**	**324**	*e*PKPdf	**PKPdf**	**01 52 44.2**	**+0.3**
BOJS	**Bojanci**	**117.96**	**319**	*i* PKPdf	**PKPdf**	**01 52 44.7**	**+0.7**
BOJS				*i* pPKPdf	**pPKPdf**	**01 52 51.5**	**-5.7**
MANZ	**Manzenberg**	**117.96**	**325**	*e*PKPdf	**PKPdf**	**01 52 44.3**	**+0.3**
CLZ	**Clausthal**	**118.02**	**327**	*e*PKiKP	**PKPdf**	**01 52 44.8**	**+0.8**
CLZ	**Clausthal**	**118.02**	**327**	*e*PKPdf	**PKPdf**	**01 52 44.8**	**+0.8**
LJU	**Ljubljana**	**118.22**	**320**	*i* PKPdf	**PKPdf**	**01 52 44.8**	**+0.2**
JCT	**Junction City**	**118.27**	**58**	*e*PKiKP	**PKPdf**	**01 52 45.4**	**+0.2**
JCT				MLR	MLR		
	comp=Z,284nm,19.0s						
JCT	**Junction City**	**118.27**	**58**	*e*PKPdf	**PKPdf**	**01 52 45.4**	**+0.2**
JCT				LR	LR		
	comp=Z,284nm,19.0s						
TRI	**Trieste**	**118.84**	**320**	*e*PKiKP	**PKPdf**	**01 52 45.9**	**+0.2**
TRI	**Trieste**	**118.84**	**320**	*e*PKPdf	**PKPdf**	**01 52 45.9**	**+0.2**
TIP	**Timpagrande**	**119.14**	**312**	PFAKE		01 53 00.0	+13
TIP				LR	LR		
	comp=Z,108nm,19.0s						
ABTA	**Abfaltersbach**	**119.19**	**322**	⇑*i*PKiKP	**PKPdf**	**01 52 46.1**	**-0.4**
	comp=Z,22nm,1.4s,SNR=9.6						
FUR	**Furstenfeldbru**	**119.30**

comp=Z,216nm,18.8s
LOR Lormes 124.05 326 ePKPdf PKPdf 01 52 56.0 +0.3
CALN Calern 124.09 321 PKP PKPdf 01 52 56.3 +0.2
ORIF Oris-en-Rattie 124.13 322 ePKIKP PKPdf 01 52 56.3 +0.2
comp=Z,22nm,0.7s
ORIF eR
comp=Z,146nm,20.2s
ORIF Oris-en-Rattie 124.13 322 ePKIKP PKPdf 01 52 56.3 +0.2
ORIF Oris-en-Rattie 124.13 322 ePKPdf PKPdf 01 52 56.3 +0.2
FRF La Foret Royal 124.34 321 ⇑iPKIKP PKPdf 01 52 56.6 +0.2
comp=Z,34nm,0.8s
FRF La Foret Royal 124.34 321 ⇑iPKIKP PKPdf 01 52 56.6 +0.2
FRF La Foret Royal 124.34 321 ⇑iPKPdf PKPdf 01 52 56.6 +0.2
VSL Villasalto 124.35 315 PFAKE 01 53 10.0 +13
VSL LR LR
comp=Z,99nm,21.0s
SSF Saint Saulge 124.37 326 ⇑iPKIKP PKPdf 01 52 56.7 +0.4
comp=Z,24nm,0.9s
SSF Saint Saulge 124.37 326 ⇑iPKIKP PKPdf 01 52 56.7 +0.4
SSF Saint Saulge 124.37 326 ⇑iPKPdf PKPdf 01 52 56.7 +0.4
LMR La Mourre 124.54 320 ⇑iPKIKP PKPdf 01 52 56.9 +0.2
comp=Z,16nm,0.7s
LMR La Mourre 124.54 320 ⇑iPKIKP PKPdf 01 52 56.9 +0.2
LMR La Mourre 124.54 320 ⇑iPKPdf PKPdf 01 52 56.9 +0.2
AVF Avril sur Loir 124.61 325 ePKIKP PKPdf 01 52 56.8 0.0
comp=Z,11nm,0.9s
AVF Avril sur Loir 124.61 325 ePKIKP PKPdf 01 52 56.8 0.0
AVF Avril sur Loir 124.61 325 ePKPdf PKPdf 01 52 56.8 0.0
HYF Humbligny 124.73 326 ePKIKP PKPdf 01 52 57.8 +0.8
HYF Humbligny 124.73 326 ePKPdf PKPdf 01 52 57.8 +0.8
SSB Saint Sauveur 124.75 323 ePKIKP PKPdf 01 52 57.9 +0.7
SSB Saint Sauveur 124.75 323 ePKPdf PKPdf 01 52 57.9 +0.7
SMRF Simiane la Rot 124.80 321 ⇑iPKIKP PKPdf 01 52 58.1 +0.8
comp=Z,49nm,0.9s
SMRF Simiane la Rot 124.80 321 ⇑iPKPdf PKPdf 01 52 58.1 +0.8
VIVF Saint-Julien-l 124.90 323 ePKIKP PKPdf 01 52 57.8 +0.3
comp=Z,28nm,0.9s
VIVF Saint-Julien-l 124.90 323 ePKIKP PKPdf 01 52 57.8 +0.3
VIVF Saint-Julien-l 124.90 323 ePKPdf PKPdf 01 52 57.8 +0.3
PLDF La Plantade 124.91 324 PKP PKPdf 01 52 58.3 +0.8
OLIL Olney 124.99 46 ePKPdf PKPdf 01 52 57.9 +0.2
BGF Bois d'Agland 125.03 325 ⇑iPKIKP PKPdf 01 52 58.1 +0.5
comp=Z,33nm,0.9s
BGF Bois d'Agland 125.03 325 ⇑iPKIKP PKPdf 01 52 58.1 +0.5
BGF Bois d'Agland 125.03 325 ⇑iPKPdf PKPdf 01 52 58.1 +0.5
AGO Saint Agoulin 125.15 325 PKP PKPdf 01 52 58.6 +0.7
PYM Petit Puy Mans 125.39 324 PKP PKPdf 01 52 59.0 +0.6
LDF La Druitiere 125.41 329 ePKIKP PKPdf 01 52 58.3 0.0
comp=Z,36nm,1.2s
LDF La Druitiere 125.41 329 ePKIKP PKPdf 01 52 58.3 0.0
LDF La Druitiere 125.41 329 ePKPdf PKPdf 01 52 58.3 0.0
FLN La Foliniere 125.48 329 ⇑iPKIKP PKPdf 01 52 58.6 +0.2
comp=Z,36nm,1.0s
FLN eR
comp=Z,174nm,18.5s
FLN La Foliniere 125.48 329 ⇑iPKIKP PKPdf 01 52 58.6 +0.2
FLN La Foliniere 125.48 329 ⇑iPKPdf PKPdf 01 52 58.6 +0.2
LBL Lubilhac 125.54 324 PKP PKPdf 01 52 58.5 -0.2
TCF Toulx Ste Croi 125.54 325 ePKIKP PKPdf 01 52 59.1 +0.5
comp=Z,46nm,0.9s
TCF Toulx Ste Croi 125.54 325 ePKIKP PKPdf 01 52 59.1 +0.5
TCF Toulx Ste Croi 125.54 325 ePKPdf PKPdf 01 52 59.1 +0.5
OXF Oxford 125.63 51 ePKIKP PKPdf 01 52 58.6 -0.5
OXF MLR MLR
comp=Z,268nm,19.0s
OXF Oxford 125.63 51 ePKPdf PKPdf 01 52 58.5 -0.5
OXF LR LR
comp=Z,268nm,19.0s
LASF Ste Croix 125.81 322 ePKIKP PKPdf 01 52 59.7 +0.5
comp=Z,33nm,1.0s
LASF Ste Croix 125.81 322 ePKPdf PKPdf 01 52 59.7 +0.5
KEST Kesra 125.87 311 ePKPdf PKPdf 01 53 00.8 +1.2
KEST PKP PKPdf 01 53 01.0 +1.3
KEST Kesra 125.87 311 PKP PKPdf 01 53 01.0 +1.3
comp=Z,6.5nm,1.0s,baz=254,slow=3.4,SNR=16
BLO Bloomington 125.91 45 ePKIKP PKPdf 01 52 59.5 0.0
BLO Bloomington 125.91 45 ePKPdf PKPdf 01 52 59.5 0.0
GRR Gorron 125.92 329 ⇑iPKIKP PKPdf 01 52 59.6 +0.4
comp=Z,38nm,1.2s
GRR Gorron 125.92 329 ⇑iPKIKP PKPdf 01 52 59.6 +0.4
GRR Gorron 125.92 329 ⇑iPKPdf PKPdf 01 52 59.6 +0.4
SCHQ Schefferville 125.97 19 PKP PKPdf 01 52 59.1 0.0
SCHQ Schefferville 125.97 19 PKP PKPdf 01 52 59.1 0.0
comp=Z,6.7nm,0.7s,baz=318,slow=4.3,SNR=7.1
PLCA Paso Flores 126.08 151 ePKPdf PKPdf 01 53 01.3 +1.4
PLCA PKP PKPdf 01 53 01.6 +1.6
PLCA Paso Flores 126.08 151 PKP PKPdf 01 53 01.6 +1.6
comp=Z,13nm,0.8s,baz=201,slow=3.5,SNR=26
WVT Waverly 126.23 48 ePKIKP PKPdf 01 52 59.0 -1.2
WVT Waverly 126.23 48 ePKPdf PKPdf 01 52 59.0 -1.2
CAF Calviac 126.41 324 ePKIKP PKPdf 01 53 01.1 +0.8
comp=Z,24nm,1.0s
CAF Calviac 126.41 324 ePKIKP PKPdf 01 53 01.1 +0.8
CAF Calviac 126.41 324 ePKPdf PKPdf 01 53 01.1 +0.8
MSKU Masuku 126.42 264 PFAKE 01 53 10.0 +8.8
MSKU LR LR
comp=Z,3.0nm,22.0s
RJF Les Rejaudoux 126.51 325 ePKIKP PKPdf 01 53 01.1 +0.6
comp=Z,20nm,1.0s
RJF eR
comp=Z,167nm,21.0s
RJF Les Rejaudoux 126.51 325 ePKIKP PKPdf 01 53 01.1 +0.6
RJF Les Rejaudoux 126.51 325 ePKPdf PKPdf 01 53 01.1 +0.6
MFF Saint Martin d 126.66 327 ⇑iPKIKP PKPdf 01 53 01.1 +0.4
comp=Z,24nm,1.0s
MFF Saint Martin d 126.66 327 ⇑iPKIKP PKPdf 01 53 01.1 +0.4
MFF Saint Martin d 126.66 327 ⇑iPKPdf PKPdf 01 53 01.1 +0.4
SGMF Saint Gilles 126.86 330 ePKIKP PKPdf 01 53 01.2 +0.2
comp=Z,19nm,0.8s
SGMF Saint Gilles 126.86 330 ePKIKP PKPdf 01 53 01.2 +0.2
SGMF Saint Gilles 126.86 330 ePKPdf PKPdf 01 53 01.2 +0.2
LFF La Frestale 127.17 325 ePKIKP PKPdf 01 53 02.5 +0.8
comp=Z,40nm,1.2s
LFF La Frestale 127.17 325 ePKIKP PKPdf 01 53 02.5 +0.8
LFF La Frestale 127.17 325 ePKPdf PKPdf 01 53 02.5 +0.8
ROSF Rostrenen 127.17 330 ePKIKP PKPdf 01 53 01.8 +0.2
ROSF Rostrenen 127.17 330 ePKIKP PKPdf 01 53 01.8 +0.2
ROSF Rostrenen 127.17 330 ePKPdf PKPdf 01 53 01.8 +0.2
MTLF Montolieu 127.20 322 ePKIKP PKPdf 01 53 02.2 +0.3
comp=Z,21nm,1.0s
MTLF Montolieu 127.20 322 ePKIKP PKPdf 01 53 02.2 +0.3
MTLF Montolieu 127.20 322 ePKPdf PKPdf 01 53 02.2 +0.3
QUIF Quistinic 127.39 330 ePKIKP PKPdf 01 53 02.4 +0.4
QUIF Quistinic 127.39 330 ePKIKP PKPdf 01 53 02.4 +0.4
QUIF Quistinic 127.39 330 ePKPdf PKPdf 01 53 02.4 +0.4
ACSO Alum Creek Sta 127.83 42 ePKPdf PKPdf 01 53 02.9 -0.2
EPF Esparros 128.51 323 ePKIKP PKPdf 01 53 04.9 +0.5
comp=Z,19nm,1.2s
EPF Esparros 128.51 323 ePKIKP PKPdf 01 53 04.9 +0.5
EPF Esparros 128.51 323 ePKPdf PKPdf 01 53 04.9 +0.5
ETSF Etsaut 129.13 323 ePKIKP PKPdf 01 53 07.0 +1.4
comp=Z,22nm,1.0s
ETSF Etsaut 129.13 323 ePKIKP PKPdf 01 53 07.0 +1.4
ETSF Etsaut 129.13 323 ePKPdf PKPdf 01 53 07.0 +1.4
SJPF Ste Jean 129.39 324 ePKIKP PKPdf 01 53 05.9 -0.2
comp=Z,8.9nm,0.7s
SJPF Ste Jean 129.39 324 ePKIKP PKPdf 01 53 05.9 -0.2
SJPF Ste Jean 129.39 324 ePKPdf PKPdf 01 53 05.9 -0.2
TKL Tuckaleechee C 129.42 47 ePKPdf PKPdf 01 53 06.1 -0.2
TEIG Tepich 130.46 68 PFAKE 01 53 20.0 +11
TEIG LR LR
comp=Z,286nm,19.0s
KMSC Kings Mountain 131.43 47 ePKPdf PKPdf 01 53 10.6 +0.5
TRQA Tornquist 132.07 156 PFAKE 01 53 20.0 +8.6
TRQA LR LR
comp=Z,179nm,19.0s
ESDC Sonseca Array 133.11 322 PKP PKPdf 01 53 13.6 +0.3
ESDC PP PP 01 55 41.0 +1.7
ESDC Sonseca Array 133.11 322 PKPdf PKPdf 01 53 13.6 +0.3
comp=Z,1.3nm,0.7s,baz=21,slow=2.0,SNR=11
ESDC PP PP 01 55 41.0 +1.7
comp=Z,1.1nm,0.8s,baz=55,slow=7.4,SNR=4.1
TAM Tamanrasset 133.16 296 ePKIKP PKPdf 01 53 15.9 +1.9
TAM e 01 55 38.9
TAM MLR MLR
comp=Z,86nm,19.0s
TAM Tamanrasset 133.16 296 ePKPdf PKPdf 01 53 15.9 +1.9
TAM ePP PP 01 55 38.9 -1.9
TAM LR LR
comp=Z,86nm,19.0s
PAB San Pablo 133.42 322 ePKIKP PKPdf 01 53 14.3 +0.4
PAB MLR MLR
comp=Z,170nm,19.0s
PAB San Pablo 133.42 322 ePKPdf PKPdf 01 53 14.3 +0.4
PAB LR LR
comp=Z,170nm,19.0s
MVO Moncorvo 133.96 326 ePKP PKPdf 01 53 15.9 +1.1
POLO Lamas de Olo 134.25 326 ePKP PKPdf 01 53 16.6 +1.2
LCO Las Campanas 134.60 141 PFAKE 01 53 30.0 +13
LCO LR LR
comp=Z,194nm,19.0s
PVIS Viseu 134.75 326 ePKP PKPdf 01 53 19.0 +2.7
MTE Manteigas 134.76 325 ePKP PKPdf 01 53 19.0 +2.6
JTS JuntasÂbangare 134.82 81 PFAKE 01 53 30.0 +13
JTS LR LR
comp=Z,375nm,19.0s
PCBR Castelo Branco 135.10 325 ePKP PKPdf 01 53 19.5 +2.6
PMRV Marv??o 135.32 324 ePKP PKPdf 01 53 19.8 +2.4
PCAS Casmilo, Conde 135.54 326 ePKP PKPdf 01 53 20.1 +2.4
PTOM Tomar 135.78 325 ePKP PKPdf 01 53 20.2 +2.0
PBAR Barrancos 135.92 322 ePKP PKPdf 01 53 19.8 +1.3
EVO Evora 136.27 324 ⇑iPKIKP PKPdf 01 53 19.8 +0.7
comp=Z,36nm,1.3s
EVO eR
comp=Z,201nm,19.5s
EVO Evora 136.27 324 ePKP PKPdf 01 53 21.9 +2.8
EVOP Sao Brissos 136.34 324 ⇑iPKIKP PKPdf 01 53 19.8 +0.6
EVOP Sao Brissos 136.34 324 ⇑iPKPdf PKPdf 01 53 19.8 +0.6
PBEJ Beja 136.51 323 ePKP PKPdf 01 53 22.3 +2.7
PNCL Nicolau / Gran 136.85 323 ePKP PKPdf 01 53 21.9 +1.7
PCVE Castro Verde 136.87 323 ePKP PKPdf 01 53 23.3 +3.0
MORF Marmelete 137.45 323 ePKP PKPdf 01 53 23.3 +1.9
TORD Torodi Ar. Bea 138.57 284 PKP PKPdf 01 53 24.4 +0.4
TORD Torodi Ar. Bea 138.57 284 PKhKP PKPpre 01 53 10.1
comp=Z,2.6nm,0.8s,baz=59,slow=3.6,SNR=20
TORD PKP PKPdf 01 53 24.4 +0.4
comp=Z,7.0nm,0.6s,baz=40,slow=1.5,SNR=19
BCIP Isla Barro Col 139.91 82 PFAKE 01 53 40.0 +14
BCIP LR LR
comp=Z,228nm,19.0s
OTAV Otavalo 140.87 96 PFAKE 01 53 40.0 +11
OTAV LR LR
comp=Z,211nm,20.0s
CPUP Villa Florida 144.13 152 PKP PKPbc 01 53 32.3 +0.5
CPUP ePKPdf PKPab 01 53 32.4 +1.1
CPUP Villa Florida 144.13 152 PKP PKPbc 01 53 32.3 +0.5
comp=Z,8.7nm,0.6s,baz=204,slow=3.5,SNR=17
LPAZ La Paz 144.52 128 ePKPdf PKPdf 01 53 35.4 0.0
LPAZ La Paz 144.52 128 PKP PKPdf 01 53 35.5 0.0
comp=Z,37nm,0.6s,baz=258,slow=1.8,SNR=166
KIC Kosan Boka 145.33 273 ⇑iPKP1 PKPab 01 53 36.2 +0.1
comp=Z,316nm,0.9s
ROSC El Rosal 145.39 89 ePKPbc PKPab 01 53 37.4 +0.5
ROSC El Rosal 145.39 89 PKPbc PKPab 01 53 37.4 +0.5
comp=Z,39nm,0.5s,baz=117,slow=4.5,SNR=21
DBIC Dimbokro 145.44 274 ePKPbc PKPab 01 53 36.5 0.0
DBIC Dimbokro 145.44 274 PKPbc PKPab 01 53 36.6 0.0
comp=Z,101nm,0.7s,baz=79,slow=3.5,SNR=135
GRTK Grand Turk 145.47 59 ePKPdf PKPdf 01 53 35.9 -0.3
TIC Toumodi 145.60 274 ⇑iPKP1 PKPbc 01 53 37.0 +0.1
comp=Z,291nm,1.0s
LIC Lamto 145.61 273 ⇑iPKIKP PKPbc 01 53 37.0 +0.1
comp=Z,140nm,0.8s
LIC Lamto 145.61 273 ⇑iPKP1 PKPbc 01 53 37.0 +0.1
comp=Z,221nm,0.8s
LIC Lamto 145.61 273 ⇑iPKPdf PKPbc 01 53 37.0 +0.1
SDDR Presa de Saban 146.25 64 ePKPbc PKPbc 01 53 38.5 -0.2
SDV Santo Domingo 149.00 82 ePKPbc PKPbc 01 53 46.5 -0.1
OBIP Obispado Ponce 150.74 62 ePKPbc PKPbc 01 53 49.9 -0.4
CELP Cerrillos 150.75 62 ePKPbc PKPbc 01 53 50.1 -0.4
CBYP Canovanas 151.30 61 ePKPbc PKPbc 01 53 51.0 -0.8
ASCN Ascension 151.60 243 PFAKE 01 54 00.0 -1.2
ASCN LR LR
comp=Z,243nm,19.0s
MTP Monte Pirata 151.64 61 ePKPbc PKPbc 01 53 52.3 -0.2
STVI Saint Thomas 152.06 60 ePKPdf PKPdf 01 53 46.2 -0.6
STVI ePKPbc PKPbc 01 53 53.0 -0.4
CDVI St. Croix 152.46 61 ePKPbc PKPbc 01 53 53.9 -0.5
CDVI ePKPab PKPab 01 54 04.3 -0.3
SAML Samuel 152.53 121 ePKPdf PKPdf 01 53 48.6 +0.9
SAML ePKPbc PKiKP 01 53 55.3 +0.4
SAML ePKPab PKPab 01 54 05.6 +0.6
SAML LR LR
comp=Z,223nm,19.0s
BDFB Brasilia 157.55 158 PKP PKPdf 01 53 56.2 +1.6
BDFB PKPab PKPab 01 54 27.4 +1.1
BDFB Brasilia 157.55 158 PKP PKPdf 01 53 56.2 +1.6
comp=Z,4.9nm,1.0s,baz=254,slow=0.5,SNR=8.3
BDFB PKPab PKPab 01 54 27.4 +1.1
comp=Z,18nm,0.6s,baz=183,slow=3.4,SNR=22
RCBR Riachuelo 168.32 198 PFAKE 01 54 20.0 +15
RCBR LR LR
comp=Z,271nm,19.0s

*CSEM **29** 01:36:08.6±0.7,50.25N×18.99E, h2km, Error ellipse: s-maj=13.6km s-min=7.6km az=14.0*

PRU 29 01:36:09.7,50.25N×18.99E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	Ojcow	0.52	93	ePg	Pg	01 36 18.5	-1.2
OJC				eSg	Sg	01 36 25.4	-1.1
OKC	Ostrava-Krasne	0.68	233	ePG	Pg	01 36 22.7	-0.1
OKC				eSG	Sg	01 36 30.8	-0.9
	2.2nm,0.4s						
OKC	Ostrava-Krasne	0.68	233	Pg	Pg	01 36 22.7	-0.1
OKC				Sg	Sg	01 36 30.8	-0.9
	2.1nm,0.4s						
MORC	Moravsky Berou	1.05	244	ePg	Pg	01 36 29.8	-0.1
MORC				eSg	Sb	01 36 44.5	-0.6
KRLC	Kraliky	1.43	264	ePG	Pn	01 36 36.2	-0.8
KRLC				eSG	Sb	01 36 56.3	+0.1
KRLC	Kraliky	1.43	264	Pg	Pn	01 36 36.2	-0.8
KRLC				Sg	Sb	01 36 56.3	+0.1
STHS	Stebnicka Huta	1.68	119	ePN	Pn	01 36 40.6	+0.2
STHS				eSN	Sb	01 37 03.1	-0.2
DPC	Dobruska-Polom	1.71	274	ePG	Pn	01 36 40.8	-0.1
DPC				eSG	Sg	01 37 05.0	+0.1
DPC	Dobruska-Polom	1.71	274	Pg	Pn	01 36 40.8	-0.1
DPC				Sg	Sg	01 37 05.0	+0.1
PRU	Pruhonice	2.88	266	eSG	Sg	01 37 41.8	-0.3
PRU	Pruhonice	2.88	266	Sg	Sg	01 37 41.8	-0.3

*IDC **29** 01:45:54.8±3.6, 15.62S×173.16W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.8/21, mbtmp3.8/4, Error ellipse: s-maj=193.3km s-min=28.7km az=145.0*

ISC 29 01:46:02.0±2.9, 14.9S×172.9W±0.6, h29km, n13, σ0s35/6, mb3.5/4, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	1.50	47	Pn	Pn	01 46 26.8	-0.3
	19nm,0.3s,baz=249,slow=1.7,SNR=12						
AFI				Sn	Sn	01 46 46.0	+0.2
	47nm,0.3s,baz=177,slow=20,SNR=8.8						
H11S2	WAKE ISLAND Hy 38.81	328		T	T	02 34 19.3	
	baz=152,slow=0.7,SNR=7.3						
H11S3	WAKE ISLAND Hy 38.82	328		T	T	02 34 21.1	
	baz=152,slow=0.7,SNR=9.4						
H11S1	WAKE ISLAND Hy 38.83	328		T	T	02 34 22.3	
	baz=152,slow=0.7,SNR=7.2						
H11N3	WAKE ISLAND Hy 39.74	329		T	T	02 35 30.8	
	baz=152,slow=0.7,SNR=3.9						
H11N1	WAKE ISLAND Hy 39.75	329		T	T	02 35 30.1	
	baz=152,slow=0.7,SNR=4.2						
H11N2	WAKE ISLAND Hy 39.76	329		T	T	02 35 35.9	
	baz=152,slow=0.7,SNR=3.0						
WRA	Warramunga Arr	50.40	256	P	P	01 54 51.2	-6.0
	0.4nm,0.6s,baz=97,slow=8.2,SNR=4.3						
ASAR	Alice Springs	50.70	252	P	P	01 54 52.8	-6.7
	3.1nm,0.8s,baz=82,slow=8.8,SNR=8.3						
PDAR	Pinedale Array	81.61	42	P	P	01 58 18.0	+0.4
	0.3nm,0.6s,baz=224,slow=4.1,SNR=3.5						
ILAR	Eielson Array	81.90	11	P	P	01 58 18.4	+0.1
	0.3nm,0.6s,baz=216,slow=5.9,SNR=6.2						
GERES	GERESS Array B	145.75	352	PKPbc	PKPab	02 05 38.7	0.0
	0.3nm,0.4s,baz=350,slow=1.2,SNR=4.0						
BRTR	Keskin Array B	146.09	322	PKPbc	PKPdf	02 05 38.6	-0.3
	0.7nm,0.7s,baz=132,slow=2.1,SNR=3.8						

IDC 29 01:59:55.7±2.4, 4.60S×128.87E, h0km, mb3.6/1, mb1 3.5/3, mb1mx3.3/21, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=171.1km s-min=30.4km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	16.15	161	Pn	Pn	02 03 45.4	+1.0
	0.1nm,0.3s,baz=344,slow=13,SNR=5.0						
WRA				Sn	Sn	02 06 33.9	-10
	0.1nm,0.3s,baz=332,slow=21,SNR=5.6						
ASAR	Alice Springs	19.57	166	P	P	02 04 24.9	-0.5
	0.1nm,0.3s,baz=346,slow=11,SNR=3.8						
MKAR	Makanchi Array	65.62	327	P	P	02 10 41.7	0.0
	0.3nm,0.5s,baz=108,slow=6.8,SNR=4.5						

*SKO **29** 02:32:03.4, 40.75N×20.51E, h92km*
*ATH **29** 02:32:04.5, 40.74N×20.32E, h22km±3km, MD3.1/8*
*ISCJB **29** 02:32:05.2±0.9, 40.74N±0.03×20.29E±0.04, h9km±6km, Error ellipse: s-maj=5.3km s-min=4.4km az=150.3*
*CSEM **29** 02:32:05.8±0.2, 40.67N×20.33E, h12km, ML2.1/5, Error ellipse: s-maj=3.7km s-min=3.3km az=36.0*
*THE **29** 02:32:06.6, 40.70N×20.35E, h9km±2km, ML2.1/5, Error ellipse: s-maj=2.2km s-min=0.9km az=338.0*

ISC 29 02:32:06.8±1.1, 40.71N±0.03×20.38E±0.03, h21km±2km, n42, σ1s05/61, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBN	Korca	0.33	106	P	Pb	02 32 13.0	-0.9
KBN				S	Sb	02 32 19.1	+0.3
KBN	Korca	0.33	106	P	Pb	02 32 13.0	-0.9
KBN				S	Sb	02 32 19.1	+0.3
NEST	Nestorio	0.59	120	P	Pb	02 32 17.4	-1.2
NEST				S	Sb	02 32 26.7	+0.1
NEST	Nestorio	0.59	120	ePN	Pb	02 32 17.0	-1.6
NEST	Nestorio	0.59	120	ePn	Pb	02 32 17.0	-1.6
NEST	Nestorio	0.59	120	P	Pb	02 32 17.4	-1.2
NEST				S	Sb	02 32 26.7	+0.1
TIR	Tirane	0.74	329	P	Pn	02 32 21.2	-0.8
TIR	Tirane	0.74	329	P	Pn	02 32 21.2	-0.8
FNA	Florina	0.76	84	P	Pb	02 32 20.9	-0.5
FNA				S	Sn	02 32 33.7	+0.4
FNA	Florina	0.76	84	ePN	Pb	02 32 20.8	-0.6
FNA	Florina	0.76	84	P	Pb	02 32 20.9	-0.5
FNA				S	Sn	02 32 33.7	+0.4
BIA	Bitola	0.78	67	P	Pb	02 32 20.9	-0.8
BIA				S	Sn	02 32 34.0	+0.3
BIA	Bitola	0.78	67	*i* Pg	Pn	02 32 21.6	-1.0
BIA				eSg	Sn	02 32 34.0	+0.3
BIA				eLg	Lg	02 32 34.5	
	comp=E,42nm,0.4s						
BIA				eLg	Lg	02 32 34.6	
	comp=N,35nm,0.3s						
BIA	Bitola	0.78	67	P	Pb	02 32 20.9	-0.8
BIA				S	Sn	02 32 34.0	+0.3
SRN	Sarande	0.88	199	P	Pb	02 32 22.2	-1.1
SRN				S	Sn	02 32 35.8	-0.2
SRN	Sarande	0.88	199	P	Pb	02 32 22.2	-1.1
PHP	Peshkopia	0.97	3	P	Pn	02 32 25.7	+0.5
PHP	Peshkopia	0.97	3	P	Pn	02 32 25.7	+0.5
KEK	Kerkira	1.09	204	P	Pb	02 32 26.4	-0.5
KEK				S	Sn	02 32 43.2	+1.9
KEK	Kerkira	1.09	204	ePN	Pn	02 32 25.5	-1.3
KEK	Kerkira	1.09	204	ePn	Pn	02 32 25.5	-1.3
KEK	Kerkira	1.09	204	P	Pn	02 32 26.4	-0.5
JAN	Janina	1.11	161	P	Pn	02 32 26.2	-1.0
JAN				S	Sn	02 32 44.0	+2.1
JAN	Janina	1.11	161	ePN	Pn	02 32 25.8	-1.4
JAN	Janina	1.11	161	ePn	Pn	02 32 25.8	-1.4
JAN	Janina	1.11	161	P	Pn	02 32 26.2	-1.0
KZN	Kozani	1.14	110	P	Pb	02 32 28.0	+0.2
KZN				S	Sn	02 32 45.1	+2.6
KZN	Kozani	1.14	110	ePN	Pn	02 32 27.1	-0.4
KZN	Kozani	1.14	110	ePn	Pn	02 32 27.1	-0.4
KZN	Kozani	1.14	110	P	Pb	02 32 28.0	+0.2
KZN				S	Sn	02 32 45.1	+2.6
IGT	Igoumenitsa	1.18	182	P	Pb	02 32 27.7	-0.7
IGT	Igoumenitsa	1.18	182	ePN	Pn	02 32 27.2	-0.8
IGT				eSN	Sb	02 32 44.6	+1.4
IGT	Igoumenitsa	1.18	182	ePn	Pn	02 32 27.2	-0.8
IGT	Igoumenitsa	1.18	182	P	Pb	02 32 27.7	-0.7
IGT				eSn	Sb	02 32 44.6	+1.4
THL	Klokotos Trika	1.70	132	ePN	Pn	02 32 35.4	+0.2
THL	Klokotos Trika	1.70	132	ePn	Pn	02 32 35.4	+0.2
KNT	Kendrikon	1.96	76	ePN	Pb	02 32 39.6	-2.2
STON	Ston	2.94	318	ePn	Pn	02 32 52.5	+0.3
STON				Sn	Sn	02 33 28.1	+1.2
STON	Ston	2.94	318	ePn	Pn	02 32 52.5	+0.3
STON				Sn	Sn	02 33 28.0	+1.2
VILL	Villia	3.41	137	eSb	Sb	02 33 56.5	+8.9
NVLJ	Novalja	5.59	315	ePn	Pn	02 33 29.0	+0.3
NVLJ				Sn	Sn	02 34 32.0	-0.3
NVLJ	Novalja	5.59	315	ePn	Pn	02 33 28.9	+0.3
NVLJ				Sn	Sn	02 34 31.9	-0.3

*IDC **29** 02:40:13.3±4.8, 14.50S×167.39E, h101km±42km, mb3.6/7, mb1 3.9/8, mb1mx3.6/21, mbtmp3.7/8, Error ellipse: s-maj=28.7km s-min=26.9km az=129.0*
*ISCJB **29** 02:40:15.3±1.3, 14.83S±0.09×167.4E±0.2, h129km, mb3.7/6, Error ellipse: s-maj=25.7km s-min=12.4km az=176.1*

ISC 29 02:40:16.9±1.3, 14.8S±0.1×167.4E±0.2, h129km, n12, σ1s05/9, mb3.9/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	7.28	187	P	Pn	02 42 01.1	+0.4
	13nm,0.3s,baz=9.2,slow=17,SNR=46						
DZM				S	Sn	02 43 20.7	-1.3
	0.8nm,0.3s,baz=135,slow=19,SNR=1.8						
CTA	Charters Tower	20.88	252	P	P	02 44 49.4	+0.4
	6.8nm,0.8s,baz=55,slow=12,SNR=4.4						
STKA	Stephens Creek	29.07	230	P	P	02 46 06.5	+1.3
	2.8nm,0.7s,baz=39,slow=8.7,SNR=8.6						
WRA	Warramunga Arr	31.97	256	P	P	02 46 29.9	-1.1
	0.5nm,0.5s,baz=86,slow=9.4,SNR=11						
ASAR	Alice Springs	32.80	249	P	P	02 46 37.3	-0.9
	1.3nm,0.4s,baz=77,slow=8.9,SNR=21						
VNDA	Vanda	62.78	181	P	P	02 50 28.8	+0.7
	1.0nm,0.6s,baz=346,slow=3.9,SNR=8.8						
USRK	Ussuriysk Arra	67.04	333	P	P	02 50 51.8	-4.3
	0.6nm,0.3s,baz=154,slow=6.0,SNR=4.0						
ILAR	Eielson Array	86.56	18	P	P	02 52 44.5	-0.7
	0.3nm,0.8s,baz=240,slow=7.1,SNR=4.1						
H03N2	Juan Fernandez	100.64	129	T	T	04 45 36.5	
	baz=242,slow=0.7,SNR=30						
H03N3	Juan Fernandez	100.64	129	T	T	04 45 37.6	
	baz=242,slow=0.7,SNR=35						
H03N1	Juan Fernandez	100.66	129	T	T	04 45 40.3	
	baz=242,slow=0.7,SNR=34						
ARCES	ARCESS Array B	120.38	345	PKP	PKPdf	02 58 52.6	+0.2
	5.9nm,1.1s,baz=64,slow=2.8,SNR=5.7						

CASC 29 02:49:53.6±1.2, 13.03N×89.18W, h33km±3km, MD3.7, ML3.3, 2C, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LFRS	El Faro	0.60	11	⇑*i*P	Pb	02 50 05.8	-0.2
SNET	Serv Nac Est T	0.66	355	eP	Pn	02 50 06.4	-0.3
SNET				eS	Sn	02 50 16.2	+0.2
SNET				AML	AML	02 50 19.6	
	comp=Z,1μm,0.3s						
SNVI	San Vicente	0.67	29	eP	Pn	02 50 06.7	-0.3
BOQS	Boqueron	0.71	352	eP	Pn	02 50 07.6	0

*ISCJB **29** 02:57:29.9±0.4,9˙80S×0˙04×112˙70E±0˙04,h33km, mb4.2/10,MS3.5/3,Error ellipse: s-maj=6.5km s-min=4.8km az=43.0*

*DJA **29** 02:57:31.3±0.4,9˙5S×11˙3E±˚,h10km,M4.6/7,MLv4.6/7*

*AUST **29** 02:57:34.3±0.9,9˙73S×112˙46E,h132km,Error ellipse: s-maj=1.1km s-min=0.8km az=18.0*

*IDC **29** 02:57:39.1±5.9,9˙32S×113˙16E,h101km±52km,mb3.8/10, mb1 3.9/11,mb1mx3.8/23,mbtmp3.8/11,MS3.4/4, Ms1 3.4/4,ms1mx3.2/27,Error ellipse: s-maj=46.0km s-min=18.0km az=60.0*

ISC 29 02:57:31.5±0.6,**9˙67S**±0˙06×**112˙77E**±0˙05,**h35**km,**n49,** σ1**9**76/40,**mb4.3**/10,**MS3.5**/3,**South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRKI	**Karangkates**	**1.53**	**348**	P	**Pn**	**02 57 56.3**	**-0.1**
KRKI				S	**Sn**	**02 58 18.7**	**+3.7**
GMJI	**Gumukmas**	**1.54**	**26**	P	**Pn**	**02 57 56.0**	**-0.4**
GMJI				S	**Sn**	**02 58 11.3**	**-3.8**
PWJI	**Pagerwojo**	**1.89**	**330**	P	**Pn**	**02 58 01.4**	**+0.1**
PWJI				S	**Sn**	**02 58 23.5**	**-0.5**
BLJI	**Banyuglugur**	**2.08**	**23**	P	**Pn**	**02 58 04.9**	**+1.1**
BYJI	**Banyuwangi**	**2.13**	**47**	P	**Pn**	**02 58 05.8**	**+1.2**
PCJI	**Pacitan**	**2.15**	**313**	P	**Pn**	**02 58 06.6**	**+1.7**
SJI	**Sawahan**	**2.16**	**333**	P	**Pn**	**02 58 06.2**	**+1.1**
ABJI	**Asem Bagus**	**2.35**	**38**	P	**Pn**	**02 58 09.5**	**+1.8**
DNP	**Denpasar**	**2.60**	**68**	P	**Pn**	**02 58 12.8**	**+1.7**
NGJI	**Ngawi**	**2.63**	**330**	P	Pn	02 58 15.8	+4.4
GRJI	**Gresik**	**2.75**	**354**	P	**Pn**	**02 58 16.0**	**+2.9**
UGM	**Wanagama**	**2.82**	**308**	P	**Pn**	**02 58 16.4**	**+2.2**
UGM	**Wanagama** baz=2.6,SNR=63	**2.82**	**308**	P	**Pn**	**02 58 15.9**	**+1.7**
KMMI	**Kalianget**	**2.86**	**25**	P	**Pn**	**02 58 17.5**	**+2.9**
SRBI	**Singaraja**	**2.88**	**57**	P	**Pn**	**02 58 15.4**	**+0.5**
KHKI	**Kahang-Kahang**	**3.09**	**65**	P	**Pn**	**02 58 19.2**	**+1.5**
SMRI	**Semarang**	**3.48**	**318**	P	Pn	02 58 27.4	+4.3
MTNI	**Mataram**	**3.51**	**73**	P	**Pn**	**02 58 25.4**	**+1.8**
BJII	**Banjarnegara**	**3.81**	**307**	P	**Pn**	**02 58 26.0**	**-1.8**
KPJI	**Karang Pucung**	**4.45**	**301**	P	Pn	02 58 40.4	+3.9
TGJI	**Tegal**	**4.56**	**307**	P	**Pn**	**02 58 40.7**	**+2.7**
XMIS	**Christmas Isla** baz=6.7,SNR=14	**7.06**	**263**	P	**Pn**	**02 59 12.3**	**0.0**
WSI	**Waingapu**	**7.42**	**91**	P	Pn	02 59 27.2	+10
WSI	**Waingapu** baz=7.7,SNR=4.6	**7.42**	**91**	P	Pn	02 59 26.9	+10
KAPI	**Kappang** 2.2nm,0.3s,baz=239,slow=8.5,SNR=5.2	**8.32**	**57**	P	**Pn**	**02 59 29.5**	**-0.3**
KAPI	comp=Z,133nm,20.5s,baz=91,slow=41			LR	LR	03 03 01.2	
BKSI	**Bulukumba**	**8.47**	**60**	P	Pn	02 59 36.4	+4.6
MNAI	**Manna** baz=11,SNR=6.4	**11.07**	**298**	P	**Pn**	**03 00 08.0**	**+0.5**
GIRL	**Giralia** baz=13,SNR=4.6	**12.98**	**174**	P	**Pn**	**03 00 32.1**	**-1.4**
FITZ	**Fitzroy Crossi** baz=15,SNR=3.2	**15.04**	**125**	P	**Pn**	**03 01 01.7**	**+0.2**
FITZ	**Fitzroy Crossi** 0.3nm,0.3s,baz=290,slow=9.9,SNR=10	**15.04**	**125**	P	**Pn**	**03 00 59.4**	**-2.1**
PPI	**Padang Panjang** baz=15,SNR=3.8	**15.34**	**306**	P	Pn	03 00 57.0	-8.6
MEEK	**Meekatharra** baz=18,SNR=9.1	**17.76**	**163**	P	**P**	**03 01 36.0**	**-0.7**
MTN	**Manton Dam** baz=19,SNR=5.4	**18.28**	**102**	P	**Pn**	**03 01 43.1**	**+0.5**
FAKI	**Fak Fak** baz=21,SNR=5.0	**20.48**	**72**	P	**P**	**03 02 06.4**	**-0.1**
ASAR	**Alice Springs** 3.8nm,0.6s,baz=304,slow=9.1,SNR=36	**24.52**	**127**	P	**P**	**03 02 48.7**	**+0.8**
CMAR	**Chiang Mai Arr** 2.0nm,0.3s,baz=159,slow=7.7,SNR=4.4	**31.10**	**334**	P	**P**	**03 03 48.4**	**+1.6**
CMAR	comp=Z,52nm,20.2s,baz=180,slow=39			LR	LR	03 17 44.8	
STKA	**Stephens Creek** 2.1nm,0.8s,baz=344,slow=8.8,SNR=3.1	**34.66**	**134**	P	**P**	**03 04 18.8**	**+1.0**
STKA	comp=Z,134nm,20.4s,baz=22,slow=34			LR	LR	03 17 00.8	
H08S2	**Diego Garcia H** baz=95,slow=0.7,SNR=4.2	**39.85**	**270**	T	T	03 47 17.7	
H08S3	**Diego Garcia H** baz=95,slow=0.7,SNR=3.6	**39.87**	**270**	T	T	03 47 15.5	
H08S1	**Diego Carcia H** baz=95,slow=0.7,SNR=4.3	**39.87**	**270**	T	T	03 47 18.7	
LHI	**Lord Howe Isla** baz=48,SNR=4.4	**48.04**	**124**	P	**P**	**03 06 10.5**	**+2.9**
KSRS	**Korea Array** comp=Z,47nm,18.1s,baz=65,slow=38	**48.98**	**16**	LR	LR	03 28 33.4	
MJAR	**Matsushiro Arr** 2.4nm,0.6s,baz=203,slow=8.3,SNR=7.6	**51.82**	**26**	P	P	03 06 33.3	-2.8
USRK	**Ussuriysk Arra** 4.0nm,1.0s,baz=200,slow=5.1,SNR=4.8	**56.38**	**17**	P	**P**	**03 07 06.9**	**-2.3**
SONM	**Songino Array** 1.9nm,0.6s,baz=172,slow=8.2,SNR=9.3	**57.53**	**355**	P	**P**	**03 07 16.4**	**-1.1**
MKAR	**Makanchi Array** 1.7nm,0.5s,baz=151,slow=7.3,SNR=30	**62.45**	**337**	P	**P**	**03 07 50.0**	**-1.1**
KURBB	**Kurchatov Arra** 0.4nm,0.6s,baz=152,slow=5.4,SNR=4.6	**67.01**	**337**	P	**P**	**03 08 19.6**	**-1.1**
ZALV	**Zalesovo Beam** 1.2nm,0.4s,baz=149,slow=3.9,SNR=7.5	**67.65**	**343**	P	**P**	**03 08 23.1**	**-1.7**
BRTR	**Keskin Array B** 0.7nm,0.9s,baz=108,slow=4.4,SNR=2.9	**87.87**	**311**	P	**P**	**03 10 18.2**	**+0.4**

*IDC **29** 02:57:37.8±1.0,6˙03S×151˙79E,h0km,mb4.1/10, mb1 4.3/11,mb1mx4.1/20,mbtmp4.1/11,ML3.6/1,Error ellipse: s-maj=36.1km s-min=17.6km az=112.0*

*ISCJB **29** 02:57:41.5±0.7,6˙14S±0˙10×151˙8E±0˙1,h36km, mb4.0/10,Error ellipse: s-maj=19.5km s-min=10.1km az=35.8*

*AUST **29** 02:58:23.8±30.0,9˙84S×149˙26E,h0km,Error ellipse: s-maj=1.2km s-min=1.1km az=7.0*

ISC 29 02:57:43.2±1.0,**6˙1S**±0˙1×**151˙8E**±0˙2,**h36**km,**n15,** σ1**9**07/15,**mb4.0**/10,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 12nm,0.3s,baz=52,slow=7.0,SNR=21	**5.68**	**234**	Pn	**Pn**	**02 59 05.7**	**+0.5**
PMG	7.6nm,0.3s,baz=120,slow=18,SNR=6.1			Sn	**Sn**	**03 00 09.4**	**+0.2**
KDU	**Kakadu** baz=17,SNR=5.2	**20.18**	**250**	P	Pn	03 02 19.2	+2.3
RMQ	**Roma** baz=17,SNR=4.5	**20.50**	**188**	P	**P**	**03 02 18.0**	**-0.3**
QLP	**Quilpie** baz=17,SNR=3.2	**21.64**	**199**	P	**P**	**03 02 29.3**	**-1.2**
WRA	**Warramunga Arr** 1.9nm,0.7s,baz=59,slow=11,SNR=11	**21.88**	**229**	P	**P**	**03 02 31.6**	**-1.5**
ASAR	**Alice Springs** 4.9nm,0.7s,baz=56,slow=9.3,SNR=27	**24.56**	**223**	P	**P**	**03 02 58.9**	**-1.0**
STKA	**Stephens Creek** 3.6nm,0.8s,baz=17,slow=13,SNR=6.8	**27.39**	**199**	P	**P**	**03 03 25.5**	**+0.2**
FITZ	**Fitzroy Crossi** 7.3nm,0.6s,baz=27,slow=9.0,SNR=7.8	**29.20**	**243**	P	**P**	**03 03 32.7**	**-0.1**
SONM	**Songino Array** 1.0nm,0.8s,baz=151,slow=4.6,SNR=3.6	**66.89**	**329**	P	**P**	**03 08 32.3**	**+0.4**
VNDA	**Vanda** 1.3nm,0.8s,baz=323,slow=4.6,SNR=4.8	**71.60**	**178**	P	**P**	**03 09 01.8**	**+1.4**
MKAR	**Makanchi Array** 0.6nm,0.8s,baz=104,slow=6.1,SNR=3.0	**80.65**	**319**	P	**P**	**03 09 54.2**	**+1.8**
ZALV	**Zalesovo Beam** 0.9nm,0.4s,baz=125,slow=4.8,SNR=4.4	**81.67**	**327**	P	**P**	**03 09 56.0**	**-1.7**
ILAR	**Eielson Array** 2.7nm,0.7s,baz=248,slow=5.2,SNR=44	**83.70**	**22**	P	**P**	**03 10 07.8**	**-0.3**
KURBB	**Kurchatov Arra** 0.4nm,0.7s,baz=112,slow=3.5,SNR=4.4	**84.20**	**322**	P	**P**	**03 10 10.7**	**-0.2**
TORD	**Torodi Ar. Bea** 2.1nm,0.6s,baz=90,slow=2.1,SNR=25	**149.75**	**286**	PKPbc	**PKPbc**	**03 17 29.6**	**-0.8**

*ISCJB **29** 03:21:20.1±0.4,41˙68N±0˙01×23˙86E±0˙02,h7km±3km, Error ellipse: s-maj=2.1km s-min=1.9km az=176.5*

*SOF **29** 03:21:20.1,41˙71N×23˙92E,h5km,MD3.0*

*THE **29** 03:21:20.9,41˙66N×23˙91E,h2km,ML3.5/13,Error ellipse: s-maj=1.0km s-min=0.5km az=282.0*

*ATH **29** 03:21:20.2,41˙66N×23˙88E,h24km±1km,MD3.4/28*

*CSEM **29** 03:21:20.7±0.1,41˙66N×23˙88E,h5km,MD3.0,Error ellipse: s-maj=2.4km s-min=1.9km az=96.0*

*SKO **29** 03:21:21.7,41˙72N×23˙82E,h6km*

*BEO **29** 03:21:22.2±0.5,41˙74N×23˙89E,h10km±2km,ML3.6/8*

ISC 29 03:21:20.4±0.8,**41˙70N**±0˙01×**23˙91E**±0˙01,**h8**km±7km, **n292,** σ1**9**26/362,**32C-18D,Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMB	**Musomiste**	**0.17**	**232**	*i* P	**Pg**	**03 21 24.4**	**+0.4**
MMB	**Musomiste**	**0.17**	**232**	*i* P	**Pg**	**03 21 24.4**	**+0.4**
NVR	**Nevrokopi**	**0.35**	**186**	P	**Pg**	**03 21 27.2**	**0.0**
NVR				S	**Sg**	**03 21 32.4**	**+0.6**
NVR	**Nevrokopi**	**0.35**	**186**	*e*PB	**Pg**	**03 21 27.3**	**0.0**
NVR				*e*SB	**Sg**	**03 21 32.4**	**+0.6**
NVR	**Nevrokopi**	**0.35**	**186**	P	**Pg**	**03 21 27.2**	**0.0**
NVR				S	**Sg**	**03 21 32.4**	**+0.6**
RZN	**Rozhen**	**0.60**	**90**	*i* P	**Pg**	**03 21 32.5**	**+0.4**
RZN	**Rozhen**	**0.60**	**90**	*i* P	**Pg**	**03 21 32.5**	**+0.4**
SRS	**Serrai**	**0.62**	**203**	P	**Pg**	**03 21 32.5**	**0.0**
SRS				S	**Sg**	**03 21 41.4**	**+0.8**
SRS	**Serrai**	**0.62**	**203**	*e*PN	**Pg**	**03 21 32.4**	**0.0**
SRS				*e*SN	**Sg**	**03 21 40.6**	**0.0**
SRS	**Serrai**	**0.62**	**203**	*e*Pn	**Pg**	**03 21 32.4**	**0.0**
SRS				*e*Sn	**Sg**	**03 21 40.6**	**0.0**
SRS				S	**Sg**	**03 21 41.4**	**+0.8**
KKB	**Krupnik**	**0.64**	**286**	*i* P	**Pg**	**03 21 32.2**	**-0.6**
KKB	**Krupnik**	**0.64**	**286**	*i* P	**Pg**	**03 21 32.2**	**-0.6**
PLD	**Plovdiv**	**0.72**	**55**	P	**Pb**	**03 21 35.3**	**+0.1**
PLD				S	**Sb**	**03 21 45.6**	**+0.4**
PLD	**Plovdiv**	**0.72**	**55**	*e*Pg	**Pb**	**03 21 35.1**	**-0.1**
PLD				*e*Sg	**Sb**	**03 21 45.3**	**+0.1**
PLD	**Plovdiv**	**0.72**	**55**	*i* P	**Pb**	**03 21 35.4**	**+0.2**
PLD	**Plovdiv**	**0.72**	**55**	P	**Pb**	**03 21 35.3**	**+0.1**
PLD				*e*Sg	**Sb**	**03 21 45.3**	**+0.1**
KAVA	**Kavala**	**0.83**	**147**	P	**Pg**	**03 21 36.0**	**-0.4**
KAVA				S	**Sg**	**03 21 47.6**	**+0.4**
KAVA	**Kavala**	**0.83**	**147**	*e*PN	**Pg**	**03 21 35.9**	**-0.4**
KAVA				*e*SN	**Sg**	**03 21 47.7**	**+0.5**
KAVA	**Kavala**	**0.83**	**147**	P	**Pg**	**03 21 35.9**	**-0.4**
KAVA				*e*Sn	**Sg**	**03 21 47.7**	**+0.5**
PGB	**Panagyurishte**	**0.88**	**13**	*i* P	**Pg**	**03 21 36.8**	**-0.4**
PGB	**Panagyurishte**	**0.88**	**13**	*i* P	**Pg**	**03 21 36.8**	**-0.4**
KNT	**Kendrikon**	**0.93**	**235**	P	**Pg**	**03 21 37.9**	**-0.3**
KNT				S	**Sb**	**03 21 50.5**	**-0.7**
KNT	**Kendrikon**	**0.93**	**235**	*e*PN	**Pg**	**03 21 37.8**	**-0.4**
KNT	**Kendrikon**	**0.93**	**235**	P	**Pg**	**03 21 37.9**	**-0.3**
KNT				S	**Sb**	**03 21 50.5**	**-0.7**
SOH	**Sokhos**	**0.97**	**206**	P	**Pg**	**03 21 38.6**	**-0.4**
SOH				S	**Sg**	**03 21 51.5**	**-0.1**
SOH	**Sokhos**	**0.97**	**206**	*e*PN	**Pg**	**03 21 38.6**	**-0.4**
SOH				*e*SN	**Sg**	**03 21 51.3**	**-0.3**
SOH	**Sokhos**	**0.97**	**206**	P	**Pg**	**03 21 38.6**	**-0.4**
SOH				S	**Sg**	**03 21 51.5**	**-0.1**
VTS	**Vitosha**	**1.04**	**330**	P	**Pb**	**03 21 40.2**	**-0.5**
VTS				S	**Sn**	**03 21 56.7**	**+0.6**
VTS	**Vitosha**	**1.04**	**330**	⇑*i*Pg	**Pb**	**03 21 40.0**	**-0.6**
VTS				*e*Sg	**Sb**	**03 21 55.1**	**+0.6**
VTS	**Vitosha**	**1.04**	**330**	⇓*i*P	**Pb**	**03 21 40.7**	**0.0**
VTS	**Vitosha**	**1.04**	**330**	*i* P	**Pb**	**03 21 40.1**	**-0.6**
VTS	**Vitosha**	**1.04**	**330**	P	**Pb**	**03 21 40.2**	**-0.5**
VTS				*e*Sg	**Sb**	**03 21 55.1**	**+0.6**
VTS				S	**Sn**	**03 21 56.7**	**+0.6**
VAY	**Valandovo**	**1.07**	**250**	P	**Pb**	**03 21 40.9**	**-0.3**
VAY				S	**Sn**	**03 21 56.8**	**+0.1**
VAY	**Valandovo**	**1.07**	**250**	*e*Pg	**Pg**	**03 21 40.6**	**-0.3**
VAY				*e*Sg	**Sg**	**03 21 54.6**	**-0.3**
VAY	**Valandovo**	**1.07**	**250**	P	**Pb**	**03 21 40.9**	**-0.3**
VAY				S	**Sn**	**03 21 56.8**	**+0.1**
KDZ	**Kurdzhali**	**1.13**	**92**	*i* P	**Pg**	**03 21 40.7**	**-1.4**
KDZ	**Kurdzhali**	**1.13**	**92**	*i* P	**Pg**	**03 21 40.7**	**-1.4**
HORT	**Hortiatis**	**1.25**	**209**	P	**Pg**	**03 21 43.8**	**-0.7**
HORT				S	**Sb**	**03 22 01.1**	**+0.4**
HORT	**Hortiatis**	**1.25**	**209**	*e*PN	**Pg**	**03 21 43.7**	**-0.7**
HORT				*e*SN	**Sg**	**03 22 00.3**	**-0.5**
HORT	**Hortiatis**	**1.25**	**209**	P	**Pg**	**03 21 43.8**	**-0.7**
HORT				*e*Sn	**Sg**	**03 22 00.3**	**-0.5**
HORT				S	**Sb**	**03 22 01.1**	**+0.4**
DIM	**Dimitrovgrad**	**1.26**	**73**	*i* P	**Pn**	**03 21 45.0**	**+0.7**
DIM	**Dimitrovgrad**	**1.26**	**73**	*i* P	**Pn**	**03 21 45.0**	**+0.7**
THE	**Thessaloniki**	**1.28**	**214**	P	**Pg**	**03 21 44.3**	**-0.6**
THE				S	**Sb**	**03 22 01.3**	**+0.1**
THE	**Thessaloniki**	**1.28**	**214**	P	**Pg**	**03 21 44.3**	**-0.6**
THE				S	**Sb**	**03 22 01.3**	**+0.1**
RDO	**Rodhopi**	**1.34**	**114**	P	**Pn**	**03 21 45.4**	**+0.1**
RDO				S	**Sg**	**03 22 03.7**	**+0.2**
RDO	**Rodhopi**	**1.34**	**114**	*e*PN	**Pn**	**03 21 45.5**	**+0.1**
RDO	**Rodhopi**	**1.34**	**114**	*e*Pn	**Pn**	**03 21 45.5**	**+0.1**
RDO				S	**Sg**	**03 22 03.7**	**+0.2**
OUR	**Ouranopolis**	**1.36**	**178**	P	**Pn**	**03 21 45.1**	**-0.5**
OUR				S	**Sb**	**03 22 04.3**	**+0.7**
OUR	**Ouranopolis**	**1.36**	**178**	*e*PN	**Pn**	**03 21 45.1**	**-0.5**
OUR				*e*SN	**Sg**	**03 22 03.8**	**-0.8**
OUR	**Ouranopolis**	**1.36**	**178**	P	**Pn**	**03 21 45.1**	**-0.5**
OUR				*e*Sn	**Sg**	**03 22 03.3**	**-0.8**
OUR				S	**Sb**	**03 22 04.3**	**+0.7**
PLG	**Polygyros**	**1.37**	**195**	P	**Pn**	**03 21 45.9**	**+0.2**
PLG				S	**Sn**	**03 22 04.9**	**+0.9**
PLG	**Polygyros**	**1.37**	**195**	*e*PN	**Pn**	**03 21 45.9**	**+0.2**
PLG				*e*SN	**Sg**	**03 22 03.5**	**-0.8**
PLG	**Polygyros**	**1.37**	**195**	P	**Pn**	**03 21 45.9**	**+0.2**
PLG				*e*Sn	**Sg**	**03 22 03.5**	**-0.8**
PLG				S	**Sn**	**03 22 04.9**	**+0.9**
MPEP	**Malo Peshtene**	**1.66**	**356**	*i* P	**Pg**	**03 21 52.2**	**-0.1**
SMTH	**Samothraki Isl**	**1.73**	**134**	P	**Pn**	**03 21 50.4**	**-0.4**
SMTH				S	**Sn**	**03 22 14.4**	**+1.4**
SMTH	**Samothraki Isl**	**1.73**	**134**	*e*PB	**Pn**	**03 21 50.0**	**-0.8**
SMTH				*e*SN	**Sn**	**03 22 13.2**	**+0.2**
SMTH	**Samothraki Isl**	**1.73**	**134**	*e*Pb	**Pn**	**03 21 50.0**	**-0.8**
SMTH	**Samothraki Isl**	**1.73**	**134**	P	**Pn**	**03 21 50.4**	**-0.4**
SMTH				*e*Sn	**Sn**	**03 22 13.2**	**+0.2**
SMTH				S	**Sn**	**03 22 14.4**	**+1.4**
PAIG	**Paliouri**	**1.77**	**186**	P	**Pn**	**03 21 50.8**	**-0.5**
PAIG				S	**Sn**	**03 22 15.2**	**+1.2**
PAIG	**Paliouri**	**1.77**	**186**	*e*PN	**Pn**	**03 21 50.8**	**-0.5**
PAIG				*e*SN	**Sn**	**03 22 13.1**	**-0.9**
PAIG	**Paliouri**	**1.77**	**186**	P	**Pn**	**03 21 50.8**	**-0.5**
PAIG				*e*Sn	**Sn**	**03 22 13.1**	**-0.9**
PAIG				S	**Sn**	**03 22 15.2**	**+1.2**
ALN	**Alexandroupoli**	**1.80**	**116**	P	**Pn**	**03 21 52.2**	**+0.6**
ALN				S	**Sb**	**03 22 16.5**	**+0.4**
ALN	**Alexandroupoli**	**1.80**	**116**	*e*PN	**Pn**	**03 21 52.3**	**+0.6**
ALN				*e*SN	**Sb**	**03 22 16.6**	**+0.4**
ALN	**Alexandroupoli**	**1.80**	**116**	P	**Pn**	**03 21 52.2**	**+0.6**
ALN				S	**Sb**	**03 22 16.5**	**+0.4**
ZAPS	**Zavoj**	**1.84**	**330**	⇑*e*Pn	**Pb**	**03 21 53.5**	**-0.8**
ZAPS				*e*Sn	**Sn**	**03 22 15.1**	**-0.6**
PVL	**Pavlikeni**	**1.85**	**34**	*i* P	**Pn**	**03 21 53.3**	**+1.0**
PVL	**Pavlikeni**	**1.85**	**34**	*i* P	**Pn**	**03 21 53.4**	**+1.0**
SKO	**Skopje**	**1.87**	**279**	*e*Sg	**Sg**	**03 22 21.0**	**+0.7**
SKO	**Skopje**	**1.87**	**279**	*e*Sg	**Sg**	**03 22 21.0**	**+0.7**
ENEZ	**Enez**	**1.94**	**119**	*e*PN	**Pb**	**03 21 55.4**	**-0.6**
ENEZ	**Enez**	**1.94**	**119**	*e*Pn	**Pb**	**03 21 55.4**	**-0.6**
LIA	**Limnos Island**	**2.04**	**151**	P	**Pn**	**03 21 54.6**	**-0.4**
LIA				S	**Sn**	**03 22 22.1**	**+1.5**
LIA	**Limnos Island**	**2.04**	**151**	*e*PB	**Pn**	**03 21 54.5**	**-0.4**
LIA	**Limnos Island**	**2.04**	**151**	P	**Pn**	**03 21 54.6**	**-0.4**
LIA				S	**Sn**	**03 22 22.1**	**+1.5**
BIA	**Bitola**	**2.06**	**252**	P	**Pn**	**03 21 55.1**	**-0.2**
BIA				S	**Sb**	**03 22 23.1**	**-0.7**
BIA	**Bitola**	**2.06**	**252**	*e*Pn	**Pn**	**03 21 55.4**	**+0.1**
BIA	**Bitola**	**2.06**	**252**	P	**Pn**	**03 21 55.1**	**-0.2**
BIA				S	**Sb**	**03 22 23.1**	**-0.7**
FNA	**Florina**	**2.12**	**245**	P	**Pn**	**03 21 56.4**	**+0.3**
FNA				S	**Sn**	**03 22 24.1**	**+1.5**
FNA	**Florina**	**2.12**	**245**	*e*PN	**Pn**	**03 21 56.3**	**+0.2**
FNA	**Florina**	**2.12**	**245**	*e*Pn	**Pn**	**03 21 56.3**	**+0.2**
FNA				S	**Sn**	**03 22 24.1**	**+1.5**
EDRB	**Edirne**	**2.13**	**85**	*e*PN	**Pn**	**03 21 55.9**	**-0.3**
EDRB	**Edirne**	**2.13**	**85**	P	**Pn**	**03 21 57.3**	**+1.1**
EDRB				S	**Sb**	**03 22 25.2**	**-0.4**
EDRB	**Edirne**	**2.13**	**85**	*e*Pn	**Pn**	**03 21 55.9**	**-0.3**
EDRB	**Edirne**	**2.13**	**85**	P	**Pn**	**03 21 57.3**	**+1.1**
EDRB				S	**Sb**	**03 22 25.2**	**-0.4**
KZN	**Kozani**	**2.13**	**230**	P	**Pn**	**03 21 56.4**	**+0.1**
KZN	**Kozani**	**2.13**	**230**	*e*PN	**Pn**	**03 21 56.2**	**-0.1**
KZN	**Kozani**	**2.13**	**230**	P	**Pn**	**03 21 56.4**	**+0.1**
JMB	**Yambol**	**2.13**	**68**	P	**Pn**	**03 21 57.6**	**+1.3**
JMB	**Yambol**	**2.13**	**68**	*e*Pn	**Pn**	**03 21 57.7**	**+1.4**
JMB				*e*Sn	**Sb**	**03 22 25.3**	**-0.6**
JMB	**Yambol**	**2.13**	**68**	P	**Pn**	**03 21 57.6**	**+1.3**
JMB				*e*Sn	**Sb**	**03 22 25.3**	**-0.6**
ERIK	**Erikli-Kesan**	**2.22**	**117**	*e*PN	**Pn**	**03 21 59.1**	**+1.7**
ERIK	**Erikli-Kesan**	**2.22**	**117**	*e*Pn	**Pn**	**03 21 59.1**	**+1.7**
ZIMR		**2.23**	**28**	⇓*i*P	**Pb**	**03 22 00.1**	**-0.9**
GELI	**Tayfur-Gelibol**	**2.33**	**123**	*e*PN	**Pn**	**03 21 59.0**	**0.0**
GELI	**Tayfur-Gelibol**	**2.33**	**123**	*e*Pn	**Pn**	**03 21 59.0**	**0.0**
XOR	**Xorichti**	**2.39**	**193**	P	**Pn**	**03 21 59.5**	**-0.3**
XOR				S	**Sn**	**03 22 30.9**	**+1.6**
XOR	**Xorichti**	**2.39**	**193**	*e*PN	**Pn**	**03 21 59.5**	**-0.3**
XOR	**Xorichti**	**2.39**	**193**	P	**Pn**	**03 21 59.5**	**-0.3**
XOR				S	**Sn**	**03 22 30.9**	**+1.6**
NEO	**Neokhori**	**2.44**	**193**	*e*PN	**Pn**	**03 22 00.0**	**-0.5**
NEO	**Neokhori**	**2.44**	**193**	*e*Pn	**Pn**	**03 22 00.0**	**-0.5**
AOS	**Alonnisos**	**2.52**	**181**	P	**Pn**	**03 22 01.3**	**-0.3**
AOS	**Alonnisos**	**2.52**	**181**	*e*PN	**Pn**	**03 22 00.6**	**-1.0**
AOS	**Alonnisos**	**2.52**	**181**	*e*Pn	**Pn**	**03 22 00.6**	**-1.0**
AOS	**Alonnisos**	**2.52**	**181**	P	**Pn**	**03 22 01.3**	**-0.3**
LPK	**Lapseki**	**2.53**	**121**	*e*PN	**Pn**	**03 22 02.7**	**+1.0**
LPK	**Lapseki**	**2.53**	**121**	*e*Pn	**Pn**	**03 22 02.7**	**+1.0**
SKIA	**Skiathos**	**2.55**	**188**	*e*PN	**Pn**	**03 21 59.8**	**-2.2**
SKIA	**Skiathos**	**2.55**	**188**	*e*Pn	**Pn**	**03 21 59.8**	**-2.2**
SELS	**Selova**	**2.57**	**307**	*e*SN	**Sn**	**03 22 34.4**	**+0.8**
SELS	**Selova**	**2.57**	**307**	*e*Sn	**Sn**	**03 22 34.4**	**+0.8**
THL	**Klokotos Trika**	**2.57**	**215**	P	**Pn**	**03 22 01.6**	**-0.7**
THL	**Klokotos Trika**	**2.57**	**215**	*e*PN	**Pn**	**03 22 01.3**	**-1.0**
THL	**Klokotos Trika**	**2.57**	**215**	*e*Pn	**Pn**	**03 22 01.3**	**-1.0**
THL	**Klokotos Trika**	**2.57**	**215**	P	**Pn**	**03 22 01.6**	**-0.7**
BOLS	**Boljevac**	**2.57**	**327**	*e*Pn	**Pn**	**03 22 01.8**	**-0.5**
BOLS				*e*Sn	**Sn**	**03 22 33.9**	**+0.1**
BOLS	**Boljevac**	**2.57**	**327**	*e*Pn	**Pn**	**03 22 01.8**	**-0.5**
BOLS				*e*Sn	**Sn**	**03 22 33.9**	**+0.1**
RKY	**Sarkoy-Tekirda**	**2.66**	**111**	*e*PN	**Pn**	**03 22 06.2**	**+2.6**
RKY	**Sarkoy-Tekirda**	**2.66**	**111**	*e*Pn	**Pn**	**03 22 06.2**	**+2.6**
PHSR	**Pinarhisar**	**2.71**	**90**	*e*Pn	**Pn**	**03 22 02.5**	**-1.7**
PHSR	**Pinarhisar**	**2.71**	**90**	*e*Pn	**Pn**	**03 22 02.5**	**-1.7**
TKR	**Tekirdag**	**2.82**	**103**	*e*PN	**Pn**	**03 22 09.4**	**-1.5**
TKR	**Tekirdag**	**2.82**	**103**	*e*Pn	**Pb**	**03 22 09.4**	**-1.5**
SMIA	**Simia**	**2.86**	**191**	*e*PB	**Pn**	**03 22 07.1**	**+0.8**
SMIA	**Simia**	**2.86**	**191**	*e*Pb	**Pn**	**03 22 07.1**	**+0.8**
KRBG	**Karabiga-Canak**	**2.87**	**116**	*e*PN	**Pn**	**03 22 08.4**	**+2.0**
KRBG	**Karabiga-Canak**	**2.87**	**116**	*e*Pn	**Pn**	**03 22 08.4**	**+2.0**
SIGR	**SIGRI**	**2.89**	**148**	P	**Pn**	**03 22 06.7**	**0.0**
SIGR	**SIGRI**	**2.89**	**148**	*e*PN	**Pn**	**03 22 06.7**	**0.0**
SIGR	**SIGRI**	**2.89**	**148**	P	**Pn**	**03 22 06.7**	**0.0**
AGG	**Agios Georgios**	**2.93**	**205**	P	**Pn**	**03 22 07.8**	**+0.5**
AGG	**Agios Georgios**	**2.93**	**205**	*e*PN	**Pn**	**03 22 07.4**	**+0.1**
AGG	**Agios Georgios**	**2.93**	**205**	*e*Pn	**Pn**	**03 22 07.4**	**+0.1**
AGG	**Agios Georgios**	**2.93**	**205**	P	**Pn**	**03 22 07.8**	**+0.5**
CRLT	**Corlu**	**2.93**	**100**	*e*PN	**Pb**	**03 22 11.8**	**-1.1**
CRLT	**Corlu**	**2.93**	**100**	*e*Pn	**Pb**	**03 22 11.8**	**-1.1**
MRKA	**Markates**	**3.00**	**185**	*e*PN	**Pn**	**03 22 07.9**	**-0.3**

BZS	**Buzias**	**4.26**	**338**	⇑*iP*	**Pn**	**03 22 24.2**	**-1.3**
TIRR	**Tirgusor**	**4.30**	**49**	⇑*iP*	Pn	03 22 22.5	-3.5
TIRR	**Tirgusor**	**4.30**	**49**	S	**Sb**	**03 23 32.5**	**+4.3**
TIRR	**Tirgusor**	**4.30**	**49**	⇑*iP*	Pn	03 22 22.5	-3.5
DOPR	**Dopca**	**4.40**	**14**	⇑*iP*	**Pn**	**03 22 30.5**	**+3.0**
DOPR	**Dopca**	**4.40**	**14**	⇑*iP*	**Pn**	**03 22 30.5**	**+3.0**
HRT	**Hereke**	**4.43**	**99**	*e*PN	Pn	03 22 33.3	+5.4
HRT	**Hereke**	**4.43**	**99**	*e*Pn	Pn	03 22 33.3	+5.4
VLX	**Vlachokerasia**	**4.48**	**196**	*e*PN	**Pn**	**03 22 29.6**	**+1.0**
VLX	**Vlachokerasia**	**4.48**	**196**	*e*Pn	**Pn**	**03 22 29.6**	**+1.0**
AMT	**Artemida-Makis**	**4.49**	**203**	*e*PN	**Pn**	**03 22 30.0**	**+1.3**
AMT	**Artemida-Makis**	**4.49**	**203**	*e*Pn	**Pn**	**03 22 30.0**	**+1.3**
FGSL	**Fruska Gora**	**4.57**	**321**	*e*Pn	**Pn**	**03 22 30.5**	**+0.7**
FGSL				*e*Sn	**Sn**	**03 23 21.2**	**-1.8**
FRGS	**Fruska Gora**	**4.57**	**321**	*e*Pn	**Pn**	**03 22 30.5**	**+0.7**
FRGS				*e*Sn	**Sn**	**03 23 21.2**	**-1.8**
SMG	**Samos**	**4.58**	**149**	*e*PN	**Pn**	**03 22 27.6**	**-2.3**
SMG	**Samos**	**4.58**	**149**	*e*Pn	**Pn**	**03 22 27.6**	**-2.3**
PLOR	**Plostina**	**4.60**	**25**	⇑*iP*	**Pn**	**03 22 32.1**	**+1.8**
PLOR	**Plostina**	**4.60**	**25**	⇑*iP*	**Pn**	**03 22 32.1**	**+1.8**
VRI	**Vrincioaia**	**4.64**	**25**	⇓*iP*	**Pn**	**03 22 32.8**	**+2.0**
VRI	**Vrincioaia**	**4.64**	**25**	S	**Sg**	**03 23 44.5**	**-4.9**
VRI	**Vrincioaia**	**4.64**	**25**	⇓*iP*	**Pn**	**03 22 32.8**	**+2.0**
CFR	**Carcaliu**	**4.65**	**40**	⇑*iP*	**Pn**	**03 22 31.5**	**+0.7**
CFR	**Carcaliu**	**4.65**	**40**	S	**Sb**	**03 23 42.5**	**+4.4**
CFR	**Carcaliu**	**4.65**	**40**	⇓*iP*	**Pn**	**03 22 31.5**	**+0.7**
PETR	**Petresti**	**4.69**	**30**	⇓*iP*	**Pn**	**03 22 33.5**	**+2.1**
PETR	**Petresti**	**4.69**	**30**	⇓*iP*	**Pn**	**03 22 33.5**	**+2.1**
ITM	**Ithomi**	**4.76**	**199**	P	**Pn**	**03 22 32.7**	**+0.3**
ITM	**Ithomi**	**4.76**	**199**	P	**Pn**	**03 22 32.7**	**+0.3**
TVSB	**Tavsanli**	**4.79**	**116**	*e*PN	**Pn**	**03 22 34.3**	**+1.5**
TVSB	**Tavsanli**	**4.79**	**116**	*e*Pn	**Pn**	**03 22 34.3**	**+1.5**
AYDB	**Zeytinkoy-Aydi**	**4.84**	**139**	*e*PN	**Pn**	**03 22 30.9**	**-2.7**
AYDB	**Zeytinkoy-Aydi**	**4.84**	**139**	*e*Pn	**Pn**	**03 22 30.9**	**-2.7**
SIRR	**Siria**	**4.85**	**341**	⇑*iP*	**Pn**	**03 22 33.6**	**0.0**
SIRR	**Siria**	**4.85**	**341**	S	**Sb**	**03 23 41.3**	**-2.7**
SIRR	**Siria**	**4.85**	**341**	⇑*iP*	**Pn**	**03 22 33.6**	**0.0**
TLCR		**4.99**	**44**	⇑*iP*	**Pn**	**03 22 38.7**	**+3.2**
TLCR		**4.99**	**44**	⇑*iP*	**Pn**	**03 22 38.7**	**+3.2**
PYL	**PYLOS**	**5.08**	**200**	*e*PN	**Pn**	**03 22 38.4**	**+1.6**
PYL	**PYLOS**	**5.08**	**200**	*e*Pn	**Pn**	**03 22 38.4**	**+1.6**
GULT	**Gulveren**	**5.15**	**102**	*e*PN	Pn	03 22 42.7	+4.9
GULT	**Gulveren**	**5.15**	**102**	*e*Pn	Pn	03 22 42.7	+4.9
DRGR		**5.17**	**351**	⇓*iP*	**Pn**	**03 22 38.3**	**+0.3**
DRGR		**5.17**	**351**	⇓*iP*	**Pn**	**03 22 38.3**	**+0.3**
TESR	**Tescani**	**5.20**	**21**	⇑*iP*	**Pn**	**03 22 41.6**	**+3.1**
TESR	**Tescani**	**5.20**	**21**	⇑*iP*	**Pn**	**03 22 41.6**	**+3.1**
KHL	**Karahalli**	**5.47**	**126**	*e*PN	**Pn**	**03 22 43.0**	**+0.8**
KHL	**Karahalli**	**5.47**	**126**	*e*Pn	**Pn**	**03 22 43.0**	**+0.8**
ESKT	**Eskisehir**	**5.71**	**110**	*e*P	Pn	03 22 48.9	+3.4
BURAR	**Bucovina Array**	**5.99**	**9**	⇑*iP*	**Pn**	**03 22 51.0**	**+1.6**
BURAR	**Bucovina Array**	**5.99**	**9**	⇑*iP*	**Pn**	**03 22 51.0**	**+1.6**
KOLS	**Kolonicke sedl**	**7.33**	**352**	*e*PG	**Pg**	**03 23 40.2**	**-0.5**
KOLS				*e*SG	**Sg**	**03 25 14.3**	**-1.2**
KOLS	**Kolonicke sedl**	**7.33**	**352**	*e*Pg	**Pg**	**03 23 40.2**	**-0.5**
KOLS				*e*Sg	**Sg**	**03 25 14.3**	**-1.2**
CRES	**Cresnjev**	**7.38**	**307**	*i* Pn	**Pn**	**03 23 09.1**	**+0.8**
CRES				*i* Sn	**Sn**	**03 24 28.5**	**-3.7**
VISS	**Visnje**	**7.74**	**305**	*i* Pn	**Pn**	**03 23 15.2**	**+1.9**
VISS				*i* Sn	**Sn**	**03 24 42.9**	**+1.7**
VISS	**Visnje**	**7.74**	**305**	*i* Pn	**Pn**	**03 23 15.2**	**+1.9**
VISS				*i* Sn	**Sn**	**03 24 42.9**	**+1.7**

*ISCJB **29** 03:29:09.8±0.4,25°.28N±0°.03×140°.68E±0°.07, h98km, mb4.2/13, Error ellipse: s-maj=9.1km s-min=4.2km az=12.8*
*IDC **29** 03:29:13.7±1.2,25°.43N×141°.01E, h129km±11km, mb3.9/10, mb1 4.0/12, mb1mx3.7/27, mbtmp4.3/12, Error ellipse: s-maj=21.5km s-min=10.9km az=97.0*
*NEIC **29** 03:29:14.7±0.9,25°.39N×140°.98E, h138km±8km, mb4.5/3, Error ellipse: s-maj=14.7km s-min=7.2km az=89.0*
*JMA **29** 03:29:15.1±0.2,25°.73N×140°.78E, h0km, M5.4*

ISC 29 03:29:10.2±0.5,**25°.26N**±0°.04×**140°.88E**±0°.10,**h98**km,**n60,** σ1ᵍ**58**/59,**mb4.2**/13,**Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**1.80**	**40**	P	Pn	03 29 43.8	+3.7
JHHJ				S	**Sn**	**03 30 04.4**	**+1.5**
CBIJ	**Chichi jima**	**2.17**	**32**	P	Pn	03 29 48.3	+3.3
CBIJ				S	**Sn**	**03 30 13.0**	**+1.5**
CBIJ	**Chichi jima**	**2.17**	**32**	P	Pn	03 29 48.6	+3.7
CBIJ				S	**Sn**	**03 30 13.0**	**+1.5**
JCJ	**Chichijima**	**2.17**	**32**	P	Pn	03 29 48.6	+3.7
	252nm,0.3s,baz=236,slow=18,SNR=158						
JCJ				S	**Sn**	**03 30 13.0**	**+1.5**
	747nm,0.3s,baz=289,slow=22,SNR=34						
JHCJ	**Hachijojimakas**	**7.84**	**353**	P	Pn	03 31 05.3	+3.8
JHJ2	**Mitsune**	**7.88**	**353**	P	Pn	03 31 06.0	+4.0
BSO1	**Boso 1**	**9.36**	**1**	P	**Pn**	**03 31 22.8**	**+1.1**
BSO1				*e*S	**Sn**	**03 33 00.4**	**-4.5**
BSO4	**Boso 4**	**9.71**	**357**	P	**Pn**	**03 31 28.0**	**+1.2**
BSO4				*e*S	**Sn**	**03 33 14.4**	**+0.5**
HMMJ	**Hamamatsu 2**	**9.95**	**345**	P	Pn	03 31 34.8	+4.7
JOD2	**Odawara 2**	**10.09**	**352**	P	**Pn**	**03 31 34.0**	**+1.9**
JNY	**Yasuok**	**10.40**	**346**	P	Pn	03 31 39.8	+3.4
JGF	**Kuroka**	**10.74**	**344**	P	Pn	03 31 44.8	+3.7
JAG	**Ashikaga**	**11.20**	**354**	P	**Pn**	**03 31 45.7**	**-1.4**
JAG				*e*S	Sn	03 33 40.8	-9.4
JHO	**Hitachi**	**11.32**	**359**	P	**Pn**	**03 31 47.5**	**-1.3**
JHO				*e*S	Sn	03 33 42.3	-11
MJAR	**Matsushiro Arr**	**11.48**	**349**	P	**Pn**	**03 31 52.3**	**+1.4**
MJAR	**Matsushiro Arr**	**11.48**	**349**	P	**Pn**	**03 31 52.3**	**+1.4**
	2.6nm,0.3s,baz=163,slow=12,SNR=17						
MAJO	**Matsushiro**	**11.48**	**349**	*e*Pn	**Pn**	**03 31 53.2**	**+2.2**
	7.7nm,0.4s						
MAT	**Matsushiro**	**11.48**	**349**	P	**Pn**	**03 31 51.7**	**+0.8**
MAT				*e*S	**Sn**	**03 33 56.9**	**-0.2**
JFK	**Kawauchi**	**12.07**	**360**	P	**Pn**	**03 31 59.1**	**+0.3**
JFK				*e*S	Sn	03 33 58.9	-13
ERM	**Erimo**	**16.82**	**6**	*e*Pn	**P**	**03 33 01.9**	**+1.8**
	10nm,0.7s						
ERM				*e*S	**Sn**	**03 36 01.6**	**-4.6**
ASAJ	**Asahikawa**	**18.86**	**4**	*e*Pn	**Pn**	**03 33 24.9**	**+0.6**
	38nm,1.6s						
ASAJ	**Asahikawa**	**18.86**	**4**	P	**P**	**03 33 23.8**	**+1.2**
	2.1nm,0.3s,baz=221,slow=14,SNR=11						
SONM	**Songino Array**	**35.27**	**319**	P	**P**	**03 35 55.2**	**-0.4**
SONM	**Songino Array**	**35.27**	**319**	P	**P**	**03 35 55.2**	**-0.4**
	0.3nm,0.6s,baz=126,slow=7.4,SNR=2.8						
KDU	**Kakadu**	**38.60**	**193**	P	**P**	**03 36 25.9**	**+2.1**
	baz=24,SNR=5.8						
MTN	**Manton Dam**	**39.05**	**195**	P	**P**	**03 36 29.2**	**+1.6**
	baz=25,SNR=4.0						
WRAB	**Tennant Creek**	**45.37**	**189**	*e*P	**P**	**03 37 20.6**	**+1.6**
	22nm,0.6s						
WRA	**Warramunga Arr**	**45.38**	**189**	P	**P**	**03 37 20.6**	**+1.6**
WRA	**Warramunga Arr**	**45.38**	**189**	P	**P**	**03 37 20.6**	**+1.6**
	20nm,0.5s,baz=11,slow=6.8,SNR=287						
FITZ	**Fitzroy Crossi**	**45.58**	**200**	P	**P**	**03 37 22.9**	**+2.2**
FITZ	**Fitzroy Crossi**	**45.58**	**200**	P	**P**	**03 37 23.0**	**+2.4**
	baz=32,SNR=8.1						
FITZ	**Fitzroy Crossi**	**45.58**	**200**	P	**P**	**03 37 22.9**	**+2.2**
	2.1nm,0.5s,baz=36,slow=10.0,SNR=9.4						
ASAR	**Alice Springs**	**49.10**	**188**	P	**P**	**03 37 49.2**	**+1.3**
ASAR	**Alice Springs**	**49.10**	**188**	P	**P**	**03 37 49.2**	**+1.3**
	1.2nm,0.6s,baz=19,slow=10,SNR=18						
KURK	**Kurchatov**	**53.45**	**316**	P	**P**	**03 38 20.7**	**+0.6**
KURBB	**Kurchatov Arra**	**53.50**	**315**	P	**P**	**03 38 20.7**	**+0.2**
	0.6nm,0.2s,baz=91,slow=7.7,SNR=4.5						
STKA	**Stephens Creek**	**56.82**	**179**	P	**P**	**03 38 45.5**	**+1.1**
STKA	**Stephens Creek**	**56.82**	**179**	P	**P**	**03 38 45.6**	**+1.1**
	baz=41,SNR=18						
STKA	**Stephens Creek**	**56.82**	**179**	P	**P**	**03 38 45.5**	**+1.1**
	8.6nm,0.5s,baz=348,slow=7.2,SNR=34						
BBOO	**Buckleboo**	**57.93**	**185**	P	**P**	**03 38 53.4**	**+1.2**
	baz=42,SNR=6.3						
HTT	**Hallett**	**58.40**	**182**	P	**P**	**03 38 57.2**	**+1.7**
	baz=42,SNR=3.9						
ILAR	**Eielson Array**	**59.88**	**28**	P	**P**	**03 39 03.9**	**-1.5**
ILAR	**Eielson Array**	**59.88**	**28**	P	**P**	**03 39 03.9**	**-1.5**
	1.6nm,0.8s,baz=256,slow=6.0,SNR=16						
ARPS	**Mount Arapiles**	**61.70**	**179**	P	**P**	**03 39 19.6**	**+1.6**
	baz=46,SNR=6.0						
NWAO	**Narrogin (SRO)**	**62.10**	**202**	P	**P**	**03 39 22.1**	**+1.4**
NWAO	**Narrogin (SRO)**	**62.10**	**202**	P	**P**	**03 39 22.1**	**+1.4**
	7.9nm,0.6s,baz=40,slow=7.7,SNR=3.5						
YKA	**Yellowknife Ar**	**74.31**	**28**	P	**P**	**03 40 35.3**	**-1.3**
YKA	**Yellowknife Ar**	**74.31**	**28**	P	**P**	**03 40 35.3**	**-1.3**
	2.2nm,0.7s,baz=298,slow=6.2,SNR=2.8						

FINES	**FINESS Array B**	**79.07**	**334**	P	**P**	**03 41 02.2**	**-1.2**
FINES	**FINESS Array B**	**79.07**	**334**	P	**P**	**03 41 02.2**	**-1.2**
	1.1nm,0.4s,baz=75,slow=4.4,SNR=12						
NVAR	**Mina Array Bea**	**82.58**	**51**	P	**P**	**03 41 22.6**	**-0.3**
NVAR	**Mina Array Bea**	**82.58**	**51**	P	**P**	**03 41 22.6**	**-0.3**
	0.2nm,0.4s,baz=309,slow=5.7,SNR=2.2						
AKASG	**Malin Array Be**	**83.39**	**323**	P	**P**	**03 41 25.6**	**-1.0**
AKASG	**Malin Array Be**	**83.39**	**323**	P	**P**	**03 41 25.6**	**-1.0**
	0.3nm,0.4s,baz=46,slow=5.2,SNR=4.2						
TORD	**Torodi Ar. Bea**	**124.86**	**309**	PKP	**PKPdf**	**03 47 59.1**	**-0.4**
TORD	**Torodi Ar. Bea**	**124.86**	**309**	PKP	**PKPdf**	**03 47 59.1**	**-0.4**
	0.1nm,0.4s,baz=58,slow=0.3,SNR=7.1						
PLCA	**Paso Flores**	**149.66**	**128**	PKPbc	**PKPbc**	**03 48 48.0**	**-0.6**
PLCA	**Paso Flores**	**149.66**	**128**	PKPbc	**PKPbc**	**03 48 48.0**	**-0.6**
	1.0nm,0.5s,baz=276,slow=4.2,SNR=4.1						
LPAZ	**La Paz**	**151.50**	**77**	PKPbc	**PKPbc**	**03 48 53.4**	**-0.9**
LPAZ	**La Paz**	**151.50**	**77**	PKPbc	**PKPbc**	**03 48 53.4**	**-0.9**
	1.5nm,0.7s,baz=235,slow=4.8,SNR=7.5						

DJA 29 03:37:27.0±1.0,**10°S**±6°×**11°3E**±°,**h8**km±11km,**M3.8**/16,
MLv3.8/16,**South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRKI	**Karangkates**	**1.41**	**346**	P	Pn	03 37 52.1	-0.9
KRKI				S	Sg	03 38 12.2	-0.3
GMJI	**Gumukmas**	**1.42**	**27**	P	Pn	03 37 51.6	-1.5
GMJI				S	Sb	03 38 07.3	-4.6
PWJI	**Pagerwojo**	**1.80**	**327**	P	Pn	03 37 57.7	-0.6
PWJI				S	Sn	03 38 18.6	-2.7
BLJI	**Banyuglugur**	**1.95**	**24**	P	Pn	03 38 01.2	+0.7
BLJI				S	Sb	03 38 26.7	-0.7
BYJI	**Banyuwangi**	**2.03**	**50**	P	Pn	03 37 58.8	-2.8
BYJI				S	Sb	03 38 28.8	-0.9
SJI	**Sawahan**	**2.06**	**330**	P	Pn	03 38 01.8	-0.2
PCJI	**Pacitan**	**2.08**	**310**	P	Pn	03 38 01.4	-0.8
ABJI	**Asem Bagus**	**2.25**	**40**	P	Pn	03 38 05.6	+1.1
NGJI	**Ngawi**	**2.53**	**329**	P	Pb	03 38 11.6	-1.0
DNP	**Denpasar**	**2.54**	**70**	P	Pn	03 38 07.7	-0.8
GRJI	**Gresik**	**2.63**	**353**	P	Pn	03 38 08.4	-1.3
KMMI	**Kalianget**	**2.73**	**25**	P	Pn	03 38 08.8	-2.4
UGM	**Wanagama**	**2.76**	**306**	P	Pn	03 38 10.3	-1.4
UGM	**Wanagama**	**2.76**	**306**	P	Pn	03 38 12.0	+0.3
	baz=37,SNR=14						
SRBI	**Singaraja**	**2.80**	**59**	P	Pn	03 38 12.1	0.0
KHKI	**Kahang-Kahang**	**3.02**	**67**	P	Pn	03 38 16.1	+1.0

*ISCJB **29** 03:43:14.4±0.7,3°.57N±0°.08×95°.75E±0°.06, h38km, mb3.8/9, MS3.3/1, Error ellipse: s-maj=12.2km s-min=7.7km az=30.9*
*DJA **29** 03:43:18.1±1.0,3°N±4°×9°6E±°, h115km±7km, M4.0/4, mb4.2/2, MLv3.8/4*
*IDC **29** 03:43:19.1±5.4,3°.59N×95°.99E, h64km±46km, mb3.5/9, mb1 3.6/10, mb1mx3.4/28, mbtmp3.5/10, ML3.3/1, MS3.1/2, Ms1 3.1/2, ms1mx2.8/31, Error ellipse: s-maj=66.7km s-min=18.6km az=56.0*

ISC 29 03:43:16.3±0.9,**3°.43N**±0°.07×**95°.77E**±0°.09,**h38**km,**n23,** σ1ᵍ**71**/20,**mb3.7**/9,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**1.15**	**151**	P	**Pn**	**03 43 37.6**	**+1.7**
SNSI				S	Sn	03 43 57.8	+7.4
KCSI	**Kotacane, Aceh**	**2.00**	**87**	P	**Pn**	**03 43 47.8**	**+0.2**
KCSI				S	**Sn**	**03 44 11.5**	**+0.1**
LHMI	**Lhok Sumawe**	**2.14**	**33**	P	Pn	03 43 58.2	+8.7
LHMI				S	**Sn**	**03 44 20.2**	**+5.3**
GSI	**Gunungsitoli**	**2.77**	**139**	P	**Pn**	**03 43 58.7**	**+0.5**
PSI	**Prapat**	**3.21**	**101**	P	**Pn**	**03 44 04.1**	**-0.2**
PSI	**Prapat**	**3.21**	**101**	P	**Pn**	**03 44 05.6**	**+1.3**
	3.5nm,0.3s,baz=284,slow=7.0,SNR=16						
PSI				LR	LR	03 45 36.1	
	comp=Z,161nm,18.9s,baz=144,slow=45						
KULM	**Kulim**	**5.21**	**69**	P	**Pn**	**03 44 30.6**	**-1.1**
IPM	**Ipoh**	**5.35**	**79**	P	**Pn**	**03 44 32.4**	**-1.2**
	32nm,1.0s,0.1nm						
SKLT	**Songkhla**	**6.10**	**52**	P	**Pn**	**03 44 43.5**	**-0.4**
CMAR	**Chiang Mai Arr**	**15.26**	**12**	P	**Pn**	**03 46 51.3**	**+2.2**
	1.3nm,0.3s,baz=198,slow=11,SNR=5.4						
H08S2	**Diego Garcia H**	**25.69**	**245**	T	T	04 15 23.5	
	baz=65,slow=0.7,SNR=83						
H08S3	**Diego Garcia H**	**25.70**	**245**	T	T	04 15 14.0	
	baz=65,slow=0.7,SNR=85						
H08S1	**Diego Garcia H**	**25.71**	**245**	T	T	04 15 15.2	
	baz=65,slow=0.7,SNR=74						
WRA	**Warramunga Arr**	**44.43**	**123**	P	**P**	**03 51 22.8**	**-1.1**
	0.8nm,0.7s,baz=312,slow=10,SNR=7.7						
MKAR	**Makanchi Array**	**44.78**	**347**	P	**P**	**03 51 25.1**	**-1.0**
	0.8nm,0.4s,baz=152,slow=8.8,SNR=6.8						
KSRS	**Korea Array**	**44.89**	**37**	LR	LR	04 13 22.1	
	comp=Z,356nm,19.6s,baz=55,slow=40						
SONM	**Songino Array**	**45.18**	**10**	P	**P**	**03 51 28.1**	**-1.4**
	0.7nm,0.7s,baz=187,slow=8.5,SNR=6.9						
ASAR	**Alice Springs**	**45.88**	**128**	P	**P**	**03 51 34.8**	**-0.6**
	0.2nm,0.3s,baz=300,slow=7.4,SNR=5.1						
KURBB	**Kurchatov Arra**	**49.23**	**346**	P	**P**	**03 51 59.3**	**-1.5**
	0.4nm,0.6s,baz=172,slow=6.8,SNR=6.3						
ZALV	**Zalesovo Beam**	**51.16**	**352**	P	**P**	**03 52 14.2**	**-1.2**
	1.3nm,0.5s,baz=175,slow=7.2,SNR=7.5						
BVAR	**Borovoye Array**	**53.70**	**341**	P	**P**	**03 52 33.5**	**-0.8**
	0.3nm,0.3s,baz=182,slow=4.0,SNR=2.8						
BRTR	**Keskin Array B**	**66.57**	**312**	P	**P**	**03 54 03.1**	**+0.2**
	0.3nm,0.4s,baz=225,slow=0.3,SNR=3.7						
ARCES	**ARCESS Array B**	**79.97**	**340**	P	**P**	**03 55 21.7**	**+0.5**
	5.9nm,1.1s,baz=100,slow=4.9,SNR=3.0						

DJA 29 04:00:44.9±1.2,**8°S**±8°×**10°7E**±°,**h24**km±12km,**M3.6**/6,
MLv3.6/6,**Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.90**	**29**	P	Pb	04 01 01.2	-0.7
LEM	**Lembang**	**1.53**	**9**	P	Pn	04 01 10.5	-0.5
LEM				S	Sn	04 01 31.0	+0.7
SKJI	**Sukabumi**	**1.57**	**329**	P	Pn	04 01 10.4	-0.8
KPJI	**Karang Pucung**	**1.84**	**57**	P	Pn	04 01 16.2	+1.2
KPJI				S	Sn	04 01 37.5	0.0
DBJI	**Dramaga**	**1.89**	**341**	P	Pn	04 01 15.7	0.0

*IDC **29** 04:34:00.8±1.5,32°.67S×72°.45W, h0km, mb3.5/2, mb1 3.5/6, mb1mx3.4/19, mbtmp3.4/6, ML3.3/4, Error ellipse: s-maj=42.4km s-min=24.5km az=106.0*

ISC 29 04:34:04.2±1.2,**32°.7S**±0°.1×**72°.2W**±0°.1,**h16**km,**n14,** σ1ᵍ**10**/9,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**3.50**	**73**	Pn	**Pn**	**04 34 59.9**	**+1.8**
	0.3nm,0.3s,baz=256,slow=14,SNR=24						
CFAA				Sn	**Sb**	**04 35 47.0**	**-1.2**
	1.8nm,0.3s,baz=110,slow=15,SNR=6.3						
H03N1	**Juan Fernandez**	**5.71**	**261**	T	T	04 41 59.6	
	baz=84,slow=0.7,SNR=242						
H03N3	**Juan Fernandez**	**5.73**	**261**	T	T	04 42 04.3	
	baz=84,slow=0.7,SNR=199						
H03N2	**Juan Fernandez**	**5.73**	**261**	T	T	04 42 04.6	
	baz=84,slow=0.7,SNR=291						
PLCA	**Paso Flores**	**8.12**	**171**	Pn	**Pn**	**04 36 01.6**	**0.0**
	0.1nm,0.3s,baz=336,slow=13,SNR=2.5						
LPAZ	**La Paz**	**16.74**	**14**	Pn	**Pn**	**04 37 58.9**	**+0.2**
	0.1nm,0.3s,baz=194,slow=8.3,SNR=5.3						
SIV	**San Ignacio**	**19.43**	**34**	P	**P**	**04 38 29.2**	**-0.8**
	0.1nm,0.3s,baz=214,slow=10,SNR=2.6						
SNAA	**Sanae**	**52.83**	**158**	P	**P**	**04 43 18.3**	**-0.3**
	0.2nm,0.8s,baz=263,slow=8.1,SNR=4.0						
TORD	**Torodi Ar. Bea**	**83.87**	**70**	P	**P**	**04 46 33.2**	**-0.3**
	0.5nm,0.8s,baz=249,slow=5.6,SNR=4.8						
H11S2	**WAKE ISLAND Hyl**	**25.67**	**270**	T	T	07 12 05.8	
	baz=120						
H11S1	**WAKE ISLAND Hyl**	**25.69**	**270**	T	T	07 12 07.2	
	baz=120						
H11S3	**WAKE ISLAND Hyl**	**25.69**	**270**	T	T	07 12 07.2	
	baz=120						
KURBB	**Kurchatov Arra**	**151.98**	**42**	PKPbc	**PKPbc**	**04 53 57.1**	**-1.0**
	0.3nm,0.4s,baz=313,slow=3.0,SNR=4.5						
ZALV	**Zalesovo Beam**	**153.17**	**31**	PKPbc	**PKPbc**	**04 54 01.3**	**+0.7**
	0.8nm,0.6s,baz=318,slow=2.4,SNR=4.1						

KRSC 29 04:39:18.2±4.6,**55°.12N**×**162°.40E**,**h10**km±10km,**ML3.7,**

Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.69**	**215**	P	Pb	04 39 31.9	-0.3
MKZ				S	Sb	04 39 41.1	-0.6
KBTR	**Krutoberegovo**	**1.12**	**12**	P	Pn	04 39 41.3	+1.4
KBTR				S	Sn	04 39 57.0	+1.7
BZGR	**Bezymyannyi-Gr**	**1.27**	**311**	P	Pg	04 39 42.7	-0.1
BZGR				S	Sb	04 39 59.1	+0.2
TUMR	**Tumrok**	**1.30**	**278**	P	Pg	04 39 43.2	-0.2
TUMR				S	Sn	04 40 00.2	0.0
KMNR	**Kamenistaya**	**1.39**	**298**	S	Sn	04 40 02.5	+0.2
KPT	**Kopyto**	**1.50**	**305**	P	Pb	04 39 45.9	-0.4
SMKR	**Semkarok**	**1.56**	**341**	P	Pb	04 39 47.2	0.0
SMKR				S	Sb	04 40 07.1	0.0
BDR	**Baidarnaya**	**1.60**	**336**	P	Pb	04 39 48.0	0.0
BDR				S	Sb	04 40 08.5	+0.2
SRDR	**Sredinnyy**	**1.94**	**309**	P	Pn	04 39 51.8	+0.6
NLC	**Nalytchevo**	**2.65**	**224**	S	Sn	04 40 33.0	-0.1
SDLR	**Sedlovina**	**2.77**	**230**	P	Pn	04 40 04.0	+1.2
SDLR				S	Sn	04 40 36.3	-0.1
KRER	**Koryakskii**	**2.81**	**231**	P	Pn	04 40 05.3	+1.8
KRER				S	Sn	04 40 38.2	+0.6
SMAR	**Somma**	**2.82**	**230**	P	Pn	04 40 05.0	+1.5
SMAR				S	Sn	04 40 37.8	+0.1
KRX	**Arik**	**2.82**	**233**	P	Pn	04 40 05.2	+1.7
KRX				S	Sn	04 40 38.3	+0.6
AVH	**Avacha**	**2.84**	**231**	P	Pn	04 40 05.5	+1.8
AVH				S	Sn	04 40 38.9	+0.8
UGLR	**Uglovaya**	**2.84**	**229**	P	Pn	04 40 05.7	+1.9
UGLR				S	Sn	04 40 39.1	+0.9
GNL	**Ganaly**	**2.97**	**243**	P	Pn	04 40 07.9	+2.4
PET	**Petropavlovsk**	**3.05**	**228**	P	Pn	04 40 08.3	+1.9
RUS	**Russkaya**	**3.54**	**222**	P	Pn	04 40 15.9	+2.7
RUS				S	Sn	04 40 56.2	+1.1
MTVR	**Mutnovka**	**3.64**	**225**	P	Pn	04 40 17.1	+2.4
MTVR				S	Sn	04 40 58.5	+0.7

*ISCJB **29** 04:43:01.0±0.8, 19°.2S×177°.7W±0°.2, h400km, mb3.8/9, Error ellipse: s-maj=31.8km s-min=11.1km az=145.9*
*AUST **29** 04:43:03.1±0.0, 19°.20S×177°.39W, h423km, Error ellipse: s-maj=3.2km s-min=1.6km az=4.0*
*IDC **29** 04:43:03.8±3.0, 19°.18S×177°.65W, h416km±32km, mb3.4/8, mb1 3.8/9, mb1mx3.5/19, mbtmp4.2/9, Error ellipse: s-maj=50.6km s-min=13.6km az=153.0*

ISC 29 04:43:02.1±1.1,**19°.3S**±0°.3×**177°.5W**±0°.2,**h400**km,**n29,** σ1ᵍ**06**/28,**mb3.9**/9,**Fiji

MATI eS Sn 05 00 33.3 -3.8
DAV Davao City (W) 1.19 343 P Pn 05 00 19.7 -1.7
DAV Davao City (W) 1.19 343 ePn Pn 05 00 19.9 -1.5
DAV eSn Sn 05 00 37.4 -2.1
DMPH Davao City--Mi 1.23 340 ⇑eP Pn 05 00 19.9 -1.8
DMPH eS Sn 05 00 37.1 -3.0
CTBH Cotabato--PC H 2.12 308 ⇑iP Pn 05 00 29.6 -2.7
BUKP Musuan 2.13 336 eP Pn 05 00 31.6 -0.9
BUKP eS Sn 05 00 55.8 -3.5
SGSI Sangihe 2.26 190 P Pn 05 00 32.1 -2.0
SGSI S Sn 05 00 57.4 -4.9
CGP Cagayan de Oro 2.80 334 ⇓eP Pn 05 00 39.6 -1.5
CGP /S Sn 05 01 15.9 +1.2
BUTP Butuan 3.04 354 eP Pn 05 00 44.6 +0.4
PAGZ Pagadian 3.17 307 eP Pn 05 00 44.5 -1.5
IPIL Ipil 3.82 299 eP Pn 05 00 54.6 0.0
MSLP Maasin 4.32 346 eP Pn 05 01 01.2 0.0
LLP Lapu-Lapu 4.78 336 eP Pn 05 01 07.2 -0.2
LLP eS Sn 05 02 03.1 +1.2
OCLP Ormoc 5.26 346 eP Pn 05 01 04.8 -9.1
TNTI Ternate 5.31 164 P Pn 05 01 13.0 -1.6
1µm,0.7s,25µm6.0nm
KMSI Cibinong 5.66 200 P Pn 05 01 17.8 -1.5
2µm,0.7s,18µm7.0nm
GUIM Jordan 5.73 325 eP Pn 05 01 20.2 0.0
RCP Roxas 6.43 331 ⇑eP Pn 05 01 29.9 +0.2
LBMI Labuha 6.70 166 P Pn 05 01 31.7 -1.7
552nm,0.5s,10µm2.4nm
MRSI Marisa 6.72 217 P Pn 05 01 32.5 -1.2
1µm,0.7s,14µm4.7nm
TOLI Toli-Toli 7.01 227 P Pn 05 01 34.7 -2.8
489nm,0.6s,12µm4.0nm
MYLDM Lahad Datu 7.44 265 P Pn 05 01 43.2 -0.2
MYLDM Lahad Datu 7.44 265 ePn Pn 05 01 43.8 +0.4
LUWI Luwuk 7.61 205 P Pn 05 01 46.8 +1.2
675nm,1.3s,8µm2.7nm
LUWI Luwuk 7.61 205 P Pn 05 01 46.5 +0.9
baz=7.8,SNR=13
APSI Ampana 8.03 212 P Pn 05 01 53.5 +2.2
385nm,0.9s,5µm1.5nm
TSM Tawau 8.19 259 P Pn 05 01 53.8 +0.2
SWI Sorong 8.59 142 P Pn 05 01 57.5 -1.4
SWI Sorong 8.59 142 P Pn 05 01 57.8 -1.1
baz=8.6,SNR=4.5
PALU Palau 8.60 80 P Pn 05 01 49.1 -10
baz=8.4,SNR=7.6
SDKM Sandakan 8.70 269 P Pn 05 02 00.2 -0.3
NLAI Namlea 9.18 173 P Pn 05 02 03.8 -3.1
571nm,0.6s,14µm
TTSI Tana Toraja 10.80 215 P Pn 05 02 29.7 +0.9
126nm,1.1s,1µm
FAKI Fak Fak 10.81 144 P Pn 05 02 29.3 +0.3
99nm,1.1s,941nm
FAKI Fak Fak 10.81 144 P Pn 05 02 27.9 -1.1
baz=11,SNR=16
SPSI Sidrap Palu 11.59 212 P Pn 05 02 40.2 +0.8
90nm,0.7s,2µm
BNSI Bone 11.79 210 P Pn 05 02 42.0 0.0
152nm,1.8s,2µm
KAPI Kappang 12.50 210 P Pn 05 02 50.5 -0.8
99nm,1.1s,887nm
KAPI Kappang 12.50 210 ePn Pn 05 02 50.4 -0.8
45nm,0.6s
KAPI Kappang 12.50 210 P Pn 05 02 50.4 -0.8
8.1nm,0.3s,baz=31,slow=8.0,SNR=27
BKSI Bulukumba 12.59 208 P Pn 05 02 52.5 +0.1
76nm,1.0s,725nm
BTM Bintulu 13.09 259 P P 05 03 05.8 +1.0
SBUM Sibu 14.11 256 P Pn 05 03 13.3 +1.2
209nm,0.8s,2µm
SBUM Sibu 14.11 256 ePn Pn 05 03 12.9 +0.8
MMRI Maumere 14.93 194 P P 05 03 30.3 +5.2
STKI Sintang 15.56 249 P P 05 03 34.7 +2.5
46nm,1.0s,11µm
SOEI Soe 15.66 186 P Pn 05 03 32.0 +0.2
164nm,0.8s,2µm
SOEI Soe 15.66 186 P Pn 05 03 32.3 +0.4
baz=16,SNR=12
KSM Kuching 16.21 255 P Pn 05 03 37.9 -0.6
KSM Kuching 16.21 255 P P 05 03 41.0 +1.7
51nm,1.4s,530nm
KSM Kuching 16.21 255 ePn P 05 03 39.7 +0.4
34nm,0.8s
KSM Kuching 16.21 255 P P 05 03 40.7 +1.4
baz=16,SNR=6.8
MTNI Mataram 17.44 214 P Pn 05 03 56.8 +3.4
45nm,1.0s,2µm
TPUB Ta-pu 18.02 344 P P 05 03 59.6 +0.3
BLJI Banyuglugur 18.33 222 P Pn 05 04 07.9 +3.8
134nm,0.4s,7µm
MTN Manton Dam 19.35 165 P P 05 04 13.5 -0.2
baz=20,SNR=147
KDU Kakadu 19.60 161 P P 05 04 16.4 -0.1
baz=20,SNR=54
QIZ Qiongzhong 20.38 311 eP P 05 04 23.1 -1.8
67nm,1.2s
BJII Banjamegara 20.87 231 P Pn 05 04 32.9 -1.1
67nm,1.1s
TGJI Tegal 21.05 233 P P 05 04 36.0 +3.9
43nm,0.9s
PPBI Pangkal Pinang 21.34 248 P P 05 04 35.5 +0.2
33nm,0.9s,25µm
KNRA Kununurra 21.64 173 P P 05 04 38.3 -0.2
baz=22,SNR=81
UBPT Khong Chiam 22.14 296 P P 05 04 43.7 0.0
85nm,0.9s
UBPT Khong Chiam 22.14 296 P P 05 04 43.7 0.0
85nm,0.9s
LEM Lembang 22.24 236 P P 05 04 46.9 +2.0
100nm,0.9s
MYKOM Kota Tinggi 22.41 260 P P 05 04 46.5 0.0
MYKOM Kota Tinggi 22.41 260 P P 05 04 47.7 +1.2
74nm,1.3s
BTDF Bukit Timah Da 22.57 259 P P 05 04 48.9 +0.8
baz=23,SNR=3.4
BTDF P P 05 04 48.9 +0.8
baz=23,SNR=3.4
KTGM Kuala Trenggan 22.70 270 P P 05 04 48.9 -0.4
DBJI Dramaga 22.81 237 P P 05 04 52.9 +2.5
83nm,0.7s
KGM Kluang 22.89 261 P P 05 04 51.5 +0.3
PMBI Palembang 22.89 248 P P 05 04 54.9 +3.7
428nm,1.2s
KLI Kotabumi 23.62 243 P P 05 04 59.5 +1.6
230nm,0.9s
FITZ Fitzroy Crossi 23.88 181 eP P 05 05 00.0 -0.1
33nm,1.3s
FITZ eS S 05 09 03.9 -3.9
FITZ Fitzroy Crossi 23.88 181 P P 05 04 59.6 -0.5
baz=24,SNR=104
FITZ Fitzroy Crossi 23.88 181 P P 05 04 59.7 -0.5
9.0nm,0.3s,baz=7.9,slow=8.3,SNR=102
MDSI Maura Dua 24.06 245 P P 05 05 02.3 +0.4
52nm,1.2s
SKNT Sakolnkorn 24.12 299 P P 05 05 02.8 +0.3
59nm,1.2s
KASI Kota Agung 24.24 242 P P 05 05 05.2 +1.7
217nm,0.8s,1µm
FRIM Kepong 24.38 265 P P 05 05 05.3 +0.5
LHSI Lahat 24.39 247 P P 05 05 06.1 +1.2
137nm,1.0s
LWLI Liwa 24.40 244 P P 05 05 06.9 +1.8
278nm,0.8s
IPM Ipoh 24.85 268 P P 05 05 09.1 0.0
IPM Ipoh 24.85 268 P P 05 05 08.9 -0.2
80nm,0.9s,755nm
IPM Ipoh 24.85 268 eP P 05 05 08.9 -0.2
62nm,0.9s
KULM Kulim 25.17 270 P P 05 05 12.1 0.0
KULM Kulim 25.17 270 P P 05 05 12.5 +0.4
80nm,1.2s,798nm
KULM Kulim 25.17 270 eP P 05 05 12.4 +0.4
95nm,1.1s
SKLT Songkhla 25.18 274 P P 05 05 12.8 +0.7
104nm,0.8s,711nm
SKLT Songkhla 25.18 274 P P 05 05 12.8 +0.7
104nm,0.8s,711nm
PMG Port Moresby 26.06 126 eP P 05 05 21.4 +1.4
11nm,0.5s
JCJ Chichijima 26.13 35 LR LR 05 15 19.0
comp=Z,54nm,19.0s,baz=130,slow=35
COEN Coen 26.13 139 eP P 05 05 21.0 +0.3
114nm,0.8s
COEN Coen 26.13 139 P P 05 05 21.1 +0.5
baz=26,SNR=12
PPI Padang Panjang 26.27 257 P P 05 05 21.7 -0.3
140nm,0.9s,1µm
PPI Padang Panjang 26.27 257 P P 05 05 22.1 +0.1
baz=26,SNR=6.8
PDSI Padang 26.32 256 P P 05 05 22.2 -0.3
101nm,0.7s,12µm
PBKT Sadao Pong 26.64 295 P P 05 05 25.7 +0.5
37nm,0.9s,4µm
PBKT Sadao Pong 26.64 295 P P 05 05 25.7 +0.5
37nm,0.9s,4µm
NJ2 Nanjing 26.82 347 eP P 05 05 29.0 +2.3
NJ2 AMB AMB
comp=Z,20nm,1.0s
PHET Kaeng Krachan 26.84 287 P P 05 05 28.3 +1.2
242nm,1.0s
WRAB Tennant Creek 27.00 162 eP P 05 05 28.3 -0.1
19nm,0.4s
WRAB ePcP PcP 05 08 49.9 +2.7
WRAB eS S 05 09 55.6 -1.7
WRA Warramunga Arr 27.00 162 P P 05 05 27.0 -1.5
WRA Warramunga Arr 27.00 162 P P 05 05 27.0 -1.5
2.5nm,0.5s,baz=342,slow=9.1,SNR=9.8
SURT Suratani 27.07 278 P P 05 05 29.7 +0.5
19nm,1.0s,225nm
PSI Prapat 27.11 265 P P 05 05 29.5 -0.1
27nm,1.0s
PSI Prapat 27.11 265 P P 05 05 28.1 -1.5
PSI Prapat 27.11 265 P P 05 05 29.7 +0.1
baz=27,SNR=14
PSI Prapat 27.11 265 P P 05 05 28.1 -1.5
24nm,0.9s,baz=83,slow=4.7,SNR=18
PSI LR LR 05 17 31.4
comp=Z,173nm,18.9s,baz=244,slow=39
JNU Nakatsue 27.45 9 eP P 05 05 33.3 +1.0
JNU Nakatsue 27.45 9 P P 05 05 32.3 0.0
14nm,0.8s,baz=115,slow=3.3,SNR=12
JNU LR LR 05 16 20.8
comp=Z,44nm,21.1s,baz=339,slow=36
GYA Guiyang 27.48 320 P P 05 05 34.8 +2.0
GYA pP pP 05 06 01.0 +2.5
GYA sP sP 05 06 13.5 +1.2
GYA PP PnPn 05 06 26.5 +1.9
GYA PcP PcP 05 08 48.8 +0.4
GYA S S 05 10 04.3 -0.7
GYA sS sS 05 10 49.5 -0.7
GYA ScP ScP 05 12 17.8 -0.4
GYA PcS PcS 05 12 31.0 +0.5
GYA ScS ScS 05 16 09.0 -1.3
GYA AMB AMB
comp=Z,10.0nm,0.7s
KCSI Kotacane, Aceh 28.17 266 P P 05 05 37.7 -1.2
60nm,0.9s,467nm
KHLT Khaolaem Dam 28.28 290 P P 05 05 41.0 +1.1
10nm,1.0s
CRAI Chiangrai 28.61 302 P P 05 05 43.2 +0.4
9.5nm,0.9s
GSI Gunungsitoli 28.66 262 P P 05 05 41.8 -1.6
198nm,0.8s,2µm
ENH Enshi 28.75 329 eP P 05 05 43.9 0.0
5.4nm,0.7s
CMAR Chiang Mai Arr 29.12 298 P P 05 05 48.4 +1.1
CMAR ScP ScP 05 12 25.0 +1.6
CMAR Chiang Mai Arr 29.12 298 P P 05 05 48.4 +1.1
5.0nm,0.6s,baz=114,slow=7.4,SNR=26
CMAR ScP ScP 05 12 25.0 +1.6
1.4nm,0.7s,baz=118,slow=2.1,SNR=7.1
CMAR LR LR 05 16 51.3
comp=Z,67nm,18.5s,baz=330,slow=35
CHTO Chiang Mai 29.25 298 P P 05 05 48.8 +0.3
48nm,0.9s
CHTO Chiang Mai 29.25 298 eP P 05 05 48.4 -0.1
6.5nm,0.8s
CHTO Chiang Mai 29.25 298 P P 05 05 48.8 +0.3
48nm,0.9s
KMI Kunming 29.29 313 P P 05 05 51.8 +2.7
KMI AMB AMB
comp=Z,11nm,1.2s
CMAI Chiengmai2 29.61 301 P P 05 05 51.8 0.0
18nm,1.0s
MTSU Mount Surprise 30.01 143 P P 05 05 57.5 +2.4
baz=30,SNR=5.6
ASAR Alice Springs 30.42 165 P P 05 05 58.5 -0.2
ASAR PcP PcP 05 08 55.9 +0.1
ASAR ScP ScP 05 12 27.8 +0.3
ASAR Alice Springs 30.42 165 P P 05 05 58.5 -0.2
2.6nm,0.4s,baz=344,slow=7.2,SNR=31
ASAR PcP PcP 05 08 55.9 +0.1
3.9nm,0.4s,baz=346,slow=2.4,SNR=8.8
ASAR ScP ScP 05 12 27.8 +0.3
1.4nm,0.6s,baz=341,slow=3.2,SNR=5.8
KSAR Wonju Array Be 31.42 3 P P 05 06 09.2 +1.8
KSAR PcP PcP 05 08 58.8 +0.7
KSRS Korea Array 31.44 3 P P 05 06 09.2 +1.7
8.5nm,0.7s,baz=186,slow=9.5,SNR=27
KSRS PcP PcP 05 08 58.8 +0.7
2.7nm,0.9s,baz=188,slow=3.2,SNR=6.6
KSRS LR LR 05 19 07.6
comp=Z,42nm,20.3s,baz=45,slow=36
XAN Xi'an 32.11 333 P P 05 06 12.5 -1.1
XAN AMB AMB
comp=Z,4.0nm,0.7s
CD2 Chengdu 32.42 323 P P 05 06 18.0 +1.7
CD2 pP pP 05 06 43.8 +1.4
CD2 sP sP 05 06 57.8 +1.7
CD2 PP PP 05 07 30.3 -1.6
CD2 S S 05 11 22.5 +0.2
CD2 sS sS 05 12 08.0 +0.2
CD2 AMB AMB
comp=Z,10.0nm,0.6s
CD2 LR LR
comp=N,210nm,9.6s
MJAR Matsushiro Arr 32.48 19 P P 05 06 16.9 +0.2
MJAR Matsushiro Arr 32.48 19 P P 05 06 16.9 +0.2
3.8nm,0.8s,baz=198,slow=9.3,SNR=8.2
CTAO Charters Tower 32.67 143 eP P 05 06 21.0 +2.4
3.0nm,0.6s
MEEK Meekatharra 33.14 192 P P 05 06 22.8 +0.2
baz=34,SNR=10
MORW Morawa 36.07 195 P P 05 06 46.9 -0.8
baz=36,SNR=8.4
LZH Lanzhou 36.22 329 eP P 05 06 52.0 +2.8
LZH pP pP 05 07 19.3 +3.7
LZH sP sP 05 07 32.3 +3.1
LZH AMB AMB
comp=Z,100nm,1.4s
LZH AMB AMB
comp=Z,510nm,5.3s
FORT Forrest 36.55 177 P P 05 06 52.6 +0.9
baz=37,SNR=13
QLP Quilpie 36.86 152 P P 05 06 57.2 +2.7
baz=37,SNR=3.5
HHC Hu-ho-hao-te 37.08 342 eP P 05 06 53.5 -2.8
HHC PP PP 05 08 24.0 +0.8
HHC PcP PcP 05 09 12.0 -2.5
HHC S S 05 12 31.3 -2.4
HHC ScP ScP 05 12 48.3 -2.4
HHC PcS PcS 05 12 58.5 -4.4
HHC ScS ScS 05 16 54.0 -4.5
HHC AMB AMB
comp=Z,52nm,0.8s
HHC AMB AMB
comp=Z,340nm,5.4s
HHC LR LR
comp=N,360nm,13.7s
HHC LR LR
comp=E,360nm,13.7s
HHC LR LR
comp=Z,370nm,13.4s
BLDU Ballidu 37.39 193 P P 05 06 58.2 -0.7
baz=38,SNR=11
CN2 Changchun 37.73 359 eP P 05 07 04.8 +3.2
CN2 AMB AMB
comp=Z,10.0nm,0.5s
SHL Shillong 37.96 305 eP P 05 07 03.5 -0.6
KLBR Kellerberrin 38.11 191 P P 05 07 04.5 -0.4
baz=38,SNR=21
USRK Ussuriysk Arra 38.49 7 P P 05 07 10.0 +2.1
11nm,0.7s,baz=192,slow=6.9,SNR=28
MDJ Mudanjiang 38.67 4 P P 05 07 11.5 +2.0
MDJ pP pP 05 07 36.0 -0.2
MDJ sP sP 05 07 49.5 -0.2
MDJ PP PP 05 08 41.5 +1.1
MDJ PcP PcP 05 09 20.5 +1.3
MDJ ScP S 05 12 58.5 +1.2
MDJ S ScP 05 13 01.0 +4.5
MDJ PcS PcS 05 13 10.5 +2.0
MDJ SS SnSn 05 15 57.0 -1.9
MDJ AMB AMB
comp=Z,19nm,0.9s
MDJ AMB AMB
comp=Z,87nm,3.8s
MDJ Mudanjiang 38.67 4 eP P 05 07 11.6 +2.2
26nm,0.8s
BBOO Buckleboo 39.70 167 eP P 05 07 18.7 +0.5
210nm,0.5s
BBOO ePP PP 05 08 49.4 -2.6
BBOO Buckleboo 39.70 167 P P 05 07 18.8 +0.6
baz=40,SNR=18
LSA Lhasa 40.42 310 P P 05 07 23.5 -1.3
2.7nm,0.4s
STKA Stephens Creek 40.45 159 eP P 05 07 25.4 +1.0
2.1nm,0.8s
STKA ScP ScP 05 13 04.5 +0.8
STKA Stephens Creek 40.45 159 P P 05 07 25.4 +1.0
baz=41,SNR=12
STKA Stephens Creek 40.45 159 P P 05 07 25.6 +1.2
8.9nm,0.6s,baz=338,slow=7.6,SNR=21
STKA ScP ScP 05 13 04.5 +0.8
2.0nm,0.6s,baz=350,slow=9.0,SNR=4.7
ASAJ Asahikawa 40.76 18 LR LR 05 22 53.7
comp=Z,95nm,20.6s,baz=130,slow=34
GTA Gaotai 40.82 329 eP P 05 07 28.0 +0.5
GTA pP pP 05 07 55.5 +1.1
GTA sP sP 05 08 05.8 -2.1
GTA PcP PcP 05 09 26.5 +0.2
GTA S S 05 13 29.0 -0.9
GTA AMB AMB
comp=Z,5.0nm,0.6s
GTA AMB AMB
comp=Z,97nm,6.7s
GTA LR LR
comp=N,120nm,15.7s
GTA LR LR
comp=E,160nm,19.0s
GTA LR LR
comp=Z,160nm,16.6s
HTT Hallett 41.03 163 P P 05 07 31.9 +2.7
baz=41,SNR=5.2
RKGY Rocky Gully 41.19 191 P P 05 07 31.3 +0.9
baz=42,SNR=18
TAPN Taplejung 42.10 305 eP P 05 07 38.3 -0.1
21nm,0.4s
ODAN Odare 42.18 304 eP P 05 07 38.7 -0.2
69nm,0.8s
RAMN Ramite 42.86 304 eP P 05 07 44.6 +0.1
60nm,0.9s
JIRN Jiri 43.47 304 eP P 05 07 49.3 -0.2
36nm,0.3s
GUN Gumba 43.82 305 eP P 05 07 52.1 -0.2
68nm,0.6s
PKI Pulchoki 44.08 304 eP P 05 07 53.6 -0.7
16nm,0.6s
PKIN Phulchoki 44.09 304 eP P 05 07 53.3 -1.1
11nm,0.5s
KKN Kakani 44.26 304 eP P 05 07 54.6 -1.1
23nm,0.6s
DMN Daman 44.34 304 eP P 05 07 55.5 -0.8
ULN Ulaanbaatar 44.80 342 eP P 05 07 58.9 -0.6
3.4nm,0.8s
GKN Gorkha 44.87 304 eP P 05 07 59.6 -0.8
13nm,0.5s
SONM Songino Array 44.98 341 P P 05 08 00.1 -0.8
SONM PcP PcP 05 09 40.1 0.0
SONM Songino Array 44.98 341 P P 05 08 00.1 -0.8
1.2nm,0.6s,baz=161,slow=7.5,SNR=9.4
SONM PcP PcP 05 09 40.1 0.0
2.2nm,0.4s,baz=162,slow=4.1,SNR=10.0
ARPS Mount Arapiles 45.00 162 P P 05 08 02.5 +1.5
baz=45,SNR=13
KOLN Koldanda 45.65 303 eP P 05 08 06.4 -0.2
39nm,0.4s
DANN Dangsing 45.72 304 eP P 05 08 06.4 -0.9
38nm,0.5s
DZM Mont Dzumac 48.45 126 eP P 05 08 30.3 +2.0
5.5nm,0.5s
DZM Mont Dzumac 48.45 126 P P 05 08 30.0 +1.6
6.6nm,0.6s,baz=270,slow=20,SNR=9.6
WMQ Urumqi 50.49 324 eP P 05 08 44.5 +1.1
WMQ pP pP 05 09 10.5 -0.8
WMQ sP sP 05 09 23.3 -1.3
WMQ S S 05 15 47.8 -0.6
WMQ ScS ScS 05 18 21.0 -1.7
WMQ SS SS 05 19 20.0 -3.9
WMQ AMB AMB
comp=Z,12nm,0.5s
WMQ AMB AMB
comp=Z,170nm,5.0s
WMQ LR LR
comp=N,180nm,24.2s
WMQ LR LR
comp=E,100nm,18.2s
WMQ LR LR
comp=Z,91nm,19.4s
PETK Petropavlovsk- 53.72 23 P P 05 09 09.6 +2.5
PETK Petropavlovsk- 53.72 23 P P 05 09 09.6 +2.5
20nm,0.8s,baz=204,slow=5.5,SNR=11
MKAR Makanchi Array 55.31 325 P P 05 09 18.1 -0.8
MKAR PcP PcP 05 10 16.9 -1.1
MKAR Makanchi Array 55.31 325 P P 05 09 18.1 -0.8
7.2nm,0.5s,baz=117,slow=7.7,SNR=103
MKAR PcP PcP 05 10 16.9 -1.1
4.1nm,0.5s,baz=112,slow=4.9,SNR=7.7
KSH Kashi 55.95 314 P P 05 09 25.3 +1.7
KSH pP pP 05 09 52.0 +0.1
KSH sP sP 05 10 04.8 -0.3
KSH PcP PcP 05 10 22.0 +1.2
KSH PP PP 05 11 33.5 +3.9
KSH S S 05 17 03.5 +0.9
KSH sS sS 05 17 51.5 +0.1
KSH AMB AMB
comp=Z,7.0nm,1.1s
KSH AMB AMB
comp=Z,99nm,4.4s
KSH LR LR
comp=N,130nm,6.8s
KSH LR LR
comp=E,140nm,4.7s
TKM2 Tokmak 2 57.59 318 eP P 05 09 34.3 -0.9
2.2nm,0.6s
ZALV Zalesovo Beam 58.29 333 P P 05 09 38.0 -1.5
ZALV PcP PcP 05 10 28.1 -1.4
ZALV Zalesovo Beam 58.29 333 P P 05 09 38.0 -1.5
2.5nm,0.5s,baz=123,slow=6.2,SNR=13
ZALV PcP PcP 05 10 28.1 -1.4
3.9nm,0.8s,baz=115,slow=2.1,SNR=5.1
EKS2 Erkin-Say 58.71 317 eP P 05 09 42.6 -0.3
15nm,1.3s
KURBB Kurchatov Arra 59.48 327 P P 05 09 46.9 -1.0
5.8nm,0.7s,baz=125,slow=6.2,SNR=35
KURK Kurchatov 59.48 327 eP P 05 09 46.5 -1.4
3.8nm,0.4s
KBL Kabul 59.58 307 eP P 05 09 48.7 -0.5
10nm,0.6s
KKAR Karatay Array 61.10 316 eP P 05 09 58.1 -1.1
4.8nm,0.7s
BVAR Borovoye Array 65.06 327 P P 05 10 24.4 -0.7
BVAR Borovoye Array 65.06 327 P P 05 10 24.4 -0.7
2.6nm,0.5s,baz=120,slow=8.8,SNR=15
BRVK Borovoye 65.13 327 eP P 05 10 24.5 -1.0
6.8nm,0.8s
ABKAR Akbulak array 69.96 320 eP P 05 10 54.5 -1.4
5.8nm,0.6s
AKTO Aktyubinsk 71.46 321 P P 05 11 02.5 -2.5
AKTO Aktyubinsk 71.46 321 P P 05 11 02.5 -2.5
11nm,0.8s,baz=98,slow=8.8,SNR=38
IM04 Indian Mountai 80.66 24 eP P 05 11 59.2 +2.2
IMA2 Indian Mountai 80.71 24 eP P 05 11 59.2 +1.9
PPLA Purkeypile 81.05 27 eP P 05 12 01.0 +1.7
19nm,1.0s
BPAW Bear Paw Mtn. 81.68 26 eP P 05 12 04.0 +1.6
16nm,1.1s
TRF Thorofare Moun 81.95 27 eP P 05 12 03.9 -0.1
10nm,0.9s
COLD Coldfoot 82.19 23 eP P 05 12 07.4 +2.4
7.4nm,0.7s
MCK McKinley 82.56 27 eP P 05 12 08.0 +1.0
31nm,1.2s
COLA College 83.06 25 eP P 05 12 09.7 +0.3
20nm,0.8s
ILAR Eielson Array 83.47 26 P P 05 12 11.8 +0.1
ILAR Eielson Array 83.47 26 P P 05 12 11.8 +0.1
3.0nm,0.8s,baz=238,slow=4.8,SNR=16

MAW	Mawson	85.53	200	P		P	05 12 20.3	-1.4
MAW	Mawson	85.53	200	P		P	05 12 21.5	-0.3
	baz=86,SNR=14							
MAW	Mawson	85.53	200	P		P	05 12 20.3	-1.4
	2.6nm,0.6s,baz=65,slow=4.3,SNR=23							
VNDA	Vanda	85.69	173	P		P	05 12 22.4	-0.1
VNDA	Vanda	85.69	173	P		P	05 12 22.4	-0.1
	1.1nm,0.7s,baz=328,slow=5.5,SNR=7.5							
ASF	Jabal al Asfar	86.07	302	P		P	05 12 24.8	-0.7
ASF	Jabal al Asfar	86.07	302	P		P	05 12 24.8	-0.7
	4.5nm,0.8s,baz=47,slow=7.2,SNR=5.8							
JOF	Joensuu	86.88	333	*ep*		P	05 12 26.9	-1.7
	8.2nm,0.4s							
KEV	Kevo	87.57	340	*ep*		P	05 12 32.1	+0.3
	1.0nm,0.4s							
BRTR	Keskin Array B	88.02	310	P		P	05 12 32.1	-2.6
BRTR	Keskin Array B	88.02	310	P		P	05 12 32.1	-2.6
	2.4nm,0.9s,baz=126,slow=4.6,SNR=10.0							
ARCES	ARCESS Array B	88.13	340	P		P	05 12 33.2	-1.2
ARCES	ARCESS Array B	88.13	340	P		P	05 12 33.2	-1.2
	8.2nm,0.8s,baz=84,slow=5.5,SNR=27							
SPITS	Spitsbergen Ar	88.19	349	P		P	05 12 34.0	-0.6
SPITS	Spitsbergen Ar	88.19	349	P		P	05 12 34.1	-0.6
	3.6nm,0.4s,baz=90,slow=6.7,SNR=24							
INK	Inuvik	88.42	21	*eP*		P	05 12 36.5	+0.7
	1.1nm,0.5s							
INK	Inuvik	88.42	21	P		P	05 12 36.1	+0.3
	1.7nm,0.6s,baz=279,slow=9.1,SNR=9.1							
KAF	Kangasniemi	89.30	332	*ep*		P	05 12 38.2	-1.9
	2.2nm,0.3s							
FINES	FINESS Array B	89.54	332	P		P	05 12 39.6	-1.6
FINES	FINESS Array B	89.54	332	P		P	05 12 39.6	-1.6
	4.9nm,0.6s,baz=80,slow=4.8,SNR=19							
AKASG	Malin Array Be	89.70	321	P		P	05 12 39.9	-2.3
AKASG	Malin Array Be	89.70	321	P		P	05 12 39.9	-2.3
	1.3nm,0.8s,baz=68,slow=5.4,SNR=5.0							
TESR	Tescani	92.10	317	⇑*iP*		P	05 12 51.8	-1.7
VRI	Vrincioaia	92.17	316	⇑*iP*		P	05 12 52.5	-1.3
MLR	Muntele Rosu	92.78	316	⇓*iP*		P	05 12 55.8	-1.0
BURAR	Bucovina Array	92.85	318	⇑*iP*		P	05 12 55.1	-1.9
SYO	Syowa Base	94.17	201	⇓*eP*		P	05 13 01.0	-1.4
CRVS	Cervenica-Dubn	94.99	320	*eP*		P	05 13 05.8	-0.9
NB2	NORSAR Subarra	96.48	334	P		P	05 13 10.7	-2.6
	comp=Z,2.8nm,0.8s,baz=66,slow=4.6							
NOA	NORSAR Array B	96.48	334	P		P	05 13 11.0	-2.2
NOA	NORSAR Array B	96.48	334	P		P	05 13 11.0	-2.2
	comp=Z,2.0nm,0.7s,baz=66,slow=4.6,SNR=10							
YKA	Yellowknife Ar	97.83	24	P		P	05 13 18.3	-1.0
YKA	Yellowknife Ar	97.83	24	P		P	05 13 18.3	-1.0
	comp=Z,2.3nm,0.7s,baz=293,slow=5.2,SNR=3.4							
GERES	GERESS Array B	99.89	322	P		Pdif	05 13 26.5	-2.4
GERES	GERESS Array B	99.89	322	P		Pdif	05 13 26.5	-2.4
	comp=Z,0.1nm,0.3s,baz=60,slow=7.9,SNR=3.5							
SCHQ	Scheffervill	118.53	8	PKP		PKPdf	05 18 31.4	+0.2
SCHQ	Scheffervill	118.53	8	PKP		PKPdf	05 18 31.4	+0.2
	comp=Z,3.3nm,0.6s,baz=222,slow=2.7,SNR=5.9							
H06S1	SOCORRO T	118.83	65	T		T	07 26 58.2	
	SNR=11							
TXAR	Lajitas Array	120.86	51	PKP		PKPdf	05 18 37.4	+0.8
TXAR	Lajitas Array	120.86	51	PKP		PKPdf	05 18 37.4	+0.8
	comp=Z,0.5nm,0.6s,baz=90,slow=1.3,SNR=3.8							
TORD	Torodi Ar. Bea	121.47	289	PKP		PKPdf	05 18 36.9	-1.1
TORD	Torodi Ar. Bea	121.47	289	PKP		PKPdf	05 18 36.9	-1.1
	comp=Z,4.1nm,0.8s,baz=46,slow=1.7,SNR=32							
JCT	Junction City	123.20	48	*e*PKPdf		PKPdf	05 18 41.9	+0.9
KIC	Kosan Boka	129.28	283	*e*PKIKP		PKPdf	05 18 53.2	+0.2
	comp=Z,122nm,2.1s							
DBIC	Dimbokro	129.32	284	PKP		PKPdf	05 18 52.6	-0.4
DBIC	Dimbokro	129.32	284	PKP		PKPdf	05 18 52.6	-0.4
	comp=Z,2.6nm,0.6s,baz=5.6,slow=2.9,SNR=5.2							
TIC	Toumodi	129.49	284	*e*PKIKP		PKPdf	05 18 53.5	+0.1
	comp=Z,9.5nm,0.8s							
LIC	Lamto	129.59	283	*e*PKIKP		PKPdf	05 18 53.2	-0.3
	comp=Z,12nm,0.6s							
PLCA	Paso Flores	142.32	159	PKP		PKPdf	05 19 13.4	-3.1
PLCA	Paso Flores	142.32	159	PKP		PKPdf	05 19 13.4	-3.1
	comp=Z,1.5nm,0.7s,baz=241,slow=5.2,SNR=5.3							
TRQA	Tornquist	147.22	168	*e*PKPbc		PKPbc	05 19 27.6	+0.3
SDDR	Presa de Saban	149.99	34	*e*PKPdf		PKPdf	05 19 31.8	+1.8
SDDR				*e*PKPbc		PKiKP	05 19 35.7	-0.2
SDDR				*e*PKPab		PKPab	05 19 41.8	+0.9
LPAZ	La Paz	162.79	128	PKP		PKPdf	05 19 47.7	+0.4
LPAZ	La Paz	162.79	128	PKP		PKPdf	05 19 47.7	+0.4
	comp=Z,1.7nm,0.9s,baz=134,slow=5.6,SNR=7.0							

ISCJB ***29*** *05:01:15.5±0.6, 19°.81N±0°.08×145°.5E±0°.1, h109km, mb4.1/17, Error ellipse: s-maj=17.3km s-min=9.8km az=161.5*

IDC ***29*** *05:01:16.7±4.1, 19°.73N×145°.65E, h108km±37km, mb4.0/17, mb1 4.1/19, mb1mx3.9/36, mbtmp4.0/19, Error ellipse: s-maj=25.0km s-min=16.0km az=111.0*

ISC 29 05:01:17.5±0.8, 19°.8N±0°.1×145°.6E±0°.2, h109km, n25, σ1§73/23, mb4.3/17, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	7.92	337	P		P	Pn	05 03 09.6	-0.3
	8.2nm,0.3s,baz=267,slow=23,SNR=6.7								
JCJ				S		S	Sn	05 04 35.0	-2.8
	18nm,0.3s,baz=299,slow=22,SNR=8.2								
MJAR	Matsushiro Arr	17.91	340	P		P		05 05 18.7	+0.1
	0.6nm,0.3s,baz=126,slow=10,SNR=4.5								
H11S3	WAKE ISLAND Hy	19.98	90	T		T		05 26 48.1	
	baz=277,slow=0.6,SNR=6.1								
H11S1	WAKE ISLAND Hy	19.99	90	T		T		05 26 47.9	
	baz=277,slow=0.6,SNR=6.5								
H11S2	WAKE ISLAND Hy	20.00	90	T		T		05 26 48.7	
	baz=277,slow=0.6,SNR=7.6								
H11N1	WAKE ISLAND Hy	20.06	87	T		T		05 26 50.2	
	baz=277								
H11N2	WAKE ISLAND Hy	20.06	87	T		T		05 26 53.5	
	baz=277								
H11N3	WAKE ISLAND Hy	20.07	87	T		T		05 26 53.4	
	baz=277								
KSRS	Korea Array	23.39	323	P		P		05 06 17.5	+1.0
	2.2nm,0.7s,baz=156,slow=9.6,SNR=6.8								
KSRS				pP		pP		05 06 43.2	+4.7
	2.7nm,0.8s,baz=149,slow=7.8,SNR=2.9								
PETK	Petropavlovsk-	34.56	13	P		P		05 07 56.6	+1.1
	6.7nm,1.0s,baz=180,slow=11,SNR=2.7								
WRA	Warramunga Arr	40.99	196	P		P		05 08 48.4	-1.4
	5.1nm,0.5s,baz=25,slow=8.8,SNR=5.8								
FITZ	Fitzroy Crossi	42.44	209	P		P		05 09 01.1	-0.5
	1.6nm,0.3s,baz=30,slow=6.4,SNR=6.1								
KURBB	Kurchatov Arra	60.45	318	P		P		05 11 15.4	-0.1
	0.9nm,0.4s,baz=92,slow=7.3,SNR=5.2								
ILAR	Eielson Array	62.73	26	P		P		05 11 29.0	-1.7
	3.0nm,0.8s,baz=256,slow=4.7,SNR=31								
BVAR	Borovoye Array	65.58	320	P		P		05 11 49.5	+0.1
	1.2nm,0.3s,baz=103,slow=7.3,SNR=7.4								
INK	Inuvik	68.42	23	P		P		05 12 06.2	-1.0
	3.8nm,0.9s,baz=268,slow=7.5,SNR=9.4								
DLBC	Dease Lake	70.45	34	P		P		05 12 20.2	+0.3
	5.2nm,0.9s,baz=270,slow=3.0,SNR=8.3								
YKA	Yellowknife Ar	77.09	28	P		P		05 12 57.9	-0.6
	3.6nm,0.6s,baz=290,slow=5.7,SNR=5.0								
YBH	Yreka Blue Hor	78.34	50	P		P		05 13 05.6	-0.4
	1.3nm,0.8s,baz=211,slow=5.9,SNR=3.1								
RES	Resolute Bay	78.40	14	P		P		05 13 05.5	0.0
	3.1nm,0.7s,baz=346,slow=5.5,SNR=11								
NEW	Newport	80.19	42	P		P		05 13 15.4	-0.4
	1.5nm,0.7s,baz=302,slow=7.2,SNR=4.3								
NVAR	Mina Array Bea	82.56	52	P		P		05 13 28.7	-0.2
	3.1nm,0.8s,baz=258,slow=6.0,SNR=14								
NVAR				pP		pP		05 14 00.6	+3.7
	0.6nm,0.6s,baz=261,slow=5.4,SNR=2.2								
ELK	Elko	83.99	49	P		P		05 13 35.5	-0.7
	1.8nm,0.8s,baz=281,slow=2.1,SNR=5.1								
FINES	FINESS Array B	85.86	335	P		P		05 13 42.9	-1.8
	3.5nm,0.8s,baz=65,slow=4.8,SNR=3.3								
FINES				pP		pP		05 14 14.6	+1.6
	1.2nm,0.6s,baz=57,slow=5.1,SNR=1.6								
PDAR	Pinedale Array	87.14	45	P		P		05 13 51.0	-0.7
	0.4nm,0.5s,baz=171,slow=3.0,SNR=5.0								

NIED ***29*** *05:05:00, 45°.10N×149°.60E, h32km, Mw3.9 Best double couple: M0 7.69000×10^14 NP1:φs=6.00000°, δ63.00000°, λ68.00000°. NP2:φs228.00000°, δ35.00000°, λ126.00000°.*

ISCJB ***29*** *05:05:37.8±0.6, 45°.04N±0°.09×149°.51E±0°.08, h60km, mb3.9/13, Error ellipse: s-maj=12.9km s-min=6.8km az=157.8*

MOS ***29*** *05:05:39.9±1.1, 45°.04N×149°.32E, h78km, mb4.2/11, Error ellipse: s-maj=14.4km s-min=11.9km az=137.0*

IDC ***29*** *05:05:41.1±3.5, 45°.04N×149°.50E, h75km±31km, mb3.7/13, mb1 3.8/17, mb1mx3.7/30, mbtmp3.7/17, MS3.2/1, Ms1 3.2/1, ms1mx2.8/43, Error ellipse: s-maj=21.7km s-min=15.9km az=122.0*

ISC 29 05:05:39.5±0.7, 45°.09N±0°.10×149°.48E±0°.08, h60km, n36, σ0§99/31, mb3.9/13, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.15	278	⇓*i*P	N	Pn	Pn	05 05 58.6	-0.8
KUR				*i* S		S	Sn	05 06 12.5	-1.8
KUR				pmax	pmax				
	comp=Z,540nm,0.8s								
KUR				smax	smax				
	comp=N,1μm,0.4s								
KUR				smax	smax				
	comp=E,570nm,0.4s								
YUK	Yuzh-Kuril'sk	2.79	249	*d i* P	N	Pn		05 06 21.6	0.0
YUK				*i* S		Sn		05 06 53.2	-0.9
YUK				pmax	pmax				
	comp=N,40nm,0.2s								
YUK				pmax	pmax				
	comp=Z,102nm,0.2s								
YUK				pmax	pmax				
	comp=E,38nm,0.1s								
YUK				smax	smax				
	comp=E,469nm,0.7s								
YUK				smax	smax				
	comp=N,151nm,0.3s								
ASAJ	Asahikawa	5.01	261	P		Pn		05 06 53.9	+1.9
	comp=N,4.8nm,0.3s,baz=79,slow=9.0,SNR=11								
ASAJ				S		Sn		05 07 59.9	+11
	baz=144,slow=21,SNR=1.2								
ASAJ				LR		LR		05 09 01.7	
	comp=N,238nm,18.1s,baz=348,slow=40								
YSS	Yuzh-Sakhalins	5.04	294	*e*P	N	Pn		05 06 53.1	+0.7
ERM	Erimo	5.52	238	*i* P	N	Pn		05 06 59.4	+0.3
PETK	Petropavlovsk-	9.67	31	*e*P	N	Pn		05 08 01.5	+5.8
PETK				pmax	pmax				
	comp=Z,1.0nm,0.3s								
USRK	Ussuriysk Arra	12.49	272	P		Pn		05 08 36.9	+2.6
	comp=Z,0.4nm,0.3s,baz=93,slow=14,SNR=5.3								
KSRS	Korea Array	17.87	252	P		P		05 09 43.1	-0.6
	comp=Z,0.3nm,0.3s,baz=63,slow=11,SNR=4.9								
SEY	Seymchan	17.96	4	*i* P		Pn		05 09 53.3	+8.6
JNU	Nakatsue	18.68	237	P		P		05 09 52.6	-0.2
	comp=Z,0.3nm,0.3s,baz=219,slow=20,SNR=6.3								
H11N2	WAKE ISLAND Hy	29.12	145	T		T		05 42 21.4	
	baz=337,slow=0.7,SNR=305								
H11N1	WAKE ISLAND Hy	29.13	145	T		T		05 42 21.7	
	baz=337,slow=0.7,SNR=219								
H11N3	WAKE ISLAND Hy	29.14	145	T		T		05 42 22.7	
	baz=337,slow=0.7,SNR=276								
H11S1	WAKE ISLAND Hy	30.14	146	T		T		05 43 39.3	
	baz=338,slow=0.7,SNR=372								
H11S3	WAKE ISLAND Hy	30.15	146	T		T		05 43 36.7	
	baz=338,slow=0.7,SNR=273								
H11S2	WAKE ISLAND Hy	30.16	146	T		T		05 43 39.5	
	baz=338,slow=0.7,SNR=230								
ZALV	Zalesovo Beam	41.54	306	PcP		PcP		05 15 17.3	+0.4
	comp=Z,1.2nm,0.6s,baz=61,slow=3.1,SNR=5.1								
INK	Inuvik	44.41	31	P		P		05 13 44.4	+0.8
	comp=Z,4.0nm,1.1s,baz=262,slow=7.7,SNR=8.4								
MKAR	Makanchi Array	45.45	297	P		P		05 13 52.8	+0.5
MKAR								05 15 30.6	
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
MKAR	Makanchi Array	45.45	297	P		P		05 13 52.8	+0.5
	comp=Z,1.1nm,0.7s,baz=57,slow=9.2,SNR=4.1								
MKAR				PcP		PcP		05 15 30.6	+0.2
	comp=Z,0.7nm,0.6s,baz=65,slow=3.5,SNR=4.7								
KURK	Kurchatov	46.17	304	P		P		05 13 59.0	+1.1
KURBB	Kurchatov Arra	46.26	304	P		P		05 13 59.0	+0.4
	comp=Z,0.4nm,0.3s,baz=76,slow=8.1,SNR=3.5								
CMAR	Chiang Mai Arr	49.49	255	P		P		05 14 24.6	+0.6
	comp=Z,1.3nm,0.3s,baz=44,slow=6.9,SNR=4.7								
RES	Resolute Bay	53.20	197	P		P		05 14 51.0	+0.1
	comp=Z,1.6nm,0.8s,baz=305,slow=12,SNR=3.1								
FINES	FINESS Array B	64.43	334	P		P		05 16 08.9	0.0
	comp=Z,1.2nm,0.6s,baz=34,slow=10,SNR=3.2								
WRA	Warramunga Arr	66.17	196	P		P		05 16 19.7	-0.9
	comp=Z,1.4nm,0.8s,baz=16,slow=6.8,SNR=7.4								
PDAR	Pinedale Array	67.78	51	P		P		05 16 30.6	-0.5
	comp=Z,0.2nm,0.3s,baz=352,slow=2.7,SNR=3.1								
ASAR	Alice Springs	69.88	195	P		P		05 16 44.2	+0.3
	comp=Z,1.1nm,0.8s,baz=13,slow=6.6,SNR=9.2								
AKASG	Malin Array Be	71.47	325	*e*P		P		05 16 53.2	-0.1
AKASG	Malin Array Be	71.47	325	P		P		05 16 52.5	-0.8
	comp=Z,0.7nm,0.4s,baz=43,slow=6.3,SNR=4.1								
ESK	Eskdalemuir	77.33	344	*i* P		P		05 17 25.1	-2.2
BRTR	Keskin Array B	77.81	315	P		P		05 17 31.1	+0.7
	comp=Z,1.3nm,0.7s,baz=81,slow=3.9,SNR=6.5								
GERES	GERESS Array B	78.78	332	P		P		05 17 35.6	0.0
	comp=Z,0.6nm,0.5s,baz=18,slow=4.6,SNR=5.7								
TXAR	Lajitas Array	80.53	58	P		P		05 17 45.9	+0.5
	comp=Z,0.8nm,0.6s,baz=299,slow=4.2,SNR=5.9								
SNAA	Sanae	150.23	197	*e*P		PKPbc		05 25 22.2	-0.2
VNA2	Neumayer--Watz	151.73	196	*e*P		PKPbc		05 25 24.9	-0.9
	baz=47,slow=1.0								

IDC 29 05:15:00.0±4.1, 30°.43S×138°.29E, h0km, mb1 3.0/3, mb1mx3.0/16, mbtmp2.8/3, ML2.5/3, Error ellipse: s-maj=99.1km s-min=16.8km az=41.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	3.18	118	P		Pn	Pn	05 15 51.5	+0.1
	0.2nm,0.3s,baz=299,slow=13,SNR=2.9								
STKA				Pg		Pb		05 15 59.1	+1.7
	0.9nm,0.3s,baz=303,slow=12,SNR=12								
STKA				Sn		Sn		05 16 28.4	-1.6
	0.9nm,0.3s,baz=281,slow=12,SNR=3.6								
STKA				Lg		Lg		05 16 39.5	
	2.0nm,0.3s,baz=354,slow=14,SNR=5.5								
ASAR	Alice Springs	7.79	329	P		Pn		05 16 54.7	-0.1
	0.1nm,0.3s,baz=150,slow=13,SNR=4.1								
ASAR				Sn		Sn		05 18 22.8	-0.9
	0.1nm,0.3s,baz=155,slow=18,SNR=3.3								
WRA	Warramunga Arr	11.04	340	Pn		Pn		05 17 39.6	+0.4
	0.1nm,0.3s,baz=153,slow=12,SNR=5.1								

IGQ 29 05:19:08.1, 0°.96S×79°.50W, h21km±146km, Mb4.0, Ms3.8, 3C-22D, Error ellipse: s-maj=1.6km s-min=1.1km az=2.8, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PECV	Mancha de Ca P	0.58	288	P		Pn		05 19 24.9	+3.8
MAG1	Magdalena	0.92	343	⇓P		Pn		05 19 25.8	0.0
IGUA	Igualata	1.01	121	⇓S		Sn		05 19 41.6	-0.3
IGUA	Igualata	1.01	121	⇓P		Pn		05 19 27.9	+0.2
BMOR	Cotopaxi Volca	1.07	78	⇓P		Pb		05 19 28.8	+0.2
BREF	Cotopaxi Volca	1.10	75	⇓P		Pb		05 19 29.9	+0.7
PISA	Pisayambo	1.12	95	⇑P		Pb		05 19 29.6	+0.2
BVC2	Cotopaxi Volca	1.13	75	⇓P		Pb		05 19 30.0	+0.4
JUI6	Juive	1.13	114	⇓S		Sn		05 19 44.7	+0.4
JUI6	Juive	1.13	114	⇓P		Pb		05 19 29.7	+0.4
BTAM	Cotopaxi Volca	1.14	76	⇓P		Pb		05 19 30.1	+0.3
PITA	Cotopaxi Volc	1.14	70	P		Pb		05 19 30.1	+0.4
VC1	Cotopaxi 1	1.14	74	⇓P		Pb		05 19 30.3	+0.5
BMAS	Trigal station	1.16	118	⇓P		Pb		05 19 30.4	+0.6
JUA2	San Juan 2	1.16	50	P		Pb		05 19 30.3	+0.3
RETU	Refugio	1.16	115	P		Pb		05 19 30.6	+0.5
RUN5	Runtun	1.17	113	S		Sn		05 19 46.0	+0.7
RUN5	Runtun	1.17	113	P		Pb		05 19 30.2	+0.3
RIOE	Riobamba	1.17	132	⇓P		Pb		05 19 30.2	+0.1
ARRY	Arrayan	1.18	117	S		Sn		05 19 45.8	+0.2
ARRY	Arrayan	1.18	117	P		Pb		05 19 30.1	-0.1
BRUN	Tungurahua Vol	1.18	113	⇓S		Sn		05 19 45.5	-0.1
BRUN	Tungurahua Vol	1.18	113	⇓P		Pb		05 19 30.1	-0.1
TERV	Terraza Guagua	1.19	49	P		Pb		05 19 30.8	+0.2
BULB	Ulba Tungurahu	1.19	114	⇓S		Sn		05 19 46.6	+0.7
BULB	Ulba Tungurahu	1.19	114	⇓P		Pb		05 19 30.5	+0.1
COV1	Cotopaxi Volc	1.19	76	⇓P		Pn		05 19 29.9	-0.5
PAT1	Patacocha	1.19	117	⇓P		Pb		05 19 30.9	+0.3
GGP	Refugio Guagua	1.20	49	⇑P		Pn		05 19 30.4	+0.1
BPAT	Tungurahua Vol	1.20	117	⇓S		Sn		05 19 46.8	+0.6
BPAT	Tungurahua Vol	1.20	117	⇓P		Pb		05 19 30.8	+0.1
PINO	Pino	1.20	48	P		Pn		05 19 30.3	0.0
ULBA	Ulba	1.20	114	⇓S		Sn		05 19 46.9	+0.9
ULBA	Ulba	1.20	114	⇓P		Pb		05 19 30.7	+0.2
ANTI	Antisana	1.43	69	P		Pb		05 19 34.7	-0.1
OTAV	Otavalo	1.59	41	⇑P		Pn		05 19 36.4	+0.8
CAYR	Refugio Cayamb	1.78	57	P		Pb		05 19 42.5	+1.7
CAYA	Cayambe	1.82	56	P		Pb		05 19 41.9	+0.5
MACE	Macas	1.83	135	P		Pb		05 19 41.9	+0.7
ARNL	Arenillas	2.63	192	P		Pn		05 19 49.7	+0.3

IDC ***29*** *05:21:12.6±0.3, 1°.18N×126°.19E, h0km, mb5.2/31, mb1 5.2/32, mb1mx5.2/33, mbtmp5.2/32, ML5.2/1, MS4.2/17, Ms1 4.2/17, ms1mx4.0/36, Error ellipse: s-maj=13.8km s-min=6.7km az=77.0*

MOS ***29*** *05:21:16.5±1.2, 1°.32N×126°.13E, h33km, mb5.5/71, MS4.3/15, Error ellipse: s-maj=9.2km s-min=5.0km az=114.1*

BJI ***29*** *05:21:17.5, 0°.62N×126°.19E, h94km, mB5.2/33, mb5.2/51*

ISCJB ***29*** *05:21:18.1±0.4, 1°.30N±0°.02×126°.27E±0°.02, h50km±3km, mb5.3/146, MS4.4/39, Error ellipse: s-maj=3.9km s-min=2.9km az=157.4*

DJA ***29*** *05:21:19.4±1.6, 1°.N±3°×12°.7E±°, h37km±19km, M5.2/23, mB5.6/19, mb5.5/23, MLv5.5/14, Mw(mB)5.1/19, Mwp5.5/3*

NEIC ***29*** *05:21:20.4±0.9, 1°.26N×126°.20E, h55km±8km, mb5.3/70, Error ellipse: s-maj=5.5km s-min=4.0km az=69.0*

AUST ***29*** *05:21:21.1±0.9, 1°.15N×126°.33E, h63km±9km, Error ellipse: s-maj=9.0km s-min=6.3km az=31.0*

BKK ***29*** *05:21:21.0±0.5, 1°.N±4°×12°.7E±°, h60km±4km, M5.2/37, mB5.6/17, mb5.2/37, MLv5.8/4, Mw(mB)5.1/17, Mwp5.4/1*

GCMT ***29*** *05:21:22.0±0.2, 1°.36N×126°.31E, h30km, MW5.2, Moment Tensor Solution. s73,c100; s79,c127; Moment tensor: Scale 10^16Nm; Mrr 7.34±.21; Mθθ 0.83±.16; Mφφ -8.17±.17; Mrθ -1.19±.26; Mθφ -2.98±.14; Mφr 2.88±.26; Best double couple: Mo 8.90000×10^16 NP1:φs 1.00000°, δ55.00000°, λ70.00000°. NP2:φs 214.00000°, δ39.00000°, λ116.00000°. Principal axes: T 8.2700, Plg72.0000°, Azm222.0000°; N 1.1500, Plg16.0000°, Azm313.0000°; P -9.4200, Plg8.0000°, Azm105.0000°; Data Used: II IU IC G.*

ISC 29 05:21:23.9±0.3, 1°.19N±0°.02×126°.16E±0°.03, h85km±2km, n775, σ1§55/867, mb5.2/146, 160C-148D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.28	109	P		P	Pn	05 21 37.6	-9.1
KMSI	Cibinong	2.26	254	P		P	Pn	05 21 56.9	-2.5
KMSI				S		S	Sn	05 22 26.2	-0.4
LBMI	Labuha	2.26	144	P		P	Pn	05 21 53.4	-6.1
LBMI				S		S	Sn	05 22 20.4	-6.2
SGSI	Sangihe	2.56	346	P		P	Pn	05 21 57.2	-6.2
SGSI				S		S	Sn	05 22 27.2	-6.5
LUWI	Luwuk	4.05	237	P		P	Pn	05 22 22.7	-0.9
LUWI	Luwuk	4.05	237	⇓P		Pn		05 22 23.1	-0.5
	baz=4.2,SNR=55								
MRSI	Marisa	4.27	260	P		Pn		05 22 24.7	-2.0
NLAI	Namlea	4.50	168	P		Pn		05 22 26.7	-3.1
APSI	Ampana	4.97	245	P		Pn		05 22 35.6	-0.5
	3μm,0.7s								
GSPH	General Santos	5.01	346	⇑*iP*		Pn		05 22 30.6	-6.2
GSPH				*e*S		Sn		05 23 24.3	-9.2
TOLI	Toli-Toli	5.36	269	P		Pn		05 22 39.5	-2.0
	602nm,0.9s,11μm19μm5.2nm								
SWI	Sorong	5.50	112	P		Pn		05 22 37.3	-6.0
	223nm,0.7s,3μm								
SWI	Sorong	5.50	112	P		Pn		05 22 37.8	-5.6
	baz=5.3,SNR=12								
CTBH	Cotabato--PC H	6.28

256nm,0.6s
GUMO Guam 22.24 56 *e*P P 05 26 11.9 -2.1
140nm,0.8s
MYKOM Kota Tinggi 22.31 272 P P 05 26 15.7 +1.0
MYKOM Kota Tinggi 22.31 272 *e*P P 05 26 15.1 +0.3
WRAB Tennant Creek 22.48 159 *e*P P 05 26 14.8 -1.7
WRAB pmax pmax
comp=Z,139nm,0.7s
WRAB Tennant Creek 22.48 159 *e*P P 05 26 14.8 -1.7
WRAB Tennant Creek 22.48 159 P P 05 26 14.3 -2.2
comp=Z,1µm,0.6s
WRA Warramunga Arr 22.48 160 P P 05 26 13.8 -2.7
WRA S S 05 30 16.9 -0.7
WRA *e* 05 59 53.6
WRA Warramunga Arr 22.48 160 P P 05 26 13.8 -2.7
comp=Z,64nm,0.5s,baz=337,slow=11,SNR=137
WRA S S 05 30 16.9 -0.7
comp=Z,16nm,1.0s,baz=309,slow=9.8,SNR=14
WRA P3KPbc 05 59 53.6
comp=Z,0.7nm,0.9s,baz=166,slow=4.9,SNR=5.0
YULB Yu-li 22.57 348 *e*P P 05 26 10.3 -7.0
comp=Z,34nm,0.6s
COEN Coen 22.60 132 *e*P P 05 26 15.6 -2.2
comp=Z,282nm,0.8s
COEN Coen 22.60 132 P P 05 26 14.3 -3.6
baz=22,SNR=15
TPUB Ta-pu 22.62 347 *e*P P 05 26 15.4 -2.6
comp=Z,111nm,0.6s
KGM Kluang 22.84 272 P P 05 26 20.6 +0.3
SSLB Suanglung 23.02 348 *e*P P 05 26 19.2 -2.8
comp=Z,53nm,0.7s
MBWA Marble Bar 23.09 195 *e*P P 05 26 21.3 -1.3
comp=Z,108nm,1.4s
NACB Ninganchiao 23.27 349 *e*P P 05 26 23.9 -0.4
comp=Z,24nm,0.8s
KTGM Kuala Trenggan 23.34 281 P P 05 26 25.6 +0.5
PMG Port Moresby 23.42 117 *e*P P 05 26 24.7 -1.1
PMG Port Moresby 23.42 117 P P 05 26 24.3 -1.5
comp=Z,19nm,0.5s,baz=289,slow=8.1,SNR=11
XMI Christmas Isla 23.42 240 P P 05 26 25.2 -0.7
baz=24,SNR=3.4
XMIS Christmas Isla 23.47 240 *e*P P 05 26 25.0 -1.2
comp=Z,302nm,0.6s
XMIS Christmas Isla 23.47 240 P P 05 26 25.8 -0.4
baz=24,SNR=5.3
YHNB Yeheng 23.79 349 *e*P P 05 26 25.5 -3.6
comp=Z,50nm,0.6s
MNAI Manna 23.83 256 P P 05 26 31.3 +1.8
baz=24,SNR=5.2
QIZ Qiongzhong 23.87 319 P P 05 26 31.0 +1.2
QIZ pP pP 05 26 49.0 +0.5
QIZ sP sP 05 26 58.8 -0.1
QIZ S S 05 30 43.8 +3.8
QIZ AMB AMB
comp=Z,18nm,0.8s
QIZ LR LR
comp=Z,670nm,20.9s
QIZ LR LR
comp=Z,1µm,21.0s
QIZ Qiongzhong 23.87 319 *e*P P 05 26 27.4 -2.4
comp=Z,16nm,0.6s
FRIM Kepong 24.59 275 P P 05 26 37.1 +0.7
UBPT Khong Chiam 24.76 306 P P 05 26 39.9 +2.1
comp=Z,80nm,1.0s
IPM Ipoh 25.31 278 P P 05 26 43.0 0.0
IPM Ipoh 25.31 278 *e*P P 05 26 41.4 -1.6
comp=Z,35nm,0.7s
JOW Kunigami 25.57 4 *e*P P 05 26 44.5 -0.7
comp=Z,44nm,0.7s
KULM Kulim 25.78 280 P P 05 26 47.1 -0.2
KULM Kulim 25.78 280 *e*P P 05 26 46.6 -0.6
comp=Z,31nm,0.9s
ASAR Alice Springs 25.83 164 P P 05 26 46.4 -1.2
ASAR PcP PcP 05 30 15.9 +0.8
ASAR S S 05 31 15.0 +3.8
ASAR ScS ScS 05 37 39.5 +2.5
ASAR *e* 05 59 39.2
ASAR Alice Springs 25.83 164 P P 05 26 46.4 -1.2
comp=Z,27nm,0.6s,baz=346,slow=6.6,SNR=310
ASAR PcP PcP 05 30 15.9 +0.8
comp=Z,5.1nm,0.6s,baz=336,slow=2.3,SNR=5.3
ASAR S S 05 31 15.0 +3.8
comp=Z,1.1nm,0.6s,baz=334,slow=28,SNR=3.8
ASAR ScS ScS 05 37 39.5 +2.5
comp=Z,0.2nm,0.5s,baz=230,slow=36,SNR=3.3
ASAR P3KPbc 05 59 39.2
comp=Z,0.7nm,0.8s,baz=145,slow=4.1,SNR=4.8
MTSU Mount Surprise 26.23 138 P P 05 26 50.5 -0.7
baz=26,SNR=15
GIRL Giralia 26.39 205 P P 05 26 53.8 +1.3
baz=26,SNR=12
SKNT Sakolnakorn 26.87 307 P P 05 27 01.7 +4.7
comp=Z,43nm,0.9s,comp=Z,2µm
PSI Prapat 27.26 274 P P 05 26 59.5 -1.2
PSI PcP PcP 05 30 18.8 -0.1
PSI Prapat 27.26 274 P P 05 26 59.7 -1.0
baz=27,SNR=23
PSI Prapat 27.26 274 P P 05 26 59.5 -1.2
comp=Z,37nm,0.8s,baz=91,slow=5.5,SNR=46
PSI PcP PcP 05 30 18.8 -0.1
comp=Z,11nm,0.7s,baz=178,slow=2.8,SNR=8.4
CHAI Chaiyaphum 27.96 303 P P 05 27 05.0 -1.7
comp=Z,20nm,0.7s
SURT Suratani 28.30 287 P P 05 27 14.3 +4.5
comp=Z,11nm,1.0s
GSI Gunungsitoli 28.57 271 *e*P P 05 27 09.1 -3.2
comp=Z,52nm,0.7s
MEEK Meekatharra 28.61 194 P P 05 27 12.1 -0.3
baz=29,SNR=51
CTA Charters Tower 28.91 138 P P 05 27 14.9 -0.2
CTA Charters Tower 28.91 138 P P 05 27 14.9 -0.2
comp=Z,15nm,0.9s,baz=324,slow=13,SNR=8.9
CTAO Charters Tower 28.91 138 *e*P P 05 27 15.1 0.0
CTAO pmax pmax
comp=Z,33nm,1.1s
CTAO Charters Tower 28.91 138 *e*P P 05 27 15.1 0.0
comp=Z,33nm,1.1s
PBKT Sadao Pong 29.13 303 P P 05 27 16.7 -0.4
comp=Z,17nm,0.7s
CBIJ Chichi jima 30.00 29 P P 05 27 21.6 -3.1
JCJ Chichijima 30.00 29 P P 05 27 21.6 -3.1
comp=Z,103nm,0.6s,baz=302,slow=11,SNR=6.9
JCJ LR LR 05 38 44.9
comp=Z,194nm,19.6s,baz=198,slow=35
SSE Sheshan 30.11 351 P P 05 27 26.5 +0.9
SSE S S 05 32 20.5 +2.2
SSE AMB AMB
comp=Z,31nm,1.0s
SSE AMB AMB
comp=Z,150nm,10.7s
SSE LR LR
comp=Z,380nm,19.0s
SSE LR LR
comp=Z,220nm,19.0s
SSE LR LR
comp=Z,490nm,19.0s
KHLT Khaolaem Dam 30.40 298 P P 05 27 29.4 +1.0
comp=Z,10nm,1.0s
WHN Wuhan 31.27 340 ⇑P P 05 27 33.5 -2.3
WHN S S 05 32 39.5 +3.1
WHN LR LR
comp=Z,830nm,13.7s
WHN LR LR
comp=Z,360nm,5.0s
WHN LR LR
comp=Z,1µm,17.8s
GYA Guiyang 31.34 325 P P 05 27 34.8 -1.9
GYA pP pP 05 27 58.3 +2.0
GYA sP sP 05 28 09.5 +3.3
GYA PP PnPn 05 28 45.5 +2.9
GYA S S 05 32 38.8 +0.8
GYA sS sS 05 33 14.0 +2.2
GYA PcS PcS 05 34 12.3 -1.3
GYA SS SnSn 05 34 32.0 +1.8
GYA AMB AMB
comp=Z,20nm,0.8s
GYA AMB AMB
comp=Z,140nm,5.0s
GYA LR LR
comp=Z,630nm,17.8s
GYA LR LR
comp=Z,550nm,18.0s
GYA LR LR
comp=Z,760nm,17.6s
NJ2 Nanjing 31.46 348 *e*P P 05 27 37.3 -0.2
NJ2 pP pP 05 27 58.0 +0.9
NJ2 S S 05 32 46.0 +6.7
NJ2 AMB AMB
comp=Z,30nm,0.6s
NJ2 AMB AMB
comp=Z,230nm,6.3s
NJ2 LR LR
comp=Z,2µm,15.5s
NJ2 LR LR
comp=Z,1µm,18.3s
NJ2 LR LR
comp=Z,460nm,16.5s
CRAI Chiangrai 31.51 309 P P 05 27 37.7 -0.5
comp=Z,7.6nm,1.0s,comp=Z,682nm
MORW Morawa 31.61 197 P P 05 27 38.9 +0.1
baz=32,SNR=15
CM31 Chiang Mai Arr 31.74 304 *e*P P 05 27 40.0 -0.2
CMAR Chiang Mai Arr 31.74 304 P P 05 27 39.8 -0.4
CMAR PcP PcP 05 30 31.8 +1.7
CMAR ScP ScP 05 34 12.9 +7.0
CMAR Chiang Mai Arr 31.74 304 P P 05 27 39.8 -0.4
comp=Z,6.1nm,0.8s,baz=138,slow=8.1,SNR=28
CMAR PcP PcP 05 30 31.8 +1.7
comp=Z,8.3nm,0.8s,baz=180,slow=1.9,SNR=19
CMAR ScP ScP 05 34 12.9 +7.0
comp=Z,0.7nm,0.3s,baz=145,slow=2.1,SNR=4.6
CMAR LR LR 05 40 28.8
comp=Z,629nm,20.1s,baz=152,slow=36
FORT Forrest 31.85 177 *e*P P 05 27 40.4 -0.5
comp=Z,158nm,0.6s
FORT Forrest 31.85 177 P P 05 27 40.9 0.0
baz=32,SNR=55
CHTO Chiang Mai 31.91 305 *e*P P 05 27 40.8 -0.9
CHTO pmax pmax
comp=Z,12nm,0.6s
CHTO Chiang Mai 31.91 305 *e*P P 05 27 40.8 -0.9
comp=Z,12nm,0.6s
CHTO Chiang Mai 31.91 305 P P 05 27 40.8 -0.9
comp=Z,77nm,0.9s
JNU Nakatsue 32.07 7 *e*P P 05 27 41.0 -1.9
JNU Nakatsue 32.07 7 P P 05 27 40.9 -2.0
comp=Z,43nm,0.8s,baz=206,slow=3.0,SNR=25
CMAI Chiengmai2 32.41 307 P P 05 27 45.1 -1.1
comp=Z,17nm,0.9s
QLP Quilpie 32.66 149 P P 05 27 47.2 -0.9
baz=33,SNR=8.2
KMI Kunming 32.82 318 ⇑P P 05 27 49.0 -0.8
KMI pP pP 05 28 10.5 +1.0
KMI sP sP 05 28 19.8 +0.5
KMI PP PnPn 05 29 03.3 +1.9
KMI S S 05 33 00.3 -0.9
KMI sS sS 05 33 38.3 +3.2
KMI SS SnSn 05 35 08.0 +1.9
KMI AMB AMB
comp=Z,13nm,0.6s
KMI LR LR
comp=Z,670nm,16.8s
KMI LR LR
comp=Z,590nm,16.0s
KMI LR LR
comp=Z,1µm,16.8s
BLDU Ballidu 32.88 195 P P 05 27 50.0 0.0
baz=33,SNR=75
ENH Enshi 32.97 333 *e*P P 05 27 48.6 -2.2
comp=Z,27nm,0.8s
ENH *e*PcP PcP 05 30 34.4 +1.2
KLBR Kellerberrin 33.56 193 P P 05 27 56.0 +0.1
baz=34,SNR=66
NWAO Narrogin (SRO) 34.97 193 P P 05 28 08.4 +0.4
NWAO PcP PcP 05 30 39.8 +1.0
NWAO Narrogin (SRO) 34.97 193 P P 05 28 08.4 +0.4
comp=Z,19nm,0.4s,baz=22,slow=8.1,SNR=42
NWAO PcP PcP 05 30 39.8 +1.0
comp=Z,12nm,0.7s,baz=306,slow=24,SNR=3.5
BBOO Buckleboo 35.09 165 *e*P P 05 28 07.8 -1.3
comp=Z,952nm,0.8s
BBOO Buckleboo 35.09 165 P P 05 28 08.3 -0.8
baz=35,SNR=87
HNR Honiara 35.27 108 P P 05 28 08.7 -2.2
HNR Honiara 35.27 108 P P 05 28 08.6 -2.2
comp=Z,147nm,0.7s,baz=195,slow=4.3,SNR=6.3
HNR LR LR 05 42 17.6
comp=Z,523nm,21.1s,baz=278,slow=36
EIDS Eidsvold 35.76 139 *e*P P 05 28 14.5 -0.5
comp=Z,17nm,0.9s
EIDS Eidsvold 35.76 139 ⇓P P 05 28 14.0 -1.0
baz=36,SNR=4.5
STKA Stephens Creek 36.00 157 P P 05 28 16.4 -0.5
comp=Z,14nm,0.8s
STKA Stephens Creek 36.00 157 ⇓P P 05 28 16.1 -0.8
baz=36,SNR=94
STKA Stephens Creek 36.00 157 P P 05 28 16.4 -0.5
comp=Z,59nm,0.7s,baz=332,slow=7.7,SNR=42
KSAR Wonju Array Be 36.11 2 P P 05 28 16.6 -1.1
KSAR PcP PcP 05 30 43.3 +1.3
KSRS Korea Array 36.12 2 P P 05 28 16.6 -1.2
comp=Z,10nm,0.7s,baz=179,slow=10,SNR=23
KSRS PcP PcP 05 30 43.3 +1.2
comp=Z,4.7nm,0.7s,baz=186,slow=2.5,SNR=11
KSRS LR LR 05 44 30.2
comp=Z,249nm,19.8s,baz=192,slow=39
CD2 Chengdu 36.38 326 P P 05 28 18.5 -1.8
CD2 pP pP 05 28 39.3 -0.9
CD2 sP sP 05 28 49.8 -0.2
CD2 PP PnPn 05 29 45.3 +0.1
CD2 S S 05 33 53.8 -1.8
CD2 LR LR
comp=Z,690nm,16.2s
CD2 LR LR
comp=Z,2µm,18.6s
XAN Xi'an 36.44 336 P P 05 28 17.8 -2.9
XAN AMB AMB
comp=Z,8.0nm,0.8s
XAN LR LR
comp=Z,230nm,15.4s
XAN LR LR
comp=Z,130nm,18.5s
XAN LR LR
comp=Z,120nm,15.8s
HTT Hallett 36.48 162 P P 05 28 20.8 -0.2
baz=37,SNR=14
RKGY Rocky Gully 36.64 193 P P 05 28 24.0 +1.7
baz=37,SNR=35
MJAR Matsushiro Arr 36.90 16 P P 05 28 22.0 -2.5
MJAR PcP PcP 05 30 45.0 +0.5
MJAR ScP ScP 05 34 30.4 +6.4
MJAR Matsushiro Arr 36.90 16 P P 05 28 22.0 -2.5
comp=Z,37nm,0.9s,baz=184,slow=9.6,SNR=44
MJAR PcP PcP 05 30 45.0 +0.5
comp=Z,7.0nm,0.8s,baz=190,slow=3.7,SNR=7.5
MJAR ScP ScP 05 34 30.4 +6.4
comp=Z,0.8nm,0.4s,baz=211,slow=3.9,SNR=4.4
MJAR LR LR 05 42 23.2
comp=Z,346nm,22.0s,baz=215,slow=34
MAJO Matsushiro 36.90 16 *e*P P 05 28 22.0 -2.5
MAJO pmax pmax
comp=Z,42nm,0.8s
MAJO Matsushiro 36.90 16 *e*P P 05 28 22.0 -2.5
comp=Z,42nm,0.8s
MAT Matsushiro 36.90 16 P P 05 28 22.3 -2.2
MAT *e*S S 05 34 10.4 +7.1
CMSA Cobar Meteorol 37.46 152 P P 05 28 29.4 +0.1
baz=38,SNR=12
DL2 Dalian 37.76 354 ⇓P P 05 28 30.8 -0.9
DL2 S S 05 34 12.8 -3.4
DL2 AMB AMB
comp=Z,99nm,0.8s
DL2 AMB AMB
comp=Z,330nm,3.5s
DL2 LR LR
comp=Z,280nm,17.7s
DL2 LR LR
comp=Z,250nm,18.6s
BJT Baijiatuan 39.70 348 *e*P P 05 28 48.1 +0.2
comp=Z,38nm,0.6s
BJT *e*PcP PcP 05 30 54.4 +1.3
ARMA Armidale 39.71 144 *e*P P 05 28 48.4 0.0
ARMA Armidale 39.71 144 P P 05 28 48.5 +0.2
baz=40,SNR=17
BJI Beijing 39.72 348 P P 05 28 48.5 +0.4
BJI PcP PcP 05 30 53.8 +0.7
BJI S S 05 34 47.3 +1.7
BJI AMB AMB
comp=Z,58nm,0.7s
BJI LR LR
comp=Z,160nm,23.0s
BJI LR LR
comp=Z,200nm,29.2s
BJI LR LR
comp=Z,200nm,24.8s
LZH Lanzhou 40.42 332 *e*P P 05 28 53.5 -0.7
LZH pP pP 05 29 12.8 -1.5
LZH sP sP 05 29 23.5 -0.6
LZH *e*S S 05 34 55.5 -1.1
LZH sS sS 05 35 40.0 +8.8
LZH SS SS 05 37 58.0 -0.9
LZH AMB AMB
comp=Z,100nm,1.0s
LZH AMB AMB
comp=Z,880nm,5.2s
LZH LR LR
comp=Z,1µm,12.5s
LZH LR LR
comp=Z,2µm,15.7s
LZH LR LR
comp=Z,2µm,17.9s
ARPS Mount Arapiles 40.48 160 P P 05 28 54.9 +0.4
baz=41,SNR=21
SNY Shenyang 40.52 357 ⇑P P 05 28 53.5 -1.2
SNY S S 05 35 02.3 +4.8
SNY AMB AMB
comp=Z,19nm,0.5s
SNY LR LR
comp=Z,280nm,18.6s
SNY LR LR
comp=Z,330nm,20.4s
SNY LR LR
comp=Z,380nm,16.8s
SHL Shillong 40.97 309 *e*P P 05 28 57.0 -1.9
YNG Young 41.02 151 ⇑P P 05 28 59.3 +0.4
baz=41,SNR=6.9
MGCD Mangrove Creek 41.52 148 ⇑P P 05 29 03.0 -0.1
baz=42,SNR=4.7
HHC Hu-ho-hao-te 41.63 343 *e*P P 05 29 04.5 +0.5
HHC PP PnPn 05 30 46.0 -1.4
HHC PcP PcP 05 31 00.3 +0.8
HHC ScP ScP 05 34 39.5 -2.8
HHC PcS PcS 05 34 50.3 -0.7
HHC S S 05 35 15.3 +1.0
HHC SS SS 05 38 18.3 -4.4
HHC ScS ScS 05 38 54.5 -4.6
HHC AMB AMB
comp=Z,36nm,0.8s
HHC AMB AMB
comp=Z,190nm,5.7s
HHC LR LR
comp=Z,630nm,15.7s
HHC LR LR
comp=Z,710nm,15.1s
HHC LR LR
comp=Z,850nm,15.4s
VLA Vladivostok 42.06 6*d**e*P P 05 29 05.4 -1.8
VLA *e* 05 30 44.4
VLA *e*S S 05 35 17.8 -2.4
VLA pmax pmax
comp=Z,50nm,0.9s
CAN Canberra 42.13 152 *e*P P 05 29 08.2 +0.1
CAN *e* 05 31 03.6
CAN pmax pmax
comp=Z,57nm,1.1s
CAN Canberra 42.13 152 *e*P P 05 29 08.2 +0.1
comp=Z,58nm,1.1s
CAN *e*PcP PcP 05 31 03.6 +2.3
CN2 Changchun 42.43 359 *e*P P 05 29 12.0 +1.7
CN2 *e*S S 05 35 27.0 +1.3
CN2 AMB AMB
comp=Z,10.0nm,0.6s
CN2 AMB AMB
comp=Z,300nm,6.0s
CN2 LR LR
comp=Z,500nm,19.0s
CN2 LR LR
comp=Z,500nm,19.0s
CN2 LR LR
comp=Z,500nm,21.0s
TOO Toolangi 42.52 157 ⇓P P 05 29 12.5 +1.3
baz=43,SNR=6.1
USRK Ussuriysk Arra 43.14 6 P P 05 29 15.1 -0.9
comp=Z,36nm,0.7s,baz=193,slow=6.4,SNR=100
USRK PcP PcP 05 31 02.3 -2.0
comp=Z,5.6nm,0.9s,baz=207,slow=9.2,SNR=2.1
USRK LR LR 05 44 53.8
comp=Z,135nm,21.4s,baz=171,slow=33
USRK PKPPKP P'P'df 06 01 07.3 -1.9
comp=Z,0.4nm,0.2s,baz=161,slow=9.2,SNR=4.5
H11S3 WAKE ISLAND Hy 43.31 64 T T 06 16 21.2
baz=253,slow=0.7,SNR=30
H11S2 WAKE ISLAND Hy 43.33 64 T T 06 16 24.7
baz=253,slow=0.7,SNR=38
H11S1 WAKE ISLAND Hy 43.33 64 T T 06 16 22.2
baz=253,slow=0.7,SNR=27
MDJ Mudanjiang 43.35 4 P P 05 29 17.5 -0.2
MDJ pP pP 05 29 36.8 -1.2
MDJ sP sP 05 29 46.0 -1.7
MDJ PP PP 05 30 58.8 -1.3
MDJ PcP PcP 05 31 05.0 0.0
MDJ PcS PcS 05 34 57.8 +0.3
MDJ S S 05 35 41.0 +1.9
MDJ SS SS 05 38 56.5 +0.5
MDJ AMB AMB
comp=Z,59nm,0.8s
MDJ AMB AMB
comp=Z,110nm,3.7s
MDJ LR LR
comp=Z,140nm,29.5s
MDJ LR LR
comp=Z,90nm,27.0s
MDJ LR LR
comp=Z,280nm,29.5s
MDJ Mudanjiang 43.35 4 *e*P P 05 29 17.2 -0.5
comp=Z,44nm,0.8s
ERM Erimo 43.43 18*c**e*P P 05 29 18.6 +0.3
ERM pmax pmax
comp=Z,37nm,0.8s
ERM Erimo 43.43 18 *e*P P 05 29 19.2 +0.8
comp=Z,29nm,0.8s
LSA Lhasa 43.72 314 *e*P P 05 29 15.0 -6.5
LSA Lhasa 43.72 314 *e*P P 05 29 21.1 -0.4
LSA pmax pmax
comp=Z,28nm,0.6s
LSA Lhasa 43.72 314 *e*P P 05 29 21.1 -0.4
comp=Z,28nm,0.6s
H11N1 WAKE ISLAND Hy 43.89 62 T T 06 17 30.5
baz=250
H11N2 WAKE ISLAND Hy 43.90 62 T T 06 17 36.9
baz=250
H11N3 WAKE ISLAND Hy 43.91 62 T T 06 17 29.0
baz=250
TAPN Taplejung 45.10 309 *e*P P 05 29 30.7 -1.6
comp=Z,42nm,0.8s
ODAN Odare 45.12 308 *e*P P 05 29 30.7 -1.7
comp=Z,43nm,0.6s
ASAJ Asahikawa 45.17 17 P P 05 29 31.8 -0.4
ASAJ Asahikawa 45.17 17 P P 05 29 31.8 -0.4
comp=Z,28nm,0.7s,baz=228,slow=18,SNR=9.8
DZM Mont Dzumac 45.60 123 *e*P P 05 29 35.9 -0.2
comp=Z,79nm,0.9s
DZM *e*S S 05 36 03.1 -10
DZM LR LR 05 42 06.5
comp=Z,361nm,37.3s
comp=Z,616nm,29.2s
DZM Mont Dzumac 45.60 123 P P 05 29 35.8 -0.3
DZM Mont Dzumac 45.60 123 P P 05 29 35.8 -0.3
comp=Z,25nm,0.7s,baz=127,slow=23,SNR=14
RAMN Ramite 45.78 308 *e*P P 05 29 36.4 -1.3
comp=Z,46nm,0.7s
JIRN Jiri 46.43 308 *e*P P 05 29 41.2 -1.7
comp=Z,49nm,0.5s
GUN Gumba 46.79 308 *e*P P 05 29 44.0 -1.7
comp=Z,88nm,0.6s
PKI Pulchoki 47.01 308 *e*P P 05 29 45.6 -1.8
comp=Z,44nm,0.8s
PKIN Phulchoki 47.02 308 *e*P P 05 29 45.7 -1.7
comp=Z,14nm,0.4s
KKN Kakani 47.21 308 *e*P P 05 29 46.8 -2.0
comp=Z,22nm,0.5s
DMN Daman 47.27 307 *e*P P 05 29 47.4 -1.9
comp=Z,45nm,0.8s
HABR Khabarovsk 47.72 8 *e*P P 05 29 49.8 -2.3
HABR *e* 05 31 17.1
HABR *e* 05 31 42.3
HABR S S 05 36 39.2 -2.7

HABR *e* 05 39 32.8
HABR *eSS* **SS** **05 40 10.2 -1.2**
HABR pmax pmax
comp=Z,219nm,2.2s
HABR MLR MLR
comp=Z,237nm,18.0s
GKN Gorkha 47.81 308 *eP* **P** **05 29 51.3 -2.1**
comp=Z,61nm,0.8s
YSS Yuzh-Sakhalins 47.83 15 *eP* **P** **05 29 53.0 +0.1**
YSS pmax pmax
comp=Z,40nm,0.9s
KLR Kul'dur 48.10 5 *eP* P 05 29 50.2 -4.8
KOLN Koldanda 48.53 307 *eP* **P** **05 29 57.5 -1.5**
comp=Z,177nm,0.7s
DANN Dangsing 48.66 308 *eP* **P** **05 29 58.2 -1.9**
comp=Z,142nm,0.7s
ULN Ulaanbaatar 49.35 343 *eP* **P** **05 30 03.5 -1.4**
comp=Z,17nm,1.0s
HYB Hyderabad 49.48 292 *i* P **P** **05 30 05.0 -1.2**
SONM Songino Array 49.52 343 P **P** **05 30 04.5 -1.6**
SONM PcP **PcP** **05 31 27.4 +0.5**
SONM Songino Array 49.52 343 P **P** **05 30 04.5 -1.6**
comp=Z,4.1nm,0.6s,baz=157,slow=9.3,SNR=22
SONM PcP **PcP** **05 31 27.4 +0.5**
comp=Z,13nm,0.7s,baz=159,slow=3.8,SNR=13
SONM LR LR 05 53 42.9
comp=Z,159nm,19.3s,baz=273,slow=39
JBP Jabalpur 49.81 300 *eS* **P** **05 30 08.3 -0.3**
ZAK Zakamensk 52.73 342 *eP* **P** **05 30 28.6 -1.5**
ZAK *e* 05 31 38.9
ZAK pmax pmax
comp=Z,4.0nm,1.2s
ZAK pmax pmax
comp=Z,14nm,0.9s
TLY Talaya 53.76 343 *eP* **P** **05 30 40.3 +2.8**
TLY *e* 05 31 44.1
TLY *e* 05 32 37.0
TLY *eS* S 05 37 59.4 -6.0
TLY *eSS* **SS** **05 41 51.1 +3.6**
TLY pmax pmax
comp=Z,9.0nm,0.6s
TLY MLR MLR
comp=Z,269nm,20.0s
MSVF Nonsavu 54.42 113 *eP* **P** **05 30 43.7 +0.7**
MSVF pmax pmax
comp=Z,37nm,0.8s
MSVF Nonsavu 54.42 113 *eP* **P** **05 30 43.7 +0.7**
comp=Z,37nm,0.8s
MSVF Nonsavu 54.42 113 P **P** **05 30 44.5 +1.5**
comp=Z,268nm,0.8s,SNR=5.2
WMQ Urumqi 54.48 326 P **P** **05 30 42.5 -0.5**
WMQ pP **pP** **05 31 06.0 +1.9**
WMQ sP **sP** **05 31 17.3 +3.7**
WMQ PcP **PcP** **05 31 44.5 -1.0**
WMQ PP **PP** **05 32 47.5 +1.4**
WMQ S **S** **05 38 12.0 -3.6**
WMQ sS **sS** **05 38 53.3 +1.7**
WMQ ScS **ScS** **05 40 18.5 -5.9**
WMQ SS **SS** **05 41 55.5 -3.8**
WMQ AMB AMB
comp=Z,25nm,0.8s
WMQ AMB AMB
comp=Z,220nm,4.2s
WMQ LR LR
comp=Z,410nm,20.2s
WMQ LR LR
comp=Z,430nm,21.2s
WMQ LR LR
comp=Z,460nm,19.2s
HVS Khovu-Aksy 56.80 336 *d i* P **P** **05 30 58.7 -0.7**
HVS pmax pmax
comp=Z,115nm,0.7s
PETK Petropavlovsk- 57.98 22 P **P** **05 31 07.5 -0.1**
PETK pmax pmax
comp=Z,25nm,0.7s
PETK Petropavlovsk- 57.98 22 P **P** **05 31 07.5 -0.1**
PETK Petropavlovsk- 57.98 22 P **P** **05 31 07.5 -0.1**
comp=Z,25nm,0.7s,baz=194,slow=5.6,SNR=14
MK31 Makanchi Array 59.32 326 *i* P **P** **05 31 15.4 -1.7**
MK31 pmax pmax
comp=Z,5.0nm,0.3s
MKAR Makanchi Array 59.32 326 P **P** **05 31 15.4 -1.7**
MKAR 05 32 04.2
MKAR pmax pmax
comp=Z,13nm,0.5s
MKAR pmax pmax
comp=Z,12nm,0.7s
MKAR MLR MLR
comp=Z,548nm,19.8s
MKAR Makanchi Array 59.32 326 P **P** **05 31 15.4 -1.7**
MKAR PcP **PcP** **05 32 04.2 -0.2**
MKAR ⇑*e* 06 00 58.5
MKAR Makanchi Array 59.32 326 P **P** **05 31 15.4 -1.7**
comp=Z,12nm,0.5s,baz=120,slow=9.0,SNR=5.8
MKAR PcP **PcP** **05 32 04.2 -0.2**
comp=Z,12nm,0.7s,baz=130,slow=5.1,SNR=5.4
MKAR LR LR 05 57 23.8
comp=Z,548nm,19.8s,baz=134,slow=37
MKAR PKP2bc 06 00 58.5
comp=Z,0.9nm,0.8s,baz=36,slow=2.3,SNR=4.5
KSH Kashi 59.45 316 P **P** **05 31 19.8 +1.6**
KSH pP **pP** **05 31 42.3 +2.7**
KSH sP sP 05 31 54.3 +5.2
KSH S **S** **05 39 21.8 +0.6**
KSH sS **sS** **05 39 59.5 +1.8**
KSH AMB AMB
comp=Z,11nm,0.8s
KSH AMB AMB
comp=Z,140nm,4.1s
KSH LR LR
comp=Z,110nm,7.6s
KSH LR LR
comp=Z,170nm,7.5s
KSH LR LR
comp=Z,200nm,7.8s
RPZ Rata Peaks 60.05 144 P **P** **05 31 22.5 +0.4**
RPZ Rata Peaks 60.05 144 P **P** **05 31 22.5 +0.4**
comp=Z,14nm,0.6s,baz=289,slow=0.6,SNR=6.9
RPZ LR LR 05 57 56.3
comp=Z,437nm,18.5s,baz=310,slow=37
YAK Yakutsk 60.75 2 *eP* **P** **05 31 25.1 -1.3**
YAK pmax pmax
comp=Z,53nm,0.8s
YAK pmax pmax
comp=N,10.0nm,0.9s
YAK pmax pmax
comp=E,10.0nm,1.1s
KZA Kyzart 61.11 319 P **P** **05 31 29.2 -0.6**
SNR=6.3
BKZ Black Stump Fm 61.11 137 *eP* **P** **05 31 29.6 +0.1**
TKM2 Tokmak 2 61.28 320 *i* P **P** **05 31 29.5 -1.2**
TKM2 Tokmak 2 61.28 320 P **P** **05 31 29.5 -1.2**
SNR=22
TKM2 Tokmak 2 61.28 320 *eP* **P** **05 31 29.3 -1.4**
comp=E,14nm,0.6s
AAK Ala-Archa 61.86 319 *ceP* **P** **05 31 33.6 -1.0**
AAK pmax pmax
comp=Z,21nm,1.1s
AAK Ala-Archa 61.86 319 *eP* **P** **05 31 33.6 -1.0**
USP Ospenovka 62.15 320 P **P** **05 31 36.0 -0.4**
SNR=10
AML Almayashu 62.16 318 P **P** **05 31 36.4 -0.6**
SNR=17
EKS2 Erkin-Say 62.34 319 *eP* **P** **05 31 37.0 -0.8**
EKS2 pmax pmax
comp=Z,18nm,0.7s
EKS2 Erkin-Say 62.34 319 P **P** **05 31 37.0 -0.8**
SNR=13
EKS2 Erkin-Say 62.34 319 *eP* **P** **05 31 37.0 -0.8**
comp=Z,18nm,0.7s
ZALV Zalesovo Beam 62.59 334 P **P** **05 31 36.9 -2.1**
ZALV pmax pmax
comp=Z,12nm,0.5s
ZALV MLR MLR
comp=Z,182nm,21.8s
ZALV Zalesovo Beam 62.59 334 P **P** **05 31 36.9 -2.1**
ZALV ⇑*e* 06 00 49.6
ZALV Zalesovo Beam 62.59 334 P **P** **05 31 36.9 -2.1**
comp=Z,12nm,0.5s,baz=137,slow=6.4,SNR=43
ZALV LR LR 05 59 00.2
comp=Z,182nm,21.8s,baz=250,slow=36
ZALV PKP2bc 06 00 49.6
comp=Z,0.7nm,0.6s,baz=306,slow=5.3,SNR=4.3
KURK Kurchatov 63.57 328 *ceP* **P** **05 31 44.1 -1.5**
KURK pmax pmax
comp=Z,53nm,0.7s
KURK Kurchatov 63.57 328 *eP* **P** **05 31 44.2 -1.5**
comp=Z,50nm,0.6s
KURK Kurchatov 63.57 328 P **P** **05 31 44.1 -1.5**
comp=Z,1μm,0.7s
NVS Novosibirsk 63.87 334⇑ *iP* **P** **05 31 45.5 -2.0**
NVS pmax pmax
comp=N,13nm,0.6s
NVS pmax pmax
comp=E,18nm,0.6s
NVS pmax pmax
comp=Z,21nm,0.6s
FX1 Attu Island--F 64.56 29 P **P** **05 31 52.1 +0.1**
FX1 Attu Island--F 64.56 29 P **P** **05 31 52.1 +0.1**
comp=Z,65nm,0.8s,baz=41,slow=13,SNR=4.8
SEY Seymchan 64.62 13 *i* P **P** **05 31 52.0 -0.2**
KK31 Karatay Array 64.70 318 *i* P **P** **05 31 51.7 -1.5**
KK31 pmax pmax
comp=Z,3.0nm,0.5s
KKAR Karatay Array 64.70 318 *eP* **P** **05 31 51.9 -1.3**
KKAR pmax pmax
comp=Z,10.0nm,0.8s
KKAR Karatay Array 64.70 318 *eP* **P** **05 31 51.9 -1.3**
comp=Z,10.0nm,0.8s
BVA0 Borovoye Array 69.13 328 *i* P **P** **05 32 19.7 -1.4**
BVA0 pmax pmax
comp=Z,20nm,0.9s
BRVK Borovoye 69.20 328 *c i* P **P** **05 32 20.3 -1.2**
BRVK pmax pmax
comp=Z,14nm,0.6s
BRVK Borovoye 69.20 328 *eP* **P** **05 32 20.4 -1.2**
comp=Z,18nm,0.6s
BRVK Borovoye 69.20 328 P **P** **05 32 20.4 -1.1**
comp=Z,194nm,0.6s,SNR=12
TIXI Tiksi 70.37 1 *ceP* **P** **05 32 27.0 -1.3**
TIXI pmax pmax
comp=Z,31nm,0.7s
AB31 Akbulak array 73.75 321 *i* P **P** **05 32 47.5 -1.4**
AB31 pmax pmax
comp=Z,25nm,0.7s
ABKAR Akbulak array 73.75 321 *eP* **P** **05 32 47.8 -1.1**
comp=Z,16nm,0.6s
AKTO Aktyubinsk 75.29 322 P **P** **05 32 55.3 -2.5**
AKTO pmax pmax
comp=Z,38nm,0.9s
SVE Sverdlovsk 75.82 329⇑ *iP* **P** **05 33 00.4 -0.3**
SVE pmax pmax
comp=Z,77nm,0.6s
UNV Unalaska Valle 75.83 34 *eP* **P** **05 33 01.8 +1.0**
comp=Z,42nm,0.7s
AKUT Akutan 76.33 34 *eP* **P** **05 33 03.6 0.0**
comp=Z,110nm,0.8s
ARU Arti 76.77 328 *c i* P **P** **05 33 04.9 -1.2**
ARU 05 35 55.4
ARU S **S** **05 42 45.2 -1.2**
ARU pmax pmax
comp=Z,69nm,0.8s
ARU Arti 76.77 328 P **P** **05 33 05.6 -0.5**
comp=Z,542nm,0.6s,SNR=11
GAMB Gambell 76.94 24 *eP* **P** **05 33 07.1 +0.3**
comp=Z,40nm,0.8s
FALS False Pass 77.85 34 *eP* **P** **05 33 12.1 0.0**
comp=Z,113nm,0.6s
SOKR Solikamsk 78.64 331⇓ *iP* **P** **05 33 16.0 -0.4**
SOKR pmax pmax
comp=Z,10.0nm,0.6s
SDPT Sand Point 79.61 34 *eP* **P** **05 33 21.7 -0.1**
comp=Z,234nm,0.6s
ABPO Ambohimpanom 79.92 251 *eP* **P** **05 33 25.1 +0.6**
ABPO pmax pmax
comp=Z,9.0nm,0.7s
ABPO Ambohimpanom 79.92 251 *eP* **P** **05 33 25.1 +0.6**
comp=Z,8.8nm,0.7s
RAYN Ar Rayn 80.95 293 P **P** **05 33 30.9 +1.1**
comp=Z,156nm,0.7s,SNR=9.5
VNDA Vanda 81.00 173 P **P** **05 33 29.6 +0.7**
VNDA PKKPbc **PKKPbc** **05 52 07.0 -2.4**
VNDA Vanda 81.00 173 P **P** **05 33 29.6 +0.7**
comp=Z,18nm,0.6s,baz=320,slow=6.0,SNR=94
VNDA PKKPbc **PKKPbc** **05 52 07.0 -2.4**
comp=Z,0.6nm,0.9s,baz=25,slow=1.0,SNR=3.8
MAW Mawson 81.19 200 P **P** **05 33 31.4 +1.4**
MAW Mawson 81.19 200 P **P** **05 33 31.4 +1.4**
baz=81,SNR=49
MAW Mawson 81.19 200 P **P** **05 33 31.4 +1.4**
comp=Z,13nm,0.8s,baz=58,slow=6.6,SNR=45
MAW LR LR 06 02 26.0
comp=Z,166nm,21.7s,baz=61,slow=30
SBA Scott Base 81.92 172 *eP* **P** **05 33 33.3 -0.4**
SBA pmax pmax
comp=Z,38nm,1.3s
SBA Scott Base 81.92 172 *eP* **P** **05 33 33.3 -0.4**
comp=Z,38nm,1.3s
DGRG David-gareji 82.30 312 P **P** **05 33 37.5 +1.0**
GNI Garni 82.67 310 *eP* **P** **05 33 40.2 +1.6**
comp=Z,25nm,0.8s
DUS Dusheti 82.86 312 P P 05 33 42.8 +3.4
ONI Oni 83.82 313 P **P** **05 33 46.1 +1.8**
OHAK Old Harbor 83.88 33 *eP* **P** **05 33 44.5 +0.3**
comp=Z,43nm,0.7s
KBZ Khabaz 84.30 314 P **P** **05 33 46.6 0.0**
KBZ pmax pmax
comp=Z,19nm,0.9s
KBZ Khabaz 84.30 314 P **P** **05 33 46.6 0.0**
KBZ Khabaz 84.30 314 P **P** **05 33 46.6 0.0**
comp=Z,18nm,0.9s,baz=111,slow=4.0,SNR=17
KDAK Kodiak Island 84.33 32 *eP* **P** **05 33 47.1 +0.7**
comp=Z,43nm,0.6s
KDAK Kodiak Island 84.33 32 P **P** **05 33 47.3 +0.8**
comp=Z,431nm,0.7s,SNR=14
KIV Kislovodsk 84.47 314 *eP* **P** **05 33 48.3 +0.7**
KIV *e* 05 44 01.6
KIV *eSS* SS 05 49 39.4 -0.3
KIV pmax pmax
comp=Z,29nm,0.9s
KIV MLR MLR
comp=Z,98nm,19.0s
RSO Redoubt South 84.57 29 *eP* **P** **05 33 47.7 -0.2**
comp=Z,119nm,0.8s
CHVG Ch'ikvateri 84.83 313 P **P** **05 33 50.7 +1.3**
IM04 Indian Mountai 84.86 24 *eP* **P** **05 33 49.5 +0.4**
PPT Papeete 84.89 108 LR LR 06 05 18.0
comp=Z,90nm,20.1s,baz=148,slow=31
PPT2 Papeete2 84.89 108 *eS* **S** **05 44 14.7 +2.1**
comp=Z,123nm,25.0s
IMA2 Indian Mountai 84.92 24 *eP* **P** **05 33 49.8 +0.3**
PPLA Purkeypile 85.14 27 *eP* **P** **05 33 50.8 +0.1**
comp=Z,7.8nm,0.7s
TBI Tubuai 85.31 113 *eS* **S** **05 44 12.7 -3.6**
comp=Z,75nm,25.5s
VRHR Novokhopersk 85.63 321 *eP* **P** **05 33 52.2 -1.0**
VRHR pmax pmax
comp=Z,170nm,0.6s
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,70nm,0.7s
BPAW Bear Paw Mtn. 85.81 26 *eP* **P** **05 33 53.3 -0.5**
comp=E,8.0nm,0.6s
TRF Thorofare Moun 86.05 27 *eP* **P** **05 33 54.1 -1.1**
comp=E,5.2nm,0.7s
SEW Seward 86.17 30 *eP* **P** **05 33 55.3 -0.3**
comp=E,28nm,0.7s
PMR Palmer 86.43 28 *eP* **P** **05 33 55.9 -1.0**
PMR pmax pmax
comp=Z,24nm,0.8s
PMR Palmer 86.43 28 *eP* **P** **05 33 55.9 -1.0**
comp=Z,24nm,0.8s
COLD Coldfoot 86.44 23 *eP* **P** **05 33 57.4 +0.6**
comp=Z,27nm,0.7s
SOC Sochi 86.60 313 *eP* **P** **05 33 55.8 -2.3**
SOC *e* PPP PPP 05 39 14.2
SOC *eS* **SKSac** **05 44 11.4 -5.9**
SOC pmax pmax
comp=Z,38nm,0.7s
MCK McKinley 86.68 26 *eP* **P** **05 33 57.3 -0.8**
MCK pmax pmax
comp=Z,17nm,0.7s
MCK McKinley 86.68 26 *eP* **P** **05 33 57.3 -0.8**
comp=Z,16nm,0.7s
VORD Divnogorie 87.10 321 *eP* **P** **05 33 59.4 -0.9**
VORD pmax pmax
comp=Z,50nm,0.7s
VORD pmax pmax
comp=N,9.0nm,0.6s
VORD pmax pmax
comp=E,30nm,0.9s
VSR Storozhevoye 87.19 321 *eP* **P** **05 34 00.1 -0.7**
VSR pmax pmax
comp=Z,60nm,0.7s
VSR pmax pmax
comp=N,7.0nm,0.4s
VSR pmax pmax
comp=E,30nm,0.7s
COLA College 87.22 25 *eP* **P** **05 33 59.2 -1.4**
COLA pmax pmax
comp=Z,34nm,0.7s
COLA College 87.22 25 *eP* **P** **05 33 59.2 -1.4**
comp=Z,34nm,0.7s
KLMR Klimovskoe 87.32 331 *eP* **P** **05 33 59.4 -1.8**
KLMR pmax pmax
comp=Z,17nm,0.5s
MALT Malatya 87.48 308⇑ *iP* **P** **05 34 03.2 +0.5**
MALT Malatya 87.48 308⇑ *iP* **P** **05 34 03.2 +0.5**
ILAR Eielson Array 87.63 25 P **P** **05 34 00.7 -1.9**
ILAR PKKPbc **PKKPdf** **05 51 49.9 +3.1**
ILAR Eielson Array 87.63 25 P **P** **05 34 00.7 -1.9**
comp=Z,4.7nm,0.6s,baz=240,slow=5.1,SNR=125
ILAR PKKPbc **PKKPdf** **05 51 49.9 +3.1**
comp=Z,0.5nm,0.7s,baz=96,slow=1.5,SNR=9.7
ILAR LR LR 06 13 23.0
comp=Z,101nm,18.9s,baz=250,slow=36
DIV Divide 88.03 29 *eP* **P** **05 34 05.0 +0.3**
comp=Z,14nm,0.7s
MOS Moscow 88.19 326 *eP* **P** **05 34 03.5 -1.9**
MOS *e* 05 34 18.6
ANN Anapa 88.26 315 *eP* **P** **05 34 04.3 -1.7**
ANN *e* 05 37 30.5
ANN *eS* **SKSac** **05 44 23.3 -4.0**
ANN pmax pmax
comp=Z,77nm,1.3s
BMRM Bremner River 88.60 29 *eP* **P** **05 34 06.6 -0.7**
OBN Obninsk 88.79 325⇓ *iP* **P** **05 34 07.6 -0.7**
OBN *ePS* **PnS** **05 46 01.1 -1.9**
OBN pmax pmax
comp=Z,32nm,1.2s
OBN MLR MLR
comp=Z,200nm,19.0s
DOT Dot Lake 88.84 27 *eP* **P** **05 34 07.9 -0.5**
comp=Z,18nm,0.7s
DOT *ePP* **PP** **05 37 39.8 +1.3**
KMBO Kilima Mbogo 88.93 269 *eP* **P** **05 34 11.5 +1.3**
comp=Z,11nm,0.9s
KMBO Kilima Mbogo 88.93 269 P **P** **05 34 11.4 +1.3**
comp=Z,8.0nm,0.9s,baz=60,slow=7.0,SNR=15
MENT Mentasta 89.00 27 *eP* **P** **05 34 09.3 +0.1**
SYO Syowa Base 89.87 201⇓ *eP* **P** **05 34 12.6 -0.4**
APA Apatity 89.96 337 *eP* P 05 34 23.0 +9.5
APA MLR MLR
comp=Z,600nm,17.0s
EGAK Eagle 90.08 25 *eP* **P** **05 34 13.8 -0.3**
comp=Z,9.5nm,0.6s
DAWY Dawson 90.89 26 *eP* **P** **05 34 18.0 0.0**
QSPA South Pole Qui 91.12 180 *eP* **P** **05 34 19.4 +0.3**
comp=Z,5.0nm,0.8s
JOF Joensuu 91.16 333 *eP* **P** **05 34 18.8 -0.4**
JOF pmax pmax
comp=Z,8.0nm,0.4s
JOF Joensuu 91.16 333 *ep* **P** **05 34 18.8 -0.4**
comp=Z,8.4nm,0.4s
BR131 Keskin Array S 91.19 310 *eP* **P** **05 34 19.1 -0.9**
comp=Z,4.6nm,0.7s
BRTR Keskin Array B 91.19 310 P **P** **05 34 18.8 -1.2**
BRTR Keskin Array B 91.19 310 P **P** **05 34 18.8 -1.2**
comp=Z,6.6nm,0.7s,baz=128,slow=5.8,SNR=35
BRTR LR LR 06 24 05.1
comp=Z,87nm,20.1s,baz=66,slow=41
CSS Prodhromos 91.64 305 *eP* **P** **05 34 21.9 -0.2**
comp=Z,28nm,0.8s
KEV Kevo 92.06 340 *eP* P 05 34 19.6 -3.6
KEV pmax pmax
comp=Z,10.0nm,0.8s
KEV Kevo 92.06 340 *ep* P 05 34 19.6 -3.6
comp=Z,10nm,0.8s
HYT Haines Junctio 92.07 29 *eP* **P** **05 34 23.8 +0.2**
ARCES ARCESS Array B 92.62 340 P **P** **05 34 24.6 -1.2**
ARCES PKKPbc **PKKPdf** **05 51 38.7 +0.6**
ARCES ARCESS Array B 92.62 340 P **P** **05 34 24.6 -1.2**
comp=Z,17nm,0.7s,baz=76,slow=5.1,SNR=25
ARCES PKKPbc **PKKPdf** **05 51 38.7 +0.6**
comp=Z,6.2nm,1.0s,baz=299,slow=2.5,SNR=4.3
ARCES LR LR 06 22 25.5
comp=Z,143nm,18.6s,baz=81,slow=40
INK Inuvik 92.72 21 *eP* **P** **05 34 25.5 -0.8**
comp=Z,6.4nm,0.8s
SKAG Skagway 93.31 30 *eP* **P** **05 34 30.0 +0.8**
comp=Z,9.8nm,0.8s
AKASG Malin Array Be 93.48 321 P **P** **05 34 28.7 -1.5**
AKASG pmax pmax
comp=Z,7.0nm,0.8s
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG MLR MLR
comp=Z,212nm,21.3s
AKASG Malin Array Be 93.48 321 P **P** **05 34 28.7 -1.5**
AKASG PKKPbc **PKKPbc** **05 51 37.1 -0.9**
AKASG Malin Array Be 93.48 321 P **P** **05 34 28.7 -1.5**
comp=Z,6.7nm,0.8s,baz=69,slow=4.8,SNR=13
AKASG PKKPbc **PKKPbc** **05 51 37.1 -0.9**
comp=Z,0.7nm,0.4s,baz=274,slow=3.7,SNR=6.2
AKASG LR LR 06 19 50.7
comp=Z,212nm,21.3s,baz=300,slow=38
KAF Kangasniemi 93.56 332 *eP* **P** **05 34 33.1 +2.8**
KAF pmax pmax
comp=Z,6.0nm,0.5s
KAF Kangasniemi 93.56 332 *ep* **P** **05 34 33.1 +2.8**
comp=Z,5.8nm,0.5s
FINES FINESS Array B 93.78 332 P **P** **05 34 29.8 -1.5**
FINES FINESS Array B 93.78 332 P **P** **05 34 29.8 -1.5**
comp=Z,3.9nm,0.6s,baz=58,slow=4.8,SNR=9.6
FINES LR LR 06 20 21.5
comp=Z,235nm,18.6s,baz=51,slow=38
TIRR Tirgusor 94.71 315⇑ *iP* P 05 34 32.3 -3.6
TIRR Tirgusor 94.71 315⇑ *iP* P 05 34 32.3 -3.6
CFR Carcaliu 94.82 315⇑ *iP* **P** **05 34 36.2 -0.2**
CFR Carcaliu 94.82 315⇑ *iP* **P** **05 34 36.2 -0.2**
MSAB Monastry St. A 95.17 314⇑ *iP* **P** **05 34 40.9 +2.8**
TESR Tescani 95.69 317⇑ *iP* **P** **05 34 40.1 -0.3**
VRI Vrincioaia 95.72 316⇑ *iP* **P** **05 34 41.1 +0.5**
VRI Vrincioaia 95.72 316⇑ *iP* **P** **05 34 41.1 +0.5**
PLOR Plostina 95.78 316⇑ *iP* **P** **05 34 41.4 +0.5**
PLOR Plostina 95.78 316⇑ *iP* **P** **05 34 41.4 +0.5**
MLR Muntele Rosu 96.31 316⇑ *iP* **P** **05 34 42.6 -0.9**
BURAR Bucovina Array 96.50 318⇑ *P* **P** **05 34 44.0 -0.2**
BURAR Bucovina Array 96.50 318⇑ *iP* **P** **05 34 44.0 -0.2**
SUW Suwalki 96.65 325 *eP* **P** **05 34 42.7 -1.9**
SUW pmax pmax
comp=Z,26nm,0.6s
SUW Suwalki 96.65 325 *eP* **P** **05 34 42.7 -1.9**
comp=Z,26nm,0.6s
LVV L'vov 96.91 320 *eP* P 05 34 49.1 +3.2
VOIR 96.94 316⇑ *iP* **P** **05 34 47.6 +1.3**
VOIR 96.94 316⇑ *iP* **P** **05 34 47.6 +1.3**
ARR Arges 97.25 316⇑ *iP* **P** **05 34 47.3 -0.3**
LOT Lotru 97.83 316⇑ *iP* Pdif 05 34 50.5 +0.2
LSZ Lusaka 98.00 255 *eP* **P** **05 34 51.8 +0.1**
comp=Z,4.3nm,0.8s
TRPA Tarpa 98.18 319⇑ *iP* **P** **05 34 51.2 -0.4**
KOLS Kolonicke sedl 98.20 320 *i* P Pdif 05 34 53.0 +1.2
KOLS Kolonicke sedl 98.20 320 *eP* Pdif 05 34 53.0 +1.2
UZH Uzhgorod 98.25 319 *eP* **P** **05 34 50.5 -1.4**
UZH *e*PP* pP 05 35 04.0 -11
UZH *eS* S 05 46 07.1 -5.5
DRGR 98.32 318⇓ *iP* **P** **05 34 52.3 -0.1**
VTS Vitosha 98.71 313⇑ *iP* P 05 34 51.2 -3.2
VTS Vitosha 98.71 313⇑ *iP* P 05 34 51.2 -3.2
CRVS Cervenica-Dubn 98.73 320 *i* P **P** **05 34 54.1 0.0**
CRVS Cervenica-Dubn 98.73 320 PDIF P **05 34 54.1 0.0**
STHS Stebnicka Huta 98.76 320 *i* P Pdif 05 34 54.9 +0.6
STHS Stebnicka Huta 98.76 320 PDIF Pdif 05 34 54.9 +0.6
SIRR Siria 99.13 317⇑ *iP* **Pdif** **05 34 55.6 -0.4**
KECS Kecovo 99.45 320 *i* P **Pdif** **05 34 57.3 0.0**
KECS Kecovo 99.45 320 PDIF **Pdif** **05 34 57.3 0.0**
OJC Ojcow 99.50 321 *eP* **Pdif** **05 35 01.2 +3.7**

OJC Ojcow 99.50 321 eP Pdif 05 35 01.2 +3.7
PSZ Piszkesteto 99.96 319 ⇑P Pdif 05 34 48.5 -11
PSZ Piszkesteto 99.96 319 ⇑iP Pdif 05 34 48.5 -11
RES Resolute Bay 100.39 10 P Pdif 05 35 00.8 -0.1
RES Resolute Bay 100.39 10 P Pdif 05 35 00.8 -0.1
comp=Z,3.5nm,0.7s,baz=322,slow=3.5,SNR=14
NB2 NORSAR Subarra 100.79 333 P Pdif 05 35 01.3 -1.7
comp=Z,1.8nm,0.6s,baz=69,slow=4.4
NB2 NORSAR Subarra 100.79 333 P Pdif 05 35 01.3 -1.7
baz=69,slow=4.4
NOA NORSAR Array B 100.79 333 P Pdif 05 35 01.6 -1.4
NOA PKKPbc PKKPbc 05 51 18.2 -0.3
NOA NORSAR Array B 100.79 333 P Pdif 05 35 01.6 -1.4
comp=Z,1.9nm,0.7s,baz=70,slow=4.5,SNR=8.1
NOA PKKPbc PKKPbc 05 51 18.2 -0.3
comp=Z,0.9nm,0.8s,baz=78,slow=17,SNR=3.3
MORC Moravsky Berou 101.02 321 ⇓P Pdif 05 35 08.9 +4.6
MORC Moravsky Berou 101.02 321 ⇓iP Pdif 05 35 08.9 +4.6
PKSM Moragy 101.19 318 ⇓P Pdif 05 35 04.9 -0.2
PKSM Moragy 101.19 318 ⇓iP Pdif 05 35 04.9 -0.2
YKA Yellowknife Ar 102.03 24 P Pdif 05 35 08.8 +0.4
YKA Yellowknife Ar 102.03 24 P Pdif 05 35 08.8 +0.4
comp=Z,3.0nm,0.6s,baz=298,slow=4.5,SNR=6.4
BRG Berggiesshubel 102.91 323 eP Pdif 05 35 14.4 +1.8
comp=Z,4.6nm,1.0s
CLL Collm 103.34 324 eP Pdif 05 35 11.0 -3.5
CLL MLR MLR
comp=Z,200nm,19.5s
GERES GERESS Array B 103.69 321 Pdif Pdif 05 35 18.5 +2.2
GERES GERESS Array B 103.69 321 Pdiff Pdif 05 35 18.5 +2.2
comp=Z,1.8nm,0.4s,baz=54,slow=5.0,SNR=13
YBH Yreka Blue Hor 104.84 46 Pdif Pdif 05 35 21.9 +0.3
YBH Yreka Blue Hor 104.84 46 Pdiff Pdif 05 35 21.9 +0.3
comp=Z,1.1nm,0.7s,baz=178,slow=5.6,SNR=3.3
NEW Newport 106.56 39 Pdif Pdif 05 35 29.0 0.0
NEW Newport 106.56 39 Pdiff Pdif 05 35 29.0 0.0
comp=Z,1.9nm,0.8s,baz=250,slow=6.5,SNR=6.0
NVAR Mina Array Bea 109.01 49 Pdif Pdif 05 35 42.1 +1.8
NVAR PKiKP PKiKP 05 39 46.0 +1.5
NVAR PKKPbc PKKPbc 05 50 54.6 +1.6
NVAR PKKPab PKKPab 05 51 06.4 +1.2
NVAR Mina Array Bea 109.01 49 Pdiff Pdif 05 35 42.1 +1.8
comp=Z,0.5nm,0.3s,baz=273,slow=6.1,SNR=2.9
NVAR PKiKP PKiKP 05 39 46.0 +1.5
comp=Z,0.7nm,0.7s,baz=270,slow=0.9,SNR=3.6
NVAR PKKPbc PKKPbc 05 50 54.6 +1.6
comp=Z,1.2nm,0.7s,baz=133,slow=4.7,SNR=7.1
NVAR PKKPab PKKPab 05 51 06.4 +1.2
comp=Z,2.9nm,0.8s,baz=135,slow=5.8,SNR=12
MSO Missoula 109.10 39 ⇑P PKiKP 05 39 45.2 +0.9
baz=109
CABF La Chapelle 109.29 321 ePKiKP PKiKP 05 39 44.0 -0.6
CABF La Chapelle 109.29 321 ePKPdf PKiKP 05 39 44.0 -0.6
LPG La Plagne 109.30 320 ePKiKP PKiKP 05 39 43.7 -1.2
comp=Z,2.7nm,0.7s
LPG La Plagne 109.30 320 ePKPdf PKiKP 05 39 43.7 -1.2
LPL La Plagne 109.31 320 ePKiKP PKiKP 05 39 43.1 -1.7
comp=Z,8.5nm,1.0s
LPL La Plagne 109.31 320 ePKPdf PKiKP 05 39 43.1 -1.7
HLID Hailey 110.06 42 ⇓P PKiKP 05 39 47.7 +1.5
baz=110
ELK Elko 110.50 45 PKiKP PKiKP 05 39 48.5 +1.2
ELK Elko 110.50 45 PKiKP PKiKP 05 39 48.5 +1.2
comp=Z,0.3nm,0.3s,baz=290,slow=2.3,SNR=6.6
KEST Kesra 110.79 309 PP PP 05 40 24.8 -1.1
KEST PKKPbc PKKPbc 05 50 48.4 +1.3
KEST Kesra 110.79 309 PP PP 05 40 24.8 -1.1
comp=Z,1.8nm,0.9s,baz=338,slow=5.4,SNR=4.8
KEST PKKPbc PKKPbc 05 50 48.4 +1.3
comp=Z,1.0nm,0.7s,baz=124,slow=3.6,SNR=3.0
EGMT Eagleton 111.15 37 ⇓P PKiKP 05 39 48.8 +0.7
baz=111
B20A Solberg Farm, 111.98 36 ⇓P PKiKP 05 39 50.2 +0.7
baz=112
C20A Veseth Ranch, 112.34 36 ⇓P PKiKP 05 39 51.3 +1.0
baz=112
DUG Dugway 112.43 45 ⇑P PKiKP 05 39 51.5 +0.7
baz=112
E19A Rath Farm, Rou 112.46 38 ⇑P PKiKP 05 39 51.4 +0.8
baz=112
C21A Desert Coulee 112.82 36 ⇓P PKiKP 05 39 52.0 +0.8
baz=113
A22A Carney Farms, 112.91 34 ⇑P PKiKP 05 39 52.2 +0.9
baz=113
D21A La Casita Ranch 113.25 37 ⇑P PKiKP 05 39 53.0 +1.0
baz=113
LFF La Frestale 113.39 321 ePKiKP PKiKP 05 39 50.9 -1.4
LFF La Frestale 113.39 321 ePKiKP PKiKP 05 39 50.9 -1.4
LFF La Frestale 113.39 321 ePKPdf PKiKP 05 39 50.9 -1.4
G20A Bridger 113.39 39 ⇓P PKiKP 05 39 53.3 +0.8
baz=113
C22A Vida 113.56 35 ⇑P PKiKP 05 39 53.6 +1.0
baz=113
PDAR Pinedale Array 113.63 42 PKiKP PKiKP 05 39 54.4 +1.2
PDAR PKKPbc PKKPbc 05 50 37.2 -0.9
PDAR PKKPab PKKPab 05 50 44.5 -0.3
PDAR Pinedale Array 113.63 42 PKiKP PKiKP 05 39 54.4 +1.2
comp=Z,0.9nm,0.6s,baz=283,slow=0.3,SNR=7.9
PDAR PKKPbc PKKPbc 05 50 37.2 -0.9
comp=Z,1.9nm,0.7s,baz=115,slow=5.8,SNR=13
PDAR PKKPab PKKPab 05 50 44.5 -0.3
comp=Z,5.6nm,0.8s,baz=120,slow=6.2,SNR=20
D22A Cohagen 113.69 36 ⇑P PKiKP 05 39 54.1 +1.2
baz=114
B23A Brockton 113.70 34 ⇓P PKiKP 05 39 53.8 +0.9
baz=114
C23A Lambert 113.94 35 ⇓P PKiKP 05 39 54.8 +1.5
baz=114
E22A Miles City 114.19 37 ⇑P PKPdf 05 39 54.9 +1.1
baz=114
D23A Lindsay 114.25 36 ⇑P PKPdf 05 39 55.2 +1.2
baz=114
J20A Shoshoni 114.33 41 ⇑P PKPdf 05 39 55.7 +1.4
baz=114
E23A Ismay 114.54 36 ⇑P PKPdf 05 39 55.5 +1.0
baz=114
I21A Big Trails, Te 114.63 40 ⇓P PKPdf 05 39 54.9 0.0
baz=114
D24A Glendive 114.80 35 ⇑P PKPdf 05 39 56.1 +1.1
baz=115
H22A Clearmont 114.85 39 ⇓P PKPdf 05 39 56.0 +0.7
baz=115
C25A Freed Ranch, W 115.09 34 ⇑P PKPdf 05 39 56.7 +1.1
baz=115
E24A Baker 115.10 36 ⇓P PKPdf 05 39 56.3 +0.7
baz=115
A26A Wade Farm, Ken 115.11 33 ⇑P PKPdf 05 39 56.2 +0.7
baz=115
I22A 9 Mile Ranch, 115.11 39 ⇓P PKPdf 05 39 56.1 +0.3
baz=115
G23A Biddle 115.15 38 ⇑P PKPdf 05 39 56.3 +0.5
baz=115
ETSF Etsaut 115.16 319 ePKIKP PKPdf 05 39 54.8 -1.1
comp=Z,5.9nm,0.8s
ETSF Etsaut 115.16 319 ePKiKP PKPdf 05 39 54.8 -1.1
ETSF Etsaut 115.16 319 ePKPdf PKPdf 05 39 54.8 -1.1
K21A Alcova 115.21 41 ⇓P PKPdf 05 39 56.4 +0.3
baz=115
WUAZ Wupatki 115.21 50 ⇓P PKPdf 05 39 56.6 +0.3
baz=115
J22A Midwest 115.34 40 ⇓P PKPdf 05 39 56.2 -0.2
baz=115
F24A Ekalaka 115.39 37 ⇓P PKPdf 05 39 56.5 +0.2
baz=115
A27A Ledoux Ranch, 115.50 33 ⇓P PKPdf 05 39 57.2 +0.9
baz=115
X16A Lo Mia Camp, P 115.55 51 ⇓P PKPdf 05 39 57.6 +0.6
baz=115
O20A White River Ci 115.66 44 ePKPdf PKPdf 05 39 58.0 +0.9
E25A Miller Ranch, 115.66 36 ⇑P PKPdf 05 39 57.6 +0.9
baz=116
K22A Casper 115.67 41 ⇓P PKPdf 05 39 56.8 -0.2
baz=116
G24A Alzada 115.68 37 ⇓P PKPdf 05 39 57.2 +0.3
baz=116
P20A De Beque 115.82 44 ⇑P PKPdf 05 39 58.1 +0.7
baz=116
H24A Dirks Ranch, A 115.89 38 ⇑P PKPdf 05 39 57.5 +0.2
baz=116
D26A Manning 115.93 35 ⇑P PKPdf 05 39 57.8 +0.6
baz=116
F25A Bowman 115.94 36 ⇓P PKPdf 05 39 58.0 +0.8
baz=116
A28A Rude Farm, Bot 116.05 32 ⇑P PKPdf 05 39 57.7 +0.4
baz=116
Q20A Ridgley Place, 116.12 45 ⇑P PKPdf 05 39 59.3 +1.3
baz=116
E26A Carlson Angus 116.22 35 ⇑P PKPdf 05 39 58.5 +0.7
baz=116
B28A Dugan Ranch, T 116.27 33 ⇓P PKPdf 05 39 58.3 +0.5
baz=116
G25A Newell 116.35 37 ⇓P PKPdf 05 39 58.4 +0.4
baz=116
F26A Lodgepole 116.44 36 ⇑P PKPdf 05 39 58.5 +0.3
baz=116
RSSD Black Hills 116.53 38 ePKIKP PKPdf 05 39 58.6 -0.1
RSSD Black Hills 116.53 38 ePKPdf PKPdf 05 39 58.6 -0.1
H25A Fruitdale 116.54 38 ⇑P PKPdf 05 39 58.9 +0.5
baz=116
S20A Disappointment 116.55 46 ⇓P PKPdf 05 39 59.6 +0.7
baz=116
N22A Wattenberg Ran 116.58 42 ⇓P PKPdf 05 39 59.5 +0.6
baz=116
A29A Manning Farm, 116.59 32 ⇑P PKPdf 05 39 58.8 +0.4
baz=116
C28A Hausauer Farms 116.69 33 ⇓P PKPdf 05 39 59.6 +1.0
baz=116
MVCO Mesa Verde 116.70 47 ⇑P PKPdf 05 39 59.7 +0.4
baz=116
E27A Carson 116.76 35 ⇓P PKPdf 05 39 59.5 +0.7
baz=117
I25A Rochford 116.77 38 ⇓P PKPdf 05 39 59.1 0.0
baz=117
G26A Maurine 116.78 36 ⇓P PKPdf 05 39 59.2 +0.2
baz=117
B29A Wagenman Farm, 116.80 32 ⇓P PKPdf 05 39 59.3 +0.5
baz=117
F27A Lemmon 116.81 36 ⇓P PKPdf 05 39 59.2 +0.3
baz=117
S21A Coal Bank Pass 117.03 46 ⇓P PKPdf 05 40 01.6 +1.7
baz=117
MDND Maddock 117.04 33 ⇑P PKPdf 05 39 59.1 -0.1
baz=117
H26A Fairpoint 117.04 37 ⇑P PKPdf 05 40 00.0 +0.6
baz=117
J25A Sunshine Ranch 117.05 39 ⇑P PKPdf 05 39 59.5 0.0
baz=117
A30A Hoffart Farm, 117.06 31 ⇑P PKPdf 05 39 59.4 +0.2
baz=117
G27A Dupree 117.13 36 ⇓P PKPdf 05 40 00.2 +0.6
baz=117
Q22A Crested Butte, 117.14 45 ⇓P PKPdf 05 40 01.2 +1.1
baz=117
O23A Lake Granby, G 117.21 43 ⇓P PKPdf 05 40 01.4 +1.2
baz=117
V20A Brimhall 117.29 48 ⇓P PKPdf 05 40 01.4 +1.1
baz=117
I26A New Underwood 117.30 38 ⇑P PKPdf 05 40 00.6 +0.7
baz=117
B30A Myrvik Farm, E 117.35 32 ⇑P PKPdf 05 40 00.2 +0.4
baz=117
K25A Mack Ranch, Ha 117.40 40 ⇑P PKPdf 05 40 00.7 +0.4
baz=117
ULM Lac du Bonnet 117.44 29 PKP PKPdf 05 39 59.2 -0.7
ULM Lac du Bonnet 117.44 29 PKP PKPdf 05 39 59.2 -0.7
comp=Z,7.2nm,0.7s,baz=312,slow=3.4,SNR=13
H27A Howes 117.45 37 ⇓P PKPdf 05 40 00.8 +0.6
baz=117
T21A Navajo Lake 117.49 47 ⇓P PKPdf 05 40 02.4 +1.7
baz=117
F28A McLaughlin 117.53 35 ⇑P PKPdf 05 40 01.1 +0.8
baz=117
J26A Sides Ranch, S 117.54 39 ⇓P PKPdf 05 40 00.9 +0.4
baz=117
N24A Carr 117.62 42 ⇑P PKPdf 05 40 03.8 +2.9
baz=117
U21A Nageezi 117.64 47 ⇓P PKPdf 05 40 02.9 +1.9
baz=118
S22A 4UR Ranch, Cre 117.68 46 ⇑P PKPdf 05 40 02.4 +1.2
baz=118
C30A Mose, Pekin 117.73 32 ⇓P PKPdf 05 40 00.9 +0.4
baz=118
I27A Quinn 117.77 37 ⇓P PKPdf 05 40 01.0 +0.2
baz=118
K26A Motz Farm, Whi 117.79 39 ⇓P PKPdf 05 40 01.1 +0.1
baz=118
G28A Parade 117.90 36 ⇑P PKPdf 05 40 01.4 +0.4
baz=118
D30A Buchanan 117.94 33 ⇑P PKPdf 05 40 01.5 +0.5
baz=118
T22A Edith 117.94 46 ⇑P PKPdf 05 40 03.3 +1.6
baz=118
H28A Mission Ridge 118.06 36 ⇑P PKPdf 05 40 02.6 +1.2
baz=118
F29A Eureka 118.09 35 ⇑P PKPdf 05 40 01.6 +0.3
baz=118
Y20A Horse Springs, 118.10 50 ⇑P PKPdf 05 40 03.3 +1.3
baz=118
W21A San Fidel 118.18 49 ⇑P PKPdf 05 40 03.4 +1.3
baz=118
R23A Moffat 118.20 45 ⇑P PKPdf 05 40 03.9 +1.7
baz=118
E30A Jud 118.22 34 ⇑P PKPdf 05 40 01.9 +0.3
baz=118
Z20A Nine Sixteen R 118.23 51 ⇓P PKPdf 05 40 03.7 +1.5
baz=118
J27A Elkhorn Farm, 118.24 38 ⇓P PKPdf 05 40 03.3 +1.5
baz=118
U22A Llaves 118.25 47 ⇓P PKPdf 05 40 04.2 +2.0
baz=118
319A Douglas 118.32 53 ⇓P PKPdf 05 40 03.9 +1.6
baz=118
X21A Alamocita Cree 118.34 49 ⇓P PKPdf 05 40 04.2 +1.7
baz=118
I28A Midland 118.34 37 ⇑P PKPdf 05 40 02.8 +0.8
baz=118
V22A San Miguel Ran 118.40 48 ⇑P PKPdf 05 40 04.5 +2.0
baz=118
G29A Hoven 118.41 35 ⇓P PKPdf 05 40 02.5 +0.5
baz=118
120A U Bar Ranch, L 118.41 52 ⇑P PKPdf 05 40 03.9 +1.4
baz=118
T23A Casias Ranch, 118.56 46 ⇑P PKPdf 05 40 04.4 +1.6
baz=118
Y21A Point of Rocks 118.60 50 ⇑P PKPdf 05 40 04.7 +1.7
baz=118
J28A Allard Ranch, 118.62 38 ⇑P PKPdf 05 40 02.9 +0.4
baz=118
P25A Willow Gulch B 118.73 43 ⇑P PKPdf 05 40 04.4 +1.4
baz=119
220A Playas Peak, P 118.73 52 ⇑P PKPdf 05 40 04.4 +1.3
baz=119
U23A El Rito 118.75 47 ⇓P PKPdf 05 40 04.3 +1.1
baz=119
I29A Vivian Onida 118.85 37 ⇑P PKPdf 05 40 03.2 +0.3
baz=119
Z21A St. Cloud Mine 118.87 51 ⇑P PKPdf 05 40 04.8 +1.3
baz=119
G30A Faulkton 118.89 35 ⇓P PKPdf 05 40 03.2 +0.3
baz=119
K28A Ten Mile Ranch 118.92 38 ⇓P PKPdf 05 40 03.7 +0.6
baz=119
320A Kipp Ranch, An 118.94 53 ⇑P PKPdf 05 40 05.1 +1.5
baz=119
ESDC Sonseca Array 118.95 318 PKP PKPdf 05 40 03.8 +0.5
ESDC PP PP 05 41 26.4 +3.4
ESDC PKKPab PKKPab 05 50 20.8 -0.2
ESDC Sonseca Array 118.95 318 PKP PKPdf 05 40 03.8 +0.5
comp=Z,0.4nm,0.5s,baz=32,slow=1.6,SNR=7.0
ESDC PP PP 05 41 26.4 +3.4
comp=Z,0.8nm,0.8s,baz=64,slow=7.0,SNR=4.3
ESDC PKKPab PKKPab 05 50 20.8 -0.2
comp=Z,0.4nm,0.6s,baz=269,slow=4.5,SNR=4.0
V23A Ortiz Mt. (NFS 119.01 47 ⇑P PKPdf 05 40 05.7 +2.0
baz=119
T24B San Luis 119.02 46 ⇓P PKPdf 05 40 05.3 +1.6
baz=119
121A Cookes Peak, D 119.08 51 ⇓P PKPdf 05 40 05.5 +1.6
baz=119
Y22A Socorro 119.17 50 ⇓P PKPdf 05 40 05.2 +1.3
baz=119
J29A Okreek 119.18 37 ⇓P PKPdf 05 40 03.6 +0.1
baz=119
P26A Davis Ranch, A 119.26 42 ⇑P PKPdf 05 40 04.9 +0.9
baz=119
W23A Werner Place, 119.28 48 ⇑P PKPdf 05 40 05.3 +1.1
baz=119
R25A Fountain Ranch 119.30 44 ⇑P PKPdf 05 40 04.2 +0.2
baz=119
BRSD Miller 119.41 36 ⇑P PKPdf 05 40 04.3 +0.4
baz=119
I30A Oacoma 119.43 36 ⇑P PKPdf 05 40 04.6 +0.6
baz=119
Z22A Elephant Butte 119.44 50 ⇓P PKPdf 05 40 06.1 +1.6
baz=119
X23A Hourglass Bar 119.49 49 ⇑P PKPdf 05 40 06.2 +1.6
baz=119
O27A Beecher Island 119.53 41 ⇓P PKPdf 05 40 05.0 +0.6
baz=119
K29A Lazy Trails An 119.54 38 ⇓P PKPdf 05 40 05.2 +0.9
baz=119
122A Conniff Cattle 119.63 51 ⇓P PKPdf 05 40 06.8 +1.9
baz=120
T25A Trinidad 119.67 45 ⇑P PKPdf 05 40 06.2 +1.3
baz=120
PBRG Braganca 119.67 321 ePKPdf PKPdf 05 40 06.7 +2.1
V24A Rampart Ranch, 119.68 47 ⇓P PKPdf 05 40 06.3 +1.3
baz=120
J30A Dallas 119.73 37 ⇓P PKPdf 05 40 04.9 +0.3
baz=120
222A Williams Famil 119.78 52 ⇓P PKPdf 05 40 06.7 +1.5
baz=120
P27A Ficken Ranch, 119.78 42 ⇓P PKPdf 05 40 05.8 +0.8
baz=120
W24A Lazy 6 Ranch, 119.81 48 ⇑P PKPdf 05 40 06.6 +1.4
baz=120
Z23A Rita Site, Whi 120.00 50 ⇑P PKPdf 05 40 06.2 +0.7
baz=120
U25A Circle Dot Ran 120.01 46 ⇓P PKPdf 05 40 07.0 +1.4
baz=120
K30A Basset 120.02 38 ⇓P PKPdf 05 40 06.0 +0.8
baz=120
S26A Kim 120.11 44 ⇓P PKPdf 05 40 06.7 +1.0
baz=120
V25A Rancho No Teng 120.11 47 ⇓P PKPdf 05 40 07.0 +1.3
baz=120
MVO Moncorvo 120.20 320 ePKPdf PKPdf 05 40 07.4 +1.8
T26A Comanche Natio 120.23 45 ⇑P PKPdf 05 40 07.0 +1.0
baz=120
P28A Saint Francis 120.32 42 ⇑P PKPdf 05 40 06.7 +0.7
baz=120
Y24A Capitan 120.33 49 ⇓P PKPdf 05 40 07.3 +1.1
baz=120
L30A Spencer Herefo 120.36 38 ⇑P PKPdf 05 40 05.6 -0.3
baz=120
U26A Atchley Ranch, 120.49 46 ⇑P PKPdf 05 40 07.3 +0.8
baz=120
W25A X Bar L Ranch, 120.50 47 ⇑P PKPdf 05 40 07.2 +0.7
baz=120
Q28A Sharon Springs 120.53 42 ⇑P PKPdf 05 40 07.2 +0.8
baz=120
PGAV Gavieira, Arco 120.54 322 ePKPdf PKPdf 05 40 07.8 +1.5
POLO Lamas de Olo 120.57 321 ePKPdf PKPdf 05 40 08.1 +1.7
PVRL Vila Real 120.58 321 ePKPdf PKPdf 05 40 08.1 +1.8
Z24A Sheeppen Canyo 120.63 50 ⇓P PKPdf 05 40 08.2 +1.3
baz=120
V26A Tequesquite Ra 120.73 46 ⇓P PKPdf 05 40 07.5 +0.6
baz=121
124A Stringfield Ra 120.82 50 ⇓P PKPdf 05 40 08.0 +0.8
baz=121
P29A Atwood 120.85 41 ⇑P PKPdf 05 40 07.3 +0.4
baz=121
Y25A Mesa, Roswell 120.89 49 ⇑P PKPdf 05 40 07.9 +0.7
baz=121
T27A Campo 120.90 45 ⇓P PKPdf 05 40 08.3 +1.1
baz=121
R28A Tribune 120.91 43 ⇓P PKPdf 05 40 08.0 +0.9
baz=121
MTE Manteigas 120.94 320 ePKPdf PKPdf 05 40 08.8 +1.7
PVIS Viseu 121.00 320 ePKPdf PKPdf 05 40 09.0 +1.9
224A Cornudas Mount 121.02 51 ⇓P PKPdf 05 40 08.6 +1.0
baz=121
W26A Owens Ranch, T 121.07 47 ⇓P PKPdf 05 40 08.1 +0.6
baz=121
U27A Thompson Grove 121.13 45 ⇑P PKPdf 05 40 08.2 +0.6
baz=121
Z25A Roswell 121.15 49 ⇓P PKPdf 05 40 08.8 +1.0
baz=121
M31A Lambtecht Ranc 121.16 39 ⇓P PKPdf 05 40 07.6 +0.2
baz=121
ECSD EROS Data Cent 121.18 35 ePKPdf PKPdf 05 40 07.4 +0.1
Q29A Oakley 121.19 42 ⇓P PKPdf 05 40 08.3 +0.7
baz=121
PCBR Castelo Branco 121.20 319 ePKPdf PKPdf 05 40 09.0 +1.5
S28A Manter 121.22 44 ⇑P PKPdf 05 40 08.3 +0.6
baz=121
X26A CR and CF Fran 121.28 48 ⇑P PKPdf 05 40 08.6 +0.7
baz=121
MNTX Cornudas Mount 121.28 51 ePKPdf PKPdf 05 40 08.8 +0.9
T28A Walsh 121.30 44 ⇑P PKPdf 05 40 08.6 +0.6
baz=121
324A Moseley Ranch, 121.31 52 ⇑P PKPdf 05 40 08.8 +0.7
baz=121
R29A Marienthal 121.32 43 ⇑P PKPdf 05 40 08.8 +1.0
baz=121
P30A Selden 121.33 41 ⇑P PKPdf 05 40 08.6 +0.8
baz=121
PMRV Marv??o 121.36 319 ePKPdf PKPdf 05 40 09.2 +1.4
125A Gardner Draw, 121.45 50 ⇓P PKPdf 05 40 09.0 +0.7
baz=121
225A Deer Hill, Car 121.55 51 ⇓P PKPdf 05 40 09.3 +0.7
baz=121
W27A Bowe Ranch, En 121.59 47 ⇑P PKPdf 05 40 09.2 +0.7
baz=121
BGNE Belgrade 121.64 38 ePKPdf PKPdf 05 40 08.0 -0.3
BGNE Belgrade 121.64 38 ⇓P PKPdf 05 40 08.4 +0.1
baz=121
Q30A Quinter 121.65 42 ⇑P PKPdf 05 40 09.2 +0.7
baz=122
Z26A Caprock 121.71 49 ⇓P PKPdf 05 40 09.5 +0.7
baz=122
325A Bean Ranch, Si 121.73 52 ⇓P PKPdf 05 40 09.5 +0.5
baz=122
S29A Ulysses 121.74 43 ⇓P PKPdf 05 40 09.5 +0.8
baz=122
PCAS Casmilo, Conde 121.74 320 ePKPdf PKPdf 05 40 10.1 +1.6
PBAR Barrancos 121.78 317 ePKPdf PKPdf 05 40 10.2 +1.6
PESTR Estremoz 121.79 318 ePKPdf PKPdf 05 40 10.0 +1.3
T29A Hugoton 121.85 44 ⇓P PKPdf 05 40 09.8 +0.9
baz=122
GDL2 Guadalupe Moun 121.87 50 ePKPdf PKPdf 05 40 08.7 -0.5
V28A Channing 121.88 46 ⇑P PKPdf 05 40 09.8 +0.7
baz=122
P31A Stockton 121.91 41 ⇓P PKPdf 05 40 09.8 +0.9
baz=122
N32A Stulken Farm, 121.92 39 ⇑P PKPdf 05 40 09.3 +0.5
baz=122
PTOM Tomar 121.92 320 ePKPdf PKPdf 05 40 10.5 +1.6
126A Clayton Basin, 121.94 50 ⇑P PKPdf 05 40 10.1 +0.8
baz=122
425A Indio Mountain 121.96 52 ⇓P PKPdf 05 40 10.1 +0.7
baz=122
R30A Dighton 121.97 42 ⇑P PKPdf 05 40 10.1 +1.0
baz=122
Y27A Causey 122.05 48 ⇑P PKPdf 05 40 10.3 +0.8
baz=122
226B Tecolote Peak, 122.07 50 ⇓P PKPdf 05 40 10.4 +0.9
baz=122
PMTG Montargil 122.10 319 ePKPdf PKPdf 05 40 10.5 +1.3
S30A Montezuma 122.18 43 ⇓P PKPdf 05 40 10.7 +1.2
baz=122
O32A Brockman Farm, 122.21 39 ⇑P PKPdf 05 40 09.8 +0.3
baz=122
U29A Oasis Ranch, S 122.22 45 ⇑P PKPdf 05 40 10.2 +0.5
baz=122
EVO Evora 122.25 318 ePKIKP PKPdf 05 40 10.4 +0.9
comp=Z,14nm,0.8s
EVO Evora 122.25 318 ePKPdf PKPdf 05 40 11.2 +1.7
Z27A Tatum 122.27 49 ⇑P PKPdf 05 40 10.5 +0.7
baz=122
MSTX Muleshoe 122.30 48 ⇑P PKPdf 05 40 10.6 +0.7
baz=122
EVOP Sao Brissos 122.32 318 ePKIKP PKPdf 05 40 10.4 +0.8
EVOP Sao Brissos 122.32 318 ePKPdf PKPdf 05 40 10.4 +0.8
V29A Stinnett 122.32 45 ⇑P PKPdf 05 40 10.9 +1.0
baz=122
SPMN St. Paul 122.33 32 ePKPdf PKPdf 05 40 09.7 +0.2
SPMN St. Paul 122.33 32 ⇑P PKPdf 05 40 09.8 +0.4
baz=122
PBEJ Beja 122.41 318 ePKPdf PKPdf 05 40 10.9 +1.0
T30A Plains 122.43 44 ⇑P PKPdf 05 40 11.2 +1.2
baz=122
127A Arkansas Junct 122.44 49 ⇑P PKPdf 05 40 11.1 +0.9
baz=122
X28A Dimmitt 122.48 47 ⇓P PKPdf 05 40 11.1 +0.8
baz=122
326A Caldwell Ranch 122.53 51 ⇓P PKPdf 05 40 11.2 +0.8
baz=122
W29A Amarillo 122.59 46 ⇑P PKPdf 05 40 11.5 +1.1
baz=122
U30A WK&E Inc. Balk 122.61 44 ⇓P PKPdf 05 40 11.5 +1.2

baz=122
Y28A McKinney Farm, 122.72 48 ⇑P **PKPdf** 05 40 11.4 +0.7
baz=123
Q32A Meitler Ranch, 122.73 41 ⇓P **PKPdf** 05 40 11.0 +0.5
baz=122
PCVE Castro Verde 122.74 317 *e*PKPdf **PKPdf** 05 40 12.2 +1.7
426A McDonald Obser 122.76 52 ⇓P **PKPdf** 05 40 11.5 +0.5
baz=123
PNCL Nicolau / Gran 122.81 318 *e*PKPdf **PKPdf** 05 40 12.6 +2.0
S31A Mullinville 122.85 43 ⇓P **PKPdf** 05 40 12.0 +1.2
baz=123
PBDV Barranco-do-Ve 122.86 317 *e*PKPdf **PKPdf** 05 40 13.5 +2.7
X29A Tulia 122.87 47 ⇓P **PKPdf** 05 40 12.1 +1.1
baz=123
526A Mary Lane Ranc 122.96 53 ⇑P **PKPdf** 05 40 12.2 +0.9
baz=123
V30A Spur Ranch, Mi 122.97 45 ⇑P **PKPdf** 05 40 12.0 +0.9
baz=123
T31A Randall Ranch, 122.99 43 ⇓P **PKPdf** 05 40 11.9 +0.8
baz=123
P33A Williams Farm, 123.04 40 ⇓P **PKPdf** 05 40 11.6 +0.5
baz=123
128A Castleberry Fa 123.12 49 ⇑P **PKPdf** 05 40 12.0 +0.5
baz=123
626A Big Bend Ranch 123.12 53 ⇑P **PKPdf** 05 40 12.3 +0.7
baz=123
TORD Torodi Ar. Bea 123.12 286 PKP **PKPdf** 05 40 12.2 +0.3
TORD PKKPbc **PKKPab** 05 50 03.9 +0.8
TORD Torodi Ar. Bea 123.12 286 PKP **PKPdf** 05 40 12.2 +0.3
comp=Z,24nm,0.7s,baz=55,slow=1.9,SNR=147
TORD PKKPbc **PKKPab** 05 50 03.9 +0.8
comp=Z,1.8nm,0.7s,baz=248,slow=2.7,SNR=12
SCHQ Schefferville 123.15 9 PKP **PKPdf** 05 40 11.1 +0.3
SCHQ Schefferville 123.15 9 PKP **PKPdf** 05 40 11.1 +0.3
comp=Z,11nm,0.7s,baz=23,slow=3.1,SNR=15
Y29A Porterfield Fa 123.17 47 ⇑P **PKPdf** 05 40 12.5 +0.9
baz=123
427A Hayter Ranch, 123.18 51 ⇓P **PKPdf** 05 40 12.5 +0.9
baz=123
S32A Newby Ranch, P 123.18 42 ⇓P **PKPdf** 05 40 12.1 +0.7
baz=123
527A Woodward Ranch 123.30 52 ⇑P **PKPdf** 05 40 12.8 +0.8
baz=123
MORF Marmelete 123.32 317 *e*PKPdf **PKPdf** 05 40 13.3 +1.6
328A Wristen Ranch, 123.41 51 ⇑P **PKPdf** 05 40 13.0 +0.9
baz=123
T32A Huddler Ranch, 123.46 43 ⇑P **PKPdf** 05 40 12.9 +1.0
baz=123
X30A Coker Ranch, T 123.47 46 ⇓P **PKPdf** 05 40 13.1 +1.0
baz=123
R33A Olander Ranch, 123.48 41 ⇑P **PKPdf** 05 40 12.8 +0.9
baz=123
V31A Spring Creek L 123.56 45 ⇑P **PKPdf** 05 40 13.1 +0.9
baz=123
TXAR Lajitas Array 123.58 53 PKP **PKPdf** 05 40 12.9 +0.4
TXAR PKKPbc **PKKPab** 05 50 01.2 +0.1
TXAR Lajitas Array 123.58 53 PKP **PKPdf** 05 40 12.9 +0.4
comp=Z,2.9nm,0.7s,baz=172,slow=1.6,SNR=27
TXAR PKKPbc **PKKPab** 05 50 01.2 +0.1
comp=Z,1.0nm,0.7s,baz=106,slow=9.2,SNR=7.6
129A Stewart Farms, 123.58 49 ⇓P **PKPdf** 05 40 13.2 +0.8
baz=123
Y30A Stafford Cattl 123.73 47 ⇓P **PKPdf** 05 40 13.7 +1.1
baz=124
627A Terlingua Ranc 123.76 53 ⇓P **PKPdf** 05 40 13.7 +0.8
baz=124
W31A Holland Ranch, 123.78 45 ⇓P **PKPdf** 05 40 13.9 +1.3
baz=124
428A Kincaid Ranch, 123.79 51 ⇓P **PKPdf** 05 40 14.3 +1.5
baz=124
Z30A Sanderson Ranc 123.83 48 ⇓P **PKPdf** 05 40 13.3 +0.5
baz=124
229A Bryant Ranch, 123.92 50 ⇓P **PKPdf** 05 40 13.9 +0.9
baz=124
KSU1 Kansas State U 123.93 40 *e*PKPdf **PKPdf** 05 40 13.0 +0.3
528A Cox Ranch, San 123.94 52 ⇓P **PKPdf** 05 40 14.1 +0.9
baz=124
T33A Patterson Ranc 123.97 42 ⇓P **PKPdf** 05 40 13.8 +0.8
baz=124
329A Wagon Wheel Ra 124.00 50 ⇑P **PKPdf** 05 40 14.0 +0.8
baz=124
X31A McDonald Ranch 124.03 46 ⇓P **PKPdf** 05 40 13.9 +0.8
baz=124
628A Black Gap, Mar 124.14 53 ⇑P **PKPdf** 05 40 14.1 +0.6
baz=124
Y31A Rekieta Farm, 124.15 47 ⇓P **PKPdf** 05 40 14.4 +1.0
baz=124
130A Snyder 124.28 48 ⇓P **PKPdf** 05 40 14.6 +0.9
baz=124
529A Stev Forest Ra 124.41 52 ⇓P **PKPdf** 05 40 15.0 +1.0
baz=124
429A Davenport Ranc 124.45 51 ⇓P **PKPdf** 05 40 15.1 +1.0
baz=124
330A Mertzon 124.66 50 ⇓P **PKPdf** 05 40 15.1 +0.7
baz=124
430A Baggett Ranch, 124.89 51 ⇑P **PKPdf** 05 40 15.7 +0.8
baz=125
Z32A Haskell 125.04 47 ⇓P **PKPdf** 05 40 16.2 +1.1
baz=125
530A J-C Ranch, Com 125.09 51 ⇑P **PKPdf** 05 40 16.8 +1.5
baz=125
JFWS Jewell Farm 125.25 32 *e*PKIKP **PKPdf** 05 40 14.9 -0.3
JFWS Jewell Farm 125.25 32 *e*PKPdf **PKPdf** 05 40 14.9 -0.3
331A San Angelo 125.27 50 ⇓P **PKPdf** 05 40 16.4 +0.8
baz=125
431A Sonora 125.42 50 ⇑P **PKPdf** 05 40 16.7 +0.8
baz=125
232A Coleman 125.59 49 ⇓P **PKPdf** 05 40 17.0 +0.8
baz=125
531A Rocksprings 125.69 51 ⇓P **PKPdf** 05 40 17.4 +1.0
baz=126
332A Millersview 125.76 49 ⇓P **PKPdf** 05 40 17.2 +0.7
baz=126
432A Menard 125.95 50 ⇓P **PKPdf** 05 40 17.6 +0.6
baz=126
631A Perdido Creek 126.00 52 ⇑P **PKPdf** 05 40 17.9 +0.9
baz=126
JCT Junction City 126.13 50 *e*PKIKP **PKPdf** 05 40 18.1 +0.8
JCT Junction City 126.13 50 *e*PKPdf **PKPdf** 05 40 18.1 +0.8
JCT Junction City 126.13 50 ⇓P **PKPdf** 05 40 18.5 +1.2
baz=126
532A Rocksprings 126.21 51 ⇑P **PKPdf** 05 40 18.4 +1.0
baz=126
632A Uvalde 126.58 51 ⇓P **PKPdf** 05 40 19.5 +1.4
baz=126
732A Laxson Ranch, 126.78 52 ⇓P **PKPdf** 05 40 20.0 +1.5
baz=127
WHTX Lake Whitney 127.17 47 ⇑P **PKPdf** 05 40 20.6 +1.5
baz=127
SFIN Scholer Farm 128.71 32 ⇓P **PKPdf** 05 40 23.2 +1.4
baz=128
OLIL Olney 129.30 35 *e*PKPdf **PKPdf** 05 40 24.6 +1.6
BLO Bloomington 129.88 33 *e*PKIKP **PKPdf** 05 40 24.8 +0.7
BLO Bloomington 129.88 33 *e*PKPdf **PKPdf** 05 40 24.8 +0.7
KIC Kosan Boka 130.41 279 *e*P **PKPdf** 05 40 25.4 -0.4
comp=Z,33nm,0.7s
DBIC Dimbokro 130.49 280 PKP **PKPdf** 05 40 27.6 +1.6
DBIC SKPbc **SKPab** 05 43 48.2 +6.0
DBIC Dimbokro 130.49 280 PKP **PKPdf** 05 40 27.6 +1.6
comp=Z,14nm,0.7s,baz=99,slow=2.5,SNR=18
DBIC SKPbc **SKPab** 05 43 48.2 +6.0
comp=Z,4.7nm,0.8s,baz=95,slow=17,SNR=3.7
TIC Toumodi 130.65 280 *e*P **PKPdf** 05 40 27.4 +1.1
comp=Z,20nm,0.7s
WCI Wyandotte Cave 130.67 34 *e*PKIKP **PKPdf** 05 40 26.1 +0.4
WCI Wyandotte Cave 130.67 34 *e*PKPdf **PKPdf** 05 40 26.1 +0.4
LIC Lamto 130.71 279 ⇓*i*PKIKP **PKPdf** 05 40 27.9 +1.5
comp=Z,34nm,0.7s
LIC Lamto 130.71 279 *e*P **PKPdf** 05 40 27.4 +1.0
comp=Z,55nm,0.7s
LIC Lamto 130.71 279 ⇓*i*PKPdf **PKPdf** 05 40 27.9 +1.5
WVT Waverly 131.22 37 *e*PKIKP **PKPdf** 05 40 27.1 +0.4
WVT Waverly 131.22 37 *e*PKPdf **PKPdf** 05 40 27.1 +0.4
WVT *e* 05 43 48.0
MDV Middlebury 131.80 19 *e*PKPdf **PKPdf** 05 40 28.0 +0.5
SWET Sewanee 132.98 36 *e*PKPdf **PKPdf** 05 40 29.8 -0.4
SWET *e*PP **PP** 05 42 55.9 0.0
LRAL Lakeview Retre 133.78 40 *e*PKPdf **PKPdf** 05 40 31.9 +0.3
BLA Blacksburg 134.54 30 *e*PKIKP **PKPdf** 05 40 33.2 +0.1
BLA Blacksburg 134.54 30 *e*PKPdf **PKPdf** 05 40 33.2 +0.1
JSRW J. Sargeant Re 135.38 27 *e*PKPdf **PKPdf** 05 40 36.2 +1.7
KMSC Kings Mountain 135.64 33 ⇓P **PKPdf** 05 40 36.3 +1.2
baz=135
PLCA Paso Flores 137.83 161 PKP **PKPdf** 05 40 40.1 +1.1
PLCA Paso Flores 137.83 161 PKhKP PKPpre 05 40 28.6
comp=Z,1.3nm,0.7s,baz=184,slow=2.8,SNR=4.4
PLCA PKP **PKPdf** 05 40 40.1 +1.1
comp=Z,3.4nm,0.6s,baz=215,slow=2.3,SNR=10
TRQA Tornquist 142.56 169 *e*PKPdf **PKPdf** 05 40 44.3 -3.4
TGUH Tegucigalpa,Un 143.59 64 *e*PKPdf PKPbc 05 40 48.2 +0.7
CFAA Coronel Fontan 146.83 157 PKPbc **PKPbc** 05 40 56.6 -0.5
CFAA Coronel Fontan 146.83 157 PKPbc **PKPbc** 05 40 56.6 -0.5
comp=Z,3.7nm,0.8s,baz=212,slow=3.3,SNR=39
JTS JuntasAbangare 147.01 69 *e*PKPdf **PKPdf** 05 40 55.6 -0.4
JTS *e*PKPbc **PKPbc** 05 40 58.6 +0.6
JTS JuntasAbangare 147.01 69 PKPbc **PKPbc** 05 40 58.7 +0.7
comp=Z,17nm,0.7s,baz=255,slow=5.8,SNR=12
BCIP Isla Barro Col 152.14 68 *e*PKPbc **PKPbc** 05 41 10.8 +0.1
SDDR Presa de Saban 153.62 40 *e*PKPdf **PKPdf** 05 41 03.7 -2.5
SDDR *e*PKPbc **PKiKP** 05 41 14.6 +0.5
SDDR *e*PKPab **PKPab** 05 41 26.5 -0.2
LVC Limon Verde 154.16 147 *e*PKPbc **PKPbc** 05 41 17.4 +2.1
LVC *e*PKPab **PKPab** 05 41 32.3 +3.2
CPUP Villa Florida 154.78 173 PKP **PKPdf** 05 41 09.1 +1.6
CPUP PKPbc **PKiKP** 05 41 17.5 +1.3
CPUP Villa Florida 154.78 173 PKP **PKPdf** 05 41 09.1 +1.6
comp=Z,2.8nm,0.7s,baz=193,slow=0.9,SNR=4.3
CPUP PKPbc **PKiKP** 05 41 17.5 +1.3
comp=Z,3.6nm,0.6s,baz=133,slow=2.2,SNR=4.7
ROSC El Rosal 158.67 73 PKP **PKPdf** 05 41 14.5 +1.1
ROSC El Rosal 158.67 73 PKP **PKPdf** 05 41 14.5 +1.1
comp=Z,7.6nm,0.7s,baz=130,slow=5.2,SNR=11
LPAZ La Paz 159.43 138 PKP **PKPdf** 05 41 16.1 +1.6
LPAZ PKPab **PKPab** 05 41 52.9 +0.5
LPAZ La Paz 159.43 138 PKP **PKPdf** 05 41 16.0 +1.6
comp=Z,3.0nm,0.7s,baz=282,slow=1.0,SNR=15
LPAZ PKPab **PKPab** 05 41 52.9 +0.5
comp=Z,3.4nm,0.7s,baz=210,slow=4.1,SNR=3.9
SIV San Ignacio 163.66 155 PKP **PKPdf** 05 41 19.4 +1.3
SIV PKPab **PKPab** 05 42 11.2 +1.2
SIV San Ignacio 163.66 155 PKP **PKPdf** 05 41 19.4 +1.3
comp=Z,1.9nm,0.6s,baz=191,slow=2.2,SNR=7.2
SIV PKPab **PKPab** 05 42 11.2 +1.2
comp=Z,3.2nm,0.6s,baz=216,slow=6.0,SNR=7.7
BDFB Brasilia 164.53 202 PKP **PKPdf** 05 41 20.1 +1.0
BDFB PKPab **PKPab** 05 42 15.8 +1.8
BDFB Brasilia 164.53 202 PKP **PKPdf** 05 41 20.1 +1.0
comp=Z,3.1nm,0.7s,baz=185,slow=4.3,SNR=4.4
BDFB PKPab **PKPab** 05 42 15.8 +1.8
comp=Z,3.0nm,0.7s,baz=176,slow=7.4,SNR=4.0
SAML Samuel 167.93 130 *e*PKPdf **PKPdf** 05 41 21.6 0.0
SAML *e*PKPab **PKPab** 05 42 30.3 +1.2

IDC 29 05:41:47.9±2.8, 17°.89S×177°.35W, h303km±30km, mb3.4/6, mb1 3.6/7, mb1mx3.3/21, mbtmp3.4/7, Error ellipse: s-maj=98.6km s-min=15.3km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.66**	**54**	P	Pn	05 43 25.2	-0.2
	3.5nm,0.3s,baz=253,slow=11,SNR=4.7						
CTA	**Charters Tower**	**34.44**	**260**	P	P	05 48 08.5	+0.7
	3.8nm,0.6s,baz=84,slow=10,SNR=3.2						
STKA	**Stephens Creek**	**39.52**	**241**	P	P	05 48 50.5	+0.3
	1.1nm,0.4s,baz=88,slow=11,SNR=4.4						
WRA	**Warramunga Arr**	**45.63**	**259**	P	P	05 49 38.3	-0.8
	0.5nm,0.3s,baz=95,slow=8.6,SNR=6.2						
ASAR	**Alice Springs**	**45.77**	**254**	P	P	05 49 39.7	-0.5
	5.1nm,0.5s,baz=90,slow=8.3,SNR=91						
NVAR	**Mina Array Bea**	**78.71**	**43**	P	P	05 53 17.6	+0.2
	0.7nm,0.7s,baz=224,slow=9.9,SNR=3.6						
ILAR	**Eielson Array**	**85.64**	**13**	P	P	05 53 52.1	-0.1
	0.3nm,0.6s,baz=228,slow=5.4,SNR=6.7						

IDC 29 05:56:47.6±2.7, 25°.58N×142°.12E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/25, mbtmp3.8/5, Error ellipse: s-maj=121.4km s-min=23.7km az=77.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N2	**WAKE ISLAND Hy**	**23.58**	**99**	T	T	06 25 47.2	
	baz=294						
H11N1	**WAKE ISLAND Hy**	**23.58**	**99**	T	T	06 25 46.3	
	baz=294						
H11N3	**WAKE ISLAND Hy**	**23.59**	**99**	T	T	06 25 50.6	
	baz=294						
H11S3	**WAKE ISLAND Hy**	**23.82**	**102**	T	T	06 26 02.0	
	baz=297						
H11S1	**WAKE ISLAND Hy**	**23.82**	**102**	T	T	06 26 05.4	
	baz=297						
H11S2	**WAKE ISLAND Hy**	**23.83**	**102**	T	T	06 26 03.3	
	baz=297						
WRA	**Warramunga Arr**	**45.88**	**190**	P	P	06 05 11.9	0.0
	2.7nm,0.8s,baz=11,slow=8.6,SNR=22						
ASAR	**Alice Springs**	**49.60**	**190**	P	P	06 05 40.6	-0.2
	0.5nm,1.0s,baz=16,slow=9.9,SNR=3.8						
MKAR	**Makanchi Array**	**51.40**	**311**	P	P	06 05 54.2	0.0
	0.5nm,0.7s,baz=89,slow=12,SNR=3.2						
KURBB	**Kurchatov Arra**	**54.06**	**315**	P	P	06 06 13.5	-0.3
	0.3nm,0.4s,baz=92,slow=8.9,SNR=4.0						
FINES	**FINESS Array B**	**79.27**	**334**	P	P	06 08 54.7	+0.1
	1.2nm,0.4s,baz=73,slow=4.8,SNR=7.1						

IDC 29 06:21:08.6±3.1, 28°.34N×57°.28E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.6/28, mbtmp3.9/6, Error ellipse: s-maj=64.1km s-min=29.8km az=140.0
ISCJB 29 06:21:11.6±0.6, 28°.52N±0°.04×57°.49E±0°.07, h10km, mb3.8/6, Error ellipse: s-maj=8.9km s-min=5.0km az=12.4
THR 29 06:21:12.3±0.8, 28°.50N×57°.43E, h14km±9km, ML3.6
TEH 29 06:21:14.3, 28°.57N×57°.19E, h12km, ML3.6
CSEM 29 06:21:14.2±0.3, 28°.43N×57°.29E, h2km, ML3.6, Error ellipse: s-maj=11.0km s-min=5.4km az=96.0
OMAN 29 06:21:45.1±99.0, 26°.24N×56°.88E, h8km±4km, Error ellipse: s-maj=246.6km s-min=20.7km az=16.0

ISC 29 06:21:12.6±0.8, 28°.51N±0°.04×57°.45E±0°.06, h10km, n43, σ1$43/39, mb3.9/6, 2C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**1.33**	**217**	*e*Pg	**Pg**	**06 21 38.8**	**+0.7**
IBND				*e*		06 21 39.3	
	comp=Z,50μm,0.2s						
IBND				*e*Sg	**Sn**	**06 21 57.2**	**+2.3**
IBND	**Bandar-abas**	**1.33**	**217**	*e*Pg	**Pg**	**06 21 38.8**	**+0.7**
IBND				*e*Sg	**Sn**	**06 21 57.2**	**+2.3**
BNDS	**Bandar-Abbas**	**1.58**	**226**	*e*Pg	**Pn**	**06 21 40.9**	**0.0**
BNDS				AML	AML	06 22 03.4	
	comp=E,783nm,0.4s						
BNDS				AML	AML	06 22 06.4	
	comp=N,808nm,0.4s						
BNDS	**Bandar-Abbas**	**1.58**	**226**	*e*Pg	**Pn**	**06 21 40.8**	**0.0**
KRBR	**Kerman**	**1.58**	**338**	*e*Pg	**Pb**	**06 21 41.5**	**-0.7**
KRBR				AML	AML	06 22 11.8	
	comp=N,496nm,0.2s						
KRBR	**Kerman**	**1.58**	**338**	*e*Pg	**Pb**	**06 21 41.5**	**-0.7**
BANOM	**Banah**	**2.77**	**202**	P	**Pn**	**06 21 56.9**	**-0.2**
	SNR=37						
BANOM	**Banah**	**2.77**	**202**	P	**Pn**	**06 21 56.9**	**-0.2**
	SNR=37						
ZHSF	**Zahedan**	**3.11**	**69**	*e*Pn	**Pn**	**06 22 03.4**	**+1.5**
ZHSF	**Zahedan**	**3.11**	**69**	*e*Pn	**Pn**	**06 22 03.4**	**+1.5**
IBAF	**Bafgh**	**3.48**	**332**	*e*	Pg	06 22 24.2	+5.0
	comp=Z,1μm,0.2s						
IBAF				*e*Pn	**Pn**	**06 22 09.3**	**+2.4**
IBAF				*e*Sg	**Sg**	**06 23 04.2**	**0.0**
IMEH	**Mehriz**	**3.78**	**320**	*e*Pn	**Pn**	**06 22 13.0**	**+1.9**
IMEH				*e*		06 22 33.1	
	comp=Z,625nm,0.1s						
IMEH	**Mehriz**	**3.78**	**320**	*e*Pn	**Pn**	**06 22 13.0**	**+1.9**
HATD	**Hatta, Dubai**	**3.85**	**198**	⇑P	**Pn**	**06 22 13.2**	**+1.3**
HATD	**Hatta, Dubai**	**3.85**	**198**	P	**Pn**	**06 22 13.2**	**+1.3**
ISRV	**Sarvestan**	**3.90**	**284**	*e*Pn	**Pn**	**06 22 14.1**	**+1.3**
ISRV				*e*		06 23 11.7	
	comp=Z,1μm,0.2s						
ISRV	**Sarvestan**	**3.90**	**284**	*e*Pn	**Pn**	**06 22 14.1**	**+1.3**
GHIR	**Ghir-Karzin**	**3.94**	**268**	*e*Pn	**Pn**	**06 22 14.6**	**+1.4**
GHIR	**Ghir-Karzin**	**3.94**	**268**	*e*Pn	**Pn**	**06 22 14.6**	**+1.4**
ASHO	**Ashiyiah**	**4.01**	**198**	P	**Pn**	**06 22 15.4**	**+1.3**
	SNR=8.0						
ASHO	**Ashiyiah**	**4.01**	**198**	P	**Pn**	**06 22 15.4**	**+1.3**
	SNR=8.0						
IPAR	**Pars**	**4.07**	**290**	*e*Pn	**Pn**	**06 22 16.5**	**+1.3**
IPAR				*e*		06 23 29.4	
	comp=Z,552nm,0.3s						
IPAR	**Pars**	**4.07**	**290**	*e*Pn	**Pn**	**06 22 16.5**	**+1.3**
IKOO	**Kooshah**	**4.12**	**19**	*e*Pn	Pn	06 22 20.7	+4.8
IKOO				*e*		06 22 33.7	
	comp=Z,878nm,0.2s						
IKOO	**Kooshah**	**4.12**	**19**	*e*Pn	Pn	06 22 20.7	+4.8
ASUD	**Al Ashush, Dub**	**4.31**	**207**	⇓P	**Pn**	**06 22 19.0**	**+0.8**
ASUD	**Al Ashush, Dub**	**4.31**	**207**	P	**Pn**	**06 22 19.0**	**+0.8**
ITEG	**Tejag**	**4.51**	**14**	*e*Pn	Pn	06 22 25.6	+4.4
ITEG				*e*		06 22 46.3	
	comp=Z,596nm,0.3s						
ITEG	**Tejag**	**4.51**	**14**	*e*Pn	Pn	06 22 25.6	+4.4
ICHK	**Chekchek**	**4.55**	**326**	*e*Pn	**Pn**	**06 22 23.9**	**+2.1**
ICHK				*e*		06 22 56.9	
	comp=Z,415nm,0.2s						
ICHK	**Chekchek**	**4.55**	**326**	*e*Pn	**Pn**	**06 22 23.9**	**+2.1**
IDAH	**Dahanechah**	**4.70**	**26**	*e*Pn	Pn	06 22 29.1	+5.3
IDAH				*e*		06 22 56.0	
	comp=Z,510nm,0.3s						
IDAH	**Dahanechah**	**4.70**	**26**	*e*Pn	Pn	06 22 29.1	+5.3
HOQ	**Hoqain**	**4.91**	**181**	⇑P	**Pn**	**06 22 25.9**	**-0.6**
HOQ	**Hoqain**	**4.91**	**181**	P	**Pn**	**06 22 25.9**	**-0.6**
ARQ	**Araqi**	**5.22**	**189**	P	**Pn**	**06 22 31.9**	**+1.2**
	SNR=19						
ARQ	**Araqi**	**5.22**	**189**	P	**Pn**	**06 22 31.9**	**+1.2**
	SNR=19						
AKTO	**Aktyubinsk**	**21.90**	**1**	P	**P**	**06 26 05.1**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=193,slow=9.1,SNR=6.8						
BRTR	**Keskin Array B**	**22.59**	**306**	P	**P**	**06 26 11.9**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=128,slow=14,SNR=4.6						
ZALV	**Zalesovo Beam**	**32.33**	**31**	P	**P**	**06 27 41.6**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=226,slow=7.7,SNR=4.5						
FINES	**FINESS Array B**	**38.97**	**337**	P	**P**	**06 28 35.9**	**-2.6**
	comp=Z,3.2nm,1.0s,baz=155,slow=14,SNR=3.0						
ARCES	**ARCESS Array B**	**44.99**	**345**	P	**P**	**06 29 26.2**	**-1.5**
	comp=Z,6.6nm,1.1s,baz=146,slow=9.8,SNR=5.1						
TORD	**Torodi Ar. Bea**	**53.86**	**266**	P	P	06 30 32.5	-3.7
	comp=Z,0.7nm,0.7s,baz=64,slow=7.0,SNR=8.8						

ISCJB 29 06:26:33.3±1.3, 11°.88S±0°.09×166°.2E±0°.2, h83km, mb3.6/5, Error ellipse: s-maj=30.3km s-min=12.0km az=172.5
IDC 29 06:26:33.9±9.1, 11°.78S×166°.26E, h75km±92km, mb3.5/5, mb1 3.7/6, mb1mx3.4/20, mbtmp3.5/6, ML3.3/1, MS3.6/1, Ms1 3.6/1, ms1mx3.0/19, Error ellipse: s-maj=68.5km s-min=31.5km az=146.0

ISC 29 06:26:34.6±1.4, 11°.8S±0°.1×166°.3E±0°.2, h83km, n7, σ1$07/7, mb3.5/5, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.19**	**179**	P	**Pn**	**06 28 58.8**	**+0.6**
	0.3nm,0.3s,baz=131,slow=22,SNR=1.1						
DZM				S	**Sn**	**06 30 49.7**	**-1.1**
	0.1nm,0.3s,baz=43,slow=17,SNR=1.5						
STKA	**Stephens Creek**	**30.26**	**225**	P	**P**	**06 32 39.1**	**+1.3**
	2.5nm,0.7s,baz=54,slow=11,SNR=6.6						
WRA	**Warramunga Arr**	**31.73**	**251**	P	**P**	**06 32 50.8**	**-0.2**
	0.5nm,0.6s,baz=84,slow=9.4,SNR=6.5						
ASAR	**Alice Springs**	**32.93**	**245**	P	**P**	**06 33 00.4**	**-1.0**
	0.6nm,0.7s,baz=70,slow=8.7,SNR=7.4						
TGY	**Tagaytay City**	**51.81**	**299**	LR	LR	06 56 41.8	
	comp=Z,59nm,18.8s,baz=294,slow=35						
ILAR	**Eielson Array**	**84.08**	**18**	P	**P**	**06 38 55.9**	**+0.1**
	0.2nm,0.5s,baz=242,slow=5.3,SNR=6.0						
MKAR	**Makanchi Array**	**94.45**	**317**	P	**P**	**06 39 45.0**	**-0.6**
	0.7nm,0.7s,baz=85,slow=5.5,SNR=4.5						

IDC 29 06:46:25.8±2.5, 20°.17N×121°.71E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/25, mbtmp3.8/5, MS3.6/2, Ms1 3.6/2, ms1mx2.8/50, Error ellipse: s-maj=228.1km s-min=19.6km az=63.0
ISCJB 29 06:46:27.8±2.8, 20°.2N±0°.9×12°.2E±°, h27km, mb3.6/5, MS3.6/2, Error ellipse: s-maj=271.6km s-min=16.5km az=153.3

ISC 29 06:46:29.7±2.5, 20°.2N±0°.7×12°.2E±°, h27km, n13, σ0$96/5, mb3.7/5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**29.50**	**31**	LR	LR	07 05 12.5	
	comp=Z,83nm,18.2s,baz=341,slow=38						
MKAR	**Makanchi Array**	**41.63**	**319**	P	**P**	**06 54 16.1**	**+0.5**
	0.8nm,0.5s,baz=113,slow=9.3,SNR=12						
WRA	**Warramunga Arr**	**41.75**	**162**	P	**P**	**06 54 16.4**	**-0.4**
	0.8nm,0.6s,baz=342,slow=9.0,SNR=8.0						
H11N1	**WAKE ISLAND Hy**	**42.31**	**83**	T	T	07 39 46.3	
	baz=281,slow=0.7,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**42.32**	**83**	T	T	07 39 46.9	
	baz=281,slow=0.7,SNR=4.3						
H11S3	**WAKE ISLAND Hy**	**42.32**	**84**	T	T	07 39 48.2	
	baz=283,slow=0.7,SNR=7.2						
H11S1	**WAKE ISLAND Hy**	**42.33**	**84**	T	T	07 39 49.4	
	baz=283,slow=0.7,SNR=11						
H11N3	**WAKE ISLAND Hy**	**42.33**	**83**	T	T	07 39 48.4	
	baz=281,slow=0.7,SNR=4.4						
H11S2	**WAKE ISLAND Hy**	**42.34**	**84**	T	T	07 39 49.4	
	baz=283,slow=0.7,SNR=8.8						
ZALV	**Zalesovo Beam**	**43.91**	**329**	P	**P**	**06 54 34.3**	**+0.4**
	0.8nm,0.6s,baz=110,slow=8.1,SNR=4.0						
ASAR	**Alice Springs**	**45.17**	**164**	P	**P**	**06 54 44.8**	**+0.4**
	0.6nm,0.4s,baz=345,slow=6.9,SNR=8.3						
KURBB	**Kurchatov Arra**	**45.54**	**322**	P	**P**	**06 54 46.0**	**-1.0**
	0.6nm,0.5s,baz=118,slow=7.6,SNR=5.8						
HNR	**Honiara**	**47.73**	**124**	LR	LR	07 11 01.6	
	comp=Z,100nm,20.7s,baz=258,slow=31						

ISCJB 29 06:47:05.6±1.4, 14°.57S±0°.09×167°.3E±0°.2, h200km, mb3.8/7, Error ellipse: s-maj=28.9km s-min=11.1km az=168.7
IDC 29 06:47:05.0±4.7, 14°.56S×167°.20E, h176km±38km, mb3.7/7, mb1 3.9/8, mb1mx3.6/20, mbtmp3.7/8, MS2.6/1, Ms1 2.6/1, ms1mx2.5/29, Error ellipse: s-maj=33.5km s-min=24.2km az=42.0

ISC 29 06:47:07.4±1.2, 14°.7S±0°.1×167°.3E±0°.2, h200km, n23, σ0$98/21, mb3.9/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.42**	**186**	P	**Pn**	**06 48 51.6**	**-1.5**
	1.5nm,0.3s,baz=282,slow=12,SNR=25						
DZM				S	**Sn**	**06 50 17.6**	**+0.4**
	1.3nm,0.3s,baz=105,slow=19,SNR=1.8						
HNR	**Honiara**	**8.84**	**305**	LR	LR	06 51 53.6	
	comp=Z,36nm,20.3s,baz=250,slow=33						
RMQ	**Roma**	**20.91**	**233**	P	**P**	**06 51 35.9**	**+1.3**
	baz=15,SNR=7.3						
QLP	**Quilpie**	**24.56**	**237**	P	**P**	**06 52 09.6**	**+0.7**
	baz=18,SNR=4.3						
STKA	**Stephens Creek**	**29.04**	**229**	P	**P**	**06 52 50.5**	**+1.6**
	baz=23,SNR=6.4						
STKA	**Stephens Creek**	**29.04**	**229**	P	**P**	**06 52 50.0**	**+1.1**
	6.0nm,0.7s,baz=36,slow=7.5,SNR=12						

TORD	**Torodi Ar. Bea**	**165.91**	**266**	PKPab	**PKPab**	07 07 50.5	**+0.2**
	0.6nm,0.9s,baz=192,slow=1.1,SNR=3.5						

*AUST **29** 07:05:12.4, 18.00S×170.52E, h300km*
*ISCJB **29** 07:05:19.3±0.4, 18.99S±0.07×169.29E±0.05, h246km, mb4.2/11, Error ellipse: s-maj=10.4km s-min=6.6km az=170.1*
*IDC **29** 07:05:20.4±2.5, 18.99S×169.32E, h253km±23km, mb3.9/10, mb1 4.1/12, mb1mx3.9/22, mbtmp4.0/12, Error ellipse: s-maj=20.0km s-min=14.5km az=41.0*
*NEIC **29** 07:05:21.1±0.9, 18.97S×169.30E, h257km±10km, mb4.5/8, Error ellipse: s-maj=11.4km s-min=9.4km az=184.0*

ISC 29 07:05:20.2±0.5, **18.97S**±0.08×**169.36E**±0.07, **h246**km, **n50**, σ0≡**99**/**55**, **mb4.1**/**11**, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.12**	**221**	P		**P**	**Pn**	**07 06 24.7**	**-0.7**
DZM	**Mont Dzumac**	**4.12**	**221**	P		**P**	**Pn**	**07 06 24.7**	**-0.7**
	28nm,0.3s,baz=56,slow=17,SNR=167								
MSVF	**Nonsavu**	**8.35**	**83**	*e*Pn			**Pn**	**07 07 20.1**	**+2.1**
	33nm,0.9s								
MSVF				*e*S			**S**	**07 08 52.1**	**-0.9**
HNR	**Honiara**	**13.15**	**315**	P			**Pn**	**07 08 18.8**	**+0.5**
HNR	**Honiara**	**13.15**	**315**	P			**Pn**	**07 08 18.7**	**+0.5**
	27nm,0.3s,baz=188,slow=1.2,SNR=7.1								
LHI	**Lord Howe Isla**	**15.57**	**215**	P			**Pn**	**07 08 47.7**	**+0.4**
	baz=17,SNR=4.1								
OUZ	**Omahuta**	**16.62**	**168**	*e*P			**Pn**	**07 08 59.5**	**-0.1**
	100nm,0.9s								
EIDS	**Eidsvold**	**18.08**	**246**	*e*P			**P**	**07 09 14.9**	**+0.9**
	21nm,0.9s								
EIDS	**Eidsvold**	**18.08**	**246**	P			**P**	**07 09 15.0**	**+0.9**
	baz=20,SNR=8.2								
ARMA	**Armidale**	**19.70**	**231**	*e*P			**P**	**07 09 32.3**	**+0.8**
	22nm,0.9s								
ARMA	**Armidale**	**19.70**	**231**	P			**P**	**07 09 32.3**	**+0.8**
	baz=21,SNR=13								
URZ	**Urewera**	**20.37**	**162**	P			**P**	**07 09 38.5**	**+0.1**
URZ	**Urewera**	**20.37**	**162**	P			**P**	**07 09 38.6**	**+0.1**
	20nm,0.7s,baz=345,slow=6.0,SNR=14								
RMQ	**Roma**	**20.40**	**245**	P			**P**	**07 09 39.5**	**+0.6**
	baz=22,SNR=9.8								
MGCD	**Mangrove Creek**	**21.62**	**225**	P			**P**	**07 09 51.9**	**+0.8**
	baz=23,SNR=17								
CTA	**Charters Tower**	**21.80**	**263**	P			**P**	**07 09 53.1**	**+0.2**
CTA	**Charters Tower**	**21.80**	**263**	P			**P**	**07 09 53.1**	**+0.2**
	2.6nm,0.3s,baz=58,slow=14,SNR=3.6								
CTAO	**Charters Tower**	**21.80**	**263**	*e*P			**P**	**07 09 53.0**	**+0.2**
	9.5nm,0.9s								
PMG	**Port Moresby**	**23.50**	**291**	*e*P			**P**	**07 10 08.4**	**0.0**
	18nm,0.8s								
PMG	**Port Moresby**	**23.50**	**291**	P			**P**	**07 10 08.4**	**0.0**
	18nm,0.7s,baz=175,slow=1.9,SNR=6.6								
MTSU	**Mount Surprise**	**23.75**	**268**	P			**P**	**07 10 11.4**	**+0.7**
	baz=25,SNR=11								
CNB	**Canberra Magne**	**24.04**	**223**	P			**P**	**07 10 13.6**	**+0.4**
	baz=26,SNR=18								
QLP	**Quilpie**	**24.34**	**247**	P			**P**	**07 10 15.5**	**-0.4**
	baz=26,SNR=12								
CMSA	**Cobar Meteorol**	**24.73**	**235**	P			**P**	**07 10 19.0**	**-0.4**
	baz=26,SNR=20								
STKA	**Stephens Creek**	**28.08**	**237**	P			**P**	**07 10 49.0**	**-0.3**
STKA				pP			**pP**	**07 11 39.4**	**+1.6**
STKA	**Stephens Creek**	**28.08**	**237**	P			**P**	**07 10 49.5**	**+0.1**
	baz=30,SNR=9.8								
STKA	**Stephens Creek**	**28.08**	**237**	P			**P**	**07 10 49.0**	**-0.3**
	16nm,0.6s,baz=60,slow=7.9,SNR=35								
STKA				pP			**pP**	**07 11 39.4**	**+1.6**
	3.2nm,0.8s,baz=53,slow=8.1,SNR=2.2								
MOO	**Moorlands**	**30.00**	**214**	P			**P**	**07 11 06.6**	**+0.5**
	baz=32,SNR=3.4								
HTT	**Hallett**	**30.74**	**236**	P			**P**	**07 11 12.4**	**-0.4**
	baz=32,SNR=8.4								
BBOO	**Buckleboo**	**32.82**	**239**	P			**P**	**07 11 30.5**	**-0.4**
	baz=34,SNR=13								
WRAB	**Tennant Creek**	**32.99**	**262**	*e*P			**P**	**07 11 30.8**	**-1.7**
WRA	**Warramunga Arr**	**33.00**	**262**	P			**P**	**07 11 30.9**	**-1.8**
WRA	**Warramunga Arr**	**33.00**	**262**	P			**P**	**07 11 30.9**	**-1.8**
	2.6nm,0.5s,baz=94,slow=8.5,SNR=56								
ASAR	**Alice Springs**	**33.30**	**256**	P			**P**	**07 11 34.1**	**-1.1**
ASAR				pP			**pP**	**07 12 26.7**	**+2.2**
ASAR	**Alice Springs**	**33.30**	**256**	P			**P**	**07 11 34.1**	**-1.1**
	28nm,0.5s,baz=82,slow=8.9,SNR=520								
ASAR				pP			**pP**	**07 12 26.7**	**+2.2**
	3.3nm,0.8s,baz=82,slow=8.8,SNR=2.2								
KNRA	**Kununurra**	**38.83**	**268**	P			**P**	**07 12 21.3**	**-0.7**
	baz=40,SNR=4.5								
FITZ	**Fitzroy Crossi**	**41.38**	**264**	*e*P			**P**	**07 12 42.6**	**-0.3**
	5.0nm,0.9s								
FITZ	**Fitzroy Crossi**	**41.38**	**264**	P			**P**	**07 12 42.6**	**-0.3**
	baz=43,SNR=7.5								
MEEK	**Meekatharra**	**47.15**	**251**	P			**P**	**07 13 27.5**	**-0.9**
	baz=48,SNR=8.7								
VNDA	**Vanda**	**58.70**	**182**	*e*P			**P**	**07 14 51.2**	**-0.5**
VNDA	**Vanda**	**58.70**	**182**	P			**P**	**07 14 50.9**	**-0.8**
	1.2nm,0.8s,baz=357,slow=7.1,SNR=8.8								
QSPA	**South Pole Qui**	**71.08**	**180**	*e*P			**P**	**07 16 10.8**	**-0.8**
	7.8nm,1.0s								
SONM	**Songino Array**	**87.08**	**323**	P			**P**	**07 17 38.8**	**+0.6**
SONM	**Songino Array**	**87.08**	**323**	P			**P**	**07 17 38.8**	**+0.6**
	0.4nm,0.6s,baz=145,slow=5.3,SNR=3.1								
NVAR	**Mina Array Bea**	**88.54**	**48**	P			**P**	**07 17 45.9**	**+0.4**
NVAR	**Mina Array Bea**	**88.54**	**48**	P			**P**	**07 17 45.9**	**+0.4**
	1.9nm,0.8s,baz=230,slow=7.3,SNR=8.2								
ILAR	**Eielson Array**	**89.94**	**17**	P			**P**	**07 17 49.1**	**-2.0**
ILAR	**Eielson Array**	**89.94**	**17**	P			**P**	**07 17 49.1**	**-2.0**
	1.6nm,1.0s,baz=233,slow=5.0,SNR=14								
GERES	**GERESS Array B**	**144.31**	**332**	PKP			**PKPab**	**07 24 25.3**	**-0.4**
GERES	**GERESS Array B**	**144.31**	**332**	PKP			**PKPab**	**07 24 25.3**	**-0.4**
	0.7nm,0.6s,baz=9.1,slow=3.4,SNR=5.3								

*CSEM **29** 07:07:37.6±0.3, 41.67N×50.06E, h80km, mb3.6, Error ellipse: s-maj=13.9km s-min=7.3km az=138.0*
*AZER **29** 07:07:39.1±0.0, 41.37N×49.74E, h100km, Error ellipse: s-maj=1.3km s-min=0.9km az=17.0*
*IDC **29** 07:07:40.4±4.7, 42.11N×49.81E, h53km±41km, mb3.4/2, mb1 3.6/5, mb1mx3.2/28, mbtmp3.5/5, ML3.8/3, MS2.7/1, Ms1 2.7/1, ms1mx2.0/39, Error ellipse: s-maj=53.1km s-min=18.4km az=174.0*

ISC 29 07:07:36.9±2.1, **41.74N**±0.05×**50.05E**±0.05, **h38**km±3km, **n37**, σ2≡**00**/**59**, **14C-11D**, **Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIZA	**Siyzn**	**1.09**	**233**	⇓P			**Pn**	**07 07 58.0**	**+2.3**
SIZA				⇓S			**Sn**	**07 08 10.7**	**+1.1**
SIZA	**Siyzn**	**1.09**	**233**	P			**Pn**	**07 07 58.0**	**+2.3**
SIZA				S			**Sn**	**07 08 10.7**	**+1.1**
NDR	**Nardaran**	**1.16**	**182**	⇑P			**Pn**	**07 07 59.3**	**+2.8**
NDR	**Nardaran**	**1.16**	**182**	P			**Pn**	**07 07 59.3**	**+2.8**
ATGJ	**Altiaghaj**	**1.21**	**224**	⇓P			**Pn**	**07 07 59.1**	**+1.7**
ATGJ				⇑S			**Sn**	**07 08 13.6**	**+1.0**
ATGJ	**Altiaghaj**	**1.21**	**224**	P			**Pn**	**07 07 59.1**	**+1.7**
ATGJ				S			**Sn**	**07 08 13.6**	**+1.0**
QUBA	**Quba, Azerbaij**	**1.23**	**252**	⇑P			**Pn**	**07 08 00.1**	**+2.5**
QUBA				⇓S			**Sn**	**07 08 15.2**	**+2.3**
QUBA	**Quba, Azerbaij**	**1.23**	**252**	P			**Pn**	**07 08 00.1**	**+2.5**
QUBA				S			**Sn**	**07 08 15.2**	**+2.3**
GOBA	**Gobu**	**1.36**	**190**	⇓P			**Pn**	**07 07 59.9**	**+0.6**
GOBA	**Gobu**	**1.36**	**190**	P			**Pn**	**07 07 59.9**	**+0.6**
PQL	**Pirkuli**	**1.45**	**230**	⇓P			**Pn**	**07 08 02.2**	**+1.5**
PQL				⇑S			**Sn**	**07 08 18.5**	**0.0**
PQL	**Pirkuli**	**1.45**	**230**	P			**Pn**	**07 08 02.2**	**+1.5**
PQL				S			**Sn**	**07 08 18.5**	**0.0**
IML	**Ismayilli**	**1.70**	**237**	⇓P			**Pn**	**07 08 04.9**	**+0.9**
IML				⇑S			**Sn**	**07 08 24.6**	**+0.1**
IML	**Ismayilli**	**1.70**	**237**	P			**Pn**	**07 08 04.9**	**+0.9**
IML				S			**Sn**	**07 08 24.6**	**+0.1**
KDMR	**Kurdemir**	**1.96**	**227**	⇑S			**Sn**	**07 08 30.6**	**-0.3**
KDMR	**Kurdemir**	**1.96**	**227**	S			**Sn**	**07 08 30.6**	**-0.3**
SEKA	**Sheki**	**2.21**	**257**	⇑Pn			**Pn**	**07 08 13.0**	**+2.0**
SEKA				⇑S			**Sn**	**07 08 38.1**	**+1.0**
SEKA	**Sheki**	**2.21**	**257**	Pn			**Sn**	**07 08 13.0**	**+2.0**
SEKA				S			**Sn**	**07 08 38.1**	**+1.0**
ZKTA	**Zakatala**	**2.57**	**269**	⇓Pn			**Pn**	**07 08 18.1**	**+2.1**
ZKTA				⇓S			**Sn**	**07 08 47.9**	**+1.9**
GLBA	**Clilabad**	**2.80**	**207**	⇓Pn			**Pn**	**07 08 18.5**	**-0.5**
GLBA				⇑S			**Sn**	**07 08 47.7**	**-3.8**
GLBA	**Clilabad**	**2.80**	**207**	Pn			**Pn**	**07 08 18.5**	**-0.5**
GLBA				S			**Sn**	**07 08 47.7**	**-3.8**
GANJ	**Ganja**	**3.02**	**250**	⇑Pn			**Pn**	**07 08 21.6**	**-0.5**
GANJ				⇑S			**Sn**	**07 08 53.1**	**-3.9**
GANJ	**Ganja**	**3.02**	**250**	Pn			**Pn**	**07 08 21.6**	**-0.5**
GANJ				S			**Sn**	**07 08 53.1**	**-3.9**
DGRG	**David-gareji**	**3.52**	**267**	P			**Pn**	**07 08 30.5**	**+1.5**
DGRG				S			**Sn**	**07 09 10.2**	**+0.8**
TBLG	**Delisi**	**3.98**	**272**	P			Sn	07 09 10.2	-10
DUS	**Dusheti**	**4.01**	**277**	P			**Sn**	**07 09 21.9**	**+0.4**
KZR	**Kazreti**	**4.24**	**267**	P			**Pn**	**07 08 38.9**	**-0.1**
KZR				S			**Sn**	**07 09 24.1**	**-3.1**
KBZ	**Khabaz**	**5.63**	**293**	P			**Pn**	**07 08 59.3**	**+1.4**
	0.2nm,0.3s,baz=112,slow=5.4,SNR=4.0								
KBZ				S			**Sn**	**07 09 56.1**	**-5.1**
	1.0nm,0.3s,baz=292,slow=17,SNR=6.5								
AB31	**Akbulak array**	**10.23**	**39**	⇑Pn			**Pn**	**07 10 03.5**	**+2.6**
	0.2nm,0.3s,baz=233,slow=12,SNR=4.9								
AB31				⇑Sn			**Sn**	**07 11 54.5**	**+0.3**
	0.7nm,0.4s,baz=229,slow=26,SNR=4.2								
AB31	**Akbulak array**	**10.23**	**39**	Pn			**Pn**	**07 10 03.5**	**+2.6**
	0.2nm,0.3s,SNR=4.9								
AB31				Sn			**Sn**	**07 11 54.5**	**+0.3**
	0.7nm,0.4s,SNR=4.2								
AKTO	**Aktyubinsk**	**10.30**	**30**	⇑Pn			**Pn**	**07 10 01.1**	**-0.8**
	1.5nm,0.6s								
AKTO				⇓Sn			**Sn**	**07 11 53.6**	**-2.4**
	4.6nm,0.6s								
AKTO	**Aktyubinsk**	**10.30**	**30**	Pn			**Pn**	**07 10 01.1**	**-0.8**
	1.5nm,0.6s								
AKTO	**Aktyubinsk**	**10.30**	**30**	P			**Pn**	**07 10 03.5**	**+1.6**
	0.5nm,0.3s,baz=204,slow=10,SNR=7.2								
AKTO				S			**Sn**	**07 11 53.4**	**-2.6**
	0.5nm,0.3s,baz=354,slow=20,SNR=10								
MMAI	**Mount Meron Ar**	**14.53**	**238**	LR		LR		07 17 39.6	
	comp=Z,29nm,19.0s,baz=180,slow=41								
AKASG	**Malin Array Be**	**16.92**	**309**	P			**Pn**	**07 11 30.1**	**-0.4**
	2.7nm,0.3s,baz=105,slow=11,SNR=6.0								
MKAR	**Makanchi Array**	**23.53**	**67**	P			**P**	**07 12 44.9**	**+1.4**
	0.7nm,0.6s,baz=263,slow=9.5,SNR=6.3								
FINES	**FINESS Array B**	**24.46**	**332**	P			**P**	**07 12 50.9**	**-1.0**
	1.2nm,0.4s,baz=137,slow=10,SNR=11								

*PRE **29** 07:08:25.3±2.6, 4.24S×34.92E, h10km, ML3.9*
ISC 29 07:08:28.6±3.2, **4.1S**±0.3×**34.87E**±0.07, **h22**km, **n4**, σ1≡**15**/**8**, **Tanzania**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MAUS	**Longido**	**2.26**	**54**	*i*P			**Pb**	**07 09 08.7**	**-0.2**
MAUS				*i*S			**Sb**	**07 09 35.4**	**-1.1**
KMBO	**Kilima Mbogo**	**3.78**	**39**	*e*P			**Pn**	**07 09 27.0**	**+1.3**
KMBO				*e*S			**Sn**	**07 10 09.5**	**-0.3**
KIG	**Kigali**	**5.24**	**294**	*e*P			**Pn**	**07 09 45.0**	**-0.8**
KIG				*e*S			**Sn**	**07 10 47.4**	**+1.7**
KIG					AML	AML		07 11 14.7	
	comp=Z,66nm,0.4s								
MBAR	**Mbarara**	**5.38**	**310**	*e*P			**Pn**	**07 09 47.7**	**0.0**
MBAR				*e*S			**Sn**	**07 10 48.9**	**-0.2**

*ROM **29** 07:25:44.8±0.1, 38.52N×14.18E, h22km±1km, Ml3.6/33, Error ellipse: s-maj=2.8km s-min=1.8km az=131.0*
*ISCJB **29** 07:25:45.3±0.4, 38.52N±0.02×14.18E±0.03, h22km±3km, mb3.8/9, MS2.6/2, Error ellipse: s-maj=4.6km s-min=3.2km az=37.4*
*CSEM **29** 07:25:45.2±0.1, 38.50N×14.18E, h20km, mb3.9, ML4.6/11, Error ellipse: s-maj=3.6km s-min=2.6km az=122.0*
*IDC **29** 07:25:51.7±2.8, 38.48N×14.32E, h68km±27km, mb3.5/10, mb1 3.6/15, mb1mx3.5/34, mbtmp3.5/15, MS2.9/4, Ms1 2.9/4, ms1mx2.5/36, Error ellipse: s-maj=28.3km s-min=16.2km az=119.0*

ISC 29 07:25:45.1±1.1, **38.51N**±0.03×**14.18E**±0.02, **h13**km±7km, **n102**, σ0≡**91**/**124**, **mb3.9**/**9**, **Sicily**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IACL	**Alicudi**	**0.14**	**81**	Pg			**Pb**	**07 25 49.7**	**+0.1**
IACL				Sg			**Sb**	**07 25 52.7**	**0.0**
	38µm,0.5s								
IACL	**Alicudi**	**0.14**	**81**	Pg			**Pb**	**07 25 49.7**	**+0.1**
IACL				Sg			**Sb**	**07 25 52.7**	**0.0**
	38µm,0.5s								
PLLN	**Pollina**	**0.52**	**183**	Pg			**Pg**	**07 25 54.3**	**-1.0**
PLLN				Sg			**Sg**	**07 26 02.0**	**-0.2**
	9µm,0.4s								
PLLN	**Pollina**	**0.52**	**183**	Pg			**Pg**	**07 25 54.3**	**-1.0**
PLLN				Sg			**Sg**	**07 26 02.0**	**-0.2**
	9µm,0.4s								
GIB	**Gibilmanna**	**0.53**	**193**	Pg			**Pg**	**07 25 54.6**	**-1.0**
GIB				Sg			**Sb**	**07 26 03.6**	**-0.4**
	14µm,0.5s								
GIB	**Gibilmanna**	**0.53**	**193**	Pg			**Pg**	**07 25 54.6**	**-1.0**
GIB				Sg			**Sb**	**07 26 03.6**	**-0.4**
	14µm,0.5s								
CSLB	**Castelbuono**	**0.58**	**189**	Pg			**Pg**	**07 25 55.7**	**-0.7**
CSLB	**Castelbuono**	**0.58**	**189**	Pg			**Pg**	**07 25 55.7**	**-0.7**
LLI	**Lipari**	**0.61**	**96**	Pg			**Pb**	**07 25 57.8**	**+0.2**
	23µm,0.7s								
LLI	**Lipari**	**0.61**	**96**	Pg			**Pb**	**07 25 57.8**	**+0.2**
	23µm,0.7s								
VPL	**Vulcano Piano**	**0.65**	**102**	Pg			**Pg**	**07 25 57.9**	**+0.2**
VPL				Sg			**Sg**	**07 26 06.5**	**+0.3**
	6µm,0.5s								
VPL	**Vulcano Piano**	**0.65**	**102**	Pg			**Pg**	**07 25 57.9**	**+0.2**
VPL				Sg			**Sg**	**07 26 06.5**	**+0.3**
	6µm,0.5s								
MNO	**Monte Soro**	**0.71**	**145**	Pg			**Pg**	**07 25 58.3**	**-0.5**
MNO				Sg			**Sg**	**07 26 08.4**	**+0.2**
	5µm,0.6s								
MNO	**Monte Soro**	**0.71**	**145**	Pg			**Pg**	**07 25 58.3**	**-0.5**
MNO				Sg			**Sg**	**07 26 08.4**	**+0.2**
	5µm,0.6s								
ALJA	**Alia**	**0.83**	**204**	Pg			**Pb**	**07 26 01.1**	**-0.3**
ALJA				Sg			**Sn**	**07 26 14.0**	**-0.7**
	18µm,1.0s								
ALJA	**Alia**	**0.83**	**204**	Pg			**Pb**	**07 26 01.1**	**-0.3**
ALJA				Sg			**Sn**	**07 26 14.0**	**-0.7**
	18µm,1.0s								
STR4	**STROMBOLI 4**	**0.85**	**72**	Pg			**Pb**	**07 26 01.2**	**-0.5**
STR4				Sg			**Sb**	**07 26 11.9**	**-1.2**
GALF	**Gagliano Caste**	**0.86**	**159**	Pg			**Pb**	**07 26 01.6**	**-0.2**
	4µm,0.6s								
GALF	**Gagliano Caste**	**0.86**	**159**	Pg			**Pb**	**07 26 01.6**	**-0.2**
	4µm,0.6s								
RESU	**Resuttano**	**0.87**	**186**	Pg			**Pg**	**07 26 02.3**	**+0.4**
	5µm,0.5s								
RESU	**Resuttano**	**0.87**	**186**	Pg			**Pg**	**07 26 02.3**	**+0.4**
	5µm,0.5s								
CORL	**Corleone**	**0.92**	**228**	Pg			**Pb**	**07 26 02.4**	**-0.6**
CORL				Sg			**Sg**	**07 26 15.7**	**+0.7**
CORL	**Corleone**	**0.92**	**228**	Pg			**Pb**	**07 26 02.4**	**-0.6**
CORL				Sg			**Sg**	**07 26 15.7**	**+0.7**
ECNV	**Catenanuova**	**1.01**	**155**	Pg			**Pn**	**07 26 05.1**	**+0.1**
	4µm,0.8s								
ECNV	**Catenanuova**	**1.01**	**155**	Pg			**Pn**	**07 26 05.1**	**+0.1**
	4µm,0.8s								
MMME	**Mongiuffi-Meli**	**1.02**	**124**	Pg			**Pb**	**07 26 03.1**	**-1.6**
MMME				Sg			**Sn**	**07 26 19.5**	**0.0**
	2µm,0.9s								
MMME	**Mongiuffi-Meli**	**1.02**	**124**	Pg			**Pb**	**07 26 03.1**	**-1.6**
MMME				Sg			**Sn**	**07 26 19.5**	**0.0**
	2µm,0.9s								
ESLN	**Serra La Nave**	**1.03**	**142**	Pg			**Pb**	**07 26 05.2**	**+0.3**
	4µm,0.7s								
ESLN	**Serra La Nave**	**1.03**	**142**	Pg			**Pb**	**07 26 05.2**	**+0.3**
	4µm,0.7s								
MSRU	**Castanea**	**1.08**	**103**	Pg			**Pb**	**07 26 03.8**	**-1.8**
MSRU				Sg			**Sn**	**07 26 20.8**	**+0.1**
	2µm,0.7s								
MSRU	**Castanea**	**1.08**	**103**	Pg			**Pb**	**07 26 03.8**	**-1.8**
MSRU				Sg			**Sn**	**07 26 20.8**	**+0.1**
	2µm,0.7s								
CRJA	**Costa Raja**	**1.17**	**233**	Pg			**Pn**	**07 26 06.3**	**-0.8**
CRJA	**Costa Raja**	**1.17**	**233**	Pg			**Pn**	**07 26 06.3**	**-0.8**
MTGR	**Montagna Grand**	**1.28**	**242**	Pg			**Pn**	**07 26 07.6**	**-1.1**
	166nm,0.5s								
MTGR	**Montagna Grand**	**1.28**	**242**	Pg			**Pn**	**07 26 07.6**	**-1.1**
	166nm,0.5s								
RAFF	**Raffo Rosso**	**1.29**	**173**	Pg			**Pn**	**07 26 09.0**	**+0.1**
RAFF				Sg			**Sn**	**07 26 25.8**	**-0.3**
	1µm,0.7s								
RAFF	**Raffo Rosso**	**1.29**	**173**	Pg			**Pn**	**07 26 09.0**	**+0.1**
RAFF				Sg			**Sn**	**07 26 25.8**	**-0.3**
	1µm,0.7s								

MTTG	**Motta San Giov**	**1.30**	**113**	Pg			**Pn**	**07 26 07.6**	**-1.4**
	1µm,0.7s								
MTTG	**Motta San Giov**	**1.30**	**113**	Pg			**Pn**	**07 26 07.6**	**-1.4**
	1µm,0.7s								
ERC	**Erice**	**1.34**	**250**	Pg			**Pn**	**07 26 08.8**	**-0.7**
	149nm,0.6s								
ERC	**Erice**	**1.34**	**250**	Pg			**Pn**	**07 26 08.8**	**-0.7**
	149nm,0.6s								
JOPP	**Joppolo**	**1.34**	**85**	Pg			**Pn**	**07 26 07.9**	**-1.7**
	347nm,0.8s								
JOPP	**Joppolo**	**1.34**	**85**	Pg			**Pn**	**07 26 07.9**	**-1.7**
	347nm,0.8s								
CEL	**Celeste**	**1.37**	**100**	Pg			**Pn**	**07 26 07.9**	**-2.1**
	581nm,0.6s								
CEL	**Celeste**	**1.37**	**100**	Pg			**Pn**	**07 26 07.9**	**-2.1**
	581nm,0.6s								
HVZN	**Vizzini**	**1.40**	**162**	Pg			**Pn**	**07 26 09.8**	**-0.6**
HVZN				Sg			**Sb**	**07 26 29.0**	**+0.2**
	6µm,1.1s								
HVZN	**Vizzini**	**1.40**	**162**	Pg			**Pn**	**07 26 09.8**	**-0.6**
HVZN				Sg			**Sb**	**07 26 29.0**	**+0.2**
	6µm,1.1s								
HCRL	**Carlentini**	**1.40**	**151**	Pg			**Pn**	**07 26 09.3**	**-1.0**
HCRL				Sg			**Sn**	**07 26 28.0**	**-0.7**
	3µm,0.7s								
HCRL	**Carlentini**	**1.40**	**151**	Pg			**Pn**	**07 26 09.3**	**-1.0**
HCRL				Sg			**Sn**	**07 26 28.0**	**-0.7**
	3µm,0.7s								
AGST	**Augusta-Monte**	**1.50**	**146**	Pg			**Pn**	**07 26 11.1**	**-0.6**
AGST	**Augusta-Monte**	**1.50**	**146**	Pg			**Pn**	**07 26 11.1**	**-0.6**
SSY	**Sortino**	**1.53**	**152**	Pg			**Pn**	**07 26 11.5**	**-0.6**
	3µm,0.7s								
SSY	**Sortino**	**1.53**	**152**	Pg			**Pn**	**07 26 11.5**	**-0.6**
	3µm,0.7s								
SOI	**Samo**	**1.54**	**106**	Pg			**Pn**	**07 26 11.2**	**-1.1**
	1µm,0.9s								
SOI	**Samo**	**1.54**	**106**	Pg			**Pn**	**07 26 11.2**	**-1.1**
	1µm,0.9s								
MPAZ	**Palizzi**	**1.54**	**111**	Pg			**Pn**	**07 26 11.2**	**-1.2**
	2µm,0.8s								
MPAZ	**Palizzi**	**1.54**	**111**	Pg			**Pn**	**07 26 11.2**	**-1.2**
	2µm,0.8s								
HAVL	**Avola**	**1.72**	**154**	Pg			**Pn**	**07 26 14.5**	**-0.3**
	921nm,0.7s								
HAVL	**Avola**	**1.72**	**154**	Pg			**Pn**	**07 26 14.5**	**-0.3**
	921nm,0.7s								
PLAC	**Placanica**	**1.78**	**91**	Pg			**Pn**	**07 26 14.5**	**-1.0**
	358nm,0.7s								
PLAC	**Placanica**	**1.78**	**91**	Pg			**Pn**	**07 26 14.5**	**-1.0**
	358nm,0.7s								
BULG	**Bulgheria - Ca**	**1.82**	**30**	Pg			**Pn**	**07 26 15.6**	**-0.6**
	217nm,1.2s								
BULG	**Bulgheria - Ca**	**1.82**	**30**	Pg			**Pn**	**07 26 15.6**	**-0.6**
	217nm,1.2s								
MGR	**Morigerati**	**1.94**	**33**	Pg			**Pn**	**07 26 17.0**	**-0.8**
	103nm,0.7s								
MGR	**Morigerati**	**1.94**	**33**	Pg			**Pn**	**07 26 17.0**	**-0.8**
	103nm,0.7s								
CUC	**Castrocucco**	**1.95**	**40**	Pg			**Pn**	**07 26 17.5**	**-0.5**
	219nm,0.6s								
CUC	**Castrocucco**	**1.95**	**40**	Pg			**Pn**	**07 26 17.5**	**-0.5**
	219nm,0.6s								
MMN	**Mormanno**	**1.97**	**45**	Pg			**Pn**	**07 26 17.9**	**-0.3**
	117nm,0.8s								
MMN	**Mormanno**	**1.97**	**45**	Pg			**Pn**	**07 26 17.9**	**

MAUS	**Longido**	**2.21**	**56**	*i* P	**Pb**	**07 43 40.4**	**-1.8**
MAUS				*i* S	**Sb**	**07 44 07.6**	**-1.6**
DODT	**Dodoma, Tanzan**	**2.35**	**158**	*i* P	**Pb**	**07 43 43.0**	**-1.5**
DODT				*i* S	**Sb**	**07 44 14.8**	**+1.7**
KMBO	**Kilima Mbogo**	**3.71**	**40**	*e*P	**Pn**	**07 43 59.1**	**+0.1**
KMBO				*e*S	**Sn**	**07 44 42.3**	**+0.1**
KMBO	**Kilima Mbogo**	**3.71**	**40**	*e*P	**Pn**	**07 43 59.1**	**+0.1**
KMBO				*e*Pn	**Pn**	**07 43 59.5**	**+0.5**
KMBO				*e*S	**Sn**	**07 44 42.3**	**+0.1**
KMBO				*e*Sn	Sb	07 44 42.8	-10
KMBO	**Kilima Mbogo**	**3.71**	**40**	*i* P	**Pn**	**07 43 59.4**	**+0.5**
KMBO				*i* S	**Sb**	**07 44 54.9**	**+2.4**
KIG	**Kigali**	**5.20**	**293**	*e*P	**Pn**	**07 44 20.6**	**+1.1**
KIG				*e*S	**Sn**	**07 45 17.8**	**-1.2**
KIG				AML	AML	07 45 46.3	
	comp=Z,122nm,0.4s						
KIG	**Kigali**	**5.20**	**293**	*e*P	**Pn**	**07 44 20.6**	**+1.1**
KIG				*e*S	**Sn**	**07 45 17.8**	**-1.2**
MBAR	**Mbarara**	**5.33**	**309**	*e*P	**Pn**	**07 44 20.3**	**-0.8**
MBAR				*e*S	**Sn**	**07 45 22.2**	**+0.3**
MBAR	**Mbarara**	**5.33**	**309**	*e*P	**Pn**	**07 44 20.3**	**-0.8**
MBAR				*e*S	**Sn**	**07 45 22.2**	**+0.3**
MBAR	**Mbarara**	**5.33**	**309**	*i* P	**Pn**	**07 44 20.2**	**-0.9**
MBAR				*i* S	**Sn**	**07 45 20.9**	**-1.0**
LSZ	**Lusaka**	**13.00**	**210**	Pn	Pn	07 46 11.5	+5.2
LSZ				*e*S	**Sn**	**07 48 29.2**	**-1.2**
TOA0	**Torodi Ar. Sit**	**37.08**	**298**	P	**P**	**07 50 13.8**	**+2.1**

IDC 29 07:51:17.0±43.0, 15°74.S×171°89.W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/21, mbtmp3.8/3, MS4.6/1, Ms1 4.6/1, ms1mx3.3/27, Error ellipse: s-maj=849.0km s-min=189.9km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**31.44**	**204**	LR	LR	08 08 06.3	
	comp=Z,1μm,18.9s,baz=188,slow=32						
STKA	**Stephens Creek**	**45.13**	**241**	P	P	07 59 36.3	+0.8
	0.4nm,0.4s,baz=79,slow=10,SNR=3.2						
WRA	**Warramunga Arr**	**51.19**	**257**	P	P	08 00 22.0	-0.6
	0.4nm,0.6s,baz=97,slow=7.2,SNR=17						
ASAR	**Alice Springs**	**51.39**	**252**	P	P	08 00 23.9	-0.2
	2.7nm,0.6s,baz=88,slow=8.0,SNR=44						

*IDC **29** 08:11:44.7±1.0, 14°.18N×125°.83E, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.8/25, mbtmp3.9/7, ML3.8/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/39, Error ellipse: s-maj=38.0km s-min=19.3km az=72.0*

*ISCJB **29** 08:11:47.5±0.9, 14°.11N±0°.10×125°.40E±0°.09, h33km, mb3.6/6, MS3.2/2, Error ellipse: s-maj=14.4km s-min=12.3km az=157.9*

*MAN **29** 08:11:49, 14°.08N×125°.25E, h39km, mb4.9, ML3.8, MS3.9*

ISC 29 08:11:49.8±1.0, 14°.1N±0°.1×125°.4E±0°.1, h35km, n14, σ1s72/13, mb3.7/6, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**1.28**	**248**	⇑*i*P	**Pn**	**08 12 09.6**	**-1.7**
CNP	**Catarman**	**1.70**	**204**	*e*P	**Pn**	**08 12 17.2**	**+0.1**
BOAC	**Boac**	**3.49**	**260**	*e*P	**Pn**	**08 12 41.2**	**-0.4**
RCP	**Roxas**	**3.59**	**226**	⇑*e*P	**Pn**	**08 12 43.6**	**+0.6**
OTRP	**Odiongan**	**3.69**	**243**	*e*P	**Pn**	**08 12 42.5**	**-1.8**
SJMP	**San Jose**	**4.45**	**249**	*e*P	**Pn**	**08 12 54.7**	**-0.1**
KAPI	**Kappang**	**19.77**	**197**	P	**Pn**	**08 16 17.1**	**-1.6**
	0.3nm,0.3s,baz=342,slow=7.7,SNR=4.1						
MJAR	**Matsushiro Arr**	**25.15**	**25**	LR	LR	08 27 06.3	
	comp=Z,58nm,18.1s,baz=295,slow=37						
CMAR	**Chiang Mai Arr**	**25.74**	**283**	P	**P**	**08 17 21.2**	**+3.9**
	1.1nm,0.4s,baz=103,slow=8.0,SNR=8.5						
WRA	**Warramunga Arr**	**34.93**	**165**	P	**P**	**08 18 37.7**	**-0.8**
	0.7nm,0.7s,baz=343,slow=9.1,SNR=10						
WRA				LR	LR	08 31 59.2	
	comp=Z,50nm,18.6s,baz=335,slow=35						
SONM	**Songino Array**	**37.18**	**339**	P	**P**	**08 18 58.2**	**+0.6**
	0.5nm,0.7s,baz=166,slow=7.6,SNR=4.7						
ASAR	**Alice Springs**	**38.42**	**167**	P	**P**	**08 19 08.9**	**+0.7**
	1.1nm,0.6s,baz=349,slow=5.3,SNR=18						
STKA	**Stephens Creek**	**48.26**	**161**	P	**P**	**08 20 28.1**	**+0.6**
	1.5nm,0.7s,baz=323,slow=10,SNR=3.4						
ILAR	**Eielson Array**	**76.42**	**26**	P	**P**	**08 23 33.8**	**-1.8**
	0.2nm,0.8s,baz=207,slow=3.7,SNR=4.3						

IDC 29 08:24:52.4±3.0, 4°.84S×152°.29E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/19, mbtmp3.8/4, Error ellipse: s-maj=98.8km s-min=30.4km az=113.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.56**	**252**	P	P	08 40 33.6	+0.4
	1.0nm,0.6s,baz=84,slow=8.8,SNR=7.9						
RPZ	**Rata Peaks**	**31.71**	**173**	LR	LR	08 49 55.8	
	comp=Z,836nm,18.8s,baz=136,slow=30						
ASAR	**Alice Springs**	**32.73**	**245**	P	P	08 40 43.0	-0.4
	1.1nm,0.6s,baz=68,slow=9.5,SNR=18						
ILAR	**Eielson Array**	**84.43**	**18**	P	P	08 46 42.8	0.0
	0.5nm,1.0s,baz=253,slow=5.4,SNR=3.7						

MEX 29 08:36:30.3±0.5, 18°.43N×103°.18W, h44km±6km, MD3.8, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.21**	**228**	*e*P	Pn	08 36 36.5	-1.6
MMIG				*i* S	Sn	08 36 42.0	-1.6
R15V		**1.06**	**314**	*e*P	Pn	08 36 46.8	-2.0
R15V				*i* S	Sn	08 37 00.3	-2.2
EZ5V		**1.11**	**339**	*i* P	Pn	08 36 48.2	-1.7
EZ5V				*i* S	Sn	08 37 02.4	-1.9
URUA	**Uruapan**	**1.44**	**47**	*i* P	Pn	08 36 52.3	-1.8
URUA				*i* S	Sn	08 37 09.3	-2.8
ZIIG	**Zihuatanejo**	**1.83**	**116**	*e*P	Pn	08 36 58.0	-1.3
ZIIG				*i* S	Sn	08 37 20.0	-1.2
SFJM	**Santa Fe**	**2.05**	**4**	*e*P	Pn	08 37 01.8	-0.7
CJM	**Chamela**	**2.06**	**301**	*i* P	Pn	08 37 00.9	-1.5
CJM				*e*S	Sn	08 37 25.7	-1.2
MOIG	**Morelia**	**2.25**	**56**	*e*P	Pn	08 37 04.8	-0.6
MOIG				*i* S	Sn	08 37 30.0	-2.3

*ISCJB **29** 08:45:36.1±0.7, 3°.92S±0°.05×35°.52E±0°.05, h10km, Error ellipse: s-maj=7.5km s-min=6.2km az=41.3*

*PRE **29** 08:45:37.7±1.7, 3°.94S×35°.56E, h10km, ML3.8*

*BUL **29** 08:45:43.0±1.4, 4°.17S×36°.26E, h22km±18km, MD3.1*

ISC 29 08:45:36.8±1.0, 3°.94S±0°.05×35°.66E±0°.06, h10km, n8, σ1s81/12, 1C, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAUS	**Longido**	**1.58**	**41**	*i* P	**Pn**	**08 46 04.6**	**-0.5**
MAUS				*i* S	**Sg**	**08 46 27.4**	**-0.4**
DODT	**Dodoma, Tanzan**	**2.23**	**178**	*i* P	**Pb**	**08 46 16.6**	**-0.8**
DODT				*i* S	**Sn**	**08 46 40.0**	**-1.8**
KMBO	**Kilima Mbogo**	**3.22**	**30**	⇑*i*P	Pn	08 46 30.8	+3.1
KMBO				*e*S	**Sn**	**08 47 06.5**	**+0.3**
KMBO	**Kilima Mbogo**	**3.22**	**30**	*i* P	Pb	08 46 30.9	-3.3
KMBO				*i* S	**Sn**	**08 47 05.6**	**-0.7**
KIG	**Kigali**	**5.92**	**289**	*e*P	**Pn**	**08 47 04.8**	**0.0**
KIG				*e*S	**Sn**	**08 48 09.8**	**-3.2**
KIG				AML	AML	08 49 02.1	
	comp=Z,34nm,0.4s						
MBAR	**Mbarara**	**5.93**	**304**	*e*P	**Pn**	**08 47 06.2**	**+1.2**
MBAR				*e*S	Sn	08 48 08.8	-4.3
MBAR	**Mbarara**	**5.93**	**304**	*i* P	**Pn**	**08 47 06.8**	**+1.9**
MBAR				*i* S	**Sn**	**08 48 11.1**	**-2.1**
LSZ	**Lusaka**	**13.45**	**213**	*e*P	**Pn**	**08 48 50.3**	**+2.3**
LSZ				*e*S	Sn	08 51 09.8	-8.0

IDC 29 08:49:52.0±2.1, 11°.67S×166°.18E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/19, mbtmp4.0/5, MS3.8/3, Ms1 3.8/3, ms1mx3.2/35, Error ellipse: s-maj=88.6km s-min=28.2km az=131.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**18.84**	**275**	LR	LR	09 00 53.5	
	comp=Z,96nm,18.3s,baz=45,slow=35						
STKA	**Stephens Creek**	**30.29**	**225**	P	P	08 56 05.8	+0.7
	1.3nm,0.8s,baz=51,slow=13,SNR=2.9						
WRA	**Warramunga Arr**	**31.68**	**251**	P	P	08 56 17.4	-0.1
	1.6nm,0.7s,baz=84,slow=8.9,SNR=17						
ASAR	**Alice Springs**	**32.90**	**244**	P	P	08 56 27.9	-0.4
	2.3nm,0.7s,baz=72,slow=9.5,SNR=30						
ASAR				PcP	PcP	08 59 12.4	-0.6
	0.3nm,0.6s,baz=62,slow=2.3,SNR=4.7						
PSI	**Prapat**	**68.38**	**278**	LR	LR	09 31 17.6	
	comp=Z,143nm,19.1s,baz=216,slow=36						
ILAR	**Eielson Array**	**83.97**	**18**	P	P	09 02 23.9	+0.2
	0.5nm,1.0s,baz=239,slow=4.6,SNR=5.8						
MKAR	**Makanchi Array**	**94.27**	**317**	P	P	09 03 12.9	-0.4
	0.6nm,0.6s,baz=97,slow=7.6,SNR=5.0						
TXAR	**Lajitas Array**	**95.75**	**61**	LR	LR	09 39 53.1	
	comp=Z,64nm,20.3s,baz=185,slow=31						

*IDC **29** 09:07:39.4±2.4, 7°.72S×115°.69E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/21, mbtmp3.4/4, MS3.5/1, Ms1 3.4/1, ms1mx2.6/19, Error ellipse: s-maj=195.2km s-min=23.1km az=52.0*

*ISCJB **29** 09:07:40.4±0.7, 8°.07S±0°.09×115°.28E±0°.04, h20km±4km, mb3.4/4, MS3.4/1, Error ellipse: s-maj=16.1km s-min=4.9km az=19.4*

*DJA **29** 09:07:41.0±0.4, 8°.S±3°×11°.5E±°, h11km±3km, M3.5/10, ML3.5/10*

ISC 29 09:07:40.7±0.9, 8°.14S±0°.07×115°.27E±0°.04, h16km±6km, n13, σ0s90/19, mb3.4/4, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBI	**Singaraja**	**0.08**	**314**	P	**Pg**	**09 07 43.6**	**-0.3**
SRBI				S	**Sg**	**09 07 46.8**	**+0.8**
KHKI	**Kahang-Kahang**	**0.41**	**124**	P	**Pb**	**09 07 50.0**	**+0.5**
KHKI				S	**Sn**	**09 07 57.7**	**-1.5**
DNP	**Denpasar**	**0.54**	**186**	P	**Pg**	**09 07 51.2**	**-0.3**
BYJI	**Banyuwangi**	**0.91**	**265**	P	**Pb**	**09 07 57.3**	**-0.8**
BYJI				S	**Sb**	**09 08 09.7**	**-0.2**
MTNI	**Mataram**	**1.02**	**119**	P	**Pb**	**09 07 58.8**	**-1.2**
MTNI				S	**Sb**	**09 08 12.3**	**-0.9**
ABJI	**Asem Bagus**	**1.08**	**288**	P	**Pb**	**09 07 59.9**	**-1.1**
KMMI	**Kalianget**	**1.68**	**310**	P	**Pb**	**09 08 11.0**	**-0.3**
BLJI	**Banyuglugur**	**1.70**	**283**	P	**Pn**	**09 08 09.6**	**-0.2**
BLJI				S	**Sn**	**09 08 30.9**	**-0.3**
GMJI	**Gumukmas**	**1.81**	**266**	P	**Pn**	**09 08 10.9**	**-0.4**
GMJI				S	**Sn**	**09 08 34.6**	**+0.7**
WRA	**Warramunga Arr**	**21.88**	**124**	P	**P**	**09 12 33.6**	**+0.5**
	0.5nm,0.4s,baz=301,slow=12,SNR=14						
ASAR	**Alice Springs**	**23.61**	**133**	P	**P**	**09 12 51.3**	**+0.1**
	0.5nm,0.5s,baz=310,slow=9.3,SNR=12						
STKA	**Stephens Creek**	**34.02**	**138**	P	**P**	**09 14 26.0**	**+1.9**
	0.6nm,0.6s,baz=329,slow=12,SNR=2.8						
STKA				LR	LR	09 28 49.1	
	comp=Z,70nm,19.6s,baz=26,slow=37						
MKAR	**Makanchi Array**	**62.07**	**335**	P	**P**	**09 18 00.5**	**-0.1**
	0.2nm,0.7s,baz=151,slow=6.8,SNR=2.4						

*BJI **29** 09:29:25.6, 52°.33N×173°.66W, h102km, mB4.9/4, mb4.6/10*

*ISCJB **29** 09:29:27.0±0.2, 52°.42N±0°.05×173°.47W±0°.03, h121km±2km, mb4.5/49, Error ellipse: s-maj=8.0km s-min=2.7km az=166.1*

*IDC **29** 09:29:26.8±0.6, 52°.49N×173°.63W, h107km±4km, mb3.9/20, mb1 4.2/21, mb1mx4.0/31, mbtmp4.0/21, Error ellipse: s-maj=16.7km s-min=10.3km az=161.0*

*MOS **29** 09:29:27.2±1.0, 52°.49N×173°.47W, h125km, mb4.3/19, Error ellipse: s-maj=14.2km s-min=9.7km az=49.1*

*NEIC **29** 09:29:28.1±0.2, 52°.43N×173°.51W, h120km±2km, mb4.6/33, Error ellipse: s-maj=7.1km s-min=2.5km az=162.0*

ISC 29 09:29:27.2±0.4, 52°.33N±0°.08×173°.47W±0°.03, h113km±2km, h112km±pP-P, n434, σ0s90/472, mb4.5/49, 124C-131D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.46**	**255**	*e*Sn	Sn	09 29 46.7	-10
GSTR	**Great Sitkin T**	**1.61**	**263**	*e*Pn	**Pn**	**09 29 56.8**	**+1.3**
GSMY	**Great Sitkin M**	**1.62**	**261**	P	**Pn**	**09 29 56.0**	**+0.5**
GSTD	**Great Sitkin T**	**1.67**	**262**	P	**Pn**	**09 29 57.0**	**+0.8**
GSTD				S	**Sn**	**09 30 19.2**	**+1.0**
GSCK	**Great Sitkin C**	**1.69**	**260**	P	**Pn**	**09 29 57.0**	**+0.6**
ETKA	**Kagalaska Isla**	**1.87**	**257**	P	**Pn**	**09 29 59.4**	**+0.8**
ADAG	**Mount Adagdak**	**1.96**	**261**	P	**Pn**	**09 30 01.6**	**+1.8**
ADK	**Adak**	**2.03**	**259**	P	**Pn**	**09 30 01.1**	**+0.5**
ADK				S	**Sn**	**09 30 26.5**	**+0.3**
ADK	**Adak**	**2.03**	**259**	P	**Pn**	**09 30 01.1**	**+0.5**
ADK				S	**Sn**	**09 30 26.5**	**+0.3**
KIRH	**Kanaga Island**	**2.27**	**261**	P	**Pn**	**09 30 05.1**	**+1.4**
KIKV	**Kanaga Island**	**2.33**	**260**	P	**Pn**	**09 30 05.7**	**+1.3**
KICM	**Kanaga Island**	**2.33**	**261**	P	**Pn**	**09 30 05.9**	**+1.5**
TAFL	**Tanaga Flats**	**2.79**	**260**	P	**Pn**	**09 30 11.6**	**+1.2**
TAFP	**Tanaga Falls P**	**2.81**	**263**	P	**Pn**	**09 30 11.4**	**+0.7**
TASE	**Tanaga Southea**	**2.86**	**262**	P	**Pn**	**09 30 12.4**	**+1.1**
NIKH	**Nikolski High**	**2.89**	**75**	P	**Pn**	**09 30 11.7**	**0.0**
NIKH				S	**Sn**	**09 30 45.5**	**-0.5**
OKSP	**Okmok Steeple**	**3.28**	**72**	P	**Pn**	**09 30 18.2**	**+1.3**
GANE	**Gareloi Northe**	**3.31**	**263**	P	**Pn**	**09 30 19.5**	**+2.2**
OKSO	**Okmok South**	**3.38**	**70**	P	**Pn**	**09 30 18.9**	**+0.6**
OKSO				S	**Sn**	**09 30 58.5**	**+0.7**
OKCE	**Okmok Cone E**	**3.40**	**69**	P	**Pn**	**09 30 19.6**	**+1.1**
OKTU	**Okmok Mt. Tuli**	**3.46**	**70**	P	**Pn**	**09 30 20.7**	**+1.4**
OKFG	**Magazine Ridge**	**3.54**	**70**	P	**Pn**	**09 30 21.2**	**+0.9**
OKFG				S	**Sn**	**09 31 02.3**	**+0.9**
MSOM	**Makushin Julie**	**4.21**	**67**	P	**Pn**	**09 30 30.1**	**+0.9**
MSOM	**Makushin Julie**	**4.21**	**67**	P	**Pn**	**09 30 30.1**	**+0.9**
MGOD	**Makushin Gods**	**4.24**	**67**	P	**Pn**	**09 30 30.4**	**+0.6**
MREP	**Makushin Rep't**	**4.32**	**67**	P	**Pn**	**09 30 32.0**	**+1.2**
MTBL	**Makushin Table**	**4.41**	**65**	P	**Pn**	**09 30 33.3**	**+1.3**
UNV	**Unalaska Valle**	**4.47**	**67**	P	**Pn**	**09 30 33.2**	**+0.5**
UNV				S	**Sn**	**09 31 23.3**	**-0.3**
LVA	**Lava Point**	**4.83**	**65**	P	**Pn**	**09 30 39.2**	**+1.5**
ZRO	**Akutan Zero**	**4.84**	**66**	P	**Pn**	**09 30 38.1**	**+0.3**
AKGG	**Akutan Green G**	**4.87**	**64**	P	**Pn**	**09 30 39.3**	**+1.2**
AKUT	**Akutan**	**4.97**	**66**	*e*Pn	**Pn**	**09 30 40.1**	**+0.7**
AKUT				*e*Sn	**Sn**	**09 31 34.7**	**-1.0**
SPIA	**Saint Paul Isl**	**5.21**	**20**	P	**Pn**	**09 30 45.1**	**+2.4**
WESN	**West Dahl Nort**	**5.77**	**64**	P	**Pn**	**09 30 51.1**	**+0.8**
FALS	**False Pass**	**6.50**	**63**	P	**Pn**	**09 31 00.9**	**+0.7**
DRIA	**Deer Island**	**7.17**	**64**	P	**Pn**	**09 31 08.8**	**-0.4**
DT1	**Dutton Round H**	**7.20**	**63**	P	**Pn**	**09 31 09.7**	**0.0**
DTNA	**Dutton South F**	**7.23**	**63**	P	**Pn**	**09 31 10.3**	**+0.2**
DOL	**Dolgoi Island**	**7.44**	**63**	P	**Pn**	**09 31 12.9**	**0.0**
PS4A	**Pavlof South-4**	**7.51**	**62**	P	**Pn**	**09 31 15.1**	**+1.3**
FX1	**Attu Island—F**	**8.16**	**279**	P	**Pn**	**09 31 20.1**	**+2.5**
SDPT	**Sand Point**	**8.26**	**63**	P	**Pn**	**09 31 23.2**	**-0.7**
OHAK	**Old Harbor**	**12.62**	**59**	*e*Pn	**Pn**	**09 32 22.6**	**+0.2**
KDAK	**Kodiak Island**	**13.13**	**57**	*e*Pn	**Pn**	**09 32 26.9**	**-2.1**
SEW	**Seward**	**15.39**	**50**	*e*Pn	**Pn**	**09 32 56.2**	**-1.7**
	37nm,0.5s						
PPLA	**Purkeypile**	**15.47**	**39**	*e*P	**P**	**09 33 01.6**	**+0.6**
	29nm,0.7s						
CAST	**Castle Rocks**	**15.81**	**37**	*e*Pn	**P**	**09 33 04.9**	**+0.3**
	16nm,0.8s						
TRF	**Thorofare Moun**	**16.50**	**39**	*e*Pn	**P**	**09 33 12.3**	**-0.1**
	14nm,0.4s						
BPAW	**Bear Paw Mtn.**	**16.60**	**36**	*e*P	**P**	**09 33 14.4**	**+1.1**
	38nm,1.1s						
IM04	**Indian Mountai**	**16.88**	**28**	*e*Pn	**P**	**09 33 16.3**	**-0.2**
IMA2	**Indian Mountai**	**16.98**	**28**	*e*Pn	**P**	**09 33 18.2**	**+0.6**
MCK	**McKinley**	**17.16**	**39**	*e*P	**Pn**	**09 33 19.7**	**0.0**
MCK				pmax	pmax		
	comp=Z,39nm,0.6s						
MCK	**McKinley**	**17.16**	**39**	*e*Pn	**Pn**	**09 33 19.7**	**0.0**
	comp=Z,39nm,0.6s						
BMRM	**Bremner River**	**17.94**	**50**	*e*Pn	**P**	**09 33 27.3**	**-0.8**
	comp=Z,15nm,0.8s						
COLA	**College**	**18.16**	**36**	*e*P	**Pn**	**09 33 31.3**	**-0.2**
COLA				pmax	pmax		
	comp=Z,15nm,0.6s						
COLA	**College**	**18.16**	**36**	*e*Pn	**Pn**	**09 33 31.3**	**-0.2**
	comp=Z,15nm,0.6s						
ILAR	**Eielson Array**	**18.46**	**37**	P	**P**	**09 33 31.8**	**-2.0**
ILAR				ScP	**ScP**	**09 41 22.9**	**-0.7**
ILAR	**Eielson Array**	**18.46**	**37**	P	**P**	**09 33 31.7**	**-2.0**
	comp=Z,11nm,0.3s,baz=242,slow=10,SNR=234						
ILAR				ScP	**ScP**	**09 41 22.9**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=286,slow=3.5,SNR=8.4						
COLD	**Coldfoot**	**18.79**	**29**	*e*Pn	**Pn**	**09 33 38.7**	**-0.3**
	comp=Z,13nm,0.9s						
MENT	**Mentasta**	**18.95**	**44**	*e*Pn	**P**	**09 33 38.7**	**-0.5**
DOT	**Dot Lake**	**19.07**	**42**	*e*P	**P**	**09 33 40.1**	**-0.3**
	comp=Z,44nm,1.0s						
EGAK	**Eagle**	**20.67**	**40**	*e*P	**P**	**09 33 57.3**	**-0.4**
	comp=Z,121nm,0.6s						
DAWY	**Dawson**	**21.16**	**43**	*e*P	**P**	**09 34 02.4**	**-0.5**
HYT	**Haines Junctio**	**21.31**	**52**	*e*P	**P**	**09 34 03.8**	**-0.9**
INK	**Inuvik**	**24.79**	**35**	P	**P**	**09 34 37.6**	**-0.5**
INK				PcP	**PcP**	**09 38 11.3**	**+0.2**
INK	**Inuvik**	**24.79**	**35**	P	**P**	**09 34 37.6**	**-0.5**
	comp=Z,7.8nm,0.7s,baz=245,slow=9.0,SNR=60						
INK				PcP	**PcP**	**09 38 11.3**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=270,slow=7.5,SNR=4.0						
DLBC	**Dease Lake**	**25.06**	**59**	P	**P**	**09 34 41.7**	**+1.0**
DLBC				pP	**pP**	**09 35 06.9**	**+1.8**
DLBC				sP	**sP**	**09 35 15.9**	**-2.3**
DLBC	**Dease Lake**	**25.06**	**59**	P	**P**	**09 34 41.7**	**+1.0**
	comp=Z,4.7nm,0.9s,baz=271,slow=15,SNR=6.4						
DLBC				pP	**pP**	**09 35 06.9**	**+1.8**
	comp=Z,2.1nm,0.7s,baz=62,slow=16,SNR=1.8						
DLBC				sP	**sP**	**09 35 15.9**	**-2.3**
	comp=Z,3.0nm,0.5s,baz=257,slow=11,SNR=2.7						
YKA	**Yellowknife Ar**	**32.16**	**48**	P	**P**	**09 35 43.7**	**+0.1**
YKA	**Yellowknife Ar**	**32.16**	**48**	P	**P**	**09 35 43.7**	**+0.1**
	comp=Z,1.9nm,0.5s,baz=282,slow=9.2,SNR=16						
B08A	**Colville Reser**	**34.10**	**75**	*e*P	**P**	**09 36 01.8**	**+1.1**
	comp=Z,6.9nm,0.8s						
HAWA	**Hanford**	**34.93**	**78**	*e*P	**P**	**09 36 09.0**	**+1.3**
	comp=Z,1.1nm,0.8s						
NEW	**Newport**	**35.45**	**74**	*e*P	**P**	**09 36 12.9**	**+0.6**
	comp=Z,60nm,2.3s						
NEW	**Newport**	**35.45**	**74**	⇑P	**P**	**09 36 12.7**	**+0.4**
	baz=35,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**35.95**	**213**	T	T	10 14 36.3	
	baz=24						
H11N3	**WAKE ISLAND Hy**	**35.96**	**213**	T	T	10 14 35.7	
	baz=24						
H11N1	**WAKE ISLAND Hy**	**35.97**	**213**	T	T	10 14 37.8	
	baz=24						
I07A	**Izee**	**36.15**	**81**	*e*P	**P**	**09 36 19.6**	**+1.3**
	comp=Z,8.1nm,0.6s						
MOD	**Modoc**	**36.87**	**85**	*e*P	**P**	**09 36 26.2**	**+1.6**
	comp=Z,5.8nm,0.7s						
BSMT	**Bassoo Peak**	**37.02**	**73**	*e*P	**P**	**09 36 26.8**	**+0.9**
BMO	**Blue Mountains**	**37.06**	**79**	*e*P	**P**	**09 36 27.2**	**+1.1**
	comp=Z,24nm,2.1s						
H11S1	**WAKE ISLAND Hy**	**37.16**	**212**	T	T	10 15 52.2	
	baz=20,slow=0.7,SNR=44						
J08A	**Circle Bar Ran**	**37.17**	**81**	*e*P	**P**	**09 36 28.3**	**+1.3**
	comp=Z,9.6nm,0.6s						
H11S2	**WAKE ISLAND Hy**	**37.17**	**212**	T	T	10 15 53.3	
	baz=20,slow=0.7,SNR=64						
H11S3	**WAKE ISLAND Hy**	**37.17**	**212**	T	T	10 15 53.3	
	baz=20,slow=0.7,SNR=25						
MAJO	**Matsushiro**	**37.18**	**264**	*e*P	**P**	**09 36 27.4**	**+0.3**
WVOR	**Wild Horse Val**	**37.59**	**83**	P	**P**	**09 36 31.4**	**+0.8**
WVOR				pmax	pmax		
	comp=Z,11nm,0.9s						
WVOR	**Wild Horse Val**	**37.59**	**83**	P	**P**	**09 36 31.4**	**+0.8**
	comp=Z,11nm,0.9s						
MSO	**Missoula**	**38.03**	**74**	⇑P	**P**	**09 36 34.6**	**+0.4**
	baz=38						
CHMT	**Chamberlain Mo**	**38.39**	**73**	*e*P	**P**	**09 36 37.0**	**-0.4**
	comp=Z,1.0nm,0.6s						
HRY	**Holter Researc**	**39.33**	**73**	*e*P	**P**	**09 36 45.0**	**-0.1**
	comp=Z,2.4nm,0.5s						
HLID	**Hailey**	**39.51**	**79**	*e*P	**P**	**09 36 47.8**	**+1.1**
	comp=Z,3.5nm,1.0s						
HLID	**Hailey**	**39.51**	**79**	⇓P	**P**	**09 36 47.4**	**+0.7**
	baz=39,SNR=5.6						
MCMT	**McKenzie Canyo**	**39.74**	**76**	*e*P	**P**	**09 36 48.7**	**0.0**
	comp=Z,2.7nm,0.7s						
EGMT	**Eagleton**	**39.86**	**70**	⇓P	**P**	**09 36 49.1**	**-0.3**
	baz=40						
A19A	**Klindworth Far**	**39.98**	**68**	⇑P	**P**	**09 36 50.7**	**+0.3**
	baz=40						
BOZ	**Bozeman (W)**	**40.02**	**74**	*e*P	**P**	**09 36 51.0**	**+0.1**
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BOZ	**Bozeman (W)**	**40.02**	**74**	*e*P	**P**	**09 36 51.0**	**+0.1**
	comp=Z,4.2nm,0.8s						
B19A	**Brinkman

comp=Z,14nm,1.3s
DUG Dugway 42.45 82 eP P 09 37 11.8 +1.0
comp=Z,14nm,1.3s
DUG Dugway 42.45 82 ⇑P P 09 37 11.8 +1.0
baz=42,SNR=6.8
I19A Meeteetse 42.47 75 ⇓P P 09 37 11.5 +0.5
baz=42
C23A Lambert 42.59 68 ⇑P P 09 37 11.9 +0.2
baz=42,SNR=8.5
A24A Westby 42.66 66 ⇑P P 09 37 12.3 0.0
baz=42,SNR=7.1
DGMT Dagmar 42.79 66 ⇓P P 09 37 13.4 +0.1
baz=43
BW06 Boulder Array 42.87 76 eP P 09 37 14.7 +0.4
comp=Z,6.7nm,0.8s
PDAR Pinedale Array 42.87 76 P P 09 37 14.5 +0.2
PDAR pP pP 09 37 40.4 +0.3
PDAR PcP PcP 09 39 03.8 +0.7
PDAR Pinedale Array 42.87 76 P P 09 37 14.5 +0.2
comp=Z,6.8nm,0.8s,baz=306,slow=4.1,SNR=51
PDAR pP pP 09 37 40.4 +0.3
comp=Z,1.1nm,0.6s,baz=298,slow=2.8,SNR=2.4
PDAR PcP PcP 09 39 03.8 +0.7
comp=Z,0.6nm,0.9s,baz=233,slow=4.1,SNR=2.4
J19A Crowheart 42.88 76 ⇑P P 09 37 15.2 +0.9
baz=43
E22A Miles City 42.90 70 ⇓P P 09 37 14.6 +0.3
baz=43
KSRS Korea Array 42.90 274 P P 09 37 15.2 +1.0
comp=Z,1.0nm,0.7s,baz=49,slow=8.4,SNR=2.9
D23A Lindsay 42.92 69 ⇓P P 09 37 14.7 +0.3
baz=43
KSAR Wonju Array Be 42.93 274 P P 09 37 15.2 +0.7
I20A Worland 43.03 74 ⇑P P 09 37 15.7 +0.3
baz=43
NLU North Lily Min 43.04 81 eP P 09 37 16.8 +1.1
comp=Z,5.3nm,0.8s
F22A Rosebud 43.09 71 ⇑P P 09 37 16.1 +0.3
baz=43
GSC Goldstone 43.11 90 ⇑P P 09 37 17.6 +1.5
baz=43
A25A Svangstu Ranch 43.15 65 ⇑P P 09 37 16.5 +0.3
baz=43,SNR=8.2
C24A Savage 43.17 68 ⇑P P 09 37 16.9 +0.6
baz=43
E23A Ismay 43.24 69 ⇑P P 09 37 17.6 +0.7
baz=43
H21A Big Horn, Sher 43.28 73 ⇑P P 09 37 17.8 +0.4
baz=43
G22A Birney 43.38 72 ⇓P P 09 37 18.2 0.0
baz=43
J20A Shoshoni 43.41 75 ⇑P P 09 37 19.3 +0.9
baz=43
D24A Glendive 43.45 68 ⇑P P 09 37 19.5 +0.8
baz=43
B25A Knox Farm, Ray 43.48 66 ⇓P P 09 37 19.4 +0.5
baz=43
I21A Big Trails, Te 43.61 74 ⇑P P 09 37 19.9 -0.1
baz=43
H22A Clearmont 43.71 72 ⇑P P 09 37 20.6 -0.2
baz=44
A26A Wade Farm, Ken 43.77 65 ⇑P P 09 37 21.1 -0.1
baz=44,SNR=5.1
E24A Baker 43.77 69 ⇓P P 09 37 21.6 +0.3
baz=44
J21A Lysite 43.79 74 ⇓P P 09 37 21.3 -0.3
baz=44
G23A Biddle 43.92 71 ⇓P P 09 37 22.0 -0.5
baz=44
B26A Jensen Ranch, 43.94 65 ⇑P P 09 37 23.0 +0.4
baz=44
I22A 9 Mile Ranch, 44.03 73 ⇑P P 09 37 23.6 +0.1
baz=44
F24A Ekalaka 44.10 70 ⇑P P 09 37 23.9 0.0
baz=44
A27A Ledoux Ranch, 44.18 64 ⇑P P 09 37 24.6 +0.2
baz=44
Q16A Castle Valley 44.23 82 eP P 09 37 26.6 +1.4
Q16A Castle Valley 44.23 82 ⇑P P 09 37 26.3 +1.1
baz=44,SNR=5.4
J22A Midwest 44.32 74 ⇑P P 09 37 26.1 +0.4
baz=44
C26A Wahner Farm, P 44.32 66 ⇑P P 09 37 26.0 +0.4
baz=44
K21A Alcova 44.32 75 ⇓P P 09 37 26.1 +0.2
baz=44
E25A Miller Ranch, 44.33 68 ⇑P P 09 37 26.6 +0.9
baz=44
B27A Peters Farms, 44.47 65 ⇓P P 09 37 26.9 +0.2
baz=44,SNR=6.6
SRU San Rafael 44.51 81 eP P 09 37 28.7 +1.4
SRU pmax pmax
comp=Z,6.0nm,0.7s
SRU San Rafael 44.51 81 eP P 09 37 28.7 +1.4
comp=Z,6.2nm,0.7s
D26A Manning 44.58 67 ⇓P P 09 37 27.9 +0.3
baz=44
O19A Miners Draw (B 44.62 79 ⇑P P 09 37 28.7 +0.6
baz=44
F25A Bowman 44.62 69 ⇑P P 09 37 28.8 +0.8
baz=44
A28A Rude Farm, Bot 44.74 64 ⇓P P 09 37 29.0 +0.1
baz=44,SNR=11
K22A Casper 44.74 75 ⇓P P 09 37 28.9 -0.3
baz=45
E26A Carlson Angus 44.88 68 ⇓P P 09 37 29.9 -0.1
baz=45,SNR=5.2
B28A Dugan Ranch, T 44.94 64 ⇑P P 09 37 30.5 0.0
baz=45,SNR=8.0
D27A Center 45.05 67 ⇓P P 09 37 31.9 +0.5
baz=45
F26A Lodgepole 45.11 69 ⇑P P 09 37 32.8 +0.9
baz=45
P19A Cripple Cowboy 45.11 80 ⇓P P 09 37 32.7 +0.5
baz=45,SNR=8.1
U15A North Rim 45.14 85 ⇓P P 09 37 33.2 +0.7
baz=45,SNR=8.7
L22A Ellis Ranch, M 45.17 75 ⇓P P 09 37 33.2 +0.6
baz=45
K23A Bowen Ranch, D 45.21 74 ⇑P P 09 37 33.2 +0.4
baz=45
G27A Dupree 45.24 69 ⇓P P 09 37 37.2 +4.3
baz=46
O20A White River Ci 45.25 79 eP P 09 37 33.6 +0.4
O20A White River Ci 45.25 79 ⇓P P 09 37 33.4 +0.1
baz=45,SNR=6.8
A29A Manning Farm, 45.30 63 ⇓P P 09 37 33.0 -0.3
baz=45,SNR=5.8
E27A Carson 45.41 67 ⇓P P 09 37 34.6 +0.4
baz=45
M22A Cedar Creek Ra 45.45 76 ⇑P P 09 37 35.7 +0.8
baz=45
F27A Lemmon 45.47 68 ⇑P P 09 37 35.3 +0.5
baz=45
G26A Maurine 45.48 69 ⇑P P 09 37 35.0 +0.2
baz=45
B29A Wagenman Farm, 45.49 64 ⇓P P 09 37 34.7 -0.1
baz=45
D28A Regan 45.53 66 ⇓P P 09 37 35.5 +0.3
baz=45,SNR=6.8
P20A De Beque 45.55 79 ⇑P P 09 37 35.7 +0.1
baz=45
L23A Garrett 45.55 75 ⇑P P 09 37 35.6 -0.1
baz=45
O21A Pagoda 45.66 78 ⇓P P 09 37 36.6 +0.1
baz=46
MDND Maddock 45.70 65 ⇓P P 09 37 37.0 +0.5
baz=46
PV09 Paradox Valley 45.73 81 eP P 09 37 37.9 +0.7
E28A Huff 45.82 67 ⇓P P 09 37 37.7 +0.3
baz=46
N22A Wattenberg Ran 45.91 77 ⇑P P 09 37 38.6 +0.1
baz=46
Q20A Ridgley Place, 45.95 80 ⇓P P 09 37 38.7 0.0
baz=46
B30A Myrvik Farm, E 46.06 63 ⇓P P 09 37 38.9 -0.4
baz=46,SNR=12
N23A Red Feather La 46.15 76 ⇑P P 09 37 40.9 +0.5
baz=46
F28A McLaughlin 46.18 68 ⇑P P 09 37 40.7 +0.4
baz=46
PV15 Paradox Valley 46.23 81 eP P 09 37 41.4 +0.3
O22A Kremmling 46.25 77 ⇑P P 09 37 41.7 +0.5
baz=46
WUAZ Wupatki 46.30 86 ⇑P P 09 37 42.3 +0.8
baz=46
PV01 Paradox Valley 46.31 81 eP P 09 37 41.5 -0.1
comp=Z,586nm,0.7s
ULM Lac du Bonnet 46.37 60 P P 09 37 40.8 -0.8
ULM Lac du Bonnet 46.37 60 P P 09 37 40.8 -0.8
comp=Z,4.2nm,0.4s,baz=302,slow=7.8,SNR=12
R20A Redvale 46.39 81 ⇓P P 09 37 42.5 +0.3
baz=46,SNR=5.0
C30A Mose, Pekin 46.41 64 ⇓P P 09 37 41.6 -0.3
baz=46
Q21A Lamborn Mesa, 46.46 80 ⇓P P 09 37 43.3 +0.5
baz=46
P22A Eagle 46.48 78 ⇑P P 09 37 43.3 +0.3
baz=46
I27A Quinn 46.51 70 ⇑P P 09 37 43.1 +0.2
baz=46
O23A Lake Granby, G 46.59 77 ⇑P P 09 37 44.5 +0.6
baz=46,SNR=5.9
D30A Buchanan 46.59 65 ⇓P P 09 37 42.9 -0.6
baz=46,SNR=6.0
SMCO Snowmass 46.61 79 eP P 09 37 43.9 -0.3
S20A Disappointment 46.63 81 ⇑P P 09 37 44.2 0.0
baz=46,SNR=9.2
F29A Eureka 46.74 67 ⇓P P 09 37 44.7 0.0
baz=46
Q22A Crested Butte, 46.85 79 ⇑P P 09 37 45.9 0.0
baz=47,SNR=5.4
M25A Palm-Egli Farm 46.94 74 ⇓P P 09 37 46.5 +0.1
baz=47
MVCO Mesa Verde 46.95 82 ⇓P P 09 37 46.9 +0.3
baz=47
J27A Elkhorn Farm, 47.03 71 ⇑P P 09 37 46.9 -0.1
baz=47
ISCO Idaho Springs 47.03 77 ⇑P P 09 37 48.6 +1.2
baz=47
I28A Midland 47.06 70 ⇓P P 09 37 47.8 +0.6
baz=47
S21A Coal Bank Pass 47.08 81 ⇑P P 09 37 48.2 +0.4
baz=47,SNR=6.6
P23A Jefferson 47.17 78 ⇑P P 09 37 49.5 +1.1
baz=47
H29A Onida 47.24 69 ⇑P P 09 37 49.0 +0.4
baz=47
J28A Allard Ranch, 47.37 71 ⇑P P 09 37 49.6 -0.1
baz=47
AGMN Agassiz Nation 47.50 62 eP P 09 37 49.7 -0.7
comp=Z,11nm,0.9s
G30A Faulkton 47.54 67 ⇓P P 09 37 50.4 -0.4
baz=47,SNR=5.6
W18A Petrified Fore 47.56 85 ⇑P P 09 37 52.3 +0.9
baz=47
S22A 4UR Ranch, Cre 47.61 80 ⇓P P 09 37 52.4 +0.6
baz=48
T21A Navajo Lake 47.67 81 ⇑P P 09 37 52.8 +0.6
baz=48
214A Organ Pipe Nat 47.82 90 ⇑P P 09 37 52.8 -0.4
baz=48
V20A Brimhall 47.89 83 ⇓P P 09 37 54.6 +0.8
baz=48
J29A Okreek 47.91 70 ⇓P P 09 37 54.1 +0.3
baz=48
R23A Moffat 47.93 79 ⇑P P 09 37 54.8 +0.6
baz=48
U21A Nageezi 47.97 82 ⇓P P 09 37 55.3 +0.8
baz=48,SNR=12
T22A Edith 48.04 81 ⇓P P 09 37 56.0 +0.9
baz=48,SNR=5.8
BRSD Miller 48.06 68 eP P 09 37 54.5 -0.4
BRSD Miller 48.06 68 ⇓P P 09 37 55.2 +0.3
baz=48
P25A Willow Gulch B 48.08 77 ⇓P P 09 37 56.0 +0.8
baz=48
W20A Ramah 48.31 84 ⇓P P 09 37 57.8 +0.6
baz=48
R24A Sanders Place, 48.34 78 ⇑P P 09 37 58.3 +1.0
baz=48
Q25A Bedland, Calha 48.41 77 ⇓P P 09 37 58.7 +0.9
baz=48
SDCO Great Sand Dun 48.41 79 eP P 09 37 58.5 +0.5
comp=Z,4.2nm,0.9s
U22A Llaves 48.49 82 ⇑P P 09 37 59.2 +0.7
baz=48,SNR=5.1
P26A Davis Ranch, A 48.54 76 ⇓P P 09 37 59.8 +1.0
baz=48
T23A Casias Ranch, 48.55 80 ⇓P P 09 37 59.9 +0.8
baz=48
S24A Houchin Ranch, 48.66 79 ⇑P P 09 38 00.5 +0.7
baz=48
V22A San Miguel Ran 48.76 82 ⇑P P 09 38 01.3 +0.7
baz=49
R25A Fountain Ranch 48.88 78 ⇓P P 09 38 02.1 +0.7
baz=49
M29A Burnside Ranch 48.91 72 ⇑P P 09 38 02.3 +0.8
baz=49
U23A El Rito 48.92 81 ⇓P P 09 38 03.0 +1.2
baz=49
T24B San Luis 48.93 80 ⇓P P 09 38 02.8 +0.8
baz=49
S25A Robets Cordova 49.11 79 ⇓P P 09 38 03.7 +0.5
baz=49,SNR=5.7
SONM Songino Array 49.13 299 ScP ScP 09 43 07.8 -1.5
SONM Songino Array 49.13 299 ScP ScP 09 43 07.8 -1.5
comp=Z,0.4nm,0.5s,baz=29,slow=3.7,SNR=4.5
X21A Alamocita Cree 49.20 84 ⇑P P 09 38 05.4 +1.4
baz=49,SNR=6.1
Y20A Horse Springs, 49.20 85 ⇓P P 09 38 05.4 +1.4
baz=49
R26A Arlington 49.29 77 ⇓P P 09 38 06.0 +1.6
baz=49
V23A Ortiz Mt. (NFS 49.31 82 ⇑P P 09 38 05.9 +1.1
baz=49,SNR=6.7
W22A Albuquerque 49.34 83 ⇓P P 09 38 05.9 +0.9
baz=49
T25A Trinidad 49.47 79 ⇑P P 09 38 07.0 +1.0
baz=49,SNR=9.3
Y21A Point of Rocks 49.57 85 ⇓P P 09 38 08.0 +1.2
baz=49
Z20A Nine Sixteen R 49.61 86 ⇓P P 09 38 08.2 +1.1
baz=50
SPITS Spitsbergen Ar 49.62 357 P P 09 38 05.6 -0.7
SPITS Spitsbergen Ar 49.62 357 P P 09 38 05.6 -0.7
comp=Z,8.3nm,1.0s,baz=62,slow=7.1,SNR=6.0
X22A Bernardo 49.64 84 ⇓P P 09 38 08.3 +1.1
baz=50
R27A Eads 49.69 77 ⇑P P 09 38 08.1 +0.6
baz=50
S26A Kim 49.72 78 ⇑P P 09 38 08.3 +0.6
baz=50
W23A Werner Place, 49.72 82 ⇓P P 09 38 09.0 +1.1
baz=50
V24A Rampart Ranch, 49.88 81 ⇓P P 09 38 10.3 +1.2
baz=50,SNR=8.8
T26A Commche Natio 49.93 79 ⇓P P 09 38 09.8 +0.3
baz=50
P29A Atwood 49.94 74 ⇑P P 09 38 09.7 +0.4
baz=50
U25A Circle Dot Ran 49.95 80 ⇓P P 09 38 10.2 +0.6
baz=50,SNR=6.4
Z21A St. Cloud Mine 50.04 85 ⇓P P 09 38 11.7 +1.3
baz=50
Y22A Socorro 50.05 84 ⇑P P 09 38 11.3 +0.9
baz=50,SNR=5.6
W24A Lazy 6 Ranch, 50.14 82 ⇑P P 09 38 11.4 +0.4
baz=50
V25A Rancho No Teng 50.20 81 ⇓P P 09 38 12.2 +0.7
baz=50,SNR=6.8
R28A Tribune 50.24 76 ⇓P P 09 38 11.9 +0.2
baz=50
U26A Atchley Ranch, 50.36 79 ⇑P P 09 38 13.4 +0.7
baz=50,SNR=6.9
Q29A Oakley 50.38 75 ⇑P P 09 38 12.9 +0.3
baz=50
BGNE Belgrade 50.42 71 ⇓P P 09 38 13.1 +0.2
baz=50
220A Playas Peak, P 50.48 87 ⇓P P 09 38 14.5 +0.9
baz=50
121A Cookes Peak, D 50.51 86 ⇑P P 09 38 15.0 +1.2
baz=50
Z22A Elephant Butte 50.51 85 ⇑P P 09 38 15.1 +1.2
baz=50
T27A Campo 50.53 78 ⇓P P 09 38 15.0 +1.1
baz=50
HHC Hu-ho-hao-te 50.57 288 eP P 09 38 15.0 +0.9
HHC PcP PcP 09 39 32.5 +2.3
HHC PP PP 09 40 14.0 +3.4
HHC ScP ScP 09 43 16.3 +0.8
HHC PcS PcS 09 43 27.8 +0.1
HHC S S 09 45 18.5 -1.2
HHC ScS ScS 09 47 51.5 -1.9
HHC SS SS 09 48 50.8 -3.8
HHC AMB AMB
comp=Z,34nm,0.9s
HHC AMB AMB
comp=Z,240nm,5.9s
HHC LR LR
comp=Z,360nm,16.5s
HHC LR LR
comp=Z,460nm,16.6s
HHC LR LR
comp=Z,210nm,16.2s
Y23A Lovelace Mesa, 50.61 83 ⇑P P 09 38 15.6 +1.0
baz=50,SNR=7.7
S28A Manter 50.68 77 ⇑P P 09 38 15.4 +0.5
baz=50
W25A X Bar L Ranch, 50.71 81 ⇓P P 09 38 15.9 +0.7
baz=51,SNR=5.7
V26A Tequesquite Ra 50.73 80 ⇑P P 09 38 16.2 +0.8
baz=51,SNR=12
Q30A Quinter 50.77 74 ⇑P P 09 38 15.8 +0.3
baz=51
T28A Walsh 50.86 78 ⇓P P 09 38 16.8 +0.5
baz=51
U27A Thompson Grove 50.89 79 ⇓P P 09 38 17.0 +0.4
baz=51
Z23A Rita Site, Whi 50.95 84 ⇓P P 09 38 18.0 +0.9
baz=51
Y24A Capitan 50.99 83 ⇓P P 09 38 18.3 +0.9
baz=51,SNR=14
SPMN St. Paul 51.03 64 ⇓P P 09 38 17.0 -0.3
baz=51
X25A Clemmons Ranch 51.05 82 ⇓P P 09 38 18.5 +0.7
baz=51
R30A Dighton 51.19 75 ⇓P P 09 38 19.0 +0.3
baz=51
W26A Owens Ranch, T 51.22 81 ⇑P P 09 38 19.8 +0.8
baz=51
Q31A Ellis 51.24 74 ⇓P P 09 38 19.3 +0.3
baz=51
U28A Mallet 51.28 78 ⇓P P 09 38 19.4 -0.1
baz=51
V27A Dan Oppiter Fa 51.33 79 ⇑P P 09 38 19.8 -0.1
baz=51
Z24A Sheeppen Canyo 51.44 83 ⇓P P 09 38 21.6 +0.8
baz=51,SNR=5.6
Y25A Mesa, Roswell 51.44 82 ⇑P P 09 38 21.2 +0.5
baz=51,SNR=5.9
X26A CR and CF Fran 51.55 81 ⇓P P 09 38 21.5 -0.1
baz=51
W27A Bowe Ranch, En 51.66 80 ⇑P P 09 38 22.5 +0.2
baz=52
Q32A Meitler Ranch, 51.74 73 ⇑P P 09 38 22.8 0.0
baz=52
U29A Oasis Ranch, S 51.81 78 ⇑P P 09 38 23.7 +0.3
baz=52
124A Stringfield Ra 51.81 84 ⇓P P 09 38 24.4 +0.8
baz=52
Z25A Roswell 51.87 83 ⇓P P 09 38 24.5 +0.6
baz=52
X27A F and S Farms, 51.92 81 ⇑P P 09 38 25.3 +1.1
baz=52
U30A WK&E Inc. Balk 52.13 77 ⇑P P 09 38 25.9 +0.2
baz=52
224A Cornudas Mount 52.20 85 ⇓P P 09 38 27.4 +1.0
baz=52
Z26A Caprock 52.32 82 ⇑P P 09 38 28.0 +0.8
baz=52
T31A Randall Ranch, 52.33 76 ⇓P P 09 38 27.7 +0.6
baz=52
125A Gardner Draw, 52.33 84 ⇓P P 09 38 28.2 +0.9
baz=52
Y27A Causey 52.40 81 ⇓P P 09 38 28.3 +0.5
baz=52,SNR=7.9
MSTX Muleshoe 52.58 81 ⇑P P 09 38 29.7 +0.6
baz=52
225A Deer Hill, Car 52.61 84 ⇓P P 09 38 30.7 +1.2
baz=52
AMTX Amarillo 52.62 79 ⇑P P 09 38 29.8 +0.5
baz=52
324A Moseley Ranch, 52.67 85 ⇑P P 09 38 30.8 +0.9
baz=52
126A Clayton Basin, 52.73 83 ⇑P P 09 38 30.9 +0.7
baz=53
Z27A Tatum 52.76 82 ⇓P P 09 38 30.8 +0.4
baz=53
GDL2 Guadalupe Moun 52.83 84 eP P 09 38 29.9 -1.1
X29A Tulia 52.90 80 ⇑P P 09 38 31.9 +0.5
baz=53
Y28A McKinney Farm, 52.94 81 ⇓P P 09 38 31.9 +0.1
baz=53
226B Tecolote Peak, 53.03 84 ⇑P P 09 38 32.8 +0.3
baz=53
325A Bean Ranch, Si 53.03 85 ⇑P P 09 38 33.2 +0.6
baz=53
Z28A Tucker Farm, M 53.28 81 ⇓P P 09 38 34.4 +0.1
baz=53
425A Indio Mountain 53.43 85 ⇑P P 09 38 36.1 +0.7
baz=53
326A Caldwell Ranch 53.67 84 ⇑P P 09 38 37.6 +0.5
baz=54
128A Castleberry Fa 53.68 82 ⇓P P 09 38 37.5 +0.3
baz=54
Z29A Hungry Hill Ra 53.71 81 ⇑P P 09 38 37.8 +0.4
baz=54
Y30A Stafford Cattl 53.77 80 ⇓P P 09 38 38.0 +0.1
baz=54
X31A McDonald Ranch 53.81 78 ⇓P P 09 38 38.3 +0.3
baz=54
JFWS Jewell Farm 53.92 65 eP P 09 38 37.4 -1.3
JFWS pmax pmax
comp=Z,10.0nm,0.8s
JFWS Jewell Farm 53.92 65 eP P 09 38 37.4 -1.3
comp=Z,10nm,0.8s
Z30A Sanderson Ranc 54.04 80 ⇓P P 09 38 39.7 -0.1
baz=54
426A McDonald Obser 54.10 85 ⇓P P 09 38 40.5 +0.1
baz=54
328A Wristen Ranch, 54.34 83 ⇓P P 09 38 42.0 0.0
baz=54,SNR=5.2
427A Hayter Ranch, 54.35 84 ⇓P P 09 38 42.6 +0.5
baz=54
526A Mary Lane Ranc 54.49 85 ⇑P P 09 38 44.0 +0.8
baz=54
Z31A Sharp Cattle R 54.62 80 ⇑P P 09 38 44.2 +0.3
baz=54
130A Snyder 54.62 81 ⇓P P 09 38 44.4 +0.5
baz=54
527A Woodward Ranch 54.72 85 ⇓P P 09 38 45.2 +0.3
baz=55
329A Wagon Wheel Ra 54.77 83 ⇑P P 09 38 45.7 +0.6
baz=55
626A Big Bend Ranch 54.82 86 ⇑P P 09 38 46.2 +0.7
baz=55
428A Kincaid Ranch, 54.88 84 ⇑P P 09 38 46.5 +0.6
baz=55
131A Roby 54.91 80 ⇓P P 09 38 46.4 +0.3
baz=55
230A Sterling City 55.02 82 ⇓P P 09 38 47.2 +0.3
baz=55
Z32A Haskell 55.02 79 ⇓P P 09 38 47.0 +0.2
baz=55,SNR=6.4
TXAR Lajitas Array 55.26 86 P P 09 38 49.1 +0.5
TXAR pP pP 09 39 16.3 +0.6
TXAR ScP ScP 09 43 36.2 +0.1
TXAR Lajitas Array 55.26 86 P P 09 38 49.1 +0.5
comp=Z,2.2nm,0.8s,baz=294,slow=4.0,SNR=12
TXAR pP pP 09 39 16.3 +0.6
comp=Z,0.6nm,0.7s,baz=325,slow=4.5,SNR=2.6
TXAR ScP ScP 09 43 36.2 +0.1
comp=Z,0.3nm,0.9s,baz=316,slow=3.5,SNR=3.5
330A Mertzon 55.32 82 ⇓P P 09 38 49.1 +0.1
baz=55
627A Terlingua Ranc 55.35 85 ⇑P P 09 38 49.9 +0.6
baz=55
ABTX Abilene, Hawle 55.40 80 ⇓P P 09 38 49.9 +0.3
baz=55
429A Davenport Ranc 55.43 83 ⇓P P 09 38 50.0 +0.1
baz=55
TUL1 Tulsa 55.44 74 ⇑P P 09 38 49.3 -0.4
baz=55
231A Bronte 55.47 81 ⇑P P 09 38 50.6 +0.5
baz=55
529A Stev Forest Ra 55.59 84 ⇑P P 09 38 51.2 +0.3
baz=56
628A Black Gap, Mar 55.63 85 ⇑P P 09 38 51.6 +0.3
baz=56
430A Baggett Ranch, 55.72 83 ⇑P P 09 38 51.8 -0.1
baz=56,SNR=7.1
331A San Angelo 55.84 82 ⇓P P 09 38 52.6 -0.1
baz=56

232A	**Coleman**	**55.91**	**81**	⇑P		**P**	**09 38 53.4**	**+0.2**
	baz=56								
530A	**J-C Ranch, Com**	**56.11**	**83**	⇑P		**P**	**09 38 54.9**	**+0.3**
	baz=56,SNR=6.3								
431A	**Sonora**	**56.17**	**82**	⇓P		**P**	**09 38 55.0**	**-0.1**
	baz=56,SNR=10								
332A	**Millersview**	**56.21**	**81**	⇑P		**P**	**09 38 55.3**	**0.0**
	baz=56,SNR=7.1								
432A	**Menard**	**56.53**	**82**	⇑P		**P**	**09 38 57.3**	**-0.4**
	baz=56								
531A	**Rocksprings**	**56.58**	**83**	⇓P		**P**	**09 38 57.9**	**-0.1**
	baz=56								
JCT	**Junction City**	**56.81**	**82**	⇓P		**P**	**09 38 59.5**	**-0.1**
	baz=57								
532A	**Rocksprings**	**56.99**	**82**	⇓P		**P**	**09 39 00.8**	**-0.1**
	baz=57								
SCHQ	**Schefferville**	**57.16**	**41**	P		**P**	**09 39 01.6**	**0.0**
SCHQ	**Schefferville**	**57.16**	**41**	P		**P**	**09 39 01.6**	**0.0**
	comp=Z,5.0nm,0.8s,baz=304,slow=7.3,SNR=3.3								
SFIN	**Scholer Farm**	**57.38**	**65**	⇑P		**P**	**09 39 02.7**	**-0.6**
	baz=57								
632A	**Uvalde**	**57.51**	**83**	⇓P		**P**	**09 39 04.1**	**-0.4**
	baz=57								
ARCES	**ARCESS Array B**	**57.66**	**352**	PcP		**PcP**	**09 39 55.8**	**-0.9**
ARCES	**ARCESS Array B**	**57.66**	**352**	PcP		**PcP**	**09 39 55.8**	**-0.9**
	comp=Z,6.1nm,1.0s,baz=350,slow=6.2,SNR=3.7								
MIAR	**Mount Ida**	**57.69**	**74**	*e*P		**P**	**09 39 05.6**	**-0.1**
MIAR	**Mount Ida**	**57.69**	**74**	*e*P		**P**	**09 39 05.6**	**-0.1**
732A	**Laxson Ranch,**	**57.95**	**83**	⇓P		**P**	**09 39 07.6**	**0.0**
	baz=58								
ALLY	**Alegheny Colle**	**60.26**	**60**	*e*P		**P**	**09 39 22.9**	**-0.5**
	comp=Z,39nm,1.0s								
KURK	**Kurchatov**	**60.69**	**316**	*i* P		**P**	**09 39 25.7**	**-0.4**
KURK				pmax		pmax			
	comp=Z,2.0nm,0.7s								
WMQ	**Urumqi**	**61.54**	**306**	P		**P**	**09 39 34.5**	**+2.5**
WMQ				AMB		AMB			
	comp=Z,7.0nm,0.4s								
WMQ				AMB		AMB			
	comp=Z,110nm,5.2s								
WMQ				LR		LR			
	comp=Z,51nm,18.0s								
WMQ				LR		LR			
	comp=Z,18nm,16.8s								
WMQ				LR		LR			
	comp=Z,29nm,17.0s								
CD2	**Chengdu**	**61.97**	**285**	P		**P**	**09 39 36.3**	**+1.2**
MKAR	**Makanchi Array**	**61.97**	**311**	P		**P**	**09 39 33.9**	**-0.9**
MKAR	**Makanchi Array**	**61.97**	**311**	P		**P**	**09 39 33.9**	**-0.9**
MKAR	**Makanchi Array**	**61.97**	**311**	P		**P**	**09 39 33.9**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=46,slow=6.4,SNR=4.3								
BRVK	**Borovoye**	**62.25**	**322**	*i* P		**P**	**09 39 35.7**	**-0.8**
BRVK				pmax		pmax			
	comp=Z,14nm,3.3s								
GYA	**Guiyang**	**63.47**	**279**	*e*P		**P**	**09 39 47.0**	**+1.8**
GYA				pP		**pP**	**09 40 14.8**	**+2.0**
GYA				sP		**sP**	**09 40 27.5**	**+2.4**
GYA				ScP			09 44 13.0		
GYA				PcS			09 44 25.0		
GYA				S		**S**	**09 48 08.5**	**-0.9**
GYA				sS		**sS**	**09 48 56.3**	**-0.5**
GYA				SKS		**SKKSac**	**09 49 24.5**	**-3.2**
GYA				AMB		AMB			
	comp=Z,10.0nm,1.0s								
KMSC	**Kings Mountain**	**64.30**	**65**	⇑P		**P**	**09 39 50.1**	**-0.3**
	baz=64								
KMI	**Kunming**	**66.82**	**281**	P		**P**	**09 40 07.8**	**+0.8**
KMI				AMB		AMB			
	comp=Z,8.0nm,1.0s								
NOA	**NORSAR Array B**	**66.92**	**358**	P		**P**	**09 40 04.3**	**-2.5**
NOA	**NORSAR Array B**	**66.92**	**358**	P		**P**	**09 40 04.3**	**-2.5**
	comp=Z,0.8nm,0.7s,baz=2.6,slow=6.4,SNR=3.8								
AAK	**Ala-Archa**	**68.72**	**313**	⇓*e*P		**P**	**09 40 18.7**	**+0.1**
AAK				pmax		pmax			
	comp=Z,9.0nm,1.1s								
AKTO	**Aktyubinsk**	**68.74**	**328**	P		**P**	**09 40 16.5**	**-1.8**
AKTO				*PP		**pP**	**09 40 44.8**	**-1.6**
AKTO				pmax		pmax			
	comp=Z,4.0nm,0.6s								
AKTO				pmax		pmax			
	comp=Z,1.0nm,0.7s								
AKTO	**Aktyubinsk**	**68.74**	**328**	P		**P**	**09 40 16.5**	**-1.8**
AKTO				pP		**pP**	**09 40 44.8**	**-1.6**
AKTO	**Aktyubinsk**	**68.74**	**328**	P		**P**	**09 40 16.5**	**-1.8**
	comp=Z,3.8nm,0.6s,baz=58,slow=7.7,SNR=14								
AKTO				pP		**pP**	**09 40 44.8**	**-1.6**
	comp=Z,1.4nm,0.7s,baz=24,slow=7.8,SNR=2.7								
CMAR	**Chiang Mai Arr**	**74.16**	**280**	P		**P**	**09 40 52.0**	**+0.7**
CMAR	**Chiang Mai Arr**	**74.16**	**280**	P		**P**	**09 40 52.0**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=25,slow=7.1,SNR=5.1								
CLL	**Collm**	**76.60**	**356**	*e*P		**P**	**09 41 07.0**	**+2.3**
GERES	**GERESS Array B**	**79.02**	**355**	P		**P**	**09 41 17.7**	**-0.7**
GERES	**GERESS Array B**	**79.02**	**355**	P		**P**	**09 41 17.7**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=28,slow=6.7,SNR=5.2								
WRA	**Warramunga Arr**	**85.05**	**228**	P		**P**	**09 41 49.5**	**-0.6**
WRA				pP		**pP**	**09 42 17.4**	**-1.6**
WRA	**Warramunga Arr**	**85.05**	**228**	P		**P**	**09 41 49.5**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=36,slow=6.0,SNR=34								
WRA				pP		**pP**	**09 42 17.4**	**-1.6**
	comp=Z,0.5nm,0.9s,baz=35,slow=6.0,SNR=1.7								
BRTR	**Keskin Array B**	**85.34**	**339**	P		**P**	**09 41 51.2**	**-0.4**
BRTR	**Keskin Array B**	**85.34**	**339**	P		**P**	**09 41 51.2**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=89,slow=1.4,SNR=4.2								
FITZ	**Fitzroy Crossi**	**87.70**	**236**	P		**P**	**09 42 03.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**87.70**	**236**	P		**P**	**09 42 03.3**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=25,slow=6.3,SNR=8.9								
ASAR	**Alice Springs**	**88.48**	**227**	P		**P**	**09 42 07.0**	**+0.3**
ASAR				pP		**pP**	**09 42 35.3**	**-0.5**
ASAR				sP		**sP**	**09 42 45.6**	**-2.2**
ASAR	**Alice Springs**	**88.48**	**227**	P		**P**	**09 42 07.0**	**+0.3**
	comp=Z,4.3nm,0.7s,baz=27,slow=4.9,SNR=49								
ASAR				pP		**pP**	**09 42 35.3**	**-0.5**
	comp=Z,0.7nm,1.0s,baz=33,slow=7.0,SNR=1.5								
ASAR				sP		**sP**	**09 42 45.6**	**-2.2**
	comp=Z,0.7nm,0.9s,baz=26,slow=5.5,SNR=2.1								
STKA	**Stephens Creek**	**92.59**	**217**	P		**P**	**09 42 25.8**	**+0.3**
STKA	**Stephens Creek**	**92.59**	**217**	P		**P**	**09 42 25.8**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=353,slow=8.1,SNR=4.3								
TORD	**Torodi Ar. Bea**	**114.66**	**5**	PKP		PKPdf	09 47 53.2	-1.1
TORD	**Torodi Ar. Bea**	**114.66**	**5**	PKP		PKPdf	09 47 53.2	-1.1
	comp=Z,0.3nm,0.6s,baz=339,slow=3.1,SNR=2.6								
H03N2	**Juan Fernandez**	**118.27**	**109**	T		T	11 58 24.5		
	baz=316								
H03N1	**Juan Fernandez**	**118.28**	**109**	T		T	11 58 28.6		
	baz=316								
H03N3	**Juan Fernandez**	**118.29**	**109**	T		T	11 58 26.5		
	baz=316,SNR=3.3								
TSUM	**Tsumeb**	**145.83**	**341**	PKPbc		**PKPdf**	**09 48 52.8**	**+0.2**
TSUM	**Tsumeb**	**145.83**	**341**	PKPbc		**PKPdf**	**09 48 52.8**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=324,slow=14,SNR=3.4								
LBTB	**Lobatse**	**149.12**	**325**	PKPbc		**PKPbc**	**09 49 01.9**	**-0.2**
LBTB	**Lobatse**	**149.12**	**325**	PKPbc		**PKPbc**	**09 49 01.9**	**-0.2**
	comp=Z,3.7nm,0.7s,baz=304,slow=3.1,SNR=6.3								
MAW	**Mawson**	**149.27**	**219**	PKPbc		**PKPbc**	**09 49 01.3**	**+0.3**
MAW	**Mawson**	**149.27**	**219**	PKPbc		**PKPbc**	**09 49 01.3**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=20,slow=1.5,SNR=5.3								
BOSA	**Boshof**	**152.52**	**322**	PKPbc		**PKPbc**	**09 49 09.9**	**-0.1**
BOSA	**Boshof**	**152.52**	**322**	PKPbc		**PKPbc**	**09 49 09.9**	**-0.1**
	comp=Z,1.9nm,0.5s,baz=11,slow=2.4,SNR=4.4								

MAN 29 09:52:09,13.57N×120.24E,h39km,mb4.5,ML3.4,MS3.2, 2C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.16**	**1**	*e*P	Pn	09 52 18.2	+0.7
LUBP				*e*S	Sn	09 52 23.3	-1.4
PGP	**Puerto Galera**	**0.69**	**96**	⇑*e*P	Pn	09 52 15.5	-6.9
TGY	**Tagaytay City**	**0.85**	**52**	⇑*i*P	Pn	09 52 28.8	+4.2
SJMP	**San Jose**	**1.40**	**142**	*e*P	Pn	09 52 33.6	+1.6
SJMP				*e*S	Sn	09 52 48.6	-0.6
BUSP	**Coron**	**1.56**	**182**	*e*P	Pn	09 52 36.0	+1.7
ENPP	**El Nido**	**2.49**	**199**	*e*P	Pn	09 52 48.3	+1.3
CUYO	**Cuyo Island**	**2.81**	**164**	*e*P	Pn	09 52 52.3	+0.8
GUIM	**Jordan**	**3.72**	**142**	*e*P	Pn	09 53 06.6	+2.7

IDC 29 10:03:14.6±10.0,15.44S×173.52W,h0km,mb3.4/3, mb1 3.7/3,mb1mx3.5/20,mbtmp3.4/3,Error ellipse: s-maj=452.8km s-min=37.1km az=139.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H11S2	**WAKE ISLAND Hy**	**38.94**	**329**	T	T	10 52 31.1	
	baz=152,slow=0.7,SNR=11						
H11S3	**WAKE ISLAND Hy**	**38.95**	**329**	T	T	10 52 26.8	
	baz=152,slow=0.7,SNR=10.0						
H11S1	**WAKE ISLAND Hy**	**38.96**	**329**	T	T	10 52 31.3	
	baz=152,slow=0.7,SNR=8.1						
H11N3	**WAKE ISLAND Hy**	**39.89**	**331**	T	T	10 53 39.7	
	baz=152,slow=0.7,SNR=6.0						
H11N1	**WAKE ISLAND Hy**	**39.90**	**330**	T	T	10 53 43.0	
	baz=152,slow=0.7,SNR=5.4						
H11N2	**WAKE ISLAND Hy**	**39.91**	**331**	T	T	10 53 42.6	
	baz=152,slow=0.7,SNR=5.8						
WRA	**Warramunga Arr**	**49.72**	**257**	P	P	10 12 09.3	+0.3
	0.3nm,0.9s,baz=94,slow=7.9,SNR=2.9						
ASAR	**Alice Springs**	**49.99**	**252**	P	P	10 12 10.6	-0.5
	0.8nm,0.7s,baz=85,slow=8.4,SNR=10.0						
ILAR	**Eielson Array**	**82.51**	**11**	P	P	10 15 38.8	0.0
	0.2nm,0.5s,baz=224,slow=6.7,SNR=5.4						

IDC 29 10:16:58.9±1.7,15.26S×173.69W,h0km,mb3.6/4, mb1 4.0/4,mb1mx3.7/19,mbtmp3.6/4,Error ellipse: s-maj=109.0km s-min=25.7km az=150.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.29**	**54**	P	Pn	10 17 32.0	-6.0
	6.8nm,0.3s,baz=116,slow=5.6,SNR=12						
AFI				Sn	Sn	10 17 55.0	-12
	37nm,0.3s,baz=202,slow=23,SNR=13						
WRA	**Warramunga Arr**	**49.60**	**257**	P	P	10 25 52.2	-0.1
	0.3nm,0.5s,baz=94,slow=6.8,SNR=15						
WRA				PcP	PcP	10 27 14.4	+0.3
	0.3nm,0.9s,baz=107,slow=3.2,SNR=3.1						
ASAR	**Alice Springs**	**49.89**	**252**	P	P	10 25 54.1	-0.4
	3.9nm,0.7s,baz=85,slow=7.9,SNR=74						
TXAR	**Lajitas Array**	**80.77**	**56**	P	P	10 29 14.7	-0.1
	0.6nm,0.6s,baz=240,slow=1.1,SNR=2.2						
ILAR	**Eielson Array**	**82.36**	**11**	P	P	10 29 22.4	+0.1
	0.2nm,0.6s,baz=225,slow=6.8,SNR=5.3						
GERES	**GERESS Array B**	**145.96**	**351**	PKPbc	PKPdf	10 36 39.5	-0.4
	0.5nm,0.5s,baz=337,slow=4.5,SNR=4.0						

IDC 29 10:26:43.5±3.1,30.05S×177.38W,h0km,mb3.5/2, mb1 3.7/2,mb1mx3.5/18,mbtmp3.5/2,Error ellipse: s-maj=61.3km s-min=34.9km az=95.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.92**	**330**	P	Pn	10 27 03.4	-0.4
	169nm,0.3s,baz=292,slow=6.4,SNR=10.0						
RAO				Sn	Sb	10 27 14.7	-0.6
	513nm,0.3s,baz=63,slow=23,SNR=17						
ASAR	**Alice Springs**	**43.66**	**266**	P	P	10 34 50.8	+0.5
	0.4nm,0.6s,baz=104,slow=7.0,SNR=6.4						
WRA	**Warramunga Arr**	**44.62**	**271**	P	P	10 34 57.4	-0.6
	0.3nm,0.4s,baz=110,slow=8.1,SNR=24						
FINES	**FINESS Array B**	**145.00**	**341**	PKPbc	PKPbc	10 46 20.8	-0.6
	2.5nm,0.8s,baz=41,slow=2.6,SNR=4.1						

*CSEM **29** 10:32:39.9±0.2,41.93N×19.40E,h10km,ML2.3/10,Error ellipse: s-maj=4.5km s-min=3.0km az=27.0*
*TIR **29** 10:32:39.3±0.6,41.98N×19.37E,h15km±18km,ML2.9*
*PDG **29** 10:32:40.6±0.2,41.97N×19.38E,h10km,MD2.3/2, ML2.3/10,Error ellipse: s-maj=0.6km s-min=0.5km az=90.0*
*BEO **29** 10:32:41.0±0.4,41.94N×19.44E,h11km±2km,ML1.9/7*

ISC 29 10:32:40.3±0.9,41.94N±0.03×19.39E±0.02,h11km±6km, n41,σ0.75/81,7C-9D,Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ULC	**Ulcinj**	**0.11**	**280**	⇑*i*Pg	**Pg**	**10 32 43.0**	**-0.2**
ULC				*e*Sg	**Sg**	**10 32 45.1**	**-0.1**
ULC	**Ulcinj**	**0.11**	**280**	⇑*i*Pg	**Pg**	**10 32 43.0**	**-0.2**
ULC				*e*Sg	**Sg**	**10 32 45.1**	**-0.1**
DRME	**Dracevica, Mon**	**0.28**	**328**	⇑*i*Pg	**Pg**	**10 32 46.0**	**-0.1**
DRME				*e*Sg	**Sg**	**10 32 49.8**	**-0.2**
DRME	**Dracevica, Mon**	**0.28**	**328**	⇑*i*Pg	**Pg**	**10 32 46.0**	**-0.1**
DRME				*e*Sg	**Sg**	**10 32 49.8**	**-0.2**
PUK	**Puka**	**0.39**	**75**	*i* PG	**Pg**	**10 32 47.7**	**-0.4**
PUK				*i* SG	**Sg**	**10 32 54.0**	**+0.7**
PUK	**Puka**	**0.39**	**75**	*i* Pg	**Pg**	**10 32 47.7**	**-0.4**
	SNR=9.0						
PUK				*i* Sg	**Sg**	**10 32 54.0**	**+0.7**
	SNR=9.0						
PDG	**Podgorica**	**0.49**	**349**	*e*Pg	**Pg**	**10 32 49.7**	**-0.3**
PDG	**Podgorica**	**0.49**	**349**	*e*Pg	**Pg**	**10 32 49.7**	**-0.3**
PDG				*e*Sg	**Sb**	**10 32 57.4**	**-0.9**
TTG	**Podgorica**	**0.49**	**349**	⇑*i*Pg	**Pg**	**10 32 49.4**	**-0.6**
TTG				*e*Sg	**Sb**	**10 32 57.4**	**-0.9**
BUM	**Brajici-Budva**	**0.51**	**314**	⇓*i*Pg	**Pg**	**10 32 50.1**	**-0.2**
BUM				*e*Sg	**Sg**	**10 32 57.3**	**+0.2**
BUM	**Brajici-Budva**	**0.51**	**314**	⇓*i*Pg	**Pg**	**10 32 50.1**	**-0.2**
BUM				*e*Sg	**Sg**	**10 32 57.3**	**+0.2**
BCI	**Bajram Curri**	**0.66**	**50**	*i* PG	**Pg**	**10 32 52.5**	**-0.6**
BCI				*i* SG	**Sb**	**10 33 02.2**	**-0.8**
BCI	**Bajram Curri**	**0.66**	**50**	*i* Pg	**Pg**	**10 32 52.5**	**-0.6**
	SNR=9.0						
BCI				*i* Sg	**Sb**	**10 33 02.2**	**-0.8**
	SNR=9.0						
TIR	**Tirane**	**0.70**	**149**	*e*Pg	**Pg**	**10 32 52.9**	**-0.9**
TIR				*e*Sg	**Sg**	**10 33 04.0**	**+1.1**
TIR	**Tirane**	**0.70**	**149**	*e*Pg	**Pg**	**10 32 52.9**	**-0.9**
TIR				*e*Sg	**Sg**	**10 33 04.0**	**+1.1**
PVY	**Plav**	**0.78**	**33**	⇓*i*Pg	**Pg**	**10 32 54.8**	**-0.5**
PVY				*e*Sg	**Sb**	**10 33 06.9**	**+0.4**
PHP	**Peshkopia**	**0.83**	**108**	*i* PG	**Pg**	**10 32 55.4**	**-0.9**
PHP				*i* SG	**Sb**	**10 33 08.7**	**+0.7**
PHP	**Peshkopia**	**0.83**	**108**	*i* Pg	**Pg**	**10 32 55.4**	**-0.9**
	SNR=9.0						
PHP				*i* Sg	**Sb**	**10 33 08.7**	**+0.7**
	SNR=9.0						
HCY	**Herceg Novi**	**0.83**	**307**	⇓*i*Pg	**Pg**	**10 32 55.5**	**-0.9**
HCY				*e*Sg	**Sb**	**10 33 08.8**	**+0.8**
HCY	**Herceg Novi**	**0.83**	**307**	⇓*i*Pg	**Pg**	**10 32 55.5**	**-0.9**
HCY				*e*Sg	**Sb**	**10 33 08.8**	**+0.8**
NKME	**Niksic**	**0.88**	**339**	⇓*i*Pg	**Pg**	**10 32 56.3**	**-1.0**
NKME				*e*Sg	**Sb**	**10 33 10.0**	**+0.5**
NKME	**Niksic**	**0.88**	**339**	⇓*i*Pg	**Pg**	**10 32 56.3**	**-1.0**
NKME				*e*Sg	**Sb**	**10 33 10.0**	**+0.5**
NKY	**Niksic**	**0.92**	**342**	*e*Pg	**Pg**	**10 32 57.2**	**-0.8**
NKY				*e*Sg	**Sn**	**10 33 11.4**	**-1.1**
NKY	**Niksic**	**0.92**	**342**	*e*Pg	**Pg**	**10 32 57.2**	**-0.8**
NKY				*e*Sg	**Sn**	**10 33 11.4**	**-1.1**
BEY	**Berane**	**1.00**	**22**	⇓*i*Pg	**Pg**	**10 32 59.5**	**-0.1**
BEY				*e*Sg	**Sn**	**10 33 13.9**	**-0.6**
IVA	**Berane**	**1.00**	**22**	⇓*i*Pg	**Pg**	**10 32 59.5**	**-0.1**
IVA				*e*Sg	**Sn**	**10 33 13.9**	**-0.6**
TREB	**Trebinje**	**1.09**	**316**	*e*Pg	**Pb**	**10 33 01.0**	**-0.2**
TREB				*e*Sg	**Sn**	**10 33 17.6**	**+1.0**
TREB	**Trebinje**	**1.09**	**316**	*e*Pg	**Pb**	**10 33 01.0**	**-0.2**
TREB				*e*Sg	**Sn**	**10 33 17.6**	**+1.0**
UPM	**Unac-Piva**	**1.31**	**344**	⇑*i*Pg	**Pn**	**10 33 04.2**	**-0.5**
UPM				*e*Sg	**Sg**	**10 33 24.3**	**+1.9**
UPM	**Unac-Piva**	**1.31**	**344**	⇑*i*Pg	**Pn**	**10 33 04.2**	**-0.5**
UPM				*e*Sg	**Sg**	**10 33 24.3**	**+1.9**
SJES	**Sjenica**	**1.39**	**18**	*e*Pg	**Pn**	**10 33 05.9**	**+0.2**
SJES				*e*Sg	**Sg**	**10 33 26.0**	**+1.1**
SJES	**Sjenica**	**1.39**	**18**	*e*Pg	**Pn**	**10 33 05.9**	**+0.2**
SJES				*e*Sg	**Sg**	**10 33 26.0**	**+1.1**
STON	**Ston**	**1.56**	**307**	*e*Pn	**Pn**	**10 33 07.8**	**-0.2**
STON				Sn	**Sg**	**10 33 30.6**	**+0.2**
STON	**Ston**	**1.56**	**307**	*e*Pn	**Pn**	**10 33 07.7**	**-0.2**
STON				Sn	**Sg**	**10 33 30.5**	**+0.2**
SELS	**Selova**	**1.81**	**45**	*e*Pg	**Pn**	**10 33 12.3**	**+0.9**
SELS				*e*Sg	**Sg**	**10 33 37.7**	**-0.7**
BBLS	**Lazići**	**1.92**	**0**	*e*Pn	**Pn**	**10 33 13.7**	**+0.7**
BBLS				*e*Sn	**Sn**	**10 33 36.8**	**-0.4**
BBLS	**Lazići**	**1.92**	**0**	*e*Pn	**Pn**	**10 33 13.7**	**+0.7**
BBLS				*e*Sn	**Sn**	**10 33 36.8**	**-0.4**
DIVS	**Divibare**	**2.20**	**11**	*e*Pn	**Pn**	**10 33 17.9**	**+1.0**
DIVS				*e*Sn	**Sn**	**10 33 44.4**	**+0.3**
DIVS	**Divibare**	**2.20**	**11**	*e*Pn	**Pn**	**10 33 17.9**	**+1.0**
DIVS				*e*Sn	**Sn**	**10 33 44.4**	**+0.3**
ZAPS	**Zavoj**	**2.74**	**60**	*e*Pn	**Pn**	**10 33 25.1**	**+0.8**
ZAPS				*e*Sn	**Sn**	**10 33 56.3**	**-1.1**
ZAPS	**Zavoj**	**2.74**	**60**	*e*Pn	**Pn**	**10 33 25.1**	**+0.8**
ZAPS				*e*Sn	**Sn**	**10 33 56.3**	**-1.1**

*IDC **29** 10:52:53.5±0.5,18.92N×95.55W,h0km,mb4.9/29, mb1 5.1/34,mb1mx5.1/35,mbtmp4.9/34,ML4.8/4,MS5.2/40, Ms1 5.2/40,ms1mx5.1/49,Error ellipse: s-maj=18.2km s-min=9.6km az=57.0*
*BJI **29** 10:52:56.2,19.10N×95.50W,h10km,mB5.9/17,Ms5.5/19, Ms7 5.3/20*
*NEIC **29** 10:52:56.5±1.1,18.91N×95.54W,h16km±6km,mb5.5/179, MS5.3/140,MD5.5(MEX),Error ellipse: s-maj=3.4km s-min=2.5km az=212.0*
NEIC Felt [IV] at Boca del Rio; [III] at Oaxaca and Veracruz; [II] at Catemaco, Cordoba, Jalapa and Tampico. Also felt at Altamira, Coatepec, Huajuapan, Mitla, Pachuca, Poza Rica, Santiago Tuxtla, Tlacotalpan, Tuxtla and Villahermosa.
*ISCJB **29** 10:52:57.5±0.5,19.01N±0.02×95.50W±0.02,h30km±3km, mb5.4/252,MS5.3/220,Error ellipse: s-maj=3.8km s-min=1.9km az=41.5*
*MOS **29** 10:52:57.3±0.8,19.00N×95.50W,h29km,mb6.0/70, MS5.3/34,Error ellipse: s-maj=6.0km s-min=4.1km az=89.5*
*BGS **29** 10:52:57.2±1.6,19.53N×95.52W,h10km,mb5.8,MS5.3*
*MEX **29** 10:52:58.9±0.8,18.95N×95.69W,h20km±18km,MD5.5*
*GCMT **29** 10:53:00.2±0.1,19.14N×95.58W,h17km,MW5.7, Moment Tensor Solution. s106,c208; s47,c52; Moment tensor: Scale 10^17^Nm; Mrr3.07±.04; Mθθ-0.71±.03; Mφφ-2.36±.03; Mrθ0.63±.08; Mrφ1.76±.03; Mθφ-3.44±.12; Best double couple: Mo4.80000×10^17^ NP1:φs164.00000°, δ69.00000°, λ103.00000°. NP2:φs310.00000°, δ25.00000°, λ59.00000°. Principal axes: T 4.7500, Plg64.0000°, Azm95.0000°; N 0.1200, Plg12.0000°, Azm339.0000°; P -4.8600, Plg23.0000°, Azm244.0000°; Data Used: II IU IC G CN. Surface waves: sta=116, comp=235, per= 50.*
*SZGRF **29** 10:53:01.7,19.27N×95.06W,h33km,mb5.9,MS5.5, Veracruz, Mexico*

ISC 29 10:52:56.7±0.3,18.95N±0.03×95.63W±0.03,h18km±3km, n1373,σ1.33/1319,mb5.5/256,MS5.3/221,363C-210D, Veracruz

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVIG	**Laguna Verde**	**1.07**	**316**	*e*P	**Pb**	**10 53 14.6**	**-2.2**
LVIG				*i* S	**Sb**	**10 53 27.5**	**-3.0**
LVIG	**Laguna Verde**	**1.07**	**316**	*e*P	**Pb**	**10 53 14.6**	**-2.2**
LVIG				*i* S	**Sb**	**10 53 27.5**	**-3.0**
TUIG	**Tuzandepetl**	**1.46**	**128**	*e*P	**Pn**	**10 53 21.9**	**-0.4**
TUIG				*i* S	**Sn**	**10 53 40.5**	**-0.5**
TUIG	**Tuzandepetl**	**1.46**	**128**	*e*P	**Pn**	**10 53 21.9**	**-0.4**
TUIG				*i* S	**Sn**	**10 53 40.5**	**-0.5**
TPIG	**Tehuac#an**	**1.73**	**252**	*i* P	**Pn**	**10 53 24.1**	**-2.0**
TPIG				*i* S	**Sn**	**10 53 44.6**	**-3.2**
TPIG	**Tehuac#an**	**1.73**	**252**	*i* P	**Pn**	**10 53 24.1**	**-2.0**
TPIG				*i* S	**Sn**	**10 53 44.6**	**-3.2**
VHO	**Vista Hermosa**	**2.15**	**210**	*e*P	**Pn**	**10 53 31.1**	**-0.7**
VHO				*i* S	**Sn**	**10 53 55.6**	**-2.5**
VHO	**Vista Hermosa**	**2.15**	**210**	*e*P	**Pn**	**10 53 31.1**	**-0.7**
VHO				*i* S	**Sn**	**10 53 55.6**	**-2.5**
PPM	**Popocatepetl**	**2.84**	**273**	*e*P	**Pn**	**10 53 43.0**	**+1.3**
PPM				*i* S	**Sn**	**10 54 12.8**	**-2.9**
PPM	**Popocatepetl**	**2.84**	**273**	*e*P	**Pn**	**10 53 43.0**	**+1.3**
PPM				*i* S	**Sn**	**10 54 12.8**	**-2.9**
PPM	**Popocatepetl**	**2.84**	**273**	*e*P	**Pn**	**10 53 43.0**	**+1.3**
PPM				*i* S	**Sn**	**10 54 12.8**	**-2.9**
IIO	**Organos**	**2.99**	**283**	*e*P	**Pn**	**10 53 44.2**	**+0.5**
IIO	**Organos**	**2.99**	**283**	*e*P	**Pn**	**10 53 44.2**	**+0.5**
HUIG	**Huatulco**	**3.20**	**188**	*e*P	**Pn**	**10 53 44.9**	**-1.2**
HUIG				*i* S	**Sn**	**10 54 21.5**	**-2.4**
HUIG	**Huatulco**	**3.20**	**188**	*e*P	**Pn**	**10 53 44.9**	**-1.2**
HUIG				*i* S	**Sn**	**10 54 21.5**	**-2.4**
TGIG		**3.22**	**132**	*e*P

baz=12,SNR=29
532A Rockspring 11.79 342 ⇓P Pn 10 55 43.2 -0.9
baz=12,SNR=147
531A Rockspring 12.03 339 ⇓P Pn 10 55 47.1 -0.2
baz=12,SNR=68
JCT Junction City 12.09 343 eP Pn 10 55 47.9 -0.3
JCT Junction City 12.09 343 ePn Pn 10 55 47.9 -0.3
JCT Junction City 12.09 343 ⇓P Pn 10 55 47.7 -0.5
baz=12,SNR=44
530A J-C Ranch, Com 12.30 336 ⇑P Pn 10 55 51.7 +0.6
baz=12,SNR=20
SOR Soroa 12.40 70 eP Pn 10 55 48.7 -3.7
baz=260
SOR eS Sn 10 57 55.1 -15
comp=N,3µm,0.4s
SOR e
comp=E,4µm,1.1s
628A Black Gap, Mar 12.40 329 ⇑P Pn 10 55 54.0 +1.6
baz=12,SNR=23
432A Menard 12.46 343 ⇓P Pn 10 55 52.4 -0.8
baz=13,SNR=46
432A ⇓S Sn 10 57 59.0 -13
baz=13
431A Sonora 12.52 340 ⇓P Pn 10 55 54.7 +0.5
baz=13,SNR=53
627A Terlingua Ranc 12.62 327 ⇑P Pn 10 55 57.3 +1.8
baz=13,SNR=7.3
529A Stev Forest Ra 12.63 333 ⇓P Pn 10 55 56.4 +0.7
baz=13,SNR=30
TXAR Lajitas Array 12.67 326 Pn Pn 10 55 57.9 +1.7
TXAR Lajitas Array 12.67 326 Pn Pn 10 55 57.9 +1.7
comp=E,0.7nm,0.3s,baz=144,slow=15,SNR=26
NATX Nacogdoches 12.78 4 ePn Pn 10 55 55.5 -2.1
430A Baggett Ranch, 12.83 338 ⇓P Pn 10 55 58.9 +0.5
baz=13,SNR=50
528A Cox Ranch, San 12.92 331 ⇓P Pn 10 56 00.9 +1.2
baz=13,SNR=24
332A Millersview 12.93 344 ⇑P Pn 10 55 57.5 -2.1
baz=13,SNR=14
332A ⇑S Sn 10 58 10.4 -13
baz=13
429A Davenport Ranc 12.94 335 ⇓P Pn 10 56 00.4 +0.6
baz=13,SNR=15
331A San Angelo 13.05 342 ⇑P Pn 10 56 00.5 -0.8
baz=13,SNR=23
VCR Vista de Mar 13.05 131 eP Pn 10 56 02.6 +1.0
VCR Vista de Mar 13.05 131 eP Pn 10 56 02.6 +1.0
WHTX Lake Whitney 13.09 353 ePn Pn 10 56 02.3 +0.4
WHTX Lake Whitney 13.09 353 ⇓P Pn 10 56 02.0 +0.2
baz=13,SNR=34
626A Big Bend Ranch 13.09 325 ⇑P Pn 10 56 05.0 +3.0
baz=13,SNR=21
527A Woodward Ranch 13.30 328 ⇓P Pn 10 56 07.8 +3.0
baz=13
428A Kincaid Ranch, 13.35 333 ⇑P Pn 10 56 06.7 +1.1
baz=14,SNR=41
330A Mertzon 13.38 339 ⇓P Pn 10 56 06.6 +0.8
baz=14,SNR=56
232A Coleman 13.38 345 P Pn 10 56 03.8 -2.1
baz=14,SNR=41
JTS JuntasAbangare 13.44 128 ePn Pn 10 56 07.7 +0.9
JTS JuntasAbangare 13.44 128 Pn Pn 10 56 08.0 +1.3
comp=E,608nm,0.5s,SNR=12
JTS JuntasAbangare 13.44 128 Pn Pn 10 56 05.2 -1.5
comp=E,4.0nm,0.3s,baz=305,slow=6.7,SNR=16
526A Mary Lane Ranc 13.47 327 ⇑P Pn 10 56 09.9 +2.7
baz=14,SNR=16
231A Bronte 13.60 343 ⇓P Pn 10 56 09.0 +0.1
baz=14,SNR=8.4
JCR Jicaral 13.62 130 eP Pn 10 56 10.4 +1.3
JCR Jicaral 13.62 130 eP Pn 10 56 10.4 +1.3
329A Wagon Wheel Ra 13.74 337 ⇓P Pn 10 56 11.4 +0.7
baz=14,SNR=21
427A Hayter Ranch, 13.78 331 ⇑P Pn 10 56 13.9 +2.6
baz=14,SNR=37
230A Sterling City 13.80 340 ⇑P Pn 10 56 12.4 +0.8
baz=14,SNR=14
426A McDonald Obser 13.93 328 ⇑P Pn 10 56 17.2 +3.6
baz=14,SNR=61
328A Wristen Ranch, 13.97 334 ⇓P Pn 10 56 15.4 +1.4
baz=14
CGA2 Cerro Gallo 2 13.98 128 eP Pn 10 56 17.2 +3.0
CGA2 Cerro Gallo 2 13.98 128 eP Pn 10 56 17.2 +3.0
VBMS Vicksburg 13.99 18 ePn Pn 10 56 10.2 -3.8
comp=E,228nm,0.3s
ABTX Abilene, Hawle 14.09 346 ePn Pn 10 56 14.3 -1.1
ABTX Abilene, Hawle 14.09 346 ⇓P Pn 10 56 13.6 -1.9
baz=14,SNR=40
229A Bryant Ranch, 14.11 338 ⇑P Pn 10 56 17.1 +1.3
baz=14
BRAL Brewton 14.29 31 ePn Pn 10 56 16.1 -2.1
131A Roby 14.32 344 ⇑P Pn 10 56 17.9 -0.8
baz=14,SNR=6.8
131A ⇓S Sn 10 58 44.1 -13
baz=14
130A Snyder 14.41 342 ⇓P Pn 10 56 18.2 -1.7
baz=14,SNR=21
326A Caldwell Ranch 14.44 330 ⇑P Pn 10 56 22.8 +2.4
baz=15,SNR=35
425A Indio Mountain 14.52 326 ⇑P Pn 10 56 24.2 +2.7
baz=15,SNR=26
228A UT Block 9, Go 14.53 336 ⇓P Pn 10 56 24.1 +2.5
baz=15,SNR=18
LPIG La Paz 14.59 293 Pn Pn 10 56 22.8 +0.4
LPIG La Paz 14.59 293 Pn Pn 10 56 22.8 +0.4
baz=115,slow=19,SNR=3.0
LPIG LR LR 11 02 13.7
comp=E,11µm,18.1s,baz=105,slow=38
QCR Quepos 14.59 129 eP Pn 10 56 25.0 +2.5
QCR Quepos 14.59 129 eP Pn 10 56 25.0 +2.5
URSC Urasca 14.62 127 eP Pn 10 56 24.3 +1.3
URSC Urasca 14.62 127 eP Pn 10 56 24.3 +1.3
Z32A Haskell 14.71 347 ⇓P Pn 10 56 22.8 -1.1
baz=15,SNR=42
227A Bennet, Jal 14.72 334 ⇑P Pn 10 56 24.9 +0.6
baz=15,SNR=8.9
129A Stewart Farms, 14.73 339 ⇑P Pn 10 56 25.2 +0.9
baz=15,SNR=22
BUS Buena Vista 14.81 127 eP Pn 10 56 27.0 +1.2
BUS Buena Vista 14.81 127 eP Pn 10 56 27.0 +1.2
Z31A Sharp Cattle R 14.87 345 ⇑P Pn 10 56 25.4 -0.8
baz=15,SNR=35
128A Castleberry Fa 14.94 337 ⇑P Pn 10 56 27.6 +0.4
baz=15
325A Bean Ranch, Si 14.97 327 ⇑P Pn 10 56 29.5 +1.7
baz=15,SNR=22
MGV Manicaragua 14.99 75 eP Pn 10 56 23.1 -4.7
Z30A Sanderson Ranc 15.10 342 ⇑P Pn 10 56 28.4 -0.9
baz=15,SNR=40
226B Tecolote Peak, 15.16 331 ⇓P Pn 10 56 32.6 +2.4
baz=15,SNR=25
Z29A Hungry Hill Ra 15.25 340 ⇓P Pn 10 56 31.2 -0.1
baz=15,SNR=91
324A Moseley Ranch, 15.29 326 ⇓P Pn 10 56 34.1 +2.1
baz=15,SNR=30
127A Arkansas Junct 15.33 335 ⇑P Pn 10 56 32.5 +0.1
baz=15,SNR=17
GDL2 Guadalupe Moun 15.36 331 eP P 10 56 37.0 -0.3
Y32A R-V Farms, Ver 15.37 348 P Pn 10 56 32.5 -0.3
baz=16,SNR=22
MNTX Cornudas Mount 15.44 327 ePn P 10 56 36.6 -1.7
comp=E,18nm,1.0s
225A Deer Hill, Car 15.50 329 ⇓P Pn 10 56 36.2 +1.6
baz=16,SNR=40
Z28A Tucker Farm, M 15.51 338 ⇑P Pn 10 56 34.8 +0.1
baz=16,SNR=31
Y31A Rekieta Farm, 15.51 345 P Pn 10 56 34.5 -0.1
baz=16,SNR=32
126A Clayton Basin, 15.58 333 ⇑P Pn 10 56 36.6 +1.0
baz=16,SNR=20
Y30A Stafford Cattl 15.59 343 ⇑P Pn 10 56 35.6 -0.1
baz=16,SNR=23
MIAR Mount Ida 15.64 6 eP Pn 10 56 35.1 -1.2
MIAR pmax pmax
comp=Z,362nm,0.4s
MIAR Mount Ida 15.64 6 ePn Pn 10 56 35.1 -1.2
comp=Z,362nm,0.4s
Y29A Porterfield Fa 15.80 341 ⇑P Pn 10 56 38.3 -0.2
baz=16,SNR=28
224A Cornudas Mount 15.82 328 ⇑P P 10 56 41.2 -1.3
baz=16,SNR=56
Z27A Tatum 15.84 336 P Pn 10 56 39.5 +0.6
baz=16,SNR=68
125A Gardner Draw, 15.88 331 ⇑P Pn 10 56 40.8 +1.3
baz=16,SNR=62
WMOK Wichita Mounta 15.97 351 eP Pn 10 56 40.4 -0.2
WMOK pmax pmax
comp=Z,131nm,0.5s
WMOK Wichita Mounta 15.97 351 ePn Pn 10 56 40.4 -0.2
comp=Z,131nm,0.5s
WMOK eSn Sn 10 59 22.4 -15
LRAL Lakeview Retre 16.02 27 ePn Pn 10 56 36.4 -4.7
comp=Z,29nm,1.0s
LRAL eSn Sn 10 59 19.5 -19
Y28A McKinney Farm, 16.03 340 ⇑P Pn 10 56 41.8 +0.4
baz=16,SNR=59
UALR University of 16.03 10 ePn Pn 10 56 39.2 -2.1
comp=Z,276nm,0.4s
X31A McDonald Ranch 16.09 347 ⇑P Pn 10 56 42.3 +0.1
baz=16,SNR=32
Z26A Caprock 16.10 334 ⇑P Pn 10 56 43.9 +1.5
baz=16,SNR=56
X30A Coker Ranch, T 16.12 344 ⇓P Pn 10 56 42.8 +0.2
baz=16,SNR=19
223A Chaparral, Ant 16.23 325 ⇑P P 10 56 46.1 -1.0
baz=16
MSTX Muleshoe 16.26 338 ePn Pn 10 56 44.9 +0.5
MSTX Muleshoe 16.26 338 ⇑P Pn 10 56 45.0 +0.7
baz=16,SNR=45
124A Stringfield Ra 16.29 329 ⇑P P 10 56 46.6 -1.2
baz=16,SNR=24
Y27A Causey 16.32 337 ⇑P Pn 10 56 46.1 +0.9
baz=16,SNR=60
X29A Tulia 16.35 342 ⇑P Pn 10 56 45.6 +0.1
baz=16,SNR=40
Z25A Roswell 16.43 332 ⇑P Pn 10 56 47.7 +1.2
baz=16,SNR=53
OXF Oxford 16.46 18 eP Pn 10 56 42.7 -4.1
OXF pmax pmax
comp=Z,520nm,1.1s
OXF Oxford 16.46 18 ePn Pn 10 56 42.6 -4.1
comp=Z,520nm,1.1s
TIGA Tifton 16.51 39 ePn Pn 10 56 42.1 -5.4
TIGA Tifton 16.51 39 ⇑P Pn 10 56 43.8 -3.7
baz=16,SNR=40
X28A Dimmitt 16.57 341 ⇓P Pn 10 56 48.5 +0.1
baz=17,SNR=46
Y26A Elida 16.61 335 ⇑P Pn 10 56 50.0 +1.1
baz=17,SNR=10
W31A Holland Ranch, 16.62 348 P Pn 10 56 48.6 -0.2
baz=17,SNR=34
222A Williams Famil 16.68 324 ⇓P P 10 56 51.4 -0.6
baz=17,SNR=31
W30A Crocket Farms 16.75 346 ⇓P P 10 56 52.2 -0.6
baz=17,SNR=7.2
AMTX Amarillo 16.75 342 ePn Pn 10 56 49.7 -1.0
comp=Z,180nm,0.6s
AMTX Amarillo 16.75 342 ⇓P Pn 10 56 50.8 +0.2
baz=17
Z24A Sheeppen Canyo 16.76 331 ⇑P P 10 56 52.7 -0.3
baz=17,SNR=39
TUL1 Tulsa 16.89 360 ePn Pn 10 56 51.2 -1.2
TUL1 Tulsa 16.89 360 ⇑P Pn 10 56 51.0 -1.3
baz=17,SNR=67
Y25A Mesa, Roswell 16.96 333 ⇑P P 10 56 55.5 +0.3
baz=17,SNR=58
320A Kipp Ranch, An 16.97 319 ⇑P P 10 56 55.2 0.0
baz=17,SNR=14
W29A Amraillo 16.97 343 ⇓P Pn 10 56 53.3 -0.1
baz=17,SNR=29
X27A F and S Farms, 16.98 338 ⇓P Pn 10 56 54.5 +0.9
baz=17,SNR=32
MCJ Mann 17.05 91 i P P 10 56 57.4 +1.2
122A Conniff Cattle 17.08 326 ⇓P P 10 56 57.1 +0.6
baz=17,SNR=7.2
HBAR Harrisburg 17.11 14 ePn Pn 10 56 53.0 -2.0
Z23A Rita Site, Whi 17.12 328 ⇑P P 10 56 57.9 +0.9
baz=17,SNR=18
X26A CR and CF Fran 17.16 337 ⇑P P 10 56 56.6 -0.7
baz=17,SNR=55
V31A Spring Creek L 17.17 348 ⇓P Pn 10 56 56.2 +0.4
baz=17,SNR=18
MTDJ Mount Denham 17.17 89 ePn Pn 10 56 56.3 +0.4
comp=Z,13µm,3.0s
W28A Vega 17.26 342 ⇓P P 10 56 58.1 -0.3
baz=17,SNR=16
Y24A Capitan 17.29 332 ⇑P P 10 56 59.4 +0.5
baz=17,SNR=24
V30A Spur Ranch, Mi 17.33 346 ⇑P Pn 10 56 58.1 +0.2
baz=18
W27A Bowe Ranch, En 17.35 339 ⇓P Pn 10 56 58.5 +0.3
baz=18,SNR=32
220A Playas Peak, P 17.36 320 ⇓P P 10 56 60.0 +0.4
baz=18,SNR=22
121A Cookes Peak, D 17.38 323 ePn P 10 57 01.9 +2.0
121A Cookes Peak, D 17.38 323 ⇓P P 10 57 00.4 +0.5
baz=18,SNR=34
319A Douglas 17.46 318 ⇑P P 10 57 01.3 +0.5
baz=18,SNR=13
X25A Clemmons Ranch 17.47 334 ⇓P P 10 57 02.3 +1.5
baz=18,SNR=16
Z22A Elephant Butte 17.49 327 ⇑P P 10 57 02.1 +1.1
baz=18,SNR=52
PCJ Portland Cotta 17.57 91 i P P 10 57 03.0 +1.1
Y23A Lovelace Mesa, 17.58 330 ⇓P P 10 57 03.3 +1.2
baz=18,SNR=77
LMGC Las Mercedes 17.59 83 eP P 10 57 02.6 +0.5
baz=273
LMGC eS Sn 11 00 00.7 -16
comp=N,965nm,0.8s
LMGC e
comp=E,1µm,0.1s
W26A Owens Ranch, T 17.62 337 ⇓P P 10 57 02.7 +0.3
baz=18,SNR=39
V29A Stinnett 17.64 344 ⇓P P 10 57 03.1 +0.4
baz=18,SNR=23
GNAR Gosnell 17.66 15 ePn Pn 10 57 00.8 -1.0
comp=E,4µm,0.4s
V28A Channing 17.72 342 ⇑P P 10 57 03.9 +0.3
baz=18,SNR=30
U31A Nine Bar Ranch 17.75 349 ⇑P P 10 57 03.6 -0.2
baz=18,SNR=14
HALT Halls 17.78 17 ePn Pn 10 57 02.8 -0.6
X24A Lazy VL Ranch, 17.83 333 ⇓P P 10 57 05.2 +0.3
baz=18,SNR=7.4
STH Stony Hill 17.87 90 i P P 10 57 06.7 +1.5
120A U Bar Ranch, L 17.88 322 ⇑P P 10 57 06.7 +1.4
baz=18,SNR=20
Z21A St. Cloud Mine 17.90 325 ⇓P P 10 57 07.2 +1.5
baz=18,SNR=12
V27A Dan Oppiter Fa 17.91 341 ⇓P P 10 57 06.1 +0.4
baz=18,SNR=16
HOJ Hope 17.93 90 i P P 10 57 07.0 +1.1
GWJ Greenwich 17.95 90 i P P 10 57 07.7 +1.6
W25A X Bar L Ranch, 18.00 336 ⇓P P 10 57 07.5 +0.9
baz=18,SNR=26
Y22A Socorro 18.03 328 ⇑P P 10 57 08.9 +1.9
baz=18,SNR=54
BNM Barren Site 18.03 329 ePn P 10 57 09.6 +2.4
comp=E,115nm,0.7s
U30A WK&K Inc. Balk 18.06 347 ⇑P Pn 10 57 07.0 +0.1
baz=18,SNR=12
Y22D IRIS PASSCAL I 18.12 328 ⇑P P 10 57 10.3 +2.4
baz=18
BCIP Isla Barro Col 18.13 120 ePn P 10 57 08.2 +0.2
comp=E,1µm,1.8s
U29A Oasis Ranch, S 18.13 345 ⇑P P 10 57 09.9 +2.0
baz=18
GLAT Glass 18.13 17 ePn Pn 10 57 07.7 0.0
LPM Los Pinos Moun 18.17 330 eP P 10 57 12.1 +3.5
X23A Hourglass Bar 18.18 331 ⇓P P 10 57 10.8 +2.1
baz=18
T33A Patterson Ranc 18.21 353 ⇓P P 10 57 10.8 +2.0
baz=18
LENM Lemitar 18.21 329 eP P 10 57 12.6 +3.5
V26A Tequesquite Ra 18.26 338 P P 10 57 10.5 +1.0
baz=18,SNR=37
Z20A Nine Sixteen R 18.27 323 ⇓P P 10 57 12.2 +2.5
baz=18,SNR=33
U28A Mallet 18.31 343 ⇑P P 10 57 11.5 +1.5
baz=18
SWET Sewanee 18.34 26 eP Pn 10 57 06.1 -4.1
comp=E,110nm,0.8s
PBMO Poplar Bluff 18.34 13 ePn Pn 10 57 08.3 -1.8
comp=E,335nm,1.4s
W24A Lazy 6 Ranch, 18.37 334 ⇓P Pn 10 57 12.9 +2.1
baz=18,SNR=59
PARMO Parma 18.39 15 eP Pn 10 57 10.9 +0.1
T32A Huddler Ranch, 18.39 352 ⇑P Pn 10 57 12.1 +1.3
baz=18,SNR=17
T31A Randall Ranch, 18.43 350 ⇑P Pn 10 57 11.5 +0.2
baz=18,SNR=17
WVT Waverly 18.44 20 eP P 10 57 08.7 -2.7
WVT pmax pmax
comp=Z,138nm,0.6s
WVT Waverly 18.44 20 eP P 10 57 08.7 -2.7
comp=Z,138nm,0.6s
Y21A Point of Rocks 18.45 327 ⇓P Pn 10 57 13.7 +1.9
baz=19,SNR=39
LAZ Ladron 18.49 329 eP Pn 10 57 15.2 +3.0
comp=Z,115nm,0.7s
HLGC Holguin 18.50 81 eP Pn 10 57 12.7 +0.4
X22A Bernardo 18.51 329 ⇑P Pn 10 57 15.5 +3.1
baz=19,SNR=46
U27A Thompson Grove 18.52 341 ⇓P Pn 10 57 13.3 +0.7
baz=19,SNR=37
T30A Plains 18.54 348 ⇓P Pn 10 57 14.2 +1.5
baz=19
V25A Rancho No Teng 18.60 337 ⇓P Pn 10 57 14.8 +1.1
baz=19,SNR=36
ANMO Albuquerque 18.61 331 ePn Pn 10 57 16.0 +2.3
comp=Z,52nm,0.6s
ANMO S S 11 00 47.1 +2.1
ANMO Albuquerque 18.61 331 P Pn 10 57 16.2 +2.5
comp=Z,7.8nm,0.3s,baz=142,slow=12,SNR=276
ANMO S S 11 00 47.1 +2.1
comp=Z,0.4nm,0.3s,baz=123,slow=18,SNR=2.0
W23A Werner Place, 18.65 332 ⇓P Pn 10 57 16.1 +1.9
baz=19,SNR=58
S33A Kaszmaul Farm, 18.69 354 ⇑P Pn 10 57 15.3 +0.8
baz=19
Y20A Horse Springs, 18.74 325 ⇑P Pn 10 57 18.0 +2.6
baz=19,SNR=36
V24A Rampart Ranch, 18.76 335 ⇓P Pn 10 57 17.6 +2.0
baz=19,SNR=57
U26A Atchley Ranch, 18.79 339 ⇑P Pn 10 57 16.9 +1.0
baz=19,SNR=40
T29A Hugoton 18.81 346 ⇓P Pn 10 57 16.9 +0.9
baz=19,SNR=14
RCC Rio Carpintero 18.82 84 eP Pn 10 57 16.4 +0.2
baz=272
RCC eS Sn 11 00 27.0 -20
comp=N,387nm,1.6s
RCC e
comp=E,1µm,1.6s
X21A Alamocita Cree 18.84 327 ⇓P Pn 10 57 18.5 +1.8
baz=19,SNR=60
W22A Albuquerque 18.90 330 ⇑P Pn 10 57 18.2 +0.9
baz=19,SNR=12
S32A Newby Ranch, P 18.90 352 ⇑P Pn 10 57 16.8 -0.3
baz=19,SNR=18
S31A Mullinville 18.90 351 ⇓P Pn 10 57 17.3 +0.2
baz=19,SNR=17
T28A Walsh 18.98 344 ⇓P Pn 10 57 17.9 -0.2
baz=19,SNR=22
U25A Circle Dot Ran 19.02 338 ⇓P Pn 10 57 20.3 +1.6
baz=19,SNR=68
TUC Tucson 19.04 317 eP Pn 10 57 20.1 +1.2
TUC pmax pmax
comp=Z,35nm,0.8s
TUC Tucson 19.04 317 eP Pn 10 57 20.1 +1.2
comp=Z,35nm,0.8s
T27A Campo 19.09 342 ⇓P Pn 10 57 20.3 +0.8
baz=19,SNR=62
S30A Montezuma 19.09 348 ⇓P Pn 10 57 20.2 +0.8
baz=19,SNR=54
CPCT Cooper Cave 19.15 29 eP P 10 57 18.5 -0.6
V23A Ortiz Mt. (NFS 19.15 333 ⇑P Pn 10 57 21.7 +1.4
baz=19,SNR=58
S29A Ulysses 19.21 347 ⇓P Pn 10 57 21.8 +1.0
baz=19,SNR=41
W21A San Fidel 19.31 329 ⇓P Pn 10 57 23.0 +0.8
baz=19,SNR=12
S28A Manter 19.36 345 ⇑P Pn 10 57 22.4 -0.3
baz=20,SNR=21
GTBY Guantanamo Bay 19.37 84 eP Pn 10 57 22.6 -0.2
comp=Z,2µm,1.0s
R33A Olander Ranch, 19.40 354 ⇑P Pn 10 57 22.7 -0.4
baz=20,SNR=22
T26A Comanche Natio 19.45 341 ⇓P Pn 10 57 24.1 +0.2
baz=20,SNR=58
SIUC Southern Illin 19.52 15 eP P 10 57 22.9 -0.2
comp=Z,145nm,0.9s
RGRS Roger Stewart 19.61 42 ePn Pn 10 57 26.1 +0.6
V22A San Miguel Ran 19.61 332 ⇓P Pn 10 57 27.0 +1.1
baz=20,SNR=88
U23A El Rito 19.65 334 ⇓P Pn 10 57 27.0 +0.7
baz=20,SNR=81
TKL Tuckaleechee C 19.66 30 P Pn 10 57 25.5 -0.7
TKL S S 11 00 48.0 -18
TKL Tuckaleechee C 19.66 30 P Pn 10 57 25.5 -0.7
comp=Z,5.4nm,0.3s,baz=201,slow=12,SNR=58
TKL S S 11 00 48.0 -18
comp=Z,6.0nm,0.3s,baz=141,slow=18,SNR=5.2
TKL LR LR 11 06 12.6
comp=Z,3µm,20.6s,baz=214,slow=41
R30A Dighton 19.68 349 ⇓P Pn 10 57 26.6 +0.1
baz=20,SNR=38
T25A Trinidad 19.69 339 ⇓P Pn 10 57 27.4 +0.6
baz=20,SNR=62
S27A Las Animas 19.72 343 ⇑P Pn 10 57 26.7 -0.3
baz=20,SNR=10.0
CSU Charleston Sou 19.74 42 ePn Pn 10 57 27.8 +0.7
W20A Ramah 19.74 327 ⇑P Pn 10 57 28.1 +0.7
baz=20,SNR=34
S26A Kim 19.83 341 ⇑P Pn 10 57 28.2 -0.1
baz=20,SNR=39
V21A Milan 19.86 330 ⇑P Pn 10 57 28.9 +0.1
baz=20,SNR=14
JSC Jenkinsville 19.92 37 eP P 10 57 28.1 +0.6
JSC Jenkinsville 19.92 37 ePn P 10 57 28.1 +0.6
T24B San Luis 19.97 337 ⇓P Pn 10 57 30.7 +0.5
baz=20,SNR=20
U22A Llaves 19.98 333 ⇑P Pn 10 57 30.2 +0.1
baz=20,SNR=49
R29A Marienthal 19.99 347 ⇑P Pn 10 57 29.5 -0.6
baz=20,SNR=23
R28A Tribune 20.06 346 ⇑P P 10 57 29.9 +0.7
baz=20,SNR=23
X18A Snowflake 20.07 323 ⇑P Pn 10 57 31.6 +0.3
baz=20,SNR=92
KSU1 Kansas State U 20.10 358 eP P 10 57 29.9 +0.4
comp=Z,242nm,1.0s
KSU1 LR LR
comp=Z,3µm,19.0s
Q32A Meitler Ranch, 20.13 353 ⇑P P 10 57 30.5 +0.6
baz=20,SNR=15
SLM Saint Louis 20.17 12 eP Pn 10 57 31.6 -0.5
SLM pmax pmax
comp=Z,666nm,1.9s
SLM Saint Louis 20.17 12 ePn Pn 10 57 31.6 -0.6
comp=Z,666nm,1.9s
S25A Robets Cordova 20.17 339 ⇓P Pn 10 57 32.1 -0.4
baz=20,SNR=27
214A Organ Pipe Nat 20.17 313 ⇓P Pn 10 57 32.2 -0.1
baz=20,SNR=22
USIN University of 20.18 19 eP Pn 10 57 31.5 -0.8
comp=Z,103nm,0.4s
PAYG Puerto Ayora 20.20 164 P Pn 10 57 33.4 +0.7
comp=Z,136nm,1.3s
PAYG LR LR
comp=Z,10µm,20.0s
MASC Masc 20.20 83 eP Pn 10 57 32.9 +0.3
T23A Casias Ranch, 20.20 335 ⇓P Pn 10 57 32.7 -0.2
baz=20,SNR=31
Q31A Ellis 20.25 351 ⇑P P 10 57 32.0 +0.9
baz=20,SNR=22
R27A Eads 20.25 344 P Pn 10 57 32.5 -0.8
baz=20,SNR=79
V20A Brimhall 20.25 329 ⇓P Pn 10 57 33.6 +0.2
baz=20,SNR=30
Q30A Quinter 20.35 350 P Pn 10 57 33.5 -0.8
baz=20,SNR=40
U21A Nageezi 20.38 331 ⇓P Pn 10 57 34.7 -0.2
baz=20,SNR=74
W18A Petrified Fore 20.39 325 eP Pn 10 57 35.2 +0.2
W18A Petrified Fore 20.39 325 ⇑P Pn 10 57 34.9 -0.1
baz=20,SNR=18
Q29A Oakley 20.41 348 ⇑P Pn 10 57 34.1 -0.9
baz=20,SNR=24
S24A Houchin Ranch, 20.42 338 ⇑P Pn 10 57 35.7 +0.1
baz=20,SNR=46
R26A Arlington 20.45 342 ⇓P Pn 10 57 34.9 -0.7
baz=21,SNR=16
P33A Williams Farm, 20.49 355 ⇓P P 10 57 34.3 +0.5
baz=21
KMSC Kings Mountain 20.51 35 ePn P 10 57 34.5 +0.5
KMSC Kings Mountain 20.51 35 ⇑P P 10 57 34.6 +0.6
baz=20,SNR=30
T22A Edith 20.54 334 ⇑P Pn 10 57 36.3 -0.5
baz=21,SNR=32
R25A Fountain Ranch 20.56 340 ⇓P Pn 10 57 37.1 +0.1

baz=21,SNR=60
SDCO Great Sand Dun 20.62 337 *e*Pn Pn 10 57 37.6 -0.2
comp=Z,145nm,1.3s
SDCO LR LR
comp=Z,4µm,21.0s
U20A Newcomb 20.74 329 ⇓P Pn 10 57 38.2 -1.0
baz=21,SNR=27
Q28A Sharon Springs 20.75 346 ⇑P P **10 57 37.1 +0.4**
baz=21,SNR=16
P31A Stockton 20.75 352 ⇓P P **10 57 37.2 +0.6**
baz=21
S23A Nye Farm, Mont 20.77 336 ⇓P Pn 10 57 39.2 -0.4
baz=21,SNR=11
T21A Navajo Lake 20.79 332 ⇓P Pn 10 57 39.1 -0.7
baz=21,SNR=22
WCI Wyandotte Cave 20.86 21 *e*P Pn 10 57 39.1 -1.2
WCI pmax pmax
comp=Z,515nm,1.0s
WCI Wyandotte Cave 20.86 21 *e*P Pn 10 57 39.1 -1.2
comp=Z,514nm,1.0s
X16A Lo Mia Camp, P 20.86 321 ⇑P Pn 10 57 40.3 -0.2
baz=21,SNR=38
KSCO Kaye Shedlock' 20.89 345 *e*Pn Pn 10 57 39.7 -1.1
KSCO Kaye Shedlock' 20.89 345 ⇑P P **10 57 38.6 +0.3**
baz=21,SNR=11
P30A Selden 20.91 350 ⇑P P **10 57 39.2 +0.9**
baz=21,SNR=62
R24A Sanders Place, 20.91 339 ⇑P Pn 10 57 40.7 -0.5
baz=21,SNR=35
Q26A Hugo 21.05 343 ⇓P P **10 57 41.2 +1.3**
baz=21,SNR=13
P29A Atwood 21.09 349 ⇑P P **10 57 41.2 +0.9**
baz=21,SNR=38
Z14A Wintersburg 21.11 316 ⇑P P **10 57 42.2 +1.7**
baz=21,SNR=14
S22A 4UR Ranch, Cre 21.13 335 ⇓P P **10 57 42.9 +1.9**
baz=21,SNR=23
R23A Moffat 21.13 337 P P **10 57 43.5 +2.5**
baz=21,SNR=34
P28A Saint Francis 21.22 347 ⇑P P **10 57 42.6 +0.9**
baz=21,SNR=18
Q25A Bedland, Calha 21.25 341 ⇓P P **10 57 43.9 +1.7**
baz=21,SNR=5.3
113A Mohawk Valley, 21.30 314 ⇑P P **10 57 44.7 +2.2**
baz=21,SNR=17
P27A Ficken Ranch, 21.39 345 ⇑P P **10 57 44.8 +1.2**
baz=22,SNR=12
MVCO Mesa Verde 21.40 331 *e*P P **10 57 45.5 +1.6**
comp=Z,85nm,0.8s
MVCO LR LR
comp=Z,3µm,19.0s
MVCO Mesa Verde 21.40 331 P P **10 57 45.5 +1.6**
baz=22,SNR=60
S21A Coal Bank Pass 21.46 333 P P **10 57 46.6 +2.1**
baz=22,SNR=54
O30A MW Ranch, Wils 21.50 351 P P **10 57 45.7 +1.1**
baz=22,SNR=55
Y14A Wickenburg 21.51 317 ⇑P P **10 57 47.0 +2.1**
baz=22,SNR=37
O29A 4D Ranch, Culb 21.57 349 ⇑P P **10 57 46.3 +0.9**
baz=22,SNR=20
Q24A Divide 21.59 339 ⇑P P **10 57 47.2 +1.3**
baz=22,SNR=10
WUAZ Wupatki 21.59 323 *e*P P **10 57 48.1 +2.3**
comp=Z,114nm,1.1s
WUAZ LR LR
comp=Z,4µm,20.0s
WUAZ Wupatki 21.59 323 ⇑P P **10 57 48.2 +2.3**
baz=22,SNR=32
P26A Davis Ranch, A 21.59 344 ⇑P P **10 57 47.3 +1.5**
baz=22,SNR=19
BLO Bloomington 21.64 19 *e*P P **10 57 45.7 -0.4**
BLO pmax pmax
comp=Z,399nm,1.4s
BLO Bloomington 21.64 19 *e*P P **10 57 45.7 -0.4**
comp=Z,399nm,1.4s
O28A Krutsinger Ran 21.76 347 ⇓P P **10 57 48.4 +0.9**
baz=22,SNR=28
Q23A Hartsel 21.77 338 ⇓P P **10 57 49.4 +1.5**
baz=22,SNR=7.1
P25A Willow Gulch B 21.78 342 ⇑P P **10 57 49.1 +1.3**
baz=22,SNR=12
S20A Disappointment 21.85 332 ⇓P P **10 57 50.3 +1.6**
baz=22,SNR=67
N32A Stulken Farm, 21.86 355 ⇓P P **10 57 48.8 +0.2**
baz=22
R21A Cimarron 21.96 334 ⇓P P **10 57 51.5 +1.7**
baz=22,SNR=24
O27A Beecher Island 21.97 346 ⇑P P **10 57 51.1 +1.3**
baz=22
N31A Bailey Ranch, 21.99 353 ⇓P P **10 57 51.1 +1.2**
baz=22
P24A Kohler Place, 22.01 341 ⇑P P **10 57 51.5 +1.2**
baz=22
N30A Hueftle Ranch, 22.11 351 ⇑P P **10 57 52.2 +1.0**
baz=22
Q22A Crested Butte, 22.13 336 ⇓P P **10 57 53.2 +1.5**
baz=22,SNR=28
R20A Redvale 22.16 333 ⇓P P **10 57 53.8 +1.8**
baz=22,SNR=42
P23A Jefferson 22.19 339 ⇓P P **10 57 53.9 +1.5**
baz=22,SNR=43
PV01 Paradox Valley 22.20 332 *e*P P **10 57 53.7 +1.3**
comp=Z,18µm,1.1s
GLA Glamis 22.20 313 *e*P P **10 57 54.2 +2.0**
GLA Glamis 22.20 313 *e*P P **10 57 54.2 +2.0**
GLA Glamis 22.20 313 ⇑P P **10 57 54.1 +1.9**
baz=22,SNR=8.6
N29A Votaw Ranch, W 22.21 350 ⇑P P **10 57 53.4 +1.0**
baz=22,SNR=16
O26A Horse Wrangler 22.23 344 ⇑P P **10 57 53.5 +1.0**
baz=22,SNR=8.8
N28A Pribbeno Ranch 22.25 348 ⇑P P **10 57 53.5 +0.7**
baz=22,SNR=9.9
O25A Wiggins 22.32 343 ⇑P P **10 57 54.7 +1.1**
baz=22
PV15 Paradox Valley 22.33 333 *e*P P **10 57 56.2 +2.4**
Q21A Lamborn Mesa, 22.36 335 ⇓P P **10 57 55.6 +1.5**
baz=22,SNR=25
PV05 Paradox Valley 22.39 331 *e*P P **10 57 55.6 +1.2**
Y12C Blythe 22.39 315 ⇑P P **10 57 56.0 +1.7**
baz=22
SMCO Snowmass 22.43 336 *e*P P **10 57 56.5 +1.5**
comp=Z,169nm,1.2s
PDMCI Parker Dam,Lak 22.47 317 ⇓P P **10 57 57.6 +2.5**
baz=23,SNR=12
BGNE Belgrade 22.49 355 *e*P P **10 57 55.8 +0.6**
BGNE Belgrade 22.49 355 ⇑P P **10 57 55.1 -0.1**
baz=23,SNR=6.5
ISCO Idaho Springs 22.49 340 *e*P P **10 57 56.5 +0.9**
ISCO pmax pmax
comp=Z,51nm,0.9s
ISCO MLR MLR
comp=Z,3µm,20.0s
ISCO Idaho Springs 22.49 340 *e*P P **10 57 56.5 +0.9**
comp=Z,51nm,0.9s
ISCO LR LR
comp=Z,3µm,20.0s
ISCO Idaho Springs 22.49 340 ⇑P P **10 57 56.3 +0.6**
baz=23,SNR=46
M31A Lambtecht Ranc 22.50 353 ⇓P P **10 57 56.2 +0.7**
baz=23,SNR=30
BLA Blacksburg 22.55 33 *e*P P **10 57 56.6 +0.7**
BLA pmax pmax
comp=Z,636nm,1.8s
BLA MLR MLR
comp=Z,6µm,20.0s
BLA Blacksburg 22.55 33 *e*P P **10 57 56.6 +0.7**
comp=Z,636nm,1.8s
BLA LR LR
comp=Z,6µm,20.0s
N27A Anderson Farm, 22.57 346 ⇓P P **10 57 56.7 +0.4**
baz=23,SNR=11
CNNC Cliffs of the 22.58 41 *e*P P **10 57 58.1 +1.9**
comp=Z,67nm,0.4s
CNNC LR LR
comp=Z,6µm,19.0s
SFIN Scholer Farm 22.58 17 *e*P P **10 57 57.3 +1.1**
SFIN Scholer Farm 22.58 17 ⇓P P **10 57 56.1 -0.1**
baz=23,SNR=20
O24A Longmont 22.61 341 ⇓P P **10 57 58.0 +1.3**
baz=23,SNR=16
P22A Eagle 22.71 337 P P **10 57 59.5 +1.7**
baz=23,SNR=27
PV09 Paradox Valley 22.75 332 *e*P P **10 57 58.8 +0.5**
N26A Koester Ranch, 22.76 345 ⇑P P **10 57 58.9 +0.7**
baz=23
Q20A Ridgley Place, 22.76 334 ⇓P P **10 58 00.1 +1.7**
baz=23,SNR=21
U15A North Rim 22.76 323 ⇑P P **10 58 00.3 +1.9**
baz=23,SNR=28
M30A Dale-Ortello V 22.80 352 ⇓P P **10 57 59.0 +0.4**
baz=23
VWCC Virginia Weste 22.80 34 *e*P P **10 57 59.0 +0.4**
W13A Hualapai Mount 22.81 319 ⇓P P **10 58 01.1 +2.1**
baz=23,SNR=22
M29A Burnside Ranch 22.83 350 ⇑P P **10 57 59.6 +0.7**
baz=23,SNR=11
DVTC Desert V Tower 22.88 311 ⇑P P **10 58 00.8 +1.2**
baz=23
M28A Bar X Bar Ranc 22.90 349 ⇑P P **10 58 00.6 +0.9**
baz=23
N25A Grover 22.97 343 ⇑P P **10 58 01.0 +0.6**
baz=23
O23A Lake Granby, G 22.97 339 ⇑P P **10 58 01.9 +1.3**
baz=23,SNR=31
BC3 Big Chuckawall 22.97 314 ⇓P P **10 58 02.6 +2.1**
baz=23,SNR=19
SCIA State Center 22.97 5 *e*P P **10 58 00.5 +0.2**
SCIA LR LR
comp=Z,5µm,22.0s
SDDR Presa de Saban 23.02 86 *e*P P **10 58 01.7 +0.7**
comp=Z,3µm,2.6s
SDDR LR LR
comp=Z,5µm,20.0s
IRM Iron Mountain 23.05 315 ⇑P P **10 58 03.3 +2.0**
baz=23,SNR=14
GRTK Grand Turk 23.12 80 *e*P P **10 58 02.5 +0.5**
comp=Z,314nm,1.1s
GRTK LR LR
comp=Z,11µm,19.0s
O22A Kremmling 23.14 338 P P **10 58 03.5 +1.2**
baz=23,SNR=24
L30A Spencer Herefo 23.19 352 ⇓P P **10 58 02.8 +0.3**
baz=23,SNR=12
N24A Carr 23.20 342 ⇓P P **10 58 03.6 +0.8**
baz=23
MONP Monument Peak 23.23 311 ⇓P P **10 58 03.1 -0.1**
baz=23,SNR=7.0
M27A Reverse DX Ran 23.23 347 ⇓P P **10 58 03.4 +0.3**
baz=23,SNR=8.6
P20A De Beque 23.26 334 ⇑P P **10 58 04.8 +1.3**
baz=23,SNR=39
L31A Butterfield Fa 23.31 354 ⇓P P **10 58 04.3 +0.5**
baz=23,SNR=13
M26A McRoberts Ranc 23.34 346 ⇓P P **10 58 04.8 +0.6**
baz=24
L29A Maesberg Ranch 23.41 351 ⇓P P **10 58 05.4 +0.6**
baz=24
O21A Pagoda 23.52 337 ⇑P P **10 58 07.6 +1.4**
baz=24,SNR=15
L28A Connealy Angus 23.52 349 ⇑P P **10 58 06.9 +0.9**
baz=24,SNR=11
BELC Belle Mtn. Jos 23.54 314 ⇓P P **10 58 08.2 +1.9**
baz=24
M25A Palm-Egli Farm 23.54 344 ⇑P P **10 58 07.3 +1.1**
baz=24
N23A Red Feather La 23.59 340 ⇑P P **10 58 08.0 +1.1**
baz=24,SNR=18
P19A Cripple Cowboy 23.62 334 ⇑P P **10 58 07.7 +0.6**
baz=24,SNR=13
PFO Pinon Flat Ob 23.64 312 *e*P P **10 58 09.6 +2.3**
comp=Z,304nm,2.1s
PFO Pinyon Flat Ob 23.64 312 P P **10 58 10.0 +2.8**
comp=Z,118nm,1.3s,SNR=5.5
PFO Pinyon Flat Ob 23.64 312 ⇑P P **10 58 08.6 +1.4**
baz=24,SNR=7.7
PFO Pinyon Flat Ob 23.64 312 LR LR 11 09 28.0
comp=Z,3µm,18.5s,baz=139,slow=42
N22A Wattenberg Ran 23.68 339 ⇑P P **10 58 08.9 +1.2**
baz=24,SNR=14
109C Camp Elliot, M 23.72 310 ⇑P P **10 58 09.9 +2.1**
baz=24
O20A White River Ci 23.74 335 *e*P P **10 58 09.5 +1.3**
O20A White River Ci 23.74 335 ⇑P P **10 58 09.8 +1.5**
baz=24,SNR=66
L27A T5 Ranch, Ells 23.75 348 ⇑P P **10 58 08.8 +0.6**
baz=24
GMRC Granite Mounta 23.76 316 ⇓P P **10 58 09.2 +0.8**
baz=24,SNR=22
M24A Cheyenne 23.78 343 ⇓P P **10 58 09.9 +1.3**
baz=24,SNR=14
PHWY Pilot Hill 23.81 341 *e*P P **10 58 09.6 +0.7**
ACSO Alum Creek Sta 23.84 24 *e*P P **10 58 08.9 0.0**
comp=Z,265nm,0.9s
ACSO LR LR
comp=Z,2µm,22.0s
SRU San Rafael 23.88 330 *e*P P **10 58 11.0 +1.5**
SRU pmax pmax
comp=Z,64nm,1.0s
SRU San Rafael 23.88 330 *e*P P **10 58 11.0 +1.5**
comp=Z,64nm,1.0s
K30A Basset 23.89 353 ⇑P P **10 58 10.3 +0.8**
baz=24,SNR=43
Q16A Castle Valley 24.03 329 *e*P P **10 58 12.7 +1.6**
Q16A Castle Valley 24.03 329 ⇓P P **10 58 12.1 +1.1**
baz=24,SNR=40
M23A Laramie 24.04 341 ⇑P P **10 58 12.1 +1.0**
baz=24,SNR=19
K29A Lazy Trails An 24.07 352 ⇑P P **10 58 11.4 +0.3**
baz=24,SNR=7.4
MURC Murrieta 24.16 311 ⇑P P **10 58 13.8 +1.7**
baz=24
CCUT Cedar City 24.16 324 *e*P P **10 58 14.5 +2.3**
comp=Z,69nm,1.4s
K28A Ten Mile Ranch 24.18 350 ⇑P P **10 58 13.1 +0.9**
baz=24,SNR=28
L25A Engebretsen Ra 24.19 345 ⇓P P **10 58 13.1 +0.7**
baz=24
HEC Hector,Ludlow 24.24 315 P P **10 58 14.5 +1.7**
baz=24,SNR=9.2
O19A Miners Draw (B 24.24 334 ⇑P P **10 58 13.8 +0.9**
baz=24,SNR=15
MVU Marysvale 24.24 327 *e*P P **10 58 15.3 +2.4**
comp=Z,110nm,1.1s
MVU LR LR
comp=Z,2µm,19.0s
M22A Cedar Creek Ra 24.26 340 ⇑P P **10 58 14.2 +1.1**
baz=24,SNR=14
JSRW J. Sargeant Re 24.27 36 *e*P P **10 58 12.9 -0.1**
BBRC Big Bear Solar 24.32 313 ⇓P P **10 58 15.0 +1.3**
baz=24
JFWS Jewell Farm 24.32 10 *e*P P **10 58 13.6 +0.2**
JFWS pmax pmax
comp=Z,136nm,0.8s
JFWS MLR MLR
comp=Z,5µm,20.0s
JFWS Jewell Farm 24.32 10 *e*P P **10 58 13.6 +0.2**
comp=Z,136nm,0.8s
JFWS LR LR
comp=Z,5µm,20.0s
TUQ Turquoise Moun 24.33 317 ⇑P P **10 58 14.6 +0.9**
baz=24
K27A Flueckinger Fa 24.33 348 ⇓P P **10 58 14.1 +0.5**
baz=24,SNR=9.9
L24A Wheatland 24.34 343 ⇑P P **10 58 14.6 +0.8**
baz=24,SNR=5.7
TMUT Trail Mountain 24.35 330 *e*P P **10 58 15.6 +1.5**
comp=Z,56nm,0.9s
ARUT Antelope Range 24.37 324 *e*P P **10 58 16.1 +2.0**
ARUT pmax pmax
comp=Z,2µm,1.0s
ARUT Antelope Range 24.37 324 *e*P P **10 58 16.1 +2.0**
comp=Z,2µm,1.0s
SHPR Sheep Range 24.51 320 *e*P P **10 58 16.7 +1.3**
J30A Dallas 24.52 353 ⇓P P **10 58 15.3 +0.1**
baz=25,SNR=8.8
K26A Motz Farm, Whi 24.53 347 ⇓P P **10 58 16.2 +0.8**
baz=25,SNR=5.6
K25A Mack Ranch, Ha 24.60 345 ⇑P P **10 58 17.1 +1.0**
baz=25
L23A Garrett 24.63 342 P P **10 58 17.5 +1.1**
baz=25,SNR=22
J29A Okreek 24.70 352 ⇑P P **10 58 17.0 +0.1**
baz=25,SNR=7.4
RRX Edison Barstow 24.72 314 ⇓P P **10 58 18.6 +1.5**
baz=25
ECSD EROS Data Cent 24.72 358 *e*P P **10 58 17.2 +0.2**
comp=Z,93nm,0.7s
ECSD LR LR
comp=Z,2µm,19.0s
RWWY Rawlins 24.72 339 *e*P P 10 58 25.2 +7.9
comp=Z,286nm,1.8s
MCWV Mont Chateau 24.73 30 *e*P P **10 58 17.2 0.0**
comp=Z,112nm,1.0s
MCWV LR LR
comp=Z,4µm,19.0s
L22A Ellis Ranch, M 24.78 341 ⇓P P **10 58 19.0 +1.2**
baz=25
BFSC Mount Baldy Ra 24.82 312 ⇓P P **10 58 19.8 +1.6**
baz=25
J27A Elkhorn Farm, 24.82 349 ⇑P P **10 58 19.0 +1.0**
baz=25,SNR=14
SCI San Clemente I 24.82 309 ⇑P P **10 58 16.7 -1.4**
baz=25
GSC Goldstone 24.83 315 *e*P P **10 58 20.0 +1.8**
GSC pmax pmax
comp=Z,27nm,0.9s
GSC Goldstone 24.83 315 *e*P P **10 58 20.0 +1.8**
comp=Z,27nm,0.9s
GSC Goldstone 24.83 315 P P **10 58 20.1 +1.8**
baz=25,SNR=7.1
SHOC Shoshone 24.84 317 ⇓P P **10 58 18.1 -0.1**
baz=25
J28A Allard Ranch, 24.85 350 ⇓P P **10 58 19.1 +0.8**
baz=25,SNR=24
CBN Corbin 24.91 36 PFAKE 10 58 30.0 +11
CBN LR LR
comp=Z,4µm,21.0s
CIS Catalina Islan 24.93 310 ⇑P P **10 58 19.9 +0.9**
baz=25
K24A Anderson Ranch 24.94 344 ⇓P P **10 58 19.7 +0.5**
baz=25
FMP Fort Macarthur 25.00 311 ⇓P P **10 58 21.2 +1.6**
baz=25
ROSC El Rosal 25.06 121 *e*P P **10 58 21.9 +1.1**
ROSC El Rosal 25.06 121 P P **10 58 21.3 +0.5**
comp=Z,65nm,0.9s,baz=69,slow=3.4,SNR=19
ROSC LR LR 11 09 59.1
comp=Z,8µm,18.4s,baz=346,slow=41
J26A Sides Ranch, S 25.09 347 ⇓P P **10 58 21.5 +1.1**
baz=25,SNR=13
MWC Mount Wilson 25.09 312 *e*P P **10 58 22.2 +1.5**
MWC Mount Wilson 25.09 312 *e*P P **10 58 22.2 +1.5**
I30A Oacoma 25.09 354 ⇓P P **10 58 20.6 +0.2**
baz=25,SNR=5.2
OTAV Otavalo 25.10 136 *e*P P **10 58 22.0 +0.8**
comp=Z,572nm,2.3s
OTAV LR LR
comp=Z,5µm,19.0s
MPU Maple Canyon 25.12 330 *e*P P **10 58 22.7 +1.9**
comp=Z,110nm,1.4s
PASC Pasadena Art C 25.16 312 *e*P P **10 58 23.2 +2.1**
K23A Bowen Ranch, D 25.19 343 ⇓P P **10 58 22.3 +0.8**
baz=25,SNR=24
DAU Daniels Canyon 25.26 331 *e*P P **10 58 24.0 +1.8**
DAU Daniels Canyon 25.26 331 *e*P P **10 58 24.0 +1.8**
NLU North Lily Min 25.28 329 *e*P P **10 58 26.0 +3.7**
comp=Z,67nm,1.2s
DECC Green Verdugo 25.30 312 ⇓P P **10 58 22.0 -0.4**
baz=25
I29A Vivian Onida 25.30 352 ⇑P P **10 58 21.4 -0.9**
baz=25,SNR=14
J25A Sunshine Ranch 25.32 346 ⇓P P **10 58 22.3 -0.3**
baz=25
K22A Casper 25.37 341 *e*P P **10 58 23.9 +0.8**
K22A Casper 25.37 341 ⇓P P **10 58 23.8 +0.8**
baz=26,SNR=20
EDW2 Edwards Air Fo 25.39 313 ⇑P P **10 58 25.7 +2.4**
baz=26,SNR=6.6
I28A Midland 25.40 351 ⇑P P **10 58 23.3 +0.1**
baz=26,SNR=13
J24A Dixon Ranch, L 25.47 345 ⇑P P **10 58 24.6 +0.7**
baz=26
JLU Jordanelle 25.50 331 *e*P P **10 58 25.6 +1.3**
comp=Z,51nm,1.2s
FURC Furnace Creek, 25.55 317 ⇓P P **10 58 25.7 +1.1**
baz=26,SNR=10
BRSD Miller 25.57 354 *e*P P **10 58 25.3 +0.6**
BRSD Miller 25.57 354 ⇓P P **10 58 24.6 -0.1**
baz=26,SNR=19
K21A Alcova 25.58 340 ⇑P P **10 58 25.7 +0.7**
baz=26,SNR=12
I27A Quinn 25.62 349 ⇓P P **10 58 25.6 +0.4**
baz=26,SNR=11
I26A New Underwood 25.73 348 ⇓P P **10 58 26.7 +0.5**
baz=26
OSI Osito Adit 25.77 312 *e*P P **10 58 26.8 +0.1**
comp=Z,51nm,1.0s
OSI Osito Adit 25.77 312 ⇓P P **10 58 28.5 +1.8**
baz=26
J23A Dilts Ranch, B 25.77 343 ⇓P P **10 58 27.5 +0.8**
baz=26
DUG Dugway 25.82 329 *e*P P **10 58 30.3 +3.0**
DUG pmax pmax
comp=Z,153nm,1.9s
DUG MLR MLR
comp=Z,4µm,20.0s
DUG Dugway 25.82 329 *e*P P **10 58 30.2 +3.0**
comp=Z,153nm,1.9s
DUG LR LR
comp=Z,4µm,20.0s
DUG Dugway 25.82 329 ⇑P P **10 58 28.6 +1.4**
baz=26,SNR=14
H29A Onida 25.89 352 ⇑P P **10 58 27.4 -0.2**
baz=26,SNR=7.4
I25A Rochford 25.90 347 ⇑P P **10 58 28.7 +0.8**
baz=26
I24A Kuemmerle Ranc 25.96 345 ⇑P P **10 58 28.6 +0.3**
baz=26
R11A Troy Canyon, C 25.98 322 *e*P P **10 58 30.1 +1.4**
R11A Troy Canyon, C 25.98 322 ⇓P P **10 58 30.1 +1.4**
baz=26,SNR=18
H28A Mission Ridge 26.04 351 ⇓P P **10 58 29.3 +0.2**
baz=26
J22A Midwest 26.05 342 ⇓P P **10 58 29.5 +0.3**
baz=26,SNR=11
SDMD Soldier's Deli 26.07 35 *e*P P **10 58 29.7 +0.5**
comp=Z,61nm,1.1s
RSSD Black Hills 26.07 346 *e*P P **10 58 30.7 +1.2**
RSSD Black Hills 26.07 346 *e*P P **10 58 30.7 +1.2**
ARVC Arvin 26.11 313 ⇓P P **10 58 29.2 -0.5**
baz=26
ISA Isabella 26.15 314 *e*P P **10 58 31.9 +1.7**
ISA Isabella 26.15 314 *e*P P **10 58 31.9 +1.7**
ISA Isabella 26.15 314 ⇑P P **10 58 30.8 +0.7**
baz=26
H27A Howes 26.17 350 ⇑P P **10 58 30.9 +0.7**
baz=26,SNR=15
ALLY Alegheny Colle 26.19 27 *e*P P **10 58 30.6 +0.2**
comp=Z,189nm,1.2s
SDV Santo Domingo 26.21 109 *e*P P **10 58 30.2 -0.7**
G30A Faulkton 26.27 354 ⇑P P **10 58 30.7 -0.3**
baz=26,SNR=13
H26A Fairpoint 26.28 348 ⇓P P **10 58 31.9 +0.7**
baz=26
J21A Lysite 26.28 340 ⇑P P **10 58 32.3 +0.9**
baz=26,SNR=26
SPMN St. Paul 26.30 5 *e*P P **10 58 31.5 +0.2**
SPMN St. Paul 26.30 5 ⇓P P **10 58 31.1 -0.2**
baz=26,SNR=35
SBC Santa Barbara 26.38 311 ⇑P P **10 58 32.8 +0.7**
baz=26
G29A Hoven 26.41 353 ⇓P P **10 58 32.1 -0.2**
baz=26
G28A Parade 26.42 352 ⇓P P **10 58 32.7 +0.2**
baz=26
SSPA Standing Stone 26.43 31 *e*P P **10 58 32.7 +0.1**
H25A Fruitdale 26.45 347 ⇓P P **10 58 33.6 +0.9**
baz=27,SNR=12
I22A 9 Mile Ranch, 26.49 342 ⇓P P **10 58 34.1 +0.9**
baz=27
BGU Big Grassy Mou 26.49 329 *e*P P **10 58 35.9 +2.6**
comp=Z,20nm,1.0s
J20A Shoshoni 26.50 339 ⇓P P **10 58 34.5 +1.2**
baz=27
BW06 Boulder Array 26.51 337 *e*P P **10 58 34.0 +0.5**
comp=Z,36nm,1.3s
BW06 LR LR
comp=Z,3µm,19.0s
PDAR Pinedale Array 26.51 337 P P **10 58 34.0 +0.5**
PDAR Pinedale Array 26.51 337 P P **10 58 34.0 +0.5**
comp=Z,15nm,1.0s,baz=141,slow=10,SNR=34
ERPA Erie 26.64 27 *e*P P **10 58 34.6 +0.2**
comp=Z,80nm,0.9s
ERPA LR LR
comp=Z,3µm,20.0s
I21A Big Trails, Te 26.66 341 P P **10 58 35.6 +0.9**
baz=27,SNR=8.9
VES Vestal, Richgr 26.67 314 ⇑P P **10 58 36.4 +1.7**
baz=27,SNR=7.0
PKM Peak Mountain 26.68 311 ⇓P P **10 58 36.9 +1.8**
baz=27

MVL **Millersville** 26.75 34 *eP* P 10 58 35.9 +0.5
comp=Z,60nm,1.3s
J19A **Crowheart** 26.75 338 ⇓P P 10 58 36.0 +0.4
baz=27,SNR=11
TPH **Tonopah** 26.78 320 *eP* P 10 58 36.9 +1.0
TPH pmax pmax
comp=Z,23nm,1.1s
TPH MLR MLR
comp=Z,4μm,21.0s
TPH **Tonopah** 26.78 320 *eP* P 10 58 36.9 +1.0
comp=Z,23nm,1.1s
TPH LR LR
comp=Z,4μm,21.0s
H24A **Dirks Ranch, A** 26.78 346 ⇑P P 10 58 36.3 +0.6
baz=27,SNR=11
TIN **Tinemaha** 26.78 317 ⇑P P 10 58 35.7 -0.2
baz=27
H23A **Clabaugh Cattl** 26.81 344 ⇓P P 10 58 36.4 +0.4
baz=27
G27A **Dupree** 26.87 350 ⇓P P 10 58 36.7 +0.3
baz=27,SNR=8.1
G26A **Maurine** 26.90 349 ⇑P P 10 58 37.0 +0.3
baz=27
F30A **Leola** 26.96 355 ⇓P P 10 58 36.9 -0.3
baz=27
G25A **Newell** 26.96 348 ⇓P P 10 58 38.0 +0.7
baz=27
MPR **Mayaguez** 27.00 87 *eP* P 10 58 41.6 +3.7
comp=Z,139nm,1.2s
AGPR **Aguadilla, PR** 27.00 86 P P 10 58 38.7 +0.8
comp=Z,1μm,1.6s
SMMC **Simmler** 27.02 312 ⇑P P 10 58 38.6 +0.6
baz=27
RCTC **Rector, Farmer** 27.03 315 ⇑P P 10 58 39.4 +1.5
baz=27,SNR=14
F29A **Eureka** 27.03 354 ⇑P P 10 58 37.5 -0.4
baz=27
HVU **Hansel Valley** 27.04 331 *eP* P 10 58 40.5 +2.3
HVU pmax pmax
comp=Z,37nm,1.0s
HVU **Hansel Valley** 27.04 331 *eP* P 10 58 40.5 +2.3
comp=Z,37nm,1.0s
I20A **Worland** 27.04 340 ⇑P P 10 58 39.6 +1.5
baz=27
CRPR **Cabo Rojo, PR** 27.05 87 *eP* P 10 58 43.0 +4.7
comp=Z,190nm,1.5s
LSP **Las Mesas** 27.06 87 *eP* P 10 58 38.6 +0.2
H22A **Clearmont** 27.09 343 ⇓P P 10 58 39.1 +0.5
baz=27
AHID **Auburn Hatcher** 27.11 334 *eP* P 10 58 39.9 +1.0
comp=Z,58nm,1.1s
AHID LR LR
comp=Z,3μm,20.0s
F28A **McLaughlin** 27.16 352 ⇓P P 10 58 39.2 +0.1
baz=27
MTUM **Tungsten Hills** 27.18 317 *eP* P 10 58 41.5 +2.0
G24A **Alzada** 27.30 346 ⇓P P 10 58 41.2 +0.8
baz=27
H21A **Big Horn, Sher** 27.32 342 ⇑P P 10 58 40.8 +0.1
baz=27,SNR=9.8
AOPR **Arecibo Observ** 27.35 87 *eP* P 10 58 43.1 +2.0
comp=Z,658nm,2.0s
F27A **Lemmon** 27.36 350 ⇓P P 10 58 41.6 +0.7
baz=28,SNR=5.8
G23A **Biddle** 27.41 345 P P 10 58 41.8 +0.4
baz=28,SNR=6.7
I19A **Meeteetse** 27.41 339 ⇑P P 10 58 42.5 +1.0
baz=28,SNR=9.9
F26A **Lodgepole** 27.45 349 ⇓P P 10 58 42.1 +0.4
baz=28
ELK **Elko** 27.47 326 *eP* P 10 58 43.8 +1.7
ELK PcP **PcP** 11 02 00.4 0.0
ELK **Elko** 27.47 326 P P 10 58 43.2 +1.1
comp=Z,9.3nm,0.9s,baz=183,slow=3.3,SNR=15
ELK PcP **PcP** 11 02 00.4 0.0
comp=Z,3.1nm,0.8s,baz=118,slow=2.0,SNR=4.5
ELK LR LR 11 12 23.1
comp=Z,5μm,19.3s,baz=181,slow=42
REDW **Red Top Meadow** 27.51 336 *eP* P 10 58 43.9 +1.4
comp=Z,48nm,0.8s
MLAC **Mammoth Lakes** 27.52 317 ⇑P P 10 58 43.3 +0.7
baz=28
OBIP **Obispado Ponce** 27.52 87 *eP* P 10 58 42.6 0.0
comp=Z,154nm,1.5s
CELP **Cerrillos** 27.55 87 *eP* P 10 58 42.3 -0.5
SNOW **Snow King Moun** 27.56 336 *eP* P 10 58 44.0 +1.0
comp=Z,117nm,0.9s
E30A **Jud** 27.61 355 ⇑P P 10 58 42.5 -0.6
baz=28
LOHW **Long Hollow** 27.63 336 *eP* P 10 58 44.2 +0.7
G22A **Birney** 27.66 344 P P 10 58 43.8 +0.2
baz=28,SNR=7.3
NVAR **Mina Array Bea** 27.66 319 P P 10 58 45.2 +1.3
NVAR PcP **PcP** 11 02 01.7 +0.7
NVAR **Mina Array Bea** 27.66 319 P P 10 58 45.2 +1.3
comp=Z,30nm,0.9s,baz=135,slow=8.6,SNR=78
NVAR PcP **PcP** 11 02 01.7 +0.7
comp=Z,0.7nm,0.5s,baz=144,slow=3.2,SNR=4.0
NVAR LR LR 11 12 57.8
comp=Z,4μm,18.4s,baz=84,slow=44
F25A **Bowman** 27.67 348 ⇓P P 10 58 44.0 +0.3
baz=28
RRI2 **Red Ridge** 27.69 335 *eP* P 10 58 45.5 +1.3
comp=Z,58nm,0.9s
E29A **Napoleon** 27.74 354 ⇑P P 10 58 44.1 -0.2
baz=28
F24A **Ekalaka** 27.80 347 ⇑P P 10 58 45.2 +0.4
baz=28
MOOW **Moose Ponds** 27.80 336 *eP* P 10 58 45.0 0.0
comp=Z,35nm,1.1s
FXWY **Fox Creek** 27.81 336 *eP* P 10 58 46.5 +1.2
comp=Z,28nm,1.0s
E27A **Carson** 27.84 351 ⇓P P 10 58 45.6 +0.5
baz=28
E28A **Huff** 27.86 353 ⇑P P 10 58 45.3 -0.1
baz=28,SNR=6.6
I17A **Pilgrim Ck.** 27.88 337 ⇑P P 10 58 47.3 +1.5
baz=28,SNR=12
G21A **Lodge Grass** 27.91 342 ⇑P P 10 58 46.4 +0.4
baz=28,SNR=15
H19A **Powell** 27.97 339 P P 10 58 47.5 +1.1
baz=28,SNR=11
IMW **Indian Meadow** 28.00 336 *eP* P 10 58 47.7 +0.8
comp=Z,34nm,1.1s
E26A **Carlson Angus** 28.02 350 ⇓P P 10 58 47.4 +0.6
baz=28,SNR=10
MMNY **Mt. Morris Dam** 28.05 28 *eP* P 10 58 47.1 +0.1
comp=Z,289nm,1.0s
FLWY **Flagg Ranch** 28.06 337 *eP* P 10 58 49.0 +1.6
F22A **Rosebud** 28.17 344 ⇓P P 10 58 47.8 -0.4
baz=28
D30A **Buchanan** 28.20 355 ⇑P P 10 58 48.4 0.0
baz=28,SNR=6.1
H18A **Shoshone NF, C** 28.20 339 ⇑P P 10 58 49.0 +0.3
baz=28,SNR=32
CBYP **Canovanas** 28.21 87 *eP* P 10 58 47.4 -1.3
comp=Z,314nm,1.6s
G20A **Bridger** 28.21 341 P P 10 58 48.7 +0.1
baz=28,SNR=6.0
E25A **Miller Ranch,** 28.21 349 ⇑P P 10 58 49.0 +0.5
baz=28
D29A **Pettibone, Tap** 28.22 354 ⇑P P 10 58 48.3 -0.3
baz=28
HUMP **Col San Antoni** 28.23 87 *eP* P 10 58 49.2 +0.4
H17A **Grant Village** 28.29 337 ⇑P P 10 58 50.6 +1.1
baz=28
BMN **Battle Mountai** 28.32 324 *eP* P 10 58 50.9 +1.2
BMN pmax pmax
comp=Z,17nm,0.9s
BMN MLR MLR
comp=Z,3μm,19.0s
BMN **Battle Mountai** 28.32 324 *eP* P 10 58 50.9 +1.2
comp=Z,17nm,0.9s
BMN LR LR
comp=Z,3μm,19.0s
WAKR **Walker** 28.41 318 *eP* P 10 58 52.2 +1.6
comp=Z,30nm,1.2s
YFT **Old Faithful** 28.43 337 *eP* P 10 58 52.0 +1.2
comp=Z,23nm,1.0s
F21A **Absaloka Mine,** 28.44 343 ⇓P P 10 58 50.8 +0.2
baz=29
E24A **Baker** 28.45 347 ⇑P P 10 58 51.0 +0.4
baz=29
D28A **Regan** 28.46 353 ⇑P P 10 58 51.1 +0.5
baz=29,SNR=11
RLMT **Red Lodge** 28.46 339 *eP* P 10 58 51.5 +0.5
comp=Z,58nm,1.4s
RLMT LR LR
comp=Z,3μm,20.0s
D27A **Center** 28.50 352 ⇓P P 10 58 51.0 0.0
baz=29
MTP **Monte Pirata** 28.51 87 *eP* P 10 58 50.7 -0.7
comp=Z,560nm,1.7s
BINY **Binghamton** 28.55 32 *eP* P 10 58 52.0 +0.5
comp=Z,74nm,1.2s
BINY LR LR
comp=Z,5μm,20.0s
D26A **Manning** 28.56 350 ⇓P P 10 58 51.9 +0.4
baz=29
YNR **Norris Junctio** 28.60 337 *eP* P 10 58 53.2 +1.0
comp=Z,25nm,1.0s
E23A **Ismay** 28.61 346 ⇑P P 10 58 52.5 +0.5
baz=29
YMR **Madison River** 28.66 337 *eP* P 10 58 54.4 +1.6
comp=Z,31nm,0.8s
E22A **Miles City** 28.70 345 ⇓P P 10 58 52.6 -0.3
baz=29
F20A **Billings** 28.71 342 ⇓P P 10 58 53.2 +0.1
baz=29
CMB **Columbia Colle** 28.75 317 *eP* P
CMB pmax pmax
comp=Z,15nm,1.1s
CMB **Columbia Colle** 28.75 317 *eP* P 10 58 54.4 +1.0
comp=Z,15nm,1.1s
C30A **Mose, Pekin** 28.77 356 ⇓P P 10 58 53.1 -0.3
baz=29
D25A **Fairfield** 28.82 349 ⇓P P 10 58 54.5 +0.5
baz=29
C28A **Hausauer Farms** 28.95 353 ⇓P P 10 58 55.5 +0.5
baz=29,SNR=6.1
QLMT **Earthquake Lak** 28.98 336 *eP* P 10 58 57.9 +2.4
D24A **Glendive** 28.98 348 ⇑P P 10 58 56.2 +0.8
baz=29,SNR=6.4
LAO **LASA Array** 29.00 345 *eP* P 10 58 55.5 -0.1
comp=Z,11nm,0.9s
LAO LR LR
comp=Z,3μm,22.0s
F19A **Roth Farm, Mol** 29.00 341 ⇑P P 10 58 56.1 +0.5
baz=29,SNR=13
MDND **Maddock** 29.00 354 ⇓P P 10 58 55.3 -0.2
baz=29,SNR=5.1
STVI **Saint Thomas** 29.05 86 *eP* P 10 58 55.8 -0.4
comp=Z,1μm,2.9s
E21A **Keefer Ranch,** 29.09 344 ⇑P P 10 58 56.7 +0.4
baz=29
C27A **Sayler Ranch,** 29.09 352 ⇑P P 10 58 56.7 +0.5
baz=29
PAHR **Pah Rah Range** 29.11 320 *eP* P 10 58 58.5 +1.8
comp=Z,40nm,1.4s
GCMT **Greycliff** 29.18 340 *eP* P 10 58 58.0 +0.7
comp=Z,8.3nm,0.8s
HLID **Hailey** 29.19 331 *eP* P 10 58 58.6 +1.2
comp=Z,25nm,1.2s
HLID LR LR
comp=Z,2μm,19.0s
HLID **Hailey** 29.19 331 ⇑P P 10 58 57.7 +0.4
baz=29,SNR=22
SADO **Sadowa** 29.19 24 P P 10 58 56.4 -0.8
SADO **Sadowa** 29.19 24 P P 10 58 56.4 -0.8
comp=Z,19nm,0.6s,baz=260,slow=7.6,SNR=17
D23A **Lindsay** 29.22 347 ⇑P P 10 58 58.3 +0.8
baz=29,SNR=19
AGMN **Agassiz Nation** 29.27 360 *eP* P 10 58 57.4 -0.5
comp=Z,30nm,0.5s
AGMN LR LR
comp=Z,4μm,20.0s
C26A **Wahner Farm, P** 29.28 351 ⇓P P 10 58 58.5 +0.5
baz=29
E20A **Meyer Farm, Mu** 29.35 342 ⇑P P 10 58 59.3 +0.7
baz=30,SNR=12
C25A **Freed Ranch, W** 29.36 349 ⇑P P 10 58 59.7 +1.0
baz=30
C24A **Savage** 29.40 348 ⇑P P 10 58 59.7 +0.6
baz=30,SNR=8.4
D22A **Cohagen** 29.43 345 ⇑P P 10 59 00.2 +0.9
baz=30,SNR=20
E19A **Rath Farm, Rou** 29.50 341 P P 10 59 00.6 +0.6
baz=30,SNR=11
B30A **Myrvik Farm, E** 29.51 356 ⇓P P 10 58 59.8 -0.1
baz=30,SNR=12
MCMT **Mackenzie Canyo** 29.53 335 *eP* P 10 59 02.3 +1.8
comp=Z,13nm,1.0s
D21A **La Casta Ranch** 29.55 344 ⇑P P 10 59 01.6 +1.2
baz=30,SNR=8.0
B29A **Wagenman Farm,** 29.59 355 ⇓P P 10 59 01.1 +0.3
baz=30,SNR=10
B28A **Dugan Ranch, T** 29.68 354 ⇓P P 10 59 01.9 +0.5
baz=30,SNR=14
B27A **Peters Farms,** 29.73 352 ⇓P P 10 59 02.3 +0.4
baz=30
BOZ **Bozeman (W)** 29.74 337 *eP* P 10 59 03.4 +1.1
BOZ pmax pmax
comp=Z,7.0nm,0.8s
BOZ MLR MLR
comp=Z,4μm,21.0s
BOZ **Bozeman (W)** 29.74 337 *eP* P 10 59 03.4 +1.1
comp=Z,6.9nm,0.8s
BOZ LR LR
comp=Z,4μm,21.0s
C23A **Lambert** 29.82 347 ⇑P P 10 59 03.6 +0.9
baz=30,SNR=9.9
B26A **Jensen Ranch,** 29.84 351 ⇑P P 10 59 03.2 +0.3
baz=30
DLMT **Dillon** 29.87 336 *eP* P 10 59 05.3 +2.0
B25A **Knox Farm, Ray** 29.88 350 ⇓P P 10 59 03.8 +0.5
baz=30
D20A **Manuel Ranch,** 29.88 343 ⇑P P 10 59 03.9 +0.6
baz=30,SNR=18
C22A **Vida** 29.91 346 ⇑P P 10 59 04.4 +0.8
baz=30,SNR=11
A29A **Manning Farm,** 30.04 355 ⇑P P 10 59 05.0 +0.3
baz=30,SNR=13
A28A **Rude Farm, Bot** 30.12 354 ⇓P P 10 59 05.5 +0.1
baz=30,SNR=6.9
D19A **Cripps Ranch,** 30.16 342 ⇑P P 10 59 06.3 +0.5
baz=30,SNR=18
LRM **Limekiln Ridge** 30.20 336 *eP* P 10 59 07.3 +0.9
DGMT **Dagmar** 30.25 349 *eP* P 10 59 07.6 +1.0
comp=Z,64nm,1.4s
DGMT LR LR
comp=Z,3μm,21.0s
DGMT **Dagmar** 30.25 349 ⇑P P 10 59 07.5 +1.0
baz=30
A27A **Ledoux Ranch,** 30.27 353 ⇓P P 10 59 06.8 +0.1
baz=30
C21A **Desert Coulee** 30.28 345 ⇑P P 10 59 07.4 +0.6
baz=30,SNR=6.4
A26A **Wz Farm, Ken** 30.32 352 ⇑P P 10 59 07.6 +0.5
baz=30,SNR=15
B23A **Brockton** 30.40 348 ⇓P P 10 59 08.8 +0.8
baz=30,SNR=8.2
C20A **Veseth Ranch,** 30.41 343 ⇓P P 10 59 09.1 +1.1
baz=30,SNR=12
B22A **Reddig Ranch S** 30.46 346 ⇑P P 10 59 09.2 +0.7
baz=31,SNR=6.0
WVOR **Wild Horse Val** 30.46 325 *eP* P 10 59 09.2 +0.5
WVOR pmax pmax
comp=Z,46nm,1.3s
WVOR MLR MLR
comp=Z,3μm,22.0s
WVOR **Wild Horse Val** 30.46 325 *eP* P 10 59 09.2 +0.5
comp=Z,46nm,1.3s
WVOR LR LR
comp=Z,3μm,22.0s
A25A **Svangstu Ranch** 30.52 350 ⇓P P 10 59 09.7 +0.8
baz=31
ACCN **Adirondack Com** 30.58 32 *eP* P 10 59 09.3 -0.2
comp=Z,32nm,1.3s
A24A **Westby** 30.66 349 ⇓P P 10 59 11.4 +1.2
baz=31
HRY **Holter Researc** 30.72 338 *eP* P 10 59 12.2 +1.3
C19A **Slack Wire Ran** 30.73 342 P P 10 59 11.7 +0.9
baz=31,SNR=7.0
NCB **Newcomb** 30.73 31 *eP* P 10 59 11.0 +0.2
NCB LR LR
comp=Z,5μm,19.0s
BBSR **BB Station** 30.79 58 *eP* P 10 59 11.9 +0.4
comp=Z,341nm,1.5s
BBSR LR LR
comp=Z,10μm,21.0s
PTN **Potsdam (NY)** 30.82 29 *eP* P 10 59 11.8 +0.2
PTN pmax pmax
comp=Z,169nm,1.3s
PTN **Potsdam (NY)** 30.82 29 *eP* P 10 59 11.8 +0.2
comp=Z,169nm,1.3s
B21A **Ellsworth Farm** 30.82 345 ⇑P P 10 59 12.4 +0.8
baz=31,SNR=5.6
A23A **Redstone** 30.85 348 ⇓P P 10 59 12.9 +1.1
baz=31
J08A **Circle Bar Ran** 31.02 327 *eP* P 10 59 14.5 +1.0
comp=Z,50nm,0.8s
MOD **Modoc** 31.04 323 *eP* P 10 59 14.5 +0.7
LONY **Lake Ozonia** 31.04 30 *eP* P 10 59 13.2 -0.3
comp=Z,56nm,0.8s
LONY LR LR
comp=Z,4μm,21.0s
B20A **Solberg Farm,** 31.09 344 ⇓P P 10 59 14.5 +0.6
baz=31
A22A **Carney Farms,** 31.10 347 ⇓P P 10 59 15.2 +1.1
baz=31,SNR=6.9
EGMT **Eagleton** 31.20 342 PFAKE 10 59 30.0 +15
EGMT LR LR
comp=Z,2μm,21.0s
EGMT **Eagleton** 31.20 342 ⇓P P 10 59 15.7 +0.8
baz=31,SNR=7.9
ULM **Lac du Bonnet** 31.23 360 P P 10 59 14.7 -0.4
ULM **Lac du Bonnet** 31.23 360 P P 10 59 14.7 -0.4
comp=Z,11nm,0.7s,baz=182,slow=8.3,SNR=14
MDV **Middlebury** 31.27 32 *eP* P 10 59 15.5 0.0
A21A **Bergtoll Ranch** 31.32 346 ⇑P P 10 59 17.1 +1.1
baz=31,SNR=8.4
B19A **Brinkman Farms** 31.35 343 ⇓P P 10 59 17.1 +0.8
baz=32,SNR=23
CHMT **Chamberlain Mo** 31.42 337 *eP* P 10 59 18.0 +0.9
A20A **Cobblestone Ra** 31.47 344 ⇓P P 10 59 18.0 +0.7
baz=32,SNR=9.6
BMO **Blue Mountains** 31.52 330 PFAKE 10 59 30.0 +12
BMO LR LR
comp=Z,3μm,19.0s
WDC **Whiskeytown Da** 31.57 319 *eP* P 10 59 17.8 -0.5
WDC pmax pmax
comp=Z,8.0nm,1.1s
WDC **Whiskeytown Da** 31.57 319 *eP* P 10 59 17.8 -0.5
comp=Z,7.5nm,1.1s
MSO **Missoula** 31.61 336 *eP* P 10 59 19.8 +1.1
comp=Z,17nm,0.9s
MSO **Missoula** 31.61 336 ⇓P P 10 59 19.6 +0.9
baz=32
FRNY **Flat Rock** 31.68 31 *eP* P 10 59 19.4 +0.3
A19A **Klindworth Far** 31.73 343 ⇑P P 10 59 20.4 +0.8
baz=32,SNR=12
SLMT **Seeley Lake** 31.78 337 *eP* P 10 59 20.8 +0.6
I07A **Izee** 32.06 327 *eP* P 10 59 23.2 +0.5
comp=Z,13nm,0.9s
LBNH **Lisbon** 32.08 33 PFAKE 10 59 30.0 +7.3
LBNH LR LR
comp=Z,5μm,19.0s
ANWB **Willy Bob** 32.13 87 PFAKE 10 59 30.0 +6.6
ANWB LR LR
comp=Z,3μm,22.0s
SWMT **Swartz Lake** 32.20 336 *eP* P 10 59 24.5 +0.7
YBH **Yreka Blue Hor** 32.35 320 *eP* P 10 59 24.1 -1.2
comp=Z,5.3nm,0.8s
YBH **Yreka Blue Hor** 32.35 320 P P 10 59 23.7 -1.5
comp=Z,3.0nm,0.7s,baz=123,slow=4.1,SNR=9.9
YBH LR LR 11 14 12.1
comp=Z,4μm,18.4s,baz=136,slow=39
YBMT **Yellow Bay** 32.49 337 *eP* P 10 59 27.2 +0.8
comp=Z,8.0nm,0.6s
JTMT **Jette** 32.50 336 *eP* P 10 59 27.4 +0.9
BLMT **Blacktail Moun** 32.75 337 *eP* P 10 59 29.8 +1.1
BSMT **Bassoo Peak** 32.78 336 *eP* P 10 59 29.9 +0.9
comp=Z,7.0nm,1.0s
FDF **Fort de France** 33.23 92 PFAKE 10 59 40.0 +6.9
FDF LR LR
comp=Z,5μm,21.0s
GRGR **Grenville** 33.38 97 PFAKE 10 59 50.0 +16
GRGR LR LR
comp=Z,6μm,20.0s
WALA **Waterton Lakes** 33.46 338 *eP* P 10 59 35.3 +0.4
comp=Z,0.5nm,0.9s
HAWA **Hanford** 33.71 330 *eP* P 10 59 37.9 +1.0
comp=Z,12nm,1.2s
HAWA LR LR
comp=Z,3μm,20.0s
NEW **Newport** 34.05 334 *eP* P 10 59 40.1 +0.3
comp=Z,9.4nm,0.9s
NEW PcP **PcP** 11 02 16.7 -0.7
NEW **Newport** 34.05 334 ⇓P P 10 59 40.3 +0.4
baz=34
NEW **Newport** 34.05 334 P P 10 59 39.8 -0.1
comp=Z,3.8nm,0.6s,baz=146,slow=6.9,SNR=13
NEW PcP **PcP** 11 02 16.7 -0.7
comp=Z,3.7nm,0.8s,baz=146,slow=3.6,SNR=3.3
NEW LR LR 11 16 24.4
comp=Z,2μm,21.7s,baz=142,slow=41
PKME **Peaks-Kenny Pk** 34.15 34 PFAKE 10 59 50.0 +9.3
PKME LR LR
comp=Z,4μm,19.0s
LON **Longmire** 35.07 328 *eP* P 10 59 49.1 +0.3
LON pmax pmax
comp=Z,31nm,1.0s
LON **Longmire** 35.07 328 *eP* P 10 59 49.1 +0.3
comp=Z,31nm,1.0s
BBGH **Gun Hill** 35.09 94 PFAKE 11 00 00.0 +11
BBGH LR LR
comp=Z,11μm,22.0s
FFC **Flin Flon** 36.04 354 *eP* P 10 59 57.0 +0.1
FFC pmax pmax
comp=Z,40nm,0.8s
FFC MLR MLR
comp=Z,1μm,20.0s
FFC **Flin Flon** 36.04 354 *eP* P 10 59 57.0 +0.1
comp=Z,40nm,0.8s
FFC LR LR
comp=Z,1μm,20.0s
NLWA **Neilton Lookou** 36.55 327 PFAKE 11 00 10.0 +8.6
NLWA LR LR
comp=Z,4μm,19.0s
EDM **Edmonton** 36.87 342 *eP* P 11 00 04.1 0.0
EDM **Edmonton** 36.87 342 *eP* P 11 00 04.1 0.0
BBB **Bella Bella** 41.76 330 LR LR 11 22 02.9
comp=Z,2μm,18.8s,baz=290,slow=42
SCHQ **Schefferville** 42.00 25 P P 11 00 45.5 -1.2
SCHQ **Schefferville** 42.00 25 P P 11 00 45.5 -1.2
comp=Z,45nm,0.9s,baz=224,slow=6.1,SNR=26
SCHQ LR LR 11 20 42.0
comp=Z,2μm,19.7s,baz=224,slow=40
SAML **Samuel** 42.33 128 *eP* P 11 00 46.0 -4.0
comp=Z,25nm,1.1s
SAML LR LR
comp=Z,4μm,19.0s
LPAZ **La Paz** 44.25 141 *eP* P 11 01 05.9 -0.3
comp=Z,41nm,1.0s
LPAZ **La Paz** 44.25 141 P P 11 01 05.5 -0.6
comp=Z,16nm,0.8s,baz=329,slow=7.2,SNR=76
LPAZ LR LR 11 21 00.3
comp=Z,2μm,18.0s,baz=324,slow=38
YKA **Yellowknife Ar** 45.46 348 P P 11 01 14.3 -0.1
YKA **Yellowknife Ar** 45.46 348 P P 11 01 14.3 -0.1
comp=Z,16nm,0.6s,baz=247,slow=19,SNR=40
WRAK **Wrangell Islan** 46.37 333 PFAKE 11 01 30.0 +8.2
WRAK LR LR
comp=Z,2μm,20.0s
DLBC **Dease Lake** 46.74 336 *eP* P 11 01 26.2 +1.5
DLBC **Dease Lake** 46.74 336 P P 11 01 25.4 +0.6
comp=Z,26nm,1.1s,baz=142,slow=6.3,SNR=16
DLBC LR LR 11 24 13.7
comp=Z,3μm,18.8s,baz=128,slow=40
RPN **Rapa Nui** 47.69 197 PFAKE 11 01 40.0 +7.6
RPN LR LR
comp=Z,2μm,21.0s
FRB **Frobisher Bay** 48.40 16 P P 11 01 37.5 +0.1
FRB **Frobisher Bay** 48.40 16 P P 11 01 37.5 +0.1
comp=Z,11nm,0.9s,baz=206,slow=11,SNR=3.0
FRB LR LR 11 23 11.7
comp=Z,697nm,21.4s,baz=322,slow=38
LVC **Limon Verde** 48.87 147 *eP* P 11 01 42.6 +0.7
comp=Z,51nm,0.8s
LVC LR LR
comp=Z,2μm,20.0s
LCO **Las Campanas** 53.41 153 *eP* P 11 02 15.8 -0.1
comp=Z,72nm,1.1s
LCO LR LR
comp=Z,3μm,21.0s
BMRM **Bremner River** 54.21 333 *eP* P 11 02 22.4 +1.2
comp=Z,20nm,0.7s
INK **Inuvik** 54.73 344 P P 11 02 24.8 0.0
INK **Inuvik** 54.73 344 P P 11 02 24.8 0.0
comp=Z,20nm,0.6s,baz=132,slow=8.3,SNR=157
INK LR LR 11 30 42.4
comp=Z,1μm,18.3s,baz=131,slow=41
EGAK **Eagle** 54.85 338 *eP* P 11 02 25.6 -0.1

comp=Z,24nm,1.0s
EGAK LR LR

comp=Z,3µm,20.0s
DOT Dot Lake 55.31 336 *e*P **P 11 02 29.7 +0.7**
comp=Z,27nm,1.1s
RES Resolute Bay 55.76 0 P **P 11 02 31.8 -0.2**
RES Resolute Bay 55.76 0 P **P 11 02 31.8 -0.2**
comp=Z,13nm,0.8s,baz=192,slow=8.0,SNR=28
RES LR LR 11 30 35.9

comp=Z,2µm,19.3s,baz=176,slow=41
SFJD Kangerlussuaq 55.95 20 LR LR 11 30 41.8
comp=Z,2µm,19.1s,baz=232,slow=40
SEW Seward 55.99 331 *e*P **P 11 02 34.5 +0.5**
comp=Z,39nm,1.1s
PMR Palmer 56.45 333 *e*P **P 11 02 37.4 +0.3**
PMR pmax pmax

comp=Z,13nm,0.6s
PMR Palmer 56.45 333 *e*P **P 11 02 37.4 +0.3**
comp=Z,13nm,0.6s
KDAK Kodiak Island 56.70 328 PFAKE 11 02 50.0 +11
KDAK LR LR

comp=Z,2µm,20.0s
RKT Rikitea 56.78 224 *e*S **S 11 10 32.6 0.0**
comp=Z,1µm,29.5s
RKT *e*SS **SS 11 14 24.1 +3.0**

RKT comp=Z,550nm,31.8s
*e*LQ LQ 11 16 56.4

comp=Z,1µm,31.0s
RKT *e*LR LR 11 19 28.9

comp=Z,6µm,23.8s,baz=39
ILAR Eielson Array 56.94 336 P **P 11 02 41.1 +0.4**
ILAR Eielson Array 56.94 336 P **P 11 02 41.1 +0.4**
comp=Z,6.2nm,0.6s,baz=148,slow=5.3,SNR=136
ILAR LR LR 11 32 29.9

comp=Z,2µm,18.4s,baz=14,slow=42
MCK McKinley 57.27 335 *e*P **P 11 02 43.5 +0.5**
MCK pmax pmax

comp=Z,22nm,0.8s
MCK McKinley 57.27 335 *e*P **P 11 02 43.5 +0.5**
comp=Z,22nm,0.8s
COLA College 57.35 336 *e*P **P 11 02 43.3 -0.3**
COLA pmax pmax

comp=Z,88nm,0.9s
COLA MLR MLR

comp=Z,2µm,19.0s
COLA College 57.35 336 *e*P **P 11 02 43.2 -0.3**
comp=Z,88nm,0.9s
COLA LR LR

comp=Z,2µm,19.0s
RSO Redoubt South 57.66 330 *e*P **P 11 02 46.9 +0.9**
comp=Z,148nm,0.7s
TRF Thorofare Moun 57.70 334 *e*P **P 11 02 46.9 +0.7**
comp=Z,62nm,0.6s
BDFB Brasilia 58.11 123 P **P 11 02 49.6 -0.2**
BDFB Brasilia 58.11 123 P **P 11 02 49.6 -0.2**
comp=Z,33nm,1.0s,baz=293,slow=8.5,SNR=24
BDFB LR LR 11 31 11.6

comp=Z,4µm,19.4s,baz=300,slow=40
BPAW Bear Paw Mtn. 58.24 335 *e*P **P 11 02 50.2 +0.3**
comp=Z,21nm,0.7s
PPLA Purkeypile 58.27 333 *e*P **P 11 02 50.5 +0.2**
comp=Z,14nm,0.5s
CPUP Villa Florida 58.39 139 *e*P **P 11 02 49.3 -2.0**
comp=Z,191nm,1.3s
CPUP Villa Florida 58.39 139 P **P 11 02 49.9 -1.4**
comp=Z,19nm,0.8s,baz=309,slow=7.4,SNR=22
CPUP LR LR 11 29 42.3

comp=Z,2µm,18.2s,baz=217,slow=38
COLD Coldfoot 59.27 338 *e*P **P 11 02 57.7 +0.7**
comp=Z,12nm,1.1s
IMA2 Indian Mountai 60.07 336 *e*P **P 11 03 02.2 -0.4**
IM04 Indian Mountai 60.07 336 *e*P **P 11 03 02.0 -0.5**
VAH Vaihoa 61.44 240 *e*P **P 11 03 13.4 +0.9**
comp=Z,32nm,1.1s
PMOR Pomariorio Ree 61.53 240 *e*P **P 11 03 14.4 +1.3**
comp=Z,83nm,1.5s
SUMG Summit 62.46 17 *e*P **P 11 03 17.3 -1.7**
SUMG Summit 62.46 17 *i*P **P 11 03 17.3 -1.7**
SUMG Summit 62.46 17 *e*P **P 11 03 18.4 -0.6**
comp=Z,372nm,2.5s
XMAS Kiritimati 62.73 262 PFAKE 11 03 30.0 +8.7
XMAS LR LR

comp=Z,4µm,20.0s
CMLA Cha da Macela 63.12 57 PFAKE 11 03 40.0 +16
CMLA LR LR

comp=Z,4µm,20.0s
SPB Sao Paulo 63.23 130 *e*P **P 11 03 24.0 -0.4**
comp=Z,173nm,1.4s
SPB LR LR

comp=Z,4µm,20.0s
RCBR Riachuelo 63.76 107 PFAKE 11 03 40.0 +12
RCBR LR LR

comp=Z,3µm,22.0s
PLCA Paso Flores 63.79 159 P **P 11 03 27.9 0.0**
PLCA Paso Flores 63.79 159 P **P 11 03 27.9 0.0**
comp=Z,37nm,0.9s,baz=328,slow=7.2,SNR=36
PPT Papeete 64.25 239 LR LR 11 25 28.0
comp=Z,3µm,18.8s,baz=77,slow=30
PPT2 Papeete2 64.26 239 *e*S **S 11 12 08.8 +0.1**
comp=Z,2µm,29.8s
PPT2 *e*SS **SS 11 16 17.3 -1.4**

comp=Z,2µm,31.5s
PPT2 *e*LQ LQ 11 19 56.9

comp=Z,1µm,26.5s
PPT2 *e*LR LR 11 22 55.2

comp=Z,3µm,22.0s,baz=51
TRQA Tornquist 64.92 151 *e*P **P 11 03 35.0 -0.3**
comp=Z,230nm,1.4s
TRQA LR LR

comp=Z,3µm,22.0s
SCO Scoresbysund 66.83 21 *e*P P 11 03 40.2 -6.9
SCO Scoresbysund 66.83 21 *i*P P 11 03 40.2 -6.9
TBI Tubuai 67.29 234 *e*S **S 11 12 45.5 +0.2**
comp=Z,1µm,28.8s
TBI *e*SS **SS 11 17 05.1 -0.4**

comp=Z,824nm,35.0s
TBI *e*LQ LQ 11 21 21.7

comp=Z,1µm,31.0s
TBI *e*LR LR 11 24 24.6

comp=Z,4µm,27.8s,baz=58
DAG Danmarks Havn 68.70 14 *e*P P 11 03 52.2 -6.6
DAG Danmarks Havn 68.70 14 *i*P P 11 03 52.2 -6.6
PMOZ Porto Moniz, M 70.49 61 *e*LR LR 11 25 45.9
comp=Z,3µm,22.0s
PMPST Porto Santo, M 71.16 61 *e*LR LR 11 25 45.1
comp=Z,3µm,20.0s
JMIC Jan Mayen 71.30 20 LR LR 11 37 09.5
comp=Z,829nm,18.8s,baz=80,slow=37
KPL Plockton 74.25 34 *e*P **P 11 04 31.6 -0.9**
KPL AMB AMB 11 04 32.6

KPL comp=Z,201nm,1.3s
AMS AMS 11 36 09.5

comp=Z,2µm,23.8s
KSB Sheil Bridge 74.39 34⇑ *e*P **P 11 04 32.6 -0.8**
RAR Rarotonga 74.40 241 PFAKE 11 04 50.0 +16
RAR LR LR

comp=Z,4µm,19.0s
KAC Achnashellach 74.41 34⇑ *e*P **P 11 04 32.7 -0.8**
GMM Mts of Mourne 74.66 37⇑ *e*P **P 11 04 34.1 -1.0**
KBS Kingsbay 74.84 11⇑ *e*P **P 11 04 36.3 +0.6**
KBS pmax pmax

comp=Z,57nm,1.7s
KBS MLR MLR

comp=Z,2µm,19.0s
KBS Kingsbay 74.84 11 PFAKE 11 04 50.0 +14
KBS LR LR

comp=Z,2µm,20.0s
MVH1 Achvaich 74.91 34⇑ *e*P **P 11 04 35.3 -1.1**
MDO Dochfour 74.91 34⇑ *e*P **P 11 04 34.8 -1.7**
PGBU Glenifferbraes 75.18 36 *e*P **P 11 04 36.6 -1.4**
PGBU AMB AMB 11 04 38.1

comp=Z,140nm,1.2s
PGBU AMS AMS 11 35 54.3

comp=Z,2µm,23.1s
EAB Aberfoyle 75.18 35⇑ *e*P **P 11 04 36.5 -1.6**
GAL1 Galloway 75.25 37 *e*P **P 11 04 37.4 -1.0**
GAL1 AMB AMB 11 04 38.5

comp=Z,111nm,1.4s
GAL1 AMS AMS 11 37 09.7

comp=Z,1µm,31.6s
BBTS Babate 75.25 79 LR LR 11 32 04.7
comp=Z,3µm,21.9s,baz=169,slow=31
MCD Coleburn Disti 75.47 34⇑ *e*P **P 11 04 39.0 -0.6**
PMAFR Mafra 75.57 53 *e*P **P 11 04 38.6 -2.0**
comp=Z,76nm,1.6s
PMAFR Mafra 75.57 53 *e*LR LR 11 28 03.4
comp=Z,2µm,22.0s

PGAV Gavieira, Arco 75.66 50 *e*P **P 11 04 40.4 -0.8**
PGAV Gavieira, Arco 75.66 50 *e*LR LR 11 28 15.1
comp=Z,2µm,18.0s
GCD Castle Douglas 75.68 37⇑ *e*P **P 11 04 39.8 -1.2**
MME1 Meikle Cairn 75.68 34⇑ *e*P **P 11 04 39.7 -1.2**
LIS Lisbon 75.72 54 *e*P **P 11 04 42.0 +0.5**
LIS *e*S **S 11 14 23.3 +0.7**
LIS A A 11 33 46.3

comp=Z,3µm,20.9s
LIS Lisbon 75.72 54 *e*P **P 11 04 42.0 +0.5**
LIS *e*S **S 11 14 23.3 +0.7**
LIS A A 11 33 46.3

comp=Z,3µm,20.9s
LIS Lisbon 75.72 54 *e*P **P 11 04 42.0 +0.5**
LIS *e*S **S 11 14 23.3 +0.7**
WLF1 Llynfaes 75.76 38 AMS AMS 11 36 50.4
comp=Z,1µm,21.0s
EDI Edinburgh 75.87 35 AMB AMB 11 04 35.8
comp=Z,163nm,1.2s
EDI AMS AMS 11 37 36.7

comp=Z,2µm,21.5s
PCAS Casmilo, Conde 75.92 52 *e*P **P 11 04 42.0 -0.6**
comp=Z,97nm,1.6s
PCAS Casmilo, Conde 75.92 52 *e*LR LR 11 27 58.7
comp=Z,3µm,18.0s
SPITS Spitsbergen Ar 75.95 11 LR LR 11 42 10.6
comp=Z,2µm,21.0s,baz=275,slow=39
EBL Broad Law 75.98 36⇑ *e*P **P 11 04 40.8 -1.8**
ESK Eskdalemuir 75.99 36 *e*P **P 11 04 41.5 -1.2**
ESK AMB AMB 11 04 42.6

comp=Z,121nm,1.2s
ESK AMS AMS 11 41 30.9

comp=Z,2µm,22.2s
ESK Eskdalemuir 75.99 36 *e*P **P 11 04 42.3 -0.4**
ESK pmax pmax

comp=Z,145nm,1.3s
ESK MLR MLR

comp=Z,2µm,19.0s
ESK Eskdalemuir 75.99 36 *e*P **P 11 04 42.3 -0.4**
comp=Z,146nm,1.3s
ESK LR LR

comp=Z,2µm,19.0s
ESK Eskdalemuir 75.99 36 P **P 11 04 42.8 +0.1**
comp=Z,560nm,1.1s,SNR=11
DRUM Mains of Drumt 76.03 34 AMS AMS 11 37 00.3
comp=Z,2µm,22.7s
WPM1 Penmaenmawr 76.06 38 *e*P **P 11 04 41.8 -1.3**
ECK Cauldkaine Hil 76.07 36⇑ *e*P **P 11 04 41.5 -1.7**
POLO Lamas de Olo 76.14 51 *e*P **P 11 04 41.7 -2.3**
comp=Z,22nm,1.4s
POLO Lamas de Olo 76.14 51 *e*LR LR 11 28 19.1
comp=Z,997nm,18.0s
ESY Stoneypath 76.18 35⇑ *e*P **P 11 04 43.0 -0.8**
LPW Lampeter 76.22 39⇑ *e*P **P 11 04 43.2 -0.9**
LPW AMB AMB 11 04 44.2

comp=Z,883nm,1.6s
LPW AMS AMS 11 36 26.0

comp=Z,18µm,22.6s
PNCL Nicolau / Gran 76.34 54 *e*P **P 11 04 42.8 -2.2**
comp=Z,36nm,1.8s
PNCL Nicolau / Gran 76.34 54 *e*LR LR 11 28 39.8
comp=Z,3µm,18.0s
PMTG Montargil 76.35 53 *e*P **P 11 04 43.6 -1.4**
comp=Z,48nm,1.9s
PMTG Montargil 76.35 53 *e*LR LR 11 28 31.0
comp=Z,1µm,22.0s
MORF Marmelete 76.43 55 *e*P **P 11 04 45.4 -0.2**
comp=Z,73nm,1.6s
MORF Marmelete 76.43 55 *e*LR LR 11 28 39.9
comp=Z,4µm,18.0s
MORF Marmelete 76.43 55 *e*P **P 11 04 45.9 +0.3**
MORF *e*S **S 11 14 31.3 +0.8**
EVOP Sao Brissos 76.55 54⇑ *i*P **P 11 04 45.0 -1.2**
EVOP pmax pmax

comp=Z,159nm,1.5s
EVOP Sao Brissos 76.55 54⇑ *i*P **P 11 04 45.0 -1.2**
comp=Z,159nm,1.5s
MTE Manteigas 76.55 52 *e*P **P 11 04 44.6 -1.7**
comp=Z,59nm,1.6s
MTE Manteigas 76.55 52 *e*LR LR 11 28 33.5
comp=Z,3µm,18.0s
MTE Manteigas 76.55 52 *e*P **P 11 04 45.2 -1.0**
comp=Z,27nm,1.1s
MTE LR LR

comp=Z,2µm,19.0s
FOEL Foel Wylfa 76.55 38 AMS AMS 11 39 17.9
comp=Z,1µm,20.3s
EVO Evora 76.63 54⇑ *i*P **P 11 04 45.0 -1.7**
comp=Z,159nm,1.5s
EVO *e*R

comp=Z,4µm,21.5s
XAL Allendale 76.65 36 *e*P **P 11 04 45.6 -0.8**
DYA Yadsworthy 76.69 41 *e*P **P 11 04 46.0 -0.7**
DYA AMB AMB 11 04 46.8

comp=Z,115nm,1.6s
DYA AMS AMS 11 37 41.8

comp=Z,2µm,21.4s
MVO Moncorvo 76.75 51 *e*P **P 11 04 45.8 -1.6**
comp=Z,35nm,2.5s
MVO Moncorvo 76.75 51 *e*LR LR 11 28 35.8
comp=Z,2µm,20.0s
PBRG Braganca 76.81 50 *e*P **P 11 04 46.6 -1.1**
comp=Z,40nm,1.7s
PBRG Braganca 76.81 50 *e*LR LR 11 28 41.9
comp=Z,2µm,20.0s
PCVE Castro Verde 76.83 55 *e*LR LR 11 27 59.4
comp=Z,3µm,18.0s
HLM1 Long Mynd 76.83 39 *e*P **P 11 04 46.2 -1.3**
HLM1 AMB AMB 11 04 47.6

comp=Z,113nm,1.5s
PESTR Estremoz 76.88 53 *e*P **P 11 04 46.5 -1.6**
comp=Z,38nm,1.6s
PESTR Estremoz 76.88 53 *e*LR LR 11 28 38.1
comp=Z,2µm,20.0s
MCH1 Michaelchurch 76.89 39 AMS AMS 11 36 39.3
comp=Z,2µm,25.1s
PMRV Marv??o 76.89 53 *e*P **P 11 04 46.6 -1.6**
comp=Z,54nm,1.6s
PMRV Marv??o 76.89 53 *e*LR LR 11 28 35.7
comp=Z,2µm,20.0s
PBDV Barranco-do-Ve 77.00 55 *e*LR LR 11 28 40.3
comp=Z,4µm,18.0s
STNC Stoke 77.09 38 AMS AMS 11 34 43.5
comp=Z,1µm,22.8s
BST Brest 77.11 43 *e*P **P 11 04 46.8 -2.4**
PVAQ Vaqueiros 77.13 55 *e*LR LR 11 28 12.6
comp=Z,3µm,20.0s
HPK Haverah Park 77.21 37 *e*P **P 11 04 48.8 -0.8**
HPK AMB AMB 11 04 50.0

comp=Z,124nm,1.6s
HPK AMS AMS 11 38 08.9

comp=Z,1µm,28.2s
KBI1 Birley Grange 77.44 38⇑ *e*P **P 11 04 50.3 -0.6**
PBAR Barrancos 77.46 54 *e*P **P 11 04 50.4 -1.0**
comp=Z,56nm,2.0s
PBAR Barrancos 77.46 54 *e*LR LR 11 29 00.5
comp=Z,3µm,20.0s
EFI East Falkland 77.61 157 PFAKE 11 05 00.0 +8.4
EFI LR LR

comp=Z,938nm,21.0s
ROSF Rostrenen 77.61 43⇑ *i*P **P 11 04 51.1 -0.9**
comp=Z,282nm,1.7s
ROSF Rostrenen 77.61 43⇑ *i*P **P 11 04 51.1 -0.9**
ROSF pmax pmax

comp=Z,282nm,1.7s
ROSF Rostrenen 77.61 43⇑ *i*P **P 11 04 51.1 -0.9**
comp=Z,282nm,1.7s
SWN1 Swindon 77.73 40 AMS AMS 11 36 54.2
comp=Z,2µm,19.1s
QUIF Quistinic 77.79 43⇑ *i*P **P 11 04 52.2 -0.7**
comp=Z,278nm,1.7s
QUIF Quistinic 77.79 43⇑ *i*P **P 11 04 52.2 -0.7**
QUIF pmax pmax

comp=Z,278nm,1.7s
QUIF Quistinic 77.79 43⇑ *i*P **P 11 04 52.2 -0.7**
comp=Z,278nm,1.7s
SGMF Saint Gilles 78.10 43⇑ *i*P **P 11 04 53.4 -1.3**
comp=Z,230nm,1.7s
SGMF Saint Gilles 78.10 43⇑ *i*P **P 11 04 53.4 -1.3**
SGMF pmax pmax

comp=Z,230nm,1.7s
SGMF Saint Gilles 78.10 43⇑ *i*P **P 11 04 53.4 -1.3**
comp=Z,230nm,1.7s
JSA Saint Aubin 78.10 42 AMS AMS 11 39 49.6
comp=Z,2µm,18.8s
WOL Wolverton 78.13 40 AMS AMS 11 37 17.1
comp=Z,1µm,22.0s

RTC Rabat Centre 78.67 58 PFAKE 11 05 10.0 +12
RTC LR LR

comp=Z,3µm,22.0s
PAB San Pablo 79.14 52 *e*P **P 11 04 59.9 -0.8**
PAB pmax pmax

comp=Z,1µm,2.2s
PAB MLR MLR

comp=Z,4µm,19.0s
PAB San Pablo 79.14 52 *e*P **P 11 04 59.9 -0.8**
comp=Z,1µm,2.2s
PAB LR LR

comp=Z,4µm,19.0s
GRR Gorron 79.15 43⇑ *i*P **P 11 04 59.9 -0.6**
comp=Z,198nm,1.3s
GRR Gorron 79.15 43⇑ *i*P **P 11 04 59.9 -0.6**
GRR pmax pmax

comp=Z,198nm,1.3s
GRR Gorron 79.15 43⇑ *i*P **P 11 04 59.9 -0.6**
comp=Z,198nm,1.3s
HMNX Herstmonceux 79.20 40 AMS AMS 11 39 27.1
comp=Z,2µm,18.2s
FLN La Foliniere 79.29 42⇑ *i*P **P 11 05 00.7 -0.5**
comp=Z,426nm,1.5s
FLN *e*R

comp=Z,5µm,21.0s
FLN La Foliniere 79.29 42⇑ *i*P **P 11 05 00.7 -0.5**
FLN pmax pmax

comp=Z,426nm,1.5s
FLN La Foliniere 79.29 42⇑ *i*P **P 11 05 00.7 -0.5**
comp=Z,426nm,1.5s
ESDC Sonseca Array 79.39 52 P **P 11 05 00.8 -1.3**
ESDC Sonseca Array 79.39 52 P **P 11 05 00.8 -1.3**
comp=Z,4.5nm,0.7s,baz=295,slow=5.6,SNR=32
ESDC LR LR 11 39 48.1

comp=Z,2µm,18.6s,baz=285,slow=36
LDF La Druitiere 79.56 42⇑ *i*P **P 11 05 02.2 -0.5**
comp=Z,283nm,1.5s
LDF La Druitiere 79.56 42⇑ *i*P **P 11 05 02.2 -0.5**
LDF pmax pmax

comp=Z,283nm,1.5s
LDF La Druitiere 79.56 42⇑ *i*P **P 11 05 02.2 -0.5**
comp=Z,283nm,1.5s
ELSH Elham, Standar 79.60 39 AMS AMS 11 39 52.6
comp=Z,2µm,20.1s
MFF Saint Martin d 80.13 44⇑ *i*P **P 11 05 05.0 -0.8**
comp=Z,169nm,1.5s
MFF Saint Martin d 80.13 44⇑ *i*P **P 11 05 05.0 -0.8**
MFF pmax pmax

comp=Z,169nm,1.5s
MFF Saint Martin d 80.13 44⇑ *i*P **P 11 05 05.0 -0.8**
comp=Z,169nm,1.5s
MENF Mencas 80.39 40 *e*P **P 11 05 06.8 -0.4**
SJPF Ste Jean 80.41 48⇑ *i*P **P 11 05 06.7 -0.7**
comp=Z,106nm,1.5s
SJPF Ste Jean 80.41 48⇑ *i*P **P 11 05 06.7 -0.7**
SJPF pmax pmax

comp=Z,106nm,1.5s
SJPF Ste Jean 80.41 48⇑ *i*P **P 11 05 06.7 -0.7**
comp=Z,106nm,1.5s
LARF Larrau 80.60 48 *e*P **P 11 05 08.1 -0.4**
MDT Midelt 80.79 59 LR LR 11 35 16.3
comp=Z,2µm,21.8s,baz=305,slow=32
ETSF Etsaut 80.94 48⇑ *i*P **P 11 05 09.6 -0.8**
comp=Z,74nm,1.3s
ETSF Etsaut 80.94 48⇑ *i*P **P 11 05 09.6 -0.8**
ETSF pmax pmax

comp=Z,75nm,1.3s
ETSF Etsaut 80.94 48⇑ *i*P **P 11 05 09.6 -0.8**
comp=Z,74nm,1.3s
REYF Montagne du Re 81.00 48 *e*P **P 11 05 10.0 -0.7**
LFF La Frestale 81.22 46 *e*P **P 11 05 10.8 -0.9**
LFF La Frestale 81.22 46 *e*P **P 11 05 10.8 -0.9**
LFF La Frestale 81.22 46 *e*P **P 11 05 10.8 -0.9**
KONO Kongsberg 81.26 30 *e*P **P 11 05 12.1 +0.4**
KONO pmax pmax

comp=Z,592nm,1.5s
KONO MLR MLR

comp=Z,2µm,20.0s
KONO Kongsberg 81.26 30 *e*P **P 11 05 12.1 +0.4**
comp=Z,592nm,1.5s
KONO LR LR

comp=Z,2µm,20.0s
NB2 NORSAR Subarra 81.46 28 P **P 11 05 13.3 +0.6**
comp=Z,81nm,1.2s,baz=294,slow=5.6
NB2 NORSAR Subarra 81.46 28 P **P 11 05 13.3 +0.6**
baz=294,slow=5.6
NOA NORSAR Array B 81.46 28 P **P 11 05 13.2 +0.6**
NOA NORSAR Array B 81.46 28 P **P 11 05 13.2 +0.6**
comp=Z,25nm,0.9s,baz=294,slow=5.3,SNR=34
NOA LR LR 11 41 37.3
comp=Z,929nm,22.0s,baz=270,slow=36
EPF Esparros 81.53 48⇑ *i*P **P 11 05 12.5 -1.0**
comp=Z,134nm,1.6s
EPF Esparros 81.53 48⇑ *i*P **P 11 05 12.5 -1.0**
EPF pmax pmax

comp=Z,134nm,1.6s
EPF Esparros 81.53 48⇑ *i*P **P 11 05 12.5 -1.0**
comp=Z,134nm,1.6s
RJF Les Rejaudoux 81.62 45⇑ *i*P **P 11 05 12.9 -1.0**
comp=Z,258nm,1.6s
RJF *e*R

comp=Z,2µm,18.8s
RJF Les Rejaudoux 81.62 45⇑ *i*P **P 11 05 12.9 -1.0**
RJF pmax pmax

comp=Z,258nm,1.6s
RJF Les Rejaudoux 81.62 45⇑ *i*P **P 11 05 12.9 -1.0**
comp=Z,258nm,1.6s
SNF Seneffe 81.69 39 P **P 11 05 13.9 -0.2**
HYF Humbligny 81.74 43 *e*P **P 11 05 13.8 -0.6**
HYF Humbligny 81.74 43 *e*P **P 11 05 13.8 -0.6**
TCF Toulx Ste Croi 81.77 44⇑ *i*P **P 11 05 13.7 -1.0**
comp=Z,249nm,1.5s
TCF Toulx Ste Croi 81.77 44⇑ *i*P **P 11 05 13.7 -1.0**
TCF pmax pmax

comp=Z,249nm,1.5s
TCF Toulx Ste Croi 81.77 44⇑ *i*P **P 11 05 13.7 -1.0**
comp=Z,249nm,1.5s
AFI Afiamalu 81.78 252 PFAKE 11 05 30.0 +15
AFI LR LR

comp=Z,2µm,21.0s
BAIF Baives 81.80 40⇑ *i*P **P 11 05 14.2 -0.5**
comp=Z,208nm,1.4s
BAIF Baives 81.80 40⇑ *i*P **P 11 05 14.2 -0.5**
BAIF pmax pmax

comp=Z,208nm,1.4s
BAIF Baives 81.80 40⇑ *i*P **P 11 05 14.2 -0.5**
comp=Z,208nm,1.4s
DOU Dourbes 82.02 40 P **P 11 05 15.6 -0.3**
comp=Z,31nm,1.5s
MLS Moulis 82.08 47 *e*P **P 11 05 15.6 -0.7**
BGF Bois d'Agland 82.10 44⇑ *i*P **P 11 05 15.3 -1.1**
comp=Z,160nm,1.3s
BGF Bois d'Agland 82.10 44⇑ *i*P **P 11 05 15.3 -1.1**
BGF pmax pmax

comp=Z,160nm,1.3s
BGF Bois d'Agland 82.10 44⇑ *i*P **P 11 05 15.3 -1.1**
comp=Z,160nm,1.3s
CAF Calviac 82.11 45⇑ *i*P **P 11 05 15.4 -1.1**
comp=Z,32nm,1.0s
CAF Calviac 82.11 45⇑ *i*P **P 11 05 15.4 -1.1**
CAF pmax pmax

comp=Z,32nm,1.0s
CAF Calviac 82.11 45⇑ *i*P **P 11 05 15.4 -1.1**
comp=Z,32nm,1.0s
VERF Verneugheol 82.13 44 *e*P **P 11 05 15.8 -0.8**
GIVF Givet 82.16 40⇑ *i*P **P 11 05 16.2 -0.4**
comp=Z,302nm,1.6s
GIVF Givet 82.16 40⇑ *i*P **P 11 05 16.2 -0.4**
GIVF pmax pmax

comp=Z,302nm,1.6s
GIVF Givet 82.16 40⇑ *i*P **P 11 05 16.2 -0.4**
comp=Z,302nm,1.6s
SALF Salau 82.20 48 *e*P **P 11 05 16.8 -0.3**
MUD Monsted U'grnd 82.28 33⇑ *i*P **P 11 05 17.5 +0.5**
MUD Monsted U'grnd 82.28 33⇑ *i*P **P 11 05 17.5 +0.5**
BCLA Clavier 82.34 39 P **P 11 05 17.0 -0.5**
AVF Avril sur Loir 82.35 43⇑ *i*P **P 11 05 16.4 -1.3**
comp=Z,100nm,1.4s
AVF Avril sur Loir 82.35 43⇑ *i*P **P 11 05 16.4 -1.3**
AVF pmax pmax

comp=Z,100nm,1.4s
AVF Avril sur Loir 82.35 43⇑ *i*P **P 11 05 16.4 -1.3**
comp=Z,100nm,1.4s
SSF Saint Saulge 82.36 43⇑ *i*P **P 11 05 16.6 -1.1**
comp=Z,206nm,1.6s
SSF Saint Saulge 82.36 43⇑ *i*P **P 11 05 16.6 -1.1**

SSF pmax pmax
comp=Z,206nm,1.6s
SSF Saint Saulge 82.36 43⇑*i*P P 11 05 16.6 -1.1
comp=Z,206nm,1.6s
BEBN Eben Emael 82.43 39 P P 11 05 17.9 -0.1
AGO Saint Agoulin 82.45 44 *e*P P 11 05 16.9 -1.3
HLG Helgoland 82.46 35 *e*P P 11 05 18.4 +0.4
comp=Z,274nm,1.5s
PYM Petit Puy Mans 82.47 44 *e*P P 11 05 16.9 -1.5
LOR Lormes 82.52 43⇑*i*P P 11 05 17.7 -0.9
comp=Z,210nm,1.3s
LOR *e*R
comp=Z,2µm,23.0s
LOR Lormes 82.52 43⇑*i*P P 11 05 17.7 -0.9
comp=Z,210nm,1.3s
ARCES ARCESS Array B 82.53 18 P P 11 05 18.2 0.0
ARCES ARCESS Array B 82.53 18 P P 11 05 18.2 0.0
comp=Z,22nm,0.8s,baz=291,slow=4.2,SNR=45
ARCES LR LR 11 43 54.6
comp=Z,1µm,21.6s,baz=308,slow=37
HGN Heimansgroeve 82.59 39 *e*P P 11 05 18.5 -0.3
comp=Z,138nm,1.4s
HGN *e*PP **PP 11 08 25.5 -2.5**
HGN *e*S S 11 15 41.3 +6.2
HGN *e*SS **SS 11 20 59.5 +3.3**
WTSB Winterswijk 82.67 38 *e*P P 11 05 19.3 +0.1
comp=Z,245nm,1.6s
WTSB Winterswijk 82.67 38 *e*S S 11 15 37.4 +1.5
MEM Membach 82.69 39 P P 11 05 19.0 -0.3
SMF Signal de Mont 82.72 43⇑*i*P P 11 05 18.2 -1.4
comp=Z,85nm,1.3s
SMF Signal de Mont 82.72 43⇑*i*P P 11 05 18.2 -1.4
SMF pmax pmax
comp=Z,85nm,1.3s
SMF Signal de Mont 82.72 43⇑*i*P P 11 05 18.2 -1.4
comp=Z,85nm,1.3s
MTLF Montolieu 82.73 47⇑*i*P P 11 05 18.7 -1.0
comp=Z,125nm,1.3s
MTLF Montolieu 82.73 47⇑*i*P P 11 05 18.7 -1.0
MTLF pmax pmax
comp=Z,125nm,1.3s
MTLF Montolieu 82.73 47⇑*i*P P 11 05 18.7 -1.0
comp=Z,125nm,1.3s
LBL Lubilhac 82.80 45 *e*P P 11 05 18.8 -1.4
PLDF La Plantade 82.80 44 *e*P P 11 05 18.5 -1.6
KEV Kevo 82.82 17 *e*P P 11 05 19.7 +0.1
KEV pmax pmax
comp=Z,19nm,0.8s
KEV Kevo 82.82 17 *e*p P 11 05 19.7 +0.1
comp=Z,18nm,0.8s
KEV Kevo 82.82 17 PFAKE 11 05 30.0 +10
KEV LR LR
comp=Z,2µm,22.0s
SEY Seymchan 82.82 335‖*e*P P 11 05 19.8 0.0
MEZF Maizieres J'vi 82.85 41⇑*i*P P 11 05 19.7 -0.5
comp=Z,252nm,1.4s
MEZF Maizieres J'vi 82.85 41⇑*i*P P 11 05 19.7 -0.5
comp=Z,252nm,1.4s
CARF Carcanieres 82.86 47 *e*P P 11 05 19.6 -0.9
VALF Valcebollere 82.90 48 *e*P P 11 05 20.4 -0.4
SFTF Sexfontaines 82.95 41⇑*i*P P 11 05 20.0 -0.7
comp=Z,203nm,1.4s
SFTF Sexfontaines 82.95 41⇑*i*P P 11 05 20.0 -0.7
comp=Z,203nm,1.4s
HFS Hagfors 82.95 28 LR LR 11 44 03.9
comp=Z,960nm,20.6s,baz=283,slow=37
LRDF Laroque-de-Fa 83.08 47 *e*P P 11 05 20.8 -0.8
WLF Walferdange 83.12 40 P P 11 05 21.8 +0.3
comp=Z,64nm,2.2s
WLF Walferdange 83.12 40 *e*P P 11 05 21.7 +0.1
WLF pmax pmax
comp=Z,304nm,2.0s
WLF MLR MLR
comp=Z,2µm,19.0s
WLF Walferdange 83.12 40 *e*P P 11 05 21.7 +0.1
comp=Z,609nm,2.8s
WLF Walferdange 83.12 40 *e*P P 11 05 21.7 +0.1
comp=Z,304nm,2.0s
WLF LR LR
comp=Z,2µm,19.0s
BUG Bochum-Univer 83.13 38 *e*P P 11 05 21.6 0.0
comp=Z,123nm,1.6s
PAGF Fort de Pagny 83.25 41⇑*i*P P 11 05 21.9 -0.4
comp=Z,69nm,1.5s
PAGF Fort de Pagny 83.25 41⇑*i*P P 11 05 21.9 -0.4
comp=Z,69nm,1.5s
SJAF Saint Jean de 83.47 47 *e*P P 11 05 23.1 -0.5
THEF They Montfort 83.53 41 *e*P P 11 05 23.7 -0.1
LASF Ste Croix 83.61 46⇑*i*P P 11 05 23.9 -0.3
comp=Z,221nm,1.6s
LASF Ste Croix 83.61 46⇑*i*P P 11 05 23.9 -0.3
comp=Z,221nm,1.6s
SSB Saint Sauveur 83.65 44 *e*P P 11 05 23.5 -0.9
SSB pmax pmax
comp=Z,112nm,2.0s
SSB MLR MLR
comp=Z,1µm,20.0s
SSB Saint Sauveur 83.65 44 *e*P P 11 05 23.6 -0.9
SSB Saint Sauveur 83.65 44 *e*P P 11 05 23.5 -0.9
comp=Z,112nm,2.0s
SSB LR LR
comp=Z,1µm,20.0s
HAU Haudompre 83.84 41⇑*i*P P 11 05 24.7 -0.7
comp=Z,52nm,0.8s
HAU *e*R
comp=Z,3µm,21.2s
HAU Haudompre 83.84 41⇑*i*P P 11 05 24.7 -0.7
HAU pmax pmax
comp=Z,52nm,0.8s
HAU Haudompre 83.84 41⇑*i*P P 11 05 24.7 -0.7
comp=Z,52nm,0.8s
BSEG Bad Segeberg 83.88 35 *e*P P 11 05 25.9 +0.5
BSEG pmax pmax
comp=Z,209nm,1.4s
BSEG Bad Segeberg 83.88 35 *e*P P 11 05 25.9 +0.5
comp=Z,209nm,1.4s
VIVF Saint-Julien-l 83.88 45⇑*i*P P 11 05 25.3 -0.4
comp=Z,200nm,1.7s
VIVF Saint-Julien-l 83.88 45⇑*i*P P 11 05 25.3 -0.4
VIVF pmax pmax
comp=Z,201nm,1.7s
VIVF Saint-Julien-l 83.88 45⇑*i*P P 11 05 25.3 -0.4
comp=Z,200nm,1.7s
PET Petropavlovsk 84.12 324 *e*P P 11 05 35.8 +9.2
PET *e*S **S 11 15 54.2 +3.6**
CABF La Chapelle 84.18 43⇑*i*P P 11 05 26.6 -0.6
comp=Z,327nm,1.9s
CABF La Chapelle 84.18 43⇑*i*P P 11 05 26.6 -0.6
CABF pmax pmax
comp=Z,327nm,1.9s
CABF La Chapelle 84.18 43⇑*i*P P 11 05 26.6 -0.6
comp=Z,327nm,1.9s
HINF Hinteralfeld 84.22 41⇑*i*P P 11 05 26.5 -0.9
comp=Z,252nm,1.7s
HINF Hinteralfeld 84.22 41⇑*i*P P 11 05 26.5 -0.9
HINF pmax pmax
comp=Z,252nm,1.7s
HINF Hinteralfeld 84.22 41⇑*i*P P 11 05 26.5 -0.9
comp=Z,252nm,1.7s
CDF Champ du Feu 84.27 41⇑*i*P P 11 05 27.0 -0.6
comp=Z,234nm,1.5s
CDF Champ du Feu 84.27 41⇑*i*P P 11 05 27.0 -0.6
CDF pmax pmax
comp=Z,234nm,1.5s
CDF Champ du Feu 84.27 41⇑*i*P P 11 05 27.0 -0.6
comp=Z,234nm,1.5s
ECH Echery 84.27 41 *e*P P 11 05 26.9 -0.6
ECH pmax pmax
comp=Z,177nm,1.9s
ECH MLR MLR
comp=Z,2µm,20.0s
ECH Echery 84.27 41 *e*P P 11 05 27.1 -0.4
ECH Echery 84.27 41 *e*P P 11 05 26.9 -0.6
comp=Z,177nm,1.9s
ECH LR LR
comp=Z,2µm,20.0s
COP Copenhagen 84.27 33⇑*i*P P 11 05 27.5 +0.2
COP Copenhagen 84.27 33⇑*i*P P 11 05 27.5 +0.2
TNS Taunus Mts 84.28 39 *e*P P 11 05 27.6 0.0
TNS pmax pmax
comp=Z,142nm,1.3s
TNS Taunus Mts 84.28 39 *e*P P 11 05 27.6 0.0
comp=Z,142nm,1.3s
NRDL Niedersach Rie 84.35 36 *e*P P 11 05 28.1 +0.4
comp=Z,178nm,1.6s
NRDL *e*PP **PP 11 08 40.9 -1.3**

ASCN Ascension 84.37 100 PFAKE 11 05 40.0 +11
ASCN LR LR
comp=Z,270nm,21.0s
LANF Langenberg 84.38 40 *e*P P 11 05 28.1 0.0
LOMF Lomont 84.38 42 *e*P P 11 05 28.2 0.0
MOF Molkenrain 84.39 41 *e*P P 11 05 27.7 -0.5
GRN Grenoble 84.45 44 *e*P P 11 05 28.3 -0.3
PETK Petropavlovsk- 84.62 325 P P 11 05 30.0 +0.8
PETK Petropavlovsk- 84.62 325 P P 11 05 30.0 +0.8
comp=Z,7.4nm,0.7s,baz=87,slow=12,SNR=4.5
PETK LR LR 11 39 27.6
comp=Z,439nm,21.3s,baz=273,slow=33
ORIF Oris-en-Rattie 84.66 44⇑*i*P P 11 05 29.4 -0.3
comp=Z,196nm,1.7s
ORIF *e*R
comp=Z,2µm,20.5s
ORIF Oris-en-Rattie 84.66 44⇑*i*P P 11 05 29.4 -0.3
ORIF pmax pmax
comp=Z,196nm,1.7s
ORIF Oris-en-Rattie 84.66 44⇑*i*P P 11 05 29.4 -0.3
comp=Z,196nm,1.7s
OG01 Vacheresse 84.67 43 *e*P P 11 05 29.4 -0.3
TIXI Tiksi 84.70 347*c i*P P 11 05 28.7 -0.5
GDM Grand'Maison 84.71 44 *e*P P 11 05 29.7 -0.3
CLZ Clausthal 84.76 37 *e*P P 11 05 30.4 +0.4
CLZ *e* 11 08 44.6
CLZ pmax pmax
comp=Z,125nm,1.3s
CLZ Clausthal 84.76 37 *e*P P 11 05 30.4 +0.4
comp=Z,125nm,1.3s
CLZ *e*PP **PP 11 08 44.6 -1.1**
SMRF Simiane la Rot 84.80 45⇑*i*P P 11 05 30.3 -0.1
comp=Z,236nm,1.7s
SMRF Simiane la Rot 84.80 45⇑*i*P P 11 05 30.3 -0.1
comp=Z,236nm,1.7s
FELD Feldberg im Sc 84.92 41 *e*P P 11 05 30.4 -0.6
BFO Black Forest 84.95 41 *e*P P 11 05 29.6 -1.4
BFO pmax pmax
comp=Z,158nm,1.9s
BFO MLR MLR
comp=Z,3µm,19.0s
BFO Black Forest 84.95 41 *e*P P 11 05 30.4 -0.6
comp=Z,77nm,1.4s
BFO Black Forest 84.95 41 *e*P P 11 05 29.6 -1.4
comp=Z,158nm,1.9s
BFO LR LR
comp=Z,3µm,19.0s
BFO Black Forest 84.95 41 P P 11 05 30.7 -0.3
comp=Z,166nm,1.4s,SNR=7.4
UBBA Unterbreizbach 84.96 38 *e*P P 11 05 31.1 +0.3
comp=Z,212nm,1.8s
UBBA *e*PP **PP 11 08 45.6 -1.6**
LPL La Plagne 85.00 44⇑*i*P P 11 05 31.6 0.0
comp=Z,233nm,1.6s
LPL La Plagne 85.00 44⇑*i*P P 11 05 31.6 0.0
LPL pmax pmax
comp=Z,233nm,1.6s
LPL La Plagne 85.00 44⇑*i*P P 11 05 31.6 0.0
comp=Z,233nm,1.6s
LPG La Plagne 85.02 44⇑*i*P P 11 05 31.9 +0.1
comp=Z,401nm,1.8s
LPG La Plagne 85.02 44⇑*i*P P 11 05 31.9 +0.1
LPG pmax pmax
comp=Z,401nm,1.8s
LPG La Plagne 85.02 44⇑*i*P P 11 05 31.9 +0.1
comp=Z,401nm,1.8s
BNI Bardonecchia 85.14 44 *e*P P 11 05 31.8 -0.4
BNI pmax pmax
comp=Z,147nm,1.8s
BNI MLR MLR
comp=Z,2µm,19.0s
BNI Bardonecchia 85.14 44 *e*P P 11 05 31.8 -0.4
comp=Z,147nm,1.8s
BNI LR LR
comp=Z,2µm,19.0s
STU Stuttgart 85.30 40 P P 11 05 32.7 0.0
STU pmax pmax
comp=Z,49nm,0.2s
STU Stuttgart 85.30 40 *e*P P 11 05 32.5 -0.2
STU Stuttgart 85.30 40 P P 11 05 32.7 0.0
comp=Z,49nm,0.2s
MBDF Montbardon 85.32 44⇑*i*P P 11 05 32.8 -0.3
comp=Z,130nm,1.4s
MBDF Montbardon 85.32 44⇑*i*P P 11 05 32.8 -0.3
MBDF pmax pmax
comp=Z,130nm,1.4s
MBDF Montbardon 85.32 44⇑*i*P P 11 05 32.8 -0.3
comp=Z,130nm,1.4s
SURF Saint Ours 85.44 45 *e*P P 11 05 34.1 +0.3
LMR La Mourre 85.67 46⇑*i*P P 11 05 34.0 -0.6
comp=Z,261nm,1.4s
LMR La Mourre 85.67 46⇑*i*P P 11 05 34.0 -0.6
LMR pmax pmax
comp=Z,261nm,1.4s
LMR La Mourre 85.67 46⇑*i*P P 11 05 34.0 -0.6
comp=Z,261nm,1.4s
FRF La Foret Royal 85.67 45⇑*i*P P 11 05 34.1 -0.6
comp=Z,257nm,1.5s
FRF La Foret Royal 85.67 45⇑*i*P P 11 05 34.1 -0.6
FRF pmax pmax
comp=Z,257nm,1.5s
FRF La Foret Royal 85.67 45⇑*i*P P 11 05 34.1 -0.6
comp=Z,257nm,1.5s
CALN Calern 85.77 45 *e*P P 11 05 35.3 0.0
BSD Bornholm Skovb 85.79 33⇑*i*P P 11 05 34.5 -0.5
BSD Bornholm Skovb 85.79 33⇑*i*P P 11 05 34.5 -0.5
NEUB Neuenburg 85.82 37 *e*P P 11 05 35.4 +0.2
comp=Z,124nm,1.4s
MVIF Mont Vial 85.89 45 *e*P P 11 05 35.5 -0.4
TOUF Mont Tournerai 85.91 45 *e*P P 11 05 35.5 -0.6
LUCF Luceram 86.02 45 *e*P P 11 05 35.8 -0.7
APA Apatity 86.02 17⇑*i*P P 11 05 30.0 -5.9
APA MLR MLR
comp=Z,2µm,20.0s
AUTN L'Aution 86.03 45 *e*P P 11 05 36.1 -0.6
SBF Sospel 86.09 45⇑*i*P P 11 05 35.9 -0.9
comp=Z,166nm,1.3s
SBF Sospel 86.09 45⇑*i*P P 11 05 35.9 -0.9
SBF pmax pmax
comp=Z,166nm,1.3s
SBF Sospel 86.09 45⇑*i*P P 11 05 35.9 -0.9
comp=Z,166nm,1.3s
REVF Revere 86.09 45 *e*P P 11 05 36.2 -0.6
SAOF Saorge 86.12 45 *e*P P 11 05 36.2 -0.7
GRF Grafenberg Arr 86.14 39 *e*P P 11 05 37.3 +0.4
GRF *e* 11 08 55.8
GRF pmax pmax
comp=Z,326nm,2.0s
GRF Grafenberg Arr 86.14 39 *e*P P 11 05 37.3 +0.4
comp=Z,326nm,2.0s
GRF *e*PP **PP 11 08 55.8 -1.1**
GRF *e*L L 11 48 36.8
comp=Z,2µm,18.0s
GRFO Grafenberg 86.14 39 *e*P P 11 05 37.2 +0.3
GRFO pmax pmax
comp=Z,298nm,2.0s
GRFO Grafenberg 86.14 39 *e*P P 11 05 37.1 +0.3
comp=Z,298nm,2.0s
TUE Stuetta 86.31 42 *e*P P 11 05 37.7 -0.4
comp=Z,300nm,2.1s
TUE LR LR
comp=Z,2µm,22.0s
DAVA Damuels 86.32 41 *i* PcP P 11 05 37.9 -0.1
comp=Z,379nm,2.4s,SNR=22
PLN Plauen 86.35 38 *e*P P 11 05 38.1 +0.2
comp=Z,640nm,1.6s
PLN *e*PP **PP 11 08 57.4 -1.2**
RUE Ruedersdorf 86.39 35 *e*P P 11 05 37.8 -0.1
comp=Z,85nm,1.4s
WERD Werda 86.45 38 *e*P P 11 05 38.4 0.0
comp=Z,133nm,1.6s
WERD *e*PP **PP 11 08 58.2 -1.2**
CLL Collm 86.47 37⇑*i*P P 11 05 38.3 -0.1
CLL *e* 11 05 51.0
CLL *e*S S **11 16 13.0 -0.9**
CLL pmax pmax
comp=Z,94nm,1.6s
CLL MLR MLR
comp=Z,1µm,20.4s
CLL Collm 86.47 37 *e*P P 11 05 38.3 -0.1
comp=Z,95nm,1.6s
CLL *e*PP **PP 11 08 58.1 -1.4**
CLL Collm 86.47 37⇑*i*P P 11 05 38.3 -0.1
comp=Z,94nm,1.6s
CLL *e* 11 05 51.0
CLL *e*PP **PP 11 08 57.0 -2.5**

CLL *e*S S **11 16 13.0 -0.9**
CLL *e*Smax 11 16 36.0
CLL *e*PPS PPS 11 17 28.0
CLL *e*SS **SS 11 21 54.0 +0.6**
CLL *e*SSS SSS 11 25 54.0
CLL Lm MLR 11 48 00.0
comp=N,800nm,20.9s
CLL Lm MLR 11 48 00.0
comp=E,1µm,20.9s
CLL Lm MLR 11 48 00.0
comp=Z,1µm,20.4s
GUNZ Gunzen 86.50 38 *e*P P 11 05 38.8 +0.1
comp=Z,205nm,1.9s
GUNZ *e*PP **PP 11 08 58.5 -1.4**
MANZ Manzenberg 86.53 38 *e*P P 11 05 38.9 +0.1
comp=Z,179nm,2.1s
TANN Tannenbergstha 86.55 38 *e*P P 11 05 39.1 +0.1
comp=Z,134nm,1.7s
TANN *e*PP **PP 11 08 59.1 -1.2**
WERN Wernitzgruen 86.56 38 *e*P P 11 05 39.2 +0.2
comp=Z,196nm,1.7s
WERN *e*PP **PP 11 08 59.3 -1.0**
NKC Novy Kostel 86.62 38 *e*P P 11 05 39.3 0.0
NKC *e* 11 05 50.8
NKC *e* 11 16 09.3
NKC MLR MLR
comp=Z,1µm,18.4s
NKC Novy Kostel 86.62 38 *e*P P 11 05 39.3 0.0
NKC *e*x x 11 05 50.8
NKC *e*SKS S 11 16 09.3 -6.2
NKC *e*x x 11 17 26.1
NKC AMS AMS 11 44 40.0
comp=Z,1µm,18.4s
ROTZ Rotzenmuhle 86.69 38 *e*P P 11 05 40.0 +0.4
comp=Z,140nm,1.9s
RETA Reutte 86.78 41⇑*i*PcP P 11 05 40.0 -0.1
comp=Z,464nm,2.8s,SNR=15
FUR Furstenfeldbru 86.81 40 *e*P P 11 05 40.3 +0.1
FUR Furstenfeldbru 86.81 40 *e*P P 11 05 40.3 +0.1
FBE Freiberg 86.84 37 *e*P P 11 05 40.6 +0.3
comp=Z,199nm,1.9s
FBE *e*PP **PP 11 09 01.3 -1.2**
PMSA Palmer Station 86.91 167 *e*P P 11 05 39.6 -0.4
comp=Z,16nm,0.8s
FETA Feichten 86.96 41⇓*i*PcP P 11 05 40.8 -0.3
comp=Z,362nm,3.1s,SNR=15
MOTA Moosalm 87.05 41⇑*i*P P 11 05 41.0 -0.6
comp=Z,79nm,1.4s,SNR=10
KAF Kangasniemi 87.16 24 *e*P P 11 05 41.0 -0.6
KAF Kangasniemi 87.16 24 *e*p P 11 05 41.0 -0.6
BRG Berggiesshubel 87.20 37⇑*i*P P 11 05 41.9 0.0
comp=Z,165nm,2.2s
BRG *e* 11 05 51.8
comp=Z,86nm,2.1s
BRG PP **PP 11 09 03.9 -1.5**
comp=Z,20nm,1.4s
BRG S S **11 16 23.0 +2.1**
BRG SP ScS 11 16 38.0 +10
BRG SS SS 11 22 12.0 +8.0
BRG
comp=Z,1µm,20.7s
BRG
comp=N,560nm,19.1s
BRG
comp=E,1µm,19.1s
BRG Berggiesshubel 87.20 37 *e*P P 11 05 42.0 0.0
comp=Z,165nm,2.2s
BRG *e*PP **PP 11 09 04.1 -1.3**
WET Wettzell 87.35 39 *e*P P 11 05 43.2 +0.4
WET pmax pmax
comp=Z,161nm,1.9s
WET Wettzell 87.35 39 *e*P P 11 05 43.2 +0.4
comp=Z,161nm,1.9s
WTTA Wattenberg 87.42 41⇑*i*PcP P 11 05 42.9 -0.4
comp=Z,427nm,2.6s,SNR=12
FINES FINESS Array B 87.47 24 P P 11 05 42.6 -0.5
FINES FINESS Array B 87.47 24 P P 11 05 42.6 -0.5
comp=Z,12nm,0.9s,baz=321,slow=3.1,SNR=17
FINES LR LR 11 47 43.1
comp=Z,1µm,20.9s,baz=309,slow=38
PGF Pioggiola 87.66 46 *e*P P 11 05 43.5 -1.0
comp=Z,54nm,1.1s
PGF Pioggiola 87.66 46 *e*P P 11 05 43.5 -1.0
PGF pmax pmax
comp=Z,54nm,1.1s
PGF Pioggiola 87.66 46 *e*P P 11 05 43.5 -1.0
comp=Z,54nm,1.1s
PVCC Panska Ves 87.71 37 *e*P P 11 05 44.2 -0.3
PVCC *e* 11 16 25.8
PVCC MLR MLR
comp=Z,2µm,17.7s
PVCC Panska Ves 87.71 37 *e*P P 11 05 44.2 -0.3
PVCC *e*S S **11 16 25.8 -0.1**
PVCC *e*x x 11 17 42.3
PVCC AMS AMS 11 49 20.0
comp=Z,2µm,17.7s
KHC Kasperske Hory 87.77 38 *e*P P 11 05 44.4 -0.5
KHC *e* 11 05 54.1
KHC *e* 11 09 10.2
KHC *e* 11 16 11.6
KHC *e*SS SS 11 22 10.4 -2.2
KHC MLR MLR
comp=Z,2µm,18.5s
KHC Kasperske Hory 87.77 38 *e*P P 11 05 44.4 -0.5
KHC *e*x x 11 05 54.1
KHC *e*PP **PP 11 09 10.2 +0.1**
KHC *e*SKS **SKSac 11 16 11.6 -0.8**
KHC *e*x x 11 17 39.7
KHC *e*SS **SS 11 22 10.4 -2.1**
KHC AMS AMS 11 47 30.0
comp=Z,2µm,18.5s
KHC Kasperske Hory 87.77 38 *e*P P 11 05 44.4 -0.5
PRA Prague 87.84 37 P P 11 05 45.0 -0.1
PRA PP **PP 11 09 12.0 +1.4**
PRA SKS **SKSac 11 16 16.0 +3.4**
RJOB Jochberg 87.92 40 *e*P P 11 05 45.8 +0.2
comp=Z,78nm,1.8s
VLC Villacollemand 87.92 44 PFAKE 11 06 00.0 +14
VLC LR LR
comp=Z,1µm,19.0s
PRU Pruhonice 87.94 37 *e*P P 11 05 45.2 -0.4
PRU *e* 11 05 57.2
PRU *e* 11 09 11.8
PRU *e* 11 16 15.6
PRU MLR MLR
comp=Z,2µm,16.4s
PRU Pruhonice 87.94 37 *e*P P 11 05 45.2 -0.4
PRU *e*x x 11 05 57.2
PRU *e*PP **PP 11 09 11.8 +0.4**
PRU *e*SKS **SKSac 11 16 15.6 +2.3**
PRU *e*x x 11 17 43.2
PRU *e*SS SS 11 22 25.4 +11
PRU AMS AMS 11 50 00.0
comp=Z,2µm,16.4s
GEC2 GERESS Array S 87.97 39 *e*P P 11 05 45.7 -0.2
GEC2 pmax pmax
comp=Z,84nm,2.1s
GEC2 GERESS Array S 87.97 39 *e*P P 11 05 45.7 -0.2
comp=Z,84nm,2.1s
GERES GERESS Array B 87.97 39 P P 11 05 45.7 -0.2
GERES GERESS Array B 87.97 39 P P 11 05 45.7 -0.2
comp=Z,3.0nm,0.8s,baz=319,slow=3.9,SNR=17
GERES LR LR 11 45 19.1
comp=Z,2µm,19.4s,baz=293,slow=36
FUNA Funafuti 88.21 260 PFAKE 11 06 00.0 +13
FUNA LR LR
comp=Z,9µm,19.0s
TIC Toumodi 88.44 84 *e*P P 11 05 47.3 -1.4
comp=Z,119nm,1.6s
KSP Ksiaz 88.53 36⇑*e*P P 11 05 48.2 -0.2
KSP *e* 11 09 13.7
KSP *e*S S **11 16 34.0 +0.3**
KBA Koelnbreinsper 88.55 40 P P 11 05 48.4 -0.3
comp=Z,329nm,3.6s
LIC Lamto 88.57 84⇑*i*P P 11 05 47.7 -1.6
comp=Z,38nm,0.9s,baz=271
LIC *e*R
comp=Z,2µm,21.2s
LIC Lamto 88.57 84 *e*P P 11 05 48.0 -1.3
comp=Z,53nm,0.9s
LIC Lamto 88.57 84⇑*i*P P 11 05 47.7 -1.6
comp=Z,38nm,0.9s
DBIC Dimbokro 88.59 83 *e*P P 11 05 47.9 -1.4
comp=Z,77nm,1.5s
DBIC Dimbokro 88.59 83 P P 11 05 47.7 -1.6

comp=Z,8.2nm,0.8s,baz=284,slow=5.1,SNR=7.9
DBIC LR LR 11 43 09.0
comp=Z,1μm,19.1s,baz=284,slow=34
MOA Molln 88.76 39⇑ *i*P **P 11 05 48.7 -0.8**
comp=Z,322nm,4.0s
DPC Dobruska-Polom 88.78 36 *i* P **P 11 05 49.3 -0.3**
DPC *e* 11 05 59.5
DPC *e* 11 09 17.3
DPC *e* 11 16 20.4
DPC *e*SS SS 11 22 27.1 -0.1
DPC Dobruska-Polom 88.78 36 *i* P **P 11 05 49.3 -0.3**
DPC *e*pP **pP 11 05 55.9 +0.3**
DPC *e*sP **sP 11 05 59.5 +1.8**
DPC *e*PP **PP 11 09 17.3 -0.9**
DPC *e*SKS **SKSac 11 16 20.4 +2.0**
DPC *ex* x 11 17 53.7
DPC *e*SS **SS 11 22 27.1 -0.1**
DPC AMS AMS 11 50 10.0
KIC Kosan Boka 88.80 84 *e*P **P 11 05 49.1 -1.2**
comp=Z,53nm,1.0s
TREC Trest 88.81 38 *e*P **P 11 05 48.9 -0.8**
TREC *e* 11 06 01.5
TREC *e* 11 16 23.5
TREC MLR MLR
comp=Z,2μm,18.3s
TREC Trest 88.81 38 *e*P **P 11 05 48.9 -0.8**
TREC *ex* x 11 06 01.5
TREC *e*PP PP 11 09 10.6 -7.8
TREC *e*SKS **SKSac 11 16 23.5 +5.0**
TREC *ex* x 11 17 49.8
TREC AMS AMS 11 49 10.0
comp=Z,2μm,18.3s
MYKA Terra Mystica 88.93 41⇓ *i*P **P 11 05 49.5 -1.0**
comp=Z,312nm,3.9s
VSL Villasalto 89.15 48 *e*P **P 11 05 51.1 -0.5**
comp=Z,25nm,1.0s
VSL LR LR
comp=Z,3μm,20.0s
CADS Cadrg 89.17 41 *e*P **P 11 05 50.7 -0.8**
VRAC Vranov 89.44 37⇑ *i*P **P 11 05 52.6 -0.1**
VRAC Vranov 89.44 37 LR LR 11 45 45.2
comp=Z,2μm,21.1s,baz=294,slow=36
OBKA Obir 89.54 40⇑ *i*P **P 11 05 52.4 -0.9**
comp=Z,298nm,3.5s
CONA Conrad Observa 89.67 39⇓ *i*PcP **P 11 05 53.5 -0.4**
comp=Z,22nm,1.6s,SNR=7.3
LJU Ljubljana 89.74 41 *e*P **P 11 05 53.9 -0.3**
MORC Moravsky Berou 89.75 37 *e*P **P 11 05 53.4 -0.8**
MORC pmax pmax
comp=Z,24nm,1.3s
MORC Moravsky Berou 89.75 37⇑ *i*P **P 11 05 54.0 -0.2**
MORC Moravsky Berou 89.75 37 *e*P **P 11 05 53.4 -0.8**
comp=Z,24nm,1.3s
SOKA Soboth 89.76 40 *i* P **P 11 05 53.3 -1.0**
comp=Z,24nm,1.1s,SNR=10
ARSA Arzberg 89.79 39⇓ *i*P **P 11 05 53.5 -0.9**
comp=Z,132nm,2.8s
PERS Pernice 89.83 40 *i* P **P 11 05 53.6 -1.1**
PERS *e*S **S 11 16 43.8 -2.4**
OKC Ostrava-Krasne 90.06 36 *e*P **P 11 05 55.2 -0.4**
OKC *e* 11 16 42.7
OKC *e* 11 17 56.2
OKC MLR MLR
comp=Z,2μm,18.5s
OKC Ostrava-Krasne 90.06 36 *e*P **P 11 05 55.2 -0.4**
OKC *e*S **S 11 16 42.7 -5.3**
OKC *e*PS **PS 11 17 56.2 +0.3**
OKC *ex* x 11 23 01.3
OKC AMS AMS 11 50 40.0
comp=Z,2μm,18.5s
BOJS Bojanci 90.44 41 *i* P **P 11 05 56.8 -0.6**
BOJS *e*S **S 11 16 49.3 -2.4**
BOJS *e* 11 17 13.4
KOGS Kog 90.61 40 *e*P **P 11 05 57.2 -1.0**
KEST Kesra 90.64 52 *e*P **P 11 05 58.5 -0.3**
KEST Kesra 90.64 52 P **P 11 05 57.0 -1.7**
comp=Z,8.9nm,1.0s,baz=246,slow=2.4,SNR=15
KEST LR LR 11 45 09.8
comp=Z,874nm,19.7s,baz=77,slow=35
AQU L'Aquila 90.69 44 PFAKE 11 06 10.0 +11
AQU LR LR
comp=Z,2μm,20.0s
OJC Ojcow 90.78 35 *e*P **P 11 05 58.5 -0.4**
OJC Ojcow 90.78 35 *e*P **P 11 05 58.5 -0.4**
WAKE Wake Island 90.81 291 PFAKE 11 06 10.0 +10
WAKE LR LR
comp=Z,2μm,19.0s
TARA Tarawa 90.94 272 PFAKE 11 06 10.0 +10
TARA LR LR
comp=Z,2μm,20.0s
PKST T"s 91.28 39⇑ *e*P **P 11 06 00.7 -0.6**
PKSG 91.42 38⇑ *e*P **P 11 06 01.6 -0.3**
NIE Niedzica 91.48 36 *e*P **P 11 06 02.4 +0.2**
NIE Niedzica 91.48 36 *e*P **P 11 06 02.4 +0.2**
YAK Yakutsk 91.67 340 *e*P **P 11 06 01.3 -1.4**
YAK pmax pmax
comp=Z,23nm,1.0s
PKS9 Tamasi 91.76 39⇓ *e*P **P 11 06 03.5 0.0**
STHS Stebnicka Huta 92.00 36 *e*P **P 11 06 04.9 +0.3**
STHS pmax pmax
comp=Z,34nm,2.4s
STHS Stebnicka Huta 92.00 36 *e*P **P 11 06 04.9 +0.3**
PSZ Piszkesteto 92.03 37 *e*P **P 11 06 04.8 -0.1**
PSZ pmax pmax
comp=Z,134nm,1.9s
PSZ MLR MLR
comp=Z,2μm,20.0s
PSZ Piszkesteto 92.03 37⇓ *i*P **P 11 06 05.6 +0.7**
PSZ Piszkesteto 92.03 37 *e*P **P 11 06 04.8 -0.1**
comp=Z,134nm,1.9s
PSZ LR LR
comp=Z,2μm,20.0s
PSZ Piszkesteto 92.03 37⇑ *e*P **P 11 06 04.7 -0.1**
KECS Kecovo 92.07 37 *e*P **P 11 06 04.9 0.0**
KECS pmax pmax
comp=Z,7.0nm,1.0s
KECS Kecovo 92.07 37 *e*P **P 11 06 04.9 0.0**
PKSM Moragy 92.17 39⇑ *i*P **P 11 06 04.5 -0.9**
PKSM Moragy 92.17 39⇑ *e*P **P 11 06 04.2 -1.2**
MSVF Nonsavu 92.29 252 PFAKE 11 06 20.0 +13
MSVF LR LR
comp=Z,3μm,20.0s
PKS2 Kecel 92.37 39⇑ *e*P **P 11 06 06.4 +0.1**
CRVS Cervenica-Dubn 92.40 36 *e*P **P 11 06 06.8 +0.3**
CRVS pmax pmax
comp=Z,32nm,1.6s
CRVS Cervenica-Dubn 92.40 36 *e*P **P 11 06 06.8 +0.3**
TORD Torodi Ar. Bea 92.55 75 P **P 11 06 05.7 -2.1**
TORD Torodi Ar. Bea 92.55 75 P **P 11 06 05.7 -2.1**
comp=Z,1.2nm,0.7s,baz=289,slow=4.7,SNR=8.7
TORD LR LR 11 44 03.4
comp=Z,3μm,21.2s,baz=310,slow=33
TAM Tamanrasset 92.55 65 *e*P **P 11 06 07.5 -0.4**
TAM pmax pmax
comp=Z,13nm,1.0s
TAM MLR MLR
comp=Z,2μm,20.0s
TAM Tamanrasset 92.55 65 *e*P **P 11 06 07.5 -0.4**
comp=Z,13nm,1.0s
TAM LR LR
comp=Z,2μm,20.0s
RAO Raoul Island 92.64 240 LR LR 11 43 02.0
comp=Z,1μm,19.1s,baz=358,slow=32
KWP Kalwaria Pacla 92.68 35 *e*P **P 11 06 07.8 0.0**
KWP pmax pmax
comp=Z,183nm,2.1s
KWP MLR MLR
comp=Z,1μm,20.0s
KWP Kalwaria Pacla 92.68 35 *e*P **P 11 06 07.8 0.0**
comp=Z,183nm,2.1s
KWP LR LR
comp=Z,1μm,20.0s
KLMR Klimovskoe 92.69 20 *e*P P 11 06 02.6 -4.9
KLMR pmax pmax
comp=Z,40nm,1.6s
KOLS Kolonicke sedl 92.83 36 *e*P **P 11 06 08.6 +0.1**
KOLS pmax pmax
comp=Z,20nm,1.4s
KOLS Kolonicke sedl 92.83 36 *e*P **P 11 06 08.6 +0.1**
UZH Uzhgorod 93.01 36⇓ *i*P **P 11 06 08.9 -0.3**
UZH *e* 11 06 19.5
UZH *e*PPP PPP 11 12 00.1
UZH *e*S **S 11 17 10.7 -4.0**
UZH *e*SS **SS 11 23 29.0 +1.0**

LVV L'vov 93.29 34 *e*P **P 11 06 09.3 -1.2**
CUC Castrocucco 93.39 46 PFAKE 11 06 20.0 +8.7
CUC LR LR
comp=Z,1μm,19.0s
SIRR Siria 93.93 38⇓ *i*P **P 11 06 13.9 +0.3**
DRGR 94.25 37⇓ *i*P **P 11 06 14.4 -0.7**
BZS Buzias 94.25 39⇓ *i*P **P 11 06 15.0 0.0**
CEL Celeste 94.26 47 PFAKE 11 06 30.0 +15
CEL LR LR
comp=Z,1μm,21.0s
WDD Wield Dalam 94.39 50 PFAKE 11 06 30.0 +14
WDD LR LR
comp=Z,2μm,20.0s
TIP Timpagrande 94.42 46 PFAKE 11 06 30.0 +14
TIP LR LR
comp=Z,989nm,20.0s
GZR Gura Zlata 95.06 38⇑ *i*P **P 11 06 17.7 -1.1**
TIR Tirane 95.41 43 PFAKE 11 06 30.0 +10
TIR LR LR
comp=Z,1μm,20.0s
KIEV Kiev 95.44 32 PFAKE 11 06 30.0 +10
KIEV LR LR
comp=Z,1μm,20.0s
AKASG Malin Array Be 95.44 32 P **P 11 06 18.8 -1.6**
AKASG 11 10 10.7
AKASG Malin Array Be 95.44 32 P **P 11 06 18.8 -1.6**
AKASG PP **PP 11 10 10.7 +0.3**
AKASG Malin Array Be 95.44 32 P **P 11 06 18.8 -1.6**
comp=Z,0.5nm,0.4s,baz=292,slow=3.6,SNR=19
AKASG PP **PP 11 10 10.7 +0.3**
comp=Z,0.3nm,0.4s,baz=308,slow=7.2,SNR=5.9
AKASG LR LR 11 50 39.0
comp=Z,1μm,19.8s,baz=300,slow=36
OBN Obninsk 95.80 25⇓ *e*P **P 11 06 21.0 -0.8**
OBN *e* 11 06 34.1
OBN *e* 11 16 53.7
OBN pmax pmax
comp=Z,60nm,1.7s
OBN MLR MLR
comp=Z,1μm,19.0s
MLR Muntele Rosu 96.84 37⇑ *i*P **P 11 06 26.3 -0.7**
MLR Muntele Rosu 96.84 37 LR LR 11 51 27.9
comp=Z,403nm,21.4s,baz=147,slow=36
KIS Kishinev 97.53 35 *e*P **P 11 06 28.0 -1.9**
KIS LRM MLR 11 50 58.0
comp=Z,1μm,22.0s
KIS Kishinev 97.53 35 *e*P **P 11 06 28.0 -1.9**
KIS *e* 11 12 38.0
KIS MLR MLR
comp=Z,1μm,20.0s
KIS MLR MLR
comp=Z,1μm,22.0s
ERM Erimo 98.64 320 PFAKE 11 06 50.0 +15
ERM LR LR
comp=Z,1μm,21.0s
URZ Urewera 99.41 233 LR LR 11 43 46.5
comp=Z,1μm,18.8s,baz=208,slow=31
VSR Storozhevoye 99.70 27 *e*P **Pdif 11 06 38.4 -1.1**
VSR pmax pmax
comp=Z,10.0nm,0.7s
VSR pmax pmax
comp=N,6.0nm,0.5s
VSR pmax pmax
comp=E,9.0nm,0.6s
VSR MLR MLR
comp=Z,1μm,20.0s
VSR MLR MLR
comp=N,1μm,23.0s
VSR MLR MLR
comp=E,900nm,18.0s
VORD Divnogorie 99.93 27 *e*P **Pdif 11 06 39.4 -1.2**
VORD pmax pmax
comp=Z,9.0nm,1.0s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,7.0nm,0.8s
VORD MLR MLR
comp=Z,1μm,18.0s
VORD MLR MLR
comp=N,2μm,19.0s
VORD MLR MLR
comp=E,580nm,18.0s
VRHR Novokhopersk 100.82 26 *e*P **Pdif 11 06 44.0 -0.5**
VRHR pmax pmax
comp=Z,10.0nm,1.0s
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.5s
SIM Simferopol' 101.68 34 P **Pdif 11 06 51.1 +2.6**
SIM 11 10 56.2
SIM 11 17 30.8
SIM SS SS 11 25 26.3 -3.9
SIM SSS SSS 11 29 17.7
SIM pmax pmax
comp=Z,36nm,7.5s
SANT Santorini 101.76 45 PFAKE 11 07 00.0 +11
SANT LR LR
comp=Z,620nm,19.0s
ARU Arti 101.83 14 P **Pdif 11 06 48.6 -0.3**
ARU 11 10 58.3
ARU S **SKSac 11 17 26.7 -0.9**
ARU SP **SP 11 19 57.2 -3.7**
ARU PS **PS 11 20 06.7 +3.0**
SNZO South Karori 102.02 230 PFAKE 11 07 00.0 +10
SNZO LR LR
comp=Z,2μm,19.0s
DZM Mont Dzumac 103.99 251 *e*SP SP 11 20 25.1 -1.3
comp=Z,726nm,27.1s
DZM Mont Dzumac 103.99 251 *e*LR LR 11 41 23.5
comp=Z,3μm,21.1s
ISP Isparta 104.18 41 PFAKE 11 07 10.0 +10
ISP LR LR
comp=Z,974nm,19.0s
ANTO Ankara 104.27 38 PFAKE 11 07 10.0 +10
ANTO LR LR
comp=Z,1μm,20.0s
MDJ Mudanjiang 104.49 328 PFAKE 11 07 10.0 +9.0
MDJ LR LR
comp=Z,530nm,20.0s
BRTR Keskin Array B 104.86 38 PP PP 11 11 22.4 0.0
BRTR Keskin Array B 104.86 38 PP PP 11 11 22.4 0.0
comp=Z,2.1nm,1.2s,baz=273,slow=8.4,SNR=4.0
MAJO Matsushiro 104.98 318 PFAKE 11 11 30.0
MAJO LR LR
comp=Z,1μm,20.0s
HIA Hailar 105.17 337 PFAKE 11 11 30.0
HIA LR LR
comp=Z,1μm,20.0s
HNR Honiara 106.57 266 PFAKE 11 11 30.0
HNR LR LR
comp=Z,145nm,21.0s
KIV Kislovodsk 106.69 30 *i* P **Pdif 11 07 05.1 -5.8**
KIV *e* 11 11 31.1
KIV *e* 11 17 45.4
KIV *e*PS **PS 11 20 47.4 -8.0**
KIV *e*SS SS 11 26 34.0 -5.0
KIV *e*SSS SSS 11 30 32.6
KIV pmax pmax
comp=Z,6.0nm,0.8s
KIV MLR MLR
comp=Z,683nm,21.0s
CN2 Changchun 107.09 330 *e*Pdif **Pdif 11 07 15.3 +2.7**
CN2 PP PP 11 11 43.5 +5.1
CN2 *e*S **Sdif 11 19 14.0 -0.3**
CN2 PPMZ
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,600nm,23.0s
CN2 LR LR
comp=Z,500nm,23.0s
CN2 LR LR
comp=Z,600nm,21.0s
BRVK Borovoye 107.26 9 PFAKE 11 11 30.0
BRVK LR LR
comp=Z,2μm,20.0s
ZALV Zalesovo Beam 107.40 360 PP PP 11 11 39.5 -0.6
ZALV Zalesovo Beam 107.40 360 PP PP 11 11 39.5 -0.6
comp=Z,3.5nm,0.9s,baz=342,slow=9.3,SNR=9.5
CSS Prodhromos 107.73 42 PFAKE 11 11 30.0
CSS LR LR
comp=Z,509nm,22.0s
MSKU Masuku 108.72 85 PFAKE 11 11 40.0
MSKU LR LR
comp=Z,2.0nm,20.0s
QSPA South Pole Qui 108.87 180 PFAKE 11 11 40.0
QSPA LR LR
comp=Z,1μm,19.0s
SBA Scott Base 110.00 193 PFAKE 11 11 40.0
SBA LR LR
comp=Z,768nm,20.0s
ULN Ulaanbaatar 110.45 344 PFAKE 11 11 40.0
ULN LR LR
comp=Z,1μm,22.0s
KURK Kurchatov 110.45 4 PP PP 11 11 59.6 -2.7
KURK LR LR
comp=Z,850nm,21.0s
KURBB Kurchatov Arra 110.54 4 PP PP 11 11 59.6 -3.3
comp=Z,0.8nm,0.8s,baz=353,slow=5.7,SNR=6.9
GNI Garni 110.57 31 PFAKE 11 11 40.0
GNI LR LR
comp=Z,710nm,21.0s
SONM Songino Array 110.65 344 PKKPbc PKKPbc 11 22 26.1 -2.7
SONM Songino Array 110.65 344 PKKPbc PKKPbc 11 22 26.1 -2.7
comp=Z,0.5nm,0.7s,baz=205,slow=2.9,SNR=4.8
INCN Inchon 111.20 325 PFAKE 11 11 40.0
INCN LR LR
comp=Z,520nm,19.0s
BJI Beijing 114.25 334 Pdif **Pdif 11 07 43.8 -0.7**
BJI SKS **SKSdf 11 18 46.0 -1.1**
BJI S **Sdif 11 20 11.5 -2.6**
BJI LR LR
comp=Z,440nm,20.9s
BJI LR LR
comp=Z,680nm,21.7s
BJI LR LR
comp=Z,560nm,22.1s
BJT Baijiatuan 114.27 334 PFAKE 11 11 50.0 +14
BJT LR LR
comp=Z,893nm,20.0s
MKAR Makanchi Array 114.54 2 PKIKP PKPdf 11 11 34.4 -1.6
MKAR Makanchi Array 114.54 2 PKiKP **PKiKP 11 11 34.4 -1.6**
MKAR PP **PP 11 12 27.5 -4.0**
MKAR Makanchi Array 114.54 2 PKiKP **PKiKP 11 11 34.4 -1.6**
comp=Z,0.6nm,0.8s,baz=285,slow=2.8,SNR=3.9
MKAR PP **PP 11 12 27.5 -4.0**
comp=Z,2.9nm,1.1s,baz=28,slow=5.5,SNR=5.7
HHC Hu-ho-hao-te 115.36 337 *e*PKP **PKPdf 11 11 36.8 -1.1**
HHC PP **PP 11 12 39.3 +1.6**
HHC PKS **PKSdf 11 15 12.3 -2.3**
HHC SKS **SKSdf 11 18 48.8 -0.7**
HHC SKKS **SKKSac 11 19 34.8 -5.0**
HHC SS **SS 11 28 35.3 +0.8**
HHC PPMZ
comp=Z,320nm,9.6s
HHC LR LR
comp=Z,1μm,20.7s
HHC LR LR
comp=Z,1μm,20.9s
HHC LR LR
comp=Z,2μm,20.5s
TSUM Tsumeb 117.26 102 PFAKE 11 11 50.0 +8.0
TSUM LR LR
comp=Z,1μm,22.0s
WMQ Urumqi 117.46 357 PKP **PKPdf 11 11 43.0 +1.2**
WMQ PP PP 11 12 59.5 +7.4
WMQ PKS **PKSdf 11 15 18.5 0.0**
WMQ SKS **SKSdf 11 18 50.3 -3.0**
WMQ SKKS **SKKSac 11 19 48.3 -5.3**
WMQ SS **SS 11 29 04.0 +2.7**
WMQ LR LR
comp=Z,660nm,21.8s
WMQ LR LR
comp=Z,780nm,20.4s
WMQ LR LR
comp=Z,880nm,21.6s
TKM2 Tokmak 2 117.91 7 PFAKE 11 11 50.0 +7.2
TKM2 LR LR
comp=Z,1μm,21.0s
EKS2 Erkin-Say 117.92 9 PFAKE 11 11 50.0 +7.2
EKS2 LR LR
comp=Z,1μm,21.0s
AAK Ala-Archa 118.05 8 *i* PKIKP **PKPdf 11 11 43.4 +0.3**
AAK pmax pmax
comp=Z,6.0nm,1.2s
AAK Ala-Archa 118.05 8 PFAKE 11 11 50.0 +6.9
AAK LR LR
comp=Z,941nm,20.0s
PMG Port Moresby 118.65 269 PFAKE 11 12 00.0 +15
PMG LR LR
comp=Z,1μm,19.0s
SSE Sheshan 118.95 324 PKP **PKPdf 11 11 44.5 -0.4**
SSE PP **PP 11 13 06.3 +3.3**
SSE SS SS 11 29 19.5 -2.3
SSE PPMZ
comp=Z,140nm,5.7s
SSE LR LR
comp=Z,200nm,23.0s
SSE LR LR
comp=Z,400nm,22.8s
SSE LR LR
comp=Z,540nm,18.8s
GTA Gaotai 120.17 346 PKP **PKPdf 11 11 46.5 -0.7**
GTA sPKP 11 11 56.5
GTA PP **PP 11 13 13.8 +2.8**
GTA SKS **SKSdf 11 18 54.5 -4.3**
GTA SKKS **SKKSac 11 20 04.8 -7.0**
GTA SS **SS 11 29 34.8 -1.9**
GTA PPMZ
comp=Z,290nm,4.3s
GTA LR LR
comp=Z,170nm,22.3s
GTA LR LR
comp=Z,320nm,26.1s
GTA LR LR
comp=Z,420nm,28.0s
DRV Dumont d'Urvil 120.59 202 Pdif Pdif 11 08 45.0 +33
DRV Dumont d'Urvil 120.59 202 PP PP 11 13 44.0 +30
DRV SKS SKSdf 11 18 27.0 -31
DRV SP SP 11 22 31.0 -31
DRV SS SS 11 29 53.0 +10
CAN Canberra 121.16 240 PFAKE 11 12 00.0 +11
CAN LR LR
comp=Z,1μm,20.0s
KSH Kashi 121.31 8 *e*PKP **PKPdf 11 11 51.3 +1.9**
KSH *e*PP PP 11 13 27.0 +8.3
KSH SKS **SKSdf 11 19 04.3 +3.4**
KSH SKKS **SKKSac 11 20 17.8 -1.4**
KSH PPMZ
comp=Z,260nm,6.1s
KSH LR LR
comp=Z,230nm,7.6s
KSH LR LR
comp=Z,170nm,11.0s
KSH LR LR
comp=Z,1μm,23.8s
SUR Sutherland 121.91 117 PFAKE 11 12 00.0 +9.3
SUR LR LR
comp=Z,2μm,20.0s
CTAO Charters Tower 121.97 258 PFAKE 11 12 00.0 +9.1
CTAO LR LR
comp=Z,1μm,19.0s
LZH Lanzhou 122.24 341 *e*PKP **PKPdf 11 11 47.5 -3.8**
LZH sPKP 11 11 57.5
LZH PP **PP 11 13 26.3 +1.0**
LZH SKS **SKSdf 11 18 57.5 -5.4**
LZH SS **SS 11 30 01.0 -2.4**
LZH PPMZ
comp=Z,2μm,4.8s
LZH LR LR
comp=Z,3μm,17.1s
LZH LR LR
comp=Z,1μm,14.6s
LZH LR LR
comp=Z,4μm,20.4s
XAN Xi'an 122.35 336 PKP **PKPdf 11 11 48.3 -3.1**
TAU Tasmania Unive 122.36 231 PFAKE 11 12 00.0 +9.1
TAU LR LR
comp=Z,793nm,21.0s
WHN Wuhan 122.96 329 PKP **PKPdf 11 11 53.0 +0.4**
WHN PP **PP 11 13 31.0 +0.7**
WHN SS SS 11 30 15.0 +2.2
WHN LR LR
comp=Z,1μm,19.5s
TATO Taipei 123.33 319 PFAKE 11 12 00.0 +6.6
TATO LR LR
comp=Z,623nm,19.0s
YHNB Yeheng 123.62 319 PFAKE 11 12 10.0 +16
YHNB LR LR

comp=Z,622nm,21.0s
MBAR Mbarara 124.37 77 PFAKE 11 12 10.0 +14
MBAR LR LR
comp=Z,716nm,22.0s
BOSA Boshof 125.52 112 PKP **PKPdf 11 11 57.1 -0.5**
BOSA Boshof 125.52 112 PKP **PKPdf 11 11 57.1 -0.5**
comp=Z,6.6nm,0.7s,baz=222,slow=3.0,SNR=5.2
LSZ Lusaka 126.36 95 PFAKE 11 12 10.0 +10
LSZ LR LR
comp=Z,1μm,20.0s
CD2 Chengdu 127.04 339 PKP **PKPdf 11 12 01.0 +0.5**
CD2 PP **PP 11 14 01.8 +4.5**
CD2 PKS **PKSdf 11 15 36.3 -0.9**
CD2 SKS **SKSdf 11 19 10.3 -1.5**
CD2 SKKS **SKKSac 11 20 52.5 -3.5**
CD2 SS **SS 11 31 05.0 +1.3**
CD2 PPMZ
comp=Z,420nm,4.2s
CD2 LR LR
comp=Z,580nm,22.8s
CD2 LR LR
comp=Z,1μm,22.8s
STKA Stephens Creek 127.27 244 PKP **PKPdf 11 12 00.2 -0.5**
STKA Stephens Creek 127.27 244 PKP **PKPdf 11 12 00.2 -0.5**
comp=Z,7.1nm,0.7s,baz=32,slow=0.8,SNR=17
MAW Mawson 129.47 170 PKP **PKPdf 11 12 03.7 -0.1**
MAW Mawson 129.47 170 PKP **PKPdf 11 12 03.7 -0.1**
comp=Z,8.8nm,0.8s,baz=196,slow=3.9,SNR=27
CASY Casey 129.71 193 PFAKE 11 12 20.0 +16
CASY LR LR
comp=Z,877nm,20.0s
GYA Guiyang 129.94 334 Pdif **Pdif 11 08 53.3 -1.5**
GYA PKP **PKPdf 11 12 05.5 -0.7**
GYA PP **PP 11 14 20.0 +3.4**
GYA SKKS 11 21 10.3
GYA SS **SS 11 31 40.8 +0.7**
GYA PPMZ
comp=Z,140nm,7.9s
GYA LR LR
comp=Z,180nm,20.6s
GYA LR LR
comp=Z,150nm,21.0s
GYA LR LR
comp=Z,160nm,20.9s
KMBO Kilima Mbogo 130.56 75 PFAKE 11 12 20.0 +12
KMBO LR LR
comp=Z,2μm,20.0s
LSA Lhasa 131.19 352 PFAKE 11 12 20.0 +11
LSA LR LR
comp=Z,577nm,22.0s
DAV Davao City (W) 131.86 299 PFAKE 11 12 20.0 +10
DAV LR LR
comp=Z,966nm,21.0s
KMI Kunming 132.68 337 PKP **PKPdf 11 12 11.3 -0.3**
KMI sPKP 11 12 16.5
KMI PP **PP 11 14 35.3 +0.9**
KMI SKKS 11 21 28.8
KMI SS **SS 11 32 14.5 +0.8**
KMI PPMZ
comp=Z,190nm,4.0s
KMI LR LR
comp=Z,580nm,18.5s
KMI LR LR
comp=Z,420nm,19.2s
KMI LR LR
comp=Z,700nm,19.2s
WRAB Tennant Creek 133.00 260 *e*PKIKP **PKPdf 11 12 11.1 -0.8**
WRAB MLR MLR
comp=Z,1μm,19.0s
WRAB Tennant Creek 133.00 260 *e*PKPdf **PKPdf 11 12 11.1 -0.8**
WRAB LR LR
comp=Z,1μm,19.0s
WRA Warramunga Ar 133.02 260 PKP **PKPdf 11 12 11.5 -0.4**
WRA SKPbc **SKPbc 11 15 38.3 -0.8**
WRA Warramunga Arr 133.02 260 PKhKP PKPpre 11 11 54.9
comp=Z,0.7nm,1.0s,baz=87,slow=3.8,SNR=5.2
WRA PKP **PKPdf 11 12 11.5 -0.4**
comp=Z,2.0nm,0.5s,baz=81,slow=2.7,SNR=43
WRA SKPbc **SKPbc 11 15 38.3 -0.8**
comp=Z,0.8nm,1.0s,baz=92,slow=3.1,SNR=4.6
ASAR Alice Springs 133.80 255 PKP **PKPdf 11 12 11.7 -1.7**
ASAR SKPbc **SKPbc 11 15 41.0 -0.6**
ASAR Alice Springs 133.80 255 PKhKP PKPpre 11 11 56.0
comp=Z,0.5nm,0.6s,baz=92,slow=3.5,SNR=7.4
ASAR PKP **PKPdf 11 12 11.7 -1.7**
comp=Z,3.1nm,0.6s,baz=88,slow=2.3,SNR=24
ASAR SKPbc **SKPbc 11 15 41.0 -0.6**
comp=Z,2.7nm,1.1s,baz=125,slow=4.0,SNR=6.2
QIZ Qiongzhong 134.73 325 PKP **PKPdf 11 12 15.5 +0.2**
QIZ PP **PP 11 14 48.0 +0.5**
QIZ SS SS 11 32 37.8 -0.9
QIZ PPMZ
comp=Z,94nm,3.5s
QIZ LR LR
comp=Z,450nm,23.1s
QIZ LR LR
comp=Z,590nm,20.1s
QIZ Qiongzhong 134.73 325 PFAKE 11 12 30.0 +15
QIZ LR LR
comp=Z,597nm,20.0s
CHTO Chiang Mai 139.84 338 PFAKE 11 12 40.0 +15
CHTO LR LR
comp=Z,498nm,20.0s
KKM Kota Kinabalu 139.98 305 PFAKE 11 12 40.0 +15
KKM LR LR
comp=Z,568nm,22.0s
POO Poona 141.34 16 *e*P **PKPdf 11 12 24.0 -3.5**
KAPI Kappang 142.83 287 PFAKE 11 12 40.0 +10
KAPI LR LR
comp=Z,438nm,20.0s
ABPO Ambohimpanom 144.92 96 *e*PKIKP **PKPab 11 12 32.8 -0.3**
ABPO MLR MLR
comp=Z,2μm,20.0s
ABPO Ambohimpanom 144.92 96 *e*PKPdf **PKPab 11 12 32.8 -0.3**
ABPO LR LR
comp=Z,2μm,20.0s
MBWA Marble Bar 146.75 260 *e*PKPdf **PKPdf 11 12 37.3 +0.5**
MBWA LR LR
comp=Z,2μm,19.0s
KSM Kuching 147.42 306 *e*PKPbc **PKPbc 11 12 40.5 0.0**
KSM LR LR
comp=Z,596nm,22.0s
NWAO Narrogin (SRO) 147.49 238 PFAKE 11 12 50.0 +7.7
NWAO LR LR
comp=Z,923nm,22.0s
PAF Port-aux-Franc 147.60 163 PFAKE 11 12 50.0 +7.9
PAF LR LR
comp=Z,1μm,19.0s
MSEY Mahe Island 148.44 67 PFAKE 11 12 50.0 +3.4
MSEY LR LR
comp=Z,917nm,21.0s
KULM Kulim 151.06 325 *e*PKPdf **PKPdf 11 12 46.7 +2.8**
KULM LR LR
comp=Z,471nm,19.0s
IPM Ipoh 151.52 323 *e*PKPbc **PKPbc 11 12 49.2 -1.6**
RER Riviere de l'E 153.03 100 PFAKE 11 13 00.0 -5.5
RER LR LR
comp=Z,950nm,20.0s
DGAR Diego Garcia 163.70 47 PFAKE 11 13 10.0 +10
DGAR LR LR
comp=Z,2μm,21.0s
COCO West Island 166.25 297 PFAKE 11 13 10.0 +8.2
COCO LR LR
comp=Z,810nm,21.0s

VIE 29 10:59:59.5±0.9, 50.05N×12.14E, h0km, mb1.9/1, ML2.6/2, 1C-2D, Error ellipse: s-maj=7.2km s-min=4.7km az=55.0
30 km SW of Klingenthal Suspected Mining explosion., Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOA	**Molln**	**2.61**	**147**	⇓*i*	Sg	11 01 26.2	+2.7
	11nm,0.5s						
KSP	**Ksiaz**	**2.77**	**72**	*e*	Pg	11 00 47.7	-2.2
KSP				*e*	Sg	11 01 21.5	+2.2
CONA	**Conrad Observa**	**3.24**	**129**	⇑*i*	Pg	11 01 01.2	-0.6
CONA				⇓*i*	Sg	11 01 46.4	+2.5
	9.4nm,0.6s						

*TEH **29** 11:32:10.4, 37.35N×54.16E, h2km, ML3.7*
*CSEM **29** 11:32:11.9±0.5, 37.30N×54.29E, h20km, ML3.7, Error ellipse: s-maj=17.4km s-min=5.6km az=158.0*
ISC 29 11:32:11.2±1.7, 37.26N±0.08×54.26E±0.05, h2km±12km, n32, σ0s99/42, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGLO	**Ghaloghah**	**0.83**	**204**	*e*P	**Pg**	**11 32 26.3**	**-0.8**
IGLO				*e*Sg	**Sg**	**11 32 37.5**	**-0.3**
IGLO				*e*		11 32 41.6	
	comp=Z,38μm,0.1s						
IMND	**Minoodasht**	**0.92**	**90**	*e*Pg	**Pg**	**11 32 28.4**	**-0.4**
IMND				*e*Sg	**Sg**	**11 32 40.8**	**+0.1**
IMND	**Minoodasht**	**0.92**	**90**	*e*Pg	**Pg**	**11 32 28.4**	**-0.4**
IMND				*e*Sg	**Sg**	**11 32 40.8**	**+0.1**
IKIA	**Kiasar**	**1.15**	**204**	*e*Pg	**Pg**	**11 32 32.1**	**-1.1**
IKIA				*e*Sg	**Sg**	**11 32 48.4**	**+0.4**
IKIA				*e*		11 32 50.4	
	comp=Z,8μm,0.1s						
IKIA	**Kiasar**	**1.15**	**204**	*e*Pg	**Pg**	**11 32 32.1**	**-1.1**
IKIA				*e*Sg	**Sg**	**11 32 48.4**	**+0.4**
MRVT	**Maraveh tapeh**	**1.51**	**74**	*e*Pg	**Pn**	**11 32 37.0**	**-2.4**
ISHM	**Shahmirzad**	**1.64**	**208**	*e*Pn	**Pn**	**11 32 40.9**	**-0.5**
ISHM				*e*		11 32 41.5	
	comp=Z,8μm,0.1s						
ISHM				*e*Sg	**Sn**	**11 33 03.3**	**+0.1**
ISHM	**Shahmirzad**	**1.64**	**208**	*e*Pn	**Pn**	**11 32 40.9**	**-0.5**
ISHM				*e*Sg	**Sn**	**11 33 03.3**	**+0.1**
IALA	**Alasht**	**1.65**	**225**	*e*Pn	**Pn**	**11 32 40.4**	**-1.1**
IALA				*e*Sg	**Sn**	**11 33 02.3**	**-1.2**
IALA				*e*		11 33 06.3	
	comp=Z,37μm,0.1s						
IALA	**Alasht**	**1.65**	**225**	*e*Pn	**Pn**	**11 32 40.4**	**-1.1**
IALA				*e*Sg	**Sn**	**11 33 02.3**	**-1.2**
IANJ	**Anjilo**	**1.81**	**189**	*e*Pn	**Pn**	**11 32 43.2**	**-0.4**
IANJ				*e*		11 33 09.2	
	comp=Z,5μm,0.1s						
IANJ	**Anjilo**	**1.81**	**189**	*e*Pn	**Pn**	**11 32 43.2**	**-0.4**
IPRN	**Peran**	**1.84**	**237**	*e*Pn	**Pn**	**11 32 42.2**	**-1.8**
IPRN				*e*Sg	**Sn**	**11 33 08.2**	**+0.2**
IPRN				*e*		11 33 11.1	
	comp=Z,15μm,0.2s						
SHRO	**Shahrood**	**1.90**	**131**	*e*Pg	**Pn**	**11 32 43.0**	**-1.7**
IFIR	**Firoozkooh**	**2.02**	**217**	*e*Pn	**Pn**	**11 32 46.1**	**-0.4**
IFIR				*e*		11 33 16.3	
	comp=Z,7μm,0.1s						
IFIR	**Firoozkooh**	**2.02**	**217**	*e*Pn	**Pn**	**11 32 46.1**	**-0.4**
ILAS	**Lasjerd**	**2.15**	**210**	*e*Pn	**Pn**	**11 32 48.6**	**+0.3**
ILAS				*e*		11 33 25.8	
	comp=Z,3μm,0.2s						
ILAS	**Lasjerd**	**2.15**	**210**	*e*Pn	**Pn**	**11 32 48.6**	**+0.3**
IDMV	**Damavand**	**2.46**	**228**	*e*Pn	**Pn**	**11 32 52.4**	**-0.2**
IDMV				*e*		11 33 04.3	
	comp=Z,3μm,0.3s						
IDMV	**Damavand**	**2.46**	**228**	*e*Pn	**Pn**	**11 32 52.4**	**-0.2**
DAMV	**Damavand**	**2.46**	**229**	*e*Pn	**Pn**	**11 32 53.2**	**+0.6**
ISFR	**Sfrayin**	**3.00**	**93**	*e*Pn	**Pn**	**11 33 00.0**	**0.0**
ISFR				*e*		11 33 20.6	
	comp=Z,1μm,0.1s						
ISFR	**Sfrayin**	**3.00**	**93**	*e*Pn	**Pn**	**11 33 00.0**	**0.0**
IVRN	**Varamin**	**3.05**	**223**	*e*Pn	**Pn**	**11 32 59.8**	**-0.7**
IVRN	**Varamin**	**3.05**	**223**	*e*Pn	**Pn**	**11 32 59.8**	**-0.7**
IR3	**Iran Long-Peri**	**3.16**	**237**	*e*Sg	**Sb**	**11 33 48.0**	**+0.9**
IR3	**Iran Long-Peri**	**3.16**	**237**	*e*Sg	**Sb**	**11 33 48.0**	**+0.9**
ISFB	**Sefidab**	**3.33**	**210**	*e*Pn	**Pn**	**11 33 03.6**	**-0.8**
ISFB				*e*		11 34 01.5	
	comp=Z,738nm,0.1s						
ISFB	**Sefidab**	**3.33**	**210**	*e*Pn	**Pn**	**11 33 03.6**	**-0.8**
IKRD	**Kardeh**	**3.44**	**97**	*e*Pn	**Pb**	**11 33 14.9**	**+1.8**
IKRD	**Kardeh**	**3.44**	**97**	*e*Pn	**Pb**	**11 33 14.9**	**+1.8**
TABS	**Tabas**	**4.29**	**146**	*e*Pn	**Pn**	**11 33 15.8**	**-1.9**

IDC 29 11:37:09.7±3.5, 1.36S×99.60E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.6/24, mbtmp3.9/5, MS3.9/2, Ms1 3.9/2, ms1mx3.4/38, Error ellipse: s-maj=205.0km s-min=21.6km az=51.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**4.19**	**351**		LR	11 39 40.9	
	comp=Z,234nm,21.1s,baz=28,slow=37						
WRA	**Warramunga Arr**	**38.66**	**121**		P	11 44 34.5	-0.9
	0.3nm,0.6s,baz=296,slow=8.5,SNR=7.9						
ASAR	**Alice Springs**	**39.95**	**126**		P	11 44 46.8	+0.6
	0.4nm,0.6s,baz=298,slow=7.9,SNR=5.6						
ASAR					LR	12 03 18.8	
	comp=Z,1μm,20.4s,baz=79,slow=39						
MKAR	**Makanchi Array**	**50.31**	**345**		P	11 46 08.2	+0.1
	0.7nm,0.3s,baz=153,slow=8.9,SNR=15						
BVAR	**Borovoye Array**	**59.45**	**340**		P	11 47 13.8	-0.4
	0.6nm,0.4s,baz=149,slow=6.9,SNR=3.7						
ARCES	**ARCESS Array B**	**85.74**	**340**		P	11 49 50.5	+0.1
	5.2nm,1.0s,baz=98,slow=6.7,SNR=2.4						

*MOS **29** 11:41:25.3±2.3, 49.55N×156.78E, h36km, mb4.4/1, Error ellipse: s-maj=90.6km s-min=19.2km az=83.9*
KRSC 29 11:41:25.3±7.5, 49.55N×156.78E, h36km±36km, ML4.3, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.21**	**340**	⇓*i*	PN	11 41 42.2	-3.5
SKR				pmax	pmax		
	comp=Z,460nm,0.5s						
SKR				pmax	pmax		
	comp=N,330nm,0.3s						
SKR				pmax	pmax		
	comp=E,200nm,0.3s						
SKR	**Severo-Kuril's**	**1.21**	**340**		P	11 41 47.7	+2.0
SKR				*i*	S	11 42 02.7	+1.9
PAU	**Pauzhetka**	**1.92**	**1**		PN	11 41 58.3	+2.9
PAU					S	11 42 21.1	+2.8
PAU	**Pauzhetka**	**1.92**	**1**		P	11 41 58.3	+2.9
PAU				*i*	S	11 42 21.1	+2.8
MIPR	**Malaya Ipel'ka**	**2.73**	**360**		P	11 42 10.2	+3.6
ASAK	**Asacha**	**2.92**	**14**		P	11 42 12.7	+3.4
MTVR	**Mutnovka**	**3.07**	**16**		P	11 42 14.6	+3.2
MTVR				*i*	S	11 42 49.7	+2.8
RUS	**Russkaya**	**3.09**	**20**		PN	11 42 14.4	+3.0
RUS					S	11 42 49.5	+2.5
RUS	**Russkaya**	**3.09**	**20**		P	11 42 14.4	+3.0
RUS				*i*	S	11 42 49.5	+2.5
APC	**Apacha**	**3.39**	**4**		P	11 42 20.0	+4.4
PET	**Petropavlovsk**	**3.67**	**18**		PN	11 42 22.7	+3.3
PET					S	11 43 04.4	+3.0
PET	**Petropavlovsk**	**3.67**	**18**		P	11 42 22.7	+3.3
PET				*i*	S	11 43 04.4	+3.0
UGLR	**Uglovaya**	**3.88**	**18**		P	11 42 26.3	+3.8
KOK	**Koryaka**	**3.92**	**17**		P	11 42 27.0	+3.9
SMAR	**Somma**	**3.93**	**18**		P	11 42 27.4	+4.1
KRER	**Koryakskii**	**3.96**	**17**		P	11 42 27.8	+4.1
SDLR	**Sedlovina**	**3.96**	**19**		P	11 42 26.9	+3.3
SDLR				*i*	S	11 43 11.7	+2.9
KRX	**Arik**	**3.99**	**16**		P	11 42 27.8	+3.8
KRX				*i*	S	11 43 12.9	+3.3
GNL	**Ganaly**	**4.21**	**9**		P	11 42 30.8	+3.7
MKZ	**Mys Kozlova**	**5.87**	**29**		PN	11 42 52.9	+3.3
MKZ	**Mys Kozlova**	**5.87**	**29**		P	11 42 52.9	+3.3
MKZ				*i*	S	11 43 55.4	-0.1

MAN 29 11:45:13, 10.46N×123.11E, h1km, mb4.3, ML3.1, MS3.0, 3C, Cebu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.54**	**288**	*e*P	Pg	11 45 23.3	0.0
GUIM				*e*S	Sg	11 45 31.1	+0.8
LLP	**Lapu-Lapu**	**0.86**	**99**	*e*P	Pg	11 45 29.3	-0.1
LLP				*e*S	Sn	11 45 55.4	+10
SNPH	**Sibulan**	**1.11**	**173**	⇑*i*	Pn	11 45 37.6	+1.7
SNPH				*e*S	Sn	11 45 53.4	+1.5
RCP	**Roxas**	**1.15**	**342**	⇑*e*	Pb	11 45 35.8	0.0
OCLP	**Ormoc**	**1.59**	**68**	*e*P	Pg	11 45 43.8	+0.3
MSLP	**Maasin**	**1.75**	**100**	*e*P	Pg	11 45 46.9	+0.2
MSLP				*e*S	Sg	11 46 11.8	+2.4
DCPH	**Dipolog City**	**1.88**	**173**	⇑*e*	Pn	11 45 46.3	0.0
PAGZ	**Pagadian**	**2.61**	**174**	*e*P	Pn	11 45 57.8	+1.5

IDC 29 11:47:10.9±3.5, 3.48S×100.97E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/25, mbtmp3.8/6, MS4.3/1, Ms1 4.3/1, ms1mx3.3/36, Error ellipse: s-maj=154.3km s-min=19.2km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**33.02**	**154**		LR	12 06 17.2	
	comp=Z,462nm,18.8s,baz=100,slow=35						
WRA	**Warramunga Arr**	**36.42**	**119**		P	11 54 17.1	-0.5
	0.6nm,0.5s,baz=303,slow=8.9,SNR=21						
ASAR	**Alice Springs**	**37.61**	**125**		P	11 54 27.9	+0.2
	0.7nm,0.5s,baz=299,slow=7.9,SNR=13						
SONM	**Songino Array**	**51.32**	**5**		P	11 56 17.1	0.0
	0.3nm,0.5s,baz=189,slow=8.4,SNR=3.2						
MKAR	**Makanchi Array**	**52.71**	**344**		P	11 56 27.5	+0.2
	0.8nm,0.4s,baz=159,slow=8.5,SNR=25						
KURBB	**Kurchatov Arra**	**57.24**	**343**		P	11 56 59.6	-0.3
	0.4nm,0.6s,baz=161,slow=7.1,SNR=5.7						
ZALV	**Zalesovo Beam**	**58.80**	**349**		P	11 57 10.3	-0.5
	0.8nm,0.4s,baz=177,slow=5.5,SNR=6.0						
TXAR	**Lajitas Array**	**145.25**	**40**	PKPbc	PKPbc	12 06 50.8	-0.4
	0.4nm,0.7s,baz=190,slow=1.7,SNR=4.5						

*IDC **29** 11:47:41.0±0.8, 10.13N×123.26E, h0km, mb3.6/9, mb1 3.8/9, mb1mx3.7/25, mbtmp3.6/9, Error ellipse: s-maj=45.4km s-min=15.4km az=67.0*
*MAN **29** 11:47:41, 10.42N×123.05E, h3km, mb5.3, ML4.3, MS4.5*
MAN INTENSITY III - ILOILO CITY; BACOLOD CITY; BAGO CITY; LA CARLOTA CITY; INTENSITY II - HINIGARAN & VALLADOLID N OCCIDENTAL; INTENSITY I - CANALAO CITY.
*ISCJB **29** 11:47:42.3±0.5, 10.39N±0.04×123.03E±0.04, h10km, mb3.6/9, Error ellipse: s-maj=7.7km s-min=3.9km az=40.1*
ISC 29 11:47:41.4±0.7, 10.42N±0.04×123.06E±0.04, h10km, n22, σ1s85/22, mb3.6/9, 4C, Cebu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.50**	**294**	*e*P	**Pb**	**11 47 51.3**	**-1.1**
GUIM				*e*S	**Sb**	**11 47 59.0**	**-0.8**
LLP	**Lapu-Lapu**	**0.90**	**97**	*e*P	**Pg**	**11 47 58.6**	**-0.2**
LLP				*e*S	**Sn**	**11 48 12.7**	**-0.6**
TBP	**Tagbilaran**	**1.08**	**132**	*e*P	**Pn**	**11 48 02.3**	**-0.3**
TBP				*e*S	**Sn**	**11 48 17.9**	**+0.3**
RCP	**Roxas**	**1.17**	**345**	⇑*e*P	**Pn**	**11 48 03.4**	**-0.5**
RCP				*e*S	**Sn**	**11 48 20.2**	**+0.3**
KALP	**Kalibo**	**1.43**	**331**	⇑*e*P	**Pn**	**11 48 07.2**	**-0.3**
OCLP	**Ormoc**	**1.65**	**68**	*e*P	**Pb**	**11 48 11.7**	**-0.3**
MSLP	**Maasin**	**1.80**	**99**	*e*P	**Pb**	**11 48 14.5**	**+0.1**
DCPH	**Dipolog City**	**1.85**	**171**	⇑*e*P	**Sn**	**11 48 40.0**	**+3.3**
CGP	**Cagayan de Oro**	**2.54**	**140**	*e*P	**Pn**	**11 48 22.8**	**+0.1**
PAGZ	**Pagadian**	**2.58**	**173**	*e*P	**Pb**	**11 48 25.4**	**-2.5**
IPIL	**Ipil**	**2.66**	**190**	*e*P	**Pn**	**11 48 25.8**	**+1.4**
BUKP	**Musuan**	**3.21**	**142**	*e*P	**Pn**	**11 48 31.9**	**-0.1**
CTBH	**Cotabato--PC H**	**3.39**	**160**	⇑*i*P	**Pb**	**11 48 42.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**24.66**	**292**	P	**P**	**11 53 06.3**	**+3.7**
	1.6nm,0.3s,baz=102,slow=7.7,SNR=8.3						
KSRS	**Korea Array**	**27.27**	**8**	P	**P**	**11 53 29.8**	**+3.8**
	1.1nm,0.8s,baz=185,slow=11,SNR=5.7						
WRA	**Warramunga Arr**	**32.16**	**160**	P	**P**	**11 54 06.5**	**-3.0**
	0.5nm,0.6s,baz=342,slow=9.1,SNR=7.4						
ASAR	**Alice Springs**	**35.50**	**163**	P	**P**	**11 54 38.2**	**-0.4**
	0.5nm,0.6s,baz=342,slow=7.5,SNR=8.6						
SONM	**Songino Array**	**39.85**	**342**	P	P	11 55 18.2	+2.9
	0.5nm,0.9s,baz=142,slow=7.3,SNR=3.3						
STKA	**Stephens Creek**	**45.65**	**158**	P	**P**	**11 56 00.1**	**-2.3**
	1.7nm,0.8s,baz=326,slow=9.7,SNR=2.6						
MKAR	**Makanchi Array**	**50.02**	**324**	P	P	11 56 40.6	+4.5
	0.4nm,0.6s,baz=138,slow=6.7,SNR=3.2						
ZALV	**Zalesovo Beam**	**53.01**	**333**	P	P	11 57 02.1	+3.8
	0.4nm,0.4s,baz=139,slow=5.3,SNR=2.5						
KURBB	**Kurchatov Arra**	**54.18**	**327**	P	P	11 57 10.3	+3.3
	0.7nm,0.7s,baz=124,slow=8.4,SNR=6.6						

*TRN **29** 12:02:38.4, 10.81N×59.98W, h44km, MD3.4*
*ISCJB **29** 12:02:39.8±1.1, 10.82N±0.04×60.36W±0.08, h87km±6km, Error ellipse: s-maj=14.2km s-min=5.5km az=17.2*
*FUNV **29** 12:02:45.5, 10.59N×60.52W, h64km, MW3.6*
ISC 29 12:02:37.8±1.9, 10.74N±0.05×60.2W±0.1, h84km±10km, n23, σ2s16/38, 2C, Trinidad

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOSP	**Speyside**	**0.66**	**327**	⇑*i*P	**Pn**	**12 02 52.5**	**-0.9**
TOSP				*e*S	**Sn**	**12 03 02.5**	**-2.5**
BOT	**Bacolet**	**0.69**	**308**	*e*P	**Pn**	**12 02 53.7**	**0.0**
BOT				*e*S	**Sn**	**12 03 04.4**	**-1.0**
TPR	**Prospect**	**0.75**	**307**	*e*P	**Pn**	**12 02 54.4**	**+0.2**
TPR				*e*S	**Sn**	**12 03 06.2**	**-0.3**
TBH	**Brigand Hill**	**0.92**	**254**	⇑*e*P	**Pn**	**12 02 58.1**	**+1.9**
TBH				*e*S	**Sn**	**12 03 11.7**	**+1.8**
TRN	**Trinidad (W)**	**1.22**	**266**	*e*P	**Pn**	**12 03 01.5**	**+1.8**
TCE	**Chacachacare**	**1.56**	**269**	*e*P	**Pn**	**12 03 06.8**	**+2.8**
TCE				*e*S	**Sn**	**12 03 26.9**	**+3.0**
GUIV	**Guiria**	**2.02**	**268**	*e*P	**Pn**	**12 03 12.1**	**+2.0**
GUIV				*e*S	**Sn**	**12 03 31.2**	**-3.6**
GRW	**Mount Saint Ca**	**2.03**	**314**	*e*P	**Pn**	**12 03 12.0**	**+1.6**
GRW				*e*S	**Sn**	**12 03 36.8**	**+1.6**
GRSS	**Sisters**	**2.10**	**318**	*e*P	**Pn**	**12 03 13.0**	**+1.9**
GRSS				*e*S	**Sn**	**12 03 37.8**	**+0.8**
FCV	**Fort Charlotte**	**2.62**	**336**	*e*P	**Pn**	**12 03 19.6**	**+1.4**
FCV				*e*S	**Sn**	**12 03 50.3**	**+1.1**
SVB	**Belmont**	**2.73**	**337**	*e*P	**Pn**	**12 03 19.7**	**+0.1**
SVB				*e*S	**Sn**	**12 03 51.8**	**0.0**
SVV	**Soufriere Volc**	**2.76**	**338**	*e*P	**Pn**	**12 03 20.4**	**+0.4**
SVV				*e*S	**Sn**	**12 03 51.4**	**-1.0**
GUNV	**Guanoco**	**2.79**	**258**	*e*P	**Pn**	**12 03 22.6**	**+2.2**
GUNV				*e*S	**Sn**	**12 03 49.4**	**-3.7**
CRUV	**Carupano**	**3.02**	**269**	*e*P	**Pn**	**12 03 24.5**	**+1.1**
CRUV				*e*S	**Sn**	**12 03 53.8**	**-4.9**
MCLT	**Moule a Chique**	**3.05**	**346**	*e*P	**Pn**	**12 03 24.5**	**+0.6**
MCLT				*e*S	**Sn**	**12 03 57.9**	**-1.5**
RIOV	**Rio Grande**	**3.11**	**212**	*e*P	**Pn**	**12 03 27.4**	**+2.6**
ORIV	**Oritupano**	**3.60**	**243**	*e*P	**Pn**	**12 03 33.1**	**+1.7**
GURV	**El Guri**	**4.13**	**224**	*e*P	**Pn**	**12 03 40.8**	**+2.2**
GURV				*e*S	**Sn**	**12 04 20.3**	**-5.5**
PCRV	**Puerto La Cruz**	**4.43**	**263**	*e*P	**Pn**	**12 03 43.5**	**+0.8**
CUPV	**Cœpira**	**5.57**	**264**	*e*P	**Pn**	**12 03 59.3**	**+1.0**
CUPV				*e*S	Sn	12 04 54.0	-7.1
MERV	**Las Mercedes**	**6.22**	**257**	*e*P	**Pn**	**12 04 07.6**	**+0.6**
TURV	**Turiamo**	**7.55**	**269**	*e*P	**Pn**	**12 04 25.7**	**+0.5**
BAUV	**El Baul**	**7.96**	**258**	*e*P	**Pn**	**12 04 30.7**	**-0.2**
BAUV				*e*S	Sn	12 05 50.0	-9.4

*IDC **29** 12:18:58.6±0.7, 14.08N×93.01E, h0km, mb3.9/11, mb1 4.0/12, mb1mx3.8/29, mbtmp3.9/12, ML3.8/1, Error ellipse: s-maj=29.3km s-min=15.9km az=56.0*
*ISCJB **29** 12:19:01.4±0.6, 14.26N±0.07×93.09E±0.07, h32km, mb3.9/11, Error ellipse: s-maj=10.4km s-min=8.6km az=35.6*
ISC 29 12:19:03.4±0.8, 14.2N±0.1×93.05E±0.10, h32km, n23, σ1s30/21, mb4.0/11, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.07**	**52**	Pn	**Pn**	**12 20 45.7**	**+0.9**
	0.4nm,0.3s,baz=238,slow=15,SNR=3.1						
CMAR					Sn	**12 22 03.1**	**-1.0**
	0.7nm,0.3s,baz=240,slow=26,SNR=5.3						
ODAN	**Odare**	**13.66**	**338**	*e*P	**Pn**	**12 22 15.4**	**+0.1**
TAPN	**Taplejung**	**14.00**	**340**	*e*P	**Pn**	**12 22 19.2**	**-0.8**
RAMN	**Ramite**	**14.05**	**336**	*e*P	**Pn**	**12 22 20.2**	**-0.3**
JIRN	**Jiri**	**14.84**	**336**	*e

0.5nm,0.4s,baz=171,slow=12,SNR=4.5
FITZ **Fitzroy Crossi 45.42 134** P **P** **12 27 18.5 -1.0**
0.8nm,0.4s,baz=342,slow=15,SNR=10
WRA **Warramunga Arr 52.92 129** P **P** **12 28 16.3 -0.7**
0.3nm,0.6s,baz=307,slow=9.6,SNR=10
ASAR **Alice Springs 54.88 133** P **P** **12 28 31.1 -0.2**
0.6nm,0.5s,baz=311,slow=7.0,SNR=10
BRTR **Keskin Array B 57.60 308** P **P** **12 28 50.6 -0.1**
1.0nm,0.7s,baz=131,slow=6.1,SNR=5.1
FINES **FINESS Array B 66.67 331** P **P** **12 29 51.1 +0.2**
2.4nm,0.8s,baz=72,slow=6.0,SNR=3.8
ARCES **ARCESS Array B 69.00 340** P **P** **12 30 04.8 -0.6**
2.3nm,0.9s,baz=90,slow=6.3,SNR=2.8
BOSA **Boshof 78.10 236** P **P** **12 31 00.5 +0.7**
3.6nm,0.8s,baz=53,slow=5.1,SNR=5.3
TORD **Torodi Ar. Bea 88.12 283** P **P** **12 31 52.0 +0.3**
0.8nm,0.7s,baz=68,slow=3.5,SNR=5.6

*NEIC **29** 12:25:18.2, 19°.30N×64°.58W, h34km, MD3.5(RSPR), After RSPR.*
RSPR 29 12:25:18.2, 19°.30N×64°.58W, h34km±20km**, MD3.5**/12, **18C-10D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.88**	**182**	⇑*iP*	Pn	12 25 33.0	-1.0
TBVI				*eS*	Sn	12 25 43.7	-1.9
TBVI	**Tortola**	**0.88**	**182**	*i* Pu	Pn	12 25 33.0	-1.0
TBVI				*eS*	Sn	12 25 43.7	-1.9
STVI	**Saint Thomas**	**1.00**	**201**	⇓*eP*	Pn	12 25 34.3	-1.5
STVI	**Saint Thomas**	**1.00**	**201**	⇑*eP*	Pn	12 25 34.8	-1.1
STVI				*eS*	Sn	12 25 47.8	-1.0
STVI	**Saint Thomas**	**1.00**	**201**	*eS*	Sn	12 25 46.6	-2.1
STVI	**Saint Thomas**	**1.00**	**201**	⇓*eP*	Pn	12 25 34.3	-1.5
STVI				⇑*eP*	Pb	12 25 34.8	-2.4
STVI				*eS*	Sn	12 25 47.8	-1.0
MTP	**Monte Pirata**	**1.50**	**218**	⇓*eP*	Pn	12 25 41.6	-1.1
MTP	**Monte Pirata**	**1.50**	**218**	⇓*eP*	Pn	12 25 41.6	-1.1
MTP				*eS*	Sn	12 25 60.0	-1.2
CDVI	**St. Croix**	**1.54**	**186**	*e*Pn	Pn	12 25 44.0	+0.7
CDVI				*e*Sn	Sb	12 26 03.9	-1.7
CBYP	**Canovanas**	**1.58**	**230**	⇓*eP*	Pn	12 25 42.2	-1.7
CBYP	**Canovanas**	**1.58**	**230**	⇓*eP*	Pn	12 25 42.2	-1.7
HUMP	**Col San Antoni**	**1.66**	**227**	⇓*eP*	Pn	12 25 43.7	-1.2
HUMP	**Col San Antoni**	**1.66**	**227**	⇓*eP*	Pn	12 25 43.7	-1.2
HUMP				*eS*	Sn	12 26 04.3	-0.8
CPD	**Cerro la Pandu**	**1.78**	**225**	⇑*eP*	Pn	12 25 45.5	-1.1
CPD	**Cerro la Pandu**	**1.78**	**225**	⇑*eP*	Pn	12 25 45.5	-1.1
SJG	**San Juan**	**1.90**	**232**	⇑*eP*	Pn	12 25 46.8	-1.3
SJG	**San Juan**	**1.90**	**232**	⇑*eP*	Pn	12 25 46.8	-1.3
CELP	**Cerrillos**	**2.25**	**238**	⇑*eP*	Pn	12 25 52.1	-0.9
CELP	**Cerrillos**	**2.25**	**238**	⇑*eP*	Pn	12 25 52.1	-0.9
AOPR	**Arecibo Observ**	**2.26**	**246**	⇑*eP*	Pn	12 25 52.3	-1.0
AOPR	**Arecibo Observ**	**2.26**	**246**	⇑*eP*	Pn	12 25 52.3	-1.0
AOPR				*eS*	Sn	12 26 18.5	-1.5
OBIP	**Obispado Ponce**	**2.29**	**237**	⇑*eP*	Pn	12 25 52.5	-1.0
OBIP	**Obispado Ponce**	**2.29**	**237**	⇑*eP*	Pn	12 25 52.5	-1.0
OBIP				*eS*	Sn	12 26 19.6	-0.9
LSP	**Las Mesas**	**2.62**	**245**	⇑*eP*	Pn	12 25 57.7	-0.5
LSP	**Las Mesas**	**2.62**	**245**	⇑*eP*	Pn	12 25 57.7	-0.5
CRPR	**Cabo Rojo, PR**	**2.72**	**242**	⇑*eP*	Pn	12 25 59.5	0.0
CRPR	**Cabo Rojo, PR**	**2.72**	**242**	⇑*eP*	Pn	12 25 59.5	0.0
IDE	**Isla Desecheo**	**2.88**	**252**	⇑*eP*	Pn	12 26 00.8	-0.9
IDE	**Isla Desecheo**	**2.88**	**252**	⇑*eP*	Pn	12 26 00.8	-0.9
DR12	**Loma Pena Alta**	**4.57**	**264**	⇑*eP*	Pn	12 26 24.4	-0.6
DR12	**Loma Pena Alta**	**4.57**	**264**	⇑*eP*	Pn	12 26 24.4	-0.6
SDDR	**Presa de Saban** 18nm,0.8s	**6.35**	**268**	*e*Pn	Pn	12 26 48.9	-0.5

*IDC **29** 12:34:43.9±1.0, 29°.92S×177°.32W, h0km, mb4.1/6, mb1 4.3/7, mb1mx4.0/20, mbtmp4.1/7, ML3.4/1, Error ellipse: s-maj=26.1km s-min=20.7km az=68.0*
*ISCJB **29** 12:34:47.9±1.2, 30°.12S±0°.05×177°.5W±0°.2, h35km, mb4.1/6, Error ellipse: s-maj=22.8km s-min=7.3km az=2.9*
ISC 29 12:34:49.1±1.0**, 30°.02S**±0°.08×**177°.4W**±0°.2**, h35**km**, n20,** σ1**°37**/14**, mb4.1/6, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** 777nm,0.3s,baz=323,slow=1.1,SNR=64	**0.87**	**331**	Pn	**Pn**	**12 35 03.8**	**-1.0**
RAO				Sn	**Sn**	**12 35 16.0**	**-0.3**
URZ	**Urewera** 3µm,0.3s,baz=81,slow=19,SNR=33	**9.38**	**207**	Pn	**Pn**	**12 37 00.2**	**-1.6**
URZ				Sn	**Sn**	**12 38 44.5**	**-1.5**
CTA	**Charters Tower** 1.3nm,0.3s,baz=248,slow=19,SNR=4.4	**34.22**	**278**	P	**P**	**12 41 33.3**	**+1.7**
STKA	**Stephens Creek** 1.8nm,0.4s,baz=115,slow=14,SNR=3.8	**35.04**	**256**	P	**P**	**12 41 40.4**	**+1.7**
ASAR	**Alice Springs** 1.7nm,0.6s,baz=93,slow=9.1,SNR=6.0	**43.62**	**266**	P	**P**	**12 42 50.0**	**-0.3**
WRA	**Warramunga Arr** 1.6nm,0.6s,baz=104,slow=7.8,SNR=41	**44.57**	**271**	P	**P**	**12 42 57.8**	**-0.2**
MAW	**Mawson** 1.4nm,0.3s,baz=110,slow=8.1,SNR=108	**72.84**	**200**	P	**P**	**12 46 15.5**	**+1.6**
H03N3	**Juan Fernandez** 1.2nm,0.7s,baz=144,slow=6.7,SNR=5.3	**80.46**	**123**	T	T	14 16 38.8	
H03N2	**Juan Fernandez** baz=249	**80.46**	**123**	T	T	14 16 39.2	
H03N1	**Juan Fernandez** baz=249	**80.48**	**123**	T	T	14 16 38.8	
NVAR	**Mina Array Bea** 0.8nm,0.8s,baz=238,slow=8.3,SNR=5.2	**87.63**	**42**	P	**P**	**12 47 33.6**	**-0.4**
H10S3	**ASCENSION HYDR** baz=202	**87.86**	**154**	T	T	15 28 50.6	
H10S2	**ASCENSION HYDR** baz=202	**87.86**	**154**	T	T	15 28 53.0	
H10S1	**ASCENSION HYDR** baz=202	**87.88**	**154**	T	T	15 28 49.2	
H10N3	**ASCENSION HYDR** baz=203,slow=0.7,SNR=6.0	**88.94**	**154**	T	T	15 29 59.4	
H10N1	**ASCENSION HYDR** baz=203,slow=0.7,SNR=6.8	**88.95**	**154**	T	T	15 30 01.4	
H10N2	**ASCENSION HYDR** baz=203,slow=0.7,SNR=7.0	**88.96**	**154**	T	T	15 30 04.3	
FINES	**FINESS Array B** 2.7nm,0.4s,baz=53,slow=4.4,SNR=18	**144.95**	**340**	PKP	**PKPdf**	**12 54 21.3**	**-0.6**
AKASG	**Malin Array Be** 0.4nm,0.4s,baz=37,slow=2.3,SNR=2.9	**151.28**	**324**	PKPbc	**PKPbc**	**12 54 38.6**	**0.0**
AKASG				PKPab	**PKPab**	**12 54 44.6**	**-2.0**
TORD	**Torodi Ar. Bea** 0.5nm,0.8s,baz=180,slow=3.7,SNR=2.5	**163.19**	**177**	PKPab	**PKPab**	**12 55 40.0**	**+1.4**

*IDC **29** 12:39:25.9±1.1, 1°.43S×99°.54E, h0km, mb3.9/9, mb1 4.0/11, mb1mx3.9/25, mbtmp3.9/11, ML3.2/1, Error ellipse: s-maj=44.0km s-min=13.6km az=70.0*
*NEIC **29** 12:39:26.8±0.7, 1°.50S×99°.41E, h10km, mb4.5/1, Error ellipse: s-maj=22.6km s-min=7.9km az=75.0*
*DJA **29** 12:39:38.3±1.3, 1°.5±.5°×10°.0E±°, h11km±8km, M4.5/4, mB4.6/1, mb4.4/4, MLv4.6/2, Mw(mB)3.8/1*
ISC 29 12:39:30.3±0.8**, 1°.42S**±0°.07×**99°.7E**±0°.1**, h30**km**, n43,** σ1**°08**/34**, mb4.1**/10**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.96**	**58**	P	Pb	12 39 50.7	+2.3
PDSI				S	Sb	12 40 05.2	+4.5
PPI	**Padang Panjang**	**1.22**	**38**	P	**Pb**	**12 39 52.8**	**+0.1**
PSI	**Prapat**	**4.25**	**350**	P	Pb	12 40 39.1	-5.4
PSI	**Prapat**	**4.25**	**350**	Pn	**Pn**	**12 40 30.6**	**-2.6**
PSI				Lg	Lg	12 41 38.0	
PSI	**Prapat** 1.6nm,0.3s,baz=177,slow=5.2,SNR=4.7	**4.25**	**350**	Pn	**Pn**	**12 40 30.6**	**-2.6**
PSI				Lg	Lg	12 41 38.0	
LHSI	**Lahat** 2.0nm,0.3s,baz=173,slow=18,SNR=3.5	**4.55**	**122**	P	**Pb**	**12 40 47.4**	**-2.1**
LHSI				S	**Sb**	**12 41 42.9**	**-1.0**
KCSI	**Kotacane, Aceh** 32nm,0.7s,551nm	**5.25**	**339**	P	Pb	12 40 54.7	-6.7
MYKOM	**Kota Tinggi**	**5.28**	**53**	P	Pn	12 40 53.3	+6.2
MDSI	**Maura Dua** 23nm,0.8s	**5.46**	**124**	P	Pb	12 41 00.6	-4.3
LWLI	**Liwa**	**5.67**	**129**	P	Pb	12 41 04.6	-4.1
LWLI				S	Sb	12 42 10.5	-5.8
IPM	**Ipoh** 21nm,1.1s	**6.02**	**13**	P	Pn	12 41 02.5	+5.1
IPM	**Ipoh** 12nm,0.6s	**6.02**	**13**	*e*Pn	Pn	12 40 59.5	+2.2
KULM	**Kulim** 17nm,0.8s	**6.74**	**9**	*e*Pn	**Pn**	**12 41 07.4**	**+0.2**
CMAR	**Chiang Mai Arr**	**19.76**	**358**	P	**Pn**	**12 43 58.5**	**-1.1**
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=187,slow=9.4,SNR=11	**19.76**	**358**	P	**Pn**	**12 43 58.5**	**-1.1**
H08S2	**Diego Garcia H** baz=79,slow=0.7,SNR=125	**27.75**	**256**	T	T	13 14 02.9	
H08S3	**Diego Garcia H** baz=79,slow=0.7,SNR=134	**27.76**	**256**	T	T	13 14 08.8	
H08S1	**Diego Garcia H** baz=79,slow=0.7,SNR=106	**27.77**	**256**	T	T	13 13 59.4	
H01W3	**Cape Leeuwin H** baz=335,slow=0.7,SNR=32	**35.93**	**159**	T	T	13 24 13.5	
H01W2	**Cape Leeuwin H** baz=335,slow=0.7,SNR=26	**35.94**	**159**	T	T	13 24 14.9	
H01W1	**Cape Leeuwin H** baz=335,slow=0.7,SNR=22	**35.95**	**159**	T	T	13 24 22.5	
WRA	**Warramunga Arr**	**38.59**	**121**	P	**P**	**12 46 51.1**	**+0.2**
WRA				PcP	**PcP**	**12 49 04.1**	**+0.9**
WRA	**Warramunga Arr** 0.7nm,0.7s,baz=301,slow=9.6,SNR=13	**38.59**	**121**	P	**P**	**12 46 51.1**	**+0.2**
WRA				PcP	**PcP**	**12 49 04.1**	**+0.9**
WRAB	**Tennant Creek** 0.2nm,0.5s,baz=320,slow=2.5,SNR=4.5	**38.60**	**121**	*e*P	**P**	**12 46 51.8**	**+0.7**
WRAB	**Tennant Creek** 22nm,2.1s	**38.60**	**121**	*e*P	**P**	**12 46 51.8**	**+0.7**
ASAR	**Alice Springs**	**39.88**	**126**	P	**P**	**12 47 02.0**	**+0.3**
ASAR				PcP	**PcP**	**12 49 08.3**	**+1.1**
ASAR	**Alice Springs** 0.8nm,0.6s,baz=302,slow=7.6,SNR=16	**39.88**	**126**	P	**P**	**12 47 02.0**	**+0.3**
ASAR				PcP	**PcP**	**12 49 08.3**	**+1.1**
KSAR	**Wonju Array Be** 0.3nm,0.7s,baz=301,slow=2.6,SNR=3.5	**46.68**	**31**	P	**P**	**12 47 56.8**	**+0.5**
KSRS	**Korea Array** 0.7nm,0.5s,baz=223,slow=8.5,SNR=4.6	**46.71**	**31**	P	**P**	**12 47 56.8**	**+0.3**
SONM	**Songino Array** 2.6nm,0.5s,baz=156,slow=8.6,SNR=33	**49.41**	**6**	P	**P**	**12 48 18.0**	**+0.6**
SONM	**Songino Array** 0.5nm,0.4s,baz=190,slow=9.8,SNR=6.3	**49.41**	**6**	P	**P**	**12 48 18.0**	**+0.6**
STKA	**Stephens Creek** 3.2nm,1.1s,baz=312,slow=15,SNR=3.1	**49.80**	**132**	P	**P**	**12 48 22.2**	**+1.6**
STKA	**Stephens Creek** 0.6nm,0.9s,baz=320,slow=3.6,SNR=3.9	**49.80**	**132**	P	**P**	**12 48 22.2**	**+1.6**
MKAR	**Makanchi Array**	**50.38**	**345**	P	**P**	**12 48 24.9**	**+0.2**
MKAR	**Makanchi Array** 1.9nm,0.7s,baz=219,slow=6.1,SNR=4.6	**50.38**	**345**	P	**P**	**12 48 24.9**	**+0.2**
USRK	**Ussuriysk Arra** 1.2nm,0.7s,baz=164,slow=0.9,SNR=6.3	**53.81**	**28**	P	**P**	**12 48 50.7**	**+0.4**
ZALV	**Zalesovo Beam** 1.2nm,0.4s,baz=165,slow=6.9,SNR=9.9	**56.54**	**350**	P	**P**	**12 49 09.5**	**-0.2**
ZALV	**Zalesovo Beam**	**56.54**	**350**	P	**P**	**12 49 09.5**	**-0.2**
VNDA	**Vanda**	**82.80**	**169**	P	**P**	**12 51 52.0**	**+0.9**
VNDA	**Vanda** 0.6nm,0.9s,baz=320,slow=3.6,SNR=3.9	**82.80**	**169**	P	**P**	**12 51 52.0**	**+0.9**
TXAR	**Lajitas Array**	**144.45**	**36**	PKP	**PKPdf**	**12 59 03.9**	**-0.7**
TXAR	**Lajitas Array** 0.8nm,0.7s,baz=164,slow=0.9,SNR=6.3	**144.45**	**36**	PKP	**PKPdf**	**12 59 03.9**	**-0.7**
CPUP	**Villa Florida**	**144.57**	**217**	PKP	**PKPab**	**12 59 02.7**	**-0.5**
CPUP	**Villa Florida** 2.2nm,0.5s,baz=121,slow=8.3,SNR=5.2	**144.57**	**217**	PKP	**PKPab**	**12 59 02.7**	**-0.5**

*JMA **29** 12:43:19.4±0.2, 30°.61N×139°.87E, h63km, M3.4*
*ISCJB **29** 12:43:20.1±0.6, 30°.64N±0°.06×139°.9E±0°.1, h33km, mb3.8/5, Error ellipse: s-maj=15.2km s-min=5.3km az=152.9*
*IDC **29** 12:43:23.9±1.7, 30°.47N×139°.90E, h52km±18km, mb3.5/5, mb1 3.6/8, mb1mx3.4/28, mbtmp3.5/8, ML3.2/3, Error ellipse: s-maj=30.2km s-min=11.4km az=63.0*
ISC 29 12:43:22.8±0.8**, 30°.70N**±0°.06×**140°.0E**±0°.1**, h35**km**, n24,** σ1**°75**/17**, mb3.8/5, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.41**	**357**	*e*S	**Sn**	**12 44 27.5**	**-0.6**
TTO1	**TONANKAI O.B.S**	**3.97**	**318**	P	**Pn**	**12 44 18.8**	**-2.1**
TTO1				*e*S	**Sn**	**12 45 05.9**	**-0.2**
JCJ	**Chichijima** 2.4nm,0.3s,baz=287,slow=19,SNR=2.2	**4.08**	**151**	P	**Pn**	**12 44 21.0**	**-1.9**
JCJ				S	**Sn**	**12 45 06.8**	**-2.7**
JIZS	**Izushimoda** 4.1nm,0.3s,baz=288,slow=19,SNR=3.7	**4.11**	**348**	P	Pn	12 44 27.9	+4.7
BSO4	**Boso 4**	**4.29**	**4**	*e*S	**Sn**	**12 45 11.3**	**-3.1**
JIE	**Ise**	**4.59**	**324**	*e*S	**Sn**	**12 45 21.5**	**-0.4**
JYN	**Shimob**	**4.93**	**346**	P	Pn	12 44 39.1	+4.6
JNY	**Yasuok**	**4.97**	**340**	P	Pn	12 44 40.7	+5.6
JRY	**Ryogami san**	**5.38**	**351**	P	**Pn**	**12 44 43.3**	**+2.7**
MJAR	**Matsushiro Arr** 0.5nm,0.3s,baz=193,slow=15,SNR=7.7	**6.01**	**346**	P	Pn	12 44 53.2	+3.9
MJAR				S	Sn	12 46 03.7	+6.9
MAT	**Matsushiro** 0.7nm,0.3s,baz=82,slow=21,SNR=4.5	**6.01**	**346**	P	**Pn**	**12 44 50.3**	**+1.0**
MAT				*e*S	**Sn**	**12 45 57.4**	**+0.5**
KSRS	**Korea Array** 0.1nm,0.3s,baz=104,slow=13,SNR=2.3	**12.03**	**307**	P	**Pn**	**12 46 14.4**	**+2.6**
H11N2	**WAKE ISLAND Hy** baz=303,slow=0.7	**26.64**	**108**	T	T	13 16 51.9	
H11N1	**WAKE ISLAND Hy** baz=303,slow=0.7	**26.64**	**108**	T	T	13 16 52.4	
H11N3	**WAKE ISLAND Hy** baz=303,slow=0.7	**26.66**	**108**	T	T	13 16 53.3	
H11S3	**WAKE ISLAND Hy** baz=307	**27.10**	**110**	T	T	13 17 39.4	
H11S1	**WAKE ISLAND Hy** baz=307	**27.10**	**110**	T	T	13 17 40.0	
H11S2	**WAKE ISLAND Hy** baz=307	**27.11**	**110**	T	T	13 17 38.4	
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=92,slow=8.0,SNR=4.2	**46.72**	**307**	P	**P**	**12 51 48.6**	**+0.2**
ILAR	**Eielson Array** 0.7nm,1.1s,baz=270,slow=6.9,SNR=3.3	**55.54**	**30**	P	**P**	**12 52 54.9**	**+0.6**
INK	**Inuvik** 4.8nm,1.4s,baz=285,slow=3.0,SNR=3.5	**60.60**	**25**	P	**P**	**12 53 29.4**	**-0.1**
AKASG	**Malin Array Be** 0.3nm,0.3s,baz=45,slow=5.0,SNR=3.7	**78.57**	**323**	P	**P**	**12 55 19.9**	**-0.7**
BRTR	**Keskin Array B** 0.6nm,0.6s,baz=57,slow=5.3,SNR=3.1	**82.14**	**312**	P	**P**	**12 55 39.8**	**-0.5**
LPAZ	**La Paz** 0.8nm,0.8s,baz=44,slow=3.2,SNR=4.4	**150.62**	**67**	PKPbc	**PKPbc**	**13 03 13.6**	**+1.1**

*AUST **29** 12:46:36.2, 3°.00N×126°.50E, h0km*
*ISCJB **29** 12:46:40.1±0.3, 3°.00N±0°.03×126°.90E±0°.04, h44km, mb4.2/21, Error ellipse: s-maj=5.5km s-min=4.7km az=169.6*
*IDC **29** 12:46:46.8±3.5, 2°.77N×126°.66E, h89km±32km, mb3.9/16, mb1 4.0/17, mb1mx3.9/25, mbtmp3.9/17, Error ellipse: s-maj=27.1km s-min=11.2km az=75.0*
*NEIC **29** 12:46:48.2±1.6, 2°.75N×126°.68E, h105km±14km, mb4.4/5, Error ellipse: s-maj=14.3km s-min=5.7km az=68.0*
*DJA **29** 12:46:49.2±0.4, 3°.N±.3°×12°.7E±°, h60km±13km, M5.0/10, mb5.2/4, mB5.6/3, MLv4.8/10, Mw(mB)5.1/3*
ISC 29 12:46:41.7±0.5**, 2°.96N**±0°.05×**126°.93E**±0°.06**, h44**km**, n80,** σ1**°33**/79**, mb4.5**/20**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.57**	**297**	P	Pn	12 47 12.2	+5.0
SGSI				S	**Sn**	**12 47 31.2**	**+4.9**
TNTI	**Ternate**	**2.22**	**169**	P	Pn	12 47 21.9	+5.8
TNTI				S	**Sn**	**12 47 46.1**	**+3.8**
LBMI	**Labuha**	**3.62**	**171**	P	Pn	12 47 41.3	+6.0
LBMI				S	Sn	12 48 23.9	+7.0
KMSI	**Cibinong**	**3.78**	**231**	P	Pn	12 47 41.7	+4.2
KMSI				S	**Sn**	**12 48 21.8**	**+1.0**
DAV	**Davao City (W)**	**4.30**	**342**	P	Pn	12 47 52.9	+8.3
GTOI	**Gorontalo**	**4.55**	**240**	P	Pn	12 47 52.8	+4.8
MRSI	**Marisa** 1µm,0.6s,13µm3.9nm	**5.56**	**244**	P	Pn	12 48 06.7	+4.7
MRSI				S	**Sn**	**12 49 06.7**	**+2.0**
LUWI	**Luwuk** 108nm,1.2s,4µm1.2nm	**5.75**	**226**	P	Pn	12 48 08.9	+4.3
LUWI				S	**Sn**	**12 49 11.5**	**+2.1**
SWI	**Sorong** 27nm,0.3s,0.2nm	**5.76**	**131**	P	Pn	12 48 13.2	+8.5
SWI				S	**Sn**	**12 49 14.4**	**+4.8**
SWI	**Sorong** baz=6.1,SNR=3.5	**5.76**	**131**	P	Pn	12 48 21.1	+16
NLAI	**Namlea**	**6.16**	**178**	P	**Pn**	**12 48 13.4**	**+3.2**
NLAI				S	**Sn**	**12 49 17.2**	**-2.3**
TOLI	**Toli-Toli**	**6.40**	**254**	P	Pn	12 48 17.1	+3.6
TOLI				S	**Sn**	**12 49 25.1**	**-0.2**
APSI	**Ampana**	**6.53**	**234**	P	**Pn**	**12 48 18.4**	**+3.1**
FAKI	**Fak Fak**	**7.90**	**138**	P	Pn	12 48 41.9	+7.8
FAKI	**Fak Fak** baz=8.2,SNR=5.7	**7.90**	**138**	P	Pn	12 48 41.0	+6.9
PALU	**Palau** baz=9.0,SNR=12	**8.68**	**60**	P	Pn	12 48 50.9	+6.1
KAPI	**Kappang**	**10.69**	**222**	P	**Pn**	**12 49 13.9**	**+1.6**
KAPI	**Kappang** 1.4nm,0.3s,baz=142,slow=4.4,SNR=6.4	**10.69**	**222**	P	**Pn**	**12 49 13.9**	**+1.6**
KKM	**Kota Kinabalu**	**11.11**	**286**	*e*Pn	Pn	12 49 22.2	+4.0
MTN	**Manton Dam** baz=16,SNR=14	**16.25**	**165**	P	**Pn**	**12 50 27.0**	**0.0**
KDU	**Kakadu** baz=17,SNR=13	**16.49**	**161**	P	**P**	**12 50 32.3**	**+0.1**
KSM	**Kuching**	**16.67**	**265**	*e*Pn	**Pn**	**12 50 32.2**	**-0.2**
KNRA	**Kununurra** baz=19,SNR=16	**18.61**	**174**	P	**P**	**12 50 55.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**20.97**	**183**	P	**P**	**12 51 20.2**	**-1.0**
FITZ	**Fitzroy Crossi** baz=21,SNR=23	**20.97**	**183**	P	**P**	**12 51 20.3**	**-0.9**
FITZ	**Fitzroy Crossi** 3.4nm,0.5s,baz=6.3,slow=8.9,SNR=17	**20.97**	**183**	P	**P**	**12 51 20.2**	**-1.0**
WRAB	**Tennant Creek** 13nm,0.8s	**23.89**	**163**	*e*P	**P**	**12 51 50.5**	**-1.0**
WRA	**Warramunga Arr**	**23.90**	**163**	P	**P**	**12 51 50.5**	**-1.0**
WRA				PcP	**PcP**	**12 55 33.5**	**-0.1**
WRA	**Warramunga Arr** 5.2nm,0.5s,baz=334,slow=11,SNR=133	**23.90**	**163**	P	**P**	**12 51 50.5**	**-1.0**
WRA				PcP	**PcP**	**12 55 33.5**	**-0.1**
MBWA	**Marble Bar** 0.3nm,0.4s,baz=326,slow=2.5,SNR=4.5	**24.99**	**196**	*e*P	**P**	**12 52 00.1**	**-1.4**
ASAR	**Alice Springs**	**27.33**	**166**	P	**P**	**12 52 21.9**	**-0.7**
ASAR				PcP	**PcP**	**12 55 40.9**	**-0.5**
ASAR	**Alice Springs** 1.2nm,0.5s,baz=345,slow=7.8,SNR=53	**27.33**	**166**	P	**P**	**12 52 21.9**	**-0.7**
ASAR				PcP	**PcP**	**12 55 40.9**	**-0.5**
MEEK	**Meekatharra** baz=31,SNR=5.6	**30.50**	**195**	P	**P**	**12 52 50.1**	**-0.8**
CMAR	**Chiang Mai Arr**	**31.43**	**301**	P	**P**	**12 52 59.3**	**+0.1**
CMAR	**Chiang Mai Arr** 0.4nm,0.3s,baz=112,slow=7.0,SNR=6.4	**31.43**	**301**	P	**P**	**12 52 59.3**	**+0.1**
MORW	**Morawa** baz=34,SNR=3.5	**33.52**	**197**	P	**P**	**12 53 16.3**	**-0.9**
KSAR	**Wonju Array Be**	**34.33**	**1**	P	P	12 53 27.1	+2.9
KSRS	**Korea Array** 1.2nm,0.5s,baz=177,slow=9.3,SNR=7.9	**34.34**	**1**	P	P	12 53 27.1	+2.8
BBOO	**Buckleboo** baz=37,SNR=8.1	**36.61**	**167**	P	**P**	**12 53 43.3**	**-0.6**
NWAO	**Narrogin (SRO)**	**36.86**	**194**	P	**P**	**12 53 44.6**	**-1.3**
NWAO	**Narrogin (SRO)** 5.8nm,1.0s,baz=15,slow=12,SNR=3.7	**36.86**	**194**	P	**P**	**12 53 44.6**	**-1.3**
STKA	**Stephens Creek**	**37.35**	**159**	P	**P**	**12 53 49.9**	**-0.2**
STKA				PcP	**PcP**	**12 56 08.2**	**-0.4**
STKA	**Stephens Creek** baz=38,SNR=15	**37.35**	**159**	P	**P**	**12 53 50.0**	**-0.2**
STKA	**Stephens Creek** 2.1nm,0.3s,baz=330,slow=7.8,SNR=18	**37.35**	**159**	P	**P**	**12 53 49.9**	**-0.2**
STKA				PcP	**PcP**	**12 56 08.2**	**-0.4**
LSA	**Lhasa** 5.7nm,0.6s	**43.09**	**312**	*e*P	**P**	**12 54 38.2**	**-0.2**
TAPN	**Taplejung** 7.1nm,0.4s	**44.63**	**307**	*e*P	**P**	**12 54 50.0**	**-0.5**
ODAN	**Odare** 19nm,0.7s	**44.68**	**306**	*e*P	**P**	**12 54 50.5**	**-0.3**
RAMN	**Ramite** 17nm,0.7s	**45.35**	**306**	*e*P	**P**	**12 54 55.8**	**-0.4**
JIRN	**Jiri** 21nm,0.7s	**45.98**	**306**	*e*P	**P**	**12 55 01.0**	**-0.3**
GUN	**Gumba** 25nm,0.5s	**46.34**	**307**	*e*P	**P**	**12 55 03.7**	**-0.4**
PKI	**Pulchoki** 3.8nm,0.4s	**46.58**	**306**	*e*P	**P**	**12 55 04.9**	**-1.0**
PKIN	**Phulchoki** 3.8nm,0.5s	**46.59**	**306**	*e*P	**P**	**12 55 05.6**	**-0.4**
KKN	**Kakani** 21nm,0.8s	**46.77**	**306**	*e*P	**P**	**12 55 06.5**	**-0.8**
DMN	**Daman** 8.1nm,0.5s	**46.84**	**306**	*e*P	**P**	**12 55 07.2**	**-0.7**
GKN	**Gorkha** 8.2nm,0.5s	**47.38**	**306**	*e*P	**P**	**12 55 11.0**	**-1.0**
SONM	**Songino Array**	**48.08**	**341**	P	**P**	**12 55 18.1**	**+1.0**
SONM				PcP	**PcP**	**12 56 44.6**	**+0.3**
SONM	**Songino Array** 0.7nm,0.3s,baz=157,slow=9.5,SNR=10.0	**48.08**	**341**	P	**P**	**12 55 18.1**	**+1.0**
SONM				PcP	**PcP**	**12 56 44.6**	**+0.3**
KOLN	**Koldanda** 29nm,0.6s	**48.12**	**305**	*e*P	**P**	**12 55 17.5**	**-0.4**
DANN	**Dangsing** 32nm,0.6s	**48.22**	**306**	*e*P	**P**	**12 55 18.1**	**-0.6**
PETK	**Petropavlovsk-**	**56.06**	**22**	P	P	12 56 19.6	+3.4
PETK	**Petropavlovsk-** 6.2nm,1.1s,baz=207,slow=9.1,SNR=3.9	**56.06**	**22**	P	P	12 56 19.6	+3.4
MKAR	**Makanchi Array**	**58.30**	**325**	P	**P**	**12 56 32.1**	**0.0**
MKAR				PcP	**PcP**	**12 57 22.6**	**-0.3**
MKAR	**Makanchi Array** 2.8nm,0.5s,baz=119,slow=7.7,SNR=48	**58.30**	**325**	P	**P**	**12 56 32.1**	**0.0**
MKAR				PcP	**PcP**	**12 57 22.6**	**-0.3**
ZALV	**Zalesovo Beam**	**61.36**	**333**	P	**P**	**12

ellipse: s-maj=11.5km s-min=7.6km az=90.0
SOF ***29*** *13:17:13.2, 42°.25N×26°.22E, h2km, MD2.5*
THE ***29*** *13:17:13.0, 42°.20N×26°.30E, h2km±1km, Error ellipse: s-maj=1.2km s-min=0.3km az=77.0*

ISC 29 13:17:12.8±1.1, 42°.22N±0°.03×26°.28E±0°.07, h10km, n15, σ0§69/21, Bulgaria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMB	**Yambol**	**0.33**	**43**	P	**Pg**	**13 17 19.5**	**+0.1**
JMB				S	**Sg**	**13 17 24.6**	**+0.8**
JMB	**Yambol**	**0.33**	**43**	*i* P	**Pg**	**13 17 19.7**	**+0.3**
JMB	**Yambol**	**0.33**	**43**	*i* P	**Pg**	**13 17 19.7**	**+0.3**
JMB				S	**Sg**	**13 17 24.6**	**+0.8**
EDRB	**Edirne**	**0.51**	**137**	P	**Pg**	**13 17 22.3**	**-0.4**
EDRB				S	**Sg**	**13 17 29.2**	**-0.3**
EDRB	**Edirne**	**0.51**	**137**	P	**Pg**	**13 17 22.3**	**-0.4**
EDRB				S	**Sg**	**13 17 29.2**	**-0.3**
KDZ	**Kurdzhali**	**0.86**	**229**	*i* P	**Pn**	**13 17 31.3**	**+0.3**
KDZ	**Kurdzhali**	**0.86**	**229**	*i* P	**Pn**	**13 17 31.3**	**+0.3**
SZH	**Strazhica**	**1.07**	**346**	*i* P	**Pn**	**13 17 33.9**	**0.0**
SZH	**Strazhica**	**1.07**	**346**	*i* P	**Pn**	**13 17 33.9**	**0.0**
RDO	**Rodhopi**	**1.21**	**208**	P	**Pn**	**13 17 35.3**	**-0.4**
RDO	**Rodhopi**	**1.21**	**208**	P	**Pn**	**13 17 35.3**	**-0.4**
PVL	**Pavlikeni**	**1.21**	**325**	*i* P	**Pn**	**13 17 34.3**	**-1.5**
PVL	**Pavlikeni**	**1.21**	**325**	*i* P	**Pn**	**13 17 34.3**	**-1.5**
ALN	**Alexandroupoli**	**1.34**	**188**	P	**Pn**	**13 17 37.5**	**0.0**
ALN				S	**Sg**	**13 17 56.7**	**+0.9**
ALN	**Alexandroupoli**	**1.34**	**188**	P	**Pn**	**13 17 37.5**	**0.0**
ALN				S	**Sg**	**13 17 56.7**	**+0.9**

IDC ***29*** *13:27:59.7±0.5, 32°.54N×105°.21E, h0km, mb4.7/35, mb1 4.8/38, mb1mx4.8/43, mbtmp4.7/38, ML4.2/3, MS3.8/23, Ms1 3.9/23, ms1mx3.7/49, Error ellipse: s-maj=15.3km s-min=11.1km az=30.0*
ISCJB ***29*** *13:27:59.6±0.8, 32°.57N±0°.02×105°.20E±0°.02, h9km±5km, mb6.0/186, MS4.0/34, Error ellipse: s-maj=3.4km s-min=3.2km az=151.1*
BJI ***29*** *13:28:00.5, 32°.58N×105°.19E, h10km, mB5.0/32, mb4.9/35, ML4.9/21, Ms4.6/54, Ms7 4.3/49*
NEIC ***29*** *13:28:01.6±1.9, 32°.52N×105°.24E, h14km±12km, mb5.2/80, Error ellipse: s-maj=5.0km s-min=3.9km az=213.0*
NEIC Felt [II] at Chengdu. Also felt at Baoji, Hanzhong, Lanzhou, Mianyang and Xi'an.
MOS ***29*** *13:28:02.7±0.7, 32°.54N×105°.30E, h33km, mb5.3/101, MS4.0/24, Error ellipse: s-maj=7.3km s-min=3.6km az=123.1*
BKK ***29*** *13:28:04.7±0.3, 33°N±3°×10°E±°, h10km, M5.0/25, mB5.5/4, mb4.9/25, Mw(mB)5.0/4*
DJA ***29*** *13:28:07.4±0.3, 33°N±4°×10°E±°, h23km, M5.0/19, mB5.3/4, mb5.2/19, Mw(mB)4.8/4*
SZGRF ***29*** *13:28:10.7, 33°.29N×104°.47E, h33km, mb5.3, MS4.3, Gansu, China*

ISC 29 13:28:02.5±0.5, 32°.56N±0°.03×105°.17E±0°.03, h17km±2km, h16km:pP-P, n588, σ1§15/612, mb5.1/186, MS4.0/34, 127C-20D, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**2.04**	**217**	Pn	**Pn**	**13 28 37.3**	**+1.2**
CD2				Pg	**Pb**	**13 28 40.5**	**+1.4**
CD2				Sn	**Sb**	**13 29 04.0**	**-0.2**
CD2				Sg	**Sg**	**13 29 08.0**	**-0.1**
CD2				SMN			
	comp=Z,32μm,0.8s						
CD2				SME			
	comp=Z,36μm,0.7s						
CD2				LR	LR		
	comp=Z,9μm,9.6s						
XAN	**Xi'an**	**3.47**	**64**	Pn	**Pn**	**13 28 56.0**	**+0.2**
XAN				Pg	**Pb**	**13 29 04.8**	**+1.2**
XAN				Sg	**Sb**	**13 29 49.3**	**+3.8**
XAN				SMN			
	comp=Z,6μm,0.7s						
XAN				SME			
	comp=Z,2μm,0.8s						
XAN				LR	LR		
	comp=N,8μm,9.1s						
XAN				LR	LR		
	comp=E,2μm,7.4s						
XAN				LR	LR		
	comp=Z,2μm,11.1s						
LZH	**Lanzhou**	**3.69**	**343**	*e*Pn	**Pn**	**13 29 01.3**	**+2.4**
LZH				Sn	**Sb**	**13 29 49.0**	**-2.8**
LZH				Sg	**Sg**	**13 29 57.8**	**-3.1**
LZH				LR	LR		
	comp=Z,25μm,7.4s						
ENH	**Enshi**	**4.34**	**121**	*e*Pn	**Pn**	**13 29 09.1**	**+1.3**
GYA	**Guiyang**	**6.22**	**168**	⇑*i*Pn	**Pn**	**13 29 34.0**	**+0.3**
GYA				Pg	Pb	13 29 55.8	+5.4
GYA				Sn	**Sn**	**13 30 42.5**	**-2.0**
GYA				Sg	Sg	13 31 15.0	-7.1
GYA				SMN			
	comp=Z,1μm,0.7s						
GYA				SME			
	comp=Z,1μm,0.9s						
GYA				LR	LR		
	comp=N,2μm,5.8s						
GYA				LR	LR		
	comp=E,6μm,5.0s						
GYA				LR	LR		
	comp=E,2μm,5.4s						
KMI	**Kunming**	**7.71**	**197**	Pn	**Pn**	**13 29 54.0**	**-0.3**
KMI				Sn	**Sn**	**13 31 16.5**	**-4.9**
KMI				Sg	Sb	13 31 58.5	+11
KMI				SMN			
	comp=Z,190nm,1.7s						
KMI				SME			
	comp=Z,230nm,2.0s						
KMI				LR	LR		
	comp=N,2μm,6.7s						
KMI				LR	LR		
	comp=E,2μm,5.4s						
WHN	**Wuhan**	**8.09**	**102**	P	**Pn**	**13 29 59.5**	**+0.3**
WHN				S	**Sn**	**13 31 27.5**	**-2.8**
WHN				LR	LR		
	comp=N,9μm,4.3s						
WHN				LR	LR		
	comp=E,8μm,3.3s						
WHN				LR	LR		
	comp=E,8μm,3.2s						
GTA	**Gaotai**	**8.10**	**329**	⇑P	**Pn**	**13 29 59.8**	**+0.4**
GTA				pP	pP	13 30 03.5	
GTA				sP	sP	13 30 05.8	
GTA				S	**Sn**	**13 31 30.5**	**-0.2**
GTA				AMB	AMB		
	comp=Z,79nm,0.6s						
GTA				AMB	AMB		
	comp=Z,150nm,4.3s						
GTA				LR	LR		
	comp=N,4μm,11.4s						
GTA				LR	LR		
	comp=E,4μm,11.9s						
GTA				LR	LR		
	comp=Z,4μm,9.5s						
BTO	**Baotou**	**8.93**	**25**	*e*P	**Pn**	**13 30 10.0**	**-0.8**
BTO				S	**Sn**	**13 31 53.8**	**+2.8**
HHC	**Hu-ho-hao-te**	**9.73**	**30**	*e*P	**Pn**	**13 30 22.0**	**+0.2**
HHC				sP		13 30 26.8	
HHC				S	**Sn**	**13 32 12.3**	**+1.5**
HHC				sS		13 32 17.3	
HHC				PcS	**PcS**	**13 40 08.0**	**-1.4**
HHC				ScS	**ScS**	**13 43 39.3**	**-2.7**
HHC				AMB	AMB		
	comp=Z,39nm,1.0s						
HHC				AMB	AMB		
	comp=Z,360nm,4.9s						
HHC				LR	LR		
	comp=N,3μm,7.5s						
HHC				LR	LR		
	comp=E,5μm,6.9s						
HHC				LR	LR		
	comp=Z,3μm,7.8s						
TIA	**Tai'an**	**10.53**	**66**	*e*P	Pn	13 30 36.5	+3.9
TIA				S	Sn	13 32 37.3	+7.1
TIA				LR	LR		
	comp=N,2μm,4.4s						
TIA				LR	LR		
	comp=E,2μm,5.5s						
TIA				LR	LR		
	comp=Z,2μm,8.8s						
NJ2	**Nanjing**	**11.59**	**89**	*e*P	**Pn**	**13 30 45.0**	**-2.2**
NJ2				pP		13 30 54.0	
NJ2				S	**Sn**	**13 32 54.8**	**-1.4**
NJ2				AMB	AMB		
	comp=Z,50nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,130nm,6.4s						
NJ2				LR	LR		
	comp=N,2μm,15.5s						
NJ2				LR	LR		
	comp=E,1μm,10.4s						
NJ2				LR	LR		
	comp=Z,2μm,11.2s						
BJI	**Beijing**	**11.59**	**47**	P	**Pn**	**13 30 46.8**	**-0.4**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.5s						
BJI				AMB	AMB		
	comp=Z,220nm,5.6s						
BJI				LR	LR		
	comp=N,2μm,5.6s						
BJI				LR	LR		
	comp=E,2μm,5.0s						
BJI				LR	LR		
	comp=Z,200nm,13.5s						
GZH	**Guangzhou**	**11.88**	**141**	P	**Pn**	**13 30 49.0**	**-2.2**
GZH				S	**Sn**	**13 32 59.3**	**-4.2**
GZH				LR	LR		
	comp=N,3μm,8.0s						
GZH				LR	LR		
	comp=E,4μm,10.1s						
LSA	**Lhasa**	**12.35**	**260**	P	**Pn**	**13 31 00.0**	**+2.0**
LSA				LR	LR		
	comp=N,570nm,8.0s						
LSA				LR	LR		
	comp=E,590nm,6.0s						
LSA				LR	LR		
	comp=Z,860nm,8.0s						
LSA	**Lhasa**	**12.35**	**260**	*e*P	**Pn**	**13 30 55.7**	**-2.3**
LSA				pmax	pmax		
	comp=Z,25nm,0.8s						
LSA	**Lhasa**	**12.35**	**260**	*e*Pn	**Pn**	**13 30 55.7**	**-2.3**
	comp=Z,25nm,0.8s						
CRAI	**Chiangrai**	**13.01**	**200**	P	**Pn**	**13 31 07.9**	**+1.2**
	comp=Z,70nm,0.8s						
SHL	**Shillong**	**13.54**	**242**	*e*P	**Pn**	**13 31 14.0**	**-0.1**
SHL				*e*S	Sx	13 35 23.0	
SSE	**Sheshan**	**13.70**	**92**	P	Pn	13 31 12.5	-3.5
SSE				S	**Sn**	**13 33 44.5**	**-3.3**
SSE				AMB	AMB		
	comp=Z,43nm,1.0s						
SSE				AMB	AMB		
	comp=Z,47nm,4.2s						
SSE				LR	LR		
	comp=Z,1μm,13.1s						
SSE				LR	LR		
	comp=Z,530nm,13.1s						
SSE				LR	LR		
	comp=Z,1μm,11.5s						
CMAI	**Chiengmai2**	**13.72**	**205**	P	**Pn**	**13 31 17.7**	**+1.2**
	comp=Z,53nm,1.1s,comp=Z,7μm						
QZH	**Quanzhou**	**14.00**	**119**	P	**Pn**	**13 31 21.3**	**+1.2**
QZH				S	**Sn**	**13 33 57.8**	**+2.7**
QZH				LR	LR		
	comp=Z,3μm,7.6s						
QZH				LR	LR		
	comp=Z,2μm,6.7s						
QZH				LR	LR		
	comp=Z,4μm,12.4s						
QIZ	**Qiongzhong**	**14.11**	**162**	P	**Pn**	**13 31 19.8**	**-1.9**
QIZ				S	**Sn**	**13 33 58.5**	**+0.5**
QIZ				AMB	AMB		
	comp=Z,27nm,1.9s						
QIZ				AMB	AMB		
	comp=Z,120nm,3.6s						
QIZ				LR	LR		
	comp=Z,2μm,11.1s						
QIZ				LR	LR		
	comp=Z,3μm,11.4s						
NONG	**Nongkai**	**14.55**	**188**	P	**Pn**	**13 31 28.3**	**+0.6**
	comp=Z,75nm,0.7s						
DL2	**Dalian**	**14.78**	**60**	*e*P	**Pn**	**13 31 27.8**	**-3.0**
DL2				AMB	AMB		
	comp=Z,140nm,3.9s						
DL2				LR	LR		
	comp=Z,640nm,16.5s						
DL2				LR	LR		
	comp=Z,570nm,16.3s						
DL2				LR	LR		
	comp=Z,800nm,12.3s						
CHTO	**Chiang Mai**	**14.79**	**204**	*e*P	**Pn**	**13 31 30.3**	**-0.7**
CHTO	**Chiang Mai**	**14.79**	**204**	P	**Pn**	**13 31 31.0**	**0.0**
	comp=Z,88nm,1.3s						
CHTO	**Chiang Mai**	**14.79**	**204**	*e*Pn	**Pn**	**13 31 30.3**	**-0.7**
CHTO	**Chiang Mai**	**14.79**	**204**	P	**Pn**	**13 31 32.4**	**+1.4**
	comp=Z,83nm,1.1s						
CMAR	**Chiang Mai Arr**	**15.12**	**203**	Pn	**Pn**	**13 31 35.5**	**+0.1**
CMAR				Lg	Lg	13 36 07.2	
CMAR	**Chiang Mai Arr**	**15.12**	**203**	Pn	**Pn**	**13 31 35.5**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=14,slow=11,SNR=64						
CMAR				Lg	Lg	13 36 07.2	
	baz=16,slow=26,SNR=2.5						
CMAR				LR	LR	13 38 19.8	
	comp=Z,202nm,19.4s,baz=152,slow=41						
SONM	**Songino Array**	**15.29**	**3**	Pn	**Pn**	**13 31 37.0**	**-0.6**
SONM				Lg	Lg	13 35 59.0	
SONM	**Songino Array**	**15.29**	**3**	Pn	**Pn**	**13 31 37.0**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=185,slow=14,SNR=14						
SONM				Lg	Lg	13 35 59.0	
	comp=Z,0.5nm,0.3s,baz=194,slow=28,SNR=3.6						
SONM				LR	LR	13 38 18.9	
	comp=Z,414nm,20.0s,baz=180,slow=40						
ULN	**Ulaanbaatar**	**15.36**	**5**	P	**Pn**	**13 31 40.2**	**+1.7**
	comp=Z,38nm,0.8s,comp=Z,633nm						
ULN	**Ulaanbaatar**	**15.36**	**5**	*e*Pn	**Pn**	**13 31 37.6**	**-0.9**
	comp=Z,50nm,1.2s						
LOEI	**Loei**	**15.40**	**194**	P	**Pn**	**13 31 39.3**	**+0.2**
	comp=Z,63nm,1.1s						
SKNT	**Sakolnakorn**	**15.56**	**184**	P	**P**	**13 31 47.4**	**+2.0**
	comp=Z,32nm,0.9s						
TAPN	**Taplejung**	**15.99**	**256**	*e*P	**Pn**	**13 31 46.7**	**-0.4**
	comp=Z,245nm,1.0s						
YHNB	**Yeheng**	**16.24**	**115**	*e*Pn	**Pn**	**13 31 46.7**	**-3.4**
	comp=Z,41nm,0.9s						
PBKT	**Sadao Pong**	**16.37**	**194**	P	**Pn**	**13 31 52.2**	**+0.6**
	comp=Z,30nm,1.1s						
PBKT	**Sadao Pong**	**16.37**	**194**	P	**Pn**	**13 31 52.4**	**+0.8**
	comp=Z,30nm,1.1s						
SSLB	**Suanglung**	**16.42**	**118**	*e*Pn	**Pn**	**13 31 49.4**	**-2.9**
	comp=Z,45nm,1.0s						
ODAN	**Odare**	**16.45**	**254**	*e*P	**Pn**	**13 31 52.8**	**-0.1**
	comp=Z,146nm,0.9s						
CHAI	**Chaiyaphum**	**16.84**	**191**	P	**Pn**	**13 31 56.7**	**-0.8**
	comp=Z,12nm,0.8s						
RAMN	**Ramite**	**17.06**	**256**	*e*P	**Pn**	**13 31 59.9**	**-0.7**
	comp=Z,234nm,1.0s						
JIRN	**Jiri**	**17.13**	**258**	*e*P	**Pn**	**13 32 00.6**	**-1.0**
	comp=Z,130nm,0.9s						
GUN	**Gumba**	**17.30**	**260**	*e*P	**Pn**	**13 32 02.5**	**-1.2**
	comp=Z,143nm,0.6s						
SNY	**Shenyang**	**17.31**	**52**	⇑P	**P**	**13 32 05.5**	**+0.8**
SNY				S	**Sn**	**13 35 18.3**	**+2.8**
SNY				AMB	AMB		
	comp=Z,18nm,1.0s						
SNY				LR	LR		
	comp=Z,350nm,15.3s						
SNY				LR	LR		
	comp=Z,710nm,18.6s						
SNY				LR	LR		
	comp=Z,550nm,14.1s						
WMQ	**Urumqi**	**17.71**	**314**	P	**P**	**13 32 09.3**	**+0.1**
WMQ				pP	**pP**	**13 32 12.8**	**-1.1**
WMQ				sP	**sP**	**13 32 16.3**	**+0.2**
WMQ				PP	**PnPn**	**13 32 23.8**	**+4.8**
WMQ				S	**Sn**	**13 35 21.0**	**-4.4**
WMQ				SS	**SnSn**	**13 35 42.8**	**+3.9**
WMQ				PcP	PcP	13 36 51.5	+5.4
WMQ				PcS	**PcS**	**13 40 26.3**	**+3.8**
WMQ				ScS	**ScS**	**13 44 03.3**	**+2.5**
WMQ				AMB	AMB		
	comp=Z,33nm,0.8s						
WMQ				AMB	AMB		
	comp=Z,290nm,4.2s						
WMQ				LR	LR		
	comp=Z,2μm,13.8s						
WMQ				LR	LR		
	comp=Z,1μm,12.4s						
WMQ				LR	LR		
	comp=Z,400nm,16.4s						
PKI	**Pulchoki**	**17.81**	**259**	*e*P	**Pn**	**13 32 08.7**	**-1.3**
	comp=Z,323nm,1.2s						
PKIN	**Phulchoki**	**17.82**	**259**	*e*P	**Pn**	**13 32 08.8**	**-1.2**
	comp=Z,99nm,0.8s						
KKN	**Kakani**	**17.84**	**260**	*e*P	**Pn**	**13 32 09.3**	**-0.9**
	comp=Z,132nm,0.8s						
ZAK	**Zakamensk**	**17.86**	**356**	*e*P	**P**	**13 32 10.7**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
DMN	**Daman**	**18.05**	**259**	*e*P	**Pn**	**13 32 11.5**	**-1.3**
	comp=Z,231nm,1.0s						
GKN	**Gorkha**	**18.30**	**261**	*e*P	**Pn**	**13 32 14.4**	**-1.5**
	comp=Z,175nm,0.9s						
KHLT	**Khaolaem Dam**	**18.67**	**200**	P	**Pn**	**13 32 22.9**	**+2.7**
	comp=Z,8.6nm,1.1s						
TJN	**Taejon**	**18.68**	**72**	*i* P	**Pn**	**13 32 23.2**	**+2.9**
DANN	**Dangsing**	**18.92**	**263**	*e*P	**P**	**13 32 21.9**	**-1.0**
	comp=Z,116nm,0.6s						
SRDT	**SRDT**	**18.95**	**198**	P	**Pn**	**13 32 25.6**	**+2.0**
	comp=Z,49nm,1.1s						
SRDT	**SRDT**	**18.95**	**198**	P	Pn	13 32 30.0	+6.4
TLY	**Talaya**	**19.14**	**357**	*e*P	Pn	13 32 33.4	+7.7
TLY				pmax	pmax		
	comp=Z,15nm,0.8s						
TLY				MLR	MLR		
	comp=Z,535nm,11.0s						
KSAR	**Wonju Array Be**	**19.22**	**69**	P	**Pn**	**13 32 26.6**	**-0.1**
KOLN	**Koldanda**	**19.24**	**261**	*e*P	**P**	**13 32 26.1**	**-0.2**
	comp=Z,250nm,0.9s						
KSRS	**Korea Array**	**19.25**	**69**	P	**Pn**	**13 32 26.6**	**-0.5**
	comp=Z,1.4nm,0.3s,baz=250,slow=9.9,SNR=47						
KSRS				LR	LR	13 39 07.5	
	comp=Z,143nm,21.6s,baz=86,slow=35						
MOY	**Mondy**	**19.34**	**352**	*e*P	**Pn**	**13 32 29.0**	**+0.8**
MOY				pmax	pmax		
	comp=Z,50nm,2.2s						
CN2	**Changchun**	**19.44**	**49**	*e*P	**Pn**	**13 32 30.3**	**+0.9**
CN2				*ep*P	**pP**	**13 32 34.0**	**+1.1**
CN2				*es*P	**sP**	**13 32 37.3**	**+2.2**
CN2				*e*S	**Sn**	**13 36 01.8**	**-5.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
CN2				AMB	AMB		
	comp=Z,300nm,4.0s						
CN2				LR	LR		
	comp=Z,500nm,14.0s						
CN2				LR	LR		
	comp=Z,700nm,14.0s						
CN2				LR	LR		
	comp=Z,700nm,15.0s						
PYUN	**Piuthan**	**19.65**	**263**	*e*P	**P**	**13 32 30.4**	**-0.3**
	comp=Z,207nm,0.9s						
IRK	**Irkutsk**	**19.68**	**358**	*e*P	**Pn**	**13 32 32.3**	**+0.1**
IRK				pmax	pmax		
	comp=Z,910nm,0.7s						
HIA	**Hailar**	**19.94**	**29**	*e*P	**P**	**13 32 32.3**	**-1.3**
	comp=Z,22nm,0.6s						
PHET	**Kaeng Krachan**	**20.21**	**196**	P	Pn	13 32 37.9	-0.7
PHET	**Kaeng Krachan**	**20.21**	**196**	P	Pn	13 32 37.8	-0.8
	comp=Z,175nm,0.7s						
HVS	**Khovu-Aksy**	**20.39**	**339**	*c* *i*P	Pn	13 32 40.5	-0.1
HVS				pmax	pmax		
	comp=Z,1μm,1.3s						
HVS				MLR	MLR		
	comp=Z,1μm,16.0s						
JNU	**Nakatsue**	**21.59**	**82**	LR	LR	13 41 58.8	
	comp=Z,285nm,18.2s,baz=279,slow=39						
MDJ	**Mudanjiang**	**22.47**	**51**	P	**P**	**13 32 59.3**	**-1.6**
MDJ				pP	**pP**	**13 33 02.0**	**-3.7**
MDJ				PcP	**PcP**	**13 36 54.3**	**-0.5**
MDJ				S	**S**	**13 37 04.5**	**-2.4**
MDJ				ScP	**ScP**	**13 40 32.0**	**+0.4**
MDJ				PcS	**PcS**	**13 40 33.3**	**-0.1**
MDJ				ScS	**ScS**	**13 44 17.0**	**+0.3**
MDJ				AMB	AMB		
	comp=Z,220nm,4.3s						
MDJ				LR	LR		
	comp=Z,170nm,16.6s						
MDJ				LR	LR		
	comp=Z,150nm,16.6s						
MDJ				LR	LR		
	comp=Z,160nm,16.6s						
MDJ	**Mudanjiang**	**22.47**	**51**	*e*P	**P**	**13 32 59.1**	**-1.8**
	comp=Z,17nm,0.8s						
MK31	**Makanchi Array**	**22.52**	**316**	*i* P	**P**	**13 33 01.9**	**+0.4**
MK31				pmax	pmax		
	comp=Z,38nm,0.6s						
MKAR	**Makanchi Array**	**22.52**	**316**	P	**P**	**13 33 02.0**	**+0.5**
MKAR						13 36 54.8	
MKAR				pmax	pmax		
	comp=Z,42nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MKAR				MLR	MLR		
	comp=Z,262nm,18.4s						
MKAR	**Makanchi Array**	**22.52**	**316**	P	**P**	**13 33 01.9**	**+0.5**
MKAR				PcP	**PcP**	**13 36 54.8**	**-0.1**
MKAR	**Makanchi Array**	**22.52**	**316**	P	**P**	**13 33 01.9**	**+0.5**
	comp=Z,42nm,0.7s,baz=117,slow=12,SNR=122						
MKAR				PcP	**PcP**	**13 36 54.8**	**-0.1**
	comp=Z,4.8nm,0.9s,baz=176,slow=2.0,SNR=3.8						
MKAR				LR	LR	13 41 22.8	
	comp=Z,262nm,18.4s,baz=118,slow=36						
VLA	**Vladivostok**	**23.49**	**56**	⇑*e*P	**P**	**13 33 09.2**	**-2.2**
VLA						13 33 36.7	
VLA				*e*		13 36 55.0	
VLA				*e*S	**S**	**13 37 25.0**	**+0.7**
VLA				pmax	pmax		
	comp=Z,44nm,1.7s						
USRK	**Ussuriysk Arra**	**23.91**	**53**	P	**P**	**13 33 16.1**	**+0.7**
	comp=Z,6.4nm,0.8s,baz=255,slow=9.1,SNR=15						
SURT	**Suratani**	**24.22**	**196**	P	P	13 33 26.0	+7.5
KSH	**Kashi**	**24.54**	**295**	P	P	13 33 27.0	+5.5
KSH				pP	pP	13 33 28.8	+2.2
KSH				sP	sP	13 33 31.8	+3.1
KSH				PP	PnPn	13 34 02.8	+10
KSH				S	**S**	**13 37 44.0**	**+2.5**
KSH				sS	sS	13 37 51.0	+1.1
KSH				SS	SnSn	13 38 40.3	+14
KSH				AMB	AMB		
	comp=Z,71nm,0.9s						
KSH				AMB	AMB		
	comp=Z,160nm,4.2s						
KSH				LR	LR		
	comp=Z,270nm,9.6s						
KSH				LR	LR		
	comp=Z,400nm,9.2s						
KSH				LR	LR		
	comp=Z,420nm,12.0s						
ULHL	**Ulahol**	**24.83**	**301**	*i* P	**P**	**13 33 25.8**	**+1.6**
ULHL	**Ulahol**	**24.83**	**301**	P	**P**	**13 33 25.8**	**+1.6**
	SNR=9.4						
TKM2	**Tokmak 2**	**25.45**	**302**	*e*P	**P**	**13 33 30.0**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,36nm,0.7s						
TKM2	**Tokmak 2**	**25.45**	**302**	P	**P**	**13 33 31.3**	**+1.5**
	SNR=57						
TKM2	**Tokmak 2**	**25.45**	**302**	*e*P	**P**	**13 33 29.9**	**+0.2**
	comp=Z,36nm,0.7s						
KZA	**Kyzart**	**25.51**	**300**	*i* P	**P**	**13 33 32.6**	**+2.1**
KZA	**Kyzart**	**25.51**	**300**	P	**P**	**13 33 32.6**	**+2.1**
	SNR=38						
ZALV	**Zalesovo Beam**	**25.84**	**332**	P	**P**	**13 33 33.2**	**+0.3**
ZALV						13 37 00.5	
ZALV				pmax	pmax		
	comp=Z,19nm,0.7s						
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZALV				MLR	MLR		
	comp=Z,247nm,19.1s						
ZALV	**Zalesovo Beam**	**25.84**	**332**	P	**P**	**13 33 33.2**	**+0.3**
ZALV				PcP	**PcP**	**13 37 00.5**	**-1.3**
ZALV	**Zalesovo Beam**	**25.84**	**332**	P	**P**	**13 33 33.2**	**+0.3**
	comp=Z,19nm,0.7s,baz=132,slow=9.5,SNR=98						
ZALV				PcP	**PcP**	**13 37 00.5**	**-1.3**
	comp=Z,2.7nm,0.6s,baz=170,slow=4.1,SNR=4.1						
ZALV				LR	LR	13 44 14.6	
	comp=Z,247nm,19.1s,baz=73,slow=38						
KBK	**Karagaybulak**	**25.86**	**302**	*i* P	**P**	**13 33 35.3**	**+1.9**
KBK	**Karagaybulak**	**25.86**	**302**	P	**P**	**13 33 35.3**	**+1.9**
	SNR=47						
KLR	**Kul'dur**	**25.90**	**42**	*e*P	**P**	**13 33 32.2**	**-1.3**
KLR				MLR	MLR		
	comp=Z,2μm,11.5s						

CHMS Chumysh 26.07 302 *i* P **P 13 33 36.8 +1.6**
CHMS Chumysh 26.07 302 P **P 13 33 36.8 +1.6**
SNR=6.4
AAK Ala-Archa 26.18 301*c i*P **P 13 33 37.6 +1.2**
AAK pmax pmax
comp=Z,59nm,1.2s
AAK MLR MLR
comp=Z,984nm,16.0s
AAK Ala-Archa 26.18 301 P **P 13 33 37.8 +1.5**
SNR=15
AAK Ala-Archa 26.18 301 *e*P **P 13 33 35.9 -0.4**
comp=Z,15nm,0.7s
AAK Ala-Archa 26.18 301 P **P 13 33 37.5 +1.2**
comp=Z,138nm,0.6s,SNR=11
USP Ospenovka 26.32 303 *i* P **P 13 33 38.8 +1.4**
USP Ospenovka 26.32 303 P **P 13 33 38.8 +1.4**
SNR=61
AML Almayashu 26.66 300 *i* P **P 13 33 42.9 +2.0**
AML Almayashu 26.66 300 P **P 13 33 42.9 +2.0**
SNR=49
KURBB Kurchatov Arra 26.66 320 P **P 13 33 41.4 +1.1**
comp=Z,16nm,0.7s,baz=134,slow=8.5,SNR=66
KURBB PcP **PcP 13 37 03.4 -0.4**
comp=Z,4.0nm,0.5s,baz=120,slow=2.1,SNR=7.8
KURK Kurchatov 26.66 321*c i*P **P 13 33 40.8 +0.4**
KURK pmax pmax
comp=Z,37nm,1.2s
KURK MLR MLR
comp=Z,176nm,19.0s
KURK Kurchatov 26.66 321 *e*P **P 13 33 40.7 +0.3**
comp=Z,20nm,0.8s
KURK PcP **PcP 13 37 03.4 -0.4**
KURK Kurchatov 26.66 321 P **P 13 33 40.8 +0.4**
comp=Z,348nm,0.6s,SNR=38
EKS2 Erkin-Say 26.70 301 *e*P **P 13 33 42.1 +1.1**
EKS2 pmax pmax
comp=Z,13nm,0.7s
EKS2 Erkin-Say 26.70 301 P **P 13 33 42.5 +1.5**
SNR=14
EKS2 Erkin-Say 26.70 301 *e*P **P 13 33 42.1 +1.1**
comp=Z,13nm,0.7s
NVS Novosibirsk 27.12 332 *e*P **P 13 33 44.1 -0.4**
NVS pmax pmax
comp=N,4.0nm,1.0s
NVS pmax pmax
comp=Z,7.0nm,1.0s
MJAR Matsushiro Arr 27.42 72 P **P 13 33 48.7 +1.3**
MJAR Matsushiro Arr 27.42 72 P **P 13 33 48.7 +1.3**
comp=Z,1.9nm,0.7s,baz=273,slow=11,SNR=7.5
MJAR LR LR 13 45 56.2
comp=Z,177nm,18.8s,baz=280,slow=39
KULM Kulim 27.46 190 P **P 13 33 49.9 +2.1**
HABR Khabarovsk 27.49 46 *e*P **P 13 33 46.3 -1.6**
HABR *e* 13 34 31.4
HABR *e* 13 37 04.4
HABR *e*S **S 13 38 28.3 +0.4**
HABR *e*SS **SnSn 13 39 40.2 +2.0**
HABR *e*SSS SSS 13 39 54.3
HABR *e* 13 44 36.7
HABR pmax pmax
comp=Z,59nm,2.6s
HABR MLR MLR
comp=Z,280nm,14.0s
HYB Hyderabad 28.34 244 *i* P **P 13 33 56.5 +0.7**
HYB *e*S **S 13 38 40.0 -1.9**
KK31 Karatay Array 29.14 301 *i* P **P 13 34 03.3 +0.6**
KK31 pmax pmax
comp=Z,11nm,0.4s
KKAR Karatay Array 29.14 301 *e*P **P 13 34 03.4 +0.7**
KKAR Karatay Array 29.14 301 *e*P **P 13 34 03.4 +0.7**
MYLDM Lahad Datu 29.95 153 P P 13 34 15.6 +5.6
comp=Z,50nm,1.2s
MYLDM Lahad Datu 29.95 153 *e*P **P 13 34 08.6 -1.4**
comp=Z,42nm,1.0s
KBL Kabul 30.08 284 *e*P **P 13 34 11.5 +0.2**
KBL pmax pmax
comp=Z,24nm,0.9s
KBL Kabul 30.08 284 *e*P **P 13 34 11.5 +0.2**
comp=Z,24nm,0.9s
PSI Prapat 30.18 192 P **P 13 34 11.9 -0.2**
comp=Z,17nm,0.9s
MYKOM Kota Tinggi 30.63 183 P P 13 34 19.5 +3.5
SBUM Sibu 30.68 166 P P 13 34 20.7 +4.3
comp=Z,20nm,0.9s
SBUM Sibu 30.68 166 *e*P **P 13 34 15.4 -1.0**
comp=Z,13nm,0.8s
SNSI Sinabang, Aceh 31.12 197 P P 13 34 24.2 +3.9
ASAJ Asahikawa 31.29 57 LR LR 13 46 22.5
comp=Z,162nm,18.4s,baz=284,slow=35
KSM Kuching 31.30 170 P P 13 34 26.4 +4.5
POO Poona 31.39 251 *e*P **P 13 34 20.0 -2.8**
VOSK Vostochnaya 31.79 320 P **P 13 34 26.3 +0.4**
VOSK pmax pmax
comp=Z,10.0nm,0.6s
BVA0 Borovoye Array 32.24 320 *i* P **P 13 34 30.5 +0.6**
BVA0 pmax pmax
comp=Z,8.0nm,0.7s
BVAR Borovoye Array 32.24 320 P **P 13 34 30.7 +0.8**
BVAR 13 37 17.2
BVAR pmax pmax
comp=Z,9.0nm,0.6s
BVAR pmax pmax
comp=Z,4.0nm,0.6s
BVAR MLR MLR
comp=Z,211nm,18.5s
BVAR Borovoye Array 32.24 320 P **P 13 34 30.7 +0.8**
BVAR PcP **PcP 13 37 17.2 -0.8**
BVAR Borovoye Array 32.24 320 P **P 13 34 30.7 +0.8**
comp=Z,8.6nm,0.6s,baz=115,slow=10.0,SNR=39
BVAR PcP **PcP 13 37 17.2 -0.8**
comp=Z,3.8nm,0.6s,baz=127,slow=2.6,SNR=8.0
BVAR LR LR 13 48 31.8
comp=Z,211nm,18.5s,baz=109,slow=38
BRVK Borovoye 32.31 320*c i*P **P 13 34 31.2 +0.7**
BRVK pmax pmax
comp=Z,13nm,0.6s
BRVK Borovoye 32.31 320 *e*P **P 13 34 30.0 -0.5**
comp=Z,16nm,0.8s
BRVK Borovoye 32.31 320 P **P 13 34 31.1 +0.6**
comp=Z,153nm,0.6s,SNR=8.5
JCJ Chichijima 32.46 90 LR LR 13 48 43.9
comp=Z,74nm,20.1s,baz=212,slow=38
YAK Yakutsk 33.43 21 *e*P **P 13 34 38.6 -1.5**
YAK pmax pmax
comp=Z,29nm,0.9s
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=E,12nm,1.0s
PPBI Pangkal Pinang 34.55 178 P P 13 34 53.9 +3.6
comp=E,20nm,1.2s
MRSI Marisa 35.61 150 P P 13 35 04.2 +4.7
comp=E,44nm,0.7s,comp=E,421nm
GTOI Gorontalo 35.93 149 P **P 13 35 05.3 +3.1**
comp=E,45nm,0.9s
KMSI Cibinong 36.42 147 P P 13 35 11.5 +5.1
comp=E,188nm,0.8s
APSI Ampana 36.75 152 P P 13 35 13.6 +4.4
MDSI Maura Dua 36.85 182 P **P 13 35 13.1 +3.0**
comp=E,19nm,0.8s
LUWI Luwuk 37.33 150 P P 13 35 17.8 +3.6
MMSI Mamuju 37.40 157 P P 13 35 19.6 +4.9
comp=E,29nm,1.0s
AB31 Akbulak array 37.41 310 *i* P **P 13 35 15.3 +0.8**
AB31 pmax pmax
comp=Z,9.0nm,0.4s
ABKAR Akbulak array 37.41 310 *e*P **P 13 35 15.2 +0.7**
BLSI Bandar Lampung 37.72 180 P P 13 35 21.0 +3.6
IAKL Akhelmad 38.14 289 *e*P **P 13 35 23.3 +2.1**
TNG Tangerang 38.54 178 P P 13 35 28.8 +4.5
ISFR Sfrayin 38.68 290 *e*P **P 13 35 27.9 +2.1**
IKOO Kooshah 38.70 283 *e*P **P 13 35 27.1 +1.1**
AKTO Aktyubinsk 38.83 312 P **P 13 35 26.0 -0.5**
AKTO pmax pmax
comp=Z,19nm,0.6s
AKTO MLR MLR
comp=Z,276nm,19.9s
AKTO Aktyubinsk 38.83 312 P **P 13 35 26.0 -0.5**
AKTO Aktyubinsk 38.83 312 P **P 13 35 26.0 -0.5**
comp=Z,18nm,0.6s,baz=95,slow=9.7,SNR=46
AKTO LR LR 13 52 34.9
comp=Z,276nm,19.9s,baz=102,slow=38
SPSI Sidrap Palu 38.88 156 P P 13 35 31.5 +4.3
comp=Z,26nm,1.2s
SVE Sverdlovsk 38.89 322⇓ *e*P **P 13 35 27.9 +1.0**
SVE pmax pmax
comp=Z,34nm,1.1s
LBMI Labuha 39.18 143 P P 13 35 35.0 +5.3
comp=Z,78nm,0.9s,comp=Z,881nm
KPJI Karang Pucung 39.83 174 P P 13 35 39.8 +4.7
comp=Z,105nm,0.9s
KAPI Kappang 39.85 157 P **P 13 35 37.9 +2.6**
KAPI Kappang 39.85 157 *e*P **P 13 35 33.8 -1.6**
comp=Z,32nm,0.9s
KAPI Kappang 39.85 157 LR LR 13 52 11.4
comp=Z,102nm,18.4s,baz=245,slow=36
ARU Arti 39.86 321*c i*P **P 13 35 35.6 +0.6**
ARU 13 37 06.3
ARU 13 37 39.6
ARU S **S 13 41 40.9 +2.2**
ARU SS **SS 13 44 29.8 -5.1**
ARU pmax pmax
comp=Z,57nm,1.0s
ARU Arti 39.86 321 P **P 13 35 35.5 +0.6**
comp=Z,288nm,0.9s,SNR=16
TIXI Tiksi 41.15 11*c i*P **P 13 35 44.8 -0.7**
TIXI pmax pmax
comp=Z,11nm,0.9s
TIXI MLR MLR
comp=Z,400nm,19.0s
SWI Sorong 41.38 138 P P 13 35 53.5 +5.5
SOKR Solikamsk 41.72 325*c i*P **P 13 35 51.0 +0.8**
SOKR pmax pmax
comp=Z,30nm,0.9s
SOKR MLR MLR
comp=Z,250nm,24.0s
IANJ Anjilo 42.20 289 *e*P **P 13 35 56.3 +1.4**
IKIA Kiasar 42.24 290 *e*P **P 13 35 57.1 +1.9**
SEY Seymchan 42.38 30⇑ *e*P **P 13 35 58.1 +2.5**
PETK Petropavlovsk- 42.52 45 P **P 13 35 57.3 +0.4**
PETK pmax pmax
comp=Z,3.0nm,0.8s
PETK Petropavlovsk- 42.52 45 P **P 13 35 57.3 +0.4**
PETK Petropavlovsk- 42.52 45 P **P 13 35 57.3 +0.4**
comp=Z,3.4nm,0.8s,baz=296,slow=4.8,SNR=6.4
IDMV Damavand 43.68 289 *e*P **P 13 36 08.7 +1.8**
BNDI Bandanaira 43.72 143 P P 13 36 12.4 +5.4
ISFB Sefidab 43.78 287 *e*P **P 13 36 08.1 +0.6**
MMRI Maumere 44.08 155 P **P 13 36 12.8 +2.9**
ISRV Sarvestan 44.39 280 *e*P **P 13 36 13.0 +0.3**
IMRD Marand 47.99 295 *e*P **P 13 36 41.7 +0.9**
GNI Garni 48.44 297 P **P 13 36 45.5 +1.2**
GNI Garni 48.44 297 P **P 13 36 45.4 +1.2**
comp=Z,7.0nm,0.4s,baz=338,slow=3.9,SNR=4.8
GNI LR LR 13 59 30.4
comp=Z,82nm,18.3s,baz=82,slow=39
UMR Umm Al-Rimmam 48.80 283 *e*P **P 13 36 47.2 +0.3**
UMR AMb AMB 13 36 51.6
comp=Z,52nm,1.3s
RDF Al-Radifah 49.15 282 *e*P **P 13 36 49.7 +0.2**
RDF AMb AMB 13 36 52.5
comp=Z,126nm,1.8s
KBZ Khabaz 49.17 302 P **P 13 36 50.0 +0.5**
KBZ pmax pmax
comp=Z,9.0nm,0.7s
KBZ MLR MLR
comp=Z,251nm,18.2s
KBZ Khabaz 49.17 302 P **P 13 36 50.0 +0.5**
KBZ Khabaz 49.17 302 P **P 13 36 50.0 +0.5**
comp=Z,9.4nm,0.7s,baz=166,slow=5.9,SNR=15
KBZ LR LR 14 00 27.4
comp=Z,251nm,18.2s,baz=298,slow=40
VRHR Novokhopersk 49.24 312 *e*P **P 13 36 49.2 -0.7**
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=Z,50nm,0.7s
VRHR pmax pmax
comp=E,30nm,1.0s
KIV Kislovodsk 49.29 302 *e*P **P 13 36 51.8 +1.2**
KIV pmax pmax
comp=Z,22nm,0.8s
KIV MLR MLR
comp=Z,172nm,16.0s
NAY Al-Naaiem 49.29 282 *e*P **P 13 36 50.5 -0.2**
NAY AMb AMB 13 36 52.0
comp=Z,80nm,0.8s
KLMR Klimovskoe 50.40 325 *e*P **P 13 36 57.9 -0.7**
KLMR pmax pmax
comp=Z,47nm,0.8s
VORD Divnogorie 50.72 312 *e*P **P 13 37 00.9 -0.3**
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.6s
VSR Storozhevoye 50.77 312 *e*P **P 13 37 01.6 0.0**
VSR pmax pmax
comp=N,10.0nm,0.7s
VSR pmax pmax
comp=Z,30nm,0.7s
VSR pmax pmax
comp=E,30nm,0.8s
TMCR Tamitsa 51.30 329 *e*P **P 13 37 05.2 -0.1**
TMCR pmax pmax
comp=Z,48nm,0.8s
MOS Moscow 51.38 318 *e*P **P 13 37 03.9 -2.2**
MOS *e* 13 37 14.1
MOS pmax pmax
comp=Z,66nm,1.1s
OBN Obninsk 52.02 317⇑ *e*P **P 13 37 11.0 +0.2**
OBN *e* 13 37 16.3
OBN *e* 13 39 11.2
OBN *e*SS **SS 13 48 13.9 +3.7**
OBN pmax pmax
comp=Z,40nm,1.2s
OBN MLR MLR
comp=Z,200nm,19.0s
SFNV Sufian 52.86 293 *e*P **P 13 37 17.5 0.0**
LVZ Lovozero 52.96 333 P **P 13 37 17.2 -0.5**
comp=Z,363nm,0.5s,SNR=5.9
APA Apatity 53.42 333⇑ *i*P P 13 37 25.8 +4.8
APA MLR MLR
comp=Z,1μm,18.0s
MALT Malatya 53.63 296⇑ **P P 13 37 24.4 +1.2**
MALT Malatya 53.63 296⇑ *i*P **P 13 37 24.4 +1.2**
FITZ Fitzroy Crossi 54.05 156 *e*P **P 13 37 25.1 -1.1**
comp=Z,10nm,1.1s
JOF Joensuu 54.29 327 *e*P **P 13 37 28.4 +0.9**
JOF pmax pmax
comp=Z,13nm,0.6s
JOF Joensuu 54.29 327 *ep* **P 13 37 28.4 +0.9**
comp=Z,13nm,0.6s
SIM Simferopol' 55.12 305*de*P **P 13 37 34.1 +0.3**
SIM pmax pmax
comp=Z,26nm,0.8s
DRWC Darouich 55.45 295 *e*P P 13 37 40.0 +3.5
KEV Kevo 55.78 336 *e*P **P 13 37 38.5 +0.4**
KEV pmax pmax
comp=Z,30nm,0.5s
KEV Kevo 55.78 336 *ep* **P 13 37 38.5 +0.4**
comp=Z,30nm,0.5s
BIDA Albida 56.22 293 *e*P **P 13 37 41.3 -0.7**
ARCES ARCESS Array B 56.31 335 P **P 13 37 42.0 +0.1**
ARCES ARCESS Array B 56.31 335 P **P 13 37 42.0 +0.1**
comp=Z,30nm,0.7s,baz=80,slow=8.0,SNR=113
ARCES LR LR 14 03 57.0
comp=Z,110nm,18.7s,baz=246,slow=38
SALA Sala 56.65 290 *e*P **P 13 37 44.1 -1.1**
KAF Kangasniemi 56.67 326 *e*P **P 13 37 44.6 0.0**
KAF pmax pmax
comp=Z,11nm,0.6s
KAF Kangasniemi 56.67 326 *ep* **P 13 37 44.6 0.0**
comp=Z,11nm,0.6s
ASF Jabal al Asfar 56.71 290 P **P 13 37 46.3 +0.9**
ASF Jabal al Asfar 56.71 290 P **P 13 37 46.3 +0.9**
comp=Z,13nm,0.8s,baz=47,slow=4.0,SNR=18
BRTR Keskin Array B 56.82 299 P **P 13 37 46.4 +0.1**
BRTR Keskin Array B 56.82 299 P **P 13 37 46.4 +0.1**
comp=Z,8.7nm,0.8s,baz=98,slow=7.3,SNR=35
BRTR LR LR 14 05 41.6
comp=Z,58nm,18.2s,baz=307,slow=40
FINES FINESS Array B 56.87 326 P **P 13 37 45.9 -0.1**
FINES FINESS Array B 56.87 326 P **P 13 37 45.9 -0.1**
comp=Z,20nm,0.8s,baz=87,slow=7.3,SNR=42
FINES LR LR 14 04 24.8
comp=Z,144nm,18.3s,baz=103,slow=38
VSU Vasula 57.00 322*d i*P **P 13 37 47.5 +0.5**
VSU pmax pmax
comp=Z,218nm,1.3s
AKASG Malin Array Be 57.06 313 P **P 13 37 47.3 -0.2**
AKASG pmax pmax
comp=Z,12nm,0.6s
AKASG Malin Array Be 57.06 313 P **P 13 37 47.3 -0.2**
AKASG Malin Array Be 57.06 313 P **P 13 37 47.3 -0.2**
comp=Z,12nm,0.6s,baz=68,slow=6.6,SNR=49
KIEV Kiev 57.07 313 *e*P **P 13 37 46.9 -0.7**
KIEV pmax pmax
comp=Z,24nm,1.0s
KIEV Kiev 57.07 313 *e*P **P 13 37 46.9 -0.7**
comp=Z,24nm,1.0s
ANTO Ankara 57.40 299⇑ P **P 13 37 50.7 +0.4**
ANTO Ankara 57.40 299⇑ *i*P **P 13 37 50.7 +0.4**
ANTO Ankara 57.40 299 *e*P **P 13 37 50.7 +0.4**
comp=Z,16nm,0.8s
MMAI Mount Meron Ar 57.60 291 P **P 13 37 52.4 +0.6**
MMAI Mount Meron Ar 57.60 291 P **P 13 37 52.4 +0.6**
comp=Z,0.8nm,0.3s,baz=56,slow=8.8,SNR=5.2
PMG Port Moresby 57.83 129 LR LR 14 02 42.2
comp=Z,58nm,21.5s,baz=44,slow=36
SPITS Spitsbergen Ar 58.15 346 P **P 13 37 54.8 -0.1**
SPITS Spitsbergen Ar 58.15 346 P **P 13 37 54.8 -0.1**
comp=Z,5.2nm,0.5s,baz=91,slow=7.8,SNR=18
TLCR 58.70 306⇑ P **P 13 37 59.2 +0.1**
TLCR 58.70 306⇑ *i*P **P 13 37 59.2 +0.1**
COEN Coen 58.83 136 *e*P **P 13 37 59.2 -1.1**
comp=Z,65nm,0.9s
CFR Carcaliu 59.16 307⇑ P **P 13 38 02.4 +0.1**
CFR Carcaliu 59.16 307⇑ *i*P **P 13 38 02.4 +0.1**
EIL Elat 59.17 287 P **P 13 38 03.0 +0.3**
EIL Elat 59.17 287 P **P 13 38 03.0 +0.3**
comp=Z,15nm,0.8s,baz=360,slow=3.4,SNR=13
TIRR Tirgusor 59.18 306⇑ P **P 13 38 02.8 +0.3**
TIRR Tirgusor 59.18 306⇑ *i*P **P 13 38 02.8 +0.3**
WRAB Tennant Creek 59.19 148 *e*P P 13 37 59.2 -3.6
WRAB pmax pmax
comp=Z,15nm,0.6s
WRAB Tennant Creek 59.19 148 *e*P P 13 37 59.2 -3.6
comp=Z,15nm,0.6s
WRAB Tennant Creek 59.19 148 P **P 13 38 02.9 +0.1**
comp=Z,166nm,0.7s,SNR=6.5
WRA Warramunga Arr 59.20 148 P **P 13 38 02.2 -0.6**
WRA ⇑ *e* 14 07 47.9
WRA Warramunga Arr 59.20 148 P **P 13 38 02.2 -0.6**
comp=Z,8.4nm,0.7s,baz=341,slow=7.1,SNR=51
WRA PKP2bc 14 07 47.9
comp=Z,0.8nm,0.7s,baz=145,slow=2.1,SNR=5.3
MSAB Monastry St. A 59.69 305⇑ *i*P **P 13 38 06.7 +0.7**
TESR Tescani 59.77 308⇓ *i*P **P 13 38 07.1 +0.5**
SUW Suwalki 59.88 317 *e*P **P 13 38 07.0 -0.2**
SUW Suwalki 59.88 317 *e*P **P 13 38 06.9 -0.2**
SUW Suwalki 59.88 317 *e*P **P 13 38 07.0 -0.2**
VRI Vrincioaia 59.91 308⇑ P **P 13 38 08.5 +0.9**
VRI Vrincioaia 59.91 308⇑ *i*P **P 13 38 08.5 +0.9**
PLOR Plostina 59.97 308⇑ P **P 13 38 09.2 +1.2**
PLOR Plostina 59.97 308⇑ *i*P **P 13 38 09.1 +1.1**
ISR Istrita 60.26 307⇓ *i*P **P 13 38 10.9 +0.9**
ISR Istrita 60.26 307⇓ *i*P **P 13 38 10.9 +0.9**
BURAR Bucovina Array 60.39 310⇑ P **P 13 38 11.1 +0.2**
BURAR Bucovina Array 60.39 310⇑ *i*P **P 13 38 11.1 +0.2**
LVV L'vov 60.51 313 *e*P **P 13 38 11.6 0.0**
MLR Muntele Rosu 60.55 307 P **P 13 38 12.0 0.0**
MLR Muntele Rosu 60.55 307 P **P 13 38 12.0 0.0**
comp=Z,1.7nm,0.7s,baz=345,slow=11,SNR=11
MLR LR LR 14 06 39.5
comp=Z,46nm,22.0s,baz=57,slow=38
DOPR Dopca 60.77 308⇑ *i*P **P 13 38 14.1 +0.6**
VOIR 61.16 308⇓ P **P 13 38 16.5 +0.3**
VOIR 61.16 308⇓ *i*P **P 13 38 16.5 +0.3**
KWP Kalwaria Pacla 61.38 313⇑ P **P 13 38 18.3 +0.8**
KWP Kalwaria Pacla 61.38 313⇑ *i*P **P 13 38 18.3 +0.8**
KWP Kalwaria Pacla 61.38 313 *e*P **P 13 38 18.4 +0.9**
ARR Arges 61.46 308⇑ *i*P **P 13 38 18.9 0.7**
KOLS Kolonicke sedl 61.87 312 *e*P **P 13 38 21.0 +0.2**
KOLS pmax pmax
comp=Z,10.0nm,0.8s
KOLS Kolonicke sedl 61.87 312 *e*P **P 13 38 21.0 +0.2**
TRPA Tarpa 61.95 311⇑ *i*P **P 13 38 22.6 +1.2**
LOT Lotru 62.01 308⇑ *i*P **P 13 38 22.5 +0.5**
DRGR 62.27 310⇓ P **P 13 38 24.7 +1.1**
DRGR 62.27 310⇓ *i*P **P 13 38 24.7 +1.1**
ASAR Alice Springs 62.28 150 P **P 13 38 23.3 -0.5**
ASAR ⇑ *e* 14 07 33.6
ASAR Alice Springs 62.28 150 P **P 13 38 23.3 -0.5**
comp=Z,4.4nm,0.7s,baz=334,slow=6.9,SNR=29
ASAR PKP2bc 14 07 33.6
comp=Z,0.6nm,0.8s,baz=144,slow=3.0,SNR=6.9
STHS Stebnicka Huta 62.36 313 *e*P **P 13 38 24.5 +0.4**
STHS pmax pmax
comp=Z,11nm,0.8s
STHS Stebnicka Huta 62.36 313 *e*P **P 13 38 24.5 +0.4**
CRVS Cervenica-Dubn 62.39 312 *e*P **P 13 38 24.4 +0.1**
CRVS Cervenica-Dubn 62.39 312 *e*P **P 13 38 24.4 +0.1**
GZR Gura Zlata 62.69 308⇑ P **P 13 38 27.2 +0.7**
GZR Gura Zlata 62.69 308⇑ *i*P **P 13 38 27.2 +0.7**
NIE Niedzica 62.93 313 *e*P **P 13 38 29.1 +1.1**
NIE Niedzica 62.93 313 *e*P **P 13 38 29.1 +1.1**
OJC Ojcow 62.98 314 *e*P **P 13 38 28.7 +0.4**
OJC Ojcow 62.98 314 *e*P **P 13 38 28.7 +0.4**
HFS Hagfors 63.08 326 P **P 13 38 28.2 -0.5**
HFS Hagfors 63.08 326 P **P 13 38 28.2 -0.5**
comp=Z,8.5nm,0.6s,baz=95,slow=7.2,SNR=20
SIRR Siria 63.13 309⇓ *i*P **P 13 38 30.2 +0.9**
KECS Kecovo 63.13 312 *e*P **P 13 38 29.9 +0.6**
KECS pmax pmax
comp=Z,5.0nm,0.7s
KECS Kecovo 63.13 312 *e*P **P 13 38 29.9 +0.6**
VTS Vitosha 63.36 305⇑ P **P 13 38 31.8 +0.7**
VTS Vitosha 63.36 305⇑ *i*P **P 13 38 31.8 +0.7**
BZS Buzias 63.38 309⇓ P **P 13 38 31.0 +0.1**
BZS Buzias 63.38 309⇓ *i*P **P 13 38 31.0 +0.1**
PSZ Piszkesteto 63.70 312⇓ P **P 13 38 33.6 +0.5**
PSZ Piszkesteto 63.70 312⇓ *i*P **P 13 38 33.6 +0.5**
PSZ Piszkesteto 63.70 312 *e*P **P 13 38 33.1 0.0**
NB2 NORSAR Subarra 63.93 327 P **P 13 38 33.2 -1.1**
comp=Z,26nm,1.0s,baz=70,slow=6.9
NB2 NORSAR Subarra 63.93 327 P **P 13 38 33.2 -1.1**
baz=70,slow=6.9
NOA NORSAR Array B 63.93 327 P **P 13 38 33.5 -0.8**
NOA NORSAR Array B 63.93 327 P **P 13 38 33.5 -0.8**
comp=Z,11nm,0.7s,baz=71,slow=6.7,SNR=25
NOA LR LR 14 08 14.8
comp=Z,101nm,20.7s,baz=60,slow=38
OKC Ostrava-Krasne 64.11 314 *e*P **P 13 38 36.0 +0.3**
OKC Ostrava-Krasne 64.11 314 *e*P **P 13 38 36.0 +0.3**
OKC *ep*P **pP 13 38 40.7 -0.4**
BUD Budapest 64.40 311⇑ *e* **P 13 38 38.3 +0.7**
MORC Moravsky Berou 64.50 314⇓ P **P 13 38 39.2 +0.9**
MORC Moravsky Berou 64.50 314⇓ *i*P **P 13 38 39.2 +0.9**
MORC Moravsky Berou 64.50 314 *e*P **P 13 38 37.8 -0.6**
comp=Z,23nm,1.0s
PKSG 64.84 311 *e* **P 13 38 41.0 +0.5**
KSP Ksiaz 64.87 316 *e*P **P 13 38 41.2 +0.6**
IDI Anoyia 64.87 297 P **P 13 38 39.5 -1.5**
IDI Anoyia 64.87 297 P **P 13 38 39.5 -1.5**
comp=Z,18nm,0.8s,baz=20,slow=7.0,SNR=5.9
IMA2 Indian Mountai 65.01 26 *e*P **P 13 38 38.8 -2.7**
DPC Dobruska-Polom 65.03 315 *e*P **P 13 38 39.5 -2.3**
DPC Dobruska-Polom 65.03 315 *e*P **P 13 38 42.6 +0.8**
DPC *ep*P **pP 13 38 47.3 +0.1**
DPC Dobruska-Polom 65.03 315 *e*P **P 13 38 39.5 -2.3**
PKSM Moragy 65.11 310⇓ P **P 13 38 42.4 +0.1**
PKSM Moragy 65.11 310⇓ *i*P **P 13 38 42.4 +0.1**
PKST T''s 65.11 311 *e* **P 13 38 42.9 +0.6**
UPC Upice 65.16 315 *e*P **P 13 38 43.4 +0.9**
UPC Upice 65.16 315 *e*P **P 13 38 43.4 +0.9**
VRAC Vranov 65.25 314 P **P 13 38 43.5 +0.4**
VRAC Vranov 65.25 314 P **P 13 38 43.5 +0.4**
comp=Z,12nm,0.8s,baz=66,slow=6.3,SNR=11
VRAC LR LR 14 08 50.6
comp=Z,134nm,18.6s,baz=63,slow=38
COLD Coldfoot 65.77 24 *e*P **P 13 38 45.4 -0.8**
comp=Z,5.0nm,0.7s
SOP Sopron 65.88 312⇑ *e* **P 13 38 47.8 +0.6**
TREC Trest 65.93 314 *e*P **P 13 38 48.4 +0.9**
TREC *e* 13 38 53.5
TREC Trest 65.93 314 *e*P **P 13 38 48.4 +0.9**
TREC *ep*P **pP 13 38 53.5 +0.5**
PVCC Panska Ves 66.00 316 *e*P **P 13 38 48.6 +0.6**
PVCC Panska Ves 66.00 316 *e*P **P 13 38 48.6 +0.6**
CONA Conrad Observa 66.22 313⇑ *i*P **P 13 38 50.3 +0.8**
comp=Z,12nm,1.0s,SNR=6.7
PRU Pruhonice 66.23 315 *e*P **P 13 38 49.9 +0.5**

PRU *e* 13 38 55.2
PRU MLR MLR
comp=Z,300nm,19.8s
PRU Pruhonice 66.23 315 *e*P **P 13 38 49.9 +0.5**
PRU *e*pP **pP 13 38 55.2 +0.3**
PRU AMS AMS 14 08 50.0
comp=Z,300nm,19.8s
BRG Berggiesshubel 66.24 316 *i* P **P 13 38 49.8 +0.3**
comp=Z,15nm,0.8s
BRG *e* 13 38 56.1
comp=Z,11nm,0.8s
BRG Berggiesshubel 66.24 316 *e*P **P 13 38 49.7 +0.2**
comp=Z,15nm,0.8s
PRA Prague 66.26 315 P **P 13 38 50.0 +0.4**
FBE Freiberg 66.56 316 *e*P **P 13 38 51.9 +0.3**
comp=Z,11nm,1.1s
CLL Collm 66.62 317⇑ *i*P **P 13 38 52.0 +0.1**
CLL *i* 13 38 57.0
CLL pmax pmax
comp=Z,11nm,0.8s
CLL Collm 66.62 317 *e*P **P 13 38 51.9 +0.1**
comp=Z,14nm,1.0s
CLL Collm 66.62 317⇑ *i*P **P 13 38 52.0 +0.1**
comp=Z,11nm,0.8s
CLL *i* pP **pP 13 38 57.0 -0.3**
CLL LmV 14 09 00.0
comp=Z,100nm,19.3s
ARSA Arzberg 66.69 312⇑ *i*P **P 13 38 51.8 -0.7**
comp=Z,6.6nm,0.8s
BPAW Bear Paw Mtn. 66.89 28 *e*P **P 13 38 52.8 -0.7**
comp=Z,8.4nm,0.9s
PPLA Purkeypile 66.95 29 *e*P **P 13 38 53.3 -0.7**
comp=Z,148nm,2.2s
BSEG Bad Segeberg 67.06 320 *e*P **P 13 38 55.6 +0.9**
BSEG pmax pmax
comp=Z,42nm,1.0s
BSEG Bad Segeberg 67.06 320 *e*P **P 13 38 55.6 +0.9**
comp=Z,42nm,1.0s
KHC Kasperske Hory 67.14 315 *e*P **P 13 38 55.6 +0.3**
KHC Kasperske Hory 67.14 315 *e*P **P 13 38 55.6 +0.3**
KHC *e*pP **pP 13 39 00.1 -0.7**
KHC Kasperske Hory 67.14 315 *e*P **P 13 38 54.6 -0.7**
comp=Z,6.7nm,0.7s
GEC2 GERESS Array S 67.18 314 *e*P **P 13 38 55.9 +0.2**
GEC2 pmax pmax
comp=Z,17nm,1.1s
GEC2 GERESS Array S 67.18 314 *e*P **P 13 38 55.9 +0.2**
comp=Z,17nm,1.1s
GEC2 GERESS Array S 67.18 314 *e*P **P 13 38 55.9 +0.2**
GERES GERESS Array B 67.18 314 P **P 13 38 56.0 +0.2**
GERES GERESS Array B 67.18 314 P **P 13 38 56.0 +0.2**
comp=Z,7.9nm,0.8s,baz=71,slow=5.8,SNR=33
GERES LR LR 14 09 59.3
comp=Z,121nm,18.8s,baz=179,slow=38
PERS Pernice 67.19 312 *i* P **P 13 38 55.8 0.0**
SOKA Soboth 67.23 312⇑ *i*P **P 13 38 55.9 -0.1**
comp=Z,12nm,1.0s,SNR=11
MOA Molln 67.24 313⇑ *i*P **P 13 38 56.7 +0.7**
comp=Z,14nm,0.9s,SNR=6.4
TANN Tannenbergstha 67.29 316 *e*P **P 13 38 56.5 +0.2**
comp=Z,14nm,1.0s
NEUB Neuenburg 67.36 317 *e*P **P 13 38 56.9 +0.3**
comp=Z,31nm,0.8s
WERD Werda 67.36 316 *e*P **P 13 38 56.9 +0.2**
comp=Z,9.0nm,0.9s
NKC Novy Kostel 67.37 316 *e*P **P 13 38 56.9 +0.2**
NKC Novy Kostel 67.37 316 *e*P **P 13 38 56.9 +0.2**
GUNZ Gunzen 67.38 316 *e*P **P 13 38 57.3 +0.4**
comp=Z,20nm,0.9s
WERN Wernitzgruen 67.39 316 *e*P **P 13 38 57.3 +0.4**
comp=Z,19nm,1.2s
PLN Plauen 67.44 316 *e*P **P 13 38 57.4 +0.3**
comp=Z,59nm,0.9s
WET Wettzell 67.56 315 *e*P **P 13 38 58.5 +0.5**
WET pmax pmax
comp=Z,12nm,1.2s
WET Wettzell 67.56 315 *e*P **P 13 38 58.5 +0.5**
comp=Z,12nm,1.2s
BOJS Bojanci 67.57 310 *i* P **P 13 38 58.3 +0.3**
MANZ Manzenberg 67.67 316 *e*P **P 13 38 59.0 +0.3**
comp=Z,9.0nm,1.0s
ROTZ Rotzenmuhle 67.70 316 *e*P **P 13 38 59.6 +0.8**
comp=Z,26nm,1.1s
COLA College 67.72 26 *e*P **P 13 38 57.5 -1.2**
COLA pmax pmax
comp=Z,18nm,1.2s
COLA College 67.72 26 *e*P **P 13 38 57.5 -1.2**
comp=Z,18nm,1.2s
NRDL Niedersach Rie 67.77 319 *e*P **P 13 38 59.9 +0.8**
comp=Z,30nm,1.1s
LJU Ljubljana 67.81 311 *i* P **P 13 38 59.8 +0.2**
CLZ Clausthal 67.90 318 *e*P **P 13 39 00.7 +0.6**
CLZ pmax pmax
comp=Z,39nm,1.0s
CLZ Clausthal 67.90 318 *e*P **P 13 39 00.7 +0.6**
comp=Z,39nm,1.0s
ILAR Eielson Array 68.13 26 P **P 13 38 59.7 -1.6**
ILAR Eielson Array 68.13 26 P **P 13 38 59.7 -1.6**
comp=Z,0.6nm,0.4s,baz=289,slow=2.7,SNR=14
CADS Cadrg 68.23 312 *i* P **P 13 39 01.7 -0.6**
GRF Grafenberg Arr 68.31 316 *e*P **P 13 39 03.4 +0.7**
GRF pmax pmax
comp=Z,31nm,0.9s
GRF MLR MLR
comp=Z,200nm,18.7s
GRF Grafenberg Arr 68.31 316 *e*P **P 13 39 03.4 +0.7**
comp=Z,31nm,0.9s
GRF *e*L L 14 10 19.1
comp=Z,172nm,18.7s
GRFO Grafenberg 68.31 316 *e*P **P 13 39 02.4 -0.3**
GRFO pmax pmax
comp=Z,22nm,0.8s
GRFO Grafenberg 68.31 316 *e*P **P 13 39 02.4 -0.3**
comp=Z,22nm,0.8s
UBBA Unterbreizbach 68.54 317 *e*P **P 13 39 05.0 +1.1**
comp=Z,10.0nm,1.3s
ABTA Abfaltersbach 68.78 313⇑ *i*P **P 13 39 05.1 -0.7**
comp=Z,0.6nm,0.4s
PMR Palmer 68.83 30 *e*P **P 13 39 04.7 -0.9**
PMR pmax pmax
comp=Z,30nm,1.3s
PMR Palmer 68.83 30 *e*P **P 13 39 04.7 -0.9**
comp=Z,30nm,1.3s
FUR Furstenfeldbru 68.93 314 *e*P **P 13 39 07.7 +1.1**
FUR pmax pmax
comp=Z,58nm,1.0s
FUR Furstenfeldbru 68.93 314 *e*P **P 13 39 07.7 +1.1**
comp=Z,58nm,1.0s
WTTA Wattenberg 69.10 313⇓ *i*P **P 13 39 08.1 +0.3**
comp=Z,4.2nm,0.6s,SNR=6.4
IBBN Ibbenburen 69.15 319 *e*P **P 13 39 08.3 +0.5**
comp=Z,27nm,1.0s
SQTA Sankt Quirin 69.38 313⇑ *i*P **P 13 39 09.5 0.0**
comp=Z,21nm,1.3s
MOTA Moosalm 69.39 314⇑ *i*P **P 13 39 09.4 -0.2**
comp=Z,13nm,0.8s,SNR=8.5
CUC Castrocucco 69.50 305 *e*P **P 13 39 10.4 +0.1**
comp=Z,10nm,0.7s
TNS Taunus Mts 69.70 317 *e*P **P 13 39 11.6 +0.3**
TNS pmax pmax
comp=Z,9.0nm,0.9s
TNS Taunus Mts 69.70 317 *e*P **P 13 39 11.6 +0.3**
comp=Z,9.0nm,0.9s
FETA Feichten 69.76 313⇑ *i*P **P 13 39 11.9 0.0**
comp=Z,24nm,1.2s,SNR=11
BUG Bochum--Univer 69.81 319 *e*P **P 13 39 12.4 +0.5**
comp=Z,24nm,0.9s
STU Stuttgart 69.91 316 *e*P **P 13 39 13.0 +0.4**
comp=Z,15nm,0.6s
CEL Celeste 70.20 303 *e*P **P 13 39 14.7 0.0**
comp=Z,25nm,0.7s
FUORN Ofenpass-Fuorn 70.23 313 *e*P **P 13 39 15.3 +0.4**
DAVOX Davos/Dischmat 70.39 313 LR LR 14 14 02.7
comp=Z,90nm,19.8s,baz=88,slow=39
INK Inuvik 70.48 20 *e*P **P 13 39 13.2 -2.5**
comp=Z,5.1nm,0.7s
BFO Black Forest 70.62 315 *e*P **P 13 39 16.9 -0.1**
BFO pmax pmax
comp=Z,16nm,1.1s
BFO Black Forest 70.62 315 *e*P **P 13 39 16.9 -0.1**
comp=Z,16nm,1.1s
BFO Black Forest 70.62 315 *e*P **P 13 39 16.9 -0.1**
comp=Z,14nm,1.1s
TUE Stuetta 70.86 313 *e*P **P 13 39 17.0 -1.7**
comp=Z,17nm,0.8s
FELD Feldberg im Sc 71.03 315 *e*P **P 13 39 19.2 -0.4**
CDF Champ du Feu 71.21 316⇑ *i*P **P 13 39 20.4 -0.2**
comp=Z,23nm,0.7s
CDF Champ du Feu 71.21 316⇑ *i*P **P 13 39 20.4 -0.2**
CDF pmax pmax
comp=Z,23nm,0.7s
CDF Champ du Feu 71.21 316⇑ *i*P **P 13 39 20.4 -0.2**
comp=Z,23nm,0.7s
WLF Walferdange 71.27 317 *e*P **P 13 39 20.2 -0.7**
WLF pmax pmax
comp=Z,35nm,1.0s
WLF Walferdange 71.27 317 *e*P **P 13 39 21.8 +0.9**
comp=Z,52nm,1.0s
WLF Walferdange 71.27 317 *e*P **P 13 39 20.2 -0.7**
comp=Z,35nm,1.0s
ECH Echery 71.37 316 *e*P **P 13 39 19.0 -2.5**
ECH pmax pmax
comp=Z,8.0nm,1.0s
ECH Echery 71.37 316 *e*P **P 13 39 19.0 -2.5**
comp=Z,8.0nm,1.0s
HINF Hinteralfeld 71.74 315⇑ *i*P **P 13 39 23.3 -0.5**
comp=Z,23nm,0.8s
HINF Hinteralfeld 71.74 315⇑ *i*P **P 13 39 23.3 -0.5**
HINF pmax pmax
comp=Z,23nm,0.8s
HINF Hinteralfeld 71.74 315⇑ *i*P **P 13 39 23.3 -0.5**
comp=Z,23nm,0.8s
GIVF Givet 71.81 318⇑ *i*P **P 13 39 24.2 +0.1**
comp=Z,30nm,0.8s
GIVF Givet 71.81 318⇑ *i*P **P 13 39 24.2 +0.1**
GIVF pmax pmax
comp=Z,30nm,0.8s
GIVF Givet 71.81 318⇑ *i*P **P 13 39 24.2 +0.1**
comp=Z,30nm,0.8s
HAU Haudompre 71.95 316 *e*P **P 13 39 24.6 -0.4**
HAU *e*R
comp=Z,170nm,17.8s
HAU Haudompre 71.95 316 *e*P **P 13 39 24.6 -0.4**
HAU Haudompre 71.95 316 *e*P **P 13 39 24.6 -0.4**
PAGF Fort de Pagny 72.05 316⇑ *i*P **P 13 39 25.8 +0.2**
comp=Z,11nm,0.8s
PAGF Fort de Pagny 72.05 316⇑ *i*P **P 13 39 25.8 +0.2**
comp=Z,11nm,0.8s
THEF They Montfort 72.05 316 *e*P **P 13 39 25.3 -0.3**
KMBO Kilima Mbogo 72.13 257 *e*P **P 13 39 27.1 +0.3**
comp=Z,62nm,2.3s
KMBO Kilima Mbogo 72.13 257 P **P 13 39 27.7 +0.9**
comp=Z,2.5nm,0.5s,baz=50,slow=13,SNR=11
BAIF Baives 72.18 318 *e*P **P 13 39 26.5 +0.2**
comp=Z,23nm,0.8s
BAIF Baives 72.18 318 *e*P **P 13 39 26.5 +0.2**
BAIF pmax pmax
comp=Z,23nm,0.8s
BAIF Baives 72.18 318 *e*P **P 13 39 26.5 +0.2**
comp=Z,23nm,0.8s
SUMG Summit 72.19 349 *e*P **P 13 39 26.7 +0.2**
SUMG pmax pmax
comp=Z,18nm,1.1s
SUMG Summit 72.19 349 *e*P **P 13 39 26.7 +0.2**
comp=Z,18nm,1.1s
RES Resolute Bay 72.21 5 *e*P **P 13 39 25.6 -0.5**
comp=Z,6.9nm,0.9s
MEZF Maizieres J'vi 72.47 317 *e*P **P 13 39 28.0 -0.1**
MEZF Maizieres J'vi 72.47 317 *e*P **P 13 39 28.0 -0.1**
SFTF Sexfontaines 72.62 316⇑ *i*P **P 13 39 28.6 -0.4**
comp=Z,27nm,0.8s
SFTF Sexfontaines 72.62 316⇑ *i*P **P 13 39 28.6 -0.4**
comp=Z,27nm,0.8s
STKA Stephens Creek 72.75 148 *e*P **P 13 39 28.5 -1.3**
comp=Z,1.6nm,0.9s
STKA Stephens Creek 72.75 148 P **P 13 39 29.4 -0.3**
comp=Z,3.7nm,0.7s,baz=300,slow=3.9,SNR=4.5
CABF La Chapelle 72.78 315 *e*P **P 13 39 29.8 -0.3**
comp=Z,20nm,0.8s
CABF La Chapelle 72.78 315 *e*P **P 13 39 29.8 -0.3**
CABF pmax pmax
comp=Z,20nm,0.8s
CABF La Chapelle 72.78 315 *e*P **P 13 39 29.8 -0.3**
comp=Z,20nm,0.8s
LPG La Plagne 72.92 313⇑ *i*P **P 13 39 31.5 +0.3**
comp=Z,104nm,0.7s
LPG La Plagne 72.92 313⇑ *i*P **P 13 39 31.5 +0.3**
LPG pmax pmax
comp=Z,104nm,0.7s
LPG La Plagne 72.92 313⇑ *i*P **P 13 39 31.5 +0.3**
comp=Z,104nm,0.7s
PGF Pioggiola 72.92 310⇑ *i*P **P 13 39 31.2 +0.2**
comp=Z,75nm,0.9s
PGF Pioggiola 72.92 310⇑ *i*P **P 13 39 31.2 +0.2**
PGF pmax pmax
comp=Z,75nm,0.9s
PGF Pioggiola 72.92 310⇑ *i*P **P 13 39 31.2 +0.2**
comp=Z,75nm,0.9s
LPL La Plagne 72.92 313⇑ *i*P **P 13 39 31.5 +0.4**
comp=Z,86nm,0.7s
LPL La Plagne 72.92 313⇑ *i*P **P 13 39 31.5 +0.4**
LPL pmax pmax
comp=Z,86nm,0.7s
LPL La Plagne 72.92 313⇑ *i*P **P 13 39 31.5 +0.4**
comp=Z,86nm,0.7s
SAOF Saoge 73.15 312 *e*P **P 13 39 32.4 +0.1**
BNI Bardonecchia 73.18 313 *e*P **P 13 39 32.6 +0.1**
BNI pmax pmax
comp=Z,14nm,0.7s
BNI Bardonecchia 73.18 313 *e*P **P 13 39 32.6 +0.1**
comp=Z,14nm,0.7s
AUTN L'Aution 73.22 312 *e*P **P 13 39 32.7 -0.2**
EKA Eskdalemuir Ar 73.27 326 P **P 13 39 32.4 -0.3**
EKA Eskdalemuir Ar 73.27 326 P **P 13 39 32.4 -0.3**
comp=Z,4.2nm,0.7s,baz=57,slow=6.1,SNR=12
MBDF Montbardon 73.28 313 *e*P **P 13 39 32.2 -1.0**
comp=Z,22nm,0.7s
MBDF Montbardon 73.28 313 *e*P **P 13 39 32.2 -1.0**
MBDF pmax pmax
comp=Z,22nm,0.7s
MBDF Montbardon 73.28 313 *e*P **P 13 39 32.2 -1.0**
comp=Z,22nm,0.7s
SBF Sospel 73.28 312⇑ *i*P **P 13 39 32.9 -0.2**
comp=Z,76nm,0.8s
SBF Sospel 73.28 312⇑ *i*P **P 13 39 32.9 -0.2**
SBF pmax pmax
comp=Z,76nm,0.8s
SBF Sospel 73.28 312⇑ *i*P **P 13 39 32.9 -0.2**
comp=Z,76nm,0.8s
LUCF Luceram 73.33 312 *e*P **P 13 39 33.3 -0.1**
TOUF Mont Tournerai 73.33 312 *e*P **P 13 39 33.5 0.0**
REVF Revere 73.39 311 *e*P **P 13 39 33.2 -0.5**
MVIF Mont Vial 73.45 312 *e*P **P 13 39 34.0 -0.2**
ORIF Oris-en-Rattie 73.74 313⇑ *i*P **P 13 39 35.7 -0.1**
comp=Z,51nm,0.8s
ORIF *e*R
comp=Z,115nm,17.2s
ORIF Oris-en-Rattie 73.74 313⇑ *i*P **P 13 39 35.7 -0.1**
ORIF pmax pmax
comp=Z,51nm,0.8s
ORIF Oris-en-Rattie 73.74 313⇑ *i*P **P 13 39 35.7 -0.1**
comp=Z,51nm,0.8s
LOR Lormes 73.78 316 *e*P **P 13 39 35.0 -0.9**
comp=Z,17nm,0.8s
LOR *e*R
comp=Z,108nm,20.2s
LOR Lormes 73.78 316 *e*P **P 13 39 35.0 -0.9**
comp=Z,17nm,0.8s
FRF La Foret Royal 73.93 312 *e*P **P 13 39 36.4 -0.4**
comp=Z,17nm,0.7s
FRF La Foret Royal 73.93 312 *e*P **P 13 39 36.4 -0.4**
FRF pmax pmax
comp=Z,17nm,0.7s
FRF La Foret Royal 73.93 312 *e*P **P 13 39 36.4 -0.4**
comp=Z,17nm,0.7s
SSF Saint Saulge 74.09 316⇑ *i*P **P 13 39 37.1 -0.6**
comp=Z,14nm,0.8s
SSF Saint Saulge 74.09 316⇑ *i*P **P 13 39 37.1 -0.6**
SSF pmax pmax
comp=Z,15nm,0.8s
SSF Saint Saulge 74.09 316⇑ *i*P **P 13 39 37.1 -0.6**
comp=Z,14nm,0.8s
SMF Signal de Mont 74.10 315⇑ *i*P **P 13 39 37.4 -0.4**
comp=Z,52nm,0.9s
SMF Signal de Mont 74.10 315⇑ *i*P **P 13 39 37.4 -0.4**
SMF pmax pmax
comp=Z,52nm,0.9s
SMF Signal de Mont 74.10 315⇑ *i*P **P 13 39 37.4 -0.4**
comp=Z,52nm,0.9s
LMR La Mourre 74.13 311⇑ *i*P **P 13 39 37.7 -0.3**
comp=Z,25nm,0.8s
LMR La Mourre 74.13 311⇑ *i*P **P 13 39 37.7 -0.3**
LMR pmax pmax
comp=Z,25nm,0.8s
AVF Avril sur Loir 74.32 316⇑ *i*P **P 13 39 38.7 -0.3**
comp=Z,33nm,0.8s
AVF Avril sur Loir 74.32 316⇑ *i*P **P 13 39 38.7 -0.3**
AVF pmax pmax
comp=Z,33nm,0.8s
AVF Avril sur Loir 74.32 316⇑ *i*P **P 13 39 38.7 -0.3**
comp=Z,33nm,0.8s
SMRF Simiane la Rot 74.40 312 *e*P **P 13 39 38.7 -0.9**
SMRF Simiane la Rot 74.40 312 *e*P **P 13 39 38.7 -0.9**
HYF Humbligny 74.49 316 *e*P **P 13 39 40.1 +0.1**
HYF Humbligny 74.49 316 *e*P **P 13 39 40.1 +0.1**
VIVF Saint-Julien-l 74.51 313⇑ *i*P **P 13 39 40.0 -0.2**
comp=Z,27nm,0.9s
VIVF Saint-Julien-l 74.51 313⇑ *i*P **P 13 39 40.0 -0.2**
VIVF pmax pmax
comp=Z,27nm,0.9s
VIVF Saint-Julien-l 74.51 313⇑ *i*P **P 13 39 40.0 -0.2**
comp=Z,27nm,0.9s
PLDF La Plantade 74.58 315 *e*P **P 13 39 40.4 -0.3**
BGF Bois d'Agland 74.74 316 *e*P **P 13 39 41.0 -0.5**
BGF Bois d'Agland 74.74 316 *e*P **P 13 39 41.0 -0.5**
BGF Bois d'Agland 74.74 316 *e*P **P 13 39 41.0 -0.5**
AGO Saint Agoulin 74.83 315 *e*P **P 13 39 42.2 +0.2**
PYM Petit Puy Mans 75.06 315 *e*P **P 13 39 43.8 +0.4**
LBL Lubilhac 75.19 314 *e*P **P 13 39 44.5 +0.3**
TCF Toulx Ste Croi 75.25 316⇑ *i*P **P 13 39 44.5 0.0**
comp=Z,33nm,0.9s
TCF Toulx Ste Croi 75.25 316⇑ *i*P **P 13 39 44.5 0.0**
TCF pmax pmax
comp=Z,33nm,0.9s
TCF Toulx Ste Croi 75.25 316⇑ *i*P **P 13 39 44.5 0.0**
comp=Z,33nm,0.9s
LDF La Druitiere 75.36 319⇑ *i*P **P 13 39 44.7 -0.3**
comp=Z,35nm,1.0s
LDF La Druitiere 75.36 319⇑ *i*P **P 13 39 44.7 -0.3**
LDF pmax pmax
comp=Z,35nm,1.0s
LDF La Druitiere 75.36 319⇑ *i*P **P 13 39 44.7 -0.3**
comp=Z,35nm,1.0s
LASF Ste Croix 75.41 313⇑ *i*P **P 13 39 45.6 +0.2**
comp=Z,30nm,0.8s
LASF Ste Croix 75.41 313⇑ *i*P **P 13 39 45.6 +0.2**
comp=Z,30nm,0.8s
FLN La Foliniere 75.47 319 *e*P **P 13 39 45.2 -0.4**
comp=Z,15nm,0.7s
FLN *e*R
comp=Z,207nm,20.0s
FLN La Foliniere 75.47 319 *e*P **P 13 39 45.2 -0.4**
FLN pmax pmax
comp=Z,15nm,0.7s
FLN La Foliniere 75.47 319 *e*P **P 13 39 45.2 -0.4**
comp=Z,15nm,0.7s
GRR Gorron 75.89 319⇑ *i*P **P 13 39 47.8 -0.2**
comp=Z,33nm,0.8s
GRR Gorron 75.89 319⇑ *i*P **P 13 39 47.8 -0.2**
GRR pmax pmax
comp=Z,33nm,0.8s
GRR Gorron 75.89 319⇑ *i*P **P 13 39 47.8 -0.2**
comp=Z,33nm,0.8s
KEST Kesra 76.02 303 *e*P **P 13 39 49.4 +0.3**
KEST Kesra 76.02 303 P **P 13 39 49.3 +0.3**
comp=Z,2.3nm,0.7s,baz=178,slow=1.8,SNR=8.9
CAF Calviac 76.06 315⇑ *i*P **P 13 39 49.4 +0.3**
comp=Z,20nm,0.8s
CAF Calviac 76.06 315⇑ *i*P **P 13 39 49.4 +0.3**
CAF pmax pmax
comp=Z,20nm,0.8s
CAF Calviac 76.06 315⇑ *i*P **P 13 39 49.4 +0.3**
comp=Z,20nm,0.8s
RJF Les Rejaudoux 76.19 315 *e*P **P 13 39 50.2 +0.4**
comp=Z,30nm,0.9s
RJF *e*R
comp=Z,120nm,18.2s
RJF Les Rejaudoux 76.19 315 *e*P **P 13 39 50.2 +0.4**
RJF pmax pmax
comp=Z,30nm,0.9s
RJF Les Rejaudoux 76.19 315 *e*P **P 13 39 50.2 +0.4**
comp=Z,30nm,0.9s
MFF Saint Martin d 76.46 317⇑ *i*P **P 13 39 51.4 +0.1**
comp=Z,42nm,0.9s
MFF Saint Martin d 76.46 317⇑ *i*P **P 13 39 51.4 +0.1**
MFF pmax pmax
comp=Z,42nm,0.9s
MFF Saint Martin d 76.46 317⇑ *i*P **P 13 39 51.4 +0.1**
comp=Z,42nm,0.9s
MTLF Montolieu 76.81 313⇑ *i*P **P 13 39 53.4 0.0**
comp=Z,7.6nm,0.7s
MTLF Montolieu 76.81 313⇑ *i*P **P 13 39 53.4 0.0**
MTLF pmax pmax
comp=Z,8.0nm,0.7s
MTLF Montolieu 76.81 313⇑ *i*P **P 13 39 53.4 0.0**
comp=Z,7.6nm,0.7s
LFF La Frestale 76.84 315 *e*P **P 13 39 54.0 +0.5**
LFF La Frestale 76.84 315 *e*P **P 13 39 54.0 +0.5**
LFF La Frestale 76.84 315 *e*P **P 13 39 54.0 +0.5**
SGMF Saint Gilles 76.90 319 *e*P **P 13 39 54.0 +0.2**
comp=Z,26nm,0.7s
SGMF Saint Gilles 76.90 319 *e*P **P 13 39 54.0 +0.2**
SGMF pmax pmax
comp=Z,26nm,0.7s
SGMF Saint Gilles 76.90 319 *e*P **P 13 39 54.0 +0.2**
comp=Z,26nm,0.7s
ROSF Rostrenen 77.25 320⇑ *i*P **P 13 39 55.9 +0.1**
comp=Z,47nm,1.0s
ROSF Rostrenen 77.25 320⇑ *i*P **P 13 39 55.9 +0.1**
ROSF pmax pmax
comp=Z,47nm,1.0s
ROSF Rostrenen 77.25 320⇑ *i*P **P 13 39 55.9 +0.1**
comp=Z,47nm,1.0s
QUIF Quistinic 77.43 319 *e*P **P 13 39 56.8 +0.1**
comp=Z,68nm,1.2s
QUIF Quistinic 77.43 319 *e*P **P 13 39 56.8 +0.1**
QUIF pmax pmax
comp=Z,68nm,1.2s
QUIF Quistinic 77.43 319 *e*P **P 13 39 56.8 +0.1**
comp=Z,68nm,1.2s
EPF Esparros 78.13 314 *e*P **P 13 40 00.2 -0.6**
comp=Z,9.4nm,0.8s
EPF Esparros 78.13 314 *e*P **P 13 40 00.2 -0.6**
EPF pmax pmax
comp=Z,9.0nm,0.8s
EPF Esparros 78.13 314 *e*P **P 13 40 00.2 -0.6**
comp=Z,9.4nm,0.8s
ETSF Etsaut 78.75 314⇑ *i*P **P 13 40 04.8 +0.5**
comp=Z,13nm,0.7s
ETSF Etsaut 78.75 314⇑ *i*P **P 13 40 04.8 +0.5**
ETSF pmax pmax
comp=Z,13nm,0.7s
ETSF Etsaut 78.75 314⇑ *i*P **P 13 40 04.8 +0.5**
comp=Z,13nm,0.7s
SJPF Ste Jean 79.04 314⇑ *i*P **P 13 40 06.5 +0.7**
comp=Z,36nm,1.0s
SJPF Ste Jean 79.04 314⇑ *i*P **P 13 40 06.5 +0.7**
SJPF pmax pmax
comp=Z,36nm,1.0s
SJPF Ste Jean 79.04 314⇑ *i*P **P 13 40 06.5 +0.7**
comp=Z,36nm,1.0s
YKA Yellowknife Ar 80.03 18 P **P 13 40 10.4 -0.4**
YKA Yellowknife Ar 80.03 18 P **P 13 40 10.4 -0.4**
comp=Z,2.8nm,0.5s,baz=327,slow=5.0,SNR=11
ESDC Sonseca Array 82.71 313 P **P 13 40 25.9 +0.4**
ESDC Sonseca Array 82.71 313 P **P 13 40 25.9 +0.4**
comp=Z,3.7nm,0.7s,baz=43,slow=5.3,SNR=20
EVO Evora 85.90 314 *e*P **P 13 40 42.5 +0.8**
comp=Z,11nm,0.8s
EVOP Sao Brissos 85.97 314 *e*P **P 13 40 42.5 +0.5**
EVOP pmax pmax
comp=Z,11nm,0.8s
EVOP Sao Brissos 85.97 314 *e*P **P 13 40 42.5 +0.5**
comp=Z,11nm,0.8s
MDT Midelt 87.24 308 P **P 13 40 48.7 +0.2**
MDT Midelt 87.24 308 P **P 13 40 48.7 +0.2**
comp=Z,5.0nm,1.0s,baz=40,slow=4.5,SNR=8.4
FFC Flin Flon 89.98 15 *e*P **P 13 41 00.8 -0.1**
FFC pmax pmax
comp=Z,10.0nm,0.8s
FFC Flin Flon 89.98 15 *e*P **P 13 41 00.8 -0.1**
comp=Z,9.8nm,0.8s
B08A Colville Reser 90.15 28 *e*P **P 13 41 01.7 -0.1**
comp=Z,11nm,1.1s
C09A Chrisman Ranch 91.02 28 *e*P **P 13 41 05.6 -0.3**
comp=Z,14nm,1.0s
NEW Newport 91.08 27 *e*P **P 13 41 06.2 0.0**
comp=Z,9.7nm,1.1s

E07A	**Sunnyside**	**91.39**	**29**	*e*P		**P**	**13 41 07.5**	**-0.1**
F10A	**Beach Ranch, E**	**92.93**	**28**	*e*P		**P**	**13 41 16.2**	**+1.4**
	comp=Z,7.1nm,0.9s							
TORD	**Torodi Ar. Bea**	**94.05**	**288**	P		**P**	**13 41 20.1**	**-0.3**
TORD	**Torodi Ar. Bea**	**94.05**	**288**	P		**P**	**13 41 20.1**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=53,slow=4.3,SNR=9.2							
J08A	**Circle Bar Ran**	**94.55**	**30**	*e*P		**P**	**13 41 23.4**	**+1.1**
	comp=Z,4.5nm,0.8s							
MAIT	**Maitri**	**121.48**	**203**	*e*P		**PKPdf**	**13 46 51.6**	**-2.3**
ROSC	**El Rosal**	**142.79**	**359**	PKP		**PKPdf**	**13 47 33.9**	**-2.4**
ROSC	**El Rosal**	**142.79**	**359**	PKP		**PKPdf**	**13 47 33.8**	**-2.4**
	comp=Z,5.4nm,0.4s,baz=288,slow=20,SNR=3.8							
OTAV	**Otavalo**	**147.20**	**7**	*e*PKPbc		**PKPbc**	**13 47 45.4**	**-0.7**
BDFB	**Brasilia**	**150.41**	**298**	PKPbc		**PKPbc**	**13 47 52.6**	**-1.2**
BDFB	**Brasilia**	**150.41**	**298**	PKPbc		**PKPbc**	**13 47 52.6**	**-1.2**
	comp=Z,1.8nm,0.4s,baz=114,slow=10.0,SNR=3.3							
SAML	**Samuel**	**154.15**	**333**	*e*PKPdf		**PKPdf**	**13 47 53.2**	**-0.9**
SAML				*e*PKPbc		**PKPbc**	**13 48 01.8**	**-0.4**
LPAZ	**La Paz**	**162.70**	**338**	*e*PKPdf		**PKPdf**	**13 48 04.6**	**-0.4**
LPAZ				PKP		**PKPdf**	**13 48 04.9**	**-0.1**
LPAZ	**La Paz**	**162.70**	**338**	PKP		**PKPdf**	**13 48 04.9**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=21,slow=4.9,SNR=6.2							

UPP ***29*** *13:35:46.6,63.27N×18.60E,h0km,ML1.4,Mining explosion.*
CSEM ***29*** *13:35:46.9±0.2,63.32N×18.52E,h2km,ML1.4,Error ellipse: s-maj=6.5km s-min=5.1km az=149.0,Mining explosion.*

HEL 29 13:35:47.3±0.1, 63°26N×18°60E, h0km, ML1.4 (UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HUSU	**Husum**	**0.29**	**74**	*i* P			Pg	13 35 52.2	-0.6
HUSU				*i* S			Sg	13 35 56.5	-0.1
HUSU	**Husum**	**0.29**	**74**	P			Pg	13 35 52.2	-0.7
HUSU				S			Sg	13 35 56.5	-0.2
SOLU	**Sollefteaa**	**0.61**	**269**	*i* P			Pg	13 35 58.1	-0.8
SOLU				*i* S			Sg	13 36 06.3	-0.4
SOLU	**Sollefteaa**	**0.61**	**269**	P			Pg	13 35 58.0	-0.9
SOLU				S			Sg	13 36 06.3	-0.4
BREU	**Bredtraesk**	**0.63**	**359**	*i* P			Pg	13 35 58.4	-0.9
BREU	**Bredtraesk**	**0.63**	**359**	P			Pg	13 35 58.4	-1.0
HEMU	**Hemsoen**	**0.64**	**204**	*i* P			Pg	13 35 58.8	-0.8
HEMU	**Hemsoen**	**0.64**	**204**	P			Pg	13 35 58.7	-0.9
UMAU	**Umeaa**	**1.12**	**55**	*e*P			Pg	13 36 07.6	-1.1
UMAU	**Umeaa**	**1.12**	**55**	P			Pg	13 36 07.6	-1.1
SVAU	**Svanoeiden**	**1.31**	**19**	*e*P			Pg	13 36 11.0	-1.4
SVAU	**Svanoeiden**	**1.31**	**19**	P			Pg	13 36 11.0	-1.4
HASU	**Hassela**	**1.44**	**220**	*e*P			Pn	13 36 13.0	-1.6
HASU	**Hassela**	**1.44**	**220**	P			Pn	13 36 13.0	-1.6
NOD	**Norderasen**	**1.69**	**278**	*e*P			Pn	13 36 17.6	-0.6
NOD	**Norderasen**	**1.69**	**278**	P			Pn	13 36 17.6	-0.6
VAF	**Ylistaro**	**1.86**	**95**	*e*P			Pn	13 36 20.6	+0.2
VAF				*e*S			Sn	13 36 45.2	+0.7
VAF	**Ylistaro**	**1.86**	**95**	P			Pn	13 36 20.6	+0.2
VAF				S			Sn	13 36 45.2	+0.6
RAF	**Rauma**	**2.70**	**145**	*e*P			Pn	13 36 33.5	+1.7
RAF				*e*S			Sb	13 37 08.2	-1.7
RAF	**Rauma**	**2.70**	**145**	P			Pn	13 36 33.5	+1.7
RAF				S			Sb	13 37 08.1	-1.8

ISCJB ***29*** *13:40:10.7±0.8,32.05N±0.04×129.01E±0.06,h11km, mb3.4/2,Error ellipse: s-maj=8.1km s-min=5.2km az=143.1*
IDC ***29*** *13:40:11.4±1.4,32.12N×128.97E,h0km,mb3.3/2, mb1 3.6/3,mb1mx3.2/26,mbtmp3.4/3,ML3.1/1,Error ellipse: s-maj=22.3km s-min=14.4km az=115.0*
JMA ***29*** *13:40:11.1,32.01N×128.99E,h20km±1km,M3.3*

ISC 29 13:40:12.2±1.1, 32°07N±0.05×129°09E±0.06, h11km, n10, σ0.89/15, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFU	**Fukue jima 2**	**0.66**	**334**	P			**Pg**	**13 40 24.0**	**-0.9**
JFU				*e*S			**Sg**	**13 40 32.9**	**-0.7**
JSJ	**Shimokoshiki**	**0.66**	**126**	P			**Pg**	**13 40 24.3**	**-0.7**
JSJ				*e*S			**Sg**	**13 40 33.6**	**0.0**
NGSJ	**Nagasakinomoza**	**0.83**	**47**	P			**Pg**	**13 40 28.1**	**-0.1**
NGSJ				*e*S			**Sb**	**13 40 39.8**	**+0.1**
JHD	**Hondo**	**0.97**	**66**	P			**Pg**	**13 40 30.8**	**-0.2**
JHD				*e*S			**Sb**	**13 40 44.4**	**+0.4**
JZO	**Okuchi**	**1.28**	**86**	P			**Pn**	**13 40 35.0**	**-1.1**
JSU	**Suzuyama**	**1.29**	**115**	P			**Pn**	**13 40 35.0**	**-1.2**
JNU	**Nakatsue**	**1.84**	**55**	Pn			**Pn**	**13 40 43.6**	**-0.2**
	5.8nm,0.3s,baz=280,slow=6.3,SNR=63								
JNU				Lg			Lg	13 41 11.9	
	10nm,0.3s,baz=228,slow=12,SNR=6.3								
KSRS	**Korea Array**	**5.46**	**350**	Pn			**Pn**	**13 41 33.9**	**+0.4**
	0.7nm,0.3s,baz=167,slow=14,SNR=5.8								
KSRS				Pg			Pb	13 41 51.1	+3.6
	0.6nm,0.3s,baz=171,slow=16,SNR=4.2								
KSRS				Sn			**Sn**	**13 42 35.8**	**-0.6**
	0.6nm,0.3s,baz=177,slow=27,SNR=3.0								
KSRS				Lg			Lg	13 43 02.3	
	1.7nm,0.3s,baz=172,slow=29,SNR=9.5								
WRA	**Warramunga Arr**	**51.96**	**174**	P			**P**	**13 49 23.1**	**+1.8**
	0.4nm,0.8s,baz=352,slow=7.9,SNR=3.3								
ASAR	**Alice Springs**	**55.61**	**175**	P			**P**	**13 49 49.0**	**+1.0**
	0.4nm,0.9s,baz=2.7,slow=14,SNR=5.2								

MEX 29 13:51:17.7±0.5, 16°65N×96°03W, h73km±14km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**0.79**	**302**	*e*P			Pn	13 51 32.2	-1.9
VHO				*i* S			Sn	13 51 45.1	-1.2
HUIG	**Huatulco**	**0.88**	**185**	*i* P			Pn	13 51 33.7	-1.3
HUIG				*i* S			Sn	13 51 45.8	-1.9
PNIG	**Pinotepa**	**2.03**	**263**	*i* P			Pn	13 51 48.8	-1.0
PNIG				*i* S			Sn	13 52 12.3	-2.0
TGIG		**2.79**	**87**	*i* P			Pn	13 51 58.6	-1.6
TGIG				*i* S			Sn	13 52 31.9	-1.1
PCIG		**2.86**	**109**	*i* P			Pn	13 51 59.8	-1.3
PCIG				*i* S			Sn	13 52 32.2	-2.3

DJA 29 13:52:02.8±0.8, 8°S±5°×107°E±°, h13km±5km, M3.8/8, MLv3.8/8, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.67**	**47**	P			Pg	13 52 15.4	-0.5
CISI				S			Sg	13 52 24.7	-0.1
LEM	**Lembang**	**1.21**	**14**	P			Pg	13 52 27.4	+1.0
LEM				S			Sb	13 52 41.4	-0.2
SKJI	**Sukabumi**	**1.25**	**323**	P			Pn	13 52 23.5	-2.5
SKJI				S			Sb	13 52 39.4	-3.0
DBJI	**Dramaga**	**1.55**	**339**	P			Pn	13 52 29.5	-0.7
DBJI				S			Sn	13 52 50.6	+0.4
KPJI	**Karang Pucung**	**1.73**	**67**	P			Pn	13 52 33.1	+0.5
KPJI				S			Sn	13 52 53.6	-1.0
TNG	**Tangerang**	**1.94**	**340**	P			Pn	13 52 36.5	+0.9
TGJI	**Tegal**	**2.12**	**58**	P			Pn	13 52 39.4	+1.5
BJII	**Banjamegara**	**2.46**	**74**	P			Pn	13 52 41.6	-1.2
SJI	**Sawahan**	**4.41**	**87**	P			Pb	13 53 16.0	-4.4

IDC 29 14:59:59.9±1.4, 30.11S×178.85W, h340km±15km, mb2.8/2, mb1 3.2/3, mb1mx2.9/18, mbtmp3.0/3, Error ellipse: s-maj=40.6km s-min=22.6km az=123.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.18**	**44**	P			Pn	15 00 45.2	-0.1
	36nm,0.3s,baz=108,slow=20,SNR=2.5								
RAO				S			S	15 01 13.0	-8.8
	73nm,0.3s,baz=72,slow=20,SNR=2.9								
URZ	**Urewera**	**8.79**	**201**	P			Pn	15 02 04.4	+1.2
	4.1nm,0.3s,baz=279,slow=4.9,SNR=25								
URZ				S			S	15 03 42.6	-1.4
	8.7nm,0.3s,baz=104,slow=21,SNR=15								
ASAR	**Alice Springs**	**42.39**	**267**	P			P	15 07 22.3	+0.1
	0.1nm,0.5s,baz=104,slow=6.1,SNR=6.3								
WRA	**Warramunga Arr**	**43.35**	**272**	P			P	15 07 29.4	-0.4
	1.0nm,0.5s,baz=112,slow=7.1,SNR=24								
FINES	**FINESS Array B**	**144.61**	**340**	PKP			PKPdf	15 18 55.6	+0.1
	1.1nm,0.5s,baz=24,slow=4.9,SNR=7.5								
AKASG	**Malin Array Be**	**150.62**	**322**	PKPbc			PKPbc	15 19 10.8	-0.6
	0.5nm,0.3s,baz=29,slow=2.1,SNR=3.3								

ISCJB ***29*** *15:10:16.8±1.2,11.41S±0.09×166.2E±0.1,h59km, mb3.8/4,Error ellipse: s-maj=17.9km s-min=9.7km az=146.6*
IDC ***29*** *15:10:20.0±3.7,11.32S×166.26E,h78km±31km,mb3.5/4, mb1 3.8/6,mb1mx3.5/21,mbtmp3.7/6,MS2.9/1,Ms1 2.9/1, ms1mx2.2/19,Error ellipse: s-maj=31.1km s-min=20.7km az=54.0*

ISC 29 15:10:18.1±1.2, 11°3S±0.1×166°3E±0.1, h59km, n7, σ1.61/8, mb3.7/4, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.51**	**286**	P			Pn	15 11 54.9	+3.5
	22nm,0.3s,baz=153,slow=4.0,SNR=11								
HNR				S			**Sn**	**15 13 04.2**	**-0.1**
	baz=90,slow=2.0,SNR=1.7								
HNR				LR			LR	15 14 09.9	
	comp=Z,99nm,21.2s,baz=102,slow=35								
DZM	**Mont Dzumac**	**10.73**	**179**	P			**Pn**	**15 12 51.4**	**+2.2**
	0.2nm,0.3s,baz=270,slow=20,SNR=4.8								
DZM				S			**Sn**	**15 14 45.4**	**-2.5**
	0.1nm,0.3s,baz=342,slow=20,SNR=2.2								
WRA	**Warramunga Arr**	**31.92**	**250**	P			**P**	**15 16 38.4**	**+0.1**
	0.9nm,0.9s,baz=78,slow=9.6,SNR=5.4								
ASAR	**Alice Springs**	**33.18**	**244**	P			**P**	**15 16 48.9**	**-0.4**
	0.9nm,0.8s,baz=72,slow=10.0,SNR=9.2								
ILAR	**Eielson Array**	**83.56**	**18**	P			**P**	**15 22 38.7**	**-0.7**
	0.4nm,0.6s,baz=235,slow=6.2,SNR=7.5								
MKAR	**Makanchi Array**	**94.06**	**317**	P			**P**	**15 23 30.8**	**+0.7**
	0.5nm,0.6s,baz=93,slow=3.6,SNR=4.9								
ARCES	**ARCESS Array B**	**116.69**	**346**	PKP			**PKPdf**	**15 28 54.2**	**-0.9**
	2.5nm,1.0s,baz=76,slow=3.8,SNR=3.5								

IDC ***29*** *15:17:23.9±0.9,43.54N×45.84E,h0km,mb3.4/2, mb1 3.5/6,mb1mx3.3/28,mbtmp3.5/6,ML3.6/1,Error ellipse: s-maj=15.9km s-min=10.9km az=125.0*
CSEM ***29*** *15:17:24.5±0.2,43.33N×46.33E,h10km,mb4.0,Error ellipse: s-maj=6.0km s-min=3.0km az=28.0*
MOS ***29*** *15:17:24.6±0.8,43.26N×46.29E,h5km,mb4.0/1,Error ellipse: s-maj=7.9km s-min=5.2km az=41.7*
AZER ***29*** *15:17:25.4±0.1,43.01N×46.09E,h2km±1km,Error ellipse: s-maj=4.1km s-min=2.2km az=323.0*

ISC 29 15:17:24.9±1.1, 43°26N±0.02×46°26E±0.02, h3km±8km, n95, σ1°26/156, 20C-17D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.33**	**125**	⇓*i* Pg			**Pg**	**15 17 31.0**	**-0.2**
DLMR				*e*S			**Sg**	**15 17 36.5**	**+1.1**
DLMR	**Dylym**	**0.33**	**125**	*i* Pg			**Pg**	**15 17 31.0**	**-0.2**
DLMR				*e*Sg			**Sg**	**15 17 36.5**	**+1.1**
GRO	**Groznyy**	**0.38**	**280**	⇓*i* Pg			**Pg**	**15 17 32.8**	**+0.6**
GRO				*i* S			**Sg**	**15 17 39.3**	**-1.2**
GRO	**Groznyy**	**0.38**	**280**	*i* Pg			**Pg**	**15 17 32.8**	**+0.6**
GRO				*i* Sg			**Sb**	**15 17 39.3**	**-1.2**
DBC	**Dubki**	**0.48**	**120**	PG			**Pg**	**15 17 34.0**	**0.0**
DBC				S			**Sg**	**15 17 41.0**	**+0.8**
DBC	**Dubki**	**0.48**	**120**	Pg			**Pg**	**15 17 34.0**	**0.0**
DBC				Sg			**Sg**	**15 17 41.0**	**+0.8**
BTLR	**Botlikh**	**0.59**	**183**	*i* PG			**Pg**	**15 17 36.5**	**+0.2**
BTLR				*e*S			**Sg**	**15 17 44.8**	**+0.8**
BTLR	**Botlikh**	**0.59**	**183**	*i* Pg			**Pg**	**15 17 36.5**	**+0.2**
BTLR				*e*Sg			**Sg**	**15 17 44.8**	**+0.8**
KRNR	**Karanay**	**0.64**	**132**	⇑*i* PG			**Pg**	**15 17 36.8**	**-0.3**
KRNR				*i* S			**Sg**	**15 17 45.8**	**+0.4**
KRNR				pmax		pmax			
	comp=Z,200nm,0.2s								
KRNR	**Karanay**	**0.64**	**132**	*i* Pg			**Pg**	**15 17 36.8**	**-0.3**
	comp=Z,200nm,0.2s								
KRNR				*i* Sg			**Sg**	**15 17 45.8**	**+0.4**
UNCR	**Uncukul**	**0.67**	**144**	⇑*i* PG			**Pg**	**15 17 37.0**	**-0.7**
UNCR				*e*S			**Sg**	**15 17 46.5**	**+0.2**
UNCR				pmax		pmax			
	comp=Z,386nm,0.3s								
UNCR	**Uncukul**	**0.67**	**144**	*i* Pg			**Pg**	**15 17 37.0**	**-0.7**
	comp=Z,386nm,0.3s								
UNCR				*e*Sg			**Sg**	**15 17 46.5**	**+0.2**
BUJR	**Buynaksk**	**0.76**	**125**	PG			**Pg**	**15 17 40.0**	**+0.7**
BUJR				S			**Sb**	**15 17 52.0**	**+0.7**
BUJR	**Buynaksk**	**0.76**	**125**	Pg			**Pg**	**15 17 40.0**	**+0.7**
BUJR				Sg			**Sb**	**15 17 52.0**	**+0.7**
XNZR	**Khunzakh**	**0.79**	**155**	*e*PG			**Pg**	**15 17 39.0**	**-0.9**
XNZR				*e*S			**Sg**	**15 17 50.0**	**-0.1**
XNZR	**Khunzakh**	**0.79**	**155**	*e*Pg			**Pg**	**15 17 39.0**	**-0.9**
XNZR				*e*Sg			**Sg**	**15 17 50.0**	**-0.1**
ARKR	**Arakani**	**0.85**	**140**	⇓*i* PG			**Pg**	**15 17 40.6**	**-0.5**
ARKR				*e*S			**Sg**	**15 17 52.0**	**-0.1**
ARKR				pmax		pmax			
	comp=Z,115nm,0.2s								
ARKR	**Arakani**	**0.85**	**140**	*i* Pg			**Pg**	**15 17 40.6**	**-0.5**
	comp=Z,115nm,0.2s								
ARKR				*e*Sg			**Sg**	**15 17 52.0**	**-0.1**
MAK	**Makhachkala**	**0.96**	**108**	*e*PG			**Pn**	**15 17 44.9**	**-0.2**
MAK				*e*				15 18 02.5	
MAK				pmax		pmax			
	comp=Z,7.0nm,0.4s								
MAK				smax		smax			
	comp=E,39nm,0.4s								
MAK				smax		smax			
	comp=N,31nm,0.4s								
MAK	**Makhachkala**	**0.96**	**108**	*e*Pg			**Pn**	**15 17 44.9**	**-0.2**
	comp=N,7.0nm,0.4s								
MAK				*e*Sg			**Sn**	**15 18 02.5**	**+3.3**
	comp=N,31nm,0.4s								
GNBR	**Gunib**	**1.01**	**149**	PG			**Pg**	**15 17 44.2**	**0.0**
GNBR				S			**Sn**	**15 18 00.2**	**-0.5**
GNBR	**Gunib**	**1.01**	**149**	Pg			**Pg**	**15 17 44.2**	**0.0**
GNBR				Sg			**Sn**	**15 18 00.2**	**-0.5**
SNJR	**Sundja**	**1.08**	**260**	⇓*i* PG			**Pb**	**15 17 46.5**	**+0.3**
SNJR				*e*S			**Sn**	**15 18 02.6**	**+0.2**
SNJR	**Sundja**	**1.08**	**260**	*i* Pg			**Pb**	**15 17 46.5**	**+0.3**
SNJR				*e*Sg			**Sn**	**15 18 02.6**	**+0.2**
VLKR	**Vladikavkaz**	**1.18**	**260**	⇑*i* PG			**Pn**	**15 17 48.3**	**0.0**
VLKR				*i* S			**Sn**	**15 18 05.4**	**+0.5**
VLKR	**Vladikavkaz**	**1.18**	**260**	*i* Pg			**Pn**	**15 17 48.3**	**0.0**
VLKR				*i* Sg			**Sn**	**15 18 05.4**	**+0.5**
MNSR	**Manas**	**1.20**	**117**	*e*PG			**Pn**	**15 17 49.0**	**+0.5**
MNSR				*i* S			**Sn**	**15 18 06.2**	**+0.9**
MNSR	**Manas**	**1.20**	**117**	*e*Pg			**Pn**	**15 17 49.0**	**+0.5**
MNSR				*i* Sg			**Sn**	**15 18 06.2**	**+0.9**
TRKR	**Terskaya**	**1.21**	**293**	*e*PG			**Pb**	**15 17 48.3**	**-0.1**
TRKR				pmax		pmax			
	comp=Z,175nm,0.1s								
TRKR	**Terskaya**	**1.21**	**293**	*e*Pg			**Pb**	**15 17 48.3**	**-0.1**
	comp=Z,175nm,0.1s								
BTKR	**Batakoyurt**	**1.26**	**276**	⇑*i* PG			**Pn**	**15 17 49.5**	**+0.1**
BTKR				*e*S			**Sn**	**15 18 08.4**	**+1.5**
BTKR	**Batakoyurt**	**1.26**	**276**	*i* Pg			**Pn**	**15 17 49.5**	**+0.1**
BTKR				*e*Sg			**Sn**	**15 18 08.4**	**+1.5**
KMKR	**Kumukh**	**1.28**	**151**	⇓*i* PG			**Pg**	**15 17 49.5**	**0.0**
KMKR				*i* S			**Sn**	**15 18 08.5**	**+0.8**
KMKR				pmax		pmax			
	comp=Z,226nm,0.3s								
KMKR	**Kumukh**	**1.28**	**151**	*i* Pg			**Pg**	**15 17 49.5**	**0.0**
	comp=Z,226nm,0.3s								
KMKR				*i* Sg			**Sn**	**15 18 08.5**	**+0.8**
LACR	**Lac**	**1.50**	**254**	⇓*i* PG			**Pn**	**15 17 51.6**	**-1.2**
LACR				*i* S			**Sn**	**15 18 13.0**	**0.0**
LACR	**Lac**	**1.50**	**254**	*i* Pg			**Pn**	**15 17 51.6**	**-1.2**
LACR				*i* Sg			**Sn**	**15 18 13.0**	**0.0**
PRTR	**Priterechnaya**	**1.52**	**290**	⇑*i* PG			**Pb**	**15 17 53.5**	**-0.2**
PRTR				*i* S			**Sg**	**15 18 15.7**	**+1.9**
PRTR	**Priterechnaya**	**1.52**	**290**	*i* Pg			**Pb**	**15 17 53.5**	**-0.2**
PRTR				*i* Sg			**Sg**	**15 18 15.7**	**+1.9**
STDR	**Stavd-Durt**	**1.61**	**275**	⇓*i* PN			**Pb**	**15 17 55.1**	**-0.1**
STDR				*e*S			**Sg**	**15 18 17.8**	**+1.2**
STDR	**Stavd-Durt**	**1.61**	**275**	*i* Pn			**Pb**	**15 17 55.1**	**-0.1**
STDR				*e*Sg			**Sg**	**15 18 17.8**	**+1.2**
KORR	**Kora**	**1.62**	**265**	⇓*i* PN			**Pn**	**15 17 54.7**	**+0.4**
KORR				*e*S			**Sg**	**15 18 17.1**	**+0.3**
KORR	**Kora**	**1.62**	**265**	*i* Pn			**Pn**	**15 17 54.7**	**+0.4**
KORR				*e*Sg			**Sg**	**15 18 17.1**	**+0.3**
DUS	**Dusheti**	**1.64**	**225**	P			**Pb**	**15 17 55.9**	**+0.1**
DUS				S			**Sg**	**15 18 19.7**	**+2.1**
ZKTA	**Zakatala**	**1.64**	**171**	⇑P			**Pn**	**15 17 54.8**	**+0.2**
ZKTA				⇑S			**Sn**	**15 18 16.4**	**+0.2**
LSNR	**Lesken**	**1.78**	**271**	⇑*i* PN			**Pb**	**15 17 57.5**	**-0.7**
LSNR				*e*S			**Sg**	**15 18 22.2**	**+0.1**
LSNR	**Lesken**	**1.78**	**271**	*i* Pn			**Pb**	**15 17 57.5**	**-0.7**
LSNR				*e*Sg			**Sg**	**15 18 22.2**	**+0.1**
TBLG	**Delisi**	**1.90**	**217**	P			**Pb**	**15 17 59.4**	**-0.8**
TBLG				S			**Sb**	**15 18 25.1**	**+0.8**
DGRG	**David-gareji**	**1.92**	**200**	P			**Pb**	**15 18 00.4**	**-0.2**
DGRG				S			**Sg**	**15 18 28.7**	**+2.1**
NCK	**Nalchik**	**1.96**	**278**	*e*PN			**Pb**	**15 18 00.8**	**-0.4**
NCK	**Nalchik**	**1.96**	**278**	*e*Pn			**Pb**	**15 18 00.8**	**-0.4**
DIGR	**Digorskoe uzhe**	**2.00**	**261**	⇓*i* PN			**Pn**	**15 17 59.1**	**-0.6**
DIGR	**Digorskoe uzhe**	**2.00**	**261**	*i* Pn			**Pn**	**15 17 59.1**	**-0.6**
SEKA	**Sheki**	**2.16**	**161**	⇓*i* P			**Pn**	**15 18 03.1**	**+1.3**
	SNR=23								
SEKA				⇓S			**Sb**	**15 18 30.9**	**-0.9**
SEKA	**Sheki**	**2.16**	**161**	P			**Pn**	**15 18 03.1**	**+1.3**
	SNR=23								
SEKA				S			**Sb**	**15 18 30.9**	**-0.9**
ONI	**Oni**	**2.17**	**253**	P			**Pn**	**15 18 02.0**	**0.0**
ONI				S			**Sb**	**15 18 33.2**	**+1.1**
KZR	**Kazreti**	**2.32**	**217**	P			**Sb**	**15 18 36.1**	**-0.4**
KBZ	**Khabaz**	**2.50**	**282**	PN			**Pn**	**15 18 03.3**	**-3.0**
KBZ								15 18 35.8	
KBZ				pmax		pmax			
	comp=Z,2.0nm,0.3s								
KBZ				smax		smax			
	comp=N,6.0nm,0.3s								
KBZ	**Khabaz**	**2.50**	**282**	Pn			**Pn**	**15 18 03.3**	**-3.0**
	comp=N,2.0nm,0.3s								
KBZ				Sn			**Sn**	**15 18 35.8**	**-1.4**
	comp=N,6.0nm,0.3s								
KBZ	**Khabaz**	**2.50**	**282**	Pn			**Pn**	**15 18 03.3**	**-3.0**
	comp=N,1.8nm,0.3s,baz=249,slow=1.3,SNR=26								
KBZ				Sn			**Sn**	**15 18 35.8**	**-1.4**
	comp=N,6.1nm,0.3s,baz=315,slow=20,SNR=4.1								
QUBA	**Quba, Azerbaij**	**2.52**	**138**	⇑Pn			**Pb**	**15 18 10.1**	**-0.7**
QUBA				⇑S			**Sb**	**15 18 41.3**	**-0.9**
QUBA	**Quba, Azerbaij**	**2.52**	**138**	Pn			**Pb**	**15 18 10.1**	**-0.7**
QUBA				S			**Sb**	**15 18 41.3**	**-0.9**
GANJ	**Ganja**	**2.61**	**179**	⇑P			**Pn**	**15 18 07.8**	**-0.2**
	SNR=10								
GANJ				⇑S			**Sn**	**15 18 40.3**	**+0.1**
GANJ	**Ganja**	**2.61**	**179**	P			**Pn**	**15 18 07.8**	**-0.2**
	SNR=10								
GANJ				S			**Sn**	**15 18 40.3**	**+0.1**
KIV	**Kislovodsk**	**2.69**	**286**	*i* PN			**Pn**	**15 18 08.7**	**-0.4**
KIV	**Kislovodsk**	**2.69**	**286**	*i* Pn			**Pn**	**15 18 08.7**	**-0.4**
AKH	**Akhalkalaki**	**2.76**	**229**	P			**Sn**	**15 18 48.8**	**+4.7**
IML	**Ismayilli**	**2.85**	**149**	⇑Pn			**Pn**	**15 18 12.3**	**+1.1**
IML				⇑S			**Sb**	**15 18 50.2**	**-1.4**
IML	**Ismayilli**	**2.85**	**149**	Pn			**Pn**	**15 18 12.3**	**+1.1**
IML				S			**Sb**	**15 18 50.2**	**-1.4**
SIZA	**Siyzn**	**2.93**	**137**	⇓Pn			**Pb**	**15 18 16.3**	**-1.5**
	SNR=11								
SIZA				⇑S			**Sb**	**15 18 53.7**	**-0.3**
SIZA	**Siyzn**	**2.93**	**137**	Pn			**Pb**	**15 18 16.3**	**-1.5**
	SNR=11								
SIZA				S			**Sb**	**15 18 53.7**	**-0.3**
GOF	**Gofitskoye**	**2.94**	**309**	*e*PN			**Pg**	**15 18 21.7**	**+0.6**
GOF				*e*S			**Sg**	**15 18 58.4**	**-0.7**
GOF				pmax		pmax			
	comp=Z,20nm,0.8s								
GOF				smax		smax			
	comp=N,160nm,0.8s								
GOF				smax		smax			
	comp=E,300nm,0.8s								
GOF	**Gofitskoye**	**2.94**	**309**	*e*Pn			**Pg**	**15 18 21.7**	**+0.6**
	comp=E,20nm,0.8s								
GOF				*e*

	baz=301								
TAP1				*e*S		**Sn**	**15 47 08.2**	**+0.5**	
	baz=301								
TAP	**Taipei**	**0.54**	**297**	*e*P		**Pn**	**15 46 56.3**	**-0.4**	
	baz=304								
TWY	**Chenhua**	**0.62**	**321**	⇓*i*P		**Pn**	**15 46 57.4**	**-0.1**	
	baz=321								
TWY				*e*S		**Sn**	**15 47 08.8**	**-0.4**	
	baz=321								
NSK	**Sanguang**	**0.63**	**260**	⇓*i*P		**Pn**	**15 46 58.0**	**+0.4**	
	baz=257								
NSK				S		**Sn**	**15 47 09.4**	**0.0**	
	baz=257								
TWS1	**Kuangyinshan**	**0.64**	**299**	*e*P		**Pn**	**15 46 57.8**	**+0.2**	
	baz=302								
TWS1				S		**Sn**	**15 47 09.2**	**-0.3**	
	baz=302								
NNS	**Nan Shan**	**0.70**	**240**	*e*P		**Pn**	**15 46 59.1**	**+0.8**	
	baz=243								
NNS				*e*S		**Sn**	**15 47 10.9**	**+0.2**	
	baz=243								
NCU	**National Centr**	**0.79**	**283**	⇓P		**Pn**	**15 46 59.8**	**+0.6**	
	baz=288								
NCU				*e*S		**Sn**	**15 47 12.8**	**+0.7**	
	baz=288								
TWD	**Chiawan**	**0.81**	**210**	⇓*i*P		**Pn**	**15 46 59.4**	**0.0**	
	baz=217								
TWD				*e*S		**Sn**	**15 47 11.8**	**-0.8**	
	baz=217								
PCYT	**Pengchaiyu**	**0.83**	**2**	P		**Pn**	**15 46 59.8**	**+0.2**	
	baz=4.0								
HWA	**Hwalien**	**0.90**	**206**	P		**Pn**	**15 47 00.7**	**+0.4**	
	baz=194								
HWA				*e*S		**Sn**	**15 47 15.6**	**+1.4**	
	baz=194								
YOJ	**Yonaguni jima**	**0.95**	**110**	P		**Pn**	**15 47 01.1**	**+0.3**	
YOJ				*e*S		**Sn**	**15 47 15.8**	**+0.7**	
TWT	**Tachien**	**0.95**	**236**	P		**Pn**	**15 47 02.4**	**+1.3**	
	baz=228								
TWT				S		**Sn**	**15 47 16.7**	**+1.3**	
	baz=228								
WHF	**Hehuan Shan**	**0.95**	**228**	⇓P		**Pn**	**15 47 01.9**	**+0.5**	
	baz=220								
WHF				*i* S		**Sn**	**15 47 16.5**	**+0.5**	
	baz=220								
NSTT	**Nanjuang**	**0.95**	**261**	⇓*i*P		**Pn**	**15 47 01.2**	**+0.3**	
	baz=259								
NSTT				*e*S		**Sn**	**15 47 15.2**	**-0.1**	
	baz=259								
HSN	**Hsinchu**	**0.97**	**271**	⇓*i*P		**Pn**	**15 47 01.2**	**+0.2**	
	baz=262								
HSN				*e*S		**Sn**	**15 47 15.3**	**-0.2**	
	baz=262								
ESL	**Shilin**	**1.12**	**210**	*e*P		**Pn**	**15 47 02.1**	**-0.7**	
	baz=214								
ESL				*e*S		**Sn**	**15 47 17.4**	**-1.2**	
	baz=214								
NSY	**Sanyi**	**1.22**	**252**	⇑*i*P		**Pn**	**15 47 04.9**	**+0.9**	
	baz=251								
NSY				S		**Sn**	**15 47 21.5**	**+0.7**	
	baz=251								
TWQ1	**Liyutan**	**1.23**	**249**	*e*P		**Pn**	**15 47 04.8**	**+0.6**	
	baz=248								
TWQ1				*e*S		**Sn**	**15 47 20.7**	**-0.3**	
	baz=248								
SMLT	**Sun Moon Lake**	**1.38**	**229**	⇓P		**Pn**	**15 47 07.0**	**+1.0**	
	baz=237								
SMLT				*e*S		**Sn**	**15 47 25.9**	**+1.6**	
	baz=237								
TYC	**Yuchr**	**1.39**	**231**	*e*P		**Pn**	**15 47 06.7**	**+0.6**	
	baz=237								
TYC				*e*S		**Sn**	**15 47 25.8**	**+1.3**	
	baz=237								
TCU	**Taichung**	**1.40**	**243**	*e*P		**Pn**	**15 47 07.0**	**+0.9**	
	baz=242								
TCU				*e*S		**Sn**	**15 47 24.8**	**+0.2**	
	baz=242								
EHY	**Hungye**	**1.44**	**207**	*e*P		**Pn**	**15 47 05.7**	**-1.0**	
	baz=198								
WNT	**Mingjian**	**1.53**	**234**	*e*P		**Pn**	**15 47 08.9**	**+1.0**	
	baz=242								
WNT				*e*S		**Sn**	**15 47 28.2**	**+0.5**	
	baz=242								
TWF1	**Yuli**	**1.58**	**205**	⇑P		**Pn**	**15 47 07.7**	**-0.9**	
	baz=197								
IRIF	**Iriomote-Funau**	**1.61**	**106**	P		**Pn**	**15 47 09.0**	**+0.2**	
IRIF				*e*S		**Sn**	**15 47 29.6**	**+0.2**	
CHN5	**Tsauling**	**1.72**	**226**	*e*P		**Pn**	**15 47 11.2**	**+0.8**	
	baz=234								
CHN5				*e*S		**Sn**	**15 47 33.4**	**+1.4**	
	baz=234								
WGK	**Gukeng**	**1.74**	**231**	*e*P		**Pn**	**15 47 11.4**	**+0.9**	
	baz=240								
WGK				*e*S		**Sn**	**15 47 33.9**	**+1.5**	
	baz=240								
HATJ	**Hateruma jima**	**1.77**	**114**	P		**Pn**	**15 47 12.2**	**+1.3**	
CHKT	**Chengkung**	**1.79**	**200**	*e*P		**Pn**	**15 47 11.2**	**0.0**	
	baz=201								
CHKT				*e*S		**Sn**	**15 47 31.5**	**-2.1**	
	baz=201								
JKRS	**Kuro-shima**	**1.88**	**107**	P		**Pn**	**15 47 12.9**	**+0.6**	
JKRS				*e*S		**Sn**	**15 47 36.2**	**+0.5**	
JIJ	**Ishigaki jima**	**1.96**	**102**	P		**Pn**	**15 47 13.8**	**+0.3**	
JIJ				*e*S		**Sn**	**15 47 37.3**	**-0.4**	
TWG	**Pinlang**	**2.15**	**204**	*e*P		**Pn**	**15 47 15.7**	**-0.3**	
	baz=196								
ECL	**Taimali**	**2.40**	**205**	*e*P		**Pn**	**15 47 18.1**	**-1.1**	
	baz=198								
JTJ	**Tarama**	**2.43**	**93**	P		**Pn**	**15 47 20.4**	**+0.8**	
JTJ				*e*S		**Sn**	**15 47 50.1**	**+1.5**	
KSRS	**Korea Array**	**13.59**	**20**	Pn		**P**	**15 49 57.0**	**+0.5**	
	0.1nm,0.3s,baz=202,slow=13,SNR=4.7								
CMAR	**Chiang Mai Arr**	**22.36**	**258**	P		P	15 51 47.9	+15	
	0.3nm,0.4s,baz=59,slow=11,SNR=3.2								
WRA	**Warramunga Arr**	**46.05**	**164**	P		**P**	**15 54 55.6**	**-1.0**	
	0.4nm,0.9s,baz=347,slow=8.8,SNR=5.9								
ASAR	**Alice Springs**	**49.53**	**166**	P		**P**	**15 55 22.3**	**-1.3**	
	0.2nm,0.8s,baz=355,slow=8.1,SNR=3.0								

*IDC **29** 15:52:45.6±0.5, 15°.26S×173°.23W, h0km, mb4.3/14, mb1 4.6/14, mb1mx4.4/23, mbtmp4.3/14, MS4.1/21, Ms1 4.1/21, ms1mx4.1/30, Error ellipse: s-maj=24.6km s-min=14.8km az=132.0*

*BJI **29** 15:52:45.0, 15°.40S×173°.30W, h10km, mB5.6/9, mb5.1/9, Ms5.3/5, Ms7 4.9/4*

*NEIC **29** 15:52:47.0±0.3, 15°.40S×173°.21W, h10km, mb5.0/18, Error ellipse: s-maj=13.0km s-min=6.8km az=136.0*

*ISCJB **29** 15:52:48.8±0.3, 15°.41S±0°.06×173°.31W±0°.07, h29km, mb4.7/33, MS4.3/23, Error ellipse: s-maj=11.1km s-min=6.7km az=136.5*

*AUST **29** 15:52:49.8±0.0, 15°.05S×172°.41W, h94km, Error ellipse: s-maj=1.8km s-min=1.2km az=245.0*

ISC 29 15:52:50.5±0.4, 15°.39S±0°.08×173°.29W±0°.08, h29km, n123, σ1§48/110, mb4.8/33, MS4.2/23, 2C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.07**	**45**	*e*Pn	Pn	15 53 13.5	-10
AFI				Sn	Sn	15 53 31.4	-17
AFI	**Afiamalu**	**2.07**	**45**	Pn	Pn	15 53 13.8	-10
	114nm,0.3s,baz=176,slow=0.6,SNR=85						
AFI				Sn	Sn	15 53 31.4	-17
	447nm,0.3s,baz=236,slow=18,SNR=19						
NIUE	**Niue**	**4.88**	**139**	P	Pn	15 53 57.3	-4.7
	baz=4.7,SNR=35						
MSVF	**Nonsavu**	**8.63**	**253**	Pn	**Pn**	**15 54 52.9**	**-0.7**
	58nm,1.0s						
KNTN	**Kanton**	**12.63**	**7**	*e*Pn	Pn	15 55 39.3	-9.0
RAR	**Rarotonga**	**14.08**	**116**	*e*Pn	Pn	15 56 00.4	-7.7
	43nm,0.9s						
RAR				Sn	Sn	15 58 30.2	-13
RAR	**Rarotonga**	**14.08**	**116**		Pn	15 56 00.4	-7.7
	2.1nm,0.3s,baz=270,slow=2.8,SNR=4.5						
RAR				Sn	Sn	15 58 30.2	-13
	2.0nm,0.3s,baz=270,slow=19,SNR=3.3						
RAR				LR	LR	15 59 54.6	
	comp=Z,812nm,20.8s,baz=180,slow=30						
RAO	**Raoul Island**	**14.45**	**196**	LR	LR	15 59 40.3	
	comp=Z,54nm,21.9s,baz=359,slow=28						
DZM	**Mont Dzumac**	**20.30**	**248**	*e*LR	LR	16 02 15.1	
	467nm,22.9s						
DZM	**Mont Dzumac**	**20.30**	**248**	P	**P**	**15 57 25.7**	**+1.3**
DZM	**Mont Dzumac**	**20.30**	**248**	P	**P**	**15 57 25.7**	**+1.3**
	14nm,0.9s,baz=89,slow=18,SNR=3.3						

PPT	**Papeete**	**22.84**	**99**	LR		LR	16 03 52.7		
	comp=Z,507nm,18.9s,baz=277,slow=29								
PPT2	**Papeete2**	**22.84**	**99**	*e*LQ		LQ	16 02 02.6		
	722nm,25.8s								
PPT2				*e*LR		LR	16 03 00.0		
	824nm,25.5s,baz=258								
TBI	**Tubuai**	**23.81**	**113**	*e*LQ		LQ	16 02 32.9		
	509nm,27.8s								
TBI				*e*LR		LR	16 03 33.9		
	1µm,25.8s,baz=288								
URZ	**Urewera**	**24.31**	**199**	*e*P		**P**	**15 58 03.8**	**-1.8**	
	25nm,0.8s								
URZ	**Urewera**	**24.31**	**199**	P		**P**	**15 58 05.9**	**+0.2**	
	18nm,0.8s,baz=344,slow=7.3,SNR=13								
URZ				LR		LR	16 06 22.0		
	comp=Z,576nm,18.3s,baz=31,slow=33								
HNR	**Honiara**	**26.79**	**280**	LR		LR	16 07 11.9		
	comp=Z,285nm,21.2s,baz=109,slow=32								
SNZO	**South Karori**	**27.85**	**200**	P		**P**	**15 58 37.9**	**+0.3**	
WHZ	**Wether Hill Ro**	**34.25**	**204**	*e*P		**P**	**15 59 33.1**	**-0.8**	
	296nm,2.2s								
ARMA	**Armidale**	**35.44**	**239**	P		**P**	**15 59 44.1**	**-0.4**	
	baz=36,SNR=4.3								
RKT	**Rikitea**	**36.90**	**108**	*e*LR		LR	16 09 35.0		
	513nm,26.5s,baz=282								
RMQ	**Roma**	**37.00**	**246**	P		**P**	**15 59 57.6**	**-0.2**	
	baz=38,SNR=7.1								
H11S2	**WAKE ISLAND Hy**	**39.01**	**329**	T		T	16 41 33.3		
	baz=150,slow=0.7								
H11S3	**WAKE ISLAND Hy**	**39.02**	**329**	T		T	16 41 34.5		
	baz=150								
H11S1	**WAKE ISLAND Hy**	**39.02**	**329**	T		T	16 41 36.6		
	baz=150,slow=0.7								
MTSU	**Mount Surprise**	**40.62**	**260**	P		**P**	**16 00 28.2**	**-0.1**	
	baz=42,SNR=5.3								
CMSA	**Cobar Meteorol**	**40.66**	**239**	P		**P**	**16 00 27.1**	**-1.2**	
	baz=42,SNR=9.5								
STKA	**Stephens Creek**	**44.14**	**240**	*e*P		**P**	**16 00 55.9**	**-0.8**	
	1.8nm,0.9s								
STKA	**Stephens Creek**	**44.14**	**240**	P		**P**	**16 00 56.4**	**-0.3**	
	baz=45,SNR=7.6								
STKA	**Stephens Creek**	**44.14**	**240**	P		**P**	**16 00 56.1**	**-0.6**	
	9.1nm,0.9s,baz=77,slow=6.0,SNR=12								
STKA				LR		LR	16 16 45.5		
	comp=Z,114nm,20.8s,baz=28,slow=32								
HTT	**Hallett**	**46.64**	**238**	P		**P**	**16 01 15.7**	**-1.0**	
	baz=48,SNR=4.0								
JAY	**Jayapura**	**47.09**	**281**	P		P	16 01 35.8	+15	
	baz=48,SNR=3.1								
WRAB	**Tennant Creek**	**49.94**	**257**	*e*P		**P**	**16 01 40.8**	**-1.4**	
	4.3nm,0.8s								
WRA	**Warramunga Arr**	**49.95**	**257**	P		**P**	**16 01 41.0**	**-1.3**	
WRA	**Warramunga Arr**	**49.95**	**257**	P		**P**	**16 01 41.0**	**-1.3**	
	2.7nm,0.5s,baz=91,slow=6.9,SNR=112								
WRA				LR		LR	16 21 18.5		
	comp=Z,184nm,19.8s,baz=85,slow=34								
AS01	**Alice Springs**	**50.17**	**252**	*e*P		**P**	**16 01 42.3**	**-1.7**	
ASAR	**Alice Springs**	**50.22**	**252**	P		**P**	**16 01 43.3**	**-1.0**	
ASAR	**Alice Springs**	**50.22**	**252**	P		**P**	**16 01 43.3**	**-1.0**	
	8.7nm,0.8s,baz=89,slow=8.1,SNR=179								
KDU	**Kakadu**	**52.58**	**266**	P		**P**	**16 02 03.3**	**+1.3**	
	baz=53,SNR=6.1								
TLE	**Tual**	**53.82**	**274**	P		P	16 02 05.3	-5.8	
	baz=55,SNR=3.4								
JCJ	**Chichijima**	**60.42**	**314**	LR		LR	16 25 19.4		
	comp=Z,161nm,21.6s,baz=140,slow=32								
SBA	**Scott Base**	**63.27**	**185**	*e*P		**P**	**16 03 18.6**	**+2.5**	
	14nm,0.8s								
VNDA	**Vanda**	**63.40**	**186**	*e*P		**P**	**16 03 18.9**	**+2.0**	
	8.3nm,0.9s								
VNDA	**Vanda**	**63.40**	**186**	P		**P**	**16 03 18.9**	**+2.0**	
	6.2nm,0.8s,baz=7.1,slow=6.5,SNR=39								
VNDA				LR		LR	16 25 23.7		
	comp=Z,87nm,20.9s,baz=344,slow=31								
MJAR	**Matsushiro Arr**	**69.00**	**320**	P		**P**	**16 03 53.1**	**-0.3**	
MJAR	**Matsushiro Arr**	**69.00**	**320**	P		**P**	**16 03 53.1**	**-0.3**	
	2.3nm,1.0s,baz=157,slow=6.4,SNR=5.5								
MJAR				LR		LR	16 28 06.0		
	comp=Z,203nm,21.9s,baz=95,slow=31								
CASY	**Casey**	**70.47**	**205**	*e*P		**P**	**16 04 02.1**	**+0.1**	
	9.7nm,1.0s								
CHGN	**Chignik**	**72.50**	**9**	*e*PP		PP	16 06 54.9	-1.0	
PETK	**Petropavlovsk-**	**72.65**	**342**	P		**P**	**16 04 15.9**	**+0.7**	
PETK	**Petropavlovsk-**	**72.65**	**342**	P		**P**	**16 04 15.9**	**+0.7**	
	4.4nm,0.8s,baz=135,slow=14,SNR=4.4								
PETK				LR		LR	16 32 11.3		
	comp=Z,103nm,20.5s,baz=189,slow=33								
BBRC	**Big Bear Solar**	**72.86**	**46**	*e*P		P	16 04 13.8	-3.4	
COA	**Coachella**	**73.39**	**48**	*e*P		**P**	**16 04 22.3**	**+2.2**	
YBH	**Yreka Blue Hor**	**73.52**	**37**	LR		LR	16 30 38.3		
	comp=Z,169nm,18.1s,baz=262,slow=31								
NV01	**Mina Array Sit**	**74.25**	**42**	*e*P		**P**	**16 04 25.0**	**-0.3**	
NVAR	**Mina Array Bea**	**74.25**	**42**	P		**P**	**16 04 24.9**	**-0.4**	
NVAR	**Mina Array Bea**	**74.25**	**42**	P		**P**	**16 04 24.9**	**-0.4**	
	1.4nm,0.8s,baz=229,slow=9.4,SNR=1.8								
NVAR				LR		LR	16 29 56.2		
	comp=Z,199nm,19.1s,baz=95,slow=30								
TPH	**Tonopah**	**74.75**	**43**	P		**P**	**16 04 26.9**	**-1.3**	
	5.8nm,0.9s								
KSRS	**Korea Array**	**76.22**	**316**	P		**P**	**16 04 38.7**	**+2.3**	
	0.8nm,0.8s,baz=133,slow=5.3,SNR=4.6								
KSRS				LR		LR	16 31 28.2		
	comp=Z,105nm,21.7s,baz=274,slow=30								
KSAR	**Wonju Array Be**	**76.24**	**315**	P		**P**	**16 04 38.7**	**+2.2**	
KS01	**Wonju Array Si**	**76.25**	**316**	*e*P		**P**	**16 04 38.1**	**+1.6**	
KS01				*e*PcP		**PcP**	**16 04 53.3**	**+4.8**	
I07A	**Izee**	**76.82**	**37**	*e*P		**P**	**16 04 38.7**	**-1.1**	
	94nm,2.5s								
USRK	**Ussuriysk Arra**	**77.44**	**323**	LR		LR	16 33 12.8		
	comp=Z,203nm,19.9s,baz=292,slow=31								
HLID	**Hailey**	**79.55**	**39**	*e*P		**P**	**16 04 54.8**	**-0.2**	
	39nm,2.3s								
NJ2	**Nanjing**	**80.24**	**307**	*e*P		**P**	**16 05 00.0**	**+1.2**	
NJ2				AMB		AMB			
	comp=Z,10.0nm,0.6s								
TX31	**Lajitas Ar. Si**	**80.51**	**56**	*e*P		**P**	**16 05 00.2**	**-0.2**	
TXAR	**Lajitas Array**	**80.51**	**56**	P		**P**	**16 04 59.0**	**-1.4**	
TXAR	**Lajitas Array**	**80.51**	**56**	P		**P**	**16 04 59.0**	**-1.4**	
	1.4nm,1.1s,baz=191,slow=2.0,SNR=5.5								
TXAR				LR		LR	16 34 18.5		
	comp=Z,118nm,18.7s,baz=135,slow=31								
NEW	**Newport**	**80.64**	**34**	LR		LR	16 32 42.6		
	comp=Z,118nm,19.0s,baz=149,slow=30								
ANMO	**Albuquerque**	**80.71**	**50**	P		**P**	**16 05 00.5**	**-1.0**	
	1.5nm,0.6s								
ANMO	**Albuquerque**	**80.71**	**50**	P		**P**	**16 05 00.5**	**-1.0**	
	1.3nm,0.6s,baz=248,slow=5.4								
MCK	**McKinley**	**81.09**	**11**	*e*P		**P**	**16 05 02.1**	**-0.5**	
	19nm,0.9s								
CN2	**Changchun**	**81.14**	**320**	*e*P		**P**	**16 05 04.5**	**+1.2**	
CN2				AMB		AMB			
	comp=Z,10.0nm,0.5s								
MCMT	**McKenzie Canyo**	**81.18**	**39**	*e*P		**P**	**16 05 03.6**	**-0.2**	
	1.6nm,0.9s								
BW06	**Boulder Array**	**82.18**	**42**	*e*P		**P**	**16 05 07.4**	**-1.8**	
BW06				*e*PcP		**pP**	**16 05 20.6**	**+2.1**	
PDAR	**Pinedale Array**	**82.18**	**42**	P		**P**	**16 05 08.0**	**-1.2**	
PDAR	**Pinedale Array**	**82.18**	**42**	P		**P**	**16 05 08.0**	**-1.2**	
	1.0nm,0.8s,baz=186,slow=1.5,SNR=5.9								
PDAR				LR		LR	16 37 13.4		
	comp=Z,140nm,18.5s,baz=278,slow=32								
SMCO	**Snowmass**	**82.22**	**46**	*e*P		**P**	**16 05 09.9**	**+0.2**	
	31nm,2.0s								
COLA	**College**	**82.33**	**11**	*e*P		**P**	**16 05 09.2**	**+0.1**	
	50nm,0.9s								
BOZ	**Bozeman (W)**	**82.34**	**39**	*e*P		**P**	**16 05 09.6**	**-0.2**	
	14nm,1.9s								
IL1	**Eielson Array**	**82.41**	**11**	*e*P		**P**	**16 05 10.5**	**+1.0**	
ILAR	**Eielson Array**	**82.41**	**11**	P		**P**	**16 05 06.7**	**-2.8**	
ILAR	**Eielson Array**	**82.41**	**11**	P		**P**	**16 05 06.7**	**-2.8**	
	0.8nm,0.8s,baz=190,slow=4.8,SNR=6.2								
ILAR				LR		LR	16 38 27.3		
	comp=Z,99nm,18.5s,baz=250,slow=33								
SDCO	**Great Sand Dun**	**82.62**	**48**	*e*P		**P**	**16 05 10.6**	**-1.0**	
	2.7nm,1.1s								
PMSA	**Palmer Station**	**84.14**	**156**	P		**P**	**16 05 18.7**	**+0.1**	
	15nm,1.1s								
MAW	**Mawson**	**87.84**	**199**	P		**P**	**16 05 37.3**	**+0.5**	
MAW	**Mawson**	**87.84**	**199**	P		**P**	**16 05 37.3**	**+0.5**	
	7.0nm,1.0s,baz=132,slow=18,SNR=12								
MAW				LR		LR	16 40 50.8		
	comp=Z,193nm,20.6s,baz=124,slow=33								
GYA	**Guiyang**	**88.13**	**298**	P		**P**	**16 05 38.8**	**-0.4**	
GYA				PP		**PP**	**16 09 08.5**	**+2.0**	
GYA				SKS		**SKSac**	**16 16 05.0**	**-1.3**	
GYA				S		**S**	**16 16 21.5**	**-0.4**	
GYA				SS		**SS**	**16 22 13.5**	**+2.2**	
GYA				AMB		AMB			
	comp=Z,20nm,1.0s								
GYA				AMB		AMB			
	comp=Z,120nm,5.8s								
GYA				LR		LR			
	comp=N,580nm,20.8s								
GYA				LR		LR			
	comp=E,450nm,21.2s								
GYA				LR		LR			
	comp=Z,560nm,20.6s								
HHC	**Hu-ho-hao-te**	**89.10**	**313**	*e*P		**P**	**16 05 41.8**	**-1.6**	
HHC				sP		sP	16 05 48.5	-7.6	
HHC				PP		**PP**	**16 09 14.0**	**+0.1**	
HHC				SKS		**SKSac**	**16 16 09.5**	**-1.9**	
HHC				S		**S**	**16 16 28.0**	**-2.4**	
HHC				sS		**ScS**	**16 16 36.0**	**+0.6**	
HHC				SS		**SS**	**16 22 24.3**	**-0.4**	
HHC				AMB		AMB			
	comp=Z,44nm,1.2s								
HHC				AMB		AMB			
	comp=Z,310nm,6.4s								
HHC				LR		LR			
	comp=N,510nm,17.1s								
HHC				LR		LR			
	comp=E,700nm,17.0s								
HHC				LR		LR			
	comp=Z,270nm,17.5s								
KMI	**Kunming**	**91.12**	**296**	P		**P**	**16 05 54.0**	**+0.7**	
KMI				S		**S**	**16 16 48.5**	**-1.5**	
CD2	**Chengdu**	**91.89**	**301**	P		**P**	**16 05 56.5**	**-0.1**	
SYO	**Syowa Base**	**92.63**	**191**⇑	*e*P		P	16 06 02.4	+3.2	
SYO	**Syowa Base**	**92.63**	**191**⇑	*e*P		P	16 06 05.0	+5.8	
SNAA	**Sanae**	**92.92**	**177**	*e*P		**P**	**16 06 01.4**	**+0.8**	
SNAA	**Sanae**	**92.92**	**177**	*e*P		**P**	**16 06 00.9**	**+0.3**	
	14nm,1.3s								
VNA2	**Neumayer--Watz**	**93.36**	**175**	*e*P		**P**	**16 06 02.5**	**-0.1**	
VNA1	**Neumayer--Stat**	**93.56**	**175**	*e*P		**P**	**16 06 03.8**	**+0.4**	
ULM	**Lac du Bonnet**	**93.85**	**39**	LR		LR	16 47 13.4		
	comp=Z,209nm,18.2s,baz=251,slow=35								
MAIT	**Maitri**	**93.99**	**182**	*e*P		**P**	**16 06 03.5**	**-1.9**	
LPAZ	**La Paz**	**99.71**	**110**	LR		LR	16 41 44.4		
	comp=Z,50nm,21.0s,baz=125,slow=30								
WMQ	**Urumqi**	**106.94**	**312**	*e*Pdif		**Pdif**	**16 07 04.0**	**0.0**	
WMQ				PP		**PP**	**16 11 33.5**	**+2.9**	
WMQ				S		**Sdif**	**16 18 59.3**	**-4.6**	
WMQ				SS		**SS**	**16 26 33.5**	**-1.9**	
WMQ				PPMZ					
	comp=Z,190nm,4.6s								
WMQ				LR		LR			
	comp=N,61nm,21.2s								
WMQ				LR		LR			
	comp=E,35nm,22.2s								
MKAR	**Makanchi Array**	**110.89**	**315**	PKiKP		**PKiKP**	**16 11 22.0**	**+1.0**	
MKAR	**Makanchi Array**	**110.89**	**315**	PKiKP		**PKiKP**	**16 11 22.0**	**+1.0**	
	0.1nm,0.3s,baz=279,slow=3.6,SNR=7.1								
KURK	**Kurchatov**	**113.20**	**319**	PKiKP		**PKiKP**	**16 11 24.2**	**-1.0**	
KURBB	**Kurchatov Arra**	**113.26**	**319**	PKiKP		**PKiKP**	**16 11 24.2**	**-1.1**	
	0.3nm,0.7s,baz=92,slow=1.9,SNR=5.9								
KSH	**Kashi**	**115.55**	**307**	*e*PKP		**PKPdf**	**16 11 32.3**	**+2.0**	
KSH				PP		PP	16 12 41.3	+8.6	
BVAR	**Borovoye Array**	**117.94**	**322**	PKP		**PKPdf**	**16 11 33.6**	**-0.7**	
BVAR	**Borovoye Array**	**117.94**	**322**	PKP		**PKPdf**	**16 11 33.6**	**-0.7**	
	0.3nm,0.4s,baz=35,slow=5.3,SNR=2.8								
CLL	**Collm**	**143.81**	**353**	*e*PKPdf		PKPbc	16 12 20.0	-0.5	
CLL				*e*PKiKP		**PKiKP**	**16 12 26.0**	**-0.3**	
UPC	**Upice**	**144.17**	**350**	*e*PKP		**PKPdf**	**16 12 27.0**	**+3.4**	
DPC	**Dobruska-Polom**	**144.27**	**349**	*e*PKP		PKPbc	16 12 22.3	+0.3	
NKC	**Novy Kostel**	**144.93**	**354**	*e*pPKP		**PKPdf**	**16 12 28.0**	**+3.1**	
KMBO	**Kilima Mbogo**	**145.64**	**244**	PKPbc		**PKPab**	**16 12 27.9**	**-0.1**	
KMBO				*e*PKPdf		**PKPbc**	**16 12 28.5**	**+0.7**	
KMBO	**Kilima Mbogo**	**145.64**	**244**	PKPbc		**PKPab**	**16 12 27.9**	**-0.1**	
	3.3nm,0.8s,baz=233,slow=23,SNR=7.9								
KHC	**Kasperske Hory**	**145.88**	**352**	*e*PKP		**PKPab**	**16 12 27.3**	**-0.3**	
KHC	**Kasperske Hory**	**145.88**	**352**	*e*PKPdf		**PKPdf**	**16 12 25.2**	**-1.4**	
GERES	**GERESS Array B**	**146.14**	**352**	PKPbc		**PKPdf**	**16 12 26.9**	**-0.2**	
GERES	**GERESS Array B**	**146.14**	**352**	PKPbc		**PKPdf**	**16 12 26.9**	**-0.2**	
	1.7nm,0.7s,baz=29,slow=3.0,SNR=11								
BRTR	**Keskin Array B**	**146.21**	**321**	PKPbc		**PKPab**	**16 12 29.0**	**-0.4**	
BRTR	**Keskin Array B**	**146.21**	**321**	PKPbc		**PKPab**	**16 12 29.0**	**

comp=Z,271nm,18.5s,baz=91,slow=26
H11S2 WAKE ISLAND Hy 38.66 330 T T 17 06 04.6
baz=152,slow=0.7,SNR=22
H11S3 WAKE ISLAND Hy 38.67 330 T T 17 06 06.5
baz=152,slow=0.7,SNR=14
H11S1 WAKE ISLAND Hy 38.68 330 T T 17 06 06.4
baz=152,slow=0.7,SNR=15
H11N3 WAKE ISLAND Hy 39.62 331 T T 17 07 16.7
baz=153,slow=0.7,SNR=9.1
H11N1 WAKE ISLAND Hy 39.62 331 T T 17 07 20.4
baz=153,slow=0.7,SNR=9.9
H11N2 WAKE ISLAND Hy 39.63 331 T T 17 07 20.5
baz=153,slow=0.7,SNR=14
STKA Stephens Creek 43.69 240 P **P** **16 25 12.1 +0.1**
3.1nm,0.8s,baz=40,slow=11,SNR=3.2
WRA Warramunga Arr 49.42 257 P **P** **16 25 56.8 -0.3**
1.1nm,0.8s,baz=92,slow=7.0,SNR=11
ASAR Alice Springs 49.71 252 P **P** **16 25 59.4 +0.2**
6.9nm,0.7s,baz=86,slow=8.0,SNR=114
YBH Yreka Blue Hor 73.81 37 P **P** **16 28 40.9 +0.3**
1.7nm,0.7s,baz=303,slow=4.8,SNR=4.6
NVAR Mina Array Bea 74.57 42 P **P** **16 28 44.4 -0.9**
1.1nm,0.8s,baz=223,slow=9.0,SNR=5.2
TXAR Lajitas Array 80.94 56 P **P** **16 29 20.9 +0.2**
0.2nm,0.4s,baz=224,slow=6.3,SNR=3.0
ILAR Eielson Array 82.45 11 P **P** **16 29 28.3 +0.5**
0.4nm,0.8s,baz=224,slow=5.5,SNR=5.9
PDAR Pinedale Array 82.50 42 P **P** **16 29 29.0 +0.1**
0.7nm,0.8s,baz=267,slow=5.1,SNR=4.0
BRTR Keskin Array B 145.81 321 PKPbc **PKPbc** **16 36 44.5 -0.5**
1.3nm,0.8s,baz=96,slow=5.0,SNR=4.8

WEL 29 16:22:05.8±0.3, 38°46S×176°02E, h152km±3km, ML3.6/12, 6C-1D, Error ellipse: s-maj=2.6km s-min=2.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKZ	**Black Stump Fm**	**0.80**	**152**	PN	Pn	16 22 29.5	+0.3
BKZ				SN	Sn	16 22 46.8	-0.3
WHVZ	**Whangaehu Hut**	**0.88**	**202**	PN	Pn	16 22 30.2	+0.1
WHVZ				SN	Sn	16 22 48.5	-0.2
URZ	**Urewera**	**0.88**	**77** ⇓	PN	Pn	16 22 29.6	-0.1
URZ				SN	Sn	16 22 47.6	-0.5
TRVZ	**Turoa**	**0.91**	**203**	PN	Pn	16 22 30.5	+0.1
WNVZ	**Wahianoa**	**0.92**	**201** ⇑	PN	Pn	16 22 30.4	+0.1
MOVZ	**Moawhango**	**0.97**	**192** ⇑	PN	Pn	16 22 30.4	-0.2
MOVZ				SN	Sn	16 22 48.8	-0.7
BHHZ	**Black Hill Sta**	**1.02**	**178** ⇑	PN	Pn	16 22 31.0	-0.1
VRZ	**Vera Road**	**1.19**	**236**	PN	Pn	16 22 32.2	-0.2
MWZ	**Matawai**	**1.19**	**84**	PN	Pn	16 22 32.7	+0.1
MWZ				SN	Sn	16 22 52.4	-0.5
MWZ				AML	AML	16 22 52.8	
PNHZ	**Pukenui**	**1.46**	**174**	PN	Pn	16 22 34.9	-0.2
KAHZ	**Kahuranaki**	**1.49**	**154**	PN	Pn	16 22 36.0	+0.6
WAZ	**Wanganui**	**1.52**	**212**	PN	Pn	16 22 35.4	-0.3
TSZ	**Takapari Road**	**1.59**	**182** ⇑	PN	Pn	16 22 36.2	-0.3
WPHZ	**Waipukurau**	**1.63**	**169**	PN	Pn	16 22 36.2	-0.7
DVHZ	**Dannevirke**	**1.84**	**176** ⇑	PN	Pn	16 22 38.5	-0.7
POWZ	**Post Office Ro**	**1.94**	**186**	PN	Pn	16 22 39.4	-0.9
POWZ				SN	Sn	16 23 06.2	-0.7
MXZ	**Matakaoa Point**	**2.02**	**64**	PN	Pn	16 22 41.2	0.0
PRWZ	**Pori Road**	**2.09**	**181**	PN	Pn	16 22 41.4	-0.7
MRZ	**Mangatainoka R**	**2.22**	**189** ⇑	PN	Pn	16 22 42.2	-1.4
MRZ				AML	AML	16 23 12.4	
MRZ				AML	AML	16 23 12.4	
TIWZ	**Tintock**	**2.31**	**182**	PN	Pn	16 22 43.5	-1.3
HOWZ	**Holdsworth Sta**	**2.46**	**189**	PN	Pn	16 22 44.8	-1.8
HOWZ				SN	Sn	16 23 15.0	-3.1
KIW	**Kapiti Island**	**2.54**	**199**	PN	Pn	16 22 45.5	-2.0
TMWZ	**Te Maipa**	**2.64**	**182**	PN	Pn	16 22 47.0	-1.8
MTW	**Mount Morrison**	**2.72**	**188**	PN	Pn	16 22 47.5	-2.2
CAW	**Cannon Point**	**2.74**	**195**	AML	AML	16 23 43.3	
TRWZ	**Traveller**	**2.94**	**185**	PN	Pn	16 22 50.4	-2.1
PAWZ	**Paruwai Farm**	**2.95**	**189**	PN	Pn	16 22 50.2	-2.4
MSWZ	**Moikau Station**	**3.01**	**191**	PN	Pn	16 22 50.8	-2.6
PLWZ	**Palliser**	**3.16**	**190**	PN	Pn	16 22 52.5	-2.8
TUWZ	**Tuamarina**	**3.37**	**208**	AML	AML	16 23 15.1	
NNZ	**Nelson**	**3.42**	**216**	PN	Pn	16 22 55.6	-2.9
KHZ	**Kahutara**	**4.38**	**205**	PN	Pn	16 23 07.5	-3.5

PRU 29 16:34:17.7, 51°46N×16°30E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPC	**Upice**	**0.97**	**191**	*e*PG	Pg	16 34 35.8	-0.5
UPC				*e*SG	Sg	16 34 48.6	-0.2
	comp=Z,3.7nm,0.2s						
DPC	**Dobruska-Polom**	**1.11**	**179**	*e*PG	Pg	16 34 38.2	-0.8
DPC				*e*SG	Sg	16 34 53.1	-0.3

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*ISCJB **29** 16:34:33.9±0.2, 51°54N±0°01×16°07E±0°02, h0km, mb3.2/2, Error ellipse: s-maj=2.2km s-min=2.0km az=10.4*
*LDG **29** 16:34:34.9±0.2, 51°57N×16°09E, h1km, Ml3.7/3, Error ellipse: s-maj=5.4km s-min=2.4km az=11.0, Suspected Mining induced.*
*IPEC **29** 16:34:35.6±0.3, 51°58N×16°17E, h0km, ML3.1/3, Error ellipse: s-maj=3.4km s-min=1.7km az=66.0*
*STR **29** 16:34:35.6±1.0, 51°19N×16°26E, h5km, Ml3.7, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*PRU **29** 16:34:36.6, 51°53N×16°10E, h0km*
*IDC **29** 16:34:36.4±0.6, 51°53N×16°00E, h0km, mb3.3/2, mb1 3.5/10, mb1mx3.4/30, mbtmp3.5/10, ML3.3/8, Error ellipse: s-maj=9.6km s-min=5.4km az=99.0*
*CSEM **29** 16:34:36.0±0.1, 51°54N×16°07E, h2km, ML4.0/15, Error ellipse: s-maj=2.2km s-min=2.1km az=25.0*
*BGR **29** 16:34:37.5±0.3, 51°48N×16°10E, h1km, ML3.4/16, Error ellipse: s-maj=4.4km s-min=2.2km az=16.0*
*VIE **29** 16:34:39.1±0.4, 51°29N×16°01E, h0km, mb3.1/7, ML3.0/9, Error ellipse: s-maj=2.9km s-min=2.2km az=164.0 73 km WNW of Wroclaw Suspected Mining induced.*
*UPP **29** 16:34:44.4, 52°09N×16°04E, h0km, ML2.8, Suspected Mining explosion.*

ISC 29 16:34:34.5±0.6, 51°59N±0°03×16°14E±0°02, h0km, n145, σ18s36/232, 21C-8D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.75**	**172**	*e*Pg	**Pb**	**16 34 50.3**	**-0.2**
KSP				*e*Sg	**Sg**	**16 34 59.7**	**+1.1**
KSP	**Ksiaz**	**0.75**	**172**	*e*Pg	**Pb**	**16 34 50.0**	**-0.5**
KSP				*e*Sg	**Sg**	**16 34 59.6**	**+1.0**
KSP	**Ksiaz**	**0.75**	**172**	*e*	**Sn**	**16 35 03.0**	**-1.5**
KSP	**Ksiaz**	**0.75**	**172**	Pg	**Pb**	**16 34 50.3**	**-0.2**
KSP				Sg	**Sg**	**16 34 59.7**	**+1.1**
UPC	**Upice**	**1.08**	**184**	*e*PG	**Pb**	**16 34 56.2**	**+0.1**
UPC				*e*SG	**Sg**	**16 35 09.5**	**+0.2**
	comp=Z,208nm,0.3s						
UPC	**Upice**	**1.08**	**184**	Pg	**Pb**	**16 34 56.2**	**+0.1**
UPC				Sg	**Sg**	**16 35 09.5**	**+0.2**
	208nm,0.3s						
DPC	**Dobruska-Polom**	**1.24**	**174**	*e*Pg	**Pb**	**16 34 59.0**	**+0.1**
DPC				*e*Sg	**Sg**	**16 35 14.8**	**+0.4**
DPC	**Dobruska-Polom**	**1.24**	**174**	*i* PG	**Pb**	**16 34 59.0**	**+0.1**
DPC				*e*SG	**Sg**	**16 35 14.1**	**-0.3**
DPC	**Dobruska-Polom**	**1.24**	**174**	Pg	**Pb**	**16 34 59.0**	**+0.1**
DPC				Sg	**Sg**	**16 35 14.8**	**+0.4**
PVCC	**Panska Ves**	**1.45**	**224**	*e*PG	**Pb**	**16 35 02.5**	**+0.2**
PVCC				*e*SG	**Sb**	**16 35 21.4**	**+0.1**
	comp=Z,527nm,0.2s						
PVCC	**Panska Ves**	**1.45**	**224**	Pg	**Pb**	**16 35 02.5**	**+0.2**
PVCC				Sg	**Sb**	**16 35 21.4**	**+0.1**
	527nm,0.2s						
BRG	**Berggiesshubel**	**1.55**	**243**	PN	**Pn**	**16 35 03.3**	**-0.1**
BRG				PG	**Pg**	**16 35 05.3**	**+1.1**
BRG				SG	**Sg**	**16 35 25.2**	**+0.9**
	422nm,0.3s						
BRG	**Berggiesshubel**	**1.55**	**243**	*e*Pg	**Pg**	**16 35 04.9**	**+0.7**
BRG				*e*Sg	**Sg**	**16 35 25.3**	**+0.9**
BRG	**Berggiesshubel**	**1.55**	**243**	Pg	**Pg**	**16 35 04.9**	**+0.7**
BRG				Sg	**Sg**	**16 35 25.3**	**+0.9**
PRA	**Prague**	**1.86**	**216**	PG	**Pb**	**16 35 09.0**	**-0.4**
PRA				SG	**Sn**	**16 35 32.0**	**+0.2**
FBE	**Freiberg**	**1.87**	**250**	*e*Pn	**Pb**	**16 35 08.9**	**-0.6**
FBE				*e*Pg	**Pg**	**16 35 11.1**	**+0.7**
FBE				*e*Sg	**Sg**	**16 35 34.9**	**+0.3**
FBE	**Freiberg**	**1.87**	**250**	Pn	**Pb**	**16 35 08.9**	**-0.6**
PRU	**Pruhonice**	**1.89**	**213**	*e*PN	**Pn**	**16 35 08.3**	**+0.2**
PRU				*e*PG	**Pg**	**16 35 10.4**	**-0.4**
PRU				*e*SG	**Sb**	**16 35 34.2**	**+0.1**
	comp=Z,93nm,0.3s						
PRU	**Pruhonice**	**1.89**	**213**	Pn	**Pn**	**16 35 08.3**	**+0.2**
CLL	**Collm**	**1.98**	**263**	*e*Pn	**Pn**	**16 35 09.6**	**+0.4**
CLL				*e*Pg	**Pg**	**16 35 14.0**	**+1.6**
CLL				*e*Sg	**Sg**	**16 35 39.2**	**+1.1**
CLL	**Collm**	**1.98**	**263**	*i* Pn	**Pn**	**16 35 09.5**	**+0.3**
CLL				*e*Pg	**Pg**	**16 35 13.0**	**+0.6**
CLL				*i*		16 35 16.9	
CLL				*e*		16 35 16.0	
CLL				*i* Sg	**Sg**	**16 35 39.1**	**+1.0**
	comp=Z,95nm,0.7s						
CLL	**Collm**	**1.98**	**263**	Pn	**Pn**	**16 35 09.6**	**+0.4**
CLL	**Collm**	**1.98**	**263**	Pg	**Pg**	**16 35 14.0**	**+1.6**
CLL				Sg	**Sg**	**16 35 39.2**	**+1.1**
RAC	**Raciborz**	**1.99**	**138**	*e*Pg	**Pg**	**16 35 13.9**	**+1.2**
RAC				*e*Sg	**Sg**	**16 35 39.9**	**+1.4**
MORC	**Moravsky Berou**	**2.02**	**153**	*e*Pn	**Pn**	**16 35 10.2**	**+0.3**
MORC				*e*Sg	**Sb**	**16 35 38.3**	**+0.5**
MORC	**Moravsky Berou**	**2.02**	**153** ⇓	*i*P	**Pn**	**16 35 10.6**	**+0.7**
MORC	**Moravsky Berou**	**2.02**	**153**	S	**Sg**	**16 35 39.0**	**-0.4**
MORC	**Moravsky Berou**	**2.02**	**153** ⇓	*i*P	**Pn**	**16 35 10.6**	**+0.7**
MORC				Sg	**Sb**	**16 35 38.3**	**+0.5**
MORC				S	**Sg**	**16 35 39.0**	**-0.4**
OKC	**Ostrava-Krasne**	**2.17**	**143**	*e*Pn	**Pn**	**16 35 12.4**	**+0.5**
OKC				*e*Pg	**Pg**	**16 35 16.9**	**+0.8**
OKC				*e*Sg	**Sb**	**16 35 42.7**	**+0.7**
OKC	**Ostrava-Krasne**	**2.17**	**143**	*e*PN	**Pn**	**16 35 12.1**	**+0.3**
OKC				*e*PG	**Pg**	**16 35 15.9**	**-0.1**
OKC				*e*SG	**Sg**	**16 35 43.3**	**-0.8**
	comp=Z,214nm,0.6s						
OKC	**Ostrava-Krasne**	**2.17**	**143**	Pn	**Pn**	**16 35 12.4**	**+0.5**
OKC	**Ostrava-Krasne**	**2.17**	**143**	Pg	**Pg**	**16 35 16.9**	**+0.8**
OKC				Sg	**Sg**	**16 35 43.3**	**-0.8**
	comp=Z,214nm,0.6s						
VRAC	**Vranov**	**2.30**	**173** ⇑	*i*P	**Pb**	**16 35 15.4**	**-1.5**
VRAC	**Vranov**	**2.30**	**173**	S	**Sn**	**16 35 44.0**	**+1.3**
VRAC	**Vranov**	**2.30**	**173**	*e*Pn	**Pn**	**16 35 14.7**	**+1.0**
VRAC	**Vranov**	**2.30**	**173** ⇑	*i*P	**Pb**	**16 35 15.4**	**-1.5**
VRAC				S	**Sn**	**16 35 44.0**	**+1.3**
VRAC				*e*Sg	**Sb**	**16 35 46.9**	**+1.1**
	comp=Z,102nm,0.5s						
VRAC	**Vranov**	**2.30**	**173**	Pn	**Pn**	**16 35 14.3**	**+0.6**
	comp=Z,4.6nm,0.3s,baz=335,slow=15,SNR=16						
VRAC				Pg	**Pg**	**16 35 19.0**	**+0.5**
	comp=Z,12nm,0.3s,baz=349,slow=16,SNR=19						
VRAC				Lg	Lg	16 35 48.1	
	comp=Z,17nm,0.3s,baz=97,slow=16,SNR=12						
TREC	**Trest**	**2.33**	**190**	*e*PN	**Pn**	**16 35 15.1**	**+1.0**
TREC				*e*PG	**Pb**	**16 35 17.7**	**+0.3**
TREC				*e*SG	**Sg**	**16 35 48.5**	**-0.9**
	comp=Z,66nm,0.2s						
TREC	**Trest**	**2.33**	**190**	Pn	**Pn**	**16 35 15.1**	**+1.0**
KRUC	**Moravsky**	**2.53**	**176**	*e*Pn	**Pn**	**16 35 17.8**	**+0.9**
KRUC				*e*Sg	**Sg**	**16 35 54.5**	**-1.3**
	comp=Z,97nm,0.5s						
TANN	**Tannenbergstha**	**2.60**	**245**	*e*Pn	**Pn**	**16 35 18.7**	**+0.9**
TANN				*e*Sg	**Sg**	**16 35 58.0**	**0.0**
TANN	**Tannenbergstha**	**2.60**	**245**	Pn	**Pn**	**16 35 18.7**	**+0.9**
TANN				Sg	**Sg**	**16 35 58.0**	**0.0**
WERD	**Werda**	**2.67**	**246**	*e*Pn	**Pn**	**16 35 19.6**	**+0.8**
WERD				*e*Pg	**Pg**	**16 35 26.8**	**+1.1**
WERD				*e*Sg	**Sg**	**16 35 59.2**	**-1.2**
WERD	**Werda**	**2.67**	**246**	Pn	**Pn**	**16 35 19.6**	**+0.8**
OJC	**Ojcow**	**2.69**	**119**	*e*Pn	**Pn**	**16 35 19.7**	**+0.6**
OJC				*e*Sg	**Sg**	**16 36 02.4**	**+1.4**
OJC	**Ojcow**	**2.69**	**119**	*e*Pn	**Pn**	**16 35 19.0**	**-0.1**
OJC				*e*Pg	**Pg**	**16 35 27.6**	**+1.5**
OJC				*e*Sn	**Sn**	**16 35 48.3**	**-4.1**
OJC				*e*Sg	**Sg**	**16 36 02.1**	**+1.1**
OJC	**Ojcow**	**2.69**	**119**	Pn	**Pn**	**16 35 19.7**	**+0.6**
NKC	**Novy Kostel**	**2.70**	**241**	*e*PN	**Pn**	**16 35 20.0**	**+0.8**
NKC				*e*PG	**Pg**	**16 35 25.8**	**-0.4**
NKC				*e*SG	**Sg**	**16 36 00.4**	**-0.8**
	comp=Z,151nm,0.3s						
NKC	**Novy Kostel**	**2.70**	**241**	Pn	**Pn**	**16 35 20.0**	**+0.8**
KHC	**Kasperske Hory**	**2.95**	**215**	*e*PN	**Pn**	**16 35 23.0**	**+0.3**
KHC				*e*PG	**Pb**	**16 35 29.4**	**+1.4**
KHC				*e*SN	**Sn**	**16 35 58.5**	**-0.3**
KHC				*e*SG	**Sg**	**16 36 08.5**	**-0.9**
	comp=Z,47nm,0.4s						
KHC	**Kasperske Hory**	**2.95**	**215**	Pn	**Pn**	**16 35 23.0**	**+0.3**
MANZ	**Manzenberg**	**3.02**	**239**	*e*Pn	**Pn**	**16 35 24.6**	**+1.1**
MANZ				*e*Pg	**Pg**	**16 35 33.3**	**+1.0**
MANZ				*e*Sg	**Sg**	**16 36 10.0**	**-1.3**
MANZ	**Manzenberg**	**3.02**	**239**	Pn	**Pn**	**16 35 24.6**	**+1.1**
ROTZ	**Rotzenmuhle**	**3.09**	**235**	*e*Pn	**Pn**	**16 35 25.6**	**+1.0**
ROTZ				*e*Pg	**Pg**	**16 35 34.8**	**+1.0**
ROTZ				*e*Sg	**Sg**	**16 36 12.5**	**-1.3**
ROTZ	**Rotzenmuhle**	**3.09**	**235**	Pn	**Pn**	**16 35 25.6**	**+1.0**
GEC2	**GERESS Array S**	**3.16**	**211**	*e*Pn	**Pn**	**16 35 26.3**	**+0.8**
GEC2				*e*Pg	**Pg**	**16 35 34.5**	**-0.5**
GEC2				*e*Sg	**Sg**	**16 36 13.8**	**-2.1**
GEC2	**GERESS Array S**	**3.16**	**211**	Pn	**Pn**	**16 35 26.3**	**+0.8**
GERES	**GERESS Array B**	**3.16**	**211**	Pn	**Pn**	**16 35 25.6**	**+0.1**
	comp=Z,5.9nm,0.3s,baz=28,slow=13,SNR=96						
GERES				Pg	**Pb**	**16 35 33.0**	**+1.5**
	comp=Z,11nm,0.3s,baz=26,slow=17,SNR=36						
GERES				Lg	Lg	16 36 14.0	
	comp=Z,15nm,0.3s,baz=29,slow=28,SNR=4.6						
SMOL	**Smolenice**	**3.19**	**164**	*e*	**Pg**	**16 35 35.7**	**+0.1**
SMOL	**Smolenice**	**3.19**	**164**	*e*SG	**Sg**	**16 36 18.7**	**+1.9**
SMOL	**Smolenice**	**3.19**	**164**	*e*Sg	**Sg**	**16 36 18.7**	**+1.9**
WET	**Wettzell**	**3.21**	**222**	*e*Pn	**Pn**	**16 35 27.0**	**+0.8**
WET				*e*Sg	**Sg**	**16 35 59.5**	**-1.8**
WET	**Wettzell**	**3.21**	**222**	Pn	**Pn**	**16 35 27.0**	**+0.8**
WET				Sg	**Sg**	**16 35 59.5**	**-1.8**
NIE	**Niedzica**	**3.44**	**128**	*e*P	**Pg**	**16 35 41.1**	**+0.7**
NIE				*e*S	**Sg**	**16 36 22.4**	**+1.3**
CLZ	**Clausthal**	**3.59**	**276**	*e*Pn	**Pn**	**16 35 33.2**	**+1.7**
CLZ				*e*Sg	**Sg**	**16 36 32.0**	**+2.1**
CLZ	**Clausthal**	**3.59**	**276**	Pn	**Pn**	**16 35 33.2**	**+1.7**
CLZ				Sg	**Sg**	**16 36 32.0**	**+2.1**
BSD	**Bornholm Skovb**	**3.61**	**349**	*i* P	**Pn**	**16 35 32.4**	**+0.8**
BSD				*e*S	**Sn**	**16 36 12.2**	**-2.7**
BSD				*i* S	Sb	16 36 12.4	-11
BSD	**Bornholm Skovb**	**3.61**	**349**	*i* P	**Pn**	**16 35 32.4**	**+0.8**
BSD				*e*S	**Sn**	**16 36 12.2**	**-2.7**
GRA1	**Grafenberg Arr**	**3.66**	**241**	Pn	**Pn**	**16 35 33.7**	**+1.4**
GRA1	**Grafenberg Arr**	**3.66**	**241**	Pg	**Pg**	**16 35 45.3**	**+0.8**
GRA1				Sg	**Sg**	**16 36 31.8**	**-0.1**
GRF	**Grafenberg Arr**	**3.66**	**241**	*e*Pn	**Pn**	**16 35 33.7**	**+1.4**
GRF				*e*Pg	**Pg**	**16 35 45.3**	**+0.8**
GRF				*e*Sg	**Sg**	**16 36 31.8**	**-0.1**
CONA	**Conrad Observa**	**3.67**	**183** ⇑	*i*Pn	**Pn**	**16 35 33.8**	**+1.3**
CONA				⇑*i*Sg	**Sg**	**16 36 30.7**	**-1.6**
	comp=Z,83nm,0.5s						
CONA	**Conrad Observa**	**3.67**	**183**	Pn	**Pn**	**16 35 33.8**	**+1.3**
CONA				Sg	**Sg**	**16 36 30.7**	**-1.6**
	comp=Z,83nm,0.5s						
STHS	**Stebnicka Huta**	**3.92**	**122**	*e*PN	**Pn**	**16 35 37.6**	**+1.7**
STHS				*e*		16 35 51.4	
STHS	**Stebnicka Huta**	**3.92**	**122**	*e*SG	**Sg**	**16 36 43.0**	**+2.7**
STHS	**Stebnicka Huta**	**3.92**	**122**	*e*Pn	**Pn**	**16 35 37.6**	**+1.7**
STHS				*e*Sg	**Sg**	**16 36 43.0**	**+2.7**
MOA	**Molln**	**3.93**	**199** ⇓	*i*Pn	**Pn**	**16 35 37.1**	**+1.0**
	SNR=14						
MOA				⇑*i*Sg	**Sg**	**16 36 40.1**	**-0.7**
	comp=Z,39nm,0.5s						
MOA	**Molln**	**3.93**	**199**	Pn	**Pn**	**16 35 37.1**	**+1.0**
	SNR=14						
MOA				Sg	**Sg**	**16 36 40.1**	**-0.7**
	comp=Z,39nm,0.5s						
KECS	**Kecovo**	**4.18**	**136**	*e*PN	**Pn**	**16 35 40.4**	**+0.8**
KECS				*e*		16 35 56.0	
KECS	**Kecovo**	**4.18**	**136**	*e*SG	**Sg**	**16 36 48.9**	**0.0**
KECS	**Kecovo**	**4.18**	**136**	*e*Pn	**Pn**	**16 35 40.4**	**+0.8**
KECS				*e*Sg	**Sg**	**16 36 48.9**	**0.0**
CRVS	**Cervenica-Dubn**	**4.35**	**126**	*e*PN	**Pn**	**16 35 44.4**	**+2.6**
CRVS				*e*		16 35 59.1	
CRVS	**Cervenica-Dubn**	**4.35**	**126**	*e*SG	**Sg**	**16 36 55.2**	**+1.1**
CRVS	**Cervenica-Dubn**	**4.35**	**126**	*e*Pn	**Pn**	**16 35 44.4**	**+2.6**
CRVS				*e*Sg	**Sg**	**16 36 55.2**	**+1.1**
ARSA	**Arzberg**	**4.36**	**185** ⇑	*i*Pn	**Pn**	**16 35 42.6**	**+0.6**
ARSA				⇑*i*Sg	**Sg**	**16 36 53.3**	**-1.2**
	comp=Z,88nm,0.7s						
ARSA	**Arzberg**	**4.36**	**185**	Pn	**Pn**	**16 35 42.6**	**+0.6**
ARSA				Sg	**Sg**	**16 36 53.3**	**-1.2**
	comp=Z,88nm,0.7s						
PSZ	**Piszkesteto**	**4.41**	**145** ⇑	*i*P	**Pn**	**16 35 44.2**	**+1.5**
PSZ	**Piszkesteto**	**4.41**	**145** ⇑	*i*P	**Pn**	**16 35 44.2**	**+1.5**
KWP	**Kalwaria Pacla**	**4.62**	**113** ⇑	*i*P	Pn	16 35 49.1	+3.5
KWP	**Kalwaria Pacla**	**4.62**	**113**	*e*Pn	Pn	16 35 41.1	-4.5
KWP				*e*Pg	**Pg**	**16 36 01.7**	**-1.3**
KWP	**Kalwaria Pacla**	**4.62**	**113** ⇑	*i*P	Pn	16 35 49.1	+3.5
KOLS	**Kolonicke sedl**	**4.75**	**122**	*e*PN	**Pn**	**16 35 48.8**	**+1.5**
KOLS				*e*		16 36 07.2	
KOLS	**Kolonicke sedl**	**4.75**	**122**	*e*SG	**Sg**	**16 37 06.5**	**-0.5**
KOLS	**Kolonicke sedl**	**4.75**	**122**	*e*Pn	**Pn**	**16 35 48.8**	**+1.5**
KOLS				*e*Sg	**Sg**	**16 37 06.5**	**-0.5**
KBA	**Koelnbreinsper**	**4.87**	**203** ⇑	*i*Pn	**Pn**	**16 35 50.4**	**+1.3**
KBA				⇑*i*Sg	**Sg**	**16 37 09.4**	**-1.4**
	comp=Z,30nm,0.5s						
KBA	**Koelnbreinsper**	**4.87**	**203**	Pn	**Pn**	**16 35 50.4**	**+1.3**
KBA				Sg	**Sg**	**16 37 09.4**	**-1.4**
	comp=Z,30nm,0.5s						
PERS	**Pernice**	**5.00**	**188**	*i* Pn	**Pn**	**16 35 52.5**	**+1.7**
PERS	**Pernice**	**5.00**	**188**	Pn	**Pn**	**16 35 52.5**	**+1.7**
TOD	**Tromm**	**5.07**	**250**	P	**Pn**	**16 35 51.4**	**-0.4**
TOD				S	**Sn**	**16 36 54.2**	**+3.1**
WATA	**Walderalm**	**5.19**	**217** ⇑	*i*Pn	**Pn**	**16 35 55.0**	**+1.5**
WATA	**Walderalm**	**5.19**	**217**	Pn	**Pn**	**16 35 55.0**	**+1.5**
WTTA	**Wattenberg**	**5.23**	**216** ⇑	*i*Pn	**Pn**	**16 35 55.1**	**+1.0**
WTTA				⇑*i*Sg	**Sg**	**16 37 22.5**	**+0.1**
	comp=Z,17nm,0.4s						
WTTA	**Wattenberg**	**5.23**	**216**	Pn	**Pn**	**16 35 55.1**	**+1.0**
WTTA				Sg	**Sg**	**16 37 22.5**	**+0.1**
	comp=Z,17nm,0.4s						
MOTA	**Moosalm**	**5.37**	**220** ⇓	*i*Pn	**Pn**	**16 35 56.4**	**+0.5**
	SNR=6.1						
MOTA				⇑*i*Sg	**Sg**	**16 37 27.6**	**+0.8**
	comp=Z,24nm,0.6s						
MOTA	**Moosalm**	**5.37**	**220**	Pn	**Pn**	**16 35 56.4**	**+0.5**
	SNR=6.1						
MOTA				Sg	**Sg**	**16 37 27.6**	**+0.8**
	comp=Z,24nm,0.6s						
VXJU	**Vaexsjoe**	**5.39**	**353**	P	**Pn**	**16 35 57.2**	**+1.1**
OSKU	**Oskarshamn**	**5.62**	**360**	P	**Pn**	**16 36 00.7**	**+1.5**
PKSM	**Moragy**	**5.63**	**162** ⇑	*i*P	**Pn**	**16 36 01.3**	**+1.9**
PKSM	**Moragy**	**5.63**	**162** ⇑	*i*P	**Pn**	**16 36 01.3**	**+1.9**
ABH	**Alteburg**	**5.71**	**256**	P	**Pn**	**16 36 01.4**	**+0.8**
BYXU	**Byxelkrok**	**5.74**	**5**	P	**Pn**	**16 36 02.9**	**+2.1**
ASPU	**Aespoe**	**5.85**	**2**	P	**Pn**	**16 36 04.3**	**+1.9**
VISS	**Visnje**	**5.85**	**189**	*i* Pn	**Pn**	**16 36 03.9**	**+1.4**
VISS	**Visnje**	**5.85**	**189**	*i* Pn	**Pn**	**16 36 03.9**	**+1.4**
GNOU	**Gnosjoe**	**5.88**	**347**	P	**Pn**	**16 36 04.0**	**+1.2**
SPAK	**Spaichingen-Ko**	**5.89**	**237**	P	**Pn**	**16 36 01.5**	**-1.6**
RUP	**Ruppelstein**	**6.07**	**255**	P	**Pn**	**16 36 05.0**	**-0.5**
VSTU	**Vaestervik**	**6.09**	**2**	P	**Pn**	**16 36 07.3**	**+1.6**
BOJS	**Bojanci**	**6.12**	**186**	*i* Pn	**Pn**	**16 36 08.0**	**+1.9**
BOJS	**Bojanci**	**6.12**	**186**	*i* Pn	**Pn**	**16 36 07.9**	**+1.9**
DAVOX	**Davos/Dischmat**	**6.32**	**223**	Pn	**Pn**	**16 36 10.4**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=17,slow=17,SNR=4.6						
DAVOX				Lg	Lg	16 37 54.1	
	comp=Z,0.7nm,0.3s,baz=272,slow=19,SNR=3.6						
BORU	**Boraas**	**6.37**	**343**	P	**Pn**	**16 36 10.7**	**+1.2**
DRGR		**6.45**	**136** ⇓	*i*P	**Pn**	**16 36 13.0**	**+2.3**
DRGR		**6.45**	**136** ⇓	*i*P	**Pn**	**16 36 13.0**	**+2.3**
CDF	**Champ du Feu**

SNSI	**Sinabang, Aceh**	**0.59**	**95**	P		**Pn**	**16 45 11.9**	**+2.8**
SNSI				S		**Sb**	**16 45 16.2**	**+0.2**
MLSI	**Meulaboh, Aceh**	**1.92**	**20**	S		Sb	16 46 00.3	+6.1
GSI	**Gunungsitoli**	**2.16**	**122**	P		**Pb**	**16 45 34.5**	**-0.3**
GSI				S		**Sb**	**16 46 00.1**	**-1.1**
KCSI	**Kotacane, Aceh**	**2.29**	**62**	P		**Pn**	**16 45 34.6**	**+2.0**
KCSI				S		**Sn**	**16 45 57.7**	**-2.3**
LHMI	**Lhok Sumawe**	**3.01**	**24**	P		**Pb**	**16 45 51.5**	**+2.2**
PSI	**Prapat**	**3.20**	**84**	P		Pn	16 45 48.5	+3.3
PSI	**Prapat**	**3.20**	**84**	Pn		**Pn**	**16 45 48.0**	**+2.8**
	5.9nm,0.3s,baz=270,slow=6.0,SNR=14							
PSI				Sn		**Sb**	**16 46 28.4**	**-2.8**
	1.3nm,0.3s,baz=258,slow=9.3,SNR=2.9							
PSI				LR		LR	16 47 16.4	
	comp=Z,203nm,18.1s,baz=261,slow=42							
IPM	**Ipoh**	**5.64**	**69**	P		**Pn**	**16 46 20.9**	**+2.1**
KULM	**Kulim**	**5.65**	**60**	P		**Pn**	**16 46 20.4**	**+1.6**
CMAR	**Chiang Mai Arr**	**16.21**	**11**	Pn		**Pn**	**16 48 42.5**	**-0.2**
	0.3nm,0.3s,baz=202,slow=11,SNR=31							
H08S2	**Diego Garcia H**	**25.27**	**246**	T		T	17 16 30.1	
	baz=66,slow=0.7,SNR=720							
H08S3	**Diego Garcia H**	**25.27**	**246**	T		T	17 16 30.1	
	baz=66,slow=0.7,SNR=630							
H08S1	**Diego Carcia H**	**25.29**	**246**	T		T	17 16 30.1	
	baz=66,slow=0.7,SNR=754							
H01W3	**Cape Leeuwin H**	**40.96**	**157**	T		T	17 36 22.4	
	baz=332,slow=0.7,SNR=68							
H01W2	**Cape Leeuwin H**	**40.97**	**157**	T		T	17 36 23.4	
	baz=332,slow=0.7,SNR=69							
H01W1	**Cape Leeuwin H**	**40.98**	**157**	T		T	17 36 22.9	
	baz=332,slow=0.7,SNR=69							
WRA	**Warramunga Arr**	**43.93**	**122**	P		**P**	**16 53 03.8**	**+2.1**
	0.8nm,0.7s,baz=298,slow=9.4,SNR=15							
ASAR	**Alice Springs**	**45.31**	**127**	P		**P**	**16 53 15.1**	**+2.5**
	0.5nm,0.5s,baz=300,slow=8.0,SNR=24							
KSRS	**Korea Array**	**45.68**	**36**	P		**P**	**16 53 14.2**	**-1.1**
	0.7nm,0.6s,baz=222,slow=9.5,SNR=4.3							
MKAR	**Makanchi Array**	**45.69**	**347**	P		**P**	**16 53 13.8**	**-1.5**
	5.4nm,0.7s,baz=158,slow=8.9,SNR=53							
SONM	**Songino Array**	**46.13**	**10**	P		**P**	**16 53 17.0**	**-1.8**
	1.1nm,0.7s,baz=187,slow=8.0,SNR=5.0							
SONM				PcP		**PcP**	**16 54 55.0**	**+0.3**
	0.7nm,0.6s,baz=202,slow=2.1,SNR=4.0							
ZALV	**Zalesovo Beam**	**52.11**	**352**	P		**P**	**16 54 03.1**	**-1.2**
	5.8nm,0.7s,baz=181,slow=7.2,SNR=29							
SCHQ	**Schefferville**	**121.12**	**348**	PKP		**PKPdf**	**17 03 45.5**	**-1.5**
	6.3nm,1.0s,baz=4.1,slow=5.4,SNR=2.8							

DMN ***29*** *17:00:33.3±0.9,27°.32N×92°.10E,h30km,Ml6.0/4, Error ellipse: s-maj=46.3km s-min=17.6km az=175.0*

LDG ***29*** *17:00:34.6±0.3,27°.31N×91°.27E,h10km,Mb5.3/42, Ms4.2/10, Error ellipse: s-maj=12.4km s-min=4.9km az=157.0*

ISCJB ***29*** *17:00:36.4±0.7,27°.31N±0°.02×91°.41E±0°.02,h22km±5km, mb5.0/213,MS4.7/39, Error ellipse: s-maj=3.8km s-min=2.6km az=22.6*

SZGRF ***29*** *17:00:36.4,26°.71N×91°.81E,h33km,mb5.3,MS5.7, Northeastern India*

BJI ***29*** *17:00:36.3,27°.37N×91°.47E,h20km,mB5.3/41,mb4.9/55, ML5.1/4,Ms5.1/62,Ms7 5.0/56*

DJA ***29*** *17:00:37.1±0.4,27°.N±5°×9°.1E±°,h10km,M5.1/18, mB5.6/14,mb5.2/18,Mw(mB)5.0/14*

MOS ***29*** *17:00:37.8±0.8,27°.25N×91°.48E,h36km,mb5.3/91, MS4.6/24, Error ellipse: s-maj=7.6km s-min=3.3km az=124.7*

NEIC ***29*** *17:00:38.6±0.5,27°.26N×91°.42E,h26km±3km,mb5.3/94, Error ellipse: s-maj=5.0km s-min=3.1km az=218.0*

NEIC At least one building collapsed and 116 damaged in Mongar, Pemagatsel and Tashigang. Felt strongly in eastern Bhutan and as far west as Thimphu. Felt at Dispur, Guwahati and North Guwahati, India. Also felt in Meghalaya. Felt in northern Bangladesh.

IDC ***29*** *17:00:39.0±0.2,27°.28N×91°.52E,h30km±13km,mb4.4/31, mb1 4.5/32,mb1mx4.5/36,mbtmp4.4/32,ML4.6/1,MS4.6/10, Ms1 4.6/10,ms1mx4.1/37, Error ellipse: s-maj=13.1km s-min=9.3km az=50.0*

BKK ***29*** *17:00:39.9±0.3,27°.N±5°×9°.1E±°,h10km,M4.9/39, mB5.5/24,mb5.1/39,Mw(mB)4.9/24*

GCMT ***29*** *17:00:40.2±0.3,27°.20N×91°.62E,h15km±1km,MW5.1, Moment Tensor Solution. s20,c22; s63,c93; Moment tensor: Scale 10^16^Nm; Mrr 1.20±.10; Mθθ -1.56±.07; Mφφ 0.36±.08; Mrθ 5.78±.77; Mrφ 0.42±.06; Mθφ -0.57±.26; Best double couple: M0 6.00000×10^16^ NP1:φ1 96.00000°, δ83.00000°, λ88.00000°. NP2:φ2 293.00000°, δ7.00000°, λ107.00000°. Principal axes: T 5.7700, Plg52.0000°, Azm3.0000°; N 0.4300, Plg2.0000°, Azm96.0000°; P -6.1900, Plg38.0000°, Azm188.0000°; Data Used: IC II IU G CN.*

ISC 29 17:00:38.4±0.3,27°.27N±0°.03×91°.40E±0°.02,h25km±2km, h24km:pP-P,n658,σ1§41/721,mb5.2/214,MS4.8/39, 90C-43D,Bhutan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.75**	**165**	*e*P	**Pn**	**17 01 07.1**	**-0.3**
SHL				AMB	AMB	17 01 10.5	
	comp=Z,14μm,1.4s						
SHL				*i* S	**Sn**	**17 01 30.0**	**+1.1**
LSA	**Lhasa**	**2.44**	**355**	Pg	**Pb**	**17 01 20.5**	**-1.3**
LSA				Sn	**Sb**	**17 01 52.3**	**+0.7**
LSA	**Lhasa**	**2.44**	**355**	*e*P	**Pb**	**17 01 19.8**	**-2.0**
LSA				*e*	**Sn**	**17 01 46.2**	**-0.1**
LSA	**Lhasa**	**2.44**	**355**	*e*Pn	**Pb**	**17 01 19.8**	**-2.0**
LSA				*e*Sn	**Sn**	**17 01 46.2**	**-0.1**
SLGI	**Shiliguri**	**2.72**	**259**	*i* x	**Pb**	**17 01 25.1**	**-1.2**
TAPN	**Taplejung**	**3.28**	**272**	*e*Pn	**Pn**	**17 01 29.8**	**+1.3**
TAPN				*e*Sn	**Sn**	**17 02 12.0**	**+5.1**
	comp=Z,12μm,0.6s						
IMP	**Imphal**	**3.37**	**137**	*e*4	**Pn**	**17 01 28.0**	**-1.5**
IMP				*e*4	**Sn**	**17 02 08.0**	**-0.7**
ODAN	**Odare**	**3.59**	**264**	*e*Pn	**Pn**	**17 01 33.6**	**+0.8**
ODAN				*e*Sn	**Sb**	**17 02 20.7**	**-4.0**
	comp=Z,30μm,0.7s						
RAMN	**Ramite**	**4.29**	**267**	*e*Pn	**Pn**	**17 01 43.7**	**+1.4**
RAMN				*e*Sn	**Sn**	**17 02 37.0**	**+5.3**
	comp=Z,10μm,0.6s						
JIRN	**Jiri**	**4.64**	**276**	*e*Pn	**Pn**	**17 01 49.3**	**+2.0**
GUN	**Gumba**	**4.94**	**279**	*e*Pn	**Pn**	**17 01 53.3**	**+2.0**
GUN				*e*Sn	**Sn**	**17 02 50.0**	**+2.1**
	comp=Z,6μm,0.8s						
PKI	**Pulchoki**	**5.33**	**275**	*e*Pn	**Pn**	**17 01 57.9**	**+1.2**
PKIN	**Phulchoki**	**5.34**	**275**	*e*Pn	**Pn**	**17 01 58.4**	**+1.6**
KKN	**Kakani**	**5.46**	**277**	*e*Pn	**Pn**	**17 01 59.2**	**+0.9**
DMN	**Daman**	**5.60**	**275**	*e*Pn	**Pn**	**17 02 01.9**	**+1.5**
GKN	**Gorkha**	**6.04**	**279**	*e*Pn	**Pn**	**17 02 08.0**	**+1.7**
BOK	**Bokaro**	**6.06**	**236**	*e*P	**Pn**	**17 02 05.7**	**-0.8**
BOK				AMB	AMB	17 03 24.0	
	comp=Z,1μm,0.9s						
KOLN	**Koldanda**	**6.94**	**276**	*e*Pn	**Pn**	**17 02 19.1**	**+0.4**
PYUN	**Piuthan**	**7.50**	**278**	*e*Pn	**Pn**	**17 02 26.5**	**+0.1**
LGTI	**Lohaghat**	**10.06**	**285**	*e*P	Pn	17 03 04.5	+3.2
LGTI				*ex*	**Sn**	**17 04 58.5**	**+5.1**
PTH	**Pithoragarh**	**10.10**	**286**	*e*P	**Pn**	**17 03 03.1**	**+1.0**
PTH				*e*4	Sn	17 04 47.1	-7.6
CMAI	**Chiengmai2**	**10.12**	**135**	P	**Pn**	**17 03 02.0**	**-0.4**
	comp=Z,66nm,0.9s						
KMI	**Kunming**	**10.41**	**99**	P	Pn	17 03 09.8	+3.4
KMI				pP		17 03 15.0	
KMI				PP	**PnPn**	**17 03 18.3**	**+4.3**
KMI				sP		17 03 19.5	
KMI				S	**Sn**	**17 05 05.5**	**+3.1**
KMI				sS		17 05 15.0	
KMI				SS	**SnSn**	**17 05 20.0**	**+5.9**
KMI				AMB	AMB		
	comp=Z,11nm,1.0s						
KMI				LR	LR		
	comp=Z,5μm,9.1s						
KMI				LR	LR		
	comp=Z,3μm,9.1s						
KMI				LR	LR		
	comp=Z,3μm,9.7s						
CRAI	**Chiangrai**	**10.80**	**129**	P	**Pn**	**17 03 12.1**	**+0.6**
	comp=Z,52nm,0.9s,comp=Z,3μm						
CHTO	**Chiang Mai**	**10.91**	**139**	*e*P	**Pn**	**17 03 11.8**	**-1.2**
CHTO	**Chiang Mai**	**10.91**	**139**	Pn	**Pn**	**17 03 12.5**	**-0.5**
	SNR=20						
CHTO	**Chiang Mai**	**10.91**	**139**	P	**Pn**	**17 03 12.2**	**-0.8**
	comp=Z,209nm,1.0s,comp=Z,2μm						
CHTO	**Chiang Mai**	**10.91**	**139**	*e*Pn	**Pn**	**17 03 11.8**	**-1.2**
CHTO	**Chiang Mai**	**10.91**	**139**	P	**Pn**	**17 03 12.0**	**-1.0**
	comp=Z,209nm,1.0s,comp=Z,2μm						
JBP	**Jabalpur**	**11.11**	**251**	⇓*e*P	**Pn**	**17 03 14.7**	**-1.0**
JBP				*ex*	**Sn**	**17 05 14.9**	**-4.3**
CM31	**Chiang Mai Arr**	**11.19**	**140**	*e*Pn	**Pn**	**17 03 15.7**	**-1.1**
	comp=Z,0.6nm,0.4s						
CMAR	**Chiang Mai Arr**	**11.19**	**140**	Pn	**Pn**	**17 03 15.9**	**-0.9**
CMAR	**Chiang Mai Arr**	**11.19**	**140**	Pn	**Pn**	**17 03 15.9**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=313,slow=13,SNR=135						
CMAR				LR	LR	17 08 04.9	
	comp=Z,992nm,19.9s,baz=162,slow=40						
CM01	**Chiang Mai Arr**	**11.23**	**140**	*e*Pn	**Pn**	**17 03 15.2**	**-2.1**
CD2	**Chengdu**	**11.41**	**69**	P	**Pn**	**17 03 21.5**	**+1.7**
CD2				pP		17 03 27.0	
CD2				PP	**PnPn**	**17 03 30.5**	**+2.9**
CD2				S	**Sn**	**17 05 31.5**	**+5.0**
CD2				sS		17 05 38.3	
CD2				SS	**SnSn**	**17 05 43.0**	**+4.6**
CD2				AMB	AMB		
	comp=Z,40nm,1.0s						
CD2				AMB	AMB		
	comp=Z,330nm,6.9s						
CD2				LR	LR		
	comp=Z,7μm,7.9s						
CD2				LR	LR		
	comp=Z,8μm,9.5s						
JHNI	**Jhansi**	**11.67**	**264**	*e*4	**Pn**	**17 03 21.0**	**-2.4**
JHNI				*e*4		17 06 01.0	
NANT	**Nan**	**12.01**	**133**	P	**Pn**	**17 03 25.8**	**-2.3**
	comp=Z,155nm,0.8s,comp=Z,1μm						
VIS	**Vishakhapatnam**	**12.07**	**220**	*e*P	**Pn**	**17 03 27.9**	**-0.9**
VIS				AMB	AMB	17 03 29.1	
	comp=Z,229nm,1.0s						
DDI	**Dehra Dun**	**12.09**	**288**	*e*P	**Pn**	**17 03 27.9**	**-1.3**
DDI				AMB	AMB	17 03 35.2	
	comp=Z,162nm,0.9s						
NGP	**Nagpur**	**12.80**	**244**	*e*P	Pn	17 03 35.6	-3.3
NGP				*e*S	Sn	17 05 50.1	-11
SMLA	**Simla**	**13.01**	**291**	*i* P	**Pn**	**17 03 40.7**	**-1.0**
SMLA				AMB	AMB	17 04 01.8	
	comp=Z,114nm,0.3s						
SMLA				*i* x	x	17 05 59.2	
BHPL	**Bhopal**	**13.26**	**255**	*e*P	**Pn**	**17 03 42.9**	**-2.3**
BHPL				AMB	AMB	17 03 47.0	
	comp=Z,112nm,0.9s						
SDNR	**Sundarnagar**	**13.27**	**292**	*ex*	**P**	**17 03 56.0**	**+1.2**
GYA	**Guiyang**	**13.65**	**90**	⇑*i* P	**Pn**	**17 03 48.0**	**-2.6**
GYA				pP	**P**	**17 03 58.5**	**-0.7**
GYA				PP	**PnPn**	**17 04 02.5**	**+4.0**
GYA				S	Sn	17 06 12.5	-9.2
GYA				sS	S	17 06 33.0	-11
GYA				SS	**SnSn**	**17 06 39.5**	**+5.6**
GYA				AMB	AMB		
	comp=Z,30nm,0.8s						
GYA				AMB	AMB		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=Z,2μm,16.2s						
GYA				LR	LR		
	comp=Z,2μm,13.7s						
GYA				LR	LR		
	comp=Z,2μm,13.6s						
LZH	**Lanzhou**	**13.76**	**47**	*e*P	**Pn**	**17 03 51.0**	**-1.1**
LZH				pP	P	17 03 56.0	-4.4
LZH				sP		17 04 01.3	
LZH				*e*S	**Sn**	**17 06 25.0**	**+0.8**
LZH				sS	S	17 06 36.0	-10
LZH				SS	**SnSn**	**17 06 41.0**	**+4.3**
LZH				LR	LR		
	comp=Z,19μm,9.0s						
LZH				LR	LR		
	comp=Z,23μm,10.2s						
LZH				LR	LR		
	comp=Z,32μm,11.7s						
PBKT	**Sadao Pong**	**13.86**	**138**	P	**Pn**	**17 03 53.0**	**-0.3**
	comp=Z,95nm,1.2s,comp=Z,1μm						
PBKT	**Sadao Pong**	**13.86**	**138**	P	**Pn**	**17 03 53.0**	**-0.3**
	comp=Z,99nm,1.0s,comp=Z,1μm						
GTA	**Gaotai**	**14.00**	**28**	⇑P	**Pn**	**17 03 52.8**	**-2.5**
GTA				pP	P	17 03 58.5	-4.5
GTA				sP		17 04 02.5	
GTA				PP	**PnPn**	**17 04 04.5**	**+1.2**
GTA				S	**Sn**	**17 06 25.0**	**-4.9**
GTA				ScP	**ScP**	**17 12 49.3**	**+1.8**
GTA				ScS	**ScS**	**17 16 23.0**	**-1.8**
GTA				AMB	AMB		
	comp=Z,17nm,1.4s						
GTA				AMB	AMB		
	comp=Z,540nm,4.3s						
GTA				LR	LR		
	comp=Z,4μm,12.4s						
GTA				LR	LR		
	comp=Z,3μm,13.3s						
GTA				LR	LR		
	comp=Z,5μm,11.4s						
DHRM	**DHARAMSHALA**	**14.02**	**294**	*ex*	**Pn**	**17 03 53.3**	**-2.4**
DHRM				AMB	AMB	17 03 58.0	
	comp=Z,61nm,1.2s						
DGPR	**DIGLIPUR**	**14.09**	**174**	*e*P	Pn	17 03 53.5	-3.0
DGPR				AMB	AMB	17 03 57.7	
	comp=Z,163nm,1.5s						
KHLT	**Khaolaem Dam**	**14.10**	**150**	P	**Pn**	**17 03 53.8**	**-2.9**
	comp=Z,30nm,1.0s,comp=Z,524nm						
NONG	**Nongkai**	**14.19**	**128**	P	**Pn**	**17 04 00.1**	**+2.3**
	comp=Z,44nm,1.3s						
THN	**Thein Dam**	**14.54**	**294**	*ex*	x	17 03 52.5	
AKL	**Akola**	**14.67**	**247**	*e*P	**Pn**	**17 04 02.0**	**-2.5**
AKL				AMP		17 04 03.3	
	comp=Z,366nm,1.1s						
AKL				*i* x	x	17 06 33.6	
SRDT	**SRDT**	**14.73**	**149**	P	Pn	17 04 01.7	-3.6
SRDT	**SRDT**	**14.73**	**149**	P	Pn	17 04 01.6	-3.7
	comp=Z,244nm,1.1s,comp=Z,2μm						
CHAI	**Chaiyaphum**	**14.98**	**137**	P	**Pn**	**17 04 09.5**	**+0.8**
	comp=Z,57nm,0.9s,comp=Z,517nm						
HYB	**Hyderabad**	**15.39**	**233**	*e*P	Pn	17 04 09.0	-5.0
HYB				*e*S	Sn	17 07 12.0	+8.1
HYB	**Hyderabad**	**15.39**	**233**	*i* P	Pn	17 04 09.0	-5.0
HYB				*e*S	**Sn**	**17 07 07.0**	**+3.1**
HYB	**Hyderabad**	**15.39**	**233**	*ex*	**Pn**	**17 04 10.4**	**-3.6**
HYB				AMB	AMB	17 04 17.2	
	comp=Z,95nm,1.9s						
HYB	**Hyderabad**	**15.39**	**233**	*e*P	Pn	17 04 09.0	-5.0
HYB				*e*S	Sn	17 07 12.0	+8.1
SKNT	**Sakolnakorn**	**15.51**	**129**	P	**Pn**	**17 04 16.1**	**+0.5**
	comp=Z,107nm,1.1s,comp=Z,2μm						
PBA	**Port Blair**	**15.58**	**175**	*e*P	Pn	17 04 17.3	+0.9
PBA				AMB	AMB	17 04 20.5	
	comp=Z,180nm,2.0s						
ENH	**Enshi**	**16.14**	**75**	*e*Pn	**P**	**17 04 25.3**	**-1.5**
	comp=Z,104nm,0.8s						
PHET	**Kaeng Krachan**	**16.23**	**150**	P	**P**	**17 04 27.2**	**-0.6**
	comp=Z,784nm,1.0s,comp=Z,7μm						
XAN	**Xi'an**	**16.51**	**62**	P	**Pn**	**17 04 25.5**	**-2.9**
XAN				S	**Sn**	**17 07 24.8**	**-6.3**
XAN				AMB	AMB		
	comp=Z,14nm,1.5s						
XAN				LR	LR		
	comp=Z,890nm,9.5s						
XAN				LR	LR		
	comp=Z,1μm,9.7s						
XAN				LR	LR		
	comp=Z,1μm,10.1s						
WMQ	**Urumqi**	**16.79**	**351**	P	**Pn**	**17 04 32.5**	**+0.6**
WMQ				pP	**pP**	**17 04 38.5**	**-2.1**
WMQ				sP	**sP**	**17 04 42.5**	**-1.3**
WMQ				PP	**PnPn**	**17 04 47.0**	**+5.5**
WMQ				S	**Sn**	**17 07 37.5**	**-0.1**
WMQ				sS	**S**	**17 07 47.0**	**-1.0**
WMQ				SS	**SnSn**	**17 07 58.3**	**+7.2**
WMQ				PcP	**PcP**	**17 09 21.0**	**+1.7**
WMQ				PcS	**PcS**	**17 12 55.5**	**+0.3**
WMQ				ScS	**ScS**	**17 16 31.0**	**-0.9**
WMQ				AMB	AMB		
	comp=Z,87nm,0.9s						
WMQ				AMB	AMB		
	comp=Z,990nm,4.4s						
WMQ				LR	LR		
	comp=Z,5μm,11.2s						
WMQ				LR	LR		
	comp=Z,2μm,10.4s						
WMQ				LR	LR		
	comp=Z,2μm,14.6s						
CHCP	**Chirah Chowk**	**16.87**	**297**	⇑P	**Pn**	**17 04 28.5**	**-4.4**
UBPT	**Khong Chiam**	**17.71**	**129**	P	**P**	**17 04 44.7**	**+0.6**
	comp=Z,121nm,1.4s						
UBPT	**Khong Chiam**	**17.71**	**129**	P	**P**	**17 04 44.5**	**+0.4**
	comp=Z,121nm,1.4s						
KSH	**Kashi**	**17.72**	**317**	P	**P**	**17 04 47.0**	**+2.7**
KSH				sP	**sP**	**17 04 57.0**	**+2.8**
KSH				PP	PnPn	17 05 02.3	+8.0
KSH				S	**Sn**	**17 08 02.0**	**+1.6**
KSH				sS	**S**	**17 08 12.0**	**+4.8**
KSH				AMB	AMB		
	comp=Z,170nm,1.5s						
KSH				LR	LR		
	comp=Z,2μm,8.7s						
KSH				LR	LR		
	comp=Z,2μm,9.0s						
KSH				LR	LR		
	comp=Z,3μm,11.5s						
THW	**Thamme Wali**	**17.88**	**293**	P	**Pn**	**17 04 41.4**	**-4.1**
CEP	**Cherat**	**18.00**	**296**	P	**Pn**	**17 04 44.8**	**-2.3**
POO	**Poona**	**18.34**	**245**	*e*P	**P**	**17 04 49.6**	**-1.5**
POO				*i* PP	**PnPn**	**17 05 01.0**	**-1.8**
QIZ	**Qiongzhong**	**18.82**	**112**	P	**Pn**	**17 04 57.3**	**+0.2**
QIZ				S	**S**	**17 08 28.3**	**-0.8**
QIZ				AMB	AMB		
	comp=Z,18nm,1.9s						
QIZ				LR	LR		
	comp=Z,1μm,13.8s						
QIZ	**Qiongzhong**	**18.82**	**112**	*e*P	**P**	**17 04 55.7**	**-0.7**
	comp=Z,64nm,1.0s						
SURT	**Suratani**	**19.51**	**158**	P	**Pn**	**17 05 06.1**	**+0.8**
	comp=Z,66nm,1.5s,comp=Z,973nm						
AAA	**Alma-Ata**	**19.81**	**327**	*e*P	**Pn**	**17 05 08.6**	**-0.1**
AAA				*e*S	**Sn**	**17 08 51.9**	**+1.3**
AAA				pmax	pmax		
	comp=Z,2μm,3.9s						
AAA				smax	smax		
	comp=E,3μm,13.8s						
KZA	**Kyzart**	**19.82**	**322**	*i* P	**Pn**	**17 05 09.7**	**+0.5**
KZA	**Kyzart**	**19.82**	**322**	P	**Pn**	**17 05 09.7**	**+0.5**
	SNR=21						
BHJ	**Bhuj**	**20.06**	**263**	*e*P	Pn	17 05 12.2	+0.4
BHJ				AMB	AMB	17 05 16.5	
	comp=Z,63nm,1.0s						
GOA	**Goa**	**20.09**	**238**	*e*P	**P**	**17 05 11.2**	**+0.8**
TKM2	**Tokmak 2**	**20.22**	**325**	⇑*e*P	**P**	**17 05 12.8**	**+1.0**
TKM2				*e*S	**S**	**17 08 58.2**	**+0.5**
TKM2				pmax	pmax		
	comp=Z,103nm,0.9s						
TKM2	**Tokmak 2**	**20.22**	**325**	P	Pn	17 05 13.4	-0.5
	SNR=78						
TKM2	**Tokmak 2**	**20.22**	**325**	⇑*e*P	**P**	**17 05 12.8**	**+1.0**
	comp=Z,103nm,0.9s						
TKM2				*e*S	**S**	**17 08 58.1**	**+0.5**
KRAB	**Krabi**	**20.33**	**157**	P	Pn	17 05 15.2	+0.2
	comp=Z,186nm,0.8s,comp=Z,2μm						
BTO	**Baotou**	**20.34**	**44**	*e*P	**P**	**17 05 12.0**	**-0.9**
WHN	**Wuhan**	**20.35**	**75**	⇑*i* P	**P**	**17 05 13.5**	**+0.4**
WHN				S	**S**	**17 08 57.0**	**-3.0**
WHN				AMB	AMB		
	comp=Z,750nm,4.7s						
WHN				AMB	AMB		
	comp=Z,950nm,10.2s						
WHN				LR	LR		
	comp=Z,3μm,8.7s						
WHN				LR	LR		
	comp=Z,2μm,8.9s						
WHN				LR	LR		
	comp=Z,5μm,13.7s						
PKDT	**Phuket**	**20.36**	**160**	P	Pn	17 05 16.7	+1.4
	comp=Z,149nm,1.3s,comp=Z,2μm						
KBK	**Karagaybulak**	**20.38**	**323**	*i* P	Pn	17 05 15.7	+0.1
KBK	**Karagaybulak**	**20.38**	**323**	P	Pn	17 05 15.7	+0.1
	SNR=13						
KBL	**Kabul**	**20.48**	**296**	*e*P	**P**	**17 05 14.9**	**+0.2**
KBL				pmax	pmax		
	comp=Z,88nm,0.8s						
KBL	**Kabul**	**20.48**	**296**	*e*P	**P**	**17 05 14.9**	**+0.2**
	comp=Z,88nm,0.8s						
AAK	**Ala-Archa**	**20.60**	**322**	⇑*i* P	**P**	**17 05 17.1**	**+1.2**
AAK				pmax	pmax		
	comp=Z,46nm,0.9s						
AAK	**Ala-Archa**	**20.60**	**322**	P	Pn	17 05 18.3	0.0
	SNR=22						
AAK	**Ala-Archa**	**20.60**	**322**	P	Pn	17 05 17.4	-0.9
	SNR=32						
AAK	**Ala-Archa**	**20.60**	**322**	⇑*i* P	**P**	**17 05 17.1**	**+1.2**
	comp=Z,46nm,0.9s						
AAK				*e*ScP	**ScP**	**17 13 00.4**	**-0.7**
AAK	**Ala-Archa**	**20.60**	**322**	Pn	Pn	17 05 17.3	-1.0
	comp=Z,238nm,1.6s,SNR=26						
FRU	**Bishkek**	**20.67**	**323**	*e*P	Pn	17 05 18.0	-0.9
FRU				*e*		17 05 40.5	
FRU				*e*		17 09 11.0	
FRU				pmax	pmax		
	comp=Z,130nm,1.8s						
AML	**Almayashu**	**20.72**	**320**	*i* P	Pn	17 05 19.1	-0.8
AML	**Almayashu**	**20.72**	**320**	P	Pn	17 05 19.1	-0.8
	SNR=54						
CHMS	**Chumysh**	**20.72**	**324**	*i* P	Pn	17 05 18.3	-1.1
CHMS	**Chumysh**	**20.72**	**324**	P	Pn	17 05 18.3	-1.2
	SNR=20						
MK01	**Makanchi Array**	**20.75**	**342**	*e*P	**P**	**17 05 16.8**	**-0.5**
MK01				*e*ScP	**ScP**	**17 13 00.9**	**-0.2**
MK31	**Makanchi Array**	**20.78**	**342**	*ce*P	**P**	**17 05 17.1**	**-0.4**
MK31				pmax	pmax		
	comp=Z,86nm,0.7s						
MKAR	**Makanchi Array**	**20.78**	**342**	*e*P	**P**	**17 05 17.2**	**-0.4**
MKAR				S	**S**	**17 09 09.1**	**+0.9**
MKAR	**Makanchi Array**	**20.78**	**342**	*e*P	**P**	**17 05 17.2**	**-0.4**
MKAR				S	**S**	**17 09 09.1**	**+0.9**
MKAR	**Makanchi Array**	**20.78**	**342**	P	**P**	**17 05 17.7**	**+0.2**
	comp=Z,56nm,0.7s,baz=151,slow=13,SNR=442						
MKAR				S	**S**	**17 09 09.1**	**+0.9**
	comp=Z,1.9nm,0.9s,baz=156,slow=18,SNR=2.1						
MKAR				LR	LR	17 14 33.0	
	comp=Z,2μm,18.8s,baz=163,slow=40						
EKS2	**Erkin-Say**	**21.02**	**322**	⇑*i* P	**P**	**17 05 22.0**	**+1.7**
EKS2				pmax	pmax		
	comp=Z,72nm,1.1s						
EKS2	**Erkin-Say**	**21.02**	**322**	P	**P**	**17 05 22.5**	**+2.2**
	SNR=36						
EKS2	**Erkin-Say**	**21.02**	**322**

KKAR Karatay Array 23.16 318↑ *e*P **P** **17 05 42.3 -0.7**
KKAR *e*ScP **ScP** **17 13 08.1 +0.7**
KULM Kulim 23.57 156 P **P** **17 05 49.1 +2.0**
KULM Kulim 23.57 156 P **P** **17 05 47.9 +0.8**
comp=Z,100nm,1.7s,comp=Z,2µm
KULM Kulim 23.57 156 *e*P **P** **17 05 46.9 -0.3**
comp=Z,1µm,2.6s
SONM Songino Array 23.65 26 P **P** **17 05 47.1 -0.8**
SONM Songino Array 23.65 26 P **P** **17 05 47.1 -0.8**
comp=Z,11nm,0.9s,baz=217,slow=9.4,SNR=38
SONM LR LR 17 16 00.9
comp=Z,2µm,21.4s,baz=191,slow=39
SONA1 Songino Array 23.66 26 *e*P **P** **17 05 47.3 -0.7**
SONA1 *e*ScP **ScP** **17 13 09.4 +0.7**
HVS Khovu-Aksy 23.90 4*c i*P **P** **17 05 50.7 +0.5**
HVS pmax pmax
comp=Z,674nm,1.9s
HVS MLR MLR
comp=Z,7µm,16.0s
ULN Ulaanbaatar 23.93 27 P **P** **17 05 50.6 +0.1**
SNR=24
ULN Ulaanbaatar 23.93 27 P **P** **17 05 50.1 -0.5**
comp=Z,44nm,2.3s,comp=Z,1µm
ULN Ulaanbaatar 23.93 27↑ *e*P **P** **17 05 49.5 -1.1**
BJI Beijing 24.15 52 P **P** **17 05 53.3 +0.8**
BJI pP **pP** **17 05 59.0 -0.8**
BJI S **S** **17 10 11.5 +2.4**
BJI AMB AMB
comp=Z,29nm,1.2s
BJI AMB AMB
comp=Z,470nm,3.8s
BJI LR LR
comp=Z,6µm,11.6s
BJI LR LR
comp=Z,8µm,11.6s
BJI LR LR
comp=Z,3µm,13.4s
NJ2 Nanjing 24.30 72 *e*P **P** **17 05 52.5 -1.5**
NJ2 pP **pP** **17 05 59.5 -1.8**
NJ2 S **S** **17 10 16.5 +4.9**
NJ2 AMB AMB
comp=Z,200nm,1.1s
NJ2 AMB AMB
comp=Z,290nm,8.2s
NJ2 LR LR
comp=Z,1µm,13.1s
NJ2 LR LR
comp=Z,2µm,13.0s
NJ2 LR LR
comp=Z,1µm,12.6s
KCSI Kotacane, Aceh 24.39 164 P **P** **17 05 54.0 -0.8**
comp=Z,89nm,1.0s,comp=Z,1µm
IPM Ipoh 24.45 156 P **P** **17 05 55.6 +0.1**
IPM Ipoh 24.45 156 P **P** **17 05 55.3 -0.2**
comp=Z,126nm,1.1s,comp=Z,2µm
IPM Ipoh 24.45 156 *e*P **P** **17 05 54.7 -0.7**
comp=Z,83nm,0.9s
KTGM Kuala Trenggan 24.52 151 P **P** **17 05 58.8 +2.7**
ZAK Zakamensk 24.81 18 *e*P **P** **17 05 59.2 +0.7**
ZAK pmax pmax
comp=Z,43nm,1.2s
SNSI Sinabang, Aceh 25.16 168 P **P** **17 06 02.7 +0.8**
comp=Z,259nm,0.8s,comp=Z,4µm
KURBB Kurchatov Arra 25.31 341 P **P** **17 06 02.6 -0.3**
comp=Z,8.1nm,0.6s,baz=150,slow=9.7,SNR=45
KURBB ScP **ScP** **17 13 12.0 -1.0**
comp=Z,3.3nm,0.9s,baz=166,slow=2.3,SNR=9.2
KURK Kurchatov 25.36 341 P **P** **17 06 02.6 -0.8**
KURK pmax pmax
comp=Z,8.0nm,0.6s
KURK pmax pmax
comp=N,3.0nm,0.9s
KURK Kurchatov 25.36 341 P **P** **17 06 04.0 +0.6**
SNR=15
KURK Kurchatov 25.36 341 *e*P **P** **17 06 03.1 -0.2**
KURK ScP **ScP** **17 13 12.0 -1.2**
KURK Kurchatov 25.36 341 P **P** **17 06 03.5 +0.1**
comp=N,191nm,0.8s,SNR=12
PSI Prapat 25.37 162 P **P** **17 06 04.4 +0.5**
comp=N,74nm,1.0s,comp=N,732nm
PSI Prapat 25.37 162 P **P** **17 06 04.0 +0.1**
PSI Prapat 25.37 162 P **P** **17 06 04.0 +0.1**
comp=N,28nm,0.9s,baz=304,slow=6.5,SNR=22
MOY Mondy 25.43 14 *e*P **P** **17 06 05.9 +1.8**
MOY pmax pmax
comp=Z,184nm,2.1s
FRIM Kepong 25.82 156 P **P** **17 06 10.0 +2.1**
TLY Talaya 26.08 17 P **P** **17 06 12.4 +2.5**
comp=Z,111nm,1.8s,SNR=5.5
SSE Sheshan 26.25 74 P **P** **17 06 11.5 -0.2**
SSE pP **pP** **17 06 20.0 +1.0**
SSE S **S** **17 10 43.8 +1.1**
SSE sS **sS** **17 10 57.8 +3.0**
SSE AMB AMB
comp=Z,36nm,1.0s
SSE AMB AMB
comp=Z,130nm,7.9s
SSE LR LR
comp=Z,490nm,13.3s
SSE LR LR
comp=Z,2µm,13.3s
SSE LR LR
comp=Z,2µm,13.1s
GSI Gunungsitoli 26.49 166 P **P** **17 06 16.1 +2.2**
comp=Z,95nm,1.0s
GSI Gunungsitoli 26.49 166 *e*P **P** **17 06 14.6 +0.7**
comp=Z,70nm,1.0s
TPUB Ta-pu 26.70 92 *e*P **P** **17 06 15.2 -0.6**
comp=Z,62nm,1.2s
IRK Irkutsk 26.76 18 *e*P **P** **17 06 17.3 +1.3**
IRK pmax pmax
comp=Z,198nm,1.9s
SSLB Suanglung 26.87 91 *e*P **P** **17 06 19.5 +2.1**
comp=Z,29nm,1.1s
YHNB Yeheng 27.05 89 P **P** **17 06 20.4 +1.4**
ZAA0 Zalesovo Array 27.09 351 *e*P **P** **17 06 18.8 -0.2**
ZALV Zalesovo Beam 27.09 351 P **P** **17 06 19.1 +0.1**
ZALV pmax pmax
comp=Z,12nm,0.6s
ZALV MLR MLR
comp=Z,947nm,18.5s
ZALV Zalesovo Beam 27.09 351 P **P** **17 06 19.1 +0.1**
ZALV Zalesovo Beam 27.09 351 P **P** **17 06 19.1 +0.1**
comp=Z,12nm,0.6s,baz=175,slow=7.8,SNR=80
ZALV LR LR 17 18 00.1
comp=Z,946nm,18.5s,baz=131,slow=38
NACB Ninganchiao 27.35 90 *e*P **P** **17 06 18.8 -2.8**
comp=Z,89nm,1.2s
KGM Kluang 27.59 154 P **P** **17 06 25.5 +1.7**
MYKOM Kota Tinggi 28.00 153 P **P** **17 06 29.0 +1.6**
MYKOM Kota Tinggi 28.00 153 P P 17 06 33.1 +5.6
MYKOM Kota Tinggi 28.00 153 *e*P **P** **17 06 28.2 +0.7**
comp=Z,176nm,2.0s
PPI Padang Panjang 28.89 161 P **P** **17 06 35.6 +0.2**
comp=Z,35nm,1.0s
PDSI Padang 29.34 161 P P 17 06 43.0 +3.6
comp=Z,66nm,0.9s
VOSK Vostochnaya 29.64 335 P **P** **17 06 41.6 -0.2**
VOSK pmax pmax
comp=Z,29nm,0.8s
SNY Shenyang 30.02 53 ⇓P **P** **17 06 45.0 -0.2**
SNY S **S** **17 11 40.5 -1.4**
SNY AMB AMB
comp=Z,21nm,0.8s
SNY LR LR
comp=Z,2µm,14.4s
SNY LR LR
comp=Z,2µm,15.6s
SNY LR LR
comp=Z,2µm,11.4s
BVA0 Borovoye Array 30.11 334 P **P** **17 06 45.7 -0.1**
BVA0 pmax pmax
comp=Z,21nm,1.4s
BVAR Borovoye Array 30.11 334 P **P** **17 06 46.3 +0.5**
BVAR 17 13 27.1
BVAR pmax pmax
comp=Z,2.0nm,0.4s
BVAR pmax pmax
comp=N,3.0nm,0.7s
BVAR MLR MLR
comp=Z,2µm,21.8s
BVAR Borovoye Array 30.11 334 P **P** **17 06 46.3 +0.5**
BVAR ScP **ScP** **17 13 27.1 -0.6**
BVAR Borovoye Array 30.11 334 P **P** **17 06 46.3 +0.5**
comp=Z,2.0nm,0.4s,baz=131,slow=9.0,SNR=17
BVAR ScP **ScP** **17 13 27.1 -0.6**
comp=Z,2.6nm,0.7s,baz=134,slow=4.3,SNR=9.2
BVAR LR LR 17 20 36.2
comp=Z,2µm,21.8s,baz=137,slow=40
BRVK Borovoye 30.17 334*c i*P **P** **17 06 46.7 +0.3**
BRVK pmax pmax
comp=Z,33nm,2.5s
BRVK Borovoye 30.17 334 P **P** **17 06 47.3 +0.9**
SNR=9.1
BRVK Borovoye 30.17 334↑ *i*P **P** **17 06 46.1 -0.4**
comp=Z,13nm,1.0s
BRVK Borovoye 30.17 334 P **P** **17 06 46.0 -0.4**
comp=Z,55nm,1.2s,SNR=5.4
KSM Kuching 31.41 142 P P 17 07 03.2 +5.5
KSM Kuching 31.41 142 P P 17 07 03.6 +5.9
KSM Kuching 31.41 142 *e*P P 17 07 02.7 +5.0
comp=Z,87nm,1.8s
KDM Kudat 31.51 125 P P 17 07 05.7 +7.2
SBUM Sibu 31.72 138 P P 17 07 05.9 +5.5
SBUM Sibu 31.72 138 P P 17 07 06.0 +5.5
SBUM Sibu 31.72 138 *e*P P 17 07 05.0 +4.5
comp=Z,37nm,1.6s
CN2 Changchun 31.97 50 *e*P **P** **17 07 02.3 -0.1**
CN2 *e*S **S** **17 12 14.5 +2.1**
CN2 AMB AMB
comp=Z,10.0nm,1.4s
CN2 AMB AMB
comp=Z,300nm,5.0s
CN2 LR LR
comp=Z,3µm,12.0s
CN2 LR LR
comp=Z,3µm,12.0s
CN2 LR LR
comp=Z,4µm,12.0s
KSAR Wonju Array Be 32.28 62 P **P** **17 07 03.4 -1.8**
KSAR ScP **ScP** **17 13 34.2 -1.0**
KSRS Korea Array 32.31 62 P **P** **17 07 03.4 -2.0**
comp=Z,1.0nm,0.7s,baz=254,slow=8.4,SNR=5.9
KSRS ScP **ScP** **17 13 34.2 -1.1**
comp=Z,1.1nm,0.9s,baz=243,slow=5.2,SNR=5.0
KSRS LR LR 17 20 22.8
comp=Z,64nm,19.9s,baz=86,slow=37
PPBI Pangkal Pinang 32.52 152 P P 17 07 12.9 +5.4
comp=Z,39nm,2.3s,comp=Z,684nm
SDKM Sandakan 32.64 127 P P 17 07 17.7 +9.2
AB31 Akbulak array 32.67 321*ce*P **P** **17 07 08.6 +0.1**
AB31 pmax pmax
comp=Z,6.0nm,0.4s
ABKAR Akbulak array 32.67 321 *e*P **P** **17 07 08.8 +0.4**
STKI Sintang 33.22 141 P P 17 07 19.9 +6.3
MYLDM Lahad Datu 33.90 126 P P 17 07 28.2 +8.7
MDSI Maura Dua 33.90 157 P **P** **17 07 18.8 -0.6**
TSM Tawau 34.06 127 P P 17 07 27.6 +6.7
AKTO Aktyubinsk 34.34 321 P **P** **17 07 21.8 -1.2**
AKTO pmax pmax
comp=Z,6.0nm,0.7s
AKTO pmax pmax
comp=N,6.0nm,1.0s
AKTO Aktyubinsk 34.34 321 P **P** **17 07 21.8 -1.2**
AKTO ScP **ScP** **17 13 39.7 -2.5**
AKTO Aktyubinsk 34.34 321 P **P** **17 07 21.8 -1.2**
comp=N,6.4nm,0.7s,baz=122,slow=8.4,SNR=25
AKTO ScP **ScP** **17 13 39.7 -2.5**
comp=N,5.6nm,1.0s,baz=98,slow=5.1,SNR=5.8
VLA Vladivostok 36.29 53↑ *e*P **P** **17 07 38.6 -1.2**
VLA S **S** **17 13 17.5 -1.6**
VLA pmax pmax
comp=Z,34nm,1.4s
USRK Ussuriysk Arra 36.61 52 P **P** **17 07 42.6 0.0**
comp=Z,3.7nm,0.8s,baz=261,slow=13,SNR=7.3
USRK LR LR 17 24 02.5
comp=Z,799nm,18.6s,baz=355,slow=38
SVE Sverdlovsk 36.76 332*de*P **P** **17 07 44.5 +0.8**
SVE *e*S **S** **17 13 22.0 -3.9**
SVE pmax pmax
comp=Z,66nm,1.5s
SVE MLR MLR
comp=Z,1µm,17.0s
ARU Arti 37.40 330*d i*P **P** **17 07 49.4 +0.3**
ARU 17 09 12.9
ARU S **S** **17 13 37.2 +1.5**
ARU SS **SnSn** **17 16 08.2 -5.1**
ARU pmax pmax
comp=Z,49nm,1.7s
ARU MLR MLR
comp=Z,1µm,17.0s
ARU Arti 37.40 330 P **P** **17 07 49.9 +0.8**
comp=Z,102nm,1.3s,SNR=6.7
KLR Kul'dur 37.93 44 *e*P **P** **17 07 50.7 -3.0**
KLR pmax pmax
comp=E,2µm,12.0s
KLR pmax pmax
comp=Z,8µm,12.0s
MAK Makhachkala 38.71 306 *e*P **P** **17 08 03.2 +2.9**
MAK MLR MLR
comp=Z,74nm,19.0s
HABR Khabarovsk 39.76 46 *e*P **P** **17 08 07.5 -1.6**
HABR *e**SP **sP** **17 08 18.2 -1.4**
HABR *e* 17 09 38.9
HABR *e*PPP PPP 17 10 01.9
HABR *e* 17 10 13.9
HABR *e* 17 14 03.8
HABR *e**SS **sS** **17 14 22.6 -1.2**
HABR *e*SS **SS** **17 17 06.6 -1.0**
HABR *e* 17 18 13.6
HABR pmax pmax
comp=Z,30nm,1.3s
HABR MLR MLR
comp=Z,4µm,15.0s
SOKR Solikamsk 40.09 333 *e*P **P** **17 08 12.6 +1.0**
SOKR pmax pmax
comp=Z,40nm,1.4s
SOKR MLR MLR
comp=Z,2µm,23.0s
GNI Garni 40.45 301 *e*P **P** **17 08 17.6 +2.5**
comp=Z,34nm,0.9s
GNI Garni 40.45 301 P **P** **17 08 17.8 +2.7**
comp=Z,9.2nm,0.9s,baz=6.5,slow=8.9,SNR=3.7
MAJO Matsushiro 40.47 65 *e*P **P** **17 08 14.8 -0.3**
MAJO pmax pmax
comp=Z,24nm,0.8s
MAJO Matsushiro 40.47 65 *e*P **P** **17 08 14.8 -0.3**
comp=Z,24nm,0.8s
MAT Matsushiro 40.47 65 P **P** **17 08 14.2 -0.9**
MAT S **S** **17 14 19.8 -2.7**
MJAR Matsushiro Arr 40.47 65 P **P** **17 08 14.8 -0.3**
MJAR Matsushiro Arr 40.47 65 P **P** **17 08 14.8 -0.3**
comp=Z,12nm,0.7s,baz=271,slow=9.7,SNR=37
RAYN Ar Rayn 41.45 275 *e*P **P** **17 08 23.5 0.0**
comp=Z,7.7nm,0.8s
RAYN *e*ScP **ScP** **17 14 10.0 +0.4**
RAYN Ar Rayn 41.45 275 P **P** **17 08 23.2 -0.2**
comp=Z,58nm,0.8s,SNR=5.4
NCK Nalchik 41.61 306 *i*P **P** **17 08 25.2 +0.7**
KBZ Khabaz 42.14 306 P **P** **17 08 30.7 +2.0**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KBZ MLR MLR
comp=Z,528nm,19.4s
KBZ Khabaz 42.14 306 P **P** **17 08 30.7 +2.0**
KBZ Khabaz 42.14 306 P **P** **17 08 30.7 +2.0**
comp=Z,3.3nm,0.9s,baz=129,slow=6.6,SNR=10
KBZ LR LR 17 28 41.5
comp=Z,528nm,19.4s,baz=91,slow=40
GOF Gofitskoye 42.21 308 *e*P **P** **17 08 30.2 +0.9**
KIV Kislovodsk 42.32 306 *e*P **P** **17 08 31.6 +1.3**
KIV *e* 17 10 23.8
KIV *e*S **S** **17 14 51.1 +1.2**
KIV pmax pmax
comp=Z,20nm,1.0s
KIV MLR MLR
comp=Z,456nm,17.0s
YAK Yakutsk 43.01 25 *e*P **P** **17 08 34.5 -1.0**
YAK pmax pmax
comp=Z,13nm,0.9s
YAK pmax pmax
comp=N,9.0nm,1.3s
YAK pmax pmax
comp=E,8.0nm,1.2s
YAK MLR MLR
comp=E,840nm,12.0s
YAK MLR MLR
comp=N,668nm,11.0s
YAK MLR MLR
comp=Z,2µm,14.0s
ASAJ Asahikawa 44.12 54 P **P** **17 08 45.8 +1.1**
comp=Z,3.7nm,0.6s,baz=61,slow=19,SNR=3.5
VRHR Novokhopersk 44.26 316 *e*P **P** **17 08 45.1 -0.6**
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,50nm,1.1s
VRHR MLR MLR
comp=Z,860nm,19.0s
VRHR MLR MLR
comp=N,70nm,15.0s
VRHR MLR MLR
comp=E,780nm,18.0s
SOC Sochi 44.43 305*c i*P **P** **17 08 46.6 -0.6**
SOC *e* 17 10 29.9
SOC *e*S **S** **17 15 15.6 -5.0**
SOC *e*SS **SS** **17 18 39.8 -0.1**
SOC *e*SSS SSS 17 19 28.5
SOC pmax pmax
comp=Z,17nm,0.9s
SOC MLR MLR
comp=Z,387nm,15.0s
YSS Yuzh-Sakhalins 44.54 50 *e*P **P** **17 08 48.2 +0.1**
YSS *e* 17 08 59.4
YSS *e*S **S** **17 15 22.0 -0.1**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=Z,1µm,13.0s
YSS MLR MLR
comp=N,500nm,12.0s
YSS MLR MLR
comp=E,2µm,13.0s
MALT Malatya 45.33 298 ⇓P **P** **17 08 57.2 +2.6**
MALT Malatya 45.33 298 ⇓*i*P **P** **17 08 57.2 +2.6**
VSR Storozhevoye 45.80 316 *e*P **P** **17 08 57.3 -0.7**
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR pmax pmax
comp=N,4.0nm,0.6s
VSR pmax pmax
comp=E,10.0nm,1.3s
VSR MLR MLR
comp=N,170nm,15.0s
VSR MLR MLR
comp=E,590nm,15.0s
VSR MLR MLR
comp=Z,910nm,15.0s
YUK Yuzh-Kuril'sk 46.47 54 *e*P P 17 09 07.2 +3.9
YUK *e* 17 10 36.4
YUK *e*S **S** **17 15 51.8 +1.8**
YUK *e*SS **SS** **17 19 12.0 -3.8**
YUK MLR MLR
comp=E,893nm,17.0s
YUK MLR MLR
comp=Z,757nm,17.0s
MMRI Maumere 46.55 136 *e*P **P** **17 09 05.0 +0.7**
comp=Z,32nm,0.8s
ASF Jabal al Asfar 47.17 290 P **P** **17 09 11.1 +1.9**
ASF Jabal al Asfar 47.17 290 P **P** **17 09 11.1 +1.9**
comp=Z,1.9nm,0.4s,baz=60,slow=4.1,SNR=5.7
MOS Moscow 47.67 322 *e*P **P** **17 09 11.0 -1.6**
MOS *e*S **S** **17 16 05.1 -1.7**
MOS pmax pmax
comp=Z,62nm,0.8s
MOS pmax pmax
comp=Z,300nm,1.8s
MOS MLR MLR
comp=Z,900nm,16.0s
ATD Arta Tunnel 48.09 261 P **P** **17 09 18.8 +2.4**
ATD Arta Tunnel 48.09 261 P **P** **17 09 18.8 +2.4**
comp=Z,35nm,0.9s,baz=80,slow=6.4,SNR=12
OBN Obninsk 48.12 321*c i*P **P** **17 09 16.0 0.0**
OBN *e**PP **pP** **17 09 23.9 +0.3**
OBN *e* 17 10 43.2
OBN pmax pmax
comp=Z,81nm,1.7s
OBN MLR MLR
comp=Z,600nm,17.0s
KLMR Klimovskoe 48.21 329 *e*P **P** **17 09 15.7 -1.0**
KLMR pmax pmax
comp=Z,79nm,1.3s
MMAI Mount Meron Ar 48.29 291 P **P** **17 09 18.4 +0.7**
MMAI Mount Meron Ar 48.29 291 P **P** **17 09 18.4 +0.7**
comp=Z,1.5nm,0.7s,baz=72,slow=9.3,SNR=2.7
SIM Simferopol' 48.51 307 P P 17 09 34.6 +15
SIM *e*S **S** **17 16 18.7 -0.3**
SIM pmax pmax
comp=Z,19nm,0.9s
SIM MLR MLR
comp=Z,200nm,15.0s
BRTR Keskin Array B 48.98 300 P **P** **17 09 23.6 +0.4**
BRTR Keskin Array B 48.98 300 P **P** **17 09 23.6 +0.4**
comp=Z,1.6nm,0.6s,baz=117,slow=7.2,SNR=11
TIXI Tiksi 49.01 15⇓ *e*P **P** **17 09 22.1 -0.5**
TIXI pmax pmax
comp=Z,56nm,2.5s
TIXI MLR MLR
comp=Z,362nm,15.0s
ANTO Ankara 49.62 300 *e*P P 17 09 34.8 +6.9
ANTO Ankara 49.62 300 *ep*P P 17 09 34.8 +6.9
AKASG Malin Array Be 51.98 314 P **P** **17 09 44.6 -0.8**
AKASG pmax pmax
comp=Z,16nm,0.6s
AKASG MLR MLR
comp=Z,700nm,19.4s
AKASG Malin Array Be 51.98 314 P **P** **17 09 44.6 -0.8**
AKASG Malin Array Be 51.98 314 P **P** **17 09 44.6 -0.8**
comp=Z,16nm,0.6s,baz=80,slow=6.8,SNR=77
AKASG LR LR 17 35 20.8
comp=Z,700nm,19.4s,baz=90,slow=40
KIEV Kiev 51.99 314 *e*P **P** **17 09 44.5 -1.0**
KIEV pmax pmax
comp=Z,23nm,0.9s
KIEV Kiev 51.99 314 *e*P **P** **17 09 44.5 -1.0**
comp=Z,23nm,0.9s
AK11 Malin Array Si 52.02 314 *e*P **P** **17 09 44.9 -0.7**
JOF Joensuu 52.53 330 *e*P **P** **17 09 49.9 +0.6**
JOF pmax pmax
comp=Z,31nm,0.8s
JOF Joensuu 52.53 330 *ep* **P** **17 09 49.9 +0.6**
comp=Z,31nm,0.8s
TIRR Tirgusor 52.58 307 ⇓P **P** **17 09 50.6 +0.6**
TIRR Tirgusor 52.58 307 ⇓*i*P **P** **17 09 50.6 +0.6**
TIRR Tirgusor 52.58 307 *e*P **P** **17 09 50.4 +0.4**
comp=Z,8.4nm,0.9s
CFR Carcaliu 52.74 307 ⇓P **P** **17 09 50.9 -0.2**
CFR Carcaliu 52.74 307 ⇓*i*P **P** **17 09 50.9 -0.2**
SEY Seymchan 52.94 30 *i*P **P** **17 09 53.1 +0.8**
MSAB Monastry St. A 53.02 306 ⇓*i*P **P** **17 09 53.9 +0.6**
NACGM Naroch 53.67 320 *e* **P** **17 09 56.0 -1.8**
VRI Vrincioaia 53.69 308 ⇓P **P** **17 09 59.0 +0.8**
VRI Vrincioaia 53.69 308 ⇓*i*P **P** **17 09 59.0 +0.8**
TESR Tescani 53.71 309 ⇓*i*P **P** **17 09 58.0 -0.3**
PLOR Plostina 53.75 308 ⇓P **P** **17 09 59.6 +1.0**
PLOR Plostina 53.75 308 ⇓*i*P **P** **17 09 59.6 +1.0**
VSU Vasula 53.99 324*c i*P **P** **17 10 00.2 +0.1**
VSU pmax pmax
comp=Z,271nm,1.8s
IIGN Ignalina 54.02 320 *e*P **P** **17 10 00.5 +0.1**
IIGN AMB AMB 17 10 09.5
comp=Z,24nm,1.0s
ISAL Salakas 54.09 320 *e*P **P** **17 10 01.1 +0.3**
ISAL AMB AMB 17 10 10.4
comp=Z,22nm,1.1s
PETK Petropavlovsk- 54.60 43 LR LR 17 35 49.9
comp=Z,618nm,19.0s,baz=264,slow=39
DOPR Dopca 54.62 309 ⇓*i*P **P** **17 10 06.6 +1.6**
BURAR Bucovina Array 54.63 311 ⇓P **P** **17 10 05.5 +0.4**
BURAR Bucovina Array 54.63 311 ⇓*i*P **P** **17 10 05.5 +0.4**
BUR04 Bucovina Ar. S 54.64 311 *e*P **P** **17 10 05.2 0.0**
KAF Kangasniemi 54.66 328 *e*P **P** **17 10 04.7 -0.2**
KAF pmax pmax
comp=Z,11nm,0.7s
KAF Kangasniemi 54.66 328 *ep* **P** **17 10 04.7 -0.2**
comp=Z,11nm,0.7s
FINES FINESS Array B 54.67 328 P **P** **17 10 05.0 -0.1**
FINES FINESS Array B 54.67 328 P **P** **17 10 05.0 -0.1**
comp=Z,11nm,0.6s,baz=102,slow=8.7,SNR=46
FINES LR LR 17 34 57.7
comp=Z,264nm,18.4s,baz=279,slow=38
VOIR 54.90 308 ⇓P **P** **17 10 07.4 +0.4**
VOIR 54.90 308 ⇓*i*P **P** **17 10 07.4 +0.4**

ARR Arges 55.20 308⇑ *iP* **P 17 10 09.7 +0.5**
LVV L'vov 55.31 313 *eP* P 17 10 14.8 +4.9
SUW Suwalki 55.75 318 *eP* **P 17 10 12.7 -0.2**
SUW pmax pmax
comp=Z,66nm,0.9s
SUW Suwalki 55.75 318 *eP* **P 17 10 12.7 -0.2**
comp=Z,66nm,0.9s
SUW Suwalki 55.75 318 *eP* **P 17 10 12.5 -0.4**
PGB Panagyurishte 55.83 305 *eP* P 17 10 18.7 +4.9
KEV Kevo 55.87 338 *eP* **P 17 10 13.6 +0.1**
KEV pmax pmax
comp=Z,12nm,0.6s
KEV Kevo 55.87 338 *ep* **P 17 10 13.6 +0.1**
comp=Z,12nn,0.6s
FITZ Fitzroy Crossi 56.00 140 *eP* P 17 10 21.3 +6.2
comp=Z,11nm,1.1s
MPEP Malo Peshtene 56.04 306 *i* P **P 17 10 15.1 -0.1**
KWP Kalwaria Pacla 56.18 313⇓ *iP* **P 17 10 16.3 +0.2**
KWP Kalwaria Pacla 56.18 313⇓ *iP* **P 17 10 16.3 +0.2**
KWP Kalwaria Pacla 56.18 313 *eP* **P 17 10 16.5 +0.4**
ARCES ARCESS Array B 56.33 337 P **P 17 10 16.6 -0.3**
ARCES ARCESS Array B 56.33 337 P **P 17 10 16.6 -0.3**
comp=Z,5.4nm,0.7s,baz=94,slow=5.6,SNR=11
TRPA Tarpa 56.40 311⇓ *iP* **P 17 10 18.3 +0.7**
DRGR 56.40 310⇓ *iP* **P 17 10 18.6 +0.8**
DRGR 56.40 310⇓ *iP* **P 17 10 18.6 +0.8**
GZR Gura Zlata 56.49 308⇓ *iP* P 17 10 23.4 +4.9
KOLS Kolonicke sedl 56.51 312 *eP* **P 17 10 18.4 -0.1**
KOLS pmax pmax
comp=Z,5.0nm,0.9s
KOLS Kolonicke sedl 56.51 312 *eP* **P 17 10 18.4 -0.1**
UZH Uzhgorod 56.52 312 *eP* **P 17 10 16.3 -2.2**
VTS Vitosha 56.53 305⇓ *iP* **P 17 10 19.5 +0.6**
VTS Vitosha 56.53 305⇓ *iP* **P 17 10 19.5 +0.6**
VTS Vitosha 56.53 305 *i* P **P 17 10 19.1 +0.2**
CRVS Cervenica-Dubn 57.05 312 *eP* **P 17 10 22.8 +0.5**
CRVS pmax pmax
comp=Z,10.0nm,1.4s
CRVS Cervenica-Dubn 57.05 312 *eP* **P 17 10 22.8 +0.5**
STHS Stebnicka Huta 57.15 313 *eP* **P 17 10 23.1 +0.1**
STHS pmax pmax
comp=Z,8.0nm,1.6s
STHS Stebnicka Huta 57.15 313 *eP* **P 17 10 23.1 +0.1**
SIRR Siria 57.17 309⇓ *iP* **P 17 10 23.9 +0.7**
BZS Buzias 57.28 308⇓ *iP* **P 17 10 24.4 +0.4**
BZS Buzias 57.28 308⇓ *iP* **P 17 10 24.4 +0.4**
KECS Kecovo 57.73 312 *eP* **P 17 10 27.1 0.0**
KECS pmax pmax
comp=Z,7.0nm,1.5s
KECS Kecovo 57.73 312 *eP* **P 17 10 27.1 0.0**
NIE Niedzica 57.75 313 *eP* **P 17 10 28.3 +1.0**
NIE *e**SP **sP 17 10 38.1 +0.1**
NIE Niedzica 57.75 313 *eP* **P 17 10 28.3 +1.0**
NIE *es*P **sP 17 10 38.1 +0.1**
OJC Ojcow 58.01 314 *eP* **P 17 10 29.6 +0.6**
OJC *e**SP **sP 17 10 39.4 -0.4**
OJC Ojcow 58.01 314 *eP* **P 17 10 29.2 +0.2**
comp=Z,14nm,0.7s
OJC Ojcow 58.01 314 *eP* **P 17 10 29.6 +0.6**
OJC *es*P **sP 17 10 39.4 -0.4**
PSZ Piszkesteto 58.19 311⇓ *iP* **P 17 10 30.9 +0.5**
PSZ Piszkesteto 58.19 311⇓ *iP* **P 17 10 30.9 +0.5**
PSZ Piszkesteto 58.19 311 *eP* **P 17 10 30.9 +0.5**
comp=Z,12nm,1.0s
PSZ Piszkesteto 58.19 311⇓ *eP* **P 17 10 30.7 +0.3**
TRO Tromso 58.62 337 *eP* **P 17 10 33.1 +0.2**
TRO AMB AMB 17 10 34.8
comp=Z,62nm,1.8s
OKC Ostrava-Krasne 59.11 314 *eP* **P 17 10 37.1 +0.4**
OKC MLR MLR
comp=Z,400nm,12.8s
OKC Ostrava-Krasne 59.11 314 *eP* **P 17 10 37.1 +0.4**
OKC *epP* **pP 17 10 41.6 -2.9**
OKC AMS AMS 17 39 40.0
comp=Z,400nm,12.8s
KMBO Kilima Mbogo 59.17 251 *eP* **P 17 10 39.0 +1.1**
comp=Z,18nm,1.1s
KMBO Kilima Mbogo 59.17 251 P **P 17 10 38.4 +0.4**
comp=Z,2.8nm,0.6s,baz=47,slow=12,SNR=8.9
PKSM Moragy 59.26 310⇓ *iP* **P 17 10 37.9 +0.1**
PKSM Moragy 59.26 310⇓ *iP* **P 17 10 37.9 +0.1**
PKSM Moragy 59.26 310⇓ *eP* **P 17 10 37.5 -0.3**
MORC Moravsky Berou 59.51 314⇓ *iP* **P 17 10 39.7 +0.2**
MORC Moravsky Berou 59.51 314⇓ *iP* **P 17 10 39.7 +0.2**
MORC Moravsky Berou 59.51 314 *eP* **P 17 10 39.3 -0.2**
comp=Z,12nm,0.8s
KRLC Kraliky 59.96 314 *eP* **P 17 10 42.4 -0.2**
KRLC Kraliky 59.96 314 *eP* **P 17 10 42.4 -0.2**
KRLC *epP* **pP 17 10 47.3 -3.1**
KSP Ksiaz 60.17 315 *eP* **P 17 10 44.4 +0.4**
KSP Ksiaz 60.17 315 *eP* **P 17 10 44.3 +0.3**
VRAC Vranov 60.18 313⇓ *iP* **P 17 10 44.6 +0.5**
DPC Dobruska-Polom 60.21 314 *eP* **P 17 10 45.0 +0.6**
DPC *e* 17 10 54.2
DPC Dobruska-Polom 60.21 314 *eP* **P 17 10 45.0 +0.6**
DPC *epP* **pP 17 10 54.2 +2.1**
DPC AMS AMS 17 39 30.0
DPC Dobruska-Polom 60.21 314 *eP* **P 17 10 43.9 -0.4**
comp=Z,115nm,1.1s
UPC Upice 60.39 315 *eP* **P 17 10 45.9 +0.4**
UPC *e* 17 10 54.4
UPC Upice 60.39 315 *eP* **P 17 10 45.9 +0.4**
UPC *epP* **pP 17 10 51.4 -1.9**
UPC *epP* **pwP 17 10 54.4 +1.1**
LOF Lofoten 60.48 335 *eP* **P 17 10 44.9 -0.9**
CONA Conrad Observa 60.87 312⇑ *iP* **P 17 10 49.1 +0.2**
comp=Z,28nm,1.4s,SNR=11
TREC Trest 60.90 313 *eP* **P 17 10 49.4 +0.4**
TREC *e* 17 10 59.0
TREC MLR MLR
comp=Z,500nm,13.9s
TREC Trest 60.90 313 *eP* **P 17 10 49.4 +0.4**
TREC *ex* x 17 10 54.0
TREC *epP* **pP 17 10 59.0 +2.2**
TREC AMS AMS 17 40 40.0
comp=Z,500nm,13.9s
ARSA Arzberg 61.21 311⇑ *iP* **P 17 10 51.3 +0.1**
comp=Z,5.0nm,0.7s
PVCC Panska Ves 61.30 315 *eP* **P 17 10 52.5 +0.8**
PVCC Panska Ves 61.30 315 *eP* **P 17 10 52.5 +0.8**
PVCC *ex* x 17 10 56.7
PRU Pruhonice 61.40 314 *eP* **P 17 10 52.7 +0.3**
PRU *e* 17 11 02.3
PRU *eS* S 17 19 19.0 +7.3
PRU Pruhonice 61.40 314 *eP* **P 17 10 52.7 +0.3**
PRU *ex* x 17 10 57.4
PRU *epP* **pP 17 11 02.3 +2.2**
PRU *eS* S 17 19 19.0 +7.3
PRA Prague 61.45 314 P **P 17 10 53.0 +0.3**
CRES Cresnjev 61.51 309 *iP* **P 17 10 53.5 +0.2**
BRG Berggiesshubel 61.64 315 *iP* **P 17 10 54.0 +0.1**
comp=Z,14nm,0.9s
BRG *e* 17 11 03.6
comp=Z,22nm,1.3s
BRG
comp=Z,703nm,17.7s
BRG
comp=N,250nm,18.2s
BRG
comp=E,600nm,18.2s
BRG Berggiesshubel 61.64 315 *eP* **P 17 10 54.4 +0.5**
comp=Z,14nm,0.9s
SOKA Soboth 61.64 311⇓ *iP* **P 17 10 54.2 0.0**
comp=Z,12nn,1.1s,SNR=7.6
NC602 NORSAR Array S 61.71 327 *eP* **P 17 10 53.3 -1.0**
NB2 NORSAR Subarra 61.84 327 P **P 17 10 53.9 -1.3**
comp=Z,71nm,1.7s,baz=84,slow=6.5
NB2 NORSAR Subarra 61.84 327 P **P 17 10 53.9 -1.3**
baz=84,slow=6.5
NOA NORSAR Array B 61.84 327 P **P 17 10 54.0 -1.1**
NOA NORSAR Array B 61.84 327 P **P 17 10 54.0 -1.1**
comp=Z,6.1nm,0.7s,baz=84,slow=6.9,SNR=6.2
MOA Molln 61.94 312⇑ *iP* **P 17 10 56.1 -0.1**
comp=Z,17nm,0.8s,SNR=9.6
TIP Timpagrande 61.97 302 *eP* **P 17 10 56.9 +0.4**
comp=Z,14nm,1.1s
VNDS Vrh nad Dolski 61.98 310 *i* P **P 17 10 56.5 +0.2**
FBE Freiberg 62.00 315 *eP* **P 17 10 57.0 +0.6**
comp=Z,37nm,1.5s
OBKA Obir 62.00 310⇑ *iP* **P 17 10 56.7 +0.1**
comp=Z,12nm,1.3s
LJU Ljubljana 62.11 310 *i* P **P 17 10 57.5 +0.3**
GEC2 GERESS Array S 62.13 313 *eP* **P 17 10 57.8 +0.3**
GEC2 pmax pmax
comp=Z,17nm,0.7s
GEC2 GERESS Array S 62.13 313 *eP* **P 17 10 57.8 +0.3**
comp=Z,17nm,0.7s
GEC2 GERESS Array S 62.13 313 *eP* **P 17 10 57.6 +0.2**
GERES GERESS Array B 62.13 313 P **P 17 10 57.5 0.0**
GERES GERESS Array B 62.13 313 P **P 17 10 57.5 0.0**
comp=Z,10nm,0.6s,baz=77,slow=5.4,SNR=96
CLL Collm 62.15 316 *eP* **P 17 10 57.0 -0.4**
CLL *i* *SP **sP 17 11 06.7 -1.4**
CLL *eS* **S 17 19 19.0 -2.2**
CLL pmax pmax
comp=Z,16nm,1.4s
CLL MLR MLR
comp=Z,500nm,18.7s
CLL Collm 62.15 316 *eP* **P 17 10 57.0 -0.4**
comp=Z,16nm,1.4s
CLL *i* pP **pP 17 11 04.3 -0.9**
CLL *i* sP **sP 17 11 06.7 -1.4**
comp=Z,32nm,1.6s
CLL *eS* **S 17 19 19.0 -2.2**
CLL Lm MLR 17 40 00.0
comp=Z,500nm,18.7s
KHC Kasperske Hory 62.16 313 *eP* **P 17 10 57.8 +0.2**
KHC *e* 17 11 07.2
KHC *eS* **S 17 19 20.9 -0.6**
KHC MLR MLR
comp=Z,500nm,15.2s
KHC Kasperske Hory 62.16 313 *eP* **P 17 10 57.8 +0.2**
KHC *ex* x 17 11 02.3
KHC *epP* **pP 17 11 07.2 +1.8**
KHC *eS* **S 17 19 20.9 -0.6**
KHC AMS AMS 17 41 20.0
comp=Z,500nm,15.2s
KHC Kasperske Hory 62.16 313 *eP* **P 17 10 57.9 +0.4**
comp=Z,12nn,1.0s
OSL Oslo 62.20 326 *eP* **P 17 10 57.8 +0.2**
CUC Castrocucco 62.48 303 *eP* **P 17 10 60.0 +0.1**
comp=Z,14nm,0.8s
VOY Vojsko 62.54 310 *eP* **P 17 11 00.5 +0.3**
VOY *e* 17 11 10.4
CADS Cadrg 62.61 310 *iP* **P 17 10 59.9 -0.8**
WET Wettzell 62.61 314 *eP* **P 17 11 00.9 +0.3**
WET pmax pmax
comp=Z,28nm,1.7s
WET Wettzell 62.61 314 *eP* **P 17 11 00.9 +0.3**
comp=Z,28nn,1.7s
TANN Tannenbergstha 62.64 315 *eP* **P 17 11 01.1 +0.3**
comp=Z,9.0nm,0.8s
NKC Novy Kostel 62.69 315 *eP* **P 17 11 01.4 +0.4**
NKC *e* 17 11 11.3
NKC Novy Kostel 62.69 315 *eP* **P 17 11 01.4 +0.4**
NKC *epP* **pP 17 11 06.3 -2.5**
NKC *epP* **pP 17 11 11.3 +2.5**
NKC AMS AMS 17 42 10.0
WRA Warramunga Arr 62.71 134 P **P 17 11 00.2 -1.3**
WRA Warramunga Arr 62.71 134 P **P 17 11 00.2 -1.3**
comp=Z,2.2nm,0.8s,baz=326,slow=6.7,SNR=10
WRAB Tennant Creek 62.71 134 *eP* **P 17 11 01.9 +0.4**
WRAB pmax pmax
comp=Z,16nm,0.8s
WRAB Tennant Creek 62.71 134 *eP* **P 17 11 01.9 +0.4**
comp=Z,16nn,0.8s
WERN Wernitzgruen 62.72 315 *eP* **P 17 11 01.7 +0.4**
comp=Z,36nn,1.8s
GUNZ Gunzen 62.73 315 *eP* **P 17 11 01.9 +0.5**
comp=Z,37nn,1.6s
WERD Werda 62.73 315 *eP* **P 17 11 01.7 +0.3**
comp=Z,10.0nm,0.9s
PLN Plauen 62.82 315 *eP* **P 17 11 02.1 +0.2**
comp=Z,114nm,1.5s
CEL Celeste 62.84 301 *eP* **P 17 11 02.1 -0.2**
comp=Z,51nn,1.1s
ROTZ Rotzenmuhle 62.92 314 *eP* **P 17 11 03.5 +0.9**
comp=Z,56nn,1.6s
NEUB Neuenburg 62.93 316 *eP* **P 17 11 02.8 +0.2**
comp=Z,40nn,1.5s
RJOB Jochberg 62.94 312 *eP* **P 17 11 02.8 0.0**
comp=Z,13nn,1.3s
MANZ Manzenberg 62.95 315 *eP* **P 17 11 03.5 +0.7**
comp=Z,38nn,1.6s
BSEG Bad Segeberg 63.31 319 *eP* **P 17 11 05.2 +0.1**
BSEG pmax pmax
comp=Z,14nn,0.9s
BSEG Bad Segeberg 63.31 319 *eP* **P 17 11 05.2 +0.1**
comp=Z,14nn,0.9s
ABTA Abfaltersbach 63.33 311⇑ *iP* **P 17 11 04.3 -1.2**
comp=Z,6.2nn,0.6s,SNR=6.6
GRF Grafenberg Arr 63.57 314 *eP* **P 17 11 07.5 +0.6**
GRF pmax pmax
comp=Z,47nn,1.5s
GRF MLR MLR
comp=Z,5µm,21.2s
GRF Grafenberg Arr 63.57 314 *eP* **P 17 11 07.5 +0.6**
comp=Z,47nn,1.5s
GRF *eL* L 18 03 27.9
comp=Z,5µm,21.2s
GRFO Grafenberg 63.57 314 *eP* **P 17 11 08.1 +1.2**
GRFO pmax pmax
comp=Z,36nn,1.3s
GRFO Grafenberg 63.57 314 *eP* **P 17 11 08.1 +1.2**
comp=Z,36nn,1.3s
CLZ Clausthal 63.67 317 *eP* **P 17 11 08.0 +0.5**
CLZ pmax pmax
comp=Z,70nn,1.7s
CLZ Clausthal 63.67 317 *eP* **P 17 11 08.0 +0.5**
comp=Z,70nn,1.7s
AQU L'Aquila 63.70 306 *eP* **P 17 11 08.7 +0.8**
comp=Z,43nn,1.1s
NRDL Niedersach Rie 63.70 318 *eP* **P 17 11 08.3 +0.7**
comp=Z,68nn,1.6s
WTTA Wattenberg 63.80 312⇓ *iP* **P 17 11 08.0 -0.7**
comp=Z,21nn,0.6s,SNR=10
WATA Walderalm 63.83 312⇑ *iP* **P 17 11 08.0 -0.8**
comp=Z,18nn,0.6s
FUR Furstenfeldbru 63.85 313 *eP* **P 17 11 09.5 +0.7**
FUR pmax pmax
comp=Z,24nn,0.6s
FUR Furstenfeldbru 63.85 313 *eP* **P 17 11 09.5 +0.7**
comp=Z,24nn,0.6s
UBBA Unterbreizbach 64.10 316 *eP* **P 17 11 10.9 +0.7**
comp=Z,26nn,1.7s
MOTA Moosalm 64.14 312⇑ *iP* **P 17 11 09.9 -0.9**
comp=Z,17nn,0.7s,SNR=17
RETA Reutte 64.33 312⇑ *iP* **P 17 11 11.6 -0.5**
comp=Z,16nn,0.6s,SNR=8.6
FETA Feichten 64.46 312⇑ *iP* **P 17 11 12.2 -0.8**
comp=Z,14nn,1.0s,SNR=6.3
NWAO Narrogin (SRO) 64.71 156 *eP* P 17 11 19.2 +4.9
comp=Z,40nn,1.3s
RUND Rundenannen 64.77 327 *eP* **P 17 11 14.2 -0.4**
FUORN Ofenpass-Fuorn 64.87 311 *eP* **P 17 11 15.2 -0.5**
comp=Z,12nn,0.7s
DAVA Damuels 64.96 312⇑ *iP* **P 17 11 15.8 -0.5**
comp=Z,19nn,0.8s,SNR=8.3
STU Stuttgart 65.06 314 *eP* **P 17 11 17.3 +0.6**
STU pmax pmax
comp=Z,35nn,0.9s
STU Stuttgart 65.06 314 *eP* **P 17 11 17.2 +0.6**
comp=Z,62nn,1.5s
STU Stuttgart 65.06 314 *eP* **P 17 11 17.3 +0.6**
comp=Z,35nn,0.9s
ASAR Alice Springs 65.18 137 P **P 17 11 17.9 +0.1**
ASAR Alice Springs 65.18 137 P **P 17 11 17.9 +0.1**
comp=Z,24nn,0.6s,baz=86,slow=7.9,SNR=4.9
TNS Taunus Mts 65.20 315 *eP* **P 17 11 17.9 +0.3**
TNS pmax pmax
comp=Z,14nn,0.9s
TNS Taunus Mts 65.20 315 *eP* **P 17 11 17.9 +0.3**
comp=Z,14nn,0.9s
VLC Villacollemand 65.39 309 *epP* pP 17 11 28.1 +1.4
TUE Stuetta 65.52 311 *eP* **P 17 11 19.4 -0.6**
comp=Z,20nn,0.7s
BUG Bochum–Univer 65.64 317 *eP* **P 17 11 20.8 +0.5**
comp=Z,36nn,1.7s
BFO Black Forest 65.73 313 *eP* **P 17 11 21.2 +0.2**
BFO pmax pmax
comp=Z,8.0nn,1.0s
BFO Black Forest 65.73 313 *eP* **P 17 11 20.8 -0.2**
comp=Z,13nn,1.4s
BFO Black Forest 65.73 313 *eP* **P 17 11 21.2 +0.2**
comp=Z,7.6nn,1.0s
LANF Langenberg 65.90 314 *eP* **P 17 11 22.6 +0.5**
FELD Feldberg im Sc 66.05 313 *eP* **P 17 11 22.8 -0.5**
CDF Champ du Feu 66.39 314⇑ *iP* **P 17 11 25.1 -0.2**
comp=Z,56nn,1.0s
CDF Champ du Feu 66.39 314⇑ *iP* **P 17 11 25.1 -0.2**
CDF pmax pmax
comp=Z,56nn,1.0s
CDF Champ du Feu 66.39 314⇑ *iP* **P 17 11 25.1 -0.2**
comp=Z,56nn,1.0s
MOF Molkenrain 66.62 313 *eP* **P 17 11 26.9 0.0**
WLF Walferdange 66.78 315 P **P 17 11 28.2 +0.5**
comp=Z,30nn,1.6s
WLF Walferdange 66.78 315 *eP* **P 17 11 27.5 -0.2**
WLF pmax pmax
comp=Z,47nn,1.0s
WLF Walferdange 66.78 315 *eP* **P 17 11 28.6 +0.9**
comp=Z,62nn,1.5s
WLF Walferdange 66.78 315 *eP* **P 17 11 27.5 -0.2**
comp=Z,47nn,1.0s
PGF Pioggiola 66.79 307 *eP* **P 17 11 27.6 -0.5**
comp=Z,24nn,0.6s
PGF Pioggiola 66.79 307 *eP* **P 17 11 27.6 -0.5**
PGF pmax pmax
comp=Z,24nn,0.6s
PGF Pioggiola 66.79 307 *eP* **P 17 11 27.6 -0.5**
comp=Z,24nn,0.6s
HINF Hinteralfeld 66.81 313 *eP* **P 17 11 27.7 -0.3**
comp=Z,30nn,1.0s
HINF Hinteralfeld 66.81 313 *eP* **P 17 11 27.7 -0.3**
HINF pmax pmax
comp=Z,30nn,1.0s
HINF Hinteralfeld 66.81 313 *eP* **P 17 11 27.7 -0.3**
comp=Z,30nn,1.0s
SENIN Lac Senin/Sane 66.91 312 *eP* **P 17 11 28.9 0.0**
comp=Z,32nn,0.8s
HAU Haudompre 67.09 313 *eP* **P 17 11 29.5 -0.3**
comp=Z,40nn,0.9s
HAU *eR*
comp=Z,304nm,19.8s
HAU Haudompre 67.09 313 *eP* **P 17 11 29.5 -0.3**
HAU pmax pmax
comp=Z,40nn,0.9s
HAU Haudompre 67.09 313 *eP* **P 17 11 29.5 -0.3**
comp=Z,40nn,0.9s
BCLA Clavier 67.10 316 P **P 17 11 28.1 -1.6**
BCLA AP **pP 17 11 37.0 -0.6**
THEF They Montfort 67.27 314 *eP* **P 17 11 30.8 0.0**
PAGF Fort de Pagny 67.34 314⇑ *iP* **P 17 11 31.5 +0.2**
comp=Z,12nn,0.8s
PAGF Fort de Pagny 67.34 314⇑ *iP* **P 17 11 31.5 +0.2**
comp=Z,12nn,0.8s
SAOF Saorge 67.40 309 *eP* **P 17 11 30.8 -1.0**
AUTN L'Aution 67.48 309 *eP* **P 17 11 32.5 -0.1**
GIVF Givet 67.49 316 *eP* **P 17 11 32.4 +0.2**
comp=Z,27nn,1.0s
GIVF Givet 67.49 316 *eP* **P 17 11 32.4 +0.2**
GIVF pmax pmax
comp=Z,27nn,1.0s
GIVF Givet 67.49 316 *eP* **P 17 11 32.4 +0.2**
comp=Z,27nn,1.0s
SBF Sospel 67.52 309⇑ *iP* **P 17 11 32.3 -0.3**
comp=Z,44nn,0.7s
SBF Sospel 67.52 309⇑ *iP* **P 17 11 32.3 -0.3**
SBF pmax pmax
comp=Z,44nn,0.7s
SBF Sospel 67.52 309⇑ *iP* **P 17 11 32.3 -0.3**
comp=Z,44nn,0.7s
LPG La Plagne 67.52 311⇑ *iP* **P 17 11 33.0 +0.1**
comp=Z,62nn,0.7s
LPG La Plagne 67.52 311⇑ *iP* **P 17 11 33.0 +0.1**
LPG pmax pmax
comp=Z,62nn,0.7s
LPG La Plagne 67.52 311⇑ *iP* **P 17 11 33.0 +0.1**
comp=Z,62nn,0.7s
LPL La Plagne 67.53 311⇑ *iP* **P 17 11 33.0 +0.2**
comp=Z,63nn,0.9s
LPL La Plagne 67.53 311⇑ *iP* **P 17 11 33.0 +0.2**
LPL pmax pmax
comp=Z,63nn,0.9s
LPL La Plagne 67.53 311⇑ *iP* **P 17 11 33.0 +0.2**
comp=Z,63nn,0.9s
RSL Roselend 67.55 311 *eP* **P 17 11 32.7 -0.2**
TOUF Mont Tournerai 67.60 309 *eP* **P 17 11 32.9 -0.4**
DOU Dourbes 67.63 316 AP pP 17 11 42.6 +1.7
CABF La Chapelle 67.65 312 *eP* **P 17 11 33.3 -0.1**
comp=Z,25nn,0.8s
CABF La Chapelle 67.65 312 *eP* **P 17 11 33.3 -0.1**
CABF pmax pmax
comp=Z,25nn,0.8s
CABF La Chapelle 67.65 312 *eP* **P 17 11 33.3 -0.1**
comp=Z,25nn,0.8s
BNI Bardonecchia 67.70 310 *eP* **P 17 11 33.3 -0.5**
BNI pmax pmax
comp=Z,16nn,0.9s
BNI Bardonecchia 67.70 310 *eP* **P 17 11 33.3 -0.5**
comp=Z,16nn,0.9s
MBDF Montbardon 67.73 310⇑ *iP* **P 17 11 33.0 -1.0**
comp=Z,25nn,0.7s
MBDF Montbardon 67.73 310⇑ *iP* **P 17 11 33.0 -1.0**
MBDF pmax pmax
comp=Z,25nn,0.7s
MBDF Montbardon 67.73 310⇑ *iP* **P 17 11 33.0 -1.0**
comp=Z,25nn,0.7s
MEZF Maizieres J'vi 67.79 314 *eP* **P 17 11 34.2 +0.1**
comp=Z,57nn,0.8s
MEZF Maizieres J'vi 67.79 314 *eP* **P 17 11 34.2 +0.1**
comp=Z,57nn,0.8s
BAIF Baives 67.88 316 *eP* **P 17 11 35.0 +0.4**
comp=Z,58nn,1.4s
BAIF Baives 67.88 316 *eP* **P 17 11 35.0 +0.4**
BAIF pmax pmax
comp=Z,59nn,1.4s
BAIF Baives 67.88 316 *eP* **P 17 11 35.0 +0.4**
comp=Z,58nn,1.4s
SFTF Sexfontaines 67.88 314⇑ *iP* **P 17 11 34.5 -0.2**
comp=Z,53nn,0.8s
SFTF Sexfontaines 67.88 314⇑ *iP* **P 17 11 34.5 -0.2**
comp=Z,53nn,0.8s
FRF La Foret Royal 68.15 309⇑ *iP* **P 17 11 36.2 -0.3**
comp=Z,43nn,1.1s
FRF La Foret Royal 68.15 309⇑ *iP* **P 17 11 36.2 -0.3**
FRF pmax pmax
comp=Z,43nn,1.1s
FRF La Foret Royal 68.15 309⇑ *iP* **P 17 11 36.2 -0.3**
comp=Z,43nn,1.1s
ORIF Oris-en-Rattie 68.28 310⇑ *iP* **P 17 11 36.7 -0.7**
comp=Z,34nn,0.9s
ORIF *eR*
comp=Z,457nn,19.5s
ORIF Oris-en-Rattie 68.28 310⇑ *iP* **P 17 11 36.7 -0.7**
ORIF pmax pmax
comp=Z,34nn,0.9s
ORIF Oris-en-Rattie 68.28 310⇑ *iP* **P 17 11 36.7 -0.7**
comp=Z,34nn,0.9s
LMR La Mourre 68.32 309 *eP* **P 17 11 37.1 -0.4**
comp=Z,20nn,0.8s
LMR La Mourre 68.32 309 *eP* **P 17 11 37.1 -0.4**
LMR pmax pmax
comp=Z,20nn,0.8s
LMR La Mourre 68.32 309 *eP* **P 17 11 37.1 -0.4**
comp=Z,20nn,0.8s
KEST Kesra 68.58 300 *eP* **P 17 11 40.2 +0.7**
KEST Kesra 68.58 300 P **P 17 11 39.8 +0.4**
comp=Z,4.8nm,0.9s,baz=330,slow=1.8,SNR=8.9
SMRF Simiane la Rot 68.77 309⇑ *iP* **P 17 11 40.5 +0.1**
comp=Z,19nn,0.8s
SMRF Simiane la Rot 68.77 309⇑ *iP* **P 17 11 40.5 +0.1**
comp=Z,19nn,0.8s
OG26 St.-Nazaire-De 68.77 310 *eP* **P 17 11 40.8 +0.4**
LOR Lormes 68.92 313 *eP* **P 17 11 40.6 -0.6**
comp=Z,38nn,1.0s
LOR *eR*
comp=Z,213nn,18.8s
LOR Lormes 68.92 313 *eP* **P 17 11 40.6 -0.6**
comp=Z,38nn,1.0s
SSB Saint Sauveur 69.07 311 *eP* **P 17 11 41.5 -0.8**
VIVF Saint-Julien-l 69.11 311⇑ *iP* **P 17 11 42.3 -0.2**
comp=Z,42nn,0.9s
VIVF Saint-Julien-l 69.11 311⇑ *iP* **P 17 11 42.3 -0.2**
VIVF pmax pmax
comp=Z,42nn,0.9s
VIVF Saint-Julien-l 69.11 311⇑ *iP* **P 17 11 42.3 -0.2**
comp=Z,42nn,0.9s
SMF Signal de Mont 69.12 313⇑ *iP* **P 17 11 42.1 -0.4**
comp=Z,80nn,1.0s
SMF Signal de Mont 69.12 313⇑ *iP* **P 17 11 42.1 -0.4**
SMF pmax pmax
comp=Z,80nn,1.0s
SMF Signal de Mont 69.12 313⇑ *iP* **P 17 11 42.1 -0.4**
comp=Z,80nn,1.0s
SSF Saint Saulge 69.21 313⇑ *iP* **P 17 11 42.7 -0.3**

comp=Z,74nm,0.9s
SSF Saint Saulge 69.21 313⇑ *i*P P 17 11 42.7 -0.3
SSF pmax pmax
comp=Z,74nm,0.9s
SSF Saint Saulge 69.21 313⇑ *i*P P 17 11 42.7 -0.3
comp=Z,74nm,0.9s
AVF Avril sur Loir 69.39 313⇑ *i*P P 17 11 43.9 -0.3
comp=Z,48nm,0.9s
AVF Avril sur Loir 69.39 313⇑ *i*P P 17 11 43.9 -0.3
AVF pmax pmax
comp=Z,48nm,0.9s
AVF Avril sur Loir 69.39 313⇑ *i*P P 17 11 43.9 -0.3
comp=Z,48nm,0.9s
PLDF La Plantade 69.47 312 *e*P P 17 11 45.7 +0.9
HYF Humbligny 69.71 313 *e*P P 17 11 46.6 +0.5
HYF Humbligny 69.71 313 *e*P P 17 11 46.6 +0.5
AGO Saint Agoulin 69.77 312 *e*P P 17 11 47.8 +1.3
BGF Bois d'Agland 69.80 313 *e*P P 17 11 46.5 -0.2
comp=Z,27nm,0.8s
BGF Bois d'Agland 69.80 313 *e*P P 17 11 46.5 -0.2
BGF pmax pmax
comp=Z,27nm,0.8s
BGF Bois d'Agland 69.80 313 *e*P P 17 11 46.5 -0.2
comp=Z,27nm,0.8s
LASF Ste Croix 69.91 310⇑ *i*P P 17 11 47.6 +0.1
comp=Z,65nm,1.1s
LASF Ste Croix 69.91 310⇑ *i*P P 17 11 47.6 +0.1
comp=Z,65nm,1.1s
PYM Petit Puy Mans 69.95 312 *e*P P 17 11 48.5 +0.8
TCF Toulx Ste Croi 70.30 313⇑ *i*P P 17 11 50.0 +0.2
comp=Z,80nm,1.0s
TCF Toulx Ste Croi 70.30 313⇑ *i*P P 17 11 50.0 +0.2
TCF pmax pmax
comp=Z,80nm,1.0s
TCF Toulx Ste Croi 70.30 313⇑ *i*P P 17 11 50.0 +0.2
comp=Z,80nm,1.0s
CAF Calviac 70.85 311⇑ *i*P P 17 11 53.4 +0.2
comp=Z,44nm,0.9s
CAF Calviac 70.85 311⇑ *i*P P 17 11 53.4 +0.2
CAF pmax pmax
comp=Z,44nm,0.9s
CAF Calviac 70.85 311⇑ *i*P P 17 11 53.4 +0.2
comp=Z,44nm,0.9s
CTA Charters Tower 70.97 126 P P 17 11 53.9 -0.3
CTA Charters Tower 70.97 126 P P 17 11 53.9 -0.3
comp=Z,4.0nm,0.9s,baz=84,slow=14,SNR=3.8
LDF La Druitiere 71.03 315 *e*P P 17 11 53.8 -0.3
comp=Z,33nm,1.0s
LDF La Druitiere 71.03 315 *e*P P 17 11 53.8 -0.3
LDF pmax pmax
comp=Z,33nm,1.0s
LDF La Druitiere 71.03 315 *e*P P 17 11 53.8 -0.3
comp=Z,33nm,1.0s
RJF Les Rejaudoux 71.08 312⇑ *i*P P 17 11 55.0 +0.4
comp=Z,65nm,0.9s
RJF *e*R
comp=Z,239nm,21.0s
RJF Les Rejaudoux 71.08 312⇑ *i*P P 17 11 55.0 +0.4
RJF pmax pmax
comp=Z,65nm,0.9s
RJF Les Rejaudoux 71.08 312⇑ *i*P P 17 11 55.0 +0.4
comp=Z,65nm,0.9s
FLN La Foliniere 71.19 316 *e*P P 17 11 55.0 -0.1
FLN *e*R
comp=Z,407nm,21.0s
FLN La Foliniere 71.19 316 *e*P P 17 11 55.0 -0.1
FLN La Foliniere 71.19 316 *e*P P 17 11 55.0 -0.1
MTLF Montolieu 71.28 310⇑ *i*P P 17 11 55.8 0.0
comp=Z,26nm,0.9s
MTLF Montolieu 71.28 310⇑ *i*P P 17 11 55.8 0.0
MTLF pmax pmax
comp=Z,26nm,0.9s
MTLF Montolieu 71.28 310⇑ *i*P P 17 11 55.8 0.0
comp=Z,26nm,0.9s
GRR Gorron 71.56 315 *e*P P 17 11 57.0 -0.3
GRR Gorron 71.56 315 *e*P P 17 11 57.0 -0.3
GRR Gorron 71.56 315 *e*P P 17 11 57.0 -0.3
LFF La Frestale 71.73 312 *e*P P 17 11 58.2 -0.2
comp=Z,28nm,0.6s
LFF La Frestale 71.73 312 *e*P P 17 11 58.2 -0.2
LFF pmax pmax
comp=Z,28nm,0.6s
LFF La Frestale 71.73 312 *e*P P 17 11 58.2 -0.2
comp=Z,28nm,0.6s
MFF Saint Martin d 71.73 313 *e*P P 17 11 58.2 -0.2
comp=Z,37nm,1.1s
MFF Saint Martin d 71.73 313 *e*P P 17 11 58.2 -0.2
MFF pmax pmax
comp=Z,37nm,1.1s
MFF Saint Martin d 71.73 313 *e*P P 17 11 58.2 -0.2
comp=Z,37nm,1.1s
VALF Valcebollere 71.74 309 *e*P P 17 11 59.0 +0.2
MLS Moulis 72.18 310 *e*P P 17 12 00.7 -0.5
SGMF Saint Gilles 72.66 316 *e*P P 17 12 04.0 0.0
SGMF Saint Gilles 72.66 316 *e*P P 17 12 04.0 0.0
SGMF Saint Gilles 72.66 316 *e*P P 17 12 04.0 0.0
EPF Esparros 72.67 310 *e*P P 17 12 04.6 +0.4
comp=Z,13nm,0.9s
EPF Esparros 72.67 310 *e*P P 17 12 04.6 +0.4
EPF pmax pmax
comp=Z,13nm,0.9s
EPF Esparros 72.67 310 *e*P P 17 12 04.6 +0.4
comp=Z,13nm,0.9s
VIEF Viey 72.94 310 *e*P P 17 12 06.2 +0.3
ROSF Rostrenen 73.08 316 *e*P P 17 12 06.4 0.0
comp=Z,51nm,1.0s
ROSF Rostrenen 73.08 316 *e*P P 17 12 06.4 0.0
ROSF pmax pmax
comp=Z,51nm,1.0s
ROSF Rostrenen 73.08 316 *e*P P 17 12 06.4 0.0
comp=Z,51nm,1.0s
QUIF Quistinic 73.17 316 *e*P P 17 12 06.9 -0.1
QUIF Quistinic 73.17 316 *e*P P 17 12 06.9 -0.1
QUIF Quistinic 73.17 316 *e*P P 17 12 06.9 -0.1
ETSF Etsaut 73.34 310⇑ *i*P P 17 12 08.4 +0.2
comp=Z,28nm,0.7s
ETSF Etsaut 73.34 310⇑ *i*P P 17 12 08.4 +0.2
ETSF pmax pmax
comp=Z,28nm,0.7s
ETSF Etsaut 73.34 310⇑ *i*P P 17 12 08.4 +0.2
comp=Z,28nm,0.7s
LARF Larrau 73.58 310 *e*P P 17 12 10.1 +0.6
SJPF Ste Jean 73.71 310 *e*P P 17 12 10.2 -0.1
comp=Z,38nm,1.2s
SJPF Ste Jean 73.71 310 *e*P P 17 12 10.2 -0.1
SJPF pmax pmax
comp=Z,38nm,1.2s
SJPF Ste Jean 73.71 310 *e*P P 17 12 10.2 -0.1
comp=Z,38nm,1.2s
IMA2 Indian Mountai 74.75 23 *e*P P 17 12 16.1 +0.1
SUMG Summit 74.77 346 *i*P P 17 12 16.7 +0.3
SUMG pmax pmax
comp=Z,17nm,0.9s
SUMG Summit 74.77 346 *i*P P 17 12 16.7 +0.3
comp=Z,17nm,0.9s
SUMG Summit 74.77 346 *e*P P 17 12 16.3 -0.1
comp=Z,386nm,2.7s
COLD Coldfoot 75.23 21 *e*P P 17 12 19.8 +1.1
comp=Z,16nm,1.0s
STKA Stephens Creek 75.80 138 *e*P P 17 12 22.5 +0.1
STKA Stephens Creek 75.80 138 P P 17 12 21.7 -0.6
comp=Z,2.7nm,0.7s,baz=354,slow=9.0,SNR=7.1
BPAW Bear Paw Mtn. 76.81 24 *e*P P 17 12 28.4 +0.6
comp=Z,22nm,1.0s
ES19 SONSECA Array 76.91 308 *e*P P 17 12 29.1 +0.3
ESDC Sonseca Array 76.96 308 P P 17 12 29.1 0.0
ESDC Sonseca Array 76.96 308 P P 17 12 29.1 0.0
comp=Z,2.6nm,0.8s,baz=57,slow=6.5,SNR=16
PPLA Purkeypile 77.08 25 *e*P P 17 12 30.4 +1.0
comp=Z,33nm,1.0s
PAB San Pablo 77.29 308 *e*P P 17 12 31.8 +0.9
PAB pmax pmax
comp=Z,14nm,1.1s
PAB San Pablo 77.29 308 *e*P P 17 12 31.8 +0.9
comp=Z,14nm,1.1s
MCK McKinley 77.76 23 *e*P P 17 12 33.6 +0.5
MCK pmax pmax
comp=Z,68nm,1.7s
MCK McKinley 77.76 23 *e*P P 17 12 33.6 +0.5
comp=Z,68nm,1.7s
IL1 Eielson Array 77.81 22 *e*P P 17 12 32.5 -0.8
ILAR Eielson Array 77.81 22 P P 17 12 33.4 +0.1
ILAR Eielson Array 77.81 22 P P 17 12 33.4 +0.1
comp=Z,6.6nm,0.7s,baz=302,slow=5.1,SNR=79
CHGN Chignik 78.05 32 *e*PP PP 17 15 32.5 +1.9
RES Resolute Bay 78.22 2 *e*P P 17 12 36.2 +0.8
comp=Z,13nm,1.0s
MVO Moncorvo 78.44 310 *e*P P 17 12 37.9 +0.5
comp=Z,33nm,1.1s
PGAV Gavieira, Arco 78.92 311 *e*P P 17 12 43.1 +3.1
comp=Z,33nm,2.4s
INK Inuvik 79.12 16 *e*P P 17 12 41.0 +0.5
MTE Manteigas 79.13 310 *e*P P 17 12 42.0 +0.8
comp=Z,39nm,1.9s
PMRV Marv??o 79.46 309 *e*P P 17 12 43.3 +0.4
comp=Z,21nm,1.4s
EGAK Eagle 79.64 20 *e*P P 17 12 43.6 +0.2
comp=Z,85nm,2.1s
PBAR Barrancos 79.77 308 *e*P P 17 12 44.9 +0.3
comp=Z,32nm,1.4s
PMTG Montargil 80.20 309 *e*P P 17 12 47.1 +0.2
comp=Z,23nm,1.6s
EVO Evora 80.30 308 *e*P P 17 12 47.5 +0.1
comp=Z,31nm,1.1s
EVO *e*R
comp=Z,91nm,22.1s
EVO Evora 80.30 308 *e*P P 17 12 47.7 +0.3
comp=Z,28nm,1.8s
EVOP Sao Brissos 80.37 308 *e*P P 17 12 47.5 -0.3
EVOP pmax pmax
comp=Z,31nm,1.1s
EVOP Sao Brissos 80.37 308 *e*P P 17 12 47.5 -0.3
comp=Z,31nm,1.1s
PVAQ Vaqueiros 80.60 307 *e*P P 17 12 49.6 +0.5
comp=Z,46nm,1.7s
DAWY Dawson 80.69 20 *e*P P 17 12 49.5 +0.4
PCVE Castro Verde 80.72 307 *e*P P 17 12 49.4 -0.3
comp=Z,46nm,1.8s
PNCL Nicolau / Gran 80.85 308 *e*P P 17 12 52.8 +2.4
comp=Z,35nm,1.4s
BMRM Bremner River 81.08 24 *e*P P 17 12 51.7 +0.4
comp=Z,44nm,1.1s
ARMA Armale 81.25 131 *e*P P 17 12 55.0 +2.4
comp=Z,15nm,1.0s
SFJD Kangerlussuaq 81.76 346 *i*P P 17 12 53.9 -0.7
comp=Z,13nm,0.8s
LBTB Lobatse 81.98 237 *e*P P 17 12 57.8 +1.2
comp=Z,214nm,2.8s
HYT Haines Junctio 83.66 22 *e*P P 17 13 06.3 +1.5
TOA0 Torodi Ar. Sit 83.83 282 *e*P P 17 13 06.5 +0.2
TORD Torodi Ar. Bea 83.83 282 P P 17 13 06.2 -0.1
TORD Torodi Ar. Bea 83.83 282 P P 17 13 06.2 -0.1
comp=Z,2.2nm,0.8s,baz=66,slow=4.4,SNR=14
YKA Yellowknife Ar 88.16 12 P P 17 13 25.6 -1.3
YKA Yellowknife Ar 88.16 12 P P 17 13 25.5 -1.3
comp=Z,3.5nm,0.7s,baz=327,slow=4.0,SNR=5.5
DBIC Dimbokro 92.50 279 P P 17 13 47.8 -0.2
DBIC Dimbokro 92.50 279 P P 17 13 47.8 -0.2
comp=Z,2.1nm,0.9s,baz=194,slow=17,SNR=2.3
LIC Lamto 92.86 278 *e*P P 17 13 50.8 +1.1
comp=Z,6.8nm,0.6s
LIC Lamto 92.86 278 *e*P P 17 13 50.8 +1.1
comp=Z,6.8nm,0.6s
JCW Jim Creek 99.15 22 *e*P Pdif 17 14 17.3 -0.4
DRV Dumont d'Urvil 100.58 162 Pdif Pdif 17 14 10.0 -13
BW06 Boulder Array 107.69 16 *e*Pdif Pdif 17 14 54.0 -2.1
TPC Twentynine Pal 113.65 25 *e*Pdif Pdif 17 15 23.1 +0.5
CRY Cary Ranch 113.87 26 *e*Pdif Pdif 17 15 21.6 -2.0
DPP Dos Picos Cty 114.29 26 *e*Pdif Pdif 17 15 24.2 -1.2
TXAR Lajitas Array 121.90 16 PKP PKPdf 17 19 30.4 -0.8
TXAR Lajitas Array 121.90 16 PKP PKPdf 17 19 30.4 -0.8
comp=Z,0.7nm,0.8s,baz=354,slow=1.3,SNR=3.8
RKT Rikitea 138.02 95 *e*LR LR 17 18 57.1
comp=Z,185nm,30.5s
ROSC El Rosal 145.21 334 PKPbc PKPdf 17 20 15.8 +0.5
ROSC El Rosal 145.21 334 PKPbc PKPdf 17 20 15.8 +0.5
comp=Z,42nm,0.7s,baz=96,slow=8.8,SNR=36
CPUP Villa Florida 152.10 265 PKPbc PKPbc 17 20 30.1 -2.0
CPUP Villa Florida 152.10 265 PKPbc PKPbc 17 20 30.1 -2.0
comp=Z,2.2nm,0.6s,baz=79,slow=2.5,SNR=6.1
LPAZ La Paz 158.11 296 PKP PKPdf 17 20 34.6 -0.1
LPAZ La Paz 158.11 296 PKP PKPdf 17 20 34.6 -0.1
comp=Z,0.5nm,0.5s,baz=63,slow=4.5,SNR=2.7

*IDC **29** 17:02:00.8±1.6, 15°.60S×173°.50W, h0km, mb3.9/7, mb1 4.2/7, mb1mx4.0/20, mbtmp3.9/7, MS4.0/5, Ms1 4.0/5, ms1mx3.6/33, Error ellipse: s-maj=101.0km s-min=20.0km az=147.0*

ISC 29 17:02:07.0±1.5, 15°.5S±0°.5×173°.6W±0°.4, h42km, n23, σ0=46/9, mb3.9/7, MS4.0/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**2.37**	**48**		Pn		17 02 34.9	-8.6
AFI	32nm,0.3s,baz=26,slow=6.7,SNR=54				Sn		17 02 59.3	-12
	89nm,0.3s,baz=81,slow=20,SNR=10							
RAR	**Rarotonga**	**14.28**	**115**	LR	LR		17 08 55.8	
	comp=Z,269nm,20.8s,baz=91,slow=29							
DZM	**Mont Dzumac**	**19.99**	**248**	*e*LR	LR		17 11 46.5	
	735nm,26.1s							
DZM	**Mont Dzumac**	**19.99**	**248**	LR	LR		17 11 37.6	
	comp=Z,157nm,18.1s,baz=30,slow=29							
PPT2	**Papeete2**	**23.10**	**98**	*e*LQ	LQ		17 11 30.3	
	1μm,26.2s							
PPT2				*e*LR	LR		17 12 24.3	
	124nm,26.0s							
TBI	**Tubuai**	**24.02**	**113**	*e*LQ	LQ		17 11 56.5	
	1μm,28.0s							
TBI				*e*LR	LR		17 12 42.3	
	396nm,30.5s							
URZ	**Urewera**	**24.09**	**198**	LR	LR		17 15 40.1	
	comp=Z,467nm,19.3s,baz=18,slow=34							
HNR	**Honiara**	**26.52**	**280**	LR	LR		17 16 30.7	
	comp=Z,449nm,21.0s,baz=97,slow=33							
H11S2	**WAKE ISLAND Hy**	**38.97**	**329**	T	T		17 51 11.2	
	baz=152,slow=0.7,SNR=49							
H11S3	**WAKE ISLAND Hy**	**38.98**	**329**	T	T		17 51 10.1	
	baz=152,slow=0.7,SNR=45							
H11S1	**WAKE ISLAND Hy**	**38.99**	**329**	T	T		17 51 04.9	
	baz=152,slow=0.7,SNR=65							
H11N3	**WAKE ISLAND Hy**	**39.92**	**331**	T	T		17 52 16.0	
	baz=152,slow=0.7,SNR=55							
H11N1	**WAKE ISLAND Hy**	**39.93**	**331**	T	T		17 52 16.5	
	baz=152,slow=0.7,SNR=62							
H11N2	**WAKE ISLAND Hy**	**39.94**	**331**	T	T		17 52 17.3	
	baz=152,slow=0.7,SNR=63							
STKA	**Stephens Creek**	**43.82**	**240**	P	P		**17 10 09.6 +0.4**	
	2.1nm,0.7s,baz=106,slow=12,SNR=5.7							
WRA	**Warramunga Arr**	**49.64**	**257**	P	P		**17 10 54.2 -0.7**	
	0.5nm,0.7s,baz=94,slow=5.9,SNR=5.1							
ASAR	**Alice Springs**	**49.90**	**252**	P	P		**17 10 56.8 -0.1**	
	1.5nm,0.5s,baz=89,slow=7.4,SNR=50							
ASAR					LR	LR	17 30 54.3	
	comp=Z,265nm,18.2s,baz=107,slow=35							
NVAR	**Mina Array Bea**	**74.54**	**42**	P	P		**17 13 42.3 +0.5**	
	0.8nm,0.6s,baz=230,slow=9.0,SNR=7.0							
TXAR	**Lajitas Array**	**80.83**	**56**	P	P		**17 14 16.7 -0.3**	
	0.6nm,0.8s,baz=186,slow=3.5,SNR=3.9							
PDAR	**Pinedale Array**	**82.47**	**42**	P	P		**17 14 25.0 -0.4**	
	0.4nm,0.6s,baz=191,slow=3.7,SNR=2.2							
ILAR	**Eielson Array**	**82.60**	**11**	P	P		**17 14 25.3 0.0**	
	0.9nm,0.6s,baz=226,slow=6.3,SNR=6.8							
BRTR	**Keskin Array B**	**146.13**	**321**	PKPbc		**PKPab**	**17 21 44.0 +0.2**	
	1.6nm,1.1s,baz=32,slow=2.2,SNR=4.0							
GERES	**GERESS Array B**	**146.23**	**351**	PKPbc		**PKPab**	**17 21 44.1 +0.3**	
	0.2nm,0.4s,baz=315,slow=0.2,SNR=4.3							

*IDC **29** 17:07:20.8±0.8, 27°.09N×90°.56E, h0km, mb3.6/11, mb1 3.7/12, mb1mx3.6/29, mbtmp3.6/12, ML3.4/1, Error ellipse: s-maj=35.5km s-min=16.2km az=55.0*

*ISCJB **29** 17:07:23.6±0.7, 27°.1N±0°.1×90°.6E±0°.2, h33km, mb3.7/11, Error ellipse: s-maj=27.5km s-min=11.5km az=146.0*

ISC 29 17:07:25.9±0.8, 27°.1N±0°.2×90°.6E±0°.2, h35km, n13, σ1=16/12, mb3.6/11, Bhutan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.54**	**137**	Pn		**Pn**	**17 10 07.8**	**-0.3**
	0.1nm,0.3s,baz=317,slow=13,SNR=4.7							
MKAR	**Makanchi Array**	**20.70**	**344**	P		**P**	**17 12 04.1 +1.0**	
	1.7nm,0.6s,baz=146,slow=13,SNR=6.6							
HHC	**Hu-ho-hao-te**	**22.02**	**46**	*e*P		P	17 12 11.0	-6.3
HHC				AMB		AMB		
	comp=Z,27nm,1.1s							
HHC				AMB		AMB		
	comp=Z,680nm,5.4s							
SONM	**Songino Array**	**24.06**	**27**	P		**P**	**17 12 37.0 -1.0**	
	comp=Z,0.4nm,0.5s,baz=214,slow=13,SNR=3.0							
KURBB	**Kurchatov Arra**	**25.21**	**342**	P		**P**	**17 12 49.9 +1.7**	
	comp=Z,0.9nm,0.8s,baz=159,slow=8.7,SNR=3.1							
ZALV	**Zalesovo Beam**	**27.13**	**352**	P		**P**	**17 13 06.3 +0.8**	
	comp=Z,0.8nm,0.5s,baz=169,slow=9.7,SNR=4.3							
AKASG	**Malin Array Be**	**51.59**	**315**	P		**P**	**17 16 27.6 -1.0**	
	comp=Z,0.3nm,0.4s,baz=80,slow=6.3,SNR=3.4							
FINES	**FINESS Array B**	**54.43**	**328**	P		**P**	**17 16 48.0 -1.4**	
	comp=Z,2.2nm,0.9s,baz=119,slow=4.9,SNR=2.6							
NOA	**NORSAR Array B**	**61.58**	**327**	P		**P**	**17 17 41.1 +1.6**	
	comp=Z,0.7nm,0.7s,baz=86,slow=6.1,SNR=3.4							
GERES	**GERESS Array B**	**61.73**	**313**	P		**P**	**17 17 40.3 -0.5**	
	comp=Z,0.6nm,0.6s,baz=73,slow=4.6,SNR=4.6							
WRA	**Warramunga Arr**	**63.10**	**133**	P		**P**	**17 17 50.9 +0.7**	
	comp=Z,0.3nm,0.8s,baz=320,slow=6.5,SNR=4.5							
ASAR	**Alice Springs**	**65.55**	**136**	P		**P**	**17 18 06.4 +0.3**	
	comp=Z,0.3nm,0.8s,baz=318,slow=6.6,SNR=3.9							
TORD	**Torodi Ar. Bea**	**83.20**	**281**	P		**P**	**17 19 49.3 +0.2**	
	comp=Z,0.4nm,0.9s,baz=81,slow=3.9,SNR=2.4							

MAN 29 17:12:17, 10°.96N×125°.32E, h29km, mb4.1, ML2.9, MS2.6, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BESP	**Borongan**	**0.65**	**10**	*e*P		Pn	17 12 30.7	+0.5
OCLP	**Ormoc**	**0.70**	**277**	*e*P		Pn	17 12 31.8	+0.8
OCLP				*e*S		Sb	17 12 39.4	-0.8
MSLP	**Maasin**	**0.94**	**209**	*e*P		Pb	17 12 34.6	-0.1
MSLP				*e*S		Sn	17 12 45.0	-1.7

*ISCJB **29** 17:33:53.0±0.8, 13°.18N±0°.07×49°.27E±0°.05, h10km, mb3.6/7, Error ellipse: s-maj=10.2km s-min=7.3km az=5.2*

*IDC **29** 17:33:55.5±1.3, 13°.12N×49°.85E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.5/26, mbtmp3.6/7, Error ellipse: s-maj=36.1km s-min=31.0km az=161.0*

*DHMR **29** 17:33:57.7±2.5, 13°.41N×48°.83E, h2km, 999km, ML3.3*

ISC 29 17:33:54.6±1.1, 13°.27N±0°.1×49°.28E±0°.08, h10km, n10, σ0=96/12, mb3.7/7, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MUKL	**Al Mukalla**	**1.22**	**349**	*i*P		**Pn**	**17 34 17.5**	**-0.2**
MUKL				*i*S		**Sb**	**17 34 33.5**	**-0.1**
MUKL				AML		AML	17 34 42.2	
	comp=N,461nm,0.6s							
BDHA	**Al Bayda'**	**3.68**	**281**	*i*P		**Pn**	**17 34 52.2**	**+0.4**
BDHA				*e*			17 34 52.3	
	baz=118,slow=16							
BDHA				AML		AML	17 34 59.4	
	comp=E,318nm,0.5s							
BDHA				*i*S		**Sn**	**17 35 35.2**	**-0.2**
LBOS		**3.96**	**279**	*i*P		**Pn**	**17 34 56.6**	**+0.9**
LBOS				AML		AML	17 35 02.8	
	comp=Z,89nm,0.5s							
LBOS				*i*S		**Sn**	**17 35 41.1**	**-1.4**
MKAR	**Makanchi Array**	**43.39**	**33**	P		**P**	**17 41 58.5**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=226,slow=7.3,SNR=7.2							
KURBB	**Kurchatov Arra**	**44.20**	**27**	P		**P**	**17 42 05.3**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=226,slow=7.8,SNR=4.7							
TORD	**Torodi Ar. Bea**	**46.27**	**276**	P		P	17 42 28.1	+7.3
	comp=Z,0.7nm,0.8s,baz=90,slow=7.5,SNR=3.7							
CMAR	**Chiang Mai Arr**	**47.93**	**77**	P		**P**	**17 42 33.4**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=276,slow=8.9,SNR=7.6							
ZALV	**Zalesovo Beam**	**49.28**	**27**	P		**P**	**17 42 43.7**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=239,slow=8.5,SNR=5.5							
WRA	**Warramunga Arr**	**89.91**	**110**	P		**P**	**17 46 54.0**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=297,slow=3.7,SNR=4.7							
ASAR	**Alice Springs**	**90.42**	**114**	P		**P**	**17 46 56.2**	**-0.8**
	comp=Z,0.2nm,0.9s,baz=287,slow=5.5,SNR=2.8							

MAN 29 17:39:41, 5°.26N×126°.38E, h1km, mb4.6, ML3.5, MS3.5, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GSPH	**General Santos**	**1.65**	**300**	*i*P		Pn	17 40 08.1	-3.2
GSPH				*i*S		Sn	17 40 29.0	-4.2
MATI	**Mati**	**1.68**	**356**	*e*P		Pn	17 40 11.9	+0.4
MATI				*e*S		Sn	17 40 20.2	-14
BUKP	**Musuan**	**2.91**	**333**	*e*P		Pn	17 40 28.7	+0.1
BUKP				*e*S		Sn	17 40 45.4	-19

*BGS **29** 17:44:17.5±1.3, 35°.15N×72°.32E, h200km, mb5.4, MS5.4*

*BJI **29** 17:44:29.7, 36°.52N×70°.53E, h212km, mB6.3/61, mb6.0/69*

*MOS **29** 17:44:30.9±0.8, 36°.42N×70°.75E, h213km, mb5.9/109, MS5.3/47, Error ellipse: s-maj=4.5km s-min=3.0km az=119.7*

*ISCJB **29** 17:44:30.7±0.2, 36°.42N±0°.01×70°.74E±0°.01, h208km±2km, mb5.8/415, Error ellipse: s-maj=2.2km s-min=1.6km az=17.9*

*NEIC **29** 17:44:32.1±0.1, 36°.39N×70°.72E, h210km, mb5.9/172, ME5.9, MW6.2, MW6.2, Error ellipse: s-maj=3.6km s-min=2.8km az=20.0, Moment Tensor Solution. s84 Moment tensor: Scale 10^{18}Nm; M_{rr}1.93; $M_{\theta\theta}$-1.41; $M_{\phi\phi}$-0.53; $M_{r\theta}$1.24; $M_{\theta\phi}$0.71; $M_{\phi r}$-0.84; Best double couple: M_o2.40000×10^{18} NP1:ϕ_s122.00000°, δ64.00000°, λ92.00000°. NP2:ϕ_s297.00000°, δ26.00000°, λ85.00000°. Principal axes: T 2.4600, Plg70.0000°, Azm37.0000°; N -0.1300, Plg2.0000°, Azm301.0000°; P -2.3300, Plg19.0000°, Azm210.0000°; Depth from broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt in northern Pakistan and as far as Delhi, India.

*IDC **29** 17:44:33.1±0.4, 36°.39N×70°.86E, h224km±3km, mb5.4/46, mb1 5.5/50, mb1mx5.5/50, mbtmp5.5/50 Error ellipse: s-maj=5.9km s-min=4.1km az=15.0*

*GCMT **29** 17:44:35.5±0.1, 36°.39N×70°.66E, h219km, MW6.2, Moment Tensor Solution. s125,c284; s99,c167; Moment tensor: Scale 10^{18}Nm; M_{rr}2.10±.02; $M_{\theta\theta}$-1.85±.02; $M_{\phi\phi}$-0.25±.02; $M_{r\theta}$1.56±.01; $M_{\theta\phi}$0.68±.02; $M_{\phi r}$-1.03±.01; Best double couple: M_o2.80000×10^{18} NP1:ϕ_s119.00000°, δ66.00000°, λ97.00000°. NP2: ϕ_s282.00000°, δ25.00000°, λ75.00000°. Principal axes: T 2.8400, Plg68.0000°, Azm42.0000°; N -0.0500, Plg6.0000°, Azm296.0000°; P -2.7900, Plg21.0000°, Azm204.0000°; Data Used: II IU IC G CN. Mantle waves from 102 sta. Surface waves: sta=132, comp=336, per=50.*

*NNC **29** 17:44:36.4±4.3, 36°.87N×70°.71E, h200km±33km, mb5.8, mpv7.1 Error ellipse: s-maj=34.6km s-min=27.6km az=4.0*

*SZGRF **29** 17:44:40.8, 37°.22N×70°.05E, h222km, mb6.1, Afghanistan-Tajikistan border region*

*NEIC **29** 17:44:40.9±0.0, 36°.52N×70°.52E, h210km, Moment Tensor Solution. s159 Moment tensor: Scale 10^{18}Nm; M_{rr}1.80; $M_{\theta\theta}$-1.42; $M_{\phi\phi}$-0.38; $M_{r\theta}$1.20; $M_{\theta\phi}$0.53; $M_{\phi r}$-0.88; Best double couple: M_o2.30000×10^{18} NP1:ϕ_s286.00000°, δ25.00000°, λ77.00000°. NP2:ϕ_s121.00000°, δ66.00000°, λ96.00000°. Principal axes: T 2.3700, Plg68.0000°, Azm43.0000°; N -0.1900, Plg5.0000°, Azm298.0000°; P -2.1800, Plg20.0000°, Azm206.0000°;*

ISC 29 17:44:32.1±0.2, 36°.38N±0°.02×70°.77E±0°.02, h214km±1km, h213km:pP-P, n1799, σ1=44/2333, mb5.8/402, 485C-170D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CEP	**Cherat**	**2.72**	**160**	⇓P		**Pn**	**17 45 19.8**	**+0.3**
CEP				S		**S**	**17 45 56.0**	**-0.2**
CHCP	**Chirah Chowk**	**3.40**	**142**	⇓P		**Pn**	**17 45 28.1**	**+0.8**
THW	**Thamme Wali**	**3.67**	**167**	P		Pn	**17 45 30.4**	**-0.1**
THW				S		**S**	**17 46 12.0**	**-4.0**
SARP	**Sargodha**	**4.72**	**160**	P		Pn	**17 45 44.0**	**+0.6**
SARP				S		**S**	**17 46 37.0**	**-2.4**
JMU	**Jammu**	**5.00**	**136**	*e*P		**Pn**	**17 45 45.5**	**-1.3**
JMU				*ex*		x	17 45 53.5	
KSH	**Kashi**	**5.17**	**51**	⇓*i*P		Pn	17 45 45.5	-3.5
KSH				sP		sP	17 46 23.8	
KSH				S		S	17 46 38.8	-11
KSH				SMN				
	comp=Z,31μm,0.4s							
KSH				SME				
	comp=Z,40μm,0.9s							
DHRM	**DHARAMSHALA**	**6.16**	**130**	*e*P		**Pn**	**17 46 01.9**	**+0.1**
DHRM				*ex*		**S**	**17 47 09.8

AML	**Almayashu**	**6.17**	**21**	P		**Pn**	**17 46 01.1**	**-1.0**
UCH	**Uchtor**	**6.52**	**25**	*i* PN		**Pn**	**17 46 06.5**	**-0.1**
UCH	**Uchtor**	**6.52**	**25**	P		**Pn**	**17 46 06.5**	**-0.1**
	SNR=428							
KZA	**Kyzart**	**6.67**	**30**	*i* PN		**Pn**	**17 46 07.1**	**-1.3**
KZA	**Kyzart**	**6.67**	**30**	P		**Pn**	**17 46 07.1**	**-1.3**
	SNR=7535							
EKS2	**Erkin-Say**	**6.69**	**19**	⇓*i* PN		**Pn**	**17 46 07.5**	**-0.9**
EKS2				*e*			17 47 20.9	
EKS2	**Erkin-Say**	**6.69**	**19**	P		**Pn**	**17 46 07.7**	**-0.8**
	SNR=3946							
EKS2	**Erkin-Say**	**6.69**	**19**	⇓*i* Pn		**Pn**	**17 46 07.5**	**-0.9**
EKS2				*e*Sn		**S**	**17 47 20.9**	**-4.1**
KK31	**Karatay Array**	**6.72**	**358**	P		**Pn**	**17 46 07.5**	**-1.2**
	2µm,0.4s,baz=175,slow=12							
KK31				S		S	17 47 19.1	-6.3
	17µm,0.8s,baz=182,slow=24,SNR=19							
KK31	**Karatay Array**	**6.72**	**358**	PN		**Pn**	**17 46 07.5**	**-1.2**
KK31				pmax		pmax		
	comp=Z,2µm,0.2s							
BHK	**Bhakra**	**6.82**	**135**	*ex*		**Pn**	**17 46 08.6**	**-1.6**
BHK				*ex*		**S**	**17 47 24.2**	**-4.0**
AAK	**Ala-Archa**	**6.87**	**24**	*d* PN		**Pn**	**17 46 10.3**	**-0.6**
AAK	**Ala-Archa**	**6.87**	**24**	P		**Pn**	**17 46 10.3**	**-0.6**
AAK	**Ala-Archa**	**6.87**	**24**	*e*Pn		**Pn**	**17 46 10.2**	**-0.6**
AAK	**Ala-Archa**	**6.87**	**24**	Pn		**Pn**	**17 46 10.4**	**-0.5**
	comp=Z,135µm,0.7s							
KBK	**Karagaybulak**	**7.05**	**26**	*i* PN		**Pn**	**17 46 12.7**	**-0.4**
KBK	**Karagaybulak**	**7.05**	**26**	P		**Pn**	**17 46 12.7**	**-0.4**
SDNR	**Sundarnagar**	**7.09**	**132**	*ex*		**Pn**	**17 46 12.0**	**-1.6**
FRU	**Bishkek**	**7.09**	**24**	⇓*i* PN		**Pn**	**17 46 13.7**	**+0.1**
FRU				*i* S		**S**	**17 47 30.9**	**-3.5**
FRU				pmax		pmax		
	comp=Z,17µm,0.6s							
FRU				smax		smax		
	comp=E,140µm,3.0s							
FRU				smax		smax		
	comp=E,80µm,1.8s							
ULHL	**Ulahol**	**7.23**	**34**	*i* PN		**Pn**	**17 46 14.3**	**-1.2**
ULHL	**Ulahol**	**7.23**	**34**	P		**Pn**	**17 46 14.3**	**-1.2**
	SNR=1401							
CHMS	**Chumysh**	**7.29**	**24**	*i* PN		**Pn**	**17 46 15.1**	**-1.0**
CHMS	**Chumysh**	**7.29**	**24**	P		**Pn**	**17 46 15.1**	**-1.0**
	SNR=6190							
USP	**Ospenovka**	**7.45**	**22**	*i* PN		**Pn**	**17 46 16.8**	**-1.4**
USP	**Ospenovka**	**7.45**	**22**	P		**Pn**	**17 46 16.8**	**-1.4**
	SNR=1057							
SMLA	**Simla**	**7.47**	**133**	*i* P		**Pn**	**17 46 18.1**	**-0.4**
SMLA				AMB		AMB	17 46 20.3	
	comp=Z,2µm,1.4s							
SMLA				*e*S		**S**	**17 47 38.6**	**-4.7**
TKM2	**Tokmak 2**	**7.52**	**28**	⇓P		**Pn**	**17 46 18.7**	**-0.5**
	comp=Z,28µm,0.8s							
TKM2				⇑S		S	17 47 37.2	-7.4
	comp=Z,4µm,0.9s							
TKM2	**Tokmak 2**	**7.52**	**28**	⇓*i* PN		**Pn**	**17 46 18.4**	**-0.8**
TKM2	**Tokmak 2**	**7.52**	**28**	P		**Pn**	**17 46 18.6**	**-0.6**
	SNR=6557							
TKM2	**Tokmak 2**	**7.52**	**28**	⇓*i* Pn		**Pn**	**17 46 18.4**	**-0.8**
KNDC	**Almaty**	**8.32**	**33**	⇓P		**Pn**	**17 46 29.8**	**+0.3**
KNDC				⇑S		S	17 47 57.0	-6.5
AAA	**Alma-Ata**	**8.36**	**33**	*e*PN		**Pn**	**17 46 29.3**	**-0.6**
AAA				*e*S		**S**	**17 48 00.9**	**-3.4**
AAA				pmax		pmax		
	comp=Z,113µm,2.6s							
AAA				smax		smax		
	comp=E,92µm,3.1s							
DDI	**Dehra Dun**	**8.58**	**133**	*e*P		**Pn**	**17 46 32.0**	**-0.9**
DDI				AMB		AMB	17 46 38.4	
	comp=Z,5µm,0.6s							
DDI				*ex*		x	17 47 57.3	
NDI	**New Delhi**	**9.41**	**143**	*ex*		Pn	17 46 39.8	-3.8
NDI				*e*S		S	17 48 20.0	-9.3
PTH	**Pithoragarh**	**10.46**	**128**	*ex*		x	17 46 45.9	
PTH				*ex*		**S**	**17 48 56.1**	**+1.6**
LGTI	**Lohaghat**	**10.54**	**128**	*e*P		**Pn**	**17 46 57.5**	**-0.6**
LGTI				*e*S		S	17 48 45.5	-11
JHNI	**Jhansi**	**12.76**	**146**	*i* x		Pn	17 47 22.0	-4.2
JHNI				*ex*		x	17 48 55.0	
BHJ	**Bhuj**	**13.12**	**185**	*ex*		**Pn**	**17 47 30.1**	**-0.6**
BHJ				AMB		AMB	17 47 32.2	
	comp=Z,4µm,1.9s							
PYUN	**Piuthan**	**13.23**	**125**	*e*P		**Pn**	**17 47 31.0**	**-1.2**
	comp=Z,5µm,0.7s							
MK01	**Makanchi Array**	**13.48**	**36**	*e*Pn		**Pn**	**17 47 32.2**	**-2.8**
MK31	**Makanchi Array**	**13.49**	**36**	⇓P		**Pn**	**17 47 34.5**	**-0.7**
	comp=Z,2µm,0.8s,baz=208,slow=10.0,SNR=6989							
MK31	**Makanchi Array**	**13.49**	**36**	*i* P		**Pn**	**17 47 33.8**	**-1.4**
MK31				pmax		pmax		
	comp=Z,2µm,0.9s							
MKAR	**Makanchi Array**	**13.49**	**36**	P		**Pn**	**17 47 34.9**	**-0.3**
MKAR				pmax		pmax		
	comp=Z,34nm,0.3s							
MKAR	**Makanchi Array**	**13.49**	**36**	P		**Pn**	**17 47 34.9**	**-0.3**
MKAR				S		**S**	**17 50 09.4**	**+4.9**
MKAR				PKiKP		**PKiKP**	**18 00 39.2**	**-1.7**
MKAR				*e*			18 23 24.1	
MKAR	**Makanchi Array**	**13.49**	**36**	P		**Pn**	**17 47 34.9**	**-0.3**
	comp=Z,34nm,0.3s,baz=214,slow=9.7,SNR=381							
MKAR				S		**S**	**17 50 09.4**	**+4.9**
	comp=Z,2.1nm,0.3s,baz=225,slow=22,SNR=3.5							
MKAR				PKiKP		**PKiKP**	**18 00 39.2**	**-1.7**
	comp=Z,1.1nm,0.3s,baz=246,slow=0.5,SNR=8.0							
MKAR				P3KPbc			18 23 24.1	
	comp=Z,0.0nm,0.3s,baz=48,slow=1.8,SNR=5.6							
DANN	**Dangsing**	**13.58**	**122**	*e*P		**Pn**	**17 47 35.2**	**-1.5**
	comp=Z,11µm,1.1s							
DANN				*e*S		S	17 49 57.3	-10
KOLN	**Koldanda**	**13.85**	**125**	*e*P		**Pn**	**17 47 39.1**	**-0.8**
	comp=Z,9µm,1.3s							
KOLN				*e*S		S	17 50 05.7	-7.7
BHPL	**Bhopal**	**14.31**	**154**	*e*P		**Pn**	**17 47 43.9**	**-1.5**
BHPL				AMB		AMB	17 47 49.9	
	comp=Z,3µm,0.8s							
BHPL				*ex*		x	17 50 15.7	
BHPL				AML		AML	17 52 05.6	
	comp=N,909nm,0.7s							
BHPL				AML		AML	17 52 06.4	
	comp=E,1µm,0.7s							
GKN	**Gorkha**	**14.40**	**122**	*e*P		**Pn**	**17 47 46.4**	**-0.2**
	comp=E,9µm,1.0s							
GKN				*e*S		S	17 50 16.7	-9.4
WMQ	**Urumqi**	**14.92**	**55**	P		**P**	**17 47 53.0**	**-0.1**
WMQ				sP			17 48 46.0	
WMQ				S		**S**	**17 50 32.8**	**-4.9**
WMQ				PP		**PcP**	**17 52 49.3**	**+2.7**
WMQ				ScP		**ScP**	**17 56 02.5**	**+2.4**
WMQ				PcS		**PcS**	**17 56 23.3**	**+1.5**
WMQ				ScS		**ScS**	**17 59 39.3**	**+1.2**
WMQ				AMB		AMB		
	comp=E,1µm,0.8s							
WMQ				AMB		AMB		
	comp=E,10µm,3.6s							
WMQ				LR		LR		
	comp=E,60µm,5.0s							
WMQ				LR		LR		
	comp=E,66µm,4.8s							
WMQ				LR		LR		
	comp=E,34µm,17.8s							
DMN	**Daman**	**14.97**	**122**	*e*P		**Pn**	**17 47 53.6**	**-0.1**
	comp=E,11µm,1.0s							
DMN				*e*S		S	17 50 30.4	-9.1
KKN	**Kakani**	**14.98**	**121**	*e*P		**Pn**	**17 47 53.4**	**-0.3**
	comp=E,12µm,0.9s							
KKN				*e*S		S	17 50 29.8	-10
AB31	**Akbulak array**	**15.10**	**332**	P		**Pn**	**17 47 53.0**	**-1.7**
AB31				S		S	17 50 32.5	-9.1
AB31				pmax		pmax		
	comp=Z,435nm,0.4s							
AB31				smax		smax		
	comp=N,1µm,0.6s							
ABKAR	**Akbulak array**	**15.10**	**332**	*e*Pn		**Pn**	**17 47 53.2**	**-1.5**
ABKAR				*e*S		S	17 50 33.9	-7.7
PKI	**Pulchoki**	**15.20**	**121**	*e*P		**Pn**	**17 47 56.0**	**-0.6**
KURBB	**Kurchatov Arra**	**15.29**	**19**	⇓P		**Pn**	**17 47 55.6**	**-1.5**
	comp=N,698nm,0.7s							
KURBB				⇓S		**S**	**17 50 47.5**	**+1.3**
	comp=N,2µm,0.9s							
KURBB	**Kurchatov Arra**	**15.29**	**19**	P		**Pn**	**17 47 55.9**	**-1.1**
	comp=N,48nm,0.3s,baz=208,slow=10,SNR=1061							
KURBB				S		**S**	**17 50 49.1**	**+3.0**
	baz=206,slow=22,SNR=8.1							
KURBB				PKiKP		**PKiKP**	**18 00 39.4**	**-1.9**
	comp=N,2.8nm,0.3s,baz=245,slow=0.5,SNR=8.7							
GUN	**Gumba**	**15.32**	**119**	*e*P		**Pn**	**17 47 57.3**	**-0.7**
	comp=N,19µm,1.1s							
JBP	**Jabalpur**	**15.40**	**146**	⇓*e*P		**P**	**17 47 57.2**	**-1.3**
JBP				*ex*		x	17 50 40.7	
KURK	**Kurchatov**	**15.40**	**19**	⇓P		**P**	**17 47 56.5**	**-1.8**
	comp=N,530nm,1.0s							
KURK				⇓S		**S**	**17 50 47.9**	**-0.7**
	comp=N,2µm,1.3s							
KURK	**Kurchatov**	**15.40**	**19**	*d* P		**P**	**17 47 56.8**	**-1.5**
KURK				pmax		pmax		
	comp=Z,692nm,1.2s							
KURK	**Kurchatov**	**15.40**	**19**	Pn		**P**	**17 47 57.0**	**-1.3**
	SNR=406							
KURK	**Kurchatov**	**15.40**	**19**	P		**P**	**17 47 55.9**	**-2.4**
KURK				S		**S**	**17 50 49.1**	**+0.5**
KURK				PKiKP		**PKiKP**	**18 00 39.4**	**-2.0**
KURK	**Kurchatov**	**15.40**	**19**	Pn		**P**	**17 47 56.2**	**-2.1**
	comp=Z,7µm,0.8s							
JIRN	**Jiri**	**15.69**	**119**	*e*P		**P**	**17 48 02.4**	**+0.2**
	comp=Z,8µm,0.6s							
JIRN				*e*S		S	17 50 45.8	-11
BANOM	**Banah**	**16.17**	**234**	P		**P**	**17 48 07.0**	**-0.1**
	SNR=107							
VOSK	**Vostochnaya**	**16.34**	**0**	⇓P		**P**	**17 48 08.8**	**+0.2**
	comp=Z,2µm,0.7s							
VOSK	**Vostochnaya**	**16.34**	**0**	P		**P**	**17 48 08.5**	**-0.1**
VOSK				S		**S**	**17 51 04.3**	**-4.5**
VOSK				pmax		pmax		
	comp=Z,3µm,1.1s							
VOSK				smax		smax		
	comp=N,4µm,1.6s							
RAMN	**Ramite**	**16.41**	**120**	*e*P		**Pn**	**17 48 10.8**	**-0.2**
	comp=N,5µm,0.7s							
AKL	**Akola**	**16.55**	**159**	*e*P		**Pn**	**17 48 12.5**	**0.0**
AKL				*i* x		x	17 51 08.8	
BVA0	**Borovoye Array**	**16.64**	**359**	⇓P		**Pn**	**17 48 12.7**	**-0.5**
	comp=N,1µm,0.9s,baz=171,slow=10,SNR=6443							
BVA0				⇓S		**S**	**17 51 12.0**	**-2.9**
	comp=N,3µm,1.4s,baz=174,slow=24,SNR=3.6							
BVA0	**Borovoye Array**	**16.64**	**359**	*i* P		**P**	**17 48 12.5**	**+0.5**
BVA0				*i* S		**S**	**17 51 11.9**	**-2.9**
BVA0				pmax		pmax		
	comp=Z,848nm,0.7s							
BVA0				smax		smax		
	comp=Z,3µm,1.5s							
BVAR	**Borovoye Array**	**16.64**	**359**	P		**P**	**17 48 12.6**	**+0.6**
BVAR				S		**S**	**17 51 15.2**	**+0.4**
BVAR				pmax		pmax		
	comp=Z,141nm,0.3s							
BVAR				smax		smax		
	comp=N,24nm,0.3s							
BVAR	**Borovoye Array**	**16.64**	**359**	P		**P**	**17 48 12.6**	**+0.6**
BVAR				S		**S**	**17 51 15.2**	**+0.4**
BVAR				PKiKP		**PKiKP**	**18 00 40.0**	**-1.8**
BVAR				PKKKP			18 23 39.8	
BVAR	**Borovoye Array**	**16.64**	**359**	P		**P**	**17 48 12.6**	**+0.6**
	comp=N,141nm,0.3s,baz=156,slow=11,SNR=1315							
BVAR				S		**S**	**17 51 15.2**	**+0.4**
	comp=N,24nm,0.3s,baz=175,slow=20,SNR=10							
BVAR				PKiKP		**PKiKP**	**18 00 40.0**	**-1.8**
	comp=N,1.8nm,0.3s,baz=273,slow=1.6,SNR=13							
BVAR				P3KP			18 23 39.8	
	comp=N,0.0nm,0.3s,baz=1.4,slow=5.9,SNR=3.9							
BRVK	**Borovoye**	**16.68**	**359**	*e*P		**Pn**	**17 48 13.3**	**-0.3**
BRVK				pmax		pmax		
	comp=Z,2µm,1.3s							
BRVK	**Borovoye**	**16.68**	**359**	P		**Pn**	**17 48 13.7**	**+0.1**
	SNR=397							
BRVK	**Borovoye**	**16.68**	**359**	Pn		**Pn**	**17 48 13.0**	**-0.6**
	comp=Z,8µm,0.8s							
AKTO	**Aktyubinsk**	**16.79**	**331**	⇑P		**P**	**17 48 12.9**	**-0.7**
	comp=Z,2µm,0.6s							
AKTO				⇑S		S	17 51 10.5	-7.3
	comp=Z,2µm,1.2s							
AKTO	**Aktyubinsk**	**16.79**	**331**	P		**P**	**17 48 13.1**	**-0.5**
AKTO				pmax		pmax		
	comp=Z,4µm,1.0s							
AKTO	**Aktyubinsk**	**16.79**	**331**	P		**P**	**17 48 13.1**	**-0.5**
AKTO				S		**S**	**17 51 14.8**	**-3.0**
AKTO	**Aktyubinsk**	**16.79**	**331**	P		**P**	**17 48 13.1**	**-0.5**
	comp=Z,364nm,0.3s,baz=142,slow=10.0,SNR=4866							
AKTO				S		**S**	**17 51 14.8**	**-3.0**
	comp=Z,4.0nm,0.3s,baz=1.4,slow=19,SNR=3.6							
NGP	**Nagpur**	**16.81**	**152**	*e*P		**P**	**17 48 13.1**	**-1.0**
NGP				AMB		AMB	17 48 14.2	
	comp=Z,592nm,0.4s							
NGP				*ex*		x	17 51 10.5	
UOSS	**Wadi Hilu**	**16.92**	**232**	P		**P**	**17 48 14.1**	**-1.1**
	comp=Z,19µm,0.9s							
TAPN	**Taplejung**	**16.96**	**117**	*e*P		**Pn**	**17 48 17.5**	**0.0**
	comp=Z,2µm,0.6s							
ODAN	**Odare**	**17.02**	**119**	*e*P		**Pn**	**17 48 18.5**	**+0.3**
	comp=Z,6µm,0.9s							
HATD	**Hatta, Dubai**	**17.05**	**232**	P		**P**	**17 48 15.5**	**-1.2**
	SNR=404							
WBK	**Wadi Bani Khal**	**17.12**	**220**	P		**Pn**	**17 48 19.3**	**+0.2**
	SNR=393							
ASHO	**Ashiyiah**	**17.20**	**231**	P		**P**	**17 48 18.3**	**-0.1**
	SNR=1097							
NAZ	**Nazwa, Dubai**	**17.23**	**233**	P		**P**	**17 48 19.1**	**+0.4**
	SNR=392							
SMDO	**Samad**	**17.25**	**223**	P		**Pn**	**17 48 19.9**	**-0.8**
	SNR=293							
HOQ	**Hoqain**	**17.26**	**226**	P		**P**	**17 48 19.3**	**+0.4**
	SNR=136							
ASUD	**Al Ashush, Dub**	**17.70**	**233**	P		**Pn**	**17 48 25.0**	**-1.0**
	SNR=187							
JMDO	**Jabal Madar**	**17.77**	**222**	P		**Pn**	**17 48 26.5**	**-0.4**
	SNR=303							
SLGI	**Shiliguri**	**17.85**	**118**	*ex*		**P**	**17 48 27.8**	**+2.4**
ARQ	**Araqi**	**17.91**	**227**	P		**Pn**	**17 48 27.4**	**-1.0**
	SNR=436							
BSY	**Bisya**	**17.97**	**225**	P		**Pn**	**17 48 28.5**	**-0.6**
	SNR=706							
POO	**Poona**	**17.99**	**170**	*e*P		**Pn**	**17 48 28.3**	**-1.1**
POO				AMB		AMB	17 48 32.2	
	comp=Z,1µm,0.8s							
BOK	**Bokaro**	**18.09**	**130**	*e*P		**Pn**	**17 48 29.6**	**-1.0**
BOK				AMB		AMB	17 48 31.9	
	comp=Z,3µm,0.9s							
LSA	**Lhasa**	**18.32**	**105**	P		**Pn**	**17 48 34.8**	**+1.1**
LSA				S		S	17 51 39.5	-10
LSA				AMB		AMB		
	comp=Z,2µm,1.0s							
LSA				AMB		AMB		
	comp=Z,10µm,11.0s							
LSA	**Lhasa**	**18.32**	**105**	⇑*i* P		**Pn**	**17 48 34.1**	**+0.4**
LSA				pmax		pmax		
	comp=Z,3µm,1.1s							
LSA	**Lhasa**	**18.32**	**105**	⇑*i* P		**Pn**	**17 48 34.1**	**+0.4**
	comp=Z,3µm,1.1s							
LATR	**Latur**	**18.61**	**163**	*ex*		x	17 48 21.0	
LATR				⇓*e*S		**S**	**17 51 55.5**	**+1.0**
MAK	**Makhachkala**	**19.04**	**297**	*e*P		**P**	**17 48 37.6**	**-0.5**
MAK				*e*S		**S**	**17 52 00.8**	**-1.8**
MAK				pmax		pmax		
	comp=Z,21nm,0.8s							
ZAA0	**Zalesovo Array**	**20.10**	**25**	*e*P		**P**	**17 48 47.3**	**-2.0**
ZALV	**Zalesovo Beam**	**20.10**	**25**	P		**P**	**17 48 49.4**	**+0.1**
ZALV				S		**S**	**17 52 23.6**	**+0.6**
ZALV				smax		smax		
	comp=N,402nm,0.7s							
ZALV	**Zalesovo Beam**	**20.10**	**25**	P		**P**	**17 48 49.4**	**+0.1**
ZALV				S		**S**	**17 52 23.6**	**+0.6**
ZALV				PKiKP		**PKiKP**	**18 00 41.2**	**-1.9**
ZALV				*e*			18 23 00.8	
ZALV	**Zalesovo Beam**	**20.10**	**25**	P		**P**	**17 48 49.4**	**+0.1**
	comp=N,1µm,0.4s,baz=221,slow=9.2,SNR=3110							
ZALV				S		**S**	**17 52 23.6**	**+0.6**
	comp=N,402nm,0.7s,baz=215,slow=18,SNR=5.7							
ZALV				PKiKP		**PKiKP**	**18 00 41.2**	**-1.9**
	comp=N,6.9nm,0.4s,baz=178,slow=1.6,SNR=14							
ZALV				P3KPbc			18 23 00.8	
	comp=N,1.9nm,0.7s,baz=37,slow=3.6,SNR=7.3							
HYB	**Hyderabad**	**20.11**	**158**	*i* P		**P**	**17 48 50.0**	**+0.2**
	comp=N,630nm,1.0s							
HYB				*e*S		**S**	**17 52 20.0**	**-3.9**
HYB	**Hyderabad**	**20.11**	**158**	*e*P		**P**	**17 48 50.9**	**+1.0**
HYB	**Hyderabad**	**20.11**	**158**	P		**P**	**17 48 50.0**	**+0.2**
HYB				S		**S**	**17 52 20.0**	**-3.9**
NVS	**Novosibirsk**	**20.36**	**21**	⇑*i* P		**P**	**17 48 52.1**	**0.0**
NVS				*e**PP		**sP**	**17 49 53.4**	**-1.1**
NVS				*e*S		**S**	**17 52 24.6**	**-3.2**
NVS				pmax		pmax		
	comp=N,2µm,0.7s							
NVS				pmax		pmax		
	comp=E,642nm,0.7s							
NVS				pmax		pmax		
	comp=Z,2µm,0.7s							
NVS				smax		smax		
	comp=N,3µm,1.1s							
NVS				smax		smax		
	comp=E,4µm,1.3s							
DGRG	**David-gareji**	**20.37**	**292**	P		**P**	**17 48 52.5**	**+0.2**
DGRG				S		**S**	**17 52 35.5**	**+7.0**
UMR	**Umm Al-Rimmam**	**20.48**	**257**	*e*P		**P**	**17 48 53.9**	**+0.2**
UMR				AMb		AMB	17 48 57.7	
	comp=Z,5µm,0.6s							
KBD	**Kabd**	**20.66**	**256**	*e*P		**P**	**17 48 55.7**	**+0.1**
KBD				AMb		AMB	17 48 58.5	
	comp=Z,2µm,0.5s							
MIB	**Mutribah**	**20.67**	**258**	*e*P		**P**	**17 48 56.0**	**+0.3**
MIB				AMb		AMB	17 48 59.4	
	comp=Z,6µm,1.0s							
QRN	**Al-Qurain**	**20.68**	**255**	*e*P		**P**	**17 48 55.6**	**-0.2**
QRN				AMb		AMB	17 48 59.1	
	comp=Z,5µm,0.6s							
GNI	**Garni**	**20.75**	**288**	*e*P		**P**	**17 48 58.5**	**+1.8**
GNI	**Garni**	**20.75**	**288**	P		**P**	**17 48 59.0**	**+2.4**
	SNR=124							
GNI	**Garni**	**20.75**	**288**	*e*P		**P**	**17 48 58.2**	**+1.6**
GNI				S		**S**	**17 52 42.1**	**+6.2**
GNI				LR		LR		
	comp=Z,17µm,21.0s							
GNI	**Garni**	**20.75**	**288**	P		**P**	**17 48 58.6**	**+2.0**
	comp=Z,175nm,0.6s,baz=347,slow=1.0,SNR=100							
GNI				S		**S**	**17 52 42.1**	**+6.2**
	comp=Z,124nm,1.0s,baz=288,slow=20,SNR=1.4							
TBLG	**Delisi**	**20.87**	**293**	P		**P**	**17 48 56.9**	**-0.8**
TBLG				S		**S**	**17 52 39.7**	**+2.0**
RDF	**Al-Radifah**	**20.89**	**256**	*e*P		**P**	**17 48 58.5**	**+0.5**
RDF				AMb		AMB	17 48 59.9	
	comp=Z,3µm,1.0s							
DUS	**Dusheti**	**20.94**	**294**	P		Pn	17 49 05.8	+0.9
GOA	**Goa**	**20.98**	**172**	*e*P		**P**	**17 48 59.9**	**+0.9**
NAY	**Al-Naaiem**	**20.98**	**257**	*e*P		**P**	**17 48 59.1**	**+0.1**
NAY				AMb		AMB	17 49 01.6	
	comp=Z,3µm,1.3s							
SHL	**Shillong**	**21.03**	**115**	*e*P		**P**	**17 49 00.5**	**+0.8**
SHL				*ex*		x	17 50 01.0	
SHL				*e*S		**S**	**17 52 43.0**	**+2.1**
RST	**Umm Al-Ruwaisa**	**21.07**	**258**	*e*P		**P**	**17 48 59.7**	**-0.2**
RST				AMb		AMB	17 49 02.6	
	comp=Z,34µm,1.0s							
CLDR	**Caldiran**	**21.38**	**286**	*e*P		**P**	**17 49 04.2**	**+1.0**
DYDN	**Diyadin**	**21.55**	**287**	*i* P		**P**	**17 49 06.8**	**+1.9**
SVE	**Sverdlovsk**	**21.56**	**345**	*d* P		**P**	**17 49 04.9**	**+0.4**
SVE				*e*			17 50 04.8	
SVE				*i* S		**S**	**17 52 51.0**	**+2.3**
SVE				pmax		pmax		
	comp=Z,2µm,1.5s							
SVE				pmax		pmax		
	comp=Z,4µm,8.6s							
SVE				smax		smax		
	comp=N,30µm,11.6s							
HAKT	**HAKKARI**	**21.63**	**281**	*i* P		**P**	**17 49 07.6**	**+1.8**
EAK	**Akyaka**	**21.64**	**290**	*i* P		**P**	**17 49 07.6**	**+1.9**
VIS	**Vishakhapatnam**	**21.66**	**146**	*e*P		**P**	**17 49 07.0**	**+1.1**
ARU	**Arti**	**21.68**	**341**	*c* P		**P**	**17 49 06.1**	**+0.3**
ARU							17 49 36.6	
ARU				PPP		PPP	17 49 49.2	
ARU				S		**S**	**17 52 51.9**	**+1.2**
CUKT	**Cukurca**	**21.74**	**280**	*e*P		**P**	**17 49 08.1**	**+1.4**
AKH	**Akhalkalaki**	**21.77**	**292**	P		**P**	**17 49 09.3**	**+2.2**
AKH				S		**S**	**17 52 55.9**	**+3.2**
DIGO	**Kars**	**21.81**	**289**	*i* P		**P**	**17 49 09.0**	**+1.5**
ONI	**Oni**	**21.92**	**295**	P		**P**	**17 49 09.9**	**+1.6**
ONI				S		**S**	**17 52 59.0**	**+4.1**
NCK	**Nalchik**	**21.95**	**297**	*i* P		**P**	**17 49 08.7**	**+0.1**
KARS	**Kars**	**22.04**	**290**	*e*P		**P**	**17 49 11.5**	**+1.9**
HVS	**Khovu-Aksy**	**22.05**	**41**	*c* P		**P**	**17 49 10.1**	**+0.6**
GEVA	**Gevas**	**22.09**	**283**	*i* P		**P**	**17 49 11.6**	**+1.6**
AGRB	**Hanur-Agry**	**22.09**	**287**	*e*P		**P**	**17 49 12.4**	**+2.3**
TUTA	**Tutak**	**22.23**	**286**	*i* P		**P**	**17 49 13.7**	**+2.2**
EATA	**Eleskirt**	**22.48**	**287**	*i* P		**P**	**17 49 16.3**	**+2.5**
KBZ	**Khabaz**	**22.49**	**298**	P		**P**	**17 49 13.3**	**-0.1**
KBZ				S		**S**	**17 53 04.3**	**+0.5**
KBZ				pmax		pmax		
	comp=Z,96nm,0.6s							
KBZ				smax		smax		
	comp=N,35nm,0.8s							
KBZ	**Khabaz**	**22.49**	**298**	P		**P**	**17 49 13.3**	**-0.1**
KBZ				S		**S**	**17 53 04.3**	**+0.5**
KBZ	**Khabaz**	**22.49**	**298**	P		**P**	**17 49 13.3**	**-0.1**
	comp=N,96nm,0.6s,baz=107,slow=6.9,SNR=99							
KBZ				S		**S**	**17 53 04.3**	**+0.5**
	comp=N,35nm,0.8s,baz=342,slow=20,SNR=1.6							
GOF	**Gofitskoye**	**22.64**	**301**	⇑*i* P		**P**	**17 49 15.3**	**+0.4**
GOF				*e**PP

SOKR pmax pmax
comp=Z,2μm,1.1s
SOKR MLR MLR
comp=Z,11μm,19.0s
KELT Kelkit 24.96 288 *i* P **P 17 49 38.5 +2.4**
RAYN Ar Rayn 25.28 247 *e*P **P 17 49 39.3 +0.3**
comp=Z,793nm,0.8s
RAYN Ar Rayn 25.28 247 P **P 17 49 39.5 +0.5**
comp=Z,6μm,0.7s
ESPY Espiye-Giresun 25.35 290 *e*P **P 17 49 41.2 +1.7**
VRHR Novokhopersk 25.47 314*c* *i*P **P 17 49 39.9 -0.5**
VRHR *i**PP **pP 17 50 21.6 -0.9**
VRHR *i**SP **sP 17 50 48.2 +0.4**
VRHR pmax pmax
comp=Z,180nm,0.9s
VRHR pmax pmax
comp=N,50nm,0.7s
VRHR pmax pmax
comp=E,320nm,1.0s
URFA Urfa 25.50 282 *e*P **P 17 49 42.6 +1.7**
ILIC ilic-Erzincan 25.52 287 *e*P **P 17 49 44.1 +3.0**
MALT Malatya 25.71 284 *e*P **P 17 49 44.7 +1.8**
MALT Malatya 25.71 284⇓ *i*P pP 17 50 27.1 +1.8
SUSE Susehri 25.76 288 *i*P **P 17 49 45.6 +2.2**
ATAB Bozova 25.92 282 *i*P **P 17 49 46.3 +1.7**
AKCD Akcadag 26.11 284 *i*P **P 17 49 48.6 +2.1**
MOY Mondy 26.32 45 *e*P **P 17 49 50.2 +2.1**
MOY *e* 17 50 35.2
MOY pmax pmax
comp=Z,814nm,2.9s
ANN Anapa 26.53 299*c* *i*P **P 17 49 49.8 -0.1**
ANN *i**PP **pP 17 50 33.2 +0.6**
ANN *i* 17 50 45.4
ANN *i*S **S 17 54 08.9 +1.0**
ANN pmax pmax
comp=N,69nm,1.1s
ANN pmax pmax
comp=E,29nm,1.1s
ANN pmax pmax
comp=Z,179nm,1.1s
ANN smax smax
comp=N,4μm,9.0s
SCER sogukcermik 26.60 288 *i*P **P 17 49 52.9 +2.0**
LZH Lanzhou 26.61 81 *e*P **P 17 49 53.0 +2.0**
LZH pP **pP 17 50 36.0 +2.3**
LZH PP **PnPn 17 50 48.0 +2.6**
LZH sP **sP 17 51 00.5 +2.0**
LZH PcP **PcP 17 53 10.8 +1.6**
LZH *e*S **S 17 54 08.5 -1.4**
LZH sS **sS 17 55 24.3 -2.3**
LZH ScP **ScP 17 56 29.3 +0.6**
LZH AMB AMB
comp=N,1μm,1.2s
LZH AMB AMB
comp=N,8μm,5.6s
LZH LR LR
comp=N,32μm,12.4s
LZH LR LR
comp=N,17μm,13.1s
LZH LR LR
comp=N,49μm,14.4s
VORD Divnogorie 26.78 313*c* *i*P **P 17 49 51.8 -0.3**
VORD *i**PP **pP 17 50 32.8 -2.0**
VORD *i**SP **sP 17 50 59.9 +0.2**
VORD *e*S **S 17 54 09.6 -2.2**
VORD pmax pmax
comp=Z,240nm,1.3s
VORD pmax pmax
comp=N,130nm,1.1s
VORD pmax pmax
comp=E,230nm,1.0s
VORD smax smax
comp=N,7μm,4.8s
VORD smax smax
comp=Z,1μm,3.3s
VORD smax smax
comp=E,1μm,2.3s
ERBA Erbaa 26.85 290 *i*P **P 17 49 54.6 +1.7**
VSR Storozhevoye 26.95 313*c* *i*P **P 17 49 53.2 -0.4**
VSR *i**PP **pP 17 50 34.6 -1.7**
VSR *i**SP **sP 17 51 01.5 +0.3**
VSR *e*S **S 17 54 12.5 -1.9**
VSR pmax pmax
comp=Z,350nm,1.2s
VSR pmax pmax
comp=N,90nm,1.3s
VSR pmax pmax
comp=E,330nm,1.1s
VSR smax smax
comp=N,5μm,3.0s
VSR smax smax
comp=Z,2μm,3.7s
VSR smax smax
comp=E,660nm,1.1s
KUZU Kuzuini 26.98 281 *i*P **P 17 49 55.8 +1.7**
KMRS Kahramanmaras 27.01 283 *e*P **P 17 49 55.9 +1.5**
TOKA Tokat 27.07 289 *i*P **P 17 49 56.5 +1.6**
AYKD Aykdinkavak 27.10 282 *i*P **P 17 49 56.7 +1.6**
VOR Voronezh 27.12 314⇑ *i*P **P 17 49 55.0 -0.1**
VOR pmax pmax
comp=Z,900nm,2.0s
ZAK Zakamensk 27.21 49⇓ *i*P **P 17 49 57.3 +1.3**
ZAK *e* 17 50 43.5
ZAK pmax pmax
comp=Z,254nm,1.2s
PINB Pinarbasi 27.26 285 *i*P **P 17 49 59.2 +2.3**
KVT Kavak 27.38 291 *e*P **P 17 49 59.1 +1.5**
HAVZ Havza 27.62 291 *i*P **P 17 50 01.4 +1.7**
TAHT Tahtakopru-Hat 27.76 280 *e*P **P 17 50 02.6 +1.6**
TLY Talaya 27.86 46 P **P 17 50 03.2 +1.5**
comp=Z,1μm,1.0s,SNR=27
KOZT Kozan 27.86 283 *e*P **P 17 50 03.6 +1.7**
YAYL Yayladag 27.88 280 *i*P **P 17 50 03.6 +1.4**
CD2 Chengdu 27.92 92⇑ *i*P **P 17 50 04.5 +2.0**
CD2 pP **pP 17 50 45.0 -0.4**
CD2 PP **PnPn 17 51 03.5 +1.5**
CD2 PcP **PcP 17 53 14.5 +2.2**
CD2 S **S 17 54 33.5 +3.3**
CD2 sS **sS 17 55 43.5 -3.7**
CD2 SS ScP 17 56 12.3 -20
CD2 AMB AMB
comp=Z,2μm,1.0s
CD2 AMB AMB
comp=Z,5μm,5.5s
CD2 LR LR
comp=Z,7μm,8.3s
CD2 LR LR
comp=Z,7μm,10.1s
DIKM Dikmen 27.96 292 *e*P **P 17 50 03.9 +1.3**
MNCY Minicoy 28.06 175 *i*x **P 17 50 05.0 +1.2**
YURE YUREGIR 28.12 282 *i*P Px 17 49 27.6
ASF Jabal al Asfar 28.22 271 P **P 17 50 07.0 +1.8**
ASF S **S 17 54 38.7 +3.7**
ASF *e* 18 22 23.7
ASF Jabal al Asfar 28.22 271 P **P 17 50 07.0 +1.8**
comp=Z,29nm,1.0s,baz=33,slow=2.8,SNR=34
ASF S **S 17 54 38.7 +3.7**
comp=Z,10nm,0.9s,baz=90,slow=20,SNR=2.3
ASF P3KPbc 18 22 23.7
comp=Z,3.4nm,0.8s,baz=256,slow=4.0,SNR=6.2
TRD Trivandrum 28.31 167 *e*P **P 17 50 07.9 +1.8**
IRK Irkutsk 28.42 45 *e*P **P 17 50 07.8 +1.2**
IRK *e* 17 50 52.4
IRK pmax pmax
comp=Z,761nm,1.7s
AVNT Avonos 28.45 286 *i*P **P 17 50 08.7 +1.4**
CORM Corum 28.50 289 *e*P **P 17 50 08.7 +1.0**
KARA Karaisali 28.50 283 *e*P **P 17 50 09.3 +1.7**
SONM Songino Array 28.56 55 P **P 17 50 09.1 +1.0**
SONM ScP **ScP 17 56 33.5 -0.9**
SONM PKiKP **PKiKP 18 00 46.9 -1.2**
SONM *e* 18 22 20.6
SONM Songino Array 28.56 55 P **P 17 50 09.1 +1.0**
comp=Z,204nm,0.9s,baz=258,slow=8.2,SNR=640
SONM ScP **ScP 17 56 33.5 -0.9**
comp=Z,30nm,1.1s,baz=220,slow=3.9,SNR=4.8
SONM PKiKP **PKiKP 18 00 46.9 -1.2**
comp=Z,5.0nm,1.0s,baz=235,slow=2.9,SNR=4.1
SONM P3KPbc 18 22 20.6
comp=Z,2.7nm,0.6s,baz=96,slow=3.5,SNR=16
SONA1 Songino Array 28.56 55 *e*P **P 17 50 08.0 -0.2**
GULE Gulek 28.72 283 *i*P **P 17 50 11.8 +2.1**
BZK Bozkurt 28.89 292 *e*P **P 17 50 12.3 +1.4**
SIM Simferopol' 28.89 299*ce*P **P 17 50 11.0 +0.1**
SIM *e*S **S** 17 50 49.8
SIM SS **sS** **17 54 43.4 -1.7**
SIM pmax pmax **17 55 58.2 -4.0**
comp=Z,86nm,1.5s
SIM MLR MLR
comp=Z,1μm,14.0s
MERS Mersin 28.99 282 *e*P **P 17 50 13.4 +1.5**
ULN Ulaanbaatar 29.00 55 P **P 17 50 13.7 +1.7**
SNR=86
ULN Ulaanbaatar 29.00 55 *e*P **P 17 50 13.4 +1.4**
comp=Z,293nm,1.1s
ULN LR LR
comp=Z,11μm,21.0s
ILGA Ilgaz 29.14 291 *i*P **P 17 50 14.6 +1.3**
MMAI Mount Meron Ar 29.17 274 P **P 17 50 15.3 +1.7**
MMAI pP **pP 17 50 57.0 +0.3**
MMAI PcP **PcP 17 53 16.4 +1.0**
MMAI S **S 17 54 53.9 +4.0**
MMAI ScP **ScP 17 56 36.6 0.0**
MMAI *e* 18 22 20.0
MMAI Mount Meron Ar 29.17 274 P **P 17 50 15.3 +1.7**
comp=Z,16nm,0.5s,baz=75,slow=10,SNR=59
MMAI pP **pP 17 50 57.0 +0.3**
comp=Z,22nm,0.8s,baz=72,slow=12,SNR=2.7
MMAI PcP **PcP 17 53 16.4 +1.0**
comp=Z,42nm,0.5s,baz=76,slow=7.8,SNR=22
MMAI S **S 17 54 53.9 +4.0**
comp=Z,5.5nm,0.7s,baz=56,slow=21,SNR=4.0
MMAI ScP **ScP 17 56 36.6 0.0**
comp=Z,20nm,0.6s,baz=62,slow=5.8,SNR=10
MMAI P3KPbc 18 22 20.0
comp=Z,3.0nm,0.7s,baz=316,slow=2.3,SNR=5.1
MUKL Al Mukalla 29.21 227 *e*P **P 17 50 14.8 +0.8**
CANT Cankiri 29.24 290 *e*P P 17 50 27.0 +13
BRTR Keskin Array B 29.29 288 P **P 17 50 15.4 +0.7**
BRTR PcP **PcP 17 53 15.7 -0.1**
BRTR S **S 17 54 54.0 +2.2**
BRTR ScP **ScP 17 56 35.2 -1.7**
BRTR *e* 18 22 19.1
BRTR Keskin Array B 29.29 288 P **P 17 50 15.4 +0.7**
comp=Z,43nm,0.6s,baz=100,slow=8.7,SNR=151
BRTR PcP **PcP 17 53 15.7 -0.1**
comp=Z,28nm,0.7s,baz=128,slow=3.5,SNR=6.5
BRTR S **S 17 54 54.0 +2.2**
comp=Z,3.7nm,0.7s,baz=23,slow=7.8,SNR=1.9
BRTR ScP **ScP 17 56 35.2 -1.7**
comp=Z,12nm,0.8s,baz=131,slow=6.1,SNR=4.0
BRTR P3KPbc 18 22 19.1
comp=Z,8.2nm,1.1s,baz=251,slow=3.8,SNR=20
KIZK Mersin 29.36 281 *i*P **P 17 50 16.0 +0.9**
ELDT Eldivan 29.39 290 *i*P **P 17 50 17.0 +1.4**
EREN Erenkoy 29.53 279 *e*P **P 17 50 17.7 +1.1**
KMI Kunming 29.55 103⇑⇑ P **P 17 50 18.8 +1.6**
KMI pP **pP 17 51 01.8 +1.4**
KMI sP **sP 17 51 23.8 -1.3**
KMI PP **PnPn 17 51 25.3 +2.4**
KMI PcP **PcP 17 53 20.0 +3.3**
KMI S **S 17 54 58.0 +1.7**
KMI sS **sS 17 56 12.5 -1.0**
KMI SS ScP 17 56 50.0 +12
KMI AMB AMB
comp=Z,200nm,1.2s
KMI AMB AMB
comp=Z,4μm,3.5s
KMI LR LR
comp=Z,4μm,14.4s
KMI LR LR
comp=Z,6μm,10.5s
KMI LR LR
comp=Z,4μm,16.3s
SULT Sultanhani-AKS 29.57 285 *e*P **P 17 50 19.0 +1.9**
MOS Moscow 29.63 321 *e*P **P 17 50 14.8 -2.5**
MOS *e**PP **pP 17 51 00.1 -0.3**
MOS *e* 17 51 24.4
MOS *i*S **S 17 54 54.5 -2.0**
MOS *e**SS sS 17 56 08.0 -5.6
MOS pmax pmax
comp=Z,2μm,1.4s
MOS pmax pmax
comp=E,727nm,1.3s
MOS pmax pmax
comp=Z,6μm,2.3s
MOS pmax pmax
comp=E,2μm,2.2s
MOS pmax pmax
comp=N,2μm,3.3s
MOS smax smax
comp=N,8μm,3.8s
MOS smax smax
comp=E,3μm,2.4s
CMAI Chiengmai2 29.68 116 P **P 17 50 18.5 +0.2**
comp=E,196nm,1.1s,comp=E,7μm
BBAL Bala 29.71 288 *i*P **P 17 50 19.2 +0.8**
PHNC Paralimni 29.76 278 P **P 17 50 19.8 +1.2**
comp=E,7.1nm,1.6s
AFSR Af'ar-Bala (A 29.76 287 *e*P **P 17 50 19.8 +1.0**
IKL Isikli 29.77 281 *e*P **P 17 50 19.0 +0.3**
OBN Obninsk 29.91 320*c* *i*P **P 17 50 20.1 +0.4**
OBN *e**PP **pP 17 51 04.1 +1.2**
OBN *e* 17 51 27.1
OBN *e*S **S 17 55 00.9 +0.2**
OBN pmax pmax
comp=Z,3μm,1.8s
OBN MLR MLR
comp=Z,3μm,16.0s
OBN Obninsk 29.91 320 P **P 17 50 20.7 +1.0**
comp=Z,8μm,0.5s,SNR=70
ANTO Ankara 29.93 288 *e*P **P 17 50 21.4 +1.2**
ANTO Ankara 29.93 288⇑⇑ P **P 17 50 21.2 +1.0**
ANTO Ankara 29.93 288 P **P 17 50 21.6 +1.4**
SNR=40
ANTO Ankara 29.93 288⇑ *i*P **P 17 50 21.2 +1.0**
ANTO Ankara 29.93 288⇑ *i*P **P 17 50 21.0 +0.8**
comp=Z,211nm,1.1s
ANTO *e*ScP **ScP 17 56 37.2 -1.7**
ANTO LR LR
comp=Z,6μm,22.0s
BR231 Keskin MP Arra 29.94 288 *e*P P 17 50 16.0 -4.4
CSS Prodhromos 30.33 279 P **P 17 50 23.7 0.0**
comp=Z,11nm,2.8s
CSS Prodhromos 30.33 279 *e*ScP **ScP 17 56 39.6 -0.6**
comp=Z,128nm,2.2s
CSS LR LR
comp=Z,2μm,22.0s
CHTO Chiang Mai 30.33 118 *e*P **P 17 50 24.1 +0.2**
CHTO MLR MLR
comp=Z,7μm,20.0s
CHTO Chiang Mai 30.33 118 P **P 17 50 25.0 +1.1**
SNR=141
CHTO Chiang Mai 30.33 118 *e*P **P 17 50 24.1 +0.2**
CHTO *e* 17 50 24.2
CHTO LR LR
comp=Z,7μm,20.0s
CHTO Chiang Mai 30.33 118 P **P 17 50 24.2 +0.3**
comp=Z,1μm,1.2s,comp=Z,25μm
PALK Pallekele 30.36 160 P **P 17 50 26.1 +2.0**
SNR=14
PALK Pallekele 30.36 160 *e*P **P 17 50 25.5 +1.4**
comp=Z,155nm,1.5s
PALK Pallekele 30.36 160 P **P 17 50 25.8 +1.6**
comp=Z,907nm,0.5s,SNR=51
MAMC Mammari 30.37 279 P **P 17 50 26.0 +2.0**
LADK Ladik-KONYA 30.46 285 *e*P **P 17 50 26.2 +1.3**
CRAI Chiangrai 30.47 114 P **P 17 50 26.2 +1.1**
comp=Z,247nm,1.3s
DGPR DIGLIPUR 30.49 134 *e*P **P 17 50 25.8 +0.6**
KONT Konya--Tatoy 30.51 285 *e*P **P 17 50 26.7 +1.4**
CMAR Chiang Mai Arr 30.56 118 P **P 17 50 27.2 +1.3**
CMAR PcP **PcP 17 53 20.1 +0.9**
CMAR S **S 17 55 12.0 +0.2**
CMAR ScP **ScP 17 56 39.9 -1.3**
CMAR PKiKP **PKiKP 18 00 49.1 -0.8**
CMAR PKKKP 18 23 11.8
CMAR Chiang Mai Arr 30.56 118 P **P 17 50 27.2 +1.3**
comp=Z,432nm,1.1s,baz=296,slow=7.3,SNR=529
CMAR PcP **PcP 17 53 20.1 +0.9**
comp=Z,112nm,0.9s,baz=295,slow=4.4,SNR=7.5
CMAR S **S 17 55 12.0 +0.2**
comp=Z,5.2nm,1.0s,baz=306,slow=15,SNR=2.0
CMAR ScP **ScP 17 56 39.9 -1.3**
comp=Z,46nm,0.9s,baz=296,slow=4.6,SNR=11
CMAR PKiKP **PKiKP 18 00 49.1 -0.8**
comp=Z,4.6nm,0.7s,baz=277,slow=1.9,SNR=9.1
CMAR P3KP 18 23 11.8
comp=Z,2.2nm,0.8s,baz=158,slow=3.2,SNR=4.6
HDMB Hadim 30.57 283 *e*P **P 17 50 26.5 +0.4**
CM01 Chiang Mai Arr 30.60 118 *e*P **P 17 50 25.3 -0.9**
KDHN Kadinhani 30.61 286 *i*P **P 17 50 27.2 +1.0**
LEF Lefka 30.64 279 *e*P **P 17 50 27.2 +0.8**
EIL Elat 30.64 268 P **P 17 50 27.9 +1.4**
EIL pP **pP 17 51 10.9 +1.1**
EIL Elat 30.64 268 P **P 17 50 27.9 +1.4**
comp=Z,203nm,1.0s,baz=47,slow=3.8,SNR=109
EIL pP **pP 17 51 10.9 +1.1**
comp=Z,116nm,1.1s,baz=94,slow=5.2,SNR=3.7
PAYA Payao 30.64 116 P **P 17 50 27.4 +0.8**
comp=Z,90nm,1.1s,comp=Z,650nm
SZAC Souni-Zanaja 30.73 278 P **P 17 50 28.2 +0.9**
comp=Z,4.7nm,0.6s
BTO Baotou 30.83 70 *e*P **P 17 50 30.0 +1.8**
BTO AMB AMB
comp=Z,200nm,1.1s
GAZI Gazipasa 30.85 281 *i*P **P 17 50 28.5 +0.2**
ALFC Alevga 30.86 279 P **P 17 50 28.8 +0.4**
comp=Z,5.0nm,0.6s
SVRH Sivrihisar-ESK 30.95 288 *e*P **P 17 50 30.1 +0.9**
MDUB Mudurnu 31.09 290 *e*P **P 17 50 31.6 +1.2**
AKMC Akamas 31.11 279 P **P 17 50 30.8 +0.2**
XAN Xi'an 31.13 83 P **P 17 50 32.0 +1.2**
XAN sP **sP 17 51 39.5 +0.7**
XAN S **S 17 55 18.3 -2.2**
XAN AMB AMB
comp=Z,290nm,1.1s
XAN LR LR
comp=Z,3μm,13.6s
XAN LR LR
comp=Z,2μm,14.8s
XAN LR LR
comp=Z,2μm,15.5s
PPCY Paphos 31.13 279 P **P 17 50 30.9 +0.2**
BOLV Bolvadin 31.49 286 *i*P **P 17 50 34.8 +0.8**
KLMR Klimovskoe 31.49 331*c* *i*P **P 17 50 33.8 +0.3**
KLMR *e**PP **pP 17 51 18.5 +1.6**
KLMR *i*S **S 17 55 24.3 -1.0**
KLMR pmax pmax
comp=Z,4μm,1.4s
KLMR pmax pmax
comp=Z,2μm,1.0s
NANT Nan 31.61 116 P **P 17 50 34.6 -0.4**
comp=Z,1μm,1.1s,comp=Z,8μm
PBA Port Blair 31.61 136 *e*P P 17 50 37.2 +2.2
GULT Gulveren 31.61 290 *e*P **P 17 50 36.0 +1.1**
SUTC Sutluce-Ispart 31.65 284 *e*P **P 17 50 36.2 +0.8**
BORA Eskisehir 31.72 289 *i*P **P 17 50 36.4 +0.5**
BDHA Al Bayda' 31.73 232 *e*P **P 17 50 37.2 +0.9**
SPNC Sapanca-Adapaz 31.74 290 *e*P **P 17 50 36.7 +0.7**
HAJJ Hajjah 31.76 237 *e*P **P 17 50 37.4 +0.8**
SHUT Suhut-Afyon 31.82 286 *e*P **P 17 50 38.1 +1.2**
ISP Isparta 31.96 285 *e*P **P 17 50 38.5 +0.3**
ISP Isparta 31.96 285 *e*P **P 17 50 37.9 -0.2**
ISP MLR MLR
comp=Z,5μm,22.0s
ISP Isparta 31.96 285⇓ *i*P **P 17 50 38.3 +0.2**
ISP Isparta 31.96 285 *e*P **P 17 50 37.9 -0.2**
ISP *e*P **P 17 50 38.4 +0.3**
ISP LR LR
comp=Z,5μm,22.0s
HHC Hu-ho-hao-te 31.98 69 *e*P **P 17 50 40.0 +1.8**
HHC PcP **PcP 17 53 25.8 +3.0**
HHC S **S 17 55 34.5 +0.8**
HHC ScP **ScP 17 56 48.8 +3.0**
HHC PcS **PcS 17 57 09.8 +2.0**
HHC SS SS 17 57 43.8 -15
HHC ScS **ScS 18 00 46.5 +1.7**
HHC AMB AMB
comp=Z,450nm,1.0s
HHC AMB AMB
comp=Z,9μm,5.1s
HHC LR LR
comp=Z,9μm,9.8s
HHC LR LR
comp=Z,14μm,12.5s
HHC LR LR
comp=Z,12μm,11.4s
LBOS 32.01 232 *e*P **P 17 50 39.7 +0.8**
LBOS AMb AMB 17 50 41.4
comp=Z,1μm,1.3s
GYA Guiyang 32.03 98⇑ *i*P **P 17 50 40.0 +1.2**
GYA pP **pP 17 51 23.0 +0.7**
GYA sP **sP 17 51 47.8 +0.9**
GYA PP **PP 17 51 55.5 -0.3**
GYA PcP **PcP 17 53 23.8 +0.6**
GYA S **S 17 55 36.5 +1.7**
GYA ScP **ScP 17 56 45.5 -0.7**
GYA sS **sS 17 56 50.3 -1.9**
GYA PcS **PcS 17 57 08.0 -0.5**
GYA ScS **ScS 18 00 45.8 +0.2**
GYA AMB AMB
comp=Z,900nm,1.0s
GYA AMB AMB
comp=Z,3μm,5.6s
GYA LR LR
comp=Z,4μm,15.8s
GYA LR LR
comp=Z,3μm,15.2s
GYA LR LR
comp=Z,3μm,17.7s
DAMY Dhamar 32.04 234 *e*P **P 17 50 40.7 +1.5**
CAVI Cavuskoy 32.15 289 *e*P **P 17 50 40.3 +0.8**
ADVT Abdulvahap 32.20 290 *e*P **P 17 50 40.1 +0.2**
SILT Sile 32.20 291 *e*P **P 17 50 40.6 +0.6**
HRT Hereke 32.21 291 *e*P **P 17 50 40.7 +0.6**
KORT Korkueli 32.25 283 *i*P **P 17 50 40.4 -0.2**
TVSB Tavsanli 32.53 288 *e*P **P 17 50 43.8 +0.7**
GDZ Gediz 32.57 287 *i*P **P 17 50 44.2 +0.8**
GEMT Gemlik 32.62 290 *e*P **P 17 50 44.2 +0.6**
KLYT Kilyos 32.64 292 *e*P **P 17 50 44.8 +1.0**
ELL Elmali 32.65 283 *e*P **P 17 50 45.0 +0.9**
ISK Istanbul-Kandi 32.65 291 *e*P **P 17 50 44.7 +0.8**
TLCR 32.65 299⇓ P **P 17 50 44.1 +0.3**
TLCR 32.65 299⇓ *i*P **P 17 50 44.1 +0.3**
KHAL Karahalli 32.67 286 *i*P **P 17 50 44.8 +0.6**
KIS Kishinev 32.72 302⇑ *i*P **P 17 50 44.0 -0.4**
comp=Z,800nm,2.0s
KIS *i*pP **pP 17 51 27.0 -0.9**
KIS Kishinev 32.72 302 *i*PP PP 17 51 54.0 -8.9
comp=Z,2μm,4.0s
KIS *i*S **S 17 55 43.0 -1.7**
comp=Z,4μm,11.0s
KIS *i*sS sS 17 56 59.0 -3.2
KIS *i*SS SS 17 57 42.0 -28
KIS *i*ScS **ScS 18 00 48.0 -0.1**
KIS LRM MLR 18 07 48.0
comp=Z,4μm,20.0s
KIS Kishinev 32.72 302⇑ *i*P **P 17 50 44.0 -0.4**
KIS *i**PP **pP 17 51 27.0 -0.9**
KIS *i* 17 51 54.0
KIS *i*S **S 17 55 43.0 -1.7**
KIS *i* 17 56 59.0
KIS *i* 18 00 48.0
KIS pmax pmax
comp=E,800nm,2.0s
KIS pmax pmax
comp=Z,800nm,2.0s
KIS pmax pmax
comp=Z,3μm,6.0s
KIS pmax pmax
comp=E,2μm,4.0s
KIS smax smax
comp=N,8μm,10.0s
KIS smax smax
comp=E,4μm,11.0s
KIS MLR MLR
comp=N,3μm,18.0s
KIS MLR MLR
comp=Z,6μm,18.0s
KIS MLR MLR
comp=E,4μm,17.0s
KIS MLR MLR
comp=Z,4μm,20.0s
KIS Kishinev 32.72 302⇓ *i*P **P 17 50 44.4 0.0**
ENH Enshi 32.76 89 *e*P **P 17 50 46.8 +1.7**
comp=Z,1μm,1.0s
EFOR EFORIE 32.79 297⇓ *i*P **P 17 50 46.2 +1.2**
MANR Mangalia 32.82 296⇑ *i*P **P 17 50 46.5 +1.2**
KHLT Khaolaem Dam 32.84 124 P **P 17 50 47.6 +1.9**
comp=Z,247nm,1.3s,comp=Z,3μm
LOEI Loei 32.85 117 P **P 17 50 48.7 +2.9**

comp=Z,522nm,1.1s,comp=Z,10μm
ARMT Armutlu 32.85 290 *e*P **P** 17 50 46.0 +0.4
BGKT Bogazkoy 32.85 291 *e*P **P** 17 50 46.7 +1.0
AKASG Malin Array Be 32.87 309 P **P** 17 50 45.5 -0.2
AKASG *PP **pP** 17 51 30.7 +1.4
AKASG S **S** 17 55 46.2 -0.8
AKASG pmax pmax
comp=Z,312nm,0.7s
AKASG smax smax
comp=N,11nm,0.9s
AKASG Malin Array Be 32.87 309 P **P** 17 50 45.5 -0.2
AKASG pP **pP** 17 51 30.7 +1.4
AKASG S **S** 17 55 46.2 -0.8
AKASG ScP **ScP** 17 56 46.9 -1.6
AKASG P'P' 18 24 09.7
AKASG Malin Array Be 32.87 309 P **P** 17 50 45.5 -0.2
comp=N,312nm,0.7s,baz=83,slow=7.0,SNR=512
AKASG pP **pP** 17 51 30.7 +1.4
comp=N,133nm,0.7s,baz=87,slow=7.5,SNR=4.4
AKASG S **S** 17 55 46.2 -0.8
comp=N,11nm,0.9s,baz=107,slow=12,SNR=2.8
AKASG ScP **ScP** 17 56 46.9 -1.6
comp=N,62nm,0.8s,baz=80,slow=3.5,SNR=13
AKASG PKPPKP P'P'df 18 24 09.7 -6.0
comp=N,1.1nm,0.5s,baz=328,slow=3.4,SNR=7.2
KIEV Kiev 32.88 309 PFAKE 17 51 00.0 +14
KIEV LR LR
comp=Z,6μm,20.0s
GLHS Gihisar (BURDU 32.88 284 *e*P **P** 17 50 46.1 0.0
TIRR Tirgusor 32.94 297 ⇑P **P** 17 50 46.7 +0.4
TIRR Tirgusor 32.94 297 ⇑*i*P **P** 17 50 46.7 +0.4
TIRR Tirgusor 32.94 297 *e*P **P** 17 50 46.5 +0.2
comp=Z,145nm,1.2s
AKAS Kas 32.99 282 *i*P **P** 17 50 46.5 -0.6
KSL Kastellorizon 33.03 282 *e*P **P** 17 50 47.1 -0.1
LEOM Leova 33.08 301 ⇑P **P** 17 50 48.1 +0.6
LEOM Leova 33.08 301 ⇑*i*P **P** 17 50 48.1 +0.6
TIY Taiyuan 33.09 75 *e*P **P** 17 50 49.5 +1.7
TIY sP **sP** 17 52 01.0 +5.0
TIY S **S** 17 55 48.5 -2.3
TIY AMB AMB
comp=Z,420nm,1.2s
TIY AMB AMB
comp=Z,4μm,4.8s
TIY LR LR
comp=Z,4μm,6.1s
TIY LR LR
comp=Z,4μm,6.6s
TIY LR LR
comp=Z,3μm,8.5s
PSN Preselentsi 33.12 296 *i*P **P** 17 50 48.9 +1.0
CFR Carcaliu 33.13 299 ⇑P **P** 17 50 48.5 +0.5
CFR Carcaliu 33.13 299 ⇑*i*P **P** 17 50 48.5 +0.5
DNZL Cakiroluk 33.14 285 *i*P **P** 17 50 48.4 0.0
DEMI Demirci 33.16 288 *i*P **P** 17 50 49.1 +0.6
CTYL Yal??k??y-??at 33.19 292 *e*P **P** 17 50 49.3 +0.8
TRBA At Turbah 33.21 233⇓*e*P **P** 17 50 50.0 +0.8
PBKT Sadao Pong 33.26 118 P **P** 17 50 50.9 +1.6
comp=Z,804nm,1.2s,comp=Z,11μm
DURS Dursunbey 33.27 289 *i*P **P** 17 50 49.8 +0.5
KCTX Karacabey (Bur 33.27 290 *e*P **P** 17 50 50.1 +0.8
SLVT Silivri 33.27 292 *e*P **P** 17 50 50.0 +0.8
HARR Harsova 33.28 298 ⇓P **P** 17 50 49.8 +0.5
HARR Harsova 33.28 298 ⇓*i*P **P** 17 50 49.8 +0.5
KULA Kula-Manisa 33.29 287 *e*P **P** 17 50 50.4 +0.8
FETY Fethiye 33.32 283 *e*P **P** 17 50 49.0 -0.7
MSAB Monastry St. A 33.37 297⇓*i*P **P** 17 50 51.0 +1.0
MANT Manisa 33.37 287 *i*P **P** 17 50 50.8 +0.3
SRDT SRDT 33.52 124 P **P** 17 50 53.3 +1.7
comp=Z,982nm,1.1s,comp=Z,7μm
IAS Iasi 33.58 302 ⇑P **P** 17 50 52.1 +0.2
IAS Iasi 33.58 302 ⇑*i*P **P** 17 50 52.1 +0.2
DALY Dalyan (Mu¨la 33.62 284 *e*P **P** 17 50 51.7 -0.5
TURN Turunc 33.64 284 *i*P **P** 17 50 54.9 +2.4
GHRR 33.65 300⇑*i*P **P** 17 50 53.8 +1.3
BALB Balikesir 33.71 289 *e*P **P** 17 50 53.1 +0.1
PRD Provadia 33.71 295 *i*P **P** 17 50 53.7 +0.7
PHSR Pinarhisar 33.74 292 *e*P **P** 17 50 54.3 +0.9
PETR Petresti 33.77 300⇑*i*P **P** 17 50 55.3 +1.8
GONE Gonen-Balikesi 33.80 290 *e*P **P** 17 50 54.6 +0.7
YER Yerkesik 33.84 284 *e*P **P** 17 50 53.9 -0.4
NONG Nongkai 33.86 114 P **P** 17 50 55.3 +0.7
comp=Z,514nm,1.5s
CIT Chita 33.87 49 *e*P **P** 17 50 55.2 +0.8
CIT *e* 17 51 41.1
CIT *e* 17 56 06.2
CIT pmax pmax
comp=Z,2μm,1.3s
AKHS Akhisar 33.88 287 *i*P **P** 17 50 55.3 +0.8
BALY Balya 33.90 289 *i*P **P** 17 50 55.5 +0.7
PGOR Pogoanele 33.95 298⇑*i*P **P** 17 50 57.1 +2.1
GRER 33.95 299⇑*i*P **P** 17 50 57.4 +2.3
AYDB Zeytinkoy-Aydi 33.99 286 *e*P **P** 17 50 55.8 +0.2
AYDN Tasoluk 34.05 285 *i*P **P** 17 50 56.3 +0.2
TMCR Tamitsa 34.07 335 *e*P **P** 17 50 56.9 +1.1
TMCR *e* 17 52 17.8
TMCR *e*S **S** 17 56 07.5 +2.4
TMCR pmax pmax
comp=Z,2μm,1.1s
RKY Sarkoy-Tekirda 34.11 291 *e*P **P** 17 50 57.2 +0.7
VRI Vrincioaia 34.12 300⇑P **P** 17 50 57.8 +1.2
VRI Vrincioaia 34.12 300⇑*i*P **P** 17 50 57.8 +1.2
ARG Arkhangelos 34.16 283 *e*P **P** 17 50 57.2 +0.2
PLOR Plostina 34.18 300⇑P **P** 17 50 58.6 +1.5
PLOR Plostina 34.18 300⇑*i*P **P** 17 50 58.5 +1.5
TESR Tescani 34.19 301⇑*i*P **P** 17 50 57.6 +0.5
ISR Istrita 34.26 299⇑P **P** 17 51 00.0 +2.2
ISR Istrita 34.26 299⇑*i*P **P** 17 51 00.0 +2.2
EDRB Edirne 34.30 293 *e*P **P** 17 50 58.8 +0.7
JMB Yambol 34.37 294 *i*P **P** 17 50 59.8 +1.1
CHAI Chaiyaphum 34.43 118 P **P** 17 51 00.8 +1.4
comp=Z,177nm,1.2s,comp=Z,1μm
MICGM Minsk 34.45 315⇑*i*P **P** 17 50 57.0 -2.2
LPK Lapseki 34.46 290 *e*P **P** 17 51 00.6 +1.0
DAT Datca 34.48 284 *e*P **P** 17 50 59.7 -0.2
MNK Minsk 34.48 315⇑*i*P **P** 17 50 57.0 -2.5
MNK *e*PP **pP** 17 51 39.0 -4.3
MNK *e* 17 52 05.0
MNK *e*PPP PPP 17 52 18.0
MNK *e*S **S** 17 56 06.0 -5.6
MNK *e*SSS SSS 17 58 40.0
MNK pmax pmax
comp=E,10μm,2.0s
MNK pmax pmax
comp=Z,9μm,3.0s
MNK pmax pmax
comp=Z,2μm,1.0s
MNK pmax pmax
comp=E,2μm,1.5s
MNK smax smax
comp=N,11μm,5.0s
MNK smax smax
comp=E,6μm,4.0s
MNK MLR MLR
comp=N,5μm,8.0s
MNK MLR MLR
comp=E,8μm,10.0s
MNK MLR MLR
comp=Z,10μm,11.0s
BDRM Kayabasi 34.51 284 *i*P **P** 17 50 59.9 -0.2
GCAM G?zelcaml? 34.55 286 *i*P **P** 17 51 00.5 +0.3
BLCB Balcova 34.56 287 *e*P **P** 17 51 01.0 +0.6
SECR 34.60 299⇑*i*P **P** 17 51 02.7 +2.0
ERIK Erikli-Kesan 34.61 291 *e*P **P** 17 51 02.0 +1.3
PLAR PLOIESTI 34.63 298⇑*i*P **P** 17 51 03.2 +2.3
MLR Muntele Rosu 34.67 299⇑*i*P **P** 17 51 03.4 +1.9
GELI Tayfur-Gelibol 34.68 290 *e*P **P** 17 51 02.4 +1.1
CIOR Ciorogarla 34.75 298⇑*i*P **P** 17 51 04.6 +2.7
SZH Strazhica 34.78 295 *i*P **P** 17 51 02.5 +0.3
SMG Samos 34.85 286 *e*P **P** 17 51 03.5 +0.6
ENEZ Enez 34.87 291 *e*P **P** 17 51 04.1 +1.1
PHET Kaeng Krachan 34.89 125 P **P** 17 51 05.2 +1.8
comp=Z,1μm,1.1s,comp=Z,9μm
PRK Paraskevi 35.01 288 *e*P **P** 17 51 04.5 +0.3
DOPR Dopca 35.06 300⇑*i*P **P** 17 51 05.8 +1.2
KARP Karpathos 35.08 282 *e*P **P** 17 51 05.2 +0.3
ZIMR 35.16 296⇑P **P** 17 51 06.8 +1.3
ZIMR 35.16 296⇑*i*P **P** 17 51 06.8 +1.3
NACGM Naroch 35.17 316 *e*P **P** 17 51 04.0 -1.4
SKNT Sakolnakorn 35.17 114 P **P** 17 51 06.5 +0.7
comp=Z,1μm,1.3s,comp=Z,13μm
BURAR Bucovina Array 35.19 303 ⇓P **P** 17 51 06.4 +0.6
BURAR Bucovina Array 35.19 303 ⇓*i*P **P** 17 51 06.4 +0.6
RDO Rodhopi 35.28 292 *e*P **P** 17 51 07.0 +0.5
ATD Arta Tunnel 35.30 233 P **P** 17 51 08.9 +1.9
ATD S **S** 17 56 30.1 +5.0
ATD Arta Tunnel 35.30 233 P **P** 17 51 08.9 +1.9
comp=Z,86nm,0.8s,baz=24,slow=3.6,SNR=25
ATD S **S** 17 56 30.1 +5.0
comp=Z,4.0nm,0.3s,baz=239,slow=19,SNR=3.5
MTUR Matau 35.30 299 ⇓P **P** 17 51 07.9 +1.1
MTUR Matau 35.30 299 ⇓*i*P **P** 17 51 07.9 +1.1
VOIR 35.31 299 ⇓P **P** 17 51 07.6 +0.8
VOIR 35.31 299 ⇓*i*P **P** 17 51 07.6 +0.8
SMTH Samothraki Isl 35.38 291 *e*P **P** 17 51 07.8 +0.4
BJT Baijiatuau 35.57 70 *e*P **P** 17 51 11.0 +2.0
BJT *e*ScP **ScP** 17 56 57.9 -0.4
BJT LR LR
comp=Z,10μm,21.0s
BJI Beijing 35.57 70 P **P** 17 51 09.3 +0.3
BJI sP **sP** 17 52 18.5 +1.0
BJI PcP **PcP** 17 53 34.0 +1.1
BJI S **S** 17 56 30.0 +1.4
BJI ScP **ScP** 17 56 59.5 +1.2
BJI PcS **PcS** 17 57 22.5 +2.2
BJI sS **sS** 17 57 45.0 -1.8
BJI AMB AMB
comp=Z,140nm,1.3s
BJI AMB AMB
comp=Z,5μm,4.5s
BJI LR LR
comp=Z,8μm,10.8s
BJI LR LR
comp=Z,3μm,5.4s
BJI LR LR
comp=Z,2μm,50.1s
IIGN Ignalina 35.58 316 *e*P **P** 17 51 09.4 +0.5
IIGN AMB AMB 17 51 10.0
comp=Z,247nm,1.4s
ARR Arges 35.60 299⇑*i*P **P** 17 51 10.3 +1.0
ISAL Salakas 35.69 317 *e*P **P** 17 51 10.4 +0.6
ISAL AMB AMB 17 51 11.4
comp=Z,182nm,1.2s
LIA Limnos Island 35.73 290 *e*P **P** 17 51 10.7 +0.4
MDB Medias 35.76 301 ⇑P **P** 17 51 13.6 +3.1
MDB Medias 35.76 301⇑*i*P **P** 17 51 13.6 +3.1
PLD Plovdiv 35.79 294 *i*P **P** 17 51 11.6 +0.8
RZN Rozhen 35.83 293 *i*P **P** 17 51 11.8 +0.4
JOF Joensuu 35.88 330 *e*P **P** 17 51 12.8 +1.5
JOF pmax pmax
comp=Z,597nm,0.4s
JOF Joensuu 35.88 330 *e*p **P** 17 51 12.8 +1.5
comp=Z,597nm,0.4s
APE Apeiranthos 36.00 285 *e*P **P** 17 51 12.8 0.0
APE Apeiranthos 36.00 285 ⇑P **P** 17 51 13.2 +0.5
APE Apeiranthos 36.00 285 *e*P **P** 17 51 13.3 +0.5
APE Apeiranthos 36.00 285⇑*i*P **P** 17 51 13.2 +0.5
LVV L'vov 36.08 307*d i*P **P** 17 51 13.6 +0.4
LVV *e**PP **pP** 17 51 57.9 +0.6
PGB Panagyurishte 36.14 294 *i*P **P** 17 51 14.8 +1.0
VSU Vasula 36.16 322*c i*P **P** 17 51 13.9 +0.2
VSU pmax pmax
comp=Z,4μm,2.2s
LOT Lotru 36.21 299⇑*i*P **P** 17 51 15.1 +0.6
SANT Santorini 36.22 284 PFAKE 17 51 20.0 +5.4
SANT LR LR
comp=Z,4μm,20.0s
CJR Cluj-Napoca 36.29 302 ⇑P **P** 17 51 16.6 +1.5
CJR Cluj-Napoca 36.29 302⇑*i*P **P** 17 51 16.6 +1.5
MPEP Malo Peshtene 36.37 296 *i*P **P** 17 51 16.5 +0.8
NPS Neapolis 36.38 282 *e*P **P** 17 51 16.1 +0.2
NVR Nevrokopi 36.51 292 *e*P **P** 17 51 17.6 +0.6
MMB Musomiste 36.58 293 *i*P **P** 17 51 17.9 +0.4
WHN Wuhan 36.59 86⇑*i*P **P** 17 51 19.3 +1.6
WHN sP **sP** 17 52 27.0 +0.6
WHN S **S** 17 56 46.5 +2.3
WHN AMB AMB
comp=Z,1μm,1.2s
WHN AMB AMB
comp=Z,11μm,6.0s
WHN LR LR
comp=Z,7μm,14.7s
DEV Deva 36.80 300 ⇓P **P** 17 51 20.8 +1.5
DEV Deva 36.80 300 ⇓*i*P **P** 17 51 20.8 +1.5
VTS Vitosha 36.84 295 *e*P **P** 17 51 20.4 +0.5
VTS Vitosha 36.84 295 ⇑P **P** 17 51 20.6 +0.7
VTS Vitosha 36.84 295⇑*i*P **P** 17 51 20.6 +0.7
VTS Vitosha 36.84 295 *i*P **P** 17 51 20.6 +0.7
DRGR 36.90 302 ⇓*i*P **P** 17 51 21.5 +1.3
GZR Gura Zlata 36.91 299 ⇑P **P** 17 51 20.6 +0.3
GZR Gura Zlata 36.91 299⇑*i*P **P** 17 51 20.6 +0.3
KWP Kalwaria Pacla 36.93 306⇓*e*P **P** 17 51 20.7 +0.7
KWP *e**PP **pP** 17 52 06.3 +1.6
KWP *e*S **S** 17 56 49.6 +0.5
KWP *e**SS **sS** 17 58 07.1 -0.5
KWP pmax pmax
comp=Z,600nm,0.9s
KWP Kalwaria Pacla 36.93 306⇑*i*P **P** 17 51 21.2 +0.8
KWP Kalwaria Pacla 36.93 306 *e*P **P** 17 51 21.0 +0.7
comp=Z,335nm,0.6s
KWP LR LR
comp=Z,5μm,21.0s
KWP Kalwaria Pacla 36.93 306 *e*P **P** 17 51 21.1 +0.7
KWP epP **pP** 17 52 06.3 +1.6
KWP *e*S **S** 17 56 49.5 +0.5
KWP *e*SS **sS** 17 58 07.1 -0.5
IDI Anoyia 36.94 282 *e*P **P** 17 51 20.1 -0.7
IDI Anoyia 36.94 282 P **P** 17 51 20.3 -0.5
comp=Z,109nm,0.3s,baz=44,slow=8.1,SNR=231
IDI S **S** 17 56 48.7 -1.0
comp=Z,57nm,1.1s,baz=310,slow=19,SNR=9.2
PLG Polygyros 36.97 291 *e*P **P** 17 51 21.5 +0.6
TRPA Tarpa 37.00 304⇑*i*P **P** 17 51 22.0 +1.1
TRPA Tarpa 37.00 304⇑*e* **P** 17 51 22.1 +1.1
KKB Krupnik 37.02 293 *i*P **P** 17 51 21.3 +0.1
SUW Suwalki 37.06 314⇑*e*P **P** 17 51 21.2 -0.2
SUW *e**PP **pP** 17 52 06.4 +0.7
SUW *e* 17 52 51.3
SUW *e*S **S** 17 56 49.9 -1.0
SUW pmax pmax
comp=Z,700nm,0.7s
SUW Suwalki 37.06 314 *e*P **P** 17 51 21.2 -0.2
SUW epP **pP** 17 52 06.3 +0.6
SUW *e*PP **PP** 17 52 51.3 +0.8
SUW *e*S **S** 17 56 49.9 -1.0
SUW *e*sS sS 17 57 59.9 -10
TIA Tai'an 37.08 76 ⇑P **P** 17 51 23.8 +2.0
TIA sP **sP** 17 52 30.5 -0.1
TIA PP **PnPn** 17 52 53.5 -0.8
TIA S **S** 17 56 53.5 +1.9
TIA sS **sS** 17 58 11.5 +1.3
TIA AMB AMB
comp=Z,500nm,1.2s
TIA AMB AMB
comp=Z,7μm,5.1s
TIA LR LR
comp=Z,6μm,9.7s
TIA LR LR
comp=Z,3μm,8.8s
TIA LR LR
comp=Z,4μm,11.8s
PTL Penteli 37.08 287 *e*P **P** 17 51 22.8 +0.9
UZH Uzhgorod 37.17 305⇓*i*P **P** 17 51 22.3 -0.1
UZH *e**PP **pP** 17 52 06.7 0.0
UZH *e* 17 52 50.5
UZH *e*S **S** 17 56 51.0 -1.7
KOLS Kolonicke sedl 37.19 305 *e*P **P** 17 51 23.3 +0.7
KOLS pmax pmax
comp=Z,195nm,1.2s
KOLS Kolonicke sedl 37.19 305 *e*P **P** 17 51 23.3 +0.7
KOLS epP **pP** 17 52 07.8 +0.9
KOLS *e*PP **PnPn** 17 52 54.3 -1.1
KOLS *e*S **S** 17 56 50.4 -2.6
KOLS *e*sS **sS** 17 58 08.2 -3.4
KOLS *e*SS **SS** 17 59 38.8 -6.5
NEO Neokhori 37.32 289 *e*P **P** 17 51 24.2 +0.3
SURT Suratani 37.33 130 P **P** 17 51 25.5 +1.4
comp=Z,186nm,1.1s,comp=Z,2μm
UBPT Khong Chiam 37.35 115 P **P** 17 51 24.7 +0.5
comp=Z,344nm,1.1s
NAIG Nisos Aigina 37.44 287 *e*P **P** 17 51 23.7 -1.1
VAM Vamos 37.45 283 *e*P **P** 17 51 25.1 +0.1
VAY Valandovo 37.48 293 *i*P **P** 17 51 25.4 +0.4
FINES FINESS Array B 37.48 326 P **P** 17 51 25.3 +0.5
FINES S **S** 17 56 55.3 -1.7
FINES FINESS Array B 37.48 326 P **P** 17 51 25.3 +0.5
comp=Z,339nm,0.6s,baz=123,slow=8.9,SNR=1123
FINES S **S** 17 56 55.3 -1.7
comp=Z,38nm,0.7s,baz=101,slow=14,SNR=3.5
LVZ Lovozero 37.50 339*c i*P **P** 17 51 25.4 +0.5
LVZ pmax pmax
comp=Z,1μm,1.0s
LVZ Lovozero 37.50 339 P **P** 17 51 25.9 +1.0
comp=Z,8μm,0.8s,SNR=79
HIA Hailar 37.51 54 *e*P **P** 17 51 26.8 +1.5
comp=Z,298nm,1.2s
HIA *e*ScP **ScP** 17 57 06.0 +0.6
HIA LR LR
comp=Z,6μm,22.0s
KAF Kangasniemi 37.62 327 *e*P **P** 17 51 26.9 +0.9
KAF Kangasniemi 37.62 327 *e*p **P** 17 51 26.9 +0.9
SIRR Siria 37.64 301⇓*i*P **P** 17 51 27.9 +1.5
APA Apatity 37.67 338⇓*i*P **P** 17 51 27.8 +1.5
APA *i* 17 53 36.0
APA *i*S **S** 17 57 00.0 +0.2
APA MLR MLR
comp=Z,9μm,17.0s
GVD Gavdhos 37.70 282 *e*P **P** 17 51 26.8 -0.2
comp=Z,2μm,1.4s
BZS Buzias 37.71 300 ⇑P **P** 17 51 27.9 +0.9
BZS Buzias 37.71 300⇑*i*P **P** 17 51 27.9 +0.9
DESE Dese 37.71 236 *i*P **P** 17 51 30.8 +3.1
CRVS Cervenica-Dubn 37.73 305 *e*P **P** 17 51 27.5 +0.4
CRVS *e* 17 52 12.2
CRVS *e* 17 53 01.2
CRVS *e*S **S** 17 57 01.3 +0.2
CRVS *e*SS **sS** 17 58 19.6 -0.2
CRVS *e*SS SS 17 59 45.0 -11
CRVS Cervenica-Dubn 37.73 305 *e*P **P** 17 51 27.5 +0.4
CRVS *e*pP **pP** 17 52 12.2 +0.7
CRVS *e*PP **PnPn** 17 53 01.2 -0.5
CRVS *e*S **S** 17 57 01.3 +0.2
CRVS *e*sS **sS** 17 58 19.6 -0.2
CRVS *e*SS SS 17 59 45.0 -11
STHS Stebnicka Huta 37.88 306 *e*P **P** 17 51 28.5 +0.2
STHS pmax pmax
comp=Z,76nm,0.8s
STHS Stebnicka Huta 37.88 306 *e*P **P** 17 51 28.5 +0.2
PKDT Phuket 37.89 132 P **P** 17 51 30.1 +1.4
comp=Z,617nm,1.1s,comp=Z,8μm
ANKY Antikythira Is 38.04 284 *e*P **P** 17 51 29.1 -0.7
BANR Banloc 38.06 299⇑*i*P P 17 51 33.1 +3.2
KYTH Kithira 38.14 284 *e*P **P** 17 51 29.9 -0.8
THL Klokotos Trika 38.19 290 *e*P **P** 17 51 29.6 -1.5
SKO Skopje 38.22 294 *i*P **P** 17 51 30.3 -1.0
KZN Kozani 38.24 291 *e*P **P** 17 51 31.9 +0.3
BEL Belsk 38.27 310⇑*e*P **P** 17 51 31.9 +0.4
BEL *e**PP **pP** 17 52 17.3 +1.3
BEL *e* 17 53 05.7
BEL *e*S **S** 17 57 08.0 -1.1
BEL pmax pmax
comp=Z,700nm,1.1s
BEL Belsk 38.27 310 *e*P **P** 17 51 31.9 +0.4
BEL epP **pP** 17 52 17.3 +1.3
BEL *e*PP **PP** 17 53 05.7 +2.1
BEL *e*S **S** 17 57 07.9 -1.1
QIZ Qiongzhong 38.37 106 P **P** 17 51 33.5 +0.8
QIZ pP **pP** 17 52 16.0 -1.3
QIZ sP **sP** 17 52 39.0 -2.6
QIZ S **S** 17 57 14.0 +2.7
QIZ AMB AMB
comp=Z,170nm,1.8s
QIZ AMB AMB
comp=Z,3μm,10.2s
QIZ Qiongzhong 38.37 106 *e*P **P** 17 51 33.5 +0.8
comp=Z,665nm,1.8s
QIZ *e*ScP **ScP** 17 57 08.3 -0.8
QIZ LR LR
comp=Z,5μm,22.0s
KECS Kecovo 38.37 304 *e*P **P** 17 51 33.1 +0.6
KECS pmax pmax
comp=Z,47nm,0.6s
KECS Kecovo 38.37 304 *e*P **P** 17 51 33.1 +0.6
KLV Kalavryta, Ach 38.41 288 *e*P **P** 17 51 32.5 -0.5
BIA Bitola 38.45 292 *i*P **P** 17 51 32.8 -0.5
EVR Evrytania 38.48 289 *e*P **P** 17 51 33.5 -0.1
NIE Niedzica 38.48 306⇑*i*P **P** 17 51 34.8 +1.4
NIE *e* 17 52 19.7
NIE *e* 17 53 06.1
NIE *e*S **S** 17 57 17.2 +4.7
NIE MLR MLR
comp=Z,5μm,18.7s
NIE Niedzica 38.48 306 *i*P **P** 17 51 34.8 +1.4
NIE *e* 17 52 19.7
NIE *e*PP **PP** 17 53 06.1 0.0
NIE *e*S **S** 17 57 14.7 +2.2
NIE L L 18 00 26.0
comp=Z,5μm,18.7s
ITM Ithomi 38.78 286 *e*P **P** 17 51 34.5 -1.5
PSZ Piszkesteto 38.78 304 ⇑P **P** 17 51 36.9 +1.0
PSZ Piszkesteto 38.78 304⇑*i*P **P** 17 51 36.8 +0.8
PSZ Piszkesteto 38.78 304 PFAKE 17 51 50.0 +14
PSZ LR LR
comp=Z,8μm,20.0s
PSZ Piszkesteto 38.78 304⇑*e* **P** 17 51 37.0 +1.0
OJC Ojcow 38.83 307⇑*i*P **P** 17 51 36.4 +0.2
OJC *e* 17 52 21.4
OJC *e* 17 53 03.5
OJC *e* 17 53 42.8
OJC *e*S **S** 17 57 17.2 -0.3
OJC MLR MLR
comp=Z,7μm,19.6s
OJC Ojcow 38.83 307 *e*P **P** 17 51 35.9 -0.3
OJC Ojcow 38.83 307 *i*P **P** 17 51 36.4 +0.2
OJC *e* 17 52 21.4
OJC *e*PP **PP** 17 53 09.5 -0.2
OJC *e*PcP **PcP** 17 53 42.8 +0.1
OJC *e*S **S** 17 57 17.2 -0.3
OJC L L 18 00 28.0
comp=Z,7μm,19.6s
PKSN Nyarlorinc 38.84 302⇑*e* **P** 17 51 37.9 +1.5
KBN Korca 38.92 292 *i*P **P** 17 51 36.8 -0.4
RLD Riolos of Patr 38.93 288 *e*P **P** 17 51 36.9 -1.3
GZH Guangzhou 38.97 98 P **P** 17 51 38.8 +1.1
GZH S **S** 17 57 21.8 +1.6
GZH AMB AMB
comp=Z,11μm,3.8s
GZH LR LR
comp=Z,6μm,11.3s
GZH LR LR
comp=Z,6μm,11.4s
PHP Peshkopia 39.00 294 *i*P **P** 17 51 35.0 -2.8
JAN Janina 39.06 290 *e*P **P** 17 51 39.5 +1.2
BCI Bajram Curri 39.17 295 *i*P **P** 17 51 39.2 0.0
PVY Plav 39.21 295 *e*P **P** 17 51 39.6 -0.1
IVA Berane 39.22 296 *e*P **P** 17 51 38.7 -1.0
PKS2 Kecel 39.32 301⇑*e* **P** 17 51 41.4 +1.1
BUD Budapest 39.39 303⇑*e* **P** 17 51 41.8 +0.9
TIR Tirane 39.48 293 *e*P **P** 17 51 41.3 -0.4
TIR pmax pmax
comp=Z,122nm,0.9s
TIR MLR MLR
comp=Z,5μm,19.0s
TIR Tirane 39.48 293 *e*P **P** 17 51 41.3 -0.4
comp=Z,122nm,0.9s
TIR LR LR
comp=Z,5μm,19.0s
PLE Pljevlja 39.52 296⇑*i*P **P** 17 51 41.8 -0.4
VLS Valsamata 39.57 288 *e*P **P** 17 51 41.1 -1.5
NJ2 Nanjing 39.68 82 *e*P **P** 17 51 43.0 -0.4
NJ2 pP **pP** 17 52 28.3 0.0
NJ2 sP **sP** 17 52 50.0 -2.5
NJ2 PcP **PcP** 17 53 42.3 -3.4
NJ2 ScP **ScP** 17 57 10.5 -3.5
NJ2 S **S** 17 57 32.0 +1.4
NJ2 AMB AMB
comp=Z,430nm,1.0s
NJ2 AMB AMB
comp=Z,4μm,7.9s
NJ2 LR LR
comp=Z,2μm,18.6s
NJ2 LR LR
comp=Z,3μm,15.5s
NJ2 LR LR
comp=Z,2μm,14.5s
PKSM Moragy 39.74 301 ⇓P **P** 17 51 44.2 +0.4
PKSM Moragy 39.74 301 ⇓*i*P **P** 17 51 44.2 +0.4
PKSM Moragy 39.74 301⇑*e* **P** 17 51 44.4 +0.6
TTG Podgorica 39.75 295⇑*i*P **P** 17 51 43.7 -0.2

AAE	Adis Abeba	39.82	235	*i*	P	P	17 51 47.9	+2.7
PKSG		39.82	303⇑	*e*	P	P	17 51 45.2	+0.8
ULC	Ulcinj	39.84	294⇑	*i*	P	P	17 51 43.6	-1.1
KEK	Kerkira	39.84	291	*e*	P	P	17 51 42.7	-2.0
DRME	Dracevica, Mon	39.84	295⇑	*i*	P	P	17 51 44.5	-0.2
SKLT	Songkhla	39.85	130		P	P	17 51 45.9	+0.9
	comp=Z,500nm,1.1s,comp=Z,6µm							
RAC	Raciborz	39.86	307	*e*	P	P	17 51 44.8	+0.1
RAC				*e*	PP	pP	17 52 31.8	+2.3
RAC				*e*			17 53 21.0	
RAC				*e*	S	S	17 57 33.1	+0.2
RAC					MLR	MLR		
	comp=Z,3µm,17.7s							
NKY	Niksic	39.88	296⇑	*i*	P	P	17 51 44.4	-0.8
OKC	Ostrava-Krasne	39.89	307	*e*	P	P	17 51 45.3	+0.3
OKC				*e*	PP	pP	17 52 28.6	-1.2
OKC				*e*			17 52 54.5	
OKC				*e*	S	S	17 57 31.2	-2.2
OKC				*e*			17 58 45.7	
OKC				*e*	SS	SS	18 00 37.4	-1.5
OKC	Ostrava-Krasne	39.89	307⇑	*e*	P	P	17 51 45.3	+0.3
OKC				*e*	pP	pP	17 52 28.6	-1.2
OKC				*e*	sP	sP	17 52 54.5	+0.3
OKC				*e*	x		17 54 22.4	
OKC				*e*	S	S	17 57 31.2	-2.2
OKC				*e*	xS	sS	17 58 45.7	-7.0
OKC				*e*	SS	SS	18 00 37.4	-1.5
UPM	Unac-Piva	39.89	296	*e*	P	P	17 51 44.3	-1.0
NKME	Niksic	39.92	296⇑	*i*	P	P	17 51 45.3	-0.1
DL2	Dalian	39.93	71⇑	*i*	P	P	17 51 46.8	+1.4
DL2					sP	sP	17 52 53.5	-1.1
DL2					S	S	17 57 34.8	+0.6
DL2					sS	sS	17 58 56.0	+2.5
DL2					AMB	AMB		
	comp=Z,370nm,1.8s							
DL2					AMB	AMB		
	comp=Z,6µm,5.8s							
DL2					LR	LR		
	comp=Z,2µm,12.3s							
PKS9	Tamasi	39.96	302⇑	*e*	P	P	17 51 46.3	+0.7
FURI	Furi	39.98	235	*e*	P	P	17 51 49.1	+2.6
FURI					S	S	17 57 45.0	+9.0
HKC	Hong Kong Obse	40.02	98⇑	*i*	P	P	17 51 48.0	+1.6
BUM	Brajici-Budva	40.04	295⇑	*i*	P	P	17 51 45.6	-0.8
PKST	T"s	40.07	303⇑	*e*	P	P	17 51 46.7	+0.2
MORC	Moravsky Berou	40.28	307⇑	*i*	P	P	17 51 49.0	+0.7
MORC	Moravsky Berou	40.28	307⇑	*i*	P	P	17 51 49.0	+0.7
MORC	Moravsky Berou	40.28	307	*e*	P	P	17 51 48.6	+0.3
HCY	Herceg Novi	40.31	295⇑	*i*	P	P	17 51 48.0	-0.5
SMOL	Smolenice	40.40	305	*e*	P	P	17 51 50.1	+0.9
SMOL				*e*			17 52 35.4	
SMOL	Smolenice	40.40	305	*e*	P	P	17 51 50.1	+0.9
SMOL				*e*	pP	pP	17 52 35.4	+1.2
GKP	Gorka Klasztor	40.51	312⇑	*e*	P	P	17 51 50.4	+0.4
GKP				*e*	PP	pP	17 52 36.0	+1.0
GKP				*e*	S	S	17 57 41.7	-0.7
GKP				*e*	SS	sS	17 59 01.9	0.0
GKP					pmax	pmax		
	comp=Z,1µm,1.1s							
GKP	Gorka Klasztor	40.51	312	*e*	P	P	17 51 50.3	+0.3
GKP				*e*	pP	pP	17 52 36.0	+1.0
GKP				*e*	S	S	17 57 41.7	-0.7
GKP				*e*	sS	sS	17 59 01.9	0.0
KRLC	Kraliky	40.77	307⇑	*i*	P	P	17 51 52.9	+0.7
KRLC				*e*	PP	pP	17 52 38.8	+1.6
KRLC				*e*			17 53 02.7	
KRLC	Kraliky	40.77	307⇑	*i*	P	P	17 51 52.9	+0.7
KRLC				*e*	pP	pP	17 52 38.8	+1.6
KRLC				*e*	sP	sP	17 53 02.7	+1.2
SNY	Shenyang	40.80	66⇑		P	P	17 51 53.0	+0.4
SNY					pP	pP	17 52 40.8	+3.2
SNY					sP	sP	17 53 01.5	-0.4
SNY					AMB	AMB		
	comp=Z,4µm,6.3s							
SNY					LR	LR		
	comp=Z,4µm,16.8s							
SNY					LR	LR		
	comp=Z,3µm,16.5s							
SNY					LR	LR		
	comp=Z,4µm,16.2s							
STON	Ston	40.81	296		P	P	17 51 52.5	-0.1
KEV	Kevo	40.84	338	*e*	P	P	17 51 53.4	+0.9
KEV					pmax	pmax		
	comp=Z,626nm,0.8s							
KEV	Kevo	40.84	338	*e*	p	P	17 51 53.4	+0.9
	comp=Z,626nm,0.8s							
KEV	Kevo	40.84	338	*e*	P	P	17 51 53.2	+0.8
KEV					LR	LR		
	comp=Z,15µm,22.0s							
VRAC	Vranov	40.92	306⇑	*i*	P	P	17 51 54.4	+1.0
BEHE	Becsehely	41.00	302⇑	*e*	P	P	17 51 55.1	+1.0
SOP	Sopron	41.04	303⇑	*e*	P	P	17 51 55.1	+0.7
DPC	Dobruska-Polom	41.05	307⇑	*i*	P	P	17 51 55.4	+0.8
DPC				*e*	PP	pP	17 52 40.8	+1.2
DPC				*e*			17 53 04.8	
DPC				*e*	S	S	17 57 49.0	-1.7
DPC				*e*			17 59 05.6	
DPC				*e*	SS	SS	18 00 57.4	-4.4
DPC	Dobruska-Polom	41.05	307⇑	*i*	P	P	17 51 55.4	+0.8
DPC				*e*	pP	pP	17 52 40.8	+1.2
DPC				*e*	sP	sP	17 53 04.8	+0.9
DPC				*e*	x		17 54 35.9	
DPC				*e*	S	S	17 57 49.0	-1.7
DPC				*e*	xS	sS	17 59 05.6	-4.7
DPC				*e*	SS	SS	18 00 57.4	-4.4
KSP	Ksiaz	41.06	308⇑	*i*	P	P	17 51 55.0	+0.5
KSP				*e*	PP	pP	17 52 40.2	+0.6
KSP				*e*	SP	sP	17 53 03.1	-0.8
KSP				*e*			17 53 33.0	
KSP				*e*	S	S	17 57 50.5	-0.2
KSP				*e*	SS	SS	18 00 59.0	-2.8
KSP	Ksiaz	41.06	308	*e*	P	P	17 51 55.1	+0.5
KSP				*e*	pP	pP	17 52 40.8	+1.2
KSP				*e*	PP	PP	17 53 34.6	+0.8
KSP				*e*	S	S	17 57 50.8	+0.1
KSP				*e*	sS	sS	17 59 04.6	-5.7
KSP				*e*	SS	SS	18 00 59.7	-2.1
ARA0	ARCESS Array S	41.18	338	*e*	P	P	17 51 55.1	-0.2
ARCES	ARCESS Array B	41.18	338		P	P	17 51 56.1	+0.8
ARCES					S	S	17 57 51.8	-0.2
ARCES	ARCESS Array B	41.18	338		P	P	17 51 56.1	+0.8
	comp=Z,1µm,0.8s,baz=115,slow=8.1,SNR=550							
ARCES					S	S	17 57 51.8	-0.2
	comp=Z,22nm,0.9s,baz=140,slow=22,SNR=2.0							
ARE0	ARCESS Array S	41.18	338⇑	*i*	P	P	17 51 56.1	+0.8
ARE0				*e*	S	S	17 57 52.5	+0.5
ARE0				*e*	SS	SS	18 01 04.8	+1.2
UPC	Upice	41.25	308⇑	*i*	P	P	17 51 56.9	+0.8
UPC				*e*	PP	pP	17 52 42.7	+1.5
UPC				*e*			17 53 06.7	
UPC	Upice	41.25	308⇑	*i*	P	P	17 51 56.9	+0.8
UPC				*e*	pP	pP	17 52 42.7	+1.5
UPC				*e*	sP	sP	17 53 06.7	+1.2
KULM	Kulim	41.34	131		P	P	17 51 59.7	+2.5
KULM	Kulim	41.34	131	*e*	P	P	17 51 58.4	+1.2
KULM					LR	LR		
	comp=Z,3µm,19.0s							
KOGS	Kog	41.36	302	*i*	P	P	17 51 57.4	+0.3
KOGS				*e*			17 52 24.7	
KOGS				*e*	pP	pP	17 52 43.0	+0.8
KOGS				*e*	ScP	ScP	17 57 19.6	-0.8
KOGS				*e*	S	S	17 57 56.0	+0.8
SISC	Sisak	41.39	300		P	P	17 51 58.0	+0.7
CONA	Conrad Observa	41.49	304	*i*	P	P	17 51 58.9	+0.7
	comp=Z,2µm,2.7s,SNR=190							
TREC	Trest	41.64	306⇑	*i*	P	P	17 52 00.1	+0.8
TREC				*e*	PP	pP	17 52 44.5	0.0
TREC				*e*			17 53 09.7	
TREC				*e*	S	S	17 57 54.8	-4.5
TREC				*e*			17 59 14.2	
TREC				*e*	SS	SS	18 01 12.3	-0.9
TREC	Trest	41.64	306⇑	*i*	P	P	17 52 00.1	+0.8
TREC				*e*	pP	pP	17 52 44.5	0.0
TREC				*e*	sP	sP	17 53 09.7	+0.9
TREC				*e*	x		17 54 39.4	
TREC				*e*	S	S	17 57 54.8	-4.5
TREC				*e*	xS	sS	17 59 14.2	-4.9
TREC				*e*	SS	SS	18 01 12.3	-0.9
KTK1	Kautokeino	41.65	336	*e*	P	P	17 51 59.5	+0.4
KTK1				*e*	S	S	17 57 58.1	-0.8
KTK1				*e*	SS	SS	18 01 15.3	+2.6
ARSA	Arzberg	41.78	303	*i*	P	P	17 52 01.0	+0.5
	comp=Z,1µm,3.4s,SNR=39							
CN2	Changchun	41.83	62	*e*	P	P	17 52 00.8	-0.1
CN2				*e*	pP	pP	17 52 44.3	-1.8
CN2				*e*	sP	sP	17 53 07.8	-2.5
CN2				*e*	S	S	17 58 05.5	+3.4
CN2					SS	SS	18 01 10.3	-6.7
CN2					AMB	AMB		
	comp=Z,90nm,1.5s							
CN2					AMB	AMB		
	comp=Z,4µm,4.0s							
CN2					LR	LR		
	comp=Z,5µm,11.0s							
CN2					LR	LR		
	comp=Z,5µm,11.0s							
CN2					LR	LR		
	comp=Z,5µm,11.0s							
SSE	Sheshan	41.88	82		P	P	17 52 01.0	-0.4
SSE					sP	sP	17 53 10.0	-0.8
SSE					S	S	17 58 03.3	+0.2
SSE					sS	sS	17 59 23.0	+0.1
SSE					ScS	ScS	18 01 40.0	-0.6
SSE					AMB	AMB		
	comp=Z,400nm,1.0s							
SSE					AMB	AMB		
	comp=Z,4µm,7.2s							
SSE					LR	LR		
	comp=Z,2µm,13.4s							
SSE					LR	LR		
	comp=Z,1µm,13.4s							
SSE					LR	LR		
	comp=Z,3µm,16.7s							
UDBI	Udbina	41.95	299		P	P	17 52 02.1	+0.2
BSD	Bornholm Skovb	41.96	315⇑	*i*	P	P	17 52 00.8	-0.9
BSD				*i*			17 53 40.9	
BSD				*i*	S	S	17 58 00.1	-3.6
BSD					pmax	pmax		
	comp=Z,220nm,0.9s							
BSD	Bornholm Skovb	41.96	315⇑	*i*	P	P	17 52 00.8	-0.9
	comp=Z,215nm,0.8s							
BSD				*i*			17 53 40.9	
BSD				*i*			17 54 46.5	
BSD				*i*	S	S	17 58 00.1	-3.6
PERS	Pernice	42.12	302	*i*	P	P	17 52 03.9	+0.6
PERS				*e*	S	S	17 58 06.5	0.0
PERS				*e*	sS	sS	17 59 21.8	-4.6
BOJS	Bojanci	42.17	300	*i*	P	P	17 52 04.2	+0.6
BOJS				*e*	ScP	ScP	17 57 23.1	-0.5
BOJS				*e*			17 57 40.5	
PVCC	Panska Ves	42.17	308	*e*	P	P	17 52 04.1	+0.6
PVCC				*e*	PP	pP	17 52 49.9	+1.1
PVCC				*e*			17 53 13.9	
PVCC				*e*	S	S	17 58 08.1	+1.2
PVCC				*e*	SS	SS	18 01 22.0	-1.4
PVCC	Panska Ves	42.17	308⇑	*e*	P	P	17 52 04.1	+0.6
PVCC				*e*	pP	pP	17 52 49.9	+1.1
PVCC				*e*	sP	sP	17 53 13.9	+0.9
PVCC				*e*	x	x	17 54 49.0	
PVCC				*e*	S	S	17 58 08.1	+1.2
PVCC				*e*	xS	sS	17 59 22.6	-4.3
PVCC				*e*	sS	sS	18 01 22.0	-1.4
SOKA	Soboth	42.17	302	*i*	P	P	17 52 04.4	+0.7
	comp=Z,2µm,3.5s,SNR=171							
IPM	Ipoh	42.20	132		P	P	17 52 07.0	+2.8
PRU	Pruhonice	42.21	307⇑	*i*	P	P	17 52 04.6	+0.7
PRU				*e*	PP	pP	17 52 50.1	+0.9
PRU				*e*			17 53 13.9	
PRU				*e*	S	S	17 58 04.7	-2.9
PRU				*e*			17 59 23.3	
PRU				*e*	sS	SS	18 01 23.5	-0.9
PRU	Pruhonice	42.21	307⇑	*i*	P	P	17 52 04.6	+0.7
PRU				*e*	pP	pP	17 52 50.1	+0.9
PRU				*e*	sP	sP	17 53 13.9	+0.5
PRU				*e*	x		17 54 46.9	
PRU				*e*	S	S	17 58 04.7	-2.9
PRU				*e*	xS	sS	17 59 23.3	-4.3
PRU				*e*	sS	SS	18 01 23.5	-0.9
TIP	Timpagrande	42.25	291	*e*	P	P	17 52 04.2	-0.3
	comp=Z,165nm,1.3s							
TIP					LR	LR		
	comp=Z,1µm,20.0s							
PRA	Prague	42.28	307		P	P	17 52 05.0	+0.6
PRA					pP	pP	17 52 50.0	+0.3
PRA					S	S	17 58 06.0	-2.6
PRA					SS	SS	18 01 25.0	-0.6
QZH	Quanzhou	42.31	92⇑	*i*	P	P	17 52 02.0	-2.9
QZH					sP	sP	17 53 11.3	-3.1
QZH					S	S	17 58 08.0	-1.5
QZH					ScS	ScS	18 01 38.3	-5.2
QZH					AMB	AMB		
	comp=Z,840nm,1.1s							
QZH					AMB	AMB		
	comp=Z,6µm,5.3s							
QZH					LR	LR		
	comp=Z,6µm,9.2s							
QZH					LR	LR		
	comp=Z,3µm,9.2s							
QZH					LR	LR		
	comp=Z,6µm,13.0s							
PSI	Prapat	42.33	136		P	P	17 52 05.5	+0.2
PSI					ScP	ScP	17 57 22.2	-2.6
PSI					S	S	17 58 09.4	-0.8
PSI	Prapat	42.33	136		P	P	17 52 05.5	+0.2
	comp=Z,167nm,0.5s,baz=324,slow=8.0,SNR=141							
PSI					ScP	ScP	17 57 22.2	-2.6
	comp=Z,75nm,0.9s,baz=276,slow=4.1,SNR=7.0							
PSI					S	S	17 58 09.4	-0.8
	comp=Z,38nm,0.9s,baz=252,slow=23,SNR=12							
OBKA	Obir	42.52	302	*i*	P	P	17 52 07.4	+0.8
	comp=Z,3µm,3.2s,SNR=40							
BRG	Berggiesshubel	42.55	308⇑	*i*	P	P	17 52 07.3	+0.8
	comp=Z,259nm,1.0s							
BRG				*e*			17 52 48.4	
	comp=Z,165nm,1.3s							
BRG					pP	pP	17 52 53.6	+1.6
	comp=Z,228nm,1.1s							
BRG					sP	sP	17 53 16.8	+0.7
	comp=Z,114nm,0.9s							
BRG					PP	PcP	17 54 03.0	+8.2
	comp=Z,296nm,1.4s							
BRG				*i*			17 54 55.0	
BRG					SCP	ScP	17 57 24.9	-0.1
BRG					S	S	17 58 14.0	+1.5
BRG					sS	sS	17 59 29.0	-3.5
BRG					SS	SS	18 01 31.0	+0.1
BRG	Berggiesshubel	42.55	308	*e*	P	P	17 52 07.1	+0.5
	comp=Z,346nm,1.3s							
BRG				*e*	pP	pP	17 52 53.6	+1.6
MOA	Molln	42.56	304	*i*	P	P	17 52 07.1	+0.3
	comp=Z,1µm,2.6s,SNR=124							
RUE	Ruedersdorf	42.60	311	*e*	P	P	17 52 06.8	-0.1
	comp=Z,476nm,1.0s							
RUE				*e*	pP	pP	17 52 53.4	+1.1
RUE	Ruedersdorf	42.60	311	*e*	P	P	17 52 07.1	+0.2
	comp=Z,375nm,1.0s							
CUC	Castrocucco	42.77	292		PFAKE		17 52 20.0	+11
CUC					LR	LR		
	comp=Z,2µm,22.0s							
GEC2	GERESS Array S	42.84	305	*e*	P	P	17 52 09.5	+0.4
GEC2				*e*	PP	pP	17 52 56.0	+1.5
GEC2					pmax	pmax		
	comp=Z,292nm,1.9s							
GEC2	GERESS Array S	42.84	305	*e*	P	P	17 52 09.5	+0.4
	comp=Z,292nm,1.9s							
GEC2				*e*	pP	pP	17 52 56.0	+1.5
GEC2	GERESS Array S	42.84	305	*e*	P	P	17 52 09.4	+0.3
GERES	GERESS Array B	42.84	305		P	P	17 52 09.4	+0.3
GERES					PP	PcP	17 53 55.3	-0.7
GERES					ScP	ScP	17 57 25.5	-0.9
GERES					S	S	17 58 17.2	+0.1
GERES	GERESS Array B	42.84	305		P	P	17 52 09.4	+0.3
	comp=Z,24nm,0.5s,baz=86,slow=6.8,SNR=133							
GERES					PP	PcP	17 53 55.3	-0.7
	comp=Z,32nm,0.9s,baz=66,slow=7.5,SNR=5.6							
GERES					ScP	ScP	17 57 25.5	-0.9
	comp=Z,24nm,0.9s,baz=97,slow=4.3,SNR=4.8							
GERES					S	S	17 58 17.2	+0.1
	comp=Z,1.8nm,0.8s,baz=101,slow=9.1,SNR=1.9							
KTGM	Kuala Trenggan	42.85	128		P	P	17 52 11.1	+1.7
RGN	Rugen	42.86	314	*e*	P	P	17 52 09.5	+0.5
	comp=Z,9µm,2.5s							
RGN	Rugen	42.86	314	*e*	P	P	17 52 09.4	+0.5
	comp=Z,933nm,1.0s							
KHC	Kasperske Hory	42.90	306⇑	*i*	P	P	17 52 09.7	+0.2
KHC				*e*	PP	pP	17 52 55.7	+0.8
KHC				*e*			17 53 19.7	
KHC				*e*			17 53 53.5	
KHC				*e*	S	S	17 58 20.2	+2.4
KHC				*e*			17 59 35.8	
KHC				*e*	SS	SS	18 01 40.9	+3.1
KHC	Kasperske Hory	42.90	306⇑	*i*	P	P	17 52 09.7	+0.2
KHC				*e*	pP	pP	17 52 55.7	+0.8
KHC				*e*	sP	sP	17 53 19.7	+0.6
KHC				*e*	PP	PP	17 53 53.5	0.0
KHC				*e*	x		17 54 22.0	
KHC				*e*	x		17 54 53.6	
KHC				*e*	S	S	17 58 20.2	+2.4
KHC				*e*	xS	sS	17 59 35.8	-2.1
KHC				*e*	SS	SS	18 01 40.9	+3.1
FBE	Freiberg	42.92	308	*e*	P	P	17 52 10.3	+0.8
	comp=Z,387nm,1.0s							
FBE				*e*	pP	pP	17 52 56.9	+1.9
VOY	Vojsko	43.04	301	*e*	P	P	17 52 10.8	+0.1
VOY				*e*			17 52 20.5	
VOY				*e*			17 52 58.2	
VOY				*e*			17 54 12.4	
CADS	Cadrg	43.12	302	*i*	P	P	17 52 11.4	+0.1
CADS				*e*			17 52 38.8	
CADS				*e*	pP	pP	17 52 57.2	+0.5
CADS				*e*	ScP	ScP	17 57 26.2	-1.3
CADS				*e*	S	S	17 58 20.8	-0.2
CADS				*e*	SS	SS	18 01 43.8	+1.9
CLL	Collm	43.12	309⇑	*i*	P	P	17 52 11.2	+0.1
CLL				*i*	PP	pP	17 52 57.5	+0.9
CLL				*e*	S	S	17 58 21.0	+0.2
CLL				*e*	SS	sS	17 59 41.0	0.0
CLL					pmax	pmax		
	comp=Z,187nm,1.1s							
CLL	Collm	43.12	309	*e*	P	P	17 52 11.2	+0.1
	comp=Z,189nm,1.1s							
CLL				*e*	pP	pP	17 52 57.9	+1.3
CLL	Collm	43.12	309⇑	*i*	P	P	17 52 11.2	+0.1
	comp=Z,187nm,1.1s							
CLL				*e*			17 52 21.0	
CLL				*e*			17 52 32.0	
CLL				*i*	pP	pP	17 52 57.5	+0.9
CLL				*e*	sP	sP	17 53 21.0	+0.2
CLL				*e*	PP	PP	17 53 56.0	+0.3
CLL				*e*			17 54 05.0	
CLL				*e*	pPP		17 54 31.0	
CLL				*e*	PPP	PPP	17 54 38.0	
CLL				*e*	sPP		17 55 04.0	
CLL				*i*			17 55 39.9	
CLL				*e*	S	S	17 58 21.0	+0.2
	comp=N,3µm,28.9s							
CLL				*e*	S	S	17 58 21.0	+0.2
	comp=E,3µm,26.0s							
CLL				*e*	sS	sS	17 59 41.0	0.0
CLL				*e*	SS	ScS	18 01 48.0	+0.3
CLL				*e*	sSS	SSS	18 03 18.0	
MYKA	Terra Mystica	43.13	302	*i*	P	P	17 52 11.8	+0.4
	comp=E,2µm,3.7s,SNR=24							
CEL	Celeste	43.14	290		PFAKE		17 52 20.0	+8.4
CEL					LR	LR		
	comp=Z,2µm,21.0s							
TRI	Trieste	43.17	301	*e*	P	P	17 52 11.7	+0.1
TRI	Trieste	43.17	301	*e*	P	P	17 52 11.7	+0.1
KBA	Koelnbreinsper	43.27	303	*i*	P	P	17 52 13.0	+0.3
	comp=Z,1µm,2.6s,SNR=37							
MSEY	Mahe Island	43.28	203		P	P	17 52 14.7	+1.9
	SNR=6.9							
MSEY	Mahe Island	43.28	203	*e*	P	P	17 52 14.1	+1.3
MSEY				*e*	ScP	ScP	17 57 29.3	+0.8
MSEY					LR	LR		
	comp=Z,6µm,20.0s							
MSEY	Mahe Island	43.28	203		P	P	17 52 14.9	+2.1
	comp=Z,658nm,0.8s,SNR=9.8							
TRO	Tromso	43.30	336⇑	*i*	P	P	17 52 12.9	+0.6
TRO					AMB	AMB	17 52 15.2	
	comp=Z,1µm,1.4s							
TRO				*e*	S	S	17 58 22.6	-0.3
TRO				*e*	SS	SS	18 01 46.2	+1.8
WET	Wettzell	43.36	306	*e*	P	P	17 52 13.6	+0.5
WET				*e*	PP	pP	17 53 00.1	+1.4
WET					pmax	pmax		
	comp=Z,395nm,2.1s							
WET	Wettzell	43.36	306	*e*	P	P	17 52 13.6	+0.5
	comp=Z,395nm,2.1s							
WET				*e*	pP	pP	17 53 00.1	+1.4
COP	Copenhagen	43.39	315⇑	*i*	P	P	17 52 13.9	+0.7
COP				*i*			17 53 57.2	
COP				*i*	S	S	17 58 23.7	-0.9
COP					pmax	pmax		
	comp=Z,210nm,0.9s							
COP	Copenhagen	43.39	315⇑	*i*	P	P	17 52 13.9	+0.7
	comp=Z,211nm,0.9s							
COP				*i*			17 53 57.2	
COP				*e*			17 55 03.2	
COP				*i*	S	S	17 58 23.7	-0.9
LLD	Lille Linde	43.51	315	*i*	P	P	17 52 15.1	+0.9
LLD					pmax	pmax		
	comp=Z,290nm,0.8s							
LLD	Lille Linde	43.51	315	*i*	P	P	17 52 15.1	+0.9
	comp=Z,288nm,0.8s							
TANN	Tannenbergstha	43.52	308	*e*	P	P	17 52 15.0	+0.6
	comp=Z,219nm,1.3s							
TANN				*e*	pP	pP	17 53 01.7	+1.7
NKC	Novy Kostel	43.54	308⇑	*i*	P	P	17 52 15.2	+0.6
NKC				*e*	PP	pP	17 53 00.9	+0.8
NKC				*e*			17 53 25.3	
NKC				*e*	S	S	17 58 28.6	+1.6
NKC				*e*			17 59 44.2	
NKC				*e*	SS	SS	18 01 47.6	-1.8
NKC	Novy Kostel	43.54	308⇑	*i*	P	P	17 52 15.2	+0.6
NKC				*e*	pP	pP	17 53 00.9	+0.8
NKC				*e*	sP	sP	17 53 25.3	+1.0
NKC				*e*	x		17 55 07.1	
NKC				*e*	S	S	17 58 28.6	+1.6
NKC				*e*	xS	sS	17 59 44.2	-3.1
NKC				*e*	SS	SS	18 01 47.6	-1.8
FRIM	Kepong	43.55	132		P	P	17 52 16.7	+1.7
RJOB	Jochberg	43.56	304	*e*	P	P	17 52 15.0	+0.2
	comp=Z,187nm,1.2s							
WERN	Wernitzgruen	43.58	308	*e*	P	P	17 52 15.7	+0.8
	comp=Z,670nm,2.3s							
DGAR	Diego Garcia	43.59	178	*c*	P	P	17 52 16.5	+1.3
DGAR	Diego Garcia	43.59	178	*e*	P	P	17 52 17.5	+2.3
DGAR					LR	LR		
	comp=Z,5µm,22.0s							
GUNZ	Gunzen	43.61	308	*e*	P	P	17 52 15.7	+0.6
	comp=Z,1µm,2.6s							
GUNZ				*e*	pP	pP	17 53 02.3	+1.6
WERD	Werda	43.62	308	*e*	P	P	17 52 15.6	+0.4
	comp=Z,196nm,1.2s							
WERD				*e*	pP	pP	17 53 02.4	+1.7
PLN	Plauen	43.71	308	*e*	P	P	17 52 16.5	+0.6
	comp=Z,7µm,2.6s							
PLN				*e*	pP	pP	17 53 03.2	+1.7
ROTZ	Rotzenmuhle	43.74	307	*e*	P	P	17 52 17.4	+1.3
	comp=Z,2µm,2.6s							
ROTZ		

YAK eS S 17 58 33.8 -1.8
YAK e 17 59 50.7
YAK e 18 01 49.2
YAK eSSS SSS 18 03 10.7
YAK pmax pmax
comp=E,337nm,1.1s
YAK pmax pmax
comp=E,883nm,0.9s
YAK pmax pmax
comp=N,233nm,1.3s
YAK pmax pmax
comp=N,207nm,1.3s
YAK pmax pmax
comp=Z,212nm,0.8s
YAK pmax pmax
comp=E,555nm,1.5s
YAK smax smax
comp=N,878nm,2.7s
YAK smax smax
comp=E,3µm,2.4s
NC602 NORSAR Array S 44.17 323⇑ iP P 17 52 18.9 -0.5
NC602 eS S 17 58 37.6 +1.8
NC602 eSS SS 18 02 02.0 +2.3
NB2 NORSAR Subarra 44.36 323 P P 17 52 20.7 -0.2
comp=Z,283nm,0.6s,baz=98,slow=7.9
NB2 NORSAR Subarra 44.36 323 P P 17 52 20.7 -0.2
baz=98,slow=7.9
NOA NORSAR Array B 44.36 323 P P 17 52 20.3 -0.7
NOA pP pP 17 53 07.5 +0.8
NOA PP PP 17 54 06.1 -2.7
NOA S S 17 58 36.8 -1.8
NOA NORSAR Array B 44.36 323 P P 17 52 20.3 -0.7
comp=Z,248nm,0.5s,baz=97,slow=7.7,SNR=1353
NOA pP pP 17 53 07.5 +0.8
comp=Z,284nm,1.0s,baz=97,slow=8.1,SNR=3.8
NOA PP PP 17 54 06.1 -2.7
comp=Z,190nm,0.9s,baz=94,slow=10,SNR=5.3
NOA S S 17 58 36.8 -1.8
comp=Z,7.0nm,0.9s,baz=136,slow=16,SNR=2.2
GRF Grafenberg Arr 44.38 307 eP P 17 52 22.5 +1.3
GRF e*PP pP 17 53 09.2 +2.2
GRF pmax pmax
comp=Z,1µm,2.2s
GRF Grafenberg Arr 44.38 307 eP P 17 52 22.5 +1.3
comp=Z,1µm,2.2s
GRF epP pP 17 53 09.2 +2.2
GRFO Grafenberg 44.38 307 eP P 17 52 22.5 +1.3
GRFO Grafenberg 44.38 307 eP P 17 52 22.5 +1.3
WTTA Wattenberg 44.40 303 i P P 17 52 21.3 -0.4
comp=Z,1µm,2.7s,SNR=72
KONS Konsvik 44.42 331⇑ iP P 17 52 21.6 +0.3
STOK Stokkvaagen 44.43 331 eP P 17 52 21.8 +0.6
STOK eS S 17 58 40.5 +1.3
WATA Walderalm 44.44 303 i P P 17 52 21.2 -0.6
comp=Z,154nm,1.4s,SNR=35
NSS Namsos 44.50 328⇑ iP P 17 52 21.4 -0.5
NSS AMB AMB 17 52 23.9
comp=Z,391nm,1.2s
FUR Furstenfeldbru 44.52 305 eP P 17 52 23.0 +0.6
FUR e*PP pP 17 53 09.7 +1.6
FUR pmax pmax
comp=Z,4µm,2.9s
FUR Furstenfeldbru 44.52 305 eP P 17 52 23.0 +0.6
comp=Z,4µm,2.9s
FUR epP pP 17 53 09.7 +1.6
MDJ Mudanjiang 44.62 60 P P 17 52 23.5 +0.3
MDJ pP pP 17 53 06.5 -2.5
MDJ sP sP 17 53 29.5 -3.5
MDJ PcP PcP 17 54 02.8 +0.8
MDJ PP PP 17 54 10.0 -1.8
MDJ ScP ScP 17 57 36.0 +2.4
MDJ S S 17 58 43.0 +0.3
MDJ ScS ScS 18 01 58.5 +1.0
MDJ AMB AMB
comp=Z,130nm,1.9s
MDJ AMB AMB
comp=Z,3µm,7.2s
MDJ Mudanjiang 44.62 60 eP P 17 52 23.9 +0.8
comp=Z,589nm,1.9s
MDJ eScP ScP 17 57 33.1 -0.5
MDJ LR LR
comp=Z,3µm,19.0s
TATO Taipei 44.63 90 P P 17 52 26.1 +2.7
SNR=5.4
TATO Taipei 44.63 90 eP P 17 52 25.8 +2.3
TATO LR LR
comp=Z,4µm,22.0s
BSEG Bad Segeberg 44.63 313 eP P 17 52 23.8 +0.7
BSEG pmax pmax
comp=Z,420nm,1.0s
BSEG Bad Segeberg 44.63 313 eP P 17 52 23.8 +0.7
comp=Z,420nm,1.0s
LOF Lofoten 44.66 333⇑ iP P 17 52 22.8 -0.4
LOF AMB AMB 17 52 27.2
comp=Z,901nm,2.3s
LOF eS S 17 58 44.5 +1.8
LOF eSS SS 18 02 10.4 +3.1
YHNB Yeheng 44.68 90 eP P 17 52 25.0 +1.0
YHNB LR LR
comp=Z,3µm,19.0s
TPUB Ta-pu 44.72 93 eP P 17 52 26.1 +1.8
CLZ Clausthal 44.72 310 eP P 17 52 24.3 +0.4
CLZ e*PP pP 17 53 11.2 +1.5
CLZ pmax pmax
comp=Z,3µm,2.8s
CLZ Clausthal 44.72 310 eP P 17 52 24.3 +0.4
comp=Z,3µm,2.8s
CLZ epP pP 17 53 11.2 +1.5
MOTA Moosalm 44.75 304 i P P 17 52 23.7 -0.7
comp=Z,66nm,0.8s,SNR=106
NRDL Niedersach Rie 44.84 311 eP P 17 52 25.3 +0.6
comp=Z,389nm,1.2s
NRDL epP pP 17 53 12.1 +1.6
RETA Reutte 44.96 304 i P P 17 52 25.4 -0.5
comp=Z,1µm,3.4s,SNR=41
UBBA Unterbreizbach 45.05 309 eP P 17 52 26.7 +0.4
comp=Z,688nm,2.2s
FETA Feichten 45.05 303 i P P 17 52 26.2 -0.6
comp=Z,1µm,3.8s,SNR=48
TBLU Trondheim 45.05 326⇑ iP P 17 52 25.4 -0.9
TBLU AMB AMB 17 52 28.1
comp=Z,550nm,0.9s
KONO Kongsberg 45.06 321⇑ iP P 17 52 25.7 -0.7
KONO AMB AMB 17 52 28.5
comp=Z,376nm,1.6s
KONO eS S 17 58 48.4 -0.1
KONO Kongsberg 45.06 321 PFAKE 17 52 40.0 +14
KONO LR LR
comp=Z,4µm,20.0s
KSAR Wonju Array Be 45.07 71 P P 17 52 27.2 +0.4
KSAR PcP PcP 17 54 04.0 +0.4
KSAR ScP ScP 17 57 34.1 -1.5
KSAR e 18 30 14.7
HOPEN Hopen 45.07 346⇑ iP P 17 52 28.0 +1.8
HOPEN AMB AMB 17 52 30.5
comp=Z,2µm,0.9s
NACB Ninganchiao 45.08 91 eP P 17 52 28.6 +1.5
KSRS Korea Array 45.09 71 P P 17 52 27.2 +0.2
comp=Z,42nm,0.6s,baz=281,slow=6.6,SNR=181
KSRS PcP PcP 17 54 04.0 +0.3
comp=Z,134nm,0.9s,baz=284,slow=3.4,SNR=13
KSRS ScP ScP 17 57 34.1 -1.6
comp=Z,17nm,0.8s,baz=288,slow=4.0,SNR=6.4
KSRS P4KPbc 18 30 14.7
comp=Z,2.6nm,0.9s,baz=284,slow=4.1,SNR=9.8
YULB Yu-li 45.21 92 eP P 17 52 30.6 +2.4
MUD Monsted U'grnd 45.23 317⇑ iP P 17 52 28.2 +0.5
MUD i 17 54 18.1
MUD i S S 17 58 50.6 -0.3
MUD pmax pmax
comp=Z,78nm,1.0s
MUD Monsted U'grnd 45.23 317⇑ iP P 17 52 28.2 +0.5
comp=Z,78nm,0.9s
MUD i 17 54 18.1
MUD i S S 17 58 50.6 -0.3
BJO Bjornoya 45.28 343⇑ iP P 17 52 29.1 +1.2
BJO AMB AMB 17 52 31.1
comp=Z,2µm,1.0s
TWG Pinlang 45.31 93 eP P 17 52 31.9 +3.1
KLR Kul'dur 45.36 54⇓ iP P 17 52 26.0 -2.9
KLR eS S 17 58 46.5 -6.7
KLR eSS ScS 18 02 07.0 +4.9
KLR pmax pmax
comp=E,400nm,1.6s
KLR pmax pmax
comp=Z,820nm,1.6s
KLR pmax pmax
comp=Z,8µm,11.5s
KLR smax smax
comp=N,1µm,12.5s
KLR smax smax
comp=E,4µm,12.5s
KLR MLR MLR
comp=Z,13µm,12.0s
DOMB Dombas 45.48 324 eP P 17 52 29.7 0.0
KGM Kluang 45.54 131 P P 17 52 32.6 +1.9
DAVA Damuels 45.58 304 i P P 17 52 30.7 -0.2
comp=Z,526nm,1.6s,SNR=168
HOMB Homborsund 45.58 319⇑ iP P 17 52 30.0 -0.4
HOMB eS S 17 58 54.7 -1.4
VLC Villacollemand 45.81 299 eP P 17 52 32.6 +0.1
VLC LR LR
comp=Z,2µm,20.0s
STU Stuttgart 45.81 306 eP P 17 52 32.9 +0.4
comp=Z,774nm,1.9s
TIXI Tiksi 45.95 22c iP P 17 52 33.8 +0.6
TIXI pmax pmax
comp=Z,2µm,1.0s
MYKOM Kota Tinggi 46.04 131 P P 17 52 36.9 +2.3
HLG Helgoland 46.05 313 eP P 17 52 34.6 +0.4
comp=Z,3µm,2.5s
TUE Stuetta 46.08 303 eP P 17 52 33.7 -1.2
TUE LR LR
comp=Z,3µm,21.0s
YOJ Yonaguni jima 46.09 90 eP P 17 52 35.0 0.0
YOJ pmax pmax
comp=Z,158nm,0.8s
YOJ Yonaguni jima 46.09 90 eP P 17 52 35.0 0.0
comp=Z,158nm,0.8s
TNS Taunus Mts 46.10 308 eP P 17 52 35.1 +0.4
TNS pmax pmax
comp=Z,147nm,1.3s
TNS Taunus Mts 46.10 308 eP P 17 52 35.1 +0.4
comp=Z,147nm,1.3s
SNART Snartemo 46.27 319⇑ iP P 17 52 36.2 +0.4
SNART AMB AMB 17 52 38.4
comp=Z,396nm,0.9s
SNART eS S 17 59 05.5 -0.4
IBBN Ibbenburen 46.29 311 eP P 17 52 36.5 +0.4
comp=Z,3µm,2.4s
USRK Ussuriysk Arra 46.39 61 P P 17 52 37.7 +0.7
comp=Z,57nm,0.8s,baz=273,slow=6.9,SNR=43
BFO Black Forest 46.45 305 eP P 17 52 37.3 -0.2
BFO pmax pmax
comp=Z,104nm,1.3s
BFO Black Forest 46.45 305 eP P 17 52 37.3 -0.2
comp=Z,104nm,1.3s
BFO Black Forest 46.45 305 eP P 17 52 37.2 -0.2
BFO LR LR
comp=Z,6µm,19.0s
VLA Vladivostok 46.56 62α iP P 17 52 38.3 0.0
VLA e 17 54 08.9
VLA e 17 54 29.8
VLA S S 17 59 10.2 -0.1
VLA pmax pmax
comp=Z,598nm,1.4s
ODD1 Odda 46.57 321⇑ iP P 17 52 38.2 0.0
ODD1 AMB AMB 17 52 41.1
comp=Z,537nm,1.3s
ODD1 eS S 17 59 10.0 -0.2
BLS5 Blasjo 46.65 321⇑ iP P 17 52 39.6 +0.7
BUG Bochum--Univer 46.69 310 eP P 17 52 39.5 +0.3
comp=Z,294nm,1.2s
LANF Langenberg 46.69 306 eP P 17 52 39.9 +0.6
FELD Feldberg im Sc 46.74 305 eP P 17 52 39.5 -0.4
HYA Hoyanger 46.81 323⇑ iP P 17 52 40.3 +0.4
HYA AMB AMB 17 52 42.5
comp=Z,396nm,0.9s
HYA eS S 17 59 13.0 -0.3
WTSB Winterswijk 46.91 310 eP P 17 52 41.4 +0.5
WLS Welschbruch 47.08 306 eP P 17 52 41.9 -0.4
CDF Champ du Feu 47.13 306⇑ iP P 17 52 42.4 -0.4
comp=Z,92nm,0.9s
CDF Champ du Feu 47.13 306⇑ iP P 17 52 42.4 -0.4
CDF pmax pmax
comp=Z,92nm,0.9s
CDF Champ du Feu 47.13 306⇑ iP P 17 52 42.4 -0.4
comp=Z,92nm,0.9s
PGF Pioggiola 47.16 297⇑ iP P 17 52 42.7 -0.4
comp=Z,181nm,0.5s
PGF epP pP 17 53 26.4 -3.0
PGF Pioggiola 47.16 297⇑ iP P 17 52 42.7 -0.4
PGF e*PP pP 17 53 26.4 -3.0
PGF pmax pmax
comp=Z,181nm,0.5s
PGF Pioggiola 47.16 297⇑ iP P 17 52 42.7 -0.4
comp=Z,181nm,0.5s
PGF epP pP 17 53 26.4 -3.0
RUND Rundenannen 47.20 322⇑ iP P 17 52 42.5 -0.6
RUND AMB AMB 17 52 43.3
comp=Z,830nm,1.4s
BER Bergen 47.22 322⇑ iP P 17 52 43.5 +0.3
BER AMB AMB 17 52 45.6
comp=Z,498nm,1.7s
BER eS S 17 59 19.5 +0.3
BER eSS SS 18 02 52.4 +3.5
ECH Echery 47.24 305 eP P 17 52 42.3 -1.3
ECH pmax pmax
comp=Z,84nm,1.1s
ECH MLR MLR
comp=Z,5µm,22.0s
ECH Echery 47.24 305 eP P 17 52 43.1 -0.5
ECH Echery 47.24 305 eP P 17 52 42.3 -1.3
comp=Z,84nm,1.1s
ECH LR LR
comp=Z,5µm,22.0s
EGD Espegrend 47.27 322 eP P 17 52 42.9 -0.7
KMY Karmoy 47.28 320 i P P 17 52 43.8 +0.2
KMY AMB AMB 17 52 46.2
comp=Z,340nm,1.3s
KMY eS S 17 59 19.7 -0.3
ASK Askoy 47.29 322⇑ iP P 17 52 43.0 -0.7
ASK AMB AMB 17 52 44.1
comp=Z,791nm,1.3s
MOF Molkenrain 47.32 305 eP P 17 52 44.0 -0.3
SUE Sulen 47.50 323 eP P 17 52 45.4 +0.1
SUE AMB AMB 17 52 47.5
comp=Z,422nm,0.9s
SUE eS S 17 59 23.5 +0.4
HINF Hinteralfeld 47.51 305⇑ iP P 17 52 45.4 -0.3
comp=Z,98nm,0.7s
HINF Hinteralfeld 47.51 305⇑ iP P 17 52 45.4 -0.3
HINF pmax pmax
comp=Z,98nm,0.7s
HINF Hinteralfeld 47.51 305⇑ iP P 17 52 45.4 -0.3
comp=Z,98nm,0.7s
SPA0 Spitsbergen Ar 47.56 347⇑ iP P 17 52 46.8 +1.2
SPA0 eS S 17 59 24.7 +0.9
SPA0 eSS SS 18 02 58.0 +3.9
SPITS Spitsbergen Ar 47.56 347 P P 17 52 47.1 +1.4
SPITS Spitsbergen Ar 47.56 347 P P 17 52 47.1 +1.4
comp=Z,450nm,0.7s,baz=116,slow=11,SNR=295
MEM Membach 47.59 309 P P 17 52 46.5 +0.3
MEM Membach 47.59 309 eP P 17 52 46.6 +0.4
MEM pmax pmax
comp=Z,111nm,0.8s
MEM Membach 47.59 309 eP P 17 52 46.6 +0.4
comp=Z,111nm,0.8s
HGN Heimansgroeve 47.62 309 eP P 17 52 46.4 +0.1
comp=Z,575nm,2.5s
HGN epP pP 17 53 34.3 +1.6
HGN eS S 17 59 29.1 +4.1
LOMF Lomont 47.62 304 eP P 17 52 46.1 -0.5
HABR Khabarovsk 47.63 54d iP P 17 52 45.3 -1.2
HABR e*PP pP 17 53 32.8 -0.1
HABR e*SP sP 17 53 57.8 +1.0
HABR e 17 54 11.4
HABR e 17 54 39.0
HABR ePPP PPP 17 55 34.5
HABR eS S 17 59 24.0 -1.4
HABR e*SS sS 18 00 48.2 +1.3
HABR e 18 02 15.0
HABR eSS SS 18 02 56.1 0.0
HABR pmax pmax
comp=Z,465nm,1.5s
HABR pmax pmax
comp=Z,5µm,4.4s
HABR MLR MLR
comp=Z,2µm,19.0s
WLF Walferdange 47.65 307 P P 17 52 47.5 +0.9
comp=Z,162nm,1.4s
WLF Walferdange 47.65 307 eP P 17 52 47.0 +0.4
WLF MLR MLR
comp=Z,5µm,22.0s
WLF Walferdange 47.65 307 eP P 17 52 47.2 +0.6
comp=Z,336nm,1.3s
WLF Walferdange 47.65 307 eP P 17 52 47.0 +0.4
WLF LR LR
comp=Z,5µm,22.0s
VSL Villasalto 47.69 293 eP P 17 52 45.9 -1.3
comp=Z,722nm,2.0s
VSL LR LR
comp=Z,3µm,20.0s
BEBN Eben Emael 47.77 309 P P 17 52 47.7 +0.2
HAU Haudompre 47.81 305⇑ iP P 17 52 47.8 -0.2
comp=Z,126nm,0.6s
HAU eR
comp=Z,2µm,20.0s
HAU Haudompre 47.81 305⇑ iP P 17 52 47.8 -0.2
HAU pmax pmax
comp=Z,126nm,0.6s
HAU Haudompre 47.81 305⇑ iP P 17 52 47.8 -0.2
comp=Z,126nm,0.6s
SAOF Saorge 47.84 300 eP P 17 52 48.5 +0.3
OG01 Vacheresse 47.92 303 eP P 17 52 49.0 +0.1
AUTN L'Aution 47.92 300 eP P 17 52 49.5 +0.4
SBF Sospel 47.95 299⇑ iP P 17 52 49.2 0.0
comp=Z,335nm,0.6s
SBF epP pP 17 53 33.1 -2.5
SBF Sospel 47.95 299⇑ iP P 17 52 49.2 0.0
SBF e*PP pP 17 53 33.1 -2.5
SBF pmax pmax
comp=Z,335nm,0.6s
SBF Sospel 47.95 299⇑ iP P 17 52 49.2 0.0
comp=Z,335nm,0.6s
SBF epP pP 17 53 33.1 -2.5
LUCF Luceram 48.01 300 eP P 17 52 49.8 +0.2
THEF They Montfort 48.01 306 eP P 17 52 49.6 +0.1
REVF Revere 48.03 299 eP P 17 52 49.6 -0.1
TOUF Mont Tournerai 48.05 300 eP P 17 52 50.4 +0.4
LPG La Plagne 48.05 302⇑ iP P 17 52 50.3 +0.1
comp=Z,320nm,0.7s
LPG La Plagne 48.05 302⇑ iP P 17 52 50.3 +0.1
LPG pmax pmax
comp=Z,320nm,0.7s
LPG La Plagne 48.05 302⇑ iP P 17 52 50.3 +0.1
comp=Z,320nm,0.7s
LPL La Plagne 48.06 302⇑ iP P 17 52 50.3 +0.1
comp=Z,300nm,0.8s
LPL La Plagne 48.06 302⇑ iP P 17 52 50.3 +0.1
LPL pmax pmax
comp=Z,300nm,0.8s
LPL La Plagne 48.06 302⇑ iP P 17 52 50.3 +0.1
comp=Z,300nm,0.8s
BCLA Clavier 48.06 309 P P 17 52 50.1 +0.2
OG22 Abries 48.07 301 eP P 17 52 50.2 0.0
RSL Roselend 48.09 302 eP P 17 52 50.3 0.0
PAGF Fort de Pagny 48.12 306⇑ iP P 17 52 50.9 +0.6
comp=Z,46nm,0.6s,baz=84
PAGF Fort de Pagny 48.12 306⇑ iP P 17 52 50.9 +0.6
comp=Z,46nm,0.6s
MVIF Mont Vial 48.14 300 eP P 17 52 50.9 +0.2
BNI Bardonecchia 48.20 301 eP P 17 52 48.9 -2.3
BNI MLR MLR
comp=Z,3µm,20.0s
BNI Bardonecchia 48.20 301 eP P 17 52 48.9 -2.3
BNI LR LR
comp=Z,3µm,20.0s
MBDF Montbardon 48.21 301⇑ iP P 17 52 50.8 -0.4
comp=Z,324nm,0.5s
MBDF Montbardon 48.21 301⇑ iP P 17 52 50.8 -0.4
MBDF pmax pmax
comp=Z,324nm,0.5s
MBDF Montbardon 48.21 301⇑ iP P 17 52 50.8 -0.4
comp=Z,324nm,0.5s
SURF Saint Ours 48.24 300 eP P 17 52 51.9 +0.4
CABF La Chapelle 48.26 303⇑ iP P 17 52 51.6 +0.1
comp=Z,193nm,0.7s
CABF La Chapelle 48.26 303⇑ iP P 17 52 51.6 +0.1
CABF pmax pmax
comp=Z,193nm,0.7s
CABF La Chapelle 48.26 303⇑ iP P 17 52 51.6 +0.1
comp=Z,193nm,0.7s
CALN Calern 48.36 299 eP P 17 52 52.3 -0.1
GIVF Givet 48.42 308⇑ iP P 17 52 53.1 +0.5
comp=Z,660nm,1.4s
GIVF Givet 48.42 308⇑ iP P 17 52 53.1 +0.5
GIVF pmax pmax
comp=Z,660nm,1.4s
GIVF Givet 48.42 308⇑ iP P 17 52 53.1 +0.5
comp=Z,660nm,1.4s
GDM Grand'Maison 48.55 302 eP P 17 52 53.6 -0.2
MEZF Maizieres J'vi 48.57 306⇑ iP P 17 52 54.1 +0.4
comp=Z,291nm,0.9s,baz=72
MEZF epP pP 17 53 38.2 -2.0
MEZF Maizieres J'vi 48.57 306⇑ iP P 17 52 54.1 +0.4
comp=Z,291nm,0.9s
MEZF epP pP 17 53 38.2 -2.0
DOU Dourbes 48.57 308 P P 17 52 54.1 +0.5
FRF La Foret Royal 48.58 299⇑ iP P 17 52 53.6 -0.3
comp=Z,160nm,0.5s
FRF epP pP 17 53 37.6 -2.8
FRF La Foret Royal 48.58 299⇑ iP P 17 52 53.6 -0.3
FRF e*PP pP 17 53 37.6 -2.8
FRF pmax pmax
comp=Z,160nm,0.5s
FRF La Foret Royal 48.58 299⇑ iP P 17 52 53.6 -0.3
comp=Z,160nm,0.5s
FRF epP pP 17 53 37.6 -2.8
UCC Uccle 48.59 309 P P 17 52 54.2 +0.4
KMBO Kilima Mbogo 48.61 227⇓ iP P 17 52 56.4 +1.7
KMBO Kilima Mbogo 48.61 227 P P 17 52 56.8 +2.0
SNR=50
KMBO Kilima Mbogo 48.61 227 eP P 17 52 56.4 +1.7
KMBO PP PP 17 54 47.1 -2.8
KMBO S S 17 59 41.8 +1.4
KMBO LR LR
comp=Z,3µm,20.0s
KMBO Kilima Mbogo 48.61 227 P P 17 52 56.4 +1.7
comp=Z,140nm,0.7s,baz=34,slow=12,SNR=301
KMBO PP PP 17 54 47.1 -2.8
comp=Z,58nm,1.0s,baz=21,slow=9.7,SNR=3.4
KMBO S S 17 59 41.8 +1.4
comp=Z,2.1nm,0.7s,baz=241,slow=20,SNR=3.3
SFTF Sexfontaines 48.63 306⇑ iP P 17 52 54.2 0.0
comp=Z,596nm,1.4s,baz=84
SFTF epP pP 17 53 38.3 -2.5
SFTF Sexfontaines 48.63 306⇑ iP P 17 52 54.2 0.0
comp=Z,596nm,1.4s
SFTF epP pP 17 53 38.3 -2.5
KBS Kingsbay 48.69 347⇑ iP P 17 52 55.5 +1.3
KBS AMB AMB 17 52 57.7
comp=Z,2µm,1.2s
KBS eS S 17 59 41.0 +1.6
KBS eSS SS 18 03 18.7 +6.8
KBS Kingsbay 48.69 347 eP P 17 52 55.6 +1.5
KBS MLR MLR
comp=Z,4µm,19.0s
KBS Kingsbay 48.69 347 eP P 17 52 55.6 +1.5
KBS LR LR
comp=Z,4µm,19.0s
SNF Seneffe 48.69 309 P P 17 52 54.9 +0.3
LMR La Mourre 48.73 299⇑ iP P 17 52 54.4 -0.6
comp=Z,53nm,0.6s
LMR La Mourre 48.73 299⇑ iP P 17 52 54.4 -0.6
LMR pmax pmax
comp=Z,53nm,0.6s
LMR La Mourre 48.73 299⇑ iP P 17 52 54.4 -0.6
comp=Z,53nm,0.6s
OG25 Le Caire 48.78 300 eP P 17 52 55.0 -0.5
ORIF Oris-en-Rattie 48.78 301⇑ iP P 17 52 54.7 -0.8
comp=Z,72nm,0.6s
ORIF eR
comp=Z,4µm,21.8s
ORIF Oris-en-Rattie 48.78 301⇑ iP P 17 52 54.7 -0.8
ORIF pmax pmax
comp=Z,72nm,0.6s
ORIF Oris-en-Rattie 48.78 301⇑ iP P 17 52 54.7 -0.8
comp=Z,72nm,0.6s
GRN Grenoble 48.80 302 eP P 17 52 55.7 +0.1
JNU Nakatsue 48.80 75 eP P 17 52 56.8 +1.1
BAIF Baives 48.82 308⇑ iP P 17 52 56.2 +0.6
comp=Z,863nm,1.4s
BAIF Baives 48.82 308⇑ iP P 17 52 56.2 +0.6
BAIF pmax pmax

BAIF Baives 48.82 308⇑ *i*P P 17 52 56.2 +0.6
comp=Z,863nm,1.4s

KEST Kesra 48.90 289 P P 17 52 57.4 +0.9
KEST S S 17 59 44.0 +0.4

KEST Kesra 48.90 289 P P 17 52 57.4 +0.9
comp=Z,79nm,0.5s,baz=337,slow=1.2,SNR=393
KEST S S 17 59 44.0 +0.4
comp=Z,2.9nm,0.9s,baz=311,slow=23,SNR=4.1

PCPH Palayan 49.16 101⇑ *e*P P 17 52 59.0 +0.5
SMRF Simiane la Rot 49.23 300⇑ *i*P P 17 52 58.8 0.0
comp=Z,76nm,0.5s

SMRF Simiane la Rot 49.23 300⇑ *i*P P 17 52 58.8 0.0
comp=Z,76nm,0.5s

OG26 St.-Nazaire-De 49.26 301 *e*P P 17 52 59.3 +0.2
JOW Kunigami 49.27 84 *e*P P 17 52 59.3 0.0
comp=Z,161nm,0.9s

PALP Palanan 49.38 99⇑ *e*P P 17 53 01.6 +1.4
LOR Lormes 49.61 305⇑ *i*P P 17 53 01.0 -0.6
comp=Z,39nm,0.6s,baz=74
LOR *e*R
comp=Z,2µm,20.5s

LOR Lormes 49.61 305⇑ *i*P P 17 53 01.0 -0.6
comp=Z,39nm,0.6s

SSB Saint Sauveur 49.62 302 *e*P P 17 53 01.3 -0.4
SSB pmax pmax
comp=Z,88nm,0.6s
SSB MLR MLR
comp=Z,2µm,19.0s

SSB Saint Sauveur 49.62 302 *e*P P 17 53 01.9 +0.2
SSB Saint Sauveur 49.62 302 *e*P P 17 53 01.3 -0.4
comp=Z,88nm,0.6s
SSB LR LR
comp=Z,2µm,19.0s

VIVF Saint-Julien-l 49.63 301⇑ *i*P P 17 53 01.9 0.0
comp=Z,278nm,0.6s
VIVF *e*pP pP 17 53 46.3 -2.3

VIVF Saint-Julien-l 49.63 301⇑ *i*P P 17 53 01.9 0.0
VIVF *e**PP pP 17 53 46.3 -2.3
VIVF pmax pmax
comp=Z,278nm,0.6s

VIVF Saint-Julien-l 49.63 301⇑ *i*P P 17 53 01.9 0.0
comp=Z,278nm,0.6s
VIVF *e*pP pP 17 53 46.3 -2.3

SMF Signal de Mont 49.76 304⇑ *i*P P 17 53 02.6 -0.2
comp=Z,186nm,0.7s
SMF *e*pP pP 17 53 46.9 -2.7

SMF Signal de Mont 49.76 304⇑ *i*P P 17 53 02.6 -0.2
SMF *e**PP pP 17 53 46.9 -2.7
SMF pmax pmax
comp=Z,186nm,0.7s

SMF Signal de Mont 49.76 304⇑ *i*P P 17 53 02.6 -0.2
comp=Z,186nm,0.7s
SMF *e*pP pP 17 53 46.9 -2.7

TGY Tagaytay City 49.87 103⇓ *e*P P 17 53 06.2 +2.1
SSF Saint Saulge 49.89 304⇑ *i*P P 17 53 03.3 -0.4
comp=Z,73nm,0.7s
SSF *e*pP pP 17 53 47.9 -2.6

SSF Saint Saulge 49.89 304⇑ *i*P P 17 53 03.3 -0.4
SSF *e**PP pP 17 53 47.9 -2.6
SSF pmax pmax
comp=Z,73nm,0.7s

SSF Saint Saulge 49.89 304⇑ *i*P P 17 53 03.3 -0.4
comp=Z,73nm,0.7s
SSF *e*pP pP 17 53 47.9 -2.6

MENF Mencas 50.02 309 *e*P P 17 53 04.5 -0.1
AVF Avril sur Loir 50.06 304⇑ *i*P P 17 53 04.7 -0.3
comp=Z,194nm,0.8s

AVF Avril sur Loir 50.06 304⇑ *i*P P 17 53 04.7 -0.3
AVF pmax pmax
comp=Z,194nm,0.8s

AVF Avril sur Loir 50.06 304⇑ *i*P P 17 53 04.7 -0.3
comp=Z,194nm,0.8s

CMAH Djebel Manchou 50.06 290 P P 17 53 05.3 +0.1
PLDF La Plantade 50.07 303 *e*P P 17 53 04.9 -0.3
ABSA Djebel Ababsia 50.13 290 P P 17 53 06.1 +0.2
COLF Collangettes 50.13 302 *e*P P 17 53 05.8 +0.1
MAUS Longido 50.23 227 *i* P P 17 53 09.3 +2.4
AGO Saint Agoulin 50.38 303 *e*P P 17 53 07.5 0.0
LASF Ste Croix 50.40 301⇑ *i*P P 17 53 07.8 +0.2
comp=Z,304nm,0.9s
LASF *e*pP pP 17 53 52.2 -2.3

LASF Ste Croix 50.40 301⇑ *i*P P 17 53 07.8 +0.2
comp=Z,304nm,0.9s
LASF *e*pP pP 17 53 52.2 -2.3

KSM Kuching 50.42 124 P P 17 53 10.4 +2.4
KSM Kuching 50.42 124 *e*P P 17 53 09.6 +1.5
KSM LR LR
comp=Z,2µm,20.0s

HYF Humbligny 50.42 305⇑ *i*P P 17 53 07.9 +0.2
HYF Humbligny 50.42 305⇑ *i*P P 17 53 07.9 +0.2
CAEH 'Ain El Ouahch 50.44 291 P P 17 53 07.2 -0.8
BGF Bois d'Agland 50.45 304⇑ *i*P P 17 53 07.6 -0.3
comp=Z,121nm,0.9s

BGF Bois d'Agland 50.45 304⇑ *i*P P 17 53 07.6 -0.3
BGF pmax pmax
comp=Z,121nm,0.9s

BGF Bois d'Agland 50.45 304⇑ *i*P P 17 53 07.6 -0.3
comp=Z,121nm,0.9s

LRW Lerwick 50.47 322 *e*P P 17 53 07.2 -0.6
LRW AMB AMB 17 53 08.5
comp=Z,433nm,1.2s
LRW AMS AMS 18 05 31.2
comp=Z,3µm,17.3s

ELSH Elham, Standar 50.53 310⇑ *e*P P 17 53 08.6 +0.2
ELSH AMB AMB 17 53 09.4
comp=Z,550nm,1.4s
ELSH AMS AMS 18 05 41.8
comp=Z,2µm,8.9s

PYM Petit Puy Mans 50.54 303 *e*P P 17 53 08.5 -0.2
CKFL Kef-Lekhel 50.66 290 P P 17 53 09.4 -0.5
PPR Puerto Princes 50.78 109⇑ *e*P P 17 53 12.9 +2.2
CASM Ain Smara 50.89 290 P P 17 53 10.9 -0.5
VERF Verneugheol 50.90 303 *e*P P 17 53 11.5 +0.1
FRNF Fournols 50.94 303 *e*P P 17 53 12.2 +0.6
TCF Toulx Ste Croi 50.94 304⇑ *i*P P 17 53 11.8 +0.1
comp=Z,332nm,1.0s

TCF Toulx Ste Croi 50.94 304⇑ *i*P P 17 53 11.8 +0.1
TCF pmax pmax
comp=Z,332nm,1.0s

TCF Toulx Ste Croi 50.94 304⇑ *i*P P 17 53 11.8 +0.1
comp=Z,332nm,1.0s

SBUM Sibu 51.00 122 P P 17 53 14.4 +2.0
CTEI Djebel Teioual 51.02 290 P P 17 53 12.7 +0.2
BTM Bintulu 51.06 120 P P 17 53 15.7 +2.9
HMNX Herstmonceux 51.09 310 *e*P P 17 53 12.5 -0.1
HMNX AMB AMB 17 53 13.4
comp=Z,411nm,2.4s
HMNX AMS AMS 18 05 44.9
comp=Z,3µm,21.4s

DFRA Djebel Bou Aff 51.25 291 P P 17 53 14.0 -0.2
KKM Kota Kinabalu 51.33 115 *e*P P 17 53 17.1 +2.1
comp=Z,868nm,1.2s
KKM LR LR
comp=Z,3µm,19.0s

CAF Calviac 51.40 302⇑ *i*P P 17 53 15.4 +0.3
comp=Z,87nm,0.6s

CAF Calviac 51.40 302⇑ *i*P P 17 53 15.4 +0.3
CAF pmax pmax
comp=Z,87nm,0.6s

CAF Calviac 51.40 302⇑ *i*P P 17 53 15.4 +0.3
comp=Z,87nm,0.6s

SJAF Saint Jean de 51.53 299 *e*P P 17 53 15.4 -0.6
DRUM Mains of Drumt 51.59 318⇑ *e*P P 17 53 15.9 -0.3
DRUM AMB AMB 17 53 16.8
comp=Z,424nm,2.7s
DRUM AMS AMS 18 12 01.1
comp=Z,3µm,21.0s

LRDF Laroque-de-Fa 51.64 300 *e*P P 17 53 16.9 +0.1
RJF Les Rejaudoux 51.67 303⇑ *i*P P 17 53 17.5 +0.5
RJF *e*R
comp=Z,2µm,20.5s

RJF Les Rejaudoux 51.67 303⇑ *i*P P 17 53 17.5 +0.5
RJF Les Rejaudoux 51.67 303⇑ *i*P P 17 53 17.5 +0.5
CKHR Kef el Ahmar 51.71 290 P P 17 53 17.7 0.0
KBI1 Birley Grange 51.72 313⇑ *i*P P 17 53 16.4 -0.9
SET Setif 51.73 291 P P 17 53 18.0 +0.3
MTLF Montolieu 51.74 300⇑ *i*P P 17 53 17.6 0.0
comp=Z,100nm,0.6s

MTLF Montolieu 51.74 300⇑ *i*P P 17 53 17.6 0.0
MTLF pmax pmax
comp=Z,100nm,0.6s

MTLF Montolieu 51.74 300⇑ *i*P P 17 53 17.6 0.0
comp=Z,100nm,0.6s

MME1 Meikle Cairn 51.78 318⇑ *i*P P 17 53 17.1 -0.5

ESY Stoneypath 51.83 317⇑ *i*P P 17 53 17.5 -0.5
MCD Coleburn Disti 51.88 319⇑ *i*P P 17 53 18.2 -0.2
LDF La Druitiere 51.90 307⇑ *i*P P 17 53 18.1 -0.6
LDF *e*pP pP 17 54 02.9 -2.9

LDF La Druitiere 51.90 307⇑ *i*P P 17 53 18.1 -0.6
LDF *e**PP pP 17 54 02.9 -2.9

LDF La Druitiere 51.90 307⇑ *i*P P 17 53 18.1 -0.6
LDF *e*pP pP 17 54 02.9 -2.9

CARF Carcanieres 52.01 299 *e*P P 17 53 19.3 -0.4
FLN La Foliniere 52.09 307⇑ *i*P P 17 53 19.5 -0.5
comp=Z,90nm,0.7s,baz=80
FLN *e*R
comp=Z,2µm,19.0s

FLN La Foliniere 52.09 307⇑ *i*P P 17 53 19.5 -0.5
FLN pmax pmax
comp=Z,91nm,0.6s

FLN La Foliniere 52.09 307⇑ *i*P P 17 53 19.5 -0.5
comp=Z,90nm,0.6s

EBL Broad Law 52.09 317⇑ *i*P P 17 53 19.4 -0.5
STNC Stoke 52.15 313 *e*P P 17 53 19.9 -0.5
STNC AMB AMB 17 53 21.1
comp=Z,386nm,1.9s
STNC AMS AMS 18 06 25.8
comp=Z,2µm,8.2s

VALF Valcebollere 52.16 299 *e*P P 17 53 21.0 +0.1
ESK Eskdalemuir 52.27 316⇑ *e*P P 17 53 20.6 -0.6
ESK AMB AMB 17 53 21.7
comp=Z,263nm,1.4s
ESK AMS AMS 18 06 22.6
comp=Z,3µm,9.6s

ESK Eskdalemuir 52.27 316 *i* P P 17 53 21.1 -0.2
ESK Eskdalemuir 52.27 316 *e*P P 17 53 20.9 -0.3
ESK LR LR
comp=Z,4µm,20.0s

ESK Eskdalemuir 52.27 316 P P 17 53 20.2 -1.1
comp=Z,1µm,1.3s,SNR=20

MBAR Mbarara 52.29 234⇑ *i*P P 17 53 22.0 -0.1
MBAR Mbarara 52.29 234 *e*P P 17 53 22.0 -0.1
MBAR LR LR
comp=Z,737nm,21.0s

MBAR Mbarara 52.29 234 P P 17 53 22.4 +0.3
comp=Z,614nm,0.6s,SNR=74

LFF La Frestale 52.30 302⇑ *i*P P 17 53 21.9 +0.2
comp=Z,178nm,0.5s
LFF *e*pP pP 17 54 06.6 -2.3

LFF La Frestale 52.30 302⇑ *i*P P 17 53 21.9 +0.2
LFF *e**PP pP 17 54 06.6 -2.3
LFF pmax pmax
comp=Z,179nm,0.5s

LFF La Frestale 52.30 302⇑ *i*P P 17 53 21.9 +0.2
comp=Z,178nm,0.5s
LFF *e*pP pP 17 54 06.6 -2.3

MVH1 Achvaich 52.32 319⇑ *i*P P 17 53 20.9 -0.7
SDKM Sandakan 52.32 114 P P 17 53 23.6 +1.3
KESW Keswick, Cumbr 52.36 315⇑ *e*P P 17 53 21.4 -0.5
KESW AMB AMB 17 53 22.7
comp=Z,452nm,2.5s
KESW AMS AMS 18 05 53.2
comp=Z,4µm,15.4s

GRR Gorron 52.42 307⇑ *i*P P 17 53 21.9 -0.6
GRR Gorron 52.42 307⇑ *i*P P 17 53 21.9 -0.6
GRR Gorron 52.42 307⇑ *i*P P 17 53 21.9 -0.6
MFF Saint Martin d 52.43 305⇑ *i*P P 17 53 22.0 -0.6
MFF Saint Martin d 52.43 305⇑ *i*P P 17 53 22.0 -0.6
MFF Saint Martin d 52.43 305⇑ *i*P P 17 53 22.0 -0.6
MDO Dochfour 52.50 319⇑ *i*P P 17 53 22.2 -0.7
JMIC Jan Mayen 52.61 336⇑ *i*P P 17 53 24.7 +1.2
JMIC AMB AMB 17 53 29.5
comp=Z,1µm,2.2s
JMIC *e*S S 18 00 36.6 +3.1

SALF Salau 52.64 300 *e*P P 17 53 23.2 -1.1
MLS Moulis 52.64 300 *e*P P 17 53 23.7 -0.5
PVCP Virac 52.70 101⇑ *e*P P 17 53 25.9 +0.9
EAB Aberfoyle 52.73 317⇑ *i*P P 17 53 24.0 -0.6
GCD Castle Douglas 52.78 316⇑ *i*P P 17 53 24.4 -0.5
FOEL Foel Wylfa 52.78 313⇑ *e*P P 17 53 24.6 -0.5
FOEL AMB AMB 17 53 25.8
comp=Z,365nm,2.1s
FOEL AMS AMS 18 06 26.5
comp=Z,3µm,25.6s

RCP Roxas 52.79 104⇑ *e*P P 17 53 26.1 +0.4
LCHF La Chataignera 52.81 305 *e*P P 17 53 26.9 +1.6
MCH1 Michaelchurch 52.87 312⇑ *e*P P 17 53 25.0 -0.7
MCH1 AMB AMB 17 53 26.0
comp=Z,478nm,1.4s
MCH1 AMS AMS 18 18 01.5
comp=Z,2µm,12.5s

PGBU Glenifferbraes 52.88 317⇑ *e*P P 17 53 25.4 -0.3
PGBU AMB AMB 17 53 26.4
comp=Z,412nm,2.7s
PGBU AMS AMS 18 06 28.4
comp=Z,4µm,24.4s

KAC Achnashellach 52.98 319⇑ *i*P P 17 53 26.1 -0.4
YSS Yuzh-Sakhalins 53.04 55⇑ *i*P P 17 53 27.0 0.0
YSS *e**PP pP 17 54 16.0 +1.6
YSS *i* *SP sP 17 54 39.0 +0.9
YSS *e* 17 55 35.0
YSS *e*S S 18 00 34.0 -6.0
YSS *e**SS sS 18 02 00.0 -3.0
YSS pmax pmax
comp=Z,750nm,1.1s
YSS pmax pmax
comp=E,2µm,7.0s
YSS pmax pmax
comp=Z,5µm,7.0s
YSS MLR MLR
comp=Z,3µm,17.0s
YSS MLR MLR
comp=N,2µm,15.0s
YSS MLR MLR
comp=E,2µm,14.0s

JSA Saint Aubin 53.06 308⇑ *e*P P 17 53 26.2 -0.9
JSA AMB AMB 17 53 27.1
comp=Z,219nm,2.2s
JSA AMS AMS 18 06 34.6
comp=Z,2µm,21.5s

WPM1 Penmaenmawr 53.11 314⇑ *i*P P 17 53 27.0 -0.5
EPF Esparros 53.15 300⇑ *i*P P 17 53 26.9 -1.1
comp=Z,93nm,0.5s
EPF *e*pP pP 17 54 12.0 -3.3

EPF Esparros 53.15 300⇑ *i*P P 17 53 26.9 -1.1
EPF *e**PP pP 17 54 12.0 -3.3
EPF pmax pmax
comp=Z,93nm,0.5s

EPF Esparros 53.15 300⇑ *i*P P 17 53 26.9 -1.1
comp=Z,93nm,0.5s
EPF *e*pP pP 17 54 12.0 -3.3

MAJO Matsushiro 53.17 68 *e*P P 17 53 27.9 -0.3
MAJO pmax pmax
comp=Z,310nm,1.0s
MAJO MLR MLR
comp=Z,1µm,19.0s

MAJO Matsushiro 53.17 68 *e*P P 17 53 27.9 -0.3
comp=Z,52nm,1.0s
MAJO LR LR
comp=Z,965nm,19.0s

MAT Matsushiro 53.17 68 P P 17 53 27.8 -0.4
MAT S S 18 00 38.4 -3.7

MJAR Matsushiro Arr 53.17 68 P P 17 53 28.3 +0.1
MJAR ScP ScP 17 58 09.0 -1.2
MJAR *e* 18 30 48.1

MJAR Matsushiro Arr 53.17 68 P P 17 53 28.3 +0.1
comp=Z,248nm,1.1s,baz=288,slow=8.0,SNR=256
MJAR ScP ScP 17 58 09.0 -1.2
comp=Z,2.2nm,0.5s,baz=290,slow=4.6,SNR=4.4
MJAR P4KPbc 18 30 48.1
comp=Z,7.3nm,1.1s,baz=290,slow=5.5,SNR=11

KPL Plockton 53.20 319⇑ *e*P P 17 53 27.7 -0.4
KPL AMB AMB 17 53 28.6
comp=Z,340nm,1.3s
KPL AMS AMS 18 17 36.4
comp=Z,2µm,17.7s

ADJB Djebel Djouab 53.23 291 P P 17 53 28.2 -0.5
GUIM Jordan 53.23 105 *e*P P 17 53 30.6 +1.8
YLL Llanberis 53.29 313⇑ *e*P P 17 53 28.3 -0.5
ABA Alger-Bouzarea 53.30 292 P P 17 53 27.8 -1.3
WME Myndd Eilian 53.31 314⇑ *e*P P 17 53 28.4 -0.5
LABF Labassere 53.33 300 *e*P P 17 53 28.3 -1.0
WLF1 Llynfaes 53.39 314⇑ *e*P P 17 53 29.0 -0.4
WLF1 AMB AMB 17 53 30.0
comp=Z,284nm,2.5s
WLF1 AMS AMS 18 06 47.3
comp=Z,3µm,10.2s

VIEF Viey 53.41 300 *e*P P 17 53 30.1 +0.2

YRE Yr Eifl 53.48 313⇑ *e*P P 17 53 29.3 -0.8
YRC Rhoscolyn 53.50 314⇑ *i*P P 17 53 29.9 -0.4
SGMF Saint Gilles 53.55 307⇑ *i*P P 17 53 30.5 -0.2
comp=Z,95nm,0.7s
SGMF *e*pP pP 17 54 15.5 -2.7

SGMF Saint Gilles 53.55 307⇑ *i*P P 17 53 30.5 -0.2
SGMF *e**PP pP 17 54 15.5 -2.7
SGMF pmax pmax
comp=Z,95nm,0.7s

SGMF Saint Gilles 53.55 307⇑ *i*P P 17 53 30.5 -0.2
comp=Z,95nm,0.7s
SGMF *e*pP pP 17 54 15.5 -2.7

DODT Dodoma, Tanzan 53.57 225 *i* P P 17 53 32.3 +0.9
EMHD Djebel Mahouad 53.58 291 P P 17 53 31.5 +0.2
MYLDM Lahad Datu 53.59 114 P P 17 53 34.8 +3.4
MYLDM Lahad Datu 53.59 114 *e*P P 17 53 34.1 +2.6
comp=Z,985nm,1.5s

REYF Montagne du Re 53.64 301 *e*P P 17 53 31.1 -0.5
TSM Tawau 53.72 115 P P 17 53 34.5 +2.1
KIG Kigali 53.75 234 *e*P P 17 53 33.6 +0.8
KIG AMB AMB 17 53 34.9
comp=Z,36nm,3.8s

KIG Kigali 53.75 234 P P 17 53 33.6 +0.8
comp=Z,36nm,3.8s

ASAJ Asahikawa 53.77 58 *e*P P 17 53 32.3 -0.1
comp=Z,66nm,1.0s

ASAJ Asahikawa 53.77 58 P P 17 53 32.7 +0.3
comp=Z,62nm,0.9s,baz=278,slow=11,SNR=25

ETSF Etsaut 53.81 300⇑ *i*P P 17 53 33.1 +0.3
comp=Z,367nm,0.5s

ETSF Etsaut 53.81 300⇑ *i*P P 17 53 33.1 +0.3
ETSF pmax pmax
comp=Z,367nm,0.5s

ETSF Etsaut 53.81 300⇑ *i*P P 17 53 33.1 +0.3
comp=Z,367nm,0.5s

DYA Yadsworthy 53.83 310 *e*P P 17 53 32.2 -0.5
DYA AMB AMB 17 53 32.9
comp=Z,243nm,2.2s
DYA AMS AMS 18 19 54.2
comp=Z,3µm,15.7s

ATE Arette 53.85 301 *e*P P 17 53 32.3 -0.7
ROSF Rostrenen 53.99 308⇑ *i*P P 17 53 33.5 -0.4
comp=Z,136nm,0.6s

ROSF Rostrenen 53.99 308⇑ *i*P P 17 53 33.5 -0.4
ROSF pmax pmax
comp=Z,136nm,0.6s

ROSF Rostrenen 53.99 308⇑ *i*P P 17 53 33.5 -0.4
comp=Z,136nm,0.6s

HTL Hartland 54.02 311 *e*P P 17 53 33.2 -0.9
HTL AMB AMB 17 53 34.3
comp=Z,184nm,2.5s
HTL AMS AMS 18 14 29.8
comp=Z,2µm,30.6s

QUIF Quistinic 54.04 307⇑ *i*P P 17 53 33.7 -0.6
comp=Z,70nm,0.6s

QUIF Quistinic 54.04 307⇑ *i*P P 17 53 33.7 -0.6
QUIF pmax pmax
comp=Z,70nm,0.6s

QUIF Quistinic 54.04 307⇑ *i*P P 17 53 33.7 -0.6
comp=Z,70nm,0.6s

GMM Mts of Mourne 54.06 315⇑ *i*P P 17 53 33.8 -0.5
LARF Larrau 54.07 301 *e*P P 17 53 34.7 +0.1
OSSF Osses 54.19 301 *e*P P 17 53 34.6 -0.8
SJPF Ste Jean 54.21 301⇑ *i*P P 17 53 35.2 -0.4
comp=Z,62nm,0.6s

SJPF Ste Jean 54.21 301⇑ *i*P P 17 53 35.2 -0.4
SJPF pmax pmax
comp=Z,62nm,0.6s

SJPF Ste Jean 54.21 301⇑ *i*P P 17 53 35.2 -0.4
comp=Z,62nm,0.6s

COCO West Island 54.21 148 *i* P P 17 53 38.9 +3.1
COCO West Island 54.21 148 *e*P P 17 53 38.8 +3.0
comp=Z,592nm,1.3s
COCO LR LR
comp=Z,3µm,22.0s

LLP Lapu-Lapu 54.49 105⇑ *e*P P 17 53 39.2 +1.2
BST Brest 54.50 308 *e*P P 17 53 36.0 -1.6
SNPH Sibulan 54.52 106 *e*P P 17 53 42.6 +4.4
DSB Dublin 54.55 314 *e*P P 17 53 37.5 -0.3
comp=Z,443nm,2.0s

OCLP Ormoc 54.56 103 *e*P P 17 53 39.8 +1.4
EBNR Beni Rached 54.61 292 P P 17 53 37.0 -1.6
SEY Seymchan 54.62 34 *e* P P 17 53 39.3 +1.1
ECHA Ech Chlef 54.78 292 P P 17 53 40.5 +0.7
DAG Danmarks Havn 54.79 344⇑ *i*P P 17 53 40.0 +0.8
DAG *i* 17 54 28.2
DAG *e* 17 54 49.9
DAG pmax pmax
comp=Z,570nm,0.9s

DAG Danmarks Havn 54.79 344⇑ *i*P P 17 53 40.0 +0.8
comp=Z,680nm,0.9s
DAG *i* 17 54 28.2
DAG *e* 17 54 49.9

ERM Erimo 54.85 60 *e*P P 17 53 41.1 +1.0
ERM pmax pmax
comp=Z,109nm,1.0s
ERM MLR MLR
comp=Z,5µm,19.0s

ERM Erimo 54.85 60 *e*P P 17 53 41.1 +1.0
comp=Z,109nm,1.0s
ERM LR LR
comp=Z,5µm,19.0s

ERM Erimo 54.85 60 P P 17 53 40.5 +0.4
comp=Z,624nm,1.0s,SNR=16

IPIL Ipil 54.97 108⇑ *e*P P 17 53 43.6 +2.2
EANR 'Ain N'Sour 55.06 292 P P 17 53 41.0 -0.9
ETRT Tiaret 55.13 291 P P 17 53 42.8 +0.4
MSLP Maasin 55.30 104 *e*P P 17 53 45.5 +1.8
PAGZ Pagadian 55.56 107 *e*P P 17 53 47.5 +1.9
CISI Cisompet, Garu 55.85 134 *e*P P 17 53 44.9 -2.7
comp=Z,219nm,1.0s

YUK Yuzh-Kuril'sk 56.03 57 *c* *i*P P 17 53 41.4 -7.1
YUK *i* *PP pP 17 54 27.8 -8.6
YUK *i* 17 54 50.5
YUK *i* S S 18 01 12.3 -7.5
YUK pmax pmax
comp=Z,3µm,2.0s
YUK pmax pmax
comp=N,46nm,0.6s
YUK pmax pmax
comp=E,177nm,1.1s
YUK pmax pmax
comp=Z,1µm,1.1s
YUK MLR MLR
comp=E,3µm,20.0s
YUK MLR MLR
comp=Z,3µm,20.0s

CGP Cagayan de Oro 56.20 106 *e*P P 17 53 50.0 -0.1
BUTP Butuan 56.60 105 *e*P P 17 53 54.5 +1.5
CTBH Cotabato--PC H 56.62 107⇑ *i*P P 17 53 54.5 +1.4
BUKP Musuan 56.84 106 *e*P P 17 53 56.8 +2.1
KUR Kuril'sk 56.96 55 *e*P P 17 53 54.5 -0.6
KUR pmax pmax
comp=Z,320nm,1.2s

SMRI Semarang 57.01 131 *e*P P 17 53 55.3 -0.5
comp=Z,278nm,1.1s

XMIS Christmas Isla 57.02 138 *e*P P 17 53 54.8 -1.0
comp=Z,250nm,1.0s

SCO Scoresbysund 57.09 336⇑ *i*P P 17 53 57.2 +1.7
SCO pmax pmax
comp=Z,86nm,0.9s

SCO Scoresbysund 57.09 336⇑ *i*P P 17 53 57.2 +1.7
comp=Z,86nm,0.9s

VAL Valentia 57.19 313 *e*P P 17 53 57.1 +0.6
VAL *e*PP pP 17 54 45.6 +1.0
VAL Valentia 57.19 313⇓ *i*S S 18 01 33.4 -1.4
ESDC Sonseca Array 57.35 298 P P 17 53 57.7 -0.3
ESDC pP pP 17 54 47.0 +0.9
ESDC S S 18 01 37.2 -0.3
ESDC P'P' 18 23 44.6

ESDC Sonseca Array 57.35 298 P P 17 53 57.7 -0.3
comp=Z,79nm,0.6s,baz=62,slow=7.3,SNR=280
ESDC pP pP 17 54 47.0 +0.9
comp=Z,55nm,0.8s,baz=61,slow=7.6,SNR=5.0
ESDC S S 18 01 37.2 -0.3
comp=Z,0.2nm,0.3s,baz=72,slow=12,SNR=2.6
ESDC PKPPKP P'P'df 18 23 44.6 -0.7
comp=Z,3.4nm,0.9s,baz=272,slow=2.0,SNR=8.4

TAM Tamanrasset 57.36 276 *e*P P 17 53 58.2 -0.2
TAM pmax pmax
comp=Z,1µm,2.0s
TAM MLR MLR
comp=Z,3µm,20.0s

TAM Tamanrasset 57.36 276 *e*P P 17 53 58.2 -0.2
comp=Z,1µm,2.0s

TAM LR LR
comp=Z,3µm,20.0s
PAB San Pablo 57.67 298 *e*P **P** **17 54 00.0 -0.3**
PAB pmax pmax
comp=Z,432nm,1.5s
PAB MLR MLR
comp=Z,2µm,20.0s
PAB San Pablo 57.67 298 *e*P **P** **17 53 60.0 -0.3**
comp=Z,72nm,1.5s
PAB LR LR
comp=Z,1µm,20.0s
DAV Davao City (W) 57.74 106 P **P** **17 54 02.8 +1.9**
SNR=56
DAV Davao City (W) 57.74 106 *e*P **P** **17 54 02.6 +1.7**
comp=Z,2µm,1.3s
DAV LR LR
comp=Z,2µm,19.0s
MRIV Mauritius Mete 57.75 195 *e*P **P** **17 54 03.6 +2.8**
GSPH General Santos 57.87 108⇑*i*P **P** **17 54 04.1 +2.1**
MATI Mati 58.34 106 *e*P **P** **17 54 06.0 +0.8**
PBRG Braganca 58.49 301 *e*P **P** **17 54 05.6 -0.2**
comp=Z,190nm,1.9s
PBRG *ep*P **PcP** **17 54 53.8 -0.1**
BORG Borgarnes 58.61 330 *e*P **P** **17 54 08.6 +2.4**
comp=Z,224nm,0.8s
BORG LR LR
comp=Z,2µm,19.0s
BORG Borgarnes 58.61 330 P **P** **17 54 08.3 +2.1**
comp=Z,2µm,0.8s,SNR=18
MVO Moncorvo 58.93 301 *e*P **P** **17 54 08.8 -0.2**
comp=Z,208nm,1.2s
MVO *ep*P **pP** **17 54 57.5 +0.2**
RER Riviere de l'E 58.97 196 PFAKE 17 54 20.0 +11
RER LR LR
comp=Z,3µm,20.0s
ALE Alert 59.13 354 P **P** **17 54 10.0 +0.4**
comp=Z,1µm,1.1s
PVRL Vila Real 59.37 301 *e*P **P** **17 54 11.6 -0.3**
comp=Z,192nm,1.9s
PVRL *ep*P **pP** **17 55 00.4 +0.1**
POLO Lamas de Olo 59.38 301 *e*P **P** **17 54 11.8 -0.3**
comp=Z,64nm,1.7s
POLO *ep*P **pP** **17 55 00.3 -0.2**
PCAB Cabril 59.41 301 *e*P **P** **17 54 12.2 0.0**
comp=Z,350nm,2.2s
PCAB *ep*P **pP** **17 55 00.7 +0.1**
ABPO Ambohimpanom 59.43 206 *e*P **P** **17 54 13.9 +1.3**
ABPO pmax pmax
comp=Z,366nm,1.3s
ABPO MLR MLR
comp=Z,2µm,21.0s
ABPO Ambohimpanom 59.43 206 *e*P **P** **17 54 13.9 +1.3**
comp=Z,366nm,1.3s
ABPO LR LR
comp=Z,2µm,21.0s
ABPO Ambohimpanom 59.43 206 P **P** **17 54 14.9 +2.3**
comp=Z,410nm,1.0s,SNR=11
PGAV Gavieira, Arco 59.48 302 *e*P **P** **17 54 12.9 +0.2**
comp=Z,286nm,1.4s
PGAV *ep*P **pP** **17 55 01.7 +0.6**
MTE Manteigas 59.59 300 *e*P **P** **17 54 13.8 +0.3**
comp=Z,408nm,1.3s
MTE *ep*P **pP** **17 55 02.1 +0.2**
MTE Manteigas 59.59 300 *e*P **P** **17 54 13.3 -0.2**
comp=Z,575nm,1.4s
MTE LR LR
comp=Z,2µm,19.0s
PVIS Viseu 59.71 300 *e*P **P** **17 54 14.5 +0.2**
comp=Z,333nm,1.1s
PVIS *ep*P **pP** **17 55 02.5 -0.3**
PCBR Castelo Branco 59.77 299 *e*P **P** **17 54 14.5 -0.1**
comp=Z,202nm,1.9s
PCBR *ep*P **pP** **17 55 03.0 -0.1**
PMRV Marv??o 59.88 299 *e*P **P** **17 54 15.1 -0.3**
comp=Z,255nm,2.0s
PMRV *ep*P **pP** **17 55 03.7 -0.2**
PBAR Barrancos 60.14 297 *e*P **P** **17 54 17.1 -0.1**
comp=Z,401nm,2.3s
PBAR *ep*P **pP** **17 55 05.3 -0.4**
SKR Severo-Kuril's 60.18 47 *e*P P 17 54 10.0 -7.1
SKR *e* 17 56 34.0
SKR *eS* S 18 02 04.0 -9.3
SKR pmax pmax
comp=N,2µm,4.0s
SKR pmax pmax
comp=Z,4µm,4.0s
SKR pmax pmax
comp=Z,310nm,1.0s
SKR smax smax
comp=N,2µm,12.0s
SKR smax smax
comp=E,2µm,12.0s
SKR MLR MLR
comp=N,5µm,16.0s
SKR MLR MLR
comp=E,3µm,16.0s
SKR MLR MLR
comp=Z,3µm,16.0s
PETK Petropavlovsk- 60.18 44 P **P** **17 54 16.6 -0.6**
PETK pmax pmax
comp=Z,57nm,0.8s
PETK Petropavlovsk- 60.18 44 P **P** **17 54 16.6 -0.6**
PETK Petropavlovsk- 60.18 44 P **P** **17 54 16.6 -0.6**
comp=Z,57nm,0.8s,baz=189,slow=1.0,SNR=67
CBIJ Chichi jima 60.21 77 P **P** **17 54 15.5 -2.3**
JCJ Chichijima 60.21 77 P **P** **17 54 15.5 -2.3**
comp=Z,80nm,0.4s,baz=248,slow=1.5,SNR=20
PESTR Estremoz 60.25 298 *e*P **P** **17 54 17.8 -0.1**
comp=Z,264nm,1.2s
PESTR *ep*P **pP** **17 55 06.3 -0.2**
PCAS Casmilo, Conde 60.40 300 *e*P **P** **17 54 18.9 0.0**
comp=Z,168nm,2.5s
PCAS *ep*P **pP** **17 55 07.5 0.0**
PTOM Tomar 60.52 299 *e*P **P** **17 54 19.9 +0.2**
comp=Z,449nm,1.2s
PTOM *ep*P **pP** **17 55 09.3 +1.0**
MDT Midelt 60.66 291 P **P** **17 54 20.3 -0.6**
MDT P'P' 18 23 36.5
MDT Midelt 60.66 291 P **P** **17 54 20.3 -0.6**
comp=Z,108nm,1.0s,baz=73,slow=7.4,SNR=102
MDT PKPPKP **P'P'df** **18 23 36.5 -3.5**
comp=Z,4.4nm,1.1s,baz=273,slow=4.0,SNR=6.0
EVO Evora 60.69 298⇑*i*P **P** **17 54 21.4 +0.5**
comp=Z,348nm,1.1s
EVO *ep*P **pP** **17 55 09.5 +0.1**
EVO *e*R
comp=Z,2µm,19.2s
EVO Evora 60.69 298 *e*P **P** **17 54 20.9 0.0**
comp=Z,302nm,1.1s
EVO *ep*P **pP** **17 55 09.6 +0.1**
PET Petropavlovsk 60.75 44⇑*i*P **P** **17 54 19.9 -1.0**
PET *e* 17 56 41.0
PET *eS* S **18 02 22.9 +2.4**
PET *e* 18 03 40.5
PET *eSS* SS **18 06 26.1 +3.6**
PET pmax pmax
comp=Z,285nm,1.1s
PET pmax pmax
comp=Z,3µm,4.7s
PET pmax pmax
comp=Z,2µm,13.6s
EVOP Sao Brissos 60.77 298⇑*i*P **P** **17 54 21.4 0.0**
EVOP *e**PP **pP** **17 55 09.5 -0.5**
EVOP pmax pmax
comp=Z,348nm,1.1s
EVOP Sao Brissos 60.77 298⇑*i*P **P** **17 54 21.4 0.0**
comp=Z,348nm,1.1s
EVOP *ep*P **pP** **17 55 09.5 -0.5**
PBEJ Beja 60.80 298 *e*P **P** **17 54 21.6 0.0**
comp=Z,247nm,2.2s
PBEJ *ep*P **pP** **17 55 11.3 +1.0**
PVAQ Vaqueiros 60.95 297 *e*P **P** **17 54 22.4 -0.2**
comp=Z,322nm,1.3s
PVAQ *ep*P **pP** **17 55 10.9 -0.4**
PCVE Castro Verde 61.09 297 *e*P **P** **17 54 23.5 -0.1**
comp=Z,215nm,2.1s
PCVE *ep*P **pP** **17 55 12.1 -0.2**
SUMG Summit 61.11 341⇑*i*P **P** **17 54 24.9 +1.3**
SUMG *i* 17 55 16.4
SUMG pmax pmax
comp=Z,690nm,1.0s
SUMG Summit 61.11 341⇑*i*P **P** **17 54 24.9 +1.3**
comp=Z,694nm,1.0s
SUMG *i* 17 55 16.4
SUMG Summit 61.11 341 *e*P **P** **17 54 24.7 +1.1**
comp=Z,789nm,0.9s

PACT Alcochete 61.17 299 *e*P **P** **17 54 24.2 +0.1**
comp=Z,616nm,1.8s
PACT *ep*P **pP** **17 55 13.5 +0.7**
PBDV Barranco-do-Ve 61.18 297 *e*P **P** **17 54 24.3 +0.1**
comp=Z,464nm,1.0s
PBDV *ep*P **pP** **17 55 12.9 0.0**
PNCL Nicolau / Gran 61.24 298 *e*P **P** **17 54 24.8 +0.3**
comp=Z,238nm,2.0s
PNCL *ep*P **pP** **17 55 13.6 +0.4**
PMAFR Mafra 61.41 299 *e*P **P** **17 54 25.8 +0.1**
comp=Z,416nm,1.1s
PMAFR *ep*P **pP** **17 55 14.5 0.0**
LIS Lisbon 61.42 299 *e*P **P** **17 54 26.1 +0.4**
LIS AMb AMB 17 54 27.8
comp=Z,366nm,1.2s
LIS *eS* **S** **18 02 29.9 +0.5**
LIS Lisbon 61.42 299 *e*P **P** **17 54 26.1 +0.4**
comp=Z,366nm,1.2s
LIS *eS* **S** **18 02 29.9 +0.5**
LIS Lisbon 61.42 299 *e*P **P** **17 54 26.1 +0.4**
LIS *eS* **S** **18 02 29.9 +0.5**
PMST Lisbon--Monsan 61.44 299 *e*P **P** **17 54 26.4 +0.6**
comp=Z,383nm,1.0s
PMST *ep*P **pP** **17 55 14.4 -0.2**
KAPI Kappang 61.55 121 P **P** **17 54 25.8 -1.1**
SNR=41
KAPI Kappang 61.55 121 *e*P **P** **17 54 25.5 -1.3**
comp=Z,102nm,1.3s
KAPI LR LR
comp=Z,2µm,20.0s
KAPI Kappang 61.55 121 P **P** **17 54 25.6 -1.3**
comp=Z,1µm,1.2s,SNR=33
KAPI Kappang 61.55 121 P **P** **17 54 25.4 -1.5**
comp=Z,311nm,1.2s,baz=299,slow=5.6,SNR=55
PTEO Sao Teotonio 61.62 297 *e*P **P** **17 54 27.2 +0.1**
comp=Z,355nm,1.1s
PTEO *ep*P **pP** **17 55 17.1 +1.2**
MORF Marmelete 61.67 297 *e*P **P** **17 54 27.2 -0.3**
comp=Z,201nm,2.1s
MORF *ep*P **pP** **17 55 16.3 0.0**
MORF Marmelete 61.67 297 *e*P **P** **17 54 27.4 -0.1**
MORF *eS* **S** **18 02 33.0 +0.2**
RTC Rabat Centre 61.81 293 *e*P **P** **17 54 28.4 -0.1**
comp=Z,119nm,0.3s
RTC LR LR
comp=Z,775nm,22.0s
KULLO Kullorsuaq 64.14 346⇑*i*P **P** **17 54 43.7 +0.6**
LSZ Lusaka 65.24 226⇑*i*P **P** **17 54 51.9 +0.8**
LSZ Lusaka 65.24 226 PFAKE 17 55 00.0 +8.9
LSZ LR LR
comp=Z,3µm,20.0s
TORD Torodi Ar. Bea 65.53 269 P **P** **17 54 51.8 -1.1**
TORD pP **pP** **17 55 40.6 -1.8**
TORD sP **sP** **17 55 05.9 +0.4**
TORD S S 18 03 14.6 -6.3
TORD P'P' 18 23 21.8
TORD Torodi Ar. Bea 65.53 269 P **P** **17 54 51.8 -1.1**
comp=Z,317nm,0.5s,baz=49,slow=5.9,SNR=2888
TORD pP **pP** **17 55 40.6 -1.8**
comp=Z,144nm,0.9s,baz=42,slow=5.5,SNR=2.8
TORD sP **sP** **17 56 05.9 +0.4**
comp=Z,59nm,0.9s,baz=38,slow=5.9,SNR=1.3
TORD S S 18 03 14.6 -6.3
comp=Z,4.5nm,1.0s,baz=37,slow=6.4,SNR=4.1
TORD PKPPKP P'P'df 18 23 21.8 -9.4
comp=Z,10nm,1.1s,baz=238,slow=2.8,SNR=9.5
ILULI Ilulissat 66.45 341⇑*i*P **P** **17 54 58.7 +0.8**
ILULI pmax pmax
comp=Z,530nm,1.0s
SFJD Kangerlussuaq 67.80 339⇑*i*P **P** **17 55 06.6 +0.2**
comp=Z,176nm,0.9s
SFJD Kangerlussuaq 67.80 339 *e*P **P** **17 55 06.0 -0.4**
comp=Z,440nm,1.2s
SFJD LR LR
comp=Z,2µm,19.0s
SFJD Kangerlussuaq 67.80 339 P **P** **17 55 06.4 0.0**
comp=Z,228nm,1.0s,baz=50,slow=7.6,SNR=17
FX1 Attu Island--F 68.61 39 *e*P **P** **17 55 11.5 -0.2**
GAMB Gambell 68.69 25 *e*P **P** **17 55 13.4 +1.4**
comp=Z,290nm,1.0s
TNA Tin City 68.74 22 *e*P **P** **17 55 13.0 +0.7**
comp=Z,366nm,1.1s
SMY Shemya 69.17 39 *e*P **P** **17 55 15.2 +0.1**
SMY pmax pmax
comp=Z,944nm,1.3s
SMY Shemya 69.17 39 *e*P **P** **17 55 15.2 +0.1**
comp=Z,944nm,1.3s
PMPST Porto Santo, M 69.20 296 *e*P **P** **17 55 15.0 -0.8**
comp=Z,280nm,1.1s
PMPST *ep*P **pP** **17 56 05.4 -0.3**
PMPS Porto Santo 69.21 296 *e*P **P** **17 55 15.6 -0.2**
comp=Z,303nm,1.8s
PMPS *ep*P **pP** **17 56 04.7 -1.0**
GUMO Guam 69.34 88 *e*P **P** **17 55 17.9 +1.2**
comp=Z,20nm,1.3s
GUMO LR LR
comp=Z,174nm,19.0s
PMAR Madeira 69.80 296 *e*P **P** **17 55 19.7 +0.1**
comp=Z,746nm,1.1s
PMAR *ep*P **pP** **17 56 10.6 +0.9**
NRS Narsarsuaq 69.89 332⇑*i*P **P** **17 55 19.7 +0.3**
NRS pmax pmax
comp=Z,260nm,0.9s
MSNA Messina 69.95 220⇑*i*P **P** **17 55 21.1 +0.8**
MSNA AMB AMB 17 55 23.1
comp=Z,145nm,1.7s
PMOZ Porto Moniz, M 69.96 296 *e*P **P** **17 55 20.7 +0.2**
comp=Z,337nm,1.4s
PMOZ *ep*P **pP** **17 56 10.1 -0.4**
KUK Kukurantumi 71.18 264 *i*P **P** **17 55 27.5 -0.5**
COLD Coldfoot 72.13 16 *e*P **P** **17 55 33.6 +0.8**
comp=Z,818nm,1.0s
IMA2 Indian Mountai 72.29 17 *e*P **P** **17 55 33.4 -0.5**
IM04 Indian Mountai 72.34 18 *e*P **P** **17 55 34.0 -0.1**
RUDU RUNDU 72.39 231⇑*i*P **P** **17 55 35.8 +0.7**
RUDU AMB AMB 17 55 37.3
comp=Z,214nm,1.4s
MBWA Marble Bar 73.58 133 P **P** **17 55 41.9 0.0**
SNR=22
MBWA Marble Bar 73.58 133 *e*P **P** **17 55 42.2 +0.3**
comp=Z,277nm,1.1s
MBWA LR LR
comp=Z,2µm,21.0s
SPIA Saint Paul Isl 73.60 30 *e*P **P** **17 55 43.6 +2.0**
comp=Z,624nm,1.2s
SLR Silverton 73.64 219 *e*P **P** **17 55 43.2 +0.9**
SLR AMB AMB 17 55 44.8
comp=Z,255nm,3.7s
INK Inuvik 74.05 9 *e*P **P** **17 55 44.8 +0.8**
comp=Z,1µm,1.0s
INK S S **18 04 58.3 0.0**
INK Inuvik 74.05 9 S S **18 04 58.3 0.0**
comp=Z,9.1nm,0.9s,baz=238,slow=30,SNR=9.6
ERPM east rand prop 74.16 219 *e*P **P** **17 55 45.5 +0.1**
ERPM AMB AMB 17 55 46.4
comp=Z,185nm,1.4s
KSR Koster 74.45 220 *e*P **P** **17 55 47.8 +0.7**
KSR AMB AMB 17 55 49.3
comp=Z,108nm,1.3s
LBTB Lobatse 74.47 222⇑*i*P **P** **17 55 48.0 +0.9**
LBTB AMB AMB 17 55 48.8
comp=Z,257nm,1.6s
KLOF Kloof 74.49 220⇓*i*P **P** **17 55 48.1 +0.8**
KLOF AMB AMB 17 55 48.6
comp=Z,204nm,1.6s
DBIC Dimbokro 74.50 267⇑*i*P **P** **17 55 46.4 -1.1**
DBIC Dimbokro 74.50 267 P **P** **17 55 46.5 -1.0**
DBIC S **S** **18 05 00.2 -4.8**
DBIC P'P' 18 23 17.1
DBIC Dimbokro 74.50 267 P **P** **17 55 46.5 -1.0**
comp=Z,86nm,0.7s,baz=34,slow=6.8,SNR=71
DBIC S **S** **18 05 00.2 -4.8**
comp=Z,5.5nm,0.9s,baz=305,slow=23,SNR=9.9
DBIC PKPPKP **P'P'df** **18 23 17.1 +1.3**
comp=Z,9.9nm,1.1s,baz=114,slow=6.0,SNR=3.1
BPAW Bear Paw Mtn. 74.56 18 *e*P **P** **17 55 47.3 +0.2**
comp=Z,521nm,1.0s
KIC Kosan Boka 74.59 267 *e*PKP2 **P** **17 55 45.8 -2.2**
comp=Z,737nm,1.2s
COLA College 74.64 16 *e*P **P** **17 55 47.6 +0.2**
COLA pmax pmax
comp=Z,1µm,0.9s
COLA MLR MLR
comp=Z,2µm,19.0s
COLA College 74.64 16 *e*P **P** **17 55 47.6 +0.2**
comp=Z,316nm,0.9s

COLA LR LR
comp=Z,2µm,19.0s
TIC Toumodi 74.65 267 *e*PKP2 **P** **17 55 45.8 -2.6**
comp=Z,491nm,1.0s
TSUM Tsumeb 74.70 232 PFAKE 17 56 00.0 +11
TSUM LR LR
comp=Z,2µm,21.0s
CAST Castle Rocks 74.85 18 *e*P **P** **17 55 46.7 -2.0**
comp=Z,2µm,1.0s
LIC Lamto 74.90 267⇑*i*P **P** **17 55 48.7 -1.1**
comp=Z,133nm,0.6s
LIC *ep*P **pP** **17 56 39.9 -0.6**
LIC *e*R
comp=Z,5µm,19.5s
LIC Lamto 74.90 267 *e*PKP2 **P** **17 55 46.9 -2.9**
comp=Z,224nm,0.6s
LIC Lamto 74.90 267⇑*i*P **P** **17 55 48.7 -1.1**
comp=Z,133nm,0.6s
LIC *ep*P **pP** **17 56 39.9 -0.6**
ILAR Eielson Array 74.94 16 P **P** **17 55 48.9 -0.3**
ILAR PP **PP** **17 58 40.9 +1.7**
ILAR Eielson Array 74.94 16 P **P** **17 55 48.9 -0.3**
comp=Z,365nm,0.9s,baz=331,slow=3.4,SNR=702
ILAR PP **PP** **17 58 40.9 +1.7**
comp=Z,35nm,0.7s,baz=321,slow=6.3,SNR=5.9
FITZ Fitzroy Crossi 74.97 126 P **P** **17 55 50.2 +0.2**
FITZ pP **pP** **17 56 42.0 +1.3**
FITZ Fitzroy Crossi 74.97 126 P **P** **17 55 50.2 +0.2**
comp=Z,226nm,1.0s,baz=333,slow=5.5,SNR=181
FITZ pP **pP** **17 56 42.0 +1.3**
comp=Z,116nm,1.1s,baz=309,slow=5.6,SNR=3.6
PRYS Parys 75.08 219⇑*i*P **P** **17 55 50.5 -0.2**
PRYS AMB AMB 17 55 51.6
comp=Z,98nm,1.5s
FRB Frobisher Bay 75.12 343 P **P** **17 55 50.4 +0.2**
FRB Frobisher Bay 75.12 343 P **P** **17 55 50.4 +0.2**
comp=Z,120nm,0.6s,baz=25,slow=5.8,SNR=54
PPLA Purkeypile 75.26 19 *e*P **P** **17 55 51.2 0.0**
comp=Z,2µm,1.8s
TRF Thorofare Moun 75.28 18 *e*P **P** **17 55 50.7 -0.7**
comp=Z,2µm,1.0s
MCK McKinley 75.37 17 *e*P **P** **17 55 51.3 -0.4**
MCK pmax pmax
comp=Z,358nm,0.8s
MCK McKinley 75.37 17 *e*P **P** **17 55 51.3 -0.4**
comp=Z,358nm,0.8s
SVW2 Sparrevohn 75.78 21 *e*P **P** **17 55 55.9 +1.8**
comp=Z,311nm,1.0s
SEK Senekal 76.09 218⇑*i*P **P** **17 55 56.9 +0.6**
SEK AMB AMB 17 55 57.6
comp=Z,362nm,1.6s
EGAK Eagle 76.10 13 *e*P **P** **17 55 56.3 +0.5**
comp=Z,574nm,1.1s
EGAK LR LR
comp=Z,2µm,20.0s
SWZ Schweizer 76.35 221⇑*i*P **P** **17 55 58.2 +0.4**
SWZ AMB AMB 17 55 59.0
comp=Z,424nm,1.6s
DOT Dot Lake 76.53 15 *e*P **P** **17 55 58.4 +0.2**
comp=Z,421nm,0.9s
SPU Mount Spurr 76.71 20 *e*P **P** **17 55 59.0 -0.4**
PAX Paxson 76.82 16 *e*P **P** **17 56 00.4 +0.4**
PAX pmax pmax
comp=Z,668nm,0.7s
PAX Paxson 76.82 16 *e*P **P** **17 56 00.4 +0.4**
comp=Z,668nm,0.7s
KSD Kokstad 77.06 216⇑*i*P **P** **17 56 02.4 +0.7**
KSD AMB AMB 17 56 03.3
comp=Z,306nm,1.5s
RSO Redoubt South 77.11 20 *e*P **P** **17 56 01.8 0.0**
PMR Palmer 77.14 18 *e*P **P** **17 56 01.5 -0.1**
PMR pmax pmax
comp=Z,461nm,0.9s
PMR Palmer 77.14 18 *e*P **P** **17 56 01.5 -0.1**
comp=Z,461nm,0.9s
MENT Mentasta 77.23 15 *e*P **P** **17 56 02.4 +0.2**
UNV Unalaska Valle 77.45 31 *e*P **P** **17 56 02.1 -1.4**
comp=Z,184nm,1.0s
WIN Windhoek 77.49 230⇑*i*P **P** **17 56 05.5 +1.2**
WIN AMB AMB 17 56 07.0
comp=Z,53nm,3.0s
WIN Windhoek 77.49 230 *i*P **P** **17 56 05.6 +1.2**
BOSA Boshof 77.54 220⇑*i*P **P** **17 56 05.0 +0.6**
BOSA AMB AMB 17 56 05.4
comp=Z,319nm,1.6s
BOSA Boshof 77.54 220 P **P** **17 56 04.9 +0.6**
BOSA pP **pP** **17 56 56.6 +1.2**
BOSA Boshof 77.54 220 P **P** **17 56 04.9 +0.6**
comp=Z,155nm,0.6s,baz=39,slow=5.3,SNR=354
BOSA pP **pP** **17 56 56.6 +1.2**
comp=Z,136nm,1.0s,baz=44,slow=7.4,SNR=3.1
AKUT Akutan 77.54 30 *e*P **P** **17 56 03.0 -0.9**
comp=Z,106nm,0.8s
FALS False Pass 77.95 29 *e*P **P** **17 56 05.7 -0.4**
comp=Z,212nm,0.8s
SEW Seward 78.32 19 *e*P **P** **17 56 08.1 0.0**
comp=Z,502nm,1.1s
DIV Divide 78.36 17 *e*P **P** **17 56 09.2 +0.7**
comp=Z,604nm,0.8s
CHGN Chignik 78.68 25 *e*P **P** **17 56 09.1 -1.0**
SDPT Sand Point 78.68 27 *e*P **P** **17 56 10.6 +0.5**
comp=Z,215nm,0.8s
BMRM Bremner River 78.78 17 *e*P **P** **17 56 11.6 +0.9**
comp=Z,842nm,1.0s
RAGM Ragged Mountai 79.28 17 *e*P **P** **17 56 15.1 +1.7**
comp=Z,462nm,0.8s
BBTS Babate 79.32 280 P **P** **17 56 14.6 +0.2**
BBTS pP **pP** **17 57 06.3 +0.7**
BBTS Babate 79.32 280 P **P** **17 56 14.6 +0.2**
comp=Z,102nm,0.9s,baz=265,slow=0.6,SNR=14
BBTS pP **pP** **17 57 06.3 +0.7**
comp=Z,92nm,0.9s,baz=203,slow=0.3,SNR=3.5
KDAK Kodiak Island 79.38 22 *e*P **P** **17 56 14.5 +0.6**
comp=Z,1µm,0.9s
KDAK LR LR
comp=Z,3µm,22.0s
KDAK Kodiak Island 79.38 22 P **P** **17 56 14.7 +0.8**
comp=Z,7µm,0.7s
OHAK Old Harbor 79.62 23 *e*P **P** **17 56 15.8 +0.5**
comp=Z,856nm,1.0s
PKA Prieska 79.69 221⇑*i*P **P** **17 56 16.5 +0.4**
PKA AMB AMB 17 56 17.2
comp=Z,80nm,1.5s
MID Middleton Isla 79.71 18 *e*P **P** **17 56 17.6 +1.9**
MID pmax pmax
comp=Z,435nm,0.7s
MID Middleton Isla 79.71 18 *e*P **P** **17 56 17.6 +1.9**
comp=Z,435nm,0.7s
HYT Haines Junctio 80.41 14 *e*P **P** **17 56 20.6 +1.0**
SOE Somerset East 80.70 217 *e*P **P** **17 56 22.1 +0.8**
SOE AMB AMB 17 56 23.1
comp=Z,214nm,1.4s
GRM Grahamstown 80.73 216⇑*i*P **P** **17 56 22.2 +0.8**
GRM AMB AMB 17 56 23.0
comp=Z,252nm,1.5s
YKA Yellowknife Ar 81.37 3 P **P** **17 56 24.8 +0.3**
YKA pP **pP** **17 57 18.6 +2.6**
YKA sP **sP** **17 57 41.6 +3.1**
YKA PP **PP** **17 59 32.6 +0.1**
YKA PKKPbc **PKKPbc** **18 14 54.6 -2.7**
YKA Yellowknife Ar 81.37 3 P **P** **17 56 24.7 +0.3**
comp=Z,339nm,0.7s,baz=351,slow=5.4,SNR=469
YKA pP **pP** **17 57 18.6 +2.6**
comp=Z,32nm,0.5s,baz=352,slow=5.3,SNR=2.5
YKA sP **sP** **17 57 41.6 +3.1**
comp=Z,57nm,0.7s,baz=347,slow=5.4,SNR=2.4
YKA PP **PP** **17 59 32.6 +0.1**
comp=Z,76nm,0.9s,baz=354,slow=8.2,SNR=7.6
YKA PKKPbc **PKKPbc** **18 14 54.6 -2.7**
comp=Z,5.4nm,0.6s,baz=164,slow=2.0,SNR=11
NWAO Narrogin (SRO) 81.49 142 P **P** **17 56 24.7 -0.7**
SNR=7.0
NWAO Narrogin (SRO) 81.49 142 *e*P **P** **17 56 24.6 -0.8**
comp=Z,154nm,1.2s
NWAO LR LR
comp=Z,1µm,21.0s
SKAG Skagway 82.09 13 *e*P **P** **17 56 28.7 +0.5**
comp=Z,305nm,0.9s
WRA Warramunga Arr 82.09 122 P **P** **17 56 28.1 -0.7**
WRA S **S** **18 06 20.5 -4.9**
WRA PKKPbc **PKKPbc** **18 14 56.6 +0.7**
WRA P'P' 18 22 57.1
WRA Warramunga Arr 82.09 122 P **P** **17 56 28.1 -0.7**
comp=Z,369nm,0.9s,baz=323,slow=5.2,SNR=544
WRA S **S** **18 06 20.5 -4.9**
comp=Z,14nm,1.0s,baz=313,slow=12,SNR=11

WRA PKKPbc **PKKPbc** 18 14 56.6 +0.7
comp=Z,7.0nm,0.7s,baz=126,slow=2.3,SNR=37
WRA PKPPKP **P'P'df** 18 22 57.1 -3.4
comp=Z,6.2nm,1.1s,baz=121,slow=1.6,SNR=13
WRAB Tennant Creek 82.09 122 *eP* **P** 17 56 27.9 -0.9
WRAB pmax pmax
comp=Z,668nm,1.0s
WRAB MLR MLR
comp=Z,2µm,20.0s
WRAB Tennant Creek 82.09 122 *eP* **P** 17 56 27.9 -0.9
comp=Z,668nm,1.0s
WRAB LR LR
comp=Z,2µm,20.0s
WRAB Tennant Creek 82.09 122 P **P** 17 56 28.6 -0.2
comp=Z,3µm,0.8s
SCHQ Schefferville 82.13 337 pP **pP** 17 57 21.4 +1.2
SCHQ PKKPbc **PKKPbc** 18 14 52.9 -2.6
SCHQ Schefferville 82.13 337 P **P** 17 56 28.6 0.0
comp=Z,62nm,0.6s,baz=34,slow=6.5,SNR=90
SCHQ pP **pP** 17 57 21.4 +1.2
comp=Z,43nm,0.8s,baz=24,slow=6.6,SNR=2.7
SCHQ PKKPbc **PKKPbc** 18 14 52.9 -2.6
comp=Z,5.2nm,0.7s,baz=234,slow=2.0,SNR=4.5
KOMG Komaggas 82.68 225 *eP* **P** 17 56 31.6 -0.1
KOMG AMB AMB 17 56 33.4
comp=Z,206nm,1.4s
CVNA Calvinia 82.71 222⇑ *iP* **P** 17 56 32.2 +0.3
CVNA AMB AMB 17 56 33.5
comp=Z,239nm,1.4s
SUR Sutherland 82.85 221⇑ *iP* **P** 17 56 33.9 +1.2
SUR AMB AMB 17 56 34.6
comp=Z,128nm,1.5s
SUR Sutherland 82.85 221 P **P** 17 56 34.4 +1.7
SNR=5.7
SUR Sutherland 82.85 221 *eP* **P** 17 56 34.0 +1.2
comp=Z,46nm,1.0s
SUR LR LR
comp=Z,2µm,21.0s
SUR Sutherland 82.85 221 P **P** 17 56 33.4 +0.7
comp=Z,1µm,1.0s,SNR=42
WAKE Wake Island 83.36 71 *eP* **P** 17 56 35.6 +0.1
comp=Z,318nm,0.9s
DLBC Dease Lake 83.94 11 *eP* **P** 17 56 38.7 +0.8
comp=Z,767nm,1.3s
SIT Sitka 84.34 14 *eP* **P** 17 56 41.1 +1.3
SIT pmax pmax
comp=Z,322nm,0.9s
SIT Sitka 84.34 14 *eP* **P** 17 56 41.1 +1.3
comp=Z,322nm,0.9s
ASAR Alice Springs 84.34 125 P **P** 17 56 39.6 -0.7
ASAR PKiKP **PKiKP** 18 01 53.6 +0.5
ASAR S S 18 06 36.5 -11
ASAR PKKPbc **PKKPbc** 18 14 51.2 +0.4
ASAR P'P' 18 22 54.8
ASAR Alice Springs 84.34 125 P **P** 17 56 39.6 -0.7
comp=Z,192nm,0.9s,baz=321,slow=5.1,SNR=652
ASAR PKiKP **PKiKP** 18 01 53.6 +0.5
comp=Z,3.2nm,0.7s,baz=348,slow=1.0,SNR=4.5
ASAR S S 18 06 36.5 -11
comp=Z,10nm,1.1s,baz=325,slow=2.4,SNR=5.4
ASAR PKKPbc **PKKPbc** 18 14 51.2 +0.4
comp=Z,3.0nm,0.7s,baz=123,slow=2.5,SNR=15
ASAR PKPPKP **P'P'df** 18 22 54.8 -1.4
comp=Z,3.3nm,0.9s,baz=164,slow=3.0,SNR=4.6
CER Ceres 84.41 221⇑ *iP* **P** 17 56 41.7 +1.3
CER AMB AMB 17 56 43.4
comp=Z,312nm,3.1s
COEN Coen 84.53 112 *eP* **P** 17 56 40.9 -0.5
comp=Z,362nm,0.9s
PMG Port Moresby 84.75 106 P **P** 17 56 42.4 -0.1
PMG LR LR
comp=Z,752nm,20.0s
PMG Port Moresby 84.75 106 P **P** 17 56 42.4 -0.1
comp=Z,509nm,1.1s,baz=338,slow=5.3,SNR=82
ELIM Elim 85.13 220 *eP* **P** 17 56 44.0 +0.1
ELIM AMB AMB 17 56 46.3
comp=Z,315nm,3.1s
PAF Port-aux-Franc 85.36 180 PFAKE 17 57 00.0 +15
PAF LR LR
comp=Z,2µm,22.0s
WRAK Wrangell Islan 85.49 13 *eP* **P** 17 56 46.5 +1.0
comp=Z,338nm,0.9s
WRAK LR LR
comp=Z,2µm,22.0s
FORT Forrest 85.72 133 *eP* **P** 17 56 46.8 -0.2
comp=Z,351nm,0.9s
FFC Flin Flon 89.04 356 *eP* **P** 17 57 02.9 +0.3
FFC pmax pmax
comp=Z,434nm,1.3s
FFC MLR MLR
comp=Z,2µm,22.0s
FFC Flin Flon 89.04 356 *eP* **P** 17 57 02.9 +0.3
comp=Z,179nm,1.3s
FFC LR LR
comp=Z,3µm,22.0s
FFC Flin Flon 89.04 356 P **P** 17 57 02.0 -0.6
comp=Z,1µm,1.1s,SNR=62
MIDW Midway 89.28 55 *eP* **P** 17 57 04.4 +0.3
comp=Z,240nm,1.0s
CTA Charters Tower 90.66 114 P **P** 17 57 10.2 -0.4
CTA pP **pP** 17 58 04.3 +1.2
CTA S **SKSac** 18 07 26.9 +5.1
CTA Charters Tower 90.66 114 P **P** 17 57 10.2 -0.4
comp=Z,263nm,1.0s,baz=304,slow=6.1,SNR=95
CTA pP **pP** 17 58 04.3 +1.2
comp=Z,56nm,1.1s,baz=304,slow=3.5,SNR=2.6
CTA S **SKSac** 18 07 26.9 +5.1
comp=Z,3.3nm,0.8s,baz=305,slow=19,SNR=3.2
CTAO Charters Tower 90.66 114 *eP* **P** 17 57 10.2 -0.4
CTAO MLR MLR
comp=Z,1µm,22.0s
CTAO Charters Tower 90.66 114 *eP* **P** 17 57 10.2 -0.4
CTAO LR LR
comp=Z,1µm,22.0s
EDM Edmonton 90.69 2 *eP* **P** 17 57 11.1 +0.8
EDM Edmonton 90.69 2 *eP* **P** 17 57 11.1 +0.8
ASCN Ascension 90.75 261 PFAKE 17 57 20.0 +8.8
ASCN LR LR
comp=Z,2µm,21.0s
PKME Peaks-Kenny Pk 91.08 333 *eP* **P** 17 57 13.4 +1.2
comp=Z,72nm,1.3s
PKME LR LR
comp=Z,2µm,19.0s
BBOO Buckleboo 91.97 130 *eP* **P** 17 57 15.3 -1.1
comp=Z,112nm,1.1s
LBNH Lisbon 92.91 334 PFAKE 17 57 30.0 +9.3
LBNH LR LR
comp=Z,2µm,19.0s
ULM Lac du Bonnet 92.94 351 P **P** 17 57 20.2 -0.5
ULM pP **pP** 17 58 13.7 +0.4
ULM PKKP **PKKPdf** 18 14 25.3 -0.4
ULM Lac du Bonnet 92.94 351 P **P** 17 57 20.2 -0.5
comp=Z,119nm,1.1s,baz=7.7,slow=4.5,SNR=50
ULM pP **pP** 17 58 13.7 +0.4
comp=Z,62nm,1.1s,baz=351,slow=5.1,SNR=4.5
ULM PKKP **PKKPdf** 18 14 25.3 -0.4
comp=Z,6.1nm,0.8s,baz=306,slow=1.3,SNR=4.9
FRNY Flat Rock 92.96 335 *eP* **P** 17 57 21.1 +0.2
comp=Z,330nm,2.5s
FRNY *ep*P pP 17 58 05.7 -7.8
LONY Lake Ozonia 93.48 336 *eP* **P** 17 57 23.3 0.0
comp=Z,46nm,0.9s
LONY LR LR
comp=Z,1µm,20.0s
MDV Middlebury 93.56 335 *eP* **P** 17 57 24.6 +0.9
PTN Potsdam (NY) 93.65 336 *eP* **P** 17 57 24.4 +0.3
PTN pmax pmax
comp=Z,81nm,0.8s
PTN Potsdam (NY) 93.65 336 *eP* **P** 17 57 24.4 +0.3
comp=Z,81nm,0.8s
NCB Newcomb 93.94 335 *eP* **P** 17 57 25.4 -0.1
comp=Z,118nm,1.9s
NCB LR LR
comp=Z,1µm,20.0s
A05A Maple Falls 94.23 8 *eP* **P** 17 57 26.4 -0.2
comp=Z,110nm,1.1s
ACCN Adirondack Com 94.27 335 *eP* **P** 17 57 27.5 +0.5
comp=Z,30nm,0.9s
HRV Adam Dziewonsk 94.29 333 *ep*P pP 17 58 25.9 +6.3
PGC Sidney 94.40 9 *eP* **P** 17 57 27.9 +0.5
comp=Z,86nm,1.0s
MBW Mount Baker 94.46 8 P **P** 17 57 27.8 -0.2
A29A Manning Farm, 94.60 353 ⇓P **P** 17 57 28.0 -0.4
baz=94,SNR=29
A28A Rude Farm, Bot 94.71 354 ⇓P **P** 17 57 28.8 -0.1
baz=94,SNR=6.0
A27A Ledoux Ranch, 94.74 355⇑ P **P** 17 57 28.9 -0.2
baz=94,SNR=9.1
SADO Sadowa 94.75 339 P **P** 17 57 28.9 -0.2
SADO pP **pP** 17 58 22.3 +0.6
SADO Sadowa 94.75 339 P **P** 17 57 28.9 -0.2
comp=Z,20nm,0.9s,baz=46,slow=2.0,SNR=12
SADO pP **pP** 17 58 22.3 +0.6
comp=Z,15nm,1.0s,baz=87,slow=9.8,SNR=2.8
B06A Marblemount 94.77 8 *eP* **P** 17 57 29.2 +0.1
comp=Z,89nm,0.8s
WALA Waterton Lakes 94.83 3 *eP* **P** 17 57 29.4 -0.2
comp=Z,138nm,0.9s
AGMN Agassiz Nation 94.86 351 *eP* **P** 17 57 29.1 -0.4
comp=Z,168nm,1.3s
AGMN *ep*PKKPbc **PKKPdf** 18 14 22.9 +0.6
AGMN LR LR
comp=Z,2µm,19.0s
STW Striped Peak 94.86 10 P **P** 17 57 30.7 +1.2
HNR Honiara 94.86 98 *ep*PKKPbc PKKPbc 18 14 21.9 -2.0
STKA Stephens Creek 94.87 126 *eP* **P** 17 57 28.2 -1.5
comp=Z,5.9nm,1.0s
STKA S **SKSac** 18 07 40.2 -4.3
STKA SKKPbc **SKKPbc** 18 17 42.7 -2.9
STKA Stephens Creek 94.87 126 P **P** 17 57 28.4 -1.3
comp=Z,18nm,0.9s,baz=310,slow=7.0,SNR=44
STKA S **SKSac** 18 07 40.2 -4.3
comp=Z,6.7nm,0.9s,baz=122,slow=20,SNR=14
STKA SKKPbc **SKKPbc** 18 17 42.7 -2.9
comp=Z,4.0nm,1.0s,baz=22,slow=2.6,SNR=4.0
A25A Svangstu Ranch 94.88 356 ⇓P **P** 17 57 30.1 +0.4
baz=94,SNR=8.2
A24A Westby 94.94 357⇑P **P** 17 57 30.9 +0.9
baz=95,SNR=18
A23A Redstone 94.94 357⇑P **P** 17 57 30.7 +0.8
baz=95
A22A Carney Farms, 94.95 358⇑P **P** 17 57 30.5 +0.5
baz=95,SNR=11
A21A Bergtoll Ranch 94.98 358⇑P **P** 17 57 30.5 +0.4
baz=95
B30A Myrvik Farm, E 94.98 353 ⇓P **P** 17 57 30.0 -0.2
baz=95,SNR=24
JCW Jim Creek 95.04 8 P **P** 17 57 30.8 +0.4
A19A Klindworth Far 95.06 360 ⇓P **P** 17 57 31.1 +0.5
baz=95,SNR=14
B29A Wagenman Farm, 95.07 353⇑P **P** 17 57 30.1 -0.4
baz=95,SNR=11
A20A Cobblestone Ra 95.10 359⇑P **P** 17 57 31.2 +0.5
baz=95,SNR=35
B28A Dugan Ranch, T 95.17 354⇑P **P** 17 57 31.1 +0.1
baz=95,SNR=8.3
B27A Peters Farms, 95.29 355⇑P **P** 17 57 32.0 +0.4
baz=95,SNR=5.5
B26A Jensen Ranch, 95.39 355⇑P **P** 17 57 32.4 +0.4
baz=95,SNR=10
DGMT Dagmar 95.40 357 *eP* **P** 17 57 33.0 +0.9
comp=Z,235nm,1.3s
DGMT LR LR
comp=Z,4µm,22.0s
DGMT Dagmar 95.40 357⇑P **P** 17 57 33.0 +0.9
baz=95,SNR=11
NEW Newport 95.43 5 *eP* **P** 17 57 32.7 +0.4
comp=Z,97nm,1.0s
NEW *ep*PKKPbc **PKKPbc** 18 14 23.0 -0.2
NEW LR LR
comp=Z,2µm,20.0s
NEW Newport 95.43 5 ⇓P **P** 17 57 32.6 +0.4
baz=95,SNR=52
B23A Brockton 95.44 357 ⇓P **P** 17 57 32.8 +0.5
baz=95,SNR=8.1
B19A Brinkman Farms 95.54 360 ⇓P **P** 17 57 32.8 +0.1
baz=95,SNR=45
B21A Ellsworth Farm 95.54 359 ⇓P **P** 17 57 33.2 +0.5
baz=95,SNR=22
B20A Solberg Farm, 95.55 359 ⇓P **P** 17 57 33.1 +0.4
baz=95,SNR=88
B25A Knox Farm, Ray 95.55 356 ⇓P **P** 17 57 33.8 +1.1
baz=95
NLWA Neilton Lookou 95.58 10 *eP* **P** 17 57 34.6 +1.7
comp=Z,111nm,1.0s
NLWA LR LR
comp=Z,2µm,20.0s
B22A Reddig Ranch S 95.64 358 ⇓P **P** 17 57 33.9 +0.7
baz=95,SNR=24
MDND Maddock 95.70 353 *eP* **P** 17 57 33.5 +0.1
MDND *ep*P **pP** 17 58 27.6 +1.5
MDND Maddock 95.70 353⇑P **P** 17 57 33.2 -0.2
C30A Mce, Pekin 95.74 353⇑P **P** 17 57 33.1 -0.5
baz=95,SNR=21
C09A Chrisman Ranch 95.80 6 *eP* **P** 17 57 34.5 +0.6
comp=Z,145nm,1.2s
BLMT Blacktail Moun 95.86 3 *eP* **P** 17 57 34.8 +0.4
C28A Hausauer Farms 95.90 354 ⇓P **P** 17 57 34.6 +0.2
baz=96
C26A Wahner Farm, P 95.92 355⇑P **P** 17 57 35.1 +0.6
baz=96,SNR=5.7
EGMT Eagleton 95.97 0 *eP* **P** 17 57 34.9 +0.2
comp=Z,206nm,1.3s
EGMT LR LR
comp=Z,2µm,19.0s
EGMT Eagleton 95.97 0⇑P **P** 17 57 34.9 +0.2
baz=96,SNR=52
BSMT Bassoo Peak 95.99 4 *eP* **P** 17 57 35.6 +0.6
C27A Sayler Ranch, 95.99 355⇑P **P** 17 57 35.5 +0.7
baz=96
YBMT Yellow Bay 96.02 3 *eP* **P** 17 57 35.0 0.0
comp=Z,15nm,0.9s
D05A Enumclaw 96.02 9 *eP* **P** 17 57 35.9 +1.0
comp=Z,186nm,1.1s
BINY Binghamton 96.10 336 *eP* **P** 17 57 35.6 +0.3
comp=Z,27nm,0.8s
BINY LR LR
comp=Z,2µm,20.0s
LTY Liberty 96.11 8 *eP* P 17 57 30.7 -4.6
comp=Z,30nm,0.9s
C23A Lambert 96.11 357⇑P **P** 17 57 36.4 +1.1
baz=96,SNR=34
JTMT Jette 96.12 3 *eP* **P** 17 57 35.8 +0.3
C21A Desert Coulee 96.14 359⇑P **P** 17 57 36.1 +0.6
baz=96,SNR=53
OD2 Odessa Site #2 96.17 6 P **P** 17 57 35.4 -0.1
C22A Vida 96.19 358⇑P **P** 17 57 36.2 +0.5
baz=96,SNR=39
MMNY Mt. Morris Dam 96.23 337 *eP* **P** 17 57 36.1 +0.2
comp=Z,205nm,1.4s
MMNY *ep*P **pP** 17 58 29.5 +1.0
C19A Slack Wire Ran 96.26 360 ⇓P **P** 17 57 36.1 +0.1
baz=96,SNR=47
C20A Veseth Ranch, 96.27 359⇑P **P** 17 57 36.1 +0.1
baz=96,SNR=48
C24A Savage 96.35 357 ⇓P **P** 17 57 37.0 +0.6
baz=96,SNR=6.5
D30A Buchanan 96.36 353⇑P **P** 17 57 36.2 -0.2
baz=96,SNR=6.4
SWMT Swartz Lake 96.38 3 *eP* **P** 17 57 36.9 +0.3
SWMT *ep*PKKPbc **PKKPbc** 18 14 20.4 -0.4
D28A Regan 96.44 354⇑P **P** 17 57 37.0 +0.2
baz=96,SNR=10.0
E03A Lebam 96.45 10 *eP* **P** 17 57 38.5 +1.7
comp=Z,98nm,0.9s
LON Longmire 96.47 9 *eP* **P** 17 57 37.4 +0.4
LON pmax pmax
comp=Z,51nm,0.9s
LON Longmire 96.47 9 *eP* **P** 17 57 37.4 +0.4
comp=Z,52nm,0.9s
D29A Pettibone, Tap 96.48 353⇑P **P** 17 57 36.6 -0.4
baz=96
WPW White Pass 96.56 8 P **P** 17 57 38.1 +0.6
D27A Center 96.60 355 ⇓P **P** 17 57 38.1 +0.6
baz=96,SNR=11
SLMT Seeley Lake 96.66 3 *eP* **P** 17 57 38.2 +0.2
D25A Fairfield 96.67 356 ⇓P **P** 17 57 39.1 +1.2
baz=96,SNR=9.8
D26A Manning 96.74 355⇑P **P** 17 57 39.0 +0.8
baz=96,SNR=20
D23A Lindsay 96.74 357 ⇓P **P** 17 57 39.3 +1.0
baz=96,SNR=16
D24A Glendive 96.76 357⇑P **P** 17 57 39.3 +1.1
baz=96,SNR=10
D22A Cohagen 96.80 358 ⇓P **P** 17 57 39.6 +1.2
baz=96,SNR=42
TDL Tradedollar La 96.82 9 P **P** 17 57 39.1 +0.5
D19A Cripps Ranch, 96.83 360⇑P **P** 17 57 38.6 0.0
baz=96,SNR=51
E07A Sunnyside 96.88 7 *eP* **P** 17 57 39.9 +1.0
comp=Z,37nm,1.1s
D20A Manuel Ranch, 96.90 359 ⇓P **P** 17 57 39.2 +0.3
baz=96,SNR=23
D21A La Casta Ranch 96.90 358⇑P **P** 17 57 39.5 +0.5
baz=96,SNR=49
E30A Jud 96.97 353⇑P **P** 17 57 39.1 -0.1
baz=97,SNR=6.3
E29A Napoleon 96.98 353⇑P **P** 17 57 39.2 0.0
baz=97,SNR=5.0
CHMT Chamberlain Mo 97.00 3 *eP* **P** 17 57 39.5 -0.1
F03A Seaside 97.05 10 *eP* Pdif 17 57 41.7 +2.1
comp=Z,162nm,1.0s
MSO Missoula 97.06 3 *eP* **P** 17 57 39.7 0.0
comp=Z,188nm,1.9s
MSO *e*PP PP 18 01 45.2 +8.0
MSO *e*PKKPbc **PKKPbc** 18 14 19.0 +0.1
MSO Missoula 97.06 3 ⇓P **P** 17 57 39.4 -0.3
baz=97
E28A Huff 97.06 354 ⇓P Pdif 17 57 40.0 +0.3
baz=97,SNR=16
HAWA Hanford 97.08 7 *eP* Pdif 17 57 40.6 +0.9
comp=Z,63nm,1.5s
HAWA LR LR
comp=Z,1µm,19.0s
HRY Holter Researc 97.25 2 *eP* Pdif 17 57 41.0 +0.4
LAO LASA Array 97.26 358 *eP* Pdif 17 57 41.6 +1.0
comp=Z,104nm,1.1s
LAO LR LR
comp=Z,2µm,21.0s
E27A Carson 97.28 355⇑P Pdif 17 57 41.2 +0.5
baz=97,SNR=8.0
E26A Carlson Angus 97.30 355 ⇓P Pdif 17 57 41.3 +0.5
baz=97,SNR=8.6
E24A Baker 97.31 357 ⇓P Pdif 17 57 41.6 +0.7
baz=97,SNR=6.1
E25A Miller Ranch, 97.33 356⇑P Pdif 17 57 41.6 +0.7
baz=97,SNR=15
EIDS Eidsvold 97.40 116 *eP* **P** 17 57 40.8 -0.5
comp=Z,29nm,1.1s
E23A Ismay 97.42 357⇑P Pdif 17 57 42.0 +0.8
baz=97,SNR=15
SPMN St. Paul 97.42 348⇑P **P** 17 57 40.9 -0.3
baz=97
ERPA Erie 97.43 338 *eP* Pdif 17 57 43.4 +2.0
comp=Z,28nm,0.8s
ERPA LR LR
comp=Z,2µm,20.0s
E21A Keefer Ranch, 97.43 358 ⇓P Pdif 17 57 41.8 +0.5
baz=97
E20A Meyer Farm, Mu 97.48 359 ⇓P Pdif 17 57 42.0 +0.3
baz=97,SNR=27
E22A Miles City 97.50 358 ⇓P Pdif 17 57 42.4 +0.7
baz=97,SNR=9.1
E19A Rath Farm, Rou 97.53 360⇑P Pdif 17 57 42.3 +0.5
baz=97,SNR=37
F30A Leola 97.64 353⇑P **P** 17 57 41.8 -0.5
baz=97
F10A Beach Ranch, E 97.70 6 *eP* Pdif 17 57 43.0 +0.4
comp=Z,307nm,2.3s
F29A Eureka 97.72 353⇑P Pdif 17 57 42.6 0.0
baz=97
F28A McLaughlin 97.79 354⇑P **P** 17 57 42.9 0.0
baz=97
F27A Lemmon 97.86 355⇑P Pdif 17 57 44.0 +0.8
baz=98,SNR=11
F25A Bowman 97.90 356 ⇓P Pdif 17 57 44.2 +0.7
baz=98,SNR=7.2
F26A Lodgepole 97.93 355⇑P Pdif 17 57 44.2 +0.6
baz=98,SNR=8.2
F24A Ekalaka 98.03 357⇑P Pdif 17 57 44.8 +0.7
baz=98,SNR=5.1
G06A Carlson Farm, 98.11 8 *eP* Pdif 17 57 45.1 +0.7
comp=Z,604nm,2.8s
LRM Limekiln Ridge 98.12 2 *eP* Pdif 17 57 45.0 +0.3
F19A Roth Farm, Mol 98.14 360⇑P Pdif 17 57 44.7 +0.2
baz=98,SNR=51
F21A Absaloka Mine, 98.15 359 ⇓P Pdif 17 57 44.8 +0.2
baz=98
F22A Rosebud 98.17 358 ⇓P Pdif 17 57 44.9 +0.2
baz=98,SNR=7.1
F20A Billings 98.19 359⇑P Pdif 17 57 45.3 +0.5
baz=98,SNR=11
MVL Millersville 98.19 335 *eP* **P** 17 57 44.7 0.0
comp=Z,16nm,0.9s
GCMT Greycliff 98.20 0 *eP* Pdif 17 57 45.5 +0.6
comp=Z,28nm,1.2s
BOZ Bozeman (W) 98.32 2 *eP* Pdif 17 57 46.2 +0.8
BOZ pmax pmax
comp=Z,67nm,1.4s
BOZ MLR MLR
comp=Z,1µm,20.0s
BOZ Bozeman (W) 98.32 2 *eP* Pdif 17 57 46.2 +0.8
comp=Z,75nm,1.4s
BOZ *e*PKKPbc **PKKPbc** 18 14 15.2 -0.3
BOZ LR LR
comp=Z,1µm,20.0s
G27A Dupree 98.35 355 ⇓Pdif Pdif 17 57 45.6 +0.2
baz=98
G30A Faulkton 98.35 353 ⇓Pdif **P** 17 57 45.0 -0.4
baz=98
G29A Hoven 98.37 353 ⇓Pdif Pdif 17 57 46.0 +0.5
baz=98
H04A Detroit Lake 98.46 9 *eP* Pdif 17 57 46.7 +0.8
comp=Z,35nm,1.0s
G26A Maurine 98.48 355⇑Pdif Pdif 17 57 46.4 +0.3
baz=98
G24A Alzada 98.55 357 ⇓Pdif Pdif 17 57 46.7 +0.3
baz=98
G28A Parade 98.57 354⇑Pdif Pdif 17 57 46.5 +0.1
baz=98
DLMT Dillon 98.57 2 *eP* Pdif 17 57 47.7 +1.1
comp=Z,147nm,1.5s
DLMT *e*PP **PP** 18 01 46.2 -2.7
G25A Newell 98.63 356 ⇓Pdif Pdif 17 57 47.0 +0.3
baz=98
G23A Biddle 98.72 357 ⇓Pdif Pdif 17 57 47.3 +0.1
baz=98
G22A Birney 98.73 358⇑Pdif Pdif 17 57 47.8 +0.6
baz=98
G21A Lodge Grass 98.75 359⇑Pdif Pdif 17 57 47.8 +0.5
baz=98
G20A Bridger 98.77 359⇑Pdif Pdif 17 57 47.6 +0.2
baz=98
BMO Blue Mountains 98.81 6 *eP* **P** 17 57 47.0 -0.5
comp=Z,15nm,1.2s
BMO LR LR
comp=Z,1µm,20.0s
VIPM Ingram Point 98.83 8 P Pdif 17 57 48.4 +0.6
VIPM Ingram Point 98.83 8 P Pdif 17 57 48.4 +0.6
RLMT Red Lodge 98.87 0 *eP* Pdif 17 57 48.5 +0.5
comp=Z,83nm,1.3s
RLMT LR LR
comp=Z,2µm,21.0s
H29A Onida 98.95 353 ⇓Pdif Pdif 17 57 48.1 0.0
baz=99
H28A Mission Ridge 98.98 354⇑Pdif **P** 17 57 48.4 +0.2
baz=99
BRSD Miller 99.01 353 *e*Pdif **Pdif** 17 57 48.8 +0.5
BRSD *e*PKKPbc **PKKPbc** 18 14 12.3 -1.1
BRSD Miller 99.01 353 ⇓Pdif **Pdif** 17 57 48.1 -0.3
baz=99
H27A Howes 99.10 355 ⇓Pdif **Pdif** 17 57 49.0 +0.2
baz=99
MCMT McKenzie Canyo 99.10 3 *eP* **Pdif** 17 57 49.2 +0.2
comp=Z,106nm,0.8s
H24A Dirks Ranch, A 99.14 357⇑Pdif **Pdif** 17 57 49.1 +0.1
baz=99
QLMT Earthquake Lak 99.14 2 *e*Pdif **Pdif** 17 57 50.0 +0.9
H26A Fairpoint 99.17 355⇑Pdif **Pdif** 17 57 49.5 +0.4
baz=99
JFWS Jewell Farm 99.20 346 *eP* **Pdif** 17 57 49.3 0.0
JFWS pmax pmax
comp=Z,38nm,1.0s
JFWS MLR MLR
comp=Z,2µm,20.0s
JFWS Jewell Farm 99.20 346 *e*Pdif **Pdif** 17 57 49.2 0.0
comp=Z,38nm,1.0s
JFWS *e*PKKPbc **PKKPbc** 18 14 11.8 -1.0
JFWS LR LR
comp=Z,2µm,20.0s
H25A Fruitdale 99.21 356 ⇓Pdif **Pdif** 17 57 49.6 +0.3
baz=99
YMR Madison River 99.31 1 *eP* **Pdif** 17 57 50.7 +0.8
comp=Z,54nm,1.5s
H18A Shoshone NF, C 99.32 0⇑Pdif **Pdif** 17 57 50.2 +0.2
baz=99
H19A Powell 99.32 360⇑Pdif **Pdif** 17 57 50.7 +0.8
baz=99
H21A Big Horn, Sher 99.34 358⇑Pdif **Pdif** 17 57 50.7 +0.7
baz=99

H22A Clearmont 99.36 358 ⇓Pdiff **Pdif** 17 57 50.6 +0.6
baz=99
H23A Clabaugh Cattl 99.36 357 ⇓Pdiff **Pdif** 17 57 50.5 +0.5
baz=99
I07A Izee 99.37 7 *e*Pdif **Pdif** 17 57 51.0 +0.9
comp=Z,43nm,1.1s
I07A *e*PKKPbc **PKKPbc** 18 14 13.0 +0.4
ECSD EROS Data Cent 99.44 351 *e*Pdif **Pdif** 17 57 50.3 0.0
comp=Z,134nm,1.6s
ECSD *e*PKKPbc **PKKPbc** 18 14 10.2 -2.0
ECSD LR LR
comp=Z,2µm,19.0s
I29A Vivian Onida 99.56 353 ⇓Pdiff **Pdif** 17 57 51.0 +0.2
baz=99
I30A Oacoma 99.58 353 ⇑Pdiff **Pdif** 17 57 50.8 -0.2
baz=99
H17A Grant Village 99.59 1 *e*pP pP 17 58 48.0 +4.0
H17A Grant Village 99.59 1 ⇑Pdiff **Pdif** 17 57 53.4 +2.1
baz=99
MCWV Mont Chateau 99.64 337 PFAKE 17 58 00.0 +8.8
MCWV LR LR
comp=Z,2µm,19.0s
I28A Midland 99.66 354 ⇓Pdiff **Pdif** 17 57 51.6 +0.3
baz=99
I27A Quinn 99.66 355 ⇓Pdiff **Pdif** 17 57 51.7 +0.4
baz=99
RSSD Black Hills 99.73 356 *e*P **Pdif** 17 57 52.3 +0.4
RSSD pmax pmax
comp=Z,26nm,0.8s
RSSD Black Hills 99.73 356 *e*Pdif **Pdif** 17 57 52.3 +0.4
comp=Z,6.5nm,0.8s
RSSD *e*PKKPbc **PKKPbc** 18 14 10.3 -1.4
I26A New Underwood 99.75 355 ⇑Pdiff **Pdif** 17 57 52.5 +0.7
baz=99
I25A Rochford 99.82 356 ⇑Pdiff **Pdif** 17 57 52.8 +0.6
baz=99
BBSR BB Station 99.91 323 PFAKE 17 58 00.0 +7.5
BBSR LR LR
comp=Z,1µm,21.0s
I19A Meeteetse 99.96 360 ⇓Pdiff **Pdif** 17 57 53.8 +1.0
baz=100
I24A Kuemmerle Ranc 100.03 357 ⇑Pdiff **Pdif** 17 57 53.5 +0.4
baz=100
ACSO Alum Creek Sta 100.03 340 *e*Pdif **Pdif** 17 57 52.8 -0.2
ACSO LR LR
comp=Z,2µm,21.0s
I20A Worland 100.04 359 ⇑Pdiff **Pdif** 17 57 53.8 +0.7
baz=100
I22A 9 Mile Ranch, 100.06 358 ⇑Pdiff **Pdif** 17 57 54.0 +0.8
baz=100
I17A Pilgrim Ck. 100.06 1 ⇓Pdiff **Pdif** 17 57 54.3 +0.9
baz=100
IMW Indian Meadow 100.08 1 *e*Pdif **Pdif** 17 57 55.0 +1.5
CBN Corbin 100.15 335 PFAKE 17 58 00.0 +6.5
CBN LR LR
comp=Z,1µm,20.0s
I21A Big Trails, Te 100.16 359 ⇑Pdiff **Pdif** 17 57 54.1 +0.4
baz=100
J29A Okreek 100.17 353 ⇓Pdiff **Pdif** 17 57 54.0 +0.4
baz=100
J30A Dallas 100.17 353 ⇓Pdiff **Pdif** 17 57 53.9 +0.3
baz=100
J08A Circle Bar Ran 100.19 7 *e*Pdif **Pdif** 17 57 55.0 +1.3
J08A *e*PKKPbc **PKKPbc** 18 14 11.4 +1.2
MOOW Moose Ponds 100.23 1 *e*Pdif **Pdif** 17 57 55.3 +1.2
J28A Allard Ranch, 100.24 354 ⇓Pdiff **Pdif** 17 57 54.3 +0.4
baz=100
HLID Hailey 100.29 4 *e*Pdif **Pdif** 17 57 54.8 +0.5
HLID *e*PKKPbc **PKKPbc** 18 14 10.7 +0.7
HLID LR LR
comp=Z,2µm,22.0s
HLID Hailey 100.29 4 ⇓Pdiff **Pdif** 17 57 54.5 +0.2
baz=100
FXWY Fox Creek 100.34 1 *e*Pdif **Pdif** 17 57 56.3 +1.7
FXWY *e*PKKPbc **PKKPbc** 18 14 09.8 -0.2
HUMO Hull Mountain 100.39 10 *e*Pdif **Pdif** 17 57 55.8 +1.2
J25A Sunshine Ranch 100.45 356 ⇑Pdiff **Pdif** 17 57 55.2 +0.3
baz=100
J27A Elkhorn Farm, 100.47 355 ⇓Pdiff **Pdif** 17 57 55.2 +0.2
baz=100
J26A Sides Ranch, S 100.48 355 ⇑Pdiff **Pdif** 17 57 56.0 +1.0
baz=100
J23A Dilts Ranch, B 100.52 357 ⇑Pdiff **Pdif** 17 57 55.5 +0.3
baz=100
J22A Midwest 100.54 358 ⇓Pdiff **Pdif** 17 57 54.8 -0.6
baz=100
J24A Dixon Ranch, L 100.55 357 ⇓Pdiff **Pdif** 17 57 55.6 +0.2
baz=100
REDW Red Top Meadow 100.62 1 *e*Pdif **Pdif** 17 57 57.4 +1.6
RRI2 Red Ridge 100.62 2 *e*Pdif **Pdif** 17 57 57.3 +1.4
J21A Lysite 100.63 359 ⇓Pdiff **Pdif** 17 57 56.4 +0.6
baz=100
J20A Shoshoni 100.63 359 ⇑Pdiff **Pdif** 17 57 56.5 +0.8
baz=100
SCIA State Center 100.72 348 PFAKE 17 58 10.0 +14
SCIA LR LR
comp=Z,2µm,19.0s
J19A Crowheart 100.73 360 ⇓Pdiff **Pdif** 17 57 57.5 +1.2
baz=100
K29A Lazy Trails An 100.81 353 ⇑Pdiff **Pdif** 17 57 56.8 +0.4
baz=100
K30A Basset 100.83 353 ⇑Pdiff **Pdif** 17 57 57.0 +0.5
baz=100
SFIN Scholer Farm 100.95 343 ⇑Pdiff **Pdif** 17 57 56.7 -0.3
baz=101
K28A Ten Mile Ranch 100.95 354 ⇑Pdiff **Pdif** 17 57 57.7 +0.6
baz=101
K27A Flueckinger Fa 101.03 355 ⇓Pdiff **Pdif** 17 57 57.6 +0.1
baz=101
WVOR Wild Horse Val 101.09 7 PFAKE 17 58 10.0 +12
WVOR LR LR
comp=Z,1µm,19.0s
K26A Motz Farm, Whi 101.10 355 ⇑Pdiff **Pdif** 17 57 57.9 +0.1
baz=101
K24A Anderson Ranch 101.17 357 ⇑Pdiff **Pdif** 17 57 58.2 0.0
baz=101
K23A Bowen Ranch, D 101.17 357 ⇑Pdiff **Pdif** 17 57 57.3 -0.9
baz=101
AHID Auburn Hatcher 101.21 1 Pdif **Pdif** 17 57 59.2 +0.8
comp=Z,9.8nm,0.6s
AHID LR LR
comp=Z,3µm,19.0s
BW06 Boulder Array 101.23 0 *e*Pdif **Pdif** 17 57 58.7 +0.2
BW06 *e*PKKPbc **PKKPbc** 18 14 06.5 -1.0
BW06 LR LR
comp=Z,2µm,20.0s
PDAR Pinedale Array 101.23 0 P **Pdif** 17 57 59.0 +0.5
PDAR PKiKP **PKiKP** 18 02 21.1 -1.0
PDAR PKKPbc **PKKPbc** 18 14 03.8 -3.6
PDAR SKKP 18 17 24.1
PDAR Pinedale Array 101.23 0 P **Pdif** 17 57 59.0 +0.5
comp=Z,3.8nm,0.6s,baz=45,slow=3.7,SNR=24
PDAR PKiKP **PKiKP** 18 02 21.1 -1.0
comp=Z,9.4nm,0.9s,baz=49,slow=2.7,SNR=8.1
PDAR PKKPbc **PKKPbc** 18 14 03.8 -3.6
comp=Z,3.6nm,0.9s,baz=154,slow=3.0,SNR=10
PDAR SKKP 18 17 24.1
comp=Z,1.8nm,0.8s,baz=168,slow=3.7,SNR=4.7
PDAR PKPPKP P'P'df 18 22 21.6 -5.8
comp=Z,1.6nm,1.0s,baz=177,slow=3.0,SNR=6.9
K25A Mack Ranch, Ha 101.23 356 ⇓Pdiff **Pdif** 17 57 58.9 +0.5
baz=101
L31A Butterfield Fa 101.24 352 ⇑Pdiff **Pdif** 17 57 58.6 +0.2
baz=101
YBH Yreka Blue Hor 101.29 10 *e*Pdif **Pdif** 17 57 58.7 +0.1
comp=Z,10nm,0.9s
K22A Casper 101.30 358 *e*Pdif **Pdif** 17 57 59.1 +0.3
K22A *e*PKKPbc **PKKPbc** 18 14 06.1 -1.0
K22A Casper 101.30 358 ⇑Pdiff **Pdif** 17 57 58.9 +0.1
baz=101
KRMB Red Mountain 101.31 11 *e*Pdif **Pdif** 17 58 00.9 +2.1
K21A Alcova 101.34 359 ⇑Pdiff **Pdif** 17 57 59.2 +0.2
baz=101
L29A Maesberg Ranch 101.52 353 ⇓Pdiff **Pdif** 17 57 59.7 +0.1
baz=101
L30A Spencer Herefo 101.56 353 ⇓Pdiff **Pdif** 17 57 59.7 -0.1
baz=101
L27A T5 Ranch, Ells 101.65 355 ⇑Pdiff **Pdif** 17 58 00.6 +0.3
baz=101
L28A Connealy Angus 101.67 354 ⇑Pdiff **Pdif** 17 58 00.4 0.0
baz=101
L25A Engebretsen Ra 101.69 356 ⇑Pdiff **Pdif** 17 58 00.5 0.0
baz=101
L23A Garrett 101.81 357 ⇑Pdiff **Pdif** 17 58 00.7 -0.5
baz=101
CAN Canberra 101.85 125 PFAKE 17 58 10.0 +9.0
CAN LR LR
comp=Z,1µm,22.0s
L24A Wheatland 101.85 357 ⇑Pdiff **Pdif** 17 58 01.2 0.0
baz=102
BGNE Belgrade 101.92 352 *e*Pdif **Pdif** 17 58 02.6 +1.2
BGNE Belgrade 101.92 352 ⇓Pdiff **Pdif** 17 58 01.9 +0.5
baz=102
L22A Ellis Ranch, M 101.92 358 ⇓Pdiff **Pdif** 17 58 01.6 0.0
baz=102
BLO Bloomington 101.95 342 *e*PKKPbc PKKPbc 18 14 04.0 -0.9
KHMM Horse Mountain 101.97 11 *e*PP PP 18 02 14.1 -0.5
M30A Dale-Ortello V 101.98 353 ⇓Pdiff **Pdif** 17 58 01.9 +0.2
baz=102
BLA Blacksburg 102.06 337 PFAKE 17 58 10.0 +7.9
BLA LR LR
comp=Z,2µm,21.0s
HVU Hansel Valley 102.14 3 *e*P **Pdif** 17 58 03.7 +1.1
HVU Hansel Valley 102.14 3 *e*Pdif **Pdif** 17 58 03.7 +1.1
M29A Burnside Ranch 102.15 353 ⇓Pdiff **Pdif** 17 58 02.5 +0.1
baz=102
M27A Reverse DX Ran 102.21 355 ⇑Pdiff **Pdif** 17 58 02.9 +0.1
baz=102
RWWY Rawlins 102.28 358 *e*Pdif **Pdif** 17 58 10.4 +7.1
M26A McRoberts Ranc 102.33 355 ⇑Pdiff **Pdif** 17 58 03.4 +0.1
baz=102
M25A Palm-Egli Farm 102.41 356 ⇑Pdiff **Pdif** 17 58 04.4 +0.7
baz=102
M24A Cheyenne 102.42 357 ⇑Pdiff **Pdif** 17 58 05.0 +1.1
baz=102
WDC Whiskeytown Da 102.44 10 *e*P **Pdif** 17 58 04.1 +0.4
WDC pmax pmax
comp=Z,10.0nm,1.0s
WDC Whiskeytown Da 102.44 10 *e*Pdif **Pdif** 17 58 04.1 +0.4
comp=Z,9.6nm,1.0s
M23A Laramie 102.46 357 ⇓Pdiff **Pdif** 17 58 04.5 +0.5
baz=102
M22A Cedar Creek Ra 102.55 358 ⇓Pdiff **Pdif** 17 58 04.8 +0.3
baz=102
N32A Stulken Farm, 102.57 352 ⇑Pdiff **Pdif** 17 58 04.4 +0.1
baz=102
N31A Bailey Ranch, 102.59 352 ⇓Pdiff **Pdif** 17 58 04.5 +0.1
baz=102
PHWY Pilot Hill 102.61 357 *e*Pdif **Pdif** 17 58 05.2 +0.4
PHWY *e*PP PP 18 02 13.1 -6.4
PHWY *e*PKKPbc **PKKPbc** 18 14 03.1 -0.4
N30A Hueftle Ranch, 102.74 353 ⇓Pdiff **Pdif** 17 58 05.8 +0.7
baz=102
OLIL Olney 102.75 343 *e*PKKPbc PKKPbc 18 14 01.9 -0.6
N29A Votaw Ranch, W 102.77 353 ⇓Pdiff **Pdif** 17 58 05.4 +0.2
baz=102
N27A Anderson Farm, 102.94 355 ⇓Pdiff **Pdif** 17 58 06.5 +0.5
baz=103
N26A Koester Ranch, 102.97 355 ⇑Pdiff **Pdif** 17 58 06.9 +0.7
baz=103
CNNC Cliffs of the 103.00 334 PFAKE 17 58 20.0 +14
CNNC LR LR
comp=Z,1µm,19.0s
N25A Grover 103.03 356 ⇑Pdiff **Pdif** 17 58 07.3 +0.8
baz=103
N23A Red Feather La 103.04 357 ⇓Pdiff **Pdif** 17 58 07.5 +0.8
baz=103
ELK Elko 103.05 5 *e*Pdif **Pdif** 17 58 08.1 +1.4
N24A Carr 103.06 357 ⇓Pdiff **Pdif** 17 58 07.3 +0.7
baz=103
N22A Wattenberg Ran 103.15 358 ⇑Pdiff **Pdif** 17 58 08.2 +1.0
baz=103
N20A Spence Gulch, 103.15 359 ⇓Pdiff **Pdif** 17 58 07.6 +0.5
baz=103
BMN Battle Mountai 103.21 6 *e*P **Pdif** 17 58 09.3 +2.0
BMN MLR MLR
comp=Z,988nm,20.0s
BMN Battle Mountai 103.21 6 *e*Pdif **Pdif** 17 58 09.3 +2.0
BMN *e*PKKPbc **PKKPbc** 18 14 02.8 +1.3
BMN LR LR
comp=Z,988nm,20.0s
O30A MW Ranch, Wils 103.35 353 ⇑Pdiff **Pdif** 17 58 08.1 +0.3
baz=103
JLU Jordanelle 103.36 2 *e*Pdif **Pdif** 17 58 10.1 +2.0
O27A Beecher Island 103.55 355 ⇓Pdiff **Pdif** 17 58 08.9 +0.1
baz=103
O26A Horse Wrangler 103.56 355 ⇓Pdiff **Pdif** 17 58 09.4 +0.6
baz=103
DAU Daniels Canyon 103.56 2 *e*P **Pdif** 17 58 11.0 +2.0
DAU Daniels Canyon 103.56 2 *e*Pdif **Pdif** 17 58 11.0 +2.0
O28A Krutsinger Ran 103.56 354 ⇓Pdiff **Pdif** 17 58 08.5 -0.2
baz=103
O19A Miners Draw (B 103.69 360 ⇑Pdiff **Pdif** 17 58 10.0 +0.5
baz=103
PAHR Pah Rah Range 103.71 8 *e*Pdif **Pdif** 17 58 10.8 +1.3
O23A Lake Granby, G 103.72 357 ⇓Pdiff **Pdif** 17 58 10.0 +0.2
baz=103
DUG Dugway 103.72 3 *e*P **Pdif** 17 58 11.4 +1.8
DUG MLR MLR
comp=Z,1µm,20.0s
DUG Dugway 103.72 3 *e*Pdif **Pdif** 17 58 11.4 +1.8
DUG *e*PKKPbc **PKKPbc** 18 14 00.2 +0.1
DUG LR LR
comp=Z,1µm,20.0s
DUG Dugway 103.72 3 ⇑Pdiff **Pdif** 17 58 10.7 +1.1
baz=103
O25A Wiggins 103.73 356 ⇑Pdiff **Pdif** 17 58 09.9 +0.3
baz=103
O21A Pagoda 103.76 359 ⇓Pdiff **Pdif** 17 58 10.3 +0.4
baz=103
O24A Longmont 103.77 357 ⇑Pdiff **Pdif** 17 58 10.4 +0.5
baz=103
O22A Kremmling 103.79 358 ⇑Pdiff **Pdif** 17 58 10.6 +0.5
baz=103
P33A Williams Farm, 103.81 351 ⇓Pdiff **Pdif** 17 58 10.0 +0.2
baz=103
MAW Mawson 103.84 183 Pdif **Pdif** 17 58 11.5 +2.6
MAW PKiKP **PKiKP** 18 02 25.5 +0.2
MAW PKKPbc **PKKPbc** 18 13 59.5 -1.2
MAW Mawson 103.84 183 Pdiff **Pdif** 17 58 11.5 +2.6
comp=Z,17nm,0.9s,baz=30,slow=6.7,SNR=12
MAW PKiKP **PKiKP** 18 02 25.5 +0.2
comp=Z,12nm,1.0s,baz=333,slow=6.1,SNR=5.2
MAW PKKPbc **PKKPbc** 18 13 59.5 -1.2
comp=Z,5.0nm,0.7s,baz=203,slow=4.9,SNR=10
O20A White River Ci 103.85 359 *e*Pdif **Pdif** 17 58 11.8 +1.5
O20A White River Ci 103.85 359 ⇓Pdiff **Pdif** 17 58 10.8 +0.6
baz=104
P31A Stockton 103.92 352 ⇑Pdiff **Pdif** 17 58 10.7 +0.3
baz=104
KSU1 Kansas State U 103.99 350 PFAKE 17 58 20.0 +9.4
KSU1 LR LR
comp=Z,2µm,21.0s
NLU North Lily Min 103.99 2 *e*Pdif **Pdif** 17 58 14.9 +4.0
P30A Selden 103.99 353 ⇓Pdiff **Pdif** 17 58 10.7 0.0
baz=104
P29A Atwood 104.00 353 ⇓Pdiff **Pdif** 17 58 10.6 -0.1
baz=104
P28A Saint Francis 104.10 354 ⇑Pdiff **Pdif** 17 58 11.2 0.0
baz=104
ISCO Idaho Springs 104.12 357 *e*P **Pdif** 17 58 12.8 +1.2
ISCO MLR MLR
comp=Z,3µm,22.0s
ISCO Idaho Springs 104.12 357 *e*Pdif **Pdif** 17 58 12.8 +1.2
ISCO *e*PKKPbc **PKKPbc** 18 13 58.8 -0.2
ISCO LR LR
comp=Z,3µm,22.0s
ISCO Idaho Springs 104.12 357 ⇓Pdiff **Pdif** 17 58 12.0 +0.5
baz=104
P27A Ficken Ranch, 104.19 355 ⇓Pdiff **Pdif** 17 58 11.7 +0.1
baz=104
P26A Davis Ranch, A 104.24 355 ⇓Pdiff **Pdif** 17 58 12.4 +0.5
baz=104
KMSC Kings Mountain 104.25 337 ⇓Pdiff **Pdif** 17 58 12.5 +0.7
baz=104
P25A Willow Gulch B 104.33 356 ⇓Pdiff **Pdif** 17 58 12.7 +0.4
baz=104
Q32A Meitler Ranch, 104.35 351 ⇓Pdiff **Pdif** 17 58 12.3 +0.1
baz=104
P22A Eagle 104.36 358 ⇑Pdiff **Pdif** 17 58 13.0 +0.4
baz=104
P24A Kohler Place, 104.37 357 ⇓Pdiff **Pdif** 17 58 13.0 +0.5
baz=104
Q31A Ellis 104.44 352 ⇓Pdiff **Pdif** 17 58 12.7 0.0
baz=104
P20A De Beque 104.49 359 ⇑Pdiff **Pdif** 17 58 14.2 +1.1
baz=104
TKL Tuckaleechee C 104.51 339 PKiKP **PKiKP** 18 02 25.8 -2.1
TKL Tuckaleechee C 104.51 339 PKiKP **PKiKP** 18 02 25.8 -2.1
comp=Z,7.4nm,0.3s,baz=292,slow=3.5,SNR=10
P23A Jefferson 104.55 357 ⇓Pdiff **Pdif** 17 58 14.3 +0.8
baz=104
Q30A Quinter 104.55 353 ⇓Pdiff **Pdif** 17 58 13.5 +0.3
baz=104
Q28A Sharon Springs 104.62 354 ⇓Pdiff **Pdif** 17 58 13.0 -0.5
baz=104
TMUT Trail Mountain 104.67 2 *e*Pdif **Pdif** 17 58 15.2 +1.2
comp=Z,14nm,1.0s
Q29A Oakley 104.71 353 ⇑Pdiff **Pdif** 17 58 13.5 -0.4
baz=104
KSCO Kaye Shedlock' 104.73 355 *e*PP PP 18 02 34.1 -0.9
KSCO Kaye Shedlock' 104.73 355 ⇑Pdiff **Pdif** 17 58 14.0 -0.1
baz=104
SMCO Snowmass 104.78 358 *e*Pdif **Pdif** 17 58 16.3 +1.6
SMCO *e*PKKPbc **PKKPbc** 18 13 57.5 +0.3
SRU San Rafael 104.87 1 *e*P **Pdif** 17 58 16.2 +1.4
SRU San Rafael 104.87 1 *e*Pdif **Pdif** 17 58 16.2 +1.4
SRU *e*PKKPbc **PKKPbc** 18 13 56.1 -0.5
Q26A Hugo 104.88 355 ⇓Pdiff **Pdif** 17 58 14.7 -0.1
baz=104
CPCT Cooper Cave 104.92 339 *e*PKKPbc PKKPbc 18 13 55.6 -0.5
Q24A Divide 104.93 357 ⇓Pdiff **Pdif** 17 58 14.9 -0.3
baz=105
Q25A Bedland, Calha 104.93 356 ⇑Pdiff **Pdif** 17 58 14.9 -0.2
baz=105
R33A Olander Ranch, 104.96 351 ⇑Pdiff **Pdif** 17 58 15.1 +0.2
baz=105
Q23A Hartsel 105.02 357 ⇑Pdiff **Pdif** 17 58 15.3 -0.3
baz=105
Q20A Ridgley Place, 105.03 359 ⇑Pdiff **Pdif** 17 58 15.2 -0.3
baz=105
Q16A Castle Valley 105.05 2 *e*Pdif **Pdif** 17 58 16.3 +0.7
Q16A *e*PKKPbc **PKKPbc** 18 13 55.5 -0.6
Q16A Castle Valley 105.05 2 ⇓Pdiff **Pdif** 17 58 15.4 -0.2
baz=105
NVAR Mina Array Bea 105.09 7 Pdif **Pdif** 17 58 17.4 +1.6
NVAR PKiKP **PKiKP** 18 02 29.6 +0.4
NVAR PKKPbc **PKKPbc** 18 13 55.5 -0.5
NVAR SKKP 18 17 16.0
NVAR P'P' 18 22 14.2
NVAR Mina Array Bea 105.09 7 Pdiff **Pdif** 17 58 17.4 +1.6
comp=Z,11nm,0.9s,baz=353,slow=3.0,SNR=28
NVAR PKiKP **PKiKP** 18 02 29.6 +0.4
comp=Z,12nm,0.9s,baz=340,slow=2.4,SNR=5.7
NVAR PKKPbc **PKKPbc** 18 13 55.5 -0.5
comp=Z,3.9nm,0.7s,baz=194,slow=6.1,SNR=8.6
NVAR SKKP 18 17 16.0
comp=Z,2.3nm,0.9s,baz=188,slow=4.5,SNR=3.7
NVAR PKPPKP P'P'df 18 22 14.2 -5.8
comp=Z,2.1nm,1.0s,baz=172,slow=3.0,SNR=7.0
Q22A Crested Butte, 105.10 358 ⇑Pdiff **Pdif** 17 58 16.4 +0.4
baz=105
Q21A Lamborn Mesa, 105.14 359 ⇓Pdiff **Pdif** 17 58 16.6 +0.6
baz=105
PBMO Poplar Bluff 105.14 344 *e*Pdif **Pdif** 17 58 16.3 +0.5
R29A Marienthal 105.19 353 ⇓Pdiff **Pdif** 17 58 15.8 -0.3
baz=105
TAU Tasmania Unive 105.23 132 PFAKE 18 02 40.0
TAU LR LR
comp=Z,2µm,22.0s
CMB Columbia Colle 105.24 9 *e*P **Pdif** 17 58 19.0 +2.8
CMB Columbia Colle 105.24 9 *e*Pdif **Pdif** 17 58 19.0 +2.8
R30A Dighton 105.24 353 ⇓Pdiff **Pdif** 17 58 16.5 +0.2
baz=105
R28A Tribune 105.33 354 ⇑Pdiff **Pdif** 17 58 16.8 +0.1
baz=105
R11A Troy Canyon, C 105.41 5 *e*Pdif **Pdif** 17 58 18.0 +0.8
R11A Troy Canyon, C 105.41 5 ⇓Pdiff **Pdif** 17 58 17.5 +0.4
baz=105
MVU Marysvale 105.43 2 *e*PKKPbc PKKPbc 18 13 55.6 +0.6
MVU LR LR
comp=Z,2µm,21.0s
R26A Arlington 105.50 355 ⇑Pdiff **Pdif** 17 58 18.3 +0.8
baz=105
SWET Sewanee 105.53 340 *e*PKKPbc PKKPbc 18 13 52.9 -1.4
TPH Tonopah 105.55 7 PFAKE 18 02 40.0
TPH LR LR
comp=Z,1µm,21.0s
R21A Cimarron 105.60 359 ⇓Pdiff **Pdif** 17 58 15.6 -2.6
baz=105
PV15 Paradox Valley 105.64 359 *e*PKKPbc PKKPbc 18 13 53.7 -0.7
S32A Newby Ranch, P 105.67 352 ⇑Pdiff **Pdif** 17 58 18.0 -0.1
baz=105
R20A Redvale 105.80 359 ⇓Pdiff **Pdif** 17 58 18.3 -0.7
baz=105
PV01 Paradox Valley 105.85 359 *e*Pdif **Pdif** 17 58 20.0 +0.8
comp=Z,594nm,0.6s
S30A Montezuma 105.90 353 ⇑Pdiff **Pdif** 17 58 20.2 +1.0
baz=106
PV05 Paradox Valley 105.91 360 *e*PKiKP **PKiKP** 18 02 28.7 -2.0
MTUM Tungsten Hills 106.12 8 *e*Pdif **Pdif** 17 58 22.4 +2.0
MTUM *e*PKiKP **PKiKP** 18 02 31.5 +0.4
SDCO Great Sand Dun 106.16 357 *e*Pdif **Pdif** 17 58 21.8 +1.1
SDCO *e*PKiKP **PKiKP** 18 02 34.5 +3.2
SDCO *e*PKKPbc **PKKPbc** 18 13 51.7 -1.2
SDCO LR LR
comp=Z,3µm,22.0s
S22A 4UR Ranch, Cre 106.21 358 ⇑Pdiff **Pdif** 17 58 20.8 -0.1
baz=106
S21A Coal Bank Pass 106.31 359 ⇓Pdiff **Pdif** 17 58 22.2 +0.8
baz=106
CCUT Cedar City 106.34 3 *e*Pdif **Pdif** 17 58 23.7 +2.3
T29A Hugoton 106.46 353 ⇑Pdiff **Pdif** 17 58 21.8 +0.1
baz=106
T30A Plains 106.49 353 ⇓Pdiff **Pdif** 17 58 20.7 -1.1
baz=106
T26A Comanche Natio 106.62 355 ⇓Pdiff **Pdif** 17 58 23.3 +0.7
baz=106
T27A Campo 106.68 355 ⇑Pdiff **Pdif** 17 58 21.7 -1.1
baz=106
MVCO Mesa Verde 106.77 359 PFAKE 18 02 40.0
MVCO LR LR
comp=Z,2µm,20.0s
CASY Casey 106.81 164 PFAKE 18 02 40.0
CASY LR LR
comp=Z,2µm,22.0s
T24B San Luis 106.84 357 ⇓Pdiff **Pdif** 17 58 24.9 +1.2
baz=106
RCBR Riachuelo 106.85 275 PFAKE 18 02 40.0
RCBR LR LR
comp=Z,1µm,20.0s
OXF Oxford 107.09 343 PFAKE 18 02 40.0
OXF LR LR
comp=Z,2µm,22.0s
U29A Oasis Ranch, S 107.16 353 ⇑Pdiff **Pdif** 17 58 24.9 0.0
baz=107
FURC Furnace Creek, 107.17 6 ⇓Pdiff **Pdif** 17 58 25.0 +0.2
baz=107
SHPR Sheep Range 107.27 5 *e*Pdif **Pdif** 17 58 34.0 +8.6
U27A Thompson Grove 107.32 355 ⇑Pdiff **Pdif** 17 58 25.2 -0.4
baz=107
U26A Atchley Ranch, 107.41 355 ⇑Pdiff **Pdif** 17 58 24.8 -1.4
baz=107
SYO Syowa Base 107.59 191 ⇓*e*P **PKiKP** 18 02 30.6 -1.7
PTRM Twissleman Ran 107.60 9 *e*PP PP 18 02 56.2 +0.3
U20A Newcomb 107.61 359 ⇑Pdiff **Pdif** 17 58 25.7 -1.2
baz=107
ISA Isabella 107.81 8 *e*PP PP 18 02 51.2 -6.2
ISA *e*PKKPab **PKKPab** 18 14 06.6 +0.5
LRAL Lakeview Retre 107.88 340 PFAKE 18 02 40.0
LRAL LR LR
comp=Z,2µm,20.0s
MIAR Mount Ida 107.94 346 *e*PP PP 18 02 56.6 -1.9
MIAR LR LR
comp=Z,2µm,21.0s
V21A Milan 108.16 359 ⇑Pdiff **Pdif** 17 58 29.7 +0.2
baz=108
V24A Rampart Ranch, 108.16 357 ⇓Pdiff **Pdif** 17 58 31.5 +1.9
baz=108
V23A Ortiz Mt. (NFS 108.18 357 ⇑Pdiff **Pdif** 17 58 30.4 +0.7
baz=108
GSC Goldstone 108.33 7 *e*P **Pdif** 17 58 32.2 +2.1
GSC Goldstone 108.33 7 *e*Pdif **Pdif** 17 58 32.2 +2.1
GSC *e*PP **PP** 18 02 57.4 -3.9
WUAZ Wupatki 108.44 2 PFAKE 18 02 50.0
WUAZ LR LR
comp=Z,1µm,21.0s
WMOK Wichita Mounta 108.58 351 *e*PKiKP **PKiKP** 18 02 33.5 -2.0
WMOK LR LR
comp=Z,1µm,21.0s
W24A Lazy 6 Ranch, 108.68 357 ⇓Pdiff **Pdif** 17 58 33.1 +1.2
baz=108
AMTX Amarillo 108.75 353 *e*PKKPbc PKKPbc 18 13 44.4 -0.2
ANMO Albuquerque 108.99 358 *e*Pdif **Pdif** 17 58 35.3 +2.1
ANMO PKKPab **PKKPdf** 18 13 57.4 +0.3
ANMO LR LR
comp=Z,2µm,22.0s
ANMO Albuquerque 108.99 358 PKKPab PKKPab 18 13 57.4 -3.6
comp=Z,8.5nm,1.0s,baz=190,slow=5.9,SNR=6.6
MWC Mount Wilson 109.28 8 *e*PP PP 18 03 00.5 -7.8

MWC *e*PKKPbc **PKKPbc** **18 13 44.0 +0.9**
VBMS Vicksburg 109.54 343 PFAKE 18 02 50.0
VBMS LR LR
comp=Z,2µm,21.0s
LPM Los Pinos Moun 109.63 358 *e*PP PP 18 03 06.5 -4.3
LPM *e*PKKPab **PKKPdf** **18 13 54.3 -1.5**
MSTX Muleshoe 109.75 354 *e*Pdif **Pdif** **17 58 38.3 +1.8**
MSTX Muleshoe 109.75 354 ⇓Pdiff **Pdif** **17 58 36.8 +0.3**
baz=109
Y29A Porterfield Fa 109.76 353 ⇓Pdiff **Pdif** **17 58 39.2 +2.7**
baz=109
LENM Lemitar 109.78 358 *e*PKKPbc PKKPbc 18 13 41.6 +0.2
BRAL Brewton 109.81 340 PFAKE 18 02 50.0
BRAL LR LR
comp=Z,2µm,20.0s
FUNA Funafuti 109.83 86 PFAKE 18 02 50.0
FUNA LR LR
comp=Z,12µm,19.0s
ANWB Willy Bob 110.01 312 PFAKE 18 02 50.0
ANWB LR LR
comp=Z,745nm,20.0s
PFO Pinyon Flat Ob 110.04 6 PFAKE 18 02 50.0
PFO LR LR
comp=Z,2µm,21.0s
Z29A Hungry Hill Ra 110.36 353 ⇓Pdiff **Pdif** **17 58 39.2 0.0**
baz=110
Z14A Wintersburg 110.53 3 ⇑Pdiff **Pdif** **17 58 40.1 +0.3**
baz=110
Z26A Caprock 110.53 355 ⇓Pdiff **Pdif** **17 58 40.1 +0.1**
baz=110
ABTX Abilene, Hawle 110.77 351 *e*PP PP 18 03 15.7 -3.2
131A Roby 110.81 352 ⇓Pdiff **Pdif** **17 58 41.2 +0.1**
baz=110
Z20A Nine Sixteen R 110.86 359 ⇑Pdiff **Pdif** **17 58 41.3 -0.2**
baz=110
130A Snyder 110.94 353 ⇑Pdiff **Pdif** **17 58 43.2 +1.5**
baz=111
121A Cookes Peak, D 111.43 359 *e*PKiKP **PKiKP** **18 02 42.0 +0.9**
121A Cookes Peak, D 111.43 359 ⇑Pdiff **Pdif** **17 58 44.7 +0.6**
baz=111
TUC Tucson 111.65 1 PFAKE 18 02 50.0
TUC LR LR
comp=Z,2µm,19.0s
230A Sterling City 111.66 353 ⇓Pdiff **Pdif** **17 58 47.5 +2.6**
baz=111
CDVI St. Croix 111.71 314 *e*PKiKP PKiKP 18 02 48.7 +7.0
CDVI *e*PP PP 18 03 20.8 -5.5
225A Deer Hill, Car 111.74 356 ⇑Pdiff **Pdif** **17 58 46.5 +1.0**
baz=111
FDF Fort de France 111.86 309 PFAKE 18 02 50.0
FDF LR LR
comp=Z,583nm,22.0s
220A Playas Peak, P 112.07 359 ⇑Pdiff **Pdif** **17 58 46.5 -0.4**
baz=112
GRTK Grand Turk 112.09 322 PFAKE 18 02 50.0
GRTK LR LR
comp=Z,1µm,19.0s
329A Wagon Wheel Ra 112.14 353 ⇑Pdiff **Pdif** **17 58 47.3 +0.1**
baz=112
MNTX Cornudas Mount 112.18 356 PFAKE 18 02 50.0
MNTX LR LR
comp=Z,1µm,21.0s
HKT Hockley 112.83 347 *e*PP PP 18 03 34.1 +0.7
JCT Junction City 112.90 351 *e*PKiKP **PKiKP** **18 02 43.5 -0.3**
JCT *e*PKKPbc **PKKPbc** **18 13 30.5 -0.5**
JCT LR LR
comp=Z,2µm,20.0s
MSVF Nonsavu 114.03 95 *e*PKIKP PKPdf 18 02 46.0 -0.2
MSVF *e* 18 03 41.6
MSVF *e* 18 13 29.2
MSVF Nonsavu 114.03 95 *e*PKiKP PKPdf 18 02 46.0 -0.2
MSVF *e*PP **PP** **18 03 41.6 -2.4**
MSVF *e*PKKPbc **PKKPbc** **18 13 29.2 +2.6**
GRGR Grenville 114.14 308 PFAKE 18 03 00.0 +14
GRGR LR LR
comp=Z,758nm,21.0s
SDDR Presa de Saban 114.28 320 *e*PKKPbc PKKPbc 18 13 26.0 0.0
SDDR LR LR
comp=Z,1µm,20.0s
TXAR Lajitas Array 114.42 355 PKP PKPdf 18 02 46.9 +0.1
TXAR PKKPbc **PKKPbc** **18 13 25.7 -0.3**
TXAR P'P' 18 21 56.9
TXAR Lajitas Array 114.42 355 PKP PKPdf 18 02 46.9 +0.1
comp=Z,2.2nm,0.6s,baz=75,slow=2.4,SNR=12
TXAR PKKPbc **PKKPbc** **18 13 25.7 -0.3**
comp=Z,6.4nm,0.8s,baz=175,slow=6.2,SNR=14
TXAR PKPPKP **P'P'df** **18 21 56.9 -5.0**
comp=Z,1.0nm,0.9s,baz=152,slow=5.7,SNR=4.8
MAIT Maitri 114.82 198 *e*P PKPdf 18 02 43.8 -2.2
DRV Dumont d'Urvil 115.33 156 PP PP 18 04 28.0 +36
DRV SP SP 18 12 57.0 -12
DRV SS SS 18 19 24.0 -8.7
GTBY Guantanamo Bay 115.37 324 PFAKE 18 03 00.0 +11
GTBY LR LR
comp=Z,806nm,22.0s
KVTX Kingsville 115.52 349 PFAKE 18 03 00.0 +11
KVTX LR LR
comp=Z,2µm,19.0s
MTDJ Mount Denham 117.97 326 PFAKE 18 03 00.0 +6.1
MTDJ LR LR
comp=Z,624nm,19.0s
SNAA Sanae 119.22 200 *e*PKP **PKPdf** **18 02 53.7 -0.9**
SNAA Sanae 119.22 200 *e*P pPKPdf 18 03 50.1 +0.4
SNAA Sanae 119.22 200 *e*P **PKKPbc** **18 13 08.2 -1.6**
SNAA Sanae 119.22 200 ⇑*i*P **PKPdf** **18 02 53.6 -0.9**
SNAA Sanae 119.22 200 *e*PKPdf **PKPdf** **18 02 53.7 -0.9**
SNAA *e*PKKPbc **PKKPab** **18 13 08.6 +0.4**
SNAA PKKPbc **PKKPbc** **18 13 08.9 -0.9**
SNAA Sanae 119.22 200 PKKPbc PKKPbc 18 13 08.9 -0.9
comp=Z,6.8nm,0.8s,baz=236,slow=3.4,SNR=34
AFI Afiamalu 120.16 85 *e*PKPdf **PKPdf** **18 02 58.7 +0.7**
AFI LR LR
comp=Z,570nm,20.0s
VNA2 Neumayer--Watz 120.22 202 *e*PKP **PKPdf** **18 02 55.2 -1.2**
baz=16,slow=3.2
VNA2 Neumayer--Watz 120.22 202 *e*P pPKPdf 18 03 52.9 +1.4
VNA2 Neumayer--Watz 120.22 202 *e*P **PKKPbc** **18 13 03.6 -2.4**
baz=291,slow=5.9
TEIG Tepich 120.31 337 PFAKE 18 03 10.0 +12
TEIG LR LR
comp=Z,1µm,20.0s
VNA1 Neumayer--Stat 120.37 202 *e*PKP **PKPdf** **18 02 55.6 -1.0**
VNA1 Neumayer--Stat 120.37 202 *e*P pPKPdf 18 03 52.8 +1.0
VNA1 Neumayer--Stat 120.37 202 *e*P **PKKPbc** **18 13 03.0 -2.4**
RPZ Rata Peaks 120.74 124 *e*PKPdf **PKPdf** **18 02 58.4 +0.2**
ODZ Otahua Downs 120.97 125 *e*PKPdf **PKPdf** **18 02 59.1 +0.5**
XMAS Kiritimati 121.09 60 *e*PKPdf **PKPdf** **18 03 00.8 +1.0**
KHZ Kahutara 121.94 122 *e*PKPdf **PKPdf** **18 02 59.9 -0.7**
BDFB Brasilia 122.18 274 PKP **PKPdf** **18 03 00.9 -1.0**
BDFB *e*PKPdf **PKiKP** **18 03 01.6 -0.5**
BDFB *e*PP **PP** **18 04 40.2 0.0**
BDFB *e*PKKPab **PKKPab** **18 12 59.5 +0.1**
BDFB Brasilia 122.18 274 PKP **PKPdf** **18 03 00.9 -1.0**
comp=Z,9.3nm,0.4s,baz=269,slow=0.6,SNR=18
SNZO South Karori 122.33 120 PFAKE 18 03 10.0 +8.7
SNZO LR LR
comp=Z,898nm,19.0s
BKZ Black Stump Fm 122.79 117 *e*PKPdf **PKPdf** **18 03 00.6 -1.8**
URZ Urewera 122.88 116 *e*PKPdf **PKPdf** **18 02 59.5 -3.0**
VNDA Vanda 125.43 165 PKP **PKPdf** **18 03 05.5 -0.7**
VNDA Vanda 125.43 165 PKP **PKPdf** **18 03 05.5 -0.7**
comp=Z,27nm,1.0s,baz=251,slow=3.0,SNR=37
TGUH Tegucigalpa,Un 125.72 333 *e*PKPdf **PKPdf** **18 03 08.8 +0.2**
TGUH LR LR
comp=Z,1µm,22.0s
SPB Sao Paulo 125.79 265 *e*PKPdf **PKPdf** **18 03 09.2 +0.7**
SPB LR LR
comp=Z,1µm,20.0s
QSPA South Pole Qui 126.18 180 PFAKE 18 03 20.0 +12
QSPA LR LR
comp=Z,921nm,21.0s
SBA Scott Base 126.51 165 *e*PKIKP **PKPdf** **18 03 06.9 -1.4**
SBA MLR MLR
comp=Z,989nm,21.0s
SBA Scott Base 126.51 165 *e*PKPdf **PKPdf** **18 03 06.9 -1.4**
SBA LR LR
comp=Z,989nm,21.0s
BCIP Isla Barro Col 126.92 323 *e*PKPdf **PKPdf** **18 03 10.4 -0.6**
BCIP LR LR
comp=Z,450nm,20.0s
ROSC El Rosal 127.58 314 *e*PKPdf **PKPdf** **18 03 09.2 -3.6**
ROSC PKP **PKPdf** **18 03 10.4 -2.3**
ROSC El Rosal 127.58 314 PKP **PKPdf** **18 03 10.4 -2.3**
comp=Z,127nm,0.9s,baz=110,slow=1.5,SNR=8.4

JTS JuntasAbangare 128.25 329 PFAKE 18 03 20.0 +6.4
JTS LR LR
comp=Z,783nm,20.0s
SAML Samuel 130.14 292 PFAKE 18 03 30.0 +13
SAML LR LR
comp=Z,815nm,19.0s
SIV San Ignacio 132.80 282 PKP **PKPdf** **18 03 21.4 -0.7**
SIV SKPab **SKPbc** **18 06 28.1 -1.1**
SIV San Ignacio 132.80 282 PKP **PKPdf** **18 03 21.4 -0.7**
comp=Z,13nm,0.5s,baz=126,slow=1.5,SNR=31
SIV SKPab **SKPbc** **18 06 28.1 -1.1**
comp=Z,22nm,1.0s,baz=50,slow=5.4,SNR=5.6
OTAV Otavalo 133.70 315 *e*PKPdf **PKPdf** **18 03 21.3 -3.2**
OTAV LR LR
comp=Z,574nm,22.0s
CPUP Villa Florida 135.02 268 PKP **PKPdf** **18 03 25.1 -0.8**
CPUP SKPbc **SKPbc** **18 06 34.7 -1.5**
CPUP Villa Florida 135.02 268 PKP **PKPdf** **18 03 25.1 -0.8**
comp=Z,43nm,0.5s,baz=46,slow=2.4,SNR=64
CPUP SKPbc **SKPbc** **18 06 34.7 -1.5**
comp=Z,21nm,0.9s,baz=57,slow=2.9,SNR=4.8
LPAZ La Paz 138.47 288 PKP **PKPdf** **18 03 31.1 -2.2**
LPAZ PP **PP** **18 06 22.6 -3.3**
LPAZ SKPbc **SKPbc** **18 06 45.1 -2.4**
LPAZ La Paz 138.47 288 PKP **PKPdf** **18 03 31.1 -2.2**
comp=Z,21nm,1.0s,baz=32,slow=5.5,SNR=31
LPAZ PP **PP** **18 06 22.6 -3.3**
comp=Z,9.5nm,0.8s,baz=37,slow=8.3,SNR=3.8
LPAZ SKPbc **SKPbc** **18 06 45.1 -2.4**
comp=Z,14nm,0.9s,baz=132,slow=2.2,SNR=4.5
ATAH Atahualpa 139.50 308 PKP **PKPdf** **18 03 32.2 -2.9**
ATAH SKKPbc SKKPbc 18 15 21.5 -1.2
ATAH Atahualpa 139.50 308 PKP **PKPdf** **18 03 32.2 -2.9**
comp=Z,37nm,1.0s,baz=342,slow=1.1,SNR=16
ATAH SKKPbc SKKPbc 18 15 21.5 -1.2
comp=Z,16nm,1.0s,baz=248,slow=2.1,SNR=6.3
PMOR Pomariorio Ree 139.54 68 *e*PKIKP **PKPdf** **18 03 32.2 -2.3**
comp=Z,235nm,1.0s
PMOR *e*SKPdf **SKPbc** **18 06 50.4 +0.7**
comp=Z,312nm,1.2s
PPT Papeete 139.81 73 PKPpre PKPpre 18 03 30.6
PPT SKPbc **SKPbc** **18 06 50.2 -0.2**
PPT Papeete 139.81 73 PKhKP PKPpre 18 03 30.6
comp=Z,77nm,0.9s,baz=44,slow=5.9,SNR=5.9
PPT SKPbc **SKPbc** **18 06 50.2 -0.2**
comp=Z,128nm,1.1s,baz=4.7,slow=1.7,SNR=7.2
PPT2 Papeete2 139.82 73 *e*PKIKP **PKPdf** **18 03 33.7 -1.4**
comp=Z,196nm,1.4s
PPT2 *e*SKPdf **SKPbc** **18 06 51.0 +0.5**
comp=Z,178nm,1.3s
PAE Paea 139.86 73 *e*PKIKP **PKPdf** **18 03 33.5 -1.5**
comp=Z,12nm,0.9s
PAE *e*SKPdf **SKPbc** **18 06 50.8 +0.3**
comp=Z,30nm,1.3s
VAH Vaihoa 139.88 69 *e*PKIKP **PKPdf** **18 03 32.4 -2.7**
comp=Z,112nm,1.0s
VAH *e*SKPdf **SKPbc** **18 06 51.1 +0.5**
comp=Z,221nm,1.3s
TIAR Tiarei 139.98 73 *e*PKIKP **PKPdf** **18 03 33.9 -1.4**
comp=Z,26nm,1.0s
PAYG Puerto Ayora 140.36 329 PFAKE 18 03 50.0 +14
PAYG LR LR
comp=Z,1µm,21.0s
EFI East Falkland 141.00 230 PFAKE 18 03 50.0 +14
EFI LR LR
comp=Z,1µm,21.0s
PMSA Palmer Station 141.02 209 PKPpre PKPpre 18 03 28.3
PMSA SKPbc **SKPbc** **18 06 51.1 -0.8**
PMSA LR LR
comp=Z,1µm,20.0s
PMSA Palmer Station 141.02 209 PKhKP PKPpre 18 03 28.3
comp=Z,27nm,0.6s,baz=72,slow=1.5,SNR=14
PMSA SKPbc **SKPbc** **18 06 51.1 -0.8**
comp=Z,89nm,1.0s,baz=124,slow=4.7,SNR=14
MEH Mehetia 141.15 72 *e*SKPdf **SKPdf** **18 06 51.2 -0.4**
comp=Z,30nm,1.1s
LVC Limon Verde 142.59 280 *e*PKPdf **PKPdf** **18 03 35.6 -4.6**
LVC LR LR
comp=Z,532nm,20.0s
TRQA Tornquist 142.65 253 PFAKE 18 03 50.0 +10
TRQA LR LR
comp=Z,992nm,19.0s
TBI Tubuai 143.03 81 *e*PKIKP PKPbc 18 03 38.0 -0.1
comp=Z,1µm,1.0s
TBI *e*SKPdf **SKPbc** **18 06 58.3 -0.1**
comp=Z,242nm,1.1s
CFAA Coronel Fontan 145.86 266 PKPbc **PKPdf** **18 03 45.7 +0.4**
CFAA Coronel Fontan 145.86 266 PKPbc **PKPdf** **18 03 45.7 +0.4**
comp=Z,24nm,0.6s,baz=73,slow=2.6,SNR=250
USHA Ushuaia 146.63 223 PKPbc **PKPdf** **18 03 46.7 +1.0**
USHA Ushuaia 146.63 223 PKPbc **PKPdf** **18 03 46.7 +1.0**
comp=Z,108nm,0.8s,baz=87,slow=3.8,SNR=35
LCO Las Campanas 146.92 272 *e*PKPdf **PKPdf** **18 03 48.6 +1.1**
LCO LR LR
comp=Z,752nm,20.0s
TLL Tololo Astrono 147.44 270 ⇑*i*P **PKPdf** **18 03 48.8 +0.5**
CMCH Combarbala 147.95 268 *e*P **PKPdf** **18 03 48.5 -0.4**
LMEL Las Melosas 148.12 263 *e*P **PKPdf** **18 03 49.6 +0.4**
CLCH Cerro Calan 148.26 264 *e*P **PKPdf** **18 03 49.7 +0.4**
PEL Peldehue 148.31 264 *e*P **PKPdf** **18 03 49.5 +0.1**
ROCH El Roble 148.52 265 *e*P **PKPdf** **18 03 49.8 -0.2**
PLCA Paso Flores 149.61 250 PKP **PKPdf** **18 03 51.6 +0.3**
PLCA PKPbc **PKiKP** **18 03 56.8 -0.3**
PLCA Paso Flores 149.61 250 PKP **PKPdf** **18 03 51.6 +0.3**
comp=Z,40nm,1.0s,baz=44,slow=0.5,SNR=24
PLCA PKPbc **PKiKP** **18 03 56.8 -0.3**
comp=Z,178nm,1.0s,baz=64,slow=3.0,SNR=74
RKT Rikitea 154.13 66 *e*PKPbc **PKPbc** **18 04 05.5 -1.2**
comp=Z,175nm,1.3s

MEX 29 17:55:41.4±0.9, 15°.82N×93°.54W, h80km±11km, MD4.2, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
PCIG		**0.33**	**111**	*i* P		Pn	17 55 52.1	-1.8
PCIG				*i* S		Sn	17 56 02.1	-1.0
TGIG		**1.03**	**23**	*e*P		Pn	17 55 59.8	-1.2
TGIG				*i* S		Sn	17 56 13.8	-1.7
CCIG	**Comitan**	**1.43**	**71**	*i* P		Pn	17 56 05.3	-0.7
CCIG				*i* S		Sn	17 56 22.1	-2.5
HUIG	**Huatulco**	**2.47**	**269**	*i* P		Pn	17 56 18.5	-1.2
HUIG				*i* S		Sn	17 56 46.9	-2.0

*ISCJB **29** 18:19:39.8±1.2, 32°.80S±0°.03×72°.00W±0°.04, h6km±7km, mb4.7/29, MS4.2/1, Error ellipse: s-maj=7.1km s-min=4.1km az=136.4*
*IDC **29** 18:19:40.0±0.5, 32°.79S×71°.95W, h0km, mb4.5/14, mb1 4.5/18, mb1mx4.5/22, mbtmp4.4/18, ML4.4/4, MS3.8/3, Ms1 3.8/3, ms1mx3.6/31, Error ellipse: s-maj=19.9km s-min=14.4km az=88.0*
*NEIC **29** 18:19:41.5, 32°.81S×71°.94W, h9km, mb4.7/15, ML4.7(GUC), After GUC.*
*GUC **29** 18:19:41.5±0.7, 32°.81S×71°.94W, h9km±3km, ML4.7*
ISC 29 18:19:40.8±1.6, 32°.79S±0°.03×71°.95W±0°.05, h7km±9km, n114, σ0s94/125, mb4.7/29, 5C-11D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
IHA	**Instituto Hidr**	**0.35**	**132**	*e*P		**Pg**	**18 19 48.2**	**+0.6**
IHA	**Instituto Hidr**	**0.35**	**132**	*e*P		**Pg**	**18 19 48.2**	**+0.6**
ROCH	**El Roble**	**0.81**	**103**	*e*P		**Pg**	**18 19 56.4**	**0.0**
ROCH				*i* S		**Sb**	**18 20 07.9**	**-0.6**
ROCH				AML		AML	18 20 09.8	
	comp=N,39µm,0.6s							
CHNG	**Los Chungos**	**0.98**	**23**	⇓*i*P		**Pg**	**18 19 59.5**	**-0.2**
CHNG				*i* S		**Sb**	**18 20 13.6**	**+0.4**
CHNG	**Los Chungos**	**0.98**	**23**	⇓*i*P		**Pg**	**18 19 59.5**	**-0.2**
CHNG				*i* S		**Sb**	**18 20 13.6**	**+0.4**
PEL	**Peldehue**	**1.12**	**109**	⇓*i*P		**Pg**	**18 20 01.9**	**-0.4**
PEL				*i* S		**Sb**	**18 20 17.0**	**-0.3**
PEL				AML		AML	18 20 23.8	
	comp=E,86µm,0.6s							
JACH	**Jahuel**	**1.15**	**85**	*e*P		**Pg**	**18 20 02.2**	**-0.6**
JACH	**Jahuel**	**1.15**	**85**	*e*P		**Pg**	**18 20 02.2**	**-0.6**
TACH	**Talagante**	**1.21**	**136**	⇓*i*P		**Pb**	**18 20 02.8**	**-1.2**
TACH	**Talagante**	**1.21**	**136**	⇓*i*P		**Pb**	**18 20 02.8**	**-1.2**
LNV	**Longovilo**	**1.25**	**159**	⇓*i*P		**Pn**	**18 20 03.0**	**-1.6**
LNV	**Longovilo**	**1.25**	**159**	⇓*i*P		**Pn**	**18 20 03.0**	**-1.6**
SAN	**Santiago**	**1.27**	**122**	*e*P		**Pn**	**18 20 04.2**	**-0.7**
SAN				*i* S		**Sb**	**18 20 21.2**	**-0.3**

SAN Santiago 1.27 122 *e*P **Pn** **18 20 04.2 -0.7**
SAN *i* S **Sb** **18 20 21.2 -0.3**
SAN AML AML 18 20 30.0
comp=N,20µm,0.6s
CLCH Cerro Calan 1.33 117 ⇑*i*P **Pn** **18 20 05.2 -0.7**
CLCH *i* S **Sb** **18 20 22.6 -0.8**
CLCH AML AML 18 20 32.5
comp=N,19µm,0.6s
ANTU Antumapu 1.35 126 *e*P **Pn** **18 20 05.7 -0.4**
ANTU *e*S **Sb** **18 20 23.3 -0.6**
ANTU Antumapu 1.35 126 *e*P **Pn** **18 20 05.7 -0.4**
ANTU *e*S **Sb** **18 20 23.3 -0.6**
ANTU AML AML 18 20 31.3
comp=N,21µm,0.6s
PCH Pirque 1.46 125 ⇓*i*P **Pn** **18 20 07.3 -0.4**
PCH *i* S **Sn** **18 20 26.7 -0.4**
PCH Pirque 1.46 125 ⇓*i*P **Pn** **18 20 07.3 -0.4**
PCH *i* S **Sn** **18 20 26.7 -0.4**
CHCH Chadas Angostu 1.57 137 ⇑*i*P **Pn** **18 20 09.0 -0.2**
CHCH Chadas Angostu 1.57 137 ⇑*i*P **Pn** **18 20 09.0 -0.2**
CACH El Canelo 1.74 140 ⇓*i*P **Pb** **18 20 12.5 -0.6**
CACH El Canelo 1.74 140 ⇓*i*P **Pb** **18 20 12.5 -0.6**
LMEL Las Melosas 1.80 126 ⇑*i*P **Pn** **18 20 12.8 +0.4**
LMEL *i* S **Sb** **18 20 36.6 -0.5**
LMEL Las Melosas 1.80 126 ⇑*i*P **Pn** **18 20 12.8 +0.4**
LMEL *i* S **Sb** **18 20 36.6 -0.5**
LMEL AML AML 18 20 45.0
comp=N,9µm,0.4s
CFAA Coronel Fontan 3.36 70 Pn **Pn** **18 20 35.0 +1.2**
CFAA Sn **Sb** **18 21 20.9 -0.9**
CFAA Coronel Fontan 3.36 70 Pn **Pn** **18 20 35.0 +1.2**
comp=N,1.2nm,0.3s,baz=250,slow=12,SNR=31
CFAA Sn **Sb** **18 21 20.9 -0.9**
comp=N,4.8nm,0.3s,baz=121,slow=8.5,SNR=5.6
CFAA LR LR 18 22 05.0
comp=N,374nm,20.5s,baz=236,slow=43
LCO Las Campanas 3.92 16 *e*Pn **Pn** **18 20 39.7 -1.9**
H03N1 Juan Fernandez 5.88 262 T T 18 27 37.9
baz=84,slow=0.7,SNR=4288
H03N3 Juan Fernandez 5.89 262 T T 18 27 56.4
baz=84,slow=0.7,SNR=2712
H03N2 Juan Fernandez 5.90 262 T T 18 27 43.0
baz=84,slow=0.7,SNR=3264
PLCA Paso Flores 8.01 172 Pn **Pn** **18 21 37.8 +0.2**
PLCA Paso Flores 8.01 172 Pn **Pn** **18 21 37.8 +0.2**
comp=N,1.6nm,0.3s,baz=333,slow=11,SNR=23
PLCA LR LR 18 25 12.0
comp=N,752nm,21.2s,baz=225,slow=42
TRQA Tornquist 9.68 126 *e*P **Pn** **18 22 01.4 +0.9**
comp=N,27nm,0.8s
LVC Limon Verde 10.49 16 *e*Pn Pn 18 22 08.8 -3.0
CPUP Villa Florida 14.25 67 *e*P P 18 23 14.5 +4.0
CPUP Villa Florida 14.25 67 Pn **Pn** **18 23 05.3 +2.2**
comp=N,0.3nm,0.3s,baz=200,slow=12,SNR=2.9
LPAZ La Paz 16.79 13 Pn **Pn** **18 23 37.8 +0.7**
LPAZ La Paz 16.79 13 Pn **Pn** **18 23 37.8 +0.7**
comp=N,0.4nm,0.3s,baz=183,slow=5.9,SNR=23
SIV San Ignacio 19.41 33 P **P** **18 24 07.0 -0.7**
SIV San Ignacio 19.41 33 P **P** **18 24 07.0 -0.7**
comp=N,0.4nm,0.3s,baz=233,slow=9.7,SNR=13
SAML Samuel 25.07 21 *e*P **P** **18 25 05.7 -0.3**
comp=N,11nm,0.9s
BDFB Brasilia 27.61 58 *e*P **P** **18 25 28.0 -1.0**
BDFB Brasilia 27.61 58 P **P** **18 25 29.0 0.0**
comp=N,6.0nm,0.6s,baz=217,slow=7.6,SNR=9.8
BDFB LR LR 18 36 52.9
comp=N,588nm,18.9s,baz=317,slow=37
SDV Santo Domingo 41.46 2 *e*P **P** **18 27 29.1 +0.5**
comp=N,9.3nm,0.9s
VNA2 Neumayer--Watz 51.10 158 *e*P **P** **18 28 44.4 +0.8**
baz=288,slow=7.9
GTBY Guantanamo Bay 52.51 356 *e*P **P** **18 28 52.7 -1.8**
comp=N,2µm,0.4s
SNAA Sanae 52.67 158 *e*P **P** **18 28 56.2 +0.8**
SNAA Sanae 52.67 158 P **P** **18 28 55.7 +0.3**
SNAA Sanae 52.67 158 P **P** **18 28 55.7 +0.3**
comp=N,3.1nm,0.8s,baz=297,slow=8.0,SNR=4.4
QSPA South Pole Qui 57.44 180 *e*P **P** **18 29 30.9 +0.8**
comp=N,15nm,1.1s
QSPA South Pole Qui 57.44 180 P **P** **18 29 30.8 +0.8**
comp=N,8.6nm,0.7s
VNDA Vanda 65.30 191 P **P** **18 30 23.4 +0.6**
VNDA Vanda 65.30 191 P **P** **18 30 23.4 +0.6**
comp=N,0.5nm,0.5s,baz=261,slow=0.4,SNR=5.0
TXAR Lajitas Array 68.72 330 P **P** **18 30 46.7 +1.4**
TXAR Lajitas Array 68.72 330 P **P** **18 30 46.7 +1.4**
comp=N,1.0nm,0.6s,baz=150,slow=8.9,SNR=12
WVT Waverly 70.16 346 *e*P **P** **18 30 51.0 -2.8**
comp=N,24nm,0.9s
MAW Mawson 74.32 164 P **P** **18 31 18.6 +0.2**
MAW Mawson 74.32 164 P **P** **18 31 18.6 +0.2**
comp=N,7.3nm,0.8s,baz=217,slow=5.5,SNR=14
DBIC Dimbokro 74.72 72 P **P** **18 31 21.2 -0.4**
DBIC Dimbokro 74.72 72 P **P** **18 31 21.2 -0.4**
comp=N,5.2nm,0.7s,baz=195,slow=5.8,SNR=10.0
SUR Sutherland 75.35 119 P **P** **18 31 26.6 +1.2**
SUR Sutherland 75.35 119 P **P** **18 31 26.6 +1.2**
comp=N,16nm,0.8s,baz=300,slow=2.7,SNR=8.1
SDCO Great Sand Dun 76.83 333 *e*P **P** **18 31 35.3 +1.9**
comp=N,2.9nm,0.9s
SADO Sadowa 77.47 355 P **P** **18 31 35.7 -0.8**
SADO Sadowa 77.47 355 P **P** **18 31 35.7 -0.8**
comp=N,3.2nm,0.6s,baz=260,slow=2.8,SNR=3.9
DRV Dumont d'Urvil 77.89 192 L L 18 32 00.0
DRV R 18 40 00.0
SMCO Snowmass 78.64 333 *e*P **P** **18 31 45.5 +1.8**
comp=N,8.2nm,1.1s
ISCO Idaho Springs 78.67 334 *e*P **P** **18 31 44.2 +0.5**
comp=N,7.4nm,1.4s
ECSD EROS Data Cent 79.42 342 *e*P **P** **18 31 45.9 -1.4**
comp=N,8.5nm,0.8s
CCUT Cedar City 79.92 328 *e*P **P** **18 31 52.8 +2.2**
comp=N,3.6nm,1.0s
SRU San Rafael 80.00 330 *e*P **P** **18 31 51.6 +0.7**
comp=N,15nm,1.7s
Q16A Castle Valley 80.11 330 *e*P **P** **18 31 53.0 +1.6**
comp=N,64nm,2.5s
BOSA Boshof 80.57 118 P **P** **18 31 54.6 +0.3**
BOSA Boshof 80.57 118 P **P** **18 31 54.6 +0.3**
comp=N,11nm,0.7s,baz=202,slow=3.6,SNR=25
K22A Casper 81.50 335 *e*P **P** **18 32 00.7 +1.9**
R11A Troy Canyon, C 81.59 327 *e*P **P** **18 32 00.9 +1.6**
comp=N,23nm,2.2s
PDAR Pinedale Array 82.72 333 P **P** **18 32 05.3 +0.1**
PDAR Pinedale Array 82.72 333 P **P** **18 32 05.3 +0.1**
comp=N,0.8nm,0.7s,baz=156,slow=6.8,SNR=5.4
LBTB Lobatse 82.74 115 *e*P **P** **18 32 06.5 +0.6**
comp=N,38nm,1.4s
NVAR Mina Array Bea 82.94 325 P **P** **18 32 07.9 +1.4**
NVAR Mina Array Bea 82.94 325 P **P** **18 32 07.9 +1.4**
comp=N,1.6nm,0.6s,baz=152,slow=6.4,SNR=13
TORD Torodi Ar. Bea 83.73 70 P **P** **18 32 11.1 +0.2**
TORD Torodi Ar. Bea 83.73 70 P **P** **18 32 11.1 +0.2**
comp=N,8.0nm,0.8s,baz=262,slow=4.5,SNR=42
ULM Lac du Bonnet 85.35 345 P **P** **18 32 17.6 -0.6**
ULM Lac du Bonnet 85.35 345 P **P** **18 32 17.6 -0.6**
comp=N,2.7nm,0.7s,baz=142,slow=5.2,SNR=4.8
MCMT McKenzie Canyo 85.74 332 *e*P **P** **18 32 22.0 +1.4**
comp=N,1.2nm,0.7s
J08A Circle Bar Ran 86.91 328 *e*P **P** **18 32 28.2 +2.0**
comp=N,8.1nm,0.6s
ASAR Alice Springs 118.68 207 PKP **PKPdf** **18 38 28.8 -1.4**
ASAR Alice Springs 118.68 207 PKP **PKPdf** **18 38 28.8 -1.4**
comp=N,0.4nm,0.8s,baz=115,slow=1.7,SNR=4.6
BRTR Keskin Array B 121.17 60 PKP **PKPdf** **18 38 34.8 +0.4**
BRTR Keskin Array B 121.17 60 PKP **PKPdf** **18 38 34.8 +0.4**
comp=N,0.5nm,0.6s,baz=42,slow=1.1,SNR=3.2
WRA Warramunga Arr 121.85 209 PKP **PKPdf** **18 38 35.5 -0.8**
WRA Warramunga Arr 121.85 209 PKP **PKPdf** **18 38 35.5 -0.8**
comp=N,0.6nm,0.7s,baz=159,slow=1.6,SNR=9.0
H11S2 WAKE ISLAND Hyd 125.86 270 T T 20 57 45.7
baz=121,slow=0.7,SNR=33
H11S1 WAKE ISLAND Hyd 125.87 270 T T 20 57 44.7
baz=121,slow=0.7,SNR=43
H11S3 WAKE ISLAND Hyd 125.87 270 T T 20 57 44.6
baz=121,slow=0.7,SNR=33
H11N3 WAKE ISLAND Hyd 126.24 271 T T 20 58 07.6
baz=120,slow=0.7,SNR=9.1
H11N1 WAKE ISLAND Hyd 126.25 271 T T 20 58 08.9
baz=120,slow=0.7,SNR=3.5
H11N2 WAKE ISLAND Hyd 126.26 271 T T 20 58 10.4
baz=120,slow=0.7,SNR=18
BRVK Borovoye 146.27 42 *e*PKPdf **PKPbc** **18 39 21.1 -0.5**
BVAR Borovoye Array 146.34 42 PKPbc **PKPab** **18 39 22.8 +0.2**
BVAR Borovoye Array 146.34 42 PKPbc **PKPab** **18 39 22.8 +0.2**
comp=N,5.8nm,0.7s,baz=288,slow=1.4,SNR=28

KKAR	**Karatay Array**	**148.89**	**60**	*e*PKPbc	**PKPbc**	**18 39 29.1**	**0.0**
HYB	**Hyderabad**	**149.35**	**113**	*i* PKP	**PKPbc**	**18 39 30.5**	**-0.5**
EKS2	**Erkin-Say**	**151.32**	**60**	*e*PKPdf	**PKPdf**	**18 39 26.5**	**-2.6**
EKS2				*e*PKPbc	**PKiKP**	**18 39 36.0**	**+0.3**
EKS2				*e*PKPab	**PKPab**	**18 39 43.1**	**-0.2**
AAK	**Ala-Archa**	**151.85**	**60**	*e*PKPdf	**PKPdf**	**18 39 30.2**	**+0.2**
AAK				*e*PKPbc	**PKiKP**	**18 39 37.2**	**+0.4**
KURK	**Kurchatov**	**151.94**	**42**	*e*PKPdf	**PKPdf**	**18 39 29.6**	**+0.1**
KURK				*e*PKPbc	**PKiKP**	**18 39 36.4**	**0.0**
ZALV	**Zalesovo Beam**	**153.16**	**31**	PKP	**PKPdf**	**18 39 31.8**	**+0.5**
ZALV				PKPbc	**PKPbc**	**18 39 38.6**	**-0.1**
ZALV	**Zalesovo Beam**	**153.16**	**31**	PKP	**PKPdf**	**18 39 31.8**	**+0.5**
	comp=N,1.3nm,0.9s,baz=260,slow=2.6,SNR=3.8						
ZALV				PKPbc	**PKPbc**	**18 39 38.6**	**-0.1**
	comp=N,8.5nm,0.7s,baz=294,slow=3.1,SNR=34						
MKAR	**Makanchi Array**	**155.90**	**47**	PKP	**PKPdf**	**18 39 35.8**	**+0.4**
MKAR				PKPab	**PKPab**	**18 40 02.9**	**+0.6**
MKAR	**Makanchi Array**	**155.90**	**47**	PKP	**PKPdf**	**18 39 35.8**	**+0.4**
	comp=N,1.3nm,1.0s,baz=277,slow=2.0,SNR=5.5						
MKAR				PKPab	**PKPab**	**18 40 02.9**	**+0.6**
	comp=N,4.4nm,0.6s,baz=294,slow=4.0,SNR=31						
SONM	**Songino Array**	**164.92**	**4**	PKPab	**PKPab**	**18 40 41.9**	**+0.3**
SONM	**Songino Array**	**164.92**	**4**	PKPab	**PKPab**	**18 40 41.9**	**+0.3**
	comp=N,0.9nm,0.8s,baz=342,slow=8.1,SNR=4.9						

BEO ***29*** *18:30:50.9±1.0, 39.°88N×20.°01E, h19km±5km, ML2.6/6*
ATH ***29*** *18:30:56.2, 40.°46N×19.°87E, h25km±2km, MD3.1/7*
CSEM ***29*** *18:30:57.9±0.2, 40.°39N×19.°96E, h15km, ML2.4/5, Error ellipse: s-maj=5.2km s-min=3.2km az=82.0*
TIR ***29*** *18:30:57.4±2.0, 40.°40N×19.°97E, h20km±42km, ML3.0*
THE ***29*** *18:30:58.6, 40.°35N×19.°99E, h3km±13km, ML2.4/5, Error ellipse: s-maj=13.4km s-min=0.3km az=159.0*

ISC 29 18:30:58.0±1.0, 40.°37N±0.°02×19.°94E±0.°03, h12km±9km, n50, σ1°906/84, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRN	**Sarande**	**0.49**	**175**	*i* PG	**Pg**	**18 31 07.6**	**-0.2**
SRN				*i* SG	**Sb**	**18 31 15.9**	**+0.1**
SRN	**Sarande**	**0.49**	**175**	P	**Pg**	**18 31 07.5**	**-0.2**
SRN				S	**Sg**	**18 31 14.4**	**+0.1**
SRN	**Sarande**	**0.49**	**175**	*i* Pg	**Pg**	**18 31 07.6**	**-0.2**
	SNR=104						
SRN				S	**Sg**	**18 31 14.4**	**+0.1**
SRN				*i* Sg	**Sb**	**18 31 15.9**	**+0.1**
	SNR=104						
KEK	**Kerkira**	**0.67**	**189**	P	**Pb**	**18 31 10.9**	**-0.7**
KEK				S	**Sb**	**18 31 20.7**	**-0.1**
KEK	**Kerkira**	**0.67**	**189**	*e*PN	**Pb**	**18 31 11.0**	**-0.7**
KEK				*e*SN	**Sb**	**18 31 21.4**	**+0.6**
KEK	**Kerkira**	**0.67**	**189**	P	**Pb**	**18 31 10.9**	**-0.7**
KEK				S	**Sb**	**18 31 20.7**	**-0.1**
KEK				*e*Sn	**Sb**	**18 31 21.4**	**+0.6**
KBN	**Korca**	**0.69**	**69**	*i* PG	**Pb**	**18 31 11.0**	**-1.1**
KBN				*i* SG	**Sb**	**18 31 21.5**	**-0.1**
KBN	**Korca**	**0.69**	**69**	*i* Pg	**Pb**	**18 31 11.0**	**-1.1**
	SNR=100						
KBN				*i* Sg	**Sb**	**18 31 21.5**	**-0.1**
	SNR=100						
NEST	**Nestorio**	**0.85**	**87**	P	**Pb**	**18 31 13.9**	**-0.8**
NEST	**Nestorio**	**0.85**	**87**	*e*PN	**Pb**	**18 31 13.5**	**-1.2**
NEST				*e*SN	**Sg**	**18 31 26.2**	**+0.6**
NEST	**Nestorio**	**0.85**	**87**	*e*Pn	**Pb**	**18 31 13.5**	**-1.2**
NEST	**Nestorio**	**0.85**	**87**	P	**Pb**	**18 31 13.9**	**-0.8**
NEST				*e*Sn	**Sg**	**18 31 26.2**	**+0.6**
IGT	**Igoumenitsa**	**0.89**	**160**	P	**Pb**	**18 31 14.8**	**-0.6**
IGT				S	**Sg**	**18 31 27.3**	**+0.4**
IGT	**Igoumenitsa**	**0.89**	**160**	*e*PN	**Pn**	**18 31 16.2**	**-0.2**
IGT				*e*SN	**Sn**	**18 31 30.1**	**+0.9**
IGT	**Igoumenitsa**	**0.89**	**160**	P	**Pb**	**18 31 14.8**	**-0.6**
IGT	**Igoumenitsa**	**0.89**	**160**	*e*Pn	**Pn**	**18 31 16.2**	**-0.2**
IGT				S	**Sg**	**18 31 27.3**	**+0.4**
IGT				*e*Sn	**Sn**	**18 31 30.1**	**+0.9**
TIR	**Tirane**	**0.97**	**357**	*i* PG	**Pb**	**18 31 16.0**	**-0.8**
TIR				*i* SG	**Sn**	**18 31 31.1**	**-0.1**
TIR	**Tirane**	**0.97**	**357**	*e*Pg	**Pb**	**18 31 16.4**	**-0.4**
TIR	**Tirane**	**0.97**	**357**	*e*Pg	**Pb**	**18 31 16.4**	**-0.4**
TIR				*i* Sg	**Sn**	**18 31 31.1**	**-0.1**
	SNR=95						
JAN	**Janina**	**1.00**	**135**	P	**Pb**	**18 31 16.5**	**-0.8**
JAN	**Janina**	**1.00**	**135**	*e*PB	**Pb**	**18 31 16.4**	**-0.8**
JAN				*e*SN	**Sn**	**18 31 32.3**	**+0.4**
JAN	**Janina**	**1.00**	**135**	P	**Pb**	**18 31 16.5**	**-0.8**
JAN				*e*Sn	**Sn**	**18 31 32.3**	**+0.4**
FNA	**Florina**	**1.17**	**69**	P	**Pn**	**18 31 19.8**	**-0.4**
FNA				S	**Sg**	**18 31 36.8**	**+1.1**
FNA	**Florina**	**1.17**	**69**	*e*PN	**Pn**	**18 31 19.4**	**-0.8**
FNA	**Florina**	**1.17**	**69**	*e*Pn	**Pn**	**18 31 19.4**	**-0.8**
FNA	**Florina**	**1.17**	**69**	P	**Pn**	**18 31 19.8**	**-0.4**
FNA				S	**Sg**	**18 31 36.8**	**+1.1**
BIA	**Bitola**	**1.23**	**58**	P	**Pb**	**18 31 21.3**	**0.0**
BIA	**Bitola**	**1.23**	**58**	P	**Pb**	**18 31 21.3**	**0.0**
PHP	**Peshkopia**	**1.36**	**16**	P	**Pg**	**18 31 24.4**	**+0.2**
PHP				S	**Sg**	**18 31 43.9**	**+1.9**
PHP	**Peshkopia**	**1.36**	**16**	P	**Pg**	**18 31 24.4**	**+0.2**
KZN	**Kozani**	**1.40**	**92**	*e*PN	**Pn**	**18 31 23.1**	**-0.3**
KZN	**Kozani**	**1.40**	**92**	*e*Pn	**Pn**	**18 31 23.1**	**-0.3**
PDG	**Podgorica**	**2.12**	**346**	*e*Pn	**Pn**	**18 31 33.1**	**-0.1**
PDG				*e*Sn	**Sb**	**18 32 03.6**	**+1.1**
PDG	**Podgorica**	**2.12**	**346**	*e*Pn	**Pn**	**18 31 33.1**	**-0.1**
PDG				*e*Sn	**Sb**	**18 32 03.6**	**+1.1**
VLS	**Valsamata**	**2.25**	**167**	*e*PN	**Pn**	**18 31 35.5**	**+0.5**
VLS	**Valsamata**	**2.25**	**167**	*e*Pn	**Pn**	**18 31 35.5**	**+0.5**
TREB	**Trebinje**	**2.63**	**334**	*e*Pn	**Pn**	**18 31 39.7**	**-0.5**
TREB				*e*Sn	**Sb**	**18 32 14.5**	**-2.7**
TREB	**Trebinje**	**2.63**	**334**	*e*Pn	**Pn**	**18 31 39.7**	**-0.5**
TREB				*e*Sn	**Sb**	**18 32 14.5**	**-2.7**
SJES	**Sjenica**	**2.89**	**0**	*e*Pn	**Pn**	**18 31 43.3**	**-0.6**
SJES	**Sjenica**	**2.89**	**0**	*e*Pn	**Pn**	**18 31 43.3**	**-0.6**
SELS	**Selova**	**2.98**	**17**	*e*Pn	**Pn**	**18 31 44.4**	**-0.7**
STON	**Ston**	**3.01**	**327**	*e*Pn	**Pn**	**18 31 45.5**	**+0.1**
STON				Sn	**Sn**	**18 32 21.9**	**+0.5**
STON	**Ston**	**3.01**	**327**	*e*Pn	**Pn**	**18 31 45.5**	**+0.1**
STON				Sn	**Sn**	**18 32 21.8**	**+0.5**
BBLS	**Lazići**	**3.51**	**354**	*e*Pn	Pn	18 31 49.7	-2.8
BBLS				*e*Sn	**Sn**	**18 32 37.7**	**+3.7**
BBLS	**Lazići**	**3.51**	**354**	*e*Pn	Pn	18 31 49.7	-2.8
BBLS				*e*Sn	**Sn**	**18 32 37.7**	**+3.7**
ZAPS	**Zavoj**	**3.53**	**34**	*e*Pn	**Pn**	**18 31 50.2**	**-2.4**
ZAPS				*e*Sn	**Sn**	**18 32 34.3**	**0.0**
DIVS	**Divibare**	**3.72**	**1**	*e*Pn	**Pn**	**18 31 54.5**	**-0.9**
DIVS				*e*Sn	**Sn**	**18 32 41.0**	**+1.8**
DIVS	**Divibare**	**3.72**	**1**	*e*Pn	**Pn**	**18 31 54.5**	**-0.9**
DIVS				*e*Sn	**Sn**	**18 32 41.0**	**+1.8**
NVLJ	**Novalja**	**5.62**	**320**	*e*Pn	**Pn**	**18 32 21.7**	**+0.3**
NVLJ				Sn	**Sn**	**18 33 24.4**	**-1.4**
NVLJ	**Novalja**	**5.62**	**320**	*e*Pn	**Pn**	**18 32 21.6**	**+0.3**
NVLJ				Sn	**Sn**	**18 33 24.3**	**-1.4**

MAN 29 18:35:25, 15.°67N×119.°97E, h35km, mb4.5, ML3.4, MS3.2, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCZP	**Santa Cruz**	**0.12**	**332**	*e*P	Pn	18 35 31.9	+0.7
SCZP				*e*S	Sn	18 35 37.9	+2.4
BOLP	**Bolinao**	**0.71**	**356**	*e*P	Pn	18 35 39.8	+1.2
BOLP				*e*S	Sn	18 35 49.8	+1.5
PCPH	**Palayan**	**1.09**	**95**	*e*P	Pn	18 35 44.2	+0.4
BALP	**Baler**	**1.55**	**87**	*e*P	Pn	18 35 50.9	+0.8

WEL 29 18:56:07.8±0.1, 44.°12S×168.°81E, h5km, ML4.0/14, 3C-2D, Error ellipse: s-maj=1.6km s-min=1.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCZ	**Jackson Bay**	**0.06**	**316**	*e*PG	Pg	18 56 09.9	+0.6
JCZ				SG	Sg	18 56 10.9	+0.6
JCZ				AML	AML	18 56 11.3	
WKZ	**Wanaka**	**0.73**	**168**	P*	Pg	18 56 22.3	+0.5
WKZ				S*	Sg	18 56 32.3	+0.9
WKZ				S*	Sb	18 56 32.4	-0.9
WKZ				AML	AML	18 56 33.7	
WKZ				AML	AML	18 56 33.8	
FOZ	**Fox Glacier**	**0.84**	**49**	P*	Pb	18 56 25.0	+0.3
FOZ				S*	Sn	18 56 37.7	-1.2
FOZ				AML	AML	18 56 39.7	
FOZ				AML	AML	18 56 39.8	
FOZ				AML	AML	18 56 39.9	
MSZ	**Milford Sound**	**0.84**	**228**	P*	Pg	18 56 23.5	-0.4
MSZ				AML	AML	18 56 40.3	
MSZ				AML	AML	18 56 40.3	
MSZ				AML	AML	18 56 40.5	
MSZ				AML	AML	18 56 40.5	
LBZ	**Lake Benmore**	**1.02**	**106**	P*	Pg	18 56 27.7	+0.2
LBZ				S*	Sg	18 56 40.7	0.0
LBZ				AML	AML	18 56 42.0	
LBZ				AML	AML	18 56 42.1	
LBZ				AML	AML	18 56 42.3	
EAZ	**Earnscleugh**	**1.17**	**163**	⇓P*	Pg	18 56 30.2	0.0
EAZ				AML	AML	18 56 48.8	
EAZ				AML	AML	18 56 48.8	
EAZ				AML	AML	18 56 49.8	
EAZ				AML	AML	18 56 51.3	
MLZ	**Mavora Lakes**	**1.31**	**200**	⇑PN	Pn	18 56 32.7	-0.2
MLZ				AML	AML	18 56 55.7	
MLZ				AML	AML	18 56 58.3	
ODZ	**Otahua Downs**	**1.61**	**126**	PN	Pn	18 56 36.6	-0.2
RPZ	**Rata Peaks**	**1.67**	**77**	PN	Pn	18 56 37.1	-0.6
RPZ				AML	AML	18 57 04.5	
RPZ				AML	AML	18 57 05.2	
WVZ	**Waitaha Valley**	**1.74**	**54**	⇑PN	Pn	18 56 36.9	-1.7
WVZ				AML	AML	18 57 06.2	
WVZ				AML	AML	18 57 06.5	
DCZ	**Deep Cove**	**1.80**	**220**	PN	Pn	18 56 39.5	+0.1
DCZ				AML	AML	18 57 09.5	
DCZ				AML	AML	18 57 09.5	
DCZ				AML	AML	18 57 10.2	
DCZ				AML	AML	18 57 10.2	
WHZ	**Wether Hill Ro**	**1.88**	**199**	PN	Pn	18 56 40.9	+0.3
WHZ				AML	AML	18 57 10.4	
WHZ				AML	AML	18 57 13.9	
TUZ	**Tuapeka**	**1.93**	**163**	PN	Pb	18 56 42.8	-0.6
TUZ				AML	AML	18 57 11.1	
TUZ				AML	AML	18 57 13.9	
OXZ	**Oxford**	**2.47**	**72**	PN	Pn	18 56 46.8	-1.8
APZ	**The Paps**	**2.78**	**192**	PN	Pn	18 56 53.1	+0.1
MQZ	**McQueen's Vall**	**2.81**	**83**	PN	Pn	18 56 51.5	-1.7
LTZ	**Lake Taylor**	**2.85**	**63**	⇑PN	Pn	18 56 52.8	-1.1
LTZ				AML	AML	18 57 45.6	
LTZ				AML	AML	18 57 46.7	
DSZ	**Denniston Nort**	**3.23**	**44**	PN	Pn	18 56 57.0	-2.1
THZ	**Tophouse**	**3.81**	**53**	PN	Pn	18 57 06.2	-1.0
THZ				SN	Sn	18 57 49.2	-3.3
THZ				AML	AML	18 58 02.4	
NNZ	**Nelson**	**4.44**	**51**	PN	Pn	18 57 15.1	-0.7
TUWZ	**Tuamarina**	**4.63**	**56**	PN	Pn	18 57 18.6	+0.2
TCW	**Tory Channel**	**4.96**	**56**	PN	Pn	18 57 23.6	+0.7
DUWZ	**D'Urville Isla**	**5.02**	**51**	PN	Pn	18 57 23.3	-0.4
KIW	**Kapiti Island**	**5.56**	**56**	PN	Pn	18 57 30.8	-0.3
KHEZ	**Kahui Hut**	**6.19**	**41**	PN	Pn	18 57 38.9	-1.0

IDC ***29*** *19:04:59.8±1.8, 15.°53S×172.°27W, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/22, mbtmp3.8/7, Error ellipse: s-maj=66.7km s-min=17.4km az=130.0*
ISCJB ***29*** *19:05:02.7±1.3, 15.°72S±0.°2×172.°2W±0.°3, h35km, mb3.8/7, Error ellipse: s-maj=42.4km s-min=9.5km az=29.3*

ISC 29 19:05:04.6±1.5, 15.°65S±0.°2×172.°3W±0.°3, h35km, n16, σ0°879/11, mb3.8/7, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.71**	**16**	Pn	**Pn**	**19 05 31.3**	**-0.8**
	60nm,0.3s,baz=188,slow=7.1,SNR=44						
AFI				Sn	**Sn**	**19 05 53.8**	**+1.0**
	248nm,0.3s,baz=180,slow=20,SNR=21						
H11S2	**WAKE ISLAND Hy 39.68**	**328**		T	T	19 53 29.0	
	baz=150,slow=0.7,SNR=6.0						
H11S3	**WAKE ISLAND Hy 39.70**	**328**		T	T	19 53 32.2	
	baz=150,slow=0.7,SNR=5.7						
H11S1	**WAKE ISLAND Hy 39.70**	**328**		T	T	19 53 30.4	
	baz=150,slow=0.7,SNR=5.4						
H11N3	**WAKE ISLAND Hy 40.61**	**329**		T	T	19 54 39.1	
	baz=144						
H11N1	**WAKE ISLAND Hy 40.62**	**329**		T	T	19 54 40.6	
	baz=144						
H11N2	**WAKE ISLAND Hy 40.63**	**329**		T	T	19 54 41.4	
	baz=144						
STKA	**Stephens Creek**	**44.91**	**240**	P	**P**	**19 13 16.0**	**-0.1**
	0.6nm,0.4s,baz=81,slow=13,SNR=2.2						
WRA	**Warramunga Arr**	**50.88**	**257**	P	**P**	**19 14 03.1**	**+0.5**
	0.2nm,0.4s,baz=94,slow=7.3,SNR=13						
ASAR	**Alice Springs**	**51.11**	**252**	P	**P**	**19 14 04.2**	**0.0**
	2.1nm,0.7s,baz=88,slow=8.1,SNR=22						
FITZ	**Fitzroy Crossi**	**59.26**	**258**	P	**P**	**19 15 03.9**	**+0.8**
	0.7nm,0.7s,baz=96,slow=10,SNR=3.0						
PETK	**Petropavlovsk-**	**73.13**	**342**	P	**P**	**19 16 30.2**	**-1.1**
	2.7nm,0.8s,baz=120,slow=5.2,SNR=2.6						
NVAR	**Mina Array Bea**	**73.72**	**41**	P	**P**	**19 16 35.4**	**0.0**
	0.3nm,0.5s,baz=220,slow=6.8,SNR=1.9						
ILAR	**Eielson Array**	**82.40**	**11**	P	**P**	**19 17 23.5**	**+0.8**
	0.6nm,0.7s,baz=213,slow=6.9,SNR=6.5						
GERES	**GERESS Array B**	**146.46**	**353**	PKPbc	**PKPbc**	**19 24 42.5**	**+0.3**
	0.3nm,0.6s,baz=327,slow=1.6,SNR=2.8						
BRTR	**Keskin Array B**	**146.98**	**322**	PKPbc	**PKPab**	**19 24 45.0**	**-0.6**
	0.6nm,0.7s,baz=114,slow=1.7,SNR=4.4						

IDC ***29*** *19:26:35.3±1.1, 12.°36S×165.°68E, h0km, mb4.2/12, mb1 4.3/13, mb1mx4.1/22, mbtmp4.2/13, ML4.0/1, Error ellipse: s-maj=37.7km s-min=19.4km az=130.0*
ISCJB ***29*** *19:26:39.1±0.8, 12.°35S±0.°1×165.°51E±0.°10, h33km, mb4.1/11, Error ellipse: s-maj=15.7km s-min=12.9km az=22.6*

ISC 29 19:26:40.9±0.8, 12.°35S±0.°1×165.°6E±0.°1, h35km, n17, σ0°893/19, mb4.1/11, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.24**	**297**	Pn	**Pn**	**19 28 11.3**	**+0.7**
	3.8nm,0.3s,baz=96,slow=5.8,SNR=7.5						
HNR				Sn	**Sn**	**19 29 20.0**	**-0.7**
	8.8nm,0.3s,baz=52,slow=22,SNR=8.1						
CTA	**Charters Tower**	**20.08**	**245**	P	Pn	19 31 12.6	-1.1
	4.8nm,0.8s,baz=42,slow=8.0,SNR=3.9						
STKA	**Stephens Creek**	**29.41**	**225**	P	**P**	**19 32 41.4**	**+0.2**
	2.0nm,0.7s,baz=32,slow=7.3,SNR=4.3						
WRA	**Warramunga Arr**	**30.91**	**252**	P	**P**	**19 32 53.8**	**-0.8**
	1.3nm,0.7s,baz=83,slow=9.2,SNR=9.4						
WRA				PcP	**PcP**	**19 35 51.5**	**+0.6**
	0.9nm,0.9s,baz=88,slow=3.0,SNR=5.5						
ASAR	**Alice Springs**	**32.09**	**245**	P	**P**	**19 33 03.9**	**-1.2**
	1.5nm,0.8s,baz=73,slow=9.3,SNR=14						
ASAR				PcP	**PcP**	**19 35 53.5**	**-0.6**
	0.7nm,0.8s,baz=66,slow=3.4,SNR=4.7						
FITZ	**Fitzroy Crossi**	**38.91**	**256**	P	**P**	**19 34 04.0**	**+0.4**
	3.3nm,1.0s,baz=92,slow=12,SNR=2.9						
MJAR	**Matsushiro Arr**	**55.03**	**333**	P	**P**	**19 36 07.7**	**-1.5**
	1.2nm,0.7s,baz=167,slow=11,SNR=6.0						
PETK	**Petropavlovsk-**	**65.52**	**355**	P	**P**	**19 37 21.3**	**+0.7**
	5.1nm,1.0s,baz=159,slow=8.5,SNR=3.3						
CMAR	**Chiang Mai Arr**	**72.48**	**294**	P	**P**	**19 38 06.0**	**+1.4**
	2.2nm,0.8s,baz=124,slow=4.5,SNR=23						
SONM	**Songino Array**	**79.60**	**324**	P	**P**	**19 38 45.1**	**+0.4**
	1.1nm,0.9s,baz=136,slow=4.5,SNR=5.6						
ILAR	**Eielson Array**	**84.78**	**19**	P	**P**	**19 39 10.3**	**-1.0**
	1.7nm,0.7s,baz=232,slow=5.5,SNR=18						
MKAR	**Makanchi Array**	**94.34**	**317**	P	**P**	**19 39 57.4**	**+0.3**
	1.9nm,0.7s,baz=92,slow=6.2,SNR=14						
ZALV	**Zalesovo Beam**	**94.50**	**324**	P	**P**	**19 39 56.7**	**-0.8**
	1.0nm,0.6s,baz=113,slow=5.0,SNR=6.3						
ARCES	**ARCESS Array B**	**117.53**	**345**	PKP	**PKPdf**	**19 45 24.2**	**+1.6**
	1.6nm,0.7s,baz=80,slow=1.7,SNR=10						
KEST	**Kesra**	**148.32**	**321**	PKPbc	**PKPbc**	**19 46 24.4**	**+0.3**
	1.5nm,0.9s,baz=74,slow=7.4,SNR=5.2						
ESDC	**Sonseca Array**	**151.24**	**343**	PKPbc	**PKPbc**	**19 46 31.4**	**+0.2**
	0.9nm,0.8s,baz=32,slow=2.3,SNR=6.5						
TORD	**Torodi Ar. Bea**	**164.26**	**275**	PKP	**PKPdf**	**19 46 40.9**	**-0.9**
	0.8nm,1.0s,baz=325,slow=2.3,SNR=3.9						

IDC 29 19:28:31.7±3.2, 16.°39S×174.°44W, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/21, mbtmp3.9/6, ML2.2/1, Error ellipse: s-maj=158.0km s-min=23.5km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.56**	**46**	Pn	Pn	19 29 30.4	+2.0
	12nm,0.3s,baz=159,slow=4.5,SNR=9.2						
AFI				Sn	Sn	19 30 06.2	-5.2
	53nm,0.3s,baz=64,slow=22,SNR=15						
STKA	**Stephens Creek**	**42.68**	**241**	P	P	19 36 29.9	-0.6
	1.1nm,0.5s,baz=84,slow=10,SNR=3.1						
WRA	**Warramunga Arr**	**48.65**	**258**	P	P	19 37 18.3	+0.3
	0.5nm,0.5s,baz=96,slow=7.3,SNR=14						
ASAR	**Alice Springs**	**48.86**	**253**	P	P	19 37 19.3	-0.2
	2.0nm,0.5s,baz=86,slow=9.4,SNR=38						
FITZ	**Fitzroy Crossi**	**57.03**	**259**	P	P	19 38 20.6	+0.7
	1.5nm,1.0s,baz=84,slow=10,SNR=2.9						
ILAR	**Eielson Array**	**83.61**	**12**	P	P	19 41 00.3	-1.3
	0.3nm,0.5s,baz=230,slow=5.7,SNR=6.2						

IDC 29 19:41:08.0±1.7, 2.°17N×126.°01E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.3/23, mbtmp3.4/4, Error ellipse: s-maj=110.1km s-min=18.2km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**7.64**	**339**	*i* P	Pb	19 43 27.4	+5.8
FITZ	**Fitzroy Crossi**	**20.15**	**181**	P	Pn	19 45 45.7	-0.1
	1.4nm,0.9s,baz=355,slow=15,SNR=3.0						
WRA	**Warramunga Arr**	**23.44**	**160**	P	P	19 46 21.0	+1.8
	0.5nm,0.5s,baz=337,slow=11,SNR=14						
WRA				S	S	19 50 32.8	-1.1
	0.3nm,0.9s,baz=337,slow=16,SNR=5.0						
ASAR	**Alice Springs**	**26.80**	**164**	P	P	19 46 50.9	+0.8
	0.2nm,0.6s,baz=345,slow=14,SNR=4.1						
MKAR	**Makanchi Array**	**58.43**	**326**	P	P	19 51 04.9	-0.8
	0.4nm,0.4s,baz=119,slow=7.8,SNR=12						

IDC 29 19:49:38.8±2.4, 12.°66S×166.°92E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=117.1km s-min=28.5km az=135.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**30.12**	**226**	P	P	19 55 50.4	+0.1
	0.5nm,0.3s,baz=55,slow=12,SNR=2.5						
WRA	**Warramunga Arr**	**32.06**	**253**	P	P	19 56 07.2	-0.4
	0.1nm,0.7s,baz=84,slow=8.5,SNR=2.7						
ASAR	**Alice Springs**	**33.14**	**246**	P	P	19 56 17.3	+0.1
	0.2nm,0.4s,baz=76,slow=9.2,SNR=11						
ILAR	**Eielson Array**	**84.68**	**18**	P	P	20 02 14.1	0.0
	0.6nm,0.5s,baz=237,slow=4.6,SNR=12						
H03N2	**Juan Fernandez**	**102.38**	**129**	T	T	21 56 07.8	
	baz=244,slow=0.7,SNR=5.8						
H03N3	**Juan Fernandez**	**102.38**	**129**	T	T	21 56 06.3	
	baz=244,slow=0.7,SNR=25						
H03N1	**Juan Fernandez**	**102.39**	**129**	T	T	21 56 08.2	
	baz=244,slow=0.7,SNR=25						

ISCJB ***29*** *19:56:56.3±0.3, 26.°58N±0.°04×90.°17E±0.°03, h10km, mb4.4/53, Error ellipse: s-maj=6.5km s-min=3.9km az=8.0*
IDC ***29*** *19:56:56.9±0.5, 26.°61N×90.°03E, h0km, mb4.2/24, mb1 4.3/25, mb1mx4.2/30, mbtmp4.1/25, ML3.9/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/46, Error ellipse: s-maj=18.0km s-min=12.6km az=35.0*
DMN ***29*** *19:56:56.5±0.7, 26.°63N×90.°61E, h10km, Ml5.1/6, Error ellipse: s-maj=40.4km s-min=14.0km az=12.0*
LDG ***29*** *19:56:58.0±0.4, 27.°07N×90.°07E, h10km, Mb4.7/26, Ms3.0/2, Error ellipse: s-maj=18.4km s-min=12.3km az=152.0*
NEIC ***29*** *19:57:01.3±1.5, 26.°55N×90.°02E, h30km±11km, mb4.8/29, Error ellipse: s-maj=6.5km s-min=3.8km az=224.0*

ISC 29 19:56:58.1±1.6, 26.°62N±0.°05×90.°11E±0.°03, h8km±10km, n186, σ1°904/195, mb4.6/53, 19C-11D, Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLGI	**Shiliguri**	**1.52**	**273**	*i* P	**Pg**	**19 57 27.8**	**+0.6**
SLGI				*i* S	**Sn**	**19 57 45.5**	**+0.1**
SHL	**Shillong**	**1.91**	**123**	*e*P	**Pb**	**19 57 33.0**	**-0.2**
SHL				*e*S	**Sb**	**19 57 57.0**	**-0.3**
TAPN	**Taplejung**	**2.26**	**289**	*e*Pn	**Pb**	**19 57 39.2**	**-0.2**
TAPN				*e*Sn	**Sb**	**19 58 08

USRK	**Ussuriysk Arra**	37.90	51	P	P	20 04 16.5	+0.8
	comp=N,1.8nm,0.7s,baz=241,slow=8.1,SNR=4.0						
GNI	**Garni**	39.80	302	P	P	20 04 31.4	-0.5
GNI	**Garni**	39.80	302	P	P	20 04 31.3	-0.5
	comp=N,3.8nm,0.6s,baz=62,slow=7.2,SNR=3.1						
MAT	**Matsushiro**	41.78	64	P	P	20 04 55.9	+7.8
MJAR	**Matsushiro Arr**	41.78	64	P	P	20 04 48.5	+0.3
MJAR	**Matsushiro Arr**	41.78	64	P	P	20 04 48.5	+0.3
	comp=N,1.4nm,0.8s,baz=276,slow=11,SNR=7.3						
BRTR	**Keskin Array B**	48.31	301	P	P	20 05 40.2	0.0
BRTR	**Keskin Array B**	48.31	301	P	P	20 05 40.2	0.0
	comp=N,0.9nm,0.8s,baz=129,slow=9.0,SNR=6.8						
AKASG	**Malin Array Be**	51.62	315	P	P	20 06 04.2	-0.8
AKASG	**Malin Array Be**	51.62	315	P	P	20 06 04.2	-0.8
	comp=N,1.7nm,0.4s,baz=84,slow=7.0,SNR=15						
CFR	**Carcaliu**	52.23	308	⇓*iP*	P	20 06 09.8	+0.3
MSAB	**Monastry St. A**	52.48	306	⇓*iP*	P	20 06 12.3	+0.8
JOF	**Joensuu**	52.52	330	*ep*	P	20 06 12.1	+0.7
	comp=N,4.6nm,0.4s						
VRI	**Vrincioaia**	53.20	309	⇓*iP*	P	20 06 18.0	+1.2
PLOR	**Plostina**	53.25	309	⇓*iP*	P	20 06 18.4	+1.2
MLR	**Muntele Rosu**	53.76	308	⇓*iP*	P	20 06 22.4	+1.4
BURAR	**Bucovina Array**	54.19	311	⇑*iP*	P	20 06 24.5	+0.4
VOIR		54.39	308	⇓*iP*	P	20 06 26.3	+0.7
FINES	**FINESS Array B**	54.61	328	P	P	20 06 26.4	-0.3
FINES	**FINESS Array B**	54.61	328	P	P	20 06 26.4	-0.3
	comp=N,4.3nm,0.6s,baz=104,slow=7.7,SNR=18						
ARR	**Arges**	54.69	308	⇓*iP*	P	20 06 28.1	+0.4
PETK	**Petropavlovsk-**	55.85	42	P	P	20 06 35.3	-0.6
PETK	**Petropavlovsk-**	55.85	42	P	P	20 06 35.3	-0.6
	comp=N,4.0nm,0.9s,baz=258,slow=6.8,SNR=2.4						
DRGR		55.93	310	⇓*iP*	P	20 06 37.4	+0.7
VTS	**Vitosha**	55.95	305	⇓*iP*	P	20 06 37.5	+0.5
KEV	**Kevo**	56.03	338	*ep*	P	20 06 37.7	+0.8
	comp=N,0.6nm,0.4s						
ARCES	**ARCESS Array B**	56.48	338	P	P	20 06 40.5	+0.3
ARCES	**ARCESS Array B**	56.48	338	P	P	20 06 40.5	+0.3
	comp=N,6.6nm,1.0s,baz=82,slow=9.1,SNR=9.9						
PKSM	**Moragy**	58.78	310	⇓*iP*	P	20 06 56.8	+0.1
BRG	**Berggiesshubel**	61.29	315	*iP*	P	20 07 14.0	+0.2
	comp=N,4.9nm,0.6s						
GERES	**GERESS Array B**	61.74	313	P	P	20 07 17.2	+0.2
GERES	**GERESS Array B**	61.74	313	P	P	20 07 17.2	+0.2
	comp=N,2.6nm,0.6s,baz=77,slow=5.4,SNR=27						
NB2	**NORSAR Subarra**	61.76	327	P	P	20 07 16.1	-0.8
	comp=Z,3.8nm,0.9s,baz=87,slow=6.9						
NOA	**NORSAR Array B**	61.76	327	P	P	20 07 16.3	-0.6
NOA	**NORSAR Array B**	61.76	327	P	P	20 07 16.3	-0.6
	comp=Z,2.3nm,0.8s,baz=90,slow=6.7,SNR=8.0						
WRA	**Warramunga Arr**	63.10	133	P	P	20 07 26.9	+0.5
WRA	**Warramunga Arr**	63.10	133	P	P	20 07 26.9	+0.5
	comp=Z,0.7nm,0.7s,baz=325,slow=6.9,SNR=17						
WRAB	**Tennant Creek**	63.10	133	*eP*	P	20 07 27.9	+1.5
ASAR	**Alice Springs**	65.51	136	P	P	20 07 42.9	+0.8
ASAR	**Alice Springs**	65.51	136	P	P	20 07 42.9	+0.8
	comp=Z,0.6nm,0.6s,baz=318,slow=6.5,SNR=14						
CDF	**Champ du Feu**	66.00	314	*eP*	P	20 07 44.6	-0.5
	comp=Z,5.0nm,0.8s						
CDF	**Champ du Feu**	66.00	314	*eP*	P	20 07 44.6	-0.5
	comp=Z,5.0nm,0.8s						
PGF	**Pioggiola**	66.27	307	*eP*	P	20 07 46.2	-0.8
PGF	**Pioggiola**	66.27	307	*eP*	P	20 07 46.2	-0.8
HINF	**Hinteralfeld**	66.42	313	*eP*	P	20 07 47.4	-0.4
HINF	**Hinteralfeld**	66.42	313	*eP*	P	20 07 47.4	-0.4
HAU	**Haudompre**	66.70	313	*eP*	P	20 07 49.1	-0.5
	comp=Z,8.3nm,0.6s						
HAU	**Haudompre**	66.70	313	*eP*	P	20 07 49.1	-0.5
	comp=Z,8.3nm,0.6s						
PAGF	**Fort de Pagny**	66.97	314	*eP*	P	20 07 51.2	0.0
PAGF	**Fort de Pagny**	66.97	314	*eP*	P	20 07 51.2	0.0
SBF	**Sospel**	67.03	309	*eP*	P	20 07 51.2	-0.6
	comp=Z,5.4nm,0.5s						
SBF	**Sospel**	67.03	309	*eP*	P	20 07 51.2	-0.6
	comp=Z,5.4nm,0.5s						
LPG	**La Plagne**	67.07	311	⇑*iP*	P	20 07 52.1	-0.2
	comp=Z,11nm,0.9s						
LPG	**La Plagne**	67.07	311	⇑*iP*	P	20 07 52.1	-0.2
	comp=Z,11nm,0.9s						
LPL	**La Plagne**	67.08	311	⇑*iP*	P	20 07 52.0	-0.2
	comp=Z,4.6nm,0.5s						
LPL	**La Plagne**	67.08	311	⇑*iP*	P	20 07 52.0	-0.2
	comp=Z,4.6nm,0.5s						
GIVF	**Givet**	67.15	316	*eP*	P	20 07 51.7	-0.6
GIVF	**Givet**	67.15	316	*eP*	P	20 07 51.7	-0.6
CABF	**La Chapelle**	67.23	312	*eP*	P	20 07 52.5	-0.5
CABF	**La Chapelle**	67.23	312	*eP*	P	20 07 52.5	-0.5
MBDF	**Montbardon**	67.26	310	*eP*	P	20 07 52.1	-1.2
	comp=Z,3.6nm,0.7s						
MBDF	**Montbardon**	67.26	310	*eP*	P	20 07 52.1	-1.2
	comp=Z,3.6nm,0.7s						
MEZF	**Maizieres J'vi**	67.41	314	*eP*	P	20 07 53.9	-0.1
	comp=Z,19nm,0.8s						
MEZF	**Maizieres J'vi**	67.41	314	*eP*	P	20 07 53.9	-0.1
	comp=Z,19nm,0.8s						
SFTF	**Sexfontaines**	67.50	314	*eP*	P	20 07 54.2	-0.4
	comp=Z,5.2nm,0.4s						
SFTF	**Sexfontaines**	67.50	314	*eP*	P	20 07 54.2	-0.4
	comp=Z,5.2nm,0.4s						
BAIF	**Baives**	67.54	316	*eP*	P	20 07 54.8	0.0
BAIF	**Baives**	67.54	316	*eP*	P	20 07 54.8	0.0
FRF	**La Foret Royal**	67.66	309	⇑*iP*	P	20 07 55.1	-0.6
	comp=Z,10.0nm,0.8s						
FRF	**La Foret Royal**	67.66	309	⇑*iP*	P	20 07 55.1	-0.6
	comp=Z,10.0nm,0.8s						
ORIF	**Oris-en-Rattie**	67.82	310	*eP*	P	20 07 56.1	-0.7
	comp=Z,2.2nm,0.5s						
ORIF	**Oris-en-Rattie**	67.82	310	*eP*	P	20 07 56.1	-0.7
	comp=Z,2.2nm,0.5s						
LMR	**La Mourre**	67.82	308	*eP*	P	20 07 56.2	-0.5
	comp=Z,6.4nm,0.7s						
LMR	**La Mourre**	67.82	308	*eP*	P	20 07 56.2	-0.5
	comp=Z,6.4nm,0.7s						
KEST	**Kesra**	67.91	300	P	P	20 07 57.6	+0.1
KEST	**Kesra**	67.91	300	P	P	20 07 57.6	+0.1
	comp=Z,1.9nm,0.9s,baz=315,slow=4.5,SNR=6.5						
SMRF	**Simiane la Rot**	68.29	309	*eP*	P	20 07 59.6	-0.1
SMRF	**Simiane la Rot**	68.29	309	*eP*	P	20 07 59.6	-0.1
LOR	**Lormes**	68.52	313	*eP*	P	20 08 00.2	-0.8
LOR	**Lormes**	68.52	313	*eP*	P	20 08 00.2	-0.8
VIVF	**Saint-Julien-l**	68.66	310	*eP*	P	20 08 01.5	-0.5
VIVF	**Saint-Julien-l**	68.66	310	*eP*	P	20 08 01.5	-0.5
SMF	**Signal de Mont**	68.71	312	⇑*iP*	P	20 08 01.5	-0.7
	comp=Z,11nm,0.7s						
SMF	**Signal de Mont**	68.71	312	⇑*iP*	P	20 08 01.5	-0.7
	comp=Z,11nm,0.7s						
SSF	**Saint Saulge**	68.81	313	⇑*iP*	P	20 08 02.3	-0.5
	comp=Z,13nm,0.8s						
SSF	**Saint Saulge**	68.81	313	⇑*iP*	P	20 08 02.3	-0.5
	comp=Z,13nm,0.8s						
AVF	**Avril sur Loir**	68.99	313	⇑*iP*	P	20 08 03.3	-0.6
	comp=Z,10nm,0.8s						
AVF	**Avril sur Loir**	68.99	313	⇑*iP*	P	20 08 03.3	-0.6
	comp=Z,10nm,0.8s						
HYF	**Humbligny**	69.31	313	*eP*	P	20 08 06.2	+0.2
HYF	**Humbligny**	69.31	313	*eP*	P	20 08 06.2	+0.2
BGF	**Bois d'Agland**	69.39	313	*eP*	P	20 08 05.9	-0.5
	comp=Z,5.7nm,0.6s						
BGF	**Bois d'Agland**	69.39	313	*eP*	P	20 08 05.9	-0.5
	comp=Z,5.7nm,0.6s						
LASF	**Ste Croix**	69.45	310	⇑*iP*	P	20 08 06.7	-0.2
	comp=Z,8.0nm,0.7s						
LASF	**Ste Croix**	69.45	310	⇑*iP*	P	20 08 06.7	-0.2
	comp=Z,8.0nm,0.7s						
TCF	**Toulx Ste Croi**	69.89	312	⇑*iP*	P	20 08 09.5	-0.1
	comp=Z,12nm,0.7s						
TCF	**Toulx Ste Croi**	69.89	312	⇑*iP*	P	20 08 09.5	-0.1
	comp=Z,12nm,0.7s						
CAF	**Calviac**	70.41	311	*eP*	P	20 08 12.7	-0.1
	comp=Z,6.3nm,0.6s						
CAF	**Calviac**	70.41	311	*eP*	P	20 08 12.7	-0.1
	comp=Z,6.3nm,0.6s						
RJF	**Les Rejaudoux**	70.66	312	*eP*	P	20 08 14.4	+0.1
	comp=Z,6.9nm,0.6s						
RJF	**Les Rejaudoux**	70.66	312	*eP*	P	20 08 14.4	+0.1
	comp=Z,6.9nm,0.6s						
LDF	**La Druitiere**	70.68	315	*eP*	P	20 08 13.8	-0.5
LDF	**La Druitiere**	70.68	315	*eP*	P	20 08 13.8	-0.5
MTLF	**Montolieu**	70.80	309	*eP*	P	20 08 14.8	-0.4
	comp=Z,1.8nm,0.5s						
MTLF	**Montolieu**	70.80	309	*eP*	P	20 08 14.8	-0.4
	comp=Z,1.8nm,0.5s						
FLN	**La Foliniere**	70.85	316	*eP*	P	20 08 14.8	-0.6
FLN	**La Foliniere**	70.85	316	*eP*	P	20 08 14.8	-0.6
GRR	**Gorron**	71.21	315	*eP*	P	20 08 17.0	-0.5
	comp=Z,7.5nm,0.7s						
GRR	**Gorron**	71.21	315	*eP*	P	20 08 17.0	-0.5
	comp=Z,7.5nm,0.7s						
MFF	**Saint Martin d**	71.33	313	*eP*	P	20 08 17.8	-0.5
	comp=Z,7.3nm,0.7s						
MFF	**Saint Martin d**	71.33	313	*eP*	P	20 08 17.8	-0.5
	comp=Z,7.3nm,0.7s						
SGMF	**Saint Gilles**	72.32	316	*eP*	P	20 08 24.1	-0.1
SGMF	**Saint Gilles**	72.32	316	*eP*	P	20 08 24.1	-0.1
ROSF	**Rostrenen**	72.74	316	*eP*	P	20 08 26.6	-0.1
ROSF	**Rostrenen**	72.74	316	*eP*	P	20 08 26.6	-0.1
QUIF	**Quistinic**	72.82	315	*eP*	P	20 08 26.6	-0.6
QUIF	**Quistinic**	72.82	315	*eP*	P	20 08 26.6	-0.6
ETSF	**Etsaut**	72.87	310	⇑*iP*	P	20 08 27.7	0.0
	comp=Z,6.8nm,0.5s						
ETSF	**Etsaut**	72.87	310	⇑*iP*	P	20 08 27.7	0.0
	comp=Z,6.8nm,0.5s						
SJPF	**Ste Jean**	73.25	310	*eP*	P	20 08 30.0	+0.1
SJPF	**Ste Jean**	73.25	310	*eP*	P	20 08 30.0	+0.1
STKA	**Stephens Creek**	76.11	137	P	P	20 08 47.1	+0.7
STKA	**Stephens Creek**	76.11	137	P	P	20 08 47.1	+0.7
	comp=Z,0.9nm,0.7s,baz=307,slow=10,SNR=2.7						
ESDC	**Sonseca Array**	76.45	308	P	P	20 08 47.1	-1.4
ESDC	**Sonseca Array**	76.45	308	P	P	20 08 47.1	-1.4
	comp=Z,3.1nm,1.2s,baz=67,slow=6.8,SNR=5.9						
ILAR	**Eielson Array**	78.83	21	P	P	20 09 00.8	-0.5
ILAR	**Eielson Array**	78.83	21	P	P	20 09 00.8	-0.5
	comp=Z,0.5nm,0.7s,baz=292,slow=4.2,SNR=6.6						
TORD	**Torodi Ar. Bea**	82.83	281	P	P	20 09 23.4	-0.1
TORD	**Torodi Ar. Bea**	82.83	281	P	P	20 09 23.4	-0.1
	comp=Z,1.3nm,0.7s,baz=61,slow=4.5,SNR=10.0						
BOSA	**Boshof**	82.99	233	P	P	20 09 24.6	+0.5
BOSA	**Boshof**	82.99	233	P	P	20 09 24.6	+0.5
	comp=Z,5.1nm,1.0s,baz=32,slow=8.0,SNR=3.3						
YKA	**Yellowknife Ar**	89.02	11	P	P	20 09 52.9	-0.3
YKA	**Yellowknife Ar**	89.02	11	P	P	20 09 52.9	-0.3
	comp=Z,0.9nm,0.6s,baz=334,slow=4.9,SNR=3.3						
DBIC	**Dimbokro**	91.47	278	P	P	20 10 04.6	-0.9
DBIC	**Dimbokro**	91.47	278	P	P	20 10 04.6	-0.9
	comp=Z,2.3nm,0.5s,baz=33,slow=4.6,SNR=5.7						
TXAR	**Lajitas Array**	122.82	14	PKP	PKPdf	20 15 54.9	-0.4
TXAR	**Lajitas Array**	122.82	14	PKP	PKPdf	20 15 54.9	-0.4
	comp=Z,0.4nm,0.7s,baz=5.7,slow=0.9,SNR=3.4						
ROSC	**El Rosal**	145.27	332	PKPbc	PKPdf	20 16 38.2	+0.5
ROSC	**El Rosal**	145.27	332	PKPbc	PKPdf	20 16 38.2	+0.5
	comp=Z,12nm,0.4s,baz=95,slow=8.0,SNR=7.9						
CPUP	**Villa Florida**	150.90	263	PKP	PKPdf	20 16 46.4	+0.4
CPUP				PKPbc	PKPbc	20 16 51.2	-0.5
CPUP	**Villa Florida**	150.90	263	PKP	PKPdf	20 16 46.4	+0.4
	comp=Z,2.0nm,0.5s,baz=326,slow=3.6,SNR=1.7						
CPUP				PKPbc	PKPbc	20 16 51.2	-0.5
	comp=Z,2.0nm,0.5s,baz=93,slow=1.4,SNR=5.1						

NNC 29 19:58:14.6±9.3, 36.70N×70.25E, h0km, mb3.9, mpv3.6, 1C-2D, Error ellipse: s-maj=76.9km s-min=59.8km az=168.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	6.40	2	⇓*iP*	Pn	19 59 51.9	+1.7
	2.2nm,0.3s,baz=181,slow=13,SNR=135						
KK31				⇑S	Sn	20 01 05.7	+1.7
	1.3nm,0.4s,baz=186,slow=23,SNR=6.4						
TKM2	**Tokmak 2**	7.45	32	P	Pn	20 00 03.8	-1.1
	1.6nm,0.5s						
TKM2				S	Sn	20 01 30.1	-0.3
	2.4nm,0.8s						
AB31	**Akbulak array**	14.63	332	⇓*iP*	Pn	20 01 41.9	-0.8
	0.6nm,0.3s,baz=151,slow=13,SNR=37						

IDC 29 20:03:23.3±3.7, 3.05N×126.45E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/23, mbtmpg3.9/4, Error ellipse: s-maj=104.4km s-min=54.8km az=76.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	21.03	182	P	P	20 08 08.5	-0.3
	1.0nm,0.4s,baz=8.7,slow=13,SNR=9.8						
WRA	**Warramunga Arr**	24.12	162	P	P	20 08 41.3	+0.2
	2.5nm,0.7s,baz=342,slow=10.0,SNR=14						
ASAR	**Alice Springs**	27.53	165	P	P	20 09 11.1	-0.8
	0.5nm,0.5s,baz=338,slow=7.4,SNR=5.6						
STKA	**Stephens Creek**	37.60	159	P	P	20 10 40.2	+0.4
	1.7nm,0.4s,baz=348,slow=11,SNR=9.1						

*ISK **29** 21:04:04.8, 34.72N×33.04E, h18km, ML3.4*
*ISCJB **29** 21:04:05.3±0.9, 34.69N±0.05×33.03E±0.03, h15km±5km, Error ellipse: s-maj=8.9km s-min=3.9km az=173.9*
*DDA **29** 21:04:05.3, 34.95N×33.06E, h2km, ML3.6*
*CSEM **29** 21:04:06.2±0.3, 34.76N×33.04E, h10km, Mw3.0, Error ellipse: s-maj=8.1km s-min=3.4km az=175.0*
*NIC **29** 21:04:06.1±0.2, 34.79N×33.02E, h20km, ML3.4, MW3.0*

ISC 29 21:04:06.9±1.0, 34.81N±0.04×33.05E±0.02, h11km±8km, n72, σ1°01/97, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SZAC	**Souni-Zanaja**	0.15	247	P	Pg	21 04 10.6	+0.3
SZAC	**Souni-Zanaja**	0.15	247	P	Pg	21 04 10.6	+0.3
CSS	**Prodhromos**	0.28	57	P	Pb	21 04 13.1	-0.8
	34nm,0.2s						
CSS				S	Sb	21 04 18.4	-0.2
CSS	**Prodhromos**	0.28	57	P	Pb	21 04 13.1	-0.8
	34nm,0.2s						
CSS				S	Sb	21 04 18.4	-0.2
LEF	**Lefka**	0.33	337	*e*PG	Pg	21 04 13.8	+0.2
LEF				*e*SG	Sb	21 04 20.8	+0.7
LEF	**Lefka**	0.33	337	*e*Pg	Pg	21 04 13.8	+0.2
LEF				*e*Sg	Sb	21 04 20.8	+0.7
MAMC	**Mammari**	0.38	22	P	Pg	21 04 14.9	+0.4
MAMC	**Mammari**	0.38	22	P	Pg	21 04 14.9	+0.4
AKIN	**Ak¨–nc¨–lar- K**	0.40	60	*e*PG	Pg	21 04 14.8	0.0
AKIN				*e*SG	Sb	21 04 21.6	-0.5
AKIN	**Ak¨–nc¨–lar- K**	0.40	60	*e*Pg	Pg	21 04 14.8	0.0
AKIN				*e*Sg	Sb	21 04 21.6	-0.5
AKDN	**Akdeniz- K¨–br**	0.49	352	*e*PG	Pg	21 04 16.5	0.0
AKDN				*e*SG	Sb	21 04 25.2	+0.6
AKDN	**Akdeniz- K¨–br**	0.49	352	*e*Pg	Pg	21 04 16.5	0.0
AKDN				*e*Sg	Sb	21 04 25.2	+0.6
ALFC	**Alevga**	0.50	313	P	Pg	21 04 15.8	-0.9
	68nm,0.1s						
ALFC				S	Sg	21 04 24.3	+0.9
ALFC	**Alevga**	0.50	313	P	Pg	21 04 15.8	-0.9
	68nm,0.1s						
ALFC				S	Sg	21 04 24.3	+0.9
PPCY	**Paphos**	0.58	277	P	Pg	21 04 17.3	-0.9
PPCY				S	Sg	21 04 25.4	-0.5
PPCY	**Paphos**	0.58	277	P	Pg	21 04 17.3	-0.9
PPCY				S	Sg	21 04 25.4	-0.5
LFK	**Lefkose**	0.61	41	*e*PG	Pg	21 04 18.8	0.0
LFK	**Lefkose**	0.61	41	*e*Pg	Pg	21 04 18.8	0.0
AKMC	**Akamas**	0.63	290	P	Pg	21 04 18.1	-1.0
AKMC	**Akamas**	0.63	290	P	Pg	21 04 18.1	-1.0
EREN	**Erenkoy**	1.17	52	*e*PN	Pb	21 04 27.5	-1.5
EREN	**Erenkoy**	1.17	52	*e*Pn	Pb	21 04 27.5	-1.5
IKL	**Isikli**	1.52	20	*e*PN	Pn	21 04 32.6	-1.3
IKL	**Isikli**	1.52	20	*e*Pn	Pn	21 04 32.6	-1.3
GAZI	**Gazipasa**	1.54	337	*i*P	Pn	21 04 32.4	-1.9
GAZI				*i*S	Sn	21 04 52.7	-1.6
GAZI	**Gazipasa**	1.54	337	*i*P	Pn	21 04 32.4	-1.9
GAZI				*i*S	Sn	21 04 52.7	-1.6
KIZK	**Mersin**	1.89	28	*e*P	Pn	21 04 38.7	-0.4
KIZK				*i*S	Sb	21 05 05.1	+0.1
KIZK	**Mersin**	1.89	28	*e*P	Pn	21 04 38.7	-0.4
KIZK				*i*S	Sb	21 05 05.1	+0.1
HDMB	**Hadim**	2.19	348	*e*PN	Pn	21 04 43.0	-0.5
HDMB	**Hadim**	2.19	348	*e*Pn	Pn	21 04 43.0	-0.5
MERS	**Mersin**	2.38	30	*e*PN	Pn	21 04 45.3	-0.5
MERS	**Mersin**	2.38	30	*e*Pn	Pn	21 04 45.3	-0.5
KRTS	**Karatas**	2.58	47	*e*PN	Pn	21 04 48.2	-0.4
KRTS	**Karatas**	2.58	47	*e*Pn	Pn	21 04 48.2	-0.4
YAYL	**Yayladag**	2.78	63	*e*P	Pn	21 04 52.2	+0.7
YAYL				*i*S	Sn	21 05 25.5	+0.4
YAYL	**Yayladag**	2.78	63	*e*P	Pn	21 04 52.2	+0.7
YAYL				*i*S	Sn	21 05 25.5	+0.4
GULE	**Gulek**	2.84	29	*i*P	Pn	21 04 54.3	+2.0
GULE				*i*S	Sb	21 05 30.9	-1.5
GULE	**Gulek**	2.84	29	*i*P	Pn	21 04 54.3	+2.0
GULE				*i*S	Sb	21 05 30.9	-1.5
ANTB	**Antalya**	2.85	318	*e*PN	Pn	21 04 51.9	-0.4
ANTB	**Antalya**	2.85	318	*e*Pn	Pn	21 04 51.9	-0.4
KARA	**Karaisali**	2.94	33	*e*PN	Pn	21 04 53.5	0.0
KARA	**Karaisali**	2.94	33	*e*Pn	Pn	21 04 53.5	0.0
TAHT	**Tahtakopru-Hat**	3.00	58	*e*PN	Pn	21 04 53.7	-0.6
TAHT	**Tahtakopru-Hat**	3.00	58	*e*Pn	Pn	21 04 53.7	-0.6
KORT	**Korkueli**	3.09	316	*e*P	Pn	21 04 56.8	+1.1
KORT				*i*S	Sb	21 05 41.1	+1.4
KORT	**Korkueli**	3.09	316	*e*P	Pn	21 04 56.8	+1.1
COBT	**Iskenderun**	3.12	56	*e*P	Pn	21 04 56.8	+0.6
COBT				*i*S	Sn	21 05 36.3	+2.8
COBT	**Iskenderun**	3.12	56	*e*P	Pn	21 04 56.8	+0.6
COBT				*i*S	Sn	21 05 36.3	+2.8
SUTC	**Sutluce-Ispart**	3.13	329	*e*PN	Pn	21 04 56.2	-0.1
SUTC	**Sutluce-Ispart**	3.13	329	*e*Pn	Pn	21 04 56.2	-0.1
ELL	**Elmali**	3.20	308	*e*PN	Pn	21 04 57.4	+0.2
ELL	**Elmali**	3.20	308	*e*Pn	Pn	21 04 57.4	+0.2
SULT	**Sultanhani-AKS**	3.40	6	*e*PN	Pn	21 05 00.4	+0.4
SULT	**Sultanhani-AKS**	3.40	6	*e*Pn	Pn	21 05 00.4	+0.4
KOZT	**Kozan**	3.48	39	*e*PN	Pn	21 05 01.5	+0.4
KOZT	**Kozan**	3.48	39	*e*Pn	Pn	21 05 01.5	+0.4
NIG	**Nigde**	3.52	21	*e*PN	Pn	21 05 01.5	-0.3
NIG	**Nigde**	3.52	21	*e*Pn	Pn	21 05 01.5	-0.3
FETY	**Fethiye**	3.70	301	*e*PN	Pn	21 05 03.8	-0.2
FETY	**Fethiye**	3.70	301	*e*Pn	Pn	21 05 03.8	-0.2
GOLH	**Golhisar**	3.72	312	*i*P	Pn	21 05 05.2	+0.9
GOLH				*i*S	Sn	21 05 51.3	+3.1
GOLH	**Golhisar**	3.72	312	*i*P	Pn	21 05 05.2	+0.9
GOLH				*i*S	Sn	21 05 51.3	+3.1
DALY	**Dalyan (Mu¨la**	4.09	301	*e*PN	Pn	21 05 08.9	-0.4
DALY	**Dalyan (Mu¨la**	4.09	301	*e*Pn	Pn	21 05 08.9	-0.4
KMRS	**Kahramanmaras**	4.12	48	*e*PN	Pn	21 05 09.6	-0.1
KMRS	**Kahramanmaras**	4.12	48	*e*Pn	Pn	21 05 09.6	-0.1
TURN	**Turunc**	4.15	301	*i*P	Pn	21 05 11.1	+0.9
TURN	**Turunc**	4.15	301	*i*P	Pn	21 05 11.1	+0.9
DAT	**Datca**	4.84	295	*e*PN	Pn	21 05 19.9	+0.2
DAT	**Datca**	4.84	295	*e*Pn	Pn	21 05 20.0	+0.2
AYDB	**Zeytinkoy-Aydi**	5.20	308	*e*PN	Pn	21 05 25.4	+0.6
AYDB	**Zeytinkoy-Aydi**	5.20	308	*e*Pn	Pn	21 05 25.4	+0.6

*ISCJB **29** 21:05:15.8±0.8, 8.18N±0.02×91.73E±0.02, h9km±5km, mb4.8/177, MS4.0/35, Error ellipse: s-maj=4.2km s-min=3.3km az=27.2*
*AUST **29** 21:05:16.6±0.4, 8.10N×91.73E, h0km, Error ellipse: s-maj=18.9km s-min=6.8km az=41.0*
*BJI **29** 21:05:18.9, 8.10N×91.84E, h33km, mB4.9/26, mb4.8/40, Ms4.2/29, Ms7 4.1/29*
*MOS **29** 21:05:19.3±0.9, 8.23N×91.76E, h33km, mb4.9/64, Error ellipse: s-maj=7.7km s-min=4.1km az=120.0*
*NEIC **29** 21:05:20.0±2.0, 8.15N×91.76E, h30km±3km, mb5.0/48, Error ellipse: s-maj=11.3km s-min=10.3km az=109.0*
*BKK **29** 21:05:19.9±0.3, 8°N±3″×9°2E±°, h10km, M5.1/35, mB5.6/19, mb5.1/35, MLv5.2/4, Mw(mB)5.0/19, Mwp4.7/1*
*SZGRF **29** 21:05:19.4

HYB					*e*			21 09 13.0		LZH					PP		**PnPn**	**21 12 27.0**	**+3.6**
HYB					*eS*		**Sn**	**21 11 54.0**	**-2.3**	LZH					*eS*		**S**	**21 16 22.5**	**-0.1**
HYB	**Hyderabad**	**15.83**	**307**		*eP*		**Pn**	**21 09 00.7**	**-0.9**	LZH					sS		**sS**	**21 16 34.0**	**-1.8**
HYB					AMB		AMB	21 09 06.5		LZH					SS		**SnSn**	**21 17 58.5**	**+3.5**
	comp=Z,68nm,1.5s														AMB		AMB		
BOK	**Bokaro**	**16.56**	**341**		*eP*		**Pn**	**21 09 09.5**	**-1.4**		comp=Z,140nm,1.1s								
LHSI	**Lahat**	**16.70**	**135**		P		**Pn**	**21 09 12.5**	**-0.2**	LZH					AMB		AMB		
	comp=Z,66nm,1.2s										comp=Z,310nm,4.4s								
PMBI	**Palembang**	**17.01**	**130**		*eP*		**P**	**21 09 18.1**	**-0.2**	LZH					LR		LR		
	comp=Z,170nm,1.0s										comp=Z,2µm,13.9s								
SHL	**Shillong**	**17.34**	**0**		*eP*		**Pn**	**21 09 19.8**	**-1.0**	LZH					LR		LR		
SHL					*ex*		x	21 10 23.0			comp=Z,2µm,13.3s								
MDSI	**Maura Dua**	**17.63**	**135**		P		**Pn**	**21 09 23.7**	**-0.6**	LZH					LR		LR		
	comp=Z,55nm,1.2s										comp=Z,3µm,16.8s								
NGP	**Nagpur**	**17.83**	**318**		*eP*		**Pn**	**21 09 25.6**	**-1.1**	**XAN**	**Xi'an**	**30.25**	**29**		P		**P**	**21 11 27.3**	**-1.9**
NGP					AMB		AMB	21 09 28.0		XAN					AMB		AMB		
	comp=Z,29nm,0.8s										comp=Z,3.0nm,0.9s								
KASI	**Kota Agung**	**18.59**	**136**		P		**P**	**21 09 34.4**	**-1.3**	XAN					LR		LR		
	comp=Z,76nm,1.2s										comp=Z,170nm,16.0s								
JBP	**Jabalpur**	**18.74**	**324**	⇑	*iP*		**Pn**	**21 09 37.7**	**0.0**	XAN					LR		LR		
JBP					*ex*		x	21 12 51.1			comp=Z,81nm,15.8s								
AKL	**Akola**	**18.95**	**313**		*eP*		**P**	**21 09 39.8**	**+0.2**	XAN					LR		LR		
GOA	**Goa**	**19.00**	**294**		*eP*		**P**	**21 09 40.4**	**+0.2**		comp=Z,100nm,17.5s								
GOA					AMB		AMB	21 09 43.1		**WHN**	**Wuhan**	**30.72**	**40**	⇓	*iP*		**P**	**21 11 33.3**	**0.0**
	comp=Z,52nm,0.8s									WHN					S		**S**	**21 16 36.8**	**+2.1**
ODAN	**Odare**	**19.08**	**348**		*eP*		**P**	**21 09 41.5**	**+0.3**	WHN					LR		LR		
	comp=Z,51nm,0.5s										comp=Z,570nm,14.8s								
ODAN					*eS*		Sn	21 13 01.5	-14	**TWG**	**Pinlang**	**31.71**	**59**		*eP*		**P**	**21 11 41.8**	**-0.4**
RAMN	**Ramite**	**19.34**	**346**		*eP*		**P**	**21 09 44.3**	**+0.2**		comp=Z,116nm,0.7s								
	comp=Z,88nm,0.5s									**GTA**	**Gaotai**	**31.97**	**12**		*eP*		**P**	**21 11 45.0**	**+0.6**
RAMN					*eS*		S	21 13 08.7	-13	GTA					pP		**pP**	**21 11 53.0**	**+0.6**
TAPN	**Taplejung**	**19.49**	**349**		*eP*		**P**	**21 09 46.5**	**+0.7**	GTA					sP		**sP**	**21 11 56.0**	**+0.2**
	comp=Z,24nm,0.4s									GTA					PP		**PnPn**	**21 12 51.8**	**+1.9**
KSM	**Kuching**	**19.63**	**109**		P		**Pn**	**21 09 48.7**	**+0.2**	GTA					S		**S**	**21 16 55.0**	**+0.7**
KSM	**Kuching**	**19.63**	**109**		P		**P**	**21 09 45.5**	**-1.6**	GTA					sS		**sS**	**21 17 07.8**	**+0.2**
KSM	**Kuching**	**19.63**	**109**		*eP*		**P**	**21 09 46.5**	**-0.6**	GTA					SS		**SnSn**	**21 18 49.5**	**+5.0**
	comp=Z,26nm,1.0s									GTA					AMB		AMB		
KSM	**Kuching**	**19.63**	**109**		⇓P		**Pn**	**21 09 48.6**	**0.0**		comp=Z,7.0nm,0.9s								
	baz=20,SNR=7.9									GTA					AMB		AMB		
KMI	**Kunming**	**19.89**	**31**		P		**P**	**21 09 50.8**	**+0.8**		comp=Z,86nm,5.2s								
KMI					pP		**pP**	**21 10 00.0**	**+2.6**	GTA					LR		LR		
KMI					sP		**sP**	**21 10 03.3**	**+2.4**		comp=Z,140nm,18.1s								
KMI					PP		**PnPn**	**21 10 12.5**	**+6.3**	GTA					LR		LR		
KMI					S		**S**	**21 13 29.0**	**-3.8**		comp=Z,120nm,13.3s								
KMI					sS		**sS**	**21 13 40.0**	**-4.6**	GTA					LR		LR		
KMI					SS		**SnSn**	**21 13 57.5**	**+8.0**		comp=Z,150nm,16.6s								
KMI					AMB		AMB			**SSLB**	**Suanglung**	**32.00**	**58**		*eP*		**P**	**21 11 44.9**	**+0.2**
	comp=Z,71nm,1.1s										comp=Z,42nm,0.9s								
KMI					LR		LR			**YULB**	**Yu-li**	**32.13**	**58**		*eP*		**P**	**21 11 45.9**	**+0.1**
	comp=Z,260nm,14.4s										comp=Z,46nm,0.9s								
KMI					LR		LR			**KBL**	**Kabul**	**33.56**	**325**		*eP*		**P**	**21 11 57.6**	**-0.9**
	comp=Z,250nm,13.1s									KBL					pmax		pmax		
KMI					LR		LR				comp=Z,7.0nm,0.9s								
	comp=Z,330nm,13.4s									**KBL**	**Kabul**	**33.56**	**325**		*eP*		**P**	**21 11 57.6**	**-0.9**
JIRN	**Jiri**	**20.12**	**346**		*eP*		**P**	**21 09 53.8**	**+1.0**		comp=Z,6.8nm,0.9s								
	comp=Z,26nm,0.4s									**KSH**	**Kashi**	**34.30**	**338**		P		**P**	**21 12 04.0**	**-0.7**
POO	**Poona**	**20.23**	**303**		*eP*		**P**	**21 09 51.8**	**-1.9**	KSH					pP		**pP**	**21 12 15.0**	**+2.2**
PKI	**Pulchoki**	**20.25**	**344**		*eP*		**P**	**21 09 54.5**	**+0.5**	KSH					sP		**sP**	**21 12 17.5**	**+1.3**
	comp=Z,67nm,0.7s									KSH					PP		**PP**	**21 13 23.0**	**+0.3**
PKIN	**Phulchoki**	**20.25**	**344**		*eP*		**P**	**21 09 54.6**	**+0.5**	KSH					PcP		**PcP**	**21 14 43.5**	**+2.8**
	comp=Z,48nm,0.6s									KSH					S		**S**	**21 17 30.5**	**0.0**
BHPL	**Bhopal**	**20.36**	**319**		*eP*		**P**	**21 09 55.7**	**+0.6**	KSH					sS		**sS**	**21 17 43.5**	**-0.4**
DMN	**Daman**	**20.37**	**343**		*eP*		**P**	**21 09 56.2**	**+0.9**	KSH					AMB		AMB		
	comp=Z,84nm,0.6s										comp=Z,17nm,1.1s								
GUN	**Gumba**	**20.44**	**345**		*eP*		**P**	**21 09 56.6**	**+0.4**	KSH					AMB		AMB		
	comp=Z,52nm,0.8s										comp=Z,83nm,3.8s								
KKN	**Kakani**	**20.49**	**343**		*eP*		**P**	**21 09 57.4**	**+0.8**	KSH					LR		LR		
	comp=Z,35nm,0.7s										comp=Z,110nm,5.6s								
QIZ	**Qiongzhong**	**20.63**	**56**		P		**P**	**21 09 58.5**	**+0.6**	KSH					LR		LR		
QIZ					S		**S**	**21 13 48.5**	**+1.2**		comp=Z,110nm,6.3s								
QIZ					AMB		AMB			KSH					LR		LR		
	comp=Z,62nm,1.2s										comp=Z,160nm,6.1s								
QIZ					LR		LR			**NJ2**	**Nanjing**	**34.65**	**43**		*eP*		**P**	**21 12 06.3**	**-1.3**
	comp=Z,440nm,13.8s									NJ2					pP		**pP**	**21 12 15.5**	**-0.2**
QIZ					LR		LR			NJ2					sP		**sP**	**21 12 18.0**	**-1.1**
	comp=Z,440nm,13.1s									NJ2					S		**S**	**21 17 36.0**	**+0.3**
QIZ	**Qiongzhong**	**20.63**	**56**		*eP*		**P**	**21 09 57.4**	**-0.6**	NJ2					sS		**sS**	**21 17 51.0**	**+1.9**
	comp=Z,53nm,0.9s									NJ2					AMB		AMB		
GKN	**Gorkha**	**20.88**	**342**		*eP*		**P**	**21 10 00.6**	**-0.1**		comp=Z,20nm,1.0s								
	comp=Z,63nm,0.5s									NJ2					AMB		AMB		
GKN					*eS*		S	21 13 40.9	-12		comp=Z,130nm,4.9s								
KOLN	**Koldanda**	**21.00**	**339**		*eP*		**P**	**21 10 02.0**	**-0.1**	NJ2					LR		LR		
	comp=Z,46nm,0.6s										comp=Z,390nm,14.5s								
KOLN					*eS*		S	21 13 42.5	-12	NJ2					LR		LR		
SBUM	**Sibu**	**21.14**	**104**		P		**P**	**21 10 04.8**	**+1.3**		comp=Z,470nm,16.2s								
SBUM	**Sibu**	**21.14**	**104**		*eP*		**P**	**21 10 03.9**	**+0.4**	NJ2					LR		LR		
	comp=Z,160nm,1.0s										comp=Z,190nm,15.4s								
LSA	**Lhasa**	**21.46**	**359**		P		**P**	**21 10 08.0**	**+0.7**	**WMQ**	**Urumqi**	**35.73**	**355**		P		**P**	**21 12 17.3**	**+0.4**
LSA	**Lhasa**	**21.46**	**359**		*eP*		**P**	**21 10 07.5**	**+0.2**	WMQ					pP		**pP**	**21 12 24.5**	**-0.5**
LSA					pmax		pmax			WMQ					sP		**sP**	**21 12 28.0**	**-0.3**
	comp=Z,60nm,1.0s									WMQ					PP		**PP**	**21 13 38.3**	**0.0**
LSA	**Lhasa**	**21.46**	**359**		*eP*		**P**	**21 10 07.5**	**+0.2**	WMQ					S		**S**	**21 17 51.8**	**-0.4**
	comp=Z,60nm,1.0s									WMQ					sS		**sS**	**21 18 04.0**	**-1.6**
DANN	**Dangsing**	**21.48**	**340**		*eP*		**P**	**21 10 07.4**	**+0.1**	WMQ					SS		**SnSn**	**21 20 14.0**	**-1.3**
	comp=Z,88nm,0.9s									WMQ					ScS		**ScS**	**21 22 32.3**	**-1.7**
BTM	**Bintulu**	**21.78**	**102**		P		**P**	**21 10 12.1**	**+1.7**	WMQ					AMB		AMB		
CISI	**Cisompet, Garu**	**22.34**	**134**		*eP*		**P**	**21 10 15.9**	**-0.6**		comp=Z,12nm,0.8s								
	comp=Z,378nm,2.3s									WMQ					AMB		AMB		
GYA	**Guiyang**	**23.08**	**36**		P		**P**	**21 10 24.8**	**+0.6**		comp=Z,120nm,4.6s								
GYA					pP		**pP**	**21 10 31.5**	**-0.3**	WMQ					LR		LR		
GYA					PP		**PnPn**	**21 10 55.5**	**+5.7**		comp=Z,110nm,23.2s								
GYA					PcP		**PcP**	**21 14 15.8**	**+2.8**	WMQ					LR		LR		
GYA					S		**S**	**21 14 30.0**	**-3.8**		comp=Z,84nm,21.4s								
GYA					sS		sS	21 14 41.5	-5.5	WMQ					LR		LR		
GYA					SS		**SnSn**	**21 15 15.5**	**+7.8**		comp=Z,74nm,23.2s								
GYA					ScP		**ScP**	**21 17 49.0**	**-0.3**	**HHC**	**Hu-ho-hao-te**	**37.04**	**25**		*eP*		**P**	**21 12 27.5**	**-0.7**
GYA					AMB		AMB			HHC					PP		**PnPn**	**21 13 54.5**	**+1.2**
	comp=Z,10.0nm,0.8s									HHC					PcP		**PcP**	**21 14 47.5**	**-1.2**
GYA					AMB		AMB			HHC					S		**S**	**21 18 11.8**	**-0.7**
	comp=Z,90nm,4.7s									HHC					ScP		**ScP**	**21 18 31.8**	**-2.2**
GYA					LR		LR			HHC					PcS		**PcS**	**21 18 35.3**	**-1.6**
	comp=Z,580nm,15.9s									HHC					SS		**SnSn**	**21 20 41.3**	**-6.0**
GYA					LR		LR			HHC					ScS		**ScS**	**21 22 37.8**	**-3.7**
	comp=Z,450nm,16.0s									HHC					AMB		AMB		
GYA					LR		LR				comp=Z,29nm,0.8s								
	comp=Z,560nm,15.5s									HHC					AMB		AMB		
KKM	**Kota Kinabalu**	**24.36**	**93**		P		**P**	**21 10 32.9**	**-3.7**		comp=Z,160nm,5.2s								
KKM	**Kota Kinabalu**	**24.36**	**93**		*eP*		**P**	**21 10 37.2**	**+0.6**	HHC					LR		LR		
	comp=Z,60nm,1.2s										comp=Z,410nm,13.5s								
KKM	**Kota Kinabalu**	**24.36**	**93**	⇓	P		**P**	**21 10 38.0**	**+1.5**	HHC					LR		LR		
	baz=24,SNR=6.7										comp=Z,650nm,12.8s								
H08S3	**Diego Garcia H**	**24.78**	**231**		T		T	21 37 03.9		HHC					LR		LR		
	baz=50,slow=0.7,SNR=492										comp=Z,330nm,13.2s								
H08S2	**Diego Garcia H**	**24.78**	**231**		T		T	21 37 13.0		**AML**	**Almayashu**	**37.43**	**338**		P		**P**	**21 12 32.7**	**+0.9**
	baz=50,slow=0.7,SNR=624										SNR=30								
H08S1	**Diego Garcia H**	**24.80**	**231**		T		T	21 37 25.6		**KBK**	**Karagaybulak**	**37.43**	**339**		P		**P**	**21 12 32.8**	**+1.3**
	baz=50,slow=0.7,SNR=555										SNR=20								
KDM	**Kudat**	**24.89**	**91**		P		**P**	**21 10 43.3**	**+2.0**	**TKM2**	**Tokmak 2**	**37.45**	**340**		*i* P		**P**	**21 12 31.8**	**+0.1**
H08N1	**Diego Garcia H**	**25.19**	**236**		T		T	21 37 52.0		**TKM2**	**Tokmak 2**	**37.45**	**340**		P		**P**	**21 12 31.9**	**+0.1**
	baz=127										SNR=8.1								
H08N2	**Diego Garcia H**	**25.19**	**236**		T		T	21 37 51.4		**TKM2**	**Tokmak 2**	**37.45**	**340**		*eP*		**P**	**21 12 31.8**	**+0.1**
	baz=127										comp=Z,35nm,1.8s								
H08N3	**Diego Garcia H**	**25.21**	**236**		T		T	21 38 22.6		**AAK**	**Ala-Archa**	**37.57**	**339**	*d*	*iP*		**P**	**21 12 33.5**	**+0.8**
	baz=127									AAK					pmax		pmax		
CD2	**Chengdu**	**25.29**	**25**		P		**P**	**21 10 44.3**	**-0.4**		comp=Z,42nm,1.2s								
CD2					pP		**pP**	**21 10 51.3**	**-1.4**	**AAK**	**Ala-Archa**	**37.57**	**339**		P		**P**	**21 12 33.7**	**+1.0**
CD2					sP		**sP**	**21 10 54.8**	**-1.3**		SNR=10								
CD2					PP		**PnPn**	**21 11 23.0**	**+3.1**	**AAK**	**Ala-Archa**	**37.57**	**339**		*eP*		**P**	**21 12 32.2**	**-0.5**
CD2					PcP		**PcP**	**21 14 18.0**	**+0.4**		comp=Z,17nm,1.1s								
CD2					S		**S**	**21 15 06.3**	**-2.8**	**AAK**	**Ala-Archa**	**37.57**	**339**		P		**P**	**21 12 33.5**	**+0.8**
CD2					sS		**sS**	**21 15 17.8**	**-4.5**		comp=Z,60nm,1.2s,SNR=8.0								
CD2					SS		**SnSn**	**21 16 07.8**	**+6.3**	**EKS2**	**Erkin-Say**	**37.86**	**338**		*eP*		**P**	**21 12 35.6**	**+0.5**
CD2					AMB		AMB			EKS2					pmax		pmax		
	comp=Z,160nm,1.0s										comp=Z,9.0nm,0.7s								
CD2					AMB		AMB			**EKS2**	**Erkin-Say**	**37.86**	**338**		P		**P**	**21 12 36.0**	**+0.9**
	comp=Z,120nm,4.1s										SNR=11								
CD2					LR		LR			**EKS2**	**Erkin-Say**	**37.86**	**338**		*eP*		**P**	**21 12 35.6**	**+0.5**
	comp=Z,360nm,11.9s										comp=Z,9.0nm,0.7s								
CD2					LR		LR			**USP**	**Ospenovka**	**38.13**	**339**		P		**P**	**21 12 38.2**	**+0.9**
	comp=Z,280nm,15.5s										SNR=14								
SDKM	**Sandakan**	**25.38**	**94**		P		**P**	**21 10 47.4**	**+1.6**	**BJI**	**Beijing**	**38.54**	**31**		P		**P**	**21 12 41.3**	**+0.6**
DDI	**Dehra Dun**	**25.53**	**332**		*eP*		**P**	**21 10 46.9**	**-0.1**	BJI					S		**S**	**21 18 37.5**	**+2.5**
DDI					AMB		AMB	21 10 50.4		BJI					LR		LR		
	comp=Z,91nm,0.4s										comp=Z,140nm,21.8s								
TSM	**Tawau**	**26.24**	**97**		P		**P**	**21 10 54.4**	**+0.9**	BJI					LR		LR		
SMLA	**Simla**	**26.62**	**331**		*eP*		**P**	**21 10 57.1**	**+0.3**		comp=Z,110nm,21.8s								
MYLDM	**Lahad Datu**	**26.73**	**95**		P		**P**	**21 11 00.7**	**+2.9**	BJI					LR		LR		
MYLDM	**Lahad Datu**	**26.73**	**95**		*eP*		**P**	**21 10 59.6**	**+1.7**		comp=Z,170nm,21.8s								
	comp=Z,164nm,1.2s									**MK01**	**Makanchi Array**	**39.34**	**350**		*eP*		**P**	**21 12 45.9**	**-1.5**
ENH	**Enshi**	**27.59**	**35**		*eP*		**P**	**21 11 04.2**	**-1.3**	**MK31**	**Makanchi Array**	**39.37**	**350**		*i* P		**P**	**21 12 47.1**	**-0.5**
	comp=Z,22nm,0.8s									MK31					pmax		pmax		
DHRM	**DHARAMSHALA**	**27.96**	**331**		*ex*		P	21 11 04.0	-5.1		comp=Z,4.0nm,0.4s								
LZH	**Lanzhou**	**29.94**	**20**		*eP*		**P**	**21 11 26.5**	**0.0**	**MK32**	**Makanchi Array**	**39.37**	**350**		*eP*		**P**	**21 12 47.5**	**-0.1**
LZH					pP		**pP**	**21 11 34.0**	**-0.5**	**MKAR**	**Makanchi Array**	**39.37**	**350**		P		**P**	**21 12 47.5**	**-0.1**
LZH					sP		**sP**	**21 11 37.5**	**-0.4**	MKAR					pmax		pmax		
	comp=Z,4.0nm,0.4s										comp=Z,4.0nm,0.4s								
MKAR	**Makanchi Array**	**39.37**	**350**		*eP*		**P**	**21 12 46.3**	**-1.3**	KK31					pmax		pmax		
MKAR	**Makanchi Array**	**39.37**	**350**		P		**P**	**21 12 47.5**	**-0.1**		comp=Z,6.0nm,0.5s								
	comp=Z,4.3nm,0.4s,baz=169,slow=8.7,SNR=104									**KKAR**	**Karatay Array**	**39.51**	**335**		*eP*		**P**	**21 12 48.3**	**-0.5**
KK31	**Karatay Array**	**39.51**	**335**		*i* P		**P**	**21 12 48.7**	**-0.1**	**KKAR**	**Karatay Array**	**39.51**	**335**		*eP*		**P**	**21 12 48.3**	**-0.5**
KK31					pmax		pmax			**SONA0**	**Songino Array**	**41.48**	**15**		*eP*		**pP**	**21 13 14.3**	**+0.9**
	comp=Z,6.0nm,0.5s									SONA0					*eS*		**cP**	**21 18 51.4**	**+0.4**
KKAR	**Karatay Array**	**39.51**	**335**		*eP*		**P**	**21 12 48.3**	**-0.5**	**SONM**	**Songino Array**	**41.48**	**15**		P		**P**	**21 13 05.2**	**0.0**
KKAR	**Karatay Array**	**39.51**	**335**		*eP*		**P**	**21 12 48.3**	**-0.5**		comp=Z,7.2nm,0.8s,baz=197,slow=7.5,SNR=39								
SONA0	**Songino Array**	**41.48**	**15**		*eP*		**pP**	**21 13 14.3**	**+0.9**	SONM					sP		**sP**	**21 13 14.3**	**-2.4**
SONA0					*eS*		**cP**	**21 18 51.4**	**+0.4**		comp=Z,10nm,0.9s,baz=194,slow=9.5,SNR=11								
SONM	**Songino Array**	**41.48**	**15**		P		**P**	**21 13 05.2**	**0.0**	SONM					ScP		**ScP**	**21 18 51.4**	**+0.4**
	comp=Z,7.2nm,0.8s,baz=197,slow=7.5,SNR=39										comp=Z,0.5nm,0.8s,baz=224,slow=4.0,SNR=3.9								
SONM					sP		**sP**	**21 13 14.3**	**-2.4**	SONM					LR		LR	21 33 11.1	
	comp=Z,10nm,0.9s,baz=194,slow=9.5,SNR=11										comp=Z,176nm,18.5s,baz=347,slow=40								
SONM					ScP		**ScP**	**21 18 51.4**	**+0.4**	**SONA1**	**Songino Array**	**41.49**	**15**		*eP*		**P**	**21 13 04.4**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=224,slow=4.0,SNR=3.9									**ULN**	**Ulaanbaatar**	**41.67**	**16**		*eP*		**P**	**21 13 05.8**	**-1.0**
SONM					LR		LR	21 33 11.1			comp=Z,11nm,0.9s								
	comp=Z,176nm,18.5s,baz=347,slow=40									**FITZ**	**Fitzroy Crossi**	**42.41**	**128**		*eP*		**P**	**21 13 13.1**	**+0.1**
SONA1	**Songino Array**	**41.49**	**15**		*eP*		**P**	**21 13 04.4**	**-0.8**	**FITZ**	**Fitzroy Crossi**	**42.41**	**128**		⇓P		**P**	**21 13 13.1**	**+0.1**
ULN	**Ulaanbaatar**	**41.67**	**16**		*eP*		**P**	**21 13 05.8**	**-1.0**		baz=42,SNR=6.1								
	comp=Z,11nm,0.9s									**FITZ**	**Fitzroy Crossi**	**42.41**	**128**		P		**P**	**21 13 13.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**42.41**	**128**		*eP*		**P**	**21 13 13.1**	**+0.1**		comp=Z,5.4nm,0.8s,baz=270,slow=4.2,SNR=9.7								
FITZ	**Fitzroy Crossi**	**42.41**	**128**		⇓P		**P**	**21 13 13.1**	**+0.1**	**HVS**	**Khovu-Aksy**	**42.90**	**2**		*i* P		**P**	**21 13 18.1**	**+1.5**
	baz=42,SNR=6.1									HVS					pmax		pmax		
FITZ	**Fitzroy Crossi**	**42.41**	**128**		P		**P**	**21 13 13.0**	**+0.1**		comp=Z,21nm,1.0s								
	comp=Z,5.4nm,0.8s,baz=270,slow=4.2,SNR=9.7									**ZAK**	**Zakamensk**	**43.20**	**11**		*eP*		P	21 13 11.1	-8.0
HVS	**Khovu-Aksy**	**42.90**	**2**		*i* P		**P**	**21 13 18.1**	**+1.5**	ZAK					pmax		pmax		
HVS					pmax		pmax				comp=Z,5.0nm,1.1s								
	comp=Z,21nm,1.0s									**KNRA**	**Kununurra**	**43.63**	**123**		P		**P**	**21 13 23.6**	**+0.7**
ZAK	**Zakamensk**	**43.20**	**11**		*eP*		P	21 13 11.1	-8.0		baz=44,SNR=5.3								
ZAK					pmax		pmax			**KURBB**	**Kurchatov Arra**	**43.76**	**348**		P		**P**	**21 13 23.8**	**+0.3**
	comp=Z,5.0nm,1.1s										comp=Z,4.5nm,0.7s,baz=159,slow=7.8,SNR=19								
KNRA	**Kununurra**	**43.63**	**123**		P		**P**	**21 13 23.6**	**+0.7**	KURBB					PcP		**PcP**	**21 15 10.2**	**+0.3**
	baz=44,SNR=5.3										comp=Z,1.2nm,0.9s,baz=158,slow=2.9,SNR=4.4								
KURBB	**Kurchatov Arra**	**43.76**	**348**		P		**P**	**21 13 23.8**	**+0.3**	**SNY**	**Shenyang**	**43.77**	**35**	⇓	P		P	21 13 28.8	+5.1
	comp=Z,4.5nm,0.7s,baz=159,slow=7.8,SNR=19									SNY					S		S	21 19 34.3	-18
KURBB					PcP		**PcP**	**21 15 10.2**	**+0.3**	SNY					AMB		AMB		
	comp=Z,1.2nm,0.9s,baz=158,slow=2.9,SNR=4.4										comp=Z,15nm,2.0s								
SNY	**Shenyang**	**43.77**	**35**	⇓	P		P	21 13 28.8	+5.1	SNY					LR		LR		
SNY					S		S	21 19 34.3	-18		comp=N,180nm,4.8s								
SNY					AMB		AMB			SNY					LR		LR		
	comp=Z,15nm,2.0s										comp=E,250nm,4.2s								
SNY					LR		LR			SNY					LR		LR		
	comp=N,180nm,4.8s										comp=Z,180nm,12.9s								
SNY					LR		LR			**KS15**	**Wonju Array Si**	**43.82**	**43**		*eP*		**P**	**21 13 23.9**	**-0.3**
	comp=E,250nm,4.2s									**KURK**	**Kurchatov**	**43.83**	**348**	*d*	*iP*		**P**	**21 13 24.0**	**0.0**
SNY					LR		LR			KURK					pmax		pmax		
	comp=Z,180nm,12.9s										comp=Z,8.0nm,1.2s								
KS15	**Wonju Array Si**	**43.82**	**43**		*eP*		**P**	**21 13 23.9**	**-0.3**	**KURK**	**Kurchatov**	**43.83**	**348**		*eP*		**P**	**21 13 22.9**	**-1.1**
KURK	**Kurchatov**	**43.83**	**348**	*d*	*iP*		**P**	**21 13 24.0**	**0.0**		comp=Z,6.6nm,0.9s								
KURK					pmax		pmax			KURK					*e*PcP		**PcP**	**21 15 10.2**	**+0.1**
	comp=Z,8.0nm,1.2s									**KURK**	**Kurchatov**	**43.83**	**348**		P		**P**	**21 13 24.3**	**+0.3**
KURK	**Kurchatov**	**43.83**	**348**		*eP*		**P**	**21 13 22.9**	**-1.1**		comp=Z,76nm,0.8s,SNR=8.8								
	comp=Z,6.6nm,0.9s									**KSRS**	**Korea Array**	**43.85**	**43**		P		**P**	**21 13 23.9**	**-0.5**
KURK					*e*PcP		**PcP**	**21 15 10.2**	**+0.1**		comp=Z,1.0nm,0.7s,baz=243,slow=8.0,SNR=5.9								
KURK	**Kurchatov**	**43.83**	**348**		P		**P**	**21 13 24.3**	**+0.3**	KSRS					LR		LR	21 33 17.3	
	comp=Z,76nm,0.8s,SNR=8.8										comp=Z,69nm,19.5s,baz=115,slow=38								
KSRS	**Korea Array**	**43.85**	**43**		P		**P**	**21 13 23.9**	**-0.5**	**JNU**	**Nakatsue**	**43.87**	**50**		*eP*		**P**	**21 13 24.9**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=243,slow=8.0,SNR=5.9										comp=Z,33nm,1.5s								
KSRS					LR		LR	21 33 17.3		**ZAA0**	**Zalesovo Array**	**46.03**	**354**		*eP*		**P**	**21 13 40.7**	**-0.7**
	comp=Z,69nm,19.5s,baz=115,slow=38									**ZALV**	**Zalesovo Beam**	**46.03**	**354**		P		**P

comp=Z,3.3nm,0.8s,baz=303,slow=7.3,SNR=16
ASAR sP **sP** **21 14 39.1 +0.3**
comp=Z,6.6nm,0.8s,baz=306,slow=7.5,SNR=18
ASAR PcP **PcP** **21 15 39.9 +0.2**
comp=Z,1.6nm,0.8s,baz=299,slow=5.3,SNR=3.0
ASAR pPcP 21 15 52.0
comp=Z,2.4nm,0.8s,baz=304,slow=4.9,SNR=2.7
AS03 Alice Springs 51.93 129 ⇑P **P** **21 14 27.7 +0.4**
baz=52
AS01 Alice Springs 51.95 129 *e*P **P** **21 14 26.2 -1.2**
AS01 Alice Springs 51.95 129 ⇑P **P** **21 14 26.9 -0.5**
baz=52
FORT Forrest 52.04 140 *e*P **P** **21 14 26.6 -1.3**
comp=Z,27nm,0.9s
GNI Garni 52.58 315 *e*P **P** **21 14 31.7 -0.3**
comp=Z,15nm,0.9s
GNI Garni 52.58 315 P **P** **21 14 32.8 +0.8**
comp=Z,8.7nm,0.8s,baz=136,slow=4.7,SNR=7.9
GNI LR LR 21 38 42.9
comp=Z,66nm,20.8s,baz=87,slow=38
HABR Khabarovsk 54.24 34 *e*P **P** **21 14 42.6 -1.2**
HABR *e**PP **pP** **21 14 52.6 +0.4**
HABR *e* 21 15 46.3
HABR *e* 21 16 44.3
HABR *e*S **S** **21 22 18.1 -1.4**
HABR *e**SS **sS** **21 22 35.1 +1.7**
HABR *e*SS **SS** **21 26 01.6 -0.1**
HABR pmax pmax
comp=Z,54nm,1.8s
HABR MLR MLR
comp=Z,451nm,21.0s
SVE Sverdlovsk 54.31 340 *ce*P **P** **21 14 44.2 0.0**
SVE pmax pmax
comp=Z,60nm,1.0s
ARU Arti 54.75 338 *d*/P **P** **21 14 46.8 -0.6**
ARU 21 16 48.7
ARU S **S** **21 22 26.7 +0.5**
ARU SS SS 21 26 01.7 -7.8
ARU pmax pmax
comp=Z,18nm,1.2s
KMBO Kilima Mbogo 55.10 263 *e*P **P** **21 14 50.6 -0.4**
comp=Z,6.4nm,0.8s
KMBO Kilima Mbogo 55.10 263 P **P** **21 14 52.6 +1.6**
comp=Z,5.5nm,0.7s,baz=56,slow=11,SNR=16
KBZ Khabaz 55.32 318 P **P** **21 14 51.2 -0.5**
KBZ 21 15 52.8
KBZ pmax pmax
comp=Z,7.0nm,0.9s
KBZ pmax pmax
comp=Z,3.0nm,0.8s
KBZ Khabaz 55.32 318 *e*P **P** **21 14 51.1 -0.5**
KBZ *e*PcP **PcP** **21 15 52.8 +0.6**
KBZ Khabaz 55.32 318 P **P** **21 14 51.1 -0.5**
comp=Z,7.1nm,0.9s,baz=120,slow=6.7,SNR=10
KBZ PcP **PcP** **21 15 52.8 +0.6**
comp=Z,2.7nm,0.8s,baz=135,slow=8.6,SNR=3.3
KIV Kislovodsk 55.55 319 *e*P **P** **21 14 51.3 -2.3**
KIV pmax pmax
comp=Z,17nm,1.0s
KIV MLR MLR
comp=Z,30nm,17.0s
ASF Jabal al Asfar 56.10 303 *e*P **P** **21 14 58.8 +1.1**
ASF Jabal al Asfar 56.10 303 P **P** **21 14 58.8 +1.1**
comp=Z,3.8nm,0.9s,baz=67,slow=3.3,SNR=6.2
ASF LR LR 21 43 16.8
comp=Z,79nm,18.2s,baz=154,slow=41
MALT Malatya 56.50 311 ⇓P **P** **21 15 00.8 +0.3**
MALT Malatya 56.50 311 ⇓/P **P** **21 15 00.8 +0.3**
EIL Elat 57.25 300 *e*P **P** **21 15 07.4 +1.6**
EIL Elat 57.25 300 P **P** **21 15 07.4 +1.6**
comp=Z,18nm,0.9s,baz=118,slow=0.8,SNR=15
EIL LR LR 21 40 39.9
comp=Z,96nm,18.1s,baz=298,slow=37
MMAI Mount Meron Ar 57.51 304 P **P** **21 15 08.9 +1.2**
comp=Z,7.0nm,0.9s,baz=100,slow=8.9,SNR=11
MMAI PcP **PcP** **21 16 02.1 +1.0**
comp=Z,1.1nm,0.5s,baz=121,slow=5.4,SNR=2.9
MMAI LR LR 21 42 31.6
comp=Z,75nm,18.5s,baz=120,slow=39
SOKR Solikamsk 57.74 340 *e*P **P** **21 15 08.4 -0.3**
SOKR pmax pmax
comp=Z,10.0nm,0.6s
YSS Yuzh-Sakhalins 58.05 39 P **P** **21 15 11.2 +0.1**
ANN Anapa 59.35 318 *e*P P 21 15 10.9 -9.3
ANN *e**PP pP 21 15 20.8 -7.9
ANN pmax pmax
comp=Z,31nm,1.2s
VRHR Novokhopersk 59.38 326 *e*P **P** **21 15 19.0 -1.3**
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=N,2.0nm,0.5s
VRHR pmax pmax
comp=E,3.0nm,0.7s
BR101 Keskin Array S 60.48 311 *e*P **P** **21 15 27.3 -0.9**
BR101 *ep*P **pP** **21 15 36.3 -0.5**
BR101 *es*P **sP** **21 15 40.9 +0.9**
BRTR Keskin Array B 60.48 311 P **P** **21 15 27.3 -0.9**
comp=E,7.4nm,0.7s,baz=122,slow=7.2,SNR=50
BRTR pP **pP** **21 15 36.3 -0.5**
comp=E,2.4nm,0.8s,baz=128,slow=5.5,SNR=5.5
BRTR sP **sP** **21 15 40.9 +0.9**
comp=E,2.4nm,0.9s,baz=111,slow=6.8,SNR=3.9
BRTR LR LR 21 43 15.7
comp=E,35nm,22.0s,baz=300,slow=38
YAK Yakutsk 60.52 19 *e*P **P** **21 15 26.7 -1.2**
YAK pmax pmax
comp=E,11nm,1.1s
YAK pmax pmax
comp=N,21nm,1.3s
YAK pmax pmax
comp=Z,20nm,1.0s
VORD Divnogorie 60.64 325 *e*P **P** **21 15 27.3 -1.6**
VORD pmax pmax
comp=Z,4.0nm,0.5s
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,20nm,0.9s
VSR Storozhevoye 60.82 325 *e*P **P** **21 15 28.3 -1.8**
VSR pmax pmax
comp=N,5.0nm,0.6s
VSR pmax pmax
comp=Z,6.0nm,0.6s
VSR pmax pmax
comp=E,5.0nm,0.5s
BR231 Keskin MP Arra 61.15 311 *e*P P 21 15 27.9 -4.9
MBAR Mbarara 61.43 265 *e*P **P** **21 15 34.7 -0.5**
comp=E,17nm,1.5s
QLP Quilpie 61.48 126 ⇑P **P** **21 15 37.0 +1.9**
baz=62,SNR=4.4
STKA Stephens Creek 62.01 133 *e*P **P** **21 15 39.2 +0.6**
comp=E,1.3nm,0.8s
STKA Stephens Creek 62.01 133 P **P** **21 15 39.6 +1.1**
baz=62,SNR=8.0
STKA Stephens Creek 62.01 133 P **P** **21 15 39.3 +0.8**
comp=E,5.6nm,0.7s,baz=308,slow=9.0,SNR=11
OBN Obninsk 63.91 328 ⇑*e*P **P** **21 15 49.9 -0.8**
OBN *e* 21 15 59.9
OBN *e*S **S** **21 24 25.2 +0.6**
OBN *e*SS **SS** **21 28 33.9 +0.7**
OBN pmax pmax
comp=Z,10.0nm,0.8s
OBN MLR MLR
comp=Z,100nm,18.0s
CMSA Cobar Meteorol 64.88 130 P **P** **21 15 59.2 +1.7**
baz=65,SNR=12
KLMR Klimovskoe 65.20 335 *e*P P 21 15 55.6 -3.5
KLMR pmax pmax
comp=Z,26nm,1.3s
TIRR Tirgusor 65.40 315 ⇓P **P** **21 16 00.0 -0.7**
TIRR Tirgusor 65.40 315 ⇓/P **P** **21 16 00.0 -0.7**
TIRR Tirgusor 65.40 315 *e*P **P** **21 15 60.0 -0.7**
comp=Z,10nm,1.1s
MSAB Monastry St. A 65.73 315 ⇓/P **P** **21 16 02.4 -0.5**
CFR Carcaliu 65.76 316 ⇓P **P** **21 16 02.0 -1.0**
CFR Carcaliu 65.76 316 ⇓/P **P** **21 16 02.0 -1.0**
IDI Anoyia 66.48 305 *e*P **P** **21 16 08.5 +0.5**
comp=Z,55nm,1.3s
IDI Anoyia 66.48 305 P **P** **21 16 08.3 +0.4**
comp=Z,16nm,0.6s,baz=85,slow=7.0,SNR=14
AKASG Malin Array Be 66.49 322 P **P** **21 16 05.8 -1.8**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG MLR MLR
comp=Z,66nm,20.0s
AKASG Malin Array Be 66.49 322 P **P** **21 16 05.8 -1.8**
comp=Z,1.9nm,0.6s,baz=93,slow=4.9,SNR=13
AKASG LR LR 21 49 37.3
comp=Z,66nm,20.0s,baz=120,slow=40
AKBB Malin Array Si 66.49 322 *e*P **P** **21 16 05.8 -1.8**
AKBB Malin Array Si 66.49 322 *e*P **P** **21 16 05.8 -1.8**
AK11 Malin Array Si 66.52 322 *e*P **P** **21 16 05.2 -2.6**
VRI Vrincioaia 66.88 316 ⇓P **P** **21 16 10.7 +0.5**
VRI Vrincioaia 66.88 316 ⇓/P **P** **21 16 10.7 +0.5**
PLOR Plostina 66.93 316 ⇑P **P** **21 16 11.0 +0.4**
PLOR Plostina 66.93 316 ⇑/P **P** **21 16 11.0 +0.4**
TESR Tescani 67.08 317 ⇓/P **P** **21 16 11.1 -0.4**
LSZ Lusaka 67.13 250 *e*P **P** **21 16 11.3 -1.2**
comp=Z,6.0nm,1.1s
MLR Muntele Rosu 67.34 316 ⇓/P **P** **21 16 13.6 +0.3**
MLR Muntele Rosu 67.34 316 *e*P **P** **21 16 13.6 +0.3**
MLR Muntele Rosu 67.34 316 P **P** **21 16 13.6 +0.3**
comp=Z,3.6nm,1.0s,baz=126,slow=2.7,SNR=17
TIXI Tiksi 67.46 12 ⇑*e*P **P** **21 16 12.7 -0.6**
TIXI pmax pmax
comp=Z,12nm,0.8s
TIXI MLR MLR
comp=Z,61nm,15.0s
VOIR 67.94 316 ⇓P **P** **21 16 16.1 -1.0**
VOIR 67.94 316 ⇓/P **P** **21 16 16.1 -1.0**
YNG Young 68.17 132 ⇑P **P** **21 16 20.5 +1.9**
baz=68
ARR Arges 68.22 316 ⇓/P **P** **21 16 18.0 -0.8**
BURAR Bucovina Array 68.27 318 ⇓P **P** **21 16 19.1 0.0**
BURAR Bucovina Array 68.27 318 ⇓/P **P** **21 16 19.1 0.0**
BUR04 Bucovina Ar. S 68.28 318 *e*P **P** **21 16 17.8 -1.3**
VTS Vitosha 68.77 312 ⇓P **P** **21 16 21.6 -0.7**
VTS Vitosha 68.77 312 ⇓/P **P** **21 16 21.6 -0.7**
CAN Canberra 69.08 133 ⇓P **P** **21 16 25.9 +1.6**
baz=69
PETK Petropavlovsk- 69.18 36 LR LR 21 52 28.8
comp=Z,43nm,19.2s,baz=257,slow=41
JOF Joensuu 69.60 335 *e*P **P** **21 16 26.3 -0.6**
JOF pmax pmax
comp=Z,4.0nm,0.5s
JOF Joensuu 69.60 335 *ep* **P** **21 16 26.3 -0.6**
comp=Z,3.5nm,0.5s
SEY Seymchan 69.69 25 ⇓*e*P **P** **21 16 27.1 -0.3**
DRGR 69.79 317 ⇓P **P** **21 16 28.3 -0.2**
DRGR 69.79 317 ⇓/P **P** **21 16 28.3 -0.2**
TRPA Tarpa 70.14 318 ⇓/P **P** **21 16 30.2 -0.3**
VSU Vasula 70.16 330 *i* P **P** **21 16 28.1 -2.3**
VSU pmax pmax
comp=Z,55nm,1.2s
KWP Kalwaria Pacla 70.31 320 ⇓P **P** **21 16 30.7 -0.8**
KWP Kalwaria Pacla 70.31 320 ⇓/P **P** **21 16 30.6 -0.9**
KWP Kalwaria Pacla 70.31 320 *e*P **P** **21 16 31.9 +0.4**
BZS Buzias 70.35 316 ⇑P **P** **21 16 31.3 -0.6**
BZS Buzias 70.35 316 ⇑/P **P** **21 16 31.3 -0.6**
SIRR Siria 70.42 316 ⇑/P **P** **21 16 31.7 -0.6**
KOLS Kolonicke sedl 70.46 319 *e*P **P** **21 16 32.8 +0.3**
KOLS Kolonicke sedl 70.46 319 *e*P **P** **21 16 32.8 +0.3**
SUW Suwalki 70.92 324 *e*P **P** **21 16 33.9 -1.2**
SUW Suwalki 70.92 324 *e*P **P** **21 16 33.8 -1.3**
comp=Z,40nm,1.1s
SUW Suwalki 70.92 324 *e*P **P** **21 16 33.8 -1.3**
CRVS Cervenica-Dubn 70.98 319 *e*P **P** **21 16 36.0 +0.3**
CRVS pmax pmax
comp=Z,12nm,1.4s
CRVS Cervenica-Dubn 70.98 319 *e*P **P** **21 16 36.0 +0.3**
STHS Stebnicka Huta 71.21 319 *e*P **P** **21 16 36.9 -0.1**
STHS Stebnicka Huta 71.21 319 *e*P **P** **21 16 36.9 -0.1**
FIA0 FINESS Array S 71.39 332 *e*P **P** **21 16 37.0 -0.8**
FIA0 FINESS Array S 71.39 332 *e*P **P** **21 16 37.0 -0.8**
FINES FINESS Array B 71.39 332 P **P** **21 16 37.0 -0.8**
comp=Z,6.8nm,0.7s,baz=93,slow=6.0,SNR=13
FINES LR LR 21 53 37.0
comp=Z,62nm,19.2s,baz=106,slow=41
KAF Kangasniemi 71.49 333 *e*P **P** **21 16 37.7 -0.7**
KAF pmax pmax
comp=Z,1.0nm,0.4s
KAF Kangasniemi 71.49 333 *ep* **P** **21 16 37.7 -0.7**
comp=Z,0.9nm,0.4s
KECS Kecovo 71.55 318 *e*P **P** **21 16 38.8 -0.3**
KECS pmax pmax
comp=Z,2.0nm,0.9s
KECS Kecovo 71.55 318 *e*P **P** **21 16 38.8 -0.3**
PKSM Moragy 72.49 316 ⇑P **P** **21 16 44.0 -0.8**
PKSM Moragy 72.49 316 ⇑/P **P** **21 16 44.0 -0.8**
OKC Ostrava-Krasne 73.26 320 *e*P **P** **21 16 48.9 -0.4**
OKC Ostrava-Krasne 73.26 320 *e*P **P** **21 16 48.9 -0.4**
TIP Timpagrande 73.28 308 *e*P **P** **21 16 49.3 -0.4**
comp=Z,14nm,1.3s
MORC Moravsky Berou 73.64 319 *e*P **P** **21 16 50.6 -1.0**
MORC pmax pmax
comp=Z,5.0nm,1.0s
MORC Moravsky Berou 73.64 319 *e*P **P** **21 16 50.6 -1.0**
comp=Z,4.7nm,1.0s
BOSA Boshof 73.73 237 *e*P **P** **21 16 52.4 -0.2**
comp=Z,29nm,1.1s
BOSA Boshof 73.73 237 P **P** **21 16 53.8 +1.3**
comp=Z,15nm,1.0s,baz=107,slow=8.2,SNR=11
BOSA LR LR 21 43 29.6
comp=Z,132nm,19.9s,baz=351,slow=31
KEV Kevo 73.81 341 *e*P **P** **21 16 51.6 -0.5**
KEV pmax pmax
comp=Z,1.0nm,0.5s
KEV Kevo 73.81 341 *ep* **P** **21 16 51.6 -0.5**
comp=Z,1.0nm,0.5s
KRLC Kraliky 74.16 320 *e*P **P** **21 16 54.5 -0.1**
KRLC Kraliky 74.16 320 *e*P **P** **21 16 54.5 -0.1**
ARA0 ARCESS Array S 74.23 340 *e*P **P** **21 16 54.3 -0.3**
ARCES ARCESS Array B 74.23 340 P **P** **21 16 54.3 -0.3**
comp=Z,5.4nm,0.8s,baz=118,slow=4.7,SNR=13
DPC Dobruska-Polom 74.49 320 *e*P **P** **21 16 56.7 +0.2**
DPC *e* 21 17 10.9
DPC Dobruska-Polom 74.49 320 *e*P **P** **21 16 56.7 +0.2**
DPC *ep*P **pP** **21 17 01.2 -4.0**
DPC *es*P **sP** **21 17 10.9 +2.5**
DPC Dobruska-Polom 74.49 320 *e*P **P** **21 16 55.5 -1.0**
comp=Z,71nm,1.2s
KSP Ksiaz 74.56 320 *e*P **P** **21 16 56.9 0.0**
KSP Ksiaz 74.56 320 *e*P **P** **21 16 56.9 0.0**
GOLS Golise 74.56 315 *i* P **P** **21 16 56.8 -0.2**
UPC Upice 74.70 320 *e*P **P** **21 16 58.0 +0.3**
UPC Upice 74.70 320 *e*P **P** **21 16 58.0 +0.3**
UPC *ep*P **pP** **21 17 02.6 -3.8**
ARSA Arzberg 74.73 317 ⇑/P **P** **21 16 58.0 +0.1**
comp=Z,12nm,1.6s
TREC Trest 74.92 319 *e*P **P** **21 16 58.7 -0.3**
TREC Trest 74.92 319 *e*P **P** **21 16 58.7 -0.3**
PERS Pernice 74.96 316 *i* P **P** **21 16 59.1 -0.2**
SOKA Soboth 75.02 316 ⇓/P **P** **21 16 59.6 -0.1**
comp=Z,11nm,1.3s,SNR=4.9
CRNS Crni Vrh 75.51 315 *i* P **P** **21 17 02.3 -0.2**
PRU Pruhonice 75.59 319 *e*P **P** **21 17 02.8 0.0**
PRU Pruhonice 75.59 319 *e*P **P** **21 17 02.8 0.0**
PVCC Panska Ves 75.62 320 *e*P **P** **21 17 03.3 +0.3**
PVCC Panska Ves 75.62 320 *e*P **P** **21 17 03.3 +0.3**
BRG Berggiesshubel 76.04 320 *i* P **P** **21 17 05.6 +0.2**
comp=Z,14nm,1.4s
BRG Berggiesshubel 76.04 320 *e*P **P** **21 17 05.7 +0.3**
comp=Z,14nm,1.4s
GEC2 GERESS Array S 76.06 318 *e*P **P** **21 17 05.8 +0.1**
GEC2 pmax pmax
comp=Z,8.0nm,1.0s
GEC2 GERESS Array S 76.06 318 *e*P **P** **21 17 05.8 +0.1**
comp=Z,8.0nm,1.0s
GERES GERESS Array B 76.06 318 P **P** **21 17 05.5 -0.2**
comp=Z,3.9nm,0.8s,baz=94,slow=5.4,SNR=34
KHC Kasperske Hory 76.16 319 *e*P **P** **21 17 05.8 -0.3**
KHC *e* 21 17 16.6
KHC Kasperske Hory 76.16 319 *e*P **P** **21 17 05.8 -0.3**
KHC *ex* x 21 17 10.1
KHC *ep*P **PcP** **21 17 16.6 -1.6**
RUE Ruedersdorf 76.27 322 *e*P **P** **21 17 06.7 +0.1**
comp=Z,23nm,0.8s
FBE Freiberg 76.42 320 *e*P **P** **21 17 08.0 +0.5**
comp=Z,21nm,1.2s
RJOB Jochberg 76.60 317 *e*P **P** **21 17 08.1 -0.6**
comp=Z,8.0nm,1.2s
WET Wettzell 76.62 319 *e*P **P** **21 17 08.9 +0.2**
WET pmax pmax
comp=Z,7.0nm,1.2s
WET Wettzell 76.62 319 *e*P **P** **21 17 08.9 +0.2**
comp=Z,7.0nm,1.2s
CLL Collm 76.67 321 *i* P **P** **21 17 07.6 -1.3**
CLL *e* 21 17 18.0
CLL pmax pmax
comp=Z,6.0nm,0.9s
CLL Collm 76.67 321 *e*P **P** **21 17 08.7 -0.2**
comp=Z,6.0nm,0.9s
CLL Collm 76.67 321 *i* P **P** **21 17 07.6 -1.3**
comp=Z,6.0nm,0.9s
CLL *ep*P **pP** **21 17 18.0 +0.4**
NKC Novy Kostel 76.95 320 *e*P **P** **21 17 10.9 +0.3**
NKC Novy Kostel 76.95 320 *e*P **P** **21 17 10.9 +0.3**
TANN Tannenbergstha 76.95 320 *e*P **P** **21 17 10.7 0.0**
comp=Z,10.0nm,1.4s
WERN Wernitzgruen 77.00 320 *e*P **P** **21 17 11.2 +0.3**
comp=Z,9.0nm,1.0s
GUNZ Gunzen 77.03 320 *e*P **P** **21 17 11.3 +0.2**
comp=Z,10.0nm,1.0s
HFS Hagfors 77.04 330 P **P** **21 17 10.3 -0.6**
comp=Z,4.5nm,0.5s,baz=95,slow=7.2,SNR=23
WERD Werda 77.06 320 *e*P **P** **21 17 11.3 +0.1**
comp=Z,7.0nm,0.9s
ROTZ Rotzenmuhle 77.09 319 *e*P **P** **21 17 12.1 +0.8**
comp=Z,10.0nm,1.0s
PLN Plauen 77.15 320 *e*P **P** **21 17 11.7 0.0**
comp=Z,36nm,1.2s
MANZ Manzenberg 77.16 319 *e*P **P** **21 17 12.4 +0.6**
comp=Z,16nm,1.2s
WTTA Wattenberg 77.37 317 ⇓/P **P** **21 17 12.3 -0.9**
comp=Z,9.7nm,0.9s
NEUB Neuenburg 77.43 321 *e*P **P** **21 17 13.1 -0.1**
comp=Z,24nm,1.5s
GRF Grafenberg Arr 77.72 319 *e*P **P** **21 17 15.5 +0.6**
GRF pmax pmax
comp=Z,18nm,1.2s
GRF Grafenberg Arr 77.72 319 *e*P **P** **21 17 15.5 +0.6**
comp=Z,18nm,1.2s
MOTA Moosalm 77.73 317 ⇑/P **P** **21 17 14.0 -1.2**
comp=Z,6.0nm,0.7s
RETA Reutte 77.97 317 *i* P **P** **21 17 15.9 -0.5**
comp=Z,16nm,1.3s,SNR=6.7
FETA Feichten 77.98 316 *i* P **P** **21 17 16.1 -0.5**
comp=Z,6.7nm,1.0s,SNR=5.0
FUORN Ofenpass-Fuorn 78.30 316 *e*P **P** **21 17 17.9 -0.6**
comp=Z,54nm,2.3s
MAW Mawson 78.32 191 *e*P **P** **21 17 19.8 +2.1**
MAW Mawson 78.32 191 ⇓P **P** **21 17 20.1 +2.4**
baz=78
MAW Mawson 78.32 191 P **P** **21 17 19.8 +2.1**
comp=Z,4.9nm,0.8s,baz=345,slow=5.5,SNR=9.7
CLZ Clausthal 78.33 321 *e*P **P** **21 17 18.3 0.0**
CLZ pmax pmax
comp=Z,18nm,1.3s
CLZ Clausthal 78.33 321 *e*P **P** **21 17 18.3 0.0**
comp=Z,18nm,1.3s
NB2 NORSAR Subarra 78.35 331 P **P** **21 17 16.9 -1.3**
comp=Z,1.4nm,0.6s,baz=99,slow=5.3
NB200 NORSAR Array S 78.35 331 *e*P **P** **21 17 17.1 -1.1**
NOA NORSAR Array B 78.35 331 P **P** **21 17 17.1 -1.1**
comp=Z,2.2nm,0.8s,baz=95,slow=5.6,SNR=5.9
NOA LR LR 21 55 33.6
comp=Z,75nm,21.8s,baz=90,slow=38
BSEG Bad Segeberg 78.43 323 *e*P **P** **21 17 19.0 +0.3**
BSEG pmax pmax
comp=Z,34nm,1.4s
BSEG Bad Segeberg 78.43 323 *e*P **P** **21 17 19.0 +0.3**
comp=Z,34nm,1.4s
NRDL Niedersach Rie 78.51 322 *e*P **P** **21 17 19.3 +0.2**
comp=Z,14nm,1.3s
DAVOX Davos/Dischmat 78.56 316 *e*P **P** **21 17 19.6 -0.2**
DAVOX Davos/Dischmat 78.56 316 P **P** **21 17 19.6 -0.2**
comp=Z,5.5nm,0.6s,baz=180,slow=1.0
DAVA Damuels 78.57 317 ⇑/P **P** **21 17 19.8 0.0**
comp=Z,17nm,1.1s
TUE Stuetta 78.93 316 *e*P **P** **21 17 20.3 -1.6**
comp=Z,20nm,1.6s
STU Stuttgart 79.03 318 *e*P **P** **21 17 22.1 -0.1**
comp=Z,10.0nm,0.9s
SPA0 Spitsbergen Ar 79.10 348 *e*P **P** **21 17 21.7 -0.4**
SPITS Spitsbergen Ar 79.10 348 P **P** **21 17 21.7 -0.4**
comp=Z,4.3nm,0.5s,baz=120,slow=4.9,SNR=11
KEST Kesra 79.16 305 *e*P **P** **21 17 21.8 -1.4**
KEST Kesra 79.16 305 P **P** **21 17 23.8 +0.6**
comp=Z,3.2nm,1.0s,baz=314,slow=4.3,SNR=7.1
PGF Pioggiola 79.22 312 *e*P **P** **21 17 22.0 -1.5**
comp=Z,24nm,1.0s
PGF Pioggiola 79.22 312 *e*P **P** **21 17 22.0 -1.5**
PGF Pioggiola 79.22 312 *e*P **P** **21 17 22.0 -1.5**
TNS Taunus Mts 79.52 320 *e*P **P** **21 17 25.1 +0.2**
TNS pmax pmax
comp=Z,7.0nm,0.9s
TNS Taunus Mts 79.52 320 *e*P **P** **21 17 25.1 +0.2**
comp=Z,7.0nm,0.9s
BFO Black Forest 79.61 318 *e*P **P** **21 17 25.1 -0.3**
BFO pmax pmax
comp=Z,9.0nm,1.2s
BFO Black Forest 79.61 318 *e*P **P** **21 17 25.1 -0.3**
comp=Z,9.0nm,1.2s
CDF Champ du Feu 80.31 318 *e*P **P** **21 17 27.5 -1.7**
comp=Z,7.9nm,0.9s
CDF Champ du Feu 80.31 318 *e*P **P** **21 17 27.5 -1.7**
CDF Champ du Feu 80.31 318 *e*P **P** **21 17 27.5 -1.7**
SBF Sospel 80.33 313 *e*P **P** **21 17 28.0 -1.4**
comp=Z,17nm,0.8s
SBF Sospel 80.33 313 *e*P **P** **21 17 28.0 -1.4**
SBF Sospel 80.33 313 *e*P **P** **21 17 28.0 -1.4**
SENIN Lac Senin/Sane 80.35 316 *e*P **P** **21 17 28.0 -1.6**
comp=Z,16nm,1.0s
HINF Hinteralfeld 80.61 317 *e*P **P** **21 17 28.8 -2.0**
HINF Hinteralfeld 80.61 317 *e*P **P** **21 17 28.8 -2.0**
HINF Hinteralfeld 80.61 317 *e*P **P** **21 17 28.8 -2.0**
LPG La Plagne 80.76 315 *e*P **P** **21 17 30.8 -1.1**
comp=Z,42nm,1.1s
LPG La Plagne 80.76 315 *e*P **P** **21 17 30.8 -1.1**
LPG La Plagne 80.76 315 *e*P **P** **21 17 30.8 -1.1**
LPL La Plagne 80.77 315 *e*P **P** **21 17 30.8 -1.1**
comp=Z,60nm,1.2s
LPL La Plagne 80.77 315 *e*P **P** **21 17 30.8 -1.1**
LPL La Plagne 80.77 315 *e*P **P** **21 17 30.8 -1.1**
MBDF Montbardon 80.78 314 *e*P **P** **21 17 30.0 -1.9**
comp=Z,41nm,1.5s
MBDF Montbardon 80.78 314 *e*P **P** **21 17 30.0 -1.9**
MBDF Montbardon 80.78 314 *e*P **P** **21 17 30.0 -1.9**
BNI Bardonecchia 80.83 314 *e*P **P** **21 17 30.5 -1.6**
BNI pmax pmax
comp=Z,8.0nm,0.8s
BNI Bardonecchia 80.83 314 *e*P **P** **21 17 30.5 -1.6**
comp=Z,7.7nm,0.8s
FRF La Foret Royal 80.91 313 *e*P **P** **21 17 31.3 -1.1**
FRF La Foret Royal 80.91 313 *e*P **P** **21 17 31.3 -1.1**
FRF La Foret Royal 80.91 313 *e*P **P** **21 17 31.3 -1.1**
HAU Haudompre 80.94 317 *e*P **P** **21 17 30.9 -1.6**
comp=Z,10nm,0.6s
HAU *e*R
comp=Z,64nm,18.8s
HAU Haudompre 80.94 317 *e*P **P** **21 17 30.9 -1.6**
HAU Haudompre 80.94 317 *e*P **P** **21 17 30.9 -1.6**
LMR La Mourre 81.03 313 *e*P **P** **21 17 31.8 -1.2**
comp=Z,18nm,0.9s
LMR La Mourre 81.03 313 *e*P **P** **21 17 31.8 -1.2**
LMR La Mourre 81.03 313 *e*P **P** **21 17 31.8 -1.2**
CABF La Chapelle 81.18 316 *e*P **P** **21 17 32.9 -1.0**
comp=Z,20nm,0.9s
CABF La Chapelle 81.18 316 *e*P **P** **21 17 32.9 -1.0**
CABF La Chapelle 81.18 316 *e*P **P** **21 17 32.9 -1.0**
PAGF Fort de Pagny 81.34 318 *e*P **P** **21 17 33.2 -1.4**
ORIF Oris-en-Rattie 81.40 314 *e*P **P** **21 17 33.5 -1.6**
comp=Z,22nm,1.2s
ORIF *e*R
comp=Z,64nm,19.0s
ORIF Oris-en-Rattie 81.40 314 *e*P **P** **21 17 33.5 -1.6**
ORIF Oris-en-Rattie 81.40 314 *e*P **P** **21 17 33.5 -1.6**
SMRF Simiane la Rot 81.67 313 *e*P **P** **21 17 35.9 -0.6**
comp=Z,27nm,1.2s
SMRF Simiane la Rot 81.67 313 *e*P **P** **21 17 35.9 -0.6**
MEZF Maizieres J'vi 81.79 318 *e*P **P** **21 17 35.4 -1.6**
comp=Z,16nm,0.9s
MEZF Maizieres J'vi 81.79 318 *e*P **P** **21 17 35.4 -1.6**
SFTF Sexfontaines 81.81 318 *e*P **P** **21 17 35.7 -1.4**
comp=Z,16nm,0.7s
SFTF Sexfontaines 81.81 318 *e*P **P** **21 17 35.7 -1.4**
BAIF Baives 82.25 319 *e*P **P** **21 17 38.2 -1.2**
comp=Z,11nm,0.8s
BAIF Baives 82.25 319 *e*P **P** **21 17 38.2 -1.2**
BAIF Baives 82.25 319 *e*P **P** **21 17 38.2 -1.2**
VIVF Saint-Julien-l 82.26 314 *e*P **P** **21 17 38.4 -1.2**
comp=Z,33nm,1.1s
VIVF Saint-Julien-l 82.26 314 *e*P **P** **21 17 38.4 -1.2**
VIVF Saint-Julien-l 82.26 314 *e*P **P** **21 17 38.4 -1.2**
LOR Lormes 82.66 317 *e*P **P** **21 17 40.1 -1.5**

comp=Z,33nm,1.1s
LOR eR
comp=Z,81nm,21.2s
LOR Lormes 82.66 317 *e*P P 21 17 40.1 -1.5
SMF Signal de Mont 82.72 316 *e*P P 21 17 40.4 -1.5
comp=Z,28nm,1.1s
SMF Signal de Mont 82.72 316 *e*P P 21 17 40.4 -1.5
SMF Signal de Mont 82.72 316 *e*P P 21 17 40.4 -1.5
LASF Ste Croix 82.90 313 *e*P P 21 17 42.1 -0.8
comp=Z,18nm,1.1s
LASF Ste Croix 82.90 313 *e*P P 21 17 42.1 -0.8
SSF Saint Saulge 82.92 316 *e*P P 21 17 41.7 -1.2
SSF Saint Saulge 82.92 316 *e*P P 21 17 41.7 -1.2
SSF Saint Saulge 82.92 316 *e*P P 21 17 41.7 -1.2
AVF Avril sur Loir 83.04 316 *e*P P 21 17 42.0 -1.6
comp=Z,18nm,1.1s
AVF Avril sur Loir 83.04 316 *e*P P 21 17 42.0 -1.6
AVF Avril sur Loir 83.04 316 *e*P P 21 17 42.0 -1.6
BGF Bois d'Agland 83.41 316 *e*P P 21 17 44.4 -1.1
comp=Z,39nm,1.2s
BGF Bois d'Agland 83.41 316 *e*P P 21 17 44.4 -1.1
BGF Bois d'Agland 83.41 316 *e*P P 21 17 44.4 -1.1
TCF Toulx Ste Croi 83.87 316 *e*P P 21 17 46.8 -1.1
TCF Toulx Ste Croi 83.87 316 *e*P P 21 17 46.8 -1.1
TCF Toulx Ste Croi 83.87 316 *e*P P 21 17 46.8 -1.1
CAF Calviac 84.10 314 *e*P P 21 17 48.2 -0.9
comp=Z,10.0nm,1.0s
CAF Calviac 84.10 314 *e*P P 21 17 48.2 -0.9
CAF Calviac 84.10 314 *e*P P 21 17 48.2 -0.9
MTLF Montolieu 84.15 313 *e*P P 21 17 48.4 -0.9
comp=Z,14nm,0.9s
MTLF Montolieu 84.15 313 *e*P P 21 17 48.4 -0.9
MTLF Montolieu 84.15 313 *e*P P 21 17 48.4 -0.9
RJF Les Rejaudoux 84.45 315 *e*P P 21 17 50.0 -0.8
comp=Z,5.1nm,0.6s
RJF eR
comp=Z,75nm,19.8s
RJF Les Rejaudoux 84.45 315 *e*P P 21 17 50.0 -0.8
RJF Les Rejaudoux 84.45 315 *e*P P 21 17 50.0 -0.8
SYO Syowa Base 84.97 197 ||*e*P P 21 17 53.4 +0.7
LFF La Frestale 85.04 315 *e*P P 21 17 53.0 -0.8
comp=Z,26nm,1.2s
LFF La Frestale 85.04 315 *e*P P 21 17 53.0 -0.8
LFF La Frestale 85.04 315 *e*P P 21 17 53.0 -0.8
LDF La Druitiere 85.20 318 *e*P P 21 17 53.0 -1.5
comp=Z,27nm,1.0s
LDF La Druitiere 85.20 318 *e*P P 21 17 53.0 -1.5
LDF La Druitiere 85.20 318 *e*P P 21 17 53.0 -1.5
FLN La Foliniere 85.42 318 *e*P P 21 17 54.0 -1.6
comp=Z,15nm,0.9s
FLN eR
comp=Z,80nm,17.0s
FLN La Foliniere 85.42 318 *e*P P 21 17 54.0 -1.6
FLN La Foliniere 85.42 318 *e*P P 21 17 54.0 -1.6
MFF Saint Martin d 85.46 316 *e*P P 21 17 54.5 -1.3
comp=Z,14nm,0.8s
MFF Saint Martin d 85.46 316 *e*P P 21 17 54.5 -1.3
MFF Saint Martin d 85.46 316 *e*P P 21 17 54.5 -1.3
EPF Esparros 85.55 313 *e*P P 21 17 54.6 -1.8
EPF Esparros 85.55 313 *e*P P 21 17 54.6 -1.8
EPF Esparros 85.55 313 *e*P P 21 17 54.6 -1.8
EKA Eskdalemuir Ar 86.16 325 *e*P P 21 17 58.9 -0.2
EKA Eskdalemuir Ar 86.16 325 P P 21 17 58.9 -0.2
comp=Z,3.5nm,0.6s,baz=94,slow=5.4,SNR=19
ETSF Etsaut 86.22 313 *e*P P 21 17 57.5 -2.3
comp=Z,6.7nm,0.8s
ETSF Etsaut 86.22 313 *e*P P 21 17 57.5 -2.3
ETSF Etsaut 86.22 313 *e*P P 21 17 57.5 -2.3
SJPF Ste Jean 86.67 313 *e*P P 21 18 01.4 -0.5
comp=Z,13nm,1.0s
SJPF Ste Jean 86.67 313 *e*P P 21 18 01.4 -0.5
SJPF Ste Jean 86.67 313 *e*P P 21 18 01.4 -0.5
TOA0 Torodi Ar. Sit 88.23 283 *e*P P 21 18 10.8 +0.8
TOA0 *e*pP pP 21 18 20.2 +1.4
TOA0 *e*PP PP 21 21 39.1 +1.6
TORD Torodi Ar. Bea 88.23 283 P P 21 18 10.8 +0.8
comp=Z,3.3nm,1.0s,baz=91,slow=5.1,SNR=14
TORD pP pP 21 18 20.2 +1.4
comp=Z,1.4nm,0.9s,baz=87,slow=4.8,SNR=4.7
TORD PP PP 21 21 39.1 +1.6
comp=Z,0.9nm,1.0s,baz=73,slow=5.0,SNR=3.9
TORD LR LR 21 56 11.0
comp=Z,75nm,19.4s,baz=335,slow=34
ES19 SONSECA Array 89.19 310 *e*P P 21 18 13.1 -1.0
ESDC Sonseca Array 89.24 310 *e*P P 21 18 14.9 +0.5
ESDC *e*pP pP 21 18 24.0 +0.8
ESDC Sonseca Array 89.24 310 P P 21 18 14.9 +0.5
comp=Z,1.8nm,0.6s,baz=63,slow=5.2,SNR=14
ESDC pP pP 21 18 24.0 +0.8
comp=Z,0.4nm,0.5s,baz=69,slow=5.4,SNR=3.7
PBRG Braganca 90.92 312 *e*P P 21 18 23.3 +1.2
comp=Z,19nm,2.0s
MDT Midelt 90.95 303 *e*P P 21 18 23.8 +1.3
MDT Midelt 90.95 303 P P 21 18 23.8 +1.3
comp=Z,3.4nm,0.9s,baz=91,slow=6.4,SNR=8.4
MTE Manteigas 91.80 311 *e*P P 21 18 27.4 +1.1
comp=Z,22nm,1.4s
PCBR Castelo Branco 91.87 311 *e*P P 21 18 27.6 +1.1
comp=Z,20nm,1.8s
PBAR Barrancos 91.88 309 *e*P P 21 18 27.2 +0.6
comp=Z,17nm,1.6s
PMRV Marv??o 91.89 310 *e*P P 21 18 27.0 +0.4
comp=Z,17nm,1.5s
PVIS Viseu 91.99 311 *e*P P 21 18 28.0 +0.9
comp=Z,22nm,1.9s
IMA2 Indian Mountai 92.27 22 *e*P P 21 18 26.8 -1.2
PBEJ Beja 92.55 309 *e*P P 21 18 30.9 +1.2
PBDV Barranco-do-Ve 92.76 308 *e*P P 21 18 32.3 +1.6
comp=Z,57nm,1.9s
PNCL Nicolau / Gran 93.04 309 *e*P P 21 18 33.0 +1.1
comp=Z,19nm,1.9s
VNDA Vanda 93.66 168 *e*P P 21 18 34.1 +0.3
VNDA Vanda 93.66 168 P P 21 18 34.1 +0.3
comp=Z,0.3nm,0.5s,baz=286,slow=8.6,SNR=3.8
ILAR Eielson Array 95.39 22 P P 21 18 41.1 -1.0
comp=Z,0.8nm,0.6s,baz=304,slow=4.7,SNR=12
ILAR PP PP 21 22 32.3 0.0
comp=Z,0.5nm,0.9s,baz=315,slow=8.9,SNR=4.7
ILB Eielson Array 95.39 22 *e*P P 21 18 41.1 -1.0
ILB *e*PP PP 21 22 32.3 0.0
DBIC Dimbokro 95.56 278 *e*P P 21 18 45.0 +1.0
comp=Z,24nm,1.4s
DBIC Dimbokro 95.56 278 P P 21 18 45.0 +1.0
comp=Z,2.8nm,0.8s,baz=105,slow=13,SNR=3.6
DBIC LR LR 21 59 19.0
comp=Z,73nm,19.4s,baz=120,slow=34
INK Inuvik 97.39 15 *e*P P 21 18 49.9 -1.2
comp=Z,176nm,3.0s
INK Inuvik 97.39 15 P P 21 18 49.9 -1.2
comp=Z,1.7nm,0.9s,baz=314,slow=2.7,SNR=3.4
ELK Elko 125.38 25 *e*PKPdf PKPdf 21 24 19.9 +0.3
ELK Elko 125.38 25 PKP PKPdf 21 24 19.9 +0.3
comp=Z,1.0nm,0.8s,baz=340,slow=4.5,SNR=3.0
PD31 Pinedale Array 125.74 19 *e*PKPdf PKPdf 21 24 19.9 -0.3
PDAR Pinedale Array 125.74 19 PKP PKPdf 21 24 19.9 -0.3
comp=Z,1.0nm,0.9s,baz=101,slow=0.5,SNR=5.4
NV01 Mina Array Sit 125.88 29 *e*PKPdf PKPdf 21 24 21.5 +0.9
NVAR Mina Array Bea 125.88 29 PKP PKPdf 21 24 21.5 +0.9
comp=Z,1.4nm,0.7s,baz=316,slow=1.8,SNR=6.9
LTX Lajitas 139.90 21 *e*PKIKP PKPpre 21 24 44.1
LTX Lajitas 139.90 21 *e*PKPpre PKPpre 21 24 44.1
LTX *e*PKPdf **PKPdf 21 24 47.9 +0.8**
TXAR Lajitas Array 139.90 21 PKhKP PKPpre 21 24 44.1
comp=Z,0.2nm,0.5s,baz=0.0,slow=3.6,SNR=3.2
TXAR PKP **PKPdf 21 24 47.9 +0.8**
comp=Z,0.3nm,0.5s,baz=92,slow=1.3,SNR=8.0
PLCA Paso Flores 143.91 203 *e*PKPdf PKPbc 21 24 52.6 +1.1
PLCA Paso Flores 143.91 203 PKP PKPbc 21 24 52.6 +1.1
comp=Z,1.8nm,0.8s,baz=35,slow=12,SNR=2.9
CPUP Villa Florida 145.51 235 *e*PKPdf **PKPab 21 24 57.4 +0.2**
CPUP Villa Florida 145.51 235 PKPbc **PKPab 21 24 57.4 +0.2**
comp=Z,12nm,0.9s,baz=112,slow=4.7,SNR=9.8
CFAA Coronel Fontan 150.12 216 *e*PKPbc **PKPbc 21 25 10.3 +0.9**
CFAA Coronel Fontan 150.12 216 PKPbc **PKPbc 21 25 10.3 +0.9**
comp=Z,1.7nm,0.8s,baz=187,slow=1.6,SNR=24
SIV San Ignacio 152.33 251 *e*PKPbc **PKPbc 21 25 14.4 -0.6**
SIV *e*PKPab **PKPab 21 25 25.1 +0.1**
SIV San Ignacio 152.33 251 PKPbc **PKPbc 21 25 14.4 -0.6**
comp=Z,1.7nm,0.6s,baz=151,slow=4.6,SNR=4.3
SIV PKPab **PKPab 21 25 25.1 +0.1**
comp=Z,1.6nm,0.6s,baz=110,slow=3.2,SNR=4.6
APG El Apazote 156.91 5 PKPab **PKPab 21 25 41.7 -2.7**
comp=Z,4.4nm,1.0s,baz=151,slow=13,SNR=2.9
LPAZ La Paz 158.75 246 *e*PKPdf **PKPdf 21 25 17.7 +0.2**
LPAZ La Paz 158.75 246 PKP **PKPdf 21 25 17.7 +0.2**

comp=Z,1.0nm,0.6s,baz=272,slow=0.2,SNR=4.7

WEL 29 21:13:20.3±0.6, 46°19S×166°05E, h33km, ML3.7/9, 4D, Error ellipse: s-maj=6.6km s-min=2.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.44**	**88**	||*e*PN	Pb	21 13 29.4	-0.5
PYZ				SN	Sb	21 13 36.7	+0.1
DCZ	**Deep Cove**	**1.05**	**48**	||*e*PN	Pn	21 13 38.3	-0.3
DCZ				SN	Sb	21 13 53.3	+0.1
DCZ				AML	AML	21 13 54.2	
WHZ	**Wether Hill Ro**	**1.35**	**78**	||*e*PN	Pn	21 13 43.6	+0.8
WHZ				SN	Sb	21 14 02.8	+0.8
WHZ				AML	AML	21 14 05.0	
APZ	**The Paps**	**1.49**	**116**	PN	Pn	21 13 44.4	-0.3
APZ				SN	Sb	21 14 04.6	-1.3
MLZ	**Mavora Lakes**	**1.71**	**61**	AML	AML	21 14 16.8	
MLZ				AML	AML	21 14 16.9	
SYZ	**Scrubby Hill**	**2.17**	**100**	PN	Pn	21 13 55.0	+1.0
EAZ	**Earnscleugh**	**2.47**	**68**	||*e*PN	Pn	21 14 00.9	+2.6
EAZ				AML	AML	21 14 36.6	
EAZ				AML	AML	21 14 42.5	
WKZ	**Wanaka**	**2.49**	**58**	AML	AML	21 14 42.5	
WKZ				AML	AML	21 14 47.3	
TUZ	**Tuapeka**	**2.50**	**86**	PN	Pn	21 14 00.1	+1.5
TUZ				AML	AML	21 14 35.6	
TUZ				AML	AML	21 14 37.2	
JCZ	**Jackson Bay**	**2.85**	**43**	PN	Pn	21 14 05.0	+1.4
JCZ				AML	AML	21 14 57.5	
JCZ				AML	AML	21 15 01.7	
ODZ	**Otahua Downs**	**3.42**	**72**	PN	Pn	21 14 11.9	+0.6
LBZ	**Lake Benmore**	**3.43**	**60**	PN	Pn	21 14 13.1	+1.7
FOZ	**Fox Glacier**	**3.68**	**46**	PN	Pn	21 14 16.9	+2.1

*ISCJB **29** 21:13:39.0±1.1, 40°.96N±0°.03×127°.33W±0°.05, h6km±7km, mb3.9/12, MS3.4/5, Error ellipse: s-maj=6.8km s-min=4.4km az=153.1*
*IDC **29** 21:13:40.7±1.1, 41°.23N×127°.49W, h0km, mb3.9/10, mb1 4.0/15, mb1mx3.8/34, mbtmp3.8/15, ML3.3/3, MS3.5/12, Ms1 3.5/12, ms1mx3.3/47, Error ellipse: s-maj=31.0km s-min=12.2km az=27.0*
*NEIC **29** 21:13:43.2, 40°.72N×127°.24W, h10km, mb3.9/2, ML3.6(NCEDC), After NCEDC.*

ISC 29 21:13:39.6±1.2, 40°.99N±0°.05×127°.39W±0°.07, h2km±5km, n110, σ1°84/97, mb3.9/12, MS3.3/5, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCC	**Jacoby Creek**	**2.55**	**93**	*e*Pn	**Pn**	**21 14 21.2**	**-0.8**
KBO	**Bosley Butte**	**2.67**	**62**	*e*Pn	**Pn**	**21 14 22.3**	**-1.5**
KRMB	**Red Mountain**	**2.68**	**77**	*e*Pn	**Pn**	**21 14 22.9**	**-1.0**
KHMM	**Horse Mountain**	**2.77**	**91**	*e*Pn	**Pn**	**21 14 23.5**	**-1.7**
KEBM	**Edson Butte**	**2.95**	**49**	*e*Pn	**Pn**	**21 14 26.1**	**-1.6**
KCPM	**Cahto Peak**	**3.19**	**113**	*e*Pn	**Pn**	**21 14 30.3**	**-0.6**
KCPM				*e*Sn	**Sn**	**21 15 06.0**	**-3.5**
KIPM	**Iron Peak**	**3.21**	**110**	*e*Pn	**Pn**	**21 14 30.8**	**-0.5**
KIPM				*e*Sn	**Sn**	**21 15 07.8**	**-2.3**
YBH	**Yreka Blue Hor**	**3.60**	**77**	*e*Pn	**Pn**	**21 14 37.7**	**+1.1**
YBH				*e*Sn	**Sn**	**21 15 17.2**	**-2.5**
YBH	**Yreka Blue Hor**	**3.60**	**77**	Pn	**Pn**	**21 14 38.1**	**+1.6**
	16nm,0.3s,baz=262,slow=12,SNR=119						
YBH				Sn	**Sn**	**21 15 17.5**	**-2.2**
	9.9nm,0.3s,baz=126,slow=14,SNR=3.0						
YBH				LR	LR	21 16 06.8	
	comp=Z,1μm,18.6s,baz=332,slow=40						
HUMO	**Hull Mountain**	**3.69**	**63**	*e*Pn	**Pn**	**21 14 37.4**	**-0.3**
WDC	**Whiskeytown Da**	**3.70**	**95**	*e*Pn	**Pn**	**21 14 38.2**	**+0.3**
WDC				*e*Sn	**Sn**	**21 15 20.5**	**-1.6**
HOPS	**Hopland**	**3.87**	**120**	*e*Pn	**Pn**	**21 14 39.9**	**-0.3**
HOPS				*e*Sn	**Sn**	**21 15 26.1**	**0.0**
MCCM	**Marconi Confer**	**4.49**	**128**	*e*Pn	**Pn**	**21 14 48.1**	**-0.6**
COR	**Corvallis**	**4.68**	**39**	*e*Pn	**Pn**	**21 14 52.1**	**+0.8**
MONO	**Monmouth DOGAM**	**4.92**	**37**	*e*Sn	**Sn**	**21 15 55.9**	**+4.0**
MONO				*e*Sb	**Sb**	**21 16 06.9**	**+0.9**
SAC	**San Andreas**	**5.14**	**130**	*e*Pn	**Pn**	**21 14 57.0**	**-0.6**
SAC				*e*Sn	**Sn**	**21 15 56.1**	**-1.4**
K05A	**Summer Lake**	**5.15**	**68**	*e*Pn	**Pn**	**21 14 55.9**	**-2.1**
H04A	**Detroit Lake**	**5.31**	**44**	*e*Pn	**Pn**	**21 14 59.7**	**-0.3**
MOD	**Modoc**	**5.40**	**78**	*e*Pn	**Pn**	**21 15 01.5**	**+0.1**
MOD				*e*Sn	**Sn**	**21 16 03.5**	**-0.7**
PINOR	**Pine Mountain**	**5.59**	**58**	*e*Pn	**Pn**	**21 15 03.3**	**-0.4**
F04A	**Amboy**	**6.12**	**35**	*e*Pn	**Pn**	**21 15 11.1**	**0.0**
CMB	**Columbia Colle**	**6.17**	**116**	*e*Pn	**Pn**	**21 15 10.8**	**-1.0**
E03A	**Lebam**	**6.21**	**25**	*e*Pn	**Pn**	**21 15 11.8**	**-0.4**
SAO	**San Andreas Ge**	**6.27**	**130**	*e*Pn	**Pn**	**21 15 11.5**	**-1.6**
VALT	**Mount Saint He**	**6.44**	**34**	*e*Sb	**Sb**	**21 16 51.1**	**+1.0**
G06A	**Carlson Farm,**	**6.51**	**47**	*e*Pn	**Pn**	**21 15 16.6**	**0.0**
I07A	**Izee**	**6.59**	**59**	*e*Pn	**Pn**	**21 15 18.3**	**+0.6**
WAKR	**Walker**	**6.61**	**109**	*e*Pn	**Pn**	**21 15 20.0**	**+2.0**
WVOR	**Wild Horse Val**	**6.71**	**75**	*e*Pn	**Pn**	**21 15 17.2**	**-2.0**
LON	**Longmire**	**7.03**	**33**	*e*Pn	**Pn**	**21 15 24.1**	**+0.5**
J08A	**Circle Bar Ran**	**7.03**	**67**	*e*Pn	**Pn**	**21 15 25.0**	**+1.3**
NV01	**Mina Array Sit**	**7.45**	**107**	*e*Pn	**Pn**	**21 15 32.4**	**+2.8**
NVAR	**Mina Array Bea**	**7.45**	**107**	Pn	Pn	21 15 34.0	+4.3
	0.3nm,0.3s,baz=287,slow=14,SNR=4.5						
NVAR				LR	LR	21 18 36.2	
	comp=Z,652nm,19.8s,baz=114,slow=38						
G08A	**Pilot Rock**	**7.51**	**52**	*e*Pn	**Pn**	**21 15 30.1**	**-0.2**
ALCT	**Alcott Element**	**7.68**	**28**	*e*Pb	Pg	21 16 01.2	-5.4
PTRM	**Twissleman Ran**	**7.76**	**131**	*e*Pn	**Pn**	**21 15 32.9**	**-0.7**
LTY	**Liberty**	**7.91**	**35**	*e*Pn	**Pn**	**21 15 35.1**	**-0.6**
JCW	**Jim Creek**	**8.19**	**27**	*e*Pb	**Pb**	**21 16 02.9**	**+0.7**
BMO	**Blue Mountains**	**8.34**	**59**	*e*Pn	**Pn**	**21 15 42.8**	**+1.1**
ISA	**Isabella**	**8.79**	**124**	*e*Pn	**Pn**	**21 15 49.5**	**+1.7**
ELK	**Elko**	**9.21**	**88**	*e*Pn	Pn	21 15 58.3	+4.6
ELK	**Elko**	**9.21**	**88**	Pn	Pn	21 15 58.3	+4.6
	0.1nm,0.3s,baz=156,slow=2.9,SNR=3.8						
ELK				LR	LR	21 19 41.7	
	comp=Z,301nm,20.9s,baz=175,slow=39						
B08A	**Colville Reser**	**9.33**	**35**	*e*Pn	**Pn**	**21 15 55.2**	**0.0**
TPNV	**Topopah Spring**	**9.56**	**111**	*e*ScP	**ScP**	**21 25 50.1**	**+1.5**
CCCA	**Chr Cany lake**	**9.58**	**121**	*e*Sn	**Sn**	**21 17 47.2**	**+0.3**
HLID	**Hailey**	**9.95**	**71**	*e*Pn	**Pn**	**21 16 05.9**	**+2.0**
EL2	**El Mirage 2**	**10.11**	**126**	*e*Pn	Pn	21 16 01.2	-4.7
NEW	**Newport**	**10.31**	**42**	LR	LR	21 20 12.8	
	comp=Z,190nm,18.7s,baz=231,slow=38						
CIAC	**Catalina I. Ai**	**10.41**	**134**	*e*Sn	**Sn**	**21 18 03.7**	**-3.6**
SHPR	**Sheep Range**	**10.54**	**111**	*e*Pn	Pn	21 16 15.7	+3.7
RVR	**Riverside**	**10.58**	**128**	*e*Pn	**Pn**	**21 16 10.1**	**-2.2**
DSCC	**Desert Studies**	**10.63**	**120**	*e*Sn	**Sn**	**21 18 15.9**	**+3.2**
DSCC				*e*ScP	**ScP**	**21 25 49.0**	**-0.8**
BGU	**Big Grassy Mou**	**10.86**	**86**	*e*Pn	**Pn**	**21 16 18.8**	**+2.5**
HVU	**Hansel Valley**	**11.01**	**81**	*e*Pn	**Pn**	**21 16 20.5**	**+2.2**
DUG	**Dugway**	**11.11**	**89**	*e*Pn	**Pn**	**21 16 22.3**	**+2.6**
GMRC	**Granite Mounta**	**11.14**	**120**	*e*Pn	**Pn**	**21 16 17.8**	**-2.3**
GMRC				*e*Sn	**Sn**	**21 18 27.3**	**+1.9**
GMRC				*e*ScP	**ScP**	**21 25 46.5**	**-4.1**
NPI	**North Pocatell**	**11.20**	**79**	*e*Sn	Sn	21 18 36.6	+10
BBB	**Bella Bella**	**11.21**	**358**	LR	LR	21 18 57.0	
	comp=Z,70nm,18.6s,baz=221,slow=29						
SNUT	**Stansbury Nort**	**11.26**	**86**	*e*Pn	Pn	21 16 31.4	+10
SNUT				*e*Sn	Sn	21 18 39.7	+11
BSMT	**Bassoo Peak**	**11.32**	**48**	*e*Pn	**Pn**	**21 16 23.0**	**+0.5**
MCMT	**McKenzie Canyo**	**11.33**	**65**	*e*Pn	**Pn**	**21 16 23.3**	**+0.6**
PLM	**Palomar**	**11.33**	**129**	*e*Pn	Pn	21 16 17.4	-5.3
PFO	**Pinyon Flat Ob**	**11.40**	**127**	*e*Pn	Pn	21 16 26.9	+3.3
PFO				*e*Sn	Sn	21 18 24.7	-6.9
CCUT	**Cedar City**	**11.40**	**103**	*e*ScP	**ScP**	**21 25 51.1**	**+0.1**
NAIU	**Northern Antel**	**11.46**	**85**	*e*Pn	Pn	21 16 31.3	+6.9
NAIU				*e*Sn	Sn	21 18 39.6	+6.5
NAIU				*e*ScP	**ScP**	**21 25 53.8**	**+2.9**
SAIU	**Southern Antel**	**11.51**	**86**	*e*Sn	**Sn**	**21 18 31.3**	**-3.0**
BORC	**Borrego Spring**	**11.66**	**128**	*e*Pn	Pn	21 16 34.4	+7.4
FRK	**Frink**	**12.04**	**125**	*e*Sn	Sn	21 18 27.5	-20
TMUT	**Trail Mountain**	**12.50**	**92**	*e*Pn	**Pn**	**21 16 38.4**	**-0.4**
BW06	**Boulder Array**	**13.41**	**77**	*e*Pn	Pn	21 16 54.5	+3.4
PD31	**Pinedale Array**	**13.41**	**77**	*e*Pn	P	21 16 57.2	-3.7
PDAR	**Pinedale Array**	**13.41**	**77**	Pn	P	21 16 57.2	-3.7
	0.0nm,0.3s,baz=280,slow=12,SNR=6.3						
PDAR				LR	LR	21 21 54.6	
	comp=Z,239nm,21.3s,baz=2.8,slow=37						
WUAZ	**Wupatki**	**13.71**	**108**	*e*Pn	Pn	21 16 59.2	+3.9
PV09	**Paradox Valley**	**14.27**	**94**	*e*Pn	**P**	**21 17 07.7**	**-2.8**
PV05	**Paradox Valley**	**14.41**	**96**	*e*Pn	**P**	**21 17 09.5**	**-2.5**
PV01	**Paradox Valley**	**14.79**	**95**	*e*Pn	**Pn**	**21 17 11.0**	**+0.9**
MVCO	**Mesa Verde**	**15.14**	**98**	*e*Pn	**P**	**21 17 18.8**	**-1.3**
ISCO	**Idaho Springs**	**16.63**	**87**	*e*Pn	**Pn**	**21 17 34.5**	**+0.4**
SDCO	**Great Sand Dun**	**17.22**	**94**	*e*Pn	**P**	**21 17 45.1**	**+1.8**
	77nm,2.2s						
ANMO	**Albuquerque**	**17.55**	**103**	*e*Pn	**P**	**21 17 49.4**	**+2.5**
	3.3nm,1.0s						
ANMO	**Albuquerque**	**17.55**	**103**	Pn	**P**	**21 17 49.4**	**+2.5**
	baz=304,slow=12,SNR=2.9						
ANMO				LR	LR	21 25 02.2	
	comp=Z,266nm,19.4s,baz=137,slow=38						
LPM	**Los Pinos Moun**	**17.72**	**105**	*e*Pn	**Pn**	**21 17 47.1**	**-0.6**
BNM	**Barren Site**	**17.80**	**106**	*e*Pn	**P**	**21 17 53.4**	**+3.8**
KSCO	**Kaye Shedlock'**	**19.06**	**88**	*e*P	**Pn**	**21 18 06.8**	**+2.7**
FFC	**Flin Flon**	**21.74**	**42**	*e*P	**P**	**21 18 32.1**	**0.0**
FFC				*es*P	**sP**	**21 18 32.5**	**-0.3**
LPIG	**La Paz**	**22.09**	**134**	*e*P	**P**	**21 18 40.2**	**+4.1**
LPIG	**La Paz**	**22.09**	**134**	P	**P**	**21 18 40.2**	**+4.1**
	24nm,0.3s,baz=141,slow=2.7,SNR=2.4						
LPIG				LR	LR	21 27 16.8	
	comp=Z,109nm,19.4s,baz=275,slow=37						
TX31	**Lajitas Ar. Si**	**22.54**	**114**	*e*P	**P**	**21 18 39.2**	**-1.8**
LTX	**Lajitas**	**22.54**	**114**	*e*P	**P**	**21 18 44.2**	**+3.2**
TXAR	**Lajitas Array**	**22.54**	**114**	P	**P**	**21 18 44.2**	**+3.2**
	0.5nm,0.8s,baz=298,slow=5.7,SNR=3.6						
TXAR				LR	LR	21 27 47.9	
	comp=Z,56nm,18.7s,baz=0.0,slow=37						
YKA	**Yellowknife Ar**	**22.86**	**15**	P	**P**	**21 18 44.8**	**+0.8**
	3.7nm,0.9s,baz=206,slow=11,SNR=3.3						
YKB5	**Yellowknife Ar**	**22.86**	**15**	*e*P	**P**	**21 18 44.8**	**+0.8**
ILAR	**Eielson Array**	**26.34**	**341**	P	**P**	**21 19 15.1**	**-1.6**
	1.0nm,1.0s,baz=163,slow=8.1,SNR=5.5						
ILAR				LR	LR	21 27 45.8	
	comp=Z,81nm,18.5s,baz=211,slow=32						
ILB	**Eielson Array**	**26.34**	**341**	*e*P	**P**	**21 19 15.1**	**-1.6**
TKL	**Tuckaleechee C**	**34.36**	**85**	LR	LR	21 34 08.6	
	comp=Z,132nm,18.0s,baz=298,slow=36						
H11N3	**WAKE ISLAND Hy**	**59.16**	**270**	T	T	22 27 58.0	
	baz=55						
H11N2	**WAKE ISLAND Hy**	**59.17**	**270**	T	T	22 27 58.1	
	baz=55						
H11N1	**WAKE ISLAND Hy**	**59.18**	**270**	T	T	22 27 59.2	
	baz=55						
H11S1	**WAKE ISLAND Hy**	**60.04**	**269**	T	T	22 29 01.8	
	baz=47						
H11S2	**WAKE ISLAND Hy**	**60.05**	**269**	T	T	22 29 00.7	
	baz=47						
H11S3	**WAKE ISLAND Hy**	**60.06**	**269**	T	T	22 29 02.2	
	baz=47						
KSRS	**Korea Array**	**75.94**	**307**	LR	LR	21 58 34.6	
	comp=Z,21nm,19.4s,baz=270,slow=36						
SONM	**Songino Array**	**79.54**	**326**	P	**P**	**21 25 47.8**	**-0.3**
	0.9nm,1.0s,baz=42,slow=3.5,SNR=4.7						
ZALV	**Zalesovo Beam**	**81.47**	**341**	P	**P**	**21 25 59.1**	**+1.0**
	0.8nm,0.6s,baz=358,slow=5.0,SNR=3.1						
GERES	**GERESS Array B**	**84.18**	**25**	P	**P**	**21 26 12.4**	**0.0**
	0.6nm,0.9s,baz=330,slow=6.8,SNR=3.7						
BVAR	**Borovoye Array**	**85.11**	**349**	P	**P**	**21 26 17.3**	**+0.4**
	1.0nm,0.8s,baz=13,slow=4.6,SNR=3.4						
KURBB	**Kurchatov Arra**	**85.98**	**344**	P	**P**	**21 26 21.2**	**-0.1**
	1.4nm,0.8s,baz=18,slow=4.6,SNR=8.7						
AKASG	**Malin Array Be**	**86.42**	**15**	P	**P**	**21 26 23.6**	**+0.1**
	0.9nm,0.7s,baz=340,slow=4.2,SNR=4.9						
MKAR	**Makanchi Array**	**88.69**	**340**	P	**P**	**21 26 34.8**	**+0.3**
	0.5nm,0.9s,baz=39,slow=7.8,SNR=2.8						
AKTO	**Aktyubinsk**	**88.83**	**357**	P	**P**	**21 26 34.4**	**-0.7**
	1.9nm,0.7s,baz=21,slow=9.1,SNR=5.2						

*IDC **29** 21:14:47.9±7.4, 35°.96N×70°.59E, h76km±68km, mb3.6/9, mb1 3.7/13, mb1mx3.4/32, mbtmp3.6/13, ML3.7/4, Error ellipse: s-maj=44.3km s-min=16.8km az=34.0*
*ISCJB **29** 21:14:55.6±0.4, 36°.29N±0°.03×71°.04E±0°.07, h188km, mb3.6/8, Error ellipse: s-maj=8.3km s-min=3.3km az=159.5*
*NNC **29** 21:15:01.0±5.2, 36°.85N×70°.49E, h158km±55km, mb3.4, mpv4.1, Error ellipse: s-maj=42.4km s-min=24.5km az=22.0*

ISC 29 21:14:55.9±0.8, 36°.27N±0°.06×71°.05E±0°.08, h188km, n52, σ1°71/51, mb3.6/8, 7C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.54**	**164**	⇑P	**Pn**	**21 15 39.4**	**-0.3**
CEP				S	**Sn**	**21 16 12.0**	**-1.8**
CHCP	**Chirah Chowk**	**3.18**	**144**	P	**Pn**	**21 15 48.4**	**+1.3**
THW	**Thamme Wali**	**3.51**	**170**	⇑P	**Pn**	**21 15 51.6**	**+0.4**
THW				S	**Sn**	**21 16 32.0**	**-2.5**
SARP	**Sargodha**	**4.54**	**162**	P	**P

KURBB	**Kurchatov Arra**	**15.33**	**18**	P		**P**	**21 18 23.0**	**+0.1**
	comp=E,0.1nm,0.3s,baz=212,slow=12,SNR=3.1							
JIRN	**Jiri**	**15.44**	**120**	*e*P		**P**	**21 18 26.6**	**+1.8**
	comp=E,52nm,0.5s							
RAMN	**Ramite**	**16.16**	**121**	*e*P		**Pn**	**21 18 35.9**	**+2.9**
	comp=E,16nm,0.3s							
VOSK	**Vostochnaya**	**16.45**	**360**	⇑P		**P**	**21 18 34.8**	**-0.5**
	comp=E,3.0nm,0.8s							
TAPN	**Taplejung**	**16.70**	**117**	*e*P		**Pn**	**21 18 43.8**	**+4.2**
	comp=E,13nm,0.3s							
BVA0	**Borovoye Array**	**16.76**	**359**	⇓P		**Pn**	**21 18 41.8**	**+2.1**
	comp=E,1.1nm,0.4s,baz=167,slow=12,SNR=9.9							
BVAR	**Borovoye Array**	**16.76**	**359**	P		**Pn**	**21 18 41.0**	**+1.4**
	comp=E,0.7nm,0.3s,baz=173,slow=10,SNR=11							
ODAN	**Odare**	**16.77**	**119**	*e*P		**Pn**	**21 18 44.4**	**+4.1**
	comp=E,36nm,0.7s							
AKTO	**Aktyubinsk**	**17.00**	**330**	⇓P		**P**	**21 18 41.3**	**0.0**
	comp=E,13nm,0.7s							
AKTO				⇑S		S	21 21 41.0	-7.7
	comp=E,7.2nm,0.7s							
AKTO	**Aktyubinsk**	**17.00**	**330**	P		**Pn**	**21 18 41.6**	**-0.9**
	comp=E,0.8nm,0.3s,baz=143,slow=9.5,SNR=26							
AKTO				S		S	21 21 39.1	-10
	comp=E,0.3nm,0.3s,baz=162,slow=20,SNR=6.7							
BOK	**Bokaro**	**17.85**	**130**	*e*P		Pn	21 19 01.6	+8.8
BOK				*ex*		**S**	**21 22 02.8**	**-3.5**
ZALV	**Zalesovo Beam**	**20.11**	**24**	P		Pn	21 19 18.9	-0.5
	comp=E,7.7nm,0.5s,baz=215,slow=11,SNR=14							
CMAR	**Chiang Mai Arr**	**30.31**	**118**	P		P	21 20 55.3	+5.5
	comp=E,0.6nm,0.5s,baz=299,slow=8.5,SNR=8.9							
FINES	**FINESS Array B**	**37.70**	**326**	P		P	21 21 56.3	+3.6
	comp=E,2.5nm,0.9s,baz=106,slow=14,SNR=4.8							
ARCES	**ARCESS Array B**	**41.37**	**338**	P		P	21 22 27.5	+4.4
	comp=E,4.5nm,0.9s,baz=108,slow=8.6,SNR=6.8							
HFS	**Hagfors**	**43.27**	**322**	P		P	21 22 42.6	+4.1
	comp=E,0.8nm,0.4s,baz=110,slow=12,SNR=4.0							
NOA	**NORSAR Array B**	**44.59**	**323**	P		P	21 22 52.9	+3.9
	comp=E,0.6nm,0.8s,baz=98,slow=7.2,SNR=2.8							
TORD	**Torodi Ar. Bea**	**65.75**	**269**	P		**P**	**21 25 21.9**	**+1.0**
	comp=E,0.2nm,0.4s,baz=49,slow=6.2,SNR=5.9							
WRA	**Warramunga Arr**	**81.84**	**122**	P		P	21 26 59.5	+5.4
	comp=E,0.4nm,0.4s,baz=326,slow=4.9,SNR=14							
ASAR	**Alice Springs**	**84.09**	**125**	P		P	21 27 10.1	+4.4
	comp=E,0.4nm,0.6s,baz=318,slow=5.6,SNR=5.7							

ISCJB ***29*** *21:20:24.0±0.3, 4°.85N±0°.03×78°.32W±0°.05, h21km, mb4.4/39, MS3.9/7, Error ellipse: s-maj=7.7km s-min=5.0km az=178.8*

BJI ***29*** *21:20:25.5, 4°.90N×78°.70W, h30km, mB5.6/1, Ms4.9/2, Ms7 4.5/1*

NEIC ***29*** *21:20:28.5±0.8, 4°.85N×78°.32W, h42km±6km, mb4.8/14, Error ellipse: s-maj=8.5km s-min=6.0km az=75.0*

IDC ***29*** *21:20:29.4±2.0, 4°.85N×78°.34W, h50km±19km, mb4.1/24, mb1 4.2/28, mb1mx4.2/34, mbtmp4.4/28, ML3.3/3, MS3.7/7, Ms1 3.7/7, ms1mx3.4/24, Error ellipse: s-maj=19.5km s-min=11.0km az=58.0*

ISC 29 21:20:25.5±0.4, 4°.89N±0°.05×78°.39W±0°.06, h21km, n133, σ1°.09/130, mb4.5/39, MS3.7/7, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**4.05**	**90**	*e*Pn		Pn	21 21 30.1	+3.5
ROSC				*e*Sn		**Sn**	**21 22 17.8**	**+4.2**
ROSC	**El Rosal**	**4.05**	**90**	P		Pn	21 21 30.2	+3.6
	15nm,0.3s,baz=294,slow=2.3,SNR=12							
ROSC				S		**Sb**	**21 22 20.4**	**-4.6**
	15nm,0.3s,baz=70,slow=23,SNR=9.1							
BCIP	**Isla Barro Col**	**4.49**	**341**	*e*Pn		Pn	21 21 29.2	-3.1
BCIP				*e*Sn		**Sn**	**21 22 20.0**	**-3.9**
OTAV	**Otavalo**	**4.62**	**181**	*e*Pn		**Pn**	**21 21 33.1**	**-1.4**
OTAV				*e*Sn		**Sn**	**21 22 26.4**	**-1.5**
JTS	**JuntasAbangare**	**8.43**	**310**	*e*Pn		Pn	21 22 31.1	+4.5
JTS	**JuntasAbangare**	**8.43**	**310**	P		Pn	21 22 31.1	+4.5
	0.7nm,0.3s,baz=105,slow=20,SNR=2.0							
JTS				LR		LR	21 25 28.9	
	comp=Z,508nm,19.9s,baz=134,slow=35							
SDV	**Santo Domingo**	**8.67**	**62**	*e*Pn		**Pn**	**21 22 31.9**	**+2.0**
SDV				*e*Sn		**Sn**	**21 24 05.6**	**-1.6**
ATAH	**Atahualpa**	**11.94**	**180**	P		**Pn**	**21 23 15.8**	**+0.8**
	4.3nm,0.3s,baz=15,slow=12,SNR=14							
ATAH				LR		LR	21 28 12.3	
	comp=Z,207nm,18.9s,baz=321,slow=39							
MTDJ	**Mount Denham**	**13.28**	**4**	*e*Pn		**Pn**	**21 23 33.3**	**+0.2**
GTBY	**Guantanamo Bay**	**15.29**	**12**	*e*Pn		**Pn**	**21 24 01.1**	**+1.0**
	77nm,1.1s							
APG	**El Apazote**	**15.56**	**311**	P		**Pn**	**21 24 04.8**	**+0.9**
	0.2nm,0.3s,baz=148,slow=16,SNR=3.0							
SDDR	**Presa de Saban**	**15.63**	**26**	*e*Pn		**Pn**	**21 24 06.6**	**+1.9**
	54nm,0.6s							
CRPR	**Cabo Rojo, PR**	**17.08**	**39**	*e*Pn		**P**	**21 24 25.2**	**+0.4**
	76nm,1.4s							
GRGR	**Grenville**	**18.04**	**65**	*e*Pn		**P**	**21 24 36.2**	**+0.7**
	128nm,1.1s							
CBYP	**Canovanas**	**18.08**	**42**	*e*Pn		**Pn**	**21 24 34.0**	**-1.6**
	42nm,1.2s							
MTP	**Monte Pirata**	**18.16**	**43**	*e*Pn		**Pn**	**21 24 35.4**	**-1.2**
	27nm,0.9s							
SAML	**Samuel**	**20.47**	**132**	*e*P		**P**	**21 25 01.7**	**-0.3**
	19nm,0.6s							
LPAZ	**La Paz**	**23.36**	**154**	*e*P		**P**	**21 25 33.2**	**-0.2**
	6.9nm,0.9s							
LPAZ	**La Paz**	**23.36**	**154**	P		**P**	**21 25 33.0**	**-0.4**
	3.6nm,0.6s,baz=354,slow=9.3,SNR=8.8							
LPAZ				LR		LR	21 35 09.5	
	comp=Z,136nm,18.9s,baz=332,slow=38							
SIV	**San Ignacio**	**26.91**	**141**	*e*P		**P**	**21 26 05.5**	**0.0**
SIV				*e*ScS		ScS	21 37 07.6	+10
SIV	**San Ignacio**	**26.91**	**141**	P		**P**	**21 26 05.5**	**0.0**
	1.8nm,0.7s,baz=322,slow=13,SNR=4.0							
SIV				LR		LR	21 37 07.6	
	comp=Z,109nm,18.2s,slow=37							
TKL	**Tuckaleechee C**	**31.02**	**351**	*e*P		**P**	**21 26 41.9**	**+0.1**
TKL	**Tuckaleechee C**	**31.02**	**351**	P		**P**	**21 26 41.9**	**+0.1**
	3.7nm,0.5s,baz=63,slow=6.8,SNR=3.4							
BDFB	**Brasilia**	**36.34**	**125**	*e*P		**P**	**21 27 28.3**	**-0.1**
BDFB	**Brasilia**	**36.34**	**125**	P		**P**	**21 27 28.3**	**-0.1**
	9.7nm,1.2s,baz=315,slow=7.5,SNR=4.7							
BDFB				LR		LR	21 43 16.2	
	comp=Z,218nm,18.6s,baz=189,slow=38							
CPUP	**Villa Florida**	**37.14**	**148**	*e*P		**P**	**21 27 33.2**	**-1.8**
CPUP	**Villa Florida**	**37.14**	**148**	P		**P**	**21 27 33.2**	**-1.8**
	1.5nm,0.6s,baz=12,slow=9.3,SNR=2.7							
CFAA	**Coronel Fontan**	**37.56**	**166**	*e*P		**P**	**21 27 40.2**	**+1.8**
CFAA	**Coronel Fontan**	**37.56**	**166**	P		**P**	**21 27 40.2**	**+1.8**
	0.2nm,0.5s,baz=321,slow=6.5,SNR=2.9							
ANMO	**Albuquerque**	**39.60**	**323**	*e*P		P	21 28 00.7	+4.8
	40nm,2.5s							
ANMO	**Albuquerque**	**39.60**	**323**	P		**P**	**21 27 57.1**	**+1.3**
	3.0nm,0.9s,baz=144,slow=12,SNR=6.2							
WUAZ	**Wupatki**	**43.05**	**319**	*e*P		P	21 28 29.3	+5.1
	6.9nm,0.9s							
PLCA	**Paso Flores**	**45.97**	**172**	*e*P		**P**	**21 28 47.9**	**+0.7**
	117nm,3.0s							
PLCA	**Paso Flores**	**45.97**	**172**	P		**P**	**21 28 47.9**	**+0.7**
	1.6nm,0.6s,baz=350,slow=11,SNR=4.5							
PDAR	**Pinedale Array**	**46.76**	**328**	LR		LR	21 51 14.4	
	comp=Z,58nm,20.8s,baz=91,slow=39							
ULM	**Lac du Bonnet**	**47.54**	**345**	*e*P		**P**	**21 28 58.7**	**-0.7**
ULM	**Lac du Bonnet**	**47.54**	**345**	P		**P**	**21 28 58.7**	**-0.7**
	4.0nm,0.5s,baz=133,slow=7.5,SNR=5.4							
ULM				LR		LR	21 47 56.3	
	comp=Z,86nm,19.4s,baz=237,slow=35							
RRI2	**Red Ridge**	**48.09**	**328**	*e*P		**P**	**21 29 05.2**	**+1.1**
	48nm,2.2s							
NV01	**Mina Array Sit**	**49.26**	**318**	*e*P		P	21 29 16.7	+3.6
NVAR	**Mina Array Bea**	**49.26**	**318**	P		**P**	**21 29 14.3**	**+1.2**
	2.3nm,0.8s,baz=127,slow=8.6,SNR=8.0							
SCHQ	**Schefferville**	**50.67**	**9**	*e*P		**P**	**21 29 24.3**	**+1.1**
	486nm,2.9s							
SCHQ	**Schefferville**	**50.67**	**9**	P		**P**	**21 29 24.3**	**+1.1**
	4.6nm,0.8s,baz=193,slow=11,SNR=3.6							
YKA	**Yellowknife Ar**	**63.37**	**342**	P		**P**	**21 30 53.1**	**0.0**
	6.2nm,0.8s,baz=126,slow=7.1,SNR=5.1							
YKB5	**Yellowknife Ar**	**63.37**	**342**	*e*P		**P**	**21 30 53.1**	**0.0**
SFJD	**Kangerlussuaq**	**64.89**	**12**	*e*P		**P**	**21 31 02.1**	**-0.8**
SFJD	**Kangerlussuaq**	**64.89**	**12**	P		**P**	**21 31 02.1**	**-0.8**
	5.3nm,0.7s,baz=304,slow=11,SNR=2.3							
DLBC	**Dease Lake**	**66.59**	**333**	*e*P		**P**	**21 31 15.5**	**+1.3**
DLBC	**Dease Lake**	**66.59**	**333**	P		**P**	**21 31 15.5**	**+1.3**
	6.5nm,0.9s,baz=94,slow=8.7,SNR=6.0							
EVO	**Evora**	**71.64**	**51**	*e*P		**P**	**21 31 45.7**	**-0.2**
	5.5nm,0.8s							
SUMG	**Summit**	**71.89**	**12**	*i* P		**P**	**21 31 47.4**	**+0.3**
	8.4nm,0.9s							
LIC	**Lamto**	**72.98**	**85**	*e*P		**P**	**21 31 54.1**	**-0.2**
	13nm,0.7s							
LIC	**Lamto**	**72.98**	**85**	*e*P		**P**	**21 31 54.1**	**-0.2**
INK	**Inuvik**	**73.12**	**341**	*e*P		**P**	**21 31 54.6**	**+0.6**
	64nm,2.3s							
INK	**Inuvik**	**73.12**	**341**	P		**P**	**21 31 54.6**	**+0.6**
	3.5nm,0.9s,baz=69,slow=5.3,SNR=3.7							
DBIC	**Dimbokro**	**73.12**	**85**	*e*P		**P**	**21 31 54.7**	**-0.5**
	22nm,1.4s							
DBIC	**Dimbokro**	**73.12**	**85**	P		**P**	**21 31 54.7**	**-0.5**
	3.9nm,0.7s,baz=254,slow=9.3,SNR=4.7							
MDT	**Midelt**	**73.74**	**57**	*e*P		**P**	**21 31 58.8**	**+0.2**
MDT	**Midelt**	**73.74**	**57**	P		**P**	**21 31 58.8**	**+0.2**
	2.6nm,0.8s,baz=276,slow=6.9,SNR=8.4							
ESDC	**Sonseca Array**	**74.92**	**50**	*e*P		**P**	**21 32 05.1**	**-0.1**
ESDC	**Sonseca Array**	**74.92**	**50**	P		**P**	**21 32 05.1**	**-0.1**
	1.6nm,0.7s,baz=265,slow=6.1,SNR=12							
ROSF	**Rostrenen**	**76.48**	**42**	*e*P		**P**	**21 32 13.9**	**0.0**
ROSF	**Rostrenen**	**76.48**	**42**	*e*P		**P**	**21 32 13.9**	**0.0**
ILAR	**Eielson Array**	**76.53**	**336**	P		**P**	**21 32 14.1**	**+0.2**
	1.4nm,0.7s,baz=116,slow=4.4,SNR=13							
ILB	**Eielson Array**	**76.53**	**336**	*e*P		**P**	**21 32 14.1**	**+0.2**
SJPF	**Ste Jean**	**77.31**	**47**	*e*P		**P**	**21 32 19.3**	**+0.6**
	17nm,1.0s							
SJPF	**Ste Jean**	**77.31**	**47**	*e*P		**P**	**21 32 19.3**	**+0.6**
ETSF	**Etsaut**	**77.78**	**47**	*e*P		**P**	**21 32 22.0**	**+0.6**
ETSF	**Etsaut**	**77.78**	**47**	*e*P		**P**	**21 32 22.0**	**+0.6**
GRR	**Gorron**	**78.08**	**42**	*e*P		**P**	**21 32 22.9**	**0.0**
	12nm,0.9s							
GRR	**Gorron**	**78.08**	**42**	*e*P		**P**	**21 32 22.9**	**0.0**
FLN	**La Foliniere**	**78.37**	**41**	*e*P		**P**	**21 32 24.6**	**+0.1**
FLN	**La Foliniere**	**78.37**	**41**	*e*P		**P**	**21 32 24.6**	**+0.1**
MFF	**Saint Martin d**	**78.39**	**44**	*e*P		**P**	**21 32 24.7**	**+0.1**
	4.4nm,0.6s							
MFF	**Saint Martin d**	**78.39**	**44**	*e*P		**P**	**21 32 24.7**	**+0.1**
EPF	**Esparros**	**78.44**	**47**	*e*P		**P**	**21 32 25.4**	**+0.3**
EPF	**Esparros**	**78.44**	**47**	*e*P		**P**	**21 32 25.4**	**+0.3**
LDF	**La Druitiere**	**78.59**	**42**	*e*P		**P**	**21 32 25.7**	**0.0**
	9.7nm,0.9s							
LDF	**La Druitiere**	**78.59**	**42**	*e*P		**P**	**21 32 25.7**	**0.0**
LFF	**La Frestale**	**78.87**	**45**	*e*P		**P**	**21 32 27.2**	**-0.1**
LFF	**La Frestale**	**78.87**	**45**	*e*P		**P**	**21 32 27.2**	**-0.1**
JMIC	**Jan Mayen**	**78.92**	**18**	*e*P		**P**	**21 32 27.1**	**+0.1**
JMIC	**Jan Mayen**	**78.92**	**18**	P		**P**	**21 32 27.1**	**+0.1**
	67nm,0.5s,baz=209,slow=9.8,SNR=2.3							
TOA0	**Torodi Ar. Sit**	**79.27**	**78**	*e*P		**P**	**21 32 29.8**	**-0.3**
TORD	**Torodi Ar. Bea**	**79.27**	**78**	P		**P**	**21 32 29.8**	**-0.3**
	2.1nm,0.8s,baz=288,slow=4.4,SNR=20							
RJF	**Les Rejaudoux**	**79.44**	**45**	*e*P		**P**	**21 32 30.4**	**-0.1**
RJF	**Les Rejaudoux**	**79.44**	**45**	*e*P		**P**	**21 32 30.4**	**-0.1**
CAF	**Calviac**	**79.81**	**45**	*e*P		**P**	**21 32 32.1**	**-0.4**
CAF	**Calviac**	**79.81**	**45**	*e*P		**P**	**21 32 32.1**	**-0.4**
MTLF	**Montolieu**	**79.83**	**47**	*e*P		**P**	**21 32 32.2**	**-0.4**
MTLF	**Montolieu**	**79.83**	**47**	*e*P		**P**	**21 32 32.2**	**-0.4**
TCF	**Toulx Ste Croi**	**79.99**	**44**	*e*P		**P**	**21 32 33.1**	**-0.4**
TCF	**Toulx Ste Croi**	**79.99**	**44**	*e*P		**P**	**21 32 33.1**	**-0.4**
AVF	**Avril sur Loir**	**80.80**	**44**	*e*P		**P**	**21 32 37.1**	**-0.7**
	5.2nm,0.9s							
AVF	**Avril sur Loir**	**80.80**	**44**	*e*P		**P**	**21 32 37.1**	**-0.7**
SSF	**Saint Saulge**	**80.92**	**43**	*e*P		**P**	**21 32 37.8**	**-0.6**
SSF	**Saint Saulge**	**80.92**	**43**	*e*P		**P**	**21 32 37.8**	**-0.6**
LASF	**Ste Croix**	**81.05**	**46**	*e*P		**P**	**21 32 38.2**	**-1.0**
	8.4nm,0.9s							
LASF	**Ste Croix**	**81.05**	**46**	*e*P		**P**	**21 32 38.2**	**-1.0**
SMF	**Signal de Mont**	**81.13**	**44**	*e*P		**P**	**21 32 39.0**	**-0.6**
SMF	**Signal de Mont**	**81.13**	**44**	*e*P		**P**	**21 32 39.0**	**-0.6**
MEZF	**Maizieres J'vi**	**82.02**	**42**	*e*P		**P**	**21 32 44.0**	**-0.2**
MEZF	**Maizieres J'vi**	**82.02**	**42**	*e*P		**P**	**21 32 44.0**	**-0.2**
ORIF	**Oris-en-Rattie**	**82.52**	**45**	*e*P		**P**	**21 32 47.6**	**+0.6**
	8.8nm,1.0s							
ORIF	**Oris-en-Rattie**	**82.52**	**45**	*e*P		**P**	**21 32 47.6**	**+0.6**
FRF	**La Foret Royal**	**83.06**	**47**	*e*P		**P**	**21 32 49.5**	**-0.2**
	9.8nm,0.9s							
FRF	**La Foret Royal**	**83.06**	**47**	*e*P		**P**	**21 32 49.5**	**-0.2**
DAVOX	**Davos/Dischmat**	**85.29**	**44**	*e*P		**P**	**21 33 01.6**	**+0.4**
DAVOX	**Davos/Dischmat**	**85.29**	**44**	P		**P**	**21 33 01.6**	**+0.4**
	3.0nm,0.9s,baz=338,slow=5.4,SNR=3.8							
KEST	**Kesra**	**85.34**	**55**	P		**P**	**21 33 02.0**	**+0.4**
	0.9nm,0.8s,baz=243,slow=9.0,SNR=3.7							
NB200	**NORSAR Array S**	**85.57**	**29**	*e*P		**P**	**21 33 03.3**	**+1.2**
NOA	**NORSAR Array B**	**85.57**	**29**	P		**P**	**21 33 03.3**	**+1.2**
	1.8nm,0.9s,baz=274,slow=4.9,SNR=3.5							
SPA0	**Spitsbergen Ar**	**86.23**	**12**	*e*P		**P**	**21 33 05.9**	**+0.8**
SPITS	**Spitsbergen Ar**	**86.23**	**12**	P		**P**	**21 33 05.9**	**+0.8**
	17nm,1.0s,baz=299,slow=1.5,SNR=3.9							
GEC2	**GERESS Array S**	**87.74**	**41**	*e*P		**P**	**21 33 13.4**	**+0.3**
GERES	**GERESS Array B**	**87.74**	**41**	P		**P**	**21 33 13.4**	**+0.3**
	1.1nm,0.7s,baz=279,slow=2.6,SNR=12							
VNA2	**Neumayer--Watz**	**88.47**	**162**	*e*P		**P**	**21 33 13.4**	**-2.5**
SNAA	**Sanae**	**90.09**	**162**	*e*P		**P**	**21 33 24.2**	**+0.6**
ZALV	**Zalesovo Beam**	**119.71**	**11**	PKP		**PKPdf**	**21 39 13.4**	**-0.6**
	0.7nm,0.5s,baz=246,slow=2.6,SNR=3.6							
KURK	**Kurchatov**	**121.18**	**17**	*e*PKPdf		**PKPdf**	**21 39 17.0**	**+0.1**
KURBB	**Kurchatov Arra**	**121.24**	**17**	PKP		**PKPdf**	**21 39 17.0**	**0.0**
	0.7nm,0.7s,baz=313,slow=2.1,SNR=7.0							
MK32	**Makanchi Array**	**125.77**	**16**	*e*PKPdf		**PKPdf**	**21 39 25.4**	**-0.5**
MKAR	**Makanchi Array**	**125.77**	**16**	PKP		**PKPdf**	**21 39 25.4**	**-0.5**
	0.8nm,0.7s,baz=300,slow=3.4,SNR=6.6							
SONA0	**Songino Array**	**127.33**	**356**	*e*PKPdf		**PKPdf**	**21 39 28.9**	**-0.2**
SONM	**Songino Array**	**127.33**	**356**	PKP		**PKPdf**	**21 39 28.9**	**-0.2**
	0.8nm,0.8s,baz=12,slow=0.9,SNR=7.9							
WMQ	**Urumqi**	**129.92**	**13**	*e*PKP		**PKPdf**	**21 39 32.5**	**-1.5**
WMQ				LR		LR		
	comp=N,32nm,21.0s							
WMQ				LR		LR		
	comp=E,68nm,20.6s							
KSRS	**Korea Array**	**131.26**	**332**	PKP		**PKPdf**	**21 39 35.9**	**-0.7**
	0.4nm,0.3s,baz=82,slow=2.7,SNR=4.5							
JNU	**Nakatsue**	**133.11**	**326**	PKhKP		PKPpre	21 39 38.2	
	6.0nm,0.7s,baz=18,slow=6.4,SNR=2.8							
HHC	**Hu-ho-hao-te**	**133.58**	**350**	*e*PKP		**PKPdf**	**21 39 37.0**	**-4.1**
HHC				sPKP			21 39 51.5	
HHC				PKS		PKSdf	21 43 11.5	-6.0
HHC				SKS		SKSdf	21 46 42.8	-8.7
HHC				SKKS		SKKSac	21 48 55.3	-8.9
HHC				SS		**SS**	**21 59 49.0**	**-2.9**
HHC				PPMZ				
	230nm,7.1s							
HHC				LR		LR		
	comp=N,190nm,20.6s							
HHC				LR		LR		
	comp=E,160nm,20.7s							
HHC				LR		LR		
	comp=Z,96nm,20.2s							
STKA	**Stephens Creek**	**133.95**	**229**	PKP		**PKPdf**	**21 39 41.9**	**+0.1**
	2.8nm,0.7s,baz=16,slow=2.4,SNR=7.7							
ASAR	**Alice Springs**	**143.71**	**236**	PKhKP		PKPpre	21 39 56.7	
	3.4nm,0.6s,baz=119,slow=3.8,SNR=44							
ASAR				PKP		**PKPdf**	**21 39 59.7**	**-0.3**
	3.4nm,0.6s,baz=119,slow=3.4,SNR=46							
CD2	**Chengdu**	**144.34**	**357**	PKP		**PKPab**	**21 39 58.3**	**-0.5**
WRA	**Warramunga Arr**	**144.81**	**242**	PKP		**PKPab**	**21 40 00.4**	**-0.5**
	6.3nm,0.9s,baz=109,slow=3.3,SNR=42							
CMAR	**Chiang Mai Arr**	**156.65**	**6**	PKP		**PKPdf**	**21 40 19.9**	**-0.2**
	1.0nm,0.8s,baz=319,slow=1.9,SNR=11							
CMAR				PKPab		**PKPab**	**21 40 49.9**	**+0.9**
	0.9nm,1.0s,baz=340,slow=4.8,SNR=4.5							

IDC ***29*** *21:37:03.0±0.9, 35°.04N×92°.06E, h0km, mb3.6/5, mb1 3.7/10, mb1mx3.5/30, mbtmp3.6/10, ML3.4/5, MS3.3/7, Ms1 3.3/7, ms1mx3.1/31, Error ellipse: s-maj=37.7km s-min=18.2km az=61.0*

ISCJB ***29*** *21:37:05.3±0.5, 35°.21N±0°.05×92°.22E±0°.08, h33km, mb3.6/5, MS3.3/4, Error ellipse: s-maj=10.8km s-min=5.6km az=33.0*

ISC 29 21:37:07.5±0.7, 35°.26N±0°.08×92°.20E±0°.09, h35km, n26, σ1°.12/21, mb3.6/5, MS3.3/4, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**7.35**	**53**	*e*P		**Pn**	**21 38 53.5**	**+1.1**
GTA				pP			21 38 57.3	
GTA				sP			21 38 59.8	
GTA				S		**Sn**	**21 40 14.0**	**-0.6**
GTA				sS			21 40 22.5	
GTA				AMB		AMB		
	comp=Z,8.0nm,0.6s							
GTA				LR		LR		
	comp=N,510nm,10.9s							
GTA				LR		LR		
	comp=E,300nm,15.7s							
GTA				LR		LR		
	comp=Z,450nm,10.4s							
TAPN	**Taplejung**	**8.77**	**207**	*e*P		**Pn**	**21 39 13.1**	**+1.0**
	comp=Z,7.6nm,0.5s							
GUN	**Gumba**	**9.09**	**218**	*e*P		**Pn**	**21 39 18.6**	**+2.1**
	comp=Z,17nm,0.9s							
JIRN	**Jiri**	**9.15**	**216**	*e*P		**Pn**	**21 39 18.6**	**+1.3**
	comp=Z,10nm,0.8s							
WMQ	**Urumqi**	**9.23**	**339**	Pn		Pn	21 39 14.8	-3.3
WMQ				SMN				
	comp=Z,120nm,1.8s							
WMQ				SME				
	comp=Z,96nm,1.6s							
ODAN	**Odare**	**9.33**	**207**	*e*P		**Pn**	**21 39 19.1**	**-0.6**
	comp=Z,13nm,0.6s							
RAMN	**Ramite**	**9.57**	**212**	*e*P		**Pn**	**21 39 21.9**	**-1.1**
	comp=Z,32nm,0.5s							
PKI	**Pulchoki**	**9.61**	**219**	*e*P		**Pn**	**21 39 23.4**	**-0.2**
	comp=Z,8.2nm,0.6s							
PKIN	**Phulchoki**	**9.61**	**219**	*e*P		**Pn**	**21 39 23.4**	**-0.2**
	comp=Z,5.2nm,0.6s							
GKN	**Gorkha**	**9.68**	**224**	*e*P		**Pn**	**21 39 25.2**	**+0.7**
	comp=Z,7.1nm,0.8s							
DMN	**Daman**	**9.73**	**220**	*e*P		**Pn**	**21 39 25.5**	**+0.2**
	comp=Z,6.7nm,0.8s							
DANN	**Dangsing**	**9.94**	**228**	*e*P		**Pn**	**21 39 26.7**	**-1.5**
	comp=Z,7.3nm,0.8s							
KMI	**Kunming**	**13.60**	**135**	P		Pn	21 40 09.0	-9.1
KMI				AMB		AMB		
	comp=Z,6.0nm,1.7s							
MKAR	**Makanchi Array**	**13.72**	**330**	Pn		**Pn**	**21 40 18.1**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=142,slow=13,SNR=19							
MKAR				LR		LR	21 46 22.1	
	comp=Z,80nm,21.6s,baz=149,slow=40							
SONM	**Songino Array**	**16.42**	**36**	Pn		**P**	**21 40 56.8**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=221,slow=14,SNR=7.0							
SONM				LR		LR	21 47 51.0	
	comp=Z,180nm,21.1s,baz=333,slow=39							
CMAR	**Chiang Mai Arr**	**17.78**	**159**	Pn		**Pn**	**21 41 10.6**	**-1.7**
	comp=Z,0.0nm,0.3s,baz=335,slow=12,SNR=2.9							
CMAR				LR		LR	21 48 20.9	
	comp=Z,60nm,19.2s,baz=310,slow=38							
KURBB	**Kurchatov Arra**	**18.28**	**331**	P		**P**	**21 41 17.5**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=142,slow=11,SNR=6.7							
ZALV	**Zalesovo Beam**	**19.39**	**347**	P		**Pn**	**21 41 32.0**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=161,slow=10,SNR=3.6							
BVAR	**Borovoye Array**	**23.51**	**326**	P		**P**	**21 42 15.9**	**+1.7**
	comp=Z,0.8nm,0.7s,baz=139,slow=9.7,SNR=5.8							
BVAR				LR		LR	21 52 04.7	
	comp=Z,89nm,20.6s,baz=117,slow=38							
AKTO	**Aktyubinsk**	**28.98**	**312**	LR		LR	21 56 11.5	
	comp=Z,130nm,19.5s,baz=272,slow=40							
KBZ	**Khabaz**	**38.49**	**298**	LR		LR	22 03 24.0	
	comp=Z,29nm,18.6s,baz=293,slow=41							
NOA	**NORSAR Array B**	**55.63**	**324**	LR		LR	22 11 17.4	
	comp=Z,26nm,19.8s,baz=250,slow=37							
WRA	**Warramunga Arr**	**67.92**	**137**	P		**P**	**21 48

ESDC	**Sonseca Array**	**90.83**	**46**	LR	LR	00 02 47.0			
	comp=Z,38nm,19.2s,baz=275,slow=36								
ZALV	**Zalesovo Beam**	**147.20**	**26**	PKPbc	**PKPab**	**23 28 36.9**	**-0.2**		
	1.1nm,0.5s,baz=312,slow=3.3,SNR=7.7								
MKAR	**Makanchi Array**	**150.80**	**38**	PKPbc	**PKPbc**	**23 28 45.7**	**+1.0**		
	0.8nm,0.8s,baz=313,slow=2.7,SNR=5.1								

IDC 29 23:22:20.2±7.3, 19°.72S×68°.73W, h214km±50km, mb3.1/3, mb1 3.2/4, mb1mx3.0/19, mbtmp3.0/4, Error ellipse: s-maj=86.2km s-min=28.3km az=23.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.46**	**10**	P		Pn	23 23 16.6	-0.2
	0.7nm,0.3s,baz=202,slow=6.6,SNR=15							
LPAZ				S		S	23 24 01.4	+0.5
	0.6nm,0.3s,baz=215,slow=3.8,SNR=6.6							
SIV	**San Ignacio**	**8.18**	**64**	P		Pn	23 24 08.7	-7.2
	0.7nm,0.3s,baz=250,slow=14,SNR=9.0							
BDFB	**Brasilia**	**20.15**	**82**	P		P	23 26 38.6	0.0
	1.4nm,0.4s,baz=238,slow=9.5,SNR=3.2							
NVAR	**Mina Array Bea**	**74.20**	**322**	P		P	23 33 34.0	+0.1
	0.3nm,0.4s,baz=122,slow=6.9,SNR=2.9							
TORD	**Torodi Ar. Bea**	**76.61**	**71**	P		P	23 33 47.8	0.0
	0.3nm,0.4s,baz=252,slow=5.5,SNR=16							

*ISCJB **29** 23:25:15.1±0.4, 18°.90N±0°.03×95°.69W±0°.03, h10km, mb4.0/10, MS3.5/5, Error ellipse: s-maj=5.2km s-min=3.7km az=41.9*

*IDC **29** 23:25:15.2±0.9, 18°.95N×95°.43W, h0km, mb4.0/10, mb1 4.2/14, mb1mx4.1/27, mbtmp4.0/14, ML3.5/4, MS3.4/7, Ms1 3.4/7, ms1mx3.2/24, Error ellipse: s-maj=34.2km s-min=15.6km az=58.0*

*MEX **29** 23:25:20.3±1.2, 18°.95N×95°.71W, h24km±42km, MD4.3*

ISC 29 23:25:16.2±0.5, 18°.90N±0°.05×95°.71W±0°.04, h10km, n33, σ1=52/37, mb4.0/10, MS3.4/5, Veracruz

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LVIG	**Laguna Verde**	**1.06**	**321**	*e*P		**Pg**	**23 25 35.9**	**-0.7**
LVIG				*i* S		**Sg**	**23 25 48.0**	**-2.5**
TPIG	**Tehuac#an**	**1.64**	**253**	*i* P		**Pn**	**23 25 45.7**	**+0.5**
TPIG				*i* S		**Sn**	**23 26 04.2**	**-2.2**
VHO	**Vista Hermosa**	**2.06**	**208**	*e*P		**Pn**	**23 25 52.4**	**+1.3**
VHO				*i* S		**Sn**	**23 26 15.8**	**-1.1**
UTMO	**Huajuapan**	**2.25**	**242**	*e*P		**Pb**	**23 25 56.2**	**-1.0**
UTMO				*i* S		**Sn**	**23 26 20.6**	**-1.2**
PPM	**Popocatepetl**	**2.77**	**274**	*e*P		**Pn**	**23 26 01.9**	**+0.9**
PPM				*i* S		**Sn**	**23 26 33.0**	**-1.8**
IIO	**Organos**	**2.93**	**284**	*e*P		**Pn**	**23 26 05.1**	**+1.9**
HUIG	**Huatulco**	**3.13**	**187**	*i* P		**Pn**	**23 26 07.0**	**+1.3**
HUIG				*i* S		**Sn**	**23 26 42.8**	**-0.4**
TGIG		**3.24**	**130**	*e*P		**Pn**	**23 26 08.2**	**+1.0**
TGIG				*i* S		**Sn**	**23 26 45.0**	**-0.9**
PCIG		**3.97**	**143**	*e*P		**Pn**	**23 26 17.7**	**+0.6**
PCIG				*i* S		**Sn**	**23 27 04.4**	**+0.7**
CCIG	**Comitan**	**4.29**	**127**	*e*P		**Pn**	**23 26 22.9**	**+1.2**
CCIG				*i* S		**Sn**	**23 27 12.4**	**+0.5**
APG	**El Apazote**	**6.34**	**127**	Pn		**Pn**	**23 26 47.5**	**-2.4**
	2.8nm,0.3s,baz=332,slow=15,SNR=18							
APG				Sn		**Sn**	**23 27 57.7**	**-4.9**
	30nm,0.3s,baz=90,slow=20,SNR=12							
TXAR	**Lajitas Array**	**12.67**	**327**	Pn		**Pn**	**23 28 19.2**	**+2.5**
	0.0nm,0.3s,baz=148,slow=10,SNR=2.8							
TXAR				LR		LR	23 34 34.9	
	comp=Z,59nm,18.6s,baz=5.0,slow=44							
LPIG	**La Paz**	**14.54**	**293**	LR		LR	23 34 34.7	
	comp=Z,108nm,18.6s,baz=70,slow=38							
ANMO	**Albuquerque**	**18.62**	**331**	P		**Pn**	**23 29 35.3**	**+1.0**
	0.2nm,0.3s,baz=143,slow=15,SNR=6.8							
TKL	**Tuckaleechee C**	**19.75**	**30**	P		**P**	**23 29 45.5**	**-0.9**
	0.2nm,0.3s,baz=199,slow=12,SNR=3.1							
TKL				S		S	23 33 11.9	-17
	0.3nm,0.3s,baz=131,slow=20,SNR=3.2							
PFO	**Pinyon Flat Ob**	**23.62**	**312**	LR		LR	23 40 03.9	
	comp=Z,100nm,19.4s,baz=118,slow=37							
ROSC	**El Rosal**	**25.10**	**121**	LR		LR	23 42 21.0	
	comp=Z,77nm,18.2s,baz=331,slow=41							
NVAR	**Mina Array Bea**	**27.65**	**319**	P		**P**	**23 31 06.7**	**+2.2**
	0.7nm,0.8s,baz=127,slow=9.5,SNR=4.4							
YBH	**Yreka Blue Hor**	**32.34**	**321**	LR		LR	23 46 11.1	
	comp=Z,82nm,19.0s,baz=322,slow=39							
LPAZ	**La Paz**	**44.26**	**140**	P		**P**	**23 33 26.0**	**-0.9**
	1.2nm,0.7s,baz=326,slow=11,SNR=6.4							
YKA	**Yellowknife Ar**	**45.49**	**348**	P		**P**	**23 33 35.6**	**+0.1**
	2.0nm,0.6s,baz=148,slow=8.6,SNR=3.3							
INK	**Inuvik**	**54.77**	**344**	P		**P**	**23 34 46.0**	**+0.4**
	1.6nm,0.7s,baz=126,slow=5.5,SNR=5.7							
ILAR	**Eielson Array**	**56.96**	**337**	P		**P**	**23 35 02.6**	**+1.1**
	1.0nm,0.9s,baz=116,slow=7.1,SNR=9.8							
CPUP	**Villa Florida**	**58.40**	**139**	LR		LR	00 00 54.7	
	comp=Z,56nm,19.1s,baz=178,slow=37							
PLCA	**Paso Flores**	**63.77**	**159**	P		**P**	**23 35 49.6**	**+1.2**
	3.3nm,0.8s,baz=337,slow=9.7,SNR=4.5							
ESDC	**Sonseca Array**	**79.49**	**52**	P		**P**	**23 37 22.5**	**-0.8**
	0.6nm,0.7s,baz=298,slow=6.4,SNR=5.1							
NB2	**NORSAR Subarra**	**81.54**	**28**	P		**P**	**23 37 33.3**	**-0.6**
	comp=Z,4.2nm,0.9s,baz=295,slow=5.6							
NOA	**NORSAR Array B**	**81.54**	**28**	P		**P**	**23 37 33.5**	**-0.4**
	comp=Z,2.6nm,0.9s,baz=294,slow=5.3,SNR=5.0							
ARCES	**ARCESS Array B**	**82.60**	**18**	P		**P**	**23 37 39.7**	**+0.4**
	comp=Z,6.2nm,0.8s,baz=297,slow=4.0,SNR=6.5							
GERES	**GERESS Array B**	**88.06**	**39**	P		**P**	**23 38 06.9**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=323,slow=6.3,SNR=4.3							
TORD	**Torodi Ar. Bea**	**92.64**	**75**	LR		LR	00 15 30.8	
	comp=Z,38nm,20.0s,baz=160,slow=33							
WRA	**Warramunga Arr**	**132.93**	**260**	PKP		**PKPdf**	**23 44 32.9**	**+0.3**
	comp=Z,0.4nm,0.9s,baz=82,slow=2.6,SNR=4.2							
ASAR	**Alice Springs**	**133.71**	**255**	PKP		**PKPdf**	**23 44 34.3**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=58,slow=3.5,SNR=2.7							

*ISCJB **29** 23:39:35.2±0.7, 26°.9N±0°.1×140°.6E±0°.1, h443km, mb3.7/19, Error ellipse: s-maj=17.8km s-min=14.5km az=17.7*

*IDC **29** 23:39:36.6±1.1, 26°.92N×140°.48E, h440km±11km, mb3.4/15, mb1 3.6/16, mb1mx3.4/25, mbtmp4.2/16, Error ellipse: s-maj=16.5km s-min=14.0km az=49.0*

ISC 29 23:39:36.5±0.7, 26°.9N±0°.1×140°.6E±0°.1, h443km, n25, σ0=92/29, mb3.7/19, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.44**	**82**	P		**P**	**23 40 33.6**	**0.0**
	98nm,0.3s,baz=306,slow=19,SNR=260							
JCJ				S		**S**	**23 41 16.2**	**-3.6**
	74nm,0.3s,baz=284,slow=23,SNR=9.4							
USRK	**Ussuriysk Arra**	**18.61**	**340**	P		**P**	**23 43 25.5**	**+0.2**
	0.3nm,0.3s,baz=163,slow=11,SNR=5.1							
SONM	**Songino Array**	**33.88**	**317**	P		**P**	**23 45 40.5**	**-0.2**
	0.3nm,0.8s,baz=125,slow=7.6,SNR=2.7							
CMAR	**Chiang Mai Arr**	**39.19**	**267**	P		**P**	**23 46 24.9**	**-0.2**
	0.6nm,0.4s,baz=55,slow=7.8,SNR=4.5							
WRA	**Warramunga Arr**	**46.95**	**188**	P		**P**	**23 47 26.2**	**+0.2**
	0.4nm,0.3s,baz=6.0,slow=7.7,SNR=12							
ZALV	**Zalesovo Beam**	**48.71**	**319**	P		**P**	**23 47 38.3**	**-0.5**
	1.0nm,0.3s,baz=100,slow=8.1,SNR=7.7							
ZALV				PcP		**PcP**	**23 48 55.4**	**-0.5**
	1.1nm,0.5s,baz=111,slow=3.3,SNR=5.9							
MKAR	**Makanchi Array**	**49.50**	**310**	P		**P**	**23 47 44.6**	**-0.3**
	0.8nm,0.6s,baz=87,slow=9.8,SNR=17							
MKAR				PcP		**PcP**	**23 48 59.0**	**-0.1**
	0.3nm,0.6s,baz=84,slow=2.7,SNR=2.8							
MKAR				ScP		**ScP**	**23 52 11.8**	**+0.2**
	0.5nm,0.9s,baz=102,slow=4.8,SNR=2.8							
KURBB	**Kurchatov Arra**	**52.16**	**315**	P		**P**	**23 48 04.0**	**-0.2**
	2.2nm,0.6s,baz=90,slow=7.2,SNR=43							
ILAR	**Eielson Array**	**58.57**	**29**	P		**P**	**23 48 49.5**	**+0.6**
	0.6nm,0.6s,baz=245,slow=6.2,SNR=4.5							
INK	**Inuvik**	**63.80**	**24**	P		**P**	**23 49 24.3**	**+0.9**
	0.5nm,0.5s,baz=297,slow=6.4,SNR=4.5							
YKA	**Yellowknife Ar**	**72.99**	**28**	P		**P**	**23 50 20.4**	**+0.9**
	1.3nm,0.5s,baz=296,slow=5.9,SNR=5.0							
ARCES	**ARCESS Array B**	**73.25**	**341**	P		**P**	**23 50 21.6**	**+0.6**
	14nm,1.2s,baz=72,slow=8.0,SNR=10							
JOF	**Joensuu**	**74.62**	**333**	*e*p		**P**	**23 50 29.0**	**+0.1**
	2.9nm,0.4s							
KAF	**Kangasniemi**	**77.03**	**334**	*e*p		**P**	**23 50 41.7**	**-0.6**
	5.9nm,0.4s							
KBZ	**Khabaz**	**77.09**	**313**	P		**P**	**23 50 43.4**	**+0.4**
	1.6nm,0.9s,baz=96,slow=5.2,SNR=4.8							
FINES	**FINESS Array B**	**77.49**	**333**	P		**P**	**23 50 44.9**	**+0.1**
	7.8nm,0.3s,baz=67,slow=4.9,SNR=138							
NVAR	**Mina Array Bea**	**81.76**	**51**	P		**P**	**23 51 08.3**	**0.0**
	0.4nm,0.5s,baz=284,slow=3.6,SNR=3.5							
AKASG	**Malin Array Be**	**81.93**	**323**	P		**P**	**23 51 08.1**	**-0.4**
	2.4nm,0.5s,baz=51,slow=5.2,SNR=16							
HFS	**Hagfors**	**83.03**	**336**	P		**P**	**23 51 13.3**	**-0.7**
	1.9nm,0.3s,baz=79,slow=3.1,SNR=24							
NB2	**NORSAR Subarra**	**83.26**	**338**	P		**P**	**23 51 14.4**	**-0.8**
	comp=Z,1.6nm,0.4s,baz=56,slow=5.1							
NOA	**NORSAR Array B**	**83.26**	**338**	P		**P**	**23 51 14.7**	**-0.4**
	comp=Z,3.0nm,0.5s,baz=45,slow=4.9,SNR=12							
GERES	**GERESS Array B**	**90.93**	**328**	P		**P**	**23 51 51.6**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=35,slow=4.9,SNR=6.9							
TORD	**Torodi Ar. Bea**	**123.62**	**310**	PKP		**PKPdf**	**23 57 43.4**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=34,slow=1.4,SNR=8.9							
PLCA	**Paso Flores**	**150.85**	**126**	PKPbc		**PKPbc**	**23 58 39.5**	**+1.4**
	comp=Z,0.9nm,0.4s,baz=338,slow=5.4,SNR=3.3							
LPAZ	**La Paz**	**151.35**	**74**	PKPbc		**PKPbc**	**23 58 41.8**	**+1.2**
	comp=Z,1.2nm,0.6s,baz=292,slow=4.2,SNR=5.7							

IDC 29 23:46:04.6±3.1, 0°.46N×98°.81E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/26, mbtmp3.5/5, Error ellipse: s-maj=126.5km s-min=26.2km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.28**	**122**	P		P	23 53 43.8	-0.1
	0.5nm,0.9s,baz=294,slow=8.5,SNR=4.1							
SONM	**Songino Array**	**47.64**	**7**	P		P	23 54 42.0	-0.7
	0.2nm,0.3s,baz=204,slow=6.3,SNR=4.7							
MKAR	**Makanchi Array**	**48.36**	**345**	P		P	23 54 47.6	-0.6
	0.3nm,0.6s,baz=163,slow=8.4,SNR=5.8							
ZALV	**Zalesovo Beam**	**54.55**	**350**	P		P	23 55 34.4	0.0
	0.4nm,0.3s,baz=155,slow=5.7,SNR=2.7							
BVAR	**Borovoye Array**	**57.48**	**340**	P		P	23 55 56.1	+0.7
	0.2nm,0.5s,baz=139,slow=11,SNR=2.3							

*IDC **29** 23:46:22.5±1.1, 12°.74S×165°.86E, h0km, mb4.0/6, mb1 4.2/8, mb1mx4.0/21, mbtmp4.1/8, ML3.9/2, MS3.8/3, Ms1 3.7/3, ms1mx3.1/30, Error ellipse: s-maj=36.4km s-min=22.7km az=123.0*

*ISCJB **29** 23:46:26.7±1.1, 12°.9S±0°.1×165°.9E±0°.2, h40km, mb3.9/6, MS3.7/3, Error ellipse: s-maj=29.0km s-min=17.3km az=1.7*

ISC 29 23:46:28.3±1.0, 12°.7S±0°.1×165°.7E±0°.2, h40km, n14, σ1=41/12, mb4.0/6, MS3.7/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.55**	**300**	Pn		**Pn**	**23 48 00.6**	**-1.6**
	7.8nm,0.3s,baz=187,slow=8.1,SNR=1.6							
DZM	**Mont Dzumac**	**9.30**	**176**	Pn		**Pn**	**23 48 39.3**	**-0.7**
	0.4nm,0.3s,baz=180,slow=20,SNR=3.2							
STKA	**Stephens Creek**	**29.22**	**225**	P		**P**	**23 52 26.2**	**-0.1**
	6.1nm,0.9s,baz=40,slow=8.3,SNR=10							
STKA				LR		LR	00 04 17.2	
	comp=Z,114nm,18.5s,baz=25,slow=37							
WRA	**Warramunga Arr**	**30.91**	**252**	P		**P**	**23 52 42.0**	**+0.5**
	1.0nm,0.9s,baz=84,slow=8.9,SNR=7.4							
ASAR	**Alice Springs**	**32.04**	**246**	P		**P**	**23 52 52.8**	**+1.3**
	2.5nm,0.8s,baz=75,slow=9.4,SNR=23							
FITZ	**Fitzroy Crossi**	**38.95**	**257**	LR	LR		00 09 35.7	
	comp=Z,96nm,18.3s,slow=36							
NWAO	**Narrogin (SRO)**	**48.51**	**237**	LR	LR		00 16 28.8	
	comp=Z,158nm,18.8s,baz=26,slow=37							
SONM	**Songino Array**	**80.02**	**324**	P		**P**	**23 58 36.1**	**+2.4**
	0.4nm,0.6s,baz=150,slow=6.8,SNR=4.5							
ILAR	**Eielson Array**	**85.12**	**18**	P		**P**	**23 58 58.5**	**-1.3**
	0.8nm,0.6s,baz=243,slow=5.1,SNR=13							
MKAR	**Makanchi Array**	**94.74**	**317**	P		**P**	**23 59 47.0**	**+1.4**
	0.4nm,0.7s,baz=87,slow=4.7,SNR=4.3							
ARCES	**ARCESS Array B**	**117.96**	**345**	PKP		**PKPdf**	**00 05 10.0**	**-0.2**
	2.4nm,0.8s,baz=66,slow=2.5,SNR=9.6							
KEST	**Kesra**	**148.73**	**321**	PKPbc		**PKPab**	**00 06 13.8**	**-1.8**
	1.2nm,0.6s,baz=96,slow=7.2,SNR=8.7							
ESDC	**Sonseca Array**	**151.67**	**343**	PKPbc		**PKPbc**	**00 06 19.2**	**+0.3**
	0.8nm,0.6s,baz=2.5,slow=1.6,SNR=7.5							
TORD	**Torodi Ar. Bea**	**164.43**	**273**	PKPab		**PKPab**	**00 07 23.0**	**-0.4**
	0.4nm,0.8s,baz=115,slow=6.9,SNR=2.4							

*BJI **30** 00:02:20.5, 8°.15S×127°.07E, h354km, mB4.6/9, mb4.2/20*

*ISCJB **30** 00:02:25.4±0.4, 7°.45S±0°.03×126°.69E±0°.04, h359km±4km, mb4.2/38, Error ellipse: s-maj=6.8km s-min=4.8km az=148.9*

*NEIC **30** 00:02:25.9±1.6, 7°.45S×126°.63E, h355km±3km, mb4.6/18, Error ellipse: s-maj=14.4km s-min=12.6km az=86.0*

*IDC **30** 00:02:26.8±0.7, 7°.45S×126°.58E, h355km±7km, mb3.7/15, mb1 3.9/19, mb1mx3.8/24, mbtmp3.8/19, Error ellipse: s-maj=16.5km s-min=9.1km az=65.0*

*AUST **30** 00:02:26.2±0.4, 7°.5S×126°.73E, h354km, Error ellipse: s-maj=1.0km s-min=0.8km az=255.0*

*BKK **30** 00:02:28.2±0.4, 7°.5S×126°.7E, h351km±7km, M4.9/11, mB4.8/3, mb4.6/11, MLv5.2/5, Mw(mB)4.1/3*

ISC 30 00:02:26.7±0.4, 7°.53S±0°.04×126°.65E±0°.06, h355km±3km, h355km:pP-P, n101, σ1=59/127, mb4.3/38, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.23**	**227**	P		**Pn**	**00 03 30.3**	**+1.7**
	baz=3.4,SNR=203							
BNDI	**Bandanaira**	**4.41**	**47**	P		**Pn**	**00 03 39.7**	**-0.5**
	baz=4.3,SNR=8.8							
MMRI	**Maumere**	**4.50**	**256**	*e*Pn		**Pn**	**00 03 41.0**	**-0.2**
MMRI				*e*S		**S**	**00 04 39.5**	**-1.9**
TLE	**Tual**	**6.33**	**73**	P		**Pn**	**00 04 00.1**	**-1.4**
	baz=6.2,SNR=23							
MTN	**Manton Dam**	**6.88**	**140**	P		**Pn**	**00 04 08.3**	**+0.6**
	baz=7.0,SNR=65							
FAKI	**Fak Fak**	**7.22**	**51**	P		Pn	00 04 08.3	-3.5
	baz=7.1,SNR=23							
KAPI	**Kappang**	**7.30**	**290**	*e*Pn		**Pn**	**00 04 11.2**	**-1.6**
KAPI	**Kappang**	**7.30**	**290**	P		**Pn**	**00 04 13.1**	**+0.4**
	5.4nm,0.3s,baz=136,slow=4.6,SNR=19							
KAPI				S		**S**	**00 05 38.5**	**-0.5**
	2.0nm,0.3s,baz=188,slow=15,SNR=2.4							
LUWI	**Luwuk**	**7.52**	**329**	P		P	00 04 23.2	+6.7
	baz=7.5,SNR=5.4							
KDU	**Kakadu**	**7.69**	**132**	P		**Pn**	**00 04 17.1**	**-0.1**
	baz=7.7,SNR=60							
SWI	**Sorong**	**8.06**	**35**	P		**Pn**	**00 04 18.7**	**-3.0**
	baz=7.9,SNR=5.4							
TNTI	**Ternate**	**8.28**	**5**	*e*Pn		**Pn**	**00 04 22.8**	**-1.5**
KNRA	**Kununurra**	**8.35**	**166**	P		**Pn**	**00 04 26.2**	**+1.1**
	baz=8.5,SNR=56							
FITZ	**Fitzroy Crossi**	**10.55**	**185**	P		**P**	**00 04 51.8**	**-0.2**
FITZ				S		**S**	**00 06 51.6**	**+1.8**
WRAB	**Tennant Creek**	**14.41**	**150**	*e*P		**P**	**00 05 35.1**	**+0.4**
WRA	**Warramunga Arr**	**14.41**	**150**	P		**P**	**00 05 35.4**	**+0.6**
	4.4nm,0.3s,baz=327,slow=12,SNR=166							
WRA				S		**S**	**00 08 08.6**	**-2.1**
	baz=327,slow=21,SNR=12							
MBWA	**Marble Bar**	**15.11**	**206**	*e*P		**P**	**00 05 43.1**	**+0.8**
	28nm,0.8s							
PALU	**Palau**	**16.71**	**28**	P		**P**	**00 05 58.7**	**-1.0**
	baz=17,SNR=7.5							
PALU	**Palau**	**16.71**	**28**	P		**P**	**00 05 58.7**	**-1.0**
	baz=14,SNR=7.5							
COEN	**Coen**	**17.44**	**113**	*e*P		**P**	**00 06 07.4**	**-0.1**
	108nm,1.0s							
COEN	**Coen**	**17.44**	**113**	P		**P**	**00 06 07.8**	**+0.2**
	baz=17,SNR=4.5							
SBUM	**Sibu**	**17.48**	**304**	*e*P		**P**	**00 06 07.5**	**-0.5**
	37nm,1.1s							
ASAR	**Alice Springs**	**17.49**	**157**	P		**P**	**00 06 09.8**	**+1.8**
	5.5nm,0.3s,baz=338,slow=12,SNR=368							
ASAR				S		**S**	**00 09 11.5**	**0.0**
	baz=335,slow=19,SNR=8.1							
AS01	**Alice Springs**	**17.50**	**157**	*e*P		**P**	**00 06 08.3**	**+0.1**
KSM	**Kuching**	**18.60**	**298**	*e*P		**P**	**00 06 17.9**	**-1.9**
	32nm,0.8s							
KSM	**Kuching**	**18.60**	**298**	P		**P**	**00 06 19.6**	**-0.3**
	baz=19,SNR=6.7							
KSM	**Kuching**	**18.60**	**298**	P		**P**	**00 06 19.6**	**-0.3**
	baz=15,SNR=6.7							
CISI	**Cisompet, Garu**	**18.67**	**269**	*e*P		**P**	**00 06 18.8**	**-2.0**
	98nm,0.6s							
MEEK	**Meekatharra**	**20.48**	**201**	P		**P**	**00 06 39.3**	**+0.5**
	baz=21,SNR=15							
CTA	**Charters Tower**	**22.73**	**125**	pP		pP	00 07 57.0	+1.2
	15nm,1.0s,baz=300,slow=15,SNR=5.3							
FORT	**Forrest**	**23.16**	**177**	*e*P		**P**	**00 07 03.5**	**+0.5**
	20nm,0.6s							
MNAI	**Manna**	**23.77**	**276**	P		P	00 07 16.4	+7.6
	baz=24,SNR=5.1							
MNAI	**Manna**	**23.77**	**276**	P		P	00 07 16.4	+7.6
	baz=22,SNR=5.1							
BLDU	**Ballidu**	**24.78**	**201**	P		pP	00 08 17.5	-0.8
	baz=29,SNR=4.2							
QLP	**Quilpie**	**25.27**	**141**	P		pP	00 08 25.4	+1.9
	baz=30,SNR=4.3							
BBOO	**Buckleboo**	**26.63**	**162**	*e*P		**P**	**00 07 34.9**	**+0.8**
	374nm,1.7s							
NWAO	**Narrogin (SRO)**	**26.74**	**198**	pP		pP	00 08 39.6	+0.1
	20nm,0.8s,baz=32,slow=9.9,SNR=5.8							
STKA	**Stephens Creek**	**27.94**	**152**	*e*P		**P**	**00 07 46.4**	**+0.7**
	5.1nm,1.5s							
STKA	**Stephens Creek**	**27.94**	**152**	P		pP	00 08 51.4	0.0
	baz=33,SNR=5.3							
STKA	**Stephens Creek**	**27.94**	**152**	P		**P**	**00 07 47.0**	**+1.2**
	1.8nm,0.7s,baz=331,slow=10,SNR=4.9							
STKA				pP		**pP**	**00 08 51.1**	**-0.3**
	5.7nm,0.5s,baz=327,slow=11,SNR=6.2							
HTT	**Hallett**	**28.16**	**158**	P		**P**	**00 07 49.6**	**+1.9**
	baz=28,SNR=3.5							
PSI	**Prapat**	**29.51**	**289**	P		**P**	**00 07 59.3**	**-0.6**
	baz=30,SNR=7.4							
PSI	**Prapat**	**29.51**	**289**	P		**P**	**00 07 59.3**	**-0.6**
	baz=27,SNR=7.4							
PSI	**Prapat**	**29.51**	**289**	P		**P**	**00 07 59.0**	**-0.9**
	10.0nm,0.6s,baz=124,slow=7.3,SNR=12							
CMSA	**Cobar Meteorol**	**29.77**	**146**	P		pP	00 09 09.4	+1.4
	baz=35,SNR=5.8							
KRAB	**Krabi**	**31.53**	**299**	P		**P**	**00 08 18.4**	**+1.0**
	20nm,1.0s,935nm							
CMAR	**Chiang Mai Arr**	**37.61**	**314**	P		**P**	**00 09 08.0**	**-1.0**
	0.8nm,0.3s,baz=150,slow=7.5,SNR=8.8							
GYA	**Guiyang**	**38.96**	**331**	*e*P		**P**	**00 09 20.8**	**+0.7**
GYA				pP		**pP**	**00 10 30.5**	**+1.4**
GYA				sP		**sP**	**00 11 08.5**	**-1.2**
GYA				PcP		**PcP**	**00 11 23.0**	**+0.4**
GYA				S		**S**	**00 14 54.3**	**+2.2**
GYA				PcS		**PcS**	**00 15 11.0**	**-1.9**
GYA				ScS		**ScS**	**00 18 47.5**	**-1.7**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.8s							
WHN	**Wuhan**	**39.66**	**343**	P		**P**	**00 09 27.0**	**+1.4**
KMI	**Kunming**	**39.95**	**325**	P		**P**	**00 09 31.0**	**+2.7**
KMI				AMB		AMB		
	comp=Z,7.0nm,1.0s							
NJ2	**Nanjing**	**40.06**	**350**	*e*P		**P**	**00 09 30.0**	**+1.2**
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.5s							
CD2	**Chengdu**	**44.07**	**331**	P		**P**	**00 10 03.0**	**+2.0**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.5s							
KSRS	**Korea Array**	**44.77**	**1**	P		**P**	**00 10 05.8**	**-0.5**
	4.3nm,0.8s,baz=174,slow=8.9,SNR=15							
MJAR	**Matsushiro Arr**	**45.16**	**13**	P		**P**	**00 10 07.7**	**-1.7**
	16nm,1.0s,baz=189,slow=9.0,SNR=22							
MAJO	**Matsushiro**	**45.17**	**13**	*e*P		**P**	**00 10 07.4**	**-2.1**
	24nm,1.0s							
MAT	**Matsushiro**	**45.17**	**13**	P		**P**	**00 10 07.8**	**-1.7**
LZH	**Lanzhou**	**48.40**	**335**	*e*P		**P**	**00 10 33.0**	**-1.4**
LZH				pP		**pP**	**00 11 44.0**	**-2.8**
LZH				sP		**sP**	**00 12 27.8**	**+1.4**
LZH				AMB		AMB		
	comp=Z,58nm,1.0s							
LZH				AMB		AMB		
	comp=Z,220nm,4.0s							
HHC	**Hu-ho-hao-te**	**50.11**	**345**	*e*P		**P**	**00 10 50.0**	**+

TKM2	**Tokmak 2**	**68.32 322**	*e*P		**P**	00 12 49.0	-1.8	
	13nm,1.5s							
KBL	**Kabul**	**68.59 312**	*e*P		**P**	00 12 51.2	-1.5	
	7.2nm,0.8s							
AAK	**Ala-Archa**	**68.84 321**	*e*P		**P**	00 12 51.5	-2.5	
	9.0nm,1.4s							
ZAA0	**Zalesovo Array**	**70.63 335**	*e*P		**P**	00 13 02.6	-1.7	
ZALV	**Zalesovo Beam**	**70.63 335**	P		**P**	00 13 03.4	-1.0	
	7.2nm,0.5s,baz=139,slow=5.5,SNR=36							
ZALV			S		**S**	00 21 45.2	-3.5	
	0.3nm,0.4s,baz=156,slow=15,SNR=5.1							
KURK	**Kurchatov**	**71.28 330**	*e*P		**P**	00 13 06.5	-1.8	
	13nm,1.4s							
KKAR	**Karatay Array**	**71.58 320**	*e*P		**P**	00 13 09.6	-0.7	
VNDA	**Vanda**	**72.34 172**	P		**P**	00 13 14.4	+0.3	
	0.5nm,0.5s,baz=317,slow=9.1,SNR=7.1							
VOSK	**Vostochnaya**	**76.31 329**	*e*P		**P**	00 13 35.2	-1.9	
	23nm,1.6s							
BVAR	**Borovoye Array**	**76.77 329**	P		**P**	00 13 39.0	-0.7	
	2.1nm,0.7s,baz=142,slow=5.4,SNR=17							
BRVK	**Borovoye**	**76.84 329**	*e*P		**P**	00 13 39.1	-1.0	
	25nm,1.6s							
ABKAR	**Akbulak array**	**80.88 322**	*e*P		**P**	00 14 00.2	-1.7	
SYO	**Syowa Base**	**81.96 201**⇑	*e*P		**P**	00 14 07.0	-0.2	
QSPA	**South Pole Qui**	**82.45 180**	*e*P		**P**	00 14 09.4	-0.6	
	94nm,2.9s							
AKTO	**Aktyubinsk**	**82.48 323**	P		**P**	00 14 08.1	-2.2	
	5.1nm,1.0s,baz=89,slow=5.9,SNR=9.7							
RAYN	**Ar Rayn**	**84.93 294**	*e*P		**P**	00 14 21.6	-1.6	
	12nm,1.0s							
ILAR	**Eielson Array**	**95.25 25**	P		**P**	00 15 11.9	+1.5	
	0.2nm,0.6s,baz=271,slow=4.2,SNR=3.3							
BRTR	**Keskin Array B**	**97.07 309**	P		**P**	00 15 17.5	-1.9	
	1.2nm,1.0s,baz=21,slow=1.7,SNR=4.3							
LPAZ	**La Paz**	**152.18 148**	PKPbc		**PKPbc**	00 21 42.5	+0.1	
	0.5nm,0.4s,baz=243,slow=4.5,SNR=2.9							
LPAZ			PKPab		**PKPab**	00 21 54.7	+1.2	
	0.7nm,0.5s,baz=221,slow=5.6,SNR=3.8							
LPAZ			pPKPbc		**pPKPbc**	00 23 10.1	+0.4	
	1.1nm,0.8s,baz=148,slow=0.4,SNR=3.5							

IDC ***30*** *00:21:26.4±0.7,16°.20S×171°.54W,h0km,mb4.2/9, mb1 4.5/10,mb1mx4.2/24,mbtmp4.2/10,ML1.9/1,MS3.8/11, Ms1 3.9/11,ms1mx3.5/40,Error ellipse: s-maj=28.4km s-min=16.0km az=128.0*

ISCJB ***30*** *00:21:30.4±0.8,16°.09S±0°.07×171°.7W±0°.2,h33km, mb4.2/9,MS3.9/10,Error ellipse: s-maj=21.8km s-min=8.5km az=14.3*

ISC 30 00:21:32.0±0.7,16°.10S±0°.09×171°.7W±0°.2,h35km,n40, σ1s05/25,mb4.1/9,MS3.9/10,2C,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.18**	**357**	Pn	**Pn**		00 22 04.4	-1.5
	20nm,0.3s,baz=162,slow=3.9,SNR=12							
AFI				Sn	**Sn**		00 22 30.8	-0.8
	152nm,0.3s,baz=180,slow=20,SNR=19							
AFI				T	T		00 24 45.7	
	15nm,0.3s,baz=9.5,slow=21,SNR=5.2							
RAR	**Rarotonga**	**12.36**	**116**	Pn	Pn		00 24 13.0	-13
	3.0nm,0.3s,baz=270,slow=8.4,SNR=3.9							
RAR				LR	LR		00 27 20.5	
	comp=Z,393nm,18.8s,baz=92,slow=29							
PPT	**Papeete**	**21.18**	**97**	LR	LR		00 33 00.4	
	comp=Z,174nm,18.9s,baz=352,slow=33							
PPT2	**Papeete2**	**21.18**	**97**	eLR	LR		00 30 58.2	
	416nm,25.5s,baz=267							
DZM	**Mont Dzumac**	**21.52**	**251**	*e*LR	LR		00 31 57.9	
	520nm,23.9s							
DZM	**Mont Dzumac**	**21.52**	**251**	P	**P**		**00 26 19.0**	**+0.7**
	2.3nm,0.6s,baz=120,slow=20,SNR=3.9							
DZM				LR	LR		00 33 07.3	
	comp=Z,424nm,18.1s,baz=26,slow=32							
TBI	**Tubuai**	**22.09**	**113**	eLR	LR		00 31 12.7	
	449nm,28.5s,baz=287							
URZ	**Urewera**	**24.20**	**202**	P	**P**		**00 26 45.7**	**+0.5**
	7.7nm,0.4s,baz=357,slow=6.9,SNR=9.3							
RKT	**Rikitea**	**35.18**	**107**	eLR	LR		00 37 12.5	
	274nm,30.0s,baz=276							
H11S2	**WAKE ISLAND Hy**	**40.44**	**327**	T	T		01 12 41.5	
	baz=151							
H11S3	**WAKE ISLAND Hy**	**40.45**	**327**	T	T		01 12 42.8	
	baz=151							
H11S1	**WAKE ISLAND Hy**	**40.45**	**327**	T	T		01 12 41.0	
	baz=151							
STKA	**Stephens Creek**	**45.16**	**241**	P	**P**		**00 29 44.9**	**-0.7**
	8.2nm,1.0s,baz=93,slow=8.5,SNR=8.0							
WRA	**Warramunga Arr**	**51.33**	**257**	P	**P**		**00 30 33.2**	**-0.1**
	5.3nm,0.9s,baz=91,slow=6.7,SNR=42							
ASAR	**Alice Springs**	**51.50**	**252**	P	**P**		**00 30 34.7**	**+0.1**
	6.4nm,0.7s,baz=90,slow=7.9,SNR=61							
ASAR				PcP	**PcP**		**00 31 48.0**	**-0.6**
	1.5nm,0.9s,baz=111,slow=3.6,SNR=6.4							
VNDA	**Vanda**	**62.87**	**186**	P	**P**		**00 31 52.2**	**-1.9**
	1.5nm,0.9s,baz=10,slow=7.0,SNR=8.2							
LPIG	**La Paz**	**71.98**	**57**	LR	LR		00 56 09.0	
	comp=Z,64nm,19.1s,baz=180,slow=29							
PFO	**Pinyon Flat Ob**	**72.18**	**46**	LR	LR		00 56 57.7	
	comp=Z,504nm,21.5s,baz=229,slow=30							
NVAR	**Mina Array Bea**	**73.73**	**41**	P	**P**		**00 33 04.1**	**+1.2**
	0.7nm,0.6s,baz=237,slow=9.2,SNR=4.2							
KSRS	**Korea Array**	**77.83**	**315**	LR	LR		01 02 43.8	
	comp=Z,26nm,18.8s,baz=135,slow=32							
TXAR	**Lajitas Array**	**79.61**	**55**	LR	LR		01 03 26.7	
	comp=Z,71nm,18.1s,baz=0.0,slow=32							
PDAR	**Pinedale Array**	**81.67**	**41**	P	**P**		**00 33 47.0**	**0.0**
	1.4nm,0.8s,baz=227,slow=3.6,SNR=10							
PDAR				LR	LR		01 04 44.4	
	comp=Z,48nm,19.0s,baz=81,slow=32							
ILAR	**Eielson Array**	**82.81**	**10**	P	**P**		**00 33 52.8**	**+0.6**
	1.2nm,0.8s,baz=214,slow=6.2,SNR=11							
APG	**El Apazote**	**85.91**	**73**	LR	LR		01 03 09.8	
	comp=Z,38nm,20.0s,baz=127,slow=29							
CMAR	**Chiang Mai Arr**	**94.43**	**288**	LR	LR		01 15 48.3	
	comp=Z,18nm,18.5s,baz=170,slow=34							
SONM	**Songino Array**	**96.48**	**318**	LR	LR		01 18 20.3	
	comp=Z,46nm,18.3s,baz=84,slow=35							
KURBB	**Kurchatov Arra**	**114.83**	**319**	PKP	PKPdf		00 40 07.0	-1.9
	0.2nm,0.3s,baz=90,slow=2.2,SNR=4.3							
UPC	**Upice**	**145.12**	**351**	*e*P	**PKPdf**		**00 41 06.8**	**+1.0**
DPC	**Dobruska-Polom**	**145.23**	**351**	*e*P	**PKPdf**		**00 41 07.3**	**+1.3**
DPC				*ex*	x		00 41 16.7	
OKC	**Ostrava-Krasne**	**145.42**	**349**	*e*P	**PKPab**		**00 41 07.6**	**+1.2**
KRLC	**Kraliky**	**145.42**	**350**	*e*P	**PKPab**		**00 41 07.9**	**+1.4**
PRU	**Pruhonice**	**145.82**	**353**	*e*P	**PKPab**		**00 41 08.7**	**+0.8**
PRU				*ex*	x		00 41 17.8	
KMBO	**Kilima Mbogo**	**146.72**	**242**	PKPbc	**PKPbc**		**00 41 11.9**	**+0.3**
	0.5nm,0.2s,baz=221,slow=24,SNR=5.6							
KHC	**Kasperske Hory**	**146.78**	**354**	*e*P	**PKPab**		**00 41 11.8**	**+0.1**
GERES	**GERESS Array B**	**147.04**	**353**	PKPbc	**PKPdf**		**00 41 09.6**	**+0.4**
	1.0nm,0.8s,baz=33,slow=2.3,SNR=9.2							
BRTR	**Keskin Array B**	**147.75**	**322**	PKPbc	**PKPbc**		**00 41 14.4**	**+0.8**
	4.0nm,0.9s,baz=138,slow=1.5,SNR=18							
MOTA	**Moosalm**	**148.76**	**356**⇑	*i*PKiKP	**PKbc**		**00 41 17.1**	**+1.1**
	3.1nm,0.9s							
FETA	**Feichten**	**149.10**	**357**⇑	*i*PKiKP	**PKiKP**		**00 41 18.2**	**0.0**
	5.9nm,1.0s							
ESDC	**Sonseca Array**	**154.16**	**22**	PKPab	**PKPab**		**00 41 43.3**	**+1.0**
	0.4nm,0.7s,baz=307,slow=4.6,SNR=3.9							
TORD	**Torodi Ar. Bea**	**172.93**	**114**	PKPab	**PKPab**		**00 43 03.0**	**-2.3**
	0.7nm,0.9s,baz=224,slow=4.0,SNR=4.0							

PRE 30 00:39:21.5±3.4,21°.13S×33°.31E,h10km,ML4.0, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.28**	**248**	*e*P	Pn		00 40 15.9	+2.8
MSNA				*e*S	Sn		00 40 53.1	+0.9
MSNA				AML	AML		00 41 05.9	
	comp=Z,81nm,0.9s							
SLR	**Silverton**	**6.50**	**224**	*e*P	Pn		00 41 00.7	+3.2
SLR				*e*S	Sn		00 42 09.3	-2.5
SLR				AML	AML		00 42 47.3	
	comp=Z,19nm,0.7s							
LSZ	**Lusaka**	**7.59**	**319**	*e*P	Pn		00 41 14.8	+2.4
LSZ				*e*S	Sn		00 42 33.4	-5.3
LSZ				AML	AML		00 43 27.8	
	comp=Z,428nm,0.8s							
PRYS	**Parys**	**7.92**	**222**	*e*P	Pn		00 41 16.9	0.0
PRYS				*e*S	Sn		00 42 44.6	-2.3
PRYS				AML	AML		00 43 47.6	
	comp=Z,3.5nm,0.6s							
LBTB	**Lobatse**	**8.08**	**240**	*e*P	Pn		00 41 21.6	+2.5
LBTB				*e*S	Sn		00 42 45.3	-5.3
LBTB				AML	AML		00 43 43.9	
	comp=Z,6.9nm,0.5s							
SEK	**Senekal**	**8.82**	**215**	*e*P	Pn		00 41 30.3	+0.9
SEK				*e*S	Sn		00 43 04.0	-5.1
SEK				AML	AML		00 44 14.8	
	comp=Z,5.8nm,0.6s							
SWZ	**Schweizer**	**9.45**	**229**	*e*P	Pn		00 41 38.7	+0.8
SWZ				*e*S	Sn		00 43 19.8	-4.6
SWZ				AML	AML		00 44 24.2	
	comp=Z,5.8nm,0.4s							
BOSA	**Boshof**	**10.43**	**223**	*e*P	Pn		00 41 51.1	-0.3
BOSA				*e*S	Sn		00 43 41.4	-7.1
BOSA				AML	AML		00 44 54.4	
	comp=Z,4.2nm,0.7s							
PKA	**Prieska**	**12.77**	**226**	*e*P	Pn		00 42 21.8	-1.5
PKA				*e*S	Sn		00 44 39.1	-6.5
PKA				AML	AML		00 46 19.6	
	comp=Z,1.1nm,0.8s							

IDC 30 00:40:04.0±55.0,23°.80S×175°.07W,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.8/18,mbtmp4.0/3,Error ellipse: s-maj=1032.0km s-min=177.4km az=88.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.96**	**248**	P	P		00 47 31.0	-1.0
	3.3nm,1.2s,baz=105,slow=11,SNR=4.1							
ASAR	**Alice Springs**	**46.50**	**259**	P	P		00 48 33.3	-0.2
	0.7nm,0.4s,baz=93,slow=7.4,SNR=16							
WRA	**Warramunga Arr**	**46.92**	**264**	P	P		00 48 37.3	+0.5
	0.7nm,0.4s,baz=102,slow=8.0,SNR=31							

MEX 30 00:48:11.8±0.7,16°.66N×94°.79W,h80km±32km,MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.55**	**235**	*e*P	Pn		00 48 37.0	-0.7
HUIG				*i* S	Sn		00 48 55.3	-2.1
TGIG		**1.60**	**86**	*i* P	Pn		00 48 37.8	-0.7
TGIG				*i* S	Sn		00 48 57.2	-1.6
PCIG		**1.78**	**122**	*e*P	Pn		00 48 39.4	-1.5
PCIG				*i* S	Sn		00 49 00.5	-2.4
VHO	**Vista Hermosa**	**1.91**	**283**	*e*P	Pn		00 48 41.2	-1.5
VHO				*i* S	Sn		00 49 04.4	-1.8
PNIG	**Pinotepa**	**3.21**	**266**	*i* P	Pn		00 48 58.7	-1.4
PNIG				*i* S	Sn		00 49 34.7	-2.7

IDC 30 00:48:38.3±2.6,15°.18S×172°.20W,h0km,mb3.7/5, mb1 4.1/5,mb1mx3.8/21,mbtmp3.7/5,Error ellipse: s-maj=153.2km s-min=24.5km az=147.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.33**	**18**	Pn	Pg		00 49 00.3	-3.7
	51nm,0.3s,baz=209,slow=0.9,SNR=30							
AFI				Sn	Sg		00 49 15.9	-5.4
	177nm,0.3s,baz=54,slow=19,SNR=30							
WRA	**Warramunga Arr**	**51.02**	**256**	P	P		00 57 42.8	+0.1
	0.8nm,1.0s,baz=95,slow=7.3,SNR=4.3							
ASAR	**Alice Springs**	**51.28**	**252**	P	P		00 57 44.3	-0.2
	1.6nm,0.7s,baz=87,slow=8.1,SNR=18							
NVAR	**Mina Array Bea**	**73.39**	**41**	P	P		01 00 12.3	-0.4
	0.4nm,0.6s,baz=225,slow=10,SNR=3.6							
PDAR	**Pinedale Array**	**81.33**	**41**	P	P		01 00 58.0	+0.8
	0.3nm,0.3s,baz=269,slow=4.4,SNR=4.3							
ILAR	**Eielson Array**	**82.01**	**11**	P	P		01 00 59.7	-0.2
	0.6nm,1.0s,baz=216,slow=6.5,SNR=2.9							
BRTR	**Keskin Array B**	**146.71**	**322**	PKPbc	PKPab		01 08 26.5	+2.6
	0.4nm,0.6s,baz=65,slow=4.4,SNR=3.2							

ISCJB ***30*** *00:51:40.8±0.8,40°.95S±0°.2×44°.5E±0°.2,h12km,mb3.6/6, MS3.1/4,Error ellipse: s-maj=31.9km s-min=19.7km az=137.2*

IDC ***30*** *00:51:40.8±0.9,40°.93S×44°.58E,h0km,mb3.8/6, mb1 3.9/6,mb1mx3.6/23,mbtmp3.8/6,MS3.3/5,Ms1 3.2/5, ms1mx3.0/39,Error ellipse: s-maj=40.1km s-min=24.9km az=38.0*

ISC 30 00:51:42.7±0.9,40°.9S±0°.2×44°.5E±0°.2,h12km,n14, σ0s36/7,mb3.8/6,MS3.2/4,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**20.00**	**302**	LR	LR		01 02 30.0	
	comp=Z,70nm,18.7s,baz=136,slow=32							
SUR	**Sutherland**	**20.81**	**287**	LR	LR		01 03 00.6	
	comp=Z,45nm,21.1s,baz=205,slow=33							
LBTB	**Lobatse**	**22.39**	**309**	LR	LR		01 03 31.4	
	comp=Z,80nm,19.6s,baz=108,slow=32							
MAW	**Mawson**	**28.54**	**165**	LR	LR		01 06 17.1	
	comp=Z,71nm,20.7s,baz=178,slow=31							
LSZ	**Lusaka**	**29.25**	**326**	P	**P**		**00 57 44.3**	**-0.4**
	0.8nm,0.6s,baz=143,slow=10,SNR=3.9							
LSZ				LR	LR		01 08 07.4	
	comp=Z,73nm,20.4s,baz=110,slow=34							
SNAA	**Sanae**	**38.60**	**202**	P	**P**		**00 59 05.0**	**-0.1**
	0.7nm,1.0s,baz=50,slow=7.9,SNR=3.6							
H01W2	**Cape Leeuwin H**	**53.93**	**108**	T	T		01 59 10.3	
	baz=242,slow=0.7,SNR=17							
H01W3	**Cape Leeuwin H**	**53.94**	**108**	T	T		01 59 10.9	
	baz=242,slow=0.7,SNR=19							
H01W1	**Cape Leeuwin H**	**53.94**	**108**	T	T		01 59 11.6	
	baz=242,slow=0.7,SNR=19							
TORD	**Torodi Ar. Bea**	**66.82**	**314**	P	**P**		**01 02 34.9**	**+0.5**
	0.9nm,1.1s,baz=144,slow=7.3,SNR=3.1							
ASAR	**Alice Springs**	**74.44**	**108**	P	**P**		**01 03 20.8**	**-0.2**
	0.4nm,0.9s,baz=228,slow=7.0,SNR=4.6							
STKA	**Stephens Creek**	**74.70**	**119**	P	**P**		**01 03 22.5**	**+0.2**
	2.0nm,0.8s,baz=260,slow=6.1,SNR=3.6							
WRA	**Warramunga Arr**	**77.07**	**105**	P	**P**		**01 03 35.9**	**-0.1**
	0.7nm,0.8s,baz=223,slow=5.1,SNR=7.3							
TXAR	**Lajitas Array**	**151.69**	**256**	PKPbc	**PKPbc**		**01 11 37.2**	**+0.1**
	1.5nm,0.9s,baz=126,slow=6.4,SNR=10							

NIED ***30*** *00:58:00,36°.10N×141°.40E,h26km,Mw3.7 Best double couple: M0 3.83000×10^14 NP1:φs129.00000°,δ56.00000°, λ-63.00000°. NP2:φs267.00000°,δ42.00000°, λ-124.00000°.*

IDC ***30*** *00:58:16.2±0.9,36°.06N×141°.51E,h0km,mb3.6/7, mb1 3.9/9,mb1mx3.7/27,mbtmp3.7/9,ML3.8/2,MS3.2/2, Ms1 3.2/2,ms1mx2.7/46,Error ellipse: s-maj=22.1km s-min=20.7km az=85.0*

JMA ***30*** *00:58:20.4±0.1,36°.09N×141°.44E,h48km±2km,M3.6*

ISC 30 00:58:16.4±1.6,36°.08N±0°.04×141°.46E±0°.06,h3km±10km, n29,σ0s95/32,mb3.6/7,4C-2D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.61**	**233**	⇑P	**Pn**		**00 58 32.7**	**+0.7**
CHOJ				S	**Sn**		**00 58 42.4**	**0.0**
JHO	**Hitachi**	**0.89**	**307**	P	**Pn**		**00 58 36.3**	**+0.4**
JHO				*e*S	**Sn**		**00 58 48.3**	**-1.1**
JYT	**Yasato**	**1.03**	**279**	P	**Pn**		**00 58 38.3**	**+0.5**
JYT				S	**Sb**		**00 58 51.3**	**+0.4**
ONAJ	**Iwakimizuishiy**	**1.15**	**333**	⇓P	**Pn**		**00 58 40.1**	**+0.6**
ONAJ				S	**Sb**		**00 58 54.9**	**+0.5**
JFK	**Kawauchi**	**1.37**	**340**	P	**Pg**		**00 58 43.5**	**+0.9**
JFK				*e*S	**Sg**		**00 58 59.8**	**-0.6**
BSO3	**Boso 3**	**1.49**	**212**	P	**Pg**		**00 58 45.5**	**+0.6**
JAG	**Ashikaga**	**1.66**	**283**	⇓P	**Pb**		**00 58 47.4**	**-0.2**
JAG				*e*S	**Sn**		**00 59 07.4**	**-0.8**
JFT	**Otama**	**1.70**	**328**	P	**Pg**		**00 58 48.9**	**0.0**
JFT				*e*S	**Sb**		**00 59 09.8**	**-0.2**
JMM	**Marumori**	**1.86**	**344**	⇑P	**Pb**		**00 58 50.4**	**-0.7**
JMM				*e*S	**Sn**		**00 59 12.8**	**-0.5**
JKT	**Katashina**	**1.91**	**292**	⇑P	**Pb**		**00 58 51.9**	**-0.1**
JKT				*e*S	**Sn**		**00 59 14.6**	**0.0**
JFY	**Yanaizu**	**1.94**	**314**	⇑P	**Pb**		**00 58 52.3**	**0.0**
MJAR	**Matsushiro Arr**	**2.67**	**281**	Pn	**Pn**		**00 59 02.4**	**+2.1**
	3.8nm,0.3s,baz=263,slow=32,SNR=18							
MJAR				Sn	**Sn**		**00 59 34.7**	**+1.5**
	6.0nm,0.3s,baz=101,slow=25,SNR=6.5							
MAT	**Matsushiro**	**2.67**	**281**	P	**Pb**		**00 59 02.9**	**-1.9**
MAT				*e*S	**Sb**		**00 59 37.1**	**-0.9**
JCJ	**Chichijima**	**8.98**	**176**	Pn	**Pn**		**01 00 25.5**	**-1.5**
	4.2nm,0.3s,baz=261,slow=21,SNR=5.4							
JCJ				Sn	Sn		01 01 58.6	-10
	3.6nm,0.3s,baz=287,slow=19,SNR=2.7							
JNU	**Nakatsue**	**9.21**	**254**	LR	LR		01 04 27.2	
	comp=Z,80nm,18.3s,baz=74,slow=40							
H11N2	**WAKE ISLAND Hy**	**27.64**	**119**	T	T		01 33 16.9	
	baz=315,slow=0.7,SNR=42							
H11N1	**WAKE ISLAND Hy**	**27.65**	**119**	T	T		01 33 17.0	
	baz=315,slow=0.7,SNR=17							
H11N3	**WAKE ISLAND Hy**	**27.66**	**119**	T	T		01 33 17.1	
	baz=315							
H11S1	**WAKE ISLAND Hy**	**28.32**	**121**	T	T		01 34 18.0	
	baz=317,slow=0.7,SNR=34							
H11S3	**WAKE ISLAND Hy**	**28.32**	**122**	T	T		01 34 09.6	
	baz=317,slow=0.7,SNR=26							
H11S2	**WAKE ISLAND Hy**	**28.34**	**121**	T	T		01 34 10.7	
	baz=317,slow=0.7,SNR=19							
ZALV	**Zalesovo Beam**	**42.59**	**313**	P	**P**		**01 06 14.0**	**+0.5**
	0.6nm,0.5s,baz=103,slow=6.4,SNR=4.0							
MKAR	**Makanchi Array**	**44.66**	**303**	P	**P**		**01 06 29.2**	**-1.1**
	0.7nm,0.9s,baz=74,slow=12,SNR=4.2							
ILAR	**Eielson Array**	**50.28**	**32**	P	**P**		**01 07 13.8**	**+0.1**
	0.5nm,0.7s,baz=263,slow=6.2,SNR=6.8							
WRA	**Warramunga Arr**	**56.12**	**188**	P	**P**		**01 07 56.0**	**-1.3**
	0.2nm,0.4s,baz=6.7,slow=7.8,SNR=7.0							
ASAR	**Alice Springs**	**59.85**	**188**	P	**P**		**01 08 24.9**	**+1.5**
	0.1nm,0.3s,baz=26,slow=12,SNR=2.8							
KBZ	**Khabaz**	**71.55**	**311**	LR	LR		01 46 03.9	
	comp=Z,32nm,20.9s,baz=290,slow=40							
NVAR	**Mina Array Bea**	**75.53**	**53**	P	**P**		**01 10 03.4**	**+0.8**
	0.1nm,0.3s,baz=301,slow=6.2,SNR=4.1							
PDAR	**Pinedale Array**	**78.31**	**45**	P	**P**		**01 10 18.1**	**-0.1**
	0.3nm,0.5s,baz=284,slow=3.6,SNR=3.5							

ISCJB ***30*** *01:27:41.7±0.8,32°.81S±0°.02×71°.94W±0°.03,h2km±4km, mb4.8/53,MS4.2/14,Error ellipse: s-maj=4.6km s-min=2.6km az=42.2*

IDC ***30*** *01:27:42.8±0.5,32°.84S×71°.78W,h0km,mb4.5/14, mb1 4.5/18,mb1mx4.5/20,mbtmp4.4/18,ML4.4/4,MS4.1/16, Ms1 4.1/16,ms1mx3.9/28,Error ellipse: s-maj=18.9km s-min=13.9km az=90.0*

BJI ***30*** *01:27:42.7,32°.80S×71°.80W,h10km,mB5.0/3,Ms4.6/1, Ms7 4.4/3*

GUC ***30*** *01:27:44.0±0.4,32°.83S×71°.88W,h9km±1km,ML4.6*

NEIC ***30*** *01:27:44.0,32°.83S×71°.88W,h9km,mb5.0/38, ML4.6(GUC),After GUC.*

NEIC Felt [III] at Santiago and [II] at El Tabo, Puchuncavi, Quintero, Rancagua, Valparaiso, Villa Alemana, Vina del Mar and Zapallar. Also felt at San Felipe.

MOS ***30*** *01:27:46.8±1.3,32°.84S×71°.81W,h33km,mb5.3/17,Error ellipse: s-maj=15.2km s-min=8.4km az=104.6*

ISC 30 01:27:44.2±1.0,32°.84S±0°.02×71°.85W±0°.03,h9km±5km, n467,σ0s81/503,mb5.0/53,MS4.3/14,113C-135D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.25**	**137**	*e*P	**Pg**		**01 27 50.0**	**+0.6**
IHA				*i* S	**Sg**		**01 27 54.4**	**+1.6**
IHA	**Instituto Hidr**	**0.25**	**137**	*e*P	**Pg**		**01 27 50.0**	**+0.6**
IHA				*i* S	**Sg**		**01 27 54.4**	**+1.6**
ROCH	**El Roble**	**0.71**	**101**⇑	*i*P	**Pg**		**01 27 58.0**	**-0.1**
ROCH				*i* S	**Sb**		**01 28 09.3**	**+0.3**
ROCH				AML	AML		01 28 11.0	
	comp=E,29μm,0.5s							
PEL	**Peldehue**	**1.02**	**108**	*e*P	**Pb**		**01 28 03.3**	**-0.8**
PEL				*e*S	**Sg**		**01 28 17.7**	**+0.6**
PEL				AML	AML		01 28 25.5	
	comp=E,57μm,0.6s							
JACH	**Jahuel**	**1.07**	**82**⇓	*i*P	**Pb**		**01 28 04.0**	**-0.9**
JACH				*i* S	**Sg**		**01 28 19.1**	**+0.5**
JACH	**Jahuel**	**1.07**	**82**⇓	*i*P	**Pb**		**01 28 04.0**	**-0.9**
JACH				*i* S	**Sg**		**01 28 19.1**	**+0.5**
TACH	**Talagante**	**1.11**	**137**	*i* P	**Pb**		**01 28 04.5**	**-1.1**
TACH				*i* S	**Sg**		**01 28 20.3**	**+0.2**
TACH	**Talagante**	**1.11**	**137**	*i* P	**Pb**		**01 28 04.5**	**-1.1**
TACH				*i* S	**Sg**		**01 28 20.3**	**+0.2**
SAN	**Santiago**	**1.17**	**122**	*e*P	**Pb**		**01 28 05.5**	**-1.1**
SAN				*i* S	**Sg**		**01 28 21.9**	**+0.1**
SAN	**Santiago**	**1.17**	**122**	*e*P	**Pb**		**01 28 05.5**	**-1.1**
SAN				*i* S	**Sg**		**01 28 21.9**	**+0.1**
SAN	**Santiago**	**1.17**	**122**	*e*P	**Pb**		**01 28 05.5**	**-1.1**
SAN				*i* S	**Sg**		**01 28 21.9**	**+0.1**
SAN				AML	AML		01 28 23.8	
	comp=E,11μm,0.3s							
LNV	**Longovilo**	**1.17**	**162**⇓	*i*P	**Pb**	

PLCA	**Paso Flores**	**7.95**	**173**	Pn		**Pn**		**01 29 40.4**	**+0.5**
	comp=N,1.6nm,0.3s,baz=331,slow=11,SNR=30									
PLCA				Lg		Lg		01 31 41.2		
	comp=N,0.3nm,0.3s,baz=248,slow=17,SNR=2.0									
PLCA				LR		LR		01 33 03.5		
	comp=N,761nm,21.6s,baz=153,slow=40									
TRQA	**Tornquist**	**9.58**	**126**	*e*Pn		**Pn**		**01 30 03.8**	**+1.5**
	comp=N,203nm,1.6s									
LVC	**Limon Verde**	**10.51**	**15**	*e*Pn		**Pn**		**01 30 15.2**	**-0.2**
LVC				*e*Sn		**Sn**		**01 32 14.8**	**+1.4**
CPUP	**Villa Florida**	**14.19**	**67**	*e*Pn		**Pn**		**01 31 07.6**	**+2.2**
	comp=N,34nm,0.9s									
CPUP				Sn		**Sn**		**01 33 41.4**	**-1.6**
CPUP				Lg		Lg		01 35 12.2		
CPUP	**Villa Florida**	**14.19**	**67**	Pn		**Pn**		**01 31 05.6**	**+0.2**
	comp=N,0.4nm,0.3s,baz=236,slow=15,SNR=2.4									
CPUP				Sn		**Sn**		**01 33 41.4**	**-1.6**
	baz=267,slow=18,SNR=1.8									
CPUP				Lg		Lg		01 35 12.2		
	comp=N,0.3nm,0.3s,baz=143,slow=20,SNR=1.9									
CPUP				LR		LR		01 36 40.7		
	comp=N,745nm,21.8s,baz=230,slow=38									
LPAZ	**La Paz**	**16.82**	**12**	*e*Pn		**Pn**		**01 31 40.0**	**-0.6**
	comp=N,39nm,1.1s									
LPAZ				Sn		**S**		**01 34 58.6**	**-0.2**
LPAZ				Lg		Lg		01 36 32.7		
LPAZ	**La Paz**	**16.82**	**12**	Pn		**Pn**		**01 31 40.0**	**-0.6**
	comp=N,0.5nm,0.3s,baz=174,slow=9.1,SNR=41									
LPAZ				Sn		**S**		**01 34 58.6**	**-0.2**
	comp=N,0.0nm,0.3s,baz=262,slow=14,SNR=1.4									
LPAZ				Lg		Lg		01 36 32.7		
	comp=N,0.0nm,0.3s,baz=228,slow=16,SNR=1.9									
SIV	**San Ignacio**	**19.41**	**33**	P		**P**		**01 32 09.4**	**-1.3**
SIV	**San Ignacio**	**19.41**	**33**	P		**P**		**01 32 09.4**	**-1.3**
	comp=N,0.4nm,0.3s,baz=237,slow=11,SNR=15									
SIV				LR		LR		01 40 51.8		
	comp=N,890nm,19.1s,slow=41									
NNA	**Nana**	**21.26**	**346**	P		**P**		**01 32 31.9**	**+1.1**
NNA	**Nana**	**21.26**	**346**	P		**P**		**01 32 31.9**	**+1.1**
	comp=N,2.2nm,0.3s,baz=202,slow=12,SNR=3.6									
EFI	**East Falkland**	**21.34**	**156**	*e*P		**P**		**01 32 30.9**	**-0.5**
EFI				pmax		pmax				
	comp=Z,507nm,1.5s									
EFI	**East Falkland**	**21.34**	**156**	*e*P		**P**		**01 32 30.9**	**-0.5**
	comp=Z,507nm,1.5s									
EFI	**East Falkland**	**21.34**	**156**	P		**P**		**01 32 31.2**	**-0.2**
	comp=Z,292nm,0.7s,SNR=9.2									
USHA	**Ushuaia**	**22.12**	**175**	P		**P**		**01 32 40.1**	**+0.4**
USHA	**Ushuaia**	**22.12**	**175**	P		**P**		**01 32 40.1**	**+0.4**
	comp=Z,11nm,0.8s,baz=352,slow=11,SNR=4.5									
USHA				LR		LR		01 41 26.6		
	comp=Z,433nm,19.0s,baz=337,slow=37									
SPB	**Sao Paulo**	**23.36**	**73**	*e*P		**P**		**01 32 53.0**	**-0.1**
	comp=Z,121nm,1.5s									
SAML	**Samuel**	**25.09**	**21**	*e*P		**P**		**01 33 08.0**	**-1.2**
	comp=Z,24nm,1.2s									
ATAH	**Atahualpa**	**26.29**	**345**	LR		LR		01 42 03.1		
	comp=Z,120nm,19.6s,baz=298,slow=33									
BDFB	**Brasilia**	**27.56**	**57**	*e*P		**P**		**01 33 30.6**	**-1.2**
BDFB	**Brasilia**	**27.56**	**57**	P		**P**		**01 33 31.1**	**-0.6**
	comp=Z,22nm,1.0s,baz=219,slow=8.5,SNR=16									
BDFB				LR		LR		01 44 54.1		
	comp=Z,454nm,21.1s,baz=33,slow=38									
OTAV	**Otavalo**	**33.48**	**348**	*e*P		**P**		**01 34 23.6**	**-0.9**
	comp=Z,14nm,1.4s									
ROSC	**El Rosal**	**37.56**	**356**	*e*P		**P**		**01 35 01.0**	**+1.6**
ROSC	**El Rosal**	**37.56**	**356**	P		**P**		**01 35 00.5**	**+1.1**
	comp=Z,3.7nm,0.5s,baz=270,slow=12,SNR=3.4									
SDV	**Santo Domingo**	**41.51**	**2**	*e*P		**P**		**01 35 31.6**	**-0.4**
	comp=Z,18nm,1.0s									
RCBR	**Riachuelo**	**42.90**	**59**	*e*P		**P**		**01 35 43.0**	**-0.4**
	comp=Z,150nm,1.4s									
CELP	**Cerrillos**	**50.88**	**6**	*e*P		**P**		**01 36 45.2**	**-0.3**
VNA2	**Neumayer--Watz**	**51.02**	**158**	*e*P		**P**		**01 36 45.3**	**-0.8**
SNAA	**Sanae**	**52.60**	**158**	*e*P		**P**		**01 36 58.1**	**+0.2**
SNAA	**Sanae**	**52.60**	**158**	*e*P		**P**		**01 36 57.9**	**0.0**
	comp=Z,14nm,0.9s									
RKT	**Rikitea**	**55.87**	**263**	*e*LR		LR		01 53 32.0		
	comp=Z,256nm,27.8s									
RKT	**Rikitea**	**55.87**	**263**	*e*T		T		02 37 31.0		
	comp=Z,1.0nm,0.3s									
MAIT	**Maitri**	**57.29**	**157**	*e*P		**P**		**01 37 30.5**	**-1.3**
QSPA	**South Pole Qui**	**57.39**	**180**	*e*P		**P**		**01 37 33.5**	**+0.7**
	comp=Z,19nm,1.0s									
VNDA	**Vanda**	**65.27**	**191**	*e*P		**P**		**01 38 26.6**	**+0.9**
	comp=Z,3.8nm,1.2s									
VNDA	**Vanda**	**65.27**	**191**	P		**P**		**01 38 26.6**	**+0.9**
	comp=Z,1.5nm,0.9s,baz=115,slow=4.1,SNR=7.3									
732A	**Laxson Ranch,**	**66.80**	**333**	⇓P		**P**		**01 38 36.2**	**+0.1**
	baz=67,SNR=7.5									
SYO	**Syowa Base**	**66.88**	**159**	⇑*e*P		**P**		**01 38 34.6**	**-1.6**
SYO	**Syowa Base**	**66.88**	**159**	⇑*e*sP		sP		01 38 39.8	-0.5
631A	**Perdido Creek**	**67.64**	**333**	⇑P		**P**		**01 38 41.8**	**+0.4**
	baz=68									
TBI	**Tubuai**	**67.75**	**256**	*e*LR		LR		01 59 02.1		
	comp=Z,546nm,26.2s,baz=114									
532A	**Rocksprings**	**68.03**	**334**	⇓P		**P**		**01 38 44.2**	**+0.2**
	baz=68,SNR=8.0									
KMSC	**Kings Mountain**	**68.21**	**352**	⇓P		**P**		**01 38 45.2**	**+0.3**
	baz=68									
531A	**Rocksprings**	**68.31**	**333**	⇑P		**P**		**01 38 46.0**	**+0.3**
	baz=69									
JCT	**Junction City**	**68.31**	**334**	*e*P		**P**		**01 38 46.0**	**+0.3**
JCT				pmax		pmax				
	comp=Z,33nm,1.4s									
JCT	**Junction City**	**68.31**	**334**	*e*P		**P**		**01 38 46.0**	**+0.3**
	comp=Z,33nm,1.4s									
JCT	**Junction City**	**68.31**	**334**	⇑P		**P**		**01 38 45.6**	**-0.1**
	baz=69,SNR=5.7									
530A	**J-C Ranch, Com**	**68.59**	**333**	⇑P		**P**		**01 38 47.8**	**+0.4**
	baz=69,SNR=7.1									
628A	**Black Gap, Mar**	**68.62**	**331**	⇑P		**P**		**01 38 48.0**	**+0.4**
	baz=69,SNR=5.5									
432A	**Menard**	**68.67**	**334**	⇑P		**P**		**01 38 48.1**	**+0.2**
	baz=69									
431A	**Sonora**	**68.79**	**334**	⇓P		**P**		**01 38 48.7**	**0.0**
	baz=69									
627A	**Terlingua Ranc**	**68.79**	**331**	⇑P		**P**		**01 38 48.9**	**+0.1**
	baz=69									
TXAR	**Lajitas Array**	**68.81**	**330**	P		**P**		**01 38 48.8**	**-0.1**
TXAR	**Lajitas Array**	**68.81**	**330**	P		**P**		**01 38 48.8**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=150,slow=9.8,SNR=13									
TXAR				LR		LR		02 04 54.7		
	comp=Z,68nm,18.9s,baz=0.0,slow=32									
WHTX	**Lake Whitney**	**68.87**	**337**	⇓P		**P**		**01 38 49.2**	**+0.1**
	baz=69									
529A	**Stev Forest Ra**	**68.92**	**332**	⇑P		**P**		**01 38 49.5**	**0.0**
	baz=69,SNR=9.3									
CPCT	**Cooper Cave**	**68.97**	**349**	*e*P		**P**		**01 38 49.6**	**0.0**
SWET	**Sewanee**	**68.98**	**348**	*e*P		**P**		**01 38 49.8**	**0.0**
	comp=Z,184nm,2.8s									
332A	**Millersview**	**69.11**	**335**	⇓P		**P**		**01 38 50.3**	**-0.3**
	baz=69,SNR=5.3									
430A	**Baggett Ranch,**	**69.12**	**333**	⇓P		**P**		**01 38 50.7**	**0.0**
	baz=69,SNR=6.8									
528A	**Cox Ranch, San**	**69.17**	**332**	⇑P		**P**		**01 38 50.8**	**-0.4**
	baz=70,SNR=6.3									
626A	**Big Bend Ranch**	**69.19**	**330**	⇑P		**P**		**01 38 51.6**	**+0.3**
	baz=70,SNR=9.0									
429A	**Davenport Ranc**	**69.23**	**333**	⇑P		**P**		**01 38 51.6**	**+0.2**
	baz=70,SNR=6.2									
331A	**San Angelo**	**69.29**	**334**	⇑P		**P**		**01 38 51.5**	**-0.2**
	baz=70,SNR=6.1									
527A	**Woodward Ranch**	**69.50**	**331**	⇓P		**P**		**01 38 53.1**	**-0.1**
	baz=70,SNR=5.8									
232A	**Coleman**	**69.53**	**335**	⇓P		**P**		**01 38 53.1**	**-0.1**
	baz=70									
526A	**Mary Lane Ranc**	**69.62**	**330**	⇓P		**P**		**01 38 53.7**	**-0.2**
	baz=70,SNR=7.5									
428A	**Kincaid Ranch,**	**69.63**	**332**	⇑P		**P**		**01 38 53.6**	**-0.4**
	baz=70									
330A	**Mertzon**	**69.66**	**333**	⇓P		**P**		**01 38 53.9**	**-0.2**
	baz=70									
231A	**Bronte**	**69.81**	**334**	⇑P		**P**		**01 38 54.7**	**-0.2**
	baz=70									
427A	**Hayter Ranch,**	**70.03**	**331**	⇓P		**P**		**01 38 56.1**	**-0.3**
	baz=70									
329A	**Wagon Wheel Ra**	**70.03**	**333**	⇓P		**P**		**01 38 56.2**	**-0.2**
	baz=70,SNR=6.0									
MIAR	**Mount Ida**	**70.07**	**341**	*e*P		**P**		**01 38 57.4**	**+0.9**
MIAR	**Mount Ida**	**70.07**	**341**	*e*P		**P**		**01 38 57.4**	**+0.9**
426A	**McDonald Obser**	**70.12**	**331**	⇓P		**P**		**01 38 57.2**	**+0.1**
	baz=70,SNR=14									
ABTX	**Abilene, Hawle**	**70.19**	**335**	*e*P		**P**		**01 38 57.5**	**+0.2**
ABTX	**Abilene, Hawle**	**70.19**	**335**	⇓P		**P**		**01 38 57.2**	**-0.1**
	baz=70									
WVT	**Waverly**	**70.22**	**346**	*e*P		**P**		**01 38 55.8**	**-1.5**
WVT				pmax		pmax				
	comp=Z,40nm,1.4s									
WVT	**Waverly**	**70.22**	**346**	*e*P		**P**		**01 38 55.8**	**-1.5**
	comp=Z,40nm,1.4s									
328A	**Wristen Ranch,**	**70.26**	**332**	⇓P		**P**		**01 38 57.7**	**-0.1**
	baz=70									
229A	**Bryant Ranch,**	**70.40**	**333**	⇓P		**P**		**01 38 58.7**	**+0.1**
	baz=71									
131A	**Roby**	**70.50**	**335**	⇑P		**P**		**01 38 59.3**	**+0.1**
	baz=71									
PPT2	**Papeete2**	**70.56**	**261**	*e*LR		LR		02 00 12.0		
	comp=Z,208nm,27.2s									
PPT	**Papeete**	**70.57**	**261**	LR		LR		02 00 55.5		
	comp=Z,203nm,18.5s,baz=75,slow=28									
425A	**Indio Mountain**	**70.62**	**330**	⇑P		**P**		**01 39 00.1**	**0.0**
	baz=71									
130A	**Snyder**	**70.64**	**334**	⇓P		**P**		**01 39 00.2**	**+0.1**
	baz=71									
326A	**Caldwell Ranch**	**70.67**	**331**	⇑P		**P**		**01 39 00.6**	**+0.2**
	baz=71									
Z32A	**Haskell**	**70.76**	**336**	⇑P		**P**		**01 39 00.9**	**+0.2**
	baz=71,SNR=7.4									
228A	**UT Block 9, Go**	**70.83**	**333**	⇑P		**P**		**01 39 01.0**	**-0.2**
	baz=71									
Z31A	**Sharp Cattle R**	**71.00**	**335**	⇓P		**P**		**01 39 02.0**	**-0.2**
	baz=71,SNR=7.5									
129A	**Stewart Farms,**	**71.01**	**333**	⇓P		**P**		**01 39 02.1**	**-0.2**
	baz=71									
227A	**Bennet, Jal**	**71.01**	**332**	⇓P		**P**		**01 39 02.5**	**+0.2**
	baz=71									
325A	**Bean Ranch, Si**	**71.13**	**330**	⇑P		**P**		**01 39 02.5**	**-0.7**
	baz=71,SNR=13									
128A	**Castleberry Fa**	**71.24**	**333**	⇑P		**P**		**01 39 03.5**	**-0.2**
	baz=72									
Z30A	**Sanderson Ranc**	**71.32**	**334**	⇓P		**P**		**01 39 03.4**	**-0.8**
	baz=72									
Y32A	**R-V Farms, Ver**	**71.38**	**336**	⇓P		**P**		**01 39 04.0**	**-0.4**
	baz=72									
324A	**Moseley Ranch,**	**71.40**	**330**	⇑P		**P**		**01 39 03.9**	**-1.0**
	baz=72,SNR=6.4									
226B	**Tecolote Peak,**	**71.42**	**331**	⇑P		**P**		**01 39 04.3**	**-0.5**
	baz=72,SNR=7.0									
Z29A	**Hungry Hill Ra**	**71.51**	**334**	⇑P		**P**		**01 39 04.8**	**-0.6**
	baz=72									
MNTX	**Cornudas Mount**	**71.58**	**330**	*e*P		**P**		**01 39 04.7**	**-1.0**
	comp=Z,6.8nm,1.2s									
Y31A	**Rekieta Farm,**	**71.62**	**335**	⇓P		**P**		**01 39 05.5**	**-0.5**
	baz=72									
225A	**Deer Hill, Car**	**71.71**	**331**	⇓P		**P**		**01 39 05.7**	**-1.0**
	baz=72									
Z28A	**Tucker Farm, M**	**71.79**	**333**	⇑P		**P**		**01 39 06.5**	**-0.6**
	baz=72									
WMOK	**Wichita Mounta**	**71.82**	**337**	*e*P		**P**		**01 39 06.5**	**-0.6**
WMOK				pmax		pmax				
	comp=Z,27nm,1.8s									
WMOK	**Wichita Mounta**	**71.82**	**337**	*e*P		**P**		**01 39 06.5**	**-0.6**
	comp=Z,27nm,1.8s									
126A	**Clayton Basin,**	**71.86**	**332**	⇓P		**P**		**01 39 07.2**	**-0.2**
	baz=72									
224A	**Cornudas Mount**	**71.97**	**330**	⇓P		**P**		**01 39 07.4**	**-0.8**
	baz=72,SNR=5.4									
WCI	**Wyandotte Cave**	**71.97**	**348**	*e*P		**P**		**01 39 06.9**	**-1.1**
WCI	**Wyandotte Cave**	**71.97**	**348**	*e*P		**P**		**01 39 06.8**	**-1.1**
TUL1	**Tulsa**	**71.98**	**340**	⇓P		**P**		**01 39 07.0**	**-1.0**
	baz=72									
Y29A	**Porterfield Fa**	**72.04**	**334**	⇓P		**P**		**01 39 07.6**	**-0.9**
	baz=72									
125A	**Gardner Draw,**	**72.12**	**331**	⇑P		**P**		**01 39 08.2**	**-0.9**
	baz=72									
X31A	**McDonald Ranch**	**72.13**	**336**	⇑P		**P**		**01 39 08.5**	**-0.5**
	baz=72,SNR=6.1									
Z27A	**Tatum**	**72.13**	**333**	⇓P		**P**		**01 39 08.9**	**-0.3**
	baz=72,SNR=5.2									
X30A	**Coker Ranch, T**	**72.28**	**335**	⇑P		**P**		**01 39 09.4**	**-0.5**
	baz=73									
Y28A	**McKinney Farm,**	**72.29**	**334**	⇑P		**P**		**01 39 09.7**	**-0.3**
	baz=73									
Z26A	**Caprock**	**72.39**	**332**	⇑P		**P**		**01 39 10.2**	**-0.5**
	baz=73,SNR=16									
124A	**Stringfield Ra**	**72.48**	**331**	⇓P		**P**		**01 39 11.2**	**-0.3**
	baz=73,SNR=11									
MSTX	**Muleshoe**	**72.54**	**333**	*e*P		**P**		**01 39 11.4**	**-0.1**
MSTX	**Muleshoe**	**72.54**	**333**	⇓P		**P**		**01 39 11.1**	**-0.4**
	baz=73,SNR=5.3									
X29A	**Tulia**	**72.57**	**334**	⇑P		**P**		**01 39 11.4**	**-0.3**
	baz=73									
Y27A	**Causey**	**72.62**	**333**	⇓P		**P**		**01 39 11.3**	**-0.7**
	baz=73									
W31A	**Holland Ranch,**	**72.62**	**336**	⇓P		**P**		**01 39 11.7**	**-0.2**
	baz=73									
320A	**Kipp Ranch, An**	**72.64**	**328**	⇑P		**P**		**01 39 12.3**	**+0.1**
	baz=73									
222A	**Wilmms Famil**	**72.67**	**329**	⇓P		**P**		**01 39 12.6**	**+0.3**
	baz=73									
Z25A	**Roswell**	**72.69**	**332**	⇓P		**P**		**01 39 12.5**	**0.0**
	baz=73									
X28A	**Dimmitt**	**72.82**	**334**	⇑P		**P**		**01 39 12.9**	**-0.3**
	baz=73									
AMTX	**Amarillo**	**72.96**	**335**	*e*P		**P**		**01 39 14.6**	**+0.6**
	comp=Z,27nm,1.3s									
AMTX	**Amarillo**	**72.96**	**335**	⇓P		**P**		**01 39 14.3**	**+0.3**
	baz=73									
Z24A	**Sheeppen Canyo**	**73.00**	**331**	⇑P		**P**		**01 39 14.5**	**+0.1**
	baz=73									
319A	**Douglas**	**73.02**	**327**	⇓P		**P**		**01 39 15.1**	**+0.6**
	baz=73									
220A	**Playas Peak, P**	**73.12**	**328**	⇑P		**P**		**01 39 15.5**	**+0.4**
	baz=73,SNR=11									
V31A	**Spring Creek L**	**73.12**	**336**	⇓P		**P**		**01 39 15.5**	**+0.7**
	baz=73									
W29A	**Amraillo**	**73.16**	**335**	⇓P		**P**		**01 39 15.5**	**+0.3**
	baz=74									
Y25A	**Mesa, Roswell**	**73.25**	**332**	⇓P		**P**		**01 39 15.9**	**+0.1**
	baz=74									
X27A	**F and S Farms,**	**73.27**	**333**	⇓P		**P**		**01 39 15.9**	**0.0**
	baz=74									
Z23A	**Rita Site, Whi**	**73.29**	**330**	⇓P		**P**		**01 39 16.4**	**+0.3**
	baz=74,SNR=5.1									
121A	**Cookes Peak, D**	**73.33**	**329**	*e*P		**P**		**01 39 17.3**	**+0.9**
121A	**Cookes Peak, D**	**73.33**	**329**	⇑P		**P**		**01 39 16.9**	**+0.5**
	baz=74,SNR=12									
V30A	**Spur Ranch, Mi**	**73.40**	**336**	⇓P		**P**		**01 39 16.8**	**+0.2**
	baz=74									
X26A	**CR and CF Fran**	**73.45**	**333**	⇓P		**P**		**01 39 17.5**	**+0.5**
	baz=74									
Y24A	**Capitan**	**73.55**	**331**	⇑P		**P**		**01 39 17.5**	**-0.1**
	baz=74									
Z22A	**Elephant Butte**	**73.60**	**330**	⇓P		**P**		**01 39 18.2**	**+0.3**
	baz=74,SNR=6.2									
W27A	**Bows Ranch, En**	**73.62**	**334**	⇓P		**P**		**01 39 17.7**	**-0.3**
	baz=74,SNR=5.2									
120A	**U Bar Ranch, L**	**73.71**	**328**	⇑P		**P**		**01 39 19.0**	**+0.4**
	baz=74,SNR=5.8									
T33A	**Patterson Ranc**	**73.80**	**338**	⇓P		**P**		**01 39 18.8**	**0.0**
	baz=74									
Y23A	**Lovelace Mesa,**	**73.80**	**331**	⇓P		**P**		**01 39 18.4**	**-0.7**
	baz=74,SNR=6.1									
W26A	**Owens Ranch, T**	**73.91**	**333**	⇓P		**P**		**01 39 19.8**	**+0.1**
	baz=74									
V28A	**Channing**	**73.93**	**335**	⇑P		**P**		**01 39 19.8**	**0.0**
	baz=74									
Z21A	**St. Cloud Mine**	**73.94**	**329**	⇑P		**P**		**01 39 20.3**	**+0.3**
	baz=74,SNR=6.7									
U30A	**WK&E Inc. Balk**	**74.08**	**336**	⇓P		**P**		**01 39 20.7**	**+0.1**
	baz=74									
X24A	**Lazy VL Ranch,**	**74.10**	**332**	⇑P		**P**		**01 39 21.2**	**+0.4**
	baz=74									
T32A	**Huddler Ranch,**	**74.10**	**338**	⇓P		**P**		**01 39 20.6**	**0.0**
	baz=74									
V27A	**Dan Oppiter Fa**	**74.16**	**334**	⇑P		**P**		**01 39 21.2**	**+0.2**
	baz=74									
Z20A	**Nine Sixteen R**	**74.18**	**329**	⇓P		**P**		**01 39 21.6**	**+0.3**
	baz=74,SNR=7.5									
MAW	**Mawson**	**74.24**	**164**	P		**P**		**01 39 21.2**	**+0.1**
MAW	**Mawson**	**74.24**	**164**	P		**P**		**01 39 21.2**	**+0.1**
	comp=Z,13nm,0.8s,baz=236,slow=7.9,SNR=11									
MAW				LR		LR		02 13 48.3		
	comp=Z,210nm,18.4s,baz=0.3,slow=37									
LIC	**Lamto**	**74.26**	**72**	*e*P		**P**		**01 39 21.0**	**-1.0**
	comp=Z,45nm,1.5s									
W25A	**X Bar L Ranch,**	**74.29**	**333**	⇓P		**P**		**01 39 21.3**	**-0.6**
	baz=75,SNR=7.0									
TUC	**Tucson**	**74.49**	**326**	*e*P		**P**		**01 39 23.7**	**+0.7**
TUC				pmax		pmax				
	comp=Z,15nm,1.8s									
TUC	**Tucson**	**74.49**	**326**	*e*P		**P**		**01 39 23.7**	**+0.7**
	comp=Z,15nm,1.8s									
TIC	**Toumodi**	**74.51**	**71**	*e*P		**P**		**01 39 22.9**	**-0.6**
	comp=Z,6.6nm,0.2s									
Y21A	**Point of Rocks**	**74.54**	**330**	⇑P		**P**		**01 39 23.6**	**+0.1**
	baz=75,SNR=5.8									
V26A	**Tequesquite Ra**	**74.55**	**333**	⇑P		**P**		**01 39 22.6**	**-0.8**
	baz=75,SNR=6.3									
KIC	**Kosan Boka**	**74.57**	**72**	*e*P		**P**		**01 39 23.2**	**-0.6**
	comp=Z,134nm,1.6s									
W24A	**Lazy 6 Ranch,**	**74.66**	**332**	⇑P		**P**		**01 39 23.8**	**-0.3**
	baz=75,SNR=5.4									
DBIC	**Dimbokro**	**74.66**	**71**	*e*P		**P**		**01 39 24.9**	**+0.6**
	comp=Z,62nm,1.6s									
DBIC	**Dimbokro**	**74.66**	**71**	P		**P**		**01 39 24.2**	**-0.1**
	comp=Z,6.8nm,0.8s,baz=224,slow=7.7,SNR=9.1									
DBIC				LR		LR		02 08 35.9		
	comp=Z,139nm,21.2s,baz=209,slow=33									
LAZ	**Ladron**	**74.66**	**330**	*e*P		**P**		**01 39 25.1**	**+1.0**
	comp=Z,4.0nm,1.2s									
Y20A	**Horse Springs,**	**74.76**	**329**	⇑P		**P**		**01 39 24.4**	**-0.4**
	baz=75,SNR=5.5									
ANMO	**Albuquerque**	**74.85**	**331**	*e*P		**P**		**01 39 26.0**	**+0.8**
	comp=Z,10.0nm,1.2s									
V25A	**Rancho No Teng**	**74.90**	**333**	⇓P		**P**		**01 39 25.0**	**-0.4**
	baz=75,SNR=8.2									
W23A	**Werner Place,**	**74.91**	**331**	⇓P		**P**		**01 39 25.7**	**+0.1**
	baz=75									
X21A	**Alamocita Cree**	**74.97**	**330**	⇑P		**P**		**01 39 25.8**	**-0.1**
	baz=75,SNR=5.4									
V24A	**Rampart Ranch,**	**75.05**	**332**	⇑P		**P**		**01 39 26.6**	**+0.2**
	baz=75									
U26A	**Atchley Ranch,**	**75.06**	**334**	⇑P		**P**		**01 39 26.3**	**-0.1**
	baz=75									
T28A	**Walsh**	**75.12**	**335**	⇓P		**P**		**01 39 27.0**	**+0.4**
	baz=75									
W22A	**Albuquerque**	**75.12**	**331**	⇓P		**P**		**01 39 27.3**	**+0.5**
	baz=75									
214A	**Organ Pipe Nat**	**75.16**	**325**	⇑P		**P**		**01 39 27.2**	**+0.3**
	baz=75									
S29A	**Ulysses**	**75.22**	**336**	⇑P		**P**		**01 39 27.0**	**-0.1**
	baz=76									
SUR	**Sutherland**	**75.25**	**119**	*e*P		**P**		**01 39 29.3**	**+1.4**
	comp=Z,34nm,1.1s									
T27A	**Campo**	**75.28**	**335**	⇓P		**P**		**01 39 27.7**	**+0.1**
	baz=76									
U25A	**Circle Dot Ran**	**75.31**	**333**	⇑P		**P**		**01 39 27.4**	**-0.4**
	baz=76,SNR=6.2									
S28A	**Manter**	**75.46**	**336**	⇑P		**P**		**01 39 28.4**	**-0.2**
	baz=76									
Q32A	**Meitler Ranch,**	**75.65**	**339**	⇓P		**P**		**01 39 29.7**	**+0.2**
	baz=76									
U24A	**Moreno Valley**	**75.65**	**333**	⇓P		**P**		**01 39 30.0**	**0.0**
	baz=76									
T26A	**Comanche Natio**	**75.69**	**334**	⇓P		**P**		**01 39 29.8**	**-0.2**
	baz=76									
W20A	**Ramah**	**75.85**	**330**	⇑P		**P**		**01 39 31.1**	**+0.1**
	baz=76,SNR=12									
V22A	**San Miguel Ran**	**75.87**	**331**	⇓P		**P**		**01 39 31.4**	**+0.3**
	baz=76,SNR=6

baz=80
N23A Red Feather La 79.83 334 ⇓P P 01 39 53.7 +0.5
baz=80
P19A Cripple Cowboy 79.90 332 ⇓P P 01 39 53.5 +0.1
baz=80,SNR=7.3
J30A Dallas 79.91 340 ⇓P P 01 39 53.7 +0.6
baz=80
SHPR Sheep Range 79.99 326 eP P 01 39 54.9 +1.0
CCUT Cedar City 80.01 328 eP P 01 39 55.6 +1.5
O20A White River Ci 80.04 332 eP P 01 39 55.3 +1.1
O20A White River Ci 80.04 332 ⇓P P 01 39 54.6 +0.5
baz=80
EDW2 Edwards Air Fo 80.08 323 ⇑P P 01 39 54.5 +0.2
baz=80
J29A Okreek 80.23 339 ⇓P P 01 39 54.5 -0.4
baz=80,SNR=6.4
ARUT Antelope Range 80.24 328 eP P 01 39 56.4 +1.1
ARUT pmax pmax
comp=Z,70nm,0.9s
ARUT Antelope Range 80.24 328 eP P 01 39 56.4 +1.1
comp=Z,70nm,0.9s
BOSA Boshof 80.47 118 P P 01 39 56.5 -0.4
BOSA Boshof 80.47 118 P P 01 39 56.5 -0.4
comp=Z,8.9nm,0.6s,baz=244,slow=6.4,SNR=22
BOSA LR LR 02 09 37.9
comp=Z,55nm,19.0s,baz=347,slow=31
J28A Allard Ranch, 80.52 339 ⇓P P 01 39 57.1 +0.6
baz=81
J27A Elkhorn Farm, 80.60 338 ⇓P P 01 39 57.8 +0.8
baz=81
N20A Spence Gulch, 80.65 333 ⇑P P 01 39 57.9 +0.4
baz=81
L23A Garrett 80.82 335 ⇓P P 01 39 58.6 +0.2
baz=81
TPNV Topopah Spring 80.86 325 ⇓P P 01 39 59.0 +0.4
baz=81,SNR=5.4
ISA Isabella 80.94 323 ⇑P P 01 39 59.1 +0.1
baz=81
J26A Sides Ranch, S 81.00 337 ⇓P P 01 40 00.0 +0.9
baz=81
I28A Midland 81.02 339 ⇓P P 01 39 59.5 +0.4
baz=81
PKM Peak Mountain 81.03 322 ⇑P P 01 39 60.0 +0.4
baz=81
CASY Casey 81.18 181 eP P 01 39 59.9 +0.1
comp=Z,14nm,1.2s
J25A Sunshine Ranch 81.30 337 ⇑P P 01 40 01.2 +0.5
baz=82
I27A Quinn 81.35 338 ⇓P P 01 40 01.5 +0.6
baz=82
K23A Bowen Ranch, D 81.36 336 ⇓P P 01 40 01.4 +0.3
baz=82
K22A Casper 81.58 335 ⇑P P 01 40 02.6 +0.3
baz=82
R11A Troy Canyon, C 81.68 327 ⇑P P 01 40 03.6 +0.6
baz=82,SNR=6.7
H27A Howes 81.87 339 ⇓P P 01 40 03.9 +0.2
baz=82
DUG Dugway 81.95 330 eP P 01 40 04.2 -0.1
DUG pmax pmax
comp=Z,22nm,1.7s
DUG Dugway 81.95 330 eP P 01 40 04.2 -0.1
comp=Z,22nm,1.7s
DUG Dugway 81.95 330 ⇓P P 01 40 03.6 -0.7
baz=82,SNR=5.6
RSSD Black Hills 82.03 337 eP P 01 40 04.7 0.0
RSSD pmax pmax
comp=Z,38nm,1.4s
RSSD Black Hills 82.03 337 eP P 01 40 04.7 0.0
comp=Z,38nm,1.4s
F28A McLaughlin 82.59 340 ⇓P P 01 40 07.6 +0.3
baz=83
G26A Maurine 82.63 339 ⇑P P 01 40 07.7 +0.1
baz=83
LBTB Lobatse 82.64 115 eP P 01 40 08.6 +0.1
comp=Z,46nm,1.3s
BGU Big Grassy Mou 82.65 330 eP P 01 40 08.1 +0.1
J20A Shoshoni 82.76 334 ⇓P P 01 40 08.3 -0.1
baz=83
G25A Newell 82.79 338 ⇑P P 01 40 08.8 +0.3
baz=83
PDAR Pinedale Array 82.80 333 P P 01 40 08.2 -0.6
PDAR Pinedale Array 82.80 333 P P 01 40 08.2 -0.6
comp=Z,0.7nm,0.6s,baz=155,slow=5.0,SNR=6.8
BW06 Boulder Array 82.80 333 eP P 01 40 09.0 +0.2
I21A Big Trails, Te 82.87 335 ⇑P P 01 40 09.0 0.0
baz=83
F27A Lemmon 82.97 339 ⇓P P 01 40 09.3 0.0
baz=83
NVAR Mina Array Bea 83.03 325 P P 01 40 10.6 +0.6
NVAR Mina Array Bea 83.03 325 P P 01 40 10.6 +0.6
comp=Z,1.1nm,0.6s,baz=141,slow=5.8,SNR=8.8
J19A Crowheart 83.04 334 ⇑P P 01 40 10.1 +0.2
baz=83
D30A Buchanan 83.19 342 ⇑P P 01 40 11.1 +0.7
baz=84
I20A Worland 83.29 335 ⇓P P 01 40 11.4 +0.3
baz=84
E27A Carson 83.34 340 ⇑P P 01 40 11.7 +0.5
baz=84
ELK Elko 83.46 328 eP P 01 40 12.7 +0.4
comp=Z,3.8nm,1.2s
E26A Carlson Angus 83.65 339 ⇓P P 01 40 12.3 -0.5
baz=84
TORD Torodi Ar. Bea 83.66 70 P P 01 40 13.4 -0.1
TORD Torodi Ar. Bea 83.66 70 P P 01 40 13.4 -0.1
comp=Z,8.5nm,0.9s,baz=288,slow=3.4,SNR=42
TORD LR LR 02 14 12.5
comp=Z,203nm,19.1s,baz=260,slow=33
F24A Ekalaka 83.70 338 ⇑P P 01 40 12.7 -0.5
baz=84
H20A Greybull 83.71 335 ⇑P P 01 40 12.9 -0.3
baz=84
D26A Manning 84.14 340 ⇓P P 01 40 15.2 -0.2
baz=84
B30A Myrvik Farm, E 84.32 343 ⇓P P 01 40 16.1 -0.1
baz=85
G20A Bridger 84.42 335 ⇓P P 01 40 16.8 -0.1
baz=85
H18A Shoshone NF, C 84.48 334 ⇓P P 01 40 17.2 -0.1
baz=85
C27A Sayler Ranch, 84.49 340 ⇓P P 01 40 17.2 +0.1
baz=85
D25A Fairfield 84.52 339 ⇓P P 01 40 17.3 +0.1
baz=85
URZ Urewera 84.56 228 LR LR 02 10 24.8
comp=Z,144nm,18.4s,baz=255,slow=30
RPZ Rata Peaks 84.63 220 LR LR 02 10 21.1
comp=Z,160nm,18.5s,baz=99,slow=30
A30A Hoffart Farm, 84.77 343 ⇓P P 01 40 18.4 0.0
baz=85
A29A Manning Farm, 84.99 342 ⇓P P 01 40 19.3 -0.2
baz=85
D23A Lindsay 85.12 338 ⇓P P 01 40 20.9 +0.6
baz=85
F19A Roth Farm, Mol 85.22 335 ⇓P P 01 40 21.1 +0.1
baz=86
HLID Hailey 85.41 330 eP P 01 40 21.9 -0.1
comp=Z,7.4nm,1.3s
HLID Hailey 85.41 330 ⇑P P 01 40 22.3 +0.3
baz=86
ULM Lac du Bonnet 85.42 345 P P 01 40 20.6 -1.0
ULM Lac du Bonnet 85.42 345 P P 01 40 20.6 -1.0
comp=Z,1.4nm,0.3s,baz=153,slow=4.5,SNR=2.5
E20A Meyer Farm, Mu 85.50 336 ⇑P P 01 40 22.4 +0.2
baz=86
D21A La Casta Ranch 85.60 337 ⇑P P 01 40 22.8 +0.1
baz=86
C23A Lambert 85.67 338 ⇓P P 01 40 23.1 +0.2
baz=86
E19A Rath Farm, Rou 85.69 335 ⇑P P 01 40 23.2 +0.1
baz=86
A26A Wade Farm, Ken 85.72 341 ⇓P P 01 40 23.4 +0.2
baz=86
C22A Vida 85.84 338 ⇓P P 01 40 23.7 -0.1
baz=86
DGMT Dagmar 85.96 339 ⇓P P 01 40 24.5 +0.1
baz=86
D20A Manuel Ranch, 86.01 336 ⇑P P 01 40 24.7 0.0
baz=86
C21A Desert Coulee 86.30 337 ⇓P P 01 40 26.0 -0.1
baz=87
A24A Westby 86.31 339 ⇓P P 01 40 25.7 -0.5
baz=87
WVOR Wild Horse Val 86.34 327 eP P 01 40 26.4 -0.2
WVOR pmax pmax
comp=Z,11nm,1.4s
WVOR Wild Horse Val 86.34 327 eP P 01 40 26.4 -0.2
comp=Z,11nm,1.4s
B22A Reddig Ranch S 86.36 338 ⇓P P 01 40 26.1 -0.4
baz=87
LRM Limekiln Ridge 86.50 333 eP P 01 40 26.8 -0.6
comp=Z,51nm,1.3s
C20A Veseth Ranch, 86.51 336 ⇑P P 01 40 26.6 -0.5
baz=87
B21A Ellsworth Farm 86.80 337 ⇑P P 01 40 28.6 0.0
baz=87
C19A Slack Wire Ran 86.88 336 ⇑P P 01 40 28.7 -0.3
baz=87
A22A Carney Farms, 86.95 338 ⇓P P 01 40 29.0 -0.3
baz=87
B20A Solberg Farm, 87.14 337 ⇓P P 01 40 29.8 -0.4
baz=87
A21A Bergtoll Ranch 87.27 338 ⇑P P 01 40 30.4 -0.4
baz=88
B19A Brinkman Farms 87.47 336 ⇓P P 01 40 31.3 -0.4
baz=88
A20A Cobblestone Ra 87.49 337 ⇑P P 01 40 31.5 -0.4
baz=88
MSO Missoula 87.91 333 ⇓P P 01 40 33.9 -0.1
baz=88
LSZ Lusaka 90.01 108 eP P 01 40 46.3 +1.5
comp=Z,30nm,1.5s
TAM Tamanrasset 92.18 64 eP P 01 40 55.0 +0.3
TAM pmax pmax
comp=Z,12nm,1.4s
TAM Tamanrasset 92.18 64 eP P 01 40 55.0 +0.3
comp=Z,12nm,1.4s
ESDC Sonseca Array 95.66 46 P P 01 41 09.7 -0.4
ESDC Sonseca Array 95.66 46 P P 01 41 09.7 -0.4
comp=Z,0.4nm,0.7s,baz=225,slow=4.0,SNR=5.2
ESDC LR LR 02 21 58.7
comp=Z,96nm,18.6s,baz=190,slow=34
DZM Mont Dzumac 102.05 234 eLR LR 02 14 55.3
comp=Z,185nm,22.4s
CRVS Cervenica-Dubn 115.95 47 i P Pdif 01 42 45.0 +4.7
CRVS Cervenica-Dubn 115.95 47 PDIF Pdif 01 42 45.0 +4.7
UZH Uzhgorod 116.37 48 ePKIKP PKPdf 01 46 40.5 +13
UZH i 01 46 45.1
ASAR Alice Springs 118.67 207 PKP PKPdf 01 46 31.5 -1.7
ASAR Alice Springs 118.67 207 PKP PKPdf 01 46 31.5 -1.7
comp=Z,0.3nm,0.7s,baz=169,slow=1.9,SNR=3.1
AKASG Malin Array Be 121.29 47 PKIKP PKPdf 01 46 35.7 -1.5
AKASG Malin Array Be 121.29 47 PKP PKPdf 01 46 35.6 -1.5
AKASG Malin Array Be 121.29 47 PKP PKPdf 01 46 35.7 -1.5
comp=Z,0.3nm,0.4s,baz=276,slow=2.8,SNR=6.6
WRA Warramunga Arr 121.85 209 PKP PKPdf 01 46 38.2 -1.2
WRA Warramunga Arr 121.85 209 PKP PKPdf 01 46 38.2 -1.2
comp=Z,1.4nm,1.0s,baz=152,slow=1.5,SNR=11
H11S2 WAKE ISLAND Hy 125.94 270 T T 04 05 43.3
baz=120
H11S1 WAKE ISLAND Hy 125.95 270 T T 04 05 44.6
baz=120,slow=0.7
H11S3 WAKE ISLAND Hy 125.96 270 T T 04 05 43.9
baz=120,slow=0.7
H11N3 WAKE ISLAND Hy 126.33 271 T T 04 06 07.2
baz=127,slow=0.7
H11N1 WAKE ISLAND Hy 126.34 271 T T 04 06 04.0
baz=127,slow=0.7
H11N2 WAKE ISLAND Hy 126.34 271 T T 04 06 06.4
baz=127,slow=0.7
OBN Obninsk 126.48 43 ⇑i PKIKP PKPdf 01 46 45.5 -1.5
OBN eS SKSac 01 53 55.7 +3.4
OBN eSS SS 02 05 48.1 +0.2
OBN pmax pmax
comp=Z,9.0nm,1.3s
OBN MLR MLR
comp=Z,100nm,22.0s
KIV Kislovodsk 128.74 57 ⇓i PKIKP PKPdf 01 46 45.9 -5.9
KIV eS SKSac 01 53 48.6 -11
KIV pmax pmax
comp=Z,8.0nm,1.2s
KIV MLR MLR
comp=Z,100nm,20.0s
GNI Garni 129.45 63 ePKPdf PKPdf 01 46 54.0 +0.6
ARU Arti 138.76 40 i PKIKP PKPdf 01 47 10.5 +0.4
PETK Petropavlovsk- 139.46 315 PKIKP PKPdf 01 47 11.1 -0.4
PETK Petropavlovsk- 139.46 315 PKP PKPdf 01 47 11.1 -0.4
PETK Petropavlovsk- 139.46 315 PKP PKPdf 01 47 11.1 -0.4
comp=Z,7.7nm,1.0s,baz=66,slow=1.7,SNR=3.7
TIXI Tiksi 139.58 350 i PKIKP PKPdf 01 47 09.2 -1.9
ABKAR Abkulak array 140.83 51 ePKPpre PKPpre 01 47 06.2
ABKAR ePKPdf PKPdf 01 47 13.7 -0.3
PALK Pallekele 144.00 129 ePKPdf PKPbc 01 47 18.9 +0.2
BRVK Borovoye 146.25 42 ⇑i PKP2 PKPbc 01 47 24.4 -0.2
BRVK Borovoye 146.25 42 ePKPbc PKPab 01 47 25.0 -0.3
BVAR Borovoye Array 146.32 42 PKP2 PKPab 01 47 25.2 -0.4
BVAR Borovoye Array 146.32 42 PKPbc PKPab 01 47 25.2 -0.4
BVAR Borovoye Array 146.32 42 PKPbc PKPab 01 47 25.2 -0.4
comp=Z,5.5nm,0.6s,baz=301,slow=1.7,SNR=22
KBL Kabul 147.55 76 ePKP2 PKPbc 01 47 28.5 -0.7
KBL Kabul 147.55 76 ePKPbc PKPbc 01 47 28.5 -0.7
YAK Yakutsk 147.69 341 ePKP2 PKPdf 01 47 26.8 +1.2
YAK pmax pmax
comp=Z,34nm,1.0s
KKAR Karatay Array 148.84 60 ePKP2 PKPbc 01 47 31.5 -0.6
KKAR Karatay Array 148.84 60 ePKPbc PKPbc 01 47 31.5 -0.6
PSI Prapat 148.89 162 PKPbc PKPbc 01 47 32.1 -1.0
PSI Prapat 148.89 162 PKPbc PKPbc 01 47 32.1 -1.0
comp=Z,22nm,1.0s,baz=191,slow=5.7,SNR=9.0
HYB Hyderabad 149.25 113 i PKP PKPbc 01 47 32.5 -1.3
IPM Ipoh 151.01 165 ePKPbc PKPbc 01 47 37.7 -0.5
EKS2 Erkin-Say 151.28 60 ePKIKP PKPdf 01 47 32.3 +0.2
EKS2 e 01 47 38.6
EKS2 Erkin-Say 151.28 60 P PKPbc 01 47 38.6 +0.5
SNR=7.7
EKS2 Erkin-Say 151.28 60 ePKPdf PKPdf 01 47 32.3 +0.2
EKS2 e 01 47 38.5
AML Almayashu 151.29 61 P PKPbc 01 47 39.0 +0.5
SNR=5.5
USP Ospenovka 151.70 59 P PKPbc 01 47 39.5 +0.5
SNR=8.8
KULM Kulim 151.71 164 ePKPbc PKPbc 01 47 39.1 -0.7
KULM ePKPab PKPab 01 47 48.2 -0.1
AAK Ala-Archa 151.80 60 i PKIKP PKPbc 01 47 40.2 +0.8
AAK Ala-Archa 151.80 60 P PKPbc 01 47 40.0 +0.6
SNR=10
AAK Ala-Archa 151.80 60 ePKPdf PKPdf 01 47 32.9 -0.1
AAK ePKPbc PKiKP 01 47 39.8 0.0
FRU Bishkek 151.86 60 ePKIKP PKPbc 01 47 40.0 +0.7
FRU pmax pmax
comp=Z,30nm,1.6s
NVS Novosibirsk 151.87 31 ePKIKP PKPbc 01 47 37.2 -1.7
NVS pmax pmax
comp=Z,31nm,1.4s
KURBB Kurchatov Array 151.91 42 PKP PKPdf 01 47 32.8 +0.1
comp=Z,0.8nm,0.9s,baz=303,slow=2.5,SNR=4.1
KURBB PKPbc PKiKP 01 47 39.2 -0.3
comp=Z,6.8nm,0.7s,baz=299,slow=2.9,SNR=47
KURK Kurchatov 151.92 42 PKIKP PKPdf 01 47 32.8 +0.2
KURK 01 47 39.2
KURK Kurchatov 151.92 42 PKP PKPdf 01 47 32.8 +0.2
KURK ePKPbc PKPbc 01 47 39.0 -0.1
KURK PKPbc PKiKP 01 47 39.2 -0.3
TKM2 Tokmak 2 152.55 59 ePKIKP PKPdf 01 47 34.1 -0.1
TKM2 e 01 47 41.0
TKM2 e 01 47 51.9
TKM2 Tokmak 2 152.55 59 P PKPbc 01 47 41.3 +0.2
SNR=6.9
TKM2 Tokmak 2 152.55 59 ePKPdf PKPdf 01 47 34.1 -0.1
TKM2 ePKPbc PKPbc 01 47 41.0 -0.1
TKM2 ePKPab PKPab 01 47 51.9 +0.3
ZALV Zalesovo Beam 153.16 31 PKIKP PKPdf 01 47 33.6 -0.8
ZALV 01 47 41.7
ZALV Zalesovo Beam 153.16 31 PKP PKPdf 01 47 33.6 -0.8
ZALV PKPbc PKPbc 01 47 41.6 -0.1
ZALV Zalesovo Beam 153.16 31 PKP PKPdf 01 47 33.6 -0.8
comp=Z,1.0nm,0.6s,baz=298,slow=3.1,SNR=9.1
ZALV PKPbc PKPbc 01 47 41.7 -0.1
comp=Z,8.7nm,0.7s,baz=300,slow=3.3,SNR=29
KSH Kashi 153.28 66 PKPbc PKPdf 01 47 36.8 +1.6
MK31 Makanchi Array 155.87 47 ePKIKP PKPdf 01 47 38.9 +0.5
MK31 e 01 48 05.4
MK31 Makanchi Array 155.87 47 ePKPdf PKPdf 01 47 38.9 +0.5
MK31 ePKPab PKPab 01 48 05.3 0.0
MKAR Makanchi Array 155.87 47 PKIKP PKPdf 01 47 38.3 -0.2
MKAR Makanchi Array 155.87 47 PKP PKPdf 01 47 38.3 -0.2
MKAR PKPab PKPab 01 48 05.3 0.0
MKAR Makanchi Array 155.87 47 PKP PKPdf 01 47 38.3 -0.2
comp=Z,2.0nm,1.1s,baz=294,slow=1.4,SNR=6.1
MKAR PKPab PKPab 01 48 05.3 0.0
comp=Z,3.7nm,0.5s,baz=288,slow=3.5,SNR=26
WMQ Urumqi 160.62 50 ePKP PKPdf 01 47 43.8 -0.6
WMQ LR LR
comp=Z,68nm,28.6s
WMQ LR LR
comp=Z,53nm,23.6s
WMQ LR LR
comp=Z,44nm,21.4s
ZAK Zakamensk 162.10 10 ePKP2 PKPab 01 48 31.5 -0.7
ZAK pmax pmax
comp=Z,4.0nm,1.4s
CN2 Changchun 162.60 314 ePKP PKPdf 01 47 48.5 +2.2
KSRS Korea Array 163.19 291 PKP PKPdf 01 47 46.8 -0.3
comp=Z,1.4nm,0.9s,baz=202,slow=1.3,SNR=5.1
KSRS PKPab PKPab 01 48 38.2 +0.8
comp=Z,0.6nm,0.4s,baz=85,slow=5.1,SNR=4.7
KSAR Wonju Array Be 163.23 291 PKP PKPdf 01 47 46.8 -0.3
KSAR PKPab PKPab 01 48 38.2 +0.6
CHTO Chiang Mai 163.77 147 ePKP2 PKPab 01 48 40.1 -0.2
CHTO Chiang Mai 163.77 147 ePKPab PKPab 01 48 40.1 -0.2
SONM Songino Array 164.96 5 PKPab PKPab 01 48 45.2 +0.4
SONM Songino Array 164.96 5 PKPab PKPab 01 48 45.2 +0.4
comp=Z,7.7nm,1.2s,baz=345,slow=4.5,SNR=7.2
KMI Kunming 170.97 147 PKP PKPdf 01 47 53.3 -0.2
KMI PP PP 01 53 05.8 +3.7
KMI PPMZ
comp=Z,49nm,3.6s
KMI LR LR
comp=Z,55nm,19.4s
HHC Hu-ho-hao-te 171.55 342 ePKP PKPdf 01 47 53.3 +0.1
HHC PKS PKSdf 01 51 24.3 -1.2
HHC PP PP 01 53 05.3 +0.9
HHC SKS SKSdf 01 54 55.3 -1.4
HHC SKKS SKKSac 01 59 54.0 +2.0
HHC SS SS 02 14 13.0 +2.1
HHC PPMZ
comp=Z,150nm,8.9s
HHC LR LR
comp=Z,190nm,21.8s
GYA Guiyang 173.51 168 ePKP PKPdf 01 47 54.0 -0.5
GYA PKPab PKPab 01 49 24.8 +1.6
GYA PKS PKSdf 01 51 25.3 -1.6
GYA PP PP 01 53 17.0 +3.0
GYA PPMZ
comp=Z,110nm,8.0s
LZH Lanzhou 175.19 47 ePKP PKPdf 01 47 47.0 -7.8
LZH pPKP pPKPdf 01 47 52.5 -5.5
LZH sPKP 01 47 56.0
CD2 Chengdu 175.79 116 PKP PKPdf 01 47 54.0 -1.0

*IDC **30** 01:42:11.2±6.8, 1°.58S×101°.34E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/24, mbtmp3.6/4, MS4.0/3, Ms1 4.0/3, ms1mx3.0/36, Error ellipse: s-maj=355.3km s-min=22.5km az=54.0*
*DJA **30** 01:42:11.5±2.7, 2°.S±12°×10°.0E±3°.1, h10km, M4.4/4, MLv4.4/4*
*ISCJB **30** 01:42:12.6±1.2, 2°.29S±0°.08×100°.2E±0°.1, h56km, mb3.6/4, MS4.0/3, Error ellipse: s-maj=21.4km s-min=7.3km az=153.1*

ISC 30 01:42:14.1±1.4, 2°.30S±0°.10×100°.2E±0°.2, h56km, n20, σ1ᵎ48/12, mb3.8/4, MS4.1/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PPI	Padang Panjang	1.83	5	P		Pn	Pn	01 42 41.3	-1.9
PPI				S		Sn	Sn	01 43 03.3	-2.0
MASI	Maura Aman, Be	2.18	113	P		Pn	Pn	01 42 47.6	-0.4
KSI	Kapahiang	2.72	120	P		Pn	Pn	01 42 53.9	-1.5
RGRI	Rengat	2.86	48	P		Pn	Pn	01 42 58.5	+1.2
LHSI	Lahat	3.53	115	P		Pn	Pn	01 43 08.8	+1.0
MDSI	Maura Dua	4.51	119	P		Pn	Pn	01 43 18.5	-1.3
PSI	Prapat	5.23	346	Pn		Pn	Pn	01 43 30.0	+0.2
	0.7nm,0.3s,baz=175,slow=12,SNR=2.1								
H08S2	Diego Garcia H	28.12	258	T		T		02 17 08.0	
	baz=81,slow=0.7,SNR=7.9								
H08S3	Diego Garcia H	28.13	258	T		T		02 17 05.7	
	baz=81,slow=0.7,SNR=7.9								
H08S1	Diego Carcia H	28.14	258	T		T		02 17 10.3	
	baz=81,slow=0.7,SNR=8.8								
H01W3	Cape Leeuwin H	34.91	160	T		T		02 25 52.2	
	baz=337,slow=0.7,SNR=14								
H01W2	Cape Leeuwin H	34.93	160	T		T		02 25 52.0	
	baz=337,slow=0.7,SNR=12								
H01W1	Cape Leeuwin H	34.93	160	T		T		02 25 49.8	
	baz=337,slow=0.7,SNR=13								
WRA	Warramunga Arr	37.65	120	P		P		01 49 23.4	-0.7
	0.2nm,0.4s,baz=308,slow=9.4,SNR=6.5								
ASAR	Alice Springs	38.90	126	P		P		01 49 34.8	+0.2
	1.2nm,0.6s,baz=299,slow=7.9,SNR=15								
CTA	Chirs Tower	48.27	115	LR		LR		02 11 49.6	
	comp=Z,218nm,20.9s,baz=238,slow=37								
MKAR	Makanchi Array	51.37	344	P		P		01 51 14.7	+1.6
	0.5nm,0.6s,baz=160,slow=7.9,SNR=5.5								
ZALV	Zalesovo Beam	57.50	349	P		P		01 51 58.8	+1.4
	0.3nm,0.3s,baz=167,slow=6.8,SNR=2.8								
FINES	FINESS Array B	84.47	332	LR		LR		02 39 03.9	
	comp=Z,75nm,20.4s,baz=234,slow=40								
ARCES	ARCESS Array B	86.83	340	LR		LR		02 34 37.9	
	comp=Z,57nm,20.2s,baz=72,slow=36								

*NIED **30** 01:44:00.27°.80N×127°.90E, h5km, Mw3.6 Best double couple: M0 3.18000×10^14 NP1:φs 74.00000°, δ63.00000°, λ-37.00000°. NP2:φs 183.00000°, δ57.00000°, λ-147.00000°.*

JMA 30 01:44:44.3±0.3, 27°.78N×127°.92E, h6km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIH	Iheya	0.74	177	P		Pg		01 44 58.6	0.0
JIH				eS		Sg		01 45 08.1	-0.2
JTK	Tokunoshima	0.91	89	P		Pg		01 45 01.8	-0.1
JTK				S		Sb		01 45 14.5	-0.5
JOW	Kunigami	0.99	161	P		Pg		01 45 03.4	0.0
JOW				eS		Sg		01 45 16.8	+0.4
JAMN	Amaminishikomi	1.20	67	P		Pg		01 45 06.8	-0.6
JAMN				eS		Sb		01 45 23.4	+0.1

IDC 30 01:55:42.4±1.9, 15°.60S×173°.74W, h0km, mb3.5/5, mb1 3.9/5, mb1mx3.7/19, mbtmp3.5/5, Error ellipse: s-maj=116.7km s-min=25.2km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.54	49	Pn		Pn		01 56 20.0	-5.0
	12nm,0.3s,baz=58,slow=20,SNR=7.8								
AFI				Sn		Sn		01 56 46.7	-10
	20nm,0.3s,baz=96,slow=22,SNR=10								
AFI				T		T		01 58 43.5	
	9.1nm,0.3s,baz=295,slow=21,SNR=4.0								
H11S2	WAKE ISLAND Hy	38.97	330	T		T		02 45 09.4	
	baz=153,slow=0.7,SNR=21								
H11S3	WAKE ISLAND Hy	38.98	330	T		T		02 45 13.6	
	baz=153,slow=0.7,SNR=18								
H11S1	WAKE ISLAND Hy	38.99	330	T		T		02 45 13.4	
	baz=153,slow=0.7,SNR=18								
H11N3	WAKE ISLAND Hy	39.93	331	T		T		02 46 21.4	
	baz=153,slow=0.7,SNR=12								
H11N1	WAKE ISLAND Hy	39.93	331	T		T		02 46 21.1	
	baz=153,slow=0.7,SNR=17								
H11N2	WAKE ISLAND Hy	39.95	331	T		T		02 46 24.8	
	baz=153,slow=0.7,SNR=14								
WRA	Warramunga Arr	49.48	257	P		P		02 04 35.0	0.0
	0.3nm,0.8s,baz=92,slow=6.7,SNR=5.4								
ASAR	Alice Springs	49.74	252	P		P		02 04 36.7	-0.3
	0.4nm,0.5s,baz=88,slow=7.8,SNR=8.3								
NVAR	Mina Array Bea	74.70	42	P		P		02 07 24.8	+0.4
	0.8nm,0.7s,baz=226,slow=6.0,SNR=3.1								
TXAR	Lajitas Array	81.00	56	P		P		02 07 59.3	-0.2
	0.5nm,0.9s,baz=237,slow=5.0,SNR=3.0								
ILAR	Eielson Array	82.71	11	P		P		02 08 07.7	+0.1
	0.5nm,1.0s,baz=226,slow=6.5,SNR=7.1								

IDC 30 02:27:57.3±9.7, 17°.62S×174°.63W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.6/19, mbtmp3.5/3, Error ellipse: s-maj=428.0km s-min=38.5km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	48.22	259	P		P		02 36 39.4	-0.8
	0.2nm,0.7s,baz=96,slow=6.6,SNR=5.9								

ASAR Alice Springs 48.33 254 P P 02 36 41.5 +0.4
0.9nm,0.7s,baz=88,slow=8.7,SNR=12
ILAR Eielson Array 84.84 12 P P 02 40 33.5 0.0
0.3nm,0.7s,baz=219,slow=5.3,SNR=5.2

IDC 30 02:34:01.5±3.3, 5.67S×128.38E, h451km±41km, mb2.7/1, mb1 3.4/3, mb1mx2.9/20, mbtmp3.1/3, Error ellipse: s-maj=111.0km s-min=16.3km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.33**	**158**	P	P	02 37 16.1	-0.1
	1.9nm,0.3s,baz=335,slow=11,SNR=185						
WRA				S	S	02 39 56.4	-0.6
	0.2nm,0.3s,baz=340,slow=20,SNR=10						
ASAR	**Alice Springs**	**18.67**	**164**	P	P	02 37 50.9	+0.1
	0.9nm,0.3s,baz=343,slow=11,SNR=45						
ASAR				S	S	02 40 58.9	+0.7
	0.0nm,0.3s,baz=350,slow=22,SNR=3.1						
MKAR	**Makanchi Array**	**66.24**	**327**	P	P	02 44 03.5	-0.1
	0.3nm,0.6s,baz=115,slow=6.8,SNR=4.7						

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*CSEM **30** 02:45:38.4±0.9, 49.93N×18.51E, h1km, Error ellipse: s-maj=12.3km s-min=7.1km az=73.0*

PRU 30 02:45:40.1, 49.91N×18.42E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.19**	**248**	*e*Pg	Pg	02 45 44.1	+0.3
OKC				*e*Sg	Sg	02 45 46.7	+0.4
	comp=Z,13nm,0.4s						
OKC	**Ostrava-Krasne**	**0.19**	**248**	Pg	Pg	02 45 44.1	+0.3
OKC				Sg	Sg	02 45 46.7	+0.4
	13nm,0.4s						
MORC	**Moravsky Berou**	**0.58**	**257**	*e*Pg	Pg	02 45 50.8	-0.6
MORC				*e*Sg	Sg	02 45 58.9	-0.1
OJC	**Ojcow**	**0.94**	**70**	*e*Pg	Pg	02 45 57.3	-0.9
OJC				*e*Sg	Sg	02 46 09.2	-1.2
KRLC	**Kraliky**	**1.07**	**280**	*e*SG	Sg	02 46 14.8	+0.1
KRLC	**Kraliky**	**1.07**	**280**	Sg	Sg	02 46 14.8	+0.1
VRAC	**Vranov**	**1.33**	**244**	*e*Pg	Pg	02 46 04.4	-1.3
VRAC				*e*Sg	Sg	02 46 22.1	-0.9
DPC	**Dobruska-Polom**	**1.42**	**289**	*e*PG	Pn	02 46 06.3	-1.0
DPC				*e*SG	Sg	02 46 25.6	-0.3
DPC	**Dobruska-Polom**	**1.42**	**289**	Pg	Pn	02 46 06.3	-1.0
DPC				Sg	Sg	02 46 25.6	-0.3
UPC	**Upice**	**1.66**	**292**	*e*SG	Sg	02 46 34.0	+0.5
UPC	**Upice**	**1.66**	**292**	Sg	Sg	02 46 34.0	+0.5

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*DJA **30** 02:45:58.5±1.0, 1°S±4'×12°1E±°, h10km±8km, M4.0/8, MLv4.0/8*
*IDC **30** 02:45:59.3±10.0, 1°.52S×121°.19E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/23, mbtmp3.4/4, ML3.1/1, Error ellipse: s-maj=162.1km s-min=44.3km az=145.0*
*ISCJB **30** 02:46:00.4±0.8, 1°.32S±0°.08×120°.9E±0°.1, h33km, mb3.4/3, Error ellipse: s-maj=18.4km s-min=5.4km az=32.1*

ISC 30 02:46:02.3±1.3, 1°.34S±0°.09×121°.0E±0°.1, h35km, n12, σ1s28/13, mb3.2/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APSI	**Ampana**	**0.78**	**57**	P	**Pn**	**02 46 16.6**	**-0.2**
LUWI	**Luwuk**	**1.80**	**80**	P	Pn	02 46 35.1	+4.3
LUWI				S	Sn	02 47 03.5	+11
MRSI	**Marisa**	**2.04**	**28**	P	**Pn**	**02 46 32.4**	**-1.7**
MRSI				S	**Sn**	**02 47 00.0**	**+1.6**
MMSI	**Mamuju**	**2.48**	**237**	P	Pn	02 46 36.1	-4.1
GTOI	**Gorontalo**	**2.81**	**46**	P	**Pn**	**02 46 45.3**	**+0.5**
SPSI	**Sidrap Palu**	**2.88**	**205**	P	**Pn**	**02 46 45.3**	**-0.4**
SPSI				S	**Sn**	**02 47 21.3**	**+2.2**
MJSI	**Majene**	**2.98**	**223**	P	**Pn**	**02 46 47.2**	**+0.1**
BNSI	**Bone**	**3.17**	**196**	P	**Pn**	**02 46 50.3**	**+0.7**
KAPI	**Kappang**	**3.85**	**199**	Pn	**Pn**	**02 46 57.4**	**-1.7**
	1.6nm,0.3s,baz=4.4,slow=13,SNR=4.0						
KAPI				Sn	**Sn**	**02 47 42.8**	**-0.4**
	2.6nm,0.3s,baz=270,slow=20,SNR=4.6						
WRA	**Warramunga Arr**	**22.63**	**146**	P	**P**	**02 50 59.1**	**-1.3**
	0.6nm,0.8s,baz=328,slow=11,SNR=9.8						
ASAR	**Alice Springs**	**25.47**	**152**	P	**P**	**02 51 28.0**	**+0.6**
	0.3nm,0.5s,baz=342,slow=15,SNR=4.2						
STKA	**Stephens Creek**	**36.06**	**149**	P	**P**	**02 53 00.5**	**-0.1**
	0.6nm,0.4s,baz=321,slow=14,SNR=3.1						

NNC 30 02:51:33.2±4.2, 53.81N×87.39E, h0km, mb3.5, mpv3.2, 5C-6D, Error ellipse: s-maj=32.4km s-min=24.4km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**6.21**	**244**	⇑Pn	Pn	02 53 06.5	+0.5
	2.6nm,1.1s						
KURK				⇑Sn	Sn	02 54 21.8	+4.2
	1.5nm,1.1s						
KURK				⇑Lg	Lg	02 54 51.9	
	3.8nm,1.0s						
KURBB	**Kurchatov Arra**	**6.31**	**243**	⇓Pn	Pn	02 53 09.0	+1.6
	0.7nm,0.2s						
KURBB				⇓Sn	Sn	02 54 21.5	+1.4
	3.9nm,0.5s						
KURBB				⇓Lg	Lg	02 54 55.3	
	9.9nm,0.7s						
MK31	**Makanchi Array**	**7.75**	**207**	⇑Pn	Pn	02 53 30.0	+2.9
	0.5nm,0.6s,baz=27,slow=14,SNR=10						
MK31				⇓Sn	Sn	02 55 01.1	+5.5
	0.6nm,0.6s,baz=30,slow=26,SNR=6.2						
MK31				⇓Lg	Lg	02 55 41.7	
	6.6nm,1.1s,baz=28,slow=29,SNR=3.8						
VOSK	**Vostochnaya**	**9.89**	**270**	⇓Pn	Pn	02 53 55.6	-0.9
	0.8nm,0.7s						
VOSK				⇑Sn	Sn	02 55 42.5	-5.7
	1.9nm,0.6s						

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*ISCJB **30** 02:53:38.0±0.8, 32.83S±0°.03×71.92W±0°.03, h2km±5km, mb5.0/102, MS4.4/9, Error ellipse: s-maj=5.6km s-min=2.7km az=43.9*
*IDC **30** 02:53:38.0±0.5, 32.88S×71.66W, h0km, mb4.5/15, mb1 4.6/18, mb1mx4.6/20, mbtmp4.5/18, ML4.7/3, MS4.3/11, Ms1 4.3/11, ms1mx4.1/23, Error ellipse: s-maj=22.8km s-min=14.0km az=82.0*
*NEIC **30** 02:53:39.7, 32.80S×71.94W, h20km, mb5.1/87, ML4.7(GUC), After GUC.*
NEIC Felt [III] at Puchuncavi, Quillota, Quintero, Santiago and Valparaiso.
*GUC **30** 02:53:39.7±0.9, 32.80S×71.94W, h20km±8km, ML4.7*
*GCMT **30** 02:53:42.2±0.3, 32.96S×71.99W, h13km±1km, MW4.9, Moment Tensor Solution. s26,c30; s66,c86; Moment tensor: Scale 10^16 Nm; Mrr 3.18±.17; Mθθ -0.19±.10; Mφφ -2.99±.13; Mrθ 0.84±.31; Mθφ 0.83±.08; Mφr 0.15±.28; Best double couple: M0 3.30000×10^16 NP1: φs 151.00000°, δ47.00000°, λ71.00000°. NP2: φs 358.00000°, δ46.00000°, λ110.00000°. Principal axes: T 3.4000, Plg76.0000°, Azm347.0000°; N -0.1800, Plg14.0000°, Azm164.0000°; P -3.2200, Plg1.0000°, Azm254.0000°; Data Used: IU II G IC CN.*
*MOS **30** 02:53:43.5±1.2, 32.70S×71.66W, h37km, mb5.3/35 Error ellipse: s-maj=15.6km s-min=8.0km az=99.5*

ISC 30 02:53:39.6±1.2, 32.80S±0°.03×71.81W±0°.03, h8km±7km, n600, σ1s20/603, mb5.1/102, MS4.5/9, 149C-160D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PACH	**Papudo**	**0.41**	**50**	⇓*i*P	**Pb**	**02 53 49.2**	**+0.1**
PACH	**Papudo**	**0.41**	**50**	⇑*i*P	**Pb**	**02 53 49.2**	**+0.1**
ROCH	**El Roble**	**0.69**	**105**	⇑*i*P	**Pb**	**02 53 54.0**	**-0.2**
ROCH				*i* S	**Sb**	**02 54 04.7**	**+0.7**
ROCH				AML	AML	02 54 06.2	
	comp=E,85μm,0.5s						
LCCH	**Las Cruces**	**0.70**	**164**	⇓*i*P	**Pg**	**02 53 52.6**	**-0.6**
LCCH	**Las Cruces**	**0.70**	**164**	⇓*i*P	**Pg**	**02 53 52.6**	**-0.6**
PEL	**Peldehue**	**1.00**	**110**	⇓*i*P	**Pb**	**02 53 59.2**	**-0.2**
PEL				*i* S	**Sn**	**02 54 14.2**	**-0.3**
PEL				AML	AML	02 54 22.2	
	comp=E,64μm,0.5s						
JACH	**Jahuel**	**1.03**	**84**	⇓*i*P	**Pb**	**02 53 59.7**	**-0.1**
JACH	**Jahuel**	**1.03**	**84**	⇓*i*P	**Pb**	**02 53 59.7**	**-0.1**
TACH	**Talagante**	**1.12**	**140**	⇓*i*P	**Pg**	**02 54 00.2**	**-1.0**
TACH	**Talagante**	**1.12**	**140**	⇓*i*P	**Pg**	**02 54 00.2**	**-1.0**
SAN	**Santiago**	**1.16**	**125**	⇓*i*P	**Pb**	**02 54 01.7**	**-0.4**
SAN				*i* S	**Sn**	**02 54 18.2**	**-0.2**
SAN	**Santiago**	**1.16**	**125**	⇓*i*P	**Pb**	**02 54 01.6**	**-0.4**
SAN				*i* S	**Sn**	**02 54 18.2**	**-0.2**
SAN	**Santiago**	**1.16**	**125**	⇓*i*P	**Pb**	**02 54 01.6**	**-0.4**
SAN				*i* S	**Sn**	**02 54 18.2**	**-0.2**
SAN				AML	AML	02 54 28.3	
	comp=N,20μm,0.5s						
STL	**Santa Lucia**	**1.17**	**123**	⇓*i*P	**Pb**	**02 54 01.7**	**-0.4**
STL				*i* S	**Sn**	**02 54 17.9**	**-0.7**
LNV	**Longovilo**	**1.20**	**164**	*e*P	**Pb**	**02 54 00.6**	**-2.0**
LNV	**Longovilo**	**1.20**	**164**	*e*P	**Pb**	**02 54 00.6**	**-2.0**
CLCH	**Cerro Calan**	**1.22**	**120**	⇑*i*P	**Pb**	**02 54 02.6**	**-0.5**
CLCH				*i* S	**Sn**	**02 54 19.8**	**-0.1**
CLCH				AML	AML	02 54 30.9	
	comp=N,24μm,0.7s						
ANTU	**Antumapu**	**1.25**	**128**	*e*P	**Pn**	**02 54 03.1**	**-0.4**
ANTU	**Antumapu**	**1.25**	**128**	*e*P	**Pn**	**02 54 03.1**	**-0.4**
ANTU				AML	AML	02 54 28.2	
	comp=E,25μm,0.5s						
LACH	**Col Las Americ**	**1.25**	**122**	⇓*i*P	**Pb**	**02 54 03.5**	**-0.2**
LACH				*e*S	**Sn**	**02 54 20.3**	**-0.4**
LACH	**Col Las Americ**	**1.25**	**122**	⇓*i*P	**Pb**	**02 54 03.5**	**-0.2**
LACH				*e*S	**Sn**	**02 54 20.3**	**-0.4**
LACH				AML	AML	02 54 27.6	
	comp=N,12μm,0.6s						
FSR	**Penalolen**	**1.27**	**123**	⇓*i*P	**Pg**	**02 54 04.9**	**+0.8**
FSR				*i* S	**Sn**	**02 54 22.4**	**+1.3**
FSR	**Penalolen**	**1.27**	**123**	⇓*i*P	**Pg**	**02 54 04.9**	**+0.8**
FSR				*i* S	**Sn**	**02 54 22.4**	**+1.3**
PCH	**Pirque**	**1.36**	**127**	⇑*i*P	**Pn**	**02 54 05.0**	**-0.1**
PCH				*e*S	**Sg**	**02 54 24.3**	**+0.8**
PCH	**Pirque**	**1.36**	**127**	⇑*i*P	**Pn**	**02 54 05.0**	**-0.1**
PCH				*e*S	**Sg**	**02 54 24.3**	**+0.8**
SJCH	**San Jose de Ma**	**1.48**	**125**	*e*P	**Pn**	**02 54 05.6**	**-1.1**
SJCH				*i* S	**Sn**	**02 54 25.9**	**-0.5**
SJCH	**San Jose de Ma**	**1.48**	**125**	*e*P	**Pn**	**02 54 05.6**	**-1.1**
SJCH				*i* S	**Sn**	**02 54 25.9**	**-0.5**
SJCH				AML	AML	02 54 32.0	
	comp=N,13μm,0.5s						
CACH	**El Canelo**	**1.66**	**143**	⇑*i*P	**Pn**	**02 54 09.7**	**+0.5**
CACH	**El Canelo**	**1.66**	**143**	⇑*i*P	**Pn**	**02 54 09.7**	**+0.5**
LMEL	**Las Melosas**	**1.70**	**128**	⇑*i*P	**Pn**	**02 54 10.2**	**+0.4**
LMEL				*i* S	**Sg**	**02 54 33.8**	**-0.7**
LMEL	**Las Melosas**	**1.70**	**128**	⇑*i*P	**Pn**	**02 54 10.2**	**+0.4**
LMEL				*i* S	**Sg**	**02 54 33.8**	**-0.7**
LMEL				AML	AML	02 54 37.4	
	comp=N,14μm,0.3s						
CMCH	**Combarbala**	**1.76**	**23**	⇑*i*P	**Pn**	**02 54 10.1**	**-0.4**
CMCH	**Combarbala**	**1.76**	**23**	⇑*i*P	**Pn**	**02 54 10.1**	**-0.4**
TALC	**Talca**	**2.60**	**177**	⇑*i*P	**Pn**	**02 54 22.2**	**+0.2**
TALC				*i* S	**Sn**	**02 54 53.6**	**-0.2**
TALC	**Talca**	**2.60**	**177**	⇑*i*P	**Pn**	**02 54 22.2**	**+0.2**
TALC				*i* S	**Sn**	**02 54 53.6**	**-0.2**
TALC				AML	AML	02 55 01.1	
	comp=E,11μm,0.5s						
TLL	**Tololo Astrono**	**2.76**	**18**	*e*P	**Pn**	**02 54 24.8**	**+0.4**
TLL	**Tololo Astrono**	**2.76**	**18**	*e*P	**Pn**	**02 54 24.8**	**+0.4**
TLL	**Tololo Astrono**	**2.76**	**18**	*e*P	**Pn**	**02 54 24.8**	**+0.4**
CFAA	**Coronel Fontan**	**3.25**	**70**	Pn	Pb	02 54 34.3	-3.4
CFAA				Lg	Lg	02 55 17.2	
CFAA	**Coronel Fontan**	**3.25**	**70**	Pn	Pb	02 54 34.3	-3.4
	comp=E,2.5nm,0.3s,baz=243,slow=13,SNR=72						
CFAA				Lg	Lg	02 55 17.2	
	comp=E,4.2nm,0.3s,baz=180,slow=19,SNR=4.1						
CFAA				LR	LR	02 56 02.2	
	comp=E,1μm,21.2s,baz=326,slow=46						
LCO	**Las Campanas**	**3.89**	**14**	*e*Pn	**Pn**	**02 54 39.1**	**-0.9**
LCO				*e*Sn	**Sn**	**02 55 22.7**	**-3.4**
H03N1	**Juan Fernandez**	**6.00**	**262**	Pn	**Pn**	**02 55 06.3**	**-2.1**
	baz=87,slow=0.7,SNR=10						
H03N1				T	T	03 01 34.5	
	baz=86,slow=0.7,SNR=1971						
H03N3	**Juan Fernandez**	**6.01**	**262**	Pn	**Pn**	**02 55 06.7**	**-1.9**
H03N3				T	T	03 01 33.8	
	baz=86,slow=0.7,SNR=1515						
H03N2	**Juan Fernandez**	**6.01**	**262**	Pn	**Pn**	**02 55 06.3**	**-2.4**
	baz=102,slow=0.7,SNR=13						
H03N2				T	T	03 01 35.7	
	baz=86,slow=0.7,SNR=2114						
PLCA	**Paso Flores**	**7.98**	**173**	*e*Pn	**Pn**	**02 55 36.1**	**0.0**
	comp=E,54nm,1.1s						
PLCA				Lg	Lg	02 57 47.7	
PLCA	**Paso Flores**	**7.98**	**173**	Pn	**Pn**	**02 55 36.0**	**0.0**
	comp=E,3.6nm,0.3s,baz=335,slow=11,SNR=74						
PLCA				Lg	Lg	02 57 47.7	
	baz=295,slow=19,SNR=2.1						
PLCA				LR	LR	02 59 19.7	
	comp=E,2μm,18.4s,baz=350,slow=43						
TRQA	**Tornquist**	**9.58**	**126**	*e*Pn	**Pn**	**02 56 00.5**	**+2.6**
	comp=E,227nm,1.5s						
CPUP	**Villa Florida**	**14.15**	**67**	*e*Pn	**Pn**	**02 56 57.5**	**-2.9**
	comp=E,46nm,0.7s						
CPUP				Sn	**Sn**	**02 59 32.3**	**-5.3**
CPUP				Lg	Lg	03 01 13.1	
CPUP	**Villa Florida**	**14.15**	**67**	Pn	**Pn**	**02 57 01.5**	**+1.2**
	comp=E,0.3nm,0.3s,baz=232,slow=12,SNR=2.9						
CPUP				Sn	**Sn**	**02 59 32.3**	**-5.3**
	comp=E,0.5nm,0.3s,baz=168,slow=20,SNR=1.8						
CPUP				Lg	Lg	03 01 13.1	
	comp=E,0.9nm,0.3s,baz=319,slow=19,SNR=2.2						
LPAZ	**La Paz**	**16.77**	**12**	*e*Pn	**Pn**	**02 57 35.2**	**-0.4**
	comp=E,395nm,2.9s						
LPAZ				Sn	**S**	**03 00 49.5**	**-4.1**
LPAZ				Lg	Lg	03 02 34.1	
LPAZ	**La Paz**	**16.77**	**12**	Pn	**Pn**	**02 57 36.1**	**+0.5**
	comp=E,0.8nm,0.3s,baz=184,slow=6.8,SNR=31						
LPAZ				Sn	**S**	**03 00 49.5**	**-4.1**
	baz=106,slow=20,SNR=1.2						
LPAZ				Lg	Lg	03 02 34.1	
	comp=E,0.0nm,0.3s,baz=217,slow=20,SNR=1.3						
SIV	**San Ignacio**	**19.36**	**33**	P	**P**	**02 58 04.9**	**-0.9**
SIV	**San Ignacio**	**19.36**	**33**	P	**P**	**02 58 04.9**	**-0.9**
	comp=E,0.7nm,0.3s,baz=211,slow=12,SNR=17						
SIV				LR	LR	03 06 48.0	
	comp=E,1μm,19.4s,slow=41						
NNA	**Nana**	**21.22**	**346**	P	**P**	**02 58 27.3**	**+1.3**
NNA	**Nana**	**21.22**	**346**	P	**P**	**02 58 27.3**	**+1.3**
	comp=E,13nm,0.8s,baz=211,slow=9.7,SNR=3.9						
EFI	**East Falkland**	**21.37**	**156**	*e*P	**P**	**02 58 26.6**	**-0.7**
EFI				pmax	pmax		
	comp=Z,116nm,0.8s						
EFI	**East Falkland**	**21.37**	**156**	*e*P	**P**	**02 58 26.6**	**-0.7**
	comp=Z,116nm,0.8s						
EFI	**East Falkland**	**21.37**	**156**	P	**P**	**02 58 26.5**	**-0.7**
	comp=Z,404nm,0.8s,SNR=18						
USHA	**Ushuaia**	**22.16**	**175**	P	**P**	**02 58 35.3**	**-0.4**
USHA	**Ushuaia**	**22.16**	**175**	P	**P**	**02 58 35.3**	**-0.4**
	comp=Z,8.0nm,0.7s,baz=322,slow=12,SNR=5.4						
USHA				LR	LR	03 07 21.1	
	comp=Z,669nm,18.5s,baz=332,slow=37						
SPB	**Sao Paulo**	**23.32**	**73**	*e*P	**P**	**02 58 46.4**	**-1.8**
	comp=Z,23nm,0.9s						
SAML	**Samuel**	**25.04**	**20**	*e*P	**P**	**02 59 04.0**	**-0.4**
	comp=Z,10nm,0.8s						
ATAH	**Atahualpa**	**26.26**	**345**	P	**P**	**02 59 17.8**	**+1.8**
ATAH	**Atahualpa**	**26.26**	**345**	P	**P**	**02 59 17.8**	**+1.8**
	comp=Z,3.0nm,0.5s,baz=157,slow=13,SNR=3.0						
BDFB	**Brasilia**	**27.51**	**57**	*e*P	**P**	**02 59 25.6**	**-1.3**
BDFB	**Brasilia**	**27.51**	**57**	P	**P**	**02 59 25.1**	**-1.9**
	comp=Z,12nm,0.8s,baz=220,slow=9.7,SNR=8.3						
BDFB				LR	LR	03 11 49.6	
	comp=Z,2μm,18.6s,baz=36,slow=40						
OTAV	**Otavalo**	**33.45**	**348**	*e*P	**P**	**03 00 20.3**	**+0.6**
	comp=Z,49nm,1.8s						
OTAV				*e*PcP	**PcP**	**03 03 02.3**	**+1.2**
ROSC	**El Rosal**	**37.52**	**356**	*e*P	**P**	**03 00 55.5**	**+0.8**
ROSC	**El Rosal**	**37.52**	**356**	P	**P**	**03 00 56.8**	**+2.1**
	comp=Z,3.9nm,0.5s,baz=255,slow=22,SNR=2.9						
SDV	**Santo Domingo**	**41.47**	**2**	*e*P	**P**	**03 01 27.2**	**-0.1**
	comp=Z,24nm,1.1s						
BCIP	**Isla Barro Col**	**42.43**	**348**	*e*P	**P**	**03 01 36.0**	**+1.0**
	comp=Z,28nm,1.2s						
SABA	**Saba**	**50.80**	**11**	*e*P	**P**	**03 02 40.9**	**+0.3**
CELP	**Cerrillos**	**50.83**	**6**	*e*P	**P**	**03 02 40.6**	**-0.2**
VNA2	**Neumayer--Watz**	**51.05**	**158**	*e*P	**P**	**03 02 41.6**	**-0.3**
SNAA	**Sanae**	**52.62**	**158**	*e*P	**P**	**03 02 53.8**	**0.0**
SNAA	**Sanae**	**52.62**	**158**	*e*P	**P**	**03 02 53.7**	**0.0**
	comp=Z,12nm,0.8s						
TEIG	**Tepich**	**55.03**	**341**	*e*P	**P**	**03 03 11.2**	**-0.5**
	comp=Z,25nm,0.8s						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKT	**Rikitea**	**55.91**	**263**	*e*LR	LR	03 19 41.5	
	comp=Z,534nm,25.5s,baz=121						
RKT	**Rikitea**	**55.91**	**263**	*e*T	T	04 03 29.3	
	comp=Z,1.2nm,0.2s						
MAIT	**Maitri**	**57.31**	**157**	*e*P	**P**	**03 03 26.0**	**-1.6**
QSPA	**South Pole Qui**	**57.44**	**180**	*e*P	**P**	**03 03 28.9**	**+0.2**
	comp=Z,14nm,0.8s						
H06E1	**ISCORRO T-PHAS**	**63.48**	**318**	T	T	04 13 21.3	
	SNR=4.6						
SBA	**Scott Base**	**64.29**	**192**	*e*P	**P**	**03 04 17.6**	**+2.6**
SBA				pmax	pmax		
	comp=Z,128nm,2.7s						
SBA	**Scott Base**	**64.29**	**192**	*e*P	**P**	**03 04 17.6**	**+2.6**
	comp=Z,128nm,2.7s						
VNDA	**Vanda**	**65.31**	**191**	*e*P	**P**	**03 04 24.0**	**+2.4**
	comp=Z,8.3nm,1.4s						
VNDA	**Vanda**	**65.31**	**191**	P	**P**	**03 04 20.9**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=122,slow=8.7,SNR=5.5						
HKT	**Hockley**	**66.43**	**337**	*e*P	**P**	**03 04 29.7**	**+0.5**
HKT				pmax	pmax		
	comp=Z,55nm,1.7s						
HKT	**Hockley**	**66.43**	**337**	*e*P	**P**	**03 04 29.7**	**+0.5**
	comp=Z,55nm,1.7s						
732A	**Laxson Ranch,**	**66.78**	**333**	⇑P	**P**	**03 04 33.1**	**+1.5**
	baz=67						
SYO	**Syowa Base**	**66.91**	**159**	⇓*e*P	**P**	**03 04 30.0**	**-2.0**
631A	**Perdido Creek**	**67.62**	**333**	⇑P	**P**	**03 04 38.0**	**+1.1**
	baz=68						
TBI	**Tubuai**	**67.79**	**256**	*e*S	**S**	**03 13 36.6**	**-0.2**
	comp=Z,300nm,29.0s						
TBI	**Tubuai**	**67.79**	**256**	*e*LR	LR	03 25 13.7	
	comp=Z,1μm,26.5s,baz=114						
532A	**Rocksprings**	**68.01**	**334**	⇑P	**P**	**03 04 40.3**	**+0.9**
	baz=68						
KMSC	**Kings Mountain**	**68.17**	**352**	*e*P	**P**	**03 04 42.0**	**+1.8**
	comp=Z,18nm,1.1s						
KMSC	**Kings Mountain**	**68.17**	**352**	⇓P	**P**	**03 04 40.7**	**+0.5**
	baz=68						
531A	**Rocksprings**	**68.28**	**333**	⇑P	**P**	**03 04 42.3**	**+1.2**
	baz=68						
JCT	**Junction City**	**68.29**	**334**	*e*P	**P**	**03 04 43.0**	**+1.8**
JCT				pmax	pmax		
	comp=Z,50nm,1.4s						
JCT	**Junction City**	**68.29**	**334**	*e*P	**P**	**03 04 43.0**	**+1.8**
	comp=Z,50nm,1.4s						
JCT	**Junction City**	**68.29**	**334**	⇑P	**P**	**03 04 42.3**	**+1.2**
	baz=69						
530A	**J-C Ranch, Com**	**68.57**	**333**	⇓P	**P**	**03 04 44.1**	**+1.2**
	baz=69						
628A	**Black Gap, Mar**	**68.60**	**331**	⇑P	**P**	**03 04 44.7**	**+1.5**
	baz=69,SNR=9.8						
432A	**Menard**	**68.64**	**334**	⇑P	**P**	**03 04 44.4**	**+1.0**
	baz=69						
431A	**Sonora**	**68.77**	**334**	⇓P	**P**	**03 04 45.1**	**+0.9**
	baz=69						
627A	**Terlingua Ranc**	**68.77**	**331**	⇓P	**P**	**03 04 45.8**	**+1.5**
	baz=69						
TXAR	**Lajitas Array**	**68.78**	**330**	P	**P**	**03 04 44.6**	**+0.2**
TXAR	**Lajitas Array**	**68.78**	**330**	P	**P**	**03 04 44.6**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=150,slow=9.3,SNR=19						
TXAR				LR	LR	03 31 03.7	
	comp=Z,70nm,19.1s,baz=185,slow=33						
WHTX	**Lake Whitney**	**68.84**	**337**	*e*P	**P**	**03 04 46.1**	**+1.6**
WHTX	**Lake Whitney**	**68.84**	**337**	⇑P	**P**	**03 04 46.1**	**+1.6**
	baz=69						
529A	**Stev Forest Ra**	**68.89**	**332**	⇑P	**P**	**03 04 46.0**	**+1.0**
	baz=69						
CPCT	**Cooper Cave**	**68.93**	**349**	*e*P	**P**	**03 04 44.8**	**-0.2**
SWET	**Sewanee**	**68.94**	**348**	*e*P	**P**	**03 04 45.3**	**+0.1**
332A	**Millersview**	**69.08**	**335**	⇓P	**P**	**03 04 47.0**	**+0.9**
	baz=69						
430A	**Baggett Ranch,**	**69.10**	**333**	⇑P	**P**	**03 04 47.5**	**+1.3**
	baz=69						
528A	**Cox Ranch, San**	**69.15**	**332**	⇓P	**P**	**03 04 47.8**	**+1.1**
	baz=69						
626A	**Big Bend Ranch**	**69.17**	**330**	⇑P	**P**	**03 04 47.8**	**+1.0**
	baz=69,SNR=12						
429A	**Davenport Ranc**	**69.21**	**332**	⇑P	**P**	**03 04 47.9**	**+0.9**
	baz=70						
331A	**San Angelo**	**69.26**	**334**	⇓P	**P**	**03 04 48.3**	**+1.0**
	baz=70						
527A	**Woodward Ranch**	**69.47**	**331**	⇑P	**P**	**03 04 49.1**	**+0.4**
	baz=70,SNR=7.7						
232A	**Coleman**	**69.50**	**335**	⇑P	**P**	**03 04 49.4**	**+0.7**
	baz=70						
526A	**Mary Lane Ranc**	**69.60**	**330**	⇑P	**P**	**03 04 50.4**	**+0.9**
	baz=70,SNR=8.8						
428A	**Kincaid Ranch,**	**69.61**	**332**	⇓P	**P**	**03 04 49.7**	**+0.2**
	baz=70						
330A	**Mertzon**	**69.63**	**333**	⇑P	**P**	**03 04 49.9**	**+0.4**
	baz=70						
231A	**Bronte**	**69.79**	**334**	⇑P	**P**	**03 04 50.9**

Z28A **Tucker Farm, M** 71.77 333 ⇓P P 03 05 03.4 +0.9
baz=72
WMOK **Wichita Mounta** 71.80 337 eP P 03 05 03.0 +0.4
WMOK pmax pmax
comp=Z,25nm,1.5s
WMOK **Wichita Mounta** 71.80 337 eP P 03 05 03.0 +0.4
comp=Z,26nm,1.5s
126A **Clayton Basin,** 71.83 332 ⇓P P 03 05 03.5 +0.5
baz=72
USIN **University of** 71.94 347 eP P 03 05 03.7 +0.4
comp=Z,37nm,1.0s
WCI **Wyandotte Cave** 71.94 348 eP P 03 05 02.4 -1.0
WCI pmax pmax
comp=Z,26nm,1.4s
WCI **Wyandotte Cave** 71.94 348 eP P 03 05 02.4 -1.0
comp=Z,26nm,1.4s
TUL1 **Tulsa** 71.95 340 ⇓P P 03 05 04.2 +0.7
baz=72
224A **Cornudas Mount** 71.95 330 ⇓P P 03 05 03.6 -0.2
baz=72,SNR=8.5
Y29A **Porterfield Fa** 72.01 334 ⇓P P 03 05 04.1 +0.1
baz=72
125A **Gardner Draw,** 72.10 331 ⇓P P 03 05 05.0 +0.3
baz=72
X31A **McDonald Ranch** 72.11 336 ⇓P P 03 05 04.9 +0.4
baz=72
Z27A **Tatum** 72.11 333 ⇓P P 03 05 05.1 +0.5
baz=72
Z26A **Caprock** 72.37 332 ⇑P P 03 05 06.2 0.0
baz=73,SNR=11
124A **Stringfield Ra** 72.46 331 ⇑P P 03 05 07.2 +0.3
baz=73
MSTX **Muleshoe** 72.52 333 eP P 03 05 07.9 +0.8
MSTX **Muleshoe** 72.52 333 ⇑P P 03 05 07.4 +0.3
baz=73
X29A **Tulia** 72.55 334 ⇓P P 03 05 07.6 +0.4
baz=73
W31A **Holland Ranch,** 72.60 336 ⇑P P 03 05 07.8 +0.4
baz=73
320A **Kipp Ranch, An** 72.62 328 ⇑P P 03 05 08.2 +0.4
baz=73
Z25A **Roswell** 72.67 332 ⇑P P 03 05 08.3 +0.3
baz=73
Y26A **Elida** 72.88 333 ⇑P P 03 05 10.3 +1.1
baz=73
AMTX **Amarillo** 72.93 335 eP P 03 05 11.0 +1.5
comp=Z,63nm,1.5s
AMTX **Amarillo** 72.93 335 ⇓P P 03 05 10.5 +1.0
baz=73
Z24A **Sheeppen Canyo** 72.97 331 ⇑P P 03 05 10.1 +0.2
baz=73,SNR=11
319A **Douglas** 73.00 327 ⇑P P 03 05 10.8 +0.8
baz=73
V31A **Spring Creek L** 73.09 336 ⇑P P 03 05 11.3 +0.9
baz=73
220A **Playas Peak, P** 73.10 328 ⇓P P 03 05 11.8 +1.2
baz=73
W29A **Amraillo** 73.13 335 ⇑P P 03 05 11.3 +0.6
baz=73
Y25A **Mesa, Roswell** 73.22 332 ⇑P P 03 05 12.0 +0.7
baz=74
Z23A **Rita Site, Whi** 73.27 330 ⇓P P 03 05 12.3 +0.7
baz=74,SNR=8.7
121A **Cookes Peak, D** 73.31 329 eP P 03 05 13.1 +1.2
121A **Cookes Peak, D** 73.31 329 ⇑P P 03 05 12.5 +0.6
baz=74
ACSO **Alum Creek Sta** 73.40 351 eP P 03 05 11.9 -0.1
comp=Z,65nm,1.5s
X26A **CR and CF Fran** 73.43 333 ⇓P P 03 05 12.7 +0.2
baz=74,SNR=9.9
Y24A **Capitan** 73.52 331 ⇓P P 03 05 13.6 +0.5
baz=74,SNR=7.1
W27A **Bowe Ranch, En** 73.60 334 ⇑P P 03 05 14.0 +0.6
baz=74
U31A **Nine Bar Ranch** 73.64 337 ⇓P P 03 05 14.3 +0.8
baz=74
120A **U Bar Ranch, L** 73.69 328 ⇓P P 03 05 14.3 +0.1
baz=74
X25A **Clemmons Ranch** 73.74 332 ⇓P P 03 05 14.6 +0.3
baz=74,SNR=7.1
V29A **Stinnett** 73.76 335 ⇓P P 03 05 14.7 +0.4
baz=74
T33A **Patterson Ranc** 73.77 338 ⇓P P 03 05 15.0 +0.7
baz=74
Y23A **Lovelace Mesa,** 73.78 331 ⇓P P 03 05 15.7 +1.1
baz=74,SNR=8.7
W26A **Owens Ranch, T** 73.89 333 ⇓P P 03 05 15.7 +0.6
baz=74
V28A **Channing** 73.91 335 ⇑P P 03 05 15.9 +0.7
baz=74
Z21A **St. Cloud Mine** 73.92 329 ⇓P P 03 05 17.1 +1.6
baz=74,SNR=9.8
U30A **WK&E Inc. Balk** 74.06 336 ⇓P P 03 05 17.2 +1.1
baz=74
Z20A **Nine Sixteen R** 74.16 329 ⇓P P 03 05 18.1 +1.3
baz=74
Y22A **Socorro** 74.16 330 ⇓P P 03 05 17.7 +0.9
baz=74
BNM **Barren Site** 74.21 331 eP P 03 05 18.2 +1.0
comp=Z,8.4nm,1.2s
LIC **Lamto** 74.21 72 eP P 03 05 17.5 +0.1
comp=Z,5.0nm,0.3s
T31A **Randall Ranch,** 74.25 337 ⇓P P 03 05 18.0 +0.9
baz=74
W25A **X Bar L Ranch,** 74.27 333 ⇑P P 03 05 18.4 +1.0
baz=74,SNR=9.7
MAW **Mawson** 74.28 164 P P 03 05 15.7 -1.2
MAW **Mawson** 74.28 164 P P 03 05 15.7 -1.2
comp=Z,8.5nm,0.7s,baz=233,slow=6.5,SNR=12
MAW LR LR 03 39 25.4
comp=Z,343nm,19.1s,baz=217,slow=37
U28A **Mallet** 74.47 335 ⇑P P 03 05 18.6 +0.1
baz=75
TIC **Toumodi** 74.47 71 eP P 03 05 19.0 +0.1
comp=Z,7.0nm,0.2s
TUC **Tucson** 74.47 326 eP P 03 05 19.6 +1.0
TUC pmax pmax
comp=Z,21nm,1.5s
TUC **Tucson** 74.47 326 eP P 03 05 19.6 +1.0
comp=Z,21nm,1.5s
V26A **Tequesquite Ra** 74.52 333 ⇓P P 03 05 20.4 +1.5
baz=75
KIC **Kosan Boka** 74.52 72 eP P 03 05 19.4 +0.2
comp=Z,96nm,1.6s
Y21A **Point of Rocks** 74.52 330 ⇓P P 03 05 20.5 +1.4
baz=75
S32A **Newby Ranch, P** 74.56 338 ⇓P P 03 05 19.9 +1.0
baz=75
DBIC **Dimbokro** 74.61 71 eP P 03 05 19.4 -0.3
comp=Z,14nm,1.1s
DBIC **Dimbokro** 74.61 71 P P 03 05 19.0 -0.7
comp=Z,4.5nm,0.7s,baz=215,slow=6.2,SNR=7.6
DBIC LR LR 03 34 31.6
comp=Z,251nm,21.3s,baz=209,slow=33
W24A **Lazy 6 Ranch,** 74.63 332 ⇑P P 03 05 20.9 +1.3
baz=75
LAZ **Ladron** 74.64 330 eP P 03 05 21.0 +1.3
comp=Z,18nm,1.5s
U27A **Thompson Grove** 74.72 334 ⇑P P 03 05 21.5 +1.5
baz=75
Y20A **Horse Springs,** 74.74 329 ⇓P P 03 05 21.5 +1.2
baz=75
R33A **Olander Ranch,** 74.82 339 ⇑P P 03 05 21.9 +1.5
baz=75
ANMO **Albuquerque** 74.82 331 eP P 03 05 22.4 +1.7
comp=Z,20nm,1.3s
V25A **Rancho No Teng** 74.87 333 ⇑P P 03 05 21.9 +1.0
baz=75,SNR=8.1
W23A **Warner Place,** 74.89 331 ⇑P P 03 05 22.3 +1.2
baz=75
X21A **Alamocita Cree** 74.94 330 ⇓P P 03 05 22.8 +1.3
baz=75,SNR=8.5
S30A **Montezuma** 75.00 337 ⇓P P 03 05 23.3 +1.9
baz=75
V24A **Rampart Ranch,** 75.03 332 ⇑P P 03 05 22.8 +0.9
baz=75
U26A **Atchley Ranch,** 75.03 334 ⇓P P 03 05 22.9 +1.0
baz=75
T28A **Walsh** 75.09 335 ⇑P P 03 05 23.3 +1.2
baz=75
214A **Organ Pipe Nat** 75.15 325 ⇓P P 03 05 23.8 +1.4
baz=75
S29A **Ulysses** 75.20 336 ⇓P P 03 05 24.0 +1.4
baz=76
SUR **Sutherland** 75.24 119 eP P 03 05 25.0 +1.5
comp=Z,32nm,1.0s
T27A **Campo** 75.25 335 ⇑P P 03 05 24.4 +1.3
baz=76
U25A **Circle Dot Ran** 75.29 333 ⇑P P 03 05 24.5 +1.1
baz=76
V23A **Ortiz Mt. (NFS** 75.41 332 ⇓P P 03 05 25.3 +1.2
baz=76
S28A **Manter** 75.44 336 ⇓P P 03 05 25.0 +1.0
baz=76
W21A **San Fidel** 75.46 330 ⇓P P 03 05 25.4 +0.9
baz=76
R30A **Dighton** 75.52 337 ⇑P P 03 05 25.7 +1.2
baz=76
Q32A **Meitler Ranch,** 75.62 339 ⇑P P 03 05 26.7 +1.7
baz=76
U24A **Moreno Valley** 75.63 333 ⇓P P 03 05 26.4 +1.0
baz=76
T26A **Comanche Natio** 75.67 334 ⇑P P 03 05 26.9 +1.3
baz=76
P33A **Williams Farm,** 75.78 340 ⇑P P 03 05 27.3 +1.4
baz=76
W20A **Ramah** 75.83 330 ⇑P P 03 05 27.8 +1.3
baz=76
V22A **San Miguel Ran** 75.84 331 ⇓P P 03 05 27.9 +1.3
baz=76,SNR=13
Q31A **Ellis** 75.89 338 ⇓P P 03 05 27.7 +1.1
baz=76
U23A **El Rito** 75.92 332 ⇑P P 03 05 27.4 +0.4
baz=76
T25A **Trinidad** 75.94 334 ⇓P P 03 05 28.3 +1.2
baz=76,SNR=12
X18A **Snowflake** 75.95 328 ⇓P P 03 05 28.2 +1.0
baz=76
S26A **Kim** 76.02 335 ⇑P P 03 05 28.5 +1.0
baz=76,SNR=11
V21A **Milan** 76.05 331 ⇑P P 03 05 29.1 +1.3
baz=76
R28A **Tribune** 76.08 336 ⇑P P 03 05 28.6 +0.8
baz=76
Q30A **Quinter** 76.13 338 ⇑P P 03 05 28.9 +1.0
baz=76
U22A **Llaves** 76.22 332 ⇓P P 03 05 29.6 +0.8
baz=76
T24B **San Luis** 76.24 333 ⇓P P 03 05 30.3 +1.3
baz=76,SNR=8.2
113A **Mohawk Valley,** 76.27 325 ⇓P P 03 05 29.6 +0.8
baz=76
Q29A **Oakley** 76.30 337 ⇑P P 03 05 29.5 +0.6
baz=77
W18A **Petrified Fore** 76.36 329 eP P 03 05 30.7 +1.2
W18A **Petrified Fore** 76.36 329 ⇑P P 03 05 30.4 +1.0
baz=77
P31A **Stockton** 76.36 338 ⇑P P 03 05 30.2 +1.0
baz=77
R27A **Eads** 76.38 335 ⇓P P 03 05 31.1 +1.7
baz=77
S25A **Robets Cordova** 76.41 334 ⇓P P 03 05 30.9 +1.2
baz=77,SNR=9.9
T23A **Casias Ranch,** 76.47 332 ⇓P P 03 05 31.4 +1.2
baz=77
X16A **Lo Mia Camp, P** 76.53 327 ⇓P P 03 05 31.8 +1.3
baz=77
U21A **Nageezi** 76.59 331 ⇓P P 03 05 32.0 +1.2
baz=77
R26A **Arlington** 76.62 335 ⇑P P 03 05 31.9 +1.0
baz=77
P30A **Seen** 76.66 338 ⇓P P 03 05 31.9 +1.0
baz=77
S24A **Houchin Ranch,** 76.69 333 ⇓P P 03 05 32.7 +1.3
baz=77,SNR=11
O32A **Brockman Farm,** 76.71 339 ⇑P P 03 05 32.5 +1.4
baz=77
T22A **Edith** 76.80 332 ⇑P P 03 05 33.4 +1.4
baz=77,SNR=14
Y14A **Wickenburg** 76.86 326 ⇑P P 03 05 33.5 +1.2
baz=77
SDCO **Great Sand Dun** 76.89 333 eP P 03 05 33.7 +1.1
comp=Z,61nm,2.1s
SCIA **State Center** 76.90 344 eP P 03 05 33.4 +1.2
comp=Z,47nm,1.3s
P29A **Atwood** 76.93 337 ⇓P P 03 05 33.6 +1.1
baz=77
T21A **Navajo Lake** 77.03 331 ⇓P P 03 05 34.5 +1.2
baz=77
R24A **Sanders Place,** 77.16 334 ⇑P P 03 05 34.9 +0.9
baz=77,SNR=9.4
O30A **MW Ranch, Wils** 77.17 338 ⇓P P 03 05 35.4 +1.6
baz=78
Q26A **Hugo** 77.20 335 ⇓P P 03 05 36.2 +2.1
baz=78
JFWS **Jewell Farm** 77.22 346 eP P 03 05 35.1 +1.2
JFWS pmax pmax
comp=Z,54nm,1.5s
JFWS **Jewell Farm** 77.22 346 eP P 03 05 35.1 +1.2
comp=Z,54nm,1.5s
R23A **Moffat** 77.40 333 ⇓P P 03 05 36.5 +1.1
baz=78
S22A **4UR Ranch, Cre** 77.40 332 ⇑P P 03 05 36.5 +1.1
baz=78
WUAZ **Wupatki** 77.42 328 eP P 03 05 37.0 +1.6
comp=Z,38nm,1.4s
WUAZ **Wupatki** 77.42 328 ⇑P P 03 05 36.8 +1.4
baz=78
Y12C **Blythe** 77.44 325 ⇓P P 03 05 36.7 +1.3
baz=78
Q25A **Bedland, Calha** 77.45 335 ⇓P P 03 05 37.0 +1.4
baz=78
MONP **Monument Peak** 77.69 323 ⇓P P 03 05 38.0 +0.9
baz=78
S21A **Coal Bank Pass** 77.71 331 ⇑P P 03 05 38.1 +0.9
baz=78,SNR=8.8
BC3 **Big Chuckawall** 77.82 324 ⇓P P 03 05 38.6 +0.9
baz=78
Q24A **Divide** 77.82 334 ⇑P P 03 05 37.9 0.0
baz=78,SNR=7.5
M31A **Lambtecht Ranc** 77.91 339 ⇑P P 03 05 39.0 +1.1
baz=78
P25A **Willow Gulch B** 77.95 335 ⇑P P 03 05 38.8 +0.5
baz=78,SNR=6.2
IRM **Iron Mountain** 78.08 324 ⇓P P 03 05 40.3 +1.3
baz=78
S20A **Disappointment** 78.08 331 ⇑P P 03 05 40.2 +1.0
baz=78
R21A **Cimarron** 78.22 332 ⇑P P 03 05 41.0 +1.0
baz=78
W13A **Hualapai Mount** 78.23 326 ⇑P P 03 05 41.4 +1.4
baz=78
PFO **Pinyon Flat Ob** 78.28 323 eP P 03 05 40.9 +0.6
PFO **Pinyon Flat Ob** 78.28 323 ⇑P P 03 05 41.4 +1.1
baz=78
BELC **Belle Mtn. Jos** 78.37 324 ⇓P P 03 05 42.4 +1.7
baz=79
R20A **Redvale** 78.40 331 ⇓P P 03 05 42.4 +1.5
baz=79
Q22A **Crested Butte,** 78.40 333 ⇓P P 03 05 42.3 +1.3
baz=79
PV01 **Paradox Valley** 78.43 331 eP P 03 05 42.8 +1.7
comp=Z,2µm,1.5s
PV15 **Paradox Valley** 78.57 331 eP P 03 05 44.2 +2.3
U15A **North Rim** 78.58 328 ⇑P P 03 05 43.6 +1.6
baz=79
PV05 **Paradox Valley** 78.60 331 eP P 03 05 44.6 +2.6
L31A **Butterfield Fa** 78.64 340 ⇓P P 03 05 43.7 +1.8
baz=79
SMCO **Snowmass** 78.70 333 eP P 03 05 44.8 +2.0
comp=Z,30nm,1.2s
ISCO **Idaho Springs** 78.73 334 eP P 03 05 44.6 +1.8
ISCO pmax pmax
comp=Z,36nm,1.8s
ISCO **Idaho Springs** 78.73 334 eP P 03 05 44.6 +1.8
comp=Z,36nm,1.8s
ISCO **Idaho Springs** 78.73 334 ⇑P P 03 05 44.2 +1.4
baz=79
LDFC **Landfair** 78.80 325 eP P 03 05 44.8 +1.8
comp=Z,26nm,1.4s
GMRC **Granite Mounta** 78.82 324 ⇑P P 03 05 44.8 +1.6
baz=79
PV09 **Paradox Valley** 78.97 331 eP P 03 05 45.4 +1.3
P22A **Eagle** 78.98 333 ⇑P P 03 05 46.1 +2.0
baz=79
HEC **Hector,Ludlow** 79.19 324 ⇑P P 03 05 47.0 +1.8
baz=79
O23A **Lake Granby, G** 79.20 334 ⇓P P 03 05 46.9 +1.5
baz=80
TSUM **Tsumeb** 79.36 106 eP P 03 05 47.1 +0.5
comp=Z,7.7nm,0.8s
BFSC **Mount Baldy Ra** 79.39 323 ⇓P P 03 05 47.9 +1.6
baz=80
O22A **Kremmling** 79.39 334 ⇓P P 03 05 47.7 +1.3
baz=80
ECSD **EROS Data Cent** 79.47 342 eP P 03 05 46.5 +0.2
comp=Z,53nm,1.4s
TUQ **Turquoise Moun** 79.48 325 ⇑P P 03 05 48.3 +1.5
baz=80
P20A **De Beque** 79.53 332 ⇑P P 03 05 48.6 +1.6
baz=80
O21A **Pagoda** 79.79 333 ⇓P P 03 05 50.2 +1.7
baz=80
GSC **Goldstone** 79.80 324 eP P 03 05 50.4 +1.9
GSC pmax pmax
comp=Z,42nm,1.8s
GSC **Goldstone** 79.80 324 eP P 03 05 50.4 +1.9
comp=Z,42nm,1.8s
GSC **Goldstone** 79.80 324 ⇓P P 03 05 50.3 +1.8
baz=80
N23A **Red Feather La** 79.81 334 ⇑P P 03 05 50.2 +1.6
baz=80
P19A **Cripple Cowboy** 79.88 332 ⇑P P 03 05 50.6 +1.6
baz=80
M24A **Cheyenne** 79.92 335 ⇑P P 03 05 50.7 +1.7
baz=80
N22A **Wattenberg Ran** 79.92 334 ⇓P P 03 05 50.6 +1.4
baz=80
SPMN **St. Paul** 79.96 345 ⇑P P 03 05 50.1 +1.1
baz=80
SHPR **Sheep Range** 79.97 326 eP P 03 05 51.0 +1.5
PHWY **Pilot Hill** 79.99 335 eP P 03 05 52.1 +2.5
comp=Z,29nm,1.5s
CCUT **Cedar City** 79.99 328 eP P 03 05 52.0 +2.3
comp=Z,34nm,1.7s
O20A **White River Ci** 80.02 332 eP P 03 05 50.9 +1.2
SRU **San Rafael** 80.06 330 eP P 03 05 50.5 +0.6
SRU pmax pmax
comp=Z,52nm,1.9s
SRU **San Rafael** 80.06 330 eP P 03 05 50.5 +0.6
comp=Z,52nm,1.9s
EDW2 **Edwards Air Fo** 80.06 323 ⇑P P 03 05 50.9 +1.1
baz=80
K27A **Fluecklinger Fa** 80.15 338 ⇓P P 03 05 51.8 +1.6
baz=80
Q16A **Castle Valley** 80.17 330 eP P 03 05 52.1 +1.5
comp=Z,30nm,1.5s
Q16A **Castle Valley** 80.17 330 ⇑P P 03 05 52.1 +1.5
baz=80
J29A **Okreek** 80.20 339 ⇓P P 03 05 52.0 +1.6
baz=80
MVU **Marysvale** 80.27 329 eP P 03 05 53.4 +2.2
comp=Z,18nm,1.4s
BOSA **Boshof** 80.46 118 eP P 03 05 52.2 -0.2
comp=Z,17nm,0.9s
BOSA **Boshof** 80.46 118 P P 03 05 50.6 -1.8
comp=Z,12nm,0.8s,baz=239,slow=4.7,SNR=16
BOSA LR LR 03 41 13.5
comp=Z,144nm,18.2s,baz=166,slow=36
J28A **Allard Ranch,** 80.49 339 ⇓P P 03 05 53.5 +1.5
baz=81
O19A **Miners Draw (B** 80.50 332 ⇑P P 03 05 53.1 +0.8
baz=81
J27A **Elkhorn Farm,** 80.57 338 ⇑P P 03 05 53.5 +1.0
baz=81
N20A **Spence Gulch,** 80.63 333 ⇓P P 03 05 54.2 +1.2
baz=81
FURC **Furnace Creek,** 80.76 325 ⇓P P 03 05 55.0 +1.5
baz=81
L23A **Garrett** 80.79 335 ⇓P P 03 05 55.4 +1.6
baz=81
TPNV **Topopah Spring** 80.85 325 ⇓P P 03 05 55.7 +1.5
baz=81
ISA **Isabella** 80.92 323 eP P 03 05 56.5 +2.0
ISA pmax pmax
comp=Z,42nm,1.8s
ISA **Isabella** 80.92 323 eP P 03 05 56.5 +2.0
comp=Z,42nm,1.8s
ISA **Isabella** 80.92 323 ⇓P P 03 05 56.1 +1.6
baz=81
J26A **Sides Ranch, S** 80.97 337 ⇑P P 03 05 56.1 +1.5
baz=81
I28A **Midland** 80.99 339 ⇓P P 03 05 55.7 +1.1
baz=81
CASY **Casey** 81.22 181 eP P 03 05 56.5 +0.8
comp=Z,52nm,1.8s
J25A **Sunshine Ranch** 81.28 337 ⇑P P 03 05 57.6 +1.4
baz=82
I27A **Quinn** 81.33 338 ⇑P P 03 05 57.7 +1.3
baz=82
K23A **Bowen Ranch, D** 81.33 336 ⇑P P 03 05 57.9 +1.3
baz=82
NLU **North Lily Min** 81.42 330 eP P 03 05 58.1 +0.9
comp=Z,18nm,1.6s
J24A **Dixon Ranch, L** 81.51 336 ⇑P P 03 05 58.9 +1.5
baz=82
K22A **Casper** 81.56 335 ⇑P P 03 05 59.1 +1.3
baz=82
R11A **Troy Canyon, C** 81.66 327 eP P 03 05 59.5 +1.1
comp=Z,18nm,1.4s
R11A **Troy Canyon, C** 81.66 327 ⇓P P 03 05 59.6 +1.1
baz=82
JLU **Jordanelle** 81.70 331 eP P 03 05 59.8 +1.1
comp=Z,36nm,1.9s
G29A **Hoven** 81.72 340 ⇓P P 03 05 59.7 +1.3
baz=82
K21A **Alcova** 81.80 334 ⇓P P 03 06 00.3 +1.1
baz=82
I25A **Rochford** 81.81 337 ⇓P P 03 06 00.4 +1.2
baz=82
DUG **Dugway** 81.94 329 eP P 03 06 00.9 +1.1
DUG pmax pmax
comp=Z,48nm,1.7s
DUG **Dugway** 81.94 329 eP P 03 06 00.9 +1.1
comp=Z,48nm,1.7s
DUG **Dugway** 81.94 329 ⇓P P 03 06 00.8 +0.9
baz=82
I24A **Kuemmerle Ranc** 81.97 337 ⇓P P 03 06 01.0 +1.1
baz=82
RSSD **Black Hills** 82.00 337 eP P 03 06 01.0 +0.8
RSSD pmax pmax
comp=Z,8.0nm,1.1s
RSSD **Black Hills** 82.00 337 eP P 03 06 01.0 +0.8
comp=Z,8.2nm,1.1s
TPH **Tonopah** 82.21 325 eP P 03 06 03.0 +1.6
TPH pmax pmax
comp=Z,17nm,1.2s
TPH **Tonopah** 82.21 325 eP P 03 06 03.0 +1.6
comp=Z,17nm,1.2s
H25A **Fruitdale** 82.31 338 ⇑P P 03 06 03.0 +1.4
baz=83
G26A **Maurine** 82.60 339 ⇓P P 03 06 04.0 +0.9
baz=83
I22A **9 Mile Ranch,** 82.63 335 ⇑P P 03 06 04.2 +0.8
baz=83
BGU **Big Grassy Mou** 82.63 330 eP P 03 06 05.1 +1.6
comp=Z,28nm,1.7s
LBTB **Lobatse** 82.63 115 eP P 03 06 04.4 +0.4
comp=Z,19nm,0.8s
SPUT **South Promonto** 82.71 330 eP P 03 06 04.1 +0.2
comp=Z,22nm,1.4s
J20A **Shoshoni** 82.73 334 ⇑P P 03 06 05.1 +1.2
baz=83
G25A **Newell** 82.76 338 ⇓P P 03 06 05.1 +1.1
baz=83
G27A **Dupree** 82.78 338 ⇑P P 03 06 02.1 -1.9
baz=83,SNR=6.9
BW06 **Boulder Array** 82.78 333 eP P 03 06 04.7 +0.3
comp=Z,15nm,1.5s
PDAR **Pinedale Array** 82.78 333 P P 03 06 04.2 -0.1
PDAR **Pinedale Array** 82.78 333 P P 03 06 04.2 -0.1
comp=Z,1.1nm,0.8s,baz=128,slow=5.8,SNR=7.8
I21A **Big Trails, Te** 82.84 335 ⇑P P 03 06 05.2 +0.6
baz=83
F27A **Lemmon** 82.95 339 ⇑P P 03 06 04.9 0.0
baz=83,SNR=7.6
NVAR **Mina Array Bea** 83.01 325 P P 03 06 06.0 +0.4
NVAR **Mina Array Bea** 83.01 325 P P 03 06 06.0 +0.4
comp=Z,2.4nm,0.8s,baz=157,slow=6.1,SNR=14
J19A **Crowheart** 83.02 334 ⇑P P 03 06 06.3 +0.9
baz=83
F26A **Lodgepole** 83.12 339 ⇓P P 03 06 06.4 +0.6
baz=83
D30A **Buchanan** 83.16 342 ⇓P P 03 06 06.7 +0.8
baz=84
H22A **Clearmont** 83.20 336 ⇓P P 03 06 06.7 +0.4
baz=84
E28A **Huff** 83.20 340 ⇓P P 03 06 06.9 +0.8
baz=84
G24A **Alzada** 83.20 337 ⇑P P 03 06 06.7 +0.5
baz=84
HVU **Hansel Valley** 83.23 330 eP P 03 06 07.3 +0.7
HVU pmax pmax
comp=Z,64nm,2.2s

HVU	Hansel Valley	83.23	330	*e*P		P	03 06 07.3	+0.7
	comp=Z,64nm,2.2s							
I20A	Worland	83.26	334	⇓P		P	03 06 07.2	+0.5
	baz=84							
E27A	Carson	83.31	340	⇑P		P	03 06 07.4	+0.6
	baz=84							
G23A	Biddle	83.41	337	⇓P		P	03 06 07.6	+0.3
	baz=84							
F25A	Bowman	83.43	338	⇑P		P	03 06 07.7	+0.4
	baz=84							
ELK	Elko	83.44	328	*e*P		P	03 06 08.0	+0.1
	comp=Z,6.6nm,1.1s							
AGMN	Agassiz Nation	83.55	344	*e*P		P	03 06 08.1	+0.3
	comp=Z,12nm,1.0s							
E26A	Carlson Angus	83.62	339	⇑P		P	03 06 08.9	+0.6
	baz=84							
TOA0	Torodi Ar. Sit	83.62	70	*e*P		P	03 06 08.6	-0.4
TORD	Torodi Ar. Bea	83.62	70	P		P	03 06 08.7	-0.3
TORD	Torodi Ar. Bea	83.62	70	P		P	03 06 08.7	-0.3
	comp=Z,11nm,0.8s,baz=253,slow=4.4,SNR=52							
TORD				LR		LR	03 40 29.5	
	comp=Z,346nm,20.5s,baz=230,slow=34							
WAKR	Walker	83.62	324	*e*P		P	03 06 10.5	+1.8
	comp=Z,37nm,1.8s							
H20A	Greybull	83.68	335	⇓P		P	03 06 08.9	+0.2
	baz=84							
D28A	Regan	83.73	341	⇑P		P	03 06 09.0	+0.1
	baz=84							
REDW	Red Top Meadow	83.79	332	*e*P		P	03 06 10.9	+1.4
	comp=Z,73nm,2.6s							
LOHW	Long Hollow	83.90	333	*e*P		P	03 06 11.5	+1.5
	comp=Z,17nm,1.8s							
E25A	Miller Ranch,	83.93	339	⇓P		P	03 06 10.4	+0.5
	baz=84							
RRI2	Red Ridge	83.96	332	*e*P		P	03 06 17.4	+7.0
D26A	Manning	84.11	339	⇓P		P	03 06 11.3	+0.5
	baz=84							
H19A	Powell	84.20	334	⇓P		P	03 06 11.8	+0.4
	baz=84							
E24A	Baker	84.26	338	⇑P		P	03 06 12.1	+0.5
	baz=85							
IMW	Indian Meadow	84.27	333	*e*P		P	03 06 14.2	+2.2
	comp=Z,35nm,2.0s							
B30A	Myrvik Farm, E	84.29	343	⇑P		P	03 06 11.3	-0.4
	baz=85,SNR=5.2							
G20A	Bridger	84.39	335	⇑P		P	03 06 12.4	0.0
	baz=85							
H18A	Shoshone NF, C	84.45	334	⇑P		P	03 06 13.0	+0.1
	baz=85							
D25A	Fairfield	84.49	339	⇑P		P	03 06 13.1	+0.3
	baz=85							
PAHR	Pah Rah Range	84.53	325	*e*P		P	03 06 15.2	+1.9
	comp=Z,60nm,2.0s							
B29A	Wagenman Farm,	84.57	342	⇑P		P	03 06 13.8	+0.7
	baz=85							
A30A	Hoffart Farm,	84.74	343	⇓P		P	03 06 14.6	+0.7
	baz=85							
B28A	Dugan Ranch, T	84.82	341	⇑P		P	03 06 14.6	+0.3
	baz=85							
A29A	Manning Farm,	84.96	342	⇓P		P	03 06 15.6	+0.6
	baz=85							
C25A	Freed Ranch, W	84.97	339	⇓P		P	03 06 16.1	+1.0
	baz=85							
D23A	Lindsay	85.09	338	⇓P		P	03 06 16.6	+0.8
	baz=85							
C24A	Savage	85.16	338	⇓P		P	03 06 16.8	+0.7
	baz=86							
F19A	Roth Farm, Mol	85.20	335	⇑P		P	03 06 16.8	+0.4
	baz=86							
HLID	Hailey	85.39	330	*e*P		P	03 06 18.9	+1.4
	comp=Z,28nm,1.8s							
HLID	Hailey	85.39	330	⇓P		P	03 06 17.8	+0.3
	baz=86							
ULM	Lac du Bonnet	85.39	345	*e*P		P	03 06 17.8	+0.7
	comp=Z,9.3nm,0.9s							
ULM	Lac du Bonnet	85.39	345	P		P	03 06 15.5	-1.6
	comp=Z,7.4nm,0.8s,baz=172,slow=5.8,SNR=6.9							
E20A	Meyer Farm, Mu	85.47	336	⇑P		P	03 06 17.9	+0.2
	baz=86							
D21A	La Casta Ranch	85.58	337	⇓P		P	03 06 18.4	+0.2
	baz=86							
C23A	Lambert	85.64	338	⇓P		P	03 06 18.8	+0.3
	baz=86							
E19A	Rath Farm, Rou	85.67	335	⇑P		P	03 06 18.7	0.0
	baz=86							
MCMT	McKenzie Canyo	85.80	332	*e*P		P	03 06 20.3	+0.7
	comp=Z,2.3nm,0.8s							
C22A	Vida	85.81	338	⇑P		P	03 06 19.8	+0.4
	baz=86							
DGMT	Dagmar	85.93	339	*e*P		P	03 06 19.6	-0.3
	comp=Z,50nm,1.3s							
DGMT	Dagmar	85.93	339	⇓P		P	03 06 20.2	+0.3
	baz=86							
D20A	Manuel Ranch,	85.98	336	⇓P		P	03 06 20.7	+0.4
	baz=86							
DLMT	Dillon	86.14	333	*e*P		P	03 06 29.0	+7.8
	comp=Z,20nm,1.5s							
B23A	Brockton	86.17	339	⇓P		P	03 06 21.4	+0.3
	baz=86							
C21A	Desert Coulee	86.28	337	⇓P		P	03 06 21.8	+0.2
	baz=87							
A24A	Westby	86.28	339	⇓P		P	03 06 22.1	+0.4
	baz=87							
D19A	Cripps Ranch,	86.31	336	⇑P		P	03 06 22.0	+0.1
	baz=87							
WVOR	Wild Horse Val	86.32	327	*e*P		P	03 06 22.4	+0.3
WVOR				pmax		pmax		
	comp=Z,13nm,1.5s							
WVOR	Wild Horse Val	86.32	327	*e*P		P	03 06 22.4	+0.3
	comp=Z,13nm,1.5s							
B22A	Reddig Ranch S	86.34	338	⇓P		P	03 06 22.5	+0.5
	baz=87							
C20A	Veseth Ranch,	86.48	336	⇓P		P	03 06 22.7	+0.1
	baz=87							
MOD	Modoc	86.68	326	*e*P		P	03 06 24.2	+0.3
	comp=Z,27nm,1.8s							
B21A	Ellsworth Farm	86.78	337	⇓P		P	03 06 24.1	+0.1
	baz=87							
C19A	Slack Wire Ran	86.85	336	⇓P		P	03 06 24.5	0.0
	baz=87							
A22A	Carney Farms,	86.92	338	⇓P		P	03 06 25.1	+0.3
	baz=87							
J08A	Circle Bar Ran	86.97	328	*e*P		P	03 06 26.5	+1.2
	comp=Z,14nm,0.8s							
A21A	Bergtoll Ranch	87.24	338	⇑P		P	03 06 26.7	+0.4
	baz=88							
B19A	Brinkman Farms	87.44	336	⇓P		P	03 06 27.6	+0.3
	baz=88							
A20A	Cobblestone Ra	87.47	337	⇑P		P	03 06 27.7	+0.2
	baz=88							
KHMM	Horse Mountain	87.57	323	*e*P		P	03 06 29.5	+1.3
	comp=Z,20nm,1.2s							
BMO	Blue Mountains	87.65	329	*e*P		P	03 06 29.2	+0.7
	comp=Z,9.6nm,1.4s							
I07A	Izee	88.01	328	*e*P		P	03 06 31.7	+1.4
	comp=Z,11nm,1.1s							
BSMT	Bassoo Peak	89.05	333	*e*P		P	03 06 35.6	+0.4
HAWA	Hanford	89.83	329	*e*P		P	03 06 41.5	+3.0
	comp=Z,70nm,2.2s							
LSZ	Lusaka	90.00	108	*e*P		P	03 06 41.9	+1.5
	comp=Z,69nm,2.3s							
NEW	Newport	90.31	332	*e*P		P	03 06 40.0	-0.9
	comp=Z,4.9nm,1.0s							
NEW	Newport	90.31	332	⇑P		P	03 06 40.3	-0.5
	baz=91							
C09A	Chrisman Ranch	90.40	331	*e*P		P	03 06 42.0	+0.7
	comp=Z,10nm,1.0s							
PVAQ	Vaqueiros	91.89	46	*e*LR		LR	03 42 40.6	
	comp=Z,166nm,18.0s							
TAM	Tamanrasset	92.13	64	*e*P		P	03 06 50.7	+0.6
TAM				pmax		pmax		
	comp=Z,8.0nm,1.6s							
TAM	Tamanrasset	92.13	64	*e*P		P	03 06 50.7	+0.6
	comp=Z,7.6nm,1.6s							
EVOP	Sao Brissos	92.38	45	*e*P		P	03 06 51.8	+1.2
EVOP				pmax		pmax		
	comp=Z,8.0nm,0.9s							
EVOP	Sao Brissos	92.38	45	*e*P		P	03 06 51.8	+1.2
	comp=Z,8.3nm,0.9s							
EVO	Evora	92.45	45	*e*P		P	03 06 51.8	+0.8
	comp=Z,8.3nm,0.9s							
EVO	Evora	92.45	45	*e*P		P	03 06 51.9	+0.9
	comp=Z,2.5nm,0.8s							
PMRV	Marv??o	93.40	44	*e*LR		LR	03 42 38.7	
	comp=Z,116nm,20.0s							
PCBR	Castelo Branco	93.62	44	*e*P		P	03 06 56.6	+0.3
	comp=Z,1.8nm,1.0s							
MTE	Manteigas	93.94	44	*e*LR		LR	03 43 14.9	
	comp=Z,229nm,20.0s							
PGAV	Gavieira, Arco	94.55	42	*e*LR		LR	03 43 48.7	
	comp=Z,137nm,22.0s							
MVO	Moncorvo	94.73	43	*e*P		P	03 07 01.7	+0.2
	comp=Z,5.0nm,0.7s							
MVO	Moncorvo	94.73	43	*e*LR		LR	03 42 38.3	
	comp=Z,203nm,20.0s							
ESDC	Sonseca Array	95.61	46	P		P	03 07 05.4	-0.1
ESDC	Sonseca Array	95.61	46	P		P	03 07 05.4	-0.1
	comp=Z,0.6nm,0.7s,baz=254,slow=3.9,SNR=5.7							
ESDC				LR		LR	03 47 56.4	
	comp=Z,148nm,18.3s,baz=250,slow=34							
SJPF	Ste Jean	99.33	44	*e*P		Pdif	03 07 22.9	+0.7
	comp=Z,9.5nm,0.9s							
SJPF	Ste Jean	99.33	44	*e*P		Pdif	03 07 22.9	+0.7
SJPF				pmax		pmax		
	comp=Z,10.0nm,0.9s							
SJPF	Ste Jean	99.33	44	*e*P		Pdif	03 07 22.9	+0.7
	comp=Z,9.5nm,0.9s							
ETSF	Etsaut	99.60	45	*e*P		Pdif	03 07 24.1	+0.6
	comp=Z,13nm,1.1s							
ETSF	Etsaut	99.60	45	*e*P		Pdif	03 07 24.1	+0.6
ETSF				pmax		pmax		
	comp=Z,13nm,1.1s							
ETSF	Etsaut	99.60	45	*e*P		Pdif	03 07 24.1	+0.6
	comp=Z,13nm,1.1s							
EPF	Esparros	100.21	45	*e*P		Pdif	03 07 24.2	-2.0
	comp=Z,14nm,1.3s							
EPF	Esparros	100.21	45	*e*P		Pdif	03 07 24.2	-2.0
EPF				pmax		pmax		
	comp=Z,14nm,1.3s							
EPF	Esparros	100.21	45	*e*P		Pdif	03 07 24.2	-2.0
	comp=Z,14nm,1.3s							
DZM	Mont Dzumac	102.10	234	*e*LR		LR	03 41 04.3	
	comp=Z,309nm,23.0s							
LASF	Ste Croix	102.91	46	*e*P		Pdif	03 07 40.8	+2.7
LASF	Ste Croix	102.91	46	*e*P		Pdif	03 07 40.8	+2.7
TCF	Toulx Ste Croi	103.16	43	*e*P		Pdif	03 07 41.4	+2.2
TCF	Toulx Ste Croi	103.16	43	*e*P		Pdif	03 07 41.4	+2.2
TCF	Toulx Ste Croi	103.16	43	*e*P		Pdif	03 07 41.4	+2.2
ORIF	Oris-en-Rattie	104.58	46	*e*P		Pdif	03 07 47.5	+1.9
	comp=Z,8.0nm,1.1s							
ORIF	Oris-en-Rattie	104.58	46	*e*P		Pdif	03 07 47.5	+1.9
ORIF				pmax		pmax		
	comp=Z,8.0nm,1.1s							
ORIF	Oris-en-Rattie	104.58	46	*e*P		Pdif	03 07 47.5	+1.9
	comp=Z,8.0nm,1.1s							
MBDF	Montbardon	105.02	46	*e*P		Pdif	03 07 47.5	-0.2
MBDF	Montbardon	105.02	46	*e*P		Pdif	03 07 47.5	-0.2
MBDF	Montbardon	105.02	46	*e*P		Pdif	03 07 47.5	-0.2
NOR1	NORSAR Array S	114.68	32	*e*PKP		PKPdf	03 12 19.9	0.0
STHS	Stebnicka Huta	115.95	46	*i* P		Pdif	03 08 40.2	+4.3
STHS	Stebnicka Huta	115.95	46	PDIF		Pdif	03 08 40.2	+4.3
UZH	Uzhgorod	116.32	48	*e*PKIKP		PKPdf	03 12 28.5	+5.2
UZH				*i*			03 12 35.5	
BUR0	Bucovina Ar. S	117.82	49	*e*PKPdf		PKPdf	03 12 27.6	+1.1
ASAR	Alice Springs	118.72	207	PKP		PKPdf	03 12 27.6	-1.4
ASAR				PKKPab		PKKPab	03 22 50.8	+1.1
ASAR	Alice Springs	118.72	207	PKP		PKPdf	03 12 27.6	-1.4
	comp=Z,0.5nm,0.7s,baz=142,slow=2.2,SNR=6.4							
ASAR				PKKPab		PKKPab	03 22 50.8	+1.1
	comp=Z,0.5nm,0.9s,baz=349,slow=2.2,SNR=4.2							
BRTR	Keskin Array B	121.08	60	PKP		PKPdf	03 12 33.0	0.0
BRTR	Keskin Array B	121.08	60	PKP		PKPdf	03 12 33.0	0.0
	comp=Z,0.9nm,0.7s,baz=232,slow=3.5,SNR=5.9							
KIEV	Kiev	121.22	47	*e*PKIKP		PKPdf	03 12 32.2	-0.5
KIEV	Kiev	121.22	47	*e*PKPdf		PKPdf	03 12 32.2	-0.5
AKASG	Malin Array Be	121.23	47	PKIKP		PKPdf	03 12 31.2	-1.5
AKASG	Malin Array Be	121.23	47	PKP		PKPdf	03 12 31.2	-1.5
AKASG	Malin Array Be	121.23	47	PKP		PKPdf	03 12 31.2	-1.5
	comp=Z,0.4nm,0.4s,baz=263,slow=2.8,SNR=6.5							
WRA	Warramunga Arr	121.90	209	PKP		PKPdf	03 12 34.3	-0.8
WRA	Warramunga Arr	121.90	209	PKP		PKPdf	03 12 34.3	-0.8
	comp=Z,0.9nm,0.7s,baz=156,slow=1.7,SNR=16							
WRAB	Tennant Creek	121.91	209	*e*PKIKP		PKPdf	03 12 34.5	-0.6
WRAB	Tennant Creek	121.91	209	*e*PKPdf		PKPdf	03 12 34.5	-0.6
H11S2	WAKE ISLAND Hyl	125.97	270	T		T	05 31 34.8	
	baz=121,slow=0.7,SNR=112							
H11S1	WAKE ISLAND Hyl	125.99	270	T		T	05 31 35.7	
	baz=121,slow=0.7,SNR=121							
H11S3	WAKE ISLAND Hyl	125.99	270	T		T	05 31 36.7	
	baz=121,slow=0.7,SNR=102							
H11N3	WAKE ISLAND Hyl	126.36	271	T		T	05 32 03.0	
	baz=118,slow=0.7,SNR=14							
H11N1	WAKE ISLAND Hyl	126.37	271	T		T	05 32 06.9	
	baz=118,slow=0.7,SNR=9.5							
H11N2	WAKE ISLAND Hyl	126.37	271	T		T	05 32 16.4	
	baz=118,slow=0.7,SNR=31							
OBN	Obninsk	126.43	43	⇑*i*PKIKP		PKPdf	03 12 39.6	-2.9
OBN				*e*SS		SS	03 31 34.1	-8.9
OBN				pmax		pmax		
	comp=Z,21nm,1.8s							
KIV	Kislovodsk	128.69	57	*c i*PKIKP		PKPdf	03 12 48.0	+0.6
KIV				*i*			03 14 52.0	
KIV				*e*			03 19 53.2	
KIV				pmax		pmax		
	comp=Z,6.0nm,0.9s							
KIV				MLR		MLR		
	comp=Z,100nm,20.0s							
ARU	Arti	138.71	40	*i* PKIKP		PKPdf	03 13 08.3	+2.7
ARU							03 15 56.2	
ARU				SS		SS	03 34 03.8	-8.2
AKTO	Aktyubinsk	139.41	49	PKHKP		PKPpre	03 12 58.0	
AKTO	Aktyubinsk	139.41	49	PKPpre		PKPpre	03 12 58.0	
AKTO	Aktyubinsk	139.41	49	PKhKP		PKPpre	03 12 58.0	
	comp=Z,0.7nm,0.8s,baz=34,slow=7.3,SNR=3.6							
TIXI	Tiksi	139.55	350	*i* PKIKP		PKPdf	03 13 10.2	+3.5
AB31	Akbulak array	140.78	51	PKHKP		PKPpre	03 13 02.1	
AB31				pmax		pmax		
	comp=Z,2.0nm,0.6s							
PALK	Pallekele	144.00	129	*e*PKPdf		PKPbc	03 13 15.2	+0.9
POO	Poona	146.11	106	⇓*i* P		PKPdf	03 13 19.0	-1.0
	comp=Z,50nm,1.0s							
BRVK	Borovoye	146.19	42	*d i*PKP2		PKPab	03 13 20.7	-0.1
BRVK	Borovoye	146.19	42	*e*PKPbc		PKPbc	03 13 20.0	-0.1
BVA0	Borovoye Array	146.26	42	*i* PKP2		PKPbc	03 13 20.5	+0.2
BVA0				pmax		pmax		
	comp=Z,52nm,1.1s							
BVAR	Borovoye Array	146.26	42	PKP2		PKPbc	03 13 20.2	-0.1
BVAR	Borovoye Array	146.26	42	PKPbc		PKPbc	03 13 20.2	-0.1
BVAR	Borovoye Array	146.26	42	PKPbc		PKPbc	03 13 20.2	-0.1
	comp=Z,13nm,0.7s,baz=299,slow=1.5,SNR=48							
YAK	Yakutsk	147.66	341	*e*PKP2		PKPbc	03 13 23.8	-0.1
YAK				pmax		pmax		
	comp=Z,36nm,0.9s							
KK31	Karatay Array	148.79	60	*i* PKP2		PKPbc	03 13 26.9	-0.7
KK31				pmax		pmax		
	comp=Z,12nm,0.8s							
KKAR	Karatay Array	148.79	60	*e*PKP2		PKPbc	03 13 26.9	-0.7
KKAR	Karatay Array	148.79	60	*e*PKPbc		PKPbc	03 13 26.9	-0.7
HYB	Hyderabad	149.24	113	*i* PKP		PKPbc	03 13 28.0	-1.5
IPM	Ipoh	151.04	165	*e*PKPbc		PKPbc	03 13 33.4	-0.6
EKS2	Erkin-Say	151.23	60	*e*PKIKP		PKPbc	03 13 34.2	+0.6
EKS2				*e*			03 13 39.8	
EKS2	Erkin-Say	151.23	60	P		PKPbc	03 13 34.4	+0.7
	SNR=14							
EKS2	Erkin-Say	151.23	60	*e*PKPbc		PKPbc	03 13 34.2	+0.6
EKS2				*e*PKPab		PKPab	03 13 39.8	-1.8
AML	Almayashu	151.24	61	P		PKPbc	03 13 34.5	+0.5
	SNR=9.6							
USP	Ospenovka	151.65	59	P		PKPbc	03 13 34.9	+0.4
	SNR=13							
KULM	Kulim	151.74	164	*e*PKPbc		PKPbc	03 13 34.7	-0.8
AAK	Ala-Archa	151.75	60	*d i*PKIKP		PKPbc	03 13 35.5	+0.6
AAK	Ala-Archa	151.75	60	P		PKPbc	03 13 35.7	+0.8
	SNR=19							
AAK	Ala-Archa	151.75	60	*e*PKPbc		PKPbc	03 13 35.8	+0.8
FRU	Bishkek	151.81	59	*e*PKIKP		PKPbc	03 13 36.0	+1.1
FRU				pmax		pmax		
	comp=Z,50nm,2.1s							
NVS	Novosibirsk	151.82	31	*e*PKIKP		PKPbc	03 13 33.9	-0.5
NVS				pmax		pmax		
	comp=Z,35nm,1.4s							
NVS				pmax		pmax		
	comp=N,4.0nm,0.9s							
NVS				pmax		pmax		
	comp=E,8.0nm,1.2s							
KURBB	Kurchatov Arra	151.86	42	PKPbc		PKPbc	03 13 34.3	-0.4
	comp=E,9.7nm,0.7s,baz=298,slow=3.0,SNR=117							
KURK	Kurchatov	151.86	42	*d i*PKIKP		PKPbc	03 13 34.7	+0.1
KURK	Kurchatov	151.86	42	*e*PKPbc		PKPbc	03 13 34.7	+0.1
CHMS	Chumysh	151.88	59	P		PKPbc	03 13 35.4	+0.4
	SNR=6.3							
TKM2	Tokmak 2	152.50	59	*e*PKIKP		PKPbc	03 13 36.7	0.0
TKM2	Tokmak 2	152.50	59	P		PKPbc	03 13 37.5	+0.8
	SNR=7.7							
TKM2	Tokmak 2	152.50	59	*e*PKPbc		PKPbc	03 13 36.7	0.0
ZAA0	Zalesovo Array	153.10	31	*e*PKPbc		PKPbc	03 13 37.3	0.0
ZALV	Zalesovo Beam	153.10	31	PKIKP		PKPbc	03 13 37.0	-0.3
ZALV	Zalesovo Beam	153.10	31	PKPbc		PKPbc	03 13 37.0	-0.3
ZALV	Zalesovo Beam	153.10	31	PKPbc		PKPbc	03 13 37.0	-0.3
	comp=E,15nm,0.7s,baz=296,slow=3.0,SNR=40							
MK31	Makanchi Array	155.82	47	*e*PKIKP		PKPdf	03 13 43.3	+9.3
MK31				*e*			03 14 00.3	
MK31	Makanchi Array	155.82	47	*e*PKPbc		PKPdf	03 13 43.3	+9.3
MK31				*e*PKPab		PKPab	03 14 00.3	-0.4
MKAR	Makanchi Array	155.82	47	PKIKP		PKPdf	03 13 33.6	-0.4
MKAR							03 14 00.1	
MKAR	Makanchi Array	155.82	47	PKP		PKPdf	03 13 33.6	-0.4
MKAR				PKPab		PKPab	03 14 00.1	-0.6
MKAR	Makanchi Array	155.82	47	PKP		PKPdf	03 13 33.6	-0.4
	comp=E,0.8nm,0.9s,baz=299,slow=2.4,SNR=3.6							
MKAR				PKPab		PKPab	03 14 00.1	-0.6
	comp=E,5.2nm,0.7s,baz=288,slow=3.9,SNR=24							
CMAR	Chiang Mai Arr	163.48	148	PKP		PKPdf	03 13 43.2	-0.4
CMAR	Chiang Mai Arr	163.48	148	PKP		PKPdf	03 13 43.2	-0.4
	comp=E,0.9nm,0.3s,baz=257,slow=2.4,SNR=2.9							
CHTO	Chiang Mai	163.79	147	*e*PKIKP		PKPdf	03 13 44.3	+0.5
CHTO				*e*			03 14 36.0	
CHTO	Chiang Mai	163.79	147	*e*PKPdf		PKPdf	03 13 44.3	+0.5
CHTO				*e*PKPab		PKPab	03 14 36.0	0.0
SONM	Songino Array	164.92	5	PKP		PKPdf	03 13 43.6	-0.6
SONM	Songino Array	164.92	5	PKP		PKPdf	03 13 43.6	-0.6
	comp=E,0.7nm,0.9s,baz=234,slow=0.6,SNR=4.6							

*AUST **30** 03:08:34.2,22.°49S×171.°62E,h35km*
*IDC **30** 03:08:39.4±8.9,22.°24S×171.°23E,h83km±56km,mb3.9/4, mb1 4.1/5,mb1mx3.7/19,mbtmp4.0/5,ML4.7/1,MS3.2/3, Ms1 3.2/3,ms1mx3.0/32,Error ellipse: s-maj=107.7km s-min=62.0km az=8.0*

ISC 30 03:08:34.0±2.6,22.°3S±0.°2×171.°5E±0.°2,h42km,n15, σ1s24/12,mb4.1/4,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
DZM	**Mont Dzumac**	**4.73**	**272**	P		**Pn**		**03 09 44.6**	**+1.8**
	37nm,0.3s,baz=106,slow=21,SNR=188								
DZM				S		**Sn**		**03 10 35.4**	**-1.0**
	18nm,0.3s,baz=107,slow=19,SNR=14								
DZM				LR		LR		03 10 51.6	
	comp=Z,140nm,18.3s,baz=210,slow=30								
NFK	**Norfolk Island**	**7.43**	**205**	P		**Pn**		**03 10 20.9**	**+1.0**
	baz=7.3,SNR=38								
URZ	**Urewera**	**16.59**	**164**	LR		LR		03 17 12.6	
	comp=Z,161nm,20.5s,baz=156,slow=31								
HNR	**Honiara**	**16.97**	**317**	LR		LR		03 18 17.8	
	comp=Z,82nm,19.0s,baz=226,slow=35								
RMQ	**Roma**	**21.14**	**254**	P		P		03 13 21.1	+5.5
	baz=21,SNR=4.5								
CTA	**Charters Tower**	**23.67**	**271**	P		**P**		**03 13 42.5**	**+0.6**
	5.2nm,0.8s,baz=95,slow=12,SNR=4.2								
CMSA	**Cobar Meteorol**	**24.75**	**243**	P		**P**		**03 13 52.8**	**+1.1**
	baz=25,SNR=7.4								
QLP	**Quilpie**	**25.19**	**255**	P		**P**		**03 13 56.3**	**+0.6**
	baz=25,SNR=4.3								
MTSU	**Mount Surprise**	**25.86**	**274**	P		**P**		**03 14 03.0**	**+1.1**
	baz=26,SNR=15								
STKA	**Stephens Creek**	**28.22**	**244**	P		**P**		**03 14 21.3**	**-1.7**
	1.2nm,0.7s,baz=68,slow=11,SNR=3.4								
ASAR	**Alice Springs**	**34.60**	**260**	P		**P**		**03 15 18.9**	**-0.4**
	5.1nm,0.8s,baz=86,slow=9.4,SNR=56								
WRA	**Warramunga Arr**	**34.72**	**267**	P		**P**		**03 15 18.8**	**-1.5**
	1.0nm,0.4s,baz=96,slow=8.4,SNR=52								
MTN	**Manton Dam**	**39.55**	**277**	P		**P**		**03 16 00.5**	**-0.7**
	baz=40,SNR=3.2								
FITZ	**Fitzroy Crossi**	**43.15**	**267**	P		**P**		**03 16 31.0**	**+0.2**
	baz=43,SNR=7.6								
LUWI	**Luwuk**	**51.90**	**287**	P		P		03 17 46.0	+7.2
	baz=52,SNR=3.0								

CASC 30 03:22:53.1±2.0,13.°06N×89.°00W,h33km±4km,MD3.7, ML3.6,1C,El Salvador

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
LFRS	**El Faro**	**0.56**	**354**	*e*P		Pb		03 23 04.6	-0.3
LFRS				*e*S		Sn		03 23 13.7	+0.4
SNVI	**San Vicente**	**0.57**	**16**	*e*P		Pn		03 23 05.1	0.0
SNVI				*e*S	

	0.4nm,0.1s,SNR=7.9							
EHUE				S	Sn	03 34 49.4	+1.4	
	1.3nm,0.2s,SNR=7.9							
EGUA	**Guajares**	**2.57**	**294**	P	Pn	03 34 18.4	-0.1	
	1.0nm,0.2s,SNR=7.9							
EGUA				S	Sn	03 34 48.1	-0.6	
	4.6nm,0.1s,SNR=7.9							
EGUA	**Guajares**	**2.57**	**294**	P	Pn	03 34 18.4	-0.1	
	1.0nm,0.2s,SNR=7.9							
EGUA				S	Sn	03 34 48.1	-0.6	
	4.6nm,0.1s,SNR=7.9							
EQUE	**Quentar**	**2.65**	**303**	P	Pn	03 34 21.2	+1.5	
	0.4nm,0.1s,SNR=6.9							
EQUE				S	Sn	03 34 52.4	+1.7	
	1.0nm,0.1s,SNR=7.9							
EQUE	**Quentar**	**2.65**	**303**	P	Pn	03 34 21.2	+1.5	
	0.4nm,0.1s,SNR=6.9							
EQUE				S	Sn	03 34 52.4	+1.7	
	1.0nm,0.1s,SNR=7.9							
ECOG	**Cogollos-Vega**	**2.77**	**303**	P	Pn	03 34 23.2	+1.8	
	0.3nm,0.1s,SNR=7.9							
ECOG				S	Sn	03 34 54.1	+0.4	
	1.7nm,0.2s,SNR=7.9							
ECOG	**Cogollos-Vega**	**2.77**	**303**	P	Pn	03 34 23.2	+1.8	
	0.3nm,0.1s,SNR=7.9							
ECOG				S	Sn	03 34 54.1	+0.4	
	1.7nm,0.2s,SNR=7.9							
EQES	**Quesada**	**2.78**	**316**	⇑P	Pn	03 34 23.9	+2.4	
	0.3nm,0.1s,SNR=18							
EQES				S	Sn	03 34 55.4	+1.3	
	1.5nm,0.1s,SNR=5.6							
EQES	**Quesada**	**2.78**	**316**	P	Pn	03 34 23.9	+2.4	
	0.3nm,0.1s,SNR=18							
EQES				S	Sn	03 34 55.4	+1.3	
	1.5nm,0.1s,SNR=5.6							
EBEN	**Beniarda**	**2.91**	**7**	P	Pn	03 34 23.8	+0.6	
	0.3nm,0.2s,SNR=20							
EBEN				S	Sn	03 34 55.9	-1.2	
	1.1nm,0.1s,SNR=7.9							
EBEN	**Beniarda**	**2.91**	**7**	P	Pn	03 34 23.8	+0.6	
	0.3nm,0.2s,SNR=20							
EBEN				S	Sn	03 34 55.9	-1.2	
	1.1nm,0.1s,SNR=7.9							
ETOB	**Tobarra**	**2.92**	**346**	⇑P	Pn	03 34 24.8	+1.4	
	0.7nm,0.1s,SNR=18							
ETOB				S	Sn	03 34 57.2	-0.2	
	3.2nm,0.1s,SNR=5.7							
ETOB	**Tobarra**	**2.92**	**346**	P	Pn	03 34 24.8	+1.4	
	0.7nm,0.1s,SNR=18							
ETOB				S	Sn	03 34 57.2	-0.2	
	3.2nm,0.1s,SNR=5.7							
EMHD	**Djebel Mahouad**	**2.94**	**81**	P	Pb	03 34 30.0	-1.1	
EMHD	**Djebel Mahouad**	**2.94**	**81**	P	Pb	03 34 30.0	-1.1	
EVIA	**Vianos**	**3.19**	**333**	P	Pn	03 34 28.4	+1.3	
	0.5nm,0.1s,SNR=6.9							
EVIA				S	Sn	03 35 03.3	-0.7	
	1.2nm,0.1s,SNR=4.7							
EVIA				T	T	03 36 15.0		
	SNR=7.9							
EVIA	**Vianos**	**3.19**	**333**	P	Pn	03 34 28.4	+1.3	
	0.5nm,0.1s,SNR=6.9							
EVIA				S	Sn	03 35 03.3	-0.7	
	1.2nm,0.1s,SNR=4.7							
EMIJ	**Mijas**	**3.42**	**284**	P	Pn	03 34 28.3	-1.9	
	0.0nm,0.1s,SNR=4.8							
EMIJ				S	Sn	03 35 07.5	-2.2	
	1.6nm,0.1s,SNR=5.8							
EBAN	**Banos Encina**	**3.44**	**314**	S	Sn	03 35 10.3	+0.2	
	1.7nm,0.1s,SNR=7.9							
EBAN	**Banos Encina**	**3.44**	**314**	S	Sn	03 35 10.3	+0.2	
	1.7nm,0.1s,SNR=7.9							
EIBI	**Ibiza**	**3.58**	**26**	P	Pn	03 34 32.9	+0.5	
	2.4nm,0.1s,SNR=52							
EIBI				S	Sn	03 35 12.3	-1.2	
	1.7nm,0.1s,SNR=7.9							
EIBI	**Ibiza**	**3.58**	**26**	P	Pn	03 34 32.9	+0.5	
	2.4nm,0.1s,SNR=52							
EADA	**Adamuz**	**3.93**	**308**	P	Pn	03 34 38.4	+1.2	
	0.1nm,0.1s,SNR=4.0							
EADA				S	Sn	03 35 20.8	-1.4	
	0.5nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**3.93**	**308**	P	Pn	03 34 38.4	+1.2	
	0.1nm,0.1s,SNR=4.0							
EADA				S	Sn	03 35 20.8	-1.4	
	0.5nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**4.44**	**302**	P	Pn	03 34 44.8	+0.6	
	0.1nm,0.1s,SNR=7.9							
ECAB				S	Sn	03 35 34.0	-0.8	
	0.6nm,0.2s,SNR=7.9							
ECAB	**El Cabril**	**4.44**	**302**	P	Pn	03 34 44.8	+0.6	
	0.1nm,0.1s,SNR=7.9							
ECAB				S	Sn	03 35 34.0	-0.8	
	0.6nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**4.55**	**2**	P	Pn	03 34 48.1	+2.2	
	0.8nm,0.1s,SNR=14							
EMOS				S	Sn	03 35 38.2	+0.5	
	0.8nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**4.55**	**2**	P	Pn	03 34 48.1	+2.2	
	0.8nm,0.1s,SNR=14							
EMOS				S	Sn	03 35 38.2	+0.5	
	0.8nm,0.2s,SNR=7.9							
ESDC	**Sonseca Array**	**4.67**	**327**	P	Pn	03 34 50.0	+2.6	
	0.2nm,0.3s,baz=141,slow=13,SNR=12							
ESDC				S	Sn	03 35 37.0	-3.5	
	1.5nm,0.1s,baz=141,slow=22,SNR=7.9							
ESDC	**Sonseca Array**	**4.67**	**327**	P	Pn	03 34 50.0	+2.6	
	0.2nm,0.3s,slow=13,SNR=12							
ETOS	**Mallorca**	**4.81**	**34**	P	Pn	03 34 50.7	+1.4	
	0.1nm,0.0s,SNR=4.0							
ETOS				S	Sn	03 35 44.1	+0.2	
	0.2nm,0.1s,SNR=7.9							
ETOS	**Mallorca**	**4.81**	**34**	P	Pn	03 34 50.7	+1.4	
	0.1nm,0.0s,SNR=4.0							
ETOS				S	Sn	03 35 44.1	+0.2	
	0.2nm,0.1s,SNR=7.9							
ERTA	**Horta de San J**	**5.19**	**8**	P	Pn	03 34 56.4	+1.8	
	0.7nm,0.1s,SNR=9.1							
ERTA				S	Sn	03 35 52.3	-1.2	
	0.1nm,0.1s,SNR=7.9							
ERTA	**Horta de San J**	**5.19**	**8**	P	Pn	03 34 56.4	+1.8	
	0.7nm,0.1s,SNR=9.1							
ERTA				S	Sn	03 35 52.3	-1.2	
	0.1nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**5.21**	**294**	P	Pn	03 34 55.2	+0.3	
	0.0nm,0.0s,SNR=7.9							
EMIN				S	Sn	03 35 53.6	-0.3	
	0.2nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**5.21**	**294**	P	Pn	03 34 55.2	+0.3	
	SNR=7.9							
EMIN				S	Sn	03 35 53.6	-0.3	
	0.2nm,0.1s,SNR=7.9							
GUD	**Guadarrama**	**5.56**	**331**	P	Pn	03 35 02.7	+3.0	
	0.7nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**5.56**	**331**	P	Pn	03 35 02.7	+3.0	
	0.7nm,0.2s,SNR=7.9							
EPOB	**Poblet**	**5.70**	**13**	P	Pn	03 35 03.3	+1.8	
	0.1nm,0.1s,SNR=4.0							
EPOB				S	Sn	03 36 03.6	-2.2	
	0.4nm,0.2s,SNR=7.9							
EPOB	**Poblet**	**5.70**	**13**	P	Pn	03 35 03.3	+1.8	
	0.1nm,0.1s,SNR=4.0							
EBAD	**Badajoz**	**5.86**	**302**	P	Pn	03 35 05.0	+1.2	
	0.4nm,0.1s,SNR=7.9							
EBAD				S	Sn	03 36 07.0	-2.9	
	0.4nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**5.86**	**302**	P	Pn	03 35 05.0	+1.2	
	0.4nm,0.1s,SNR=7.9							
EMIR	**Miracle**	**6.33**	**15**	P	Pn	03 35 13.2	+3.0	
	0.6nm,0.1s,SNR=7.9							
EMIR	**Miracle**	**6.33**	**15**	P	Pn	03 35 13.2	+3.0	
	0.6nm,0.1s,SNR=7.9							
CFON	**Fontmartina**	**6.41**	**21**	P	Pn	03 35 12.7	+1.3	
	0.1nm,0.0s,SNR=6.3							
CFON				S	Sn	03 36 19.8	-3.6	
	1.2nm,0.3s,SNR=7.9							
CFON	**Fontmartina**	**6.41**	**21**	P	Pn	03 35 12.7	+1.3	
	0.1nm,0.0s,SNR=6.3							
CSOR	**Sort**	**6.70**	**11**	P	Pn	03 35 18.1	+2.7	
	0.1nm,0.1s,SNR=7.9							
CSOR	**Sort**	**6.70**	**11**	P	Pn	03 35 18.1	+2.7	
	0.1nm,0.1s,SNR=7.9							

***IDC 30** 03:56:30.5±5.3,1°31S×15°.62W,h0km,mb4.0/2, mb1 4.0/3,mb1mx3.4/26,mbtmp4.0/3,ML3.7/1,MS3.0/1, Ms1 3.0/1,ms1mx2.5/33,Error ellipse: s-maj=119.8km s-min=39.9km az=107.0,North of Ascension Island*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**6.58**	**170**	T	T	04 04 58.6	
	baz=357,slow=0.7						
H10N3	**ASCENSION HYDR**	**6.59**	**170**	T	T	04 04 50.7	
	baz=357,slow=0.7						
H10N1	**ASCENSION HYDR**	**6.59**	**170**	T	T	04 05 00.0	
	baz=357,slow=0.7						
H10S1	**ASCENSION HYDR**	**7.65**	**173**	T	T	04 06 14.7	
	baz=354,slow=0.7						
H10S3	**ASCENSION HYDR**	**7.66**	**173**	T	T	04 06 13.4	
	baz=354,slow=0.7						
H10S2	**ASCENSION HYDR**	**7.66**	**173**	T	T	04 06 23.4	
	baz=354,slow=0.7						
DBIC	**Dimbokro**	**13.35**	**53**	Pn	Pn	03 59 39.9	-1.5
	0.4nm,0.3s,baz=219,slow=16,SNR=23						
DBIC				Sn	Sn	04 01 56.8	-14
	0.2nm,0.3s,baz=165,slow=16,SNR=2.8						
DBIC				LR	LR	04 03 39.1	
	comp=Z,68nm,19.5s,baz=238,slow=32						
TORD	**Torodi Ar. Bea**	**22.39**	**50**	P	P	04 01 31.3	+0.6
	2.7nm,0.8s,baz=229,slow=11,SNR=12						
BOSA	**Boshof**	**47.51**	**129**	P	P	04 05 07.8	-0.1
	2.6nm,0.6s,baz=298,slow=8.1,SNR=6.0						
WRA	**Warramunga Arr**	**143.75**	**127**	PKP	PKPdf	04 16 07.5	-1.1
	0.4nm,0.9s,baz=257,slow=3.7,SNR=3.5						

*IDC **30** 04:09:60.0±8.1, 15°.53N×99°.17W,h0km,mb3.9/3, mb1 4.1/4,mb1mx3.7/22,mbtmp3.7/4,ML3.8/1,Error ellipse: s-maj=150.0km s-min=56.3km az=10.0*
*ISCJB **30** 04:10:08.8±0.7, 16°.62N±0°.05×99°.21W±0°.03,h17km±6km, mb3.7/3,Error ellipse: s-maj=8.3km s-min=4.1km az=9.3*
*MEX **30** 04:10:12.2±0.8, 16°.58N×99°.21W,h16km±999km,MD4.1*

ISC 30 04:10:08.0±1.3, 16°.66N±0°.06×99°.19W±0°.03, h4km±10km, n20,σ1°09/29, mb3.7/3, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.67**	**288**	*e*P	**Pg**	**04 10 20.4**	**-0.5**
ACX				*i* S	**Sg**	**04 10 28.9**	**-0.6**
ACP2	**Acapulco**	**0.70**	**288**	*e*P	**Pb**	**04 10 22.5**	**-0.2**
ACP2				*i* S	**Sg**	**04 10 31.5**	**+1.2**
PNIG	**Pinotepa**	**1.06**	**105**	*e*P	**Pg**	**04 10 28.4**	**+0.1**
PNIG				*i* S	**Sg**	**04 10 41.4**	**-0.6**
TLIG	**Tlapa**	**1.08**	**34**	*e*P	**Pn**	**04 10 30.2**	**+0.2**
TLIG				*i* S	**Sg**	**04 10 43.8**	**+1.1**
CAIG	**El Cayaco**	**1.10**	**291**	*e*P	**Pg**	**04 10 28.6**	**-0.4**
CAIG				*i* S	**Sg**	**04 10 43.3**	**+0.1**
HMTT	**Tlapaneco**	**1.28**	**28**	*e*P	Pn	04 10 23.8	-9.0
HMTT				*i* S	Sb	04 10 41.3	-8.4
MEIG	**Mezcala**	**1.32**	**342**	*i* P	**Pn**	**04 10 33.6**	**+0.3**
MEIG				*i* S	**Sb**	**04 10 49.5**	**-1.2**
PLIG	**Platanillo**	**1.75**	**350**	*e*P	**Pn**	**04 10 40.1**	**+1.0**
PLIG				*i* S	**Sn**	**04 11 00.6**	**-1.3**
UTMO	**Huajupan**	**1.77**	**49**	*e*P	**Pn**	**04 10 40.2**	**+0.7**
UTMO				*i* S	**Sn**	**04 11 00.6**	**-1.9**
UTMO				*i* S	**Sn**	**04 11 00.7**	**-1.9**
ARIG	**Puente Sto Nin**	**1.95**	**326**	*e*P	**Pn**	**04 10 42.7**	**+0.8**
ARIG				*i* S	**Sn**	**04 11 05.9**	**-1.0**
YAIG	**Yautepec**	**2.19**	**3**	*e*P	**Pb**	**04 10 47.4**	**-0.9**
YAIG				*i* S	**Sn**	**04 11 13.5**	**+0.5**
ZIIG	**Zihuatanejo**	**2.37**	**294**	*e*P	**Pn**	**04 10 47.1**	**-0.5**
ZIIG				*i* S	**Sn**	**04 11 16.2**	**-0.9**
VHO	**Vista Hermosa**	**2.39**	**80**	*e*P	**Pn**	**04 10 49.0**	**+0.8**
VHO				*i* S	**Sn**	**04 11 16.1**	**-2.0**
TXAR	**Lajitas Array**	**13.27**	**343**	Pn	**P**	**04 13 27.2**	**-0.1**
	0.1nm,0.3s,baz=150,slow=14,SNR=5.3						
NVAR	**Mina Array Bea**	**27.41**	**326**	P	**P**	**04 15 56.5**	**+1.6**
	0.6nm,0.8s,baz=152,slow=10,SNR=3.5						
PDAR	**Pinedale Array**	**27.48**	**343**	P	**P**	**04 15 57.3**	**+1.7**
	1.2nm,0.8s,baz=149,slow=12,SNR=8.5						
SCHQ	**Schefferville**	**45.50**	**26**	P	**P**	**04 18 29.1**	**+0.6**
	2.5nm,0.7s,baz=229,slow=10,SNR=7.7						
H03N2	**Juan Fernandez**	**53.45**	**159**	T	T	05 16 57.9	
	baz=336,slow=0.7,SNR=68						
H03N1	**Juan Fernandez**	**53.45**	**159**	T	T	05 16 58.7	
	baz=336,slow=0.7,SNR=119						
H03N3	**Juan Fernandez**	**53.46**	**159**	T	T	05 16 59.3	
	baz=336,slow=0.7,SNR=68						

GUC 30 04:10:32.2±0.4, 32°.79S×71°.97W, h7km±2km, ML3.5, 6C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.36**	**131**	⇑*i*P	Pg	04 10 38.8	-0.5
IHA				*i* S	Sg	04 10 43.9	-0.2
ROCH	**El Roble**	**0.83**	**103**	AML	AML	04 10 59.6	
	comp=N,4μm,0.5s						
CHNG	**Los Chungos**	**0.99**	**24**	⇓*i*P	Pg	04 10 49.8	-1.3
CHNG				*i* S	Sg	04 11 03.0	-0.9
PEL	**Peldehue**	**1.14**	**108**	⇓*i*P	Pg	04 10 52.2	-2.0
PEL				*i* S	Sg	04 11 07.3	-1.7
JACH	**Jahuel**	**1.17**	**85**	*i* P	Pg	04 10 52.4	-2.3
JACH				*i* S	Sg	04 11 08.2	-1.7
SAN	**Santiago**	**1.28**	**121**	⇑*i*P	Pn	04 10 54.6	-2.1
SAN				*i* S	Sb	04 11 11.1	-2.4
SAN				AML	AML	04 11 19.2	
	comp=N,2μm,0.5s						
STL	**Santa Lucia**	**1.29**	**120**	*i* P	Pn	04 10 54.3	-2.4
STL				*i* S	Sb	04 11 11.4	-2.3
CLCH	**Cerro Calan**	**1.35**	**117**	⇑*i*P	Pn	04 10 55.4	-2.2
CLCH				*i* S	Sb	04 11 13.1	-2.3
CLCH				AML	AML	04 11 28.1	
	comp=N,1μm,0.4s						
ANTU	**Antumapu**	**1.36**	**125**	⇓*i*P	Pn	04 10 55.9	-1.9
ANTU				*i* S	Sb	04 11 13.8	-2.1
ANTU				AML	AML	04 11 22.0	
	comp=E,1μm,0.3s						
LACH	**Col Las Americ**	**1.38**	**119**	⇑*i*P	Pn	04 10 56.0	-1.9
LACH				*i* S	Sb	04 11 14.2	-2.1
PCH	**Pirque**	**1.48**	**125**	⇑*i*P	Pn	04 10 57.7	-1.6
PCH				*i* S	Sn	04 11 17.1	-1.9
CHCH	**Chadas Angostu**	**1.59**	**136**	*e*P	Pn	04 10 59.1	-1.8
CHCH				*i* S	Sn	04 11 19.8	-1.9
CACH	**El Canelo**	**1.75**	**140**	*i* P	Pn	04 11 02.7	-0.5
CACH				*i* S	Sn	04 11 25.9	0.0
CMCH	**Combarbala**	**1.81**	**27**	⇑*i*P	Pn	04 11 02.6	-1.4
CMCH				*i* S	Sn	04 11 26.2	-1.1
LMEL	**Las Melosas**	**1.82**	**126**	*i* P	Pn	04 11 03.2	-1.0
LMEL				*i* S	Sn	04 11 26.7	-1.0
LMEL				AML	AML	04 11 28.4	
	comp=N,1μm,0.1s						

*IDC **30** 04:29:06.6±0.7,29°.64N×84°.66E,h0km,mb4.0/17, mb1 4.2/19,mb1mx4.1/31,mbtmp4.0/19,ML4.1/2,MS3.7/2, Ms1 3.7/2,ms1mx2.9/34,Error ellipse: s-maj=22.5km s-min=14.0km az=43.0*
*NEIC **30** 04:29:08.4±0.2,29°.64N×84°.59E,h10km,mb4.4/17,Error ellipse: s-maj=6.9km s-min=4.1km az=49.0*
*NDI **30** 04:29:09.3±3.3,29°.61N×84°.75E,h10km,ML4.1, mb4.4(NEIC)*
*MOS **30** 04:29:10.0±0.9,29°.69N×84°.63E,h35km,mb4.4/21,Error ellipse: s-maj=12.5km s-min=5.7km az=122.6*
*DMN **30** 04:29:14.0±0.8,29°.74N×84°.73E,h30km,Ml4.8/9,Error ellipse: s-maj=16.4km s-min=8.7km az=177.0*

ISC 30 04:29:09.3±1.3, 29°.66N±0°.03×84°.66E±0°.03, h17km±8km, n172,σ1°01/194, mb4.2/35, 1C, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DANN	**Dangsing**	**1.52**	**211**	*e*Pg	**Pb**	**04 29 37.9**	**+0.6**
DANN				*e*Sg	**Sg**	**04 29 59.0**	**+0.4**
	5μm,0.5s						
DANN	**Dangsing**	**1.52**	**211**	*e*Pg	**Pb**	**04 29 38.0**	**+0.6**
DANN				*e*Sn	**Sg**	**04 29 58.3**	**-0.3**
	5μm,0.5s						
GKN	**Gorkha**	**1.65**	**181**	*e*Pg	**Pb**	**04 29 39.5**	**0.0**
GKN				*e*Sn	**Sb**	**04 30 01.4**	**+1.4**
	3μm,0.3s						
GKN	**Gorkha**	**1.65**	**181**	*e*Pg	**Pb**	**04 29 39.4**	**0.0**
GKN				*e*Sn	**Sb**	**04 30 01.3**	**+1.3**
	3μm,0.3s						
KKN	**Kakani**	**1.94**	**164**	*e*Pn	**Pb**	**04 29 44.4**	**0.0**
KKN				*e*Sn	**Sn**	**04 30 07.4**	**+1.5**
	1μm,0.5s						
KKN	**Kakani**	**1.94**	**164**	*e*Pn	**Pb**	**04 29 44.4**	**0.0**
KKN				*e*Sn	**Sn**	**04 30 07.1**	**+1.2**
	1μm,0.5s						

GUN	**Gumba**	**2.04**	**148**	*e*Pn	**Pb**	**04 29 45.2**	**-1.0**	
GUN	**Gumba**	**2.04**	**148**	*e*Pn	**Pb**	**04 29 45.2**	**-1.0**	
GUN				*e*Sn	**Sn**	**04 30 09.7**	**+1.1**	
	3μm,0.6s							
DMN	**Daman**	**2.08**	**169**	*e*Pn	**Pb**	**04 29 47.7**	**+0.9**	
DMN	**Daman**	**2.08**	**169**	*e*Pn	**Pb**	**04 29 47.7**	**+0.9**	
KOLN	**Koldanda**	**2.10**	**207**	*e*Pn	**Pg**	**04 29 48.7**	**-1.0**	
KOLN				*e*Sn	**Sb**	**04 30 12.9**	**-0.1**	
	2μm,0.6s							
KOLN	**Koldanda**	**2.10**	**207**	*e*Pg	**Pg**	**04 29 49.1**	**-0.6**	
KOLN				*e*Sn	**Sb**	**04 30 12.9**	**-0.1**	
	2μm,0.6s							
PYUN	**Piuthan**	**2.14**	**224**	*e*Pn	**Pg**	**04 29 49.2**	**-1.1**	
PYUN				*e*Sn	**Sb**	**04 30 13.1**	**-1.0**	
	2μm,0.6s							
PYUN	**Piuthan**	**2.14**	**224**	*e*Pg	**Pg**	**04 29 49.3**	**-1.1**	
PYUN				*e*Sn	**Sb**	**04 30 13.7**	**-0.4**	
	2μm,0.6s							
PKIN	**Phulchoki**	**2.17**	**163**	*e*Pn	**Pb**	**04 29 48.1**	**-0.3**	
PKIN				*e*Sn	**Sn**	**04 30 13.7**	**+2.0**	
	1μm,0.5s							
PKIN	**Phulchoki**	**2.17**	**163**	*e*Pn	**Pb**	**04 29 48.7**	**+0.3**	
PKI	**Pulchoki**	**2.18**	**162**	*e*Pn	**Pb**	**04 29 47.7**	**-0.9**	
PKI				*e*Sn	**Sn**	**04 30 14.1**	**+2.1**	
	1μm,0.7s							
PKI	**Pulchoki**	**2.18**	**162**	*e*Pn	**Pb**	**04 29 49.1**	**+0.5**	
JIRN	**Jiri**	**2.40**	**146**	*e*Pn	**Pb**	**04 29 51.5**	**-0.8**	
JIRN	**Jiri**	**2.40**	**146**	*e*Pn	**Pb**	**04 29 51.6**	**-0.8**	
RAMN	**Ramite**	**3.19**	**147**	*e*Pn	**Pn**	**04 30 01.5**	**+2.4**	
RAMN				*e*Sn	**Sn**	**04 30 36.6**	**-0.3**	
	696nm,0.5s							
RAMN				*e*Sn	**Sn**	**04 30 36.6**	**-0.3**	
	690nm,0.5s							
RAMN	**Ramite**	**3.19**	**147**	*e*Pn	**Pn**	**04 30 01.4**	**+2.4**	
RAMN				*e*Sn	**Sn**	**04 30 36.6**	**-0.3**	
	690nm,0.5s							
TAPN	**Taplejung**	**3.53**	**130**	*e*Pn	**Pn**	**04 30 06.6**	**+2.8**	
TAPN	**Taplejung**	**3.53**	**130**	*e*Pn	**Pn**	**04 30 06.5**	**+2.8**	
ODAN	**Odare**	**3.68**	**139**	*e*Pn	**Pn**	**04 30 08.4**	**+2.6**	
ODAN	**Odare**	**3.68**	**139**	*e*Pn	**Pn**	**04 30 08.4**	**+2.6**	
LGTI	**Lohaghat**	**3.85**	**268**	*e*4	**Pg**	**04 30 23.5**	**+0.3**	
LGTI				*ex*	**Sg**	**04 31 17.4**	**+4.3**	
PTH	**Pithoragarh**	**3.87**	**269**	*e*P	**Pn**	**04 30 10.5**	**+2.1**	
PTH				*e*4	**Sb**	**04 31 04.5**	**+0.4**	
LSA	**Lhasa**	**5.64**	**88**	*e*Pn	**Pn**	**04 30 34.0**	**+1.0**	
LSA				Sn	**Sn**	**04 31 39.5**	**+1.8**	
LSA				SMN				
	10.0nm,0.8s							
LSA				SME				
	20nm,0.8s							
LSA	**Lhasa**	**5.64**	**88**	*e*P	**Pn**	**04 30 33.3**	**+0.4**	
LSA				pmax	pmax			
	comp=Z,24nm,0.6s							
LSA	**Lhasa**	**5.64**	**88**	*e*Pn	**Pn**	**04 30 33.3**	**+0.4**	
	comp=Z,24nm,0.6s							
LSA				*e*Pg	Pb	04 30 51.1	+3.4	
LSA				*e*Sg	**Sb**	**04 31 57.5**	**+2.2**	
DDI	**Dehra Dun**	**5.77**	**278**	*e*P	**Pn**	**04 30 35.3**	**+1.0**	
DDI				*e*S	**Sn**	**04 31 41.2**	**+1.0**	
DDI				AML	AML	04 32 34.3		
	comp=E,255nm,0.3s							
DDI				AML	AML	04 32 35.2		
	comp=N,304nm,0.1s							
BOK	**Bokaro**	**5.94**	**169**	*e*P	**Pn**	**04 30 37.0**	**+0.3**	
BOK				*ex*	**Sn**	**04 31 46.2**	**+1.9**	
NDI	**New Delhi**	**6.58**	**263**	*e*P	Pn	04 30 48.5	+3.1	
SMLA	**Simla**	**6.64**	**285**	*e*P	**Pn**	**04 30 46.6**	**+0.5**	
SMLA				*ex*	**Sn**	**04 32 03.5**	**+2.0**	
SHL	**Shillong**	**7.59**	**121**	*e*P	**Pn**	**04 30 59.1**	**-0.4**	
SHL				AML	AML	04 32 21.4		
	comp=E,171nm,0.1s							
SHL				AML	AML	04 32 21.5		
	comp=N,133nm,0.1s							
SHL				*i* x	**Sn**	**04 32 25.0**	**-0.2**	
DHRM	**DHARAMSHALA**	**7.63**	**292**	*e*P	**Pn**	**04 30 59.9**	**-0.1**	
JBP	**Jabalpur**	**7.71**	**214**	⇑*i*x	Pn	04 31 05.8	+5.0	
JBP				*ex*	Sg	04 33 13.9		
BHPL	**Bhopal**	**9.10**	**227**	*e*P	**Pn**	**04 31 18.7**	**-1.4**	
BHPL				*ex*	x	04 34 47.4		
VIS	**Vishakhapatnam**	**11.95**	**186**	*e*P	**Pn**	**04 31 57.7**	**-1.2**	
HYB	**Hyderabad**	**13.41**	**206**	*e*P	**Pn**	**04 32 17.9**	**-1.1**	
KBL	**Kabul**	**14.10**	**294**	*e*P	**Pn**	**04 32 28.4**	**-0.2**	
KBL				pmax	pmax			
	comp=Z,16nm,0.9s							
KBL	**Kabul**	**14.10**	**294**	*e*Pn	**Pn**	**04 32 28.4**	**-0.2**	
	comp=Z,16nm,0.9s							
POO	**Poona**	**14.83**	**224**	*ex*	**Pn**	**04 32 37.0**	**-1.4**	
TKM2	**Tokmak 2**	**15.11**	**334**	*e*P	**Pn**	**04 32 42.5**	**+0.3**	
TKM2	**Tokmak 2**	**15.11**	**334**	*e*Pn	**Pn**	**04 32 42.5**	**+0.3**

comp=Z,0.8nm,0.5s,baz=134,slow=10,SNR=3.7
USRK Ussuriysk Arra 39.97 55 P **P** **04 36 42.6 -0.3**
comp=Z,3.2nm,0.7s,baz=254,slow=8.3,SNR=7.7
BRTR Keskin Array B 42.64 298 P **P** **04 37 06.7 +1.6**
BRTR Keskin Array B 42.64 298 P **P** **04 37 06.7 +1.6**
comp=Z,0.2nm,0.3s,baz=61,slow=12,SNR=5.0
MJAR Matsushiro Arr 44.90 67 LR LR 04 56 41.5
comp=Z,41nm,20.7s,baz=275,slow=37
AKASG Malin Array Be 46.06 313 P **P** **04 37 31.5 -0.6**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 46.06 313 P **P** **04 37 31.5 -0.6**
AKASG Malin Array Be 46.06 313 P **P** **04 37 31.5 -0.6**
comp=Z,0.9nm,0.6s,baz=81,slow=7.2,SNR=5.0
KIEV Kiev 46.07 313 *eP* **P** **04 37 31.2 -1.0**
KIEV pmax pmax
comp=Z,2.0nm,0.4s
KIEV Kiev 46.07 313 *eP* **P** **04 37 31.2 -1.0**
comp=Z,2.0nm,0.4s
JOF Joensuu 47.51 330 *eP* **P** **04 37 41.3 -2.0**
JOF pmax pmax
comp=Z,1.0nm,0.4s
JOF Joensuu 47.51 330 *ep* **P** **04 37 41.3 -2.0**
comp=Z,0.9nm,0.4s
FINES FINESS Array B 49.48 327 P **P** **04 37 59.0 +0.6**
FINES FINESS Array B 49.48 327 P **P** **04 37 59.0 +0.6**
comp=Z,1.9nm,0.5s,baz=105,slow=8.4,SNR=13
ARCES ARCESS Array B 51.84 337 P **P** **04 38 14.3 -1.9**
ARCES ARCESS Array B 51.84 337 P **P** **04 38 14.3 -1.9**
comp=Z,5.2nm,0.9s,baz=111,slow=6.9,SNR=5.8
GERES GERESS Array B 56.14 311 P **P** **04 38 47.4 -0.6**
GERES GERESS Array B 56.14 311 P **P** **04 38 47.4 -0.6**
comp=Z,0.1nm,0.3s,baz=52,slow=5.1,SNR=3.8
NB2 NORSAR Subarra 56.58 326 P **P** **04 38 50.6 -0.3**
comp=Z,0.7nm,0.5s,baz=89,slow=7.4
NOA NORSAR Array B 56.58 326 P **P** **04 38 50.4 -0.6**
NOA NORSAR Array B 56.58 326 P **P** **04 38 50.4 -0.6**
comp=Z,0.6nm,0.5s,baz=79,slow=5.4,SNR=3.7
CDF Champ du Feu 60.41 312 *eP* **P** **04 39 17.6 -0.3**
CDF Champ du Feu 60.41 312 *eP* **P** **04 39 17.6 -0.3**
CDF Champ du Feu 60.41 312 *eP* **P** **04 39 17.6 -0.3**
PGF Pioggiola 60.60 305 *eP* **P** **04 39 19.3 0.0**
PGF Pioggiola 60.60 305 *eP* **P** **04 39 19.3 0.0**
PGF Pioggiola 60.60 305 *eP* **P** **04 39 19.3 0.0**
HINF Hinteralfeld 60.82 311 *eP* **P** **04 39 20.3 -0.4**
HINF Hinteralfeld 60.82 311 *eP* **P** **04 39 20.3 -0.4**
HINF Hinteralfeld 60.82 311 *eP* **P** **04 39 20.3 -0.4**
HAU Haudompre 61.11 311 *eP* **P** **04 39 22.4 -0.2**
HAU Haudompre 61.11 311 *eP* **P** **04 39 22.4 -0.2**
HAU Haudompre 61.11 311 *eP* **P** **04 39 22.4 -0.2**
SBF Sospel 61.37 307 *eP* **P** **04 39 24.9 +0.4**
SBF Sospel 61.37 307 *eP* **P** **04 39 24.9 +0.4**
SBF Sospel 61.37 307 *eP* **P** **04 39 24.9 +0.4**
LPG La Plagne 61.43 308 *eP* **P** **04 39 25.3 +0.1**
comp=Z,5.9nm,0.9s
LPG La Plagne 61.43 308 *eP* **P** **04 39 25.3 +0.1**
LPG pmax pmax
comp=Z,6.0nm,0.9s
LPG La Plagne 61.43 308 *eP* **P** **04 39 25.3 +0.1**
comp=Z,5.9nm,0.9s
LPL La Plagne 61.44 308 *eP* **P** **04 39 25.4 +0.2**
comp=Z,6.3nm,0.8s
LPL La Plagne 61.44 308 *eP* **P** **04 39 25.4 +0.2**
LPL pmax pmax
comp=Z,6.0nm,0.8s
LPL La Plagne 61.44 308 *eP* **P** **04 39 25.4 +0.2**
comp=Z,6.3nm,0.8s
CABF La Chapelle 61.61 310 *eP* **P** **04 39 26.6 +0.5**
CABF La Chapelle 61.61 310 *eP* **P** **04 39 26.6 +0.5**
CABF La Chapelle 61.61 310 *eP* **P** **04 39 26.6 +0.5**
FRF La Foret Royal 62.00 306 *eP* **P** **04 39 28.8 +0.1**
comp=Z,6.7nm,0.8s
FRF La Foret Royal 62.00 306 *eP* **P** **04 39 28.8 +0.1**
FRF pmax pmax
comp=Z,7.0nm,0.8s
FRF La Foret Royal 62.00 306 *eP* **P** **04 39 28.8 +0.1**
comp=Z,6.7nm,0.8s
LOR Lormes 62.92 311 *eP* **P** **04 39 34.7 -0.1**
LOR Lormes 62.92 311 *eP* **P** **04 39 34.7 -0.1**
SMF Signal de Mont 63.10 310 *eP* **P** **04 39 35.5 -0.5**
SMF Signal de Mont 63.10 310 *eP* **P** **04 39 35.5 -0.5**
SMF Signal de Mont 63.10 310 *eP* **P** **04 39 35.5 -0.5**
SSF Saint Saulge 63.21 311 *eP* **P** **04 39 36.4 -0.3**
comp=Z,3.9nm,0.8s
SSF Saint Saulge 63.21 311 *eP* **P** **04 39 36.4 -0.3**
SSF pmax pmax
comp=Z,4.0nm,0.8s
SSF Saint Saulge 63.21 311 *eP* **P** **04 39 36.4 -0.3**
comp=Z,3.9nm,0.8s
AVF Avril sur Loir 63.38 311 *eP* **P** **04 39 37.9 +0.1**
comp=Z,4.5nm,0.8s
AVF Avril sur Loir 63.38 311 *eP* **P** **04 39 37.9 +0.1**
AVF pmax pmax
comp=Z,5.0nm,0.8s
AVF Avril sur Loir 63.38 311 *eP* **P** **04 39 37.9 +0.1**
comp=Z,4.5nm,0.8s
TCF Toulx Ste Croi 64.28 310 *eP* **P** **04 39 43.9 +0.1**
TCF Toulx Ste Croi 64.28 310 *eP* **P** **04 39 43.9 +0.1**
TCF Toulx Ste Croi 64.28 310 *eP* **P** **04 39 43.9 +0.1**
MFF Saint Martin d 65.74 311 *eP* **P** **04 39 52.6 -0.6**
MFF Saint Martin d 65.74 311 *eP* **P** **04 39 52.6 -0.6**
MFF Saint Martin d 65.74 311 *eP* **P** **04 39 52.6 -0.6**
FX1 Attu Island--F 66.08 42 LR LR 05 11 09.5
comp=Z,135nm,21.8s,baz=87,slow=38
ROSF Rostrenen 67.19 314 *eP* **P** **04 40 02.0 -0.5**
ROSF Rostrenen 67.19 314 *eP* **P** **04 40 02.0 -0.5**
ROSF Rostrenen 67.19 314 *eP* **P** **04 40 02.0 -0.5**
WRA Warramunga Arr 68.72 130 P **P** **04 40 12.3 -0.1**
WRA Warramunga Arr 68.72 130 P **P** **04 40 12.3 -0.1**
comp=Z,4.2nm,0.6s,baz=322,slow=6.4,SNR=21
WRAB Tennant Creek 68.72 130 *eP* **P** **04 40 12.4 0.0**
WRAB pmax pmax
comp=Z,6.0nm,0.6s
WRAB Tennant Creek 68.72 130 *eP* **P** **04 40 12.3 0.0**
comp=Z,6.1nm,0.6s
TAM Tamanrasset 70.06 285 *eP* **P** **04 40 20.6 -0.5**
TAM Tamanrasset 70.06 285 *eP* **P** **04 40 20.6 -0.5**
ESDC Sonseca Array 70.78 305 P **P** **04 40 25.5 +0.4**
ESDC Sonseca Array 70.78 305 P **P** **04 40 25.5 +0.4**
comp=Z,0.8nm,0.8s,baz=55,slow=6.3,SNR=6.5
ASAR Alice Springs 71.06 133 P **P** **04 40 26.8 0.0**
ASAR Alice Springs 71.06 133 P **P** **04 40 26.8 0.0**
comp=Z,1.5nm,0.6s,baz=314,slow=5.8,SNR=18
IMA2 Indian Mountai 74.74 21 *eP* **P** **04 40 50.0 +1.8**
COLD Coldfoot 75.02 19 *eP* **P** **04 40 51.1 +1.5**
comp=Z,2.6nm,0.7s
COLA College 77.35 20 *eP* **P** **04 41 03.2 +0.4**
COLA pmax pmax
comp=Z,18nm,0.7s
COLA College 77.35 20 *eP* **P** **04 41 03.2 +0.4**
comp=Z,18nm,0.7s
TOA0 Torodi Ar. Sit 77.58 278 *eP* **P** **04 41 05.7 +0.6**
TORD Torodi Ar. Bea 77.58 278 P **P** **04 41 04.5 -0.5**
TORD Torodi Ar. Bea 77.58 278 P **P** **04 41 04.5 -0.5**
comp=Z,0.9nm,0.9s,baz=55,slow=4.8,SNR=11
ILAR Eielson Array 77.71 20 P **P** **04 41 04.6 -0.3**
ILAR Eielson Array 77.71 20 P **P** **04 41 04.6 -0.3**
comp=Z,1.5nm,0.7s,baz=310,slow=5.1,SNR=23
LBTB Lobatse 78.53 233 *eP* **P** **04 41 09.5 -0.6**
comp=Z,11nm,1.2s
TXAR Lajitas Array 120.80 8 PKP **PKPdf** **04 48 01.2 0.0**
TXAR Lajitas Array 120.80 8 PKP **PKPdf** **04 48 01.2 0.0**
comp=Z,0.3nm,0.5s,baz=142,slow=1.9,SNR=8.4

*ISCJB **30** 05:16:00.8±0.7, 32°.20N±0°.07×141°.8E±0°.2, h29km, mb4.0/13, Error ellipse: s-maj=22.0km s-min=7.4km az=163.9*

*IDC **30** 05:16:04.8±0.7, 32°.24N×141°.76E, h45km±5km, mb3.7/13, mb1 3.9/16, mb1mx3.7/30, mbtmp3.7/16, ML3.7/3, MS3.3/2, Ms1 3.3/2, ms1mx2.6/33, Error ellipse: s-maj=23.3km s-min=13.0km az=71.0*

ISC 30 05:16:03.6±0.7, 32°.22N±0°.08×141°.9E±0°.1, h29km, n18, σ2s01/27, mb4.1/13, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.12**	**177**	P	**Pn**	**05 17 18.9**	**+0.5**
	7.7nm,0.3s,baz=92,slow=24,SNR=8.6						
JCJ				S	**Sn**	**05 18 14.4**	**-2.0**
	10.0nm,0.3s,baz=285,slow=20,SNR=4.5						
MJAR	**Matsushiro Arr**	**5.25**	**326**	P	**Pn**	**05 17 18.1**	**-2.0**
	1.2nm,0.3s,baz=152,slow=12,SNR=5.8						
JNU	**Nakatsue**	**9.29**	**278**	LR	LR	05 22 11.0	
	comp=Z,165nm,18.1s,baz=63,slow=40						
KSRS	**Korea Array**	**12.57**	**298**	P	**Pn**	**05 19 01.2**	**+0.9**
	0.3nm,0.3s,baz=108,slow=12,SNR=4.7						
KSRS				LR	LR	05 24 02.2	
	comp=Z,133nm,18.0s,baz=115,slow=38						
SONM	**Songino Array**	**30.98**	**311**	P	**P**	**05 22 18.4**	**0.0**
	2.5nm,0.8s,baz=106,slow=7.2,SNR=13						
SONM				pP	**pP**	**05 22 29.3**	**+2.4**
	2.9nm,0.7s,baz=106,slow=8.8,SNR=9.0						
ZALV	**Zalesovo Beam**	**45.52**	**316**	P	**P**	**05 24 18.9**	**-1.3**
	1.0nm,0.7s,baz=101,slow=7.7,SNR=3.9						
ZALV				pP	**pP**	**05 24 31.4**	**+2.4**
	1.1nm,0.8s,baz=103,slow=6.5,SNR=2.4						
MKAR	**Makanchi Array**	**47.11**	**306**	P	**P**	**05 24 31.4**	**-1.6**
	1.8nm,0.7s,baz=92,slow=9.0,SNR=16						
MKAR				pP	**pP**	**05 24 44.4**	**+2.7**
	3.8nm,0.8s,baz=87,slow=11,SNR=14						
KURBB	**Kurchatov Arra**	**49.34**	**311**	P	**P**	**05 24 48.7**	**-1.4**
	2.3nm,0.7s,baz=87,slow=7.5,SNR=4.0						
KURBB				pP	**pP**	**05 25 01.9**	**+3.0**
	2.3nm,0.7s,baz=90,slow=6.9,SNR=4.0						
WRA	**Warramunga Arr**	**52.37**	**189**	P	**P**	**05 25 12.1**	**-1.0**
	3.1nm,0.9s,baz=6.7,slow=7.9,SNR=13						
WRA				pP	**pP**	**05 25 23.9**	**+2.0**
	5.1nm,0.8s,baz=6.5,slow=7.9,SNR=16						
ILAR	**Eielson Array**	**53.41**	**30**	P	**P**	**05 25 19.6**	**-0.7**
	0.4nm,0.9s,baz=277,slow=7.0,SNR=2.9						
ILAR				pP	**pP**	**05 25 31.8**	**+2.6**
	0.6nm,0.9s,baz=288,slow=5.0,SNR=4.5						
BVAR	**Borovoye Array**	**54.15**	**315**	P	**P**	**05 25 24.5**	**-1.4**
	1.8nm,0.7s,baz=97,slow=7.8,SNR=6.5						
BVAR				pP	**pP**	**05 25 37.5**	**+2.7**
	1.5nm,0.6s,baz=94,slow=9.7,SNR=4.5						
ASAR	**Alice Springs**	**56.09**	**189**	P	**P**	**05 25 40.1**	**-0.1**
	0.4nm,0.6s,baz=11,slow=10,SNR=4.2						
AKTO	**Aktyubinsk**	**62.21**	**314**	P	**P**	**05 26 20.1**	**-2.2**
	0.8nm,0.5s,baz=66,slow=12,SNR=3.6						
KBZ	**Khabaz**	**74.34**	**312**	P	**P**	**05 27 37.0**	**-1.3**
	2.4nm,0.9s,baz=46,slow=6.2,SNR=3.8						
KBZ				pP	**PcP**	**05 27 51.4**	**-1.6**
	3.7nm,0.8s,baz=102,slow=2.0,SNR=4.5						
NB2	**NORSAR Subarra**	**78.76**	**338**	P	**P**	**05 28 01.1**	**-2.1**
	comp=Z,3.7nm,1.0s,baz=43,slow=5.9						
NOA	**NORSAR Array B**	**78.76**	**339**	P	**P**	**05 28 01.2**	**-1.9**
	comp=Z,2.1nm,0.9s,baz=44,slow=5.7,SNR=4.0						
BRTR	**Keskin Array B**	**82.33**	**312**	P	**P**	**05 28 21.9**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=45,slow=4.2,SNR=6.4						
BRTR				pP	**pP**	**05 28 35.5**	**+3.4**
	comp=Z,0.8nm,0.8s,baz=53,slow=7.4,SNR=2.9						
TXAR	**Lajitas Array**	**92.76**	**53**	P	**P**	**05 29 14.9**	**+1.3**
	comp=Z,0.3nm,0.9s,baz=336,slow=2.7,SNR=3.6						

JMA 30 05:16:50.2, 34°.25N×139°.16E, h10km±1km, M3.0, 3C, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKO	**Kozu shima**	**0.07**	**197**	↑P	Pg	05 16 52.5	+0.1
JKO				*eS*	Sg	05 16 54.7	+0.8
JMY	**Miyakejima3**	**0.34**	**121**	↑P	Pg	05 16 57.1	0.0
JIM2	**Oshima 3**	**0.52**	**26**	P	Pg	05 17 00.2	-0.2
JIZS	**Izushimoda**	**0.52**	**334**	↑P	Pg	05 17 00.2	-0.2
JIZS				*eS*	Sg	05 17 07.8	+0.5
KTJJ	**Kamata 2**	**0.68**	**353**	P	Pg	05 17 02.7	-0.7
TK03	**Tokai 3**	**0.99**	**265**	P	Pn	05 17 10.4	+0.4
TK03				*eS*	Sn	05 17 25.5	+1.5
JOD2	**Odawara 2**	**1.01**	**357**	P	Pg	05 17 09.3	-0.5
JOD2				*eS*	Sg	05 17 23.1	+0.1
TK04	**Tokai 4**	**1.07**	**278**	P	Pb	05 17 10.8	+0.1
TK04				*eS*	Sn	05 17 27.5	+1.5
MJAR	**Matsushiro Arr**	**2.42**	**342**	sP	Pn	05 17 33.2	+3.4
	10nm,0.3s,baz=166,slow=15,SNR=37						
MAT	**Matsushiro**	**2.42**	**341**	P	Pb	05 17 32.0	-1.8
MAT				S	Sg	05 18 07.0	-1.0

IDC 30 05:45:31.5±9.3, 7°.18S×129°.16E, h97km±99km, mb2.9/1, mb1 3.3/4, mb1mx3.1/20, mbtmp3.1/4, ML3.5/3, MS3.1/1, Ms1 3.1/1, ms1mx2.6/10, Error ellipse: s-maj=71.6km s-min=40.2km az=48.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.38**	**197**	P	Pn	05 48 11.1	0.0
	0.4nm,0.3s,baz=23,slow=12,SNR=10						
FITZ				S	Sn	05 50 17.5	+1.2
	0.2nm,0.3s,baz=112,slow=19,SNR=4.4						
WRA	**Warramunga Arr**	**13.64**	**159**	P	Pn	05 48 39.7	-1.3
	0.3nm,0.3s,baz=334,slow=14,SNR=14						
WRA				S	Sn	05 51 10.7	-0.6
	0.3nm,0.3s,baz=335,slow=22,SNR=6.2						
ASAR	**Alice Springs**	**17.01**	**165**	P	P	05 49 25.5	+1.6
	0.1nm,0.3s,baz=345,slow=11,SNR=3.9						
ASAR				S	Sn	05 52 32.7	0.0
	0.1nm,0.3s,baz=347,slow=20,SNR=4.2						
ASAR				LR	LR	05 56 18.9	
	comp=Z,62nm,18.2s,baz=8.9,slow=38						
MKAR	**Makanchi Array**	**67.92**	**327**	P	P	05 56 19.9	-0.1
	0.1nm,0.4s,baz=118,slow=4.9,SNR=4.1						

*NIED **30** 06:09:00, 32°.50N×141°.80E, h5km, Mw4.2 Best double couple: M0 1.89000×10^15 NP1:φ=354.00000°, δ56.00000°, λ86.00000°. NP2:φ=181.00000°, δ34.00000°, λ96.00000°.*

*JMA **30** 06:09:40.6±0.5, 32°.46N×141°.83E, h15km, M4.4*

*ISCJB **30** 06:09:41.3±0.4, 32°.35N±0°.04×141°.87E±0°.09, h39km, mb4.2/23, MS3.4/2, Error ellipse: s-maj=11.6km s-min=4.5km az=160.9*

*NEIC **30** 06:09:42.4±2.3, 32°.31N×141°.79E, h28km±15km, mb4.5/8, MW4.1(NIED), Error ellipse: s-maj=13.4km s-min=5.9km az=71.0*

*IDC **30** 06:09:43.6±3.5, 32°.30N×141°.76E, h37km±29km, mb3.9/16, mb1 4.0/19, mb1mx3.9/30, mbtmp3.9/19, ML3.9/3, MS3.3/4, Ms1 3.3/4, ms1mx3.0/46, Error ellipse: s-maj=25.4km s-min=14.1km az=73.0*

ISC 30 06:09:43.2±0.6, 32°.32N±0°.05×141°.91E±0°.1, h39km, n66, σ1s32/73, mb4.3/23, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.93**	**295**	P	**Pn**	**06 10 12.0**	**-1.5**
JHJ2	**Mitsune**	**1.93**	**295**	*ePn*	**Pn**	**06 10 11.8**	**-1.7**
BSO1	**Boso 1**	**2.45**	**342**	P	**Pn**	**06 10 19.2**	**-1.0**
JOD2	**Odawara 2**	**3.76**	**322**	P	**Pn**	**06 10 37.0**	**-1.7**
JHO	**Hitachi**	**4.42**	**346**	P	**Pn**	**06 10 46.4**	**-1.3**
JHO				*eS*	**Sn**	**06 11 35.3**	**-2.6**
JRY	**Ryogami san**	**4.45**	**327**	P	**Pn**	**06 10 48.7**	**+0.5**
JAG	**Ashikaga**	**4.57**	**334**	P	**Pn**	**06 10 48.4**	**-1.4**
JAG				S	**Sn**	**06 11 39.9**	**-1.7**
JIE	**Ise**	**4.82**	**297**	P	**Pn**	**06 10 52.6**	**-0.6**
JFK	**Kawauchi**	**5.11**	**351**	P	**Pn**	**06 10 54.8**	**-2.4**
MJAR	**Matsushiro Arr**	**5.20**	**325**	Pn	**Pn**	**06 10 57.9**	**-0.6**
MJAR				Sn	**Sn**	**06 11 59.2**	**+2.0**
MJAR	**Matsushiro Arr**	**5.20**	**325**	Pn	**Pn**	**06 10 57.9**	**-0.6**
	2.8nm,0.3s,baz=156,slow=11,SNR=9.7						
MJAR				Sn	**Sn**	**06 11 59.2**	**+2.0**
	1.2nm,0.3s,baz=145,slow=28,SNR=4.3						
MAJO	**Matsushiro**	**5.21**	**325**	*ePn*	**Pn**	**06 10 58.3**	**-0.2**
	17nm,0.6s						
MAT	**Matsushiro**	**5.21**	**325**	P	**Pn**	**06 10 58.4**	**-0.1**
MAT				S	**Sn**	**06 11 58.6**	**+1.3**
CBIJ	**Chichi jima**	**5.21**	**177**	Pn	**Pn**	**06 10 57.8**	**-0.8**
CBIJ				Sn	**Sn**	**06 11 54.6**	**-2.9**
JCJ	**Chichijima**	**5.21**	**177**	Pn	**Pn**	**06 10 57.8**	**-0.9**
	20nm,0.3s,baz=258,slow=21,SNR=15						
JCJ				Sn	**Sn**	**06 11 54.6**	**-2.9**
	32nm,0.3s,baz=228,slow=22,SNR=8.3						
JFT	**Otama**	**5.34**	**346**	P	**Pn**	**06 10 59.2**	**-1.2**
JFT				*eS*	**Sn**	**06 11 57.0**	**-3.7**
JMK	**Ichinoseki**	**6.64**	**355**	P	**Pn**	**06 11 16.7**	**-1.5**
JNU	**Nakatsue**	**9.33**	**278**	LR	LR	06 14 35.1	
	comp=Z,87nm,20.6s,baz=301,slow=32						
KSRS	**Korea Array**	**12.57**	**298**	Pn	**Pn**	**06 12 38.1**	**-1.2**
	0.2nm,0.3s,baz=106,slow=13,SNR=2.8						
KSRS				LR	LR	06 17 34.4	
	comp=Z,116nm,18.9s,baz=348,slow=38						
KSAR	**Wonju Array Be**	**12.59**	**298**	Pn	**Pn**	**06 12 38.1**	**-1.6**
USRK	**Ussuriysk Arra**	**14.18**	**330**	Pn	**P**	**06 13 06.1**	**-2.0**
	0.2nm,0.3s,baz=148,slow=14,SNR=2.8						
ULN	**Ulaanbaatar**	**30.55**	**311**	*eP*	**P**	**06 15 54.9**	**+1.9**
	6.6nm,0.8s						
SONM	**Songino Array**	**30.96**	**310**	P	**P**	**06 15 57.9**	**+1.3**
SONM	**Songino Array**	**30.96**	**310**	P	**P**	**06 15 57.9**	**+1.3**
	4.4nm,0.8s,baz=108,slow=8.0,SNR=18						
SONM				LR	LR	06 28 55.2	
	comp=Z,86nm,18.8s,baz=179,slow=37						
CMAR	**Chiang Mai Arr**	**40.93**	**261**	LR	LR	06 35 45.1	
	comp=Z,38nm,18.4s,baz=115,slow=38						
ZALV	**Zalesovo Beam**	**45.48**	**316**	P	**P**	**06 17 58.0**	**-0.4**
ZALV	**Zalesovo Beam**	**45.48**	**316**	P	**P**	**06 17 58.0**	**-0.4**
	2.1nm,0.8s,baz=98,slow=7.6,SNR=8.0						
MK31	**Makanchi Array**	**47.09**	**306**	*eP*	**P**	**06 18 11.5**	**+0.3**
MKAR	**Makanchi Array**	**47.09**	**306**	P	**P**	**06 18 11.6**	**+0.3**
MKAR	**Makanchi Array**	**47.09**	**306**	P	**P**	**06 18 11.6**	**+0.3**
	2.7nm,0.7s,baz=90,slow=9.3,SNR=33						
KURK	**Kurchatov**	**49.26**	**311**	*eP*	**P**	**06 18 27.2**	**-0.6**
	6.0nm,0.7s						
WRAB	**Tennant Creek**	**52.46**	**189**	*eP*	**P**	**06 18 52.4**	**+0.3**
	7.7nm,0.8s						
WRA	**Warramunga Arr**	**52.47**	**189**	P	**P**	**06 18 52.5**	**+0.3**
WRA	**Warramunga Arr**	**52.47**	**189**	P	**P**	**06 18 52.5**	**+0.3**
	4.6nm,0.6s,baz=6.1,slow=7.6,SNR=81						
FITZ	**Fitzroy Crossi**	**52.50**	**200**	*eP*	**P**	**06 18 53.3**	**+0.9**
	5.5nm,1.2s						
ILAR	**Eielson Array**	**53.30**	**30**	P	**P**	**06 18 58.8**	**+0.9**
ILAR	**Eielson Array**	**53.30**	**30**	P	**P**	**06 18 58.8**	**+0.9**
	0.9nm,1.0s,baz=269,slow=6.5,SNR=5.0						
BVAR	**Borovoye Array**	**54.12**	**315**	P	**P**	**06 19 04.4**	**+0.3**
BVAR	**Borovoye Array**	**54.12**	**315**	P	**P**	**06 19 04.4**	**+0.3**
	2.4nm,0.6s,baz=96,slow=8.8,SNR=11						
KKAR	**Karatay Array**	**55.94**	**303**	*eP*	**P**	**06 19 17.7**	**+0.3**
	3.4nm,0.8s						
ASAR	**Alice Springs**	**56.20**	**189**	P	**P**	**06 19 19.8**	**+0.4**
ASAR	**Alice Springs**	**56.20**	**189**	P	**P**	**06 19 19.8**	**+0.4**
	0.7nm,0.7s,baz=355,slow=6.3,SNR=9.3						
INK	**Inuvik**	**58.42**	**26**	P	**P**	**06 19 35.9**	**+1.4**
INK	**Inuvik**	**58.42**	**26**	P	**P**	**06 19 35.9**	**+1.4**
	0.6nm,0.5s,baz=310,slow=6.7,SNR=5.9						
ABKAR	**Akbulak array**	**61.35**	**312**	*eP*	**P**	**06 19 54.9**	**0.0**
	1.8nm,0.4s						
AKTO	**Aktyubinsk**	**62.18**	**314**	P	**P**	**06 20 00.7**	**+0.2**
AKTO	**Aktyubinsk**	**62.18**	**314**	P	**P**	**06 20 00.7**	**+0.2**
	1.5nm,0.6s,baz=60,slow=14,SNR=5.2						
STKA	**Stephens Creek**	**63.85**	**180**	*eP*	**P**	**06 20 12.6**	**+0.9**
	0.6nm,0.9s						
STKA	**Stephens Creek**	**63.85**	**180**	P	**P**	**06 20 12.3**	**+0.7**
	0.8nm,0.4s,baz=324,slow=15,SNR=2.9						
FORT	**Forrest**	**64.11**	**193**	*eP*	**P**	**06 20 14.4**	**+1.1**
	12nm,0.8s						
FINES	**FINESS Array B**	**73.18**	**333**	P	**P**	**06 21 08.3**	**-1.2**
FINES	**FINESS Array B**	**73.18**	**333**	P	**P**	**06 21 08.3**	**-1.2**
	1.3nm,0.6s,baz=91,slow=7.6,SNR=4.5						
KBZ	**Khabaz**	**74.31**	**312**	P	**P**	**06 21 15.3**	**-1.2**
KBZ	**Khabaz**	**74.31**	**312**	P	**P**	**06 21 15.3**	**-1.2**
	2.4nm,0.8s,baz=7.1,slow=1.1,SNR=5.8						
AKASG	**Malin Array Be**	**78.29**	**323**	P	**P**	**06 21 39.3**	**+0.3**
AKASG	**Malin Array Be**	**78.29**	**323**	P	**P**	**06 21 39.3**	**+0.3**
	1.1nm,0.5s,baz=48,slow=5.9,SNR=9.2						
NB2	**NORSAR Subarra**	**78.69**	**338**	P	**P**	**06 21 41.4**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=41,slow=5.6						
NOA	**NORSAR Array B**	**78.69**	**338**	P	**P**	**06 21 41.9**	**+0.8**
NOA	**NORSAR Array B**	**78.69**	**338**	P	**P**	**06 21 41.9**	**+0.8**
	comp=Z,3.0nm,0.9s,baz=41,slow=5.2,SNR=7.3						
BRTR	**Keskin Array B**	**82.30**	**312**	P	**P**	**06 22 00.7**	**-0.2**
BRTR	**Keskin Array B**	**82.30**	**312**	P	**P**	**06 22 00.7**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=93,slow=4.2,SNR=6.7						
CLL	**Collm**	**85.39**	**331**	*eP*	**P**	**06 22 17.0**	**+0.7**
CLL				*es*P	**sP**	**06 22 30.0**	**-2.8**
TXAR	**Lajitas Array**	**92.66**	**53**	P	**P**	**06 22 53.0**	**+1.6**
TXAR	**Lajitas Array**	**92.66**	**53**	P	**P**	**06 22 53.0**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=328,slow=24,SNR=3.8						
TORD	**Torodi Ar. Bea**	**120.90**	**313**	PKP	**PKPdf**	**06 28 32.4**	**+0.4**
TORD	**Torodi Ar. Bea**	**120.90**	**313**	PKP	**PKPdf**	**06 28 32.4**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=180,slow=0.4,SNR=6.0						

IDC 30 06:23:20.1±1.5, 66°.34N×110°.25E, h0km, mb3.2/3, mb1 3.5/5, mb1mx3.3/30, mbtmp3.4/5, ML3.8/2, Error ellipse: s-maj=68.5km s-min=23.0km az=136.0, Northern and central Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**17.56**	**237**	P	P	06 27 27.6	+0.6
	0.3nm,0.3s,baz=41,slow=12,SNR=3.8						
SONM	**Songino Array**	**18.67**	**188**	P	P	06 27 39.6	+0.1
	0.3nm,0.3s,baz=338,slow=15,SNR=4.9						
KURBB	**Kurchatov Arra**	**22.49**	**241**	P	P	06 28 20.4	-0.3
	1.0nm,0.7s,baz=38,slow=11,SNR=12						
MKAR	**Makanchi Array**	**24.54**	**231**	P	P	06 28 40.5	-0.5
	0.2nm,0.4s,baz=41,slow=7.8,SNR=3.7						
ILAR	**Eielson Array**	**37.98**	**43**	P	P	06 30 39.0	-0.1
	0.4nm,0.6s,baz=310,slow=5.9,SNR=6.7						

*AUST **30** 06:25:53.4±4.2, 5°.34N×129°.59E, h212km±1km, Error ellipse: s-maj=4.3km s-min=2.2km az=357.0*

*IDC **30** 06:26:24.2±2.4, 2°.22N×128°.46E, h243km±24km, mb3.3/8, mb1 3.5/8, mb1mx3.3/23, mbtmp3.3/8, Error ellipse: s-maj=34.8km s-min=9.5km az=80.0*

**ISC 30 06:26:24.9±0.8, 2°.25N±0°.09×128°.5E±0

az=112.6
SZGRF ***30*** *06:43:22.7, 35°.31N × 68°.05E, h33km, mb4.7, Hindu Kush, Afghanistan, region*
ISC 30 06:43:02.6 ±0.4, **34°.16N** ±0°.03 × **69°.97E** ±0°.02, **h23**km ±2km, **h23**km:**pP-P, n675,** σ1§**52**/744, **mb5.0**/185, **MS4.4**/28, **58C-25D, Southeastern Afghanistan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KBL	**Kabul**	**0.86**	**297**	*e*P		Pb	06 43 14.9	-4.1
KBL				*e*		**Sb**	**06 43 28.4**	**-1.8**
KBL	**Kabul**	**0.86**	**297**	*e*Pg		Pb	06 43 14.9	-4.1
KBL				*e*Sg		**Sb**	**06 43 28.4**	**-1.8**
CEP	**Cherat**	**1.64**	**101**	⇑P		**Pb**	**06 43 33.2**	**+0.9**
CEP				S		**Sb**	**06 43 54.0**	**+1.3**
THW	**Thamme Wali**	**2.01**	**132**	⇑P		**Pb**	**06 43 36.8**	**-1.7**
CHCP	**Chirah Chowk**	**2.78**	**99**	⇓P		**Pn**	**06 43 48.1**	**+2.3**
SARP	**Sargodha**	**3.18**	**134**	P		**Pn**	**06 43 53.0**	**+1.7**
JMU	**Jammu**	**4.36**	**108**	*e*P		**Pn**	**06 44 09.5**	**+2.0**
JMU				*e*S		**Sn**	**06 44 58.5**	**+0.9**
THN	**Thein Dam**	**5.11**	**108**	*e*P		**Pn**	**06 44 16.4**	**-1.3**
THN				*ex*		**Sn**	**06 45 11.5**	**-4.5**
DHRM	**DHARAMSHALA**	**5.63**	**108**	*e*P		**Pn**	**06 44 25.7**	**+0.4**
DHRM				*e*S		**Sn**	**06 45 30.6**	**+1.2**
DHRM				AML		AML	06 45 33.7	
	comp=E,7μm,0.4s							
DHRM				AML		AML	06 45 34.0	
	comp=N,5μm,0.6s							
BHK	**Bhakra**	**6.08**	**115**	*e*P		**Pn**	**06 44 30.8**	**-0.3**
BHK				*e*S		**Sn**	**06 45 40.6**	**+0.7**
SDNR	**Sundarnagar**	**6.46**	**112**	*e*P		**Pn**	**06 44 36.0**	**-0.4**
SMLA	**Simla**	**6.78**	**114**	*i* P		**Pn**	**06 44 41.2**	**+0.5**
SMLA				*i* S		**Sn**	**06 45 58.0**	**+0.8**
SMLA				AML		AML	06 45 58.8	
	comp=N,4μm,0.5s							
SMLA				AML		AML	06 45 58.8	
	comp=E,2μm,0.4s							
KSH	**Kashi**	**7.19**	**40**	Pn		**Pn**	**06 44 45.5**	**-1.0**
KSH				pP		pP	06 44 47.0	
KSH				sP		sP	06 44 49.0	
KSH				Sn		Sn	06 46 00.8	-6.8
KSH				sS		sS	06 46 05.0	
KSH				SMN				
	comp=E,570nm,0.8s							
KSH				SME				
	comp=E,720nm,1.0s							
DDI	**Dehra Dun**	**7.84**	**117**	*e*P		**Pn**	**06 44 57.2**	**+1.8**
DDI				*e*S		**Sn**	**06 46 22.7**	**-0.8**
DDI				AML		AML	06 47 13.4	
	comp=E,3μm,0.6s							
DDI				AML		AML	06 47 14.3	
	comp=N,3μm,0.7s							
NDI	**New Delhi**	**8.25**	**129**	*e*P		**Pn**	**06 45 01.0**	**+0.1**
NDI				*ex*		x	06 46 25.0	
AML	**Almayashu**	**8.48**	**19**	*i* P		**Pn**	**06 45 05.8**	**+1.3**
AML	**Almayashu** SNR=198	**8.48**	**19**	P		**Pn**	**06 45 05.8**	**+1.3**
IDAH	**Dahanechah**	**8.56**	**263**	*e*P		Pn	06 45 09.2	+3.8
IMON	**Monand**	**8.64**	**266**	*e*P		Pn	06 45 10.1	+3.6
AJM	**Ajmer**	**8.65**	**151**	*i* P		Px	06 45 52.0	
ISRO	**Mashad**	**8.86**	**287**	*e*P		**Pn**	**06 45 12.2**	**+2.9**
KZA	**Kyzart**	**8.93**	**26**	*i* P		**Pn**	**06 45 12.7**	**+2.1**
KZA	**Kyzart** SNR=9.9	**8.93**	**26**	P		**Pn**	**06 45 12.7**	**+2.1**
KK31	**Karatay Array**	**8.94**	**3**	⇓Pn		**Pn**	**06 45 12.0**	**+1.5**
	comp=N,113nm,0.7s,baz=194,slow=15,SNR=1154							
KK31				⇓Sn		**Sn**	**06 46 52.5**	**+2.0**
	comp=N,90nm,0.6s,baz=186,slow=20,SNR=5.1							
KK31	**Karatay Array**	**8.94**	**3**	*i* P		**Pn**	**06 45 11.9**	**+1.5**
KK31				pmax		pmax		
	comp=Z,43nm,0.3s							
KKAR	**Karatay Array**	**8.94**	**3**	*e*P		**Pn**	**06 45 11.5**	**+1.1**
KKAR				*e*			06 46 52.3	
KKAR	**Karatay Array**	**8.94**	**3**	*e*Pn		**Pn**	**06 45 11.5**	**+1.1**
KKAR				*e*Sn		**Sn**	**06 46 52.2**	**+1.8**
EKS2	**Erkin-Say**	**9.00**	**18**	*e*P		**Pn**	**06 45 13.4**	**+2.1**
EKS2				*e*			06 46 53.5	
EKS2	**Erkin-Say** SNR=14	**9.00**	**18**	P		Pn	06 45 14.6	+3.3
EKS2	**Erkin-Say**	**9.00**	**18**	*e*Pn		**Pn**	**06 45 13.4**	**+2.1**
EKS2				*e*Sn		**Sn**	**06 46 53.5**	**+1.5**
AAK	**Ala-Archa**	**9.18**	**21**	*e*P		**Pn**	**06 45 15.3**	**+1.5**
AAK				*e*			06 46 58.9	
AAK	**Ala-Archa** SNR=49	**9.18**	**21**	Pn		**Pn**	**06 45 15.8**	**+2.1**
AAK	**Ala-Archa** SNR=13	**9.18**	**21**	P		**Pn**	**06 45 15.9**	**+2.1**
AAK	**Ala-Archa**	**9.18**	**21**	*e*Pn		**Pn**	**06 45 15.2**	**+1.5**
AAK				*e*Sn		**Sn**	**06 46 58.9**	**+2.5**
AAK	**Ala-Archa**	**9.18**	**21**	Pn		**Pn**	**06 45 15.3**	**+1.5**
	comp=Z,777nm,0.6s,SNR=34							
KBK	**Karagaybulak**	**9.34**	**23**	*i* P		**Pn**	**06 45 18.6**	**+2.6**
KBK	**Karagaybulak** SNR=12	**9.34**	**23**	P		**Pn**	**06 45 18.6**	**+2.6**
IKOO	**Kooshah**	**9.34**	**262**	*e*P		**Pn**	**06 45 18.4**	**+2.3**
FRU	**Bishkek**	**9.39**	**21**	⇑*e*P		Pn	06 45 20.0	+3.4
FRU				*i* S		Sn	06 47 10.0	+8.5
FRU				pmax		pmax		
	comp=Z,230nm,1.8s							
FRU				pmax		pmax		
	comp=E,2μm,2.0s							
ULHL	**Ulahol**	**9.46**	**30**	*i* P		**Pn**	**06 45 20.7**	**+3.0**
ULHL	**Ulahol** SNR=11	**9.46**	**30**	P		**Pn**	**06 45 20.7**	**+3.0**
IAKL	**Akhelmad**	**9.48**	**288**	*e*P		**Pn**	**06 45 19.9**	**+1.9**
CHMS	**Chumysh**	**9.59**	**22**	*i* P		**Pn**	**06 45 20.9**	**+1.7**
CHMS	**Chumysh** SNR=51	**9.59**	**22**	P		**Pn**	**06 45 20.9**	**+1.7**
IKRD	**Kardeh**	**9.70**	**289**	*e*P		Pn	06 45 11.0	-10
IEMG	**Emamgholi**	**9.75**	**293**	*e*P		Pn	06 45 12.5	-9.3
USP	**Ospenovka**	**9.76**	**20**	*i* P		**Pn**	**06 45 24.2**	**+2.6**
USP	**Ospenovka** SNR=13	**9.76**	**20**	P		**Pn**	**06 45 24.2**	**+2.6**
TKM2	**Tokmak 2**	**9.79**	**25**	⇓Pn		**Pn**	**06 45 23.7**	**+1.4**
	comp=E,87nm,0.8s							
TKM2				⇓Sn		**Sn**	**06 47 12.7**	**+1.1**
	comp=E,74nm,0.9s							
TKM2	**Tokmak 2**	**9.79**	**25**	*e*P		**Pn**	**06 45 23.4**	**+1.1**
TKM2	**Tokmak 2** SNR=66	**9.79**	**25**	P		**Pn**	**06 45 23.3**	**+1.0**
TKM2	**Tokmak 2**	**9.79**	**25**	*e*Pn		**Pn**	**06 45 23.4**	**+1.1**
PTH	**Pithoragarh**	**9.85**	**115**	*e*P		Pn	06 45 16.0	-7.0
PTH				*e*S		Sn	06 47 03.5	-9.4
LGTI	**Lohaghat**	**9.92**	**115**	*e*P		**Pn**	**06 45 24.1**	**+0.3**
LGTI				*ex*		**Sn**	**06 47 13.6**	**-0.8**
ISFR	**Sfrayin**	**10.17**	**290**	*e*P		**Pn**	**06 45 29.4**	**+2.0**
ISHV	**Shirvan**	**10.51**	**292**	*e*P		**Pn**	**06 45 34.1**	**+2.0**
AAA	**Alma-Ata**	**10.60**	**29**	*e*P		**Pn**	**06 45 35.1**	**+1.9**
AAA				*e*S		Sn	06 47 23.0	-8.2
AAA				pmax		pmax		
	comp=Z,400nm,2.4s							
AAA				MLR		MLR		
	comp=Z,5μm,8.0s							
BHJ	**Bhuj**	**10.87**	**182**	*e*P		**Pn**	**06 45 35.0**	**-1.8**
BHJ				*ex*		x	06 47 32.4	
BHJ				AML		AML	06 49 16.3	
	comp=N,395nm,0.5s							
BHJ				AML		AML	06 49 19.8	
	comp=Z,145nm,0.7s							
JHNI	**Jhansi**	**11.41**	**137**	*e*P		**Pn**	**06 45 47.0**	**+2.7**
JHNI				*e*S		**Sn**	**06 47 55.0**	**+3.9**
IBAF	**Bafgh**	**12.38**	**262**	*e*P		**Pn**	**06 45 57.8**	**+0.2**
PYUN	**Piuthan**	**12.68**	**115**	*e*P		**Pn**	**06 45 59.1**	**-2.6**
	comp=Z,552nm,0.5s							
BHPL	**Bhopal**	**12.68**	**147**	*e*P		**Pn**	**06 45 59.9**	**-1.8**
BHPL				*ex*		x	06 48 15.8	
BHPL				AML		AML	06 48 19.6	
	comp=E,205nm,0.7s							
BHPL				AML		AML	06 48 22.0	
	comp=N,150nm,0.8s							
DANN	**Dangsing**	**13.13**	**112**	*e*P		**Pn**	**06 46 05.3**	**-2.8**
	comp=N,198nm,0.4s							
IANJ	**Anjilo**	**13.26**	**280**	*e*P		**Pn**	**06 46 10.8**	**+1.1**
KOLN	**Koldanda**	**13.31**	**115**	*e*P		**Pn**	**06 46 07.8**	**-2.6**
	comp=N,136nm,0.5s							
IBND	**Bandar-abas**	**13.33**	**244**	*e*P		**Pn**	**06 46 12.1**	**+1.6**
IGLO	**Ghaloghah**	**13.39**	**285**	*e*P		Pn	06 46 14.7	+3.3
GKN	**Gorkha**	**13.98**	**112**	*e*P		**Pn**	**06 46 16.3**	**-3.2**
	comp=N,286nm,0.6s							
JBP	**Jabalpur**	**14.03**	**139**	⇑*i*P		Pn	**06 46 19.1**	**-0.9**
JBP				*ex*		x	06 48 42.9	
DMN	**Daman**	**14.53**	**113**	*e*P		Pn	06 46 23.5	-3.7
	comp=N,235nm,0.4s							
IPRN	**Peran**	**14.57**	**283**	*e*P		**Pn**	**06 46 28.2**	**+0.7**
KKN	**Kakani**	**14.58**	**112**	*e*P		Pn	06 46 23.7	-4.0
	comp=N,333nm,0.7s							
ISFB	**Sefidab**	**14.67**	**276**	*e*P		**P**	**06 46 32.5**	**-2.4**
IZEF	**Zefreh**	**14.77**	**270**	*e*P		**Pn**	**06 46 32.9**	**+2.5**
PKIN	**Phulchoki**	**14.77**	**112**	*e*P		Pn	06 46 25.8	-4.6
	comp=N,227nm,0.5s							
AKL	**Akola**	**14.78**	**153**	⇓*i*P		**Pn**	**06 46 27.9**	**-2.4**
AKL				*i* x		x	06 49 03.9	
PKI	**Pulchoki**	**14.79**	**112**	*e*P		Pn	06 46 26.0	-4.7
	comp=N,189nm,0.4s							
GUN	**Gumba**	**14.98**	**110**	*e*P		Pn	06 46 29.5	-3.8
	comp=N,473nm,0.8s							
IPAR	**Pars**	**14.99**	**258**	*e*P		**Pn**	**06 46 35.1**	**+1.8**
IVRN	**Varamin**	**15.06**	**278**	*e*P		**P**	**06 46 37.0**	**-2.2**
ISRV	**Sarvestan**	**15.11**	**256**	*e*P		**Pn**	**06 46 36.2**	**+1.3**
NGP	**Nagpur**	**15.24**	**146**	*ex*		Pn	06 46 31.4	-5.1
NGP				*ex*		x	06 49 14.6	
IKLH	**Kolahrood**	**15.33**	**272**	*e*P		**P**	**06 46 44.0**	**+1.6**
JIRN	**Jiri**	**15.35**	**111**	*e*P		**Pn**	**06 46 34.3**	**-3.8**
	comp=N,263nm,0.4s							
ASHO	**Ashiyiah** SNR=17	**15.35**	**236**	Pn		**Pn**	**06 46 39.6**	**+1.7**
IR3	**Iran Long-Peri**	**15.62**	**280**	*e*P		**Pn**	**06 46 41.4**	**0.0**
MK31	**Makanchi Array**	**15.70**	**33**	⇑Pn		**Pn**	**06 46 40.9**	**-1.3**
	comp=N,54nm,0.7s,baz=205,slow=13,SNR=566							
MK31	**Makanchi Array**	**15.70**	**33**	*i* P		**Pn**	**06 46 39.2**	**-3.1**
MK31				pmax		pmax		
	comp=Z,45nm,0.6s							
MK31	**Makanchi Array**	**15.70**	**33**	*e*P		**Pn**	**06 46 41.2**	**-1.1**
MKAR	**Makanchi Array**	**15.70**	**33**	*e*P		**Pn**	**06 46 40.5**	**-1.8**
MKAR	**Makanchi Array**	**15.70**	**33**	*e*Pn		**Pn**	**06 46 40.5**	**-1.8**
MKAR	**Makanchi Array**	**15.70**	**33**	Pn		**Pn**	**06 46 41.8**	**-0.5**
	comp=Z,2.0nm,0.3s,baz=200,slow=12,SNR=59							
MKAR				LR		LR	06 53 53.6	
	comp=Z,184nm,18.1s,baz=224,slow=42							
JMDO	**Jabal Madar** SNR=9.4	**15.71**	**225**	Pn		**Pn**	**06 46 43.4**	**+0.9**
POO	**Poona**	**15.94**	**166**	*e*P		**Pn**	**06 46 44.4**	**-1.3**
ARQ	**Araqi** SNR=10	**15.96**	**231**	Pn		**P**	**06 46 47.5**	**-1.7**
BSY	**Bisya** SNR=17	**15.96**	**228**	Pn		**Pn**	**06 46 46.8**	**+1.0**
IPIR	**Pirpir**	**16.00**	**270**	*e*P		**P**	**06 46 49.7**	**-0.2**
RAMN	**Ramite**	**16.01**	**112**	*e*P		**Pn**	**06 46 42.4**	**-4.3**
	comp=Z,197nm,0.6s							
IGZV	**Ghazvin**	**16.29**	**283**	*e*P		**P**	**06 46 53.3**	**+0.3**
IRAZ	**Razeghan**	**16.52**	**280**	*e*P		**P**	**06 46 56.0**	**+0.5**
ODAN	**Odare**	**16.67**	**111**	*e*P		**Pn**	**06 46 51.6**	**-3.4**
	comp=Z,170nm,0.6s							
TAPN	**Taplejung**	**16.68**	**109**	*e*P		**Pn**	**06 46 51.2**	**-4.0**
	comp=Z,101nm,0.4s							
WMQ	**Urumqi**	**16.79**	**50**	P		**Pn**	**06 46 54.3**	**-2.0**
WMQ				pP		**P**	**06 46 57.8**	**-0.6**
WMQ				PP		**PnPn**	**06 47 08.5**	**+2.7**
WMQ				S		**Sn**	**06 50 00.0**	**-2.2**
WMQ				SS		**SnSn**	**06 50 20.5**	**+5.1**
WMQ				PcP		**PcP**	**06 51 43.0**	**-0.8**
WMQ				PcS		**PcS**	**06 55 17.8**	**-1.9**
WMQ				ScS		**ScS**	**06 58 54.3**	**-2.2**
WMQ				AMB		AMB		
	comp=Z,68nm,1.0s							
WMQ				AMB		AMB		
	comp=Z,550nm,3.6s							
WMQ				LR		LR		
	comp=Z,2μm,5.8s							
WMQ				LR		LR		
	comp=Z,1μm,5.8s							
WMQ				LR		LR		
	comp=Z,260nm,17.0s							
AB31	**Akbulak array**	**16.82**	**337**	⇑Pn		**Pn**	**06 46 55.6**	**-1.0**
	comp=Z,14nm,0.5s,baz=146,slow=12,SNR=398							
AB31				⇓Sn		**Sn**	**06 49 56.3**	**-6.3**
	comp=Z,12nm,0.7s,baz=160,slow=22,SNR=3.4							
AB31	**Akbulak array**	**16.82**	**337**	*i* P		**Pn**	**06 46 55.5**	**-1.0**
AB31				pmax		pmax		
	comp=Z,20nm,0.4s							
ABKAR	**Akbulak array**	**16.82**	**337**	*e*P		**Pn**	**06 46 55.3**	**-1.2**
ABKAR				*e*Sn		**Sn**	**06 49 56.4**	**-6.2**
BOK	**Bokaro**	**17.31**	**122**	*e*P		**Pn**	**06 47 00.7**	**-2.2**
KURBB	**Kurchatov Arra**	**17.61**	**18**	⇑Pn		**Pn**	**06 47 05.6**	**-0.7**
	comp=Z,38nm,1.0s							
KURBB				⇑Sn		**S**	**06 50 28.8**	**-0.2**
	comp=Z,32nm,0.8s							
KURBB	**Kurchatov Arra**	**17.61**	**18**	P		**Pn**	**06 47 04.6**	**-1.7**
	comp=Z,2.4nm,0.3s,baz=214,slow=8.7,SNR=46							
KURK	**Kurchatov**	**17.71**	**18**	⇓Pn		**Pn**	**06 47 06.2**	**-1.5**
	comp=Z,28nm,1.5s							
KURK				⇑Sn		**S**	**06 50 29.0**	**-2.2**
	comp=Z,13nm,1.1s							
KURK	**Kurchatov**	**17.71**	**18**	*e*P		**Pn**	**06 47 07.1**	**-0.6**
KURK				pmax		pmax		
	comp=Z,17nm,0.8s							
KURK	**Kurchatov**	**17.71**	**18**	Pn		**Pn**	**06 47 05.8**	**-1.8**
	SNR=14							
KURK	**Kurchatov**	**17.71**	**18**	*e*P		**Pn**	**06 47 06.9**	**-0.7**
	comp=Z,19nm,0.9s							
HYB	**Hyderabad**	**18.36**	**153**	*i* P		**P**	**06 47 12.0**	**-3.8**
HYB				*e*S		**Sn**	**06 50 42.0**	**+1.7**
HYB	**Hyderabad**	**18.36**	**153**	*e*P		**P**	**06 47 14.5**	**-1.3**
AKTO	**Aktyubinsk**	**18.48**	**335**	⇓Pn		**P**	**06 47 15.5**	**-1.3**
	comp=Z,91nm,1.2s							
AKTO				⇑Sn		**Sn**	**06 50 39.3**	**-3.4**
	comp=Z,25nm,1.1s							
AKTO	**Aktyubinsk**	**18.48**	**335**	P		**P**	**06 47 16.3**	**-0.5**
AKTO				pmax		pmax		
	comp=Z,5.0nm,0.3s							
AKTO				MLR		MLR		
	comp=Z,220nm,20.4s							
AKTO	**Aktyubinsk**	**18.48**	**335**	P		**P**	**06 47 16.3**	**-0.5**
AKTO	**Aktyubinsk**	**18.48**	**335**	P		**P**	**06 47 16.3**	**-0.5**
	comp=Z,5.0nm,0.3s,baz=148,slow=12,SNR=116							
AKTO				LR		LR	06 56 10.6	
	comp=Z,220nm,20.4s,baz=149,slow=43							
LSA	**Lhasa**	**18.51**	**98**	*e*P		**P**	**06 47 17.8**	**0.0**
LSA				pmax		pmax		
	comp=Z,59nm,1.0s							
LSA	**Lhasa**	**18.51**	**98**	*e*P		**P**	**06 47 17.8**	**0.0**
	comp=Z,59nm,1.0s							
VOSK	**Vostochnaya**	**18.57**	**2**	⇑Pn		**P**	**06 47 17.2**	**-0.7**
	comp=Z,46nm,0.9s							
VOSK				⇑Sn		**Sn**	**06 50 45.6**	**+0.5**
	comp=Z,43nm,1.2s							
VOSK	**Vostochnaya**	**18.57**	**2**	*e*P		**P**	**06 47 17.0**	**-0.9**
VOSK				pmax		pmax		
	comp=Z,39nm,0.7s							
VOSK	**Vostochnaya**	**18.57**	**2**	*e*P		**P**	**06 47 17.0**	**-0.9**
	comp=Z,39nm,0.7s							
BVA0	**Borovoye Array**	**18.86**	**1**	⇑Pn		**P**	**06 47 21.2**	**+0.2**
	comp=Z,21nm,0.7s,baz=167,slow=11,SNR=8.6							
BVA0				⇑Sn		**S**	**06 50 54.5**	**+0.6**
	comp=Z,42nm,1.7s,baz=174,slow=22,SNR=3.8							
BVA0	**Borovoye Array**	**18.86**	**1**	*e*P		**P**	**06 47 21.2**	**+0.2**
BVA0				pmax		pmax		
	comp=Z,42nm,1.0s							
BVAR	**Borovoye Array**	**18.86**	**1**	P		**P**	**06 47 21.3**	**+0.2**
BVAR				pmax		pmax		
	comp=Z,3.0nm,0.3s							
BVAR				MLR		MLR		
	comp=Z,1μm,20.5s							
BVAR	**Borovoye Array**	**18.86**	**1**	P		**P**	**06 47 21.3**	**+0.2**
BVAR	**Borovoye Array**	**18.86**	**1**	P		**P**	**06 47 21.3**	**+0.2**
	comp=Z,3.1nm,0.3s,baz=166,slow=13,SNR=50							
BVAR				LR		LR	06 55 25.5	
	comp=Z,1μm,20.4s,baz=184,slow=40							
BRVK	**Borovoye**	**18.90**	**1**	⇓Pn		**P**	**06 47 21.5**	**+0.1**
	comp=Z,87nm,1.0s							
BRVK				⇓Sn		**S**	**06 50 56.0**	**+1.4**
	comp=Z,92nm,2.1s							
BRVK	**Borovoye**	**18.90**	**1**	*e*P		**P**	**06 47 21.5**	**+0.1**
BRVK				*e*S		**S**	**06 50 55.5**	**+1.0**
BRVK				pmax		pmax		
	comp=Z,52nm,0.9s							
BRVK	**Borovoye** SNR=19	**18.90**	**1**	P		**Pn**	**06 47 22.6**	**+0.5**
BRVK	**Borovoye**	**18.90**	**1**	*e*P		**P**	**06 47 21.4**	**+0.1**
	comp=Z,52nm,0.9s							
BRVK				*e*S		**S**	**06 50 55.5**	**+1.0**
BRVK	**Borovoye**	**18.90**	**1**	P		**P**	**06 47 21.1**	**-0.3**
	comp=Z,349nm,0.5s,SNR=15							
IHRS	**Heris**	**18.95**	**289**	*e*P		**Pn**	**06 47 23.6**	**+0.6**
IBST	**Bostanabad**	**19.01**	**287**	*e*P		**P**	**06 47 23.1**	**0.0**
UMR	**Umm Al-Rimmam**	**19.45**	**262**	*e*P		**Pn**	**06 47 28.9**	**+0.1**
UMR				AMb		AMB	06 47 33.7	
	comp=Z,103nm,0.8s							
MAK	**Makhachkala**	**19.60**	**303**	*e*P		**Pn**	**06 47 29.9**	**-0.7**
MAK				*e*S		**Sn**	**06 51 11.3**	**+1.3**
MAK				pmax		pmax		
	comp=Z,6.0nm,1.4s							
MAK				MLR		MLR		
	comp=Z,57nm,14.0s							
RDF	**Al-Radifah**	**19.80**	**261**	*e*P		**P**	**06 47 32.1**	**+0.6**
RDF				AMb		AMB	06 47 38.3	
	comp=Z,188nm,0.8s							
NAY	**Al-Naaiem**	**19.94**	**262**	*e*P		**P**	**06 47 33.6**	**+0.7**
NAY				AMb		AMB	06 47 36.0	
	comp=Z,66nm,1.0s							
RST	**Umm Al-Ruwaisa**	**20.05**	**263**	*e*P		**P**	**06 47 34.7**	**+0.4**
RST				AMb		AMB	06 47 42.4	
	comp=Z,779nm,0.9s							
VIS	**Vishakhapatnam**	**20.27**	**141**	*i* P		**P**	**06 47 35.8**	**-0.8**
VIS				*i* x		x	06 51 13.8	
DGRG	**David-gareji**	**20.71**	**298**	P		**P**	**06 47 42.0**	**+0.6**
SHL	**Shillong**	**20.81**	**108**	⇑*i*P		**P**	**06 47 42.0**	**-0.7**
GNI	**Garni** SNR=19	**20.95**	**294**	P		Pn	06 47 48.4	+1.7
GNI	**Garni**	**20.95**	**294**	*e*P		Pn	06 47 47.5	+0.8
	comp=Z,399nm,1.7s							
GNI	**Garni**	**20.95**	**294**	P		Pn	06 47 48.8	+2.1
	comp=Z,62nm,0.8s,baz=106,slow=2.0,SNR=22							
GNI				LR		LR	06 58 19.0	
	comp=Z,661nm,18.7s,baz=96,slow=44							
TBLG	**Delisi**	**21.24**	**298**	P		**P**	**06 47 46.8**	**-0.2**
DUS	**Dusheti**	**21.35**	**299**	P		P	06 47 53.3	+5.1
RBK	**Rabkut** SNR=14	**21.78**	**224**	P		**P**	**06 47 52.9**	**-0.1**
AKH	**Akhalkalaki**	**22.09**	**297**	P		**P**	**06 47 58.0**	**+1.6**
ONI	**Oni**	**22.36**	**300**	P		**P**	**06 48 02.0**	**+2.9**
ZAA0	**Zalesovo Array**	**22.39**	**23**	*e*P		**P**	**06 47 57.2**	**-2.1**
ZALV	**Zalesovo Beam**	**22.39**	**23**	P		**P**	**06 47 57.5**	**-1.7**
ZALV				S		**S**	**06 52 04.4**	**+0.5**
ZALV				pmax		pmax		
	comp=Z,61nm,0.7s							
ZALV				smax		smax		
	comp=N,5.0nm,0.8s							
ZALV				MLR		MLR		
	comp=Z,90nm,18.7s							
ZALV	**Zalesovo Beam**	**22.39**	**23**	P		**P**	**06 47 57.5**	**-1.7**
ZALV				S		**S**	**06 52 04.4**	**+0.5**
ZALV	**Zalesovo Beam**	**22.39**	**23**	P		**P**	**06 47 57.5**	**-1.7**
	comp=Z,60nm,0.7s,baz=221,slow=11,SNR=54							
ZALV				S		**S**	**06 52 04.4**	**+0.5**
	comp=Z,5.0nm,0.8s,baz=215,slow=17,SNR=3.4							
ZALV				LR		LR	06 58 03.1	
	comp=Z,90nm,18.7s,baz=252,slow=40							
ABTO	**Aybut** SNR=26	**22.43**	**226**	P		**P**	**06 48 00.1**	**+0.2**
NVS	**Novosibirsk**	**22.67**	**20**	⇓*i*P		**P**	**06 48 00.4**	**-1.7**
NVS				*e*S		**S**	**06 52 06.2**	**-2.6**
NVS				pmax		pmax		
	comp=N,44nm,0.8s							
NVS				pmax		pmax		
	comp=E,24nm,0.8s							
NVS				pmax		pmax		
	comp=E,67nm,0.8s							
NVS				smax		smax		
	comp=N,70nm,2.1s							
NVS				smax		smax		
	comp=E,65nm,2.1s							
IMP	**Imphal**	**22.81**	**108**	*ex*		**P**	**06 48 05.0**	**+1.0**
IMP				*ex*		x	06 52 05.0	
KBZ	**Khabaz**	**23.04**	**303**	P		**P**	**06 48 07.4**	**+1.3**
KBZ				pmax		pmax		
	comp=Z,31nm,0.9s							
KBZ				MLR		MLR		
	comp=Z,711nm,18.7s							
KBZ	**Khabaz**	**23.04**	**303**	P		**P**	**06 48 07.4**	**+1.3**
KBZ	**Khabaz**	**23.04**	**303**	P		**P**	**06 48 07.4**	**+1.3**
	comp=Z,31nm,0.9s,baz=128,slow=8.3,SNR=32							
KBZ				LR		LR	06 59 44.8	
	comp=Z,711nm,18.7s,baz=7.7,slow=44							
KIV	**Kislovodsk**	**23.25**	**303**	*de*P		**P**	**06 48 10.8**	**+2.4**
KIV				*e*			06 48 40.9	
KIV				*e*S		**S**	**06 52 17.2**	**-2.0**
KIV				pmax		pmax		
	comp=Z,56nm,1.0s							
KIV				MLR		MLR		
	comp=Z,700nm,16.0s							
KIV	**Kislovodsk**	**23.25**	**303**	P		**P**	**06 48 11.3**	**+2.9**
	comp=Z,427nm,0.6s,SNR=5.2							
GOF	**Gofitskoye**	**23.33**	**306**	⇓*i*P		**P**	**06 48 10.3**	**+1.3**
GOF				pmax		pmax		
	comp=Z,80nm,1.2s							
SVE	**Sverdlovsk**	**23.55**	**347**	⇓*e*P		**P**	**06 48 12.1**	**+1.0**
SVE				*e*S		**S**

VORD Divnogorie 27.88 316 *e*P **P** **06 48 52.4 +1.9**
VORD pmax pmax
comp=Z,20nm,1.0s
VORD pmax pmax
comp=N,40nm,0.8s
VORD pmax pmax
comp=E,30nm,1.1s
VSR Storozhevoye 28.06 317 *e*P **P** **06 48 53.7 +1.6**
VSR pmax pmax
comp=Z,20nm,0.9s
VSR pmax pmax
comp=N,9.0nm,0.5s
VSR pmax pmax
comp=E,30nm,1.0s
VSR MLR MLR
comp=Z,800nm,18.0s
VSR MLR MLR
comp=N,330nm,13.0s
VSR MLR MLR
comp=E,820nm,18.0s
BRBR Barbar 28.21 278 *i*P **P** **06 48 54.9 +0.9**
BRBR *i*P **P** **06 48 55.8 +1.8**
BRBR Barbar 28.21 278 *i*P **P** **06 48 54.9 +0.9**
SNR=46
BRBR Barbar 28.21 278 *i*P **P** **06 48 55.8 +1.8**
SNR=45
TCHB Talchebab 28.35 277 *i*P **P** **06 48 56.6 +1.6**
TCHB Talchebab 28.35 277 *i*P **P** **06 48 56.6 +1.6**
SNR=46
MOY Mondy 28.38 42 *e*P **P** **06 48 55.8 +0.7**
CD2 Chengdu 28.59 87 P **P** **06 48 58.8 +1.6**
CD2 pP **pP** **06 49 03.0 -1.0**
CD2 sP **sP** **06 49 05.8 -1.1**
CD2 PP **PnPn** **06 49 50.5 +3.1**
CD2 S **S** **06 53 45.0 +0.7**
CD2 SS **SnSn** **06 55 10.0 +5.4**
CD2 AMB AMB
comp=E,20nm,0.5s
CD2 AMB AMB
comp=E,130nm,4.5s
CD2 LR LR
comp=E,1μm,14.9s
CD2 LR LR
comp=E,1μm,13.7s
MMAI Mount Meron Ar 28.74 278 P **P** **06 48 59.7 +1.2**
MMAI Mount Meron Ar 28.74 278 P **P** **06 48 59.7 +1.2**
comp=E,9.4nm,0.8s,baz=70,slow=12,SNR=7.5
MMAI LR LR 07 02 07.8
comp=E,907nm,18.1s,baz=65,slow=40
ZAK Zakamensk 29.19 46 *e*P **P** **06 49 02.2 -0.2**
ZAK pmax pmax
comp=Z,11nm,1.1s
CMAI Chiengmai2 29.39 111 P P 06 49 11.3 +6.8
BRTR Keskin Array B 29.43 292 P **P** **06 49 05.8 +1.1**
BRTR PcP **PcP** **06 52 10.2 0.0**
BRTR Keskin Array B 29.43 292 P **P** **06 49 05.8 +1.1**
comp=Z,32nm,0.8s,baz=107,slow=8.0,SNR=88
BRTR PcP **PcP** **06 52 10.2 0.0**
comp=Z,2.3nm,0.7s,baz=138,slow=2.5,SNR=4.1
BRTR LR LR 07 02 46.3
comp=Z,346nm,21.9s,baz=240,slow=40
DGPR DIGLIPUR 29.50 130 *e*P **P** **06 49 04.8 -0.4**
KMI Kunming 29.77 99 P **P** **06 49 09.0 +1.2**
KMI PP **PnPn** **06 50 05.5 +1.9**
KMI S **S** **06 54 03.5 +0.3**
KMI SS **SnSn** **06 55 37.8 +4.3**
KMI AMB AMB
comp=Z,11nm,0.7s
KMI LR LR
comp=Z,730nm,13.1s
KMI LR LR
comp=Z,750nm,17.1s
KMI LR LR
comp=Z,1μm,16.1s
CHTO Chiang Mai 29.96 113 *e*P **P** **06 49 10.1 +0.7**
CHTO pmax pmax
comp=Z,33nm,1.3s
CHTO Chiang Mai 29.96 113 P **P** **06 49 11.9 +2.6**
CHTO Chiang Mai 29.96 113 *e*P **P** **06 49 10.1 +0.7**
comp=Z,33nm,1.3s
CHTO Chiang Mai 29.96 113 P **P** **06 49 12.0 +2.6**
comp=Z,106nm,1.1s,comp=Z,1μm
EIL Elat 29.97 271 P **P** **06 49 09.6 +0.2**
EIL Elat 29.97 271 P **P** **06 49 09.6 +0.2**
comp=Z,25nm,1.0s,baz=40,slow=4.3,SNR=11
EIL LR LR 07 03 08.1
comp=Z,1μm,19.1s,baz=76,slow=40
CSS Prodhromos 30.08 282 *e*P **P** **06 49 10.5 +0.2**
comp=Z,14nm,0.8s
CMAR Chiang Mai Arr 30.18 114 P **P** **06 49 11.8 +0.6**
CMAR PP **PnPn** **06 50 09.7 +0.7**
CMAR Chiang Mai Arr 30.18 114 P **P** **06 49 11.8 +0.6**
comp=Z,2.2nm,0.3s,baz=298,slow=9.1,SNR=13
CMAR PP **PnPn** **06 50 09.7 +0.7**
comp=Z,9.7nm,1.0s,baz=290,slow=12,SNR=4.6
PAYA Payao 30.36 111 P P 06 49 21.0 +8.1
SONM Songino Array 30.40 52 P **P** **06 49 13.8 +0.7**
SONM PcP **PcP** **06 52 12.6 +0.1**
SONM Songino Array 30.40 52 P **P** **06 49 13.8 +0.7**
comp=Z,5.1nm,0.9s,baz=255,slow=9.1,SNR=22
SONM PcP **PcP** **06 52 12.6 +0.1**
comp=Z,3.4nm,0.8s,baz=234,slow=3.8,SNR=4.3
ULN Ulaanbaatar 30.83 52 P **P** **06 49 17.7 +0.7**
ULN Ulaanbaatar 30.83 52 *e*P **P** **06 49 16.9 -0.1**
comp=Z,12nm,0.8s
MOS Moscow 31.00 324 *e*P **P** **06 49 17.6 -0.6**
MOS *e* 06 50 17.4
MOS *e* 06 52 13.0
MOS MLR MLR
comp=Z,900nm,15.0s
OBN Obninsk 31.22 322⇑ *e*P **P** **06 49 20.6 +0.5**
OBN *e* 06 50 23.5
OBN *e*S **S** **06 54 26.3 +1.4**
OBN pmax pmax
comp=Z,32nm,1.2s
OBN MLR MLR
comp=Z,1μm,20.0s
XAN Xi'an 32.12 79 P **P** **06 49 28.3 0.0**
XAN AMB AMB
comp=Z,3.0nm,0.5s
KHLT Khaolaem Dam 32.23 120 P **P** **06 49 31.2 +1.9**
comp=Z,11nm,1.1s
GYA Guiyang 32.46 94 P **P** **06 49 32.0 +0.5**
GYA PP **PnPn** **06 50 38.5 -0.3**
GYA PcP **PcP** **06 52 19.8 +1.5**
GYA S **S** **06 54 45.3 +0.1**
GYA ScP **ScP** **06 56 03.8 +3.1**
GYA SS **SnSn** **06 56 39.5 +0.6**
GYA AMB AMB
comp=Z,20nm,0.8s
GYA AMB AMB
comp=Z,120nm,4.9s
GYA LR LR
comp=Z,560nm,17.4s
GYA LR LR
comp=Z,480nm,18.0s
GYA LR LR
comp=Z,540nm,17.9s
PBKT Sadao Pong 32.85 114 P **P** **06 49 36.1 +1.3**
PBKT Sadao Pong 32.85 114 P **P** **06 49 35.8 +1.0**
comp=Z,25nm,1.2s,comp=Z,1μm
KLMR Klimovskoe 33.15 333 *e*P **P** **06 49 36.0 -0.9**
KLMR pmax pmax
comp=Z,36nm,1.2s
HHC Hu-ho-hao-te 33.42 66 *e*P **P** **06 49 38.3 -1.4**
HHC PP **PnPn** **06 50 50.0 -0.8**
HHC S **S** **06 54 57.3 -2.5**
HHC PcS **PcS** **06 56 05.0 -1.5**
HHC SS **SnSn** **06 56 59.3 -2.7**
HHC ScS **ScS** **07 00 02.5 -2.3**
HHC AMB AMB
comp=Z,47nm,1.2s
HHC AMB AMB
comp=Z,430nm,5.3s
HHC LR LR
comp=Z,950nm,13.5s
HHC LR LR
comp=Z,690nm,14.5s
HHC LR LR
comp=Z,770nm,15.5s
ATD Arta Tunnel 33.45 234 P **P** **06 49 41.7 +1.6**
ATD Arta Tunnel 33.45 234 P **P** **06 49 41.7 +1.6**
comp=Z,21nm,0.8s,baz=112,slow=22,SNR=7.0
ENH Enshi 33.51 86 *e*P **P** **06 49 41.2 +0.6**
comp=Z,9.1nm,0.6s

NONG Nongkai 33.64 110 P **P** **06 49 43.3 +1.6**
comp=Z,16nm,0.8s,comp=Z,6μm
CFR Carcaliu 33.69 302⇑ *i*P **P** **06 49 43.2 +1.4**
CFR Carcaliu 33.69 302⇑ *i*P **P** **06 49 43.2 +1.4**
AKASG Malin Array Be 33.82 312 P **P** **06 49 43.6 +0.7**
AKASG 06 51 02.7
AKASG pmax pmax
comp=Z,39nm,0.8s
AKASG pmax pmax
comp=Z,8.0nm,0.9s
AKASG MLR MLR
comp=Z,706nm,21.5s
AKASG Malin Array Be 33.82 312 P **P** **06 49 43.6 +0.7**
AKASG PP **PP** **06 51 02.7 +3.3**
AKASG Malin Array Be 33.82 312 P **P** **06 49 43.6 +0.7**
comp=Z,39nm,0.8s,baz=93,slow=7.3,SNR=94
AKASG PP **PP** **06 51 02.7 +3.3**
comp=Z,7.9nm,0.9s,baz=101,slow=12,SNR=4.6
AKASG LR LR 07 05 44.0
comp=Z,706nm,21.5s,baz=100,slow=40
KIEV Kiev 33.83 312 *e*P **P** **06 49 43.2 +0.3**
KIEV pmax pmax
comp=Z,32nm,0.9s
KIEV Kiev 33.83 312 *e*P **P** **06 49 43.2 +0.3**
comp=Z,32nm,0.9s
MSAB Monastry St. A 33.84 300⇑ *i*P **P** **06 49 45.2 +2.0**
CHAI Chaiyaphum 34.03 114 P **P** **06 49 45.7 +0.6**
comp=Z,16nm,1.0s
VRI Vrincioaia 34.73 303⇑ *i*P **P** **06 49 53.6 +2.7**
VRI Vrincioaia 34.73 303⇑ *i*P **P** **06 49 53.6 +2.7**
PLOR Plostina 34.78 303⇑ *i*P **P** **06 49 54.0 +2.6**
PLOR Plostina 34.78 303⇑ *i*P **P** **06 49 54.0 +2.6**
TESR Tescani 34.83 304⇑ *i*P **P** **06 49 53.2 +1.4**
SKNT Sakolnakorn 34.92 111 P **P** **06 49 54.2 +1.4**
comp=Z,50nm,0.9s,comp=Z,1μm
KARP Karpathos 34.96 285 *e*P **P** **06 49 53.3 +0.3**
MLR Muntele Rosu 35.25 302⇑ *i*P P 06 49 58.7 +3.2
MLR Muntele Rosu 35.25 302 LR LR 07 07 38.4
comp=Z,230nm,20.1s,baz=92,slow=42
DOPR Dopca 35.66 303⇑ *i*P **P** **06 50 01.1 +2.1**
TMCR Tamitsa 35.83 337 *e*P **P** **06 50 01.4 +1.3**
TMCR *e* 06 51 20.2
TMCR pmax pmax
comp=Z,47nm,1.1s
BURAR Bucovina Array 35.91 306⇑ *i*P **P** **06 50 03.0 +1.9**
BURAR Bucovina Array 35.91 306⇑ *i*P **P** **06 50 03.0 +1.9**
BUR08 Bucovina Ar. S 35.92 306 *e*P **P** **06 50 02.6 +1.3**
APE Apeiranthos 36.00 288⇑ P **P** **06 50 02.7 +0.7**
APE Apeiranthos 36.00 288⇑ *i*P **P** **06 50 02.7 +0.7**
RZN Rozhen 36.15 296 P **P** **06 50 05.6 +2.3**
ARR Arges 36.17 302⇑ *i*P **P** **06 50 05.2 +1.9**
SURT Suratani 36.46 127 P **P** **06 50 08.6 +2.6**
comp=Z,11nm,1.3s
LOT Lotru 36.78 302⇑ *i*P **P** **06 50 10.2 +1.6**
MPEP Malo Peshtene 36.80 298 P **P** **06 50 10.2 +1.5**
NVR Nevrokopi 36.81 295 *e*P **P** **06 50 10.9 +2.1**
IDI Anoyia 36.83 285 *e*P **P** **06 50 08.9 -0.2**
MMB Musomiste 36.89 296 P **P** **06 50 10.9 +1.4**
LVV L'vov 36.94 309⇓ *i*P **P** **06 50 12.2 +2.6**
CJR Cluj-Napoca 36.94 304⇑ P **P** **06 50 12.8 +2.9**
CJR Cluj-Napoca 36.94 304⇑ *i*P **P** **06 50 12.8 +2.9**
SRS Serrai 37.03 295 *e*P **P** **06 50 12.9 +2.3**
PLG Polygyros 37.20 294 *e*P **P** **06 50 13.6 +1.4**
VTS Vitosha 37.22 297⇑ P **P** **06 50 14.1 +1.7**
VTS Vitosha 37.22 297⇑ *i*P **P** **06 50 14.1 +1.7**
VTS Vitosha 37.22 297 P **P** **06 50 13.6 +1.2**
KRAB Krabi 37.27 127 P **P** **06 50 15.0 +2.1**
comp=Z,34nm,0.8s
VAM Vamos 37.36 285 *e*P **P** **06 50 13.9 +0.4**
WHN Wuhan 37.45 83⇓ P **P** **06 50 15.8 +1.5**
GZR Gura Zlata 37.48 302⇓ P **P** **06 50 16.2 +1.7**
GZR Gura Zlata 37.48 302⇓ *i*P **P** **06 50 16.2 +1.7**
JOF Joensuu 37.51 332 *e*P **P**
JOF pmax pmax
comp=Z,4.0nm,0.3s
JOF Joensuu 37.51 332 *e*p **P** **06 50 15.6 +1.2**
comp=Z,4.4nm,0.3s
DRGR 37.56 304⇑ *i*P **P** **06 50 16.8 +1.7**
DRGR 37.56 304⇑ *i*P **P** **06 50 16.8 +1.7**
GVD Gavdhos 37.57 284 *e*P **P** **06 50 15.2 -0.1**
KARN Karanos 37.59 285 *e*P **P** **06 50 16.3 +0.8**
VIL2 Platees 37.60 290 *e*P P 06 50 11.9 -3.7
TRPA Tarpa 37.75 306⇑ *i*P **P** **06 50 18.4 +1.8**
KWP Kalwaria Pacla 37.77 309⇑ P **P** **06 50 18.5 +1.7**
KWP Kalwaria Pacla 37.77 309⇑ *i*P **P** **06 50 18.5 +1.7**
KWP Kalwaria Pacla 37.77 309 *e*P **P** **06 50 18.4 +1.6**
comp=Z,107nm,0.9s
KWP Kalwaria Pacla 37.77 309 *e*P **P** **06 50 18.7 +1.9**
UZH Uzhgorod 37.95 307 *e*P **P** **06 50 19.9 +1.6**
UZH *e* 06 50 32.0
UZH *e* 06 50 37.0
KOLS Kolonicke sedl 37.98 308 *e*P **P** **06 50 20.7 +2.1**
KOLS pmax pmax
comp=Z,20nm,1.1s
KOLS Kolonicke sedl 37.98 308 *e*P **P** **06 50 20.7 +2.1**
VLI Veliai 38.11 288 *e*P **P** **06 50 18.6 -1.2**
SIRR Siria 38.27 303⇑ *i*P **P** **06 50 23.7 +2.6**
BZS Buzias 38.29 302⇓ P **P** **06 50 23.1 +1.8**
BZS Buzias 38.29 302⇓ *i*P **P** **06 50 23.1 +1.8**
MAKR Makrakomi, Fth 38.37 292 *e*P **P** **06 50 22.6 +0.5**
THL Klokotos Trika 38.39 292 *e*P **P** **06 50 21.5 -0.6**
VLX Vlachokerasia 38.43 289 *e*P **P** **06 50 22.9 +0.2**
DYR Agios Nikonas 38.58 288 *e*P **P** **06 50 25.9 +2.1**
EVR Evrytania 38.63 291 *e*P **P** **06 50 24.9 +0.6**
STHS Stebnicka Huta 38.70 308 *e*P **P** **06 50 26.9 +2.3**
STHS pmax pmax
comp=Z,5.0nm,0.9s
STHS Stebnicka Huta 38.70 308 *e*P **P** **06 50 26.9 +2.3**
STHS *e*sP sP 06 50 39.2 +4.8
FNA Florina 38.73 294 *e*P **P** **06 50 26.2 +1.1**
FIA1 FINESS Array S 38.99 328 *e*P **P** **06 50 27.7 +0.8**
FINES FINESS Array B 38.99 328 P **P** **06 50 28.0 +1.1**
FINES PcP **PcP** **06 52 37.6 +0.8**
FINES FINESS Array B 38.99 328 P **P** **06 50 28.0 +1.1**
comp=Z,18nm,0.8s,baz=101,slow=9.9,SNR=28
FINES PcP **PcP** **06 52 37.6 +0.8**
comp=Z,4.8nm,0.5s,baz=80,slow=4.6,SNR=8.5
PYL PYLOS 39.02 288 *e*P **P** **06 50 26.8 -0.7**
KECS Kecovo 39.14 307 *e*P **P** **06 50 29.6 +1.3**
KECS pmax pmax
comp=Z,5.0nm,0.9s
KECS Kecovo 39.14 307 *e*P **P** **06 50 29.6 +1.3**
KECS *e*sP **sP** **06 50 41.9 +3.8**
PDO Prodromos 39.16 291 *e*P **P** **06 50 29.1 +0.4**
KAF Kangasniemi 39.17 329 *e*P **P** **06 50 28.8 +0.4**
KAF pmax pmax
comp=Z,2.0nm,0.3s
KAF Kangasniemi 39.17 329 *e*p **P** **06 50 28.8 +0.4**
comp=Z,2.2nm,0.3s
JAN Janina 39.27 293 *e*P **P** **06 50 30.2 +0.6**
NIE Niedzica 39.30 308 *e*P **P** **06 50 31.5 +1.8**
NIE Niedzica 39.30 308 *e*P **P** **06 50 31.5 +1.8**
LVZ Lovozero 39.34 340 *e*P **P** **06 50 31.8 +2.0**
LVZ pmax pmax
comp=Z,70nm,1.7s
APA Apatity 39.49 339⇓ *i*P P 06 50 22.2 -8.8
APA MLR MLR
comp=Z,2μm,11.0s
PSZ Piszkesteto 39.51 306⇑ P **P** **06 50 33.9 +2.4**
PSZ Piszkesteto 39.51 306⇑ *i*P **P** **06 50 33.9 +2.4**
PSZ Piszkesteto 39.51 306 *e*P **P** **06 50 33.5 +2.0**
comp=Z,22nm,1.0s
PSZ Piszkesteto 39.51 306 *e*P **P** **06 50 33.8 +2.3**
PKSN Nyarlorinc 39.51 304 *e*P **P** **06 50 32.4 +1.0**
OJC Ojcow 39.69 309 *e*P **P** **06 50 33.7 +0.8**
OJC Ojcow 39.69 309 *e*P **P** **06 50 33.7 +0.8**
SNSI Sinabang, Aceh 40.03 136 P P 06 50 40.1 +4.1
comp=Z,123nm,0.7s
PKSM Moragy 40.36 303 *e*P **P** **06 50 39.9 +1.4**
KULM Kulim 40.41 128 P **P** **06 50 42.3 +3.1**
KULM Kulim 40.41 128 P **P** **06 50 42.1 +2.9**
comp=Z,30nm,1.5s
KULM Kulim 40.41 128 *e*P **P** **06 50 39.4 +0.1**
comp=Z,56nm,1.4s
PKSG 40.52 305 *e*P **P** **06 50 42.1 +2.3**
PKS9 Tamasi 40.61 304 *e*P **P** **06 50 42.0 +1.5**
NJ2 Nanjing 40.69 79 *e*P **P** **06 50 40.8 -0.6**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s
OKC Ostrava-Krasne 40.73 309 *e*P **P** **06 50 43.3 +1.8**
OKC MLR MLR
comp=Z,200nm,11.2s
OKC Ostrava-Krasne 40.73 309 *e*P **P** **06 50 43.3 +1.8**

OKC AMS AMS 07 13 20.0
comp=Z,200nm,11.2s
PKST T"s 40.76 305 *e*P **P** **06 50 43.9 +2.0**
MORC Moravsky Berou 41.12 309⇑ P **P** **06 50 47.1 +2.3**
MORC Moravsky Berou 41.12 309⇑ *i*P **P** **06 50 47.1 +2.3**
MORC Moravsky Berou 41.12 309 *e*P **P** **06 50 46.0 +1.2**
comp=Z,35nm,1.0s
PSI Prapat 41.25 133 P **P** **06 50 45.2 -1.0**
PSI Prapat 41.25 133 P **P** **06 50 44.8 -1.4**
PSI Prapat 41.25 133 P **P** **06 50 44.8 -1.4**
comp=Z,34nm,0.7s,baz=318,slow=7.0,SNR=48
IPM Ipoh 41.27 129 P **P** **06 50 46.2 -0.1**
IPM Ipoh 41.27 129 P **P** **06 50 45.7 -0.6**
IPM Ipoh 41.27 129 *e*P **P** **06 50 46.0 -0.4**
comp=Z,41nm,0.8s
KRLC Kraliky 41.62 309 *e*P **P** **06 50 50.5 +1.6**
KRLC Kraliky 41.62 309 *e*P **P** **06 50 50.5 +1.6**
GSI Gunungsitoli 41.64 136 P **P** **06 50 49.7 +0.3**
VRAC Vranov 41.73 308⇓ *i*P **P** **06 50 51.9 +2.1**
DPC Dobruska-Polom 41.93 309 *e*P **P** **06 50 53.0 +1.6**
DPC Dobruska-Polom 41.93 309 *e*P **P** **06 50 53.0 +1.6**
DPC AMS AMS 07 12 40.0
DPC Dobruska-Polom 41.93 309 *e*P **P** **06 50 53.2 +1.8**
KSP Ksiaz 41.96 310 *e*P **P** **06 50 52.9 +1.3**
KSP Ksiaz 41.96 310 *e*P **P** **06 50 53.2 +1.6**
KTGM Kuala Trenggan 42.03 126 P **P** **06 50 53.5 +0.9**
UPC Upice 42.13 310 *e*P **P** **06 50 54.9 +1.9**
UPC Upice 42.13 310 *e*P **P** **06 50 54.9 +1.9**
UPC *e*pP **pP** **06 51 00.1 +0.1**
CONA Conrad Observa 42.22 306⇑ *i*P **P** **06 50 55.0 +1.1**
comp=Z,20nm,1.0s,SNR=8.4
SNY Shenyang 42.35 63⇓ P **P** **06 50 56.0 +1.1**
SNY AMB AMB
comp=Z,16nm,0.5s
TREC Trest 42.45 308 *e*P **P** **06 50 56.8 +1.1**
TREC Trest 42.45 308 *e*P **P** **06 50 56.8 +1.1**
ARSA Arzberg 42.47 305⇑ *i*P **P** **06 50 57.7 +1.8**
comp=Z,12nm,1.0s
FRIM Kepong 42.60 129 P P 06 51 00.8 +3.6
KEV Kevo 42.68 340 *e*P **P** **06 50 56.8 -0.4**
KEV pmax pmax
comp=Z,3.0nm,0.3s
KEV Kevo 42.68 340 *e*p **P** **06 50 56.8 -0.4**
comp=Z,3.4nm,0.3s
BOJS Bojanci 42.76 302 *i*P **P** **06 50 59.4 +1.2**
PERS Pernice 42.78 304 *i*P **P** **06 50 59.5 +1.0**
SOKA Soboth 42.84 304⇑ *i*P **P** **06 51 00.3 +1.4**
SNR=6.3
ARCES ARCESS Array B 43.00 339 P **P** **06 51 00.3 +0.5**
ARCES PcP **PcP** **06 52 51.4 +1.6**
ARCES ARCESS Array B 43.00 339 P **P** **06 51 00.3 +0.5**
comp=Z,24nm,0.7s,baz=114,slow=5.2,SNR=57
ARCES PcP **PcP** **06 52 51.4 +1.6**
comp=Z,8.9nm,0.9s,baz=116,slow=5.5,SNR=5.2
ARE0 ARCESS Array S 43.00 339 *e*P **P** **06 51 01.1 +1.2**
VISS Visnje 43.03 303 *i*P **P** **06 51 02.5 +2.1**
CUC Castrocucco 43.05 294 *e*P **P** **06 51 01.3 +0.7**
comp=Z,146nm,1.6s
PRU Pruhonice 43.07 309 *e*P **P** **06 51 02.5 +1.9**
PRU *e* 06 51 14.4
PRU *e* 06 52 46.2
PRU MLR MLR
comp=Z,300nm,13.9s
PRU Pruhonice 43.07 309 *e*P **P** **06 51 02.5 +1.9**
PRU *es*P **sP** **06 51 14.4 +4.0**
PRU *e*PP **PcP** **06 52 46.2 -4.1**
PRU AMS AMS 07 11 40.0
comp=Z,300nm,13.9s
MOA Molln 43.30 306⇑ *i*P **P** **06 51 03.7 +1.1**
comp=Z,32nm,0.9s,SNR=13
BRG Berggiesshubel 43.45 310 *i*P **P** **06 51 05.1 +1.4**
comp=Z,24nm,1.1s
BRG S **S** **06 57 29.0 -1.7**
BRG SS **SS** **07 00 44.0 -0.9**
BRG
comp=N,500nm,35.2s
BRG
comp=E,262nm,25.8s
BRG
comp=Z,402nm,24.2s
BRG Berggiesshubel 43.45 310 *i*P **P** **06 51 05.1 +1.4**
BRG S **S** **06 57 29.0 -1.7**
BRG SS **SS** **07 00 44.0 -0.9**
BRG pmax pmax
comp=Z,24nm,1.1s
BRG MLR MLR
comp=N,500nm,35.2s
BRG MLR MLR
comp=E,262nm,25.8s
BRG MLR MLR
comp=Z,402nm,24.2s
BRG Berggiesshubel 43.45 310 *e*P **P** **06 51 05.5 +1.8**
comp=Z,9.0nm,0.8s
CN2 Changchun 43.47 60 *e*P **P** **06 51 04.0 +0.1**
CN2 *es*P **sP** **06 51 13.0 -0.8**
CN2 *e*S **S** **06 57 30.8 -0.3**
CN2 AMB AMB
comp=Z,10.0nm,0.9s
CN2 AMB AMB
comp=Z,200nm,3.0s
JAVS Javornik 43.56 303 *i*P **P** **06 51 06.5 +1.7**
GEC2 GERESS Array S 43.63 307 *e*P **P** **06 51 06.3 +0.9**
GEC2 *e* 06 51 18.2
GEC2 pmax pmax
comp=Z,3μm,1.0s
GEC2 GERESS Array S 43.63 307 *e*P **P** **06 51 06.6 +1.2**
comp=Z,10.0nm,1.0s
GEC2 GERESS Array S 43.63 307 *e*P **P** **06 51 06.3 +0.9**
comp=Z,3μm,1.0s
GEC2 *e* 06 51 18.2
GERES GERESS Array B 43.63 307 P **P** **06 51 06.5 +1.2**
GERES PP **PcP** **06 52 50.6 -1.8**
GERES GERESS Array B 43.63 307 P **P** **06 51 06.5 +1.2**
comp=Z,7.1nm,0.9s,baz=95,slow=6.7,SNR=25
GERES PP **PcP** **06 52 50.6 -1.8**
comp=Z,4.7nm,1.0s,baz=91,slow=7.1,SNR=6.5
KHC Kasperske Hory 43.71 308 *e*P **P** **06 51 06.9 +1.0**
KHC *e* 06 51 14.8
KHC *e* 06 52 49.8
KHC MLR MLR
comp=Z,400nm,14.6s
KHC Kasperske Hory 43.71 308 *e*P **P** **06 51 06.9 +1.0**
KHC *e*pP **pP** **06 51 14.8 +1.9**
KHC *e*PP **PP** **06 52 45.5 -2.1**
KHC *ex* x 06 52 49.8
KHC AMS AMS 07 13 00.0
comp=Z,400nm,14.6s
KHC Kasperske Hory 43.71 308 *e*P **P** **06 51 07.0 +1.2**
comp=Z,5.6nm,0.9s
CLL Collm 44.05 311 *i*P **P** **06 51 09.8 +1.3**
CLL pmax pmax
comp=Z,8.0nm,0.7s
CLL MLR MLR
comp=Z,300nm,21.9s
CLL Collm 44.05 311 *i*P **P** **06 51 09.8 +1.3**
comp=Z,8.0nm,0.7s
CLL *e*pP **pP** **06 51 14.0 -1.5**
CLL *e*PP **PP** **06 52 51.0 -0.1**
CLL *e*pPP 06 52 56.0
CLL *e* 07 01 18.0
CLL LV 07 10 00.0
comp=Z,300nm,21.9s
RJOB Jochberg 44.29 306 *e*P **P** **06 51 11.6 +1.0**
comp=Z,12nm,0.8s
TANN Tannenbergstha 44.40 310 *e*P **P** **06 51 13.2 +1.8**
comp=Z,8.0nm,1.0s
NKC Novy Kostel 44.41 309 *e*P **P** **06 51 13.4 +1.9**
NKC Novy Kostel 44.41 309 *e*P **P** **06 51 13.4 +1.9**
ROTZ Rotzenmuhle 44.58 309 *e*P **P** **06 51 15.0 +2.2**
comp=Z,12nm,0.9s
KGM Kluang 44.62 129 P **P** **06 51 14.3 +0.9**
MANZ Manzenberg 44.64 309 *e*P **P** **06 51 15.4 +2.1**
comp=Z,24nm,1.1s
NEUB Neuenburg 44.82 311 *e*P **P** **06 51 16.2 +1.6**
comp=Z,11nm,0.8s
WTTA Wattenberg 45.11 305⇑ *i*P **P** **06 51 16.8 -0.5**
comp=Z,21nm,0.7s,SNR=6.7
MYKOM Kota Tinggi 45.13 128 P **P** **06 51 18.7 +1.1**
MYKOM Kota Tinggi 45.13 128 P **P** **06 51 18.5 +1.0**
MYKOM Kota Tinggi 45.13 128 *e*P **P** **06 51 18.0 +0.4**
comp=Z,126nm,1.7s
GRF Grafenberg Arr 45.22 309 *e*P **P** **06 51 20.4 +2.5**
comp=Z,24nm,0.9s
GRFO Grafenberg 45.22 309 *e*P **P** **06 51 19.8 +1.9**

GRFO pmax pmax
comp=Z,38nm,1.0s
GRFO Grafenberg 45.22 309 *eP* **P 06 51 19.8 +1.9**
comp=Z,38nm,1.0s
MOTA Moosalm 45.47 305 *i* P **P 06 51 20.0 -0.1**
comp=Z,20nm,0.7s,SNR=15
RETA Reutte 45.69 305⇑ *iP* **P 06 51 22.2 +0.5**
comp=Z,11nm,0.7s
NACB Ninganchiao 45.75 88 *eP* **P 06 51 23.6 +1.2**
comp=Z,139nm,1.6s
FETA Feichten 45.75 305⇑ *iP* **P 06 51 22.3 0.0**
comp=Z,21nm,1.1s
NB2 NORSAR Subarra 45.77 324 P **P 06 51 21.5 -0.6**
comp=Z,9.2nm,0.5s,baz=99,slow=7.9
NOA NORSAR Array B 45.77 324 P **P 06 51 21.9 -0.2**
NOA NORSAR Array B 45.77 324 P **P 06 51 21.9 -0.2**
comp=Z,9.2nm,0.6s,baz=100,slow=7.9,SNR=30
NRDL Niedersach Rie 45.83 313 *eP* **P 06 51 24.3 +1.7**
comp=Z,7.0nm,0.8s
NAO01 NORSAR Array S 45.90 324 *eP* **P 06 51 22.5 -0.6**
comp=Z,4.6nm,0.6s
FUORN Ofenpass-Fuorn 46.12 304 *eP* **P 06 51 27.4 +2.1**
comp=Z,6.6nm,0.7s
DAVA Damuels 46.30 305⇑ *iP* **P 06 51 26.8 +0.2**
comp=Z,34nm,0.9s,SNR=9.5
KSAR Wonju Array Be 46.45 68 P **P 06 51 28.3 +0.5**
KSRS Korea Array 46.48 68 P **P 06 51 28.3 +0.3**
comp=Z,7.3nm,0.5s,baz=277,slow=6.8,SNR=26
KMBO Kilima Mbogo 46.64 228 P **P 06 51 31.3 +1.6**
SNR=7.4
KMBO Kilima Mbogo 46.64 228 *eP* **P 06 51 30.9 +1.2**
comp=Z,18nm,0.9s
KMBO Kilima Mbogo 46.64 228 P **P 06 51 31.3 +1.6**
comp=Z,14nm,0.8s,baz=29,slow=11,SNR=39
KLR Kul'dur 47.23 52 *eP* P 06 51 29.8 -3.9
BFO Black Forest 47.23 307 *eP* **P 06 51 36.3 +2.5**
BFO pmax pmax
comp=Z,6.0nm,0.8s
BFO Black Forest 47.23 307 *eP* **P 06 51 36.4 +2.7**
comp=Z,5.0nm,0.8s
BFO Black Forest 47.23 307 *eP* **P 06 51 36.2 +2.5**
comp=Z,6.1nm,0.8s
LANF Langenberg 47.51 308 *eP* **P 06 51 37.3 +1.4**
PGF Pioggiola 47.63 299 *eP* **P 06 51 36.5 -0.6**
comp=Z,17nm,0.7s
PGF Pioggiola 47.63 299 *eP* **P 06 51 36.5 -0.6**
PGF pmax pmax
comp=Z,17nm,0.7s
PGF Pioggiola 47.63 299 *eP* **P 06 51 36.5 -0.6**
comp=Z,17nm,0.7s
CDF Champ du Feu 47.92 307 *eP* **P 06 51 38.9 -0.3**
comp=Z,15nm,1.0s
CDF Champ du Feu 47.92 307 *eP* **P 06 51 38.9 -0.3**
CDF pmax pmax
comp=Z,15nm,1.0s
CDF Champ du Feu 47.92 307 *eP* **P 06 51 38.9 -0.3**
comp=Z,15nm,1.0s
ECH Echery 48.02 307 *eP* **P 06 51 41.2 +1.3**
ECH pmax pmax
comp=Z,5.0nm,0.8s
ECH Echery 48.02 307 *eP* **P 06 51 41.2 +1.3**
comp=Z,4.7nm,0.8s
USRK Ussuriysk Arra 48.08 59 P **P 06 51 40.1 -0.2**
comp=Z,4.4nm,0.7s,baz=296,slow=6.8,SNR=8.7
MOF Molkenrain 48.08 306 *eP* **P 06 51 40.4 -0.1**
SENIN Lac Senin/Sane 48.18 304 *eP* **P 06 51 41.7 +0.3**
comp=Z,15nm,0.7s
TIXI Tiksi 48.26 21 *eP* **P 06 51 40.4 -0.9**
TIXI pmax pmax
comp=Z,11nm,1.0s
HINF Hinteralfeld 48.27 306 *eP* **P 06 51 41.9 0.0**
HINF Hinteralfeld 48.27 306 *eP* **P 06 51 41.9 0.0**
HINF Hinteralfeld 48.27 306 *eP* **P 06 51 41.9 0.0**
LOMF Lomont 48.35 306 *eP* **P 06 51 43.4 +0.8**
MEM Membach 48.50 310 P **P 06 51 45.0 +1.5**
comp=Z,11nm,1.1s
MEM Membach 48.50 310 AP pP 06 51 55.8 +5.2
MEM Membach 48.50 310 *eP* **P 06 51 45.4 +1.9**
MEM pmax pmax
comp=Z,20nm,1.0s
MEM Membach 48.50 310 *eP* **P 06 51 45.4 +1.9**
comp=Z,20nm,1.0s
WLF Walferdange 48.51 309 P **P 06 51 45.5 +2.0**
comp=Z,6.3nm,0.9s
WLF Walferdange 48.51 309 *eP* **P 06 51 45.5 +2.0**
WLF pmax pmax
comp=Z,10.0nm,0.4s
WLF Walferdange 48.51 309 *eP* **P 06 51 45.7 +2.1**
comp=Z,9.0nm,0.6s
WLF Walferdange 48.51 309 *eP* **P 06 51 45.5 +2.0**
comp=Z,10nm,0.4s
SBF Sospel 48.51 301 *eP* **P 06 51 43.6 -0.2**
comp=Z,29nm,0.8s
SBF Sospel 48.51 301 *eP* **P 06 51 43.6 -0.2**
SBF pmax pmax
comp=Z,29nm,0.8s
SBF Sospel 48.51 301 *eP* **P 06 51 43.6 -0.2**
comp=Z,29nm,0.8s
HAU Haudompre 48.59 307 *eP* **P 06 51 44.3 +0.1**
comp=Z,22nm,0.8s
HAU eR
comp=Z,137nm,21.0s
HAU Haudompre 48.59 307 *eP* **P 06 51 44.3 +0.1**
HAU pmax pmax
comp=Z,22nm,0.8s
HAU Haudompre 48.59 307 *eP* **P 06 51 44.3 +0.1**
comp=Z,22nm,0.8s
LPG La Plagne 48.70 303 *eP* **P 06 51 45.6 +0.2**
comp=Z,12nm,0.6s
LPG La Plagne 48.70 303 *eP* **P 06 51 45.6 +0.2**
LPG pmax pmax
comp=Z,12nm,0.6s
LPG La Plagne 48.70 303 *eP* **P 06 51 45.6 +0.2**
comp=Z,12nm,0.6s
LPL La Plagne 48.70 303 *eP* **P 06 51 45.6 +0.2**
comp=Z,14nm,0.5s
LPL La Plagne 48.70 303 *eP* **P 06 51 45.6 +0.2**
LPL pmax pmax
comp=Z,14nm,0.5s
LPL La Plagne 48.70 303 *eP* **P 06 51 45.6 +0.2**
comp=Z,14nm,0.5s
THEF They Montfort 48.80 307 *eP* **P 06 51 46.3 +0.5**
MBDF Montbardon 48.82 302 *eP* **P 06 51 46.5 +0.3**
comp=Z,27nm,0.8s
MBDF Montbardon 48.82 302 *eP* **P 06 51 46.5 +0.3**
MBDF pmax pmax
comp=Z,27nm,0.8s
MBDF Montbardon 48.82 302 *eP* **P 06 51 46.5 +0.3**
comp=Z,27nm,0.8s
BNI Bardonecchia 48.82 303 *eP* **P 06 51 47.0 +0.8**
BNI pmax pmax
comp=Z,19nm,1.3s
BNI Bardonecchia 48.82 303 *eP* **P 06 51 47.0 +0.8**
comp=Z,20nm,1.3s
PAGF Fort de Pagny 48.92 307 *eP* **P 06 51 47.7 +0.9**
comp=Z,11nm,1.0s,baz=82
PAGF Fort de Pagny 48.92 307 *eP* **P 06 51 47.7 +0.9**
comp=Z,11nm,1.0s
CABF La Chapelle 48.97 305 *eP* **P 06 51 47.7 +0.4**
comp=Z,48nm,1.1s
CABF La Chapelle 48.97 305 *eP* **P 06 51 47.7 +0.4**
CABF pmax pmax
comp=Z,48nm,1.1s
CABF La Chapelle 48.97 305 *eP* **P 06 51 47.7 +0.4**
comp=Z,48nm,1.1s
KEST Kesra 49.01 290 *eP* **P 06 51 48.8 +1.0**
KEST Kesra 49.01 290 P **P 06 51 48.3 +0.5**
comp=Z,9.1nm,0.8s,baz=341,slow=0.8,SNR=18
MEZF Maizieres J'vi 49.37 307 *eP* **P 06 51 51.0 +0.8**
MEZF Maizieres J'vi 49.37 307 *eP* **P 06 51 51.0 +0.8**
ORIF Oris-en-Rattie 49.41 303 *eP* **P 06 51 50.3 -0.4**
comp=Z,2.4nm,0.4s
ORIF eR
comp=Z,168nm,22.6s
ORIF Oris-en-Rattie 49.41 303 *eP* **P 06 51 50.3 -0.4**
ORIF pmax pmax
comp=Z,2.0nm,0.4s
ORIF Oris-en-Rattie 49.41 303 *eP* **P 06 51 50.3 -0.4**
comp=Z,2.4nm,0.4s
SFTF Sexfontaines 49.43 307 *eP* **P 06 51 51.1 +0.4**
comp=Z,37nm,0.9s
SFTF Sexfontaines 49.43 307 *eP* **P 06 51 51.1 +0.4**
comp=Z,37nm,0.9s
DOU Dourbes 49.45 310 P **P 06 51 51.3 +0.5**
comp=Z,16nm,2.4s
BAIF Baives 49.71 310 *eP* **P 06 51 54.0 +1.3**
comp=Z,66nm,1.1s
BAIF Baives 49.71 310 *eP* **P 06 51 54.0 +1.3**
BAIF pmax pmax
comp=Z,66nm,1.1s
BAIF Baives 49.71 310 *eP* **P 06 51 54.0 +1.3**
comp=Z,66nm,1.1s
KSM Kuching 49.75 122 P **P 06 51 54.5 +1.0**
KSM Kuching 49.75 122 P **P 06 51 54.6 +1.1**
KSM Kuching 49.75 122 *eP* **P 06 51 54.0 +0.5**
comp=Z,46nm,1.1s
JNU Nakatsue 50.04 73 *eP* **P 06 51 56.4 +0.8**
comp=Z,7.6nm,1.0s
JNU Nakatsue 50.04 73 P **P 06 51 56.4 +0.8**
comp=Z,11nm,0.7s,baz=276,slow=6.1,SNR=6.0
VIVF Saint-Julien-l 50.26 303 *eP* **P 06 51 57.2 +0.1**
comp=Z,19nm,0.9s
VIVF Saint-Julien-l 50.26 303 *eP* **P 06 51 57.2 +0.1**
VIVF pmax pmax
comp=Z,19nm,0.9s
VIVF Saint-Julien-l 50.26 303 *eP* **P 06 51 57.2 +0.1**
comp=Z,19nm,0.9s
LOR Lormes 50.36 306 *eP* **P 06 51 57.9 +0.1**
comp=Z,6.5nm,0.6s
LOR eR
comp=Z,198nm,22.7s
LOR Lormes 50.36 306 *eP* **P 06 51 57.9 +0.1**
comp=Z,6.5nm,0.6s
SBUM Sibu 50.43 119 P **P 06 52 00.4 +1.8**
SBUM Sibu 50.43 119 P **P 06 52 00.2 +1.6**
SBUM Sibu 50.43 119 *eP* **P 06 51 59.4 +0.8**
comp=Z,18nm,0.9s
SMF Signal de Mont 50.49 305 *eP* **P 06 51 59.0 +0.3**
comp=Z,46nm,0.9s
SMF Signal de Mont 50.49 305 *eP* **P 06 51 59.0 +0.3**
SMF pmax pmax
comp=Z,46nm,0.9s
SMF Signal de Mont 50.49 305 *eP* **P 06 51 59.0 +0.3**
comp=Z,46nm,0.9s
SSF Saint Saulge 50.64 306 *eP* **P 06 51 59.9 0.0**
comp=Z,23nm,1.0s
SSF Saint Saulge 50.64 306 *eP* **P 06 51 59.9 0.0**
SSF pmax pmax
comp=Z,23nm,1.0s
SSF Saint Saulge 50.64 306 *eP* **P 06 51 59.9 0.0**
comp=Z,23nm,1.0s
AVF Avril sur Loir 50.79 306 *eP* **P 06 52 01.1 +0.1**
comp=Z,24nm,0.9s
AVF Avril sur Loir 50.79 306 *eP* **P 06 52 01.1 +0.1**
AVF pmax pmax
comp=Z,24nm,0.9s
AVF Avril sur Loir 50.79 306 *eP* **P 06 52 01.1 +0.1**
comp=Z,24nm,0.9s
LASF Ste Croix 50.99 302 *eP* **P 06 52 02.9 +0.3**
comp=Z,7.7nm,0.7s
LASF Ste Croix 50.99 302 *eP* **P 06 52 02.9 +0.3**
comp=Z,7.7nm,0.7s
KKM Kota Kinabalu 51.04 113 P **P 06 52 05.3 +2.0**
KKM Kota Kinabalu 51.04 113 P **P 06 52 05.2 +1.8**
KKM Kota Kinabalu 51.04 113 *eP* **P 06 52 04.2 +0.9**
comp=Z,43nm,1.1s
TCF Toulx Ste Croi 51.66 305 *eP* **P 06 52 08.0 +0.4**
comp=Z,25nm,0.9s
TCF Toulx Ste Croi 51.66 305 *eP* **P 06 52 08.0 +0.4**
TCF pmax pmax
comp=Z,25nm,0.9s
TCF Toulx Ste Croi 51.66 305 *eP* **P 06 52 08.0 +0.4**
comp=Z,25nm,0.9s
SDKM Sandakan 52.04 112 P **P 06 52 11.2 +0.4**
CAF Calviac 52.05 303 *eP* **P 06 52 11.0 +0.4**
comp=Z,11nm,0.8s
CAF Calviac 52.05 303 *eP* **P 06 52 11.0 +0.4**
CAF pmax pmax
comp=Z,11nm,0.8s
CAF Calviac 52.05 303 *eP* **P 06 52 11.0 +0.4**
comp=Z,11nm,0.8s
MTLF Montolieu 52.32 301 *eP* **P 06 52 12.5 0.0**
comp=Z,10.0nm,0.8s
MTLF Montolieu 52.32 301 *eP* **P 06 52 12.5 0.0**
MTLF pmax pmax
comp=Z,10.0nm,0.8s
MTLF Montolieu 52.32 301 *eP* **P 06 52 12.5 0.0**
comp=Z,10.0nm,0.8s
RJF Les Rejaudoux 52.35 304 *eP* **P 06 52 13.4 +0.7**
comp=Z,20nm,1.0s
RJF eR
comp=Z,170nm,22.5s
RJF Les Rejaudoux 52.35 304 *eP* **P 06 52 13.4 +0.7**
RJF pmax pmax
comp=Z,20nm,1.0s
RJF Les Rejaudoux 52.35 304 *eP* **P 06 52 13.4 +0.7**
comp=Z,20nm,1.0s
LDF La Druitiere 52.74 308 *eP* **P 06 52 15.5 -0.1**
comp=Z,39nm,0.8s
LDF La Druitiere 52.74 308 *eP* **P 06 52 15.5 -0.1**
LDF pmax pmax
comp=Z,39nm,0.8s
LDF La Druitiere 52.74 308 *eP* **P 06 52 15.5 -0.1**
comp=Z,39nm,0.8s
FLN La Foliniere 52.94 309 *eP* **P 06 52 17.2 +0.2**
comp=Z,15nm,0.6s
FLN eR
comp=Z,233nm,22.7s
FLN La Foliniere 52.94 309 *eP* **P 06 52 17.2 +0.2**
FLN pmax pmax
comp=Z,15nm,0.6s
FLN La Foliniere 52.94 309 *eP* **P 06 52 17.2 +0.2**
comp=Z,15nm,0.6s
LFF La Frestale 52.97 304 *eP* **P 06 52 17.3 0.0**
LFF La Frestale 52.97 304 *eP* **P 06 52 17.3 0.0**
LFF La Frestale 52.97 304 *eP* **P 06 52 17.3 0.0**
MFF Saint Martin d 53.19 306 *eP* **P 06 52 18.9 +0.1**
comp=Z,6.7nm,0.7s
MFF Saint Martin d 53.19 306 *eP* **P 06 52 18.9 +0.1**
MFF pmax pmax
comp=Z,7.0nm,0.7s
MFF Saint Martin d 53.19 306 *eP* **P 06 52 18.9 +0.1**
comp=Z,6.7nm,0.7s
GRR Gorron 53.27 308 *eP* **P 06 52 19.3 -0.1**
comp=Z,25nm,0.8s
GRR Gorron 53.27 308 *eP* **P 06 52 19.3 -0.1**
GRR pmax pmax
comp=Z,25nm,0.8s
GRR Gorron 53.27 308 *eP* **P 06 52 19.3 -0.1**
comp=Z,25nm,0.8s
MYLDM Lahad Datu 53.34 112 P **P 06 52 22.7 +2.3**
MYLDM Lahad Datu 53.34 112 P **P 06 52 23.0 +2.7**
comp=Z,27nm,1.6s
MYLDM Lahad Datu 53.34 112 *eP* **P 06 52 21.6 +1.3**
comp=Z,79nm,1.7s
TSM Tawau 53.42 113 P **P 06 52 21.0 +0.1**
ESK Eskdalemuir 53.43 317 *eP* **P 06 52 20.9 +0.4**
ESK pmax pmax
comp=Z,44nm,1.3s
ESK Eskdalemuir 53.43 317 *eP* **P 06 52 20.9 +0.4**
comp=Z,44nm,1.3s
ETSF Etsaut 54.40 302 *eP* **P 06 52 29.1 +1.2**
comp=Z,15nm,0.7s
ETSF Etsaut 54.40 302 *eP* **P 06 52 29.1 +1.2**
ETSF pmax pmax
comp=Z,15nm,0.7s
ETSF Etsaut 54.40 302 *eP* **P 06 52 29.1 +1.2**
comp=Z,15nm,0.7s
SGMF Saint Gilles 54.40 308 *eP* **P 06 52 28.2 +0.5**
comp=Z,9.7nm,0.6s
SGMF Saint Gilles 54.40 308 *eP* **P 06 52 28.2 +0.5**
SGMF pmax pmax
comp=Z,10.0nm,0.6s
SGMF Saint Gilles 54.40 308 *eP* **P 06 52 28.2 +0.5**
comp=Z,9.7nm,0.6s
MAJO Matsushiro 54.62 67 *eP* **P 06 52 29.4 -0.2**
MAJO pmax pmax
comp=Z,23nm,0.9s
MAJO Matsushiro 54.62 67 *eP* **P 06 52 29.4 -0.2**
comp=Z,23nm,0.9s
MAT Matsushiro 54.62 67 P **P 06 52 29.1 -0.4**
MJAR Matsushiro Arr 54.63 67 P **P 06 52 29.7 +0.2**
MJAR Matsushiro Arr 54.63 67 P **P 06 52 29.7 +0.2**
comp=Z,14nm,1.0s,baz=286,slow=9.8,SNR=25
ROSF Rostrenen 54.85 309 *eP* **P 06 52 30.9 0.0**
comp=Z,37nm,0.8s
ROSF Rostrenen 54.85 309 *eP* **P 06 52 30.9 0.0**
ROSF pmax pmax
comp=Z,37nm,0.8s
ROSF Rostrenen 54.85 309 *eP* **P 06 52 30.9 0.0**
comp=Z,37nm,0.8s
QUIF Quistinic 54.88 308 *eP* **P 06 52 31.0 -0.1**
comp=Z,132nm,1.5s
QUIF Quistinic 54.88 308 *eP* **P 06 52 31.0 -0.1**
QUIF pmax pmax
comp=Z,132nm,1.5s
QUIF Quistinic 54.88 308 *eP* **P 06 52 31.0 -0.1**
comp=Z,132nm,1.5s
SEY Seymchan 56.83 33*ceP* **P 06 52 46.4 +1.5**
TAM Tamanrasset 56.95 277 *eP* **P 06 52 46.3 -0.3**
TAM pmax pmax
comp=Z,4.0nm,0.8s
TAM Tamanrasset 56.95 277 *eP* **P 06 52 46.3 -0.3**
comp=Z,4.4nm,0.8s
ESDC Sonseca Array 57.83 299 P **P 06 52 51.5 -0.9**
ESDC Sonseca Array 57.83 299 P **P 06 52 51.5 -0.9**
comp=Z,3.3nm,0.8s,baz=64,slow=7.4,SNR=13
ESLA Sonseca Array 57.83 299 *eP* **P 06 52 52.5 +0.1**
comp=Z,3.1nm,1.2s
MVO Moncorvo 59.52 301 *eP* **P 06 53 06.0 +1.8**
PVRL Vila Real 59.96 302 *eP* **P 06 53 09.2 +2.0**
comp=Z,22nm,1.5s
POLO Lamas de Olo 59.98 302 *eP* **P 06 53 08.6 +1.2**
PCAB Cabril 60.03 302 *eP* **P 06 53 09.5 +1.9**
comp=Z,28nm,1.2s
MTE Manteigas 60.15 301 *eP* **P 06 53 09.2 +0.6**
comp=Z,30nm,1.6s
PVIS Viseu 60.29 301 *eP* **P 06 53 11.5 +2.0**
comp=Z,22nm,1.6s
PCBR Castelo Branco 60.31 300 *eP* **P 06 53 10.2 +0.7**
comp=Z,18nm,1.7s
PMRV Marv??o 60.39 300 *eP* **P 06 53 11.9 +1.7**
comp=Z,20nm,1.4s
PBAR Barrancos 60.60 298 *eP* **P 06 53 11.3 -0.3**
comp=Z,24nm,1.5s
EVO Evora 61.18 299 *eP* **P 06 53 15.9 +0.4**
comp=Z,11nm,0.8s
EVO Evora 61.18 299 *eP* **P 06 53 15.8 +0.3**
comp=Z,16nm,1.2s
EVOP Sao Brissos 61.26 299 *eP* **P 06 53 15.9 -0.1**
EVOP pmax pmax
comp=Z,11nm,0.8s
EVOP Sao Brissos 61.26 299 *eP* **P 06 53 15.9 -0.1**
comp=Z,11nm,0.8s
PBEJ Beja 61.26 298 *eP* **P 06 53 17.7 +1.6**
PETK Petropavlovsk- 62.24 43 P **P 06 53 20.3 -2.2**
PETK pmax pmax
comp=Z,2.0nm,0.6s
PETK Petropavlovsk- 62.24 43 P **P 06 53 20.3 -2.2**
PETK Petropavlovsk- 62.24 43 P **P 06 53 20.3 -2.2**
comp=Z,1.6nm,0.6s,baz=298,slow=3.2,SNR=6.8
SUMG Summit 63.00 341 *eP* **P 06 53 28.6 +0.9**
SUMG pmax pmax
comp=Z,27nm,1.0s
SUMG Summit 63.00 341 *i* P **P 06 53 30.0 +2.3**
comp=Z,21nm,0.9s
SUMG Summit 63.00 341 *eP* **P 06 53 28.6 +0.9**
comp=Z,27nm,1.0s
LSZ Lusaka 63.23 226 *eP* **P 06 53 29.6 +0.1**
comp=Z,16nm,1.3s
TOA0 Torodi Ar. Sit 64.83 269 *eP* **P 06 53 38.1 -2.0**
TORD Torodi Ar. Bea 64.83 269 P **P 06 53 38.2 -1.8**
TORD Torodi Ar. Bea 64.83 269 P **P 06 53 38.2 -1.8**
comp=Z,7.4nm,0.9s,baz=52,slow=6.4,SNR=37
SFJD Kangerlussuaq 69.63 339 *i* P **P 06 54 11.3 +1.6**
comp=Z,16nm,0.9s
NRS Narsarsuaq 71.56 332 *i* P **P 06 54 22.2 +0.7**
NRS pmax pmax
comp=Z,24nm,0.9s
LBTB Lobatse 72.38 222 *eP* **P 06 54 27.9 +0.9**
comp=Z,33nm,0.8s
DBIC Dimbokro 73.74 267 *eP* **P 06 54 34.0 -1.2**
comp=Z,9.8nm,1.0s
DBIC Dimbokro 73.74 267 P **P 06 54 34.0 -1.2**
comp=Z,6.3nm,0.9s,baz=28,slow=11,SNR=6.0
KIC Kosan Boka 73.81 267 *eP* **P 06 54 34.0 -1.7**
comp=Z,152nm,1.9s
TIC Toumodi 73.89 267 *eP* **P 06 54 34.5 -1.7**
comp=Z,92nm,1.6s
LIC Lamto 74.12 267 *eP* **P 06 54 36.0 -1.5**
comp=Z,9.8nm,0.7s
LIC Lamto 74.12 267 *eP* **P 06 54 36.0 -1.5**
comp=Z,16nm,0.7s
LIC Lamto 74.12 267 *eP* **P 06 54 36.0 -1.5**
comp=Z,9.8nm,0.7s
FITZ Fitzroy Crossi 74.20 125 *eP* **P 06 54 37.9 +0.1**
comp=Z,12nm,1.1s
COLD Coldfoot 74.45 15 *eP* **P 06 54 38.3 -0.3**
comp=Z,23nm,1.0s
IMA2 Indian Mountai 74.60 17 *eP* **P 06 54 38.5 -1.1**
IM04 Indian Mountai 74.65 17 *eP* **P 06 54 38.4 -1.4**
BOSA Boshof 75.41 220 *eP* **P 06 54 44.5 -0.2**
comp=Z,30nm,0.9s
BOSA Boshof 75.41 220 P **P 06 54 44.0 -0.7**
comp=Z,23nm,0.8s,baz=27,slow=6.6,SNR=23
INK Inuvik 76.35 9 *eP* **P 06 54 48.9 -0.5**
comp=Z,53nm,1.0s
BPAW Bear Paw Mtn. 76.88 17 *eP* **P 06 54 51.9 -0.7**
comp=Z,12nm,0.8s
COLA College 76.96 16 *eP* **P 06 54 52.4 -0.5**
COLA pmax pmax
comp=Z,25nm,0.8s
COLA College 76.96 16 *eP* **P 06 54 52.4 -0.5**
comp=Z,25nm,0.8s
ILAR Eielson Array 77.26 15 P **P 06 54 53.0 -1.6**
ILAR Eielson Array 77.26 15 P **P 06 54 53.0 -1.6**
comp=Z,10nm,0.9s,baz=306,slow=4.0,SNR=78
PPLA Purkeypile 77.57 18 *eP* **P 06 54 56.1 -0.5**
comp=Z,179nm,2.5s
MCK McKinley 77.68 17 *eP* **P 06 54 56.7 -0.3**
MCK pmax pmax
comp=Z,12nm,0.6s
MCK McKinley 77.68 17 *eP* **P 06 54 56.7 -0.3**
comp=Z,12nm,0.6s
EGAK Eagle 78.42 13 *eP* **P 06 55 00.8 -0.3**
comp=Z,30nm,1.4s
DOT Dot Lake 78.85 15 *eP* **P 06 55 00.6 -2.9**
comp=Z,12nm,1.0s
DAWY Dawson 79.39 13 *eP* **P 06 55 05.8 -0.7**
PMR Palmer 79.45 18 *eP* **P 06 55 05.6 -1.2**
PMR pmax pmax
comp=Z,13nm,0.9s
PMR Palmer 79.45 18 *eP* **P 06 55 05.6 -1.2**
comp=Z,13nm,0.9s
SUR Sutherland 80.74 220 *eP* **P 06 55 14.9 +0.6**
comp=Z,17nm,0.8s
BMRM Bremner River 81.09 16 *eP* **P 06 55 15.3 -0.5**
comp=Z,24nm,1.1s
WRA Warramunga Arr 81.49 121 P **P 06 55 17.8 -0.5**
WRA Warramunga Arr 81.49 121 P **P 06 55 17.8 -0.5**
comp=Z,26nm,0.9s,baz=324,slow=4.9,SNR=115
WRAB Tennant Creek 81.49 121 *eP* **P 06 55 17.6 -0.8**
WRAB pmax pmax
comp=Z,29nm,0.8s
WRAB Tennant Creek 81.49 121 *eP* **P 06 55 17.6 -0.8**
comp=Z,29nm,0.8s
WRAB Tennant Creek 81.49 121 P **P 06 55 18.6 +0.2**
comp=Z,214nm,1.0s,SNR=37
HYT Haines Junctio 82.72 13 *eP* **P 06 55 24.8 +0.4**
YKA Yellowknife Ar 83.62 2 P **P 06 55 28.4 -0.4**
YKA Yellowknife Ar 83.62 2 P **P 06 55 28.4 -0.4**
comp=Z,13nm,0.8s,baz=350,slow=5.4,SNR=22
AS31 Alice Springs 83.62 124 *eP* **P 06 55 29.0 -0.4**
ASAR Alice Springs 83.62 124 P **P 06 55 29.0 -0.4**
ASAR Alice Springs 83.62 124 P **P 06 55 29.0 -0.4**
comp=Z,14nm,0.8s,baz=314,slow=5.1,SNR=71
SCHQ Schefferville 83.91 337 P **P 06 55 30.2 -0.3**
SCHQ Schefferville 83.91 337 P **P 06 55 30.2 -0.3**
comp=Z,9.1nm,0.9s,baz=76,slow=7.7,SNR=7.0
FORT Forrest 84.68 133 *eP* **P 06 55 34.0 -0.6**
comp=Z,11nm,0.7s
CTAO Charters Tower 90.34 114 *eP* **P 06 56 01.1 -1.1**
CTAO pmax pmax
comp=Z,7.0nm,0.5s
CTAO Charters Tower 90.34 114 *eP* **P 06 56 01.1 -1.1**
comp=Z,6.5nm,0.5s
EDM Edmonton 92.94 2 *eP* **P 06 56 14.2 +0.4**
EDM Edmonton 92.94 2 *eP* **P 06 56 14.2 +0.4**
STKA Stephens Creek 94.09 126 *eP* **P 06 56 19.5 +0.2**
comp=Z,0.8nm,0.9s
STKA Stephens Creek 94.09 126 P **P 06 56 18.1 -1.2**
comp=Z,1.7nm,0.6s,baz=300,slow=10,SNR=9.4
ULM Lac du Bonnet 95.03 351 P **P 06 56 22.5 -0.9**
ULM Lac du Bonnet 95.03 351 P **P 06 56 22.5 -0.9**
comp=Z,2.7nm,0.6s,baz=46,slow=18,SNR=3.2
PDAR Pinedale Array 103.45 360 PKiKP **PKiKP 07 01 21.1 +0.8**
PDAR Pinedale Array 103.45 360 PKiKP **PKiKP 07 01 21.1 +0.8**
comp=Z,1.3nm,0.9s,baz=72,slow=2.7,SNR=6.7
NVAR Mina Array Bea 107.37 7 PKiKP **PKiKP 07 01 29.6 +1.9**
NVAR Mina Array Bea 107.37 7 PKiKP **PKiKP 07 01 29.6 +1.9**
comp=Z,2.2nm,0.7s,baz=316,slow=1.3,SNR=16

TXAR	**Lajitas Array**	**116.57 354**	PKP	**PKPdf**	**07 01 45.6 +0.4**	
TXAR			PKKPbc	**PKKPbc**	**07 12 12.9 +0.5**	
TXAR	**Lajitas Array**	**116.57 354**	PKP	**PKPdf**	**07 01 45.6 +0.4**	
	comp=Z,0.7nm,0.8s,baz=83,slow=5.1,SNR=8.0					
TXAR			PKKPbc	**PKKPbc**	**07 12 12.9 +0.5**	
	comp=Z,1.1nm,0.7s,baz=182,slow=7.6,SNR=14					
VNDA	**Vanda**	**123.46 165**	*e*PKPdf	**PKPdf**	**07 01 55.9 -0.8**	
VNDA	**Vanda**	**123.46 165**	PKP	**PKPdf**	**07 01 56.0 -0.8**	
	comp=Z,1.5nm,0.7s,baz=272,slow=4.2,SNR=9.6					
QSPA	**South Pole Qui**	**123.96 180**	*e*PKPdf	**PKPdf**	**07 01 57.6 -0.5**	
TGUH	**Tegucigalpa,Un**	**127.39 332**	*e*PKPdf	**PKPdf**	**07 02 07.3 +1.2**	
BCIP	**Isla Barro Col**	**128.26 321**	*e*PKPdf	**PKPdf**	**07 02 07.3 -0.5**	
ROSC	**El Rosal**	**128.61 312**	*e*PKPdf	**PKPdf**	**07 02 10.1 +1.0**	
ROSC	**El Rosal**	**128.61 312**	PKP	**PKPdf**	**07 02 10.0 +1.0**	
	comp=Z,24nm,0.9s,baz=74,slow=9.7,SNR=11					
SAML	**Samuel**	**130.30 289**	*e*PKPdf	**PKPdf**	**07 02 11.9 +0.2**	
SIV	**San Ignacio**	**132.59 280**	PKP	**PKPdf**	**07 02 17.1 +1.1**	
SIV	**San Ignacio**	**132.59 280**	PKP	**PKPdf**	**07 02 17.1 +1.1**	
	comp=Z,2.3nm,0.9s,baz=149,slow=2.8,SNR=3.9					
CPUP	**Villa Florida**	**134.23 265**	PKP	**PKPdf**	**07 02 18.2 -0.5**	
CPUP	**Villa Florida**	**134.23 265**	PKP	**PKPdf**	**07 02 18.2 -0.5**	
	comp=Z,1.8nm,0.6s,baz=349,slow=6.6,SNR=3.7					
OTAV	**Otavalo**	**134.76 312**	*e*PKPdf	**PKPdf**	**07 02 22.1 +1.3**	
LPAZ	**La Paz**	**138.47 285**	*e*PKPdf	**PKPdf**	**07 02 27.7 0.0**	
LPAZ			PKP	**PKPdf**	**07 02 28.1 +0.5**	
LPAZ	**La Paz**	**138.47 285**	PKP	**PKPdf**	**07 02 28.1 +0.5**	
	comp=Z,2.6nm,0.8s,baz=44,slow=5.3,SNR=11					
PLCA	**Paso Flores**	**148.18 246**	PKPbc	**PKPbc**	**07 02 46.4 -0.3**	
PLCA	**Paso Flores**	**148.18 246**	PKPbc	**PKPbc**	**07 02 46.4 -0.3**	
	comp=Z,7.4nm,0.9s,baz=120,slow=7.4,SNR=9.9					

*ISCJB **30** 07:01:01.7±0.2,36°.55N±0°.01×4°.45W±0°.02, h96km±2km, Error ellipse: s-maj=2.4km s-min=2.1km az=16.2*
*LDG **30** 07:01:02.5±0.1,36°.49N×4°.39W, h80km, Md4.0/1, Ml4.0/16, Error ellipse: s-maj=2.8km s-min=1.9km az=175.0*
*CSEM **30** 07:01:03.4±0.1,36°.48N×4°.40W, h80km, ML4.0, Error ellipse: s-maj=3.0km s-min=2.7km az=129.0*
*MDD **30** 07:01:04.0±0.3,36°.46N×4°.42W, h86km±3km, mb4.1/42, Error ellipse: s-maj=2.8km s-min=2.7km az=163.0, PRXIMO*
MDD EMS: II INTENSIDAD MAXIMA.
*CNRM **30** 07:01:04.2,36°.50N×4°.56W, h30km, MD3.5*
*SFS **30** 07:01:04.0,36°.48N×4°.39W, h0km, ML4.0*
*INMG **30** 07:01:05.7±1.1,36°.54N×4°.56W, h78km±2km, MD3.6, ML3.9, Error ellipse: s-maj=2.2km s-min=2.2km az=122.0*
*IGIL **30** 07:01:06.5,36°.61N×4°.61W, h15km, ML4.0*
*STR **30** 07:01:08.6±0.6,37°.17N×3°.91W, h5km, Ml4.0, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 30 07:01:01.0±0.2, 36°.517N±0°.010×4°.391W±0°.009, h103km±2km, n269, σ1°77/371, 18C-13D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
EMAL	**Malaga-Limoner**	**0.25**	**353**	⇑P		**Pn**	**07 01 17.1**	**+1.4**
EMAL				S		**Sn**	**07 01 26.1**	**-0.6**
EMAL	**Malaga-Limoner**	**0.25**	**353**	*i* P		**Pn**	**07 01 17.1**	**+1.4**
EMAL				*e*S		**Sn**	**07 01 26.1**	**-0.6**
EMIJ	**Mijas**	**0.31**	**279**	⇑P		**Pn**	**07 01 16.6**	**+0.6**
	168nm,0.1s,SNR=18							
EMIJ				S		**Sn**	**07 01 25.8**	**-1.5**
	1μm,0.2s,SNR=26							
EMIJ	**Mijas**	**0.31**	**279**	P		**Pn**	**07 01 16.6**	**+0.6**
	168nm,0.1s,SNR=18							
EMIJ				S		**Sn**	**07 01 25.8**	**-1.5**
	1μm,0.2s,SNR=26							
EGUA	**Guajares**	**0.73**	**64**	⇑P		**Pn**	**07 01 19.6**	**+0.6**
	261nm,0.2s,SNR=18							
EGUA				S		**Sn**	**07 01 32.1**	**-0.5**
	SNR=7.9							
EGUA	**Guajares**	**0.73**	**64**	P		**Pn**	**07 01 19.6**	**+0.6**
	261nm,0.2s,SNR=18							
EGUA				S		**Sn**	**07 01 32.1**	**-0.5**
	SNR=7.9							
LIJA	**Lijar**	**0.90**	**296**	⇓P		Pn	07 01 23.8	+3.1
LIJA				S		**Sn**	**07 01 35.0**	**-0.6**
LIJA	**Lijar**	**0.90**	**296**	*i* P		Pn	07 01 23.8	+3.1
LIJA				*e*S		**Sn**	**07 01 35.0**	**-0.6**
ECOG	**Cogollos-Vega**	**1.01**	**41**	⇓P		**Pn**	**07 01 24.4**	**+2.6**
	88nm,0.2s,SNR=18							
ECOG				S		**Sn**	**07 01 39.5**	**+1.9**
	429nm,0.2s,SNR=25							
ECOG	**Cogollos-Vega**	**1.01**	**41**	P		**Pn**	**07 01 24.4**	**+2.6**
	88nm,0.2s,SNR=18							
ECOG				S		**Sn**	**07 01 39.5**	**+1.9**
	429nm,0.2s,SNR=25							
ECEU	**Ceuta**	**1.01**	**232**	P		Pn	07 01 24.7	+3.0
	45nm,0.1s,SNR=24							
ECEU				S		**Sn**	**07 01 38.6**	**+1.2**
	71nm,0.3s,SNR=9.8							
ECEU	**Ceuta**	**1.01**	**232**	P		Pn	07 01 24.7	+3.0
	45nm,0.1s,SNR=24							
ECEU				S		**Sn**	**07 01 38.6**	**+1.2**
	71nm,0.3s,SNR=9.8							
EQUE	**Quentar**	**1.03**	**48**	⇑P		**Pn**	**07 01 24.7**	**+2.7**
	30nm,0.1s,SNR=18							
EQUE				S		**Sn**	**07 01 38.9**	**+1.0**
	368nm,0.5s							
EQUE	**Quentar**	**1.03**	**48**	P		**Pn**	**07 01 24.7**	**+2.7**
	30nm,0.1s,SNR=18							
EQUE				S		**Sn**	**07 01 38.9**	**+1.0**
	368nm,0.5s							
ELUQ	**Luque**	**1.05**	**5**	⇑P		**Pn**	**07 01 24.5**	**+2.3**
	432nm,0.2s,SNR=18							
ELUQ				S		**Sn**	**07 01 38.3**	**+0.1**
	333nm,0.2s,SNR=7.9							
ELUQ	**Luque**	**1.05**	**5**	P		**Pn**	**07 01 24.5**	**+2.3**
	432nm,0.2s,SNR=18							
ELUQ				S		**Sn**	**07 01 38.3**	**+0.1**
	333nm,0.2s,SNR=7.9							
ESPR	**Espera**	**1.23**	**287**	⇑P		**Pn**	**07 01 26.6**	**+2.4**
	46nm,0.1s,SNR=18							
ESPR				S		**Sn**	**07 01 40.5**	**-1.2**
	359nm,0.3s,SNR=21							
ESPR	**Espera**	**1.23**	**287**	P		**Pn**	**07 01 26.6**	**+2.4**
	46nm,0.1s,SNR=18							
ESPR				S		**Sn**	**07 01 40.5**	**-1.2**
	359nm,0.3s,SNR=21							
EBER	**Berja**	**1.27**	**72**	⇓P		**Pn**	**07 01 26.4**	**+1.6**
	139nm,0.3s,SNR=18							
EBER				S		**Sn**	**07 01 42.6**	**-0.2**
	545nm,0.4s,SNR=22							
EBER	**Berja**	**1.27**	**72**	P		**Pn**	**07 01 26.4**	**+1.6**
	139nm,0.3s,SNR=18							
EBER				S		**Sn**	**07 01 42.6**	**-0.2**
	545nm,0.4s,SNR=22							
DKH	**Dar Kharkhour**	**1.29**	**218**	P		**Pn**	**07 01 25.0**	**-0.1**
DKH				S		**Sn**	**07 01 39.0**	**-4.3**
DKH	**Dar Kharkhour**	**1.29**	**218**	*i* P		**Pn**	**07 01 25.0**	**-0.1**
DKH				*i* S		**Sn**	**07 01 39.0**	**-4.3**
MPAL	**Palemas**	**1.34**	**164**	P		**Pn**	**07 01 26.0**	**+0.5**
MPAL				S		**Sn**	**07 01 43.0**	**-1.1**
MPAL	**Palemas**	**1.34**	**164**	*i* P		**Pn**	**07 01 26.0**	**+0.5**
MPAL				*i* S		**Sn**	**07 01 43.0**	**-1.1**
PVLZ	**Peæn de**	**1.34**	**177**	*e*P		**Pn**	**07 01 26.6**	**+1.1**
CNIL	**Conil**	**1.35**	**264**	⇓P		Pn	07 01 29.3	+3.8
CNIL				S		**Sn**	**07 01 41.7**	**-2.5**
CNIL	**Conil**	**1.35**	**264**	P		Pn	07 01 29.3	+3.8
CNIL				*e*S		**Sn**	**07 01 41.7**	**-2.5**
SFS	**San Fernando**	**1.46**	**269**	⇓P		Pn	07 01 31.2	+4.3
SFS				S		**Sn**	**07 01 45.3**	**-1.3**
SFS	**San Fernando**	**1.46**	**269**	P		Pn	07 01 31.2	+4.3
SFS				*e*S		**Sn**	**07 01 45.3**	**-1.3**
TOU	**Touzarine**	**1.64**	**161**	P		**Pn**	**07 01 31.5**	**+2.3**
TOU				S		**Sn**	**07 01 49.5**	**-1.1**
TOU	**Touzarine**	**1.64**	**161**	*i* P		**Pn**	**07 01 31.5**	**+2.3**
TOU				*i* S		**Sn**	**07 01 49.5**	**-1.1**
EADA	**Adamuz**	**1.65**	**355**	⇑P		**Pn**	**07 01 31.8**	**+2.5**
	328nm,0.1s,SNR=18							
EADA				S		**Sn**	**07 01 51.2**	**+0.3**
	487nm,0.2s,SNR=27							
EADA	**Adamuz**	**1.65**	**355**	P		**Pn**	**07 01 31.8**	**+2.5**
	328nm,0.1s,SNR=18							
EADA				S		**Sn**	**07 01 51.2**	**+0.3**
	487nm,0.2s,SNR=27							
EQES	**Quesada**	**1.66**	**39**	⇑P		**Pn**	**07 01 32.2**	**+2.7**
	68nm,0.2s,SNR=18							
EQES				S		**Sn**	**07 01 52.1**	**+0.9**
	427nm,0.6s,SNR=24							
EQES	**Quesada**	**1.66**	**39**	P		**Pn**	**07 01 32.2**	**+2.7**
	68nm,0.2s,SNR=18							
EQES				S		**Sn**	**07 01 52.1**	**+0.9**
	427nm,0.6s,SNR=24							
EMEL	**Melilla**	**1.68**	**136**	⇓P		**Pn**	**07 01 31.0**	**+1.3**
	631nm,0.1s,SNR=18							
EMEL				S		**Sn**	**07 01 50.1**	**-1.3**
	329nm,0.3s,SNR=7.4							
EMLI	**Melilla**	**1.69**	**136**	P		**Pn**	**07 01 31.0**	**+1.3**
	631nm,0.1s,SNR=18							
EMLI				S		**Sn**	**07 01 50.1**	**-1.4**
	329nm,0.3s,SNR=7.4							
MELI	**Melilla**	**1.70**	**135**	P		**Pn**	**07 01 31.0**	**+1.1**
	171nm,0.2s,SNR=7.9							
MELI				S		**Sn**	**07 01 51.5**	**-0.3**
	62nm,0.1s,SNR=7.9							
MELI	**Melilla**	**1.70**	**135**	P		**Pn**	**07 01 31.0**	**+1.1**
	171nm,0.2s,SNR=7.9							
MELI				S		**Sn**	**07 01 51.5**	**-0.3**
	62nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**1.76**	**333**	⇑P		**Pn**	**07 01 32.5**	**+1.9**
	98nm,0.1s,SNR=18							
ECAB				S		**Sn**	**07 01 53.0**	**-0.2**
	434nm,0.3s,SNR=53							
ECAB	**El Cabril**	**1.76**	**333**	P		**Pn**	**07 01 32.5**	**+1.9**
	98nm,0.1s,SNR=18							
ECAB				S		**Sn**	**07 01 53.0**	**-0.2**
	434nm,0.3s,SNR=53							
EHUE	**Huescar**	**1.93**	**47**	⇑P		**Pn**	**07 01 35.8**	**+2.9**
	30nm,0.1s,SNR=18							
EHUE				S		**Sn**	**07 01 58.4**	**+1.1**
	386nm,0.2s,SNR=7.9							
EHUE	**Huescar**	**1.93**	**47**	P		**Pn**	**07 01 35.8**	**+2.9**
	30nm,0.1s,SNR=18							
EHUE				S		**Sn**	**07 01 58.4**	**+1.1**
	386nm,0.2s,SNR=7.9							
RSA	**Sarsar**	**2.01**	**216**	P		**Pn**	**07 01 34.0**	**+0.1**
RSA				S		**Sn**	**07 01 55.0**	**-4.0**
RSA	**Sarsar**	**2.01**	**216**	*i* P		**Pn**	**07 01 34.0**	**+0.1**
RSA				*i* S		**Sn**	**07 01 55.0**	**-4.0**
ZAI	**Zaio**	**2.04**	**139**	P		**Pn**	**07 01 36.0**	**+1.7**
ZAI				S		**Sn**	**07 02 00.0**	**+0.3**
ZAI	**Zaio**	**2.04**	**139**	*i* P		**Pn**	**07 01 36.0**	**+1.7**
ZAI				*i* S		**Sn**	**07 02 00.0**	**+0.3**
EMIN	**Mina Concepcio**	**2.21**	**305**	⇑P		**Pn**	**07 01 38.2**	**+1.9**
	63nm,0.1s,SNR=18							
EMIN				S		**Sn**	**07 02 02.9**	**-0.5**
	296nm,0.3s,SNR=6.9							
EMIN	**Mina Concepcio**	**2.21**	**305**	P		**Pn**	**07 01 38.2**	**+1.9**
	63nm,0.1s,SNR=18							
EMIN				S		**Sn**	**07 02 02.9**	**-0.5**
	296nm,0.3s,SNR=6.9							
TGT	**Taghat**	**2.50**	**193**	P		**Pn**	**07 01 41.0**	**+0.7**
TGT				S		**Sn**	**07 02 10.0**	**-0.4**
TGT	**Taghat**	**2.50**	**193**	*i* P		**Pn**	**07 01 41.0**	**+0.7**
TGT				*i* S		**Sn**	**07 02 10.0**	**-0.4**
EVIA	**Vianos**	**2.59**	**35**	⇑P		**Pn**	**07 01 43.8**	**+2.3**
	76nm,0.1s,SNR=18							
EVIA				S		**Sn**	**07 02 11.9**	**-0.7**
	407nm,0.4s							
EVIA	**Vianos**	**2.59**	**35**	P		**Pn**	**07 01 43.8**	**+2.3**
	76nm,0.1s,SNR=18							
EVIA				S		**Sn**	**07 02 11.9**	**-0.7**
	407nm,0.4s							
EGRO	**El Granado**	**2.67**	**293**	⇓P		**Pn**	**07 01 44.5**	**+2.1**
	95nm,0.1s,SNR=18							
EGRO				S		**Sn**	**07 02 13.3**	**-1.0**
	441nm,0.3s,SNR=33							
EGRO	**El Granado**	**2.67**	**293**	P		**Pn**	**07 01 44.5**	**+2.1**
	95nm,0.1s,SNR=18							
EGRO				S		**Sn**	**07 02 13.3**	**-1.0**
	441nm,0.3s,SNR=33							
PBAR	**Barrancos**	**2.68**	**309**	*e*P		**Pn**	**07 01 44.7**	**+2.2**
PBAR				*e*S		**Sn**	**07 02 14.2**	**-0.3**
PBAR				A		A	07 02 16.3	
	491nm,0.3s							
PBAR	**Barrancos**	**2.68**	**309**	P		**Pn**	**07 01 44.7**	**+2.2**
PBAR				S		**Sn**	**07 02 14.2**	**-0.3**
	491nm,0.3s							
PBAR	**Barrancos**	**2.68**	**309**	*e*P		**Pn**	**07 01 44.7**	**+2.2**
PBAR				S		**Sn**	**07 02 14.2**	**-0.3**
	491nm,0.3s							
PVAQ	**Vaqueiros**	**2.81**	**289**	*e*P		**Pn**	**07 01 46.1**	**+1.9**
PVAQ				*e*S		**Sn**	**07 02 16.5**	**-1.0**
PVAQ				A		A	07 02 18.3	
	648nm,0.3s							
PVAQ	**Vaqueiros**	**2.81**	**289**	P		**Pn**	**07 01 46.1**	**+1.9**
PVAQ				S		**Sn**	**07 02 16.5**	**-1.0**
	648nm,0.3s							
PVAQ	**Vaqueiros**	**2.81**	**289**	*e*P		**Pn**	**07 01 46.1**	**+1.9**
PVAQ				*e*S		**Sn**	**07 02 16.5**	**-1.0**
	648nm,0.3s							
EMUR	**La Murta**	**2.84**	**61**	P		**Pn**	**07 01 47.3**	**+2.6**
	11nm,0.2s,SNR=10							
EMUR				S		**Sn**	**07 02 19.7**	**+1.3**
	37nm,0.3s,SNR=5.2							
EMUR	**La Murta**	**2.84**	**61**	P		**Pn**	**07 01 47.3**	**+2.6**
	11nm,0.2s,SNR=10							
EMUR				S		**Sn**	**07 02 19.7**	**+1.3**
	37nm,0.3s,SNR=5.2							
PBDV	**Barranco-do-Ve**	**2.93**	**285**	*e*P		**Pn**	**07 01 48.2**	**+2.4**
PBDV				*e*S		**Sn**	**07 02 19.8**	**-0.6**
PBDV				A		A	07 02 22.3	
	309nm,0.3s							
PBDV	**Barranco-do-Ve**	**2.93**	**285**	P		**Pn**	**07 01 48.2**	**+2.4**
PBDV				S		**Sn**	**07 02 19.8**	**-0.6**
	309nm,0.3s							
PBDV	**Barranco-do-Ve**	**2.93**	**285**	*e*P		**Pn**	**07 01 48.2**	**+2.4**
PBDV				S		**Sn**	**07 02 19.8**	**-0.6**
	309nm,0.3s							
EBAD	**Badajoz**	**3.05**	**318**	⇑P		**Pn**	**07 01 49.9**	**+2.4**
	169nm,0.1s,SNR=18							
EBAD				S		**Sn**	**07 02 23.3**	**0.0**
	388nm,0.3s							
EBAD	**Badajoz**	**3.05**	**318**	P		**Pn**	**07 01 49.9**	**+2.4**
	169nm,0.1s,SNR=18							
EBAD				S		**Sn**	**07 02 23.3**	**0.0**
	388nm,0.3s							
ETOB	**Tobarra**	**3.10**	**46**	⇑P		**Pn**	**07 01 50.8**	**+2.6**
	33nm,0.1s,SNR=18							
ETOB				S		**Sn**	**07 02 24.3**	**-0.3**
	93nm,0.2s							
ETOB	**Tobarra**	**3.10**	**46**	P		**Pn**	**07 01 50.8**	**+2.6**
	33nm,0.1s,SNR=18							
ETOB				S		**Sn**	**07 02 24.3**	**-0.3**
	93nm,0.2s							
PCVE	**Castro Verde**	**3.12**	**292**	*e*P		**Pn**	**07 01 50.5**	**+2.1**
PCVE				*e*S		**Sn**	**07 02 24.4**	**-0.6**
PCVE				A		A	07 02 26.0	
	564nm,0.2s							
PCVE	**Castro Verde**	**3.12**	**292**	P		**Pn**	**07 01 50.5**	**+2.1**
PCVE				S		**Sn**	**07 02 24.4**	**-0.6**
	564nm,0.2s							
PCVE	**Castro Verde**	**3.12**	**292**	*e*P		**Pn**	**07 01 50.5**	**+2.1**
PCVE				S		**Sn**	**07 02 24.4**	**-0.6**
	564nm,0.2s							
PBEJ	**Beja**	**3.15**	**300**	*e*P		**Pn**	**07 01 51.2**	**+2.4**
PBEJ				*e*S		**Sn**	**07 02 24.9**	**-0.9**
PBEJ				A		A	07 02 27.1	
	668nm,0.5s							
PBEJ	**Beja**	**3.15**	**300**	⇓P		**Pn**	**07 01 51.2**	**+2.4**
PBEJ				S		**Sn**	**07 02 24.9**	**-0.9**
	334nm,0.5s							
PBEJ	**Beja**	**3.15**	**300**	P		**Pn**	**07 01 51.2**	**+2.4**
PBEJ				*e*S		**Sn**	**07 02 24.9**	**-0.9**
	668nm,0.5s							
ESDC	**Sonseca Array**	**3.17**	**6**	⇑P		**Pn**	**07 01 51.7**	**+2.6**
	17nm,0.2s,baz=183,slow=12,SNR=18							
ESDC				S		**Sn**	**07 02 26.0**	**-0.2**
	28nm,0.2s,baz=189,slow=23,SNR=13							
ESDC	**Sonseca Array**	**3.17**	**6**	P		**Pn**	**07 01 51.7**	**+2.6**
	17nm,0.2s,SNR=18							
ESDC				S		**Sn**	**07 02 26.0**	**-0.2**
	28nm,0.2s,SNR=13							
MIF	**Mishlifen**	**3.18**	**193**	P		**Pn**	**07 01 50.0**	**+0.6**
MIF				S		**Sn**	**07 02 24.0**	**-2.7**
MIF	**Mishlifen**	**3.18**	**193**	*i* P		**Pn**	**07 01 50.0**	**+0.6**
MIF				*i* S		**Sn**	**07 02 24.0**	**-2.7**
RTC	**Rabat Centre**	**3.23**	**219**	P		**Pn**	**07 01 51.0**	**+1.1**
RTC				S		**Sn**	**07 02 24.0**	**-3.6**
RTC	**Rabat Centre**	**3.23**	**219**	*i* P		**Pn**	**07 01 51.0**	**+1.1**
RTC				*i* S		**Sn**	**07 02 24.0**	**-3.6**
PESTR	**Estremoz**	**3.46**	**314**	*e*P		**Pn**	**07 01 55.5**	**+2.6**
PESTR				*e*S		**Sn**	**07 02 32.6**	**-0.4**
PESTR				A		A	07 02 35.7	
	143nm,0.2s							
PESTR	**Estremoz**	**3.46**	**314**	P		**Pn**	**07 01 55.5**	**+2.6**
PESTR				S		**Sn**	**07 02 32.6**	**-0.4**
	71nm,0.2s							
PESTR	**Estremoz**	**3.46**	**314**	*e*P		**Pn**	**07 01 55.5**	**+2.6**
PESTR				*e*S		**Sn**	**07 02 32.6**	**-0.4**
	143nm,0.2s							
MORF	**Marmelete**	**3.50**	**284**	*e*P		**Pn**	**07 01 55.6**	**+2.1**
MORF				*e*S		**Sn**	**07 02 33.1**	**-1.1**
MORF				A		A	07 02 34.8	
	456nm,0.1s							
MORF	**Marmelete**	**3.50**	**284**	⇓P		**Pn**	**07 01 55.6**	**+2.1**
MORF				S		**Sn**	**07 02 33.1**	**-1.1**
	456nm,0.1s							
MORF	**Marmelete**	**3.50**	**284**	P		**Pn**	**07 01 55.6**	**+2.1**
MORF				*e*S		**Sn**	**07 02 33.1**	**-1.1**
	456nm,0.1s							
EVO	**Evora**	**3.51**	**306**	*e*P		Pn	07 01 57.0	+3.4
EVO				*e*Sn		**Sn**	**07 02 35.0**	**+0.7**
	228nm,0.2s							
EVO	**Evora**	**3.51**	**306**	*e*P		**Pn**	**07 01 56.3**	**+2.7**
EVO				*e*S		**Sn**	**07 02 33.9**	**-0.4**
EVO				A		A	07 02 36.4	
	572nm,0.1s							
EVO	**Evora**	**3.51**	**306**	P		**Pn**	**07 01 56.3**	**+2.7**
EVO				S		**Sn**	**07 02 33.9**	**-0.4**
	572nm,0.1s							
EVO	**Evora**	**3.51**	**306**	*e*P		**Pn**	**07 01 56.3**	**+2.7**
EVO				*e*S		**Sn**	**07 02 33.9**	**-0.4**
	572nm,0.1s							
CZD	**Col de Zad**	**3.52**	**189**	P		**Pn**	**07 01 56.0**	**+2.0**
CZD				S		**Sn**	**07 02 34.0**	**-0.9**
CZD	**Col de Zad**	**3.52**	**189**	*i* P		**Pn**	**07 01 56.0**	**+2.0**
CZD				*i* S		**Sn**	**07 02 34.0**	**-0.9**
EVOP	**Sao Brissos**	**3.58**	**305**	*e*P		**Pn**	**07 01 57.0**	**+2.5**
EVOP				*e*Sn		**Sn**	**07 02 35.0**	**-1.0**
	114nm,0.2s							
PTEO	**Sao Teotonio**	**3.62**	**288**	*e*P		**Pn**	**07 01 57.4**	**+2.4**
PTEO				*e*S		**Sn**	**07 02 36.2**	**-0.6**
PTEO				A		A	07 02 40.0	
	330nm,0.3s							
PTEO	**Sao Teotonio**	**3.62**	**288**	P		**Pn**	**07 01 57.4**	**+2.4**
PTEO				S		**Sn**	**07 02 36.2**	**-0.6**
	165nm,0.3s							
PTEO	**Sao Teotonio**	**3.62**	**288**	*e*P		**Pn**	**07 01 57.4**	**+2.4**
PTEO				S		**Sn**	**07 02 36.2**	**-0.6**
	165nm,0.3s							
PNCL	**Nicolau / Gran**	**3.66**	**297**	*e*P		**Pn**	**07 01 58.0**	**+2.4**
PNCL				*e*S		**Sn**	**07 02 36.5**	**-1.4**
PNCL				A		A	07 02 38.7	
	236nm,0.2s							
PMRV	**Marv??o**	**3.75**	**322**	*e*P		**Pn**	**07 01 59.5**	**+2.7**
PMRV				*e*S		**Sn**	**07 02 39.8**	**-0.3**
PMRV				A		A	07 02 52.8	
	145nm,0.5s							
PMRV	**Marv??o**	**3.75**	**322**	P		**Pn**	**07 01 59.5**	**+2.7**
PMRV				S		**Sn**	**07 02 39.8**	**-0.3**
	145nm,0.5s							
PMRV	**Marv??o**	**3.75**	**322**	*e*P		**Pn**	**07 01 59.5**	**+2.7**
PMRV				*e*S		**Sn**	**07 02 39.8**	**-0.3**
	145nm,0.5s							
EPLA	**Plasencia**	**3.78**	**340**	⇑P		**Pn**	**07 02 00.2**	**+2.9**
	18nm,0.1s,SNR=18							
EPLA				S		**Sn**	**07 02 40.7**	**-0.2**
	120nm,0.4s,SNR=30							
EPLA	**Plasencia**	**3.78**	**340**	P		**Pn**	**07 02 00.2**	**+2.9**
	18nm,0.1s,SNR=18							
EPLA				S		**Sn**	**07 02 40.7**	**-0.2**
	120nm,0.4s,SNR=30							
EBEN	**Beniarda**	**3.96**	**55**	P		Pn	07 02 03.0	+3.3
	2.2nm,0.1s,SNR=22							
EBEN				S		**Sn**	**07 02 45.3**	**0.0**
	19nm,0.3s,SNR=12							
EBEN	**Beniarda**	**3.96**	**55**	P		Pn	07 02 03.0	+3.3
	2.2nm,0.1s,SNR=22							
EBEN				S		**Sn**	**07 02 45.3**	**0.0**
	19nm,0.3s,SNR=12							
PMTG	**Montargil**	**3.96**	**311**	*e*P		**Pn**	**07 02 02.1**	**+2.4**
PMTG				*e*S		**Sn**	**07 02 44.4**	**-0.8**
PMTG				A		A	07 02 59.8	
	107nm,0.2s							
PMTG	**Montargil**	**3.96**	**311**	*e*P		**Pn**	**07 02 02.1**	**+2.4**
PMTG				*e*S		**Sn**	**07 02 44.4**	**-0.8**
	107nm,0.2s							
OKGL	**Djebel Kef Gue**	**4.10**	**95**	P		**Pn**	**07 02 03.9**	**+2.4**
	43nm,0.1s,SNR=7.9							
OKGL				S		**Sn**	**07 02 48.1**	**-0.4**
	86nm,0.4s,SNR=7.9							
OKGL	**Djebel Kef Gue**	**4.10**	**95**	P		**Pn**	**07 02 03.9**	**+2.4**
	43nm,0.1s,SNR=7.9							
OKGL				S		**Sn**	**07 02 48.1**	**-0.4**
	86nm,0.4s,SNR=7.9							

MTE				*e*S		**Sn**	**07 02 59.9**	**-0.7**
	comp=N,122nm,0.5s							
TZC	**Tazercounte**	**4.69**	**202**	P		**Pn**	**07 02 11.0**	**+1.3**
TZC				S		**Sn**	**07 03 00.0**	**-3.1**
TZC	**Tazercounte**	**4.69**	**202**	*i* P		**Pn**	**07 02 11.0**	**+1.3**
TZC				*i* S		**Sn**	**07 03 00.0**	**-3.1**
PCAS	**Casmilo, Conde**	**4.79**	**319**	*e*P		**Pn**	**07 02 13.3**	**+2.5**
PCAS				*e*S		**Sn**	**07 03 03.4**	**-1.6**
PCAS				A		A	07 03 09.6	
	comp=N,85nm,0.3s							
PCAS	**Casmilo, Conde**	**4.79**	**319**	*e*P		**Pn**	**07 02 13.3**	**+2.5**
PCAS				*e*S		**Sn**	**07 03 03.4**	**-1.6**
	comp=N,85nm,0.3s							
EMOS	**Mosqueruela**	**4.92**	**38**	P		Pn	07 02 16.1	+3.3
	comp=N,3.2nm,0.1s,SNR=47							
EMOS				S		**Sn**	**07 03 06.6**	**-2.0**
	comp=N,24nm,0.3s,SNR=14							
EMOS	**Mosqueruela**	**4.92**	**38**	P		Pn	07 02 16.1	+3.3
	comp=N,3.2nm,0.1s,SNR=47							
EMOS				S		**Sn**	**07 03 06.6**	**-2.0**
	comp=N,24nm,0.3s,SNR=14							
PVIS	**Viseu**	**5.01**	**328**	*e*P		**Pn**	**07 02 16.7**	**+2.9**
PVIS				*e*S		**Sn**	**07 03 09.3**	**-1.2**
PVIS				A		A	07 03 13.5	
	comp=N,79nm,0.1s							
PVIS	**Viseu**	**5.01**	**328**	P		**Pn**	**07 02 16.7**	**+2.9**
PVIS				S		**Sn**	**07 03 09.3**	**-1.2**
	comp=N,39nm,0.1s							
PVIS	**Viseu**	**5.01**	**328**	*e*P		**Pn**	**07 02 16.7**	**+2.9**
PVIS				*e*S		**Sn**	**07 03 09.3**	**-1.2**
	comp=N,79nm,0.1s							
MVO	**Moncorvo**	**5.08**	**337**	*e*P		**Pn**	**07 02 17.6**	**+2.8**
MVO				*e*S		**Sn**	**07 03 10.9**	**-1.3**
MVO				A		A	07 03 36.7	
	comp=N,73nm,0.2s							
MVO	**Moncorvo**	**5.08**	**337**	P		**Pn**	**07 02 17.6**	**+2.8**
	comp=N,23nm,0.1s,SNR=76							
MVO				S		**Sn**	**07 03 11.8**	**-0.4**
	comp=N,31nm,0.3s,SNR=7.0							
MVO	**Moncorvo**	**5.08**	**337**	P		**Pn**	**07 02 17.6**	**+2.8**
	comp=N,23nm,0.1s,SNR=76							
MVO				*e*S		**Sn**	**07 03 10.9**	**-1.3**
	comp=N,73nm,0.2s							
EIBI	**Ibiza**	**5.19**	**59**	P		Pn	07 02 19.7	+3.5
	comp=N,6.6nm,0.2s,SNR=7.9							
EIBI				S		**Sn**	**07 03 14.8**	**0.0**
	comp=N,5.1nm,0.2s,SNR=7.9							
EIBI	**Ibiza**	**5.19**	**59**	P		Pn	07 02 19.7	+3.5
	comp=N,6.6nm,0.2s,SNR=7.9							
EIBI				S		**Sn**	**07 03 14.8**	**0.0**
	comp=N,5.1nm,0.2s,SNR=7.9							
PVRL	**Vila Real**	**5.41**	**332**	*e*P		Pn	07 02 22.5	+3.2
PVRL				*e*S		**Sn**	**07 03 19.1**	**-1.2**
PVRL				A		A	07 03 23.4	
	comp=N,340nm,0.1s							
PVRL	**Vila Real**	**5.41**	**332**	P		Pn	07 02 22.5	+3.2
PVRL				S		**Sn**	**07 03 19.1**	**-1.2**
	comp=N,170nm,0.1s							
PVRL	**Vila Real**	**5.41**	**332**	*e*P		Pn	07 02 22.5	+3.2
POLO	**Lamas de Olo**	**5.53**	**332**	*e*P		Pn	07 02 24.2	+3.3
POLO				*e*S		**Sn**	**07 03 21.9**	**-1.3**
POLO				A		A	07 03 26.1	
	comp=N,27nm,0.5s							
POLO	**Lamas de Olo**	**5.53**	**332**	*e*P		Pn	07 02 24.2	+3.3
PBRG	**Braganca**	**5.59**	**342**	*e*P		Pn	07 02 25.1	+3.4
PBRG				*e*S		**Sn**	**07 03 23.0**	**-1.5**
PBRG				A		A	07 03 26.3	
	comp=N,35nm,0.4s							
PBRG	**Braganca**	**5.59**	**342**	P		Pn	07 02 25.1	+3.4
PBRG				S		**Sn**	**07 03 23.0**	**-1.5**
	comp=N,17nm,0.4s							
PBRG	**Braganca**	**5.59**	**342**	*e*P		Pn	07 02 25.1	+3.4
PTO	**Porto**	**5.67**	**326**	*e*S		**Sn**	**07 03 25.2**	**-1.1**
PTO	**Porto**	**5.67**	**326**	S		**Sn**	**07 03 25.2**	**-1.1**
ECAL	**Calabor**	**5.71**	**342**	P		Pn	07 02 26.9	+3.5
	comp=N,8.4nm,0.1s,SNR=43							
ECAL				S		**Sn**	**07 03 27.3**	**-0.3**
	comp=N,50nm,0.4s,SNR=6.6							
ECAL	**Calabor**	**5.71**	**342**	P		Pn	07 02 26.9	+3.5
	comp=N,8.4nm,0.1s,SNR=43							
ERTA	**Horta de San J**	**5.77**	**38**	P		Pn	07 02 27.7	+3.6
	comp=N,3.5nm,0.1s,SNR=7.9							
ERTA				S		**Sn**	**07 03 28.2**	**-0.8**
	comp=N,15nm,0.3s,SNR=5.9							
ERTA	**Horta de San J**	**5.77**	**38**	P		Pn	07 02 27.7	+3.6
	comp=N,3.5nm,0.1s,SNR=7.9							
PCAB	**Cabril**	**5.91**	**333**	*e*P		Pn	07 02 29.4	+3.4
PCAB				*e*S		**Sn**	**07 03 30.8**	**-1.5**
PCAB				A		A	07 03 35.1	
	comp=N,88nm,0.1s							
PCAB	**Cabril**	**5.91**	**333**	P		Pn	07 02 29.4	+3.4
PCAB				S		**Sn**	**07 03 30.8**	**-1.5**
	comp=N,44nm,0.1s							
PCAB	**Cabril**	**5.91**	**333**	*e*P		Pn	07 02 29.4	+3.4
ESAC	**San Caprasio**	**6.03**	**29**	P		Pn	07 02 31.1	+3.5
	comp=N,7.2nm,0.1s,SNR=7.2							
ESAC				S		**Sn**	**07 03 37.2**	**+2.0**
	comp=N,47nm,0.2s,SNR=6.4							
ESAC	**San Caprasio**	**6.03**	**29**	P		Pn	07 02 31.1	+3.5
	comp=N,7.2nm,0.1s,SNR=7.2							
ESAC				S		**Sn**	**07 03 37.2**	**+2.0**
	comp=N,47nm,0.2s,SNR=6.4							
ELOB	**Lobios**	**6.05**	**333**	P		Pn	07 02 31.2	+3.2
	comp=N,3.1nm,0.1s,SNR=12							
ELOB				S		**Sn**	**07 03 34.4**	**-1.6**
	comp=N,30nm,0.4s,SNR=9.9							
ELOB	**Lobios**	**6.05**	**333**	P		Pn	07 02 31.2	+3.2
	comp=N,3.1nm,0.1s,SNR=12							
CIA	**Chichaoua**	**6.13**	**218**	P		**Pn**	**07 02 30.0**	**+1.0**
CIA				S		**Sn**	**07 03 33.0**	**-4.7**
CIA	**Chichaoua**	**6.13**	**218**	*i* P		**Pn**	**07 02 30.0**	**+1.0**
PGAV	**Gavieira, Arco**	**6.22**	**332**	*e*P		Pn	07 02 33.8	+3.6
PGAV				*e*S		**Sn**	**07 03 38.0**	**-1.9**
PGAV				A		A	07 03 42.9	
	comp=N,39nm,0.2s							
PGAV	**Gavieira, Arco**	**6.22**	**332**	*e*P		Pn	07 02 33.8	+3.6
EPOB	**Poblet**	**6.44**	**40**	⇓P		Pn	07 02 36.5	+3.2
	comp=N,12nm,0.3s,SNR=18							
EPOB				S		**Sn**	**07 03 43.7**	**-1.6**
	comp=N,11nm,0.3s,SNR=13							
EPOB	**Poblet**	**6.44**	**40**	P		Pn	07 02 36.5	+3.2
	comp=N,12nm,0.3s,SNR=18							
ETOS	**Mallorca**	**6.54**	**58**	P		Pn	07 02 39.1	+4.5
	comp=N,2.3nm,0.3s,SNR=5.5							
ETOS				S		**Sn**	**07 03 46.1**	**-1.6**
	comp=N,1.4nm,0.2s,SNR=7.9							
ETOS	**Mallorca**	**6.54**	**58**	P		Pn	07 02 39.1	+4.5
	comp=N,2.3nm,0.3s,SNR=5.5							
EARA	**Aranguren**	**6.61**	**18**	P		Pn	07 02 39.4	+3.8
	comp=N,2.8nm,0.1s,SNR=7.9							
EARA				S		**Sn**	**07 03 48.2**	**-1.2**
	comp=N,10nm,0.2s,SNR=7.9							
EARA	**Aranguren**	**6.61**	**18**	P		Pn	07 02 39.3	+3.8
	comp=N,2.8nm,0.1s,SNR=7.9							
IUNC	**Unciti**	**6.62**	**19**	P		Pn	07 02 39.2	+3.6
	comp=N,15nm,0.2s,SNR=7.9							
IUNC				S		**Sn**	**07 03 48.7**	**-0.9**
	comp=N,12nm,0.2s,SNR=7.9							
IUNC	**Unciti**	**6.62**	**19**	P		Pn	07 02 39.2	+3.6
	comp=N,15nm,0.2s,SNR=7.9							
IEPA	**Eparoz**	**6.70**	**20**	P		Pn	07 02 40.8	+4.0
	comp=N,19nm,0.2s,SNR=7.9							
IEPA				S		**Sn**	**07 03 51.0**	**-0.7**
	comp=N,8.5nm,0.2s,SNR=7.9							
IEPA	**Eparoz**	**6.70**	**20**	P		Pn	07 02 40.8	+4.0
	comp=N,19nm,0.2s,SNR=7.9							
ELAN	**Lanestosa**	**6.75**	**6**	P		Pn	07 02 40.9	+3.6
	comp=N,11nm,0.2s,SNR=27							
ELAN				S		**Sn**	**07 03 52.0**	**-0.5**
	comp=N,3.2nm,0.3s,SNR=6.2							
ELAN	**Lanestosa**	**6.75**	**6**	P		Pn	07 02 40.9	+3.6
	comp=N,11nm,0.2s,SNR=27							
IELO	**Elcoad**	**6.77**	**20**	⇓P		Pn	07 02 41.0	+3.3
	comp=N,12nm,0.1s,SNR=18							
IELO				S		**Sn**	**07 03 52.7**	**-0.5**
	comp=N,13nm,0.3s,SNR=7.9							
IELO	**Elcoad**	**6.77**	**20**	P		Pn	07 02 41.0	+3.3
	comp=N,12nm,0.1s,SNR=18							
IUSE	**Utxeti**	**6.78**	**18**	P		Pn	07 02 41.6	+3.7
	comp=N,11nm,0.2s,SNR=7.9							
IUSE				S		**Sn**	**07 03 53.3**	**-0.4**
	comp=N,3.2nm,0.1s,SNR=7.9							
IUSE	**Utxeti**	**6.78**	**18**	P		Pn	07 02 41.6	+3.7
	comp=N,11nm,0.2s,SNR=7.9							
EARI	**Arriondas**	**6.80**	**355**	P		Pn	07 02 41.9	+3.8
	comp=N,3.7nm,0.1s,SNR=47							
EARI				S		**Sn**	**07 03 52.6**	**-1.5**
	comp=N,5.9nm,0.4s,SNR=6.8							
EARI	**Arriondas**	**6.80**	**355**	P		Pn	07 02 41.9	+3.8
	comp=N,3.7nm,0.1s,SNR=47							
ELIZ	**Elizondo**	**6.99**	**17**	P		Pn	07 02 44.3	+3.6
	comp=N,23nm,0.3s,SNR=42							
ELIZ				S		**Sn**	**07 03 56.7**	**-1.9**
	comp=N,15nm,0.3s,SNR=11							
ELIZ	**Elizondo**	**6.99**	**17**	P		Pn	07 02 44.3	+3.6
	comp=N,23nm,0.3s,SNR=42							
LARF	**Larrau**	**7.02**	**21**	P		**Pn**	**07 02 41.7**	**+0.6**
LARF				S		**Sn**	**07 03 58.7**	**-0.6**
LARF	**Larrau**	**7.02**	**21**	P		**Pn**	**07 02 41.7**	**+0.6**
LARF				S		**Sn**	**07 03 58.7**	**-0.6**
ETSF	**Etsaut**	**7.02**	**24**	*e*P		Pn	07 02 44.9	+3.7
ETSF				*e*Sn		**Sn**	**07 03 58.1**	**-1.4**
	comp=N,10nm,0.2s							
ETSF	**Etsaut**	**7.02**	**24**	P		Pn	07 02 44.9	+3.7
SJPF	**Ste Jean**	**7.02**	**19**	*e*P		Pn	07 02 44.3	+3.2
SJPF				*e*Sn		**Sn**	**07 03 57.5**	**-1.9**
	comp=N,28nm,0.4s							
SJPF	**Ste Jean**	**7.02**	**19**	P		Pn	07 02 44.3	+3.2
EALK	**Alkurruntz**	**7.05**	**17**	P		Pn	07 02 45.2	+3.8
	comp=N,37nm,0.3s,SNR=52							
EALK				S		**Sn**	**07 03 58.7**	**-1.3**
	comp=N,12nm,0.3s,SNR=4.9							
EALK	**Alkurruntz**	**7.05**	**17**	P		Pn	07 02 45.2	+3.8
	comp=N,37nm,0.3s,SNR=52							
EMIR	**Miracle**	**7.08**	**39**	⇓P		Pn	07 02 45.4	+3.5
	comp=N,17nm,0.2s,SNR=18							
EMIR				S		**Sn**	**07 03 59.9**	**-1.0**
	comp=N,4.2nm,0.2s,SNR=7.9							
EMIR	**Miracle**	**7.08**	**39**	P		Pn	07 02 45.4	+3.5
	comp=N,17nm,0.2s,SNR=18							
EBIE	**Bielsa**	**7.08**	**28**	P		Pn	07 02 45.4	+3.2
	comp=N,2.2nm,0.1s,SNR=16							
EBIE				S		**Sn**	**07 03 60.0**	**-1.2**
	comp=N,4.0nm,0.3s,SNR=7.1							
EBIE	**Bielsa**	**7.08**	**28**	P		Pn	07 02 45.4	+3.2
	comp=N,2.2nm,0.1s,SNR=16							
STS	**Santiago**	**7.12**	**335**	S		**Sn**	**07 04 00.5**	**-1.3**
	comp=N,13nm,0.4s,SNR=6.6							
EPON	**Pontenova**	**7.12**	**344**	P		Pn	07 02 46.8	+4.3
	comp=N,6.5nm,0.2s,SNR=12							
EPON				S		**Sn**	**07 03 59.6**	**-2.2**
	SNR=7.9							
EPON	**Pontenova**	**7.12**	**344**	P		Pn	07 02 46.8	+4.3
	comp=N,6.5nm,0.2s,SNR=12							
OSSF	**Osses**	**7.15**	**19**	P		**Pn**	**07 02 43.1**	**+0.3**
OSSF				S		**Sn**	**07 04 02.2**	**-0.2**
OSSF	**Osses**	**7.15**	**19**	P		**Pn**	**07 02 43.1**	**+0.3**
OSSF				S		**Sn**	**07 04 02.2**	**-0.2**
ATE	**Arette**	**7.15**	**22**	P		**Pn**	**07 02 42.2**	**-0.6**
ATE	**Arette**	**7.15**	**22**	P		**Pn**	**07 02 42.2**	**-0.6**
ORDF	**Ordiarp**	**7.20**	**21**	P		**Pn**	**07 02 44.0**	**+0.6**
ORDF				S		**Sn**	**07 04 02.5**	**-1.0**
ORDF	**Ordiarp**	**7.20**	**21**	P		**Pn**	**07 02 44.0**	**+0.6**
ORDF				S		**Sn**	**07 04 02.5**	**-1.0**
VIEF	**Viey**	**7.21**	**27**	P		**Pn**	**07 02 44.6**	**+0.9**
VIEF	**Viey**	**7.21**	**27**	P		**Pn**	**07 02 44.6**	**+0.9**
REYF	**Montagne du Re**	**7.23**	**24**	P		**Pn**	**07 02 44.1**	**+0.1**
REYF	**Montagne du Re**	**7.23**	**24**	P		**Pn**	**07 02 44.1**	**+0.1**
CSOR	**Sort**	**7.24**	**34**	⇓P		**Pn**	**07 02 47.2**	**+3.0**
	comp=N,4.9nm,0.2s,SNR=18							
CSOR				S		**Sn**	**07 04 03.2**	**-1.8**
	comp=N,7.3nm,0.3s,SNR=11							
CSOR	**Sort**	**7.24**	**34**	P		**Pn**	**07 02 47.2**	**+3.0**
	comp=N,4.9nm,0.2s,SNR=18							
LABF	**Labassere**	**7.37**	**26**	P		**Pn**	**07 02 46.6**	**+0.7**
LABF	**Labassere**	**7.37**	**26**	P		**Pn**	**07 02 46.6**	**+0.7**
CFON	**Fontmartina**	**7.45**	**43**	P		Pn	07 02 50.2	+3.2
	comp=N,2.3nm,0.2s,SNR=6.7							
CFON				S		**Sn**	**07 04 07.4**	**-2.6**
	comp=N,8.6nm,0.2s,SNR=9.5							
CFON	**Fontmartina**	**7.45**	**43**	P		Pn	07 02 50.2	+3.2
	comp=N,2.3nm,0.2s,SNR=6.7							
EPF	**Esparros**	**7.45**	**28**	*e*P		**Pn**	**07 02 50.1**	**+3.1**
EPF				*e*Sn		**Sn**	**07 04 07.3**	**-2.6**
	comp=N,13nm,0.2s							
EPF	**Esparros**	**7.45**	**28**	*e*P		**Pn**	**07 02 50.1**	**+3.1**
SALF	**Salau**	**7.58**	**33**	P		**Pn**	**07 02 48.3**	**-0.4**
SALF	**Salau**	**7.58**	**33**	P		**Pn**	**07 02 48.3**	**-0.4**
VALF	**Valcebollere**	**7.69**	**38**	P		**Pn**	**07 02 50.6**	**+0.3**
VALF	**Valcebollere**	**7.69**	**38**	P		**Pn**	**07 02 50.6**	**+0.3**
CLLI	**Llivia**	**7.72**	**38**	P		Pn	07 02 54.5	+3.8
	comp=N,2.2nm,0.2s,SNR=13							
CLLI				S		**Sn**	**07 04 15.0**	**-1.6**
	comp=N,3.0nm,0.3s,SNR=6.0							
CLLI	**Llivia**	**7.72**	**38**	P		Pn	07 02 54.5	+3.8
	comp=N,2.2nm,0.2s,SNR=13							
MTLF	**Montolieu**	**8.49**	**35**	*e*Pn		**Pn**	**07 03 02.6**	**+1.5**
MTLF				*e*Sn		**Sn**	**07 04 32.4**	**-2.8**
	comp=N,3.9nm,0.3s							
MTLF	**Montolieu**	**8.49**	**35**	P		**Pn**	**07 03 02.6**	**+1.5**
LFF	**La Frestale**	**9.27**	**23**	*e*Pn		**Pn**	**07 03 12.8**	**+1.2**
LFF	**La Frestale**	**9.27**	**23**	*e*P		Pn	07 03 15.6	+4.0
LFF				*e*Sn		**Sn**	**07 04 51.3**	**-2.6**
	comp=N,7.9nm,0.3s							
LFF	**La Frestale**	**9.27**	**23**	*e*Pn		**Pn**	**07 03 12.8**	**+1.2**
LFF	**La Frestale**	**9.27**	**23**	*e*P		Pn	07 03 15.6	+4.0
CAF	**Calviac**	**9.72**	**28**	*e*Pn		**Pn**	**07 03 19.6**	**+1.8**
CAF				*e*Sn		**Sn**	**07 05 01.7**	**-3.3**
	comp=N,5.7nm,0.4s							
CAF	**Calviac**	**9.72**	**28**	P		**Pn**	**07 03 19.6**	**+1.8**
LASF	**Ste Croix**	**9.83**	**37**	*e*Pn		**Pn**	**07 03 21.6**	**+2.4**
LASF	**Ste Croix**	**9.83**	**37**	P		**Pn**	**07 03 21.6**	**+2.4**
RJF	**Les Rejaudoux**	**9.85**	**25**	*e*Pn		**Pn**	**07 03 20.6**	**+1.1**
RJF				*e*Sn		Sn	07 05 03.8	-4.2
	comp=N,4.0nm,0.3s							
RJF	**Les Rejaudoux**	**9.85**	**25**	P		**Pn**	**07 03 20.6**	**+1.1**
MFF	**Saint Martin d**	**10.56**	**16**	*e*Pn		**Pn**	**07 03 30.9**	**+1.7**
MFF				*e*Sn		Sn	07 05 21.3	-4.1
	comp=N,4.4nm,0.4s							
MFF	**Saint Martin d**	**10.56**	**16**	P		**Pn**	**07 03 30.9**	**+1.7**
TCF	**Toulx Ste Croi**	**10.94**	**25**	*e*Pn		**Pn**	**07 03 35.5**	**+1.2**
TCF				*e*Sn		Sn	07 05 30.4	-4.3
	comp=N,3.3nm,0.4s							
QUIF	**Quistinic**	**11.43**	**4**	*e*P		Pn	07 03 44.3	+3.5
QUIF				*e*Sn		Sn	07 05 41.2	-5.1
	comp=N,4.4nm,0.3s							
QUIF	**Quistinic**	**11.43**	**4**	P		Pn	07 03 44.3	+3.5
SGMF	**Saint Gilles**	**11.81**	**6**	*e*P		Pn	07 03 49.3	+3.5
SGMF				*e*Sn		Sn	07 05 50.7	-4.8
	comp=N,3.1nm,0.4s							
SGMF	**Saint Gilles**	**11.81**	**6**	P		Pn	07 03 49.3	+3.5
ROSF	**Rostrenen**	**11.84**	**4**	*e*P		Pn	07 03 49.8	+3.5
ROSF				*e*Sn		Sn	07 05 51.2	-5.1
	comp=N,3.4nm,0.2s							
ROSF	**Rostrenen**	**11.84**	**4**	P		Pn	07 03 49.8	+3.5
SMF	**Signal de Mont**	**11.84**	**29**	*e*Pn		**Pn**	**07 03 47.8**	**+1.5**
SMF	**Signal de Mont**	**11.84**	**29**	*e*Pn		**Pn**	**07 03 47.8**	**+1.5**
SSF	**Saint Saulge**	**12.06**	**27**	*e*Pn		**Pn**	**07 03 49.8**	**+0.5**
GRR	**Gorron**	**12.14**	**11**	*e*P		Pn	07 03 54.3	+4.0
GRR				*e*Sn		Sn	07 05 56.8	-6.9
	comp=N,4.1nm,0.5s							
GRR	**Gorron**	**12.14**	**11**	P		Pn	07 03 54.3	+4.0
LOR	**Lormes**	**12.37**	**27**	*e*Pn		**Pn**	**07 03 54.6**	**+1.3**
	baz=208							
LDF	**La Druitiere**	**12.47**	**13**	*e*P		Pn	07 03 58.8	+4.2
LDF	**La Druitiere**	**12.47**	**13**	*e*P		Pn	07 03 58.8	+4.2
FLN	**La Foliniere**	**12.57**	**12**	*e*Pn		**Pn**	**07 03 57.8**	**+1.9**
FLN	**La Foliniere**	**12.57**	**12**	*e*P		Pn	07 04 00.1	+4.2
FLN				*e*Sn		Sn	07 06 07.9	-6.1
	comp=N,4.8nm,0.4s							
FLN	**La Foliniere**	**12.57**	**12**	*e*Pn		**Pn**	**07 03 57.8**	**+1.9**
FLN	**La Foliniere**	**12.57**	**12**	*e*P		Pn	07 04 00.1	+4.2

NIED ***30*** *07:03:00,29.°20N×129.°90E,h38km,Mw6.7 Best double couple: M₀1.48000×10¹⁹ NP1:φs51.00000°,δ61.00000°, λ98.00000°. NP2:φs215.00000°,δ30.00000°,λ76.00000°.*

BJI ***30*** *07:03:32.0,28.°75N×130.°54E,h34km,mB6.6/48,mb5.8/65, Ms6.8/80,Ms7 6.8/74*

BGS ***30*** *07:03:33.1±1.9,28.°68N×131.°08E,h33km,mb5.5,MS7.1*

SZGRF ***30*** *07:03:36.5,29.°23N×130.°90E,h33km,mb6.3,MS7.6, Ryukyu Islands, Japan*

MOS ***30*** *07:03:37.0±1.1,29.°12N×129.°94E,h33km,mb6.3/132, MS7.0/98,Error ellipse: s-maj=6.1km s-min=3.5km az=111.2 Broadband fault plane solution: P waves. M₀4.30000×10¹⁹ NP1:φs226.00000°,δ22.00000°, λ119.00000°. NP2:φs15.00000°,δ71.00000°,λ79.00000°. Principal axes: T Plg62.0000°, Azm268.0000°; N Plg11.0000°, Azm18.0000°; P Plg25.0000°, Azm113.0000°;*

IDC ***30*** *07:03:37.7±2.1,29.°24N×129.°83E,h28km±14km,mb5.3/48, mb1 5.3/50,mb1mx5.3/50,mbtmp5.3/50,ML4.7/2,MS6.7/41, Ms1 6.7/41,ms1mx6.6/46 Error ellipse: s-maj=11.5km s-min=7.9km az=69.0*

JMA ***30*** *07:03:38.9±0.1,29.°17N×129.°94E,h60km±3km,M6.8*

JMA Felt IV J1.

ISCJB ***30*** *07:03:39.3±0.3,29.°23N±0.°01×129.°80E±0.°01,h44km±2km, mb6.1/470,MS6.9/276,Error ellipse: s-maj=2.5km s-min=1.8km az=137.9*

NEIC ***30*** *07:03:39.1±0.1,29.°22N×129.°78E,h34km,mb6.3/266, ME6.1,MS6.8/150,MW6.7,MW6.8,MW6.7(NIED), MW6.8(USGS),Error ellipse: s-maj=3.7km s-min=2.8km az=137.0 Best double couple: NP1:φs216.00000°, δ24.00000°,λ84.00000°. NP2:φs43.00000°,δ66.00000°, λ93.00000°. Principal axes: T 1.2000, Plg69.0000°, Azm317.0000°; N 0.1000, Plg2.0000°, Azm221.0000°; P -1.3000, Plg20.0000°, Azm130.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt on Okinawa. Recorded [4 JMA] on Akuseki-jima, Amami-oshima and Kikaiga-shima; [3 JMA] on Kuchinoerabu-jima, Nakano-shima, Suwanose-jima, Tanega-shima and Tokuno-shima; [2 JMA] on Io-jima, Kuchino-shima, Okinawa, Okino-erabu-shima and Yaku-shima; [1 JMA] on Takara-jima and Yoron-jima. Also recorded [2 JMA] in Kagoshima and Miyazaki and [1 JMA] in Kumamoto and Oita, Kyushu.

DJA ***30*** *07:03:45.0±1.2,29°N±4°×13°0E±°,h75km±10km,M6.6/89, mb6.1/89,mB6.8/85,MLv7.2/1,Mw(mB)6.6/85*

GCMT ***30*** *07:03:45.6±0.0,28.°97N×130.°22E,h38km,MW6.8, Moment Tensor Solution. s134,c348; s99,c272; Moment tensor: Scale 10¹⁹Nm; Mrr1.50±.01; Mθθ-0.47±.01; Mφφ-1.04±.01; Mrθ0.74±.01; Mrφ-0.76; Mθφ0.69±.01; Best double couple: M₀1.80000×10¹⁹ NP1:φs42.00000°,δ62.00000°,λ97.00000°. NP2: φs207.00000°,δ29.00000°,λ78.00000°. Principal axes: T 1.8200, Plg72.0000°, Azm328.0000°; N 0.0300, Plg6.0000°, Azm218.0000°; P -1.8500, Plg16.0000°, Azm127.0000°; Data Used: II IU CN IC G. LP body wave period 50 sec. Mantle waves from 122 sta. Surface waves: sta=133, comp=303, per= 50.*

NEIC ***30*** *07:03:56.4±0.0,29.°14N×130.°51E,h31km,Moment Tensor Solution. s153 Moment tensor: Scale 10¹⁹Nm; Mrr1.57; Mθθ-0.48; Mφφ-1.08; Mrθ0.72; Mrφ-0.63; Mθr1.16; Best double couple: M₀2.00000×10¹⁹ NP1:φs213.00000°, δ24.00000°,λ91.00000°. NP2:φs32.00000°,δ66.00000°, λ90.00000°. Principal axes: T 2.0900, Plg69.0000°, Azm301.0000°; N -0.0800, Plg0.0000°, Azm32.0000°; P -2.0000, Plg20.0000°, Azm122.0000°;*

ISC 30 07:03:39.1±0.3,29.17N±0.02×129.99E±0.03,h34km, h34km:pP-P,n2182,σ1948/2201,mb6.2/467,MS6.9/276, 379C-231D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.68**	**352**	⇓P	**Pb**		**07 03 52.9**	**+0.2**
JNN				S	**Sb**		**07 04 03.3**	**+1.4**
JAM	**Amami Oshima**	**0.82**	**204**	⇑P	**Pn**		**07 03 54.2**	**-0.1**
JAM				S	**Sb**		**07 04 05.7**	**-0.2**
JZK	**Kikaishima**	**0.85**	**181**	⇓P	**Pb**		**07 03 55.1**	**-0.4**
JZK				S	**Sb**		**07 04 08.4**	**+1.8**
JAMN	**Amaminishikomi**	**1.16**	**218**	P	**Pn**		**07 03 59.3**	**+0.3**
JAMN				S	**Sn**		**07 04 14.2**	**+0.5**
JKC	**Kuchinoerabu**	**1.30**	**8**	⇓P	**Pn**		**07 04 01.3**	**+0.4**
JKC				S	**Sn**		**07 04 18.1**	**+0.9**
JTK	**Tokunoshima**	**1.65**	**214**	⇓P	**Pn**		**07 04 06.5**	**+0.8**
JTK				S	**Sn**		**07 04 25.1**	**-0.7**
JTN	**Tanegashima 3**	**1.71**	**30**	⇑P	**Pn**		**07 04 07.4**	**+0.8**
JTN				S	**Sn**		**07 04 27.4**	**0.0**
JTSR	**Tashiro 2**	**2.15**	**22**	⇑P	**Pn**		**07 04 13.3**	**+0.7**
JSJ	**Shimokoshiki**	**2.51**	**355**	⇓P	**Pn**		**07 04 18.7**	**+1.1**
JNAR	**Kushima--Naru**	**2.60**	**25**	⇑P	**Pn**		**07 04 19.8**	**

QZH S **Sn** **07 08 14.0 -1.7**
QZH LR LR
comp=Z,398μm,13.6s
QZH LR LR
comp=Z,242μm,12.2s
QZH LR LR
comp=Z,808μm,25.0s
DL2 Dalian 11.93 327 P Pn 07 06 31.3 +4.6
DL2 S Sn 07 08 45.5 +7.0
DL2 AMB AMB
comp=Z,830nm,1.5s
DL2 AMB AMB
comp=Z,18μm,4.8s
DL2 LR LR
comp=Z,227μm,16.5s
DL2 LR LR
comp=Z,248μm,17.1s
DL2 LR LR
comp=Z,367μm,18.8s
TIA Tai'an 12.90 306 ⇑P P 07 06 46.8 -3.6
TIA AMB AMB
comp=Z,420nm,1.2s
TIA AMB AMB
comp=Z,88μm,11.8s
TIA LR LR
comp=Z,321μm,21.0s
TIA LR LR
comp=Z,441μm,21.0s
TIA LR LR
comp=Z,570μm,17.6s
WHN Wuhan 13.64 280 ⇑P Pn 07 06 54.3 +4.1
WHN sP 07 07 04.8
WHN S **S** **07 09 37.0 -5.6**
WHN LR LR
comp=Z,556μm,22.1s
WHN LR LR
comp=Z,495μm,17.8s
WHN LR LR
comp=Z,804μm,21.8s
SNY Shenyang 13.66 339 ⇑P P 07 06 55.5 -3.2
SNY S Sn 07 09 30.8 +10
SNY AMB AMB
comp=Z,560nm,2.4s
SNY LR LR
comp=Z,483μm,16.8s
SNY LR LR
comp=Z,264μm,15.6s
SNY LR LR
comp=Z,563μm,15.9s
VLA Vladivostok 14.01 6*c i*P **Pn** **07 06 57.6 +2.5**
VLA *i* S **Sn** **07 09 32.1 +2.8**
CN2 Changchun 15.05 347 *e*P **Pn** **07 07 11.3 +2.1**
CN2 *es*P **sP** **07 07 23.5 -3.9**
CN2 *e*S **Sn** **07 09 57.0 +2.3**
CN2 AMB AMB
comp=Z,50nm,1.0s
CN2 AMB AMB
comp=Z,35μm,10.0s
CN2 LR LR
comp=Z,64μm,19.0s
CN2 LR LR
comp=Z,32μm,19.0s
CN2 LR LR
comp=Z,65μm,18.0s
USRK Ussuriysk Arra 15.09 6 Pn **P** **07 07 12.5 -2.1**
comp=Z,2.2nm,0.3s,baz=174,slow=9.4,SNR=22
USRK LR LR 07 13 16.1
comp=Z,263μm,20.8s,baz=174,slow=38
MDJ Mudanjiang 15.42 359 P **Pn** **07 07 15.3 +1.2**
MDJ S **Sn** **07 10 07.5 +3.7**
MDJ PcP **PcP** **07 12 13.3 -3.2**
MDJ ScS **ScS** **07 19 23.8 -2.4**
MDJ AMB AMB
comp=Z,13μm,8.0s
MDJ LR LR
comp=Z,134μm,20.7s
MDJ LR LR
comp=Z,153μm,18.0s
MDJ LR LR
comp=Z,253μm,20.5s
MDJ Mudanjiang 15.42 359 *e*P **P** **07 07 16.5 -1.8**
comp=Z,2μm,2.0s
BJT Baijiatuan 15.68 317 *e*P **P** **07 07 22.6 +1.4**
comp=Z,2μm,0.9s
BJI Beijing 15.69 317 P **P** **07 07 20.5 -0.8**
BJI S **S** **07 10 24.8 +0.3**
BJI ScS **ScS** **07 19 21.5 -5.6**
BJI AMB AMB
comp=Z,780nm,2.3s
BJI AMB AMB
comp=Z,116μm,12.6s
BJI LR LR
comp=Z,522μm,20.7s
BJI LR LR
comp=Z,269μm,18.1s
BJI LR LR
comp=Z,384μm,25.2s
HKC Hong Kong Obse 15.79 248 ⇑*i*P **Pn** **07 07 18.0 -1.0**
GZH Guangzhou 16.12 252 P Pn 07 07 17.0 -6.2
GZH sP sP 07 07 29.3 -10
GZH S Sn 07 10 11.0 -10
GZH LR LR
comp=N,419μm,19.2s
GZH LR LR
comp=E,464μm,21.0s
GZH LR LR
comp=Z,792μm,22.0s
ERM Erimo 16.68 36*d i*P **Pn** **07 07 31.1 +0.9**
ERM Erimo 16.68 36 *e*P **P** **07 07 32.3 +0.1**
comp=Z,883nm,1.6s
ERM Erimo 16.68 36 Pn **P** **07 07 32.3 +0.1**
comp=Z,1μm,0.8s,SNR=6.1
TIY Taiyuan 16.93 305 *e*P **P** **07 07 37.0 +1.9**
TIY S **Sn** **07 10 43.3 +2.8**
TIY AMB AMB
comp=Z,560nm,0.9s
TIY AMB AMB
comp=Z,22μm,3.7s
TIY LR LR
comp=Z,194μm,15.2s
TIY LR LR
comp=Z,253μm,17.9s
TIY LR LR
comp=Z,464μm,19.5s
AUQP San Andres 17.17 205 *e*P P 07 07 48.0 +10
BOAC Boac 17.36 207 *e*P **P** **07 07 41.6 +1.7**
LUBP Lubang 17.82 212 *e*P **P** **07 07 46.6 +1.6**
ENH Enshi 17.84 279 *e*P **P** **07 07 47.9 +2.7**
comp=Z,432nm,0.7s
ASAJ Asahikawa 17.99 31 *e*P **Pn** **07 07 45.2 -1.3**
comp=Z,372nm,1.2s
ASAJ Asahikawa 17.99 31 P **Pn** **07 07 45.1 -1.3**
comp=Z,4.5nm,0.3s,baz=233,slow=20,SNR=15
ASAJ LR LR 07 14 56.6
comp=Z,513μm,21.4s,baz=233,slow=38
OTRP Odiongan 18.29 206 *e*P **Pn** **07 07 53.8 +3.5**
SJMP San Jose 18.56 208 *e*P Pn 07 08 00.1 +6.5
XAN Xi'an 18.58 290 P **Pn** **07 07 55.5 +1.7**
XAN S **S** **07 11 25.5 +2.1**
XAN AMB AMB
comp=Z,250nm,1.0s
XAN LR LR
comp=Z,129μm,19.4s
XAN LR LR
comp=Z,64μm,20.3s
XAN LR LR
comp=Z,74μm,20.1s
RCP Roxas 18.78 203⇓*e*P Pn 07 08 04.2 +8.0
HHC Hu-ho-hao-te 19.02 313 *e*P **Pn** **07 08 00.5 +1.4**
HHC pP **pP** **07 08 08.5 +1.3**
HHC sP **sP** **07 08 13.0 +1.5**
HHC PP **PnPn** **07 08 17.0 +5.0**
HHC S **Sn** **07 11 26.5 -4.7**
HHC AMB AMB
comp=Z,480nm,1.3s
HHC AMB AMB
comp=Z,53μm,5.6s
HHC LR LR
comp=Z,202μm,16.7s
HHC LR LR
comp=Z,704μm,18.1s
HHC LR LR
comp=Z,838μm,16.6s
BUSP Coron 19.36 210 *e*P **Pn** **07 08 03.3 +0.1**
YUK Yuzh-Kuril'sk 19.51 36*d i*P **Pn** **07 08 06.9 +2.1**
YUK *i* S **Sn** **07 11 42.6 -0.1**

YUK pmax pmax
comp=Z,17μm,4.7s
YUK pmax pmax
comp=N,260nm,0.9s
YUK pmax pmax
comp=Z,322nm,0.9s
YUK pmax pmax
comp=E,122nm,0.4s
YUK smax smax
comp=N,51μm,9.4s
YUK smax smax
comp=E,51μm,9.4s
YUK MLR MLR
comp=N,66μm,19.0s
YUK MLR MLR
comp=Z,73μm,19.0s
YUK MLR MLR
comp=E,66μm,19.0s
LLP Lapu-Lapu 19.58 198⇓*e*P **Pn** **07 08 06.6 +0.7**
LLP *e*S **Sn** **07 11 44.4 -0.5**
HABR Khabarovsk 19.67 10 *i* P **P** **07 08 02.9 -2.2**
HABR *e*S **S** **07 11 42.7 -2.3**
HABR pmax pmax
comp=Z,233nm,2.2s
HABR MLR MLR
comp=E,241μm,18.0s
HABR MLR MLR
comp=N,122μm,18.0s
HABR MLR MLR
comp=Z,263μm,18.0s
GUIM Jordan 19.70 202 *e*P **Pn** **07 08 07.4 +0.1**
BTO Baotou 19.91 310 *e*P **Pn** **07 08 09.5 -0.2**
BTO AMB AMB
comp=Z,260nm,1.1s
CUYO Cuyo Island 20.06 207 *e*P Pn 07 08 11.3 -0.3
KLR Kul'dur 20.08 3*de*P P 07 08 04.2 -5.4
KLR *e*S Sn 07 12 13.0 +17
KLR pmax pmax
comp=Z,24μm,13.0s
YSS Yuzh-Sakhalins 20.36 26*c i*P **P** **07 08 11.0 -1.6**
YSS *i* *SP **sP** **07 08 28.0 +2.1**
YSS *e*S S 07 11 48.0 -11
YSS *e* 07 12 30.0
YSS pmax pmax
comp=Z,360nm,1.2s
YSS pmax pmax
comp=Z,5μm,4.0s
YSS MLR MLR
comp=N,149μm,19.0s
YSS MLR MLR
comp=E,131μm,19.0s
YSS MLR MLR
comp=Z,222μm,19.0s
ENPP El Nido 20.41 211 *e*P **P** **07 08 14.5 +1.1**
SNPH Sibulan 20.71 199 *e*P Pn 07 08 22.3 +3.1
GUMO Guam 20.76 135 *e*P **P** **07 08 18.1 +0.9**
comp=Z,7μm,1.6s
GUMO LR LR
comp=Z,285μm,21.0s
GYA Guiyang 20.80 268⇑*i*P **P** **07 08 17.3 -0.4**
GYA pP **pP** **07 08 27.5 +0.8**
GYA sP **sP** **07 08 34.3 +3.3**
GYA PP **PnPn** **07 08 40.5 +4.1**
GYA S **S** **07 12 07.3 -0.8**
GYA sS Sn 07 12 18.0 +3.7
GYA PcP **PcP** **07 12 27.3 +1.4**
GYA AMB AMB
comp=Z,610nm,1.0s
GYA LR LR
comp=Z,183μm,18.2s
GYA LR LR
comp=Z,172μm,20.9s
GYA LR LR
comp=Z,269μm,21.9s
QIZ Qiongzhong 20.95 246 P **P** **07 08 20.0 +0.8**
QIZ S **S** **07 12 13.3 +2.4**
QIZ LR LR
comp=Z,142μm,23.2s
QIZ LR LR
comp=Z,99μm,24.0s
QIZ LR LR
comp=Z,246μm,25.3s
QIZ Qiongzhong 20.95 246 *e*P Pn 07 08 20.9 -1.0
comp=Z,1μm,1.4s
QIZ LR LR
comp=Z,234μm,22.0s
CGP Cagayan de Oro 21.20 195 *e*P **P** **07 08 20.7 -1.2**
KUR Kuril'sk 21.37 37 *e*P **P** **07 08 24.0 +0.5**
KUR *e*S **S** **07 12 18.0 -0.9**
KUR pmax pmax
comp=Z,25μm,3.0s
KUR pmax pmax
comp=Z,470nm,1.0s
KUR smax smax
comp=N,262μm,21.0s
KUR MLR MLR
comp=Z,206μm,18.0s
DCPH Dipolog City 21.41 198⇑*e*P **P** **07 08 23.8 -0.3**
HIA Hailar 21.55 342 *e*P **P** **07 08 28.3 +2.9**
comp=Z,383nm,1.1s
HIA LR LR
comp=Z,340μm,21.0s
PPR Puerto Princes 21.99 211⇓*e*P P 07 08 46.4 +16
DAV Davao City (W) 22.37 192 P **P** **07 08 35.1 +0.6**
SNR=13
DAV Davao City (W) 22.37 192⇑*e*P P 07 08 39.3 +4.8
DAV Davao City (W) 22.37 192 PFAKE 07 08 50.0 +16
DAV LR LR
comp=Z,187μm,20.0s
CD2 Chengdu 22.76 281 P **P** **07 08 37.5 -1.1**
CD2 pP **pP** **07 08 47.3 -0.3**
CD2 sP **sP** **07 08 51.5 -0.4**
CD2 PP **PnPn** **07 09 06.5 +3.4**
CD2 S **S** **07 12 38.5 -6.7**
CD2 AMB AMB
comp=Z,680nm,1.2s
CD2 AMB AMB
comp=Z,22μm,8.2s
CD2 LR LR
comp=Z,338μm,21.4s
CD2 LR LR
comp=Z,288μm,23.8s
LZH Lanzhou 23.03 294 *e*P **P** **07 08 42.0 +0.5**
LZH pP **pP** **07 08 54.5 +3.9**
LZH PcP **PcP** **07 12 26.0 -4.3**
LZH *e*S **S** **07 12 46.5 -3.6**
LZH sS Sn 07 13 10.0 +2.3
LZH AMB AMB
comp=Z,5μm,1.2s
LZH AMB AMB
comp=Z,17μm,4.8s
LZH LR LR
comp=Z,144μm,13.7s
LZH LR LR
comp=Z,434μm,14.6s
LZH LR LR
comp=Z,185μm,15.0s
GSPH General Santos 23.45 193 ⇓*i*P **P** **07 08 46.0 +0.3**
KMI Kunming 24.55 267 ⇑P **P** **07 08 55.5 -0.6**
KMI pP **pP** **07 09 06.0 +0.2**
KMI sP **sP** **07 09 10.3 +0.3**
KMI PP **PnPn** **07 09 32.3 +4.4**
KMI S **S** **07 13 11.0 -4.0**
KMI sS **sS** **07 13 27.5 -3.4**
KMI AMB AMB
comp=Z,230nm,1.5s
KMI AMB AMB
comp=Z,10μm,6.2s
KMI LR LR
comp=Z,123μm,16.3s
KMI LR LR
comp=Z,154μm,16.0s
KMI LR LR
comp=Z,194μm,15.6s
KDM Kudat 25.37 212 P **P** **07 09 03.9 +0.6**
SGSI Sangihe 25.69 190 P **P** **07 09 05.6 -0.6**
comp=Z,2μm,1.8s,comp=Z,41μm
ULN Ulaanbaatar 25.73 323 P **P** **07 09 06.5 0.0**
SNR=129
ULN Ulaanbaatar 25.73 323 P **P** **07 09 07.7 +1.2**
comp=Z,412nm,0.9s,comp=Z,22μm
ULN Ulaanbaatar 25.73 323 *e*P **P** **07 09 06.0 -0.5**
ULN LR LR
comp=Z,463μm,20.0s
CIT Chita 25.90 336 *e*P **P** **07 09 09.2 +1.4**

CIT *e* 07 09 21.6
CIT *e* 07 09 53.8
CIT pmax pmax
comp=Z,1μm,1.6s
SONM Songino Array 26.06 322 P **P** **07 09 08.2 -1.3**
SONM ScP **ScP** **07 16 13.4 -0.4**
SONM Songino Array 26.06 322 P **P** **07 09 08.2 -1.3**
comp=Z,127nm,0.7s,baz=136,slow=9.2,SNR=36
SONM ScP **ScP** **07 16 13.4 -0.4**
comp=Z,2.8nm,0.8s,baz=127,slow=2.8,SNR=2.6
SONM LR LR 07 20 58.7
comp=Z,440μm,19.4s,baz=126,slow=40
MYLDM Lahad Datu 26.22 207 P **P** **07 09 13.5 +2.5**
MYLDM Lahad Datu 26.22 207 P **P** **07 09 13.2 +2.2**
comp=Z,889nm,1.2s,comp=Z,30μm
MYLDM Lahad Datu 26.22 207 *e*P **P** **07 09 12.9 +1.9**
comp=Z,894nm,1.3s
SDKM Sandakan 26.34 210 P **P** **07 09 12.6 +0.4**
KKM Kota Kinabalu 26.43 212 P **P** **07 09 14.3 +1.3**
KKM Kota Kinabalu 26.43 212 P **P** **07 09 14.6 +1.6**
comp=Z,160nm,2.2s,comp=Z,13μm
KKM Kota Kinabalu 26.43 212 *e*P **P** **07 09 12.7 -0.3**
comp=Z,605nm,1.3s
KKM LR LR
comp=Z,114μm,20.0s
UBPT Khong Chiam 26.50 244 P **P** **07 09 16.2 +2.7**
UBPT Khong Chiam 26.50 244 P **P** **07 09 15.3 +1.8**
comp=Z,825nm,1.6s,comp=Z,23μm
SKNT Sakolnakorn 26.76 249 P **P** **07 09 16.8 +0.9**
comp=Z,591nm,1.2s,comp=Z,19μm
GTA Gaotai 26.83 300 ⇑P **P** **07 09 15.8 -0.7**
GTA pP **pP** **07 09 27.5 +1.3**
GTA sP **sP** **07 09 32.0 +1.6**
GTA PP **PnPn** **07 10 01.5 +2.7**
GTA PcP **PcP** **07 12 39.0 +0.4**
GTA S **S** **07 13 48.3 -2.4**
GTA sS **sS** **07 14 08.0 +1.2**
GTA SS **SnSn** **07 15 06.5 +10**
GTA PcS **PcS** **07 16 18.0 -2.1**
GTA AMB AMB
comp=Z,440nm,1.6s
GTA AMB AMB
comp=Z,12μm,10.9s
GTA LR LR
comp=Z,108μm,17.1s
GTA LR LR
comp=Z,315μm,20.4s
GTA LR LR
comp=Z,423μm,19.5s
NONG Nongkai 26.90 252 P **P** **07 09 18.1 +1.0**
comp=Z,204nm,0.9s,comp=Z,10μm
TSM Tawau 27.28 207 P **P** **07 09 23.2 +2.7**
CLNS Chul'man 27.89 354 *e*P **P** **07 09 24.0 -1.7**
CLNS *e*PP **pP** **07 09 32.8 -2.6**
CLNS *e*PPP PPP 07 10 20.4
CLNS *e* 07 12 35.7
CLNS *e*S **S** **07 14 07.2 +0.4**
CLNS *e*SS SnSn 07 15 35.8 +14
CLNS smax smax
comp=E,3μm,14.7s
CLNS smax smax
comp=N,44μm,17.5s
CLNS MLR MLR
comp=Z,211μm,25.0s
CLNS MLR MLR
comp=N,133μm,21.0s
CLNS MLR MLR
comp=E,70μm,16.0s
CRAI Chiangrai 28.27 258 P **P** **07 09 30.2 +0.7**
comp=E,167nm,2.0s,comp=E,6μm
TNTI Ternate 28.35 186 P **P** **07 09 32.3 +2.2**
LOEI Loei 28.73 253 P **P** **07 09 30.7 -2.8**
CHAI Chaiyaphum 28.95 249 P **P** **07 09 36.0 +0.6**
comp=E,140nm,1.1s,comp=E,1μm
PAYA Payao 29.07 257 P **P** **07 09 38.2 +1.7**
comp=E,20nm,0.8s
GTOI Gorontalo 29.14 194 P **P** **07 09 36.6 -0.5**
ZAK Zakamensk 29.23 324⇑*i*P **P** **07 09 38.0 +0.2**
ZAK *e* 07 16 20.4
ZAK pmax pmax
comp=Z,95nm,1.2s
TOLI Toli-Toli 29.23 199 P P 07 09 50.2 +12
PBKT Sadao Pong 29.44 251 P **P** **07 09 40.9 +1.1**
PBKT Sadao Pong 29.44 251 P **P** **07 09 40.3 +0.5**
comp=Z,483nm,1.0s,comp=Z,11μm
CMAI Chiengmai2 29.53 259 P **P** **07 09 42.4 +1.6**
comp=Z,145nm,1.3s,comp=Z,7μm
MRSI Marisa 29.55 196 P **P** **07 09 42.0 +1.3**
LBMI Labuha 29.73 185 P P 07 09 55.2 +13
TLY Talaya 29.84 326 P P 07 09 46.4 +3.3
comp=Z,846nm,1.1s,SNR=38
SWI Sorong 29.89 177 P P 07 09 50.1 +6.4
IRK Irkutsk 29.90 328⇑*i*P **P** **07 09 46.0 +2.4**
IRK *e* 07 10 59.2
IRK pmax pmax
comp=Z,646nm,2.1s
CHTO Chiang Mai 30.09 257 *e*P **P** **07 09 46.3 +0.7**
CHTO pmax pmax
comp=Z,212nm,1.1s
CHTO MLR MLR
comp=Z,130μm,21.0s
CHTO Chiang Mai 30.09 257 P **P** **07 09 45.4 -0.2**
SNR=55
CHTO Chiang Mai 30.09 257 P **P** **07 09 46.4 +0.8**
CHTO Chiang Mai 30.09 257 *e*P **P** **07 09 46.3 +0.7**
comp=Z,212nm,1.1s
CHTO LR LR
comp=Z,130μm,21.0s
CHTO Chiang Mai 30.09 257 P **P** **07 09 46.0 +0.4**
comp=Z,1μm,1.0s,comp=Z,38μm
CMAR Chiang Mai Arr 30.25 256 P **P** **07 09 46.7 -0.2**
CMAR PcP **PcP** **07 12 47.3 0.0**
CMAR PKKKP 07 42 54.5
CMAR P'P' 07 43 43.7
CMAR Chiang Mai Arr 30.25 256 P **P** **07 09 46.7 -0.2**
comp=Z,5.8nm,0.5s,baz=57,slow=7.0,SNR=20
CMAR PcP **PcP** **07 12 47.3 0.0**
comp=Z,13nm,0.8s,baz=45,slow=1.7,SNR=4.8
CMAR LR LR 07 22 39.4
comp=Z,137μm,20.8s,baz=70,slow=38
CMAR P3KP 07 42 54.5
comp=Z,2.1nm,0.6s,baz=281,slow=0.7,SNR=6.6
CMAR PKPPKP **P'P'df** **07 43 43.7 -1.8**
comp=Z,1.3nm,0.3s,baz=282,slow=1.2,SNR=6.7
BTM Bintulu 30.41 215 P **P** **07 09 49.5 +1.1**
LUWI Luwuk 30.82 194 P P 07 10 05.0 +13
APSI Ampana 30.95 196 P P 07 09 59.2 +6.0
MOY Mondy 31.15 324 *e*P **P** **07 09 52.1 -2.7**
MOY pmax pmax
comp=Z,348nm,2.5s
PEA0B Petropavlovsk- 31.39 33 *e*P **P** **07 09 58.0 +1.3**
PETK Petropavlovsk- 31.39 33 P **P** **07 09 56.9 +0.2**
PETK pmax pmax
comp=Z,16nm,0.6s
PETK MLR MLR
comp=Z,154μm,21.3s
PETK Petropavlovsk- 31.39 33 P **P** **07 09 56.9 +0.2**
PETK Petropavlovsk- 31.39 33 P **P** **07 09 56.9 +0.2**
comp=Z,16nm,0.6s,baz=205,slow=6.4,SNR=15
PETK LR LR 07 22 32.4
comp=Z,154μm,21.3s,baz=228,slow=36
SBUM Sibu 31.49 216 P **P** **07 09 58.6 +0.6**
SBUM Sibu 31.49 216 P **P** **07 09 59.5 +1.6**
SBUM Sibu 31.49 216 *e*P **P** **07 09 58.4 +0.4**
comp=Z,250nm,1.4s
PATY Pattaya 31.49 245 P **P** **07 10 00.3 +2.3**
comp=Z,69nm,0.9s,comp=Z,889nm
PET Petropavlovsk 31.79 33*j i*P **P** **07 10 00.5 +0.3**
PET *e* 07 12 51.3
PET *e*S **S** **07 15 05.5 -2.5**
PET pmax pmax
comp=Z,12μm,11.8s
PET pmax pmax
comp=Z,482nm,1.8s
PET pmax pmax
comp=Z,12μm,17.3s
PET smax smax
comp=N,24μm,13.7s
PET smax smax
comp=N,37μm,21.6s
PET MLR MLR
comp=Z,175μm,21.0s
PET MLR MLR
comp=Z,139μm,20.0s
PET MLR MLR

comp=Z,50nm,16.0s
FAKI Fak Fak 31.98 176 P **P** **07 10 02.5 +0.3**
KHLT Khaolaem Dam 32.31 251 P **P** **07 10 06.5 +1.3**
comp=Z,103nm,1.8s,comp=Z,4µm
NLAI Namlea 32.34 185 P **P** **07 10 06.0 +0.7**
IMP Imphal 32.34 271 *eP* **P** **07 10 06.0 +0.5**
IMP *ex* x 07 12 51.0
PHET Kaeng Krachan 32.49 247 P **P** **07 10 08.4 +1.7**
comp=Z,1µm,1.1s,comp=Z,14µm
BKB Balikpapan 32.75 205 P P 07 10 17.1 +8.2
YAK Yakutsk 32.87 360 *eP* **P** **07 10 10.2 +0.7**
YAK *e* 07 11 23.0
YAK *e* 07 12 53.2
YAK *eS* **S** **07 15 21.6 -2.9**
YAK *eSS* **SS** **07 17 41.5 -5.2**
YAK *e* 07 20 30.4
YAK pmax pmax
comp=Z,112nm,1.1s
YAK pmax pmax
comp=N,50nm,1.3s
YAK pmax pmax
comp=E,11nm,1.1s
YAK pmax pmax
comp=Z,1µm,3.4s
YAK pmax pmax
comp=N,1µm,4.1s
YAK pmax pmax
comp=E,303nm,3.5s
YAK smax smax
comp=N,2µm,4.1s
YAK smax smax
comp=E,1µm,3.3s
MTKI Muara Teweh, K 33.24 208 P **P** **07 10 15.0 +1.8**
comp=E,426nm,0.7s,comp=E,9µm
KSM Kuching 33.32 218 P **P** **07 10 15.8 +1.8**
KSM Kuching 33.32 218 P **P** **07 10 15.0 +1.1**
comp=E,299nm,1.4s,comp=E,9µm
KSM Kuching 33.32 218 *eP* **P** **07 10 15.1 +1.1**
KSM comp=E,275nm,1.1s LR LR
comp=Z,47µm,21.0s
MMSI Mamuju 33.41 200 P **P** **07 10 14.8 +0.1**
comp=Z,399nm,1.7s,comp=Z,8µm
BNDI Bandanaira 33.50 180 P P 07 10 28.4 +13
LSA Lhasa 33.72 281 P **P** **07 10 18.5 +0.6**
LSA S **S** **07 15 44.5 +5.0**
LSA AMB AMB
comp=Z,70nm,2.0s
LSA LR LR
comp=Z,90µm,20.0s
LSA LR LR
comp=Z,100µm,25.0s
LSA LR LR
comp=Z,200µm,25.0s
LSA Lhasa 33.72 281 *eP* **P** **07 10 18.9 +1.0**
LSA pmax pmax
comp=Z,99nm,0.7s
LSA MLR MLR
comp=Z,246µm,22.0s
LSA Lhasa 33.72 281 *eP* **P** **07 10 18.9 +1.0**
comp=Z,99nm,0.7s
LSA LR LR
comp=Z,246µm,22.0s
STKI Sintang 33.91 215 P P 07 10 30.7 +12
SHL Shillong 33.93 273 *eP* **P** **07 10 19.0 -0.5**
SHL *i* x x 07 16 40.5
KKSI Kolaka, Sulawe 34.10 195 P P 07 10 28.9 +8.2
MJSI Majene 34.20 200 P **P** **07 10 22.6 +1.0**
comp=Z,395nm,1.8s,comp=Z,7µm
SPSI Sidrap Palu 34.37 198 P P 07 10 29.0 +5.9
BNSI Bone 34.70 197 P **P** **07 10 27.1 +1.2**
comp=Z,64nm,1.4s,comp=Z,5µm
TLE Tual 34.70 175 P **P** **07 10 27.7 +1.8**
comp=Z,155nm,2.3s,comp=Z,12µm
WAKE Wake Island 34.73 98 PFAKE 07 10 40.0 +14
WAKE LR LR
comp=Z,107µm,22.0s
KTGM Kuala Trenggan 34.75 232 P **P** **07 10 28.4 +2.1**
H11N2 WAKE ISLAND Hy 34.77 97 T T 07 47 28.6
baz=299,slow=0.7,SNR=49
H11N1 WAKE ISLAND Hy 34.77 97 T T 07 47 29.8
baz=299,slow=0.7,SNR=34
H11N3 WAKE ISLAND Hy 34.79 97 T T 07 47 21.9
baz=299,slow=0.7,SNR=40
HVS Khovu-Aksy 34.84 319 *d iP* **P** **07 10 28.4 +1.4**
HVS pmax pmax
comp=Z,646nm,1.0s
HVS MLR MLR
comp=Z,599µm,16.0s
H11S3 WAKE ISLAND Hy 35.08 99 T T 07 48 00.3
baz=300,SNR=53
H11S1 WAKE ISLAND Hy 35.09 99 T T 07 47 54.1
baz=300,slow=0.7,SNR=48
H11S2 WAKE ISLAND Hy 35.10 99 T T 07 47 51.6
baz=300,slow=0.7,SNR=58
BBSI Bau Bau 35.19 193 P P 07 10 42.9 +13
SKLT Songkhla 35.27 237 P P 07 10 34.4 +3.5
comp=Z,482nm,0.8s,comp=Z,11µm
SKLT Songkhla 35.27 237 P P 07 10 34.4 +3.5
comp=Z,482nm,0.8s,comp=Z,11µm
KAPI Kappang 35.38 198 P **P** **07 10 29.5 -2.3**
SNR=11
KAPI Kappang 35.38 198 P **P** **07 10 31.1 -0.7**
comp=Z,208nm,1.5s,comp=Z,5µm
KAPI Kappang 35.38 198 *eP* **P** **07 10 29.6 -2.1**
comp=Z,288nm,1.4s
KAPI LR LR
comp=Z,57µm,20.0s
KAPI Kappang 35.38 198 P **P** **07 10 30.8 -1.0**
comp=Z,220nm,1.1s,SNR=10.0
SURT Suratani 35.49 242 P **P** **07 10 34.2 +1.4**
comp=Z,203nm,1.0s,comp=Z,6µm
BKSI Bulukumba 35.58 197 P **P** **07 10 33.9 +0.4**
comp=Z,74nm,0.9s,comp=Z,4µm
PKDT Phuket 36.52 241 P **P** **07 10 44.3 +2.7**
comp=Z,860nm,0.7s,comp=Z,22µm
KULM Kulim 36.52 235 P **P** **07 10 42.6 +1.0**
KULM Kulim 36.52 235 P **P** **07 10 43.3 +1.7**
comp=Z,235nm,0.9s,comp=Z,11µm
KULM Kulim 36.52 235 *eP* **P** **07 10 42.6 +1.0**
comp=Z,342nm,1.2s
KULM LR LR
comp=Z,53µm,21.0s
WMQ Urumqi 36.60 305 P **P** **07 10 40.3 -1.8**
WMQ pP **pP** **07 10 50.0 -2.0**
WMQ sP **sP** **07 10 54.0 -2.0**
WMQ PP **PnPn** **07 12 04.8 -0.7**
WMQ PcP **PcP** **07 13 04.0 -0.8**
WMQ S **S** **07 16 19.5 -3.1**
WMQ PcS **PcS** **07 16 50.5 -2.2**
WMQ ScS **ScS** **07 20 51.8 -3.7**
WMQ AMB AMB
comp=Z,65nm,1.6s
WMQ AMB AMB
comp=Z,6µm,6.0s
WMQ LR LR
comp=Z,188µm,18.2s
WMQ LR LR
comp=Z,182µm,20.2s
WMQ LR LR
comp=Z,206µm,20.8s
SEY Seymchan 36.77 17 *eP* **P** **07 10 44.8 +1.6**
IPM Ipoh 36.82 234 P **P** **07 10 44.8 +0.6**
IPM Ipoh 36.82 234 P **P** **07 10 44.7 +0.6**
comp=Z,617nm,1.8s,comp=Z,10µm
IPM Ipoh 36.82 234 *eP* **P** **07 10 44.6 +0.5**
comp=Z,259nm,0.9s
MYKOM Kota Tinggi 36.89 227 P **P** **07 10 45.4 +0.7**
MYKOM Kota Tinggi 36.89 227 P **P** **07 10 46.7 +2.0**
comp=Z,308nm,1.2s,comp=Z,9µm
MYKOM Kota Tinggi 36.89 227 *eP* **P** **07 10 46.8 +2.0**
comp=Z,376nm,1.2s
SAUI Saumlaki 36.96 178 P P 07 11 00.1 +15
KGM Kluang 37.06 228 P **P** **07 10 48.2 +2.0**
TAPN Taplejung 37.14 278 *eP* **P** **07 10 47.8 +0.7**
comp=Z,1µm,1.5s
FRIM Kepong 37.29 232 P **P** **07 10 48.6 +0.4**
ODAN Odare 37.53 277 *eP* **P** **07 10 50.4 0.0**
comp=Z,348nm,0.6s
KRAR Krasnoyarsk 37.55 326 *i* P **P** **07 10 50.3 +0.5**
DGPR DIGLIPUR 37.85 253 *eP* **P** **07 10 52.0 -0.8**
RAMN Ramite 38.19 277 *eP* **P** **07 10 56.0 0.0**
comp=Z,248nm,0.6s
MMRI Maumere 38.32 192 P **P** **07 10 56.9 +0.2**
comp=Z,390nm,1.1s,comp=Z,7µm
JIRN Jiri 38.38 279 *eP* **P** **07 10 58.3 +0.5**
comp=Z,535nm,0.6s
GUN Gumba 38.60 279 *eP* **P** **07 11 00.1 +0.6**
comp=Z,1µm,0.6s
PPBI Pangkal Pinang 38.63 220 P **P** **07 11 00.8 +1.4**
comp=Z,459nm,1.2s,comp=Z,19µm
LBFI Labuhan Bajo, 38.67 196 P **P** **07 10 58.5 -1.2**
comp=Z,395nm,0.9s,comp=Z,8µm
PKI Pulcbaki 39.08 279 *eP* **P** **07 11 03.3 -0.2**
comp=Z,1µm,0.7s
SOEI Soe 39.09 189 P **P** **07 11 01.1 -2.2**
PKIN Phulchoki 39.09 279 *eP* **P** **07 11 03.3 -0.3**
comp=Z,637nm,0.6s
KKN Kakani 39.14 279 *eP* **P** **07 11 03.9 0.0**
comp=Z,1µm,0.8s
KMMI Kalianget 39.17 206 P **P** **07 11 06.8 +2.9**
comp=Z,508nm,1.0s,comp=Z,8µm
LHMI Lhok Sumawe 39.28 239 P P 07 11 09.5 +4.6
comp=Z,669nm,1.1s,comp=Z,22µm
DMN Daman 39.33 279 *eP* **P** **07 11 05.2 -0.4**
comp=Z,676nm,0.8s
FX1 Attu Island--F 39.45 41 *eP* **P** **07 11 06.3 +0.4**
PSI Prapat 39.48 234 P **P** **07 11 07.3 +0.6**
comp=Z,390nm,0.8s,comp=Z,10µm
PSI Prapat 39.48 234 P **P** **07 11 06.8 +0.1**
PSI Prapat 39.48 234 P **P** **07 11 06.8 +0.1**
comp=Z,60nm,0.7s,baz=18,slow=7.1,SNR=30
PSI LR LR 07 26 59.5
comp=Z,50µm,21.7s,baz=286,slow=36
RGRI Rengat 39.49 227 P **P** **07 11 06.3 -0.3**
comp=Z,1µm,0.5s,comp=Z,130µm
GRJI Gresik 39.64 208 P **P** **07 11 09.9 +2.1**
comp=Z,345nm,1.0s,comp=Z,4µm
GKN Gorkha 39.65 280 *eP* **P** **07 11 07.8 -0.3**
comp=Z,848nm,0.7s
BOK Bokaro 39.66 273⇑ *eP* **P** **07 11 06.7 -1.4**
SRBI Singaraja 39.68 203 P P 07 11 14.8 +6.7
ABJI Asem Bagus 39.76 205 P P 07 11 16.2 +7.4
KHKI Kahang-Kahang 39.80 203 P **P** **07 11 09.4 +0.2**
comp=Z,183nm,0.9s,comp=Z,7µm
KCSI Kotacane, Aceh 39.81 236 P **P** **07 11 09.0 -0.3**
comp=Z,316nm,1.5s,comp=Z,8µm
MTNI Mataram 39.87 202 P **P** **07 11 09.3 -0.5**
comp=Z,242nm,1.0s,comp=Z,6µm
SMY Shemya 39.94 41 *eP* **P** **07 11 09.0 -0.9**
SMY pmax pmax
comp=Z,967nm,1.5s
SMY Shemya 39.94 41 *eP* **P** **07 11 09.0 -0.9**
comp=Z,966nm,1.5s
BLJI Banyuglugur 39.95 206 P **P** **07 11 10.7 +0.3**
comp=Z,285nm,0.9s,comp=Z,19µm
PMBI Palembang 40.03 221 P P 07 11 18.8 +7.7
PMBI Palembang 40.03 221 *eP* **P** **07 11 14.1 +2.9**
comp=Z,992nm,1.1s
BYJI Banyuwangi 40.10 204 P P 07 11 20.7 +9.1
NBBI Negara 40.15 204 P **P** **07 11 13.5 +1.4**
comp=Z,586nm,1.8s,comp=Z,14µm
DNP Denpasar 40.23 203 P P 07 11 24.8 +12
DANN Dangsing 40.33 280 *eP* **P** **07 11 13.7 -0.2**
comp=Z,2µm,0.8s
NGJI Ngawi 40.47 209 P **P** **07 11 16.8 +2.1**
comp=Z,747nm,1.5s,comp=Z,21µm
GMJI Gumukmas 40.49 206 P P 07 11 22.2 +7.3
KOLN Koldanda 40.60 280 *eP* **P** **07 11 15.3 -0.7**
comp=Z,416nm,0.7s
SMRI Semarang 40.63 211 P P 07 11 26.1 +10
SMRI Semarang 40.63 211 *eP* **P** **07 11 18.0 +1.9**
comp=Z,4µm,2.3s
SJI Sawahan 40.67 208 P **P** **07 11 16.8 +0.3**
comp=Z,949nm,1.7s,comp=Z,17µm
KRKI Karangkates 40.78 207 P **P** **07 11 20.0 +2.8**
comp=Z,659nm,1.8s
MK31 Makanchi Array 40.82 309 *ceP* **P** **07 11 16.8 -0.6**
MK31 pmax pmax
comp=Z,27nm,0.5s
MK31 Makanchi Array 40.82 309 *eP* **P** **07 11 16.6 -0.9**
MKAR Makanchi Array 40.82 309 *eP* **P** **07 11 16.8 -0.6**
MKAR 07 13 17.3
MKAR 07 21 22.0
MKAR Makanchi Array 40.82 309 *eP* **P** **07 11 16.8 -0.6**
MKAR PcP **PcP** **07 13 17.3 -0.6**
MKAR ScP **ScP** **07 13 03.3 -1.7**
MKAR ScS **ScS** **07 21 22.0 +2.2**
MKAR P'P' 07 43 32.7
MKAR Makanchi Array 40.82 309 P **P** **07 11 15.5 -1.9**
comp=Z,16nm,0.8s,baz=94,slow=11,SNR=59
MKAR PcP **PcP** **07 13 17.3 -0.6**
comp=Z,75nm,0.8s,baz=72,slow=2.6,SNR=9.1
MKAR ScP **ScP** **07 17 03.3 -1.7**
comp=Z,8.9nm,1.0s,baz=104,slow=12,SNR=4.3
MKAR ScS **ScS** **07 21 22.0 +2.2**
comp=Z,2.7nm,0.8s,baz=92,slow=7.3,SNR=4.1
MKAR LR LR 07 30 15.6
comp=Z,92µm,18.9s,baz=93,slow=39
MKAR PKPPKP P'P'df 07 43 32.7 -6.4
comp=Z,1.0nm,1.0s,baz=348,slow=3.5,SNR=4.0
PPI Padang Panjang 40.83 229 P **P** **07 11 18.8 +1.1**
comp=Z,275nm,1.5s,comp=Z,10µm
PWJI Pagerwojo 40.91 208 P **P** **07 11 18.1 -0.3**
comp=Z,487nm,1.4s,comp=Z,9µm
ZAAO Zalesovo Array 40.92 320 *eP* **P** **07 11 16.8 -1.3**
ZALV Zalesovo Beam 40.92 320 P **P** **07 11 15.5 -2.6**
ZALV 07 13 17.5
ZALV pmax pmax
comp=Z,51nm,0.6s
ZALV MLR MLR
comp=Z,194µm,18.7s
ZALV Zalesovo Beam 40.92 320 P **P** **07 11 15.4 -2.6**
ZALV PcP **PcP** **07 13 17.4 -0.6**
ZALV ScP **ScP** **07 17 03.1 -2.1**
ZALV Zalesovo Beam 40.92 320 P **P** **07 11 15.4 -2.6**
comp=Z,51nm,0.6s,baz=108,slow=8.4,SNR=46
ZALV PcP **PcP** **07 13 17.4 -0.6**
comp=Z,77nm,0.7s,baz=143,slow=2.4,SNR=8.9
ZALV ScP **ScP** **07 17 03.1 -2.1**
comp=Z,17nm,1.0s,baz=134,slow=5.1,SNR=5.3
ZALV LR LR 07 30 02.1
comp=Z,194µm,18.7s,baz=121,slow=39
PYUN Piuthan 41.05 280 *eP* **P** **07 11 19.0 -0.7**
comp=Z,1µm,0.7s
TGJI Tegal 41.08 213 P **P** **07 11 22.0 +2.3**
comp=Z,627nm,1.7s,comp=Z,19µm
WOJI Wonogiri, Jawa 41.12 209 P **P** **07 11 21.2 +1.1**
comp=Z,661nm,1.9s,comp=Z,16µm
PDSI Padang 41.13 229 P **P** **07 11 22.8 +2.6**
comp=Z,532nm,3.2s,comp=Z,17µm
BJII Banjamegara 41.21 211 P **P** **07 11 22.5 +1.6**
comp=Z,820nm,2.1s,comp=Z,25µm
PCJI Pacitan 41.33 209 P P 07 11 26.4 +4.6
UGM Wanagama 41.36 210 P **P** **07 11 23.7 +1.6**
comp=Z,956nm,1.8s,comp=Z,25µm
YOGI Yogyakarta 41.38 210 P **P** **07 11 24.4 +2.2**
comp=Z,2µm,1.8s,comp=Z,39µm
GSI Gunungsitoli 41.48 234 P **P** **07 11 23.1 0.0**
comp=Z,1µm,1.7s,comp=Z,19µm
LHSI Lahat 41.49 222 P **P** **07 11 25.3 +2.2**
comp=Z,459nm,2.5s,comp=Z,19µm
KLI Kotabumi 41.57 220 P P 07 11 27.2 +3.4
comp=Z,640nm,1.1s,comp=Z,13µm
KPJI Karang Pucung 41.57 212 P **P** **07 11 24.6 +0.8**
comp=Z,648nm,1.7s,comp=Z,20µm
SNSI Sinabang, Aceh 41.62 236 P **P** **07 11 26.2 +2.0**
comp=Z,584nm,1.0s,comp=Z,14µm
MDSI Maura Dua 41.64 221 P **P** **07 11 25.3 +0.9**
comp=Z,734nm,2.0s,comp=Z,14µm
TNG Tangerang 41.70 216 P P 07 11 38.8 +14
MASI Maura Aman, Be 41.71 224 P **P** **07 11 28.0 +3.0**
comp=Z,1µm,1.5s,comp=Z,24µm
LEM Lembang 41.77 215 P **P** **07 11 27.2 +1.6**
comp=Z,1µm,1.2s,comp=Z,28µm
BLSI Bandar Lampung 41.77 219 P P 07 11 38.0 +13
PMG Port Moresby 41.77 154 P **P** **07 11 26.6 +1.2**
comp=Z,396nm,1.1s,comp=Z,9µm
PMG Port Moresby 41.77 154 *eP* **P** **07 11 25.1 -0.3**
comp=Z,300nm,1.2s
PMG Port Moresby 41.77 154 P **P** **07 11 25.3 -0.1**
comp=Z,52nm,1.1s,baz=32,slow=2.4,SNR=7.5
PMG LR LR 07 26 27.5
comp=Z,231µm,21.2s,baz=141,slow=33
CLJI Cilicap 41.87 212 P P 07 11 33.6 +7.4
KSI Kapahiang 41.90 223 P P 07 11 30.9 +4.3
comp=Z,690nm,1.3s
SBJI Serang 41.92 217 P **P** **07 11 29.1 +2.4**
comp=Z,1µm,1.6s
DBJI Dramaga 41.97 216 P **P** **07 11 28.3 +1.2**
comp=Z,1µm,1.5s,comp=Z,28µm
NVS Novosibirsk 42.09 321 *eP* **P** **07 11 26.6 -1.0**
NVS *e*PPP PPP 07 13 20.7
NVS *e* 07 21 20.7
NVS pmax pmax
comp=N,94nm,1.8s
NVS pmax pmax
comp=E,191nm,1.8s
NVS pmax pmax
comp=Z,339nm,1.8s
LWLI Liwa 42.14 220 P P 07 11 33.0 +4.4
comp=Z,429nm,0.9s,comp=Z,23µm
CISI Cisompet, Garu 42.30 214 P **P** **07 11 30.1 +0.3**
comp=Z,580nm,1.3s,comp=Z,9µm
CISI Cisompet, Garu 42.30 214 *eP* **P** **07 11 28.9 -0.9**
comp=Z,751nm,1.4s
KASI Kota Agung 42.31 220 P P 07 11 38.0 +8.2
SKJI Sukabumi 42.45 216 P P 07 11 46.6 +16
TIXI Tiksi 42.53 359 *c iP* **P** **07 11 29.5 -1.5**
TIXI pmax pmax
comp=Z,69nm,1.0s
TIXI MLR MLR
comp=Z,144µm,21.0s
AMKA Amchitka 42.68 45 *eP* **P** **07 11 32.4 0.0**
comp=Z,188nm,0.7s
LGTI Lohaghat 43.10 283 *eP* **P** **07 11 38.5 +2.3**
LGTI *ex* x 07 13 29.1
KURK Kurchatov 43.83 314 *c iP* **P** **07 11 40.4 -1.3**
KURK pmax pmax
comp=Z,179nm,1.7s
KURK MLR MLR
comp=Z,226µm,22.0s
KURK Kurchatov 43.83 314 P **P** **07 11 40.5 -1.3**
SNR=84
KURK Kurchatov 43.83 314 *eP* **P** **07 11 39.4 -2.4**
comp=Z,129nm,0.8s
KURK PcP **PcP** **07 13 27.5 -0.2**
KURK P'P' 07 43 29.2
KURK LR LR
comp=Z,219µm,22.0s
KURK Kurchatov 43.83 314 P **P** **07 11 42.0 +0.2**
comp=Z,2µm,0.7s,SNR=18
KURBB Kurchatov Arra 43.87 314 P **P** **07 11 40.1 -2.0**
comp=Z,48nm,0.7s,baz=100,slow=8.9,SNR=99
KURBB PcP **PcP** **07 13 27.5 -0.4**
comp=Z,36nm,0.8s,baz=107,slow=3.7,SNR=3.4
KURBB PKPPKP P'P'df 07 43 29.2 -6.3
comp=Z,0.3nm,0.3s,baz=247,slow=2.7,SNR=4.6
VIS Vishakhapatnam 44.04 266 *eP* **P** **07 11 42.9 -1.0**
AAA Alma-Ata 44.33 303 *i* P **P** **07 11 46.2 +0.2**
AAA *i* S **S** **07 18 18.1 +0.1**
AAA pmax pmax
comp=Z,15µm,16.3s
AAA MLR MLR
comp=Z,132µm,21.0s
COEN Coen 44.73 162 *eP* **P** **07 11 48.4 -0.8**
comp=Z,4µm,1.6s
DDI Dehra Dun 44.77 285 *eP* **P** **07 11 49.0 -0.7**
DDI AMB AMB 07 11 58.4
comp=Z,560nm,0.8s
ULHL Ulahol 44.86 302 *i* P **P** **07 11 52.9 +2.5**
ULHL Ulahol 44.86 302 P **P** **07 11 53.0 +2.5**
SNR=13
JBP Jabalpur 45.01 274⇑ *iP* **P** **07 11 50.0 -1.5**
JBP *ex* x 07 13 37.0
JBP *i* x x 07 33 30.2
comp=Z,56µm,24.1s
KSH Kashi 45.18 298 P P 07 11 56.5 +3.6
KSH pP pP 07 12 07.8 +4.8
KSH sP sP 07 12 11.5 +4.4
KSH PcP **PP** **07 13 36.0 -2.8**
KSH PP PcP 07 13 43.0 +10
KSH S **S** **07 18 35.8 +5.2**
KSH sS sS 07 18 53.0 +5.9
KSH SS **SS** **07 21 54.5 +1.0**
KSH AMB AMB
comp=Z,250nm,1.4s
KSH AMB AMB
comp=Z,8µm,10.2s
KSH LR LR
comp=Z,65µm,14.8s
KSH LR LR
comp=Z,110µm,16.0s
KSH LR LR
comp=Z,180µm,20.7s
TKM2 Tokmak 2 45.32 303 *eP* **P** **07 11 54.2 +0.1**
TKM2 pmax pmax
comp=Z,385nm,1.4s
TKM2 MLR MLR
comp=Z,128µm,20.0s
TKM2 Tokmak 2 45.32 303 P **P** **07 11 54.6 +0.5**
SNR=80
TKM2 Tokmak 2 45.32 303 *eP* **P** **07 11 54.2 +0.1**
comp=Z,385nm,1.4s
TKM2 LR LR
comp=Z,128µm,20.0s
SMLA Simla 45.36 286 *i* P **P** **07 11 52.9 -1.3**
KZA Kyzart 45.60 302 *i* P **P** **07 11 57.6 +1.0**
KZA Kyzart 45.60 302 P **P** **07 11 57.6 +1.0**
SNR=11
KBK Karagaybulak 45.81 303 *i* P **P** **07 12 00.7 +2.8**
KBK Karagaybulak 45.81 303 P **P** **07 12 00.7 +2.8**
SNR=15
NDI New Delhi 45.86 283 *ex* P 07 11 54.0 -4.2
NDI *ex* x 07 18 16.0
DHRM DHARAMSHALA 45.86 288 *eP* **P** **07 11 57.2 -1.3**
MIDW Midway 45.87 78 PFAKE 07 12 10.0 +12
MIDW LR LR
comp=Z,48µm,20.0s
XMIS Christmas Isla 45.88 214 *eP* **P** **07 11 57.6 -0.9**
comp=Z,969nm,1.1s
CHMS Chumysh 45.94 303 *i* P **P** **07 12 00.3 +1.5**
CHMS Chumysh 45.94 303 P **P** **07 12 00.3 +1.5**
SNR=19
FRU Bishkek 46.05 303⇑ *eP* **P** **07 11 59.6 0.0**
FRU *e* 07 12 15.0
FRU MLR MLR
comp=Z,115µm,20.0s
USP Ospenovka 46.12 303 *i* P **P** **07 11 59.9 -0.3**
USP Ospenovka 46.12 303 P **P** **07 11 59.9 -0.3**
SNR=22
AAK Ala-Archa 46.14 303 *c iP* **P** **07 11 59.3 -1.2**
AAK pmax pmax
comp=Z,111nm,1.7s
AAK MLR MLR
comp=Z,378µm,25.0s
AAK Ala-Archa 46.14 303 P **P** **07 12 00.9 +0.4**
SNR=31
AAK Ala-Archa 46.14 303 P **P** **07 12 01.7 +1.2**
SNR=23
AAK Ala-Archa 46.14 303 *eP* **P** **07 12 00.4 -0.1**
comp=Z,62nm,1.0s
AAK LR LR
comp=Z,134µm,21.0s
AAK Ala-Archa 46.14 303 P **P** **07 12 00.9 +0.4**
comp=Z,206nm,0.5s,SNR=11
NGP Nagpur 46.49 272 *eP* **P** **07 12 01.0 -2.3**
NGP *ex* x 07 19 14.9
NGP *ex* x 07 34 38.5
comp=Z,76µm,19.5s
EKS2 Erkin-Say 46.67 303 *eP* **P** **07 12 05.9 +1.3**
EKS2 pmax pmax
comp=Z,71nm,1.0s
EKS2 MLR MLR
comp=Z,130µm,22.0s
EKS2 Erkin-Say 46.67 303 P **P** **07 12 05.6 +1.0**
SNR=8.7
EKS2 Erkin-Say 46.67 303 *eP* **P** **07 12 05.9 +1.3**
comp=Z,71nm,1.0s
EKS2 LR LR
comp=Z,130µm,22.0s
AML Almayashu 46.76 302 *i* P **P** **07 12 06.2 +0.6**
AML Almayashu 46.76 302 P **P** **07 12 06.2 +0.6**
SNR=23
ATKA Atka Island 46.80 44 *eP* **P** **07 12 05.7 +0.5**
comp=Z,29µm,1.6s
FITZ Fitzroy Crossi 47.18 186 *eP* **P** **07 12 07.9 -0.6**
comp=Z,390nm,1.4s
FITZ Fitzroy Crossi 47.18 186 P **P** **07 12 07.9 -0.6**
comp=Z,77nm,0.8s,baz=14,slow=6.8,SNR=140
FITZ LR LR 07 33 11.4
comp=Z,24µm,20.5s,baz=14,slow=38
BHPL Bhopal 47.21 276 *eP* **P** **07 12 06.6 -2.4**
HYB Hyderabad 48.33 268 *i* P **P** **07 12 17.0 -0.7**
HYB *ep*P **pP** **07 12 28.0 +0.2**
HYB *e* 07 13 00.0
HYB *eP*P **PP** **07 14 12.0 +1.6**
HYB *eS* S 07 19 24.0 +8.2
HYB Hyderabad 48.33 268 *eP* **P** **07 12 17.0 -0.7**

AKL **Akola** 48.43 273 *e*P **P** 07 12 17.1 -1.3
AKL AMP 07 12 25.3
comp=Z,479nm,0.9s
AKL *i* x x 07 19 43.9
WRAB Tennant Creek 49.00 175 *e*P **P** 07 12 21.6 -1.0
WRAB pmax pmax
comp=Z,561nm,4.7s
WRAB MLR MLR
comp=Z,95µm,21.0s
WRAB Tennant Creek 49.00 175 *e*P **P** 07 12 21.6 -1.0
comp=Z,561nm,4.7s
WRAB LR LR
comp=Z,95µm,21.0s
WRAB Tennant Creek 49.00 175 P **P** 07 12 22.9 +0.3
comp=Z,1µm,0.8s,SNR=59
WRA Warramunga Arr 49.00 175 P **P** 07 12 21.3 -1.4
WRA P'P' 07 43 22.6
WRA *e* 07 49 58.5
WRA Warramunga Arr 49.00 175 P **P** 07 12 21.3 -1.4
comp=Z,142nm,0.9s,baz=350,slow=8.2,SNR=285
WRA LR LR 07 31 35.0
comp=Z,90µm,21.2s,baz=350,slow=34
WRA PKPPKP **P'P'df** 07 43 22.6 +5.1
comp=Z,2.6nm,0.9s,baz=131,slow=2.2,SNR=6.0
WRA P4KPbc 07 49 58.5
comp=Z,1.1nm,0.6s,baz=352,slow=5.1,SNR=14
KK31 Karatay Array 49.04 303*ce*P **P** 07 12 21.4 -1.5
KK31 pmax pmax
comp=Z,21nm,0.5s
KKAR Karatay Array 49.04 303 *e*P **P** 07 12 22.6 -0.3
KKAR pmax pmax
comp=Z,48nm,0.8s
KKAR Karatay Array 49.04 303 *e*P **P** 07 12 22.6 -0.3
comp=Z,48nm,0.8s
BVA0 Borovoye Array 49.17 316 *i* P **P** 07 12 21.9 -1.8
BVA0 pmax pmax
comp=Z,402nm,0.7s
BVAR Borovoye Array 49.17 316 P **P** 07 12 23.3 -0.4
BVAR 07 13 46.8
BVAR pmax pmax
comp=Z,75nm,0.6s
BVAR Borovoye Array 49.17 316 P **P** 07 12 23.3 -0.4
BVAR PcP **PcP** 07 13 46.8 +0.3
BVAR ScP **ScP** 07 17 39.4 +0.2
BVAR P'P' 07 43 23.9
BVAR *e* 07 49 59.6
BVAR Borovoye Array 49.17 316 P **P** 07 12 23.3 -0.4
comp=Z,75nm,0.6s,baz=93,slow=12,SNR=102
BVAR PcP **PcP** 07 13 46.8 +0.3
comp=Z,179nm,0.9s,baz=126,slow=2.6,SNR=6.0
BVAR ScP **ScP** 07 17 39.4 +0.2
comp=Z,11nm,0.9s,baz=90,slow=4.3,SNR=4.3
BVAR PKPPKP **P'P'df** 07 43 23.9 -4.7
comp=Z,0.4nm,0.6s,baz=298,slow=4.2,SNR=5.2
BVAR P4KPbc 07 49 59.6
comp=Z,1.8nm,0.6s,baz=100,slow=6.2,SNR=5.7
BRVK Borovoye 49.24 317*c i*P **P** 07 12 23.7 -0.5
BRVK pmax pmax
comp=Z,416nm,1.7s
BRVK MLR MLR
comp=Z,345µm,21.0s
BRVK Borovoye 49.24 317 P **P** 07 12 23.4 -0.7
SNR=164
BRVK Borovoye 49.24 317 *e*P **P** 07 12 24.5 +0.3
comp=Z,623nm,0.7s
BRVK LR LR
comp=Z,244µm,22.0s
BRVK Borovoye 49.24 317 P **P** 07 12 24.7 +0.5
comp=Z,6µm,0.5s,SNR=57
TARA Tarawa 49.35 116 *e*P **P** 07 12 27.2 +1.8
comp=Z,867nm,1.6s
TARA LR LR
comp=Z,125µm,21.0s
GAMB Gambell 50.32 29 *e*P **P** 07 12 34.6 +2.4
comp=Z,933nm,1.6s
MBWA Marble Bar 51.00 192 P **P** 07 12 38.1 +0.4
SNR=6.9
MBWA Marble Bar 51.00 192 *e*P **P** 07 12 36.7 -1.0
comp=Z,235nm,1.1s
MBWA LR LR
comp=Z,34µm,21.0s
PALK Pallekele 51.17 255 P **P** 07 12 40.4 +1.0
SNR=8.5
PALK Pallekele 51.17 255 P **P** 07 12 40.6 +1.2
comp=Z,198nm,1.2s,comp=Z,7µm
PALK Pallekele 51.17 255 *e*P **P** 07 12 40.1 +0.7
comp=Z,99nm,1.0s
PALK Pallekele 51.17 255 P **P** 07 12 40.7 +1.3
comp=Z,358nm,1.0s,SNR=6.4
KBL Kabul 51.37 293 *e*P **P** 07 12 41.1 +0.3
KBL pmax pmax
comp=Z,352nm,1.0s
KBL Kabul 51.37 293 *e*P **P** 07 12 41.1 +0.3
comp=Z,352nm,1.0s
CTA Charters Tower 51.42 160 P **P** 07 12 40.6 -0.4
CTA Charters Tower 51.42 160 P **P** 07 12 40.6 -0.4
comp=Z,38nm,0.9s,baz=338,slow=9.2,SNR=23
CTAO Charters Tower 51.42 160 *e*P **P** 07 12 40.3 -0.7
CTAO pmax pmax
comp=Z,354nm,1.4s
CTAO MLR MLR
comp=Z,126µm,20.0s
CTAO Charters Tower 51.42 160 *e*P **P** 07 12 40.3 -0.7
comp=Z,354nm,1.4s
CTAO LR LR
comp=Z,126µm,20.0s
UNV Unalaska Valle 51.56 43 *e*P **P** 07 12 43.5 +1.9
comp=Z,46nm,0.9s
POO Poona 52.01 271 *e*P **P** 07 12 42.9 -2.7
POO ⇓*i*P **P** 07 12 43.0 -2.6
comp=Z,893nm,1.5s
COCO West Island 52.10 223 PFAKE 07 13 00.0 +14
COCO LR LR
comp=Z,29µm,21.0s
TNA Tin City 52.32 28 *e*P **P** 07 12 48.5 +1.4
comp=Z,1µm,1.9s
AS31 Alice Springs 52.66 175 *e*P **P** 07 12 49.6 -0.5
ASAR Alice Springs 52.66 175 P **P** 07 12 49.3 -0.9
ASAR PKKKP 07 42 16.6
ASAR P'P' 07 43 17.0
ASAR ⇑*e* 07 43 33.6
ASAR *e* 07 50 14.9
ASAR Alice Springs 52.66 175 P **P** 07 12 49.3 -0.9
comp=Z,75nm,0.9s,baz=360,slow=6.9,SNR=302
ASAR LR LR 07 34 10.0
comp=Z,53µm,20.6s,baz=355,slow=35
ASAR P3KP 07 42 16.6
comp=Z,0.3nm,0.7s,baz=208,slow=1.9,SNR=4.1
ASAR PKPPKP **P'P'df** 07 43 17.0 +4.4
comp=Z,1.4nm,0.8s,baz=137,slow=3.0,SNR=5.6
ASAR P4KPbc 07 43 33.6
comp=Z,3.2nm,0.9s,baz=168,slow=2.0,SNR=4.7
ASAR P4KPbc 07 50 14.9
comp=Z,1.2nm,0.7s,baz=358,slow=4.7,SNR=9.0
GOA Goa 53.25 268 *e*P **P** 07 12 54.0 -0.8
TRD Trivandrum 53.73 259 *e*P **P** 07 12 57.6 -0.7
BHJ Bhuj 53.95 279 *e*P **P** 07 12 59.4 -0.4
SVE Sverdlovsk 54.93 321*de*P **P** 07 13 05.8 -0.6
SVE *e* 07 15 08.5
SVE *e*PPP PPP 07 16 26.5
SVE *e*S **S** 07 20 44.0 -1.6
SVE *e*SS **SS** 07 24 35.2 +6.3
SVE pmax pmax
comp=Z,16µm,22.8s
SVE pmax pmax
comp=Z,346nm,1.5s
SVE MLR MLR
comp=E,263µm,17.0s
SVE MLR MLR
comp=Z,353µm,17.0s
SVE MLR MLR
comp=N,38µm,16.0s
AB31 Akbulak array 55.81 312*ce*P **P** 07 13 12.1 -0.8
AB31 pmax pmax
comp=Z,222nm,0.6s
ABKAR Akbulak array 55.81 312 *e*P **P** 07 13 11.2 -1.7
comp=Z,301nm,0.7s
ARU Arti 56.09 321*c i*P **P** 07 13 11.8 -2.9
ARU 07 14 09.9
ARU PPP PPP 07 16 38.5
ARU S **S** 07 20 56.8 -4.2
ARU 07 22 58.2
ARU SS **SS** 07 24 52.3 +5.2
ARU SSS SSS 07 27 01.3
ARU pmax pmax
comp=Z,377nm,2.5s
ARU pmax pmax
comp=Z,9µm,12.2s
ARU MLR MLR
comp=Z,165µm,17.0s
ARU Arti 56.09 321 P **P** 07 13 13.1 -1.6
comp=Z,992nm,1.4s,SNR=20
CHGN Chignik 56.19 40 *e*P **P** 07 13 15.8 +0.4
SOKR Solikamsk 56.90 324*c i*P **P** 07 13 19.9 -0.5
SOKR PPP PPP 07 16 46.0
SOKR S **S** 07 21 07.7 -3.9
SOKR pmax pmax
comp=Z,120nm,1.0s
SOKR MLR MLR
comp=Z,301µm,26.0s
AKTO Aktyubinsk 56.91 313 *i* P **P** 07 13 18.5 -2.2
AKTO pmax pmax
comp=Z,129nm,0.8s
AKTO Aktyubinsk 56.91 313 P **P** 07 13 18.3 -2.4
AKTO Aktyubinsk 56.91 313 P **P** 07 13 18.3 -2.4
comp=Z,31nm,0.6s,baz=96,slow=10,SNR=63
AKTO LR LR 07 40 02.1
comp=Z,242µm,20.1s,baz=258,slow=38
MNCY Minicoy 57.23 261 *i* x P 07 13 20.0 -3.4
EIDS Eidsvold 57.89 157 *e*P **P** 07 13 27.4 -0.3
comp=Z,321nm,1.5s
IMYA Miami 58.07 297 *e*P **P** 07 13 29.6 +0.3
IM04 Indian Mountai 58.16 28 *e*P **P** 07 13 30.5 +1.2
IMA2 Indian Mountai 58.20 28 *e*P **P** 07 13 29.2 -0.4
ISRO Mashad 58.57 297 *e*P **P** 07 13 30.8 -1.9
RSO Redoubt South 58.89 34 *e*P **P** 07 13 35.1 +0.5
OHAK Old Harbor 58.93 38 *e*P **P** 07 13 34.0 -0.7
comp=Z,2µm,2.1s
PPLA Purkeypile 58.97 32 *e*P **P** 07 13 35.7 +0.6
comp=Z,722nm,1.5s
CAST Castle Rocks 58.98 31 *e*P **P** 07 13 37.4 +2.4
comp=Z,489nm,1.4s
SPU Mount Spurr 59.17 33 *e*P **P** 07 13 36.7 +0.3
IKRD Kardeh 59.19 298 *e*P **P** 07 13 33.1 -4.1
IDAH Dahanechah 59.23 293 *e*P **P** 07 13 37.2 -0.3
KDAK Kodiak Island 59.24 37 *e*P **P** 07 13 36.1 -0.7
comp=Z,173nm,0.5s
KDAK LR LR
comp=Z,62µm,22.0s
KDAK Kodiak Island 59.24 37 P **P** 07 13 36.0 -0.9
comp=Z,2µm,0.8s,SNR=26
IMON Monand 59.26 293 *e*P **P** 07 13 37.6 -0.1
BPAW Bear Paw Mtn. 59.42 30 *e*P **P** 07 13 38.4 +0.3
comp=Z,1µm,2.3s
ISFR Sfrayin 59.52 298 *e*P **P** 07 13 38.8 -0.7
COLD Coldfoot 59.55 26 *e*P **P** 07 13 40.1 +1.2
comp=Z,872nm,2.0s
ISHV Shirvan 59.62 299 *e*P **P** 07 13 40.4 +0.3
FORT Forrest 59.64 182 *e*P **P** 07 13 38.6 -1.3
comp=Z,442nm,1.1s
TRF Thorofare Moun 59.78 31 *e*P **P** 07 13 41.3 +0.6
comp=Z,474nm,1.7s
IKOO Kooshah 60.01 293 *e*P **P** 07 13 43.0 0.0
ITEG Tejag 60.08 293 *e*P **P** 07 13 43.8 +0.5
MCK McKinley 60.36 30 *e*P **P** 07 13 44.1 -0.4
MCK pmax pmax
comp=Z,227nm,1.0s
MCK McKinley 60.36 30 *e*P **P** 07 13 44.1 -0.4
comp=Z,227nm,1.0s
FUNA Funafuti 60.42 121 *e*P **P** 07 13 46.7 +1.1
comp=Z,2µm,2.1s
FUNA LR LR
comp=Z,103µm,21.0s
PMR Palmer 60.52 33 *e*P **P** 07 13 45.6 0.0
PMR pmax pmax
comp=Z,3µm,2.6s
PMR Palmer 60.52 33 *e*P **P** 07 13 45.6 0.0
comp=Z,3µm,2.6s
SEW Seward 60.56 35 *e*P **P** 07 13 45.2 -0.7
comp=Z,744nm,1.3s
COLA College 60.70 29 *e*P **P** 07 13 46.9 +0.2
COLA pmax pmax
comp=Z,3µm,2.7s
COLA MLR MLR
comp=Z,49µm,22.0s
COLA College 60.70 29 *e*P **P** 07 13 46.9 +0.2
comp=Z,3µm,2.7s
COLA LR LR
comp=Z,49µm,22.0s
ILAR Eielson Array 61.12 29 P **P** 07 13 48.1 -1.5
ILAR ⇑*e* 07 43 08.8
ILAR Eielson Array 61.12 29 P **P** 07 13 48.1 -1.5
comp=Z,14nm,0.7s,baz=271,slow=4.3,SNR=79
ILAR LR LR 07 40 57.3
comp=Z,61µm,21.8s,baz=285,slow=37
ILAR PKP2bc 07 43 08.8
comp=Z,1.8nm,1.0s,baz=127,slow=0.4,SNR=5.6
KAAM Kaadhehdhoo 61.28 253 P **P** 07 13 54.0 +2.6
comp=Z,336nm,2.2s,comp=Z,13µm
STKA Stephens Creek 61.70 169 *e*P **P** 07 13 53.4 -0.5
comp=Z,50nm,1.4s
STKA ⇑*e* 07 43 10.5
STKA Stephens Creek 61.70 169 P **P** 07 13 53.2 -0.7
comp=Z,16nm,0.7s,baz=346,slow=7.1,SNR=21
STKA LR LR 07 41 31.3
comp=Z,50µm,20.2s,baz=347,slow=37
STKA PKP2bc 07 43 10.5
comp=Z,4.6nm,1.1s,baz=245,slow=5.9,SNR=2.8
DZM Mont Dzumac 61.88 141 *e*P **P** 07 13 55.9 +0.5
comp=Z,471nm,1.3s
DZM *e*S **S** 07 22 19.5 +2.5
comp=Z,272µm,28.9s
DZM Mont Dzumac 61.88 141 *e*LR LR 07 32 26.4
comp=Z,161µm,24.9s
DZM Mont Dzumac 61.88 141 *e*P **P** 07 13 55.6 +0.2
comp=Z,239nm,1.2s
DZM Mont Dzumac 61.88 141 P **P** 07 13 55.9 +0.5
comp=Z,36nm,0.9s,baz=48,slow=8.2,SNR=18
DZM LR LR 07 38 20.0
comp=Z,53µm,20.1s,baz=324,slow=34
BBOO Buckleboo 61.91 174 *e*P **P** 07 13 54.9 -0.3
comp=Z,12µm,1.9s
PAX Paxson 62.01 31 *e*P **P** 07 13 56.7 +0.9
PAX pmax pmax
comp=Z,1µm,2.4s
PAX Paxson 62.01 31 *e*P **P** 07 13 56.7 +0.9
comp=Z,1µm,2.4s
DIV Divide 62.19 33 *e*P **P** 07 13 57.0 0.0
comp=Z,859nm,1.7s
DOT Dot Lake 62.52 30 *e*P **P** 07 13 58.5 -0.6
comp=Z,139nm,0.8s
ARMA Armidale 62.74 159 *e*P **P** 07 14 01.0 -0.1
comp=Z,583nm,1.5s
BMRM Bremner River 62.78 33 *e*P **P** 07 14 01.0 +0.1
comp=Z,868nm,1.5s
MENT Mentasta 62.80 31 *e*P **P** 07 14 00.8 -0.2
RAGM Ragged Mountai 62.86 34 *e*P **P** 07 14 02.2 +0.7
comp=Z,3µm,2.1s
NWAO Narrogin (SRO) 62.93 192 *e*P **P** 07 14 01.6 -0.5
comp=Z,128nm,1.2s
NWAO LR LR
comp=Z,25µm,21.0s
NWAO Narrogin (SRO) 62.93 192 P **P** 07 14 01.5 -0.5
comp=Z,40nm,0.9s,baz=36,slow=6.9,SNR=16
IBAF Bafgh 63.05 293 *e*P **P** 07 14 02.4 -0.9
IANJ Anjilo 63.13 297 *e*P **P** 07 14 04.1 +0.2
WBK Wadi Bani Khal 63.37 282 P **P** 07 14 06.3 +0.9
SNR=18
EGAK Eagle 63.54 29 *e*P **P** 07 14 05.3 -0.5
comp=Z,344nm,1.4s
EGAK LR LR
comp=Z,44µm,22.0s
IBND Bandar-abas 63.65 288 *e*P **P** 07 14 05.7 -1.5
ICHK Chekchek 63.77 294 *e*P **P** 07 14 05.2 -3.0
IMEH Mehriz 63.88 293 *e*P **P** 07 14 07.7 -1.3
IFIR Firoozkooh 63.98 298 *e*P **P** 07 14 10.0 +0.4
SMDO Samad 63.98 283 P **P** 07 14 10.1 +0.5
SNR=18
IPRN Peran 64.11 299 *e*P **P** 07 14 10.1 -0.1
JMDO Jalal Madar 64.20 282 P **P** 07 14 11.5 +0.6
SNR=21
HOQ Hoqain 64.42 284 P **P** 07 14 14.0 +1.7
SNR=9.8
DAWY Dawson 64.45 29 *e*P **P** 07 14 11.8 0.0
ISAD Sadrabad 64.45 294 *e*P **P** 07 14 11.6 -1.2
KIP Kipapa 64.67 79 PFAKE 07 14 30.0 +16
KIP LR LR
comp=Z,48µm,22.0s
ISFB Sefidab 64.79 297 *e*P **P** 07 14 14.3 -0.4
BSY Bisya 64.83 283 P **P** 07 14 15.0 0.0
SNR=25
UOSS Wadi Hilu 64.84 286 P **P** 07 14 15.5 +0.5
comp=Z,144nm,0.7s,SNR=9.3
HATD Hatta, Dubai 64.95 286 P **P** 07 14 16.4 +0.7
SNR=13
IVRN Varamin 64.98 297 *e*P **P** 07 14 14.5 -1.4
TMCR Tamitsa 64.99 331 *e*P **P** 07 14 15.0 -0.3
TMCR *e*S **S** 07 22 57.1 +2.5
TMCR pmax pmax
comp=Z,274nm,0.8s
ASHO Ashiyiah 65.06 285 P **P** 07 14 17.8 +1.3
SNR=12
ARQ Araqi 65.18 284 P **P** 07 14 18.1 +0.8
SNR=11
IZEF Zefreh 65.20 295 *e*P **P** 07 14 15.7 -1.9
KLMR Klimovskoe 65.21 327*c i*P **P** 07 14 15.7 -1.1
KLMR S S 07 22 46.8 -11
KLMR pmax pmax
comp=Z,1µm,2.4s
KLMR pmax pmax
comp=Z,227nm,1.3s
KLMR MLR MLR
comp=Z,137µm,18.0s
HOPEN Hopen 65.28 346 AMS AMS 07 45 19.5
comp=Z,75µm,21.7s
LVZ Lovozero 65.29 335*c i*P **P** 07 14 14.2 -3.1
LVZ pmax pmax
comp=Z,140nm,2.5s
LVZ MLR MLR
comp=Z,52µm,12.0s
IR3 Iran Long-Peri 65.36 298 *e*P **P** 07 14 16.0 -2.4
IMHD Mahdasht 65.57 299 *e*P **P** 07 14 20.3 +0.6
INK Inuvik 65.58 24 *e*P **P** 07 14 18.4 -0.7
comp=Z,880nm,1.8s
INK Inuvik 65.58 24 P **P** 07 14 18.6 -0.5
comp=Z,64nm,1.0s,baz=284,slow=7.7,SNR=74
INK LR LR 07 45 17.3
comp=Z,57µm,19.9s,baz=295,slow=38
MAK Makhachkala 65.59 307 *e*P **P** 07 14 18.2 -1.4
MAK *e* 07 14 55.5
MAK *e*PPP PPP 07 18 20.5
MAK *e*S **S** 07 22 58.7 -3.9
MAK *e* 07 24 11.9
MAK *e*SS **SS** 07 27 15.5 -0.9
MAK MLR MLR
comp=Z,4µm,22.0s
IKLH Kolahrood 65.65 296 *e*P **P** 07 14 19.8 -0.7
IPAR Pars 65.68 292 *e*P **P** 07 14 19.2 -1.6
IGZV Ghazvin 65.68 299 *e*P **P** 07 14 20.1 -0.5
MSVF Nonsavu 65.78 129 *e*P **P** 07 14 23.0 +1.9
MSVF pmax pmax
comp=Z,78nm,1.0s
MSVF MLR MLR
comp=Z,52µm,19.0s
MSVF Nonsavu 65.78 129 *e*P **P** 07 14 23.0 +1.9
comp=Z,78nm,1.0s
MSVF LR LR
comp=Z,52µm,19.0s
ISRV Sarvestan 65.79 291 *e*P **P** 07 14 20.1 -1.4
IR5 Iran Long-Peri 65.79 298 *e*P **P** 07 14 21.6 +0.4
APA Apatity 65.84 335 ⇓*i*P **P** 07 14 20.0 -0.8
APA *i* 07 14 59.0
APA *i* 07 16 51.0
APA *i* S **S** 07 23 00.0 -4.9
APA *i* 07 23 41.0
APA *i* SS SS 07 27 28.0 +8.7
APA pmax pmax
comp=Z,38nm,0.8s
APA MLR MLR
comp=Z,96µm,21.0s
HYT Haines Junctio 66.18 32 *e*P **P** 07 14 23.9 +0.6
DGAR Diego Garcia 66.20 246 PFAKE 07 14 40.0 +16
DGAR LR LR
comp=Z,37µm,21.0s
IRAZ Razeghan 66.23 298 *e*P **P** 07 14 22.4 -1.7
SPA0 Spitsbergen Ar 66.28 348 *e*P **P** 07 14 21.8 -1.7
SPA0 *e*S **S** 07 23 05.9 -4.3
SPITS Spitsbergen Ar 66.28 348 P **P** 07 14 21.4 -2.1
SPITS Spitsbergen Ar 66.28 348 P **P** 07 14 21.4 -2.1
comp=Z,12nm,0.5s,baz=74,slow=8.8,SNR=22
SPITS LR LR 07 44 55.9
comp=Z,79µm,21.5s,baz=45,slow=37
IPIR Pirpir 66.41 295 *e*P **P** 07 14 24.7 -0.8
CAN Canberra 66.60 163 *e*P **P** 07 14 26.2 +0.2
CAN pmax pmax
comp=Z,225nm,1.4s
CAN MLR MLR
comp=Z,88µm,22.0s
CAN Canberra 66.60 163 *e*P **P** 07 14 26.2 +0.2
comp=Z,225nm,1.4s
CAN LR LR
comp=Z,88µm,22.0s
KBS Kingsbay 66.66 349 *e*P **P** 07 14 23.4 -2.5
KBS *e*S **S** 07 23 15.6 +1.0
KBS AMS AMS 07 43 21.6
comp=Z,97µm,22.9s
KBS Kingsbay 66.66 349*c i*P P 07 14 22.6 -3.2
KBS pmax pmax
comp=Z,28nm,1.2s
KBS MLR MLR
comp=Z,122µm,23.0s
KBS Kingsbay 66.66 349 *e*P **P** 07 14 24.8 -1.0
comp=Z,95nm,1.1s
KBS LR LR
comp=Z,100µm,22.0s
VRHR Novokhopersk 66.91 317 *e*P **P** 07 14 25.9 -2.0
VRHR *e*S S 07 23 08.8 -10
VRHR *e*PPS PPS 07 23 51.4
VRHR pmax pmax
comp=Z,50nm,1.1s
VRHR pmax pmax
comp=N,6.0nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,0.5s
VRHR smax smax
comp=E,2µm,15.9s
VRHR smax smax
comp=Z,740nm,14.8s
VRHR smax smax
comp=N,170nm,10.8s
VRHR MLR MLR
comp=Z,86µm,24.0s
VRHR MLR MLR
comp=N,5µm,20.0s
VRHR MLR MLR
comp=E,65µm,19.0s
ISRB Sarab 67.13 302 *e*P **P** 07 14 29.5 -0.3
KEV Kevo 67.28 338 *e*P **P** 07 14 28.1 -1.8
KEV pmax pmax
comp=Z,181nm,1.2s
KEV MLR MLR
comp=Z,129µm,19.0s
KEV Kevo 67.28 338 *e*p **P** 07 14 27.3 -2.6
comp=Z,16nm,0.3s
KEV Kevo 67.28 338 *e*P **P** 07 14 28.1 -1.8
comp=Z,181nm,1.2s
KEV LR LR
comp=Z,129µm,19.0s
IHRS Heris 67.42 302 *e*P **P** 07 14 31.1 -0.6
BJO Bjornoya 67.45 344 ⇑*i*P **P** 07 14 29.0 -1.8
BJO AMS AMS 07 46 06.6
comp=Z,70µm,22.6s
POHA Pohakuloa 67.46 79 *e*P P 07 14 38.9 +6.7
comp=Z,338nm,1.1s
DGRG David-gareji 67.57 306 P **P** 07 14 31.5 -0.8
DGRG S S 07 23 35.6 +8.7
SKAG Skagway 67.64 33 *e*P **P** 07 14 33.1 +0.7
comp=Z,121nm,0.9s
MOS Moscow 67.70 322*c i*P **P** 07 14 31.9 -0.9
MOS *e* 07 14 46.6
MOS *e* 07 17 04.4
MOS *e*PPP PPP 07 18 46.6
MOS *e*S **S** 07 23 29.4 +1.7
MOS pmax pmax
comp=Z,2µm,3.6s
MOS pmax pmax
comp=N,900nm,3.3s
MOS pmax pmax
comp=E,1µm,3.3s
MOS pmax pmax
comp=Z,207nm,2.3s
MOS MLR MLR
comp=N,64µm,18.0s
MOS MLR MLR
comp=E,1853µm,18.0s
MOS MLR MLR
comp=Z,204µm,18.0s

IBST	**Bostanabad**	**67.75**	**302**	*e*P		**P**	**07 14 32.4**	**-1.4**
ARCES	**ARCESS Array B**	**67.85**	**338**	P		**P**	**07 14 31.2**	**-2.3**
ARCES	**ARCESS Array B**	**67.85**	**338**	P		**P**	**07 14 31.2**	**-2.3**
	comp=Z,27nm,0.8s,baz=62,slow=7.1,SNR=36							
ARCES				LR		LR	07 49 30.6	
	comp=Z,129μm,19.7s,baz=58,slow=41							
ARE0	**ARCESS Array S**	**67.85**	**338**	*e*P		**P**	**07 14 32.4**	**-1.1**
ARE0				*e*S		**S**	**07 23 31.1**	**+1.8**
ARE0	**ARCESS Array S**	**67.85**	**338**	*e*P		**P**	**07 14 31.8**	**-1.8**
TBLG	**Delisi**	**67.93**	**306**	P		**P**	**07 14 33.6**	**-1.0**
TBLG				S		**S**	**07 23 33.6**	**+2.5**
GOF	**Gofitskoye**	**67.97**	**310**	⇑*i*P		**P**	**07 14 34.3**	**-0.4**
GOF				pmax	pmax			
	comp=Z,160nm,0.9s							
NCK	**Nalchik**	**68.12**	**308**	*e*P		**P**	**07 14 35.9**	**+0.2**
JOF	**Joensuu**	**68.24**	**331**	*e*P		**P**	**07 14 33.3**	**-2.8**
JOF				pmax	pmax			
	comp=Z,15nm,0.3s							
JOF	**Joensuu**	**68.24**	**331**	*e*p		**P**	**07 14 33.3**	**-2.8**
	comp=Z,15nm,0.3s							
IMRD	**Marand**	**68.27**	**303**	*e*P		**P**	**07 14 37.9**	**+0.9**
VSR	**Storozhevoye**	**68.34**	**317**	*e*P		**P**	**07 14 35.5**	**-1.4**
VSR				*i* *PP		**pP**	**07 14 46.4**	**-1.0**
VSR				*e*PPP		PPP	07 18 49.6	
VSR				*e*S		S	07 23 26.8	-8.8
VSR				*e*PPS		PPS	07 24 12.8	
VSR				pmax	pmax			
	comp=Z,70nm,1.1s							
VSR				pmax	pmax			
	comp=N,40nm,1.2s							
VSR				pmax	pmax			
	comp=E,70nm,1.2s							
VSR				smax	smax			
	comp=E,4μm,17.0s							
VSR				smax	smax			
	comp=Z,2μm,18.0s							
VSR				smax	smax			
	comp=N,1μm,11.5s							
VSR				MLR	MLR			
	comp=Z,97μm,18.0s							
VSR				MLR	MLR			
	comp=N,50μm,20.0s							
VSR				MLR	MLR			
	comp=E,68μm,21.0s							
VORD	**Divnogorie**	**68.35**	**317**	*e*P		**P**	**07 14 35.5**	**-1.5**
VORD				*e*PPP		PPP	07 18 49.5	
VORD				pmax	pmax			
	comp=Z,30nm,1.1s							
VORD				pmax	pmax			
	comp=N,40nm,0.6s							
VORD				pmax	pmax			
	comp=E,40nm,0.8s							
VORD				MLR	MLR			
	comp=Z,130μm,26.0s							
VORD				MLR	MLR			
	comp=N,70μm,19.0s							
VORD				MLR	MLR			
	comp=E,55μm,22.0s							
ALE	**Alert**	**68.38**	**2**	P		**P**	**07 14 36.1**	**-0.6**
	comp=E,629nm,0.8s,SNR=6.8							
SIT	**Sitka**	**68.47**	**36**	*e*P		**P**	**07 14 39.1**	**+1.5**
SIT				pmax	pmax			
	comp=Z,545nm,1.3s							
SIT	**Sitka**	**68.47**	**36**	*e*P		**P**	**07 14 39.1**	**+1.5**
	comp=Z,545nm,1.3s							
GNI	**Garni**	**68.47**	**305**	*e*P		**P**	**07 14 38.8**	**+0.6**
GNI	**Garni**	**68.47**	**305**	P		**P**	**07 14 40.5**	**+2.4**
	SNR=18							
GNI	**Garni**	**68.47**	**305**	*e*P		**P**	**07 14 40.1**	**+1.9**
	comp=Z,118nm,0.8s							
GNI				LR	LR			
	comp=Z,52μm,22.0s							
GNI	**Garni**	**68.47**	**305**	P		**P**	**07 14 37.5**	**-0.7**
	comp=Z,6.9nm,0.5s,baz=141,slow=6.5,SNR=18							
OBN	**Obninsk**	**68.47**	**322**	⇑*e*P		**P**	**07 14 36.6**	**-1.0**
OBN				*e**PP		**pP**	**07 14 53.2**	**+5.1**
OBN				*i* S		**S**	**07 23 35.3**	**-1.7**
OBN				pmax	pmax			
	comp=Z,214nm,2.5s							
OBN				MLR	MLR			
	comp=Z,189μm,21.0s							
OBN	**Obninsk**	**68.47**	**322**	P		**P**	**07 14 38.4**	**+0.8**
	comp=Z,643nm,0.6s,SNR=7.0							
KBZ	**Khabaz**	**68.52**	**309**	P		**P**	**07 14 37.1**	**-1.0**
KBZ				pmax	pmax			
	comp=Z,71nm,0.8s							
KBZ				MLR	MLR			
	comp=Z,50μm,19.2s							
KBZ	**Khabaz**	**68.52**	**309**	P		**P**	**07 14 37.1**	**-1.0**
KBZ	**Khabaz**	**68.52**	**309**	P		**P**	**07 14 37.1**	**-1.0**
	comp=Z,70nm,0.8s,baz=81,slow=4.0,SNR=92							
KBZ				LR		LR	07 49 59.0	
	comp=Z,50μm,19.1s,baz=175,slow=41							
ONI	**Oni**	**68.53**	**308**	P		**P**	**07 14 37.6**	**-0.7**
ONI				S		**S**	**07 23 40.7**	**+2.4**
KIV	**Kislovodsk**	**68.58**	**309**	⇑*e*P		**P**	**07 14 38.2**	**-0.5**
KIV				*e**PP		PcP	07 14 56.5	-7.1
KIV				*e*			07 17 05.5	
KIV				*i* S		**S**	**07 23 43.8**	**+4.8**
KIV				pmax	pmax			
	comp=Z,561nm,2.5s							
KIV				MLR	MLR			
	comp=Z,58μm,21.0s							
KIV	**Kislovodsk**	**68.58**	**309**	P		**P**	**07 14 40.8**	**+2.1**
	comp=Z,1μm,1.4s,SNR=42							
AKH	**Akhalkalaki**	**68.92**	**306**	P		**P**	**07 14 40.7**	**-0.3**
AKH				S		S	07 23 59.0	+16
IDHR	**Dehrash**	**69.20**	**299**	*e*P		**P**	**07 14 42.5**	**-0.3**
CLDR	**Caldiran**	**69.42**	**304**	*e*P		**P**	**07 14 44.5**	**+0.4**
KARS	**Kars**	**69.49**	**306**	*e*P		**P**	**07 14 45.4**	**+0.9**
RBK	**Rabkut**	**69.52**	**279**	P		**P**	**07 14 44.8**	**0.0**
	SNR=22							
TRO	**Tromso**	**69.87**	**340**	*e*P		P	07 14 42.9	-3.2
TRO				AMS		AMS	07 48 25.0	
	comp=Z,148μm,23.6s							
AGRB	**Hanur-Agry**	**69.93**	**305**	*e*P		**P**	**07 14 46.5**	**-0.8**
UMR	**Umm Al-Rimmam**	**70.10**	**293**	*e*P		**P**	**07 14 46.8**	**-1.4**
UMR				AMb		AMB	07 14 52.4	
	comp=Z,355nm,0.8s							
CRAG	**Craig**	**70.19**	**37**	*e*P		**P**	**07 14 49.8**	**+1.5**
	comp=Z,467nm,1.4s							
BCA	**Borcka**	**70.21**	**307**	*e*P		**P**	**07 14 48.3**	**-0.4**
WRAK	**Wrangell Islan**	**70.23**	**36**	*e*P		**P**	**07 14 50.2**	**+1.7**
	comp=Z,775nm,1.8s							
WRAK				LR		LR		
	comp=Z,32μm,22.0s							
KBD	**Kabd**	**70.26**	**293**	*e*P		**P**	**07 14 48.1**	**-1.1**
ABTO	**Aybut**	**70.36**	**279**	P		**P**	**07 14 50.3**	**+0.2**
	SNR=38							
RDF	**Al-Radifah**	**70.47**	**293**	*e*P		**P**	**07 14 49.6**	**-0.9**
RDF				AMb		AMB	07 14 57.1	
	comp=Z,462nm,1.0s							
DLBC	**Dease Lake**	**70.57**	**33**	*e*P		**P**	**07 14 51.5**	**+0.8**
NAY	**Al-Naaiem**	**70.59**	**293**	*e*P		**P**	**07 14 50.1**	**-1.1**
NAY				AMb		AMB	07 14 55.7	
	comp=Z,264nm,1.3s							
AFI	**Afiamalu**	**70.66**	**119**	PFAKE			07 15 00.0	+8.2
AFI				LR		LR		
	comp=Z,80μm,21.0s							
KAF	**Kangasniemi**	**70.69**	**331**	*e*P		**P**	**07 14 48.4**	**-2.8**
KAF				pmax	pmax			
	comp=Z,9.0nm,0.4s							
KAF	**Kangasniemi**	**70.69**	**331**	*e*p		**P**	**07 14 48.4**	**-2.8**
	comp=Z,9.4nm,0.4s							
RST	**Umm Al-Ruwaisa**	**70.69**	**294**	*e*P		**P**	**07 14 50.9**	**-0.9**
RST				AMb		AMB	07 14 58.3	
	comp=Z,3μm,0.9s							
SOC	**Sochi**	**70.72**	**310**	*c* *iP		**P**	**07 14 50.5**	**-1.3**
SOC				*e**PP		**pP**	**07 15 01.7**	**-0.6**
SOC				*e*			07 15 05.6	
SOC				*e*			07 15 11.2	
SOC				*e*			07 17 26.2	
SOC				*e*PPP		PPP	07 19 09.4	
SOC				*e*S		**S**	**07 24 00.6**	**-3.3**
SOC				*e*			07 24 49.6	
SOC				pmax	pmax			
	comp=Z,156nm,0.7s							
SOC				MLR	MLR			
	comp=Z,93μm,20.0s							
EZM	**Erzurum**	**70.97**	**306**	*e*P		**P**	**07 14 56.6**	**+2.9**
FIA1	**FINESS Array S**	**71.08**	**330**	*e*P		**P**	**07 14 51.3**	**-2.3**
FINES	**FINESS Array B**	**71.08**	**330**	P		**P**	**07 14 51.3**	**-2.3**
FINES	**FINESS Array B**	**71.08**	**330**	P		**P**	**07 14 51.3**	**-2.3**
	comp=Z,21nm,0.6s,baz=69,slow=5.4,SNR=36							
FINES				LR		LR	07 51 29.9	
	comp=Z,128μm,19.1s,baz=61,slow=40							
VRTB	**Varto-Mus**	**71.19**	**305**	*e*P		**P**	**07 14 54.2**	**-0.7**
KTUT	**Trabzon**	**71.68**	**307**	*e*P		**P**	**07 14 56.7**	**-0.9**
ANN	**Anapa**	**71.77**	**312**	*i* P		**P**	**07 14 56.9**	**-1.2**
BNGB	**Bing¶ll**	**71.81**	**305**	*e*P		**P**	**07 14 58.6**	**0.0**
GUMT	**Gumushane**	**72.09**	**307**	*e*P		**P**	**07 15 01.4**	**+1.1**
VSU	**Vasula**	**72.11**	**327**	*c* *iP		**P**	**07 14 59.0**	**-0.8**
VSU				pmax	pmax			
	comp=Z,172nm,0.8s							
VSU				MLR	MLR			
	comp=Z,612μm,18.0s							
ERZN	**Erzincan**	**72.26**	**306**	*e*P		**P**	**07 15 00.8**	**-0.5**
LOF	**Lofoten**	**72.32**	**339**	*e*P		**P**	**07 14 58.8**	**-2.1**
LOF				AMS		AMS	07 52 45.1	
	comp=Z,103μm,17.1s							
RES	**Resolute Bay**	**72.38**	**11**	*e*P		**P**	**07 15 00.4**	**-0.7**
	comp=Z,136nm,0.4s							
RES	**Resolute Bay**	**72.38**	**11**	P		**P**	**07 15 00.7**	**-0.5**
	comp=Z,134nm,0.8s,baz=310,slow=6.4,SNR=197							
RES				LR		LR	07 51 16.3	
	comp=Z,39μm,19.5s,baz=316,slow=40							
EZC	**Erzincan**	**72.46**	**306**	*e*P		**P**	**07 15 04.0**	**+1.5**
DAG	**Danmarks Havn**	**72.55**	**353**	⇑*i*P		**P**	**07 15 01.2**	**-1.0**
DAG				pmax	pmax			
	comp=Z,47nm,0.8s							
DAG				MLR	MLR			
	comp=Z,28μm,26.0s							
DAG	**Danmarks Havn**	**72.55**	**353**	⇑*i*P		**P**	**07 15 01.2**	**-1.0**
	comp=Z,64nm,0.8s							
DAG								
	comp=Z,23μm,25.0s							
PTK	**Pertek**	**72.78**	**305**	*e*P		**P**	**07 15 04.4**	**0.0**
SUSE	**Susehri**	**73.08**	**307**	*i* P		**P**	**07 15 04.3**	**-1.9**
ILIC	**ilic-Erzincan**	**73.14**	**306**	*e*P		**P**	**07 15 06.0**	**-0.5**
MOR8	**Moi Rana**	**73.15**	**337**	*e*P		P	07 15 02.7	-3.3
MOR8				AMB		AMB	07 15 08.3	
	comp=Z,149nm,1.2s							
MICGM	**Minsk**	**73.33**	**323**	⇓*i*P		**P**	**07 15 06.0**	**-1.2**
MNK	**Minsk**	**73.35**	**323**	⇓*i*P		**P**	**07 15 06.0**	**-1.3**
MNK				*e*			07 15 20.0	
MNK				*e*			07 17 52.0	
MNK				*e*PPP		PPP	07 19 34.0	
MNK				*e*S		**S**	**07 24 30.0**	**-3.7**
MNK				*e*PS		**PnS**	**07 25 18.0**	**+9.4**
MNK				*e*			07 25 26.0	
MNK				pmax	pmax			
	comp=Z,490nm,2.0s							
MNK				MLR	MLR			
	comp=E,166μm,20.0s							
MNK				MLR	MLR			
	comp=Z,119μm,20.0s							
MNK				MLR	MLR			
	comp=N,98μm,20.0s							
KONS	**Konsvik**	**73.40**	**338**	*e*P		**P**	**07 15 06.1**	**-1.2**
TAU	**Tasmania Unive**	**73.47**	**167**	PFAKE			07 15 20.0	+12
TAU				LR		LR		
	comp=Z,68μm,19.0s							
STOK	**Stokkvaagen**	**73.53**	**338**	*e*P		**P**	**07 15 07.2**	**-0.9**
RSDY	**Resadiye-TOKAT**	**73.62**	**307**	*e*P		**P**	**07 15 09.2**	**0.0**
MALT	**Malatya**	**73.70**	**305**	*e*P		**P**	**07 15 09.7**	**-0.1**
MALT	**Malatya**	**73.70**	**305**	⇑*i*P		**P**	**07 15 10.6**	**+0.8**
MALT	**Malatya**	**73.70**	**305**	⇑*i*P		**P**	**07 15 10.6**	**+0.8**
NACGM	**Naroch**	**73.72**	**324**	*e*P		**P**	**07 15 07.0**	**-2.4**
URFA	**Urfa**	**73.78**	**304**	*e*P		**P**	**07 15 10.1**	**-0.1**
XMAS	**Kiritimati**	**73.80**	**97**	*e*P		**P**	**07 15 11.3**	**+0.8**
	comp=Z,877nm,1.5s							
XMAS				LR		LR		
	comp=Z,72μm,22.0s							
SIM	**Simferopol'**	**73.86**	**313**	*d* *iP		**P**	**07 15 09.1**	**-1.4**
SIM				*e*S		S	07 24 46.0	+6.2
SIM				pmax	pmax			
	comp=Z,3μm,12.0s							
SIM				MLR	MLR			
	comp=Z,82μm,20.0s							
ERBA	**Erbaa**	**73.90**	**308**	*i* P		**P**	**07 15 09.3**	**-1.5**
SCER	**sogukcermik**	**73.98**	**307**	*i* P		**P**	**07 15 11.0**	**-0.5**
SVSK	**Karacayir**	**74.05**	**307**	*e*P		**P**	**07 15 11.3**	**-0.3**
AKCD	**Akcadag**	**74.07**	**305**	*i* P		**P**	**07 15 11.4**	**-0.6**
ATAB	**Bozova**	**74.14**	**304**	*i* P		**P**	**07 15 12.1**	**-0.3**
TOKT	**Tokat**	**74.19**	**308**	*e*P		**P**	**07 15 12.5**	**-0.1**
KVT	**Kavak**	**74.22**	**308**	*e*P		**P**	**07 15 12.6**	**-0.2**
DARE	**Darende-Malaty**	**74.27**	**306**	*e*P		**P**	**07 15 13.7**	**+0.5**
KSRV	**Kasrt alli**	**74.30**	**302**	*i* P		P	07 15 09.8	-3.5
KSRV	**Kasrt alli**	**74.30**	**302**	*i* P		P	07 15 09.8	-3.5
	SNR=101							
AKASG	**Malin Array Be**	**74.31**	**320**	P		**P**	**07 15 11.3**	**-1.7**
AKASG				pmax	pmax			
	comp=Z,80nm,0.7s							
AKASG				MLR	MLR			
	comp=Z,204μm,18.3s							
AKASG	**Malin Array Be**	**74.31**	**320**	P		**P**	**07 15 11.3**	**-1.7**
AKASG	**Malin Array Be**	**74.31**	**320**	P		**P**	**07 15 11.3**	**-1.7**
	comp=Z,80nm,0.7s,baz=59,slow=6.3,SNR=50							
AKASG				LR		LR	07 51 09.4	
	comp=Z,204μm,18.2s,baz=55,slow=38							
KIEV	**Kiev**	**74.33**	**320**	*e*P		**P**	**07 15 11.4**	**-1.7**
KIEV				pmax	pmax			
	comp=Z,90nm,0.7s							
KIEV				MLR	MLR			
	comp=Z,101μm,22.0s							
KIEV	**Kiev**	**74.33**	**320**	*e*P		**P**	**07 15 11.4**	**-1.7**
	comp=Z,90nm,0.7s							
KIEV				LR	LR			
	comp=Z,101μm,22.0s							
RAYN	**Ar Rayn**	**74.36**	**288**	P		**P**	**07 15 13.3**	**-0.5**
	comp=Z,959nm,0.8s,SNR=42							
HAVZ	**Havza**	**74.44**	**308**	*i* P		**P**	**07 15 13.1**	**-0.9**
DIKM	**Dikmen**	**74.51**	**309**	*e*P		**P**	**07 15 12.5**	**-1.9**
JHLN	**Al Jahlan**	**74.79**	**302**	*i* P		P	07 15 20.2	+4.1
JHLN	**Al Jahlan**	**74.79**	**302**	*i* P		P	07 15 20.2	+4.1
	SNR=93							
SLMH	**Al Salmeh**	**74.94**	**303**	*i* P		**P**	**07 15 16.8**	**-0.2**
SLMH	**Al Salmeh**	**74.94**	**303**	*i* P		**P**	**07 15 16.8**	**-0.2**
	SNR=46							
NSS	**Namsos**	**74.96**	**337**	*e*P		**P**	**07 15 15.5**	**-0.9**
NSS				AMB		AMB	07 15 42.9	
	comp=Z,185nm,0.4s							
NSS				AMS		AMS	07 52 21.8	
	comp=Z,129μm,20.0s							
PINB	**Pinarbasi**	**74.99**	**306**	*i* P		P	07 15 14.0	-3.6
KMRS	**Kahramanmaras**	**75.14**	**305**	*e*P		**P**	**07 15 17.2**	**-0.9**
YKA	**Yellowknife Ar**	**75.21**	**26**	P		**P**	**07 15 17.7**	**-0.3**
YKA	**Yellowknife Ar**	**75.21**	**26**	P		**P**	**07 15 17.7**	**-0.3**
	comp=Z,91nm,0.7s,baz=302,slow=5.6,SNR=49							
BZK	**Bozkurt**	**75.22**	**310**	*e*P		**P**	**07 15 17.8**	**-0.7**
CTKT	**Corum**	**75.27**	**308**	*i* P		**P**	**07 15 20.0**	**+1.0**
MUKL	**Al Mukalla**	**75.30**	**279**	⇑*e*P		**P**	**07 15 18.9**	**-0.4**
KUZU	**Kuzuini**	**75.32**	**304**	*i* P		**P**	**07 15 18.3**	**-0.9**
YOZ	**Yozgat**	**75.33**	**307**	*e*P		**P**	**07 15 17.8**	**-1.6**
CORM	**Corum**	**75.58**	**308**	*e*P		**P**	**07 15 20.5**	**-0.2**
TOS	**Tosya**	**75.62**	**309**	*e*P		**P**	**07 15 22.4**	**+1.5**
DRWC	**Darouich**	**75.68**	**304**	*i* P		**P**	**07 15 18.9**	**-2.4**
DRWC	**Darouich**	**75.68**	**304**	*i* P		**P**	**07 15 18.9**	**-2.4**
	SNR=46							
ILGA	**Ilgaz**	**75.82**	**309**	*i* P		**P**	**07 15 21.1**	**-1.1**
JMIC	**Jan Mayen**	**75.91**	**347**	*e*P		**P**	**07 15 20.3**	**-1.5**
JMIC				AMS		AMS	07 46 59.4	
	comp=Z,36μm,24.8s							
JMIC	**Jan Mayen**	**75.91**	**347**	LR		LR	07 52 27.1	
	comp=Z,27μm,20.9s,baz=38,slow=39							
KOZT	**Kozan**	**75.92**	**305**	*e*P		**P**	**07 15 21.5**	**-1.1**
SUW	**Suwalki**	**75.98**	**324**	*e*P		**P**	**07 15 22.4**	**-0.1**
SUW				*e*			07 25 27.0	
SUW				MLR	MLR			
	comp=Z,185μm,18.0s							
SUW	**Suwalki**	**75.98**	**324**	*e*P		**P**	**07 15 22.6**	**0.0**
	comp=Z,257nm,0.8s							
SUW	**Suwalki**	**75.98**	**324**	*e*P		**P**	**07 15 22.3**	**-0.2**
SUW				*e*SKSac		**SKSac**	**07 25 26.9**	**-3.7**
SUW				LMZ		LR	07 52 18.0	
COBT	**Iskenderun**	**76.03**	**304**	*i* P		**P**	**07 15 24.0**	**+0.6**
CANT	**Cankiri**	**76.08**	**309**	*e*P		**P**	**07 15 23.5**	**0.0**
OUZ	**Omahuta**	**76.11**	**144**	*e*P		**P**	**07 15 24.6**	**+1.2**
	comp=Z,174nm,1.3s							
TAHT	**Tahtakopru-Hat**	**76.14**	**304**	*e*P		**P**	**07 15 23.4**	**-0.4**
RABH	**Abou Rabah**	**76.24**	**302**	*i* P		**P**	**07 15 22.9**	**-1.6**
RABH	**Abou Rabah**	**76.24**	**302**	*i* P		**P**	**07 15 22.9**	**-1.6**
	SNR=46							
KIS	**Kishinev**	**76.26**	**316**	⇑*i*P		**P**	**07 15 23.0**	**-1.3**
	comp=Z,1μm,3.0s							
KIS	**Kishinev**	**76.26**	**316**	*i* PcP		**PcP**	**07 15 36.0**	**-0.1**
KIS	**Kishinev**	**76.26**	**316**	*c* *iP		**P**	**07 15 23.0**	**-1.3**
KIS				*i*			07 15 36.0	
KIS				*i* PPP		PPP	07 20 08.0	
KIS				*e*S		S	07 25 20.0	+14
KIS				*i* PS		**PnS**	**07 25 53.0**	**+6.5**
KIS				pmax	pmax			
	comp=Z,6μm,16.0s							
KIS				MLR	MLR			
	comp=E,113μm,17.0s							
KIS				MLR	MLR			
	comp=Z,137μm,17.0s							
KIS				MLR	MLR			
	comp=N,78μm,20.0s							
KIS				MLR	MLR			
	comp=Z,143μm,18.0s							
KIS	**Kishinev**	**76.26**	**316**	⇓*i*P		**P**	**07 15 24.8**	**+0.5**
ELDT	**Eldivan**	**76.27**	**309**	*i* P		**P**	**07 15 23.6**	**-1.1**
HTY	**Hatay**	**76.29**	**304**	*e*P		**P**	**07 15 24.8**	**+0.2**
ROOS	**tl_alroos**	**76.29**	**302**	*i* P		P	07 15 20.6	-4.2
ROOS	**tl_alroos**	**76.29**	**302**	*i* P		P	07 15 20.6	-4.2
	SNR=46							
TBLU	**Trondheim**	**76.34**	**336**	*e*P		**P**	**07 15 21.6**	**-2.8**
TBLU				AMS		AMS	07 54 46.6	
	comp=Z,131μm,19.3s							
YAYL	**Yayladag**	**76.35**	**304**	*i* P		**P**	**07 15 23.4**	**-1.7**
WRDH	**Warideh**	**76.36**	**303**	*i* P		P	07 15 21.8	-3.3
WRDH	**Warideh**	**76.36**	**303**	*i* P		P	07 15 21.8	-3.3
	SNR=46							
KULLO	**Kullorsuaq**	**76.41**	**2**	*i* P		**P**	**07 15 24.5**	**-0.1**
KULLO				pmax	pmax			
	comp=Z,73nm,0.8s							
KULLO				MLR	MLR			
	comp=Z,46μm,20.0s							
SAFT	**Safranbolu**	**76.43**	**310**	*e*P		**P**	**07 15 26.6**	**+1.2**
BRTR	**Keskin Array B**	**76.46**	**308**	P		**P**	**07 15 24.8**	**-1.0**
BRTR	**Keskin Array B**	**76.46**	**308**	P		**P**	**07 15 24.8**	**-1.0**
	comp=Z,90nm,1.1s,baz=108,slow=4.5,SNR=66							
BRTR				LR		LR	07 54 31.5	
	comp=Z,44μm,21.2s,baz=166,slow=40							
RAO	**Raoul Island**	**76.48**	**135**	PFAKE			07 15 40.0	+14
RAO				LR		LR		
	comp=Z,64μm,22.0s							
NIG	**Nigde**	**76.50**	**306**	*e*P		**P**	**07 15 23.0**	**-3.1**
ARNB	**Al Arnab**	**76.52**	**304**	*i* P		**P**	**07 15 27.9**	**+1.8**
ARNB	**Al Arnab**	**76.52**	**304**	*i* P		**P**	**07 15 27.9**	**+1.8**
	SNR=46							
KARA	**Karaisali**	**76.56**	**305**	*e*P		**P**	**07 15 25.4**	**-0.8**
BIDA	**Albida**	**76.64**	**303**	*i* P		**P**	**07 15 23.6**	**-3.2**
BIDA	**Albida**	**76.64**	**303**	*i* P		**P**	**07 15 23.6**	**-3.2**
	SNR=46							
KRTS	**Karatas**	**76.64**	**304**	*e*P		**P**	**07 15 26.8**	**+0.2**
GULE	**Gulek**	**76.75**	**305**	*i* P		**P**	**07 15 25.2**	**-2.3**
ZALF	**Zalf**	**76.81**	**300**	*i* P		**P**	**07 15 28.0**	**+0.3**
ZALF	**Zalf**	**76.81**	**300**	*i* P		**P**	**07 15 28.0**	**+0.3**
	SNR=46							
LEOM	**Leova**	**76.85**	**316**	⇑*i*P		**P**	**07 15 28.6**	**+1.0**
LEOM	**Leova**	**76.85**	**316**	⇑*i*P		**P**	**07 15 28.6**	**+1.0**
BBAL	**Bala**	**76.90**	**308**	*i* P		**P**	**07 15 27.3**	**-0.9**
HFS	**Hagfors**	**76.94**	**333**	P		**P**	**07 15 25.8**	**-2.1**
HFS	**Hagfors**	**76.94**	**333**	P		**P**	**07 15 25.8**	**-2.1**
	comp=Z,30nm,0.6s,baz=86,slow=6.1,SNR=44							
MARH	**Ras Al Marh**	**76.96**	**302**	*i* P		P	07 15 24.9	-4.0
MARH	**Ras Al Marh**	**76.96**	**302**	*i* P		P	07 15 24.9	-4.0
	SNR=46							
ANTO	**Ankara**	**76.98**	**308**	*e*P		**P**	**07 15 27.4**	**-1.2**
ANTO	**Ankara**	**76.98**	**308**	⇑*i*P		**P**	**07 15 28.8**	**+0.2**
ANTO	**Ankara**	**76.98**	**308**	P		**P**	**07 15 29.8**	**+1.2**
	SNR=27							
ANTO	**Ankara**	**76.98**	**308**	⇑*i*P		**P**	**07 15 28.8**	**+0.2**
ANTO	**Ankara**	**76.98**	**308**	*e*P		**P**	**07 15 29.1**	**+0.5**
	comp=Z,918nm,2.1s							
ANTO				LR		LR		
	comp=Z,71μm,22.0s							
AFSR	**Af ar-Bala (A**	**76.98**	**308**	*e*P		**P**	**07 15 27.8**	**-0.8**
TLCR		**77.11**	**315**	⇑P		**P**	**07 15 28.6**	**-0.5**
TLCR		**77.11**	**315**	⇑*i*P		**P**	**07 15 28.6**	**-0.5**
MERS	**Mersin**	**77.12**	**305**	*e*P		**P**	**07 15 29.0**	**-0.5**
SULT	**Sultanhani-AKS**	**77.23**	**307**	*e*P		**P**	**07 15 30.1**	**+0.1**
HWQ	**Hawqa**	**77.24**	**302**	*e*P		**P**	**07 15 29.1**	**-1.1**
QASN	**Qassioun**	**77.33**	**301**	*i* P		P	07 15 19.7	-11
QASN	**Qassioun**	**77.33**	**301**	*i* P		P	07 15 19.7	-11
	SNR=46							
SALA	**Sala**	**77.35**	**300**	*i* P		P	07 15 25.0	-6.0
SALA	**Sala**	**77.35**	**300**	*i* P		P	07 15 25.0	-6.0
	SNR=46							
NB2	**NORSAR Subarra**	**77.37**	**334**	P		**P**	**07 15 28.1**	**-2.2**
	comp=Z,508nm,2.0s,baz=51,slow=5.9							
NB2	**NORSAR Subarra**	**77.37**	**334**	P		**P**	**07 15 28.1**	**-2.2**
	baz=51,slow=5.9							
NOA	**NORSAR Array B**	**77.37**	**334**	P		**P**	**07 15 27.9**	**-2.4**
NOA	**NORSAR Array B**	**77.37**	**334**	P		**P**	**07 15 27.9**	**-2.4**
	comp=Z,16nm,0.8s,baz=49,slow=5.5,SNR=24							
NOA				LR		LR	07 54 53.2	
	com

BEL LMZ LR 07 53 38.5
KWP Kalwaria Pacla 78.49 321⇑ *e*P **P** **07 15 36.9 +0.1**
KWP *e**PP **pP** **07 15 50.8 +3.4**
KWP *e* 07 25 49.7
KWP pmax pmax
comp=Z,900nm,2.0s
KWP MLR MLR
comp=Z,266µm,19.2s
KWP Kalwaria Pacla 78.49 321⇑ *i*P **P** **07 15 37.2 +0.4**
KWP Kalwaria Pacla 78.49 321 *e*P **P** **07 15 36.0 -0.8**
comp=Z,397nm,1.1s
KWP LR LR
comp=Z,253µm,19.0s
KWP Kalwaria Pacla 78.49 321 *e*P **P** **07 15 36.9 +0.1**
KWP *e*pP **pP** **07 15 50.8 +3.4**
KWP *e*SKSac **SKSac** **07 25 49.7 +0.6**
KWP LMZ LR 07 53 10.6
SILT Sile 78.50 311 *e*P **P** **07 15 34.8 -2.1**
BDHA Al Bayda' 78.53 280⇑ *e*P **P** **07 15 37.4 -0.4**
BDHA AMb AMB 07 15 40.9
comp=Z,1µm,1.8s
HDMB Hadim 78.53 306 *e*P **P** **07 15 35.4 -2.0**
ISR Istrita 78.55 315 ⇓ *i*P **P** **07 15 38.0 +0.8**
ISR Istrita 78.55 315 ⇓ *i*P **P** **07 15 38.0 +0.8**
LFK Lefkose 78.56 304 *e*P **P** **07 15 37.2 -0.3**
BORA Eskisehir 78.57 309 *i* P **P** **07 15 35.8 -1.6**
PGC Sidney 78.61 40 *e*P **P** **07 15 38.1 +0.8**
comp=Z,5.9nm,0.8s
SCO Scoresbysund 78.62 351 *i* P **P** **07 15 37.6 +0.6**
SCO pmax pmax
comp=Z,45nm,0.8s
SCO MLR MLR
comp=Z,27µm,20.0s
SCO Scoresbysund 78.62 351 *i* P **P** **07 15 37.6 +0.6**
comp=Z,45nm,0.8s
SCO
comp=Z,27µm,20.0s
HRT Hereke 78.65 310 *e*P **P** **07 15 36.0 -1.8**
MLR Muntele Rosu 78.73 316⇑ *i*P **P** **07 15 37.7 -0.6**
MLR Muntele Rosu 78.73 316 P **P** **07 15 37.2 -1.1**
MLR Muntele Rosu 78.73 316 P **P** **07 15 37.2 -1.1**
comp=Z,4.6nm,0.6s,baz=346,slow=9.7,SNR=19
STW Striped Peak 78.74 41 P **P** **07 15 38.8 +0.7**
ADVT Abdulvahap 78.78 310 *e*P **P** **07 15 37.6 -1.0**
CAVI Cavuskoy 78.83 310 *e*P **P** **07 15 37.2 -1.6**
MSEY Mahe Island 78.83 258 P **P** **07 15 40.9 +1.7**
SNR=12
MSEY Mahe Island 78.83 258 PFAKE 07 15 50.0 +11
MSEY LR LR
comp=Z,35µm,21.0s
MSEY Mahe Island 78.83 258 P **P** **07 15 40.9 +1.7**
comp=Z,583nm,1.8s,SNR=5.6
CSS Prodhromos 78.85 304 P **P** **07 15 38.5 -0.5**
comp=Z,2.6nm,0.9s
CSS Prodhromos 78.85 304 P **P** **07 15 37.7 -1.3**
CSS Prodhromos 78.85 304 *e*P **P** **07 15 38.5 -0.5**
comp=Z,133nm,0.7s
CSS LR LR
comp=Z,67µm,22.0s
KLYT Kilyos 78.85 311 *e*P **P** **07 15 38.4 -0.5**
KONO Kongsberg 78.87 333⇑ *i*P **P** **07 15 36.6 -2.0**
KONO AMS AMS 07 54 24.9
comp=Z,82µm,18.3s
KONO Kongsberg 78.87 333 *e*P **P** **07 15 38.6 0.0**
KONO pmax pmax
comp=Z,572nm,2.3s
KONO MLR MLR
comp=Z,110µm,19.0s
KONO Kongsberg 78.87 333 *e*P **P** **07 15 38.6 0.0**
comp=Z,572nm,2.3s
KONO LR LR
comp=Z,110µm,19.0s
SECR 78.89 315⇑ *i*P **P** **07 15 39.8 +0.8**
ISK Istanbul-Kandi 78.93 311 *e*P **P** **07 15 37.2 -2.1**
PRD Provadia 78.97 313 P **P** **07 15 38.9 -0.5**
GAZI Gazipasa 78.99 305 *i* P **P** **07 15 37.3 -2.5**
NLWA Neilton Lookou 79.02 42 *e*P **P** **07 15 40.7 +0.9**
comp=Z,1µm,2.3s
NLWA LR LR
comp=Z,18µm,20.0s
BGKT Bogazkoy 79.06 311 *e*P **P** **07 15 37.8 -2.2**
LEF Lefka 79.10 304 *e*P **P** **07 15 39.5 -0.8**
KOLS Kolonicke sedl 79.10 320 *e*P **P** **07 15 39.9 -0.2**
KOLS Kolonicke sedl 79.10 320 *e*P **P** **07 15 39.9 -0.2**
SHUT Suhut-Afyon 79.13 308 *e*P **P** **07 15 40.6 0.0**
HYA Hoyanger 79.15 336 *e*P **P** **07 15 38.1 -2.0**
HYA AMB AMB 07 15 60.0
comp=Z,341nm,1.9s
HYA AMS AMS 07 54 09.2
comp=Z,100µm,23.9s
GEMT Gemlik 79.15 310 *e*P **P** **07 15 39.0 -1.6**
A05A Maple Falls 79.19 40 *e*P **P** **07 15 41.0 +0.5**
comp=Z,241nm,1.3s
CTYL Yal??k??y-??at 79.24 311 *e*P **P** **07 15 38.4 -2.6**
UZH Uzhgorod 79.25 320⇓ *i*P **P** **07 15 42.3 +1.4**
UZH *i* 07 15 44.1
UZH *i* 07 18 45.4
UZH *e*PPP PPP 07 20 32.1
UZH *e*S **S** **07 25 37.3 -1.3**
UZH *e* 07 25 47.8
UZH MLR MLR
comp=N,46µm,19.0s
UZH MLR MLR
comp=E,100µm,19.0s
UZH MLR MLR
comp=Z,35µm,19.0s
SZAC Souni-Zanaja 79.27 304 P **P** **07 15 41.2 -0.1**
ALFC Alevga 79.29 304 P **P** **07 15 41.1 -0.3**
comp=Z,1.6nm,0.6s
ARMT Armutlu 79.31 310 *e*P **P** **07 15 40.7 -0.7**
ELBA Catalca 79.31 311 *i* P **P** **07 15 40.4 -0.9**
ULDT Uludag 79.33 310 *i* P **P** **07 15 40.7 -1.1**
SUTC Sutluce-Ispart 79.33 307 *e*P **P** **07 15 39.5 -2.2**
GKP Gorka Klasztor 79.36 326⇑ *e*P **P** **07 15 41.4 0.0**
GKP *e**PP **pP** **07 15 55.7 +3.6**
GKP *e* 07 18 39.9
GKP *e* 07 25 58.9
GKP pmax pmax
comp=Z,200nm,0.8s
GKP MLR MLR
comp=Z,323µm,19.2s
GKP Gorka Klasztor 79.36 326 *e*P **P** **07 15 41.4 0.0**
GKP *e*pP **pP** **07 15 55.6 +3.5**
GKP *e*PP **PP** **07 18 39.8 -1.3**
GKP *e*SKSac **SKSac** **07 25 58.8 +3.7**
GKP LMZ LR 07 54 29.2
TRPA Tarpa 79.38 319⇑ *i*P **P** **07 15 41.6 0.0**
TRPA Tarpa 79.38 319⇑ *e*P **P** **07 15 41.4 -0.2**
MDNY Mudanya-Bursa 79.39 310 *e*P P 07 15 38.4 -3.4
BSD Bornholm Skovb 79.40 328⇑ *i*P **P** **07 15 41.0 -0.6**
BSD pmax pmax
comp=Z,110nm,0.8s
BSD MLR MLR
comp=Z,180µm,17.0s
BSD Bornholm Skovb 79.40 328⇑ *i*P **P** **07 15 41.0 -0.6**
comp=Z,114nm,0.8s
BSD
comp=Z,180µm,17.0s
STHS Stebnicka Huta 79.42 321 *e*P **P** **07 15 42.7 +0.9**
STHS Stebnicka Huta 79.42 321 *e*P **P** **07 15 42.7 +0.9**
TVSB Tavsanli 79.44 309 *e*P **P** **07 15 42.2 -0.1**
CMW Cultus Mountai 79.48 40 P **P** **07 15 42.8 +0.5**
ISP Isparta 79.50 307 PFAKE 07 15 50.0 +7.4
ISP LR LR
comp=Z,54µm,21.0s
CJR Cluj-Napoca 79.51 318⇑ *i*P **P** **07 15 42.8 +0.4**
CJR Cluj-Napoca 79.51 318⇑ *i*P **P** **07 15 42.8 +0.4**
AKMC Akamas 79.55 304 P **P** **07 15 42.3 -0.5**
ARR Arges 79.59 316⇑ *i*P **P** **07 15 42.8 -0.1**
PPCY Paphos 79.60 304 P **P** **07 15 41.9 -1.2**
GDZ Gediz 79.61 309 *i* P **P** **07 15 41.4 -1.8**
BCK Bucak 79.63 307 *e*P P 07 15 39.0 -4.3
E03A Lebam 79.64 42 *e*P **P** **07 15 44.6 +1.6**
comp=Z,234nm,1.1s
PHSR Pinarhisar 79.66 312 *e*P **P** **07 15 40.7 -2.6**
JCW Jim Creek 79.71 40 P **P** **07 15 43.5 0.0**
SUE Sulen 79.73 336 *e*P P 07 15 39.8 -3.4
SUE AMB AMB 07 15 56.9
comp=Z,238nm,1.2s
SUE AMS AMS 07 52 42.0
comp=Z,81µm,25.8s
OJC Ojcow 79.76 322⇑ *e*P **P** **07 15 42.7 -1.0**
OJC *e* 07 15 50.4
OJC *e* 07 18 44.0
OJC *e*S **S** **07 25 42.9 -1.1**
OJC *e* 07 26 03.4
OJC *e*SS **SS** **07 30 52.4 +0.1**
OJC MLR MLR
comp=Z,183µm,18.4s
OJC Ojcow 79.76 322 *e*P **P** **07 15 42.7 -1.0**
OJC *e*PcP **PcP** **07 15 50.4 -0.9**
OJC *e*PP **PP** **07 18 44.0 -0.5**
OJC *e*S **S** **07 25 42.9 -1.1**
OJC *e*ScS **ScS** **07 26 03.4 -2.0**
OJC *e*SS **SS** **07 30 52.4 +0.1**
OJC L L 07 54 24.0
comp=Z,183µm,18.4s
B06A Marblemount 79.78 40 *e*P **P** **07 15 44.1 +0.3**
comp=Z,1µm,2.3s
ODD1 Odda 79.83 335 *e*P **P** **07 15 44.0 +0.1**
ODD1 AMB AMB 07 16 04.2
comp=Z,206nm,3.0s
ODD1 AMS AMS 07 56 10.5
comp=Z,145µm,19.0s
ANTB Antalya 79.85 307 *e*P **P** **07 15 43.7 -0.7**
SZH Strazhica 79.86 314 P **P** **07 15 43.6 -0.7**
NIE Niedzica 79.92 321⇑ *e*P **P** **07 15 44.0 -0.6**
NIE *e* 07 15 51.6
NIE *e**PP **pP** **07 15 55.6 +0.3**
NIE *e* 07 18 46.3
NIE *e*S **S** **07 25 44.3 -1.5**
NIE *e* 07 26 05.3
NIE *e*SS **SS** **07 30 57.8 +2.9**
NIE MLR MLR
comp=Z,135µm,19.3s
NIE Niedzica 79.92 321 *i* P **P** **07 15 44.0 -0.6**
NIE *e*PcP **PcP** **07 15 51.6 -0.5**
NIE *e*pP **pP** **07 15 55.6 +0.3**
NIE *e*PP **PP** **07 18 46.3 +0.4**
NIE *e*S **S** **07 25 44.3 -1.5**
NIE *e*ScS **ScS** **07 26 05.3 -1.5**
NIE *e*SS **SS** **07 30 57.8 +2.9**
NIE L L 07 54 23.0
comp=Z,135µm,19.3s
KHAL Karahalli 79.95 308 *i* P **P** **07 15 42.9 -2.1**
F03A Seaside 79.96 43 *e*P **P** **07 15 46.9 +2.1**
comp=Z,2µm,2.3s
TKR Tekirdag 79.97 311 *e*P **P** **07 15 44.9 -0.1**
DRGR 79.99 318⇑ *i*P **P** **07 15 44.9 -0.2**
DRGR 79.99 318⇑ *i*P **P** **07 15 44.9 -0.2**
BER Bergen 79.99 335 *e*P **P** **07 15 41.5 -3.1**
BER *e*SKS **SKSac** **07 25 56.2 -3.0**
BER AMS AMS 07 57 04.5
comp=Z,130µm,18.5s
KORT Korkueli 80.02 307 *i* P **P** **07 15 43.3 -2.2**
DURS Dursunbey 80.04 310 *i* P **P** **07 15 43.6 -1.9**
TRBA At Turbah 80.12 280⇑ *e*P **P** **07 15 46.1 -0.4**
DEMI Demirci 80.15 309 *i* P **P** **07 15 44.7 -1.3**
COP Copenhagen 80.18 329 *i* P **P** **07 15 45.6 -0.2**
COP pmax pmax
comp=Z,48nm,0.8s
COP MLR MLR
comp=Z,42µm,18.0s
COP Copenhagen 80.18 329 *i* P **P** **07 15 45.6 -0.2**
comp=Z,48nm,0.8s
COP
comp=Z,42µm,17.0s
HOMB Homborsund 80.20 333⇑ *i*P **P** **07 15 44.1 -1.7**
HOMB AMS AMS 07 57 14.4
comp=Z,51µm,20.0s
D05A Enumclaw 80.21 41 *e*P **P** **07 15 46.9 +0.7**
comp=Z,764nm,1.6s
URZ Urewera 80.25 144 *e*P P 07 15 49.6 +3.4
comp=Z,558nm,1.7s
URZ Urewera 80.25 144 P **P** **07 15 46.7 +0.4**
comp=Z,10nm,0.9s,baz=16,slow=11,SNR=2.6
KECS Kecovo 80.34 320 *e*P **P** **07 15 46.7 -0.1**
KECS Kecovo 80.34 320 *e*P **P** **07 15 46.7 -0.1**
GONE Gonen-Balikesi 80.34 310 *e*P **P** **07 15 44.3 -2.7**
DEV Deva 80.36 317⇑ *i*P **P** **07 15 47.3 +0.3**
DEV Deva 80.36 317⇑ *i*P **P** **07 15 47.3 +0.3**
SART Tekirdag 80.36 311 *i* P **P** **07 15 45.5 -1.6**
RKY Sarkoy-Tekirda 80.36 311 *e*P **P** **07 15 46.0 -1.1**
BALB Balikesir 80.42 310 *e*P **P** **07 15 46.9 -0.5**
KRBG Karabiga-Canak 80.43 311 *e*P **P** **07 15 45.4 -2.0**
KULA Kula-Manisa 80.45 309 *e*P **P** **07 15 46.0 -1.7**
KULA Kula-Manisa 80.45 309 P **P** **07 15 47.4 -0.3**
KULA Kula-Manisa 80.45 309 P **P** **07 15 47.4 -0.3**
ELL Elmali 80.45 307 *e*P **P** **07 15 47.4 -0.4**
GOLH Golhisar 80.45 307 *i* P **P** **07 15 44.9 -2.9**
RGN Rugen 80.48 328 *e*P **P** **07 15 47.9 +0.6**
comp=Z,72nm,0.8s
GLHS Glhisar (BURDU 80.54 307 *e*P **P** **07 15 46.0 -2.2**
BALY Balya 80.54 310 *i* P **P** **07 15 46.4 -1.7**
LON Longmire 80.55 41 *e*P **P** **07 15 48.6 +0.5**
LON pmax pmax
comp=Z,415nm,2.2s
LON Longmire 80.55 41 *e*P **P** **07 15 48.5 +0.5**
comp=Z,415nm,2.2s
DNZL Cakiroluk 80.59 308 *i* P **P** **07 15 47.1 -1.5**
BKZ Black Stump Fm 80.62 145 *e*P P 07 15 55.0 +6.7
comp=Z,467nm,1.6s
SNART Snartemo 80.66 333 *e*P **P** **07 15 47.8 -0.5**
GZR Gura Zlata 80.69 317 ⇓ *i*P **P** **07 15 48.8 -0.1**
GZR Gura Zlata 80.69 317 ⇓ *i*P **P** **07 15 48.8 -0.1**
RAC Raciborz 80.69 323 *e*P **P** **07 15 49.0 +0.3**
RAC *e* 07 18 52.7
RAC *e*S **S** **07 25 53.8 0.0**
RAC MLR MLR
comp=E,130µm,19.6s
RAC MLR MLR
comp=Z,150µm,18.9s
LPK Lapseki 80.79 311 *e*P **P** **07 15 46.6 -2.8**
ERIK Erikli-Kesan 80.81 311 *e*P **P** **07 15 49.0 -0.5**
COR Corvallis 80.82 44 *e*P **P** **07 15 52.0 +2.5**
COR pmax pmax
comp=Z,506nm,1.3s
COR Corvallis 80.82 44 *e*P **P** **07 15 52.0 +2.5**
comp=Z,506nm,1.3s
KMY Karmoy 80.83 335 *e*P **P** **07 15 47.3 -1.8**
KMY AMS AMS 07 54 18.8
comp=Z,81µm,23.0s
AKHS Akhisar 80.84 309 *i* P **P** **07 15 48.7 -1.0**
AKS Akhisar 80.84 309 *e*P **P** **07 15 48.4 -1.3**
OKC Ostrava-Krasne 80.86 322 *e*P **P** **07 15 50.5 +0.9**
OKC *e* 07 15 58.2
OKC *e* 07 18 54.3
OKC MLR MLR
comp=Z,111µm,17.8s
OKC Ostrava-Krasne 80.86 322 *e*P **P** **07 15 50.5 +0.9**
OKC *e*pP **pP** **07 15 58.2 -2.1**
OKC *e*PP **PP** **07 18 54.3 +0.7**
OKC *ex* x 07 22 24.2
OKC *e*XS **SKSac** **07 26 09.5 +3.9**
OKC *ex* x 07 31 29.4
OKC AMS AMS 07 55 00.0
comp=Z,111µm,17.8s
SIRR Siria 80.88 318⇑ *i*P **P** **07 15 49.3 -0.5**
LTY Liberty 80.93 41 *e*P **P** **07 15 49.8 -0.3**
comp=Z,446nm,1.8s
ETW Entiat 80.93 40 P **P** **07 15 49.7 -0.5**
GELI Tayfur-Gelibol 80.97 311 *e*P **P** **07 15 48.4 -1.9**
PSZ Piszkesteto 80.98 320⇑ *i*P **P** **07 15 50.3 -0.1**
PSZ Piszkesteto 80.98 320⇑ *i*P **P** **07 15 50.3 -0.1**
PSZ Piszkesteto 80.98 320 *e*P **P** **07 15 50.5 +0.1**
comp=Z,270nm,1.3s
PSZ LR LR
comp=Z,181µm,21.0s
PSZ Piszkesteto 80.98 320⇑ *e*P **P** **07 15 50.5 +0.1**
ASR Mount Adams--S 81.00 42 P **P** **07 15 50.9 +0.3**
ENEZ Enez 81.01 312 *e*P **P** **07 15 48.4 -2.1**
KDZ Kurdzhali 81.02 313 P **P** **07 15 50.0 -0.6**
B08A Colville Reser 81.07 39 P **P** **07 15 50.4 -0.4**
FETY Fethiye 81.08 307 *e*P P 07 15 47.2 -3.8
KEBM Edson Butte 81.09 46 *e*P **P** **07 15 52.3 +1.2**
comp=Z,600nm,1.3s
WTV Waterville 81.09 40 P **P** **07 15 50.6 -0.3**
MUD Monsted U'grnd 81.11 331 *i* P **P** **07 15 49.7 -1.0**
MUD pmax pmax
comp=Z,37nm,1.3s
MUD MLR MLR
comp=Z,100µm,16.0s
MUD Monsted U'grnd 81.11 331 *i* P **P** **07 15 49.7 -1.0**
comp=Z,37nm,1.3s
MUD
comp=Z,101µm,16.0s
EBG Ellensburg 81.18 41 P **P** **07 15 51.4 -0.1**
MPEP Malo Peshtene 81.19 315 P **P** **07 15 51.4 -0.1**
RDO Rodhopi 81.20 312 *e*P **P** **07 15 51.2 -0.3**
MORC Moravsky Berou 81.22 323⇑ P **P** **07 15 52.0 +0.5**
MORC Moravsky Berou 81.22 323⇑ *i*P **P** **07 15 52.0 +0.5**
MORC Moravsky Berou 81.22 323 *e*P **P** **07 15 50.9 -0.6**
comp=Z,51nm,0.8s
PLD Plovdiv 81.24 313 P **P** **07 15 51.2 -0.5**
PLD Plovdiv 81.24 313 P **P** **07 15 51.2 -0.5**
PLD Plovdiv 81.24 313 P **P** **07 15 51.5 -0.2**
PLD Plovdiv 81.24 313 P **P** **07 15 51.2 -0.5**
KSP Ksiaz 81.25 324⇑ *e*P **P** **07 15 51.6 0.0**
KSP *e* 07 18 56.3
KSP *e* 07 26 10.5
KSP *e*SS SS 07 31 10.0 -4.4
KSP MLR MLR
comp=Z,312µm,19.4s
KSP Ksiaz 81.25 324 *e*P **P** **07 15 51.3 -0.3**
KSP *e*pP **pP** **07 16 06.2 +3.9**
KSP *e*PP **PP** **07 18 57.1 +0.3**
KSP *e*SKSac **SKSac** **07 26 05.7 -2.6**
KSP LMZ LR 07 55 31.4
AYDB Zeytinkoy-Aydi 81.25 309 *e*P **P** **07 15 52.1 0.0**
BZS Buzias 81.26 318⇑ P **P** **07 15 50.9 -0.9**
BZS Buzias 81.26 318⇑ *i*P **P** **07 15 50.8 -1.0**
DALY Dalyan (Mu¨la 81.29 307 *e*P **P** **07 15 51.7 -0.4**
EDM Edmonton 81.29 33 *e*P **P** **07 15 51.6 -0.3**
EDM Edmonton 81.29 33 *e*P **P** **07 15 51.6 -0.3**
TURN Turunc 81.30 307 *i* P **P** **07 15 52.7 +0.6**
VLL Laurance Lake 81.32 43 P **P** **07 15 53.8 +1.5**
PGB Panagyurishte 81.34 314 P **P** **07 15 51.5 -0.9**
YER Yerkesik 81.39 308 *e*P **P** **07 15 51.9 -0.8**
SNZO South Karori 81.42 148 PFAKE 07 16 00.0 +7.6
SNZO LR LR
comp=Z,71µm,22.0s
H04A Detroit Lake 81.44 43 *e*P **P** **07 15 53.6 +0.8**
comp=Z,530nm,1.6s
RZN Rozhen 81.44 313 P **P** **07 15 52.9 -0.2**
IZM Izmir 81.45 309 *e*P **P** **07 15 52.5 -0.5**
KBO Bosley Butte 81.50 46 *e*P **P** **07 15 54.7 +1.4**
comp=Z,990nm,1.8s
DPC Dobruska-Polom 81.52 324 *e*P **P** **07 15 53.5 +0.3**
DPC *e* 07 16 04.3
DPC *e* 07 18 59.0
DPC Dobruska-Polom 81.52 324 *e*P **P** **07 15 53.5 +0.3**
DPC *e*pP **pP** **07 16 04.3 +0.4**
DPC *e*PP **PP** **07 18 59.0 -0.1**
DPC *ex* x 07 22 31.2
DPC *ex* x 07 26 15.8
DPC AMS AMS 07 55 40.0
DPC Dobruska-Polom 81.52 324 *e*P **P** **07 15 53.0 -0.2**
RUE Ruedersdorf 81.52 326 *e*P **P** **07 15 53.2 +0.2**
comp=Z,264nm,1.3s
RUE Ruedersdorf 81.52 326 *e*P **P** **07 15 53.2 +0.2**
comp=Z,462nm,1.4s
SMTH Samothraki Isl 81.55 312 *e*P **P** **07 15 52.9 -0.6**
UPC Upice 81.59 324 *e*P **P** **07 15 53.7 +0.2**
UPC *e* 07 16 04.6
UPC Upice 81.59 324 *e*P **P** **07 15 53.7 +0.2**
UPC *e*pP **pP** **07 16 04.6 +0.4**
BLCB Balcova 81.61 309 *e*P **P** **07 15 52.5 -1.3**
PRK Paraskevi 81.69 310 P **P** **07 15 53.2 -1.0**
PRK Paraskevi 81.69 310 P **P** **07 15 53.2 -1.0**
PRK Paraskevi 81.69 310 P **P** **07 15 53.2 -1.0**
RPZ Rata Peaks 81.71 151 P **P** **07 15 54.7 +0.8**
RPZ Rata Peaks 81.71 151 P **P** **07 15 54.7 +0.8**
comp=Z,16nm,1.0s,baz=347,slow=1.7,SNR=3.2
BUD Budapest 81.72 320⇑ *e*P **P** **07 15 54.3 +0.2**
KHZ Kahutara 81.75 149 *e*P **P** **07 15 54.9 +0.8**
comp=Z,166nm,1.4s
E07A Sunnyside 81.78 41 *e*P **P** **07 15 55.5 +1.0**
comp=Z,146nm,0.8s
GCAM G?zelcaml? 81.83 309 *i* P **P** **07 15 54.0 -0.9**
ILULI Ilulissat 81.91 0 *i* P **P** **07 15 54.1 -0.6**
ILULI pmax pmax
comp=Z,67nm,0.9s
ILULI MLR MLR
comp=Z,29µm,21.0s
VTS Vitosha 81.92 314 *e*P **P** **07 15 55.6 +0.1**
VTS Vitosha 81.92 314 P **P** **07 15 54.4 -1.1**
VTS Vitosha 81.92 314⇑ P **P** **07 15 55.2 -0.3**
VTS Vitosha 81.92 314⇑ *i*P **P** **07 15 55.2 -0.3**
VTS Vitosha 81.92 314 P **P** **07 15 55.2 -0.3**
VTS Vitosha 81.92 314 P **P** **07 15 54.4 -1.1**
ARG Arkhangelos 81.96 307 *e*P **P** **07 15 57.1 +1.4**
OD2 Odessa Site #2 81.96 40 P **P** **07 15 54.9 -0.6**
C09A Chrisman Ranch 81.97 39 *e*P **P** **07 15 55.7 +0.2**
comp=Z,264nm,1.3s
SIGR SIGRI 81.98 310 *e*P **P** **07 15 55.4 -0.3**
VRAC Vranov 81.99 323⇑ *i*P **P** **07 15 56.2 +0.6**
VRAC Vranov 81.99 323 P **P** **07 15 54.9 -0.7**
VRAC Vranov 81.99 323 P **P** **07 15 54.9 -0.7**
comp=Z,46nm,0.9s,baz=65,slow=4.9,SNR=35
BDRM Kayabasi 82.00 308 *i* P **P** **07 15 53.7 -2.2**
SMOL Smolenice 82.00 322 *e*P **P** **07 15 56.8 +1.1**
SMOL Smolenice 82.00 322 *e*P **P** **07 15 56.8 +1.1**
HAWA Hanford 82.06 41 *e*P **P** **07 15 56.2 +0.2**
comp=Z,333nm,1.5s
HAWA LR LR
comp=Z,21µm,20.0s
G06A Carlson Farm, 82.06 42 *e*P **P** **07 15 56.0 -0.1**
comp=Z,1µm,2.0s
KRMB Red Mountain 82.07 47 *e*P **P** **07 15 56.9 +0.6**
comp=Z,1µm,2.2s
DAT Datca 82.08 308 *e*P **P** **07 15 54.3 -2.2**
HUMO Hull Mountain 82.09 45 *e*P **P** **07 15 57.1 +0.8**
comp=Z,774nm,2.3s
SMG Samos 82.09 309 *e*P **P** **07 15 54.0 -2.4**
PKSG 82.12 320 *e*P **P** **07 15 56.6 +0.3**
MMB Musomiste 82.13 313 P **P** **07 15 56.0 -0.5**
NVR Nevrokopi 82.17 313 *e*P **P** **07 15 56.5 -0.2**
BSEG Bad Segeberg 82.24 329 *e*P **P** **07 15 56.6 -0.1**
comp=Z,200nm,1.3s
PVCC Panska Ves 82.32 324 *e*P **P** **07 15 58.3 +1.0**
PVCC *e* 07 16 07.1
PVCC *e* 07 19 14.6
PVCC MLR MLR
comp=Z,151µm,18.3s
PVCC Panska Ves 82.32 324 *e*P **P** **07 15 58.3 +1.0**
PVCC *e*pP **pP** **07 16 07.1 -0.9**
PVCC *e*PP PP 07 19 14.6 +9.0
PVCC *e*XS Sx 07 26 26.6
PVCC *ex* x 07 31 53.0
PVCC AMS AMS 07 56 50.0
comp=Z,151µm,18.3s
NEW Newport 82.33 38 *e*P **P** **07 15 57.5 0.0**
comp=Z,784nm,2.3s
NEW Newport 82.33 38⇑ P **P** **07 15 57.8 +0.4**
baz=82
NEW ⇑S **S** **07 26 09.1 -1.9**
baz=82
NEW Newport 82.33 38 LR LR 07 52 47.9
comp=Z,6µm,21.3s,baz=320,slow=36
KKB Krupnik 82.39 314 P **P** **07 15 57.2 -0.6**
BRG Berggiesshubel 82.42 325 *i* P **P** **07 15 58.0 +0.2**
comp=Z,994nm,2.5s
BRG *i* 07 16 10.1
comp=Z,226nm,1.6s
BRG *i* 07 16 14.1
comp=Z,594nm,1.8s
BRG PP **PP** **07 19 03.0 -3.4**
BRG S Sx 07 26 30.0
BRG PS **PnS** **07 27 02.0 -1.8**
BRG SS **SS** **07 31 32.0 +0.2**
BRG *e*PKKP **PKKPbc** **07 34 27.4 +3.1**
comp=Z,12nm,1.4s
BRG *e*PKPPKP **P'P'df** **07 42 34.2 +0.7**
comp=Z,4.9nm,1.0s
BRG
comp=N,112µm,17.7s
BRG
comp=E,132µm,19.3s
BRG
comp=Z,194µm,17.6s
BRG Berggiesshubel 82.42 325 *i* P **P** **07 15 58.0 +0.2**
BRG *i* 07 16 10.1
BRG 07 19 03.0
BRG PS **PnS** **07 27 02.0 -1.8**
BRG SS SS 07 31 32.0 +0.1
BRG pmax pmax
comp=Z,994nm,2.6s
BRG MLR MLR
comp=N,112µm,17.7s
BRG MLR MLR

BRG MLR MLR
comp=E,132µm,19.3s
BRG Berggiesshubel 82.42 325 *e*P **P 07 15 57.3 -0.5**
comp=Z,194µm,17.6s
LRW Lerwick 82.43 338 *e*P **P 07 15 55.5 -2.2**
LRW AMB AMB 07 15 59.2
comp=Z,197nm,2.3s
LRW AMS AMS 07 58 19.8
comp=Z,66µm,20.0s
SRS Serrai 82.46 313 P **P 07 15 56.7 -1.5**
SRS Serrai 82.46 313 P **P 07 15 56.7 -1.5**
SRS Serrai 82.46 313 *e*P **P 07 15 57.9 -0.3**
SRS Serrai 82.46 313 P **P 07 15 56.7 -1.5**
KHMM Horse Mountain 82.52 47 *e*P **P 07 16 00.4 +1.7**
comp=Z,527nm,1.7s
TREC Trest 82.58 323 *e*P **P 07 15 58.9 +0.2**
TREC *e* 07 16 07.5
TREC MLR MLR
comp=Z,110µm,17.7s
TREC Trest 82.58 323 *e*P **P 07 15 58.9 +0.2**
TREC *e*pP **pP 07 16 07.5 -1.9**
TREC *e*XS Sx 07 26 28.0
TREC AMS AMS 07 56 10.0
comp=Z,110µm,17.7s
CLL Collm 82.62 326 *e*P **P 07 15 59.0 +0.2**
CLL *i* *PP **pP 07 16 08.0 -1.5**
CLL pmax pmax
comp=Z,111nm,0.7s
CLL MLR MLR
comp=Z,263µm,19.2s
CLL Collm 82.62 326 *e*P **P 07 15 58.3 -0.5**
comp=Z,137nm,0.9s
CLL Collm 82.62 326 *e*P **P 07 15 59.0 +0.2**
comp=Z,575nm,2.0s
CLL *e*Pmax 07 16 00.0
CLL *i* PcP **PcP 07 16 02.3 -1.5**
comp=Z,111nm,0.7s
CLL *i* pP **pP 07 16 08.0 -1.5**
CLL *i* sP **sP 07 16 11.0 -2.5**
comp=Z,272nm,1.0s
CLL *i* 07 16 14.8
CLL *e*PP **PP 07 19 07.0 -1.0**
CLL *e*PPPP 07 22 42.0
CLL *e*sS **ScS 07 26 30.0 +1.3**
CLL *e*PS **PnS 07 27 11.0 +4.8**
CLL *e*PPS PPS 07 27 31.0
CLL *e*SS SS 07 31 54.0 +19
CLL *e*SSmax 07 32 30.0
CLL *ep*PKKPbc 07 34 36.0
CLL *e* 07 36 24.0
CLL *es*SSSS 07 38 00.0
CLL *e* 07 39 30.0
CLL Lm MLR 07 56 00.0
comp=N,156µm,20.7s
CLL Lm MLR 07 56 00.0
comp=E,161µm,19.8s
CLL Lm MLR 07 56 00.0
comp=Z,263µm,19.2s
PKS9 Tamasi 82.64 320 *e*P **P 07 16 00.8 +1.8**
PKSM Moragy 82.65 319 ⇑P **P 07 15 58.6 -0.5**
PKSM Moragy 82.65 319 ⇑*i*P **P 07 15 58.6 -0.5**
PKSM Moragy 82.65 319 ⇑*e*P **P 07 15 58.7 -0.4**
PRU Pruhonice 82.66 324 *e*P **P 07 15 59.2 +0.2**
PRU *e* 07 16 08.3
PRU *e* 07 19 16.8
PRU MLR MLR
comp=Z,162µm,17.6s
PRU Pruhonice 82.66 324 *e*P **P 07 15 59.2 +0.2**
PRU *ep*P **pP 07 16 08.3 -1.5**
PRU *e*PP PP 07 19 16.8 +8.4
PRU *ex* x 07 21 29.7
PRU *ex* x 07 22 40.3
PRU *e*XS Sx 07 26 29.9
PRU *ex* x 07 31 54.7
PRU AMS AMS 07 56 00.0
comp=Z,162µm,17.6s
PRA Prague 82.66 324 ⇑P **P 07 16 00.0 +0.9**
PRA PP PP 07 19 17.0 +8.6
FBE Freiberg 82.69 325 *e*P **P 07 15 59.6 +0.4**
comp=Z,172nm,1.1s
SOFL Sornfelli, Far 82.71 341 AMS AMS 07 52 21.2
comp=Z,54µm,23.3s
YBH Yreka Blue Hor 82.71 46 *e*P **P 07 16 00.0 +0.4**
comp=Z,191nm,1.4s
YBH Yreka Blue Hor 82.71 46 LR LR 07 45 38.9
comp=Z,14µm,21.8s,baz=339,slow=30
KNT Kendrikon 82.88 313 P **P 07 15 59.1 -1.3**
KNT Kendrikon 82.88 313 P **P 07 15 59.1 -1.3**
KNT Kendrikon 82.88 313 *e*P **P 07 16 00.2 -0.2**
KNT Kendrikon 82.88 313 P **P 07 15 59.1 -1.3**
PLG Polygyros 82.95 312 P **P 07 15 59.8 -1.0**
PLG Polygyros 82.95 312 P **P 07 15 59.8 -1.0**
PLG Polygyros 82.95 312 *e*P **P 07 16 00.3 -0.5**
PLG Polygyros 82.95 312 P **P 07 15 59.8 -1.0**
SOP Sopron 82.96 321 ⇑*e*P **P 07 16 00.7 0.0**
KARP Karpathos 82.97 307 *e*P **P 07 16 01.2 +0.2**
VAY Valandovo 83.00 314 P **P 07 15 59.1 -1.9**
VAY Valandovo 83.00 314 P **P 07 15 59.1 -1.9**
VAY Valandovo 83.00 314 P **P 07 15 59.1 -1.9**
VAY Valandovo 83.00 314 *i* P **P 07 15 58.8 -2.2**
PAIG Paliouri 83.04 312 *e*P **P 07 16 00.2 -1.0**
HORT Hortiatis 83.06 313 *e*P **P 07 16 01.0 -0.4**
DIVS Divibare 83.06 317 P **P 07 16 00.0 -1.4**
CONA Conrad Observa 83.20 322 ⇑*i*PcP **P 07 16 02.2 +0.1**
comp=Z,4µm,3.2s,SNR=78
KCPM Cahto Peak 83.25 48 *e*P **P 07 16 02.7 +0.1**
comp=Z,425nm,1.8s
KIPM Iron Peak 83.25 48 *e*P **P 07 16 03.4 +0.9**
comp=Z,1µm,2.2s
NRDL Niedersach Rie 83.26 328 *e*P **P 07 16 01.8 -0.2**
comp=Z,336nm,1.9s
NEUB Neuenburg 83.29 326 *e*P **P 07 16 02.4 +0.1**
comp=Z,317nm,0.9s
GRG Griva 83.31 313 *e*P **P 07 16 01.8 -0.9**
APE Apeiranthos 83.31 309 *e*P **P 07 15 59.9 -2.9**
APE Apeiranthos 83.31 309 ⇑P **P 07 16 01.0 -1.8**
APE Apeiranthos 83.31 309 ⇑*i*P **P 07 16 01.0 -1.8**
SKO Skopje 83.36 315 *i* P **P 07 16 01.7 -1.2**
I07A Izee 83.38 43 *e*P **P 07 16 03.1 +0.1**
comp=Z,359nm,1.6s
WDC Whiskeytown Da 83.44 47 *e*P **P 07 16 03.3 0.0**
WDC pmax pmax
comp=Z,665nm,1.9s
WDC Whiskeytown Da 83.44 47 *e*P **P 07 16 03.2 0.0**
comp=Z,665nm,1.9s
TANN Tannenbergstha 83.45 325 *e*P **P 07 16 03.1 -0.1**
comp=Z,98nm,1.2s
WERD Werda 83.50 325 *e*P **P 07 16 03.5 0.0**
comp=Z,124nm,1.1s
GUNZ Gunzen 83.55 325 *e*P **P 07 16 04.0 +0.3**
comp=Z,132nm,1.0s
PLN Plauen 83.56 325 *e*P **P 07 16 03.7 0.0**
comp=Z,2µm,2.1s
BEHE Becsehely 83.56 320 ⇑*e*P **P 07 16 04.0 +0.2**
CLZ Clausthal 83.56 327 *e*P **P 07 16 04.2 +0.5**
comp=Z,451nm,1.7s
WALA Waterton Lakes 83.56 36 *e*P **P 07 16 04.3 +0.4**
comp=Z,7.7nm,1.3s
NKC Novy Kostel 83.57 325 *e*P **P 07 16 04.0 +0.2**
NKC MLR MLR
comp=Z,160µm,17.3s
NKC Novy Kostel 83.57 325 *e*P **P 07 16 04.0 +0.2**
NKC *e*XS Sx 07 26 46.7
NKC *ex* x 07 32 22.6
NKC AMS AMS 07 57 50.0
comp=Z,160µm,17.3s
WERN Wernitzgruen 83.57 325 *e*P **P 07 16 04.2 +0.4**
comp=Z,174nm,1.1s
F10A Beach Ranch, E 83.61 40 *e*P **P 07 16 04.8 +0.5**
comp=Z,94nm,1.0s
XOR Xorichti 83.66 312 *e*P **P 07 16 04.0 -0.5**
KHC Kasperske Hory 83.68 324 *e*P **P 07 16 04.4 0.0**
KHC *e* 07 16 15.5
KHC *e* 07 19 25.1
KHC MLR MLR
comp=Z,154µm,17.0s
KHC Kasperske Hory 83.68 324 *e*P **P 07 16 04.4 0.0**
KHC *ep*P **pP 07 16 15.5 +0.4**
KHC *ex* x 07 16 52.5
KHC *e*PP PP 07 19 25.1 +8.3
KHC *ex* x 07 21 28.9
KHC *e*XS Sx 07 26 46.4
KHC *ex* x 07 32 24.8
KHC AMS AMS 07 58 00.0
comp=Z,154µm,17.0s
KHC Kasperske Hory 83.68 324 *e*P **P 07 16 04.0 -0.4**
comp=Z,544nm,1.8s
SANT Santorini 83.73 308 *e*P **P 07 16 04.4 -0.5**
SANT Santorini 83.73 308 *e*P **P 07 16 04.5 -0.4**
comp=Z,2µm,2.5s
SANT LR LR
comp=Z,37µm,19.0s
BORG Borgarnes 83.75 348 P **P 07 16 04.8 +0.5**
BORG LR LR
comp=Z,36µm,22.0s
BORG Borgarnes 83.75 348 P **P 07 16 04.9 +0.5**
comp=Z,85nm,1.0s,baz=53,slow=1.6,SNR=6.4
MRKA Markates 83.75 311 *e*P **P 07 16 03.9 -1.1**
ARSA Arzberg 83.79 321 ⇑*i*P **P 07 16 04.4 -0.6**
comp=Z,2µm,3.2s,SNR=36
GEC2 GERESS Array S 83.79 323 *e*P **P 07 16 04.4 -0.7**
GEC2 GERESS Array S 83.79 323 *e*P **P 07 16 04.6 -0.5**
comp=Z,108nm,1.2s
GEC2 GERESS Array S 83.79 323 *e*P **P 07 16 04.3 -0.7**
comp=Z,41µm,1.3s
GERES GERESS Array B 83.79 323 P **P 07 16 04.2 -0.9**
GERES PKKPbc **PKKPbc 07 34 21.6 +0.3**
GERES P'P' 07 42 31.4
GERES GERESS Array B 83.79 323 P **P 07 16 04.2 -0.9**
comp=Z,15nm,0.6s,baz=43,slow=4.4,SNR=63
GERES PKKPbc **PKKPbc 07 34 21.6 +0.3**
comp=Z,1.1nm,0.8s,baz=199,slow=2.8,SNR=5.9
GERES PKPPKP **P'P'df 07 42 31.4 +0.3**
comp=Z,0.5nm,0.8s,baz=241,slow=1.4,SNR=4.1
GERES LR LR 07 57 26.6
comp=Z,128µm,18.6s,baz=48,slow=39
IVA Berane 83.81 316 ⇑*i*P **P 07 16 05.0 -0.3**
BSMT Bassoo Peak 83.84 38 *e*P **P 07 16 05.5 +0.1**
PLE Pljevlja 83.86 317 ⇑*i*P **P 07 16 04.8 -0.7**
ZKR Zakros 83.86 307 *e*P **P 07 16 05.8 +0.3**
MANZ Manzenberg 83.89 325 *e*P **P 07 16 05.7 +0.2**
comp=Z,198nm,1.3s
SMIA Simia 83.91 311 *e*P **P 07 16 04.5 -1.3**
PTL Penteli 83.92 310 *e*P **P 07 16 05.7 -0.1**
PVY Plav 83.93 316 *e*P **P 07 16 05.6 -0.3**
BIA Bitola 83.96 314 *e*P P 07 16 01.8 -4.2
HOPS Hopland 83.96 49 *e*P **P 07 16 06.6 +0.6**
comp=Z,588nm,1.8s
BLMT Blacktail Moun 83.97 37 *e*P **P 07 16 07.2 +1.1**
ROTZ Rotzenmuhle 83.98 325 *e*P **P 07 16 06.4 +0.5**
comp=Z,339nm,1.7s
WET Wettzell 84.03 324 *e*P **P 07 16 06.1 -0.1**
comp=Z,607nm,2.3s
KMR Kremsmunster 84.05 323 *e*P P 07 16 02.1 -4.2
KMR pmax pmax
comp=Z,855nm,2.1s
KMR Kremsmunster 84.05 323 *e*P P 07 16 02.1 -4.2
comp=Z,855nm,2.1s
FNA Florina 84.05 314 *e*P **P 07 16 06.1 -0.4**
ATH Athens Observa 84.06 310 *e*P **P 07 16 04.9 -1.6**
KZN Kozani 84.07 313 *e*P **P 07 16 05.7 -0.9**
MOA Molln 84.10 322 ⇑*i*P **P 07 16 06.3 -0.3**
comp=Z,4µm,4.4s,SNR=32
MOD Modoc 84.12 45 *e*P **P 07 16 04.7 -2.2**
comp=Z,2µm,2.8s
SFJD Kangerlussuaq 84.14 0 *i* P **P 07 16 05.8 -0.5**
comp=Z,168nm,0.8s
SFJD LR LR 07 56 20.8
comp=Z,27µm,20.0s
SFJD Kangerlussuaq 84.14 0 *e*P **P 07 16 05.0 -1.3**
comp=Z,256nm,0.9s
SFJD Kangerlussuaq 84.14 0 P **P 07 16 05.3 -1.0**
comp=Z,116nm,0.7s,baz=9.4,slow=5.6,SNR=26
SFJD LR LR 07 56 20.8
comp=Z,36µm,19.5s,baz=348,slow=38
PHP Peshkopia 84.14 315 P **P 07 16 06.2 -0.7**
PHP Peshkopia 84.14 315 P **P 07 16 06.2 -0.7**
PHP Peshkopia 84.14 315 P **P 07 16 06.2 -0.7**
LKR Lokris 84.17 311 P **P 07 16 04.3 -2.8**
LKR Lokris 84.17 311 *e*P **P 07 16 06.3 -0.8**
LKR Lokris 84.17 311 P **P 07 16 04.3 -2.8**
JTMT Jette 84.17 38 *e*P **P 07 16 08.0 +0.9**
RAR Rarotonga 84.18 118 P **P 07 16 10.1 +2.9**
RAR LR LR
comp=Z,56µm,21.0s
RAR Rarotonga 84.18 118 P **P 07 16 10.1 +2.9**
comp=Z,17nm,0.9s,baz=270,slow=1.5,SNR=2.9
NPS Neapolis 84.20 307 P **P 07 16 06.3 -1.0**
NPS Neapolis 84.20 307 P **P 07 16 06.3 -1.0**
NPS Neapolis 84.20 307 *e*P **P 07 16 08.1 +0.8**
NPS Neapolis 84.20 307 P **P 07 16 06.3 -1.0**
UPM Unac-Piva 84.22 317 *e*P **P 07 16 08.1 +0.6**
BMO Blue Mountains 84.22 41 *e*P **P 07 16 06.9 -0.5**
BMO pmax pmax
comp=Z,482nm,1.7s
BMO MLR MLR
comp=Z,21µm,22.0s
BMO Blue Mountains 84.22 41 *e*P **P 07 16 06.9 -0.5**
comp=Z,482nm,1.7s
BMO LR LR
comp=Z,21µm,22.0s
VIL2 Platees 84.23 311 *e*P **P 07 16 05.6 -1.8**
YBMT Yellow Bay 84.25 37 *e*P **P 07 16 08.8 +1.4**
comp=Z,188nm,1.5s
THL Klokotos Trika 84.32 312 *e*P **P 07 16 05.8 -2.0**
NAIG Nisos Aigina 84.33 310 *e*P **P 07 16 07.6 -0.3**
SISC Sisak 84.38 320 P **P 07 16 06.3 -1.6**
PERS Pernice 84.38 321 *i* P **P 07 16 07.8 -0.2**
PERS *e* 07 16 21.3
PERS *e*SKSac **SKSac 07 26 25.1 -4.3**
NKY Niksic 84.39 316 ⇑*i*P **P 07 16 07.7 -0.5**
SOKA Soboth 84.40 321 ⇑*i*P **P 07 16 07.3 -0.9**
comp=Z,2µm,3.0s,SNR=39
UBBA Unterbreizbach 84.40 326 *e*P **P 07 16 07.8 0.0**
comp=Z,156nm,1.2s
J08A Circle Bar Ran 84.41 43 *e*P **P 07 16 08.6 +0.2**
comp=Z,156nm,0.8s
AGG Agios Georgios 84.41 312 P **P 07 16 06.0 -2.3**
AGG Agios Georgios 84.41 312 P **P 07 16 06.0 -2.3**
AGG Agios Georgios 84.41 312 *e*P **P 07 16 07.6 -0.7**
AGG Agios Georgios 84.41 312 P **P 07 16 06.0 -2.3**
NKME Niksic 84.44 316 *e*P **P 07 16 05.7 -2.7**
TTG Podgorica 84.45 316 *e*P **P 07 16 07.7 -0.7**
NEST Nestorio 84.47 313 *e*P **P 07 16 08.3 -0.4**
SWMT Swartz Lake 84.47 38 *e*P **P 07 16 09.2 +0.6**
IBBN Ibbenburen 84.47 329 *e*P **P 07 16 08.2 -0.1**
comp=Z,536nm,1.5s
GRF Grafenberg Arr 84.53 325 *e*P **P 07 16 09.1 +0.4**
comp=Z,621nm,1.9s
GRF *e*L L 07 58 42.2
comp=Z,243µm,18.4s
GRFO Grafenberg 84.53 325 *e*P **P 07 16 09.2 +0.6**
GRFO pmax pmax
comp=Z,1µm,1.5s
GRFO Grafenberg 84.53 325 *e*P **P 07 16 09.2 +0.6**
comp=Z,1µm,1.5s
MAKR Makrakomi, Fth 84.54 312 *e*P **P 07 16 07.4 -1.6**
MCCM Marconi Confer 84.55 49 *e*P **P 07 16 08.9 0.0**
comp=Z,890nm,1.9s
DESF Desfina 84.61 311 *e*P **P 07 16 08.3 -1.1**
DSF Desfina 84.61 311 *e*P **P 07 16 08.1 -1.3**
DRME Dracevica, Mon 84.63 316 ⇑*i*P **P 07 16 08.6 -0.7**
DID Didima 84.63 310 *e*P **P 07 16 08.0 -1.5**
TIR Tirane 84.69 315 *e*P **P 07 16 10.6 +1.0**
TIR pmax pmax
comp=Z,344nm,1.2s
TIR MLR MLR
comp=Z,146µm,20.0s
TIR Tirane 84.69 315 *e*P **P 07 16 10.6 +1.0**
comp=Z,344nm,1.2s
TIR LR LR
comp=Z,146µm,20.0s
IDI Anoyia 84.69 308 *e*P **P 07 16 08.4 -1.4**
IDI Anoyia 84.69 308 *e*P **P 07 16 10.1 +0.3**
comp=Z,158nm,0.9s
IDI Anoyia 84.69 308 P **P 07 16 07.8 -2.1**
comp=Z,68nm,0.8s,baz=56,slow=5.0,SNR=12
ULC Ulcinj 84.72 316 *e*P **P 07 16 08.8 -1.0**
BUM Brajici-Budva 84.74 316 ⇑*i*P **P 07 16 09.3 -0.7**
OBKA Obir 84.77 321 ⇑*i*PcP **P 07 16 09.9 -0.2**
comp=Z,3µm,3.5s,SNR=13
OHCM Honcut 84.81 48 *e*P **P 07 16 09.8 -0.5**
OHCM *e*PP PP 07 19 36.8 +11
EVR Evrytania 84.81 312 *e*P **P 07 16 09.8 -0.6**
WVOR Wild Horse Val 84.84 44 *e*P **P 07 16 10.5 -0.1**
WVOR pmax pmax
comp=Z,356nm,1.4s
WVOR MLR MLR
comp=Z,18µm,20.0s
WVOR Wild Horse Val 84.84 44 *e*P **P 07 16 10.5 -0.1**
comp=Z,356nm,1.4s
WVOR LR LR
comp=Z,18µm,20.0s
KALE Kalithea 84.88 311 *e*P **P 07 16 09.6 -1.1**
SIVA Sivas 84.89 307 P **P 07 16 10.0 -0.7**
HCY Herceg Novi 84.90 316 ⇑*i*P **P 07 16 10.4 -0.3**
SLMT Seeley Lake 84.91 38 *e*P **P 07 16 10.3 -0.6**
MSO Missoula 84.92 38 *e*P **P 07 16 11.0 +0.1**
comp=Z,435nm,1.8s
MSO Missoula 84.92 38 ⇓P **P 07 16 10.9 +0.1**
baz=85
RJOB Jochberg 84.95 323 *e*P **P 07 16 10.9 0.0**
comp=Z,134nm,1.1s
DESE Dese 84.97 280 *i* P **P 07 16 14.0 +2.1**
DESE *e*S **S 07 26 39.4 +0.3**
BOJS Bojanci 84.99 320 *i* P **P 07 16 10.5 -0.6**
BOJS *e*PP **PP 07 19 28.6 +1.1**
BOJS *e*SKSac **SKSac 07 26 30.3 -2.8**
GUR Goura 84.99 311 P **P 07 16 09.1 -2.3**
GUR Goura 84.99 311 *e*P **P 07 16 09.5 -1.9**
GUR Goura 84.99 311 P **P 07 16 09.1 -2.3**
EFP Efpalio 85.01 311 P **P 07 16 09.0 -2.3**
EFP Efpalio 85.01 311 *e*P **P 07 16 10.2 -1.1**
JAN Janina 85.02 313 *e*P **P 07 16 11.3 -0.1**
KLV Kalavryta, Ach 85.06 311 P **P 07 16 09.2 -2.5**
KLV Kalavryta, Ach 85.06 311 *e*P **P 07 16 10.7 -1.0**
KLV Kalavryta, Ach 85.06 311 P **P 07 16 09.2 -2.5**
LJU Ljubljana 85.06 321 *i* P **P 07 16 10.8 -0.6**
LJU *i* PP **PP 07 19 30.4 +2.2**
LJU *i* SKSac **SKSac 07 26 29.8 -3.9**
LJU *i* S **S 07 26 36.4 -2.0**
LJU *i* PS PnS 07 27 52.7 +16
LJU *i* SS **SS 07 32 11.6 +0.5**
LAKA Lakka 85.07 311 *e*P **P 07 16 10.2 -1.4**
KBA Koelnbreinsper 85.07 322 ⇑*i*PcP **P 07 16 11.0 -0.7**
comp=Z,2µm,3.0s,SNR=15
MCD Coleburn Disti 85.08 337 *e*P **P 07 16 09.4 -1.8**
PSA1 Psathopyrgos 85.08 311 *e*P **P 07 16 11.6 0.0**
VAM Vamos 85.11 308 P **P 07 16 11.4 -0.4**
VAM Vamos 85.11 308 P **P 07 16 11.4 -0.4**
VAM Vamos 85.11 308 P **P 07 16 11.4 -0.4**
MVH1 Achvaich 85.13 337 *e*P **P 07 16 10.2 -1.3**
STON Ston 85.13 317 P **P 07 16 10.8 -1.0**
WTSB Winterswijk 85.14 329 *e*P **P 07 16 10.6 -1.0**
SAC San Andreas 85.16 49 *e*P **P 07 16 11.3 -0.8**
SAC pmax pmax
comp=Z,161nm,1.3s
SAC San Andreas 85.16 49 *e*P **P 07 16 11.3 -0.8**
comp=Z,161nm,1.3s
MME1 Meikle Cairn 85.18 337 *e*P **P 07 16 10.2 -1.7**
MYKA Terra Mystica 85.19 322 ⇑*i*P **P 07 16 10.7 -1.4**
comp=Z,2µm,4.9s,SNR=27
CHMT Chamberlain Mo 85.24 38 *e*P **P 07 16 12.7 +0.1**
VLI Veliai 85.26 310 *e*P **P 07 16 10.3 -2.3**
FFC Flin Flon 85.28 27 *ce*P **P 07 16 12.9 +0.6**
FFC Flin Flon 85.28 27 PFAKE 07 16 20.0 +7.7
FFC LR LR
comp=Z,12µm,21.0s
FFC Flin Flon 85.28 27 P **P 07 16 11.7 -0.6**
comp=Z,987nm,0.7s,SNR=13
BUG Bochum–Univer 85.28 328 *e*P **P 07 16 12.1 -0.2**
comp=Z,274nm,1.3s
VLX Vlachokerasia 85.28 310 *e*P **P 07 16 11.5 -1.3**
UDBI Udbina 85.28 319 P **P 07 16 11.8 -0.9**
KARN Karanos 85.30 308 P **P 07 16 11.3 -1.6**
KARN Karanos 85.30 308 P **P 07 16 11.3 -1.6**
DRUM Mains of Drumt 85.32 336 *e*P **P 07 16 10.9 -1.5**
DRUM AMB AMB 07 16 18.4
comp=Z,160nm,3.3s
DRUM AMS AMS 07 55 50.4
comp=Z,92µm,24.2s
PDO Prodromos 85.39 312 P **P 07 16 11.7 -1.5**
PDO Prodromos 85.39 312 *e*P **P 07 16 12.1 -1.1**
DRO Drossia 85.40 311 P **P 07 16 12.5 -0.8**
JAVS Javornik 85.41 321 *i* P **P 07 16 12.6 -0.7**
JAVS *i* SKSac **SKSac 07 26 32.4 -3.6**
IGT Igoumenitsa 85.42 313 *e*P **P 07 16 12.2 -1.1**
VOY Vojsko 85.42 321 *e*P **P 07 16 12.4 -0.9**
VOY *e* 07 18 16.4
VOY *e* 07 19 48.2
MRIV Mauritius Mete 85.42 244 *e*P **P 07 16 14.0 +0.4**
KYTH Kithira 85.43 309 *e*P **P 07 16 12.1 -1.4**
FUR Furstenfeldbru 85.47 324 *e*P **P 07 16 13.7 +0.2**
comp=Z,680nm,1.9s
GVD Gavdhos 85.49 307 *e*P **P 07 16 11.6 -2.2**
comp=Z,786nm,0.9s
RLS Riolos of Patr 85.50 311 P **P 07 16 12.6 -1.2**
RLS Riolos of Patr 85.50 311 *e*P **P 07 16 12.6 -1.2**
RLS Riolos of Patr 85.50 311 P **P 07 16 12.6 -1.2**
TNS Taunus Mts 85.54 327 *e*P **P 07 16 13.7 -0.1**
comp=Z,224nm,1.5s
MDO Dochfour 85.57 337 *e*P **P 07 16 11.4 -2.3**
AMT Artemida-Makis 85.64 311 *e*P **P 07 16 14.1 -0.4**
DYR Agios Nikonas 85.64 310 P **P 07 16 12.6 -1.9**
DYR Agios Nikonas 85.64 310 *e*P **P 07 16 13.8 -0.7**
ITM Ithomi 85.69 310 P **P 07 16 13.3 -1.4**
ITM Ithomi 85.69 310 *e*P **P 07 16 13.4 -1.3**
ITM Ithomi 85.69 310 P **P 07 16 13.3 -1.4**
TRI Trieste 85.69 321 *e*P **P 07 16 14.7 +0.1**
TRI pmax pmax
comp=Z,469nm,1.5s
TRI Trieste 85.69 321 *e*P **P 07 16 14.7 +0.1**
comp=Z,469nm,1.5s
ABTA Abfaltersbach 85.72 322 *i* P **P 07 16 13.6 -1.2**
comp=Z,1µm,3.4s,SNR=30
NVLJ Novalja 85.77 320 P **P 07 16 13.8 -1.1**
KAC Achnashellach 85.83 338 *e*P **P 07 16 13.3 -1.7**
WATA Walderalm 85.85 323 ⇑*i*P **P 07 16 14.6 -0.9**
comp=Z,909nm,2.8s,SNR=7.8
WTTA Wattenberg 85.86 323 ⇓*i*P **P 07 16 14.1 -1.5**
comp=Z,3µm,4.4s,SNR=25
KFL Anninata 85.92 312 P **P 07 16 14.6 -1.2**
PAHR Pah Rah Range 85.94 46 *e*P **P 07 16 16.1 0.0**
comp=Z,306nm,1.2s
PYL PYLOS 85.97 310 P **P 07 16 14.0 -2.1**
PYL PYLOS 85.97 310 P **P 07 16 14.0 -2.1**
KPL Plockton 86.08 338 *e*P **P 07 16 14.8 -1.4**
KPL AMS AMS 07 54 12.1
comp=Z,59µm,26.8s
MOTA Moosalm 86.09 323 ⇑*i*P **P 07 16 15.7 -1.1**
comp=Z,620nm,2.7s
HRY Holter Researc 86.12 37 *e*P **P 07 16 16.8 0.0**
ESY Stoneypath 86.13 335 *e*P **P 07 16 14.4 -2.1**
STU Stuttgart 86.13 325 *e*P **P 07 16 17.6 +0.9**
STU pmax pmax
comp=Z,145nm,1.0s
STU Stuttgart 86.13 325 *e*P **P 07 16 16.2 -0.5**
comp=Z,186nm,1.3s
STU Stuttgart 86.13 325 *e*P **P 07 16 17.6 +0.9**
comp=Z,145nm,1.0s
RETA Reutte 86.17 324 ⇑*i*PcP **P 07 16 16.3 -0.7**
comp=Z,2µm,4.3s,SNR=20
CMB Columbia Colle 86.24 48 *e*P **P 07 16 17.0 -0.5**
CMB pmax pmax
comp=Z,479nm,1.6s
CMB Columbia Colle 86.24 48 *e*P **P 07 16 17.0 -0.5**
comp=Z,479nm,1.6s
SAO San Andreas Ge 86.25 50 *e*P **P 07 16 18.2 +0.6**
SAO pmax pmax
comp=Z,159nm,1.2s
SAO San Andreas Ge 86.25 50 *e*P **P 07 16 18.1 +0.6**
comp=Z,159nm,1.2s
A19A Klindworth Far 86.27 34 ⇑P **P 07 16 17.6 +0.1**
baz=86,SNR=30
EDI Edinburgh 86.33 336 AMS AMS 07 56 02.9
comp=Z,88µm,24.2s
LRM Limekiln Ridge 86.35 38 *e*P **P 07 16 18.6 +0.4**
HGN Heimansgroeve 86.36 328 *e*P **P 07 16 16.6 -1.1**
HGN *e*PP PP 07 19 45.9 +7.5
HGN *e*S **S 07 26 55.6 +4.7**
HGN *e*SS SS 07 33 00.7 +31
EGMT Eagleton 86.36 36 *e*P **P 07 16 17.9 -0.1**
comp=Z,2µm,2.3s
EGMT LR LR
comp=Z,30µm,21.0s
EGMT Eagleton 86.36 36 ⇓P **P 07 16 18.4 +0.5**
baz=86,SNR=40
EBL Broad Law 86.40 336 *e*P **P 07 16 16.6 -1.2**
MEM Membach 86.43 328 P **P 07 16 17.6 -0.5**
comp=Z,160nm,2.5s
BEBN Eben Emael 86.45 328 P **P 07 16 17.6 -0.6**
comp=Z,90nm,2.4s

B19A Brinkman Farms 86.48 35 ⇓P P 07 16 18.5 0.0
baz=86,SNR=38
FETA Feichten 86.49 323 ⇑*i*PcP P 07 16 18.0 -0.7
comp=Z,2μm,4.4s,SNR=15
EAB Aberfoyle 86.54 336 *e*P P 07 16 17.1 -1.4
DLMT Dillon 86.56 39 *e*P P 07 16 19.1 +0.1
comp=Z,260nm,1.1s
WAKR Walker 86.59 47 *e*P P 07 16 19.2 -0.2
comp=Z,714nm,1.8s
HLID Hailey 86.66 41 *e*P P 07 16 19.6 0.0
comp=Z,319nm,1.5s
HLID LR LR
comp=Z,18μm,22.0s
HLID Hailey 86.66 41 ⇓P P 07 16 20.1 +0.5
baz=86
LANF Langenberg 86.68 326 *e*P P 07 16 19.3 -0.1
A20A Cobblestone Ra 86.70 34 ⇓P P 07 16 19.8 +0.2
baz=86,SNR=23
AAE Adis Abeba 86.72 278 *i* P P 07 16 21.5 +1.0
AAE 07 19 49.6
AAE 07 27 54.7
DAVA Damuels 86.76 324 ⇑*i*PcP P 07 16 19.4 -0.6
comp=Z,2μm,4.4s,SNR=15
MCMT McKenzie Canyo 86.76 39 *e*P P 07 16 20.8 +0.7
comp=Z,118nm,1.8s
EKA Eskdalemuir Ar 86.78 335 P P 07 16 17.2 -2.5
EKA Eskdalemuir Ar 86.78 335 P P 07 16 17.2 -2.5
comp=Z,12nm,0.5s,baz=48,slow=5.0,SNR=26
ESK Eskdalemuir 86.81 335 *e*P P 07 16 18.5 -1.3
ESK AMB AMB 07 16 20.0
comp=Z,133nm,2.9s
ESK AMS AMS 07 56 24.1
comp=Z,80μm,24.4s
ESK Eskdalemuir 86.81 335 PFAKE 07 16 30.0 +10
ESK LR LR
comp=Z,65μm,20.0s
ESK Eskdalemuir 86.81 335 P P 07 16 19.7 -0.2
comp=Z,398nm,1.2s,SNR=6.8
BFO Black Forest 86.86 325 *e*P P 07 16 19.3 -1.0
comp=Z,268nm,1.8s
BFO Black Forest 86.86 325 PFAKE 07 16 30.0 +10
BFO LR LR
comp=Z,188μm,20.0s
BFO Black Forest 86.86 325 P P 07 16 19.0 -1.3
comp=Z,164nm,1.0s,SNR=9.5
BMN Battle Mountai 86.87 45 *e*P P 07 16 21.8 +1.1
BMN pmax pmax
comp=Z,404nm,1.4s
BMN MLR MLR
comp=Z,18μm,21.0s
BMN Battle Mountai 86.87 45 *e*P P 07 16 21.8 +1.1
comp=Z,404nm,1.4s
BMN LR LR
comp=Z,18μm,21.0s
PGBU Glenifferbraes 86.88 336 *e*P P 07 16 19.3 -0.9
PGBU AMB AMB 07 16 26.5
comp=Z,185nm,3.3s
PGBU AMS AMS 07 59 42.2
comp=Z,75μm,19.9s
BCLA Clavier 86.89 328 P P 07 16 20.2 -0.1
comp=Z,130nm,2.2s
C19A Slack Wire Ran 86.91 35 ⇑P P 07 16 21.1 +0.5
baz=87,SNR=44
BOZ Bozeman (W) 86.91 38 *e*P P 07 16 21.7 +0.9
BOZ pmax pmax
comp=Z,647nm,2.0s
BOZ MLR MLR
comp=Z,25μm,22.0s
BOZ Bozeman (W) 86.91 38 *e*P P 07 16 21.7 +0.9
comp=Z,648nm,2.0s
BOZ LR LR
comp=Z,25μm,22.0s
B20A Solberg Farm, 86.95 34 ⇑P P 07 16 20.4 -0.4
baz=87
MCQ Macquarie Isla 86.99 164 *e*P P 07 16 21.4 +1.0
MCQ Macquarie Isla 86.99 164 *e*P P 07 16 21.4 +1.0
comp=Z,21μm,1.3s
FUORN Ofenpass-Fuorn 87.00 323 *e*P P 07 16 20.2 -1.0
comp=Z,3μm,2.8s
WLF Walferdange 87.01 327 P P 07 16 20.8 -0.1
comp=Z,268nm,1.8s
WLF Walferdange 87.01 327 *e*P P 07 16 21.9 +0.9
WLF pmax pmax
comp=Z,426nm,1.3s
WLF MLR MLR
comp=Z,128μm,19.0s
WLF Walferdange 87.01 327 *e*P P 07 16 20.9 -0.1
comp=Z,416nm,1.5s
WLF Walferdange 87.01 327 *e*P P 07 16 21.9 +0.9
comp=Z,426nm,1.3s
WLF LR LR
comp=Z,128μm,19.0s
UCC Uccle 87.05 329 P P 07 16 20.6 -0.5
DAVOX Davos/Dischmat 87.09 323 P P 07 16 20.2 -1.5
DAVOX Davos/Dischmat 87.09 323 P P 07 16 20.2 -1.5
comp=Z,26nm,0.6s,baz=42,slow=5.1,SNR=17
A21A Bergtoll Ranch 87.12 34 ⇓P P 07 16 22.0 +0.5
baz=87,SNR=16
LMK Market Rasen 87.12 333 *e*P P 07 16 19.6 -1.8
LMK AMB AMB 07 16 25.3
comp=Z,233nm,1.5s
LMK AMS AMS 08 00 15.5
comp=Z,88μm,20.5s
RER Riviere de l'E 87.26 244 *e*P P 07 16 23.1 +0.4
comp=Z,106nm,0.9s
RER LR LR
comp=Z,11μm,19.0s
WLS Welschbruch 87.28 326 *e*P P 07 16 21.7 -0.7
SNF Seneffe 87.29 329 P P 07 16 21.7 -0.6
CDF Champ du Feu 87.32 326 *e*P P 07 16 20.9 -1.7
comp=Z,134nm,0.9s
CDF Champ du Feu 87.32 326 *e*P P 07 16 20.9 -1.7
CDF pmax pmax
comp=Z,135nm,0.9s
CDF Champ du Feu 87.32 326 *e*P P 07 16 20.9 -1.7
comp=Z,134nm,0.9s
FELD Feldberg im Sc 87.32 325 *e*P P 07 16 22.0 -0.7
GIVF Givet 87.33 328 *e*P P 07 16 21.2 -1.3
comp=Z,150nm,1.1s
GIVF Givet 87.33 328 *e*P P 07 16 21.2 -1.3
GIVF pmax pmax
comp=Z,150nm,1.1s
GIVF Givet 87.33 328 *e*P P 07 16 21.2 -1.3
comp=Z,150nm,1.1s
KESW Keswick, Cumbr 87.33 335 *e*P P 07 16 21.1 -1.4
KESW AMB AMB 07 16 22.6
comp=Z,148nm,3.5s
KESW AMS AMS 08 01 51.6
comp=Z,76μm,17.2s
NVAR Mina Array Bea 87.36 47 P P 07 16 23.4 +0.2
NVAR P'P'
NVAR Mina Array Bea 87.36 47 P P 07 16 23.4 +0.2
comp=Z,43nm,1.1s,baz=288,slow=4.4,SNR=84
NVAR PKPPKP **P'P'df** 07 42 21.1 -3.5
comp=Z,0.2nm,0.3s,baz=112,slow=1.6,SNR=3.8
NVAR LR LR 07 59 08.8
comp=Z,9μm,18.0s,baz=296,slow=38
D19A Cripps Ranch, 87.37 36 ⇑P P 07 16 23.2 +0.3
baz=87,SNR=68
DOU Dourbes 87.44 328 P P 07 16 22.3 -0.7
comp=Z,128nm,2.5s
C20A Veseth Ranch, 87.45 35 ⇑P P 07 16 23.6 +0.4
baz=87,SNR=55
B21A Ellsworth Farm 87.45 34 ⇓P P 07 16 22.8 -0.4
baz=87
NV11 Mina Array Sit 87.45 47 *e*P P 07 16 24.3 +0.8
MLAC Mammoth Lakes 87.48 48 ⇓P P 07 16 23.9 +0.1
baz=87
ECH Echery 87.51 326 *e*P P 07 16 21.6 -1.9
ECH pmax pmax
comp=Z,71nm,1.3s
ECH MLR MLR
comp=Z,144μm,20.0s
ECH Echery 87.51 326 *e*P P 07 16 22.5 -1.0
ECH Echery 87.51 326 *e*P P 07 16 21.6 -1.9
comp=Z,71nm,1.3s
ECH LR LR
comp=Z,144μm,20.0s
QLMT Earthquake Lak 87.54 39 *e*P P 07 16 25.0 +1.0
TUE Stuetta 87.57 323 *e*P P 07 16 22.7 -1.3
comp=Z,67nm,0.8s
TUE LR LR
comp=Z,186μm,19.0s
A22A Carney Farms, 87.60 33 ⇓P P 07 16 24.0 +0.1
baz=87,SNR=52
BAIF Baives 87.64 328 *e*P P 07 16 22.7 -1.3
comp=Z,160nm,1.2s
BAIF Baives 87.64 328 *e*P P 07 16 22.7 -1.3
BAIF pmax pmax
comp=Z,160nm,1.2s
BAIF Baives 87.64 328 *e*P P 07 16 22.7 -1.3
comp=Z,160nm,1.2s
GAL1 Galloway 87.70 336 *e*P P 07 16 20.9 -3.2
GAL1 AMB AMB 07 16 24.2
comp=Z,136nm,3.0s
GAL1 AMS AMS 07 56 46.0
comp=Z,83μm,24.7s
PTRM Twissleman Ran 87.70 50 *e*P P 07 16 26.0 +1.3
KBI1 Birley Grange 87.75 333 *e*P P 07 16 22.5 -2.0
MOF Molkenrain 87.77 326 *e*P P 07 16 23.8 -1.0
D20A Manuel Ranch, 87.80 35 ⇑P P 07 16 25.2 +0.3
baz=88,SNR=64
MTUM Tungsten Hills 87.82 48 *e*P P 07 16 27.3 +1.9
C21A Desert Coulee 87.82 34 ⇓P P 07 16 24.7 -0.3
baz=88,SNR=7.5
GCMT Greycliff 87.87 37 *e*P P 07 16 25.8 +0.4
comp=Z,271nm,1.6s
TIP Timpagrande 87.88 314 P P 07 16 24.7 -0.8
TIP Timpagrande 87.88 314 *e*P P 07 16 25.1 -0.4
comp=Z,114nm,1.4s
TIP LR LR
comp=Z,63μm,20.0s
E19A Rath Farm, Rou 87.89 36 ⇑P P 07 16 25.2 -0.2
baz=88,SNR=85
ELK Elko 87.89 44 *e*P P 07 16 27.0 +1.3
comp=Z,511nm,2.0s
YMR Madison River 87.90 39 *e*P P 07 16 26.8 +1.2
comp=Z,658nm,1.7s
HINF Hinteralfeld 87.94 326 *e*P P 07 16 23.6 -1.9
comp=Z,65nm,0.7s
HINF Hinteralfeld 87.94 326 *e*P P 07 16 23.6 -1.9
HINF pmax pmax
comp=Z,65nm,0.7s
HINF Hinteralfeld 87.94 326 *e*P P 07 16 23.6 -1.9
comp=Z,65nm,0.7s
AQU L'Aquila 87.97 318 *e*P P 07 16 25.8 0.0
comp=Z,826nm,1.8s
AQU LR LR
comp=Z,170μm,20.0s
CUC Castrocucco 87.98 315 *e*P P 07 16 26.2 +0.3
comp=Z,237nm,1.7s
CUC LR LR
comp=Z,116μm,22.0s
RCTC Rector, Farmer 87.98 49 ⇑P P 07 16 25.7 -0.2
baz=88,SNR=6.1
PAGF Fort de Pagny 87.98 327 *e*P P 07 16 24.6 -1.1
comp=Z,80nm,1.0s,baz=58
PAGF Fort de Pagny 87.98 327 *e*P P 07 16 24.6 -1.1
comp=Z,80nm,1.0s
YNR Norris Junctio 88.02 38 *e*P P 07 16 28.7 +2.4
comp=Z,450nm,1.6s
B22A Reddig Ranch S 88.04 34 ⇓P P 07 16 25.6 -0.4
baz=88,SNR=22
SMMC Simmler 88.04 50 ⇑P P 07 16 26.9 +0.6
baz=88,SNR=9.5
HAU Haudompre 88.06 326 *e*P P 07 16 24.4 -1.7
comp=Z,99nm,1.0s
HAU *e*R
comp=Z,213μm,18.8s
HAU Haudompre 88.06 326 *e*P P 07 16 24.4 -1.7
HAU pmax pmax
comp=Z,99nm,1.0s
HAU Haudompre 88.06 326 *e*P P 07 16 24.4 -1.7
comp=Z,99nm,1.0s
THEF They Montfort 88.08 326 *e*P P 07 16 25.3 -0.9
YFT Old Faithful 88.11 39 *e*P P 07 16 28.9 +2.2
comp=Z,1μm,1.9s
A23A Redstone 88.11 33 ⇑P P 07 16 26.4 +0.1
baz=88,SNR=12
STNC Stoke 88.14 333 AMB AMB 07 16 23.3
comp=Z,95nm,2.8s
STNC *e*P P 07 16 23.4 -2.9
STNC AMS AMS 08 01 36.2
comp=Z,65μm,18.9s
E20A Meyer Farm, Mu 88.19 36 ⇓P P 07 16 27.1 +0.3
baz=88,SNR=53
F19A Roth Farm, Mol 88.20 37 ⇓P P 07 16 27.0 0.0
baz=88,SNR=31
TIN Tinemaha 88.21 48 ⇑P P 07 16 27.1 0.0
baz=88
ELSH Elham, Standar 88.22 331 *e*P P 07 16 26.1 -0.6
ELSH AMS AMS 07 59 18.9
comp=Z,97μm,21.8s
TPH Tonopah 88.26 47 *e*P P 07 16 27.7 +0.3
TPH pmax pmax
comp=Z,359nm,1.4s
TPH MLR MLR
comp=Z,16μm,20.0s
TPH Tonopah 88.26 47 *e*P P 07 16 27.7 +0.3
comp=Z,359nm,1.4s
TPH LR LR
comp=Z,16μm,20.0s
LOMF Lomont 88.27 325 *e*P P 07 16 26.3 -0.8
LKWY Lake 88.27 38 *e*P P 07 16 30.4 +2.9
LKWY pmax pmax
comp=Z,1μm,2.0s
LKWY Lake 88.27 38 *e*P P 07 16 30.4 +2.9
comp=Z,1μm,2.0s
H17A Grant Village 88.29 39 *e*P P 07 16 29.8 +2.2
H17A Grant Village 88.29 39 ⇑P P 07 16 29.4 +1.8
baz=88
MEZF Maizieres J'vi 88.34 327 *e*P P 07 16 26.3 -1.0
comp=Z,180nm,0.9s,baz=38
MEZF Maizieres J'vi 88.34 327 *e*P P 07 16 26.3 -1.0
comp=Z,180nm,0.9s
VES Vestal, Richgr 88.35 49 ⇓P P 07 16 27.7 0.0
baz=88,SNR=13
D21A La Casta Ranch 88.39 35 ⇓P P 07 16 27.8 +0.1
baz=88,SNR=52
PKM Peak Mountain 88.40 51 ⇑P P 07 16 28.9 +0.7
baz=88,SNR=8.1
B23A Brockton 88.41 33 ⇓P P 07 16 27.9 +0.2
baz=88,SNR=40
IMW Indian Meadow 88.41 39 *e*P P 07 16 29.2 +1.0
comp=Z,154nm,1.3s
FLWY Flagg Ranch 88.42 39 *e*P P 07 16 29.6 +1.5
comp=Z,508nm,1.4s
C22A Vida 88.47 34 ⇓P P 07 16 28.3 +0.2
baz=88,SNR=9.9
RLMT Red Lodge 88.52 37 *e*P P 07 16 28.6 0.0
comp=Z,590nm,1.8s
RLMT LR LR
comp=Z,25μm,22.0s
FXWY Fox Creek 88.53 39 *e*P P 07 16 29.4 +0.7
comp=Z,127nm,1.3s
VLC Villacollemand 88.53 321 *e*P P 07 16 32.5 +4.1
comp=Z,230nm,1.5s
VLC LR LR
comp=Z,163μm,19.0s
RRI2 Red Ridge 88.55 40 *e*P P 07 16 29.5 +0.7
comp=Z,701nm,2.2s
A24A Westby 88.55 32 ⇑P P 07 16 28.7 +0.3
baz=88,SNR=17
SFTF Sexfontaines 88.55 327 *e*P P 07 16 27.0 -1.4
comp=Z,210nm,0.9s,baz=52
SFTF Sexfontaines 88.55 327 *e*P P 07 16 27.0 -1.4
comp=Z,210nm,0.9s
I17A Pilgrim Ck. 88.59 39 ⇓P P 07 16 30.2 +1.2
baz=88,SNR=9.4
H18A Shoshone NF, C 88.60 38 ⇓P P 07 16 29.8 +0.8
baz=88,SNR=8.4
MOOW Moose Ponds 88.61 39 *e*P P 07 16 29.9 +0.8
comp=Z,331nm,1.8s
F20A Billings 88.66 36 ⇑P P 07 16 29.1 0.0
baz=88,SNR=17
WPM1 Penmaenmawr 88.66 334 *e*P P 07 16 26.3 -2.4
FOEL Foel Wylfa 88.68 334 *e*P P 07 16 26.1 -2.8
FOEL AMB AMB 07 16 29.2
comp=Z,155nm,2.5s
FOEL AMS AMS 07 59 22.4
comp=Z,73μm,21.7s
SENIN Lac Senin/Sane 88.70 324 *e*P P 07 16 29.3 -0.1
comp=Z,290nm,2.1s
WME Myndd Eilian 88.70 335 *e*P P 07 16 28.1 -0.8
E21A Keefer Ranch, 88.71 35 ⇑P P 07 16 29.8 +0.6
baz=88,SNR=5.3
HVU Hansel Valley 88.71 42 *e*P P 07 16 30.6 +1.1
HVU pmax pmax
comp=Z,797nm,2.2s
HVU Hansel Valley 88.71 42 *e*P P 07 16 30.6 +1.1
comp=Z,797nm,2.2s
SBC Santa Barbara 88.73 51 ⇓P P 07 16 29.1 -0.3
baz=89
D22A Cohagen 88.74 35 ⇓P P 07 16 29.7 +0.3
baz=88,SNR=38
HMNX Herstmonceux 88.77 331 *e*P P 07 16 27.6 -1.7
HMNX AMB AMB 07 16 29.8
comp=Z,187nm,2.9s
HMNX AMS AMS 08 01 29.0
comp=Z,105μm,17.7s
C23A Lambert 88.78 34 ⇑P P 07 16 29.9 +0.4
baz=89,SNR=20
LOHW Long Hollow 88.78 39 *e*P P 07 16 31.0 +1.2
comp=Z,484nm,2.3s
DGMT Dagmar 88.78 33 *e*P P 07 16 29.6 +0.1
comp=Z,2μm,2.2s
DGMT LR LR
comp=Z,51μm,22.0s
DGMT Dagmar 88.78 33 ⇑P P 07 16 29.3 -0.2
baz=89,SNR=22
SNOW Snow King Moun 88.79 39 *e*P P 07 16 30.6 +0.6
comp=Z,526nm,2.0s
REDW Red Top Meadow 88.80 40 *e*P P 07 16 31.3 +1.3
comp=Z,181nm,1.4s
WLF1 Llynfaes 88.82 335 *e*P P 07 16 28.1 -1.4
WLF1 AMB AMB 07 16 31.1
comp=Z,137nm,2.9s
WLF1 AMS AMS 08 01 32.7
comp=Z,63μm,19.7s
ISA Isabella 88.86 49 *e*P P 07 16 30.5 +0.3
ISA pmax pmax
comp=Z,155nm,1.9s
ISA Isabella 88.86 49 *e*P P 07 16 30.5 +0.3
comp=Z,155nm,1.9s
ISA Isabella 88.86 49 ⇓P P 07 16 29.3 -0.8
baz=89,SNR=9.3
ARVC Arvin 88.93 50 ⇓P P 07 16 30.4 0.0
baz=89,SNR=6.8
A25A Svangstu Ranch 88.95 32 ⇑P P 07 16 30.7 +0.5
baz=89,SNR=25
H19A Powell 88.97 38 ⇑P P 07 16 31.7 +1.1
baz=89,SNR=46
CEL Celeste 88.97 314 *e*P P 07 16 30.2 -0.4
comp=Z,264nm,0.8s
CEL LR LR
comp=Z,65μm,20.0s
G20A Bridger 89.01 37 ⇓P P 07 16 30.9 +0.1
baz=89,SNR=10
LAO LASA Array 89.03 35 *e*P P 07 16 31.2 +0.4
comp=Z,682nm,1.7s
LAO LR LR
comp=Z,33μm,21.0s
AHID Auburn Hatcher 89.05 40 *e*P P 07 16 32.1 +1.1
comp=Z,422nm,1.8s
AHID LR LR
comp=Z,23μm,21.0s
BGU Big Grassy Mou 89.10 42 *e*P P 07 16 31.9 +0.6
comp=Z,844nm,2.1s
R11A Troy Canyon, C 89.13 46 *e*P P 07 16 31.9 +0.4
R11A Troy Canyon, C 89.13 46 ⇑P P 07 16 32.0 +0.4
baz=89,SNR=51
CABF La Chapelle 89.14 325 *e*P P 07 16 29.6 -1.7
comp=Z,56nm,0.8s
CABF La Chapelle 89.14 325 *e*P P 07 16 29.6 -1.7
CABF pmax pmax
comp=Z,56nm,0.8s
CABF La Chapelle 89.14 325 *e*P P 07 16 29.6 -1.7
comp=Z,56nm,0.8s
F21A Absaloka Mine, 89.17 36 ⇑P P 07 16 31.3 -0.1
baz=89
SPUT South Promonto 89.20 42 *e*P P 07 16 34.0 +2.2
comp=Z,665nm,1.9s
D23A Lindsay 89.20 34 ⇑P P 07 16 32.2 +0.7
baz=89,SNR=41
MCH1 Michaelchurch 89.29 333 *e*P P 07 16 29.6 -2.2
MCH1 AMB AMB 07 16 35.6
comp=Z,125nm,3.9s
MCH1 AMS AMS 08 02 02.2
comp=Z,66μm,19.4s
OSI Osito Adit 89.30 50 *e*P P 07 16 34.8 +2.5
comp=Z,56nm,0.9s
OSI Osito Adit 89.30 50 ⇑P P 07 16 32.3 +0.1
baz=89
C24A Savage 89.33 33 ⇓P P 07 16 32.7 +0.6
baz=89,SNR=16
E22A Miles City 89.34 35 ⇓P P 07 16 32.9 +0.7
baz=89,SNR=16
BLG Laguna Peak 89.36 51 ⇑P P 07 16 32.1 -0.4
baz=89
I19A Meeteetse 89.38 38 ⇑P P 07 16 33.5 +0.9
baz=89,SNR=27
B25A Knox Farm, Ray 89.41 32 ⇑P P 07 16 33.7 +1.3
baz=89,SNR=46
FURC Furnace Creek, 89.44 48 ⇓P P 07 16 33.4 +0.7
baz=89,SNR=42
A26A Wade Farm, Ken 89.47 31 ⇓P P 07 16 33.2 +0.4
baz=89
RSL Roselend 89.50 324 *e*P P 07 16 32.1 -1.0
G21A Lodge Grass 89.53 36 ⇓P P 07 16 33.4 +0.2
baz=89,SNR=11
TPNV Topopah Spring 89.55 47 ⇓P P 07 16 33.9 +0.4
baz=89,SNR=12
LPL La Plagne 89.56 324 *e*P P 07 16 31.9 -1.6
comp=Z,60nm,0.8s
LPL La Plagne 89.56 324 *e*P P 07 16 31.9 -1.6
LPL pmax pmax
comp=Z,60nm,0.8s
LPL La Plagne 89.56 324 *e*P P 07 16 31.9 -1.6
comp=Z,60nm,0.8s
LPG La Plagne 89.57 324 *e*P P 07 16 32.1 -1.5
comp=Z,99nm,0.9s
LPG La Plagne 89.57 324 *e*P P 07 16 32.1 -1.5
LPG pmax pmax
comp=Z,99nm,0.9s
LPG La Plagne 89.57 324 *e*P P 07 16 32.1 -1.5
comp=Z,99nm,0.9s
H20A Greybull 89.61 37 ⇑P P 07 16 34.2 +0.6
baz=89,SNR=46
E23A Ismay 89.62 35 ⇑P P 07 16 34.4 +0.9
baz=89,SNR=20
EDW2 Edwards Air Fo 89.64 50 ⇓P P 07 16 34.2 +0.4
baz=90,SNR=13
F22A Rosebud 89.64 36 ⇑P P 07 16 34.2 +0.5
baz=89,SNR=24
D24A Glendive 89.67 34 ⇑P P 07 16 34.6 +0.9
baz=90,SNR=20
DUG Dugway 89.69 43 *e*P P 07 16 35.3 +1.3
DUG pmax pmax
comp=Z,660nm,1.9s
DUG MLR MLR
comp=Z,19μm,20.0s
DUG Dugway 89.69 43 *e*P P 07 16 35.3 +1.3
comp=Z,660nm,1.9s
DUG LR LR
comp=Z,19μm,20.0s
DUG Dugway 89.69 43 ⇑P P 07 16 35.2 +1.1
baz=90,SNR=58
B26A Jensen Ranch, 89.76 32 ⇓P P 07 16 34.4 +0.3
baz=90
C25A Freed Ranch, W 89.76 33 ⇓P P 07 16 35.3 +1.2
baz=90,SNR=26
DECC Green Verdugo 89.77 50 ⇓P P 07 16 34.8 +0.3
baz=90
LOR Lormes 89.78 327 *e*P P 07 16 32.3 -1.9
comp=Z,146nm,1.3s,baz=44
LOR *e*R
comp=Z,211μm,19.2s
LOR Lormes 89.78 327 *e*P P 07 16 32.3 -1.9
comp=Z,146nm,1.3s
A27A Ledoux Ranch, 89.80 31 ⇓P P 07 16 34.8 +0.6
baz=90,SNR=12
J19A Crowheart 89.86 39 ⇓P P 07 16 35.8 +0.9
baz=90,SNR=32
I20A Worland 89.91 38 ⇓P P 07 16 35.8 +0.8
baz=90,SNR=17
BNI Bardonecchia 89.91 324 *e*P P 07 16 33.8 -1.2
BNI *e* 07 20 12.5
BNI pmax pmax
comp=Z,35nm,0.9s
BNI MLR MLR
comp=Z,255μm,19.0s
BNI Bardonecchia 89.91 324 *e*P P 07 16 33.8 -1.2
comp=Z,35nm,0.9s
BNI *e*PP PP 07 20 12.5 +5.3
BNI LR LR
comp=Z,255μm,19.0s
BW06 Boulder Array 89.91 39 *e*P P 07 16 34.9 -0.3
comp=Z,92nm,1.2s
BW06 LR LR
comp=Z,30μm,21.0s
PDAR Pinedale Array 89.91 39 P P 07 16 34.5 -0.6
PDAR PKKPbc **PKKPbc** 07 34 08.9 +2.2

PDAR **Pinedale Array** 89.91 39 P P 07 16 34.5 -0.6
comp=Z,25nm,1.0s,baz=169,slow=0.4,SNR=81
PDAR PKKPbc **PKKPbc** 07 34 08.9 +2.2
comp=Z,1.7nm,0.8s,baz=107,slow=4.2,SNR=6.4
PASC Pasadena Art C 89.92 50 eP P 07 16 36.2 +1.1
comp=Z,430nm,2.3s
MWC Mount Wilson 89.97 50 eP P 07 16 36.7 +1.1
MWC pmax pmax
comp=Z,461nm,2.0s
MWC Mount Wilson 89.97 50 eP P 07 16 36.6 +1.1
comp=Z,461nm,2.0s
MWC ePP PP 07 20 18.6 +10
G22A Birney 90.01 36 ⇑P P 07 16 36.0 +0.6
baz=90,SNR=24
H21A Big Horn, Sher 90.02 37 ⇑P P 07 16 36.1 +0.6
baz=90,SNR=24
E24A Baker 90.07 34 ⇑P P 07 16 36.1 +0.5
baz=90,SNR=11
MBDF Montbardon 90.08 323 eP P 07 16 33.5 -2.3
comp=Z,85nm,1.1s
MBDF Montbardon 90.08 323 eP P 07 16 33.5 -2.3
MBDF pmax pmax
comp=Z,85nm,1.1s
MBDF Montbardon 90.08 323 eP P 07 16 33.5 -2.3
comp=Z,85nm,1.1s
SSF Saint Saulge 90.09 327 eP P 07 16 33.9 -1.7
comp=Z,36nm,0.8s
SSF Saint Saulge 90.09 327 eP P 07 16 33.9 -1.7
SSF pmax pmax
comp=Z,36nm,0.8s
SSF Saint Saulge 90.09 327 eP P 07 16 33.9 -1.7
comp=Z,36nm,0.8s
FMP Fort Macarthur 90.11 51 ⇓P P 07 16 36.4 +0.4
baz=90
D25A Fairfield 90.13 33 ⇓P P 07 16 36.4 +0.5
baz=90,SNR=15
SHOC Shoshone 90.16 48 ⇑P P 07 16 36.6 +0.5
baz=90,SNR=14
GSC Goldstone 90.17 49 eP P 07 16 36.8 +0.5
GSC pmax pmax
comp=Z,728nm,2.4s
GSC Goldstone 90.17 49 eP P 07 16 36.8 +0.5
comp=Z,728nm,2.4s
GSC Goldstone 90.17 49 ⇓P P 07 16 36.8 +0.5
baz=90,SNR=26
SAOF Saorge 90.17 322 eP P 07 16 34.7 -1.4
B27A Peters Farms, 90.19 31 ⇑P P 07 16 36.7 +0.7
baz=90,SNR=10
CIS Catalina Islan 90.21 51 ⇑P P 07 16 36.1 -0.4
baz=90
C26A Wahner Farm, P 90.22 32 ⇑P P 07 16 36.9 +0.7
baz=90,SNR=16
SMF Signal de Mont 90.23 326 eP P 07 16 34.5 -1.8
comp=Z,148nm,1.0s
SMF Signal de Mont 90.23 326 eP P 07 16 34.5 -1.8
SMF pmax pmax
comp=Z,148nm,1.0s
SMF Signal de Mont 90.23 326 eP P 07 16 34.5 -1.8
comp=Z,148nm,1.0s
BFSC Mount Baldy Ra 90.23 50 ⇓P P 07 16 37.1 +0.5
baz=90,SNR=11
AUTN L'Aution 90.23 323 eP P 07 16 35.5 -1.1
JLU Jordanelle 90.23 42 eP P 07 16 37.3 +0.5
comp=Z,784nm,2.0s
A28A Rude Farm, Bot 90.26 30 ⇓P P 07 16 36.7 +0.3
baz=90,SNR=19
NLU North Lily Min 90.28 43 eP P 07 16 38.3 +1.4
comp=Z,476nm,1.8s
RRX Edison Barstow 90.29 49 ⇓P P 07 16 37.6 +0.7
baz=90
TOUF Mont Tournerai 90.31 323 eP P 07 16 35.9 -1.1
SBF Sospel 90.32 322 eP P 07 16 34.7 -2.1
comp=Z,144nm,0.8s
SBF Sospel 90.32 322 eP P 07 16 34.7 -2.1
SBF pmax pmax
comp=Z,145nm,0.8s
SBF Sospel 90.32 322 eP P 07 16 34.7 -2.1
comp=Z,144nm,0.8s
J20A Shoshoni 90.33 38 ⇓P P 07 16 37.6 +0.6
baz=90,SNR=28
LUCF Luceram 90.34 322 eP P 07 16 35.4 -1.6
PGF Pioggiola 90.35 321 eP P 07 16 35.6 -1.4
comp=Z,100nm,1.1s
PGF Pioggiola 90.35 321 eP P 07 16 35.6 -1.4
PGF pmax pmax
comp=Z,100nm,1.1s
PGF Pioggiola 90.35 321 eP P 07 16 35.6 -1.4
comp=Z,100nm,1.1s
HYF Humbligny 90.36 327 eP P 07 16 36.0 -0.9
HYF Humbligny 90.36 327 eP P 07 16 36.0 -0.9
AVF Avril sur Loir 90.36 327 eP P 07 16 35.2 -1.6
comp=Z,171nm,1.2s
AVF Avril sur Loir 90.36 327 eP P 07 16 35.2 -1.6
AVF pmax pmax
comp=Z,171nm,1.2s
AVF Avril sur Loir 90.36 327 eP P 07 16 35.2 -1.6
comp=Z,171nm,1.2s
SCI San Clemente I 90.36 51 ⇓P P 07 16 36.9 -0.2
baz=90
PPT Papeete 90.39 110 P P 07 16 38.9 +1.5
PPT Papeete 90.39 110 P P 07 16 38.9 +1.5
comp=Z,52nm,1.0s,baz=345,slow=7.2,SNR=5.1
PPT LR LR 07 49 31.2
comp=Z,22µm,21.9s,baz=106,slow=30
PPT2 Papeete2 90.41 110 eP P 07 16 39.0 +1.5
comp=Z,256nm,1.5s
PPT2 Papeete2 90.41 110 eSKSac **SKSac** 07 27 02.5 -4.2
comp=Z,14µm,26.3s
PPT2 eS S 07 27 30.9 +0.6
comp=Z,30µm,28.2s
PPT2 eSP SP 07 28 33.7 -3.4
comp=Z,35µm,27.5s
PPT2 eSS SS 07 33 38.3 +6.7
comp=Z,34µm,26.5s
PPT2 eLQ LQ 07 41 02.8
comp=Z,84µm,34.0s
PPT2 eLR LR 07 45 37.1
comp=Z,67µm,23.2s,baz=293
H22A Clearmont 90.41 36 ⇓P P 07 16 37.7 +0.5
baz=90,SNR=14
REVF Revere 90.44 322 eP P 07 16 35.9 -1.5
PAE Paea 90.44 110 eP P 07 16 38.9 +1.3
comp=Z,115nm,1.6s
I21A Big Trails, Te 90.44 38 ⇓P P 07 16 38.2 +0.7
baz=90,SNR=24
DAU Daniels Canyon 90.47 42 eP P 07 16 39.4 +1.5
DAU Daniels Canyon 90.47 42 eP P 07 16 39.4 +1.5
G23A Biddle 90.48 36 ⇑P P 07 16 38.0 +0.4
baz=90,SNR=23
MPU Maple Canyon 90.50 43 eP P 07 16 39.2 +1.3
comp=Z,906nm,2.0s
F24A Ekalaka 90.51 35 ⇓P P 07 16 38.4 +0.7
baz=90,SNR=44
PMOR Pomariorio Ree 90.51 107 eP P 07 16 38.5 +0.6
comp=Z,2µm,2.1s
SHPR Sheep Range 90.52 47 eP P 07 16 38.9 +0.9
E25A Miller Ranch, 90.56 34 ⇓P P 07 16 38.4 +0.5
baz=90,SNR=11
B28A Dugan Ranch, T 90.56 31 ⇓P P 07 16 38.5 +0.7
baz=90,SNR=22
TIAR Tiarei 90.58 110 eP P 07 16 39.3 +1.0
comp=Z,23nm,1.0s
C27A Sayler Ranch, 90.58 32 ⇑P P 07 16 38.0 0.0
baz=90,SNR=11
D26A Manning 90.64 33 ⇓P P 07 16 39.0 +0.8
baz=90
HTL Hartland 90.65 333 eP P 07 16 35.5 -2.6
HTL AMS AMS 08 03 12.5
comp=Z,71µm,18.0s
LDF La Druitiere 90.66 329 eP P 07 16 36.0 -2.2
comp=Z,115nm,0.7s
LDF La Druitiere 90.66 329 eP P 07 16 36.0 -2.2
LDF pmax pmax
comp=Z,115nm,0.7s
LDF La Druitiere 90.66 329 eP P 07 16 36.0 -2.2
comp=Z,115nm,0.7s
TUQ Turquoise Moun 90.67 48 ⇑P P 07 16 38.9 +0.2
baz=90,SNR=25
J21A Lysite 90.68 38 ⇓P P 07 16 39.2 +0.5
baz=90,SNR=58
CALN Calern 90.68 323 eP P 07 16 37.5 -1.1
FLN La Foliniere 90.69 330 eP P 07 16 36.6 -1.7
comp=Z,86nm,0.8s,baz=49
FLN eR
comp=Z,200µm,23.0s
FLN La Foliniere 90.69 330 eP P 07 16 36.6 -1.7
FLN pmax pmax
comp=Z,86nm,0.8s
FLN La Foliniere 90.69 330 eP P 07 16 36.6 -1.7
comp=Z,86nm,0.8s
OG25 Le Caire 90.69 323 eP P 07 16 37.7 -0.9
A29A Manning Farm, 90.71 30 ⇓P P 07 16 39.1 +0.7
baz=90,SNR=25
BBRC Big Bear Solar 90.71 50 ⇑P P 07 16 39.1 +0.1
baz=91
HEC Hector,Ludlow 90.76 49 ⇓P P 07 16 39.2 +0.1
baz=91,SNR=7.1
BGF Bois d'Agland 90.77 327 eP P 07 16 37.3 -1.5
comp=Z,54nm,0.9s
BGF Bois d'Agland 90.77 327 eP P 07 16 37.3 -1.5
BGF pmax pmax
comp=Z,55nm,0.9s
BGF Bois d'Agland 90.77 327 eP P 07 16 37.3 -1.5
comp=Z,54nm,0.9s
ARUT Antelope Range 90.81 45 eP P 07 16 39.9 +0.5
ARUT Antelope Range 90.81 45 eP P 07 16 39.9 +0.5
comp=Z,8µm,2.1s
PLDF La Plantade 90.81 326 eP P 07 16 38.9 -0.2
I22A 9 Mile Ranch, 90.82 37 ⇑P P 07 16 39.4 +0.2
baz=91,SNR=29
OSPF L'Ospedale 90.82 320 eP P 07 16 39.5 +0.3
SSB Saint Sauveur 90.84 325 eP P 07 16 37.1 -2.1
SSB pmax pmax
comp=Z,11nm,0.7s
SSB MLR MLR
comp=Z,92µm,19.0s
SSB Saint Sauveur 90.84 325 eP P 07 16 37.1 -2.1
comp=Z,11nm,0.7s
SSB LR LR
comp=Z,92µm,19.0s
VAH Vaihoa 90.85 107 eP P 07 16 39.9 +0.4
comp=Z,819nm,2.1s
DYA Yadsworthy 90.87 333 eP P 07 16 37.2 -2.0
DYA AMB AMB 07 16 39.5
comp=Z,90nm,2.3s
DYA AMS AMS 08 03 00.8
comp=Z,74µm,18.3s
G24A Alzada 90.89 35 ⇑P P 07 16 39.7 +0.2
baz=91,SNR=20
MURC Murrieta 90.92 50 ⇑P P 07 16 40.0 +0.2
baz=91,SNR=10
H23A Clabaugh Cattl 90.92 36 ⇓P P 07 16 39.5 -0.2
baz=91
F25A Bowman 90.94 34 ⇓P P 07 16 40.2 +0.5
baz=91,SNR=17
FRF La Foret Royal 90.94 323 eP P 07 16 37.6 -2.0
comp=Z,140nm,1.4s
FRF La Foret Royal 90.94 323 eP P 07 16 37.6 -2.0
FRF pmax pmax
comp=Z,140nm,1.4s
FRF La Foret Royal 90.94 323 eP P 07 16 37.6 -2.0
comp=Z,140nm,1.4s
AGO Saint Agoulin 90.99 326 eP P 07 16 39.4 -0.5
B29A Wagenman Farm, 91.00 30 ⇑P P 07 16 40.1 +0.3
baz=91,SNR=11
CCUT Cedar City 91.00 45 eP P 07 16 41.2 +0.8
comp=Z,517nm,2.4s
D27A Center 91.01 32 ⇓P P 07 16 40.6 +0.6
baz=91
E26A Carlson Angus 91.03 33 ⇓P P 07 16 40.4 +0.4
baz=91,SNR=24
VIVF Saint-Julien-l 91.07 325 eP P 07 16 38.8 -1.5
comp=Z,48nm,0.9s
VIVF Saint-Julien-l 91.07 325 eP P 07 16 38.8 -1.5
VIVF pmax pmax
comp=Z,49nm,0.9s
VIVF Saint-Julien-l 91.07 325 eP P 07 16 38.8 -1.5
comp=Z,48nm,0.9s
C28A Hausauer Farms 91.09 31 ⇓P P 07 16 40.9 +0.7
baz=91
A30A Hoffart Farm, 91.10 29 ⇑P P 07 16 40.9 +0.6
baz=91,SNR=19
JSA Saint Aubin 91.10 331 eP P 07 16 39.0 -1.2
JSA AMB AMB 07 16 40.6
comp=Z,96nm,2.0s
JSA AMS AMS 07 59 22.9
comp=Z,100µm,25.0s
ULM Lac du Bonnet 91.10 27 P P 07 16 39.3 -1.0
ULM Lac du Bonnet 91.10 27 P P 07 16 39.3 -1.0
comp=Z,104nm,0.9s,baz=322,slow=4.8,SNR=34
ULM LR LR 07 59 16.8
comp=Z,20µm,21.4s,baz=78,slow=37
MVU Marysvale 91.11 44 eP P 07 16 42.6 +1.7
comp=Z,530nm,1.7s
MVU LR LR
comp=Z,23µm,20.0s
GRR Gorron 91.14 330 eP P 07 16 39.1 -1.3
comp=Z,124nm,0.7s
GRR Gorron 91.14 330 eP P 07 16 39.1 -1.3
GRR pmax pmax
comp=Z,124nm,0.7s
GRR Gorron 91.14 330 eP P 07 16 39.1 -1.3
comp=Z,124nm,0.7s
J22A Mivest 91.15 37 ⇑P P 07 16 41.1 +0.3
baz=91,SNR=83
LMR La Mourre 91.17 322 eP P 07 16 39.0 -1.7
comp=Z,213nm,1.4s
LMR La Mourre 91.17 322 eP P 07 16 39.0 -1.7
LMR pmax pmax
comp=Z,213nm,1.4s
LMR La Mourre 91.17 322 eP P 07 16 39.0 -1.7
comp=Z,213nm,1.4s
TMUT Trail Mountain 91.21 43 eP P 07 16 43.4 +2.0
comp=Z,849nm,2.0s
SMRF Simiane la Rot 91.22 323 eP P 07 16 39.4 -1.6
comp=Z,26nm,0.8s
SMRF Simiane la Rot 91.22 323 eP P 07 16 39.4 -1.6
comp=Z,26nm,0.8s
H24A Dirks Ranch, A 91.23 35 ⇑P P 07 16 41.3 +0.2
baz=91,SNR=33
GMRC Granite Mounta 91.23 49 ⇓P P 07 16 41.9 +0.5
baz=91,SNR=30
K21A Alcova 91.27 38 ⇓P P 07 16 42.1 +0.7
baz=91,SNR=39
PYM Petit Puy Mans 91.27 326 eP P 07 16 40.7 -0.5
TCF Toulx Ste Croi 91.27 327 eP P 07 16 39.7 -1.4
comp=Z,66nm,0.9s
TCF Toulx Ste Croi 91.27 327 eP P 07 16 39.7 -1.4
TCF pmax pmax
comp=Z,66nm,0.9s
TCF Toulx Ste Croi 91.27 327 eP P 07 16 39.7 -1.4
comp=Z,66nm,0.9s
WDD Wield Dalam 91.29 313 PFAKE 07 16 50.0 +8.6
WDD LR LR
comp=Z,35µm,22.0s
I23A Meade Ranch, G 91.31 37 ⇑P P 07 16 41.3 -0.2
baz=91
MDND Maddock 91.35 31 eP P 07 16 42.5 +1.1
MDND Maddock 91.35 31 ⇑P P 07 16 42.1 +0.7
baz=91,SNR=11
F26A Lodgepole 91.38 34 ⇓P P 07 16 42.3 +0.6
baz=91,SNR=19
D28A Regan 91.39 32 ⇑P P 07 16 42.6 +0.9
baz=91,SNR=13
109C Camp Elliot, M 91.40 51 ⇓P P 07 16 43.0 +1.0
baz=91
PFO Pinyon Flat Ob 91.41 50 P P 07 16 42.9 +0.7
comp=Z,343nm,0.9s,SNR=11
PFO Pinyon Flat Ob 91.41 50 ⇑P P 07 16 42.6 +0.4
baz=91,SNR=28
PFO Pinyon Flat Ob 91.41 50 LR LR 07 53 16.2
comp=Z,10µm,20.5s,baz=12,slow=33
LDFC Landfair 91.41 48 eP P 07 16 42.3 +0.1
comp=Z,901nm,2.1s
B30A Myrvik Farm, E 91.46 30 ⇓P P 07 16 42.2 +0.3
baz=91,SNR=14
Q16A Castle Valley 91.48 43 eP P 07 16 43.8 +1.3
Q16A Castle Valley 91.48 43 ⇑P P 07 16 43.9 +1.3
baz=91,SNR=36
BELC Belle Mtn. Jos 91.48 49 ⇑P P 07 16 43.1 +0.5
baz=91,SNR=20
G25A Newell 91.48 35 ⇑P P 07 16 42.7 +0.5
baz=91,SNR=14
E27A Carson 91.49 33 ⇑P P 07 16 43.2 +1.0
baz=91,SNR=17
J23A Dilts Ranch, B 91.64 37 ⇑P P 07 16 43.0 -0.1
baz=91
K22A Casper 91.65 38 eP P 07 16 43.7 +0.5
K22A Casper 91.65 38 ⇓P P 07 16 43.4 +0.2
baz=92,SNR=17
F27A Lemmon 91.68 33 ⇑P P 07 16 43.9 +0.9
baz=92,SNR=19
SRU San Rafael 91.74 43 eP P 07 16 44.0 +0.3
SRU pmax pmax
comp=Z,819nm,2.1s
SRU San Rafael 91.74 43 eP P 07 16 44.0 +0.3
comp=Z,819nm,2.1s
FRNF Fournols 91.75 326 eP P 07 16 42.9 -0.5
O19A Miners Draw (B 91.78 41 ⇑P P 07 16 44.0 +0.1
baz=92,SNR=23
MEH Mehetia 91.79 109 eP P 07 16 45.1 +1.2
comp=Z,54nm,1.1s
E28A Huff 91.79 32 ⇑P P 07 16 44.3 +0.8
baz=92,SNR=12
H25A Fruitdale 91.80 35 ⇓P P 07 16 44.4 +0.7
baz=92,SNR=25
I24A Kuemmerle Ranc 91.81 36 ⇓P P 07 16 44.0 +0.2
baz=92,SNR=15
G26A Maurine 91.81 34 ⇑P P 07 16 44.7 +1.0
baz=92,SNR=52
BAR Barrett 91.82 51 eP P 07 16 44.2 +0.3
comp=Z,671nm,2.3s
BAR ePP PP 07 20 34.2 +12
MONP Monument Peak 91.86 50 ⇑P P 07 16 44.7 +0.3
baz=92,SNR=14
N20A Spence Gulch, 91.91 40 ⇑P P 07 16 45.2 +0.7
baz=92,SNR=52
NEE2 Needles Airpor 91.92 48 ⇓P P 07 16 44.4 +0.1
baz=92
RWWY Rawlins 91.93 39 eP P 07 16 52.1 +7.5
comp=Z,2µm,2.8s
RSSD Black Hills 91.93 36 eP P 07 16 44.3 -0.2
RSSD pmax pmax
comp=Z,521nm,1.7s
RSSD Black Hills 91.93 36 eP P 07 16 44.3 -0.2
comp=Z,521nm,1.7s
D29A Pettibone, Tap 91.94 31 ⇑P P 07 16 44.1 -0.1
baz=92
IRM Iron Mountain 91.94 49 ⇓P P 07 16 45.1 +0.5
baz=92,SNR=35
C30A Mose, Pekin 91.96 30 ⇓P P 07 16 44.3 0.0
baz=92
SGMF Saint Gilles 91.98 330 eP P 07 16 43.0 -1.3
comp=Z,216nm,1.1s
SGMF Saint Gilles 91.98 330 eP P 07 16 43.0 -1.3
SGMF pmax pmax
comp=Z,216nm,1.1s
SGMF Saint Gilles 91.98 330 eP P 07 16 43.0 -1.3
comp=Z,216nm,1.1s
VAL Valentia 92.03 337 ⇑P P 07 16 44.0 -0.4
VAL ePP PP 07 20 24.7 +1.3
VAL Valentia 92.03 337 ⇓S S 07 27 34.3 -10
LASF Ste Croix 92.04 324 eP P 07 16 43.6 -1.1
comp=Z,92nm,1.3s
LASF Ste Croix 92.04 324 eP P 07 16 43.6 -1.1
comp=Z,92nm,1.3s
BC3 Big Chuckawall 92.05 49 ⇓P P 07 16 45.3 +0.2
baz=92,SNR=27
K23A Bowen Ranch, D 92.06 37 ⇓P P 07 16 44.8 -0.3
baz=92,SNR=11
G27A Dupree 92.08 34 ⇓P P 07 16 45.5 +0.6
baz=92,SNR=42
L22A Ellis Ranch, M 92.12 38 ⇑P P 07 16 46.0 +0.6
baz=92,SNR=13
VSL Villasalto 92.14 318 eP P 07 16 45.9 +0.6
comp=Z,63nm,0.9s
VSL LR LR
comp=Z,115µm,20.0s
MFF Saint Martin d 92.15 328 eP P 07 16 43.9 -1.3
comp=Z,75nm,0.7s
MFF Saint Martin d 92.15 328 eP P 07 16 43.9 -1.3
MFF pmax pmax
comp=Z,75nm,0.7s
MFF Saint Martin d 92.15 328 eP P 07 16 43.9 -1.3
comp=Z,75nm,0.7s
I25A Rochford 92.16 36 ⇑P P 07 16 45.7 +0.2
baz=92,SNR=59
J24A Dixon Ranch, L 92.16 37 ⇑P P 07 16 45.3 -0.2
baz=92,SNR=12
W13A Hualapai Mount 92.19 47 ⇓P P 07 16 46.0 +0.1
baz=92,SNR=60
H26A Fairpoint 92.21 35 ⇑P P 07 16 46.2 +0.6
baz=92,SNR=24
DVTC Desert V Tower 92.22 51 ⇑P P 07 16 46.6 +0.7
baz=92,SNR=7.6
ROSF Rostrenen 92.22 331 eP P 07 16 44.3 -1.2
comp=Z,416nm,1.2s
ROSF Rostrenen 92.22 331 eP P 07 16 44.3 -1.2
ROSF pmax pmax
comp=Z,416nm,1.2s
ROSF Rostrenen 92.22 331 eP P 07 16 44.3 -1.2
comp=Z,416nm,1.2s
SWSC Sam W. Stewart 92.25 50 ⇓P P 07 16 46.3 +0.4
baz=92,SNR=7.6
F28A McLaughlin 92.28 33 ⇓P P 07 16 46.2 +0.4
baz=92,SNR=19
D30A Buchanan 92.28 31 ⇓P P 07 16 45.9 +0.1
baz=92,SNR=14
E29A Napoleon 92.28 32 ⇑P P 07 16 45.6 -0.3
baz=92
P19A Cripple Cowboy 92.30 41 ⇓P P 07 16 46.6 +0.3
baz=92,SNR=59
RJF Les Rejaudoux 92.32 326 eP P 07 16 44.9 -1.1
comp=Z,151nm,1.1s
RJF eR
comp=Z,134µm,21.2s
RJF Les Rejaudoux 92.32 326 eP P 07 16 44.9 -1.1
RJF pmax pmax
comp=Z,151nm,1.1s
RJF Les Rejaudoux 92.32 326 eP P 07 16 44.9 -1.1
comp=Z,151nm,1.1s
CAF Calviac 92.33 326 eP P 07 16 44.9 -1.2
comp=Z,39nm,0.8s
CAF Calviac 92.33 326 eP P 07 16 44.9 -1.2
CAF pmax pmax
comp=Z,39nm,0.8s
CAF Calviac 92.33 326 eP P 07 16 44.9 -1.2
comp=Z,39nm,0.8s
LCHF La Chataignera 92.37 329 eP P 07 16 47.7 +1.5
U15A North Rim 92.38 46 ⇑P P 07 16 47.5 +0.7
baz=92,SNR=69
O20A White River Ci 92.39 41 eP P 07 16 46.8 +0.1
O20A White River Ci 92.39 41 ⇓P P 07 16 47.2 +0.5
baz=92,SNR=30
L23A Garrett 92.46 38 ⇑P P 07 16 47.1 +0.1
baz=92,SNR=38
M22A Cedar Creek Ra 92.46 39 ⇓P P 07 16 47.8 +0.7
baz=92,SNR=18
QUIF Quistinic 92.50 331 eP P 07 16 45.3 -1.4
comp=Z,168nm,1.1s
QUIF Quistinic 92.50 331 eP P 07 16 45.3 -1.4
QUIF pmax pmax
comp=Z,168nm,1.1s
QUIF Quistinic 92.50 331 eP P 07 16 45.3 -1.4
comp=Z,168nm,1.1s
K24A Anderson Ranch 92.51 37 ⇑P P 07 16 47.0 -0.1
baz=92,SNR=8.5
PDMCI Parker Dam,Lak 92.52 48 ⇑P P 07 16 48.2 +1.1
baz=92,SNR=21
H27A Howes 92.55 34 ⇑P P 07 16 47.5 +0.3
baz=92,SNR=22
J25A Sunshine Ranch 92.56 36 ⇓P P 07 16 47.6 +0.3
baz=92
I26A New Underwood 92.59 35 ⇑P P 07 16 48.4 +1.1
baz=92,SNR=12
Y12C Blythe 92.61 49 ⇓P P 07 16 48.4 +0.8
baz=92,SNR=46
AGMN Agassiz Nation 92.63 29 eP P 07 16 46.9 -0.5
comp=Z,304nm,1.9s
AGMN LR LR
comp=Z,23µm,21.0s
E30A Jud 92.67 31 ⇑P P 07 16 48.0 +0.4
baz=92,SNR=9.8
P20A De Beque 92.73 41 ⇓P P 07 16 49.1 +0.9
baz=93,SNR=22
F29A Eureka 92.75 32 ⇓P P 07 16 48.2 +0.2
baz=92
O21A Pagoda 92.78 40 ⇓P P 07 16 49.0 +0.5
baz=93,SNR=12
G28A Parade 92.79 33 ⇑P P 07 16 48.6 +0.3
baz=93
GLA Glamis 92.83 50 eP P 07 16 49.2 +0.5
GLA pmax pmax
comp=Z,188nm,1.3s
GLA Glamis 92.83 50 eP P 07 16 49.2 +0.5
comp=Z,188nm,1.3s
GLA Glamis 92.83 50 ⇓P P 07 16 49.2 +0.5
baz=93,SNR=25
M23A Laramie 92.89 38 ⇑P P 07 16 49.3 +0.3
baz=93,SNR=20
L24A Wheatland 92.92 38 ⇑P P 07 16 49.5 +0.5
baz=93

KMBO **Kilima Mbogo** 92.93 270 P P 07 16 50.2 +0.5
SNR=23
KMBO **Kilima Mbogo** 92.93 270 *e*P P 07 16 49.9 +0.2
comp=Z,229nm,2.1s
KMBO **Kilima Mbogo** 92.93 270 P P 07 16 48.3 -1.3
comp=Z,16nm,1.1s,baz=51,slow=7.4,SNR=23
KMBO LR LR 08 01 54.4
comp=Z,29µm,21.1s,baz=55,slow=38
N22A **Wattenberg Ran** 92.95 39 ⇓P P 07 16 49.8 +0.5
baz=93,SNR=26
LFF **La Frestale** 92.96 327 *e*P P 07 16 47.9 -1.0
LFF **La Frestale** 92.96 327 *e*P P 07 16 47.9 -1.0
LFF **La Frestale** 92.96 327 *e*P P 07 16 47.9 -1.0
PV09 **Paradox Valley** 92.96 42 *e*P P 07 16 50.2 +0.8
I27A **Quinn** 92.97 35 ⇓P P 07 16 49.4 +0.3
baz=93,SNR=27
J26A **Sides Ranch, S** 92.99 36 ⇑P P 07 16 49.9 +0.7
baz=93,SNR=42
ABPO **Ambohimpanom** 93.02 250 PFAKE
ABPO LR LR 07 17 00.0 +10
comp=Z,29µm,22.0s
H28A **Mission Ridge** 93.03 34 ⇑P P 07 16 49.6 +0.2
baz=93,SNR=6.7
K25A **Mack Ranch, Ha** 93.08 37 ⇓P P 07 16 50.2 +0.5
baz=93
PV10 **Paradox Valley** 93.10 42 *e*P P 07 16 50.7 +0.6
comp=Z,4µm,1.0s
F30A **Leola** 93.12 32 ⇓P P 07 16 49.8 +0.1
baz=93
Q20A **Ridgley Place,** 93.15 42 ⇑P P 07 16 50.8 +0.6
baz=93,SNR=40
PHWY **Pilot Hill** 93.15 38 *e*P P 07 16 51.0 +0.7
comp=Z,108nm,1.3s
N23A **Red Feather La** 93.17 39 ⇑P P 07 16 50.4 +0.1
baz=93,SNR=39
PV05 **Paradox Valley** 93.26 43 *e*P P 07 16 50.9 +0.2
O22A **Kremmling** 93.33 40 ⇑P P 07 16 51.7 +0.5
baz=93,SNR=32
L25A **Engebretsen Ra** 93.35 37 ⇓P P 07 16 51.6 +0.6
baz=93
K26A **Motz Farm, Whi** 93.38 36 ⇑P P 07 16 51.3 +0.3
baz=93,SNR=15
M24A **Cheyenne** 93.38 38 ⇓P P 07 16 51.7 +0.5
baz=93,SNR=11
TBI **Tubuai** 93.39 115 *e*PP PP 07 20 40.3 +4.4
comp=Z,4µm,30.2s
TBI *e*SKSac SKSac 07 27 21.4 -1.8
comp=Z,11µm,29.7s
TBI *e*S S 07 27 54.0 -2.8
comp=Z,37µm,26.2s
TBI *e*SP SP 07 29 11.1 +1.2
comp=Z,23µm,31.8s
TBI *e*SS SS 07 34 13.7 -0.6
comp=Z,23µm,27.2s
TBI *e*LQ LQ 07 42 14.6
comp=Z,17µm,51.5s
TBI *e*LR LR 07 46 51.4
comp=Z,65µm,22.2s,baz=302
MTLF **Montolieu** 93.39 325 *e*P P 07 16 49.7 -1.3
comp=Z,40nm,1.1s
MTLF **Montolieu** 93.39 325 *e*P P 07 16 49.7 -1.3
MTLF pmax pmax
comp=Z,40nm,1.1s
MTLF **Montolieu** 93.39 325 *e*P P 07 16 49.7 -1.3
comp=Z,40nm,1.1s
PV15 **Paradox Valley** 93.45 42 *e*P P 07 16 52.0 +0.4
I28A **Midland** 93.45 34 ⇓P P 07 16 51.4 +0.1
baz=93,SNR=16
H29A **Onida** 93.46 33 ⇑P P 07 16 51.3 0.0
baz=93,SNR=9.4
Y14A **Wickenburg** 93.48 48 ⇓P P 07 16 52.6 +0.9
baz=93,SNR=76
WUAZ **Wupatki** 93.53 46 *e*P P 07 16 52.6 +0.7
comp=Z,316nm,1.5s
WUAZ LR LR
comp=Z,18µm,21.0s
WUAZ **Wupatki** 93.53 46 ⇓P P 07 16 53.0 +1.0
baz=93,SNR=56
PV01 **Paradox Valley** 93.53 42 *e*P P 07 16 52.0 0.0
comp=Z,14µm,1.2s
J27A **Elkhorn Farm,** 93.58 35 ⇓P P 07 16 52.4 +0.4
baz=93,SNR=16
G30A **Faulkton** 93.59 32 ⇑P P 07 16 52.1 +0.2
baz=93,SNR=13
P22A **Eagle** 93.60 40 ⇓P P 07 16 53.3 +1.0
baz=93,SNR=58
R20A **Redvale** 93.61 42 ⇓P P 07 16 53.2 +0.8
baz=93,SNR=33
Q21A **Lamborn Mesa,** 93.65 41 ⇑P P 07 16 53.4 +0.9
baz=94,SNR=8.9
O23A **Lake Granby, G** 93.65 39 ⇓P P 07 16 53.5 +0.9
baz=94,SNR=30
113A **Mohawk Valley,** 93.71 49 ⇑P P 07 16 53.3 +0.7
baz=94,SNR=33
SMCO **Snowmass** 93.76 41 *e*P P 07 16 53.3 +0.1
comp=Z,250nm,1.7s
N24A **Carr** 93.79 38 ⇑P P 07 16 54.0 +0.9
baz=94,SNR=7.7
M25A **Palm-Egli Farm** 93.81 38 ⇑P P 07 16 53.7 +0.6
baz=94,SNR=7.8
J28A **Allard Ranch,** 93.84 35 ⇑P P 07 16 53.5 +0.4
baz=94,SNR=7.6
K27A **Flueckinger Fa** 93.86 36 ⇓P P 07 16 53.3 0.0
baz=94,SNR=11
S20A **Disappointment** 93.86 42 ⇓P P 07 16 54.3 +0.7
baz=94,SNR=25
I29A **Vivian Onida** 93.86 34 ⇑P P 07 16 53.2 +0.1
baz=94,SNR=7.9
Z14A **Wintersburg** 93.88 48 ⇓P P 07 16 54.1 +0.6
baz=94,SNR=17
L26A **Underwood Farm** 93.90 37 ⇑P P 07 16 53.6 +0.1
baz=94
R21A **Cimarron** 93.97 42 ⇓P P 07 16 55.2 +1.1
baz=94,SNR=32
Q22A **Crested Butte,** 94.01 41 ⇓P P 07 16 55.3 +1.0
baz=94,SNR=44
ISCO **Idaho Springs** 94.10 40 *e*P P 07 16 56.1 +1.4
ISCO pmax pmax
comp=Z,283nm,2.3s
ISCO MLR MLR
comp=Z,21µm,20.0s
ISCO **Idaho Springs** 94.10 40 *e*P P 07 16 56.1 +1.4
comp=Z,283nm,2.3s
ISCO LR LR
comp=Z,21µm,20.0s
ISCO **Idaho Springs** 94.10 40 ⇑P P 07 16 55.2 +0.5
baz=94,SNR=24
TAOE **Nuku Hiva Isla** 94.14 98 *e*S S 07 28 04.0 0.0
comp=Z,40µm,25.5s
TAOE **Nuku Hiva Isla** 94.14 98 *e*LQ LQ 07 42 26.4
comp=Z,47µm,36.5s
TAOE *e*LR LR 07 46 28.2
comp=Z,75µm,24.6s,baz=301
VALF **Valcebollere** 94.17 324 *e*P P 07 16 54.0 -0.8
O24A **Longmont** 94.18 39 ⇓P P 07 16 55.6 +0.7
baz=94,SNR=8.5
X16A **Lo Mia Camp, P** 94.19 47 ⇑P P 07 16 56.0 +1.0
baz=94,SNR=72
MVCO **Mesa Verde** 94.19 43 *e*P P 07 16 56.1 +1.0
comp=Z,264nm,1.6s
MVCO LR LR
comp=Z,18µm,20.0s
MVCO **Mesa Verde** 94.19 43 ⇑P P 07 16 55.7 +0.6
baz=94,SNR=11
MAUS **Longido** 94.19 269 *i* P P 07 16 51.6 -3.7
MAUS 07 20 33.0
MAUS 07 29 07.9
BRSD **Miller** 94.19 33 *e*P P 07 16 55.4 +0.7
BRSD **Miller** 94.19 33 ⇓P P 07 16 54.6 -0.1
baz=94,SNR=8.3
N25A **Grover** 94.23 38 ⇓P P 07 16 56.0 +0.9
baz=94
L27A **T5 Ranch, Ells** 94.27 36 ⇓P P 07 16 55.5 +0.4
baz=94
P23A **Jefferson** 94.27 40 ⇑P P 07 16 56.6 +1.1
baz=94,SNR=5.5
M26A **McRoberts Ranc** 94.28 37 ⇑P P 07 16 55.5 +0.2
baz=94
K28A **Ten Mile Ranch** 94.29 35 ⇑P P 07 16 55.2 0.0
baz=94
J29A **Okreek** 94.31 34 ⇑P P 07 16 55.1 -0.1
baz=94
S21A **Coal Bank Pass** 94.31 42 ⇑P P 07 16 57.1 +1.4
baz=94,SNR=22
I30A **Oacoma** 94.36 33 ⇑P P 07 16 55.3 -0.2
baz=94
PAF **Port-aux-Franc** 94.53 215 PFAKE
PAF LR LR 07 17 10.0 +14
comp=Z,11µm,19.0s
R22A **Saguache, Gunn** 94.53 41 ⇑P P 07 16 58.1 +1.4
baz=94,SNR=6.9
EPF **Esparros** 94.56 325 *e*P P 07 16 54.7 -1.7
comp=Z,10nm,0.5s
EPF **Esparros** 94.56 325 *e*P P 07 16 54.7 -1.7
EPF pmax pmax
comp=Z,10.0nm,0.5s
EPF **Esparros** 94.56 325 *e*P P 07 16 54.7 -1.7
comp=Z,10nm,0.5s
Q23A **Hartsel** 94.59 40 ⇑P P 07 16 57.5 +0.5
baz=94
M27A **Reverse DX Ran** 94.63 37 ⇓P P 07 16 57.3 +0.5
baz=94
KEST **Kesra** 94.63 315 *e*P P 07 17 00.7 +3.8
KEST **Kesra** 94.63 315 P P 07 16 56.6 -0.3
comp=Z,6.2nm,0.8s,baz=325,slow=7.7,SNR=11
KEST LR LR 08 07 38.4
comp=Z,25µm,18.9s,baz=338,slow=41
N26A **Koester Ranch,** 94.69 38 ⇓P P 07 16 57.7 +0.6
baz=94
P24A **Kohler Place,** 94.69 39 ⇑P P 07 16 57.8 +0.5
baz=94
O25A **Wiggins** 94.71 39 ⇓P P 07 16 58.0 +0.7
baz=94,SNR=5.5
U20A **Newcomb** 94.73 44 ⇓P P 07 16 58.4 +0.9
baz=95
L28A **Connealy Angus** 94.73 36 ⇑P P 07 16 56.8 -0.5
baz=94
J30A **Dallas** 94.77 34 ⇑P P 07 16 57.6 +0.3
baz=94,SNR=15
K29A **Lazy Trails An** 94.78 35 ⇑P P 07 16 57.6 +0.1
baz=95
W18A **Petrified Fore** 94.81 45 *e*P P 07 17 00.1 +2.2
W18A **Petrified Fore** 94.81 45 ⇓P P 07 16 58.1 +0.2
baz=95
S22A **4UR Ranch, Cre** 94.81 42 ⇑P P 07 16 58.5 +0.5
baz=95,SNR=13
214A **Organ Pipe Nat** 94.85 49 ⇑P P 07 16 59.1 +1.2
baz=95,SNR=40
T21A **Navajo Lake** 94.91 43 ⇓P P 07 16 59.0 +0.6
baz=95,SNR=6.5
Q24A **Divide** 94.94 40 ⇓P P 07 16 58.7 +0.1
baz=95,SNR=7.1
ORDF **Ordiarp** 95.05 326 *e*P P 07 16 57.5 -1.1
O26A **Horse Wrangler** 95.05 38 ⇑P P 07 16 59.2 +0.3
baz=95,SNR=5.1
X18A **Snowflake** 95.06 46 ⇓P P 07 16 59.5 +0.5
baz=95,SNR=13
N27A **Anderson Farm,** 95.07 37 ⇑P P 07 16 57.9 -0.9
baz=95
R23A **Moffat** 95.09 41 ⇑P P 07 17 00.0 +0.8
baz=95,SNR=20
SCHQ **Schefferville** 95.10 10 *e*P P 07 16 58.5 0.0
comp=Z,108nm,1.3s
SCHQ **Schefferville** 95.10 10 P P 07 16 57.7 -0.9
comp=Z,31nm,1.0s,baz=347,slow=4.5,SNR=10
SCHQ LR LR 08 02 35.7
comp=Z,63µm,20.7s,baz=343,slow=37
ETSF **Etsaut** 95.10 326 *e*P P 07 16 57.8 -1.1
comp=Z,29nm,0.7s
ETSF **Etsaut** 95.10 326 *e*P P 07 16 57.8 -1.1
ETSF pmax pmax
comp=Z,29nm,0.7s
ETSF **Etsaut** 95.10 326 *e*P P 07 16 57.8 -1.1
comp=Z,29nm,0.7s
P25A **Willow Gulch B** 95.10 39 ⇑P P 07 16 59.8 +0.6
baz=95,SNR=8.7
V20A **Brimhall** 95.14 44 ⇑P P 07 16 60.0 +0.5
baz=95,SNR=15
K30A **Basset** 95.20 34 ⇓P P 07 16 59.2 -0.1
baz=95
CMAH **Djebel Manchou** 95.20 317 P P 07 16 59.3 -0.2
LARF **Larrau** 95.20 326 *e*P P 07 16 59.6 +0.2
U21A **Nageezi** 95.21 43 ⇓P P 07 17 00.1 +0.4
baz=95,SNR=13
L29A **Maesberg Ranch** 95.22 35 ⇓P P 07 16 59.0 -0.5
baz=95
SJPF **Ste Jean** 95.26 326 *e*P P 07 16 56.3 -3.3
comp=Z,17nm,0.9s
SJPF **Ste Jean** 95.26 326 *e*P P 07 16 56.3 -3.3
SJPF pmax pmax
comp=Z,17nm,0.9s
SJPF **Ste Jean** 95.26 326 *e*P P 07 16 56.3 -3.3
comp=Z,17nm,0.9s
T22A **Edith** 95.27 42 ⇑P P 07 17 01.3 +1.3
baz=95,SNR=20
S23A **Nye Farm, Mont** 95.32 41 ⇑P P 07 17 01.3 +1.0
baz=95
ABSA **Djebel Ababsia** 95.41 317 P P 07 16 59.3 -1.2
R24A **Sanders Place,** 95.47 40 ⇑P P 07 17 01.7 +0.8
baz=95,SNR=7.5
Q25A **Bedland, Calha** 95.48 39 ⇑P P 07 17 01.0 +0.1
baz=95,SNR=8.8
P26A **Davis Ranch, A** 95.52 39 ⇑P P 07 17 01.4 +0.4
baz=95,SNR=6.1
O27A **Beecher Island** 95.54 38 ⇓P P 07 17 01.0 -0.1
baz=95
M29A **Burnside Ranch** 95.56 36 ⇑P P 07 17 01.0 0.0
baz=95
W20A **Ramah** 95.57 45 ⇑P P 07 17 02.2 +0.7
baz=95,SNR=14
SDCO **Great Sand Dun** 95.58 41 *e*P P 07 17 02.1 +0.6
comp=Z,79nm,1.6s
SDCO LR LR
comp=Z,20µm,21.0s
V21A **Milan** 95.64 44 ⇓P P 07 17 02.2 +0.5
baz=96
L30A **Spencer Herefo** 95.68 35 ⇑P P 07 17 01.7 +0.1
baz=96
U22A **Llaves** 95.72 43 ⇑P P 07 17 03.3 +1.2
baz=96,SNR=17
T23A **Casas Ranch,** 95.76 42 ⇓P P 07 17 03.4 +1.1
baz=96,SNR=11
CKFL **Kef-Lekhel** 95.77 317 P P 07 17 01.9 -0.3
S24A **Houchin Ranch,** 95.82 41 ⇓P P 07 17 03.7 +1.1
baz=96,SNR=5.2
ECSD **EROS Data Cent** 95.83 32 *e*P P 07 17 02.8 +0.6
comp=Z,78nm,1.4s
ECSD LR LR
comp=Z,25µm,21.0s
DRV **Dumont d'Urvil** 95.83 176 P P 07 16 49.0 -12
DRV **Dumont d'Urvil** 95.83 176 PP PP 07 20 51.0 -3.0
DRV SKS SKSac 07 27 35.0 +0.7
DRV S S 07 28 11.0 -5.2
DRV SP SP 07 29 27.0 -7.9
DRV SS SS 07 34 28.0 -19
Q26A **Hugo** 95.88 39 ⇓P P 07 17 02.3 -0.4
baz=96
M30A **Dale-Ortello V** 95.91 35 ⇑P P 07 17 02.5 -0.2
baz=96
P27A **Ficken Ranch,** 95.94 38 ⇑P P 07 17 02.7 -0.2
baz=96
L31A **Butterfield Fa** 95.95 34 ⇑P P 07 17 03.1 +0.4
baz=96
TUC **Tucson** 95.95 48 *e*P P 07 17 03.6 +0.6
TUC pmax pmax
comp=Z,347nm,1.9s
TUC MLR MLR
comp=Z,25µm,20.0s
TUC **Tucson** 95.95 48 *e*P P 07 17 03.6 +0.6
comp=Z,347nm,1.9s
TUC LR LR
comp=Z,25µm,20.0s
O28A **Krutsinger Ran** 95.96 37 ⇓P P 07 17 02.4 -0.5
baz=96
R25A **Fountain Ranch** 96.00 40 ⇑P P 07 17 03.2 0.0
baz=96,SNR=10
CASM **Ain Smara** 96.00 317 P P 07 17 03.1 0.0
V22A **San Miguel Ran** 96.00 43 ⇑P P 07 17 04.1 +0.7
baz=96,SNR=8.5
N29A **Votaw Ranch, W** 96.06 36 ⇓P P 07 17 03.3 0.0
baz=96
W21A **San Fidel** 96.09 44 ⇑P P 07 17 04.5 +0.7
baz=96
T24B **San Luis** 96.12 41 ⇓P P 07 17 04.9 +1.0
baz=96
U23A **El Rito** 96.15 42 ⇑P P 07 17 05.1 +1.1
baz=96,SNR=34
DFRA **Djebel Bou Aff** 96.17 318 P P 07 17 04.4 +0.4
CTEI **Djebel Teioual** 96.19 317 P P 07 17 06.1 +2.0
S25A **Robets Cordova** 96.25 40 ⇑P P 07 17 04.1 -0.3
baz=96
KSCO **Kaye Shedlock'** 96.30 39 ⇑P P 07 17 04.3 -0.2
baz=96
CASY **Casey** 96.30 188 *e*P P 07 17 03.5 +0.1
comp=Z,121nm,1.5s
CASY LR LR
comp=Z,26µm,22.0s
N30A **Hueftle Ranch,** 96.34 36 ⇓P P 07 17 04.4 -0.2
baz=96
SPMN **St. Paul** 96.35 29 *e*P P 07 17 04.9 +0.5
SPMN **St. Paul** 96.35 29 ⇓P P 07 17 04.3 -0.1
baz=96
R26A **Arlington** 96.36 39 ⇑P P 07 17 04.8 0.0
baz=96,SNR=8.1
P28A **Saint Francis** 96.37 38 ⇓P P 07 17 04.6 -0.2
baz=96
Y20A **Horse Springs,** 96.45 45 ⇑P P 07 17 06.3 +0.8
baz=96,SNR=19
X21A **Alamocita Cree** 96.46 45 ⇓P P 07 17 06.4 +0.9
baz=96,SNR=15
O29A **4D Ranch, Culb** 96.47 37 ⇓P P 07 17 05.3 +0.1
baz=96
M31A **Lambtecht Ranc** 96.50 35 ⇓P P 07 17 04.9 -0.4
baz=96
V23A **Ortiz Mt. (NFS** 96.55 43 ⇑P P 07 17 07.4 +1.6
baz=96,SNR=7.7
W22A **Albuquerque** 96.60 44 ⇓P P 07 17 06.4 +0.4
baz=96
T25A **Trinidad** 96.63 41 ⇓P P 07 17 06.6 +0.4
baz=96
U24A **Moreno Valley** 96.63 42 ⇓P P 07 17 07.4 +1.1
baz=96
DODT **Dodoma, Tanzan** 96.67 267 *i* P P 07 17 02.5 -4.1
DODT 07 20 57.4
DODT 07 29 16.0
SET **Setif** 96.69 318 P P 07 17 06.0 -0.3
Q28A **Sharon Springs** 96.70 38 ⇑P P 07 17 06.3 0.0
baz=96
R27A **Eads** 96.72 39 ⇑P P 07 17 06.5 0.0
baz=96
CKHR **Kef el Ahmar** 96.75 318 P P 07 17 06.6 0.0
P29A **Atwood** 96.78 37 ⇓P P 07 17 06.3 -0.3
baz=97
Y21A **Point of Rocks** 96.82 45 ⇑P P 07 17 07.9 +0.8
baz=97,SNR=17
O30A **MW Ranch, Wils** 96.82 36 ⇓P P 07 17 06.8 +0.1
baz=97
S26A **Kim** 96.82 40 ⇓P P 07 17 07.3 +0.4
baz=97
Z20A **Nine Sixteen R** 96.84 46 ⇑P P 07 17 08.2 +1.0
baz=97,SNR=28
BGNE **Belgrade** 96.87 34 *e*P P 07 17 08.2 +1.3
BGNE **Belgrade** 96.87 34 ⇑P P 07 17 07.1 +0.2
baz=97
X22A **Bernardo** 96.89 44 ⇑P P 07 17 08.4 +1.0
baz=97
N31A **Bailey Ranch,** 96.90 35 ⇓P P 07 17 07.1 -0.1
baz=97
ANMO **Albuquerque** 96.93 44 *e*P P 07 17 08.5 +0.9
comp=Z,212nm,2.3s
ANMO LR LR
comp=Z,22µm,20.0s
W23A **Werner Place,** 96.97 43 ⇑P P 07 17 08.4 +0.7
baz=97
T26A **Comanche Natio** 97.07 40 ⇓P Pdif 07 17 08.6 +0.3
baz=97
S27A **Las Animas** 97.10 40 ⇑P P 07 17 08.2 0.0
baz=97
V24A **Rampart Ranch,** 97.11 42 ⇑P Pdif 07 17 09.7 +1.1
baz=97,SNR=14
U25A **Circle Dot Ran** 97.14 41 ⇑P Pdif 07 17 08.7 +0.1
baz=97
120A **U Bar Ranch, L** 97.18 47 ⇑P Pdif 07 17 09.7 +0.9
baz=97,SNR=9.2
P30A **Selden** 97.19 37 ⇓P Pdif 07 17 08.5 0.0
baz=97
R28A **Tribune** 97.23 39 ⇑P Pdif 07 17 09.3 +0.6
baz=97
Y22D **IRIS PASSCAL I** 97.24 45 ⇑P Pdif 07 17 09.8 +0.8
baz=97
Q29A **Oakley** 97.28 38 ⇑P Pdif 07 17 09.2 +0.2
baz=97
Z21A **St. Cloud Mine** 97.28 46 ⇓P Pdif 07 17 10.2 +0.9
baz=97,SNR=12
Y22A **Socorro** 97.30 45 ⇑P Pdif 07 17 10.3 +1.0
baz=97,SNR=6.4
X23A **Hourglass Bar** 97.34 44 ⇓P Pdif 07 17 10.0 +0.5
baz=97
W24A **Lazy 6 Ranch,** 97.38 43 ⇓P Pdif 07 17 10.1 +0.5
baz=97,SNR=11
V25A **Rancho No Teng** 97.41 42 ⇓P Pdif 07 17 10.5 +0.7
baz=97,SNR=12
U26A **Atchley Ranch,** 97.53 41 ⇑P Pdif 07 17 10.6 +0.3
baz=97,SNR=5.2
R29A **Marienthal** 97.53 38 ⇓P P 07 17 09.8 -0.2
baz=97
319A **Douglas** 97.53 48 ⇓P Pdif 07 17 11.0 +0.6
baz=97,SNR=10
Q30A **Quinter** 97.62 37 ⇑P P 07 17 10.2 -0.2
baz=97,SNR=5.9
T27A **Campo** 97.64 40 ⇑P P 07 17 10.5 -0.2
baz=98
P31A **Stockton** 97.66 36 ⇑P P 07 17 10.5 -0.1
baz=97
O32A **Brockman Farm,** 97.67 35 ⇑P Pdif 07 17 10.6 0.0
baz=98
220A **Playas Peak, P** 97.67 47 ⇓P Pdif 07 17 11.5 +0.5
baz=98,SNR=12
S28A **Manter** 97.72 39 ⇑P P 07 17 10.8 -0.1
baz=98
121A **Cookes Peak, D** 97.73 46 *e*P Pdif 07 17 12.5 +1.3
121A **Cookes Peak, D** 97.73 46 ⇓P Pdif 07 17 12.1 +0.8
baz=98,SNR=8.2
Z22A **Elephant Butte** 97.76 45 ⇑P Pdif 07 17 12.0 +0.7
baz=98,SNR=9.1
X24A **Lazy VL Ranch,** 97.81 43 ⇑P Pdif 07 17 11.8 +0.2
baz=98
Y23A **Lovelace Mesa,** 97.86 44 ⇓P Pdif 07 17 12.2 +0.4
baz=98,SNR=8.9
V26A **Tequesquite Ra** 97.92 41 ⇑P Pdif 07 17 12.3 +0.3
baz=98
W25A **X Bar L Ranch,** 97.93 42 ⇑P Pdif 07 17 12.7 +0.7
baz=98,SNR=9.4
T28A **Walsh** 97.94 40 ⇓P Pdif 07 17 12.2 +0.2
baz=98
Q31A **Ellis** 98.03 37 ⇑P P 07 17 10.8 -1.5
baz=98
U27A **Thompson Grove** 98.03 40 ⇓P P 07 17 12.3 -0.2
baz=98
320A **Kipp Ranch, An** 98.04 47 ⇓P Pdif 07 17 13.7 +1.1
baz=98
R30A **Dighton** 98.10 38 ⇓P Pdif 07 17 13.0 +0.4
baz=98
122A **Conniff Cattle** 98.11 46 ⇑P Pdif 07 17 14.4 +1.5
baz=98
S29A **Ulysses** 98.13 39 ⇑P Pdif 07 17 12.9 +0.1
baz=98
Z23A **Rita Site, Whi** 98.21 45 ⇑P Pdif 07 17 14.9 +1.6
baz=98
Y24A **Capitan** 98.24 44 ⇑P Pdif 07 17 14.3 +0.7
baz=98
X25A **Clemmons Ranch** 98.29 43 ⇑P Pdif 07 17 14.6 +0.9
baz=98,SNR=6.9
T29A **Hugoton** 98.36 39 ⇑P Pdif 07 17 14.1 +0.2
baz=98
U28A **Mallet** 98.40 40 ⇑P Pdif 07 17 16.0 +1.9
baz=98
W26A **Owens Ranch, T** 98.43 42 ⇓P Pdif 07 17 14.8 +0.6
baz=98
222A **Williams Famil** 98.44 46 ⇑P Pdif 07 17 14.9 +0.5
baz=98
S30A **Montezuma** 98.47 38 ⇑P P 07 17 14.0 -0.3
baz=98
Q32A **Meitler Ranch,** 98.47 36 ⇑P Pdif 07 17 14.4 +0.1
baz=98
V27A **Dan Oppiter Fa** 98.50 41 ⇓P Pdif 07 17 14.8 +0.3
baz=98
P33A **Williams Farm,** 98.58 35 ⇑Pdiff P 07 17 14.2 -0.5
baz=98
123A **Bell Site, Whi** 98.61 45 ⇓Pdiff Pdif 07 17 15.3 +0.2
baz=98
Y25A **Mesa, Roswell** 98.69 43 ⇓Pdiff P 07 17 15.4 0.0
baz=98
Z24A **Sheeppen Canyo** 98.69 44 ⇑Pdiff Pdif 07 17 15.9 +0.4
baz=98
X26A **CR and CF Fran** 98.78 42 ⇑Pdiff P 07 17 15.8 -0.1
baz=99
SCIA **State Center** 98.81 31 PFAKE
SCIA LR LR 07 17 30.0 +14
comp=Z,18µm,19.0s
V28A **Channing** 98.85 41 ⇓Pdiff Pdif 07 17 16.3 +0.2
baz=99
W27A **Bowe Ranch, En** 98.86 42 ⇑Pdiff Pdif 07 17 16.3 +0.2

baz=99
T30A Plains 98.86 39 ⇓Pdiff Pdif 07 17 16.3 +0.2
baz=99
PBRG Braganca 98.86 329 *e*Pdif **P** 07 17 15.1 -0.8
PBRG Braganca 98.86 329 *e*PP PP 07 21 18.4 +1.6
U29A Oasis Ranch, S 98.89 40 ⇑Pdiff **P** 07 17 16.0 -0.1
baz=99
223A Chaparral, Ant 98.94 46 ⇓Pdiff **P** 07 17 16.3 -0.3
baz=99
S31A Mullinville 99.01 38 ⇓Pdiff **Pdif** 07 17 16.9 +0.2
baz=99
124A Stringfield Ra 99.07 45 ⇑Pdiff **Pdif** 07 17 18.2 +0.9
baz=99
Z25A Roswell 99.12 44 ⇑Pdiff **Pdif** 07 17 17.7 +0.3
baz=99
X27A F and S Farms, 99.13 42 ⇓Pdiff **Pdif** 07 17 18.1 +0.7
baz=99
V29A Stinnett 99.16 40 ⇑Pdiff **Pdif** 07 17 17.8 +0.3
baz=99
U30A WK&E Inc. Balk 99.17 39 ⇑Pdiff **Pdif** 07 17 17.9 +0.5
baz=99
Y26A Elida 99.21 43 ⇓Pdiff **Pdif** 07 17 18.3 +0.5
baz=99
ESDC Sonseca Array 99.21 326 P **Pdif** 07 17 16.6 -0.9
ESDC PP **PP** 07 21 18.2 -1.3
ESDC PKKPbc **PKKPbc** 07 33 41.4 -0.6
ESDC Sonseca Array 99.21 326 P **Pdif** 07 17 16.6 -0.9
comp=Z,6.3nm,0.8s,baz=27,slow=4.2,SNR=22
ESDC PP **PP** 07 21 18.2 -1.3
comp=Z,0.8nm,0.5s,baz=37,slow=6.3,SNR=4.3
ESDC PKKPbc **PKKPbc** 07 33 41.4 -0.6
comp=Z,0.3nm,0.3s,baz=235,slow=2.0,SNR=5.8
ESDC LR LR 08 07 45.9
comp=Z,71µm,18.1s,baz=35,slow=39
ESLA Sonseca Array 99.21 326 *e*P **Pdif** 07 17 17.0 -0.6
comp=Z,11nm,1.3s
W28A Vega 99.22 41 ⇑Pdiff **Pdif** 07 17 18.0 +0.3
baz=99
S32A Newby Ranch, P 99.24 37 ⇑Pdiff **Pdif** 07 17 18.0 +0.4
baz=99
T31A Randall Ranch, 99.29 38 ⇑Pdiff **Pdif** 07 17 18.4 +0.5
baz=99
JFWS Jewell Farm 99.30 29 *e*P **Pdif** 07 17 18.4 +0.6
JFWS pmax pmax
comp=Z,252nm,2.2s
JFWS MLR MLR
comp=Z,21µm,21.0s
JFWS Jewell Farm 99.30 29 *e*P **Pdif** 07 17 18.4 +0.6
comp=Z,252nm,2.2s
JFWS LR LR
comp=Z,21µm,21.0s
KSU1 Kansas State U 99.39 35 *e*P **Pdif** 07 17 18.9 +0.6
comp=Z,87nm,1.5s
KSU1 LR LR
comp=Z,31µm,21.0s
PGAV Gavieira, Arco 99.42 330 *e*Pdif **Pdif** 07 17 16.0 -2.5
PGAV Gavieira, Arco 99.42 330 *e*PP PP 07 21 22.9 +1.8
PGAV *e*SKSac **SKSac** 07 27 54.7 +0.1
PGAV *i* P x 07 30 39.1
PGAV *e*SS SS 07 36 01.2 +24
PGAV Gavieira, Arco 99.42 330 *e*LQ LQ 07 50 42.0
PGAV *e*LR LR 07 53 50.1
comp=Z,114µm,20.0s
224A Cornudas Mount 99.45 45 ⇓Pdiff **Pdif** 07 17 19.8 +0.9
baz=99
MIR Mirnyy 99.48 194 *e*P **Pdif** 07 17 19.0 +1.3
MIR *e*PS **Sdif** 07 28 42.0 -5.3
MIR pmax pmax
comp=Z,65nm,1.7s
MIR pmax pmax
comp=Z,1µm,5.0s
MVO Moncorvo 99.50 329 *e*Pdif **Pdif** 07 17 17.3 -1.5
MVO Moncorvo 99.50 329 *e*PP PP 07 21 21.6 -0.1
MVO *e*SKSac **SKSac** 07 27 54.1 -0.9
MVO *i* P x 07 30 35.5
MVO *e*SS SS 07 35 52.5 +14
MVO Moncorvo 99.50 329 *e*LQ LQ 07 51 31.5
MVO *e*LR LR 07 55 17.1
comp=Z,109µm,20.0s
PAB San Pablo 99.50 326 *e*P **Pdif** 07 17 18.8 -0.1
PAB *e* 07 21 18.8
PAB pmax pmax
comp=Z,14nm,1.0s
PAB MLR MLR
comp=Z,143µm,19.0s
PAB San Pablo 99.50 326 *e*P **Pdif** 07 17 18.8 -0.1
comp=Z,14nm,1.0s
PAB *e*PP **PP** 07 21 18.8 -3.0
PAB LR LR
comp=Z,143µm,19.0s
Z26A Caprock 99.57 43 ⇓Pdiff **Pdif** 07 17 19.9 +0.6
baz=99
125A Gardner Draw, 99.58 44 ⇓Pdiff **Pdif** 07 17 20.0 +0.6
baz=99
Y27A Causey 99.63 42 ⇓Pdiff **Pdif** 07 17 19.1 -0.5
baz=100
W29A Amraillo 99.63 41 ⇑Pdiff **Pdif** 07 17 19.1 -0.5
baz=100
T32A Huddler Ranch, 99.63 38 ⇑Pdiff **Pdif** 07 17 18.4 -1.0
baz=99
POLO Lamas de Olo 99.68 329 *e*Pdif **Pdif** 07 17 19.2 -0.4
POLO Lamas de Olo 99.68 329 *e*PP PP 07 21 22.9 -0.2
V30A Spur Ranch, Mi 99.71 40 ⇓Pdiff **Pdif** 07 17 19.4 -0.5
baz=100
U31A Nine Bar Ranch 99.73 39 ⇑Pdiff **Pdif** 07 17 19.4 -0.5
baz=100
X28A Dimmitt 99.75 41 ⇑Pdiff **Pdif** 07 17 18.5 -1.6
baz=100
AMTX Amarillo 99.78 41 *e*Pdif **Pdif** 07 17 24.6 +4.4
comp=Z,128nm,1.9s
AMTX *e*PP PP 07 21 33.2 +9.0
AMTX Amarillo 99.78 41 ⇑Pdiff **Pdif** 07 17 18.6 -1.6
baz=100
MNTX Cornudas Mount 99.80 45 *e*P **Pdif** 07 17 20.0 -0.2
comp=Z,35nm,1.7s
MNTX LR LR
comp=Z,15µm,19.0s
MSTX Muleshoe 99.80 42 ⇓Pdiff **Pdif** 07 17 19.3 -1.0
baz=100
S33A Kaszmaul Farm, 99.81 37 ⇑Pdiff **Pdif** 07 17 19.2 -1.0
baz=100
225A Deer Hill, Car 99.86 45 ⇑Pdiff **Pdif** 07 17 19.6 -1.1
baz=100
324A Moseley Ranch, 99.91 46 ⇑Pdiff **Pdif** 07 17 19.9 -1.1
baz=100
126A Clayton Basin, 99.98 44 ⇓Pdiff **Pdif** 07 17 20.1 -1.0
baz=100
Z27A Tatum 100.00 43 ⇑Pdiff **Pdif** 07 17 20.2 -1.0
baz=100
T33A Patterson Ranc 100.07 37 ⇓Pdiff **Pdif** 07 17 20.4 -1.0
baz=100
X29A Tulia 100.08 41 ⇓Pdiff **Pdif** 07 17 20.5 -1.0
baz=100
Y28A McKinney Farm, 100.15 42 ⇓Pdiff **Pdif** 07 17 20.8 -1.0
baz=100
V31A Spring Creek L 100.17 39 ⇑Pdiff **Pdif** 07 17 21.4 -0.5
baz=100
W30A Crocket Farms 100.19 40 ⇑Pdiff **Pdif** 07 17 21.0 -1.0
baz=100
325A Bean Ranch, Si 100.28 45 ⇑Pdiff **Pdif** 07 17 22.0 -0.5
baz=100
226B Tecolote Peak, 100.29 44 ⇓Pdiff **Pdif** 07 17 22.9 +0.4
baz=100
MTE Manteigas 100.35 328 *e*Pdif **Pdif** 07 17 20.6 -2.0
MTE Manteigas 100.35 328 *e*PP PP 07 21 28.2 +0.1
MTE *e*SKSac SKSac 07 28 17.3 +18
MTE *i* P x 07 30 48.3
MTE *e*SS SS 07 36 23.5 +33
MTE Manteigas 100.35 328 *e*LQ LQ 07 50 49.6
MTE *e*LR LR 07 55 40.2
comp=Z,137µm,20.0s
MTE Manteigas 100.35 328 *e*Pdif **Pdif** 07 17 21.7 -0.9
comp=Z,22nm,0.8s
MTE LR LR
comp=Z,139µm,20.0s
127A Arkansas Junct 100.36 43 ⇑Pdiff **Pdif** 07 17 21.8 -1.0
baz=100
Z28A Tucker Farm, M 100.51 42 ⇑Pdiff **Pdif** 07 17 23.0 -0.5
baz=100
Y29A Porterfield Fa 100.52 42 ⇑Pdiff **Pdif** 07 17 23.0 -0.5
baz=100
W31A Holland Ranch, 100.55 40 ⇓Pdiff **Pdif** 07 17 23.9 +0.3
baz=100
X30A Coker Ranch, T 100.56 41 ⇓Pdiff **Pdif** 07 17 22.6 -1.0
baz=100
425A Indio Mountain 100.67 46 ⇑Pdiff **Pdif** 07 17 23.8 -0.5
baz=100

PCBR Castelo Branco 100.76 328 *e*Pdif **Pdif** 07 17 24.5 +0.2
PCBR Castelo Branco 100.76 328 *e*PP PP 07 21 30.9 -0.3
227A Bennet, Jal 100.86 44 ⇓Pdiff **Pdif** 07 17 24.6 -0.4
baz=101
128A Castleberry Fa 100.92 43 ⇑Pdiff **Pdif** 07 17 24.9 -0.5
baz=101
326A Caldwell Ranch 100.93 45 ⇓Pdiff **Pdif** 07 17 24.4 -1.0
baz=101
Z29A Hungry Hill Ra 100.93 42 ⇑Pdiff **Pdif** 07 17 24.3 -1.0
baz=101
X31A McDonald Ranch 100.93 40 ⇑Pdiff **Pdif** 07 17 25.4 +0.1
baz=101
Y30A Stafford Cattl 100.96 41 ⇑Pdiff **Pdif** 07 17 25.5 +0.1
baz=101
PMRV Marv??o 101.05 328 *e*Pdif **Pdif** 07 17 25.3 -0.4
PMRV Marv??o 101.05 328 *e*PP PP 07 21 35.2 +1.8
PMRV *e*SKSac **SKSac** 07 28 02.5 -0.1
PMRV *i* P x 07 30 55.4
PMRV *e*SS SS 07 36 32.0 +32
PMRV Marv??o 101.05 328 *e*LQ LQ 07 52 08.0
PMRV *e*LR LR 07 55 52.3
comp=Z,119µm,22.0s
PCAS Casmilo, Conde 101.06 329 *e*Pdif **Pdif** 07 17 25.0 -0.7
PCAS Casmilo, Conde 101.06 329 *e*PP PP 07 21 34.0 +0.6
327A Balmorhea Ranc 101.19 44 ⇓Pdiff **Pdif** 07 17 25.5 -1.0
baz=101
228A UT Block 9, Go 101.21 43 ⇓Pdiff **Pdif** 07 17 25.6 -1.0
baz=101
Z30A Sanderson Ranc 101.25 42 ⇑Pdiff **Pdif** 07 17 25.2 -1.6
baz=101
Y31A Rekieta Farm, 101.26 41 ⇑Pdiff **Pdif** 07 17 26.3 -0.4
baz=101
129A Stewart Farms, 101.28 43 ⇑Pdiff **Pdif** 07 17 25.3 -1.6
baz=101
426A McDonald Obser 101.34 45 ⇓Pdiff **Pdif** 07 17 27.3 -0.1
baz=101
WMOK Wichita Mounta 101.52 39 *e*P **Pdif** 07 17 26.9 -0.9
WMOK pmax pmax
comp=Z,18nm,1.2s
WMOK MLR MLR
comp=Z,20µm,21.0s
WMOK Wichita Mounta 101.52 39 *e*Pdif **Pdif** 07 17 26.9 -0.9
comp=Z,18nm,1.2s
WMOK LR LR
comp=Z,20µm,21.0s
PESTR Estremoz 101.59 327 *e*Pdif **Pdif** 07 17 27.1 -1.0
PESTR Estremoz 101.59 327 *e*PP PP 07 21 37.8 +0.3
328A Wristen Ranch, 101.60 44 ⇓Pdiff **Pdif** 07 17 26.8 -1.5
baz=101
427A Hayter Ranch, 101.61 45 ⇓Pdiff **Pdif** 07 17 25.7 -2.7
baz=102
Y32A R-V Farms, Ver 101.69 40 ⇑Pdiff **Pdif** 07 17 27.6 -1.0
baz=102
526A Mary Lane Ranc 101.72 46 ⇑Pdiff **Pdif** 07 17 27.4 -1.6
baz=102
PMTG Montargil 101.73 328 *e*Pdif **Pdif** 07 17 27.3 -1.3
PMTG Montargil 101.73 328 *e*PP PP 07 21 39.0 +0.5
229A Bryant Ranch, 101.79 43 ⇑Pdiff **Pdif** 07 17 27.6 -1.6
baz=102
Z31A Sharp Cattle R 101.79 41 ⇑Pdiff **Pdif** 07 17 27.0 -2.1
baz=102
130A Snyder 101.84 42 ⇑Pdiff **Pdif** 07 17 29.8 +0.5
baz=102
PBAR Barrancos 101.88 327 *e*Pdif **Pdif** 07 17 28.2 -1.1
PBAR Barrancos 101.88 327 *e*PP PP 07 21 39.9 +0.2
527A Woodward Ranch 101.97 45 ⇓Pdiff **Pdif** 07 17 29.0 -1.1
baz=102
329A Wagon Wheel Ra 102.03 43 ⇑Pdiff **Pdif** 07 17 29.2 -1.0
baz=102
626A Big Bend Ranch 102.05 46 ⇑Pdiff **Pdif** 07 17 28.8 -1.6
baz=102
EVO Evora 102.06 328 *e*P **Pdif** 07 17 29.5 -0.6
comp=Z,42nm,1.3s
EVO *e*R
comp=Z,159µm,20.5s
EVO Evora 102.06 328 *e*Pdif **Pdif** 07 17 28.4 -1.7
EVO Evora 102.06 328 *e*PP PP 07 21 41.6 +0.6
EVOP Sao Brissos 102.11 328 *e*P **Pdif** 07 17 29.5 -0.9
EVOP pmax pmax
comp=Z,42nm,1.3s
EVOP Sao Brissos 102.11 328 *e*P **Pdif** 07 17 29.5 -0.9
comp=Z,42nm,1.3s
131A Roby 102.12 42 ⇑Pdiff **Pdif** 07 17 29.6 -1.0
baz=102
428A Kincaid Ranch, 102.13 44 ⇑Pdiff **Pdif** 07 17 29.2 -1.6
baz=102
Z32A Haskell 102.18 41 ⇓Pdiff **Pdif** 07 17 31.2 +0.4
baz=102
TUL1 Tulsa 102.24 37 *e*Pdif **Pdif** 07 17 32.5 +1.5
TUL1 Tulsa 102.24 37 ⇑Pdiff **Pdif** 07 17 30.0 -1.0
baz=102
230A Sterling City 102.26 43 ⇑Pdiff **Pdif** 07 17 29.7 -1.6
baz=102
PMAFR Mafra 102.31 329 *e*Pdif **Pdif** 07 17 31.0 -0.2
PMAFR Mafra 102.31 329 *e*PP PP 07 21 42.6 -0.2
LIS Lisbon 102.44 328 *e*P **Pdif** 07 17 32.0 +0.3
LIS *e*PP **PP** 07 21 45.1 +1.3
LIS *e*S **SKSac** 07 28 08.2 -0.9
LIS AMS AMS 08 10 11.2
comp=Z,120µm,17.9s
LIS Lisbon 102.44 328 *e*P **Pdif** 07 17 32.0 +0.3
LIS Lisbon 102.44 328 A A 08 10 11.2
comp=Z,120µm,17.9s
LIS Lisbon 102.44 328 *e*P **Pdif** 07 17 32.1 +0.3
LIS *e* 07 21 45.1
LIS *e*S **SKSac** 07 28 08.2 -0.9
528A Cox Ranch, San 102.47 45 ⇑Pdiff **Pdif** 07 17 30.1 -2.2
baz=102
TXAR Lajitas Array 102.49 46 P **Pdif** 07 17 31.9 -0.5
TXAR PP **PP** 07 21 48.0 +3.3
TXAR PKKPbc **PKKPbc** 07 33 33.5 +1.1
TXAR P'P' 07 41 55.3
TXAR Lajitas Array 102.49 46 P **Pdif** 07 17 31.9 -0.5
comp=Z,8.0nm,1.0s,baz=285,slow=2.6,SNR=25
TXAR PP **PP** 07 21 48.0 +3.3
comp=Z,3.7nm,0.9s,baz=289,slow=3.8,SNR=5.0
TXAR PKKPbc **PKKPbc** 07 33 33.5 +1.1
comp=Z,0.8nm,0.7s,baz=155,slow=6.9,SNR=4.4
TXAR PKPPKP **P'P'df** 07 41 55.3 -0.4
comp=Z,0.8nm,1.0s,baz=157,slow=6.8,SNR=4.0
330A Mertzon 102.56 43 ⇑Pdiff **Pdif** 07 17 32.2 -0.5
baz=102
627A Terlingua Ranc 102.58 46 ⇓Pdiff **Pdif** 07 17 31.8 -1.1
baz=102
ABTX Abilene, Hawle 102.59 41 ⇓Pdiff **Pdif** 07 17 31.6 -1.0
baz=102
PNCL Nicolau / Gran 102.64 328 *e*Pdif **Pdif** 07 17 31.6 -1.1
PNCL Nicolau / Gran 102.64 328 *e*PP PP 07 21 46.4 +1.1
429A Davenport Ranc 102.69 44 ⇓Pdiff **Pdif** 07 17 31.1 -2.1
baz=102
231A Bronte 102.69 42 ⇑Pdiff **Pdif** 07 17 30.5 -2.7
baz=102
SFIN Scholer Farm 102.72 28 ⇓Pdiff **Pdif** 07 17 31.9 -1.1
baz=102
PCVE Castro Verde 102.79 327 *e*Pdif **Pdif** 07 17 32.3 -1.1
PCVE Castro Verde 102.79 327 *e*PP PP 07 21 47.4 +0.9
PVAQ Vaqueiros 102.82 327 *e*Pdif **Pdif** 07 17 32.8 -0.7
PVAQ Vaqueiros 102.82 327 *e*PP PP 07 21 47.4 +0.7
PVAQ *e*SKSac SKSac 07 28 26.8 +16
PVAQ *i* P x 07 31 15.9
PVAQ *e*SS SS 07 36 44.1 +20
PVAQ Vaqueiros 102.82 327 *e*LQ LQ 07 52 58.5
PVAQ *e*LR LR 07 56 06.3
comp=Z,65µm,20.0s
529A Stev Forest Ra 102.84 45 ⇓Pdiff **Pdif** 07 17 33.4 -0.5
baz=103
628A Black Gap, Mar 102.87 45 ⇓Pdiff **Pdif** 07 17 34.7 +0.7
baz=103
430A Baggett Ranch, 102.97 44 ⇓Pdiff **Pdif** 07 17 31.2 -3.2
baz=103
PBDV Barranco-do-Ve 103.05 327 *e*Pdif **Pdif** 07 17 34.0 -0.6
PBDV Barranco-do-Ve 103.05 327 *e*PP PP 07 21 50.3 +1.8
331A San Angelo 103.08 43 ⇑Pdiff **Pdif** 07 17 36.0 +1.1
baz=103
232A Coleman 103.12 42 ⇓Pdiff **Pdif** 07 17 32.9 -2.1
baz=103
LONY Lake Ozonia 103.22 18 PFAKE 07 17 50.0 +15
LONY LR LR
comp=Z,46µm,22.0s
MORF Marmelete 103.34 327 *e*Pdif **Pdif** 07 17 35.9 0.0
MORF Marmelete 103.34 327 *e*PP PP 07 21 52.4 +1.7
MORF Marmelete 103.34 327 *e*P **Pdif** 07 17 36.0 0.0
MORF *e* 07 21 51.5
MORF *e*S **SKSac** 07 28 13.4 -0.1
MORF *e*SS **SS** 07 36 34.5 +2.9

530A J-C Ranch, Com 103.36 44 ⇓Pdiff **Pdif** 07 17 34.1 -2.1
baz=103
431A Sonora 103.42 43 ⇑Pdiff **Pdif** 07 17 34.3 -2.1
baz=103
332A Millersview 103.43 42 ⇑Pdiff **Pdif** 07 17 34.9 -1.6
baz=103
432A Menard 103.77 43 ⇑Pdiff **Pdif** 07 17 37.5 -0.5
baz=104
531A Rocksprings 103.83 44 ⇓Pdiff **Pdif** 07 17 37.8 -0.5
baz=104
ERPA Erie 103.87 23 PFAKE 07 17 50.0 +12
ERPA LR LR
comp=Z,26µm,19.0s
PKME Peaks-Kenny Pk 103.87 14 PFAKE 07 17 50.0 +12
PKME LR LR
comp=Z,42µm,21.0s
NCB Newcomb 103.91 18 PFAKE 07 17 50.0 +12
NCB LR LR
comp=Z,42µm,22.0s
SIUC Southern Illin 104.01 31 *e*Pdif **Pdif** 07 17 38.0 -0.9
comp=Z,16nm,0.8s
JCT Junction City 104.05 43 PFAKE 07 17 50.0 +11
JCT LR LR
comp=Z,18µm,20.0s
JCT Junction City 104.05 43 ⇓Pdiff **Pdif** 07 17 39.3 +0.1
baz=104
532A Rocksprings 104.24 43 ⇑Pdiff **Pdif** 07 17 39.6 -0.5
baz=104
LBNH Lisbon 104.25 16 PFAKE 07 17 50.0 +10
LBNH LR LR
comp=Z,36µm,22.0s
WHTX Lake Whitney 104.30 40 ⇑Pdiff **Pdif** 07 17 39.2 -1.0
baz=104
631A Perdido Creek 104.35 44 ⇑Pdiff **Pdif** 07 17 40.7 +0.1
baz=104
MIAR Mount Ida 104.45 36 *e*P **Pdif** 07 17 43.1 +2.3
MIAR MLR MLR
comp=Z,32µm,22.0s
MIAR Mount Ida 104.45 36 *e*Pdif **Pdif** 07 17 43.1 +2.3
MIAR LR LR
comp=Z,32µm,22.0s
ACSO Alum Creek Sta 104.47 25 PFAKE 07 17 50.0 +9.2
ACSO LR LR
comp=Z,31µm,22.0s
BINY Binghamton 105.06 20 PFAKE 07 22 10.0
BINY LR LR
comp=Z,39µm,22.0s
RKT Rikitea 105.07 108 *e*PP PP 07 22 11.2 +6.2
comp=Z,2µm,29.8s
RKT *e*SKSac **SKSac** 07 28 25.9 +4.4
comp=Z,13µm,28.8s
RKT Rikitea 105.07 108 *e*PS PS 07 31 22.5 +2.5
comp=Z,17µm,30.2s
RKT *e*SS SS 07 36 59.0 +1.1
comp=Z,36µm,30.5s
RKT Rikitea 105.07 108 *e*LQ LQ 07 47 23.1
comp=Z,25µm,35.0s
RKT *e*LR LR 07 52 18.8
comp=Z,49µm,24.5s,baz=298
RTC Rabat Centre 105.09 324 PFAKE 07 17 50.0 +6.3
RTC LR LR
comp=Z,50µm,22.0s
732A Laxson Ranch, 105.21 44 ⇓Pdiff **PKiKP** 07 21 58.1 -0.4
baz=105
TAM Tamanrasset 105.66 308 PFAKE 07 22 10.0
TAM LR LR
comp=Z,34µm,19.0s
MCWV Mont Chateau 106.11 24 PFAKE 07 22 10.0
MCWV LR LR
comp=Z,48µm,19.0s
OXF Oxford 106.54 33 PFAKE 07 22 10.0
OXF LR LR
comp=Z,24µm,19.0s
KVTX Kingsville 107.33 44 PFAKE 07 22 10.0
KVTX LR LR
comp=Z,15µm,20.0s
LSZ Lusaka 107.43 262 *e*Pdif **Pdif** 07 17 55.1 +0.6
LSZ LR LR
comp=Z,28µm,22.0s
VBMS Vicksburg 107.84 35 PFAKE 07 22 10.0
VBMS LR LR
comp=Z,22µm,21.0s
BLA Blacksburg 108.07 25 PFAKE 07 22 20.0
BLA LR LR
comp=Z,37µm,20.0s
VNDA Vanda 108.16 173 Pdif **Pdif** 07 17 57.9 +1.7
VNDA *e*PKPdf **PKiKP** 07 22 03.0 +0.5
VNDA PKiKP **PKiKP** 07 22 03.1 +0.7
VNDA PKKPbc **PKKPbc** 07 33 16.4 -0.3
VNDA Vanda 108.16 173 Pdiff **Pdif** 07 17 57.9 +1.7
comp=Z,1.1nm,1.2s,baz=15,slow=2.7,SNR=2.4
VNDA PKiKP **PKiKP** 07 22 03.1 +0.7
comp=Z,2.3nm,0.8s,baz=305,slow=4.1,SNR=6.0
VNDA PKKPbc **PKKPbc** 07 33 16.4 -0.3
comp=Z,3.9nm,1.1s,baz=109,slow=2.0,SNR=5.7
CBN Corbin 108.26 22 PFAKE 07 22 20.0
CBN LR LR
comp=Z,32µm,20.0s
MAW Mawson 108.51 202 PKKPbc PKKPbc 07 33 17.9 +2.6
MAW Mawson 108.51 202 PKKPbc PKKPbc 07 33 17.9 +2.6
comp=Z,5.7nm,0.8s,baz=239,slow=4.7,SNR=4.2
LRAL Lakeview Retre 108.89 32 PFAKE 07 22 20.0
LRAL LR LR
comp=Z,19µm,22.0s
SBA Scott Base 108.99 172 *e*PKPdf **PKiKP** 07 22 05.5 +1.5
SBA LR LR
comp=Z,27µm,21.0s
KMSC Kings Mountain 109.54 27 ⇑Pdiff **Pdif** 07 18 02.1 -1.4
baz=109
CMLA Cha da Macela 109.58 340 PFAKE 07 22 20.0
CMLA LR LR
comp=Z,21µm,20.0s
BRAL Brewton 110.54 34 PFAKE 07 22 20.0
BRAL LR LR
comp=Z,21µm,19.0s
PMOZ Porto Moniz, M 110.93 331 *e*Pdif **Pdif** 07 18 09.1 -0.8
PMOZ Porto Moniz, M 110.93 331 *e*PP PP 07 22 50.3 +3.9
PMOZ *e*SKSac **SKSac** 07 28 53.5 +6.5
PMOZ *e*SS SS 07 38 34.2 +20
PMOZ Porto Moniz, M 110.93 331 *e*LR LR 07 59 07.2
comp=Z,41µm,18.0s
TIGA Tifton 111.79 31 ⇓Pdiff **Pdif** 07 18 12.9 -0.6
baz=112
LBTB Lobatse 113.64 254 *e*PKPdf **PKiKP** 07 22 13.9 -0.6
TOA0 Torodi Ar. Sit 114.73 303 *e*PKPdf PKPdf 07 22 15.5 -1.3
TORD Torodi Ar. Bea 114.73 303 Pdif **Pdif** 07 18 34.5 +7.6
TORD PKP **PKiKP** 07 22 15.5 -1.3
TORD PP **PP** 07 23 18.2 +3.9
TORD PKKPbc **PKKPbc** 07 32 54.8 +1.4
TORD Torodi Ar. Bea 114.73 303 Pdiff **Pdif** 07 18 34.5 +7.6
comp=Z,0.5nm,0.9s,baz=34,slow=3.5,SNR=2.6
TORD PKP **PKiKP** 07 22 15.5 -1.3
comp=Z,15nm,0.8s,baz=19,slow=2.2,SNR=30
TORD PP **PP** 07 23 18.2 +3.9
comp=Z,9.5nm,0.9s,baz=45,slow=7.6,SNR=4.1
TORD PKKPbc **PKKPbc** 07 32 54.8 +1.4
comp=Z,3.4nm,0.9s,baz=220,slow=2.0,SNR=8.4
BOSA Boshof 115.25 250 PKP **PKPdf** 07 22 16.4 -1.1
BOSA Boshof 115.25 250 PKP **PKPdf** 07 22 16.4 -1.1
comp=Z,5.3nm,0.8s,baz=50,slow=3.8,SNR=5.5
SYO Syowa Base 117.03 204 ⇑*e*P **PKKPbc** 07 32 43.2 -3.4
SYO Syowa Base 117.03 204 ⇑*e*P **PKKPab** 07 32 46.6 0.0
SYO Syowa Base 117.03 204 ⇑*e*PKPdf **PKPdf** 07 22 18.9 -0.6
SYO Syowa Base 117.03 204 ⇑*e*PKiKP **PKiKP** 07 22 21.0 +1.5
BBSR BB Station 117.23 14 PFAKE 07 22 30.0 +8.8
BBSR LR LR
comp=Z,30µm,22.0s
TEIG Tepich 118.57 41 PFAKE 07 22 40.0 +16
TEIG LR LR
comp=Z,12µm,20.0s
QSPA South Pole Qui 118.93 180 *e*PKPdf **PKPdf** 07 22 21.7 -1.6
QSPA PKP **PKPdf** 07 22 22.0 -1.3
QSPA LR LR
comp=Z,16µm,19.0s
QSPA South Pole Qui 118.93 180 PKP **PKPdf** 07 22 22.0 -1.3
comp=Z,18nm,0.8s
SUR Sutherland 120.10 247 PFAKE 07 22 40.0 +13
SUR LR LR
comp=Z,17µm,22.0s
APG El Apazote 121.22 47 PKP **PKPdf** 07 22 26.7 -2.8
APG El Apazote 121.22 47 PKP **PKPdf** 07 22 26.7 -2.8
comp=Z,5.1nm,0.5s,baz=45,slow=2.1,SNR=14
DBIC Dimbokro 123.82 302 PKP **PKPdf** 07 22 33.0 -1.3
DBIC *e*PKPdf **PKiKP** 07 22 33.5 -1.1
DBIC PKKPbc **PKKPab** 07 32 26.7 +4.7

DBIC	**Dimbokro**	**123.82**	**302**	PKP		**PKPdf**	**07 22 33.0**	**-1.3**	
	comp=Z,45nm,0.8s,baz=24,slow=2.5,SNR=25								
DBIC				PKKPbc		**PKKPab**	**07 32 26.7**	**+4.7**	
	comp=Z,5.0nm,0.9s,baz=191,slow=1.0,SNR=3.8								
KIC	**Kosan Boka**	**123.94**	**302**	*e*P		**PKPdf**	**07 22 33.1**	**-1.4**	
	comp=Z,235nm,1.2s								
TGUH	**Tegucigalpa,Un**	**123.95**	**45**	*e*PKPdf		**PKPdf**	**07 22 32.3**	**-2.2**	
TGUH				LR		LR			
	comp=Z,17μm,20.0s								
TIC	**Toumodi**	**123.96**	**302**	*e*P		**PKPdf**	**07 22 32.9**	**-1.7**	
	comp=Z,106nm,1.0s								
LIC	**Lamto**	**124.25**	**302**	*e*PKIKP		**PKPdf**	**07 22 33.8**	**-1.3**	
	comp=Z,91nm,0.8s								
LIC				*e*R					
	comp=Z,67μm,22.2s								
LIC	**Lamto**	**124.25**	**302**	*e*P		**PKPdf**	**07 22 34.5**	**-0.6**	
	comp=Z,139nm,0.8s								
LIC	**Lamto**	**124.25**	**302**	*e*PKPdf		**PKPdf**	**07 22 33.8**	**-1.3**	
GTBY	**Guantanamo Bay**	**125.51**	**29**	PFAKE			07 22 50.0	+13	
GTBY				LR		LR			
	comp=Z,17μm,21.0s								
GRTK	**Grand Turk**	**125.66**	**24**	PFAKE			07 22 50.0	+12	
GRTK				LR		LR			
	comp=Z,23μm,21.0s								
BBTS	**Babate**	**125.74**	**319**	PKP		**PKPdf**	**07 22 36.8**	**-1.1**	
BBTS	**Babate**	**125.74**	**319**	PKP		**PKPdf**	**07 22 36.8**	**-1.1**	
	comp=Z,42nm,0.8s,baz=124,slow=2.0,SNR=6.5								
MTDJ	**Mount Denham**	**125.91**	**33**	*e*PKPdf		**PKPdf**	**07 22 37.6**	**-0.8**	
MTDJ				LR		LR			
	comp=Z,19μm,20.0s								
MAIT	**Maitri**	**126.48**	**201**	*e*P		**PKPdf**	**07 22 36.4**	**-1.2**	
SDDR	**Presa de Saban**	**127.91**	**26**	*e*PKPdf		**PKPdf**	**07 22 43.3**	**+1.2**	
SDDR				LR		LR			
	comp=Z,31μm,20.0s								
RPN	**Rapa Nui**	**128.14**	**103**	PFAKE			07 22 50.0	+7.9	
RPN				LR		LR			
	comp=Z,16μm,20.0s								
JTS	**JuntasAbangare**	**128.28**	**46**	*e*PKPdf		**PKPdf**	**07 22 42.2**	**-0.7**	
JTS				LR		LR			
	comp=Z,18μm,21.0s								
AOPR	**Arecibo Observ**	**130.07**	**21**	*e*PKPdf		**PKPdf**	**07 22 46.8**	**+0.6**	
LSP	**Las Mesas**	**130.13**	**21**	*e*PKPdf		**PKPdf**	**07 22 47.4**	**+1.1**	
CELP	**Cerrillos**	**130.38**	**21**	*e*PKPdf		**PKPdf**	**07 22 47.5**	**+0.8**	
SNAA	**Sanae**	**130.40**	**198**	*e*P		**PKPdf**	**07 22 46.4**	**+1.2**	
SNAA	**Sanae**	**130.40**	**198**	*e*l		pPKPdf	07 22 57.0	+0.7	
SNAA	**Sanae**	**130.40**	**198**	*e*PKPdf		**PKPdf**	**07 22 46.5**	**+1.3**	
OBIP	**Obispado Ponce**	**130.41**	**21**	*e*PKPdf		**PKPdf**	**07 22 48.0**	**+1.2**	
CBYP	**Canovanas**	**130.42**	**20**	*e*PKPdf		**PKPdf**	**07 22 48.6**	**+1.8**	
STVI	**Saint Thomas**	**130.60**	**19**	*e*PKPdf		**PKPdf**	**07 22 46.8**	**-0.4**	
MTP	**Monte Pirata**	**130.67**	**20**	*e*PKPdf		**PKPdf**	**07 22 46.3**	**-0.9**	
VNA2	**Neumayer--Watz**	**132.03**	**197**	*e*P		**PKPdf**	**07 22 48.4**	**+0.2**	
ANWB	**Willy Bob**	**132.07**	**15**	PFAKE			07 23 00.0	+10	
ANWB				LR		LR			
	comp=Z,18μm,22.0s								
BCIP	**Isla Barro Col**	**132.26**	**42**	*e*PKPdf		**PKPdf**	**07 22 49.2**	**-1.1**	
BCIP				LR		LR			
	comp=Z,15μm,22.0s								
PAYG	**Puerto Ayora**	**132.29**	**61**	PFAKE			07 23 00.0	+10	
PAYG				LR		LR			
	comp=Z,15μm,19.0s								
VNA1	**Neumayer--Stat**	**132.43**	**197**	*e*P		**PKPdf**	**07 22 48.6**	**-0.3**	
VNA1	**Neumayer--Stat**	**132.43**	**197**	*e*l		pPKPdf	07 22 59.5	-0.5	
FDF	**Fort de France**	**135.05**	**15**	*e*PKIKP		**PKPdf**	**07 22 55.1**	**-0.5**	
FDF				MLR		MLR			
	comp=Z,14μm,20.0s								
FDF	**Fort de France**	**135.05**	**15**	*e*PKPdf		**PKPdf**	**07 22 55.1**	**-0.5**	
FDF				LR		LR			
	comp=Z,14μm,20.0s								
BBGH	**Gun Hill**	**136.94**	**14**	PFAKE			07 23 10.0	+11	
BBGH				LR		LR			
	comp=Z,29μm,22.0s								
SDV	**Santo Domingo**	**137.26**	**31**	*e*PKPdf		**PKPdf**	**07 22 59.9**	**-0.1**	
SDV				LR		LR			
	comp=Z,1μm,19.0s								
SHEL	**Horse Pasture**	**137.30**	**278**	PFAKE			07 23 10.0	+10	
SHEL				LR		LR			
	comp=Z,12μm,22.0s								
GRGR	**Grenville**	**137.43**	**17**	PFAKE			07 23 10.0	+10	
GRGR				LR		LR			
	comp=Z,15μm,21.0s								
ROSC	**El Rosal**	**138.89**	**39**	PKPpre		PKPpre	07 22 56.7		
ROSC				*e*PKPpre		PKPpre	07 22 57.3		
ROSC				PKP		**PKPdf**	**07 23 01.6**	**-1.6**	
ROSC	**El Rosal**	**138.89**	**39**	PKhKP		PKPpre	07 22 56.7		
	comp=Z,4.4nm,0.5s,baz=284,slow=23,SNR=7.2								
ROSC				PKP		**PKPdf**	**07 23 01.6**	**-1.6**	
	comp=Z,28nm,1.0s,baz=349,slow=3.5,SNR=10								
OTAV	**Otavalo**	**140.09**	**48**	*e*PKPdf		**PKPdf**	**07 23 03.8**	**-1.8**	
OTAV				LR		LR			
	comp=Z,14μm,20.0s								
ASCN	**Ascension**	**140.39**	**295**	PFAKE			07 23 20.0	+15	
ASCN				LR		LR			
	comp=Z,7μm,19.0s								
PMSA	**Palmer Station**	**143.29**	**170**	PFAKE			07 23 20.0	+11	
PMSA				LR		LR			
	comp=Z,10μm,22.0s								
ATAH	**Atahualpa**	**145.43**	**56**	PKPbc		**PKPbc**	**07 23 12.8**	**-2.0**	
ATAH	**Atahualpa**	**145.43**	**56**	PKPbc		**PKPbc**	**07 23 12.8**	**-2.0**	
	comp=Z,101nm,1.1s,baz=331,slow=8.7,SNR=1.7								
TRIS	**Tristan da Cun**	**147.62**	**246**	PFAKE			07 23 30.0	+7.7	
TRIS				LR		LR			
	comp=Z,20μm,20.0s								
NNA	**Nana**	**149.74**	**61**	PKP		**PKPdf**	**07 23 20.5**	**-1.0**	
NNA				PKPbc		**PKPbc**	**07 23 26.1**	**-0.1**	
NNA				PKPab		**PKPab**	**07 23 31.2**	**-0.3**	
NNA	**Nana**	**149.74**	**61**	PKP		**PKPdf**	**07 23 20.5**	**-1.0**	
	comp=Z,5.8nm,0.2s,baz=315,slow=4.7,SNR=50								
NNA				PKPbc		**PKPbc**	**07 23 26.1**	**-0.1**	
	comp=Z,116nm,0.9s,baz=324,slow=5.5,SNR=51								
NNA				PKPab		**PKPab**	**07 23 31.2**	**-0.3**	
	comp=Z,198nm,0.8s,baz=320,slow=4.7,SNR=35								
RCBR	**Riachuelo**	**153.22**	**327**	*e*PKPdf		**PKPdf**	**07 23 27.2**	**+0.3**	
RCBR				LR		LR			
	comp=Z,23μm,20.0s								
SAML	**Samuel**	**156.39**	**34**	*e*PKPdf		**PKPdf**	**07 23 31.2**	**+0.1**	
SAML				LR		LR			
	comp=Z,27μm,21.0s								
EFI	**East Falkland**	**156.73**	**167**	PFAKE			07 23 40.0	+10	
EFI				LR		LR			
	comp=Z,11μm,21.0s								
LPAZ	**La Paz**	**158.98**	**56**	PKP		**PKPdf**	**07 23 34.3**	**-0.7**	
LPAZ				*e*PKPdf		**PKPdf**	**07 23 35.7**	**+0.7**	
LPAZ				PKPab		**PKPab**	**07 24 11.4**	**+0.1**	
LPAZ	**La Paz**	**158.98**	**56**	PKP		**PKPdf**	**07 23 34.3**	**-0.7**	
	comp=Z,13nm,1.2s,baz=348,slow=3.2,SNR=27								
LPAZ				PKPab		**PKPab**	**07 24 11.4**	**+0.1**	
	comp=Z,50nm,1.1s,baz=343,slow=3.8,SNR=7.5								
PLCA	**Paso Flores**	**159.65**	**130**	PKP		**PKPdf**	**07 23 34.4**	**0.0**	
PLCA				PKPab		**PKPab**	**07 24 13.9**	**+0.9**	
PLCA	**Paso Flores**	**159.65**	**130**	PKP		**PKPdf**	**07 23 34.4**	**0.0**	
	comp=Z,6.6nm,1.1s,baz=286,slow=1.4,SNR=5.9								
PLCA				PKPab		**PKPab**	**07 24 13.9**	**+0.9**	
	comp=Z,9.3nm,0.9s,baz=252,slow=6.3,SNR=5.5								
LVC	**Limon Verde**	**161.80**	**73**	*e*PKPdf		**PKPdf**	**07 23 38.6**	**+1.1**	
LVC				LR		LR			
	comp=Z,32μm,22.0s								
LCO	**Las Campanas**	**161.92**	**95**	*e*PKPdf		**PKPdf**	**07 23 37.7**	**+0.2**	
LCO				LR		LR			
	comp=Z,29μm,21.0s								
SIV	**San Ignacio**	**163.40**	**40**	PKP		**PKPdf**	**07 23 38.8**	**-0.2**	
SIV				PKPab		**PKPab**	**07 24 29.9**	**0.0**	
SIV				PP		PP	07 28 22.7	+8.4	
SIV	**San Ignacio**	**163.40**	**40**	PKP		**PKPdf**	**07 23 38.8**	**-0.2**	
	comp=Z,14nm,1.0s,baz=81,slow=0.6,SNR=28								
SIV				PKPab		**PKPab**	**07 24 29.9**	**0.0**	
	comp=Z,23nm,0.9s,baz=31,slow=4.0,SNR=5.5								
SIV				PP		PP	07 28 22.7	+8.4	
	comp=Z,12nm,1.0s,baz=1.8,slow=7.4,SNR=3.9								
CFAA	**Coronel Fontan**	**164.09**	**103**	PKP		**PKPdf**	**07 23 38.0**	**-1.2**	
CFAA				PKPab		**PKPab**	**07 24 33.8**	**+1.0**	
CFAA	**Coronel Fontan**	**164.09**	**103**	PKP		**PKPdf**	**07 23 38.0**	**-1.2**	
	comp=Z,0.5nm,0.8s,baz=211,slow=1.1,SNR=8.7								
CFAA				PKPab		**PKPab**	**07 24 33.8**	**+1.0**	
	comp=Z,1.5nm,1.0s,baz=268,slow=4.0,SNR=2.9								
BDFB	**Brasilia**	**166.41**	**352**	PKP		**PKPdf**	**07 23 41.3**	**-0.4**	
BDFB				PKPab		**PKPab**	**07 24 41.7**	**-1.4**	
BDFB	**Brasilia**	**166.41**	**352**	PKP		**PKPdf**	**07 23 41.3**	**-0.4**	
	comp=Z,11nm,0.8s,baz=183,slow=4.4,SNR=14								
BDFB				PKPab		**PKPab**	**07 24 41.7**	**-1.4**	
	comp=Z,32nm,0.7s,baz=338,slow=1.4,SNR=16								
TRQA	**Tornquist**	**166.67**	**135**	*e*PKPdf		**PKPdf**	**07 23 42.0**	**+0.9**	
TRQA				LR		LR			
	comp=Z,36μm,22.0s								
LPA	**La Plata**	**171.18**	**132**	*ce*P		**PKPdf**	**07 23 46.0**	**+2.0**	
LPA				pPP			07 29 04.0		
LPA				pPP(2)			07 30 30.0		
LPA				PPP		PPP	07 34 56.0		
LPA				SKKS			07 35 40.0		
LPA				SPS		SPS	07 54 12.0		
CPUP	**Villa Florida**	**172.93**	**68**	PKP		**PKPdf**	**07 23 44.5**	**-0.6**	
CPUP				*e*PKPdf		PKPdf	07 23 45.1	0.0	
CPUP				PP		PP	07 29 15.4	+12	
CPUP	**Villa Florida**	**172.93**	**68**	PKP		**PKPdf**	**07 23 44.5**	**-0.6**	
	comp=Z,15nm,1.1s,baz=326,slow=0.8,SNR=8.6								
CPUP				PP		PP	07 29 15.4	+12	
	comp=Z,6.6nm,0.9s,baz=323,slow=6.7,SNR=4.2								
SPB	**Sao Paulo**	**173.98**	**337**	*e*PKPdf		**PKPdf**	**07 23 47.0**	**+1.4**	
SPB				LR		LR			
	comp=Z,22μm,21.0s								

*ISCJB **30** 07:19:26.2±0.6,29.°06N±0.°04×130.°22E±0.°08, h56km±4km, mb3.9/14, Error ellipse: s-maj=13.0km s-min=4.6km az=19.2*
*JMA **30** 07:19:26.8±0.1,29.°08N×130.°13E, h52km±4km, M3.8*
JMA Felt I J1.
*IDC **30** 07:19:29.8±3.0,29.°17N×130.°17E, h74km±27km, mb3.7/14, mb1 3.8/16, mb1mx3.7/29, mbtmp3.7/16, Error ellipse: s-maj=31.4km s-min=15.0km az=70.0*

ISC 30 07:19:27.2±1.1, 29.°06N±0.°05×130.°17E±0.°09, h50km±10km, n30, σ0°78/37, mb4.0/14, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.76**	**193**	P		**Pn**	**Pn**	**07 19 41.9**	**+0.1**
JZK				*e*S		**Sn**	**Sn**	**07 19 52.3**	**-0.1**
JAM	**Amami Oshima**	**0.81**	**217**	P		**Pn**	**Pn**	**07 19 41.7**	**-0.7**
JAM				*e*S		**Sn**	**Sn**	**07 19 53.1**	**-0.4**
JNN	**Nakanoshima**	**0.82**	**342**	P		**Pn**	**Pn**	**07 19 41.9**	**-0.6**
JNN				*e*S		**Sn**	**Sn**	**07 19 53.4**	**-0.2**
JAMN	**Amaminishikomi**	**1.19**	**227**	P		**Pn**	**Pn**	**07 19 48.0**	**+0.5**
JAMN				*e*S		**Sn**	**Sn**	**07 20 02.9**	**+0.3**
JKC	**Kuchinoerabu**	**1.40**	**1**	P		**Pn**	**Pn**	**07 19 50.5**	**+0.2**
JKC				*e*S		**Sn**	**Sn**	**07 20 08.4**	**+0.9**
JTK	**Tokunoshima**	**1.66**	**220**	P		**Pn**	**Pn**	**07 19 54.2**	**+0.3**
JTK				*e*S		**Sn**	**Sn**	**07 20 14.8**	**+0.7**
JTN	**Tanegashima 3**	**1.74**	**24**	P		**Pn**	**Pn**	**07 19 54.3**	**-0.6**
JTN				*e*S		**Sn**	**Sn**	**07 20 16.1**	**+0.2**
JNU	**Nakatsue**	**4.09**	**8**	P		**Pn**	**Pn**	**07 20 28.1**	**+0.8**
	4.6nm,0.3s,baz=241,slow=1.2,SNR=39								
KSRS	**Korea Array**	**8.58**	**348**	P		**Pn**	**Pn**	**07 21 29.4**	**+0.8**
	0.2nm,0.3s,baz=170,slow=14,SNR=4.4								
SONM	**Songino Array**	**26.24**	**322**	P		**P**	**P**	**07 24 57.2**	**-0.5**
	1.1nm,0.6s,baz=141,slow=11,SNR=5.6								
ODAN	**Odare**	**37.70**	**277**	*e*P		**P**	**P**	**07 26 39.0**	**+0.7**
	11nm,0.6s								
RAMN	**Ramite**	**38.36**	**278**	*e*P		**P**	**P**	**07 26 44.9**	**+1.0**
JIRN	**Jiri**	**38.56**	**279**	*e*P		**P**	**P**	**07 26 47.1**	**+1.4**
	8.5nm,0.5s								
GUN	**Gumba**	**38.77**	**279**	*e*P		**P**	**P**	**07 26 49.0**	**+1.6**
	17nm,0.3s								
PKI	**Pulchoki**	**39.25**	**279**	*e*P		**P**	**P**	**07 26 52.2**	**+0.7**
	9.7nm,0.4s								
PKIN	**Phulchoki**	**39.26**	**279**	*e*P		**P**	**P**	**07 26 52.1**	**+0.6**
	8.8nm,0.4s								
DANN	**Dangsing**	**40.50**	**281**	*e*P		**P**	**P**	**07 27 02.7**	**+0.9**
	15nm,0.6s								
MKAR	**Makanchi Array**	**41.01**	**309**	P		**P**	**P**	**07 27 05.5**	**+0.1**
	0.6nm,0.7s,baz=85,slow=13,SNR=4.4								
ZALV	**Zalesovo Beam**	**41.10**	**320**	P		**P**	**P**	**07 27 06.3**	**+0.3**
	1.0nm,0.3s,baz=104,slow=6.7,SNR=4.0								
KURBB	**Kurchatov Arra**	**44.05**	**314**	P		**P**	**P**	**07 27 30.5**	**+0.5**
	0.6nm,0.4s,baz=97,slow=9.5,SNR=8.7								
WRA	**Warramunga Arr**	**48.88**	**175**	P		**P**	**P**	**07 28 08.6**	**+0.5**
	2.7nm,0.7s,baz=353,slow=8.4,SNR=19								
ASAR	**Alice Springs**	**52.55**	**176**	P		**P**	**P**	**07 28 36.8**	**+1.1**
	1.2nm,0.7s,baz=7.3,slow=14,SNR=38								
AKTO	**Aktyubinsk**	**57.10**	**314**	P		**P**	**P**	**07 29 07.9**	**-0.5**
	1.6nm,0.5s,baz=87,slow=12,SNR=5.6								
ILAR	**Eielson Array**	**61.14**	**29**	P		**P**	**P**	**07 29 36.2**	**+0.1**
	0.4nm,0.7s,baz=273,slow=5.9,SNR=8.5								
ARCES	**ARCESS Array B**	**68.01**	**338**	P		**P**	**P**	**07 30 20.1**	**-0.7**
	3.0nm,0.9s,baz=78,slow=9.3,SNR=2.7								
KBZ	**Khabaz**	**68.71**	**309**	P		**P**	**P**	**07 30 24.7**	**-0.9**
	2.0nm,0.7s,baz=76,slow=4.2,SNR=3.9								
FINES	**FINESS Array B**	**71.25**	**331**	P		**P**	**P**	**07 30 39.7**	**-1.2**
	1.0nm,0.3s,baz=68,slow=5.9,SNR=12								
AKASG	**Malin Array Be**	**74.50**	**320**	P		**P**	**P**	**07 31 00.1**	**-0.2**
	0.4nm,0.3s,baz=58,slow=6.3,SNR=5.5								
BRTR	**Keskin Array B**	**76.65**	**308**	P		**P**	**P**	**07 31 12.9**	**-0.2**
	2.1nm,0.8s,baz=98,slow=6.4,SNR=6.3								
NOA	**NORSAR Array B**	**77.53**	**334**	P		**P**	**P**	**07 31 15.8**	**-1.7**
	0.4nm,0.6s,baz=53,slow=5.6,SNR=2.6								

*IDC **30** 07:22:03.0±2.5,28.°56N×129.°21E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/26, mbtmp3.6/5, Error ellipse: s-maj=162.7km s-min=21.2km az=68.0*
*JMA **30** 07:22:05.7±0.1,29.°13N×130.°17E, h52km±3km, M3.0*

ISC 30 07:22:04.2±0.9, 29.°09N±0.°05×130.°3E±0.°1, h21km±4km, n12, σ0°84/19, mb3.8/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.83**	**202**	P		**Pn**	**Pn**	**07 22 21.5**	**+0.8**
JZK				*e*S		**Sn**	**Sn**	**07 22 32.3**	**0.0**
JNN	**Nakanoshima**	**0.85**	**332**	P		**Pb**	**Pb**	**07 22 20.1**	**-0.2**
JNN				*e*S		**Sb**	**Sb**	**07 22 31.3**	**0.0**
JAM	**Amami Oshima**	**0.92**	**224**	P		**Pb**	**Pb**	**07 22 21.7**	**+0.2**
JAM				*e*S		**Sb**	**Sb**	**07 22 33.6**	**+0.2**
JAMN	**Amaminishikomi**	**1.32**	**231**	P		**Pn**	**Pn**	**07 22 27.1**	**-0.3**
JAMN				*e*S		**Sn**	**Sn**	**07 22 44.2**	**-0.1**
JKC	**Kuchinoerabu**	**1.38**	**355**	P		**Pn**	**Pn**	**07 22 28.5**	**+0.2**
JKC				*e*S		**Sn**	**Sn**	**07 22 45.3**	**-0.6**
JTN	**Tanegashima 3**	**1.66**	**20**	P		**Pn**	**Pn**	**07 22 33.0**	**+0.8**
JTN				*e*S		**Sb**	**Sb**	**07 22 54.2**	**-0.5**
JTK	**Tokunoshima**	**1.77**	**224**	P		**Pn**	**Pn**	**07 22 34.1**	**+0.4**
JTK				*e*S		**Sn**	**Sn**	**07 22 54.0**	**-0.9**
SONM	**Songino Array**	**26.31**	**322**	P		**P**	**P**	**07 27 40.3**	**+1.8**
	0.5nm,0.4s,baz=143,slow=11,SNR=4.5								
KURBB	**Kurchatov Arra**	**44.14**	**314**	P		**P**	**P**	**07 30 10.4**	**-0.8**
	0.2nm,0.4s,baz=98,slow=8.3,SNR=2.7								
WRA	**Warramunga Arr**	**48.89**	**175**	P		**P**	**P**	**07 30 47.4**	**-1.4**
	0.9nm,0.8s,baz=354,slow=8.4,SNR=5.5								
ASAR	**Alice Springs**	**52.56**	**176**	P		**P**	**P**	**07 31 15.2**	**-1.1**
	0.6nm,0.5s,baz=353,slow=7.6,SNR=9.0								
FINES	**FINESS Array B**	**71.30**	**331**	P		**P**	**P**	**07 33 22.9**	**+0.9**
	1.2nm,0.7s,baz=75,slow=10,SNR=3.5								

JMA 30 07:39:25.2±0.1, 29.°08N×129.°93E, h24km±4km, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.72**	**203**	P		Pb	Pb	07 39 38.9	-0.3
JZK	**Kikaishima**	**0.76**	**177**	P		Pb	Pb	07 39 39.5	-0.3
JAMN	**Amaminishikomi**	**1.07**	**219**	P		Pn	Pn	07 39 44.4	-0.2
JTK	**Tokunoshima**	**1.55**	**214**	P		Pn	Pn	07 39 52.1	+0.8

*IDC **30** 07:39:21.6±0.9,29.°15N×130.°08E, h0km, mb3.8/10, mb1 3.9/10, mb1mx3.9/28, mbtmp3.8/10, MS5.0/1, Ms1 5.0/1, ms1mx4.1/40, Error ellipse: s-maj=28.3km s-min=19.6km az=74.0*
*ISCJB **30** 07:39:27.3±0.5,29.°05N±0.°04×129.°98E±0.°09, h56km±5km, mb3.7/11, Error ellipse: s-maj=14.1km s-min=4.8km az=17.4*
*JMA **30** 07:39:27.3±0.2,29.°05N×129.°94E, h53km±5km, M4.1*
JMA Felt I J1.

ISC 30 07:39:28.2±1.1, 29.°04N±0.°05×129.°97E±0.°09, h42km±11km, n20, σ1°34/26, mb3.8/11, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.70**	**207**	P		**Pn**	**Pn**	**07 39 40.8**	**-0.9**
JAM				S		**Sn**	**Sn**	**07 39 50.8**	**-0.6**
JZK	**Kikaishima**	**0.72**	**179**	P		**Pn**	**Pn**	**07 39 41.9**	**-0.1**
JZK				S		**Sn**	**Sn**	**07 39 52.9**	**+1.0**
JNN	**Nakanoshima**	**0.80**	**354**	P		**Pn**	**Pn**	**07 39 42.3**	**-0.9**
JNN				S		**Sn**	**Sn**	**07 39 53.9**	**-0.1**
JAMN	**Amaminishikomi**	**1.05**	**221**	P		**Pn**	**Pn**	**07 39 46.6**	**+0.1**
JAMN				S		**Sn**	**Sn**	**07 39 59.9**	**-0.1**
JKC	**Kuchinoerabu**	**1.43**	**8**	P		**Pn**	**Pn**	**07 39 51.0**	**-0.8**
JKC				S		**Sn**	**Sn**	**07 40 09.4**	**0.0**
JTK	**Tokunoshima**	**1.53**	**216**	P		**Pn**	**Pn**	**07 39 53.5**	**+0.4**
JTK				S		**Sn**	**Sn**	**07 40 13.6**	**+1.7**
JTN	**Tanegashima 3**	**1.84**	**28**	P		**Pn**	**Pn**	**07 39 57.3**	**0.0**
JTN				S		**Sn**	**Sn**	**07 40 19.0**	**-0.3**
JNU	**Nakatsue**	**4.15**	**11**	LR		LR	LR	07 41 55.0	
	comp=Z,17μm,18.1s,baz=216,slow=38								
KSRS	**Korea Array**	**8.57**	**349**	Pn		**Pn**	**Pn**	**07 41 32.3**	**+2.7**
	0.3nm,0.3s,baz=170,slow=15,SNR=10								
CMAR	**Chiang Mai Arr**	**30.20**	**257**	P		**P**	**P**	**07 45 36.6**	**+1.8**
	1.3nm,0.3s,baz=57,slow=6.6,SNR=2.6								
MKAR	**Makanchi Array**	**40.89**	**309**	P		**P**	**P**	**07 47 04.2**	**-2.1**
	0.2nm,0.6s,baz=97,slow=7.4,SNR=3.2								
ZALV	**Zalesovo Beam**	**41.01**	**320**	P		**P**	**P**	**07 47 05.6**	**-1.4**
	0.7nm,0.5s,baz=104,slow=12,SNR=2.9								
KURBB	**Kurchatov Arra**	**43.95**	**314**	P		**P**	**P**	**07 47 29.9**	**-1.0**
	0.7nm,0.2s,baz=96,slow=9.2,SNR=6.6								
WRA	**Warramunga Arr**	**48.88**	**175**	P		**P**	**P**	**07 48 08.3**	**-1.6**
	1.1nm,0.9s,baz=352,slow=7.8,SNR=5.7								
BVAR	**Borovoye Array**	**49.26**	**317**	P		**P**	**P**	**07 48 11.4**	**-1.1**
	1.2nm,0.6s,baz=95,slow=7.2,SNR=5.6								
ASAR	**Alice Springs**	**52.54**	**175**	P		**P**	**P**	**07 48 38.0**	**+0.6**
	0.4nm,0.6s,baz=11,slow=13,SNR=8.4								
ILAR	**Eielson Array**	**61.24**	**29**	P		**P**	**P**	**07 49 37.4**	**-1.2**
	0.2nm,0.6s,baz=270,slow=6.3,SNR=3.5								
INK	**Inuvik**	**65.71**	**24**	P		**P**	**P**	**07 50 11.1**	**+3.0**
	0.6nm,0.6s,baz=293,slow=2.9,SNR=4.6								
RES	**Resolute Bay**	**72.51**	**11**	P		**P**	**P**	**07 50 49.7**	**-0.4**
	2.2nm,0.8s,baz=297,slow=4.5,SNR=5.3								
BRTR	**Keskin Array B**	**76.53**	**308**	P		**P**	**P**	**07 51 14.2**	**-0.1**
	0.8nm,0.8s,baz=64,slow=6.1,SNR=2.5								

*IDC **30** 07:42:00.3±7.3,15.°23N×93.°16W, h88km±57km, mb3.2/4, mb1 3.6/6, mb1mx3.4/25, mbtmp3.2/6, ML3.0/2, MS3.7/1, Ms1 3.7/1, ms1mx3.7/12, Error ellipse: s-maj=158.9km s-min=47.7km az=33.0*

ISC 30 07:41:57.0±5.1, 15.°0N±0.°8×93.°5W±0.°4, h57km, n6, σ0°83/6, mb3.5/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**2.89**	**90**	P		**Pn**	**Pn**	**07 42 40.9**	**+0.2**
	1.3nm,0.3s,baz=260,slow=11,SNR=8.4								
APG				LR		LR	LR	07 43 40.7	
	comp=Z,1μm,18.4s,baz=283,slow=38								
TXAR	**Lajitas Array**	**17.08**	**328**	P		**Pn**	**Pn**	**07 45 51.9**	**-0.2**
	0.0nm,0.3s,baz=150,slow=13,SNR=7.3								
ANMO	**Albuquerque**	**23.03**	**332**	P		**P**	**P**	**07 46 58.2**	**+0.6**
	0.7nm,0.6s,baz=165,slow=12,SNR=4.4								
PDAR	**Pinedale Array**	**30.92**	**337**	P		**P**	**P**	**07 48 09.0**	**+0.3**
	0.4nm,0.9s,baz=144,slow=9.7,SNR=2.6								
NVAR	**Mina Array Bea**	**32.00**	**321**	P		**P**	**P**	**07 48 18.9**	**+

TXAR	**Lajitas Array**	**145.24**	**43**	PKP		**PKPbc**	**08 55 40.0**	**-0.1**
	0.1nm,0.7s,baz=132,slow=1.3,SNR=2.3							

NNC 30 08:40:51.4±2.8, 53.40N×90.65E, h8km±9km, mb4.2, mpv3.8,11C-7D, Error ellipse: s-maj=22.6km s-min=16.0km az=74.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**7.88**	**255**	⇓Pn	Pn	08 42 46.1	-0.2
	3.5nm,1.2s						
KURK				⇑Pg	Pb	08 43 13.6	+5.4
	2.6nm,0.6s						
KURK				⇑Sn	Sn	08 44 15.7	0.0
	14nm,1.1s						
KURK				⇑Lg	Lg	08 45 01.9	
	27nm,1.0s						
KURBB	**Kurchatov Arra**	**7.97**	**254**	⇓Pn	Pn	08 42 47.9	+0.3
	6.8nm,0.6s						
KURBB				⇑Pg	Pg	08 43 17.6	-6.4
	9.6nm,0.8s						
KURBB				⇓Sn	Sn	08 44 19.1	+1.2
	100nm,1.1s						
KURBB				⇓Lg	Lg	08 45 07.0	
	144nm,1.3s						
MK31	**Makanchi Array**	**8.51**	**222**	⇑Pn	Pn	08 42 57.4	+2.4
	0.8nm,0.5s,baz=39,slow=13,SNR=16						
MK31				⇑Pg	Pg	08 43 27.5	-6.9
	8.9nm,1.1s,baz=46,slow=14,SNR=4.5						
MK31				⇑Sn	Sn	08 44 37.6	+6.3
	6.7nm,0.9s,baz=40,slow=28,SNR=3.6						
MK31				⇓Lg	Lg	08 45 19.8	
	18nm,1.0s,baz=32,slow=30,SNR=3.6						
VOSK	**Vostochnaya**	**11.85**	**275**	⇑Pn	Pn	08 43 36.3	-4.3
	5.7nm,1.1s						
VOSK				⇑Sn	Sn	08 45 57.6	+4.6
	1.4nm,0.6s						
BVA0	**Borovoye Array**	**12.15**	**276**	⇓Pn	Pn	08 43 47.0	+2.3
	9.3nm,1.1s						
BVA0				⇓Sn	Sn	08 46 00.3	+0.1
	2.0nm,0.7s						
BRVK	**Borovoye**	**12.21**	**277**	⇑Pn	Pn	08 43 48.7	+3.2
	5.0nm,1.3s						
BRVK				⇑Sn	Sn	08 46 00.3	-1.3
	9.8nm,1.3s						

IDC ***30*** *08:49:41.2±0.7, 40.58N×77.77E, h0km, mb4.1/14, mb1 4.3/19, mb1mx4.1/32, mbtmp4.1/19, ML4.1/5, Error ellipse: s-maj=13.8km s-min=12.9km az=65.0*

BJI ***30*** *08:49:43.6, 40.73N×77.62E, h23km, mB4.7/2, mb4.7/15, ML4.5/7, Ms4.3/1*

ISCJB ***30*** *08:49:44.0±0.3, 40.60N±0.03×77.84E±0.04, h28km, mb4.2/21, Error ellipse: s-maj=4.4km s-min=3.9km az=18.8*

MOS ***30*** *08:49:44.4±1.1, 40.48N×77.73E, h33km, mb4.3/16, Error ellipse: s-maj=9.5km s-min=5.5km az=116.8*

NEIC ***30*** *08:49:47.0±1.1, 40.73N×77.71E, h38km±9km, mb4.1/3, Error ellipse: s-maj=11.8km s-min=7.7km az=165.0*

NNC ***30*** *08:49:51.5±5.0, 41.29N×78.42E, h0km, mb4.7, mpv4.6, Error ellipse: s-maj=47.8km s-min=19.8km az=160.0*

ISC 30 08:49:45.5±0.4, 40.63N±0.04×77.77E±0.04, h28km, n115, σ1§53/125, mb4.1/21, 18C-12D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.77**	**232**	⇓*i*Pn	Pb	08 50 23.8	+6.4
KSH				Sn	Sb	08 50 54.0	+15
KSH				SMN			
	comp=Z,2μm,0.6s						
KSH				SME			
	comp=Z,4μm,0.7s						
ULHL	**Ulahol**	**1.98**	**325**	*i*PN	**Pn**	**08 50 17.8**	**+0.5**
ULHL	**Ulahol**	**1.98**	**325**	P	**Pn**	**08 50 17.9**	**+0.5**
	SNR=1159						
KZA	**Kyzart**	**2.38**	**308**	*i*PN	**Pn**	**08 50 23.7**	**+0.6**
KZA	**Kyzart**	**2.38**	**308**	P	**Pn**	**08 50 23.7**	**+0.6**
	SNR=717						
KNDC	**Almaty**	**2.65**	**347**	⇑Pn	Pb	08 50 28.6	-3.7
KNDC				⇓Lg	Lg	08 51 01.9	
AAA	**Alma-Ata**	**2.71**	**347**	*i*PN	**Pb**	**08 50 31.2**	**-2.0**
AAA				*i*S	**Sb**	**08 51 05.3**	**-0.7**
AAA				pmax	pmax		
	comp=Z,7μm,0.5s						
AAA				smax	smax		
	comp=N,6μm,0.8s						
TKM2	**Tokmak 2**	**2.80**	**325**	⇑Pn	**Pn**	**08 50 29.9**	**+1.3**
	comp=N,159nm,0.3s						
TKM2				⇑Lg	Lg	08 51 08.0	
	comp=N,444nm,0.7s						
TKM2	**Tokmak 2**	**2.80**	**325**	*e*PN	**Pn**	**08 50 29.8**	**+1.1**
TKM2				*e*		08 51 08.2	
TKM2	**Tokmak 2**	**2.80**	**325**	P	**Pn**	**08 50 30.0**	**+1.3**
	SNR=253						
TKM2	**Tokmak 2**	**2.80**	**325**	*e*Pn	**Pn**	**08 50 29.8**	**+1.1**
TKM2				*e*Sn	**Sb**	**08 51 08.2**	**-0.7**
KBK	**Karagaybulak**	**2.92**	**315**	*i*PN	**Pn**	**08 50 31.7**	**+1.5**
KBK	**Karagaybulak**	**2.92**	**315**	P	**Pn**	**08 50 31.8**	**+1.5**
	SNR=317						
AAK	**Ala-Archa**	**3.16**	**310**	*d*PN	**Pn**	**08 50 34.4**	**+0.8**
AAK	**Ala-Archa**	**3.16**	**310**	P	**Pn**	**08 50 34.5**	**+0.8**
	SNR=36						
AAK	**Ala-Archa**	**3.16**	**310**	*e*Pn	**Pn**	**08 50 34.7**	**+1.1**
AAK				*e*Sg	**Sb**	**08 51 18.6**	**-0.7**
FRU	**Bishkek**	**3.22**	**314**	*e*PN	**Pn**	**08 50 36.5**	**+2.2**
FRU				*i*		08 51 22.0	
FRU				pmax	pmax		
	comp=Z,970nm,1.8s						
FRU				smax	smax		
	comp=N,3μm,2.0s						
CHMS	**Chumysh**	**3.27**	**317**	*i*PN	**Pn**	**08 50 36.0**	**+1.1**
CHMS	**Chumysh**	**3.27**	**317**	P	**Pn**	**08 50 36.0**	**+1.1**
	SNR=24						
AML	**Almayashu**	**3.41**	**297**	*i*PN	**Pn**	**08 50 37.8**	**+0.6**
AML	**Almayashu**	**3.41**	**297**	P	**Pn**	**08 50 37.8**	**+0.6**
	SNR=19						
USP	**Ospenovka**	**3.59**	**318**	*i*PN	**Pn**	**08 50 40.9**	**+1.7**
USP	**Ospenovka**	**3.59**	**318**	P	**Pn**	**08 50 41.0**	**+1.7**
	SNR=6.9						
EKS2	**Erkin-Say**	**3.61**	**305**	*e*PN	**Pn**	**08 50 41.1**	**+1.4**
EKS2				*e*		08 51 32.8	
EKS2	**Erkin-Say**	**3.61**	**305**	P	**Pn**	**08 50 41.2**	**+1.5**
	SNR=22						
EKS2	**Erkin-Say**	**3.61**	**305**	*e*Pn	**Pn**	**08 50 41.1**	**+1.4**
EKS2				*e*Sg	**Sb**	**08 51 32.8**	**+0.6**
KK31	**Karatay Array**	**5.95**	**297**	⇓Pn	**Pb**	**08 51 29.9**	**+1.4**
	comp=N,30nm,0.5s,baz=120,slow=14,SNR=53						
KK31				⇓Sn	Sb	08 52 44.7	+5.5
	comp=N,71nm,0.6s,baz=114,slow=28,SNR=10.0						
KK31	**Karatay Array**	**5.95**	**297**	*i*PN	**Pn**	**08 51 11.2**	**-0.5**
KK31				pmax	pmax		
	comp=Z,37nm,0.4s						
KKAR	**Karatay Array**	**5.95**	**297**	*e*PN	**Pn**	**08 51 10.7**	**-1.0**
KKAR				*e*		08 52 45.1	
KKAR				pmax	pmax		
	comp=Z,58nm,0.5s						
KKAR	**Karatay Array**	**5.95**	**297**	*e*Pn	**Pn**	**08 51 10.7**	**-1.0**
	comp=Z,58nm,0.5s						
KKAR				*e*Sg	Sb	08 52 45.1	+5.9
MK31	**Makanchi Array**	**6.97**	**26**	⇑Pn	**Pn**	**08 51 26.5**	**+0.7**
	comp=Z,8.3nm,0.3s,baz=202,slow=12,SNR=167						
MK31				⇑Sn	**Sn**	**08 52 44.1**	**0.0**
	comp=Z,12nm,0.5s,baz=206,slow=24,SNR=4.5						
MK31				⇑Lg	Lg	08 53 05.7	
	comp=Z,76nm,0.8s,baz=203,slow=30,SNR=4.5						
MK31	**Makanchi Array**	**6.97**	**26**	*e*Pn	**Pn**	**08 51 26.4**	**+0.7**
MK31	**Makanchi Array**	**6.97**	**26**	*e*Pn	**Pn**	**08 51 26.4**	**+0.7**
MKAR	**Makanchi Array**	**6.97**	**26**	PN	**Pn**	**08 51 26.6**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.3s						
MKAR	**Makanchi Array**	**6.97**	**26**	Pn	**Pn**	**08 51 26.6**	**+0.8**
MKAR				Sn	**Sn**	**08 52 44.8**	**+0.7**
MKAR				Lg	Lg	08 53 25.4	
MKAR	**Makanchi Array**	**6.97**	**26**	Pn	**Pn**	**08 51 26.6**	**+0.8**
	comp=Z,7.2nm,0.3s,baz=201,slow=16,SNR=210						
MKAR				Sn	**Sn**	**08 52 44.8**	**+0.7**
	comp=Z,7.8nm,0.3s,baz=206,slow=23,SNR=6.0						
MKAR				Lg	Lg	08 53 25.4	
	comp=Z,8.7nm,0.3s,baz=212,slow=24,SNR=7.1						
CHCP	**Chirah Chowk**	**7.83**	**209**	P	Pn	08 51 40.5	+2.9
WMQ	**Urumqi**	**8.02**	**63**	P	**Pn**	**08 51 41.5**	**+1.3**
WMQ				S	**Sn**	**08 53 13.8**	**+3.8**
WMQ				SMN			
	comp=Z,130nm,1.0s						
WMQ				SME			
	comp=Z,150nm,0.9s						
CEP	**Cherat**	**8.25**	**216**	P	**Pn**	**08 51 44.8**	**+1.4**
CEP				S	**Sn**	**08 53 14.0**	**-1.7**
SDNR	**Sundarnagar**	**9.14**	**184**	*e*P	**Pn**	**08 51 56.0**	**+0.5**
SDNR				*e*S	**Sn**	**08 53 39.0**	**+1.6**
THW	**Thamme Wali**	**9.20**	**214**	P	**Pn**	**08 51 57.6**	**+1.3**
KBL	**Kabul**	**9.21**	**231**	*e*P	**Pn**	**08 51 57.3**	**+0.6**
KBL				*e*		08 53 36.2	
KBL				pmax	pmax		
	comp=Z,11nm,0.6s						
KBL	**Kabul**	**9.21**	**231**	*e*Pn	**Pn**	**08 51 57.3**	**+0.6**
	comp=Z,11nm,0.6s						
KBL				*e*Sn	**Sn**	**08 53 36.2**	**-3.3**
SARP	**Sargodha**	**9.62**	**207**	P	**Pn**	**08 52 03.5**	**+1.5**
KURBB	**Kurchatov Arra**	**10.00**	**3**	⇓Pn	**Pn**	**08 52 06.8**	**-0.4**
	comp=Z,12nm,0.5s						
KURBB				⇑Lg	Lg	08 54 52.4	
	comp=Z,237nm,0.9s						
KURBB	**Kurchatov Arra**	**10.00**	**3**	Pn	**Pn**	**08 52 06.1**	**-1.1**
	comp=Z,2.3nm,0.3s,baz=195,slow=12,SNR=43						
KURBB				Sn	**Sn**	**08 54 02.8**	**+4.3**
	comp=Z,1.1nm,0.3s,baz=189,slow=14,SNR=4.1						
KURBB				Lg	Lg	08 54 59.7	
	comp=Z,2.1nm,0.3s,baz=193,slow=32,SNR=13						
KURK	**Kurchatov**	**10.10**	**3**	⇑Pn	**Pn**	**08 52 07.4**	**-1.2**
	comp=Z,3.6nm,0.7s						
KURK				⇑Lg	Lg	08 54 57.1	
	comp=Z,112nm,1.3s						
KURK	**Kurchatov**	**10.10**	**3**	*e*P	**Pn**	**08 52 07.4**	**-1.2**
KURK	**Kurchatov**	**10.10**	**3**	*e*Pn	**Pn**	**08 52 07.3**	**-1.2**
KURK				*e*Sn	Sn	08 54 59.5	+59
KURK				Lg	Lg	08 54 59.7	
VOSK	**Vostochnaya**	**12.95**	**341**	⇑Pn	**Pn**	**08 52 45.4**	**-2.2**
	comp=Z,11nm,1.1s						
VOSK				⇓Lg	Lg	08 56 24.8	
	comp=Z,88nm,1.4s						
BVA0	**Borovoye Array**	**13.38**	**340**	⇑Pn	**Pn**	**08 52 51.0**	**-2.3**
	comp=Z,5.3nm,0.6s,baz=142,slow=11,SNR=6.6						
BVA0				⇓Lg	Lg	08 56 40.8	
	comp=Z,87nm,1.2s,baz=318,slow=84,SNR=3.5						
BVA0	**Borovoye Array**	**13.38**	**340**	*e*P	**Pn**	**08 52 50.6**	**-2.7**
BVA0				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BVAR	**Borovoye Array**	**13.38**	**340**	P	**Pn**	**08 52 51.1**	**-2.2**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**13.38**	**340**	Pn	**Pn**	**08 52 51.1**	**-2.2**
BVAR				Lg	Lg	08 56 46.5	
BVAR	**Borovoye Array**	**13.38**	**340**	Pn	**Pn**	**08 52 51.1**	**-2.2**
	comp=Z,0.9nm,0.3s,baz=141,slow=11,SNR=11						
BVAR				Lg	Lg	08 56 46.5	
	comp=Z,1.3nm,0.3s,baz=150,slow=26,SNR=6.6						
BRVK	**Borovoye**	**13.43**	**340**	⇑Pn	**Pn**	**08 52 51.9**	**-2.2**
	comp=Z,17nm,0.8s						
BRVK				⇑Lg	Lg	08 56 44.1	
	comp=Z,145nm,1.2s						
BRVK	**Borovoye**	**13.43**	**340**	P	**Pn**	**08 52 51.8**	**-2.2**
BRVK				pmax	pmax		
	comp=Z,17nm,0.8s						
BRVK	**Borovoye**	**13.43**	**340**	*e*Pn	**Pn**	**08 52 51.3**	**-2.7**
	comp=Z,10nm,0.6s						
ZAA0	**Zalesovo Array**	**14.14**	**17**	*e*Pn	**Pn**	**08 53 02.7**	**-1.0**
ZALV	**Zalesovo Beam**	**14.14**	**17**	P	**Pn**	**08 53 03.2**	**-0.6**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**14.14**	**17**	Pn	**Pn**	**08 53 03.1**	**-0.6**
ZALV				Lg	Lg	08 57 08.2	
ZALV	**Zalesovo Beam**	**14.14**	**17**	Pn	**Pn**	**08 53 03.1**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=204,slow=13,SNR=25						
ZALV				Lg	Lg	08 57 08.2	
	baz=212,slow=24,SNR=3.2						
NVS	**Novosibirsk**	**14.68**	**13**	*e*P	**P**	**08 53 15.6**	**-1.3**
NVS				pmax	pmax		
	comp=N,9.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,6.0nm,0.7s						
NVS				pmax	pmax		
	comp=Z,12nm,0.7s						
AB31	**Akbulak array**	**15.26**	**310**	⇓Pn	**P**	**08 53 21.6**	**-1.8**
	comp=Z,5.4nm,0.8s,baz=112,slow=13,SNR=24						
AB31				⇓Sn	**S**	**08 56 20.9**	**-1.9**
	comp=Z,3.7nm,0.8s						
AB31	**Akbulak array**	**15.26**	**310**	*ce*P	**Pn**	**08 53 20.2**	**+1.4**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ABKAR	**Akbulak array**	**15.26**	**310**	*e*Pn	**Pn**	**08 53 17.1**	**-1.7**
	comp=Z,2.5nm,0.3s						
AKTO	**Aktyubinsk**	**16.91**	**312**	⇑Pn	**Pn**	**08 53 39.0**	**-1.0**
	comp=Z,9.3nm,0.9s						
AKTO				⇓Sn	**S**	**08 56 56.5**	**-0.1**
	comp=Z,22nm,1.4s						
AKTO	**Aktyubinsk**	**16.91**	**312**	*i*P	**Pn**	**08 53 39.1**	**-0.8**
AKTO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
AKTO	**Aktyubinsk**	**16.91**	**312**	Pn	**Pn**	**08 53 37.1**	**-2.8**
AKTO				Lg	Lg	08 58 38.4	
AKTO	**Aktyubinsk**	**16.91**	**312**	Pn	**Pn**	**08 53 37.1**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=100,slow=10,SNR=6.2						
AKTO				Lg	Lg	08 58 38.4	
	baz=231,slow=19,SNR=2.4						
GTA	**Gaotai**	**16.93**	**87**	⇓P	**Pn**	**08 53 40.3**	**-0.1**
GTA				pP	**P**	**08 53 45.3**	**+3.1**
GTA				sP	**sP**	**08 53 49.3**	**-4.0**
GTA				AMB	AMB		
	comp=Z,21nm,0.9s						
ARU	**Arti**	**20.18**	**328**	*c*P	Pn	08 54 20.3	+0.8
ARU						08 54 36.6	
ARU				S	Sn	08 58 09.1	+3.5
ARU				SS	**SnSn**	**08 58 25.3**	**+5.2**
ARU				pmax	pmax		
	comp=Z,10.0nm,1.7s						
ZAK	**Zakamensk**	**20.27**	**53**	*e*P	Pn	08 54 19.5	-1.4
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
LZH	**Lanzhou**	**20.91**	**94**	*e*P	Pn	08 54 27.8	-0.8
LZH				pP	pP	08 54 36.3	+2.8
LZH				sP	sP	08 54 41.0	+3.9
LZH				AMB	AMB		
	comp=Z,120nm,1.0s						
SONM	**Songino Array**	**21.65**	**61**	P	**P**	**08 54 35.1**	**+1.4**
SONM	**Songino Array**	**21.65**	**61**	P	**P**	**08 54 35.1**	**+1.4**
	comp=Z,3.7nm,0.7s,baz=268,slow=11,SNR=16						
ULN	**Ulaanbaatar**	**22.09**	**61**	*e*P	**P**	**08 54 40.3**	**+1.9**
	comp=Z,5.7nm,0.8s						
SOKR	**Solikamsk**	**23.08**	**332**	*e*P	P	08 54 54.5	+6.0
SOKR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
HHC	**Hu-ho-hao-te**	**25.52**	**78**	*e*P	**P**	**08 55 10.5**	**-1.1**
HHC				AMB	AMB		
	comp=Z,35nm,1.2s						
BRTR	**Keskin Array B**	**33.47**	**283**	P	**P**	**08 56 23.9**	**+1.6**
BRTR	**Keskin Array B**	**33.47**	**283**	P	**P**	**08 56 23.9**	**+1.6**
	comp=Z,2.0nm,0.8s,baz=93,slow=9.9,SNR=5.9						
NJ2	**Nanjing**	**33.93**	**91**	*e*P	P	08 56 32.5	+6.3
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s						
QIZ	**Qiongzhong**	**34.88**	**119**	P	**P**	**08 56 33.3**	**-1.2**
QIZ				S	**S**	**09 02 01.8**	**-2.3**
QIZ				AMB	AMB		
	comp=Z,17nm,2.1s						
FINES	**FINESS Array B**	**37.29**	**322**	P	**P**	**08 56 54.8**	**+0.1**
FINES	**FINESS Array B**	**37.29**	**322**	P	**P**	**08 56 54.8**	**+0.1**
	comp=Z,2.2nm,0.5s,baz=108,slow=8.7,SNR=16						
KSAR	**Wonju Array Be**	**38.63**	**78**	P	**P**	**08 57 06.6**	**+0.3**
KSRS	**Korea Array**	**38.66**	**78**	P	**P**	**08 57 06.6**	**+0.1**
	comp=Z,2.5nm,0.9s,baz=290,slow=8.7,SNR=5.2						
ARCES	**ARCESS Array B**	**39.55**	**334**	P	**P**	**08 57 13.7**	**+0.1**
ARCES	**ARCESS Array B**	**39.55**	**334**	P	**P**	**08 57 13.7**	**+0.1**
	comp=Z,4.8nm,0.8s,baz=102,slow=8.8,SNR=13						
TIXI	**Tiksi**	**39.94**	**23**	⇑*i*P	**P**	**08 57 19.2**	**+2.4**
TIXI				pmax	pmax		
	comp=Z,17nm,2.5s						
NB2	**NORSAR Subarra**	**44.43**	**320**	P	**P**	**08 57 53.7**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=87,slow=7.9						
NOA	**NORSAR Array B**	**44.43**	**320**	P	**P**	**08 57 54.1**	**+0.6**
NOA	**NORSAR Array B**	**44.43**	**320**	P	**P**	**08 57 54.1**	**+0.6**
	comp=Z,1.9nm,0.6s,baz=87,slow=7.9,SNR=5.7						
GERES	**GERESS Array B**	**45.02**	**303**	P	**P**	**08 57 59.4**	**+0.9**
GERES	**GERESS Array B**	**45.02**	**303**	P	**P**	**08 57 59.4**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=108,slow=4.3,SNR=4.0						
MJAR	**Matsushiro Arr**	**46.61**	**75**	P	**P**	**08 58 11.1**	**0.0**
MJAR	**Matsushiro Arr**	**46.61**	**75**	P	**P**	**08 58 11.1**	**0.0**
	comp=Z,1.6nm,0.8s,baz=301,slow=7.9,SNR=4.7						
MJA0	**Matsu Arr-Jizo**	**46.64**	**75**	*e*P	**P**	**08 58 12.2**	**+0.8**
MJA0				pmax	pmax		
	comp=Z,2.0nm,0.8s						
IMA2	**Indian Mountai**	**66.50**	**20**	*e*P	**P**	**09 00 31.6**	**-0.6**
ILAR	**Eielson Array**	**69.26**	**19**	P	**P**	**09 00 48.0**	**-1.4**
ILAR	**Eielson Array**	**69.26**	**19**	P	**P**	**09 00 48.0**	**-1.4**
	comp=Z,1.3nm,1.0s,baz=326,slow=4.7,SNR=8.7						
TORD	**Torodi Ar. Bea**	**71.03**	**271**	P	**P**	**09 01 00.0**	**-1.1**
TORD	**Torodi Ar. Bea**	**71.03**	**271**	P	**P**	**09 01 00.0**	**-1.1**
	comp=Z,3.2nm,0.6s,baz=46,slow=5.6,SNR=26						
YKA	**Yellowknife Ar**	**76.74**	**6**	P	**P**	**09 01 33.2**	**-0.5**
YKA	**Yellowknife Ar**	**76.74**	**6**	P	**P**	**09 01 33.2**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=345,slow=5.9,SNR=6.0						
WRA	**Warramunga Arr**	**79.95**	**127**	P	**P**	**09 01 52.6**	**+0.6**
WRA	**Warramunga Arr**	**79.95**	**127**	P	**P**	**09 01 52.6**	**+0.6**
	comp=Z,1.7nm,0.9s,baz=322,slow=4.9,SNR=10						
WRAB	**Tennant Creek**	**79.95**	**127**	*e*P	**P**	**09 01 51.7**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,9.0nm,1.4s						
WRAB	**Tennant Creek**	**79.95**	**127**	*e*P	**P**	**09 01 51.7**	**-0.3**
	comp=Z,9.3nm,1.4s						
ASAR	**Alice Springs**	**82.54**	**130**	P	**P**	**09 02 06.2**	**+0.5**
ASAR	**Alice Springs**	**82.54**	**130**	P	**P**	**09 02 06.2**	**+0.5**
	comp=Z,1.3nm,0.9s,baz=322,slow=4.9,SNR=12						
FFC	**Flin Flon**	**85.01**	**360**	*ce*P	**P**	**09 02 18.4**	**+0.4**
PDAR	**Pinedale Array**	**96.72**	**5**	P	**P**	**09 03 12.6**	**-1.0**
PDAR	**Pinedale Array**	**96.72**	**5**	P	**P**	**09 03 12.6**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=82,slow=3.1,SNR=4.3						
LVC	**Limon Verde**	**146.68**	**292**	*e*PKPbc	**PKPab**	**09 09 25.4**	**-0.8**

DJA 30 08:52:22.9±1.3, 1°S±10°×120°E±°, h17km±18km, M3.6/4, MLv3.6/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.31**	**85**	P	Pn	08 52 45.3	-1.2
MMSI	**Mamuju**	**2.18**	**221**	P	Pn	08 52 58.2	-0.3
LUWI	**Luwuk**	**2.43**	**90**	P	Pn	08 53 02.4	+0.5
LUWI				S	Sn	08 53 32.0	+0.8
SPSI	**Sidrap Palu**	**2.97**	**191**	P	Pn	08 53 08.7	-0.6
SPSI				S	Sn	08 53 46.1	+1.5
BNSI	**Bone**	**3.36**	**184**	P	Pn	08 53 14.8	+0.2

MEX 30 08:53:34.1±0.7, 16.99N×100.08W, h12km±4km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.19**	**287**	*i*P	Pg	08 53 37.6	-0.7
CAIG				*e*S	Sg	08 53 41.3	+0.1
ACP2	**Acapulco**	**0.22**	**122**	*i*P	Pg	08 53 38.1	-0.7
ACP2				*i*S	Sg	08 53 42.1	+0.2
ACX	**Acapulco**	**0.24**	**120**	*i*P	Pg	08 53 37.2	-2.0
ACX				*i*S	Sg	08 53 41.7	-1.0
MEIG	**Mezcala**	**1.03**	**25**	*e*P	Pb	08 53 50.2	-3.8
MEIG				*i*S	Sg	08 54 03.4	-4.2
ARIG	**Puente Sto Nin**	**1.31**	**349**	*e*P	Pn	08 53 54.3	-4.0
ARIG				*e*S	Sb	08 54 11.1	-4.4
ZIIG	**Zihuatanejo**	**1.46**	**295**	*e*P	Pn	08 53 57.2	-3.1
ZIIG				*i*S	Sn	08 54 14.3	-5.1
PLIG	**Platanillo**	**1.50**	**21**	*e*P	Pn	08 53 57.5	-3.5
PLIG				*i*S	Sn	08 54 15.5	-5.1
TLIG	**Tlapa**	**1.55**	**68**	*i*P	Pg	08 53 59.0	-2.8
TLIG				*i*S	Sn	08 54 16.9	-5.1
PNIG	**Pinotepa**	**1.96**	**107**	*i*P	Pn	08 54 03.9	-3.4
PNIG				*i*S	Sn	08 54 26.8	-5.0
YAIG	**Yautepec**	**2.10**	**27**	*e*P	Pn	08 54 06.7	-2.6
YAIG				*i*S	Sn	08 54 30.3	-5.1
UTMO	**Huajuapan**	**2.33**	**69**	*i*P	Pn	08 54 10.1	-2.4
UTMO				*i*S	Sn	08 54 36.3	-5.0

BJI 30 09:14:50.4, 31.09N×103.31E, h17km, ML3.5/8, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.42**	**115**	Pg	Pg	09 14 58.0	-1.1
CD2				Sg	Sg	09 15 04.8	-0.3
CD2				SMN			
	16μm,0.7s						
CD2				SME			
	15μm,0.7s						
GYA	**Guiyang**	**5.47**	**147**	*e*Pn	Pn	09 16 09.3	-2.1
GYA				Pg	Pb	09 16 30.0	+4.3
GYA				Sn	Sn	09 17 07.0	-7.1
GYA				Sg	Sb	09 17 33.0	+1.7
GYA				SMN			
	60nm,0.8s						
GYA				SME			
	40nm,1.0s						
HHC	**Hu-ho-hao-te**	**11.81**	**32**	*e*P	Pn	09 17 37.0	-1.1

IDC 30 09:47:29.7±27.0, 22.78S×173.54W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.8/20, mbtmp4.2/4, Error ellipse: s-maj=493.1km s-min=144.9km az=78.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.45**	**266**	P	P	09 54 45.5	+0.4
	2.6nm,0.3s,baz=97,slow=8.1,SNR=4.1						
STKA	**Stephens

mb1mx3.1/27, mbtmp3.2/3, ML3.0/2, Error ellipse: s-maj=40.7km s-min=21.8km az=148.0

ISC 30 09:59:39.9±2.8, 60°2'N±0°1'×30°4'E±0°1, h0km, n9, σ1§20/19, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VJF	**Virojoki**	**1.46**	**285**	*eP*	**Pn**	**10 00 07.3**	**-0.2**
VJF				*eSB*	**Sb**	**10 00 27.6**	**+0.7**
VJF				*eRG*	Rg	10 00 35.8	
PVF	**Pernaja**	**2.29**	**281**	*ePB*	**Pb**	**10 00 20.8**	**-1.2**
PVF				MSG	**Sg**	**10 00 52.9**	**-0.3**
	comp=Z,2.5nm,0.2s						
PVF				*eSG*	**Sg**	**10 00 52.9**	**-0.3**
FIA0	**FINESS Array S**	**2.46**	**302**	*eP*	**Pn**	**10 00 21.9**	**+0.7**
FIA0				*eS*	**Sn**	**10 00 52.7**	**+0.7**
FIA0				MSG	**Sg**	**10 00 58.0**	**-0.9**
	comp=Z,3.5nm,0.5s						
FIA0				*eSG*	**Sg**	**10 00 58.0**	**-0.9**
FIA0				*eRG*	Rg	10 01 07.7	
FINES	**FINESS Array B**	**2.46**	**302**	Pn	**Pn**	**10 00 21.9**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=116,slow=13,SNR=26						
FINES				Sn	**Sn**	**10 00 54.1**	**+2.1**
	comp=Z,0.7nm,0.3s,baz=116,slow=22,SNR=7.7						
KAF	**Kangasniemi**	**2.76**	**316**	*eP*	**Pn**	**10 00 27.1**	**+1.7**
KAF				*eS*	**Sn**	**10 01 00.6**	**+1.1**
MEF	**Metsahovi**	**3.00**	**273**	*eP*	**Pn**	**10 00 29.0**	**+0.3**
MEF				*eSG*	**Sg**	**10 01 15.7**	**-0.5**
KEF	**Keuruu**	**3.33**	**309**	*eP*	**Pn**	**10 00 35.1**	**+1.9**
KEF				*eS*	**Sn**	**10 01 13.3**	**-0.1**
KEF				MSG		10 01 17.5	
	comp=Z,1.5nm,0.2s						
NOA	**NORSAR Array B**	**9.47**	**283**	Pn	**Pn**	**10 01 56.3**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=93,slow=18,SNR=4.9						
ARCES	**ARCESS Array B**	**9.60**	**350**	Pn	**Pn**	**10 01 57.1**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=159,slow=14,SNR=8.5						

*HEL **30** 10:13:37.2±0.7, 60°.32N×30°.65E, h0km, ML1.8, Explosion*
*IDC **30** 10:13:39.2±3.4, 60°.31N×30°.24E, h0km, mb1 3.2/4, mb1mx3.0/28, mbtmp3.1/4, ML2.5/4, Error ellipse: s-maj=36.5km s-min=19.7km az=138.0*

ISC 30 10:13:36.0±2.2, 60°.26N±0°.09×30°.47E±0°.09, h0km, n11, σ1§16/18, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VJF	**Virojoki**	**1.47**	**282**	*eP*	**Pn**	**10 14 04.3**	**+0.5**
VJF				*eS*	**Sn**	**10 14 24.5**	**+0.8**
VJF				*eRG*	Rg	10 14 32.7	
PVF	**Pernaja**	**2.31**	**279**	*eP*	**Pb**	**10 14 17.6**	**-0.8**
PVF				MSG	**Sg**	**10 14 49.8**	**-0.2**
	comp=Z,2.5nm,0.2s						
PVF				*eSG*	**Sg**	**10 14 49.8**	**-0.2**
FIA0	**FINESS Array S**	**2.46**	**301**	*eP*	**Pn**	**10 14 18.5**	**+1.2**
FIA0				MSG	**Sg**	**10 14 54.9**	**+0.1**
	comp=Z,3.8nm,0.5s						
FIA0				*eSG*	**Sg**	**10 14 54.9**	**+0.1**
FINES	**FINESS Array B**	**2.46**	**301**	Pn	**Pn**	**10 14 18.8**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=116,slow=14,SNR=28						
FINES				Sn	**Sb**	**10 14 50.9**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=117,slow=23,SNR=7.6						
JOF	**Joensuu**	**2.70**	**8**	MSG	**Sb**	**10 14 58.0**	**-0.7**
	comp=Z,8.1nm,0.4s						
JOF				*eSG*	**Sb**	**10 14 58.0**	**-0.7**
KAF	**Kangasniemi**	**2.74**	**314**	*eSB*	**Sb**	**10 15 00.2**	**+0.2**
KAF				MSG		10 15 00.2	
	comp=Z,1.3nm,0.2s						
KEF	**Keuruu**	**3.32**	**308**	*eP*	**Pn**	**10 14 32.1**	**+3.0**
MTSE	**Matsula**	**3.73**	**248**	*eSG*	**Sg**	**10 15 36.0**	**+0.2**
HFS	**Hagfors**	**8.36**	**276**	Pn	**Pn**	**10 15 37.6**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=112,slow=14,SNR=3.0						
NOA	**NORSAR Array B**	**9.48**	**283**	Pn	**Pn**	**10 15 51.9**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=132,slow=14,SNR=4.5						
ARCES	**ARCESS Array B**	**9.54**	**349**	Pn	**Pn**	**10 15 53.9**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=159,slow=13,SNR=7.8						

*CSEM **30** 10:16:50.0±0.5, 60°.43N×60°.02E, h2km, mb4.0, Error ellipse: s-maj=17.4km s-min=8.9km az=32.0*
*MOS **30** 10:16:50.8±1.2, 60°.23N×59°.88E, h10km, mb4.0/7, Error ellipse: s-maj=12.3km s-min=7.4km az=102.2*
*ISCJB **30** 10:16:51.5±0.4, 60°.07N±0°.05×60°.05E±0°.07, h10km, mb3.8/10, Error ellipse: s-maj=7.6km s-min=4.8km az=21.4*
*IDC **30** 10:16:53.4±0.7, 60°.20N×59°.99E, h0km, mb3.8/9, mb1 4.0/17, mb1mx3.8/34, mbtmp3.9/17, ML3.8/8, Error ellipse: s-maj=16.0km s-min=9.2km az=38.0*
*NNC **30** 10:16:58.0±4.1, 59°.76N×60°.78E, h0km, mb4.3, mpv4.5, Error ellipse: s-maj=44.2km s-min=34.2km az=14.0*

ISC 30 10:16:53.2±0.6, 60°.12N±0°.05×60°.06E±0°.05, h10km, n85, σ1§74/82, mb3.8/10, 9C-8D, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVE	**Sverdlovsk**	**3.31**	**174**	*eP*	**Pn**	**10 17 47.7**	**+2.6**
SVE	**Sverdlovsk**	**3.31**	**174**	*eP*	**Pn**	**10 17 47.7**	**+2.6**
ARU	**Arti**	**3.78**	**193**	P	Pn	10 17 55.0	+3.5
ARU				S	**Sb**	**10 18 45.6**	**-0.2**
ARU	**Arti**	**3.78**	**193**	P	Pn	10 17 55.0	+3.5
ARU				S	**Sb**	**10 18 45.6**	**-0.2**
BRVK	**Borovoye**	**9.04**	**137**	⇓Pn	**Pn**	**10 19 04.8**	**+1.1**
	18nm,0.9s						
BRVK				⇓Sn	Sn	10 20 38.5	-6.8
	11nm,0.9s						
BRVK	**Borovoye**	**9.04**	**137**	*eP*	**Pn**	**10 19 04.6**	**+1.0**
BRVK	**Borovoye**	**9.04**	**137**	Pn	**Pn**	**10 19 04.8**	**+1.1**
	18nm,0.9s						
BVA0	**Borovoye Array**	**9.10**	**137**	Pn	**Pn**	**10 19 06.2**	**+1.7**
	11nm,0.5s,baz=333,slow=12,SNR=76						
BVA0				⇓Sn	**Sn**	**10 20 42.5**	**-4.4**
	5.6nm,0.5s,baz=82,slow=51,SNR=9.1						
BVA0	**Borovoye Array**	**9.10**	**137**	Pn	**Pn**	**10 19 06.2**	**+1.7**
	11nm,0.5s,SNR=76						
BVA0				Sn	**Sn**	**10 20 42.5**	**-4.4**
	5.6nm,0.5s,SNR=9.1						
BVAR	**Borovoye Array**	**9.10**	**137**	P	**Pn**	**10 19 06.0**	**+1.5**
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
BVAR	**Borovoye Array**	**9.10**	**137**	P	**Pn**	**10 19 06.0**	**+1.5**
	comp=Z,4.0nm,0.3s						
BVAR	**Borovoye Array**	**9.10**	**137**	Pn	**Pn**	**10 19 06.0**	**+1.5**
	comp=Z,3.9nm,0.3s,baz=334,slow=13,SNR=69						
BVAR				Sn	Sn	10 20 41.3	-5.6
	comp=Z,2.9nm,0.3s,baz=329,slow=24,SNR=9.2						
VOSK	**Vostochnaya**	**9.55**	**136**	⇓Pn	**Pn**	**10 19 11.8**	**+1.1**
	comp=Z,4.3nm,0.5s						
VOSK				⇑Sn	**Sn**	**10 20 54.6**	**-3.4**
	comp=Z,5.3nm,0.7s						
AKTK	**Aktyubinsk**	**9.77**	**188**	P	**Pn**	**10 19 14.5**	**+0.8**
	comp=Z,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**9.77**	**188**	⇓Pn	**Pn**	**10 19 14.1**	**+0.4**
	comp=Z,3.3nm,0.7s						
AKTO				⇑Lg	Lg	10 22 00.9	
	comp=Z,14nm,0.9s						
AKTO	**Aktyubinsk**	**9.77**	**188**	P	**Pn**	**10 19 14.5**	**+0.8**
AKTO						10 21 05.3	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**9.77**	**188**	Pn	**Pn**	**10 19 14.1**	**+0.4**
	comp=Z,3.3nm,0.7s						
AKTO	**Aktyubinsk**	**9.77**	**188**	Pn	**Pn**	**10 19 14.5**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=351,slow=9.4,SNR=11						
AKTO				Sn	**Sn**	**10 21 05.3**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=156,slow=20,SNR=2.0						
AKTO				Lg	Lg	10 22 02.7	
	baz=133,slow=19,SNR=2.5						
KLMR	**Klimovskoe**	**10.15**	**283**	*eP*	**Pn**	**10 19 16.2**	**-2.7**
KLMR				*e*		10 21 06.4	
KLMR				pmax	pmax		
	comp=Z,76nm,1.9s						
KLMR				smax	smax		
	comp=N,170nm,2.8s						
KLMR	**Klimovskoe**	**10.15**	**283**	*eP*	**Pn**	**10 19 16.2**	**-2.7**
	comp=N,76nm,1.9s						
KLMR				*eS*	Sn	10 21 06.4	-6.2
	comp=N,170nm,2.8s						
AB31	**Akbulak array**	**10.88**	**180**	⇑Pn	**Pn**	**10 19 29.8**	**+0.9**
	comp=N,1.4nm,0.3s,baz=8.2,slow=13,SNR=70						
AB31				⇓Lg	Lg	10 22 38.3	
	comp=N,12nm,0.8s,baz=6.7,slow=28,SNR=4.8						
AB31	**Akbulak array**	**10.88**	**180**	Pn	**Pn**	**10 19 29.8**	**+0.9**
	comp=N,1.4nm,0.3s,SNR=70						
NVS	**Novosibirsk**	**13.50**	**103**	*eP*	**P**	**10 20 14.3**	**+0.4**
OBN	**Obninsk**	**13.51**	**259**	*ceP*	**Pn**	**10 20 02.9**	**-1.8**
OBN				*eS*	**Sn**	**10 22 32.1**	**-2.6**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,300nm,17.0s						
OBN	**Obninsk**	**13.51**	**259**	*eP*	**Pn**	**10 20 02.9**	**-1.8**
	comp=Z,7.0nm,0.5s						
OBN				*eS*	**Sn**	**10 22 32.1**	**-2.6**
	comp=Z,300nm,17.0s						
VRHR	**Novokhopersk**	**13.74**	**237**	*eP*	Pn	10 20 03.9	-4.0
VRHR				pmax	pmax		
	comp=Z,9.0nm,0.5s						
VRHR				pmax	pmax		
	comp=N,30nm,0.9s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.6s						
JOF	**Joensuu**	**13.94**	**294**	*eP*	Pn	10 20 05.2	-5.3
JOF				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JOF	**Joensuu**	**13.94**	**294**	*ep*	Pn	10 20 05.2	-5.3
	comp=Z,1.6nm,0.3s						
JOF	**Joensuu**	**13.94**	**294**	*eP*	Pn	10 20 05.2	-5.3
	comp=Z,2.0nm,0.3s						
KURK	**Kurchatov**	**14.08**	**124**	⇑Pn	**Pn**	**10 20 10.9**	**-1.6**
	comp=Z,4.1nm,0.8s						
KURK				⇑Sn	Sn	10 22 40.9	-7.9
	comp=Z,1.3nm,0.5s						
KURK	**Kurchatov**	**14.08**	**124**	*c iP*	**Pn**	**10 20 11.0**	**-1.6**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**14.08**	**124**	Pn	**Pn**	**10 20 10.9**	**-1.6**
	comp=Z,4.1nm,0.8s						
KURBB	**Kurchatov Arra**	**14.12**	**124**	⇑Pn	**P**	**10 20 19.5**	**-1.3**
	comp=Z,3.6nm,0.6s						
KURBB				⇓Sn	**Sn**	**10 22 45.8**	**-3.7**
	comp=Z,3.8nm,0.8s						
KURBB	**Kurchatov Arra**	**14.12**	**124**	Pn	**Pn**	**10 20 12.0**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=323,slow=12,SNR=27						
VSR	**Storozhevoye**	**14.71**	**242**	*eP*	Pn	10 20 18.3	-2.9
VSR				pmax	pmax		
	comp=Z,10.0nm,0.5s						
VSR				pmax	pmax		
	comp=N,9.0nm,0.7s						
VSR				pmax	pmax		
	comp=E,10.0nm,0.8s						
ZALV	**Zalesovo Beam**	**14.77**	**104**	P	**Pn**	**10 20 20.4**	**-1.5**
ZALV						10 23 04.6	
ZALV				smax	smax		
	comp=N,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**14.77**	**104**	Pn	**Pn**	**10 20 20.4**	**-1.5**
	comp=N,0.1nm,0.3s,baz=302,slow=12,SNR=2.4						
ZALV				Sn	**Sn**	**10 23 04.6**	**-0.8**
	comp=N,0.5nm,0.3s,baz=303,slow=19,SNR=4.8						
KAF	**Kangasniemi**	**16.32**	**292**	*eP*	**Pn**	**10 20 38.6**	**-3.6**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.3s						
KAF	**Kangasniemi**	**16.32**	**292**	*ep*	**Pn**	**10 20 38.6**	**-3.6**
	comp=Z,2.9nm,0.3s						
FINES	**FINESS Array B**	**16.54**	**289**	Pn	**Pn**	**10 20 40.6**	**-4.3**
	comp=Z,0.2nm,0.3s,baz=92,slow=13,SNR=7.9						
FINES				Sn	Sn	10 23 35.1	-13
	comp=Z,0.3nm,0.3s,baz=82,slow=24,SNR=5.3						
KEV	**Kevo**	**16.75**	**319**	*eP*	Pn	10 20 42.2	-5.4
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KEV	**Kevo**	**16.75**	**319**	*ep*	Pn	10 20 42.2	-5.4
	comp=Z,1.0nm,0.4s						
KEV	**Kevo**	**16.75**	**319**	*eP*	Pn	10 20 42.2	-5.4
	comp=Z,1.0nm,0.4s						
ARCES	**ARCESS Array B**	**17.19**	**318**	P	Pn	10 20 48.3	-4.8
	comp=Z,1.0nm,0.3s						
ARCES	**ARCESS Array B**	**17.19**	**318**	Pn	Pn	10 20 48.3	-4.8
	comp=Z,0.6nm,0.3s,baz=100,slow=13,SNR=14						
MK31	**Makanchi Array**	**18.66**	**126**	⇓Pn	**P**	**10 21 11.9**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=315,slow=8.8,SNR=14						
MK31	**Makanchi Array**	**18.66**	**126**	Pn	**P**	**10 21 11.9**	**+0.8**
	comp=Z,1.6nm,0.8s,SNR=14						
MKAR	**Makanchi Array**	**18.66**	**126**	P	**P**	**10 21 11.5**	**+0.4**
MKAR	**Makanchi Array**	**18.66**	**126**	P	**P**	**10 21 11.5**	**+0.4**
MKAR	**Makanchi Array**	**18.66**	**126**	P	**P**	**10 21 11.5**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=319,slow=7.6,SNR=16						
KIV	**Kislovodsk**	**19.29**	**221**	⇑*eP*	**P**	**10 21 18.5**	**+0.4**
KIV				*eS*	**Sn**	**10 24 53.8**	**-1.3**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KIV				MLR	MLR		
	comp=Z,200nm,16.0s						
KIV	**Kislovodsk**	**19.29**	**221**	*eP*	**P**	**10 21 18.5**	**+0.4**
	comp=Z,3.0nm,0.8s						
KBZ	**Khabaz**	**19.42**	**220**	P	**P**	**10 21 19.7**	**+0.3**
KBZ	**Khabaz**	**19.42**	**220**	P	**P**	**10 21 19.7**	**+0.3**
KBZ	**Khabaz**	**19.42**	**220**	P	**P**	**10 21 19.7**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=336,slow=4.1,SNR=6.9						
AAK	**Ala-Archa**	**19.61**	**147**	*eP*	**Pn**	**10 21 24.3**	**+1.3**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
AAK	**Ala-Archa**	**19.61**	**147**	*eP*	**Pn**	**10 21 24.3**	**+1.3**
	comp=Z,5.0nm,0.8s						
AKASG	**Malin Array Be**	**19.70**	**255**	*eP*	**P**	**10 21 22.8**	**+0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**19.70**	**255**	*eP*	**P**	**10 21 22.8**	**+0.4**
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**19.70**	**255**	P	**P**	**10 21 22.8**	**+0.4**
	comp=Z,1.4nm,0.3s,baz=44,slow=10,SNR=9.0						
KIEV	**Kiev**	**19.71**	**255**	*i* P	**P**	**10 21 23.3**	**+0.8**
KIEV	**Kiev**	**19.71**	**255**	*i* P	**P**	**10 21 23.3**	**+0.8**
HFS	**Hagfors**	**22.73**	**290**	P	**P**	**10 21 54.5**	**-0.5**
	comp=Z,3.0nm,0.6s						
HFS	**Hagfors**	**22.73**	**290**	P	**P**	**10 21 54.5**	**-0.5**
	comp=Z,2.7nm,0.6s,baz=73,slow=13,SNR=11						
SPITS	**Spitsbergen Ar**	**22.83**	**338**	P	**P**	**10 21 56.3**	**+0.3**
	comp=Z,14nm,1.1s,baz=140,slow=17,SNR=3.4						
NB2	**NORSAR Subarra**	**23.57**	**294**	P	**P**	**10 22 03.2**	**-0.4**
	comp=Z,2.2nm,0.9s,baz=70,slow=9.3						
NB2	**NORSAR Subarra**	**23.57**	**294**	P	**P**	**10 22 03.2**	**-0.4**
	comp=Z,2.2nm,0.9s,SNR=0.7						
NOA	**NORSAR Array B**	**23.57**	**294**	P	**P**	**10 22 04.0**	**+0.4**
	comp=Z,2.5nm,0.8s,baz=70,slow=11,SNR=8.3						
KOLS	**Kolonicke sedl**	**24.26**	**260**	*eP*	**P**	**10 22 08.6**	**-1.6**
KOLS				*e*		10 22 17.2	
KOLS	**Kolonicke sedl**	**24.26**	**260**	*ePG*	**P**	**10 22 08.6**	**-1.6**
KOLS				*eSG*	Px	10 22 17.2	
KOLS	**Kolonicke sedl**	**24.26**	**260**	*eP*	**P**	**10 22 08.6**	**-1.6**
STHS	**Stebnicka Huta**	**24.45**	**261**	*eP*	**P**	**10 22 12.6**	**+0.7**
STHS	**Stebnicka Huta**	**24.45**	**261**	*ePG*	**P**	**10 22 12.6**	**+0.7**
STHS	**Stebnicka Huta**	**24.45**	**261**	*eP*	**P**	**10 22 12.6**	**+0.7**
KECS	**Kecovo**	**25.44**	**261**	*eP*	P	10 22 14.7	-6.2
KECS	**Kecovo**	**25.44**	**261**	*ePG*	P	10 22 14.7	-6.2
KECS				*eSG*	Px	10 22 29.1	
BRTR	**Keskin Array B**	**26.25**	**231**	P	**P**	**10 22 31.4**	**+2.9**
	comp=Z,1.5nm,0.9s,baz=35,slow=6.8,SNR=4.0						
CLL	**Collm**	**27.38**	**272**	*i* P	**P**	**10 22 39.3**	**+1.0**
CLL	**Collm**	**27.38**	**272**	*i* (P)	**P**	**10 22 39.3**	**+1.0**
	comp=Z,7.0nm,1.0s						
GERES	**GERESS Array B**	**28.58**	**268**	P	**P**	**10 22 50.9**	**+1.7**
	comp=Z,0.8nm,0.5s,baz=57,slow=11,SNR=5.6						
SONM	**Songino Array**	**29.24**	**94**	P	**P**	**10 22 55.7**	**+0.6**
	comp=Z,1.0nm,0.9s						
SONM	**Songino Array**	**29.24**	**94**	P	**P**	**10 22 55.7**	**+0.6**
	comp=Z,0.9nm,0.9s,baz=308,slow=7.1,SNR=3.9						
EKA	**Eskdalemuir Ar**	**32.93**	**290**	P	**P**	**10 23 28.8**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=57,slow=7.9,SNR=3.4						
ILAR	**Eielson Array**	**53.79**	**14**	P	**P**	**10 26 17.7**	**+2.4**
	comp=Z,0.6nm,0.9s,baz=333,slow=5.8,SNR=5.5						
TORD	**Torodi Ar. Bea**	**63.16**	**248**	P	**P**	**10 27 22.5**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=15,slow=6.0,SNR=6.7						

*HEL **30** 10:30:18.9±0.9, 60°.45N×30°.62E, h0km, ML1.6, Explosion*
*IDC **30** 10:30:20.5±3.9, 60°.31N×30°.25E, h0km, mb1 3.4/3, mb1mx3.1/27, mbtmp3.2/3, ML2.5/3, Error ellipse: s-maj=41.7km s-min=23.5km az=150.0*

ISC 30 10:30:16.4±2.3, 60°.3N±0°.1×30°.6E±0°.1, h0km, n9, σ1§22/13, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VJF	**Virojoki**	**1.52**	**280**	*eP*	**Pn**	**10 30 45.2**	**+0.5**
VJF				*eSB*	**Sn**	**10 31 06.0**	**+0.9**
PVF	**Pernaja**	**2.35**	**278**	*eP*	**Pb**	**10 30 59.3**	**-0.3**
PVF				*eSG*	**Sg**	**10 31 31.2**	**-0.7**
PVF				MSG		10 31 31.2	
	comp=Z,2.4nm,0.2s						
FIA0	**FINESS Array S**	**2.48**	**299**	*eSG*	**Sb**	**10 31 33.5**	**+0.7**
FIA0				MSG		10 31 36.2	
	comp=Z,3.5nm,0.5s						
FIA0				*e*RG	Rg	10 31 46.1	
FINES	**FINESS Array B**	**2.48**	**299**	Pn	**Pn**	**10 31 00.3**	**+2.3**
	comp=Z,0.7nm,0.3s,baz=117,slow=13,SNR=23						
FINES				Sn	**Sb**	**10 31 32.4**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=113,slow=21,SNR=5.3						
KAF	**Kangasniemi**	**2.75**	**313**	*eSG*	**Sb**	**10 31 41.9**	**+1.3**
KAF				MSG		10 31 41.9	
	comp=Z,1.2nm,0.2s						
KEF	**Keuruu**	**3.33**	**307**	MSG	**Sb**	**10 31 55.8**	**-1.5**
	comp=Z,1.3nm,0.2s						
KEF				*e*SB	**Sb**	**10 31 55.8**	**-1.5**
MTSE	**Matsula**	**3.79**	**248**	*e*SG	**Sg**	**10 32 18.3**	**+0.1**
ARCES	**ARCESS Array B**	**9.51**	**349**	Pn	**Pn**	**10 32 35.3**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=160,slow=13,SNR=5.9						
NOA	**NORSAR Array B**	**9.53**	**283**	Pn	**Pn**	**10 32 34.3**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=94,slow=12,SNR=3.9						

WEL 30 10:30:30.9±0.5, 38°.01S×175°.81E, h186km±4km, ML3.7/7, 7C-1D, Error ellipse: s-maj=5.2km s-min=4.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**1.05**	**104**	PN	Pn	10 30 59.3	-0.3
URZ				SN	Sn	10 31 21.7	-0.2
URZ				SN		10 31 21.8	
WTVZ	**West Tongariro**	**1.12**	**189**	PN	Pn	10 31 00.6	+0.3
FWVZ	**Far West T-bar**	**1.26**	**189**	PN	Pn	10 31 01.7	+0.1
BKZ	**Black Stump Fm**	**1.27**	**155**	⇑PN	Pn	10 31 01.3	-0.2
BKZ				SN	Sn	10 31 24.7	-0.6
BKZ				AML	AML	10 31 26.8	
WHVZ	**Whangaehu Hut**	**1.28**	**188**	PN	Pn	10 31 01.9	+0.1
TRVZ	**Turoa**	**1.30**	**189**	PN	Pn	10 31 02.1	+0.1
WNVZ	**Wahianoa**	**1.32**	**187**	⇑PN	Pn	10 31 02.0	0.0
NMHZ	**Naumai**	**1.34**	**145**	PN	Pn	10 31 02.6	+0.6
RAHZ	**Arahi**	**1.35**	**132**	PN	Pn	10 31 02.4	+0.3
MWZ	**Matawai**	**1.39**	**104**	PN	Pn	10 31 02.1	-0.4
MWZ				SN	Sn	10 31 26.4	-0.6
MWZ				AML	AML	10 31 27.4	
MWZ				AML	AML	10 31 27.4	
MOVZ	**Moawhango**	**1.40**	**182**	⇑PN	Pn	10 31 02.1	-0.5
SNGZ	**Shannon Statio**	**1.43**	**123**	⇑PN	Pn	10 31 02.9	+0.1
BHHZ	**Black Hill Sta**	**1.49**	**172**	PN	Pn	10 31 02.8	-0.6
MCHZ	**McNeill Hill**	**1.59**	**154**	PN	Pn	10 31 04.6	+0.4
KNZ	**Kokohiu**	**1.77**	**125**	PN	Pn	10 31 05.7	-0.3
WAZ	**Wanganui**	**1.86**	**200**	PN	Pn	10 31 06.6	-0.4
CKHZ	**Cape Kidnapper**	**1.92**	**149**	PN	Pn	10 31 07.4	-0.2
PNHZ	**Pukenui**	**1.92**	**171**	PN	Pn	10 31 06.7	-0.9
PUZ	**Puketiti**	**1.93**	**93**	SN	Sn	10 31 34.5	-1.8
CNGZ	**Carnagh Statio**	**1.94**	**105**	PN	Pn	10 31 08.0	+0.1
KAHZ	**Kahuranaki**	**1.97**	**155**	PN	Pn	10 31 07.8	-0.3
MHGZ	**Mahia Peninsul**	**2.00**	**125**	PN	Pn	10 31 08.2	-0.2
MXZ	**Matakaoa Point**	**2.03**	**78**	PN	Pn	10 31 08.3	-0.4
TSZ	**Takapari Road**	**2.05**	**177**	⇑PN	Pn	10 31 07.8	-1.1
WPHZ	**Waipukurau**	**2.11**	**167**	PN	Pn	10 31 08.5	-1.1
PXZ	**Pawanui**	**2.18**	**158**	⇑PN	Pn	10 31 09.3	-1.0
PXZ				AML	AML	10 31 40.9	
PXZ				AML	AML	10 31 42.4	
DVHZ	**Dannevirke**	**2.30**	**173**	⇑PN	Pn	10 31 10.1	-1.7
PRHZ	**Porangahau**	**2.34**	**164**	PN	Pn	10 31 11.0	-1.2
PRHZ				SN	Sn	10 31 41.7	-2.7
POWZ	**Post Office Ro**	**2.38**	**181**	PN	Pn	10 31 10.8	-1.7
ANWZ	**Angora Road**	**2.50**	**168**	PN	Pn	10 31 12.5	-1.4
PRWZ	**Pori Road**	**2.54**	**177**	PN	Pn	10 31 12.8	-1.7
MRZ	**Mangatainoka R**	**2.65**	**184**	PN	Pn	10 31 13.4	-2.4
MRZ				SN	Sn	10 31 46.3	-4.6
MRZ				AML	AML	10 31 49.4	
TIWZ	**Tintock**	**2.76**	**179**	PN	Pn	10 31 14.8	-2.3
OGWZ	**Otaki Gorge**	**2.85**	**190**	PN	Pn	10 31 15.9	-2.1
HOWZ	**Holdsworth Sta**	**2.89**	**184**	PN	Pn	10 31 15.9	-2.7
KIW	**Kapiti Island**	**2.93**	**193**	PN	Pn	10 31 16.5	-2.5
CAW	**Cannon Point**	**3.15**	**190**	PN	Pn	10 31 18.7	-2.9
MTW

0.7nm,0.8s,baz=5.7,slow=1.4,SNR=3.1

IDC 30 11:50:48.8±3.2, 2°.11N×99°.05E, h123km±7km, mb3.3/3, mb1 3.4/3, mb1mx3.0/25, mbtmp3.3/3, MS3.6/1, Ms1 3.6/1, ms1mx3.0/16, Error ellipse: s-maj=147.7km s-min=23.5km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**0.70**	**350**	P	Pn	11 51 08.8	+0.1
	6.2nm,0.3s,baz=231,slow=9.0,SNR=13						
PSI				S	Sn	11 51 23.7	0.0
	4.7nm,0.3s,baz=62,slow=20,SNR=19						
H08S2	**Diego Garcia H**	**28.21**	**250**	T	T	12 23 49.6	
	baz=69						
H08S3	**Diego Garcia H**	**28.21**	**250**	T	T	12 24 10.7	
	baz=69						
H08S1	**Diego Garcia H**	**28.23**	**250**	T	T	12 24 33.8	
	baz=69						
WRA	**Warramunga Arr**	**40.98**	**124**	P	P	11 58 19.6	-0.3
	0.2nm,0.4s,baz=301,slow=8.7,SNR=7.0						
MKAR	**Makanchi Array**	**46.84**	**344**	P	P	11 59 06.2	-0.1
	0.5nm,0.5s,baz=156,slow=8.0,SNR=6.7						
ZALV	**Zalesovo Beam**	**52.98**	**350**	P	P	11 59 52.3	-0.2
	0.6nm,0.3s,baz=160,slow=8.2,SNR=4.3						
ZALV				LR		12 22 20.5	
	comp=Z,61nm,21.1s,baz=340,slow=36						

*ISCJB **30** 12:00:29.9±0.8, 29°.00S±0°.04×71°.49W±0°.06, h46km±8km, mb4.2/9, Error ellipse: s-maj=8.8km s-min=7.2km az=22.2*
*IDC **30** 12:00:32.9±0.6, 28°.99S×71°.33W, h53km±4km, mb4.0/8, mb1 4.0/12, mb1mx3.9/21, mbtmp3.9/12, MS3.5/1, Ms1 3.5/1, ms1mx2.7/27, Error ellipse: s-maj=20.3km s-min=10.9km az=61.0*
*NEIC **30** 12:00:34.1±1.0, 28°.95S×71°.13W, h63km±7km, mb4.6/1, Error ellipse: s-maj=17.0km s-min=7.8km az=90.0*

ISC 30 12:00:32.7±0.5, 28°.99S±0°.05×71°.35W±0°.07, h51km±4km, h51km:pP-P, n55, σ1°.08/79, mb4.5/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**0.57**	**92**	*e*Pn	**Pn**	**12 00 43.9**	**-1.3**
LCO				*e*Sn	**Sn**	**12 00 52.7**	**-1.3**
CFAA	**Coronel Fontan**	**3.75**	**135**	P	**Pn**	**12 01 29.8**	**+1.8**
CFAA				S	**Sn**	**12 02 12.5**	**+1.6**
CFAA	**Coronel Fontan**	**3.75**	**135**	P	**Pn**	**12 01 29.8**	**+1.8**
	2.9nm,0.3s,baz=315,slow=12,SNR=118						
CFAA				S	**Sn**	**12 02 12.5**	**+1.6**
	5.0nm,0.3s,baz=251,slow=22,SNR=9.8						
LVC	**Limon Verde**	**6.72**	**20**	*e*Pn	**Pn**	**12 02 07.4**	**-1.7**
	23nm,0.6s						
LVC				*e*Sn	**Sn**	**12 03 26.2**	**+1.8**
H03N1	**Juan Fernandez**	**7.85**	**234**	P	**Pn**	**12 02 21.9**	**-2.0**
	baz=254,slow=0.3,SNR=60						
H03N1				S	Sn	12 03 43.9	-7.3
	baz=73,slow=0.3,SNR=8.1						
H03N1				T	T	12 10 17.8	
	baz=57,slow=0.7,SNR=602						
H03N2	**Juan Fernandez**	**7.86**	**234**	P	**Pn**	**12 02 22.7**	**-1.4**
	baz=254,slow=0.3,SNR=94						
H03N2				S	Sn	12 03 44.5	-7.0
	baz=73,slow=0.3,SNR=8.4						
H03N2				T	T	12 10 18.5	
	baz=57,slow=0.7,SNR=602						
H03N3	**Juan Fernandez**	**7.86**	**234**	P	**Pn**	**12 02 22.0**	**-2.2**
	baz=254,slow=0.3,SNR=29						
H03N3				S	Sn	12 03 45.4	-6.2
	baz=73,slow=0.3,SNR=8.3						
H03N3				T	T	12 10 18.5	
	baz=57,slow=0.7,SNR=970						
PLCA	**Paso Flores**	**11.73**	**177**	P	**Pn**	**12 03 20.3**	**+2.9**
PLCA	**Paso Flores**	**11.73**	**177**	P	**Pn**	**12 03 20.3**	**+2.9**
	0.1nm,0.3s,baz=356,slow=14,SNR=2.5						
TRQA	**Tornquist**	**11.95**	**142**	*e*Pn	**Pn**	**12 03 20.1**	**-0.2**
	11nm,0.7s						
CPUP	**Villa Florida**	**12.71**	**81**	*e*Pn	**Pn**	**12 03 28.7**	**-1.9**
CPUP	**Villa Florida**	**12.71**	**81**	P	**Pn**	**12 03 31.2**	**+0.6**
	0.4nm,0.3s,baz=238,slow=15,SNR=2.1						
CPUP				LR	LR	12 08 07.7	
	comp=Z,224nm,20.9s,baz=118,slow=36						
LPAZ	**La Paz**	**12.99**	**14**	*e*Pn	**Pn**	**12 03 37.0**	**+1.9**
LPAZ				*e*Pn	P	12 03 37.5	-6.7
LPAZ	**La Paz**	**12.99**	**14**	P	**Pn**	**12 03 37.0**	**+1.9**
	0.1nm,0.3s,baz=205,slow=8.4,SNR=6.2						
SIV	**San Ignacio**	**16.04**	**38**	P	**Pn**	**12 04 14.9**	**0.0**
SIV	**San Ignacio**	**16.04**	**38**	P	**Pn**	**12 04 14.9**	**0.0**
	0.3nm,0.3s,baz=239,slow=13,SNR=4.4						
USHA	**Ushuaia**	**25.91**	**176**	P	**P**	**12 06 00.0**	**+0.4**
USHA	**Ushuaia**	**25.91**	**176**	P	**P**	**12 06 00.0**	**+0.4**
	13nm,0.8s,baz=346,slow=3.4,SNR=5.8						
TEIG	**Tepich**	**51.59**	**340**	P	**P**	**12 09 34.3**	**+0.4**
	3.6nm,0.6s						
SNAA	**Sanae**	**56.02**	**159**	P	**P**	**12 10 05.6**	**-0.2**
SNAA				pP	**pP**	**12 10 18.6**	**-1.2**
SNAA				sP	**sP**	**12 10 25.6**	**-0.1**
SNAA	**Sanae**	**56.02**	**159**	P	**P**	**12 10 05.6**	**-0.2**
	0.8nm,0.5s,baz=283,slow=7.1,SNR=33						
SNAA				pP	**pP**	**12 10 18.6**	**-1.2**
	0.7nm,0.8s,baz=262,slow=11,SNR=3.1						
SNAA				sP	**sP**	**12 10 25.6**	**-0.1**
	1.6nm,0.9s,baz=278,slow=5.8,SNR=5.7						
TXAR	**Lajitas Array**	**65.70**	**329**	P	**P**	**12 11 12.6**	**+0.6**
TXAR				pP	**pP**	**12 11 27.0**	**+0.6**
TXAR	**Lajitas Array**	**65.70**	**329**	P	**P**	**12 11 12.6**	**+0.6**
	0.3nm,0.7s,baz=157,slow=3.5,SNR=4.2						
TXAR				pP	**pP**	**12 11 27.0**	**+0.6**
	0.3nm,0.7s,baz=142,slow=11,SNR=2.8						
VNDA	**Vanda**	**69.11**	**191**	*e*P	**P**	**12 11 34.5**	**+1.7**
VNDA	**Vanda**	**69.11**	**191**	P	**P**	**12 11 34.2**	**+1.4**
	1.1nm,0.9s,baz=186,slow=2.5,SNR=5.1						
DBIC	**Dimbokro**	**73.06**	**72**	*e*P	**P**	**12 11 57.0**	**-0.7**
DBIC	**Dimbokro**	**73.06**	**72**	P	**P**	**12 11 56.7**	**-1.0**
	3.2nm,0.8s,baz=196,slow=9.3,SNR=4.2						
MAW	**Mawson**	**77.80**	**164**	P	**P**	**12 12 23.8**	**-0.3**
MAW	**Mawson**	**77.80**	**164**	P	**P**	**12 12 23.8**	**-0.3**
	4.6nm,0.7s,baz=256,slow=7.6,SNR=4.8						
BOSA	**Boshof**	**81.89**	**118**	P	**P**	**12 12 46.0**	**-1.1**
BOSA	**Boshof**	**81.89**	**118**	P	**P**	**12 12 46.0**	**-1.1**
	2.6nm,0.5s,baz=335,slow=4.1,SNR=8.8						
TOA0	**Torodi Ar. Sit**	**81.96**	**70**	*e*P	**P**	**12 12 46.5**	**-0.9**
TORD	**Torodi Ar. Bea**	**81.96**	**70**	P	**P**	**12 12 46.5**	**-0.9**
TORD				pP	**pP**	**12 13 01.8**	**-0.3**
TORD	**Torodi Ar. Bea**	**81.96**	**70**	P	**P**	**12 12 46.5**	**-0.9**
	4.0nm,0.6s,baz=275,slow=5.2,SNR=26						
TORD				pP	**pP**	**12 13 01.8**	**-0.3**
	1.0nm,0.6s,baz=279,slow=5.2,SNR=3.2						
SKAG	**Skagway**	**102.61**	**332**	*e*Pdif	**Pdif**	**12 14 23.0**	**-0.2**
	13nm,0.7s						
ASAR	**Alice Springs**	**122.28**	**208**	PKP	**PKPdf**	**12 19 21.9**	**-0.7**
ASAR	**Alice Springs**	**122.28**	**208**	PKP	**PKPdf**	**12 19 21.9**	**-0.7**
	0.7nm,0.3s,baz=146,slow=1.6,SNR=4.6						
WRA	**Warramunga Arr**	**125.39**	**210**	PKP	**PKPdf**	**12 19 28.1**	**-0.5**
WRA	**Warramunga Arr**	**125.39**	**210**	PKP	**PKPdf**	**12 19 28.1**	**-0.5**
	1.8nm,0.6s,baz=157,slow=1.7,SNR=35						
BVAR	**Borovoye Array**	**143.11**	**39**	PKP	**PKPdf**	**12 20 00.9**	**+0.4**
BVAR	**Borovoye Array**	**143.11**	**39**	PKP	**PKPdf**	**12 20 00.9**	**+0.4**
	2.9nm,0.3s,baz=22,slow=1.6,SNR=8.7						
KAPI	**Kappang**	**144.54**	**199**	PKP	**PKPab**	**12 20 01.8**	**-0.8**
KAPI	**Kappang**	**144.54**	**199**	PKP	**PKPab**	**12 20 01.8**	**-0.8**
	4.4nm,0.3s,baz=167,slow=18,SNR=4.2						
KKAR	**Karatay Array**	**146.41**	**55**	*e*PKPbc	**PKPbc**	**12 20 07.6**	**-0.3**
KURK	**Kurchatov**	**148.69**	**38**	PKP	**PKPdf**	**12 20 10.3**	**+0.3**
KURK				PKPbc	**PKPbc**	**12 20 13.8**	**-0.1**
KURK				pPKPbc	**pPKPbc**	**12 20 29.1**	**-0.1**
KURBB	**Kurchatov Arra**	**148.70**	**38**	PKP	**PKPdf**	**12 20 10.3**	**+0.3**
	1.8nm,0.5s,baz=306,slow=3.1,SNR=15						
KURBB				PKPbc	**PKPbc**	**12 20 13.8**	**-0.1**
	1.9nm,0.6s,baz=302,slow=3.2,SNR=20						
KURBB				pPKPbc	**pPKPbc**	**12 20 29.1**	**-0.1**
	0.9nm,0.7s,baz=302,slow=3.0,SNR=3.6						
ZALV	**Zalesovo Beam**	**149.62**	**28**	PKP	**PKPdf**	**12 20 11.2**	**-0.2**
ZALV				PKPbc	**PKPbc**	**12 20 15.9**	**-0.1**
ZALV				pPKPbc	**pPKPbc**	**12 20 31.8**	**+0.4**
ZALV	**Zalesovo Beam**	**149.62**	**28**	PKP	**PKPdf**	**12 20 11.1**	**-0.2**
	4.1nm,0.7s,baz=229,slow=1.5,SNR=4.0						
ZALV				PKPbc	**PKPbc**	**12 20 15.9**	**-0.1**
	8.0nm,0.7s,baz=273,slow=2.5,SNR=4.0						
ZALV				pPKPbc	**pPKPbc**	**12 20 31.8**	**+0.4**
	3.3nm,0.7s,baz=280,slow=4.0,SNR=5.2						
TKM2	**Tokmak 2**	**150.06**	**53**	*e*PKPdf	**PKPdf**	**12 20 11.1**	**-1.7**
TKM2				*e*PKPbc	**PKPbc**	**12 20 17.9**	**0.0**
TKM2				*e*PKPab	**PKPab**	**12 20 23.3**	**-0.6**
MKAR	**Makanchi Array**	**152.84**	**42**	PKPbc	**PKPbc**	**12 20 23.5**	**-0.3**
MKAR				pPKPbc	**pPKPbc**	**12 20 40.3**	**+1.1**
MKAR	**Makanchi Array**	**152.84**	**42**	PKPbc	**PKPbc**	**12 20 23.5**	**-0.3**
	2.0nm,0.8s,baz=318,slow=1.6,SNR=15						
MKAR				pPKPbc	**pPKPbc**	**12 20 40.3**	**+1.1**
	1.0nm,0.7s,baz=0.0,slow=2.4,SNR=4.8						
SONM	**Songino Array**	**161.11**	**5**	PKPab	**PKPab**	**12 21 11.5**	**+1.0**
SONM	**Songino Array**	**161.11**	**5**	PKPab	**PKPab**	**12 21 11.5**	**+1.0**
	0.4nm,0.7s,baz=12,slow=7.4,SNR=3.5						
CMAR	**Chiang Mai Arr**	**166.26**	**138**	PKP	**PKPdf**	**12 20 33.3**	**+0.6**
CMAR	**Chiang Mai Arr**	**166.26**	**138**	PKP	**PKPdf**	**12 20 33.3**	**+0.6**
	1.3nm,0.3s,baz=220,slow=2.4,SNR=2.8						

IDC 30 12:08:59.5±1.1, 42°.88S×72°.32W, h0km, mb3.6/6, mb1 3.9/7, mb1mx3.8/18, mbtmp3.7/7, ML4.3/1, Error ellipse: s-maj=37.3km s-min=13.0km az=115.0, Southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**2.52**	**32**	Pn	Pn	12 09 43.4	+1.6
	16nm,0.3s,baz=220,slow=14,SNR=145						
PLCA				Pg	Pb	12 09 45.2	-0.5
	16nm,0.3s,baz=223,slow=17,SNR=167						
PLCA				Lg	Lg	12 10 20.6	
	35nm,0.3s,baz=121,slow=20,SNR=18						
CPUP	**Villa Florida**	**20.56**	**41**	P	Pn	12 13 41.5	-0.3
	0.5nm,0.3s,baz=180,slow=11,SNR=3.0						
CPUP				S	S	12 17 30.1	-0.2
	0.3nm,0.3s,baz=216,slow=19,SNR=2.0						
LPAZ	**La Paz**	**26.74**	**9**	P	P	12 14 41.8	+0.2
	1.3nm,1.0s,baz=180,slow=6.1,SNR=3.4						
SNAA	**Sanae**	**43.56**	**155**	P	P	12 17 05.1	+0.4
	0.5nm,1.2s,baz=270,slow=6.1,SNR=3.2						
QSPA	**South Pole Qui**	**47.37**	**180**	P	P	12 17 35.0	-0.1
	2.2nm,0.9s						
TXAR	**Lajitas Array**	**77.42**	**332**	P	P	12 20 56.3	-0.2
	0.5nm,1.0s,baz=141,slow=8.8,SNR=4.0						
TORD	**Torodi Ar. Bea**	**87.48**	**70**	P	P	12 21 50.4	+1.2
	0.2nm,0.4s,baz=224,slow=4.0,SNR=2.4						
AKTO	**Aktyubinsk**	**145.64**	**60**	PKPbc	PKPdf	12 28 38.1	-1.0
	0.8nm,0.3s,baz=304,slow=3.6,SNR=5.4						
KURBB	**Kurchatov Arra**	**158.68**	**59**	PKPab	PKPab	12 29 32.3	-1.6
	0.2nm,0.3s,baz=290,slow=4.1,SNR=5.2						
MKAR	**Makanchi Array**	**161.60**	**69**	PKPab	PKPab	12 29 45.6	-1.2
	0.3nm,0.6s,baz=302,slow=3.2,SNR=2.8						

MEX 30 12:12:30.0±1.0, 18°.54N×103°.63W, h4km±14km, MD3.8, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.37**	**132**	*i* P	Pg	12 12 36.5	-0.7
MMIG				*i* S	Sg	12 12 42.5	+0.5
R15V		**0.71**	**332**	*e*P	Pg	12 12 43.2	-0.5
R15V				*i* S	Sg	12 12 52.1	-1.0
EZ5V		**0.94**	**2**	*e*P	Pg	12 12 45.6	-2.8
EZ5V				*i* S	Sg	12 12 59.5	-1.3
ZIIG	**Zihuatanejo**	**2.26**	**114**	*i* P	Pn	12 13 04.4	-3.8
ZIIG				*i* S	Sn	12 13 31.4	-5.0
ARIG	**Puente Sto Nin**	**3.13**	**94**	*e*P	Pn	12 13 17.8	-2.4
ARIG				*i* S	Sn	12 13 55.1	-3.0

*CSEM **30** 12:12:35.6, 61°.14N×21°.77E, h0km, ML1.5, Mining explosion. After HEL*

HEL 30 12:12:35.6±0.1, 61°.14N×21°.77E, h0km, ML1.5, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAF	**Rauma**	**0.12**	**182**	*e*P	Pg	12 12 37.2	-0.6
RAF				*e*S	Sg	12 12 39.1	-0.2
RAF	**Rauma**	**0.12**	**182**	P	Pg	12 12 37.2	-0.6
RAF				S	Sg	12 12 39.1	-0.2
AAL	**Aland**	**1.30**	**223**	*e*P	Pg	12 12 59.1	-1.4
AAL				*e*PN	Pb	12 13 00.8	-0.1
AAL				*e*S	Sg	12 13 15.8	-1.6
AAL				*e*SN	Sn	12 13 20.9	+1.8
AAL	**Aland**	**1.30**	**223**	P	Pg	12 12 59.1	-1.4
MEF	**Metsahovi**	**1.59**	**124**	*e*P	Pn	12 13 04.0	-0.9
MEF				*e*S	Sn	12 13 24.6	-1.6
MEF				*e*SN	Sg	12 13 28.6	+2.0
MEF				MSG		12 13 29.7	
	comp=Z,2.0nm,0.3s						
MEF	**Metsahovi**	**1.59**	**124**	P	Pn	12 13 04.0	-0.9
MEF				S	Sn	12 13 24.5	-1.6
MEF				Sn	Sg	12 13 28.5	+1.9
KEF	**Keuruu**	**1.80**	**54**	*e*P	Pn	12 13 07.5	-0.4
KEF				*e*S	Sn	12 13 30.4	-1.1
KEF	**Keuruu**	**1.80**	**54**	*e*S	Sn	12 13 31.2	-0.2
KEF	**Keuruu**	**1.80**	**54**	P	Pn	12 13 07.4	-0.5
KEF				S	Sn	12 13 30.3	-1.2
KEF	**Keuruu**	**1.80**	**54**	S	Sn	12 13 31.2	-0.3
VAF	**Ylistaro**	**1.96**	**12**	*e*P	Pn	12 13 09.4	-0.6
VAF				*e*S	Sn	12 13 35.3	+0.1
VAF	**Ylistaro**	**1.96**	**12**	*e*S	Sn	12 13 35.6	+0.4
VAF	**Ylistaro**	**1.96**	**12**	P	Pn	12 13 09.4	-0.6
VAF				S	Sn	12 13 35.2	0.0
VAF	**Ylistaro**	**1.96**	**12**	S	Sn	12 13 35.6	+0.4
PVF	**Pernaja**	**2.09**	**105**	*e*P	Pn	12 13 10.9	-0.9
PVF				*e*SG	Sb	12 13 39.7	-1.1
PVF	**Pernaja**	**2.09**	**105**	*e*S	Sn	12 13 39.5	+1.0
PVF	**Pernaja**	**2.09**	**105**	P	Pn	12 13 10.8	-1.0
PVF				Sg	Sn	12 13 39.6	+1.1
PVF	**Pernaja**	**2.09**	**105**	S	Sn	12 13 39.5	+1.0
FIA0	**FINESS Array S**	**2.10**	**80**	*e*P	Pn	12 13 12.3	+0.3
FIA0				*e*S	Sn	12 13 34.8	-4.0
FIA0	**FINESS Array S**	**2.10**	**80**	*e*P	Pb	12 13 13.9	-0.7
FIA0				*e*S	Sn	12 13 38.9	+0.1
FIA0	**FINESS Array S**	**2.10**	**80**	P	Pn	12 13 12.3	+0.3
FIA0				S	Sn	12 13 34.7	-4.1
FIA0	**FINESS Array S**	**2.10**	**80**	P	Pb	12 13 13.8	-0.7
FIA0				S	Sn	12 13 38.9	+0.1
KAF	**Kangasniemi**	**2.38**	**64**	*e*P	Pn	12 13 15.9	+0.1
KAF				*e*S	Sn	12 13 44.5	-1.1
KAF				MSG		12 13 50.3	
	comp=Z,2.5nm,0.3s						
KAF	**Kangasniemi**	**2.38**	**64**	*e*S	Sb	12 13 47.3	-1.7
KAF	**Kangasniemi**	**2.38**	**64**	P	Pn	12 13 15.8	0.0
KAF				S	Sn	12 13 44.5	-1.1
KAF	**Kangasniemi**	**2.38**	**64**	S	Sn	12 13 47.3	+1.7
SUF	**Sumiainen**	**2.61**	**51**	*e*SB	Sn	12 13 52.5	+1.2
SUF				MSG		12 13 53.7	
	comp=Z,1.2nm,0.2s						
SUF	**Sumiainen**	**2.61**	**51**	*e*S	Sn	12 13 53.2	+1.9
SUF	**Sumiainen**	**2.61**	**51**	Sb	Sn	12 13 52.4	+1.1
SUF	**Sumiainen**	**2.61**	**51**	S	Sn	12 13 53.1	+1.8
VJF	**Virojoki**	**2.90**	**99**	*e*S	Sn	12 13 59.0	+0.7
VJF	**Virojoki**	**2.90**	**99**	S	Sn	12 13 59.0	+0.7

IDC 30 12:12:42.9±1.2, 49°.88S×111°.47E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.9/16, mbtmp3.9/5, MS3.7/1, Ms1 3.6/1, ms1mx2.5/23, Error ellipse: s-maj=48.1km s-min=21.6km az=106.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.10**	**8**	T	T	12 31 41.3	
	baz=186,slow=0.7,SNR=109						
H01W1	**Cape Leeuwin H**	**15.11**	**8**	T	T	12 31 42.4	
	baz=186,slow=0.7,SNR=103						
H01W3	**Cape Leeuwin H**	**15.12**	**8**	T	T	12 31 42.4	
	baz=186,slow=0.7,SNR=114						
STKA	**Stephens Creek**	**28.74**	**63**	LR	LR	12 28 38.4	
	comp=Z,142nm,18.6s,baz=211,slow=33						
ASAR	**Alice Springs**	**31.50**	**42**	P	P	12 19 06.6	+0.2
	0.6nm,0.7s,baz=209,slow=7.9,SNR=12						
VNDA	**Vanda**	**33.48**	**162**	P	P	12 19 22.8	-0.4
	1.3nm,0.8s,baz=300,slow=8.3,SNR=7.1						
WRA	**Warramunga Arr**	**34.99**	**40**	P	P	12 19 37.0	+0.2
	2.5nm,0.8s,baz=206,slow=8.9,SNR=13						
SNAA	**Sanae**	**50.27**	**202**	P	P	12 21 40.8	+0.4
	0.4nm,0.8s,baz=133,slow=7.1,SNR=6.2						
CMAR	**Chiang Mai Arr**	**68.94**	**347**	P	P	12 23 49.0	-0.5
	0.8nm,0.7s,baz=193,slow=5.4,SNR=4.9						
H10S2	**ASCENSION HYDR**	**104.99**	**236**	T	T	14 24 52.3	
	baz=150						
H10S3	**ASCENSION HYDR**	**105.01**	**236**	T	T	14 24 52.5	
	baz=150,slow=0.7						
H10S1	**ASCENSION HYDR**	**105.01**	**236**	T	T	14 24 53.1	
	baz=150,slow=0.7						

DJA 30 12:31:51.0±0.6, 2°.N±4°×12°.2E±°, h10km, M3.9/6, MLv3.9/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**1.27**	**184**	P	Pn	12 32 13.6	-1.2
MRSI				S	Sb	12 32 31.3	-0.1
TOLI	**Toli-Toli**	**1.38**	**243**	P	Pn	12 32 16.1	-0.3
TOLI				S	Sg	12 32 35.6	0.0
GTOI	**Gorontalo**	**1.48**	**138**	P	Pn	12 32 15.0	-2.7
KMSI	**Cibinong**	**2.27**	**121**	P	Pn	12 32 30.1	+1.5
KMSI				S	Sb	12 32 59.0	-1.4
LUWI	**Luwuk**	**2.87**	**165**	P	Pn	12 32 37.6	+0.7
LUWI				S	Sb	12 33 16.0	-1.6
SGSI	**Sangihe**	**3.99**	**61**	P	Pn	12 32 53.0	+0.7

MEX 30 12:48:43.3±0.3, 15°.92N×96°.86W, h14km±5km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.74**	**101**	*e*P	Pg	12 48 55.5	-2.3
HUIG				*i* S	Sg	12 49 04.7	-2.9
VHO	**Vista Hermosa**	**1.16**	**6**	*e*P	Pn	12 49 01.5	-3.9
VHO				*i* S	Sb	12 49 15.6	-4.8
PNIG	**Pinotepa**	**1.30**	**291**	*i* P	Pn	12 49 03.3	-3.8
PNIG				*i* S	Sb	12 49 19.3	-4.9
UTMO	**Huajuapan**	**2.10**	**335**	*i* P	Pn	12 49 15.5	-2.9
UTMO				*i* S	Sn	12 49 40.2	-4.3
TLIG	**Tlapa**	**2.31**	**315**	*i* P	Pn	12 49 18.5	-2.6
TLIG				*i* S	Sn	12 49 45.6	-3.9

GUC 30 12:55:29.1±0.8, 36°.63S×73°.17W, h20km±3km, ML3.6, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.23**	**167**	*i* P	Pb	12 55 34.8	-0.1
CCSP				*i* S	Sb	12 55 38.6	-0.3
COCH	**Cobquecura**	**0.58**	**32**	*i* P	Pb	12 55 40.2	-0.5
COCH				*i* S	Sb	12 55 48.5	0.0
COCH				AML	AML	12 55 49.4	
	comp=E,2μm,0.3s						
CCHI	**Chillan**	**0.88**	**89**	*e*P	Pn	12 55 46.4	+0.1
CCHI				*e*S	Sn	12 55 58.7	+0.2
LNCH	**Linares**	**1.49**	**59**	*i* P	Pn	12 55 54.4	-0.3
LNCH				*i* S	Sb	12 56 14.2	-0.4
LNCH				AML	AML	12 56 19.5	
	comp=E,1μm,0.3s						
TALC	**Talca**	**1.75**	**46**	*i* P	Pn	12 55 58.6	+0.3
TALC				*i* S	Sn	12 56 20.7	+0.8
TALC				AML	AML	12 56 26.1	
	comp=N,3μm,0.4s						
LMEL	**Las Melosas**	**3.69**	**42**	*e*P	Pn	12 56 26.1	+0.9

IDC 30 13:02:06.2±6.2, 15°.29S×173°.06W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.6/20, mbtmp3.9/2, Error ellipse: s-maj=314.1km s-min=25.0km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.85**	**42**	Pn	Pn	13 02 37.8	-1.5
	14nm,0.3s,baz=61,slow=3.5,SNR=23						
AFI				Sn	Sn	13 02 53.9	-10
	43nm,0.3s,baz=49,slow=21,SNR=19						
WRA	**Warramunga Arr**	**50.19**	**257**	P	P	13 11 03.4	-0.8
	0.5nm,0.6s,baz=91,slow=6.7,SNR=23						
ASAR	**Alice Springs**	**50.46**	**252**	P	P	13 11 05.6	-0.6
	2.1nm,0.8s,baz=89,slow=7.8,SNR=40						
BRTR	**Keskin Array B**	**146.28**	**321**	PKPbc	PKPab	13 21 50.9	+0.9
	2.7nm,1.0s,baz=72,slow=4.0,SNR=6.4						

IDC 30 13:04:07.4±7.7, 20°.88S×178°.60W, h531km±77km, mb2.9/6, mb1 3.2/6, mb1mx3.0/18, mbtmp2.9/6, Error ellipse: s-maj=104.3km s-min=32.4km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.12**	**244**	P	P	13 10 33.0	+0.1
	0.9nm,0.6s,baz=90,slow=11,SNR=2.6						
ASAR	**Alice Springs**	**43.88**	**257**	P	P	13 11 26.9	-0.3
	1.4nm,0.5s,baz=92,slow=8.1,SNR=16						
ASAR				PcP	PcP	13 13 01.6	-0.1
	0.4nm,0.6s,baz=107,slow=3.8,SNR=8.4						
WRA	**Warramunga Arr**	**43.99**	**263**	P

ISC 30 13:26:20.4±0.8, 36°73'S±0'03×73°04'W±0'06, h25km, n22, σ1s77/32, 7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.12**	**205**	⇓*i*P	**Pn**	**13 26 27.6**	**+0.8**
CCSP				*i* S	**Sb**	**13 26 31.7**	**+3.2**
CCSP				AML	AML	13 26 33.2	
	comp=N,590μm,0.3s						
COCH	**Cobquecura**	**0.64**	**19**	⇓*i*P	**Pb**	**13 26 33.1**	**+0.2**
COCH				*i* S	**Sb**	**13 26 41.7**	**+0.4**
COCH	**Cobquecura**	**0.64**	**19**	⇓*i*P	**Pb**	**13 26 33.1**	**+0.2**
COCH				*i* S	**Sb**	**13 26 41.7**	**+0.4**
COCH				AML	AML	13 26 42.3	
	comp=E,9μm,0.3s						
CCHI	**Chillan**	**0.79**	**81**	AML	AML	13 26 55.4	
	comp=N,3μm,0.3s						
LNCH	**Linares**	**1.46**	**53**	⇓*i*P	**Pb**	**13 26 47.3**	**+0.4**
LNCH				*i* S	**Sb**	**13 27 06.1**	**+1.0**
LNCH	**Linares**	**1.46**	**53**	⇓*i*P	**Pb**	**13 26 47.3**	**+0.4**
LNCH				*i* S	**Sb**	**13 27 06.1**	**+1.0**
LNCH				AML	AML	13 27 12.1	
	comp=E,4μm,0.3s						
CTCH	**Constitucion**	**1.49**	**20**	*e*P	**Pn**	**13 26 43.5**	**-2.1**
CTCH				*i* S	**Sn**	**13 27 02.5**	**-1.7**
CTCH	**Constitucion**	**1.49**	**20**	*e*P	**Pn**	**13 26 43.5**	**-2.1**
CTCH				*i* S	**Sn**	**13 27 02.5**	**-1.7**
CTCH				AML	AML	13 27 16.4	
	comp=E,8μm,0.7s						
TALC	**Talca**	**1.75**	**41**	⇓*i*P	**Pn**	**13 26 50.7**	**+1.5**
TALC				*i* S	**Sn**	**13 27 12.5**	**+1.8**
TALC	**Talca**	**1.75**	**41**	⇓*i*P	**Pn**	**13 26 50.7**	**+1.5**
TALC				*i* S	**Sn**	**13 27 12.5**	**+1.8**
TALC				AML	AML	13 27 19.1	
	comp=N,8μm,0.4s						
PLCA	**Paso Flores**	**4.44**	**155**	*e*Pn	Pb	13 27 34.0	-3.8
PLCA				*e*Sn	**Sn**	**13 28 14.8**	**-2.4**
PLCA				*e*Sn	**Sb**	**13 28 28.8**	**-2.1**
PLCA	**Paso Flores**	**4.44**	**155**	Pn	Pn	13 27 31.3	+5.0
	comp=N,0.2nm,0.3s,baz=325,slow=15,SNR=5.4						
PLCA				Sn	**Sb**	**13 28 28.9**	**-2.1**
	comp=N,1.1nm,0.3s,baz=316,slow=17,SNR=3.4						
PLCA				Lg	Lg	13 28 44.6	
	comp=N,2.0nm,0.3s,baz=270,slow=22,SNR=8.0						
PLCA				LR	LR	13 29 36.2	
	comp=N,95nm,19.3s,baz=68,slow=43						
H03N1	**Juan Fernandez**	**5.82**	**303**	Pn	**Pn**	**13 27 45.2**	**+0.3**
	baz=155,slow=0.6,SNR=7.0						
H03N3	**Juan Fernandez**	**5.82**	**302**	Pn	**Pn**	**13 27 45.5**	**+0.6**
	baz=155,slow=0.6,SNR=6.9						
H03N2	**Juan Fernandez**	**5.84**	**303**	Pn	**Pn**	**13 27 45.2**	**0.0**
	baz=155,slow=0.6,SNR=6.9						
CFAA	**Coronel Fontan**	**6.48**	**39**	Pn	**Pn**	**13 27 55.6**	**+1.3**
	comp=N,0.2nm,0.3s,baz=213,slow=14,SNR=5.4						
CFAA				Sn	**Sn**	**13 29 09.3**	**+1.8**
	comp=N,0.2nm,0.3s,baz=150,slow=20,SNR=3.1						
LCO	**Las Campanas**	**7.95**	**15**	*e*Pn	**Pn**	**13 28 13.2**	**-1.5**
LCO				*e*Sn	**Sn**	**13 29 40.2**	**-3.7**
LVC	**Limon Verde**	**14.52**	**15**	*e*Pn	**Pn**	**13 29 42.9**	**-1.6**
LPAZ	**La Paz**	**20.83**	**13**	*e*P	**P**	**13 30 58.3**	**-2.5**
LPAZ	**La Paz**	**20.83**	**13**	P	Pn	13 31 04.0	+0.5
	comp=N,1.3nm,0.7s,baz=175,slow=11,SNR=5.6						
TXAR	**Lajitas Array**	**71.74**	**332**	P	**P**	**13 37 41.5**	**+1.1**
	comp=N,0.6nm,0.8s,baz=146,slow=9.1,SNR=4.3						
NVAR	**Mina Array Bea**	**85.67**	**326**	P	**P**	**13 38 59.5**	**+2.5**
	comp=N,0.3nm,0.5s,baz=141,slow=5.4,SNR=3.8						

*MDD **30** 13:47:49.4±1.7, 43°02'N×13°51'W, h0km, mb4.4/8, Error ellipse: s-maj=14.7km s-min=11.6km az=107.0, PRXIMO*
*INMG **30** 13:47:51.6±2.1, 43°16'N×13°89'W, h10km±16km, ML3.1, Error ellipse: s-maj=10.0km s-min=7.0km az=122.0*
*CSEM **30** 13:47:53.3±0.3, 42°80'N×13°21'W, h10km, ML9.6/6, Error ellipse: s-maj=6.7km s-min=5.2km az=82.0*

ISC 30 13:47:49.1±3.2, 42°93'N±0'09×13°5'W±0'2, h10km, n104, σ1s38/156, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMAZ	**Mazaricos**	**3.30**	**88**	P	**Pn**	**13 48 40.9**	**0.0**
	1.7nm,0.1s,SNR=7.9						
EMAZ				S	**Sn**	**13 49 18.0**	**-2.2**
	17nm,0.2s,SNR=7.9						
STS	**Santiago**	**3.62**	**89**	P	**Pn**	**13 48 45.7**	**+0.5**
	5.7nm,0.1s,SNR=7.9						
STS				S	**Sn**	**13 49 26.0**	**-1.9**
	15nm,0.1s,SNR=9.3						
STS	**Santiago**	**3.62**	**89**	P	**Pn**	**13 48 45.7**	**+0.5**
	5.7nm,0.1s,SNR=7.9						
PGAV	**Gavieira, Arco**	**3.97**	**102**	*e*Pn	**Pn**	**13 48 51.7**	**+1.6**
PGAV				*e*Sn	**Sn**	**13 49 36.9**	**+0.2**
PGAV				A	A	13 49 40.8	
	31nm,0.4s						
PGAV	**Gavieira, Arco**	**3.97**	**102**	*e*Pn	**Pn**	**13 48 51.7**	**+1.6**
PGAV				*e*Sn	**Sn**	**13 49 36.9**	**+0.2**
	31nm,0.4s						
ELOB	**Lobios**	**4.14**	**103**	P	**Pn**	**13 48 54.1**	**+1.6**
	0.5nm,0.2s,SNR=11						
ELOB				S	**Sn**	**13 49 41.4**	**+0.4**
	13nm,0.2s,SNR=20						
ELOB	**Lobios**	**4.14**	**103**	P	**Pn**	**13 48 54.1**	**+1.6**
	0.5nm,0.2s,SNR=11						
ELOB				S	**Sn**	**13 49 41.4**	**+0.4**
	13nm,0.2s,SNR=20						
PCAB	**Cabril**	**4.22**	**105**	*e*Pn	**Pn**	**13 48 55.4**	**+2.0**
PCAB				*e*Sn	**Sn**	**13 49 43.2**	**+0.5**
PCAB				A	A	13 49 46.2	
	26nm,0.2s						
PCAB	**Cabril**	**4.22**	**105**	P	**Pn**	**13 48 55.4**	**+2.0**
PCAB				S	**Sn**	**13 49 43.2**	**+0.5**
	13nm,0.2s						
PCAB	**Cabril**	**4.22**	**105**	P	**Pn**	**13 48 55.4**	**+2.0**
PCAB				S	**Sn**	**13 49 43.2**	**+0.5**
	13nm,0.2s						
POLO	**Lamas de Olo**	**4.50**	**108**	*e*Pn	**Pn**	**13 48 59.1**	**+1.7**
POLO				*e*Sn	**Sn**	**13 49 50.4**	**+0.6**
POLO				A	A	13 49 56.6	
	3.6nm,0.2s						
POLO	**Lamas de Olo**	**4.50**	**108**	*e*Pn	**Pn**	**13 48 59.1**	**+1.7**
POLO				*e*Sn	**Sn**	**13 49 50.4**	**+0.6**
	3.6nm,0.2s						
PVRL	**Vila Real**	**4.59**	**109**	*e*Pn	**Pn**	**13 48 59.7**	**+1.1**
PVRL				*e*Sn	**Sn**	**13 49 51.9**	**-0.1**
PVRL				A	A	13 49 55.3	
	21nm,0.1s						
PVRL	**Vila Real**	**4.59**	**109**	P	**Pn**	**13 48 59.7**	**+1.1**
PVRL				S	**Sn**	**13 49 51.9**	**-0.1**
	10nm,0.1s						
PVRL	**Vila Real**	**4.59**	**109**	P	**Pn**	**13 48 59.7**	**+1.1**
PVRL				S	**Sn**	**13 49 51.9**	**-0.1**
	10nm,0.1s						
EPON	**Pontenova**	**4.65**	**83**	P	**Pn**	**13 48 58.6**	**-0.7**
	1.8nm,0.2s,SNR=7.9						
EPON				S	Sn	13 49 49.9	-3.4
	12nm,0.1s,SNR=16						
PCAS	**Casmilo, Conde**	**4.71**	**126**	*e*Pn	**Pn**	**13 49 01.6**	**+1.4**
PCAS				*e*Sn	**Sn**	**13 49 54.6**	**-0.3**
PCAS				A	A	13 49 57.7	
	13nm,0.3s						
PCAS	**Casmilo, Conde**	**4.71**	**126**	*e*Pn	**Pn**	**13 49 01.6**	**+1.4**
PCAS				*e*Sn	**Sn**	**13 49 54.6**	**-0.3**
	13nm,0.3s						
PVIS	**Viseu**	**4.72**	**116**	*e*Pn	**Pn**	**13 49 02.0**	**+1.7**
PVIS				*e*Sn	**Sn**	**13 49 54.8**	**-0.3**
PVIS				A	A	13 49 59.7	
	20nm,0.1s						
PVIS	**Viseu**	**4.72**	**116**	P	**Pn**	**13 49 02.0**	**+1.7**
PVIS				S	**Sn**	**13 49 54.8**	**-0.3**
	10nm,0.1s						
PVIS	**Viseu**	**4.72**	**116**	P	**Pn**	**13 49 02.0**	**+1.7**
PVIS				S	**Sn**	**13 49 54.8**	**-0.3**
	10nm,0.1s						
PTOM	**Tomar**	**5.04**	**129**	*e*Pn	**Pn**	**13 49 06.1**	**+1.3**
PTOM				*e*Sn	**Sn**	**13 50 02.2**	**-0.9**
PTOM				A	A	13 50 05.3	
	21nm,0.3s						
PTOM	**Tomar**	**5.04**	**129**	P	**Pn**	**13 49 06.1**	**+1.3**
PTOM				S	**Sn**	**13 50 02.2**	**-0.9**
	11nm,0.3s						
PTOM	**Tomar**	**5.04**	**129**	P	**Pn**	**13 49 06.1**	**+1.3**
PTOM				S	**Sn**	**13 50 02.2**	**-0.9**
	11nm,0.3s						
PMAFR	**Mafra**	**5.08**	**140**	*e*Pn	**Pn**	**13 49 06.9**	**+1.6**
PMAFR				*e*Sn	**Sn**	**13 50 02.7**	**-1.3**
PMAFR				A	A	13 50 10.1	
	34nm,0.2s						
PMAFR	**Mafra**	**5.08**	**140**	P	**Pn**	**13 49 06.9**	**+1.6**
	4.0nm,0.1s,SNR=5.7						
PMAFR				S	**Sn**	**13 50 03.0**	**-1.0**
	20nm,0.2s,SNR=8.7						
PMAFR	**Mafra**	**5.08**	**140**	P	**Pn**	**13 49 06.9**	**+1.6**
	4.0nm,0.1s,SNR=5.7						
PMAFR				*e*Sn	**Sn**	**13 50 02.7**	**-1.3**
	34nm,0.2s						
PMAFR				S	**Sn**	**13 50 03.0**	**-1.0**
	20nm,0.2s,SNR=8.7						
ECAL	**Calabor**	**5.08**	**99**	P	Pn	13 49 03.5	-1.8
	1.1nm,0.1s,SNR=7.9						
ECAL				S	**Sn**	**13 50 03.3**	**-0.8**
	24nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**5.11**	**118**	*e*Pn	**Pn**	**13 49 07.1**	**+1.4**
MTE				*e*Sn	**Sn**	**13 50 04.6**	**-0.2**
MTE				A	A	13 50 09.7	
	11nm,0.3s						
MTE	**Manteigas**	**5.11**	**118**	P	**Pn**	**13 49 07.1**	**+1.4**
MTE				S	**Sn**	**13 50 04.6**	**-0.2**
	5.7nm,0.3s						
MTE	**Manteigas**	**5.11**	**118**	P	**Pn**	**13 49 07.1**	**+1.4**
MTE				S	**Sn**	**13 50 04.6**	**-0.2**
	5.7nm,0.3s						
MVO	**Moncorvo**	**5.11**	**108**	*e*Pn	**Pn**	**13 49 07.1**	**+1.3**
MVO				*e*Sn	**Sn**	**13 50 03.8**	**-1.0**
MVO				A	A	13 50 08.8	
	20nm,0.2s						
MVO	**Moncorvo**	**5.11**	**108**	P	**Pn**	**13 49 07.1**	**+1.3**
	3.3nm,0.1s,SNR=10						
MVO				S	**Sn**	**13 50 04.0**	**-0.8**
	23nm,0.3s,SNR=13						
MVO	**Moncorvo**	**5.11**	**108**	P	**Pn**	**13 49 07.1**	**+1.3**
	3.3nm,0.1s,SNR=10						
MVO				S	**Sn**	**13 50 04.0**	**-0.8**
	23nm,0.3s,SNR=13						
PBRG	**Braganca**	**5.11**	**100**	*e*Sn	**Sn**	**13 50 04.9**	**+0.1**
PBRG				A	A	13 50 07.2	
	11nm,0.1s						
PBRG	**Braganca**	**5.11**	**100**	S	**Sn**	**13 50 04.9**	**+0.1**
	5.6nm,0.1s						
PBRG	**Braganca**	**5.11**	**100**	S	**Sn**	**13 50 04.9**	**+0.1**
	5.6nm,0.1s						
PACT	**Alcochete**	**5.44**	**138**	*e*Pn	**Pn**	**13 49 11.7**	**+1.5**
PACT				*e*Sn	**Sn**	**13 50 12.6**	**-0.3**
PACT	**Alcochete**	**5.44**	**138**	*e*Pn	**Pn**	**13 49 11.7**	**+1.5**
PACT				*e*Sn	**Sn**	**13 50 12.6**	**-0.3**
PCBR	**Castelo Branco**	**5.46**	**122**	*e*Sn	**Sn**	**13 50 12.6**	**-0.8**
PCBR				A	A	13 50 16.9	
	4.4nm,0.2s						
PCBR	**Castelo Branco**	**5.46**	**122**	S	**Sn**	**13 50 12.6**	**-0.8**
	2.2nm,0.2s						
PCBR	**Castelo Branco**	**5.46**	**122**	S	**Sn**	**13 50 12.6**	**-0.8**
	2.2nm,0.2s						
PMTG	**Montargil**	**5.53**	**132**	*e*Pn	**Pn**	**13 49 12.4**	**+0.9**
PMTG				*e*Sn	**Sn**	**13 50 14.1**	**-1.0**
PMTG				A	A	13 50 16.0	
	5.7nm,0.2s						
PMTG	**Montargil**	**5.53**	**132**	*e*Pn	**Pn**	**13 49 12.4**	**+0.9**
PMTG				*e*Sn	**Sn**	**13 50 14.1**	**-1.0**
	5.7nm,0.2s						
PMRV	**Marv??o**	**5.77**	**125**	*e*Pn	**Pn**	**13 49 14.9**	**+0.2**
PMRV				*e*Sn	**Sn**	**13 50 18.7**	**-2.2**
PMRV				A	A	13 50 23.6	
	12nm,0.2s						
PMRV	**Marv??o**	**5.77**	**125**	P	**Pn**	**13 49 14.9**	**+0.2**
PMRV				S	**Sn**	**13 50 18.7**	**-2.2**
	12nm,0.2s						
PMRV	**Marv??o**	**5.77**	**125**	P	**Pn**	**13 49 14.9**	**+0.2**
PMRV				S	**Sn**	**13 50 18.7**	**-2.2**
	12nm,0.2s						
PESTR	**Estremoz**	**6.02**	**130**	*e*Pn	**Pn**	**13 49 18.9**	**+0.6**
PESTR				*e*Sn	**Sn**	**13 50 25.4**	**-1.9**
PESTR				A	A	13 50 34.8	
	6.6nm,0.6s						
PESTR	**Estremoz**	**6.02**	**130**	P	**Pn**	**13 49 18.9**	**+0.6**
PESTR				S	**Sn**	**13 50 25.4**	**-1.9**
	6.6nm,0.6s						
PESTR	**Estremoz**	**6.02**	**130**	P	**Pn**	**13 49 18.9**	**+0.6**
PESTR				S	**Sn**	**13 50 25.4**	**-1.9**
	6.6nm,0.6s						
EVO	**Evora**	**6.04**	**135**	*e*Sn	Sn	13 50 24.0	-3.6
EVO				A	A	13 50 27.9	
	14nm,0.1s						
EVO	**Evora**	**6.04**	**135**	S	Sn	13 50 24.0	-3.6
	14nm,0.1s						
EVO	**Evora**	**6.04**	**135**	S	Sn	13 50 24.0	-3.6
	14nm,0.1s						
EARI	**Arriondas**	**6.06**	**84**	P	**Pn**	**13 49 19.0**	**+0.2**
	0.9nm,0.2s,SNR=46						
EARI				S	Sn	13 50 24.2	-3.9
	9.7nm,0.3s,SNR=7.1						
EARI	**Arriondas**	**6.06**	**84**	P	**Pn**	**13 49 19.0**	**+0.2**
	0.9nm,0.2s,SNR=46						
PNCL	**Nicolau / Gran**	**6.11**	**140**	*e*Pn	**Pn**	**13 49 20.7**	**+1.3**
PNCL				*e*Sn	**Sn**	**13 50 27.3**	**-2.0**
PNCL				A	A	13 50 32.8	
	7.4nm,0.1s						
PNCL	**Nicolau / Gran**	**6.11**	**140**	*e*Pn	**Pn**	**13 49 20.7**	**+1.3**
PNCL				*e*Sn	**Sn**	**13 50 27.3**	**-2.0**
	7.4nm,0.1s						
EPLA	**Plasencia**	**6.24**	**115**	P	**Pn**	**13 49 23.0**	**+1.7**
	6.0nm,0.3s,SNR=20						
EPLA				S	**Sn**	**13 50 31.7**	**-1.0**
	4.2nm,0.2s,SNR=5.6						
EPLA	**Plasencia**	**6.24**	**115**	P	**Pn**	**13 49 23.0**	**+1.7**
	6.0nm,0.3s,SNR=20						
EPLA				S	**Sn**	**13 50 31.7**	**-1.0**
	4.2nm,0.2s,SNR=5.6						
EBAD	**Badajoz**	**6.43**	**128**	P	**Pn**	**13 49 25.4**	**+1.6**
	1.3nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**13 50 35.3**	**-1.9**
	6.2nm,0.2s,SNR=7.1						
EBAD	**Badajoz**	**6.43**	**128**	P	**Pn**	**13 49 25.4**	**+1.6**
	1.3nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**13 50 35.3**	**-1.9**
	6.2nm,0.2s,SNR=7.1						
PTEO	**Sao Teotonio**	**6.49**	**144**	*e*Pn	**Pn**	**13 49 26.2**	**+1.6**
PTEO				*e*Sn	**Sn**	**13 50 36.5**	**-2.1**
PTEO				A	A	13 50 42.7	
	13nm,0.3s						
PTEO	**Sao Teotonio**	**6.49**	**144**	P	**Pn**	**13 49 26.2**	**+1.6**
PTEO				S	**Sn**	**13 50 36.5**	**-2.1**
	6.7nm,0.3s						
PTEO	**Sao Teotonio**	**6.49**	**144**	P	**Pn**	**13 49 26.2**	**+1.6**
PTEO				S	**Sn**	**13 50 36.5**	**-2.1**
	6.7nm,0.3s						
PBEJ	**Beja**	**6.50**	**137**	*e*Sn	Sn	13 50 36.3	-2.6
PBEJ				A	A	13 50 44.5	
	4.5nm,0.2s						
PBEJ	**Beja**	**6.50**	**137**	S	Sn	13 50 36.3	-2.6
	2.2nm,0.2s						
PBEJ	**Beja**	**6.50**	**137**	S	Sn	13 50 36.3	-2.6
	2.2nm,0.2s						
PCVE	**Castro Verde**	**6.72**	**140**	*e*Pn	**Pn**	**13 49 29.4**	**+1.6**
PCVE				*e*Sn	Sn	13 50 41.4	-3.0
PCVE				A	A	13 50 47.9	
	6.0nm,0.3s						
PCVE	**Castro Verde**	**6.72**	**140**	P	**Pn**	**13 49 29.4**	**+1.6**
PCVE				S	Sn	13 50 41.4	-3.0
	6.0nm,0.3s						
PCVE	**Castro Verde**	**6.72**	**140**	P	**Pn**	**13 49 29.4**	**+1.6**
PCVE				S	Sn	13 50 41.4	-3.0
	6.0nm,0.3s						
PBAR	**Barrancos**	**6.82**	**132**	*e*Pn	**Pn**	**13 49 30.8**	**+1.6**
PBAR				*e*Sn	**Sn**	**13 50 45.1**	**-1.7**
PBAR				A	A	13 50 52.1	
	4.1nm,0.2s						
PBAR	**Barrancos**	**6.82**	**132**	P	**Pn**	**13 49 30.8**	**+1.6**
PBAR				S	**Sn**	**13 50 45.1**	**-1.7**
	4.1nm,0.2s						
PBAR	**Barrancos**	**6.82**	**132**	P	**Pn**	**13 49 30.8**	**+1.6**
PBAR				S	**Sn**	**13 50 45.1**	**-1.7**
	4.1nm,0.2s						
PVAQ	**Vaqueiros**	**7.06**	**139**	*e*Pn	**Pn**	**13 49 33.9**	**+1.5**
PVAQ				*e*Sn	Sn	13 50 49.1	-3.6
PVAQ				A	A	13 50 56.5	
	9.4nm,0.3s						
PVAQ	**Vaqueiros**	**7.06**	**139**	P	**Pn**	**13 49 33.9**	**+1.5**
PVAQ				S	Sn	13 50 49.1	-3.6
	9.4nm,0.3s						
PVAQ	**Vaqueiros**	**7.06**	**139**	P	**Pn**	**13 49 33.9**	**+1.5**
PVAQ				S	Sn	13 50 49.1	-3.6
	9.4nm,0.3s						
EGRO	**El Granado**	**7.07**	**138**	P	**Pn**	**13 49 34.4**	**+1.8**
	0.5nm,0.1s,SNR=4.5						
EGRO				S	Sn	13 50 50.4	-2.6
	1.4nm,0.2s						
EGRO	**El Granado**	**7.07**	**138**	P	**Pn**	**13 49 34.4**	**+1.8**
	0.5nm,0.1s,SNR=4.5						
EGRO				S	Sn	13 50 50.4	-2.6
	1.4nm,0.2s						
PBDV	**Barranco-do-Ve**	**7.09**	**141**	*e*Sn	Sn	13 50 50.6	-2.9
PBDV				A	A	13 50 59.7	
	5.7nm,0.3s						
PBDV	**Barranco-do-Ve**	**7.09**	**141**	S	Sn	13 50 50.6	-2.9
	5.7nm,0.3s						
PBDV	**Barranco-do-Ve**	**7.09**	**141**	S	Sn	13 50 50.6	-2.9
	5.7nm,0.3s						
EMIN	**Mina Concepcio**	**7.31**	**133**	P	**Pn**	**13 49 37.1**	**+1.2**
	5.6nm,0.2s,SNR=37						
EMIN				S	**Sn**	**13 50 56.6**	**-2.4**
	3.2nm,0.2s						
EMIN	**Mina Concepcio**	**7.31**	**133**	P	**Pn**	**13 49 37.1**	**+1.2**
	5.6nm,0.2s,SNR=37						
EMIN				S	**Sn**	**13 50 56.6**	**-2.4**
	3.2nm,0.2s						
GUD	**Guadarrama**	**7.33**	**105**	P	**Pn**	**13 49 38.5**	**+2.2**
	0.5nm,0.2s,SNR=7.1						
GUD				S	**Sn**	**13 50 58.0**	**-1.6**
	6.6nm,0.4s,SNR=7.0						
GUD	**Guadarrama**	**7.33**	**105**	P	**Pn**	**13 49 38.5**	**+2.2**
	0.5nm,0.2s,SNR=7.1						
GUD				S	**Sn**	**13 50 58.0**	**-1.6**
	6.6nm,0.4s,SNR=7.0						
ELAN	**Lanestosa**	**7.36**	**84**	P	**Pn**	**13 49 36.9**	**+0.4**
	0.4nm,0.1s,SNR=7.9						
ELAN				S	Sn	13 50 55.6	-4.4
	6.5nm,0.2s,SNR=7.6						
ELAN	**Lanestosa**	**7.36**	**84**	P	**Pn**	**13 49 36.9**	**+0.4**
	0.4nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**7.82**	**126**	P	**Pn**	**13 49 43.1**	**+0.2**
	0.4nm,0.1s,SNR=6.9						
ECAB				S	Sn	13 51 08.9	-2.5
	1.8nm,0.3s						
ECAB	**El Cabril**	**7.82**	**126**	P	**Pn**	**13 49 43.1**	**+0.2**
	0.4nm,0.1s,SNR=6.9						
ECAB				S	Sn	13 51 08.9	-2.5
	1.8nm,0.3s						
ESDC	**Sonseca Array**	**7.86**	**111**	P	**Pn**	**13 49 45.8**	**+2.3**
	12nm,0.1s,baz=292,slow=13,SNR=27						
ESDC				S	**Sn**	**13 51 11.1**	**-1.5**
	3.9nm,0.2s,baz=300,slow=23,SNR=14						
ESDC	**Sonseca Array**	**7.86**	**111**	P	**Pn**	**13 49 45.8**	**+2.3**
	12nm,0.1s,slow=13,SNR=27						
ESDC				S	**Sn**	**13 51 11.1**	**-1.5**
	3.9nm,0.2s,baz=300,slow=23,SNR=14						
EADA	**Adamuz**	**8.27**	**122**	P	**Pn**	**13 49 49.7**	**+0.6**
	0.5nm,0.2s,SNR=16						
EADA				S	Sn	13 51 20.1	-2.5
	5.3nm,0.3s						
EADA	**Adamuz**	**8.27**	**122**	P	**Pn**	**13 49 49.7**	**+0.6**
	0.5nm,0.2s,SNR=16						
EADA				S	Sn	13 51 20.1	-2.5
	5.3nm,0.3s						
ESPR	**Espera**	**8.41**	**133**	S	**Sn**	**13 51 24.1**	**-2.0**
	6.4nm,0.2s,SNR=7.9						
ESPR	**Espera**	**8.41**	**133**	S	**Sn**	**13 51 24.1**	**-2.0**
	6.4nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**8.77**	**84**	S	Sn	13 51 29.7	-4.9
	2.6nm,0.3s,SNR=4.7						
EBAN	**Banos Encina**	**8.77**	**120**	P	**Pn**	**13 49 57.3**	**+1.3**
	1.5nm,0.2s,SNR=7.9						
EBAN				S	Sn	13 51 30.4	-4.5
	SNR=7.9						
EBAN	**Banos Encina**	**8.77**	**120**	P	**Pn**	**13 49 57.3**	**+1.3**
	1.5nm,0.2s,SNR=7.9						
EBAN				S	Sn	13 51 30.4	-4.5
	SNR=7.9						
IELO	**Elcoad**	**8.99**	**86**	P	**Pn**	**13 49 59.8**	**+0.9**
	0.2nm,0.1s,SNR=7.9						
IELO				S	Sn	13 51 36.5	-3.7
	3.8nm,0.3s,SNR=7.9						
IELO	**Elcoad**	**8.99**	**86**	P	**Pn**	**13 49 59.8**	**+0.9**
	0.2nm,0.1s,SNR=7.9						
IELO				S	Sn	13 51 36.5	-3.7
	3.8nm,0.3s,SNR=7.9						
EQES	**Quesada**	**9.44**	**119**	P	**Pn**	**13 50 06.7**	**+1.5**
	0.6nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**13 51 49.1**	**-2.4**
	0.5nm,0.5s,SNR=7.9						
EQES	**Quesada**	**9.44**	**119**	P	**Pn**	**13 50 06.7**	**+1.5**
	0.6nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**13 51 49.1**	**-2.4**
	0.5nm,0.5s,SNR=7.9						
EBIE	**Bielsa**	**10.01**	**87**	P	**Pn**	**13 50 14.1**	**+0.9**
	0.2nm,0.1s,SNR=7.9						
EBIE				S	Sn	13 52 00.5	-5.1
	0.7nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**10.01**	**87**	P	**Pn**	**13 50 14.1**	**+0.9**
	0.2nm,0.1s,SNR=7.9						

NNC 30 13:48:49.7±6.7, 37°09N×69°77E, h0km, mb3.6, mpv3.0, 5C-1D, Error ellipse: s-maj=56.5km s-min=51.5km az=96.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.03**	**5**	⇑Pn	Pn	13 50 23.0	+2.7
	0.5nm,0.3s,baz=188,slow=14,SNR=3.7						
KK31				⇓Sn	Sn	13 51 36.9	+6.9
	1.6nm,0.4s,baz=192,slow=22,SNR=5.9						
TKM2	**Tokmak 2**	**7.34**	**36**	⇑Pn

MKAR	Makanchi Array	54.48	312	P		P	14 51 20.5	-0.6
	0.3nm,0.7s,baz=94,slow=8.7,SNR=3.5							
ILAR	Eielson Array	61.75	27	P		P	14 52 10.9	-0.2
	1.6nm,0.8s,baz=263,slow=5.1,SNR=24							
FINES	FINESS Array B	82.89	334	P		P	14 54 16.0	-0.1
	2.4nm,1.0s,baz=60,slow=8.2,SNR=3.3							
NVAR	Mina Array Bea	82.94	52	P		P	14 54 18.5	+1.3
	0.7nm,0.7s,baz=269,slow=5.8,SNR=6.3							
SCHQ	Schefferville	99.25	17	P		Pdif	14 55 35.2	+2.1
	4.5nm,0.8s,baz=0.0,slow=4.0,SNR=3.1							
PLCA	Paso Flores	145.97	131	PKPbc		PKPbc	15 01 30.4	-0.1
	4.1nm,0.7s,baz=216,slow=5.2,SNR=6.0							
LPAZ	La Paz	149.91	85	PKPbc		PKPbc	15 01 42.9	+0.6
	2.9nm,0.5s,baz=6.1,slow=4.7,SNR=4.4							

NEIC ***30*** *14:47:56.7±0.1, 4.°99S×149.°65E, mb5.1/57, Error ellipse: s-maj=5.3km s-min=4.3km az=98.0*

ISCJB ***30*** *14:47:56.4±0.4, 5.°00S±0.°03×149.°76E±0.°03, h411km±4km, mb5.0/134, Error ellipse: s-maj=4.4km s-min=4.0km az=179.8*

MOS ***30*** *14:47:56.6±1.1, 4.°98S×149.°74E, h408km, mb5.0/28, Error ellipse: s-maj=10.5km s-min=7.0km az=96.6*

IDC ***30*** *14:47:57.8±0.6, 5.°07S×149.°73E, h408km±6km, mb4.5/26, mb1 4.6/29, mb1mx4.6/30, mbtmp4.5/29, Error ellipse: s-maj=8.7km s-min=6.0km az=104.0*

AUST ***30*** *14:47:57.7±0.3, 5.°04S×149.°77E, h415km±4km, Error ellipse: s-maj=3.7km s-min=3.1km az=49.0*

BJI ***30*** *14:47:57.6, 4.°75S×149.°71E, h409km, mB4.8/32, mb4.9/56*

DJA ***30*** *14:47:58.8±0.6, 5.°5S±4.°×15.°0E±.°1, h441km±7km, M5.0/29, mB5.5/13, mb5.2/29, Mw(mB)5.0/13*

BKK ***30*** *14:47:59.6±1.1, 5.°5S±8.°×15.°0E±1.°2, h426km±11km, M4.8/39, mb5.2/39, mB5.3/32, MLv5.3/1, Mw(mB)4.8/32, Mwp6.8/1*

ISC 30 14:47:57.6±0.3, 5.°04S±0.°03×149.°75E±0.°04, h412km±2km, h413km:pP-P, n473, σ1.°933/622, mb5.0/133, 36C-46D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	Rabaul	2.55	71	⇑P		P	14 48 55.5	-2.9
	baz=2.5,SNR=255							
MANU	Manus Island	3.81	321	⇑P		P	14 49 08.3	-0.4
	baz=3.8,SNR=33							
PMG	Port Moresby	5.04	211	P		P	14 49 20.8	+0.3
PMG	Port Moresby	5.04	211	*e*P		P	14 49 20.6	+0.1
PMG				S		S	14 50 26.0	-2.2
PMG	Port Moresby	5.04	211	P		P	14 49 21.1	+0.6
	52nm,0.3s,baz=15,slow=6.1,SNR=158							
PMG				S		S	14 50 26.0	-2.2
	25nm,0.3s,baz=11,slow=14,SNR=3.5							
JAY	Jayapura	9.37	285	P		P	14 50 08.6	+0.5
JAY				S		S	14 51 54.7	-1.0
JAY	Jayapura	9.37	285	⇑P		P	14 50 08.1	-0.1
	baz=9.4,SNR=90							
MMPI	Merauke	9.91	249	S		S	14 52 07.4	+0.8
COEN	Coen	10.98	216	*e*P		P	14 50 24.8	-1.1
COEN	Coen	10.98	216	⇓P		P	14 50 28.0	+2.1
	baz=11,SNR=206							
HNR	Honiara	11.02	114	P		P	14 50 26.0	-0.3
HNR				S		S	14 52 30.5	+1.5
HNR	Honiara	11.02	114	P		P	14 50 26.0	-0.3
	22nm,0.3s,baz=240,slow=2.1,SNR=22							
HNR				S		S	14 52 30.5	+1.5
	4.0nm,0.3s,baz=4.4,slow=21,SNR=5.0							
SRPI	Serui, Papua	13.85	283	P		P	14 50 58.8	+1.4
MTSU	Mount Surprise	14.06	202	⇑P		P	14 51 01.9	+2.3
	baz=14,SNR=145							
BAKI	Biak	14.15	285	P		P	14 51 01.6	+1.0
PATS	Pohnpei	14.57	36	⇓P		P	14 51 05.2	+0.1
	baz=15,SNR=25							
CTA	Charters Tower	15.34	193	P		P	14 51 15.2	+1.7
CTA				S		S	14 53 55.8	+0.3
CTA	Charters Tower	15.34	193	P		P	14 51 15.2	+1.7
	2.8nm,0.3s,baz=13,slow=12,SNR=56							
CTA				S		S	14 53 55.8	+0.3
	baz=30,slow=20,SNR=3.5							
CTAO	Charters Tower	15.34	193	*e*P		P	14 51 13.5	0.0
CTAO				pmax		pmax		
	comp=Z,176nm,1.0s							
CTAO	Charters Tower	15.34	193	*e*P		P	14 51 13.5	0.0
	comp=Z,176nm,1.0s							
KMPI	Kaimana, Papua	16.06	274	P		P	14 51 22.2	+1.0
TLE	Tual	16.95	267	P		P	14 51 32.2	+1.4
TLE	Tual	16.95	267	⇓P		P	14 51 32.1	+1.4
	baz=17,SNR=25							
FAKI	Fak Fak	17.59	276	P		P	14 51 37.0	-0.5
FAKI	Fak Fak	17.59	276	⇓P		P	14 51 37.4	-0.1
	baz=18,SNR=74							
KDU	Kakadu	18.68	245	⇓P		P	14 51 48.5	-0.3
	baz=19,SNR=155							
SWI	Sorong	18.92	282	P		P	14 51 52.7	+1.3
SWI	Sorong	18.92	282	⇑P		P	14 51 51.1	-0.2
	baz=19,SNR=41							
PALU	Palau	19.59	309	⇑P		P	14 51 57.8	+0.1
	baz=20,SNR=44							
BNDI	Bandanaira	19.78	271	P		P	14 51 58.7	-0.8
BNDI	Bandanaira	19.78	271	⇓P		P	14 51 59.1	-0.4
	baz=20,SNR=4.9							
MTN	Manton Dam	19.95	246	⇑P		P	14 52 01.3	+0.3
	baz=20,SNR=311							
EIDS	Eidsvold	20.26	177	*e*P		P	14 52 04.3	+0.6
	comp=Z,157nm,0.8s							
EIDS	Eidsvold	20.26	177	⇓P		P	14 52 04.6	+0.9
	baz=20,SNR=42							
WRAB	Tennant Creek	21.07	224	*e*P		P	14 52 12.0	+0.8
WRAB				pmax		pmax		
	comp=Z,107nm,0.5s							
WRAB	Tennant Creek	21.07	224	*e*P		P	14 52 12.0	+0.8
	comp=Z,107nm,0.5s							
WRAB	Tennant Creek	21.07	224	P		P	14 52 12.9	+1.7
	comp=Z,1μm,0.4s,SNR=75							
WRA	Warramunga Arr	21.08	224	P		P	14 52 11.9	+0.6
WRA				S		S	14 55 38.5	+0.5
WRA				PcP		PcP	14 56 01.4	+0.8
WRA				PKiKP		PKiKP	15 03 46.1	-1.6
WRA	Warramunga Arr	21.08	224	P		P	14 52 11.9	+0.6
	comp=Z,73nm,0.5s,baz=46,slow=9.4,SNR=478							
WRA				S		S	14 55 38.5	+0.5
	comp=Z,31nm,0.7s,baz=45,slow=16,SNR=13							
WRA				PcP		PcP	14 56 01.4	+0.8
	comp=Z,23nm,0.8s,baz=39,slow=2.3,SNR=6.6							
WRA				PKiKP		PKiKP	15 03 46.1	-1.6
	comp=Z,0.4nm,0.4s,baz=318,slow=1.3,SNR=8.0							
RMQ	Roma	21.35	182	⇓P		P	14 52 14.3	+0.7
	baz=22,SNR=55							
QLP	Quilpie	22.06	193	P		P	14 52 21.0	+0.9
	baz=22,SNR=75							
LBMI	Labuha	22.64	280	P		P	14 52 27.1	+1.6
NLAI	Namlea	22.66	274	P		P	14 52 26.4	+0.7
TNTI	Ternate	23.09	284	P		P	14 52 30.3	+0.7
TNTI	Ternate	23.09	284	*e*P		P	14 52 26.9	-2.7
	comp=Z,142nm,1.0s							
KNRA	Kununurra	23.17	241	P		P	14 52 30.4	+0.2
	baz=23,SNR=215							
DZM	Mont Dzumac	23.41	138	*e*P		P	14 52 32.6	+0.2
	comp=Z,38nm,0.6s							
DZM				P		P	14 52 32.7	+0.3
DZM	Mont Dzumac	23.41	138	P		P	14 52 32.7	+0.3
	comp=Z,37nm,0.6s,baz=312,slow=6.8,SNR=50							
AS31	Alice Springs	24.00	218	*e*P		P	14 52 36.0	-1.7
ASAR	Alice Springs	24.01	218	P		P	14 52 38.1	+0.4
ASAR				PcP		PcP	14 56 07.4	+0.8
ASAR				S		S	14 56 25.5	+1.1
ASAR				ScP		ScP	14 59 07.6	+2.1
ASAR				PKiKP		PKiKP	15 03 47.8	-1.4
ASAR	Alice Springs	24.01	218	P		P	14 52 38.1	+0.4
	comp=Z,18nm,0.4s,baz=49,slow=8.3,SNR=439							
ASAR				PcP		PcP	14 56 07.4	+0.8
	comp=Z,9.5nm,0.8s,baz=50,slow=3.3,SNR=6.3							
ASAR				S		S	14 56 25.5	+1.1
	comp=Z,16nm,0.8s,baz=41,slow=16,SNR=7.1							
ASAR				ScP		ScP	14 59 07.6	+2.1
	comp=Z,5.1nm,0.8s,baz=70,slow=3.0,SNR=5.9							
ASAR				PKiKP		PKiKP	15 03 47.8	-1.4
	comp=Z,0.2nm,0.5s,baz=18,slow=0.6,SNR=4.1							
ARMA	Armidale	25.31	176	*e*P		P	14 52 49.1	-0.2
	comp=Z,22nm,0.6s							
ARMA	Armidale	25.31	176	⇑P		P	14 52 50.6	+1.3
	baz=25,SNR=58							
SOEI	Soe	25.70	258	P		P	14 52 53.2	+0.2
SOEI	Soe	25.70	258	⇑P		P	14 52 53.1	+0.2
	baz=26,SNR=6.1							
KMSI	Cibinong	26.34	282	P		P	14 52 59.5	+0.9
CMSA	Cobar Meteorol	26.64	188	⇑P		P	14 53 01.4	+0.5
	baz=27,SNR=27							
FITZ	Fitzroy Crossi	26.90	239	P		P	14 53 03.6	+0.1
	comp=Z,130nm,0.6s							
FITZ				*p*P		pP	14 54 17.4	+1.9
FITZ				S		S	14 57 09.2	-0.8
FITZ	Fitzroy Crossi	26.90	239	⇑P		P	14 53 03.6	+0.1
	baz=27,SNR=453							
FITZ	Fitzroy Crossi	26.90	239	P		P	14 53 03.6	+0.1
	comp=Z,62nm,0.3s,baz=64,slow=10,SNR=704							
FITZ				*p*P		pP	14 54 17.4	+1.9
	comp=Z,30nm,0.9s,baz=77,slow=6.3,SNR=1.9							
FITZ				S		S	14 57 09.2	-0.8
	comp=Z,33nm,1.1s,baz=81,slow=16,SNR=10							
BBSI	Bau Bau	27.07	268	P		P	14 53 13.4	+8.4
LUWI	Luwuk	27.23	278	P		P	14 53 07.3	+0.9
LUWI	Luwuk	27.23	278	⇑P		P	14 53 06.6	+0.2
	baz=27,SNR=15							
GTOI	Gorontalo	27.30	281	P		P	14 53 08.8	+1.7
MMRI	Maumere	27.55	261	P		P	14 53 08.1	-1.1
STKA	Stephens Creek	27.77	195	P		P	14 53 10.8	-0.2
	comp=Z,17nm,0.8s							
STKA				*p*P		PP	14 54 26.8	+2.2
STKA				S		S	14 57 21.3	-2.0
STKA				ScP		ScP	14 59 19.3	+3.0
STKA	Stephens Creek	27.77	195	⇑P		P	14 53 10.3	-0.7
	baz=28,SNR=4.1							
STKA	Stephens Creek	27.77	195	P		P	14 53 10.8	-0.2
	comp=Z,10.0nm,0.7s,baz=354,slow=8.6,SNR=22							
STKA				*p*P		PP	14 54 26.8	+2.2
	comp=Z,15nm,0.9s,baz=24,slow=10.0,SNR=4.1							
STKA				S		S	14 57 21.3	-2.0
	comp=Z,6.8nm,0.9s,baz=142,slow=19,SNR=4.8							
STKA				ScP		ScP	14 59 19.3	+3.0
	comp=Z,7.7nm,1.0s,baz=22,slow=4.2,SNR=4.1							
KKSI	Kolaka, Sulawe	28.02	271	P		P	14 53 13.9	+0.4
MGCD	Mangrove Creek	28.06	178	⇓P		P	14 53 14.5	+1.0
	baz=28,SNR=11							
MRSI	Marisa	28.31	280	P		P	14 53 15.3	-0.7
YNG	Young	29.14	182	⇑P		P	14 53 24.3	+1.3
	baz=29,SNR=15							
BKSI	Bulukumba	29.51	268	P		P	14 53 26.6	+0.1
BNSI	Bone	29.55	270	P		P	14 53 28.1	+1.2
WSI	Waingapu	29.56	259	P		P	14 53 26.9	0.0
WSI	Waingapu	29.56	259	⇓P		P	14 53 26.5	-0.4
	baz=30,SNR=3.8							
LBFI	Labuhan Bajo,	29.84	262	P		P	14 53 27.9	-1.5
KAPI	Kappang	29.88	269	P		P	14 53 28.9	-0.9
KAPI	Kappang	29.88	269	*e*P		P	14 53 27.4	-2.3
	comp=Z,82nm,0.8s							
KAPI	Kappang	29.88	269	P		P	14 53 29.3	-0.5
	comp=Z,640nm,0.7s,SNR=5.8							
KAPI	Kappang	29.88	269	P		P	14 53 29.0	-0.8
	comp=Z,56nm,0.6s,baz=114,slow=5.6,SNR=30							
SPSI	Sidrap Palu	29.91	271	P		P	14 53 29.9	-0.1
TTSI	Tana Toraja	29.92	273	P		P	14 53 30.9	+0.8
HTT	Hallett	30.00	198	⇓P		P	14 53 30.9	+0.3
	baz=30,SNR=20							
CNB	Canberra Magne	30.13	181	⇓P		P	14 53 33.0	+1.3
	baz=30,SNR=20							
CAN	Canberra	30.14	181	*e*P		P	14 53 31.8	0.0
CAN				pmax		pmax		
	comp=Z,16nm,0.7s							
CAN	Canberra	30.14	181	*e*P		P	14 53 31.8	0.0
	comp=Z,16nm,0.7s							
PCI	Palu	30.15	277	P		P	14 53 36.7	+4.6
MSVF	Nonsavu	30.41	117	*e*P		P	14 53 35.0	+0.5
MSVF				pmax		pmax		
	comp=Z,27nm,0.8s							
MSVF	Nonsavu	30.41	117	*e*P		P	14 53 35.0	+0.5
	comp=Z,27nm,0.8s							
BBOO	Buckleboo	30.45	203	⇑P		P	14 53 34.2	-0.3
	baz=31,SNR=12							
MMSI	Mamuju	30.86	273	P		P	14 53 38.5	+0.2
	comp=Z,123nm,0.8s,comp=Z,972nm							
MILA	Mila	31.87	181	⇓P		P	14 53 48.1	+1.4
	baz=32,SNR=8.1							
ARPS	Mount Arapiles	32.40	192	⇑P		P	14 53 51.9	+0.6
	baz=33,SNR=13							
TOO	Toolangi	32.61	186	⇓P		P	14 53 54.0	+0.9
	baz=33,SNR=19							
FORT	Forest	32.75	216	*e*P		P	14 53 53.1	-1.2
	comp=Z,103nm,0.7s							
FORT				*ep*P		pP	14 55 07.9	-1.9
FORT	Forrest	32.75	216	⇓P		P	14 53 54.7	+0.4
	baz=33,SNR=27							
MYLDM	Lahad Datu	32.82	288	P		P	14 53 57.9	+2.8
MYLDM	Lahad Datu	32.82	288	P		P	14 53 56.6	+1.4
	comp=Z,77nm,1.2s							
MYLDM	Lahad Datu	32.82	288	*e*P		P	14 53 53.2	-1.9
	comp=Z,128nm,1.3s							
TSM	Tawau	33.16	286	P		P	14 53 58.6	+0.4
MBWA	Maple Bar	33.24	238	*e*P		P	14 53 57.4	-1.3
	comp=Z,120nm,0.7s							
MTNI	Mataram	33.52	262	P		P	14 54 00.1	-1.1
	comp=Z,102nm,0.6s,comp=Z,1μm							
KHKI	Kahang-Kahang	34.06	263	P		P	14 54 05.4	-0.4
	comp=Z,90nm,0.9s							
SDKM	Sandakan	34.20	288	P		P	14 54 07.5	+0.5
KDM	Kudat	34.94	290	P		P	14 54 15.0	+1.9
MTKI	Muara Teweh, K	35.04	276	P		P	14 54 14.4	+0.4
	comp=Z,111nm,0.8s,comp=Z,3μm							
KKM	Kota Kinabalu	35.25	288	P		P	14 54 16.2	+0.3
KKM	Kota Kinabalu	35.25	288	P		P	14 54 15.7	-0.2
	comp=Z,61nm,0.9s,comp=Z,653nm							
KKM	Kota Kinabalu	35.25	288	*e*P		P	14 54 14.0	-1.9
	comp=Z,41nm,0.8s							
KKM				*ep*P		pP	14 55 28.7	-3.5
KKM	Kota Kinabalu	35.25	288	P		P	14 54 15.7	-0.2
	baz=35,SNR=14							
MEEK	Meekatharra	36.67	231	P		P	14 54 27.7	+0.2
	baz=37,SNR=99							
KRKI	Karangkates	37.17	263	P		P	14 54 30.9	-1.0
	comp=Z,413nm,0.6s,comp=Z,31μm							
OUZ	Omahuta	37.24	147	*e*P		P	14 54 33.0	+0.9
	comp=Z,34nm,0.9s							
MOO	Moorlands	37.31	183	⇓P		P	14 54 34.3	+1.7
	baz=38,SNR=9.3							
BTM	Bintulu	37.53	282	P		P	14 54 37.0	+2.1
TAU	Tasmania Unive	37.77	183	P		P	14 54 38.0	+1.6
	comp=Z,160nm,0.5s,SNR=9.8							
PWJI	Pagerwojo	37.81	263	P		P	14 54 35.9	-1.2
	comp=Z,135nm,0.9s							
SJI	Sawahan	37.83	264	P		P	14 54 37.0	-0.5
	comp=Z,63nm,0.6s							
JOW	Kunigami	37.89	328	*e*P		P	14 54 36.2	-1.4
	comp=Z,36nm,0.9s							
SBUM	Sibu	38.23	280	P		P	14 54 42.6	+2.0
SBUM	Sibu	38.23	280	P		P	14 54 41.7	+1.1
	comp=Z,81nm,1.3s,comp=Z,836nm							
SBUM	Sibu	38.23	280	*e*P		P	14 54 38.3	-2.3
	comp=Z,47nm,0.8s							
PCJI	Pacitan	38.43	263	P		P	14 54 41.7	-0.6
	comp=Z,386nm,0.9s,comp=Z,3μm							
GIRL	Giralia	38.51	240	⇑P		P	14 54 43.3	+0.5
	baz=39,SNR=22							
STKI	Sintang	38.56	276	P		P	14 54 44.4	+1.1
	comp=Z,163nm,0.9s,comp=Z,9μm							
UGM	Wanagama	39.07	264	⇑P		P	14 54 47.2	-0.3
	baz=39,SNR=4.1							
YULB	Yu-li	39.62	317	*e*P		P	14 54 50.3	-1.5
	comp=Z,44nm,0.8s							
MORW	Morawa	39.86	229	⇑P		P	14 54 53.4	-0.3
	baz=40,SNR=17							
BJII	Banjamegara	39.86	265	P		P	14 54 55.9	+1.8
	comp=Z,77nm,0.9s							
KSM	Kuching	39.93	278	P		P	14 54 55.9	+1.4
KSM	Kuching	39.93	278	P		P	14 54 55.1	+0.6
	comp=Z,120nm,1.0s,comp=Z,1μm							
KSM	Kuching	39.93	278	*e*P		P	14 54 52.4	-2.1
	comp=Z,104nm,1.0s							
KSM	Kuching	39.93	278	⇑P		P	14 54 54.6	+0.1
	baz=40,SNR=17							
NACB	Ninganchiao	39.95	318	*e*P		P	14 54 53.7	-0.7
	comp=Z,64nm,0.6s							
KLBR	Kellerberrin	39.96	225	⇑P		P	14 54 53.9	-0.7
	baz=40,SNR=59							
TPUB	Ta-pu	40.02	316	*e*P		P	14 54 53.3	-1.8
	comp=Z,31nm,0.6s							
SSLB	Suanglung	40.12	317	*e*P		P	14 54 55.0	-0.9
	comp=Z,56nm,1.2s							
SSLB				*ep*P		pP	14 56 10.8	-3.5
SSLB				*e*PcP		PP	14 56 45.0	+5.8
BLDU	Ballidu	40.17	227	⇓P		P	14 54 55.9	-0.3
	baz=40,SNR=62							
YHNB	Yeheng	40.43	318	*e*P		P	14 54 56.5	-1.9
	comp=Z,67nm,0.6s							
YHNB				*ep*P		pP	14 56 14.3	-2.7
TGJI	Tegal	40.44	265	P		P	14 55 00.4	+1.7
	comp=Z,42nm,1.5s							
KPJI	Karang Pucung	40.64	265	P		P	14 55 01.1	+0.9
	comp=Z,110nm,0.7s							
NWAO	Narrogin (SRO)	41.09	223	*e*P		P	14 55 02.1	-1.5
	comp=Z,21nm,0.7s							
URZ	Urewera	41.38	147	P		P	14 55 06.7	+0.8
URZ	Urewera	41.38	147	P		P	14 55 06.7	+0.8
	comp=Z,18nm,0.6s,baz=269,slow=3.0,SNR=20							
CISI	Cisompet, Garu	41.75	264	P		P	14 55 08.1	-1.1
	comp=Z,396nm,0.9s,comp=Z,4μm							
CISI	Cisompet, Garu	41.75	264	*e*P		P	14 55 07.8	-1.4
	comp=Z,270nm,0.7s							
CISI	Cisompet, Garu	41.75	264	⇓P		P	14 55 08.2	-1.0
	baz=42,SNR=34							
JNU	Nakatsue	41.96	336	*e*P		P	14 55 10.8	+0.2
	comp=Z,41nm,0.9s							
JNU				*e*PcP		PcP	14 56 56.4	-0.5
JNU				PcP		PcP	14 56 57.2	+0.3
JNU	Nakatsue	41.96	336	P		P	14 55 11.4	+0.8
	comp=Z,83nm,0.8s,baz=138,slow=3.3,SNR=58							
JNU				PcP		PcP	14 56 57.2	+0.3
	comp=Z,22nm,0.8s,baz=51,slow=6.0,SNR=6.3							
RKGY	Rocky Gully	42.25	222	⇑P		P	14 55 13.3	+0.4
	baz=42,SNR=10							
QZH	Quanzhou	42.50	316	⇓*i*P		P	14 55 12.8	-2.1
QZH				AMB		AMB		
	comp=Z,240nm,0.6s							
CBJI	Citeko	42.70	266	P		P	14 55 20.8	+4.1
MJAR	Matsushiro Arr	42.75	346	P		P	14 55 16.8	0.0
MJAR				PcP		PcP	14 56 59.9	+0.4
MJAR	Matsushiro Arr	42.75	346	P		P	14 55 16.8	0.0
	comp=Z,21nm,0.8s,baz=173,slow=7.4,SNR=71							
MJAR				PcP		PcP	14 56 59.9	+0.4
	comp=Z,6.9nm,0.7s,baz=164,slow=4.0,SNR=9.2							
MAJO	Matsushiro	42.75	346	*e*P		P	14 55 16.8	+0.1
MAJO				pmax		pmax		
	comp=Z,48nm,0.6s							
MAJO	Matsushiro	42.75	346	*e*P		P	14 55 16.8	+0.1
	comp=Z,48nm,0.6s							
MAT	Matsushiro	42.75	346	P		P	14 55 16.9	+0.2
PPBI	Pangkal Pinang	43.62	272	P		P	14 55 24.5	+0.6
	comp=Z,59nm,1.1s							
XMI	Christmas Isla	43.96	260	⇓P		P	14 55 27.1	+0.5
	baz=44,SNR=3.4							
XMIS	Christmas Isla	44.00	260	⇑P		P	14 55 26.9	0.0
	baz=44,SNR=3.5							
KASI	Kota Agung	45.06	267	P		P	14 55 35.7	+0.5
	comp=Z,81nm,1.2s							
SSE	Sheshan	45.11	325	*e*P		P	14 55 36.0	+0.7
SSE				AMB		AMB		
	comp=Z,59nm,0.7s							
SSE				AMB		AMB		
	comp=Z,46nm,3.5s							
MDSI	Maura Dua	45.41	269	P		P	14 55 36.8	-1.1
	comp=Z,57nm,1.4s,comp=Z,870nm							
LWLI	Liwa	45.51	268	P		P	14 55 40.4	+1.6
	comp=Z,102nm,0.8s,comp=Z,4μm							
QIZ	Qiongzhong	46.00	302	P		P	14 55 42.0	-0.4
QIZ				*p*P		pP	14 57 03.0	-0.3
QIZ				sP		sP	14 57 49.8	+0.2
QIZ				S		S	15 01 54.5	-1.7
QIZ				AMB		AMB		
	comp=Z,28nm,1.7s							
QIZ				AMB		AMB		
	comp=Z,84nm,5.2s							
LHSI	Lahat	46.10	270	P		P	14 55 44.3	+1.1
MYKOM	Kota Tinggi	46.35	277	P		P	14 55 46.5	+1.3
MYKOM	Kota Tinggi	46.35	277	*e*P		P	14 55 43.6	-1.6
	comp=Z,211nm,1.4s							
BTDF	Bukit Timah Da	46.37	277	⇑P		P	14 55 45.3	0.0
	baz=46,SNR=7.2							
BTDF				⇑P		P	14 55 45.3	0.0
	baz=46,SNR=7.2							
KGM	Kluang	46.91	277	P		P	14 55 51.0	+1.5
KSRS	Korea Array	46.91	336	P		P	14 55 50.0	+1.0
	comp=Z,31nm,0.7s,baz=154,slow=8.2,SNR=102							
KSRS				PcP		PcP	14 57 15.1	+1.1
	comp=Z,6.8nm,0.6s,baz=160,slow=3.3,SNR=17							
KSAR	Wonju Array Be	46.92	336	P		P	14 55 50.0	+1.0
KSAR				PcP		PcP	14 57 15.1	+1.1
NJ2	Nanjing	47.17	324	*e*P		P	14 55 51.3	+0.2
NJ2				AMB		AMB		
	comp=Z,60nm,0.9s							
NJ2				AMB		AMB		
	comp=Z,110nm,8.4s							
KTGM	Kuala Trenggan	47.68	282	P		P	14 55 56.6	+1.3
FRIM	Kepong	48.78	279	P		P	14 56 04.3	+0.7
WHN	Wuhan	48.97	319	⇓P		P	14 56 06.0	+1.3
WHN				sP		sP	14 58 11.5	-1.3
WHN				AMB		AMB		
	comp=Z,92nm,1.0s							
ASAJ	Asahikawa	49.35	353	P		P	14 56 08.3	+1.0
ASAJ	Asahikawa	49.35	353	P		P	14 56 08.3	+1.0
	comp=Z,17nm,0.7s,baz=172,slow=7.3,SNR=12

comp=Z,74nm,0.7s,comp=Z,3µm
PKDT Phuket 52.87 284 P **P** **14 56 33.6 -0.1**
comp=Z,139nm,0.9s,comp=Z,1µm
CN2 Changchun 53.33 338 *e*P **P** **14 56 36.8 +0.4**
CN2 *e*S **S** **15 03 35.8 0.0**
CN2 AMB AMB
comp=Z,20nm,0.7s
CN2 AMB AMB
comp=Z,200nm,3.0s
LHMI Lhok Sumawe 53.71 280 ⇑P **P** **14 56 39.5 -0.2**
baz=54,SNR=6.8
NANT Nan 53.80 298 P **P** **14 56 41.1 +0.8**
comp=Z,288nm,1.0s,comp=Z,2µm
KHLT Khaolaem Dam 54.40 292 P **P** **14 56 45.8 +1.2**
comp=Z,47nm,1.1s,comp=Z,579nm
BJI Beijing 54.46 329 P **P** **14 56 44.8 +0.3**
BJI PcP **PcP** **14 57 42.3 +0.2**
BJI S **S** **15 03 52.3 +1.4**
BJI AMB AMB
comp=Z,24nm,0.5s
CRAI Chiangrai 54.61 299 P **P** **14 56 47.1 +1.1**
comp=Z,70nm,1.4s,comp=Z,20µm
KMI Kunming 54.63 306 P **P** **14 56 48.0 +1.7**
KMI PcP **PcP** **14 57 43.8 +0.4**
KMI pP **pP** **14 58 12.5 +1.8**
KMI PP **PP** **14 58 56.0 +1.8**
KMI sP **sP** **14 58 58.3 +2.3**
KMI S **S** **15 03 53.3 -0.8**
KMI sS **sS** **15 06 25.0 -0.3**
KMI SS **SS** **15 07 43.5 -0.9**
KMI AMB AMB
comp=Z,45nm,1.1s
KMI AMB AMB
comp=Z,160nm,3.1s
XAN Xi'an 54.74 318 P **P** **14 56 47.0 +0.3**
XAN AMB AMB
comp=Z,19nm,0.9s
HABR Khabarovsk 54.82 348 *e*P **P** **14 56 46.6 -0.3**
HABR *e* 14 57 42.6
HABR *e**PP **pP** **14 58 11.9 +0.5**
HABR 14 58 54.8
HABR *e**SP **sP** **14 58 58.3 +1.6**
HABR *e*S **S** **15 03 54.9 -0.5**
HABR *e*SS **SS** **15 07 46.7 +0.5**
HABR pmax pmax
comp=Z,105nm,1.3s
HABR MLR MLR
comp=Z,142nm,20.0s
CMAR Chiang Mai Arr 55.24 296 P **P** **14 56 52.0 +1.4**
CMAR PcP **PcP** **14 57 46.5 +0.9**
CMAR pP **pP** **14 58 15.8 +0.7**
CMAR ⇑*e* 15 26 57.6
CMAR Chiang Mai Arr 55.24 296 P **P** **14 56 52.0 +1.4**
comp=Z,42nm,0.9s,baz=116,slow=5.4,SNR=262
CMAR PcP **PcP** **14 57 46.5 +0.9**
comp=Z,5.1nm,0.9s,baz=85,slow=2.0,SNR=4.4
CMAR pP **pP** **14 58 15.8 +0.7**
comp=Z,3.2nm,1.0s,baz=112,slow=4.6,SNR=2.1
CMAR PKP2bc 15 26 57.6
comp=Z,0.2nm,0.3s,baz=274,slow=2.6,SNR=4.3
CHTO Chiang Mai 55.37 297 *e*P **P** **14 56 51.1 -0.2**
CHTO *e* 14 57 45.5
CHTO pmax pmax
comp=Z,58nm,1.0s
CHTO Chiang Mai 55.37 297 *e*P **P** **14 56 51.1 -0.2**
comp=Z,58nm,1.0s
CHTO *e*PcP **PcP** **14 57 45.5 -0.6**
CMAI Chiengmai2 55.67 298 P **P** **14 56 54.5 +0.8**
comp=Z,149nm,0.7s
KLR Kul'dur 56.28 346 *e*P **P** **14 56 54.7 -2.4**
KLR pmax pmax
comp=Z,70nm,1.8s
CD2 Chengdu 56.62 312 P **P** **14 57 00.8 +0.9**
CD2 pP **pP** **14 58 28.3 +3.2**
CD2 PP **PP** **14 59 14.3 +2.7**
CD2 PcS **PcS** **15 01 51.0 -1.3**
CD2 S **S** **15 04 18.5 -1.1**
CD2 sS **sS** **15 06 52.5 +0.6**
CD2 SS **SS** **15 08 15.8 +0.6**
CD2 AMB AMB
comp=Z,80nm,0.8s
CD2 AMB AMB
comp=Z,180nm,4.0s
HHC Hu-ho-hao-te 57.51 326 *e*P **P** **14 57 06.5 +0.5**
HHC pP **pP** **14 58 33.0 +1.5**
HHC PP **PP** **14 59 22.0 +2.6**
HHC PcS **PcS** **15 01 54.5 -1.5**
HHC S **S** **15 04 31.3 +0.3**
HHC ScS **ScS** **15 06 10.5 -2.4**
HHC sS **sS** **15 07 03.0 -0.8**
HHC SS **SS** **15 08 31.3 +2.3**
HHC AMB AMB
comp=Z,74nm,1.1s
HHC AMB AMB
comp=Z,190nm,5.0s
PETK Petropavlovsk- 58.32 6 P **P** **14 57 12.0 +0.9**
PETK 14 57 57.2
PETK Petropavlovsk- 58.32 6 P **P** **14 57 12.0 +0.9**
PETK PcP **PcP** **14 57 57.2 +0.2**
PETK Petropavlovsk- 58.32 6 P **P** **14 57 12.0 +0.9**
comp=Z,32nm,0.6s,baz=169,slow=7.6,SNR=132
PETK PcP **PcP** **14 57 57.2 +0.2**
comp=Z,5.8nm,0.5s,baz=156,slow=6.2,SNR=5.7
LZH Lanzhou 59.32 317 *e*P **P** **14 57 20.3 +1.8**
LZH PcP **PcP** **14 58 03.5 +1.9**
LZH pP **pP** **14 58 48.3 +3.7**
LZH sP **sP** **14 59 31.3 +1.9**
LZH PP **PP** **14 59 39.0 +3.6**
LZH *e*S **S** **15 04 56.8 +2.5**
LZH sS **sS** **15 07 24.5 -3.7**
LZH SS **SS** **15 08 58.5 +0.9**
LZH AMB AMB
comp=Z,430nm,1.2s
LZH AMB AMB
comp=Z,970nm,5.6s
HIA Hailar 60.06 338 *e*P **P** **14 57 22.1 -0.9**
comp=Z,27nm,0.7s
HIA *e*pP **pP** **14 58 47.6 -1.8**
FX1 Attu Island--F 61.01 16 *e*P **P** **14 57 28.6 -0.7**
FX1 Attu Island--F 61.01 16 P **P** **14 57 30.4 +1.2**
comp=Z,79nm,0.6s,baz=213,slow=1.3,SNR=47
IMP Imphal 61.81 301 *e*P **P** **14 57 34.0 -1.2**
GTA Gaotai 63.80 319 ⇓P **P** **14 57 49.0 +1.1**
GTA PcP **PcP** **14 58 21.0 +1.2**
GTA ScP 15 01 45.0
GTA S **S** **15 05 48.8 -1.0**
GTA sS **sS** **15 08 23.3 -2.9**
GTA SS **SS** **15 10 07.8 +0.6**
GTA AMB AMB
comp=Z,37nm,1.1s
GTA AMB AMB
comp=Z,190nm,4.7s
SHL Shillong 63.83 302 ⇓*i*P **P** **14 57 49.5 +1.1**
ULN Ulaanbaatar 64.63 330 *e*P **P** **14 57 52.8 -0.3**
comp=Z,35nm,1.0s
ULN *e*PcP **PcP** **14 58 22.6 -0.4**
SONM Songino Array 64.94 329 P **P** **14 57 56.3 +1.2**
SONM PcP **PcP** **14 58 24.7 +0.4**
SONM ⇑*e* 15 26 38.5
SONM Songino Array 64.94 329 P **P** **14 57 56.3 +1.2**
comp=Z,19nm,0.4s,baz=145,slow=5.2,SNR=174
SONM PcP **PcP** **14 58 24.7 +0.4**
comp=Z,7.2nm,0.5s,baz=159,slow=3.9,SNR=12
SONM PKP2bc 15 26 38.5
comp=Z,0.8nm,0.9s,baz=354,slow=4.3,SNR=4.7
LSA Lhasa 65.89 306 P **P** **14 58 03.0 +1.2**
LSA AMB AMB
comp=Z,40nm,1.0s
LSA Lhasa 65.89 306 *e*P **P** **14 58 01.4 -0.5**
LSA pmax pmax
comp=Z,49nm,0.8s
LSA Lhasa 65.89 306 *e*P **P** **14 58 01.4 -0.5**
comp=Z,49nm,0.8s
CASY Casey 66.92 196 *e*P **P** **14 58 06.5 -0.5**
SEY Seymchan 67.81 1 ⇑*i*P **P** **14 58 13.5 +1.0**
TAPN Taplejung 67.94 302 ⇓*i*P **P** **14 58 15.3 +0.8**
comp=Z,105nm,0.8s
ODAN Odare 68.06 301 ⇓*i*P **P** **14 58 15.9 +0.8**
comp=Z,182nm,0.7s
ZAK Zakamensk 68.15 330 ⇓*i*P **P** **14 58 16.0 +1.0**
ZAK pmax pmax
comp=Z,35nm,1.2s
YAK Yakutsk 68.64 350 *e*P **P** **14 58 17.4 -0.2**
YAK *e* 14 58 37.8
YAK pmax pmax
comp=Z,30nm,1.1s
YAK pmax pmax
comp=N,13nm,1.2s
RAMN Ramite 68.76 301 ⇓*i*P **P** **14 58 20.0 +0.6**
comp=N,48nm,0.6s
UNV Unalaska Valle 69.14 26 *e*P **P** **14 58 20.1 -0.6**
comp=N,26nm,0.6s
JIRN Jiri 69.32 302 ⇓*i*P **P** **14 58 23.6 +0.6**
comp=N,78nm,0.7s
AKUT Akutan 69.65 26 *e*P **P** **14 58 24.9 +1.0**
comp=N,624nm,2.0s
GUN Gumba 69.66 302 ⇓*i*P **P** **14 58 25.7 +0.7**
comp=N,217nm,0.7s
PKI Pulchoki 69.96 302 ⇓*i*P **P** **14 58 27.1 +0.3**
comp=N,124nm,1.0s
PKIN Phulchoki 69.97 302 ⇓*i*P **P** **14 58 26.8 0.0**
comp=N,93nm,1.0s
MOY Mondy 70.08 330 *e*P **P** **14 58 27.8 +1.1**
MOY pmax pmax
comp=Z,48nm,1.5s
KKN Kakani 70.13 302 ⇓*i*P **P** **14 58 28.2 +0.5**
comp=Z,133nm,0.9s
DMN Daman 70.22 302 ⇓*i*P **P** **14 58 29.0 +0.7**
comp=Z,270nm,0.9s
GKN Gorkha 70.74 302 ⇓*i*P **P** **14 58 31.7 +0.5**
comp=Z,154nm,0.7s
KOLN Koldanda 71.55 301 ⇓*i*P **P** **14 58 36.6 +0.5**
comp=Z,185nm,0.7s
DANN Dangsing 71.58 302 ⇓*i*P **P** **14 58 36.6 +0.2**
comp=Z,149nm,0.7s
PYUN Piuthan 72.16 301 ⇓*i*P **P** **14 58 39.9 +0.2**
comp=Z,384nm,0.8s
VNDA Vanda 72.72 177 P **P** **14 58 42.8 +1.1**
VNDA Vanda 72.72 177 P **P** **14 58 42.8 +1.1**
comp=Z,3.4nm,0.7s,baz=331,slow=6.8,SNR=21
HYB Hyderabad 73.70 290 *i*P **P** **14 58 47.5 -1.1**
WMQ Urumqi 73.88 318 P **P** **14 58 49.8 +0.7**
WMQ pP **pP** **15 00 21.8 +1.9**
WMQ sP **sP** **15 01 04.3 +0.8**
WMQ PP **PP** **15 01 42.5 +1.7**
WMQ S **S** **15 07 46.0 -0.7**
WMQ ScS **SKKSac** **15 08 17.3 +0.8**
WMQ AMB AMB
comp=Z,38nm,1.2s
WMQ AMB AMB
comp=Z,180nm,4.6s
CHGN Chignik 74.29 27 *e*P **P** **14 58 50.0 -1.1**
TIXI Tiksi 77.76 353 ⇑*i*P **P** **14 59 09.7 -0.4**
TIXI pmax pmax
comp=Z,18nm,1.2s
SVW2 Sparrevohn 78.25 24 *e*P **P** **14 59 14.6 +1.6**
comp=Z,33nm,0.8s
MK31 Makanchi Array 78.52 320 *e*P **P** **14 59 13.9 -0.9**
MK31 Makanchi Array 78.52 320 *e*P **P** **14 59 13.9 -0.9**
MKAR Makanchi Array 78.52 320 P **P** **14 59 15.4 +0.6**
MKAR Makanchi Array 78.52 320 P **P** **14 59 15.4 +0.6**
MKAR Makanchi Array 78.52 320 P **P** **14 59 15.4 +0.6**
comp=Z,21nm,0.8s,baz=111,slow=6.2,SNR=148
RSO Redoubt South 79.08 25 *e*P **P** **14 59 17.4 -0.3**
ZAA0 Zalesovo Array 79.68 327 *e*P **P** **14 59 18.9 -1.8**
ZALV Zalesovo Beam 79.68 327 P **P** **14 59 20.3 -0.5**
ZALV Zalesovo Beam 79.68 327 P **P** **14 59 20.3 -0.5**
ZALV Zalesovo Beam 79.68 327 P **P** **14 59 20.3 -0.5**
comp=Z,24nm,0.7s,baz=109,slow=5.5,SNR=112
SEW Seward 80.33 26 *e*P **P** **14 59 24.5 +0.5**
comp=Z,49nm,0.7s
PPLA Purkeypile 80.57 23 *e*P **P** **14 59 25.3 -0.2**
KSH Kashi 80.79 311 P P **14 59 30.5 +3.3**
KSH pP pP **15 01 03.5 +3.7**
KSH PP **PP** **15 02 43.3 +5.0**
KSH S **S** **15 09 03.3 +2.8**
KSH sS sS **15 11 47.5 +2.2**
KSH SS **SS** **15 14 30.3 +5.2**
KSH AMB AMB
comp=Z,42nm,1.0s
CAST Castle Rocks 80.88 23 *e*P **P** **14 59 27.0 0.0**
comp=Z,112nm,1.2s
NVS Novosibirsk 80.88 327 *e*P **P** **14 59 25.8 -1.3**
NVS *e* 15 00 59.1
NVS pmax pmax
comp=Z,33nm,1.4s
NVS pmax pmax
comp=N,17nm,1.5s
NVS pmax pmax
comp=E,22nm,1.5s
PMR Palmer 81.17 25 *e*P **P** **14 59 28.4 0.0**
PMR pmax pmax
comp=Z,33nm,0.6s
PMR Palmer 81.17 25 *e*P **P** **14 59 28.4 0.0**
comp=Z,33nm,0.6s
ULHL Ulahol 81.28 314 P **P** **14 59 31.0 +1.2**
SNR=10
TRF Thorofare Moun 81.60 23 *e*P **P** **14 59 30.0 -0.8**
comp=Z,38nm,0.7s
IM04 Indian Mountai 81.62 20 *e*P **P** **14 59 30.2 -0.5**
BPAW Bear Paw Mtn. 81.65 22 *e*P **P** **14 59 31.1 +0.2**
comp=Z,27nm,0.7s
IMA2 Indian Mountai 81.70 20 *e*P **P** **14 59 30.4 -0.9**
TKM2 Tokmak 2 81.92 314 *i*P **P** **14 59 33.9 +0.9**
TKM2 Tokmak 2 81.92 314 P **P** **14 59 33.9 +0.9**
SNR=73
TKM2 Tokmak 2 81.92 314 *e*P **P** **14 59 32.8 -0.3**
KZA Kyzart 81.96 314 P **P** **14 59 35.2 +1.7**
SNR=49
KURK Kurchatov 82.10 323 *d*/*i*P **P** **14 59 33.6 +0.1**
KURK pmax pmax
comp=Z,74nm,1.3s
KURK Kurchatov 82.10 323 *e*P **P** **14 59 33.5 0.0**
comp=Z,52nm,1.0s
KURK Kurchatov 82.10 323 P **P** **14 59 33.2 -0.3**
comp=Z,568nm,1.1s,SNR=53
MCK McKinley 82.26 23 *e*P **P** **14 59 33.6 -0.5**
MCK McKinley 82.26 23 *e*P **P** **14 59 33.6 -0.5**
KBK Karagaybulak 82.31 314 P **P** **14 59 35.8 +0.7**
SNR=13
DIV Divide 82.41 26 *e*P **P** **14 59 35.3 +0.3**
comp=Z,42nm,0.7s
CHMS Chumysh 82.54 314 P **P** **14 59 36.8 +0.8**
SNR=20
FRU Bishkek 82.59 314 *i*P **P** **14 59 38.0 +1.7**
FRU pmax pmax
comp=Z,80nm,1.9s
RAGM Ragged Mountai 82.60 27 *e*P **P** **14 59 36.3 +0.4**
comp=Z,95nm,1.6s
AAK Ala-Archa 82.63 314 *d*/*i*P **P** **14 59 37.7 +1.0**
AAK pmax pmax
comp=Z,168nm,1.6s
AAK Ala-Archa 82.63 314 P **P** **14 59 37.7 +1.0**
SNR=46
AAK Ala-Archa 82.63 314 *e*P **P** **14 59 37.6 +1.0**
comp=Z,122nm,1.6s
AAK Ala-Archa 82.63 314 P **P** **14 59 37.9 +1.3**
comp=Z,233nm,0.6s,SNR=33
USP Ospenovka 82.78 315 P **P** **14 59 38.1 +0.9**
SNR=74
BMRM Bremner River 82.86 27 *e*P **P** **14 59 37.8 +0.6**
AML Almayashu 83.09 313 P **P** **14 59 40.6 +1.3**
SNR=131
EKS2 Erkin-Say 83.16 314 P **P** **14 59 40.7 +1.4**
SNR=52
COLA College 83.21 22 *e*P **P** **14 59 38.1 -0.7**
COLA pmax pmax
comp=Z,59nm,0.8s
COLA College 83.21 22 *e*P **P** **14 59 38.1 -0.7**
comp=Z,59nm,0.8s
PAX Paxson 83.32 25 *e*P **P** **14 59 39.6 0.0**
PAX pmax pmax
comp=Z,40nm,1.4s
PAX Paxson 83.32 25 *e*P **P** **14 59 39.6 0.0**
comp=Z,40nm,1.4s
COLD Coldfoot 83.50 20 *e*P **P** **14 59 41.1 +0.8**
comp=Z,22nm,0.8s
ILAR Eielson Array 83.53 23 P **P** **14 59 39.4 -1.1**
ILAR pP **pP** **15 01 14.1 +0.2**
ILAR PKKPbc **PKKPbc** **15 17 55.9 -3.4**
ILAR Eielson Array 83.53 23 P **P** **14 59 39.4 -1.1**
comp=Z,46nm,0.7s,baz=249,slow=5.0,SNR=488
ILAR pP **pP** **15 01 14.1 +0.2**
comp=Z,2.1nm,0.8s,baz=254,slow=5.0,SNR=3.9
ILAR PKKPbc **PKKPbc** **15 17 55.9 -3.4**
comp=Z,0.5nm,0.6s,baz=2.4,slow=1.3,SNR=12
MENT Mentasta 84.04 25 *e*P **P** **14 59 42.3 -0.7**
DOT Dot Lake 84.18 24 *e*P **P** **14 59 44.2 +0.4**
MAW Mawson 84.18 203 P **P** **14 59 44.4 +0.7**
MAW Mawson 84.18 203 P **P** **14 59 44.4 +0.7**
comp=Z,13nm,0.9s,baz=100,slow=11,SNR=4.2
QSPA South Pole Qui 84.92 180 *e*P **P** **14 59 46.9 -0.7**
comp=Z,18nm,1.1s
KBL Kabul 85.21 305 *e*P **P** **14 59 48.0 -1.7**
KBL pmax pmax
comp=Z,23nm,0.6s
KBL Kabul 85.21 305 *e*P **P** **14 59 48.0 -1.7**
comp=Z,23nm,0.6s
KBL Kabul 85.21 305 P **P** **14 59 49.1 -0.6**
baz=85,SNR=12
KKAR Karatay Array 85.59 314 *e*P **P** **14 59 50.6 -0.6**
KKAR Karatay Array 85.59 314 *e*P **P** **14 59 50.6 -0.6**
EGAK Eagle 85.78 24 *e*P **P** **14 59 51.0 -0.6**
comp=Z,58nm,0.9s
HYT Haines Junctio 86.06 28 *e*P **P** **14 59 53.0 -0.1**
DAWY Dawson 86.26 25 *e*P **P** **14 59 53.7 -0.2**
SKAG Skagway 86.71 30 *e*P **P** **14 59 56.8 +0.7**
comp=Z,13nm,0.9s
BRVK Borovoye 87.69 324 *d*/*i*P **P** **15 00 00.1 -0.8**
BRVK pmax pmax
comp=Z,35nm,1.4s
BRVK Borovoye 87.69 324 *e*P **P** **14 59 60.0 -0.9**
comp=Z,28nm,1.1s
BRVK Borovoye 87.69 324 P **P** **15 00 00.3 -0.6**
comp=Z,143nm,1.1s,SNR=9.1
INK Inuvik 89.77 21 *e*P **P** **15 00 08.3 -1.9**
comp=Z,26nm,1.1s
INK Inuvik 89.77 21 P **P** **15 00 09.7 -0.5**
comp=Z,19nm,1.0s,baz=239,slow=4.4,SNR=27
YBH Yreka Blue Hor 91.48 48 P **P** **15 00 18.4 -0.5**
YBH Yreka Blue Hor 91.48 48 P **P** **15 00 18.4 -0.5**
comp=Z,1.1nm,0.6s,baz=133,slow=2.4,SNR=4.1
SYO Syowa Base 92.43 200 ⇑*e*P **P** **15 00 20.6 -1.9**
SYO Syowa Base 92.43 200 ⇓*e*PcP **P** **15 00 21.2 -1.3**
ABKAR Akbulak array 93.65 319 *e*P **P** **15 00 26.8 -1.7**
SVE Sverdlovsk 93.69 327 *e*P **P** **15 00 26.9 -1.7**
SVE pmax pmax
comp=Z,8.0nm,0.6s
NVAR Mina Array Bea 94.62 52 P **P** **15 00 34.0 +0.5**
NVAR pP **pP** **15 02 07.9 -0.7**
NVAR Mina Array Bea 94.62 52 P **P** **15 00 34.0 +0.5**
comp=Z,1.3nm,0.6s,baz=261,slow=6.4,SNR=12
NVAR pP **pP** **15 02 07.9 -0.7**
comp=Z,1.3nm,0.7s,baz=258,slow=6.1,SNR=7.3
ARU Arti 94.82 326 *d*/*i*P **P** **15 00 31.6 -2.1**
ARU 15 04 25.3
ARU S **SKSac** **15 10 25.1 -3.5**
ARU pmax pmax
comp=Z,17nm,1.2s
ARU Arti 94.82 326 *e*P **P** **15 00 31.9 -1.8**
NEW Newport 95.81 42 P **P** **15 00 38.3 -0.2**
NEW Newport 95.81 42 P **P** **15 00 38.3 -0.2**
comp=Z,2.1nm,0.4s,baz=315,slow=4.3,SNR=3.2
SOKR Solikamsk 95.81 329 ⇓*i*P **P** **15 00 36.5 -1.6**
SOKR pmax pmax
comp=Z,20nm,1.1s
YKA Yellowknife Ar 97.05 28 P Pdif 15 00 44.4 +0.8
YKA Yellowknife Ar 97.05 28 P Pdif 15 00 44.4 +0.8
comp=Z,1.6nm,0.7s,baz=274,slow=4.9,SNR=7.7
KEV Kevo 105.62 342 *e*P **Pdif** **15 01 19.4 -2.2**
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 105.62 342 *ep* **Pdif** **15 01 19.4 -2.2**
comp=Z,0.5nm,0.3s
KIV Kislovodsk 105.75 314 ⇑*i*P **Pdif** **15 01 20.4 -2.6**
KIV *i* 15 05 52.1
KIV *e* 15 11 26.7
KIV *e*SS SS 15 20 13.2 -5.0
KIV pmax pmax
comp=Z,5.0nm,0.5s
ARCES ARCESS Array B 106.19 342 Pdif **Pdif** **15 01 24.3 0.0**
ARCES PKiKP **PKiKP** **15 05 32.5 -0.9**
ARCES PKKPbc **PKKPbc** **15 16 55.0 -4.0**
ARCES ARCESS Array B 106.19 342 Pdiff **Pdif** **15 01 24.3 0.0**
comp=Z,3.4nm,0.6s,baz=73,slow=7.3,SNR=19
ARCES PKiKP **PKiKP** **15 05 32.5 -0.9**
comp=Z,3.3nm,0.9s,baz=5.7,slow=0.9,SNR=4.6
ARCES PKKPbc **PKKPbc** **15 16 55.0 -4.0**
comp=Z,0.7nm,0.4s,baz=237,slow=2.4,SNR=12
JOF Joensuu 107.14 335 *e*P **Pdif** **15 01 26.8 -1.7**
JOF pmax pmax
comp=Z,1.0nm,0.4s
JOF Joensuu 107.14 335 *ep* **Pdif** **15 01 26.8 -1.7**
comp=Z,1.1nm,0.4s
OBN Obninsk 107.26 326 ⇑*i*P **Pdif** **15 01 32.6 +3.4**
OBN *e* 15 06 05.3
OBN pmax pmax
comp=Z,9.0nm,0.8s
ULM Lac du Bonnet 109.32 38 PKiKP **PKiKP** **15 05 38.9 -0.8**
ULM Lac du Bonnet 109.32 38 PKiKP **PKiKP** **15 05 38.9 -0.8**
comp=Z,2.8nm,0.6s,baz=276,slow=3.0,SNR=3.1
KAF Kangasniemi 109.58 335 *e*P **Pdif** **15 01 34.0 -5.4**
KAF pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 109.99 335 Pdif **Pdif** **15 01 40.0 -1.3**
FINES PKiKP **PKiKP** **15 05 38.8 -1.8**
FINES FINESS Array B 109.99 335 Pdiff **Pdif** **15 01 40.0 -1.3**
comp=Z,2.7nm,0.5s,baz=60,slow=4.1,SNR=18
FINES PKiKP **PKiKP** **15 05 38.8 -1.8**
comp=Z,2.2nm,1.0s,baz=80,slow=3.4,SNR=3.7
KSU1 Kansas State U 111.44 50 *e*PKPdf **PKiKP** **15 05 42.0 -2.2**
AKASG Malin Array Be 112.90 324 PKiKP **PKiKP** **15 05 45.2 -1.3**
AKASG 15 06 41.9
AKASG Malin Array Be 112.90 324 PKiKP **PKiKP** **15 05 45.2 -1.3**
AKASG PP **PP** **15 06 41.9 -0.1**
AKASG Malin Array Be 112.90 324 PKiKP **PKiKP** **15 05 45.2 -1.3**
comp=Z,0.5nm,0.5s,baz=56,slow=2.7,SNR=4.2
AKASG PP **PP** **15 06 41.9 -0.1**
comp=Z,0.2nm,0.2s,baz=61,slow=5.9,SNR=5.7
BRTR Keskin Array B 113.18 311 PKiKP **PKiKP** **15 05 46.4 -1.2**
BRTR PP **PP** **15 06 44.0 -0.6**
BRTR Keskin Array B 113.18 311 PKiKP **PKiKP** **15 05 46.4 -1.2**
comp=Z,1.1nm,0.9s,baz=43,slow=1.8,SNR=3.4
BRTR PP **PP** **15 06 44.0 -0.6**
comp=Z,0.6nm,0.8s,baz=103,slow=6.7,SNR=5.0
NB2 NORSAR Subarra 116.07 339 PKPdf **PKPdf** **15 05 51.3 -1.1**
comp=Z,2.9nm,1.1s,baz=44,slow=1.9
NOA NORSAR Array B 116.07 339 PKP **PKPdf** **15 05 52.2 -0.2**
NOA NORSAR Array B 116.07 339 PKP **PKPdf** **15 05 52.2 -0.2**
comp=Z,0.9nm,0.7s,baz=254,slow=1.6,SNR=4.1
BOSA Boshof 117.03 234 PKP **PKPdf** **15 05 55.1 -0.3**
BOSA Boshof 117.03 234 PKP **PKPdf** **15 05 55.1 -0.3**
comp=Z,5.0nm,0.7s,baz=162,slow=4.3,SNR=11
KOLS Kolonicke sedl 117.73 324 *e*PKiKP **PKPdf** **15 05 55.7 -0.2**
KOLS Kolonicke sedl 117.73 324 *e*PKP **PKPdf** **15 05 55.7 -0.2**
STHS Stebnicka Huta 118.11 325 *e*PKiKP **PKPdf** **15 05 54.6 -2.0**
STHS Stebnicka Huta 118.11 325 *e*PKP **PKPdf** **15 05 54.6 -2.0**
KECS Kecovo 118.99 324 *e*PKiKP **PKPdf** **15 05 57.3 -1.0**
KECS Kecovo 118.99 324 *e*PKP **PKPdf** **15 05 57.3 -1.0**
APG El Apazote 120.04 76 PKP **PKPdf** **15 06 00.3 -1.2**
APG El Apazote 120.04 76 PKP **PKPdf** **15 06 00.3 -1.2**
comp=Z,1.1nm,0.4s,baz=163,slow=19,SNR=2.8
BRG Berggiesshubel 121.34 329 *e*PKP **PKPdf** **15 06 03.0 +0.2**
comp=Z,6.6nm,1.1s
BRG Berggiesshubel 121.34 329 *e*PKiKP **PKPdf** **15 06 03.0 +0.3**
BRG pmax pmax
comp=Z,7.0nm,1.1s
PLCA Paso Flores 121.38 145 PKP **PKPdf** **15 06 04.3 +1.0**
PLCA PKKPbc **PKKPbc** **15 16 06.2 -1.0**
PLCA Paso Flores 121.38 145 PKP **PKPdf** **15 06 04.3 +1.0**
comp=Z,3.9nm,0.7s,baz=227,slow=2.7,SNR=13
PLCA PKKPbc **PKKPbc** **15 16 06.2 -1.0**
comp=Z,1.4nm,0.7s,baz=78,slow=1.3,SNR=5.0
PRU Pruhonice 121.53 328 *e*PKiKP **PKPdf** **15 06 03.4 +0.2**
PRU Pruhonice 121.53 328 *e*PKPdf **PKPdf** **15 06 03.4 +0.2**
CLL Collm 121.56 330 ⇑*i*PKiKP **PKPdf** **15 06 03.2 +0.1**
CLL *e* 15 07 44.0
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 121.56 330 ⇑*i*PKPdf **PKPdf** **15 06 03.2 +0.1**
comp=Z,7.0nm,1.0s
CLL *ep*PKPdf **pPKPdf** **15 07 44.0 +0.5**
SCHQ Schefferville 122.27 24 PKP **PKPdf** **15 06 04.5 +0.1**
SCHQ Schefferville 122.27 24 PKP **PKPdf** **15 06 04.5 +0.1**
comp=Z,5.7nm,0.9s,baz=194,slow=4.2,SNR=3.4
NKC Novy Kostel 122.48 329 *e*PKiKP **PKPdf** **15 06 05.0 0.0**
NKC Novy Kostel 122.48 329 *e*PKPdf **PKPdf** **15 06 05.0 0.0**
KHC Kasperske Hory 122.54 327 *e*PKiKP **PKPdf** **15 06 04.9 -0.3**
KHC Kasperske Hory 122.54 327 *e*PKPdf **PKPdf** **15 06 04.9 -0.3**
GERES GERESS Array B 122.63 327 PKP **PKPdf** **15 06 05.4 0.0**
GERES GERESS Array B 122.63 327 PKP **PKPdf** **15 06 05.4 0.0**
comp=Z,3.7nm,0.5s,baz=84,slow=1.4,SNR=29
JTS JuntasAbangare 125.59 81 PKP **PKPdf** **15 06 12.4 +0.5**
JTS JuntasAbangare 125.59 81 PKP **PKPdf** **15 06 12.4 +0.5**
comp=Z,3.2nm,0.4s,baz=282,slow=23,SNR=5.1

GIVF Givet 126.28 333 ePKIKP PKPdf 15 06 13.0 +0.7
GIVF Givet 126.28 333 ePKIKP PKPdf 15 06 13.0 +0.7
GIVF Givet 126.28 333 ePKIKP PKPdf 15 06 13.0 +0.7
TUE Stuetta 126.41 327 ePKPdf PKPdf 15 06 12.1 -0.8
BAIF Baives 126.59 333 ePKIKP PKPdf 15 06 13.5 +0.7
comp=Z,6.4nm,0.6s
BAIF Baives 126.59 333 ePKIKP PKPdf 15 06 13.5 +0.7
BAIF Baives 126.59 333 ePKPdf PKPdf 15 06 13.5 +0.7
HINF Hinteralfeld 126.87 329 ePKIKP PKPdf 15 06 13.6 +0.1
HINF Hinteralfeld 126.87 329 ePKIKP PKPdf 15 06 13.6 +0.1
HINF Hinteralfeld 126.87 329 ePKPdf PKPdf 15 06 13.6 +0.1
SFTF Sexfontaines 127.50 331 ePKIKP PKPdf 15 06 15.0 +0.3
SFTF Sexfontaines 127.50 331 ePKPdf PKPdf 15 06 15.0 +0.3
CABF La Chapelle 128.06 329 ePKIKP PKPdf 15 06 16.7 +0.8
CABF La Chapelle 128.06 329 ePKIKP PKPdf 15 06 16.7 +0.8
CABF La Chapelle 128.06 329 ePKPdf PKPdf 15 06 16.7 +0.8
LPL La Plagne 128.43 327 ePKIKP PKPdf 15 06 17.4 +0.6
LPL La Plagne 128.43 327 ePKIKP PKPdf 15 06 17.4 +0.6
LPL La Plagne 128.43 327 ePKPdf PKPdf 15 06 17.4 +0.6
LPG La Plagne 128.43 327 ePKIKP PKPdf 15 06 17.5 +0.6
LPG La Plagne 128.43 327 ePKIKP PKPdf 15 06 17.5 +0.6
LPG La Plagne 128.43 327 ePKPdf PKPdf 15 06 17.5 +0.6
LCO Las Campanas 128.45 133 ePKPdf PKPdf 15 06 17.4 0.0
CFAA Coronel Fontan 128.64 138 PKP PKPdf 15 06 18.0 +0.6
CFAA SKPbc SKiKP 15 09 03.2 -11
CFAA Coronel Fontan 128.64 138 PKP PKPdf 15 06 18.0 +0.6
comp=Z,1.1nm,0.7s,baz=234,slow=2.0,SNR=14
CFAA SKPbc SKiKP 15 09 03.2 -11
comp=Z,0.4nm,0.8s,baz=186,slow=4.1,SNR=4.5
LOR Lormes 128.73 331 ePKIKP PKPdf 15 06 17.3 +0.3
LOR Lormes 128.73 331 ePKPdf PKPdf 15 06 17.3 +0.3
PGF Pioggiola 128.97 323 ePKIKP PKPdf 15 06 17.7 -0.1
comp=Z,9.3nm,0.4s
PGF Pioggiola 128.97 323 ePKIKP PKPdf 15 06 17.7 -0.1
PGF Pioggiola 128.97 323 ePKPdf PKPdf 15 06 17.7 -0.1
SSF Saint Saulge 129.04 331 ePKIKP PKPdf 15 06 18.4 +0.8
comp=Z,14nm,1.1s
SSF Saint Saulge 129.04 331 ePKIKP PKPdf 15 06 18.4 +0.8
SSF Saint Saulge 129.04 331 ePKPdf PKPdf 15 06 18.4 +0.8
SMF Signal de Mont 129.17 330 ePKIKP PKPdf 15 06 18.6 +0.7
SMF Signal de Mont 129.17 330 PKIKP PKPdf 15 06 18.6 +0.7
SMF Signal de Mont 129.17 330 ePKPdf PKPdf 15 06 18.6 +0.7
ORIF Oris-en-Rattie 129.28 327 ePKIKP PKPdf 15 06 18.8 +0.5
comp=Z,7.4nm,0.6s
ORIF Oris-en-Rattie 129.28 327 ePKIKP PKPdf 15 06 18.8 +0.5
ORIF Oris-en-Rattie 129.28 327 ePKPdf PKPdf 15 06 18.8 +0.5
AVF Avril sur Loir 129.31 331 ePKIKP PKPdf 15 06 18.7 +0.6
AVF Avril sur Loir 129.31 331 ePKIKP PKPdf 15 06 18.7 +0.6
AVF Avril sur Loir 129.31 331 ePKPdf PKPdf 15 06 18.7 +0.6
LMR La Mourre 129.94 325 ePKIKP PKPdf 15 06 20.0 +0.6
LMR La Mourre 129.94 325 ePKIKP PKPdf 15 06 20.0 +0.6
LMR La Mourre 129.94 325 ePKPdf PKPdf 15 06 20.0 +0.6
VIVF Saint-Julien-l 129.96 328 ePKIKP PKPdf 15 06 20.2 +0.7
comp=Z,3.7nm,0.5s
VIVF Saint-Julien-l 129.96 328 ePKIKP PKPdf 15 06 20.2 +0.7
VIVF Saint-Julien-l 129.96 328 ePKPdf PKPdf 15 06 20.2 +0.7
TCF Toulx Ste Croi 130.22 331 ePKIKP PKPdf 15 06 20.9 +1.0
comp=Z,12nm,0.9s
TCF Toulx Ste Croi 130.22 331 ePKIKP PKPdf 15 06 20.9 +1.0
TCF Toulx Ste Croi 130.22 331 ePKPdf PKPdf 15 06 20.9 +1.0
ATAH Atahualpa 130.46 104 PKP PKPdf 15 06 23.2 +1.4
ATAH SKPbc SKPab 15 09 12.6 +6.1
ATAH Atahualpa 130.46 104 PKP PKPdf 15 06 23.2 +1.4
comp=Z,8.5nm,0.9s,baz=18,slow=5.9,SNR=5.6
ATAH SKPbc SKPab 15 09 12.6 +6.1
comp=Z,12nm,0.8s,baz=154,slow=6.7,SNR=8.7
NNA Nana 130.68 110 PKP PKPdf 15 06 22.6 +1.0
NNA SKPbc SKPab 15 09 10.7 +3.7
NNA Nana 130.68 110 PKP PKPdf 15 06 22.7 +1.0
comp=Z,3.0nm,0.3s,baz=348,slow=12,SNR=3.8
NNA SKPbc SKPab 15 09 10.7 +3.7
comp=Z,4.5nm,0.3s,baz=200,slow=9.8,SNR=5.6
CAF Calviac 131.26 330 ePKIKP PKPdf 15 06 23.0 +1.1
comp=Z,8.2nm,0.9s
CAF Calviac 131.26 330 ePKIKP PKPdf 15 06 23.0 +1.1
CAF Calviac 131.26 330 ePKPdf PKPdf 15 06 23.0 +1.1
KEST Kesra 132.48 315 PKP PKPdf 15 06 24.8 +0.2
KEST Kesra 132.48 315 PKP PKPdf 15 06 24.8 +0.2
comp=Z,1.0nm,0.6s,baz=270,slow=4.0,SNR=3.3
SJPF Ste Jean 134.21 330 ePKIKP PKPdf 15 06 29.2 +1.7
SJPF Ste Jean 134.21 330 ePKIKP PKPdf 15 06 29.2 +1.7
SJPF Ste Jean 134.21 330 ePKPdf PKPdf 15 06 29.2 +1.7
ROSC El Rosal 136.09 88 PKP PKPdf 15 06 32.1 -0.3
ROSC El Rosal 136.09 88 PKP PKPdf 15 06 32.1 -0.3
comp=Z,7.0nm,0.3s,baz=70,slow=22,SNR=4.1
LPAZ La Paz 136.95 120 PKhKP PKPpre 15 06 23.8
comp=Z,1.3nm,0.6s,baz=29,slow=8.5,SNR=4.6
LPAZ SKPbc SKiKP 15 09 32.0 -0.4
comp=Z,5.3nm,0.9s,baz=253,slow=7.0,SNR=13
CPUP Villa Florida 139.25 141 PKP PKPdf 15 06 35.5 -1.8
CPUP SKPbc SKiKP 15 09 35.9 -0.2
CPUP Villa Florida 139.25 141 PKP PKPdf 15 06 35.5 -1.8
comp=Z,5.2nm,0.8s,baz=333,slow=2.3,SNR=5.5
CPUP SKPbc SKiKP 15 09 35.8 -0.2
comp=Z,3.2nm,0.7s,baz=273,slow=4.5,SNR=4.3
SIV San Ignacio 143.03 125 PKPpre PKPpre 15 06 41.6
SIV San Ignacio 143.03 125 PKhKP PKPpre 15 06 41.6
comp=Z,9.6nm,0.7s,baz=258,slow=5.1,SNR=14
SAML Samuel 144.35 113 ePKPdf PKPbc 15 06 45.2 -0.9
TORD Torodi Ar. Bea 147.48 287 PKP PKPdf 15 06 50.9 -1.0
TORD PKPbc PKPbc 15 06 54.8 -0.3
TORD PP PP 15 10 22.3 -3.2
TORD Torodi Ar. Bea 147.48 287 PKP PKPdf 15 06 50.9 -1.0
comp=Z,29nm,0.6s,baz=38,slow=3.0,SNR=240
TORD PKPbc PKPbc 15 06 54.8 -0.3
comp=Z,29nm,0.6s,baz=41,slow=3.3,SNR=248
TORD PP PP 15 10 22.3 -3.2
comp=Z,2.4nm,0.8s,baz=54,slow=4.5,SNR=2.1
BDFB Brasilia 152.95 140 PKP PKPdf 15 07 01.8 +1.2
BDFB PKPbc PKiKP 15 07 08.7 +0.4
BDFB PKPab PKPab 15 07 21.3 +0.2
BDFB Brasilia 152.95 140 PKP PKPdf 15 07 01.8 +1.2
comp=Z,3.5nm,0.6s,baz=185,slow=4.4,SNR=5.3
BDFB PKPbc PKiKP 15 07 08.7 +0.4
comp=Z,17nm,0.6s,baz=222,slow=1.1,SNR=13
BDFB PKPab PKPab 15 07 21.3 +0.2
comp=Z,5.1nm,0.6s,baz=152,slow=3.4,SNR=4.9
DBIC Dimbokro 154.69 275 PKPbc PKPbc 15 07 11.6 -0.3
DBIC Dimbokro 154.69 275 PKPbc PKPbc 15 07 11.6 -0.3
comp=Z,3.9nm,0.5s,baz=79,slow=2.7,SNR=5.7
LIC Lamto 154.87 274 ePKP1 PKPbc 15 07 11.7 -0.6
comp=Z,12nm,0.5s

*ISCJB **30** 14:55:59.0±0.2, 15°.43S±0°.04×70°.61W±0°.05,h193km, mb4.2/20, Error ellipse: s-maj=7.7km s-min=4.2km az=144.7*
*NEIC **30** 14:55:59.3±0.5, 15°.32S×70°.53W,h183km±5km,mb4.4/8, Error ellipse: s-maj=10.7km s-min=6.2km az=47.0*
*IDC **30** 14:56:01.1±0.9, 15°.32S×70°.41W,h198km±7km,mb4.0/14, mb1 4.1/19,mb1mx4.0/29,mbtmp3.9/19,Error ellipse: s-maj=15.6km s-min=10.2km az=49.0*
ISC 30 14:56:00.2±0.4, 15°.38S±0°.07×70°.57W±0°.06, h193km, n329,σ1§11/336, mb4.4/20, 133C-116D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ARE	Arequipa	1.40	219	⇑iP		Pn		14 56 31.4	-1.3
ARE				*i* S		Sn		14 56 56.0	-2.0
LPAZ	La Paz	2.52	111	P		Pn		14 56 45.7	+1.2
LPAZ				S		Sn		14 57 18.9	0.0
LPAZ	La Paz	2.52	111	P		Pn		14 56 45.7	+1.2
	118nm,0.3s,baz=295,slow=9.3,SNR=2308								
LPAZ				S		Sn		14 57 18.9	0.0
	47nm,0.3s,baz=41,slow=21,SNR=14								
NNA	Nana	6.96	298	P		Pn		14 57 39.2	-0.8
NNA	Nana	6.96	298	P		Pn		14 57 39.2	-0.8
	2.9nm,0.3s,baz=139,slow=8.8,SNR=9.3								
NNA				S		Sn		14 58 55.8	-3.3
	6.3nm,0.3s,baz=215,slow=16,SNR=8.1								
LVC	Limon Verde	7.37	168	*e*Pn		Pn		14 57 43.2	-2.3
SIV	San Ignacio	9.17	95	P		Pn		14 58 07.2	-1.6
SIV				S		Sn		15 00 00.5	+9.0
SIV	San Ignacio	9.17	95	P		Pn		14 58 07.2	-1.6
	1.9nm,0.3s,baz=287,slow=12,SNR=22								
SIV				S		Sn		15 00 00.5	+9.0
	0.7nm,0.3s,baz=198,slow=23,SNR=10								
ATAH	Atahualpa	11.22	316	P		Pn		14 58 36.0	+0.2
ATAH	Atahualpa	11.22	316	P		Pn		14 58 36.0	+0.2
	0.4nm,0.3s,baz=51,slow=15,SNR=4.4								
CFAA	Coronel Fontan	16.30	173	P		Pn		14 59 38.5	+0.1
CFAA				S		S		15 02 29.8	-8.7
CFAA	Coronel Fontan	16.30	173	P		Pn		14 59 38.5	+0.1
	0.3nm,0.3s,baz=352,slow=11,SNR=28								
CFAA				S		S		15 02 29.8	-8.7
	0.1nm,0.3s,baz=214,slow=14,SNR=5.2								
CPUP	Villa Florida	16.48	134	P		P		14 59 40.2	+0.4
CPUP	Villa Florida	16.48	134	P		P		14 59 40.2	+0.4
	1.9nm,0.3s,baz=304,slow=7.9,SNR=11								
OTAV	Otavalo	17.36	333	*e*P		P		14 59 47.5	-2.6
	14nm,0.9s								
H03N1	Juan Fernandez	19.51	201	T		T		15 18 26.1	
	baz=26,slow=0.7,SNR=14								
H03N2	Juan Fernandez	19.52	201	T		T		15 18 26.3	
	baz=26,slow=0.7,SNR=34								
H03N3	Juan Fernandez	19.53	201	T		T		15 18 34.8	
	baz=26,slow=0.7,SNR=8.6								
BDFB	Brasilia	21.74	94	P		P		15 00 34.5	-2.1
BDFB	Brasilia	21.74	94	P		P		15 00 34.5	-2.1
	5.8nm,0.6s,baz=257,slow=16,SNR=7.0								
PLCA	Paso Flores	25.27	180	P		P		15 01 08.9	+0.2
PLCA	Paso Flores	25.27	180	P		P		15 01 08.9	+0.2
	3.4nm,0.5s,baz=359,slow=11,SNR=16								
USHA	Ushuaia	39.41	178	P		P		15 03 11.4	+0.4
USHA	Ushuaia	39.41	178	P		P		15 03 11.4	+0.4
	3.9nm,0.5s,baz=5.0,slow=10,SNR=6.3								
631A	Perdido Creek	53.12	327	⇓P		P		15 04 58.3	+0.1
	baz=53,SNR=5.4								
532A	Rocksprings	53.34	328	⇓P		P		15 05 01.5	+1.6
	baz=54								
JCT	Junction City	53.58	328	⇓P		P		15 05 02.5	+1.0
	baz=54								
WHTX	Lake Whitney	53.69	332	⇑P		P		15 05 03.0	+0.8
	baz=54								
531A	Rocksprings	53.70	328	⇓P		P		15 05 03.5	+1.1
	baz=54,SNR=6.5								
432A	Menard	53.89	329	⇑P		P		15 05 04.1	+0.3
	baz=54,SNR=6.8								
530A	J-C Ranch, Com	54.11	327	⇑P		P		15 05 05.0	-0.4
	baz=54								
431A	Sonora	54.15	328	⇑P		P		15 05 05.9	+0.2
	baz=54,SNR=5.2								
332A	Millersview	54.28	329	⇑P		P		15 05 06.9	+0.3
	baz=54,SNR=8.7								
628A	Black Gap, Mar	54.43	325	⇑P		P		15 05 08.4	+0.7
	baz=55								
529A	Stev Forest Ra	54.56	326	⇑P		P		15 05 08.9	+0.3
	baz=55,SNR=7.2								
430A	Baggett Ranch,	54.56	327	⇓P		P		15 05 09.1	+0.5
	baz=55								
331A	San Angelo	54.56	328	⇑P		P		15 05 09.2	+0.6
	baz=55								
232A	Coleman	54.64	330	⇑P		P		15 05 09.6	+0.4
	baz=55,SNR=12								
627A	Terlingua Ranc	54.68	325	⇑P		P		15 05 10.0	+0.4
	baz=55								
TXAR	Lajitas Array	54.74	324	P		P		15 05 10.1	0.0
TXAR	Lajitas Array	54.74	324	P		P		15 05 10.1	0.0
	1.4nm,0.8s,baz=147,slow=9.2,SNR=9.7								
429A	Davenport Ranc	54.77	327	⇑P		P		15 05 10.3	+0.1
	baz=55,SNR=5.8								
330A	Mertzon	55.02	328	⇑P		P		15 05 12.0	+0.1
	baz=55								
626A	Big Bend Ranch	55.17	324	⇑P		P		15 05 14.0	+0.9
	baz=55,SNR=6.6								
ABTX	Abilene, Hawle	55.24	330	⇓P		P		15 05 14.3	+0.8
	baz=55								
428A	Kincaid Ranch,	55.28	326	⇑P		P		15 05 15.1	+1.3
	baz=56								
527A	Woodward Ranch	55.33	325	⇑P		P		15 05 14.3	0.0
	baz=56								
329A	Wagon Wheel Ra	55.50	327	⇓P		P		15 05 15.8	+0.4
	baz=56								
526A	Mary Lane Ranc	55.53	325	⇓P		P		15 05 16.3	+0.6
	baz=56								
131A	Roby	55.65	329	⇑P		P		15 05 17.1	+0.7
	baz=56,SNR=7.4								
Z32A	Haskell	55.73	331	⇓P		P		15 05 17.0	+0.1
	baz=56								
229A	Bryant Ranch,	55.79	328	⇑P		P		15 05 18.1	+0.7
	baz=56								
328A	Wristen Ranch,	55.85	327	⇓P		P		15 05 18.5	+0.6
	baz=56,SNR=7.1								
426A	McDonald Obser	55.97	325	⇑P		P		15 05 19.0	+0.1
	baz=56								
Z31A	Sharp Cattle R	56.05	330	⇓P		P		15 05 19.8	+0.6
	baz=56,SNR=7.0								
Y32A	R-V Farms, Ver	56.28	331	⇓P		P		15 05 21.5	+0.7
	baz=56								
228A	UT Block 9, Go	56.32	327	⇓P		P		15 05 21.5	+0.3
	baz=56								
129A	Stewart Farms,	56.35	328	⇓P		P		15 05 21.8	+0.4
	baz=56								
326A	Caldwell Ranch	56.43	326	⇓P		P		15 05 22.5	+0.5
	baz=57								
Z30A	Sanderson Ranc	56.51	329	⇓P		P		15 05 22.7	+0.3
	baz=57,SNR=9.1								
425A	Indio Mountain	56.59	324	⇑P		P		15 05 23.4	+0.3
	baz=57,SNR=5.7								
Y31A	Rekieta Farm,	56.63	330	⇑P		P		15 05 23.8	+0.5
	baz=57,SNR=9.6								
128A	Castleberry Fa	56.66	328	⇑P		P		15 05 24.1	+0.6
	baz=57								
Z29A	Hungry Hill Ra	56.77	329	⇓P		P		15 05 24.6	+0.3
	baz=57								
Y30A	Stafford Cattl	56.87	330	⇓P		P		15 05 25.6	+0.6
	baz=57								
325A	Bean Ranch, Si	57.02	325	⇑P		P		15 05 26.5	+0.2
	baz=57,SNR=8.4								
X31A	McDonald Ranch	57.05	331	⇓P		P		15 05 26.4	+0.2
	baz=57,SNR=5.8								
226B	Tecolote Peak,	57.12	326	⇑P		P		15 05 27.2	+0.4
	baz=57,SNR=5.2								
Z28A	Tucker Farm, M	57.14	328	⇑P		P		15 05 27.2	+0.3
	baz=57								
X30A	Coker Ranch, T	57.32	330	⇑P		P		15 05 28.7	+0.5
	baz=58								
324A	Moseley Ranch,	57.36	324	⇑P		P		15 05 28.8	+0.2
	baz=58,SNR=6.1								
126A	Clayton Basin,	57.48	327	⇓P		P		15 05 30.3	+0.9
	baz=58								
225A	Deer Hill, Car	57.50	326	⇑P		P		15 05 30.3	+0.7
	baz=58								
Z27A	Tatum	57.58	328	⇑P		P		15 05 30.1	+0.1
	baz=58,SNR=9.6								
X29A	Tulia	57.72	330	⇓P		P		15 05 31.3	+0.3
	baz=58								
125A	Gardner Draw,	57.83	326	⇑P		P		15 05 31.9	0.0
	baz=58								
224A	Cornudas Mount	57.86	325	⇓P		P		15 05 31.8	-0.3
	baz=58,SNR=5.9								
MSTX	Muleshoe	57.87	328	⇓P		P		15 05 32.3	+0.2
	baz=58,SNR=6.3								
V31A	Spring Creek L	57.93	332	⇑P		P		15 05 32.4	0.0
	baz=58								
Z26A	Caprock	57.95	327	⇑P		P		15 05 33.2	+0.6
	baz=58,SNR=6.3								
Y27A	Causey	58.00	328	⇑P		P		15 05 33.1	+0.1
	baz=58,SNR=7.7								
AMTX	Amarillo	58.06	330	⇓P		P		15 05 33.7	+0.3
	baz=58								
W29A	Amraillo	58.24	330	⇑P		P		15 05 34.8	+0.2
	baz=58								
124A	Stringfield Ra	58.30	325	⇓P		P		15 05 36.3	+1.1
	baz=58								
T33A	Patterson Ranc	58.33	334	⇓P		P		15 05 35.8	+0.7
	baz=58								
Z25A	Roswell	58.34	326	⇑P		P		15 05 35.3	-0.1
	baz=58								
T32A	Huddler Ranch,	58.70	334	⇓P		P		15 05 38.5	+0.9
	baz=59								
Z24A	Sheeppen Canyo	58.73	326	⇑P		P		15 05 38.5	+0.4
	baz=59,SNR=6.3								
X26A	CR and CF Fran	58.86	328	⇑P		P		15 05 38.9	0.0
	baz=59,SNR=7.2								
W27A	Bowe Ranch, En	58.88	329	⇓P		P		15 05 39.7	+0.6
	baz=59								
S32A	Newby Ranch, P	59.15	334	⇓P		P		15 05 41.7	+1.0
	baz=59								
S31A	Mullinville	59.31	333	⇑P		P		15 05 42.9	+1.0
	baz=60								
220A	Playas Peak, P	59.45	323	⇑P		P		15 05 44.6	+1.6
	baz=60								
121A	Cookes Peak, D	59.48	324	⇓P		P		15 05 44.8	+1.5
	baz=60								
319A	Douglas	59.52	322	⇓P		P		15 05 44.6	+1.2
	baz=60								
Y23A	Lovelace Mesa,	59.56	326	⇓P		P		15 05 44.6	+0.8
	baz=60								
W25A	X Bar L Ranch,	59.71	328	⇓P		P		15 05 44.9	+0.2
	baz=60,SNR=5.1								
T29A	Hugoton	59.73	332	⇑P		P		15 05 45.7	+1.0
	baz=60								
V26A	Tequesquite Ra	59.82	329	⇑P		P		15 05 46.3	+0.8
	baz=60,SNR=10								
U27A	Thompson Grove	59.85	330	⇑P		P		15 05 46.5	+0.9
	baz=60								
120A	U Bar Ranch, L	59.97	323	⇑P		P		15 05 47.5	+0.8
	baz=60								
Z21A	St. Cloud Mine	59.98	324	⇑P		P		15 05 48.2	+1.5
	baz=60								
S29A	Ulysses	60.03	332	⇓P		P		15 05 47.5	+0.7
	baz=60								
Y22A	Socorro	60.06	325	⇓P		P		15 05 47.8	+0.6
	baz=60								
Q32A	Meitler Ranch,	60.09	335	⇑P		P		15 05 47.6	+0.5
	baz=60								
W24A	Lazy 6 Ranch,	60.19	327	⇓P		P		15 05 49.1	+1.0
	baz=60								
R30A	Dighton	60.21	333	⇑P		P		15 05 48.9	+1.0
	baz=60								
V25A	Rancho No Teng	60.27	328	⇑P		P		15 05 49.5	+0.9
	baz=60,SNR=10.0								
U26A	Atchley Ranch,	60.28	329	⇓P		P		15 05 49.2	+0.6
	baz=60,SNR=6.9								
T27A	Campo	60.32	331	⇑P		P		15 05 49.6	+0.7
	baz=60								
S28A	Manter	60.36	332	⇑P		P		15 05 49.9	+0.9
	baz=61								
Z20A	Nine Sixteen R	60.36	324	⇓P		P		15 05 50.5	+1.2
	baz=60								
Q31A	Ellis	60.44	334	⇑P		P		15 05 50.6	+1.1
	baz=61								
LAZ	Ladron	60.50	326	*e*P		P		15 05 50.1	-0.1
	4.3nm,1.2s								
Y21A	Point of Rocks	60.50	325	⇓P		P		15 05 51.9	+1.6
	baz=61,SNR=5.5								
X22A	Bernardo	60.51	326	⇑P		P		15 05 52.2	+2.0
	baz=61								
V24A	Rampart Ranch,	60.52	328	⇓P		P		15 05 51.3	+1.0
	baz=61								
ANMO	Albuquerque	60.54	326	*e*P		P		15 05 50.4	0.0
	5.9nm,1.1s								
ANMO	Albuquerque	60.54	326	P		P		15 05 51.2	+0.7
	3.4nm,0.9s,baz=156,slow=6.0,SNR=6.7								
U25A	Circle Dot Ran	60.61	329	⇑P		P		15 05 51.8	+0.9
	baz=61,SNR=8.4								
Q30A	Quinter	60.77	334	⇓P		P		15 05 52.9	+1.2
	baz=61,SNR=6.9								
Y20A	Horse Springs,	60.82	324	⇑P		P		15 05 53.8	+1.4
	baz=61								
T26A	Comanche Natio	60.82	330	⇑P		P		15 05 53.5	+1.2
	baz=61								
X21A	Alamocita Cree	60.89	325	⇑P		P		15 05 55.1	+2.2
	baz=61								
R28A	Tribune	60.94	332	⇑P		P		15 05 54.8	+1.9
	baz=61								
V23A	Ortiz Mt. (NFS	61.01	327	⇑P		P		15 05 55.9	+2.3
	baz=61								
Q29A	Oakley	61.02	333	⇑P		P		15 05 54.6	+1.1
	baz=61								
O32A	Brockman Farm,	61.06	336	⇓P		P		15 05 53.9	+0.3
	baz=61								
S26A	Kim	61.12	330	⇓P		P		15 05 54.9	+0.7
	baz=61,SNR=8.7								
U23A	El Rito	61.46	328	⇓P		P		15 05 58.3	+1.7
	baz=62								
V22A	San Miguel Ran	61.52	327	⇓P		P		15 05 58.6	+1.6
	baz=62,SNR=8.1								
P29A	Atwood	61.59	334	⇑P		P		15 05 58.5	+1.3
	baz=62								
T24B	San Luis	61.61	329	⇑P		P		15 05 58.7	+0.9
	baz=62								
S25A	Robets Cordova	61.62	330	⇑P		P		15 05 58.8	+1.1
	baz=62								
R26A	Arlington	61.65	331	⇑P		P		15 05 58.7	+0.9
	baz=62								
O30A	MW Ranch, Wils	61.70	335	⇑P		P		15 05 58.9	+0.9
	baz=62								
W20A	Ramah	61.78	325	⇓P		P		15 06 00.8	+1.9
	baz=62								
N31A	Bailey Ranch,	61.80	336	⇑P		P		15 05 59.5	+0.8
	baz=62								
U22A	Llaves	61.84	327	⇑P		P		15 06 00.9	+1.7
	baz=62								
S24A	Houchin Ranch,	61.98	329	⇓P		P		15 06 01.4	+1.2
	baz=62								
BGNE	Belgrade	61.99	337	*e*P		P		15 05 59.0	-0.8
BGNE	Belgrade	61.99	337	⇑P		P		15 06 00.3	+0.5
	baz=62,SNR=5.6								
214A	Organ Pipe Nat	62.08	320	⇑P		P		15 06 02.5	+1.8
	baz=62								
X18A	Snowflake	62.16	324	⇑P		P		15 06 02.9	+1.5
	baz=62								
Q26A	Hugo	62.19	331	⇓P		P		15 06 02.8	+1.4
	baz=62								
SDCO	Great Sand Dun	62.20	329	*e*P		P		15 06 01.6	-0.1
	8.6nm,0.8s								
R24A	Sanders Place,	62.39	330	⇑P		P		15 06 04.5	+1.7
	baz=63								
W18A	Petrified Fore	62.47	324	⇓P		P		15 06 04.6	+1.3
	baz=63								
N29A	Votaw Ranch, W	62.48	335	⇓P		P		15 06 04.5	+1.4
	baz=63								
Q25A	Bedland, Calha	62.52	331	⇓P		P		15 06 04.4	+0.8
	baz=63								
T21A	Navajo Lake	62.66	327	⇓P		P		15 06 05.8	+1.1
	baz=63								
R23A	Moffat	62.71	329	⇑P		P		15 06 05.9	+0.9
	baz=63								
U20A	Newcomb	62.72	326	⇓P		P		15 06 06.5	+1.5
	baz=63								
O27A	Beecher Island	62.75	333	⇓P		P		15 06 06.9	+1.9
	baz=63								
S22A

	baz=66				
P19A	**Cripple Cowboy**	65.40 328	⇓P	P	15 06 23.6 +1.2
	baz=66				
O20A	**White River Ci**	65.40 329	⇑P	P	15 06 23.5 +1.1
	baz=66				
H29A	**Onida**	65.53 337	⇓P	P	15 06 23.5 +0.6
	baz=66				
J26A	**Sides Ranch, S**	65.56 334	⇓P	P	15 06 24.8 +1.6
	baz=66				
G30A	**Faulkton**	65.57 338	⇓P	P	15 06 23.5 +0.4
	baz=66,SNR=5.9				
GMRC	**Granite Mounta**	65.73 320	⇓P	P	15 06 26.2 +1.6
	baz=66				
I27A	**Quinn**	65.77 336	⇓P	P	15 06 25.7 +1.2
	baz=66				
H28A	**Mission Ridge**	65.88 337	⇑P	P	15 06 25.5 +0.4
	baz=66,SNR=6.0				
O19A	**Miners Draw (B**	65.97 329	⇓P	P	15 06 27.2 +1.2
	baz=66				
I26A	**New Underwood**	66.06 335	⇑P	P	15 06 27.3 +0.9
	baz=66				
G28A	**Parade**	66.18 337	⇑P	P	15 06 27.8 +0.8
	baz=66				
HEC	**Hector,Ludlow**	66.18 320	⇑P	P	15 06 29.8 +2.5
	baz=66				
H27A	**Howes**	66.25 336	⇑P	P	15 06 28.4 +0.8
	baz=66				
I25A	**Rochford**	66.41 334	⇑P	P	15 06 30.5 +1.7
	baz=67,SNR=18				
K22A	**Casper**	66.53 332	⇑P	P	15 06 30.7 +1.2
	baz=67				
RSSD	**Black Hills**	66.62 334	*e*P	P	15 06 30.6 +0.5
	11nm,0.5s				
BFSC	**Mount Baldy Ra**	66.64 319	⇑P	P	15 06 32.2 +1.9
	baz=67				
I24A	**Kuemmerle Ranc**	66.66 334	⇑P	P	15 06 32.1 +1.8
	baz=67				
E30A	**Jud**	66.67 339	⇑P	P	15 06 31.5 +1.4
	baz=67				
GSC	**Goldstone**	66.78 320	⇓P	P	15 06 33.1 +2.0
	baz=67				
F28A	**McLaughlin**	66.79 337	⇓P	P	15 06 31.9 +1.0
	baz=67				
H25A	**Fruitdale**	66.85 335	⇓P	P	15 06 32.3 +1.0
	baz=67				
K21A	**Alcova**	66.85 331	⇑P	P	15 06 32.7 +1.1
	baz=67				
G26A	**Maurine**	67.01 336	⇑P	P	15 06 33.2 +0.8
	baz=67,SNR=11				
J22A	**Midwest**	67.11 332	⇑P	P	15 06 34.4 +1.2
	baz=67				
D30A	**Buchanan**	67.15 340	⇑P	P	15 06 34.0 +0.9
	baz=67				
G27A	**Dupree**	67.21 336	⇓P	P	15 06 32.1 -1.5
	baz=67,SNR=8.4				
G25A	**Newell**	67.25 335	⇓P	P	15 06 34.6 +0.7
	baz=68				
EDW2	**Edwards Air Fo**	67.25 319	⇑P	P	15 06 35.8 +1.7
	baz=67				
F27A	**Lemmon**	67.27 337	⇓P	P	15 06 34.8 +0.8
	baz=68,SNR=6.3				
H24A	**Dirks Ranch, A**	67.35 334	⇓P	P	15 06 35.5 +1.0
	baz=68				
E28A	**Huff**	67.37 338	⇓P	P	15 06 35.2 +0.7
	baz=68,SNR=6.4				
I22A	**9 Mile Ranch,**	67.49 333	⇓P	P	15 06 36.8 +1.3
	baz=68				
J21A	**Lysite**	67.50 332	⇑P	P	15 06 36.7 +1.1
	baz=68				
F26A	**Lodgepole**	67.50 336	⇑P	P	15 06 36.2 +0.8
	baz=68,SNR=6.6				
TPNV	**Topopah Spring**	67.53 322	⇑P	P	15 06 37.9 +2.0
	baz=68				
I21A	**Big Trails, Te**	67.79 332	⇓P	P	15 06 38.4 +1.0
	baz=68				
J20A	**Shoshoni**	67.80 331	⇑P	P	15 06 38.2 +0.8
	baz=68				
DUG	**Dugway**	67.81 326	⇑P	P	15 06 39.3 +1.7
	baz=68				
D28A	**Regan**	67.85 338	⇓P	P	15 06 38.3 +0.8
	baz=68				
F25A	**Bowman**	67.87 336	⇑P	P	15 06 38.8 +1.1
	baz=68				
E26A	**Carlson Angus**	67.94 337	⇑P	P	15 06 38.8 +0.7
	baz=68,SNR=7.2				
ISA	**Isabella**	68.06 319	⇑P	P	15 06 40.8 +1.7
	baz=68				
G23A	**Biddle**	68.06 334	⇑P	P	15 06 39.9 +0.9
	baz=68,SNR=7.6				
MDND	**Maddock**	68.08 339	⇓P	P	15 06 39.9 +1.0
	baz=68				
R11A	**Troy Canyon, C**	68.08 323	⇓P	P	15 06 41.2 +1.9
	baz=68				
B30A	**Myrvik Farm, E**	68.18 340	⇓P	P	15 06 40.0 +0.5
	baz=68				
F24A	**Ekalaka**	68.20 335	⇑P	P	15 06 40.6 +0.8
	baz=68,SNR=8.7				
I20A	**Worland**	68.28 332	⇓P	P	15 06 41.4 +1.0
	baz=68				
E25A	**Miller Ranch,**	68.32 336	⇓P	P	15 06 41.4 +0.9
	baz=68				
D26A	**Manning**	68.39 337	⇓P	P	15 06 42.0 +1.1
	baz=69				
PKM	**Peak Mountain**	68.44 318	⇓P	P	15 06 43.2 +1.5
	baz=69				
B29A	**Wagenman Farm,**	68.53 340	⇑P	P	15 06 42.6 +0.9
	baz=69				
SNAA	**Sanae**	68.56 162	*e*P	P	15 06 42.1 +0.4
	5.1nm,0.6s				
H20A	**Greybull**	68.64 332	⇑P	P	15 06 43.4 +0.9
	baz=69				
DBIC	**Dimbokro**	68.67 76	P	P	15 06 42.0 -1.3
DBIC	**Dimbokro**	68.67 76	P	P	15 06 42.0 -1.3
	7.1nm,0.7s,baz=223,slow=6.7,SNR=8.5				
E24A	**Baker**	68.73 336	⇓P	P	15 06 44.1 +1.0
	baz=69,SNR=8.0				
D25A	**Fairfield**	68.83 337	⇓P	P	15 06 44.8 +1.1
	baz=69,SNR=6.2				
B28A	**Dugan Ranch, T**	68.85 339	⇓P	P	15 06 44.9 +1.2
	baz=69				
A29A	**Manning Farm,**	68.88 340	⇑P	P	15 06 44.7 +0.8
	baz=69				
F22A	**Rosebud**	68.89 334	⇑P	P	15 06 45.2 +1.1
	baz=69				
C26A	**Wahner Farm, P**	68.94 338	⇓P	P	15 06 45.1 +0.9
	baz=69				
ULM	**Lac du Bonnet**	69.03 343	P	P	15 06 43.8 -0.9
ULM	**Lac du Bonnet**	69.03 343	P	P	15 06 43.8 -0.9
	6.2nm,0.7s,baz=134,slow=3.9,SNR=6.2				
E23A	**Ismay**	69.08 335	⇓P	P	15 06 46.8 +1.6
	baz=69				
B27A	**Peters Farms,**	69.13 339	⇑P	P	15 06 46.8 +1.4
	baz=69				
D24A	**Glendive**	69.19 336	⇓P	P	15 06 47.8 +1.9
	baz=69				
C25A	**Freed Ranch, W**	69.27 337	⇓P	P	15 06 47.4 +1.0
	baz=70				
E22A	**Miles City**	69.29 335	⇑P	P	15 06 47.5 +1.0
	baz=70				
G20A	**Bridger**	69.30 333	⇑P	P	15 06 47.4 +0.7
	baz=70				
I17A	**Pilgrim Ck.**	69.40 330	⇑P	P	15 06 49.0 +1.6
	baz=70				
H18A	**Shoshone NF, C**	69.54 331	⇑P	P	15 06 49.7 +1.4
	baz=70				
C24A	**Savage**	69.57 336	⇓P	P	15 06 49.5 +1.3
	baz=70				
D23A	**Lindsay**	69.58 336	⇑P	P	15 06 49.6 +1.3
	baz=70,SNR=7.7				
A27A	**Ledoux Ranch,**	69.59 339	⇑P	P	15 06 49.4 +1.3
	baz=70				
B25A	**Knox Farm, Ray**	69.70 337	⇓P	P	15 06 50.7 +1.8
	baz=70				
F20A	**Billings**	69.72 333	⇑P	P	15 06 50.5 +1.3
	baz=70				
NVAR	**Mina Array Bea**	69.73 322	P	P	15 06 50.9 +1.4
NVAR	**Mina Array Bea**	69.73 322	P	P	15 06 50.9 +1.4
	1.4nm,0.9s,baz=145,slow=7.2,SNR=9.5				
A26A	**Wade Farm, Ken**	69.82 338	⇓P	P	15 06 51.0 +1.4
	baz=70				
D22A	**Cohagen**	69.96 335	⇑P	P	15 06 52.2 +1.6
	baz=70,SNR=8.9				
F19A	**Roth Farm, Mol**	70.12 333	⇓P	P	15 06 53.3 +1.7
	baz=70				
D21A	**La Casta Ranch**	70.23 334	⇓P	P	15 06 53.7 +1.5
	baz=70,SNR=8.9				
A25A	**Svangstu Ranch**	70.24 338	⇓P	P	15 06 53.6 +1.4
	baz=70				

DGMT	**Dagmar**	70.25 337	*e*P	P	15 06 52.0 -0.2
	30nm,1.0s				
DGMT	**Dagmar**	70.25 337	⇑P	P	15 06 52.9 +0.6
	baz=70,SNR=5.1				
E20A	**Meyer Farm, Mu**	70.27 333	⇓P	P	15 06 53.9 +1.4
	baz=70,SNR=5.2				
C22A	**Vida**	70.32 336	⇑P	P	15 06 54.6 +1.9
	baz=70				
E19A	**Rath Farm, Rou**	70.52 333	⇑P	P	15 06 55.4 +1.4
	baz=71,SNR=5.1				
B23A	**Brockton**	70.55 336	⇓P	P	15 06 55.7 +1.6
	baz=71				
A24A	**Westby**	70.55 337	⇓P	P	15 06 55.4 +1.3
	baz=71				
D20A	**Manuel Ranch,**	70.73 334	⇓P	P	15 06 56.3 +1.1
	baz=71,SNR=5.6				
B22A	**Reddig Ranch S**	70.81 336	⇑P	P	15 06 56.9 +1.3
	baz=71				
C21A	**Desert Coulee**	70.87 335	⇓P	P	15 06 57.0 +0.9
	baz=71				
A23A	**Redstone**	70.91 337	⇓P	P	15 06 57.3 +1.0
	baz=71				
HLID	**Hailey**	71.05 328	*e*P	P	15 06 58.2 +0.8
	2.6nm,0.8s				
HLID	**Hailey**	71.05 328	⇑P	P	15 06 59.1 +1.8
	baz=71				
D19A	**Cripps Ranch,**	71.10 333	⇓P	P	15 06 59.2 +1.7
	baz=71				
C20A	**Veseth Ranch,**	71.16 334	⇓P	P	15 06 59.0 +1.2
	baz=71				
B21A	**Ellsworth Farm**	71.32 335	⇑P	P	15 07 00.2 +1.5
	baz=72				
A22A	**Carney Farms,**	71.34 336	⇓P	P	15 07 00.2 +1.4
	baz=72				
C19A	**Slack Wire Ran**	71.62 334	⇓P	P	15 07 01.7 +1.1
	baz=72				
B20A	**Solberg Farm,**	71.74 335	⇑P	P	15 07 02.5 +1.2
	baz=72				
B19A	**Brinkman Farms**	72.13 334	⇓P	P	15 07 04.7 +1.1
	baz=72,SNR=5.3				
EGMT	**Eagleton**	72.14 334	⇑P	P	15 07 05.1 +1.4
	baz=72				
A19A	**Klindworth Far**	72.42 335	⇑P	P	15 07 06.6 +1.3
	baz=73				
YBH	**Yreka Blue Hor**	74.43 322	P	P	15 07 16.6 -0.6
YBH	**Yreka Blue Hor**	74.43 322	P	P	15 07 16.6 -0.6
	1.1nm,0.6s,baz=350,slow=5.6,SNR=4.4				
TORD	**Torodi Ar. Bea**	76.90 72	P	P	15 07 30.0 -1.7
TORD	**Torodi Ar. Bea**	76.90 72	P	P	15 07 30.0 -1.7
	15nm,0.8s,baz=259,slow=5.4,SNR=16				
ESDC	**Sonseca Array**	82.64 46	P	P	15 08 02.2 +0.1
ESDC	**Sonseca Array**	82.64 46	P	P	15 08 02.2 +0.1
	1.2nm,0.7s,baz=248,slow=5.1,SNR=7.6				
YKA	**Yellowknife Ar**	84.92 341	P	P	15 08 13.3 +0.3
YKA	**Yellowknife Ar**	84.92 341	P	P	15 08 13.3 +0.3
	6.6nm,0.8s,baz=137,slow=4.9,SNR=16				
DLBC	**Dease Lake**	88.07 333	P	P	15 08 29.9 +1.4
DLBC	**Dease Lake**	88.07 333	P	P	15 08 29.9 +1.4
	6.8nm,1.0s,baz=86,slow=11,SNR=5.6				
INK	**Inuvik**	94.67 341	P	P	15 08 58.5 -0.2
INK	**Inuvik**	94.67 341	P	P	15 08 58.5 -0.2
	4.4nm,1.0s,baz=94,slow=7.7,SNR=6.4				
KBZ	**Khabaz**	117.39 48	PKP	PKPdf	15 14 23.5 +0.6
KBZ	**Khabaz**	117.39 48	PKP	PKPdf	15 14 23.5 +0.6
	2.7nm,0.8s,baz=22,slow=0.9,SNR=6.0				
STKA	**Stephens Creek**	123.80 213	PKP	PKPdf	15 14 35.9 +0.2
STKA	**Stephens Creek**	123.80 213	PKP	PKPdf	15 14 35.9 +0.2
	1.1nm,0.6s,baz=320,slow=18,SNR=5.5				
ABKAR	**Akbulak array**	127.56 39	*e*PKPdf	PKPdf	15 14 43.4 +1.1
ASAR	**Alice Springs**	134.41 212	PKPpre	PKPpre	15 14 49.7
ASAR			PKP	PKPdf	15 14 56.0 -0.2
ASAR			SKPbc	SKPbc	15 18 07.0 -0.9
ASAR	**Alice Springs**	134.41 212	PKhKP	PKPpre	15 14 49.7
	0.1nm,0.4s,baz=116,slow=1.6,SNR=2.6				
ASAR			PKP	PKPdf	15 14 56.0 -0.2
	0.9nm,0.8s,baz=140,slow=2.1,SNR=15				
ASAR			SKPbc	SKPbc	15 18 07.0 -0.9
	0.6nm,0.7s,baz=138,slow=4.2,SNR=9.1				
ZAA0	**Zalesovo Array**	136.97 21	*e*PKPdf	PKPdf	15 15 00.4 +0.6
ZALV	**Zalesovo Beam**	136.97 21	PKP	PKPdf	15 15 00.9 +1.1
ZALV			SKP		15 18 16.6
ZALV	**Zalesovo Beam**	136.97 21	PKP	PKPdf	15 15 00.9 +1.1
	17nm,0.8s,baz=302,slow=2.7,SNR=47				
ZALV			SKP		15 18 16.6
	0.3nm,0.3s,baz=343,slow=4.5,SNR=4.3				
WRA	**Warramunga Arr**	137.20 216	PKPpre	PKPpre	15 14 49.5
WRA			PKP	PKPdf	15 15 01.4 +0.1
WRA			SKPbc	SKPbc	15 18 16.1 -0.4
WRA	**Warramunga Arr**	137.20 216	PKhKP	PKPpre	15 14 49.5
	0.5nm,0.7s,baz=135,slow=3.1,SNR=6.3				
WRA			PKP	PKPdf	15 15 01.4 +0.1
	1.3nm,0.6s,baz=132,slow=1.6,SNR=19				
WRA			SKPbc	SKPbc	15 18 16.1 -0.4
	0.8nm,0.7s,baz=144,slow=2.4,SNR=9.3				
MKAR	**Makanchi Array**	141.38 30	PKPpre	PKPpre	15 15 03.7
MKAR			PKP	PKPdf	15 15 09.2 +1.1
MKAR	**Makanchi Array**	141.38 30	PKhKP	PKPpre	15 15 03.7
	0.4nm,0.5s,baz=351,slow=3.0,SNR=7.7				
MKAR			PKP	PKPdf	15 15 09.2 +1.1
	1.7nm,0.8s,baz=332,slow=2.0,SNR=10				
FITZ	**Fitzroy Crossi**	143.10 206	PKPpre	PKPpre	15 15 08.7
FITZ	**Fitzroy Crossi**	143.10 206	PKhKP	PKPpre	15 15 08.7
	1.7nm,0.8s,baz=203,slow=7.7,SNR=5.1				
HIA	**Hailar**	145.16 348	*e*PKPdf	PKPbc	15 15 14.3 -0.4
USRK	**Ussuriysk Arra**	145.47 331	PKPbc	PKPab	15 15 17.0 +0.8
	7.7nm,0.8s,baz=38,slow=4.4,SNR=13				
MJAR	**Matsushiro Arr**	146.84 315	PKPbc	PKPab	15 15 21.1 -0.7
MJAR	**Matsushiro Arr**	146.84 315	PKPbc	PKPab	15 15 21.1 -0.7
	9.9nm,0.9s,baz=129,slow=1.4,SNR=9.8				
SONM	**Songino Array**	147.54 4	PKP	PKPdf	15 15 19.8 +0.9
SONM			PKPbc	PKPbc	15 15 22.5 +0.8
SONM	**Songino Array**	147.54 4	PKP	PKPdf	15 15 19.8 +0.9
	7.7nm,0.7s,baz=276,slow=0.4,SNR=56				
SONM			PKPbc	PKPbc	15 15 22.5 +0.8
	7.8nm,0.7s,baz=322,slow=1.8,SNR=56				
ULN	**Ulaanbaatar**	147.54 3	*e*PKPbc	PKPbc	15 15 22.2 +0.4
HYB	**Hyderabad**	150.32 82	*i* PKP	PKPbc	15 15 30.0 +0.5
KSRS	**Korea Array**	152.57 327	PKPbc	PKPbc	15 15 35.0 +1.0
	5.2nm,0.9s,baz=26,slow=1.6,SNR=11				
KSAR	**Wonju Array Be**	152.60 327	PKPbc	PKPbc	15 15 35.0 +0.9
CMAR	**Chiang Mai Arr**	169.51 72	PKP	PKPdf	15 15 46.0 +0.7
CMAR			PKPab	PKPab	15 16 58.7 -1.0
CMAR	**Chiang Mai Arr**	169.51 72	PKP	PKPdf	15 15 46.0 +0.7
	0.3nm,0.4s,baz=321,slow=1.2,SNR=4.1				
CMAR			PKPab	PKPab	15 16 58.7 -1.0
	1.1nm,0.8s,baz=276,slow=6.7,SNR=7.8				

PRU 30 15:04:55.3, 50.34N×18.97E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	0.55	102	*e*Pg	Pg	15 05 05.6	-0.2
OJC				*e*Sg	Sg	15 05 12.8	-0.1
OKC	**Ostrava-Krasne**	0.73	227	*e*SG	Sg	15 05 19.0	+0.2
	comp=Z,5.0nm,0.5s						
DPC	**Dobruska-Polom**	1.70	271	*e*PG	Pn	15 05 25.3	-0.9
DPC				*e*SG	Sn	15 05 48.7	0.0
UPC	**Upice**	1.90	276	*e*SG	Sg	15 05 57.4	+1.0

*NIED **30** 15:12:00, 32.40N×141.80E, h5km, Mw3.8 Best double couple: M0=6.58000×10^14 NP1:φs=30.00000°, δ=62.00000°, λ=123.00000°. NP2:φs=156.00000°, δ=42.00000°, λ=44.00000°.*
*JMA **30** 15:12:39.7±0.4, 32.39N×141.78E, h81km, M3.6*
*IDC **30** 15:12:42.5±0.8, 32.27N×141.86E, h49km±6km, mb3.5/8, mb1 3.7/9, mb1mx3.5/25, mbtmp3.6/9, MS3.3/2, Ms1 3.4/2, ms1mx2.8/41, Error ellipse: s-maj=29.0km s-min=13.3km az=76.0*

ISC 30 15:12:41.5±0.7, 32.33N±0.05×141.89E±0.10, h46km±7km, n28, σ2s00/42, mb3.9/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	1.91	293	P	Pn	15 13 09.4	-2.2
JHJ2	**Mitsune**	1.91	295	P	Pn	15 13 09.8	-1.8
BSO1	**Boso 1**	2.44	342	P	Pn	15 13 17.0	-1.4
BSO3	**Boso 3**	2.72	335	P	Pn	15 13 21.0	-1.5
BSO4	**Boso 4**	2.95	334	P	Pn	15 13 25.6	-0.2
JOD2	**Odawara 2**	3.74	322	P	Pn	15 13 34.3	-2.5
JOD2				*e*S	Sn	15 14 17.0	-2.5
JHU	**Hanno**	4.12	329	P	Pn	15 13 41.1	-0.9
JHU				*e*S	Sn	15 14 27.2	-1.8
JYT	**Yasato**	4.13	341	P	Pn	15 13 41.3	-0.8
JYT				*e*S	Sn	15 14 27.9	-1.2
JHO	**Hitachi**	4.41	346	P	Pn	15 13 43.9	-2.0
JHO				*e*S	Sn	15 14 32.4	-3.5
JRY	**Ryogami san**	4.43	327	P	Pn	15 13 45.4	-0.9
JAG	**Ashikaga**	4.55	334	P	Pn	15 13 46.6	-1.3
JAG				*e*S	Sn	15 14 36.5	-3.0
JFK	**Kawauchi**	5.09	351	P	Pn	15 13 53.1	-2.2
JFK				*e*S	Sn	15 14 46.4	-6.4
MJAR	**Matsushiro Arr**	5.18	325	P	Pn	15 13 54.9	-1.7
	1.4nm,0.3s,baz=154,slow=11,SNR=10						
MJAR				S	Sn	15 14 52.1	-3.0
	0.9nm,0.3s,baz=254,slow=29,SNR=3.2						
MAT	**Matsushiro**	5.19	325	P	Pn	15 13 57.4	+0.8
MAT				*e*S	Sn	15 14 54.2	-0.9
CBIJ	**Chichi jima**	5.22	177	P	Pn	15 13 56.5	-0.6
CBIJ				*e*S	Sn	15 14 52.8	-3.3
JCJ	**Chichijima**	5.22	177	P	Pn	15 13 55.5	-1.6
	15nm,0.3s,baz=140,slow=23,SNR=27						
JCJ				S	Sn	15 14 52.8	-3.3
	14nm,0.3s,baz=276,slow=22,SNR=6.0						
JFT	**Otama**	5.33	347	P	Pn	15 13 56.6	-2.0
JFT				*e*S	Sn	15 14 54.4	-4.2
JNU	**Nakatsue**	9.31	278	LR	LR	15 18 20.7	
	comp=Z,67nm,18.5s,baz=285,slow=36						
ASAJ	**Asahikawa**	11.78	2	P	Pn	15 15 24.6	-2.2
	0.9nm,0.3s,baz=224,slow=18,SNR=7.6						
ASAJ				S	Sn	15 17 26.9	-10
	0.2nm,0.3s,baz=299,slow=19,SNR=2.2						
SONM	**Songino Array**	30.94	310	P	P	15 18 56.1	+2.0
	1.6nm,0.8s,baz=112,slow=8.1,SNR=9.0						
SONM				pP	pP	15 19 09.3	+3.0
	2.7nm,0.6s,baz=102,slow=8.8,SNR=12						
ZALV	**Zalesovo Beam**	45.47 316		P	P	15 20 55.8	-0.1
	0.5nm,0.5s,baz=108,slow=8.0,SNR=3.3						
MKAR	**Makanchi Array**	47.07 306		P	P	15 21 08.2	-0.4
	1.3nm,0.7s,baz=86,slow=8.9,SNR=9.6						
MKAR				pP	pP	15 21 22.0	+0.7
	3.1nm,0.7s,baz=89,slow=10,SNR=13						
KURBB	**Kurchatov Arra**	49.30 311		P	P	15 21 25.8	+0.1
	1.2nm,0.7s,baz=88,slow=7.3,SNR=13						
WRA	**Warramunga Arr**	52.48 189		P	P	15 21 50.3	+0.4
	1.9nm,0.5s,baz=5.3,slow=7.6,SNR=40						
WRA				pP	pP	15 22 03.5	+0.7
	5.7nm,0.7s,baz=7.8,slow=7.8,SNR=21						
ILAR	**Eielson Array**	53.30 30		P	P	15 21 56.7	+1.2
	0.3nm,0.9s,baz=262,slow=6.1,SNR=4.1						
ILAR				pP	pP	15 22 09.6	+1.2
	0.3nm,0.7s,baz=266,slow=6.4,SNR=2.6						
ASAR	**Alice Springs**	56.20 189		P	P	15 22 17.3	+0.4
	0.4nm,0.5s,baz=3.1,slow=7.2,SNR=9.4						
ASAR				pP	pP	15 22 31.1	+1.2
	0.9nm,0.6s,baz=0.4,slow=6.3,SNR=7.1						
FINES	**FINESS Array B**	73.16 333		P	P	15 24 08.9	+1.8
	0.8nm,0.6s,baz=46,slow=4.0,SNR=4.3						
FINES				pP	pP	15 24 21.6	+1.2
	2.4nm,0.9s,baz=130,slow=7.7,SNR=1.8						
NVAR	**Mina Array Bea**	77.51 52		LR	LR	15 54 45.3	
	comp=Z,42nm,20.0s,baz=63,slow=32						

IDC 30 15:16:10.2±1.5, 15.26S×174.65W, h194km±17km, mb3.5/6, mb1 3.7/7, mb1mx3.5/19, mbtmp4.0/7, MS3.9/2, Ms1 3.9/2, ms1mx3.1/32, Error ellipse: s-maj=30.1km s-min=14.7km az=135.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	3.08	65	P	Pn	15 17 01.2	+0.6
	34nm,0.3s,baz=263,slow=16,SNR=74						
AFI				S	Sn	15 17 40.1	+0.1
	14nm,0.3s,baz=120,slow=20,SNR=3.7						
URZ	**Urewera**	24.05 196		P	P	15 21 06.1	-1.4
	3.3nm,0.3s,baz=340,slow=9.4,SNR=7.0						
RPZ	**Rata Peaks**	30.88 200		LR	LR	15 32 10.5	
	comp=Z,49nm,18.7s,baz=359,slow=31						
STKA	**Stephens Creek**	43.07 240		P	P	15 23 51.3	+0.1
	0.9nm,0.4s,baz=97,slow=8.1,SNR=3.0						
WRA	**Warramunga Arr**	48.71 257		P	P	15 24 35.1	-0.4
	1.2nm,0.6s,baz=94,slow=7.6,SNR=33						
ASAR	**Alice Springs**	49.01 252		P	P	15 24 38.1	+0.3
	22nm,0.7s,baz=88,slow=7.9,SNR=314						
VNDA	**Vanda**	63.40 186		P	P	15 26 19.7	+1.1
	0.4nm,0.7s,baz=0.8,slow=7.3,SNR=4.5						
NVAR	**Mina Array Bea**	75.03 43		P	P	15 27 31.1	+0.2
	1.0nm,0.7s,baz=224,slow=7.6,SNR=7.2						
ILAR	**Eielson Array**	82.54 12		P	P	15 28 10.4	-0.5
	0.3nm,0.5s,baz=226,slow=5.5,SNR=12						
USHA	**Ushuaia**	86.71 146		LR	LR	15 59 19.7	
	comp=Z,221nm,19.0s,slow=30						

IDC 30 15:19:06.7±3.8, 15.01S×173.07W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/20, mbtmp3.6/3, Error ellipse: s-maj=194.8km s-min=19.1km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	1.67	49	Pn	Pb	15 19 37.9	-0.5
	13nm,0.3s,baz=217,slow=1.5,SNR=13						
AFI				S	Sn	15 19 58.4	-1.1
	177nm,0.3s,baz=42,slow=22,SNR=26						
WRA	**Warramunga Arr**	50.24 256		P	P	15 28 05.1	-0.1
	0.4nm,0.9s,baz=92,slow=6.8,SNR=6.8						
ASAR	**Alice Springs**	50.53 252		P	P	15 28 07.0	-0.3
	0.8nm,0.6s,baz=88,slow=8.2,SNR=11						
ILAR	**Eielson Array**	82.01 11		P	P	15 31 28.4	+0.1
	0.6nm,1.1s,baz=211,slow=5.1,SNR=3.8						

*IDC **30** 15:35:42.0±2.2, 6.17S×129.94E, h0km, mb3.7/1, mb1 3.9/4, mb1mx3.5/20, mbtmp3.7/4, ML3.7/3, Error ellipse: s-maj=90.9km s-min=28.5km az=77.0*
*ISCJB **30** 15:35:56.3±0.8, 6.59S±0.06×129.78E±0.1, h165km, mb3.4/1, Error ellipse: s-maj=19.6km s-min=7.6km az=6.9*

ISC 30 15:35:55.4±1.2, 6.64S±0.09×129.7E±0.2, h165km, n14, σ2s20/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	3.19	72	P	Pn	15 36 46.8	+1.0
	baz=14,SNR=10						
TLE	**Tual**	3.19	72	P	Px	15 37 18.4	
	baz=12,SNR=3.5						
FAKI	**Fak Fak**	4.49	35	P	Pn	15 37 01.3	-1.2
	baz=14,SNR=21						
FAKI	**F

NVAR	**Mina Array Bea**	**78.04**	**44**	P		P		16 00 17.9	-0.3
	0.3nm,0.5s,baz=230,slow=9.2,SNR=3.1								
ILAR	**Eielson Array**	**83.61**	**13**	P		P		16 00 45.9	-0.2
	0.4nm,0.5s,baz=231,slow=5.6,SNR=8.3								
TXAR	**Lajitas Array**	**85.15**	**58**	P		P		16 00 54.8	+0.3
	0.2nm,0.7s,baz=239,slow=6.2,SNR=2.9								

*ISCJB **30** 15:49:18.2±0.6, 7.°19S±0.°07×75.°89W±0.°09, h10km, mb3.8/8, MS3.4/1, Error ellipse: s-maj=12.7km s-min=9.5km az=176.2*

*IDC **30** 15:49:18.1±0.7, 7.°29S×76.°02W, h0km, mb3.9/8, mb1 4.1/11, mb1mx3.9/25, mbtmp3.9/11, ML4.1/3, MS3.5/1, Ms1 3.4/1, ms1mx2.6/27, Error ellipse: s-maj=16.9km s-min=12.3km az=23.0*

ISC 30 15:49:20.0±0.8, 7.°16S±0.°10×75.°9W±0.°2, h10km, n17, σ0§80/11, mb3.9/8, Northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.45**	**270**	Pn		Pn		15 49 59.5	-0.9
	126nm,0.3s,baz=92,slow=3.3,SNR=333								
ATAH				Pg		Pb		15 50 01.4	-3.0
	126nm,0.3s,baz=69,slow=17,SNR=334								
ATAH				Lg		Lg		15 50 31.8	
	105nm,0.3s,baz=332,slow=16,SNR=18								
NNA	**Nana**	**4.88**	**191**	Pn		Pn		15 50 32.3	-1.3
	30nm,0.3s,baz=9.5,slow=9.9,SNR=39								
NNA				Sn		**Sn**		**15 51 30.4**	**+0.3**
	14nm,0.3s,baz=303,slow=20,SNR=4.0								
NNA				Lg		Lg		15 51 44.8	
	9.6nm,0.3s,baz=169,slow=15,SNR=3.8								
LPAZ	**La Paz**	**11.85**	**141**	Pn		**Pn**		**15 52 09.5**	**-0.2**
	0.1nm,0.3s,baz=324,slow=17,SNR=3.5								
LPAZ				Lg		Lg		15 55 31.4	
	0.6nm,0.3s,baz=211,slow=13,SNR=3.8								
SIV	**San Ignacio**	**16.98**	**122**	Lg		Lg		15 58 07.0	
	0.4nm,0.3s,baz=59,slow=23,SNR=4.3								
CFAA	**Coronel Fontan**	**25.36**	**165**	P		**P**		**15 54 47.8**	**+0.4**
	0.3nm,0.7s,baz=350,slow=11,SNR=5.2								
BDFB	**Brasilia**	**28.60**	**110**	P		P		15 55 15.4	-1.5
	3.3nm,0.7s,baz=176,slow=10,SNR=3.2								
BDFB				LR		LR		16 07 53.9	
	comp=Z,85nm,19.0s,baz=231,slow=39								
TXAR	**Lajitas Array**	**45.05**	**325**	P		**P**		**15 57 36.6**	**+0.3**
	0.2nm,0.5s,baz=141,slow=10,SNR=3.7								
NVAR	**Mina Array Bea**	**60.06**	**322**	P		**P**		**15 59 27.8**	**+0.2**
	0.5nm,0.7s,baz=139,slow=6.6,SNR=5.0								
DBIC	**Dimbokro**	**72.21**	**81**	P		**P**		**16 00 46.1**	**+0.2**
	2.0nm,0.5s,baz=217,slow=5.7,SNR=4.2								
SNAA	**Sanae**	**77.95**	**162**	P		P		16 01 17.2	-0.9
	0.7nm,0.7s,baz=286,slow=5.5,SNR=11								
TORD	**Torodi Ar. Bea**	**79.68**	**75**	P		**P**		**16 01 28.9**	**+0.4**
	0.8nm,0.6s,baz=286,slow=5.1,SNR=6.0								
QSPA	**South Pole Qui**	**82.94**	**180**	P		P		16 01 44.4	-0.7
	2.5nm,0.8s								
ZALV	**Zalesovo Beam**	**130.82**	**15**	PKP		**PKPdf**		**16 08 30.7**	**-0.8**
	0.7nm,0.7s,baz=276,slow=4.2,SNR=3.8								
KURBB	**Kurchatov Arra**	**131.74**	**22**	PKP		**PKPdf**		**16 08 33.4**	**0.0**
	0.3nm,0.9s,baz=322,slow=2.8,SNR=3.4								
ASAR	**Alice Springs**	**137.72**	**223**	PKhKP		PKPpre		16 08 34.2	
	0.2nm,0.8s,baz=172,slow=3.4,SNR=3.7								
WRA	**Warramunga Arr**	**139.84**	**227**	PKP		**PKPdf**		**16 08 47.5**	**-1.9**
	0.5nm,0.8s,baz=128,slow=2.0,SNR=5.6								
FITZ	**Fitzroy Crossi**	**147.09**	**220**	PKPbc		**PKPdf**		**16 09 02.5**	**+0.3**
	3.0nm,0.7s,baz=166,slow=1.6,SNR=9.0								

IDC 30 15:51:44.7±4.7, 7.°06S×154.°96E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, Error ellipse: s-maj=100.2km s-min=41.9km az=88.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.75**	**235**	P		P		15 56 59.4	+0.4
	1.8nm,0.8s,baz=59,slow=9.7,SNR=14								
ASAR	**Alice Springs**	**26.10**	**228**	P		P		15 57 19.6	-0.9
	0.3nm,0.6s,baz=65,slow=8.9,SNR=3.2								
STKA	**Stephens Creek**	**27.66**	**205**	P		P		15 57 34.5	+0.1
	1.9nm,1.0s,baz=24,slow=12,SNR=2.8								
CMAR	**Chiang Mai Arr**	**60.78**	**296**	P		P		16 01 59.2	+0.1
	0.3nm,0.4s,baz=98,slow=6.5,SNR=4.3								

*ISCJB **30** 16:15:39.4±0.4, 30.°16N±0.°04×138.°86E±0.°10, h443km, mb3.3/10, Error ellipse: s-maj=11.4km s-min=5.2km az=171.9*

*JMA **30** 16:15:39.0±0.2, 30.°32N×139.°47E, h485km, M3.8*

*IDC **30** 16:15:40.3±1.4, 30.°17N×138.°61E, h427km±17km, mb3.0/10, mb1 3.1/14, mb1mx3.0/28, mbtmp3.0/14, Error ellipse: s-maj=22.8km s-min=10.1km az=86.0*

ISC 30 16:15:40.4±0.7, 30.°13N±0.°06×138.°9E±0.°1, h443km, n27, σ1§43/32, mb3.3/10, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.08**	**15**	P		**P**		**16 16 49.0**	**+1.7**
TK01	**Tokai 1**	**3.79**	**343**	P		P		16 16 56.2	+3.4
CBIJ	**Chichi jima**	**4.18**	**135**	P		**P**		**16 16 56.7**	**-0.1**
CBIJ				eS		**S**		**16 17 57.0**	**-1.9**
JCJ	**Chichijima**	**4.18**	**135**	P		**P**		**16 16 56.8**	**+0.1**
	9.8nm,0.3s,baz=95,slow=23,SNR=15								
JCJ				S		**S**		**16 17 57.1**	**-1.7**
	36nm,0.3s,baz=287,slow=23,SNR=16								
BSO1	**Boso 1**	**4.84**	**21**	P		**P**		**16 17 02.4**	**+0.3**
BSO1				eS		**S**		**16 18 08.6**	**-0.4**
BSO3	**Boso 3**	**4.86**	**16**	P		**P**		**16 17 02.3**	**-0.2**
BSO3				eS		**S**		**16 18 08.5**	**-1.2**
BSO4	**Boso 4**	**5.00**	**14**	P		**P**		**16 17 04.0**	**-0.1**
JOD2	**Odawara 2**	**5.12**	**2**	P		**P**		**16 17 05.2**	**-0.3**
JOD2				eS		**S**		**16 18 12.9**	**-2.1**
JNY	**Yasuok**	**5.29**	**351**	P		**P**		**16 17 08.1**	**+0.9**
JHU	**Hanno**	**5.72**	**3**	P		**P**		**16 17 10.4**	**-1.0**
JHU				eS		S		16 18 19.4	-6.4
JRY	**Ryogami san**	**5.87**	**0**	P		**P**		**16 17 12.8**	**-0.2**
JRY				eS		**S**		**16 18 24.6**	**-4.2**
JYT	**Yasato**	**6.18**	**10**	P		**P**		**16 17 14.7**	**-1.4**
JAG	**Ashikaga**	**6.30**	**4**	P		**P**		**16 17 15.9**	**-1.4**
JAG				eS		S		16 18 28.5	-8.2
MJAR	**Matsushiro Arr**	**6.42**	**355**	P		**P**		**16 17 17.7**	**-1.0**
	0.4nm,0.3s,baz=177,slow=11,SNR=5.5								
JHO	**Hitachi**	**6.61**	**12**	P		**P**		**16 17 19.6**	**-1.1**
ASAJ	**Asahikawa**	**14.27**	**11**	P		**P**		**16 18 45.7**	**+2.1**
	0.4nm,0.3s,baz=197,slow=20,SNR=3.6								
USRK	**Ussuriysk Arra**	**15.08**	**341**	P		**P**		**16 18 52.1**	**-0.2**
	0.3nm,0.3s,baz=152,slow=7.1,SNR=8.3								
CMAR	**Chiang Mai Arr**	**38.04**	**262**	P		**P**		**16 22 18.6**	**-0.9**
	0.5nm,0.6s,baz=68,slow=7.1,SNR=3.8								
ZALV	**Zalesovo Beam**	**45.31**	**318**	P		**P**		**16 23 15.7**	**-1.1**
	0.3nm,0.4s,baz=113,slow=11,SNR=2.5								
FITZ	**Fitzroy Crossi**	**49.62**	**197**	P		**P**		**16 23 50.9**	**+1.1**
	1.6nm,1.0s,baz=32,slow=13,SNR=3.4								
WRA	**Warramunga Arr**	**49.98**	**186**	P		**P**		**16 23 53.6**	**+1.2**
	1.2nm,0.5s,baz=1.9,slow=7.8,SNR=36								
ASAR	**Alice Springs**	**53.70**	**186**	P		**P**		**16 24 20.8**	**+1.3**
	0.4nm,0.3s,baz=355,slow=5.2,SNR=23								
ILAR	**Eielson Array**	**56.48**	**30**	P		**P**		**16 24 40.4**	**+1.9**
	0.3nm,0.6s,baz=265,slow=4.4,SNR=8.0								
STKA	**Stephens Creek**	**61.72**	**177**	P		**P**		**16 25 15.8**	**+1.6**
	1.0nm,0.6s,baz=344,slow=12,SNR=4.0								
ARCES	**ARCESS Array B**	**69.72**	**340**	P		**P**		**16 26 05.2**	**+1.1**
	1.0nm,0.4s,baz=71,slow=8.2,SNR=14								
FINES	**FINESS Array B**	**73.95**	**333**	P		**P**		**16 26 29.2**	**+0.3**
	0.9nm,0.5s,baz=80,slow=3.8,SNR=9.5								
NOA	**NORSAR Array B**	**79.72**	**337**	P		**P**		**16 27 00.4**	**-0.3**
	0.5nm,0.8s,baz=47,slow=5.8,SNR=3.2								

*IDC **30** 16:22:22.4±1.7, 16.°94S×173.°04W, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/22, mbtmp3.8/5, ML1.4/1, Error ellipse: s-maj=59.8km s-min=21.0km az=122.0*

*ISCJB **30** 16:22:26.2±1.3, 16.°9S±0.°2×173.°1W±0.°3, h41km, mb4.0/4, Error ellipse: s-maj=49.3km s-min=10.1km az=28.9*

ISC 30 16:22:28.1±1.7, 17.°0S±0.°2×173.°0W±0.°4, h41km, n8, σ1§53/5, mb4.0/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.27**	**22**	Pn		Pn		16 23 12.8	-4.2
	2.4nm,0.3s,baz=53,slow=11,SNR=6.6								
AFI				Sn		**Sn**		**16 23 53.5**	**-1.2**
	9.4nm,0.3s,baz=37,slow=22,SNR=8.4								
URZ	**Urewera**	**22.91**	**200**	P		**P**		**16 27 27.6**	**-0.9**
	5.2nm,0.5s,baz=279,slow=18,SNR=8.1								
H11S2	**WAKE ISLAND Hy**	**40.48**	**330**	T		T		17 12 08.5	
	baz=145								
H11S3	**WAKE ISLAND Hy**	**40.49**	**330**	T		T		17 12 09.1	
	baz=145								
H11S1	**WAKE ISLAND Hy**	**40.50**	**330**	T		T		17 12 03.6	
	baz=145								
WRA	**Warramunga Arr**	**49.85**	**258**	P		**P**		**16 31 17.6**	**-0.1**
	0.5nm,0.6s,baz=97,slow=7.1,SNR=12								
ASAR	**Alice Springs**	**49.98**	**253**	P		**P**		**16 31 18.4**	**-0.3**
	2.3nm,0.7s,baz=88,slow=8.5,SNR=33								
ILAR	**Eielson Array**	**83.90**	**11**	P		**P**		**16 34 54.8**	**+1.5**
	0.4nm,0.8s,baz=224,slow=5.3,SNR=4.1								

IDC 30 16:28:40.9±5.8, 14.°56S×172.°29W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/20, mbtmp3.6/3, Error ellipse: s-maj=264.4km s-min=15.7km az=138.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**0.82**	**37**	Pn		Pn		16 28 59.6	-0.2
	95nm,0.3s,baz=28,slow=0.9,SNR=72								
AFI				Sn		Sn		16 29 11.8	-0.7
	183nm,0.3s,baz=38,slow=19,SNR=14								
H11S2	**WAKE ISLAND Hy**	**38.82**	**327**	T		T		17 17 45.9	
	baz=156,slow=0.7								
H11S3	**WAKE ISLAND Hy**	**38.84**	**327**	T		T		17 17 48.2	
	baz=156,slow=0.7								
H11S1	**WAKE ISLAND Hy**	**38.84**	**327**	T		T		17 17 48.6	
	baz=156,slow=0.7								
H11N3	**WAKE ISLAND Hy**	**39.74**	**328**	T		T		17 18 54.3	
	baz=142,slow=0.7								
H11N1	**WAKE ISLAND Hy**	**39.75**	**328**	T		T		17 18 54.9	
	baz=142,slow=0.7								
H11N2	**WAKE ISLAND Hy**	**39.76**	**328**	T		T		17 18 55.7	
	baz=142,slow=0.7								
WRA	**Warramunga Arr**	**51.09**	**256**	P		P		16 37 46.0	+0.3
	0.7nm,0.8s,baz=92,slow=6.1,SNR=7.1								
ASAR	**Alice Springs**	**51.39**	**251**	P		P		16 37 46.6	-1.4
	1.0nm,0.8s,baz=88,slow=7.8,SNR=15								
ILAR	**Eielson Array**	**81.42**	**11**	P		P		16 41 01.0	+1.6
	0.2nm,0.7s,baz=223,slow=6.3,SNR=5.1								

*IDC **30** 16:41:13.5±1.7, 54.°67N×109.°76E, h0km, mb3.5/2, mb1 3.5/6, mb1mx3.3/30, mbtmp3.5/6, ML3.5/4, Error ellipse: s-maj=32.2km s-min=20.9km az=123.0*

*MOS **30** 16:41:13.8±1.6, 54.°66N×109.°65E, h12km, mb4.1/1, Error ellipse: s-maj=16.3km s-min=8.3km az=71.5*

*BYKL **30** 16:41:14.1±0.2, 54.°70N×109.°64E*

ISC 30 16:41:13.3±1.2, 54.°69N±0.°02×109.°80E±0.°02, h2km±9km, n50, σ1§71/93, 7C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.81**	**76**	↑*i*	PG	**Pg**		**16 41 29.8**	**+1.0**
YLYR					*e*			16 41 41.7	
YLYR					pmax	pmax			
	comp=Z,181nm,0.1s								
YLYR					smax	smax			
	comp=N,737nm,0.1s								
YLYR	**Ulyunkhan**	**0.81**	**76**	↑*i*	Pg	**Pg**		**16 41 29.7**	**+1.0**
YLYR					*e*	**Pb**		**16 41 30.6**	**+0.6**
YLYR					*e*	**Sb**		**16 41 41.5**	**+0.1**
YLYR					*e*	**Sn**		**16 41 43.9**	**-0.4**
YLYR					max				
	comp=N,163nm,0.1s								
YLYR					max				
	comp=N,737nm,0.1s								
SYVR	**Suvo**	**1.04**	**173**		*e*PG	**Pg**		**16 41 33.3**	**+0.1**
SYVR					*e*			16 41 47.2	
SYVR					pmax	pmax			
	comp=Z,124nm,0.2s								
SYVR					smax	smax			
	comp=E,2μm,0.4s								
SYVR	**Suvo**	**1.04**	**173**	↑*i*	Pg	**Pg**		**16 41 33.4**	**+0.2**
SYVR					*e*Sg	**Sn**		**16 41 48.1**	**-1.8**
SYVR					*e*Sb	**Sb**		**16 41 52.1**	**+4.1**
SYVR					Pmax				
	comp=E,122nm,0.3s								
SYVR					max				
	comp=E,2μm,0.3s								
NIZ	**Nizh Angarsk**	**1.10**	**352**		*e*PG	**Pb**		**16 41 34.0**	**-0.9**
NIZ					*e*			16 41 48.8	
NIZ					pmax	pmax			
	comp=Z,118nm,0.4s								
NIZ					smax	smax			
	comp=N,437nm,0.5s								
NIZ	**Nizh Angarsk**	**1.10**	**352**	↓*i*	Pg	**Pb**		**16 41 34.0**	**-0.9**
NIZ					*e*Pb	**Pn**		**16 41 36.3**	**+0.7**
NIZ					*e*Sg	**Sb**		**16 41 48.9**	**-0.8**
NIZ					*e*			16 41 55.1	
NIZ					max				
	comp=N,124nm,0.3s								
NIZ					Smax				
	comp=N,450nm,0.2s								
KMO	**Kumora**	**1.44**	**33**		*e*PG	**Pn**		**16 41 40.7**	**+0.3**
KMO					*e*			16 42 00.2	
KMO					pmax	pmax			
	comp=Z,446nm,0.4s								
KMO					smax	smax			
	comp=E,842nm,0.9s								
KMO	**Kumora**	**1.44**	**33**	↑*i*	Pg	**Pn**		**16 41 40.9**	**+0.5**
KMO					*e*			16 41 42.9	
KMO					*e*Sg	**Sb**		**16 42 00.6**	**+1.0**
KMO					max				
	comp=E,443nm,0.3s								
KMO					Smax				
	comp=E,891nm,1.0s								
MXMB	**Maximikha**	**1.56**	**204**		*e*Pg	**Pb**		**16 41 42.6**	**-0.2**
MXMB					*e*Sg	**Sg**		**16 42 03.2**	**-0.1**
MXMB					Pmax				
	comp=E,180nm,0.4s								
MXMB					Smax				
	comp=E,1μm,0.8s								
OGRR	**Ongureny**	**1.67**	**232**		*e*PN	**Pn**		**16 41 43.0**	**-0.5**
OGRR					*e*			16 42 04.4	
OGRR					pmax	pmax			
	comp=Z,134nm,0.3s								
OGRR					smax	smax			
	comp=N,570nm,0.5s								
OGRR	**Ongureny**	**1.67**	**232**		*e*Pg	**Pn**		**16 41 43.0**	**-0.5**
OGRR					*e*			16 41 44.7	
OGRR					*e*			16 41 47.7	
OGRR					*e*Sg	**Sn**		**16 42 04.4**	**-1.0**
OGRR					max				
	comp=N,135nm,0.1s								
OGRR					Smax				
	comp=N,572nm,0.4s								
YOA	**Uoyan**	**1.81**	**36**	↑*i*	PN	**Pg**		**16 41 49.1**	**+1.1**
YOA					*i*			16 42 13.8	
YOA					pmax	pmax			
	comp=Z,300nm,0.3s								
YOA					smax	smax			
	comp=E,2μm,0.6s								
YOA	**Uoyan**	**1.81**	**36**		*e*Pg	**Pb**		**16 41 48.0**	**+0.9**
YOA					*e*Sg	**Sg**		**16 42 13.1**	**+1.6**
YOA					Pmax				
	comp=E,298nm,0.2s								
YOA					Smax				
	comp=E,2μm,0.6s								
UKT	**Uakit**	**2.34**	**68**		*e*PN	**Pb**		**16 41 56.4**	**+0.2**
UKT					*e*			16 42 27.3	
UKT					pmax	pmax			
	comp=Z,165nm,0.5s								
UKT					smax	smax			
	comp=N,711nm,0.3s								
UKT	**Uakit**	**2.34**	**68**		*e*Pn	**Pb**		**16 41 55.2**	**-1.0**
UKT				↑↑*i*	Pg	**Pg**		**16 41 56.6**	**-1.5**
UKT					*e*Sg	**Sg**		**16 42 29.1**	**+0.7**
UKT					Pmax				
	comp=N,167nm,0.5s								
UKT					Smax				
	comp=N,712nm,0.5s								
SVKR	**Severomuysk**	**2.58**	**55**		*e*Pg	**Pb**		**16 42 01.4**	**+1.3**
SVKR					*e*Sn	**Sb**		**16 42 30.4**	**-1.8**
SVKR					*e*Sg	**Sg**		**16 42 36.9**	**+1.0**
SVKR					Pmax				
	comp=N,138nm,0.4s								
SVKR					Smax				
	comp=N,4μm,0.6s								
ZRHB	**Zarechye**	**2.66**	**217**		*e*Pg	**Pb**		**16 42 01.3**	**-0.2**
ZRHB					*e*Sg	**Sb**		**16 42 34.9**	**+0.3**
ZRHB					Pmax				
	comp=N,105nm,0.3s								
ZRHB					Smax				
	comp=N,728nm,0.5s								
TRG	**Tyrgan**	**2.82**	**228**		*e*PN	**Pn**		**16 42 00.3**	**+1.0**
TRG					*e*			16 42 04.7	
TRG					*e*S	**Sn**		**16 42 32.2**	**-1.6**
TRG					*e*			16 42 38.2	
TRG					pmax	pmax			
	comp=Z,28nm,0.3s								
TRG					smax	smax			
	comp=N,254nm,0.5s								
TRG	**Tyrgan**	**2.82**	**228**		*e*Pn	**Pn**		**16 42 00.1**	**+0.8**
TRG					*e*Pg	**Pb**		**16 42 03.8**	**-0.5**
TRG					*e*Sn	**Sn**		**16 42 31.0**	**-2.8**
TRG					*e*Sg	**Sb**		**16 42 38.8**	**-0.4**
TRG					Pmax				
	comp=N,29nm,0.3s								
TRG					Smax				
	comp=N,254nm,0.4s								
UUDB	**Ulan-Yde**	**3.11**	**205**		*e*Pn	**Pn**		**16 42 03.4**	**+0.2**
UUDB					*e*Pg	**Pb**		**16 42 10.1**	**+0.9**
UUDB					*e*Sn	**Sn**		**16 42 40.0**	**-0.9**
UUDB					*e*Sg	**Sg**		**16 42 50.0**	**-3.0**
UUDB					Pmax				
	comp=N,56nm,0.7s								
UUDB					Smax				
	comp=N,111nm,0.6s								
KAB	**Kabansk**	**3.25**	**217**		*e*Pn	**Pn**		**16 42 05.6**	**+0.4**
KAB					*e*Sg	**Sb**		**16 42 53.9**	**+2.4**
KAB					Smax				
	comp=N,327nm,1.2s								
CIT	**Chita**	**3.49**	**138**		*e*PN	**Pb**		**16 42 16.9**	**+1.1**
CIT					*e*			16 43 01.9	
CIT					pmax	pmax			
	comp=Z,46nm,1.7s								
CIT					smax	smax			
	comp=N,112nm,0.5s								
HRMR	**Khuramsha**	**3.51**	**210**		*e*Pn	**Pn**		**16 42 10.6**	**+1.8**
HRMR					*e*Pg	**Pb**		**16 42 17.2**	**+1.1**
HRMR					*e*			16 42 21.3	
HRMR					*e*Sn	**Sn**		**16 42 50.0**	**-0.9**
HRMR					*e*Sg	**Sb**		**16 43 01.6**	**+2.4**
HRMR					max				
	comp=N,65nm,0.5s								
HRMR					Smax				
	comp=N,342nm,0.6s								
BOD	**Bodaibo**	**3.92**	**35**		*e*Pn	**Pn**		**16 42 15.6**	**+1.3**
BOD					*e*Pg	**Pb**		**16 42 24.7**	**+1.8**
BOD					*e*Sg	**Sg**		**16 43 16.0**	**-2.9**
BOD					Pmax				
	comp=N,10.0nm,0.2s								
BOD					Smax				
	comp=N,62nm,0.5s								
LSTR	**Listvyanka**	**4.11**	**229**		*e*Pn	**Pn**		**16 42 16.8**	**-0.2**
LSTR					*e*Pg	**Pb**		**16 42 27.4**	**+1.2**
LSTR					*e*Sg	**Sb**		**16 43 19.3**	**+3.0**
LSTR					Pmax				
	comp=N,16nm,0.3s								
LSTR					Smax				
	comp=N,240nm,1.3s								
IRK	**Irkutsk**	**4.11**	**236**		*e*PN	**Pb**		**16 42 26.1**	**-0.2**
IRK					*e*			16 43 17.8	
IRK					pmax	pmax			
	comp=Z,50nm,0.2s								
IRK					smax	smax			
	comp=N,327nm,0.3s								
IRK	**Irkutsk**	**4.11**	**236**		*e*Sg	**Sb**		**16 43 18.7**	**+2.3**
IRK					Smax				
	comp=N,332nm,0.4s								
TLY	**Talaya**	**4.78**	**233**		*e*PN	**Pb**		**16 42 36.7**	**-0.9**
TLY					*e*			16 43 36.7	
TLY					pmax	pmax			
	comp=Z,4.0nm,0.5s								
TLY					smax	smax			
	comp=N,18nm,0.4s								
TLY	**Talaya**	**4.78**	**233**		*e*Pn	**Pn**		**16 42 26.8**	**+0.7**
TLY					*e*Pg	**Pb**		**16 42 38.7**	**+1.1**
TLY					*e*Sn	**Sn**		**16 43 19.7**	**-2.3**
TLY					*e*			16 43 36.3	
TLY					*e*Sg	**Sb**		**16 43 38.7**	**+3.3**
TLY					Pmax				
	comp=N,9.0nm,0.4s								
TLY					Smax				
	comp=N,53nm,0.4s								
ARS	**Arshan**	**5.22**	**241**		*e*Pn	**Pn**		**16 42 33.2**	**+0.9**
ARS					*e*Pg	**Pb**		**16 42 46.5**	**+1.3**
ARS					*e*Sg	**Sb**		**16 43 52.0**	**+3.7**
ARS					Pmax				
	comp=N,27nm,0.5s								
ARS					Smax				
	comp=N,286nm,0.7s								
KPC	**Khapcheranga**	**5.24**	**161**		*e*PN	**Pn**		**16 42 32.8**	**+0.2**
KPC					*e*			16 42 48.0	
KPC					*e*S	**Sn**		**16 43 30.9**	**-2.7**
KPC					*e*			16 43 56.5	
KPC					pmax	pmax			
	comp=Z,13nm,0.5s								
KPC					smax	smax			
	comp=E,156nm,1.1s								
KPC	**Khapcheranga**	**5.24**	**161**		*e*Pn	**Pn**		**16 42 32.8**	**+0.2**
KPC					*e*Pg	Pb		16 42 48.6	+3.0
KPC					*e*Sn	**Sn**		**16 43 30.7**	**-2.9**
KPC					*e*Sg	**Sg**		**16 43 56.6**	**-4.9**
KPC					Pmax				
	comp=E,14nm,0.6s								
KPC					Smax				
	comp=E,157nm,1.0s								
CRS	**Chara**	**5.26**	**62**		*e*PN	Pg		16 42 51.0	-3.1
CRS	**Chara**	**5.26**	**62**		*e*Pn	Pn		16 42 36.3	+3.4
CRS					*e*			16 42 52.4	
CRS					*e*Sn	**Sn**		**16 43 33.7**	**-0.4**
CRS					*e*Sg	**Sg**		**16 43 59.0**	**-3.2**
CRS					Smax				
	comp=E,67nm,1.1s								
ZAK	**Zakamensk**	**5.87**	**225**		*e*	Pg		16 43 01.1	-4.5
ZAK					*e*Sg	Sg		16 44 14.6	-7.0
ZAK					Smax				
	comp=E,36nm,1.0s								
TUP	**Tupik**	**5.92**	**88**		*e*PN	Pb		16 43 01.6	+4.6
TUP					*e

comp=N,0.2nm,0.3s,baz=62,slow=10,SNR=7.9
KURK Kurchatov 19.22 271 P Pn 16 45 39.1 0.0
KURBB Kurchatov Arra 19.31 271 P P 16 45 39.1 -0.1
comp=N,0.2nm,0.3s,baz=65,slow=12,SNR=7.4
BVAR Borovoye Array 23.10 282 P P 16 46 21.5 +1.4
BVAR pmax pmax
comp=Z,3.0nm,0.6s
BVAR Borovoye Array 23.10 282 P P 16 46 21.5 +1.4
comp=Z,2.9nm,0.6s,baz=72,slow=12,SNR=13
ILAR Eielson Array 47.28 35 P P 16 49 47.9 +0.5
comp=Z,0.1nm,0.5s,baz=310,slow=8.8,SNR=3.7

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*BYKL **30** 16:45:28.9±0.2,54.°70N×109.°64E*
*MOS **30** 16:45:29.5±1.7,54.°65N×109.°65E,h20km,mb4.0/1,Error ellipse: s-maj=14.4km s-min=8.6km az=70.6*
*IDC **30** 16:45:31.1±7.5,54.°62N×109.°37E,h0km,mb3.9/1, mb1 3.6/5,mb1mx3.3/30,mbtmp3.6/5,ML3.6/4,Error ellipse: s-maj=103.6km s-min=29.5km az=78.0*
ISC 30 16:45:30.4±1.6,54.°68N±0.°03×109.°74E±0.°03,h18km±12km, n50,σ1s61/76,6C-2D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.85**	**76**	⇑	*i*Pg	**Pb**	**16 45 44.7**	**-1.9**
YLYR					*e*		16 45 56.9	
YLYR					Pmax	Pmax		
	comp=Z,124nm,0.1s							
YLYR					Smax	Smax		
	comp=N,380nm,0.1s							
YLYR	**Ulyunkhan**	**0.85**	**76**	⇑	*i*Pg	**Pb**	**16 45 44.8**	**-1.9**
YLYR					*e*Sg	**Sb**	**16 45 56.4**	**-1.3**
YLYR					Pmax			
	comp=N,111nm,0.1s							
YLYR					Smax			
	comp=N,378nm,0.1s							
SYVR	**Suvo**	**1.03**	**171**		*e*PG	**Pb**	**16 45 48.2**	**-1.5**
SYVR					*e*		16 46 02.7	
SYVR					pmax	pmax		
	comp=Z,124nm,0.1s							
SYVR					smax	smax		
	comp=E,2μm,0.4s							
SYVR	**Suvo**	**1.03**	**171**	⇑	*i*Pg	**Pb**	**16 45 48.3**	**-1.5**
SYVR					*e*Sg	**Sn**	**16 46 03.0**	**-1.0**
SYVR					*e*Sb	**Sg**	**16 46 07.0**	**+3.0**
SYVR					Pmax			
	comp=E,117nm,0.3s							
SYVR					max			
	comp=E,2μm,0.4s							
NIZ	**Nizh Angarsk**	**1.11**	**354**		*e*PG	**Pn**	**16 45 48.9**	**-2.1**
NIZ					*e*		16 46 03.7	
NIZ					pmax	pmax		
	comp=Z,120nm,0.4s							
NIZ					smax	smax		
	comp=N,382nm,0.4s							
NIZ	**Nizh Angarsk**	**1.11**	**354**	⇓	*i*Pg	**Pn**	**16 45 49.0**	**-2.1**
NIZ					*e*Sg	**Sb**	**16 46 03.8**	**-1.4**
NIZ					*e*		16 46 09.6	
NIZ					*e*Pb	x	16 46 50.6	
NIZ					max			
	comp=N,133nm,0.4s							
NIZ					max			
	comp=N,396nm,0.5s							
KMO	**Kumora**	**1.47**	**34**		*e*PN	**Pn**	**16 45 55.6**	**-0.5**
KMO					*e*		16 46 15.3	
KMO					pmax	pmax		
	comp=Z,392nm,0.4s							
KMO					smax	smax		
	comp=E,782nm,0.9s							
KMO	**Kumora**	**1.47**	**34**	⇓	*i*Pg	**Pn**	**16 45 55.8**	**-0.3**
KMO					*e*		16 45 57.7	
KMO					*e*Sg	**Sn**	**16 46 15.6**	**+0.6**
KMO					max			
	comp=E,392nm,0.3s							
KMO					Smax			
	comp=E,781nm,0.9s							
MXMB	**Maximikha**	**1.53**	**203**		*e*Pg	**Pb**	**16 45 57.5**	**-0.8**
MXMB					*e*Sg	**Sb**	**16 46 18.1**	**+0.7**
MXMB					Pmax			
	comp=E,186nm,0.1s							
MXMB					Smax			
	comp=E,2μm,0.8s							
OGRR	**Ongureny**	**1.63**	**231**		*e*PN	**Pn**	**16 45 58.0**	**-0.3**
OGRR					*e*		16 46 19.2	
OGRR					pmax	pmax		
	comp=Z,108nm,0.3s							
OGRR					smax	smax		
	comp=N,613nm,0.4s							
OGRR	**Ongureny**	**1.63**	**231**		*e*Pg	**Pn**	**16 45 58.0**	**-0.3**
OGRR					*e*Pb	**Pb**	**16 45 59.1**	**-0.9**
OGRR					*e*Sg	**Sn**	**16 46 18.3**	**-0.5**
OGRR					max			
	comp=N,109nm,0.2s							
OGRR					Smax			
	comp=N,617nm,0.3s							
YOA	**Uoyan**	**1.85**	**37**	⇑	*i*PN	**Pb**	**16 46 04.3**	**+0.6**
YOA					*i*		16 46 28.3	
YOA					pmax	pmax		
	comp=Z,311nm,0.4s							
YOA					smax	smax		
	comp=N,1μm,0.8s							
YOA	**Uoyan**	**1.85**	**37**		*e*Pg	**Pn**	**16 46 02.7**	**+1.4**
YOA					*e*Sg	**Sb**	**16 46 28.2**	**+1.7**
YOA					Pmax			
	comp=N,320nm,0.4s							
YOA					Smax			
	comp=N,1μm,0.6s							
UKT	**Uakit**	**2.38**	**68**		*e*PN	**Pb**	**16 46 11.4**	**-1.4**
UKT					*e*		16 46 42.6	
UKT					pmax	pmax		
	comp=Z,187nm,0.5s							
UKT					smax	smax		
	comp=N,603nm,0.5s							
UKT	**Uakit**	**2.38**	**68**	⇑	*i*Pn	**Pn**	**16 46 10.0**	**+1.4**
UKT				⇑	*i*Pg	**Pb**	**16 46 11.7**	**-1.1**
UKT					*e*Sg	**Sb**	**16 46 44.1**	**+2.2**
UKT					Pmax			
	comp=N,187nm,0.6s							
UKT					Smax			
	comp=N,605nm,0.6s							
SVKR	**Severomuysk**	**2.62**	**55**		*e*Pg	**Pb**	**16 46 16.9**	**+0.1**
SVKR					*e*Sg	**Sg**	**16 46 52.3**	**-2.1**
SVKR					Pmax			
	comp=N,149nm,0.2s							
SVKR					Smax			
	comp=N,3μm,0.6s							
TRG	**Tyrgan**	**2.78**	**228**		*e*PN	**Pn**	**16 46 14.9**	**+0.8**
TRG					*e*		16 46 19.0	
TRG					*e*S	**Sn**	**16 46 46.3**	**-0.9**
TRG					*e*		16 46 52.2	
TRG					pmax	pmax		
	comp=Z,34nm,0.4s							
TRG					smax	smax		
	comp=N,299nm,0.4s							
TRG	**Tyrgan**	**2.78**	**228**		*e*Pn	**Pn**	**16 46 15.0**	**+0.8**
TRG					*e*Pg	**Pb**	**16 46 17.8**	**-1.8**
TRG					*e*		16 46 51.4	
TRG					*e*Sg	**Sb**	**16 46 53.7**	**+0.3**
TRG					Pmax			
	comp=N,33nm,0.3s							
TRG					Smax			
	comp=N,300nm,0.3s							
UUDB	**Ulan-Yde**	**3.08**	**205**		*e*Pn	**Pn**	**16 46 18.8**	**+0.6**
UUDB					*e*Pg	**Pb**	**16 46 25.0**	**+0.4**
UUDB					*e*Sn	**Sn**	**16 46 54.2**	**-0.3**
UUDB					*e*Sg	**Sb**	**16 47 04.7**	**+2.9**
UUDB					Pmax			
	comp=N,45nm,0.7s							
UUDB					Smax			
	comp=N,124nm,0.7s							
KAB	**Kabansk**	**3.21**	**216**		*e*Sg	**Sb**	**16 47 07.3**	**+1.5**
KAB					Smax			
	comp=N,345nm,0.8s							
HRMR	**Khuramsha**	**3.48**	**210**		*e*Pn	**Pn**	**16 46 25.5**	**+1.8**
HRMR					*e*Pg	**Pb**	**16 46 32.1**	**+0.6**
HRMR					*e*		16 46 35.3	
HRMR					*e*Sn	**Sn**	**16 47 04.7**	**+0.2**
HRMR					*e*Sg	Sb	16 47 16.6	+3.1
HRMR					max			
	comp=N,74nm,0.5s							
HRMR					Smax			
	comp=N,371nm,0.4s							
CIT	**Chita**	**3.51**	**138**		*e*PN	**Pb**	**16 46 30.7**	**-1.3**
CIT					*e*		16 47 17.2	
CIT					pmax	pmax		
	comp=Z,38nm,1.1s							
CIT					smax	smax		
	comp=E,157nm,1.8s							
CIT	**Chita**	**3.51**	**138**		*e*Sg	**Sg**	**16 47 18.6**	**-4.4**
CIT					*e*		16 47 27.2	
CIT					max			
	comp=E,275nm,0.2s							
BOD	**Bodaibo**	**3.95**	**35**		*e*Pn	**Pn**	**16 46 31.4**	**+1.3**
BOD					*e*Pg	**Pb**	**16 46 40.0**	**+0.6**
BOD					*e*Sg	**Sb**	**16 47 30.7**	**+3.9**
BOD					Pmax			
	comp=E,9.0nm,0.3s							
BOD					Smax			
	comp=E,83nm,0.8s							
LSTR	**Listvyanka**	**4.07**	**228**		*e*Pn	**Pn**	**16 46 31.4**	**-0.4**
LSTR					*e*Pg	**Pb**	**16 46 41.1**	**-0.5**
LSTR					*e*Sn	**Sn**	**16 47 17.6**	**-1.4**
LSTR					*e*		16 47 29.8	
LSTR					*e*Sg	Sb	16 47 34.7	+4.3
LSTR					Pmax			
	comp=E,9.0nm,0.2s							
LSTR					Smax			
	comp=E,245nm,1.6s							
IRK	**Irkutsk**	**4.08**	**235**		*e*PN	**Pb**	**16 46 41.3**	**-0.3**
IRK					*e*		16 47 32.7	
IRK					pmax	pmax		
	comp=Z,54nm,0.1s							
IRK					smax	smax		
	comp=N,418nm,0.2s							
IRK	**Irkutsk**	**4.08**	**235**		*e*Sg	Sb	16 47 34.2	+3.7
IRK					Smax			
	comp=N,416nm,0.2s							
TLY	**Talaya**	**4.74**	**233**		*e*PN	**Pb**	**16 46 51.9**	**-1.0**
TLY					*e*		16 47 51.5	
TLY					pmax	pmax		
	comp=Z,5.0nm,0.6s							
TLY					smax	smax		
	comp=N,18nm,0.4s							
TLY	**Talaya**	**4.74**	**233**		*e*Pn	**Pn**	**16 46 41.0**	**+0.1**
TLY					*e*Pg	**Pb**	**16 46 53.3**	**+0.4**
TLY					*e*Sn	**Sn**	**16 47 33.0**	**-2.4**
TLY					*e*Sg	Sb	16 47 53.5	+4.0
TLY					Pmax			
	comp=N,10.0nm,0.4s							
TLY					Smax			
	comp=N,75nm,0.8s							
ARS	**Arshan**	**5.18**	**241**		*e*Pn	Pn	16 46 49.3	+2.2
ARS					*e*Sn	**Sn**	**16 47 42.7**	**-3.7**
ARS					*e*Sg	Sb	16 48 07.0	+4.6
ARS					Smax			
	comp=N,333nm,0.8s							
KPC	**Khapcheranga**	**5.24**	**161**		*e*PN	**Pn**	**16 46 48.3**	**+0.4**
KPC					*e*		16 47 03.3	
KPC					*e*S	**Sn**	**16 47 45.8**	**-2.0**
KPC					*e*		16 48 11.5	
KPC					pmax	pmax		
	comp=Z,15nm,0.4s							
KPC					smax	smax		
	comp=E,158nm,1.0s							
KPC	**Khapcheranga**	**5.24**	**161**		*e*Pn	**Pn**	**16 46 48.1**	**+0.2**
KPC					*e*Pg	Pb	16 47 03.5	+2.0
KPC					*e*Sn	**Sn**	**16 47 45.5**	**-2.3**
KPC					*e*Sg	Sg	16 48 11.5	-7.0
KPC					Pmax			
	comp=E,19nm,0.3s							
KPC					Smax			
	comp=E,158nm,1.0s							
CRS	**Chara**	**5.30**	**62**		*e*Pg	**Pb**	**16 47 03.8**	**+1.2**
CRS					*e*Sg	Sb	16 48 13.2	+7.3
CRS					Pmax			
	comp=E,32nm,1.2s							
CRS					Smax			
	comp=E,69nm,1.4s							
ZAK	**Zakamensk**	**5.83**	**225**		*e*Pg	Pb	16 47 12.8	+1.2
ZAK					*e*Sg	Sb	16 48 27.9	+6.8
ZAK					Pmax			
	comp=E,5.0nm,0.5s							
ZAK					Smax			
	comp=E,44nm,0.8s							
TUP	**Tupik**	**5.95**	**88**		*e*PN	**Pn**	**16 46 58.8**	**+1.2**
TUP					*e*		16 47 17.2	
TUP					*e*S	**Sn**	**16 48 06.5**	**+1.2**
TUP					*e*		16 48 35.0	
TUP					pmax	pmax		
	comp=Z,12nm,0.5s							
TUP					smax	smax		
	comp=N,106nm,0.8s							
TUP	**Tupik**	**5.95**	**88**		*e*Pn	**Pn**	**16 46 58.3**	**+0.7**
TUP					*e*Pg	Pb	16 47 17.6	+4.0
TUP					*e*Sn	**Sn**	**16 48 03.8**	**-1.5**
TUP					*e*Sg	Sg	16 48 35.6	-5.7
TUP					Pmax			
	comp=N,11nm,0.5s							
TUP					Smax			
	comp=N,141nm,1.1s							
MOY	**Mondy**	**6.06**	**244**		*e*PG	Pb	16 47 18.8	+3.3
MOY					*e*S	**Sn**	**16 48 05.8**	**-2.4**
MOY					*e*		16 48 34.2	
MOY					pmax	pmax		
	comp=Z,18nm,0.7s							
MOY					smax	smax		
	comp=N,118nm,2.0s							
MOY	**Mondy**	**6.06**	**244**		*e*Pn	Pn	16 47 01.3	+2.1
MOY					*e*Sn	**Sn**	**16 48 05.7**	**-2.4**
MOY					*e*Sg	Sb	16 48 34.4	+6.7
MOY					Smax			
	comp=N,118nm,1.5s							
ORL	**Orlik**	**6.29**	**254**		*e*PN	Pn	16 47 03.5	+1.2
ORL					*e*		16 47 22.4	
ORL					*e*		16 48 41.6	
ORL					pmax	pmax		
	comp=Z,13nm,0.6s							
ORL					smax	smax		
	comp=N,78nm,1.1s							
ORL	**Orlik**	**6.29**	**254**		*e*Pn	Pn	16 47 04.1	+1.8
ORL					*e*Sn	**Sn**	**16 48 11.2**	**-2.5**
ORL					*e*Sg	Sb	16 48 41.5	+7.4
ORL					Smax			
	comp=N,77nm,0.9s							
SONM	**Songino Array**	**7.16**	**198**		Pn	Pn	16 47 15.4	+1.0
	comp=N,0.4nm,0.3s,baz=6.9,slow=14,SNR=5.9							
SONM					Lg	Lg	16 49 15.9	
	comp=N,2.1nm,0.3s,baz=16,slow=27,SNR=10							
ZALV	**Zalesovo Beam**	**14.54**	**277**		P	**Pn**	**16 48 55.8**	**+0.7**
ZALV	**Zalesovo Beam**	**14.54**	**277**		Pn	**Pn**	**16 48 55.8**	**+0.7**
	comp=N,0.1nm,0.3s,baz=77,slow=12,SNR=4.6							
ZALV					Lg	Lg	16 53 03.4	
	comp=N,0.1nm,0.3s,baz=86,slow=19,SNR=7.2							
NVS	**Novosibirsk**	**15.27**	**281**		*e*P	**Pn**	**16 49 02.4**	**-2.5**
MKAR	**Makanchi Array**	**18.98**	**257**		P	**P**	**16 49 50.7**	**-0.1**
MKAR	**Makanchi Array**	**18.98**	**257**		P	**P**	**16 49 50.7**	**-0.1**
	comp=N,0.2nm,0.3s,baz=65,slow=9.8,SNR=8.3							
KURK	**Kurchatov**	**19.18**	**271**		P	**Pn**	**16 49 54.2**	**+0.4**
KURBB	**Kurchatov Arra**	**19.27**	**271**		P	**P**	**16 49 54.2**	**+0.3**
	comp=N,0.2nm,0.3s,baz=64,slow=12,SNR=6.5							
BVAR	**Borovoye Array**	**23.07**	**282**		P	**P**	**16 50 36.3**	**+1.7**
BVAR					pmax	pmax		
	comp=Z,3.0nm,0.6s							
BVAR	**Borovoye Array**	**23.07**	**282**		P	**P**	**16 50 36.3**	**+1.7**
	comp=Z,2.5nm,0.6s,baz=80,slow=12,SNR=12							

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*NIED **30** 17:04:00,23.°30N×123.°90E,h14km,Mw4.0 Best double couple: M0 1.06000×10^15 NP1:φs 11.00000°,δ87.00000°, λ93.00000°. NP2:φs 149.00000°,δ4.00000°,λ48.00000°.*
*IDC **30** 17:04:29.4±1.1,23.°33N×123.°86E,h0km,mb3.4/5, mb1 3.6/6,mb1mx3.4/24,mbtmp3.4/6,ML3.5/1,MS3.2/1, Ms1 3.2/1,ms1mx2.4/18,Error ellipse: s-maj=35.4km s-min=20.7km az=64.0*
*ISCJB **30** 17:04:32.7±1.3,23.°35N±0.°07×123.°88E±0.°05, h35km±14km,mb3.2/5,MS3.1/1,Error ellipse: s-maj=12.3km s-min=8.2km az=172.8*
*JMA **30** 17:04:32.6±0.2,23.°35N×123.°86E,h42km±3km,M3.6*
ISC 30 17:04:32.3±1.9,23.°39N±0.°07×123.°85E±0.°06,h20km±10km, n16,σ0s63/24,mb3.4/5,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.66**	**356**		P	**Pn**	**17 04 46.2**	**-0.4**
HATJ					*e*S	**Sn**	**17 04 56.2**	**-0.3**
JKRS	**Kuro-shima**	**0.85**	**10**		P	**Pg**	**17 04 49.1**	**0.0**
JKRS					*e*S	**Sn**	**17 05 01.1**	**-0.1**
IRIF	**Iriomote-Funau**	**0.94**	**353**		P	**Pn**	**17 04 50.6**	**+0.1**
IRIF					*e*S	**Sg**	**17 05 03.2**	**-0.1**
JIJ	**Ishigaki jima**	**1.00**	**15**		P	**Pb**	**17 04 51.0**	**-0.1**
JIJ					S	**Sb**	**17 05 03.9**	**0.0**
YOJ	**Yonaguni jima**	**1.31**	**324**		P	**Pn**	**17 04 55.6**	**0.0**
YOJ					S	**Sn**	**17 05 11.8**	**-0.7**
JTJ	**Tarama**	**1.47**	**32**		P	**Pn**	**17 04 57.7**	**0.0**
JTJ					S	**Sn**	**17 05 16.2**	**-0.1**
JMJ	**Miyako jima 2**	**1.94**	**43**		P	**Pn**	**17 05 04.4**	**+0.3**
JMJ					S	**Sn**	**17 05 27.9**	**0.0**
JOGS	**Gusukube**	**1.97**	**46**		P	**Pn**	**17 05 04.8**	**+0.2**
JOGS					*e*S	**Sn**	**17 05 28.6**	**-0.1**
JKE	**Kume jima 2**	**3.96**	**42**		P	**Pn**	**17 05 30.7**	**-1.2**
JKE					*e*S	**Sn**	**17 06 17.7**	**-0.1**
MJAR	**Matsushiro Arr**	**18.04**	**40**		P	**P**	**17 08 43.5**	**+1.2**
	0.2nm,0.3s,baz=235,slow=11,SNR=3.2							
CMAR	**Chiang Mai Arr**	**23.76**	**263**		P	**P**	**17 09 44.3**	**+0.6**
	0.2nm,0.5s,baz=62,slow=7.6,SNR=2.9							
SONM	**Songino Array**	**28.09**	**335**		LR	LR	17 22 38.2	
	comp=Z,42nm,18.6s,baz=170,slow=39							
MKAR	**Makanchi Array**	**40.61**	**316**		P	**P**	**17 12 11.8**	**+0.9**
	0.3nm,0.5s,baz=97,slow=9.4,SNR=7.4							
ZALV	**Zalesovo Beam**	**42.24**	**326**		P	**P**	**17 12 23.4**	**-0.7**
	0.4nm,0.4s,baz=117,slow=9.6,SNR=2.7							
WRA	**Warramunga Arr**	**44.27**	**166**		P	**P**	**17 12 39.4**	**-1.4**
	0.5nm,0.6s,baz=344,slow=9.1,SNR=12							
ASAR	**Alice Springs**	**47.79**	**168**		P	**P**	**17 13 08.8**	**+0.3**
	0.2nm,0.5s,baz=352,slow=6.6,SNR=8.9							

IDC 30 17:06:03.7±2.5,14.°93S×172.°44W,h0km,mb3.6/3, mb1 4.0/3,mb1mx3.6/20,mbtmp3.6/3,Error ellipse: s-maj=112.0km s-min=17.4km az=137.0,Samoa Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.20**	**32**		Pn	Pg	17 06 26.5	-0.3
	17nm,0.3s,baz=81,slow=20,SNR=21							
AFI					Sn	Sn	17 06 47.5	+2.6
	124nm,0.3s,baz=142,slow=18,SNR=18							
WRA	**Warramunga Arr**	**50.86**	**256**		P	P	17 15 06.9	+0.2
	0.2nm,0.5s,baz=95,slow=7.0,SNR=8.8							
ASAR	**Alice Springs**	**51.14**	**252**		P	P	17 15 08.5	-0.4
	1.0nm,0.5s,baz=88,slow=8.1,SNR=33							
NVAR	**Mina Array Bea**	**73.36**	**42**		P	P	17 17 38.7	+0.9
	0.4nm,0.7s,baz=228,slow=8.1,SNR=3.7							

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*IDC **30** 17:34:23.7±1.4,1.°58N×122.°49E,h0km,mb3.4/4, mb1 3.5/4,mb1mx3.4/23,mbtmp3.4/4,Error ellipse: s-maj=158.1km s-min=23.2km az=66.0*
*ISCJB **30** 17:34:27.3±0.8,1.°43N±0.°06×122.°07E±0.°06,h38km, mb3.2/4,Error ellipse: s-maj=9.3km s-min=8.7km az=41.4*
*DJA **30** 17:34:27.5±0.9,1.°N±6.°×12.°2E±.°,h16km±7km,M4.1/9, mb4.2/5,MLv4.0/9*
ISC 30 17:34:29.1±1.0,1.°42N±0.°08×122.°03E±0.°07,h38km,n15, σ1s02/17,mb3.4/4,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.94**	**186**		P	**Pn**	**17 34 44.4**	**-1.4**
MRSI					S	**Sn**	**17 34 57.5**	**-0.5**
TOLI	**Toli-Toli**	**1.27**	**257**		P	**Pn**	**17 34 49.8**	**-0.6**
TOLI					S	**Sn**	**17 35 07.5**	**+1.3**
KMSI	**Cibinong**	**2.12**	**113**		P	**Pn**	**17 35 01.9**	**-0.1**
APSI	**Ampana**	**2.34**	**189**		P	**Pn**	**17 35 06.4**	**+1.3**
LUWI	**Luwuk**	**2.55**	**163**		P	**Pn**	**17 35 09.5**	**+1.5**
LUWI					S	Sn	17 35 47.3	+10
TTSI	**Tana Toraja**	**4.95**	**207**		P	**Pn**	**17 35 41.6**	**+0.6**
MMSI	**Mamuju**	**5.14**	**217**		P	**Pn**	**17 35 43.4**	**-0.2**
	21nm,0.6s,0.1nm							
SPSI	**Sidrap Palu**	**5.80**	**203**		P	**Pn**	**17 35 52.6**	**-0.1**
	14nm,1.0s,0.1nm							
BNSI	**Bone**	**6.09**	**198**		P	**Pn**	**17 35 55.8**	**-0.8**
	22nm,0.9s,0.1nm							
KAPI	**Kappang**	**6.78**	**200**		P	**Pn**	**17 36 06.3**	**+0.1**
	11nm,1.4s							
BBSI	**Bau Bau**	**6.88**	**176**		P	**Pn**	**17 36 07.3**	**-0.2**
WRA	**Warramunga Arr**	**24.42**	**151**		P	**P**	**17 39 42.3**	**-2.1**
	0.8nm,0.7s,baz=329,slow=10,SNR=5.6							
ASAR	**Alice Springs**	**27.48**	**156**		P	**P**	**17 40 12.8**	**+0.9**
	0.1nm,0.5s,baz=344,slow=14,SNR=4.2							
SONM	**Songino Array**	**49.18**	**346**		P	**P**	**17 43 05.7**	**-0.2**
	0.6nm,0.8s,baz=167,slow=8.6,SNR=5.2							
MKAR	**Makanchi Array**	**56.91**	**328**		P	**P**	**17 44 10.9**	**+0.5**
	0.4nm,0.9s,baz=118,slow=6.5,SNR=2.8							

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*NIED **30** 17:42:00,41.°10N×142.°80E,h26km,Mw4.6 Best double couple: M0 7.64000×10^15 NP1:φs 82.00000°,δ50.00000°, λ93.00000°. NP2:φs 257.00000°,δ40.00000°,λ86.00000°.*
*JMA **30** 17:42:07.6±0.2,41.°08N×142.°82E,h14km±3km,M4.5*
JMA Felt II J1.
*MOS **30** 17:42:09.2±0.9,41.°16N×142.°72E,h36km,mb5.0/64,Error ellipse: s-maj=7.8km s-min=4.8km az=100.5*
*ISCJB **30** 17:42:09.8±0.4,41.°13N±0.°03×142.°77E±0.°03,h43km±3km, mb4.7/126,MS4.0/27,Error ellipse: s-maj=5.0km s-min=2.9km az=142.0*
*BJI **30** 17:42:09.8,41.°06N×142.°77E,h52km,mB5.0/31,mb4.6/45, Ms4.3/32,Ms7 4.0/32*
*IDC **30** 17:42:11.8±0.7,41.°12N×142.°71E,h47km±6km,mb4.2/22, mb1 4.4/27,mb1mx4.4/29,mbtmp4.2/27,MS3.9/21, Ms1 3.9/21,ms1mx3.7/49,Error ellipse: s-maj=13.3km s-min=8.8km az=99.0*
*NEIC **30** 17:42:11.6±0.5,41.°18N×142.°70E,h44km±4km,mb4.9/65, MW4.5(NIED),Error ellipse: s-maj=5.3km s-min=3.3km az=155.0*
NEIC Recorded [2 JMA] in south-central Hokkaido and [1 JMA] in southwestern Hokkaido. Also recorded [1 JMA] in Aomori and Iwate, Honshu.
ISC 30 17:42:10.8±0.4,41.°13N±0.°03×142.°79E±0.°03,h41km±2km, h40km:pP-P,n400,σ1s24/471,mb4.7/127,MS4.0/30, 20C-26D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.93**	**17**	*c*	*i*P	**Pn**	**17 42 25.7**	**-1.7**
ERM					pmax	pmax		
	comp=Z,2μm,0.7s							
ERM	**Erimo**	**0.93**	**17**		*e*Pg	**Pn**	**17 42 25.7**	**-1.7**
ERM					*e*Sg	**Sn**	**17 42 37.8**	**-1.7**
JEM	**Erimo**	**0.93**	**17**		⇓P	**Pn**	**17 42 25.6**	**-1.8**
JEM					*e*S	**Sn**	**17 42 39.0**	**-0.5**
JNBK	**Urakawa-nobuka**	**1.15**	**359**		⇓P	**Pn**	**17 42 29.5**	**-0.9**
JNBK					*e*S	**Sn**	**17 42 44.8**	**-0.1**
JOT	**Ohata**	**1.33**	**281**		⇓P	**Pn**	**17 42 31.9**	**-1.1**
JOT					*e*S	**Sn**	**17 42 49.7**	**+0.2**
JTM	**Tenmabayashi**	**1.35**	**256**		⇓P	**Pn**	**17 42 32.4**	**-0.7**
JTM					*e*S	**Sn**	**17 42 50.2**	**+0.4**
JKB	**Kayabe**	**1.52**	**300**		⇓P	**Pn**	**17 42 34.4**	**-1.1**
JKB					*e*S	**Sn**	**17 42 53.7**	**-0.3**
JCH	**Churui**	**1.54**	**16**	⇑	P	**Pn**	**17 42 35.5**	**-0.3**
JCH					*e*S	**Sn**	**17 42 56.1**	**+1.5**
JBT2	**Biratori 2**	**1.68**	**349**		⇓P	**Pn**	**17 42 37.9**	**+0.2**
JBT2					*e*S	**Sn**	**17 43 01.1**	**+3.2**
JSR	**Shiriuchi**	**1.83**	**283**		⇓P	**Pn**	**17 42 39.6**	**-0.1**
JSR					*e*S	**Sn**	**17 43 02.9**	**+1.3**
JNB	**Noboribetsu**	**1.87**	**316**		⇓P	**Pn**	**17 42 39.5**	**-0.8**
JNB					*e*S	**Sn**	**17 43 03.0**	**+0.3**
JAH	**Hinai**	**1.89**	**241**		P	**Pn**	**17 42 40.3**	**-0.3**
JAH					*e*S	**Sn**	**17 43 04.6**	**+1.5**
JEW	**Eniwo**	**1.98**	**330**		⇓P	**Pn**	**17 42 42.1**	**+0

YUK pmax pmax
comp=Z,360nm,0.3s
YUK pmax pmax
comp=N,1μm,0.3s
YUK smax smax
comp=E,3μm,0.6s
YUK smax smax
comp=N,1μm,0.3s
KUR Kuril'sk 5.53 40 P **Pn** **17 43 30.8 +0.2**
KUR S **Sn** **17 44 30.0 -2.8**
KUR pmax pmax
comp=Z,300nm,0.5s
KUR pmax pmax
comp=N,130nm,0.6s
KUR pmax pmax
comp=E,130nm,0.5s
KUR smax smax
comp=N,380nm,0.5s
MJAR Matsushiro Arr 5.81 219 P **Pn** **17 43 35.9 +1.4**
MJAR Matsushiro Arr 5.81 219 P **Pn** **17 43 35.9 +1.4**
comp=N,3.5nm,0.3s,baz=33,slow=12,SNR=11
MJAR LR LR 17 46 09.9
comp=N,974nm,19.5s,baz=30,slow=41
YSS Yuzh-Sakhalins 5.82 360 *e*P **Pn** **17 43 35.5 +1.0**
YSS *i* S **Sn** **17 44 41.0 +1.0**
YSS pmax pmax
comp=Z,50nm,0.8s
YSS smax smax
comp=E,70nm,0.7s
YSS MLR MLR
comp=Z,2μm,16.0s
YSS MLR MLR
comp=N,700nm,17.0s
USRK Ussuriysk Arra 8.53 295 P **Pn** **17 44 13.1 +1.5**
comp=N,1.0nm,0.3s,baz=96,slow=16,SNR=14
USRK LR LR 17 47 25.3
comp=N,483nm,19.7s,baz=92,slow=37
HABR Khabarovsk 9.17 326 *e*P Pn 17 44 16.3 -4.1
MDJ Mudanjiang 10.29 294 P **Pn** **17 44 34.3 -1.5**
MDJ S **Sn** **17 46 24.8 -5.0**
MDJ PcP **PcP** **17 50 36.0 -4.9**
MDJ ScP **ScP** **17 54 09.8 0.0**
MDJ ScS **ScS** **17 57 41.0 -3.5**
MDJ AMB AMB
comp=N,4.0nm,0.6s
MDJ AMB AMB
comp=N,59nm,4.1s
MDJ LR LR
comp=N,230nm,13.6s
MDJ LR LR
comp=N,420nm,15.0s
MDJ LR LR
comp=N,580nm,15.9s
MDJ Mudanjiang 10.29 294 *e*Pn **Pn** **17 44 35.4 -0.4**
comp=N,12nm,0.9s
KLR Kul'dur 11.22 320 *e*P **Pn** **17 44 48.4 -0.2**
KLR pmax pmax
comp=E,25nm,1.2s
KLR pmax pmax
comp=Z,50nm,1.2s
KLR MLR MLR
comp=E,500nm,12.5s
KLR MLR MLR
comp=Z,2μm,12.5s
KSRS Korea Array 12.09 257 P **Pn** **17 45 01.8 +1.4**
comp=Z,0.3nm,0.3s,baz=64,slow=14,SNR=5.0
KSRS S Sn 17 47 20.2 +6.4
comp=Z,0.4nm,0.3s,baz=67,slow=24,SNR=6.3
KSRS LR LR 17 49 27.4
comp=Z,393nm,18.2s,baz=254,slow=36
KSAR Wonju Array Be 12.12 257 P **Pn** **17 45 01.8 +1.0**
KSAR S **Sn** **17 47 20.2 +5.6**
JNU Nakatsue 12.41 234 P **Pn** **17 45 06.0 +1.1**
JNU Nakatsue 12.41 234 P **Pn** **17 45 06.0 +1.1**
comp=Z,0.3nm,0.3s,baz=27,slow=4.5,SNR=3.6
JNU LR LR 17 49 51.5
comp=Z,431nm,21.6s,baz=77,slow=37
CN2 Changchun 13.08 288 *e*P **Pn** **17 45 15.5 +1.6**
CN2 *e*pP **P** **17 45 23.8 +0.4**
CN2 *e*S **Sn** **17 47 39.5 +1.6**
CN2 AMB AMB
comp=Z,10.0nm,0.6s
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,400nm,15.0s
CN2 LR LR
comp=Z,500nm,16.0s
CBIJ Chichi jima 14.01 182 *e*Pn Pn 17 45 18.8 -8.0
SNY Shenyang 14.42 279 ||P Pn 17 45 27.0 -5.2
SNY S **Sn** **17 48 08.8 -1.8**
SNY AMB AMB
comp=Z,11nm,2.5s
SNY LR LR
comp=N,180nm,14.4s
SNY LR LR
comp=E,400nm,16.2s
SNY LR LR
comp=Z,340nm,15.6s
PETK Petropavlovsk- 15.66 35 P Pn 17 45 41.4 -7.0
PETK MLR MLR
comp=Z,219nm,18.4s
PETK Petropavlovsk- 15.66 35 P Pn 17 45 41.4 -7.0
PETK Petropavlovsk- 15.66 35 P Pn 17 45 41.4 -7.0
comp=Z,0.1nm,0.3s,baz=224,slow=14,SNR=3.6
PETK LR LR 17 52 01.8
comp=Z,219nm,18.4s,baz=0.4,slow=38
CLNS Chul'man 19.52 330 *e*P **P** **17 46 34.1 -0.4**
CLNS pmax pmax
comp=N,8.0nm,0.7s
CLNS pmax pmax
comp=Z,21nm,0.8s
CLNS pmax pmax
comp=E,6.0nm,0.7s
CLNS MLR MLR
comp=N,232nm,13.0s
CLNS MLR MLR
comp=Z,268nm,13.0s
CLNS MLR MLR
comp=E,291nm,16.0s
BJI Beijing 20.22 276 P **P** **17 46 40.5 -1.7**
BJI S S 17 50 15.3 -11
BJI AMB AMB
comp=E,10.0nm,0.7s
BJI AMB AMB
comp=E,120nm,3.8s
BJI LR LR
comp=E,310nm,4.6s
BJI LR LR
comp=E,290nm,10.4s
BJI LR LR
comp=E,180nm,19.1s
NJ2 Nanjing 21.19 252 *e*P **P** **17 46 52.3 -0.5**
NJ2 pP **pP** **17 47 01.8 -1.2**
NJ2 sP **sP** **17 47 06.0 -2.1**
NJ2 S **S** **17 50 43.0 -3.2**
NJ2 sS Sn 17 50 58.0 +3.5
NJ2 AMB AMB
comp=E,20nm,0.6s
NJ2 AMB AMB
comp=E,170nm,4.4s
NJ2 LR LR
comp=E,490nm,12.5s
NJ2 LR LR
comp=E,510nm,23.4s
NJ2 LR LR
comp=E,3μm,18.2s
YAK Yakutsk 22.37 344 *e*P **P** **17 47 01.1 -4.0**
YAK *e*S S 17 50 59.5 -8.7
YAK *e* 17 58 12.7
YAK pmax pmax
comp=Z,10.0nm,0.7s
YAK smax smax
comp=N,513nm,3.0s
YAK smax smax
comp=E,157nm,2.8s
SEY Seymchan 22.57 11 *e*P **P** **17 47 06.8 -0.5**
HHC Hu-ho-hao-te 23.51 280 *e*P **P** **17 47 13.5 -3.6**
HHC pP **pP** **17 47 25.0 -2.8**
HHC sP **sP** **17 47 30.5 -2.3**
HHC PP **PnPn** **17 47 46.0 +1.2**
HHC S S 17 51 19.0 -9.1
HHC SS **SnSn** **17 52 07.5 +1.0**
HHC PcS **PcS** **17 54 39.5 -1.7**
HHC AMB AMB
comp=E,32nm,1.1s
HHC AMB AMB
comp=E,190nm,5.2s
HHC LR LR
comp=E,420nm,12.6s
HHC LR LR
comp=E,500nm,12.7s
HHC LR LR
comp=E,500nm,15.7s
FX1 Attu Island--F 23.63 50 P **P** **17 47 19.8 +1.8**
FX1 Attu Island--F 23.63 50 P **P** **17 47 19.8 +1.8**
comp=E,16nm,0.6s,baz=302,slow=9.0,SNR=6.4
WHN Wuhan 25.25 254 P **P** **17 47 34.3 +1.2**
WHN S **S** **17 51 52.3 -3.7**
WHN LR LR
comp=E,690nm,15.6s
ULN Ulaanbaatar 26.19 297 *e*Pn P 17 47 36.2 -5.4
comp=E,6.0nm,0.7s
SONM Songino Array 26.63 297 P **P** **17 47 45.5 -0.1**
SONM PcP **PcP** **17 51 08.2 -0.5**
SONM Songino Array 26.63 297 P **P** **17 47 45.5 -0.1**
comp=E,5.0nm,0.6s,baz=78,slow=7.9,SNR=15
SONM PcP **PcP** **17 51 08.1 -0.5**
comp=E,0.6nm,0.5s,baz=100,slow=2.1,SNR=4.0
SONM LR LR 17 59 01.5
comp=E,247nm,18.1s,baz=351,slow=38
XAN Xi'an 27.63 266 P **P** **17 47 56.8 +2.2**
XAN AMB AMB
comp=E,2.0nm,0.6s
ZAK Zakamensk 28.77 302 *e*P **P** **17 48 04.7 0.0**
ZAK pmax pmax
comp=Z,3.0nm,1.3s
ENH Enshi 28.97 259 *e*P **P** **17 48 05.0 -1.5**
comp=Z,5.0nm,0.6s
H11N2 WAKE ISLAND Hy 29.61 129 T T 18 19 37.5
baz=326,slow=0.7,SNR=817
H11N1 WAKE ISLAND Hy 29.62 129 T T 18 19 41.2
baz=326,slow=0.7,SNR=820
H11N3 WAKE ISLAND Hy 29.63 129 T T 18 19 38.6
baz=326,slow=0.7,SNR=516
H11S1 WAKE ISLAND Hy 30.46 131 T T 18 20 41.5
baz=328,slow=0.7,SNR=963
H11S3 WAKE ISLAND Hy 30.46 131 T T 18 20 39.8
baz=328,slow=0.7,SNR=443
H11S2 WAKE ISLAND Hy 30.47 131 T T 18 20 42.7
baz=328,slow=0.7,SNR=328
TIXI Tiksi 31.37 352 *e*P **P** **17 48 25.5 -1.7**
TIXI pmax pmax
comp=Z,1.0nm,1.0s
GTA Gaotai 32.59 281 *e*P **P** **17 48 38.5 0.0**
GTA pP **pP** **17 48 50.0 +0.3**
GTA sP **sP** **17 48 55.3 +0.7**
GTA PcP **PcP** **17 51 25.3 +1.3**
GTA S **S** **17 53 51.0 -0.4**
GTA sS **sS** **17 54 12.5 +2.4**
GTA AMB AMB
comp=Z,3.0nm,0.8s
GTA AMB AMB
comp=Z,110nm,3.8s
GTA LR LR
comp=Z,140nm,17.1s
GTA LR LR
comp=Z,240nm,17.1s
GTA LR LR
comp=Z,290nm,19.0s
CD2 Chengdu 32.93 265 P **P** **17 48 42.5 +1.1**
CD2 pP **pP** **17 48 53.3 +0.6**
CD2 sP **sP** **17 48 58.0 +0.5**
CD2 PP **PnPn** **17 49 52.8 +1.6**
CD2 S **S** **17 53 55.5 -1.2**
CD2 sS **sS** **17 54 13.8 -1.6**
CD2 SS **SnSn** **17 55 55.0 -1.3**
CD2 AMB AMB
comp=Z,10.0nm,0.5s
CD2 AMB AMB
comp=Z,90nm,4.3s
CD2 LR LR
comp=Z,220nm,6.0s
CD2 LR LR
comp=Z,190nm,12.5s
GYA Guiyang 33.14 255 *e*P **P** **17 48 43.3 0.0**
GYA pP **pP** **17 48 54.8 +0.2**
GYA sP **sP** **17 49 01.3 +1.9**
GYA PP **PnPn** **17 49 54.3 +0.4**
GYA PcP **PcP** **17 51 27.0 +1.3**
GYA S **S** **17 53 58.5 -1.5**
GYA sS **sS** **17 54 17.3 -1.4**
GYA ScP **ScP** **17 55 06.0 -0.6**
GYA ScS **ScS** **17 59 05.5 -1.9**
GYA AMB AMB
comp=Z,10.0nm,0.8s
GYA AMB AMB
comp=Z,90nm,4.9s
GYA LR LR
comp=Z,420nm,16.8s
GYA LR LR
comp=Z,380nm,17.4s
GYA LR LR
comp=Z,470nm,16.6s
HVS Khovu-Aksy 34.86 304 *e*P **P** **17 48 58.0 0.0**
HVS pmax pmax
comp=Z,25nm,1.0s
QIZ Qiongzhong 35.70 242 P **P** **17 49 05.0 -0.4**
QIZ S **S** **17 54 38.0 -1.4**
QIZ AMB AMB
comp=Z,11nm,2.0s
QIZ LR LR
comp=Z,170nm,20.2s
KMI Kunming 36.79 257 P **P** **17 49 15.5 +0.6**
KMI pP **pP** **17 49 25.3 -0.9**
KMI sP **sP** **17 49 31.5 +0.4**
KMI PP **PnPn** **17 50 41.0 +1.6**
KMI S **S** **17 54 55.8 -0.6**
KMI SS **SnSn** **17 57 23.3 -6.7**
KMI AMB AMB
comp=Z,67nm,3.4s
KMI LR LR
comp=Z,140nm,12.2s
KMI LR LR
comp=Z,190nm,14.1s
KMI LR LR
comp=Z,220nm,14.5s
ZAA0 Zalesovo Array 40.06 309 *e*P **P** **17 49 41.4 -0.4**
ZAA0 *e*PcP **PcP** **17 51 45.7 -0.2**
ZALV Zalesovo Beam 40.06 309 P **P** **17 49 41.6 -0.2**
ZALV 17 51 46.2
ZALV pmax pmax
comp=Z,9.0nm,0.5s
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV MLR MLR
comp=Z,210nm,18.8s
ZALV Zalesovo Beam 40.06 309 P **P** **17 49 41.6 -0.2**
ZALV PcP **PcP** **17 51 46.2 +0.3**
ZALV Zalesovo Beam 40.06 309 P **P** **17 49 41.6 -0.2**
comp=Z,8.5nm,0.5s,baz=87,slow=7.5,SNR=32
ZALV PcP **PcP** **17 51 46.2 +0.3**
comp=Z,1.6nm,0.5s,baz=93,slow=2.9,SNR=4.5
ZALV LR LR 18 07 18.4
comp=Z,210nm,18.8s,baz=70,slow=38
WMQ Urumqi 40.09 293 P **P** **17 49 42.8 +0.5**
WMQ pP **pP** **17 49 52.5 -1.2**
WMQ sP **sP** **17 49 56.5 -2.1**
WMQ PP **PnPn** **17 51 19.3 +0.7**
WMQ S **S** **17 55 45.3 -0.3**
WMQ SS SS 17 58 36.3 -7.5
WMQ AMB AMB
comp=Z,24nm,0.8s
WMQ AMB AMB
comp=Z,130nm,4.4s
WMQ LR LR
comp=Z,220nm,20.6s
WMQ LR LR
comp=Z,110nm,18.4s
WMQ LR LR
comp=Z,150nm,17.4s
NVS Novosibirsk 40.89 310 *e*P **P** **17 49 48.3 -0.4**
NVS pmax pmax
comp=Z,22nm,1.7s
NVS pmax pmax
comp=E,10.0nm,1.3s
CRAI Chiangrai 41.50 253 P **P** **17 49 55.2 +1.1**
comp=E,251nm,1.4s,comp=E,8μm
IM04 Indian Mountai 42.59 33 *e*P **P** **17 50 03.0 +0.5**
IMA2 Indian Mountai 42.64 33 *e*P **P** **17 50 03.2 +0.2**
LOEI Loei 42.64 249 P **P** 17 50 11.9 +8.5
CMAI Chiengmai2 42.65 254 P **P** **17 50 05.7 +2.0**
comp=E,102nm,1.1s,comp=E,8μm
MK31 Makanchi Array 42.97 299 *e*P **P** **17 50 05.4 -0.4**
MK31 *e* 17 50 17.4
MK31 Makanchi Array 42.97 299 *e*P **P** **17 50 05.3 -0.4**
MK31 *e* 17 50 17.4
MKAR Makanchi Array 42.97 299 P **P** **17 50 05.5 -0.3**
MKAR *PP **pP** **17 50 18.6 +1.3**
MKAR 17 51 55.5
MKAR pmax pmax
comp=Z,6.0nm,0.7s
MKAR pmax pmax
comp=Z,5.0nm,0.5s
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR MLR MLR
comp=Z,132nm,19.1s
MKAR Makanchi Array 42.97 299 P **P** **17 50 05.5 -0.3**
MKAR pP **pP** **17 50 18.6 +1.3**
MKAR PcP **PcP** **17 51 55.5 -0.1**
MKAR Makanchi Array 42.97 299 P **P** **17 50 05.5 -0.3**
comp=Z,6.1nm,0.7s,baz=84,slow=9.7,SNR=56
MKAR pP **pP** **17 50 18.6 +1.3**
comp=Z,5.2nm,0.5s,baz=88,slow=9.1,SNR=11
MKAR PcP **PcP** **17 51 55.5 -0.1**
comp=Z,1.6nm,0.8s,baz=86,slow=4.5,SNR=2.4
MKAR LR LR 18 09 08.1
comp=Z,132nm,19.1s,baz=173,slow=38
LSA Lhasa 43.04 272 *e*P **P** **17 50 07.8 +0.7**
LSA pmax pmax
comp=Z,6.0nm,0.8s
LSA Lhasa 43.04 272 *e*P **P** **17 50 07.8 +0.7**
comp=Z,5.7nm,0.8s
CHAI Chaiyaphum 43.23 247 P **P** **17 50 08.5 +0.3**
comp=Z,5.2nm,0.7s
KDAK Kodiak Island 43.39 45 *e*P **P** **17 50 08.7 -0.3**
comp=Z,8.1nm,0.4s
CHTO Chiang Mai 43.44 253 *e*P **P** **17 50 09.9 0.0**
CHTO pmax pmax
comp=Z,12nm,0.6s
CHTO Chiang Mai 43.44 253 *e*P **P** **17 50 09.9 0.0**
comp=Z,12nm,0.6s
CHTO Chiang Mai 43.44 253 P **P** **17 50 10.6 +0.7**
comp=Z,41nm,1.4s
CMAR Chiang Mai Arr 43.67 252 P **P** **17 50 11.8 0.0**
CMAR PcP **PcP** **17 51 59.4 +1.0**
CMAR Chiang Mai Arr 43.67 252 P **P** **17 50 11.8 0.0**
comp=Z,1.4nm,0.6s,baz=42,slow=7.8,SNR=18
CMAR PcP **PcP** **17 51 59.4 +1.0**
comp=Z,0.6nm,0.8s,baz=8.5,slow=1.8,SNR=2.9
CMAR LR LR 18 08 09.0
comp=Z,78nm,18.6s,baz=338,slow=36
BPAW Bear Paw Mtn. 43.74 36 *e*P **P** **17 50 10.0 -1.8**
comp=Z,4.6nm,0.7s
COLD Coldfoot 44.07 31 *e*P **P** **17 50 14.5 +0.1**
comp=Z,11nm,1.2s
TRF Thorofare Moun 44.08 36 *e*P **P** **17 50 14.7 0.0**
comp=Z,10.0nm,0.8s
KURK Kurchatov 44.35 305*c i*P **P** **17 50 16.4 -0.4**
KURK pmax pmax
comp=Z,11nm,1.2s
KURK Kurchatov 44.35 305 *e*P **P** **17 50 15.1 -1.7**
MCK McKinley 44.66 36 *e*P **P** **17 50 19.0 -0.2**
MCK McKinley 44.66 36 *e*P **P** **17 50 19.0 -0.2**
PMR Palmer 44.74 39 P **P** **17 50 19.2 -0.5**
PMR pmax pmax
comp=Z,6.0nm,0.6s
PMR Palmer 44.74 39 P **P** **17 50 19.2 -0.5**
comp=Z,5.8nm,0.6s
COLA College 45.07 34 *e*P **P** **17 50 22.5 +0.2**
COLA pmax pmax
comp=Z,63nm,1.0s
COLA College 45.07 34 *e*P **P** **17 50 22.5 +0.2**
comp=Z,63nm,1.0s
ILAR Eielson Array 45.49 34 P **P** **17 50 26.1 +0.5**
ILAR PcP **PcP** **17 52 03.4 -0.5**
ILAR Eielson Array 45.49 34 P **P** **17 50 26.1 +0.5**
comp=Z,7.3nm,0.7s,baz=264,slow=6.2,SNR=116
ILAR PcP **PcP** **17 52 03.4 -0.5**
comp=Z,0.6nm,0.6s,baz=274,slow=5.1,SNR=1.3
ILAR LR LR 18 10 57.6
comp=Z,93nm,18.0s,baz=300,slow=38
DOT Dot Lake 46.83 36 *e*P **P** **17 50 36.0 -0.3**
comp=Z,7.9nm,0.6s
TAPN Taplejung 46.84 271 *e*P **P** **17 50 37.6 +0.5**
comp=Z,20nm,0.7s
ODAN Odare 47.34 271 *e*P **P** **17 50 40.9 0.0**
comp=Z,41nm,1.1s
JIRN Jiri 47.82 272 *e*P **P** **17 50 45.1 +0.2**
comp=Z,28nm,0.8s
RAMN Ramite 47.88 271 *e*P **P** **17 50 45.1 -0.1**
comp=Z,28nm,0.7s
GUN Gumba 47.92 273 *e*P **P** **17 50 45.8 +0.2**
comp=Z,38nm,0.5s
EGAK Eagle 47.93 34 *e*P **P** **17 50 44.6 -0.1**
comp=Z,8.2nm,1.0s
KKN Kakani 48.44 273 *e*P **P** **17 50 49.4 -0.1**
comp=Z,22nm,0.6s
PKI Pulchoki 48.46 273 *e*P **P** **17 50 49.0 -0.7**
comp=Z,12nm,0.6s
PKIN Phulchoki 48.46 273 *e*P **P** **17 50 49.2 -0.5**
comp=Z,40nm,1.3s
DMN Daman 48.66 273 *e*P **P** **17 50 51.2 0.0**
comp=Z,19nm,0.7s
TKM2 Tokmak 2 48.72 296 *i* P **P** **17 50 52.0 +0.6**
TKM2 Tokmak 2 48.72 296 P **P** **17 50 52.0 +0.6**
SNR=10
TKM2 Tokmak 2 48.72 296 *e*P **P** **17 50 51.5 0.0**
comp=Z,12nm,0.7s
BRVK Borovoye 48.73 310 *e*P **P** **17 50 51.5 +0.4**
BRVK pmax pmax
comp=Z,2.0nm,1.0s
BRVK Borovoye 48.73 310 *e*P **P** **17 50 50.8 -0.4**
comp=Z,9.1nm,0.8s
GKN Gorkha 48.81 274 *e*P **P** **17 50 52.0 -0.3**
comp=Z,20nm,0.6s
KBK Karagaybulak 49.26 296 P **P** **17 50 55.7 +0.2**
SNR=12
KZA Kyzart 49.28 295 P **P** **17 50 57.2 +1.2**
SNR=7.6
DANN Dangsing 49.29 275 *e*P **P** **17 50 56.4 +0.3**
comp=Z,68nm,0.6s
USP Ospenovka 49.33 297 P **P** **17 50 55.9 0.0**
SNR=5.7
AAK Ala-Archa 49.58 296*d i*P **P** **17 50 58.0 +0.1**
AAK pmax pmax
comp=Z,19nm,1.7s
AAK Ala-Archa 49.58 296 *e*P **P** **17 50 57.5 -0.4**
comp=Z,3.9nm,0.6s
KSH Kashi 49.81 291 P P 17 51 04.3 +4.6
KSH pP pP 17 51 15.8 +4.5
KSH sP sP 17 51 21.5 +5.4
KSH PcP **PcP** **17 52 24.3 +4.3**
KSH PP **PP** **17 52 58.5 +4.1**
KSH S **S** **17 58 10.5 +4.1**
KSH ScS **ScS** **18 00 45.5 -2.3**
KSH AMB AMB
comp=Z,170nm,4.8s
KSH LR LR
comp=Z,75nm,5.5s
KSH LR LR
comp=Z,110nm,5.0s
PYUN Piuthan 50.00 275 *e*P **P** **17 50 59.7 -1.7**
comp=Z,50nm,0.8s
EKS2 Erkin-Say 50.05 296 *e*P **P** **17 51 01.2 -0.3**
EKS2 pmax pmax
comp=Z,3.0nm,0.6s
EKS2 Erkin-Say 50.05 296 P **P** **17 51 01.8 +0.3**
SNR=6.7
EKS2 Erkin-Say 50.05 296 *e*P **P** **17 51 01.2 -0.3**
comp=Z,3.4nm,0.6s
INK Inuvik 50.27 29 *e*P **P** **17 51 03.2 +0.6**
comp=Z,21nm,0.8s
AML Almayashu 50.32 295 P **P** **17 51 04.6 +0.7**
SNR=5.2
HYT Haines Junctio 50.41 39 *e*P **P** **17 51 05.7 +1.8**
HYT *e* 17 51 18.9
KULM Kulim 51.84 238 *e*P **P** **17 51 15.4 +0.3**
comp=Z,10nm,0.8s
KKAR Karatay Array 52.08 298 *e*P **P** **17 51 15.6 -0.9**
KKAR pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 52.08 298 *e*P **P** **17 51 15.6 -0.9**
comp=Z,4.0nm,0.6s

SVE	**Sverdlovsk**	**52.84**	**317**		*e*P		**P**	**17 51 22.3**	**+0.4**
SVE					pmax		pmax			
	comp=Z,10.0nm,0.7s									
SVE					MLR		MLR			
	comp=Z,299nm,18.0s									
ARU	**Arti**	**54.05**	**317**	*d*	*i*P		**P**	**17 51 30.8**	**0.0**
ARU								17 53 29.0		
ARU					S		**S**	**17 59 05.2**	**+1.3**
ARU					SS		**SKiKP**	**18 02 37.9**	**-1.3**
ARU					pmax		pmax			
	comp=Z,9.0nm,1.2s									
ARU					MLR		MLR			
	comp=Z,231nm,17.0s									
PSI	**Prapat**	**54.84**	**238**		LR		LR	18 16 49.3		
	comp=Z,101nm,18.2s,baz=113,slow=38									
ABKAR	**Akbulak array**	**56.17**	**309**		*e*P		**P**	**17 51 46.0**	**-0.3**
	comp=Z,8.4nm,0.6s									
ABKAR					*e*			17 51 58.5		
SPITS	**Spitsbergen Ar**	**56.72**	**349**		LR		LR	18 18 40.0		
	comp=Z,139nm,19.6s,baz=0,slow=39									
AKTO	**Aktyubinsk**	**56.78**	**310**		LR		LR	18 17 42.5		
	comp=Z,105nm,19.4s,baz=256,slow=38									
KBL	**Kabul**	**57.02**	**289**		*e*P		**P**	**17 51 50.5**	**-2.3**
KBL					pmax		pmax			
	comp=Z,6.0nm,0.8s									
KBL	**Kabul**	**57.02**	**289**		*e*P		**P**	**17 51 50.5**	**-2.3**
	comp=Z,5.5nm,0.8s									
RES	**Resolute Bay**	**58.37**	**15**		LR		LR	18 20 23.6		
	comp=Z,100nm,18.4s,baz=45,slow=39									
YKA	**Yellowknife Ar**	**59.75**	**32**		P		**P**	**17 52 11.6**	**+0.5**
YKA	**Yellowknife Ar**	**59.75**	**32**		P		**P**	**17 52 11.6**	**+0.5**
	comp=Z,5.1nm,1.0s,baz=297,slow=6.3,SNR=4.6									
KEV	**Kevo**	**60.00**	**339**		*e*P		P	17 52 08.4	-4.3	
KEV					pmax		pmax			
	comp=Z,1.0nm,0.4s									
KEV	**Kevo**	**60.00**	**339**		*e*p		P	17 52 08.4	-4.3	
	comp=Z,0.8nm,0.4s									
ARCES	**ARCESS Array B**	**60.55**	**339**		P		**P**	**17 52 15.9**	**-0.6**
ARCES					pP		**pP**	**17 52 29.4**	**+1.0**
ARCES	**ARCESS Array B**	**60.55**	**339**		P		**P**	**17 52 15.9**	**-0.6**
	comp=Z,2.1nm,0.8s,baz=55,slow=9.1,SNR=7.6									
ARCES					pP		**pP**	**17 52 29.4**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=50,slow=8.4,SNR=1.5									
KLMR	**Klimovskoe**	**60.89**	**327**		*e*P		**P**	**17 52 18.0**	**-0.9**
KLMR					pmax		pmax			
	comp=Z,22nm,1.6s									
WRA	**Warramunga Arr**	**61.27**	**189**		P		**P**	**17 52 21.3**	**-0.5**
WRA	**Warramunga Arr**	**61.27**	**189**		P		**P**	**17 52 21.3**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=6.9,slow=7.0,SNR=49									
JOF	**Joensuu**	**62.87**	**331**		*e*P		**P**	**17 52 32.0**	**-0.1**
JOF					pmax		pmax			
	comp=Z,2.0nm,0.4s									
JOF	**Joensuu**	**62.87**	**331**		*e*p		**P**	**17 52 32.0**	**-0.1**
	comp=Z,2.0nm,0.4s									
AS31	**Alice Springs**	**64.99**	**189**		*e*P		**P**	**17 52 46.3**	**-0.2**
ASAR	**Alice Springs**	**64.99**	**189**		P		**P**	**17 52 46.5**	**0.0**
ASAR					pP		**pP**	**17 52 59.5**	**+0.9**
ASAR	**Alice Springs**	**64.99**	**189**		P		**P**	**17 52 46.5**	**0.0**
	comp=Z,2.5nm,0.8s,baz=7.8,slow=5.9,SNR=26									
ASAR					pP		**pP**	**17 52 59.5**	**+0.9**
	comp=Z,3.5nm,0.8s,baz=3.3,slow=6.5,SNR=15									
KAF	**Kangasniemi**	**65.17**	**332**		*e*P		**P**	**17 52 45.5**	**-1.7**
KAF					pmax		pmax			
	comp=Z,1.0nm,0.4s									
KAF	**Kangasniemi**	**65.17**	**332**		*e*p		**P**	**17 52 45.5**	**-1.7**
	comp=Z,1.1nm,0.4s									
VRHR	**Novokhopersk**	**65.39**	**317**		*e*P		P	17 52 54.7	+5.8	
VRHR					pmax		pmax			
	comp=Z,7.0nm,0.7s									
VRHR					pmax		pmax			
	comp=N,2.0nm,0.5s									
VRHR					pmax		pmax			
	comp=E,3.0nm,0.4s									
OBN	**Obninsk**	**65.47**	**323**⇑		*e*P		**P**	**17 52 48.7**	**-0.6**
OBN					*e*			17 55 12.4		
OBN					*e*S		S	18 01 23.7	-7.1	
OBN					pmax		pmax			
	comp=Z,6.0nm,0.8s									
OBN					MLR		MLR			
	comp=Z,100nm,16.0s									
FINES	**FINESS Array B**	**65.70**	**332**		P		**P**	**17 52 50.4**	**-0.3**
FINES	**FINESS Array B**	**65.70**	**332**		P		**P**	**17 52 50.3**	**-0.3**
	comp=Z,11nm,0.6s,baz=37,slow=8.6,SNR=47									
FINES					LR		LR	18 24 14.7		
	comp=Z,176nm,19.1s,baz=204,slow=38									
HUMO	**Hull Mountain**	**66.38**	**53**		*e*P		**P**	**17 52 56.1**	**+0.6**
	comp=Z,5.8nm,1.0s									
VSR	**Storozhevoye**	**66.57**	**318**		*e*P		**P**	**17 52 55.9**	**-0.6**
VSR					pmax		pmax			
	comp=Z,9.0nm,0.5s									
VSR					pmax		pmax			
	comp=N,7.0nm,0.6s									
VSR					pmax		pmax			
	comp=E,4.0nm,0.8s									
SUMG	**Summit**	**66.59**	**0**		*i* P		**P**	**17 52 57.6**	**+0.9**	
SUMG					pmax		pmax			
	comp=Z,12nm,0.8s									
SUMG	**Summit**	**66.59**	**0**		*i* P		**P**	**17 52 57.6**	**+0.9**	
	comp=Z,12nm,0.8s									
VORD	**Divnogorie**	**66.66**	**318**		*e*P		**P**	**17 52 56.3**	**-0.7**
VORD					pmax		pmax			
	comp=N,20nm,0.6s									
VORD					pmax		pmax			
	comp=E,10.0nm,0.6s									
VORD					pmax		pmax			
	comp=Z,8.0nm,0.6s									
KHMM	**Horse Mountain**	**66.90**	**55**		*e*P		**P**	**17 53 00.3**	**+1.3**
	comp=Z,22nm,1.2s									
YBH	**Yreka Blue Hor**	**67.03**	**54**		*e*P		**P**	**17 53 01.1**	**+1.3**
	comp=Z,22nm,1.4s									
WDC	**Whiskeytown Da**	**67.81**	**55**		*e*P		**P**	**17 53 05.6**	**+1.1**
WDC					pmax		pmax			
	comp=Z,7.0nm,1.0s									
WDC	**Whiskeytown Da**	**67.81**	**55**		*e*P		**P**	**17 53 05.6**	**+1.1**
	comp=Z,7.3nm,1.0s									
MOD	**Modoc**	**68.40**	**53**		*e*P		**P**	**17 53 08.8**	**+0.4**
	comp=Z,21nm,0.7s									
BMO	**Blue Mountains**	**68.40**	**49**		*e*P		**P**	**17 53 08.8**	**+0.5**
BMO					pmax		pmax			
	comp=Z,2.0nm,0.7s									
BMO	**Blue Mountains**	**68.40**	**49**		*e*P		**P**	**17 53 08.8**	**+0.5**
	comp=Z,2.3nm,0.7s									
KIV	**Kislovodsk**	**69.05**	**310**	*ce*	P		**P**	**17 53 12.5**	**+0.2**
KIV				*e*				17 55 42.3		
KIV					*e*S		**S**	**18 02 09.5**	**-4.9**
KIV					*e*SS		**SS**	**18 06 42.1**	**+2.1**
KIV					pmax		pmax			
	comp=Z,20nm,1.0s									
KIV					MLR		MLR			
	comp=Z,100nm,18.0s									
KBZ	**Khabaz**	**69.06**	**310**		P		**P**	**17 53 12.7**	**+0.4**
KBZ					pmax		pmax			
	comp=Z,5.0nm,0.9s									
KBZ	**Khabaz**	**69.06**	**310**		P		**P**	**17 53 12.7**	**+0.4**
KBZ	**Khabaz**	**69.06**	**310**		P		**P**	**17 53 12.7**	**+0.4**
	comp=Z,4.5nm,0.9s,baz=40,slow=8.0,SNR=9.2									
WVOR	**Wild Horse Val**	**69.08**	**52**		*e*P		**P**	**17 53 13.3**	**+0.7**
WVOR					pmax		pmax			
	comp=Z,7.0nm,1.0s									
WVOR	**Wild Horse Val**	**69.08**	**52**		*e*P		**P**	**17 53 13.2**	**+0.7**
	comp=Z,6.8nm,1.0s									
FFC	**Flin Flon**	**69.70**	**34**	*ce*	P		**P**	**17 53 17.0**	**+1.0**
HRY	**Holter Researc**	**70.27**	**45**		*e*P		**P**	**17 53 20.2**	**+0.4**
	comp=Z,2.7nm,0.5s									
PAHR	**Pah Rah Range**	**70.27**	**54**		*e*P		**P**	**17 53 20.5**	**+0.5**
	comp=Z,16nm,0.9s									
LRM	**Limekiln Ridge**	**70.50**	**46**		*e*P		**P**	**17 53 21.7**	**+0.2**
	comp=Z,109nm,0.9s									
NB2	**NORSAR Subarra**	**70.82**	**337**		P		**P**	**17 53 22.5**	**-0.3**
	comp=Z,7.0nm,0.8s,baz=37,slow=6.2									
NOA	**NORSAR Array B**	**70.82**	**337**		P		**P**	**17 53 22.6**	**-0.3**
NOA	**NORSAR Array B**	**70.82**	**337**		P		**P**	**17 53 22.6**	**-0.3**
	comp=Z,5.1nm,0.8s,baz=37,slow=6.1,SNR=20									
NOA					LR		LR	18 29 12.5		
	comp=Z,98nm,18.6s,baz=20,slow=40									
WAKR	**Walker**	**70.97**	**55**		*e*P		**P**	**17 53 25.3**	**+0.9**
	comp=Z,5.3nm,0.9s									
BOZ	**Bozeman (W)**	**71.05**	**46**		*e*P		**P**	**17 53 25.5**	**+0.8**
BOZ					pmax		pmax			
	comp=Z,7.0nm,0.6s									
BOZ	**Bozeman (W)**	**71.05**	**46**		*e*P		**P**	**17 53 25.5**	**+0.8**
	comp=Z,6.7nm,0.6s									
BMN	**Battle Mountai**	**71.14**	**53**		*e*P		**P**	**17 53 26.8**	**+1.5**
BMN					pmax		pmax			
	comp=Z,12nm,0.9s									
BMN	**Battle Mountai**	**71.14**	**53**		*e*P		**P**	**17 53 26.8**	**+1.5**
	comp=Z,12nm,0.9s									
QLMT	**Earthquake Lak**	**71.69**	**46**		*e*P		**P**	**17 53 29.3**	**+0.7**
	comp=Z,0.4nm,0.6s									
NVAR	**Mina Array Bea**	**71.72**	**55**		P		**P**	**17 53 30.1**	**+1.2**
NVAR	**Mina Array Bea**	**71.72**	**55**		P		**P**	**17 53 30.1**	**+1.2**
	comp=Z,8.9nm,0.7s,baz=291,slow=6.3,SNR=72									
AKASG	**Malin Array Be**	**71.72**	**322**		P		**P**	**17 53 28.0**	**-0.3**
AKASG					pmax		pmax			
	comp=Z,8.0nm,0.6s									
AKASG	**Malin Array Be**	**71.72**	**322**		P		**P**	**17 53 28.0**	**-0.3**
AKASG	**Malin Array Be**	**71.72**	**322**		P		**P**	**17 53 28.0**	**-0.3**
	comp=Z,8.2nm,0.6s,baz=44,slow=6.1,SNR=48									
KIEV	**Kiev**	**71.73**	**322**		*e*P		**P**	**17 53 27.9**	**-0.5**
KIEV					pmax		pmax			
	comp=Z,11nm,0.9s									
KIEV	**Kiev**	**71.73**	**322**		*e*P		**P**	**17 53 27.9**	**-0.5**
	comp=Z,11nm,0.9s									
NV11	**Mina Array Sit**	**71.81**	**55**		*e*P		**P**	**17 53 30.2**	**+0.9**
SUW	**Suwalki**	**72.02**	**327**		*e*P		**P**	**17 53 30.8**	**+0.7**
SUW					pmax		pmax			
	comp=Z,13nm,0.7s									
SUW	**Suwalki**	**72.02**	**327**		*e*P		**P**	**17 53 30.8**	**+0.7**
	comp=Z,13nm,0.7s									
KONO	**Kongsberg**	**72.42**	**337**		P		**P**	**17 53 31.9**	**-0.5**
KONO					pmax		pmax			
	comp=Z,18nm,0.8s									
KONO	**Kongsberg**	**72.42**	**337**		P		**P**	**17 53 31.9**	**-0.5**
	comp=Z,18nm,0.8s									
H17A	**Grant Village**	**72.43**	**46**		*e*P		**P**	**17 53 35.5**	**+2.4**
TPH	**Tonopah**	**72.60**	**55**		*e*P		**P**	**17 53 34.9**	**+0.7**
TPH					pmax		pmax			
	comp=Z,10.0nm,0.7s									
TPH	**Tonopah**	**72.60**	**55**		*e*P		**P**	**17 53 34.9**	**+0.7**
	comp=Z,10.0nm,0.7s									
STKA	**Stephens Creek**	**72.66**	**181**		P		**P**	**17 53 34.7**	**+0.7**
STKA	**Stephens Creek**	**72.66**	**181**		P		**P**	**17 53 34.7**	**+0.7**
	comp=Z,1.7nm,0.8s,baz=330,slow=6.5,SNR=4.2									
R11A	**Troy Canyon, C**	**73.43**	**53**		*e*P		**P**	**17 53 39.8**	**+0.7**
DUG	**Dugway**	**73.90**	**51**		*e*P		**P**	**17 53 42.7**	**+1.0**
DUG					pmax		pmax			
	comp=Z,17nm,1.4s									
DUG	**Dugway**	**73.90**	**51**		*e*P		**P**	**17 53 42.7**	**+1.0**
	comp=Z,17nm,1.4s									
KWP	**Kalwaria Pacla**	**75.42**	**324**		⇑P		**P**	**17 53 51.0**	**+0.8**
KWP	**Kalwaria Pacla**	**75.42**	**324**	⇑	*i*P		**P**	**17 53 51.0**	**+0.8**
KWP	**Kalwaria Pacla**	**75.42**	**324**		*e*P		**P**	**17 53 50.6**	**+0.4**
	comp=Z,12nm,0.6s									
KWP	**Kalwaria Pacla**	**75.42**	**324**		*e*P		**P**	**17 53 51.4**	**+1.2**
ULM	**Lac du Bonnet**	**75.51**	**34**		P		**P**	**17 53 50.3**	**-0.3**
ULM	**Lac du Bonnet**	**75.51**	**34**		P		**P**	**17 53 50.3**	**-0.3**
	comp=Z,3.0nm,0.5s,baz=298,slow=5.7,SNR=4.7									
BUR08	**Bucovina Ar. S**	**75.75**	**322**		*e*P		**P**	**17 53 52.3**	**+0.1**
BURAR	**Bucovina Array**	**75.76**	**322**	⇓	P		**P**	**17 53 52.4**	**+0.1**
BURAR	**Bucovina Array**	**75.76**	**322**	⇓	*i*P		**P**	**17 53 52.4**	**+0.1**
TESR	**Tescani**	**75.87**	**320**	⇓	*i*P		**P**	**17 53 53.2**	**+0.4**
RSSD	**Black Hills**	**76.08**	**43**		*e*P		**P**	**17 53 54.2**	**-0.1**
RSSD					pmax		pmax			
	comp=Z,19nm,0.8s									
RSSD	**Black Hills**	**76.08**	**43**		*e*P		**P**	**17 53 54.2**	**-0.1**
	comp=Z,19nm,0.8s									
KOLS	**Kolonicke sedl**	**76.13**	**324**		*e*P		**P**	**17 53 54.5**	**+0.3**
KOLS					pmax		pmax			
	comp=Z,7.0nm,1.2s									
KOLS	**Kolonicke sedl**	**76.13**	**324**		*e*P		**P**	**17 53 54.5**	**+0.3**
STHS	**Stebnicka Huta**	**76.22**	**325**		*e*P		**P**	**17 53 55.9**	**+1.1**
STHS					pmax		pmax			
	comp=Z,4.0nm,0.8s									
STHS	**Stebnicka Huta**	**76.22**	**325**		*e*P		**P**	**17 53 55.9**	**+1.1**
OJC	**Ojcow**	**76.23**	**326**		*e*P		**P**	**17 53 55.8**	**+1.0**
OJC	**Ojcow**	**76.23**	**326**		*e*P		**P**	**17 53 55.8**	**+1.0**
TRPA	**Tarpa**	**76.61**	**323**	⇓	*i*P		P	17 53 47.1	-10	
NIE	**Niedzica**	**76.62**	**326**		*e*P		**P**	**17 53 58.2**	**+1.2**
BRTR	**Keskin Array B**	**76.94**	**312**		P		**P**	**17 53 59.2**	**0.0**
BRTR	**Keskin Array B**	**76.94**	**312**		P		**P**	**17 53 59.2**	**0.0**
	comp=Z,0.7nm,0.6s,baz=119,slow=3.3,SNR=4.3									
BRTR					LR		LR	18 33 01.1		
	comp=Z,43nm,19.4s,baz=200,slow=40									
KSP	**Ksiaz**	**77.18**	**328**		*e*P		**P**	**17 54 00.7**	**+0.6**
KECS	**Kecovo**	**77.25**	**325**		*e*P		**P**	**17 54 00.9**	**+0.3**
KECS					pmax		pmax			
	comp=Z,2.0nm,1.2s									
KECS	**Kecovo**	**77.25**	**325**		*e*P		**P**	**17 54 00.9**	**+0.3**
VOIR		**77.42**	**320**	⇓	P		**P**	**17 54 02.8**	**+1.1**
VOIR		**77.42**	**320**	⇓	*i*P		**P**	**17 54 02.8**	**+1.1**
MORC	**Moravsky Berou**	**77.51**	**327**	⇓	P		**P**	**17 54 02.9**	**+0.9**
MORC	**Moravsky Berou**	**77.51**	**327**	⇓	*i*P		**P**	**17 54 02.9**	**+0.9**
MORC	**Moravsky Berou**	**77.51**	**327**		*e*P		**P**	**17 54 02.0**	**0.0**
UPC	**Upice**	**77.55**	**328**		*e*P		**P**	**17 54 03.0**	**+0.8**
UPC					*e*			17 54 20.8		
UPC	**Upice**	**77.55**	**328**		*e*P		**P**	**17 54 03.0**	**+0.8**
UPC					*es*P		**sP**	**17 54 20.8**	**+1.7**
DPC	**Dobruska-Polom**	**77.55**	**328**		*e*P		**P**	**17 54 03.0**	**+0.7**
DPC	**Dobruska-Polom**	**77.55**	**328**		*e*P		**P**	**17 54 03.0**	**+0.7**
KRLC	**Kraliky**	**77.58**	**328**		*e*P		**P**	**17 54 03.0**	**+0.6**
KRLC	**Kraliky**	**77.58**	**328**		*e*P		**P**	**17 54 03.0**	**+0.6**
ARR	**Arges**	**77.67**	**320**	⇑	*i*P		**P**	**17 54 03.8**	**+0.8**
WUAZ	**Wupatki**	**77.83**	**53**		*e*P		**P**	**17 54 05.2**	**+0.9**
	comp=Z,9.2nm,1.1s									
PSZ	**Piszkesteto**	**77.94**	**325**	⇓	P		**P**	**17 54 04.8**	**+0.3**
PSZ	**Piszkesteto**	**77.94**	**325**	⇓	*i*P		**P**	**17 54 04.8**	**+0.3**
PSZ	**Piszkesteto**	**77.94**	**325**		*e*P		**P**	**17 54 05.3**	**+0.8**
	comp=Z,3.6nm,0.9s									
LOT	**Lotru**	**78.03**	**321**	⇓	*i*P		**P**	**17 54 03.2**	**-1.9**
BRG	**Berggiesshubel**	**78.06**	**330**		*e*P		**P**	**17 54 05.3**	**+0.2**
	comp=Z,6.8nm,1.1s									
BRG	**Berggiesshubel**	**78.06**	**330**		*e*P		**P**	**17 54 05.3**	**+0.2**
BRG					pmax		pmax			
	comp=Z,7.0nm,1.1s									
CLL	**Collm**	**78.07**	**330**		*i* P		**P**	**17 54 04.9**	**-0.1**	
CLL					*e*			17 54 14.0		
CLL					pmax		pmax			
	comp=Z,8.0nm,0.9s									
CLL	**Collm**	**78.07**	**330**		*i* P		**P**	**17 54 04.9**	**-0.1**	
	comp=Z,8.0nm,0.9s									
CLL					*e*PcP		**PcP**	**17 54 14.0**	**-0.6**	
CLL					*e*pP		**pP**	**17 54 17.0**	**-0.3**	
CLL					*e*PP		**PP**	**17 57 01.0**	**0.0**	
CLL					Lm		MLR	18 31 00.0		
	comp=Z,100nm,18.9s									
VRAC	**Vranov**	**78.26**	**327**	⇓	*i*P		**P**	**17 54 07.6**	**+1.4**
BRSD	**Miller**	**78.40**	**40**		*e*P		**P**	**17 54 06.8**	**-0.3**
GZR	**Gura Zlata**	**78.53**	**321**	⇓	P		**P**	**17 54 08.4**	**+0.6**
GZR	**Gura Zlata**	**78.53**	**321**	⇓	*i*P		**P**	**17 54 08.4**	**+0.6**
PRU	**Pruhonice**	**78.54**	**329**		*e*P		**P**	**17 54 08.1**	**+0.4**
PRU					*e*			17 54 22.5		
PRU	**Pruhonice**	**78.54**	**329**		*e*P		**P**	**17 54 08.1**	**+0.4**
PRU					*e*pP		**pP**	**17 54 22.5**	**+2.5**	
KHC	**Kasperske Hory**	**79.60**	**329**		*e*P		**P**	**17 54 14.1**	**+0.5**
KHC					*e*			17 54 24.2		
KHC	**Kasperske Hory**	**79.60**	**329**		*e*P		**P**	**17 54 14.1**	**+0.5**
KHC					*e*pP		**pP**	**17 54 24.2**	**-1.7**	
KHC	**Kasperske Hory**	**79.60**	**329**		*e*P		**P**	**17 54 13.9**	**+0.3**
	comp=Z,3.8nm,0.6s									
GERES	**GERESS Array B**	**79.78**	**329**		P		**P**	**17 54 14.6**	**0.0**
GERES	**GERESS Array B**	**79.78**	**329**		P		**P**	**17 54 14.6**	**0.0**
	comp=Z,1.4nm,0.6s,baz=37,slow=5.7,SNR=13									
GERES					LR		LR	18 33 32.8		
	comp=Z,70nm,18.4s,baz=94,slow=39									
PKSM	**Moragy**	**79.80**	**324**	⇑	P		P	17 54 09.6	-5.0	
PKSM	**Moragy**	**79.80**	**324**	⇑	*i*P		P	17 54 09.6	-5.0	
GRFO	**Grafenberg**	**80.05**	**330**		*e*P		**P**	**17 54 16.1**	**+0.1**
GRFO					pmax		pmax			
	comp=Z,17nm,1.4s									
GRFO	**Grafenberg**	**80.05**	**330**		*e*P		**P**	**17 54 16.1**	**+0.1**
	comp=Z,17nm,1.4s									
ECSD	**EROS Data Cent**	**80.06**	**39**		*e*P		**P**	**17 54 15.7**	**-0.4**
	comp=Z,4.8nm,0.8s									
ECSD					*e*			17 54 28.8		
VTS	**Vitosha**	**80.41**	**319**	⇑	P		**P**	**17 54 18.7**	**+0.5**
VTS	**Vitosha**	**80.41**	**319**	⇑	*i*P		**P**	**17 54 18.7**	**+0.5**
SOKA	**Soboth**	**80.98**	**327**	⇑	*i*P		**P**	**17 54 21.3**	**+0.2**
	comp=Z,13nm,0.8s,SNR=12									
SCHQ	**Schefferville**	**81.11**	**17**		P		**P**	**17 54 21.7**	**+0.2**
SCHQ	**Schefferville**	**81.11**	**17**		P		**P**	**17 54 21.7**	**+0.2**
	comp=Z,4.4nm,0.9s,baz=351,slow=6.0,SNR=4.6									
LAZ	**Ladron**	**81.13**	**52**		*e*P		**P**	**17 54 21.9**	**-0.3**
KBA	**Koelnbreinsper**	**81.35**	**328**		*i* P		**P**	**17 54 24.3**	**+1.2**	
	comp=Z,10nm,0.8s,SNR=7.3									
BNM	**Barren Site**	**81.61**	**52**		*e*P		**P**	**17 54 25.8**	**+1.0**
	comp=Z,3.3nm,0.8s									
MOTA	**Moosalm**	**82.02**	**329**	⇑	*i*P		**P**	**17 54 26.8**	**+0.1**
	comp=Z,12nm,0.8s,SNR=9.4									
RETA	**Reutte**	**82.03**	**329**	⇑	*i*P		**P**	**17 54 27.4**	**+0.7**
	comp=Z,13nm,1.0s									
BAIF	**Baives**	**82.19**	**335**		*e*P		**P**	**17 54 26.4**	**-0.9**
BAIF	**Baives**	**82.19**	**335**		*e*P		**P**	**17 54 26.4**	**-0.9**
BAIF	**Baives**	**82.19**	**335**		*e*P		**P**	**17 54 26.4**	**-0.9**
FETA	**Feichten**	**82.43**	**329**		*i* PcP		**P**	**17 54 29.8**	**+0.9**	
	comp=Z,7.0nm,0.8s,SNR=5.2									
CDF	**Champ du Feu**	**82.55**	**332**		*e*P		**P**	**17 54 29.2**	**-0.1**
	comp=Z,9.8nm,0.9s									
CDF					*e*pP		**pP**	**17 54 44.1**	**+2.4**	
CDF	**Champ du Feu**	**82.55**	**332**		*e*P		**P**	**17 54 29.2**	**-0.1**
CDF					*e**PP		**pP**	**17 54 44.1**	**+2.4**	
CDF					pmax		pmax			
	comp=Z,10.0nm,0.9s									
CDF	**Champ du Feu**	**82.55**	**332**		*e*P		**P**	**17 54 29.2**	**-0.1**
	comp=Z,9.8nm,0.9s									
CDF					*e*pP		**pP**	**17 54 44.1**	**+2.4**	
HAU	**Haudompre**	**83.22**	**332**		*e*P		**P**	**17 54 33.2**	**+0.4**
HAU					*e*R					
	comp=Z,131nm,19.8s									
HAU	**Haudompre**	**83.22**	**332**		*e*P		**P**	**17 54 33.2**	**+0.4**
HAU	**Haudompre**	**83.22**	**332**		*e*P		**P**	**17 54 33.2**	**+0.4**
SFTF	**Sexfontaines**	**83.51**	**333**		*e*P		**P**	**17 54 34.2**	**0.0**
SFTF	**Sexfontaines**	**83.51**	**333**		*e*P		**P**	**17 54 34.2**	**0.0**
CABF	**La Chapelle**	**84.51**	**332**		*e*P		**P**	**17 54 39.5**	**+0.1**
CABF	**La Chapelle**	**84.51**	**332**		*e*P		**P**	**17 54 39.5**	**+0.1**
CABF	**La Chapelle**	**84.51**	**332**		*e*P		**P**	**17 54 39.5**	**+0.1**
LOR	**Lormes**	**84.72**	**333**		*e*P		**P**	**17 54 40.2**	**-0.2**
	comp=Z,14nm,0.9s,baz=30									
LOR					*e*R					
	comp=Z,161nm,20.8s									
LOR	**Lormes**	**84.72**	**333**		*e*P		**P**	**17 54 40.2**	**-0.2**
	comp=Z,14nm,0.9s									
FLN	**La Foliniere**	**84.79**	**337**		*e*P		**P**	**17 54 40.4**	**-0.3**
	comp=Z,3.7nm,0.6s									
FLN					*e*R					
	comp=Z,155nm,22.0s									
FLN	**La Foliniere**	**84.79**	**337**		*e*P		**P**	**17 54 40.4**	**-0.3**
FLN					pmax		pmax			
	comp=Z,4.0nm,0.6s									
FLN	**La Foliniere**	**84.79**	**337**		*e*P		**P**	**17 54 40.4**	**-0.3**
	comp=Z,3.7nm,0.6s									
LDF	**La Druitiere**	**84.83**	**336**		*e*P		**P**	**17 54 40.5**	**-0.4**
LDF	**La Druitiere**	**84.83**	**336**		*e*P		**P**	**17 54 40.5**	**-0.4**
LDF	**La Druitiere**	**84.83**	**336**		*e*P		**P**	**17 54 40.5**	**-0.4**
PMOR	**Pomariorio Ree**	**84.88**	**115**		*e*T		T	19 27 43.7		
	comp=Z,14nm,0.2s									
SSF	**Saint Saulge**	**85.02**	**333**		*e*P		**P**	**17 54 41.7**	**-0.2**
SSF	**Saint Saulge**	**85.02**	**333**		*e*P		**P**	**17 54 41.7**	**-0.2**
SSF	**Saint Saulge**	**85.02**	**333**		*e*P		**P**	**17 54 41.7**	**-0.2**
LPL	**La Plagne**	**85.21**	**331**		*e*P

CAF					pmax	pmax		
	comp=Z,26nm,1.0s							
CAF	**Calviac**	**87.37**	**333**	*e*P	**P**		**17 54 54.4**	**+0.9**
	comp=Z,26nm,1.0s							
CAF				*e*pP	**pP**		**17 55 09.3**	**+3.3**
LASF	**Ste Croix**	**87.49**	**332**	*e*P	**P**		**17 54 54.6**	**+0.5**
LASF	**Ste Croix**	**87.49**	**332**	*e*P	**P**		**17 54 54.6**	**+0.5**
LFF	**La Frestale**	**87.81**	**334**	*e*P	**P**		**17 54 56.4**	**+0.9**
	comp=Z,29nm,0.9s							
LFF	**La Frestale**	**87.81**	**334**	*e*P	**P**		**17 54 56.4**	**+0.9**
LFF				pmax	pmax			
	comp=Z,29nm,0.9s							
LFF	**La Frestale**	**87.81**	**334**	*e*P	**P**		**17 54 56.4**	**+0.9**
	comp=Z,29nm,0.9s							
EPF	**Esparros**	**89.63**	**333**	*e*P	**P**		**17 55 04.2**	**-0.1**
EPF	**Esparros**	**89.63**	**333**	*e*P	**P**		**17 55 04.2**	**-0.1**
EPF	**Esparros**	**89.63**	**333**	*e*P	**P**		**17 55 04.2**	**-0.1**
ETSF	**Etsaut**	**90.05**	**334**	*e*P	**P**		**17 55 07.1**	**+0.8**
	comp=Z,3.5nm,0.5s							
ETSF	**Etsaut**	**90.05**	**334**	*e*P	**P**		**17 55 07.1**	**+0.8**
ETSF				pmax	pmax			
	comp=Z,4.0nm,0.5s							
ETSF	**Etsaut**	**90.05**	**334**	*e*P	**P**		**17 55 07.1**	**+0.8**
	comp=Z,3.5nm,0.5s							
KEST	**Kesra**	**92.38**	**324**	LR	LR		18 41 51.9	
	comp=Z,27nm,20.1s,baz=227,slow=39							
ESDC	**Sonseca Array**	**94.06**	**335**	P	**P**		**17 55 24.9**	**0.0**
ESDC	**Sonseca Array**	**94.06**	**335**	P	**P**		**17 55 24.9**	**0.0**
	comp=Z,0.2nm,0.3s,baz=18,slow=5.4,SNR=3.5							
TORD	**Torodi Ar. Bea**	**115.12**	**317**	PKP	**PKPdf**		**18 00 47.2**	**-0.8**
TORD				PP	PP		18 01 53.2	+6.0
TORD	**Torodi Ar. Bea**	**115.12**	**317**	PKP	**PKPdf**		**18 00 47.2**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=40,slow=2.0,SNR=2.8							
TORD				PP	PP		18 01 53.2	+6.0
	comp=Z,0.6nm,0.8s,baz=11,slow=5.7,SNR=2.7							
LPAZ	**La Paz**	**143.61**	**56**	PKP	PKPbc		18 01 39.5	-0.3
LPAZ	**La Paz**	**143.61**	**56**	PKP	PKPbc		18 01 39.5	-0.3
	comp=Z,1.6nm,0.7s,baz=341,slow=3.7,SNR=6.6							
SNAA	**Sanae**	**144.97**	**198**	*e*PKPdf	PKPbc		18 01 41.4	-0.4
H03N2	**Juan Fernandez**	**146.19**	**91**	T	T		20 45 03.0	
	baz=297,slow=0.7,SNR=26							
H03N3	**Juan Fernandez**	**146.20**	**91**	T	T		20 45 03.9	
	baz=297,slow=0.7,SNR=20							
H03N1	**Juan Fernandez**	**146.20**	**91**	T	T		20 45 04.2	
	baz=297,slow=0.7,SNR=21							
SIV	**San Ignacio**	**147.55**	**46**	PKPbc	**PKPbc**		**18 01 51.3**	**+0.3**
SIV	**San Ignacio**	**147.55**	**46**	PKPbc	**PKPbc**		**18 01 51.3**	**+0.3**
	comp=Z,9.0nm,0.8s,baz=301,slow=1.9,SNR=21							
LVC	**Limon Verde**	**147.61**	**65**	*e*PKPbc	**PKPab**		**18 01 52.8**	**-0.7**
BDFB	**Brasilia**	**152.93**	**23**	PKPbc	**PKPbc**		**18 02 05.7**	**+1.6**
BDFB	**Brasilia**	**152.93**	**23**	PKPbc	**PKPbc**		**18 02 05.7**	**+1.6**
	comp=Z,1.2nm,0.3s,baz=356,slow=4.0,SNR=3.0							

*ATH **30** 17:57:04.3,38˚.18N×27˚.25E,h52km±9km, MD3.0/5*
*DDA **30** 17:57:04.6,38˚.23N×27˚.21E,h7km, MD3.3*
*ISK **30** 17:57:04.3,38˚.20N×27˚.15E,h8km, MD3.2*
*CSEM **30** 17:57:05.3±0.1,38˚.21N×27˚.20E,h10km, MD3.2, Error ellipse: s-maj=2.9km s-min=2.6km az=77.0*
*THE **30** 17:57:06.9,38˚.17N×27˚.21E,h24km±5km, ML2.8/3, Error ellipse: s-maj=5.9km s-min=1.2km az=179.0*

ISC 30 17:57:04.8±0.8,38˚20N±0˚.02×27˚20E±0˚.02,h13km±6km, n85,σ0§86/123, Turkey

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
IZM	**Izmir**	**0.20**	**14**	*e*PG	**Pg**		**17 57 09.3**	**0.0**
IZM				*e*SG	**Sg**		**17 57 12.9**	**+0.6**
IZM	**Izmir**	**0.20**	**14**	*e*Pg	**Pg**		**17 57 09.3**	**0.0**
IZM				*e*Sg	**Sg**		**17 57 13.0**	**+0.6**
BLCB	**Balcova**	**0.22**	**326**	*e*PG	**Pg**		**17 57 09.3**	**-0.3**
BLCB				*e*SG	**Sg**		**17 57 12.2**	**-0.6**
BLCB	**Balcova**	**0.22**	**326**	*e*Pg	**Pg**		**17 57 09.3**	**-0.3**
BLCB				*e*Sg	**Sg**		**17 57 12.2**	**-0.6**
URLA	**Izmir**	**0.50**	**288**	*i* P	**Pg**		**17 57 14.9**	**+0.2**
URLA				*i* S	**Sg**		**17 57 21.3**	**-0.1**
URLA	**Izmir**	**0.50**	**288**	*i* P	**Pg**		**17 57 14.9**	**+0.2**
URLA				*i* S	**Sg**		**17 57 21.3**	**-0.1**
GCAM	**G?zelcaml?**	**0.50**	**177**	*i* P	**Pb**		**17 57 15.6**	**+0.1**
GCAM				*i* S	**Sb**		**17 57 22.7**	**-0.1**
GCAM	**G?zelcaml?**	**0.50**	**177**	*i* P	**Pb**		**17 57 15.6**	**+0.1**
GCAM				*i* S	**Sb**		**17 57 22.7**	**-0.1**
SMG	**Samos**	**0.57**	**210**	P	**Pb**		**17 57 16.8**	**0.0**
SMG				S	**Sn**		**17 57 26.6**	**-1.4**
SMG	**Samos**	**0.57**	**210**	*e*P	**Pb**		**17 57 16.7**	**0.0**
SMG				*e*S	**Sn**		**17 57 26.8**	**-1.2**
SMG	**Samos**	**0.57**	**210**	P	**Pb**		**17 57 16.8**	**0.0**
SMG				S	**Sn**		**17 57 26.6**	**-1.4**
AYDB	**Zeytinkoy-Aydi**	**0.60**	**115**	*e*PG	**Pb**		**17 57 17.0**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**0.60**	**115**	*e*Pg	**Pb**		**17 57 17.0**	**-0.3**
AYDN	**Tasoluk**	**0.76**	**135**	*i* P	**Pb**		**17 57 20.7**	**-0.7**
AYDN				*i* S	**Sb**		**17 57 31.1**	**+0.8**
AYDN	**Tasoluk**	**0.76**	**135**	*i* P	**Pn**		**17 57 20.7**	**-0.7**
AYDN				*i* S	**Sb**		**17 57 31.1**	**+0.8**
AKHS	**Akhisar**	**0.83**	**35**	*i* P	**Pg**		**17 57 20.5**	**-0.4**
AKHS				*i* S	**Sg**		**17 57 32.0**	**+0.3**
AKHS	**Akhisar**	**0.83**	**35**	*i* P	**Pg**		**17 57 20.5**	**-0.4**
AKHS				*i* S	**Sg**		**17 57 32.0**	**+0.3**
AKS	**Akhisar**	**0.83**	**35**	*e*PG	**Pb**		**17 57 21.1**	**0.0**
AKS	**Akhisar**	**0.83**	**35**	*e*Pg	**Pb**		**17 57 21.1**	**0.0**
CHOS	**Chios island**	**0.92**	**282**	P	**Pb**		**17 57 22.9**	**+0.2**
CHOS				S	**Sb**		**17 57 35.8**	**+0.9**
CHOS	**Chios island**	**0.92**	**282**	*e*P	**Pb**		**17 57 22.8**	**+0.1**
CHOS				*e*S	**Sb**		**17 57 35.3**	**+0.4**
CHOS	**Chios island**	**0.92**	**282**	P	**Pb**		**17 57 22.9**	**+0.2**
CHOS				*e*S	**Sb**		**17 57 35.3**	**+0.4**
MANT	**Manisa**	**1.10**	**75**	*i* P	**Pb**		**17 57 25.8**	**-0.2**
MANT				*i* S	**Sg**		**17 57 39.4**	**-1.1**
MANT	**Manisa**	**1.10**	**75**	*i* P	**Pb**		**17 57 25.8**	**-0.2**
MANT				*i* S	**Sg**		**17 57 39.4**	**-1.1**
BDRM	**Kayabasi**	**1.15**	**170**	*i* P	**Pb**		**17 57 26.5**	**-0.1**
BDRM				*i* S	**Sn**		**17 57 42.5**	**+0.1**
BDRM	**Kayabasi**	**1.15**	**170**	*i* P	**Pb**		**17 57 26.5**	**-0.1**
BDRM				*i* S	**Sn**		**17 57 42.5**	**+0.1**
KULA	**Kula-Manisa**	**1.19**	**74**	*e*PN	**Pg**		**17 57 28.2**	**+0.5**
KULA	**Kula-Manisa**	**1.19**	**74**	P	**Pb**		**17 57 27.3**	**0.0**
KULA				S	**Sb**		**17 57 42.3**	**-0.4**
KULA	**Kula-Manisa**	**1.19**	**74**	P	**Pb**		**17 57 27.3**	**0.0**
KULA	**Kula-Manisa**	**1.19**	**74**	*e*Pn	**Pg**		**17 57 28.2**	**+0.5**
KULA				S	**Sb**		**17 57 42.3**	**-0.4**
PRK	**Paraskevi**	**1.27**	**325**	P	**Pg**		**17 57 29.1**	**-0.1**
PRK				S	**Sb**		**17 57 45.4**	**+0.5**
PRK	**Paraskevi**	**1.27**	**325**	*e*P	**Pn**		**17 57 27.2**	**-1.1**
PRK				*e*S	**Sb**		**17 57 45.3**	**+0.4**
PRK	**Paraskevi**	**1.27**	**325**	P	**Pg**		**17 57 29.1**	**-0.1**
PRK				*e*S	**Sb**		**17 57 45.3**	**+0.4**
YER	**Yerkesik**	**1.37**	**141**	*e*PN	**Pb**		**17 57 30.4**	**0.0**
YER	**Yerkesik**	**1.37**	**141**	*e*Pn	**Pb**		**17 57 30.4**	**0.0**
DEMI	**Demirci**	**1.45**	**54**	*i* P	**Pg**		**17 57 32.5**	**-0.3**
DEMI				*i* S	**Sn**		**17 57 48.3**	**-1.6**
DEMI	**Demirci**	**1.45**	**54**	*i* P	**Pg**		**17 57 32.5**	**-0.3**
DEMI				*i* S	**Sn**		**17 57 48.3**	**-1.6**
SIGR	**SIGRI**	**1.46**	**314**	P	**Pb**		**17 57 31.6**	**-0.2**
SIGR				S	**Sn**		**17 57 50.3**	**+0.5**
SIGR	**SIGRI**	**1.46**	**314**	*e*P	**Pn**		**17 57 30.2**	**-0.7**
SIGR				*e*S	**Sn**		**17 57 48.7**	**-1.1**
SIGR	**SIGRI**	**1.46**	**314**	P	**Pb**		**17 57 31.6**	**-0.2**
SIGR				S	**Sn**		**17 57 50.3**	**+0.5**
DAT	**Datca**	**1.50**	**168**	*e*PN	**Pb**		**17 57 32.4**	**-0.3**
DAT	**Datca**	**1.50**	**168**	*e*Pn	**Pb**		**17 57 32.4**	**-0.3**
DNZL	**Cakiroluk**	**1.55**	**109**	*i* P	**Pn**		**17 57 32.3**	**0.0**
DNZL				*i* S	**Sg**		**17 57 55.6**	**+1.0**
DNZL	**Cakiroluk**	**1.55**	**109**	*i* P	**Pn**		**17 57 32.3**	**0.0**
DNZL				*i* S	**Sg**		**17 57 55.6**	**+1.0**
BALY	**Balya**	**1.57**	**12**	*i* P	**Pn**		**17 57 31.5**	**-1.0**
BALY				*i* S	**Sn**		**17 57 52.6**	**-0.1**
BALY	**Balya**	**1.57**	**12**	*i* P	**Pn**		**17 57 31.5**	**-1.0**
BALY				*i* S	**Sn**		**17 57 52.6**	**-0.1**
DURS	**Dursunbey**	**1.71**	**35**	*i* P	**Pn**		**17 57 33.9**	**-0.6**
DURS				*i* S	**Sn**		**17 57 55.8**	**-0.5**
DURS	**Dursunbey**	**1.71**	**35**	*i* P	**Pn**		**17 57 33.9**	**-0.6**
DURS				*i* S	**Sn**		**17 57 55.8**	**-0.5**
APE	**Apeiranthos**	**1.74**	**230**	*e*PN	**Pn**		**17 57 35.2**	**+0.3**
APE	**Apeiranthos**	**1.74**	**230**	P	**Pn**		**17 57 34.6**	**-0.3**
APE	**Apeiranthos**	**1.74**	**230**	*e*P	**Pn**		**17 57 34.1**	**-0.8**
APE	**Apeiranthos**	**1.74**	**230**	P	**Pn**		**17 57 34.6**	**-0.3**
APE	**Apeiranthos**	**1.74**	**230**	*e*Pn	**Pn**		**17 57 35.2**	**+0.3**
DST	**Dursunbey**	**1.78**	**38**	*e*PN	**Pb**		**17 57 36.6**	**-0.8**
DST	**Dursunbey**	**1.78**	**38**	*e*Pn	**Pb**		**17 57 36.6**	**-0.8**
DALY	**Dalyan (Mu˘la**	**1.80**	**140**	*e*PN	**Pb**		**17 57 37.0**	**-0.7**
DALY	**Dalyan (Mu˘la**	**1.80**	**140**	*e*Pn	**Pb**		**17 57 37.0**	**-0.7**

GONE	**Gonen-Balikesi**	**1.88**	**11**	*e*PN	**Pb**		**17 57 38.1**	**-0.9**
GONE	**Gonen-Balikesi**	**1.88**	**11**	*e*Pn	**Pb**		**17 57 38.1**	**-0.9**
TVSB	**Tavsanli**	**2.16**	**54**	*e*PN	**Pb**		**17 57 42.8**	**-1.1**
TVSB	**Tavsanli**	**2.16**	**54**	*e*Pn	**Pb**		**17 57 42.8**	**-1.1**
FETY	**Fethiye**	**2.17**	**136**	*e*PN	**Pn**		**17 57 41.6**	**+0.9**
FETY	**Fethiye**	**2.17**	**136**	*e*Pn	**Pn**		**17 57 41.6**	**+0.9**
KRBG	**Karabiga-Canak**	**2.19**	**2**	*e*PN	**Pn**		**17 57 42.4**	**+1.5**
KRBG	**Karabiga-Canak**	**2.19**	**2**	*e*Pn	**Pn**		**17 57 42.4**	**+1.5**
LPK	**Lapseki**	**2.19**	**351**	*e*PN	**Pn**		**17 57 42.0**	**+1.0**
LPK	**Lapseki**	**2.19**	**351**	*e*Pn	**Pn**		**17 57 42.0**	**+1.0**
KCTX	**Karacabey (Bur**	**2.25**	**23**	*e*PN	**Pn**		**17 57 43.0**	**+1.2**
KCTX	**Karacabey (Bur**	**2.25**	**23**	*e*Pn	**Pn**		**17 57 43.0**	**+1.2**
GELI	**Tayfur-Gelibol**	**2.26**	**346**	*e*PN	**Pn**		**17 57 42.8**	**+0.8**
GELI	**Tayfur-Gelibol**	**2.26**	**346**	*e*Pn	**Pn**		**17 57 42.8**	**+0.8**
ERIK	**Erikli-Kesan**	**2.52**	**348**	*e*PN	**Pn**		**17 57 46.6**	**+1.1**
ERIK	**Erikli-Kesan**	**2.52**	**348**	*e*Pn	**Pn**		**17 57 46.6**	**+1.1**
ENEZ	**Enez**	**2.66**	**343**	*e*PN	**Pn**		**17 57 48.9**	**+1.6**
ENEZ	**Enez**	**2.66**	**343**	*e*Pn	**Pn**		**17 57 48.9**	**+1.6**
ARMT	**Armutlu**	**2.69**	**28**	*e*PN	**Pn**		**17 57 49.3**	**+1.5**
ARMT	**Armutlu**	**2.69**	**28**	*e*Pn	**Pn**		**17 57 49.3**	**+1.5**
GEMT	**Gemlik**	**2.71**	**34**	*e*PN	**Pn**		**17 57 50.5**	**+2.4**
GEMT	**Gemlik**	**2.71**	**34**	*e*Pn	**Pn**		**17 57 50.5**	**+2.4**
ALN	**Alexandroupoli**	**2.83**	**342**	P	**Pn**		**17 57 49.6**	**-0.2**
ALN	**Alexandroupoli**	**2.83**	**342**	P	**Pn**		**17 57 49.6**	**-0.2**
CAVI	**Cavuskoy**	**2.86**	**45**	*e*PN	**Pn**		**17 57 51.6**	**+1.4**
CAVI	**Cavuskoy**	**2.86**	**45**	*e*Pn	**Pn**		**17 57 51.6**	**+1.4**
GULT	**Gulveren**	**3.40**	**48**	*e*PN	**Pn**		**17 58 00.1**	**+2.4**
GULT	**Gulveren**	**3.40**	**48**	*e*Pn	**Pn**		**17 58 00.1**	**+2.4**

*ISCJB **30** 18:00:51.6±0.7,3˚.91S±0˚.05×34˚.72E±0˚.04,h22km, Error ellipse: s-maj=7.6km s-min=6.2km az=172.8*
*PRE **30** 18:00:53.1±1.6,3˚.73S×34˚.79E,h10km,ML4.4*
*BUL **30** 18:00:56.2±5.7,4˚.17S×35˚.25E,h0km±61km,MD3.7*

ISC 30 18:00:52.8±1.0,3˚93S±0˚.05×34˚77E±0˚.04,h22km,n8, σ1§15/15,Lake Victoria region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
MAUS	**Longido**	**2.26**	**58**	*i* P	**Pb**		**18 01 32.8**	**-0.2**
MAUS				*i* S	**Sn**		**18 01 56.1**	**-0.2**
DODT	**Dodoma, Tanzan**	**2.44**	**157**	*i* P	**Pn**		**18 01 31.9**	**+0.4**
DODT				*i* S	**Sb**		**18 02 05.2**	**-0.7**
KMBO	**Kilima Mbogo**	**3.73**	**42**	*e*P	**Pn**		**18 01 49.3**	**+0.1**
KMBO				*e*S	**Sn**		**18 02 31.0**	**-1.7**
KMBO	**Kilima Mbogo**	**3.73**	**42**	*i* P	**Pn**		**18 01 49.5**	**+0.2**
KMBO				*i* S	**Sn**		**18 02 35.0**	**+2.4**
KIG	**Kigali**	**5.09**	**292**	*e*P	**Pn**		**18 02 05.4**	**+0.5**
KIG				*e*S	**Sn**		**18 03 06.8**	**+0.5**
KIG				AML	AML		18 03 39.3	
	comp=Z,248nm,0.5s							
MBAR	**Mbarara**	**5.21**	**309**	*e*P	**Pn**		**18 02 09.9**	**+0.3**
MBAR				*e*S	**Sn**		**18 03 07.0**	**-2.3**
MBAR	**Mbarara**	**5.21**	**309**	*i* P	**Pn**		**18 02 09.9**	**+0.3**
MBAR				*i* S	**Sn**		**18 03 10.2**	**+0.9**
LSZ	**Lusaka**	**13.00**	**209**	*e*S	**Sn**		**18 06 20.7**	**+0.1**

*CSEM **30** 18:03:06.1,45˚.75N×26˚.66E,h139km,MD3.6/3, After BUC*

BUC 30 18:03:06.1±1.0,45˚75N×26˚66E,h139km±8km,MD3.6/3, 42C-24D,Error ellipse: s-maj=6.6km s-min=5.3km az=13.0,Romania

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
PLOR	**Plostina**	**0.10**	**358**	⇑*i*P	Pn		18 03 24.8	-0.1
PLOR	**Plostina**	**0.10**	**358**	⇑*i*P	Pn		18 03 24.8	-0.1
PLOR				*i* S	Sn		18 03 38.3	-1.0
PLOR	**Plostina**	**0.10**	**358**	⇑*i*P	Pn		18 03 24.8	-0.1
PLOR				*i* S	Sn		18 03 38.3	-1.0
VRI	**Vrincioaia**	**0.12**	**24**	⇑*i*P	Pn		18 03 25.0	+0.1
VRI	**Vrincioaia**	**0.12**	**24**	⇑*i*P	Pn		18 03 25.0	+0.1
VRI				*i* S	Sn		18 03 38.4	-0.9
VRI	**Vrincioaia**	**0.12**	**24**	⇑*i*P	Pn		18 03 25.0	+0.1
VRI				*i* S	Sn		18 03 38.4	-0.9
PETR	**Petresti**	**0.41**	**94**	S	Sn		18 03 40.9	+0.4
PETR	**Petresti**	**0.41**	**94**	*i* S	Sn		18 03 40.9	+0.4
PETR	**Petresti**	**0.41**	**94**	*i* S	Sn		18 03 40.9	+0.4
GRER		**0.43**	**149**	⇑*i*P	Pn		18 03 26.5	+0.6
GRER		**0.43**	**149**	⇑*i*P	Pn		18 03 26.5	+0.6
GRER		**0.43**	**149**	⇑*i*P	Pn		18 03 26.5	+0.6
MLR	**Muntele Rosu**	**0.56**	**243**	⇑*i*P	Pn		18 03 26.6	-0.1
MLR	**Muntele Rosu**	**0.56**	**243**	⇑*i*P	Pn		18 03 26.6	-0.1
MLR				*i* S	Sn		18 03 41.0	-1.3
MLR	**Muntele Rosu**	**0.56**	**243**	⇑*i*P	Pn		18 03 26.6	-0.1
MLR				*i* S	Sn		18 03 41.0	-1.3
GHRR		**0.61**	**59**	⇓*i*P	Pn		18 03 27.3	+0.5
GHRR		**0.61**	**59**	⇓*i*P	Pn		18 03 27.3	+0.5
GHRR		**0.61**	**59**	⇓*i*P	Pn		18 03 27.3	+0.5
ISR	**Istrita**	**0.64**	**187**	⇓*i*P	Pn		18 03 27.1	0.0
ISR	**Istrita**	**0.64**	**187**	⇓*i*P	Pn		18 03 27.1	0.0
ISR	**Istrita**	**0.64**	**187**	⇓*i*P	Pn		18 03 27.1	0.0
TESR	**Tescani**	**0.76**	**360**	⇓*i*P	Pn		18 03 27.7	-0.1
TESR	**Tescani**	**0.76**	**360**	⇓*i*P	Pn		18 03 27.7	-0.1
TESR				*i* S	Sn		18 03 43.1	-1.3
TESR	**Tescani**	**0.76**	**360**	⇓*i*P	Pn		18 03 27.7	-0.1
TESR				*i* S	Sn		18 03 43.1	-1.3
SECR		**0.83**	**210**	⇑*i*P	Pn		18 03 28.6	+0.2
SECR		**0.83**	**210**	⇑*i*P	Pn		18 03 28.6	+0.2
SECR				*i* S	Sn		18 03 45.1	-0.2
SECR		**0.83**	**210**	⇑*i*P	Pn		18 03 28.6	+0.2
SECR				*i* S	Sn		18 03 45.1	-0.2
DOPR	**Dopca**	**0.91**	**284**	⇑*i*P	Pn		18 03 29.0	-0.1
DOPR	**Dopca**	**0.91**	**284**	⇑*i*P	Pn		18 03 29.0	-0.1
DOPR				*i* S	Sn		18 03 46.0	-0.5
DOPR	**Dopca**	**0.91**	**284**	⇑*i*P	Pn		18 03 29.0	-0.1
DOPR				*i* S	Sn		18 03 46.0	-0.5
PLAR	**PLOIESTI**	**0.95**	**208**	⇓*i*P	Pn		18 03 29.6	+0.2
PLAR	**PLOIESTI**	**0.95**	**208**	⇓*i*P	Pn		18 03 29.6	+0.2
PLAR				*i* S	Sn		18 03 46.5	-0.5
PLAR	**PLOIESTI**	**0.95**	**208**	⇓*i*P	Pn		18 03 29.6	+0.2
PLAR				*i* S	Sn		18 03 46.5	-0.5
SULR		**1.11**	**195**	⇑*i*P	Pn		18 03 31.0	+0.2
SULR		**1.11**	**195**	⇑*i*P	Pn		18 03 31.0	+0.2
SULR				*i* S	Sn		18 03 49.6	0.0
SULR		**1.11**	**195**	⇑*i*P	Pn		18 03 31.0	+0.2
SULR				*i* S	Sn		18 03 49.6	0.0
VOIR		**1.17**	**255**	⇑*i*P	Pn		18 03 31.0	-0.5
VOIR		**1.17**	**255**	⇑*i*P	Pn		18 03 31.0	-0.5
VOIR				*i* S	Sn		18 03 49.4	-1.5
VOIR		**1.17**	**255**	⇑*i*P	Pn		18 03 31.0	-0.5
VOIR				*i* S	Sn		18 03 49.4	-1.5
CFR	**Carcaliu**	**1.19**	**118**	⇑*i*P	Pn		18 03 31.0	-0.6
CFR	**Carcaliu**	**1.19**	**118**	⇑*i*P	Pn		18 03 31.0	-0.6
CFR				*i* S	Sn		18 03 49.6	-1.3
CFR	**Carcaliu**	**1.19**	**118**	⇑*i*P	Pn		18 03 31.0	-0.6
CFR				*i* S	Sn		18 03 49.6	-1.3
LEOM	**Leova**	**1.32**	**56**	⇓*i*P	Pn		18 03 33.5	+0.6
LEOM	**Leova**	**1.32**	**56**	⇓*i*P	Pn		18 03 33.5	+0.6
LEOM	**Leova**	**1.32**	**56**	⇓*i*P	Pn		18 03 33.5	+0.6
HARR	**Harsova**	**1.39**	**139**	⇓*i*P	Pn		18 03 33.6	-0.1
HARR	**Harsova**	**1.39**	**139**	⇓*i*P	Pn		18 03 33.6	-0.1
HARR	**Harsova**	**1.39**	**139**	⇓*i*P	Pn		18 03 33.6	-0.1
CIOR	**Ciorogarla**	**1.42**	**203**	⇓*i*P	Pn		18 03 33.6	-0.3
CIOR	**Ciorogarla**	**1.42**	**203**	⇓*i*P	Pn		18 03 33.6	-0.3
CIOR				*i* S	Sn		18 03 54.0	-1.1
CIOR	**Ciorogarla**	**1.42**	**203**	⇓*i*P	Pn		18 03 33.6	-0.3
CIOR				*i* S	Sn		18 03 54.0	-1.1
ARR	**Arges**	**1.47**	**256**	⇑*i*P	Pn		18 03 35.2	+0.6
ARR	**Arges**	**1.47**	**256**	⇑*i*P	Pn		18 03 35.2	+0.6
ARR				*i* S	Sn		18 03 55.0	-1.3
ARR	**Arges**	**1.47**	**256**	⇑*i*P	Pn		18 03 35.2	+0.6
ARR				*i* S	Sn		18 03 55.0	-1.3
TLB	**Topalu**	**1.52**	**139**	⇑*i*P	Pn		18 03 35.0	-0.1
TLB	**Topalu**	**1.52**	**139**	⇑*i*P	Pn		18 03 35.0	-0.1
TLB	**Topalu**	**1.52**	**139**	⇑*i*P	Pn		18 03 35.0	-0.1
TLCR		**1.62**	**110**	⇑*i*P	Pn		18 03 35.5	-0.6
TLCR		**1.62**	**110**	⇑*i*P	Pn		18 03 35.5	-0.6
TLCR				*i* S	Sn		18 03 58.6	-0.5
TLCR		**1.62**	**110**	⇑*i*P	Pn		18 03 35.5	-0.6
TLCR				*i* S	Sn		18 03 58.6	-0.5
TIRR	**Tirgusor**	**1.80**	**136**	⇑*i*P	Pn		18 03 38.0	-0.1
TIRR	**Tirgusor**	**1.80**	**136**	⇑*i*P	Pn		18 03 38.0	-0.1
TIRR				*i* S	Sn		18 04 01.0	-1.6
TIRR	**Tirgusor**	**1.80**	**136**	⇑*i*P	Pn		18 03 38.0	-0.1
TIRR				*i* S	Sn		18 04 01.0	-1.6
MSAB	**Monastry St. A**	**1.86**	**153**	⇑*i*P	Pn		18 03 39.0	+0.1
MSAB	**Monastry St. A**	**1.86**	**153**	⇑*i*P	Pn		18 03 39.0	+0.1
MSAB	**Monastry St. A**	**1.86**	**153**	⇑*i*P	Pn		18 03 39.0	+0.1
LOT	**Lotru**	**2.05**	**262**	⇓*i*P	Pn		18 03 41.7	+0.4
LOT	**Lotru**	**2.05**	**262**	⇓*i*P	Pn		18 03 41.7	+0.4
LOT	**Lotru**	**2.05**	**262**	⇓*i*P	Pn		18 03 41.7	+0.4
SRE	**Strehaia**	**2.67**	**247**	S	Sn		18 04 19.4	-2.3
SRE	**Strehaia**	**2.67**	**247**	*i* S	Sn		18 04 19.4	-2.3
SRE	**Strehaia**	**2.67**	**247**	*i* S	Sn		18 04 19.4	-2.3

*IDC **30** 18:07:25.4±0.8,0˚.39S×132˚.35E,h0km,mb4.2/10, mb1 4.4/11,mb1mx4.2/23,mbtmp4.2/11,ML4.2/1,MS3.6/4, Ms1 3.6/4,ms1mx3.0/37,Error ellipse: s-maj=44.8km s-min=12.1km az=77.0*
*ISCJB **30** 18:07:28.9±0.3,0˚.40S±0˚.03×132˚.29E±0˚.04,h33km, mb4.4/21,MS3.6/4,Error ellipse: s-maj=5.4km s-min=4.3km az=145.0*
*DJA **30** 18:07:30.2±1.0,1˚S±4˚×13˚2E±˚,h28km±12km,M4.7/9, mb4.9/6,mB5.2/3,MLv4.7/9,Mw(mB)4.5/3*
*NEIC **30** 18:07:35.5±3.0,0˚.49S×132˚.32E,h80km±27km,mb4.4/13, Error ellipse: s-maj=19.9km s-min=6.5km az=62.0*
*AUST **30** 18:07:36.0,0˚.99S×132˚.00E,h60km*

ISC 30 18:07:30.6±0.5,0˚44S±0˚.05×132˚26E±0˚.05,h33km,n88, σ1§32/85,mb4.4/21,MS3.6/4,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
SWI	**Sorong**	**1.08**	**247**	P	**Pn**		**18 07 48.5**	**-1.0**
SWI				S	**Sn**		**18 08 04.9**	**+1

TKM2				*e*			18 18 24.1		
ZAA0	**Zalesovo Array**	**66.82**	**332**	*e*P		**P**	**18 18 18.3**	**-0.6**	
ZALV	**Zalesovo Beam**	**66.82**	**332**	P		**P**	**18 18 18.7**	**-0.3**	
ZALV	**Zalesovo Beam**	**66.82**	**332**	P		**P**	**18 18 18.7**	**-0.3**	
	1.3nm,0.7s,baz=116,slow=6.6,SNR=8.7								
AAK	**Ala-Archa**	**67.14**	**317**	P		**P**	**18 18 23.5**	**+2.0**	
EKS2	**Erkin-Say**	**67.64**	**317**	*e*P		**P**	**18 18 24.6**	**0.0**	
	4.6nm,0.8s								
EKS2				*e*			18 18 31.6		
KURK	**Kurchatov**	**68.22**	**327**	*e*P		**P**	**18 18 27.9**	**0.0**	
KURK				*e*			18 18 34.3		
KKAR	**Karatay Array**	**70.03**	**317**	*e*P		**P**	**18 18 39.1**	**-0.3**	
	2.0nm,0.6s								
KKAR				*e*			18 18 45.7		
BRVK	**Borovoye**	**73.89**	**326**	*e*P		**P**	**18 19 02.3**	**+0.1**	
	2.3nm,0.8s								
BRVK				*e*			18 19 08.6		
VNDA	**Vanda**	**78.66**	**174**	*e*P		**P**	**18 19 29.6**	**+0.7**	
	3.3nm,1.0s								
VNDA	**Vanda**	**78.66**	**174**	P		**P**	**18 19 30.0**	**+1.1**	
	1.5nm,0.8s,baz=331,slow=7.4,SNR=9.2								
ABKAR	**Akbulak array**	**78.86**	**320**	*e*P		**P**	**18 19 30.0**	**-0.5**	
	1.9nm,0.7s								
SBA	**Scott Base**	**79.52**	**173**	P		**P**	**18 19 35.9**	**+2.3**	
AKTO	**Aktyubinsk**	**80.34**	**321**	P		**P**	**18 19 37.0**	**-1.6**	
AKTO	**Aktyubinsk**	**80.34**	**321**	P		**P**	**18 19 37.0**	**-1.6**	
	1.0nm,0.7s,baz=102,slow=9.3,SNR=4.0								
ILAR	**Eielson Array**	**86.49**	**25**	P		**P**	**18 20 08.9**	**-0.9**	
ILAR	**Eielson Array**	**86.49**	**25**	P		**P**	**18 20 08.9**	**-0.9**	
	1.0nm,0.9s,baz=248,slow=5.4,SNR=7.4								
QSPA	**South Pole Qui**	**89.49**	**180**	*e*P		**P**	**18 20 23.2**	**-1.1**	
	3.2nm,0.8s								

IDC 30 18:26:52.6±9.1, 16°.29S×173°.20W, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/22, mbtmp3.4/4, ML1.5/1, Error ellipse: s-maj=381.9km s-min=26.9km az=137.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.73**	**30**	Pn	Pn	18 27 36.4	-1.4
	4.8nm,0.3s,baz=225,slow=7.1,SNR=4.3						
AFI				Sn	Sn	18 28 04.3	-7.4
	19nm,0.3s,baz=225,slow=20,SNR=11						
WRA	**Warramunga Arr**	**49.84**	**257**	P	P	18 35 47.6	-0.3
	0.4nm,0.8s,baz=98,slow=7.0,SNR=4.9						
ASAR	**Alice Springs**	**50.03**	**253**	P	P	18 35 49.0	-0.3
	0.5nm,0.6s,baz=89,slow=8.2,SNR=7.4						
ILAR	**Eielson Array**	**83.27**	**11**	P	P	18 39 21.5	+0.8
	0.2nm,0.5s,baz=230,slow=6.5,SNR=5.9						

*BJI **30** 18:44:38.4, 52°.50N×166°.90W, h2km, mB4.6/1, mb4.3/6*
*IDC **30** 18:44:40.2±1.2, 52°.73N×167°.05W, h0km, mb4.0/14, mb1 4.1/16, mb1mx4.0/32, mbtmp4.0/16, ML3.3/2, MS3.5/2, Ms1 3.5/2, ms1mx2.9/33, Error ellipse: s-maj=31.4km s-min=15.4km az=174.0*
*NEIC **30** 18:44:41.4, 52°.54N×166°.88W, h2km, ML3.4(AEIC), After AEIC.*

ISC 30 18:44:46.5±1.8, 52°.6N±0°.1×166°.94W±0°.06, h52km±14km, n65, σ1$41/61, mb4.1/17, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKTU	**Okmok Mt. Tuli**	**1.02**	**320**	P	**Pn**	**18 45 03.3**	**-1.3**
OKSP	**Okmok Steeple**	**1.04**	**309**	P	**Pn**	**18 45 03.5**	**-1.4**
OKSO	**Okmok South**	**1.05**	**316**	P	**Pn**	**18 45 03.2**	**-1.8**
OKCE	**Okmok Cone E**	**1.11**	**319**	P	**Pn**	**18 45 04.5**	**-1.2**
OKCE				S	**Sn**	**18 45 22.6**	**+2.7**
MGOD	**Makushin Gods**	**1.19**	**2**	P	**Pn**	**18 45 05.3**	**-1.6**
MREP	**Makushin Rep't**	**1.21**	**5**	P	**Pn**	**18 45 05.9**	**-1.2**
MSMM	**Makushin Julie**	**1.21**	**360**	P	**Pn**	**18 45 05.8**	**-1.2**
UNV	**Unalaska Valle**	**1.27**	**12**	P	**Pn**	**18 45 06.4**	**-1.4**
UNV				S	**Sn**	**18 45 27.4**	**+3.6**
MSW	**Makushin Switc**	**1.31**	**4**	P	**Pn**	**18 45 07.1**	**-1.4**
MSW				S	**Sn**	**18 45 26.3**	**+1.4**
MCIR	**Makushin Cirqu**	**1.35**	**1**	P	**Pn**	**18 45 08.2**	**-0.8**
MTBL	**Makushin Table**	**1.38**	**6**	P	**Pn**	**18 45 08.0**	**-1.3**
ZRO	**Akutan Zero**	**1.60**	**21**	P	**Pn**	**18 45 10.3**	**-2.0**
AKRB	**Akutan Reef Bi**	**1.61**	**19**	P	**Pn**	**18 45 11.4**	**-1.2**
AKRB				S	**Sn**	**18 45 34.2**	**+2.0**
LVA	**Lava Point**	**1.65**	**19**	P	**Pn**	**18 45 11.8**	**-1.2**
AKUT	**Akutan**	**1.68**	**24**	*e*Pn	**Pn**	**18 45 11.4**	**-2.0**
AKGG	**Akutan Green G**	**1.69**	**19**	P	**Pn**	**18 45 12.3**	**-1.4**
AKSA	**Akutan Strait**	**1.70**	**25**	P	**Pn**	**18 45 11.1**	**-2.6**
AKSA				S	**Sn**	**18 45 37.8**	**+3.4**
FX1	**Attu Island--F**	**12.06**	**279**	Pn	**Pn**	**18 47 35.5**	**0.0**
FX1	**Attu Island--F**	**12.06**	**279**	Pn	**Pn**	**18 47 35.5**	**0.0**
	0.5nm,0.3s,baz=90,slow=19,SNR=4.3						
PPLA	**Purkeypile**	**12.94**	**31**	*e*Pn	Pn	18 47 51.5	+4.0
IM04	**Indian Mountai**	**14.94**	**21**	Pn	**P**	**18 48 16.4**	**-2.4**
IMA2	**Indian Mountai**	**15.04**	**21**	*e*Pn	**Pn**	**18 48 15.9**	**+0.3**
ILAR	**Eielson Array**	**15.94**	**32**	Pn	**Pn**	**18 48 24.6**	**-2.3**
ILAR	**Eielson Array**	**15.94**	**32**	Pn	**Pn**	**18 48 24.6**	**-2.3**
	0.1nm,0.3s,baz=216,slow=12,SNR=4.2						
HYT	**Haines Junctio**	**17.99**	**51**	*e*Pn	**P**	**18 48 53.5**	**+0.9**
PETK	**Petropavlovsk-**	**21.23**	**286**	P	**P**	**18 49 27.2**	**-0.6**
PETK	**Petropavlovsk-**	**21.23**	**286**	P	**P**	**18 49 27.2**	**-0.6**
	3.9nm,0.5s,baz=88,slow=12,SNR=26						
INK	**Inuvik**	**22.34**	**33**	P	**P**	**18 49 37.6**	**-1.9**
INK	**Inuvik**	**22.34**	**33**	P	**P**	**18 49 37.6**	**-1.9**
	2.9nm,0.8s,baz=250,slow=10,SNR=7.9						
YBH	**Yreka Blue Hor**	**31.50**	**92**	LR	LR	19 00 23.0	
	comp=Z,46nm,19.5s,baz=280,slow=30						
NVAR	**Mina Array Bea**	**36.19**	**93**	P	**P**	**18 51 46.2**	**+2.1**
NVAR	**Mina Array Bea**	**36.19**	**93**	P	**P**	**18 51 46.2**	**+2.1**
	0.7nm,0.8s,baz=280,slow=8.6,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**38.59**	**222**	T	T	19 33 44.4	
	baz=26,slow=0.7,SNR=12						
H11N3	**WAKE ISLAND Hy**	**38.60**	**222**	T	T	19 33 43.4	
	baz=26,slow=0.7,SNR=13						
H11N1	**WAKE ISLAND Hy**	**38.61**	**222**	T	T	19 33 41.4	
	baz=26,slow=0.7,SNR=10						
H11S1	**WAKE ISLAND Hy**	**39.77**	**221**	T	T	19 35 06.2	
	baz=23						
H11S2	**WAKE ISLAND Hy**	**39.79**	**221**	T	T	19 35 07.9	
	baz=23						
H11S3	**WAKE ISLAND Hy**	**39.79**	**221**	T	T	19 35 08.7	
	baz=23						
SPITS	**Spitsbergen Ar**	**49.46**	**359**	P	**P**	**18 53 30.3**	**-0.5**
SPITS	**Spitsbergen Ar**	**49.46**	**359**	P	**P**	**18 53 30.3**	**-0.5**
	3.9nm,0.7s,baz=42,slow=8.8,SNR=3.3						
TXAR	**Lajitas Array**	**51.26**	**91**	P	**P**	**18 53 45.2**	**+0.1**
TXAR	**Lajitas Array**	**51.26**	**91**	P	**P**	**18 53 45.2**	**+0.1**
	0.9nm,0.9s,baz=291,slow=5.4,SNR=3.9						
SONM	**Songino Array**	**52.44**	**302**	P	**P**	**18 53 53.9**	**+0.2**
SONM	**Songino Array**	**52.44**	**302**	P	**P**	**18 53 53.9**	**+0.2**
	1.5nm,0.8s,baz=50,slow=5.5,SNR=7.1						
ARCES	**ARCESS Array B**	**57.83**	**355**	P	**P**	**18 54 31.3**	**-0.7**
ARCES	**ARCESS Array B**	**57.83**	**355**	P	**P**	**18 54 31.3**	**-0.7**
	2.5nm,0.8s,baz=7.2,slow=8.0,SNR=7.9						
ZALV	**Zalesovo Beam**	**58.24**	**319**	P	**P**	**18 54 35.4**	**+0.3**
ZALV	**Zalesovo Beam**	**58.24**	**319**	P	**P**	**18 54 35.4**	**+0.3**
	0.5nm,0.4s,baz=35,slow=5.4,SNR=5.2						
GTA	**Gaotai**	**61.68**	**299**	*e*P	**P**	**18 54 59.3**	**+0.2**
GTA				AMB	AMB		
	comp=Z,2.0nm,0.9s						
JOF	**Joensuu**	**63.92**	**351**	*ep*	**P**	**18 55 13.5**	**+0.1**
	1.1nm,0.3s						
MKAR	**Makanchi Array**	**64.71**	**315**	P	**P**	**18 55 18.9**	**0.0**
MKAR	**Makanchi Array**	**64.71**	**315**	P	**P**	**18 55 18.9**	**0.0**
	1.5nm,0.7s,baz=41,slow=6.5,SNR=15						
KAF	**Kangasniemi**	**65.15**	**353**	*ep*	**P**	**18 55 20.9**	**-0.5**
	1.4nm,0.4s						
FINES	**FINESS Array B**	**65.83**	**353**	P	**P**	**18 55 25.7**	**-0.1**
FINES	**FINESS Array B**	**65.83**	**353**	P	**P**	**18 55 25.7**	**-0.1**
	4.5nm,0.5s,baz=20,slow=7.8,SNR=32						
NB2	**NORSAR Subarra**	**66.69**	**1**	P	**P**	**18 55 31.9**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=0.7,slow=6.2						
NOA	**NORSAR Array B**	**66.69**	**1**	P	**P**	**18 55 31.6**	**+0.1**
NOA	**NORSAR Array B**	**66.69**	**1**	P	**P**	**18 55 31.6**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=358,slow=4.1,SNR=4.5						
PMG	**Port Moresby**	**73.14**	**228**	LR	LR	19 27 42.3	
	comp=Z,48nm,18.5s,baz=256,slow=35						
AKASG	**Malin Array Be**	**76.16**	**349**	P	**P**	**18 56 28.7**	**+0.1**
AKASG	**Malin Array Be**	**76.16**	**349**	P	**P**	**18 56 28.7**	**+0.1**
	comp=Z,1.4nm,0.4s,baz=9.8,slow=5.8,SNR=9.0						
CMAR	**Chiang Mai Arr**	**78.00**	**285**	P	**P**	**18 56 39.7**	**+0.3**
CMAR	**Chiang Mai Arr**	**78.00**	**285**	P	**P**	**18 56 39.7**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=16,slow=5.6,SNR=6.3						
BRTR	**Keskin Array B**	**86.32**	**344**	P	**P**	**18 57 23.1**	**+0.3**
BRTR	**Keskin Array B**	**86.32**	**344**	P	**P**	**18 57 23.1**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=354,slow=5.0,SNR=4.9						

JMA 30 19:23:12.2±0.3, 44°.02N×148°.03E, h0km, M4.4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.78**	**249**	P	Pn	19 23 44.6	+0.4
NEM2				*e*S	Sb	19 24 08.3	-0.3
JRA	**Rausu**	**2.10**	**269**	P	Pn	19 23 49.4	+0.8
JRA				*e*S	Sb	19 24 16.8	-1.0
JNK	**Nakash**	**2.44**	**261**	P	Pn	19 23 54.1	+0.9
JNK				*e*S	Sn	19 24 24.5	+0.8
JAK	**Akkeshi**	**2.63**	**248**	P	Pn	19 23 56.7	+0.8
JAK				*e*S	Sn	19 24 29.7	+1.2
JTKR	**Abashiri--Toko**	**2.98**	**270**	P	Pn	19 24 02.7	+2.1
JAR	**Ashorobuto**	**3.17**	**258**	P	Pn	19 24 05.3	+1.9
JCH	**Churui**	**3.68**	**249**	P	Pn	19 24 11.5	+1.1
JCH				*e*S	Sn	19 24 56.3	+1.8
JNBK	**Urakawa-nobuka**	**4.24**	**248**	P	Pn	19 24 19.0	+1.1
JKB	**Kayabe**	**5.56**	**250**	P	Pn	19 24 37.8	+1.7
JKB				*e*S	Sn	19 25 41.5	+0.8
JOT	**Ohata**	**5.78**	**245**	P	Pn	19 24 40.5	+1.3

*AUST **30** 20:00:34.4±2.5, 30°.54S×177°.15W, h62km, Error ellipse: s-maj=3.6km s-min=1.2km az=273.0*
*ISCJB **30** 20:00:36.5±0.3, 30°.67S±0°.05×178°.11W±0°.07, h46km, mb4.6/30, MS3.9/3, Error ellipse: s-maj=9.0km s-min=6.5km az=30.7*
*IDC **30** 20:00:39.0±1.7, 30°.56S×178°.12W, h57km±14km, mb4.1/14, mb1 4.3/15, mb1mx4.2/19, mbtmp4.4/15, MS3.7/5, Ms1 3.7/5, ms1mx3.4/24, Error ellipse: s-maj=18.7km s-min=12.6km az=116.0*
*NEIC **30** 20:00:38.3±1.2, 30°.60S×178°.12W, h55km±10km, mb4.7/14, Error ellipse: s-maj=11.5km s-min=8.6km az=118.0*

ISC 30 20:00:37.2±0.4, 30°.69S±0°.05×178°.06W±0°.09, h46km, n150, σ1$44/130, mb4.6/29, MS3.9/3, 1C-1D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.44**	**5**	*e*Pn	**Pn**	**20 00 59.9**	**-1.0**
RAO				*e*Sn	**Sn**	**20 01 15.3**	**-3.3**
RAO				S	**Sn**	**20 01 17.5**	**-1.1**
RAO	**Raoul Island**	**1.44**	**5**	P	**Pn**	**20 01 00.4**	**-0.5**
	273nm,0.3s,baz=255,slow=23,SNR=14						
RAO				S	**Sn**	**20 01 17.5**	**-1.1**
	1µm,0.3s,baz=289,slow=24,SNR=9.8						
OUZ	**Omahuta**	**8.34**	**235**	*e*Pn	Pn	20 02 40.9	+5.3
	34nm,0.5s						
URZ	**Urewera**	**8.54**	**207**	P	Pn	20 02 34.3	-3.9
	8.9nm,0.6s						
URZ				*e*Sn	Sn	20 04 04.3	-8.8
URZ				S	**Sn**	**20 04 09.4**	**-3.7**
URZ	**Urewera**	**8.54**	**207**	P	Pn	20 02 34.3	-3.9
	2.0nm,0.3s,baz=286,slow=5.5,SNR=11						
URZ				S	**Sn**	**20 04 09.4**	**-3.7**
	16nm,0.3s,baz=194,slow=21,SNR=15						
SNZO	**South Karori**	**12.10**	**207**	*e*Pn	**Pn**	**20 03 27.0**	**+0.1**
RPZ	**Rata Peaks**	**15.61**	**211**	P	**P**	**20 04 17.0**	**-0.6**
RPZ				S	Sn	20 06 48.2	-18
RPZ	**Rata Peaks**	**15.61**	**211**	P	**P**	**20 04 17.0**	**-0.6**
	3.1nm,0.3s,baz=28,slow=3.1,SNR=9.5						
RPZ				S	Sn	20 06 48.2	-18
	2.8nm,0.3s,baz=57,slow=13,SNR=6.9						
DZM	**Mont Dzumac**	**16.32**	**298**	*e*P	P	20 04 38.4	+13
	81nm,1.1s						
DZM				*e*LR	LR	20 08 13.2	
	697nm,25.4s						
DZM	**Mont Dzumac**	**16.32**	**298**	LR	LR	20 08 49.2	
	comp=Z,329nm,21.4s,baz=195,slow=30						
RAR	**Rarotonga**	**18.94**	**64**	LR	LR	20 09 26.5	
	comp=Z,78nm,21.2s,baz=261,slow=28						
ARMA	**Armidale**	**26.07**	**263**	*e*P	**P**	**20 06 10.3**	**+3.6**
	15nm,1.0s						
ARMA	**Armidale**	**26.07**	**263**	P	**P**	**20 06 10.7**	**+4.1**
	baz=27,SNR=14						
MGCD	**Mangrove Creek**	**26.24**	**256**	P	**P**	**20 06 11.6**	**+3.6**
	baz=27,SNR=7.3						
TBI	**Tubuai**	**26.45**	**81**	*e*LR	LR	20 12 59.9	
	316nm,26.5s						
TBI	**Tubuai**	**26.45**	**81**	*e*T	T	20 34 01.4	
	76nm,0.4s						
CNB	**Canberra Magne**	**27.64**	**252**	P	**P**	**20 06 23.5**	**+2.9**
	baz=28,SNR=7.4						
EIDS	**Eidsvold**	**27.70**	**273**	*e*P	**P**	**20 06 22.6**	**+1.3**
	7.2nm,0.8s						
MILA	**Mila**	**27.86**	**248**	P	**P**	**20 06 25.2**	**+2.6**
	baz=29,SNR=6.5						
YNG	**Young**	**28.45**	**254**	P	**P**	**20 06 30.9**	**+3.1**
	baz=29,SNR=4.7						
PAE	**Paea**	**28.94**	**70**	*e*T	T	20 36 54.7	
	16nm,0.3s						
PPT2	**Papeete2**	**28.98**	**70**	*e*LR	LR	20 13 50.8	
	232nm,27.2s						
RMQ	**Roma**	**29.38**	**270**	P	P	20 06 40.4	+4.3
	baz=30,SNR=8.9						
TOO	**Toolangi**	**30.80**	**247**	P	**P**	**20 06 50.6**	**+1.9**
	baz=32,SNR=8.9						
CMSA	**Cobar Meteorol**	**30.96**	**259**	P	**P**	**20 06 52.6**	**+2.6**
	baz=32,SNR=32						
VAH	**Vaihoa**	**31.83**	**68**	*e*T	T	20 40 28.1	
	103nm,0.3s						
QLP	**Quilpie**	**33.25**	**268**	P	**P**	**20 07 11.8**	**+1.6**
	baz=34,SNR=10.0						
ARPS	**Mount Arapiles**	**33.72**	**249**	P	**P**	**20 07 15.7**	**+1.6**
	baz=34,SNR=8.0						
CTAO	**Charters Tower**	**33.80**	**280**	*e*P	**P**	**20 07 16.9**	**+1.9**
	22nm,0.8s						
STKA	**Stephens Creek**	**34.37**	**257**	*e*P	**P**	**20 07 21.6**	**+1.7**
	12nm,0.9s						
STKA	**Stephens Creek**	**34.37**	**257**	P	**P**	**20 07 21.8**	**+2.0**
	baz=35,SNR=97						
STKA	**Stephens Creek**	**34.37**	**257**	P	**P**	**20 07 21.8**	**+2.0**
	59nm,0.8s,baz=93,slow=11,SNR=143						
STKA				LR	LR	20 19 06.3	
	comp=Z,166nm,20.8s,baz=25,slow=32						
MTSU	**Mount Surprise**	**36.30**	**281**	P	**P**	**20 07 38.8**	**+2.2**
	baz=37,SNR=5.9						
HTT	**Hallett**	**36.37**	**254**	P	**P**	**20 07 38.4**	**+1.3**
	baz=37,SNR=28						
BBOO	**Buckleboo**	**38.84**	**255**	*e*P	**P**	**20 07 57.7**	**-0.3**
	493nm,0.7s						
BBOO	**Buckleboo**	**38.84**	**255**	P	**P**	**20 07 58.4**	**+0.4**
	baz=40,SNR=49						
RKT	**Rikitea**	**38.97**	**90**	*e*LR	LR	20 18 50.8	
	181nm,24.8s						
COEN	**Coen**	**39.30**	**286**	P	P	20 08 03.7	+1.7
	baz=40,SNR=12						
AS31	**Alice Springs**	**43.05**	**267**	*e*P	**P**	**20 08 32.6**	**-0.1**
ASAR	**Alice Springs**	**43.05**	**267**	P	**P**	**20 08 33.0**	**+0.3**
ASAR	**Alice Springs**	**43.05**	**267**	P	**P**	**20 08 33.0**	**+0.3**
	10.0nm,0.7s,baz=104,slow=7.4,SNR=88						
WRAB	**Tennant Creek**	**44.05**	**272**	*e*P	**P**	**20 08 40.4**	**-0.5**
	20nm,0.9s						
WRA	**Warramunga Arr**	**44.06**	**272**	P	**P**	**20 08 41.0**	**+0.1**
WRA	**Warramunga Arr**	**44.06**	**272**	P	**P**	**20 08 41.0**	**+0.1**
	11nm,0.4s,baz=111,slow=8.0,SNR=232						
MMPI	**Merauke**	**44.61**	**291**	P	P	20 08 41.4	-3.8
	baz=45,SNR=4.8						
FORT	**Forrest**	**45.92**	**255**	P	**P**	**20 08 54.7**	**-0.9**
	baz=47,SNR=30						
SBA	**Scott Base**	**47.74**	**184**	*e*P	P	20 09 12.5	+3.4
	8.9nm,1.1s						
VNDA	**Vanda**	**47.80**	**186**	*e*P	**P**	**20 09 11.2**	**+1.6**
VNDA	**Vanda**	**47.80**	**186**	P	**P**	**20 09 11.8**	**+2.3**
	1.6nm,0.8s,baz=21,slow=7.4,SNR=7.6						
KDU	**Kakadu**	**48.92**	**280**	P	**P**	**20 09 18.9**	**0.0**
	baz=50,SNR=4.3						
MTN	**Manton Dam**	**49.98**	**279**	P	**P**	**20 09 27.1**	**0.0**
	baz=51,SNR=3.9						
KNRA	**Kununurra**	**50.68**	**275**	P	**P**	**20 09 31.9**	**-0.5**
	baz=51,SNR=9.0						
FITZ	**Fitzroy Crossi**	**52.31**	**270**	*e*P	**P**	**20 09 43.9**	**-0.7**
	6.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.31**	**270**	P	**P**	**20 09 44.4**	**-0.2**
	baz=53,SNR=8.1						
FITZ	**Fitzroy Crossi**	**52.31**	**270**	LR	LR	20 30 09.0	
	comp=Z,106nm,18.4s,baz=35,slow=34						
KLBR	**Kellerberrin**	**54.21**	**251**	P	**P**	**20 09 57.1**	**-1.2**
	baz=55,SNR=9.3						
CASY	**Casey**	**54.86**	**208**	*e*P	**P**	**20 10 01.6**	**-0.9**
	19nm,0.8s						
MEEK	**Meekatharra**	**55.07**	**257**	P	**P**	**20 10 04.0**	**-0.7**
	baz=56,SNR=7.5						

MBWA	**Marble Bar**	**56.14**	**264**	*e*P		**P**	**20 10 10.5**	**-1.9**	
MORW	**Morawa**	**56.40**	**254**	P		**P**	**20 10 13.4**	**-0.8**	
	baz=57,SNR=5.3								
QSPA	**South Pole Qui**	**59.42**	**180**	*e*P		**P**	**20 10 33.8**	**-1.1**	
	28nm,0.9s								
QSPA	**South Pole Qui**	**59.42**	**180**	P		**P**	**20 10 36.5**	**+1.6**	
	8.9nm,0.8s								
MAW	**Mawson**	**72.02**	**201**	P		**P**	**20 11 55.8**	**0.0**	
MAW	**Mawson**	**72.02**	**201**	P		**P**	**20 11 55.8**	**0.0**	
	3.1nm,0.5s,baz=147,slow=7.4,SNR=5.0								
KKM	**Kota Kinabalu**	**72.60**	**288**	P		P	20 11 55.0	-5.3	
	8.1nm,0.8s								
KSM	**Kuching**	**75.03**	**281**	P		P	20 12 19.1	+4.7	
	baz=76,SNR=3.5								
SYO	**Syowa Base**	**76.82**	**193**	⇑*i*P		**P**	**20 12 22.8**	**-0.9**	
SYO	**Syowa Base**	**76.82**	**193**	⇓*i*P		**P**	**20 12 24.9**	**+1.2**	
SNAA	**Sanae**	**77.86**	**178**	*e*P		**P**	**20 12 29.9**	**+0.3**	
SNAA	**Sanae**	**77.86**	**178**	*e*I			20 12 35.4		
SNAA	**Sanae**	**77.86**	**178**	*e*P		**P**	**20 12 29.4**	**-0.2**	
	11nm,1.0s								
VNA2	**Neumayer--Watz**	**78.45**	**177**	*e*P		**P**	**20 12 32.7**	**-0.1**	
	baz=183,slow=6.5								
VNA2	**Neumayer--Watz**	**78.45**	**177**	*e*I			20 12 37.9		
	baz=183,slow=6.5								
MJAR	**Matsushiro Arr**	**78.45**	**325**	P		**P**	**20 12 32.6**	**-0.6**	
MJAR	**Matsushiro Arr**	**78.45**	**325**	P		**P**	**20 12 32.6**	**-0.6**	
	1.0nm,0.7s,baz=171,slow=6.3,SNR=3.0								
MAJO	**Matsushiro**	**78.46**	**325**	*e*P		**P**	**20 12 32.2**	**-1.0**	
	14nm,1.2s								
H03N3	**Juan Fernandez**	**80.54**	**123**	T		T	21 42 08.9		
	baz=239,slow=0.7,SNR=28								
H03N2	**Juan Fernandez**	**80.54**	**123**	T		T	21 41 45.1		
	baz=239,slow=0.7,SNR=21								
H03N1	**Juan Fernandez**	**80.55**	**123**	T		T	21 42 08.6		
	baz=239,slow=0.7,SNR=26								
PLCA	**Paso Flores**	**82.34**	**133**	P		**P**	**20 12 55.1**	**+0.7**	
PLCA	**Paso Flores**	**82.34**	**133**	P		**P**	**20 12 55.1**	**+0.7**	
	3.8nm,1.1s,baz=225,slow=1.6,SNR=3.0								
PETK	**Petropavlovsk-**	**86.08**	**346**	P		**P**	**20 13 15.0**	**+2.4**	
PETK	**Petropavlovsk-**	**86.08**	**346**	P		**P**	**20 13 15.0**	**+2.4**	
	9.3nm,0.7s,baz=136,slow=9.0,SNR=7.2								
PFO	**Pinyon Flat Ob**	**86.44**	**47**	P		**P**	**20 13 16.4**	**+1.3**	
PFO	**Pinyon Flat Ob**	**86.44**	**47**	P		**P**	**20 13 16.4**	**+1.3**	
	2.8nm,0.7s,baz=188,slow=5.8,SNR=4.0								
ISA	**Isabella**	**86.54**	**45**	*e*P		**P**	**20 13 17.1**	**+1.7**	
	1.7nm,0.5s								
CMB	**Columbia Colle**	**87.01**	**42**	*e*P		**P**	**20 13 18.1**	**+0.5**	
	1.5nm,0.5s								
YBH	**Yreka Blue Hor**	**88.29**	**38**	P		**P**	**20 13 25.2**	**+1.5**	
YBH	**Yreka Blue Hor**	**88.29**	**38**	P		**P**	**20 13 25.3**	**+1.5**	
	2.0nm,0.9s,baz=283,slow=5.5,SNR=5.7								
NVAR	**Mina Array Bea**	**88.49**	**43**	P		**P**	**20 13 26.4**	**+1.5**	
NVAR	**Mina Array Bea**	**88.49**	**43**	P		**P**	**20 13 26.4**	**+1.5**	
	2.6nm,0.7s,baz=222,slow=8.1,SNR=23								
CFAA	**Coronel Fontan**	**89.10**	**127**	P		**P**	**20 13 28.9**	**+0.9**	
CFAA	**Coronel Fontan**	**89.10**	**127**	P		**P**	**20 13 28.9**	**+0.9**	
	0.6nm,0.8s,baz=254,slow=2.8,SNR=5.4								
TXAR	**Lajitas Array**	**92.59**	**57**	P		**P**	**20 13 45.3**	**+1.2**	
TXAR	**Lajitas Array**	**92.59**	**57**	P		**P**	**20 13 45.3**	**+1.2**	
	0.3nm,0.6s,baz=231,slow=3.7,SNR=3.7								
CMAR	**Chiang Mai Arr**	**93.45**	**289**	P		P	**20 13 48.6**	**+0.4**	
CMAR				PP		**PP**	**20 17 35.1**	**+1.9**	
CMAR	**Chiang Mai Arr**	**93.45**	**289**	P		**P**	**20 13 48.6**	**+0.4**	
	0.1nm,0.3s,baz=145,slow=3.

KRSC 30 20:03:18.0±8.1, 52.77N×169.98E, h15km±15km, ML4.4, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**3.40**	**317**	S	Sn	20 04 50.9	+0.5
KBTR	**Krutoberegovo**	**5.41**	**312**	*e*P	Pn	20 04 37.7	-0.4
SMKR	**Semkarok**	**6.24**	**311**	*e*P	Pn	20 04 52.4	+2.8
SMKR				S	Sn	20 06 03.1	+2.5
SDLR	**Sedlovina**	**6.71**	**279**	*e*P	Pn	20 04 59.1	+3.0
SDLR				S	Sn	20 06 15.9	+3.5
AVH	**Avacha**	**6.80**	**279**	*e*P	Pn	20 05 00.4	+3.1
KRX	**Arik**	**6.86**	**279**	P	Pn	20 05 00.7	+2.6
KOK	**Koryaka**	**6.86**	**279**	*e*P	Pn	20 05 00.6	+2.4
RUS	**Russkaya**	**7.00**	**272**	P	Pn	20 05 03.0	+3.2
RUS				S	Sn	20 06 21.0	+2.0
MTVR	**Mutnovka**	**7.19**	**272**	P	Pn	20 05 05.9	+3.2
MTVR				S	Sn	20 06 24.9	+0.8
GNL	**Ganaly**	**7.29**	**282**	*e*P	Pn	20 05 07.4	+3.4

*IDC **30** 20:28:20.5±1.9, 1.20N×125.50E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/22, mbtmp3.2/3, Error ellipse: s-maj=182.1km s-min=25.8km az=64.0*
*ISCJB **30** 20:28:32.3±0.6, 0.37S±0.06×122.94E±0.06, h78km, mb3.0/3, Error ellipse: s-maj=9.7km s-min=7.5km az=145.1*
*DJA **30** 20:28:32.9±0.6, 0°S±4′×12°3E±°, h63km±9km, M4.2/7, mb4.5/1, mB5.2/1, MLv4.0/7, Mw(mB)4.6/1*
ISC 30 20:28:32.5±1.1, 0.36S±0.06×122.97E±0.07, h78km, n11, σ1°9′19/12, mb2.8/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.70**	**196**	P	**Pn**	**20 28 48.3**	**+0.2**
LUWI				S	**Sn**	**20 29 01.2**	**+1.6**
GTOI	**Gorontalo**	**0.99**	**3**	P	**Pn**	**20 28 52.2**	**+0.9**
MRSI	**Marisa**	**1.32**	**309**	P	**Pn**	**20 28 55.3**	**-0.1**
MRSI				S	**Sn**	**20 29 12.2**	**-0.5**
KMSI	**Cibinong**	**1.38**	**48**	P	**Pn**	**20 28 56.8**	**+0.7**
TOLI	**Toli-Toli**	**2.62**	**304**	P	**Pn**	**20 29 14.0**	**+1.3**
TTSI	**Tana Toraja**	**4.12**	**230**	P	**Pn**	**20 29 33.2**	**+0.1**
LBMI	**Labuha**	**4.52**	**96**	P	Pn	20 29 42.1	+3.3
NLAI	**Namlea**	**5.02**	**125**	P	**Pn**	**20 29 45.1**	**-0.3**
WRA	**Warramunga Arr**	**22.42**	**151**	P	**P**	**20 33 24.0**	**-1.0**
	0.3nm,0.8s,baz=336,slow=10.0,SNR=8.5						
ASAR	**Alice Springs**	**25.48**	**156**	P	**P**	**20 33 55.5**	**+1.9**
	0.2nm,0.6s,baz=346,slow=14,SNR=4.0						
MKAR	**Makanchi Array**	**58.90**	**328**	P	**P**	**20 38 21.9**	**-1.6**
	0.2nm,0.3s,baz=123,slow=8.2,SNR=6.3						

MAN 30 20:37:54, 14.09N×121.97E, h1km, mb4.8, ML3.7, MS3.7, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GQP	**Guinayangan**	**0.49**	**112**	*e*P	Pg	20 38 03.0	-0.5
BOAC	**Boac**	**0.64**	**191**	*e*P	Pg	20 38 06.5	+0.2
BOAC				*e*S	Sb	20 38 18.3	+0.9
AUQP	**San Andres**	**1.02**	**138**	*e*P	Pn	20 38 15.2	-0.3
SJMP	**San Jose**	**1.82**	**207**	*e*P	Pb	20 38 28.0	-0.1
BUSP	**Coron**	**2.70**	**220**	*e*P	Pn	20 38 40.0	+1.4

JMA 30 20:43:02.8±0.2, 43.51N×147.51E, h56km, M3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.29**	**264**	P	Pn	20 43 25.1	+0.5
NEM2				*e*S	Sn	20 43 41.7	+0.8
JRA	**Rausu**	**1.78**	**285**	P	Pn	20 43 31.8	+0.6
JRA				*e*S	Sn	20 43 53.8	+1.1
JNK	**Nakash**	**2.03**	**273**	P	Pn	20 43 34.9	+0.3
JNK				*e*S	Sn	20 43 58.6	-0.2
JAK	**Akkeshi**	**2.12**	**257**	P	Pn	20 43 36.3	+0.5
JAK				*e*S	Sn	20 44 01.1	+0.2
JTKR	**Abashiri--Toko**	**2.65**	**281**	P	Pn	20 43 44.1	+1.1
JAR	**Ashorobuto**	**2.73**	**267**	P	Pn	20 43 45.3	+1.1
JAR				*e*S	Sn	20 44 16.7	+0.6
JOB	**Onbets**	**2.75**	**259**	P	Pn	20 43 45.4	+0.9
JOB				*e*S	Sn	20 44 17.2	+0.7
JMP	**Maruseppu**	**3.05**	**281**	P	Pn	20 43 49.8	+1.3
JCH	**Churui**	**3.17**	**255**	P	Pn	20 43 50.8	+0.7
JCH				*e*S	Sn	20 44 26.6	-0.1
JKK2	**Kamakawa 2**	**3.47**	**278**	P	Pn	20 43 55.9	+1.6
JFR	**Furan**	**3.60**	**266**	P	Pn	20 43 58.0	+1.9
JSE	**Soyaes**	**3.83**	**294**	P	Pn	20 44 00.0	+0.9

IDC 30 20:43:20.5±0.9, 17.18S×173.84W, h0km, mb4.1/7, mb1 4.3/8, mb1mx4.1/21, mbtmp4.0/8, ML2.1/1, MS3.0/1, Ms1 3.0/1, ms1mx2.7/26, Error ellipse: s-maj=45.0km s-min=19.1km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.81**	**32**	Pn	Pn	20 44 20.6	+0.1
	9.0nm,0.3s,baz=225,slow=4.3,SNR=6.9						
AFI				Sn	Sn	20 44 58.1	-7.9
	23nm,0.3s,baz=47,slow=19,SNR=11						
AFI				LR	LR	20 45 05.8	
	comp=Z,226nm,21.6s,baz=25,slow=28						
H11S2	**WAKE ISLAND Hy**	**40.28**	**331**	T	T	21 33 51.9	
	baz=159						
H11S3	**WAKE ISLAND Hy**	**40.30**	**331**	T	T	21 33 46.9	
	baz=159						
H11S1	**WAKE ISLAND Hy**	**40.30**	**331**	T	T	21 33 51.5	
	baz=159						
H11N3	**WAKE ISLAND Hy**	**41.26**	**332**	T	T	21 35 29.7	
	baz=158						
H11N1	**WAKE ISLAND Hy**	**41.26**	**332**	T	T	21 35 28.7	
	baz=158						
H11N2	**WAKE ISLAND Hy**	**41.27**	**332**	T	T	21 35 27.7	
	baz=158						
STKA	**Stephens Creek**	**42.81**	**241**	P	P	20 51 19.2	-1.1
	0.8nm,0.4s,baz=77,slow=9.1,SNR=5.5						
WRA	**Warramunga Arr**	**49.05**	**258**	P	P	20 52 09.3	-0.4
	1.7nm,0.4s,baz=98,slow=6.7,SNR=34						
WRA				PcP	PcP	20 53 34.4	+0.7
	0.4nm,0.6s,baz=94,slow=3.3,SNR=3.0						
ASAR	**Alice Springs**	**49.18**	**253**	P	P	20 52 10.4	-0.4
	14nm,0.6s,baz=89,slow=8.4,SNR=260						
ASAR				PcP	PcP	20 53 34.4	+0.2
	0.9nm,0.6s,baz=106,slow=3.7,SNR=5.0						
FITZ	**Fitzroy Crossi**	**57.45**	**259**	P	P	20 53 12.3	+0.7
	1.7nm,0.9s,baz=112,slow=5.4,SNR=3.4						
VNDA	**Vanda**	**61.58**	**186**	P	P	20 53 39.4	+0.3
	0.6nm,0.7s,baz=3.5,slow=9.0,SNR=3.8						
NVAR	**Mina Array Bea**	**75.92**	**42**	P	P	20 55 09.6	+0.1
	1.3nm,0.7s,baz=226,slow=9.0,SNR=11						
ILAR	**Eielson Array**	**84.26**	**11**	P	P	20 55 52.3	-1.3
	0.3nm,0.6s,baz=227,slow=5.6,SNR=3.1						
CMAR	**Chiang Mai Arr**	**92.77**	**288**	P	P	20 56 38.1	+2.7
	0.3nm,0.8s,baz=87,slow=1.9,SNR=4.0						
MKAR	**Makanchi Array**	**111.76**	**314**	PKiKP	PKiKP	21 01 56.9	-0.5
	0.3nm,0.6s,baz=225,slow=0.4,SNR=2.7						
BVAR	**Borovoye Array**	**119.01**	**322**	PKP	PKPdf	21 02 09.7	-1.4
	0.7nm,0.5s,baz=53,slow=1.3,SNR=4.2						
KMBO	**Kilima Mbogo**	**144.37**	**242**	PKP	PKPdf	21 02 59.5	-0.5
	2.6nm,0.8s,baz=71,slow=8.1,SNR=9.1						
BRTR	**Keskin Array B**	**147.24**	**319**	PKPbc	PKPbc	21 03 05.6	-0.7
	1.8nm,0.8s,baz=79,slow=2.6,SNR=6.1						
GERES	**GERESS Array B**	**147.82**	**351**	PKPbc	PKPbc	21 03 07.7	+0.1
	0.7nm,0.7s,baz=33,slow=3.2,SNR=6.4						
MMAI	**Mount Meron Ar**	**149.32**	**306**	PKPbc	PKPbc	21 03 13.1	+1.2
	6.7nm,1.1s,baz=76,slow=6.1,SNR=4.1						
TORD	**Torodi Ar. Bea**	**174.11**	**132**	PKP	PKPdf	21 03 30.9	-2.2
	0.7nm,0.9s,baz=336,slow=3.1,SNR=3.4						

*CSEM **30** 21:00:45.1±0.1, 41.27N×21.03E, h2km, MD3.2, Error ellipse: s-maj=3.6km s-min=2.6km az=63.0*
*THE **30** 21:00:45.1, 41.28N×21.01E, h0km±2km, ML2.7/6, Error ellipse: s-maj=2.8km s-min=0.9km az=331.0*
*ATH **30** 21:00:45.0, 41.26N×21.02E, h16km±1km, MD3.2/8*
*BEO **30** 21:00:45.7±0.4, 41.27N×21.01E, h1km±2km, ML2.5/1*
*SKO **30** 21:00:45.7, 41.25N×20.95E, h0km, M2.2, ML2.6*
ISC 30 21:00:45.2±1.1, 41.27N±0.01×21.00E±0.02, h0km±10km, n76, σ0.68/137, 2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIA	**Bitola**	**0.34**	**135**	P	**Pg**	**21 00 51.5**	**-0.2**
BIA				S	**Sg**	**21 00 57.5**	**+1.3**
BIA	**Bitola**	**0.34**	**135**	*i* Pg	**Pg**	**21 00 52.0**	**+0.2**
BIA				*i* Sg	**Sg**	**21 00 58.0**	**+1.8**
BIA	**Bitola**	**0.34**	**135**	P	**Pg**	**21 00 51.5**	**-0.2**
BIA				S	**Sg**	**21 00 57.5**	**+1.3**
FNA	**Florina**	**0.56**	**150**	P	**Pg**	**21 00 55.6**	**-0.2**
FNA				S	**Sg**	**21 01 03.7**	**+0.7**
FNA	**Florina**	**0.56**	**150**	*e*PN	**Pg**	**21 00 55.7**	**-0.1**
FNA				*e*SN	**Sg**	**21 01 03.8**	**+0.7**
FNA	**Florina**	**0.56**	**150**	*e*Pn	**Pg**	**21 00 55.7**	**-0.1**
FNA				S	**Sg**	**21 01 03.7**	**+0.7**
PHP	**Peshkopia**	**0.60**	**315**	*i* PG	**Pg**	**21 00 56.1**	**-0.5**
PHP				*i* SG	**Sg**	**21 01 05.9**	**+1.6**
PHP	**Peshkopia**	**0.60**	**315**	P	**Pg**	**21 00 55.8**	**-0.8**
PHP				S	**Sg**	**21 01 05.4**	**+1.1**
PHP	**Peshkopia**	**0.60**	**315**	P	**Pg**	**21 00 55.8**	**-0.8**
PHP	**Peshkopia**	**0.60**	**315**	*i* Pg	**Pg**	**21 00 56.1**	**-0.5**
	SNR=10.0						
PHP				S	**Sg**	**21 01 05.4**	**+1.1**
KBN	**Korca**	**0.66**	**194**	*i* PG	**Pg**	**21 00 57.4**	**-0.4**
KBN				*i* SG	**Sg**	**21 01 07.7**	**+1.3**
KBN	**Korca**	**0.66**	**194**	P	**Pg**	**21 00 57.4**	**-0.4**
KBN				S	**Sg**	**21 01 06.8**	**+0.4**
KBN	**Korca**	**0.66**	**194**	P	**Pg**	**21 00 57.4**	**-0.4**
KBN				S	**Sg**	**21 01 06.8**	**+0.4**
KBN				*i* Sg	**Sg**	**21 01 07.7**	**+1.3**
	SNR=9.0						
SKO	**Skopje**	**0.78**	**25**	P	**Pg**	**21 00 59.5**	**-0.6**
SKO				S	**Sg**	**21 01 10.7**	**+0.5**
SKO	**Skopje**	**0.78**	**25**	⇓*i* Pg	**Pg**	**21 00 59.3**	**-0.8**
SKO	**Skopje**	**0.78**	**25**	*i* Pg	**Pg**	**21 01 00.6**	**+0.5**
SKO				*i* Sg	**Sb**	**21 01 12.1**	**-0.5**
SKO				*e*Lg	Lg	21 01 12.2	
	comp=E,147nm,0.3s						
SKO				*e*Lg	Lg	21 01 14.7	
	comp=N,287nm,0.3s						
SKO	**Skopje**	**0.78**	**25**	P	**Pg**	**21 00 59.5**	**-0.6**
SKO				S	**Sg**	**21 01 10.7**	**+0.5**
NEST	**Nestorio**	**0.85**	**178**	P	**Pg**	**21 01 00.7**	**-0.7**
NEST				S	**Sg**	**21 01 13.4**	**+0.5**
NEST	**Nestorio**	**0.85**	**178**	*e*PB	**Pg**	**21 01 00.7**	**-0.7**
NEST				*e*SN	**Sg**	**21 01 13.0**	**+0.5**
NEST	**Nestorio**	**0.85**	**178**	P	**Pg**	**21 01 00.7**	**-0.7**
NEST				*e*Sn	**Sg**	**21 01 13.0**	**+0.5**
TIR	**Tirane**	**0.86**	**276**	*i* PG	**Pg**	**21 01 01.1**	**-0.5**
TIR				*i* SG	**Sb**	**21 01 14.6**	**-0.5**
TIR	**Tirane**	**0.86**	**276**	P	**Pg**	**21 01 01.2**	**-0.5**
TIR				S	**Sb**	**21 01 14.5**	**-0.5**
TIR	**Tirane**	**0.86**	**276**	⇓*i* Pg	**Pg**	**21 01 01.0**	**-0.7**
TIR				*e*Sg	**Sb**	**21 01 14.2**	**-0.8**
TIR	**Tirane**	**0.86**	**276**	P	**Pg**	**21 01 01.2**	**-0.5**
TIR				S	**Sb**	**21 01 14.5**	**-0.5**
KZN	**Kozani**	**1.12**	**148**	P	**Pg**	**21 01 06.2**	**-0.4**
KZN				S	**Sn**	**21 01 23.6**	**-0.6**
KZN	**Kozani**	**1.12**	**148**	*e*PB	**Pg**	**21 01 05.4**	**-1.2**
KZN				*e*SN	**Sb**	**21 01 22.1**	**-0.4**
KZN	**Kozani**	**1.12**	**148**	*e*Pb	**Pg**	**21 01 05.4**	**-1.2**
KZN	**Kozani**	**1.12**	**148**	P	**Pg**	**21 01 06.2**	**-0.4**
KZN				*e*Sn	**Sb**	**21 01 22.1**	**-0.4**
KZN				S	**Sn**	**21 01 23.6**	**-0.6**
PUK	**Puka**	**1.14**	**313**	*i* PG	**Pg**	**21 01 05.6**	**-1.4**
PUK				*i* SG	**Sn**	**21 01 25.6**	**+0.9**
PUK	**Puka**	**1.14**	**313**	*i* Pg	**Pg**	**21 01 05.6**	**-1.4**
	SNR=9.0						
VAY	**Valandovo**	**1.18**	**87**	P	**Pg**	**21 01 07.3**	**-0.5**
VAY				S	**Sb**	**21 01 24.4**	**+0.2**
VAY	**Valandovo**	**1.18**	**87**	*e*Pg	**Pg**	**21 01 07.2**	**-0.5**
VAY				*e*Sg	**Sb**	**21 01 23.8**	**-0.4**
VAY	**Valandovo**	**1.18**	**87**	*i* Pg	Pg	21 01 01.9	-5.9
VAY				*i* Sg	**Sn**	**21 01 24.9**	**-0.7**
VAY				*e*Lg	Lg	21 01 28.3	
	comp=N,48nm,0.5s						
VAY				*e*Lg	Lg	21 01 29.4	
	comp=E,61nm,0.7s						
VAY	**Valandovo**	**1.18**	**87**	P	**Pg**	**21 01 07.3**	**-0.5**
VAY				*e*Sg	**Sb**	**21 01 23.8**	**-0.4**
VAY				S	**Sb**	**21 01 24.4**	**+0.2**
KNT	**Kendrikon**	**1.43**	**94**	P	**Pn**	**21 01 12.1**	**-0.3**
KNT				S	**Sn**	**21 01 32.6**	**+0.7**
KNT	**Kendrikon**	**1.43**	**94**	*e*PN	**Pn**	**21 01 12.2**	**-0.2**
KNT				*e*SN	**Sg**	**21 01 31.0**	**-0.2**
KNT	**Kendrikon**	**1.43**	**94**	*e*Pn	**Pn**	**21 01 12.2**	**-0.2**
KNT				*e*Sn	**Sg**	**21 01 31.0**	**-0.2**
KNT				S	**Sn**	**21 01 32.6**	**+0.7**
SRN	**Sarande**	**1.58**	**209**	P	**Pb**	**21 01 15.3**	**+0.1**
SRN	**Sarande**	**1.58**	**209**	P	**Pn**	**21 01 15.3**	**+0.1**
HORT	**Hortiatis**	**1.72**	**112**	*e*PN	**Pn**	**21 01 16.1**	**-0.3**
HORT	**Hortiatis**	**1.72**	**112**	*e*Pn	**Pn**	**21 01 16.1**	**-0.3**
PDG	**Podgorica**	**1.75**	**312**	P	**Pb**	**21 01 17.9**	**-0.2**
PDG	**Podgorica**	**1.75**	**312**	*e*Pg	**Pb**	**21 01 17.9**	**-0.2**
PDG				*e*Sg	**Sb**	**21 01 40.6**	**0.0**
PDG	**Podgorica**	**1.75**	**312**	P	**Pb**	**21 01 17.9**	**-0.2**
PDG				*e*Sg	**Sb**	**21 01 40.6**	**0.0**
KEK	**Kerkira**	**1.80**	**211**	P	**Pn**	**21 01 18.2**	**+0.8**
KEK	**Kerkira**	**1.80**	**211**	P	**Pn**	**21 01 18.2**	**+0.8**
IGT	**Igoumenitsa**	**1.81**	**197**	P	**Pb**	**21 01 19.2**	**+0.2**
IGT				S	**Sb**	**21 01 41.8**	**-0.4**
IGT	**Igoumenitsa**	**1.81**	**197**	*e*PN	**Pb**	**21 01 18.3**	**-0.7**
IGT				*e*SN	**Sb**	**21 01 41.8**	**-0.4**
IGT	**Igoumenitsa**	**1.81**	**197**	*e*Pn	**Pb**	**21 01 18.3**	**-0.7**
IGT	**Igoumenitsa**	**1.81**	**197**	P	**Pb**	**21 01 19.2**	**+0.2**
IGT				S	**Sb**	**21 01 41.8**	**-0.4**
THL	**Klokotos Trika**	**1.87**	**155**	P	**Pn**	**21 01 17.6**	**-0.7**
THL				S	**Sn**	**21 01 42.8**	**+0.3**
THL	**Klokotos Trika**	**1.87**	**155**	*e*PB	**Pn**	**21 01 17.6**	**-0.7**
THL				*e*SN	**Sn**	**21 01 42.8**	**+0.3**
THL	**Klokotos Trika**	**1.87**	**155**	*e*Pb	**Pn**	**21 01 17.6**	**-0.7**
THL				S	**Sn**	**21 01 42.8**	**+0.3**
SELS	**Selova**	**1.96**	**2**	*e*Pg	**Pb**	**21 01 21.0**	**-0.6**
SELS				*e*Sg	**Sg**	**21 01 48.0**	**0.0**
SRS	**Serrai**	**1.96**	**93**	P	**Pn**	**21 01 19.6**	**0.0**
SRS	**Serrai**	**1.96**	**93**	*e*PN	**Pn**	**21 01 19.4**	**-0.2**
SRS	**Serrai**	**1.96**	**93**	*e*Pn	**Pn**	**21 01 19.4**	**-0.2**
VTS	**Vitosha**	**2.11**	**50**	*e*Pg	**Pn**	**21 01 22.8**	**+1.0**
VTS				*e*Sg	**Sb**	**21 01 51.3**	**+0.1**
VTS	**Vitosha**	**2.11**	**50**	*e*Pg	**Pn**	**21 01 22.8**	**+1.0**
VTS				*e*Sg	**Sb**	**21 01 51.3**	**+0.1**
SJES	**Sjenica**	**2.14**	**339**	*e*Pn	**Pn**	**21 01 22.6**	**+0.5**
SJES				*e*Sn	**Sn**	**21 01 50.4**	**+1.0**
NVR	**Nevrokopi**	**2.15**	**87**	P	**Pn**	**21 01 22.7**	**+0.4**
NVR	**Nevrokopi**	**2.15**	**87**	*e*PN	**Pn**	**21 01 22.7**	**+0.4**
NVR	**Nevrokopi**	**2.15**	**87**	P	**Pn**	**21 01 22.7**	**+0.4**
ZAPS	**Zavoj**	**2.34**	**31**	*e*Pn	**Pn**	**21 01 26.0**	**+1.1**
ZAPS				*e*Sn	**Sn**	**21 01 55.1**	**+0.7**
IVAS	**Ivanjica**	**2.39**	**345**	*e*Pn	**Pn**	**21 01 24.6**	**-1.0**
IVAS				*e*Sn	**Sn**	**21 01 56.9**	**+1.2**
IVAS	**Ivanjica**	**2.39**	**345**	*e*Pn	**Pn**	**21 01 24.6**	**-1.0**
IVAS				*e*Sn	**Sn**	**21 01 56.9**	**+1.2**
GRUS	**Gruza**	**2.63**	**355**	*e*Pn	**Pn**	**21 01 28.2**	**-0.6**
GRUS				*e*Sn	**Sn**	**21 02 01.8**	**+0.4**
GRUS	**Gruza**	**2.63**	**355**	*e*Pn	**Pn**	**21 01 28.2**	**-0.6**
GRUS				*e*Sn	**Sn**	**21 02 01.8**	**+0.4**
BBLS	**Lazi?i**	**2.85**	**336**	*e*Pn	**Pn**	**21 01 31.5**	**-0.5**
BBLS				*e*Sn	**Sn**	**21 02 06.3**	**-0.7**
BBLS	**Lazi?i**	**2.85**	**336**	*e*Pn	**Pn**	**21 01 31.5**	**-0.5**
BBLS				*e*Sn	**Sn**	**21 02 06.3**	**-0.7**
DIVS	**Divibare**	**2.93**	**346**	*e*Pn	**Pn**	**21 01 32.9**	**-0.1**
DIVS				*e*Sn	**Sn**	**21 02 09.2**	**+0.3**
DIVS	**Divibare**	**2.93**	**346**	*e*Pn	**Pn**	**21 01 32.9**	**-0.1**
DIVS				*e*Sn	**Sn**	**21 02 09.2**	**+0.3**
STON	**Ston**	**2.94**	**304**	*e*Pn	**Pn**	**21 01 33.5**	**+0.5**
STON				Sn	**Sn**	**21 02 09.9**	**+1.0**
STON	**Ston**	**2.94**	**304**	*e*Pn	**Pn**	**21 01 33.4**	**+0.5**
STON				Sn	**Sn**	**21 02 09.9**	**+1.0**
NVLJ	**Novalja**	**5.58**	**308**	*i* Pn	**Pn**	**21 02 10.1**	**+0.7**
NVLJ				Sn	**Sn**	**21 03 13.7**	**-0.4**
NVLJ	**Novalja**	**5.58**	**308**	*i* Pn	**Pn**	**21 02 10.0**	**+0.7**
NVLJ				Sn	**Sn**	**21 03 13.6**	**-0.4**

*ISK **30** 21:02:27.5, 35.48N×27.35E, h5km, MD3.4*
*THE **30** 21:02:28.4, 35.41N×27.30E, h0km±1km, ML3.0/2, Error ellipse: s-maj=3.2km s-min=1.6km az=148.0*
*ISCJB **30** 21:02:29.1±0.8, 35.45N±0.05×27.29E±0.04, h12km±4km, Error ellipse: s-maj=8.6km s-min=4.1km az=156.9*
*CSEM **30** 21:02:29.6±0.3, 35.49N×27.24E, h10km, ML3.0/2, Error ellipse: s-maj=9.3km s-min=3.8km az=157.0*
*DDA **30** 21:02:32.2, 35.67N×27.22E, h10km, MD3.4*
ISC 30 21:02:29.7±1.1, 35.49N±0.05×27.27E±0.03, h15km±5km, n58, σ1°27/75, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.11**	**304**	P	**Pg**	**21 02 32.4**	**-0.8**
KARP				S	**Sg**	**21 02 36.1**	**+0.7**
KARP	**Karpathos**	**0.11**	**304**	P	**Pg**	**21 02 32.4**	**-0.8**
KARP				S	**Sg**	**21 02 36.1**	**+0.7**
ZKR	**Zakros**	**0.94**	**247**	P	**Pg**	**21 02 44.9**	**-3.0**
ZKR	**Zakros**	**0.94**	**247**	P	**Pg**	**21 02 44.9**	**-3.0**
ARG	**Arkhangelos**	**1.01**	**43**	P	**Pg**	**21 02 48.5**	**-0.7**
ARG				S	**Sn**	**21 03 04.3**	**+1.2**
ARG	**Arkhangelos**	**1.01**	**43**	P	**Pg**	**21 02 48.5**	**-0.7**
ARG				S	**Sn**	**21 03 04.3**	**+1.2**
DAT	**Datca**	**1.27**	**11**	*e*PN	**Pn**	**21 02 52.4**	**-0.5**
DAT				*e*SN	**Sn**	**21 03 11.4**	**+1.7**
DAT	**Datca**	**1.27**	**11**	*e*Pn	**Pn**	**21 02 52.4**	**-0.5**
DAT				*e*Sn	**Sn**	**21 03 11.4**	**+1.7**
NPS	**Neapolis**	**1.37**	**261**	P	**Pn**	**21 02 53.9**	**-0.4**
NPS				S	**Sn**	**21 03 13.3**	**+1.1**
NPS	**Neapolis**	**1.37**	**261**	P	**Pn**	**21 02 53.9**	**-0.4**
NPS				S	**Sn**	**21 03 13.3**	**+1.1**
BDRM	**Kayabasi**	**1.58**	**5**	*i* P	**Pn**	**21 02 56.8**	**-0.4**
BDRM				*i* S	**Sn**	**21 03 17.9**	**+0.5**
BDRM	**Kayabasi**	**1.58**	**5**	*i* P	**Pn**	**21 02 56.8**	**-0.4**
BDRM				*i* S	**Sn**	**21 03 17.9**	**+0.5**
THR1	**Thera Island**	**1.71**	**301**	P	**Pn**	**21 02 58.9**	**-0.1**
THR1	**Thera Island**	**1.71**	**301**	P	**Pn**	**21 02 58.9**	**-0.1**
SANT	**Santorini**	**1.71**	**302**	P	**Pn**	**21 02 58.9**	**-0.1**
SANT				S	**Sn**	**21 03 22.2**	**+1.5**
SANT	**Santorini**	**1.71**	**302**	P	**Pn**	**21 02 58.9**	**-0.1**
SANT				S	**Sn**	**21 03 22.2**	**+1.5**
DALY	**Dalyan (Mu¨la**	**1.74**	**40**	*e*PN	**Pn**	**21 03 00.1**	**+0.9**
DALY				*e*SN	**Sb**	**21 03 23.1**	**+0.2**
DALY	**Dalyan (Mu¨la**	**1.74**	**40**	*e*Pn	**Pn**	**21 03 00.1**	**+0.9**
DALY				*e*Sn	**Sb**	**21 03 23.1**	**+0.2**
THR6	**Thira Island,**	**1.75**	**300**	P	**Pn**	**21 02 59.3**	**-0.2**
THR6	**Thira Island,**	**1.75**	**300**	P	**Pn**	**21 02 59.3**	**-0.2**
TURN	**Turunc**	**1.75**	**38**	*i* P	Pn	21 02 56.4	-3.1
TURN				*i* S	**Sn**	**21 03 17.5**	**-4.1**
TURN	**Turunc**	**1.75**	**38**	*i* P	Pn	21 02 56.4	-3.1
THR2	**Thira island,**	**1.77**	**303**	P	**Pn**	**21 03 00.0**	**+0.3**
THR2	**Thira island,**	**1.77**	**303**	P	**Pn**	**21 03 00.0**	**+0.3**
THR5	**Thira Island,**	**1.81**	**301**	P	**Pn**	**21 02 59.3**	**-1.1**
THR5	**Thira Island,**	**1.81**	**301**	P	**Pn**	**21 02 59.3**	**-1.1**
YER	**Yerkesik**	**1.84**	**26**	*e*PN	**Pn**	**21 03 01.2**	**+0.5**
YER	**Yerkesik**	**1.84**	**26**	*e*Pn	**Pn**	**21 03 01.2**	**+0.5**
FETY	**Fethiye**	**1.86**	**52**	*e*PN	**Pn**	**21 03 00.9**	**-0.1**
FETY	**Fethiye**	**1.86**	**52**	*e*Pn	**Pn**	**21 03 00.9**	**-0.1**
IDI	**Anoyia**	**1.96**	**265**	*e*PN	**Pn**	**21 03 04.2**	**+1.9**
IDI	**Anoyia**	**1.96**	**265**	P	**Pn**	**21 03 01.9**	**-0.4**
IDI				S	**Sn**	**21 03 28.3**	**+1.7**
IDI	**Anoyia**	**1.96**	**265**	P	**Pn**	**21 03 01.9**	**-0.4**
IDI	**Anoyia**	**1.96**	**265**	*e*Pn	**Pn**	**21 03 04.2**	**+1.9**
IDI				S	**Sn**	**21 03 28.3**	**+1.7**
SIVA	**Sivas**	**2.07**	**258**	P	**Pn**	**21 03 05.9**	**+2.1**
SIVA	**Sivas**	**2.07**	**258**	P	**Pn**	**21 03 05.9**	**+2.1**
APE	**Apeiranthos**	**2.11**	**319**	*e*PN	**Pn**	**21 03 05.6**	**+1.1**
APE	**Apeiranthos**	**2.11**	**319**	P	**Pn**	**21 03 04.3**	**-0.2**
APE	**Apeiranthos**	**2.11**	**319**	P	**Pn**	**21 03 04.3**	**-0.2**
APE	**Apeiranthos**	**2.11**	**319**	*e*Pn	**Pn**	**21

DCZ				AML	AML	21 54 44.6		
WHZ	**Wether Hill Ro**	**2.39**	**47**	PN	Pn	21 53 54.1	-0.9	
WHZ				SN	Sn	21 54 21.6	-2.5	
WHZ				AML	AML	21 54 27.5		
SYZ	**Scrubby Hill**	**2.72**	**70**	⇑PN	Pn	21 53 59.1	-0.4	
SYZ				SN	Sn	21 54 30.1	-2.2	
MLZ	**Mavora Lakes**	**2.90**	**42**	PN	Pn	21 54 01.4	-0.6	
MLZ				AML	AML	21 54 37.6		
MLZ				AML	AML	21 54 39.2		
TUZ	**Tuapeka**	**3.29**	**63**	PN	Pn	21 54 06.8	-0.6	
TUZ				SN	Sn	21 54 44.8	-1.5	
TUZ				AML	AML	21 54 49.1		
EAZ	**Earnscleugh**	**3.54**	**50**	PN	Pn	21 54 09.6	-1.1	
EAZ				SN	Sn	21 54 50.9	-1.6	
EAZ				AML	AML	21 54 54.6		
EAZ				AML	AML	21 54 57.7		
EAZ				AML	AML	21 54 57.8		
WKZ	**Wanaka**	**3.68**	**44**	PN	Pn	21 54 13.4	+0.6	
WKZ				SN	Sn	21 54 55.6	-0.6	
WKZ				AML	AML	21 55 08.7		
ODZ	**Otahua Downs**	**4.39**	**57**	PN	Pn	21 54 19.9	-2.5	
ODZ				SN	Sn	21 55 07.9	-5.6	
LBZ	**Lake Benmore**	**4.57**	**48**	PN	Pn	21 54 22.6	-2.5	
FOZ	**Fox Glacier**	**4.97**	**38**	*e*PN	Pn	21 54 31.4	+0.9	
DSZ	**Dennistion Nort**	**7.36**	**40**	*e*PN	Pn	21 55 03.2	-0.2	

MAN ***30*** *22:09:39, 15.07N×119.64E, h20km, mb4.7, ML3.6, MS3.6*
ISCJB ***30*** *22:09:40.4±0.3, 15.04N±0.03×119.73E±0.07, h39km, mb4.2/26, MS3.6/8, Error ellipse: s-maj=9.1km s-min=4.8km az=6.7*
IDC ***30*** *22:09:41.4±2.6, 14.99N×119.75E, h35km±22km, mb4.0/20, mb1 4.1/20, mb1mx4.0/29, mbtmp4.0/20, MS3.6/8, Ms1 3.7/8, ms1mx3.3/38, Error ellipse: s-maj=27.0km s-min=12.3km az=69.0*
NEIC ***30*** *22:09:44.6±0.8, 14.98N×119.85E, h69km±8km, mb4.4/5, Error ellipse: s-maj=9.5km s-min=5.8km az=76.0*

ISC 30 22:09:41.8±0.5, 15.01N±0.05×119.60E±0.08, h39km, n74, σ1837/75, mb4.3/26, MS3.5/8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCZP	**Santa Cruz**	**0.82**	**21**	*e*P	Pn	22 09 53.5	-3.4
SCZP				*e*S	**Sn**	**22 10 04.2**	**-3.6**
BOLP	**Bolinao**	**1.40**	**12**	*e*P	**Pn**	**22 10 03.3**	**-1.5**
TGY	**Tagaytay City**	**1.58**	**125**	Pg	**Pn**	**22 10 09.7**	**+2.3**
TGY				Lg	Lg	22 10 30.7	
TGY	**Tagaytay City**	**1.58**	**125**	Pg	**Pn**	**22 10 09.7**	**+2.3**
	2.4nm,0.3s,baz=0.1,slow=24,SNR=13						
TGY				Lg	Lg	22 10 30.7	
	6.3nm,0.3s,baz=0.0,slow=20,SNR=13						
TGY	**Tagaytay City**	**1.58**	**125**	⇑*e*P	**Pn**	**22 10 09.9**	**+2.6**
BCPH	**Baguio City Da**	**1.66**	**35**	*i* P	**Pn**	**22 10 10.6**	**+2.1**
BCPH				*i* S	**Sn**	**22 10 27.8**	**-1.0**
SJMP	**San Jose**	**2.93**	**150**	*e*P	**Pn**	**22 10 28.6**	**+2.7**
GQP	**Guinayangan**	**2.96**	**111**	*e*P	**Pn**	**22 10 29.0**	**+2.6**
BUSP	**Coron**	**3.04**	**169**	*e*P	**Pn**	**22 10 29.2**	**+1.7**
ENPP	**El Nido**	**3.78**	**183**	*e*P	**Pn**	**22 10 38.5**	**+0.8**
CUYO	**Cuyo Island**	**4.36**	**161**	*e*P	**Pn**	**22 10 47.0**	**+1.4**
YULB	**Yu-li**	**8.49**	**11**	*e*PN	**Pn**	**22 11 44.0**	**+1.7**
	23nm,0.6s						
SSLB	**Suanglung**	**8.82**	**8**	*e*PN	**Pn**	**22 11 48.9**	**+1.9**
	12nm,0.6s						
KSM	**Kuching**	**16.28**	**215**	*e*Pn	**P**	**22 13 30.1**	**-0.2**
	11nm,0.8s						
CMAR	**Chiang Mai Arr**	**20.08**	**283**	P	Pn	22 14 16.2	+2.0
CMAR				PcP	**PcP**	**22 18 28.1**	**+1.3**
CMAR	**Chiang Mai Arr**	**20.08**	**283**	P	Pn	22 14 16.2	+2.0
	0.8nm,0.3s,baz=77,slow=9.3,SNR=3.7						
CMAR				PcP	**PcP**	**22 18 28.1**	**+1.3**
	0.5nm,0.5s,baz=81,slow=0.4,SNR=5.3						
CMAR				LR	LR	22 22 19.2	
	comp=Z,160nm,18.5s,baz=140,slow=38						
CHTO	**Chiang Mai**	**20.12**	**284**	*e*P	Pn	22 14 14.8	+0.2
JNU	**Nakatsue**	**20.73**	**28**	P	**P**	**22 14 18.5**	**-0.7**
JNU	**Nakatsue**	**20.73**	**28**	P	**P**	**22 14 18.5**	**-0.7**
	10.0nm,0.9s,baz=180,slow=5.1,SNR=3.5						
JNU				LR	LR	22 21 34.3	
	comp=Z,181nm,19.4s,baz=217,slow=34						
KSAR	**Wonju Array Be**	**23.52**	**17**	P	**P**	**22 14 47.5**	**-0.9**
KSRS	**Korea Array**	**23.55**	**17**	P	**P**	**22 14 47.5**	**-1.1**
	2.5nm,0.8s,baz=203,slow=11,SNR=4.9						
KSRS				LR	LR	22 23 29.1	
	comp=Z,101nm,18.1s,baz=182,slow=35						
PSI	**Prapat**	**23.72**	**241**	LR	LR	22 23 02.8	
	comp=Z,93nm,20.0s,baz=77,slow=34						
USRK	**Ussuriysk Arra**	**30.95**	**17**	P	**P**	**22 15 55.1**	**0.0**
	0.7nm,0.6s,baz=188,slow=8.7,SNR=3.2						
ULN	**Ulaanbaatar**	**34.37**	**345**	*e*P	**P**	**22 16 25.6**	**+0.3**
SONM	**Songino Array**	**34.51**	**344**	P	**P**	**22 16 27.3**	**+0.9**
SONM	**Songino Array**	**34.51**	**344**	P	**P**	**22 16 27.3**	**+0.9**
	2.1nm,0.6s,baz=164,slow=10,SNR=17						
MBWA	**Marble Bar**	**35.94**	**180**	*e*P	**P**	**22 16 39.1**	**+0.4**
WRAB	**Tennant Creek**	**37.63**	**157**	*e*P	P	22 16 50.0	-3.2
	5.8nm,0.6s						
WRA	**Warramunga Arr**	**37.63**	**157**	P	**P**	**22 16 51.0**	**-2.2**
WRA				PcP	**PcP**	**22 19 10.7**	**+0.4**
WRA	**Warramunga Arr**	**37.63**	**157**	P	**P**	**22 16 51.0**	**-2.2**
	5.6nm,0.6s,baz=337,slow=9.5,SNR=50						
WRA				PcP	**PcP**	**22 19 10.7**	**+0.4**
	0.4nm,0.5s,baz=344,slow=3.2,SNR=5.1						
AS31	**Alice Springs**	**40.90**	**160**	*e*P	**P**	**22 17 19.3**	**-1.2**
ASAR	**Alice Springs**	**40.90**	**160**	P	**P**	**22 17 19.4**	**-1.2**
ASAR	**Alice Springs**	**40.90**	**160**	P	**P**	**22 17 19.4**	**-1.2**
	3.2nm,0.8s,baz=333,slow=7.0,SNR=32						
MK31	**Makanchi Array**	**44.35**	**323**	*e*P	**P**	**22 17 48.7**	**+0.4**
MKAR	**Makanchi Array**	**44.35**	**323**	P	**P**	**22 17 50.1**	**+1.8**
MKAR				PcP	**PP**	**22 19 32.8**	**+0.6**
MKAR	**Makanchi Array**	**44.35**	**323**	P	**P**	**22 17 50.1**	**+1.8**
	0.6nm,0.4s,baz=117,slow=8.4,SNR=11						
MKAR				PcP	**PP**	**22 19 32.8**	**+0.6**
	1.3nm,0.7s,baz=110,slow=3.8,SNR=5.5						
AAK	**Ala-Archa**	**47.39**	**315**	*e*P	**P**	**22 18 11.8**	**-0.8**
ZALV	**Zalesovo Beam**	**47.41**	**333**	P	**P**	**22 18 12.8**	**+0.5**
ZALV	**Zalesovo Beam**	**47.41**	**333**	P	**P**	**22 18 12.8**	**+0.5**
	1.3nm,0.5s,baz=133,slow=6.8,SNR=8.2						
ZALV				LR	LR	22 38 50.6	
	comp=Z,45nm,19.7s,baz=340,slow=37						
PETK	**Petropavlovsk-**	**48.41**	**30**	P	**P**	**22 18 19.5**	**-0.5**
PETK	**Petropavlovsk-**	**48.41**	**30**	P	**P**	**22 18 19.5**	**-0.5**
	6.7nm,0.7s,baz=218,slow=8.4,SNR=7.2						
KURBB	**Kurchatov Arra**	**48.52**	**326**	P	**P**	**22 18 22.4**	**+1.5**
	4.8nm,0.8s,baz=119,slow=9.0,SNR=34						
KURK	**Kurchatov**	**48.52**	**326**	*e*P	**P**	**22 18 22.1**	**+1.3**
	3.1nm,0.8s						
KKAR	**Karatay Array**	**50.30**	**314**	*e*P	**P**	**22 18 36.0**	**+1.3**
	2.9nm,0.8s						
STKA	**Stephens Creek**	**51.17**	**156**	*e*P	**P**	**22 18 39.3**	**-1.9**
STKA	**Stephens Creek**	**51.17**	**156**	P	**P**	**22 18 39.7**	**-1.5**
	1.8nm,0.7s,baz=342,slow=9.4,SNR=4.0						
BVAR	**Borovoye Array**	**54.10**	**326**	P	**P**	**22 19 04.1**	**+1.5**
BVAR	**Borovoye Array**	**54.10**	**326**	P	**P**	**22 19 04.1**	**+1.5**
	1.5nm,0.7s,baz=116,slow=9.8,SNR=13						
BVAR				LR	LR	22 43 33.2	
	comp=Z,82nm,18.2s,baz=42,slow=38						
ABKAR	**Akbulak array**	**59.05**	**319**	*e*P	**P**	**22 19 39.0**	**+1.1**
	4.8nm,0.9s						
AKTO	**Aktyubinsk**	**60.53**	**320**	P	**P**	**22 19 48.1**	**0.0**
AKTO	**Aktyubinsk**	**60.53**	**320**	P	**P**	**22 19 48.1**	**0.0**
	1.9nm,0.7s,baz=96,slow=8.9,SNR=8.2						
JOF	**Joensuu**	**75.99**	**332**	*e*p	P	22 21 25.7	+1.0
	0.6nm,0.3s						
KEV	**Kevo**	**76.94**	**339**	*e*p	P	22 21 18.3	-12
	2.0nm,0.3s						
ARCES	**ARCESS Array B**	**77.49**	**339**	P	**P**	**22 21 33.2**	**+0.2**
ARCES	**ARCESS Array B**	**77.49**	**339**	P	**P**	**22 21 33.2**	**+0.2**
	2.0nm,0.7s,baz=79,slow=6.5,SNR=14						
ILAR	**Eielson Array**	**78.04**	**26**	P	**P**	**22 21 34.7**	**-1.5**
ILAR	**Eielson Array**	**78.04**	**26**	P	**P**	**22 21 34.7**	**-1.5**
	0.5nm,0.7s,baz=260,slow=5.2,SNR=4.6						
KAF	**Kangasniemi**	**78.40**	**331**	*e*p	**P**	**22 21 36.2**	**-2.0**
	0.7nm,0.3s						
FINES	**FINESS Array B**	**78.63**	**331**	P	**P**	**22 21 40.2**	**+0.7**
FINES	**FINESS Array B**	**78.63**	**331**	P	**P**	**22 21 40.2**	**+0.7**
	1.9nm,0.5s,baz=57,slow=5.1,SNR=26						
FINES				LR	LR	22 58 51.9	
	comp=Z,59nm,19.4s,baz=336,slow=38						
MLR	**Muntele Rosu**	**81.98**	**315**	P	**P**	**22 21 59.7**	**+1.7**
MLR	**Muntele Rosu**	**81.98**	**315**	P	**P**	**22 21 59.7**	**+1.7**
	0.7nm,0.7s,baz=160,slow=10.0,SNR=3.6						
BUR08	**Bucovina Ar. S**	**81.98**	**317**	*e*P	**P**	**22 21 57.9**	**0.0**
NB2	**NORSAR Subarra**	**85.61**	**332**	P	**P**	**22 22 16.3**	**+0.2**
	comp=Z,2.0nm,0.5s,baz=69,slow=4.8						
NOA	**NORSAR Array B**	**85.61**	**332**	P	**P**	**22 22 16.4**	**+0.3**
NOA	**NORSAR Array B**	**85.61**	**332**	P	**P**	**22 22 16.4**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=69,slow=4.7,SNR=7.5						
NOA				LR	LR	23 06 20.3	
	comp=Z,49nm,18.6s,baz=200,slow=40						
GERES	**GERESS Array B**	**88.95**	**321**	P	**P**	**22 22 33.5**	**+0.9**
GERES	**GERESS Array B**	**88.95**	**321**	P	**P**	**22 22 33.5**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=79,slow=5.1,SNR=5.9						
YKA	**Yellowknife Ar**	**91.97**	**22**	P	**P**	**22 22 44.9**	**-1.4**
YKA	**Yellowknife Ar**	**91.97**	**22**	P	**P**	**22 22 44.9**	**-1.4**
	comp=Z,1.6nm,0.7s,baz=306,slow=4.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**112.48**	**291**	PKiKP	**PKiKP**	**22 28 14.7**	**-0.2**
TORD	**Torodi Ar. Bea**	**112.48**	**291**	PKiKP	**PKiKP**	**22 28 14.7**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=102,slow=1.1,SNR=4.4						
TXAR	**Lajitas Array**	**119.27**	**43**	PKP	**PKPdf**	**22 28 28.2**	**+0.5**
TXAR	**Lajitas Array**	**119.27**	**43**	PKP	**PKPdf**	**22 28 28.2**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=341,slow=1.9,SNR=3.3						

ISCJB ***30*** *22:10:10.9±0.9, 34.91N±0.07×23.15E±0.08, h65km±7km, mb3.4/5, Error ellipse: s-maj=14.5km s-min=5.5km az=42.1*
CSEM ***30*** *22:10:10.9±0.4, 34.91N×23.10E, h20km, MD3.4, Error ellipse: s-maj=8.7km s-min=3.2km az=29.0*
IDC ***30*** *22:10:11.0±3.8, 35.17N×23.18E, h33km±31km, mb3.4/5, mb1 3.4/6, mb1mx3.2/29, mbtmp3.4/6, ML3.4/1, Error ellipse: s-maj=40.5km s-min=22.4km az=144.0*
ATH ***30*** *22:10:11.2, 34.96N×23.15E, h56km±9km, MD3.4/19*
THE ***30*** *22:10:11.9, 34.91N×23.13E, h24km±5km, ML2.9/4, Error ellipse: s-maj=6.0km s-min=1.3km az=149.0*

ISC 30 22:10:11.9±1.2, 34.94N±0.07×23.16E±0.06, h45km±14km, n66, σ1824/84, mb3.5/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.77**	**97**	P	**Pn**	**22 10 27.2**	**+0.8**
GVD				S	**Sn**	**22 10 36.7**	**-0.2**
GVD	**Gavdhos**	**0.77**	**97**	*e*P	**Pn**	**22 10 27.1**	**+0.7**
GVD	**Gavdhos**	**0.77**	**97**	*e*P	**Pn**	**22 10 27.1**	**+0.7**
GVD				S	**Sn**	**22 10 36.7**	**-0.2**
KARN	**Karanos**	**0.77**	**53**	P	**Pn**	**22 10 26.0**	**-0.4**
KARN				*e*S	**Sn**	**22 10 38.3**	**+1.3**
KARN	**Karanos**	**0.77**	**53**	*e*P	**Pn**	**22 10 26.0**	**-0.4**
KARN				*e*S	**Sn**	**22 10 38.3**	**+1.3**
ANKY	**Antikythira Is**	**0.93**	**7**	P	**Pn**	**22 10 29.0**	**+0.4**
ANKY				S	**Sn**	**22 10 43.0**	**+2.2**
ANKY	**Antikythira Is**	**0.93**	**7**	*e*P	**Pn**	**22 10 28.9**	**+0.4**
ANKY				*e*S	**Sn**	**22 10 42.1**	**+1.3**
ANKY	**Antikythira Is**	**0.93**	**7**	P	**Pn**	**22 10 29.0**	**+0.4**
ANKY				*e*S	**Sn**	**22 10 42.1**	**+1.3**
VAM	**Vamos**	**0.97**	**61**	P	**Pn**	**22 10 29.3**	**+0.2**
VAM	**Vamos**	**0.97**	**61**	*e*P	**Pn**	**22 10 29.3**	**+0.2**
VAM	**Vamos**	**0.97**	**61**	*e*P	**Pn**	**22 10 29.3**	**+0.2**
KYTH	**Kithira**	**1.34**	**356**	P	**Pn**	**22 10 34.8**	**+0.6**
KYTH	**Kithira**	**1.34**	**356**	*e*P	**Pn**	**22 10 35.1**	**+0.9**
KYTH	**Kithira**	**1.34**	**356**	P	**Pn**	**22 10 34.8**	**+0.6**
SIVA	**Sivas**	**1.36**	**86**	P	**Pn**	**22 10 35.5**	**+1.1**
SIVA				S	**Sn**	**22 10 55.1**	**+3.9**
SIVA	**Sivas**	**1.36**	**86**	*e*P	**Pn**	**22 10 35.5**	**+1.1**
SIVA	**Sivas**	**1.36**	**86**	*e*P	**Pn**	**22 10 35.5**	**+1.1**
SIVA				S	**Sn**	**22 10 55.1**	**+3.9**
IDI	**Anoyia**	**1.46**	**76**	P	**Pn**	**22 10 36.6**	**+0.8**
IDI	**Anoyia**	**1.46**	**76**	*e*P	**Pn**	**22 10 36.4**	**+0.6**
IDI	**Anoyia**	**1.46**	**76**	P	**Pn**	**22 10 36.6**	**+0.8**
IDI	**Anoyia**	**1.46**	**76**	Pg	**Pn**	**22 10 36.7**	**+0.9**
IDI	8.9nm,0.3s,baz=287,slow=16,SNR=44			Lg	Lg	22 10 57.6	
	9.8nm,0.3s,baz=110,slow=24,SNR=6.9						
VLI	**Veliai**	**1.78**	**354**	P	**Pn**	**22 10 41.4**	**+1.2**
VLI				S	**Sn**	**22 11 03.1**	**+1.4**
VLI	**Veliai**	**1.78**	**354**	*e*P	**Pn**	**22 10 41.3**	**+1.1**
VLI	**Veliai**	**1.78**	**354**	*e*P	**Pn**	**22 10 41.3**	**+1.1**
VLI				S	**Sn**	**22 11 03.1**	**+1.4**
DYR	**Agios Nikonas**	**1.94**	**340**	P	**Pn**	**22 10 44.1**	**+1.8**
DYR	**Agios Nikonas**	**1.94**	**340**	*e*P	**Pn**	**22 10 43.4**	**+1.1**
DYR	**Agios Nikonas**	**1.94**	**340**	*e*P	**Pn**	**22 10 43.4**	**+1.1**
NPS	**Neapolis**	**2.04**	**80**	*e*P	**Pn**	**22 10 44.2**	**+0.5**
NPS	**Neapolis**	**2.04**	**80**	*e*P	**Pn**	**22 10 44.2**	**+0.5**
PYL	**PYLOS**	**2.27**	**330**	P	**Pn**	**22 10 47.2**	**+0.4**
PYL				S	**Sn**	**22 11 14.3**	**+0.8**
PYL	**PYLOS**	**2.27**	**330**	*e*P	**Pn**	**22 10 46.9**	**+0.1**
PYL				*e*S	**Sn**	**22 11 12.9**	**-0.6**
PYL	**PYLOS**	**2.27**	**330**	P	**Pn**	**22 10 47.2**	**+0.4**
PYL				S	**Sn**	**22 11 14.3**	**+0.8**
ITM	**Ithomi**	**2.45**	**336**	*e*P	**Pn**	**22 10 50.1**	**+0.8**
ITM	**Ithomi**	**2.45**	**336**	*e*P	**Pn**	**22 10 50.1**	**+0.8**
DID	**Didima**	**2.56**	**1**	P	**Pn**	**22 10 51.5**	**+0.6**
DID				S	**Sn**	**22 11 22.5**	**+1.6**
DID	**Didima**	**2.56**	**1**	*e*P	**Pn**	**22 10 51.4**	**+0.6**
DID	**Didima**	**2.56**	**1**	P	**Pn**	**22 10 51.5**	**+0.6**
DID				S	**Sn**	**22 11 22.5**	**+1.6**
GUR	**Goura**	**3.06**	**348**	P	**Pn**	**22 10 59.5**	**+1.6**
GUR				S	**Sn**	**22 11 35.0**	**+1.7**
GUR	**Goura**	**3.06**	**348**	*e*P	**Pn**	**22 10 59.4**	**+1.6**
GUR	**Goura**	**3.06**	**348**	*e*P	**Pn**	**22 10 59.4**	**+1.6**
GUR				S	**Sn**	**22 11 35.0**	**+1.7**
VILL	**Villia**	**3.22**	**2**	*e*P	**Pn**	**22 10 59.6**	**+0.6**
VIL2	**Platees**	**3.27**	**2**	*e*P	**Pn**	**22 11 00.6**	**0.0**
LAKA	**Lakka**	**3.43**	**344**	*e*P	**Pn**	**22 11 03.4**	**+0.6**
LAKA	**Lakka**	**3.43**	**344**	*e*P	**Pn**	**22 11 03.4**	**+0.6**
DESF	**Desfina**	**3.50**	**352**	*e*P	**Pn**	**22 11 04.0**	**+0.2**
DESF	**Desfina**	**3.50**	**352**	*e*P	**Pn**	**22 11 04.0**	**+0.2**
DSF	**Desfina**	**3.50**	**352**	*e*P	**Pn**	**22 11 03.8**	**0.0**
DSF	**Desfina**	**3.50**	**352**	*e*P	**Pn**	**22 11 03.8**	**0.0**
KALE	**Kalithea**	**3.54**	**347**	*e*P	**Pn**	**22 11 04.9**	**+0.5**
KALE	**Kalithea**	**3.54**	**347**	*e*P	**Pn**	**22 11 04.9**	**+0.5**
VLS	**Valsamata**	**3.84**	**328**	P	**Pn**	**22 11 08.1**	**-0.3**
VLS	**Valsamata**	**3.84**	**328**	P	**Pn**	**22 11 08.1**	**-0.3**
PDO	**Prodromos**	**3.98**	**337**	*e*P	**Pn**	**22 11 12.3**	**+2.0**
PDO	**Prodromos**	**3.98**	**337**	*e*P	**Pn**	**22 11 12.3**	**+2.0**
MAKR	**Makrakomi, Fth**	**4.15**	**349**	*e*P	**Pn**	**22 11 13.9**	**+1.2**
MAKR	**Makrakomi, Fth**	**4.15**	**349**	*e*P	**Pn**	**22 11 13.9**	**+1.2**
STON	**Ston**	**8.99**	**333**	*e*Pn	Pn	22 12 14.0	-5.0
STON				S	Sn	22 13 46.0	-13
MMAI	**Mount Meron Ar**	**10.35**	**97**	Pn	**Pn**	**22 12 36.5**	**-1.2**
	0.3nm,0.3s,baz=268,slow=13,SNR=3.5						
MMAI				S	Sn	22 14 22.8	-10
	0.4nm,0.3s,baz=271,slow=20,SNR=2.7						
NVLJ	**Novalja**	**11.53**	**329**	*e*Pn	**Pn**	**22 12 51.8**	**-1.9**
NVLJ				S	Sn	22 14 47.9	-13
GERES	**GERESS Array B**	**15.56**	**336**	Pn	**P**	**22 13 51.7**	**0.0**
	0.1nm,0.3s,baz=146,slow=12,SNR=4.4						
HFS	**Hagfors**	**25.95**	**349**	P	**P**	**22 15 38.4**	**-1.4**
	0.6nm,0.4s,baz=148,slow=11,SNR=6.2						
TORD	**Torodi Ar. Bea**	**29.11**	**227**	P	**P**	**22 16 10.5**	**+2.0**
	0.1nm,0.3s,baz=26,slow=9.2,SNR=6.7						
KURBB	**Kurchatov Arra**	**42.53**	**51**	P	**P**	**22 18 01.6**	**-1.2**
	0.3nm,0.4s,baz=271,slow=8.5,SNR=7.6						
MKAR	**Makanchi Array**	**45.26**	**56**	P	**P**	**22 18 24.1**	**-0.8**
	0.3nm,0.3s,baz=263,slow=7.6,SNR=5.2						
ZALV	**Zalesovo Beam**	**46.34**	**46**	P	**P**	**22 18 31.6**	**-1.5**
	0.9nm,0.5s,baz=282,slow=7.6,SNR=3.6						

AUST ***30*** *22:19:14.9±3.0, 47.87S×165.60E, h0km±2km, Error ellipse: s-maj=3.7km s-min=0.7km az=347.0*
IDC ***30*** *22:19:20.0±1.6, 47.01S×165.50E, h0km, mb4.3/4, mb1 4.6/6, mb1mx4.3/16, mbtmp4.4/6, ML4.7/2, MS3.8/10, Ms1 3.8/10, ms1mx3.7/19, Error ellipse: s-maj=53.3km s-min=22.9km az=171.0*
ISCJB ***30*** *22:19:21.3±0.8, 47.09S±0.10×165.47E±0.06, h15km, mb4.3/5, MS3.8/9, Error ellipse: s-maj=14.3km s-min=5.2km az=168.3*
WEL ***30*** *22:19:22.5±1.5, 47.08S×165.36E, h12km, ML4.8/11, Error ellipse: s-maj=18.3km s-min=4.1km az=90.0*

ISC 30 22:19:22.2±0.9, 47.0S±0.1×165.48E±0.07, h15km, n58, σ1860/40, mb4.4/5, MS3.8/9, 4C-2D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**1.19**	**45**	PN	**Pg**	**22 19 45.2**	**0.0**
PYZ				S*	**Sg**	**22 20 03.4**	**+2.8**
APZ	**The Paps**	**1.73**	**85**	⇑PN	**Pn**	**22 19 52.3**	**+0.5**
DCZ	**Deep Cove**	**1.93**	**38**	PN	**Pb**	**22 19 55.2**	**-1.9**
DCZ				SN	**Sb**	**22 20 20.3**	**-0.7**
DCZ				SN	**Sg**	**22 20 20.8**	**-3.6**
DCZ				AML	AML	22 20 42.3	
DCZ				AML	AML	22 20 42.5	
MLZ	**Mavora Lakes**	**2.51**	**49**	⇑PN	**Pb**	**22 20 04.6**	**-2.4**
MLZ				AML	AML	22 20 41.3	
MLZ				AML	AML	22 20 44.4	
SYZ	**Scrubby Hill**	**2.56**	**80**	⇑PN	**Pn**	**22 20 04.8**	**+1.6**
MSZ	**Milford Sound**	**2.91**	**37**	PN	**Pn**	**22 20 10.0**	**+2.1**
MSZ				AML	AML	22 20 48.2	
MSZ				AML	AML	22 20 48.2	
MSZ				AML	AML	22 21 17.6	
MSZ				AML	AML	22 21 17.6	
TUZ	**Tuapeka**	**3.06**	**71**	⇑PN	**Pn**	**22 20 11.6**	**+1.5**
TUZ				AML	AML	22 20 52.7	
TUZ				AML	AML	22 21 07.9	
EAZ	**Earnscleugh**	**3.21**	**58**	⇓PN	**Pn**	**22 20 13.9**	**+1.8**
EAZ				AML	AML	22 20 59.7	
EAZ				AML	AML	22 20 59.7	
EAZ				AML	AML	22 20 59.7	
EAZ				AML	AML	22 20 59.8	
WKZ	**Wanaka**	**3.30**	**50**	PN	Pb	22 20 16.5	-4.1
WKZ				AML	AML	22 20 58.5	
WKZ				AML	AML	22 21 03.4	
WKZ				AML	AML	22 21 05.2	
WKZ				AML	AML	22 21 19.2	
HHSZ	**Highcliff Hill**	**3.72**	**74**	PN	**Pn**	**22 20 20.4**	**+1.3**
JCZ	**Jackson Bay**	**3.74**	**39**	PN	Pn	22 20 22.7	+3.3
ODZ	**Otahua Downs**	**4.11**	**63**	⇓PN	**Pn**	**22 20 24.5**	**+0.1**
LBZ	**Lake Benmore**	**4.22**	**53**	PN	**Pn**	**22 20 26.2**	**+0.2**
LBZ				AML	AML	22 21 42.0	
LBZ				AML	AML	22 21 59.6	
FOZ	**Fox Glacier**	**4.56**	**42**	PN	Pn	22 20 33.4	+2.8
FOZ				AML	AML	22 21 37.6	
FOZ				AML	AML	22 21 43.1	
RPZ	**Rata Peaks**	**5.13**	**52**	PN	**Pn**	**22 20 38.1**	**-0.5**
RPZ				AML	AML	22 22 00.8	
RPZ				AML	AML	22 22 06.3	
RPZ	**Rata Peaks**	**5.13**	**52**	Pn	**Pn**	**22 20 38.1**	**-0.5**
	21nm,0.3s,baz=200,slow=3.8,SNR=60						
RPZ				Sn	**Sn**	**22 21 39.3**	**+1.7**
	27nm,0.3s,baz=348,slow=20,SNR=8.0						
RPZ				LR	LR	22 22 37.0	
	comp=Z,738nm,19.8s,baz=149,slow=38						
OXZ	**Oxford**	**5.93**	**54**	*e*PN	**Pn**	**22 20 49.2**	**-0.2**
MQZ	**McQueen's Vall**	**6.04**	**59**	*e*PN	**Pn**	**22 20 50.5**	**-0.5**
LTZ	**Lake Taylor**	**6.42**	**51**	PN	**Pn**	**22 20 55.6**	**-0.6**
LTZ				AML	AML	22 22 28.7	
LTZ				AML	AML	22 23 19.8	
DSZ	**Denniston Nort**	**6.95**	**43**	PN	**Pn**	**22 21 03.8**	**+0.2**
KHZ	**Kahutara**	**7.36**	**54**	PN	**Pn**	**22 21 10.0**	**+1.0**
THZ	**Tophouse**	**7.47**	**48**	PN	**Pn**	**22 21 10.6**	**-0.1**
THZ				AML	AML	22 22 40.5	
THZ				AML	AML	22 22 46.5	
URZ	**Urewera**	**12.23**	**49**	Pn	**Pn**	**22 22 14.5**	**-1.4**
	5.2nm,0.3s,baz=243,slow=7.5,SNR=18						
URZ				Sn	Sn	22 24 24.5	-7.4
	0.8nm,0.3s,baz=133,slow=19,SNR=4.8						
MOO	**Moorlands**	**13.78**	**283**	P	**Pn**	**22 22 34.2**	**-2.7**
	baz=14,SNR=8.0						
MILA	**Mila**	**15.66**	**304**	P	**Pn**	**22 23 02.5**	**+0.1**

BPAT	**Tungurahua Vol**	**2.90**	**104**	⇑S		Sn	22 26 57.1	+2.2
BPAT	**Tungurahua Vol**	**2.90**	**104**	⇑P		Pn	22 26 20.7	+1.1
BRUN	**Tungurahua Vol**	**2.90**	**102**	P		Pn	22 26 20.4	+0.9
COV1	**Cotopaxi Volc**	**2.91**	**87**	P		Pn	22 26 21.9	+2.0
BULB	**Ulba Tungurahu**	**2.91**	**103**	P		Pn	22 26 21.1	+1.5
OTAV	**Otavalo**	**2.98**	**70**	⇑P		Pn	22 26 21.3	+0.7
ARNL	**Arenillas**	**2.98**	**157**	P		Pn	22 26 22.0	+1.8
ANTI	**Antisana**	**3.10**	**84**	⇓P		Pb	22 26 25.9	-3.1
CAYR	**Refugio Cayamb**	**3.34**	**76**	P		Pb	22 26 31.0	-1.9
ANGU	**Angureal**	**3.34**	**76**	P		Pb	22 26 32.3	-0.7
CAYA	**Cayambe**	**3.37**	**75**	P		Pb	22 26 30.4	-2.9

IDC 30 22:59:52.1±2.7, 19°.94S×169°.32E, h230km±21km, mb3.2/5, mb1 3.4/6, mb1mx3.2/19, mbtmp3.2/6, Error ellipse: s-maj=31.3km s-min=26.5km az=11.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.42**	**231**	P	Pn	23 00 48.1	-0.2
	1.8nm,0.3s,baz=56,slow=22,SNR=18						
DZM				S	S	23 01 33.0	+0.5
	1.9nm,0.3s,baz=155,slow=19,SNR=4.4						
WRA	**Warramunga Arr**	**32.84**	**264**	P	P	23 06 04.0	-0.4
	0.2nm,0.3s,baz=98,slow=8.3,SNR=15						
ASAR	**Alice Springs**	**33.04**	**257**	P	P	23 06 06.6	+0.5
	1.7nm,0.5s,baz=83,slow=9.1,SNR=38						
QSPA	**South Pole Qui**	**70.12**	**180**	P	P	23 10 39.2	-0.1
	1.0nm,0.6s						
SONM	**Songino Array**	**87.82**	**323**	P	P	23 12 14.7	-0.5
	0.4nm,0.7s,baz=108,slow=4.7,SNR=4.1						
NVAR	**Mina Array Bea**	**89.21**	**48**	P	P	23 12 22.9	+0.8
	0.3nm,0.4s,baz=218,slow=8.7,SNR=3.8						
GERES	**GERESS Array B**	**145.13**	**332**	PKPbc	PKPdf	23 19 00.9	-1.2
	0.9nm,0.7s,baz=29,slow=2.2,SNR=7.9						

IDC 30 23:10:32.3±1.5, 0°.18N×125°.95E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/23, mbtmp3.7/4, Error ellipse: s-maj=157.5km s-min=21.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.62**	**158**	P	P	23 15 23.5	-0.8
	1.0nm,0.3s,baz=337,slow=11,SNR=34						
ASAR	**Alice Springs**	**24.93**	**162**	P	P	23 15 58.0	+0.5
	1.7nm,0.7s,baz=341,slow=11,SNR=20						
MKAR	**Makanchi Array**	**60.04**	**327**	P	P	23 20 40.7	-0.5
	0.3nm,0.3s,baz=120,slow=7.8,SNR=11						
KURBB	**Kurchatov Arra**	**64.32**	**329**	P	P	23 21 10.2	+0.5
	0.6nm,0.8s,baz=129,slow=6.1,SNR=4.3						

*IDC **30** 23:11:10.2±2.7, 47°.41S×165°.66E, h0km, mb3.8/3, mb1 4.0/5, mb1mx3.9/15, mbtmp3.9/5, ML3.7/2, MS3.5/4, Ms1 3.5/4, ms1mx3.1/25, Error ellipse: s-maj=64.5km s-min=25.2km az=164.0*
*NEIC **30** 23:11:13.8, 47°.34S×165°.04E, h33km, ML4.4(WEL), After WEL.*
*WEL **30** 23:11:13.2±1.1, 47°.12S×165°.12E, h12km, ML4.3/9, Error ellipse: s-maj=12.4km s-min=5.2km az=90.0*
*ISCJB **30** 23:11:16.4±1.2, 47°.19S±0°.09×165°.5E±0°.1, h55km±17km, mb3.8/3, MS3.6/3, Error ellipse: s-maj=16.6km s-min=11.5km az=138.2*

ISC 30 23:11:17.2±3.0, 47°.2S±0°.1×165°.4E±0°.1, h40km±32km, n58, σ1§37/61, mb3.7/3, MS3.6/3, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**1.33**	**40**	PN	**Pn**	**23 11 38.0**	**-1.4**
PYZ				SN	**Sn**	**23 11 57.2**	**+1.3**
PYZ	**Puysegur Point**	**1.33**	**40**	Pn	**Pn**	**23 11 38.1**	**-1.3**
APZ	**The Paps**	**1.78**	**79**	PN	**Pn**	**23 11 45.2**	**-0.3**
APZ	**The Paps**	**1.78**	**79**	Pn	**Pn**	**23 11 45.3**	**-0.2**
DCZ	**Deep Cove**	**2.09**	**35**	PN	**Pn**	**23 11 48.3**	**-1.4**
DCZ				SN	**Sn**	**23 12 13.4**	**-1.0**
DCZ				SN		23 12 14.1	
DCZ				AML	AML	23 12 30.4	
DCZ				AML	AML	23 12 34.3	
DCZ	**Deep Cove**	**2.09**	**35**	Pn	**Pn**	**23 11 48.9**	**-0.8**
WHZ	**Wether Hill Ro**	**2.16**	**54**	PN	**Pn**	**23 11 50.8**	**0.0**
WHZ				SN	**Sn**	**23 12 19.0**	**+2.7**
WHZ				AML	AML	23 12 21.3	
WHZ	**Wether Hill Ro**	**2.16**	**54**	Pn	**Pn**	**23 11 50.8**	**0.0**
WHZ				Sn	**Sn**	**23 12 19.0**	**+2.7**
SYZ	**Scrubby Hill**	**2.62**	**77**	PN	**Pn**	**23 11 57.8**	**+0.8**
SYZ				SN	**Sn**	**23 12 29.7**	**+2.2**
SYZ	**Scrubby Hill**	**2.62**	**77**	Pn	**Pn**	**23 11 57.8**	**+0.8**
MLZ	**Mavora Lakes**	**2.65**	**47**	PN	**Pn**	**23 11 57.9**	**+0.5**
MLZ				SN	**Sn**	**23 12 29.8**	**+1.5**
MLZ				AML	AML	23 12 58.0	
MLZ	**Mavora Lakes**	**2.65**	**47**	Pn	**Pn**	**23 11 57.9**	**+0.5**
MLZ				Sn	**Sn**	**23 12 29.8**	**+1.5**
MSZ	**Milford Sound**	**3.06**	**35**	*e*PN	**Pn**	**23 12 03.5**	**+0.5**
MSZ				AML	AML	23 12 46.4	
MSZ				AML	AML	23 12 47.3	
MSZ	**Milford Sound**	**3.06**	**35**	Pn	**Pn**	**23 12 03.6**	**+0.6**
TUZ	**Tuapeka**	**3.14**	**68**	PN	**Pn**	**23 12 04.7**	**+0.5**
TUZ				AML	AML	23 12 45.4	
TUZ				AML	AML	23 13 18.5	
TUZ	**Tuapeka**	**3.14**	**68**	Pn	**Pn**	**23 12 04.7**	**+0.5**
EAZ	**Earnscleugh**	**3.32**	**55**	PN	**Pn**	**23 12 07.5**	**+0.8**
EAZ				AML	AML	23 12 49.1	
EAZ				AML	AML	23 12 59.7	
EAZ	**Earnscleugh**	**3.32**	**55**	Pn	**Pn**	**23 12 07.5**	**+0.8**
WKZ	**Wanaka**	**3.44**	**48**	PN	**Pn**	**23 12 09.9**	**+1.7**
WKZ				AML	AML	23 13 01.9	
WKZ				AML	AML	23 13 26.0	
WKZ	**Wanaka**	**3.44**	**48**	Pn	**Pn**	**23 12 09.9**	**+1.7**
JCZ	**Jackson Bay**	**3.89**	**38**	AML	AML	23 13 16.6	
JCZ				AML	AML	23 13 24.9	
ODZ	**Otahua Downs**	**4.21**	**61**	PN	**Pn**	**23 12 17.4**	**-1.4**
ODZ	**Otahua Downs**	**4.21**	**61**	Pn	**Pn**	**23 12 17.4**	**-1.4**
LBZ	**Lake Benmore**	**4.34**	**51**	PN	**Pn**	**23 12 19.7**	**-1.0**
LBZ				SN	**Sn**	**23 13 09.8**	**-0.3**
LBZ				AML	AML	23 13 50.9	
LBZ	**Lake Benmore**	**4.34**	**51**	Pn	**Pn**	**23 12 19.7**	**-1.0**
LBZ				Sn	**Sn**	**23 13 09.8**	**-0.3**
FOZ	**Fox Glacier**	**4.70**	**41**	PN	**Pn**	**23 12 27.1**	**+1.5**
FOZ				SN	**Sn**	**23 13 21.0**	**+2.2**
FOZ	**Fox Glacier**	**4.70**	**41**	Pn	**Pn**	**23 12 27.1**	**+1.5**
FOZ				Sn	**Sn**	**23 13 21.1**	**+2.2**
RPZ	**Rata Peaks**	**5.26**	**51**	PN	**Pn**	**23 12 31.1**	**-2.1**
RPZ	**Rata Peaks**	**5.26**	**51**	Pn	**Pn**	**23 12 31.2**	**-2.1**
RPZ				Sn	**Sn**	**23 13 32.0**	**-0.6**
RPZ	**Rata Peaks**	**5.26**	**51**	Pn	**Pn**	**23 12 31.2**	**-2.1**
	2.1nm,0.3s,baz=196,slow=5.5,SNR=13						
RPZ				Sn	**Sn**	**23 13 32.0**	**-0.6**
	3.8nm,0.3s,baz=4.9,slow=15,SNR=3.8						
RPZ				LR	LR	23 14 30.8	
	comp=Z,265nm,19.9s,baz=161,slow=38						
WVZ	**Waitaha Valley**	**5.56**	**44**	*e*PN	**Pn**	**23 12 37.5**	**+0.1**
WVZ	**Waitaha Valley**	**5.56**	**44**	Pn	**Pn**	**23 12 37.9**	**+0.5**
LTZ	**Lake Taylor**	**6.55**	**50**	PN	**Pn**	**23 12 50.1**	**-0.9**
LTZ	**Lake Taylor**	**6.55**	**50**	Pn	**Pn**	**23 12 50.4**	**-0.6**
DSZ	**Denniston Nort**	**7.09**	**42**	*e*PN	Pn	23 12 55.3	-3.2
DSZ	**Denniston Nort**	**7.09**	**42**	Pn	**Pn**	**23 12 57.8**	**-0.7**
THZ	**Tophouse**	**7.61**	**47**	*e*PN	**Pn**	**23 13 04.2**	**-1.4**
THZ	**Tophouse**	**7.61**	**47**	Pn	**Pn**	**23 13 04.4**	**-1.2**
URZ	**Urewera**	**12.37**	**48**	Pn	**Pn**	**23 14 08.0**	**-2.7**
URZ	**Urewera**	**12.37**	**48**	Pn	**Pn**	**23 14 08.0**	**-2.7**
	0.5nm,0.3s,baz=231,slow=6.5,SNR=3.8						
STKA	**Stephens Creek**	**23.79**	**301**	P	**P**	**23 16 27.8**	**+1.7**
STKA	**Stephens Creek**	**23.79**	**301**	P	**P**	**23 16 27.8**	**+1.7**
	1.2nm,0.5s,baz=157,slow=13,SNR=4.0						
STKA				LR	LR	23 24 16.0	
	comp=Z,109nm,19.4s,baz=27,slow=33						
ASAR	**Alice Springs**	**34.42**	**302**	P	**P**	**23 18 01.4**	**+0.6**
ASAR	**Alice Springs**	**34.42**	**302**	P	**P**	**23 18 01.4**	**+0.6**
	1.7nm,0.7s,baz=138,slow=9.1,SNR=17						
WRA	**Warramunga Arr**	**37.12**	**306**	P	**P**	**23 18 23.7**	**-0.3**
WRA	**Warramunga Arr**	**37.12**	**306**	P	**P**	**23 18 23.7**	**-0.3**
	0.8nm,0.8s,baz=141,slow=7.9,SNR=5.8						
H01W1	**Cape Leeuwin H**	**39.91**	**269**	T	T	00 00 54.1	
	baz=124,slow=0.7,SNR=100						
H01W2	**Cape Leeuwin H**	**39.92**	**269**	T	T	00 00 59.5	
	baz=124,slow=0.7,SNR=91						
H01W3	**Cape Leeuwin H**	**39.92**	**269**	T	T	00 00 56.1	
	baz=124,slow=0.7,SNR=95						
PPT	**Papeete**	**47.19**	**67**	LR	LR	23 37 09.1	
	comp=Z,57nm,18.5s,baz=203,slow=33						
MAW	**Mawson**	**51.78**	**208**	LR	LR	23 40 13.0	
	comp=Z,115nm,21.6s,baz=138,slow=34						
H08S2	**Diego Garcia H**	**86.45**	**263**	T	T	00 59 11.3	
	baz=147						
H08S1	**Diego Garcia H**	**86.46**	**263**	T	T	00 59 10.9	
	baz=147						
H08S3	**Diego Garcia H**	**86.47**	**263**	T	T	00 59 07.6	
	baz=147						
TORD	**Torodi Ar. Bea**	**143.43**	**207**	PKP	**PKPdf**	**23 30 46.5**	**-1.0**
TORD	**Torodi Ar. Bea**	**143.43**	**207**	PKP	**PKPdf**	**23 30 46.5**	**-1.0**
	0.4nm,0.9s,baz=134,slow=1.6,SNR=2.2						
BRTR	**Keskin Array B**	**144.70**	**276**	PKP	**PKPab**	**23 30 47.8**	**-0.3**
BRTR	**Keskin Array B**	**144.70**	**276**	PKP	**PKPab**	**23 30 47.8**	**-0.3**
	1.3nm,1.0s,baz=123,slow=4.6,SNR=3.8						

WEL 30 23:12:23.7±1.2, 47°.25S×165°.22E, h33km, ML3.9/8, 1C, Error ellipse: s-maj=13.4km s-min=6.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**1.48**	**43**	PN	Pn	23 12 46.3	-1.6
PYZ				SN	Sn	23 13 04.7	-1.4
APZ	**The Paps**	**1.94**	**79**	PN	Pn	23 12 53.1	-1.3
APZ				SN	Sn	23 13 15.4	-2.2
DCZ	**Deep Cove**	**2.22**	**38**	PN	Pn	23 12 57.5	-0.7
DCZ				SN	Sn	23 13 21.4	-3.0
DCZ				AML	AML	23 13 23.8	
DCZ				AML	AML	23 13 24.4	
DCZ				AML	AML	23 13 28.0	
WHZ	**Wether Hill Ro**	**2.32**	**55**	⇑PN	Pn	23 12 59.0	-0.5
WHZ				SN	Sn	23 13 26.0	-0.9
WHZ				AML	AML	23 13 28.4	
SYZ	**Scrubby Hill**	**2.78**	**77**	PN	Pn	23 13 05.6	-0.2
MLZ	**Mavora Lakes**	**2.79**	**48**	PN	Pn	23 13 06.3	+0.2
MLZ				SN	Sn	23 13 37.6	-1.1
MLZ				AML	AML	23 13 43.4	
MSZ	**Milford Sound**	**3.19**	**37**	SN	Sn	23 13 45.3	-3.2
MSZ				AML	AML	23 13 47.8	
TUZ	**Tuapeka**	**3.30**	**69**	SN	Sn	23 13 50.8	-0.4
TUZ				AML	AML	23 13 52.0	
EAZ	**Earnscleugh**	**3.48**	**56**	*e*PN	Pn	23 13 15.8	+0.3
EAZ				SN	Sn	23 13 53.5	-2.0
EAZ				AML	AML	23 13 56.3	
EAZ				AML	AML	23 13 58.2	
EAZ				AML	AML	23 13 58.4	
WKZ	**Wanaka**	**3.58**	**49**	AML	AML	23 13 59.8	
WKZ				AML	AML	23 14 03.6	
LBZ	**Lake Benmore**	**4.50**	**52**	AML	AML	23 14 19.0	
LBZ				AML	AML	23 14 20.7	

*IDC **30** 23:13:29.4±4.1, 29°.62N×131°.28E, h0km, mb3.9/6, mb1 3.9/7, mb1mx3.6/28, mbtmp3.8/7, ML3.3/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/44, Error ellipse: s-maj=88.5km s-min=47.4km az=107.0*
*JMA **30** 23:13:34.4±0.2, 29°.74N×131°.30E, h39km±4km, M3.3*

ISC 30 23:13:31.7±2.1, 29°.66N±0°.06×131°.30E±0°.09, h15km±11km, n20, σ0§82/31, mb3.8/6, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**1.03**	**345**	P	**Pn**	**23 13 51.7**	**+0.1**
JTN				S	**Sg**	**23 14 04.7**	**-0.3**
JKC	**Kuchinoerabu**	**1.24**	**310**	P	**Pb**	**23 13 55.1**	**+0.2**
JKC				S	**Sn**	**23 14 11.2**	**+0.2**
JNN	**Nakanoshima**	**1.25**	**279**	P	**Pg**	**23 13 55.9**	**+0.1**
JNN				S	**Sg**	**23 14 12.6**	**+0.5**
JTSR	**Tashiro 2**	**1.53**	**348**	P	**Pb**	**23 13 59.4**	**-0.4**
JTSR				S	**Sn**	**23 14 17.2**	**-1.0**
JNAR	**Kushima--Naru**	**1.86**	**359**	P	**Pb**	**23 14 04.1**	**-1.2**
JNAR				S	**Sn**	**23 14 25.3**	**-0.9**
JAM	**Amami Oshima**	**1.94**	**230**	P	**Pb**	**23 14 07.1**	**+0.4**
JAM				S	**Sb**	**23 14 30.7**	**+0.1**
JSU	**Suzuyama**	**1.98**	**339**	P	**Pn**	**23 14 05.0**	**+0.4**
JSU				S	**Sn**	**23 14 28.6**	**-0.5**
JTZ	**Takazaki**	**2.24**	**355**	P	**Pn**	**23 14 09.6**	**+1.4**
JTZ				S	**Sn**	**23 14 34.7**	**-0.9**
JAMN	**Amaminishikomi**	**2.34**	**233**	P	**Pb**	**23 14 12.2**	**-1.3**
JAMN				S	**Sb**	**23 14 40.3**	**-1.9**
JSJ	**Shimokoshiki**	**2.43**	**326**	P	**Pn**	**23 14 10.8**	**0.0**
JSJ				S	**Sn**	**23 14 40.6**	**+0.3**
JZO	**Okuchi**	**2.54**	**347**	P	**Pn**	**23 14 13.1**	**+0.7**
JTSN	**Tsuno**	**2.58**	**4**	P	**Pn**	**23 14 14.4**	**+1.5**
JTSN				S	**Sn**	**23 14 43.5**	**-0.5**
JNU	**Nakatsue**	**3.47**	**354**	Pn	**Pn**	**23 14 26.4**	**+1.2**
	4.1nm,0.3s,baz=191,slow=10,SNR=18						
JNU				Sn	**Sn**	**23 15 06.5**	**+0.6**
	2.0nm,0.3s,baz=205,slow=18,SNR=3.5						
USRK	**Ussuriysk Arra**	**14.52**	**2**	LR	LR	23 22 41.2	
	comp=Z,81nm,18.8s,baz=248,slow=38						
SONM	**Songino Array**	**26.39**	**320**	P	**P**	**23 19 07.2**	**-0.4**
	0.4nm,0.4s,baz=138,slow=9.2,SNR=4.6						
MKAR	**Makanchi Array**	**41.41**	**308**	P	**P**	**23 21 17.6**	**+0.2**
	0.5nm,0.5s,baz=87,slow=10.0,SNR=4.6						
KURBB	**Kurchatov Arra**	**44.35**	**313**	P	**P**	**23 21 41.5**	**+0.3**
	0.2nm,0.3s,baz=110,slow=6.1,SNR=3.7						
BVAR	**Borovoye Array**	**49.61**	**316**	P	**P**	**23 22 22.6**	**+0.4**
	1.1nm,0.4s,baz=98,slow=8.9,SNR=6.9						
ARCES	**ARCESS Array B**	**67.81**	**339**	P	**P**	**23 24 29.4**	**+0.7**
	2.6nm,0.9s,baz=46,slow=7.9,SNR=4.0						
FINES	**FINESS Array B**	**71.22**	**331**	P	**P**	**23 24 49.5**	**-0.3**
	0.8nm,0.4s,baz=46,slow=8.1,SNR=9.6						

*ISCJB **30** 23:24:11.0±0.8, 8°.14S±0°.06×107°.20E±0°.07, h46km, Error ellipse: s-maj=9.6km s-min=8.6km az=22.1*
*DJA **30** 23:24:10.8±1.3, 8°.S±10°×10°.7E±°, h13km±8km, M3.8/8, MLv3.8/8*

ISC 30 23:24:12.0±1.5, 8°.14S±0°.06×107°.23E±0°.06, h46km, n11, σ1§48/13, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.82**	**45**	P	**Pn**	**23 24 25.4**	**-1.9**
CISI	**Cisompet, Garu**	**0.82**	**45**	P	**Pn**	**23 24 25.5**	**-1.8**
	baz=29,SNR=344						
SKJI	**Sukabumi**	**1.31**	**329**	P	**Pn**	**23 24 33.3**	**-0.7**
SKJI				S	**Sn**	**23 24 48.4**	**-1.9**
LEM	**Lembang**	**1.36**	**16**	P	**Pn**	**23 24 34.5**	**-0.3**
LEM	**Lembang**	**1.36**	**16**	P	**Pn**	**23 24 34.8**	**0.0**
	baz=29,SNR=27						
DBJI	**Dramaga**	**1.65**	**343**	P	**Pn**	**23 24 38.7**	**+0.1**
DBJI				S	**Sn**	**23 25 01.7**	**+3.1**
KPJI	**Karang Pucung**	**1.87**	**65**	P	**Pn**	**23 24 41.1**	**-0.4**
TGJI	**Tegal**	**2.26**	**56**	P	**Pn**	**23 24 47.6**	**+0.7**
BJII	**Banjamegara**	**2.58**	**72**	P	**Pn**	**23 24 52.1**	**+0.7**
XMI	**Christmas Isla**	**2.75**	**213**	P	**Pn**	**23 24 53.7**	**0.0**
	baz=32,SNR=11						
XMIS	**Christmas Isla**	**2.80**	**214**	P	**Pn**	**23 24 53.9**	**-0.5**
	baz=32,SNR=23						

IDC 30 23:51:45.9±45.0, 18°.57S×175°.67W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/19, mbtmp4.1/3, Error ellipse: s-maj=847.8km s-min=168.5km az=81.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.62**	**242**	P	P	23 59 27.6	-0.2
	0.5nm,0.3s,baz=108,slow=9.4,SNR=3.7						
WRA	**Warramunga Arr**	**47.08**	**260**	P	P	00 00 19.8	-0.1
	0.8nm,0.3s,baz=96,slow=7.5,SNR=36						
ASAR	**Alice Springs**	**47.13**	**255**	P	P	00 00 20.2	-0.1
	4.2nm,0.6s,baz=90,slow=8.1,SNR=49						

*IDC **31** 00:07:33.8±0.4, 15°.03N×119°.93E, h0km, mb4.5/29, mb1 4.6/30, mb1mx4.6/31, mbtmp4.5/30, ML4.6/1, MS4.0/4, Ms1 4.1/4, ms1mx3.7/26, Error ellipse: s-maj=16.2km s-min=10.3km az=84.0*
*MOS **31** 00:07:37.3±1.3, 15°.06N×119°.89E, h33km, mb4.9/23, MS4.4/5, Error ellipse: s-maj=11.5km s-min=5.8km az=120.5*
*MAN **31** 00:07:41, 15°.32N×119°.93E, h8km, mb5.6, ML4.6, MS5.0*
MAN INTENSITY II - PASIG CITY HALL 8TH FLOOR.
*ISCJB **31** 00:07:41.3±0.4, 15°.04N±0°.02×119°.90E±0°.03, h69km±4km, mb4.6/77, Error ellipse: s-maj=5.4km s-min=3.6km az=165.1*

*BJI **31** 00:07:41.3, 15°.07N×119°.88E, h55km, mB4.9/28, mb4.5/37, Ms4.6/39, Ms7 4.4/37*
*NEIC **31** 00:07:42.0±0.6, 15°.02N×119°.92E, h65km±5km, mb4.9/19, Error ellipse: s-maj=6.7km s-min=4.1km az=87.0*
NEIC Felt [II PIVS] at Pasig. Also felt at Botolan and Olongapo.
*BKK **31** 00:07:49.5±2.4, 16°.N±13°×12°.0E±1°.5, h187km±23km, M4.2/13, mB5.2/1, mb4.2/13, Mw(mB)4.5/1*
*DJA **31** 00:07:50.7±1.9, 15°.N±10°×12°.0E±°, h175km±19km, M4.7/20, mB5.2/6, mb4.7/20, Mw(mB)4.6/6*

ISC 31 00:07:42.3±0.3, 15°.01N±0°.03×119°.94E±0°.04, h65km±2km, h65km:pP-P, n291, σ1§76/337, mb4.7/77, 25C-13D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.77**	**358**	*e*P	Pn	00 07 50.9	-6.8
SCZP				*e*S	Sn	00 08 00.3	-8.7
TGY	**Tagaytay City**	**1.32**	**133**	⇑*e*P	**Pn**	**00 08 05.4**	**+0.6**
TGY				*i*S	Sn	00 08 28.4	+6.7
BOLP	**Bolinao**	**1.37**	**359**	*e*P	Pn	00 08 01.2	-4.2
BOLP				*e*S	Sn	00 08 16.2	-6.5
BALP	**Baler**	**1.74**	**65**	*e*P	**Pn**	**00 08 10.3**	**-0.1**
BOAC	**Boac**	**2.41**	**129**	*e*P	**Pn**	**00 08 20.4**	**+1.0**
CAUP	**Cauayan**	**2.65**	**43**	*e*P	**Pn**	**00 08 24.2**	**+1.5**
GQP	**Guinayangan**	**2.67**	**114**	⇑*e*P	**Pn**	**00 08 24.7**	**+1.7**
ABRA	**Dolores**	**2.73**	**16**	*e*P	**Pn**	**00 08 22.7**	**-1.1**
SIPP	**Brgy, Tapao**	**2.94**	**10**	⇓*i*P	**Pn**	**00 08 28.3**	**+1.6**
SIPP				*e*S	Sn	00 09 10.5	+10
APYP	**Conner**	**3.11**	**24**	*e*P	**Pn**	**00 08 28.9**	**-0.1**
AUQP	**San Andres**	**3.14**	**122**	*e*P	Pn	00 08 34.6	+5.2
PALP	**Palanan**	**3.15**	**49**	*e*P	**Pn**	**00 08 31.8**	**+2.3**
PIP	**Pasuquin**	**3.37**	**11**	⇓*i*P	**Pn**	**00 08 31.2**	**-1.3**
PIP				*e*S	**Sn**	**00 09 12.6**	**+1.3**
SGCP	**Mt. Cagua**	**3.80**	**32**	*e*P	**Pn**	**00 08 40.8**	**+2.4**
RCP	**Roxas**	**4.38**	**141**	⇑*e*P	Pn	00 08 50.0	+3.5
TWG	**Pinlang**	**7.85**	**8**	*e*Pn	**Pn**	**00 09 34.8**	**+1.0**
TPUB	**Ta-pu**	**8.28**	**4**	*e*Pn	**Pn**	**00 09 39.3**	**-0.4**
YULB	**Yu-li**	**8.44**	**9**	*e*Pn	**Pn**	**00 09 42.1**	**+0.1**
SSLB	**Suanglung**	**8.79**	**6**	*e*Pn	**Pn**	**00 09 46.3**	**-0.5**
NACB	**Ninganchiao**	**9.26**	**9**	*e*Pn	**Pn**	**00 09 52.8**	**-0.3**
YHNB	**Yeheng**	**9.71**	**8**	*e*Pn	**Pn**	**00 09 59.7**	**+0.3**
MYLDM	**Lahad Datu**	**9.87**	**188**	P	**Pn**	**00 10 02.2**	**+0.7**
MYLDM	**Lahad Datu**	**9.87**	**188**	*e*Pn	**Pn**	**00 10 01.7**	**+0.2**
QZH	**Quanzhou**	**9.97**	**353**	P	**Pn**	**00 10 03.8**	**+1.0**
QZH				S	**Sn**	**00 11 56.0**	**+2.9**
QZH				LR	LR		
	comp=N,1μm,12.5s						
QZH				LR	LR		
	comp=E,840nm,11.1s						
QZH				LR	LR		
	comp=Z,2μm,15.0s						
QIZ	**Qiongzhong**	**10.45**	**294**	P	**Pn**	**00 10 09.3**	**-0.1**
QIZ				S	**Sn**	**00 12 05.3**	**+0.3**
QIZ				AMB	AMB		
	comp=Z,30nm,1.4s						
QIZ				LR	LR		
	comp=N,740nm,15.3s						
QIZ				LR	LR		
	comp=E,630nm,15.5s						
QIZ				LR	LR		
	comp=Z,2μm,15.8s						
MRSI	**Marisa**	**14.57**	**172**	P	**P**	**00 11 12.4**	**+2.5**
	54nm,0.9s						
GTOI	**Gorontalo**	**14.60**	**168**	P	**Pn**	**00 11 03.6**	**-1.9**
SBUM	**Sibu**	**14.61**	**212**	P	**P**	**00 11 09.6**	**-0.8**
	17nm,0.9s						
SBUM	**Sibu**	**14.61**	**212**	*e*Pn	**Pn**	**00 11 06.2**	**+0.5**
KMSI	**Cibinong**	**14.88**	**164**	P	**P**	**00 11 15.5**	**+2.1**
	318nm,0.9s						
APSI	**Ampana**	**15.90**	**174**	P	**P**	**00 11 28.3**	**+3.6**
	72nm,0.9s						
LUWI	**Luwuk**	**16.19**	**170**	P	**P**	**00 11 32.2**	**+4.3**
	205nm,0.8s,2μm						
WHN	**Wuhan**	**16.30**	**343**	⇓P	Pn	00 11 21.0	-6.1
WHN				S	Sn	00 14 02.3	-25
WHN				LR	LR		
	comp=N,1μm,13.3s						
WHN				LR	LR		
	comp=E,820nm,10.1s						
WHN				LR	LR		
	comp=Z,2μm,16.4s						
KSM	**Kuching**	**16.47**	**216**	P	P	00 11 37.3	+6.3
	comp=Z,32nm,0.9s						
KSM	**Kuching**	**16.47**	**216**	*e*Pn	**Pn**	**00 11 29.2**	**-0.1**
	comp=Z,21nm,0.7s						
GYA	**Guiyang**	**16.83**	**315**	⇑*i*P	**Pn**	**00 11 32.5**	**-1.5**
GYA				pP	**pP**	**00 11 43.8**	**-4.9**
GYA				sP	**sP**	**00 11 54.3**	**-2.6**
GYA				S	**Sn**	**00 14 38.8**	**-1.6**
GYA				sS	S	00 14 56.3	+8.6
GYA				SS	**SnSn**	**00 15 02.0**	**+7.4**
GYA				PcP	**PcP**	**00 16 20.0**	**+1.4**
GYA				AMB	AMB		
	comp=Z,20nm,

comp=Z,32nm,1.5s
CHTO Chiang Mai 20.43 284 *e*P **P 00 12 13.5 -1.1**
comp=Z,6.9nm,1.0s
CHTO Chiang Mai 20.43 284 P **P 00 12 14.7 +0.1**
comp=Z,28nm,1.4s
CMAI Chiengmai2 20.52 287 P **P 00 12 15.4 -0.2**
comp=Z,12nm,1.4s
BBSI Bau Bau 20.53 173 P Pn 00 12 18.5 +0.2
comp=Z,85nm,0.9s,comp=Z,2µm
JNU Nakatsue 20.59 27 *e*P **P 00 12 12.5 -3.6**
comp=Z,31nm,1.0s
JNU Nakatsue 20.59 27 P **P 00 12 15.9 -0.3**
comp=Z,20nm,0.9s,baz=233,slow=4.3,SNR=8.3
JNU LR LR 00 20 17.0
comp=Z,255nm,21.9s,baz=341,slow=37
KHLT Khaolaem Dam 20.63 272 P Pn 00 12 18.8 -0.7
comp=Z,9.8nm,1.3s
SRIT Nakonsritamara 20.89 255 P Pn 00 12 24.3 +1.7
comp=Z,18nm,1.3s
XAN Xi'an 21.41 334 P **P 00 12 26.5 +1.6**
XAN S **S 00 16 22.0 +3.0**
XAN AMB AMB
comp=Z,7.0nm,0.8s
XAN LR LR
comp=Z,530nm,15.4s
XAN LR LR
comp=Z,120nm,13.6s
XAN LR LR
comp=Z,240nm,14.5s
CD2 Chengdu 21.69 320 P **P 00 12 27.5 -0.5**
CD2 pP **pP 00 12 41.3 -0.6**
CD2 sP **sP 00 12 48.5 -1.6**
CD2 PP **PnPn 00 12 54.5 +2.9**
CD2 S **S 00 16 22.5 -2.2**
CD2 sS sS 00 16 42.0 -5.4
CD2 SS **SnSn 00 17 00.0 +6.4**
CD2 AMB AMB
comp=Z,40nm,0.9s
CD2 AMB AMB
comp=Z,80nm,5.7s
CD2 LR LR
comp=Z,1µm,14.3s
CD2 LR LR
comp=Z,2µm,15.5s
BAKI Biak 22.69 134 P **P 00 12 37.9 -0.9**
comp=Z,92nm,1.0s
LBFI Labuhan Bajo, 23.33 180 P **P 00 12 45.5 +0.4**
comp=Z,91nm,0.8s
KSAR Wonju Array Be 23.44 16 P **P 00 12 44.7 -1.2**
KSRS Korea Array 23.46 16 P **P 00 12 44.7 -1.3**
comp=Z,3.9nm,0.8s,baz=202,slow=11,SNR=10.0
KSRS LR LR 00 22 39.4
comp=Z,359nm,19.6s,baz=13,slow=39
MMRI Maumere 23.60 174 P **P 00 12 49.7 +2.2**
comp=Z,102nm,1.0s
MMRI Maumere 23.60 174 *e*P **P 00 12 45.7 -1.8**
comp=Z,64nm,0.7s
CBIJ Chichi jima 23.95 56 P **P 00 12 50.1 -0.6**
JCJ Chichijima 23.95 56 P **P 00 12 50.1 -0.6**
comp=Z,38nm,0.6s,baz=127,slow=20,SNR=3.1
PSI Prapat 24.00 242 P **P 00 12 51.5 0.0**
PSI Prapat 24.00 242 P **P 00 12 51.5 0.0**
comp=Z,2.8nm,0.3s,baz=14,slow=4.2,SNR=3.5
SOEI Soe 24.97 170 P **P 00 13 01.7 +1.6**
BJI Beijing 25.16 353 P P 00 13 07.0 +5.5
BJI pP pP 00 13 20.8 +3.8
BJI PcS **PcS 00 20 11.5 -2.8**
BJI AMB AMB
comp=Z,19nm,0.5s
BJI AMB AMB
comp=Z,110nm,4.3s
BJI LR LR
comp=Z,760nm,15.0s
BJI LR LR
comp=Z,190nm,6.2s
BJI LR LR
comp=Z,380nm,18.7s
LZH Lanzhou 25.45 329 *e*P **P 00 13 06.8 +2.4**
LZH pP **pP 00 13 21.3 +1.3**
LZH sP **sP 00 13 28.5 +0.8**
LZH PP **PnPn 00 13 47.0 +4.0**
LZH *e*S **S 00 17 27.3 +0.3**
LZH sS **sS 00 17 51.5 -2.2**
LZH SS **SnSn 00 18 32.0 +6.4**
LZH AMB AMB
comp=Z,150nm,1.3s
LZH AMB AMB
comp=Z,600nm,4.1s
LZH LR LR
comp=Z,3µm,12.5s
LZH LR LR
comp=Z,2µm,11.0s
LZH LR LR
comp=Z,4µm,13.7s
HHC Hu-ho-hao-te 26.76 346 *e*P **P 00 13 15.8 -0.3**
HHC pP **pP 00 13 35.5 +3.7**
HHC PP **PnPn 00 14 07.0 +6.3**
HHC S **S 00 17 46.3 -1.2**
HHC SS **SnSn 00 19 03.5 +6.1**
HHC AMB AMB
comp=Z,55nm,1.0s
HHC AMB AMB
comp=Z,470nm,5.4s
HHC LR LR
comp=Z,920nm,15.5s
HHC LR LR
comp=Z,720nm,14.3s
HHC LR LR
comp=Z,810nm,14.3s
MJAR Matsushiro Arr 26.94 34 P **P 00 13 18.6 +1.0**
MJAR Matsushiro Arr 26.94 34 P **P 00 13 18.6 +1.0**
comp=Z,1.5nm,0.6s,baz=213,slow=8.7,SNR=4.5
SHL Shillong 28.27 296 *e*P **P 00 13 30.0 +0.1**
CN2 Changchun 29.08 8 *e*P **P 00 13 38.0 +1.3**
CN2 *e*pP **pP 00 13 52.3 -0.1**
CN2 *e*S **S 00 18 24.3 +0.6**
CN2 AMB AMB
comp=Z,10.0nm,1.1s
CN2 AMB AMB
comp=Z,100nm,4.0s
CN2 LR LR
comp=Z,500nm,15.0s
CN2 LR LR
comp=Z,400nm,15.0s
CN2 LR LR
comp=Z,500nm,17.0s
GTA Gaotai 30.05 328 *e*P **P 00 13 46.0 +0.6**
GTA pP **pP 00 14 02.3 +1.1**
GTA sP **sP 00 14 10.3 +1.5**
GTA S **S 00 18 34.0 -5.3**
GTA sS **sS 00 19 05.5 -0.7**
GTA SS **SnSn 00 20 14.3 -3.0**
GTA AMB AMB
comp=Z,3.0nm,0.4s
GTA AMB AMB
comp=Z,120nm,5.7s
GTA LR LR
comp=Z,760nm,16.2s
GTA LR LR
comp=Z,630nm,17.1s
GTA LR LR
comp=Z,1µm,16.6s
MDJ Mudanjiang 30.63 14 P **P 00 13 51.3 +0.9**
MDJ pP **pP 00 14 04.0 -2.1**
MDJ sP **sP 00 14 10.5 -3.3**
MDJ S **S 00 18 51.0 +3.0**
MDJ sS **sS 00 19 14.0 -1.0**
MDJ ScP **ScP 00 20 26.3 +1.9**
MDJ AMB AMB
comp=Z,6.0nm,0.9s
MDJ AMB AMB
comp=Z,120nm,4.2s
MDJ LR LR
comp=Z,490nm,24.0s
MDJ LR LR
comp=Z,290nm,20.6s
MDJ LR LR
comp=Z,620nm,25.3s
USRK Ussuriysk Arra 30.86 17 P **P 00 13 52.4 +0.1**
comp=Z,3.2nm,0.7s,baz=201,slow=7.6,SNR=6.8
ULN Ulaanbaatar 34.46 345 *e*P **P 00 14 22.3 -1.7**
SONM Songino Array 34.60 344 P **P 00 14 24.6 -0.7**
SONM PcP **PcP 00 17 00.7 +2.3**
SONM Songino Array 34.60 344 P **P 00 14 24.6 -0.7**
comp=Z,2.3nm,0.8s,baz=162,slow=10,SNR=15
SONM PcP **PcP 00 17 00.7 +2.3**
comp=Z,0.3nm,0.4s,baz=158,slow=2.9,SNR=4.7
SONA1 Songino Array 34.61 344 *e*P **P 00 14 24.0 -1.3**
ASAJ Asahikawa 34.84 29 P **P 00 14 24.7 -2.4**
ASAJ Asahikawa 34.84 29 P **P 00 14 24.7 -2.4**
comp=Z,9.8nm,0.7s,baz=193,slow=19,SNR=2.7
KLR Kul'dur 35.48 13 *e*P P 00 14 27.8 -4.7
MBWA Marble Bar 35.94 180 *e*P **P 00 14 36.6 -0.1**
comp=Z,25nm,0.7s
COEN Coen 36.83 140 *e*P **P 00 14 43.2 -1.3**
comp=Z,126nm,0.9s
YSS Yuzh-Sakhalins 37.10 26 *e*P **P 00 14 47.0 +0.6**
YSS pmax pmax
comp=Z,30nm,1.0s
WRAB Tennant Creek 37.50 157 *e*P **P 00 14 48.5 -1.6**
WRAB pmax pmax
comp=Z,27nm,0.7s
WRAB Tennant Creek 37.50 157 *e*P **P 00 14 48.5 -1.6**
comp=Z,27nm,0.7s
WRAB Tennant Creek 37.50 157 P **P 00 14 48.0 -2.1**
comp=Z,240nm,0.6s,SNR=36
WRA Warramunga Arr 37.51 157 P **P 00 14 48.4 -1.8**
WRA PcP **PcP 00 17 08.4 +1.0**
WRA Warramunga Arr 37.51 157 P **P 00 14 48.4 -1.8**
comp=Z,23nm,0.6s,baz=337,slow=9.5,SNR=109
WRA PcP **PcP 00 17 08.4 +1.0**
comp=Z,2.1nm,0.6s,baz=343,slow=3.2,SNR=4.6
ZAK Zakamensk 37.78 343 *e*P P 00 14 39.3 -13
ZAK pmax pmax
comp=Z,3.0nm,1.0s
TLY Talaya 38.85 344 *e*P P 00 15 07.7 +6.6
TLY *e* 00 16 34.9
TLY *e*S **S 00 20 51.8 -2.5**
TLY *e*SS SS 00 23 36.3 -11
TLY pmax pmax
comp=Z,8.0nm,1.0s
TLY MLR MLR
comp=Z,374nm,19.0s
WMQ Urumqi 39.72 323 *e*P **P 00 15 09.5 +0.9**
WMQ pP **pP 00 15 27.8 +3.1**
WMQ S **S 00 21 10.5 +2.8**
WMQ SS **SS 00 23 59.3 -6.2**
WMQ ScS **ScS 00 25 07.5 -2.7**
WMQ AMB AMB
comp=Z,16nm,0.8s
WMQ AMB AMB
comp=Z,110nm,4.2s
WMQ LR LR
comp=Z,660nm,17.8s
WMQ LR LR
comp=Z,510nm,16.4s
WMQ LR LR
comp=Z,640nm,17.8s
ASAR Alice Springs 40.79 160 P **P 00 15 16.4 -1.1**
ASAR PcP **PcP 00 17 18.6 +1.0**
ASAR Alice Springs 40.79 160 P **P 00 15 16.4 -1.1**
comp=Z,12nm,0.7s,baz=332,slow=7.1,SNR=82
ASAR PcP **PcP 00 17 18.6 +1.0**
comp=Z,1.9nm,0.7s,baz=340,slow=2.4,SNR=5.4
AS01 Alice Springs 40.80 160 *e*P **P 00 15 15.9 -1.7**
AS01 *e*PcP **PcP 00 17 17.5 -0.2**
CTAO Charters Tower 43.42 143 *e*P **P 00 15 38.3 -0.7**
CTAO pmax pmax
comp=Z,33nm,1.3s
CTAO Charters Tower 43.42 143 *e*P **P 00 15 38.3 -0.7**
comp=Z,33nm,1.3s
MK01 Makanchi Array 44.53 323 *e*P **P 00 15 46.8 -0.8**
MK01 *e*PcP **PcP 00 17 29.5 -0.4**
MKAR Makanchi Array 44.55 323 P **P 00 15 46.9 -0.8**
MKAR 00 17 30.3
MKAR Makanchi Array 44.55 323 P **P 00 15 46.9 -0.8**
MKAR PcP **PcP 00 17 30.3 +0.4**
MKAR Makanchi Array 44.55 323 P **P 00 15 46.9 -0.8**
comp=Z,2.0nm,0.8s,baz=114,slow=8.6,SNR=9.4
MKAR PcP **PcP 00 17 30.3 +0.4**
comp=Z,2.3nm,0.7s,baz=106,slow=4.3,SNR=5.8
H11S3 WAKE ISLAND Hy 44.81 79 T T 01 02 16.9
baz=276,slow=0.6,SNR=4.0
H11S1 WAKE ISLAND Hy 44.82 79 T T 01 02 16.8
baz=276,slow=0.6,SNR=3.0
H11S2 WAKE ISLAND Hy 44.83 79 T T 01 02 17.8
baz=276,slow=0.6,SNR=3.2
KSH Kashi 45.48 311 P P 00 16 02.3 +6.9
KSH pP pP 00 16 16.3 +4.4
KSH sP sP 00 16 21.0 +1.6
KSH PcP **PcP 00 17 37.3 +3.8**
KSH PP **PP 00 17 47.0 +4.1**
KSH S **S 00 22 37.8 +5.2**
KSH sS sS 00 23 04.5 +4.0
KSH ScS **ScS 00 25 45.3 -0.8**
KSH AMB AMB
comp=Z,6.0nm,1.0s
KSH AMB AMB
comp=Z,110nm,4.9s
KSH LR LR
comp=Z,99nm,5.1s
KSH LR LR
comp=Z,370nm,12.2s
KSH LR LR
comp=Z,460nm,15.3s
HNR Honiara 46.50 119 LR LR 00 32 47.6
comp=Z,313nm,20.6s,baz=298,slow=32
YAK Yakutsk 47.48 6 *e*P **P 00 16 08.5 -1.9**
YAK *e*S **S 00 22 54.3 -5.8**
YAK *e* 00 25 55.4
YAK pmax pmax
comp=Z,14nm,1.2s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=N,11nm,1.5s
YAK pmax pmax
comp=Z,934nm,4.7s
YAK pmax pmax
comp=N,282nm,3.5s
YAK pmax pmax
comp=E,1µm,4.7s
YAK smax smax
comp=N,516nm,4.3s
YAK smax smax
comp=E,446nm,3.9s
ZAA0 Zalesovo Array 47.56 333 *e*P **P 00 16 10.0 -1.3**
ZALV Zalesovo Beam 47.56 333 P **P 00 16 10.4 -0.9**
ZALV 00 17 40.0
ZALV Zalesovo Beam 47.56 333 P **P 00 16 10.4 -0.9**
ZALV PcP **PcP 00 17 40.0 -0.3**
ZALV Zalesovo Beam 47.56 333 P **P 00 16 10.4 -0.9**
comp=E,1.1nm,0.4s,baz=123,slow=7.5,SNR=9.2
ZALV PcP **PcP 00 17 40.0 -0.3**
comp=E,0.9nm,0.6s,baz=150,slow=3.8,SNR=2.7
AAK Ala-Archa 47.62 315 *e*P **P 00 16 13.2 +1.0**
AAK pmax pmax
comp=Z,3.0nm,1.2s
NWAO Narrogin (SRO) 47.73 183 *e*P **P 00 16 12.4 -0.4**
NWAO Narrogin (SRO) 47.73 183 P **P 00 16 12.1 -0.7**
comp=Z,13nm,0.7s,baz=359,slow=6.0,SNR=6.6
EKS2 Erkin-Say 48.13 314 *e*P **P 00 16 15.7 -0.3**
EKS2 pmax pmax
comp=Z,5.0nm,0.9s
EKS2 Erkin-Say 48.13 314 *e*P **P 00 16 15.7 -0.3**
comp=Z,4.7nm,0.9s
PEA0 Petropavlovsk- 48.25 30 *e*P **P 00 16 15.3 -1.4**
PETK Petropavlovsk- 48.25 30 P **P 00 16 16.6 -0.1**
PETK 00 17 42.4
PETK Petropavlovsk- 48.25 30 P **P 00 16 16.6 -0.1**
PETK PcP **PcP 00 17 42.4 -0.4**
PETK Petropavlovsk- 48.25 30 P **P 00 16 16.6 -0.1**
comp=Z,12nm,0.7s,baz=212,slow=7.0,SNR=8.6
PETK PcP **PcP 00 17 42.4 -0.4**
comp=Z,7.1nm,1.0s,baz=213,slow=4.3,SNR=2.5
KURK Kurchatov 48.70 326 *e*P **P 00 16 19.4 -0.7**
KURK pmax pmax
comp=Z,7.0nm,0.7s
KURK Kurchatov 48.70 326 *e*P **P 00 16 19.4 -0.7**
comp=Z,7.1nm,0.7s
KURK Kurchatov 48.70 326 P **P 00 16 20.5 +0.4**
comp=Z,113nm,0.9s,SNR=10
NVS Novosibirsk 48.85 333 *e*P **P 00 16 19.6 -1.6**
NVS *e* 00 17 43.3
NVS pmax pmax
comp=Z,9.0nm,1.1s
NVS pmax pmax
comp=N,7.0nm,1.0s
KBL Kabul 49.58 303 *e*P **P 00 16 26.7 -0.7**
KBL pmax pmax
comp=Z,8.0nm,1.0s
KBL Kabul 49.58 303 *e*P **P 00 16 26.7 -0.7**
comp=Z,8.4nm,1.0s
BBOO Buckleboo 49.98 162 *e*P **P 00 16 29.2 -0.9**
comp=Z,1µm,2.7s
BBOO *e*PcP **PcP 00 17 49.4 +0.1**
KKAR Karatay Array 50.54 314 *e*P **P 00 16 33.4 -0.9**
KKAR Karatay Array 50.54 314 *e*P **P 00 16 33.4 -0.9**
STKA Stephens Creek 51.03 156 *e*P **P 00 16 37.1 -0.9**
STKA Stephens Creek 51.03 156 P **P 00 16 37.0 -1.0**
comp=Z,5.7nm,0.8s,baz=332,slow=8.6,SNR=10
VOSK Vostochnaya 53.83 325 *e*P **P 00 16 57.7 -0.8**
VOSK Vostochnaya 53.83 325 *e*P **P 00 16 57.7 -0.8**
BRVK Borovoye 54.36 326 *e*P **P 00 17 01.8 -0.5**
BRVK pmax pmax
comp=Z,15nm,1.2s
BRVK Borovoye 54.36 326 *e*P **P 00 17 01.8 -0.5**
comp=Z,15nm,1.2s
TIXI Tiksi 56.88 3 *c e*P **P 00 17 19.5 -0.6**
TIXI pmax pmax
comp=Z,14nm,0.8s
ABKAR Akbulak array 59.27 319 *e*P **P 00 17 35.8 -1.4**
SVE Sverdlovsk 60.91 327 *e*P **P 00 17 48.0 -0.3**
SVE pmax pmax
comp=Z,14nm,0.9s
ARU Arti 61.89 326 *c e*P **P 00 17 53.9 -1.0**
ARU *PP pP 00 18 06.4 -5.7
ARU S **S 00 26 14.4 +0.7**
ARU pmax pmax
comp=Z,16nm,2.5s
MAK Makhachkala 67.12 311 *e*P P 00 18 36.6 +7.4
MAK MLR MLR
comp=Z,291nm,13.0s
RAYN Ar Rayn 70.11 290 *e*P **P 00 18 48.2 -0.1**
comp=Z,6.1nm,1.0s
KBZ Khabaz 70.47 311 P **P 00 18 49.0 -1.0**
KBZ Khabaz 70.47 311 P **P 00 18 49.0 -1.0**
KBZ Khabaz 70.47 311 P **P 00 18 49.0 -1.0**
comp=Z,2.7nm,1.0s,baz=123,slow=3.7,SNR=3.0
KIV Kislovodsk 70.61 312 *e*P **P 00 18 51.3 +0.2**
KIV *i* 00 19 02.9
KIV *i* 00 19 10.7
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,200nm,18.0s
VRHR Novokhopersk 71.15 319 *e*P **P 00 18 52.8 -1.2**
VRHR pmax pmax
comp=Z,7.0nm,0.9s
VRHR pmax pmax
comp=N,8.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VSR Storozhevoye 72.69 319 *e*P **P 00 19 02.3 -1.0**
VSR pmax pmax
comp=N,2.0nm,0.4s
VSR pmax pmax
comp=E,3.0nm,0.4s
VSR pmax pmax
comp=Z,2.0nm,0.4s
SOC Sochi 72.78 311 *e*P P 00 18 51.9 -12
SOC pmax pmax
comp=N,54nm,0.2s
SOC MLR MLR
comp=Z,225nm,18.0s
RPZ Rata Peaks 74.77 144 P **P 00 19 15.0 -0.5**
RPZ Rata Peaks 74.77 144 P **P 00 19 15.0 -0.5**
comp=Z,6.4nm,0.8s,baz=6.3,slow=9.2,SNR=3.7
IMA2 Indian Mountai 74.94 25 *e*P **P 00 19 15.0 -1.3**
JOF Joensuu 76.15 332 *e*P **P 00 19 22.9 -0.2**
JOF pmax pmax
comp=Z,7.0nm,0.8s
JOF Joensuu 76.15 332 *e*p **P 00 19 22.9 -0.2**
comp=Z,6.9nm,0.8s
KEV Kevo 77.06 339 *e*P **P 00 19 27.2 -0.9**
KEV Kevo 77.06 339 *e*p **P 00 19 27.2 -0.9**
ARCES ARCESS Array B 77.61 339 P **P 00 19 31.4 +0.2**
ARCES ARCESS Array B 77.61 339 P **P 00 19 31.4 +0.2**
comp=Z,7.2nm,0.9s,baz=90,slow=7.7,SNR=16
BRTR Keskin Array B 77.77 308 P **P 00 19 34.4 +1.5**
BRTR Keskin Array B 77.77 308 P **P 00 19 34.4 +1.5**
comp=Z,0.8nm,0.8s,baz=76,slow=6.1,SNR=3.5
ILAR Eielson Array 77.91 26 P **P 00 19 32.1 -0.9**
ILAR Eielson Array 77.91 26 P **P 00 19 32.1 -0.9**
comp=Z,1.5nm,0.7s,baz=255,slow=5.1,SNR=14
KAF Kangasniemi 78.56 331 *e*P **P 00 19 36.2 -0.4**
KAF pmax pmax
comp=Z,6.0nm,0.6s
KAF Kangasniemi 78.56 331 *e*p **P 00 19 36.2 -0.4**
comp=Z,5.8nm,0.6s
FINES FINESS Array B 78.79 331 P **P 00 19 36.6 -1.3**
FINES FINESS Array B 78.79 331 P **P 00 19 36.6 -1.3**
comp=Z,3.0nm,0.5s,baz=64,slow=6.3,SNR=38
AKASG Malin Array Be 78.99 320 P **P 00 19 38.3 -0.9**
AKASG Malin Array Be 78.99 320 P **P 00 19 38.2 -0.9**
AKASG Malin Array Be 78.99 320 P **P 00 19 38.2 -0.9**
comp=Z,12nm,0.3s,baz=69,slow=5.0,SNR=1.9
AK11 Malin Array Si 79.03 320 *e*P **P 00 19 38.1 -1.3**
TLCR 80.30 314 ⇑*i*P **P 00 19 46.4 0.0**
TLCR 80.30 314 ⇑*i*P **P 00 19 46.4 0.0**
EGAK Eagle 80.31 25 *e*P **P 00 19 45.8 -0.2**
comp=Z,62nm,2.3s
DAWY Dawson 81.24 26 *e*P **P 00 19 51.2 0.0**
CASY Casey 81.35 184 *e*P **P 00 19 50.9 -0.5**
comp=Z,16nm,0.9s
TESR Tescani 81.50 316 ⇑*i*P **P 00 19 54.7 +1.9**
VRI Vrincioaia 81.59 315 ⇑P **P 00 19 54.5 +1.2**
VRI Vrincioaia 81.59 315 ⇑*i*P **P 00 19 54.5 +1.2**
PLOR Plostina 81.65 315 ⇑P **P 00 19 51.7 -2.0**
PLOR Plostina 81.65 315 ⇑*i*P **P 00 19 51.7 -2.0**
SUW Suwalki 81.92 324 *e*P **P 00 19 53.5 -1.3**
SUW pmax pmax
comp=Z,33nm,1.2s
SUW Suwalki 81.92 324 *e*P **P 00 19 53.5 -1.3**
comp=Z,33nm,1.2s
SUW Suwalki 81.92 324 *e*P **P 00 19 55.4 +0.6**
INK Inuvik 82.15 21 *e*P **P 00 19 55.5 -0.3**
comp=Z,63nm,2.5s
BURAR Bucovina Array 82.20 317 ⇓P **P 00 19 57.0 +0.4**
BURAR Bucovina Array 82.20 317 ⇓*i*P **P 00 19 57.0 +0.4**
BUR04 Bucovina Ar. S 82.20 317 *e*P **P 00 19 57.0 +0.3**
MLR Muntele Rosu 82.21 315 ⇑*i*P **P 00 19 59.1 +2.4**
CIOR Ciorogarla 82.50 314 ⇑*i*P P 00 20 03.1 +5.0
VOIR 82.83 315 ⇓P P 00 19 52.0 -7.9
VOIR 82.83 315 ⇓*i*P P 00 19 52.0 -7.9
ARR Arges 83.14 315 ⇓*i*P **P 00 19 59.8 -1.7**
KMBO Kilima Mbogo 83.22 267 P **P 00 20 04.2 +1.5**
KMBO Kilima Mbogo 83.22 267 P **P 00 20 04.2 +1.5**
comp=Z,1.7nm,0.8s,baz=150,slow=14,SNR=4.3
KWP Kalwaria Pacla 83.31 319 *e*P **P 00 20 02.6 +0.3**
KWP Kalwaria Pacla 83.31 319 ⇓*i*P **P 00 20 03.4 +1.2**
KWP Kalwaria Pacla 83.31 319 *e*P **P 00 20 02.5 +0.3**
KOLS Kolonicke sedl 83.77 319 *e*P **P 00 20 05.9 +1.3**
KOLS Kolonicke sedl 83.77 319 *e*P **P 00 20 05.9 +1.3**
UZH Uzhgorod 83.84 319 *e*P **P 00 20 04.7 -0.2**
UZH *i* 00 20 19.7
DRGR 84.06 317 ⇑P **P 00 20 07.0 +0.8**
DRGR 84.06 317 ⇑*i*P **P 00 20 06.9 +0.8**
STHS Stebnicka Huta 84.29 320 *e*P **P 00 20 08.2 +1.0**
STHS pmax pmax
comp=Z,2.0nm,0.9s
STHS Stebnicka Huta 84.29 320 *e*P **P 00 20 08.2 +1.0**
VTS Vitosha 84.84 313 ⇓P **P 00 20 07.2 -3.1**
VTS Vitosha 84.84 313 ⇓*i*P **P 00 20 07.2 -3.1**
SIRR Siria 84.91 316 ⇑*i*P **P 00 20 10.8 +0.4**
OJC Ojcow 84.96 321 *e*P **P 00 20 09.7 -0.8**
OJC pmax pmax
comp=Z,7.0nm,0.8s
OJC Ojcow 84.96 321 *e*P **P 00 20 09.7 -0.8**
comp=Z,7.1nm,0.8s
OJC Ojcow 84.96 321 *e*P **P 00 20 11.0 +0.5**
KECS Kecovo 85.04 319 *e*P **P 00 20 11.0 0.0**
KECS pmax pmax
comp=Z,2.0nm,0.8s
KECS Kecovo 85.04 319 *e*P **P 00 20 11.0 0.0**
BZS Buzias 85.12 316 ⇓P **P 00 20 08.5 -2.9**
BZS Buzias 85.12 316 ⇓*i*P **P 00 20 08.5 -2.9**
PSZ Piszkesteto 85.58 318 ⇑P **P 00 20 13.5 -0.3**
PSZ Piszkesteto 85.58 318 ⇑*i*P **P 00 20 13.5 -0.3**
NB2 NORSAR Subarra 85.77 332 P **P 00 20 13.5 -0.9**
comp=Z,13nm,1.1s,baz=67,slow=5.1
NOA NORSAR Array B 85.77 332 P **P 00 20 13.8 -0.6**
NOA NORSAR Array B 85.77 332 P **P 00 20 13.8 -0.6**
comp=Z,5.5nm,0.9s,baz=68,slow=5.0,SNR=12
OKC Ostrava-Krasne 86.09 321 *e*P **P 00 20 16.7 +0.5**

OKC					MLR	MLR		
	comp=Z,200nm,19.0s							
OKC	**Ostrava-Krasne**	**86.09**	**321**	*eP*	**P**		**00 20 16.7**	**+0.5**
OKC					AMS	AMS	01 01 10.0	
	comp=Z,200nm,19.0s							
MORC	**Moravsky Berou**	**86.48**	**321**	⇑P	**P**		**00 20 18.7**	**+0.5**
MORC	**Moravsky Berou**	**86.48**	**321**	⇑*i*P	**P**		**00 20 18.7**	**+0.5**
KSP	**Ksiaz**	**86.88**	**322**	*eP*	**P**		**00 20 20.4**	**+0.4**
KSP	**Ksiaz**	**86.88**	**322**	*eP*	**P**		**00 20 20.9**	**+0.9**
PKSM	**Moragy**	**86.92**	**317**	⇑P	**P**		**00 20 17.9**	**-2.4**
PKSM	**Moragy**	**86.92**	**317**	⇑*i*P	**P**		**00 20 17.9**	**-2.4**
DPC	**Dobruska-Polom**	**87.03**	**321**	*eP*	**P**		**00 20 21.3**	**+0.5**
DPC				*e*			00 20 37.3	
DPC	**Dobruska-Polom**	**87.03**	**321**	*eP*	**P**		**00 20 21.3**	**+0.5**
DPC				*ep*P	**pP**		**00 20 37.3**	**-1.6**
DPC				AMS	AMS		01 01 40.0	
UPC	**Upice**	**87.16**	**322**	*eP*	**P**		**00 20 22.1**	**+0.7**
UPC				*e*			00 20 38.6	
UPC	**Upice**	**87.16**	**322**	*eP*	**P**		**00 20 22.1**	**+0.7**
UPC				*ep*P	**pP**		**00 20 38.6**	**-0.9**
VRAC	**Vranov**	**87.22**	**320**	⇑*i*P	**P**		**00 20 22.6**	**+0.9**
TREC	**Trest**	**87.90**	**321**	*eP*	**P**		**00 20 25.7**	**+0.7**
TREC	**Trest**	**87.90**	**321**	*eP*	**P**		**00 20 25.7**	**+0.7**
PRU	**Pruhonice**	**88.23**	**321**	*eP*	**P**		**00 20 28.4**	**+1.9**
PRU				*e*			00 20 44.2	
PRU				MLR	MLR			
	comp=Z,300nm,18.4s							
PRU	**Pruhonice**	**88.23**	**321**	*eP*	**P**		**00 20 28.4**	**+1.9**
PRU				*ep*P	**pP**		**00 20 44.2**	**-0.4**
PRU				AMS	AMS		01 02 00.0	
	comp=Z,300nm,18.4s							
BRG	**Berggiesshubel**	**88.26**	**322**	*eP*	**P**		**00 20 27.1**	**+0.5**
	comp=Z,4.3nm,1.0s							
BRG				*e*			00 20 43.6	
	comp=Z,8.0nm,1.2s							
BRG								
	comp=N,241nm,23.0s							
BRG								
	comp=E,211nm,26.8s							
BRG								
	comp=Z,226nm,19.1s							
BRG	**Berggiesshubel**	**88.26**	**322**	*eP*	**P**		**00 20 27.1**	**+0.5**
BRG				*e*			00 20 43.6	
BRG				pmax	pmax			
	comp=Z,4.0nm,1.0s							
BRG				pmax	pmax			
	comp=Z,8.0nm,1.2s							
BRG				MLR	MLR			
	comp=N,241nm,23.0s							
BRG				MLR	MLR			
	comp=E,211nm,26.8s							
BRG				MLR	MLR			
	comp=Z,226nm,19.1s							
CLL	**Collm**	**88.65**	**323**	*i* P	**P**		**00 20 28.4**	**0.0**
CLL				*i*			00 20 34.8	
CLL				pmax	pmax			
	comp=Z,4.0nm,0.9s							
CLL	**Collm**	**88.65**	**323**	*i* P	**P**		**00 20 28.4**	**0.0**
	comp=Z,4.0nm,0.9s							
CLL				*i* sP	**sP**		**00 20 49.4**	**-4.2**
KHC	**Kasperske Hory**	**89.13**	**321**	*eP*	**P**		**00 20 31.0**	**+0.2**
KHC				*e*			00 20 49.9	
KHC	**Kasperske Hory**	**89.13**	**321**	*eP*	**P**		**00 20 31.0**	**+0.2**
KHC				*ep*P	**pP**		**00 20 49.9**	**+1.0**
GERES	**GERESS Array B**	**89.16**	**321**	P	**P**		**00 20 30.9**	**-0.1**
GERES	**GERESS Array B**	**89.16**	**321**	P	**P**		**00 20 30.9**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=67,slow=4.5,SNR=13							
YKA	**Yellowknife Ar**	**91.86**	**22**	P	**P**		**00 20 44.6**	**+1.4**
YKA	**Yellowknife Ar**	**91.86**	**22**	P	**P**		**00 20 44.6**	**+1.4**
	comp=Z,3.4nm,0.7s,baz=308,slow=4.5,SNR=10							
MAW	**Mawson**	**92.08**	**199**	P	**P**		**00 20 46.0**	**+2.1**
MAW	**Mawson**	**92.08**	**199**	P	**P**		**00 20 46.0**	**+2.1**
	comp=Z,1.8nm,0.6s,baz=6.3,slow=9.2,SNR=4.3							
CDF	**Champ du Feu**	**93.22**	**322**	*eP*	**P**		**00 20 49.7**	**-0.2**
HINF	**Hinteralfeld**	**93.74**	**322**	*eP*	**P**		**00 20 51.8**	**-0.5**
HAU	**Haudompre**	**93.96**	**322**	*eP*	**P**		**00 20 53.4**	**+0.2**
CABF	**La Chapelle**	**94.76**	**321**	*eP*	**P**		**00 20 56.5**	**-0.5**
LPG	**La Plagne**	**94.86**	**320**	*eP*	**P**		**00 20 57.7**	**0.0**
	comp=Z,11nm,1.0s							
LPL	**La Plagne**	**94.86**	**320**	*eP*	**P**		**00 20 57.6**	**-0.1**
	comp=Z,11nm,1.0s							
PPT	**Papeete**	**94.88**	**107**	P	**P**		**00 20 59.5**	**+1.6**
PPT	**Papeete**	**94.88**	**107**	P	**P**		**00 20 59.5**	**+1.6**
	comp=Z,25nm,0.8s,baz=230,slow=6.1,SNR=2.2							
OFR	**Olym-F Res Ctr**	**95.22**	**37**	*eP*	**P**		**00 20 59.2**	**+0.3**
VNDA	**Vanda**	**95.43**	**172**	P	**P**		**00 21 00.6**	**+1.4**
VNDA	**Vanda**	**95.43**	**172**	P	**P**		**00 21 00.6**	**+1.4**
	comp=Z,1.1nm,0.9s,baz=322,slow=7.0,SNR=5.7							
AVF	**Avril sur Loir**	**96.33**	**322**	*eP*	**P**		**00 21 03.4**	**-0.6**
	comp=Z,12nm,1.1s							
LDF	**La Druitiere**	**97.41**	**325**	*eP*	Pdif		00 21 08.5	-0.4
RJF	**Les Rejaudoux**	**98.18**	**321**	*eP*	Pdif		00 21 12.7	+0.2
TORD	**Torodi Ar. Bea**	**112.78**	**291**	PKiKP	**PKiKP**		**00 26 12.4**	**-0.3**
TORD	**Torodi Ar. Bea**	**112.78**	**291**	PKiKP	**PKiKP**		**00 26 12.4**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=75,slow=2.4,SNR=8.9							
TXAR	**Lajitas Array**	**119.05**	**44**	PKP	**PKPdf**		**00 26 25.6**	**+1.0**
TXAR	**Lajitas Array**	**119.05**	**44**	PKP	**PKPdf**		**00 26 25.6**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=155,slow=2.6,SNR=11							
DBIC	**Dimbokro**	**121.20**	**288**	PKP	**PKPdf**		**00 26 28.9**	**0.0**
DBIC	**Dimbokro**	**121.20**	**288**	PKP	**PKPdf**		**00 26 28.9**	**0.0**
	comp=Z,1.9nm,0.6s,baz=101,slow=4.3,SNR=5.0							
LIC	**Lamto**	**121.52**	**287**	*e*PKIKP	**PKPdf**		**00 26 27.1**	**-2.4**
	comp=Z,5.5nm,0.5s							
PLCA	**Paso Flores**	**152.79**	**162**	PKPbc	**PKPbc**		**00 27 34.4**	**+2.1**
PLCA	**Paso Flores**	**152.79**	**162**	PKPbc	**PKPbc**		**00 27 34.4**	**+2.1**
	comp=Z,10nm,0.8s,baz=218,slow=2.4,SNR=11							
CFAA	**Coronel Fontan**	**161.86**	**157**	PKP	**PKPdf**		**00 27 37.2**	**+0.5**
CFAA	**Coronel Fontan**	**161.86**	**157**	PKP	**PKPdf**		**00 27 37.2**	**+0.5**
	comp=Z,0.5nm,0.9s,baz=212,slow=7.5,SNR=6.3							
CPUP	**Villa Florida**	**168.44**	**192**	PKPab	**PKPab**		**00 28 52.1**	**+0.7**
CPUP	**Villa Florida**	**168.44**	**192**	PKPab	**PKPab**		**00 28 52.1**	**+0.7**
	comp=Z,2.0nm,0.6s,baz=167,slow=3.9,SNR=6.3							
LPAZ	**La Paz**	**172.13**	**100**	PKP	**PKPdf**		**00 27 46.4**	**+0.9**
LPAZ	**La Paz**	**172.13**	**100**	PKP	**PKPdf**		**00 27 46.4**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=241,slow=3.0,SNR=7.8							
SIV	**San Ignacio**	**178.62**	**135**	PKP	**PKPdf**		**00 27 45.7**	**-0.8**
SIV	**San Ignacio**	**178.62**	**135**	PKP	**PKPdf**		**00 27 45.7**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=191,slow=3.8,SNR=2.5							

WEL 31 00:13:21.8±1.1, 47.16S×165.21E, h33km, ML3.6/4, 1D, Error ellipse: s-maj=12.8km s-min=6.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**1.42**	**46**	PN	Pn	00 13 44.0	-1.2
PYZ				SN	Sn	00 14 01.6	-1.2
APZ	**The Paps**	**1.93**	**81**	⇓PN	Pn	00 13 51.4	-0.9
APZ				SN	Sn	00 14 13.0	-2.5
DCZ	**Deep Cove**	**2.15**	**39**	PN	Pn	00 13 54.4	-0.9
DCZ				AML	AML	00 14 29.2	
DCZ				AML	AML	00 14 41.7	
WHZ	**Wether Hill Ro**	**2.27**	**57**	PN	Pn	00 13 56.9	-0.2
WHZ				SN	Sn	00 14 23.8	-0.1
WHZ				AML	AML	00 14 25.0	
MLZ	**Mavora Lakes**	**2.74**	**50**	PN	Pn	00 14 04.1	+0.5
SYZ	**Scrubby Hill**	**2.77**	**78**	PN	Pn	00 14 04.1	+0.3
TUZ	**Tuapeka**	**3.28**	**70**	PN	Pn	00 14 10.7	-0.1
TUZ				AML	AML	00 14 50.7	
TUZ				AML	AML	00 14 51.9	
EAZ	**Earnscleugh**	**3.44**	**57**	PN	Pn	00 14 13.4	+0.4
EAZ				SN	Sn	00 14 52.8	+0.3
EAZ				AML	AML	00 14 57.0	
WKZ	**Wanaka**	**3.53**	**50**	PN	Pn	00 14 16.0	+1.6
ODZ	**Otahua Downs**	**4.33**	**63**	PN	Pn	00 14 23.6	-1.7

*BJI **31** 00:14:02.7, 1.03N×120.93E, h12km, mB5.2/26, mb4.7/36, Ms4.8/35, Ms7 4.5/34*
*IDC **31** 00:14:03.0±0.5, 1.14N×120.95E, h0km, mb4.6/17, mb1 4.7/17, mb1mx4.6/25, mbtmp4.6/17, MS4.3/13, Ms1 4.3/13, ms1mx4.1/25, Error ellipse: s-maj=21.9km s-min=11.6km az=74.0*
*NEIC **31** 00:14:05.8±0.8, 1.16N×120.82E, h20km±5km, mb5.1/25, Error ellipse: s-maj=7.1km s-min=4.8km az=67.0*
NEIC Felt [II] at Tolitoli.
*MOS **31** 00:14:06.1±0.9, 1.21N×120.95E, h33km, mb5.1/27, Error ellipse: s-maj=16.0km s-min=7.3km az=112.7*
*ISCJB **31** 00:14:06.3±0.8, 1.24N±0.03×120.99E±0.04, h32km±5km, mb4.8/69, MS4.4/29, Error ellipse: s-maj=7.3km*

s-min=4.0km az=163.3
*DJA **31** 00:14:07.8±0.7, 1.N±4×12.1E±, h9km±5km, M5.3/15, mb5.5/9, mB5.6/8, MLv5.3/15, Mw(mB)5.1/8, Mwp5.7/1*
*BKK **31** 00:14:07.5±0.3, 1.N±5×12.1E±, h10km, M5.1/18, mB5.6/4, mb5.0/18, MLv5.1/5, Mw(mB)5.1/4, Mwp4.5/1*
*GCMT **31** 00:14:09.3±0.2, 1.54N×120.84E, h38km, MW5.2, Moment Tensor Solution. s67,c91; s87,c142; Moment tensor: Scale 10¹⁶Nm; Mrr5.06±.21; Mθθ-5.30±.14; Mφφ0.24±.16; Mrθ-4.60±.14; Mrφ-0.65±.10; Mθr-0.89±.18; Best double couple: M₀7.00000×10¹⁶ NP1:ϕs87.00000°,δ66.00000°, λ87.00000°. NP2:ϕs87.00000°,δ24.00000°,λ96.00000°. Principal axes: T 6.8600, Plg69.0000°, Azm165.0000°; N 0.3000, Plg2.0000°, Azm261.0000°; P -7.1600, Plg21.0000°, Azm352.0000°; Data Used: II IU IC G CN.*
ISC 31 00:14:06.8±0.3, 1.19N±0.03×120.93E±0.05, h22km±2km, h22km:pP-P,n194,σ1§82/230, mb4.9/69, MS4.4/29, 2C-3D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI	**Toli-Toli**	**0.15**	**246**	P	**Pb**	**00 14 12.2**	**-0.1**
MRSI	**Marisa**	**1.23**	**125**	P	**Pb**	**00 14 31.0**	**+1.6**
APSI	**Ampana**	**2.20**	**161**	P	**Pb**	**00 14 44.5**	**-1.5**
LUWI	**Luwuk**	**2.88**	**140**	P	**Pb**	**00 14 56.7**	**-0.8**
KMSI	**Cibinong**	**3.11**	**101**	P	**Pb**	**00 15 03.1**	**+1.7**
TSM	**Tawau**	**4.34**	**315**	P	**Pn**	**00 15 10.5**	**-1.1**
TTSI	**Tana Toraja**	**4.35**	**195**	P	Pn	00 15 15.3	+3.7
MMSI	**Mamuju**	**4.35**	**208**	P	**Pn**	**00 15 12.6**	**+0.9**
MYLDM	**Lahad Datu**	**4.65**	**329**	P	**Pn**	**00 15 16.7**	**+0.9**
MYLDM	**Lahad Datu**	**4.65**	**329**	P	**Pn**	**00 15 15.9**	**+0.1**
MYLDM	**Lahad Datu**	**4.65**	**329**	*e*Pn	**Pn**	**00 15 16.1**	**+0.3**
MJSI	**Majene**	**5.09**	**203**	P	Pn	00 15 27.5	+5.6
SPSI	**Sidrap Palu**	**5.25**	**193**	P	**Pn**	**00 15 26.8**	**+2.8**
	542nm,0.9s,12µm2.3nm						
KKSI	**Kolaka, Sulawe**	**5.37**	**172**	P	Pn	00 15 29.3	+3.6
	647nm,1.0s,6µm1.9nm						
BNSI	**Bone**	**5.61**	**188**	P	Pn	00 15 32.4	+3.4
	807nm,1.0s,14µm2.9nm						
SDKM	**Sandakan**	**5.79**	**320**	P	**Pn**	**00 15 31.4**	**-0.1**
KAPI	**Kappang**	**6.27**	**191**	P	**Pn**	**00 15 40.6**	**+2.5**
	269nm,1.0s,4µm1.1nm						
KAPI	**Kappang**	**6.27**	**191**	*e*Pn	**Pn**	**00 15 37.3**	**-0.8**
KAPI				Sn	**Sn**	**00 16 52.3**	**+3.1**
KAPI	**Kappang**	**6.27**	**191**	Pn	**Pn**	**00 15 40.5**	**+2.5**
	610nm,0.7s,SNR=14						
KAPI	**Kappang**	**6.27**	**191**	Pn	**Pn**	**00 15 39.4**	**+1.3**
	3.4nm,0.3s,baz=14,slow=13,SNR=19						
KAPI				Sn	**Sn**	**00 16 52.3**	**+3.1**
	baz=360,slow=19,SNR=1.8						
TNTI	**Ternate**	**6.45**	**94**	*e*Pn	**Pn**	**00 15 41.6**	**+1.1**
BKSI	**Bulukumba**	**6.51**	**187**	P	Pn	00 15 46.4	+5.0
	356nm,0.9s,3µm25µm1.2nm						
KKM	**Kota Kinabalu**	**6.74**	**316**	P	**Pn**	**00 15 45.0**	**+0.3**
KKM	**Kota Kinabalu**	**6.74**	**316**	P	**Pn**	**00 15 44.4**	**-0.3**
	155nm,0.9s,2µm0.5nm						
KKM	**Kota Kinabalu**	**6.74**	**316**	*e*Pn	**Pn**	**00 15 43.8**	**-0.9**
BBSI	**Bau Bau**	**6.83**	**166**	P	Pn	00 15 50.3	+4.6
	781nm,1.0s,6µm2.5nm						
KDM	**Kudat**	**7.01**	**324**	P	**Pn**	**00 15 50.7**	**+2.4**
DAV	**Davao City (W)**	**7.46**	**38**	*e*Pn	**Pn**	**00 15 56.0**	**+1.6**
NLAI	**Namlea**	**7.57**	**126**	P	Pn	00 16 02.5	+6.6
	183nm,0.8s,2µm0.8nm						
SBUM	**Sibu**	**8.80**	**278**	*e*Pn	Pn	00 16 08.6	-4.2
MMRI	**Maumere**	**9.84**	**172**	*e*Pn	**Pn**	**00 16 29.4**	**+2.2**
KSM	**Kuching**	**10.63**	**272**	*e*Pn	Pn	00 16 31.6	-6.3
GMJI	**Gumukmas**	**12.00**	**218**	P	Pn	00 17 13.6	+17
SMRI	**Semarang**	**13.29**	**232**	*e*Pn	Pn	00 17 09.8	-4.5
BJII	**Banjamegara**	**14.04**	**233**	P	**Pn**	**00 17 26.8**	**+2.2**
CISI	**Cisompet, Garu**	**15.70**	**236**	*e*Pn	**P**	**00 17 49.4**	**-1.5**
	164nm,0.8s						
XMIS	**Christmas Isla**	**19.12**	**232**	*e*P	**P**	**00 18 26.2**	**-2.4**
	439nm,0.9s						
QIZ	**Qiongzhong**	**20.80**	**329**	P	**P**	**00 18 47.5**	**+0.7**
QIZ				S	**S**	**00 22 39.8**	**+1.7**
QIZ				LR	LR		
	comp=N,360nm,22.9s						
QIZ				LR	LR		
	comp=E,260nm,21.2s						
QIZ				LR	LR		
	comp=Z,1µm,25.6s						
PSI	**Prapat**	**22.05**	**275**	P	**P**	**00 19 00.9**	**+0.4**
PSI	**Prapat**	**22.05**	**275**	P	**P**	**00 19 00.9**	**+0.4**
	24nm,1.0s,baz=127,slow=4.7,SNR=14						
PSI				LR	LR	00 28 46.7	
	comp=Z,896nm,18.5s,baz=279,slow=40						
MBWA	**Marble Bar**	**22.24**	**183**	*e*P	**P**	**00 19 00.9**	**-1.3**
	48nm,0.9s						
KRAB	**Krabi**	**22.75**	**289**	P	P	00 19 20.7	+13
SKNT	**Sakolnakorn**	**22.90**	**314**	P	**P**	**00 19 09.4**	**0.0**
	32nm,0.9s,2µm						
GSI	**Gunungsitoli**	**23.35**	**271**	*e*P	**P**	**00 19 12.6**	**-1.4**
	127nm,1.1s						
QZH	**Quanzhou**	**23.73**	**355**	⇓*i*P	**P**	**00 19 13.8**	**-3.7**
QZH				S	**S**	**00 23 24.5**	**-7.1**
QZH				AMB	AMB		
	comp=Z,1µm,3.2s						
QZH				LR	LR		
	comp=N,1µm,16.5s						
QZH				LR	LR		
	comp=E,2µm,16.4s						
QZH				LR	LR		
	comp=Z,2µm,15.8s						
WRAB	**Tennant Creek**	**24.77**	**149**	*e*P	**P**	**00 19 26.4**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,65nm,0.9s						
WRAB	**Tennant Creek**	**24.77**	**149**	*e*P	**P**	**00 19 26.4**	**-0.8**
	comp=Z,64nm,0.9s						
WRAB	**Tennant Creek**	**24.77**	**149**	P	**P**	**00 19 26.9**	**-0.3**
	comp=Z,417nm,0.6s,SNR=53						
WRA	**Warramunga Arr**	**24.77**	**149**	P	**P**	**00 19 26.0**	**-1.2**
WRA	**Warramunga Arr**	**24.77**	**149**	P	**P**	**00 19 26.0**	**-1.2**
	comp=Z,48nm,0.6s,baz=328,slow=10,SNR=127						
PBKT	**Sadao Pong**	**24.91**	**309**	P	**P**	**00 19 28.7**	**+0.2**
	comp=Z,26nm,0.9s						
LOEI	**Loei**	**25.24**	**311**	P	**P**	**00 19 28.7**	**-2.8**
	comp=Z,17nm,2.0s						
KHLT	**Khaolaem Dam**	**25.89**	**303**	P	P	00 19 48.1	+11
NANT	**Nan**	**26.46**	**313**	P	**P**	**00 19 44.6**	**+2.0**
	comp=Z,37nm,0.9s						
COEN	**Coen**	**26.68**	**125**	*e*P	**P**	**00 19 44.5**	**-0.1**
	comp=Z,134nm,0.9s						
CM01	**Chiang Mai Arr**	**27.54**	**310**	*e*P	**P**	**00 19 50.9**	**-1.4**
CMAR	**Chiang Mai Arr**	**27.57**	**310**	P	**P**	**00 19 52.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**27.57**	**310**	P	**P**	**00 19 52.9**	**+0.2**
	comp=Z,3.7nm,0.9s,baz=133,slow=7.5,SNR=24						
CMAR				LR	LR	00 31 03.1	
	comp=Z,446nm,20.5s,baz=325,slow=37						
CRAI	**Chiangrai**	**27.61**	**315**	P	P	00 20 03.2	+10
ASAR	**Alice Springs**	**27.74**	**154**	P	**P**	**00 19 53.6**	**-0.4**
ASAR				PcP	**PcP**	**00 23 11.4**	**+0.8**
ASAR	**Alice Springs**	**27.74**	**154**	P	**P**	**00 19 53.6**	**-0.4**
	comp=Z,9.8nm,0.6s,baz=341,slow=11,SNR=64						
ASAR				PcP	**PcP**	**00 23 11.4**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=347,slow=2.1,SNR=4.2						
AS01	**Alice Springs**	**27.75**	**154**	*e*P	**P**	**00 19 52.9**	**-1.3**
CHTO	**Chiang Mai**	**27.78**	**310**	*e*P	**P**	**00 19 52.3**	**-2.2**
CHTO				pmax	pmax		
	comp=Z,15nm,1.0s						
CHTO	**Chiang Mai**	**27.78**	**310**	*e*P	**P**	**00 19 52.3**	**-2.2**
	comp=Z,15nm,1.0s						
CHTO	**Chiang Mai**	**27.78**	**310**	P	**P**	**00 19 55.1**	**+0.6**
	comp=Z,71nm,1.1s						
CMAI	**Chiengmai2**	**28.38**	**312**	P	**P**	**00 20 00.4**	**+0.4**
	comp=Z,208nm,0.7s,comp=Z,12µm						
GYA	**Guiyang**	**28.63**	**333**	⇑*i*P	**P**	**00 20 02.5**	**+0.4**
GYA				pP	**pP**	**00 20 08.5**	**-0.2**
GYA				PP	**PnPn**	**00 20 55.3**	**+2.7**
GYA				PcP	**PcP**	**00 23 13.0**	**+0.1**
GYA				S	**S**	**00 24 49.0**	**-0.8**
GYA				SS	**SnSn**	**00 26 16.0**	**+5.4**
GYA				ScS	**ScS**	**00 30 44.3**	**-2.4**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s						
GYA				AMB	AMB		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=Z,520nm,15.4s						
GYA				LR	LR		
	comp=Z,490nm,16.0s						
GYA				LR	LR		
	comp=Z,550nm,15.8s						
KMI	**Kunming**	**29.58**	**325**	P	**P**	**00 20 12.0**	**+1.4**
KMI				pP	**pP**	**00 20 18.0**	**+0.7**
KMI				sP	**sP**	**00 20 20.5**	**+0.5**
KMI				S	**S**	**00 25 08.5**	**+3.6**
KMI				sS	**sS**	**00 25 16.0**	**+0.2**
KMI				SS	**SnSn**	**00 26 39.3**	**+5.4**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.4s						
KMI				AMB	AMB		
	comp=Z,260nm,6.1s						
KMI				LR	LR		
	comp=Z,390nm,22.0s						
KMI				LR	LR		
	comp=Z,380nm,21.1s						
KMI				LR	LR		
	comp=Z,860nm,23.8s						
WHN	**Wuhan**	**29.86**	**349**	P	P		00 20 19.0	+6.3
WHN				S	S		00 25 16.5	+7.8
WHN				LR	LR			
	comp=Z,930nm,11.8s							
WHN				LR	LR			
	comp=Z,480nm,4.4s							
WHN				LR	LR			
	comp=Z,2µm,16.6s							
NJ2	**Nanjing**	**30.77**	**357**	*e*P	P		00 20 24.3	+3.6
NJ2				S	S		00 25 30.5	+7.7
NJ2				AMB	AMB			
	comp=Z,10.0nm,1.1s							
NJ2				LR	LR			
	comp=Z,810nm,17.1s							
NJ2				LR	LR			
	comp=Z,880nm,18.0s							
ENH	**Enshi**	**30.90**	**340**	*e*P	**P**	**00 20 21.6**	**-0.4**
	comp=Z,7.2nm,0.8s							
FORT	**Forrest**	**32.50**	**169**	*e*P	**P**	**00 20 35.1**	**-0.9**
	comp=Z,87nm,0.7s							
JCJ	**Chichijima**	**32.86**	**37**	LR	LR		00 31 36.6	
	comp=Z,513nm,20.1s,baz=167,slow=32							
CD2	**Chengdu**	**33.75**	**333**	P	**P**	**00 20 46.0**	**-1.0**
CD2				pP	**pP**	**00 20 53.8**	**+0.1**
CD2				sP	**sP**	**00 20 56.5**	**+0.1**
CD2				S	**S**	**00 26 09.8**	**+0.3**
CD2				sS	**sS**	**00 26 19.5**	**-1.0**
CD2				SS	**SnSn**	**00 28 15.8**	**+1.0**
CD2				AMB	AMB			
	comp=Z,10.0nm,0.5s							
CD2				LR	LR			
	comp=Z,500nm,13.7s							
CD2				LR	LR			
	comp=Z,540nm,12.5s							
NWAO	**Narrogin (SRO)**	**34.11**	**186**	*e*P	**P**	**00 20 49.5**	**-0.5**
NWAO	**Narrogin (SRO)**	**34.11**	**186**	P	**P**	**00 20 49.1**	**-1.0**
	comp=Z,26nm,0.7s,baz=356,slow=8.0,SNR=13							
KSAR	**Wonju Array Be**	**36.65**	**9**	P	**P**	**00 21 12.7**	**+0.9**
KSRS	**Korea Array**	**36.66**	**9**	P	**P**	**00 21 12.7**	**+0.8**
	comp=Z,4.2nm,0.8s,baz=184,slow=8.8,SNR=4.6							
KSRS				LR	LR		00 35 11.2	
	comp=Z,423nm,22.0s,baz=182,slow=35							
BBOO	**Buckleboo**	**36.71**	**158**	*e*P	**P**	**00 21 11.8**	**-0.6**
	comp=Z,157nm,0.8s							
SHL	**Shillong**	**37.04**	**313**	*e*P	**P**	**00 21 17.0**	**+1.4**
LZH	**Lanzhou**	**38.17**	**337**	*e*P	**P**	**00 21 26.0**	**+1.0**
LZH				pP	**pP**	**00 21 32.0**	**+0.3**
LZH				sP	**sP**	**00 21 35.0**	**+0.6**
LZH				PP	**PnPn**	**00 22 57.0**	**+2.8**
LZH				*e*S	**S**	**00 27 18.3**	**+0.8**
LZH				sS	**sS**	**00 27 28.3**	**-0.2**
LZH				SS	**SnSn**	**00 29 56.5**	**-5.6**
LZH				AMB	AMB			
	comp=Z,35nm,1.3s							
LZH				AMB	AMB			
	comp=Z,240nm,5.4s							
LZH				LR	LR			
	comp=Z,1µm,13.8s							
LZH				LR	LR			
	comp=Z,1µm,14.0s							
LZH				LR	LR			
	comp=Z,2µm,16.5s							
STKA	**Stephens Creek**	**38.27**	**151**	*e*P	**P**	**00 21 25.5**	**-0.1**
	comp=Z,5.0nm,1.0s							
STKA	**Stephens Creek**	**38.27**	**151**	P	**P**	**00 21 25.6**	**-0.1**
	comp=Z,21nm,1.0s,baz=320,slow=7.9,SNR=28							
MAJO	**Matsushiro**	**38.65**	**23**	*e*P	**P**	**00 21 26.9**	**-1.9**
MAJO				pmax	pmax			
	comp=Z,25nm,1.3s							
MAJO	**Matsushiro**	**38.65**	**23**	*e*P	**P**	**00 21 26.9**	**-1.9**
	comp=Z,24nm,1.3s							
MAT	**Matsushiro**	**38.65**	**23**	P	**P**	**00 21 27.2**	**-1.6**
MAT				S	**S**	**00 27 21.4**	**-2.9**
MJAR	**Matsushiro Arr**	**38.65**	**23**	P	**P**	**00 21 26.6**	**-2.2**
MJAR	**Matsushiro Arr**	**38.65**	**23**	P	**P**	**00 21 26.6**	**-2.2**
	comp=Z,7.8nm,0.9s,baz=196,slow=8.9,SNR=6.1							
LSA	**Lhasa**	**40.09**	**318**	*e*P	**P**	**00 21 42.1**	**+0.6**
LSA				pmax	pmax			
	comp=Z,61nm,2.1s							
LSA	**Lhasa**	**40.09**	**318**	*e*P	**P**	**00 21 42.1**	**+0.6**
	comp=Z,61nm,2.1s							
HHC	**Hu-ho-hao-te**

comp=Z,87nm,1.6s
DMN Daman 43.21 311 *e*P **P 00 22 06.7 -0.2**
comp=Z,36nm,0.9s
GKN Gorkha 43.77 311 *e*P **P 00 22 11.1 -0.2**
comp=Z,84nm,1.2s
MDJ Mudanjiang 43.92 9 P **P 00 22 12.5 +0.5**
MDJ pP **pP 00 22 15.8 -3.0**
MDJ sP **sP 00 22 17.0 -4.5**
MDJ ScP **ScP 00 27 50.0 +1.5**
MDJ PcS **PcS 00 27 51.5 +0.8**
MDJ S **S 00 28 44.8 +2.5**
MDJ AMB AMB
comp=Z,10.0nm,0.9s
MDJ AMB AMB
comp=Z,91nm,3.5s
MDJ LR LR
comp=Z,490nm,24.2s
MDJ LR LR
comp=Z,290nm,18.7s
MDJ LR LR
comp=Z,700nm,22.5s
MDJ Mudanjiang 43.92 9 *e*P **P 00 22 11.8 -0.3**
comp=Z,30nm,1.0s
USRK Ussuriysk Arra 43.94 11 P **P 00 22 13.1 +0.9**
comp=Z,7.2nm,0.9s,baz=194,slow=7.8,SNR=12
USRK LR LR 00 41 03.2
comp=Z,404nm,18.2s,baz=121,slow=37
KOLN Koldanda 44.44 310 *e*P **P 00 22 16.7 0.0**
comp=Z,34nm,0.8s
DANN Dangsing 44.61 311 *e*P **P 00 22 18.0 -0.2**
comp=Z,103nm,1.0s
PYUN Piuthan 45.08 310 *e*P **P 00 22 21.9 +0.1**
comp=Z,119nm,0.9s
ULN Ulaanbaatar 48.03 347 *e*P **P 00 22 43.7 -0.9**
SONM Songino Array 48.15 347 P **P 00 22 45.7 +0.2**
SONM Songino Array 48.15 347 P **P 00 22 45.7 +0.2**
comp=Z,3.6nm,1.0s,baz=161,slow=8.4,SNR=16
SONA1 Songino Array 48.16 347 *e*P **P 00 22 44.5 -1.0**
HABR Khabarovsk 48.66 12 *e*P **P 00 22 48.8 -0.3**
HABR *e**PP **pP 00 22 58.6 +2.6**
HABR *e**SP **sP 00 23 02.8 +4.1**
HABR *e*S **S 00 29 50.5 +0.4**
HABR *e**SS sS 00 30 07.0 +5.6
HABR *e* 00 32 38.3
HABR *e*SSS SSS 00 34 37.6
HABR pmax pmax
comp=Z,103nm,2.3s
HABR MLR MLR
comp=Z,457nm,20.0s
ZAK Zakamensk 51.27 346 *e*P **P 00 23 09.7 +0.6**
ZAK pmax pmax
comp=Z,3.0nm,1.4s
WMQ Urumqi 51.72 330 *e*P **P 00 23 13.5 +0.9**
WMQ pP **pP 00 23 18.0 -1.5**
WMQ sP **sP 00 23 20.5 -1.7**
WMQ S **S 00 30 33.0 -0.2**
WMQ AMB AMB
comp=Z,11nm,0.6s
WMQ AMB AMB
comp=Z,96nm,3.6s
WMQ LR LR
comp=Z,220nm,22.8s
WMQ LR LR
comp=Z,260nm,23.4s
WMQ LR LR
comp=Z,380nm,24.4s
TLY Talaya 52.38 346 *e*P **P 00 23 17.6 +0.3**
TLY pmax pmax
comp=Z,10.0nm,1.0s
TLY MLR MLR
comp=Z,344nm,18.0s
HVS Khovu-Aksy 54.83 339 *e*P **P 00 23 35.5 +0.1**
HVS pmax pmax
comp=Z,29nm,1.0s
KSH Kashi 55.93 319 P P 00 23 47.3 +3.7
KSH pP pP 00 23 52.3 +1.8
KSH sP sP 00 23 54.8 +1.7
KSH PcP **PcP 00 24 44.5 +2.4**
KSH PP **PP 00 25 51.8 +3.3**
KSH S **S 00 31 33.0 +2.6**
KSH sS sS 00 31 40.5 -1.4
KSH ScS **ScS 00 33 30.5 -1.4**
KSH AMB AMB
comp=Z,10.0nm,1.2s
KSH AMB AMB
comp=Z,130nm,4.3s
KSH LR LR
comp=Z,72nm,4.2s
KSH LR LR
comp=Z,92nm,5.8s
KSH LR LR
comp=Z,140nm,8.8s
MK01 Makanchi Array 56.51 329 *e*P **P 00 23 46.0 -1.5**
MKAR Makanchi Array 56.53 329 P **P 00 23 47.4 -0.2**
MKAR Makanchi Array 56.53 329 P **P 00 23 47.4 -0.2**
MKAR Makanchi Array 56.53 329 P **P 00 23 47.4 -0.2**
comp=Z,3.6nm,0.8s,baz=126,slow=8.0,SNR=24
MKAR LR LR 00 50 01.3
comp=Z,268nm,19.5s,baz=158,slow=38
AAK Ala-Archa 58.51 321 *e*P **P 00 24 00.3 -1.5**
AAK pmax pmax
comp=Z,61nm,2.3s
AAK Ala-Archa 58.51 321 *e*P **P 00 24 00.3 -1.5**
comp=Z,61nm,2.3s
KBL Kabul 58.60 310 *e*P **P 00 24 01.4 -1.2**
KBL pmax pmax
comp=Z,14nm,1.0s
KBL Kabul 58.60 310 *e*P **P 00 24 01.4 -1.2**
comp=Z,14nm,1.0s
PETK Petropavlovsk- 60.05 25 LR LR 00 49 51.3
comp=Z,195nm,19.6s,baz=224,slow=36
ZAA0 Zalesovo Array 60.40 336 *e*P **P 00 24 12.8 -1.5**
ZALV Zalesovo Beam 60.40 336 P **P 00 24 13.5 -0.9**
ZALV Zalesovo Beam 60.40 336 P **P 00 24 13.5 -0.9**
ZALV Zalesovo Beam 60.40 336 P **P 00 24 13.5 -0.9**
comp=Z,6.2nm,0.8s,baz=120,slow=5.8,SNR=22
ZALV LR LR 00 50 48.2
comp=Z,228nm,20.9s,baz=249,slow=36
KURK Kurchatov 60.93 331 *e*P **P 00 24 17.4 -0.7**
KURK pmax pmax
comp=Z,9.0nm,1.0s
KURK Kurchatov 60.93 331 *e*P **P 00 24 17.4 -0.7**
comp=Z,9.3nm,1.0s
KURK Kurchatov 60.93 331 P **P 00 24 18.6 +0.5**
comp=Z,85nm,1.0s,SNR=13
YAK Yakutsk 61.05 5 *e*P **P 00 24 18.2 -0.5**
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=Z,17nm,1.0s
YAK pmax pmax
comp=E,4.0nm,0.7s
NVS Novosibirsk 61.68 336 *e*P **P 00 24 21.8 -1.3**
NVS pmax pmax
comp=Z,20nm,1.9s
RPZ Rata Peaks 63.21 141 *e*P **P 00 24 34.5 +0.9**
comp=Z,44nm,1.0s
BKZ Black Stump Fm 64.75 135 *e*P **P 00 24 43.9 +0.1**
comp=Z,43nm,1.3s
BRVK Borovoye 66.48 329 *e*P **P 00 24 53.8 -0.9**
BRVK pmax pmax
comp=Z,14nm,1.1s
BRVK Borovoye 66.48 329 *e*P **P 00 24 53.8 -0.9**
comp=Z,14nm,1.1s
CASY Casey 67.73 185 *e*P **P 00 25 02.4 +0.1**
comp=Z,12nm,1.1s
DRV Dumont d'Urvil 69.05 172 PP PP 00 27 54.0 +11
DRV S S 00 34 35.0 +21
DRV SS **SS 00 38 47.0 +6.7**
DRV L L 00 42 00.0
DRV R 00 47 00.0
TIXI Tiksi 70.54 3 *e*P **P 00 25 19.3 -0.4**
TIXI pmax pmax
comp=Z,7.0nm,0.8s
AKTO Aktyubinsk 72.13 323 LR LR 00 59 42.7
comp=Z,270nm,21.6s,baz=130,slow=38
SVE Sverdlovsk 73.17 330 *e*P **P 00 25 35.8 0.0**
SVE pmax pmax
comp=Z,35nm,1.6s
ARU Arti 74.06 329 *d iP* **P 00 25 40.0 -1.0**
ARU S **S 00 35 10.8 -1.6**
ARU SS **SS 00 39 54.9 -2.6**
ARU pmax pmax
comp=Z,8.0nm,1.0s
SOKR Solikamsk 76.14 332 *e*P P 00 25 59.2 +6.3
SOKR pmax pmax
comp=Z,20nm,1.8s
MAW Mawson 79.42 199 *e*P **P 00 26 10.0 -0.9**
MAW Mawson 79.42 199 P **P 00 26 09.7 -1.3**
comp=Z,9.9nm,1.0s,baz=55,slow=10,SNR=8.0
KBZ Khabaz 80.54 314 LR LR 01 06 53.5
comp=Z,102nm,20.5s,baz=327,slow=39
KIV Kislovodsk 80.72 314 *e*P P 00 26 24.0 +5.3
KIV *i* S **S 00 36 27.5 +2.1**
KIV pmax pmax
comp=Z,4.0nm,1.0s
VNDA Vanda 81.70 172 *e*P **P 00 26 22.4 -0.8**
VNDA Vanda 81.70 172 P **P 00 26 21.8 -1.4**
comp=Z,6.8nm,0.8s,baz=309,slow=5.5,SNR=30
VRHR Novokhopersk 82.36 321 *e*P **P 00 26 26.2 -0.9**
VRHR pmax pmax
comp=Z,7.0nm,0.5s
VRHR pmax pmax
comp=N,9.0nm,0.6s
VRHR pmax pmax
comp=E,7.0nm,1.0s
SBA Scott Base 82.67 171 *e*P **P 00 26 28.3 +0.1**
SBA pmax pmax
comp=Z,10.0nm,1.1s
SBA Scott Base 82.67 171 *e*P **P 00 26 28.2 +0.1**
comp=Z,10nm,1.1s
KMBO Kilima Mbogo 83.71 269 *e*P **P 00 26 34.2 -1.0**
comp=Z,7.6nm,1.1s
KMBO Kilima Mbogo 83.71 269 P **P 00 26 35.5 +0.4**
comp=Z,4.4nm,1.0s,baz=61,slow=6.4,SNR=8.0
VSR Storozhevoye 83.92 321 *e*P **P 00 26 35.0 -0.1**
VSR pmax pmax
comp=Z,7.0nm,0.5s
VSR pmax pmax
comp=N,4.0nm,0.6s
VSR pmax pmax
comp=E,10.0nm,1.0s
KLMR Klimovskoe 84.78 331 *e*P **P 00 26 38.4 -0.9**
KLMR pmax pmax
comp=Z,59nm,1.9s
OBN Obninsk 85.80 325 *e*P **P 00 26 47.1 +2.6**
OBN *e* 00 30 06.7
OBN *i* S **S 00 37 10.8 -5.4**
OBN *e*SS **SS 00 42 59.9 +6.7**
OBN pmax pmax
comp=Z,11nm,1.0s
BRTR Keskin Array B 87.16 310 P **P 00 26 51.0 -0.8**
BRTR Keskin Array B 87.16 310 P **P 00 26 51.0 -0.8**
comp=Z,2.6nm,1.0s,baz=111,slow=6.8,SNR=6.8
BR231 Keskin MP Arra 87.83 310 *e*P P 00 26 51.3 -3.6
SYO Syowa Base 87.99 201⇑ *e*P **P 00 26 53.4 -1.5**
ILAR Eielson Array 89.87 25 P **P 00 27 04.1 +0.2**
ILAR PKKP **PKKPdf 00 44 36.2 +2.1**
ILAR Eielson Array 89.87 25 P **P 00 27 04.1 +0.2**
comp=Z,0.5nm,1.0s,baz=272,slow=4.5,SNR=3.3
ILAR PKKP **PKKPdf 00 44 36.2 +2.1**
comp=Z,0.6nm,0.9s,baz=95,slow=1.9,SNR=5.9
ILAR LR LR 01 08 14.9
comp=Z,110nm,18.4s,baz=323,slow=36
IL1 Eielson Array 89.87 25 *e*pP pP 00 27 09.6 -1.5
AKASG Malin Array Be 90.18 321 LR LR 01 10 29.6
comp=Z,130nm,21.5s,baz=35,slow=38
ARCES ARCESS Array B 90.80 340 LR LR 01 10 55.3
comp=Z,249nm,20.3s,baz=79,slow=38
QSPA South Pole Qui 91.11 180 *e*P **P 00 27 08.2 -1.5**
comp=Z,8.2nm,1.0s
KOLS Kolonicke sedl 94.81 319 *e*P P 00 27 30.9 +3.8
KOLS Kolonicke sedl 94.81 319 *e*P P 00 27 30.9 +3.8
STHS Stebnicka Huta 95.41 320 *e*P **P 00 27 33.0 +3.2**
STHS pmax pmax
comp=Z,3.0nm,1.2s
STHS Stebnicka Huta 95.41 320 *e*P **P 00 27 33.0 +3.2**
WOFM Oak Flat 113.59 50 *e*Pdif **Pdif 00 28 54.4 +3.0**
TORD Torodi Ar. Bea 118.10 286 PKP **PKPdf 00 32 51.5 -1.7**
TORD Torodi Ar. Bea 118.10 286 PKP **PKPdf 00 32 51.6 -1.7**
comp=Z,1.0nm,0.9s,baz=359,slow=1.7,SNR=5.7
PV10 Paradox Valley 119.52 44 *e*PKPdf **PKPdf 00 32 54.1 -1.6**
TXAR Lajitas Array 127.70 51 PKP **PKPdf 00 33 10.6 -0.9**
TXAR Lajitas Array 127.70 51 PKP **PKPdf 00 33 10.6 -0.9**
comp=Z,0.3nm,0.8s,baz=93,slow=2.5,SNR=3.8
CFAA Coronel Fontan 148.53 165 PKPbc **PKPbc 00 33 52.2 -0.5**
CFAA Coronel Fontan 148.53 165 PKPbc **PKPbc 00 33 52.2 -0.5**
comp=Z,1.8nm,0.8s,baz=205,slow=2.0,SNR=27
CPUP Villa Florida 154.94 184 PKPab **PKPab 00 34 21.3 -1.4**
CPUP Villa Florida 154.94 184 PKPab **PKPab 00 34 21.3 -1.4**
comp=Z,0.9nm,0.5s,baz=84,slow=9.8,SNR=3.0
BDFB Brasilia 161.97 217 PKPab **PKPab 00 34 53.6 +0.1**
BDFB Brasilia 161.97 217 PKPab **PKPab 00 34 53.6 +0.1**
comp=Z,3.7nm,0.8s,baz=74,slow=9.6,SNR=4.1
LPAZ La Paz 162.53 150 PKP **PKPdf 00 34 09.5 +0.6**
LPAZ La Paz 162.53 150 PKP **PKPdf 00 34 09.5 +0.6**
comp=Z,2.1nm,1.0s,baz=24,slow=4.3,SNR=5.7
SIV San Ignacio 165.16 172 PKP **PKPdf 00 34 09.9 -0.7**
SIV PKPab **PKPab 00 35 05.6 -1.7**
SIV San Ignacio 165.16 172 PKP **PKPdf 00 34 09.9 -0.7**
comp=Z,1.3nm,0.8s,baz=243,slow=1.3,SNR=2.7
SIV PKPab **PKPab 00 35 05.6 -1.7**
comp=Z,1.3nm,0.5s,baz=195,slow=4.0,SNR=5.6

PRU 31 00:17:59.4, 49.76N×18.47E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.22**	**290**	*e*PG	Pg	00 18 03.5	-0.2
OKC				*e*SG	Sg	00 18 06.8	+0.2
	3.2nm,0.4s						
DPC	**Dobruska-Polom**	**1.50**	**294**	*e*PG	Pn	00 18 26.9	-0.8
DPC				*e*SG	Sg	00 18 47.4	-0.5

MAN 31 00:31:35, 8.78N×122.59E, h1km, mb4.4, ML3.3, MS3.1, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCPH	**Dipolog City**	**0.78**	**104**⇑	*e*P	Pb	00 31 50.8	-0.6
IPIL	**Ipil**	**0.98**	**181**	*e*P	Pb	00 31 54.8	0.0
IPIL				*e*S	Sg	00 32 01.9	-4.7
PAGZ	**Pagadian**	**1.21**	**140**	*e*P	Pn	00 31 59.5	+0.4
CGP	**Cagayan de Oro**	**2.11**	**99**‖	*e*P	Pg	00 32 24.7	+9.2
CGP				*e*S	Sb	00 32 40.3	-0.4
BUKP	**Musuan**	**2.60**	**110**	*e*P	Pb	00 32 21.5	-1.1
RCP	**Roxas**	**2.77**	**3**‖	*e*P	Pn	00 32 19.3	-1.3
RCP				*e*S	Sn	00 32 50.1	-4.6

*IDC **31** 00:34:13.9±0.9, 56.61S×25.39W, h0km, mb4.1/6, mb1 4.2/7, mb1mx3.9/19, mbtmp4.0/7, ML3.6/1, Error ellipse: s-maj=36.8km s-min=20.5km az=71.0*
*ISCJB **31** 00:34:16.2±0.9, 56.7S±0.1×25.3W±0.4, h29km, mb4.1/7, Error ellipse: s-maj=32.8km s-min=13.1km az=150.4*
*NEIC **31** 00:34:19.1±0.8, 56.68S×25.52W, h35km, mb4.8/3, Error ellipse: s-maj=34.4km s-min=14.9km az=60.0*

ISC 31 00:34:17.8±0.9, 56.7S±0.1×25.4W±0.2, h29km, n25, σ1§25/17, mb4.4/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA2	**Neumayer--Watz**	**16.23**	**159**	*e*Pn	**Pn**	**00 38 00.4**	**-2.9**
	baz=328,slow=14						
SNAA	**Sanae**	**17.76**	**157**	*e*Pn	**P**	**00 38 23.2**	**+0.1**
SNAA	**Sanae**	**17.76**	**157**	*e*P	**Pn**	**00 38 22.2**	**-0.3**
	3.0nm,0.8s						
SNAA	**Sanae**		**17.76**	**157**	P	**Pn**	**00 38 22.1**	**-0.5**
	0.2nm,0.3s,baz=324,slow=14,SNR=16						
QSPA	**South Pole Qui**	**33.55**	**180**	*e*P	**P**	**00 40 55.5**	**+0.6**
	6.1nm,0.5s						
QSPA	**South Pole Qui**	**33.55**	**180**	P	**P**	**00 40 55.7**	**+0.9**
	5.7nm,0.5s						
CFAA	**Coronel Fontan**	**38.71**	**292**	P	**P**	**00 41 37.4**	**-1.7**
CFAA	**Coronel Fontan**	**38.71**	**292**	P	**P**	**00 41 37.4**	**-1.7**
	0.1nm,0.4s,baz=106,slow=7.4,SNR=3.8						
VNDA	**Vanda**	**45.97**	**182**	P	**P**	**00 42 38.5**	**+1.0**
VNDA	**Vanda**	**45.97**	**182**	P	**P**	**00 42 38.5**	**+1.0**
	1.4nm,0.6s,baz=186,slow=8.5,SNR=13						
LVC	**Limon Verde**	**46.47**	**299**	*e*P	**P**	**00 42 43.0**	**+0.6**
	7.6nm,0.6s						
H10S2	**ASCENSION HYDR**	**48.36**	**14**	T	T	01 35 58.2	
	baz=191,slow=0.7						
H10S3	**ASCENSION HYDR**	**48.36**	**14**	T	T	01 35 58.5	
	baz=191						
H10S1	**ASCENSION HYDR**	**48.38**	**14**	T	T	01 35 59.5	
	baz=191,slow=0.7						
H10N1	**ASCENSION HYDR**	**49.48**	**14**	T	T	01 37 20.4	
	baz=193						
H10N3	**ASCENSION HYDR**	**49.48**	**14**	T	T	01 37 22.5	
	baz=193						
H10N2	**ASCENSION HYDR**	**49.49**	**14**	T	T	01 37 23.6	
	baz=193						
LPAZ	**La Paz**	**51.55**	**304**	*e*P	**P**	**00 43 22.6**	**+0.9**
	6.4nm,0.5s						
LPAZ	**La Paz**	**51.55**	**304**	P	**P**	**00 43 23.3**	**+1.6**
	6.2nm,0.5s,baz=148,slow=3.9,SNR=39						
TORD	**Torodi Ar. Bea**	**73.15**	**28**	P	**P**	**00 45 45.4**	**-0.1**
TORD	**Torodi Ar. Bea**	**73.15**	**28**	P	**P**	**00 45 45.4**	**-0.1**
	0.5nm,0.7s,baz=204,slow=6.5,SNR=9.4						
ASAR	**Alice Springs**	**98.07**	**161**	P	Pdif	00 47 54.2	+2.7
ASAR	**Alice Springs**	**98.07**	**161**	P	Pdif	00 47 54.2	+2.7
	0.2nm,0.5s,baz=180,slow=3.6,SNR=3.4						
ILAR	**Eielson Array**	**151.28**	**310**	PKPbc	**PKPbc**	**00 54 07.0**	**+0.2**
ILAR	**Eielson Array**	**151.28**	**310**	PKPbc	**PKPbc**	**00 54 07.0**	**+0.2**
	0.8nm,0.8s,baz=141,slow=2.7,SNR=8.2						

WEL 31 00:36:03.5±0.9, 47.95S×165.60E, h33km, ML4.0/6, 1C, Error ellipse: s-maj=9.6km s-min=6.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**1.93**	**23**	PN	Pn	00 36 32.7	-1.4
PYZ				SN	Sn	00 36 55.7	-1.6
APZ	**The Paps**	**1.97**	**56**	PN	Pn	00 36 33.7	-1.0
APZ				SN	Sn	00 36 57.2	-1.1
WHZ	**Wether Hill Ro**	**2.61**	**39**	PN	Pn	00 36 43.5	0.0
WHZ				AML	AML	00 37 16.1	
WHZ				AML	AML	00 37 16.3	
DCZ	**Deep Cove**	**2.70**	**24**	AML	AML	00 37 23.1	
DCZ				AML	AML	00 37 23.9	
SYZ	**Scrubby Hill**	**2.80**	**61**⇑	PN	Pn	00 36 45.3	-0.6
SYZ				SN	Sn	00 37 16.6	-1.9
MLZ	**Mavora Lakes**	**3.15**	**35**	PN	Pn	00 36 51.1	+0.2
MLZ				AML	AML	00 37 29.4	
MLZ				AML	AML	00 37 30.9	
TUZ	**Tuapeka**	**3.41**	**56**	PN	Pn	00 36 53.7	-0.7
TUZ				AML	AML	00 37 36.5	
EAZ	**Earnscleugh**	**3.73**	**45**	PN	Pn	00 36 58.3	-0.5
EAZ				AML	AML	00 37 43.7	
EAZ				AML	AML	00 37 47.9	
WKZ	**Wanaka**	**3.92**	**38**	PN	Pn	00 37 02.1	+0.6
WKZ				AML	AML	00 37 49.5	
WKZ				AML	AML	00 37 50.6	
ODZ	**Otahua Downs**	**4.54**	**52**	PN	Pn	00 37 07.9	-2.0

*ISCJB **31** 00:42:10.9±0.9, 56.0S±0.1×27.3W±0.4, h112km, mb4.0/6, Error ellipse: s-maj=33.2km s-min=16.8km az=156.1*
*IDC **31** 00:42:11.3±0.8, 56.00S×27.52W, h101km±7km, mb3.8/6, mb1 3.9/7, mb1mx3.7/18, mbtmp3.8/7, Error ellipse: s-maj=31.8km s-min=17.1km az=79.0*

ISC 31 00:42:12.0±0.7, 56.0S±0.1×27.4W±0.2, h112km, n19, σ1§31/16, mb4.0/5, 1C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**18.86**	**156**	P	**P**	**00 46 23.1**	**+0.1**
	1.9nm,0.3s,baz=303,slow=11,SNR=176						
SYO	**Syowa Base**	**31.71**	**141**⇑	*e*P	**P**	**00 48 23.4**	**-1.1**
QSPA	**South Pole Qui**	**34.29**	**180**	P	**P**	**00 48 47.1**	**0.0**
	3.0nm,0.5s						
MAW	**Mawson**	**40.28**	**144**	P	**P**	**00 49 38.3**	**+1.0**
	1.2nm,0.4s,baz=243,slow=9.0,SNR=4.3						
VNDA	**Vanda**	**46.65**	**183**	P	**P**	**00 50 28.9**	**+0.6**
	1.4nm,0.6s,baz=183,slow=6.8,SNR=23						
H10S2	**ASCENSION HYDR**	**47.95**	**17**	T	T	01 42 46.4	
	baz=191						
H10S3	**ASCENSION HYDR**	**47.95**	**17**	T	T	01 42 46.2	
	baz=191						
H10S1	**ASCENSION HYDR**	**47.97**	**17**	T	T	01 42 47.0	
	baz=191						
H10N1	**ASCENSION HYDR**	**49.07**	**17**	T	T	01 44 06.8	
	baz=191						
H10N3	**ASCENSION HYDR**	**49.07**	**17**	T	T	01 44 08.4	
	baz=191						
H10N2	**ASCENSION HYDR**	**49.08**	**17**	T	T	01 44 19.7	
	baz=191						
LPAZ	**La Paz**	**50.24**	**305**	P	**P**	**00 50 57.4**	**+0.1**
	0.4nm,0.4s,baz=158,slow=5.4,SNR=4.1						
TORD	**Torodi Ar. Bea**	**73.03**	**30**	P	**P**	**00 53 30.8**	**+1.3**
	0.4nm,0.5s,baz=196,slow=6.4,SNR=8.5						
TORD				pP	**pP**	**00 53 56.5**	**-1.1**
	0.5nm,0.5s,baz=196,slow=6.6,SNR=3.0						
ASAR	**Alice Springs**	**99.10**	**163**	P	**Pdif**	**00 55 39.8**	**-0.7**
	0.7nm,0.9s,baz=182,slow=4.3,SNR=7.4						
WRA	**Warramunga Arr**	**102.82**	**162**	P	**Pdif**	**00 55 56.4**	**-0.6**
	0.3nm,0.9s,baz=196,slow=4.5,SNR=3.7						
NVAR	**Mina Array Bea**	**121.27**	**293**	PKP	**PKPdf**	**01 00 51.8**	**+0.5**
	0.1nm,0.5s,baz=144,slow=3.4,SNR=3.0						
BVAR	**Borovoye Array**	**134.82**	**58**	PKP	**PKPdf**	**01 01 17.8**	**+1.5**
	0.2nm,0.4s,baz=247,slow=1.5,SNR=2.7						
ILAR	**Eielson Array**	**149.98**	**312**	PKPbc	**PKPbc**	**01 01 47.5**	**-0.2**
	3.7nm,0.7s,baz=130,slow=2.7,SNR=43						
ILAR				pPKPbc	**pPKPbc**	**01 02 15.5**	**-2.4**
	0.9nm,0.8s,baz=125,slow=1.4,SNR=3.3						
SONM	**Songino Array**	**150.82**	**86**	PKPbc	**PKPbc**	**01 01 50.5**	**+0.1**
	3.3nm,0.6s,baz=221,slow=3.8,SNR=24						
SONM				pPKPbc	**pPKPbc**	**01 02 17.7**	**-2.9**
	0.4nm,0.8s,baz=43,slow=6.5,SNR=2.1						

IDC 31 00:45:01.6±2.2, 18.14N×69.65W, h0km, mb3.8/4, mb1 4.2/4, mb1mx3.7/24, mbtmp3.8/4, MS3.5/2, Ms1 3.5/2, ms1mx2.8/41, Error ellipse: s-maj=84.8km s-min=26.0km az=66.0, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**16.75**	**244**	LR	LR	00 54 51.4	
	comp=Z,45nm,19.9s,baz=332,slow=35						
TXAR	**Lajitas Array**	**32.96**	**296**	P	P	00 51 38.1	-0.2
	0.6nm,0.8s,baz=112,slow=12,SNR=7.4						
LPAZ	**La Paz**	**34.24**	**177**	P	P	00 51 50.0	-0.2
	2.5nm,0.3s,baz=8.8,slow=19,SNR=21						
NVAR	**Mina Array Bea**	**46.77**	**306**	P	P	00 53 33.2	0.0
	0.3nm,0.6s,baz=102,slow=11,SNR=3.4						
ILAR	**Eielson Array**	**68.31**	**333**	P	P	00 56 04.3	0.0
	0.6nm,0.8s,baz=94,slow=5.3,SNR=6.7						
TORD	**Torodi Ar. Bea**	**68.52**	**83**	LR	LR	01 21 00.4	
	comp=Z,99nm,19.5s,baz=115,slow=32						

IDC 31 01:06:56.1±1.2, 4.63N×76.04W, h133km±10km, mb3.5/17, mb1 3.7/20, mb1mx3.6/27, mbtmp3.5/20, MS2.6/2, Ms1 2.6/2, ms1mx2.5/24, Error ellipse: s-maj=15.5km s-min=10.7km az=59.0, Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**1.71**	**82**	P	Pn	01 07 26.6	-0.8
	42nm,0.3s,baz=336,slow=2.5,SNR=42						
ROSC				S	Sn	01 07 51.6	+0.4
	31nm,0.3s,baz=93,slow=23,SNR=45						
JTS	**JuntasAbangare**	**10.48**	**303**	P	Pn	01 09 23.0	+0.2
	0.5nm,0.3s,baz=105,slow=20,SNR=2.7						
JTS				LR	LR	01 13 11.4	
	comp=Z,49nm,18.7s,baz=0.5,slow=36						
ATAH	**Atahualpa**	**11.92**	**191**	P	Pn	01 09 42.4	-0.1
	0.6nm,0.3s,baz=93,slow=18,SNR=4.6						
NNA	**Nana**	**16.53**	**183**	P	P	01 10 40.8	+0.3
	0.4nm,0.3s,baz=225,slow=7.1,SNR=2.2						
APG	**El Apazote**	**17.55**	**307**	P	P	01 10 49.4	-2.6
	baz=145,slow=16,SNR=2.1						
LPAZ	**La Paz**	**22.20**	**160**	P	P	01 11 42.0	-0.7
	1.3nm,0.5s,baz=350,slow=8.9,SNR=9.5						
SIV	**San Ignacio**	**25.28**	**144**	P	P	01 12 08.9	-1.4
	6.1nm,0.7s,baz=330,slow=10.0,SNR=16						
BDFB	**Brasilia**	**34.28**	**127**	P	P	01 13 29.6	-0.4
	1.5nm,0.4s,baz=252,slow=9.6,SNR=4.1						
CPUP	**Villa Florida**	**35.72**	**150**	P	P	01 13 40.6	-1.4
	1.1nm,0.5s,baz=302,slow=10,SNR=4.9						
TXAR	**Lajitas Array**	**35.89**	**316**	P	P	01 13 43.5	-0.1
	0.4nm,0.7s,baz=136,slow=11,SNR=4.3						
CFAA	**Coronel Fontan**	**36.79**	**169**	LR	LR	01 29 53.1	
	comp=Z,6.6nm,22.0s,baz=354,slow=37						
ANMO	**Albuquerque**	**41.25**	**321**	P	P	01 14 28.4	-0.1
	0.9nm,0.7s,baz=184,slow=7.8,SNR=4.4						
PLCA	**Paso Flores**	**45.42**	**174**	P	P	01 15 02.4	+0.8
	3.6nm,0.9s,baz=354,slow=7.3,SNR=3.8						
PDAR	**Pinedale Array**	**48.23**	**327**	P	P	01 15 23.6	-0.1

0.3nm,0.6s,baz=132,slow=12,SNR=3.6
SCHQ Schefferville 50.60 7 P P 01 15 39.4 -1.8
5.7nm,1.1s,baz=180,slow=8.1,SNR=3.9
NVAR Mina Array Bea 51.03 317 P P 01 15 44.1 -0.8
0.7nm,0.8s,baz=131,slow=6.6,SNR=6.0
NVAR PcP PcP 01 16 59.7 +0.7
0.3nm,0.5s,baz=138,slow=4.3,SNR=4.1
YKA Yellowknife Ar 64.35 341 P P 01 17 16.5 -0.8
0.7nm,0.6s,baz=131,slow=6.2,SNR=4.8
DBIC Dimbokro 70.81 85 P P 01 17 59.2 +0.4
3.3nm,0.8s,baz=247,slow=6.0,SNR=3.9
ESDC Sonseca Array 73.28 50 P P 01 18 13.3 +0.2
0.2nm,0.4s,baz=270,slow=6.0,SNR=5.1
TORD Torodi Ar. Bea 77.03 78 P P 01 18 35.4 +0.4
1.1nm,0.4s,baz=282,slow=6.1,SNR=53
ILAR Eielson Array 77.73 336 P P 01 18 38.2 +0.2
0.3nm,1.0s,baz=101,slow=4.7,SNR=4.5
GERES GERESS Array B 86.38 41 P P 01 19 24.1 +0.6
0.2nm,0.4s,baz=286,slow=7.0,SNR=3.0
SNAA Sanae 89.13 162 P P 01 19 37.2 +1.1
0.2nm,0.6s,baz=315,slow=11,SNR=7.2
ASAR Alice Springs 145.48 234 PKPbc PKPdf 01 26 19.2 -0.1
1.3nm,0.4s,baz=119,slow=3.8,SNR=22
ASAR pPKPbc pPKPbc 01 26 45.9 -9.0
0.6nm,0.7s,baz=121,slow=3.7,SNR=4.0
ASAR sPKPbc sPKPbc 01 26 57.5 -11
0.6nm,0.6s,baz=134,slow=3.7,SNR=3.5
WRA Warramunga Arr 146.74 240 PKPbc PKPbc 01 26 23.4 0.0
0.5nm,0.5s,baz=107,slow=3.0,SNR=13

IDC 31 01:25:52.7±12.0, 13°13S×170°94E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/20, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=231.5km s-min=51.9km az=86.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	9.87	205	Pn	Pn	01 28 18.1	+2.0
	0.9nm,0.3s,baz=38,slow=19,SNR=7.7						
DZM				Sn	Sn	01 30 07.1	-0.7
	0.2nm,0.3s,baz=139,slow=20,SNR=2.3						
STKA	Stephens Creek	32.75	230	P	P	01 32 26.1	-1.4
	0.6nm,0.7s,baz=66,slow=12,SNR=3.0						
WRA	Warramunga Arr	35.68	254	P	P	01 32 53.7	+0.5
	0.6nm,1.0s,baz=83,slow=7.2,SNR=5.2						
ASAR	Alice Springs	36.57	248	P	P	01 33 00.6	-0.2
	0.7nm,0.5s,baz=76,slow=8.8,SNR=11						

IDC 31 01:31:35.2±2.8, 15°64S×173°12W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.5/22, mbtmp3.6/3, ML1.8/1, Error ellipse: s-maj=142.4km s-min=27.0km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	2.16	37	Pn	Pn	01 32 10.3	-2.2
	16nm,0.3s,baz=216,slow=8.7,SNR=9.7						
AFI				Sn	Sn	01 32 29.9	-10
	68nm,0.3s,baz=237,slow=18,SNR=13						
H11S2	WAKE ISLAND Hy	39.31	329	T	T	02 19 59.6	
	baz=152,slow=0.7,SNR=7.7						
H11S3	WAKE ISLAND Hy	39.32	329	T	T	02 19 54.1	
	baz=152,slow=0.7,SNR=5.6						
H11S1	WAKE ISLAND Hy	39.33	329	T	T	02 19 57.2	
	baz=152,slow=0.7,SNR=5.0						
H11N3	WAKE ISLAND Hy	40.25	330	T	T	02 21 17.6	
	baz=157						
H11N1	WAKE ISLAND Hy	40.26	330	T	T	02 21 25.0	
	baz=157						
H11N2	WAKE ISLAND Hy	40.27	330	T	T	02 21 16.3	
	baz=157						
WRA	Warramunga Arr	50.05	257	P	P	01 40 31.0	-1.1
	0.4nm,1.0s,baz=93,slow=7.2,SNR=2.6						
ASAR	Alice Springs	50.29	252	P	P	01 40 33.4	-0.6
	1.1nm,0.7s,baz=86,slow=7.9,SNR=9.3						
GERES	GERESS Array B	146.42	352	PKPbc	PKPab	01 51 18.9	-0.3
	0.4nm,0.7s,baz=357,slow=4.2,SNR=4.2						
BRTR	Keskin Array B	146.51	321	PKPbc	PKPab	01 51 20.0	0.0
	0.9nm,0.8s,baz=324,slow=26,SNR=3.2						
TORD	Torodi Ar. Bea	174.40	116	PKP	PKPdf	01 51 47.2	-0.7
	0.5nm,1.1s,baz=224,slow=1.1,SNR=2.5						

IDC 31 01:34:37.0±25.0, 19°80S×178°75W, h544km±246km, mb2.8/3, mb1 3.1/3, mb1mx2.8/18, mbtmp2.8/3, Error ellipse: s-maj=285.4km s-min=78.5km az=136.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	43.99	256	P	P	01 41 56.4	-0.2
	0.8nm,0.6s,baz=96,slow=7.5,SNR=6.6						
WRA	Warramunga Arr	44.00	261	P	P	01 41 56.5	-0.1
	0.8nm,0.8s,baz=96,slow=7.5,SNR=20						
ILAR	Eielson Array	87.79	13	P	P	01 46 27.9	+0.1
	0.2nm,0.3s,baz=212,slow=5.4,SNR=4.9						
GERES	GERESS Array B	149.34	344	PKPbc	PKPbc	01 53 24.1	-0.5
	0.2nm,0.5s,baz=20,slow=3.1,SNR=3.3						

*IDC **31** 01:38:01.8±1.4, 51°.76N×174°.33W, h0km, mb3.5/5, mb1 3.9/6, mb1mx3.6/28, mbtmp3.5/6, Error ellipse: s-maj=71.6km s-min=24.2km az=151.0*
*NEIC **31** 01:38:10.9, 51°.75N×174°.18W, h10km, ML3.5(AEIC), After AEIC.*
*ISCJB **31** 01:38:11.1±0.6, 52°.0N±0°.2×174°.3W±0°.1, h86km±9km, mb3.4/5, Error ellipse: s-maj=40.9km s-min=6.3km az=165.0*

ISC 31 01:38:12.0±1.4, 51°9N±0°.3×174°30W±0°09, h79km±16km, n34, σ0°93/32, mb3.6/5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSMY	Great Sitkin M	1.09	276	P	Pn	01 38 31.1	-0.9
GSMY				S	Sn	01 38 47.2	0.0
GSTR	Great Sitkin T	1.10	279	P	Pn	01 38 31.8	-0.4
GSTD	Great Sitkin T	1.15	277	P	Pn	01 38 32.1	-0.7
GSTD				S	Sn	01 38 48.6	+0.2
GSCK	Great Sitkin C	1.16	275	P	Pn	01 38 32.0	-0.8
GSCK				S	Sn	01 38 47.9	-0.6
ETKA	Kagalaska Isla	1.31	268	P	Pn	01 38 34.2	-0.5
ETKA				S	Sn	01 38 52.4	+0.5
ADAG	Mount Adagdak	1.43	273	P	Pn	01 38 36.6	+0.3
ADK	Adak	1.48	269	P	Pn	01 38 36.2	-0.8
ADK				S	Sn	01 38 56.8	+1.0
KIRH	Kanaga Island	1.73	270	P	Pn	01 38 40.6	+0.3
KIRH				S	Sn	01 39 04.5	+2.7
KINC	Kanaga Island	1.75	271	P	Pn	01 38 40.3	-0.2
KIKV	Kanaga Island	1.78	269	P	Pn	01 38 41.2	+0.2
KIKV				S	Sn	01 39 05.4	+2.5
TAPA	Tanaga Point A	2.18	268	P	Pn	01 38 46.4	+0.1
TAFP	Tanaga Falls P	2.28	271	P	Pn	01 38 47.8	+0.2
TASE	Tanaga Southea	2.32	269	P	Pn	01 38 48.3	+0.1
GANE	Gareloi Northe	2.78	269	P	Pn	01 38 54.7	+0.4
NIKH	Nikolski High	3.49	71	P	Pn	01 39 03.4	-0.4
OKSP	Okmok Steeple	3.89	68	P	Pn	01 39 10.0	+0.6
OKCE	Okmok Cone E	4.02	66	P	Pn	01 39 12.9	+1.8
OKTU	Okmok Mt. Tuli	4.08	67	P	Pn	01 39 12.0	+0.2
UNV	Unalaska Valle	5.09	65	P	Pn	01 39 25.5	-0.2
ILAR	Eielson Array	19.08	37	P	P	01 42 27.4	-0.5
	0.2nm,0.3s,baz=219,slow=9.4,SNR=24						
H11N2	WAKE ISLAND Hy	35.35	212	T	T	02 22 40.9	
	baz=22						
H11N3	WAKE ISLAND Hy	35.36	212	T	T	02 22 42.1	
	baz=22						
H11N1	WAKE ISLAND Hy	35.37	212	T	T	02 22 40.9	
	baz=22						
H11S1	WAKE ISLAND Hy	36.56	211	T	T	02 24 10.5	
	baz=17						
H11S2	WAKE ISLAND Hy	36.57	211	T	T	02 24 11.9	
	baz=17						
H11S3	WAKE ISLAND Hy	36.57	211	T	T	02 24 11.7	
	baz=17						
NVAR	Mina Array Bea	40.71	87	P	P	01 45 45.1	+0.2
	0.4nm,0.7s,baz=306,slow=7.7,SNR=3.5						
PDAR	Pinedale Array	43.46	76	P	P	01 46 06.8	-0.4
	0.4nm,0.4s,baz=312,slow=1.5,SNR=5.7						
TXAR	Lajitas Array	55.80	85	P	P	01 47 40.3	-0.6
	0.4nm,0.5s,baz=272,slow=4.3,SNR=5.6						
WRA	Warramunga Arr	84.41	228	P	P	01 50 34.7	-0.8
	0.1nm,0.4s,baz=33,slow=5.9,SNR=5.4						
ASAR	Alice Springs	87.84	226	P	P	01 50 52.8	+0.4
	0.3nm,0.5s,baz=28,slow=5.0,SNR=3.5						
H03N2 Juan Fernandez 118.63 108 T T 04 06 58.2
baz=315
H03N1 Juan Fernandez 118.64 108 T T 04 06 59.2
baz=315
H03N3 Juan Fernandez 118.64 108 T T 04 06 59.4
baz=315

IDC 31 01:48:30.2±2.0, 21°.57N×143°.49E, h301km±19km, mb3.1/7, mb1 3.2/8, mb1mx3.0/26, mbtmp3.2/8, Error ellipse: s-maj=65.1km s-min=13.5km az=78.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	Chichijima	5.63	348	P	Pn	01 49 57.0	+1.8
	14nm,0.3s,baz=149,slow=13,SNR=19						
JCJ				S	S	01 51 02.2	-1.3
	3.5nm,0.3s,baz=198,slow=19,SNR=3.6						
KSRS	Korea Array	20.79	323	P	P	01 52 48.9	0.0
	1.4nm,0.6s,baz=144,slow=8.0,SNR=4.3						
WRA	Warramunga Arr	42.21	193	P	P	01 55 54.2	-0.2
	0.2nm,0.3s,baz=16,slow=9.4,SNR=15						
STKA	Stephens Creek	53.17	182	P	P	01 57 17.6	-0.2
	0.5nm,0.4s,baz=0.0,slow=13,SNR=3.1						
ZALV	Zalesovo Beam	54.49	322	P	P	01 57 27.0	-0.1
	0.5nm,0.4s,baz=111,slow=8.2,SNR=3.4						
MKAR	Makanchi Array	55.00	313	P	P	01 57 31.2	+0.2
	0.3nm,0.4s,baz=88,slow=8.5,SNR=3.8						
ARCES	ARCESS Array B	79.14	342	P	P	02 00 02.0	+0.6
	4.2nm,1.0s,baz=74,slow=8.3,SNR=7.9						
FINES	FINESS Array B	83.42	335	P	P	02 00 23.0	-0.9
	1.3nm,0.8s,baz=80,slow=4.7,SNR=7.9						

IDC 31 01:54:41.5±7.0, 7°51S×129°09E, h287km±59km, mb1 3.1/3, mb1mx2.8/20, mbtmp2.8/3, Error ellipse: s-maj=84.1km s-min=44.7km az=58.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	11.05	197	P	Pn	01 57 12.3	-0.3
	0.2nm,0.3s,baz=15,slow=9.8,SNR=14						
FITZ				S	S	01 59 29.3	+13
	0.1nm,0.3s,baz=174,slow=16,SNR=2.0						
WRA	Warramunga Arr	13.37	158	P	Pn	01 57 41.0	+0.1
	0.4nm,0.3s,baz=333,slow=13,SNR=24						
WRA				S	S	02 00 14.1	+5.1
	0.1nm,0.3s,baz=341,slow=21,SNR=3.8						
ASAR	Alice Springs	16.72	164	P	P	01 58 17.8	-0.3
	0.2nm,0.3s,baz=344,slow=11,SNR=16						
ASAR				S	S	02 01 15.5	-2.5
	0.1nm,0.3s,baz=346,slow=22,SNR=3.4						
LPAZ	La Paz	150.85	144	PKPbc	PKPbc	02 14 01.7	-0.1
	1.6nm,0.3s,baz=295,slow=6.6,SNR=7.6						

*IDC **31** 02:32:31.5±10.0, 13°.55N×90°.08W, h0km, mb3.1/2, mb1 3.7/2, mb1mx3.4/22, mbtmp3.2/2, Error ellipse: s-maj=794.5km s-min=70.2km az=63.0*
*ISCJB **31** 02:32:38.9±1.2, 13°.5N±0°.1×90°.65W±0°.05, h38km, mb3.4/1, Error ellipse: s-maj=17.1km s-min=6.3km az=14.6*
*CASC **31** 02:32:40.0±1.1, 13°.59N×90°.56W, h27km±4km, MD3.5, ML4.1*

ISC 31 02:32:39.6±1.3, 13°5N±0°.1×90°62W±0°06, h38km, n18, σ0°58/21, 1C-6D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCG	Pacaya	0.87	1	eP	Pn	02 32 55.4	-0.1
FUG	Fuego 3	0.95	347	eP	Pn	02 32 56.2	-0.3
RTR	El Retiro	1.02	68	↓iP	Pn	02 32 57.6	+0.1
RTR				eS	Sn	02 33 10.7	+0.1
SBLS	San Blas	1.02	72	↓eP	Pn	02 32 57.4	-0.2
SBLS				eS	Sn	02 33 10.8	0.0
SNJE	San Jose	1.05	71	↓iP	Pn	02 32 57.8	-0.1
RBDL	Robledal	1.08	57	↓iP	Pn	02 32 58.3	0.0
NBG	Las Nubes	1.09	14	↓eP	Pn	02 32 59.5	+0.9
JAT	Jato	1.27	309	↓eP	Pn	02 33 01.6	+0.9
BOQS	Boqueron	1.32	81	eP	Pn	02 33 01.9	+0.2
SNET	Serv Nac Est T	1.36	83	eP	Pn	02 33 02.4	+0.3
SNET				eS	Sn	02 33 19.5	+0.6
SNET				AML	AML	02 33 21.7	
	comp=Z,4μm,0.2s						
LFU	La Fuente	1.48	81	eP	Pn	02 33 04.2	+0.4
LFRS	El Faro	1.52	86	eP	Pn	02 33 04.8	+0.5
LBRS	Las Brisas	1.55	82	eP	Pn	02 33 05.3	+0.6
SNVI	San Vicente	1.74	87	eP	Pn	02 33 08.1	+0.8
MRL	Marmol	1.78	30	↓eP	Pn	02 33 08.6	+0.7
TXAR	Lajitas Array	19.85	325	P	P	02 37 07.5	0.0
	comp=Z,0.2nm,0.3s,baz=142,slow=12,SNR=9.2						
NVAR	Mina Array Bea	34.89	320	P	P	02 39 27.7	0.0
	comp=Z,0.3nm,0.6s,baz=130,slow=8.3,SNR=4.1						
WRA	Warramunga Arr	136.57	255	PKP	PKPdf	02 51 57.1	-1.4
	comp=Z,0.3nm,0.7s,baz=93,slow=3.6,SNR=3.6						

WEL 31 02:38:31.4±0.3, 38°45S×178°27E, h40km±4km, ML3.7/4, 1C, Error ellipse: s-maj=2.7km s-min=1.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	Puketiti	0.38	359	↑P	Pn	02 38 40.2	-0.3
PUZ				SN	Sn	02 38 47.5	+0.5
PUZ				AML	AML	02 38 48.7	
RIGZ	Rimuhau	0.47	237	PN	Pn	02 38 40.9	-0.9
RIGZ				SN	Sn	02 38 49.3	+0.3
PRGZ	Paritu Road	0.56	212	PN	Pn	02 38 42.4	-0.5
PRGZ				SN	Sn	02 38 52.1	+0.9
MWZ	Matawai	0.59	281	PN	Pn	02 38 42.2	-1.2
MWZ				SN	Sn	02 38 50.6	-1.4
MWZ				AML	AML	02 38 50.8	
KNZ	Kokohu	0.73	219	PN	Pn	02 38 44.2	-1.0
KNZ				SN	Sn	02 38 55.4	+0.1
MHGZ	Mahia Peninsul	0.76	202	PN	Pn	02 38 45.2	-0.4
SNGZ	Shannon Statio	0.80	245	PN	Pn	02 38 45.4	-0.8
SNGZ				SN	Sn	02 38 57.7	+0.8
MXZ	Matakaoa Point	0.89	2	PN	Pn	02 38 48.2	+0.9
MXZ				AML	AML	02 39 03.3	
MXZ				AML	AML	02 39 03.4	
URZ	Urewera	0.93	282	PN	Pn	02 38 47.4	-0.5
URZ				SN	Sn	02 38 59.4	-0.6
URZ				AML	AML	02 39 00.6	
RAHZ	Arahi	1.03	243	PN	Pn	02 38 49.0	-0.4
EDRZ	Edgecumbe	1.25	285	PN	Pn	02 38 52.3	-0.1
NMHZ	Naumai	1.31	240	PN	Pn	02 38 53.6	+0.4
MARZ	Manawahe	1.34	290	PN	Pn	02 38 53.6	0.0
RRRZ	Republican Roa	1.38	274	PN	Pn	02 38 54.0	-0.2
TARZ	Mount Tarawera	1.40	278	PN	Pn	02 38 54.6	0.0
PRRZ	Plateau Road	1.47	268	PN	Pn	02 38 55.3	-0.1
OPRZ	Ohinepanea	1.48	294	PN	Pn	02 38 54.7	-0.8
ALRZ	Allen Road	1.51	265	PN	Pn	02 38 56.1	+0.2
BKZ	Black Stump Fm	1.56	242	PN	Pn	02 38 56.9	+0.2
MCHZ	McNeill Hill	1.57	230	PN	Pn	02 38 56.9	+0.1
KAHZ	Kahuranaki	1.72	218	PN	Pn	02 38 57.4	-1.5
BHHZ	Black Hill Sta	2.00	238	PN	Pn	02 39 02.1	-0.7
MOVZ	Moawhango	2.18	243	PN	Pn	02 39 05.7	+0.5
PRHZ	Porangahau	2.21	214	PN	Pn	02 39 03.0	-2.5
WHVZ	Whangaehu Hut	2.25	248	PN	Pn	02 39 06.1	-0.3
WNVZ	Wahianoa	2.26	246	PN	Pn	02 39 06.6	+0.2
FWVZ	Far West T-bar	2.27	248	PN	Pn	02 39 07.1	+0.5
TSZ	Takapari Road	2.40	227	PN	Pn	02 39 06.4	-1.8
WAZ	Wanganui	2.87	242	PN	Pn	02 39 14.4	-0.2
MRZ	Mangatainoka R	3.03	222	PN	Pn	02 39 14.4	-2.4
HOWZ	Holdsworth Sta	3.24	220	PN	Pn	02 39 16.9	-2.8
OGWZ	Otaki Gorge	3.36	224	PN	Pn	02 39 19.1	-2.3
MTW	Mount Morrison	3.44	217	PN	Pn	02 39 19.0	-3.5
KIW	Kapiti Island	3.54	226	PN	Pn	02 39 20.8	-2.9
CAW	Cannon Point	3.62	222	PN	Pn	02 39 21.6	-3.3
PAWZ	Paruwai Farm	3.65	216	PN	Pn	02 39 21.2	-4.1
PLWZ	Palliser	3.88	216	PN	Pn	02 39 24.3	-4.2

WEL 31 02:46:20.1±0.3, 38°03S×176°28E, h160km±2km, ML4.3/19, 15C-3D, Error ellipse: s-maj=1.8km s-min=1.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARZ	Mount Tarawera	0.27	139	PN	Pn	02 46 42.0	+0.2
TARZ				SN	Sn	02 46 59.1	+0.7
OPRZ	Ohinepanea	0.28	49	↓PN	Pn	02 46 41.5	-0.2
OPRZ				SN	Sn	02 46 58.2	+0.1
RRRZ	Republican Roa	0.36	149	PN	Pn	02 46 41.8	-0.1
RRRZ				SN	Sn	02 46 58.5	-0.3
EDRZ	Edgecumbe	0.37	102	PN	Pn	02 46 41.9	-0.1
PRRZ	Plateau Road	0.47	170	PN	Pn	02 46 42.3	-0.1
ALRZ	Allen Road	0.53	175	↓PN	Pn	02 46 42.9	+0.3
TLZ	Tolley Road	0.66	243	PN	Pn	02 46 43.7	+0.3
TOZ	Tahuroa Road	0.69	296	PN	Pn	02 46 43.4	-0.1
URZ	Urewera	0.69	109	↑PN	Pn	02 46 43.0	-0.5
URZ				AML	AML	02 47 01.0	
URZ				AML	AML	02 47 01.0	
RATZ	Rangitukua	0.93	206	PN	Pn	02 46 45.4	+0.2
MWZ	Matawai	1.02	107	AML	AML	02 47 06.4	
MWZ				AML	AML	02 47 08.8	
RAHZ	Arahi	1.08	145	PN	Pn	02 46 46.7	+0.2
RAHZ				SN	Sn	02 47 06.7	-0.1
SNGZ	Shannon Statio	1.12	132	PN	Pn	02 46 46.9	+0.1
SNGZ				SN	Sn	02 47 06.6	-0.7
NMHZ	Naumai	1.14	159	PN	Pn	02 46 47.6	+0.6
BKZ	Black Stump Fm	1.14	172	PN	Pn	02 46 46.8	-0.2
BKZ				SN	Sn	02 47 06.1	-1.7
BKZ				AML	AML	02 47 07.1	
KRVZ	Karewarewa	1.18	205	↑PN	Pn	02 46 47.4	0.0
WTVZ	West Tongariro	1.21	206	PN	Pn	02 46 47.5	-0.2
HIZ	Hauiti	1.22	246	PN	Pn	02 46 47.9	+0.2
OTVZ	Oturere	1.23	203	PN	Pn	02 46 48.1	+0.2
TWVZ	Taurewa	1.23	212	↑PN	Pn	02 46 48.0	+0.1
NGZ	Ngauruhoe	1.26	205	PN	Pn	02 46 48.1	-0.1
MKAZ	Moumakai	1.28	316	PN	Pn	02 46 48.6	+0.4
WHHZ	Waihua	1.28	145	PN	Pn	02 46 48.4	+0.2
WPVZ	Whakapapa	1.31	206	PN	Pn	02 46 48.6	0.0
TUVZ	Tukino	1.33	202	PN	Pn	02 46 48.9	0.0
RIGZ	Rimuhau	1.34	120	↑PN	Pn	02 46 48.9	+0.1
FWVZ	Far West T-bar	1.35	205	PN	Pn	02 46 48.7	-0.5
WHVZ	Whangaehu Hut	1.36	203	PN	Pn	02 46 48.9	-0.4
DRZ	Dome Shelter	1.36	204	PN	Pn	02 46 49.5	+0.1
WNVZ	Wahianoa	1.40	202	↑PN	Pn	02 46 49.5	-0.1
MOVZ	Moawhango	1.43	197	PN	Pn	02 46 49.3	-0.5
MCHZ	McNeill Hill	1.45	167	PN	Pn	02 46 50.2	+0.4
PKVZ	Pokaka	1.46	210	PN	Pn	02 46 49.9	0.0
BHHZ	Black Hill Sta	1.46	187	↑PN	Pn	02 46 49.7	-0.4
KNZ	Kokohu	1.47	133	↑PN	Pn	02 46 49.9	-0.1
PRGZ	Paritu Road	1.54	126	PN	Pn	02 46 50.7	0.0
PUZ	Puketiti	1.56	92	↓PN	Pn	02 46 50.4	-0.6
PUZ				AML	AML	02 47 15.4	
PUZ				AML	AML	02 47 15.4	
MXZ	Matakaoa Point	1.67	74	PN	Pn	02 46 51.8	-0.3
MXZ				AML	AML	02 47 17.9	
MXZ				AML	AML	02 47 17.9	
MXZ				AML	AML	02 47 19.7	
MXZ				AML	AML	02 47 19.7	
MHGZ	Mahia Peninsul	1.69	132	PN	Pn	02 46 52.5	+0.1
CKHZ	Cape Kidnapper	1.74	159	PN	Pn	02 46 52.9	+0.1
KAHZ	Kahuranaki	1.82	165	↑PN	Pn	02 46 53.7	0.0
PNHZ	Pukenui	1.88	182	PN	Pn	02 46 53.7	-0.8
WAZ	Wanganui	2.00	210	PN	Pn	02 46 55.4	-0.3
WPHZ	Waipukurau	2.03	177	↑PN	Pn	02 46 55.4	-0.7
TSZ	Takapari Road	2.04	187	PN	Pn	02 46 55.3	-0.9
TSZ				AML	AML	02 47 22.3	
TSZ				AML	AML	02 47 27.6	
PXZ	Pawanui	2.05	167	PN	Pn	02 46 55.7	-0.5
PXZ				AML	AML	02 47 22.9	
PXZ				AML	AML	02 47 22.9	
PXZ				AML	AML	02 47 22.9	
PXZ				AML	AML	02 47 22.9	
PRHZ	Porangahau	2.25	173	↑PN	Pn	02 46 57.8	-0.8
DVHZ	Dannevirke	2.27	182	↑PN	Pn	02 46 57.5	-1.2
POWZ	Post Office Ro	2.39	189	PN	Pn	02 46 59.0	-1.3
ANWZ	Angora Road	2.43	177	PN	Pn	02 46 59.9	-0.8
ANWZ				SN	Sn	02 47 29.6	-2.7
PRWZ	Pori Road	2.53	185	PN	Pn	02 47 00.8	-1.2
MRZ	Mangatainoka R	2.68	192	↑PN	Pn	02 47 02.0	-1.8
MRZ				AML	AML	02 47 36.0	
MRZ				AML	AML	02 47 36.5	
TIWZ	Tintock	2.76	186	PN	Pn	02 47 03.2	-1.6
CPWZ	Castlepoint	2.87	181	PN	Pn	02 47 05.1	-1.1
OGWZ	Otaki Gorge	2.91	197	PN	Pn	02 47 04.7	-1.9
HOWZ	Holdsworth Sta	2.92	192	↑PN	Pn	02 47 04.7	-2.2
KIW	Kapiti Island	3.02	200	PN	Pn	02 47 05.9	-2.1
KIW				AML	AML	02 47 43.2	
KIW				AML	AML	02 47 43.6	
TMWZ	Te Maipa	3.09	186	PN	Pn	02 47 06.7	-2.2
MTW	Mount Morrison	3.18	191	↑PN	Pn	02 47 07.5	-2.5
MTW				AML	AML	02 47 45.2	
MTW				AML	AML	02 47 46.4	
CAW	Cannon Point	3.21	197	PN	Pn	02 47 08.1	-2.3
CAW				AML	AML	02 47 46.9	
CAW				AML	AML	02 47 48.5	
DUWZ	D'Urville Isla	3.32	213	PN	Pn	02 47 09.6	-2.2
TRWZ	Traveller	3.39	188	PN	Pn	02 47 10.2	-2.5
TRWZ				AML	AML	02 47 50.4	
TRWZ				AML	AML	02 47 52.0	
PAWZ	Paruwai Farm	3.41	191	↑PN	Pn	02 47 10.2	-2.8
PAWZ				AML	AML	02 47 50.5	
PAWZ				AML	AML	02 47 51.4	
WEL	Wellington	3.45	199	PN	Pn	02 47 10.9	-2.5
MSWZ	Moikau Station	3.47	193	PN	Pn	02 47 10.9	-2.9
MSWZ				AML	AML	02 47 52.4	
MSWZ				AML	AML	02 47 52.5	
SNZO	South Karori	3.49	200	PN	Pn	02 47 11.2	-2.7
SNZO				AML	AML	02 47 53.1	
TCW	Tory Channel	3.53	205	PN	Pn	02 47 11.9	-2.6
TCW				AML	AML	02 47 53.7	
TCW				AML	AML	02 47 54.0	
PLWZ	Palliser	3.62	192	PN	Pn	02 47 12.6	-3.1
TUWZ	Tuamarina	3.84	207	PN	Pn	02 47 15.5	-3.0
TUWZ				AML	A

JNA	**Nagahama**	**0.82**	**19**	⇑P		**Pn**	**02 52 00.3**	**-0.3**
JNA				*e*S		**Sn**	**02 52 11.3**	**-0.2**
JKU	**Kubokawa**	**0.92**	**55**	⇑P		**Pn**	**02 52 01.8**	**-0.2**
JKU				*e*S		**Sn**	**02 52 13.8**	**-0.2**
JNU	**Nakatsue**	**1.13**	**288**	Pn		**Pn**	**02 52 05.7**	**+0.7**
	362nm,0.3s,baz=80,slow=9.6,SNR=1546							
JNU				Sn		**Sn**	**02 52 20.5**	**+1.2**
	372nm,0.3s,baz=18,slow=20,SNR=45							
JIU2	**Izumi 2**	**1.16**	**259**	⇑P		**Pn**	**02 52 05.8**	**+0.5**
JIU2				S		**Sn**	**02 52 21.5**	**+1.5**
JTZ	**Takazaki**	**1.27**	**226**	P		**Pn**	**02 52 07.1**	**+0.4**
KSRS	**Korea Array**	**5.81**	**324**	Pn		**Pn**	**02 53 09.7**	**+0.5**
	0.4nm,0.3s,baz=146,slow=14,SNR=4.4							
KSRS				Sn		**Sn**	**02 54 15.5**	**+1.0**
	0.8nm,0.3s,baz=142,slow=24,SNR=3.7							
KSRS				Lg		Lg	02 54 52.9	
	0.4nm,0.3s,baz=143,slow=30,SNR=4.0							
KSRS				LR		LR	02 55 38.6	
	comp=Z,123nm,20.6s,baz=150,slow=40							
MAT	**Matsushiro**	**6.23**	**51**	P		**Pn**	**02 53 16.1**	**+1.1**
MAT				S		**Sn**	**02 54 25.8**	**+0.9**
MJAR	**Matsushiro Arr**	**6.23**	**51**	Pn		**Pn**	**02 53 16.6**	**+1.6**
	3.5nm,0.3s,baz=253,slow=21,SNR=18							
SONM	**Songino Array**	**24.59**	**315**	P		**P**	**02 57 02.0**	**0.0**
	0.8nm,0.8s,baz=138,slow=13,SNR=2.6							
SONM				LR		LR	03 06 50.3	
	comp=Z,71nm,18.5s,baz=298,slow=37							
H11N2	**WAKE ISLAND Hy**	**33.59**	**104**	T		T	03 33 18.1	
	baz=302,slow=0.7,SNR=5.2							
H11N1	**WAKE ISLAND Hy**	**33.60**	**104**	T		T	03 33 18.1	
	baz=302,slow=0.7,SNR=4.3							
H11N3	**WAKE ISLAND Hy**	**33.61**	**104**	T		T	03 33 23.5	
	baz=302,slow=0.7,SNR=1.9							
ZALV	**Zalesovo Beam**	**39.46**	**317**	LR		LR	03 16 31.8	
	comp=Z,59nm,18.6s,baz=70,slow=38							
MKAR	**Makanchi Array**	**40.13**	**305**	P		**P**	**02 59 16.7**	**-0.9**
	0.4nm,0.8s,baz=87,slow=13,SNR=2.7							
WRA	**Warramunga Arr**	**52.47**	**177**	P		**P**	**03 00 53.4**	**-1.1**
	1.7nm,0.9s,baz=349,slow=7.5,SNR=8.1							
ASAR	**Alice Springs**	**56.16**	**178**	P		**P**	**03 01 20.9**	**-0.4**
	0.8nm,0.7s,baz=8.8,slow=7.0,SNR=9.6							
ILAR	**Eielson Array**	**57.06**	**30**	P		**P**	**03 01 26.6**	**-0.7**
	0.5nm,0.7s,baz=264,slow=6.4,SNR=8.7							
STKA	**Stephens Creek**	**64.93**	**171**	P		**P**	**03 02 21.3**	**+0.3**
	0.3nm,0.3s,baz=5.5,slow=6.5,SNR=4.9							
NVAR	**Mina Array Bea**	**83.55**	**48**	P		**P**	**03 04 11.1**	**+1.2**
	0.6nm,0.8s,baz=283,slow=4.5,SNR=5.4							

*ISCJB **31** 03:04:15.4±0.4,51°.49N±0°.06×175°.92W±0°.04,h47km, mb4.0/27,MS3.8/3,Error ellipse: s-maj=8.3km s-min=3.3km az=175.4*
*NEIC **31** 03:04:16.5,51°.49N×176°.04W,h7km,mb4.0/3, ML4.1(AEIC),After AEIC.*
*IDC **31** 03:04:17.8±3.0,51°.65N×175°.96W,h56km±25km,mb3.8/24, mb1 3.9/27,mb1mx3.8/37,mbtmp3.7/27,ML4.0/3,MS3.5/2, Ms1 3.6/2,ms1mx2.8/44,Error ellipse: s-maj=19.1km s-min=11.1km az=169.0*

ISC 31 03:04:17.1±0.5,51°.56N±0°.08×175°.93W±0°.04,h47km, n111,σ1§35/113,mb4.1/27,MS4.2/3,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ETKA	**Kagalaska Isla**	**0.42**	**316**	P	**Pn**	**03 04 26.3**	**-1.0**
GSCK	**Great Sitkin C**	**0.48**	**342**	P	**Pn**	**03 04 27.5**	**-0.4**
GSMY	**Great Sitkin M**	**0.49**	**351**	P	**Pn**	**03 04 27.7**	**-0.4**
GSTD	**Great Sitkin T**	**0.52**	**345**	P	**Pn**	**03 04 28.1**	**-0.3**
GSTR	**Great Sitkin T**	**0.54**	**352**	*e*Pg	**Pn**	**03 04 28.6**	**-0.2**
ADK	**Adak**	**0.57**	**305**	P	**Pn**	**03 04 26.9**	**-2.1**
ADK				S	**Sn**	**03 04 36.2**	**-1.4**
ADAG	**Mount Adagdak**	**0.59**	**316**	P	**Pn**	**03 04 29.2**	**-0.1**
KIRH	**Kanaga Island**	**0.80**	**296**	P	**Pn**	**03 04 31.2**	**-0.9**
KINC	**Kanaga Island**	**0.83**	**297**	P	**Pn**	**03 04 31.6**	**-0.9**
KIKV	**Kanaga Island**	**0.84**	**293**	P	**Pn**	**03 04 31.5**	**-1.1**
KICM	**Kanaga Island**	**0.87**	**295**	P	**Pn**	**03 04 32.0**	**-0.9**
TAPA	**Tanaga Point A**	**1.20**	**283**	P	**Pn**	**03 04 36.5**	**-1.0**
TAFP	**Tanaga Falls P**	**1.32**	**286**	P	**Pn**	**03 04 38.5**	**-0.6**
TASE	**Tanaga Southea**	**1.34**	**283**	P	**Pn**	**03 04 38.9**	**-0.5**
TANO	**Tanaga North**	**1.41**	**286**	P	**Pn**	**03 04 40.1**	**-0.2**
TANO				S	**Sn**	**03 05 00.4**	**+2.8**
GAEA	**Gareloi East**	**1.77**	**278**	P	**Pn**	**03 04 45.1**	**-0.1**
GALAA	**Gareloi Lava P**	**1.78**	**278**	P	**Pn**	**03 04 45.3**	**0.0**
GANE	**Gareloi Northe**	**1.79**	**279**	P	**Pn**	**03 04 45.4**	**-0.1**
CERAA	**Semis' Rag'd T**	**2.75**	**279**	P	**Pn**	**03 04 58.1**	**-0.5**
CERAA				S	**Sn**	**03 05 32.6**	**+2.0**
CESW	**Semis' Southwe**	**2.82**	**279**	P	**Pn**	**03 04 58.9**	**-0.8**
AMKA	**Amchitka**	**2.99**	**268**	P	**Pn**	**03 05 01.0**	**-0.9**
LSPA	**Little Sitkin**	**3.44**	**279**	P	**Pn**	**03 05 08.5**	**+0.4**
LSNW	**Little Sitkin**	**3.48**	**279**	P	**Pn**	**03 05 09.0**	**+0.5**
LSSA	**Little Sitkin**	**3.48**	**279**	P	**Pn**	**03 05 09.0**	**+0.4**
NIKH	**Nikolski High**	**4.57**	**69**	P	**Pn**	**03 05 24.1**	**+0.5**
NIKH				S	**Sn**	**03 06 16.4**	**+0.9**
OKSP	**Okmok Steeple**	**4.97**	**67**	P	**Pn**	**03 05 31.5**	**+2.3**
OKTU	**Okmok Mt. Tuli**	**5.16**	**66**	P	**Pn**	**03 05 34.0**	**+2.3**
MSOM	**Makushin Julie**	**5.91**	**64**	P	**Pn**	**03 05 43.8**	**+1.8**
UNV	**Unalaska Valle**	**6.17**	**65**	P	**Pn**	**03 05 47.5**	**+2.0**
SPIA	**Saint Paul Isl**	**6.54**	**28**	P	**Pn**	**03 05 52.7**	**+2.2**
ZRO	**Akutan Zero**	**6.54**	**63**	P	**Pn**	**03 05 53.1**	**+2.4**
FX1	**Attu Island--F**	**6.83**	**285**	P	**Pn**	**03 05 55.0**	**+0.4**
FX1				S	**Sn**	**03 07 13.3**	**+2.4**
FX1	**Attu Island--F**	**6.83**	**285**	P	**Pn**	**03 05 55.0**	**+0.4**
	4.8nm,0.3s,baz=256,slow=8.8,SNR=14						
FX1				S	**Sn**	**03 07 13.3**	**+2.4**
	1.2nm,0.3s,baz=68,slow=19,SNR=2.8						
PETK	**Petropavlovsk-**	**16.16**	**286**	P	**Pn**	**03 08 01.6**	**+0.8**
PETK	**Petropavlovsk-**	**16.16**	**286**	P	**Pn**	**03 08 01.6**	**+0.8**
	0.6nm,0.3s,baz=124,slow=7.2,SNR=3.7						
PPLA	**Purkeypile**	**17.02**	**39**	*e*Pn	**P**	**03 08 15.3**	**+2.4**
TRF	**Thorofare Moun**	**18.05**	**39**	*e*Pn	**Pn**	**03 08 26.6**	**+2.3**
	2.4nm,0.3s						
IMA2	**Indian Mountai**	**18.39**	**29**	*e*P	**P**	**03 08 27.4**	**-0.4**
ILAR	**Eielson Array**	**19.99**	**37**	P	**P**	**03 08 43.4**	**-1.9**
ILAR	**Eielson Array**	**19.99**	**37**	P	**P**	**03 08 43.4**	**-1.9**
	0.7nm,0.3s,baz=232,slow=10,SNR=27						
DOT	**Dot Lake**	**20.66**	**42**	*e*P	Pn	03 08 55.4	+0.1
	6.6nm,0.6s						
EGAK	**Eagle**	**22.24**	**40**	*e*P	**P**	**03 09 09.6**	**+0.1**
	6.8nm,0.9s						
INK	**Inuvik**	**26.29**	**34**	P	**P**	**03 09 46.1**	**-1.5**
INK				PcP	**PcP**	**03 13 12.6**	**+0.1**
INK	**Inuvik**	**26.29**	**34**	P	**P**	**03 09 46.1**	**-1.5**
	0.6nm,0.3s,baz=252,slow=6.4,SNR=14						
INK				PcP	**PcP**	**03 13 12.6**	**+0.1**
	0.7nm,0.5s,baz=187,slow=0.4,SNR=6.4						
YKA	**Yellowknife Ar**	**33.80**	**47**	P	**P**	**03 10 52.3**	**-1.9**
YKA	**Yellowknife Ar**	**33.80**	**47**	P	**P**	**03 10 52.3**	**-1.9**
	1.2nm,0.7s,baz=280,slow=9.0,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	**34.51**	**209**	T	T	03 47 30.7	
	baz=20,slow=0.7,SNR=293						
H11N3	**WAKE ISLAND Hy**	**34.52**	**209**	T	T	03 47 45.7	
	baz=20,slow=0.7,SNR=264						
H11N1	**WAKE ISLAND Hy**	**34.53**	**209**	T	T	03 47 39.2	
	baz=20,slow=0.7,SNR=262						
USRK	**Ussuriysk Arra**	**35.05**	**279**	P	**P**	**03 11 04.0**	**-1.1**
	2.6nm,0.6s,baz=48,slow=11,SNR=8.7						
H11S1	**WAKE ISLAND Hy**	**35.72**	**209**	T	T	03 49 11.8	
	baz=19,slow=0.7,SNR=133						
H11S2	**WAKE ISLAND Hy**	**35.74**	**209**	T	T	03 49 18.9	
	baz=19,slow=0.7,SNR=83						
H11S3	**WAKE ISLAND Hy**	**35.74**	**209**	T	T	03 49 12.6	
	baz=19,slow=0.7,SNR=38						
YBH	**Yreka Blue Hor**	**37.08**	**84**	P	**P**	**03 11 21.4**	**-1.2**
YBH	**Yreka Blue Hor**	**37.08**	**84**	P	**P**	**03 11 21.4**	**-1.2**
	0.4nm,0.7s,baz=148,slow=9.5,SNR=1.7						
NEW	**Newport**	**37.13**	**71**	P	**P**	**03 11 23.4**	**+0.5**
NEW	**Newport**	**37.13**	**71**	P	**P**	**03 11 23.4**	**+0.5**
	1.0nm,0.5s,baz=291,slow=1.4,SNR=3.9						
CN2	**Changchun**	**39.27**	**282**	*e*P	**P**	**03 11 43.0**	**+2.1**
KSRS	**Korea Array**	**41.43**	**273**	P	**P**	**03 11 58.1**	**-0.7**
	1.3nm,0.7s,baz=58,slow=11,SNR=3.1						
KSRS				LR	LR	03 29 04.8	
	comp=Z,19nm,19.6s,baz=80,slow=36						
KSAR	**Wonju Array Be**	**41.46**	**273**	P	**P**	**03 11 58.0**	**-1.0**
NVAR	**Mina Array Bea**	**41.75**	**85**	P	**P**	03 12 05.2	+3.6
NVAR	**Mina Array Bea**	**41.75**	**85**	P	P	03 12 05.2	+3.6
	0.4nm,0.8s,baz=294,slow=8.8,SNR=2.8						
PDAR	**Pinedale Array**	**44.54**	**74**	P	**P**	**03 12 24.9**	**+0.7**
PDAR	**Pinedale Array**	**44.54**	**74**	P	**P**	**03 12 24.9**	**+0.7**
	1.0nm,0.5s,baz=306,slow=2.5,SNR=8.8						
SONM	**Songino Array**	**48.16**	**298**	P	**P**	**03 12 50.0**	**-2.4**
SONM				PcP	**PcP**	**03 14 18.6**	**-0.5**
SONM	**Songino Array**	**48.16**	**298**	P	**P**	**03 12 50.0**	**-2.4**
	0.4nm,0.4s,baz=70,slow=8.3,SNR=2.1						
SONM				PcP	**PcP**	**03 14 18.6**	**-0.5**
	1.6nm,0.8s,baz=58,slow=3.2,SNR=6.6						
HHC	**Hu-ho-hao-te**	**49.36**	**288**	*e*P	**P**	**03 13 04.5**	**+2.9**
HHC				sP	sP	03 13 11.5	-8.5
HHC				PcP	**PcP**	**03 14 28.3**	**+4.7**
HHC				PP	**PP**	**03 14 59.0**	**+3.3**
HHC				S	**S**	**03 20 07.8**	**+2.9**
HHC				sS	sS	03 20 15.8	-11
HHC	**Hu-ho-hao-te**	**49.36**	**288**	SS	SS	03 23 36.5	0.0
HHC				AMB	AMB		
	comp=Z,25nm,1.0s						
HHC				AMB	AMB		
	comp=Z,280nm,5.8s						
HHC				LR	LR		
	comp=N,120nm,15.8s						
HHC				LR	LR		
	comp=E,220nm,16.6s						
HHC				LR	LR		
	comp=Z,130nm,15.0s						
SPITS	**Spitsbergen Ar**	**50.31**	**357**	P	**P**	**03 13 08.2**	**-0.1**
SPITS	**Spitsbergen Ar**	**50.31**	**357**	P	**P**	**03 13 08.2**	**-0.1**
	comp=Z,8.4nm,0.9s,baz=38,slow=9.7,SNR=5.7						
ZALV	**Zalesovo Beam**	**55.20**	**315**	PcP	**PcP**	**03 14 44.9**	**-0.2**
ZALV	**Zalesovo Beam**	**55.20**	**315**	PcP	**PcP**	**03 14 44.9**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=35,slow=5.4,SNR=5.1						
TXAR	**Lajitas Array**	**56.85**	**83**	P	**P**	**03 13 57.2**	**+0.3**
TXAR	**Lajitas Array**	**56.85**	**83**	P	**P**	**03 13 57.2**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=301,slow=4.4,SNR=6.4						
ARCES	**ARCESS Array B**	**58.20**	**351**	P	**P**	**03 14 05.9**	**+0.1**
ARCES	**ARCESS Array B**	**58.20**	**351**	P	**P**	**03 14 05.9**	**+0.1**
	comp=Z,3.2nm,1.0s,baz=0.0,slow=9.0,SNR=3.7						
KURK	**Kurchatov**	**60.18**	**315**	P	**P**	**03 14 19.5**	**-0.1**
KURBB	**Kurchatov Arra**	**60.28**	**315**	P	**P**	**03 14 19.5**	**-0.9**
	comp=Z,1.3nm,0.3s,baz=38,slow=5.9,SNR=4.4						
MKAR	**Makanchi Array**	**61.31**	**310**	P	**P**	**03 14 25.6**	**-1.9**
MKAR	**Makanchi Array**	**61.31**	**310**	P	**P**	**03 14 25.6**	**-1.9**
	comp=Z,0.9nm,0.4s,baz=48,slow=5.6,SNR=17						
BVAR	**Borovoye Array**	**61.89**	**321**	P	**P**	**03 14 31.2**	**0.0**
BVAR				PcP	**PcP**	**03 15 11.6**	**-0.1**
BVAR	**Borovoye Array**	**61.89**	**321**	P	**P**	**03 14 31.2**	**0.0**
	comp=Z,2.0nm,0.4s,baz=51,slow=5.8,SNR=9.9						
BVAR				PcP	**PcP**	**03 15 11.6**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=66,slow=3.5,SNR=3.4						
FINES	**FINESS Array B**	**65.98**	**349**	P	**P**	**03 14 56.9**	**-1.0**
FINES	**FINESS Array B**	**65.98**	**349**	P	**P**	**03 14 56.9**	**-1.0**
	comp=Z,1.8nm,0.9s,baz=23,slow=8.2,SNR=2.5						
NOA	**NORSAR Array B**	**67.61**	**356**	P	**P**	**03 15 09.1**	**+0.8**
NOA	**NORSAR Array B**	**67.61**	**356**	P	**P**	**03 15 09.1**	**+0.8**
	comp=Z,1.0nm,0.9s,baz=5.1,slow=6.8,SNR=2.9						
HFS	**Hagfors**	**68.39**	**355**	P	**P**	**03 15 12.3**	**-0.9**
HFS	**Hagfors**	**68.39**	**355**	P	**P**	**03 15 12.3**	**-0.9**
	comp=Z,1.5nm,0.8s,baz=17,slow=1.5,SNR=5.4						
AKTO	**Aktyubinsk**	**68.55**	**326**	P	**P**	**03 15 12.6**	**-1.9**
AKTO	**Aktyubinsk**	**68.55**	**326**	P	**P**	**03 15 12.6**	**-1.9**
	comp=Z,1.3nm,0.6s,baz=45,slow=8.6,SNR=7.1						
CMAR	**Chiang Mai Arr**	**72.77**	**278**	P	**P**	**03 15 41.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**72.77**	**278**	P	**P**	**03 15 41.0**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=20,slow=7.4,SNR=5.3						
WRA	**Warramunga Arr**	**83.41**	**226**	P	**P**	**03 16 38.2**	**-1.0**
WRA	**Warramunga Arr**	**83.41**	**226**	P	**P**	**03 16 38.2**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=32,slow=6.1,SNR=4.8						
BRTR	**Keskin Array B**	**85.50**	**338**	P	**P**	**03 16 48.8**	**-1.1**
BRTR	**Keskin Array B**	**85.50**	**338**	P	**P**	**03 16 48.8**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=22,slow=8.1,SNR=2.5						
FITZ	**Fitzroy Crossi**	**86.01**	**234**	P	**P**	**03 16 52.2**	**-0.2**
FITZ	**Fitzroy Crossi**	**86.01**	**234**	P	**P**	**03 16 52.2**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=53,slow=2.1,SNR=6.1						
ASAR	**Alice Springs**	**86.86**	**225**	P	**P**	**03 16 56.3**	**-0.1**
ASAR	**Alice Springs**	**86.86**	**225**	P	**P**	**03 16 56.3**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=30,slow=6.4,SNR=6.8						
STKA	**Stephens Creek**	**91.08**	**215**	P	**P**	**03 17 16.2**	**+0.2**
STKA	**Stephens Creek**	**91.08**	**215**	P	**P**	**03 17 16.2**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=332,slow=4.0,SNR=4.2						
STKA				LR	LR	03 53 17.9	
	comp=Z,83nm,18.5s,baz=25,slow=32						
TORD	**Torodi Ar. Bea**	**115.53**	**3**	PKP	**PKPdf**	**03 22 53.0**	**-0.9**
TORD	**Torodi Ar. Bea**	**115.53**	**3**	PKP	**PKPdf**	**03 22 53.0**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=343,slow=2.4,SNR=14						
H03N2	**Juan Fernandez**	**119.48**	**108**	T	T	05 34 03.9	
	baz=315,slow=0.7,SNR=23						
H03N1	**Juan Fernandez**	**119.49**	**108**	T	T	05 34 23.2	
	baz=315,slow=0.7,SNR=28						
H03N3	**Juan Fernandez**	**119.49**	**108**	T	T	05 34 05.1	
	baz=315,slow=0.7,SNR=23						
MAW	**Mawson**	**147.72**	**218**	PKPbc	**PKPbc**	**03 23 54.7**	**-0.3**
MAW	**Mawson**	**147.72**	**218**	PKPbc	**PKPbc**	**03 23 54.7**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=326,slow=7.3,SNR=3.3						
BOSA	**Boshof**	**152.12**	**317**	PKPbc	**PKPbc**	**03 24 06.8**	**-0.3**
BOSA	**Boshof**	**152.12**	**317**	PKPbc	**PKPbc**	**03 24 06.8**	**-0.3**
	comp=Z,2.6nm,0.6s,baz=4.7,slow=3.0,SNR=9.0						

*IDC **31** 03:08:05.0±1.1,3°.86N×126°.73E,h0km,mb3.8/9, mb1 3.9/9,mb1mx3.8/26,mbtmp3.8/9,MS2.9/1,Ms1 2.9/1, ms1mx2.1/33,Error ellipse: s-maj=105.8km s-min=14.8km az=70.0*
*ISCJB **31** 03:08:09.8±0.5,3°.7N±0°.1×126°.4E±0°.2,h45km,mb4.0/17, Error ellipse: s-maj=36.0km s-min=9.0km az=153.7*
*NEIC **31** 03:08:10.6±0.4,3°.76N×126°.48E,h35km,mb4.3/8,Error ellipse: s-maj=25.4km s-min=6.4km az=64.0*

ISC 31 03:08:11.6±0.8,3°.8N±0°.1×126°.6E±0°.3,h45km,n27, σ0§65/26,mb4.1/17,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**11.11**	**218**	LR	LR	03 15 02.7	
	comp=Z,58nm,20.0s,baz=236,slow=37						
FITZ	**Fitzroy Crossi**	**21.79**	**182**	P	**P**	**03 12 59.2**	**-0.6**
FITZ	**Fitzroy Crossi**	**21.79**	**182**	P	**P**	**03 12 59.2**	**-0.6**
	1.4nm,0.6s,baz=360,slow=8.8,SNR=7.8						
PMG	**Port Moresby**	**24.34**	**123**	*e*P	**P**	**03 13 26.4**	**+0.9**
	20nm,1.1s						
WRAB	**Tennant Creek**	**24.79**	**162**	*e*P	**P**	**03 13 29.6**	**+0.1**
	5.7nm,0.9s						
WRA	**Warramunga Arr**	**24.80**	**162**	P	**P**	**03 13 28.3**	**-1.3**
WRA	**Warramunga Arr**	**24.80**	**162**	P	**P**	**03 13 28.3**	**-1.3**
	2.8nm,0.7s,baz=342,slow=10,SNR=14						
ASAR	**Alice Springs**	**28.22**	**166**	P	**P**	**03 14 00.9**	**+0.5**
ASAR	**Alice Springs**	**28.22**	**166**	P	**P**	**03 14 00.9**	**+0.5**
	0.2nm,0.4s,baz=348,slow=7.1,SNR=4.6						
STKA	**Stephens Creek**	**38.25**	**159**	P	**P**	**03 15 26.9**	**-0.7**
STKA	**Stephens Creek**	**38.25**	**159**	P	**P**	**03 15 26.9**	**-0.7**
	1.2nm,0.7s,baz=344,slow=7.4,SNR=3.4						
SONM	**Songino Array**	**47.18**	**342**	P	**P**	**03 16 39.4**	**-0.5**
SONM	**Songino Array**	**47.18**	**342**	P	**P**	**03 16 39.4**	**-0.5**
	0.5nm,0.7s,baz=155,slow=4.8,SNR=3.5						
MK31	**Makanchi Array**	**57.41**	**325**	*e*P	**P**	**03 17 55.4**	**-0.4**
MKAR	**Makanchi Array**	**57.41**	**325**	P	**P**	**03 17 55.4**	**-0.4**
MKAR	**Makanchi Array**	**57.41**	**325**	P	**P**	**03 17 55.4**	**-0.4**
	0.7nm,0.5s,baz=120,slow=8.2,SNR=11						
TKM2	**Tokmak 2**	**59.59**	**319**	*e*P	**P**	**03 18 11.2**	**0.0**
	1.8nm,0.8s						
AAK	**Ala-Archa**	**60.20**	**318**	*e*P	**P**	**03 18 14.4**	**-1.0**
	1.8nm,0.9s						
EKS2	**Erkin-Say**	**60.70**	**318**	*e*P	**P**	**03 18 19.0**	**+0.3**
	1.7nm,0.8s						
KURBB	**Kurchatov Arra**	**61.60**	**327**	P	**P**	**03 18 25.0**	**+0.6**
	0.9nm,0.5s,baz=129,slow=6.4,SNR=9.1						
KURK	**Kurchatov**	**61.60**	**328**	*e*P	**P**	**03 18 24.6**	**+0.1**
	1.4nm,0.5s						
BVAR	**Borovoye Array**	**67.18**	**327**	P	**P**	**03 19 00.9**	**-0.1**
BVAR	**Borovoye Array**	**67.18**	**327**	P	**P**	**03 19 00.9**	**-0.1**
	0.5nm,0.6s,baz=145,slow=10,SNR=3.1						
BRVK	**Borovoye**	**67.25**	**327**	*e*P	**P**	**03 19 01.1**	**-0.3**
	2.6nm,0.7s						
ABKAR	**Akbulak array**	**72.00**	**321**	*e*P	**P**	**03 19 31.7**	**+0.9**
	0.6nm,0.5s						
FINES	**FINESS Array B**	**91.70**	**332**	P	**P**	**03 21 14.4**	**+0.4**
FINES	**FINESS Array B**	**91.70**	**332**	P	**P**	**03 21 14.4**	**+0.4**
	3.1nm,1.1s,baz=56,slow=3.5,SNR=3.1						

KRSC 31 03:32:49.8±7.7,49°.17N×155°.95E,h5km±5km,ML4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.52**	**4**	P	Pn	03 33 17.9	+0.3
SKR				*i* S	Sg	03 33 38.4	-0.2
PAU	**Pauzhetka**	**2.37**	**13**	P	Pn	03 33 30.3	+1.1
PAU				*i* S	Sn	03 33 59.7	+1.1
MTVR	**Mutnovka**	**3.61**	**22**	P	Pn	03 33 47.6	+1.1
MTVR				*i* S	Sn	03 34 29.3	-0.3
RUS	**Russkaya**	**3.65**	**25**	P	Pn	03 33 47.6	+0.7
RUS				*i* S	Sn	03 34 29.5	-0.8
SMAR	**Somma**	**4.47**	**23**	P	Pn	03 34 00.9	+2.4
KRX	**Arik**	**4.52**	**21**	P	Pn	03 34 01.5	+2.4

*IDC **31** 03:53:26.8±3.2,29°.99N×132°.48E,h0km,mb3.4/3, mb1 3.5/4,mb1mx3.3/26,mbtmp3.4/4,ML3.1/1,Error ellipse: s-maj=158.7km s-min=20.8km az=69.0*
*ISCJB **31** 03:53:30.3±2.1,29°.86N±0°.04×131°.87E±0°.08, h33km±18km,mb3.4/3,Error ellipse: s-maj=11.6km s-min=6.0km az=2.4*
*JMA **31** 03:53:30.5±0.1,29°.88N×131°.89E,h60km±4km,M3.3*

ISC 31 03:53:30.9±3.8,29°.87N±0°.05×131°.8E±0°.1,h25km±27km, n14,σ0§67/22,mb3.5/3,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTN	**Tanegashima 3**	**1.06**	**318**	P	**Pn**	**03 53 50.0**	**-0.2**
JTN				S	**Sn**	**03 54 04.7**	**+0.5**
JTSR	**Tashiro 2**	**1.50**	**330**	P	**Pn**	**03 53 55.9**	**-0.4**
JTSR				S	**Sn**	**03 54 14.6**	**-0.5**
JKC	**Kuchinoerabu**	**1.52**	**293**	P	**Pn**	**03 53 57.2**	**+0.7**
JKC				S	**Sb**	**03 54 17.2**	**+0.1**
JNN	**Nakanoshima**	**1.68**	**269**	P	**Pn**	**03 53 59.3**	**+0.5**
JNAR	**Kushima--Naru**	**1.71**	**344**	P	**Pn**	**03 53 58.9**	**-0.3**
JNAR				S	**Sn**	**03 54 19.7**	**-0.6**
JTZ	**Takazaki**	**2.12**	**343**	P	**Pn**	**03 54 04.5**	**-0.2**
JTZ				S	**Sn**	**03 54 29.5**	**-0.8**
JAM	**Amami Oshima**	**2.42**	**233**	P	**Pn**	**03 54 08.6**	**-0.3**
JAM				S	**Sn**	**03 54 36.9**	**-0.7**
JSJ	**Shimokoshiki**	**2.55**	**316**	P	**Pn**	**03 54 10.1**	**-0.6**
JSJ				S	**Sn**	**03 54 40.3**	**-0.6**
JIU2	**Izumi 2**	**2.80**	**343**	P	**Pn**	**03 54 14.1**	**0.0**
JIU2				S	**Sn**	**03 54 46.5**	**-0.6**
JAMN	**Amaminishikomi**	**2.82**	**235**	P	**Pn**	**03 54 14.3**	**-0.1**
JNU	**Nakatsue**	**3.33**	**346**	Pn	**Pn**	**03 54 22.1**	**+0.6**
	2.8nm,0.3s,baz=138,slow=12,SNR=19						
JNU				Sn	**Sn**	**03 55 01.9**	**+1.4**
	4.5nm,0.3s,baz=190,slow=14,SNR=14						
MKAR	**Makanchi Array**	**41.63**	**308**	P	P	04 01 19.6	+2.5
	0.9nm,0.9s,baz=89,slow=10,SNR=3.3						
WRA	**Warramunga Arr**	**49.59**	**177**	P	**P**	**04 02 19.6**	**-0.5**
	0.4nm,0.8s,baz=355,slow=7.9,SNR=2.9						
ASAR	**Alice Springs**	**53.27**	**178**	P	**P**	**04 02 48.8**	**+1.0**
	0.3nm,0.7s,baz=9.3,slow=13,SNR=3.9						

**MEX 31 04:15:09.8±0.8,15°.45N×92°.96W,h116km±6km,MD3.8, Mexico-

66nm,1.0s
CRAI Chiangrai 23.89 357 P P 04 49 32.9 -0.1
8.3nm,0.9s,892nm
MBWA Marble Bar 24.53 136 *e*P **P 04 49 39.2 +0.4**
12nm,1.1s
FITZ Fitzroy Crossi 27.31 123 *e*P **P 04 50 03.9 -0.1**
6.4nm,0.8s
FITZ Fitzroy Crossi 27.31 123 P **P 04 50 04.2 +0.1**
1.5nm,0.7s,baz=330,slow=6.4,SNR=2.3
FITZ LR LR 05 00 22.7
comp=Z,58nm,19.5s,baz=285,slow=35
H08S2 Diego Garcia H 29.44 261 T T 05 20 23.3
baz=84,slow=0.7,SNR=91
H08S3 Diego Garcia H 29.45 261 T T 05 20 29.1
baz=84,slow=0.7,SNR=64
H08S1 Diego Carcia H 29.46 261 T T 05 20 22.0
baz=84,slow=0.7,SNR=32
H01W3 Cape Leeuwin H 32.99 161 T T 05 25 10.6
baz=338,slow=0.7,SNR=13
H01W2 Cape Leeuwin H 33.01 161 T T 05 25 06.1
baz=338,slow=0.7,SNR=16
H01W1 Cape Leeuwin H 33.01 161 T T 05 25 04.8
baz=338,slow=0.7,SNR=15
ODAN Odare 33.50 336 *e*P **P 04 50 59.0 +0.1**
50nm,0.8s
TAPN Taplejung 33.81 337 *e*P **P 04 51 02.2 +0.6**
104nm,0.9s
RAMN Ramite 33.90 335 *e*P **P 04 51 03.0 +0.6**
13nm,0.4s
ENH Enshi 34.63 12 *e*P **P 04 51 07.3 -1.1**
7.7nm,0.6s
JIRN Jiri 34.70 335 *e*P **P 04 51 10.1 +0.7**
66nm,0.8s
LSA Lhasa 34.82 344 *e*P **P 04 51 10.3 -0.3**
4.3nm,0.4s
PKI Pulchoki 34.96 334 *e*P **P 04 51 11.6 0.0**
5.8nm,0.3s
PKIN Phulchoki 34.97 334 *e*P **P 04 51 11.6 0.0**
8.1nm,0.4s
GUN Gumba 35.05 335 *e*P **P 04 51 13.0 +0.6**
56nm,0.5s
DMN Daman 35.12 334 *e*P **P 04 51 13.6 +0.7**
KKN Kakani 35.20 334 *e*P **P 04 51 13.7 +0.1**
17nm,0.5s
WRA Warramunga Arr 35.53 120 P **P 04 51 15.4 -0.9**
WRA Warramunga Arr 35.53 120 P **P 04 51 15.4 -0.9**
1.1nm,0.4s,baz=298,slow=11,SNR=39
WRA LR LR 05 08 24.3
comp=Z,53nm,18.2s,baz=120,slow=41
WRAB Tennant Creek 35.53 120 *e*P **P 04 51 16.4 +0.1**
6.9nm,0.7s
GKN Gorkha 35.67 333 *e*P **P 04 51 17.9 +0.4**
16nm,0.3s
KOLN Koldanda 35.95 332 *e*P **P 04 51 20.5 +0.5**
20nm,0.6s
DANN Dangsing 36.37 333 *e*P **P 04 51 24.1 +0.5**
62nm,0.4s
PYUN Piuthan 36.52 331 *e*P **P 04 51 25.3 +0.5**
15nm,0.3s
FORT Forrest 36.52 140 *e*P **P 04 51 25.5 +0.9**
21nm,1.0s
ASAR Alice Springs 36.74 126 P **P 04 51 26.5 -0.1**
ASAR S **S 04 57 04.5 -2.4**
ASAR Alice Springs 36.74 126 P **P 04 51 26.5 -0.1**
1.4nm,0.4s,baz=298,slow=8.3,SNR=19
ASAR S **S 04 57 04.5 -2.4**
0.7nm,0.7s,baz=298,slow=13,SNR=5.7
AS31 Alice Springs 36.74 126 *e*P **P 04 51 26.4 -0.3**
NDI New Delhi 40.01 325 *e*P P 04 51 51.0 -3.0
COEN Coen 42.01 107 *e*P **P 04 52 09.1 -1.5**
BJT Baijiatuau 45.52 15 *e*P **P 04 52 37.8 -0.7**
16nm,0.6s
CTAO Charters Tower 46.20 114 *e*P **P 04 52 44.8 +0.6**
12nm,1.0s
STKA Stephens Creek 46.61 132 P **P 04 52 47.5 +0.3**
STKA Stephens Creek 46.61 132 P **P 04 52 47.5 +0.3**
7.2nm,0.7s,baz=316,slow=10,SNR=17
KSAR Wonju Array Be 47.63 28 P **P 04 52 54.0 -0.9**
KSRS Korea Array 47.65 28 P **P 04 52 54.0 -1.1**
2.6nm,0.8s,baz=217,slow=7.7,SNR=5.7
KBL Kabul 49.03 324 *e*P **P 04 53 06.2 +0.1**
10nm,0.8s
SONM Songino Array 51.55 4 P **P 04 53 25.0 +0.2**
SONM Songino Array 51.55 4 P **P 04 53 25.0 +0.2**
12nm,0.7s,baz=183,slow=9.2,SNR=96
ULN Ulaanbaatar 51.62 4 *e*P **P 04 53 25.7 +0.3**
6.8nm,0.8s
ULN *ep*P **pP 04 53 38.6 -0.9**
TKM2 Tokmak 2 52.18 336 *e*P **P 04 53 29.5 -0.3**
19nm,0.7s
TKM2 *ep*P **pP 04 53 43.5 -0.4**
AAK Ala-Archa 52.41 335 *e*P **P 04 53 31.3 -0.1**
3.8nm,0.7s
MJAR Matsushiro Arr 52.54 37 P **P 04 53 30.8 -1.5**
MJAR Matsushiro Arr 52.54 37 P **P 04 53 30.8 -1.5**
1.8nm,0.8s,baz=216,slow=7.5,SNR=4.9
EKS2 Erkin-Say 52.74 334 *e*P **P 04 53 33.8 0.0**
17nm,0.8s
EKS2 *ep*P **pP 04 53 47.7 -0.2**
MK31 Makanchi Array 53.23 343 *e*P **P 04 53 36.6 -0.5**
MK31 *ep*P **pP 04 53 50.5 -0.9**
MKAR Makanchi Array 53.23 343 P **P 04 53 37.0 -0.2**
MKAR Makanchi Array 53.23 343 P **P 04 53 37.0 -0.2**
14nm,0.7s,baz=152,slow=9.0,SNR=110
MKAR LR LR 05 20 24.3
comp=Z,32nm,20.9s,baz=174,slow=41
ARMA Armidale 53.89 125 *e*P **P 04 53 43.5 +1.1**
6.7nm,1.0s
KKAR Karatay Array 54.56 332 *e*P **P 04 53 46.0 -0.9**
2.5nm,0.6s
USRK Ussuriysk Arra 54.89 26 P **P 04 53 48.6 -0.6**
11nm,0.5s,baz=212,slow=4.7,SNR=35
KURK Kurchatov 57.82 343 *e*P **P 04 54 09.1 -0.9**
12nm,0.8s
KURK *ep*P **pP 04 54 22.9 -1.5**
ZAA0 Zalesovo Array 59.25 348 *e*P **P 04 54 18.7 -1.1**
ZAA0 *ep*P **pP 04 54 33.2 -1.1**
ZALV Zalesovo Beam 59.25 348 P **P 04 54 19.1 -0.7**
ZALV Zalesovo Beam 59.25 348 P **P 04 54 19.1 -0.7**
18nm,0.4s,baz=171,slow=5.1,SNR=112
ZALV LR LR 05 22 52.2
comp=Z,52nm,20.2s,baz=249,slow=39
BRVK Borovoye 62.54 339 *e*P **P 04 54 41.2 -1.0**
6.1nm,0.6s
ABKAR Akbulak array 64.06 331 *e*P **P 04 54 51.5 -1.0**
8.2nm,0.6s
ABKAR *ep*P **pP 04 55 05.7 -1.3**
MAW Mawson 69.04 195 LR LR 05 17 33.8
comp=Z,152nm,20.6s,baz=175,slow=29
KBZ Khabaz 70.84 319 P **P 04 55 35.3 0.0**
KBZ Khabaz 70.84 319 P **P 04 55 35.3 0.0**
6.0nm,0.8s,baz=129,slow=6.9,SNR=12
ASF Jabal al Asfar 71.10 306 P **P 04 55 38.5 +1.1**
ASF Jabal al Asfar 71.10 306 P **P 04 55 38.5 +1.1**
4.0nm,0.8s,baz=247,slow=3.0,SNR=7.6
EIL Elat 72.01 303 P **P 04 55 44.2 +1.5**
EIL Elat 72.01 303 P **P 04 55 44.2 +1.5**
6.2nm,0.7s,baz=169,slow=3.7,SNR=8.9
MMAI Mount Meron Ar 72.55 306 P **P 04 55 47.7 +1.7**
MMAI Mount Meron Ar 72.55 306 P **P 04 55 47.7 +1.7**
2.7nm,0.6s,baz=91,slow=10,SNR=6.1
CSS Prodhromos 74.75 308 *e*P **P 04 55 59.7 +0.9**
13nm,0.9s
BR131 Keskin Array S 75.86 312 *e*P **P 04 56 04.6 -0.7**
2.7nm,0.6s
BR131 *ep*P **PcP 04 56 19.5 +2.0**
BRTR Keskin Array B 75.86 312 P **P 04 56 04.5 -0.7**
BRTR Keskin Array B 75.86 312 P **P 04 56 04.5 -0.7**
3.1nm,0.7s,baz=140,slow=7.3,SNR=15
BOSA Boshof 76.42 242 P **P 04 56 09.2 +0.6**
BOSA Boshof 76.42 242 P **P 04 56 09.2 +0.6**
1.3nm,0.6s,baz=50,slow=14,SNR=3.9
VNDA Vanda 80.08 169 *e*P **P 04 56 28.6 +0.8**
3.0nm,1.2s
VNDA Vanda 80.08 169 P **P 04 56 28.9 +1.2**
1.3nm,1.0s,baz=335,slow=7.2,SNR=6.0
IDI Anoyia 81.56 306 P **P 04 56 37.4 +0.8**
IDI Anoyia 81.56 306 P **P 04 56 37.4 +0.8**
13nm,0.7s,baz=102,slow=7.3,SNR=6.4
AKASG Malin Array Be 82.00 322 P **P 04 56 37.2 -1.2**
AKASG Malin Array Be 82.00 322 P **P 04 56 37.2 -1.2**
2.9nm,0.6s,baz=86,slow=5.4,SNR=5.2
KIEV Kiev 82.00 322 *e*P **P 04 56 37.7 -0.7**
4.4nm,0.8s
VRI Vrincioaia 82.39 317⇑ *i*P **P 04 56 41.8 +1.2**
TESR Tescani 82.59 318⇓ *i*P **P 04 56 42.3 +0.7**
MLR Muntele Rosu 82.84 317⇑ *i*P **P 04 56 43.7 +0.6**
MLR Muntele Rosu 82.84 317 P **P 04 56 42.9 -0.1**
MLR Muntele Rosu 82.84 317 P **P 04 56 42.9 -0.1**
1.3nm,0.8s,baz=311,slow=20,SNR=5.1
TSUM Tsumeb 83.34 251 *e*P **P 04 56 46.4 +0.1**
4.4nm,1.0s
ARR Arges 83.71 316⇑ *i*P **P 04 56 47.7 +0.2**
BURAR Bucovina Array 83.79 319⇓ *i*P **P 04 56 49.5 +1.6**
BUR08 Bucovina Ar. S 83.81 319 *e*P **P 04 56 49.1 +1.1**
VTS Vitosha 84.19 313⇑ *i*P **P 04 56 50.3 +0.2**
KWP Kalwaria Pacla 85.83 320⇓ *i*P **P 04 56 58.8 +0.8**
BZS Buzias 85.84 316⇓ *i*P **P 04 56 58.8 +0.7**
FINES FINESS Array B 86.52 332 P **P 04 57 01.2 +0.1**
FINES FINESS Array B 86.52 332 P **P 04 57 01.2 +0.1**
1.5nm,0.6s,baz=104,slow=6.1,SNR=6.2
PSZ Piszkesteto 87.38 318 *e*P **P 04 57 04.7 -1.0**
3.1nm,0.7s
PKSM Moragy 87.99 316⇓ *i*P **P 04 57 09.2 +0.7**
ARCES ARCESS Array B 88.75 340 P **P 04 57 11.4 -0.3**
ARCES ARCESS Array B 88.75 340 P **P 04 57 11.4 -0.3**
3.4nm,0.8s,baz=102,slow=5.2,SNR=8.2
MORC Moravsky Berou 89.16 320⇓ *i*P **P 04 57 15.1 +1.0**
MORC Moravsky Berou 89.16 320 *e*P **P 04 57 14.1 0.0**
2.8nm,0.8s
GERES GERESS Array B 91.58 319 P **P 04 57 25.6 +0.2**
GERES GERESS Array B 91.58 319 P **P 04 57 25.6 +0.2**
0.8nm,0.8s,baz=90,slow=5.3,SNR=6.6
GERES LR LR 05 39 58.0
comp=Z,41nm,18.2s,baz=84,slow=36
HFS Hagfors 92.31 330 P **P 04 57 28.2 -0.3**
HFS Hagfors 92.31 330 P **P 04 57 28.2 -0.3**
2.4nm,0.8s,baz=291,slow=4.6,SNR=3.8
WLF Walferdange 96.54 319 *e*P **P 04 57 46.5 -1.5**
17nm,1.3s
RSSD Black Hills 133.79 26 *e*PKPdf **PKPdf 05 03 36.5 +0.8**
TUC Tucson 138.29 43 *e*PKPdf **PKPdf 05 03 43.2 -1.0**
ANMO Albuquerque 139.38 37 *e*PKPdf **PKPdf 05 03 45.2 -1.2**
WMOK Wichita Mounta 143.73 29 *e*PKPdf PKPab 05 03 50.8 +0.1
CPUP Villa Florida 143.91 213 *e*PKPdf **PKPdf 05 03 53.6 -0.7**
BDFB Brasilia 144.47 236 PKP **PKPdf 05 03 55.6 -0.1**
BDFB Brasilia 144.47 236 PKP **PKPdf 05 03 55.6 -0.1**
2.3nm,0.5s,baz=87,slow=4.8,SNR=7.7
WCI Wyandotte Cave 144.91 11 *e*PKPdf **PKPab 05 03 53.8 -1.1**
TXAR Lajitas Array 144.91 41 PKP PKPbc 05 03 55.5 +0.1
TXAR Lajitas Array 144.91 41 PKP PKPbc 05 03 55.5 +0.1
3.3nm,0.7s,baz=180,slow=0.5,SNR=40
MIAR Mount Ida 146.20 23 *e*PKPbc **PKPdf 05 03 58.5 +0.4**
JCT Junction City 146.49 35 *e*PKPbc **PKPbc 05 03 59.9 -0.3**
LVC Limon Verde 152.26 199 *e*PKPbc **PKPbc 05 04 15.8 +0.6**
LPAZ La Paz 157.73 206 *e*PKPab **PKPab 05 04 50.7 +1.9**

*ISCJB **31** 04:50:14.1±0.2,51°.51N±0°.01×16°.09E±0°.02, h0km, mb3.2/1, Error ellipse: s-maj=2.0km s-min=1.9km az=176.4*
*MOS **31** 04:50:15.3±1.5,51°.64N×15°.95E, h10km, mb4.2/1, Error ellipse: s-maj=9.6km s-min=4.8km az=97.6*
*IPEC **31** 04:50:15.5±0.3,51°.55N×16°.25E, h0km, ML2.8/4, Error ellipse: s-maj=2.0km s-min=1.5km az=34.0*
*CSEM **31** 04:50:16.0±0.1,51°.50N×16°.12E, h2km, ML3.6/11, Error ellipse: s-maj=2.1km s-min=1.6km az=93.0*
*IDC **31** 04:50:17.2±0.6,51°.47N×15°.99E, h0km, mb3.4/1, mb1 3.5/8, mb1mx3.4/29, mbtmp3.4/8, ML3.3/8, Error ellipse: s-maj=14.5km s-min=6.4km az=106.0*
*PRU **31** 04:50:17.6, 51°.44N×16°.07E, h0km*
*BGR **31** 04:50:17.6±0.4,51°.44N×16°.13E, h1km, ML3.1/14, Error ellipse: s-maj=4.4km s-min=2.2km az=14.0*
*WAR **31** 04:50:17.7, 51°.47N×16°.10E*
*STR **31** 04:50:17.4±1.1,51°.40N×16°.13E, h5km, Ml4.0, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*VIE **31** 04:50:18.4±0.5,51°.30N×16°.03E, h0km, mb2.6/5, ML3.0/5, Error ellipse: s-maj=3.4km s-min=3.0km az=4.0 72 km WNW of Wroclaw Suspected Mining induced.*
*UPP **31** 04:50:23.0, 51°.90N×15°.34E, h0km, ML1.9, Suspected Mining explosion.*

ISC 31 04:50:15.8±0.6, 51°.51N±0°.02×16°.09E±0°.02, h0km, n154, σ1s08/226, 6C-11D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
KSP	**Ksiaz**	**0.68**	**169**	*e*Pg		**Pg**	**04 50 29.6**	**+0.8**
KSP	**Ksiaz**	**0.68**	**169⇓**	*i*P		**Pg**	**04 50 29.5**	**+0.8**
KSP				*e*			04 50 41.5	
KSP	**Ksiaz**	**0.68**	**169**	*e*Pg		**Pg**	**04 50 29.5**	**+0.8**
KSP				*e*Sg		**Sg**	**04 50 38.5**	**+0.9**
KSP	**Ksiaz**	**0.68**	**169**	*i*P		**Pg**	**04 50 29.5**	**+0.8**
KSP				*e*Sg		**Sg**	**04 50 38.5**	**+0.9**
KSP				*e*S		**Sb**	**04 50 41.5**	**+1.1**
UPC	**Upice**	**1.01**	**183**	*i*P		**Pg**	**04 50 35.5**	**+0.5**
UPC				*e*			04 50 47.8	
UPC				smax		smax		
comp=N,76nm,0.2s								
UPC	**Upice**	**1.01**	**183**	*i*PG		**Pg**	**04 50 35.5**	**+0.5**
UPC				*e*SG		**Sg**	**04 50 47.8**	**-0.2**
comp=N,76nm,0.2s								
UPC	**Upice**	**1.01**	**183**	Pg		**Pg**	**04 50 35.5**	**+0.5**
UPC				Sg		**Sg**	**04 50 47.8**	**-0.2**
comp=N,76nm,0.2s								
DPC	**Dobruska-Polom**	**1.17**	**173**	*e*Pg		**Pg**	**04 50 38.4**	**+0.2**
DPC				*e*Sg		**Sg**	**04 50 53.0**	**-0.3**
DPC	**Dobruska-Polom**	**1.17**	**173**	*i*P		**Pg**	**04 50 38.3**	**+0.2**
DPC				*e*			04 50 52.8	
DPC	**Dobruska-Polom**	**1.17**	**173**	*i*PG		**Pg**	**04 50 38.3**	**+0.2**
DPC				*e*SG		**Sg**	**04 50 52.8**	**-0.5**
DPC	**Dobruska-Polom**	**1.17**	**173**	Pg		**Pg**	**04 50 38.4**	**+0.2**
DPC				Sg		**Sg**	**04 50 53.0**	**-0.3**
PVCC	**Panska Ves**	**1.38**	**225**	*e*P		**Pn**	**04 50 42.3**	**+0.1**
PVCC				*e*			04 51 00.8	
PVCC				smax		smax		
comp=N,176nm,0.2s								
PVCC	**Panska Ves**	**1.38**	**225**	*e*PG		**Pn**	**04 50 42.3**	**+0.1**
PVCC				*e*SG		**Sb**	**04 51 00.8**	**+0.3**
comp=N,176nm,0.2s								
PVCC	**Panska Ves**	**1.38**	**225**	Pg		**Pn**	**04 50 42.3**	**+0.1**
PVCC				Sg		**Sb**	**04 51 00.8**	**+0.3**
comp=N,176nm,0.2s								
BRG	**Berggiesshubel**	**1.50**	**246**	PN		**Pn**	**04 50 43.6**	**-0.3**
BRG				PG		**Pg**	**04 50 45.1**	**+0.7**
BRG				SG		**Sn**	**04 51 05.1**	**+1.1**
comp=N,97nm,0.4s								
BRG	**Berggiesshubel**	**1.50**	**246**	*e*Pn		**Pn**	**04 50 43.8**	**0.0**
BRG				*e*Pg		**Pg**	**04 50 45.3**	**+0.9**
BRG				*e*Sg		**Sn**	**04 51 05.2**	**+1.1**
BRG	**Berggiesshubel**	**1.50**	**246**	P		**Pn**	**04 50 43.6**	**-0.3**
BRG							04 51 05.1	
BRG				smax		smax		
comp=N,97nm,0.4s								
BRG	**Berggiesshubel**	**1.50**	**246**	Pn		**Pn**	**04 50 43.8**	**0.0**
PRA	**Prague**	**1.79**	**217**	PG		**Pb**	**04 50 49.0**	**-0.3**
PRA				SG		**Sb**	**04 51 12.0**	**-0.2**
PRU	**Pruhonice**	**1.81**	**214**	*e*P		**Pn**	**04 50 48.2**	**0.0**
PRU				*e*			04 51 13.4	
PRU				smax		smax		
comp=N,34nm,0.4s								
PRU	**Pruhonice**	**1.81**	**214**	*e*PN		**Pn**	**04 50 48.2**	**0.0**
PRU				*e*PG		**Pb**	**04 50 50.1**	**+0.3**
PRU				*e*SG		**Sb**	**04 51 13.4**	**+0.3**
comp=N,34nm,0.4s								
PRU	**Pruhonice**	**1.81**	**214**	Pn		**Pn**	**04 50 48.2**	**0.0**
FBE	**Freiberg**	**1.82**	**252**	*e*Pn		**Pn**	**04 50 48.7**	**+0.4**
FBE				*e*Pg		**Pg**	**04 50 51.3**	**+0.6**
FBE				*e*Sg		**Sg**	**04 51 15.2**	**+1.0**
FBE	**Freiberg**	**1.82**	**252**	Pn		**Pn**	**04 50 48.7**	**+0.4**
CLL	**Collm**	**1.95**	**265**	*e*Pn		**Pn**	**04 50 50.0**	**0.0**
CLL				*e*Sg		**Sg**	**04 51 19.5**	**+1.3**
CLL	**Collm**	**1.95**	**265**	*e*P		**Pn**	**04 50 50.0**	**0.0**
CLL				*e*			04 51 19.0	
CLL	**Collm**	**1.95**	**265**	*e*Pn		**Pn**	**04 50 50.0**	**0.0**
CLL				*e*Pg		**Pg**	**04 50 53.0**	**0.0**
CLL				*e*			04 50 55.0	
CLL				*i*			04 50 57.3	
CLL				*e*Sg		**Sg**	**04 51 19.0**	**+0.7**
comp=Z,49nm,0.9s								
CLL	**Collm**	**1.95**	**265**	Pn		**Pn**	**04 50 50.0**	**0.0**
CLL				*e*S		**Sg**	**04 51 19.0**	**+0.7**
RAC	**Raciborz**	**1.95**	**136**	*e*P		**Pg**	**04 50 53.1**	**-0.1**
RAC				*e*			04 51 17.2	
RAC	**Raciborz**	**1.95**	**136**	*e*Pg		**Pg**	**04 50 53.1**	**-0.1**
RAC				*e*Sg		**Sb**	**04 51 17.2**	**+0.1**
MORC	**Moravsky Berou**	**1.96**	**151**	*e*Pn		**Pn**	**04 50 49.9**	**-0.5**
MORC				*e*Pg		**Pb**	**04 50 52.4**	**0.0**
MORC				*e*Sg		**Sb**	**04 51 17.5**	**0.0**
MORC	**Moravsky Berou**	**1.96**	**151**	‖P		**Pn**	**04 50 50.5**	**+0.1**
MORC	**Moravsky Berou**	**1.96**	**151**	‖*i*P		**Pn**	**04 50 50.5**	**+0.1**
MORC	**Moravsky Berou**	**1.96**	**151**	S		**Sn**	**04 51 16.7**	**+1.0**
MORC	**Moravsky Berou**	**1.96**	**151**	*e*Pn		**Pn**	**04 50 50.1**	**-0.2**
baz=336								
MORC	**Moravsky Berou**	**1.96**	**151**	P		**Pn**	**04 50 50.5**	**+0.1**
MORC	**Moravsky Berou**	**1.96**	**151**	Pg		**Pb**	**04 50 52.4**	**0.0**
MORC				S		**Sn**	**04 51 16.7**	**+1.0**
MORC				Sg		**Sb**	**04 51 17.5**	**0.0**
OKC	**Ostrava-Krasne**	**2.12**	**141**	*e*Pn		**Pn**	**04 50 51.8**	**-0.7**
OKC				*e*Pg		**Pb**	**04 50 55.7**	**+0.7**
OKC				*e*Sg		**Sb**	**04 51 22.6**	**+0.6**
OKC	**Ostrava-Krasne**	**2.12**	**141**	*e*P		**Pn**	**04 50 52.0**	**-0.5**
OKC				*e*			04 51 22.5	
OKC				smax		smax		
comp=N,68nm,0.5s								
OKC	**Ostrava-Krasne**	**2.12**	**141**	*e*PN		**Pn**	**04 50 52.0**	**-0.5**
OKC				*e*PG		**Pb**	**04 50 55.3**	**+0.2**
OKC				*e*SG		**Sb**	**04 51 22.5**	**+0.6**
comp=N,68nm,0.5s								
OKC	**Ostrava-Krasne**	**2.12**	**141**	Pn		**Pn**	**04 50 52.0**	**-0.5**
VRAC	**Vranov**	**2.23**	**172⇑**	*i*P		**Pn**	**04 50 54.3**	**+0.4**
VRAC	**Vranov**	**2.23**	**172**	S		**Sb**	**04 51 26.0**	**+1.0**
VRAC	**Vranov**	**2.23**	**172**	*e*Pn		**Pn**	**04 50 54.1**	**+0.2**
VRAC				*e*Sg		**Sb**	**04 51 25.6**	**+0.6**
comp=N,47nm,0.5s,baz=354								
VRAC				S		**Sb**	**04 51 26.0**	**+1.0**
VRAC	**Vranov**	**2.23**	**172**	Pn		**Pn**	**04 50 54.3**	**+0.4**
comp=N,4.2nm,0.3s,baz=335,slow=13,SNR=27								
VRAC				Lg		Lg	04 51 25.5	
comp=N,3.9nm,0.3s,baz=265,slow=22,SNR=4.9								
TREC	**Trest**	**2.25**	**190**	*e*P		**Pn**	**04 50 55.1**	**+0.8**
TREC				*e*			04 51 26.9	
TREC				smax		smax		
comp=N,35nm,0.3s								
TREC	**Trest**	**2.25**	**190**	*e*PN		**Pn**	**04 50 55.1**	**+0.8**
TREC				*e*PG		**Pb**	**04 50 57.5**	**+0.2**
TREC				*e*SG		**Sb**	**04 51 26.9**	**+1.2**
comp=N,35nm,0.3s								
TREC	**Trest**	**2.25**	**190**	Pn		**Pn**	**04 50 55.1**	**+0.8**
KRUC	**Moravsky**	**2.46**	**175**	*e*Pn		**Pn**	**04 50 57.6**	**+0.5**
baz=358								
KRUC				*e*Sg		**Sg**	**04 51 33.6**	**-1.1**
comp=N,38nm,0.5s,baz=358								
TANN	**Tannenbergstha**	**2.54**	**246**	*e*Pn		**Pn**	**04 50 59.0**	**+0.7**
TANN				*e*Sg		**Sg**	**04 51 38.7**	**+1.2**
TANN	**Tannenbergstha**	**2.54**	**246**	Pn		**Pn**	**04 50 59.0**	**+0.7**
TANN				Sg		**Sg**	**04 51 38.7**	**+1.2**
WERD	**Werda**	**2.62**	**248**	*e*Pn		**Pn**	**04 51 00.1**	**+0.8**
WERD				*e*Sg		**Sg**	**04 51 39.0**	**-0.9**
WERD	**Werda**	**2.62**	**248**	Pn		**Pn**	**04 51 00.1**	**+0.8**
WERD				Sg		**Sg**	**04 51 39.0**	**-0.9**
OJC	**Ojcow**	**2.68**	**117**	*e*Pn		**Pn**	**04 50 58.9**	**-1.2**
OJC				*e*Sg		**Sg**	**04 51 42.1**	**+0.3**
OJC	**Ojcow**	**2.68**	**117**	*e*P		**Pg**	**04 51 08.3**	**+1.2**
OJC				*e*			04 51 43.0	
OJC	**Ojcow**	**2.68**	**117**	*e*Pg		**Pg**	**04 51 08.3**	**+1.2**
OJC				*e*Sg		**Sg**	**04 51 43.0**	**+1.2**
OJC	**Ojcow**	**2.68**	**117**	Pn		**Pn**	**04 50 58.9**	**-1.2**
OJC	**Ojcow**	**2.68**	**117**	*e*Pg		**Pg**	**04 51 08.3**	**+1.2**
OJC				Sg		**Sg**	**04 51 42.1**	**+0.3**
JAVC	**Velka Javorina**	**2.84**	**158**	*e*Sg		**Sg**	**04 51 47.8**	**+0.8**
comp=N,52nm,0.9s								
KHC	**Kasperske Hory**	**2.88**	**215**	*e*P		**Pn**	**04 51 03.1**	**+0.2**
KHC				*e*			04 51 37.7	
KHC				smax		smax		
comp=N,26nm,0.5s								
KHC	**Kasperske Hory**	**2.88**	**215**	*e*PN		**Pn**	**04 51 03.1**	**+0.2**
KHC				*e*PG		**Pb**	**04 51 09.2**	**+1.3**
KHC				*e*SN		**Sn**	**04 51 37.7**	**-0.5**
KHC				*e*SG		**Sg**	**04 51 47.2**	**-0.9**
comp=N,26nm,0.5s								
KHC	**Kasperske Hory**	**2.88**	**215**	Pn		**Pn**	**04 51 03.1**	**+0.2**
MANZ	**Manzenberg**	**2.96**	**240**	*e*Pn		**Pn**	**04 51 04.9**	**+0.9**
MANZ	**Manzenberg**	**2.96**	**240**	Pn		**Pn**	**04 51 04.9**	**+0.9**
ROTZ	**Rotzenmuhle**	**3.03**	**236**	*e*Pn		**Pn**	**04 51 06.0**	**+1.1**
ROTZ				*e*Sg		**Sg**	**04 51 52.3**	**-0.7**
ROTZ	**Rotzenmuhle**	**3.03**	**236**	Pn		**Pn**	**04 51 06.0**	**+1.1**
ROTZ				Sg		**Sg**	**04 51 52.3**	**-0.7**
GEC2	**GERESS Array S**	**3.08**	**211**	*e*Pn		**Pn**	**04 51 06.5**	**+0.8**
GEC2				*e*Sg		**Sg**	**04 51 53.0**	**-1.6**
GEC2	**GERESS Array S**	**3.08**	**211**	Pn		**Pn**	**04 51 06.5**	**+0.8**
GEC2				Sg		**Sg**	**04 51 53.0**	**-1.6**
GERES	**GERESS Array B**	**3.08**	**211**	P		**Pn**	**04 51 06.5**	**+0.8**
GERES	**GERESS Array B**	**3.08**	**211**	Pn		**Pn**	**04 51 06.5**	**+0.8**
comp=N,2.0nm,0.3s,baz=28,slow=12,SNR=67								
GERES				Pg		**Pb**	**04 51 12.5**	**+1.0**
comp=N,5.5nm,0.3s,baz=28,slow=17,SNR=35								
GERES				Lg		Lg	04 51 50.7	
comp=N,2.7nm,0.3s,baz=32,slow=25,SNR=5.3								
SMOL	**Smolenice**	**3.12**	**163**	*e*P		**Pb**	**04 51 09.5**	**-2.6**
SMOL	**Smolenice**	**3.12**	**163**	*e*		**Pb**	**04 51 09.5**	**-2.6**
SMOL	**Smolenice**	**3.12**	**163**	*e*SG		**Sg**	**04 51 58.1**	**+2.1**
SMOL	**Smolenice**	**3.12**	**163**	*e*P		**Pb**	**04 51 09.5**	**-2.6**
SMOL				*e*Sg		**Sg**	**04 51 58.1**	**+2.1**
WET	**Wettzell**	**3.14**	**222**	*e*Pn		**Pn**	**04 51 06.9**	**+0.4**
WET				*e*Sn		**Sn**	**04 51 42.6**	**-2.1**
WET				*e*Sg		**Sg**	**04 51 56.6**	**0.0**
WET	**Wettzell**	**3.14**	**222**	Pn		**Pn**	**04 51 06.9**	**+0.4**
WET				Sn		**Sn**	**04 51 42.6**	**-2.1**
WET				Sg		**Sg**	**04 51 56.6**	**0.0**
NIE	**Niedzica**	**3.41**	**126**	*e*P		**Pg**	**04 51 19.8**	**-1.3**
NIE				*e*S		**Sg**	**04 52 03.5**	**-1.8**
NIE	**Niedzica**	**3.41**	**126**	*e*P		**Pg**	**04 51 19.8**	**-1.3**
NIE				*e*S		**Sg**	**04 52 03.5**	**-1.8**
CLZ	**Clausthal**	**3.58**	**278**	*e*Pn		**Pn**	**04 51 14.1**	**+1.6**
CLZ				*e*Sg		**Sg**	**04 52 12.7**	**+2.1**
CLZ	**Clausthal**	**3.58**	**278**	Pn		**Pn**	**04 51 14.1**	**+1.6**
CLZ				Sg		**Sg**	**04 52 12.7**	**+2.1**
CONA	**Conrad Observa**	**3.59**	**182⇓**	*i*Pn		**Pn**	**04 51 13.6**	**+0.9**
CONA				**⇑***i*Sg		**Sg**	**04 52 10.8**	**-0.2**
comp=N,26nm,0.5s								
CONA	**Conrad Observa**	**3.59**	**182**	Pn		**Pn**	**04 51 13.6**	**+0.9**
CONA				Sg		**Sg**	**04 52 10.8**	**-0.2**
comp=N,26nm,0.5s								
GRA1	**Grafenberg Arr**	**3.60**	**242**	Pn		**Pn**	**04 51 13.6**	**+0.9**
GRA1				Sg		**Sg**	**04 52 11.9**	**+0.6**
GRF	**Grafenberg Arr**	**3.60**	**242**	*e*Pn		**Pn**	**04

UZH				*e*S		**Sn**	**04 52 31.8**	**+3.3**
TOD	**Tromm**	**5.02**	**251**	P		**Pn**	**04 51 32.1**	**-0.2**
TOD				S		**Sn**	**04 52 35.6**	**+4.5**
DEL	**Delary**	**5.14**	**346**	P		**Pn**	**04 51 33.6**	**-0.3**
VXJU	**Vaexsjoe**	**5.46**	**353**	P		**Pn**	**04 51 38.7**	**+0.4**
KTD	**Kalmit**	**5.57**	**250**	P		**Pn**	**04 51 40.0**	**+0.1**
ABH	**Alteburg**	**5.67**	**257**	P		**Pn**	**04 51 42.2**	**+1.0**
OSKU	**Oskarshamn**	**5.70**	**0**	P		**Pn**	**04 51 42.1**	**+0.6**
BYXU	**Byxelkrok**	**5.82**	**5**	P		**Pn**	**04 51 43.9**	**+0.8**
SPAK	**Spaichingen-Ko**	**5.83**	**237**	P		**Pn**	**04 51 44.0**	**+0.5**
FABU	**Falkenberg**	**5.85**	**342**	P		**Pn**	**04 51 43.3**	**-0.3**
ASPU	**Aespoe**	**5.93**	**3**	P		**Pn**	**04 51 45.8**	**+1.1**
GNOU	**Gnosjoe**	**5.95**	**348**	P		**Pn**	**04 51 45.0**	**0.0**
RUP	**Ruppelstein**	**6.03**	**256**	P		**Pn**	**04 51 47.5**	**+1.3**
EKSU	**Eksjoe**	**6.09**	**356**	P		**Pn**	**04 51 47.4**	**+0.4**
VSTU	**Vaestervik**	**6.17**	**2**	P		**Pn**	**04 51 48.7**	**+0.7**
DAVOX	**Davos/Dischmat**	**6.25**	**223**	P		**Pn**	**04 51 50.4**	**+1.1**
DAVOX	**Davos/Dischmat**	**6.25**	**223**	Pn		**Pn**	**04 51 50.4**	**+1.1**
	comp=N,0.3nm,0.3s,baz=60,slow=16,SNR=2.8							
DAVOX				Lg		Lg	04 53 33.0	
	comp=N,0.4nm,0.3s,baz=268,slow=23,SNR=3.6							
DRGR		**6.41**	**135**	⇓P		Pn	04 51 57.5	+6.0
DRGR		**6.41**	**135**	⇓*i*P		Pn	04 51 57.5	+6.0
LNKU	**Linkoeping**	**6.74**	**357**	P		**Pn**	**04 51 55.9**	**+0.1**
FKPU	**Falk**	**6.80**	**349**	P		**Pn**	**04 51 57.2**	**+0.5**
VIKU	**Vikbolandet**	**7.02**	**3**	P		**Pn**	**04 52 00.0**	**+0.4**
BURAR	**Bucovina Array**	**7.10**	**120**	⇓P		**Pn**	**04 52 01.4**	**+0.5**
BURAR	**Bucovina Array**	**7.10**	**120**	⇓*i*P		**Pn**	**04 52 01.4**	**+0.5**
BURAR	**Bucovina Array**	**7.10**	**120**	⇓*i*P		**Pn**	**04 52 01.4**	**+0.5**
ASKU	**Askersund**	**7.44**	**355**	P		**Pn**	**04 52 06.3**	**+0.9**
NYNU	**Nynaeshamn**	**7.59**	**8**	P		**Pn**	**04 52 07.8**	**+0.3**
AKASG	**Malin Array Be**	**8.31**	**90**	P		**Pn**	**04 52 16.3**	**-1.0**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.3s							
AKASG	**Malin Array Be**	**8.31**	**90**	P		**Pn**	**04 52 16.3**	**-1.0**
	comp=Z,1.0nm,0.3s							
AKASG	**Malin Array Be**	**8.31**	**90**	Pn		**Pn**	**04 52 16.3**	**-1.0**
	comp=Z,1.4nm,0.3s,baz=279,slow=12,SNR=4.0							
BACU	**Backbrunna**	**8.38**	**4**	P		**Pn**	**04 52 18.9**	**+0.6**
FLYU	**Flymyra**	**8.70**	**6**	P		**Pn**	**04 52 22.6**	**0.0**
HFS	**Hagfors**	**8.75**	**352**	P		**Pn**	**04 52 22.9**	**-0.5**
HFS	**Hagfors**	**8.75**	**352**	Pn		**Pn**	**04 52 22.9**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=174,slow=15,SNR=8.8							
OSTU	**Oestervaala**	**8.76**	**3**	P		**Pn**	**04 52 23.7**	**+0.2**
NOA	**NORSAR Array B**	**9.93**	**346**	P		**Pn**	**04 52 37.9**	**-1.6**
NOA	**NORSAR Array B**	**9.93**	**346**	Pn		**Pn**	**04 52 37.9**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=282,slow=6.3,SNR=5.7							
FINES	**FINESS Array B**	**11.37**	**25**	P		**Pn**	**04 52 57.8**	**-1.4**
FINES	**FINESS Array B**	**11.37**	**25**	Pn		**Pn**	**04 52 57.8**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=208,slow=12,SNR=14							
FINES				Sn		Sn	04 54 59.2	-7.6
	comp=Z,0.3nm,0.3s,baz=212,slow=20,SNR=6.2							
KAF	**Kangasniemi**	**11.99**	**24**	*e*P		**Pn**	**04 53 07.8**	**+0.1**
KAF				pmax		pmax		
	comp=Z,1.0nm,0.3s							
KAF	**Kangasniemi**	**11.99**	**24**	*e*p		**Pn**	**04 53 07.8**	**+0.1**
	comp=Z,0.6nm,0.3s							
KAF	**Kangasniemi**	**11.99**	**24**	*e*P		**Pn**	**04 53 07.8**	**+0.1**
	comp=Z,1.0nm,0.3s							
EKA	**Eskdalemuir Ar**	**12.10**	**296**	Pn		**Pn**	**04 53 06.3**	**-2.9**
	baz=103,slow=13,SNR=3.6							
ARCES	**ARCESS Array B**	**18.62**	**10**	Pn		**P**	**04 54 31.4**	**-3.1**
	comp=Z,0.4nm,0.3s,baz=195,slow=12,SNR=12							
ZEI	**Tsey**	**20.72**	**104**	*e*P		Pn	04 55 03.0	+2.8
ZEI				pmax		pmax		
	comp=Z,8.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**40.00**	**202**	P		**P**	**04 57 52.6**	**+0.5**
	comp=Z,0.6nm,1.0s,baz=16,slow=8.5,SNR=2.8							

*NIED **31** 05:06:00,29.°70N×141.°80E,h8km,Mw4.2 Best double couple: M₀2.16000×10¹⁵ NP1:ϕs161.00000°,δ53.00000°, λ71.00000°. NP2:ϕs11.00000°,δ41.00000°,λ114.00000°.*

*ISCJB **31** 05:06:04.4±0.4,29.°79N±0.°04×142.°0E±0.°1, h26km, mb4.3/24,MS3.6/2,Error ellipse: s-maj=12.8km s-min=4.5km az=168.0*

*NEIC **31** 05:06:07.8±0.9,29.°74N×142.°07E,h40km±8km,mb4.6/10, MW4.2(NIED),Error ellipse: s-maj=10.4km s-min=6.4km az=79.0*

*IDC **31** 05:06:08.1±1.8,29.°73N×142.°07E,h44km±18km,mb3.8/16, mb1 4.0/20,mb1mx3.9/29,mbtmp4.0/20,ML3.2/4,MS3.4/4, Ms1 3.5/4,ms1mx3.1/46,Error ellipse: s-maj=19.4km s-min=11.7km az=75.0*

ISC 31 05:06:06.1±0.5,29.79N±0.°06×142.°1E±0.°1,h26km,n58, σ0s83/62,mb4.2/24,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.68**	**179**	P		**Pn**	**05 06 47.8**	**+0.2**
CBIJ				S		**Sn**	**05 07 19.4**	**+0.1**
JCJ	**Chichijima**	**2.68**	**179**	P		**Pn**	**05 06 47.8**	**+0.1**
	3.5nm,0.3s,baz=321,slow=18,SNR=6.1							
JCJ				S		**Sn**	**05 07 19.4**	**+0.1**
JCJ				LR		LR	05 07 49.7	
	14nm,0.3s,baz=287,slow=19,SNR=2.7							
	comp=Z,272nm,20.8s,baz=21,slow=39							
MJAR	**Matsushiro Arr**	**7.49**	**335**	P		**Pn**	**05 07 53.9**	**+0.1**
MJAR	**Matsushiro Arr**	**7.49**	**335**	P		**Pn**	**05 07 53.9**	**+0.1**
	2.1nm,0.3s,baz=157,slow=11,SNR=27							
MAJO	**Matsushiro**	**7.50**	**335**	*e*Pn		**Pn**	**05 07 54.7**	**+0.9**
	15nm,0.6s							
MAT	**Matsushiro**	**7.50**	**335**	P		**Pn**	**05 07 54.4**	**+0.6**
MAT				S		**Sn**	**05 09 17.8**	**-0.1**
JNU	**Nakatsue**	**10.17**	**292**	LR		LR	05 12 02.5	
	comp=Z,246nm,18.5s,baz=14,slow=35							
KSRS	**Korea Array**	**14.08**	**307**	P		Pn	05 09 26.7	+2.8
	0.3nm,0.3s,baz=117,slow=11,SNR=5.9							
KSAR	**Wonju Array Be**	**14.11**	**306**	P		**Pn**	**05 09 26.7**	**+2.5**
USRK	**Ussuriysk Arra**	**16.49**	**333**	P		**Pn**	**05 09 55.3**	**-0.3**
	0.1nm,0.3s,baz=196,slow=26,SNR=1.6							
SSLB	**Suanglung**	**19.82**	**257**	*e*P		**P**	**05 10 35.1**	**+0.2**
	15nm,0.9s							
ULN	**Ulaanbaatar**	**32.39**	**314**	*e*P		**P**	**05 12 34.6**	**+0.8**
	3.6nm,0.7s							
SONM	**Songino Array**	**32.79**	**313**	P		**P**	**05 12 37.8**	**+0.6**
SONM	**Songino Array**	**32.79**	**313**	P		**P**	**05 12 37.8**	**+0.6**
	3.0nm,0.9s,baz=113,slow=8.1,SNR=7.8							
CHTO	**Chiang Mai**	**40.64**	**264**	*e*P		**P**	**05 13 43.0**	**-1.3**
	9.4nm,0.8s							
CMAR	**Chiang Mai Arr**	**40.79**	**264**	P		**P**	**05 13 43.9**	**-1.6**
CMAR	**Chiang Mai Arr**	**40.79**	**264**	P		**P**	**05 13 43.9**	**-1.6**
	0.8nm,0.3s,baz=62,slow=6.1,SNR=4.5							
CMAR				LR		LR	05 30 28.7	
	comp=Z,70nm,18.1s,baz=189,slow=36							
ZALV	**Zalesovo Beam**	**47.45**	**318**	P		**P**	**05 14 37.5**	**-1.0**
ZALV				PcP		**PcP**	**05 16 08.5**	**0.0**
ZALV	**Zalesovo Beam**	**47.45**	**318**	P		**P**	**05 14 37.5**	**-1.0**
	0.6nm,0.5s,baz=104,slow=6.3,SNR=4.3							
ZALV				PcP		**PcP**	**05 16 08.5**	**0.0**
	1.1nm,0.6s,baz=88,slow=4.4,SNR=4.0							
MKAR	**Makanchi Array**	**48.76**	**308**	P		**P**	**05 14 48.4**	**-0.3**
MKAR	**Makanchi Array**	**48.76**	**308**	P		**P**	**05 14 48.4**	**-0.3**
	1.4nm,0.7s,baz=98,slow=8.7,SNR=2.7							
WRAB	**Tennant Creek**	**50.00**	**190**	*e*P		**P**	**05 14 57.4**	**-0.9**
	10.0nm,1.0s							
WRA	**Warramunga Arr**	**50.01**	**190**	P		**P**	**05 14 57.5**	**-0.9**
WRA	**Warramunga Arr**	**50.01**	**190**	P		**P**	**05 14 57.5**	**-0.9**
	5.2nm,0.7s,baz=8.7,slow=8.0,SNR=69							
FITZ	**Fitzroy Crossi**	**50.20**	**201**	*e*P		**P**	**05 15 00.0**	**+0.2**
	4.0nm,1.1s							
ASAR	**Alice Springs**	**53.73**	**189**	P		**P**	**05 15 25.3**	**-0.8**
ASAR	**Alice Springs**	**53.73**	**189**	P		**P**	**05 15 25.3**	**-0.8**
	0.8nm,0.6s,baz=2.0,slow=7.0,SNR=11							
ILAR	**Eielson Array**	**55.39**	**29**	P		**P**	**05 15 37.2**	**-0.4**
ILAR	**Eielson Array**	**55.39**	**29**	P		**P**	**05 15 37.2**	**-0.4**
	0.6nm,0.7s,baz=268,slow=5.9,SNR=9.8							
BVAR	**Borovoye Array**	**56.05**	**316**	P		**P**	**05 15 42.4**	**-0.3**
BVAR	**Borovoye Array**	**56.05**	**316**	P		**P**	**05 15 42.4**	**-0.3**
	1.2nm,0.7s,baz=80,slow=8.1,SNR=6.2							
KKAR	**Karatay Array**	**57.50**	**305**	*e*P		**P**	**05 15 53.8**	**+0.7**
	2.3nm,0.5s							
INK	**Inuvik**	**60.61**	**25**	*e*P		**P**	**05 16 14.7**	**+0.5**
	26nm,2.1s							
INK	**Inuvik**	**60.61**	**25**	P		**P**	**05 16 14.7**	**+0.5**
	0.9nm,0.7s,baz=278,slow=14,SNR=6.7							
FORT	**Forrest**	**61.70**	**194**	*e*P		**P**	**05 16 21.7**	**-0.3**
	16nm,0.5s							
ABKAR	**Akbulak array**	**63.20**	**313**	*e*P		**P**	**05 16 32.0**	**+0.1**
	3.8nm,0.9s							
AKTO	**Aktyubinsk**	**64.09**	**315**	P		**P**	**05 16 36.5**	**-1.3**
AKTO	**Aktyubinsk**	**64.09**	**315**	P		**P**	**05 16 36.5**	**-1.3**
	0.9nm,0.4s,baz=56,slow=12,SNR=2.2							
AKTO				LR		LR	05 47 50.5	
	comp=Z,38nm,18.1s,baz=80,slow=39							
FINES	**FINESS Array B**	**75.52**	**334**	P		**P**	**05 17 48.5**	**+0.6**
FINES	**FINESS Array B**	**75.52**	**334**	P		**P**	**05 17 48.4**	**+0.6**
	1.8nm,0.8s,baz=122,slow=18,SNR=3.7							
NVAR	**Mina Array Bea**	**78.90**	**52**	P		**P**	**05 18 08.0**	**+0.4**
NVAR	**Mina Array Bea**	**78.90**	**52**	P		**P**	**05 18 08.0**	**+0.4**
	0.7nm,0.6s,baz=297,slow=5.7,SNR=9.5							
AKASG	**Malin Array Be**	**80.43**	**324**	P		**P**	**05 18 13.7**	**-1.7**
AKASG	**Malin Array Be**	**80.43**	**324**	P		**P**	**05 18 13.7**	**-1.7**
	12nm,0.3s,baz=46,slow=5.4,SNR=1.1							
NB2	**NORSAR Subarra**	**81.10**	**338**	P		**P**	**05 18 19.2**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=41,slow=5.3							
NOA	**NORSAR Array B**	**81.10**	**338**	P		**P**	**05 18 19.1**	**+0.2**
NOA	**NORSAR Array B**	**81.10**	**338**	P		**P**	**05 18 19.1**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=39,slow=5.0,SNR=5.7							
PDAR	**Pinedale Array**	**82.34**	**45**	P		**P**	**05 18 27.2**	**+1.2**
PDAR	**Pinedale Array**	**82.34**	**45**	P		**P**	**05 18 27.2**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=233,slow=0.5,SNR=2.5							
BR131	**Keskin Array S**	**84.15**	**313**	*e*P		**P**	**05 18 35.7**	**+0.5**
	comp=Z,4.6nm,0.9s							
BRTR	**Keskin Array B**	**84.15**	**313**	P		**P**	**05 18 35.9**	**+0.6**
BRTR	**Keskin Array B**	**84.15**	**313**	P		**P**	**05 18 35.9**	**+0.6**
	comp=Z,5.0nm,0.9s,baz=101,slow=3.9,SNR=14							
TXAR	**Lajitas Array**	**94.03**	**53**	P		**P**	**05 19 23.1**	**+0.7**
TXAR	**Lajitas Array**	**94.03**	**53**	P		**P**	**05 19 23.1**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=292,slow=1.4,SNR=7.4							
TORD	**Torodi Ar. Bea**	**122.76**	**312**	PKP		**PKPdf**	**05 24 60.0**	**-0.4**
TORD	**Torodi Ar. Bea**	**122.76**	**312**	PKP		**PKPdf**	**05 24 60.0**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=2.6,slow=2.6,SNR=1.3							
LPAZ	**La Paz**	**149.19**	**71**	*e*PKPdf		**PKPdf**	**05 25 50.3**	**+0.8**
LPAZ				*e*PKPbc		**PKPbc**	**05 25 53.6**	**0.0**
LPAZ	**La Paz**	**149.19**	**71**	PKPbc		**PKPdf**	**05 25 50.6**	**+1.1**
	comp=Z,0.5nm,0.4s,baz=357,slow=5.4,SNR=12							

*IDC **31** 05:08:58.2±1.1,12.°50S×167.°41E,h0km,mb4.2/8, mb1 4.4/10,mb1mx4.2/21,mbtmp4.3/10,ML4.0/2,MS3.9/12, Ms1 3.9/12,ms1mx3.6/39,Error ellipse: s-maj=35.0km s-min=21.0km az=132.0*

*ISCJB **31** 05:09:02.1±0.7,12.°56S±0.°09×167.°3E±0.°1,h33km, mb4.3/13,MS3.9/11,Error ellipse: s-maj=15.9km s-min=12.7km az=178.9*

*NEIC **31** 05:09:03.6±0.6,12.°52S×167.°36E,h35km,mb4.6/7,Error ellipse: s-maj=13.7km s-min=10.7km az=98.0*

ISC 31 05:09:03.7±0.7,12.°53S±0.°10×167.°4E±0.°1,h35km,n45, σ0s83/30,mb4.2/13,MS4.0/11,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
HNR	**Honiara**	**7.91**	**292**	Pn		**Pn**	**05 10 56.9**	**+0.6**
HNR	**Honiara**	**7.91**	**292**	Pn		**Pn**	**05 10 56.9**	**+0.6**
	4.3nm,0.3s,baz=190,slow=8.4,SNR=3.8							
DZM	**Mont Dzumac**	**9.53**	**185**	*e*Pn		**Pn**	**05 11 19.2**	**+0.7**
	4.2nm,0.3s							
DZM				*e*LR		LR	05 13 35.9	
	1μm,25.4s							
DZM	**Mont Dzumac**	**9.53**	**185**	*e*Pn		**Pn**	**05 11 19.0**	**+0.6**
DZM	**Mont Dzumac**	**9.53**	**185**	Pn		**Pn**	**05 11 19.1**	**+0.6**
	0.8nm,0.3s,baz=43,slow=15,SNR=7.1							
DZM				LR		LR	05 14 26.8	
	comp=Z,947nm,19.7s,baz=24,slow=34							
MSVF	**Nonsavu**	**11.54**	**118**	*e*Pn		Pn	05 11 52.9	+6.8
	44nm,1.3s							
EIDS	**Eidsvold**	**19.97**	**228**	*e*P		**Pn**	**05 13 34.1**	**-0.8**
	72nm,1.9s							
AFI	**Afiamalu**	**20.35**	**96**	LR		LR	05 19 12.7	
	comp=Z,184nm,18.5s,baz=259,slow=30							
ARMA	**Armidale**	**23.00**	**217**	*e*P		**P**	**05 14 06.5**	**+0.9**
	23nm,1.1s							
STKA	**Stephens Creek**	**30.52**	**227**	*e*P		**P**	**05 15 13.8**	**0.0**
	2.2nm,1.3s							
STKA	**Stephens Creek**	**30.52**	**227**	P		**P**	**05 15 14.4**	**+0.7**
	4.4nm,0.7s,baz=35,slow=8.1,SNR=14							
STKA				LR		LR	05 26 37.4	
	comp=Z,270nm,18.9s,baz=33,slow=35							
WRAB	**Tennant Creek**	**32.49**	**253**	*e*P		**P**	**05 15 29.5**	**-1.8**
	37nm,2.2s							
WRA	**Warramunga Arr**	**32.51**	**253**	P		**P**	**05 15 30.6**	**-0.8**
WRA	**Warramunga Arr**	**32.51**	**253**	P		**P**	**05 15 30.6**	**-0.8**
	2.2nm,0.9s,baz=83,slow=8.4,SNR=10							
ASAR	**Alice Springs**	**33.59**	**246**	P		**P**	**05 15 40.0**	**-0.9**
ASAR	**Alice Springs**	**33.59**	**246**	P		**P**	**05 15 40.0**	**-0.9**
	1.1nm,0.7s,baz=76,slow=9.0,SNR=13							
FORT	**Forrest**	**40.53**	**237**	*e*P		P	05 16 33.5	-6.2
	27nm,0.8s							
FITZ	**Fitzroy Crossi**	**40.56**	**257**	LR		LR	05 33 11.0	
	comp=Z,81nm,19.4s,baz=265,slow=36							
PPT2	**Papeete2**	**41.82**	**102**	*e*LR		LR	05 28 39.7	
	207nm,27.0s							
TBI	**Tubuai**	**42.31**	**111**	*e*LR		LR	05 29 01.1	
	298nm,33.8s							
JCJ	**Chichijima**	**46.36**	**328**	LR		LR	05 34 11.7	
	comp=Z,53nm,19.6s,baz=294,slow=33							
RKT	**Rikitea**	**55.59**	**109**	*e*LR		LR	05 35 11.8	
	160nm,30.0s							
VNDA	**Vanda**	**65.05**	**181**	*e*P		**P**	**05 19 40.3**	**+0.3**
	4.3nm,1.4s							
VNDA	**Vanda**	**65.05**	**181**	LR		LR	05 41 40.4	
	comp=Z,59nm,20.3s,baz=5.9,slow=30							
CMAR	**Chiang Mai Arr**	**74.16**	**293**	P		**P**	**05 20 38.0**	**+0.9**
CMAR	**Chiang Mai Arr**	**74.16**	**293**	P		**P**	**05 20 38.0**	**+0.9**
	0.7nm,0.3s,baz=129,slow=4.3,SNR=8.0							
CMAR				LR		LR	05 54 18.9	
	comp=Z,75nm,18.3s,baz=146,slow=37							
QSPA	**South Pole Qui**	**77.48**	**180**	*e*P		**P**	**05 20 55.0**	**-0.5**
	7.1nm,1.2s							
SONM	**Songino Array**	**80.80**	**323**	P		**P**	**05 21 14.7**	**+0.8**
SONM	**Songino Array**	**80.80**	**323**	P		**P**	**05 21 14.7**	**+0.8**
	2.0nm,1.0s,baz=145,slow=5.4,SNR=8.2							
MAW	**Mawson**	**83.94**	**202**	LR		LR	05 54 12.6	
	comp=Z,151nm,19.9s,baz=254,slow=32							
ILAR	**Eielson Array**	**84.42**	**18**	P		**P**	**05 21 31.4**	**-0.8**
ILAR	**Eielson Array**	**84.42**	**18**	P		**P**	**05 21 31.4**	**-0.8**
	1.5nm,0.9s,baz=235,slow=6.1,SNR=13							
ILAR				LR		LR	05 54 16.0	
	comp=Z,120nm,19.9s,baz=255,slow=32							
BBB	**Bella Bella**	**84.91**	**34**	LR		LR	05 53 36.5	
	comp=Z,68nm,21.6s,baz=192,slow=32							
NVAR	**Mina Array Bea**	**85.78**	**49**	P		**P**	**05 21 40.1**	**+0.2**
NVAR	**Mina Array Bea**	**85.78**	**49**	P		**P**	**05 21 40.1**	**+0.2**
	0.5nm,0.8s,baz=233,slow=4.9,SNR=4.1							
NEW	**Newport**	**89.84**	**40**	LR		LR	06 00 01.3	
	comp=Z,57nm,18.0s,baz=161,slow=34							
PDAR	**Pinedale Array**	**93.40**	**47**	LR		LR	06 02 03.6	
	comp=Z,60nm,18.8s,baz=167,slow=34							
MKAR	**Makanchi Array**	**95.69**	**317**	P		**P**	**05 22 25.9**	**0.0**
MKAR	**Makanchi Array**	**95.69**	**317**	P		**P**	**05 22 25.9**	**0.0**
	3.6nm,0.8s,baz=101,slow=6.3,SNR=12							
GERES	**GERESS Array B**	**137.73**	**334**	PKPpre		PKPpre	05 28 19.0	
GERES	**GERESS Array B**	**137.73**	**334**	PKhKP		PKPpre	05 28 19.0	
	0.1nm,0.3s,baz=350,slow=4.0,SNR=2.3							
ESDC	**Sonseca Array**	**151.90**	**346**	PKPbc		**PKPbc**	**05 28 55.5**	**+0.1**
ESDC	**Sonseca Array**	**151.90**	**346**	PKPbc		**PKPbc**	**05 28 55.5**	**+0.1**
	1.1nm,0.8s,baz=6.0,slow=2.5,SNR=10							
TORD	**Torodi Ar. Bea**	**166.01**	**274**	PKPab		**PKPab**	**05 30 04.9**	**-1.4**
TORD	**Torodi Ar. Bea**	**166.01**	**274**	PKPab		**PKPab**	**05 30 04.9**	**-1.4**
	0.3nm,0.8s,baz=96,slow=3.9,SNR=3.8							

IDC 31 05:09:56.6±9.0,25.°04S×69.°54W,h73km±71km,mb3.7/1, mb1 3.9/2,mb1mx3.4/17,mbtmp3.8/2,ML4.2/1,Error ellipse: s-maj=73.9km s-min=61.5km az=127.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LPAZ	**La Paz**	**8.80**	**9**	P		Pn	05 12 01.9	-0.1
	1.1nm,0.3s,baz=197,slow=9.0,SNR=21							
LPAZ				S		Sn	05 13 40.2	0.0
	0.1nm,0.3s,baz=349,slow=22,SNR=0.9							
TORD	**Torodi Ar. Bea**	**79.09**	**70**	P		P	05 21 53.7	0.0
	1.0nm,0.6s,baz=260,slow=5.3,SNR=16							
TORD				pP		pP	05 22 17.9	+4.7
	0.6nm,0.5s,baz=263,slow=5.6,SNR=3.9							
WRA	**Warramunga Arr**	**129.62**	**210**	PKP		PKPdf	05 28 57.6	-0.4
	0.8nm,1.1s,baz=147,slow=1.4,SNR=3.0							
ZALV	**Zalesovo Beam**	**145.37**	**27**	PKPbc		PKPdf	05 29 25.6	-0.2
	2.6nm,0.7s,baz=308,slow=4.0,SNR=8.4							
MKAR	**Makanchi Array**	**148.78**	**39**	PKPbc		PKPbc	05 29 34.5	-1.3
	0.7nm,0.6s,baz=279,slow=1.9,SNR=4.2							

IDC 31 05:22:50.5±4.0,5.°66S×152.°45E,h0km,mb3.4/2, mb1 3.7/2,mb1mx3.4/18,mbtmp3.5/2,Error ellipse: s-maj=187.0km s-min=47.6km az=121.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.62**	**229**	P		P	05 27 52.6	-0.6
	0.7nm,0.8s,baz=53,slow=9.9,SNR=6.5							
ASAR	**Alice Springs**	**25.28**	**223**	P		P	05 28 19.1	+0.2
	1.3nm,0.7s,baz=59,slow=8.9,SNR=15							
TORD	**Torodi Ar. Bea**	**150.22**	**287**	PKPbc		PKPbc	05 42 44.4	-0.3
	0.1nm,0.5s,baz=90,slow=4.3,SNR=2.5							

*IDC **31** 05:34:27.9±6.8,36.°18N×70.°72E,h183km±60km,mb3.2/7, mb1 3.2/11,mb1mx3.0/32,mbtmp3.2/11,Error ellipse: s-maj=38.2km s-min=25.6km az=13.0*

*ISCJB **31** 05:34:29.0±0.9,36.°32N±0.°09×70.°74E±0.°10,h204km, mb3.2/6,Error ellipse: s-maj=13.5km s-min=9.7km az=146.2*

*NNC **31** 05:34:34.0±3.7,36.°74N×70.°61E,h181km±36km,mb3.0, mpv4.2,Error ellipse: s-maj=31.0km s-min=18.9km az=17.0*

ISC 31 05:34:31.3±1.1,36.°49N±0.°10×70.°7E±0.°1,h204km,n26, σ1s14/29,mb3.3/6,3C-5D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AML	**Almayashu**	**6.10**	**22**	P		**Pn**	**05 36 00.5**	**+0.4**
	SNR=146							
KZA	**Kyzart**	**6.61**	**31**	P		**Pn**	**05 36 06.1**	**-0.6**
	SNR=6.0							
KK31	**Karatay Array**	**6.61**	**359**	P		**Pn**	**05 36 06.7**	**+0.3**
	3.0nm,0.3s,baz=174,slow=11,SNR=97							
KK31				S		**S**	**05 37 17.8**	**-3.8**
	12nm,0.4s,baz=183,slow=16,SNR=18							
EKS2	**Erkin-Say**	**6.61**	**20**	P		**Pn**	**05 36 07.3**	**+0.8**
	SNR=14							
AAK	**Ala-Archa**	**6.80**	**24**	P		**Pn**	**05 36 09.7**	**+0.6**
	SNR=21							
KBK	**Karagaybulak**	**6.98**	**27**	P		**Pn**	**05 36 12.2**	**+0.9**
	SNR=8.1							
ULHL	**Ulahol**	**7.18**	**35**	P		**Pn**	**05 36 14.3**	**+0.4**
	SNR=10							
USP	**Ospenovka**	**7.38**	**22**	P		**Pn**	**05 36 16.1**	**-0.3**
	SNR=5.3							
TKM2	**Tokmak 2**	**7.45**	**29**	⇑P		**Pn**	**05 36 17.4**	**-0.1**
	35nm,1.0s							
TKM2				⇑S		**S**	**05 37 40.8**	**-1.1**
	9.2nm,0.8s							
TKM2	**Tokmak 2**	**7.45**	**29**	P		**Pn**	**05 36 17.9**	**+0.4**
	SNR=42							
MK31	**Makanchi Array**	**13.45**	**36**	⇑P		**Pn**	**05 37 35.0**	**+1.0**
	3.0nm,0.8s,baz=207,slow=10,SNR=12							
MKAR	**Makanchi Array**	**13.45**	**36**	P		**Pn**	**05 37 34.9**	**+0.8**
	0.4nm,0.3s,baz=221,slow=12,SNR=12							
AB31	**Akbulak array**	**14.97**	**332**	⇓P		**P**	**05 37 54.2**	**+0.8**

TIXI				pmax	pmax			
	comp=Z,6.0nm,2.0s							
H11N2	**WAKE ISLAND Hy**	**29.48**	**148**	T	T	06 45 27.2		
	SNR=6.6							
H11N1	**WAKE ISLAND Hy**	**29.50**	**148**	T	T	06 44 53.2		
	baz=340,slow=0.7,SNR=48							
H11N3	**WAKE ISLAND Hy**	**29.50**	**148**	T	T	06 44 53.6		
	baz=177,slow=0.7,SNR=43							
SONM	**Songino Array**	**30.09**	**290**	P	**P**	**06 14 04.9**	**-0.4**	
	comp=Z,0.4nm,0.5s,baz=74,slow=11,SNR=2.6							
H11S1	**WAKE ISLAND Hy**	**30.54**	**149**	T	T	06 46 59.4		
	baz=341,slow=0.7,SNR=4.9							
H11S3	**WAKE ISLAND Hy**	**30.55**	**149**	T	T	06 46 58.2		
	baz=341,slow=0.7,SNR=29							
H11S2	**WAKE ISLAND Hy**	**30.56**	**149**	T	T	06 46 59.2		
	baz=341,slow=0.7,SNR=7.6							
HVS	**Khovu-Aksy**	**37.28**	**299**⇓*iP*		**P**	**06 15 07.6**	**0.0**	
HVS				pmax	pmax			
	comp=Z,28nm,1.2s							
ILAR	**Eielson Array**	**37.93**	**38**	P	**P**	**06 15 12.3**	**-0.5**	
	comp=Z,0.8nm,1.0s,baz=270,slow=7.5,SNR=5.5							
KWAJ	**Kwajalein Atol**	**39.92**	**154**	*eP*	**P**	**06 15 30.8**	**+1.0**	
ZALV	**Zalesovo Beam**	**41.70**	**306**	P	**P**	**06 15 43.7**	**-0.4**	
ZALV						06 17 38.7		
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ZALV				pmax	pmax			
	comp=Z,3.0nm,1.0s							
ZALV	**Zalesovo Beam**	**41.70**	**306**	P	**P**	**06 15 43.7**	**-0.4**	
	comp=Z,0.7nm,0.5s,baz=79,slow=7.5,SNR=2.3							
ZALV				PcP	**PcP**	**06 17 38.7**	**-0.3**	
	comp=Z,2.6nm,1.0s,baz=77,slow=2.0,SNR=4.3							
INK	**Inuvik**	**42.93**	**32**	P	**P**	**06 15 54.5**	**+0.6**	
	comp=Z,0.9nm,0.4s,baz=296,slow=9.2,SNR=11							
MKAR	**Makanchi Array**	**45.84**	**297**	*eP*	**P**	**06 16 17.7**	**+0.3**	
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
MKAR	**Makanchi Array**	**45.84**	**297**	P	**P**	**06 16 17.7**	**+0.3**	
	comp=Z,1.8nm,0.6s,baz=73,slow=8.4,SNR=17							
KURK	**Kurchatov**	**46.40**	**303**⇓*iP*		**P**	**06 16 21.0**	**-0.7**	
KURK				pmax	pmax			
	comp=Z,2.0nm,1.0s							
BRVK	**Borovoye**	**50.07**	**309**⇑*iP*		**P**	**06 16 49.9**	**0.0**	
BRVK				pmax	pmax			
	comp=Z,6.0nm,2.5s							
CMAR	**Chiang Mai Arr**	**50.76**	**255**	P	**P**	**06 16 56.4**	**+0.9**	
	comp=Z,0.7nm,0.4s,baz=37,slow=8.0,SNR=4.1							
AAK	**Ala-Archa**	**52.71**	**296**⇑*eP*		**P**	**06 17 10.1**	**+0.1**	
AAK				pmax	pmax			
	comp=Z,16nm,2.5s							
KBS	**Kingsbay**	**52.81**	**351**⇑*eP*		**P**	**06 17 09.0**	**-0.9**	
ARU	**Arti**	**54.39**	**317***d iP*		**P**	**06 17 20.1**	**-1.7**	
ARU						06 19 20.9		
ARU				S	**S**	**06 24 48.3**	**-4.7**	
ARU				SS	**SKiKP**	**06 28 28.4**	**+6.0**	
ARU				pmax	pmax			
	comp=Z,6.0nm,1.2s							
ARCES	**ARCESS Array B**	**57.87**	**340**	P	**P**	**06 17 45.8**	**-0.5**	
	comp=Z,3.5nm,0.9s,baz=40,slow=5.9,SNR=10							
FINES	**FINESS Array B**	**63.88**	**334**	P	**P**	**06 18 26.4**	**-0.8**	
	comp=Z,3.6nm,0.8s,baz=27,slow=7.6,SNR=16							
WRA	**Warramunga Arr**	**67.51**	**197**	P	**P**	**06 18 48.4**	**-2.5**	
	comp=Z,1.1nm,0.8s,baz=17,slow=6.9,SNR=11							
NB2	**NORSAR Subarra**	**68.25**	**340**	P	**P**	**06 18 54.9**	**-0.3**	
	comp=Z,1.6nm,0.5s,baz=28,slow=6.2							
NOA	**NORSAR Array B**	**68.25**	**340**	P	**P**	**06 18 55.0**	**-0.3**	
	comp=Z,2.7nm,0.6s,baz=27,slow=6.4,SNR=19							
KBZ	**Khabaz**	**70.14**	**313**	P	**P**			
KBZ				pmax	pmax			
	comp=Z,5.0nm,0.9s							
KBZ	**Khabaz**	**70.14**	**313**	P	**P**	**06 19 07.8**	**+0.7**	
	comp=Z,4.6nm,0.9s,baz=31,slow=6.7,SNR=6.2							
AKASG	**Malin Array Be**	**71.15**	**325**	P	**P**	**06 19 12.3**	**-0.8**	
AKASG				pmax	pmax			
	comp=Z,12nm,0.3s							
AKASG	**Malin Array Be**	**71.15**	**325**	P	**P**	**06 19 12.3**	**-0.8**	
	comp=Z,12nm,0.3s,baz=34,slow=6.2,SNR=2.3							
ASAR	**Alice Springs**	**71.22**	**196**	P	**P**	**06 19 12.4**	**-1.3**	
	comp=Z,0.8nm,0.8s,baz=12,slow=5.4,SNR=9.3							
BURAR	**Bucovina Array**	**75.20**	**325**	⇓*iP*	**P**	**06 19 37.6**	**+0.5**	
BURAR	**Bucovina Array**	**75.20**	**325**	⇓*iP*	**P**	**06 19 37.6**	**+0.5**	
KOLS	**Kolonicke sedl**	**75.24**	**328**	*eP*	**P**	**06 19 37.2**	**-0.1**	
KOLS				pmax	pmax			
	comp=Z,12nm,1.5s							
KOLS	**Kolonicke sedl**	**75.24**	**328**	*eP*	**P**	**06 19 37.2**	**-0.1**	
OKC	**Ostrava-Krasne**	**75.95**	**331**	*eP*	**P**	**06 19 42.4**	**+1.2**	
OKC	**Ostrava-Krasne**	**75.95**	**331**	*eP*	**P**	**06 19 42.4**	**+1.2**	
PLOR	**Plostina**	**76.05**	**323**	⇓P	P	06 19 47.6	+5.7	
PLOR	**Plostina**	**76.05**	**323**	⇓*iP*	P	06 19 47.6	+5.7	
DPC	**Dobruska-Polom**	**76.12**	**332**	*eP*	**P**	**06 19 43.4**	**+1.1**	
DPC	**Dobruska-Polom**	**76.12**	**332**	*eP*	**P**	**06 19 43.4**	**+1.1**	
MORC	**Moravsky Berou**	**76.20**	**331**	⇓P	**P**	**06 19 44.0**	**+1.2**	
MORC	**Moravsky Berou**	**76.20**	**331**	⇓*iP*	**P**	**06 19 44.0**	**+1.2**	
KECS	**Kecovo**	**76.27**	**329**	*eP*	**P**	**06 19 44.0**	**+0.9**	
KECS				pmax	pmax			
	comp=Z,3.0nm,1.3s							
KECS	**Kecovo**	**76.27**	**329**	*eP*	**P**	**06 19 44.0**	**+0.9**	
CLL	**Collm**	**76.33**	**334**	⇓*iP*	**P**	**06 19 43.6**	**+0.3**	
CLL				pmax	pmax			
	comp=Z,7.0nm,0.9s							
CLL	**Collm**	**76.33**	**334**	⇓*iP*	**P**	**06 19 43.6**	**+0.3**	
	comp=Z,7.0nm,0.9s							
MLR	**Muntele Rosu**	**76.63**	**324**	⇓*iP*	**P**	**06 19 47.6**	**+2.2**	
PRU	**Pruhonice**	**77.00**	**333**	*eP*	**P**	**06 19 47.9**	**+0.7**	
PRU	**Pruhonice**	**77.00**	**333**	*eP*	**P**	**06 19 47.9**	**+0.7**	
VOIR		**77.04**	**324**	⇓P	**P**	**06 19 48.0**	**+0.4**	
VOIR		**77.04**	**324**	⇓*iP*	**P**	**06 19 48.0**	**+0.4**	
ARR	**Arges**	**77.27**	**324**	⇑*iP*	**P**	**06 19 51.0**	**+2.2**	
NKC	**Novy Kostel**	**77.44**	**334**	*eP*	**P**	**06 19 50.3**	**+0.6**	
NKC	**Novy Kostel**	**77.44**	**334**	*eP*	**P**	**06 19 50.3**	**+0.6**	
SIRR	**Siria**	**77.69**	**327**	⇓*iP*	**P**	**06 19 51.2**	**+0.1**	
BRTR	**Keskin Array B**	**77.74**	**315**	P	**P**	**06 19 52.0**	**+0.3**	
	comp=Z,1.8nm,0.9s,baz=116,slow=5.6,SNR=5.7							
KHC	**Kasperske Hory**	**78.06**	**333**	*eP*	**P**	**06 19 54.1**	**+0.9**	
KHC	**Kasperske Hory**	**78.06**	**333**	*eP*	**P**	**06 19 54.1**	**+0.9**	
GERES	**GERESS Array B**	**78.27**	**333**	P	**P**	**06 19 54.8**	**+0.4**	
	comp=Z,1.1nm,0.5s,baz=24,slow=5.6,SNR=11							
TXAR	**Lajitas Array**	**79.09**	**59**	P	**P**	**06 19 58.2**	**-1.0**	
	comp=Z,0.2nm,0.5s,baz=282,slow=2.1,SNR=5.8							
VTS	**Vitosha**	**80.14**	**324**	⇓P	**P**	**06 20 05.2**	**+0.5**	
VTS	**Vitosha**	**80.14**	**324**	⇓*iP*	**P**	**06 20 05.2**	**+0.5**	
CDF	**Champ du Feu**	**80.58**	**336**	*eP*	**P**	**06 20 07.3**	**+0.4**	
PAGF	**Fort de Pagny**	**80.87**	**337**	*eP*	**P**	**06 20 08.6**	**+0.2**	
SFTF	**Sexfontaines**	**81.37**	**338**	*eP*	**P**	**06 20 11.3**	**+0.3**	
	comp=Z,6.5nm,0.5s							
FLN	**La Foliniere**	**82.19**	**341**	*eP*	**P**	**06 20 15.5**	**+0.2**	
LDF	**La Druitiere**	**82.27**	**341**	*eP*	**P**	**06 20 15.6**	**-0.1**	
LOR	**Lormes**	**82.55**	**338**	*eP*	**P**	**06 20 17.3**	**+0.1**	
	comp=Z,4.8nm,0.7s							
GRR	**Gorron**	**82.63**	**341**	*eP*	**P**	**06 20 17.9**	**+0.3**	
SSF	**Saint Saulge**	**82.83**	**338**	*eP*	**P**	**06 20 18.8**	**+0.1**	
AVF	**Avril sur Loir**	**83.12**	**338**	*eP*	**P**	**06 20 21.0**	**+0.8**	
	comp=Z,2.2nm,0.4s							
SGMF	**Saint Gilles**	**83.12**	**343**	*eP*	**P**	**06 20 20.2**	**+0.1**	
SMF	**Signal de Mont**	**83.13**	**338**	*eP*	**P**	**06 20 20.6**	**+0.4**	
	comp=Z,5.8nm,0.6s							
ROSF	**Rostrenen**	**83.19**	**343**	*eP*	**P**	**06 20 20.8**	**+0.3**	
LPG	**La Plagne**	**83.38**	**336**	*eP*	**P**	**06 20 21.5**	**-0.4**	
TCF	**Toulx Ste Croi**	**83.88**	**339**	*eP*	**P**	**06 20 24.7**	**+0.6**	
MFF	**Saint Martin d**	**84.15**	**340**	*eP*	**P**	**06 20 25.7**	**+0.2**	
ORIF	**Oris-en-Rattie**	**84.16**	**336**	*eP*	**P**	**06 20 26.4**	**+0.7**	
	comp=Z,3.8nm,0.6s							
SBF	**Sospel**	**84.67**	**334**	*eP*	**P**	**06 20 28.7**	**+0.5**	
	comp=Z,12nm,0.8s							
SMRF	**Simiane la Rot**	**85.11**	**336**	*eP*	**P**	**06 20 30.7**	**+0.3**	
FRF	**La Foret Royal**	**85.18**	**335**	*eP*	**P**	**06 20 31.2**	**+0.5**	
CAF	**Calviac**	**85.18**	**338**	*eP*	**P**	**06 20 30.9**	**+0.2**	
	comp=Z,6.7nm,0.8s							
LMR	**La Mourre**	**85.43**	**335**	*eP*	P	06 20 28.4	-3.5	
LASF	**Ste Croix**	**85.50**	**337**	*eP*	**P**	**06 20 32.4**	**+0.1**	
MTLF	**Montolieu**	**86.62**	**338**	*eP*	**P**	**06 20 38.7**	**+0.9**	
H03N2	**Juan Fernandez**	**140.27**	**89**	T	T	09 04 01.5		
	SNR=22							
H03N1	**Juan Fernandez**	**140.29**	**89**	T	T	09 04 01.5		
	SNR=23							
H03N3	**Juan Fernandez**	**140.29**	**89**	T	T	09 04 01.3		
	SNR=26							

JMA 31 06:14:55.6±0.1, 37.46N×141.95E, h41km±3km, M3.5, 5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.86**	**264**	⇓P	Pn	06 15 11.4	+0.1
JFK				S	Sn	06 15 22.9	+0.1
ONAJ	**Iwakimizuishiy**	**0.99**	**249**	⇓P	Pn	06 15 13.0	0.0
ONAJ				S	Sn	06 15 25.7	-0.2
JMM	**Marumori**	**1.00**	**294**	⇓P	Pn	06 15 13.5	+0.3
JMM				S	Sn	06 15 26.5	+0.4
JIO	**Ouri**	**1.10**	**335**	⇓P	Pn	06 15 14.8	+0.3
JIO				S	Sn	06 15 28.3	-0.2
JFT	**Otama**	**1.28**	**273**	⇓P	Pn	06 15 18.1	+1.0
JFT				S	Sn	06 15 34.4	+1.3
JOU	**Okura**	**1.36**	**312**	P	Pn	06 15 19.2	+1.0
JOU				*eS*	Sn	06 15 36.6	+1.6
JMK	**Ichinoseki**	**1.60**	**339**	P	Pn	06 15 22.3	+1.0
JYS	**Shirataka**	**1.67**	**298**	P	Pn	06 15 23.9	+1.5
JYS				*eS*	Sn	06 15 45.0	+2.3
JFY	**Yanaizu**	**1.79**	**269**	P	Pn	06 15 25.1	+1.1
JYK	**Kaneyama**	**1.92**	**320**	P	Pn	06 15 26.8	+1.0
JOM	**Ohasama**	**2.08**	**346**	P	Pn	06 15 29.2	+1.3
MAT	**Matsushiro**	**3.13**	**254**	P	Pn	06 15 45.1	+2.6
MAT				*eS*	Sn	06 16 24.2	+5.5

NEIC 31 06:52:24.0, 38.80N×122.77W, h5km, MW3.6(BRK), After NCEDC., Northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPS	**Hopland**	**0.31**	**310**	*eP*	Pg	06 52 30.4	+0.3
HOPS				*eSg*	Sb	06 52 37.9	+0.4
MCCM	**Marconi Confer**	**0.66**	**188**	*eP*	Pb	06 52 37.2	-0.7
MCCM				*eSg*	Sb	06 52 48.2	+0.9
KCPM	**Cahto Peak**	**1.09**	**325**	*eP*	Pg	06 52 45.0	-0.1
KIPM	**Iron Peak**	**1.15**	**332**	*ePn*	Pn	06 52 46.9	-0.2
SAC	**San Andreas**	**1.24**	**167**	*ePn*	Pg	06 52 46.3	-1.6
WDC	**Whiskeytown Da**	**1.79**	**6**	*ePn*	Pn	06 52 54.7	-0.9
CMB	**Columbia Colle**	**2.02**	**111**	*ePn*	Pn	06 52 57.8	-1.1
CMB				*eSn*	Sn	06 53 22.1	-2.4
KHMM	**Horse Mountain**	**2.21**	**341**	*ePn*	Pb	06 53 03.4	-1.2
SAO	**San Andreas Ge**	**2.28**	**152**	*ePn*	Pn	06 52 59.9	-2.5
WAKR	**Walker**	**2.62**	**95**	*ePn*	Pn	06 53 08.1	+0.8
PAHR	**Pah Rah Range**	**2.78**	**70**	*ePn*	Pn	06 53 08.7	-0.8
KRMB	**Red Mountain**	**2.86**	**343**	*ePn*	Pn	06 53 11.2	+0.7
YBH	**Yreka Blue Hor**	**2.93**	**1**	*ePn*	Pn	06 53 12.4	+0.9
MOD	**Modoc**	**3.63**	**30**	*ePn*	Pn	06 53 20.5	-0.7
NV11	**Mina Array Sit**	**3.63**	**94**	*ePn*	Pn	06 53 20.9	-0.3
NV11				*ePg*	Pb	06 53 29.8	+0.8
NV11				*eSg*	Sg	06 54 18.7	-2.4
HUMO	**Hull Mountain**	**3.81**	**358**	*ePg*	Pb	06 53 32.9	+1.1
TPH	**Tonopah**	**4.41**	**98**	*ePg*	Pb	06 53 43.8	+1.5
ISA	**Isabella**	**4.64**	**131**	*ePn*	Pn	06 53 34.5	-0.3
WVOR	**Wild Horse Val**	**4.81**	**40**	*ePg*	Pb	06 53 50.5	+1.6
GSC	**Goldstone**	**5.91**	**124**	*ePn*	Pn	06 53 52.2	-0.1
	3.0nm,0.5s						

IDC 31 07:05:01.1±2.0, 2.91S×128.26E, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.6/22, mbtmp3.7/3, ML3.5/1, Error ellipse: s-maj=139.0km s-min=25.7km az=68.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.94**	**161**	P	P	07 09 12.7	-0.2
	0.2nm,0.3s,baz=340,slow=12,SNR=15						
ASAR	**Alice Springs**	**21.35**	**166**	P	P	07 09 49.1	-1.0
	4.2nm,0.8s,baz=343,slow=11,SNR=41						
MKAR	**Makanchi Array**	**63.88**	**327**	P	P	07 15 36.1	+0.4
	0.4nm,0.7s,baz=110,slow=8.3,SNR=2.9						

*IDC **31** 07:13:13.3±1.4, 1.54N×122.48E, h0km, mb3.5/4, mb1 3.7/6, mb1mx3.5/25, mbtmp3.5/6, ML3.5/2, Error ellipse: s-maj=61.4km s-min=22.4km az=66.0*
*ISCJB **31** 07:13:15.8±1.2, 1.5N±0.1×122.2E±0.1, h33km, mb3.3/4, Error ellipse: s-maj=17.1km s-min=13.5km az=28.0*
*DJA **31** 07:13:18.3±1.2, 2.1N±12°×12°2E±°, h45km, M4.3/7, mb4.5/1, mB5.0/1, MLv4.2/7, Mw(mB)4.3/1*

ISC 31 07:13:17.3±1.3, 1.6N±0.1×122.21E±0.10, h35km, n13, σ1.9 94/12, mb3.5/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**1.16**	**194**	P	**Pn**	**07 13 35.1**	**-2.1**
GTOI	**Gorontalo**	**1.26**	**141**	P	**Pn**	**07 13 36.1**	**-2.3**
TOLI	**Toli-Toli**	**1.50**	**251**	P	**Pn**	**07 13 39.5**	**-2.3**
KMSI	**Cibinong**	**2.05**	**120**	P	Pn	07 13 53.9	+4.6
APSI	**Ampana**	**2.57**	**193**	P	**Pn**	**07 13 58.9**	**+2.4**
LUWI	**Luwuk**	**2.70**	**168**	P	**Pn**	**07 13 59.5**	**+1.2**
TTSI	**Tana Toraja**	**5.21**	**207**	P	**Pn**	**07 14 32.1**	**-0.8**
KAPI	**Kappang**	**7.03**	**200**	Pn	**Pn**	**07 14 58.4**	**+0.6**
	0.4nm,0.3s,baz=17,slow=8.3,SNR=2.7						
FITZ	**Fitzroy Crossi**	**19.88**	**170**	P	**P**	**07 17 44.0**	**-1.8**
	0.2nm,0.3s,baz=332,slow=6.7,SNR=5.3						
WRA	**Warramunga Arr**	**24.51**	**152**	P	**P**	**07 18 32.4**	**-1.2**
	1.1nm,0.8s,baz=328,slow=10,SNR=9.6						
ASAR	**Alice Springs**	**27.58**	**156**	P	**P**	**07 19 01.4**	**-0.1**
	0.2nm,0.7s,baz=345,slow=12,SNR=3.5						
STKA	**Stephens Creek**	**38.05**	**153**	P	**P**	**07 20 32.4**	**-0.2**
	1.0nm,0.7s,baz=333,slow=9.0,SNR=2.2						
MKAR	**Makanchi Array**	**56.83**	**328**	P	**P**	**07 23 01.0**	**+2.5**
	0.2nm,0.5s,baz=130,slow=8.6,SNR=3.0						

NNC 31 07:34:52.1±0.4, 50.00N×78.76E, h0km, mb3.6, mpv3.2, 6C-6D, Error ellipse: s-maj=7.4km s-min=2.1km az=74.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR10	**Kurchatov Arra**	**0.55**	**342**	P	Pg	07 35 03.1	+0.4
KUR10				S	Sg	07 35 11.3	+1.5
KUR09	**Kurchatov Arra**	**0.57**	**344**	P	Pg	07 35 03.5	+0.5
KUR09				S	Sg	07 35 11.9	+1.5
KUR08	**Kurchatov Arra**	**0.58**	**344**	P	Pg	07 35 03.8	+0.4
KUR08				S	Sg	07 35 12.1	+1.2
KUR07	**Kurchatov Arra**	**0.60**	**345**	P	Pg	07 35 04.1	+0.4
KUR07				S	Sg	07 35 12.8	+1.3
KUR11	**Kurchatov Arra**	**0.60**	**356**	P	Pg	07 35 03.9	+0.2
KUR11				S	Sb	07 35 13.2	-1.4
KUR12	**Kurchatov Arra**	**0.61**	**354**	P	Pg	07 35 04.2	+0.3
KUR12				S	Sb	07 35 13.9	-1.0
KUR13	**Kurchatov Arra**	**0.62**	**352**	P	Pg	07 35 04.1	+0.2
KUR13				S	Sg	07 35 12.7	+0.8
KUR06	**Kurchatov Arra**	**0.62**	**346**	P	Pg	07 35 04.5	+0.5
KUR06				S	Sg	07 35 13.5	+1.4
KUR14	**Kurchatov Arra**	**0.62**	**350**	P	Pg	07 35 04.3	+0.2
KUR14				S	Sg	07 35 13.4	+1.2
KUR15	**Kurchatov Arra**	**0.63**	**349**	P	Pg	07 35 04.2	0.0
KUR15				S	Sg	07 35 13.7	+1.3
KURBB	**Kurchatov Arra**	**0.64**	**347**	⇑P	Pg	07 35 04.6	+0.2
	88nm,0.8s						
KURBB				⇓S	Sg	07 35 14.1	+1.4
	170nm,0.6s						
KUR16	**Kurchatov Arra**	**0.65**	**345**	P	Pg	07 35 04.7	+0.1
KUR16				S	Sg	07 35 13.4	+0.4
KUR05	**Kurchatov Arra**	**0.66**	**348**	P	Pg	07 35 05.1	+0.4
KUR05				S	Sg	07 35 13.9	+0.6
KUR17	**Kurchatov Arra**	**0.66**	**344**	P	Pg	07 35 04.8	+0.1
KUR17				S	Sg	07 35 14.1	+0.8
KUR18	**Kurchatov Arra**	**0.67**	**342**	P	Pg	07 35 04.8	-0.1
KUR18				S	Sg	07 35 14.0	+0.4
KUR04	**Kurchatov Arra**	**0.68**	**348**	P	Pg	07 35 05.5	+0.4
KUR04				S	Sg	07 35 14.8	+0.9
KUR19	**Kurchatov Arra**	**0.68**	**341**	P	Pg	07 35 04.7	-0.5
KUR19				S	Sg	07 35 14.1	+0.2
KUR20	**Kurchatov Arra**	**0.69**	**339**	P	Pg	07 35 04.8	-0.6
KUR20				S	Sg	07 35 14.7	+0.5
KUR03	**Kurchatov Arra**	**0.69**	**349**	P	Pg	07 35 05.7	+0.3
KUR03				S	Sg	07 35 15.4	+0.9
KUR02	**Kurchatov Arra**	**0.71**	**350**	P	Pg	07 35 06.3	+0.5
KUR02				S	Sg	07 35 15.8	+0.7
KURK	**Kurchatov**	**0.72**	**353**	⇑P	Pg	07 35 06.1	+0.2
	13nm,0.6s						
KURK				⇓S	Sg	07 35 15.7	+0.4
	31nm,0.9s						
KUR01	**Kurchatov Arra**	**0.73**	**350**	P	Pg	07 35 06.7	+0.5
KUR01				S	Sg	07 35 15.6	-0.1
MK31	**Makanchi Array**	**3.98**	**142**	Pn	Pn	07 35 56.6	+2.2
	0.2nm,0.2s,baz=278,slow=7.1,SNR=27						
MK31				⇑Pg	Pg	07 36 06.1	-2.3
	3.6nm,0.6s,baz=325,slow=15,SNR=10						
MK31				⇓Sn	Sn	07 36 41.8	0.0
	33nm,1.3s,baz=18,slow=30,SNR=5.3						
MK31				Lg	Lg	07 36 59.2	
	18nm,0.6s,baz=327,slow=28,SNR=19						
VOSK	**Vostochnaya**	**5.58**	**302**	⇓Pg	Pb	07 36 32.0	+1.6
	5.4nm,0.8s						
VOSK				⇑Lg	Lg	07 37 47.9	
	9.4nm,0.9s						
BVA0	**Borovoye Array**	**6.04**	**303**	⇓Pg	Pb	07 36 41.2	+3.1
	3.7nm,0.8s						
BVA0				⇑Lg	Lg	07 38 03.4	
	6.9nm,1.1s,baz=107,slow=28,SNR=3.7						
BRVK	**Borovoye**	**6.11**	**303**	⇑Pg	Pb	07 36 42.6	+3.3
	5.5nm,1.0s						
BRVK				⇓Lg	Lg	07 38 04.5	
	15nm,1.2s						

KRSC 31 07:39:47.3±4.9, 50.26N×156.93E, h5km±5km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.67**	**310**	*eP*	Pb	07 40 01.9	+0.4
SKR				*eS*	Sb	07 40 11.7	+0.7
PAU	**Pauzhetka**	**1.21**	**356**	*eP*	Pn	07 40 11.3	+0.4
PAU				*eS*	Sb	07 40 27.0	+0.4
MTVR	**Mutnovka**	**2.36**	**19**	*eS*	Sn	07 40 57.1	+0.7
RUS	**Russkaya**	**2.39**	**24**	*eP*	Pn	07 40 28.2	+1.1
RUS				*eS*	Sn	07 40 56.9	+0.1
AVH	**Avacha**	**3.21**	**20**	*eP*	Pb	07 40 42.1	-2.8
AVH				*eS*	Sn	07 41 18.4	+1.2
KRX	**Arik**	**3.28**	**18**	*eP*	Pn	07 40 42.3	+2.8
KRX				*eS*	Sn	07 41 21.2	+2.1

IDC 31 07:51:13.6±5.6, 15.11S×172.35W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/21, mbtmp4.0/3, MS3.7/1, Ms1 3.7/1, ms1mx3.1/25, Error ellipse: s-maj=199.7km s-min=18.2km az=128.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.31**	**25**	Pn	Pn	07 51 39.7	+0.4
	35nm,0.3s,baz=18,slow=3.3,SNR=37						
AFI				Sn	Sn	07 51 57.2	-0.4
	143nm,0.3s,baz=181,slow=16,SNR=11						
STKA	**Stephens Creek**	**45.06**	**240**	P	P	07 59 30.8	-0.7
	0.4nm,0.4s,baz=56,slow=10.0,SNR=2.9						
WRA	**Warramunga Arr**	**50.90**	**256**	P	P	08 00 17.2	+0.3
	0.7nm,0.6s,baz=93,slow=7.0,SNR=10						
WRA				LR	LR	08 20 46.4	
	comp=Z,72nm,18.2s,baz=75,slow=35						
ASAR	**Alice Springs**	**51.16**	**252**	P	P	08 00 18.7	-0.2
	2.4nm,0.5s,baz=88,slow=7.9,SNR=46						

IDC 31 08:46:10.1±2.2, 14.76S×173.36W, h0km, mb4.1/2, mb1 4.3/2, mb1mx3.7/21, mbtmp4.1/2, Error ellipse: s-maj=173.0km s-min=19.6km az=155.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.75**	**61**	Pn	Pn	08 46 42.2	+0.2
	13nm,0.3s,baz=280,slow=5.6,SNR=23						
AFI				Sn	Sb	08 47 05.8	-0.2
	56nm,0.3s,baz=31,slow=19,SNR=7.9						
WRA	**Warramunga Arr**	**50.03**	**256**	P	P	08 55 07.0	+0.1
	0.4nm,0.4s,baz=92,slow=6.3,SNR=23						
ASAR	**Alice Springs**	**50.34**	**251**	P	P	08 55 09.1	-0.2
	3.3nm,0.7s,baz=88,slow=8.3,SNR=64						
BRTR	**Keskin Array B**	**145.68**	**322**	PKPbc	PKPdf	09 05 50.2	-0.9
	0.6nm,0.9s,baz=76,slow=6.1,SNR=2.8						

**JMA 31 08:49:28.7±0.1,

EIBI			S		Sn	09 21 21.1	-0.5
	2.8nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**3.14 358**	P		**Pn**	**09 20 54.9**	**+0.1**
	0.8nm,0.1s,SNR=7.9						
ETOS			S		Sn	09 21 30.0	-2.3
	1.4nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**3.14 358**	P		**Pn**	**09 20 54.9**	**+0.1**
	0.8nm,0.1s,SNR=7.9						
ETOS			S		Sn	09 21 30.0	-2.3
	1.4nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**3.25 311**	P		**Pn**	**09 20 59.1**	**+2.7**
	0.2nm,0.1s,SNR=7.9						
EBEN			S		Sn	09 21 35.5	+0.3
	0.5nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**3.25 311**	P		**Pn**	**09 20 59.1**	**+2.7**
	0.2nm,0.1s,SNR=7.9						
EBEN			S		Sn	09 21 35.5	+0.3
	0.5nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**4.09 301**	P		**Pn**	**09 21 09.5**	**+1.6**
	0.8nm,0.2s,SNR=7.9						
ETOB			S		Sn	09 21 57.2	+1.4
	0.5nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**4.09 301**	P		**Pn**	**09 21 09.5**	**+1.6**
	0.8nm,0.2s,SNR=7.9						
ETOB			S		Sn	09 21 57.2	+1.4
	0.5nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**4.59 325**	P		**Pn**	**09 21 16.4**	**+1.5**
	1.1nm,0.2s,SNR=7.9						
EMOS			S		Sn	09 22 06.6	-1.7
	2.1nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**4.59 325**	P		**Pn**	**09 21 16.4**	**+1.5**
	1.1nm,0.2s,SNR=7.9						
EMOS			S		Sn	09 22 06.6	-1.7
	2.1nm,0.3s,SNR=7.9						
EQES	**Quesada**	**4.93 286**	P		**Pn**	**09 21 21.2**	**+1.7**
	SNR=7.9						
EQES	**Quesada**	**4.93 286**	P		**Pn**	**09 21 21.2**	**+1.7**
	SNR=7.9						

*NIED **31** 09:34:00,30˚.70N×143˚.50E,h5km,Mw3.9 Best double couple: M₀7.50000×10¹⁴ NP1:φ₈193.00000°, δ64.00000°, λ-39.00000°. NP2:φ₈303.00000°, δ56.00000°, λ-148.00000°.*

*JMA **31** 09:34:36.9±0.2,30˚.71N×143˚.55E,h40km,M4.4*

*IDC **31** 09:34:37.7±0.6,30˚.59N×143˚.28E,h0km,mb4.0/14, mb1 4.2/17,mb1mx4.1/28,mbtmp4.0/17,ML3.9/3,Error ellipse: s-maj=21.6km s-min=15.1km az=89.0*

*ISCJB **31** 09:34:40.8±0.5,30˚.66N±0˚.03×142˚.95E±0˚.09,h45km, mb4.0/15,Error ellipse: s-maj=11.1km s-min=4.2km az=165.0*

ISC 31 09:34:43.1±0.6,30˚58N±0˚.04×142˚9E±0˚.1,h45km,n42, σ1♀88/40,mb4.0/15,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.53 191**		P	**Pn**	**09 35 34.5**	**-1.0**
CBIJ				S	**Sn**	**09 36 12.8**	**-3.2**
JCJ	**Chichijima**	**3.53 191**		Pn	**Pn**	**09 35 34.4**	**-1.1**
	36nm,0.3s,baz=293,slow=7.6,SNR=29						
JCJ				Sn	**Sn**	**09 36 12.3**	**-3.7**
	64nm,0.3s,baz=290,slow=24,SNR=9.3						
JHJ2	**Mitsune**	**3.66 314**		P	**Pn**	**09 35 37.5**	**+0.4**
JHJ2				eS	**Sn**	**09 36 18.3**	**-0.7**
JHHJ	**Haha-jima-NKT**	**3.99 190**		P	**Pn**	**09 35 41.6**	**-0.1**
JHHJ				eS	**Sn**	**09 36 27.0**	**-0.3**
BSO1	**Boso 1**	**4.38 338**		P	**Pn**	**09 35 44.4**	**-2.2**
BSO1				eS	**Sn**	**09 36 34.9**	**-1.2**
BSO4	**Boso 4**	**4.91 334**		P	**Pn**	**09 35 53.7**	**-0.5**
BSO4				eS	**Sn**	**09 36 48.5**	**-1.2**
JOD2	**Odawara 2**	**5.68 326**		P	**Pn**	**09 36 03.8**	**-1.1**
JYT	**Yasato**	**6.08 339**		eS	**Sn**	**09 37 16.6**	**-2.0**
JHU	**Hanno**	**6.08 331**		P	**Pn**	**09 36 08.8**	**-1.6**
JHU				eS	**Sn**	**09 37 15.2**	**-3.5**
JHO	**Hitachi**	**6.33 342**		P	Pn	09 36 10.3	-3.5
JHO				eS	Sn	09 37 16.7	-8.0
JRY	**Ryogami san**	**6.38 329**		P	**Pn**	**09 36 13.9**	**-0.7**
JIE	**Ise**	**6.49 307**		P	**Pn**	**09 36 17.5**	**+1.5**
JAG	**Ashikaga**	**6.51 334**		P	**Pn**	**09 36 14.8**	**-1.5**
JKN2	**Miekihoku**	**6.71 305**		P	**Pn**	**09 36 20.7**	**+1.7**
MJAR	**Matsushiro Arr**	**7.13 328**		Pn	**Pn**	**09 36 24.3**	**-0.5**
	1.8nm,0.3s,baz=160,slow=13,SNR=17						
MJAR				Sn	Sn	09 37 39.0	-5.5
	0.4nm,0.3s,baz=69,slow=24,SNR=1.4						
JMK	**Ichinoseki**	**8.47 351**		P	**Pn**	**09 36 40.1**	**-3.0**
JMK				eS	Sn	09 38 07.0	-10
ASAJ	**Asahikawa**	**13.51 359**		Pn	Pn	09 37 48.1	-4.0
	0.9nm,0.3s,baz=186,slow=20,SNR=7.8						
ASAJ				Sn	Sn	09 40 04.9	-16
	0.3nm,0.3s,baz=241,slow=9.9,SNR=2.4						
KSRS	**Korea Array**	**14.20 303**		Pn	**P**	**09 38 05.9**	**-1.9**
	0.1nm,0.3s,baz=103,slow=12,SNR=3.1						
USRK	**Ussuriysk Arra**	**16.12 331**		Pn	**P**	**09 38 33.0**	**+4.0**
	0.1nm,0.3s,baz=152,slow=14,SNR=4.3						
H11N2	**WAKE ISLAND Hy 24.18 111**			T	T	10 04 37.5	
	baz=308,slow=0.7,SNR=14						
H11N1	**WAKE ISLAND Hy 24.19 111**			T	T	10 04 38.7	
	baz=308,slow=0.7,SNR=12						
H11N3	**WAKE ISLAND Hy 24.20 111**			T	T	10 04 38.8	
	baz=308,slow=0.7,SNR=8.4						
H11S3	**WAKE ISLAND Hy 24.68 114**			T	T	10 05 15.4	
	baz=308,slow=0.7,SNR=8.5						
H11S1	**WAKE ISLAND Hy 24.68 114**			T	T	10 05 18.1	
	baz=308,slow=0.7,SNR=11						
H11S2	**WAKE ISLAND Hy 24.69 114**			T	T	10 05 19.3	
	baz=308,slow=0.7,SNR=12						
SONM	**Songino Array**	**32.76 312**		P	P	09 41 17.6	+5.8
	2.1nm,0.7s,baz=108,slow=7.7,SNR=3.1						
ZALV	**Zalesovo Beam**	**47.34 317**		P	**P**	**09 43 14.6**	**+2.4**
	0.5nm,0.6s,baz=109,slow=7.8,SNR=1.5						
ZALV				PcP	**PcP**	**09 44 44.3**	**+1.8**
	1.2nm,0.7s,baz=114,slow=4.2,SNR=5.2						
MKAR	**Makanchi Array**	**48.83 307**		P	**P**	**09 43 26.5**	**+2.6**
	0.8nm,0.6s,baz=82,slow=8.4,SNR=6.5						
WRA	**Warramunga Arr**	**50.91 190**		P	**P**	**09 43 41.3**	**+1.4**
	3.5nm,0.5s,baz=9.4,slow=7.7,SNR=54						
KURBB	**Kurchatov Arra**	**51.13 312**		P	**P**	**09 43 43.0**	**+1.8**
	0.7nm,0.6s,baz=91,slow=9.1,SNR=2.3						
ILAR	**Eielson Array**	**54.36 30**		P	**P**	**09 44 04.3**	**-0.5**
	0.6nm,0.8s,baz=265,slow=5.6,SNR=7.2						
ASAR	**Alice Springs**	**54.63 190**		P	**P**	**09 44 08.7**	**+1.4**
	1.4nm,0.6s,baz=6.5,slow=7.4,SNR=40						
BVAR	**Borovoye Array**	**55.96 316**		P	P	09 44 20.1	+3.4
	0.8nm,0.5s,baz=78,slow=8.0,SNR=3.7						
INK	**Inuvik**	**59.60 25**		P	**P**	**09 44 41.8**	**0.0**
	2.3nm,0.8s,baz=236,slow=7.3,SNR=8.6						
STKA	**Stephens Creek**	**62.13 181**		P	**P**	**09 45 00.5**	**+1.0**
	1.2nm,0.7s,baz=34,slow=4.9,SNR=4.3						
YKA	**Yellowknife Ar**	**68.78 29**		P	**P**	**09 45 41.7**	**-0.4**
	1.2nm,0.7s,baz=298,slow=6.3,SNR=2.3						
FINES	**FINESS Array B**	**75.12 334**		P	**P**	**09 46 22.2**	**+2.1**
	1.7nm,0.9s,baz=56,slow=7.4,SNR=3.1						
NVAR	**Mina Array Bea**	**77.87 53**		P	**P**	**09 46 36.6**	**+0.2**
	1.3nm,0.8s,baz=292,slow=5.6,SNR=12						
BRTR	**Keskin Array B**	**84.12 313**		P	**P**	**09 47 11.8**	**+2.2**
	2.5nm,0.8s,baz=101,slow=5.2,SNR=9.1						
TXAR	**Lajitas Array**	**93.00 53**		P	**P**	**09 47 52.5**	**+0.4**
	0.9nm,0.9s,baz=336,slow=2.7,SNR=6.4						
TORD	**Torodi Ar. Bea**	**122.73 314**		PKP	**PKPdf**	**09 53 35.8**	**+1.1**
	0.1nm,0.5s,baz=52,slow=2.0,SNR=1.6						
LPAZ	**La Paz**	**148.27 70**		PKPbc	**PKPab**	**09 54 26.8**	**-2.0**
	1.4nm,0.5s,baz=24,slow=5.0,SNR=9.9						

*IDC **31** 09:59:56.1±1.0,35˚.62N×69˚.94E,h0km,mb3.9/6, mb1 3.9/10,mb1mx3.7/31,mbtmp3.8/10,ML3.8/4,Error ellipse: s-maj=26.0km s-min=21.6km az=79.0*

*ISCJB **31** 10:00:15.7±0.7,36˚.44N±0˚.05×70˚.41E±0˚.09,h204km, mb3.5/5,Error ellipse: s-maj=10.9km s-min=5.3km az=155.3*

*NNC **31** 10:00:23.4±4.2,37˚.07N×70˚.31E,h231km±41km,mb3.0, mpv4.1,Error ellipse: s-maj=38.5km s-min=27.3km az=33.0*

ISC 31 10:00:17.5±0.9,36˚62N±0˚.08×70˚38E±0˚.09,h204km,n36, σ2♀04/32,mb3.7/5,2C-6D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**3.06 155**		⇓P	Pn	10 00 59.0	-9.2
CEP				S	S	10 01 34.0	-13
CHCP	**Chirah Chowk**	**3.78 140**		P	Pn	10 01 09.6	-7.2
THW	**Thamme Wali**	**3.98 163**		P	Pn	10 01 09.7	-9.5
AML	**Almayashu**	**6.08 24**		P	**Pn**	**10 01 47.0**	**+0.9**
	SNR=91						
KK31	**Karatay Array**	**6.48 1**		⇑P	**Pn**	**10 01 51.0**	**+0.1**
	4.8nm,0.4s,baz=189,slow=13,SNR=166						
KK31				⇓S	**S**	**10 03 02.5**	**-2.4**
	7.3nm,0.4s,baz=195,slow=24,SNR=14						
EKS2	**Erkin-Say**	**6.58 22**		P	**Pn**	**10 01 53.8**	**+1.4**
	SNR=16						
KZA	**Kyzart**	**6.63 33**		P	**Pn**	**10 01 54.1**	**+0.8**
	SNR=23						
AAK	**Ala-Archa**	**6.79 27**		P	**Pn**	**10 01 56.5**	**+1.4**
	SNR=33						
KBK	**Karagaybulak**	**6.99 29**		P	**Pn**	**10 01 59.5**	**+1.8**
	SNR=8.2						
CHMS	**Chumysh**	**7.21 26**		P	**Pn**	**10 02 01.8**	**+1.5**
	SNR=9.7						
ULHL	**Ulahol**	**7.22 37**		P	**Pn**	**10 01 59.3**	**-1.4**
	SNR=6.7						
USP	**Ospenovka**	**7.36 24**		P	**Pn**	**10 02 04.0**	**+1.7**
	SNR=6.0						
TKM2	**Tokmak 2**	**7.47 31**		⇓P	**Pn**	**10 02 04.8**	**+0.9**
	15nm,0.7s						
TKM2				⇓S	**S**	**10 03 27.6**	**-0.9**
	7.2nm,1.1s						
TKM2	**Tokmak 2**	**7.47 31**		P	**Pn**	**10 02 05.4**	**+1.5**
	SNR=30						
MKAR	**Makanchi Array**	**13.49 37**		Pn	**P**	**10 03 24.3**	**+1.0**
	0.3nm,0.3s,baz=228,slow=17,SNR=9.0						
DANN	**Dangsing**	**13.97 122**		eP	Pn	10 03 22.7	-4.5
	10nm,0.4s						
KOLN	**Koldanda**	**14.24 125**		eP	Pn	10 03 26.4	-4.1
	5.5nm,0.3s						
AB31	**Akbulak array**	**14.74 332**		P	**P**	**10 03 38.0**	**+0.9**
	2.3nm,0.4s,baz=148,slow=12,SNR=91						
AB31				⇓S	S	10 06 12.5	-7.1
	2.2nm,0.6s,baz=167,slow=20,SNR=15						
KURBB	**Kurchatov Arra**	**15.18 20**		Pn	**P**	**10 03 43.9**	**+2.0**
	0.1nm,0.3s,baz=210,slow=11,SNR=6.3						
DMN	**Daman**	**15.36 122**		eP	**Pn**	**10 03 40.9**	**-3.3**
	12nm,0.5s						
PKIN	**Phulchoki**	**15.58 121**		eP	**P**	**10 03 43.8**	**-3.0**
	10nm,0.5s						
PKI	**Pulchoki**	**15.59 121**		eP	**P**	**10 03 43.5**	**-3.5**
	10nm,0.4s						
GUN	**Gumba**	**15.71 119**		eP	**P**	**10 03 46.7**	**-1.6**
	11nm,0.4s						
JIRN	**Jiri**	**16.08 119**		eP	**P**	**10 03 50.2**	**-2.2**
	16nm,0.4s						
BVAR	**Borovoye Array**	**16.41 0**		P	**Pn**	**10 03 58.5**	**+2.3**
	0.3nm,0.3s,baz=203,slow=11,SNR=2.3						
AKTO	**Aktyubinsk**	**16.43 331**		⇑P	**P**	**10 03 55.9**	**+0.2**
	3.7nm,0.9s						
AKTO				⇓S	**S**	**10 06 52.4**	**-4.8**
	4.3nm,0.8s						
AKTO	**Aktyubinsk**	**16.43 331**		P	**Pn**	**10 03 56.9**	**+0.3**
	0.3nm,0.3s,baz=176,slow=7.3,SNR=9.5						
AKTO				S	**S**	**10 06 53.9**	**-3.3**
	0.1nm,0.3s,baz=60,slow=17,SNR=2.2						
RAMN	**Ramite**	**16.80 120**		eP	**P**	**10 03 59.4**	**-0.9**
	6.9nm,0.3s						
TAPN	**Taplejung**	**17.34 117**		eP	**Pn**	**10 04 07.8**	**-0.1**
	23nm,0.6s						
ODAN	**Odare**	**17.41 119**		eP	**Pn**	**10 04 08.4**	**-0.3**
	8.8nm,0.5s						
ZALV	**Zalesovo Beam**	**20.02 26**		P	Pn	10 04 40.6	+1.6
	4.1nm,0.5s,baz=222,slow=11,SNR=22						
FINES	**FINESS Array B**	**37.11 326**		P	P	10 07 12.9	+4.9
	1.7nm,0.8s,baz=112,slow=6.2,SNR=1.8						
ARCES	**ARCESS Array B**	**40.85 338**		P	P	10 07 44.9	+6.1
	3.4nm,1.0s,baz=110,slow=9.7,SNR=5.8						
TORD	**Torodi Ar. Bea**	**65.22 268**		P	**P**	**10 10 38.0**	**+0.6**
	0.7nm,0.6s,baz=48,slow=5.7,SNR=7.2						
WRA	**Warramunga Arr**	**82.48 122**		P	**P**	**10 12 19.2**	**+1.8**
	0.3nm,0.4s,baz=324,slow=5.0,SNR=13						
ASAR	**Alice Springs**	**84.73 124**		P	**P**	**10 12 31.0**	**+2.3**
	1.1nm,1.2s,baz=304,slow=4.7,SNR=6.5						

*IDC **31** 10:23:36.9±1.4,5˚.23N×94˚.00E,h0km,mb4.0/10, mb1 4.1/11,mb1mx3.8/30,mbtmp4.0/11,ML4.2/1,Error ellipse: s-maj=73.2km s-min=15.0km az=57.0*

ISC 31 10:23:45.0±1.2,5˚8N±0˚2×94˚6E±0˚2,h46km,n15, σ0♀99/13,mb4.1/10,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**5.20 125**		Pn	Pn	10 25 03.9	+3.5
	2.5nm,0.3s,baz=301,slow=9.0,SNR=5.7						
PSI				Sn	**Sn**	**10 26 00.8**	**+1.7**
	0.6nm,0.3s,baz=314,slow=15,SNR=1.9						
CMAR	**Chiang Mai Arr**	**13.28 18**		Pn	**P**	**10 26 58.5**	**-1.1**
	0.3nm,0.3s,baz=208,slow=12,SNR=6.0						
H08S2	**Diego Garcia H**	**25.81 239**		T	T	10 54 56.8	
	baz=59,slow=0.7,SNR=27						
H08S3	**Diego Garcia H**	**25.81 239**		T	T	10 54 56.8	
	baz=59,slow=0.7,SNR=3.2						
H08S1	**Diego Garcia H**	**25.82 239**		T	T	10 54 56.8	
	baz=59,slow=0.7,SNR=24						
FITZ	**Fitzroy Crossi**	**38.71 128**		P	**P**	**10 31 04.0**	**-0.8**
	1.2nm,0.7s,baz=314,slow=8.5,SNR=2.3						
MKAR	**Makanchi Array**	**42.23 347**		P	**P**	**10 31 34.5**	**+0.9**
	0.6nm,0.4s,baz=163,slow=8.4,SNR=9.1						
WRA	**Warramunga Arr**	**46.66 124**		P	**P**	**10 32 08.9**	**-0.5**
	1.2nm,0.5s,baz=304,slow=9.4,SNR=31						
WRA				PcP	**PcP**	**10 33 42.1**	**-0.6**
	0.4nm,0.5s,baz=315,slow=2.9,SNR=5.1						
KURBB	**Kurchatov Arra**	**46.69 346**		P	**P**	**10 32 10.3**	**+1.3**
	0.7nm,0.3s,baz=171,slow=6.8,SNR=14						
ASAR	**Alice Springs**	**48.21 129**		P	**P**	**10 32 21.1**	**-0.3**
	1.0nm,0.5s,baz=302,slow=7.9,SNR=32						
ZALV	**Zalesovo Beam**	**48.69 352**		P	**P**	**10 32 25.4**	**+0.9**
	1.6nm,0.3s,baz=172,slow=6.8,SNR=11						
BVAR	**Borovoye Array**	**51.12 341**		P	**P**	**10 32 43.8**	**+0.7**
	1.4nm,0.6s,baz=146,slow=8.6,SNR=7.9						
STKA	**Stephens Creek**	**58.31 133**		P	**P**	**10 33 35.1**	**-0.4**
	1.4nm,0.8s,baz=306,slow=10,SNR=3.1						
FINES	**FINESS Array B**	**74.78 332**		P	**P**	**10 35 20.1**	**0.0**
	1.5nm,0.8s,baz=111,slow=7.3,SNR=7.5						
ARCES	**ARCESS Array B**	**77.39 340**		P	**P**	**10 35 35.5**	**+0.6**
	2.3nm,0.9s,baz=99,slow=6.8,SNR=6.2						

WEL 31 10:27:19.8±0.4,36˚28S×177˚13E,h257km±5km,ML4.1/8, 3C-1D,Error ellipse: s-maj=5.6km s-min=5.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.59 144**		PN	Pn	10 27 59.4	+0.1
MXZ				SN	S	10 28 30.9	+0.2
URZ	**Urewera**	**1.98 180**		PN	Pn	10 28 02.7	+0.2
URZ				SN	S	10 28 35.5	-0.9
URZ				AML	AML	10 28 44.9	
PUZ	**Puketiti**	**2.01 154**		PN	Pn	10 28 02.8	-0.1
PUZ				SN	S	10 28 37.7	-2.2
PUZ				AML	AML	10 28 40.0	
TARZ	**Mount Tarawera**	**2.02 194**		PN	Pn	10 28 04.8	+1.7
MWZ	**Matawai**	**2.08 171**		⇑PN	Pn	10 28 03.7	+0.2
MWZ				SN	S	10 28 37.7	-0.5
MWZ				AML	AML	10 28 40.1	
CNGZ	**Carnagh Statio**	**2.37 159**		PN	Pn	10 28 06.4	+0.3
RIGZ	**Rimuhau**	**2.48 169**		PN	Pn	10 28 07.5	+0.2
RAHZ	**Arahi**	**2.64 181**		PN	Pn	10 28 09.1	+0.3
RAHZ				SN	S	10 28 47.2	-0.6
KNZ	**Kokohu**	**2.77 171**		PN	Pn	10 28 10.0	-0.2
WHHZ	**Waihua**	**2.80 178**		PN	Pn	10 28 10.8	+0.3
WHHZ				SN	S	10 28 49.9	-0.9
NMHZ	**Naumai**	**2.83 185**		PN	Pn	10 28 11.5	+0.6
BKZ	**Black Stump Fm**	**2.93 190**		PN	Pn	10 28 11.3	-0.6
BKZ				AML	AML	10 28 57.2	
MHGZ	**Mahia Peninsul**	**2.94 168**		PN	Pn	10 28 12.0	+0.1
MCHZ	**McNeil Hill**	**3.18 186**		PN	Pn	10 28 14.8	+0.2
WPVZ	**Whakapapa**	**3.18 203**		PN	Pn	10 28 15.3	+0.6
FWVZ	**Far West T-bar**	**3.23 202**		PN	Pn	10 28 15.7	+0.3
WHVZ	**Whangaehu Hut**	**3.24 202**		PN	Pn	10 28 15.8	+0.3
TRVZ	**Turoa**	**3.27 202**		PN	Pn	10 28 16.6	+0.8
WNVZ	**Wahianoa**	**3.28 201**		PN	Pn	10 28 15.9	+0.1
MOVZ	**Moawhango**	**3.31 199**		PN	Pn	10 28 16.1	0.0
BHHZ	**Black Hill Sta**	**3.32 194**		PN	Pn	10 28 15.6	-0.5
PKVZ	**Pokaka**	**3.33 205**		PN	Pn	10 28 16.9	+0.7
MTVZ	**Mangateitei**	**3.37 202**		PN	Pn	10 28 16.1	-0.6
CKHZ	**Cape Kidnapper**	**3.38 181**		PN	Pn	10 28 15.0	-1.7
KAHZ	**Kahuranaki**	**3.52 183**		PN	Pn	10 28 17.8	-0.6
PNHZ	**Pukenui**	**3.71 191**		PN	Pn	10 28 19.2	-1.2
PXZ	**Pawanui**	**3.76 183**		PN	Pn	10 28 19.9	-1.1
PXZ				AML	AML	10 29 10.3	
PXZ				AML	AML	10 29 10.8	
PXZ				AML	AML	10 29 10.9	
PXZ				AML	AML	10 29 10.9	
WPHZ	**Waipukurau**	**3.82 188**		PN	Pn	10 28 20.4	-1.3
WAZ	**Wanganui**	**3.87 205**		PN	Pn	10 28 22.4	+0.1
TSZ	**Takapari Road**	**3.89 193**		⇑PN	Pn	10 28 21.2	-1.3
PRHZ	**Porangahau**	**4.01 185**		PN	Pn	10 28 22.3	-1.5
DVHZ	**Dannevirke**	**4.09 190**		PN	Pn	10 28 23.2	-1.6
ANWZ	**Angora Road**	**4.21 187**		PN	Pn	10 28 24.9	-1.3
POWZ	**Post Office Ro**	**4.25 194**		PN	Pn	10 28 25.4	-1.3
PRWZ	**Pori Road**	**4.37 192**		PN	Pn	10 28 27.2	-0.9
BFZ	**Birch Farm**	**4.45 189**		PN	Pn	10 28 27.3	-1.8
MRZ	**Mangatainoka R**	**4.55 195**		PN	Pn	10 28 28.0	-2.2
MRZ				AML	AML	10 29 24.9	
TIWZ	**Tintock**	**4.60 192**		PN	Pn	10 28 29.2	-1.7
HOWZ	**Holdsworth Sta**	**4.79 195**		PN	Pn	10 28 30.9	-2.3
OGWZ	**Otaki Gorge**	**4.79 198**		PN	Pn	10 28 31.1	-2.0
KIW	**Kapiti Island**	**4.90 200**		PN	Pn	10 28 32.4	-2.1
TMWZ	**Te Maipa**	**4.92 191**		PN	Pn	10 28 32.8	-2.0
MTW	**Mount Morrison**	**5.04 194**		PN	Pn	10 28 33.6	-2.5
CAW	**Cannon Point**	**5.09 198**		PN	Pn	10 28 33.7	-3.0
CAW				AML	AML	10 29 40.1	
DUWZ	**D'Urville Isla**	**5.17 208**		PN	Pn	10 28 35.9	-1.9
MSWZ	**Moikau Station**	**5.34 195**		PN	Pn	10 28 37.4	-2.4
SNZO	**South Karori**	**5.37 200**		PN	Pn	10 28 37.2	-2.9
TCW	**Tory Channel**	**5.41 203**		PN	Pn	10 28 38.2	-2.4
PLWZ	**Palliser**	**5.49 195**		PN	Pn	10 28 38.8	-2.9
NNZ	**Nelson**	**5.74 210**		⇓PN	Pn	10 28 42.3	-2.5
BSWZ	**Blackbirch Sta**	**5.99 204**		PN	Pn	10 28 46.1	-1.8
THZ	**Tophouse**	**6.39 210**		PN	Pn	10 28 49.4	-3.5
KHZ	**Kahutara**	**6.74 203**		⇑PN	Pn	10 28 54.3	-2.7
DSZ	**Denniston Nort**	**6.86 216**		PN	Pn	10 28 55.9	-2.8
LTZ	**Lake Taylor**	**7.51 209**		PN	Pn	10 29 02.9	-3.9
OXZ	**Oxford**	**8.06 208**		PN	Pn	10 29 10.3	-3.4
MQZ	**McQueen's Vall**	**8.18 203**		PN	Pn	10 29 11.3	-3.9
RPZ	**Rata Peaks**	**8.77 210**		PN	Pn	10 29 19.5	-3.2
FOZ	**Fox Glacier**	**9.25 216**		PN	Pn	10 29 24.5	-4.1
LBZ	**Lake Benmore**	**9.68 211**		PN	Pn	10 29 30.8	-3.3
ODZ	**Otahua Downs**	**10.05 207**		PN	Pn	10 29 36.2	-2.5
JCZ	**Jackson Bay**	**10.08 217**		PN	Pn	10 29 36.1	-3.2

IDC 31 10:28:08.8±47.0,17˚02S×171˚91W,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.7/21,mbtmp3.9/3,MS3.6/1,Ms1 3.6/1, ms1mx2.9/34,Error ellipse: s-maj=923.7km s-min=184.6km az=80.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**44.51 242**		P	P	10 36 23.1	+0.9
	1.3nm,0.7s,baz=82,slow=9.7,SNR=3.3						
WRA	**Warramunga Arr**	**50.89 258**		P	P	10 37 11.5	-0.6
	0.6nm,0.5s,baz=98,slow=6.8,SNR=21						
ASAR	**Alice Springs**	**50.99 253**		P	P	10 37 12.6	-0.3
	1.6nm,0.6s,baz=89,slow=8.6,SNR=35						
FITZ	**Fitzroy Crossi**	**59.29 259**		LR	LR	10 59 12.2	
	comp=Z,50nm,20.2s,baz=22,slow=31						

*BKK **31** 10:37:13.7±0.7,23˚S±11˚×17˚8W±1˚4,h10km,M5.3/22, mB5.9/2,mb5.3/22,Mw(mB)5.5/2*

*ISCJB **31** 10:38:11.8±0.6,24˚34S±0˚04×179˚94W±0˚04, h492km±6km,mb4.7/65,Error ellipse: s-maj=6.6km s-min=5.0km az=145.7*

*DJA **31** 10:38:11.9±1.2,24˚S±12˚×18˚0W±˚,h499km±27km, M5.1/14,mB5.5/3,mb5.1/14,Mw(mB)4.9/3*

*NEIC **31** 10:38:12.4±0.2,24˚31S×179˚82W,mb4.9/30,Error ellipse: s-maj=0.7km s-min=5.4km az=125.0*

*IDC **31** 10:38:12.9±0.5,24˚34S×179˚94W,h501km±6km,mb4.2/25, mb1 4.3/25,mb1mx4.2/27,mbtmp5.0/25,Error ellipse: s-maj=9.8km s-min=8.0km az=144.0*

*BJI **31** 10:38:13.1,23˚99S×179˚99W,h502km,mB5.1/18, mb4.7/30*

*SZGRF **31** 10:38:14.1,24˚23S×178˚40W,h521km,South of Fiji Islands*

ISC 31 10:38:13.4±0.3,24˚41S±0˚05×179˚79W±0˚06, h511km±3km,h511km±pP-P,n307,σ1♀28/387,mb4.7/65, 24C-15D,South of Fiji Islands

| Code | Station Name | Δ° | AZ°

AS01 eScP ScP 10 50 07.5 +2.3
ASAR Alice Springs 42.15 261 P P 10 45 20.4 -0.5
ASAR PcP PcP 10 47 04.0 +0.3
ASAR ScP ScP 10 50 08.2 +2.8
ASAR S S 10 50 58.5 -5.2
ASAR Alice Springs 42.15 261 P P 10 45 20.4 -0.5
33nm,0.8s,baz=95,slow=6.8,SNR=415
ASAR PcP PcP 10 47 04.0 +0.3
7.6nm,0.9s,baz=91,slow=6.2,SNR=7.7
ASAR ScP ScP 10 50 08.2 +2.8
5.0nm,1.0s,baz=103,slow=4.1,SNR=12
ASAR S S 10 50 58.5 -5.2
0.5nm,0.4s,baz=83,slow=8.7,SNR=5.3
WRAB Tennant Creek 42.56 267 eP P 10 45 23.1 -1.0
86nm,1.0s
WRAB eS S 10 51 08.5 -1.1
WRAB Tennant Creek 42.56 267 P P 10 45 23.3 -0.9
579nm,0.5s,SNR=95
WRA Warramunga Arr 42.57 267 P P 10 45 23.1 -1.1
WRA PcP PcP 10 47 05.4 +0.2
WRA ScP ScP 10 50 10.9 +3.7
WRA S S 10 51 06.5 -3.2
WRA Warramunga Arr 42.57 267 P P 10 45 23.1 -1.1
83nm,0.7s,baz=103,slow=8.1,SNR=511
WRA PcP PcP 10 47 05.4 +0.2
5.9nm,0.9s,baz=97,slow=4.6,SNR=6.9
WRA ScP ScP 10 50 10.9 +3.7
12nm,1.0s,baz=102,slow=4.2,SNR=19
WRA S S 10 51 06.5 -3.2
5.7nm,1.0s,baz=99,slow=13,SNR=7.9
FORT Forrest 46.32 250 eP P 10 45 52.0 -1.1
182nm,0.6s
FITZ Fitzroy Crossi 50.98 266 eP P 10 46 27.6 -0.3
60nm,0.7s
FITZ Fitzroy Crossi 50.98 266 P P 10 46 27.6 -0.3
62nm,0.6s,baz=136,slow=6.4,SNR=142
SBA Scott Base 53.89 183 eP P 10 46 50.9 +3.1
21nm,0.9s
VNDA Vanda 53.89 185 eP P 10 46 50.0 +2.1
4.4nm,0.8s
VNDA Vanda 53.89 185 P P 10 46 50.0 +2.1
3.8nm,0.7s,baz=356,slow=8.0,SNR=25
NWAO Narrogin (SRO) 55.20 246 P P 10 46 57.3 -0.5
NWAO Narrogin (SRO) 55.20 246 P P 10 46 57.3 -0.5
10nm,0.6s,baz=91,slow=8.0,SNR=14
MBWA Marble Bar 55.48 260 eP P 10 46 59.0 -0.9
42nm,0.8s
CASY Casey 59.74 206 eP P 10 47 28.4 +0.3
27nm,0.8s
MYLDM Lahad Datu 66.83 287 P P 10 48 16.2 +1.6
SDKM Sandakan 68.19 287 P P 10 48 23.3 +0.2
SBUM Sibu 71.10 282 P P 10 48 40.9 +0.6
SBUM Sibu 71.10 282 eP P 10 48 40.2 -0.2
25nm,1.2s
KSM Kuching 72.38 280 eP P 10 48 47.4 -0.5
50nm,0.7s
MJAR Matsushiro Arr 72.42 326 P P 10 48 46.9 -0.7
MJAR Matsushiro Arr 72.42 326 P P 10 48 46.9 -0.7
8.2nm,0.8s,baz=170,slow=6.3,SNR=34
MAJO Matsushiro 72.42 326 eP P 10 48 47.2 -0.4
12nm,0.8s
JNU Nakatsue 74.03 319 P P 10 48 56.1 -0.8
JNU Nakatsue 74.03 319 P P 10 48 56.1 -0.8
9.0nm,0.9s,baz=90,slow=7.6,SNR=3.7
ASAJ Asahikawa 76.40 333 P P 10 49 10.4 +0.6
ASAJ Asahikawa 76.40 333 P P 10 49 10.4 +0.6
19nm,0.8s,baz=215,slow=12,SNR=8.4
MAW Mawson 77.34 200 eP P 10 49 15.8 +1.1
3.8nm,0.7s
MAW Mawson 77.34 200 P P 10 49 16.0 +1.3
16nm,0.6s,baz=128,slow=6.7,SNR=60
MYKOM Kota Tinggi 78.34 277 eP P 10 49 20.5 -0.6
20nm,0.8s
KSRS Korea Array 78.76 320 P P 10 49 23.4 +0.6
7.4nm,0.8s,baz=133,slow=5.9,SNR=19
KSAR Wonju Array Be 78.77 320 P P 10 49 23.4 +0.5
KS01 Wonju Array Si 78.79 320 eP P 10 49 23.2 +0.3
KGM Kluang 78.92 277 P P 10 49 25.0 +0.8
PETK Petropavlovsk- 79.64 346 P P 10 49 26.8 -0.3
PETK Petropavlovsk- 79.64 346 P P 10 49 26.8 -0.3
8.9nm,0.7s,baz=123,slow=8.2,SNR=6.7
QIZ Qiongzhong 80.99 296 P P 10 49 34.5 -0.4
QIZ pP pP 10 51 24.3 -1.3
QIZ sP sP 10 52 17.5 -0.6
QIZ S S 10 59 02.5 +0.5
QIZ AMB AMB
comp=Z,21nm,1.3s
USRK Ussuriysk Arra 81.29 327 P P 10 49 36.6 +0.7
7.3nm,0.7s,baz=155,slow=4.5,SNR=21
IPM Ipoh 82.03 279 P P 10 49 40.6 +0.2
IPM Ipoh 82.03 279 eP P 10 49 40.3 -0.1
31nm,0.7s
SYO Syowa Base 82.57 193⇓ eP P 10 49 40.8 -1.3
SYO Syowa Base 82.57 193⇓ ePcP PcP 10 49 46.5 +0.8
KULM Kulim 82.71 279 eP P 10 49 43.9 0.0
16nm,0.8s
MDJ Mudanjiang 82.79 326 P P 10 49 44.0 +0.5
MDJ pP pP 10 51 35.0 +0.1
MDJ sP sP 10 52 27.3 +0.2
MDJ AMB AMB
comp=Z,13nm,0.8s
MDJ AMB AMB
comp=Z,150nm,5.5s
MONP Monument Peak 83.01 49 P P 10 49 46.0 +0.8
baz=83
EDW2 Edwards Air Fo 83.09 47 P P 10 49 46.0 +0.7
baz=83
PSI Prapat 83.22 276 P P 10 49 44.9 -1.7
PSI Prapat 83.22 276 P P 10 49 44.9 -1.7
17nm,0.8s,baz=168,slow=2.9,SNR=13
ISA Isabella 83.23 46 epP pP 10 51 41.1 +3.6
ISA Isabella 83.23 46 P P 10 49 47.0 +0.9
baz=83
CMB Columbia Colle 83.44 43 eP P 10 49 48.0 +1.0
60nm,2.8s
WHN Wuhan 83.46 308 ⇑P P 10 49 46.8 -0.4
GSI Gunungsitoli 83.83 274 eP P 10 49 49.9 +0.4
96nm,1.4s
BELC Belle Mtn. Jos 83.93 49 P P 10 49 50.6 +1.0
baz=84
M02C Callahan 84.05 39 P P 10 49 51.8 +1.7
baz=84
BC3 Big Chuckawall 84.11 49 P P 10 49 51.6 +1.1
baz=84
GSC Goldstone 84.12 47 P P 10 49 51.7 +1.2
baz=84
HEC Hector,Ludlow 84.17 48 P P 10 49 51.9 +1.1
baz=84
YBH Yreka Blue Hor 84.35 39 P P 10 49 52.6 +1.1
YBH pP pP 10 51 42.7 -0.7
YBH Yreka Blue Hor 84.35 39 P P 10 49 52.7 +1.1
1.1nm,0.7s,baz=172,slow=7.1,SNR=3.6
YBH pP pP 10 51 42.7 -0.7
3.3nm,1.0s,baz=293,slow=8.9,SNR=4.5
CN2 Changchun 84.41 324 eP P 10 49 51.5 -0.1
CN2 epP pP 10 51 46.5 +3.0
CN2 eS S 10 59 35.5 +0.6
CN2 AMB AMB
comp=Z,40nm,1.4s
CN2 AMB AMB
comp=Z,300nm,6.0s
IRM Iron Mountain 84.60 49 P P 10 49 54.2 +1.3
baz=85
GMRC Granite Mounta 84.60 48 P P 10 49 53.6 +0.6
baz=85
Y12C Blythe 84.80 49 P P 10 49 55.1 +1.4
baz=85
SKNT Sakolnakorn 84.93 291 P P 10 49 55.2 +0.5
76nm,0.8s
NV01 Mina Array Sit 84.98 44 eP P 10 49 55.2 +0.4
NV01 epP pP 10 51 48.0 +1.1
NVAR Mina Array Bea 84.98 44 P P 10 49 55.0 +0.1
NVAR pP pP 10 51 46.3 -0.6
NVAR Mina Array Bea 84.98 44 P P 10 49 55.0 +0.1
0.6nm,0.6s,baz=225,slow=8.1,SNR=6.7
NVAR pP pP 10 51 46.3 -0.6
1.4nm,1.0s,baz=224,slow=9.1,SNR=6.0
214A Organ Pipe Nat 85.03 52 P P 10 49 56.3 +1.3
baz=85
PDMCI Parker Dam,Lak 85.37 49 P P 10 49 57.9 +1.4
baz=86
TPNV Topopah Spring 85.44 46 P P 10 49 57.4 +0.4
baz=86
TPH Tonopah 85.46 45 eP P 10 49 55.0 -2.1
TPH epP pP 10 51 52.6 +3.2
Z14A Wintersburg 85.69 51 P P 10 49 59.3 +1.2
baz=86
SURT Suratani 85.94 282 P P 10 50 01.2 +1.5
8.0nm,1.3s
Y14A Wickenburg 85.96 50 P P 10 50 00.2 +0.8
baz=86
CHAI Chaiyaphum 86.15 289 P P 10 50 01.5 +0.9
4.4nm,0.9s
J05D Fort Rock, OR 86.18 39 P P 10 50 01.9 +1.5
baz=86
TUC Tucson 86.67 52 eP P 10 50 04.8 +1.9
5.2nm,0.9s
ENH Enshi 86.89 305 eP P 10 50 04.3 +0.4
19nm,0.9s
GYA Guiyang 87.17 301 P P 10 50 04.3 -1.1
GYA pP pP 10 52 01.5 +3.3
GYA sP sP 10 52 50.8 +0.7
GYA PP PP 10 53 39.5 +0.7
GYA SKS SKSac 10 59 40.8 -3.4
GYA S S 11 00 01.3 -1.0
GYA AMB AMB
comp=Z,20nm,1.0s
GYA AMB AMB
comp=Z,120nm,5.4s
319A Douglas 87.29 54 P P 10 50 07.4 +1.6
baz=87
X16A Lo Mia Camp, P 87.31 50 P P 10 50 07.7 +1.7
baz=88
PBKT Sadao Pong 87.32 289 P P 10 50 07.3 +1.2
15nm,1.1s
CCUT Cedar City 87.68 47 epP pP 10 52 03.8 +3.1
U15A North Rim 87.79 48 P P 10 50 09.9 +1.6
baz=88
320A Kipp Ranch, An 87.82 54 P P 10 50 10.6 +2.2
baz=88
WUAZ Wupatki 87.94 49 P P 10 50 10.1 +1.3
baz=88
120A U Bar Ranch, L 88.36 53 P P 10 50 12.9 +2.0
baz=88
X18A Snowflake 88.42 51 P P 10 50 12.4 +1.2
baz=89
NANT Nan 88.53 291 P P 10 50 13.1 +1.3
30nm,1.0s
KHLT Khaolaem Dam 88.61 287 P P 10 50 13.8 +1.6
7.9nm,1.3s
Z20A Nine Sixteen R 88.67 53 P P 10 50 14.0 +1.7
baz=89
121A Cookes Peak, D 88.97 53 P P 10 50 15.4 +1.7
baz=89
XAN Xi'an 89.20 308 P P 10 50 15.3 +0.7
XAN AMB AMB
comp=Z,7.0nm,0.8s
Y20A Horse Springs, 89.22 52 P P 10 50 16.9 +1.8
baz=89
Z21A St. Cloud Mine 89.44 53 P P 10 50 17.8 +1.9
baz=90
CRAI Chiangrai 89.44 292 P P 10 50 16.9 +0.9
6.9nm,1.0s
122A Conniff Cattle 89.62 54 P P 10 50 18.8 +2.1
baz=90
KMI Kunming 89.67 298 P P 10 50 18.8 +1.6
KMI AMB AMB
comp=Z,12nm,1.1s
W20A Ramah 89.75 51 P P 10 50 19.0 +1.6
baz=90
Y21A Point of Rocks 89.78 52 P P 10 50 19.1 +1.5
baz=90
CM01 Chiang Mai Arr 89.85 290 eP P 10 50 18.5 +0.6
CMAR Chiang Mai Arr 89.88 290 P P 10 50 19.6 +1.5
CMAR Chiang Mai Arr 89.88 290 P P 10 50 19.6 +1.5
8.2nm,0.9s,baz=138,slow=3.3,SNR=52
X21A Alamocita Cree 89.92 52 P P 10 50 19.8 +1.6
baz=90
Z22A Elephant Butte 89.92 53 P P 10 50 19.5 +1.4
baz=90
CHTO Chiang Mai 90.03 291 eP P 10 50 20.0 +1.1
14nm,0.8s
CHTO Chiang Mai 90.03 291 P P 10 50 19.9 +1.1
425A Indio Mountain 90.21 56 P P 10 50 20.5 +1.0
baz=90
Y22A Socorro 90.26 53 P P 10 50 20.8 +1.1
baz=90
626A Big Bend Ranch 90.28 58 P P 10 50 20.6 +0.8
baz=90
224A Cornudas Mount 90.42 55 P P 10 50 21.8 +1.3
baz=90
325A Bean Ranch, Si 90.49 56 P P 10 50 21.8 +1.0
baz=91
TX31 Lajitas Ar. Si 90.53 58 eP P 10 50 22.1 +1.1
TX31 epP pP 10 52 14.0 -0.5
TXAR Lajitas Array 90.53 58 P P 10 50 22.4 +1.4
TXAR pP pP 10 52 13.4 -1.1
TXAR PKKPbc PKKPbc 11 07 46.6 +1.0
TXAR Lajitas Array 90.53 58 P P 10 50 22.4 +1.4
2.6nm,0.8s,baz=200,slow=6.5,SNR=32
TXAR pP pP 10 52 13.4 -1.1
0.6nm,0.9s,baz=204,slow=2.7,SNR=4.5
TXAR PKKPbc PKKPbc 11 07 46.6 +1.0
0.3nm,0.6s,baz=101,slow=5.3,SNR=5.9
526A Mary Lane Ranc 90.55 57 P P 10 50 22.0 +0.9
baz=91
124A Stringfield Ra 90.77 54 P P 10 50 23.1 +0.9
baz=91
627A Terlingua Ranc 90.80 58 P P 10 50 23.4 +1.1
baz=91
426A McDonald Obser 90.88 57 P P 10 50 23.7 +1.0
baz=91
HHC Hu-ho-hao-te 90.91 315 eP P 10 50 25.3 +2.8
HHC pP pP 10 52 17.5 +1.4
HHC sP sP 10 53 08.3 +0.6
HHC PP PP 10 54 10.5 +2.6
HHC S ScS 11 00 37.0 -0.7
HHC AMB AMB
comp=Z,50nm,1.2s
HHC AMB AMB
comp=Z,250nm,6.3s
Y23A Lovelace Mesa, 90.92 53 P P 10 50 23.9 +1.2
baz=91
527A Woodward Ranch 90.95 57 P P 10 50 23.7 +0.7
baz=91
U21A Nageezi 90.99 50 P P 10 50 24.1 +1.0
baz=91
ANMO Albuquerque 91.12 52 P P 10 50 24.0 +0.3
ANMO Albuquerque 91.12 52 P P 10 50 24.0 +0.3
1.1nm,0.8s,baz=160,slow=2.4,SNR=5.3
628A Black Gap, Mar 91.21 58 P P 10 50 25.0 +1.0
baz=91
Y24A Capitan 91.36 53 P P 10 50 25.6 +0.8
baz=92
427A Hayter Ranch, 91.44 57 P P 10 50 26.2 +1.1
baz=92
S21A Coal Bank Pass 91.51 49 P P 10 50 26.4 +0.8
baz=92
CD2 Chengdu 91.52 303 P P 10 50 26.5 +1.1
CD2 pP pP 10 52 22.8 +3.7
CD2 SKS SKSac 11 00 09.0 0.0
CD2 S S 11 00 41.0 -0.5
CD2 AMB AMB
comp=Z,30nm,0.5s
CD2 AMB AMB
comp=Z,150nm,6.3s
528A Cox Ranch, San 91.59 58 P P 10 50 27.1 +1.2
baz=92
ILAR Eielson Array 92.47 13 P P 10 50 27.9 -1.1
ILAR pP pP 10 52 20.3 -2.4
ILAR Eielson Array 92.47 13 P P 10 50 27.9 -1.1
0.7nm,0.7s,baz=229,slow=5.4,SNR=15
ILAR pP pP 10 52 20.3 -2.4
0.1nm,0.6s,baz=318,slow=34,SNR=3.5
429A Davenport Ranc 92.49 58 P P 10 50 30.5 +0.5
baz=93
PDAR Pinedale Array 92.92 44 P P 10 50 32.0 +0.2
PDAR pP pP 10 52 24.4 -1.1
PDAR Pinedale Array 92.92 44 P P 10 50 32.0 +0.2
0.5nm,0.7s,baz=211,slow=2.6,SNR=5.2
PDAR pP pP 10 52 24.4 -1.1
0.3nm,0.8s,baz=128,slow=26,SNR=3.4
631A Perdido Creek 92.97 59 P P 10 50 32.9 +0.8
baz=93
531A Rocksprings 93.33 58 P P 10 50 34.3 +0.5
baz=94
632A Uvalde 93.63 59 P P 10 50 36.1 +1.0
baz=94
532A Rocksprings 93.81 59 P P 10 50 36.2 +0.2
baz=94
LZH Lanzhou 93.84 308 ⇓P P 10 50 37.0 +0.9
LZH pP pP 10 52 33.3 +3.4
LZH PP PP 10 54 35.0 +4.3
LZH SKS SKSac 11 00 21.3 -0.3
LZH S S 11 00 59.8 -1.9
LZH AMB AMB
comp=Z,65nm,1.5s
LZH AMB AMB
comp=Z,180nm,7.6s
432A Menard 94.22 58 P P 10 50 38.1 +0.3
baz=94
H21A Big Horn, Sher 95.43 43 P P 10 50 43.9 +0.8
baz=96
EGMT Eagleton 95.48 39 eP P 10 50 44.0 +0.8
62nm,1.9s
EGMT ePKiKP PKiKP 10 55 12.3 -7.6
ZAA0 Zalesovo Array 112.46 320 ePKiKP **PKiKP** 10 55 49.5 -1.3
ZALV Zalesovo Beam 112.46 320 PKiKP **PKiKP** 10 55 48.9 -2.0
ZALV Zalesovo Beam 112.46 320 PKiKP **PKiKP** 10 55 48.9 -2.0
1.0nm,0.4s,baz=68,slow=1.1,SNR=7.6
MKAR Makanchi Array 112.64 312 PKiKP **PKiKP** 10 55 50.0 -1.5
MKAR Makanchi Array 112.64 312 PKiKP **PKiKP** 10 55 50.0 -1.5
1.4nm,0.6s,baz=169,slow=0.9,SNR=9.8
KURK Kurchatov 115.70 316 PKP **PKPdf** 10 55 56.0 -1.1
KURK ePKPdf **PKiKP** 10 55 56.3 -0.8
KURBB Kurchatov Arra 115.74 316 PKP **PKPdf** 10 55 56.0 -1.2
3.3nm,0.7s,baz=97,slow=1.9,SNR=9.0
TKM2 Tokmak 2 116.60 307 ePKPdf **PKPdf** 10 55 57.9 -1.6
KBL Kabul 120.24 297 ePKPdf **PKPdf** 10 56 06.8 0.0
KKAR Karatay Array 120.32 307 ePKPdf **PKPdf** 10 56 05.8 -0.5
VOSK Vostochnaya 120.58 318 ePKPdf **PKPdf** 10 56 05.7 -0.8
BVAR Borovoye Array 120.94 319 PKP **PKPdf** 10 56 06.1 -1.1
BVAR Borovoye Array 120.94 319 PKP **PKPdf** 10 56 06.1 -1.1
5.2nm,0.6s,baz=103,slow=2.0,SNR=26
BRVK Borovoye 121.01 319 ePKPdf **PKPdf** 10 56 07.0 -0.4
BOSA Boshof 122.03 206 PKP **PKPdf** 10 56 09.8 -0.6
BOSA Boshof 122.03 206 PKP **PKPdf** 10 56 09.8 -0.6
3.1nm,0.8s,baz=332,slow=3.0,SNR=4.1
AKTO Aktyubinsk 128.79 316 PKP **PKPdf** 10 56 20.4 -1.9
AKTO Aktyubinsk 128.79 316 PKP **PKPdf** 10 56 20.4 -1.9
4.0nm,0.6s,baz=85,slow=4.0,SNR=20
ARCES ARCESS Array B 132.42 348 PKP **PKPdf** 10 56 27.4 -1.3
ARCES SKPbc **SKPbc** 10 59 08.2 +0.6
ARCES ARCESS Array B 132.42 348 PKP **PKPdf** 10 56 27.4 -1.3
3.0nm,0.6s,baz=24,slow=1.4,SNR=11
ARCES SKPbc **SKPbc** 10 59 08.2 +0.6
3.5nm,0.8s,baz=345,slow=3.8,SNR=5.5
RAYN Ar Rayn 138.74 278 ePKPdf **PKPdf** 10 56 42.3 +0.5
FINES FINESS Array B 138.99 341 PKPpre PKPpre 10 56 31.0
FINES PKP **PKPdf** 10 56 42.0 +1.1
FINES SKPbc **SKPbc** 10 59 28.4 +0.6
FINES FINESS Array B 138.99 341 PKhKP PKPpre 10 56 31.0
1.2nm,0.5s,baz=6.7,slow=6.5,SNR=16
FINES PKP **PKPdf** 10 56 42.0 +1.1
3.8nm,0.6s,baz=48,slow=3.4,SNR=6.5
FINES SKPbc **SKPbc** 10 59 28.4 +0.6
5.8nm,0.7s,baz=27,slow=2.5,SNR=12
KBZ Khabaz 140.25 310 PKP **PKPdf** 10 56 45.6 +1.8
KBZ Khabaz 140.25 310 PKP **PKPdf** 10 56 45.6 +1.8
3.2nm,0.8s,baz=221,slow=4.4,SNR=5.6
NB2 NORSAR Subarra 142.61 351 PKP PKPpre 10 56 43.5
comp=Z,2.6nm,0.7s,baz=9.2,slow=3.4
NOA NORSAR Array B 142.61 351 PKPpre PKPpre 10 56 43.8
NOA NORSAR Array B 142.61 351 PKhKP PKPpre 10 56 43.8
comp=Z,5.1nm,0.9s,baz=16,slow=4.6,SNR=12
HFS Hagfors 143.08 349 PKPpre PKPpre 10 56 45.2
HFS Hagfors 143.08 349 PKhKP PKPpre 10 56 45.2
comp=Z,17nm,0.5s,baz=64,slow=3.4,SNR=112
NACGM Naroch 143.75 334 *e* PKPab 10 56 46.0 -2.5
MALT Malatya 144.80 302⇓ *i*P **PKPab** 10 56 53.1 -0.2
AKASG Malin Array Be 145.50 327 PKPbc **PKPdf** 10 56 52.8 -0.1
AKASG Malin Array Be 145.50 327 PKPbc **PKPdf** 10 56 52.8 -0.1
comp=Z,8.2nm,0.5s,baz=46,slow=3.8,SNR=12
KIEV Kiev 145.51 327 ePKPdf **PKPdf** 10 56 53.2 +0.4
AK11 Malin Array Si 145.54 327 ePKPdf **PKPdf** 10 56 52.4 -0.5
SUW Suwalki 145.80 336 ePKP **PKPab** 10 56 56.1 -0.4
ASF Jabal al Asfar 146.90 292 PKPbc **PKPbc** 10 56 58.8 +0.1
ASF Jabal al Asfar 146.90 292 PKPbc **PKPbc** 10 56 58.8 +0.1
comp=Z,16nm,0.7s,baz=68,slow=2.0,SNR=24
BRTR Keskin Array B 148.03 307 PKPbc **PKPbc** 10 57 01.1 -0.5
BRTR Keskin Array B 148.03 307 PKPbc **PKPbc** 10 57 01.1 -0.5
comp=Z,10nm,0.7s,baz=137,slow=4.5,SNR=35
BEL Belsk 148.41 335 ePKP **PKPbc** 10 57 02.4 +0.6
ANTO Ankara 148.60 307⇓ *i*P **PKPbc** 10 57 02.9 +0.1
ANTO Ankara 148.60 307 ePKPbc **PKPbc** 10 57 02.6 -0.3
ANTO ePKPab **PKPab** 10 57 09.0 +0.6
TLCR 148.93 319⇓ *i*P **PKPbc** 10 57 03.1 -0.2
EKA Eskdalemuir Ar 149.01 4 PKPbc **PKPbc** 10 57 02.0 -1.2
EKA Eskdalemuir Ar 149.01 4 PKPbc **PKPbc** 10 57 02.0 -1.2
comp=Z,6.1nm,0.8s,baz=0.5,slow=2.5,SNR=9.9
KWP Kalwaria Pacla 149.30 331⇓ *i*P **PKPbc** 10 57 04.4 +0.3
KWP Kalwaria Pacla 149.30 331 ePKP **PKPbc** 10 57 04.3 +0.2
CFR Carcaliu 149.34 319⇓ *i*P **PKPbc** 10 57 04.2 -0.1
TESR Tescani 149.42 323⇓ *i*P **PKPbc** 10 57 04.4 -0.1
CSS Prodhromos 149.49 298 ePKPbc **PKPbc** 10 57 05.3 +0.2
CSS ePKPab **PKPab** 10 57 12.0 -0.2
BUR04 Bucovina Ar. S 149.50 326 ePKPbc **PKPbc** 10 57 05.5 +0.7
BURAR Bucovina Array 149.50 326⇑ *i*P **PKPbc** 10 57 05.4 +0.6
TIRR Tirgusor 149.56 318⇑ *i*P **PKPbc** 10 57 04.7 -0.2
TLB Topalu 149.72 319⇑ *i*P **PKPbc** 10 57 04.7 -0.5
VRI Vrincioaia 149.76 322⇑ *i*P **PKPbc** 10 57 05.5 +0.1
PLOR Plostina 149.82 322⇓ *i*P **PKPbc** 10 57 05.1 -0.4
KOLS Kolonicke sedl 150.01 330 ePKP **PKPbc** 10 57 06.3 +0.5
KOLS *e* 10 57 14.2
OJC Ojcow 150.07 334 ePKPbc **PKPbc** 10 57 05.9 -0.1
OJC Ojcow 150.07 334 ePKP **PKPbc** 10 57 05.8 -0.1
STHS Stebnicka Huta 150.10 332 ePKP **PKPbc** 10 57 06.8 +0.8
MLR Muntele Rosu 150.43 322 PKPbc **PKPbc** 10 57 06.7 -0.3
MLR Muntele Rosu 150.43 322 PKPbc **PKPbc** 10 57 06.7 -0.3
comp=Z,1.6nm,0.6s,baz=26,slow=7.5,SNR=8.2
DOPR Dopca 150.45 323⇑ *i*P **PKPbc** 10 57 07.6 +0.6
TRPA Tarpa 150.46 329⇓ *i*P **PKPbc** 10 57 06.4 +0.5
NIE Niedzica 150.49 333 ePKP **PKPbc** 10 57 07.6 +0.6
KSP Ksiaz 150.83 339 ePKPdf **PKPbc** 10 57 08.0 +0.4
ISP Isparta 150.95 305⇑ *i*P **PKPbc** 10 57 07.4 -1.1
ISP Isparta 150.95 305 ePKPbc **PKPbc** 10 57 07.8 -0.7
NRDL Niedersach Rie 150.96 348 ePKPbc **PKPbc** 10 57 07.9 +0.1
VOIR 150.96 322⇓ *i*P **PKPbc** 10 57 08.0 -0.3
OKC Ostrava-Krasne 151.02 336⇑ ePKP **PKPbc** 10 57 08.3 +0.2
OKC ePKPAB **PKPab** 10 57 17.9 -0.1
KECS Kecovo 151.13 331 ePKP **PKPbc** 10 57 08.4 0.0
KECS *e* 10 57 18.5
UPC Upice 151.21 339⇑ ePKP **PKPbc** 10 57 08.9 +0.4
UPC ePKPAB **PKPab** 10 57 19.3 +0.5
ARR Arges 151.24 323⇑ *i*P **PKPbc** 10 57 09.8 +0.9
DPC Dobruska-Polom 151.24 338⇑ *i*PKP **PKPbc** 10 57 08.9 +0.2
DPC ePKPAB **PKPab** 10 57 19.5 +0.5
DPC epPKP pPKPdf 10 59 11.1 +7.7
DPC *ex* X 10 59 21.8
DPC Dobruska-Polom 151.24 338 ePKPbc **PKPbc** 10 57 09.1 +0.4
MORC Moravsky Berou 151.29 336⇑ *i*P **PKPbc** 10 57 08.9 +0.1
MORC Moravsky Berou 151.29 336 ePKPbc **PKPbc** 10 57 08.7 -0.1
KRLC Kraliky 151.31 337⇑ ePKP **PKPbc** 10 57 09.2 +0.4
KRLC ePKPAB **PKPab** 10 57 19.6 +0.3
DRGR 151.32 327⇑ *i*P **PKPbc** 10 57 08.7 -0.3
CLL Collm 151.39 343 ePKPbc **PKPbc** 10 57 08.8 -0.1
CLZ Clausthal 151.52 347 ePKPbc **PKPbc** 10 57 09.4 +0.2
BRG Berggiesshubel 151.53 342 ePKPbc **PKPbc** 10 57 09.3 +0.1
PVCC Panska Ves 151.65 341⇑ ePKP **PKPbc** 10 57 09.9 +0.4
PVCC ePKPAB **PKPab** 10 57 21.1 +0.5
FBE Freiberg 151.65 342 ePKPbc **PKPbc** 10 57 09.9 +0.4
NEUB Neuenburg 151.80 345 epPKPbc pPKPbc 10 59 12.1 +2.1
PSZ Piszkesteto 151.82 331⇓ *i*P **PKPbc** 10 57 09.8 -0.3
PSZ Piszkesteto 151.82 331 ePKPbc **PKPbc** 10 57 09.8 -0.3
VRAC Vranov 152.02 337⇓ *i*P **PKPab** 10 57 22.5 +0.2
VRAC Vranov 152.02 337 PKPab **PKPab** 10 57 22.6 +0.4
VRAC Vranov 152.02 337 PKPab **PKPab** 10 57 22.6 +0.4
comp=Z,8.3nm,0.7s,baz=34,slow=5.0,SNR=6.6
PRA Prague 152.09 340⇑ PKP **PKPbc** 10 57 11.0 +0.5
PRA PKPAB **PKPab** 10 57 23.0 +0.5
PRU Pruhonice 152.13 340⇑ ePKP **PKPbc** 10 57 10.8 +0.2
PRU ePKPAB **PKPab** 10 57 22.7 +0.1
SIRR Siria 152.20 327⇓ *i*P **PKPbc** 10 57 10.7 -0.2
GZR Gura Zlata 152.22 325⇓ *i*P **PKPbc** 10 57 10.6 -0.5
WERD Werda 152.36 343 ePKPbc **PKPbc** 10 57 11.0 -0.1
WERD ePKPab **PKPab** 10 57 23.6 -0.1
PLN Plauen 152.36 343 ePKPbc **PKPbc** 10 57 11.0 -0.1
GUNZ Gunzen 152.43 343 ePKPab **PKPab** 10 57 24.0 0.0
WERN Wernitzgruen 152.49 343 ePKPab **PKPab** 10 57 24.4 +0.2
NKC Novy Kostel 152.52 343⇑ ePKP **PKPbc** 10 57 11.4 -0.1
NKC ePKPAB **PKPab** 10 57 24.3 0.0
BZS Buzias 152.68 326⇑ *i*P **PKPbc** 10 57 12.0 +0.1
MANZ Manzenberg 152.83 343 ePKPbc **PKPbc** 10 57 12.3 +0.1
ROTZ Rotzenmuhle 153.01 343 ePKPbc **PKPbc** 10 57 12.3 -0.2
ROTZ ePKPab **PKPab** 10 57 26.7 +0.3

KHC	**Kasperske Hory**	**153.18**	**340**	*e*PKPDF	**PKPdf**	**10 57 04.6**	**-0.5**
KHC				⇑*e*PKP	**PKPbc**	**10 57 12.8**	**-0.2**
KHC				*e*PKPAB	**PKPab**	**10 57 27.5**	**+0.3**
KHC				*ex*	x	10 59 25.1	
KHC	**Kasperske Hory**	**153.18**	**340**	*e*PKPbc	**PKPbc**	**10 57 13.1**	**+0.1**
KHC				*e*PKPab	**PKPab**	**10 57 27.4**	**+0.2**
WET	**Wettzell**	**153.38**	**341**	*e*PKPab	**PKPab**	**10 57 28.7**	**+0.7**
GERES	**GERESS Array B**	**153.40**	**340**	PKPbc	**PKPbc**	**10 57 13.1**	**-0.4**
GERES				PKPab	**PKPab**	**10 57 27.9**	**-0.3**
GERES	**GERESS Array B**	**153.40**	**340**	PKPbc	**PKPbc**	**10 57 13.1**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=66,slow=1.6,SNR=10						
GERES				PKPab	**PKPab**	**10 57 27.9**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=22,slow=4.3,SNR=5.7						
CONA	**Conrad Observa**	**153.44**	**336**	⇑*i*PKiKP	**PKiKP**	**10 57 13.7**	**0.0**
	comp=Z,7.6nm,1.1s						
CONA				⇑*i*PKPab	**PKPab**	**10 57 29.0**	**+0.6**
	comp=Z,8.5nm,0.7s						
VTS	**Vitosha**	**153.74**	**319**	⇑*i*P	**PKPab**	**10 57 30.4**	**+0.4**
RJOB	**Jochberg**	**154.66**	**340**	*e*PKPab	**PKPab**	**10 57 34.1**	**+0.5**
RJOB				*e*pPKPbc	pPKPbc	10 59 26.4	+10
PERS	**Pernice**	**154.80**	**335**	*i* PKPbc	**PKPab**	**10 57 33.9**	**-0.4**
LEGS	**Legarje**	**155.29**	**334**	*i* PKPbc	**PKPab**	**10 57 35.7**	**-0.6**
DAVOX	**Davos/Dischmat**	**156.37**	**343**	PKPab	**PKPab**	**10 57 41.1**	**0.0**
DAVOX	**Davos/Dischmat**	**156.37**	**343**	PKPab	**PKPab**	**10 57 41.1**	**0.0**
	comp=Z,7.0nm,0.7s,baz=38,slow=1.2,SNR=12						
FUORN	**Ofenpass-Fuorn**	**156.41**	**343**	*e*PKPdf	**PKPdf**	**10 57 09.7**	**-0.1**
FUORN				*e*PKPab	**PKPab**	**10 57 41.9**	**+0.4**
ESDC	**Sonseca Array**	**164.37**	**12**	PKPab	**PKPab**	**10 58 15.5**	**-0.6**
ESDC	**Sonseca Array**	**164.37**	**12**	PKPab	**PKPab**	**10 58 15.5**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=342,slow=4.0,SNR=6.4						
TOA0	**Torodi Ar. Sit**	**168.71**	**187**	*e*PKPdf	**PKPdf**	**10 57 21.4**	**-0.8**
TORD	**Torodi Ar. Bea**	**168.71**	**187**	PKP	**PKPdf**	**10 57 21.8**	**-0.5**
TORD				PKPab	**PKPab**	**10 58 36.1**	**+0.4**
	comp=Z,3.1nm,0.7s,baz=172,slow=3.6,SNR=19						
TORD				pPKPab	**pPKPab**	**11 00 33.0**	**+2.9**
	comp=Z,1.2nm,1.0s,baz=178,slow=1.4,SNR=4.0						
TORD				PP	**PP**	**11 02 25.0**	**+0.4**
	comp=Z,1.5nm,1.0s,baz=154,slow=5.4,SNR=5.2						

MAN 31 10:46:00.12±44.N×12±51.E,h13km,mb4.2,ML3.1,MS2.8, 2C,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCP	**Roxas**	**1.15**	**221**	⇑*e*P	Pb	10 46 20.3	-1.4
RCP				*e*S	Sn	10 46 37.9	+0.5
PVCP	**Virac**	**1.31**	**29**	⇑*e*P	Pn	10 46 18.1	-6.0
PVCP				*i* S	Sb	10 46 35.7	-5.6
OCLP	**Ormoc**	**1.75**	**142**	*e*P	Pn	10 46 29.9	-0.2
GUIM	**Jordan**	**2.01**	**207**	*e*P	Pn	10 46 33.9	+0.2
GUIM				*e*S	Sb	10 47 00.2	-1.3
MSLP	**Maasin**	**2.65**	**150**	*e*P	Pb	10 46 45.4	-1.9

DJA 31 11:05:11.7±0.7,9˚S±5˚×11˚8E±˚,h70km±20km,M3.6/3, MLv3.6/3,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWSI	**Taliwang, Sumb**	**1.22**	**285**	P	Pn	11 05 35.6	+2.6
WBSI	**Waikabubak, Su**	**1.43**	**114**	P	Pn	11 05 35.3	-0.5
LBFI	**Labuhan Bajo,**	**1.89**	**72**	P	Pn	11 05 41.0	-0.9
LBFI				S	Sn	11 06 04.4	-0.4
WSI	**Waingapu**	**2.28**	**106**	P	Pn	11 05 48.3	+1.2
WSI				S	Sn	11 06 16.1	+1.8
KHKI	**Kahang-Kahang**	**2.53**	**286**	P	Pn	11 05 50.1	-0.4
KHKI				S	Sn	11 06 21.8	+1.5
DNP	**Denpasar**	**2.85**	**277**	P	Pn	11 05 56.1	+1.2
DNP				S	Sn	11 06 28.1	-0.1
SRBI	**Singaraja**	**2.99**	**289**	P	Pn	11 05 56.4	-0.3
BKSI	**Bulukumba**	**4.24**	**29**	P	Pn	11 06 15.0	+1.2
BKSI				S	Sn	11 07 04.3	+2.3

IDC 31 11:05:23.9±1.8,12˚14S×166˚26E,h0km,mb3.7/5, mb1 3.9/6,mb1mx3.7/20,mbtmp3.7/6,ML3.6/1,MS2.9/1, Ms1 2.9/1,ms1mx2.7/28,Error ellipse: s-maj=53.9km s-min=29.6km az=117.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.76**	**293**	LR	LR	11 08 56.7	
	comp=Z,94nm,19.2s,baz=62,slow=32						
DZM	**Mont Dzumac**	**9.88**	**179**	Pn	Pn	11 07 47.1	-0.3
	0.5nm,0.3s,baz=21,slow=18,SNR=7.2						
DZM				Sn	Sn	11 09 31.6	-7.6
	0.1nm,0.3s,baz=258,slow=21,SNR=0.9						
STKA	**Stephens Creek**	**30.02**	**225**	P	P	11 11 34.2	-0.3
	1.0nm,0.7s,baz=87,slow=5.3,SNR=4.2						
WRA	**Warramunga Arr**	**31.60**	**252**	P	P	11 11 47.9	-0.8
	0.2nm,0.5s,baz=83,slow=8.6,SNR=1.6						
ASAR	**Alice Springs**	**32.77**	**245**	P	P	11 11 59.4	+0.4
	0.3nm,0.5s,baz=66,slow=9.9,SNR=7.0						
ILAR	**Eielson Array**	**84.38**	**18**	P	P	11 17 57.2	-0.5
	0.2nm,0.6s,baz=244,slow=5.7,SNR=2.4						
MKAR	**Makanchi Array**	**94.66**	**317**	P	P	11 18 47.5	+0.6
	1.8nm,0.7s,baz=88,slow=5.6,SNR=10						

*ISCJB **31** 11:05:23.6±1.4,35˚.77N±0˚.10×70˚.0E±0˚.1,h124km, mb3.8/1,Error ellipse: s-maj=16.1km s-min=12.2km az=40.5*

*NNC **31** 11:05:26.5±5.9,35˚.91N×69˚.90E,h126km±57km,mb3.5, mpv3.9,Error ellipse: s-maj=44.5km s-min=36.6km az=14.0*

*IDC **31** 11:05:29.9±4.8,39˚.27N×65˚.87E,h0km,mb3.9/1, mb1 3.6/3,mb1mx3.3/28,mbtmp3.6/3,ML3.6/2,Error ellipse: s-maj=229.9km s-min=23.9km az=150.0*

ISC 31 11:05:25.7±1.7,35˚.9N±0˚.1×69˚.8E±0˚.1,h124km,n10, σ0˚76/13,4C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**7.26**	**4**	P	**Pn**	**11 07 09.3**	**+0.3**
	1.8nm,0.2s,baz=196,slow=15,SNR=134						
KK31				⇑S	**Sn**	**11 08 30.7**	**+0.8**
	4.1nm,0.3s,baz=192,slow=21,SNR=6.8						
TKM2	**Tokmak 2**	**8.35**	**31**	⇓P	**Pn**	**11 07 23.7**	**-0.2**
	3.6nm,0.5s						
TKM2				⇑S	**Sn**	**11 08 55.4**	**-1.1**
	2.9nm,0.7s						
MKAR	**Makanchi Array**	**14.37**	**37**	Pn	**P**	**11 08 47.2**	**+0.7**
	0.1nm,0.3s,baz=230,slow=13,SNR=1.4						
AB31	**Akbulak array**	**15.23**	**335**	P	**P**	**11 08 55.0**	**-1.0**
	5.9nm,0.5s,baz=156,slow=13,SNR=267						
AB31				⇑S	**Sn**	**11 11 41.9**	**-0.6**
	0.3nm,0.3s,baz=165,slow=24,SNR=4.2						
VOSK	**Vostochnaya**	**16.88**	**2**	⇓P	**Pn**	**11 09 14.9**	**+0.6**
	2.1nm,0.8s						
AKTO	**Aktyubinsk**	**16.90**	**333**	⇓P	**Pn**	**11 09 15.0**	**+0.5**
	5.6nm,1.1s						
BVA0	**Borovoye Array**	**17.17**	**1**	⇓P	**Pn**	**11 09 18.1**	**+0.3**
	3.9nm,1.3s,baz=345,slow=23,SNR=6.0						
BRVK	**Borovoye**	**17.20**	**1**	⇑P	**P**	**11 09 17.0**	**-0.8**
	6.6nm,1.0s						
ZALV	**Zalesovo Beam**	**20.89**	**25**	P	**P**	**11 09 58.7**	**+0.8**
	0.4nm,0.3s,baz=229,slow=11,SNR=7.0						
TORD	**Torodi Ar. Bea**	**64.76**	**268**	P	**P**	**11 15 51.0**	**-0.2**
	0.6nm,0.4s,baz=47,slow=6.3,SNR=9.5						

*ISCJB **31** 11:09:27.2±0.3,59˚.71N±0˚.03×23˚.35E±0˚.04,h0km, mb3.4/1,Error ellipse: s-maj=3.7km s-min=2.9km az=178.6*

*IDC **31** 11:09:28.1±1.6,59˚.56N×23˚.59E,h0km,mb3.1/1, mb1 3.4/5,mb1mx3.2/28,mbtmp3.3/5,ML3.1/4,Error ellipse: s-maj=22.4km s-min=8.9km az=155.0*

*CSEM **31** 11:09:28.8±0.2,59˚.74N×23˚.34E,h2km,ML2.5,Error ellipse: s-maj=4.6km s-min=3.4km az=170.0,Mining explosion.*

*HEL **31** 11:09:28.8±0.1,59˚.70N×23˚.33E,h0km,ML2.5, ML2.1(UPP),Explosion*

*NAO **31** 11:09:29.0±1.1,59˚.67N×23˚.24E,ML2.5*

*BER **31** 11:09:30.9±4.2,59˚.64N×23˚.24E,h0km,ML2.5(NAO), Suspected explosion*

*UPP **31** 11:09:32.1,59˚.74N×22˚.88E,h0km,ML2.1,Suspected Mining explosion.*

ISC 31 11:09:27.9±0.6,59˚.71N±0˚.02×23˚.31E±0˚.03,h0km,n69, σ1±11/100,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPE	**Suurupi**	**0.60**	**114**	*e*P	**Pg**	**11 09 38.7**	**-0.6**
SRPE				*e*S	**Sg**	**11 09 46.9**	**-0.1**
SRPE	**Suurupi**	**0.60**	**114**	*e*P	**Pg**	**11 09 40.1**	**+0.8**
	SNR=90						
SRPE				*e*S	**Sb**	**11 09 48.9**	**-1.3**
	372nm,0.3s,SNR=90						
MEF	**Metsahovi**	**0.74**	**47**	*e*P	**Pg**	**11 09 42.0**	**-0.2**
MEF				*e*S	**Sg**	**11 09 51.5**	**-0.3**
MEF	**Metsahovi**	**0.74**	**47**	P	**Pg**	**11 09 41.9**	**-0.2**
MEF				S	**Sg**	**11 09 51.4**	**-0.3**
MTSE	**Matsula**	**1.03**	**165**	*e*P	**Pg**	**11 09 47.2**	**-0.5**
MTSE				*e*S	**Sg**	**11 10 00.1**	**-0.9**
MTSE	**Matsula**	**1.03**	**165**	*e*P	**Pg**	**11 09 47.4**	**-0.3**
	SNR=90						
MTSE				*e*S	**Sg**	**11 10 00.3**	**-0.8**
	SNR=90						
RAF	**Rauma**	**1.52**	**330**	*e*P	**Pn**	**11 09 56.4**	**+0.1**
RAF				*e*S	**Sn**	**11 10 16.2**	**-0.6**
RAF				MSG		11 10 25.9	
	comp=Z,57nm,0.2s						
RAF	**Rauma**	**1.52**	**330**	P	**Pn**	**11 09 56.4**	**+0.1**
RAF				S	**Sn**	**11 10 16.2**	**-0.6**
PVF	**Pernaja**	**1.52**	**56**	*e*P	**Pn**	**11 09 56.0**	**-0.3**
PVF				*e*S	**Sg**	**11 10 16.9**	**0.0**
PVF	**Pernaja**	**1.52**	**56**	P	**Pn**	**11 09 56.0**	**-0.3**
PVF				S	**Sg**	**11 10 16.8**	**0.0**
AAL	**Aland**	**1.73**	**287**	*e*P	**Pn**	**11 09 59.2**	**0.0**
AAL				*e*S	**Sn**	**11 10 22.2**	**+0.2**
AAL	**Aland**	**1.73**	**287**	P	**Pn**	**11 09 59.7**	**+0.5**
AAL				S	**Sn**	**11 10 22.9**	**+0.9**
SLIT	**Slitere, Latvi**	**2.16**	**195**	*e*P	**Pn**	**11 10 06.2**	**+1.2**
	SNR=50						
SLIT				*e*S	**Sg**	**11 10 38.2**	**+1.1**
	comp=Z,201nm,0.3s,SNR=50						
VSU	**Vasula**	**2.17**	**124**	Pn	**Pb**	**11 10 07.6**	**-0.3**
VSU				Lg	Lg	11 10 37.0	
VSU	**Vasula**	**2.17**	**124**	Pn	**Pb**	**11 10 07.6**	**-0.3**
VSU				Lg	Lg	11 10 37.0	
VSU	**Vasula**	**2.17**	**124**	*e*PG	**Pb**	**11 10 07.8**	**-0.2**
VSU				*e*SG	**Sg**	**11 10 36.5**	**-1.0**
VSU	**Vasula**	**2.17**	**124**	Pn	**Pb**	**11 10 07.6**	**-0.3**
	SNR=50						
VSU	**Vasula**	**2.17**	**124**	*e*P	**Pb**	**11 10 07.9**	**0.0**
	SNR=50						
VSU				Sg	**Sg**	**11 10 36.4**	**-1.0**
VSU				*e*S	**Sb**	**11 10 36.7**	**+1.4**
	comp=Z,88nm,0.2s,SNR=50						
VSU				Lg	Lg	11 10 37.0	
	SNR=90						
FIA0	**FINESS Array S**	**2.21**	**37**	Pn	**Pn**	**11 10 07.3**	**+1.6**
	baz=216,slow=16						
FIA0				Sn	**Sb**	**11 10 37.8**	**+1.3**
	baz=220,slow=28						
FIA0				Lg	Lg	11 10 40.8	
	baz=228,slow=28						
FIA0	**FINESS Array S**	**2.21**	**37**	Pn	**Pn**	**11 10 07.3**	**+1.6**
	baz=216,slow=16						
FIA0				Sn	**Sb**	**11 10 37.8**	**+1.3**
	baz=220,slow=28						
FIA0				Lg	Lg	11 10 40.8	
	baz=228,slow=28						
FIA0	**FINESS Array S**	**2.21**	**37**	*e*P	**Pn**	**11 10 07.0**	**+1.3**
FIA0				*e*SG	**Sb**	**11 10 37.4**	**+0.8**
FIA0				MSG		11 10 41.5	
	comp=Z,26nm,0.2s						
FIA0	**FINESS Array S**	**2.21**	**37**	P	**Pn**	**11 10 07.0**	**+1.3**
FIA0	**FINESS Array S**	**2.21**	**37**	Pn	**Pn**	**11 10 07.3**	**+1.6**
	SNR=50						
FIA0				Sg	**Sb**	**11 10 37.3**	**+0.8**
FIA0				Lg	Lg	11 10 40.8	
	SNR=55						
FINES	**FINESS Array B**	**2.21**	**37**	Pn	**Pn**	**11 10 07.4**	**+1.6**
	comp=Z,3.9nm,0.3s,baz=216,slow=14,SNR=92						
FINES				Sn	**Sb**	**11 10 37.0**	**+0.5**
	comp=Z,5.9nm,0.3s,baz=226,slow=26,SNR=22						
VJF	**Virojoki**	**2.28**	**67**	*e*P	**Pn**	**11 10 07.3**	**+0.6**
VJF				*e*SG	**Sb**	**11 10 39.6**	**+1.1**
VJF				MSG		11 10 44.2	
	comp=Z,20nm,0.2s						
VJF	**Virojoki**	**2.28**	**67**	P	**Pn**	**11 10 07.3**	**+0.6**
VJF				Sg	**Sb**	**11 10 39.6**	**+1.1**
NRTU	**Norrtaelje**	**2.37**	**271**	*e*P	**Pn**	**11 10 09.0**	**+1.0**
NRTU	**Norrtaelje**	**2.37**	**271**	P	**Pn**	**11 10 09.0**	**+1.0**
FORU	**Forsmark**	**2.66**	**287**	*e*P	**Pn**	**11 10 14.5**	**+2.5**
FORU	**Forsmark**	**2.66**	**287**	P	**Pn**	**11 10 14.4**	**+2.5**
FLYU	**Flymyra**	**2.76**	**281**	*e*P	**Pn**	**11 10 14.6**	**+1.2**
FLYU	**Flymyra**	**2.76**	**281**	P	**Pn**	**11 10 14.5**	**+1.2**
NYNU	**Nynaeshamn**	**2.81**	**258**	*e*P	**Pn**	**11 10 15.2**	**+1.2**
NYNU	**Nynaeshamn**	**2.81**	**258**	P	**Pn**	**11 10 15.1**	**+1.2**
OSTU	**Oestervaala**	**3.15**	**282**	*e*P	**Pn**	**11 10 19.5**	**+0.8**
OSTU	**Oestervaala**	**3.15**	**282**	P	**Pn**	**11 10 19.5**	**+0.8**
IGGU	**Iggoen**	**3.20**	**294**	*e*P	**Pn**	**11 10 20.3**	**+0.9**
IGGU	**Iggoen**	**3.20**	**294**	P	**Pn**	**11 10 20.3**	**+0.9**
VSTU	**Vaestervik**	**4.09**	**243**	*e*P	**Pn**	**11 10 32.9**	**+1.3**
VSTU	**Vaestervik**	**4.09**	**243**	P	**Pn**	**11 10 32.9**	**+1.3**
BYXU	**Byxelkrok**	**4.10**	**236**	*e*P	**Pn**	**11 10 33.1**	**+1.4**
BYXU	**Byxelkrok**	**4.10**	**236**	P	**Pn**	**11 10 33.1**	**+1.4**
ASPU	**Aespoe**	**4.20**	**240**	*e*P	**Pn**	**11 10 34.5**	**+1.3**
ASPU	**Aespoe**	**4.20**	**240**	P	**Pn**	**11 10 34.4**	**+1.3**
LNKU	**Linkoeping**	**4.31**	**253**	*e*P	**Pn**	**11 10 36.5**	**+1.9**
LNKU	**Linkoeping**	**4.31**	**253**	P	**Pn**	**11 10 36.4**	**+1.9**
ASKU	**Askersund**	**4.42**	**263**	*e*P	**Pn**	**11 10 37.7**	**+1.5**
ASKU	**Askersund**	**4.42**	**263**	P	**Pn**	**11 10 37.7**	**+1.5**
EKSU	**Eksjoe**	**4.70**	**246**	*e*P	**Pn**	**11 10 40.1**	**+0.1**
EKSU	**Eksjoe**	**4.70**	**246**	P	**Pn**	**11 10 40.1**	**+0.1**
HFS	**Hagfors**	**4.86**	**279**	Pn	**Pn**	**11 10 42.9**	**+0.8**
	baz=105,slow=12						
HFS				Sn	**Sn**	**11 11 36.8**	**-2.2**
	baz=90,slow=22						
HFS				Lg	Lg	11 11 58.1	
	baz=101,slow=37						
HFS	**Hagfors**	**4.86**	**279**	Pn	**Pn**	**11 10 42.9**	**+0.8**
	baz=105,slow=12						
HFS				Sn	**Sn**	**11 11 36.8**	**-2.2**
	baz=90,slow=22						
HFS				Lg	Lg	11 11 58.1	
	baz=101,slow=37						
HFS	**Hagfors**	**4.86**	**279**	Pn	**Pn**	**11 10 42.9**	**+0.8**
	SNR=50						
HFS				Sn	**Sn**	**11 11 36.8**	**-2.2**
	SNR=50						
HFS				Lg	Lg	11 11 58.2	
HFS	**Hagfors**	**4.86**	**279**	Pn	**Pn**	**11 10 43.3**	**+1.2**
	comp=Z,0.7nm,0.3s,baz=98,slow=13,SNR=21						
HFS				Sn	**Sn**	**11 11 40.6**	**+1.6**
	comp=Z,1.0nm,0.3s,baz=90,slow=21,SNR=6.5						
HFS				Lg	Lg	11 11 57.3	
	comp=Z,3.0nm,0.3s,baz=97,slow=32,SNR=10.0						
VXJU	**Vaexsjoe**	**5.23**	**241**	*e*P	**Pn**	**11 10 48.1**	**+1.0**
VXJU	**Vaexsjoe**	**5.23**	**241**	P	**Pn**	**11 10 48.2**	**+1.0**
BORU	**Boraas**	**5.88**	**254**	*e*P	**Pn**	**11 10 56.8**	**+0.6**
BORU	**Boraas**	**5.88**	**254**	P	**Pn**	**11 10 56.8**	**+0.6**
DEL	**Delary**	**5.97**	**241**	*e*P	**Pn**	**11 10 58.4**	**+1.0**
DEL	**Delary**	**5.97**	**241**	P	**Pn**	**11 10 58.4**	**+1.0**
NB2	**NORSAR Subarra**	**6.15**	**288**	Pn	**Pn**	**11 10 58.4**	**-1.5**
	baz=96,slow=14						
NB2				Sn	**Sn**	**11 12 11.9**	**+1.1**
	baz=85,slow=22						
NB2				Lg	Lg	11 12 40.9	
	baz=101,slow=37						
NB2	**NORSAR Subarra**	**6.15**	**288**	Pn	**Pn**	**11 10 58.4**	**-1.5**
	baz=96,slow=14						
NB2				Sn	**Sn**	**11 12 11.9**	**+1.1**
	baz=85,slow=22						
NB2				Lg	Lg	11 12 40.9	
	baz=101,slow=37						
NB2	**NORSAR Subarra**	**6.15**	**288**	Pn	**Pn**	**11 10 58.3**	**-1.5**
	SNR=50						
NB2				Sn	**Sn**	**11 12 11.9**	**+1.1**
	SNR=50						
NOA	**NORSAR Array B**	**6.15**	**288**	Pn	**Pn**	**11 10 58.9**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=144,slow=12,SNR=32						
NOA				Sn	**Sn**	**11 12 11.6**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=167,slow=18,SNR=4.5						
NOA				Lg	Lg	11 12 36.1	
	comp=Z,1.2nm,0.3s,baz=58,slow=23,SNR=3.7						
ARA0	**ARCESS Array S**	**9.91**	**4**	Pn	**Pn**	**11 11 51.2**	**-0.1**
	baz=180,slow=16						
ARA0	**ARCESS Array S**	**9.91**	**4**	Pn	**Pn**	**11 11 51.2**	**-0.1**
	SNR=50						
ARCES	**ARCESS Array B**	**9.91**	**4**	Pn	**Pn**	**11 11 51.3**	**0.0**
	comp=Z,0.5nm,0.3s,baz=180,slow=13,SNR=28						
TORD	**Torodi Ar. Bea**	**49.17**	**208**	P	**P**	**11 18 18.2**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=17,slow=6.4,SNR=1.5						

*ISCJB **31** 11:12:10.1±0.3,59˚.66N±0˚.03×23˚.38E±0˚.06,h0km, mb3.4/1,Error ellipse: s-maj=5.0km s-min=3.2km az=140.5*

*IDC **31** 11:12:10.7±1.7,59˚.50N×23˚.59E,h0km,mb3.3/1, mb1 3.4/5,mb1mx3.2/28,mbtmp3.4/5,ML3.3/4,Error ellipse: s-maj=27.8km s-min=13.5km az=147.0*

*NAO **31** 11:12:11.1±1.5,59˚.62N×23˚.43E,ML2.8*

*CSEM **31** 11:12:11.3±0.2,59˚.68N×23˚.44E,h2km,ML2.5,Error ellipse: s-maj=4.9km s-min=3.6km az=149.0,Mining explosion.*

*HEL **31** 11:12:12.0±0.1,59˚.68N×23˚.33E,h0km,ML2.4, ML2.4(UPP),Explosion*

*BER **31** 11:12:12.4±2.1,59˚.58N×23˚.31E,h0km,ML2.8(NAO), Suspected explosion*

*UPP **31** 11:12:15.3,59˚.73N×22˚.86E,h0km,ML2.4,Suspected Mining explosion.*

ISC 31 11:12:10.6±0.7,59˚.66N±0˚.03×23˚.31E±0˚.03,h0km,n91, σ1±47/101,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPE	**Suurupi**	**0.58**	**109**	*e*P	**Pg**	**11 12 22.3**	**+0.7**
SRPE	**Suurupi**	**0.58**	**109**	P	**Pg**	**11 12 22.3**	**+0.7**
MEF	**Metsahovi**	**0.78**	**44**	*e*P	**Pg**	**11 12 25.6**	**+0.1**
MEF	**Metsahovi**	**0.78**	**44**	*e*P	**Pg**	**11 12 26.1**	**+0.5**
	SNR=90						
MTSE	**Matsula**	**0.98**	**165**	*e*P	**Pg**	**11 12 30.2**	**+1.0**
MTSE	**Matsula**	**0.98**	**165**	*e*P	**Pg**	**11 12 30.3**	**+1.0**
	SNR=90						
PVF	**Pernaja**	**1.56**	**54**	*e*P	**Pn**	**11 12 39.4**	**-0.1**
PVF	**Pernaja**	**1.56**	**54**	P	**Pn**	**11 12 39.4**	**-0.1**
RAF	**Rauma**	**1.57**	**331**	*e*P	**Pn**	**11 12 39.3**	**-0.4**
RAF	**Rauma**	**1.57**	**331**	*e*P	**Pn**	**11 12 40.9**	**+1.2**
	SNR=50						
AAL	**Aland**	**1.75**	**289**	*e*P	**Pn**	**11 12 42.6**	**+0.4**
AAL	**Aland**	**1.75**	**289**	P	**Pn**	**11 12 42.5**	**+0.4**
SLIT	**Slitere, Latvi**	**2.10**	**195**	*e*P	**Pb**	**11 12 49.6**	**+0.1**
	SNR=50						
VSU	**Vasula**	**2.13**	**123**	Pn	**Pn**	**11 12 46.6**	**-0.8**
VSU	**Vasula**	**2.13**	**123**	Pn	**Pn**	**11 12 46.6**	**-0.8**
VSU	**Vasula**	**2.13**	**123**	*e*PG	**Pb**	**11 12 50.3**	**+0.3**
VSU	**Vasula**	**2.13**	**123**	Pn	**Pn**	**11 12 46.6**	**-0.8**
	SNR=50						
VSU	**Vasula**	**2.13**	**123**	Pg	**Pb**	**11 12 50.3**	**+0.3**
FIA0	**FINESS Array S**	**2.25**	**36**	Pn	**Pn**	**11 12 50.5**	**+1.4**
	baz=216,slow=16						
FIA0				Sn	**Sn**	**11 13 18.4**	**+0.9**
	baz=222,slow=28						
FIA0	**FINESS Array S**	**2.25**	**36**	Pn	**Pn**	**11 12 50.5**	**+1.4**
	baz=216,slow=16						
FIA0				Sn	**Sn**	**11 13 18.4**	**+0.9**
	baz=222,slow=28						
FIA0	**FINESS Array S**	**2.25**	**36**	*e*PB	**Pn**	**11 12 51.1**	**+2.0**
FIA0	**FINESS Array S**	**2.25**	**36**	Pn	**Pn**	**11 12 50.5**	**+1.4**
	SNR=50						
FIA0	**FINESS Array S**	**2.25**	**36**	Pb	**Pn**	**11 12 51.0**	**+2.0**
FIA0				Sn	**Sn**	**11 13 18.4**	**+0.9**
	SNR=50						
FINES	**FINESS Array B**	**2.25**	**36**	Pn	**Pn**	**11 12 50.7**	**+1.7**
	12nm,0.3s,baz=215,slow=12,SNR=43						
VJF	**Virojoki**	**2.30**	**66**	*e*P	**Pn**	**11 12 50.2**	**+0.4**
VJF	**Virojoki**	**2.30**	**66**	P	**Pn**	**11 12 50.1**	**+0.4**
NRTU	**Norrtaelje**	**2.38**	**273**	*e*P	**Pn**	**11 12 52.7**	**+2.0**
NRTU	**Norrtaelje**	**2.38**	**273**	P	**Pn**	**11 12 52.7**	**+2.0**
KEF	**Keuruu**	**2.63**	**16**	*e*PB	**Pn**	**11 12 57.1**	**+2.9**
KEF				*e*SB	**Sb**	**11 13 30.5**	**-0.9**
KEF				MSG		11 13 32.9	
	comp=Z,16nm,0.2s						
KEF	**Keuruu**	**2.63**	**16**	Pb	**Pn**	**11 12 57.1**	**+2.9**
KEF				Sb	**Sb**	**11 13 30.5**	**-0.9**
FORU	**Forsmark**	**2.68**	**288**	*e*P	**Pn**	**11 12 57.7**	**+2.7**
FORU	**Forsmark**	**2.68**	**288**	P	**Pn**	**11 12 57.6**	**+2.7**
FLYU	**Flymyra**	**2.78**	**282**	*e*P	**Pn**	**11 12 57.5**	**+1.2**
FLYU	**Flymyra**	**2.78**	**282**	P	**Pn**	**11 12 57.5**	**+1.2**
NYNU	**Nynaeshamn**	**2.80**	**259**	*e*P	**Pn**	**11 12 58.0**	**+1.5**
NYNU	**Nynaeshamn**	**2.80**	**259**	P	**Pn**	**11 12 58.0**	**+1.5**
KAF	**Kangasniemi**	**2.87**	**29**	*e*PB	**Pn**	**11 13 00.5**	**+3.0**
KAF				*e*SB	**Sb**	**11 13 37.2**	**-0.9**
KAF				MSG		11 13 38.6	
	comp=Z,15nm,0.2s						
KAF	**Kangasniemi**	**2.87**	**29**	Pb	**Pn**	**11 13 00.5**	**+3

SNR=50
ARCES **ARCESS Array B** 9.96 4 Pn Pn 11 14 34.7 -0.1
comp=Z,0.5nm,0.3s,baz=185,slow=13,SNR=7.3
TORD **Torodi Ar. Bea** 49.12 208 P P 11 20 59.8 0.0
comp=Z,0.1nm,0.3s,baz=8.1,slow=7.2,SNR=4.0

IDC 31 11:12:20.3±1.6, 59°50N×23°57E, h0km, mb3.3/1, mb1 3.5/5, mb1mx3.3/28, mbtmp3.4/5, ML3.4/4, Error ellipse: s-maj=26.1km s-min=13.2km az=145.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FINES	**FINESS Array B**	**2.32**	**31**	Pn	Pn	11 13 00.5	+0.9
	12nm,0.3s,baz=224,slow=14,SNR=15						
HFS	**Hagfors**	**5.03**	**282**	Pn	Pn	11 13 36.1	-0.8
	1.6nm,0.3s,baz=98,slow=14,SNR=6.6						
NOA	**NORSAR Array B**	**6.34**	**289**	Pn	Pn	11 13 51.3	-3.7
	1.0nm,0.3s,baz=98,slow=12,SNR=5.3						
ARCES	**ARCESS Array B**	**10.12**	**4**	Pn	Pn	11 14 44.4	-2.3
	0.7nm,0.3s,baz=175,slow=14,SNR=6.4						
TORD	**Torodi Ar. Bea**	**49.04**	**209**	P	P	11 21 09.1	+0.3
	0.1nm,0.3s,baz=8.0,slow=8.1,SNR=4.0						

IDC 31 11:12:28.7±1.6, 59°47N×23°55E, h0km, mb3.3/1, mb1 3.5/5, mb1mx3.3/28, mbtmp3.4/5, ML3.4/4, Error ellipse: s-maj=25.6km s-min=14.0km az=144.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FINES	**FINESS Array B**	**2.35**	**31**	Pn	Pn	11 13 08.8	+0.3
	14nm,0.3s,baz=217,slow=14,SNR=11						
HFS	**Hagfors**	**5.02**	**282**	Pn	Pn	11 13 44.2	-0.9
	1.4nm,0.3s,baz=90,slow=13,SNR=4.7						
NOA	**NORSAR Array B**	**6.34**	**290**	Pn	Pn	11 13 59.8	-3.6
	1.0nm,0.3s,baz=115,slow=14,SNR=5.3						
ARCES	**ARCESS Array B**	**10.15**	**4**	Pn	Pn	11 14 53.5	-1.9
	1.0nm,0.3s,baz=182,slow=13,SNR=7.1						
TORD	**Torodi Ar. Bea**	**49.01**	**209**	P	P	11 21 17.3	+0.3
	0.1nm,0.3s,baz=7.0,slow=7.7,SNR=3.6						

IDC 31 11:12:37.8±1.6, 59°46N×23°57E, h0km, mb3.2/1, mb1 3.5/5, mb1mx3.3/28, mbtmp3.4/5, ML3.5/4, Error ellipse: s-maj=26.3km s-min=13.3km az=146.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FINES	**FINESS Array B**	**2.34**	**31**	Pn	Pn	11 13 18.1	+0.6
	14nm,0.3s,baz=222,slow=26,SNR=14						
HFS	**Hagfors**	**5.03**	**282**	Pn	Pn	11 13 53.4	-1.1
	1.3nm,0.3s,baz=104,slow=12,SNR=4.1						
NOA	**NORSAR Array B**	**6.35**	**290**	Pn	Pn	11 14 08.9	-3.7
	1.2nm,0.3s,baz=115,slow=14,SNR=5.0						
ARCES	**ARCESS Array B**	**10.15**	**4**	Pn	Pn	11 15 02.9	-1.7
	1.1nm,0.3s,baz=179,slow=15,SNR=5.5						
TORD	**Torodi Ar. Bea**	**49.01**	**209**	P	P	11 21 26.6	+0.4
	0.1nm,0.3s,baz=357,slow=8.4,SNR=3.6						

IDC 31 11:12:48.9±1.6, 59°51N×23°51E, h0km, mb3.4/1, mb1 3.6/5, mb1mx3.4/28, mbtmp3.5/5, ML3.4/4, Error ellipse: s-maj=25.7km s-min=13.4km az=145.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FINES	**FINESS Array B**	**2.32**	**32**	Pn	Pn	11 13 29.3	+1.0
	17nm,0.3s,baz=215,slow=17,SNR=9.5						
HFS	**Hagfors**	**4.99**	**281**	Pn	Pn	11 14 03.7	-1.3
	1.7nm,0.3s,baz=99,slow=15,SNR=3.9						
NOA	**NORSAR Array B**	**6.30**	**289**	Pn	Pn	11 14 20.0	-3.0
	1.3nm,0.3s,baz=115,slow=14,SNR=4.2						
ARCES	**ARCESS Array B**	**10.10**	**4**	Pn	Pn	11 15 12.2	-2.8
	0.6nm,0.3s,baz=183,slow=14,SNR=3.4						
TORD	**Torodi Ar. Bea**	**49.04**	**209**	P	P	11 21 37.6	+0.2
	0.2nm,0.3s,baz=5.3,slow=8.0,SNR=3.9						

IDC 31 11:12:54.6±1.6, 59°54N×23°43E, h0km, mb3.4/1, mb1 3.6/4, mb1mx3.3/27, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=27.5km s-min=15.9km az=140.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FINES	**FINESS Array B**	**2.32**	**33**	Pn	Pn	11 13 34.9	+1.0
	16nm,0.3s,baz=221,slow=17,SNR=7.3						
NOA	**NORSAR Array B**	**6.26**	**289**	Pn	Pn	11 14 25.4	-2.7
	1.3nm,0.3s,baz=173,slow=16,SNR=3.6						
ARCES	**ARCESS Array B**	**10.08**	**4**	Pn	Pn	11 15 17.9	-2.5
	0.7nm,0.3s,baz=180,slow=14,SNR=4.1						
TORD	**Torodi Ar. Bea**	**49.04**	**209**	P	P	11 21 43.3	+0.2
	0.2nm,0.3s,baz=8.4,slow=7.8,SNR=3.5						

IDC 31 11:13:04.6±1.6, 59°52N×23°42E, h0km, mb3.2/1, mb1 3.5/4, mb1mx3.2/27, mbtmp3.4/4, ML3.4/3, Error ellipse: s-maj=27.2km s-min=15.8km az=138.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FINES	**FINESS Array B**	**2.34**	**33**	Pn	Pn	11 13 44.9	+0.6
	14nm,0.3s,baz=222,slow=15,SNR=5.9						
NOA	**NORSAR Array B**	**6.26**	**289**	Pn	Pn	11 14 35.4	-2.8
	1.0nm,0.3s,baz=232,slow=4.4,SNR=2.7						
ARCES	**ARCESS Array B**	**10.10**	**4**	Pn	Pn	11 15 28.4	-2.4
	0.4nm,0.3s,baz=184,slow=13,SNR=2.5						
TORD	**Torodi Ar. Bea**	**49.02**	**209**	P	P	11 21 53.3	+0.3
	0.1nm,0.3s,baz=8.1,slow=9.5,SNR=2.7						

IDC 31 11:13:14.5±1.6, 59°60N×23°34E, h0km, mb3.1/1, mb1 3.4/4, mb1mx3.2/27, mbtmp3.3/4, ML3.3/3, Error ellipse: s-maj=29.7km s-min=17.1km az=130.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FINES	**FINESS Array B**	**2.29**	**35**	Pn	Pn	11 13 54.6	+1.1
	9.1nm,0.3s,baz=224,slow=14,SNR=4.3						
NOA	**NORSAR Array B**	**6.19**	**289**	Pn	Pn	11 14 44.5	-2.6
	0.9nm,0.3s,baz=297,slow=20,SNR=1.3						
ARCES	**ARCESS Array B**	**10.02**	**4**	Pn	Pn	11 15 36.6	-2.9
	0.4nm,0.3s,baz=187,slow=14,SNR=2.6						
TORD	**Torodi Ar. Bea**	**49.07**	**208**	P	P	11 22 03.4	+0.1
	0.1nm,0.3s,baz=4.5,slow=9.4,SNR=2.4						

IDC 31 11:43:29.4±4.5, 13°24S×166°59E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/19, mbtmp3.4/3, Error ellipse: s-maj=219.2km s-min=33.2km az=141.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.58**	**253**	P	P	11 49 54.5	+0.3
	0.2nm,0.6s,baz=85,slow=9.6,SNR=1.6						
ASAR	**Alice Springs**	**32.62**	**247**	P	P	11 50 03.0	-0.2
	0.3nm,0.5s,baz=72,slow=9.5,SNR=12						
ILAR	**Eielson Array**	**85.32**	**18**	P	P	11 56 08.0	-0.1
	0.2nm,0.6s,baz=232,slow=5.2,SNR=8.2						

*ISCJB **31** 11:49:06.1±0.9, 40°61N±0°06×50°99E±0°07, h35km, mb3.6/1, Error ellipse: s-maj=9.6km s-min=6.0km az=146.3*

*CSEM **31** 11:49:07.7±0.7, 40°59N×51°00E, h30km, mb3.8, Error ellipse: s-maj=18.8km s-min=9.1km az=149.0*

ISC 31 11:49:06.9±1.2, 40°63N±0°07×51°02E±0°07, h35km, n19, σ2s19/26, 2C-2D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NDR	**Nardaran**	**0.79**	**267**	P	Pn	11 49 25.1	+3.6
ATGJ	**Altiaghaj**	**1.60**	**279**	P	**Pn**	**11 49 34.7**	**+1.9**
ATGJ				S	**Sn**	**11 49 52.0**	**-0.3**
SIZA	**Siyzn**	**1.67**	**286**	P	**Pn**	**11 49 36.6**	**+2.8**
ALIB	**Äli-Bayra**	**1.68**	**247**	S	**Sn**	**11 49 52.9**	**-1.3**
PQL	**Pirkuli**	**1.85**	**276**	P	**Pn**	**11 49 37.8**	**+1.5**
PQL				S	**Sn**	**11 49 58.8**	**+0.2**
QUBA	**Quba, Azerbaij**	**2.04**	**291**	P	**Pn**	**11 49 41.0**	**+2.1**
QUBA				S	**Sn**	**11 50 01.8**	**-1.4**
IML	**Ismayilli**	**2.17**	**275**	P	**Pn**	**11 49 41.8**	**+1.3**
IML				S	**Sn**	**11 50 05.6**	**-0.6**
KDMR	**Kurdemir**	**2.18**	**264**	S	**Sn**	**11 50 03.4**	**-3.0**
GLBA	**Clilabad**	**2.45**	**236**	Pn	**Pn**	**11 49 44.9**	**+0.5**
GLBA				S	**Sn**	**11 50 12.0**	**-1.2**
LKRN	**Lenkeran, Azer**	**2.59**	**223**	S	**Sn**	**11 50 15.4**	**-1.0**
SEKA	**Sheki**	**2.95**	**282**	Pn	**Pn**	**11 49 52.3**	**+0.9**
SEKA				S	**Sn**	**11 50 23.5**	**-2.2**
BRDA	**Brd**	**2.96**	**264**	S	**Sn**	**11 50 25.0**	**-0.6**
GANJ	**Ganja**	**3.58**	**272**	Pn	**Pn**	**11 50 00.0**	**+0.1**
GANJ				S	**Sn**	**11 50 35.3**	**-5.7**
NAX	**Nakhchivan**	**4.49**	**253**	S	Sn	11 50 56.4	-7.2
AB31	**Akbulak array**	**10.68**	**33**	⇓Pn	**Pn**	**11 51 39.0**	**+1.7**
	0.4nm,0.3s,baz=216,slow=13,SNR=5.9						
AB31				⇑Sn	**Sn**	**11 53 32.0**	**-3.6**
	1.4nm,0.5s,baz=224,slow=26,SNR=5.7						
AB31	**Akbulak array**	**10.68**	**33**	Pn	**Pn**	**11 51 39.0**	**+1.7**
	0.4nm,0.3s,SNR=5.9						
AB31				Sn	**Sn**	**11 53 32.0**	**-3.6**
	1.4nm,0.5s,SNR=5.7						
AKTO	**Aktyubinsk**	**10.95**	**24**	⇑Pn	**Pn**	**11 51 41.5**	**+0.4**
	0.8nm,0.2s						
AKTO				⇓Sn	Sn	11 53 35.4	-6.9
	4.7nm,0.7s						
AKTO	**Aktyubinsk**	**10.95**	**24**	Pn	**Pn**	**11 51 41.5**	**+0.4**
	0.8nm,0.2s						
AKTO				Sn	Sn	11 53 35.4	-6.9
	4.7nm,0.7s						
KAF	**Kangasniemi**	**26.16**	**334**	*ep*	**P**	**11 54 39.9**	**+2.3**
	0.6nm,0.3s						

IDC 31 12:12:11.2±19.0, 6°97S×128°12E, h197km±189km, mb3.6/1, mb1 3.2/3, mb1mx2.9/19, mbtmp3.4/3, ML3.0/2, Error ellipse: s-maj=167.2km s-min=98.5km az=85.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.24**	**156**	P	Pn	12 15 24.1	-0.3
	0.1nm,0.3s,baz=330,slow=12,SNR=7.0						
WRA				S	S	12 18 01.6	-1.6
	0.0nm,0.3s,baz=333,slow=19,SNR=3.6						
ASAR	**Alice Springs**	**17.51**	**162**	P	P	12 16 02.8	+0.7
	0.1nm,0.3s,baz=346,slow=12,SNR=6.8						
ILAR	**Eielson Array**	**94.12**	**25**	P	P	12 25 06.8	-0.2
	0.3nm,0.6s,baz=254,slow=5.3,SNR=9.8						

IDC 31 12:53:07.1±1.5, 11°85N×89°21W, h0km, mb3.6/7, mb1 4.0/9, mb1mx3.8/25, mbtmp3.6/9, ML3.5/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/34, Error ellipse: s-maj=54.3km s-min=20.1km az=37.0, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**3.37**	**339**	Pn	Pn	12 54 00.8	-0.5
	4.8nm,0.3s,baz=128,slow=8.7,SNR=25						
APG				Sn	Sn	12 54 39.2	-3.0
	18nm,0.3s,baz=287,slow=20,SNR=26						
JTS	**JuntasAbangare**	**4.46**	**110**	Pn	Pn	12 54 18.2	+2.1
	1.9nm,0.3s,baz=104,slow=23,SNR=14						
JTS				Sn	Sn	12 55 10.1	+1.3
	6.7nm,0.3s,baz=245,slow=23,SNR=5.8						
TXAR	**Lajitas Array**	**22.00**	**324**	P	P	12 58 03.9	+0.7
	0.5nm,0.5s,baz=147,slow=10.0,SNR=16						
TKL	**Tuckaleechee C**	**24.21**	**11**	P	P	12 58 25.0	-0.6
	3.6nm,0.8s,baz=178,slow=8.0,SNR=4.1						
TKL				LR	LR	13 09 18.3	
	comp=Z,66nm,18.6s,baz=186,slow=40						
PDAR	**Pinedale Array**	**35.52**	**334**	P	P	13 00 06.2	+0.1
	0.1nm,0.3s,baz=153,slow=11,SNR=2.9						
PDAR				PcP	PcP	13 02 33.1	-2.3
	0.2nm,0.4s,baz=108,slow=5.9,SNR=3.1						
NVAR	**Mina Array Bea**	**37.05**	**321**	P	P	13 00 19.8	+0.6
	1.3nm,0.8s,baz=135,slow=8.4,SNR=10						
NVAR				PcP	PcP	13 02 39.9	-0.2
	0.5nm,0.6s,baz=146,slow=5.3,SNR=5.0						
YKA	**Yellowknife Ar**	**53.75**	**346**	P	P	13 02 31.2	+0.2
	0.9nm,0.7s,baz=132,slow=9.4,SNR=3.9						
ILAR	**Eielson Array**	**65.88**	**337**	P	P	13 03 54.3	-0.1
	0.9nm,0.7s,baz=147,slow=5.2,SNR=12						
TORD	**Torodi Ar. Bea**	**88.22**	**77**	P	P	13 06 00.6	-0.5
	0.3nm,0.7s,baz=270,slow=4.2,SNR=2.5						
CMAR	**Chiang Mai Arr**	**148.83**	**345**	PKPbc	PKPbc	13 12 57.5	-0.2
	1.7nm,0.8s,baz=341,slow=3.6,SNR=13						

*BKK **31** 13:03:17.1±1.2, 12°S±12°×16°7E±2°2, h10km, M5.2/17, mb5.2/17*

*NEIC **31** 13:03:21.8±0.3, 12°.26S×166°.52E, h35km, mb5.2/29, Error ellipse: s-maj=9.6km s-min=7.0km az=105.0*

*MOS **31** 13:03:27.3±1.0, 12°.23S×166°.37E, h89km, mb5.0/12, Error ellipse: s-maj=13.4km s-min=10.5km az=120.3*

*IDC **31** 13:03:30.7±0.5, 12°.29S×166°.59E, h108km±4km, mb4.5/25, mb1 4.6/27, mb1mx4.5/30, mbtmp4.9/27, MS3.5/10, Ms1 3.6/10, ms1mx3.3/36, Error ellipse: s-maj=12.6km s-min=9.0km az=95.0*

*ISCJB **31** 13:03:30.1±1.5, 12°.36S±0°.05×166°.53E±0°.07, h121km±12km, mb4.9/72, Error ellipse: s-maj=11.7km s-min=7.0km az=163.8*

*BJI **31** 13:03:32.6, 11°.94S×166°.41E, h122km, mB5.2/28, mb5.0/42*

*DJA **31** 13:03:43.8±4.0, 12°S±10°×16°6E±1°6, h213km±34km, M5.1/4, mb5.1/4*

ISC 31 13:03:31.6±0.3, 12°34S±0°.05×166°62E±0°.06, h123km±2km, h122km:pP-P, n218, σ1s75/300, mb5.0/73, 7C-2D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.16**	**293**	P	**Pn**	**13 05 13.2**	**-0.4**
	22nm,0.3s,baz=169,slow=6.8,SNR=19						
HNR				S	**Sn**	**13 06 37.9**	**+4.4**
	56nm,0.3s,baz=319,slow=23,SNR=7.3						
HNR				LR	LR	13 07 12.6	
	comp=Z,166nm,21.8s,baz=110,slow=31						
DZM	**Mont Dzumac**	**9.68**	**181**	*e*Pn	**Pn**	**13 05 50.0**	**+2.2**
	49nm,0.3s						
DZM				*e*Sn	**Sn**	**13 07 35.1**	**+0.2**
	28nm,0.3s						
DZM				*e*LR	LR	13 08 08.0	
	365nm,30.7s						
DZM	**Mont Dzumac**	**9.68**	**181**	*e*P	**Pn**	**13 05 47.6**	**-0.2**
DZM				P	**Pn**	**13 05 49.4**	**+1.6**
DZM	**Mont Dzumac**	**9.68**	**181**	P	**Pn**	**13 05 49.4**	**+1.6**
	18nm,0.3s,baz=338,slow=9.8,SNR=151						
DZM				S	**Sn**	**13 07 34.1**	**-0.8**
	5.9nm,0.3s,baz=142,slow=23,SNR=4.4						
MSVF	**Nonsavu**	**12.28**	**117**	Pn	P	13 06 35.0	+5.4
	398nm,1.0s,SNR=7.0						
TARA	**Tarawa**	**14.97**	**25**	*e*Pn	Pn	13 06 50.4	-6.6
TARA				*e*pP	pP	13 07 03.5	
EIDS	**Eidsvold**	**19.57**	**226**	*e*P	**P**	**13 07 46.7**	**-3.3**
	34nm,0.6s						
CTA	**Charters Tower**	**21.00**	**246**	P	**P**	**13 08 07.0**	**+1.5**
CTA	**Charters Tower**	**21.00**	**246**	P	**P**	**13 08 07.0**	**+1.5**
	14nm,0.7s,baz=76,slow=13,SNR=13						
CTAO	**Charters Tower**	**21.00**	**246**	*e*P	P	13 08 00.0	-5.5
CTAO				pmax	pmax		
	comp=Z,48nm,1.3s						
CTAO	**Charters Tower**	**21.00**	**246**	*e*P	P	13 07 60.0	-5.5
	comp=Z,48nm,1.3s						
ARMA	**Armidale**	**22.73**	**215**	*e*P	**P**	**13 08 22.9**	**-0.4**
	comp=Z,64nm,0.8s						
URZ	**Urewera**	**27.46**	**162**	*e*P	**P**	**13 09 03.4**	**-2.7**
URZ				*e*PcP	**PcP**	**13 12 23.0**	**+1.4**
URZ	**Urewera**	**27.46**	**162**	P	**P**	**13 09 07.5**	**+1.4**
	comp=Z,4.9nm,0.3s,baz=254,slow=2.7,SNR=16						
URZ				LR	LR	13 18 37.2	
	comp=Z,58nm,20.5s,baz=348,slow=33						
BKZ	**Black Stump Fm**	**28.12**	**164**	*e*P	**P**	**13 09 11.4**	**-0.7**
	comp=Z,104nm,1.8s						
STKA	**Stephens Creek**	**30.13**	**226**	*e*P	**P**	**13 09 28.8**	**-1.1**
	comp=Z,5.8nm,0.8s						
STKA				*e*PcP	**PcP**	**13 12 28.4**	**0.0**
STKA				PcP	PcP	13 12 28.6	+0.2
STKA	**Stephens Creek**	**30.13**	**226**	P	**P**	**13 09 31.4**	**+1.6**
	comp=Z,28nm,0.7s,baz=40,slow=7.9,SNR=67						
STKA				PcP	**PcP**	**13 12 28.6**	**+0.2**
	comp=Z,4.1nm,0.7s,baz=7.4,slow=4.4,SNR=3.8						
STKA				LR	LR	13 19 07.2	
	comp=Z,148nm,21.2s,baz=294,slow=31						
RPZ	**Rata Peaks**	**31.50**	**174**	*e*P	**P**	**13 09 42.7**	**+0.9**
	comp=Z,23nm,0.8s						
RPZ	**Rata Peaks**	**31.50**	**174**	P	**P**	**13 09 42.9**	**+1.1**
	comp=Z,22nm,0.6s,baz=179,slow=4.4,SNR=22						
WRAB	**Tennant Creek**	**31.86**	**252**	*e*P	**P**	**13 09 42.7**	**-2.6**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.9s						
WRAB	**Tennant Creek**	**31.86**	**252**	*e*P	**P**	**13 09 42.7**	**-2.6**
	comp=Z,8.7nm,0.9s						
WRAB	**Tennant Creek**	**31.86**	**252**	P	**P**	**13 09 44.3**	**-1.0**
	comp=Z,49nm,1.0s,SNR=10						
WRA	**Warramunga Arr**	**31.87**	**252**	P	**P**	**13 09 45.0**	**-0.4**
WRA				PcP	**PcP**	**13 12 34.4**	**+1.1**
WRA	**Warramunga Arr**	**31.87**	**252**	P	**P**	**13 09 45.0**	**-0.4**
	comp=Z,4.6nm,0.6s,baz=83,slow=8.6,SNR=59						
WRA				PcP	**PcP**	**13 12 34.4**	**+1.1**
	comp=Z,0.7nm,0.4s,baz=71,slow=3.4,SNR=5.5						
WRA				LR	LR	13 19 29.1	
	comp=Z,87nm,21.2s,baz=350,slow=30						
AS31	**Alice Springs**	**33.01**	**245**	*e*P	**P**	**13 09 53.6**	**-1.7**
ASAR	**Alice Springs**	**33.01**	**245**	P	**P**	**13 09 54.8**	**-0.5**
ASAR				PcP	**PcP**	**13 12 36.0**	**-0.5**
ASAR	**Alice Springs**	**33.01**	**245**	P	**P**	**13 09 54.8**	**-0.5**
	comp=Z,18nm,0.7s,baz=68,slow=9.8,SNR=324						
ASAR				PcP	**PcP**	**13 12 36.0**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=62,slow=2.7,SNR=4.8						
DCZ	**Deep Cove**	**33.03**	**179**	*e*P	**P**	**13 09 55.3**	**+0.2**
	comp=Z,53nm,1.2s						
BBOO	**Buckleboo**	**34.60**	**229**	*e*P	**P**	**13 10 07.7**	**-1.2**
	comp=Z,840nm,1.3s						
SWI	**Sorong**	**36.86**	**285**	P	**P**	**13 10 29.3**	**+0.9**
FITZ	**Fitzroy Crossi**	**39.89**	**257**	*e*P	**P**	**13 10 52.2**	**-1.5**
	comp=Z,35nm,1.4s						
FITZ				PcP	**PcP**	**13 12 57.6**	**+0.4**
FITZ	**Fitzroy Crossi**	**39.89**	**257**	P	**P**	**13 10 53.9**	**+0.2**
	comp=Z,7.6nm,0.6s,baz=99,slow=8.5,SNR=25						
FITZ				PcP	**PcP**	**13 12 57.6**	**+0.4**
	comp=Z,3.5nm,0.6s,baz=133,slow=0.5,SNR=4.0						
FITZ				LR	LR	13 26 21.4	
	comp=Z,65nm,20.0s,baz=69,slow=34						
FORT	**Forrest**	**40.02**	**237**	*e*P	**P**	**13 10 54.0**	**-0.7**
	comp=Z,107nm,0.7s						
PPT	**Papeete**	**42.57**	**103**	LR	LR	13 23 59.9	
	comp=Z,53nm,19.7s,baz=342,slow=29						
PPT2	**Papeete2**	**42.57**	**103**	*e*LR	LR	13 23 30.6	
	comp=Z,233nm,33.5s						
MBWA	**Marble Bar**	**45.61**	**252**	*e*P	**P**	**13 11 38.2**	**-1.6**
	comp=Z,40nm,0.8s						
CBIJ	**Chichi jima**	**45.81**	**329**	*e*P	P	13 11 37.2	-4.1
JCJ	**Chichijima**	**45.81**	**329**	P	**P**	**13 11 41.1**	**-0.2**
	comp=Z,28nm,0.4s,baz=261,slow=18,SNR=8.0						
KAPI	**Kappang**	**46.84**	**275**	P	**P**	**13 11 49.8**	**+0.2**
KAPI	**Kappang**	**46.84**	**275**	*e*P	**P**	**13 11 47.2**	**-2.4**
	comp=Z,20nm,0.7s						
KAPI				PcP	**PcP**	**13 13 21.4**	**+0.6**
KAPI	**Kappang**	**46.84**	**275**	P	**P**	**13 11 49.2**	**-0.4**
	comp=Z,7.6nm,0.3s,baz=156,slow=15,SNR=8.0						
KAPI				PcP	**PcP**	**13 13 21.4**	**+0.6**
	comp=Z,5.3nm,0.4s,baz=63,slow=6.8,SNR=3.9						
NWAO	**Narrogin (SRO)**	**49.47**	**237**	LR	LR	13 32 36.6	
	comp=Z,92nm,18.6s,baz=165,slow=35						
MYLDM	**Lahad Datu**	**50.90**	**287**	P	**P**	**13 12 22.8**	**+2.2**
MYLDM	**Lahad Datu**	**50.90**	**287**	*e*P	**P**	**13 12 18.9**	**-1.7**
	comp=Z,25nm,1.0s						
KKM	**Kota Kinabalu**	**53.33**	**287**	*e*P	**P**	**13 12 36.8**	**-1.9**
	comp=Z,40nm,0.9s						
MJAR	**Matsushiro Arr**	**55.50**	**332**	P	**P**	**13 12 53.5**	**-0.4**
MJAR				PcP	**PcP**	**13 13 53.6**	**+1.1**
MJAR	**Matsushiro Arr**	**55.50**	**332**	P	**P**	**13 12 53.5**	**-0.4**
	comp=Z,13nm,0.7s,baz=172,slow=9.0,SNR=46						
MJAR				PcP	**PcP**	**13 13 53.6**	**+1.1**
	comp=Z,2.8nm,1.0s,baz=172,slow=3.7,SNR=2.3						
MJAR				LR	LR	13 34 59.7	
	comp=Z,36nm,20.1s,baz=120,slow=34						
MAJO	**Matsushiro**	**55.50**	**332**	*e*P	**P**	**13 12 52.9**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,17nm,0.5s						
MAJO	**Matsushiro**	**55.50**	**332**	*e*P	**P**	**13 12 52.9**	**-1.0**
	comp=Z,16nm,0.5s						
MAT	**Matsushiro**	**55.50**	**332**	P	**P**	**13 12 53.5**	**-0.4**
JNU	**Nakatsue**	**56.62**	**324**	*e*P	**P**	**13 13 02.2**	**+0.2**
	comp=Z,14nm,0.9s						
JNU	**Nakatsue**	**56.62**	**324**	P	**P**	**13 13 02.5**	**+0.5**
	comp=Z,28nm,0.8s,baz=104,slow=3.7,SNR=23						
TPUB	**Ta-pu**	**57.26**	**308**	*e*P	P	13 13 03.3	-3.4
	comp=Z,35nm,1.3s						
KSM	**Kuching**	**57.55**	**280**	*e*P	**P**	**13 13 06.9**	**-2.0**
	comp=Z,20nm,1.2s						
ERM	**Erimo**	**58.23**	**340**	*e*P	**P**	**13 13 13.1**	**+0.1**
ERM				*i* *PP	**pP**	**13 13 37.6**	**-4.8**
ERM				pmax	pmax		
	comp=Z,34nm,1.3s						
ASAJ	**Asahikawa**	**60.29**	**340**	P	**P**	**13 13 28.3**	**+1.2**
ASAJ	**Asahikawa**	**60.29**	**340**	P	**P**	**13 13 28.3**	**+1.2**
	comp=Z,10nm,0.5s,baz=254,slow=16,SNR=32						
KSRS	**Korea Array**	**61.42**	**325**	P	**P**	**13 13 35.6**	**+0.7**
	comp=Z,6.7nm,0.8s,baz=139,slow=7.0,SNR=14						
KSRS				PcP	**PcP**	**13 14 17.2**	**+1.4**
	comp=Z,1.6nm,0.5s,baz=148,slow=4.3,SNR=4.3						
KSAR	**Wonju Array Be**	**61.43**	**325**	P	**P**	**13 13 35.6**	**+0.6**
KSAR				PcP	**PcP**	**13 14 17.2**	**+1.3**
QIZ	**Qiongzhong**	**64.04**	**298**	P	**P**	**13 13 52.0**	**-0.7**
QIZ				pP	**pP**	**13 14 21.0**	**-1.5**
QIZ				sP	**sP**	**13 14 34.3**	**-1.6**
QIZ				S	**S**	**13 22 17.5**	**-2.3**
QIZ				sS	**sS**	**13 23 08.8**	**-2.4**
QIZ				AMB	AMB		
	comp=Z,20nm,1.9s						
USRK	**Ussuriysk Arra**	**64.48**	**333**	P	**P**	**13 13 56.6**	**+1.6**
	comp=Z,8.0nm,0.6s,baz=131,slow=6.3,SNR

	comp=Z,5.2nm,0.7s							
GSI	**Gunungsitoli**	**69.84**	**276**	*e*P		**P**	**13 14 28.2**	**-1.4**
	comp=Z,34nm,0.7s							
GYA	**Guiyang**	**69.84**	**304**	P		**P**	**13 14 29.0**	**-0.5**
GYA				PcP		**PcP**	**13 14 50.8**	**-0.5**
GYA				pP		**pP**	**13 15 01.5**	**+1.7**
GYA				sP		**sP**	**13 15 15.0**	**+2.0**
GYA				PP		**PP**	**13 17 06.3**	**+0.6**
GYA				ScP			13 18 41.5	
GYA				PcS			13 18 55.5	
GYA				S		**S**	**13 23 27.0**	**-2.6**
GYA				SKS		**SKSac**	**13 24 13.0**	**-6.4**
GYA				ScS		**SKKSac**	**13 24 15.0**	**-4.5**
GYA				AMB		AMB		
	comp=Z,20nm,1.0s							
GYA				AMB		AMB		
	comp=Z,120nm,5.7s							
SURT	**Suratani**	**70.63**	**284**	P		**P**	**13 14 36.8**	**+2.4**
	comp=Z,8.1nm,1.1s							
PBKT	**Sadao Pong**	**70.96**	**292**	P		**P**	**13 14 37.5**	**+1.2**
PBKT	**Sadao Pong**	**70.96**	**292**	P		**P**	**13 14 37.4**	**+1.2**
	comp=Z,12nm,1.0s							
LOEI	**Loei**	**71.01**	**293**	P		**P**	**13 14 35.3**	**-1.3**
	comp=Z,55nm,0.9s							
XAN	**Xi'an**	**71.61**	**312**	P		**P**	**13 14 41.0**	**+1.0**
XAN				AMB		AMB		
	comp=Z,7.0nm,0.9s							
KMI	**Kunming**	**72.52**	**301**	P		**P**	**13 14 47.0**	**+1.2**
KMI				pP		pP	13 15 22.3	+6.0
KMI				sP		sP	13 15 35.5	+6.0
KMI				AMB		AMB		
	comp=Z,6.0nm,0.7s							
CRAI	**Chiangrai**	**72.74**	**296**	P		**P**	**13 14 48.0**	**+1.1**
	comp=Z,77nm,1.2s							
HHC	**Hu-ho-hao-te**	**73.36**	**320**	*e*P		**P**	**13 14 52.8**	**+2.5**
HHC				pP		**pP**	**13 15 22.5**	**+1.7**
HHC				sP		**sP**	**13 15 36.8**	**+2.8**
HHC				PP		**PP**	**13 17 39.3**	**+3.8**
HHC				S		**S**	**13 24 09.5**	**0.0**
HHC				SKS		**SKSac**	**13 24 41.5**	**-3.8**
HHC				sS		**sS**	**13 25 04.0**	**+1.9**
HHC				SS		**SS**	**13 28 56.0**	**+1.5**
HHC				AMB		AMB		
	comp=Z,47nm,1.1s							
HHC				AMB		AMB		
	comp=Z,340nm,5.8s							
HHC				LR		LR		
	comp=Z,250nm,17.8s							
HHC				LR		LR		
	comp=Z,580nm,16.7s							
HHC				LR		LR		
	comp=Z,230nm,17.8s							
CM31	**Chiang Mai Arr**	**73.41**	**294**	*e*P		**P**	**13 14 49.9**	**-1.0**
	comp=Z,4.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**73.41**	**294**	P		**P**	**13 14 52.4**	**+1.6**
CMAR				pP		**pP**	**13 15 19.1**	**-2.3**
CMAR	**Chiang Mai Arr**	**73.41**	**294**	P		**P**	**13 14 52.4**	**+1.6**
	comp=Z,10nm,0.7s,baz=126,slow=4.8,SNR=83							
CMAR				pP		**pP**	**13 15 19.1**	**-2.3**
	comp=Z,1.6nm,0.7s,baz=126,slow=5.4,SNR=2.5							
CHTO	**Chiang Mai**	**73.53**	**294**	*e*P		**P**	**13 14 49.3**	**-2.2**
CHTO				pmax		pmax		
	comp=Z,10.0nm,0.7s							
CHTO	**Chiang Mai**	**73.53**	**294**	P		**P**	**13 14 52.6**	**+1.1**
	comp=Z,73nm,1.3s							
CHTO	**Chiang Mai**	**73.53**	**294**	*e*P		**P**	**13 14 49.3**	**-2.2**
	comp=Z,9.5nm,0.7s							
CHTO	**Chiang Mai**	**73.53**	**294**	P		**P**	**13 14 52.6**	**+1.1**
	comp=Z,73nm,1.3s							
CMAI	**Chiengmai2**	**73.81**	**295**	P		**P**	**13 14 54.6**	**+1.2**
CD2	**Chengdu**	**74.06**	**307**	P		**P**	**13 14 55.3**	**+0.8**
CD2				pP		**pP**	**13 15 27.3**	**+2.2**
CD2				sP		**sP**	**13 15 41.5**	**+3.2**
CD2				PP		**PP**	**13 17 43.5**	**+1.9**
CD2				S		**S**	**13 24 15.0**	**-2.6**
CD2				SKS		**SKSac**	**13 24 45.3**	**-5.5**
CD2				sS		**sS**	**13 25 11.0**	**+0.7**
CD2				SS		**SS**	**13 29 04.0**	**-1.4**
CD2				AMB		AMB		
	comp=Z,30nm,0.9s							
CD2				AMB		AMB		
	comp=Z,170nm,4.7s							
CD2				LR		LR		
	comp=Z,280nm,6.5s							
CD2				LR		LR		
	comp=Z,190nm,6.5s							
LZH	**Lanzhou**	**76.25**	**312**	*e*P		**P**	**13 15 09.0**	**+1.9**
LZH				pP		**pP**	**13 15 40.5**	**+2.6**
LZH				sP		**sP**	**13 15 54.5**	**+3.5**
LZH				PP		**PP**	**13 18 03.3**	**+3.1**
LZH				*e*S		**S**	**13 24 41.0**	**-0.9**
LZH				sS		**sS**	**13 25 36.0**	**+1.1**
LZH				*e*SS		**SS**	**13 29 39.3**	**+0.6**
LZH				AMB		AMB		
	comp=Z,42nm,1.5s							
LZH				AMB		AMB		
	comp=Z,210nm,7.6s							
LZH				LR		LR		
	comp=Z,330nm,17.0s							
LZH				LR		LR		
	comp=Z,320nm,16.7s							
LZH				LR		LR		
	comp=Z,380nm,19.5s							
QSPA	**South Pole Qui**	**77.68**	**180**	*e*P		**P**	**13 15 15.2**	**+0.7**
	comp=Z,5.8nm,0.6s							
QSPA				*e*pP		**PcP**	**13 15 26.5**	**+2.4**
YAK	**Yakutsk**	**79.57**	**343**	*e*P		**P**	**13 15 24.8**	**+0.2**
ULN	**Ulaanbaatar**	**79.84**	**324**	P		**P**	**13 15 27.6**	**+1.0**
	comp=Z,38nm,0.8s							
ULN	**Ulaanbaatar**	**79.84**	**324**	*e*P		**P**	**13 15 25.9**	**-0.7**
	comp=Z,22nm,0.7s							
SONM	**Songino Array**	**80.20**	**324**	P		**P**	**13 15 29.2**	**+0.6**
SONM	**Songino Array**	**80.20**	**324**	P		**P**	**13 15 29.2**	**+0.6**
	comp=Z,7.5nm,0.7s,baz=136,slow=5.6,SNR=11							
GTA	**Gaotai**	**80.56**	**314**	⇑P		**P**	**13 15 32.5**	**+1.8**
GTA				pP		**pP**	**13 15 59.0**	**-2.7**
GTA				PP		**PP**	**13 18 37.8**	**+1.8**
GTA				AMB		AMB		
	comp=Z,17nm,1.0s							
GTA				AMB		AMB		
	comp=Z,81nm,4.3s							
ZAK	**Zakamensk**	**83.24**	**325**	*e*P		**P**	**13 15 44.3**	**-0.1**
ZAK				pmax		pmax		
	comp=Z,10.0nm,1.1s							
TLY	**Talaya**	**83.66**	**326**	*e*P		**P**	**13 15 47.2**	**+0.8**
TLY				pmax		pmax		
	comp=Z,17nm,0.8s							
LSA	**Lhasa**	**83.76**	**302**	*e*P		**P**	**13 15 47.0**	**-1.0**
LSA				pmax		pmax		
	comp=Z,8.0nm,0.6s							
LSA	**Lhasa**	**83.76**	**302**	*e*P		**P**	**13 15 47.0**	**-1.0**
	comp=Z,8.3nm,0.6s							
MAW	**Mawson**	**83.85**	**202**	P		**P**	**13 15 48.0**	**+0.8**
MAW	**Mawson**	**83.85**	**202**	P		**P**	**13 15 48.0**	**+0.8**
	comp=Z,4.4nm,0.5s,baz=120,slow=6.7,SNR=14							
YBH	**Yreka Blue Hor**	**84.19**	**45**	P		**P**	**13 15 50.6**	**+1.2**
YBH	**Yreka Blue Hor**	**84.19**	**45**	P		**P**	**13 15 50.6**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=163,slow=4.4,SNR=3.6							
ILAR	**Eielson Array**	**84.46**	**18**	P		**P**	**13 15 49.8**	**-0.3**
ILAR				pP		**pP**	**13 16 19.6**	**-1.8**
ILAR				PKKPbc		**PKKPdf**	**13 34 00.2**	**+4.2**
ILAR	**Eielson Array**	**84.46**	**18**	P		**P**	**13 15 49.8**	**-0.3**
	comp=Z,2.9nm,0.6s,baz=244,slow=5.0,SNR=61							
ILAR				pP		**pP**	**13 16 19.6**	**-1.8**
	comp=Z,1.3nm,0.7s,baz=243,slow=4.9,SNR=3.7							
ILAR				PKKPbc		**PKKPdf**	**13 34 00.2**	**+4.2**
	comp=Z,0.2nm,0.5s,baz=10.0,slow=3.1,SNR=6.8							
ILAR				LR		LR	13 48 39.9	
	comp=Z,46nm,19.3s,baz=57,slow=32							
TAPN	**Taplejung**	**85.97**	**299**	*e*P		**P**	**13 15 59.5**	**+0.6**
	comp=Z,27nm,0.9s							
ODAN	**Odare**	**86.11**	**298**	*e*P		**P**	**13 16 00.2**	**+0.7**
	comp=Z,61nm,0.9s							
NVAR	**Mina Array Bea**	**86.20**	**50**	P		**P**	**13 16 00.5**	**+0.8**
NVAR				pP		**pP**	**13 16 29.4**	**-1.7**
NVAR	**Mina Array Bea**	**86.20**	**50**	P		**P**	**13 16 00.5**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=239,slow=8.0,SNR=6.3							
NVAR				pP		**pP**	**13 16 29.4**	**-1.7**
	comp=Z,1.9nm,0.7s,baz=226,slow=10,SNR=10							
RAMN	**Ramite**	**86.82**	**298**	*e*P		**P**	**13 16 03.4**	**+0.4**
	comp=Z,45nm,1.1s							
JIRN	**Jiri**	**87.36**	**299**	*e*P		**P**	**13 16 06.3**	**+0.6**
	comp=Z,30nm,0.8s							
TIXI	**Tiksi**	**87.51**	**349**	⇓*e*P		**P**	**13 16 04.7**	**-0.3**
TIXI				*i* *PP		**pP**	**13 16 32.6**	**-3.9**
TIXI				pmax		pmax		
	comp=Z,8.0nm,2.5s							
GUN	**Gumba**	**87.69**	**299**	*e*P		**P**	**13 16 07.9**	**+0.6**
	comp=Z,41nm,0.8s							
PKI	**Pulchoki**	**88.00**	**299**	*e*P		**P**	**13 16 09.0**	**+0.2**
	comp=Z,68nm,0.9s							
PKIN	**Phulchoki**	**88.01**	**299**	*e*P		**P**	**13 16 08.9**	**+0.2**
	comp=Z,42nm,0.9s							
KKN	**Kakani**	**88.17**	**299**	*e*P		**P**	**13 16 09.8**	**+0.4**
	comp=Z,43nm,0.7s							
DMN	**Daman**	**88.27**	**299**	*e*P		**P**	**13 16 10.6**	**+0.7**
	comp=Z,94nm,0.7s							
GKN	**Gorkha**	**88.77**	**299**	*e*P		**P**	**13 16 12.2**	**0.0**
	comp=Z,70nm,0.7s							
HVS	**Khovu-Aksy**	**89.08**	**323**	⇑*i*P		**P**	**13 16 13.2**	**+0.2**
HVS				pmax		pmax		
	comp=Z,43nm,1.0s							
KOLN	**Koldanda**	**89.61**	**298**	*e*P		**P**	**13 16 15.9**	**-0.2**
	comp=Z,33nm,0.9s							
DANN	**Dangsing**	**89.61**	**299**	*e*P		**P**	**13 16 16.0**	**-0.2**
	comp=Z,51nm,0.7s							
PYUN	**Piuthan**	**90.21**	**299**	*e*P		**P**	**13 16 18.6**	**-0.3**
	comp=Z,52nm,0.9s							
WMQ	**Urumqi**	**90.60**	**315**	P		**P**	**13 16 20.5**	**+0.3**
WMQ				pP		**pP**	**13 16 53.0**	**+1.1**
WMQ				sP		**sP**	**13 17 06.5**	**+1.7**
WMQ				SKS		**SKSac**	**13 26 38.3**	**-2.3**
WMQ				S		**S**	**13 27 02.0**	**-3.7**
WMQ				SS		**SS**	**13 33 09.0**	**-1.3**
WMQ				AMB		AMB		
	comp=Z,16nm,0.6s							
WMQ				AMB		AMB		
	comp=Z,140nm,4.6s							
WMQ				LR		LR		
	comp=Z,24nm,19.8s							
WMQ				LR		LR		
	comp=Z,31nm,18.0s							
WMQ				LR		LR		
	comp=Z,24nm,18.6s							
SYO	**Syowa Base**	**90.80**	**197**	⇓*e*P		**P**	**13 16 19.4**	**-1.2**
SYO	**Syowa Base**	**90.80**	**197**	⇑*e*PcP		**P**	**13 16 20.9**	**+0.3**
HYB	**Hyderabad**	**91.81**	**287**	*i* P		**P**	**13 16 25.0**	**-1.4**
MK31	**Makanchi Array**	**95.04**	**317**	*e*P		**P**	**13 16 40.2**	**-0.4**
MK31	**Makanchi Array**	**95.04**	**317**	*e*P		**P**	**13 16 40.2**	**-0.4**
MKAR	**Makanchi Array**	**95.04**	**317**	P		**P**	**13 16 41.1**	**+0.5**
MKAR				*PP		**pP**	**13 17 08.6**	**-3.7**
MKAR	**Makanchi Array**	**95.04**	**317**	P		**P**	**13 16 41.1**	**+0.5**
MKAR				pP		**pP**	**13 17 08.6**	**-3.7**
MKAR				PKiKP		**PKiKP**	**13 21 21.6**	**+0.1**
MKAR				PKKPbc		**PKKPdf**	**13 33 34.4**	**-2.4**
MKAR	**Makanchi Array**	**95.04**	**317**	P		**P**	**13 16 41.1**	**+0.5**
	comp=Z,11nm,0.6s,baz=93,slow=6.3,SNR=78							
MKAR				pP		**pP**	**13 17 08.6**	**-3.7**
	comp=Z,3.1nm,0.7s,baz=94,slow=6.6,SNR=4.8							
MKAR				PKiKP		**PKiKP**	**13 21 21.6**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=97,slow=0.4,SNR=4.1							
MKAR				PKKPbc		**PKKPdf**	**13 33 34.4**	**-2.4**
	comp=Z,1.2nm,0.6s,baz=267,slow=4.0,SNR=9.1							
ZAA0	**Zalesovo Array**	**95.09**	**324**	*e*P		**P**	**13 16 39.5**	**-1.1**
ZALV	**Zalesovo Beam**	**95.09**	**324**	P		**P**	**13 16 39.7**	**-0.9**
ZALV				*PP		**pP**	**13 17 08.0**	**-4.3**
ZALV	**Zalesovo Beam**	**95.09**	**324**	P		**P**	**13 16 39.7**	**-0.9**
ZALV				pP		**pP**	**13 17 08.0**	**-4.3**
ZALV	**Zalesovo Beam**	**95.09**	**324**	P		**P**	**13 16 39.7**	**-0.9**
	comp=Z,6.3nm,0.7s,baz=113,slow=3.9,SNR=32							
ZALV				pP		**pP**	**13 17 08.0**	**-4.3**
	comp=Z,1.9nm,0.7s,baz=108,slow=4.8,SNR=3.7							
MAIT	**Maitri**	**95.32**	**188**	*e*P		**P**	**13 16 39.5**	**-2.0**
TXAR	**Lajitas Array**	**95.69**	**61**	P		**P**	**13 16 43.6**	**-0.5**
TXAR				pP		**pP**	**13 17 12.6**	**-3.2**
TXAR	**Lajitas Array**	**95.69**	**61**	P		**P**	**13 16 43.6**	**-0.5**
	comp=Z,0.2nm,0.8s,baz=226,slow=4.8,SNR=2.8							
TXAR				pP		**pP**	**13 17 12.6**	**-3.2**
	comp=Z,0.3nm,0.7s,baz=202,slow=6.8,SNR=3.2							
TXAR				LR		LR	13 57 40.3	
	comp=Z,44nm,18.1s,baz=185,slow=34							
SNAA	**Sanae**	**95.89**	**183**	*e*P		**P**	**13 16 43.7**	**-0.4**
SNAA	**Sanae**	**95.89**	**183**	*e*P		**P**	**13 16 43.5**	**-0.6**
	comp=Z,14nm,1.4s							
VNA2	**Neumayer--Watz**	**96.84**	**182**	*e*P		**P**	**13 16 47.2**	**-1.1**
VNA1	**Neumayer--Stat**	**97.14**	**182**	*e*P		**P**	**13 16 47.9**	**-1.7**
KURK	**Kurchatov**	**98.17**	**320**	*ce*P		**P**	**13 16 54.1**	**-0.5**
KURK				pmax		pmax		
	comp=Z,3.0nm,1.3s							
ARCES	**ARCESS Array B**	**117.79**	**346**	PKP		**PKPdf**	**13 22 03.0**	**+0.2**
ARCES				PKKPbc		**PKKPbc**	**13 32 23.6**	**-3.4**
ARCES	**ARCESS Array B**	**117.79**	**346**	PKP		**PKPdf**	**13 22 03.0**	**+0.2**
	comp=Z,2.9nm,0.3s,baz=66,slow=2.1,SNR=117							
ARCES				PKKPbc		**PKKPbc**	**13 32 23.6**	**-3.4**
	comp=Z,4.0nm,1.0s,baz=238,slow=2.3,SNR=8.1							
JOF	**Joensuu**	**120.44**	**338**	*e*PKIKP		**PKPdf**	**13 22 07.7**	**-0.4**
JOF				pmax		pmax		
	comp=Z,1.0nm,0.3s							
JOF	**Joensuu**	**120.44**	**338**	*ep*		**PKPdf**	**13 22 07.7**	**-0.4**
	comp=Z,1.0nm,0.3s							
OBN	**Obninsk**	**122.34**	**329**	⇑*i*PKIKP		**PKPdf**	**13 22 11.9**	**-0.1**
OBN				*e*			13 23 50.1	
OBN				pmax		pmax		
	comp=Z,5.0nm,0.9s							
KAF	**Kangasniemi**	**122.75**	**339**	*e*PKIKP		**PKPdf**	**13 22 12.5**	**-0.1**
KAF				pmax		pmax		
	comp=Z,1.0nm,0.3s							
KAF	**Kangasniemi**	**122.75**	**339**	*ep*		**PKPdf**	**13 22 12.5**	**-0.1**
	comp=Z,1.2nm,0.3s							
FINES	**FINESS Array B**	**123.28**	**339**	PKP		**PKPdf**	**13 22 13.8**	**+0.2**
FINES				PKKPbc		**PKKPab**	**13 32 04.8**	**+1.4**
FINES	**FINESS Array B**	**123.28**	**339**	PKP		**PKPdf**	**13 22 13.8**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=68,slow=0.9,SNR=24							
FINES				PKKPbc		**PKKPab**	**13 32 04.8**	**+1.4**
	comp=Z,1.3nm,0.6s,baz=163,slow=2.0,SNR=7.6							
BOSA	**Boshof**	**124.75**	**222**	PKP		**PKPdf**	**13 22 17.8**	**+0.1**
BOSA	**Boshof**	**124.75**	**222**	PKP		**PKPdf**	**13 22 17.8**	**+0.1**
	comp=Z,2.6nm,0.6s,baz=159,slow=4.3,SNR=5.3							
NB2	**NORSAR Subarra**	**128.16**	**345**	PKP		**PKPdf**	**13 22 23.5**	**+0.4**
	comp=Z,3.9nm,1.4s,baz=46,slow=2.6							
NOA	**NORSAR Array B**	**128.16**	**345**	PKP		**PKPdf**	**13 22 23.6**	**+0.6**
NOA	**NORSAR Array B**	**128.16**	**345**	PKP		**PKPdf**	**13 22 23.6**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=41,slow=2.5,SNR=3.4							
HFS	**Hagfors**	**128.26**	**343**	PKP		**PKPdf**	**13 22 23.6**	**+0.4**
HFS	**Hagfors**	**128.26**	**343**	PKP		**PKPdf**	**13 22 23.6**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=92,slow=4.5,SNR=7.0							
BRTR	**Keskin Array B**	**130.46**	**312**	PKP		**PKPdf**	**13 22 28.1**	**-0.2**
BRTR	**Keskin Array B**	**130.46**	**312**	PKP		**PKPdf**	**13 22 28.1**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=113,slow=2.6,SNR=3.8							
KOLS	**Kolonicke sedl**	**133.09**	**328**	*e*PKIKP		**PKPdf**	**13 22 35.7**	**+3.0**
KOLS	**Kolonicke sedl**	**133.09**	**328**	*e*PKP		**PKPdf**	**13 22 35.7**	**+3.0**
STHS	**Stebnicka Huta**	**133.31**	**329**	*e*PKIKP		**PKPdf**	**13 22 37.5**	**+4.4**
STHS	**Stebnicka Huta**	**133.31**	**329**	*e*PKP		**PKPdf**	**13 22 37.5**	**+4.4**
KRLC	**Kraliky**	**134.97**	**333**	*e*PKIKP		**PKPdf**	**13 22 38.7**	**+2.4**
KRLC	**Kraliky**	**134.97**	**333**	*e*PKPdf		**PKPdf**	**13 22 38.7**	**+2.4**
DPC	**Dobruska-Polom**	**134.97**	**333**	*e*PKIKP		**PKPdf**	**13 22 36.4**	**+0.1**
DPC	**Dobruska-Polom**	**134.97**	**333**	*e*PKPdf		**PKPdf**	**13 22 36.4**	**+0.1**
CLL	**Collm**	**135.62**	**336**	*e*PKPdf		**PKPdf**	**13 22 38.0**	**+0.6**
EKA	**Eskdalemuir Ar**	**136.36**	**352**	PKP		**PKPdf**	**13 22 40.7**	**+2.0**
EKA	**Eskdalemuir Ar**	**136.36**	**352**	PKP		**PKPdf**	**13 22 40.7**	**+2.0**
	comp=Z,1.4nm,0.7s,baz=3.1,slow=2.5,SNR=6.0							
NKC	**Novy Kostel**	**136.68**	**336**	*e*PKIKP		**PKPdf**	**13 22 42.0**	**+2.6**
NKC	**Novy Kostel**	**136.68**	**336**	*e*PKPdf		**PKPdf**	**13 22 42.0**	**+2.6**
KHC	**Kasperske Hory**	**137.07**	**334**	*e*PKIKP		**PKPdf**	**13 22 40.9**	**+0.7**
KHC	**Kasperske Hory**	**137.07**	**334**	*e*PKPdf		**PKPdf**	**13 22 40.9**	**+0.7**
GERES	**GERESS Array B**	**137.23**	**334**	PKP		**PKPdf**	**13 22 41.6**	**+1.1**
GERES	**GERESS Array B**	**137.23**	**334**	PKP		**PKPdf**	**13 22 41.6**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=56,slow=0.5,SNR=6.8							
DAVOX	**Davos/Dischmat**	**140.46**	**335**	PKP		**PKPdf**	**13 22 49.4**	**+2.8**
DAVOX	**Davos/Dischmat**	**140.46**	**335**	PKhKP		PKPpre	13 22 41.8	
	comp=Z,1.6nm,0.6s,baz=295,slow=14,SNR=5.1							
DAVOX				PKP		**PKPdf**	**13 22 49.4**	**+2.8**
	comp=Z,5.6nm,0.7s,baz=34,slow=14,SNR=7.6							
SAOF	**Saorge**	**143.68**	**334**	PKP		PKPbc	13 22 50.1	0.0
AUTN	**L'Aution**	**143.72**	**334**	PKP		PKPbc	13 22 50.6	+0.1
SSB	**Saint Sauveur**	**143.78**	**338**	PKP		PKPbc	13 22 51.2	+0.8
TOUF	**Mont Tournerai**	**143.79**	**335**	PKP		PKPbc	13 22 50.6	0.0
LUCF	**Luceram**	**143.84**	**334**	PKP		PKPbc	13 22 50.6	-0.1
MVIF	**Mont Vial**	**143.92**	**334**	PKP		PKPbc	13 22 51.1	+0.1
OG26	**St.-Nazaire-De**	**144.10**	**337**	PKP		**PKPdf**	**13 22 52.7**	**-0.4**
CALN	**Calern**	**144.15**	**335**	PKP		PKPbc	13 22 52.1	+0.5
LBL	**Lubilhac**	**144.28**	**340**	PKP		**PKPdf**	**13 22 53.1**	**-0.3**
VSL	**Villasalto**	**146.28**	**327**	*e*PKPbc		**PKPab**	**13 22 58.9**	**-0.2**
KEST	**Kesra**	**148.95**	**322**	*e*PKPbc		**PKPbc**	**13 23 06.5**	**+0.8**
KEST	**Kesra**	**148.95**	**322**	PKPbc		**PKPbc**	**13 23 06.8**	**+1.2**
	comp=Z,6.9nm,0.6s,baz=273,slow=2.1,SNR=20							
PVRL	**Vila Real**	**150.75**	**351**	*e*PKPbc		**PKPbc**	**13 23 10.8**	**+1.0**
PVIS	**Viseu**	**151.32**	**351**	*e*PKPbc		**PKPbc**	**13 23 12.0**	**+0.9**
ESDC	**Sonseca Array**	**151.52**	**345**	PKP		**PKPdf**	**13 23 07.0**	**+1.6**
ESDC				PKPbc		**PKiKP**	**13 23 12.5**	**+0.5**
ESDC				PKPab		**PKPab**	**13 23 21.6**	**+1.2**
ESDC	**Sonseca Array**	**151.52**	**345**	PKP		**PKPdf**	**13 23 07.0**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=9.9,slow=2.5,SNR=5.4							
ESDC				PKPbc		**PKiKP**	**13 23 12.5**	**+0.5**
	comp=Z,2.3nm,0.5s,baz=18,slow=2.6,SNR=26							
ESDC				PKPab		**PKPab**	**13 23 21.6**	**+1.2**
	comp=Z,3.4nm,0.5s,baz=13,slow=3.9,SNR=16							
ESDC				pPKPbc		**pPKPbc**	**13 23 40.9**	**-3.7**
	comp=Z,1.3nm,0.8s,baz=350,slow=1.6,SNR=1.9							
MTE	**Manteigas**	**151.58**	**351**	*e*PKPdf		**PKPdf**	**13 23 06.8**	**+1.3**
MTE	**Manteigas**	**151.58**	**351**	*e*PKPbc		**PKPbc**	**13 23 12.8**	**+1.0**
PCBR	**Castelo Branco**	**152.11**	**350**	*e*PKPdf		**PKPdf**	**13 23 07.7**	**+1.5**
PCBR	**Castelo Branco**	**152.11**	**350**	*e*PKPbc		**PKPbc**	**13 23 13.8**	**+0.9**
PTOM	**Tomar**	**152.47**	**352**	*e*PKPbc		**PKPbc**	**13 23 14.7**	**+1.0**
TORD	**Torodi Ar. Bea**	**165.27**	**275**	PKP		**PKPdf**	**13 23 22.8**	**+0.4**
TORD				PKPab		**PKPab**	**13 24 21.0**	**+0.4**
TORD	**Torodi Ar. Bea**	**165.27**	**275**	PKP		**PKPdf**	**13 23 22.8**	**+0.4**
	comp=Z,1.9nm,1.0s,baz=94,slow=0.8,SNR=6.1							
TORD				PKPab		**PKPab**	**13 24 21.0**	**+0.4**
	comp=Z,3.5nm,0.9s,baz=83,slow=3.3,SNR=13							

*SZGRF **31** 13:09:23.2,21.73S×177.77W,h33km, Fiji Islands region*
*IDC **31** 13:10:23.6±1.6,20.58S×178.34W,h541km±18km, mb3.3/15,mb1 3.6/18,mb1mx3.5/26,mbtmp4.3/18,Error ellipse: s-maj=15.1km s-min=11.3km az=147.0*
*ISCJB **31** 13:10:25.4±0.5,20.81S±0.07×178.38W±0.10,h579km, mb3.7/15,Error ellipse: s-maj=12.2km s-min=9.2km az=24.3*

ISC 31 13:10:26.6±0.5,20.8S±0.1×178.4W±0.1,h579km,n42, σ1ş06/43,mb3.7/15,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RAO	**Raoul Island**	**8.47**	**177**	P		P	13 12 26.6	-3.0
	69nm,0.3s,baz=101,slow=22,SNR=5.1							
AFI	**Afiamalu**	**9.26**	**44**	P		P	13 12 30.9	-6.8
	2.3nm,0.3s,baz=50,slow=22,SNR=6.0							
AFI				S		S	13 14 11.3	-14
	0.9nm,0.3s,baz=18,slow=20,SNR=2.6							
RAR	**Rarotonga**	**17.36**	**95**	P		**P**	**13 13 55.9**	**-1.4**
	5.3nm,0.3s,baz=225,slow=0.0,SNR=7.2							
URZ	**Urewera**	**17.88**	**192**	P		**P**	**13 14 01.0**	**-0.8**
	1.1nm,0.3s,baz=82,slow=3.1,SNR=8.4							
URZ				S		**S**	**13 16 53.8**	**-3.0**
	0.2nm,0.3s,baz=195,slow=20,SNR=3.2							
RPZ	**Rata Peaks**	**24.54**	**199**	P		**P**	**13 15 03.0**	**+1.4**
	5.6nm,0.7s,baz=54,slow=18,SNR=4.0							
CTA	**Charters Tower**	**33.14**	**265**	P		**P**	**13 16 16.3**	**0.0**
	5.8nm,0.4s,baz=106,slow=8.7,SNR=14							
ASAR	**Alice Springs**	**44.14**	**257**	P		**P**	**13 17 45.1**	**+0.1**
	4.7nm,0.7s,baz=88,slow=8.6,SNR=40							
ASAR				PcP		**PcP**	**13 19 17.9**	**+0.7**
	1.4nm,0.5s,baz=102,slow=3.9,SNR=9.9							
ASAR				S		**S**	**13 23 36.8**	**0.0**
	0.7nm,0.8s,baz=93,slow=15,SNR=6.4							
WRA

s-maj=183.7km s-min=24.5km az=151.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.88**	**55**	P	Pn	13 56 29.6	-0.4
	20nm,0.3s,baz=164,slow=1.8,SNR=59						
AFI				Sn	Sn	13 56 49.7	-4.8
	126nm,0.3s,baz=103,slow=18,SNR=24						
H11S2	**WAKE ISLAND Hy**	**38.63**	**329**	T	T	14 45 01.3	
	baz=151,slow=0.7						
H11S3	**WAKE ISLAND Hy**	**38.64**	**329**	T	T	14 44 58.8	
	baz=151,slow=0.7						
H11S1	**WAKE ISLAND Hy**	**38.65**	**329**	T	T	14 45 00.1	
	baz=151						
H11N3	**WAKE ISLAND Hy**	**39.57**	**330**	T	T	14 46 13.9	
	baz=150						
H11N1	**WAKE ISLAND Hy**	**39.58**	**330**	T	T	14 46 30.4	
	baz=150						
H11N2	**WAKE ISLAND Hy**	**39.59**	**330**	T	T	14 46 20.9	
	baz=150						
STKA	**Stephens Creek**	**44.26**	**240**	P	P	14 04 07.4	-0.6
	1.7nm,1.0s,baz=74,slow=14,SNR=2.9						
WRA	**Warramunga Arr**	**49.97**	**256**	P	P	14 04 52.7	0.0
	0.5nm,0.5s,baz=91,slow=6.8,SNR=24						
WRA				PcP	PcP	14 06 13.7	+0.7
	0.2nm,0.6s,baz=90,slow=4.0,SNR=4.0						
ASAR	**Alice Springs**	**50.26**	**252**	P	P	14 04 54.4	-0.6
	1.4nm,0.6s,baz=88,slow=8.6,SNR=36						

*IDC **31** 14:02:59.8±2.5, 31°.90N×136°.78E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/26, mbtmp3.2/3, Error ellipse: s-maj=266.3km s-min=31.8km az=100.0*
*JMA **31** 14:03:15.5±0.4, 34°.09N×137°.16E, h369km±5km, M2.8*
*ISCJB **31** 14:03:17.7±0.7, 34°.3N±0°.1×137°.20E±0°.08, h349km±8km, mb2.7/2, Error ellipse: s-maj=19.2km s-min=9.3km az=161.3*

ISC 31 14:03:16.7±2.8, 34°.2N±0°.1×137°.17E±0°.08, h355km±20km**, n23, σ1°37/27, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.41**	**291**	P	**Pn**	**14 04 02.1**	**+0.8**
JKN2	**Miekihoku**	**0.74**	**270**	P	**Pn**	**14 04 02.6**	**+0.5**
JAO	**Obara**	**1.03**	**4**	P	**Pn**	**14 04 04.2**	**+1.1**
JNY	**Yasuok**	**1.25**	**27**	P	**Pn**	**14 04 05.4**	**+1.3**
JWY	**Kouya**	**1.31**	**269**	P	**Pn**	**14 04 04.9**	**+0.5**
JWZ	**Kozaga**	**1.41**	**240**	P	**Pn**	**14 04 04.8**	**-0.1**
JGM	**Miyama**	**1.50**	**346**	P	**Pn**	**14 04 06.4**	**+1.1**
JWT	**Wachi**	**1.79**	**306**	P	**Pn**	**14 04 07.7**	**+0.7**
JOD2	**Odawara 2**	**1.88**	**57**	P	**Pn**	**14 04 09.4**	**+1.8**
JRY	**Ryogami san**	**2.27**	**38**	P	**Pn**	**14 04 12.4**	**+2.0**
JRY				eS	**S**	**14 04 54.0**	**+0.5**
JAI	**Aioi**	**2.31**	**260**	P	**Pn**	**14 04 11.0**	**+0.3**
JHU	**Hanno**	**2.36**	**47**	P	**Pn**	**14 04 12.7**	**+1.7**
JHU				eS	**S**	**14 04 53.3**	**-1.5**
MJAR	**Matsushiro Arr**	**2.45**	**20**	Pn	**Pn**	**14 04 13.0**	**+1.3**
	0.6nm,0.3s,baz=193,slow=9.8,SNR=16						
MJAR				Sn	**S**	**14 04 54.4**	**-1.6**
	0.1nm,0.3s,baz=205,slow=16,SNR=5.4						
BSO4	**Boso 4**	**2.71**	**73**	P	**Pn**	**14 04 15.2**	**+1.4**
BSO4				eS	**S**	**14 04 59.0**	**-0.8**
BSO3	**Boso 3**	**2.81**	**78**	P	**Pn**	**14 04 15.1**	**+0.7**
BSO3				eS	**S**	**14 05 00.9**	**0.0**
JAG	**Ashikaga**	**2.87**	**40**	P	**Pn**	**14 04 15.8**	**+0.6**
JYT	**Yasato**	**3.17**	**50**	P	**Pn**	**14 04 18.4**	**+0.6**
BSO1	**Boso 1**	**3.17**	**81**	P	**Pn**	**14 04 17.7**	**+0.4**
JHS	**Saijyo**	**3.43**	**284**	P	**Pn**	**14 04 21.6**	**+1.2**
JHO	**Hitachi**	**3.64**	**49**	P	**Pn**	**14 04 22.9**	**+0.5**
JFK	**Kawauchi**	**4.33**	**43**	P	**Pn**	**14 04 30.4**	**+1.0**
JFK				eS	**S**	**14 05 24.4**	**-3.7**
WRA	**Warramunga Arr**	**53.95**	**183**	P	P	14 12 08.4	+3.3
	0.2nm,0.3s,baz=359,slow=7.6,SNR=5.7						
ASAR	**Alice Springs**	**57.67**	**184**	P	P	14 12 35.0	+3.8
	0.2nm,0.7s,baz=2.1,slow=7.2,SNR=3.0						

*IDC **31** 14:51:51.0±0.8, 0°.12S×125°.45E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/21, mbtmp3.7/7, MS3.2/2, Ms1 3.3/2, ms1mx2.8/36, Error ellipse: s-maj=64.0km s-min=17.3km az=62.0*
*ISCJB **31** 14:51:57.3±0.5, 0°.33S±0°.04×125°.33E±0°.03, h65km±8km, mb3.6/7, Error ellipse: s-maj=6.5km s-min=5.0km az=172.2*
*DJA **31** 14:51:58.4±0.3, 0°.S±2°.×12°.5E±°, h51km±13km, M4.3/6, mb4.7/3, mB4.9/2, MLv4.1/6, Mw(mB)4.2/2*

ISC 31 14:51:58.7±1.1, 0°.30S±0°.05×125°.38E±0°.04, h57km±12km**, n22, σ1°74/31, mb3.6/7, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.65**	**302**	P	**Pn**	**14 52 22.6**	**-2.7**
KMSI				S	**Sn**	**14 52 41.5**	**-3.9**
LBMI	**Labuha**	**2.15**	**99**	P	**Pn**	**14 52 31.9**	**-0.3**
LBMI				S	**Sn**	**14 52 58.9**	**+1.2**
TNTI	**Ternate**	**2.25**	**62**	P	**Pn**	**14 52 34.8**	**+1.2**
TNTI				S	**Sn**	**14 53 01.8**	**+1.5**
GTOI	**Gorontalo**	**2.54**	**291**	P	**Pn**	**14 52 39.5**	**+2.0**
GTOI				S	**Sn**	**14 53 11.4**	**+4.0**
LUWI	**Luwuk**	**2.71**	**254**	P	Pn	14 52 44.3	+4.5
LUWI				S	**Sn**	**14 53 14.9**	**+3.5**
NLAI	**Namlea**	**3.39**	**150**	P	**Pn**	**14 52 48.5**	**-0.7**
NLAI				S	**Sn**	**14 53 26.5**	**-1.7**
MRSI	**Marisa**	**3.52**	**283**	P	**Pn**	**14 52 50.7**	**-0.3**
MRSI				S	**Sn**	**14 53 33.5**	**+2.1**
APSI	**Ampana**	**3.78**	**261**	P	**Pn**	**14 52 54.3**	**-0.2**
SGSI	**Sangihe**	**3.96**	**2**	P	**Pn**	**14 52 57.0**	**0.0**
SGSI				S	**Sn**	**14 53 43.1**	**+0.9**
TTSI	**Tana Toraja**	**6.19**	**244**	P	**Pn**	**14 53 27.5**	**-0.1**
	40nm,0.8s,954nm						
TTSI				S	**Sn**	**14 54 35.4**	**-1.6**
	40nm,0.8s,954nm						
BNSI	**Bone**	**6.66**	**232**	P	**Pn**	**14 53 34.1**	**+0.1**
	22nm,0.6s						
SPSI	**Sidrap Palu**	**6.68**	**237**	P	**Pn**	**14 53 35.1**	**+0.8**
SPSI				S	**Sn**	**14 54 49.7**	**+0.5**
MMSI	**Mamuju**	**6.89**	**250**	P	**Pn**	**14 53 36.4**	**-0.8**
TGY	**Tagaytay City**	**14.97**	**343**	LR	LR	15 02 35.4	
	comp=Z,82nm,19.9s,baz=299,slow=44						
WRA	**Warramunga Arr**	**21.41**	**156**	P	**P**	**14 56 41.0**	**-0.9**
	0.8nm,0.5s,baz=336,slow=10,SNR=20						
ASAR	**Alice Springs**	**24.66**	**161**	P	**P**	**14 57 15.1**	**+0.8**
	0.5nm,0.6s,baz=338,slow=8.4,SNR=12						
ASAR				PcP	**PcP**	**15 00 52.1**	**+1.5**
	0.3nm,0.6s,baz=354,slow=2.6,SNR=5.2						
CMAR	**Chiang Mai Arr**	**31.97**	**307**	P	**P**	**14 58 18.3**	**-1.3**
	0.7nm,0.8s,baz=138,slow=7.0,SNR=8.0						
CMAR				LR	LR	15 11 28.3	
	comp=Z,36nm,18.8s,baz=105,slow=37						
STKA	**Stephens Creek**	**34.95**	**155**	P	**P**	**14 58 46.5**	**+1.1**
	1.0nm,0.6s,baz=339,slow=17,SNR=4.4						
MKAR	**Makanchi Array**	**60.13**	**327**	P	**P**	**15 02 00.2**	**-0.2**
	0.8nm,0.3s,baz=122,slow=7.9,SNR=16						
ZALV	**Zalesovo Beam**	**63.58**	**335**	P	**P**	**15 02 21.9**	**-1.4**
	0.6nm,0.5s,baz=131,slow=4.1,SNR=4.5						
ILAR	**Eielson Array**	**89.30**	**25**	P	**P**	**15 04 47.9**	**-0.6**
	0.2nm,0.6s,baz=263,slow=4.9,SNR=5.1						
TORD	**Torodi Ar. Bea**	**122.78**	**285**	PKP	**PKPdf**	**15 10 49.8**	**+0.4**
	0.3nm,0.7s,baz=77,slow=2.1,SNR=3.1						

IDC 31 14:58:18.8±1.6, 13°.40S×165°.95E, h0km**, mb3.6/4, mb1 3.9/5, mb1mx3.7/19, mbtmp3.6/5, ML3.4/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/23, Error ellipse: s-maj=39.7km s-min=27.6km az=109.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.64**	**177**	Pn	Pn	15 00 25.6	+0.3
	0.4nm,0.3s,baz=354,slow=18,SNR=8.7						
DZM				Sn	Sn	15 02 05.0	+1.3
	0.0nm,0.3s,baz=270,slow=20,SNR=2.6						
URZ	**Urewera**	**26.68**	**160**	LR	LR	15 13 35.2	
	comp=Z,78nm,18.9s,baz=131,slow=34						
WRA	**Warramunga Arr**	**30.94**	**254**	P	P	15 04 37.0	-0.7
	0.1nm,0.4s,baz=86,slow=8.9,SNR=6.2						
ASAR	**Alice Springs**	**31.98**	**247**	P	P	15 04 47.0	0.0
	1.1nm,0.7s,baz=72,slow=9.6,SNR=25						
CMAR	**Chiang Mai Arr**	**73.24**	**294**	P	P	15 09 53.0	+0.7
	0.3nm,0.6s,baz=128,slow=5.8,SNR=3.4						
ILAR	**Eielson Array**	**85.67**	**18**	P	P	15 10 58.8	-0.3
	0.3nm,0.6s,baz=235,slow=5.2,SNR=11						

*ISCJB **31** 15:10:53.2±0.9, 53°.42N±0°.06×163°.15W±0°.07, h38km±7km, mb3.9/12, Error ellipse: s-maj=11.2km s-min=5.7km az=152.7*
*NEIC **31** 15:10:53.9, 53°.43N×163°.15W, h18km, ML3.3(AEIC), After AEIC.*
*IDC **31** 15:10:54.0±1.5, 54°.17N×163°.69W, h0km, mb4.0/12, mb1 4.0/14, mb1mx3.8/32, mbtmp3.9/14, ML3.4/2, Error ellipse: s-maj=36.8km s-min=18.2km az=167.0*

ISC 31 15:10:55.3±1.0, 53°.51N±0°.10×163°.22W±0°.06, h37km±2km**, n56, σ1°09/54, mb4.0/12, Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRPK	**Brown Peak**	**1.18**	**345**	P	**Pn**	**15 11 14.4**	**-0.8**
WESE	**West Dahl East**	**1.26**	**321**	P	**Pn**	**15 11 15.6**	**-0.8**
WESE				S	**Sn**	**15 11 33.0**	**+0.8**
WESN	**West Dahl Nort**	**1.33**	**323**	P	**Pn**	**15 11 16.9**	**-0.5**
FALS	**False Pass**	**1.36**	**355**	P	**Pn**	**15 11 16.9**	**-0.8**
FALS				S	**Sn**	**15 11 35.3**	**+0.9**
ISNN	**Isanotski Nort**	**1.37**	**346**	P	**Pn**	**15 11 17.7**	**-0.2**
ISNN				S	**Sn**	**15 11 36.7**	**+2.0**
SSLW	**Shishaldin Wes**	**1.38**	**338**	P	**Pn**	**15 11 17.3**	**-0.6**
SSBA	**Shishaldin**	**1.38**	**338**	P	**Pn**	**15 11 17.1**	**-0.9**
SSBA				S	**Sn**	**15 11 37.3**	**+2.4**
DRIA	**Deer Island**	**1.57**	**21**	P	**Pn**	**15 11 19.5**	**-1.1**
AKUT	**Akutan**	**1.64**	**294**	P	**Pn**	**15 11 21.0**	**-0.5**
AKUT				S	**Sn**	**15 11 41.4**	**0.0**
DT1	**Dutton Round H**	**1.70**	**19**	P	**Pn**	**15 11 21.2**	**-1.1**
ZRO	**Akutan Zero**	**1.74**	**291**	P	**Pn**	**15 11 22.4**	**-0.5**
AKGG	**Akutan Green G**	**1.78**	**294**	P	**Pn**	**15 11 23.3**	**-0.2**
LVA	**Lava Point**	**1.79**	**293**	P	**Pn**	**15 11 23.4**	**-0.2**
UNV	**Unalaska Valle**	**1.98**	**281**	P	**Pn**	**15 11 25.1**	**-1.2**
UNV				S	**Sn**	**15 11 49.2**	**-0.5**
PS4A	**Pavlof South-4**	**2.01**	**23**	P	**Pn**	**15 11 26.5**	**-0.1**
MTBL	**Makushin Table**	**2.11**	**284**	P	**Pn**	**15 11 28.0**	**0.0**
MREP	**Makushin Rep't**	**2.12**	**280**	P	**Pn**	**15 11 28.4**	**+0.1**
MSW	**Makushin Switc**	**2.16**	**282**	P	**Pn**	**15 11 28.4**	**-0.2**
MCIR	**Makushin Cirqu**	**2.23**	**283**	P	**Pn**	**15 11 29.2**	**-0.4**
SDPT	**Sand Point**	**2.44**	**40**	P	**Pn**	**15 11 32.3**	**-0.3**
SDPT				S	**Sn**	**15 12 00.2**	**-1.0**
OKTU	**Okmok Mt. Tuli**	**2.89**	**270**	P	**Pn**	**15 11 39.4**	**+0.6**
NIKH	**Nikolski High**	**3.43**	**263**	P	**Pn**	**15 11 45.3**	**-0.8**
VNHG	**Veniaminof 1**	**3.59**	**39**	P	**Pn**	**15 11 49.5**	**+1.1**
ILAR	**Eielson Array**	**14.00**	**30**	Pn	Pn	15 14 05.0	-5.8
ILAR	**Eielson Array**	**14.00**	**30**	Pn	Pn	15 14 05.0	-5.8
	0.0nm,0.3s,baz=223,slow=13,SNR=2.8						
INK	**Inuvik**	**20.38**	**32**	P	**P**	**15 15 25.8**	**-2.6**
INK	**Inuvik**	**20.38**	**32**	P	**P**	**15 15 25.8**	**-2.6**
	0.2nm,0.3s,baz=247,slow=15,SNR=7.8						
PETK	**Petropavlovsk-**	**23.16**	**285**	P	**P**	**15 15 58.4**	**+0.2**
PETK	**Petropavlovsk-**	**23.16**	**285**	P	**P**	**15 15 58.4**	**+0.2**
	2.8nm,0.6s,baz=86,slow=12,SNR=6.6						
YKA	**Yellowknife Ar**	**26.66**	**51**	P	**P**	**15 16 32.6**	**+2.4**
YKA	**Yellowknife Ar**	**26.66**	**51**	P	**P**	**15 16 32.6**	**+2.4**
	1.2nm,0.6s,baz=271,slow=9.3,SNR=2.5						
H11N2	**WAKE ISLAND Hy**	**40.80**	**226**	T	T	16 02 15.7	
	baz=28,slow=0.7,SNR=14						
H11N3	**WAKE ISLAND Hy**	**40.80**	**226**	T	T	16 02 05.7	
	baz=28,slow=0.7,SNR=13						
H11N1	**WAKE ISLAND Hy**	**40.82**	**226**	T	T	16 02 31.8	
	baz=28,slow=0.7,SNR=10						
H11S1	**WAKE ISLAND Hy**	**41.97**	**225**	T	T	16 03 50.6	
	baz=27,slow=0.7,SNR=25						
H11S2	**WAKE ISLAND Hy**	**41.98**	**225**	T	T	16 03 49.7	
	baz=27,slow=0.7,SNR=14						
H11S3	**WAKE ISLAND Hy**	**41.98**	**225**	T	T	16 03 50.9	
	baz=27,slow=0.7,SNR=13						
TXAR	**Lajitas Array**	**49.06**	**95**	P	P	15 19 45.8	+7.0
	0.1nm,0.5s,baz=284,slow=5.5,SNR=4.1						
ARCES	**ARCESS Array B**	**57.10**	**356**	P	**P**	**15 20 36.2**	**-1.1**
ARCES	**ARCESS Array B**	**57.10**	**356**	P	**P**	**15 20 36.2**	**-1.1**
	3.8nm,0.9s,baz=13,slow=8.3,SNR=4.8						
ZALV	**Zalesovo Beam**	**59.01**	**320**	P	**P**	**15 20 50.6**	**-0.2**
ZALV	**Zalesovo Beam**	**59.01**	**320**	P	**P**	**15 20 50.6**	**-0.2**
	0.6nm,0.6s,baz=25,slow=3.8,SNR=2.6						
KURK	**Kurchatov**	**63.90**	**321**	P	**P**	**15 21 24.6**	**+0.7**
KURBB	**Kurchatov Arra**	**64.01**	**321**	P	**P**	**15 21 24.6**	**0.0**
	0.8nm,0.6s,baz=38,slow=6.4,SNR=7.6						
BVAR	**Borovoye Array**	**64.84**	**328**	P	**P**	**15 21 30.7**	**+0.7**
BVAR	**Borovoye Array**	**64.84**	**328**	P	**P**	**15 21 30.7**	**+0.7**
	1.5nm,0.7s,baz=53,slow=8.4,SNR=11						
FINES	**FINESS Array B**	**65.16**	**355**	P	**P**	**15 21 32.9**	**+1.0**
FINES	**FINESS Array B**	**65.16**	**355**	P	**P**	**15 21 32.9**	**+1.0**
	1.5nm,0.9s,baz=23,slow=11,SNR=3.9						
MKAR	**Makanchi Array**	**65.63**	**317**	P	**P**	**15 21 34.2**	**-1.0**
MKAR	**Makanchi Array**	**65.63**	**317**	P	**P**	**15 21 34.2**	**-1.0**
	0.2nm,0.4s,baz=36,slow=6.4,SNR=3.7						
AKTO	**Aktyubinsk**	**70.77**	**333**	P	**P**	**15 22 06.5**	**-0.9**
AKTO	**Aktyubinsk**	**70.77**	**333**	P	**P**	**15 22 06.5**	**-0.9**
	3.8nm,0.8s,baz=26,slow=3.3,SNR=13						
CMAR	**Chiang Mai Arr**	**79.92**	**287**	P	**P**	**15 23 01.4**	**+1.0**
CMAR	**Chiang Mai Arr**	**79.92**	**287**	P	**P**	**15 23 01.4**	**+1.0**
	0.9nm,0.3s,baz=16,slow=5.9,SNR=4.6						
BRTR	**Keskin Array B**	**86.01**	**347**	P	**P**	**15 23 32.3**	**+0.5**
BRTR	**Keskin Array B**	**86.01**	**347**	P	**P**	**15 23 32.3**	**+0.5**
	1.6nm,0.9s,baz=25,slow=6.1,SNR=3.5						

IDC 31 15:13:26.6±1.8, 2°.53S×127°.15E, h0km**, mb3.4/2, mb1 3.8/4, mb1mx3.6/22, mbtmp3.6/4, ML3.5/2, Error ellipse: s-maj=110.1km s-min=24.0km az=68.0, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.55**	**185**	Pn	Pn	15 17 08.5	+1.2
	0.2nm,0.3s,baz=8.1,slow=8.8,SNR=7.0						
WRA	**Warramunga Arr**	**18.68**	**158**	P	Pn	15 17 46.7	-0.1
	0.1nm,0.3s,baz=336,slow=11,SNR=12						
ASAR	**Alice Springs**	**22.01**	**163**	P	P	15 18 21.9	-0.8
	1.5nm,0.8s,baz=340,slow=12,SNR=23						
MKAR	**Makanchi Array**	**62.95**	**327**	P	P	15 23 55.2	+0.1
	0.3nm,0.6s,baz=126,slow=7.3,SNR=2.5						

*IDC **31** 15:33:02.0±1.2, 40°.02N×78°.88E, h0km, mb3.4/4, mb1 3.5/8, mb1mx3.4/30, mbtmp3.4/8, ML3.5/4, MS3.3/1, Ms1 3.3/1, ms1mx2.3/32, Error ellipse: s-maj=27.9km s-min=18.0km az=102.0*
*NNC **31** 15:33:09.8±2.9, 40°.57N×78°.68E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=27.3km s-min=12.9km az=163.0*

ISC 31 15:33:03.8±1.2, 40°.2N±0°.1×78°.81E±0°.08, h10km**, n21, σ1°95/21, mb3.3/4, 1C-3D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**2.84**	**318**	P	**Pb**	**15 33 53.0**	**-1.8**
	SNR=31						
KZA	**Kyzart**	**3.30**	**307**	P	**Pb**	**15 34 03.3**	**+0.6**
	SNR=16						
TKM2	**Tokmak 2**	**3.66**	**320**	⇓Pn	**Pn**	**15 34 03.3**	**+2.6**
	40nm,1.4s						
TKM2				⇓Lg	Lg	15 34 55.1	
	70nm,1.2s						
TKM2	**Tokmak 2**	**3.66**	**320**	P	**Pb**	**15 34 05.6**	**-3.2**
	SNR=14						
KBK	**Karagaybulak**	**3.83**	**312**	P	**Pb**	**15 34 13.5**	**+1.9**
	SNR=20						
AAK	**Ala-Archa**	**4.08**	**309**	P	**Pb**	**15 34 17.2**	**+1.4**
	SNR=18						
CHMS	**Chumysh**	**4.16**	**314**	P	**Pb**	**15 34 19.0**	**+1.9**
	SNR=14						
AML	**Almayashu**	**4.33**	**299**	P	**Pg**	**15 34 24.4**	**-2.5**
	SNR=11						
USP	**Ospenovka**	**4.47**	**315**	P	**Pb**	**15 34 25.0**	**+2.5**
	SNR=6.2						
EKS2	**Erkin-Say**	**4.53**	**305**	P	**Pb**	**15 34 26.2**	**+2.6**
	SNR=6.4						
KK31	**Karatay Array**	**6.88**	**298**	Pg	Pb	15 35 09.1	+5.7
	1.6nm,0.6s,baz=121,slow=13,SNR=16						
KK31				⇓Lg	Lg	15 36 35.4	
	4.4nm,0.7s,baz=115,slow=27,SNR=8.2						
MK31	**Makanchi Array**	**7.09**	**20**	Pn	**Pn**	**15 34 49.8**	**+2.1**
	1.6nm,0.5s,baz=201,slow=12,SNR=62						
MK31				⇑Sn	**Sn**	**15 36 08.7**	**+0.4**
	2.1nm,0.6s						
MKAR	**Makanchi Array**	**7.09**	**20**	Pn	**Pn**	**15 34 50.0**	**+2.4**
	1.6nm,0.3s,baz=200,slow=12,SNR=42						
MKAR				Sn	**Sn**	**15 36 09.6**	**+1.3**
	0.4nm,0.3s,baz=189,slow=17,SNR=3.2						
MKAR				Lg	Lg	15 36 52.0	
	0.2nm,0.3s,baz=200,slow=24,SNR=2.9						
KURBB	**Kurchatov Arra**	**10.46**	**359**	Pn	**Pn**	**15 35 35.5**	**+1.7**
	0.1nm,0.3s,baz=184,slow=13,SNR=4.4						
KURBB				Lg	Lg	15 38 31.1	
	0.1nm,0.3s,baz=181,slow=30,SNR=5.8						
BVAR	**Borovoye Array**	**14.09**	**339**	Pn	**Pn**	**15 36 22.7**	**-0.7**
	0.1nm,0.3s,baz=148,slow=11,SNR=4.3						
BVAR				Lg	Lg	15 40 26.2	
	0.1nm,0.3s,baz=137,slow=30,SNR=2.5						
ZALV	**Zalesovo Beam**	**14.38**	**14**	Pn	**Pn**	**15 36 26.4**	**-0.8**
	0.1nm,0.3s,baz=215,slow=16,SNR=3.9						
SONM	**Songino Array**	**21.19**	**60**	P	**P**	**15 37 47.8**	**-1.7**
	0.7nm,0.5s,baz=253,slow=9.5,SNR=3.9						
TGY	**Tagaytay City**	**45.01**	**113**	LR	LR	15 59 18.3	
	comp=Z,35nm,20.9s,slow=35						
ILAR	**Eielson Array**	**69.45**	**19**	P	**P**	**15 44 12.0**	**+0.2**
	0.2nm,0.7s,baz=312,slow=5.5,SNR=3.6						
TORD	**Torodi Ar. Bea**	**71.84**	**272**	P	**P**	**15 44 26.4**	**-0.7**
	0.5nm,0.7s,baz=42,slow=5.6,SNR=3.4						
ASAR	**Alice Springs**	**81.62**	**131**	P	**P**	**15 45 22.5**	**+0.3**
	0.2nm,0.7s,baz=330,slow=5.4,SNR=3.9						

KRSC 31 15:57:49.7±5.4, 53°.04N×162°.68E, h31km±31km**, ML3.7, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**1.62**	**340**	P	Pn	15 58 17.4	+1.3
MKZ				S	Sn	15 58 36.2	+0.3
NLC	**Nalytchevo**	**2.02**	**275**	P	Pb	15 58 23.6	-2.0
NLC				S	Sn	15 58 46.1	+0.5
SDLR	**Sedlovina**	**2.30**	**277**	P	Pn	15 58 28.1	+2.5
SDLR				S	Sn	15 58 53.9	+1.0
UGLR	**Uglovaya**	**2.33**	**276**	P	Pn	15 58 28.4	+2.4
UGLR				S	Sn	15 58 54.3	+0.6
SMAR	**Somma**	**2.35**	**277**	P	Pn	15 58 28.3	+1.9
KRER	**Koryakskii**	**2.38**	**278**	P	Pn	15 58 29.4	+2.6
KRER				S	Sn	15 58 56.7	+1.6
AVH	**Avacha**	**2.38**	**277**	P	Pb	15 58 29.5	-2.5
AVH				S	Sn	15 58 56.2	+1.2
PET	**Petropavlovsk**	**2.43**	**271**	P	Pn	15 58 29.3	+2.1
PET				S	Sn	15 58 56.9	+1.0
KOK	**Koryaka**	**2.45**	**278**	P	Pn	15 58 30.0	+2.4
KOK				S	Sn	15 58 57.1	+0.5
RUS	**Russkaya**	**2.60**	**258**	P	Pn	15 58 32.1	+2.5
RUS				S	Sn	15 59 01.2	+1.0
TUMR	**Tumrok**	**2.70**	**327**	P	Pn	15 58 33.3	+2.2
TUMR				S	Sn	15 59 03.3	+0.6
MTVR	**Mutnovka**	**2.79**	**260**	P	Pn	15 58 35.1	+2.7
MTVR				S	Sn	15 59 06.1	+1.0
ASAK	**Asacha**	**2.98**	**259**	P	Pn	15 58 37.9	+3.0
ASAK				S	Sn	15 59 11.0	+1.3
KMNR	**Kamenistaya**	**3.07**	**333**	P	Pn	15 58 38.7	+2.5
KMNR				S	Sn	15 59 12.5	+0.5
KBTR	**Krutoberegovo**	**3.18**	**1**	P	Pn	15 58 38.4	+0.9
KPT	**Kopyto**	**3.26**	**335**	P	Pn	15 58 41.0	+2.2
APC	**Apacha**	**3.34**	**270**	P	Pn	15 58 42.6	+2.9
KOZ	**Kozyrevsk**	**3.44**	**333**	S	Sn	15 59 28.0	+3.1
KLY	**Klyuchi**	**3.48**	**341**	S	Sn	15 59 23.0	+1.2
SRDR	**Sredinnyy**	**3.71**	**334**	P	Pn	15 58 48.1	+3.2
SRDR				S	Sn	15 59 28.8	+1.3

MEX 31 16:02:22.3±1.0, 18°.38N×101°.95W, h54km±19km**, MD3.9, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.89**	**149**	*eP*	Pn	16 02 36.4	-2.3
ZIIG				*i* S	Sn	16 02 49.0	-1.8
MMIG	**Aquila**	**1.33**	**266**	*i* P	Pn	16 02 43.3	-1.3
MMIG				*i* S	Sn	16 02 59.6	-1.7
MOIG	**Morelia**	**1.48**	**29**	*i* P	Pn	16 02 44.6	-2.3
MOIG				*i* S	Sn	16 03 03.2	-2.3
ARIG	**Puente Sto Nin**	**1.52**	**93**	*eP*	Pn	16 02 45.1	-2.1
ARIG				*i* S	Sn	16 03 04.8	-1.2
CAIG	**El Cayaco**	**2.08**	**129**	*i* P	Pn	16 02 53.4	-1.4
CAIG				*i* S	Sn	16 03 17.9	-1.6
MEIG	**Mezcala**	**2.26**	**101**	*eP*	Pn	16 02 56.2	-1.1
MEIG				*i* S	Sn	16 03 22.3	-1.8
PLIG	**Platanillo**	**2.32**	**89**	*eP*	Pn	16 02 57.3	-0.9

MSZ					AML	AML	17 01 49.8	
MSZ					AML	AML	17 01 51.4	
MSZ	**Milford Sound**	**1.06**	**229**		P*	**Pb**	**17 01 30.4**	**-1.5**
EAZ	**Earnscleugh**	**1.27**	**172**		P*	**Pn**	**17 01 34.7**	**-0.4**
EAZ					AML	AML	17 01 54.8	
EAZ					AML	AML	17 01 55.4	
EAZ					AML	AML	17 01 55.5	
EAZ					AML	AML	17 01 55.8	
EAZ	**Earnscleugh**	**1.27**	**172**		Pn	**Pn**	**17 01 34.7**	**-0.4**
RPZ	**Rata Peaks**	**1.48**	**81**		PN	**Pb**	**17 01 38.7**	**-0.2**
RPZ					SN	**Sn**	**17 01 57.1**	**0.0**
RPZ					AML	AML	17 02 00.0	
RPZ	**Rata Peaks**	**1.48**	**81**	*e*	Pn	**Pn**	**17 01 38.4**	**+0.4**
RPZ					Sn	**Sn**	**17 01 57.1**	**0.0**
RPZ					Sn	**Sn**	**17 01 57.4**	**+0.2**
RPZ					*e*Sn	**Sg**	**17 01 58.4**	**-0.8**
RPZ	**Rata Peaks**	**1.48**	**81**		Pn	**Pb**	**17 01 38.8**	**-0.2**
	203nm,0.3s,baz=256,slow=10,SNR=277							
RPZ					Sn	**Sn**	**17 01 57.4**	**+0.2**
	308nm,0.3s,baz=111,slow=22,SNR=26							
MLZ	**Mavora Lakes**	**1.50**	**204**		PN	**Pb**	**17 01 39.1**	**-0.4**
MLZ					AML	AML	17 02 03.7	
MLZ					AML	AML	17 02 06.5	
MLZ	**Mavora Lakes**	**1.50**	**204**		Pn	**Pb**	**17 01 39.1**	**-0.4**
WVZ	**Waitaha Valley**	**1.52**	**54**	⇑	PN	**Pn**	**17 01 37.5**	**-1.0**
WVZ					AML	AML	17 02 01.7	
WVZ					AML	AML	17 02 01.9	
WVZ	**Waitaha Valley**	**1.52**	**54**		Pn	**Pn**	**17 01 37.5**	**-1.0**
ODZ	**Otahua Downs**	**1.56**	**134**		PN	**Pn**	**17 01 39.4**	**+0.2**
ODZ					SN	**Sn**	**17 01 59.5**	**+0.1**
ODZ					SN	**Sb**	**17 02 00.4**	**+0.2**
ODZ	**Otahua Downs**	**1.56**	**134**		Pn	**Pn**	**17 01 39.4**	**+0.2**
ODZ					*e*Sn	**Sn**	**17 01 58.8**	**-0.5**
ODZ					Sn	**Sn**	**17 01 59.5**	**+0.1**
ODZ					Sn	**Sb**	**17 02 00.4**	**+0.2**
DCZ	**Deep Cove**	**2.02**	**221**		PN	**Pn**	**17 01 46.4**	**+1.0**
DCZ					AML	AML	17 02 16.5	
DCZ					AML	AML	17 02 16.5	
DCZ					AML	AML	17 02 19.9	
DCZ					AML	AML	17 02 19.9	
DCZ	**Deep Cove**	**2.02**	**221**		Pn	**Pn**	**17 01 46.4**	**+1.0**
TUZ	**Tuapeka**	**2.02**	**168**		PN	**Pn**	**17 01 45.4**	**-0.1**
TUZ					AML	AML	17 02 17.8	
TUZ					AML	AML	17 02 18.2	
TUZ	**Tuapeka**	**2.02**	**168**		Pn	**Pn**	**17 01 45.4**	**-0.1**
WHZ	**Wether Hill Ro**	**2.07**	**202**		PN	**Pn**	**17 01 46.7**	**+0.6**
WHZ					SN	**Sb**	**17 02 15.0**	**+0.3**
WHZ					AML	AML	17 02 23.1	
WHZ	**Wether Hill Ro**	**2.07**	**202**		Pn	**Pn**	**17 01 46.7**	**+0.6**
WHZ					Sn	**Sb**	**17 02 15.0**	**+0.3**
HHSZ	**Highcliff Hill**	**2.20**	**151**		PN	**Pn**	**17 01 48.4**	**+0.4**
OXZ	**Oxford**	**2.27**	**74**		PN	**Pn**	**17 01 48.4**	**-0.4**
SYZ	**Scrubby Hill**	**2.56**	**179**		PN	**Pn**	**17 01 52.4**	**-0.5**
SYZ	**Scrubby Hill**	**2.56**	**179**		Pn	**Pn**	**17 01 52.4**	**-0.5**
CRLZ	**Canterbury Las**	**2.62**	**82**		PN	**Pn**	**17 01 53.3**	**-0.3**
CRLZ					AML	AML	17 02 41.6	
CRLZ					AML	AML	17 02 42.8	
CRLZ	**Canterbury Las**	**2.62**	**82**		Pn	**Pn**	**17 01 53.3**	**-0.3**
MQZ	**McQueen's Vall**	**2.62**	**85**		PN	**Pn**	**17 01 53.0**	**-0.7**
MQZ	**McQueen's Vall**	**2.62**	**85**		Pn	**Pn**	**17 01 53.0**	**-0.7**
LTZ	**Lake Taylor**	**2.64**	**64**		PN	**Pn**	**17 01 54.2**	**+0.2**
LTZ					AML	AML	17 02 46.3	
LTZ					AML	AML	17 02 51.8	
LTZ	**Lake Taylor**	**2.64**	**64**		Pn	**Pn**	**17 01 54.2**	**+0.2**
PYZ	**Puysegur Point**	**2.76**	**217**	*e*	PN	**Pn**	**17 01 58.1**	**+2.5**
PYZ	**Puysegur Point**	**2.76**	**217**		Pn	**Pn**	**17 01 58.1**	**+2.5**
APZ	**The Paps**	**2.95**	**194**		PN	**Pn**	**17 01 58.4**	**+0.1**
APZ	**The Paps**	**2.95**	**194**		Pn	**Pn**	**17 01 58.4**	**+0.1**
DSZ	**Denniston Nort**	**3.01**	**43**		PN	**Pn**	**17 01 58.0**	**-1.1**
DSZ	**Denniston Nort**	**3.01**	**43**		Pn	**Pn**	**17 01 58.0**	**-1.1**
THZ	**Tophouse**	**3.60**	**53**		PN	**Pn**	**17 02 07.0**	**-0.2**
THZ					AML	AML	17 02 51.4	
THZ					AML	AML	17 02 52.0	
THZ	**Tophouse**	**3.60**	**53**		Pn	**Pn**	**17 02 07.0**	**-0.2**
KHZ	**Kahutara**	**3.64**	**66**		PN	**Pn**	**17 02 08.1**	**+0.5**
KHZ	**Kahutara**	**3.64**	**66**	*e*	Pn	**Pn**	**17 02 07.9**	**+0.2**
NNZ	**Nelson**	**4.22**	**51**		PN	**Pn**	**17 02 15.7**	**0.0**
NNZ					AML	AML	17 03 08.9	
NNZ					AML	AML	17 03 09.8	
NNZ	**Nelson**	**4.22**	**51**		Pn	**Pn**	**17 02 15.7**	**0.0**
TUWZ	**Tuamarina**	**4.42**	**56**		PN	**Pn**	**17 02 19.0**	**+0.7**
TUWZ					AML	AML	17 03 12.6	
TUWZ					AML	AML	17 03 13.3	
TUWZ	**Tuamarina**	**4.42**	**56**		Pn	**Pn**	**17 02 19.0**	**+0.7**
TCW	**Tory Channel**	**4.75**	**56**		PN	**Pn**	**17 02 23.5**	**+0.6**
TCW					AML	AML	17 03 21.5	
TCW					AML	AML	17 03 22.5	
TCW	**Tory Channel**	**4.75**	**56**		Pn	**Pn**	**17 02 24.2**	**+1.3**
DUWZ	**D'Urville Isla**	**4.81**	**50**		PN	**Pn**	**17 02 24.2**	**+0.4**
DUWZ					AML	AML	17 03 24.5	
DUWZ					AML	AML	17 03 27.1	
DUWZ	**D'Urville Isla**	**4.81**	**50**		Pn	**Pn**	**17 02 24.2**	**+0.4**
SNZO	**South Karori**	**4.95**	**59**		PN	**Pn**	**17 02 25.6**	**-0.1**
SNZO	**South Karori**	**4.95**	**59**		Pn	**Pn**	**17 02 25.6**	**-0.1**
SNZO					*e*Sn	**Sn**	**17 03 18.9**	**-3.9**
CAW	**Cannon Point**	**5.29**	**59**		PN	Pn	17 02 26.7	-3.7
CAW					AML	AML	17 03 41.7	
CAW					AML	AML	17 03 42.4	
CAW	**Cannon Point**	**5.29**	**59**		Pn	Pn	17 02 26.7	-3.7
KIW	**Kapiti Island**	**5.34**	**56**		PN	Pn	17 02 26.5	-4.6
KIW	**Kapiti Island**	**5.34**	**56**		Pn	Pn	17 02 26.5	-4.6
OGWZ	**Otaki Gorge**	**5.53**	**57**		PN	**Pn**	**17 02 33.3**	**-0.3**
OGWZ	**Otaki Gorge**	**5.53**	**57**		Pn	**Pn**	**17 02 33.3**	**-0.3**
NMEZ	**Namu Road**	**5.82**	**40**		PN	**Pn**	**17 02 39.6**	**+2.0**
MRZ	**Mangatainoka R**	**5.87**	**58**		AML	AML	17 03 43.3	
NWEZ	**Newall Road**	**5.93**	**39**		PN	**Pn**	**17 02 38.7**	**-0.4**
NWEZ	**Newall Road**	**5.93**	**39**		Pn	**Pn**	**17 02 38.7**	**-0.4**
KHEZ	**Kahui Hut**	**5.98**	**40**		PN	**Pn**	**17 02 39.9**	**0.0**
DFE	**Dawson Falls**	**5.99**	**41**		PN	**Pn**	**17 02 40.8**	**+0.7**
DFE	**Dawson Falls**	**5.99**	**41**		Pn	**Pn**	**17 02 40.8**	**+0.7**
NEZ	**North Egmont**	**6.04**	**41**		PN	**Pn**	**17 02 40.9**	**+0.2**
NEZ	**North Egmont**	**6.04**	**41**		Pn	**Pn**	**17 02 40.9**	**+0.2**
PKE	**Pukeiti**	**6.05**	**39**		PN	**Pn**	**17 02 40.8**	**0.0**
PKE	**Pukeiti**	**6.05**	**39**		Pn	**Pn**	**17 02 40.8**	**0.0**
WAZ	**Wanganui**	**6.12**	**48**		PN	**Pn**	**17 02 43.6**	**+1.9**
WAZ	**Wanganui**	**6.12**	**48**		Pn	**Pn**	**17 02 43.6**	**+1.9**
TSZ	**Takapari Road**	**6.47**	**55**		PN	**Pn**	**17 02 46.0**	**-0.6**
VRZ	**Vera Road**	**6.47**	**43**		PN	**Pn**	**17 02 46.9**	**+0.3**
VRZ					AML	AML	17 04 03.0	
VRZ	**Vera Road**	**6.47**	**43**		Pn	**Pn**	**17 02 46.9**	**+0.3**
PKVZ	**Pokaka**	**6.65**	**47**		PN	**Pn**	**17 02 48.8**	**-0.3**
PKVZ	**Pokaka**	**6.65**	**47**		Pn	**Pn**	**17 02 49.7**	**+0.6**
TRVZ	**Turoa**	**6.75**	**48**		PN	**Pn**	**17 02 52.6**	**+2.0**
TRVZ	**Turoa**	**6.75**	**48**		Pn	**Pn**	**17 02 52.6**	**+2.0**
FWVZ	**Far West T-bar**	**6.78**	**48**		PN	**Pn**	**17 02 53.0**	**+2.0**
FWVZ	**Far West T-bar**	**6.78**	**48**		Pn	**Pn**	**17 02 53.0**	**+2.0**
WHVZ	**Whangaehu Hut**	**6.78**	**48**		PN	**Pn**	**17 02 53.1**	**+2.0**
TWVZ	**Taurewa**	**6.86**	**47**		PN	**Pn**	**17 02 53.0**	**+1.1**
TWVZ	**Taurewa**	**6.86**	**47**		Pn	**Pn**	**17 02 53.0**	**+1.1**
HIZ	**Hauiti**	**7.00**	**41**		PN	**Pn**	**17 02 53.8**	**+0.1**
HIZ	**Hauiti**	**7.00**	**41**		Pn	**Pn**	**17 02 53.9**	**+0.1**
TLZ	**Tolley Road**	**7.47**	**43**		PN	**Pn**	**17 03 00.6**	**+0.3**
TOZ	**Tahuroa Road**	**7.93**	**40**		PN	**Pn**	**17 03 06.2**	**-0.4**
TOZ	**Tahuroa Road**	**7.93**	**40**		Pn	**Pn**	**17 03 06.2**	**-0.4**
MKAZ	**Moumakai**	**8.29**	**36**		PN	**Pn**	**17 03 13.3**	**+1.8**
MKAZ	**Moumakai**	**8.29**	**36**		Pn	**Pn**	**17 03 13.3**	**+1.8**
URZ	**Urewera**	**8.35**	**50**		Pn	Pn	17 03 05.6	-6.7
URZ					Sn	Sn	17 04 38.0	-8.4
URZ	**Urewera**	**8.35**	**50**		Pn	Pn	17 03 05.6	-6.7
	0.2nm,0.3s,baz=207,slow=11,SNR=2.9							
URZ					Sn	Sn	17 04 38.0	-8.4
	2.3nm,0.3s,baz=106,slow=18,SNR=6.5							
KUZ	**Kuaotunu**	**8.84**	**37**		PN	**Pn**	**17 03 19.4**	**+0.4**
WCZ	**Waipu Caves**	**9.00**	**29**		PN	**Pn**	**17 03 21.1**	**-0.1**
WCZ	**Waipu Caves**	**9.00**	**29**		Pn	**Pn**	**17 03 21.1**	**-0.1**
ASAR	**Alice Springs**	**35.17**	**294**		P	**P**	**17 08 06.3**	**+1.0**
ASAR	**Alice Springs**	**35.17**	**294**		P	**P**	**17 08 06.3**	**+1.0**
	0.8nm,0.7s,baz=128,slow=8.2,SNR=11							
WRA	**Warramunga Arr**	**37.54**	**298**		P	**P**	**17 08 26.2**	**+0.7**
WRA	**Warramunga Arr**	**37.54**	**298**		P	**P**	**17 08 26.3**	**+0.7**
	1.3nm,0.6s,baz=138,slow=7.6,SNR=33							
WRAB	**Tennant Creek**	**37.54**	**298**	*e*	P	**P**	**17 08 26.0**	**+0.4**
	2.1nm,0.6s							
QSPA	**South Pole Qui**	**46.15**	**180**	*e*	P	**P**	**17 09 36.9**	**+1.3**
H08S2	**Diego Garcia H**	**89.44**	**260**		T	T	18 52 39.4	
	baz=132							
H08S1	**Diego Carcia H**	**89.45**	**260**		T	T	18 52 33.7	
	baz=132							
H08S3	**Diego Garcia H**	**89.46**	**260**		T	T	18 52 14.7	
	baz=132							

BRTR	**Keskin Array B**	**146.82**	**278**		PKPbc	**PKPbc**	**17 20 54.1**	**+0.7**
BRTR	**Keskin Array B**	**146.82**	**278**		PKPbc	**PKPbc**	**17 20 54.1**	**+0.7**
	0.5nm,0.6s,baz=129,slow=4.5,SNR=3.5							
TORD	**Torodi Ar. Bea**	**147.41**	**203**		PKPbc	**PKPbc**	**17 20 55.6**	**+0.1**
TORD	**Torodi Ar. Bea**	**147.41**	**203**		PKPbc	**PKPbc**	**17 20 55.6**	**+0.1**
	1.2nm,0.7s,baz=145,slow=1.4,SNR=6.8							
ARCES	**ARCESS Array B**	**148.43**	**336**		PKPbc	**PKPbc**	**17 20 55.8**	**-0.8**
ARCES	**ARCESS Array B**	**148.43**	**336**		PKPbc	**PKPbc**	**17 20 55.8**	**-0.8**
	4.8nm,1.0s,baz=76,slow=3.8,SNR=2.8							
FINES	**FINESS Array B**	**152.10**	**322**		PKPbc	**PKPbc**	**17 21 05.2**	**-0.5**
FINES					PKPab	**PKPab**	**17 21 13.4**	**-1.9**
FINES	**FINESS Array B**	**152.10**	**322**		PKPbc	**PKPbc**	**17 21 05.2**	**-0.5**
	1.6nm,0.9s,baz=45,slow=3.2,SNR=5.3							
FINES					PKPab	**PKPab**	**17 21 13.4**	**-1.9**
	2.4nm,1.1s,baz=60,slow=6.6,SNR=2.7							

*PGC **31** 17:26:28.5±2.4, 50.07N×130.27W, h10km, MLSn3.5/7, Mw4.1/7, 214km Wsw of Pt. Hardy, Bc Vancouver Island Region*
*ISCJB **31** 17:26:32.3±0.9, 50.30N±0.06×129.77W±0.09, h10km, mb3.6/3, MS3.5/1, Error ellipse: s-maj=9.0km s-min=7.5km az=40.2*
*IDC **31** 17:26:32.7±1.9, 50.26N×129.75W, h0km, mb3.6/3, mb1 3.9/9, mb1mx3.6/31, mbtmp3.6/9, ML3.5/6, MS3.4/2, Ms1 3.4/2, ms1mx2.8/38, Error ellipse: s-maj=28.6km s-min=12.2km az=73.0*

ISC 31 17:26:34.1±1.2, 50.37N±0.06×129.66W±0.08, h10km, n22, σ1§34/21, mb3.5/3, 7D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.01**	**74**	⇓	Pn		**Pn**	**17 26 53.4**	**-0.9**
HOLB				⇑	Sn		**Sn**	**17 27 10.5**	**+1.9**
BPBC	**Brooks Peninsu**	**1.23**	**99**	⇓	Pn		**Pn**	**17 26 54.6**	**-2.8**
BPBC				⇓	Sn		**Sn**	**17 27 13.5**	**-0.6**
PHC	**Port Hardy**	**1.46**	**76**	⇑	Pn		**Pn**	**17 26 59.6**	**-0.8**
PHC				⇑	Sn		**Sg**	**17 27 21.4**	**+0.5**
MAYB	**Maynard**	**1.59**	**88**	⇓	Pn		**Pn**	**17 27 00.6**	**-1.8**
TLCB	**Telegraph Cove**	**1.81**	**83**	⇑	Sn		**Sb**	**17 27 29.8**	**-0.2**
WOSB	**Woss**	**1.99**	**95**	⇑	Pn		**Pn**	**17 27 06.5**	**-1.3**
BBB	**Bella Bella**	**2.06**	**28**	⇓	Pn		**Pn**	**17 27 08.5**	**-0.1**
BBB				⇓	Sn		**Sb**	**17 27 35.8**	**-1.2**
BBB	**Bella Bella**	**2.06**	**28**		Pn		**Pn**	**17 27 08.6**	**0.0**
	38nm,0.3s,baz=227,slow=12,SNR=202								
BBB					Sn		**Sb**	**17 27 36.0**	**-1.0**
	22nm,0.3s,baz=310,slow=19,SNR=9.2								
MOBC	**Moresby Island**	**3.12**	**334**	⇓	Pn			17 27 18.2	-5.2
DIB	**Dawson Inlet,**	**3.33**	**329**	⇑	Pn			17 27 20.2	-5.9
DLBC	**Dease Lake**	**8.08**	**359**		Pn			17 28 34.0	+2.5
	0.3nm,0.3s,baz=185,slow=19,SNR=3.4								
NEW	**Newport**	**8.46**	**100**		Pn		**Pn**	**17 28 36.8**	**+0.2**
	0.4nm,0.3s,baz=294,slow=20,SNR=3.9								
NEW					LR		LR	17 31 48.5	
	comp=Z,156nm,18.4s,baz=329,slow=37								
ELK	**Elko**	**13.93**	**128**		Pn		**P**	**17 30 00.7**	**+0.8**
	0.1nm,0.3s,baz=23,slow=7.3,SNR=3.9								
NVAR	**Mina Array Bea**	**14.42**	**142**		Pn		**Pn**	**17 29 59.7**	**+1.4**
	0.1nm,0.3s,baz=322,slow=12,SNR=2.7								
PDAR	**Pinedale Array**	**15.74**	**111**		Pn		**P**	**17 30 18.7**	**-1.3**
	0.1nm,0.3s,baz=304,slow=9.0,SNR=12								
ILAR	**Eielson Array**	**17.04**	**334**		Pn		**P**	**17 30 32.8**	**-1.1**
	0.0nm,0.3s,baz=155,slow=9.0,SNR=5.2								
ULM	**Lac du Bonnet**	**21.47**	**77**		P		**P**	**17 31 23.7**	**+1.3**
	3.8nm,0.7s,baz=286,slow=14,SNR=2.0								
ULM					LR		LR	17 40 02.4	
	comp=Z,163nm,18.6s,baz=33,slow=38								
ANMO	**Albuquerque**	**22.86**	**124**		P		**P**	**17 31 39.2**	**+1.6**
	1.4nm,0.8s,baz=324,slow=8.2,SNR=3.2								
TXAR	**Lajitas Array**	**28.72**	**127**		P		**P**	**17 32 30.4**	**-1.1**
	0.6nm,1.0s,baz=326,slow=7.7,SNR=3.8								
H11N2	**WAKE ISLAND Hy**	**58.17**	**263**		T		T	18 39 09.0	
	baz=47								
H11N3	**WAKE ISLAND Hy**	**58.17**	**263**		T		T	18 39 04.3	
	baz=47								
H11N1	**WAKE ISLAND Hy**	**58.19**	**263**		T		T	18 39 10.4	
	baz=47								

MEX 31 17:33:01.5±1.0, 16.91N×98.73W, h8km±10km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**0.67**	**13**	*e*	P		Pg	17 33 12.9	-1.7
TLIG				*i*	S		Sg	17 33 22.3	-1.1
PNIG	**Pinotepa**	**0.77**	**132**	*i*	P		Pg	17 33 14.6	-1.8
PNIG				*i*	S		Sg	17 33 25.4	-1.1
MEIG	**Mezcala**	**1.32**	**320**	*e*	P		Pn	17 33 23.2	-3.3
MEIG				*i*	S		Sb	17 33 39.0	-5.0
CAIG	**El Cayaco**	**1.48**	**276**	*e*	P		Pn	17 33 24.2	-4.3
CAIG				*i*	S		Sn	17 33 43.1	-5.0
PLIG	**Platanillo**	**1.65**	**333**	*e*	P		Pn	17 33 28.2	-2.8
PLIG				*i*	S		Sn	17 33 48.1	-4.4
ARIG	**Puente Sto Nin**	**2.06**	**312**	*e*	P		Pn	17 33 34.0	-2.6
ARIG				*i*	S		Sn	17 33 57.7	-4.8
ZIIG	**Zihuatanejo**	**2.71**	**285**	*i*	P		Pn	17 33 39.5	-5.9

*KRSC **31** 17:55:21.7±2.7, 55.41N×166.41E, h17km±16km, ML3.6*
*IDC **31** 17:55:22.1±1.5, 55.32N×166.47E, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.4/29, mbtmp3.6/5, ML3.0/2, Error ellipse: s-maj=27.0km s-min=16.8km az=32.0*
*ISCJB **31** 17:55:23.1±0.9, 55.29N±0.07×166.46E±0.06, h29km±6km, mb3.3/3, Error ellipse: s-maj=11.8km s-min=6.0km az=178.2*

ISC 31 17:55:23.4±1.5, 55.36N±0.08×166.50E±0.05, h15km±9km, n15, σ1§77/24, mb3.6/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.34**	**242**	*e*	P		**Pg**	**17 55 29.9**	**-0.4**
BKI				*e*	S		**Sg**	**17 55 35.3**	**+0.2**
KBTR	**Krutoberegovo**	**2.24**	**294**	*e*	P		Pn	17 55 55.9	-4.0
KBTR				*e*	S		**Sn**	**17 56 23.3**	**-4.0**
MKZ	**Mys Kozlova**	**2.87**	**256**	*e*	P		**Pn**	**17 56 07.3**	**-1.1**
MKZ				*e*	S		**Sn**	**17 56 40.9**	**-1.7**
SMKR	**Semkarok**	**3.08**	**295**	*e*	P		**Pn**	**17 56 09.6**	**-1.9**
SMKR				*e*	S		**Sn**	**17 56 45.8**	**-2.2**
KMNR	**Kamenistaya**	**3.58**	**279**	*e*	P		**Pn**	**17 56 19.5**	**+1.2**
KMNR				*e*	S		**Sn**	**17 57 00.9**	**+0.6**
KPT	**Kopyto**	**3.60**	**282**	*e*	P		**Pn**	**17 56 19.3**	**+0.6**
KPT				*e*	S		**Sn**	**17 57 00.5**	**-0.5**
TUMR	**Tumrok**	**3.63**	**271**	*e*	P		**Pn**	**17 56 19.5**	**+0.4**
TUMR				*e*	S		**Sn**	**17 57 00.1**	**-1.5**
FX1	**Attu Island--F**	**4.64**	**120**		Pn		**Pn**	**17 56 31.6**	**-1.3**
	1.4nm,0.3s,baz=126,slow=23,SNR=11								
FX1					Sn		**Sn**	**17 57 23.1**	**-3.3**
	3.1nm,0.3s,baz=323,slow=16,SNR=7.8								
NLC	**Nalytchevo**	**4.73**	**245**	*e*	S		**Sn**	**17 57 26.4**	**-2.2**
KRER	**Koryakskii**	**4.98**	**249**	*e*	P		**Pn**	**17 56 39.0**	**+1.3**
AVH	**Avacha**	**5.00**	**248**	*e*	P		**Pn**	**17 56 38.6**	**+0.7**
AVH				*e*	S		**Sn**	**17 57 34.6**	**-0.9**
PETK	**Petropavlovsk-**	**5.63**	**250**		Pn		**Pn**	**17 56 46.6**	**+0.1**
	1.2nm,0.3s,baz=78,slow=16,SNR=11								
PETK					Sn		**Sn**	**17 57 51.0**	**+0.2**
	0.4nm,0.3s,baz=23,slow=26,SNR=3.0								
ILAR	**Eielson Array**	**24.52**	**49**		P		**P**	**18 00 41.2**	**-0.6**
	0.5nm,0.9s,baz=246,slow=8.0,SNR=5.2								
INK	**Inuvik**	**29.74**	**40**		P		**P**	**18 01 31.2**	**+2.8**
	1.2nm,1.1s,baz=331,slow=14,SNR=2.6								
TXAR	**Lajitas Array**	**66.32**	**72**		P		**P**	**18 06 12.3**	**+1.1**
	0.2nm,0.5s,baz=298,slow=2.7,SNR=3.5								

*ISCJB **31** 18:07:31.8±0.2, 43.74N±0.02×105.32W±0.02, h0km, mb3.9/1, Error ellipse: s-maj=2.2km s-min=2.0km az=0.6*
*NEIC **31** 18:07:33.0±0.3, 43.80N×105.24W, h0km, ML3.4, Error ellipse: s-maj=4.4km s-min=3.6km az=153.0, Suspected Mining explosion.*
NEIC 60 km [35 miles] SSE of Gillette.
*IDC **31** 18:07:33.3±1.1, 44.02N×105.66W, h0km, mb3.9/1, mb1 3.9/5, mb1mx3.6/29, mbtmp3.7/5, ML3.6/4, Error ellipse: s-maj=32.9km s-min=7.9km az=146.0*

ISC 31 18:07:32.2±0.7, 43.77N±0.02×105.33W±0.02, h0km, n116, σ1§39/117, 31C-33D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.21**	**332**		P		**Pg**	**18 07 38.6**	**+2.3**
	baz=0.2,SNR=370								
I23A				⇓	S		**Sg**	**18 07 41.7**	**+2.7**
	baz=0.2								
J23A	**Dilts Ranch, B**	**0.41**	**204**		P		**Pg**	**18 07 40.9**	**+0.9**
	baz=0.5,SNR=98								
J23A				⇓	S		**Sg**	**18 07 45.0**	**-0.2**
	baz=0.5								
I24A	**Kuemmerle Ranc**	**0.51**	**80**		P		**Pg**	**18 07 43.1**	**+1.0**
	baz=0.4,SNR=741								
I24A				⇓	S		**Sg**	**18 07 50.3**	**+1.6**
	baz=0.4								
J24A	**Dixon Ranch, L**	**0.66**	**132**	⇓	P		**Pg**	**18 07 45.2**	**+0.4**
	baz=0.6,SNR=116								
J24A				⇓	S		**Sg**	**18 07 53.2**	**-0.1**
	baz=0.6								
H23A	**Clabaugh Cattl**	**0.79**	**356**		P		**Pb**	**18 07 48.6**	**-0.4**
	baz=0.8,SNR=71								
H23A				⇓	S		**Sn**	**18 08 00.6**	**-2.7**
	baz=0.8								
I22A	**9 Mile Ranch,**	**0.85**	**278**	⇓	P		**Pb**	**18 07 49.5**	**-0.4**
	baz=0.9,SNR=479								
I22A				⇓	S		**Sb**	**18 08 01.2**	**-0.7**
	baz=0.9								
J22A	**Midwest**	**0.91**	**247**	⇑	P		**Pg**	**18 07 49.9**	**+0.2**
	baz=1.0								
RSSD	**Black Hills**	**0.99**	**69**	*e*	Pg		**Pg**	**18 07 51.5**	**+0.2**
H22A	**Clearmont**	**1.10**	**318**	⇓	P		**Pn**	**18 07 54.3**	**-0.8**
	baz=1.1,SNR=187								
K24A	**Anderson Ranch**	**1.11**	**160**	⇓	P		**Pg**	**18 07 53.2**	**-0.4**
	baz=1.1,SNR=155								
H24A	**Dirks Ranch, A**	**1.12**	**29**	⇑	P		**Pb**	**18 07 54.0**	**-0.6**
	baz=1.1								
J25A	**Sunshine Ranch**	**1.17**	**109**	⇑	P		**Pg**	**18 07 54.4**	**-0.3**
	baz=1.1,SNR=530								
I25A	**Rochford**	**1.18**	**77**	⇓	P		**Pg**	**18 07 54.8**	**-0.1**
	baz=1.1,SNR=276								
I25A				⇓	S		**Sg**	**18 08 10.7**	**+0.6**
	baz=1.1								
I21A	**Big Trails, Te**	**1.42**	**272**	⇑	P		**Pn**	**18 07 58.7**	**-0.9**
	baz=1.5								
I21A				⇓	S		**Sg**	**18 08 17.3**	**-0.7**
	baz=1.5								
K22A	**Casper**	**1.42**	**218**	⇑	Pb		**Pn**	**18 07 58.8**	**-0.7**
	baz=1.5,SNR=117								
G23A	**Biddle**	**1.43**	**358**	⇓	Pb		**Pb**	**18 07 59.8**	**-0.1**
	baz=1.4								
H21A	**Big Horn, Sher**	**1.50**	**305**	⇓	Pb		**Pb**	**18 08 00.8**	**-0.3**
	baz=1.5,SNR=344								
H21A				⇑	S		**Sn**	**18 08 20.1**	**-0.8**
	baz=1.5								
H25A	**Fruitdale**	**1.50**	**55**	⇓	Pb		**Pn**	**18 08 00.8**	**+0.3**
	baz=1.4,SNR=89								
K25A	**Mack Ranch, Ha**	**1.58**	**137**	⇓	Pb		**Pn**	**

BGNE	**Belgrade**	**5.80**	**112**	*e*Pn		**Pn**	**18 08 59.9**	**+0.4**
SPUT	**South Promonto**	**5.81**	**247**	*e*Pn		**Pn**	**18 09 02.2**	**+2.4**
	7.4nm,0.5s							
HVU	**Hansel Valley**	**5.83**	**253**	*e*Pn		**Pn**	**18 09 01.5**	**+1.4**
	9.0nm,0.6s							
MPU	**Maple Canyon**	**6.02**	**234**	*e*Pn		**Pn**	**18 09 04.1**	**+1.4**
	14nm,0.8s							
SDCO	**Great Sand Dun**	**6.02**	**181**	*e*Pn		**Pn**	**18 09 04.3**	**+1.4**
	2.0nm,0.4s							
SRU	**San Rafael**	**6.08**	**222**	*e*Pn		**Pn**	**18 09 03.9**	**+0.3**
	14nm,0.4s							
PV01	**Paradox Valley**	**6.14**	**205**	*e*Pn		**Pn**	**18 09 06.2**	**+1.7**
	395nm,0.4s							
TMUT	**Trail Mountain**	**6.28**	**227**	*e*Pn		**Pn**	**18 09 08.3**	**+1.9**
	9.1nm,0.4s							
ECSD	**EROS Data Cent**	**6.31**	**87**	*e*Pn		**Pn**	**18 09 06.9**	**+0.3**
	13nm,0.3s							
BGU	**Big Grassy Mou**	**6.38**	**246**	*e*Pn		**Pn**	**18 09 09.4**	**+1.8**
	3.1nm,0.3s							
CHMT	**Chamberlain Mo**	**6.41**	**302**	*e*Pn		**Pn**	**18 09 09.4**	**+1.4**
	2.5nm,0.3s							
Q16A	**Castle Valley**	**6.55**	**224**	*e*Pn		**Pn**	**18 09 10.6**	**+0.6**
DUG	**Dugway**	**6.62**	**240**	*e*Pn		**Pn**	**18 09 11.4**	**+0.5**
	3.4nm,0.3s							
SLMT	**Seeley Lake**	**6.70**	**304**	*e*Pn		**Pn**	**18 09 12.8**	**+0.8**
	4.5nm,0.5s							
MVCO	**Mesa Verde**	**6.99**	**201**	*e*Pn		**Pn**	**18 09 18.9**	**+2.8**
	5.6nm,0.6s							
SWMT	**Swartz Lake**	**7.13**	**305**	*e*Pn		**Pn**	**18 09 19.2**	**+1.3**
	3.0nm,0.3s							
MVU	**Marysvale**	**7.39**	**227**	*e*Pn		**Pn**	**18 09 22.5**	**+0.9**
	2.2nm,0.3s							
ELK	**Elko**	**7.95**	**251**	Pn		**Pn**	**18 09 31.9**	**+2.6**
ELK	**Elko**	**7.95**	**251**	Pn		**Pn**	**18 09 31.9**	**+2.6**
	0.9nm,0.3s,baz=5.5,slow=8.3,SNR=13							
KSU1	**Kansas State U**	**8.04**	**123**	Pn		Pn	18 09 35.4	+5.1
	13nm,0.4s							
CCUT	**Cedar City**	**8.71**	**227**	*e*Pn		**Pn**	**18 09 41.6**	**+1.9**
	1.8nm,0.4s							
SPMN	**St. Paul**	**9.07**	**76**	*e*Pn		**Pn**	**18 09 44.5**	**+0.1**
ULM	**Lac du Bonnet**	**9.14**	**42**	Pn		**Pn**	**18 09 44.3**	**-1.0**
ULM				Pg			18 10 19.3	
ULM				Lg		Lg	18 12 16.5	
ULM	**Lac du Bonnet**	**9.14**	**42**	Pn		**Pn**	**18 09 44.3**	**-1.0**
	1.8nm,0.3s,baz=226,slow=11,SNR=13							
ULM				Pg			18 10 19.3	
	1.7nm,0.3s,baz=226,slow=17,SNR=6.2							
ULM				Lg		Lg	18 12 16.5	
	0.7nm,0.3s,baz=311,slow=19,SNR=2.1							
R11A	**Troy Canyon, C**	**9.45**	**239**	Pn		**Pn**	**18 09 51.3**	**+1.5**
WUAZ	**Wupatki**	**9.47**	**211**	*e*Pn		**Pn**	**18 09 51.5**	**+1.4**
	6.5nm,0.4s							
NVAR	**Mina Array Bea**	**11.15**	**246**	Pn		**Pn**	**18 10 14.4**	**+1.4**
NVAR	**Mina Array Bea**	**11.15**	**246**	Pn		**Pn**	**18 10 14.4**	**+1.4**
	0.2nm,0.3s,baz=52,slow=12,SNR=5.7							
FFC	**Flin Flon**	**11.18**	**10**	*e*Pn		**Pn**	**18 10 12.2**	**-0.9**
COWI	**Conover**	**11.71**	**73**	Pn		Pn	18 10 17.1	-3.4
TXAR	**Lajitas Array**	**14.47**	**174**	Pg		P	18 12 01.1	+56
	0.1nm,0.3s,baz=14,slow=16,SNR=3.2							
TXAR				Lg		Lg	18 15 12.0	
	0.1nm,0.3s,baz=9.6,slow=28,SNR=4.1							
ZALV	**Zalesovo Beam**	**82.27**	**354**	P		**P**	**18 19 54.1**	**-1.0**
ZALV	**Zalesovo Beam**	**82.27**	**354**	P		**P**	**18 19 54.1**	**-1.0**
	0.5nm,0.5s,baz=0.0,slow=5.8,SNR=3.2							

IDC 31 18:22:57.8±1.9, 8.55S×125.85E, h0km, mb3.7/1, mb1 3.7/3, mb1mx3.4/18, mbtmp3.5/3, ML3.5/2, Error ellipse: s-maj=181.1km s-min=32.3km az=59.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.99**	**145**	Pn	Pn	18 26 18.0	+0.5
	0.4nm,0.3s,baz=319,slow=13,SNR=5.8						
WRA				Sn	Sn	18 28 40.1	-14
	0.3nm,0.3s,baz=335,slow=21,SNR=5.7						
ASAR	**Alice Springs**	**16.89**	**154**	Pn	Pn	18 26 55.4	-0.5
	0.1nm,0.3s,baz=330,slow=9.9,SNR=4.9						
ASAR				Sn	Sn	18 29 57.1	-7.3
	0.1nm,0.3s,baz=334,slow=21,SNR=3.2						
MKAR	**Makanchi Array**	**67.35**	**329**	P	P	18 33 54.8	0.0
	0.7nm,0.9s,baz=124,slow=6.1,SNR=2.7						

IDC 31 18:30:29.4±15.0, 20.27S×178.49W, h460km±150km, mb2.9/4, mb1 3.1/4, mb1mx2.9/17, mbtmp2.9/4, Error ellipse: s-maj=136.7km s-min=51.0km az=131.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.48**	**244**	P	P	18 37 02.1	-0.5
	0.6nm,0.4s,baz=92,slow=11,SNR=4.0						
ASAR	**Alice Springs**	**44.13**	**257**	P	P	18 37 56.0	0.0
	1.7nm,0.8s,baz=92,slow=8.3,SNR=40						
ASAR				PcP	PcP	18 39 31.0	-0.5
	0.2nm,0.6s,baz=116,slow=4.2,SNR=5.0						
WRA	**Warramunga Arr**	**44.18**	**269**	P	P	18 37 56.3	-0.1
	0.2nm,0.3s,baz=96,slow=7.6,SNR=38						
ILAR	**Eielson Array**	**88.19**	**13**	P	P	18 42 29.9	0.0
	0.2nm,0.4s,baz=207,slow=5.7,SNR=5.1						

IDC 31 18:47:21.1±10.0, 3.15S×146.37E, h0km, mb3.1/3, mb1 3.5/3, mb1mx3.3/16, mbtmp3.2/3, Error ellipse: s-maj=229.4km s-min=36.2km az=84.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.41**	**214**	P	Pn	18 52 01.0	-1.0
	0.6nm,0.6s,baz=42,slow=10,SNR=11						
ASAR	**Alice Springs**	**23.69**	**210**	P	P	18 52 34.1	-0.7
	0.4nm,0.5s,baz=40,slow=7.6,SNR=9.5						
CMAR	**Chiang Mai Arr**	**51.39**	**297**	P	P	18 56 28.0	-0.2
	0.2nm,0.5s,baz=120,slow=6.3,SNR=3.0						

IDC 31 18:51:10.6±4.4, 26.14S×177.57W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/16, mbtmp3.6/2, Error ellipse: s-maj=243.7km s-min=48.0km az=158.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.89**	**262**	P	P	18 59 18.7	-0.5
	0.2nm,0.6s,baz=102,slow=7.0,SNR=4.1						
WRA	**Warramunga Arr**	**44.49**	**268**	P	P	18 59 24.2	+0.1
	1.3nm,0.8s,baz=106,slow=7.8,SNR=9.7						
FINES	**FINESS Array B**	**141.25**	**342**	PKP	PKPdf	19 10 39.7	-2.9
	0.3nm,0.5s,baz=42,slow=2.3,SNR=4.0						
NB2	**NORSAR Subarra**	**144.60**	**353**	PKP	PKPdf	19 10 51.1	+2.5
	comp=Z,6.9nm,1.2s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**144.60**	**353**	PKP	PKPdf	19 10 48.1	-0.6
	comp=Z,1.2nm,0.8s,baz=21,slow=4.3,SNR=4.1						
AKASG	**Malin Array Be**	**148.04**	**327**	PKPbc	PKPbc	19 10 57.5	-0.3
	comp=Z,2.4nm,0.6s,baz=43,slow=3.8,SNR=2.6						

IDC 31 18:52:06.8±9.3, 3.17S×146.71E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/16, mbtmp3.5/3, Error ellipse: s-maj=212.0km s-min=38.3km az=85.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.58**	**215**	P	P	18 56 48.5	+0.9
	2.4nm,0.9s,baz=42,slow=10,SNR=10						
ASAR	**Alice Springs**	**23.84**	**210**	P	P	18 57 21.4	-0.6
	1.3nm,0.9s,baz=41,slow=7.5,SNR=8.9						
CMAR	**Chiang Mai Arr**	**51.70**	**296**	P	P	19 01 16.1	-0.2
	0.3nm,0.7s,baz=129,slow=4.8,SNR=4.8						

MAN 31 18:59:04, 12.60N×123.64E, h39km, mb4.8, ML3.8, MS3.8, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNP	**Catarman**	**1.00**	**95**	*e*P	Pn	18 59 23.2	+1.7
CNP				*e*S	Sn	18 59 35.5	+1.1
PVCP	**Virac**	**1.10**	**27**	*e*P	Pn	18 59 24.1	+1.1
AUQP	**San Andres**	**1.18**	**307**	*e*P	Pn	18 59 25.2	+1.2
RCP	**Roxas**	**1.36**	**220**	*e*P	Pn	18 59 27.8	+1.3
GUIM	**Jordan**	**2.22**	**208**	*e*P	Pn	18 59 39.7	+1.4

MEX 31 19:02:50.0±0.8, 15.27N×94.79W, h16km±14km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.37**	**292**	*e*P	Pn	19 03 11.2	-3.3
HUIG				*i* S	Sn	19 03 26.3	-5.9
PCIG		**1.58**	**74**	*e*P	Pn	19 03 13.1	-4.2
PCIG				*i* S	Sn	19 03 31.8	-5.6
TGIG		**2.20**	**47**	*i* P	Pn	19 03 22.8	-3.2
TGIG				*i* S	Sn	19 03 48.8	-4.2
THIG		**2.46**	**98**	*i* P	Pn	19 03 27.1	-2.4
THIG				*i* S	Sn	19 03 55.5	-3.8
VHO	**Vista Hermosa**	**2.59**	**314**	*i* P	Pn	19 03 28.7	-2.9
VHO				*i* S	Sn	19 03 58.4	-4.5
PNIG	**Pinotepa**	**3.40**	**290**	*i* P	Pn	19 03 40.7	-1.8
PNIG				*i* S	Sn	19 04 18.5	-4.1

*ISCJB **31** 19:09:50.9±0.7, 11.42S±0.03×166.36E±0.02, h137km±6km, mb5.8/322, Error ellipse: s-maj=4.5km s-min=2.6km az=173.9*

*MOS **31** 19:09:51.9±1.1, 11.32S×166.36E, h144km, mb5.9/72, MS5.0/44, Error ellipse: s-maj=6.3km s-min=6.0km az=78.3*

*NEIC **31** 19:09:51.6±0.1, 11.38S×166.38E, mb5.9/178, ME5.2, MW5.9, MW5.9, Error ellipse: s-maj=3.8km s-min=2.7km az=147.0, Moment Tensor Solution. s58 Moment tensor: Scale 10^{17}Nm; M_{rr}8.98; $M_{\theta\theta}$-1.99; $M_{\phi\phi}$-6.99; $M_{r\theta}$-0.58; $M_{\theta\phi}$-2.62; $M_{r\phi}$0.33; Best double couple: M_o8.60000×10^{17} NP1:ϕ_s19.00000°, δ45.00000°, λ85.00000°. NP2: ϕ_s207.00000°, δ45.00000°, λ95.00000°. Principal axes: T 9.0200, Plg86.0000°, Azm206.0000°; N -0.9100, Plg3.0000°, Azm23.0000°; P -8.1100, Plg0.0000°, Azm113.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

*BJI **31** 19:09:51.8, 10.94S×166.39E, h133km, mB5.9/51, mb5.9/69*

*IGIL **31** 19:09:51.3, 11.41S×166.36E, h139km, MS5.3*

*IDC **31** 19:09:51.1±0.5, 11.38S×166.47E, h127km±4km, mb5.4/26, mb1 5.4/29, mb1mx5.4/29, mbtmp5.7/29, MS4.9/16, Ms1 4.9/16, ms1mx4.7/37, Error ellipse: s-maj=9.6km s-min=9.0km az=94.0*

*GCMT **31** 19:09:54.9±0.1, 11.39S×166.30E, h139km, MW5.9, Moment Tensor Solution. s124,c259; s75,c96; Moment tensor: Scale 10^{17}Nm; M_{rr}9.71±.06; $M_{\theta\theta}$-2.59±.07; $M_{\phi\phi}$-7.11±.07; $M_{r\theta}$-1.37±.06; $M_{\theta\phi}$-2.86±.07; $M_{r\phi}$-0.19±.06; Best double couple: M_o9.20000×10^{17} NP1:ϕ_s212.00000°, δ48.00000°, λ98.00000°. NP2:ϕ_s20.00000°, δ43.00000°, λ81.00000°. Principal axes: T 9.8600, Plg84.0000°, Azm184.0000°; N -1.3200, Plg6.0000°, Azm26.0000°; P -8.5300, Plg2.0000°, Azm296.0000°; Data Used: II IU CN IC G. Surface waves: sta=133, comp=293, per= 50.*

*BKK **31** 19:09:55.2±1.2, 11.5±5.1×16.6E±.1, h159km±11km, M5.8/58, mb5.8/58, mB6.1/45, Mw(mB)5.8/45, Mwp5.8/3*

*DJA **31** 19:09:58.3±0.9, 11.5±3.3×16.6E±.1, h187km±9km, M5.8/113, mb5.8/113, mB6.2/102, Mw(mB)5.8/102*

*NEIC **31** 19:10:12.8±0.0, 11.06S×166.30E, h122km, Moment Tensor Solution. s160 Moment tensor: Scale 10^{18}Nm; M_{rr}1.00; $M_{\theta\theta}$-0.32; $M_{\phi\phi}$-0.68; $M_{r\theta}$-0.06; $M_{\theta\phi}$-0.21; $M_{r\phi}$-0.07; Best double couple: M_o0.89000×10^{18} NP1: ϕ_s207.00000°, δ48.00000°, λ92.00000°. NP2:ϕ_s24.00000°, δ42.00000°, λ88.00000°. Principal axes: T 1.0100, Plg86.0000°, Azm137.0000°; N -0.2200, Plg1.0000°, Azm25.0000°; P -0.7800, Plg2.0000°, Azm295.0000°;*

ISC 31 19:09:51.6±0.2, 11.44S±0.03×166.47E±0.03, h138km±1km, h137km:pP-P, n1427, σ1§42/1703, mb5.9/321, 296C-177D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.72**	**287**	P	**Pn**	**19 11 28.3**	**+0.4**
HNR				S	**Sn**	**19 12 47.6**	**+4.4**
HNR	**Honiara**	**6.72**	**287**	P	**Pn**	**19 11 28.3**	**+0.4**
	61nm,0.3s,baz=169,slow=3.2,SNR=44						
HNR				S	**Sn**	**19 12 47.6**	**+4.4**
	46nm,0.3s,baz=357,slow=16,SNR=1.9						
HNR				LR	LR	19 13 57.6	
	comp=Z,18μm,18.9s,baz=152,slow=37						
DZM	**Mont Dzumac**	**10.58**	**180**	*e*Pn	**Pn**	**19 12 21.1**	**+1.5**
	150nm,0.3s						
DZM				*e*Sn	**Sn**	**19 14 12.2**	**-4.3**
	284nm,0.4s						
DZM				*e*LR	LR	19 14 51.7	
	12μm,30.4s						
DZM	**Mont Dzumac**	**10.58**	**180**	P	**Pn**	**19 12 22.0**	**+2.3**
DZM				S	**Sn**	**19 14 16.0**	**-0.5**
DZM	**Mont Dzumac**	**10.58**	**180**	P	**Pn**	**19 12 22.0**	**+2.3**
	42nm,0.3s,baz=28,slow=21,SNR=224						
DZM				S	**Sn**	**19 14 16.0**	**-0.5**
	32nm,0.3s,baz=331,slow=22,SNR=6.8						
MSVF	**Nonsavu**	**12.83**	**121**	*e*P	**P**	**19 12 52.4**	**-2.4**
MSVF	**Nonsavu**	**12.83**	**121**	*e*Pn	**P**	**19 12 52.4**	**-2.4**
MSVF				*e*S	**S**	**19 15 24.8**	**-2.1**
MSVF	**Nonsavu**	**12.83**	**121**	P	**P**	**19 12 55.0**	**+0.2**
	4μm,1.3s,SNR=24						
FUNA	**Funafuti**	**12.86**	**78**	∥*i*Pn	**Pn**	**19 12 50.2**	**+0.7**
TARA	**Tarawa**	**14.23**	**27**	*e*Pn	**Pn**	**19 13 08.6**	**+1.5**
TARA				*e*S	**S**	**19 15 54.7**	**-0.6**
PMG	**Port Moresby**	**19.10**	**274**	P	**Pn**	**19 14 06.1**	**-0.1**
PMG	**Port Moresby**	**19.10**	**274**	*e*P	**Pn**	**19 14 05.1**	**-1.1**
	684nm,1.2s						
PMG				*e*S	**S**	**19 17 35.8**	**+2.4**
PMG	**Port Moresby**	**19.10**	**274**	P	**Pn**	**19 14 05.3**	**-0.9**
	4.0nm,0.3s,baz=78,slow=7.2,SNR=25						
EIDS	**Eidsvold**	**20.10**	**224**	⇑*i*P	Pn	19 14 16.7	-1.1
	1μm,1.5s						
EIDS				*e*		19 14 29.9	
EIDS				*e*S	**S**	**19 17 56.0**	**+2.9**
KWAJ	**Kwajalein Atol**	**20.14**	**3**	*e*P	**P**	**19 14 15.8**	**+0.8**
KWAJ				pmax	pmax		
	comp=Z,196nm,0.9s						
KWAJ	**Kwajalein Atol**	**20.14**	**3**	*e*P	**P**	**19 14 15.8**	**+0.8**
	comp=Z,196nm,0.9s						
CTA	**Charters Tower**	**21.26**	**244**	P	**P**	**19 14 28.4**	**+1.3**
CTA	**Charters Tower**	**21.26**	**244**	P	**P**	**19 14 28.4**	**+1.3**
	comp=Z,261nm,1.1s,baz=73,slow=13,SNR=57						
CTAO	**Charters Tower**	**21.26**	**244**	⇑*e*P	**P**	**19 14 27.7**	**+0.6**
CTAO				*e*S	**S**	**19 18 16.6**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,504nm,1.2s						
CTAO				MLR	MLR		
	comp=Z,2μm,20.0s						
CTAO	**Charters Tower**	**21.26**	**244**	⇑*e*P	**P**	**19 14 27.7**	**+0.6**
	comp=Z,504nm,1.2s						
CTAO				*e*S	**S**	**19 18 16.6**	**+1.1**
CTAO				LR	LR		
	comp=Z,2μm,20.0s						
AFI	**Afiamalu**	**21.36**	**99**	P	**P**	**19 14 29.6**	**+1.3**
AFI				S	**S**	**19 18 17.5**	**-0.1**
AFI				LR	LR		
	comp=Z,10μm,22.0s						
AFI	**Afiamalu**	**21.36**	**99**	P	**P**	**19 14 29.6**	**+1.3**
	comp=Z,506nm,0.9s,baz=268,slow=4.7,SNR=3.7						
AFI				S	**S**	**19 18 17.5**	**-0.1**
	comp=Z,46nm,0.4s,baz=62,slow=20,SNR=6.4						
COEN	**Coen**	**22.86**	**261**	⇑*i*P	**P**	**19 14 43.9**	**+0.5**
	comp=Z,1μm,1.1s						
COEN				*e*pP	**pP**	**19 15 11.2**	**+1.7**
COEN				*e*S	**S**	**19 18 44.1**	**+1.4**
RAO	**Raoul Island**	**22.94**	**143**	LR	LR	19 21 26.5	
	comp=Z,3μm,21.9s,baz=98,slow=30						
KNTN	**Kanton**	**23.27**	**70**	*e*P	**P**	**19 14 47.0**	**-0.2**
	comp=Z,5μm,1.8s						
ARMA	**Armidale**	**23.38**	**214**	⇑*i*P	**P**	**19 14 49.9**	**+1.7**
	comp=Z,713nm,1.1s						
ARMA				*e*S	S	19 19 00.0	+9.1
OUZ	**Omahuta**	**24.55**	**166**	∥*e*P	**P**	**19 15 00.6**	**+2.0**
	comp=Z,196nm,1.2s						
OUZ				*e*PcP	**PcP**	**19 18 35.4**	**+2.3**
URZ	**Urewera**	**28.36**	**162**	*e*P	**P**	**19 15 33.0**	**+0.3**
	comp=Z,227nm,1.3s						
URZ				*e*S	**S**	**19 20 06.4**	**-2.9**
URZ				S	S	19 20 11.4	+2.1
URZ	**Urewera**	**28.36**	**162**	P	**P**	**19 15 34.3**	**+1.6**
	comp=Z,35nm,0.4s,baz=338,slow=4.2,SNR=34						
URZ				S	**S**	**19 20 11.4**	**+2.1**
	comp=Z,8.8nm,0.5s,baz=201,slow=22,SNR=5.6						
URZ				LR	LR	19 24 33.9	

	comp=Z,3μm,21.8s,baz=352,slow=31						
CAN	**Canberra**	**28.58**	**211**	⇑*i*P	**P**	**19 15 35.5**	**+0.7**
CAN				*e*		19 18 43.3	
CAN				pmax	pmax		
	comp=Z,152nm,1.0s						
CAN				MLR	MLR		
	comp=Z,2μm,19.0s						
CAN	**Canberra**	**28.58**	**211**	⇑*i*P	**P**	**19 15 35.5**	**+0.7**
	comp=Z,152nm,1.0s						
CAN				*e*PcP	**PcP**	**19 18 43.3**	**+0.6**
CAN				LR	LR		
	comp=Z,2μm,19.0s						
BKZ	**Black Stump Fm**	**29.02**	**164**	*e*P	**P**	**19 15 39.6**	**+0.9**
	comp=Z,668nm,1.5s						
H11S2	**WAKE ISLAND Hy**	**29.74**	**0**	T	T	19 46 47.6	
	baz=182,slow=0.7,SNR=104						
H11S3	**WAKE ISLAND Hy**	**29.74**	**0**	T	T	19 46 46.8	
	baz=182,slow=0.7,SNR=82						
H11S1	**WAKE ISLAND Hy**	**29.75**	**0**	T	T	19 46 32.0	
	baz=182,slow=0.7,SNR=96						
WAKE	**Wake Island**	**30.52**	**0**	PFAKE		19 16 00.0	+8.0
WAKE				LR	LR		
	comp=Z,4μm,20.0s						
SNZO	**South Karori**	**30.63**	**168**	⇑*e*P	**P**	**19 15 53.0**	**+0.2**
	comp=Z,502nm,1.4s						
SNZO				*e*S	**S**	**19 20 43.0**	**-1.8**
SNZO				LR	LR		
	comp=Z,2μm,20.0s						
STKA	**Stephens Creek**	**30.66**	**225**	⇑*i*P	**P**	**19 15 54.3**	**+1.1**
	comp=Z,216nm,2.0s						
STKA				*e*PcP	**PcP**	**19 18 48.3**	**+0.2**
STKA				PcP	PcP	19 18 48.9	+0.8
STKA				*e*ScP	**ScP**	**19 22 20.1**	**+2.0**
STKA				ScP	**ScP**	**19 22 20.8**	**+2.7**
STKA	**Stephens Creek**	**30.66**	**225**	P	**P**	**19 15 54.5**	**+1.3**
	comp=Z,142nm,1.0s,baz=40,slow=8.0,SNR=191						
STKA				PcP	**PcP**	**19 18 48.9**	**+0.8**
	comp=Z,38nm,0.9s,baz=63,slow=3.4,SNR=4.7						
STKA				ScP	**ScP**	**19 22 20.8**	**+2.7**
	comp=Z,16nm,1.0s,baz=12,slow=5.2,SNR=4.8						
STKA				LR	LR	19 27 12.1	
	comp=Z,2μm,19.1s,baz=157,slow=34						
SRPI	**Serui, Papua**	**31.46**	**285**	P	**P**	**19 16 00.5**	**+0.1**
KHZ	**Kahutara**	**31.48**	**170**	*e*P	**P**	**19 15 60.0**	**-0.2**
	comp=Z,1μm,2.2s						
BAKI	**Biak**	**31.81**	**286**	P	**P**	**19 16 05.8**	**+2.3**
	comp=Z,80nm,1.0s,comp=Z,2μm						
WRAB	**Tennant Creek**	**32.01**	**251**	⇑*i*P	**P**	**19 16 04.8**	**-0.4**
WRAB				*PP	**pP**	**19 16 35.5**	**+0.7**
WRAB				*e*		19 18 52.3	
WRAB				*e*S	**S**	**19 21 02.4**	**-4.6**
WRAB				pmax	pmax		
	comp=Z,446nm,1.3s						
WRAB				MLR	MLR		
	comp=Z,3μm,19.0s						
WRAB	**Tennant Creek**	**32.01**	**251**	⇑*i*P	**P**	**19 16 04.8**	**-0.4**
	comp=Z,446nm,1.3s						
WRAB				pP	**pP**	**19 16 35.5**	**+0.7**
WRAB				*e*PcP	**PcP**	**19 18 52.3**	**+0.3**
WRAB				*e*S	**S**	**19 21 02.4**	**-4.6**
WRAB				*e*ScP	**ScP**	**19 22 27.4**	**+4.5**
WRAB				LR	LR		
	comp=Z,3μm,19.0s						
WRAB	**Tennant Creek**	**32.01**	**251**	P	**P**	**19 16 05.6**	**+0.4**
	comp=Z,1μm,1.4s,SNR=85						
WRA	**Warramunga Arr**	**32.02**	**251**	P	**P**	**19 16 04.7**	**-0.7**
WRA				PcP	**PcP**	**19 18 52.6**	**+0.6**
WRA				S	**S**	**19 21 05.8**	**-1.4**
WRA				ScP	**ScP**	**19 22 26.0**	**+3.1**
WRA				PKiKP	**PKiKP**	**19 26 19.4**	**-0.9**
WRA				*e*		19 47 34.0	
WRA	**Warramunga Arr**	**32.02**	**251**	P	**P**	**19 16 04.6**	**-0.7**
	comp=Z,382nm,1.3s,baz=84,slow=9.4,SNR=297						
WRA				PcP	**PcP**	**19 18 52.6**	**+0.6**
	comp=Z,49nm,0.9s,baz=79,slow=3.1,SNR=15						
WRA				S	**S**	**19 21 05.8**	**-1.4**
	comp=Z,21nm,1.2s,baz=84,slow=14,SNR=5.7						
WRA				ScP	**ScP**	**19 22 26.0**	**+3.1**
	comp=Z,22nm,0.9s,baz=81,slow=3.8,SNR=15						
WRA				PKiKP	**PKiKP**	**19 26 19.4**	**-0.9**
	comp=Z,3.8nm,0.9s,baz=7.3,slow=0.6,SNR=11						
WRA				P3KPbc		19 47 34.0	
	comp=Z,0.5nm,0.7s,baz=263,slow=2.8,SNR=7.0						
RPZ	**Rata Peaks**	**32.41**	**174**	⇑*i*P	**P**	**19 16 08.7**	**+0.3**
	comp=Z,697nm,0.9s						
RPZ				*e*S	**S**	**19 21 16.2**	**+3.6**
RPZ	**Rata Peaks**	**32.41**	**174**	P	**P**	**19 16 08.9**	**+0.6**
	comp=Z,578nm,0.8s,baz=7.0,slow=1.2,SNR=164						
RPZ				LR	LR	19 25 37.9	
	comp=Z,1μm,21.0s,baz=144,slow=29						
GUMO	**Guam**	**32.82**	**319**	*e*P	**P**	**19 16 10.2**	**-2.0**
	comp=Z,142nm,1.1s						
GUMO				LR	LR		
	comp=Z,2μm,20.0s						
AS31	**Alice Springs**	**33.26**	**244**	⇑*i*P	**P**	**19 16 15.6**	**-0.5**
AS31				*e*PcP	**PcP**	**19 18 54.5**	**-1.0**
AS31				*e*S	**S**	**19 21 21.3**	**-5.1**
AS31				*e*ScP	**ScP**	**19 22 30.9**	**+3.7**
ASAR	**Alice Springs**	**33.26**	**244**	P	**P**	**19 16 15.8**	**-0.4**
ASAR				PcP	**PcP**	**19 18 55.8**	**+0.4**
ASAR				ScP	**ScP**	**19 22 30.6**	**+3.4**
ASAR				PKiKP	**PKiKP**	**19 26 20.1**	**-1.0**
ASAR				*e*		19 47 29.1	
ASAR	**Alice Springs**	**33.26**	**244**	P	**P**	**19 16 15.8**	**-0.4**
	comp=Z,252nm,1.1s,baz=73,slow=9.5,SNR=870						
ASAR				PcP	**PcP**	**19 18 55.8**	**+0.4**
	comp=Z,53nm,0.9s,baz=80,slow=3.0,SNR=17						
ASAR				ScP	**ScP

comp=Z,3.6nm,1.0s,baz=253,slow=19,SNR=4.2
LBMI Labuha 40.15 283 P **P** 19 17 15.8 +1.3
comp=Z,328nm,1.2s,comp=Z,5µm
FORT Forrest 40.41 236⇑*i*P **P** 19 17 16.8 +0.4
comp=Z,1µm,1.2s
FORT *e*PcP **PcP** 19 19 16.7 -0.2
TNTI Ternate 40.70 285 P **P** 19 17 20.3 +1.2
comp=Z,125nm,1.3s,comp=Z,3µm
SOEI Soe 41.49 268 P **P** 19 17 26.7 +1.0
comp=Z,122nm,1.4s,comp=Z,2µm
PAE Paea 42.91 104 *e*P **P** 19 17 38.3 +1.3
comp=Z,63nm,1.3s
PAE *e*pP **pP** 19 18 07.2 -0.6
comp=Z,45nm,1.4s
PPT Papeete 42.91 103 P **P** 19 17 38.0 +1.0
PPT Papeete 42.91 103 P **P** 19 17 38.0 +1.0
comp=Z,178nm,1.1s,baz=331,slow=5.4,SNR=11
PPT2 Papeete2 42.91 104 *e*P **P** 19 17 38.7 +1.6
comp=Z,178nm,1.2s
PPT2 *e*S **S** 19 23 53.2 +1.2
comp=Z,2µm,27.8s
PPT2 *e*LQ LQ 19 27 56.7
comp=Z,2µm,25.5s
PPT2 *e*LR LR 19 29 50.2
comp=Z,6µm,34.0s
SGSI Sangihe 43.41 288 P **P** 19 17 42.6 +1.6
comp=Z,517nm,1.5s,comp=Z,8µm
TBI Tubuai 43.53 112 *e*P **P** 19 17 43.5 +1.7
comp=Z,260nm,1.1s
TBI *e*S **S** 19 24 01.7 +1.0
comp=Z,2µm,26.5s
TBI *e*LQ LQ 19 28 10.9
comp=Z,5µm,32.2s
TBI *e*LR LR 19 30 07.7
comp=Z,6µm,38.0s
MMRI Maumere 43.62 269 P **P** 19 17 42.5 -0.2
comp=Z,428nm,1.2s,comp=Z,5µm
BBSI Bau Bau 43.78 274 P **P** 19 17 45.9 +1.8
comp=Z,246nm,1.1s,comp=Z,4µm
KMSI Cibinong 43.87 283 P **P** 19 17 45.6 +0.9
comp=Z,910nm,1.1s,comp=Z,7µm
MATI Mati 43.98 293 *e*P **P** 19 17 44.5 -1.1
PMOR Pomariorio Ree 44.51 100 *e*P **P** 19 17 51.7 +1.9
comp=Z,386nm,1.1s
PMOR *e*pP **pP** 19 18 19.9 -0.9
comp=Z,504nm,1.4s
LUWI Luwuk 44.58 280 P **P** 19 17 51.0 +0.6
comp=Z,405nm,1.4s,comp=Z,6µm
DAV Davao City (W) 44.64 292 PFAKE 19 18 00.0 +9.1
DAV LR LR
comp=Z,2µm,22.0s
VAH Vaihoa 44.76 100 *e*P **P** 19 17 53.4 +1.6
comp=Z,259nm,1.2s
VAH *e*pP **pP** 19 18 22.2 -0.6
comp=Z,358nm,1.4s
GTOI Gorontalo 44.81 283 P **P** 19 17 53.4 +1.2
comp=Z,222nm,1.2s,comp=Z,3µm
KKSI Kolaka, Sulawe 44.94 276 P **P** 19 17 54.0 +0.7
comp=Z,247nm,1.1s,comp=Z,3µm
CBIJ Chichi jima 44.97 329 *e*P **P** 19 17 52.1 -1.1
comp=Z,62nm,1.0s
JCJ Chichijima 44.97 329 P **P** 19 17 52.3 -1.0
comp=Z,147nm,1.0s,baz=270,slow=19,SNR=5.8
WSI Waingapu 45.39 268 P **P** 19 17 58.4 +1.6
comp=Z,360nm,1.1s,comp=Z,4µm
BUTP Butuan 45.40 295 *e*P **P** 19 17 57.2 +0.4
BUKP Musuan 45.44 293 *e*P **P** 19 17 57.9 +0.7
MBWA Marble Bar 45.75 252⇑*i*P **P** 19 18 00.5 +1.0
comp=Z,798nm,1.2s
MBWA *e*PcP **PcP** 19 19 34.9 -0.2
MBWA *e*S **S** 19 24 31.1 -1.7
MBWA LR LR
comp=Z,3µm,21.0s
MRSI Marisa 45.79 282 P **P** 19 17 59.5 -0.5
comp=Z,108nm,1.1s,comp=Z,1µm
SCPH Surigao 45.87 296 *e*P sP 19 18 47.5 +0.4
LBFI Labuhan Bajo, 45.94 269 P **P** 19 18 01.0 -0.1
comp=Z,411nm,1.3s,comp=Z,6µm
BKSI Bulukumba 46.21 274 P **P** 19 18 03.4 +0.2
comp=Z,76nm,1.4s,comp=Z,1µm
BNSI Bone 46.40 275 P **P** 19 18 05.5 +0.8
comp=Z,444nm,1.1s,comp=Z,5µm
MSLP Maasin 46.58 296 *e*P **P** 19 18 06.8 +0.7
KAPI Kappang 46.63 274 P **P** 19 18 06.2 -0.3
comp=Z,230nm,1.3s,comp=Z,3µm
KAPI Kappang 46.63 274⇑*i*P **P** 19 18 06.0 -0.5
comp=Z,390nm,1.3s
KAPI pP **pP** 19 18 36.8 -1.0
KAPI *e*PcP **PcP** 19 19 38.4 0.0
KAPI LR LR
comp=Z,1µm,22.0s
KAPI Kappang 46.63 274 P **P** 19 18 06.3 -0.3
comp=Z,1µm,1.1s,SNR=17
SPSI Sidrap Palu 46.82 275 P **P** 19 18 07.6 -0.4
comp=Z,99nm,0.9s,comp=Z,1µm
PAGZ Pagadian 46.97 296 *e*P **P** 19 18 10.4 +1.4
TTSI Tana Toraja 46.97 277 P **P** 19 18 09.9 +0.8
comp=Z,109nm,1.1s,comp=Z,2µm
TOLI Toli-Toli 47.07 282 P **P** 19 18 10.3 +0.3
comp=Z,118nm,0.8s,comp=Z,2µm
OCLP Ormoc 47.21 297 *e*P **P** 19 18 11.3 +0.3
IPIL Ipil 47.66 292⇑*e*P **P** 19 18 15.1 +0.6
MJSI Majene 47.67 276 P **P** 19 18 16.8 +2.2
comp=Z,319nm,1.1s,comp=Z,4µm
HON Honolulu 47.72 47 *e*P **P** 19 18 16.7 +1.9
HON Honolulu 47.72 47 *e*P **P** 19 18 16.7 +1.9
KIP Kipapa 47.78 47*c i*P **P** 19 18 16.5 +1.3
KIP pmax pmax
comp=Z,450nm,1.6s
KIP Kipapa 47.78 47 *e*P **P** 19 18 15.9 +0.7
comp=Z,260nm,1.0s
CNP Catarman 47.84 299 *e*P **P** 19 18 16.4 +0.6
MMSI Mamuju 47.93 277 P **P** 19 18 17.2 +0.6
comp=Z,99nm,1.1s,comp=Z,2µm
POHA Pohakuloa 48.59 51 *e*P **P** 19 18 22.0 +0.3
comp=Z,1µm,1.7s
HKL Haleakala 48.61 49 *e*P **P** 19 18 23.2 +1.1
HKL Haleakala 48.61 49 *e*P **P** 19 18 23.2 +1.1
PVCP Virac 48.79 300⇑*e*P **P** 19 18 23.4 +0.3
PVCP Virac 48.79 300 *e*P **P** 19 18 24.0 +0.9
GUIM Jordan 48.81 295 *e*P **P** 19 18 23.5 +0.3
RCP Roxas 49.07 296⇑*e*P **P** 19 18 25.2 -0.1
MTNI Mataram 49.56 268 P **P** 19 18 29.4 +0.3
comp=Z,158nm,1.2s,comp=Z,3µm
SGKI Sangatta, Kali 49.71 279 P P 19 18 34.8 +4.6
comp=Z,310nm,1.2s,comp=Z,5µm
NWAO Narrogin (SRO) 49.84 236⇑*i*P **P** 19 18 31.3 +0.4
comp=Z,536nm,1.2s
NWAO *e*pP **pP** 19 18 58.5 -4.0
NWAO Narrogin (SRO) 49.84 236 LR LR 19 40 30.7
comp=Z,3µm,18.2s,baz=68,slow=37
SMKI Samarinda 50.11 279 P P 19 18 36.9 +3.7
comp=Z,285nm,1.1s,comp=Z,5µm
KHKI Kahang-Kahang 50.15 269 P **P** 19 18 32.8 -0.7
comp=Z,206nm,0.9s,comp=Z,2µm
BKB Balikpapan 50.22 278 P P 19 18 37.5 +3.5
comp=Z,286nm,1.4s,comp=Z,4µm
CUYO Cuyo Island 50.30 295 *e*P **P** 19 18 35.4 +0.8
DNP Denpasar 50.50 268 P **P** 19 18 37.0 +0.9
comp=Z,834nm,1.1s,comp=Z,16µm
MYLDM Lahad Datu 50.50 287 P **P** 19 18 38.3 +2.2
MYLDM Lahad Datu 50.50 287 P **P** 19 18 37.9 +1.8
comp=Z,285nm,1.4s,comp=Z,5µm
MYLDM Lahad Datu 50.50 287 *e*P **P** 19 18 38.2 +2.0
comp=Z,431nm,1.3s
SRBI Singaraja 50.58 269 P **P** 19 18 36.9 +0.2
comp=Z,344nm,1.2s,comp=Z,5µm
TSM Tawau 50.81 285 P **P** 19 18 39.0 +0.6
SJMP San Jose 50.90 296 *e*P **P** 19 18 40.0 +1.0
BYJI Banyuwangi 51.40 269 P **P** 19 18 44.1 +1.3
comp=Z,1µm,1.4s,comp=Z,14µm
BUSP Coron 51.51 295 *e*P **P** 19 18 44.5 +0.9
ABJI Asem Bagus 51.58 269 P **P** 19 18 45.2 +1.0
comp=Z,629nm,1.2s,comp=Z,7µm
ENPP El Nido 51.87 294 *e*P **P** 19 18 47.3 +1.0
SDKM Sandakan 51.88 287 P **P** 19 18 46.3 -0.2
PALP Palanan 51.93 302⇑*e*P **P** 19 18 46.9 +0.2
KMMI Kalianget 51.95 270 P **P** 19 18 48.3 +1.3
comp=Z,301nm,1.2s,comp=Z,3µm
BLJI Banyuglugur 52.21 269 P **P** 19 18 48.8 -0.1
comp=Z,362nm,1.0s,comp=Z,4µm
MTKI Muara Teweh, K 52.23 278 P **P** 19 18 49.9 +0.8
comp=Z,124nm,1.2s
GMJI Gumukmas 52.28 268 P **P** 19 18 49.1 -0.3
comp=Z,235nm,1.1s
KDM Kudat 52.64 288 P **P** 19 18 53.5 +1.4

KKM Kota Kinabalu 52.93 287 P **P** 19 18 55.2 +0.9
KKM Kota Kinabalu 52.93 287 P **P** 19 18 54.9 +0.6
comp=Z,427nm,1.4s,comp=Z,6µm
KKM Kota Kinabalu 52.93 287⇑*i*P **P** 19 18 54.5 +0.3
comp=Z,655nm,1.3s
KKM *e*pP **pP** 19 19 26.0 -0.3
KKM LR LR
comp=Z,712nm,21.0s
JOW Kunigami 53.13 316⇑*i*P **P** 19 18 56.1 +0.7
comp=Z,68nm,1.0s
JOW *e*pP **pP** 19 19 28.2 +0.8
JOW *es*P **sP** 19 19 40.8 -1.8
JOW *e*PcP **PcP** 19 20 03.4 +1.5
KRKI Karangkates 53.27 268 P **P** 19 18 57.1 +0.4
comp=Z,726nm,0.8s,comp=Z,12µm
PWJI Pagerwojo 53.93 268 P **P** 19 19 01.5 +0.1
comp=Z,352nm,1.0s,comp=Z,5µm
SJI Sawahan 54.00 269 P **P** 19 19 02.7 +0.6
comp=Z,386nm,1.6s,comp=Z,7µm
NGJI Ngawi 54.36 269 P **P** 19 19 06.9 +2.3
comp=Z,370nm,1.3s,comp=Z,6µm
PCJI Pacitan 54.52 268 P **P** 19 19 06.3 +0.6
comp=Z,911nm,1.3s,comp=Z,9µm
MAJO Matsushiro 54.65 332⇑*i*P **P** 19 19 05.4 -0.9
MAJO *e**PP **pP** 19 19 37.4 -1.0
MAJO pmax pmax
comp=Z,120nm,1.4s
MAJO MLR MLR
comp=Z,1µm,20.0s
MAJO Matsushiro 54.65 332*i*P **P** 19 19 05.4 -0.9
comp=Z,120nm,1.4s
MAJO *e*pP **pP** 19 19 37.4 -1.0
MAJO LR LR
comp=Z,1µm,20.0s
WOJI Wonogiri, Jawa 54.82 268 P **P** 19 19 08.6 +0.7
comp=Z,529nm,1.3s,comp=Z,5µm
BTM Bintulu 55.05 282 P **P** 19 19 10.6 +1.1
UGM Wanagama 55.20 268 P **P** 19 19 12.1 +1.4
comp=Z,562nm,1.2s,comp=Z,6µm
SMRI Semarang 55.41 269 P **P** 19 19 13.1 +0.9
comp=Z,553nm,1.1s,comp=Z,6µm
SMRI Semarang 55.41 269 *e*P **P** 19 19 11.6 -0.6
comp=Z,518nm,1.0s
YOGI Yogyakarta 55.44 268 P **P** 19 19 14.1 +1.7
comp=Z,971nm,1.1s,comp=Z,11µm
SBUM Sibu 55.67 281 P **P** 19 19 15.5 +1.5
SBUM Sibu 55.67 281 P **P** 19 19 14.7 +0.7
comp=Z,140nm,1.3s,comp=Z,2µm
SBUM Sibu 55.67 281 *e*P P 19 19 09.6 -4.4
comp=Z,164nm,1.2s
STKI Sintang 55.79 278 P **P** 19 19 16.0 +1.1
comp=Z,264nm,1.3s,comp=Z,18µm
JNU Nakatsue 55.81 324 LR LR 19 37 49.1
comp=Z,754nm,20.7s,baz=207,slow=30
TWG Pinlang 56.00 308 *e*P **P** 19 19 15.1 -1.1
comp=Z,286nm,1.0s
BJII Banjamegara 56.08 269 P **P** 19 19 18.0 +1.0
comp=Z,154nm,1.5s,comp=Z,5µm
YULB Yu-li 56.13 308⇑*e*P **P** 19 19 16.1 -1.1
comp=Z,122nm,1.1s
NACB Ninganchiao 56.34 309⇑*i*P **P** 19 19 17.8 -0.7
comp=Z,230nm,1.3s
TPUB Ta-pu 56.60 308 *e*P **P** 19 19 19.6 -0.9
comp=Z,317nm,1.1s
TPUB *e*pP pP 19 19 46.9 -5.9
TPUB *e*PcP **PcP** 19 20 15.7 +0.4
SSLB Suanglung 56.61 308 *e*P **P** 19 19 19.7 -0.8
comp=Z,267nm,1.9s
SSLB *e*PcP **PcP** 19 20 13.5 -1.9
CLJI Cilicap 56.70 268 P **P** 19 19 20.9 -0.5
comp=Z,302nm,1.0s,comp=Z,4µm
TGJI Tegal 56.73 269 P **P** 19 19 21.7 +0.1
comp=Z,418nm,1.2s,comp=Z,6µm
YHNB Yeheng 56.78 310 *e*P **P** 19 19 21.5 -0.2
comp=Z,219nm,1.0s
YHNB *e*pP **pP** 19 19 49.0 -5.2
YHNB LR LR
comp=Z,1µm,20.0s
RKT Rikitea 56.79 110 *e*S **S** 19 27 04.0 -0.5
comp=Z,3µm,26.5s
RKT *e*SS **SS** 19 30 52.5 -2.2
comp=Z,1µm,30.5s
RKT *e*LQ LQ 19 33 48.5
comp=Z,3µm,28.0s
RKT *e*LR LR 19 36 14.5
comp=Z,4µm,34.8s
KPJI Karang Pucung 56.84 269 P **P** 19 19 22.8 +0.5
comp=Z,358nm,0.9s,comp=Z,3µm
TATO Taipei 56.86 310 *e*P **P** 19 19 21.6 -0.7
comp=Z,1µm,1.3s
TATO LR LR
comp=Z,2µm,20.0s
KSM Kuching 57.27 279 P **P** 19 19 25.8 +0.4
KSM Kuching 57.27 279 P **P** 19 19 25.5 +0.2
comp=Z,111nm,1.3s,comp=Z,2µm
KSM Kuching 57.27 279⇑*i*P **P** 19 19 25.1 -0.2
comp=Z,217nm,1.4s
KSM *e*pP **pP** 19 19 59.5 +1.8
KSM *e*PP **PP** 19 21 33.2 -0.9
KSM LR LR
comp=Z,1µm,19.0s
ERM Erimo 57.34 339⇑*e*P **P** 19 19 25.9 +0.6
ERM pmax pmax
comp=Z,37nm,1.0s
ERM Erimo 57.34 339 PFAKE 19 19 40.0 +15
ERM LR LR
comp=Z,2µm,22.0s
CISI Cisompet, Garu 57.90 268 P **P** 19 19 29.3 -0.6
comp=Z,584nm,1.2s,comp=Z,5µm
CISI Cisompet, Garu 57.90 268 *e*P **P** 19 19 29.5 -0.4
comp=Z,424nm,0.9s
DRV Dumont d'Urvil 57.97 192 P P 19 19 09.0 -20
DRV S S 19 27 04.0 -15
DRV SS **SS** 19 31 09.0 -2.7
DRV L L 19 33 00.0
DRV R 19 37 00.0
LEM Lembang 58.21 269 P **P** 19 19 32.7 +0.6
comp=Z,647nm,1.0s,comp=Z,7µm
YUK Yuzh-Kuril'sk 58.30 343*c i*P P 19 19 25.9 -6.0
YUK *i* S S 19 27 16.3 -7.1
YUK *i* SSS SSS 19 33 46.0
CBJI Citeko 59.03 269 P **P** 19 19 36.9 -0.7
comp=Z,730nm,1.4s,comp=Z,12µm
QZH Quanzhou 59.05 308⇑*i*P **P** 19 19 34.3 -3.2
QZH pP **pP** 19 20 06.0 -4.1
QZH S S 19 27 23.5 -10
QZH AMB AMB
comp=Z,520nm,1.2s
QZH AMB AMB
comp=Z,2µm,3.5s
QZH LR LR
comp=Z,3µm,33.4s
DBJI Dramaga 59.10 269 P **P** 19 19 38.3 +0.1
comp=Z,410nm,1.5s,comp=Z,7µm
SKJI Sukabumi 59.22 269 P **P** 19 19 37.7 -1.2
comp=Z,723nm,1.2s,comp=Z,8µm
ASAJ Asahikawa 59.40 340 *e*P **P** 19 19 39.6 +0.1
comp=Z,45nm,1.0s
ASAJ ScS **ScS** 19 29 16.7 +0.5
ASAJ Asahikawa 59.40 340 P **P** 19 19 40.3 +0.8
comp=Z,79nm,0.9s,baz=225,slow=10,SNR=48
ASAJ ScS **ScS** 19 29 16.7 +0.5
comp=Z,13nm,1.0s,baz=129,slow=7.8,SNR=6.5
XMIS Christmas Isla 59.62 264⇑*i*P **P** 19 19 42.4 +0.7
comp=Z,2µm,1.2s
TJN Taejon 60.16 324 *i* P **P** 19 19 44.5 -0.3
PPBI Pangkal Pinang 60.51 274 P **P** 19 19 48.6 +0.9
comp=Z,242nm,1.2s,comp=Z,11µm
KSRS Korea Array 60.60 325 P **P** 19 19 48.1 +0.3
comp=Z,23nm,0.9s,baz=144,slow=6.7,SNR=33
KSRS PcP **PcP** 19 20 32.6 +1.8
comp=Z,12nm,1.0s,baz=138,slow=5.2,SNR=5.5
KSAR Wonju Array Be 60.61 325 P **P** 19 19 48.1 +0.2
KSAR PcP **PcP** 19 20 32.6 +1.7
SSE Sheshan 60.63 316⇑P **P** 19 19 48.3 +0.2
SSE pP **pP** 19 20 21.0 +0.1
SSE S **S** 19 27 53.3 -0.5
SSE sS **sS** 19 28 51.0 +0.6
SSE AMB AMB
comp=Z,170nm,1.0s
SSE AMB AMB
comp=Z,550nm,4.1s
SSE LR LR
comp=Z,550nm,21.1s
SSE LR LR
comp=Z,460nm,21.1s

SSE LR LR
comp=Z,940nm,18.5s
BLSI Bandar Lampung 60.78 270 P **P** 19 19 50.4 +0.8
comp=Z,133nm,1.3s,comp=Z,2µm
KLI Kotabumi 61.25 271 P **P** 19 19 54.0 +1.3
comp=Z,113nm,1.5s,comp=Z,2µm
HKC Hong Kong Obse 61.25 303⇑*i*P **P** 19 19 54.0 +1.5
KASI Kota Agung 61.49 270 P **P** 19 19 53.8 -0.5
comp=Z,309nm,1.0s,comp=Z,7µm
PMBI Palembang 61.69 273 P **P** 19 19 58.2 +2.5
comp=Z,421nm,1.0s
YSS Yuzh-Sakhalins 61.88 342⇑*i*P **P** 19 19 56.2 0.0
YSS *e**PP **pP** 19 20 29.2 +0.1
YSS *e* 19 22 16.0
YSS *i* S **S** 19 28 08.0 -1.0
YSS pmax pmax
comp=E,110nm,1.0s
YSS pmax pmax
comp=Z,200nm,1.0s
YSS pmax pmax
comp=Z,1µm,8.0s
YSS MLR MLR
comp=Z,500nm,17.0s
MDSI Maura Dua 61.98 271 P **P** 19 19 56.7 -0.9
comp=Z,189nm,1.5s,comp=Z,3µm
LWLI Liwa 62.00 270 P **P** 19 19 57.5 -0.4
comp=Z,305nm,1.2s,comp=Z,10µm
GZH Guangzhou 62.30 304 P **P** 19 19 59.5 0.0
GZH S **S** 19 28 13.8 -1.3
GZH AMB AMB
comp=Z,2µm,5.1s
LHSI Lahat 62.74 272 P **P** 19 20 02.4 -0.3
comp=Z,213nm,1.1s,comp=Z,3µm
NJ2 Nanjing 62.80 315 *e*P **P** 19 20 02.5 -0.2
NJ2 pP **pP** 19 20 33.0 -2.7
NJ2 PcP **PcP** 19 20 40.3 +0.4
NJ2 sP **sP** 19 20 50.5 -0.1
NJ2 S **S** 19 28 22.5 +1.4
NJ2 AMB AMB
comp=Z,360nm,0.6s
NJ2 AMB AMB
comp=Z,900nm,9.1s
QIZ Qiongzhong 63.49 298 P **P** 19 20 08.0 +0.5
QIZ pP **pP** 19 20 39.3 -1.3
QIZ sP **sP** 19 20 53.8 -1.7
QIZ S **S** 19 28 30.5 +0.3
QIZ ScS **ScS** 19 29 48.3 +0.2
QIZ AMB AMB
comp=Z,68nm,1.0s
QIZ AMB AMB
comp=Z,890nm,10.3s
QIZ LR LR
comp=Z,630nm,17.9s
QIZ LR LR
comp=Z,300nm,19.2s
QIZ LR LR
comp=Z,1µm,21.0s
QIZ Qiongzhong 63.49 298 *e*P **P** 19 20 08.8 +1.3
comp=Z,96nm,1.1s
QIZ LR LR
comp=Z,834nm,19.0s
MYKOM Kota Tinggi 63.61 278 P **P** 19 20 09.9 +1.5
MYKOM Kota Tinggi 63.61 278 P **P** 19 20 09.4 +1.0
comp=Z,154nm,1.3s,comp=Z,3µm
MYKOM Kota Tinggi 63.61 278 *e*P **P** 19 20 06.8 -1.7
comp=Z,297nm,1.4s
USRK Ussuriysk Arra 63.61 333 P **P** 19 20 08.6 +0.8
comp=Z,111nm,1.0s,baz=138,slow=5.2,SNR=57
KSI Kapahiang 63.69 272 P **P** 19 20 08.7 -0.3
comp=Z,374nm,1.1s,comp=Z,4µm
KGM Kluang 64.17 278 P **P** 19 20 13.7 +1.6
FX1 Attu Island--F 64.31 4 *e*P **P** 19 20 12.8 +0.6
FX1 *e*pP **PcP** 19 20 47.0 +1.4
FX1 *e*pP **pP** 19 20 47.6 +2.3
FX1 Attu Island--F 64.31 4 LR LR 19 42 13.7
comp=Z,1µm,21.2s,baz=226,slow=30
PET Petropavlovsk 64.55 355 *e*P **P** 19 20 14.1 +0.4
PET *e**PP **pP** 19 20 49.5 +2.6
PET *e*S **S** 19 28 45.9 +3.9
PET *e*SP SPn 19 29 09.7 +10
PET *e*SS **SS** 19 32 58.8 +3.4
PET pmax pmax
comp=Z,100nm,1.2s
PET pmax pmax
comp=Z,600nm,4.9s
PET pmax pmax
comp=Z,400nm,11.6s
PET pmax pmax
comp=Z,500nm,12.6s
PET smax smax
comp=Z,600nm,12.4s
PET MLR MLR
comp=Z,500nm,18.0s
PET Petropavlovsk 64.55 355 PFAKE 19 20 30.0 +16
PET LR LR
comp=Z,1µm,21.0s
RGRI Rengat 64.61 275 P **P** 19 20 16.8 +1.9
comp=Z,988nm,1.2s,comp=Z,11µm
ADK Adak 64.72 11 *e*P **P** 19 20 15.6 +0.7
ADK *e**PP **pP** 19 20 50.8 +2.8
ADK pmax pmax
comp=Z,211nm,1.4s
ADK MLR MLR
comp=Z,2µm,21.0s
ADK Adak 64.72 11 *e*P **P** 19 20 15.6 +0.7
comp=Z,210nm,1.4s
ADK *ep*P **pP** 19 20 50.8 +2.8
ADK LR LR
comp=Z,2µm,21.0s
PETK Petropavlovsk- 64.72 354 P **P** 19 20 15.6 +0.7
PETK pmax pmax
comp=Z,64nm,0.9s
PETK MLR MLR
comp=Z,495nm,21.6s
PETK Petropavlovsk- 64.72 354 P **P** 19 20 15.6 +0.7
PETK Petropavlovsk- 64.72 354 P **P** 19 20 15.6 +0.7
comp=Z,64nm,0.9s,baz=148,slow=7.0,SNR=27
PETK LR LR 19 42 46.9
comp=Z,495nm,21.6s,baz=163,slow=31
MDJ Mudanjiang 65.03 332 P **P** 19 20 17.5 +0.5
MDJ pP **PcP** 19 20 48.8 0.0
MDJ sP **sP** 19 21 03.3 -1.8
MDJ S **S** 19 28 48.8 +0.6
MDJ sS **sS** 19 29 43.8 -1.7
MDJ AMB AMB
comp=Z,86nm,1.3s
MDJ AMB AMB
comp=Z,1µm,5.5s
MDJ LR LR
comp=Z,1µm,26.4s
MDJ LR LR
comp=Z,560nm,22.5s
MDJ LR LR
comp=Z,2µm,34.2s
MDJ Mudanjiang 65.03 332⇑*e*P **P** 19 20 16.9 -0.1
comp=Z,95nm,1.0s
MDJ LR LR
comp=Z,920nm,22.0s
KTGM Kuala Trenggan 65.17 281 P **P** 19 20 20.4 +1.8
WHN Wuhan 65.18 311⇑*i*P **P** 19 20 18.5 +0.2
WHN pP **PcP** 19 20 49.0 -0.8
WHN S **S** 19 28 50.0 -0.6
WHN AMB AMB
comp=Z,130nm,0.8s
WHN LR LR
comp=Z,1µm,9.4s
WHN LR LR
comp=Z,2µm,16.6s
WHN LR LR
comp=Z,2µm,20.7s
DL2 Dalian 65.22 323 P **P** 19 20 18.8 +0.4
DL2 pP **pP** 19 20 52.3 +0.7
DL2 S **S** 19 28 52.0 +1.2
DL2 AMB AMB
comp=Z,310nm,1.0s
DL2 AMB AMB
comp=Z,720nm,2.9s
DL2 LR LR
comp=Z,1µm,3.5s
DL2 LR LR
comp=Z,690nm,17.2s
HABR Khabarovsk 65.81 338*de*P **P** 19 20 21.6 -0.4
HABR 19 20 51.5
HABR *e* 19 22 46.5
HABR *e*PPP PPP 19 24 22.0
HABR *e*S **S** 19 28 57.4 -0.2

HABR eS **pS** 19 29 33.4 -2.6
HABR *e* 19 30 03.5
HABR *e*SS **SS** 19 33 14.1 -1.1
HABR pmax pmax
comp=Z,207nm,1.2s
HABR pmax pmax
comp=N,49nm,1.2s
HABR pmax pmax
comp=E,88nm,1.2s
HABR smax smax
comp=E,45nm,2.7s
HABR smax smax
comp=N,86nm,2.7s
HABR smax smax
comp=Z,120nm,2.7s
HABR MLR MLR
comp=Z,267nm,20.0s
UBPT Khong Chiam 65.98 292 P **P** 19 20 25.1 +1.4
comp=Z,122nm,1.0s
UBPT Khong Chiam 65.98 292 P **P** 19 20 25.1 +1.4
comp=Z,122nm,1.0s
SNY Shenyang 66.05 326 ⇓P **P** 19 20 22.5 -1.1
SNY S **S** 19 29 01.0 +0.3
SNY AMB AMB
comp=Z,81nm,1.2s
SNY AMB AMB
comp=Z,840nm,9.6s
SNY LR LR
comp=Z,910nm,21.6s
SNY LR LR
comp=Z,660nm,18.0s
SNY LR LR
comp=Z,670nm,19.7s
FRIM Kepong 66.11 279 P **P** 19 20 25.0 +0.4
VNDA Vanda 66.12 181 ⇑*i*P **P** 19 20 24.4 +0.8
comp=Z,434nm,1.4s
VNDA P'P' 19 48 57.1
VNDA Vanda 66.12 181 P **P** 19 20 24.6 +1.0
comp=Z,123nm,1.0s,baz=358,slow=6.9,SNR=11
VNDA PKPPKP **P'P'df** 19 48 57.1 -0.4
comp=Z,3.0nm,1.1s,baz=238,slow=3.3,SNR=5.3
CASY Casey 66.28 201 ⇑*i*P **P** 19 20 24.7 0.0
comp=Z,120nm,1.0s
CASY LR LR
comp=Z,584nm,22.0s
TIA Tai'an 66.38 318 ⇑P **P** 19 20 25.8 -0.1
TIA AMB AMB
comp=Z,170nm,1.1s
SBA Scott Base 66.41 180 ⇑*i*P **P** 19 20 27.3 +1.8
SBA pmax pmax
comp=Z,425nm,1.0s
SBA MLR MLR
comp=Z,442nm,21.0s
SBA Scott Base 66.41 180 ⇑*i*P **P** 19 20 27.2 +1.8
comp=Z,425nm,1.0s
SBA LR LR
comp=Z,442nm,21.0s
CN2 Changchun 66.44 329 ⇑P **P** 19 20 27.0 +0.9
CN2 *e*sP **sP** 19 21 16.3 +2.0
CN2 *e*S **S** 19 29 05.0 -0.4
CN2 AMB AMB
comp=Z,90nm,0.8s
CN2 AMB AMB
comp=Z,400nm,4.0s
PPI Padang Panjang 66.47 275 P **P** 19 20 27.3 +0.3
comp=Z,231nm,1.2s,comp=Z,4µm
IPM Ipoh 66.99 280 P **P** 19 20 31.0 +0.8
IPM Ipoh 66.99 280 P **P** 19 20 30.6 +0.3
comp=Z,325nm,1.3s,comp=Z,5µm
IPM Ipoh 66.99 280 ⇑*i*P **P** 19 20 30.6 +0.3
comp=Z,407nm,1.2s
IPM *e*pP **pP** 19 21 05.2 +1.6
KULM Kulim 67.55 281 P **P** 19 20 34.3 +0.6
KULM Kulim 67.55 281 P **P** 19 20 34.2 +0.4
comp=Z,203nm,1.0s,comp=Z,2µm
KULM Kulim 67.55 281 ⇑*i*P **P** 19 20 33.9 +0.1
comp=Z,173nm,1.3s
KULM LR LR
comp=Z,639nm,19.0s
KLR Kul'dur 67.70 336 ⇓*i*P **P** 19 20 31.2 -2.7
KLR *e*S S 19 29 10.0 -10
KLR pmax pmax
comp=E,80nm,1.4s
KLR pmax pmax
comp=Z,260nm,1.4s
KLR pmax pmax
comp=Z,2µm,7.0s
SKNT Sakolnakorn 67.90 294 P **P** 19 20 36.3 +0.4
comp=Z,396nm,1.1s
COCO West Island 67.98 261 *i*P P 19 20 39.8 +3.4
COCO West Island 67.98 261 P P 19 20 40.2 +3.8
comp=Z,338nm,1.3s
COCO West Island 67.98 261 *e*P **P** 19 20 36.1 -0.3
comp=Z,510nm,1.2s
COCO LR LR
comp=Z,786nm,19.0s
SKLT Songkhla 68.06 283 P **P** 19 20 38.4 +1.4
comp=Z,112nm,1.2s,comp=Z,2µm
SKLT Songkhla 68.06 283 P **P** 19 20 38.4 +1.4
comp=Z,112nm,1.2s,comp=Z,2µm
PSI Prapat 68.63 278 P **P** 19 20 39.9 -0.7
comp=Z,248nm,1.2s,comp=Z,3µm
ENH Enshi 68.69 309 ⇑*i*P **P** 19 20 40.3 -0.3
comp=Z,241nm,0.9s
UNV Unalaska Valle 68.97 17 *e*P **P** 19 20 40.7 -1.0
comp=Z,78nm,1.1s
UNV *e*pP **pP** 19 21 16.2 +1.0
BJT Baijiatuau 69.22 321 *e*P **P** 19 20 42.8 -0.8
comp=Z,238nm,1.0s
BJT LR LR
comp=Z,835nm,22.0s
GYA Guiyang 69.22 304 ⇑*i*P **P** 19 20 45.0 +0.9
GYA PcP **PcP** 19 21 08.3 +1.4
GYA pP **pP** 19 21 20.8 +3.2
GYA sP **sP** 19 21 34.5 +2.0
GYA PP **PP** 19 23 22.0 +3.0
GYA ScP 19 24 56.8
GYA PcS 19 25 12.0
GYA S **S** 19 29 38.5 -1.0
GYA SKS **SKSac** 19 30 27.0 -4.6
GYA ScS **SKKSac** 19 30 29.5 -2.2
GYA AMB AMB
comp=Z,170nm,1.0s
GYA AMB AMB
comp=Z,2µm,6.2s
GYA LR LR
comp=Z,5µm,18.6s
GYA LR LR
comp=Z,3µm,19.2s
GYA LR LR
comp=Z,7µm,18.9s
BJI Beijing 69.23 321 P **P** 19 20 44.3 +0.7
BJI S **S** 19 29 39.5 +0.7
BJI AMB AMB
comp=Z,95nm,0.8s
BJI AMB AMB
comp=Z,1µm,3.8s
BJI LR LR
comp=Z,1µm,17.0s
BJI LR LR
comp=Z,2µm,17.0s
BJI LR LR
comp=Z,2µm,39.2s
CHAI Chaiyaphum 69.35 292 P **P** 19 20 45.0 +0.1
comp=Z,40nm,1.0s,comp=Z,320nm
SRIT Nakonsritamara 69.41 284 P **P** 19 20 46.5 +1.2
comp=Z,279nm,0.9s,comp=Z,29µm
PATY Pattaya 69.45 289 P **P** 19 20 46.9 +1.4
comp=Z,78nm,1.1s,comp=Z,778nm
GSI Gunungsitoli 69.61 276 P **P** 19 20 46.8 +0.2
comp=Z,503nm,1.1s,comp=Z,4µm
KCSI Kotacane, Aceh 69.91 278 P **P** 19 20 47.5 -0.9
comp=Z,138nm,1.2s,comp=Z,2µm
SURT Suratani 70.28 284 P **P** 19 20 51.8 +1.2
comp=Z,56nm,1.3s,comp=Z,1µm
TIY Taiyuan 70.33 317 *e*P **P** 19 20 51.5 +1.0
TIY pP **pP** 19 21 24.0 -0.2
TIY S **S** 19 29 54.0 +2.1
TIY AMB AMB
comp=Z,350nm,1.2s
TIY AMB AMB
comp=Z,1µm,6.7s
TIY LR LR
comp=Z,580nm,14.2s
TIY LR LR
comp=Z,480nm,8.5s
TIY LR LR
comp=Z,800nm,14.7s
PBKT Sadao Pong 70.48 292 P **P** 19 20 52.7 +0.9
comp=Z,168nm,1.2s,comp=Z,3µm
PBKT Sadao Pong 70.48 292 P **P** 19 20 52.7 +0.9
comp=Z,168nm,1.2s,comp=Z,3µm
LOEI Loei 70.52 293 P **P** 19 20 50.4 -1.6
comp=Z,127nm,1.2s
XAN Xi'an 70.91 312 P **P** 19 20 54.8 +0.7
XAN pP **pP** 19 21 26.3 -1.5
XAN S **S** 19 29 57.8 -0.9
XAN SS SS 19 34 26.0 -8.6
XAN AMB AMB
comp=Z,72nm,1.0s
XAN AMB AMB
comp=Z,300nm,9.3s
XAN LR LR
comp=Z,460nm,20.7s
XAN LR LR
comp=Z,360nm,23.0s
XAN LR LR
comp=Z,260nm,26.7s
SNSI Sinabang, Aceh 71.07 277 P **P** 19 20 56.4 +1.0
comp=Z,275nm,1.3s,comp=Z,4µm
LHMI Lhok Sumawe 71.11 280 P **P** 19 20 57.3 +1.6
comp=Z,177nm,1.2s,comp=Z,3µm
NANT Nan 71.45 294 P **P** 19 20 58.2 +0.6
comp=Z,454nm,0.9s,comp=Z,4µm
KMI Kunming 71.93 301 P **P** 19 21 02.0 +1.3
KMI pP **pP** 19 21 34.0 -0.4
KMI sP **sP** 19 21 47.3 -1.9
KMI PP **PP** 19 23 46.8 +4.4
KMI S **S** 19 30 13.0 +1.8
KMI sS **sS** 19 31 07.3 -2.2
KMI AMB AMB
comp=Z,300nm,1.3s
KMI AMB AMB
comp=Z,2µm,3.1s
KMI LR LR
comp=Z,600nm,21.6s
KMI LR LR
comp=Z,740nm,19.2s
KMI LR LR
comp=Z,1µm,32.0s
KHLT Khaolaem Dam 72.12 290 P **P** 19 21 02.6 +1.0
comp=Z,107nm,1.2s,comp=Z,1µm
CRAI Chiangrai 72.22 296 P **P** 19 21 03.0 +0.8
comp=Z,156nm,0.8s
HHC Hu-ho-hao-te 72.59 319 P **P** 19 21 05.3 +1.2
HHC pP **pP** 19 21 38.8 +0.9
HHC sP **sP** 19 21 55.5 +2.8
HHC PP **PP** 19 23 50.8 +3.2
HHC S **S** 19 30 16.0 -1.9
HHC SKS **SKSac** 19 30 53.0 -3.4
HHC sS **sS** 19 31 18.0 +1.7
HHC AMB AMB
comp=Z,170nm,0.9s
HHC AMB AMB
comp=Z,3µm,5.6s
HHC LR LR
comp=Z,900nm,17.8s
HHC LR LR
comp=Z,1µm,17.8s
HHC LR LR
comp=Z,3µm,19.0s
CM31 Chiang Mai Arr 72.92 293 ⇑*i*P **P** 19 21 07.5 +1.1
comp=Z,217nm,1.0s
CM31 *e*pP pP 19 21 34.9 -5.3
CMAR Chiang Mai Arr 72.92 293 P **P** 19 21 07.7 +1.3
CMAR pP **pP** 19 21 38.4 -1.9
CMAR ⇑*e* 19 48 38.7
CMAR Chiang Mai Arr 72.92 293 P **P** 19 21 07.7 +1.3
comp=Z,184nm,1.0s,baz=115,slow=4.3,SNR=682
CMAR pP **pP** 19 21 38.4 -1.9
comp=Z,14nm,0.8s,baz=114,slow=3.5,SNR=1.7
CMAR PKP2bc 19 48 38.7
comp=Z,1.1nm,1.1s,baz=250,slow=4.1,SNR=4.9
MIR Mirnyy 73.01 204 ⇑*i*P **P** 19 21 07.0 +1.0
MIR pmax pmax
comp=Z,162nm,1.5s
CHTO Chiang Mai 73.03 294 ⇑*i*P **P** 19 21 07.9 +0.9
CHTO *e**PP **pP** 19 21 39.7 -1.2
CHTO pmax pmax
comp=Z,300nm,1.1s
CHTO MLR MLR
comp=Z,526nm,19.0s
CHTO Chiang Mai 73.03 294 P **P** 19 21 08.4 +1.3
SNR=110
CHTO Chiang Mai 73.03 294 P **P** 19 21 07.7 +0.7
comp=Z,1µm,1.1s,comp=Z,13µm
CHTO Chiang Mai 73.03 294 ⇑*i*P **P** 19 21 07.9 +0.9
comp=Z,300nm,1.1s
CHTO *e*pP **pP** 19 21 39.7 -1.2
CHTO LR LR
comp=Z,526nm,19.0s
CHTO Chiang Mai 73.03 294 P **P** 19 21 07.7 +0.7
comp=Z,1µm,1.1s,comp=Z,13µm
HIA Hailar 73.06 330 ⇑*i*P **P** 19 21 06.8 +0.2
comp=Z,226nm,1.3s
HIA *e*pP **pP** 19 21 39.3 -1.2
HIA LR LR
comp=Z,719nm,19.0s
CMAI Chiengmai2 73.30 295 P **P** 19 21 09.6 +0.8
CD2 Chengdu 73.40 307 P **P** 19 21 10.0 +1.0
CD2 pP **pP** 19 21 44.3 +1.4
CD2 sP **sP** 19 21 59.5 +1.8
CD2 PP **PP** 19 23 57.3 +2.7
CD2 S **SKiKP** 19 30 20.0 -6.4
CD2 SKS **SKSac** 19 30 58.0 -4.8
CD2 sS **sS** 19 31 26.0 +0.1
CD2 SS **SS** 19 35 13.8 +0.9
CD2 AMB AMB
comp=Z,530nm,1.0s
CD2 AMB AMB
comp=Z,1µm,7.7s
CD2 LR LR
comp=Z,1µm,17.2s
CD2 LR LR
comp=Z,1µm,21.4s
SEY Seymchan 74.94 353 ⇑*i*P **P** 19 21 16.9 -0.2
LZH Lanzhou 75.55 312 ⇑P **P** 19 21 23.3 +1.8
LZH pP **pP** 19 21 58.0 +2.5
LZH PP **PP** 19 24 16.5 +3.7
LZH S **S** 19 30 51.0 -0.3
LZH SKS **SKSac** 19 31 15.3 -3.6
LZH sS **sS** 19 31 51.8 +1.7
LZH AMB AMB
comp=Z,1µm,1.5s
LZH AMB AMB
comp=Z,4µm,7.2s
LZH LR LR
comp=Z,2µm,15.2s
LZH LR LR
comp=Z,2µm,17.0s
LZH LR LR
comp=Z,4µm,19.7s
OHAK Old Harbor 76.01 21 P **P** 19 21 23.6 +0.3
comp=Z,224nm,1.3s
OHAK *e*pP **pP** 19 21 58.6 +1.1
KDAK Kodiak Island 76.68 21 *e*P **P** 19 21 27.5 +0.4
comp=Z,98nm,1.1s
KDAK LR LR
comp=Z,1µm,21.0s
GAMB Gambell 76.83 10 ⇑*i*P **P** 19 21 28.1 +0.3
comp=Z,175nm,1.0s
GAMB *e*pP **pP** 19 22 03.2 +1.2
CIT Chita 77.85 330 *e*P **P** 19 21 35.0 +1.1
CIT *e* 19 21 42.7
CIT *e* 19 22 06.1
CIT pmax pmax
comp=Z,703nm,1.4s
SVW2 Sparrevohn 78.26 18 *e*P **P** 19 21 36.4 +0.5
comp=Z,276nm,1.4s
SVW2 *e*pP **pP** 19 22 11.4 +1.2
QSPA South Pole Qui 78.57 180 ⇑*i*P **P** 19 21 38.1 +0.3
comp=Z,319nm,1.3s
QSPA LR LR
comp=Z,674nm,20.0s
RSO Redoubt South 78.65 19 *e*P **P** 19 21 38.4 +0.1
RSO *e*pP **pP** 19 22 13.8 +1.1
YAK Yakutsk 78.67 343 *e*P **P** 19 21 37.9 -0.2
YAK *e* 19 21 51.6
YAK pmax pmax
comp=Z,136nm,1.1s
YAK pmax pmax
comp=N,52nm,1.2s
YAK pmax pmax
comp=E,33nm,1.2s
YAK Yakutsk 78.67 343 *e*P **P** 19 21 37.8 -0.3
comp=E,171nm,1.1s
YAK LR LR
comp=Z,730nm,19.0s
ULN Ulaanbaatar 79.03 324 P **P** 19 21 41.7 +1.1
SNR=86
ULN Ulaanbaatar 79.03 324 P **P** 19 21 41.0 +0.4
comp=Z,255nm,1.1s,comp=Z,3µm
ULN Ulaanbaatar 79.03 324 ⇑*i*P **P** 19 21 41.5 +0.9
comp=Z,261nm,1.1s
ULN *e*pP **pP** 19 22 15.4 +0.4
ULN LR LR
comp=Z,632nm,20.0s
IMP Imphal 79.32 298 *e*P **P** 19 21 41.0 -1.6
IMP *e*PP **pP** 19 22 13.0 -4.0
SONM Songino Array 79.40 324 P **P** 19 21 43.1 +0.5
SONM PKKPbc **PKKPbc** 19 40 31.7 -2.0
SONM P'P' 19 48 35.1
SONM Songino Array 79.40 324 P **P** 19 21 43.1 +0.5
comp=Z,91nm,1.0s,baz=137,slow=4.0,SNR=163
SONM PKKPbc **PKKPbc** 19 40 31.7 -2.0
comp=Z,1.4nm,0.6s,baz=274,slow=3.5,SNR=9.7
SONM PKPPKP **P'P'df** 19 48 35.1 +0.8
comp=Z,1.7nm,1.1s,baz=341,slow=3.6,SNR=4.1
SPU Mount Spurr 79.42 19 *e*P **P** 19 21 42.0 -0.2
SPU *e*pP **pP** 19 22 17.3 +0.6
SEW Seward 79.49 21 *e*P **P** 19 21 43.0 +0.4
comp=Z,92nm,1.1s
SEW *e*pP **pP** 19 22 16.6 -0.4
RPN Rapa Nui 79.76 116 PFAKE 19 22 00.0 +15
RPN LR LR
comp=Z,1µm,19.0s
GTA Gaotai 79.84 314 ⇑P **P** 19 21 46.5 +1.3
GTA pP **pP** 19 22 20.3 +0.7
GTA sP **sP** 19 22 35.5 +1.3
GTA PP **PP** 19 24 48.8 +0.2
GTA S **S** 19 31 38.5 +1.2
GTA SKS **SKSac** 19 31 47.5 -2.2
GTA AMB AMB
comp=Z,230nm,1.0s
GTA AMB AMB
comp=Z,2µm,7.1s
GTA LR LR
comp=Z,790nm,19.0s
GTA LR LR
comp=Z,640nm,19.0s
GTA LR LR
comp=Z,980nm,24.7s
PPLA Purkeypile 80.67 18 *e*P **P** 19 21 49.9 +0.8
comp=Z,77nm,1.4s
PMR Palmer 80.68 20 *e*P **P** 19 21 48.8 -0.1
PMR *e**PP **pP** 19 22 24.0 +0.6
PMR pmax pmax
comp=Z,375nm,1.9s
PMR Palmer 80.68 20 *e*P **P** 19 21 48.8 -0.1
comp=Z,375nm,1.9s
PMR *e*pP **pP** 19 22 24.0 +0.6
CAST Castle Rocks 81.10 18 *e*P **P** 19 21 52.0 +0.8
comp=Z,76nm,1.0s
RAGM Ragged Mountai 81.41 22 *e*P **P** 19 21 54.3 +1.4
comp=Z,122nm,1.2s
RAGM *e*pP **pP** 19 22 29.4 +2.0
DIV Divide 81.51 21 *e*P **P** 19 21 53.8 +0.4
comp=Z,139nm,1.0s
DIV *e*pP **pP** 19 22 29.0 +1.0
TRF Thorofare Moun 81.66 18 *e*P **P** 19 21 53.4 -1.0
comp=Z,54nm,0.9s
TRF *e*pP **pP** 19 22 28.1 -0.8
BMRM Bremner River 81.82 22 *e*P **P** 19 21 55.0 -0.1
comp=Z,496nm,1.9s
BMRM *e*pP **pP** 19 22 29.3 -0.3
BPAW Bear Paw Mtn. 81.94 17 *e*P **P** 19 21 55.0 -0.6
comp=Z,86nm,1.4s
BPAW *e*pP **pP** 19 22 30.7 +0.6
MCCM Marconi Confer 82.24 49 *e*P **P** 19 21 58.0 +0.3
comp=Z,216nm,1.2s
MCK McKinley 82.28 18 *e*P **P** 19 21 56.3 -1.1
MCK *e**PP **pP** 19 22 31.9 -0.1
MCK pmax pmax
comp=Z,256nm,1.3s
MCK McKinley 82.28 18 *e*P **P** 19 21 56.3 -1.1
comp=Z,256nm,1.3s
MCK *e*pP **pP** 19 22 31.9 -0.1
KCPM Cahto Peak 82.29 47 *e*P **P** 19 21 59.0 +0.9
comp=Z,211nm,1.4s
KCPM *e*pP **pP** 19 22 30.9 -1.8
HOPS Hopland 82.41 48 *e*P **P** 19 21 59.1 +0.5
comp=Z,341nm,1.3s
HOPS *e*pP **pP** 19 22 28.4 -4.7
KIPM Iron Peak 82.41 47 *e*P **P** 19 21 59.7 +0.9
comp=Z,439nm,1.5s
KIPM *e*pP **pP** 19 22 33.6 +0.3
IM04 Indian Mountai 82.59 15 *e*P **P** 19 21 59.1 +0.2
IM04 *e*pP **pP** 19 22 34.1 +0.5
KHMM Horse Mountain 82.63 46 *e*P **P** 19 22 00.8 +0.9
comp=Z,350nm,1.4s
KHMM *e*pP **pP** 19 22 33.6 -0.9
IMA2 Indian Mountai 82.69 15 *e*P **P** 19 21 59.7 +0.1
IMA2 *e*pP **pP** 19 22 33.7 -0.5
IMA2 *e*PP **PP** 19 25 07.2 -4.2
KRMB Red Mountain 82.75 45 *e*P **P** 19 22 01.6 +1.2
comp=Z,567nm,1.8s
KRMB *e*pP **pP** 19 22 34.1 -0.9
IRK Irkutsk 82.77 327 ⇑*i*P **P** 19 21 59.6 -0.6
IRK pmax pmax
comp=Z,219nm,2.4s
SAO San Andreas Ge 82.83 50 *e*P **P** 19 22 01.4 +0.6
SAO *e**PP **pP** 19 22 38.3 +2.8
SAO pmax pmax
comp=Z,187nm,1.3s
SAO San Andreas Ge 82.83 50 *e*P **P** 19 22 01.4 +0.6
comp=Z,187nm,1.3s
SAO *e*pP **pP** 19 22 38.3 +2.8
TLY Talaya 82.84 326 *c i*P **P** 19 22 00.8 +0.2
TLY *e* 19 22 34.5
TLY *e*S **S** 19 32 06.6 -0.9
TLY *e* 19 33 02.1
TLY *e*SS **SS** 19 37 28.9 -4.9
TLY pmax pmax
comp=Z,154nm,1.2s
TLY MLR MLR
comp=Z,354nm,17.0s
TLY Talaya 82.84 326 P **P** 19 22 01.2 +0.6
SNR=32
TLY Talaya 82.84 326 *e*P **P** 19 22 00.6 0.0
comp=Z,139nm,1.1s
TLY *e*pP **pP** 19 22 34.4 -0.8
TLY LR LR
comp=Z,547nm,22.0s
TLY Talaya 82.84 326 P **P** 19 22 00.1 -0.5
comp=Z,581nm,1.0s,SNR=16
PAX Paxson 82.87 20 *e*P **P** 19 22 00.4 -0.1
PAX pmax pmax
comp=Z,358nm,2.2s
PAX Paxson 82.87 20 *e*P **P** 19 22 00.4 -0.1
comp=Z,358nm,2.2s
KEBM Edson Butte 82.97 44 *e*P **P** 19 22 04.1 +2.6
comp=Z,188nm,1.3s
LSA Lhasa 83.16 302 P P 19 22 00.0 -3.3
LSA AMB AMB
comp=Z,50nm,1.0s
LSA Lhasa 83.16 302 *e*P **P** 19 22 04.2 +0.9
LSA MLR MLR
comp=Z,529nm,22.0s
LSA Lhasa 83.16 302 *e*P **P** 19 22 04.2 +0.9
LSA LR LR
comp=Z,529nm,22.0s
WDC Whiskeytown Da 83.36 46 *e*P **P** 19 22 04.2 +0.8
WDC *e**PP **pP** 19 22 38.4 +0.3
WDC *e* 19 25 15.0
WDC pmax pmax
comp=Z,248nm,1.5s
WDC Whiskeytown Da 83.36 46 *e*P **P** 19 22 04.2 +0.8
comp=Z,248nm,1.5s
WDC *e*pP **pP** 19 22 38.4 +0.3
WDC *e*PP **PP** 19 25 15.0 -2.4
SBC Santa Barbara 83.40 53 ⇓P **P** 19 22 05.0 +1.3
baz=84
M02C Callahan 83.43 46 ⇑P **P** 19 22 05.4 +1.4
baz=84
COLA College 83.43 18 *e*P **P** 19 22 02.4 -0.8

COLA e*PP pP 19 22 36.7 -1.2
COLA pmax pmax
comp=Z,110nm,0.9s
COLA MLR MLR
comp=Z,495nm,20.0s
COLA College 83.43 18 eP P 19 22 02.4 -0.8
comp=Z,110nm,0.9s
COLA epP pP 19 22 36.7 -1.2
COLA LR LR
comp=Z,495nm,20.0s
MENT Mentasta 83.44 21 eP P 19 22 03.7 +0.3
MENT epP pP 19 22 37.5 -0.6
SMMC Simmler 83.45 52 ⇑P P 19 22 05.3 +1.2
baz=84
PKM Peak Mountain 83.46 53 ⇓P P 19 22 05.4 +1.0
baz=84
ILAR Eielson Array 83.66 18 P P 19 22 03.7 -0.7
ILAR pP pP 19 22 37.4 -1.7
ILAR PKKPbc PKKPbc 19 40 20.5 -4.0
ILAR P'P' 19 48 25.0
ILAR Eielson Array 83.66 18 P P 19 22 03.7 -0.7
comp=Z,52nm,1.0s,baz=228,slow=5.6,SNR=183
ILAR pP pP 19 22 37.4 -1.7
comp=Z,41nm,1.0s,baz=230,slow=4.5,SNR=5.4
ILAR PKKPbc PKKPbc 19 40 20.5 -4.0
comp=Z,5.0nm,1.0s,baz=358,slow=1.8,SNR=21
ILAR PKPPKP P'P'df 19 48 25.0 -0.4
comp=Z,1.9nm,1.0s,baz=346,slow=3.0,SNR=7.3
ILAR LR LR 19 53 50.3
comp=Z,433nm,21.2s,baz=55,slow=32
YBH Yreka Blue Hor 83.66 45 eP P 19 22 06.1 +1.1
comp=Z,207nm,1.3s
YBH epP pP 19 22 38.7 -1.1
YBH ePP PP 19 25 20.1 +0.1
OHCM Honcut 83.68 48 eP P 19 22 05.7 +0.6
OHCM ePP PP 19 25 21.4 +1.4
DOT Dot Lake 83.80 20 eP P 19 22 05.5 +0.3
comp=Z,268nm,1.1s
DOT epP pP 19 22 39.5 -0.4
BLG Laguna Peak 83.80 54 ⇓P P 19 22 06.7 +0.8
baz=84
HUMO Hull Mountain 83.81 44 eP P 19 22 06.7 +1.0
comp=Z,161nm,1.1s
HUMO epP pP 19 22 39.4 -1.1
HUMO ePP PP 19 25 21.4 +0.4
SCI San Clemente I 83.87 55 ⇑P P 19 22 06.8 +0.6
baz=84
CMB Columbia Colle 84.05 49 eP P 19 22 07.9 +0.8
CMB e*PP pP 19 22 41.3 -0.5
CMB e 19 25 24.7
CMB pmax pmax
comp=Z,152nm,1.3s
CMB Columbia Colle 84.05 49 eP P 19 22 07.9 +0.8
comp=Z,152nm,1.3s
CMB epP pP 19 22 41.3 -0.5
CMB ePP PP 19 25 24.7 +1.6
CIS Catalina Islan 84.11 54 ⇑P P 19 22 08.0 +0.5
baz=84
MPOR Mary's Peak 84.11 43 P P 19 22 09.1 +1.8
OSI Osito Adit 84.23 53 eP P 19 22 10.6 +2.5
comp=Z,33nm,0.9s
OSI Osito Adit 84.23 53 ⇑P P 19 22 09.1 +1.0
baz=84
M04C Macdoel 84.28 46 ⇑P P 19 22 09.4 +1.1
baz=84
FMP Fort Macarthur 84.29 54 ⇑P P 19 22 09.2 +0.8
baz=84
LBCM Butte Creek Ri 84.30 47 P P 19 22 09.2 +0.8
MOY Mondy 84.30 325 eP P 19 22 08.4 +0.3
MOY pmax pmax
comp=Z,281nm,3.0s
ARVC Arvin 84.30 53 ⇓P P 19 22 09.0 +0.7
baz=84
COR Corvallis 84.31 43 eP P 19 22 09.9 +1.8
COR Corvallis 84.31 43 eP P 19 22 09.2 +1.8
LTIM Timbered Crate 84.32 46 P P 19 22 09.2 +0.8
WRAK Wrangell Islan 84.33 29 eP P 19 22 08.3 +0.4
comp=Z,147nm,1.3s
VES Vestal, Richgr 84.33 52 ⇑P P 19 22 08.9 +0.4
baz=84
RCTC Rector, Farmer 84.36 51 ⇓P P 19 22 09.1 +0.5
baz=84
DECC Green Verdugo 84.43 54 ⇓P P 19 22 09.5 +0.5
baz=85
HYT Haines Junctio 84.45 24 eP P 19 22 08.8 +0.2
HYT epP pP 19 22 42.1 -1.3
COLD Coldfoot 84.48 16 eP P 19 22 09.2 +0.7
comp=Z,549nm,2.5s
PASC Pasadena Art C 84.52 54 eP P 19 22 09.8 +0.3
comp=Z,186nm,1.5s
SKAG Skagway 84.58 26 eP P 19 22 10.0 +0.8
comp=Z,56nm,1.0s
SKAG epP pP 19 22 43.7 -0.2
J04D Umpqua Nationa 84.62 44 ⇓P P 19 22 10.9 +0.9
baz=85
MAW Mawson 84.63 202 eP P 19 22 09.4 +0.1
comp=Z,17nm,1.1s
MAW Mawson 84.63 202 P P 19 22 09.8 +0.5
comp=Z,54nm,1.0s,baz=107,slow=6.2,SNR=67
MAW LR LR 19 53 12.9
comp=Z,275nm,21.5s,baz=85,slow=31
MWC Mount Wilson 84.63 54 eP P 19 22 10.8 +0.5
MWC pmax pmax
comp=Z,457nm,1.6s
MWC Mount Wilson 84.63 54 eP P 19 22 10.8 +0.5
comp=Z,457nm,1.6s
MWC epP pP 19 22 42.1 -3.0
K04D Chiloquin, OR 84.64 45 ⇑P P 19 22 11.0 +1.0
baz=85
ISA Isabella 84.75 52 eP P 19 22 11.2 +0.5
ISA e*PP pP 19 22 47.4 +1.9
ISA e 19 25 29.3
ISA pmax pmax
comp=Z,177nm,1.3s
ISA Isabella 84.75 52 eP P 19 22 11.2 +0.5
comp=Z,177nm,1.3s
ISA epP pP 19 22 47.4 +1.9
ISA ePP PP 19 25 29.3 +0.4
ISA Isabella 84.75 52 ⇓P P 19 22 11.6 +0.9
baz=85
E03A Lebam 84.88 41 eP P 19 22 12.1 +1.1
comp=Z,216nm,1.1s
EDW2 Edwards Air Fo 84.89 53 ⇓P P 19 22 12.4 +1.0
baz=85
WAKR Walker 84.91 49 eP P 19 22 12.5 +0.9
comp=Z,337nm,1.5s
WAKR epP pP 19 22 46.4 0.0
WAKR ePP PP 19 25 31.2 +0.9
BFSC Mount Baldy Ra 84.95 54 ⇓P P 19 22 12.4 +0.6
baz=85
109C Camp Elliot, M 85.00 55 ⇓P P 19 22 12.8 +0.9
baz=85
NLWA Neilton Lookou 85.01 40 eP P 19 22 14.1 +2.5
comp=Z,176nm,1.6s
MLAC Mammoth Lakes 85.08 50 ⇓P P 19 22 13.5 +1.0
baz=85
H04A Detroit Lake 85.08 43 eP P 19 22 12.6 +0.5
comp=Z,199nm,1.4s
H04A epP pP 19 22 47.5 +0.6
MURC Murrieta 85.13 54 ⇑P P 19 22 13.5 +0.9
baz=85
MTUM Tungsten Hills 85.20 51 eP P 19 22 14.1 +1.0
J05D Fort Rock, OR 85.23 44 ⇑P P 19 22 14.3 +1.2
baz=85
BAR Barrett 85.29 55 eP P 19 22 13.6 +0.2
comp=Z,137nm,1.4s
BAR epP pP 19 22 47.8 -0.5
PAHR Pah Rah Range 85.34 48 eP P 19 22 14.2 +0.6
comp=Z,318nm,1.4s
PAHR epP pP 19 22 48.2 -0.2
PAHR ePP PP 19 25 33.4 -0.3
TIN Tinemaha 85.36 51 ⇑P P 19 22 14.8 +1.0
baz=86
MOD Modoc 85.40 46 eP P 19 22 14.3 +0.4
comp=Z,258nm,1.6s
MOD epP pP 19 22 48.3 -0.5
MOD ePP PP 19 25 34.7 +0.5
TAPN Taplejung 85.42 299⇑*i*P P 19 22 15.1 +0.6
comp=Z,620nm,1.2s
EGAK Eagle 85.50 20 eP P 19 22 13.4 -0.3
comp=Z,172nm,1.1s
EGAK epP pP 19 22 47.4 -1.1
EGAK LR LR
comp=Z,674nm,22.0s
FL2 Flat Top 2 85.53 41 P P 19 22 15.3 +0.9
I05D Terrebonne, OR 85.53 43 ⇑P P 19 22 15.4 +1.1
baz=86
BBRC Big Bear Solar 85.54 54 ⇓P P 19 22 15.9 +1.0
baz=86
MONP Monument Peak 85.55 55 ⇑P P 19 22 15.9 +1.0
baz=86
ODAN Odare 85.56 298⇑*i*P P 19 22 15.8 +0.6
comp=Z,975nm,1.2s
DAWY Dawson 85.66 21 eP P 19 22 14.1 -0.4
DAWY epP pP 19 22 48.8 -0.6
RRX Edison Barstow 85.66 53 ⇑P P 19 22 15.9 +0.7
baz=86
TDL Tradedollar La 85.67 41 P P 19 22 16.1 +1.0
PFO Pinyon Flat Ob 85.73 55 eP P 19 22 16.1 +0.4
comp=Z,152nm,1.4s
PFO epP pP 19 22 52.1 +1.6
PFO LR LR
comp=Z,721nm,20.0s
PFO Pinyon Flat Ob 85.73 55 P P 19 22 16.5 +0.8
comp=Z,341nm,1.5s,SNR=11
PFO Pinyon Flat Ob 85.73 55 ⇑P P 19 22 16.5 +0.8
baz=86
PFO Pinyon Flat Ob 85.73 55 P P 19 22 16.3 +0.6
comp=Z,34nm,1.0s,baz=253,slow=3.3,SNR=43
NVAR Mina Array Bea 85.73 50 P P 19 22 16.5 +0.8
NVAR pP pP 19 22 49.3 -1.3
NVAR PP PP 19 25 40.2 +3.2
NVAR PKKPbc PKKPdf 19 40 14.2 +2.8
NVAR P'P' 19 48 19.9
NVAR Mina Array Bea 85.73 50 P P 19 22 16.5 +0.8
comp=Z,72nm,1.0s,baz=234,slow=6.8,SNR=138
NVAR pP pP 19 22 49.3 -1.3
comp=Z,18nm,1.0s,baz=231,slow=7.3,SNR=2.0
NVAR PP PP 19 25 40.2 +3.2
comp=Z,6.7nm,1.2s,baz=233,slow=8.9,SNR=4.7
NVAR PKKPbc PKKPdf 19 40 14.2 +2.8
comp=Z,1.7nm,1.0s,baz=110,slow=2.8,SNR=5.2
NVAR PKPPKP P'P'df 19 48 19.9 -4.0
comp=Z,2.5nm,1.0s,baz=62,slow=2.2,SNR=5.0
NVAR LR LR 19 54 42.8
comp=Z,896nm,19.0s,baz=106,slow=31
DVTC Desert V Tower 85.74 56 ⇑P P 19 22 16.8 +1.1
baz=86
NV11 Mina Array Sit 85.84 50 eP P 19 22 16.8 +0.6
NV11 epP pP 19 22 50.5 -0.5
NV11 ePP PP 19 25 38.7 +0.9
G05D Wamic, OR 85.86 42 ⇓P P 19 22 16.8 +0.9
baz=86
GSC Goldstone 85.94 53 eP P 19 22 17.0 +0.4
GSC e*PP pP 19 22 50.1 -1.4
GSC e 19 25 34.8
GSC pmax pmax
comp=Z,166nm,1.4s
GSC Goldstone 85.94 53 eP P 19 22 17.0 +0.4
comp=Z,166nm,1.4s
GSC epP pP 19 22 50.1 -1.4
GSC ePP PP 19 25 34.8 -3.8
GSC Goldstone 85.94 53 ⇑P P 19 22 17.5 +0.9
baz=86
GRAC Grapevine Rang 86.00 51 ⇓P P 19 22 17.9 +1.0
baz=86
SWSC Sam W. Stewart 86.07 55 ⇓P P 19 22 18.2 +1.0
baz=86
VIPM Ingram Point 86.07 43 P P 19 22 17.8 +0.6
VIPM Ingram Point 86.07 43 P P 19 22 17.8 +0.6
LON Longmire 86.08 41 eP P 19 22 18.8 +1.8
LON e*PP pP 19 22 52.4 +0.5
LON pmax pmax
comp=Z,75nm,1.5s
LON Longmire 86.08 41 eP P 19 22 18.8 +1.8
comp=Z,75nm,1.5s
LON epP pP 19 22 52.4 +0.5
D05A Enumclaw 86.12 40 eP P 19 22 18.8 +1.7
comp=Z,416nm,1.4s
D05A epP pP 19 22 54.0 +2.0
HEC Hector,Ludlow 86.17 54 ⇑P P 19 22 18.6 +0.8
baz=86
BELC Belle Mtn. Jos 86.20 54 ⇓P P 19 22 18.9 +0.8
baz=86
WPW White Pass 86.22 41 P P 19 22 18.8 +1.0
FURC Furnace Creek, 86.24 52 ⇑P P 19 22 19.0 +1.1
baz=86
RAMN Ramite 86.27 298⇑*i*P P 19 22 19.0 +0.4
comp=Z,636nm,1.3s
G06A Carlson Farm, 86.31 43 eP P 19 22 19.0 +0.8
comp=Z,166nm,1.6s
DLBC Dease Lake 86.41 28 eP P 19 22 18.4 -0.1
DLBC epP pP 19 22 51.7 -1.6
TPH Tonopah 86.43 50 eP P 19 22 19.6 +0.4
TPH e 19 25 42.1
TPH pmax pmax
comp=Z,318nm,1.9s
TPH MLR MLR
comp=Z,686nm,20.0s
TPH Tonopah 86.43 50 eP P 19 22 19.6 +0.4
comp=Z,318nm,1.9s
TPH ePP PP 19 25 42.0 -0.6
TPH LR LR
comp=Z,686nm,20.0s
SHOC Shoshone 86.52 52 ⇓P P 19 22 20.1 +0.7
baz=87
BC3 Big Chuckawall 86.54 55 ⇓P P 19 22 20.8 +1.1
baz=87
TIXI Tiksi 86.61 349*c i*P P 19 22 18.2 -0.7
TIXI pmax pmax
comp=Z,123nm,1.2s
TIXI Tiksi 86.61 349 eP P 19 22 18.1 -0.8
comp=Z,86nm,1.1s
TIXI epP pP 19 22 46.1 -7.7
TIXI LR LR
comp=Z,497nm,20.0s
TUQ Turquoise Moun 86.67 53 ⇑P P 19 22 21.0 +0.7
baz=87
I07A Izee 86.68 44 eP P 19 22 21.1 +1.0
comp=Z,325nm,1.7s
GMRC Granite Mounta 86.69 54 ⇑P P 19 22 21.2 +0.8
baz=87
A05A Maple Falls 86.72 39 eP P 19 22 21.7 +1.7
comp=Z,290nm,2.0s
A05A epP pP 19 22 56.8 +1.9
WVOR Wild Horse Val 86.75 46 eP P 19 22 20.9 +0.4
WVOR e*PP pP 19 22 54.3 -1.1
WVOR e 19 25 44.4
WVOR pmax pmax
comp=Z,220nm,1.4s
WVOR MLR MLR
comp=Z,558nm,19.0s
WVOR Wild Horse Val 86.75 46 eP P 19 22 20.9 +0.4
comp=Z,220nm,1.4s
WVOR epP pP 19 22 54.2 -1.1
WVOR ePP PP 19 25 44.4 -0.5
WVOR LR LR
comp=Z,558nm,19.0s
JIRN Jiri 86.80 299⇑*i*P P 19 22 21.9 +0.5
comp=Z,696nm,1.4s
TPNV Topopah Spring 86.84 52 ⇓P P 19 22 21.8 +0.7
baz=87
GLA Glamis 86.88 56 eP P 19 22 22.5 +1.2
GLA e*PP pP 19 22 59.0 +2.8
GLA pmax pmax
comp=Z,374nm,1.4s
GLA Glamis 86.88 56 eP P 19 22 22.5 +1.2
comp=Z,374nm,1.4s
GLA epP pP 19 22 59.0 +2.8
GLA Glamis 86.88 56 ⇓P P 19 22 22.3 +1.0
baz=87
B06A Marblemount 86.92 39 eP P 19 22 22.6 +1.7
comp=Z,135nm,1.6s
IRM Iron Mountain 86.92 54 ⇓P P 19 22 22.6 +1.2
baz=87
LTY Liberty 86.98 41 eP P 19 22 19.3 -2.1
comp=Z,229nm,1.8s
GUN Gumba 87.13 299⇑*i*P P 19 22 23.4 +0.5
comp=Z,486nm,1.2s
BMN Battle Mountai 87.14 48 eP P 19 22 23.3 +0.8
BMN e 19 25 47.8
BMN pmax pmax
comp=Z,365nm,2.0s
BMN MLR MLR
comp=Z,419nm,19.0s
BMN Battle Mountai 87.14 48 eP P 19 22 23.3 +0.8
comp=Z,365nm,2.0s
BMN ePP PP 19 25 47.8 -0.5
BMN LR LR
comp=Z,419nm,19.0s
J08A Circle Bar Ran 87.15 45 eP P 19 22 23.2 +0.8
comp=Z,189nm,1.4s
LDFC Landfair 87.21 54 eP P 19 22 24.4 +1.6
comp=Z,821nm,1.6s
E07A Sunnyside 87.27 42 eP P 19 22 23.8 +1.0
comp=Z,401nm,1.9s
E07A epP pP 19 22 58.6 +0.8
PALK Pallekele 87.31 278 P P 19 22 25.8 +2.1
comp=Z,88nm,1.6s,comp=Z,2μm
PALK Pallekele 87.31 278 eP P 19 22 24.7 +1.0
comp=Z,64nm,1.0s
PALK epP pP 19 22 58.3 -0.4
PALK Pallekele 87.31 278 P P 19 22 24.8 +1.1
comp=Z,351nm,1.3s,SNR=6.9
Y12C Blythe 87.31 55 ⇑P P 19 22 24.4 +1.2
baz=87
HAWA Hanford 87.42 42 eP P 19 22 24.3 +0.8
comp=Z,284nm,1.7s
HAWA epP pP 19 22 58.3 -0.2
HAWA LR LR
comp=Z,409nm,19.0s
PKI Pulchoki 87.45 299⇑*i*P P 19 22 24.6 +0.2
comp=Z,553nm,1.1s
PKIN Phulchoki 87.46 299⇑*i*P P 19 22 24.6 +0.2
NEE2 Needles Airpor 87.51 54 ⇓P P 19 22 25.5 +1.3
baz=88
SHPR Sheep Range 87.56 52 eP P 19 22 25.3 +0.7
SHPR epP pP 19 22 58.4 -1.1
SHPR ePP PP 19 25 52.7 +1.0
KKN Kakani 87.61 299⇑*i*P P 19 22 25.3 +0.2
comp=Z,294nm,1.1s
113A Mohawk Valley, 87.67 56 ⇑P P 19 22 26.2 +1.2
baz=88
DMN Daman 87.72 299⇑*i*P P 19 22 26.1 +0.5
comp=Z,914nm,1.1s
R11A Troy Canyon, C 87.75 50 eP P 19 22 25.6 +0.2
R11A epP pP 19 22 58.7 -1.7
R11A ePP PP 19 25 52.2 -1.0
R11A Troy Canyon, C 87.75 50 ⇓P P 19 22 26.3 +0.8
baz=88
PDMCI Parker Dam,Lak 87.77 55 ⇓P P 19 22 26.4 +1.0
baz=88
W13A Hualapai Mount 88.18 54 ⇑P P 19 22 28.6 +1.0
baz=88
B08A Colville Reser 88.20 40 eP P 19 22 27.6 +0.4
comp=Z,520nm,2.3s
B08A epP pP 19 23 02.4 +0.2
GKN Gorkha 88.22 299⇑*i*P P 19 22 27.8 -0.1
comp=Z,629nm,1.1s
214A Organ Pipe Nat 88.24 57 ⇓P P 19 22 29.0 +1.2
baz=88
HVS Khovu-Aksy 88.28 323*c i*P P 19 22 27.4 -0.1
HVS pmax pmax
comp=Z,438nm,1.0s
BMO Blue Mountains 88.42 44 eP P 19 22 28.1 -0.3
BMO e*PP pP 19 23 02.8 -0.6
BMO pmax pmax
comp=Z,300nm,1.8s
BMO MLR MLR
comp=Z,504nm,19.0s
BMO Blue Mountains 88.42 44 eP P 19 22 28.1 -0.3
comp=Z,300nm,1.8s
BMO epP pP 19 23 02.8 -0.6
BMO LR LR
comp=Z,504nm,19.0s
Z14A Wintersburg 88.48 56 ⇓P P 19 22 30.0 +1.1
baz=89
Y14A Wickenburg 88.58 55 ⇑P P 19 22 30.3 +1.0
baz=89
ELK Elko 88.67 48 eP P 19 22 30.3 +0.5
comp=Z,141nm,1.4s
ELK epP pP 19 23 05.3 +0.4
ELK ePP PP 19 26 00.4 -0.2
C09A Chrisman Ranch 88.70 41 eP P 19 22 30.4 +0.9
comp=Z,402nm,2.4s
C09A epP pP 19 23 05.3 +0.8
F10A Beach Ranch, E 88.81 43 eP P 19 22 30.7 +0.5
comp=Z,341nm,1.6s
DANN Dangsing 89.05 299⇑*i*P P 19 22 31.5 -0.5
comp=Z,406nm,0.9s
KOLN Koldanda 89.05 298⇑*i*P P 19 22 31.5 -0.4
comp=Z,304nm,1.0s
CCUT Cedar City 89.22 52 eP P 19 22 33.4 +0.9
comp=Z,250nm,1.5s
CCUT epP pP 19 23 07.8 +0.3
ARUT Antelope Range 89.23 51 eP P 19 22 33.5 +1.1
ARUT pmax pmax
comp=Z,4μm,1.5s
ARUT Antelope Range 89.23 51 eP P 19 22 33.5 +1.1
comp=Z,4μm,1.5s
ARUT epP pP 19 23 04.7 -2.8
NEW Newport 89.57 41 eP P 19 22 33.0 -0.6
comp=Z,209nm,1.8s
NEW epP pP 19 23 06.7 -2.1
NEW ePP PP 19 26 07.4 0.0
NEW LR LR
comp=Z,430nm,20.0s
NEW Newport 89.57 41 ⇑P P 19 22 34.2 +0.6
baz=90
PYUN Piuthan 89.65 299⇑*i*P P 19 22 34.1 -0.6
comp=Z,583nm,1.0s
U15A North Rim 89.77 53 ⇑P P 19 22 36.1 +0.9
baz=90
WMQ Urumqi 89.87 315 P P 19 22 35.5 +0.3
WMQ pP pP 19 23 11.3 +1.0
WMQ sP sP 19 23 26.3 +1.6
WMQ PP PP 19 26 12.0 +2.1
WMQ SKS SKSac 19 32 50.8 -2.4
WMQ S S 19 33 13.0 -3.0
WMQ sS sS 19 34 15.5 -1.3
WMQ SS SS 19 39 17.0 -0.1
WMQ AMB AMB
comp=Z,170nm,1.2s
WMQ AMB AMB
comp=Z,1μm,3.8s
WMQ LR LR
comp=Z,590nm,21.6s
WMQ LR LR
comp=Z,600nm,18.2s
WMQ LR LR
comp=Z,860nm,25.0s
X16A Lo Mia Camp, P 89.96 55 ⇑P P 19 22 37.1 +1.1
baz=90
TUC Tucson 90.00 57 eP P 19 22 37.3 +1.3
TUC pmax pmax
comp=Z,186nm,1.8s
TUC MLR MLR
comp=Z,1μm,19.0s
TUC Tucson 90.00 57 eP P 19 22 37.2 +1.3
comp=Z,186nm,1.8s
TUC epP pP 19 23 09.6 -1.5
TUC LR LR
comp=Z,1μm,19.0s
INK Inuvik 90.04 19 eP P 19 22 34.3 -0.9
comp=Z,16nm,1.1s
INK epP pP 19 23 09.7 -0.6
INK Inuvik 90.04 19 LR LR 19 56 08.0
comp=Z,566nm,21.2s,baz=144,slow=31
HLID Hailey 90.04 46 eP P 19 22 36.9 +0.8
comp=Z,238nm,1.8s
HLID epP pP 19 23 10.6 -0.6
HLID LR LR
comp=Z,557nm,20.0s
HLID Hailey 90.04 46 ⇑P P 19 22 37.7 +1.6
baz=90
WUAZ Wupatki 90.27 54 eP P 19 22 38.3 +0.9
comp=Z,174nm,1.4s
WUAZ epP pP 19 23 12.7 +0.2
WUAZ ePP PP 19 26 10.1 -3.3
WUAZ LR LR
comp=Z,450nm,20.0s
WUAZ Wupatki 90.27 54 ⇑P P 19 22 38.2 +0.9
baz=90
DUG Dugway 90.31 49 eP P 19 22 38.0 +0.6
DUG e*PP pP 19 23 11.1 -1.4
DUG pmax pmax
comp=Z,252nm,1.8s
DUG MLR MLR
comp=Z,706nm,19.0s
DUG Dugway 90.31 49 eP P 19 22 38.0 +0.6
comp=Z,252nm,1.8s
DUG epP pP 19 23 11.1 -1.4
DUG LR LR
comp=Z,706nm,19.0s
DUG Dugway 90.31 49 ⇓P P 19 22 38.2 +0.8
baz=90,SNR=58
BGU Big Grassy Mou 90.34 48 eP P 19 22 38.1 +0.5
comp=Z,207nm,1.6s

BGU ePP pP 19 23 11.1 -1.5
BGU ePP PP 19 26 10.0 -3.8
MVU Marysvale 90.34 51 eP P 19 22 39.0 +1.3
comp=Z,169nm,1.3s
MVU ePP pP 19 23 10.8 -2.0
MVU LR LR
comp=Z,872nm,19.0s
HVU Hansel Valley 90.74 48 eP P 19 22 40.0 +0.6
HVU e*PP pP 19 23 13.6 -0.9
HVU e 19 26 14.0
HVU pmax pmax
comp=Z,224nm,1.3s
HVU Hansel Valley 90.74 48 eP P 19 22 40.0 +0.6
comp=Z,224nm,1.3s
HVU ePP PP 19 23 13.6 -0.9
HVU ePP PP 19 26 14.0 -2.9
NLU North Lily Min 90.80 49 eP P 19 22 40.5 +0.8
comp=Z,136nm,1.3s
NLU ePP pP 19 23 14.7 -0.2
SPUT South Promonto 90.86 48 eP P 19 22 40.6 +0.7
comp=Z,376nm,2.0s
SPUT ePP pP 19 23 14.7 -0.4
SPUT ePP PP 19 26 18.1 +0.2
BSMT Bassoo Peak 90.95 41 eP P 19 22 40.2 -0.1
BSMT ePP pP 19 23 13.4 -2.0
319A Douglas 91.03 58 ⇓P P 19 22 41.9 +1.0
baz=91
MPU Maple Canyon 91.15 50 eP P 19 22 42.0 +0.6
comp=Z,158nm,1.4s
MPU ePP pP 19 23 15.3 -1.2
MPU ePP PP 19 26 19.5 -0.7
X18A Snowflake 91.18 55 ⇑P P 19 22 42.7 +1.1
baz=91
Q16A Castle Valley 91.23 51 eP P 19 22 42.9 +1.1
Q16A ePP pP 19 23 16.2 -0.7
Q16A ePP PP 19 26 22.6 +1.7
Q16A Castle Valley 91.23 51 ⇓P P 19 22 43.4 +1.6
baz=91
MSO Missoula 91.23 42 eP P 19 22 41.9 +0.4
comp=Z,51nm,1.4s
MSO Missoula 91.23 42 ⇑P P 19 22 41.8 +0.4
baz=91
JTMT Jette 91.25 42 eP P 19 22 41.4 -0.2
JTMT ePP pP 19 23 15.8 -0.9
BLMT Blacktail Moun 91.27 41 eP P 19 22 42.7 +0.9
TMUT Trail Mountain 91.29 50 eP P 19 22 42.3 +0.1
comp=Z,300nm,2.1s
TMUT ePP pP 19 23 18.1 +0.7
TMUT ePP PP 19 26 19.0 -2.5
SWMT Swartz Lake 91.38 42 eP P 19 22 41.4 -0.7
SWMT ePP pP 19 23 15.4 -1.9
HYB Hyderabad 91.41 287 *i* P P 19 22 41.5 -1.3
HYB ePP pP 19 23 16.0 -2.0
HYB esP sP 19 23 34.0 +1.6
JLU Jordanelle 91.42 49 eP P 19 22 43.2 +0.5
comp=Z,210nm,1.7s
JLU ePP pP 19 23 15.0 -2.9
JLU ePP PP 19 26 18.5 -4.0
MCMT McKenzie Canyo 91.46 45 eP P 19 22 43.3 +0.5
comp=Z,18nm,1.1s
MCMT ePP pP 19 23 17.9 +0.1
W18A Petrified Fore 91.48 55 eP P 19 22 44.0 +1.0
W18A ePP pP 19 23 16.7 -1.4
W18A Petrified Fore 91.48 55 ⇓P P 19 22 43.8 +0.8
baz=92
DAU Daniels Canyon 91.52 49 eP P 19 22 44.9 +1.7
DAU e 19 26 18.3
DAU Daniels Canyon 91.52 49 eP P 19 22 44.9 +1.7
DAU ePP PP 19 26 18.3 -5.0
SYO Syowa Base 91.62 197 ⇓eP P 19 22 40.6 -2.1
SYO Syowa Base 91.62 197 ⇓*i* PcP PcP 19 22 43.9 +0.4
SLMT Seeley Lake 91.64 42 eP P 19 22 42.9 -0.5
SLMT ePP pP 19 23 18.5 0.0
320A Kipp Ranch, An 91.65 59 ⇑P P 19 22 45.1 +1.3
baz=92
CHMT Chamberlain Mo 91.71 43 eP P 19 22 43.6 -0.2
CHMT ePP pP 19 23 16.4 -2.5
DLMT Dillon 91.76 44 eP P 19 22 45.1 +1.1
DLMT ePP pP 19 23 20.1 +0.9
SRU San Rafael 91.77 51 eP P 19 22 44.3 +0.1
SRU e*PP pP 19 23 19.0 -0.4
SRU e 19 26 23.7
SRU pmax pmax
comp=Z,229nm,2.2s
SRU San Rafael 91.77 51 eP P 19 22 44.3 +0.1
comp=Z,229nm,2.2s
SRU ePP pP 19 23 19.0 -0.4
SRU ePP PP 19 26 23.7 -1.4
220A Playas Peak, P 91.77 58 ⇓P P 19 22 45.5 +1.2
baz=92
120A U Bar Ranch, L 91.82 57 ⇑P P 19 22 45.8 +1.2
baz=92
WALA Waterton Lakes 91.84 40 eP P 19 22 44.8 +0.6
comp=Z,3.8nm,1.3s
WALA ePP pP 19 23 18.8 -0.6
WALA ePP PP 19 26 24.7 -0.6
LRM Limekiln Ridge 91.97 44 eP P 19 22 45.5 +0.4
LRM ePP pP 19 23 19.9 -0.4
Z20A Nine Sixteen R 91.98 57 ⇓P P 19 22 46.5 +1.2
baz=92
RRI2 Red Ridge 92.16 46 eP P 19 22 47.5 +1.4
comp=Z,210nm,1.8s
AHID Auburn Hatcher 92.19 47 PFAKE 19 23 00.0 +14
AHID LR LR
comp=Z,422nm,19.0s
LGTI Lohaghat 92.30 299 *ex* P 19 22 48.3 +1.7
Y20A Horse Springs, 92.32 56 ⇑P P 19 22 47.0 0.0
baz=92
QLMT Earthquake Lak 92.44 45 eP P 19 22 48.1 +0.9
QLMT ePP pP 19 23 22.6 +0.2
FXWY Fox Creek 92.44 46 eP P 19 22 48.1 +0.8
comp=Z,23nm,1.0s
DGAR Diego Garcia 92.46 262 PFAKE 19 23 00.0 +12
DGAR LR LR
comp=Z,716nm,20.0s
W20A Ramah 92.47 55 ⇑P P 19 22 49.1 +1.4
baz=93
BOZ Bozeman (W) 92.49 44 eP P 19 22 48.1 +0.7
BOZ e*PP pP 19 23 22.6 +0.1
BOZ pmax pmax
comp=Z,154nm,1.6s
BOZ MLR MLR
comp=Z,371nm,20.0s
BOZ Bozeman (W) 92.49 44 eP P 19 22 48.1 +0.7
comp=Z,154nm,1.6s
BOZ ePP pP 19 23 22.6 +0.1
BOZ LR LR
comp=Z,371nm,20.0s
REDW Red Top Meadow 92.50 46 eP P 19 22 48.8 +1.2
comp=Z,132nm,1.6s
121A Cookes Peak, D 92.52 57 eP P 19 22 48.8 +1.0
121A Cookes Peak, D 92.52 57 ⇓P P 19 22 49.2 +1.4
baz=93
IMW Indian Meadow 92.56 46 eP P 19 22 49.3 +1.3
comp=Z,40nm,1.1s
SNOW Snow King Moun 92.59 46 eP P 19 22 49.4 +1.3
comp=Z,378nm,2.5s
HRY Holter Researc 92.61 43 eP P 19 22 48.5 +0.7
HRY ePP pP 19 23 22.5 -0.5
PV05 Paradox Valley 92.63 52 eP P 19 22 50.4 +2.1
V20A Brimhall 92.64 54 ⇑P P 19 22 49.1 +0.7
baz=93
MOOW Moose Ponds 92.66 46 eP P 19 22 49.4 +1.1
comp=Z,72nm,1.7s
PV09 Paradox Valley 92.69 51 eP P 19 22 49.6 +0.9
YMR Madison River 92.72 45 eP P 19 22 49.8 +1.2
comp=Z,76nm,1.3s
YMR ePP pP 19 23 23.6 -0.2
U20A Newcomb 92.72 54 ⇑P P 19 22 49.1 +0.4
baz=93
LOHW Long Hollow 92.73 46 eP P 19 22 49.2 +0.5
LOHW ePP pP 19 23 23.9 +0.1
PV10 Paradox Valley 92.74 52 eP P 19 22 49.2 +0.4
comp=Z,643nm,1.1s
YFT Old Faithful 92.76 45 eP P 19 22 51.5 +2.7
comp=Z,20nm,0.9s
Z21A St. Cloud Mine 92.77 57 ⇓P P 19 22 49.7 +0.7
baz=93
FLWY Flagg Ranch 92.77 46 eP P 19 22 50.8 +2.0
comp=Z,37nm,1.1s
I17A Pilgrim Ck. 92.82 46 ⇓P P 19 22 50.1 +1.0
baz=93
PV04 Paradox Valley 92.84 52 eP P 19 22 49.8 +0.6
PV04 ePP pP 19 23 24.5 +0.1
PV04 ePP PP 19 26 31.9 -1.6
X21A Alamocita Cree 92.91 56 ⇑P P 19 22 49.7 0.0
baz=93
Y21A Point of Rocks 92.91 56 ⇓P P 19 22 50.4 +0.7
baz=93
MVCO Mesa Verde 92.91 53 eP P 19 22 50.0 +0.4
comp=Z,15nm,1.0s
MVCO LR LR
comp=Z,546nm,22.0s
MVCO Mesa Verde 92.91 53 ⇓P P 19 22 49.5 -0.1
baz=93,SNR=8.8
H17A Grant Village 92.93 45 eP P 19 22 51.4 +1.8
H17A Grant Village 92.93 45 ⇑P P 19 22 51.3 +1.7
baz=93
YNR Norris Junctio 92.93 45 eP P 19 22 53.2 +3.6
comp=Z,39nm,1.3s
222A Williams Famil 93.00 58 ⇑P P 19 22 50.9 +0.9
baz=93
PV01 Paradox Valley 93.05 52 eP P 19 22 50.5 +0.3
comp=Z,2µm,1.2s
P19A Cripple Cowboy 93.05 50 ⇑P P 19 22 50.6 +0.4
baz=93
O19A Miners Draw (B 93.08 50 ⇑P P 19 22 50.6 +0.3
baz=93,SNR=6.6
S20A Disappointment 93.15 52 ⇑P P 19 22 51.6 +0.9
baz=93,SNR=16
122A Conniff Cattle 93.20 57 ⇑P P 19 22 50.5 -0.4
baz=93
R20A Redvale 93.21 52 ⇑P P 19 22 52.0 +1.1
baz=93,SNR=11
EDM Edmonton 93.26 36 eP P 19 22 51.8 +1.2
EDM e*PP pP 19 23 25.6 -0.1
EDM Edmonton 93.26 36 eP P 19 22 51.8 +1.2
EDM epP pP 19 23 25.6 -0.1
BW06 Boulder Array 93.29 47 eP P 19 22 51.6 +0.4
comp=Z,37nm,1.3s
BW06 epP pP 19 23 25.6 -0.8
BW06 ePP PP 19 26 33.1 -3.9
BW06 LR LR
comp=Z,456nm,20.0s
PDAR Pinedale Array 93.29 47 P P 19 22 51.2 0.0
PDAR pP pP 19 23 24.5 -1.9
PDAR PP PP 19 26 35.5 -1.6
PDAR PKKPbc PKKPdf 19 39 58.1 -0.2
PDAR P'P' 19 48 09.5
PDAR Pinedale Array 93.29 47 P P 19 22 51.2 0.0
comp=Z,13nm,1.0s,baz=236,slow=2.7,SNR=53
PDAR pP pP 19 23 24.5 -1.9
comp=Z,5.8nm,1.0s,baz=270,slow=4.4,SNR=3.1
PDAR PP PP 19 26 35.5 -1.6
comp=Z,3.3nm,1.0s,baz=258,slow=7.0,SNR=4.8
PDAR PKKPbc PKKPdf 19 39 58.1 -0.2
comp=Z,2.2nm,0.8s,baz=91,slow=4.2,SNR=11
PDAR PKPPKP P'P'df 19 48 09.5 -0.1
comp=Z,2.3nm,1.0s,baz=103,slow=4.7,SNR=7.1
V21A Milan 93.30 54 ⇑P P 19 22 53.0 +1.6
baz=93
Z22A Elephant Butte 93.34 57 ⇓P P 19 22 52.3 +0.7
baz=94,SNR=26
U21A Nageezi 93.41 54 ⇓P P 19 22 52.1 +0.1
baz=94,SNR=55
LAZ Ladron 93.42 56 eP P 19 22 54.2 +2.2
comp=Z,6.3nm,1.2s
Q20A Ridgley Place, 93.43 51 ⇑P P 19 22 52.6 +0.7
baz=94,SNR=19
P20A De Beque 93.47 51 ⇓P P 19 22 53.4 +1.3
baz=94,SNR=26
Y22A Socorro 93.47 56 ⇓P P 19 22 53.1 +0.9
baz=94,SNR=7.4
LENM Lemitar 93.51 56 eP P 19 22 53.8 +1.4
Y22D IRIS PASSCAL I 93.54 56 ⇑P P 19 22 52.6 +0.2
baz=94
223A Chaparral, Ant 93.54 58 ⇑P P 19 22 53.5 +1.0
baz=94
X22A Bernardo 93.55 56 ⇓P P 19 22 51.9 -0.7
baz=94
S21A Coal Bank Pass 93.56 52 ⇓P P 19 22 52.9 +0.2
baz=94,SNR=40
T21A Navajo Lake 93.62 53 ⇑P P 19 22 53.7 +0.9
baz=94
H18A Shoshone NF, C 93.63 45 ⇑P P 19 22 53.5 +0.8
baz=94
O20A White River Ci 93.71 50 eP P 19 22 53.3 +0.1
O20A White River Ci 93.71 50 ⇑P P 19 22 53.9 +0.7
baz=94,SNR=7.7
J19A Crowheart 93.76 47 ⇓P P 19 22 52.5 -0.8
baz=94
W22A Albuquerque 93.78 55 ⇓P P 19 22 54.7 +1.1
baz=94
BNM Barren Site 93.79 56 eP P 19 22 53.9 +0.2
comp=Z,36nm,1.3s
BNM epP pP 19 23 29.8 +0.9
123A Bell Site, Whi 93.80 58 ⇑P P 19 22 53.7 0.0
baz=94
LPM Los Pinos Moun 93.82 56 eP P 19 22 54.6 +0.8
LPM epP pP 19 23 29.1 +0.1
N20A Spence Gulch, 93.84 49 ⇑P P 19 22 55.3 +1.5
baz=94
R21A Cimarron 93.88 52 ⇓P P 19 22 55.1 +1.0
baz=94,SNR=18
V22A San Miguel Ran 93.91 54 ⇓P P 19 22 54.7 +0.5
baz=94
Z23A Rita Site, Whi 93.94 57 ⇑P P 19 22 55.5 +1.2
baz=94
Q21A Lamborn Mesa, 93.96 51 ⇓P P 19 22 55.1 +0.8
baz=94
I19A Meeteetse 93.96 46 ⇑P P 19 22 55.5 +1.2
baz=94
RLMT Red Lodge 94.00 45 PFAKE 19 23 10.0 +16
RLMT LR LR
comp=Z,473nm,20.0s
U22A Llaves 94.04 54 ⇑P P 19 22 55.5 +0.7
baz=94
ANMO Albuquerque 94.08 55 eP P 19 22 55.3 +0.3
comp=Z,58nm,1.9s
ANMO epP pP 19 23 29.8 -0.3
ANMO LR LR
comp=Z,547nm,21.0s
H19A Powell 94.10 45 ⇓P P 19 22 55.9 +1.1
baz=94
T22A Edith 94.12 53 ⇑P P 19 22 56.0 +0.8
baz=94,SNR=12
Y23A Lovelace Mesa, 94.22 56 ⇓P P 19 22 56.9 +1.3
baz=94,SNR=17
324A Moseley Ranch, 94.22 59 ⇓P P 19 22 56.0 +0.3
baz=94,SNR=11
X23A Hourglass Bar 94.23 56 ⇓P P 19 22 57.6 +1.9
baz=94,SNR=6.0
EGMT Eagleton 94.28 42 PFAKE 19 23 10.0 +15
EGMT LR LR
comp=Z,499nm,21.0s
EGMT Eagleton 94.28 42 ⇑P P 19 22 56.1 +0.7
baz=94
ZAA0 Zalesovo Array 94.29 324 eP P 19 22 53.9 -1.3
ZAA0 epP pP 19 23 29.7 -0.7
ZALV Zalesovo Beam 94.29 324 P P 19 22 53.7 -1.5
ZALV *PP pP 19 23 28.8 -1.6
ZALV pmax pmax
comp=Z,61nm,0.9s
ZALV pmax pmax
comp=Z,18nm,0.9s
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 94.29 324 P P 19 22 53.7 -1.5
ZALV pP pP 19 23 28.8 -1.6
ZALV PKKPbc PKKPdf 19 39 56.0 -0.6
ZALV Zalesovo Beam 94.29 324 P P 19 22 53.7 -1.5
comp=Z,61nm,0.9s,baz=120,slow=3.2,SNR=52
ZALV pP pP 19 23 28.8 -1.6
comp=Z,18nm,0.9s,baz=119,slow=5.2,SNR=2.9
ZALV PKKPbc PKKPdf 19 39 56.0 -0.6
comp=Z,1.2nm,0.4s,baz=296,slow=2.6,SNR=10
MK31 Makanchi Array 94.29 317 *i* P P 19 22 55.6 +0.1
MK31 pmax pmax
comp=Z,253nm,1.0s
MK31 Makanchi Array 94.29 317 eP P 19 22 55.4 0.0
MK31 epP pP 19 23 30.3 -0.4
MKAR Makanchi Array 94.29 317 P P 19 22 55.7 +0.2
MKAR *PP pP 19 23 28.7 -2.0
MKAR pmax pmax
comp=Z,113nm,0.8s
MKAR pmax pmax
comp=Z,23nm,0.8s
MKAR Makanchi Array 94.29 317 eP P 19 22 55.7 +0.2
MKAR pP pP 19 23 28.6 -2.0
MKAR PKiKP PKiKP 19 27 37.6 -0.8
MKAR PKKPbc PKKPdf 19 39 54.8 -1.6
MKAR Makanchi Array 94.29 317 P P 19 22 55.7 +0.2
comp=Z,113nm,0.8s,baz=88,slow=5.5,SNR=340
MKAR pP pP 19 23 28.6 -2.0
comp=Z,23nm,0.8s,baz=83,slow=5.6,SNR=3.0
MKAR PKiKP PKiKP 19 27 37.6 -0.8
comp=Z,3.1nm,0.9s,baz=236,slow=0.9,SNR=4.1
MKAR PKKPbc PKKPdf 19 39 54.8 -1.6
comp=Z,6.3nm,0.8s,baz=258,slow=2.4,SNR=28
O21A Pagoda 94.31 50 ⇑P P 19 22 56.8 +0.9
baz=94
224A Cornudas Mount 94.31 58 ⇓P P 19 22 56.0 0.0
baz=94,SNR=24
S22A 4UR Ranch, Cre 94.32 53 ⇓P P 19 22 56.3 +0.2
baz=94,SNR=23
MNTX Cornudas Mount 94.36 59 eP P 19 22 56.2 +0.1
comp=Z,23nm,1.4s
MNTX epP pP 19 23 33.0 +1.7
MNTX ePP PP 19 26 42.0 -3.3
MNTX LR LR
comp=Z,665nm,20.0s
W23A Werner Place, 94.37 55 ⇑P P 19 22 56.3 -0.1
baz=94
F19A Roth Farm, Mol 94.37 44 ⇑P P 19 22 57.0 +1.0
baz=94
V23A Ortiz Mt. (NFS 94.45 55 ⇑P P 19 22 56.5 -0.2
baz=95,SNR=7.3
R22A Saguache, Gunn 94.47 52 ⇓P P 19 22 57.8 +1.0
baz=95,SNR=5.2
J20A Shoshoni 94.47 47 ⇓P P 19 22 57.2 +0.7
baz=95
Q22A Crested Butte, 94.47 51 ⇑P P 19 22 57.6 +0.8
baz=95,SNR=19
124A Stringfield Ra 94.48 58 ⇑P P 19 22 56.5 -0.4
baz=95,SNR=7.6
SMCO Snowmass 94.48 51 eP P 19 22 58.0 +1.0
comp=Z,142nm,2.5s
SMCO epP pP 19 23 34.4 +2.2
425A Indio Mountain 94.52 60 ⇓P P 19 22 57.2 +0.1
baz=95,SNR=13
U23A El Rito 94.55 54 ⇑P P 19 22 57.8 +0.6
baz=95,SNR=9.4
I20A Worland 94.56 46 ⇓P P 19 22 56.3 -0.6
baz=95
E19A Rath Farm, Rou 94.60 44 ⇑P P 19 22 57.7 +0.7
baz=95
325A Bean Ranch, Si 94.64 59 ⇓P P 19 22 57.2 -0.4
baz=95,SNR=10
Z24A Sheeppen Canyo 94.67 57 ⇓P P 19 22 57.5 -0.3
baz=95
D19A Cripps Ranch, 94.68 43 ⇑P P 19 22 56.2 -1.1
baz=95
C19A Slack Wire Ran 94.68 42 ⇑P P 19 22 56.9 -0.4
baz=95
Y24A Capitan 94.72 56 ⇓P P 19 22 58.6 +0.6
baz=95,SNR=17
P22A Eagle 94.72 51 ⇓P P 19 22 59.6 +1.7
baz=95,SNR=11
G20A Bridger 94.75 45 ⇑P P 19 22 58.2 +0.5
baz=95
H20A Greybull 94.75 46 ⇑P P 19 22 58.0 +0.3
baz=95
T23A Casias Ranch, 94.81 53 ⇑P P 19 22 58.9 +0.6
baz=95
B19A Brinkman Farms 94.90 42 ⇑P P 19 22 58.7 +0.4
baz=95
225A Deer Hill, Car 94.90 58 ⇑P P 19 22 59.0 +0.2
baz=95,SNR=6.4
F20A Billings 94.91 44 ⇑P P 19 22 58.7 +0.3
baz=95
J21A Lysite 94.92 47 ⇓P P 19 22 58.8 +0.1
baz=95
K21A Alcova 94.93 48 ⇑P P 19 22 59.5 +0.8
baz=95
S23A Nye Farm, Mont 94.96 53 ⇓P P 19 23 00.5 +1.4
baz=95
W24A Lazy 6 Ranch, 94.98 55 ⇑P P 19 22 60.0 +0.8
baz=95,SNR=11
O22A Kremmling 94.99 50 ⇑P P 19 23 01.5 +2.3
baz=95,SNR=21
YKA Yellowknife Ar 94.99 27 P P 19 22 56.7 -1.5
YKA pP pP 19 23 31.7 -1.7
YKA Yellowknife Ar 94.99 27 P P 19 22 56.7 -1.5
comp=Z,3.7nm,0.6s,baz=257,slow=4.9,SNR=7.6
YKA pP pP 19 23 31.7 -1.7
comp=Z,3.1nm,0.7s,baz=258,slow=5.5,SNR=3.4
626A Big Bend Ranch 95.03 61 ⇑P P 19 23 01.2 +1.8
baz=95,SNR=9.7
E20A Meyer Farm, Mu 95.06 44 ⇓P P 19 23 00.0 +1.0
baz=95
PMSA Palmer Station 95.11 161 PFAKE 19 23 10.0 +11
PMSA LR LR
comp=Z,362nm,20.0s
A19A Klindworth Far 95.12 41 ⇓P P 19 22 59.9 +0.6
baz=95
I21A Big Trails, Te 95.12 46 ⇓P P 19 23 00.1 +0.6
baz=95
125A Gardner Draw, 95.14 58 ⇑P P 19 23 01.0 +1.3
baz=95,SNR=8.6
526A Mary Lane Ranc 95.16 61 ⇑P P 19 23 01.5 +1.5
baz=95,SNR=6.2
D20A Manuel Ranch, 95.16 43 ⇑P P 19 23 01.8 +2.3
baz=95
N22A Wattenberg Ran 95.18 50 ⇑P P 19 23 02.5 +2.5
baz=95
V24A Rampart Ranch, 95.18 55 ⇓P P 19 23 00.8 +0.7
baz=95,SNR=8.7
R23A Moffat 95.18 52 ⇓P P 19 23 01.4 +1.3
baz=95,SNR=7.0
M22A Cedar Creek Ra 95.18 49 ⇓P P 19 23 01.2 +1.3
baz=95
Z25A Roswell 95.19 57 ⇑P P 19 23 01.3 +1.2
baz=95,SNR=6.3
GDL2 Guadalupe Moun 95.30 58 eP P 19 23 02.4 +1.8
Q23A Hartsel 95.30 52 ⇑P P 19 23 02.7 +2.0
baz=95
426A McDonald Obser 95.31 60 ⇑P P 19 23 02.3 +1.6
baz=95,SNR=9.3
T24B San Luis 95.33 53 ⇓P P 19 23 02.7 +1.9
baz=95
Y25A Mesa, Roswell 95.33 57 ⇑P P 19 23 01.9 +1.2
baz=95,SNR=11
SDCO Great Sand Dun 95.36 53 eP P 19 23 01.6 +0.7
comp=Z,33nm,1.8s
SDCO LR LR
comp=Z,480nm,19.0s
C20A Veseth Ranch, 95.37 43 ⇓P P 19 23 02.1 +1.7
baz=96
NVS Novosibirsk 95.39 325 ⇑*i* P P 19 22 54.9 -5.3
NVS *i* 19 33 22.4
NVS *i* 19 34 03.7
NVS pmax pmax
comp=Z,283nm,2.1s
NVS pmax pmax
comp=N,32nm,1.9s
NVS pmax pmax
comp=E,73nm,1.9s
TXAR Lajitas Array 95.39 61 P P 19 23 01.5 +0.5
TXAR PP PP 19 26 54.1 +0.6
TXAR PKKPbc PKKPbc 19 39 52.5 -1.1
TXAR P'P' 19 48 10.3
TXAR Lajitas Array 95.39 61 P P 19 23 01.5 +0.5
comp=E,5.0nm,0.8s,baz=213,slow=5.6,SNR=31
TXAR PP PP 19 26 54.1 +0.6
comp=E,4.8nm,1.0s,baz=224,slow=5.2,SNR=8.5
TXAR PKKPbc PKKPbc 19 39 52.5 -1.1
comp=E,0.9nm,0.9s,baz=101,slow=5.9,SNR=5.2
TXAR PKPPKP P'P'df 19 48 10.3 +3.9
comp=E,1.4nm,1.1s,baz=147,slow=3.0,SNR=6.2
TXAR LR LR 20 00 22.3
comp=E,680nm,19.4s,baz=195,slow=32
L22A Ellis Ranch, M 95.42 48 ⇑P P 19 23 02.3 +1.3
baz=96
226B Tecolote Peak, 95.44 59 ⇑P P 19 23 03.2 +2.1
baz=96,SNR=7.6
G21A Lodge Grass 95.45 45 ⇓P P 19 23 01.4 +0.5
baz=96
H21A Big Horn, Sher 95.45 46 ⇑P P 19 23 01.2 +0.2
baz=96
K22A Casper 95.46 48 eP P 19 23 02.6 +1.5
comp=E,76nm,1.6s
K22A Casper 95.46 48 ⇑P P 19 23 01.7 +0.6
baz=96
B20A Solberg Farm, 95.50 42 ⇓P P 19 23 02.0 +1.0
baz=96
S24A Houchin Ranch, 95.56 53 ⇑P P 19 23 04.2 +2.3
baz=96,SNR=11
N23A Red Feather La 95.57 50 ⇓P P 19 23 02.8 +1.0

	baz=96								
527A	**Woodward Ranch**	**95.58**	**60**	⇓P		**P**		**19 23 03.7**	**+1.8**
	baz=96,SNR=12								
F21A	**Absaloka Mine,**	**95.61**	**45**	⇓P		**P**		**19 23 03.2**	**+1.6**
	baz=96								
ISCO	**Idaho Springs**	**95.63**	**51**	*eP*		**P**		**19 23 02.5**	**+0.4**
ISCO				*e**PP		**pP**		**19 23 36.8**	**-0.5**
ISCO					pmax	pmax			
	comp=Z,20nm,1.5s								
ISCO					MLR	MLR			
	comp=Z,885nm,20.0s								
ISCO	**Idaho Springs**	**95.63**	**51**	*eP*		**P**		**19 23 02.5**	**+0.4**
	comp=Z,20nm,1.5s								
ISCO				*ep*P		**pP**		**19 23 36.8**	**-0.5**
ISCO					LR	LR			
	comp=Z,885nm,20.0s								
ISCO	**Idaho Springs**	**95.63**	**51**	⇑P		**P**		**19 23 03.5**	**+1.4**
	baz=96								
J22A	**Midwest**	**95.63**	**47**	⇓P		**P**		**19 23 02.6**	**+0.8**
	baz=96								
A20A	**Cobblestone Ra**	**95.64**	**41**	⇑P		**P**		**19 23 02.6**	**+1.0**
	baz=96								
627A	**Terlingua Ranc**	**95.65**	**61**	⇑P		**P**		**19 23 04.1**	**+1.9**
	baz=96,SNR=11								
126A	**Clayton Basin,**	**95.66**	**58**	⇑P		**P**		**19 23 02.6**	**+0.4**
	baz=96								
I22A	**9 Mile Ranch,**	**95.71**	**47**	⇑P		**P**		**19 23 02.4**	**+0.2**
	baz=96								
V25A	**Rancho No Teng**	**95.72**	**55**	⇑P		**P**		**19 23 04.0**	**+1.5**
	baz=96,SNR=17								
W25A	**X Bar L Ranch,**	**95.74**	**55**	⇓P		**P**		**19 23 03.9**	**+1.4**
	baz=96,SNR=10								
R24A	**Sanders Place,**	**95.75**	**52**	⇓P		**P**		**19 23 03.2**	**+0.6**
	baz=96								
E21A	**Keefer Ranch,**	**95.78**	**44**	⇓P		**P**		**19 23 03.1**	**+0.8**
	baz=96								
Z26A	**Caprock**	**95.80**	**57**	⇑P		**P**		**19 23 03.8**	**+1.0**
	baz=96,SNR=7.7								
M23A	**Laramie**	**95.84**	**49**	⇑P		**P**		**19 23 03.6**	**+0.6**
	baz=96								
Q24A	**Divide**	**95.84**	**52**	⇓P		**P**		**19 23 04.2**	**+1.1**
	baz=96								
427A	**Hayter Ranch,**	**95.88**	**60**	⇑P		**P**		**19 23 02.3**	**-0.9**
	baz=96								
D21A	**La Casta Ranch**	**95.93**	**43**	⇑P		**P**		**19 23 05.0**	**+2.0**
	baz=96								
H22A	**Clearmont**	**95.93**	**46**	⇑P		**P**		**19 23 05.0**	**+1.9**
	baz=96								
L23A	**Garrett**	**95.97**	**48**	⇓P		**P**		**19 23 03.1**	**-0.4**
	baz=96								
U25A	**Circle Dot Ran**	**95.98**	**54**	⇓P		**P**		**19 23 03.6**	**-0.1**
	baz=96								
C21A	**Desert Coulee**	**95.99**	**43**	⇑P		**P**		**19 23 04.3**	**+1.0**
	baz=96								
Y26A	**Elida**	**96.04**	**57**	⇑P		**P**		**19 23 04.7**	**+0.8**
	baz=96								
628A	**Black Gap, Mar**	**96.08**	**61**	⇓P		**P**		**19 23 04.4**	**+0.3**
	baz=96,SNR=8.6								
O24A	**Longmont**	**96.09**	**50**	⇓P		**P**		**19 23 04.7**	**+0.7**
	baz=96								
T25A	**Trinidad**	**96.11**	**53**	⇓P		**P**		**19 23 05.0**	**+0.7**
	baz=96,SNR=5.8								
K23A	**Bowen Ranch, D**	**96.13**	**48**	⇓P		**P**		**19 23 04.7**	**+0.5**
	baz=96								
B21A	**Ellsworth Farm**	**96.15**	**42**	⇓P		**P**		**19 23 04.9**	**+1.0**
	baz=96								
S25A	**Robets Cordova**	**96.17**	**53**	⇑P		**P**		**19 23 05.3**	**+0.8**
	baz=96,SNR=18								
MAIT	**Maitri**	**96.19**	**188**	*eP*		**P**		**19 23 01.4**	**-2.2**
F22A	**Rosebud**	**96.20**	**45**	⇑P		**P**		**19 23 05.8**	**+1.6**
	baz=96								
127A	**Arkansas Junct**	**96.22**	**58**	⇓P		**P**		**19 23 05.0**	**+0.3**
	baz=96								
528A	**Cox Ranch, San**	**96.28**	**61**	⇓P		**P**		**19 23 05.8**	**+0.7**
	baz=96,SNR=10.0								
A21A	**Bergtoll Ranch**	**96.31**	**41**	⇓P		**P**		**19 23 05.7**	**+1.0**
	baz=96								
R25A	**Fountain Ranch**	**96.37**	**52**	⇓P		**P**		**19 23 05.8**	**+0.5**
	baz=96								
V26A	**Tequesquite Ra**	**96.38**	**55**	⇑P		**P**		**19 23 05.8**	**+0.4**
	baz=96,SNR=7.8								
LAO	**LASA Array**	**96.38**	**44**		PFAKE			19 23 20.0	+15
LAO					LR	LR			
	comp=Z,461nm,20.0s								
Z27A	**Tatum**	**96.44**	**57**	⇑P		**P**		**19 23 05.7**	**0.0**
	baz=97								
D22A	**Cohagen**	**96.49**	**43**	⇓P		**P**		**19 23 05.6**	**+0.1**
	baz=97								
M24A	**Cheyenne**	**96.50**	**49**	⇑P		**P**		**19 23 05.1**	**-0.8**
	baz=97								
U26A	**Atchley Ranch,**	**96.51**	**54**	⇑P		**P**		**19 23 06.0**	**-0.1**
	baz=97,SNR=9.3								
E22A	**Miles City**	**96.53**	**44**	⇑P		**P**		**19 23 06.2**	**+0.5**
	baz=97								
Y27A	**Causey**	**96.58**	**57**	⇓P		**P**		**19 23 05.6**	**-0.7**
	baz=97,SNR=6.5								
H23A	**Clabaugh Cattl**	**96.59**	**46**	⇓P		**P**		**19 23 05.9**	**-0.2**
	baz=97								
P25A	**Willow Gulch B**	**96.68**	**51**	⇑P		**P**		**19 23 08.2**	**+1.5**
	baz=97								
G23A	**Biddle**	**96.71**	**45**	⇓P		**P**		**19 23 06.2**	**-0.4**
	baz=97								
X27A	**F and S Farms,**	**96.75**	**56**	⇓P		**P**		**19 23 06.5**	**-0.6**
	baz=97								
T26A	**Comanche Natio**	**96.75**	**54**	⇑P		**P**		**19 23 06.8**	**-0.4**
	baz=97								
529A	**Stev Forest Ra**	**96.76**	**61**	⇓P		**P**		**19 23 07.8**	**+0.6**
	baz=97								
228A	**UT Block 9, Go**	**96.77**	**59**	⇑P		**P**		**19 23 06.8**	**-0.3**
	baz=97								
SNAA	**Sanae**	**96.77**	**183**	*eP*		**P**		**19 23 05.8**	**-0.6**
SNAA	**Sanae**	**96.77**	**183**	*eP*		**P**		**19 23 04.3**	**-2.1**
	comp=Z,16nm,1.1s								
C22A	**Vida**	**96.79**	**43**	⇓P		**P**		**19 23 07.1**	**+0.3**
	baz=97								
B22A	**Reddig Ranch S**	**96.80**	**42**	⇑P		**P**		**19 23 08.7**	**+1.8**
	baz=97								
O25A	**Wiggins**	**96.81**	**51**	⇑P		**P**		**19 23 07.7**	**+0.4**
	baz=97								
MSTX	**Muleshoe**	**96.91**	**57**	*eP*		**P**		**19 23 08.0**	**+0.2**
MSTX				*ep*P		**PP**		**19 27 05.0**	**-0.1**
MSTX	**Muleshoe**	**96.91**	**57**	⇓P		**P**		**19 23 08.6**	**+0.8**
	baz=97,SNR=6.0								
S26A	**Kim**	**96.92**	**53**	⇓P		**P**		**19 23 08.4**	**+0.6**
	baz=97								
128A	**Castleberry Fa**	**96.94**	**58**	⇓P		**P**		**19 23 09.1**	**+1.1**
	baz=97,SNR=6.8								
A22A	**Carney Farms,**	**96.97**	**42**	⇑P		**P**		**19 23 08.1**	**+0.5**
	baz=97								
E23A	**Ismay**	**96.97**	**44**	⇓P		**P**		**19 23 08.6**	**+0.9**
	baz=97								
I24A	**Kuemmerle Ranc**	**97.03**	**47**	⇓P		Pdif		19 23 10.2	+1.9
	baz=97								
R26A	**Arlington**	**97.05**	**52**	⇑P		Pdif		19 23 08.9	+0.5
	baz=97								
M25A	**Palm-Egli Farm**	**97.07**	**49**	⇑P		Pdif		19 23 09.3	+0.8
	baz=97								
Q26A	**Hugo**	**97.09**	**52**	⇑P		Pdif		19 23 09.6	+0.9
	baz=97								
429A	**Davenport Ranc**	**97.12**	**60**	⇓P		Pdif		19 23 09.6	+0.8
	baz=97,SNR=7.1								
D23A	**Lindsay**	**97.15**	**43**	⇓P		Pdif		19 23 10.6	+2.0
	baz=97								
329A	**Wagon Wheel Ra**	**97.18**	**59**	⇓P		Pdif		19 23 09.6	+0.4
	baz=97								
H24A	**Dirks Ranch, A**	**97.22**	**46**	⇓P		Pdif		19 23 09.5	+0.5
	baz=97								
L25A	**Engebretsen Ra**	**97.25**	**49**	⇓P		Pdif		19 23 10.7	+1.5
	baz=97								
U27A	**Thompson Grove**	**97.25**	**54**	⇓P		**P**		**19 23 09.2**	**-0.1**
	baz=97								
C23A	**Lambert**	**97.26**	**43**	⇑P		**P**		**19 23 08.3**	**-0.7**
	baz=97								
P26A	**Davis Ranch, A**	**97.32**	**51**	⇑P		Pdif		19 23 10.2	+0.6
	baz=97								
KURK	**Kurchatov**	**97.39**	**320**	*c iP*		**P**		**19 23 08.5**	**-0.9**
KURK					pmax	pmax			
	comp=Z,32nm,1.7s								
KURK	**Kurchatov**	**97.39**	**320**	P		**P**		**19 23 08.9**	**-0.5**
	SNR=14								
KURK	**Kurchatov**	**97.39**	**320**	*eP*		**P**		**19 23 08.3**	**-1.1**
	comp=Z,32nm,1.4s								
KURK				*ep*P		**pP**		**19 23 45.6**	**+1.0**
KURK				*e*PKPdf		**PKiKP**		**19 27 44.4**	**+0.8**
KURK					LR	LR			
	comp=Z,377nm,19.0s								
KURK	**Kurchatov**	**97.39**	**320**	P		**P**		**19 23 08.7**	**-0.7**
	comp=Z,146nm,1.2s,SNR=6.5								
G24A	**Alzada**	**97.41**	**45**	⇓P		Pdif		19 23 10.5	+0.7
	baz=98								
T27A	**Campo**	**97.43**	**54**	⇑P		Pdif		19 23 11.3	+1.1
	baz=98								
O26A	**Horse Wrangler**	**97.44**	**51**	⇓P		Pdif		19 23 11.4	+1.2
	baz=98								
129A	**Stewart Farms,**	**97.45**	**58**	⇑P		Pdif		19 23 10.5	+0.2
	baz=98								
X28A	**Dimmitt**	**97.47**	**56**	⇓P		Pdif		19 23 11.1	+0.7
	baz=98								
B23A	**Brockton**	**97.49**	**42**	⇓P		Pdif		19 23 10.4	+0.4
	baz=98								
RSSD	**Black Hills**	**97.49**	**47**	*eP*		Pdif		19 23 10.9	+0.5
RSSD					pmax	pmax			
	comp=Z,26nm,1.4s								
RSSD	**Black Hills**	**97.49**	**47**	*eP*		Pdif		19 23 10.9	+0.6
	comp=Z,26nm,1.4s								
530A	**J-C Ranch, Com**	**97.52**	**61**	⇓P		Pdif		19 23 10.8	+0.2
	baz=98								
R27A	**Eads**	**97.55**	**53**	⇓P		**P**		**19 23 10.5**	**-0.1**
	baz=98								
I25A	**Rochford**	**97.69**	**47**	⇑P		Pdif		19 23 12.5	+1.2
	baz=98								
430A	**Baggett Ranch,**	**97.70**	**60**	⇓P		**P**		**19 23 11.2**	**-0.2**
	baz=98								
U28A	**Mallet**	**97.72**	**55**	⇓P		Pdif		19 23 11.7	+0.3
	baz=98								
VNA2	**Neumayer--Watz**	**97.73**	**182**	*eP*		**P**		**19 23 09.4**	**-1.2**
	baz=185,slow=4.7								
D24A	**Glendive**	**97.73**	**44**	⇑P		Pdif		19 23 12.2	+1.0
	baz=98								
M26A	**McRoberts Ranc**	**97.75**	**49**	⇓P		Pdif		19 23 12.3	+0.8
	baz=98								
Y29A	**Porterfield Fa**	**97.80**	**57**	⇑P		Pdif		19 23 13.0	+1.2
	baz=98								
H25A	**Fruitdale**	**97.88**	**46**	⇓P		Pdif		19 23 12.6	+0.7
	baz=98								
L26A	**Underwood Farm**	**97.88**	**49**	⇓P		Pdif		19 23 13.4	+1.3
	baz=98								
K26A	**Motz Farm, Whi**	**97.90**	**48**	⇑P		Pdif		19 23 12.5	+0.4
	baz=98								
T28A	**Walsh**	**97.92**	**54**	⇑P		Pdif		19 23 14.0	+1.7
	baz=98								
AMTX	**Amarillo**	**97.94**	**56**	*eP*		Pdif		19 23 13.0	+0.6
	comp=Z,20nm,1.0s								
AMTX	**Amarillo**	**97.94**	**56**	⇑P		**P**		**19 23 12.3**	**-0.1**
	baz=98								
230A	**Sterling City**	**97.97**	**59**	⇑P		Pdif		19 23 13.1	+0.5
	baz=98								
DGMT	**Dagmar**	**98.01**	**42**	*eP*		Pdif		19 23 13.9	+1.6
	comp=Z,26nm,1.0s								
DGMT	**Dagmar**	**98.01**	**42**	⇑P		Pdif		19 23 13.4	+1.1
	baz=98								
VNA1	**Neumayer--Stat**	**98.03**	**182**	*eP*		**P**		**19 23 10.2**	**-1.7**
631A	**Perdido Creek**	**98.06**	**62**	⇑P		**P**		**19 23 12.3**	**-0.7**
	baz=98								
J26A	**Sides Ranch, S**	**98.06**	**47**	⇓P		Pdif		19 23 13.2	+0.5
	baz=98								
O27A	**Beecher Island**	**98.07**	**51**	⇑P		Pdif		19 23 13.5	+0.6
	baz=98								
G25A	**Newell**	**98.08**	**46**	⇑P		Pdif		19 23 13.7	+1.0
	baz=98								
N27A	**Anderson Farm,**	**98.11**	**50**	⇓P		Pdif		19 23 14.3	+1.2
	baz=98								
S28A	**Manter**	**98.15**	**53**	⇑P		Pdif		19 23 15.6	+2.2
	baz=98								
Z30A	**Sanderson Ranc**	**98.16**	**58**	⇑P		Pdif		19 23 15.1	+1.7
	baz=98								
531A	**Rocksprings**	**98.20**	**61**	⇓P		**P**		**19 23 12.9**	**-0.7**
	baz=98								
A24A	**Westby**	**98.20**	**42**	⇑P		Pdif		19 23 13.8	+0.6
	baz=98								
V29A	**Stinnett**	**98.21**	**55**	⇓P		Pdif		19 23 14.4	+0.8
	baz=98								
TKM2	**Tokmak 2**	**98.32**	**312**	P		**P**		**19 23 13.4**	**-0.6**
	SNR=11								
TKM2	**Tokmak 2**	**98.32**	**312**		PFAKE			19 23 20.0	+5.9
TKM2					LR	LR			
	comp=Z,635nm,21.0s								
I26A	**New Underwood**	**98.32**	**47**	⇓P		Pdif		19 23 14.1	+0.2
	baz=98								
R28A	**Tribune**	**98.33**	**53**	⇑P		Pdif		19 23 15.3	+1.3
	baz=98								
D25A	**Fairfield**	**98.42**	**44**	⇑P		Pdif		19 23 15.0	+0.8
	baz=98								
KZA	**Kyzart**	**98.46**	**311**	P		Pdif		19 23 15.4	+0.4
	SNR=15								
331A	**San Angelo**	**98.47**	**60**	⇑P		**P**		**19 23 13.9**	**-0.8**
	baz=99								
732A	**Laxson Ranch,**	**98.49**	**62**	⇑P		Pdif		19 23 15.4	+0.5
	baz=99								
OGNE	**Ogallala**	**98.51**	**50**		PFAKE			19 23 30.0	+15
OGNE					LR	LR			
	comp=Z,688nm,20.0s								
X30A	**Coker Ranch, T**	**98.54**	**57**	⇑P		Pdif		19 23 15.1	+0.1
	baz=99								
O28A	**Krutsinger Ran**	**98.60**	**51**	⇓P		Pdif		19 23 15.6	+0.4
	baz=99								
231A	**Bronte**	**98.65**	**59**	⇑P		**P**		**19 23 15.2**	**-0.4**
	baz=99								
131A	**Roby**	**98.69**	**58**	⇑P		Pdif		19 23 16.0	+0.3
	baz=99								
532A	**Rocksprings**	**98.75**	**61**	⇑P		**P**		**19 23 15.8**	**-0.2**
	baz=99								
KBK	**Karagaybulak**	**98.75**	**312**	P		Pdif		19 23 16.1	+0.1
	SNR=7.8								
632A	**Uvalde**	**98.76**	**62**	⇓P		Pdif		19 23 17.2	+1.1
	baz=99								
A25A	**Svangstu Ranch**	**98.79**	**42**	⇑P		Pdif		19 23 16.4	+0.6
	baz=99								
R29A	**Marienthal**	**98.86**	**53**	⇓P		Pdif		19 23 18.3	+1.9
	baz=99								
JCT	**Junction City**	**98.88**	**61**	*eP*		**P**		**19 23 16.7**	**0.0**
JCT					pmax	pmax			
	comp=Z,22nm,1.3s								
JCT					MLR	MLR			
	comp=Z,759nm,20.0s								
JCT	**Junction City**	**98.88**	**61**	*eP*dif		**P**		**19 23 16.7**	**0.0**
	comp=Z,22nm,1.3s								
JCT					LR	LR			
	comp=Z,759nm,20.0s								
JCT	**Junction City**	**98.88**	**61**	⇑P		Pdif		19 23 16.9	+0.2
	baz=99								
E26A	**Carlson Angus**	**98.92**	**44**	⇓P		Pdif		19 23 16.7	+0.3
	baz=99								
CHMS	**Chumysh**	**98.94**	**312**	P		**P**		**19 23 16.4**	**-0.2**
	SNR=13								
432A	**Menard**	**98.94**	**60**	⇓P		**P**		**19 23 16.9**	**0.0**
	baz=99								
Y31A	**Rekieta Farm,**	**98.97**	**57**	⇓P		Pdif		19 23 18.6	+1.6
	baz=99								
Z31A	**Sharp Cattle R**	**98.98**	**58**	⇑P		Pdif		19 23 17.6	+0.5
	baz=99								
U30A	**WK&E Inc. Balk**	**99.00**	**55**	⇑P		**Pdif**		**19 23 17.6**	**+0.5**
	baz=99								
D26A	**Manning**	**99.00**	**44**	⇑P		**Pdif**		**19 23 17.8**	**+1.0**
	baz=99								
FRU	**Bishkek**	**99.02**	**312**	*i* P		**Pdif**		**19 23 18.0**	**+1.0**
FRU				*e*				19 27 16.0	
FRU				*e*				19 33 42.0	
FRU					pmax	pmax			
	comp=Z,90nm,2.2s								
Q29A	**Oakley**	**99.05**	**52**	⇑P		**Pdif**		**19 23 18.7**	**+1.5**
	baz=99								
332A	**Millersview**	**99.06**	**60**	⇑P		**Pdif**		**19 23 17.7**	**+0.3**
	baz=99								
AAK	**Ala-Archa**	**99.08**	**312**	*c iP*		**Pdif**		**19 23 17.3**	**-0.1**
AAK					pmax	pmax			
	comp=Z,32nm,0.8s								
AAK	**Ala-Archa**	**99.08**	**312**		Pdiff	**Pdif**		**19 23 17.6**	**+0.2**
	SNR=8.5								
AAK	**Ala-Archa**	**99.08**	**312**	P		**Pdif**		**19 23 17.3**	**-0.1**
	SNR=15								
AAK	**Ala-Archa**	**99.08**	**312**	*e*Pdif		**Pdif**		**19 23 17.1**	**-0.4**
	comp=Z,16nm,1.0s								
AAK					LR	LR			
	comp=Z,457nm,22.0s								
F27A	**Lemmon**	**99.15**	**45**	⇑P		**Pdif**		**19 23 18.9**	**+1.4**
	baz=99								
G27A	**Dupree**	**99.15**	**46**	⇓P		**Pdif**		**19 23 18.9**	**+1.4**
	baz=99								
USP	**Ospenovka**	**99.16**	**312**	P		**Pdif**		**19 23 17.4**	**-0.1**
	SNR=14								
232A	**Coleman**	**99.21**	**59**	⇑P		**Pdif**		**19 23 18.5**	**+0.5**
	baz=99								
ABTX	**Abilene, Hawle**	**99.31**	**59**	*e*Pdif		**Pdif**		**19 23 18.6**	**+0.1**
ABTX	**Abilene, Hawle**	**99.31**	**59**	⇓P		**Pdif**		**19 23 18.5**	**+0.1**
	baz=99								
W31A	**Holland Ranch,**	**99.39**	**56**	⇑P		**Pdif**		**19 23 19.8**	**+1.0**
	baz=100								
A26A	**Wade Farm, Ken**	**99.49**	**42**	⇓P		**Pdif**		**19 23 19.9**	**+1.1**
	baz=100								
R30A	**Dighton**	**99.51**	**53**	⇓P		**Pdif**		**19 23 20.1**	**+0.8**
	baz=100								
Z32A	**Haskell**	**99.53**	**58**	⇓P		**Pdif**		**19 23 20.0**	**+0.5**
	baz=100								
V31A	**Spring Creek L**	**99.55**	**55**	⇓P		**Pdif**		**19 23 20.3**	**+0.8**
	baz=100								
AML	**Almayashu**	**99.61**	**311**	P		**Pdif**		**19 23 20.3**	**+0.2**
	SNR=26								
EKS2	**Erkin-Say**	**99.61**	**312**	P		**Pdif**		**19 23 19.8**	**+0.1**
	SNR=17								
EKS2	**Erkin-Say**	**99.61**	**312**		PFAKE			19 23 30.0	+10
EKS2					LR	LR			
	comp=Z,513nm,19.0s								
Q30A	**Quinter**	**99.64**	**52**	⇓P		**Pdif**		**19 23 22.0**	**+2.1**
	baz=100								
Y32A	**R-V Farms, Ver**	**99.65**	**57**	⇓P		**Pdif**		**19 23 21.0**	**+1.0**
	baz=100								
P30A	**Selden**	**99.69**	**52**	⇑P		**Pdif**		**19 23 20.7**	**+0.6**
	baz=100								
C27A	**Sayler Ranch,**	**99.71**	**43**	⇓P		**Pdif**		**19 23 21.6**	**+1.7**
	baz=100								
X32A	**Elmer**	**99.83**	**57**	⇓P		**Pdif**		**19 23 20.9**	**+0.1**
	baz=100								
B27A	**Peters Farms,**	**99.95**	**43**	⇑P		**Pdif**		**19 23 20.9**	**-0.1**
	baz=100								
W32A	**Sentinel**	**99.95**	**56**	⇓P		**Pdif**		**19 23 21.4**	**+0.1**
	baz=100								
S31A	**Mullinville**	**100.06**	**54**	⇑P		**Pdif**		**19 23 23.0**	**+1.2**
	baz=100								
FFC	**Flin Flon**	**100.13**	**36**	*i* P		**Pdif**		**19 23 22.5**	**+1.0**
FFC	**Flin Flon**	**100.13**	**36**	*e*Pdif		**Pdif**		**19 23 21.1**	**-0.5**
FFC					LR	LR			
	comp=Z,458nm,20.0s								
KVTX	**Kingsville**	**100.14**	**64**		PFAKE			19 23 30.0	+7.8
KVTX					LR	LR			
	comp=Z,658nm,19.0s								
WMOK	**Wichita Mounta**	**100.29**	**57**		PFAKE			19 23 30.0	+7.2
WMOK					LR	LR			
	comp=Z,923nm,19.0s								
B28A	**Dugan Ranch, T**	**100.55**	**43**	⇓P		**Pdif**		**19 23 24.6**	**+1.0**
	baz=101								
A28A	**Rude Farm, Bot**	**100.65**	**42**	⇑P		**Pdif**		**19 23 26.2**	**+2.1**
	baz=101								
R33A	**Olander Ranch,**	**101.31**	**53**	⇑P		**Pdif**		**19 23 28.1**	**+0.8**
	baz=101								
A29A	**Manning Farm,**	**101.33**	**42**	⇑P		**Pdif**		**19 23 28.1**	**+1.0**
	baz=101								
KK31	**Karatay Array**	**102.04**	**312**	*i* P		**Pdif**		**19 23 29.7**	**-0.7**
KK31					pmax	pmax			
	comp=Z,22nm,1.0s								
KKAR	**Karatay Array**	**102.04**	**312**	*eP*		**Pdif**		**19 23 29.8**	**-0.6**
KKAR	**Karatay Array**	**102.04**	**312**	*e*Pdif		**Pdif**		**19 23 29.8**	**-0.6**
HKT	**Hockley**	**102.23**	**62**	*eP*		**Pdif**		**19 23 34.3**	**+2.9**
HKT	**Hockley**	**102.23**	**62**	*e*Pdif		**Pdif**		**19 23 34.3**	**+2.9**
VOSK	**Vostochnaya**	**102.32**	**322**	P		**Pdif**		**19 23 29.8**	**-1.6**
VOSK					pmax	pmax			
	comp=Z,17nm,1.1s								
KSU1	**Kansas State U**	**102.45**	**52**		PFAKE			19 23 40.0	+7.7
KSU1					LR	LR			
	comp=Z,755nm,20.0s								
KBL	**Kabul**	**102.46**	**303**	*eP*		**Pdif**		**19 23 32.4**	**-0.3**
KBL	**Kabul**	**102.46**	**303**	*e*Pdif		**Pdif**		**19 23 32.4**	**-0.3**
BVA0	**Borovoye Array**	**102.69**	**322**	*i* P		**Pdif**		**19 23 32.1**	**-0.9**
BVA0					pmax	pmax			
	comp=Z,58nm,1.3s								
BRVK	**Borovoye**	**102.76**	**322**	⇓*i*P		**Pdif**		**19 23 33.1**	**-0.2**
BRVK	**Borovoye**	**102.76**	**322**		Pdiff	**Pdif**		**19 23 32.9**	**-0.4**
	SNR=9.5								
BRVK	**Borovoye**	**102.76**	**322**	*e*Pdif		**Pdif**		**19 23 32.2**	**-1.1**
BRVK				*e*PKPdf		**PKiKP**		**19 27 51.9**	**-1.3**
BRVK					LR	LR			
	comp=Z,697nm,20.0s								
ECSD	**EROS Data Cent**	**102.78**	**48**		PFAKE			19 23 50.0	+16
ECSD					LR	LR			
	comp=Z,396nm,20.0s								
PAYG	**Puerto Ayora**	**102.84**	**93**		PFAKE			19 23 50.0	+15
PAYG					LR	LR			
	comp=Z,630nm,20.0s								
MIAR	**Mount Ida**	**104.54**	**57**		PFAKE			19 23 50.0	+8.3
MIAR					LR	LR			
	comp=Z,1μm,19.0s								
SCIA	**State Center**	**105.19**	**50**		PFAKE			19 28 10.0	
SCIA					LR	LR			
	comp=Z,810nm,20.0s								
PLCA	**Paso Flores**	**106.11**	**138**		PKKPbc	PKKPbc		19 39 21.4	-1.7
PLCA	**Paso Flores**	**106.11**	**138**		PKKPbc	PKKPbc		19 39 21.4	-1.7
	comp=Z,5.1nm,1.1s,baz=124,slow=1.6,SNR=3.9								
EYMN	**Ely**	**106.45**	**43**		PFAKE			19 28 10.0	
EYMN					LR	LR			
	comp=Z,592nm,20.0s								
VBMS	**Vicksburg**	**106.95**	**60**		PFAKE			19 28 10.0	
VBMS					LR	LR			
	comp=Z,693nm,19.0s								
JFWS	**Jewell Farm**	**107.40**	**49**		PFAKE			19 28 10.0	
JFWS					LR	LR			
	comp=Z,494nm,21.0s								
OXF	**Oxford**	**107.97**	**57**		PFAKE			19 28 20.0	
OXF					LR	LR			
	comp=Z

BCIP LR LR
comp=Z,257nm,20.0s
ERPA Erie 115.02 49 PFAKE 19 28 30.0 +13
ERPA LR LR
comp=Z,515nm,20.0s
BLA Blacksburg 115.20 54 PFAKE 19 28 30.0 +13
BLA LR LR
comp=Z,658nm,19.0s
ABTO Aybut 115.27 284 PKPdf **PKPdf 19 28 18.5 +0.7**
SNR=6.5
MCWV Mont Chateau 115.42 52 PFAKE 19 28 30.0 +13
MCWV LR LR
comp=Z,1μm,19.0s
LVZ Lovozero 115.45 342 PFAKE 19 28 30.0 +13
LVZ LR LR
comp=Z,937nm,21.0s
LVC Limon Verde 116.06 122 PFAKE 19 28 30.0 +10
LVC LR LR
comp=Z,513nm,22.0s
KEV Kevo 116.36 345 *e*PKIKP **PKPdf 19 28 17.7 -0.6**
KEV Kevo 116.36 345 *ep* **PKPdf 19 28 17.7 -0.6**
KEV Kevo 116.36 345 PFAKE 19 28 30.0 +12
KEV LR LR
comp=Z,675nm,20.0s
ARCES ARCESS Array B 116.89 346 PKP **PKPdf 19 28 19.3 -0.1**
ARCES PKKPbc **PKKPbc 19 38 44.0 -4.5**
ARCES ARCESS Array B 116.89 346 PKP **PKPdf 19 28 19.3 -0.1**
comp=Z,21nm,0.7s,baz=76,slow=1.7,SNR=63
ARCES PKKPbc **PKKPbc 19 38 44.0 -4.5**
comp=Z,3.6nm,0.8s,baz=212,slow=2.2,SNR=12
SUMG Summit 117.11 8 *i* PKIKP **PKPdf 19 28 21.0 +0.7**
SUMG pmax pmax
comp=Z,11nm,0.9s
SUMG Summit 117.11 8 *i* P **PKPdf 19 28 21.0 +0.7**
comp=Z,11nm,0.9s
SUMG Summit 117.11 8 *e*PKPdf **PKPdf 19 28 20.1 -0.2**
KLMR Klimovskoe 117.41 334 *e*PKIKP **PKPdf 19 28 19.4 -1.2**
KLMR pmax pmax
comp=Z,45nm,1.4s
CNNC Cliffs of the 117.41 56 PFAKE 19 28 30.0 +8.6
CNNC LR LR
comp=Z,639nm,19.0s
ILULI Ilulissat 117.48 14 *e*PKIKP **PKPdf 19 28 21.2 +0.7**
ILULI pmax pmax
comp=Z,19nm,0.9s
BINY Binghamton 117.95 48 PFAKE 19 28 30.0 +7.7
BINY LR LR
comp=Z,776nm,21.0s
MTDJ Mount Denham 118.01 75 PFAKE 19 28 40.0 +17
MTDJ LR LR
comp=Z,315nm,19.0s
LONY Lake Ozonia 118.47 45 PFAKE 19 28 40.0 +17
LONY LR LR
comp=Z,354nm,20.0s
MAK Makhachkala 118.84 313 *i* P **Pdif 19 24 45.1 +0.1**
MAK *e* 19 29 42.8
MAK *e* 19 35 12.9
MAK *e*SP SP 19 39 15.9 -1.2
NCB Newcomb 118.86 46 PFAKE 19 28 40.0 +16
NCB LR LR
comp=Z,528nm,19.0s
LPAZ La Paz 119.37 116 *e*PKPdf **PKPdf 19 28 26.2 -0.2**
LPAZ PKP **PKPdf 19 28 26.6 +0.2**
LPAZ PKKPbc **PKKPbc 19 38 38.5 -0.4**
LPAZ SKKP 19 42 30.1
LPAZ La Paz 119.37 116 PKP **PKPdf 19 28 26.6 +0.2**
comp=Z,5.6nm,0.9s,baz=211,slow=1.8,SNR=14
LPAZ PKKPbc **PKKPbc 19 38 38.5 -0.4**
comp=Z,7.2nm,0.8s,baz=56,slow=5.7,SNR=19
LPAZ SKKP 19 42 30.1
comp=Z,2.7nm,1.0s,baz=122,slow=3.5,SNR=4.4
JOF Joensuu 119.56 338 *e*PKIKP **PKPdf 19 28 25.0 +0.3**
JOF pmax pmax
comp=Z,41nm,1.0s
JOF Joensuu 119.56 338 *ep* **PKPdf 19 28 25.0 +0.3**
comp=Z,41nm,1.0s
SCHQ Schefferville 119.97 32 PKKPbc PKKPbc 19 38 36.0 -0.9
SCHQ Schefferville 119.97 32 PKKPbc PKKPbc 19 38 36.0 -0.9
comp=Z,11nm,0.9s,baz=145,slow=4.0,SNR=8.7
GTBY Guantanamo Bay 120.38 74 PFAKE 19 28 40.0 +13
GTBY LR LR
comp=Z,226nm,20.0s
VRHR Novokhopersk 120.41 323 *e*PKIKP **PKPdf 19 28 26.1 -0.5**
VRHR pmax pmax
comp=Z,50nm,1.0s
VRHR pmax pmax
comp=N,20nm,1.8s
VRHR pmax pmax
comp=E,10.0nm,0.9s
LBNH Lisbon 120.41 45 PFAKE 19 28 40.0 +13
LBNH LR LR
comp=Z,411nm,22.0s
UMR Umm Al-Rimmam 120.50 298 *e*P **PKPdf 19 28 27.5 0.0**
UMR AMb AMB 19 28 30.4
comp=Z,145nm,1.4s
MOS Moscow 120.68 329 *e*PKIKP **PKPdf 19 28 25.8 -1.2**
MOS *e* 19 29 52.1
MOS pmax pmax
comp=Z,46nm,1.1s
RDF Al-Radifah 120.69 297 *e*P **PKPdf 19 28 27.4 -0.4**
RDF AMb AMB 19 28 31.6
comp=Z,133nm,1.3s
SCO Scoresbysund 120.76 3 *i* PKIKP **PKPdf 19 28 27.9 +1.1**
SCO pmax pmax
comp=Z,12nm,1.0s
SCO Scoresbysund 120.76 3 *i* P **PKPdf 19 28 27.9 +1.1**
comp=Z,12nm,1.0s
NAY Al-Naaiem 120.94 297 *e*P **PKPdf 19 28 27.6 -0.8**
NAY AMb AMB 19 28 31.6
comp=Z,46nm,1.1s
DUS Dusheti 121.05 312 P **PKPdf 19 28 30.6 +2.3**
TBLG Delisi 121.10 312 P **PKPdf 19 28 29.4 +1.0**
GUDG Gudauri 121.12 313 P **PKPdf 19 28 29.8 +1.2**
RST Umm Al-Ruwaisa 121.13 298 *e*P **PKPdf 19 28 27.9 -0.8**
RST AMb AMB 19 28 30.6
comp=Z,1μm,0.9s
GNI Garni 121.45 310 *e*PKPdf **PKPdf 19 28 29.8 +0.5**
GNI LR LR
comp=Z,309nm,22.0s
OBN Obninsk 121.50 329⇑ *i*PKIKP **PKPdf 19 28 27.6 -1.0**
OBN *i* 19 30 03.7
OBN *e* 19 35 11.1
OBN *e*SS SS 19 46 26.5 +0.5
OBN pmax pmax
comp=Z,74nm,1.3s
OBN Obninsk 121.50 329 *e*PKPdf **PKPdf 19 28 28.0 -0.6**
OBN LR LR
comp=Z,640nm,19.0s
VSR Storozhevoye 121.79 324 *e*PKIKP **PKPdf 19 28 29.1 -0.2**
VSR pmax pmax
comp=Z,50nm,1.1s
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,20nm,1.3s
ONI Oni 121.83 313 P **PKPdf 19 28 30.5 +0.7**
KAF Kangasniemi 121.86 339 *e*PKIKP **PKPdf 19 28 28.2 -0.9**
KAF pmax pmax
comp=Z,42nm,1.1s
KAF Kangasniemi 121.86 339 *ep* **PKPdf 19 28 28.2 -0.9**
comp=Z,42nm,1.1s
PKME Peaks-Kenny Pk 121.94 43 PFAKE 19 28 40.0 +10
PKME LR LR
comp=Z,409nm,19.0s
KIV Kislovodsk 122.00 315 *i* PKIKP **PKPdf 19 28 30.7 +0.6**
KIV *e* 19 29 25.6
KIV *i* 19 30 06.6
KIV *e* 19 35 20.3
KIV *i* PS PS 19 39 44.0 -18
KIV pmax pmax
comp=Z,17nm,1.1s
KIV Kislovodsk 122.00 315 PKPdf **PKPdf 19 28 30.9 +0.8**
SNR=5.7
KIV Kislovodsk 122.00 315 *e*PKPdf **PKPdf 19 28 30.1 0.0**
KIV *e*PP **PP 19 30 07.0 +0.9**
KIV LR LR
comp=Z,321nm,22.0s
AKH Akhalkalaki 122.09 312 P **PKPdf 19 28 31.8 +1.4**
SOE Somerset East 122.38 219 P **PKPdf 19 28 31.2 0.0**
FIA1 FINESS Array S 122.39 339 *e*PKPdf **PKPdf 19 28 29.6 -0.5**
FINES FINESS Array B 122.39 339 PKP **PKPdf 19 28 29.0 -1.1**
FINES PKKPbc **PKKPab 19 38 25.8 +0.1**
FINES FINESS Array B 122.39 339 PKP **PKPdf 19 28 29.0 -1.1**
comp=Z,47nm,1.0s,baz=45,slow=2.4,SNR=43
FINES PKKPbc **PKKPab 19 38 25.8 +0.1**
comp=Z,3.5nm,0.8s,baz=173,slow=3.1,SNR=14
CHVG Ch'k'valeri 122.77 314 P **PKPdf 19 28 33.0 +1.5**
CPUP Villa Florida 123.24 132 *e*PKPdf **PKPdf 19 28 32.7 -0.2**
CPUP PKP **PKPdf 19 28 33.1 +0.2**
CPUP PKKPbc **PKKPbc 19 38 21.8 -2.0**
CPUP SKKP 19 42 19.4
CPUP Villa Florida 123.24 132 PKP **PKPdf 19 28 33.1 +0.2**
comp=Z,8.8nm,0.7s,baz=252,slow=1.4,SNR=20
CPUP PKKPbc **PKKPbc 19 38 21.8 -2.0**
comp=Z,6.6nm,0.9s,baz=58,slow=4.1,SNR=8.1
CPUP SKKP 19 42 19.4
comp=Z,4.3nm,1.0s,baz=71,slow=2.6,SNR=3.0
HVD Gariep Dam 123.84 221 PKIKP **PKPdf 19 28 33.6 -0.6**
HVD Gariep Dam 123.84 221 P **PKPdf 19 28 33.6 -0.6**
SEK Senekal 123.91 224 P **PKPdf 19 28 34.2 -0.2**
SDDR Presa de Saban 123.96 75 PFAKE 19 28 50.0 +16
SDDR LR LR
comp=Z,445nm,22.0s
VSU Vasula 124.11 336*c* *i*PKIKP **PKPdf 19 28 33.2 -0.3**
GRTK Grand Turk 124.12 72 PFAKE 19 28 50.0 +15
GRTK LR LR
comp=Z,511nm,20.0s
SOC Sochi 124.17 315 *i* PKIKP PKPdf 19 28 24.1 -10
SOC *e* 19 29 05.4
SOC *e* 19 41 49.1
ELIM Elim 124.39 213 P **PKPdf 19 28 35.7 +0.7**
ERPM east rand prop 124.69 227 P **PKPdf 19 28 36.4 +0.4**
PRYS Parys 124.96 225 P **PKPdf 19 28 35.9 -0.6**
SLR Silverton 125.03 227 PKIKP **PKPdf 19 28 36.8 +0.3**
SLR Silverton 125.03 227 P **PKPdf 19 28 36.8 +0.3**
KLOF Kloof 125.14 226 P **PKPdf 19 28 37.0 +0.2**
NRS Narsarsuaq 125.16 18 *e*PKIKP **PKPdf 19 28 35.2 -0.2**
NRS pmax pmax
comp=Z,54nm,0.9s
ANN Anapa 125.31 317 *i* PKIKP **PKPdf 19 28 36.5 +0.3**
ANN *e* 19 29 11.8
ANN *e*SS SS 19 47 15.7 +0.9
ANN pmax pmax
comp=Z,68nm,1.2s
BOSA Boshof 125.32 222 *e*PKPdf **PKPdf 19 28 37.3 +0.3**
BOSA PKP **PKPdf 19 28 37.5 +0.5**
BOSA *ep*PKPdf **pPKPdf 19 29 09.4 -4.3**
BOSA Boshof 125.32 222 PKP **PKPdf 19 28 37.5 +0.5**
comp=Z,22nm,0.8s,baz=116,slow=2.0,SNR=24
SUR Sutherland 125.45 216 *e*PKPdf **PKPdf 19 28 37.7 +0.4**
SUR LR LR
comp=Z,480nm,20.0s
CER Ceres 125.57 214 P **PKPdf 19 28 37.8 +0.5**
SIV San Ignacio 125.63 119 PKKPbc PKKPbc 19 38 14.2 -0.1
SIV San Ignacio 125.63 119 PKKPbc PKKPbc 19 38 14.2 -0.1
comp=Z,1.2nm,0.8s,baz=101,slow=5.5,SNR=3.8
MSNA Messina 125.69 232 P **PKPdf 19 28 37.9 +0.1**
MICGM Minsk 126.08 331 *e* **PKPdf 19 28 36.0 -1.4**
MNK Minsk 126.10 332 *e*PKIKP **PKPdf 19 28 36.0 -1.5**
SWZ Schweizer 126.20 224 P **PKPdf 19 28 39.0 +0.2**
PKA Prieska 126.21 220 P **PKPdf 19 28 38.8 +0.1**
NACGM Naroch 126.34 332 *e* **PKPdf 19 28 36.0 -1.9**
SAML Samuel 126.63 110 *e*PKPdf **PKPdf 19 28 39.0 -0.7**
SAML *ep*PKPdf **pPKPdf 19 29 15.1 -1.3**
SAML LR LR
comp=Z,382nm,21.0s
MALT Malatya 126.65 309 ⇓PKIKP **PKPdf 19 28 36.5 -2.7**
MALT Malatya 126.65 309 ⇓*i*P **PKPdf 19 28 36.5 -2.7**
CVNA Calvinia 126.71 216 P **PKPdf 19 28 40.3 +0.7**
NB2 NORSAR Subarra127.26 345 PKPdf **PKPdf 19 28 38.9 -0.7**
comp=Z,34nm,1.1s,baz=31,slow=1.9
NB2 NORSAR Subarra127.26 345 PKPdf **PKPdf 19 28 38.9 -0.7**
baz=31,slow=1.9
NOA NORSAR Array B127.26 345 PKP **PKPdf 19 28 39.5 0.0**
NOA NORSAR Array B127.26 345 PKP **PKPdf 19 28 39.5 0.0**
comp=Z,20nm,0.9s,baz=32,slow=2.0,SNR=46
LBTB Lobatse 127.39 226 PKP **PKPdf 19 28 41.0 0.0**
LBTB *e*PKPdf **PKiKP 19 28 41.2 -0.3**
LBTB *ep*PKPdf **pPKPdf 19 29 15.2 -2.5**
LBTB *e*PP **PP 19 30 41.8 -0.1**
LBTB Lobatse 127.39 226 PKP **PKPdf 19 28 41.0 0.0**
comp=Z,23nm,0.9s,baz=156,slow=4.3,SNR=7.8
SIM Simferopol' 127.43 319*de*PKIKP **PKPdf 19 28 41.8 +1.5**
SIM 19 30 43.2
SIM pmax pmax
comp=Z,26nm,0.9s
SIM MLR MLR
comp=Z,54nm,15.0s
NAO01 NORSAR Array S 127.51 345 *e*PKPdf **PKPdf 19 28 40.3 +0.2**
AKASG Malin Array Be 127.58 327 PKIKP **PKPdf 19 28 40.0 -0.4**
AKASG 19 30 42.3
AKASG pmax pmax
comp=Z,14nm,0.3s
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 127.58 327 PKP **PKPdf 19 28 40.0 -0.4**
AKASG PP **PP 19 30 42.3 -0.3**
AKASG Malin Array Be 127.58 327 PKP **PKPdf 19 28 40.0 -0.4**
comp=Z,14nm,0.3s,baz=60,slow=1.8,SNR=23
AKASG PP **PP 19 30 42.3 -0.3**
comp=Z,2.1nm,0.5s,baz=47,slow=7.2,SNR=5.3
AKBB Malin Array Si 127.58 327 *e*PKIKP **PKPdf 19 28 39.9 -0.5**
AKBB *e* 19 30 41.8
AKBB Malin Array Si 127.58 327 *e*PKPdf **PKPdf 19 28 39.9 -0.5**
AKBB *e*PP **PP 19 30 41.8 -0.8**
AK01 Malin Array Si 127.59 327 *e*PKPdf **PKPdf 19 28 39.9 -0.6**
AK01 *e*PP **PP 19 30 41.7 -1.0**
KIEV Kiev 127.59 327 *e*PKIKP **PKPdf 19 28 39.7 -0.7**
KIEV *e* 19 30 40.8
KIEV MLR MLR
comp=Z,419nm,21.0s
KIEV Kiev 127.59 327 *e*PKPdf **PKPdf 19 28 39.7 -0.7**
KIEV *e*PP **PP 19 30 40.8 -1.9**
KIEV LR LR
comp=Z,419nm,21.0s
AK02 Malin Array Si 127.61 327 *e*PKPdf **PKPdf 19 28 40.3 -0.1**
AK02 *e*PP **PP 19 30 41.7 -1.1**
KMBO Kilima Mbogo 128.02 259 PKPdf **PKPdf 19 28 44.6 +1.9**
SNR=16
KMBO Kilima Mbogo 128.02 259 PKP **PKPdf 19 28 43.2 +0.6**
KMBO *e*PKPdf **PKiKP 19 28 43.9 +0.6**
KMBO *ep*PKPdf **pPKPdf 19 29 16.9 -2.6**
KMBO *e*PP **PP 19 30 44.7 -2.7**
KMBO LR LR
comp=Z,401nm,19.0s
KMBO Kilima Mbogo 128.02 259 PKP **PKPdf 19 28 43.2 +0.6**
comp=Z,22nm,1.0s,baz=49,slow=4.0,SNR=30
CELP Cerrillos 128.41 76 *e*PKPdf **PKPdf 19 28 43.5 +0.5**
CELP *ep*PKPdf **pPKPdf 19 29 18.2 -1.4**
SUW Suwalki 128.53 333 *e*PKIKP **PKPdf 19 28 41.9 -0.2**
SUW Suwalki 128.53 333 *e*PKPdf **PKPdf 19 28 41.9 -0.2**
SUW Suwalki 128.53 333 *e*PKP **PKPdf 19 28 41.8 -0.3**
BBSR BB Station 128.69 58 PFAKE 19 29 00.0 +17
BBSR LR LR
comp=Z,396nm,21.0s
KONO Kongsberg 128.87 345 PFAKE 19 28 50.0 +7.4
KONO LR LR
comp=Z,450nm,20.0s
BR131 Keskin Array S 129.75 313 *e*PKPdf **PKPdf 19 28 44.5 -0.7**
BR131 *ep*PKPdf **pPKPdf 19 29 20.8 -1.0**
BR131 *e*PP **PP 19 30 55.1 -2.5**
BRTR Keskin Array B 129.75 313 PKP **PKPdf 19 28 44.6 -0.5**
BRTR PP **PP 19 30 56.9 -0.7**
BRTR Keskin Array B 129.75 313 PKP **PKPdf 19 28 44.6 -0.5**
comp=Z,12nm,1.0s,baz=166,slow=0.5,SNR=22
BRTR PP **PP 19 30 56.9 -0.7**
comp=Z,7.6nm,1.0s,baz=117,slow=4.3,SNR=7.0
KIS Kishinev 129.76 323 *e*PKP **PKPdf 19 28 45.0 +0.3**
KIS *ep*PKP pPKPdf 19 29 30.0 +8.6
KIS Kishinev 129.76 323 *e*PP PP 19 30 58.0 +1.0
KIS Kishinev 129.76 323 *i* PKS **SKPdf 19 32 05.0 -2.3**
KIS *e*SKKS SKKSac 19 37 50.0 +9.3
KIS LRM MLR 20 23 04.0
comp=Z,300nm,22.0s
KIS Kishinev 129.76 323 *e*PKIKP **PKPdf 19 28 45.0 +0.3**
KIS *e* 19 30 58.0
KIS *e* 19 41 10.0
KIS MLR MLR
comp=Z,300nm,20.0s
KIS MLR MLR
comp=Z,300nm,22.0s
ANTO Ankara 130.31 313 *e*PKIKP **PKPdf 19 28 45.7 -0.4**
ANTO *e* 19 30 59.7
ANTO MLR MLR
comp=Z,315nm,19.0s
ANTO Ankara 130.31 313 PKPdf **PKPdf 19 28 48.2 +2.2**
SNR=6.3
ANTO Ankara 130.31 313⇑ *i*P **PKPdf 19 28 43.1 -3.0**
ANTO Ankara 130.31 313 *e*PKPdf **PKPdf 19 28 45.7 -0.4**
ANTO *e*PP **PP 19 30 59.7 -1.4**
ANTO LR LR
comp=Z,315nm,19.0s
LEOM Leova 130.37 323⇑PKIKP **PKPdf 19 28 43.7 -2.1**
LEOM Leova 130.37 323⇑ *i*P **PKPdf 19 28 43.7 -2.1**
TLCR 130.67 321⇑PKIKP **PKPdf 19 28 43.9 -2.6**
TLCR 130.67 321⇑ *i*P **PKPdf 19 28 43.9 -2.6**
LVV L'vov 130.80 329 *e*PKIKP **PKPdf 19 28 48.0 +1.4**
LVV MLR MLR
comp=N,200nm,16.0s
LVV MLR MLR
comp=Z,300nm,16.0s
LVV MLR MLR
comp=E,300nm,17.0s
LSZ Lusaka 130.90 238 PKPdf **PKPdf 19 28 51.0 +3.0**
SNR=15
LSZ Lusaka 130.90 238 *e*PKPdf **PKPdf 19 28 48.6 +0.6**
LSZ PKP **PKPdf 19 28 48.7 +0.7**
LSZ *ep*PKPdf **pPKPdf 19 29 22.3 -2.4**
LSZ *e*PP **PP 19 31 05.5 +0.2**
LSZ SKPbc **SKPab 19 32 01.7 +1.7**
LSZ *e*SKP 19 32 02.2
LSZ LR LR
comp=Z,645nm,20.0s
LSZ Lusaka 130.90 238 PKP **PKPdf 19 28 48.7 +0.7**
comp=Z,21nm,0.9s,baz=210,slow=4.4,SNR=9.3
LSZ SKPbc **SKPab 19 32 01.7 +1.7**
comp=Z,9.5nm,1.1s,baz=55,slow=9.0,SNR=6.7
BSD Bornholm Skovb 131.03 339 *i* PKIKP **PKPdf 19 28 48.4 +1.6**
BSD pmax pmax
comp=Z,35nm,1.0s
BSD Bornholm Skovb 131.03 339 *i* P **PKPdf 19 28 48.4 +1.6**
comp=Z,35nm,0.9s
BEL Belsk 131.06 332 *e*PKIKP **PKPdf 19 28 48.6 +1.6**
BEL Belsk 131.06 332 *e*PKP **PKPdf 19 28 48.6 +1.6**
GHRR 131.08 323⇓ *i*P **PKPdf 19 28 46.1 -1.1**
CFR Carcaliu 131.09 321⇑PKIKP **PKPdf 19 28 44.1 -3.1**
CFR Carcaliu 131.09 321⇑ *i*P **PKPdf 19 28 44.1 -3.1**
TIRR Tirgusor 131.28 320⇑PKIKP **PKPdf 19 28 44.6 -3.0**
TIRR Tirgusor 131.28 320⇑ *i*P **PKPdf 19 28 44.6 -3.0**
TESR Tescani 131.28 324⇑ *i*P **PKPdf 19 28 44.3 -3.3**
EFOR EFORIE 131.32 320⇑ *i*P **PKPdf 19 28 50.0 +2.3**
BUR08 Bucovina Ar. S 131.47 326 *e*PKPdf **PKPdf 19 28 49.2 +1.1**
BUR08 *e*PP **PP 19 31 06.2 -2.0**
BURAR Bucovina Array 131.48 326⇑PKIKP **PKPdf 19 28 45.1 -3.0**
BURAR Bucovina Array 131.48 326⇑ *i*P **PKPdf 19 28 45.1 -3.0**
CSS Prodhromos 131.53 307 *e*PKPdf **PKPdf 19 28 47.9 -0.5**
CSS LR LR
comp=Z,244nm,20.0s
GKP Gorka Klasztor 131.57 336 *e*PKIKP **PKPdf 19 28 49.8 +1.9**
GKP Gorka Klasztor 131.57 336 *e*PKP **PKPdf 19 28 49.8 +1.9**
VRI Vrincioaia 131.58 323⇑PKIKP **PKPdf 19 28 46.8 -1.4**
VRI Vrincioaia 131.58 323⇑ *i*P **PKPdf 19 28 46.8 -1.4**
KWP Kalwaria Pacla 131.59 329 *e*PKIKP **PKPdf 19 28 48.3 +0.2**
KWP *e* 19 31 05.9
KWP MLR MLR
comp=Z,557nm,22.0s
KWP Kalwaria Pacla 131.59 329⇓ *i*P **PKPdf 19 28 45.9 -2.2**
KWP Kalwaria Pacla 131.59 329 *e*PKPdf **PKPdf 19 28 48.3 +0.2**
KWP *e*PP **PP 19 31 05.9 -2.8**
KWP *e*SKP 19 32 04.7
KWP LR LR
comp=Z,557nm,22.0s
KWP Kalwaria Pacla 131.59 329 *e*PKP **PKPdf 19 28 49.5 +1.4**
PLOR Plostina 131.64 323⇓PKIKP **PKPdf 19 28 47.1 -1.3**
PLOR Plostina 131.64 323⇓ *i*P **PKPdf 19 28 47.1 -1.3**
MUD Monsted U'grnd 131.76 343 *e*PKIKP **PKPdf 19 28 49.6 +1.5**
MUD pmax pmax
comp=Z,12nm,1.1s
MUD Monsted U'grnd 131.76 343 *i* P **PKPdf 19 28 49.6 +1.5**
comp=Z,12nm,1.1s
MSAB Monastry St. A 131.83 320⇑ *i*P **PKPdf 19 28 47.5 -1.2**
SPB Sao Paulo 131.92 137 *e*PKPdf **PKPdf 19 28 50.9 +1.4**
SPB LR LR
comp=Z,529nm,19.0s
KOLS Kolonicke sedl 132.25 329 *e*PKIKP **PKPdf 19 28 50.2 +0.8**
KOLS Kolonicke sedl 132.25 329 *e*PKP **PKPdf 19 28 50.2 +0.8**
DOPR Dopca 132.31 324⇓ *i*P **PKPdf 19 28 47.8 -1.8**
UZH Uzhgorod 132.44 328 *e*PKIKP **PKPdf 19 28 50.0 +0.3**
STHS Stebnicka Huta 132.46 330 *e*PKIKP **PKPdf 19 28 51.1 +1.3**
STHS Stebnicka Huta 132.46 330 *e*PKP **PKPdf 19 28 51.1 +1.3**
SULR 132.50 322⇑ *i*P **PKPdf 19 28 47.7 -2.2**
TRPA Tarpa 132.62 328⇑ *i*P **PKPdf 19 28 47.3 -2.8**
TRPA Tarpa 132.62 328⇑ *e* **PKPdf 19 28 50.0 -0.1**
OJC Ojcow 132.62 331 *e*PKIKP **PKPdf 19 28 50.3 +0.3**
OJC *e* 19 31 16.0
ISP Isparta 132.71 311 *e*PKIKP **PKPdf 19 28 50.2 -0.5**
ISP MLR MLR
comp=Z,336nm,20.0s
ISP Isparta 132.71 311 *e*PKPdf **PKPdf 19 28 50.2 -0.5**
ISP LR LR
comp=Z,336nm,20.0s
VOIR 132.81 323⇑PKIKP **PKPdf 19 28 53.4 +2.8**
VOIR 132.81 323⇑ *i*P **PKPdf 19 28 53.4 +2.8**
NIE Niedzica 132.92 330 *e*PKIKP **PKPdf 19 28 51.7 +1.0**
NIE *e* 19 31 18.9
GRGR Grenville 132.93 84 PFAKE 19 29 00.0 +8.4
GRGR LR LR
comp=Z,299nm,22.0s
ANWB Willy Bob 132.98 77 PFAKE 19 29 00.0 +8.4
ANWB LR LR
comp=Z,305nm,21.0s
ARR Arges 133.09 323⇑ *i*P PKPdf 19 28 43.3 -7.9
SIBR Sibiu 133.10 324⇑ *i*P **PKPdf 19 28 55.0 +3.9**
DRGR 133.35 326⇓PKIKP **PKPdf 19 28 48.6 -3.0**
DRGR 133.35 326⇓ *i*P **PKPdf 19 28 48.6 -3.0**
KECS Kecovo 133.45 329 *e*PKIKP **PKPdf 19 28 53.0 +1.4**
KECS Kecovo 133.45 329 *e*PKP **PKPdf 19 28 53.0 +1.4**
RUE Ruedersdorf 133.52 337 *e*PKPdf **PKPdf 19 28 52.8 +1.2**
RUE Ruedersdorf 133.52 337 *e*PKPdf **PKPdf 19 28 52.6 +1.0**
LOT Lotru 133.54 324⇑ *i*P **PKPdf 19 28 48.3 -3.8**
BSEG Bad Segeberg 133.56 341 *e*PKPdf **PKPdf 19 28 53.1 +1.5**
FDF Fort de France 133.56 81 PFAKE 19 29 00.0 +7.2
FDF LR LR
comp=Z,393nm,19.0s
OKC Ostrava-Krasne 133.66 332 *e*PKIKP **PKPdf 19 28 53.2 +1.2**
OKC *e* 19 31 23.6
OKC MLR MLR
comp=Z,400nm,20.7s
OKC Ostrava-Krasne 133.66 332 *e*PKPdf **PKPdf 19 28 53.2 +1.2**
OKC *e*PP **PP 19 31 23.6 +1.9**
OKC *e*SKP 19 32 11.6
OKC *ex* x 19 44 17.3
OKC AMS AMS 20 24 40.0
comp=Z,400nm,20.7s
KSP Ksiaz 133.76 334 *e*PKIKP **PKPdf 19 28 52.7 +0.6**
KSP *e* 19 31 22.5
KSP Ksiaz 133.76 334 *e*PKP **PKPdf 19 28 52.8 +0.6**
DEV Deva 133.78 325⇑PKIKP **PKPdf 19 28 50.2 -2.1**
DEV Deva 133.78 325⇑ *i*P **PKPdf 19 28 50.2 -2.1**
MORC Moravsky Berou 133.98 332 *e*PKIKP **PKPdf 19 28 52.0 -0.6**
MORC *e* 19 31 21.6
MORC Moravsky Berou 133.98 332⇓ *i*P **PKPdf 19 28 50.0 -2.7**
MORC Moravsky Berou 133.98 332 *e*PKPdf **PKPdf 19 28 52.0 -0.6**
MORC *e*PP **PP 19 31 21.6 -2.3**
MORC *e*SKP 19 32 11.6
KRLC Kraliky 134.10 333 *e*PKIKP **PKPdf 19 28 53.7 +0.8**
KRLC Kraliky 134.10 333 *e*PKPdf **PKPdf 19 28 53.7 +0.8**
KRLC *e*SKP 19 32 15.1
DPC Dobruska-Polom 134.11 334 *e*PKHKP PKPpre 19 28 42.3
DPC *e* 19 28 53.0
DPC *e* 19 31 25.2
DPC *e* 19 43 07.4
DPC Dobruska-Polom 134.11 334 *e*PKPpre PKPpre 19 28 42.3
DPC *e*PKPdf **PKPdf 19 28 53.0 +0.1**
DPC *e*PP **PP 19 31 25.2 +0.6**
DPC *e*SKP 19 32 13.4
DPC *ex* x 19 43 07.4
DPC *ex* x 19 44 14.7
PSZ Piszkesteto 134.12 329 *e*PKIKP **PKPdf 19 28 53.7 +0.7**
PSZ *e* 19 31 26.9
PSZ MLR MLR
comp=Z,456nm,19.0s
PSZ Piszkesteto 134.12 329⇓ *i*P **PKPdf 19 28 50.1 -2.9**
PSZ Piszkesteto 134.12 329 *e*PKPdf **PKPdf 19 28 53.7 +0.7**
PSZ *e*PP **PP 19 31 26.9 +2.0**
PSZ *e*SKP 19 32 14.0
PSZ LR LR
comp=Z,456nm,19.0s
PSZ Piszkesteto 134.12 329⇑ *e* **PKPdf 19 28 52.9 -0.1**
UPC Upice 134.12 334 *e*PKIKP **PKPdf 19 28 53.4 +0.5**

UPC Upice 134.12 334 *e*PKPdf **PKPdf** **19 28 53.4 +0.5**
UPC *e*SKP 19 32 14.1
GZR Gura Zlata 134.15 324 ||PKIKP **PKPdf** **19 28 49.3 -3.8**
GZR Gura Zlata 134.15 324 ||*i*P **PKPdf** **19 28 49.3 -3.8**
SIRR Siria 134.24 326 ⇑*i*P **PKPdf** **19 28 49.6 -3.6**
MBAR Mbarara 134.43 258 PFAKE 19 29 10.0 +15
MBAR LR LR
comp=Z,630nm,20.0s
BZS Buzias 134.66 325 ⇑PKIKP **PKPdf** **19 28 49.2 -4.8**
BZS Buzias 134.66 325 ⇑*i*P **PKPdf** **19 28 49.2 -4.8**
KIG Kigali 134.66 256 P **PKPdf** **19 28 57.8 +2.6**
BRG Berggiesshubel 134.71 336 *e*PKP PKPpre 19 28 43.1
comp=Z,8.5nm,1.2s
BRG *i* 19 28 55.3
comp=Z,39nm,1.2s
BRG PP PP 19 31 20.0 -8.3
BRG *e*SKP 19 32 15.0
comp=Z,28nm,1.4s
BRG
comp=N,464nm,27.3s
BRG
comp=E,397nm,19.6s
BRG
comp=Z,574nm,16.7s
BRG Berggiesshubel 134.71 336 *e*PKHKP PKPpre 19 28 43.1
BRG *i* 19 28 55.3
BRG pmax pmax
comp=Z,9.0nm,1.2s
BRG pmax pmax
comp=N,28nm,1.4s
BRG MLR MLR
comp=N,464nm,27.3s
BRG MLR MLR
comp=E,397nm,19.6s
BRG MLR MLR
comp=Z,574nm,16.7s
BRG Berggiesshubel 134.71 336 *e*PKPdf **PKPdf** **19 28 54.4 +0.5**
PVCC Panska Ves 134.72 335 *e*PKIKP **PKPdf** **19 28 54.9 +1.0**
PVCC *e* 19 31 27.9
PVCC Panska Ves 134.72 335 *e*PKPdf **PKPdf** **19 28 54.9 +1.0**
PVCC *e*PP **PP** **19 31 27.9 -0.5**
PVCC *e*SKP 19 32 17.1
CLL Collm 134.74 337 ||*e*PKHKP PKPpre 19 28 44.0
CLL *i* 19 28 54.6
CLL *e* 19 29 28.0
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL pmax pmax
comp=Z,28nm,0.9s
CLL Collm 134.74 337 *e*PKPdf **PKPdf** **19 28 54.5 +0.6**
CLL Collm 134.74 337 *e*PKPpre PKPpre 19 28 44.0
comp=Z,9.0nm,1.1s
CLL ||*i*PKPdf **PKPdf** **19 28 54.6 +0.6**
comp=Z,28nm,0.9s
CLL *e*pPKPdf pPKPdf 19 29 28.0 -2.7
CLL *e*PP **PP** **19 31 30.0 +1.5**
comp=Z,200nm,18.0s
CLL *i* SKPdf **SKPab** **19 32 15.1 -0.1**
comp=Z,40nm,1.5s
CLL *e*pSKPdf 19 33 07.0
CLL *e*SKKSac **SKKSac** **19 38 06.0 -4.9**
CLL *e* 19 38 33.0
CLL *e*SKSP 19 41 18.0
CLL *e*SPP SPP 19 43 12.0
CLL *e*sPPS 19 44 23.0
CLL *e*SS SS 19 49 00.0 -9.3
CLL *e*sSS 19 50 00.0
CLL *e*SSS SSS 19 54 12.0
CLL *e*(sSSS) 19 55 43.0
CLL *e*SSSS 19 58 06.0
CLL *e* 20 05 24.0
CLL Lm MLR 20 32 00.0
comp=Z,600nm,19.9s
VRAC Vranov 134.75 332 ⇑*i*P **PKPdf** **19 28 54.4 +0.3**
PKSN Nyarlorinc 134.80 328 ||*e* **PKPdf** **19 28 57.2 +3.0**
NRDL Niedersach Rie 134.83 340 *e*PKPdf **PKPdf** **19 28 55.1 +1.1**
FBE Freiberg 134.91 336 *e*PKPdf **PKPdf** **19 28 55.5 +1.2**
SMOL Smolenice 134.92 331 *e*PKIKP **PKPdf** **19 28 56.3 +1.8**
SMOL Smolenice 134.92 331 *e*PKP **PKPdf** **19 28 56.2 +1.8**
PRA Prague 135.12 335 PP **PP** **19 31 31.0 +0.1**
PRA PKPdf **PKPdf** **19 28 55.0 +0.3**
PRU Pruhonice 135.14 334 *e*PKIKP **PKPdf** **19 28 54.8 0.0**
PRU *e* 19 31 31.2
PRU MLR MLR
comp=Z,800nm,21.3s
PRU Pruhonice 135.14 334 *e*PKPdf **PKPdf** **19 28 54.8 0.0**
PRU *e*PP **PP** **19 31 31.2 +0.2**
PRU *e*SKP 19 32 16.3
PRU *ex* x 19 44 27.8
PRU AMS AMS 20 19 50.0
comp=Z,800nm,21.3s
PKSG 135.23 329 ||*e* **PKPdf** **19 28 56.1 +1.1**
TREC Trest 135.25 333 *e*PKHKP PKPpre 19 28 43.5
TREC *e* 19 28 55.2
TREC *e* 19 31 32.9
TREC MLR MLR
comp=Z,600nm,23.6s
TREC Trest 135.25 333 *e*PKPpre PKPpre 19 28 43.5
TREC *e*PKPdf **PKPdf** **19 28 55.2 +0.2**
TREC *ex* x 19 31 24.7
TREC *e*PP **PP** **19 31 32.9 +1.1**
TREC *e*SKP 19 32 17.0
TREC AMS AMS 20 26 30.0
comp=Z,600nm,23.6s
CLZ Clausthal 135.28 339 *e*PKPdf **PKPdf** **19 28 56.2 +1.2**
NEUB Neuenburg 135.29 338 *e*PKPdf **PKPdf** **19 28 55.9 +0.9**
PKS2 Kecel 135.41 328 ||*e* **PKPdf** **19 28 57.3 +2.0**
ESK Eskdalemuir 135.48 352 *i* PKIKP **PKPdf** **19 28 57.5 +2.3**
VTS Vitosha 135.48 321 ⇑PKIKP **PKPdf** **19 28 53.1 -2.7**
VTS Vitosha 135.48 321 ⇑*i*P **PKPdf** **19 28 53.1 -2.7**
PKST T¨s 135.50 329 ||*e* **PKPdf** **19 28 55.6 +0.1**
TANN Tannenbergstha 135.66 336 *e*PKPdf **PKPdf** **19 28 56.8 +1.0**
WERD Werda 135.69 336 *e*PKPdf **PKPdf** **19 28 56.9 +1.1**
PLN Plauen 135.72 337 *e*PKPdf **PKPdf** **19 28 57.0 +1.2**
GUNZ Gunzen 135.75 336 *e*PKPdf **PKPdf** **19 28 57.1 +1.2**
IBBN Ibbenburen 135.76 341 *e*PKPdf **PKPdf** **19 28 57.0 +1.2**
WERN Wernitzgruen 135.79 336 *e*PKPdf **PKPdf** **19 28 57.3 +1.3**
NKC Novy Kostel 135.81 336 *e*PKIKP **PKPdf** **19 28 56.8 +0.8**
NKC *e* 19 31 35.5
NKC Novy Kostel 135.81 336 *e*PKPdf **PKPdf** **19 28 56.8 +0.8**
NKC *e*PP **PP** **19 31 35.5 +0.3**
NKC *e*SKP 19 32 19.2
PKS9 Tamasi 135.83 329 ||*e* **PKPdf** **19 28 57.2 +1.1**
PKSM Moragy 135.89 328 ⇑PKIKP **PKPdf** **19 28 55.6 -0.7**
PKSM Moragy 135.89 328 ⇑*i*P **PKPdf** **19 28 55.6 -0.7**
PKSM Moragy 135.89 328 ⇑*e* **PKPdf** **19 28 56.1 -0.2**
SOP Sopron 135.92 331 ⇑*e* **PKPdf** **19 28 56.1 -0.2**
CONA Conrad Observa 136.08 332 ⇑*i*PKPdf PKPpre 19 28 47.4
comp=Z,6.7nm,1.2s,SNR=9.1
CONA ⇑*i*PKPdf **PKPdf** **19 28 56.5 -0.2**
comp=Z,29nm,1.0s
RUDU RUNDU 136.09 229 P **PKPdf** **19 28 58.9 +1.3**
MANZ Manzenberg 136.14 336 *e*PKPdf **PKPdf** **19 28 57.8 +1.1**
KHC Kasperske Hory 136.20 334 *e*PKHKP PKPpre 19 28 46.0
KHC *e* 19 28 57.2
KHC *e* 19 31 34.3
KHC *e* 19 43 26.6
KHC MLR MLR
comp=Z,700nm,20.0s
KHC Kasperske Hory 136.20 334 *e*PKPpre PKPpre 19 28 46.0
KHC *e*PKPdf **PKPdf** **19 28 57.2 +0.4**
KHC *e*PP **PP** **19 31 34.3 -3.5**
KHC *ex* x 19 32 08.4
KHC *e*SKP 19 32 19.7
KHC *ex* x 19 43 26.6
KHC *ex* x 19 44 24.8
KHC AMS AMS 20 20 20.0
comp=Z,700nm,20.0s
KHC Kasperske Hory 136.20 334 *e*PKPpre PKPpre 19 28 45.6
KHC *e*PKPdf **PKPdf** **19 28 57.0 +0.2**
KHC *e*PP **PP** **19 31 34.1 -3.6**
KHC *e*SKP 19 32 18.1
UBBA Unterbreizbach 136.26 339 *e*PKPdf **PKPdf** **19 28 57.8 +1.1**
ROTZ Rotzenmuhle 136.27 336 *e*PKPdf **PKPdf** **19 28 58.1 +1.2**
WTSB Winterswijk 136.35 342 *e*PKP **PKPdf** **19 28 57.6 +0.7**
GEC2 GERESS Array S 136.37 334 *e*PKPdf **PKPdf** **19 28 58.1 +0.9**
GERES GERESS Array B 136.37 334 PKPpre PKPpre 19 28 46.4
GERES PKP **PKPdf** **19 28 56.8 -0.4**
GERES SKP 19 32 21.9
GERES GERESS Array B 136.37 334 PKhKP PKPpre 19 28 46.4
comp=Z,2.6nm,0.8s,baz=48,slow=2.0,SNR=15
GERES PKP **PKPdf** **19 28 56.8 -0.4**
comp=Z,20nm,0.9s,baz=48,slow=2.0,SNR=39
GERES SKP 19 32 21.9
comp=Z,0.9nm,0.7s,baz=69,slow=5.4,SNR=2.9
WET Wettzell 136.48 335 *e*PKPdf **PKPdf** **19 28 58.7 +1.4**
BDFB Brasilia 136.53 128 PKPpre PKPpre 19 28 48.1
BDFB PKP **PKPdf** **19 28 58.1 -0.4**
BDFB Brasilia 136.53 128 PKhKP PKPpre 19 28 48.1
comp=Z,2.9nm,0.7s,baz=175,slow=8.6,SNR=3.9
BDFB PKP **PKPdf** **19 28 58.1 -0.4**
comp=Z,15nm,0.8s,baz=128,slow=0.5,SNR=16
BUG Bochum--Univer 136.66 341 *e*PKPdf **PKPdf** **19 28 58.5 +1.0**
BEHE Becsehely 136.67 329 ||*e* **PKPdf** **19 28 59.2 +1.5**
GRFO Grafenberg 136.72 337 *e*PKIKP **PKPdf** **19 28 55.1 -2.6**
GRFO Grafenberg 136.72 337 *e*PKPdf **PKPdf** **19 28 55.1 -2.6**
TSUM Tsumeb 136.79 225 PKPpre PKPpre 19 28 48.6
TSUM LR LR
comp=Z,854nm,20.0s
TSUM Tsumeb 136.79 225 PKhKP PKPpre 19 28 48.6
comp=Z,14nm,1.0s,baz=143,slow=2.6,SNR=14
TNS Taunus Mts 137.30 339 *e*PKPdf **PKPdf** **19 29 00.0 +1.1**
PERS Pernice 137.36 331 *e*PKPdf **PKPdf** **19 28 58.9 -0.1**
PERS *e*PP **PP** **19 31 46.1 +0.9**
HGN Heimansgroeve 137.66 342 *e*PKP **PKPdf** **19 29 00.4 +1.0**
HGN *e*PP **PP** **19 31 48.1 +1.5**
MEM Membach 137.78 342 PKP **PKPdf** **19 28 59.6 0.0**
PDKS Podkum 137.83 330 *e*PKPdf **PKPdf** **19 29 00.0 +0.1**
FUR Furstenfeldbru 137.91 335 *e*PKPdf **PKPdf** **19 29 01.1 +1.1**
LJU Ljubljana 138.07 331 *e*PKPdf **PKPdf** **19 29 01.3 +1.0**
LJU *e*PP **PP** **19 31 50.4 +0.9**
LJU *e*PKS **PKSdf** **19 32 35.8 -0.6**
BOJS Bojanci 138.10 330 *e*PKPdf **PKPdf** **19 29 00.7 +0.3**
BOJS *e*PP **PP** **19 31 50.6 +0.9**
BOJS *e* 19 32 19.3
BOJS *e*PKS **PKSdf** **19 32 36.0 -0.4**
BCLA Clavier 138.16 342 PKP **PKPdf** **19 29 01.2 +0.8**
TIR Tirane 138.24 322 PFAKE 19 29 10.0 +9.2
TIR LR LR
comp=Z,529nm,19.0s
STU Stuttgart 138.24 337 *e*PKIKP **PKPdf** **19 29 00.4 -0.1**
STU Stuttgart 138.24 337 *e*PKPdf **PKPab** **19 29 01.9 +1.4**
STU Stuttgart 138.24 337 *e*PKPdf **PKPdf** **19 29 00.4 -0.1**
SNF Seneffe 138.38 343 PKP **PKPdf** **19 29 01.7 +1.0**
VOY Vojsko 138.38 331 *e*PKPdf **PKPdf** **19 29 00.3 -0.7**
VOY *e* 19 29 03.8
WTTA Wattenberg 138.47 334 ⇑*i*PKPdf PKPpre 19 28 51.7
comp=Z,7.8nm,1.4s
WTTA ||*i*PKiKP **PKPdf** **19 29 01.7 +0.4**
comp=Z,51nm,1.0s,SNR=9.2
ABTA Abfaltersbach 138.48 333 ⇑*i*PKPdf PKPpre 19 28 51.8
comp=Z,7.3nm,0.8s,SNR=7.6
ABTA ⇑*i*PKPdf **PKPdf** **19 29 00.6 -0.5**
comp=Z,43nm,1.0s
WLF Walferdange 138.55 341 PKP **PKPdf** **19 29 02.3 +1.2**
WLF Walferdange 138.55 341 *e*PKHKP PKPpre 19 28 51.7
WLF *e* 19 29 01.8
WLF MLR MLR
comp=Z,662nm,19.0s
WLF Walferdange 138.55 341 *e*PKPdf **PKPdf** **19 29 02.9 +1.8**
WLF Walferdange 138.55 341 *e*PKPpre PKPpre 19 28 51.7
WLF *e*PKPdf **PKPdf** **19 29 01.8 +0.8**
WLF LR LR
comp=Z,662nm,19.0s
LANF Langenberg 138.58 339 PKP PKPpre 19 28 54.4
MOTA Moosalm 138.63 335 ⇑*i*PKPdf PKPpre 19 28 52.7
comp=Z,7.2nm,0.8s
MOTA ⇑*i*PKiKP **PKPdf** **19 29 02.1 +0.5**
comp=Z,29nm,1.0s
DOU Dourbes 138.66 342 PKP **PKPdf** **19 28 59.9 -1.3**
BFO Black Forest 138.93 338 *e*PKHKP PKPpre 19 28 53.8
BFO *e* 19 31 54.7
BFO MLR MLR
comp=Z,404nm,21.0s
BFO Black Forest 138.93 338 *e*PKPdf **PKPdf** **19 29 03.0 +1.1**
BFO Black Forest 138.93 338 *e*PKPpre PKPpre 19 28 53.8
BFO *e*PP **PP** **19 31 54.6 0.0**
BFO *e*SKP 19 32 26.4
BFO LR LR
comp=Z,404nm,21.0s
FETA Feichten 139.04 335 ⇑*i*PKPdf PKPpre 19 28 54.4
comp=Z,11nm,1.1s
FETA *i* PKiKP **PKiKP** **19 29 03.8 -0.7**
comp=Z,65nm,1.0s,SNR=11
WLS Welschbruch 139.22 339 PKP PKPpre 19 28 54.3
FELD Feldberg im Sc 139.43 338 PKP PKPpre 19 28 53.7
ECH Echery 139.45 339 *e*PKHKP PKPpre 19 28 55.1
ECH MLR MLR
comp=Z,530nm,20.0s
ECH Echery 139.45 339 *e*PKPdf PKPpre 19 28 55.1
ECH LR LR
comp=Z,530nm,20.0s
MOF Molkenrain 139.77 338 PKP PKPpre 19 28 56.0
THEF They Montfort 139.85 340 PKP PKPpre 19 28 55.0
TUE Stuetta 140.06 335 *e*PKPpre PKPpre 19 28 55.4
TUE LR LR
comp=Z,620nm,19.0s
LOMF Lomont 140.30 338 PKP PKPpre 19 28 57.4
AQU L'Aquila 141.27 328 PFAKE 19 29 20.0 +14
AQU LR LR
comp=Z,582nm,21.0s
VLC Villacollemand 141.43 332 PFAKE 19 29 20.0 +13
VLC LR LR
comp=Z,479nm,20.0s
TIP Timpagrande 141.44 321 *e*PKPdf **PKPdf** **19 29 02.1 -4.6**
TIP LR LR
comp=Z,305nm,20.0s
CUC Castrocucco 141.50 323 PFAKE 19 29 20.0 +13
CUC LR LR
comp=Z,321nm,21.0s
RSL Roselend 141.78 337 PKP **PKPdf** **19 29 02.7 -4.6**
BNI Bardonecchia 142.29 336 *e*PKHKP PKPpre 19 29 03.7
BNI MLR MLR
comp=Z,680nm,19.0s
BNI Bardonecchia 142.29 336 *e*PKPpre PKPpre 19 29 03.7
BNI LR LR
comp=Z,680nm,19.0s
GDM Grand'Maison 142.38 337 PKP **PKPdf** **19 29 05.2 -3.2**
BST Brest 142.40 350 PKP **PKPdf** **19 29 04.1 -4.0**
GRN Grenoble 142.49 337 PKP **PKPdf** **19 29 05.2 -3.3**
CEL Celeste 142.53 321 *e*PKPpre PKPpre 19 29 05.0
CEL LR LR
comp=Z,279nm,22.0s
PLDF La Plantade 142.61 340 PKP **PKPdf** **19 29 05.7 -2.9**
AGO Saint Agoulin 142.70 341 PKP PKPdf 19 29 02.8 -5.9
SURF Saint Ours 142.71 336 PKP **PKPdf** **19 29 06.6 -2.4**
SAOF Saorge 142.81 335 PKP **PKPdf** **19 29 05.0 -4.0**
AUTN L'Aution 142.86 335 PKP **PKPdf** **19 29 05.4 -3.9**
SSB Saint Sauveur 142.90 339 *e*PKIKP **PKPdf** **19 29 05.8 -3.3**
SSB MLR MLR
comp=Z,503nm,20.0s
SSB Saint Sauveur 142.90 339 PKP **PKPdf** **19 29 05.8 -3.3**
SSB Saint Sauveur 142.90 339 *e*PKPdf **PKPdf** **19 29 05.8 -3.3**
SSB LR LR
comp=Z,503nm,20.0s
TOUF Mont Tournerai 142.92 335 PKP **PKPdf** **19 29 05.7 -3.7**
LUCF Luceram 142.97 335 PKP **PKPdf** **19 29 05.7 -3.7**
PYM Petit Puy Mans 143.01 341 PKP **PKPdf** **19 29 06.3 -3.0**
MVIF Mont Vial 143.05 335 PKP PKPbc 19 29 06.1 -0.7
REVF Revere 143.09 335 PKP PKPbc 19 29 06.0 -0.7
OG25 Le Caire 143.10 336 PKP PKPbc 19 29 06.4 -0.4
OG26 St.-Nazaire-De 143.22 337 PKP PKPbc 19 29 07.0 -0.1
LCHF La Chataignera 143.25 345 PKP **PKPdf** **19 29 08.6 -1.0**
CALN Calern 143.28 335 PKP PKPbc 19 29 06.8 -0.6
FRNF Fournols 143.47 341 PKP PKPbc 19 29 08.3 +0.6
OSPF L'Ospedale 143.91 331 PKP PKPbc 19 29 09.2 0.0
CLTB Caltabellotta 144.61 322 *e*PKPpre PKPpre 19 29 08.3
CLTB LR LR
comp=Z,185nm,21.0s
WDD Wield Dalam 144.85 318 *e*PKPdf **PKPab** **19 29 10.5 -1.6**
WDD LR LR
comp=Z,254nm,20.0s
VSL Villasalto 145.44 328 *e*PKPdf **PKPdf** **19 29 13.8 +0.1**
VSL *e*pPKPdf **pPKPdf** **19 29 50.0 -0.5**
VSL LR LR
comp=Z,401nm,20.0s
SJAF Saint Jean de 145.92 338 PKP **PKPbc** **19 29 15.1 -0.2**
CARF Carcanieres 145.99 339 PKP **PKPbc** **19 29 15.8 +0.2**
MLS Moulis 146.12 341 PKP **PKPbc** **19 29 16.0 +0.1**
SALF Salau 146.26 340 PKP **PKPbc** **19 29 16.3 -0.1**
VALF Valcebollere 146.30 339 PKP **PKPbc** **19 29 16.6 0.0**
MELF Melles 146.30 341 PKP **PKPbc** **19 29 16.3 -0.2**
LABF Labassere 146.36 342 PKP **PKPbc** **19 29 16.8 +0.2**
REYF Montagne du Re 146.48 342 PKP **PKPbc** **19 29 17.3 +0.3**
ORDF Ordiarp 146.50 343 PKP **PKPbc** **19 29 17.1 +0.1**
VIEF Viey 146.52 342 PKP **PKPbc** **19 29 16.7 -0.5**
ATE Arette 146.55 343 PKP **PKPbc** **19 29 17.5 +0.4**
OSSF Osses 146.56 344 PKP **PKPbc** **19 29 17.1 0.0**
LARF Larrau 146.68 343 PKP **PKPbc** **19 29 17.4 -0.1**
KEST Kesra 148.15 323 PKP **PKPdf** **19 29 18.5 +0.1**
KEST *e*PKPdf **PKPbc** **19 29 22.4 +0.5**
KEST PKPbc **PKPbc** **19 29 22.6 +0.7**
KEST Kesra 148.15 323 PKP **PKPdf** **19 29 18.5 +0.1**
comp=Z,67nm,0.9s,baz=234,slow=1.7,SNR=9.6
KEST PKPbc **PKPbc** **19 29 22.6 +0.7**
comp=Z,79nm,1.0s,baz=300,slow=2.5,SNR=62
CMAH Djebel Manchou 148.60 326 P **PKPbc** **19 29 23.0 0.0**
CAEH 'Ain El Ouahch 148.79 327 P **PKPbc** **19 29 23.0 -0.4**
ABSA Djebel Ababsia 148.83 326 P **PKPbc** **19 29 23.0 -0.6**
CKFL Kef-Lekhel 149.15 327 P **PKPbc** **19 29 24.0 -0.4**
PBRG Braganca 149.17 350 *e*PKPbc **PKPbc** **19 29 24.3 +0.1**
PGAV Gavieira, Arco 149.24 352 *e*PKPdf **PKPdf** **19 29 20.2 +0.2**
PGAV Gavieira, Arco 149.24 352 *e*PKPbc **PKPbc** **19 29 25.0 +0.6**
CASM Ain Smara 149.37 327 P **PKPbc** **19 29 24.6 -0.3**
PCAB Cabril 149.46 352 *e*PKPdf **PKPdf** **19 29 22.0 +1.7**
PCAB Cabril 149.46 352 *e*PKPbc **PKPbc** **19 29 25.5 +0.6**
DFRA Djebel Bou Aff 149.48 328 P **PKPbc** **19 29 26.4 +1.2**
CTEI Djebel Teioual 149.57 327 P **PKPbc** **19 29 26.0 +0.5**
POLO Lamas de Olo 149.75 351 *e*PKPdf **PKPdf** **19 29 22.0 +1.1**
POLO Lamas de Olo 149.75 351 *e*PKPbc **PKPbc** **19 29 26.5 +0.8**
MVO Moncorvo 149.84 350 *e*PKPdf **PKPdf** **19 29 22.2 +1.2**
MVO Moncorvo 149.84 350 *e*PKPbc **PKPbc** **19 29 26.4 +0.5**
PVRL Vila Real 149.84 351 *e*PKPdf **PKPdf** **19 29 22.6 +1.7**
PVRL Vila Real 149.84 351 *e*PKPbc **PKPbc** **19 29 26.6 +0.7**
SET Setif 149.99 328 P **PKPbc** **19 29 24.0 -2.4**
MSKU Masuku 150.05 246 PFAKE 19 29 30.0 +2.9
MSKU LR LR
comp=Z,2.0nm,20.0s
CKHR Kef el Ahmar 150.07 328 P **PKPbc** **19 29 27.0 +0.3**
PVIS Viseu 150.41 351 *e*PKPdf **PKPdf** **19 29 23.8 +1.9**
PVIS Viseu 150.41 351 *e*PKPbc **PKPbc** **19 29 27.8 +0.5**
ESDC Sonseca Array 150.62 345 PKP **PKPdf** **19 29 23.0 +0.8**
ESDC PKPbc **PKPbc** **19 29 27.8 0.0**
ESDC PKPab **PKPab** **19 29 35.5 +0.6**
ESDC PP **PP** **19 33 02.1 -1.9**
ESDC Sonseca Array 150.62 345 PKP **PKPdf** **19 29 23.0 +0.8**
comp=Z,12nm,1.1s,baz=5.4,slow=2.8,SNR=40
ESDC PKPbc **PKPbc** **19 29 27.8 0.0**
comp=Z,41nm,0.9s,baz=13,slow=2.2,SNR=88
ESDC PKPab **PKPab** **19 29 35.5 +0.6**
comp=Z,8.6nm,0.7s,baz=14,slow=3.8,SNR=14
ESDC PP **PP** **19 33 02.1 -1.9**
comp=Z,3.7nm,0.9s,baz=23,slow=6.4,SNR=4.3
ESLA Sonseca Array 150.62 345 *e*PKPdf **PKPdf** **19 29 22.3 0.0**
ESLA *e*PKPbc **PKPbc** **19 29 28.1 +0.3**
MTE Manteigas 150.67 351 *e*PKPdf **PKPdf** **19 29 23.3 +1.0**
MTE Manteigas 150.67 351 *e*PKPbc **PKPbc** **19 29 28.7 +0.8**
MTE Manteigas 150.67 351 *e*PKPdf **PKPdf** **19 29 22.4 +0.1**
MTE *e*PKPbc **PKPbc** **19 29 27.9 0.0**
MTE LR LR
comp=Z,552nm,20.0s
PAB San Pablo 150.84 345 *e*PKIKP **PKPdf** **19 29 22.3 -0.3**
PAB MLR MLR
comp=Z,716nm,21.0s
PAB San Pablo 150.84 345 *e*PKPdf **PKPdf** **19 29 22.3 -0.3**
PAB *e*PKPbc **PKiKP** **19 29 28.7 -0.2**
PAB LR LR
comp=Z,716nm,21.0s
PCAS Casmilo, Conde 151.15 352 *e*PKPdf **PKPdf** **19 29 24.3 +1.3**
PCAS Casmilo, Conde 151.15 352 *e*PKPbc **PKPbc** **19 29 29.5 +0.6**
PCAS Casmilo, Conde 151.15 352 *e*PKPab **PKPab** **19 29 37.7 +0.7**
EMHD Djebel Mahouad 151.19 332 P **PKPbc** **19 29 31.3 +2.0**
PCBR Castelo Branco 151.21 350 *e*PKPdf **PKPdf** **19 29 24.4 +1.4**
PCBR Castelo Branco 151.21 350 *e*PKPbc **PKPbc** **19 29 29.7 +0.7**
PTOM Tomar 151.56 352 *e*PKPdf **PKPdf** **19 29 25.2 +1.6**
PTOM Tomar 151.56 352 *e*PKPbc **PKPbc** **19 29 30.7 +0.8**
PMRV Marv??o 151.59 350 *e*PKPdf **PKPdf** **19 29 23.8 +0.1**
PMRV Marv??o 151.59 350 *e*PKPbc **PKPbc** **19 29 30.4 +0.4**
PMRV Marv??o 151.59 350 *e*PKPab **PKPab** **19 29 40.8 +1.9**
SHEL Horse Pasture 151.71 196 *e*PKIKP **PKPbc** **19 29 31.9 +1.0**
SHEL Horse Pasture 151.71 196 *e*PKPbc **PKPbc** **19 29 31.9 +1.0**
EBNR Beni Rached 151.76 334 P **PKPbc** **19 29 34.5 +4.0**
RCBR Riachuelo 151.90 126 *e*PKPbc **PKPbc** **19 29 31.2 -0.3**
RCBR LR LR
comp=Z,476nm,22.0s
ECHA Ech Chlef 151.95 334 P **PKPab** **19 29 36.2 -4.3**
PMTG Montargil 152.08 351 *e*PKPdf **PKPdf** **19 29 25.5 +1.1**
PMTG Montargil 152.08 351 *e*PKPbc **PKPbc** **19 29 30.8 +0.3**
PMTG Montargil 152.08 351 *e*PKPab **PKPab** **19 29 42.5 +1.6**
PESTR Estremoz 152.17 350 *e*PKPdf **PKPdf** **19 29 25.4 +0.8**
PESTR Estremoz 152.17 350 *e*PKPbc **PKPbc** **19 29 31.9 +0.6**
PESTR Estremoz 152.17 350 *e*PKPab **PKPab** **19 29 43.1 +1.8**
EANR 'Ain N'Sour 152.23 334 P **PKPab** **19 29 39.0 -2.8**
PMAFR Mafra 152.33 353 *e*PKPbc **PKPbc** **19 29 33.0 +1.3**
PMAFR Mafra 152.33 353 *e*PKPab **PKPab** **19 29 43.9 +1.9**
PACT Alcochete 152.46 352 *e*PKPdf **PKPdf** **19 29 26.5 +1.6**
PACT Alcochete 152.46 352 *e*PKPbc **PKPbc** **19 29 33.2 +1.3**
PMST Lisbon--Monsan 152.54 353 *e*PKPbc **PKPbc** **19 29 33.1 +1.0**
LIS Lisbon 152.55 353 *e*P **PKPdf** **19 29 23.5 -1.6**
LIS AMS AMS 20 55 32.6
comp=N,796nm,31.1s
LIS Lisbon 152.55 353 *e*P **PKPdf** **19 29 23.5 -1.6**
LIS Lisbon 152.55 353 *e*PKIKP **PKPdf** **19 29 23.5 -1.6**
EVO Evora 152.57 351 *e*PKPdf **PKPdf** **19 29 25.7 +0.6**
EVO Evora 152.57 351 *e*PKPbc **PKPbc** **19 29 32.8 +0.6**
EVO Evora 152.57 351 *e*PKPab **PKPab** **19 29 43.6 +0.6**
ETRT Tiaret 152.62 333 P **PKPab** **19 29 42.1 -1.4**
PBAR Barrancos 152.75 349 *e*PKPdf **PKPdf** **19 29 26.6 +1.2**
PBAR Barrancos 152.75 349 *e*PKPbc **PKPbc** **19 29 33.7 +1.1**
PBAR Barrancos 152.75 349 *e*PKPab **PKPab** **19 29 45.9 +2.2**
PBEJ Beja 153.04 350 *e*PKPdf **PKPdf** **19 29 27.2 +1.4**
PBEJ Beja 153.04 350 *e*PKPbc **PKPbc** **19 29 34.2 +1.0**
PBEJ Beja 153.04 350 *e*PKPab **PKPab** **19 29 46.7 +1.7**
PNCL Nicolau / Gran 153.06 351 *e*PKPdf **PKPdf** **19 29 26.8 +1.0**
PNCL Nicolau / Gran 153.06 351 *e*PKPbc **PKPbc** **19 29 34.2 +0.9**
MESJ Messejana 153.28 351 *e*P **PKPdf** **19 29 24.4 -1.8**
MESJ AMS AMS 20 44 18.7
comp=Z,363nm,19.5s
MESJ Messejana 153.28 351 *e*P **PKPdf** **19 29 24.4 -1.8**
MESJ Messejana 153.28 351 A A 20 44 18.7
comp=Z,363nm,19.5s
MESJ Messejana 153.28 351 *e*PKIKP **PKPdf** **19 29 24.4 -1.8**
PCVE Castro Verde 153.45 350 *e*PKPdf **PKPdf** **19 29 27.0 +0.6**
PCVE Castro Verde 153.45 350 *e*PKPbc **PKPbc** **19 29 35.2 +1.0**
PCVE Castro Verde 153.45 350 *e*PKPab **PKPab** **19 29 46.8 +0.1**
PVAQ Vaqueiros 153.62 350 *e*PKPdf **PKPdf** **19 29 27.5 +0.8**
PVAQ Vaqueiros 153.62 350 *e*PKPbc **PKPbc** **19 29 35.9 +1.4**
PVAQ Vaqueiros 153.62 350 *e*PKPab **PKPab** **19 29 48.4 +0.9**
PTEO Sao Teotonio 153.65 351 *e*PKPdf **PKPdf** **19 29 27.8 +1.1**
PTEO Sao Teotonio 153.65 351 *e*PKPbc **PKPbc** **19 29 35.6 +1.0**
PBDV Barranco-do-Ve 153.81 350 *e*PKPdf **PKPdf** **19 29 28.7 +1.7**
PBDV Barranco-do-Ve 153.81 350 *e*PKPbc **PKPbc** **19 29 35.9 +0.9**
PBDV Barranco-do-Ve 153.81 350 *e*PKPab **PKPab** **19 29 51.0 +2.7**
MORF Marmelete 153.87 351 *e*PKPdf **PKPdf** **19 29 28.5 +1.4**
MORF Marmelete 153.87 351 *e*PKPab **PKPab** **19 29 50.7 +2.1**
MORF Marmelete 153.87 351 *e*PKIKP **PKPdf** **19 29 25.0 -2.1**
RTC Rabat Centre 156.74 346 PFAKE 19 29 40.0 +9.0
RTC LR LR
comp=Z,536nm,19.0s
PMAR Madeira 158.58 8 *e*PKPdf **PKPdf** **19 29 35.2 +1.6**
TAM Tamanrasset 158.60 304 *e*PKIKP **PKPdf** **19 29 34.4 +0.5**
TAM *e* 19 30 10.7
TAM *e* 19 33 48.7
TAM MLR MLR
comp=Z,327nm,19.0s
TAM Tamanrasset 158.60 304 *e*PKPdf **PKPdf** **19 29 34.4 +0.5**
TAM *e*pPKPdf **pPKPdf** **19 30 10.7 0.0**
TAM *e*PP **PP** **19 33 48.7 -1.6**
TAM LR LR
comp=Z,327nm,19.0s
TOA0 Torodi Ar. Sit 165.03 278 *e*PKPdf **PKPdf** **19 29 39.9 -0.5**
TOA0 *e*pPKPdf **pPKPdf** **19 30 16.4 -0.9**
TOA0 *e*PKPab **PKPab** **19 30 36.2 -1.6**
TOA0 *e*PP **PP** **19 34 21.6 -3.5**
TORD Torodi Ar. Bea 165.03 278 PKP **PKPdf** **19 29 40.3 -0.1**
TORD PKPab **PKPab** **19 30 37.9 +0.1**
TORD PP **PP** **19 34 24.8 -0.3**
TORD Torodi Ar. Bea 165.03 278 PKP **PKPdf** **19 29 40.3 -0.1**
comp=Z,34nm,1.1s,baz=10,slow=0.8,SNR=90
TORD PKPab **PKPab** **19 30 37.9 +0.1**
comp=Z,31nm,1.0s,baz=69,slow=3.6,SNR=15
TORD PP **PP** **19 34 24.8 -0.3**
comp=Z,14nm,1.2s,baz=111,slow=4.5,SNR=5.5
SACV Santiago Islan 169.57 69 PFAKE 19 29 50.0 +6.3
SACV LR LR
comp=Z,829nm,21.0s

KIC	**Kosan Boka**	**169.96**	**241**	*e*PKIKP	**PKPdf**	**19 29 43.5**	**-0.5**
	comp=Z,210nm,1.4s							
LIC	**Lamto**	**170.13**	**239**	*e*PKIKP	**PKPdf**	**19 29 43.5**	**-0.6**
	comp=Z,98nm,1.4s							
DBIC	**Dimbokro**	**170.22**	**242**	*e*PKPdf	**PKPdf**	**19 29 43.4**	**-0.7**
DBIC				PKP		19 29 43.5		
DBIC				*e*PKPab	**PKPab**	**19 31 01.1**	**+0.4**
DBIC				PKPab	PKPab	19 31 01.4	+0.6
DBIC				PP	**PP**	**19 34 52.7**	**+1.7**
DBIC	**Dimbokro**	**170.22**	**242**	PKP	**PKPdf**	**19 29 43.5**	**-0.6**
	comp=Z,26nm,1.0s,baz=101,slow=0.8,SNR=18							
DBIC				PKPab	**PKPab**	**19 31 01.4**	**+0.6**
	comp=Z,70nm,1.0s,baz=103,slow=4.8,SNR=19							
DBIC				PP	**PP**	**19 34 52.7**	**+1.7**
	comp=Z,8.0nm,1.1s,baz=129,slow=9.1,SNR=3.7							
TIC	**Toumodi**	**170.34**	**241**	*e*PKIKP	**PKPdf**	**19 29 43.6**	**-0.6**
	comp=Z,236nm,1.5s							
BBTS	**Babate**	**175.66**	**42**	PKPab	**PKPab**	**19 31 25.8**	**+1.1**
BBTS	**Babate**	**175.66**	**42**	PKPab	**PKPab**	**19 31 25.8**	**+1.1**
	comp=Z,50nm,1.1s,baz=280,slow=3.5,SNR=3.8							

HEL 31 19:26:12.4±0.4, 67°92N×20°35E, h0km, ML1.0, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LANU	**Lannavaara**	**0.63**	**77**	PG	Pg	19 26 23.6	-0.9
	baz=253						
LANU				SG	Sg	19 26 32.7	0.0
KIF	**Kilpisjarvi**	**1.10**	**8**	PG	Pg	19 26 33.4	-0.1
	baz=184						
KIF				SG	Sb	19 26 49.0	-0.2
KIF				MSG		19 26 49.0	
	comp=Z,2.9nm,0.4s						
KIF				RG	Rg	19 26 53.2	
HEF	**Hetta**	**1.33**	**67**	PG	Pg	19 26 37.0	-0.9
	baz=253						
HEF				MSG		19 26 57.5	
	comp=Z,0.8nm,0.4s						
HEF				RG	Rg	19 27 01.2	
SGF	**Sodankyl**	**2.41**	**99**	PN	Pn	19 26 53.8	+0.9
	baz=284						
ARA0	**ARCESS Array S**	**2.48**	**47**	PN	Pn	19 26 54.5	+0.4
	baz=223						
ARA0				MSG		19 27 23.8	
	comp=Z,0.2nm,0.2s						
RNF	**Rovaniemi**	**2.56**	**118**	PN	Pn	19 26 55.7	+0.6
RNF				SG	Sb	19 27 29.6	-1.6
RNF				MSG		19 27 29.6	
	comp=Z,0.5nm,0.1s						

*ISCJB **31** 19:39:11.7±0.5, 39°.23N×0°.03×142°.04E±0°.07, h99km±3km, mb3.9/16, Error ellipse: s-maj=9.5km s-min=5.2km az=17.4*
*MOS **31** 19:39:11.2±1.0, 39°.21N×141°.92E, h93km, mb4.1/11, Error ellipse: s-maj=18.2km s-min=12.5km az=93.3*
*IDC **31** 19:39:12.1±0.7, 39°.24N×142°.00E, h88km±6km, mb3.7/14, mb1 3.8/18, mb1mx3.7/30, mbtmp3.7/18, MS3.7/1, Ms1 3.7/1, ms1mx3.1/61, Error ellipse: s-maj=14.1km s-min=10.5km az=104.0*
*JMA **31** 19:39:13.3±0.1, 39°.24N×141°.97E, h95km±1km, M4.0*
JMA Felt II J1.

ISC 31 19:39:12.4±0.6, 39°23N±0°.04×142°09E±0°.06, h92km±5km, h92km:pP-P, n52, σ1§05/64, mb4.0/16, 1C-13D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.36**	**245**	ǁP	**Pn**	**19 39 27.3**	**+0.9**
OFUJ				S	**Sn**	**19 39 37.5**	**+0.6**
MIYJ	**Miyakonagasawa**	**0.40**	**329**	ǁP	**Pn**	**19 39 27.7**	**+1.0**
MIYJ				S	**Sn**	**19 39 38.0**	**+0.7**
JOM	**Ohasama**	**0.66**	**291**	ǁP	**Pn**	**19 39 29.1**	**+0.4**
JOM				*e*S	**Sn**	**19 39 41.3**	**+0.3**
JMK	**Ichinoseki**	**0.73**	**248**	ǁP	**Pn**	**19 39 29.7**	**+0.3**
JMK				S	**Sn**	**19 39 42.0**	**-0.1**
JIO	**Ouri**	**0.97**	**217**	ǁP	**Pn**	**19 39 32.1**	**+0.2**
JIO				S	**Sn**	**19 39 45.8**	**-0.7**
JRG	**Rokugo**	**1.14**	**279**	ǁP	**Pn**	**19 39 33.8**	**0.0**
JRG				*e*S	**Sn**	**19 39 49.8**	**-0.2**
JANG	**Nango**	**1.22**	**339**	ǁP	**Pn**	**19 39 35.0**	**+0.2**
JANG				S	**Sn**	**19 39 51.3**	**-0.4**
JYK	**Kaneyama**	**1.38**	**257**	ǁP	**Pn**	**19 39 36.9**	**+0.1**
JYK				*e*S	**Sn**	**19 39 54.7**	**-0.5**
JOU	**Okura**	**1.41**	**233**	ǁP	**Pn**	**19 39 37.2**	**0.0**
JOU				S	**Sn**	**19 39 55.4**	**-0.5**
JAH	**Hinai**	**1.47**	**311**	ǁP	**Pn**	**19 39 38.2**	**+0.3**
JAH				*e*S	**Sn**	**19 39 57.3**	**+0.1**
JMM	**Marumori**	**1.70**	**217**	ǁP	**Pn**	**19 39 40.3**	**-0.5**
JMM				S	**Sn**	**19 40 01.0**	**-1.4**
JTM	**Tenmabayashi**	**1.74**	**334**	ǁP	**Pn**	**19 39 41.4**	**+0.1**
JTM				S	**Sn**	**19 40 02.9**	**-0.3**
JYS	**Shirataka**	**1.88**	**238**	ǁP	**Pn**	**19 39 43.2**	**+0.1**
JYS				*e*S	**Sn**	**19 40 06.2**	**-0.2**
ASAJ	**Asahikawa**	**4.89**	**4**	P	**Pn**	**19 40 22.9**	**-0.6**
	1.3nm,0.3s,baz=35,slow=21,SNR=12						
ASAJ				S	**Sn**	**19 41 17.0**	**-1.9**
	1.6nm,0.3s,baz=75,slow=20,SNR=3.7						
YUK	**Yuzh-Kuril'sk**	**5.57**	**29**	*c* iP	Pn	19 40 43.5	+11
YUK				*i* S	**Sn**	**19 41 32.3**	**-3.0**
YUK				pmax	pmax		
	comp=E,36nm,0.5s						
YUK				pmax	pmax		
	comp=Z,79nm,0.5s						
YUK				pmax	pmax		
	comp=N,21nm,0.5s						
YUK				smax	smax		
	comp=N,175nm,0.6s						
YUK				smax	smax		
	comp=E,258nm,0.6s						
YSS	**Yuzh-Sakhalins**	**7.73**	**3**	*e*P	**Pn**	**19 41 04.8**	**+2.7**
USRK	**Ussuriysk Arra**	**9.03**	**307**	P	**Pn**	**19 41 19.6**	**-0.2**
	comp=E,0.6nm,0.3s,baz=114,slow=15,SNR=9.3						
JNU	**Nakatsue**	**10.92**	**239**	P	**Pn**	**19 41 44.5**	**-1.1**
	comp=E,0.3nm,0.3s,baz=112,slow=7.6,SNR=4.6						
KSRS	**Korea Array**	**11.27**	**265**	P	**Pn**	**19 41 49.8**	**-0.5**
	comp=E,0.2nm,0.3s,baz=79,slow=13,SNR=6.0						
KSRS				LR	LR	19 45 58.2	
	comp=E,408nm,19.7s,baz=145,slow=36						
SONM	**Songino Array**	**27.07**	**300**	P	**P**	**19 44 46.2**	**0.0**
	comp=E,1.8nm,0.6s,baz=92,slow=8.7,SNR=12						
H11N2	**WAKE ISLAND Hy**	**28.90**	**125**	T	T	20 15 39.1	
	baz=320,slow=0.7,SNR=478						
H11N1	**WAKE ISLAND Hy**	**28.91**	**125**	T	T	20 15 41.6	
	baz=320,slow=0.7,SNR=587						
H11N3	**WAKE ISLAND Hy**	**28.91**	**125**	T	T	20 15 40.5	
	baz=320,slow=0.7,SNR=341						
ZAK	**Zakamensk**	**29.38**	**305**	*e*P	**P**	**19 45 05.9**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
H11S1	**WAKE ISLAND Hy**	**29.68**	**127**	T	T	20 16 38.8	
	baz=323,slow=0.7,SNR=266						
H11S3	**WAKE ISLAND Hy**	**29.68**	**127**	T	T	20 16 38.8	
	baz=323,slow=0.7,SNR=134						
H11S2	**WAKE ISLAND Hy**	**29.70**	**127**	T	T	20 16 41.6	
	baz=323,slow=0.7,SNR=163						
ZALV	**Zalesovo Beam**	**40.86**	**311**	P	**P**	**19 46 45.0**	**+0.1**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**40.86**	**311**	P	**P**	**19 46 45.0**	**+0.1**
	comp=Z,2.4nm,0.6s,baz=84,slow=8.4,SNR=11						
CMAR	**Chiang Mai Arr**	**42.60**	**254**	P	**P**	**19 46 58.6**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=46,slow=7.3,SNR=5.6						
MKAR	**Makanchi Array**	**43.44**	**300**	P	**P**	**19 47 05.8**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**43.44**	**300**	P	**P**	**19 47 05.8**	**-0.2**
	comp=Z,3.1nm,0.7s,baz=83,slow=8.2,SNR=22						
KURK	**Kurchatov**	**45.02**	**306**	P	**P**	**19 47 18.5**	**0.0**
KURK				*PP	**pP**	**19 47 40.7**	**+0.2**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KURK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KURBB	**Kurchatov Arra**	**45.10**	**306**	P	**P**	**19 47 18.5**	**-0.6**
	comp=Z,4.1nm,0.5s,baz=82,slow=8.2,SNR=27						
KURBB				pP	**pP**	**19 47 40.7**	**-0.4**
	comp=Z,2.7nm,0.5s,baz=80,slow=8.5,SNR=3.1						
TAPN	**Taplejung**	**46.35**	**272**	*e*P	P	19 47 33.7	+4.0
ILAR	**Eielson Array**	**47.36**	**33**	P	**P**	**19 47 37.0**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=266,slow=6.1,SNR=26						
JIRN	**Jiri**	**47.38**	**274**	*e*P	**P**	**19 47 40.6**	**+2.8**
	comp=Z,4.2nm,0.5s						
RAMN	**Ramite**	**47.41**	**272**	*e*P	**P**	**19 47 41.0**	**+3.2**
GUN	**Gumba**	**47.50**	**274**	*e*P	**P**	**19 47 40.4**	**+1.7**
	comp=Z,9.7nm,0.5s						
KKN	**Kakani**	**48.02**	**274**	*e*P	**P**	**19 47 44.0**	**+1.5**
	comp=Z,11nm,0.6s						
GKN	**Gorkha**	**48.42**	**275**	*e*P	**P**	**19 47 46.5**	**+1.0**
	comp=Z,7.8nm,0.7s						
DANN	**Dangsing**	**48.93**	**276**	*e*P	**P**	**19 47 49.5**	**-0.1**
	comp=Z,32nm,0.6s						
KOLN	**Koldanda**	**49.33**	**275**	*e*P	**P**	**19 47 52.8**	**+0.2**
INK	**Inuvik**	**52.19**	**28**	P	**P**	**19 48 14.2**	**+1.1**
	comp=Z,1.2nm,0.5s,baz=303,slow=6.8,SNR=11						
WRA	**Warramunga Arr**	**59.31**	**188**	P	**P**	**19 49 03.6**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=6.5,slow=7.0,SNR=24						
WRA				pP	**pP**	**19 49 27.3**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=5.2,slow=7.1,SNR=5.5						
YKA	**Yellowknife Ar**	**61.65**	**31**	P	**P**	**19 49 21.5**	**+1.5**
	comp=Z,1.3nm,0.7s,baz=292,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**63.04**	**188**	P	**P**	**19 49 29.2**	**-0.5**
	comp=Z,0.7nm,0.9s,baz=1.1,slow=4.0,SNR=9.0						
ASAR				pP	**pP**	**19 49 53.0**	**0.0**
	comp=Z,0.4nm,0.5s,baz=4.2,slow=8.1,SNR=2.6						
FINES	**FINESS Array B**	**67.12**	**332**	P	**P**	**19 49 55.5**	**-0.2**
	comp=Z,1.6nm,0.9s,baz=15,slow=5.8,SNR=2.5						
FINES				pP	**pP**	**19 50 16.8**	**-2.3**
	comp=Z,2.7nm,0.7s,baz=50,slow=9.2,SNR=4.8						
NVAR	**Mina Array Bea**	**73.26**	**54**	P	**P**	**19 50 34.0**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=279,slow=6.1,SNR=5.0						
PDAR	**Pinedale Array**	**75.75**	**46**	P	**P**	**19 50 48.3**	**0.0**
	comp=Z,0.5nm,0.6s,baz=188,slow=1.0,SNR=5.2						
TXAR	**Lajitas Array**	**88.36**	**53**	P	**P**	**19 51 55.0**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=270,slow=1.3,SNR=4.7						
LPAZ	**La Paz**	**145.09**	**58**	PKPbc	**PKPab**	**19 58 40.6**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=347,slow=2.3,SNR=4.5						

*ISCJB **31** 19:46:36.2±0.4, 25°.54N±0°.06×124°.76E±0°.06, h120km±5km, mb3.8/9, Error ellipse: s-maj=12.2km s-min=5.0km az=140.7*
*JMA **31** 19:46:38.1±0.2, 25°.53N×124°.71E, h108km, M3.4*
*IDC **31** 19:46:39.8±15.0, 25°.62N×124°.89E, h139km±150km, mb3.4/9, mb1 3.6/9, mb1mx3.4/27, mbtmp3.4/9, Error ellipse: s-maj=108.3km s-min=12.1km az=67.0*

ISC 31 19:46:37.7±0.8, 25°51N±0°.07×124°79E±0°.06, h120km±7km, n25, σ1§10/35, mb3.9/9, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMJ	**Miyako jima 2**	**0.82**	**146**	P	**Pn**	**19 46 58.2**	**+0.1**
JMJ				S	**Sn**	**19 47 13.0**	**-0.5**
JTJ	**Tarama**	**0.87**	**185**	P	**Pn**	**19 46 58.2**	**-0.3**
JTJ				S	**Sn**	**19 47 13.0**	**-1.2**
JOGS	**Gusukube**	**0.93**	**143**	P	**Pn**	**19 46 59.4**	**+0.3**
JOGS				S	**Sn**	**19 47 15.1**	**-0.1**
JIJ	**Ishigaki jima**	**1.28**	**208**	P	**Pn**	**19 47 02.1**	**-0.6**
JIJ				S	**Sn**	**19 47 19.4**	**-2.2**
JKRS	**Kuro-shima**	**1.45**	**210**	P	**Pn**	**19 47 04.2**	**-0.4**
JKRS				S	**Sn**	**19 47 23.3**	**-1.7**
IRIF	**Iriomote-Funau**	**1.51**	**220**	P	**Pn**	**19 47 04.9**	**-0.4**
IRIF				S	**Sn**	**19 47 24.7**	**-1.6**
HATJ	**Hateruma jima**	**1.70**	**212**	P	**Pn**	**19 47 07.1**	**-0.4**
HATJ				*e*S	**Sn**	**19 47 28.5**	**-1.7**
YOJ	**Yonaguni jima**	**1.92**	**238**	P	**Pn**	**19 47 10.7**	**+0.5**
JKE	**Kume jima 2**	**1.97**	**65**	P	**Pn**	**19 47 11.0**	**+0.2**
JKE				*e*S	**Sn**	**19 47 35.6**	**-0.5**
JAGN	**Aguni-jima**	**2.45**	**63**	P	**Pn**	**19 47 17.1**	**+0.2**
JAGN				S	**Sn**	**19 47 45.5**	**-1.5**
JJT2	**Tamagusuku 2**	**2.74**	**76**	P	**Pn**	**19 47 21.7**	**+1.1**
JOW	**Kunigami**	**3.40**	**66**	P	**Pn**	**19 47 28.8**	**-0.4**
JTK	**Tokunoshima**	**4.36**	**58**	P	**Pn**	**19 47 41.3**	**-0.7**
JAMN	**Amaminishikomi**	**4.77**	**54**	P	**Pn**	**19 47 46.2**	**-1.3**
JAM	**Amami Oshima**	**5.18**	**55**	P	**Pn**	**19 47 51.9**	**-1.1**
JMZ	**Minamidaito 2**	**5.81**	**86**	P	**Pn**	**19 47 58.9**	**-2.7**
JMZ				*e*S	Sn	19 48 58.6	-8.4
SONM	**Songino Array**	**26.60**	**332**	P	**P**	**19 52 04.7**	**-0.1**
	0.2nm,0.4s,baz=148,slow=10,SNR=4.9						
SONM				pP	**pP**	**19 52 32.6**	**+1.9**
	0.7nm,0.9s,baz=145,slow=11,SNR=4.2						
MKAR	**Makanchi Array**	**39.74**	**313**	P	**P**	**19 53 58.6**	**+0.1**
	1.1nm,0.5s,baz=100,slow=10,SNR=28						
ZALV	**Zalesovo Beam**	**40.99**	**325**	P	**P**	**19 54 07.7**	**-0.9**
	0.5nm,0.3s,baz=128,slow=7.0,SNR=4.0						
KURBB	**Kurchatov Arra**	**43.27**	**318**	P	**P**	**19 54 27.2**	**-0.1**
	0.5nm,0.3s,baz=108,slow=9.0,SNR=2.8						
FITZ	**Fitzroy Crossi**	**43.35**	**179**	P	**P**	**19 54 28.8**	**+0.7**
	3.6nm,0.6s,baz=13,slow=7.1,SNR=21						
WRA	**Warramunga Arr**	**46.12**	**167**	P	**P**	**19 54 50.7**	**+0.6**
	1.5nm,0.6s,baz=348,slow=8.9,SNR=44						
ASAR	**Alice Springs**	**49.67**	**169**	P	**P**	**19 55 18.4**	**+1.0**
	0.9nm,0.5s,baz=355,slow=13,SNR=30						
STKA	**Stephens Creek**	**59.27**	**163**	P	**P**	**19 56 27.4**	**+0.7**
	1.1nm,0.7s,baz=324,slow=14,SNR=3.2						
FINES	**FINESS Array B**	**71.95**	**330**	P	**P**	**19 57 47.3**	**-0.5**
	0.4nm,0.4s,baz=54,slow=7.3,SNR=4.0						

*DJA **31** 19:55:55.5±0.5, 10°S±4°×10°7E±°, h10km, M4.0/3, MLv4.0/3*
*IDC **31** 19:56:11.1±3.0, 7°.35S×106°.73E, h0km, mb3.6/8, mb1 3.7/8, mb1mx3.5/23, mbtmp3.6/8, Error ellipse: s-maj=145.5km s-min=20.3km az=50.0*

ISC 31 19:55:57.8±1.6, 9°8S±0°.1×107°41E±0°.08, h23km, n22, σ1§26/22, mb3.7/8, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**2.27**	**10**	P	**Pn**	**19 56 33.0**	**-1.0**
CLJI	**Cilicap**	**2.61**	**37**	P	**Pn**	**19 56 39.2**	**+0.7**
CLJI				S	**Sn**	**19 57 10.0**	**+0.5**
KPJI	**Karang Pucung**	**2.88**	**32**	P	**Pn**	**19 56 42.6**	**+0.3**
SKJI	**Sukabumi**	**2.91**	**343**	P	**Pn**	**19 56 41.2**	**-1.5**
LEM	**Lembang**	**2.97**	**4**	P	**Pn**	**19 56 45.2**	**+1.6**
DBJI	**Dramaga**	**3.30**	**348**	P	**Pn**	**19 56 48.5**	**+0.5**
BJII	**Banjamegara**	**3.34**	**43**	P	**Pn**	**19 56 48.5**	**-0.3**
TGJI	**Tegal**	**3.37**	**30**	P	**Pn**	**19 56 48.4**	**-0.7**
TGJI				S	**Sn**	**19 57 29.7**	**+1.3**
UGM	**Wanagama**	**3.60**	**59**	P	**Pn**	**19 56 51.5**	**-0.8**
PCJI	**Pacitan**	**4.05**	**67**	P	**Pn**	**19 56 58.4**	**+0.1**
PWJI	**Pagerwojo**	**4.69**	**68**	P	**Pn**	**19 57 07.3**	**+0.2**
PWJI				S	**Sn**	**19 57 57.1**	**-3.7**
SJI	**Sawahan**	**4.77**	**65**	P	**Pn**	**19 57 08.6**	**+0.2**
GMJI	**Gumukmas**	**6.15**	**76**	P	**Pn**	**19 57 28.0**	**+0.8**
BLJI	**Banyuglugur**	**6.44**	**72**	P	**Pn**	**19 57 33.2**	**+1.9**
WRA	**Warramunga Arr**	**27.86**	**114**	P	P	20 02 16.3	+30
	0.3nm,0.9s,baz=299,slow=12,SNR=5.3						
ASAR	**Alice Springs**	**28.80**	**122**	P	P	20 02 29.4	+35
	0.3nm,0.7s,baz=306,slow=9.2,SNR=4.6						
CMAR	**Chiang Mai Arr**	**29.30**	**343**	P	P	20 01 52.2	-6.5
	0.1nm,0.3s,baz=157,slow=4.9,SNR=2.6						
SONM	**Songino Array**	**57.39**	**359**	P	**P**	**20 05 44.0**	**-0.5**
	0.5nm,0.6s,baz=172,slow=5.4,SNR=3.8						
MKAR	**Makanchi Array**	**60.65**	**340**	P	**P**	**20 06 07.6**	**+0.6**
	1.0nm,0.4s,baz=150,slow=8.0,SNR=16						
KURBB	**Kurchatov Arra**	**65.21**	**340**	P	**P**	**20 06 37.3**	**+0.1**
	0.4nm,0.6s,baz=146,slow=5.6,SNR=6.8						
ZALV	**Zalesovo Beam**	**66.33**	**346**	P	**P**	**20 06 45.8**	**+1.4**
	0.6nm,0.3s,baz=155,slow=6.4,SNR=5.6						
BVAR	**Borovoye Array**	**70.09**	**337**	P	**P**	**20 07 08.0**	**0.0**
	0.3nm,0.4s,baz=145,slow=7.9,SNR=3.2						

*BJI **31** 20:34:42.7, 30°.855N×177°.45W, h74km, mB5.3/9, mb5.0/17, Ms5.3/5, Ms7 5.0/4*
*ISCJB **31** 20:34:43.3±0.5, 30°.36S±0°.05×178°.0W±0°.1, h46km, mb4.9/29, MS4.2/6, Error ellipse: s-maj=12.6km s-min=7.2km az=7.5*
*NEIC **31** 20:34:44.6±1.4, 30°.33S×177°.89W, h49km±11km, mb4.9/13, Error ellipse: s-maj=11.8km s-min=9.5km az=117.0*
*IDC **31** 20:34:45.5±1.6, 30°.25S×177°.91W, h52km±13km, mb4.5/10, mb1 4.7/10, mb1mx4.3/19, mbtmp4.5/10, MS3.8/4, Ms1 3.8/4, ms1mx3.4/30, Error ellipse: s-maj=19.8km s-min=14.7km az=110.0*

ISC 31 20:34:44.3±0.4, 30°35S±0°.05×178°06W±0°.09, h46km, n119, σ1§65/114, mb5.1/29, MS4.2/6, 2D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.10**	**6**	*e*Pn	**Pn**	**20 35 02.9**	**-0.4**
RAO				S	**Sn**	**20 35 16.5**	**-0.9**
RAO	**Raoul Island**	**1.10**	**6**	P	**Pn**	**20 35 03.3**	**0.0**
	718nm,0.3s,baz=7.3,slow=21,SNR=29						
RAO				S	**Sn**	**20 35 16.5**	**-0.9**
	3µm,0.3s,baz=73,slow=19,SNR=35						
OUZ	**Omahuta**	**8.54**	**233**	*e*Pn	Pn	20 36 52.5	+7.1
	29nm,0.4s						
URZ	**Urewera**	**8.85**	**206**	*e*Pn	Pn	20 36 44.7	-4.8
	22nm,0.7s						
URZ				S	**Sn**	**20 38 24.2**	**-3.7**
URZ	**Urewera**	**8.85**	**206**	P	Pn	20 36 44.9	-4.6
	1.4nm,0.3s,baz=2.2,slow=20,SNR=21						
URZ				S	**Sn**	**20 38 24.2**	**-3.7**
	9.3nm,0.3s,baz=164,slow=19,SNR=14						
RPZ	**Rata Peaks**	**15.91**	**210**	P	**Pn**	**20 38 25.0**	**+0.1**
RPZ				S	Sn	20 41 03.9	-16
RPZ	**Rata Peaks**	**15.91**	**210**	P	**Pn**	**20 38 25.0**	**+0.1**
	1.6nm,0.3s,baz=29,slow=7.6,SNR=5.8						
RPZ				S	Sn	20 41 03.9	-16
	1.7nm,0.3s,baz=187,slow=22,SNR=7.0						
DZM	**Mont Dzumac**	**16.16**	**297**	*e*LR	LR	20 42 22.6	
	483nm,24.9s						
RAR	**Rarotonga**	**18.79**	**65**	LR	LR	20 44 04.3	
	comp=Z,254nm,18.7s,baz=315,slow=30						
TBI	**Tubuai**	**26.40**	**82**	*e*LR	LR	20 46 55.5	
	240nm,27.2s						
TBI	**Tubuai**	**26.40**	**82**	*e*T	T	21 07 37.9	
	34nm,0.3s						
EIDS	**Eidsvold**	**27.69**	**273**	*e*P	**P**	**20 40 30.7**	**+2.5**
	11nm,0.9s						
PAE	**Paea**	**28.82**	**71**	*e*T	T	21 10 34.5	
	10nm,0.3s						
PPT2	**Papeete2**	**28.86**	**70**	*e*LR	LR	20 48 12.1	
	232nm,25.2s						
PPT2	**Papeete2**	**28.86**	**70**	*e*T	T	21 10 38.7	
	9.0nm,0.3s						
PMOR	**Pomariorio Ree**	**31.61**	**68**	*e*T	T	21 14 03.0	
	2.7nm,0.3s						
VAH	**Vaihoa**	**31.70**	**68**	*e*T	T	21 14 09.2	
	67nm,0.2s						
CTA	**Charters Tower**	**33.74**	**279**	P	**P**	**20 41 24.3**	**+2.6**
CTA	**Charters Tower**	**33.74**	**279**	P	**P**	**20 41 24.3**	**+2.6**
	44nm,0.6s,baz=105,slow=11,SNR=68						
CTAO	**Charters Tower**	**33.74**	**279**	*e*P	P	20 41 25.2	+3.5
	45nm,0.7s						
STKA	**Stephens Creek**	**34.44**	**257**	*e*P	**P**	**20 41 30.5**	**+2.9**
	9.1nm,0.6s						
STKA	**Stephens Creek**	**34.44**	**257**	P	**P**	**20 41 30.5**	**+2.9**
	58nm,0.7s,baz=99,slow=9.8,SNR=180						
STKA				LR	LR	20 53 36.1	
	comp=Z,182nm,18.5s,baz=14,slow=33						
BBOO	**Buckleboo**	**38.94**	**254**	*e*P	**P**	**20 42 07.4**	**+1.5**
	343nm,0.7s						
RKT	**Rikitea**	**38.96**	**90**	*e*T	T	21 23 22.9	
	1.9nm,0.3s						
AS31	**Alice Springs**	**43.06**	**267**	*e*P	**P**	**20 42 40.9**	**+0.9**
ASAR	**Alice Springs**	**43.06**	**267**	P	**P**	**20 42 41.3**	**+1.3**
ASAR				ScP	**ScP**	**20 48 17.0**	**+0.1**
ASAR	**Alice Springs**	**43.06**	**267**	P	**P**	**20 42 41.3**	**+1.3**
	12nm,0.5s,baz=105,slow=7.1,SNR=357						
ASAR				ScP	**ScP**	**20 48 17.0**	**+0.1**
	0.4nm,0.9s,baz=111,slow=5.5,SNR=3.4						
WRAB	**Tennant Creek**	**44.04**	**272**	*e*P	**P**	**20 42 48.8**	**+0.9**
	22nm,0.6s						
WRA	**Warramunga Arr**	**44.05**	**272**	P	**P**	**20 42 48.7**	**+0.8**
WRA	**Warramunga Arr**	**44.05**	**272**	P	**P**	**20 42 48.7**	**+0.8**
	27nm,0.4s,baz=110,slow=8.2,SNR=575						
WRA				LR	LR	20 59 50.4	
	comp=Z,174nm,21.9s,baz=75,slow=34						
SBA	**Scott Base**	**48.09**	**184**	*e*P	P	20 43 22.2	+3.4
	9.3nm,0.9s						
VNDA	**Vanda**	**48.14**	**186**	P	**P**	**20 43 21.1**	**+1.8**
VNDA	**Vanda**	**48.14**	**186**	P	**P**	**20 43 21.1**	**+1.8**
	1.1nm,0.6s,baz=9.9,slow=7.4,SNR=9.3						
FITZ	**Fitzroy Crossi**	**52.31**	**270**	*e*P	**P**	**20 43 52.0**	**+0.3**
	9.6nm,0.9s						
FITZ	**Fitzroy Crossi**	**52.31**	**270**	P	**P**	**20 43 52.7**	**+1.1**
	8.3nm,0.8s,baz=154,slow=6.2,SNR=14						
NWAO	**Narrogin (SRO)**	**54.37**	**249**	LR	LR	21 02 56.4	
	comp=Z,71nm,21.2s,baz=94,slow=31						
CASY	**Casey**	**55.16**	**208**	*e*P	**P**	**20 44 11.7**	**-0.1**
	23nm,0.9s						
MBWA	**Marble Bar**	**56.18**	**264**	P	**P**	**20 44 19.4**	**-0.4**
	28nm,1.3s						
QSPA	**South Pole Qui**	**59.76**	**180**	*e*P	**P**	**20 44 46.0**	**+1.6**
	37nm,0.7s						
QSPA	**South Pole Qui**	**59

comp=Z,120nm,4.9s
CD2 LR LR
comp=N,220nm,5.9s
CD2 LR LR
comp=Z,200nm,5.3s
HHC Hu-ho-hao-te 96.16 314 P **P** **20 48 06.5 -0.8**
HHC pP pP 20 48 27.5 +6.4
HHC sP sP 20 48 35.5 +9.3
HHC PP **PP** **20 52 02.8 +1.6**
HHC SKS **SKSac** **20 58 35.0 -5.0**
HHC S **S** **20 59 17.3 -5.8**
HHC sS sS 20 59 53.3 +7.0
HHC SS **SS** **21 05 55.3 -1.1**
HHC AMB AMB
comp=Z,19nm,1.1s
HHC PPMZ
comp=Z,190nm,5.2s
HHC LR LR
comp=N,260nm,16.1s
HHC LR LR
comp=E,410nm,17.8s
HHC LR LR
comp=Z,260nm,16.1s
LZH Lanzhou 98.65 307 *e*P P 20 48 15.5 -3.3
LZH pP pP 20 48 36.3 +3.8
LZH sP sP 20 48 44.8 +7.2
LZH PP **PP** **20 52 20.3 -0.2**
LZH AMB AMB
comp=Z,17nm,1.5s
LZH AMB AMB
comp=Z,72nm,9.3s
LZH LR LR
comp=N,190nm,17.8s
LZH LR LR
comp=E,170nm,18.0s
LZH LR LR
comp=Z,250nm,20.0s
WMQ Urumqi 113.16 308 *e*PKP **PKiKP** **20 53 14.3 -2.3**
WMQ LR LR
comp=N,86nm,25.0s
WMQ LR LR
comp=E,62nm,21.0s
SADO Sadowa 116.63 52 PKP **PKPdf** **20 53 22.7 -0.5**
SADO Sadowa 116.63 52 PKP **PKPdf** **20 53 22.7 -0.5**
14nm,0.9s,baz=102,slow=13,SNR=3.5
MKAR Makanchi Array 117.70 310 PKP **PKPdf** **20 53 24.9 -0.3**
MKAR Makanchi Array 117.70 310 PKP **PKPdf** **20 53 24.9 -0.3**
0.9nm,0.7s,baz=238,slow=1.4,SNR=8.6
ZALV Zalesovo Beam 117.96 318 PKP **PKPdf** **20 53 24.8 -0.6**
ZALV Zalesovo Beam 117.96 318 PKP **PKPdf** **20 53 24.8 -0.6**
0.6nm,0.5s,baz=60,slow=1.9,SNR=3.6
ARCES ARCESS Array B 138.53 348 PKP **PKPdf** **20 54 05.3 +1.3**
ARCES ARCESS Array B 138.53 348 PKP **PKPdf** **20 54 05.3 +1.3**
4.6nm,0.9s,baz=54,slow=2.1,SNR=4.9
H10N3 ASCENSION HYDR 38.88 155 T T 23 29 41.5
baz=203,slow=0.7,SNR=127
H10N1 ASCENSION HYDR 38.88 155 T T 23 29 53.3
baz=203,slow=0.7,SNR=134
H10N2 ASCENSION HYDR 38.89 155 T T 23 29 35.0
baz=203,slow=0.7,SNR=166
KAF Kangasniemi 144.48 340 *e*p **PKPab** **20 54 13.1 -0.2**
KBZ Khabaz 145.04 304 PKPbc **PKPbc** **20 54 15.8 -0.1**
KBZ Khabaz 145.04 304 PKPbc **PKPbc** **20 54 15.8 -0.1**
3.1nm,0.8s,baz=207,slow=4.5,SNR=5.7
FIA1 FINESS Array S 145.08 340 *e*PKPdf **PKPbc** **20 54 15.0 -0.4**
FINES FINESS Array B 145.08 340 PKPbc **PKPbc** **20 54 15.4 0.0**
FINES FINESS Array B 145.08 340 PKPbc **PKPbc** **20 54 15.4 0.0**
26nm,0.8s,baz=64,slow=3.4,SNR=115
KIV Kislovodsk 145.16 304 *e*PKPdf **PKPbc** **20 54 15.7 -0.7**
NB2 NORSAR Subarra 148.69 351 PKP **PKPbc** **20 54 26.0 +0.1**
comp=Z,20nm,1.4s,baz=11,slow=2.8
NOA NORSAR Array B 148.69 351 PKPbc **PKPbc** **20 54 25.6 -0.2**
NOA NORSAR Array B 148.69 351 PKPbc **PKPbc** **20 54 25.6 -0.2**
comp=Z,4.6nm,0.7s,baz=13,slow=4.3,SNR=12
NAO01 NORSAR Array S 148.92 352 PKPdf **PKPdf** **20 54 20.7 -1.7**
AKASG Malin Array Be 151.23 323 PKPbc **PKPbc** **20 54 31.7 -0.6**
AKASG Malin Array Be 151.23 323 PKPbc **PKPbc** **20 54 31.7 -0.6**
comp=Z,8.0nm,0.5s,baz=47,slow=2.8,SNR=13
AKBB Malin Array Si 151.23 323 *e*PKPbc **PKPbc** **20 54 31.7 -0.5**
AK01 Malin Array Si 151.24 323 *e*PKPbc **PKPbc** **20 54 31.8 -0.5**
KIEV Kiev 151.24 323 *e*PKPbc **PKPbc** **20 54 32.1 -0.1**
AK02 Malin Array Si 151.26 323 *e*PKPbc **PKPbc** **20 54 32.2 -0.1**
SUW Suwalki 151.81 333 *e*PKPbc **PKPbc** **20 54 33.5 0.0**
SUW Suwalki 151.81 333 *e*PKP **PKPbc** **20 54 33.9 +0.4**
BRTR Keskin Array B 152.53 299 PKPbc **PKPbc** **20 54 35.8 -0.1**
BRTR PKPab **PKPab** **20 54 45.8 -0.6**
BRTR Keskin Array B 152.53 299 PKPbc **PKPbc** **20 54 35.8 -0.1**
comp=Z,1.5nm,0.5s,baz=146,slow=4.7,SNR=5.9
BRTR PKPab **PKPab** **20 54 45.8 -0.6**
comp=Z,0.7nm,0.5s,baz=146,slow=3.9,SNR=5.3
BEL Belsk 154.40 332 *e*PKP **PKPbc** **20 54 40.4 +1.2**
KWP Kalwaria Pacla 155.16 327 *e*PKP **PKPab** **20 54 58.6 +1.6**
STHS Stebnicka Huta 156.00 328 *e*PKP **PKPdf** **20 54 37.2 +4.0**
KSP Ksiaz 156.89 336 *e*PKP **PKPab** **20 55 04.8 +0.5**
DPC Dobruska-Polom 157.29 336 *e*PKPAB **PKPab** **20 55 05.4 -0.7**
CLL Collm 157.50 342 *e*PKPab **PKPab** **20 55 06.0 -0.9**
comp=Z,5.0nm,0.9s
KHC Kasperske Hory 159.26 338 *e*PKPAB **PKPab** **20 55 15.4 +0.7**
GERES GERESS Array B 159.47 337 PKPab **PKPab** **20 55 15.8 +0.1**
GERES GERESS Array B 159.47 337 PKPab **PKPab** **20 55 15.8 +0.1**
comp=Z,0.4nm,0.6s,baz=15,slow=4.5,SNR=2.7
TORD Torodi Ar. Bea 162.88 179 PKPab **PKPab** **20 55 30.9 -0.2**
TORD Torodi Ar. Bea 162.88 179 PKPab **PKPab** **20 55 30.9 -0.2**
comp=Z,1.6nm,0.5s,baz=180,slow=3.1,SNR=9.4
ESDC Sonseca Array 169.51 26 PKP **PKPdf** **20 54 48.9 +2.1**
ESDC Sonseca Array 169.51 26 PKP **PKPdf** **20 54 48.9 +2.1**
comp=Z,0.1nm,0.3s,baz=338,slow=3.5,SNR=4.1

*IDC **31** 20:53:21.2±1.9, 0.°24N×97.°57E, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.6/25, mbtmp3.7/7, ML3.8/2, Error ellipse: s-maj=61.4km s-min=20.5km az=63.0*
*ISCJB **31** 20:53:24.4±1.2, 0.°36N±0.°08×97.°7E±0.°2, h29km, mb3.8/5, Error ellipse: s-maj=24.8km s-min=7.3km az=159.4*
*DJA **31** 20:53:27.1±1.2, 0.°1N±7.°9×8E±1.°5, h30km±15km, M4.0/6, mb4.2/4, mB5.1/2, MLv3.9/6, Mw(mB)4.4/2*
ISC 31 20:53:26.2±1.3, 0.°4N±0.°1×97.°8E±0.°1, h29km, n18, σ1§04/16, mb4.0/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.94**	**346**	P	**Pn**	**20 53 43.1**	**-0.4**
PSI	**Prapat**	**2.65**	**25**	P	**Pn**	**20 54 08.2**	**+1.1**
PSI	**Prapat**	**2.65**	**25**	Pn	**Pn**	**20 54 08.2**	**+1.1**
	1.6nm,0.3s,baz=176,slow=9.3,SNR=9.3						
PPI	**Padang Panjang**	**2.73**	**108**	P	**Pb**	**20 54 12.1**	**-2.2**
KCSI	**Kotacane, Aceh**	**3.12**	**359**	P	**Pn**	**20 54 13.1**	**-0.4**
KCSI				S	**Sn**	**20 54 50.1**	**+0.3**
KULM	**Kulim**	**5.64**	**30**	P	**Pn**	**20 54 48.3**	**+0.1**
	20nm,0.9s,522nm0.1nm						
LHSI	**Lahat**	**7.08**	**126**	P	**Pn**	**20 55 09.4**	**+1.4**
	39nm,0.9s,3µm0.2nm						
MDSI	**Maura Dua**	**8.00**	**127**	P	**Pn**	**20 55 22.4**	**+1.8**
	15nm,0.8s						
CMAR	**Chiang Mai Arr**	**18.00**	**4**	P	**Pn**	**20 57 33.9**	**-0.4**
	0.5nm,0.3s,baz=192,slow=11,SNR=14						
CMMT	**Chiang Mai**	**18.35**	**3**	P	**Pn**	**20 57 38.9**	**+0.2**
H08S2	**Diego Garcia H**	**26.47**	**252**	T	T	21 26 20.5	
	baz=72,slow=0.7,SNR=954						
H08S3	**Diego Garcia H**	**26.47**	**252**	T	T	21 26 20.7	
	baz=72,slow=0.7,SNR=995						
H08S1	**Diego Carcia H**	**26.48**	**252**	T	T	21 26 21.8	
	baz=72,slow=0.7,SNR=1206						
WRA	**Warramunga Arr**	**41.10**	**122**	P	**P**	**21 01 07.9**	**0.0**
	0.6nm,1.0s,baz=301,slow=9.1,SNR=6.0						
ASAR	**Alice Springs**	**42.43**	**127**	P	**P**	**21 01 19.0**	**+0.3**
	0.4nm,0.5s,baz=297,slow=8.3,SNR=8.0						
SONM	**Songino Array**	**47.85**	**8**	P	**P**	**21 02 01.7**	**+0.2**
	0.9nm,0.6s,baz=193,slow=8.1,SNR=5.3						
MKAR	**Makanchi Array**	**48.17**	**346**	P	**P**	**21 02 04.7**	**+0.7**
	1.1nm,0.7s,baz=162,slow=8.9,SNR=7.4						
ZALV	**Zalesovo Beam**	**54.45**	**351**	P	**P**	**21 02 50.8**	**0.0**
	3.0nm,0.6s,baz=178,slow=6.6,SNR=16						

*IDC **31** 20:54:40.3±2.7, 32.°02N×140.°93E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/24, mbtmp3.6/5, Error ellipse: s-maj=110.7km s-min=23.2km az=70.0*
*ISCJB **31** 20:54:46.5±1.3, 32.°22N±0.°07×141.°1E±0.°1, h62km±11km, mb3.5/5, Error ellipse: s-maj=15.6km s-min=11.0km az=176.8*
*JMA **31** 20:54:46.4±0.2, 32.°30N×141.°10E, h29km, M3.9*
ISC 31 20:54:45.7±2.8, 32.°1N±0.°1×141.°1E±0.°1, h40km±25km, n16, σ1§24/25, mb3.5/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**1.47**	**311**	P	**Pn**	**20 55 09.6**	**0.0**
JHCJ				*e*S	**Sn**	**20 55 26.7**	**-1.0**
JHJ2	**Mitsune**	**1.48**	**313**	P	**Pn**	**20 55 10.1**	**+0.3**
JHJ2				*e*S	**Sn**	**20 55 26.8**	**-1.2**
BSO1	**Boso 1**	**2.54**	**358**	P	**Pn**	**20 55 24.4**	**+0.5**
BSO1				S	**Sn**	**20 55 52.6**	**-0.7**
JKO	**Kozu shima**	**2.66**	**322**	P	**Pn**	**20 55 27.2**	**+1.3**
JKO				*e*S	**Sn**	**20 55 56.5**	**-0.4**
BSO3	**Boso 3**	**2.73**	**350**	P	**Pn**	**20 55 26.5**	**-0.3**
BSO3				*e*S	**Sn**	**20 55 57.7**	**-0.8**
JIM2	**Oshima 3**	**2.96**	**332**	P	**Pn**	**20 55 30.7**	**+0.6**
JIM2				*e*S	**Sn**	**20 56 02.5**	**-1.9**
JOD2	**Odawara 2**	**3.57**	**332**	P	**Pn**	**20 55 39.3**	**+0.7**
JOD2				S	**Sn**	**20 56 18.0**	**-1.5**
JYN	**Shimob**	**4.00**	**328**	P	**Pn**	**20 55 46.9**	**+2.4**
JRY	**Ryogami san**	**4.31**	**335**	P	**Pn**	**20 55 50.4**	**+1.7**
JRY				*e*S	**Sn**	**20 56 36.7**	**-1.0**
JAG	**Ashikaga**	**4.52**	**343**	P	**Pn**	**20 55 52.5**	**+0.9**
MAT	**Matsushiro**	**5.04**	**332**	P	**Pn**	**20 56 01.2**	**+2.5**
MAT				*e*S	**Sn**	**20 56 55.7**	**+0.1**
SONM	**Songino Array**	**30.59**	**311**	P	**P**	**21 00 56.0**	**+0.3**
	0.4nm,0.5s,baz=103,slow=11,SNR=3.0						
MKAR	**Makanchi Array**	**46.67**	**306**	P	**P**	**21 03 09.7**	**-0.6**
	1.8nm,0.5s,baz=86,slow=9.5,SNR=23						
WRA	**Warramunga Arr**	**52.16**	**188**	P	**P**	**21 03 50.9**	**-1.3**
	0.1nm,0.3s,baz=5.5,slow=7.7,SNR=5.0						
ASAR	**Alice Springs**	**55.89**	**188**	P	**P**	**21 04 19.9**	**+0.4**
	0.1nm,0.4s,baz=7.0,slow=8.4,SNR=3.2						
FINES	**FINESS Array B**	**73.06**	**333**	P	**P**	**21 06 11.8**	**+0.6**
	0.9nm,0.8s,baz=42,slow=8.8,SNR=4.0						

MAN 31 21:00:17, 10.°70N×124.°94E, h34km, mb3.8, ML2.6, MS2.1, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.48**	**317**	*e*P	Pn	21 00 28.6	+1.1
OCLP				*e*S	Sb	21 00 33.4	-1.0
MSLP	**Maasin**	**0.57**	**188**	*e*P	Pb	21 00 30.1	+1.4
MSLP				*e*S	Sn	21 00 37.3	+0.5

*IDC **31** 21:00:48.3±2.0, 6.°07N×126.°94E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/23, mbtmp3.4/4, Error ellipse: s-maj=161.7km s-min=22.7km az=67.0*
*ISCJB **31** 21:00:54.1±1.0, 5.°24N±0.°08×126.°5E±0.°1, h10km, mb3.3/4, Error ellipse: s-maj=18.8km s-min=8.1km az=149.1*
*MAN **31** 21:00:59, 5.°72N×126.°57E, h3km, mb4.4, ML3.3, MS3.1*
ISC 31 21:00:55.4±1.4, 5.°29N±0.°09×126.°5E±0.°1, h10km, n8, σ2§53/10, mb3.4/4, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.67**	**350**	*e*P	**Pn**	**21 01 24.3**	**-0.5**
MATI				*e*S	**Sn**	**21 01 41.7**	**-4.6**
GSPH	**General Santos**	**1.77**	**297**	⇓*i*P	**Pn**	**21 01 25.5**	**-0.7**
GSPH				*i* S	**Sn**	**21 01 46.0**	**-2.9**
BUKP	**Musuan**	**2.96**	**330**	*e*P	**Pn**	**21 01 42.4**	**-0.2**
BUKP				*e*S	**Sn**	**21 02 16.4**	**-1.8**
CGP	**Cagayan de Oro**	**3.64**	**330**	⇓*e*P	**Pg**	**21 02 07.7**	**+2.5**
CGP				*e*S	**Sn**	**21 02 37.2**	**+2.3**
WRA	**Warramunga Arr**	**26.22**	**163**	P	**P**	**21 06 30.9**	**+0.2**
	0.7nm,1.0s,baz=345,slow=10,SNR=11						
ASAR	**Alice Springs**	**29.66**	**166**	P	**P**	**21 07 01.6**	**+0.1**
	0.2nm,0.5s,baz=347,slow=7.3,SNR=4.4						
MKAR	**Makanchi Array**	**56.17**	**325**	P	P	21 10 27.0	-8.6
	0.2nm,0.4s,baz=115,slow=6.9,SNR=4.8						
KURBB	**Kurchatov Arra**	**60.33**	**327**	P	P	21 10 56.1	-8.4
	0.4nm,0.7s,baz=124,slow=6.8,SNR=4.5						

IDC 31 21:07:47.3±3.3, 30.°27S×177.°81W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.8/17, mbtmp3.9/3, Error ellipse: s-maj=70.9km s-min=20.9km az=111.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.02**	**355**	Pn	Pb	21 08 08.2	+0.3
	76nm,0.3s,baz=253,slow=19,SNR=3.6						
RAO				Sn	Sn	21 08 26.3	+2.3
	266nm,0.3s,baz=220,slow=21,SNR=14						
STKA	**Stephens Creek**	**34.67**	**257**	P	P	21 14 38.7	0.0
	1.9nm,0.7s,baz=102,slow=9.0,SNR=6.0						
ASAR	**Alice Springs**	**43.28**	**267**	P	P	21 15 50.7	-0.3
	0.3nm,0.4s,baz=105,slow=7.4,SNR=6.5						
WRA	**Warramunga Arr**	**44.26**	**272**	P	P	21 15 58.8	-0.1
	0.8nm,0.3s,baz=110,slow=8.1,SNR=53						
FINES	**FINESS Array B**	**145.08**	**340**	PKPbc	PKPbc	21 27 24.9	-0.5
	1.9nm,0.8s,baz=46,slow=5.5,SNR=5.5						

*ISCJB **31** 21:11:15.8±1.4, 36.°3N±0.°1×70.°5E±0.°2, h88km, mb3.8/3, Error ellipse: s-maj=23.6km s-min=14.7km az=28.2*
*IDC **31** 21:11:16.8±9.3, 36.°37N×70.°47E, h68km±89km, mb3.5/4, mb1 3.4/7, mb1mx3.1/30, mbtmp3.4/7, ML3.4/2, Error ellipse: s-maj=62.2km s-min=50.6km az=148.0*
ISC 31 21:11:17.6±1.8, 36.°3N±0.°2×70.°5E±0.°2, h88km, n8, σ1§51/8, mb3.9/3, 1C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.83**	**360**	⇓Pn	Pn	21 13 05.3	+10
	0.4nm,0.3s,baz=175,slow=12,SNR=16						
KK31				⇑Sn	**Sn**	**21 14 13.2**	**+1.8**
	6.8nm,0.7s,baz=176,slow=22,SNR=3.5						
MKAR	**Makanchi Array**	**13.71**	**36**	P	**Pn**	**21 14 28.4**	**+0.3**
	0.1nm,0.3s,baz=217,slow=17,SNR=5.1						
KURBB	**Kurchatov Arra**	**15.47**	**19**	P	**Pn**	**21 14 50.1**	**-0.5**
	0.1nm,0.3s,baz=210,slow=11,SNR=5.7						
AKTO	**Aktyubinsk**	**16.80**	**331**	P	**Pn**	**21 15 04.8**	**-2.4**
	baz=127,slow=12						
ZALV	**Zalesovo Beam**	**20.29**	**25**	P	**P**	**21 15 45.1**	**-1.0**
	1.0nm,0.5s,baz=220,slow=11,SNR=5.9						
FINES	**FINESS Array B**	**37.47**	**326**	P	**P**	**21 18 22.4**	**+0.2**
	1.5nm,0.9s,baz=123,slow=10,SNR=5.8						
HFS	**Hagfors**	**43.02**	**322**	P	**P**	**21 19 08.6**	**+0.5**
	1.4nm,0.3s,baz=81,slow=9.8,SNR=5.2						
TORD	**Torodi Ar. Bea**	**65.33**	**268**	P	**P**	**21 21 51.7**	**+1.0**
	0.7nm,0.7s,baz=44,slow=5.7,SNR=9.4						

IDC 31 21:16:59.3±19.0, 17.°73S×177.°57W, h434km±173km, mb3.3/4, mb1 3.4/4, mb1mx3.0/19, mbtmp3.3/4, Error ellipse: s-maj=122.4km s-min=76.2km az=108.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.41**	**241**	P	P	21 23 49.8	-0.4
	1.0nm,0.4s,baz=80,slow=11,SNR=8.6						
WRA	**Warramunga Arr**	**45.45**	**259**	P	P	21 24 37.7	-0.5
	0.3nm,0.3s,baz=92,slow=6.7,SNR=41						
WRA				PcP	PcP	21 26 08.2	-0.5
	0.2nm,0.4s,baz=92,slow=3.8,SNR=4.8						
ASAR	**Alice Springs**	**45.61**	**254**	P	P	21 24 39.6	+0.2
	5.2nm,0.6s,baz=91,slow=8.4,SNR=67						
ASAR				PcP	PcP	21 26 08.8	-0.4
	0.4nm,0.4s,baz=102,slow=3.8,SNR=4.6						
FITZ	**Fitzroy Crossi**	**53.85**	**260**	P	P	21 25 40.6	+0.1
	2.2nm,0.8s,baz=139,slow=9.3,SNR=5.2						
BRTR	**Keskin Array B**	**145.22**	**316**	PKPbc	PKPdf	21 35 46.7	-0.2
	0.5nm,0.6s,baz=63,slow=2.4,SNR=4.8						
GERES	**GERESS Array B**	**147.64**	**346**	PKPbc	PKPbc	21 35 53.5	-0.5
	0.7nm,0.7s,baz=18,slow=1.7,SNR=5.2						

*IDC **31** 21:40:19.7±0.8, 17.°67S×167.°93E, h0km, mb3.8/8, mb1 4.1/10, mb1mx4.0/19, mbtmp4.0/10, ML4.2/2, MS3.7/8, Ms1 3.7/8, ms1mx3.5/21, Error ellipse: s-maj=28.8km s-min=21.0km az=117.0*
*ISCJB **31** 21:40:23.3±0.5, 17.°82S±0.°07×167.°76E±0.°09, h32km, mb4.0/11, MS3.7/6, Error ellipse: s-maj=12.3km s-min=9.4km az=8.9*
*NEIC **31** 21:40:25.2±0.4, 17.°73S×167.°77E, h35km, mb4.7/3, Error ellipse: s-maj=10.9km s-min=10.3km az=75.0*
ISC 31 21:40:24.7±0.5, 17.°80S±0.°07×167.°76E±0.°10, h32km, n51, σ1§12/49, mb4.0/11, MS3.6/6, 3C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.43**	**196**	*e*Pn	**Pn**	**21 41 30.1**	**+0.2**
	8.1nm,0.2s						
DZM				*e*Sn	**Sn**	**21 42 18.4**	**-1.9**
	121nm,0.3s						
DZM				*e*LR	LR	21 42 28.9	
	698nm,22.9s						
DZM	**Mont Dzumac**	**4.43**	**196**	*e*Pn	**Pn**	**21 41 30.0**	**+0.2**
DZM				*e*Sn	**Sn**	**21 42 19.2**	**-1.1**
DZM	**Mont Dzumac**	**4.43**	**196**	Pn	**Pn**	**21 41 29.6**	**-0.2**
	1.6nm,0.3s,baz=89,slow=7.9,SNR=23						
DZM				Sn	**Sn**	**21 42 17.7**	**-2.7**
	13nm,0.3s,baz=316,slow=24,SNR=4.0						
DZM				LR	LR	21 42 59.8	
	comp=Z,456nm,20.6s,baz=28,slow=35						
MSVF	**Nonsavu**	**9.81**	**91**	*e*Pn	**Pn**	**21 42 44.5**	**+0.8**
	31nm,1.0s						
HNR	**Honiara**	**11.25**	**317**	Pn	**Pn**	**21 43 02.9**	**-0.6**
HNR	**Honiara**	**11.25**	**317**	Pn	**Pn**	**21 43 02.9**	**-0.6**
	11nm,0.3s,baz=205,slow=14,SNR=2.6						
HNR				LR	LR	21 46 52.6	
	comp=Z,221nm,18.1s,baz=279,slow=35						
AFI	**Afiamalu**	**20.06**	**82**	LR	LR	21 50 31.3	
	comp=Z,181nm,18.4s,baz=352,slow=31						
STKA	**Stephens Creek**	**27.48**	**234**	*e*P	**P**	**21 46 07.7**	**-0.5**
STKA	**Stephens Creek**	**27.48**	**234**	P	**P**	**21 46 10.7**	**+2.5**
	1.6nm,0.6s,baz=140,slow=22,SNR=4.7						
STKA				LR	LR	21 57 02.7	
	comp=Z,150nm,19.9s,baz=32,slow=36						
RAR	**Rarotonga**	**30.77**	**102**	LR	LR	21 55 48.9	
	comp=Z,223nm,20.9s,baz=315,slow=30						
WRA	**Warramunga Arr**	**31.66**	**261**	P	**P**	**21 46 45.7**	**+0.3**
WRA	**Warramunga Arr**	**31.66**	**261**	P	**P**	**21 46 45.7**	**+0.3**
	0.4nm,0.5s,baz=81,slow=5.9,SNR=4.7						
WRA				LR	LR	21 59 00.0	
	comp=Z,146nm,18.8s,baz=125,slow=35						
ASAR	**Alice Springs**	**32.14**	**254**	P	**P**	**21 46 50.5**	**+0.8**
ASAR	**Alice Springs**	**32.14**	**254**	P	**P**	**21 46 50.5**	**+0.8**
	1.6nm,0.7s,baz=79,slow=8.5,SNR=16						
ASAR				LR	LR	21 59 32.7	
	comp=Z,268nm,20.4s,baz=98,slow=36						
PPT2	**Papeete2**	**40.59**	**96**	*e*LR	LR	21 59 43.4	
	96nm,22.0s						
PPT	**Papeete**	**40.59**	**96**	LR	LR	21 59 55.7	
	comp=Z,86nm,21.6s,baz=188,slow=29						
VNDA	**Vanda**	**59.82**	**181**	P	**P**	**21 50 27.7**	**+1.1**
VNDA	**Vanda**	**59.82**	**181**	P	**P**	**21 50 27.7**	**+1.1**
	0.7nm,0.8s,baz=338,slow=9.3,SNR=3.5						
SBA	**Scott Base**	**60.09**	**180**	*e*P	**P**	**21 50 29.8**	**+1.5**
	4.6nm,1.1s						
QSPA	**South Pole Qui**	**72.25**	**180**	*e*P	**P**	**21 51 47.5**	**+0.8**
	9.1nm,1.0s						
SONM	**Songino Array**	**85.23**	**324**	P	**P**	**21 52 58.7**	**+0.5**
SONM	**Songino Array**	**85.23**	**324**	P	**P**	**21 52 58.7**	**+0.5**
	1.5nm,1.0s,baz=145,slow=5.4,SNR=6.8						
NVAR	**Mina Array Bea**	**88.91**	**49**	P	**P**	**21 53 15.9**	**-0.5**
NVAR	**Mina Array Bea**	**88.91**	**49**	P	**P**	**21 53 15.9**	**-0.5**
	0.6nm,0.8s,baz=216,slow=5.4,SNR=3.7						
ILAR	**Eielson Array**	**89.29**	**18**	P	**P**	**21 53 14.9**	**-2.4**
ILAR	**Eielson Array**	**89.29**	**18**	P	**P**	**21 53 14.9**	**-2.4**
	0.4nm,0.7s,baz=231,slow=5.0,SNR=6.9						
SNAA	**Sanae**	**90.53**	**183**	*e*P	**P**	**21 53 23.5**	**+0.2**
VNA2	**Neumayer--Watz**	**91.44**	**182**	*e*P	**P**	**21 53 27.0**	**-0.5**
	baz=163,slow=3.5						
VNA1	**Neumayer--Stat**	**91.74**	**181**	*e*P	**P**	**21 53 29.4**	**+0.6**
ARCES	**ARCESS Array B**	**123.32**	**345**	PKP	**PKPdf**	**21 59 17.6**	**-0.2**
ARCES	**ARCESS Array B**	**123.32**	**345**	PKP	**PKPdf**	**21 59 17.6**	**-0.2**
	5.3nm,1.0s,baz=5.4,slow=3.9,SNR=4.7						
FINES	**FINESS Array B**	**128.72**	**338**	PKP	**PKPdf**	**21 59 28.1**	**-0.2**
FINES	**FINESS Array B**	**128.72**	**338**	PKP	**PKPdf**	**21 59 28.1**	**-0.2**
	1.2nm,0.8s,baz=38,slow=2.5,SNR=4.2						
GERES	**GERESS Array B**	**142.56**	**332**	PKP	**PKPdf**	**21 59 52.2**	**-2.4**
GERES	**GERESS Array B**	**142.56**	**332**	PKP	**PKPdf**	**21 59 52.2**	**-2.4**
	0.3nm,0.6s,baz=323,slow=0.7,SNR=4.0						
MOTA	**Moosalm**	**144.84**	**332**	⇑*i*PKPdf	PKPbc	21 59 58.4	+0.6
	14nm,0.9s						
WLF	**Walferdange**	**144.92**	**339**	*e*PKPdf	**PKPdf**	**21 59 58.5**	**0.0**
BFO	**Black Forest**	**145.23**	**336**	*e*PKPdf	**PKPbc**	**21 59 59.2**	**+0.3**
FETA	**Feichten**	**145.25**	**332**	⇑*i*PKPdf	**PKPdf**	**21 59 59.9**	**+0.4**
	14nm,0.7s,SNR=21						
DAVA	**Damuels**	**145.42**	**333**	⇑*i*PKPdf	**PKPab**	**22 00 00.3**	**+0.4**
	18nm,1.1s,SNR=7.9						
DAVOX	**Davos/Dischmat**	**145.81**	**333**	PKPbc	**PKPbc**	**22 00 01.3**	**+0.3**
DAVOX	**Davos/Dischmat**	**145.81**	**333**	PKPbc	**PKPbc**	**22 00 01.3**	**+0.3**
	4.0nm,0.6s,baz=305,slow=3.5,SNR=9.2						
BNI	**Bardonecchia**	**148.55**	**334**	*e*PKPbc	**PKPbc**	**22 00 09.2**	**+0.6**
ESDC	**Sonseca Array**	**157.04**	**343**	PKPab	**PKPab**	**22 00 47.8**	**+0.1**
ESDC	**Sonseca Array**	**157.04**	**343**	PKPab	**PKPab**	**22 00 47.8**	**+0.1**
	0.1nm,0.4s,baz=2.3,slow=3.1,SNR=5.7						
TORD	**Torodi Ar. Bea**	**165.79**	**253**	PKP	**PKPdf**	**22 00 26.4**	**-0.8**
TORD	**Torodi Ar. Bea**	**165.79**	**253**	PKP	**PKPdf**	**22 00 26.4**	**-0.8**
	0.6nm,0.8s,baz=354,slow=1.6,SNR=3.8						

*ISCJB **31** 21:53:39.4±0.9, 10.°28N±0.°04×60.°36W±0.°07, h75km±9km, Error ellipse: s-maj=10.9km s-min=5.5km az=14.9*
*FUNV **31** 21:53:42.4, 10.°24N×60.°41W, h31km, MW3.8*
*TRN **31** 21:53:42.1, 10.°50N×60.°42W, h19km, MD3.6*
ISC 31 21:53:39.7±1.6, 10.°27N±0.°04×60.°35W±0.°07, h79km±13km, n21, σ1§70/34, 1D, Trinidad

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

STKA	**Stephens Creek**	**28.82**	**228**	P		P		22 17 44.9	-0.2
	1.0nm,0.6s,baz=23,slow=13,SNR=2.9								
WRA	**Warramunga Arr**	**31.22**	**255**	P		P		22 18 05.3	-1.2
	1.0nm,0.8s,baz=85,slow=9.4,SNR=11								
ASAR	**Alice Springs**	**32.17**	**248**	P		P		22 18 14.1	-0.8
	0.6nm,0.6s,baz=75,slow=9.4,SNR=18								
VNDA	**Vanda**	**63.49**	**181**	P		P		22 22 17.4	+0.9
	1.4nm,0.8s,baz=350,slow=6.5,SNR=6.6								
CMAR	**Chiang Mai Arr**	**73.96**	**294**	P		P		22 23 24.4	+1.5
	0.7nm,0.5s,baz=131,slow=5.2,SNR=4.0								
ILAR	**Eielson Array**	**86.16**	**18**	P		P		22 24 27.0	-0.8
	1.0nm,0.8s,baz=242,slow=4.8,SNR=13								
MKAR	**Makanchi Array**	**96.19**	**317**	P		P		22 25 15.5	+0.4
	0.3nm,0.5s,baz=87,slow=6.3,SNR=3.1								
ARCES	**ARCESS Array B**	**119.43**	**345**	PKP		PKPdf		22 30 34.8	-1.3
	2.6nm,0.8s,baz=28,slow=5.5,SNR=5.2								
ESDC	**Sonseca Array**	**153.15**	**343**	PKPab		PKPab		22 31 56.0	-0.6
	0.1nm,0.5s,baz=355,slow=4.7,SNR=4.0								

IDC ***31*** *22:47:07.8±2.3, 39.30N×73.91E, h0km, mb3.9/4, mb1 3.7/9, mb1mx3.5/32, mbtmp3.7/9, ML3.2/5, Error ellipse: s-maj=40.2km s-min=19.0km az=143.0*

NNC ***31*** *22:47:14.3±3.9, 39.73N×73.86E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=30.4km s-min=14.5km az=169.0*

ISC 31 22:47:09.7±1.6, 39°5.04N±0.1'×74°0.06E±0.08, h10km, n21, σ1§95/22, mb3.9/4, 5C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.63**	**354**	P		**Pb**	**22 47 56.2**	**-1.0**
	SNR=57							
KZA	**Kyzart**	**2.71**	**19**	P		**Pb**	**22 47 59.0**	**+0.3**
	SNR=16							
AAK	**Ala-Archa**	**3.13**	**6**	P		**Pb**	**22 48 04.0**	**-1.6**
	SNR=31							
EKS2	**Erkin-Say**	**3.15**	**356**	P		**Pb**	**22 48 03.6**	**-2.3**
	SNR=38							
ULHL	**Ulahol**	**3.19**	**31**	P		**Pb**	**22 48 05.1**	**-1.5**
	SNR=12							
KBK	**Karagaybulak**	**3.21**	**12**	P		**Pb**	**22 48 06.3**	**-0.6**
	SNR=9.8							
CHMS	**Chumysh**	**3.52**	**8**	P		Pb	22 48 09.4	-2.7
	SNR=5.9							
TKM2	**Tokmak 2**	**3.59**	**18**	⇑Pn		Pb	22 48 10.8	-2.8
	1.9nm,0.6s							
TKM2				⇓Pg		**Pg**	**22 48 18.3**	**-0.3**
	2.0nm,0.3s							
TKM2				⇑Sn		**Sn**	**22 48 51.4**	**+3.1**
	11nm,0.5s							
TKM2				⇓Lg		Lg	22 49 03.2	
	18nm,0.5s							
USP	**Ospenovka**	**3.76**	**5**	P		Pn	22 48 12.5	+4.6
	SNR=5.0							
KK31	**Karatay Array**	**4.47**	**324**	⇑Pn		**Pn**	**22 48 19.4**	**+1.8**
	1.2nm,0.2s,baz=126,slow=12,SNR=60							
KK31				Pg		**Pb**	**22 48 30.2**	**+1.8**
	2.4nm,0.3s,baz=142,slow=14,SNR=11							
KK31				⇑Sn		**Sn**	**22 49 12.2**	**+2.5**
	4.5nm,0.3s,baz=145,slow=24,SNR=3.1							
KK31				⇓Lg		Lg	22 49 28.2	
	10nm,0.4s,baz=147,slow=29,SNR=5.2							
MKAR	**Makanchi Array**	**9.43**	**37**	Pn		Pn	22 49 29.4	+3.8
	0.0nm,0.3s,baz=226,slow=16,SNR=2.6							
KURBB	**Kurchatov Arra**	**11.54**	**14**	Pn		**Pn**	**22 49 55.8**	**+1.3**
	0.1nm,0.3s,baz=198,slow=12,SNR=2.6							
BVAR	**Borovoye Array**	**13.75**	**351**	Pn		**Pn**	**22 50 24.0**	**-0.5**
	0.1nm,0.3s,baz=150,slow=12,SNR=3.8							
AB31	**Akbulak array**	**14.00**	**319**	Pn		**Pn**	**22 50 27.4**	**-0.7**
	0.4nm,0.3s,baz=130,slow=13,SNR=11							
AB31				⇑Sn		**Sn**	**22 52 58.8**	**-4.7**
AKTO	**Aktyubinsk**	**15.71**	**319**	⇓Pn		**Pn**	**22 50 48.6**	**-2.5**
AKTO	**Aktyubinsk**	**15.71**	**319**	Pn		**Pn**	**22 50 49.5**	**-1.5**
	0.2nm,0.3s,baz=125,slow=15,SNR=3.9							
ZALV	**Zalesovo Beam**	**16.18**	**23**	Pn		**Pn**	**22 50 58.8**	**+1.7**
	0.1nm,0.3s,baz=214,slow=9.4,SNR=4.6							
FINES	**FINESS Array B**	**36.43**	**323**	P		**P**	**22 54 14.1**	**-0.2**
	3.9nm,1.1s,baz=108,slow=8.1,SNR=12							
ARCES	**ARCESS Array B**	**39.35**	**335**	P		**P**	**22 54 39.6**	**+0.9**
	1.4nm,0.5s,baz=107,slow=8.9,SNR=13							
HFS	**Hagfors**	**42.26**	**320**	P		**P**	**22 55 03.2**	**+0.2**
	1.4nm,0.6s,baz=106,slow=11,SNR=6.0							
TORD	**Torodi Ar. Bea**	**68.19**	**269**	P		**P**	**22 58 09.7**	**-1.0**
	0.2nm,0.4s,baz=57,slow=5.5,SNR=8.2							

BJI ***31*** *22:49:58.8, 5.46S×102.85E, h74km, mB5.1/35, mb5.1/47, Ms4.7/33, MS7 4.5/30*

MOS ***31*** *22:49:59.1±1.1, 4.83S×103.15E, h33km, mb5.4/43, Error ellipse: s-maj=11.3km s-min=4.9km az=117.0*

DJA ***31*** *22:50:02.7±0.6, 5°S±2'×10°3E±°, h39km±5km, M5.0/34, mB5.5/16, mb5.2/34, MLv5.2/11, Mw(mB)4.9/16*

IDC ***31*** *22:50:03.4±0.5, 4.90S×103.07E, h58km±4km, mb4.6/33, mb1 4.6/35, mb1mx4.6/36, mbtmp4.6/35, MS4.0/24, Ms1 4.0/24, ms1mx3.9/38, Error ellipse: s-maj=13.0km s-min=8.9km az=56.0*

NEIC ***31*** *22:50:03.7±0.4, 5.00S×102.98E, h68km±3km, mb5.2/53, Error ellipse: s-maj=5.5km s-min=4.1km az=48.0*

ISCJB ***31*** *22:50:03.5±0.4, 4.97S±0.03×103.02E±0.03, h75km±3km, mb5.1/125, Error ellipse: s-maj=5.9km s-min=3.0km az=42.5*

BKK ***31*** *22:50:04.3±0.4, 5°S±3'×10°3E±°, h56km±4km, M5.0/33, mB5.4/18, mb5.1/33, MLv5.3/8, Mw(mB)4.9/18*

GCMT ***31*** *22:50:05.8±0.3, 5.25S×102.74E, h60km±2km, MW5.0, Moment Tensor Solution. s34,c42; s58,c77; Moment tensor: Scale 10^16 Nm; Mrr 2.36±.18; Mθθ-1.73±.16; Mφφ-0.63±.20; Mrθ 1.39±.10; Mrφ 2.34±.11; Mθφ-0.43±.11; Best double couple: M0 3.40000×10^16 NP1: φs 113.00000°, δ60.00000°, λ70.00000°. NP2: φs 328.00000°, δ36.00000°, λ120.00000°. Principal axes: T 2.8200, Plg69.0000°, Azm341.0000°; N 1.0600, Plg17.0000°, Azm123.0000°; P -3.8800, Plg12.0000°, Azm217.0000°; Data Used: IU IC II G CN.*

ISC 31 22:50:04.0±0.3, 5°04S±0.03'×103°01E±0.04, h69km±2km, h69km:pP-P, n581, σ1§44/632, mb5.2/125, 78C-62D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.68**	**356**	P		**Pn**	**22 50 17.1**	**-1.5**
MNAI				S		**Sn**	**22 50 28.3**	**-1.1**
MNAI	**Manna**	**0.68**	**356**	*e*Pn		**Pn**	**22 50 17.1**	**-1.5**
MNAI				*e*Sn		**Sn**	**22 50 28.4**	**-0.9**
LWLI	**Liwa**	**1.05**	**89**	P		**Pn**	**22 50 21.9**	**-1.3**
MDSI	**Maura Dua**	**1.29**	**65**	P		**Pn**	**22 50 25.7**	**-0.5**
LHSI	**Lahat**	**1.31**	**23**	P		**Pn**	**22 50 26.6**	**+0.1**
KSI	**Kapahiang**	**1.44**	**343**	P		**Pn**	**22 50 27.5**	**-0.7**
KSI				S		**Sn**	**22 50 46.8**	**+0.4**
KASI	**Kota Agung**	**1.56**	**108**	P		**Pn**	**22 50 28.9**	**-0.9**
KASI				S		**Sn**	**22 50 47.9**	**-1.3**
KLI	**Kotabumi**	**1.85**	**85**	P		**Pn**	**22 50 33.5**	**-0.2**
BLSI	**Bandar Lampung**	**2.25**	**98**	P		**Pn**	**22 50 39.6**	**+0.5**
PMBI	**Palembang**	**2.74**	**40**	P		**Pn**	**22 50 46.0**	**+0.3**
PMBI	**Palembang**	**2.74**	**40**	*e*Pn		**Pn**	**22 50 46.1**	**+0.4**
DBJI	**Dramaga**	**4.02**	**112**	P		**Pn**	**22 51 04.2**	**+1.1**
SKJI	**Sukabumi**	**4.04**	**119**	P		**Pn**	**22 51 05.3**	**+1.9**
CBJI	**Citeko**	**4.06**	**110**	P		Pn	22 51 08.2	+4.5
PPBI	**Pangkal Pinang**	**4.24**	**48**	P		**Pn**	**22 51 06.9**	**+0.8**
RGRI	**Rengat**	**4.71**	**352**	P		**Pn**	**22 51 14.3**	**+1.7**
LEM	**Lembang**	**4.92**	**111**	P		**Pn**	**22 51 17.8**	**+2.2**
PPI	**Padang Panjang**	**5.25**	**330**	P		**Pn**	**22 51 19.0**	**-0.9**
	327nm,0.8s,7μm							
CISI	**Cisompet, Garu**	**5.39**	**118**	P		**Pn**	**22 51 21.7**	**-0.3**
	347nm,0.6s,14μm							
CISI	**Cisompet, Garu**	**5.39**	**118**	*e*Pn		**Pn**	**22 51 21.5**	**-0.5**
CISI				*e*Sn		**Sn**	**22 52 18.3**	**-4.5**
XMIS	**Christmas Isla**	**6.01**	**154**	*e*Pn		Pn	22 51 23.1	-7.2
XMIS				*e*Sn		Sn	22 52 28.3	-10
KPJI	**Karang Pucung**	**6.32**	**111**	P		**Pn**	**22 51 36.1**	**+1.5**
	158nm,0.8s,2μm							
TGJI	**Tegal**	**6.35**	**107**	P		Pn	22 51 38.7	+3.7
MYKOM	**Kota Tinggi**	**6.84**	**7**	P		**Pn**	**22 51 43.1**	**+1.4**
MYKOM	**Kota Tinggi**	**6.84**	**7**	P		**Pn**	**22 51 43.2**	**+1.4**
	135nm,0.7s,1μm0.5nm							
MYKOM	**Kota Tinggi**	**6.84**	**7**	*e*Pn		**Pn**	**22 51 42.0**	**+0.3**
KGM	**Kluang**	**7.02**	**3**	P		**Pn**	**22 51 45.3**	**+1.1**
BJII	**Banjamegara**	**7.04**	**109**	P		**Pn**	**22 51 46.7**	**+2.1**
	66nm,1.2s							
SMRI	**Semarang**	**7.66**	**105**	P		**Pn**	**22 51 54.8**	**+1.8**
	110nm,1.0s							
SMRI	**Semarang**	**7.66**	**105**	*e*Pn		**Pn**	**22 51 54.5**	**+1.5**
YOGI	**Yogyakarta**	**7.75**	**111**	P		**Pn**	**22 51 54.1**	**-0.1**
UGM	**Wanagama**	**8.00**	**111**	*e*Pn		**Pn**	**22 51 57.9**	**+0.3**
GSI	**Gunungsitoli**	**8.31**	**319**	P		**Pn**	**22 52 00.1**	**-1.9**
GSI	**Gunungsitoli**	**8.31**	**319**	*e*Pn		**Pn**	**22 51 59.5**	**-2.4**
GSI				*e*Sn		Sn	22 53 26.4	-8.0
FRIM	**Kepong**	**8.34**	**350**	P		**Pn**	**22 52 03.0**	**+0.7**
NGJI	**Ngawi**	**8.72**	**106**	P		Pn	22 52 18.2	+11
PSI	**Prapat**	**8.79**	**332**	P		Pn	22 52 05.1	-3.5
PSI	**Prapat**	**8.79**	**332**	P		Pn	22 52 04.8	-3.7
PSI	**Prapat**	**8.79**	**332**	P		Pn	22 52 04.8	-3.7
	1.9nm,0.3s,baz=182,slow=9.2,SNR=6.1							
PSI				LR		LR	22 55 52.4	
	comp=Z,984nm,21.6s,baz=47,slow=41							
SJI	**Sawahan**	**9.11**	**108**	P		**Pn**	**22 52 14.5**	**+1.6**
	80nm,0.8s							
PWJI	**Pagerwojo**	**9.23**	**109**	P		**Pn**	**22 52 14.9**	**+0.5**
COCO	**West Island**	**9.36**	**220**	*e*P		**Pn**	**22 52 13.1**	**-3.1**
COCO	**West Island**	**9.36**	**220**	Pn		**Pn**	**22 52 13.7**	**-2.5**
	SNR=6.1							
COCO	**West Island**	**9.36**	**220**	P		**Pn**	**22 52 13.2**	**-3.0**
	824nm,1.0s,7μm							
COCO	**West Island**	**9.36**	**220**	*e*Pn		**Pn**	**22 52 13.1**	**-3.1**
COCO				*e*Sn		Sn	22 53 50.9	-9.1
COCO	**West Island**	**9.36**	**220**	Pn		**Pn**	**22 52 13.7**	**-2.5**
	5μm,0.9s,SNR=9.7							
IPM	**Ipoh**	**9.66**	**348**	P		**Pn**	**22 52 21.5**	**+1.1**
IPM	**Ipoh**	**9.66**	**348**	P		Pn	**22 52 21.4**	**+1.1**
IPM	**Ipoh**	**9.66**	**348**	*e*Pn		**Pn**	**22 52 21.2**	**+0.8**
KSM	**Kuching**	**9.75**	**49**	P		Pn	**22 52 22.7**	**+1.2**
KSM	**Kuching**	**9.75**	**49**	P		**Pn**	**22 52 24.4**	**+2.8**
	23nm,1.1s							
KSM	**Kuching**	**9.75**	**49**	*e*Pn		**Pn**	**22 52 22.6**	**+1.0**
STKI	**Sintang**	**9.87**	**59**	P		Pn	22 52 27.0	+3.9
KCSI	**Kotacane, Aceh**	**9.98**	**328**	P		**Pn**	**22 52 21.7**	**-3.1**
KTGM	**Kuala Trenggan**	**10.30**	**1**	P		**Pn**	**22 52 29.8**	**+0.7**
KULM	**Kulim**	**10.53**	**347**	P		**Pn**	**22 52 29.7**	**-2.5**
KULM	**Kulim**	**10.53**	**347**	P		**Pn**	**22 52 32.8**	**+0.6**
KULM	**Kulim**	**10.53**	**347**	*e*Pn		**Pn**	**22 52 31.4**	**-0.8**
GMJI	**Gumukmas**	**10.85**	**108**	P		**Pn**	**22 52 38.9**	**+2.3**
BLJI	**Banyuglugur**	**10.86**	**105**	P		Pn	22 52 40.7	+4.0
ABJI	**Asem Bagus**	**11.49**	**104**	P		**Pn**	**22 52 48.4**	**+3.1**
SBUM	**Sibu**	**11.84**	**51**	P		**Pn**	**22 52 52.5**	**+2.5**
SBUM	**Sibu**	**11.84**	**51**	P		**Pn**	**22 52 52.7**	**+2.6**
SBUM	**Sibu**	**11.84**	**51**	*e*Pn		**Pn**	**22 52 52.3**	**+2.2**
SRBI	**Singaraja**	**12.50**	**105**	P		**Pn**	**22 53 01.7**	**+2.6**
	106nm,0.7s,2μm							
MTKI	**Muara Teweh, K**	**12.55**	**71**	P		P	22 53 12.6	+3.7
KHKI	**Kahang-Kahang**	**12.94**	**105**	P		**Pn**	**22 53 04.1**	**-1.0**
BTM	**Bintulu**	**12.98**	**51**	P		**Pn**	**22 53 07.1**	**+1.5**
MTNI	**Mataram**	**13.55**	**106**	P		**Pn**	**22 53 11.2**	**-2.1**
SRIT	**Nakonsritamara**	**13.96**	**346**	P		**P**	**22 53 26.7**	**+2.1**
MJSI	**Majene**	**16.00**	**85**	P		**P**	**22 53 49.3**	**+2.1**
	278nm,1.2s,3μm							
MMSI	**Mamuju**	**16.04**	**82**	P		**P**	**22 53 49.8**	**+2.1**
KAPI	**Kappang**	**16.68**	**91**	P		Pn	**22 53 52.7**	**-0.8**
KAPI	**Kappang**	**16.68**	**91**	*e*Pn		**Pn**	**22 53 51.6**	**-1.9**
	51nm,1.3s							
KAPI	**Kappang**	**16.68**	**91**	P		**P**	**22 53 54.3**	**-0.5**
	1.6nm,0.3s,baz=271,slow=9.6,SNR=5.7							
KAPI				LR		LR	23 00 35.0	
	comp=Z,639nm,21.6s,baz=281,slow=38							
SPSI	**Sidrap Palu**	**16.75**	**87**	P		**P**	**22 53 56.0**	**+0.5**
TTSI	**Tana Toraja**	**16.89**	**84**	P		**P**	**22 53 58.4**	**+1.3**
BKSI	**Bukittinggi**	**17.05**	**92**	P		**Pn**	**22 53 58.4**	**+0.3**
	89nm,1.0s,690nm							
BNSI	**Bone**	**17.05**	**89**	P		**P**	**22 54 00.5**	**+1.6**
	166nm,1.1s,2μm							
LBFI	**Labuhan Bajo,**	**17.11**	**102**	P		**P**	**22 54 00.9**	**+1.4**
KKM	**Kota Kinabalu**	**17.18**	**50**	*e*Pn		**Pn**	**22 53 59.7**	**-0.1**
	142nm,1.8s							
TSM	**Tawau**	**17.51**	**58**	P		**P**	**22 54 04.8**	**+0.9**
SDKM	**Sandakan**	**17.70**	**53**	P		**P**	**22 54 07.4**	**+1.2**
PATY	**Pattaya**	**17.97**	**353**	P		**Pn**	**22 54 09.7**	**+0.4**
	12nm,0.7s,614nm							
KDM	**Kudat**	**18.21**	**49**	P		**P**	**22 54 11.1**	**-0.5**
MYLDM	**Lahad Datu**	**18.51**	**57**	P		**Pn**	**22 54 18.3**	**+2.5**
MYLDM	**Lahad Datu**	**18.51**	**57**	P		**Pn**	**22 54 18.4**	**+2.5**
	74nm,1.2s,2μm							
MYLDM	**Lahad Datu**	**18.51**	**57**	*e*P		**Pn**	**22 54 18.1**	**+2.2**
	136nm,1.2s							
KKSI	**Kolaka, Sulawe**	**18.61**	**88**	P		**Pn**	**22 54 20.1**	**+3.1**
	50nm,0.8s,3μm							
TOLI	**Toli-Toli**	**18.80**	**71**	*e*P		**P**	**22 54 18.4**	**+0.3**
	130nm,0.8s							
APSI	**Ampana**	**19.06**	**78**	P		**Pn**	**22 54 22.9**	**+0.4**
	190nm,0.9s,2μm							
MMRI	**Maumere**	**19.42**	**102**	P		**Pn**	**22 54 27.7**	**+0.9**
	84nm,0.7s							
MMRI	**Maumere**	**19.42**	**102**	*e*P		**P**	**22 54 23.5**	**-1.5**
	63nm,0.6s							
MRSI	**Marisa**	**19.69**	**74**	P		**P**	**22 54 28.7**	**+0.8**
LUWI	**Luwuk**	**20.13**	**79**	P		Pn	22 54 34.4	-0.7
KHLT	**Khaolaem Dam**	**20.19**	**348**	P		**P**	**22 54 32.3**	**-0.9**
	76nm,0.7s,672nm							
UBPT	**Khong Chiam**	**20.34**	**7**	P		**P**	**22 54 36.1**	**+1.3**
	61nm,0.8s							
UBPT	**Khong Chiam**	**20.34**	**7**	P		**P**	**22 54 36.1**	**+1.3**
	61nm,0.8s							
GTOI	**Gorontalo**	**20.76**	**75**	P		**P**	**22 54 38.8**	**-0.7**
CHAI	**Chaiyaphum**	**20.83**	**357**	P		**P**	**22 54 40.7**	**+0.5**
	25nm,0.8s,2μm							
PBKT	**Sadao Pong**	**21.57**	**355**	P		**P**	**22 54 48.0**	**0.0**
PBKT	**Sadao Pong**	**21.57**	**355**	P		**P**	**22 54 48.2**	**+0.2**
	46nm,0.8s,1μm							
SOEI	**Soe**	**21.59**	**104**	P		**P**	**22 54 50.3**	**+1.8**
	94nm,0.8s,1μm							
LOEI	**Loei**	**22.47**	**356**	P		**P**	**22 54 56.2**	**-1.6**
	66nm,0.7s,4μm							
MBWA	**Marble Bar**	**22.81**	**136**	*e*P		**P**	**22 54 59.0**	**-2.3**
	53nm,1.4s							
CM01	**Chiang Mai Arr**	**23.65**	**350**	*e*P		**P**	**22 55 08.9**	**-0.5**
CMAR	**Chiang Mai Arr**	**23.69**	**350**	P		**P**	**22 55 08.9**	**-0.8**
CMAR				PcP		**PcP**	**22 58 53.4**	**+1.0**
CMAR				ScP		**ScP**	**23 02 26.4**	**+1.5**
CMAR				pScP			23 02 49.4	
CMAR	**Chiang Mai Arr**	**23.69**	**350**	P		**P**	**22 55 08.9**	**-0.8**
	22nm,0.6s,baz=181,slow=8.9,SNR=247							
CMAR				PcP		**PcP**	**22 58 53.4**	**+1.0**
	2.5nm,0.7s,baz=204,slow=3.2,SNR=6.9							
CMAR				ScP		**ScP**	**23 02 26.4**	**+1.5**
	0.3nm,0.3s,baz=227,slow=3.1,SNR=4.1							
CMAR				pScP			23 02 49.4	
	2.0nm,1.1s,baz=199,slow=2.1,SNR=7.0							
CMAR				LR		LR	23 04 15.5	
	comp=Z,354nm,21.7s,baz=171,slow=36							
CHTO	**Chiang Mai**	**24.04**	**351**	*e*P		**P**	**22 55 11.7**	**-1.1**
CHTO				pmax		pmax		
	comp=Z,36nm,0.7s							
CHTO	**Chiang Mai**	**24.04**	**351**	P		**P**	**22 55 12.1**	**-0.8**
	SNR=13							
CHTO	**Chiang Mai**	**24.04**	**351**	P		**P**	**22 55 11.5**	**-1.3**
	comp=Z,225nm,0.8s,comp=Z,2μm							
CHTO	**Chiang Mai**	**24.04**	**351**	*e*P		**P**	**22 55 11.7**	**-1.1**
	comp=Z,36nm,0.7s							
CHTO	**Chiang Mai**	**24.04**	**351**	P		**P**	**22 55 11.5**	**-1.3**
	comp=Z,225nm,0.8s,comp=Z,2μm							
NLAI	**Namlea**	**24.10**	**87**	P		**P**	**22 55 17.1**	**+3.7**
	comp=Z,40nm,0.6s							
LBMI	**Labuha**	**24.85**	**81**	P		**P**	**22 55 21.6**	**+1.3**
QIZ	**Qiongzhong**	**24.85**	**16**	P		**P**	**22 55 22.5**	**+2.3**
QIZ				pP		**pP**	**22 55 36.8**	**+0.3**
QIZ				S		**S**	**22 59 41.5**	**+3.2**
QIZ				sS		**sS**	**23 00 08.5**	**+2.1**
QIZ				LR		LR		
	comp=Z,330nm,21.9s							
QIZ				LR		LR		
	comp=Z,390nm,31.2s							
QIZ	**Qiongzhong**	**24.85**	**16**	*e*P		**P**	**22 55 18.4**	**-1.8**
	comp=Z,76nm,1.4s							
TNTI	**Ternate**	**25.01**	**77**	*e*P		**P**	**22 55 21.0**	**-0.8**
	comp=Z,72nm,1.1s							
CRAI	**Chiangrai**	**25.25**	**354**	P		**P**	**22 55 22.7**	**-1.1**
	comp=Z,115nm,0.9s							
DAV	**Davao City (W)**	**25.54**	**62**	P		**P**	**22 55 28.7**	**+2.2**
	SNR=6.2							
DAV	**Davao City (W)**	**25.54**	**62**	*e*P		**P**	**22 55 27.7**	**+1.1**
	comp=Z,143nm,0.5s							
SWI	**Sorong**	**28.51**	**83**	P		P	22 55 59.1	+5.8
	comp=Z,26nm,1.1s							
KMI	**Kunming**	**29.98**	**360**	P		**P**	**22 56 07.3**	**+0.9**
KMI				pP		**pP**	**22 56 25.3**	**+2.3**
KMI				sP		**sP**	**22 56 33.8**	**+2.8**
KMI				PP		**PP**	**22 57 11.0**	**-4.3**
KMI				S		**S**	**23 01 03.0**	**+3.4**
KMI				sS		**sS**	**23 01 32.5**	**+4.5**
KMI				SS		**ScP**	**23 02 46.3**	**+2.5**
KMI				AMB		AMB		
	comp=Z,32nm,0.8s							
KMI				AMB		AMB		
	comp=Z,98nm,5.5s							
KMI				LR		LR		
	comp=Z,320nm,23.8s							
KMI				LR		LR		
	comp=Z,310nm,21.9s							
KMI				LR		LR		
	comp=Z,410nm,23.1s							
H08S2	**Diego Garcia H**	**30.43**	**264**	T		T	23 27 22.8	
	baz=87,slow=0.7,SNR=120							
H08S3	**Diego Garcia H**	**30.44**	**264**	T		T	23 27 18.5	
	baz=87,slow=0.7,SNR=234							
H08S1	**Diego Garcia H**	**30.45**	**264**	T		T	23 27 24.1	
	baz=87,slow=0.7,SNR=205							
NWAO	**Narrogin (SRO)**	**30.76**	**156**	pP		pP	22 56 29.0	-0.5
NWAO	**Narrogin (SRO)**	**30.76**	**156**	pP		pP	22 56 29.0	-0.5
	comp=Z,24nm,1.0s,baz=312,slow=8.8,SNR=4.4							
H01W3	**Cape Leeuwin H**	**31.43**	**162**	T		T	23 29 45.9	
	baz=340,slow=0.7,SNR=81							
H01W2	**Cape Leeuwin H**	**31.45**	**162**	T		T	23 29 38.6	
	baz=340,slow=0.7,SNR=86							
H01W1	**Cape Leeuwin H**	**31.45**	**162**	T		T	23 29 39.1	
	baz=340,slow=0.7,SNR=66							
GYA	**Guiyang**	**31.51**	**6**	P		**P**	**22 56 21.8**	**+2.0**
GYA				pP		**pP**	**22 56 39.5**	**+3.2**
GYA				sP		**sP**	**22 56 49.3**	**+4.9**
GYA				PP		**PP**	**22 57 29.8**	**-2.4**
GYA				PcP		**PcP**	**22 59 12.0**	**+0.6**
GYA				S		**S**	**23 01 25.0**	**+1.7**
GYA				sS		**sS**	**23 01 55.3**	**+3.5**
GYA				ScP		**ScP**	**23 02 48.5**	**-0.2**
GYA				PcS		**PcS**	**23 02 55.0**	**-1.1**
GYA				ScS		**ScS**	**23 06 45.5**	**-1.3**
GYA				AMB		AMB		
	comp=Z,20nm,0.8s							
GYA				AMB		AMB		
	comp=Z,130nm,4.8s							
GYA				LR		LR		
	comp=Z,650nm,17.0s							
GYA				LR		LR		
	comp=Z,540nm,18.0s							
GYA				LR		LR		
	comp=Z,610nm,17.4s							
YULB	**Yu-li**	**33.43**	**32**	*e*P		**P**	**22 56 37.1**	**+0.7**
	comp=Z,93nm,2.1s							
SSLB	**Suanglung**	**33.58**	**31**	*e*P		**P**	**22 56 37.8**	**0.0**
	comp=Z,191nm,2.6s							
WRA	**Warramunga Arr**	**33.89**	**119**	P		**P**	**22 56 40.8**	**+0.2**
WRA	**Warramunga Arr**	**33.89**	**119**	P		**P**	**22 56 40.8**	**+0.2**
	comp=Z,24nm,0.7s,baz=308,slow=9.5,SNR=266							
WRAB	**Tennant Creek**	**33.90**	**119**	*e*P		**P**	**22 56 40.8**	**+0.2**
WRAB				pmax		pmax		
	comp=Z,39nm,0.6s							
WRAB	**Tennant Creek**	**33.90**	**119**	*e*P		**P**	**22 56 40.8**	**+0.2**
	comp=Z,39nm,0.6s							
WRAB	**Tennant Creek**	**33.90**	**119**	P		**P**	**22 56 40.3**	**-0.3**
	comp=Z,344nm,0.7s,SNR=83							
NACB	**Ningenchiao**	**34.23**	**31**	*e*P		**P**	**22 56 40.8**	**-2.6**
	comp=Z,35nm,1.2s							
ASAR	**Alice Springs**	**35.06**	**125**	P		**P**	**22 56 51.5**	**+0.8**
ASAR				PcP		**PcP**	**22 59 22.6**	**+1.2**
ASAR				S		**S**	**23 02 17.4**	**-1.0**
ASAR				ScP		**ScP**	**23 03 02.9**	**+1.8**
ASAR	**Alice Springs**	**35.06**	**125**	P		**P**	**22 56 51.5**	**+0.8**
	comp=Z,20nm,0.8s,baz=303,slow=8.1,SNR=168							
ASAR				PcP		**PcP**	**22 59 22.6**	**+1.2**
	com

GTA AMB AMB
comp=Z,27nm,0.7s
GTA AMB AMB
comp=Z,65nm,4.8s
GTA LR LR
comp=Z,520nm,17.1s
GTA LR LR
comp=Z,210nm,20.0s
GTA LR LR
comp=Z,560nm,17.6s
CTAO Charters Tower 44.62 114 *e*P **P 22 58 10.2 +0.2**
CTAO pmax pmax
comp=Z,34nm,0.9s
CTAO Charters Tower 44.62 114 *e*P **P 22 58 10.2 +0.2**
comp=Z,34nm,0.9s
STKA Stephens Creek 44.90 131 *e*P **P 22 58 13.3 +1.3**
comp=Z,7.6nm,0.6s
STKA Stephens Creek 44.90 131 P **P 22 58 13.3 +1.3**
comp=Z,23nm,0.7s,baz=302,slow=8.0,SNR=80
STKA LR LR 23 16 49.8
comp=Z,137nm,18.0s,baz=116,slow=36
GUMO Guam 45.49 65 *e*P **P 22 58 14.7 -2.2**
comp=Z,166nm,1.2s
JNU Nakatsue 46.25 33 P **P 22 58 22.4 -0.3**
JNU Nakatsue 46.25 33 P **P 22 58 22.4 -0.3**
comp=Z,17nm,0.9s,baz=176,slow=7.2,SNR=9.1
HHC Hu-ho-hao-te 46.34 9 P **P 22 58 23.5 +0.2**
HHC pP **pP 22 58 42.0 +1.4**
HHC sP **sP 22 58 51.0 +2.5**
HHC PP **PP 23 00 14.0 +0.8**
HHC S **S 23 05 06.5 +0.9**
HHC sS **sS 23 05 38.0 +2.9**
HHC ScS **ScS 23 08 08.5 -3.7**
HHC SS **SS 23 08 26.5 -5.7**
HHC AMB AMB
comp=Z,78nm,0.8s
HHC AMB AMB
comp=Z,260nm,5.4s
HHC LR LR
comp=Z,510nm,17.8s
HHC LR LR
comp=Z,410nm,17.8s
HHC LR LR
comp=Z,500nm,17.8s
BJT Baijiatuan 46.45 14 *e*P **P 22 58 24.1 +0.1**
comp=Z,30nm,0.6s
BJI Beijing 46.47 14 P **P 22 58 24.0 -0.2**
BJI S S 23 05 17.5 +10
BJI AMB AMB
comp=Z,41nm,0.8s
BJI AMB AMB
comp=Z,180nm,5.1s
BJI LR LR
comp=Z,230nm,23.1s
BJI LR LR
comp=Z,79nm,18.5s
BJI LR LR
comp=Z,230nm,22.4s
KSAR Wonju Array Be 48.20 27 P **P 22 58 37.6 -0.1**
KSRS Korea Array 48.23 27 P **P 22 58 37.6 -0.3**
comp=Z,8.1nm,0.5s,baz=223,slow=7.4,SNR=39
KS01 Wonju Array Si 48.24 27 *e*P **P 22 58 38.6 +0.6**
CBIJ Chichi jima 49.54 48 P **P 22 58 46.2 -1.9**
JCJ Chichijima 49.54 48 P **P 22 58 46.2 -1.9**
comp=Z,68nm,0.7s,baz=290,slow=17,SNR=11
EIDS Eidsvold 50.26 119 *e*P **P 22 58 52.1 -1.6**
comp=Z,26nm,1.2s
WMQ Urumqi 50.56 346 P **P 22 58 55.8 +0.1**
WMQ pP **pP 22 59 14.5 +1.3**
WMQ sP **sP 22 59 23.3 +2.2**
WMQ PcP **PcP 23 00 12.5 -0.1**
WMQ PP **PP 23 00 53.5 +1.3**
WMQ S **S 23 06 03.0 -2.0**
WMQ sS **sS 23 06 35.8 +1.0**
WMQ ScS **ScS 23 08 36.0 -4.3**
WMQ SS **SS 23 09 35.5 -4.6**
WMQ AMB AMB
comp=Z,50nm,1.0s
WMQ AMB AMB
comp=Z,140nm,4.6s
WMQ LR LR
comp=Z,150nm,21.4s
WMQ LR LR
comp=Z,160nm,25.2s
WMQ LR LR
comp=Z,110nm,26.0s
KBL Kabul 50.74 323 *e*P **P 22 58 57.0 -0.4**
KBL pmax pmax
comp=Z,13nm,0.8s
KBL Kabul 50.74 323 *e*P **P 22 58 57.0 -0.4**
comp=Z,13nm,0.8s
ARMA Armidale 52.21 125 *e*P **P 22 59 07.9 -0.4**
comp=Z,29nm,1.1s
CN2 Changchun 52.67 20 *e*P **P 22 59 08.8 -2.5**
CN2 *e*pP **pP 22 59 26.0 -2.9**
CN2 AMB AMB
comp=Z,10.0nm,1.3s
CN2 AMB AMB
comp=Z,300nm,5.0s
SONM Songino Array 52.73 3 P **P 22 59 11.2 -0.7**
SONM PcP **PcP 23 00 21.1 +0.4**
SONM Songino Array 52.73 3 P **P 22 59 11.2 -0.7**
comp=Z,25nm,0.8s,baz=181,slow=8.9,SNR=69
SONM PcP **PcP 23 00 21.1 +0.4**
comp=Z,5.2nm,0.5s,baz=185,slow=4.2,SNR=8.8
SONM LR LR 23 23 35.1
comp=Z,150nm,20.3s,baz=2.6,slow=38
SONA1 Songino Array 52.75 3 *e*P **P 22 59 11.6 -0.4**
ULN Ulaanbaatar 52.80 3 P **P 22 59 13.5 +1.1**
SNR=5.3
ULN Ulaanbaatar 52.80 3 P **P 22 59 12.6 +0.2**
comp=Z,19nm,1.0s
ULN Ulaanbaatar 52.80 3 *e*P **P 22 59 12.4 0.0**
comp=Z,18nm,1.0s
ULHL Ulahol 52.99 335 *i* P **P 22 59 13.9 -0.1**
ULHL Ulahol 52.99 335 P **P 22 59 13.9 -0.1**
SNR=7.0
KZA Kyzart 53.27 334 *i* P **P 22 59 16.6 +0.3**
KZA Kyzart 53.27 334 P **P 22 59 16.6 +0.3**
SNR=20
TKM2 Tokmak 2 53.81 335 *i* P **P 22 59 20.0 0.0**
TKM2 Tokmak 2 53.81 335 P **P 22 59 20.0 0.0**
SNR=73
TKM2 Tokmak 2 53.81 335 *e*P **P 22 59 19.5 -0.5**
comp=Z,45nm,0.6s
KBK Karagaybulak 53.87 335 *i* P **P 22 59 20.9 +0.5**
KBK Karagaybulak 53.87 335 P **P 22 59 21.0 +0.5**
SNR=21
AML Almayashu 54.00 333 *i* P **P 22 59 21.7 +0.1**
AML Almayashu 54.00 333 P **P 22 59 21.7 +0.1**
SNR=32
AAK Ala-Archa 54.05 334*c* *i*P **P 22 59 21.4 -0.3**
AAK pmax pmax
comp=Z,66nm,2.5s
AAK Ala-Archa 54.05 334 P **P 22 59 22.3 +0.6**
SNR=7.2
AAK Ala-Archa 54.05 334 P **P 22 59 22.0 +0.2**
SNR=12
AAK Ala-Archa 54.05 334 *e*P **P 22 59 21.0 -0.7**
comp=Z,7.6nm,0.7s
AAK Ala-Archa 54.05 334 P **P 22 59 21.9 +0.2**
comp=Z,57nm,0.6s,SNR=10
FRU Bishkek 54.16 334⇑ *i*P **P 22 59 24.0 +1.7**
FRU pmax pmax
comp=Z,40nm,1.6s
CHMS Chumysh 54.23 335 *i* P **P 22 59 22.6 -0.3**
CHMS Chumysh 54.23 335 P **P 22 59 22.6 -0.3**
SNR=5.8
EKS2 Erkin-Say 54.39 334 *e*P **P 22 59 23.8 -0.3**
EKS2 pmax pmax
comp=Z,36nm,0.8s
EKS2 Erkin-Say 54.39 334 P **P 22 59 24.4 +0.4**
SNR=83
EKS2 Erkin-Say 54.39 334 *e*P **P 22 59 23.8 -0.3**
comp=Z,36nm,0.8s
USP Ospenovka 54.56 335 *i* P **P 22 59 25.0 -0.2**
USP Ospenovka 54.56 335 P **P 22 59 25.0 -0.2**
SNR=17
MK01 Makanchi Array 54.75 343 *e*P **P 22 59 25.4 -1.1**
MKAR Makanchi Array 54.78 343 *e*P **P 22 59 25.8 -0.9**
MKAR Makanchi Array 54.78 343 *e*P **P 22 59 25.8 -0.9**
MKAR Makanchi Array 54.78 343 P **P 22 59 26.2 -0.5**
comp=Z,28nm,0.6s,baz=152,slow=8.6,SNR=269
MKAR LR LR 23 26 51.5
comp=Z,101nm,21.7s,baz=171,slow=40
MDJ Mudanjiang 54.89 23 P **P 22 59 29.0 +1.5**

MDJ pP **pP 22 59 45.0 -0.3**
MDJ sP **sP 22 59 52.0 -1.1**
MDJ PcS **PcS 23 04 30.0 +1.4**
MDJ S **S 23 07 07.5 +3.7**
MDJ sS **sS 23 07 34.8 +0.8**
MDJ AMB AMB
comp=Z,10.0nm,0.6s
MDJ AMB AMB
comp=Z,160nm,3.9s
MDJ LR LR
comp=Z,44nm,24.7s
MDJ LR LR
comp=Z,71nm,25.9s
MDJ LR LR
comp=Z,110nm,30.3s
ZAK Zakamensk 55.20 0 *e*P **P 22 59 29.7 -0.1**
ZAK *e* 22 59 43.4
ZAK pmax pmax
comp=Z,5.0nm,0.9s
USRK Ussuriysk Arra 55.52 25 P **P 22 59 31.4 -0.6**
comp=Z,28nm,1.0s,baz=220,slow=5.9,SNR=25
USRK pP **pP 22 59 46.9 -2.9**
comp=Z,14nm,0.7s,baz=204,slow=6.2,SNR=9.3
USRK LR LR 23 24 36.0
comp=Z,110nm,19.4s,baz=296,slow=37
IDAH Dahanechah 55.55 316 *e*P **P 22 59 33.8 +1.0**
IMON Monand 55.95 316 *e*P **P 22 59 36.2 +0.6**
IKOO Kooshah 55.98 315 *e*P **P 22 59 36.5 +0.6**
HIA Hailar 56.02 13 *e*P **P 22 59 34.6 -0.9**
OPO Ambohidratompo 56.05 251 pP pP 22 59 54.4 0.0
OPO Ambohidratompo 56.05 251 pP pP 22 59 54.4 0.0
comp=Z,8.0nm,0.8s,baz=85,slow=6.7,SNR=6.5
KKAR Karatay Array 56.22 332 *e*P **P 22 59 35.6 -1.5**
KKAR Karatay Array 56.22 332 *e*P **P 22 59 35.6 -1.5**
ITEG Tejag 56.42 315 *e*P **P 22 59 39.4 +0.4**
TLY Talaya 56.50 0 *e*P **P 22 59 40.8 +1.8**
TLY pmax pmax
comp=Z,15nm,0.8s
TLY MLR MLR
comp=Z,115nm,16.0s
HVS Khovu-Aksy 56.52 353*d* *i*P **P 22 59 38.9 -0.3**
HVS pmax pmax
comp=Z,55nm,1.2s
IMYA Miami 57.48 319 *e*P **P 22 59 44.8 -1.6**
ISRO Mashad 57.87 319 *e*P **P 22 59 48.9 -0.1**
IBAF Bafgh 58.03 312 *e*P **P 22 59 50.8 +0.5**
IPAY Payeh 58.26 319 *e*P **P 22 59 52.2 +0.3**
IAKL Akhelmad 58.51 319 *e*P **P 22 59 53.7 0.0**
IMEH Mehriz 58.64 312 *e*P **P 22 59 54.2 -0.5**
IKRD Kardeh 58.77 319 *e*P P 22 59 50.1 -5.3
IPAR Pars 59.09 309 *e*P **P 22 59 59.2 +1.3**
KURBB Kurchatov Arra 59.32 342 P **P 22 59 58.2 -0.4**
comp=Z,18nm,0.7s,baz=160,slow=6.5,SNR=173
KURBB PcP **PcP 23 00 46.6 +0.6**
comp=Z,5.7nm,0.6s,baz=156,slow=3.5,SNR=12
KURK Kurchatov 59.38 342*c* *i*P **P 22 59 58.5 -0.5**
KURK pmax pmax
comp=Z,15nm,0.6s
KURK Kurchatov 59.38 342 P **P 22 59 58.9 -0.2**
SNR=11
KURK Kurchatov 59.38 342 *e*P **P 22 59 58.5 -0.5**
KURK PcP **PcP 23 00 46.6 +0.4**
KURK Kurchatov 59.38 342 P **P 22 59 58.0 -1.0**
comp=Z,311nm,0.8s,SNR=23
KLR Kul'dur 59.56 21 *e*P P 22 59 56.2 -4.2
KLR *e* 23 00 11.3
HABR Khabarovsk 60.21 24 P P 23 00 01.3 -3.5
HABR *e*PP pP 23 00 17.5 -5.4
HABR *e* 23 00 46.2
HABR *e* 23 02 14.7
HABR *e*S **S 23 08 11.0 -2.4**
HABR *e*S S 23 08 29.8 +16
HABR *e*SS sS 23 08 38.5 -5.5
HABR *e* 23 09 45.8
HABR *e*SS **SS 23 12 10.2 -1.7**
HABR pmax pmax
comp=Z,37nm,1.7s
HABR MLR MLR
comp=Z,299nm,24.0s
ASAJ Asahikawa 60.50 32 *e*P **P 23 00 07.1 +0.2**
comp=Z,105nm,1.5s
ASAJ Asahikawa 60.50 32 P **P 23 00 07.3 +0.4**
comp=Z,21nm,0.6s,baz=236,slow=5.8,SNR=16
ZAA0 Zalesovo Array 60.72 348 *e*P **P 23 00 07.0 -1.2**
ZALV Zalesovo Beam 60.72 348 P **P 23 00 07.6 -0.6**
ZALV *PP **pP 23 00 23.0 -3.3**
ZALV Zalesovo Beam 60.72 348 P **P 23 00 07.6 -0.6**
ZALV pP **pP 23 00 23.0 -3.3**
ZALV Zalesovo Beam 60.72 348 P **P 23 00 07.6 -0.6**
comp=Z,15nm,0.4s,baz=168,slow=5.4,SNR=96
ZALV pP **pP 23 00 23.0 -3.3**
comp=Z,9.6nm,0.4s,baz=156,slow=5.3,SNR=6.3
ZALV LR LR 23 29 39.1
comp=Z,280nm,19.4s,baz=249,slow=39
IZEF Zefreh 61.06 312 *e*P **P 23 00 10.6 -0.7**
IMND Minoodasht 61.09 318 *e*P **P 23 00 13.4 +2.3**
IANJ Anjilo 61.18 315 *e*P **P 23 00 11.9 -0.1**
IKIA Kiasar 61.72 316 *e*P **P 23 00 16.5 +0.9**
ISFB Sefidab 61.82 313 *e*P **P 23 00 16.7 +0.6**
NVS Novosibirsk 61.90 347⇑ *i*P **P 23 00 15.0 -1.1**
NVS pmax pmax
comp=N,19nm,1.6s
NVS pmax pmax
comp=E,17nm,1.6s
NVS pmax pmax
comp=Z,32nm,1.6s
IVRN Varamin 62.50 314 *e*P P 23 00 12.8 -7.9
YSS Yuzh-Sakhalins 62.54 30⇓ *i*P **P 23 00 20.0 -0.6**
YSS *e* 23 00 33.1
YSS pmax pmax
comp=Z,30nm,0.9s
RAYN Ar Rayn 62.83 300 *e*P **P 23 00 23.9 +0.8**
comp=Z,135nm,2.6s
RAYN Ar Rayn 62.83 300 P **P 23 00 24.8 +1.7**
comp=Z,56nm,0.7s,SNR=6.9
RDF Al-Radifah 63.05 306 *e*P **P 23 00 25.2 +0.9**
RDF AMb AMB 23 00 26.5
comp=Z,127nm,1.2s
UMR Umm Al-Rimmam 63.16 307 *e*P **P 23 00 26.1 +1.0**
UMR AMb AMB 23 00 26.9
comp=Z,130nm,0.7s
NAY Al-Naaiem 63.43 306 *e*P **P 23 00 27.3 +0.5**
NAY AMb AMB 23 00 28.7
comp=Z,46nm,1.1s
IMHD Mahdasht 63.59 314 *e*P **P 23 00 28.8 +0.9**
VOSK Vostochnaya 63.61 339 *e*P **P 23 00 26.9 -0.7**
VOSK pmax pmax
comp=Z,22nm,0.5s
VOSK Vostochnaya 63.61 339 *e*P **P 23 00 26.9 -0.7**
comp=Z,22nm,0.5s
RST Umm Al-Ruwaisa 63.72 306 *e*P **P 23 00 29.2 +0.5**
RST AMb AMB 23 00 30.5
comp=Z,602nm,0.9s
IRAZ Razeghan 63.99 313 *e*P **P 23 00 32.0 +1.3**
BVAR Borovoye Array 64.07 339 P **P 23 00 29.6 -1.0**
BVAR Borovoye Array 64.07 339 P **P 23 00 29.6 -1.0**
BVAR Borovoye Array 64.07 339 P **P 23 00 29.6 -1.0**
comp=Z,22nm,0.5s,baz=143,slow=8.9,SNR=113
BVAR LR LR 23 33 37.0
comp=Z,96nm,19.5s,baz=146,slow=41
BRVK Borovoye 64.13 339*c* *i*P **P 23 00 30.1 -0.9**
BRVK *i* *PP **pP 23 00 46.2 -3.0**
BRVK pmax pmax
comp=Z,14nm,0.6s
BRVK Borovoye 64.13 339 *e*P **P 23 00 29.9 -1.2**
comp=Z,20nm,0.6s
BRVK Borovoye 64.13 339 P **P 23 00 30.9 -0.1**
comp=Z,240nm,0.5s,SNR=10.0
ABKAR Akbulak array 65.74 331 *e*P **P 23 00 41.0 -0.5**
KMBO Kilima Mbogo 65.75 271 P **P 23 00 43.9 +1.3**
KMBO Kilima Mbogo 65.75 271 P **P 23 00 43.9 +1.3**
comp=Z,0.5nm,0.2s,baz=74,slow=22,SNR=5.5
AKTO Aktyubinsk 67.45 331 P **P 23 00 50.5 -1.9**
AKTO Aktyubinsk 67.45 331 P **P 23 00 50.5 -1.9**
AKTO Aktyubinsk 67.45 331 P **P 23 00 50.5 -1.9**
comp=Z,4.6nm,0.4s,baz=131,slow=7.8,SNR=19
AKTO LR LR 23 35 59.3
comp=Z,63nm,19.1s,baz=308,slow=41
MAW Mawson 68.13 195 P **P 23 00 58.1 +1.7**
MAW pP **pP 23 01 14.1 -0.6**
MAW Mawson 68.13 195 P **P 23 00 58.1 +1.7**
comp=Z,1.9nm,0.6s,baz=23,slow=6.4,SNR=5.0
MAW pP **pP 23 01 14.1 -0.6**
comp=Z,7.8nm,0.9s,baz=21,slow=9.0,SNR=7.6

MAW LR LR 23 24 43.1
comp=Z,378nm,19.2s,baz=18,slow=30
GNI Garni 69.78 316 P **P 23 01 06.5 -0.9**
GNI Garni 69.78 316 P **P 23 01 06.5 -0.9**
comp=Z,1.9nm,0.5s,baz=209,slow=19,SNR=3.2
YAK Yakutsk 69.96 13 *e*P **P 23 01 05.1 -2.6**
YAK *e* 23 01 21.9
YAK pmax pmax
comp=Z,15nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.4s
YAK pmax pmax
comp=N,6.0nm,1.4s
SVE Sverdlovsk 70.63 337⇓ *e*P **P 23 01 12.1 +0.2**
SVE pmax pmax
comp=Z,52nm,1.0s
ARU Arti 71.18 336*c* *i*P **P 23 01 15.1 -0.2**
ARU *PP **pP 23 01 30.6 -3.2**
ARU 23 01 37.2
ARU S **S 23 10 29.6 +2.7**
ARU SS **SS 23 15 00.7 -1.3**
ARU pmax pmax
comp=Z,74nm,1.7s
ARU Arti 71.18 336 P **P 23 01 15.8 +0.5**
comp=Z,245nm,0.8s,SNR=15
SFNV Sufian 71.67 311 *i* P **P 23 01 20.2 +1.4**
NCK Nalchik 72.00 319 *i* P **P 23 01 21.6 +1.1**
KHZ Kahutara 72.27 133 *e*P **P 23 01 22.7 +0.5**
comp=Z,34nm,1.2s
KBZ Khabaz 72.56 319 P **P 23 01 24.4 +0.6**
KBZ Khabaz 72.56 319 P **P 23 01 24.4 +0.6**
KBZ Khabaz 72.56 319 P **P 23 01 24.4 +0.6**
comp=Z,15nm,0.8s,baz=122,slow=8.0,SNR=31
ZALF Zalf 72.67 307 *i* P **P 23 01 26.8 +2.1**
ASF Jabal al Asfar 72.79 306 LR LR 23 33 56.8
comp=Z,69nm,18.1s,baz=232,slow=36
KIV Kislovodsk 72.79 319*c* *i*P **P 23 01 25.8 +0.5**
KIV *i* 23 01 40.3
KIV *e* 23 04 09.2
KIV *i* S **S 23 10 46.7 +0.7**
KIV pmax pmax
comp=Z,15nm,1.0s
SALA Sala 73.08 306 *i* P **P 23 01 29.4 +1.9**
SLMH Al Salmeh 73.25 310 *i* P **P 23 01 29.6 +1.4**
EIL Eilat 73.68 303 LR LR 23 32 56.7
comp=Z,68nm,18.5s,baz=254,slow=35
TCHB Talchebab 73.69 306 *e*P **P 23 01 32.4 +1.6**
PEA0 Petropavlovsk- 73.89 31 *e*P **P 23 01 30.6 -1.0**
PETK Petropavlovsk- 73.89 31 P **P 23 01 30.8 -0.7**
PETK Petropavlovsk- 73.89 31 P **P 23 01 30.8 -0.7**
PETK Petropavlovsk- 73.89 31 P **P 23 01 30.8 -0.7**
comp=Z,5.3nm,0.8s,baz=7.1,slow=12,SNR=4.2
PETK LR LR 23 36 04.4
comp=Z,69nm,18.3s,baz=20,slow=37
BFZ Birch Farm 74.03 131 *e*P **P 23 01 33.1 +0.5**
comp=Z,29nm,0.9s
BKZ Black Stump Fm 74.04 129 *e*P **P 23 01 33.5 +0.8**
comp=Z,68nm,1.3s
LSZ Lusaka 74.06 256 *e*P **P 23 01 32.4 -1.0**
comp=Z,9.9nm,0.8s
URZ Urewera 74.42 128 P **P 23 01 35.6 +0.7**
comp=Z,145nm,2.5s
URZ Urewera 74.42 128 P **P 23 01 35.6 +0.7**
comp=Z,2.8nm,0.5s,baz=194,slow=4.2,SNR=6.1
SYO Syowa Base 75.99 199⇑ *e*P pP 23 01 59.0 -3.0
CSS Prodhromos 76.44 308 *e*P **P 23 01 47.0 +0.4**
comp=Z,24nm,0.8s
LBTB Lobatse 76.48 246 *e*P **P 23 01 47.8 +0.6**
comp=Z,11nm,0.9s
LBTB Lobatse 76.48 246 LR LR 23 28 51.1
comp=Z,285nm,21.5s,baz=102,slow=30
VRHR Novokhopersk 76.52 325 *e*P **P 23 01 46.3 -0.3**
VRHR pmax pmax
comp=Z,50nm,0.8s
VRHR pmax pmax
comp=N,9.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.8s
BOSA Boshof 76.85 242 *e*P **P 23 01 50.5 +1.3**
comp=E,14nm,1.0s
BOSA pP **pP 23 02 06.8 -1.1**
BOSA Boshof 76.85 242 P **P 23 01 50.8 +1.5**
comp=E,2.1nm,0.7s,baz=124,slow=18,SNR=3.1
BOSA pP **pP 23 02 06.8 -1.1**
comp=E,9.8nm,0.8s,baz=96,slow=5.0,SNR=8.9
BOSA LR LR 23 30 18.5
comp=E,162nm,18.4s,baz=162,slow=31
BRTR Keskin Array B 77.57 312 P **P 23 01 52.9 -0.2**
BRTR Keskin Array B 77.57 312 P **P 23 01 52.9 -0.2**
comp=E,11nm,0.7s,baz=136,slow=7.4,SNR=55
BRTR LR LR 23 38 39.8
comp=E,43nm,20.6s,baz=104,slow=38
VORD Divnogorie 77.80 325 *e*P **P 23 01 53.3 -0.5**
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,7.0nm,0.6s
VORD pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 77.97 325 *e*P **P 23 01 54.2 -0.6**
VSR pmax pmax
comp=Z,20nm,0.6s
VSR pmax pmax
comp=N,7.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,0.8s
BR231 Keskin MP Arra 78.24 312 *e*P **P 23 01 53.9 -2.8**
TIXI Tiksi 78.40 8⇑ *e*P **P 23 01 55.0 -1.7**
TIXI pmax pmax
comp=Z,6.0nm,0.5s
VNDA Vanda 78.62 169 *e*P **P 23 01 59.0 +1.1**
comp=Z,23nm,1.3s
VNDA Vanda 78.62 169 P **P 23 01 59.4 +1.4**
comp=Z,0.8nm,0.7s,baz=264,slow=5.9,SNR=6.7
VNDA LR LR 23 33 10.0
comp=Z,138nm,21.8s,baz=312,slow=33
ISP Isparta 79.39 310⇑ P **P 23 02 04.1 +1.1**
ISP Isparta 79.39 310⇑ *i*P **P 23 02 04.1 +1.1**
SBA Scott Base 79.71 169 *e*P **P 23 02 06.0 +2.1**
SBA pmax pmax
comp=Z,22nm,1.1s
SBA Scott Base 79.71 169 *e*P **P 23 02 06.0 +2.1**
comp=Z,22nm,1.1s
MOS Moscow 80.64 329 *e*P **P 23 02 07.9 -1.2**
MOS *i* 23 02 24.1
MOS pmax pmax
comp=Z,54nm,0.7s
OBN Obninsk 80.95 328⇑ *i*P **P 23 02 11.2 +0.4**
OBN *e* 23 02 27.6
OBN *e*S **S 23 12 18.4 +4.3**
OBN *e*SS **SS 23 17 28.4 -1.3**
OBN pmax pmax
comp=Z,79nm,1.6s
KLMR Klimovskoe 81.86 334 *e*P **P 23 02 13.5 -2.0**
KLMR pmax pmax
comp=Z,70nm,1.4s
TIRR Tirgusor 82.61 316 *e*P **P 23 02 20.8 +0.9**
TIRR pmax pmax
comp=Z,73nm,1.5s
TIRR Tirgusor 82.61 316 *e*P **P 23 02 20.8 +0.9**
comp=Z,73nm,1.5s
LEOM Leova 83.23 318⇓ *i*P **P 23 02 24.2 +1.2**
LEOM Leova 83.23 318⇓ *i*P **P 23 02 24.2 +1.2**
IDI Anoyia 83.24 306 P **P 23 02 23.8 +0.4**
IDI Anoyia 83.24 306 P **P 23 02 23.8 +0.4**
comp=Z,13nm,0.7s,baz=145,slow=16,SNR=5.1
GHRR 83.69 317⇑ *i*P **P 23 02 26.8 +1.4**
AKASG Malin Array Be 83.71 322 P **P 23 02 24.8 -0.5**
AKASG Malin Array Be 83.71 322 P **P 23 02 24.8 -0.5**
AKASG Malin Array Be 83.71 322 P **P 23 02 24.8 -0.5**
comp=Z,3.0nm,0.4s,baz=80,slow=5.3,SNR=5.3
KIEV Kiev 83.72 322 *e*P **P 23 02 23.8 -1.6**
KIEV pmax pmax
comp=Z,8.0nm,0.7s
KIEV Kiev 83.72 322 *e*P **P 23 02 23.8 -1.6**
comp=Z,7.9nm,0.7s
AK11 Malin Array Si 83.74 322 *e*P **P 23 02 24.3 -1.2**
VRI Vrincioaia 84.11 317 P P 23 02 31.2 +3.7
VRI Vrincioaia 84.11 317⇑ *i*P **P 23 02 28.8 +1.3**
PLOR Plostina 84.16 317⇑ P **P 23 02 29.0 +1.2**
PLOR Plostina 84.16 317⇑ *i*P **P 23 02 29.0 +1.2**
TESR Tescani 84.31 318⇑ *i*P **P 23 02 29.9 +1.4**
MLR Muntele Rosu 84.56 316⇑ *i*P **P 23 02 31.3 +1.3**
MLR Muntele Rosu 84.56 316 P **P 23 02 31.1 +1.2**
MLR Muntele Rosu 84.56 316 P **P 23 02 31.1 +1.2**

comp=Z,2.6nm,0.8s,baz=159,slow=2.0,SNR=16
PRAR RASCA 84.78 318 ⇑*i*P **P 23 02 32.0 +1.1**
QSPA South Pole Qui 84.94 180 *e*P **P 23 02 32.3 +0.8**
comp=Z,6.9nm,0.9s
VOIR 85.16 316 ⇑P P 23 02 38.7 +5.8
VOIR 85.16 316 ⇑*i*P **P 23 02 33.8 +0.9**
ARR Arges 85.43 316 ⇓*i*P **P 23 02 35.3 +1.0**
BURAR Bucovina Array 85.51 318 ⇓P **P 23 02 36.2 +1.5**
BURAR Bucovina Array 85.51 318 ⇓*i*P **P 23 02 36.2 +1.5**
MICGM Minsk 85.51 326 *e* **P 23 02 32.0 -2.3**
BURO4 Bucovina Ar. S 85.51 318 *e*P **P 23 02 35.8 +1.1**
MNK Minsk 85.54 326 *e*P **P 23 02 32.0 -2.5**
MAIT Maitri 85.70 199 *e*P pP 23 02 52.1 -1.9
VTS Vitosha 85.90 313 ⇑P **P 23 02 37.7 +0.9**
VTS Vitosha 85.90 313 ⇑*i*P **P 23 02 37.7 +0.9**
LOT Lotru 86.05 316 ⇓*i*P **P 23 02 38.2 +0.8**
JOF Joensuu 86.24 334 *e*P **P 23 02 39.1 +1.3**
JOF pmax pmax
comp=Z,22nm,0.7s
JOF Joensuu 86.24 334 *ep* **P 23 02 39.1 +1.3**
comp=Z,22nm,0.7s
LVZ Lovozero 86.66 339 *de*P **P 23 02 39.6 -0.2**
LVZ pmax pmax
comp=Z,109nm,2.5s
GZR Gura Zlata 86.72 316 ⇑P **P 23 02 41.5 +0.9**
GZR Gura Zlata 86.72 316 ⇑*i*P **P 23 02 41.5 +0.9**
DRGR 87.02 317 ⇓P **P 23 02 43.4 +1.3**
DRGR 87.02 317 ⇓*i*P **P 23 02 43.4 +1.3**
VSU Vasula 87.13 329 ⇑*e*P **P 23 02 42.9 +0.7**
VSU pmax pmax
comp=Z,75nm,1.0s
TRPA Tarpa 87.38 319 ⇑*i*P **P 23 02 44.9 +1.3**
KWP Kalwaria Pacla 87.54 320 ⇓P **P 23 02 45.6 +1.2**
KWP Kalwaria Pacla 87.54 320 ⇓*i*P **P 23 02 45.6 +1.2**
KWP Kalwaria Pacla 87.54 320 *e*P **P 23 02 44.8 +0.3**
comp=Z,41nm,1.5s
KWP Kalwaria Pacla 87.54 320 *e*P **P 23 02 45.6 +1.2**
BZS Buzias 87.56 316 ⇑P **P 23 02 45.7 +1.1**
BZS Buzias 87.56 316 ⇑*i*P **P 23 02 45.7 +1.1**
UZH Uzhgorod 87.63 319 *e*P **P 23 02 45.0 +0.2**
UZH *e* 23 02 57.0
KOLS Kolonicke sedl 87.70 319 *e*P **P 23 02 47.0 +1.8**
KOLS pmax pmax
comp=Z,53nm,1.8s
KOLS Kolonicke sedl 87.70 319 *e*P **P 23 02 47.0 +1.8**
SUW Suwalki 88.09 324 *e*P **P 23 02 47.4 +0.5**
SUW Suwalki 88.09 324 *e*P **P 23 02 46.5 -0.4**
comp=Z,64nm,1.1s
SUW Suwalki 88.09 324 *e*P **P 23 02 47.3 +0.4**
FINES FINESS Array B 88.18 332 P P **23 02 47.8 +0.6**
FINES FINESS Array B 88.18 332 P P **23 02 47.8 +0.6**
comp=Z,11nm,0.7s,baz=108,slow=5.0,SNR=48
FINES LR LR 23 48 16.1
comp=Z,79nm,18.1s,baz=12,slow=40
KAF Kangasniemi 88.24 333 *e*P **P 23 02 48.3 +0.9**
KAF pmax pmax
comp=Z,28nm,0.7s
KAF Kangasniemi 88.24 333 *ep* **P 23 02 48.3 +0.9**
comp=Z,28nm,0.7s
STHS Stebnicka Huta 88.45 320 *e*P **P 23 02 50.4 +1.6**
STHS pmax pmax
comp=Z,9.0nm,0.8s
STHS Stebnicka Huta 88.45 320 *e*P **P 23 02 50.3 +1.6**
KECS Kecovo 88.79 319 *e*P **P 23 02 51.4 +1.0**
KECS pmax pmax
comp=Z,5.0nm,0.8s
KECS Kecovo 88.79 319 *e*P **P 23 02 51.4 +1.0**
PSZ Piszkesteto 89.09 318 ⇑P **P 23 02 53.1 +1.2**
PSZ Piszkesteto 89.09 318 ⇑*i*P **P 23 02 53.1 +1.2**
PSZ Piszkesteto 89.09 318 *e*P **P 23 02 50.1 -1.8**
comp=Z,68nm,2.1s
BEL Belsk 89.12 322 *e*P **P 23 02 53.2 +1.4**
BEL Belsk 89.12 322 *e*P **P 23 02 53.2 +1.4**
PKSM Moragy 89.71 316 ⇑P **P 23 02 55.4 +0.7**
PKSM Moragy 89.71 316 ⇑*i*P **P 23 02 55.4 +0.7**
KEV Kevo 89.88 340 *e*P **P 23 02 54.6 -0.4**
KEV pmax pmax
comp=Z,18nm,0.8s
KEV Kevo 89.88 340 *ep* **P 23 02 54.6 -0.4**
comp=Z,18nm,0.8s
SNAA Sanae 90.19 198 *e*P **P 23 02 59.0 +2.4**
SNAA Sanae 90.19 198 *ep*P pP 23 03 10.9 -4.8
SNAA Sanae 90.19 198 *es*P sP 23 03 15.7 -7.5
SNAA Sanae 90.19 198 *e*P **P 23 02 58.1 +1.6**
comp=Z,15nm,1.2s
ARA0 ARCESS Array S 90.34 340 *e*P **P 23 02 56.7 -0.5**
ARCES ARCESS Array B 90.34 340 P P **23 02 57.5 +0.3**
ARCES pP **pP 23 03 13.6 -2.7**
ARCES ARCESS Array B 90.34 340 P P **23 02 57.5 +0.3**
comp=Z,14nm,0.8s,baz=105,slow=5.6,SNR=42
ARCES pP **pP 23 03 13.6 -2.7**
comp=Z,8.7nm,1.0s,baz=116,slow=8.2,SNR=2.8
ARCES LR LR 23 47 14.2
comp=Z,131nm,21.4s,baz=312,slow=38
OKC Ostrava-Krasne 90.50 320 *e*P **P 23 02 59.6 +1.3**
OKC *e* 23 03 16.3
OKC Ostrava-Krasne 90.50 320 *e*P **P 23 02 59.6 +1.3**
OKC *ep*P **pP 23 03 16.3 -1.1**
MORC Moravsky Berou 90.88 320 ⇑P **P 23 03 01.3 +1.1**
MORC Moravsky Berou 90.88 320 ⇑*i*P **P 23 03 01.3 +1.1**
MORC Moravsky Berou 90.88 320 *e*P **P 23 02 59.8 -0.3**
comp=Z,43nm,2.0s
KRLC Kraliky 91.40 320 *e*P **P 23 03 04.1 +1.5**
KRLC *e* 23 03 20.3
KRLC Kraliky 91.40 320 *e*P **P 23 03 04.1 +1.5**
KRLC *ep*P **pP 23 03 20.3 -1.4**
VRAC Vranov 91.44 319 P P **23 03 03.4 +0.6**
VRAC Vranov 91.44 319 P P **23 03 03.4 +0.6**
comp=Z,0.5nm,0.3s,baz=220,slow=17,SNR=3.7
DPC Dobruska-Polom 91.72 320 *e*P **P 23 03 05.4 +1.3**
DPC *e* 23 03 21.9
DPC Dobruska-Polom 91.72 320 *e*P **P 23 03 05.4 +1.3**
DPC *ep*P **pP 23 03 21.9 -1.3**
DPC Dobruska-Polom 91.72 320 *e*P **P 23 03 02.6 -1.5**
comp=Z,24nm,0.8s
KSP Ksiaz 91.79 321 *e*P **P 23 03 05.6 +1.3**
KSP Ksiaz 91.79 321 *e*P **P 23 03 05.8 +1.5**
VNA2 Neumayer--Watz 91.82 198 *e*P P 23 03 08.3 +4.2
VNA2 Neumayer--Watz 91.82 198 *ep*P pP 23 03 15.2 -8.0
VNA2 Neumayer--Watz 91.82 198 *es*P sP 23 03 22.1 -8.6
TREC Trest 92.16 319 *e*P **P 23 03 07.2 +1.1**
TREC *e* 23 03 25.2
TREC Trest 92.16 319 *e*P **P 23 03 07.2 +1.1**
TREC *ep*P **pP 23 03 25.2 0.0**
PRU Pruhonice 92.83 320 *e*P **P 23 03 07.5 -1.6**
PRU *e* 23 03 24.3
PRU Pruhonice 92.83 320 *e*P **P 23 03 07.5 -1.6**
PRU *e*PCP **PcP 23 03 10.5 +0.8**
PRU *ep*P **pP 23 03 24.3 -4.0**
PRA Prague 92.91 320 P **P 23 03 08.0 -1.5**
PRA pP x 23 23 04.0
BRG Berggiesshubel 93.28 321 *e*P **P 23 03 12.3 +1.1**
comp=Z,6.8nm,0.9s
BRG Berggiesshubel 93.28 321 *e*P **P 23 03 12.3 +1.1**
BRG pmax pmax
comp=Z,7.0nm,0.9s
GERES GERESS Array B 93.30 319 P P **23 03 11.9 +0.5**
GERES PP **PP 23 06 57.5 +1.5**
GERES GERESS Array B 93.30 319 P P **23 03 11.9 +0.5**
comp=Z,1.1nm,0.6s,baz=89,slow=3.0,SNR=17
GERES PP **PP 23 06 57.5 +1.5**
comp=Z,0.5nm,0.7s,baz=90,slow=6.7,SNR=4.1
KHC Kasperske Hory 93.40 319 *e*P **P 23 03 08.7 -3.1**
KHC *e* 23 03 23.3
KHC Kasperske Hory 93.40 319 *e*P **P 23 03 08.7 -3.1**
KHC *e*PCP **PcP 23 03 12.5 +0.2**
KHC *ex* x 23 03 23.3
CLL Collm 93.90 321 *e*P **P 23 03 16.0 +2.0**
CLL Collm 93.90 321 *e*(P) **P 23 03 16.0 +2.0**
HFS Hagfors 93.99 330 P P **23 03 14.4 +0.2**
HFS Hagfors 93.99 330 P P **23 03 14.4 +0.2**
comp=Z,8.4nm,1.0s,baz=182,slow=4.5,SNR=9.2
HFS LR LR 23 51 19.7
comp=Z,76nm,18.5s,baz=70,slow=39
SPITS Spitsbergen Ar 94.21 348 LR LR 23 50 08.6
comp=Z,157nm,20.0s,baz=90,slow=38
NOA NORSAR Array B 95.24 331 P P **23 03 19.9 -0.2**
NOA NORSAR Array B 95.24 331 P P **23 03 19.9 -0.2**
comp=Z,0.7nm,0.7s,baz=105,slow=2.3,SNR=3.5
NOA LR LR 23 52 00.8
comp=Z,42nm,18.6s,baz=30,slow=39
NEW Newport 125.02 32 PKP **PKPdf 23 08 57.5 +0.9**
NEW Newport 125.02 32 PKP **PKPdf 23 08 57.5 +0.9**
comp=Z,1.5nm,0.6s,baz=346,slow=4.5,SNR=4.6
YBH Yreka Blue Hor 125.34 41 PKP **PKPdf 23 08 59.5 +2.0**
YBH Yreka Blue Hor 125.34 41 PKP **PKPdf 23 08 59.5 +2.0**
comp=Z,0.6nm,0.6s,baz=349,slow=9.8,SNR=3.6
HLID Hailey 129.43 35 ⇓P **PKPdf 23 09 06.7 +1.3**
baz=129
DPD Davis Peak 129.71 47 *e*Pdif **Pdif 23 05 51.6 -2.5**
A22A Carney Farms, 129.79 24 ⇓P **PKPdf 23 09 07.4 +1.6**
baz=130
NV01 Mina Array Sit 129.92 43 *e*PKPdf **PKPdf 23 09 05.6 -0.9**
NVAR Mina Array Bea 129.92 43 PKP **PKPdf 23 09 08.7 +2.2**
NVAR SKPbc SKPbc 23 12 25.3 +2.1
NVAR Mina Array Bea 129.92 43 PKP **PKPdf 23 09 08.7 +2.2**
comp=Z,1.5nm,0.6s,baz=313,slow=2.1,SNR=18
NVAR SKPbc SKPbc 23 12 25.3 +2.1
comp=Z,0.8nm,0.6s,baz=273,slow=4.6,SNR=7.1
FIGC Figueroa Mtn. 130.51 48 *e*Pdif **Pdif 23 05 57.0 -0.8**
R11A Troy Canyon, C 131.77 41 ⇓P **PKPdf 23 09 11.5 +1.6**
baz=132
EDW2 Edwards Air Fo 131.90 46 ⇓P **PKPdf 23 09 12.0 +1.8**
baz=132
D24A Glendive 131.93 25 ⇑P **PKPdf 23 09 10.5 +0.7**
baz=132
G21A Lodge Grass 132.08 29 ⇑P **PKPdf 23 09 10.9 +0.7**
baz=132
TPNV Topopah Spring 132.08 43 ⇓P **PKPdf 23 09 11.7 +1.2**
baz=132
ULM Lac du Bonnet 132.22 16 PKP **PKPdf 23 09 10.1 -0.1**
ULM Lac du Bonnet 132.22 16 PKP **PKPdf 23 09 10.1 -0.1**
comp=Z,3.8nm,0.6s,baz=341,slow=8.3,SNR=5.0
A29A Manning Farm, 132.36 20 ⇓P **PKPdf 23 09 12.3 +1.8**
baz=132
E24A Baker 132.37 25 ⇓P **PKPdf 23 09 12.6 +1.9**
baz=132
DUG Dugway 132.44 37 ⇓P **PKPdf 23 09 13.2 +2.1**
baz=132
I20A Worland 132.55 30 ⇓P **PKPdf 23 09 12.9 +1.7**
baz=132
PDAR Pinedale Array 132.63 33 PKP **PKPdf 23 09 11.5 0.0**
PDAR SKPbc **SKPab 23 12 33.8 -0.5**
PDAR Pinedale Array 132.63 33 PKP **PKPdf 23 09 11.5 0.0**
comp=Z,0.6nm,0.5s,baz=91,slow=0.7,SNR=6.3
PDAR SKPbc **SKPab 23 12 33.8 -0.5**
comp=Z,1.0nm,0.9s,baz=101,slow=1.7,SNR=3.5
I22A 9 Mile Ranch, 133.41 29 ⇓P **PKPdf 23 09 13.9 +1.1**
baz=133
GMRC Granite Mounta 133.62 45 ⇓P **PKPdf 23 09 15.6 +2.1**
baz=134
H24A Dirks Ranch, A 133.67 27 ⇑P **PKPdf 23 09 14.5 +1.2**
baz=134
G27A Dupree 134.31 25 ⇓P **PKPdf 23 09 14.8 +0.5**
baz=134
I25A Rochford 134.61 27 ⇑P **PKPdf 23 09 16.7 +1.6**
baz=134
G28A Parade 134.98 24 ⇑P **PKPdf 23 09 17.4 +1.8**
baz=135
U15A North Rim 135.02 41 ⇓P **PKPdf 23 09 18.7 +2.5**
baz=135
O20A White River Ci 135.15 34 ⇑P **PKPdf 23 09 17.7 +1.3**
baz=135
Q20A Ridgley Place, 135.92 36 ⇑P **PKPdf 23 09 17.3 -0.4**
baz=136
WUAZ Wupatki 136.15 42 ⇓P **PKPdf 23 09 19.7 +1.4**
baz=136
Q23A Hartsel 137.35 34 ⇑P **PKPdf 23 09 22.9 +2.3**
baz=137
W20A Ramah 138.26 40 ⇑P **PKPdf 23 09 23.0 +0.8**
baz=138
BGNE Belgrade 139.14 25 ⇓P **PKPdf 23 09 25.8 +2.4**
baz=139
V24A Rampart Ranch, 139.87 37 ⇓P **PKPdf 23 09 27.1 +1.9**
baz=140
V25A Rancho No Teng 140.18 36 ⇓P **PKPdf 23 09 27.2 +1.5**
baz=140
Q30A Quinter 140.19 29 ⇓P **PKPdf 23 09 26.9 +1.4**
baz=140
Z22A Elephant Butte 140.42 41 ⇑P **PKPdf 23 09 27.7 +1.5**
baz=140
MNTX Cornudas Mount 142.44 42 *e*PKPdf **PKPdf 23 09 27.3 -2.3**
425A Indio Mountain 143.27 42 ⇓P PKPbc 23 09 29.5 +1.1
baz=143
Y29A Porterfield Fa 143.29 36 ⇓P PKPbc 23 09 29.3 +0.9
baz=143
CPUP Villa Florida 143.45 210 PKP **PKPdf 23 09 31.1 -0.4**
CPUP Villa Florida 143.45 210 PKP **PKPdf 23 09 31.1 -0.4**
comp=Z,1.1nm,0.6s,baz=129,slow=2.6,SNR=3.7
U34A Anderson Ranch 143.50 28 ⇑P PKPbc 23 09 29.2 +0.5
baz=143
326A Caldwell Ranch 143.60 41 ⇓P PKPbc 23 09 30.3 +1.0
baz=144
SFIN Scholer Farm 143.66 13 ⇓P **PKPdf 23 09 30.7 -0.8**
baz=144
X31A McDonald Ranch 143.67 33 ⇓P **PKPdf 23 09 30.9 -0.8**
baz=144
Z29A Hungry Hill Ra 143.70 36 ⇑P PKPbc 23 09 30.5 +1.0
baz=144
327A Balmorhea Ranc 143.88 40 ⇓P PKPbc 23 09 30.8 +0.7
baz=144
228A UT Block 9, Go 143.95 39 ⇑P PKPbc 23 09 31.3 +1.0
baz=144
426A McDonald Obser 143.98 42 ⇑P PKPbc 23 09 31.5 +0.9
baz=144
Y31A Rekieta Farm, 144.01 34 ⇓P **PKPdf 23 09 31.6 -0.8**
baz=144,SNR=6.3
Z30A Sanderson Ranc 144.01 36 ⇑P PKPbc 23 09 30.8 +0.3
baz=144,SNR=16
427A Hayter Ranch, 144.28 41 ⇑P **PKPdf 23 09 32.7 -0.3**
baz=144
328A Wristen Ranch, 144.31 40 ⇑P **PKPdf 23 09 32.4 -0.6**
baz=144,SNR=28
526A Mary Lane Ranc 144.33 43 ⇑P **PKPdf 23 09 33.1 0.0**
baz=144
Y32A R-V Farms, Ver 144.44 33 ⇑P PKPbc 23 09 31.9 +0.2
baz=144,SNR=6.0
229A Bryant Ranch, 144.54 38 ⇓P PKPbc 23 09 32.7 +0.6
baz=144,SNR=5.2
ACSO Alum Creek Sta 144.55 8 *e*PKPdf **PKPab 23 09 30.7 -0.9**
Z31A Sharp Cattle R 144.56 35 ⇓P PKPbc 23 09 32.5 +0.4
baz=144,SNR=44
527A Woodward Ranch 144.59 42 ⇓P **PKPdf 23 09 33.4 -0.3**
baz=144,SNR=10
130A Snyder 144.60 36 ⇓P PKPbc 23 09 32.7 +0.5
baz=144,SNR=10
626A Big Bend Ranch 144.61 43 ⇓P **PKPdf 23 09 33.5 -0.2**
baz=144,SNR=15
BDFB Brasilia 144.71 234 PKP PKPbc 23 09 33.5 +0.4
BDFB *e*PKPdf **PKPdf 23 09 34.4 +0.3**
BDFB Brasilia 144.71 234 PKP PKPbc 23 09 33.5 +0.4
comp=Z,4.9nm,0.7s,baz=167,slow=4.2,SNR=6.9
TUL1 Tulsa 144.74 27 *e*PKPdf **PKPab 23 09 31.3 -1.1**
TUL1 Tulsa 144.74 27 ⇓P PKPbc 23 09 32.7 +0.1
baz=145
329A Wagon Wheel Ra 144.76 39 ⇓P **PKPdf 23 09 33.6 -0.2**
baz=145,SNR=24
428A Kincaid Ranch, 144.83 40 ⇑P **PKPdf 23 09 34.8 +0.9**
baz=145,SNR=75
131A Roby 144.89 36 ⇓P **PKPdf 23 09 33.7 -0.3**
baz=145,SNR=12
Z32A Haskell 144.94 34 ⇑P PKPbc 23 09 33.5 +0.2
baz=145,SNR=27
BLO Bloomington 144.94 13 *e*PKIKP **PKPab 23 09 31.6 -1.4**
BLO Bloomington 144.94 13 *e*PKPbc **PKPab 23 09 31.6 -1.4**
OLIL Olney 144.98 15 *e*PKPbc **PKPab 23 09 32.5 -0.7**
230A Sterling City 145.02 37 ⇓P **PKPdf 23 09 34.3 +0.1**
baz=145,SNR=30
TX31 Lajitas Ar. Si 145.07 43 *e*PKPdf **PKPbc 23 09 33.8 -0.1**
TXAR Lajitas Array 145.07 43 PKP **PKPdf 23 09 34.9 +0.4**
TXAR Lajitas Array 145.07 43 PKP **PKPdf 23 09 34.9 +0.4**
comp=Z,15nm,0.7s,baz=190,slow=0.9,SNR=185
528A Cox Ranch, San 145.13 41 ⇓P **PKPdf 23 09 35.2 +0.7**
baz=145,SNR=24
627A Terlingua Ranc 145.18 43 ⇓P **PKPdf 23 09 35.2 +0.6**
baz=145,SNR=44
MVL Millersville 145.19 359 *e*PKPdf **PKPdf 23 09 34.0 -0.1**
330A Mertzon 145.32 38 ⇑P **PKPdf 23 09 34.7 0.0**
baz=145,SNR=15
ABTX Abilene, Hawle 145.35 35 *e*PKPdf **PKPab 23 09 35.1 +0.4**
ABTX Abilene, Hawle 145.35 35 ⇑P **PKPab 23 09 35.2 +0.4**
baz=145,SNR=19
429A Davenport Ranc 145.40 40 ⇓P **PKPab 23 09 35.4 +0.3**
baz=145,SNR=19
MCWV Mont Chateau 145.44 4 *e*PKPdf **PKPab 23 09 34.8 -0.1**
231A Bronte 145.46 36 ⇑P **PKPab 23 09 35.3 +0.1**
baz=145,SNR=12
628A Black Gap, Mar 145.50 42 ⇓P **PKPab 23 09 36.4 +1.0**
baz=145,SNR=45
529A Stev Forest Ra 145.52 41 ⇑P **PKPab 23 09 36.1 +0.5**
baz=145,SNR=21
SIUC Southern Illin 145.62 17 *e*PKPdf **PKPdf 23 09 34.6 -0.3**
430A Baggett Ranch, 145.71 39 ⇓P **PKPab 23 09 36.5 +0.3**
baz=146,SNR=17
SDMD Soldier's Deli 145.79 360 *e*PKPdf **PKPdf 23 09 34.9 -0.3**
331A San Angelo 145.84 37 ⇑P **PKPab 23 09 36.8 +0.1**
baz=146,SNR=11
232A Coleman 145.89 36 ⇑P **PKPab 23 09 37.2 +0.4**
baz=146,SNR=10
WCI Wyandotte Cave 145.90 13 *e*PKP2 **PKPdf 23 09 34.9 -0.6**
WCI Wyandotte Cave 145.90 13 *e*PKPdf **PKPdf 23 09 34.9 -0.6**
530A J-C Ranch, Com 146.08 40 ⇓P **PKPab 23 09 37.4 -0.2**
baz=146,SNR=74
PBMO Poplar Bluff 146.09 20 *e*PKPdf **PKPdf 23 09 35.1 -0.7**
431A Sonora 146.17 38 ⇓P **PKPbc 23 09 37.4 +0.1**
baz=146,SNR=12
332A Millersview 146.20 36 ⇓P **PKPab 23 09 37.8 -0.2**
baz=146,SNR=51
PARMO Parma 146.42 19 *e*PKPdf **PKPdf 23 09 35.1 -1.2**
432A Menard 146.53 37 ⇓P **PKPbc 23 09 38.8 +0.5**
baz=146,SNR=12
531A Rocksprings 146.56 39 ⇓P **PKPab 23 09 39.3 -0.2**
baz=146,SNR=20
JCT Junction City 146.81 38 *e*PKIKP **PKPdf 23 09 36.5 -0.8**
JCT Junction City 146.81 38 *e*PKPdf **PKPdf 23 09 36.5 -0.8**
JCT Junction City 146.81 38 ⇓P **PKPab 23 09 39.9 -0.5**
baz=147
532A Rocksprings 146.99 38 ⇓P **PKPbc 23 09 40.1 +0.5**
baz=147
WHTX Lake Whitney 147.04 33 ⇑P **PKPbc 23 09 40.3 +0.7**
baz=147
631A Perdido Creek 147.06 40 ⇑P **PKPbc 23 09 39.8 0.0**
baz=147
632A Uvalde 147.50 39 ⇓P **PKPbc 23 09 41.9 +0.9**
baz=147
732A Laxson Ranch, 147.91 40 ⇓P **PKPbc 23 09 42.8 +0.7**
baz=148
SWET Sewanee 148.86 14 *e*PKPbc **PKPbc 23 09 43.5 -0.9**
TKL Tuckaleechee C 148.90 11 *e*PKPbc **PKPbc 23 09 44.5 0.0**
CPCT Cooper Cave 148.95 12 *e*PKPbc **PKPbc 23 09 44.7 0.0**
HKT Hockley 149.50 34 *e*PKP2 **PKPbc 23 09 45.5 -0.6**
HKT Hockley 149.50 34 *e*PKPbc **PKPbc 23 09 45.5 -0.6**
KMSC Kings Mountain 149.78 7 *e*PKPbc **PKPbc 23 09 46.4 -0.3**
LRAL Lakeview Retre 150.63 17 *e*PKPbc **PKPbc 23 09 47.3 -1.4**
LPAZ La Paz 157.06 202 PKP **PKPdf 23 09 55.4 +1.7**
LPAZ La Paz 157.06 202 PKP **PKPdf 23 09 55.4 +1.7**
comp=Z,1.2nm,0.9s,baz=99,slow=2.5,SNR=5.2
SDDR Presa de Saban 165.07 339 *e*PKPab **PKPab 23 10 56.9 -1.2**

*ISCJB **31** 23:02:37.4±0.3, 52.57N±0.10×173.96W±0.06, h185km±4km, mb3.6/7, Error ellipse: s-maj=16.5km s-min=3.4km az=164.1*
*NEIC **31** 23:02:38.5, 52.37N×173.90W, h190km, MG3.6(AEIC), After AEIC.*
*IDC **31** 23:02:40.0±2.7, 52.86N×174.20W, h203km±30km, mb3.3/7, mb1 3.6/9, mb1mx3.3/30, mbtmp3.3/9, MS3.7/1, Ms1 3.7/1, ms1mx2.9/22, Error ellipse: s-maj=27.7km s-min=13.2km az=144.0*

ISC 31 23:02:37.9±0.8, 52.6N±0.1×173.95W±0.05, h183km±8km, n42, σ1.503/56, mb3.6/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSMY	**Great Sitkin M**	**1.39**	**249**	P	**Pn**	**23 03 09.4**	**+0.4**
GSTD	**Great Sitkin T**	**1.44**	**250**	P	**Pn**	**23 03 09.9**	**+0.4**
GSTD				S	**Sn**	**23 03 33.6**	**-0.4**
GSCK	**Great Sitkin C**	**1.46**	**249**	P	**Pn**	**23 03 10.2**	**+0.5**
GSCK				S	**Sn**	**23 03 34.6**	**+0.3**
ETKA	**Kagalaska Isla**	**1.66**	**246**	P	**Pn**	**23 03 12.3**	**+0.7**
ETKA				S	**Sn**	**23 03 38.0**	**+0.3**
ADAG	**Mount Adagdak**	**1.73**	**251**	P	**Pn**	**23 03 13.2**	**+1.0**
ADK	**Adak**	**1.81**	**249**	P	**Pn**	**23 03 13.3**	**+0.3**
ADK				S	**Sn**	**23 03 39.5**	**-0.8**
KIRH	**Kanaga Island**	**2.04**	**252**	P	**Pn**	**23 03 16.4**	**+0.9**
KIKV	**Kanaga Island**	**2.09**	**252**	P	**Pn**	**23 03 16.9**	**+0.8**
KIKV				S	**Sn**	**23 03 46.5**	**+0.7**
KICM	**Kanaga Island**	**2.09**	**253**	P	**Pn**	**23 03 16.8**	**+0.7**
TAPA	**Tanaga Point A**	**2.49**	**254**	P	**Pn**	**23 03 21.4**	**+0.8**
TAPA				S	**Sn**	**23 03 52.9**	**-0.9**
TAFP	**Tanaga Falls P**	**2.56**	**257**	P	**Pn**	**23 03 22.2**	**+0.8**
TAFP				S	**Sn**	**23 03 55.5**	**+0.1**
TASE	**Tanaga Southea**	**2.62**	**256**	P	**Pn**	**23 03 23.0**	**+1.0**
TANO	**Tanaga North**	**2.64**	**258**	P	**Pn**	**23 03 23.7**	**+1.4**
GAEA	**Gareloi East**	**3.05**	**257**	P	**Pn**	**23 03 28.1**	**+0.9**
GANE	**Gareloi Northe**	**3.06**	**258**	P	**Pn**	**23 03 28.4**	**+1.1**
GANE				S	**Sn**	**23 04 05.5**	**-0.4**
NIKH	**Nikolski High**	**3.13**	**80**	P	**Pn**	**23 03 27.9**	**-0.2**
NIKH				S	**Sn**	**23 04 04.5**	**-2.7**
OKSP	**Okmok Steeple**	**3.50**	**76**	P	**Pn**	**23 03 33.5**	**+0.8**
OKSP				S	**Sn**	**23 04 14.8**	**-0.8**
OKCE	**Okmok Cone E**	**3.60**	**74**	P	**Pn**	**23 03 34.5**	**+0.4**
OKTU	**Okmok Mt. Tuli**	**3.67**	**75**	P	**Pn**	**23 03 35.8**	**+0.9**
OKFG	**Magazine Ridge**	**3.75**	**74**	P	**Pn**	**23 03 36.0**	**+0.2**
OKFG				S	**Sn**	**23 04 21.1**	**-0.1**
CERAA	**Semis' Rag'd T**	**3.96**	**263**	P	**Pn**	**23 03 39.5**	**+1.0**
CESW	**Semis' Southwe**	**4.04**	**263**	P	**Pn**	**23 03 40.3**	**+0.9**
AMKA	**Amchitka**	**4.33**	**257**	P	**Pn**	**23 03 42.5**	**-0.7**
AMKA				S	**Sn**	**23 04 32.1**	**-2.4**
MSOM	**Makushin Julie**	**4.40**	**71**	P	**Pn**	**23 03 44.4**	**+0.4**
MSOM				S	**Sn**	**23 04 36.0**	**+0.2**
MSW	**Makushin Switc**	**4.52**	**70**	P	**Pn**	**23 03 45.9**	**+0.4**
MSW				S	**Sn**	**23 04 39.8**	**+1.1**
MTBL	**Makushin Table**	**4.59**	**69**	P	**Pn**	**23 03 47.4**	**+0.8**
UNV	**Unalaska Valle**	**4.66**	**71**	P	**Pn**	**23 03 47.4**	**+0.1**
UNV				S	**Sn**	**23 04 41.1**	**-0.9**
ZRO	**Akutan Zero**	**5.02**	**69**	P	**Pn**	**23 03 52.7**	**+0.6**
SPIA	**Saint Paul Isl**	**5.10**	**23**	P	**Pn**	**23 03 54.5**	**+1.5**
FX1	**Attu Island--F**	**7.83**	**277**	P	**Pn**	**23 04 29.7**	**+0.9**
FX1	**Attu Island--F**	**7.83**	**277**	P	**Pn**	**23 04 29.4**	**+0.6**
	2.6nm,0.3s,baz=249,slow=21,SNR=10						
FX1				S	**Sn**	**23 05 54.4**	**-2.3**
	1.9nm,0.3s,baz=327,slow=17,SNR=4.4						
ILAR	**Eielson Array**	**18.45**	**38**	P	**P**	**23 06 37.6**	**-1.8**
	0.5nm,0.3s,baz=234,slow=9.7,SNR=18						
ILAR				S	**S**	**23 09 57.7**	**-2.4**
	0.1nm,0.3s,baz=230,slow=18,SNR=4.0						
INK	**Inuvik**	**24.77**	**35**	P	**P**	**23 07 41.6**	**-0.7**
	0.7nm,0.5s,baz=262,slow=7.9,SNR=5.3						
NEW	**Newport**	**35.66**	**74**	P	**P**	**23 09 19.0**	**+0.7**
	0.6nm,0.4s,baz=286,slow=6.7,SNR=6.6						
H11N2	**WAKE ISLAND Hy**	**35.99**	**212**	T	T	23 46 41.8	
	baz=20,slow=0.7,SNR=6.3						
H11N3	**WAKE ISLAND Hy**	**36.00**	**212**	T	T	23 46 47.0	
	baz=20,slow=0.7,SNR=6.8						
H11N1	**WAKE ISLAND Hy**	**36.01**	**212**	T	T	23 46 43.8	
	baz=20,slow=0.7,SNR=5.7						
NVAR	**Mina Array Bea**	**40.47**	**88**	P	**P**	**23 10 00.3**	**+1.6**
	1.2nm,0.7s,baz=302,slow=7.2,SNR=6.5						
NVAR				LR	LR	23 26 24.8	
	comp=Z,96nm,19.1s,baz=58,slow=35						
PDAR	**Pinedale Array**	**43.10**	**76**	P	**P**	**23 10 20.3**	**+0.3**
	1.3nm,0.6s,baz=303,slow=3.7,SNR=7.5						
TXAR	**Lajitas Array**	**55.54**	**86**	P	**P**	**23 11 54.6**	**+0.4**
	1.0nm,0.7s,baz=288,slow=3.7,SNR=6.6						
WRA	**Warramunga Arr**	**84.99**	**228**	P	**P**	**23 14 52.1**	**-0.3**
	0.5nm,1.0s,baz=31,slow=5.6,SNR=6.0						
ASAR	**Alice Springs**	**88.43**	**226**	P	**P**	**23 15 09.7**	**+0.6**
	0.8nm,0.8s,baz=21,slow=4.9,SNR=8.1						

IDC 31 23:12:10.4±0.8, 28.28N×139.74E, h417km±19km, mb3.0/11, mb1 3.1/13, mb1mx3.0/28, mbtmp3.1/13, Error ellipse: s-maj=53.0km s-min=12.9km az=73.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**2.47**	**118**	P	P	23 13 12.1	+1.1
	18nm,0.3s,baz=276,slow=20,SNR=20						
JCJ				S	S	23 14 00.0	0.0
	16nm,0.3s,baz=296,slow=23,SNR=12						
USRK	**Ussuriysk Arra**	**17.05**	**341**	P	P	23 15 46.0	+1.8
	0.5nm,0.3s,baz=143,slow=9.4,SNR=8.2						
SONM	**Songino Array**	**32.36**	**316**	P	P	23 18 02.3	-1.1
	0.3nm,0.4s,baz=121,slow=7.7,SNR=3.4						
ZALV	**Zalesovo Beam**	**47.17**	**319**	P	P	23 20 02.8	-0.3
	0.4nm,0.4s,baz=113,slow=7.7,SNR=

0.2nm,0.4s,baz=5.0,slow=6.8,SNR=7.2
BVAR Borovoye Array 55.70 317 P P 23 21 05.8 +0.3
0.8nm,0.5s,baz=274,slow=39,SNR=4.3
AKTO Aktyubinsk 63.67 315 P P 23 21 59.8 +0.7
1.2nm,0.5s,baz=78,slow=13,SNR=4.9
KBZ Khabaz 75.61 312 P P 23 23 11.3 +0.3
1.9nm,0.8s,baz=279,slow=4.9,SNR=5.1
FINES FINESS Array B 75.92 333 P P 23 23 12.4 -0.1
0.5nm,0.3s,baz=65,slow=4.5,SNR=14
HFS Hagfors 81.47 336 P P 23 23 41.7 -0.6
1.0nm,0.7s,baz=102,slow=3.6,SNR=5.2
BRTR Keskin Array B 83.60 312 P P 23 23 53.7 -0.1
0.5nm,0.7s,baz=58,slow=3.6,SNR=3.4

*CRAAG **31** 23:55:37.2, 35.72N×0.55E, Ml3.2*
*CSEM **31** 23:55:40.7±0.4, 35.97N×0.52E, h10km, mb3.4, Error ellipse: s-maj=11.1km s-min=6.8km az=8.0*
*MDD **31** 23:55:41.2±0.5, 35.99N×0.50E, h0km, mb3.4/4, Error ellipse: s-maj=7.0km s-min=5.1km az=4.0, PRXIMO*
ISC 31 23:55:39.9±1.6, 35.89N±0.05×0.47E±0.04, h12km±13km, n47, σ1s59/59, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
EANR	**'Ain N'Sour**	**0.52**	**83**	P		**Pg**	**23 55 49.5**	**-0.6**
EANR	**'Ain N'Sour**	**0.52**	**83**	P		**Pg**	**23 55 49.5**	**-0.6**
EANR	**'Ain N'Sour**	**0.52**	**83**	P		**Pg**	**23 55 49.5**	**-0.6**
ODJA	**Bouhanifia**	**0.75**	**222**	P		**Pn**	**23 55 59.0**	**+2.7**
ODJA	**Bouhanifia**	**0.75**	**222**	P		**Pn**	**23 55 59.0**	**+2.7**
ODJA	**Bouhanifia**	**0.75**	**222**	P		**Pn**	**23 55 59.0**	**+2.7**
ECHF	**Ech Chlef**	**0.76**	**69**	P		**Pg**	**23 55 54.5**	**-0.1**
ECHF	**Ech Chlef**	**0.76**	**69**	P		**Pg**	**23 55 54.5**	**-0.1**
ECHA	**Ech Chlef**	**0.78**	**70**	P		**Pg**	**23 55 54.5**	**-0.4**
ECHA	**Ech Chlef**	**0.78**	**70**	P		**Pg**	**23 55 54.5**	**-0.4**
USTO	**Oran**	**0.84**	**260**	P		Pn	23 56 03.0	+5.5
USTO	**Oran**	**0.84**	**260**	P		Pn	23 56 03.0	+5.5
ETRT	**Tiaret**	**0.84**	**126**	P		Pg	23 55 53.1	-3.0
ETRT	**Tiaret**	**0.84**	**126**	P		Pg	23 55 53.1	-3.0
ETRT	**Tiaret**	**0.84**	**126**	P		Pg	23 55 53.1	-3.0
EBNR	**Beni Rached**	**0.95**	**65**	P		**Pn**	**23 56 01.2**	**+2.1**
EBNR	**Beni Rached**	**0.95**	**65**	P		**Pn**	**23 56 01.2**	**+2.1**
OLHC	**Oulhaca**	**1.66**	**248**	P		Pn	23 56 00.0	-8.9
OLHC	**Oulhaca**	**1.66**	**248**	P		Pn	23 56 00.0	-8.9
OLHC	**Oulhaca**	**1.66**	**248**	P		Pn	23 56 00.0	-8.9
EMHD	**Djebel Mahouad**	**2.04**	**80**	P		**Pn**	**23 56 12.7**	**-1.5**
EMHD	**Djebel Mahouad**	**2.04**	**80**	P		**Pn**	**23 56 12.7**	**-1.5**
EMHD	**Djebel Mahouad**	**2.04**	**80**	P		**Pn**	**23 56 12.7**	**-1.5**
EMUR	**La Murta**	**2.38**	**326**	P		**Pn**	**23 56 18.6**	**-0.2**
	1.7nm,0.4s,SNR=6.6							
EMUR				S		**Sn**	**23 56 46.7**	**-1.3**
	2.9nm,0.3s,SNR=6.2							
EMUR	**La Murta**	**2.38**	**326**	P		**Pn**	**23 56 18.6**	**-0.2**
	1.7nm,0.4s,SNR=6.6							
EMUR				S		**Sn**	**23 56 46.7**	**-1.3**
	2.9nm,0.3s,SNR=6.2							
EBEN	**Beniarda**	**2.87**	**349**	P		**Pn**	**23 56 28.2**	**+2.7**
	SNR=7.9							
EBEN				S		**Sn**	**23 57 01.3**	**+1.4**
	SNR=7.9							
EBEN	**Beniarda**	**2.87**	**349**	P		**Pn**	**23 56 28.2**	**+2.7**
	SNR=7.9							
EBEN				S		**Sn**	**23 57 01.3**	**+1.4**
	SNR=7.9							
EBER	**Berja**	**2.89**	**291**	P		**Pn**	**23 56 25.2**	**-0.7**
	4.2nm,0.2s,SNR=31							
EBER				S		**Sn**	**23 56 58.5**	**-2.1**
	SNR=7.9							
EBER	**Berja**	**2.89**	**291**	P		**Pn**	**23 56 25.2**	**-0.7**
	4.2nm,0.2s,SNR=31							
EBER				S		**Sn**	**23 56 58.5**	**-2.1**
	SNR=7.9							
ETOB	**Tobarra**	**3.19**	**330**	P		**Pn**	**23 56 31.2**	**+1.3**
	1.0nm,0.3s,SNR=18							
ETOB				S		**Sn**	**23 57 06.8**	**-1.1**
	3.1nm,0.3s,SNR=6.9							
ETOB	**Tobarra**	**3.19**	**330**	P		**Pn**	**23 56 31.2**	**+1.3**
	1.0nm,0.3s,SNR=18							
ETOB				S		**Sn**	**23 57 06.8**	**-1.1**
	3.1nm,0.3s,SNR=6.9							
EIBI	**Ibiza**	**3.21**	**12**	P		**Pn**	**23 56 31.3**	**+1.2**
	SNR=7.9							
EIBI				S		**Sn**	**23 57 08.1**	**-0.3**
	SNR=7.9							
EIBI	**Ibiza**	**3.21**	**12**	P		**Pn**	**23 56 31.3**	**+1.2**
	SNR=7.9							
EIBI				S		**Sn**	**23 57 08.1**	**-0.3**
	SNR=7.9							
EGUA	**Guajares**	**3.39**	**287**	P		**Pn**	**23 56 32.2**	**-0.4**
	SNR=7.9							
EGUA				S		**Sn**	**23 57 10.5**	**-2.2**
	SNR=7.9							
EGUA	**Guajares**	**3.39**	**287**	P		**Pn**	**23 56 32.2**	**-0.4**
	SNR=7.9							
EGUA				S		**Sn**	**23 57 10.5**	**-2.2**
	SNR=7.9							
EQUE	**Quentar**	**3.41**	**294**	P		**Pn**	**23 56 34.4**	**+1.4**
	4.0nm,0.5s,SNR=4.0							
EQUE	**Quentar**	**3.41**	**294**	P		**Pn**	**23 56 34.4**	**+1.4**
	4.0nm,0.5s,SNR=4.0							
EQES	**Quesada**	**3.42**	**305**	P		**Pn**	**23 56 34.1**	**+1.0**
	7.6nm,0.3s,SNR=35							
EQES				S		**Sn**	**23 57 15.2**	**+1.5**
	2.2nm,0.3s,SNR=8.6							
EQES	**Quesada**	**3.42**	**305**	P		**Pn**	**23 56 34.1**	**+1.0**
	7.6nm,0.3s,SNR=35							
EQES				S		**Sn**	**23 57 15.2**	**+1.5**
	2.2nm,0.3s,SNR=8.6							
EVIA	**Vianos**	**3.63**	**320**	P		**Pn**	**23 56 37.1**	**+1.2**
	SNR=7.9							
EVIA				S		**Sn**	**23 57 18.7**	**0.0**
	11nm,0.3s,SNR=8.1							
EVIA	**Vianos**	**3.63**	**320**	P		**Pn**	**23 56 37.1**	**+1.2**
	SNR=7.9							
EVIA				S		**Sn**	**23 57 18.7**	**0.0**
	11nm,0.3s,SNR=8.1							
EMOS	**Mosqueruela**	**4.53**	**351**	P		**Pn**	**23 56 51.4**	**+2.9**
	SNR=4.0							
EMOS	**Mosqueruela**	**4.53**	**351**	P		**Pn**	**23 56 51.4**	**+2.9**
	SNR=4.0							
EADA	**Adamuz**	**4.63**	**301**	P		**Pn**	**23 56 51.3**	**+1.6**
	SNR=7.9							
EADA				S		**Sn**	**23 57 41.2**	**-2.2**
	SNR=7.9							
EADA	**Adamuz**	**4.63**	**301**	P		**Pn**	**23 56 51.3**	**+1.6**
	SNR=7.9							
EADA				S		**Sn**	**23 57 41.2**	**-2.2**
	SNR=7.9							
ESDC	**Sonseca Array**	**5.16**	**318**	P		**Pn**	**23 56 57.5**	**+0.6**
	0.2nm,0.3s,baz=130,slow=12,SNR=4.9							
ESDC				S		**Sn**	**23 57 54.9**	**-1.5**
	0.2nm,0.3s,baz=134,slow=22,SNR=4.3							
ESDC	**Sonseca Array**	**5.16**	**318**	P		**Pn**	**23 56 57.5**	**+0.6**
	0.2nm,0.3s,SNR=4.9							
ESDC				S		**Sn**	**23 57 54.9**	**-1.5**
	0.2nm,0.3s,SNR=4.3							

ISC Computed Locations for October 2009

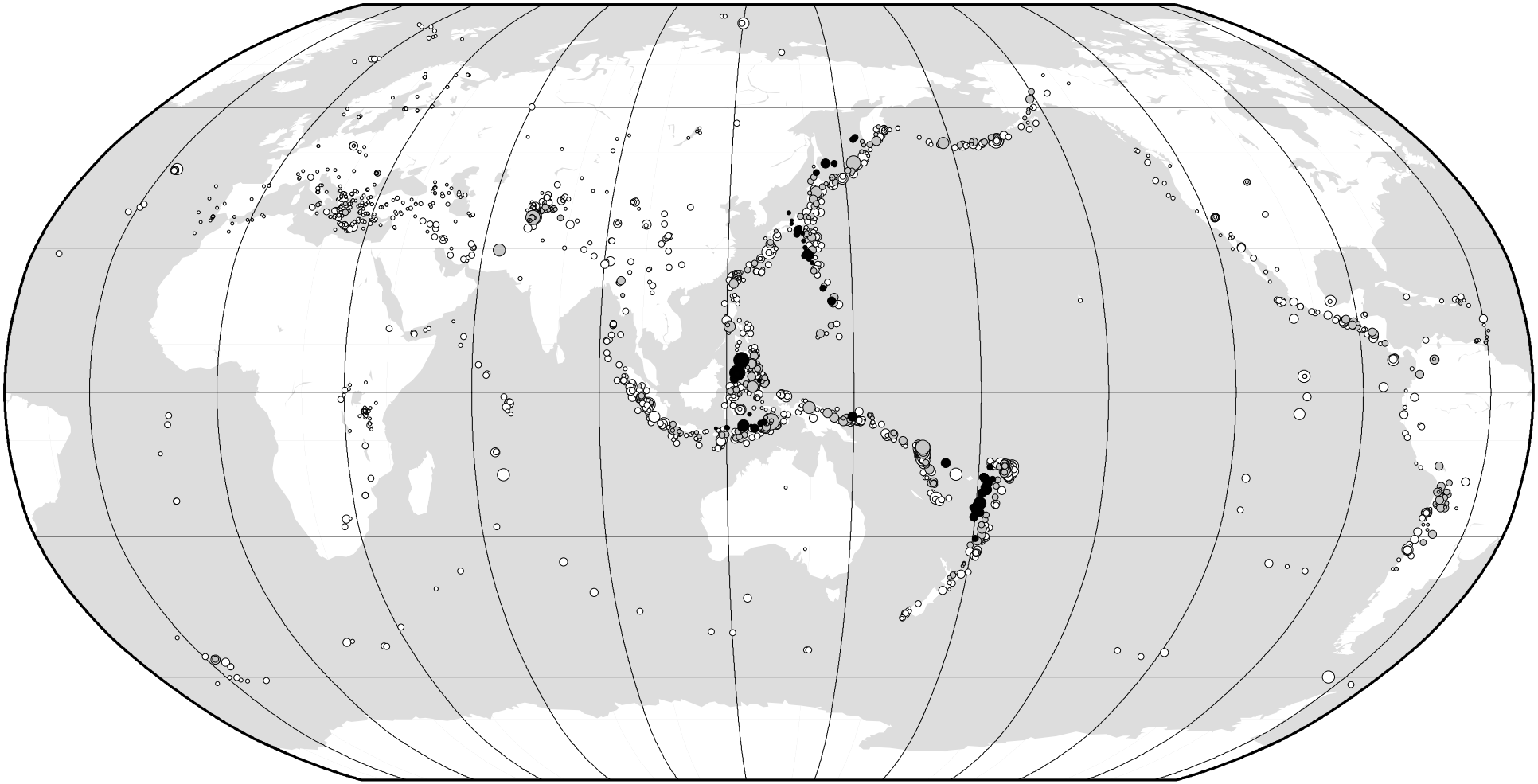

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

2408 Events